Addendum I

From data-month September 2002 onwards, the printed ISC Bulletins have been generated directly from the ISC Relational Database.

From data-month October 2002, a new location program ISCloc has been used in operations. Also, the IASPEI standard seismic phase list has now been adopted by the ISC, please see the last pages of this Bulletin for details.

From data-month January 2003 onwards, an updated regionalisation scheme has been adopted (Young,J.B., B.W.Presgrave, H.Aichele, D.A.Wiens, E.A.Flinn The Flinn-Engdahl Regionalisation Scheme: the 1995 Revision, Physics of the Earth and Planetary Interiors 96 (1996), 223-297)

These developments have prompted the need to review and revise the format of the Bulletin.

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21°.70S×179°.55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21°.76S×179°.70W,h627km,37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:41.7±1.4,22°.1S×0°.2×179°.3W×0°.2,h600km,n22,
σ1§55/24,mb4.4/9,1C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
HBZ	**Hicks Bay**	**15.60**	**187**	*e*P		**P**	**18 48 53.1**	**-2.1**
URZ	**Urewera**	**16.41**	**190**	P		**P**	**18 49 01.5**	**-1.1**
MRZ	**Mangatainoka R**	**19.02**	**192**	*e*P		**P**	**18 49 26.7**	**+0.3**
DIW	**D'Urville Isla**	**19.52**	**195**	*e*P		**P**	**18 49 27.3**	**-3.6**
CAW	**Cannon Point**	**19.55**	**193**	*e*P		**P**	**18 49 31.7**	**+0.5**
OTW	**Orongorongo Tu**	**19.73**	**193**	*e*P		**P**	**18 49 33.0**	**+0.2**
MOW	**Moikau**	**19.82**	**192**	*e*P		**P**	**18 49 35.5**	**+1.9**
THZ	**Tophouse**	**20.68**	**197**	*e*P		**P**	**18 49 42.0**	**+0.5**
KHZ	**Kahutara**	**21.14**	**195**	P		**P**	**18 49 46.2**	**+0.8**
ARMA	**Armidale**	**27.28**	**246**	*e*P		**P**	**18 50 42.4**	**+2.3**
	4.9nm,0.5s							
CTA	**Charters Tower**	**32.13**	**267**	⇑*i*P		**P**	**18 51 22.3**	**+0.5**
	13nm,0.5s							
STKA	**Stephens Creek**	**36.00**	**246**	*e*P		**P**	**18 51 55.3**	**+1.5**
	3.1nm,0.4s							
ASAR	**Alice Springs**	**42.97**	**259**	P		**P**	**18 52 50.1**	**+0.4**
	9.8nm,0.5s,baz=92,slow=8.2,SNR=47							
ASAR				S		**S**	**18 58 31.3**	**-1.6**
	1.0nm,0.8s,baz=95,slow=15,SNR=5.7							
ASPA	**Alice Springs**	**42.97**	**259**	*e*P		**P**	**18 52 50.1**	**+0.4**
WRA	**Warramunga Arr**	**43.18**	**264**	P		**P**	**18 52 51.0**	**-0.4**
	1.8nm,0.3s,baz=96,slow=7.8,SNR=93							
WRA				S		**S**	**18 58 33.0**	**-2.9**
	0.3nm,0.9s,baz=99,slow=14,SNR=3.0							
KAKA	**Kakadu**	**46.79**	**273**	*e*P		**P**	**18 53 18.2**	**-0.7**
	14nm,0.4s							
FITZ	**Fitzroy Crossi**	**51.61**	**264**	*e*P		**P**	**18 53 54.3**	**+0.1**
	12nm,0.3s							
MBWA	**Marble Bar**	**56.31**	**259**	*e*P		**P**	**18 54 27.1**	**-0.1**
	11nm,0.6s							
CMAR	**Chiang Mai Arr**	**89.48**	**290**	P		**P**	**18 57 38.1**	**+1.7**
	1.3nm,0.8s,baz=135,slow=3.1,SNR=8.1							
ARCES	**ARCESS Array B**	**130.23**	**349**	PKP		**PKiKP**	**19 03 43.7**	**-1.2**
	0.7nm,0.6s,baz=282,slow=4.2,SNR=3.5							
FINES	**FINESS Array B**	**136.91**	**342**	PKP		**PKiKP**	**19 03 57.3**	**-1.3**
	3.7nm,1.1s,baz=158,slow=3.2,SNR=3.4							
MLR	**Muntele Rosu**	**148.83**	**325**	PKPbc		**PKiKP**	**19 04 22.7**	**-1.0**
	0.2nm,0.7s,baz=1.2,slow=23,SNR=2.3							

Epicentral Estimates

Origin times - The superscripts have been removed and a simpler format adopted.
Magnitudes - All magnitudes that were reported to the ISC are now shown. Only two per agency were allowed in the past.
Error Ellipses - The keywords have been shortened.

Observational Data

The station code, station name, epicentral distance and azimuth are all shown in **bold** for Initial phases. For Secondary phases, only the station code (in normal font) is repeated.

Phase ID's - The Operator's identification is shown in normal font. The Operator's residual is no longer printed. When the arrival time of an initial or secondary phase has contributed to the location - the ISC's identification, the arrival time and the ISC's travel-time residual are all shown in **bold** .

Phase Parameters - The following parameters are included on supplementary lines where appropriate :-

Component, amplitude and period (or logA/T) - reported by the Operator.
Station magnitude estimate - computed by the ISC.
Slowness, Back-Azimuth, Signal-to-Noise ratio - measured by the Operator.

Addendum II

From data-month January 2006 the ISC hypocentres are computed using the AK135 earth velocity model (*Kennett, B.L.N. Engdahl, E.R. & Buland R., 1995. Constraints on seismic velocities in the Earth from travel times, Geophys J Int, 122, 108-124; B.L.N. Kennett, 2005. Seismological tables: ak135. Research School of Earth Sciences, the Australian National University, Canberra*) and then reviewed by the ISC seismologists. The ISC still produces the hypocentre solutions based on Jeffreys-Bullen travel time tables (agency code ISCJB), yet these solutions are no longer reviewed.

The ISC is planning to re-compute the entire ISC dataset using AK135 once new location procedures are designed, tested, discussed and approved by the ISC Governing Council. Until that time the automatic ISCJB locations will continue to be produced alongside the AK135 solutions to observe the long-time continuity of the ISC Bulletin.

Addendum III

From data month January 2009 the ISC hypocentres are computed using the new ISC location algorithm and all reported IASPEI seismic phases, for which ak135 predictions are available. This algorithm is described in: *Bondár, I. and D.A. Storchak (2011), Improved location procedures at the International Seismological Centre, Geophys. J. Int., 186, 1220-1244, doi:10.1111/j.1365-246X.2011.05107.x*

The alternative locations based on JB-tables are still produced with the original location algorithm for consistency with the past data. It is still the plan that by the middle of calendar year 2014 all ISC locations (1960-2008) are going to be re-computed with the new locatin algorithm and ak135 as part of the ISC Bulletin Re-Build project, sponsored by the US NSF and several agencies from Japan, China and India.

*IDC **01** 00:00:33.7±0.6,56˚.19N×163˚.91E,h0km,mb4.0/25, mbtmp4.0/27,ML3.6/2,MS3.5/8,Error ellipse: s-maj=16.8km s-min=12.5km az=154.0*

*KRSC **01** 00:00:34.7±1.4,56˚.17N×164˚.09E,h48km±20km, Mc4.8, Ml4.6*

*MOS **01** 00:00:36.9±0.9,56˚.20N×163˚.98E,h33km,mb4.4/15,Error ellipse: s-maj=7.2km s-min=4.5km az=58.1*

*NEIC **01** 00:00:36.3±1.4,56˚.2N±0˚.1×163˚.9E±0˚.2,h10km±1km, mb4.4/165,Error ellipse: s-maj=20.7km s-min=11.6km az=151.0*

ISC 01 00:00:35.5±1.2,56˚.18N±0˚.04×164˚.02E±0˚.03,h10km±7km, n562,σ1§02/549,mb4.3/111,MS3.9/7,1C-1D,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.67**	**273**	PN	**Pg**	**00 00 47.2**	**-1.2**
KBTR	**Krutoberegovo**	**0.67**	**273**	*eP*	**Pg**	**00 00 47.2**	**-1.2**
KBG	**Krutoberegovo**	**0.74**	**276**	PN	**Pg**	**00 00 48.4**	**-1.3**
KBG				S	**Sg**	**00 00 59.7**	**+0.5**
KBG	**Krutoberegovo**	**0.74**	**276**	*eP*	**Pg**	**00 00 48.4**	**-1.3**
KBG				*eS*	**Sg**	**00 00 59.8**	**+0.5**
SMKR	**Semkarok**	**1.47**	**287**	PN	**Pn**	**00 01 01.2**	**-0.9**
SMKR				S	**Sn**	**00 01 20.5**	**-0.9**
SMKR	**Semkarok**	**1.47**	**287**	*eP*	**Pn**	**00 01 01.2**	**-0.9**
SMKR				*eS*	**Sn**	**00 01 20.6**	**-0.9**
BKI	**Bering**	**1.48**	**131**	PN	**Pn**	**00 01 00.8**	**-1.2**
BKI				S	**Sn**	**00 01 19.7**	**-1.7**
BKI	**Bering**	**1.48**	**131**	*eP*	**Pn**	**00 01 00.9**	**-1.2**
BKI				*eS*	**Sn**	**00 01 19.8**	**-1.7**
BDR	**Baidarnaya**	**1.61**	**285**	*eS*	**Sn**	**00 01 25.1**	**+0.3**
ZLN	**Zelenaya**	**1.81**	**266**	PN	**Pn**	**00 01 06.5**	**-0.2**
ZLN	**Zelenaya**	**1.81**	**266**	*eP*	**Pn**	**00 01 06.6**	**-0.2**
CIRR	**Tsirk**	**1.83**	**269**	PN	**Pn**	**00 01 07.0**	**-0.1**
CIRR	**Tsirk**	**1.83**	**269**	*eP*	**Pn**	**00 01 07.0**	**-0.1**
LGNR	**Loginova**	**1.86**	**268**	PN	**Pn**	**00 01 07.9**	**+0.2**
LGNR	**Loginova**	**1.86**	**268**	*eP*	**Pn**	**00 01 08.0**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**1.88**	**264**	PN	**Pn**	**00 01 07.6**	**-0.1**
BZGR				S	**Sn**	**00 01 32.3**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**1.88**	**264**	*eP*	**Pn**	**00 01 07.6**	**-0.1**
BZGR				*eS*	**Sn**	**00 01 32.3**	**+0.8**
KLY	**Klyuchi**	**1.88**	**275**	PN	**Pn**	**00 01 06.0**	**-1.6**
KLY				S	**Sn**	**00 01 28.9**	**-2.5**
KLY	**Klyuchi**	**1.88**	**275**	*eP*	**Pn**	**00 01 06.1**	**-1.6**
KLY				*eS*	**Sn**	**00 01 29.0**	**-2.5**
KRSR	**Krestovskiy**	**1.93**	**273**	PN	**Pn**	**00 01 07.9**	**-0.5**
KRSR	**Krestovskiy**	**1.93**	**273**	*eP*	**Pn**	**00 01 08.0**	**-0.5**
BZWR	**Bezymyannyi-We**	**1.98**	**265**	PN	**Pn**	**00 01 09.3**	**+0.1**
BZWR	**Bezymyannyi-We**	**1.98**	**265**	*eP*	**Pn**	**00 01 09.3**	**+0.1**
BZMR	**Bezymyannaya**	**1.99**	**264**	PN	**Pn**	**00 01 09.5**	**+0.2**
BZMR	**Bezymyannaya**	**1.99**	**264**	*eP*	**Pn**	**00 01 09.5**	**+0.2**
KIRR	**Kirishev**	**2.07**	**265**	PN	**Pn**	**00 01 10.7**	**+0.3**
KIRR				S	**Sn**	**00 01 35.6**	**-0.7**
KIRR	**Kirishev**	**2.07**	**265**	*eP*	**Pn**	**00 01 10.8**	**+0.3**
KIRR				*eS*	**Sn**	**00 01 35.6**	**-0.7**
MKZ	**Mys Kozlova**	**2.09**	**220**	PN	**Pn**	**00 01 09.3**	**-1.1**
MKZ				S	**Sn**	**00 01 35.0**	**-1.4**
MKZ	**Mys Kozlova**	**2.09**	**220**	*eP*	**Pn**	**00 01 09.3**	**-1.1**
MKZ				*eS*	**Sn**	**00 01 35.0**	**-1.4**
KPT	**Kopyto**	**2.14**	**266**	PN	**Pn**	**00 01 11.8**	**+0.5**
KPT	**Kopyto**	**2.14**	**266**	*eP*	**Pn**	**00 01 11.8**	**+0.5**
KMNR	**Kamenistaya**	**2.17**	**260**	PN	**Pn**	**00 01 12.1**	**+0.5**
KMNR	**Kamenistaya**	**2.17**	**260**	*eP*	**Pn**	**00 01 12.2**	**+0.5**
TUMD	**Tumrok D**	**2.27**	**246**	PN	**Pn**	**00 01 12.8**	**-0.2**
TUMD				S	**Sn**	**00 01 42.2**	**+1.2**
TUMD	**Tumrok D**	**2.27**	**246**	*eP*	**Pn**	**00 01 12.9**	**-0.2**
TUMD				*eS*	**Sn**	**00 01 42.2**	**+1.2**
KOZ	**Kozyrevsk**	**2.32**	**269**	PN	**Pn**	**00 01 14.8**	**+1.1**
KOZ	**Kozyrevsk**	**2.32**	**269**	*eP*	**Pn**	**00 01 14.8**	**+1.1**
SRDR	**Sredinnyy**	**2.40**	**275**	PN	**Pn**	**00 01 15.5**	**+0.6**
SRDR	**Sredinnyy**	**2.40**	**275**	*eP*	**Pn**	**00 01 15.6**	**+0.6**
ESO	**Esso**	**2.99**	**267**	PN	**Pn**	**00 01 24.6**	**+1.7**
ESO	**Esso**	**2.99**	**267**	*eP*	**Pn**	**00 01 24.6**	**+1.7**
OSSR	**Ossora**	**3.12**	**351**	PN	**Pn**	**00 01 22.7**	**-1.9**
OSSR	**Ossora**	**3.12**	**351**	*eP*	**Pn**	**00 01 22.8**	**-1.9**
SPN	**Mys Shipunski**	**3.86**	**219**	PN	**Pn**	**00 01 33.6**	**-1.2**
SPN	**Mys Shipunski**	**3.86**	**219**	*eP*	**Pn**	**00 01 33.6**	**-1.2**
SPN				*eS*	**Sn**	**00 02 16.8**	**-3.4**
NLC	**Nalytchevo**	**4.05**	**224**	*eS*	**Sn**	**00 02 24.1**	**-0.9**
SDLR	**Sedlovina**	**4.16**	**228**	PN	**Pn**	**00 01 39.5**	**+0.5**
SDLR	**Sedlovina**	**4.16**	**228**	*eP*	**Pn**	**00 01 39.6**	**+0.5**
KRER	**Koryakskii**	**4.20**	**229**	PN	**Pn**	**00 01 40.5**	**+0.9**
KRER	**Koryakskii**	**4.20**	**229**	*eP*	**Pn**	**00 01 40.6**	**+0.9**
SMAR	**Somma**	**4.20**	**228**	PN	**Pn**	**00 01 40.1**	**+0.4**
SMAR	**Somma**	**4.20**	**228**	*eP*	**Pn**	**00 01 40.2**	**+0.4**
AVH	**Avacha**	**4.23**	**229**	PN	**Pn**	**00 01 41.2**	**+1.2**
AVH	**Avacha**	**4.23**	**229**	*eP*	**Pn**	**00 01 41.2**	**+1.2**
UGLR	**Uglovaya**	**4.23**	**227**	PN	**Pn**	**00 01 40.6**	**+0.6**
UGLR	**Uglovaya**	**4.23**	**227**	*eP*	**Pn**	**00 01 40.7**	**+0.6**
KOK	**Koryaka**	**4.25**	**229**	PN	**Pn**	**00 01 41.3**	**+1.0**
KOK	**Koryaka**	**4.25**	**229**	*eP*	**Pn**	**00 01 41.4**	**+1.0**
GNL	**Ganaly**	**4.30**	**237**	PN	**Pn**	**00 01 42.3**	**+1.4**
GNL	**Ganaly**	**4.30**	**237**	*eP*	**Pn**	**00 01 42.3**	**+1.4**
DALK	**Dalny**	**4.39**	**226**	PN	**Pn**	**00 01 42.4**	**+0.3**
DALK	**Dalny**	**4.39**	**226**	*eP*	**Pn**	**00 01 42.4**	**+0.3**
DALK				*eS*	**Sn**	**00 02 32.8**	**-0.5**
PET	**Petropavlovsk**	**4.44**	**227**		**Pn**	**00 01 42.3**	**-0.5**
PET	**Petropavlovsk**	**4.44**	**227**	*e*PN	**Pn**	**00 01 43.0**	**+0.2**
PET	comp=Z,60nm,0.6s			pmax	pmax		
PET	comp=Z,200nm,8.0s			MLR	MLR		
PET	**Petropavlovsk**	**4.44**	**227**	*eP*	**Pn**	**00 01 43.4**	**+0.6**
PET				*eS*	**Sn**	**00 02 34.1**	**-0.4**
PEA0B	**Petropavlovsk-**	**4.79**	**233**		**Pn**	**00 01 47.8**	**+0.2**
PEA0B	**Petropavlovsk-**	**4.79**	**233**	PN	**Pn**	**00 01 47.8**	**+0.2**
PETK	**Petropavlovsk-**	**4.79**	**233**		**Pn**	**00 01 47.8**	**+0.2**
PETK	**Petropavlovsk-**	**4.79**	**233**	Pn	**Pn**	**00 01 48.1**	**+0.5**
PETK	comp=Z,2.9nm,0.3s,baz=56,slow=15,SNR=29			Sn	**Sn**	**00 02 45.3**	**+2.2**
	comp=Z,2.1nm,0.3s,baz=31,slow=17,SNR=4.1						
	comp=Z,6.3nm,0.5s						
KRMR	**Karymshinskiy**	**4.80**	**228**	PN	**Pn**	**00 01 49.0**	**+1.3**
KRMR	**Karymshinskiy**	**4.80**	**228**	*eP*	**Pn**	**00 01 49.1**	**+1.3**
RUS	**Russkaya**	**4.95**	**223**	PN	**Pn**	**00 01 50.1**	**+0.4**
RUS	**Russkaya**	**4.95**	**223**	*eP*	**Pn**	**00 01 50.1**	**+0.4**
GRL	**Gorelyy**	**5.03**	**226**	PN	**Pn**	**00 01 52.7**	**+1.7**
GRL	**Gorelyy**	**5.03**	**226**	*eP*	**Pn**	**00 01 52.8**	**+1.7**
MTVR	**Mutnovka**	**5.04**	**225**	PN	**Pn**	**00 01 52.3**	**+1.2**
MTVR	**Mutnovka**	**5.04**	**225**	*eP*	**Pn**	**00 01 52.3**	**+1.2**
MTVR				*eS*	**Sn**	**00 02 48.8**	**-0.6**
ASAK	**Asacha**	**5.22**	**226**	PN	**Pn**	**00 01 55.2**	**+1.6**
ASAK	**Asacha**	**5.22**	**226**	*eP*	**Pn**	**00 01 55.2**	**+1.6**
MIPR	**Malaya Ipel'ka**	**5.78**	**230**	PN	**Pn**	**00 02 03.3**	**+2.1**
MIPR	**Malaya Ipel'ka**	**5.78**	**230**	*eP*	**Pn**	**00 02 03.3**	**+2.1**
SKR	**Severo-Kuril's**	**7.25**	**224**	*e*PN	**Pn**	**00 02 21.5**	**+0.2**
SKR	comp=Z,47nm,0.5s			pmax	pmax		
SKR	comp=Z,100nm,13.0s			MLR	MLR		
MA2	**Magadan**	**7.84**	**301**	LR	LR	00 05 33.2	
	comp=Z,237nm,20.0s,baz=117,slow=38						
MA2	**Magadan**	**7.84**	**301**	*i* PN	**Pn**	**00 02 28.7**	**-0.7**
MA2	comp=Z,3.0nm,0.3s			pmax	pmax		
SEY	**Seymchan**	**8.97**	**324**	LR	LR	00 06 40.5	
	comp=Z,193nm,18.0s,baz=110,slow=41						
BILL	**Bilibino**	**11.95**	**4**	*i* PN	**Pn**	**00 03 26.2**	**+0.6**
BILL	comp=Z,2.0nm,0.3s			pmax	pmax		
ATKA	**Atka Island**	**13.35**	**98**	Pn	**Pn**	**00 03 44.4**	**-0.3**
TYV	**Tymovskoe**	**13.75**	**256**	*eP*	**Pn**	**00 03 51.7**	**+1.4**
TYV	comp=Z,100nm,3.4s			pmax	pmax		
TYV	comp=Z,10.0nm,1.2s			pmax	pmax		
SPIA	**Saint Paul Isl**	**14.15**	**75**	P	**Pn**	**00 03 56.6**	**+0.9**
	baz=277						
GAMB	**Gambell**	**14.26**	**48**	P	**Pn**	**00 03 57.6**	**+0.4**
	baz=249						
P08K	**Saint George I**	**14.62**	**77**	P	**Pn**	**00 04 02.9**	**+0.9**
	baz=280						
NIKH	**Nikolski High**	**16.01**	**90**	P	**Pn**	**00 04 21.5**	**+1.1**
	baz=293						
YSS	**Yuzhno-Sakhali**	**16.06**	**244**	*e*P	**Pn**	**00 04 21.8**	**+0.6**
YSS	comp=Z,100nm,13.0s			MLR	MLR		
M11K	**Mekoryuk**	**16.14**	**63**	P	**Pn**	**00 04 22.5**	**+0.5**
	baz=268						
TNA	**Tin City**	**16.43**	**44**	P	**Pn**	**00 04 26.4**	**+0.7**
	baz=249						
K13K	**Kusilvak Mount**	**16.99**	**57**	P	**Pn**	**00 04 33.3**	**+0.5**
	baz=265						
UNV	**Unalaska Valle**	**17.01**	**86**	Pn	**Pn**	**00 04 32.7**	**-0.4**
UNV	**Unalaska Valle**	**17.01**	**86**	P	**Pn**	**00 04 32.8**	**-0.4**
	baz=290						
F14K	**Arctic Creek**	**17.02**	**45**	P	**Pn**	**00 04 33.1**	**-0.2**
	baz=251						
ANM	**Nome**	**17.14**	**48**	P	**Pn**	**00 04 34.6**	**-0.1**
	baz=255						
M13K	**Dall Lake**	**17.55**	**63**	Pn	**Pn**	**00 04 39.8**	**-0.1**
M13K				IAmb	IAmb	00 04 49.2	
	comp=Z,44nm,1.5s						
M13K	**Dall Lake**	**17.55**	**63**	P	**Pn**	**00 04 39.4**	**-0.5**
	baz=271						
J14K	**Nanvaranak Lak**	**17.59**	**55**	P	**Pn**	**00 04 40.6**	**+0.3**
	baz=263						
F15K	**North Star Dit**	**17.76**	**45**	P	**Pn**	**00 04 41.8**	**-0.7**
	baz=253						
G15K	**Nuukluk**	**17.80**	**47**	P	**Pn**	**00 04 42.9**	**0.0**
	baz=256						
L14K	**Kuka Creek**	**17.89**	**60**	Pn	**Pn**	**00 04 43.7**	**-0.3**
L14K	**Kuka Creek**	**17.89**	**60**	P	**P**	**00 04 44.7**	**0.0**
	baz=268						
JKA	**Kamikawa-asahi**	**18.18**	**237**	Pn	**Pn**	**00 04 46.0**	**-1.8**
JKA				IAmb	IAmb	00 04 49.0	
	comp=Z,32nm,1.0s						
ASAJ	**Asahikawa**	**18.18**	**237**	P	**Pn**	**00 04 44.9**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=39,slow=4.9,SNR=10						
	comp=Z,26nm,1.0s						
ASAJ	**Asahikawa**	**18.18**	**237**	P	**Pn**	**00 04 46.0**	**-1.8**
ASAJ				pmax	pmax		
	comp=Z,32nm,1.0s						
M14K	**Bethel**	**18.23**	**61**		**Pn**	**00 04 48.2**	**-0.1**
M14K				IAmb	IAmb	00 04 59.1	
	comp=Z,21nm,1.2s						
M14K	**Bethel**	**18.23**	**61**	P	**Pn**	**00 04 47.7**	**-0.6**
	baz=271						
N14K	**Kuskokwak Cree**	**18.40**	**64**	P	**Pn**	**00 04 50.7**	**+0.4**
	baz=274						
YAK	**Yakutsk**	**18.41**	**303**	LR	LR	00 12 03.2	
	comp=Z,64nm,19.8s,baz=88,slow=38						
YAK	**Yakutsk**	**18.41**	**303**	*i* P	**Pn**	**00 04 51.4**	**+1.0**
YAK	comp=Z,8.0nm,0.8s			pmax	pmax		
C16K	**Lisburne Hills**	**18.46**	**37**	P	**P**	**00 04 50.4**	**-0.5**
	baz=244						
L15K	**Ungalak Mounta**	**18.47**	**58**	P	**P**	**00 04 50.1**	**-1.0**
	baz=268						
H16K	**Elim**	**18.47**	**49**	P	**P**	**00 04 49.8**	**-1.3**
	baz=259						
K15K	**Wolf Creek Mou**	**18.48**	**57**	P	**P**	**00 04 50.7**	**-0.5**
	baz=267						
G16K	**Koyuk River**	**18.59**	**47**	P	**P**	**00 04 52.3**	**-0.1**
	baz=256						
O14K	**Tigyukauivet M**	**18.67**	**66**	P	**Pn**	**00 04 55.5**	**+1.9**
O14K	**Tigyukauivet M**	**18.67**	**66**	P	**P**	**00 04 52.7**	**-0.6**
	baz=276						
M15K	**Kasigluk River**	**18.86**	**62**	P	**P**	**00 04 55.1**	**-0.3**
	baz=272						
S12K	**Black Hills**	**18.90**	**77**		**Pn**	**00 04 58.2**	**+1.7**
S12K	**Black Hills**	**18.90**	**77**	P	**P**	**00 04 56.4**	**+0.5**
	baz=286,SNR=6.7						
J16K	**Anvik River**	**18.99**	**54**	P	**P**	**00 04 56.3**	**-0.4**
	baz=265						
D17K	**Noatak River**	**19.01**	**40**	P	**P**	**00 04 56.3**	**-0.6**
	baz=249						
I17K	**Unalakleet**	**19.02**	**52**	P	**P**	**00 04 57.1**	**+0.1**
	baz=263						
N15K	**Kwethluk River**	**19.18**	**63**		**Pn**	**00 05 03.5**	**+3.6**
N15K				IAmb	IAmb	00 05 07.1	
	comp=Z,9.8nm,0.6s						
N15K	**Kwethluk River**	**19.18**	**63**	P	**P**	**00 04 58.7**	**-0.2**
	baz=274						
E17K	**Hotham Inlet**	**19.26**	**42**	P	**P**	**00 04 59.7**	**0.0**
	baz=252						
C17K	**DeLong Mountai**	**19.27**	**37**	P	**P**	**00 04 59.5**	**-0.4**
	baz=247						
F17K	**Baldwin Pennin**	**19.29**	**44**	P	**P**	**00 04 59.7**	**-0.4**
	baz=255						
G17K	**Kiwalik Mounta**	**19.31**	**47**	P	**P**	**00 04 59.3**	**-1.0**
	baz=258						
O15K	**Ungalikthiuk R**	**19.41**	**66**	P	**P**	**00 05 00.2**	**-1.2**
	baz=277						
L16K	**Owhat River**	**19.43**	**58**	P	**P**	**00 05 01.6**	**0.0**
	baz=270						
H17K	**Granite Mounta**	**19.51**	**49**	P	**P**	**00 05 02.9**	**+0.5**
	baz=261						
J17K	**VABM Dome**	**19.68**	**53**	P	**P**	**00 05 04.4**	**+0.1**
	baz=266						
M16K	**Timber Creek**	**19.69**	**60**	P	**P**	**00 05 04.0**	**-0.5**
	baz=272						
E18K	**Tukpahlearik C**	**19.82**	**41**	P	**P**	**00 05 05.6**	**-0.2**
	baz=253						
N16K	**Nishlik Lake**	**19.82**	**62**	P	**P**	**00 05 04.9**	**-1.0**
	baz=274						
SDPT	**Sand Point**	**19.86**	**78**	P	**P**	**00 05 06.3**	**-0.1**
	baz=287						
F18K	**Selawik**	**19.95**	**44**	P	**P**	**00 05 05.9**	**-1.4**
	baz=256						
L17K	**Donlin**	**19.99**	**57**	P	**P**	**00 05 06.5**	**-1.3**
	baz=270						
K17K	**Iditarod**	**20.00**	**55**	P	**Pn**	**00 05 14.1**	**+4.5**
K17K				IAmb	IAmb	00 05 15.7	
	comp=Z,12nm,1.1s						
K17K	**Iditarod**	**20.00**	**55**	P	**P**	**00 05 06.8**	**-1.0**
	baz=266						
C18K	**Utukok River**	**20.01**	**38**	P	**P**	**00 05 06.7**	**-1.2**
	baz=249						
B18K	**Kokolik River**	**20.08**	**35**	P	**P**	**00 05 07.8**	**-0.9**
	baz=246						
H18K	**Honhosa River**	**20.19**	**48**	P	**P**	**00 05 09.0**	**-0.9**
	baz=262						
G18K	**Tagagawik**	**20.20**	**46**	P	**P**	**00 05 08.7**	**-1.2**
	baz=259						
O16K	**Kokwok River B**	**20.24**	**65**	P	**P**	**00 05 09.4**	**-1.0**
	baz=277						
P16K	**Nushagak River**	**20.37**	**66**	P	**P**	**00 05 11.6**	**-0.2**
	baz=279						
M17K	**Holitna River**	**20.41**	**59**		Pn	00 05 15.7	+1.2
M17K				IAmb	IAmb	00 05 19.1	
	comp=Z,12nm,0.8s						
M17K	**Holitna River**	**20.41**	**59**	P	**P**	**00 05 11.2**	**-1.1**
	baz=273						
CHNA	**Chenabura Isl**	**20.51**	**78**	P	**P**	**00 05 12.6**	**-0.8**
	baz=289						
CNBA	**Chernabura Isl**	**20.51**	**79**	P	**P**	**00 05 13.1**	**-0.3**
CNBA				IAmb	IAmb	00 05 29.9	
	comp=Z,14nm,1.0s						
N17K	**Nushagak Hills**	**20.59**	**62**	Pn	Pn	00 05 17.6	+1.1
N17K	**Nushagak Hills**	**20.59**	**62**	P	**P**	**00 05 12.9**	**-1.4**
	baz=275						
KLR	**Kul'dur**	**20.61**	**264**	LR	LR	00 13 08.1	
	comp=Z,55nm,18.3s,baz=77,slow=37						
KLR	**Kul'dur**	**20.61**	**264**	*i* P	**P**	**00 05 12.9**	**-1.6**
KLR	comp=Z,13nm,2.9s			pmax	pmax		
A19K	**Wainwright**	**20.66**	**34**	P	**P**	**00 05 13.4**	**-1.6**
	baz=245						
C19K	**Lookout Ridge**	**20.72**	**37**	P	**P**	**00 05 16.3**	**+0.7**
C19K				IAmb	IAmb	00 05 36.2	
	comp=Z,34nm,1.4s						
C19K	**Lookout Ridge**	**20.72**	**37**	P	**P**	**00 05 14.4**	**-1.3**
	baz=250						
O17K	**Koliganek Bris**	**20.72**	**64**	P	**P**	**00 05 14.6**	**-1.1**
	baz=277						
F19K	**Shaleruckik Mo**	**20.73**	**44**		Pn	00 05 17.2	-0.9
F19K	**Shaleruckik Mo**	**20.73**	**44**	P	**P**	**00 05 13.8**	**-1.9**
	baz=258						
L18K	**Granite Mounta**	**20.74**	**57**		Pn	00 05 18.6	+0.4
L18K	**Granite Mounta**	**20.74**	**57**	P	**P**	**00 05 14.3**	**-1.6**
	baz=271						
J18K	**Innoko River**	**20.75**	**53**	P	Pn	00 05 17.7	-0.6
J18K	**Innoko River**	**20.75**	**53**	P	**P**	**00 05 14.3**	**-1.7**
	baz=268						
G19K	**Purcell Mounta**	**20.87**	**46**	P	**P**	**00 05 15.1**	**-2.2**
	baz=260						
D19K	**Kuna River**	**21.03**	**39**	P	**P**	**00 05 16.5**	**-2.5**
	baz=253						
H19K	**Roundabout Mou**	**21.04**	**48**		**P**	**00 05 22.0**	**+3.0**
H19K	**Roundabout Mou**	**21.04**	**48**	P	**P**	**00 05 16.6**	**-2.4**
	baz=263						
E19K	**Redstone River**	**21.08**	**42**	P	**P**	**00 05 22.4**	**+2.9**
E19K	**Redstone River**	**21.08**	**42**	P	**P**	**00 05 17.3**	**-2.2**
	baz=257						
M18K	**Stony River**	**21.18**	**59**	P	**P**	**00 05 19.1**	**-1.6**
	baz=274						
N18K	**Kilae Creek**	**21.22**	**61**	P	**P**	**00 05 23.3**	**+2.3**
N18K	**Kilae Creek**	**21.22**	**61**	P	**P**	**00 05 19.0**	**-2.1**
	baz=276						
J19K	**Poorman**	**21.26**	**52**		**P**	**00 05 22.9**	**+1.5**
J19K	**Poorman**	**21.26**	**52**	P	**P**	**00 05 19.6**	**-1.8**
	baz=268						
TIXI	**Tiksi**	**21.38**	**330**		**P**	**00 05 23.4**	**+0.7**
TIXI	**Tiksi**	**21.38**	**330**	P	**P**	**00 05 23.8**	**+1.1**
	comp=Z,2.8nm,0.7s,baz=125,slow=12,SNR=10						
	comp=Z,2.8nm,0.7s						
TIXI	**Tiksi**	**21.38**	**330**	*i* P	**P**	**00 05 23.1**	**+0.4**
TIXI	comp=Z,12nm,1.8s			pmax	pmax		
R17L	**Mt. Peulik Vol**	**21.48**	**70**	P	**P**	**00 05 22.2**	**-1.6**
	baz=283						
PLK4	**Peulik 4**	**21.48**	**70**	P	**P**	**00 05 25.1**	**+1.2**
PLK4				IAmb	IAmb	00 05 30.4	
	comp=Z,24nm,1.1s						
JTM	**Tenmabayashi**	**21.49**	**234**	P	**P**	**00 05 24.7**	**+0.6**
F20K	**Avaraart Lake**	**21.57**	**44**	P	**P**	**00 05 26.7**	**+2.0**
F20K	**Avaraart Lake**	**21.57**	**44**	P	**P**	**00 05 23.0**	**-1.7**
	baz=260						
Q17K	**Contact Creek**	**21.59**	**68**	P	**P**	**00 05 24.1**	**-1.1**
	baz=282						
L19K	**White Mountain**	**21.61**	**57**	P	**P**	**00 05 27.4**	**+2.2**
L19K	**White Mountain**	**21.61**	**57**	P	**P**	**00 05 24.2**	**-1.0**
	baz=273						
D20K	**Etivluk River**	**21.62**	**39**	P	**P**	**00 05 27.6**	**+2.3**
D20K				IAmb	IAmb	00 05 28.9	
	comp=Z,17nm,1.3s						
D20K	**Etivluk River**	**21.62**	**39**	P	**P**	**00 05 23.9**	**-1.4**
	baz=254						
E20K	**Nigu River**	**21.65**	**40**	P	**P**	**00 05 24.8**	**-0.9**
	baz=256						
O18K	**Koktuh Hills**	**21.66**	**63**	P	**P**	**00 05 27.8**	**+2.0**
O18K				IAmb	IAmb	00 05 37.0	
	comp=Z,26nm,1.3s						
O18K	**Koktuh Hills**	**21.66**	**63**	P	**P**	**00 05 25.2**	**-0.6**
	baz=278						
H20K	**Anotleneega Mo**	**21.68**	**48**	P	**P**	**00 05 26.1**	**+0.1**
	baz=264						
P18K	**Big Mountain,**	**21.71**	**65**	P	**P**	**00 05 26.7**	**+0.3**
P18K				IAmb	IAmb	00 05 37.3	
	comp=Z,18nm,1.2s						
P18K	**Big Mountain,**	**21.71**	**65**	P	**P**	**00 05 26.2**	**-0.2**
	baz=280						
I20K	**Naaghedeneel**	**21.80**	**50**	P	**P**	**00 05 26.6**	**-0.5**
	baz=267						
B20K	**Meade River**	**21.83**	**35**	P	**P**	**00 05 28.6**	**+1.2**
B20K	**Meade River**	**21.83**	**35**	P	**P**	**00 05 27.8**	**+0.4**
	baz=251						
M19K	**Big River Lodg**	**21.84**	**58**		**P**	**00 05 29.5**	**+1.8**
M19K	**Big River Lodg**	**21.84**	**58**	P	**P**	**00 05 26.8**	**-0.9**
	baz=274						
ACHA	**Angle Creek He**	**21.89**	**68**	P	**P**	**00 05 30.5**	**+2.2**
N19K	**Bonanza Creek**	**21.89**	**61**	P	**P**	**00 05 29.4**	**+1.1**
N19K	**Bonanza Creek**	**21.89**	**61**	P	**P**	**00 05 28.3**	**0.0**
	baz=277						
J20K	**Nowinta River**	**21.91**	**52**		**P**	**00 05 31.2**	**+2.8**
J20K	**Nowinta River**	**21.91**	**52**	P	**P**	**00 05 28.5**	**0.0**
	baz=268						
K20K	**Telida**	**21.93**	**54**	P	**P**	**00 05 29.1**	**+0.3**
	baz=270						
Q18K	**Katmai Hardscr**	**21.96**	**66**	P	**P**	**00 05 29.2**	**0.0**
	baz=282						
L20K	**Farewell, AK**	**22.05**	**56**	P	**P**	**00 05 30.2**	**+0.2**
	baz=273						
O19K	**Port Alsworth**	**22.05**	**62**	P	**P**	**00 05 31.1**	**+1.2**
	baz=278						
IMAR	**Indian Mountai**	**22.20**	**47**	P	**P**	**00 05 34.0**	**+2.5**
CHIR	**Chirikof Islan**	**22.35**	**74**	P	**P**	**00 05 34.5**	**+1.3**
CHIR	**Chirikof Islan**	**22.35**	**74**	P	**P**	**00 05 34.0**	**+0.8**
	baz=288						
G21K	**Allakaket**	**22.36**	**45**	P	**P**	**00 05 33.8**	**+0.6**
	baz=263						
C21K	**Knifeblade Rid**	**22.38**	**38**	P	**P**	**00 05 33.3**	**-0.1**
	baz=256						
M20K	**Styx River**	**22.43**	**58**	P	**P**	**00 05 34.3**	**+0.1**
	baz=275						
F21K	**Alatna River**	**22.46**	**44**	P	**P**	**00 05 35.1**	**+0.7**
	baz=262						
A21K	**Barrow**	**22.46**	**32**	P	**P**	**00 05 34.0**	**-0.3**
	baz=248						
R18K	**Karluk**	**22.49**	**69**	P	**P**	**00 05 35.2**	**+0.5**
	baz=284						
E21K	**Killik River**	**22.50**	**40**	P	**P**	**00 05 35.1**	**+0.4**
	baz=258						
B21K	**Ikpikpuk River**	**22.55**	**37**	P	**P**	**00 05 36.9**	**+1.6**

COLD **Coldfoot** 23.73 44 P P 00 05 47.0 -0.2
baz=265
G23K **Bananza Creek** 23.76 45 P P 00 05 47.9 +0.3
G23K **Bananza Creek** 23.76 45 P P 00 05 47.8 +0.2
baz=266
D23K **Nanushuk River** 23.78 40 P P 00 05 48.6 +0.8
D23K **Nanushuk River** 23.78 40 P P 00 05 47.9 +0.1
baz=260
M22K **Willow** 23.87 58 P P 00 05 48.9 +0.3
baz=278
H23K **Yukon River** 23.91 47 P P 00 05 49.5 +0.5
H23K **Yukon River** 23.91 47 P P 00 05 49.2 +0.1
baz=269
C23K **Itkillik River** 23.96 37 P P 00 05 50.1 +0.7
C23K **Itkillik River** 23.96 37 P P 00 05 49.7 +0.2
baz=259
BWN **Browne** 23.96 52 P P 00 05 51.5 +2.0
I23K **Minto, Yukon-K** 23.98 49 P P 00 05 49.7 0.0
baz=270
E23K **Chandalar** 24.04 42 IAmb IAmb 00 05 52.9
comp=Z,20nm,1.4s
E23K **Chandalar** 24.04 42 P P 00 05 49.6 -0.7
baz=264,SNR=5.9
NEA2 **Nenana** 24.12 50 P P 00 05 51.2 +0.2
NEA2 **Nenana** 24.12 50 P P 00 05 51.4 +0.5
baz=272
TOLK **Toolik Lake Re** 24.13 40 P P 00 05 51.6 +0.5
TOLK IAmb IAmb 00 05 52.9
comp=Z,7.9nm,0.9s
TOLK **Toolik Lake Re** 24.13 40 P P 00 05 51.5 +0.5
baz=262
RC01 **Rabbit Creek A** 24.15 59 P P 00 05 51.8 +0.5
RC01 IAmb IAmb 00 05 52.2
comp=Z,15nm,1.0s
RC01 **Rabbit Creek A** 24.15 59 P P 00 05 51.6 +0.3
baz=279
MCK **McKinley** 24.22 53 P P 00 05 52.2 +0.2
baz=274
O22K **Cooper Landing** 24.26 61 P P 00 05 52.6 +0.3
baz=281
PMR **Palmer** 24.36 58 P P 00 05 54.0 +0.8
baz=279
GHO **Glory Hole Cre** 24.43 57 P P 00 05 54.2 +0.2
GHO IAmb IAmb 00 06 07.2
comp=Z,6.5nm,1.0s
E24K **Your Creek** 24.46 42 P P 00 05 55.2 +1.1
E24K IAmb IAmb 00 06 03.1
comp=Z,9.8nm,1.1s
E24K **Your Creek** 24.46 42 P P 00 05 54.5 +0.3
baz=265,SNR=6.3
SEW **Seward** 24.46 61 P P 00 05 55.0 +0.8
baz=282
D24K **Happy Valley** 24.46 39 P P 00 05 54.6 +0.4
D24K **Happy Valley** 24.46 39 P P 00 05 54.3 +0.1
baz=262
WAT1 **Susitna Watana** 24.47 55 P P 00 05 55.0 +0.7
baz=276
WRH **Wood River Hil** 24.55 51 IAmb IAmb 00 05 56.0
comp=Z,11nm,0.9s
WRH P P 00 05 56.1 +1.2
C24K **Franklin Bluff** 24.59 38 P P 00 05 55.9 +0.6
baz=261
H24K **Noodor Dome** 24.60 47 IAmb IAmb 00 06 02.6
comp=Z,8.0nm,1.3s
H24K **Noodor Dome** 24.60 47 P P 00 05 55.3 -0.1
baz=270
COLA **College** 24.63 50 *i* P P 00 05 55.9 +0.3
COLA pmax pmax
comp=Z,6.0nm,1.1s
COLA **College** 24.63 50 P P 00 05 55.7 +0.1
baz=272
F24K **Squaw Lake** 24.64 43 P P 00 05 57.0 +1.2
F24K **Squaw Lake** 24.64 43 P P 00 05 55.6 -0.2
baz=267
CCB **Clear Creek Bu** 24.66 50 IAmb IAmb 00 05 57.5
comp=Z,9.9nm,1.1s
KNK **Knik Glacier** 24.71 58 P P 00 05 56.5 +0.1
baz=280
G24K **Hadweenzic Riv** 24.77 45 IAmb IAmb 00 06 07.5
comp=Z,9.7nm,0.8s
G24K **Hadweenzic Riv** 24.77 45 P P 00 05 57.4 +0.5
baz=269,SNR=8.8
POKR **Poker Plat Res** 24.80 49 P P 00 05 58.2 +1.1
POKR IAmb IAmb 00 06 10.7
comp=Z,4.3nm,0.8s
POKR **Poker Plat Res** 24.80 49 P P 00 05 57.8 +0.6
baz=272
PWL **Port Wells** 24.86 59 P P 00 05 57.6 -0.2
PWL **Port Wells** 24.86 59 P P 00 05 57.7 -0.2
baz=281,SNR=9.3
WAT6 **Susitna Watana** 24.87 55 P P 00 05 57.1 -1.0
baz=278
DHY **Denali Highway** 24.98 54 P 00 05 58.9 -0.2
DHY **Denali Highway** 24.98 54 P P 00 05 58.8 -0.2
baz=277
M23K **Glacier View** 24.99 57 P P 00 05 58.9 0.0
baz=279
HDA **Harding Lake** 25.04 51 P 00 05 59.9 +0.5
HDA **Harding Lake** 25.04 51 P P 00 05 59.5 +0.1
baz=274
IL31 25.05 50 IAmb IAmb 00 06 00.1
comp=Z,5.7nm,1.1s
ILAR **Eielson Array** 25.05 50 P P 00 05 59.8 +0.4
ILAR **Eielson Array** 25.05 50 P P 00 05 58.8 -0.7
comp=Z,2.6nm,0.9s,baz=273,slow=8.8,SNR=30
comp=Z,2.6nm,0.9s
ILAR **Eielson Array** 25.05 50 *e*P P 00 05 59.0 -0.4
ILAR pmax pmax
comp=Z,3.0nm,0.9s
SCM **Sheep Creek Mo** 25.17 57 P P 00 06 01.0 +0.3
baz=279,SNR=5.1
G25K **Bearman Lake** 25.32 45 P P 00 06 01.8 0.0
baz=270
D25K **Kavik River** 25.35 39 P P 00 06 02.9 +0.7
D25K IAmb IAmb 00 06 37.0
comp=Z,14nm,1.3s
D25K **Kavik River** 25.35 39 P P 00 06 02.1 -0.1
baz=264
GLI **Glacier Island** 25.45 59 P P 00 06 03.1 0.0
baz=282
P23K **Montague Islan** 25.49 61 P P 00 06 03.7 +0.2
baz=283
F25K **Christian Rive** 25.51 43 P P 00 06 03.9 +0.2
F25K IAmb IAmb 00 06 05.4
comp=Z,18nm,1.5s
F25K **Christian Rive** 25.51 43 P P 00 06 03.6 0.0
baz=269
E25K **Arctic Village** 25.56 42 IAmb IAmb 00 06 06.5
comp=Z,11nm,1.2s
E25K **Arctic Village** 25.56 42 P P 00 06 03.9 -0.1
baz=268
PRP **Porcupine Dome** 25.58 48 P P 00 06 04.4 0.0
baz=273,SNR=9.0
K24K **Donnelly Dome** 25.61 52 P P 00 06 03.7 -0.8
baz=276
M24K **Tolsona, Glenn** 25.66 56 P P 00 06 05.9 +0.8
M24K **Tolsona, Glenn** 25.66 56 P P 00 06 04.9 -0.2
baz=280
J25K **Salcha River,** 25.71 50 P P 00 06 05.0 -0.5
baz=275
PAX **Paxson** 25.85 54 P P 00 06 06.4 -0.5
baz=278
KLU **Klutina** 25.89 57 P P 00 06 06.6 -0.6
baz=281
BMAR **Burnt Mountain** 25.91 44 P P 00 06 08.3 +1.0
C26K **Camden Bay** 25.92 38 P P 00 06 06.5 -0.7
baz=264
RIDG **Independent Ri** 26.03 52 P P 00 06 07.7 -0.7
baz=277
F26K **Sheenjek River** 26.08 43 P P 00 06 10.0 +1.1
F26K **Sheenjek River** 26.08 43 P P 00 06 07.4 -1.4
baz=270
HARP **HAARP** 26.09 55 P P 00 06 08.6 -0.3
baz=280
Q23K **Middleton Isla** 26.14 62 P P 00 06 09.4 0.0
baz=285
EYAK **Cordova Ski Ar** 26.17 59 P P 00 06 09.2 -0.4
baz=283
G26K **Porcupine Rive** 26.23 45 IAmb IAmb 00 06 11.7
comp=Z,5.8nm,1.1s
G26K **Porcupine Rive** 26.23 45 P P 00 06 10.0 -0.1
baz=272
MJA0 **Matsu Arr-Jizo** 26.23 232 *e*P P 00 06 10.1 -0.3
MJA0 pmax pmax
comp=Z,6.0nm,0.9s
MAJO **Matsushiro** 26.25 232 *i* P P 00 06 10.4 -0.2
MAJO pmax pmax
comp=Z,13nm,1.0s
MJAR **Matsushiro Arr** 26.25 232 P P 00 06 09.7 -0.9
comp=Z,4.8nm,0.8s,baz=24,slow=8.7,SNR=12
MJAR LR LR 00 18 24.3
comp=Z,43nm,18.4s,baz=67,slow=41
comp=Z,4.8nm,0.8s
C27K **Jago River** 26.31 39 P P 00 06 10.3 -0.6
baz=266
SCRK **Sand Creek** 26.38 51 IAmb IAmb 00 06 11.5
comp=Z,6.6nm,0.9s
SCRK **Sand Creek** 26.38 51 P P 00 06 10.9 -0.7
baz=278,SNR=9.8
N25K **Chitina, Valde** 26.49 57 P P 00 06 13.1 +0.4
N25K IAmb IAmb 00 06 13.8
comp=Z,3.8nm,0.7s
N25K **Chitina, Valde** 26.49 57 P P 00 06 11.8 -0.8
baz=282
J26L **Joseph Creek** 26.50 50 P P 00 06 12.6 -0.1
J26L **Joseph Creek** 26.50 50 P P 00 06 11.1 -1.5
baz=277
I26K **Coal Creek Min** 26.59 48 P P 00 06 12.5 -0.9
baz=276
BMRM **Bremner River** 26.62 58 P P 00 06 13.6 -0.2
baz=283
RAGM **Ragged Mountai** 26.73 60 P P 00 06 15.5 +0.8
RAGM IAmb IAmb 00 06 24.1
comp=Z,9.7nm,1.0s
L26K **Log Cabin Wild** 26.80 53 P P 00 06 15.0 -0.3
baz=280
GLB **Gilahina Butte** 26.89 57 P P 00 06 18.0 +1.8
KAIM **Kayak Island** 26.96 60 P P 00 06 16.3 -0.5
baz=285
E27K **Coleen River** 27.04 42 P P 00 06 17.6 +0.2
baz=271
M26K **Nabesna, AK** 27.07 55 P P 00 06 18.1 +0.2
baz=281
G27K **Doyon Strip** 27.08 45 P P 00 06 19.2 +1.4
G27K **Doyon Strip** 27.08 45 P P 00 06 18.0 +0.2
baz=274
VRDI **Verde Repeater** 27.11 57 P P 00 06 18.9 +0.5
VRDI IAmb IAmb 00 06 20.3
comp=Z,9.3nm,1.3s
H27K **Steamboat Moun** 27.17 46 P 00 06 19.7 +1.0
H27K IAmb IAmb 00 06 20.6
comp=Z,12nm,1.3s
H27K **Steamboat Moun** 27.17 46 P P 00 06 18.6 -0.1
baz=275,SNR=8.2
I27K **Kandik River** 27.20 48 P P 00 06 19.2 +0.3
baz=276
D27M **Malcolm River** 27.27 40 P P 00 06 20.1 +0.5
D27M **Malcolm River** 27.27 40 P P 00 06 19.8 +0.2
baz=270
MCARA **McCarthy VSAT** 27.28 57 P P 00 06 19.7 +0.1
baz=283
CRQE **Cirque** 27.39 58 P P 00 06 21.5 +0.7
baz=284
BGLC **Bering Glacier** 27.46 60 P P 00 06 21.8 +0.6
baz=286
L27K **Beaver Creek,** 27.48 53 P P 00 06 22.6 +1.2
L27K IAmb IAmb 00 06 23.7
comp=Z,11nm,1.2s
L27K **Beaver Creek,** 27.48 53 P P 00 06 21.9 +0.4
baz=281,SNR=12
BCAR **Beaver Creek A** 27.50 53 P 00 06 22.3 +0.7
M27K **Edge Creek, AK** 27.59 55 IAmb IAmb 00 06 24.6
comp=Z,8.7nm,1.1s
M27K **Edge Creek, AK** 27.59 55 P P 00 06 23.2 +0.6
baz=282,SNR=5.7
F28M **Old Crow** 27.72 43 P P 00 06 23.3 -0.2
baz=274
E28M **Babbage River** 27.80 41 P P 00 06 24.0 -0.2
baz=272
I28M **Miner Creek** 27.91 48 P P 00 06 25.5 +0.2
baz=278
BVCY **Beaver Creek** 28.04 54 P P 00 06 26.5 0.0
baz=283
D28M **Stokes Point** 28.06 39 P P 00 06 26.2 -0.3
baz=272
MESA **MESA** 28.09 59 P P 00 06 27.0 -0.1
baz=286
CTG **Chitna Glacier** 28.17 57 P P 00 06 27.6 -0.1
baz=285
DAWY **Dawson** 28.36 51 P P 00 06 29.1 -0.2
DAWY IAmb IAmb 00 06 30.1
comp=Z,5.6nm,1.3s
DAWY **Dawson** 28.36 51 P P 00 06 29.1 -0.2
baz=281
YUK3 **Moose Creek** 28.38 56 P P 00 06 29.3 -0.4
baz=284
E29M **Blow River** 28.41 41 P P 00 06 30.1 +0.5
E29M IAmb IAmb 00 07 12.0
comp=Z,6.5nm,1.4s
E29M **Blow River** 28.41 41 P P 00 06 28.9 -0.8
baz=274
H29M **Whitestone** 28.45 46 IAmb IAmb 00 06 31.6
comp=Z,9.9nm,1.2s
H29M **Whitestone** 28.45 46 P P 00 06 29.7 -0.3
baz=278
G29M **Pine Creek** 28.50 44 P P 00 06 31.9 +1.4
G29M IAmb IAmb 00 06 32.6
comp=Z,7.4nm,1.1s
G29M **Pine Creek** 28.50 44 P P 00 06 31.0 +0.5
baz=277
I29M **Ogilvie Camp,** 28.60 48 IAmb IAmb 00 06 32.5
comp=Z,5.6nm,1.1s
I29M **Ogilvie Camp,** 28.60 48 P P 00 06 31.9 +0.5
baz=279,SNR=6.4
O28M **Mount Upton** 28.76 58 P P 00 06 33.1 -0.1
O28M IAmb IAmb 00 06 34.5
comp=Z,3.8nm,0.7s
O28M **Mount Upton** 28.76 58 P P 00 06 32.6 -0.6
baz=286
YUK8 **Steele Glacier** 28.82 56 P P 00 06 34.0 +0.3
baz=286
PINM **Pinnacle** 28.93 59 P P 00 06 34.4 0.0
baz=287
EPYK **Eagle Plains** 29.08 45 P P 00 06 35.8 +0.1
baz=279
L29M **L29M** 29.11 52 IAmb IAmb 00 06 38.0
comp=Z,7.3nm,0.9s
L29M **L29M** 29.11 52 P P 00 06 36.0 0.0
baz=284,SNR=7.7
M29M **Somme Creek** 29.12 54 IAmb IAmb 00 06 38.0
comp=Z,3.4nm,0.7s
M29M **Somme Creek** 29.12 54 P P 00 06 35.5 -0.7
baz=284,SNR=5.9
G30M **tAoh Zraii Nji** 29.19 44 P P 00 06 36.3 -0.4
baz=278
K29M **Barlow Dome** 29.21 51 P P 00 06 36.6 -0.4
baz=283
BCPM **Bancas Point** 29.27 59 P P 00 06 38.2 +0.9
F30M **Barrier River** 29.28 43 P P 00 06 36.7 -0.7
baz=277
YUK4 **Talbot Arm** 29.33 56 P P 00 06 38.2 +0.1
baz=286
I30M **Mount Dempster** 29.42 48 P P 00 06 39.3 +0.5
I30M IAmb IAmb 00 06 48.3
comp=Z,3.0nm,0.7s
I30M **Mount Dempster** 29.42 48 P P 00 06 38.0 -0.8
baz=281
PNL **Peninsula** 29.47 59 P P 00 06 38.7 -0.5
baz=289
J30M **Hart River** 29.57 49 P P 00 06 39.6 -0.5
baz=282
YUK6 **Outpost Mounta** 29.57 57 P P 00 06 39.9 -0.4
baz=287
O29M **Mount Kennedy** 29.66 58 P P 00 06 40.7 -0.4
baz=288
M30M **Minto, Yukon** 29.84 53 P P 00 06 42.0 -0.4
baz=285
G31M **Satah River** 29.96 44 P P 00 06 42.7 -0.6
baz=280
HYT **Haines Junctio** 30.01 57 P 00 06 45.5 +1.4
HYT IAmb IAmb 00 06 45.9
comp=Z,3.6nm,0.7s
HYT **Haines Junctio** 30.01 57 P P 00 06 44.6 +0.5
baz=288
N30M **Aishikik Lake** 30.01 55 P P 00 06 44.3 +0.2
baz=287
INK **Inuvik** 30.03 41 P P 00 06 44.7 +0.7
INK IAmb IAmb 00 06 44.9
comp=Z,3.5nm,0.6s
INK **Inuvik** 30.03 41 P P 00 06 44.7 +0.7
INK pmax pmax
comp=Z,3.0nm,0.6s
INK **Inuvik** 30.03 41 P P 00 06 43.8 -0.2
baz=278
F31M **Tsiigehtchic** 30.08 43 P P 00 06 45.5 +1.1
baz=279
H31M **Peel River** 30.14 46 P P 00 06 44.9 -0.1
H31M IAmb IAmb 00 07 25.2
comp=Z,7.3nm,1.2s
H31M **Peel River** 30.14 46 P P 00 06 45.8 +0.8
baz=282
P29M **Windy Craggy** 30.28 59 P P 00 06 46.9 +0.5
baz=290
P30M **Million Dollar** 30.49 58 P P 00 06 48.5 +0.3
baz=289
N31M **Braeburn, Yuko** 30.61 55 P P 00 06 50.0 +0.8
baz=288
O30N **Mendenhall** 30.68 56 P P 00 06 50.7 +0.8
baz=289
MIDW **Midway** 30.95 147 P P 00 06 54.5 +2.0
PLBC **Pleasant Camp** 31.00 59 P P 00 06 53.7 +1.1
baz=291
M31M **Drury Creek, Y** 31.02 53 P P 00 06 53.8 +0.9
baz=288
WHY **Whitehorse** 31.28 56 P 00 06 57.1 +1.9
WHY **Whitehorse** 31.28 56 P P 00 06 56.2 +0.9
baz=290,SNR=6.8
FARO **Faro, Yukon** 31.48 53 P P 00 06 57.5 +0.6
baz=288
S31K **Pelican** 31.61 61 P P 00 06 59.0 +0.9
baz=293
P32M **Atlin** 32.21 58 P P 00 07 03.6 +0.3
baz=292
MMPY **Sheldon Lake,** 32.27 52 P P 00 07 04.5 +0.6
baz=289
A36M **Sachs Harbour** 32.30 33 P P 00 07 04.1 +0.2
baz=279
R32K **Eaglecrest** 32.33 60 P P 00 07 05.8 +1.5
R32K IAmb IAmb 00 07 06.7
comp=Z,4.6nm,0.7s
R32K **Eaglecrest** 32.33 60 P P 00 07 05.9 +1.5
baz=293
P33M **Teslin, Yukon** 32.40 56 P P 00 07 05.9 +0.9
baz=292
SIT **Sitka** 32.43 63 P P 00 07 07.3 +2.1
SIT **Sitka** 32.43 63 P P 00 07 07.3 +2.1
SIT pmax pmax
comp=Z,17nm,1.0s
SIT **Sitka** 32.43 63 P P 00 07 05.8 +0.6
baz=295
S32K **Killisnoo** 32.63 62 P P 00 07 07.5 +0.6
baz=295
Q32M **Nakina River** 33.14 58 P P 00 07 13.5 +1.8
Q32M IAmb IAmb 00 07 14.1
comp=Z,3.1nm,0.6s
Q32M **Nakina River** 33.14 58 P P 00 07 11.2 -0.5
baz=294
R33M **Jennings River** 33.58 57 P 00 07 17.1 +1.7
R33M IAmb IAmb 00 07 18.2
comp=Z,4.7nm,0.9s
R33M **Jennings River** 33.58 57 P P 00 07 15.7 +0.3
baz=294,SNR=5.0
U33K **Whale Pass** 33.94 63 P P 00 07 18.4 +0.1
baz=297
TGTN **Hyland Airport** 33.98 53 P P 00 07 19.2 +0.5
baz=292
S34M **Telegraph Cree** 34.12 59 P P 00 07 19.9 0.0
baz=296
WRAK **Wrangell Islan** 34.18 62 P P 00 07 20.7 +0.2
baz=297
CRAG **Craig** 34.23 64 P P 00 07 20.7 -0.2
baz=298
DLBC **Dease Lake** 34.42 58 P P 00 07 22.4 -0.3
baz=296,SNR=6.7
T35M **Bob Quinn** 34.96 61 P P 00 07 27.4 +0.1
baz=297
V35K **Ketchikan** 35.06 64 P P 00 07 27.8 -0.3
baz=299
ULN **Ulaanbaatar** 35.09 281 *i* P P 00 07 27.9 -0.8
ULN pmax pmax
comp=Z,4.0nm,1.4s
SONM **Songino Array** 35.47 281 P P 00 07 30.8 -1.2
comp=Z,0.5nm,0.5s,baz=54,slow=7.3,SNR=3.7
SONM PcP **PcP** 00 10 01.3 +0.2
comp=Z,0.3nm,0.3s,baz=52,slow=2.4,SNR=2.0
comp=Z,0.5nm,0.5s
KOTAN **Kotaneelee Air** 36.44 53 P P 00 07 40.3 +0.4
baz=297
H11N2 **WAKE ISLAND Hy** 36.46 175 T T 00 46 26.7
baz=357,slow=76,SNR=3261
H11N3 **WAKE ISLAND Hy** 36.47 175 T T 00 46 28.6
baz=357,slow=76,SNR=1600
H11N1 **WAKE ISLAND Hy** 36.47 175 T T 00 46 30.0
baz=357,slow=76,SNR=1279
TOAD **Toad River Com** 36.48 56 P P 00 07 40.7 +0.4
baz=298,SNR=9.9
HHC **Hu-ho-hao-te** 36.99 268 *e*P P 00 07 45.1 +0.1
HHC pmax pmax
comp=Z,23nm,0.7s
JOW **Kunigami** 38.94 236 LR LR 00 23 43.3
comp=Z,127nm,21.6s,baz=261,slow=36
HOLB **Holberg** 39.33 69 P P 00 08 06.3 +1.8
HOLB IAmb IAmb 00 08 15.3
comp=Z,9.0nm,1.0s
GTA **Gaotai** 44.54 276 *e*P P 00 08 46.6 -0.7
GTA pP sP 00 08 51.5 +0.9
GTA pmax pmax
comp=Z,3.0nm,0.8s
LZH **Lanzhou** 44.65 270 P P 00 08 47.6 -0.6
LZH pP sP 00 08 52.6 +1.1
LZH sP pwP 00 08 54.9 +1.1
LZH pmax pmax
comp=Z,21nm,1.2s
BLKN **Baker Lake** 45.25 37 P 00 08 52.6 +0.2
J05D **Fort Rock, OR** 47.64 72 P 00 09 13.4 +1.8
L04D **Klamath Falls** 47.80 74 P 00 09 14.4 +1.5
KURK **Kurchatov** 48.05 302 P P 00 09 12.9 -1.6
WMQ **Urumqi** 48.11 289 *e*P P 00 09 16.5 +1.3
WMQ pP pwP 00 09 21.5 +0.6
WMQ pmax pmax
comp=Z,36nm,0.9s
WMQ LR LR
comp=Z,170nm,20.9s
KURBB **Kurchatov Arra** 48.15 302 P P 00 09 12.9 -2.5
comp=Z,0.6nm,0.5s,baz=53,slow=7.7,SNR=4.9
comp=Z,0.6nm,0.5s
BMO **Blue Mountains** 48.64 68 IAmb IAmb 00 09 20.8
comp=Z,2.6nm,0.8s
MKAR **Makanchi Array** 48.88 296 P P 00 09 18.8 -2.2
comp=Z,0.2nm,0.4s,baz=52,slow=6.6,SNR=6.2
comp=Z,0.2nm,0.4s
MSO **Missoula** 49.01 64 IAmb IAmb 00 09 23.3
comp=Z,6.7nm,1.2s
PLID **Pearl Lake** 49.15 67 P 00 09 24.2 +0.8
PLID IAmb IAmb 00 09 24.9
comp=Z,3.1nm,0.6s
BVAR **Borovoye Array** 50.26 308 P P 00 09 30.7 -0.7
comp=Z,0.9nm,0.6s,baz=46,slow=8.3,SNR=5.8
comp=Z,0.9nm,0.6s
BEKR **Beckworth** 50.49 75 IAmb IAmb 00 09 41.5
comp=Z,3.5nm,1.1s
SUMG **Summit** 50.59 9 P 00 09 35.0 +0.9
SUMG **Summit** 50.59 9 P P 00 09 35.0 +0.9
SUMG pmax pmax
comp=Z,21nm,1.5s
BOZ **Bozeman (W)** 51.03 64 IAmb IAmb 00 09 39.0
comp=Z,2.4nm,0.7s
ARCES **ARCESS Array B** 51.04 343 P P 00 09 38.6 +1.5
comp=Z,2.0nm,0.9s,baz=29,slow=4.1,SNR=4.0
comp=Z,2.0nm,0.8s
NVAR **Mina Array Bea** 52.64 75 P P 00 09 50.3 +0.6
comp=Z,1.6nm,0.7s,baz=315,slow=10,SNR=8.4
comp=Z,1.6nm,0.7s
FXWY **Fox Creek** 52.71 65 IAmb IAmb 00 09 52.2
comp=Z,3.1nm,0.8s
ARTI **Arti** 52.76 318 *d* *i* P 00 09 51.1 +1.0
comp=Z,2.9nm,0.8s,baz=41,slow=3.6,SNR=3.2
comp=Z,2.9nm,0.8s
ARTI **Arti** 52.76 318 *d* *i* P 00 09 52.0 +2.0
ARTI 00 11 47.5
ARTI S **S** 00 17 17.2 -0.5
ARTI SS **SS** 00 20 52.4 -3.1
ARTI pmax pmax
comp=Z,11nm,1.9s
LOHW **Long Hollow** 52.95 65 IAmb IAmb 00 09 54.0
comp=Z,3.4nm,0.8s
PZH **PanZhiHua** 53.05 263 P P 00 09 54.4 +1.6
HWUT **Hardware Ranch** 53.90 67 IAmb IAmb 00 10 00.9
comp=Z,2.7nm,0.8s
PD31 **Pinedale Array** 54.09 65 IAmb IAmb 00 10 01.9
comp=Z,2.8nm,0.9s

PDAR	**Pinedale Array**	**54.09**	**65**	P	**P**	**00 10 00.7**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=320,slow=7.1,SNR=17						
	comp=Z,1.4nm,0.6s						
KIRV	**Kirov**	**54.25**	**324**	LR	LR	00 33 46.3	
	comp=Z,103nm,21.3s,baz=343,slow=37						
KIRV	**Kirov**	**54.25**	**324**	*i* P	**P**	**00 10 00.5**	**-0.4**
WCT	**Wildcat Mounta**	**54.74**	**75**	P	**P**	**00 10 06.1**	**+1.1**
WCT				IAmb	IAmb	00 10 13.5	
	comp=Z,3.5nm,1.2s						
PSUT	**Pine Spring**	**54.94**	**72**	P	**P**	**00 10 07.8**	**+1.3**
PSUT				IAmb	IAmb	00 10 15.7	
	comp=Z,3.2nm,1.0s						
ULM	**Lac du Bonnet**	**55.06**	**50**	P	**P**	**00 10 06.9**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=321,slow=6.9,SNR=3.0						
	comp=Z,3.9nm,0.8s						
PRN	**Pahroc Range**	**55.13**	**73**		**P**	**00 10 09.3**	**+1.5**
PRN				IAmb	IAmb	00 10 10.3	
	comp=Z,4.2nm,0.7s						
GWY	**Greenwater Val**	**55.17**	**76**	P	**P**	**00 10 08.5**	**+0.3**
GWY				IAmb	IAmb	00 10 10.3	
	comp=Z,4.9nm,1.0s						
QSM	**Queen of Sheba**	**55.22**	**76**	P	**P**	**00 10 08.7**	**+0.4**
QSM				IAmb	IAmb	00 10 10.7	
	comp=Z,7.3nm,1.4s						
E28A	**Huff**	**55.62**	**56**	P	**P**	**00 10 12.1**	**+1.0**
AAK	**Ala-Archa**	**55.74**	**297**	*i* P	**P**	**00 10 12.2**	**0.0**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TMUT	**Trail Mountain**	**55.77**	**69**	P	**P**	**00 10 13.9**	**+1.3**
MVU	**Marysvale**	**55.83**	**71**	P	**P**	**00 10 14.6**	**+1.6**
MVU				IAmb	IAmb	00 10 15.7	
	comp=Z,6.2nm,1.5s						
RSSD	**Black Hills**	**55.84**	**60**	P	**P**	**00 10 12.4**	**-0.6**
RSSD				IAmb	IAmb	00 10 14.3	
	comp=Z,3.4nm,1.1s						
RSSD	**Black Hills**	**55.84**	**60**	P	**P**	**00 10 12.4**	**-0.6**
RSSD				pmax	pmax		
	comp=Z,3.0nm,1.1s						
P18A	**Preston Nutter**	**56.03**	**68**	P	**P**	**00 10 15.7**	**+1.2**
P18A				IAmb	IAmb	00 10 25.6	
	comp=Z,3.3nm,0.9s						
SRU	**San Rafael Swe**	**56.27**	**69**	P	**P**	**00 10 17.3**	**+1.3**
SRU	**San Rafael Swe**	**56.27**	**69**	P	**P**	**00 10 17.3**	**+1.3**
SRU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
O20A	**White River Ci**	**56.69**	**66**	P	**P**	**00 10 20.0**	**+0.9**
KK31	**Karatay Array**	**57.35**	**300**	P	**P**	**00 10 23.9**	**+0.4**
KK31	**Karatay Array**	**57.35**	**300**	P	**P**	**00 10 23.9**	**+0.4**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KKAR	**Karatay Array**	**57.35**	**300**	P	**P**	**00 10 23.6**	**+0.1**
KKAR				IAmb	IAmb	00 10 24.9	
	comp=Z,1.8nm,0.8s						
KKAR	**Karatay Array**	**57.35**	**300**	P	**P**	**00 10 23.6**	**+0.1**
KKAR	**Karatay Array**	**57.35**	**300**	P	**P**	**00 10 23.6**	**+0.1**
AKTO	**Aktyubinsk**	**57.40**	**313**	P	**P**	**00 10 22.8**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=46,slow=6.9,SNR=4.4						
AKTO				LR	LR	00 38 30.2	
	comp=Z,109nm,18.7s,baz=246,slow=40						
	comp=Z,1.1nm,0.4s						
PV21	**Cone Mtn., Par**	**57.48**	**68**	P	**P**	**00 10 25.3**	**+0.6**
PV21				IAmb	IAmb	00 10 26.1	
	comp=Z,3.8nm,1.0s						
AB31	**Akbulak array**	**57.51**	**311**	P	**P**	**00 10 24.4**	**0.0**
ABKAR	**Akbulak array**	**57.51**	**311**	P	**P**	**00 10 24.1**	**-0.3**
ABKAR	**Akbulak array**	**57.51**	**311**	P	**P**	**00 10 24.2**	**-0.2**
ABKAR				IAmb	IAmb	00 10 30.1	
	comp=Z,1.5nm,0.8s						
PV23	**Carpenter Ridg**	**57.55**	**68**	P	**P**	**00 10 26.4**	**+1.2**
PV10	**Paradox Valley**	**57.59**	**68**	P	**P**	**00 10 27.1**	**+1.6**
PV22	**Blue Mesa, Par**	**57.60**	**68**		**P**	**00 10 26.0**	**+0.5**
PV22				IAmb	IAmb	00 10 27.5	
	comp=Z,6.9nm,1.3s						
PV20	**West Nyswonger**	**57.65**	**68**	P	**P**	**00 10 26.4**	**+0.5**
PV19	**Morning Glory**	**57.67**	**68**	P	**P**	**00 10 26.6**	**+0.6**
PV16	**Nyswonger Mesa**	**57.70**	**68**	P	**P**	**00 10 27.6**	**+1.3**
PV16				IAmb	IAmb	00 10 41.9	
	comp=Z,3.7nm,1.0s						
PV11	**David Mesa, Pa**	**57.73**	**68**	P	**P**	**00 10 27.1**	**+0.6**
PV07	**Paradox Valley**	**57.75**	**68**	P	**P**	**00 10 27.1**	**+0.6**
PV07				IAmb	IAmb	00 10 34.8	
	comp=Z,5.6nm,1.2s						
PV18	**Skein Mesa, Pa**	**57.75**	**68**	P	**P**	**00 10 26.6**	**0.0**
PV03	**Paradox Valley**	**57.78**	**68**	IAmb	IAmb	00 10 35.0	
	comp=Z,3.4nm,1.0s						
PV05	**Paradox Valley**	**57.78**	**69**	IAmb	IAmb	00 10 35.1	
	comp=Z,4.8nm,0.9s						
PV13	**Radium Mtn., P**	**57.87**	**68**	P	**P**	**00 10 28.2**	**+0.8**
PV13				IAmb	IAmb	00 10 35.6	
	comp=Z,4.8nm,1.0s						
PV02	**Paradox Valley**	**57.87**	**68**	P	**P**	**00 10 28.0**	**+0.5**
PV15	**Paradox Valley**	**57.91**	**68**	P	**P**	**00 10 28.2**	**+0.5**
FINES	**FINESS Array B**	**58.16**	**338**	P	**P**	**00 10 26.6**	**-2.2**
	comp=Z,3.2nm,1.1s,baz=22,slow=7.0,SNR=3.7						
	comp=Z,3.2nm,1.1s						
ISCO	**Idaho Springs**	**58.28**	**65**	P	**P**	**00 10 31.6**	**+1.2**
ISCO				IAmb	IAmb	00 10 32.9	
	comp=Z,2.0nm,0.8s						
ISCO	**Idaho Springs**	**58.28**	**65**	P	**P**	**00 10 31.6**	**+1.2**
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BELG	**Belogornoye**	**59.81**	**321**	*i* P	**P**	**00 10 40.7**	**+0.3**
BELG				pmax	pmax		
	comp=Z,3.0nm,1.2s						
VSU	**Vasula**	**60.70**	**336**	*i* P	**P**	**00 10 46.0**	**-0.4**
VSU				pmax	pmax		
	comp=Z,12nm,1.1s						
CMAR	**Chiang Mai Arr**	**61.01**	**260**	P	**P**	**00 10 49.2**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=34,slow=7.2,SNR=2.3						
	comp=Z,0.7nm,0.3s						
OBN	**Obninsk**	**61.10**	**329**↑	*eP*	**P**	**00 10 46.6**	**-2.6**
OBN				*e*		00 13 06.1	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,78nm,17.0s						
NOA	**NORSAR Array B**	**61.17**	**345**	P	**P**	**00 10 49.3**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=17,slow=6.7,SNR=4.4						
	comp=Z,1.1nm,0.9s						
HFS	**Hagfors**	**61.67**	**344**	P	**P**	**00 10 53.1**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=39,slow=7.4,SNR=6.2						
	comp=Z,1.3nm,0.5s						
SCHQ	**Schefferville**	**61.84**	**31**	P	**P**	**00 10 52.5**	**-1.7**
	comp=Z,2.0nm,0.6s,baz=323,slow=10,SNR=3.4						
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**67.09**	**331**	P	**P**	**00 11 28.0**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=31,slow=6.7,SNR=2.1						
	comp=Z,0.4nm,0.4s						
TXAR	**Lajitas Array**	**67.40**	**71**	P	**P**	**00 11 31.6**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=317,slow=6.7,SNR=20						
	comp=Z,1.7nm,0.7s						
KBZ	**Khabaz**	**68.80**	**318**	P	**P**	**00 11 39.6**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=0.0,slow=7.1,SNR=3.2						
	comp=Z,2.9nm,0.8s						
BRTR	**Keskin Array B**	**75.62**	**323**	P	**P**	**00 12 20.6**	**+0.1**
	comp=Z,0.9nm,1.1s,baz=25,slow=4.8,SNR=2.4						
	comp=Z,0.9nm,1.1s						
WRA	**Warramunga Arr**	**79.87**	**208**	P	**P**	**00 12 43.8**	**-0.2**
	comp=Z,1.7nm,1.0s,baz=23,slow=5.7,SNR=5.1						
	comp=Z,1.7nm,1.0s						
ASAR	**Alice Springs**	**83.53**	**208**	P	**P**	**00 13 03.2**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=19,slow=5.0,SNR=9.9						
	comp=Z,1.9nm,0.9s						
ESDC	**Sonseca Array**	**83.97**	**351**	P	**P**	**00 13 05.0**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=356,slow=5.7,SNR=3.6						
	comp=Z,0.6nm,0.9s						
QSPA	**South Pole Qui**	**145.93**	**180**	PKPbc	**PKPdf**	**00 20 12.6**	**-0.4**
	comp=Z,3.0nm,1.0s,baz=18,slow=2.5,SNR=19						

*NEIC **01** 00:03:41.8±1.5,37.°80N±0.°01×114.°321W±0.°009, h7km±3km, Error ellipse: s-maj=2.0km s-min=0.8km az=154.0*
REN 01 00:03:42.1±2.1,37.°78N±0.°01×114.°32W±0.°01, h0km±1km, ML2.1/3, ML2.0/50(NEIC), Error ellipse: s-maj=1.7km s-min=1.5km az=47.0, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRN	**Pahroc Range**	**0.69**	**237**		Pg	00 03 55.5	+0.1
PRN					Sg	00 04 04.9	+0.6
ARUT	**Antelope Range**	**0.69**	**89**		Pg	00 03 55.3	-0.1
ARUT					Sg	00 04 04.8	+0.4
ICU	**Indian Springs**	**0.71**	**154**		Pg	00 03 55.6	0.0
PSUT	**Pine Spring**	**0.83**	**26**		Pg	00 03 57.3	-0.7
PSUT					Sg	00 04 08.1	-0.7
S11A	**Rachel**	**1.14**	**263**	Pg	Pg	00 04 03.9	0.0
S11A					Sg	00 04 19.5	+0.7
R11B	**Troy Canyon, C**	**1.15**	**300**		Pg	00 04 03.6	-0.5
R11B				IAML		00 04 20.9	
	comp=N,25nm,0.4s						
R11B				IAML		00 04 21.5	
	comp=E,35nm,0.2s						
LCMT	**Little Creek M**	**1.15**	**132**		Pg	00 04 03.5	-0.6
LCMT	**Little Creek M**	**1.15**	**132**	IAML		00 04 20.4	
	comp=N,29nm,0.2s						
LCMT				IAML		00 04 21.5	
	comp=E,33nm,0.1s						
SPR3	**Spring Creek 3**	**1.21**	**360**		Pg	00 04 02.8	-2.6
SPR3				IAML		00 04 18.8	
	comp=E,41nm,0.4s						
Q12A	**Willow Creek R**	**1.32**	**342**		Pg	00 04 07.0	-0.3
KNB	**Kanab**	**1.42**	**122**		Pg	00 04 08.5	-0.7
KNB				IAML		00 04 29.0	
	comp=N,20nm,0.7s						
SHPR	**Sheep Range**	**1.44**	**208**		Pn	00 04 08.4	-1.2
MCY	**Mercury**	**1.73**	**230**		Pn	00 04 12.2	-1.3
TPNV	**Topopah Spring**	**1.75**	**242**		Pn	00 04 12.5	-1.3
TPNV				IAML		00 04 41.9	
	comp=N,14nm,0.5s						
MVU	**Marysvale**	**1.81**	**66**		Pn	00 04 14.3	-0.4
MVU				IAML		00 04 41.6	
	comp=N,20nm,0.6s						
NSP	**Numbskull Pass**	**1.84**	**236**		Pn	00 04 13.8	-1.2
WCT	**Wildcat Mounta**	**2.09**	**242**	Pn	Pn	00 04 17.5	-0.9
V12A	**Nelson**	**2.10**	**192**		Pn	00 04 17.6	-0.9
V12A				IAML		00 04 51.0	
	comp=N,8.3nm,1.1s						
SGV	**South Grapevin**	**2.31**	**250**		Pn	00 04 21.0	-0.5
TPH	**Tonopah**	**2.31**	**278**		Pg	00 04 25.8	-0.6
TPH					Sg	00 04 55.9	-0.5
GMN	**Gold Mountain**	**2.39**	**259**		Pn	00 04 20.8	-1.9
GMN				IAML		00 05 00.9	
	comp=N,11nm,0.6s						
GMN				IAML		00 05 01.8	
	comp=E,6.0nm,0.4s						
MZP	**Montezuma Peak**	**2.43**	**269**	Pn	Pn	00 04 22.9	-0.4
MZP				IAML		00 05 02.1	
	comp=N,5.5nm,0.3s						
MZP				IAML		00 05 38.2	
	comp=E,5.9nm,0.1s						
GWY	**Greenwater Val**	**2.47**	**230**	Pg	Pb	00 04 28.3	+0.9
GWY				IAML		00 05 08.1	
	comp=N,6.4nm,1.0s						
GWY				IAML		00 05 10.5	
	comp=E,6.9nm,1.1s						
LCH	**Last Change Ra**	**2.70**	**259**		Pg	00 04 33.5	-0.3
HMU	**Henry Mountain**	**2.83**	**86**	Pn	Pn	00 04 28.6	-0.2
HMU				IAML		00 06 13.9	
	comp=N,9.7nm,0.8s						
DSP	**Deep Springs**	**2.93**	**263**		Pg	00 04 37.3	-0.9
DSP	**Deep Springs**	**2.93**	**263**	IAML		00 05 17.4	
	comp=E,4.2nm,0.7s						
DSP				IAML		00 05 18.8	
	comp=N,4.2nm,0.7s						
NV11	**Mina Array Sit**	**3.10**	**283**		Pg	00 04 40.5	-0.9
NV11	**Mina Array Sit**	**3.10**	**283**	IAML		00 05 15.4	
	comp=E,3.4nm,4.3s						
NV11				IAML		00 05 22.2	
	comp=N,5.7nm,0.3s						
NV08	**Mina Array Sit**	**3.22**	**282**		Pb	00 04 41.2	+1.0
RYN	**Ryan**	**3.42**	**286**		Pb	00 04 45.6	+2.0
RYN	**Ryan**	**3.42**	**286**	IAML		00 05 33.5	
	comp=E,5.6nm,0.4s						

*IDC **01** 00:03:55.7±0.9,56.°27N×163.°97E, h0km, mb3.6/10, mbtmp3.7/12, ML3.3/2, Error ellipse: s-maj=28.9km s-min=15.9km az=156.0*
*KRSC **01** 00:03:57.3±1.5,56.°09N×164.°04E, h20km±22km, Ml4.2*
ISC 01 00:03:56.2±1.9,56.°21N±0.°05×164.°11E±0.°04, h5km±12km, n52, σ1°57/59, mb3.6/10, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.72**	**270**	*eP*	**Pb**	**00 04 09.9**	**-1.2**
KBTR				*eS*	**Sg**	**00 04 20.2**	**+0.9**
KBG	**Krutoberegovo**	**0.78**	**274**	*eP*	**Pb**	**00 04 11.0**	**-1.3**
KBG				*eS*	**Sb**	**00 04 21.9**	**-1.3**
BKI	**Bering**	**1.46**	**133**	*eP*	**Pb**	**00 04 23.5**	**-0.3**
BKI				*eS*	**Sg**	**00 04 42.5**	**-0.5**
SMKR	**Semkarok**	**1.51**	**285**	*eP*	**Pn**	**00 04 23.9**	**-0.1**
SMKR				*eS*	**Sn**	**00 04 44.4**	**+0.3**
BDR	**Baidarnaya**	**1.65**	**284**	*eS*	**Sn**	**00 04 47.6**	**+0.1**
ZLN	**Zelenaya**	**1.86**	**265**	*eP*	**Pn**	**00 04 29.9**	**+1.1**
CIRR	**Tsirk**	**1.88**	**268**	*eP*	**Pn**	**00 04 30.8**	**+1.7**
LGNR	**Loginova**	**1.92**	**268**	*eP*	**Pn**	**00 04 31.0**	**+1.2**
KLY	**Klyuchi**	**1.93**	**274**	*eP*	**Pn**	**00 04 28.7**	**-0.9**
KLY				*eS*	**Sn**	**00 04 52.4**	**-1.8**
BZGR	**Bezymyannyi-Gr**	**1.93**	**263**	*eP*	**Pn**	**00 04 30.5**	**+0.8**
KRSR	**Krestovskiy**	**1.98**	**272**	*eP*	**Pn**	**00 04 30.8**	**+0.4**
BZWR	**Bezymyannyi-We**	**2.04**	**265**	*eP*	**Pn**	**00 04 32.4**	**+1.1**
BZMR	**Bezymyannaya**	**2.05**	**264**	*eP*	**Pn**	**00 04 32.4**	**+1.0**
KIRR	**Kirishey**	**2.13**	**265**	*eP*	**Pn**	**00 04 33.6**	**+1.2**
MKZ	**Mys Kozlova**	**2.14**	**220**	*eP*	**Pn**	**00 04 32.0**	**-0.6**
MKZ				*eS*	**Sn**	**00 04 57.2**	**-2.2**
KPT	**Kopyto**	**2.19**	**265**	*eP*	**Pn**	**00 04 34.6**	**+1.3**
KMNR	**Kamenistaya**	**2.22**	**260**	*eP*	**Pn**	**00 04 35.6**	**+1.9**
TUMD	**Tumrok D**	**2.33**	**246**	*eP*	**Pn**	**00 04 36.0**	**+0.9**
KOZ	**Kozyrevsk**	**2.37**	**268**	*eP*	**Pn**	**00 04 37.4**	**+1.7**
SRDR	**Sredinnyy**	**2.45**	**274**	*eP*	**Pn**	**00 04 38.4**	**+1.5**
SRDR				*eS*	**Sn**	**00 05 08.5**	**+1.3**
OSSR	**Ossora**	**3.10**	**350**	*eP*	**Pn**	**00 04 45.5**	**-0.1**
SPN	**Mys Shipunski**	**3.92**	**219**	*eP*	**Pn**	**00 04 56.1**	**-0.9**
SPN				*eS*	**Sn**	**00 05 39.3**	**-4.0**
NLC	**Nalytchevo**	**4.11**	**224**	*eS*	**Sn**	**00 05 46.3**	**-1.7**
SDLR	**Sedlovina**	**4.22**	**228**	*eP*	**Pn**	**00 05 02.5**	**+1.3**
SMAR	**Somma**	**4.26**	**228**	*eP*	**Pn**	**00 05 03.1**	**+1.3**
AVH	**Avacha**	**4.29**	**229**	*eP*	**Pn**	**00 05 04.8**	**+2.7**
UGLR	**Uglovaya**	**4.29**	**228**	*eP*	**Pn**	**00 05 03.6**	**+1.4**
KOK	**Koryaka**	**4.31**	**230**	*eP*	**Pn**	**00 05 05.5**	**+3.0**
GNL	**Ganaly**	**4.36**	**237**	*eP*	**Pn**	**00 05 05.3**	**+2.2**
DALK	**Dalny**	**4.45**	**227**	*eP*	**Pn**	**00 05 05.2**	**+0.9**
PETK	**Petropavlovsk-**	**4.85**	**233**	Pn	**Pn**	**00 05 08.8**	**-0.9**
	2.0nm,0.3s,baz=63,slow=15,SNR=7.5						
PETK				Sn	**Sn**	**00 06 08.3**	**+2.1**
	0.2nm,0.3s,baz=37,slow=15,SNR=1.1						
	3.2nm,0.6s						
KRMR	**Karymshinskiy**	**4.86**	**228**	*eS*	**Sn**	**00 06 07.5**	**+1.1**
RUS	**Russkaya**	**5.00**	**223**	*eP*	**Pn**	**00 05 12.7**	**+0.9**
GRL	**Gorelyy**	**5.09**	**226**	*eP*	**Pn**	**00 05 15.2**	**+2.1**
MTVR	**Mutnovka**	**5.09**	**225**	*eP*	**Pn**	**00 05 14.8**	**+1.6**
MTVR				*eS*	**Sn**	**00 06 11.7**	**-0.7**
APC	**Apacha**	**5.21**	**234**	*eP*	**Pn**	**00 05 18.3**	**+3.6**
ASAK	**Asacha**	**5.28**	**226**	*eP*	**Pn**	**00 05 17.5**	**+1.7**
MIPR	**Malaya Ipel'ka**	**5.84**	**231**	*eP*	**Pn**	**00 05 26.0**	**+2.7**
ASAJ	**Asahikawa**	**18.25**	**238**	P	**P**	**00 08 10.6**	**+0.5**
	0.3nm,0.3s,baz=22,slow=5.4,SNR=5.4						
	9.6nm,0.8s						
TIXI	**Tiksi**	**21.38**	**330**	P	**P**	**00 08 43.4**	**-0.7**
	1.1nm,0.3s,baz=121,slow=12,SNR=2.0						
	1.1nm,0.3s						
ILAR	**Eielson Array**	**24.99**	**50**	P	**P**	**00 09 20.8**	**+0.4**
	0.5nm,0.8s,baz=272,slow=7.4,SNR=5.3						
	0.5nm,0.8s						
MJAR	**Matsushiro Arr**	**26.31**	**233**	P	**P**	**00 09 32.4**	**-0.2**
	1.9nm,0.6s,baz=25,slow=8.0,SNR=4.2						
	1.9nm,0.6s						
SONM	**Songino Array**	**35.52**	**281**	P	**P**	**00 10 53.3**	**-0.5**
	0.3nm,0.4s,baz=50,slow=9.9,SNR=5.4						
	0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**36.48**	**176**	T	T	00 49 43.6	
	baz=357,slow=76,SNR=142						
H11N3	**WAKE ISLAND Hy**	**36.50**	**176**	T	T	00 49 43.0	
	baz=357,slow=76,SNR=102						
H11N1	**WAKE ISLAND Hy**	**36.50**	**176**	T	T	00 49 46.1	
	baz=357,slow=76,SNR=127						
MKAR	**Makanchi Array**	**48.91**	**296**	P	**P**	**00 12 41.3**	**-1.4**
	0.3nm,0.6s,baz=42,slow=5.6,SNR=1.7						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**50.28**	**308**	P	**P**	**00 12 53.6**	**+0.5**
	0.2nm,0.3s,baz=44,slow=8.5,SNR=1.6						
	0.2nm,0.3s						
NVAR	**Mina Array Bea**	**52.58**	**75**	P	**P**	**00 13 13.3**	**+2.6**
	0.4nm,0.7s,baz=318,slow=6.8,SNR=1.8						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**54.03**	**65**	P	**P**	**00 13 20.4**	**-1.0**
	0.2nm,0.3s,baz=317,slow=8.0,SNR=3.8						
	0.2nm,0.3s						
TXAR	**Lajitas Array**	**67.34**	**71**	P	**P**	**00 14 53.0**	**+0.8**
	0.6nm,0.8s,baz=326,slow=7.2,SNR=4.5						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**83.59**	**208**	P	**P**	**00 16 25.4**	**+0.2**
	1.0nm,0.9s,baz=9.8,slow=6.8,SNR=4.6						
	1.0nm,0.9s						

*CATAC **01** 00:04:34.3±0.8, 13.°N±4.°×8.°9W±.°, h25km±5km, M4.1/26, MLv4.1/26, Error ellipse: s-maj=9.7km s-min=5.4km az=30.8, confirmed*
*SNET **01** 00:04:35.2±0.8, 13.°02N×89.°44W, h42km, ML3.9*
ISC 01 00:04:34.3±1.6, 12.°96N±0.°07×89.°47W±0.°04, h31km±11km, n93, σ0°36/112, 17C-5b, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.54**	**15**	*i* P	**Pn**	**00 04 46.2**	**+0.3**
LALI				*i* S	**Sn**	**00 04 54.1**	**+0.2**
LALI				IAML		00 04 57.9	
	comp=E,1μm,0.1s					

WRA	Warramunga Arr	17.65	193	P		Pn	00 18 36.7	-1.1
	0.5nm,0.3s,baz=14,slow=13,SNR=21							
WRA				S		Sn	00 21 55.9	+2.2
	1.2nm,0.8s,baz=14,slow=23,SNR=3.1							
	1.3nm,0.5s							
KAPI	Kappang	18.78	262	LR		LR	00 27 53.7	
	comp=Z,36nm,18.1s,baz=82,slow=43							
FITZ	Fitzroy Crossi	19.83	218	P		P	00 19 01.9	-0.5
	baz=48,slow=15,SNR=1.8							
	4.8nm,1.1s							
ASAR	Alice Springs	21.35	191	P		P	00 19 19.0	0.0
	5.4nm,0.7s,baz=20,slow=11,SNR=42							
ASAR				S		S	00 23 14.6	+0.1
	0.8nm,0.9s,baz=14,slow=23,SNR=3.1							
	5.4nm,0.7s							
MJAR	Matsushiro Arr	38.98	360	P		P	00 21 58.4	+0.8
	0.6nm,0.3s,baz=187,slow=8.8,SNR=1.4							
	0.6nm,0.3s							
KSRS	Korea Array	41.07	347	P		P	00 22 15.6	+0.8
	0.6nm,0.3s,baz=163,slow=13,SNR=1.8							
	0.6nm,0.3s							
CMAR	Chiang Mai Arr	44.16	300	P		P	00 22 39.3	-1.0
	1.1nm,0.3s,baz=94,slow=10,SNR=1.9							
	1.1nm,0.3s							
SONM	Songino Array	57.54	335	P		P	00 24 21.4	+0.7
	0.4nm,0.5s,baz=145,slow=3.5,SNR=2.0							
	0.4nm,0.5s							
MKAR	Makanchi Array	69.56	322	P		P	00 25 39.1	-1.0
	1.8nm,0.8s,baz=118,slow=8.4,SNR=13							
	1.8nm,0.8s							
ZALV	Zalesovo Beam	71.73	330	P		P	00 25 53.6	+0.4
	0.5nm,0.5s,baz=108,slow=4.7,SNR=2.8							
	0.5nm,0.5s							
KURBB	Kurchatov Arra	73.51	325	P		P	00 26 04.0	+0.3
	0.7nm,0.2s,baz=120,slow=5.5,SNR=2.5							
	0.7nm,0.2s							
VNDA	Vanda	75.87	175	P		P	00 26 16.4	-0.6
	0.6nm,0.6s,baz=340,slow=7.3,SNR=5.4							
	0.6nm,0.6s							
BVAR	Borovoye Array	79.09	325	P		P	00 26 34.9	-0.6
	1.2nm,0.6s,baz=118,slow=8.3,SNR=8.3							
	1.2nm,0.6s							
ILAR	Eielson Array	85.89	24	P		P	00 27 10.1	-0.5
	0.7nm,0.7s,baz=267,slow=5.0,SNR=8.6							
	0.7nm,0.7s							
QSPA	South Pole Qui	87.30	180	P		P	00 27 18.2	+0.5
	1.6nm,0.7s,baz=342,slow=4.2,SNR=8.8							
	1.6nm,0.7s							

NEIC ***01*** *00:18:29.6±1.6, 15°.8S±0°.1×177°.3W±0°.1, h407km±3km, mb4.1/13, Error ellipse: s-maj=22.1km s-min=13.6km az=153.0*

IDC ***01*** *00:18:32.0±1.7, 15°.75S×177°.48W, h439km±17km, mb3.3/9, mbtmp4.0/10, Error ellipse: s-maj=27.3km s-min=16.9km az=143.0*

ISC 01 00:18:28.9±0.6, 15°.7S±0°.1×177°.27W±0°.09, h400km, n39, σ1ᵖ73/38, mb3.9/16, 3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FUTU	Fugatoga	1.61	329				Pn	00 19 25.3	+2.6
MSVF	Nonsavu	4.92	245				Pn	00 19 51.8	+1.6
MSVF	Nonsavu	4.92	245	P			Pn	00 19 52.7	+2.5
	8.0nm,0.5s,baz=78,slow=15,SNR=12								
MSVF				S			S	00 21 00.4	+4.2
	26nm,1.0s,baz=86,slow=3.3,SNR=9.7								
AFI	Afiamalu	5.61	72				Pn	00 19 59.4	+2.0
DZM	Mont Dzumac	16.66	245	P			P	00 21 58.0	-1.4
DZM				IAmb			IAmb	00 22 04.5	
	comp=Z,19nm,1.2s								
WR8	Warramunga Arr	45.99	257	P			P	00 26 12.3	-2.2
WR8				IAmb			IAmb	00 26 52.3	
	comp=Z,17nm,1.5s								
WB0	Warramunga Arr	46.10	258				P	00 26 13.5	-1.9
WB0				IAmb			IAmb	00 26 36.8	
	comp=Z,9.2nm,1.2s								
WRAB	Tennant Creek	46.13	257	P			P	00 26 15.6	0.0
WRAB				IAmb			IAmb	00 26 29.8	
	comp=Z,6.1nm,0.9s								
WRA	Warramunga Arr	46.14	257	P			P	00 26 15.1	-0.6
WRA	Warramunga Arr	46.14	257	P			P	00 26 12.9	-2.8
	comp=Z,0.7nm,0.6s,baz=96,slow=7.3,SNR=9.2								
	comp=Z,0.7nm,0.6s								
AS31	Alice Springs	46.47	252	P			P	00 26 16.4	-1.8
ASAR	Alice Springs	46.47	252	P			P	00 26 15.9	-2.3
ASAR	Alice Springs	46.47	252	P			P	00 26 16.2	-2.1
	comp=Z,6.2nm,0.6s,baz=90,slow=7.7,SNR=28								
	comp=Z,6.2nm,0.6s								
FITZ	Fitzroy Crossi	54.49	259	P			P	00 27 16.3	-1.2
	comp=Z,2.8nm,0.7s,baz=108,slow=3.2,SNR=6.1								
	comp=Z,2.8nm,0.7s								
PETK	Petropavlovsk-	71.84	344	P			P	00 29 09.2	-0.1
	comp=Z,1.3nm,0.7s,baz=157,slow=5.1,SNR=2.3								
	comp=Z,1.3nm,0.7s								
P08K	Saint George I	72.31	4	P			P	00 29 12.4	+0.5
KS19	Wonju Array Si	73.87	317	P			P	00 29 18.8	-2.6
QSPA	South Pole Qui	74.34	180	P			P	00 29 23.2	-0.7
QSPA				IAmb			IAmb	00 29 23.7	
	comp=Z,4.1nm,0.9s								
QSPA	South Pole Qui	74.34	180	P			P	00 29 23.1	-0.7
	comp=Z,2.2nm,0.7s,baz=14,slow=0.3,SNR=9.7								
	comp=Z,2.2nm,0.7s								
NVAR	Mina Array Bea	77.08	44	P			P	00 29 39.3	-0.5
	comp=Z,0.8nm,0.7s,baz=254,slow=7.5,SNR=5.4								
	comp=Z,0.8nm,0.7s								
L18K	Granite Mounta	79.34	10	P			P	00 29 52.0	+0.9
L18K				IAmb			IAmb	00 30 31.8	
	comp=Z,4.1nm,1.1s								
ILAR	Eielson Array	83.50	13	P			P	00 30 11.6	-1.0
	comp=Z,1.1nm,0.7s,baz=212,slow=5.0,SNR=16								
	comp=Z,1.1nm,0.7s								
TX31	Lajitas Ar. Si	83.90	57	P			P	00 30 15.2	-0.4
TXAR	Lajitas Array	83.90	57	P			P	00 30 16.5	+1.0
	comp=Z,1.0nm,0.8s,baz=241,slow=4.9,SNR=8.9								
	comp=Z,1.0nm,0.8s								
J26L	Joseph Creek	84.01	14	P			P	00 30 15.9	+0.6
J26L				IAmb			IAmb	00 30 16.3	
	comp=Z,1.9nm,0.7s								
PDAR	Pinedale Array	85.01	43	P			P	00 30 20.7	-0.3
	comp=Z,0.2nm,0.5s,baz=223,slow=4.1,SNR=2.5								
	comp=Z,0.2nm,0.5s								
TROLL	Troll, Antarti	92.51	180	P			P	00 30 54.0	-1.6
TROLL	Troll, Antarti	92.51	180	⇓P			P	00 30 54.0	-1.6
	comp=Z,69nm,0.8s								
VNA3	Neumayer Olymp	92.86	176	P			P	00 30 55.7	-1.3
VNA3	Neumayer Olymp	92.86	176	⇓P			P	00 30 55.7	-1.3
	comp=Z,1.1nm,0.6s								
VNA2	Neumayer--Watz	93.31	177	P			P	00 30 58.3	-0.8
	baz=184,slow=4.0								
VNA2	Neumayer--Watz	93.31	177	⇓P			P	00 30 58.3	-0.8
	comp=Z,1.2nm,0.6s,baz=184,slow=4.0								
HERN	Volcan Telica	93.76	78	P			P	00 31 05.3	+3.0
HERN				IAmb			IAmb	00 31 08.8	
	comp=Z,122nm,0.9s								
BVAR	Borovoye Array	115.81	322	PKP			PKPdf	00 36 22.7	-1.8
	comp=Z,0.5nm,0.4s,baz=100,slow=3.4,SNR=3.6								
ARCES	ARCESS Array B	124.34	351	PKP			PKPdf	00 36 39.1	-1.4
	comp=Z,2.0nm,0.8s,baz=39,slow=1.8,SNR=5.6								
BR131	Keskin Array S	143.95	318				PKPab	00 37 15.4	-1.3
BRTR	Keskin Array B	143.95	318	PKP			PKPab	00 37 15.8	-0.9
	comp=Z,3.9nm,0.8s,baz=52,slow=2.4,SNR=19								
GERES	GERESS Array B	145.74	347	PKPbc			PKPdf	00 37 21.3	+0.6
	comp=Z,0.8nm,0.5s,baz=22,slow=4.8,SNR=8.8								
MMAI	Mount Meron Ar	145.79	306	PKPbc			PKPdf	00 37 21.2	0.0
	comp=Z,1.5nm,0.6s,baz=46,slow=6.2,SNR=2.2								

CATAC ***01*** *00:26:12.3±0.6, 10°.N±3°×8°.6W±°, h1km, M3.6/13, MLv3.6/13, Error ellipse: s-maj=9.9km s-min=4.7km az=48.9, confirmed*

UCR ***01*** *00:26:14.1±1.2, 10°.34N×86°.28W, h0km±6km, MW4.0*

ISC 01 00:26:13.5±1.7, 10°.29N±0°.06×86°.32W±0°.07, h10km, n55, σ0ᵖ83/59, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SACU	Santa Cruz	0.73	92	*e*P			Pb	00 26 29.0	+0.8
ALIBA	Liberia Airpor	0.82	69	*e*P			Pn	00 26 31.2	+0.1
ALIBA				*e*S			Sn	00 26 43.1	-0.2
ELI1	Hacienda Flor	0.83	65	*e*P			Pn	00 26 31.6	+0.3
ELI1				*e*S			Sn	00 26 44.4	+0.7
INDI	Punta indio, G	0.91	118	P			Pb	00 26 32.0	+0.6
INDI	Punta indio, G	0.91	118	S			Sg	00 26 42.6	-0.4
CMARA	Lajas Hojancha	0.93	107	*e*P			Pb	00 26 32.1	+0.4
CMARA	Lajas Hojancha	0.93	107	P			Pb	00 26 32.1	+0.4
CMARA	Lajas Hojancha	0.93	107	S			Sb	00 26 43.9	-0.2

ERIA	Liberia	0.93	69	*e*P		Pn	00 26 32.8	+0.2
PLVR	Palo Verde	0.96	87	*e*P		Pn	00 26 32.6	-0.5
PLVR				*e*S		Sb	00 26 45.3	+0.2
LAPC	Finca la Perla	0.99	62	*e*P		Pn	00 26 33.1	-0.4
LCRUZ	La Cruz	1.04	41	*e*P		Pn	00 26 34.3	+0.2
GPS2	Hotel Rincn d	1.06	64	*e*P		Pn	00 26 34.2	-0.2
VRLE	La Escondida,	1.06	62	*e*P		Pn	00 26 34.0	-0.6
PG27	Guanacaste Pro	1.06	59	*e*P		Pn	00 26 34.4	-0.2
BAGA	Bagaces	1.07	77	*e*P		Pn	00 26 34.6	+0.1
GPS1	Guardaparques	1.07	63	*e*P		Pn	00 26 34.4	-0.2
VORI	VORI	1.09	61	*e*P		Pn	00 26 34.7	-0.3
BUAI	Buenos Aires	1.13	59	*e*P		Pn	00 26 35.5	0.0
PEJA	Penjamo Buenos	1.16	59	*e*P		Pn	00 26 36.2	+0.3
COLC	Colonia	1.16	71	*e*P		Pn	00 26 35.8	-0.1
CARN	Rivas	1.19	41	*e*P		Pn	00 26 36.5	+0.4
CARN	Rivas	1.19	41	P		Pn	00 26 36.6	+0.4
CARN				S		Sn	00 26 57.0	+4.6
CUI	Cuipilapa	1.20	72	*e*P		Pn	00 26 36.3	0.0
MESS	Mesas	1.20	68	*e*P		Pn	00 26 36.3	-0.1
HORNC	Hornillas	1.20	70	*e*P		Pn	00 26 36.3	-0.1
INVE	Universidad In	1.25	82	*e*P		Pb	00 26 36.2	-1.0
MOTZ	Rio Naranjo	1.29	72	*e*P		Pg	00 26 37.9	-0.4
TIMP	Tierras Morena	1.31	77	*e*P		Pn	00 26 38.0	-0.1
JTS	Las Juntas de	1.35	90	*e*P		Pn	00 26 38.2	-0.2
TENO	El Achiote	1.39	73	*e*P		Pn	00 26 38.3	-0.7
MORN	Al O del Volca	1.41	28	P		Pg	00 26 40.1	-0.5
QUEB	Quebradon, Cot	1.44	77	*e*P		Pb	00 26 40.1	-0.3
TABAC	Tabacon	1.54	82	*e*P		Pb	00 26 42.2	0.0
ARE1	Arenal 1	1.59	84	*e*P		Pb	00 26 42.8	-0.1
VARE2	V. Arenal	1.59	84	*e*P		Pb	00 26 43.0	0.0
CEDE	Laguna Cedeo	1.60	83	*e*P		Pb	00 26 43.0	-0.2
VACR	Volcan Arenal	1.63	84	*e*P		Pb	00 26 43.5	-0.1
NANN	Nandasmo	1.65	7	P		Pg	00 26 45.0	-0.2
SOCE	Pocosol	1.68	87	*e*P		Pb	00 26 44.0	-0.5
SOCE	Pocosol	1.68	87	P		Pb	00 26 43.8	-0.8
SAPS	Ciudad Sandino	1.87	358	P		Pb	00 26 47.2	-0.5
COPN	Copaltepe	1.89	352	*e*P		Pb	00 26 47.1	-1.0
COPN	Copaltepe	1.89	352	P		Pb	00 26 47.2	-1.0
COVE	Coope Vega, Sa	1.94	77	P		Pb	00 26 48.6	-0.3
ACON	Acoyapa	2.01	34	*e*P		Pn	00 26 48.0	+0.5
ACON	Acoyapa	2.01	34	P		Pn	00 26 47.9	+0.3
ACON	Acoyapa	2.01	34	S		Sb	00 27 14.7	-0.5
PICV	PH. Pirrs	2.20	107	*e*P		Pb	00 26 52.2	-1.2
BOAB	BOACO BROADBAN	2.24	17	P		Pn	00 26 51.6	+1.0
LCR2	La Lucha 2	2.35	103	P		Pn	00 26 53.5	+1.1
PIEC	Cerro El Cedra	2.42	106	*e*P		Pb	00 26 55.8	-1.6
TRT2	Tortugero	2.56	84	P		Pb	00 26 59.1	-0.4
TRT2	Tortugero	2.56	84	S		Sg	00 27 34.6	-1.2
DRK0	Durika	3.20	108	P		Pn	00 27 04.4	+0.3

VAO ***01*** *00:33:03.7±1.2, 21°.53S×68°.69W, h106km±7km, mb4.2*

NEIC ***01*** *00:33:10.0±1.2, 21°.54S±0°.04×68°.51W±0°.09, h162km±6km, mb4.2/8, ML4.0(GUC), Error ellipse: s-maj=11.9km s-min=6.3km az=94.0*

IDC ***01*** *00:33:11.6±2.4, 21°.51S×67°.94W, h134km±23km, mb3.7/6, mbtmp4.1/10, Error ellipse: s-maj=22.3km s-min=18.1km az=99.0*

GUC ***01*** *00:33:11.7±0.7, 21°.50S×68°.41W, h146km±5km, ML4.0*

ISC 01 00:33:10.0±0.6, 21°.50S±0°.04×68°.28W±0°.06, h141km±7km, n97, σ1ᵖ59/117, mb4.1/8, 4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.94	252				Pn	00 33 34.4	+0.7
PB09						Sn	Sn	00 33 52.1	+0.5
PB09	IPOC Station P	0.94	252	*e*P			Pn	00 33 34.3	+0.7
PB09				*i* S			Sn	00 33 52.0	+0.4
PB09				IAML				00 33 54.2	
	comp=N,2μm,0.4s								
PB01	IPOC Station P	1.22	292				Pn	00 33 36.2	+0.2
PB01						Sn	Sn	00 33 56.2	+0.4
PB01	IPOC Station P	1.22	292	*e*P			Pn	00 33 36.3	+0.2
PB01				*i* S			Sn	00 33 55.7	-0.2
PB01				IAML				00 33 57.4	
	comp=E,4μm,0.2s								
AF01	San Pedro de A	1.45	176				Pn	00 33 40.1	+1.5
PB08	IPOC Station P	1.58	329				Pn	00 33 41.3	+1.1
PB08						Sn	Sn	00 34 04.7	+1.4
PB08	IPOC Station P	1.58	329	*e*P			Pn	00 33 41.4	+1.1
PB08				*i* S			Sn	00 34 04.3	+1.1
PB08				IAML				00 34 05.3	
	comp=E,1μm,0.4s								
PX03	IPOC Station P	1.67	311	*e*P			Pn	00 33 40.7	-0.3
PX03				*i* S			Sn	00 34 04.2	-0.3
PX03				IAML				00 34 06.8	
	comp=N,2μm,0.3s								
PB06	IPOC Station P	1.70	225				Pn	00 33 41.8	+0.5
PB06						Sn	Sn	00 34 05.2	+0.1
PB06	IPOC Station P	1.70	225	*e*P			Pn	00 33 41.9	+0.7
PB06				*i* S			Sn	00 34 05.2	+0.1
PB06				IAML				00 34 06.4	
	comp=E,2μm,0.2s								
HMBC	Humberstone	1.94	309				Pn	00 33 43.8	-0.3
HMBC						Sn	Sn	00 34 09.2	-0.9
HMBC	Humberstone	1.94	309	*e*P			Pn	00 33 43.7	-0.3
HMBC				*i* S			Sn	00 34 09.1	-0.9
TA01	Diego Aracena	2.01	297				Pn	00 33 44.4	-0.3
TA01						Sn	Sn	00 34 10.0	-1.1
TA01	Diego Aracena	2.01	297	*e*P			Pn	00 33 44.6	-0.3
TA01				*i* S			Sn	00 34 10.1	-1.2
TA01				IAML				00 34 11.7	
	comp=N,2μm,0.4s								
GO01	Chusmiza	2.02	335				Pn	00 33 46.1	+0.8
GO01						Sn	Sn	00 34 13.3	+1.0
GO01	Chusmiza	2.02	335	*e*P			Pn	00 33 46.1	+0.8
GO01				*i* S			Sn	00 34 12.6	+0.3
TA02	Huaiquique	2.12	305				Pn	00 33 45.8	-0.3
TA02	Huaiquique	2.12	305	*e*P			Pn	00 33 45.9	-0.2
TA02				*i* S			Sn	00 34 12.0	-1.7
TA02				IAML				00 34 16.3	
	comp=E,2μm,0.1s								
PB11	IPOC Station P	2.16	323				Pn	00 33 46.8	+0.1
PB11						Sn	Sn	00 34 14.8	0.0
PB11	IPOC Station P	2.16	323	*e*P			Pn	00 33 46.7	-0.1
PB11				*i* S			Sn	00 34 14.2	-0.7
PB05	IPOC Station P	2.23	233				Pn	00 33 47.6	+0.1
PB05	IPOC Station P	2.23	233	*e*P			Pn	00 33 47.6	+0.1
PB05				*i* S			Sn	00 34 14.8	-1.6
PB05				IAML				00 34 19.8	
	comp=N,838nm,0.4s								
PB10	IPOC Station P	2.91	226				Pn	00 33 53.9	-1.9
PB10	IPOC Station P	2.91	226	*e*P			Pn	00 33 55.4	-0.4
PB10				IAML				00 34 41.0	
	comp=E,215nm,0.3s								
PB16	IPOC Station P	3.36	340				Pn	00 34 03.1	+0.9
PB16	IPOC Station P	3.36	340	*e*P			Pn	00 34 03.2	+1.0
PB14	IPOC Station P	3.67	212	Pn			Pn	00 34 04.7	-1.4
GO02	Mina Guanaco	3.84	198	Pn			Pn	00 34 08.3	+0.1
PB18	Visviri	4.05	344				Pn	00 34 13.2	+1.9
AC01	Pan de Azucar	5.09	204	Pn			Pn	00 34 22.8	-1.7
LPAZ	La Paz	5.19	2	Pn			Pn	00 34 27.9	+1.4
LPAZ	La Paz	5.19	2	P			Pn	00 34 28.3	+1.9
	comp=E,7.7nm,0.3s,baz=168,slow=5.8,SNR=94								
LPAZ				S			Sn	00 35 29.3	+3.4
	comp=E,6.1nm,0.6s,baz=225,slow=18,SNR=3.6								
LPAZ	La Paz	5.19	2	*e*P			Pn	00 34 19.1	-7.3
AC02	Maricunga	5.37	188				Pn	00 34 27.2	-1.4
AC06	Mina Casimiro	6.13	198				Pn	00 34 36.0	-2.4
GO03	Copiapo	6.32	196	Pn			Pn	00 34 38.9	-2.0
AC04	Llanos de Chal	7.14	200	Pn			Pn	00 34 47.9	-4.0
LCO	Las Campanas	7.79	196	Pn			Pn	00 34 58.0	-2.9
BBSD	Serra de San D	8.41	61	*e*P			Pn	00 35 07.1	-2.0
CO01	Juntas del Tor	8.60	191	Pn			Pn	00 35 09.8	-1.9
SIV	San Ignacio	8.75	52	P			Pn	00 35 11.4	-2.3
	comp=E,4.0nm,0.4s,baz=238,slow=9.5,SNR=42								
SIV				S			Sn	00 36 43.7	-7.2
	comp=E,3.6nm,0.9s,baz=165,slow=20,SNR=9.3								
GO04	Tololo Observa	8.93	194	Pn			Pn	00 35 13.2	-2.8
CO03	El Pedregal	9.55	193	Pn			Pn	00 35 22.2	-2.0
MURT	Porto Murtinho	9.93	93	*e*P			Pn	00 35 27.4	-1.9
PTLB	Pontes e Lacer	10.55	57	Pn			Pn	00 35 37.3	-0.3
PTLB	Pontes e Lacer	10.55	57	*e*P			Pn	00 35 37.3	-0.3
BDQN	Bodoquena, MS	10.82	87	*e*P			Pn	00 35 38.8	-2.4
CPUP	Villa Florida	11.11	118	Pn			Pn	00 35 46.1	+1.2
CPUP	Villa Florida	11.11	118	*e*P			Pn	00 35 43.9	-1.0
SJPY	San Joaquin	11.72	110	*e*P			Pn	00 35 52.9	0.0
BO01	Tunca	13.08	190	Pn			Pn	00 36 09.6	-0.9
SALV	Santo Antonio	13.16	67	*e*P			P	00 36 13.3	-3.2
RPRD	Ribas do Rio P	13.65	88	*e*P			Pn	00 36 17.7	-0.3

TRCB	Terra Rica	14.55	98			P	00 36 30.9	-1.1
TRCB	Terra Rica	14.55	98	*e*P		P	00 36 29.6	-2.5
PDRB	Porto dos Gac	14.80	50	*e*P		Pn	00 36 31.8	-0.7
PTGB	Pitanga	15.26	105	*e*P		P	00 36 39.1	-0.7
BI02	San Fabin de	15.33	189			PcP	00 41 28.3	-6.0
ITAB	Concordia	15.77	114			P	00 36 45.7	+0.3
ITAB				IAmb		IAmb	00 36 47.3	
	comp=Z,18nm,0.8s							
PCMB	Pacaembu	15.83	94	*e*P		P	00 36 45.7	-0.5
CLDB	Colider	15.97	51	*e*P		Pn	00 36 46.6	-0.4
LDASE	Londrina, Braz	15.98	100	*e*P		P	00 36 47.4	-0.4
CPSB	Cacapava Do Su	16.01	127	*e*P		P	00 36 46.8	-1.2
PLTB	Pedras Altas	16.61	131	P		P	00 36 53.9	-0.8
PLTB	Pedras Altas	16.61	131	*e*P		P	00 36 54.5	-0.3
ITRB	Iturama	16.87	87	*e*P		P	00 36 58.2	+0.5
TRQA	Tornquist	17.37	163	Pn		P	00 37 03.3	+0.3
TRQA				IAmb		IAmb	00 37 18.0	
	comp=Z,6.9nm,1.0s							
MAJ01	Sao Joao Batis	18.49	112	*e*P		P	00 37 15.2	-0.2
SNDB	Serra Nova Dou	18.80	62	*e*P		P	00 37 18.9	+0.1
NPGB	Novo Progresso	19.04	43	*e*P		P	00 37 21.0	-0.4
PLCA	Paso Flores	19.27	185			P	00 37 21.8	-2.0
PLCA	Paso Flores	19.27	185	P		P	00 37 24.9	+1.2
	comp=Z,1.2nm,0.5s,baz=11,slow=18,SNR=3.2							
PET01	Itanhaem-SP	19.55	102	*e*P		P	00 37 26.8	0.0
MACA	Manacapuru-AM	19.67	23	P		P	00 37 26.6	-1.6
MACA	Manacapuru-AM	19.67	23	*e*P		P	00 37 26.5	-1.8
VAO	Valinhos	19.78	98	P		P	00 37 29.3	-0.2
VAO	Valinhos	19.78	98	*e*P		P	00 37 29.1	-0.4
BDFB	Brasilia	20.07	77	P		P	00 37 32.9	+0.3
BDFB				IAmb		IAmb	00 37 36.5	
	comp=Z,4.6nm,0.5s							
BDFB	Brasilia	20.07	77	P		P	00 37 32.3	-0.3
	comp=Z,4.3nm,0.4s,baz=255,slow=6.7,SNR=11							
PMNB	Patos De Minas	20.73	86	*e*P		P	00 37 39.1	-0.6
ITTB	Itaituba	20.94	37	*e*P		P	00 37 41.3	-0.6
PARB	Paraibuna	21.02	99	*e*P		P	00 37 42.1	-0.7
BSCB	Bom Sucesso	21.91	93	*e*P		P	00 37 52.4	+0.2
JANB	Januaria	23.62	78	*e*P		P	00 38 07.7	-0.9
SDBA	SAO DESIDERIO	24.09	72	*e*P		P	00 38 12.8	0.0
RUSC	La Rusia	27.63	350	P		P	00 38 44.6	-0.5
RUSC				IAmb		IAmb	00 38 58.3	
	comp=Z,7.2nm,1.1s							
VNA3	Neumayer Olymp	59.88	161	⇓P		P	00 43 02.6	+2.0
	comp=Z,1.7nm,0.7s							
VNA2	Neumayer--Watz	60.45	161	⇓P		P	00 43 06.5	+2.0
	comp=Z,1.4nm,0.7s,baz=269,slow=8.2							
TXAR	Lajitas Array	60.97	325	P		P	00 43 10.6	+2.0
	comp=Z,0.1nm,0.5s,baz=134,slow=5.9,SNR=1.7							
	comp=Z,0.1nm,0.5s							
SNAA	Sanae	62.08	161	⇓P		P	00 43 17.3	+1.9
	comp=Z,24nm,0.7s							
SNAA	Sanae	62.08	161	P		P	00 43 17.1	+1.6
	comp=Z,0.9nm,0.7s,baz=271,slow=7.8,SNR=10							
	comp=Z,0.9nm,0.7s							
TROLL	Troll, Antarti	63.80	161	⇓P		P	00 43 29.1	+2.2
	comp=Z,112nm,0.8s							
DBIC	Dimbokro	68.17	73	P		P	00 43 56.0	+0.4
	comp=Z,4.9nm,0.8s,baz=260,slow=8.7,SNR=2.1							

cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-function
IDC ***01*** *00:37:38.3s 1.0, 41°.20N 142°.25E, h77km, 8km, mb4.6/28, mbtmp4.9/35, MS4.4/67 Error ellipse: s-maj=8.9km s-min=7.6km az=113.0*
ISC 01 00:37:35.9±0.3, 41°.23N±0°.03, 142°.26E±0°.03, h53km±2km, h53km:pP-P, n1633, s1951/1404, mb5.3/514, MS4.6/108, 115C-65D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAHD	**Aomorihigashid**	**0.69**	**273**	⇓P	**Pn**	**00 37 49.1**	**-0.5**
JAHD				⇓*e*S	**Sn**	**00 37 59.7**	**+0.1**
JAHD	**Aomorihigashid**	**0.69**	**273**	A	A	00 37 49.1	
	comp=N,179nm,1.3s,comp=E,147nm,1.3s						
JARK	**Aomorirokkasho**	**0.71**	**252**	⇓P	**Pn**	**00 37 48.9**	**-0.9**
JARK				⇓*e*S	**Sn**	**00 37 59.2**	**-0.7**
JARK	**Aomorirokkasho**	**0.71**	**252**	A	A	00 37 48.9	
	comp=N,170nm,2.3s,comp=E,94nm,1.2s						
JOT	**Ohata**	**0.92**	**280**	⇓P	**Pn**	**00 37 52.1**	**-0.5**
JOT				⇓*e*S	**Sn**	**00 38 04.5**	**-0.4**
JOT	**Ohata**	**0.92**	**280**	A	A	00 37 52.1	
	comp=N,45nm,1.7s,comp=E,50nm,1.2s						
JTM	**Tenmabayashi**	**1.00**	**244**		**Pn**	**00 37 53.2**	**-0.4**
JTM				Sn	**Sn**	**00 38 04.9**	**-1.9**
JTM	**Tenmabayashi**	**1.00**	**244**	P	**Pn**	**00 37 53.3**	**-0.4**
JTM	**Tenmabayashi**	**1.00**	**244**	P	**Pn**	**00 37 53.3**	**-0.4**
JTM	**Tenmabayashi**	**1.00**	**244**	⇓P	**Pn**	**00 37 52.8**	**-0.8**
JTM				⇓S	**Sn**	**00 38 06.9**	**+0.1**
JTM	**Tenmabayashi**	**1.00**	**244**	A	A	00 37 52.8	
	comp=N,209nm,1.5s,comp=E,117nm,1.0s						
JANG	**Nango**	**1.02**	**214**	⇓P	**Pn**	**00 37 52.2**	**-1.7**
JANG				⇓*e*S	**Sn**	**00 38 05.3**	**-2.0**
JANG	**Nango**	**1.02**	**214**	A	A	00 37 52.2	
	comp=N,119nm,1.8s,comp=E,149nm,1.7s						
ERM	**Erimo**	**1.04**	**40**		**Pn**	**00 37 55.0**	**+0.9**
ERM				Sn	**Sn**	**00 38 10.0**	**+2.3**
ERM	**Erimo**	**1.04**	**40**	P	**Pn**	**00 37 54.5**	**+0.4**
ERM	**Erimo**	**1.04**	**40**	S	**Sn**	**00 38 09.8**	**+2.1**
ERM	**Erimo**	**1.04**	**40**	P	**Pn**	**00 37 54.5**	**+0.4**
ERM	**Erimo**	**1.04**	**40**	S	**Sn**	**00 38 09.8**	**+2.1**
ERM	**Erimo**	**1.04**	**40**	*ce*P	**Pn**	**00 37 54.8**	**+0.7**
JEM	**Erimo**	**1.04**	**40**	P	**Pn**	**00 37 54.5**	**+0.4**
JEM	**Erimo**	**1.04**	**40**	S	**Sn**	**00 38 09.8**	**+2.1**
JEM	**Erimo**	**1.04**	**40**	P	**Pn**	**00 37 54.5**	**+0.4**
JEM	**Erimo**	**1.04**	**40**	S	**Sn**	**00 38 09.8**	**+2.1**
JEM	**Erimo**	**1.04**	**40**	P	**Pn**	**00 37 54.6**	**+0.4**
JEM				*e*S	**Sn**	**00 38 08.2**	**+0.6**
JEM	**Erimo**	**1.04**	**40**	A	A	00 37 54.6	
	comp=N,84nm,3.6s,comp=E,92nm,3.4s						
JKEN	**Kujiedanarisaw**	**1.10**	**202**	A	A	00 37 53.5	
	comp=N,81nm,3.3s,comp=E,101nm,1.3s						
JNBK	**Urakawa-nobuka**	**1.12**	**19**	P	**Pn**	**00 37 56.0**	**+0.8**
JNBK	**Urakawa-nobuka**	**1.12**	**19**	A	A	00 37 56.0	
	comp=N,193nm,1.7s,comp=E,177nm,2.1s						
JKB	**Kayabe**	**1.13**	**306**	*i* P	**Pn**	**00 37 55.1**	**-0.3**
JKB	**Kayabe**	**1.13**	**306**	A	A	00 37 55.1	
	comp=N,57nm,4.7s,comp=E,39nm,3.6s						
JSHD	**Hidakashinhida**	**1.19**	**8**	A	A	00 37 56.7	
	comp=N,169nm,1.5s,comp=E,165nm,3.2s						
JTHR	**Tokachihiroo**	**1.32**	**36**	A	A	00 37 58.2	
	comp=N,79nm,1.3s,comp=E,96nm,1.2s						
JTH	**Tanohata**	**1.32**	**193**	A	A	00 37 56.5	
	comp=N,115nm,4.8s,comp=E,29nm,3.8s						
JSI2	**Shiura 2**	**1.40**	**264**	A	A	00 37 58.9	
	comp=N,54nm,1.8s,comp=E,54nm,2.6s						
JSR	**Shiriuchi**	**1.42**	**283**	A	A	00 37 59.5	
	comp=N,34nm,3.3s,comp=E,92nm,3.1s						
JIAM	**Iburiatsuma**	**1.42**	**350**	*i* P	**Pn**	**00 38 01.4**	**+2.1**
JIAM	**Iburiatsuma**	**1.42**	**350**	A	A	00 38 01.4	
	comp=N,237nm,1.5s,comp=E,200nm,1.0s						
JKZ	**Kuzumaki**	**1.43**	**210**	A	A	00 37 58.2	
	comp=N,91nm,3.0s,comp=E,87nm,3.6s						
JNB	**Noboribetsu**	**1.54**	**324**	*i* P	**Pn**	**00 38 00.9**	**0.0**
JNB	**Noboribetsu**	**1.54**	**324**	A	A	00 38 00.9	
	comp=N,30nm,1.4s,comp=E,26nm,1.6s						
JHHS	**Hirosakihyakuz**	**1.55**	**249**	A	A	00 38 00.6	
	comp=N,125nm,2.1s,comp=E,89nm,2.8s						
JBT2	**Biratori 2**	**1.55**	**3**	*i* P	**Pn**	**00 38 02.6**	**+1.5**
JBT2	**Biratori 2**	**1.55**	**3**	A	A	00 38 02.6	
	comp=N,44nm,1.2s,comp=E,53nm,3.4s						
JAH	**Hinai**	**1.61**	**230**	P	**Pn**	**00 38 01.2**	**-0.7**
JAH	**Hinai**	**1.61**	**230**	A	A	00 38 01.2	
	comp=N,47nm,1.6s,comp=E,46nm,3.2s						
JCH	**Churui**	**1.61**	**30**	*e*S	**Sn**	**00 38 23.5**	**+1.9**
JCH	**Churui**	**1.61**	**30**	A	A	00 38 23.5	
	comp=N,39nm,1.2s,comp=E,46nm,1.4s						
JYM2	**Yakumo 2**	**1.67**	**303**	A	A	00 38 03.4	
	comp=N,33nm,2.9s,comp=E,21nm,1.3s						
MIYJ	**Miyakonagasawa**	**1.68**	**192**	A	A	00 38 01.6	
	comp=N,18nm,2.7s,comp=E,58nm,1.9s						
JOMM	**Oshimamatsunae**	**1.72**	**281**	A	A	00 38 03.7	
	comp=N,16nm,1.7s,comp=E,20nm,5.0s						
JEW	**Eniwo**	**1.72**	**340**	A	A	00 38 04.4	
	comp=N,123nm,2.4s,comp=E,152nm,2.8s						
JSZI	**Iwateshizukuis**	**1.79**	**214**	A	A	00 38 03.4	
	comp=N,121nm,1.6s,comp=E,86nm,1.9s						
JIW	**Iwasaki**	**1.82**	**250**	A	A	00 38 04.5	
	comp=N,27nm,2.4s,comp=E,46nm,3.3s						
JNTW	**Noshirotokiwa**	**1.85**	**240**	A	A	00 38 04.8	
	comp=N,185nm,2.4s,comp=E,119nm,5.5s						
JOM	**Ohasama**	**1.90**	**203**	A	A	00 38 04.8	
	comp=N,26nm,1.4s,comp=E,58nm,2.5s						
JFR	**Furan**	**1.95**	**7**	A	A	00 38 07.6	
	comp=N,37nm,1.0s,comp=E,26nm,1.0s						
JOB	**Onbets**	**2.05**	**35**	A	A	00 38 08.6	
	comp=N,58nm,1.1s,comp=E,57nm,1.9s						
JISS	**Ishikarishitsu**	**2.14**	**343**	A	A	00 38 10.3	
	comp=N,76nm,2.5s,comp=E,66nm,1.7s						
JHST	**Hiyamasetana**	**2.14**	**305**	A	A	00 38 10.1	
	comp=N,20nm,1.5s,comp=E,23nm,1.9s						
OFUJ	**Ofunato**	**2.19**	**192**	A	A	00 38 08.8	
	comp=N,24nm,3.6s,comp=E,43nm,2.9s						
JRG	**Rokugo**	**2.21**	**215**	A	A	00 38 09.4	
	comp=N,31nm,2.4s,comp=E,30nm,4.4s						
JOSM	**Okushiri--Mats**	**2.25**	**293**	A	A	00 38 11.5	
	comp=N,10.0nm,8.3s,comp=E,12nm,2.0s						
JAB	**Ashibetsu**	**2.28**	**359**	A	A	00 38 12.3	
	comp=N,113nm,3.9s,comp=E,94nm,1.9s						
JYW	**Yuwa**	**2.30**	**224**	A	A	00 38 10.8	
	comp=N,55nm,3.1s,comp=E,44nm,2.2s						
JAR	**Ashorobuto**	**2.35**	**28**	A	A	00 38 13.1	
	comp=N,33nm,0.8s,comp=E,32nm,1.2s						
JMK	**Ichinoseki**	**2.41**	**200**	A	A	00 38 12.0	
	comp=N,12nm,1.5s,comp=E,29nm,3.2s						
JKMT	**Kesennumamotoy**	**2.49**	**194**	A	A	00 38 13.1	
	comp=N,12nm,2.3s,comp=E,20nm,3.5s						
JSK	**Shakotan**	**2.50**	**329**	A	A	00 38 15.5	
	comp=N,21nm,4.9s,comp=E,15nm,2.4s						
JAK	**Akkeshi**	**2.54**	**45**	A	A	00 38 15.4	
	comp=N,46nm,2.7s,comp=E,57nm,1.3s						
JHR	**Hokuryu**	**2.54**	**351**	A	A	00 38 16.1	
	comp=N,40nm,1.1s,comp=E,61nm,2.8s						
JKK2	**Kamakawa 2**	**2.67**	**8**	A	A	00 38 17.8	
	comp=N,26nm,1.4s,comp=E,21nm,1.5s						
JYK	**Kaneyama**	**2.73**	**213**	A	A	00 38 16.7	
	comp=N,23nm,3.7s,comp=E,45nm,2.2s						
JOG3	**Oga3**	**2.75**	**243**	A	A	00 38 10.8	
	comp=N,25nm,4.3s,comp=E,28nm,2.6s						
JOFO	**Osakifurukawao**	**2.82**	**202**	A	A	00 38 17.9	
	comp=N,85nm,2.3s,comp=E,86nm,2.7s						
JYYZ	**Yamagatayuza**	**2.84**	**220**	A	A	00 38 18.4	
	comp=N,100nm,2.2s,comp=E,117nm,3.3s						
JKHN	**Kushirohamanak**	**2.85**	**48**	A	A	00 38 19.7	
	comp=N,35nm,1.3s,comp=E,40nm,2.0s						
JIO	**Ouri**	**2.86**	**194**	A	A	00 38 18.3	
	comp=N,10.0nm,3.0s,comp=E,13nm,3.5s						
JMP	**Maruseppu**	**2.90**	**16**	A	A	00 38 20.9	
	comp=N,22nm,1.9s,comp=E,19nm,2.8s						
JTB	**Tobi-shima**	**2.90**	**226**	A	A	00 38 19.4	
	comp=N,35nm,3.0s,comp=E,19nm,2.1s						
JKA	**Kamikawa-asahi**	**2.90**	**5**		**Pn**	**00 38 20.7**	**+1.2**
ASAJ	**Asahikawa**	**2.90**	**5**	P	**Pn**	**00 38 21.6**	**+2.1**
	comp=E,984nm,0.6s,baz=200,slow=9.7,SNR=239						
ASAJ				S	**Sn**	**00 38 57.9**	**+4.8**
	comp=E,2μm,0.8s,baz=180,slow=19,SNR=6.2						
ASAJ	**Asahikawa**	**2.90**	**5**	A	A	00 38 21.1	
	comp=N,16nm,1.9s,comp=E,20nm,1.5s						
JNK	**Nakash**	**2.98**	**37**	A	A	00 38 21.8	
	comp=N,15nm,0.7s,comp=E,18nm,1.2s						
JTKR	**Abashiri--Toko**	**3.00**	**23**	A	A	00 38 22.3	
	comp=N,11nm,2.0s,comp=E,14nm,2.3s						
JOU	**Okura**	**3.11**	**204**	A	A	00 38 22.0	
	comp=N,17nm,1.5s,comp=E,23nm,1.6s						
JSS	**Shosan**	**3.18**	**355**	A	A	00 38 25.1	
	comp=N,31nm,4.2s,comp=E,34nm,3.0s						
JYG	**Yagishiri**	**3.25**	**349**	A	A	00 38 26.2	
	comp=N,14nm,4.1s,comp=E,13nm,4.1s						
JNSB	**Nemuroshibetsu**	**3.26**	**38**	A	A	00 38 25.7	
	comp=N,33nm,1.3s,comp=E,43nm,2.8s						
JYA	**Atsumi**	**3.28**	**217**	A	A	00 38 24.6	
	comp=N,17nm,2.2s,comp=E,24nm,4.4s						
NEM2	**Nemuro 2**	**3.35**	**49**	A	A	00 38 26.9	
	comp=N,10.0nm,1.2s,comp=E,9.0nm,0.9s						
JRA	**Rausu**	**3.44**	**37**	A	A	00 38 28.3	
	comp=N,13nm,1.7s,comp=E,14nm,3.1s						
JYS	**Shirataka**	**3.44**	**210**	A	A	00 38 26.8	
	comp=N,55nm,2.4s,comp=E,46nm,3.1s						
GLVR	**Golovnino**	**3.48**	**43**	*e*P	**Pn**	**00 38 27.5**	**0.0**
GLVR				*i* S	**Sn**	**00 39 06.5**	**-0.9**
GLVR				pmax	pmax		
	comp=Z,4μm,1.1s						
GLVR				pmax	pmax		
	comp=Z,2μm,0.4s						
GLVR				pmax	pmax		
	comp=N,2μm,0.3s						
GLVR				pmax	pmax		
	comp=E,1μm,0.2s						
GLVR				smax	smax		
	comp=N,9μm,0.3s						
GLVR				smax	smax		
	comp=E,17μm,0.4s						
JMM	**Marumori**	**3.54**	**199**		**Pn**	**00 38 28.1**	**-0.3**
JMM	**Marumori**	**3.54**	**199**	P	**Pn**	**00 38 30.1**	**+1.8**
JMM	**Marumori**	**3.54**	**199**	P	**Pn**	**00 38 30.1**	**+1.8**
JMM	**Marumori**	**3.54**	**199**	A	A	00 38 28.0	
	comp=N,17nm,5.9s,comp=E,30nm,1.7s						
JAW	**Awa shima**	**3.61**	**221**	A	A	00 38 29.3	
	comp=N,6.0nm,4.0s,comp=E,8.0nm,3.5s						
RUSJ	**Misakicho**	**3.62**	**37**	*e*P	**Pn**	**00 38 30.6**	**+1.2**
RUSJ				*i* S	**Sn**	**00 39 11.7**	**+0.8**
JMST	**Minamisoumatoc**	**3.66**	**197**	A	A	00 38 29.6	
	comp=N,19nm,3.3s,comp=E,33nm,3.5s						
JYAR	**Yonezawaarcadi**	**3.69**	**207**	A	A	00 38 30.3	
	comp=N,47nm,1.3s,comp=E,30nm,2.8s						
JSE	**Soyaes**	**3.74**	**4**	A	A	00 38 32.9	
	comp=N,11nm,3.1s,comp=E,16nm,3.0s						
YUK	**Yuzh-Kuril'sk**	**3.87**	**42**	*d* iP	**Pn**	**00 38 32.4**	**-0.3**
YUK				*i* S	**Sn**	**00 39 14.6**	**-2.3**
YUK				pmax	pmax		
	comp=Z,4μm,1.1s						
YUK				pmax	pmax		
	comp=N,3μm,0.3s						
YUK				pmax	pmax		
	comp=Z,3μm,0.3s						
YUK				pmax	pmax		
	comp=E,2μm,0.4s						
YUK				smax	smax		
	comp=N,18μm,0.5s						
YUK				smax	smax		
	comp=E,3μm,0.6s						
JOTO	**OTAMA OYAMA**	**3.95**	**203**	A	A	00 38 33.9	
	comp=N,28nm,1.5s,comp=E,28nm,2.8s						
JRR	**Rishiri**	**3.97**	**350**	A	A	00 38 36.2	
	comp=N,40nm,4.8s,comp=E,40nm,3.8s						
JFK	**Kawauchi**	**4.00**	**196**	A	A	00 38 34.5	
	comp=N,8.0nm,2.2s,comp=E,13nm,3.5s						
JNS	**Sasagawa**	**4.09**	**215**	A	A	00 38 36.0	
	comp=N,6.0nm,5.6s,comp=E,8.0nm,3.7s						
JWK2	**Keihoku**	**4.09**	**356**	A	A	00 38 37.9	
	comp=N,9.0nm,4.4s,comp=E,15nm,3.0s						
ONAJ	**Iwakimizuishiy**	**4.27**	**196**	A	A	00 38 38.3	
	comp=N,8.0nm,2.1s,comp=E,14nm,2.4s						
SHO	**Shikotan**	**4.29**	**50**	*d* iP	**Pn**	**00 38 38.0**	**-0.5**
SHO				*i* S	**Sn**	**00 39 23.9**	**-3.3**
SHO				pmax	pmax		
	comp=Z,329nm,1.5s						
SHO				pmax	pmax		
	comp=Z,531nm,0.3s						
SHO				pmax	pmax		
	comp=N,291nm,0.4s						
SHO				pmax	pmax		
	comp=E,287nm,0.3s						
SHO				smax	smax		
	comp=N,2μm,0.5s						
SHO				smax	smax		
	comp=E,6μm,0.4s						
JFY	**Yanaizu**	**4.30**	**208**	A	A	00 38 38.8	
	comp=N,8.0nm,2.9s,comp=E,7.0nm,2.5s						
JFFD	**Fukushimafurud**	**4.33**	**198**	A	A	00 38 39.2	
	comp=N,5.0nm,2.1s,comp=E,9.0nm,2.6s						
JSD	**Sado**	**4.43**	**225**	P	**Pn**	**00 38 42.0**	**+1.4**
JSD	**Sado**	**4.43**	**225**	P	**Pn**	**00 38 42.0**	**+1.4**
JIZZ	**Izumozaki**	**4.60**	**218**	A	A	00 38 43.2	
	comp=N,15nm,3.0s,comp=E,16nm,3.4s						
JSB	**Shiboa**	**4.62**	**204**	A	A	00 38 43.3	
	comp=N,16nm,1.7s,comp=E,16nm,2.6s						
JUON	**Uonuma**	**4.72**	**213**	A	A	00 38 44.8	
	comp=N,4.0nm,4.3s,comp=E,8.0nm,4.9s						
JKT	**Katashina**	**5.03**	**209**	A	A	00 38 49.1	
	comp=N,6.0nm,2.6s,comp=E,12nm,3.2s						
JHYU	**Hitachinakayam**	**5.05**	**195**	A	A	00 38 49.2	
	comp=N,6.0nm,1.8s,comp=E,7.0nm,2.8s						
JJN	**Nakama**	**5.20**	**219**	A	A	00 38 51.6	
	comp=N,4.0nm,4.7s,comp=E,5.0nm,3.7s						
JYT	**Yasato**	**5.25**	**199**	A	A	00 38 51.9	
	comp=N,10.0nm,2.1s,comp=E,19nm,2.5s						
JAG	**Ashikaga**	**5.27**	**205**	A	A	00 38 52.3	
	comp=N,6.0nm,4.1s,comp=E,6.0nm,2.6s						
JIHU	**Itakohorinouch**	**5.42**	**195**	A	A	00 38 54.4	
	comp=N,28nm,1.8s,comp=E,35nm,3.6s						
JGK	**Kuni**	**5.45**	**212**	A	A	00 38 54.9	
	comp=N,10.0nm,2.6s,comp=E,12nm,3.0s						
TEY	**Ternei**	**5.62**	**315**	⇑*e*P	**Pn**	**00 38 52.8**	**-4.0**
TEY				*e*		00 40 00.0	
TEY				pmax	pmax		
	comp=N,40nm,0.8s						
TEY				pmax	pmax		
	comp=E,40nm,0.8s						
TEY				pmax	pmax		
	comp=Z,60nm,0.8s						
MJB9	**Matsu-Tunnel**	**5.64**	**215**		**Pn**	**00 38 58.2**	**+1.1**
MAJO	**Matsushiro**	**5.64**	**215**		**Pn**	**00 38 58.4**	**+1.2**
MAJO	**Matsushiro**	**5.64**	**215**	P	**Pn**	**00 38 58.5**	**+1.3**
MAJO	**Matsushiro**	**5.64**	**215**	P	**Pn**	**00 38 58.5**	**+1.3**
MAJO	**Matsushiro**	**5.64**	**215**	*i* P	**Pn**	**00 38 58.9**	**+1.7**
MJAR	**Matsushiro Arr**	**5.64**	**215**		**Pn**	**00 38 58.1**	**+0.9**
MJAR	**Matsushiro Arr**	**5.64**	**215**	P	**Pn**	**00 38 58.4**	**+1.2**
	comp=Z,33nm,0.4s,baz=31,slow=12,SNR=117						
MJAR				S	**Sn**	**00 40 03.9**	**+3.2**
	comp=Z,63nm,0.9s,baz=28,slow=11,SNR=4.4						
MJAR				LR	LR	00 41 30.9	
	comp=Z,4μm,19.8s,baz=36,slow=41						
KUR	**Kuril'sk**	**5.73**	**44**	⇓*i*P	**Pn**	**00 38 57.9**	**-0.4**
KUR				*i* S	**Sn**	**00 40 00.4**	**-2.2**
YSS	**Yuzhno-Sakhali**	**5.74**	**3**		**Pn**	**00 38 59.5**	**+1.2**
YSS	**Yuzhno-Sakhali**	**5.74**	**3**	P	**Pn**	**00 39 00.6**	**+2.2**
YSS	**Yuzhno-Sakhali**	**5.74**	**3**	P	**Pn**	**00 39 00.6**	**+2.2**
YSS	**Yuzhno-Sakhali**	**5.74**	**3**	*de*P	**Pn**	**00 39 00.4**	**+2.0**
YSS				*e*S	**Sn**	**00 40 02.8**	**0.0**
YSS				pmax	pmax		
	comp=Z,800nm,1.0s						
YSS				pmax	pmax		
	comp=N,700nm,0.8s						
YSS				pmax	pmax		
	comp=Z,600nm,3.5s						
YSS				pmax	pmax		
	comp=N,1μm,3.1s						
YSS				smax	smax		
	comp=N,400nm,1.1s						
YSS				smax	smax		
	comp=E,170nm,0.9s						
YSS				smax	smax		
	comp=N,1μm,2.9s						
YSS				MLR	MLR		
	comp=Z,2μm,11.0s						
YSS				MLR	MLR		
	comp=N,3μm,14.0s						
YSS				MLR	MLR		
	comp=E,1μm,13.0s						
JSMT	**Sammumatsuo**	**5.75**	**195**	A	A	00 38 59.0	
	comp=N,18nm,2.6s,comp=E,20nm,3.0s						
JNG	**Nsakai**	**5.80**	**215**	A	A	00 38 60.0	
	comp=N,3.0nm,4.9s,comp=E,2.0nm,2.6s						
JRY	**Ryogami san**	**5.83**	**208**	A	A	00 39 00.2	
	comp=N,6.0nm,4.3s,comp=E,4.0nm,5.5s						
TOK	**Tokyo**	**5.87**	**200**	A	A	00 39 00.7	
	comp=N,29nm,2.1s,comp=E,20nm,4.5s						
JOD2	**Odawara 2**	**6.45**	**204**	A	A	00 39 08.9	
	comp=N,6.0nm,3.8s,comp=E,7.0nm,3.2s						
JFNN	**Fujinakano**	**6.65**	**206**	A	A	00 39 11.6	
	comp=N,10.0nm,5.1s,comp=E,8.0nm,2.7s						
JHTM	**Izuhatsuma**	**6.76**	**203**	A	A	00 39 13.2	
	comp=N,8.0nm,1.4s,comp=E,8.0nm,3.2s						
JGF	**Kuroka**	**6.81**	**216**		**Pn**	**00 39 14.1**	**+0.9**
JGF	**Kuroka**	**6.81**	**216**	P	**Pn**	**00 39 14.6**	**+1.5**
JGF	**Kuroka**	**6.81**	**216**	P	**Pn**	**00 39 14.6**	**+1.5**
INU	**Inuyama**	**7.17**	**217**		**Pn**	**00 39 18.5**	**+0.5**
INU	**Inuyama**	**7.17**	**217**	P	**Pn**	**00 39 20.5**	**+2.4**
INU	**Inuyama**	**7.17**	**217**	P	**Pn**	**00 39 20.5**	**+2.4**
JSG	**Sagara**	**7.29**	**207**		**Pn**	**00 39 20.1**	**+0.4**
UGL	**Uglegorsk**	**7.85**	**359**	*e*P	Pn	00 39 20.6	-6.7
UGL				pmax	pmax		
	comp=Z,130nm,1.0s						
UGL				MLR	MLR		
	comp=Z,2μm,15.0s						
UGL				MLR	MLR		
	comp=E,3μm,16.0s						
UGL				MLR	MLR		
	comp=N,4μm,20.0s						
VLA	**Vladivostok**	**7.93**	**287**	*i* P	**Pn**	**00 39 26.3**	**-2.1**
USRK	**Ussuriysk Ar.**	**8.12**	**295**		**Pn**	**00 39 31.2**	**+0.2**
USRK	**Ussuriysk Ar.**	**8.12**	**295**	P	**Pn**	**00 39 32.7**	**+1.6**
	comp=N,93nm,1.0s,baz=101,slow=15,SNR=61						
USRK				S	**Sn**	**00 41 05.1**	**+3.7**
	comp=N,12nm,0.6s,baz=105,slow=28,SNR=1.7						
USRK				LR	LR	00 42 31.6	
	comp=N,5μm,21.6s,baz=108,slow=36						
USA0B	**Ussuriysk Arra**	**8.12**	**295**		**Pn**	**00 39 32.5**	**+1.4**
USA0B	**Ussuriysk Arra**	**8.12**	**295**	P	**Pn**	**00 39 32.5**	**+1.4**
JHJ2	**Mitsune**	**8.33**	**194**	Pn	**Pn**	**00 39 33.4**	**-0.6**
MSHR	**Mys Shultsa**	**8.39**	**283**	*i* P	**Pn**	**00 39 33.9**	**-0.8**
PSTR	**Posyet**	**8.65**	**283**	*i* P	**Pn**	**00 39 39.3**	**+1.0**
TYV	**Tymovskoe**	**9.64**	**2**	*e*P	**Pn**	**00 39 53.2**	**+1.4**
TYV				*e*S	**Sn**	**00 41 35.8**	**-2.8**
TYV				pmax	pmax		
	comp=Z,300nm,5.1s						
TYV				pmax	pmax		
	comp=Z,114nm,0.9s						
TYV				smax	smax		
	comp=N,43nm,1.4s						
TYV				smax	smax		
	comp=E,900nm,6.1s						
TYV				MLR	MLR		
	comp=Z,4μm,22.0s						
TYV				MLR	MLR		
	comp=N,4μm,22.0s						
MDJ	**Mudanjiang**	**9.89**	**294**	P	**Pn**	**00 39 56.0**	**+0.8**
MDJ				sP		00 40 10.9	
MDJ				S	**Sn**	**00 41 48.6**	**+4.0**
MDJ				pmax	pmax		
	comp=N,27nm,1.9s						
MDJ				LR	LR		
	comp=N,2μm,13.1s						
MDJ				LR	LR		
	comp=N,4μm,22.0s						
MDJ				LR	LR		
	comp=N,7μm,18.6s						
MDJ	**Mudanjiang**	**9.89**	**294**	P	**Pn**	**00 39 58.6**	**+3.4**
MDJ	**Mudanjiang**	**9.89**	**294**	P	**Pn**	**00 39 58.6**	**+3.4**
JMN	**Monobe**	**10.01**	**224**	Pn	**Pn**	**00 39 56.8**	**-0.3**
JMN	**Monobe**	**10.01**	**224**	P	**Pn**	**00 40 01.0**	**+4.0**
GRNR	**Gornyy**	**10.37**	**339**	⇑*i*P	**Pn**	**00 40 02.9**	**+1.2**
GRNR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GRNR				MLR	MLR		
	comp=E,750nm,19.0s						
GRNR				MLR	MLR		
	comp=N,1μm,21.0s						
GRNR				MLR	MLR		
	comp=Z,1μm,18.0s						
KLR	**Kul'dur**	**10.90**	**321**	P	**Pn**	**00 40 11.2**	**+2.2**
	comp=Z,26nm,0.9s,baz=135,slow=16,SNR=38						
KLR				LR	LR	00 44 23.9	
	comp=Z,4μm,20.9s,baz=140,slow=37						
BNX	**BinXian**	**11.69**	**298**	⇑P	**Pn**	**00 40 18.9**	**-0.9**
BNX				S	Sn	00 42 37.9	+9.2
BNX				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BNX				LR	LR		
	comp=Z,990nm,20.1s						
BNX				LR	LR		
	comp=Z,2μm,18.6s						
BNX				LR	LR		
	comp=Z,3μm,19.0s						
KSRS	**Korea Array**	**11.72**	**256**	P	**Pn**	**00 40 22.6**	**+2.3**
	comp=Z,18nm,1.0s,baz=65,slow=14,SNR=51						
KSRS				S	**Sn**	**00 42 33.3**	**+3.9**
	comp=Z,15nm,1.0s,baz=68,slow=25,SNR=5.1						
KS19	**Wonju Array Si**	**11.74**	**256**		**Pn**	**00 40 21.2**	**+0.6**
KSAR	**Wonju Array Be**	**11.75**	**256**		**Pn**	**00 40 20.2**	**-0.5**
KSAR	**Wonju Array Be**	**11.75**	**256**	P	**Pn**	**00 40 20.2**	**-0.5**
JNU	**Nakatsue**	**12.15**	**232**	P	**Pn**	**00 40 26.8**	**+0.6**
	comp=Z,12nm,1.0s,baz=38,slow=19,SNR=5.9						
JNU				LR	LR	00 45 08.0	
	comp=Z,2μm,20.1s,baz=44,slow=37						
JNU	**Nakatsue**	**12.15**	**232**	P		**00

	comp=Z,46nm,1.3s							
DL2					pmax	pmax		
	comp=Z,400nm,6.3s							
DL2					LR	LR		
	comp=Z,670nm,27.5s							
DL2					LR	LR		
	comp=Z,920nm,24.5s							
DL2					LR	LR		
	comp=Z,2μm,31.9s							
ZEA	**Zeya**	**16.06**	**326**	*e*P	**Pn**		**00 41 16.7**	**-1.3**
ZEA				*e*			00 44 15.1	
ZEA				pmax	pmax			
	comp=Z,100nm,1.5s							
ZEA				pmax	pmax			
	comp=N,50nm,1.0s							
ZEA				pmax	pmax			
	comp=E,40nm,1.0s							
ZEA				pmax	pmax			
	comp=Z,70nm,1.0s							
ZEA				MLR	MLR			
	comp=E,900nm,21.0s							
ZEA				MLR	MLR			
	comp=N,1μm,15.0s							
ZEA				MLR	MLR			
	comp=Z,1μm,21.0s							
PET	**Petropavlovsk**	**16.19**	**38**	Pn	**Pn**		**00 41 20.2**	**+0.5**
PET	**Petropavlovsk**	**16.19**	**38**	P	**P**		**00 41 22.5**	**+0.5**
PET	**Petropavlovsk**	**16.19**	**38**	*e*P	**P**		**00 41 22.2**	**+0.2**
PET				*e*S	**Sn**		**00 44 15.5**	**-2.6**
PET				pmax	pmax			
	comp=Z,19nm,0.9s							
PET				MLR	MLR			
	comp=Z,800nm,17.0s							
PET				MLR	MLR			
	comp=Z,600nm,11.0s							
HIA	**Hailar**	**17.73**	**305**		**Pn**		**00 41 37.5**	**-1.3**
HIA	**Hailar**	**17.73**	**305**	P	**Pn**		**00 41 37.8**	**-1.0**
HIA	**Hailar**	**17.73**	**305**	P	**Pn**		**00 41 37.5**	**-1.3**
HIA				pmax	pmax			
	comp=Z,55nm,1.0s							
JOW	**Kunigami**	**18.41**	**223**	LR	LR		00 49 15.9	
	comp=Z,1μm,21.1s,baz=100,slow=38							
MA2	**Magadan**	**19.12**	**13**		**P**		**00 41 53.7**	**-0.6**
MA2	**Magadan**	**19.12**	**13**	P	**P**		**00 41 53.5**	**-0.7**
	comp=Z,67nm,0.9s,baz=195,slow=11,SNR=46							
MA2	**Magadan**	**19.12**	**13**	P	**P**		**00 41 54.5**	**+0.3**
MA2	**Magadan**	**19.12**	**13**	*ce*P	**P**		**00 41 52.7**	**-1.5**
MA2				pmax	pmax			
	comp=Z,98nm,1.0s							
XLT	**XiLinHaoTe**	**19.44**	**287**	*e*P	**P**		**00 41 56.2**	**-1.7**
XLT				pP	pP		00 42 12.3	+2.7
XLT				sP	sP		00 42 20.5	+4.4
XLT				S	**S**		**00 45 30.9**	**-3.9**
XLT				sS	Sn		00 45 44.5	+7.7
XLT				SS	**SnSn**		**00 45 54.5**	**+3.1**
XLT				PcP	**PcP**		**00 46 11.2**	**-6.1**
XLT				pmax	pmax			
	comp=Z,25nm,1.5s							
XLT				pmax	pmax			
	comp=Z,160nm,6.8s							
XLT				LR	LR			
	comp=Z,1μm,18.3s							
XLT				LR	LR			
	comp=Z,1μm,19.6s							
SSE	**Sheshan**	**19.74**	**246**	P	**P**		**00 42 00.7**	**-0.5**
SSE				S	**S**		**00 45 40.1**	**-0.8**
SSE				pmax	pmax			
	comp=Z,24nm,0.8s							
SSE				pmax	pmax			
	comp=Z,97nm,3.8s							
SSE				LR	LR			
	comp=Z,380nm,18.3s							
SSE				LR	LR			
	comp=Z,320nm,18.2s							
BJI	**Beijing**	**19.81**	**275**	P	**P**		**00 42 00.7**	**-1.2**
BJI				S	**S**		**00 45 36.5**	**-5.6**
BJI				SS	**SnSn**		**00 46 08.2**	**+7.9**
BJI				pmax	pmax			
	comp=Z,19nm,1.4s							
BJI				pmax	pmax			
	comp=Z,130nm,3.5s							
BJI				LR	LR			
	comp=Z,440nm,16.6s							
BJI				LR	LR			
	comp=Z,450nm,23.6s							
BJI				LR	LR			
	comp=Z,710nm,23.2s							
BJT	**Baijiatuau**	**19.82**	**275**	P	**P**		**00 42 00.6**	**-1.4**
BJT	**Baijiatuau**	**19.82**	**275**	P	**P**		**00 42 00.9**	**-1.1**
BJT	**Baijiatuau**	**19.82**	**275**	P	**P**		**00 42 00.6**	**-1.4**
BJT				pmax	pmax			
	comp=Z,64nm,1.3s							
TIA	**Tai'an**	**20.21**	**264**	P	**P**		**00 42 04.4**	**-1.9**
TIA				pP	**pP**		**00 42 19.4**	**+1.4**
TIA				sP	**sP**		**00 42 24.6**	**+0.1**
TIA				S	**S**		**00 45 45.2**	**-4.9**
TIA				PcP	**PcP**		**00 46 17.2**	**-1.5**
TIA				pmax	pmax			
	comp=Z,27nm,1.1s							
TIA				pmax	pmax			
	comp=Z,300nm,3.8s							
TIA				LR	LR			
	comp=Z,900nm,17.6s							
TIA				LR	LR			
	comp=Z,970nm,18.9s							
TIA				LR	LR			
	comp=Z,1μm,20.9s							
NJ2	**Nanjing**	**20.84**	**251**	*e*P	**P**		**00 42 10.7**	**-2.4**
NJ2				S	**S**		**00 45 59.3**	**-3.3**
NJ2				pmax	pmax			
	comp=Z,48nm,1.0s							
NJ2				LR	LR			
	comp=Z,880nm,15.4s							
NJ2				LR	LR			
	comp=Z,2μm,19.2s							
NJ2				LR	LR			
	comp=Z,2μm,17.1s							
HNS	**HongShan**	**21.62**	**269**	⇓P	**P**		**00 42 18.9**	**-2.5**
HNS				S	**S**		**00 46 08.6**	**-9.3**
HNS				pmax	pmax			
	comp=Z,53nm,1.1s							
HNS				LR	LR			
	comp=Z,410nm,21.4s							
HNS				LR	LR			
	comp=Z,790nm,21.4s							
HNS				LR	LR			
	comp=Z,1μm,22.4s							
YAK	**Yakutsk**	**22.17**	**344**		**P**		**00 42 24.6**	**-2.4**
YAK				IAmb	IAmb		00 42 28.2	
	comp=Z,152nm,0.8s							
YAK	**Yakutsk**	**22.17**	**344**	*c i*P	**P**		**00 42 23.5**	**-3.5**
YAK				*e**PP	**pP**		**00 42 35.0**	**-3.8**
YAK				*e*			00 42 45.3	
YAK				*e*S	**S**		**00 46 20.5**	**-7.3**
YAK				*e**SS	Sn		00 46 40.0	-1.7
YAK				pmax	pmax			
	comp=Z,76nm,1.2s							
YAK				pmax	pmax			
	comp=N,42nm,1.5s							
YAK				pmax	pmax			
	comp=E,44nm,1.9s							
YAK				smax	smax			
	comp=N,406nm,3.3s							
YAK				smax	smax			
	comp=E,153nm,2.3s							
CIT	**Chita**	**22.33**	**309**	*e*P	**P**		**00 42 24.8**	**-4.2**
CIT				*e*			00 42 41.4	
CIT				*e*			00 43 01.6	
CIT				*e*			00 43 11.8	
CIT				*e*S	**S**		**00 46 31.0**	**0.0**
CIT				pmax	pmax			
	comp=Z,130nm,3.2s							
SEY	**Seymchan**	**22.56**	**12**	P	**P**		**00 42 29.5**	**-1.7**
	comp=Z,36nm,0.8s,baz=201,slow=8.3,SNR=55							
SEY				S	**S**		**00 46 30.1**	**-4.5**
	comp=Z,3.9nm,1.0s,baz=197,slow=19,SNR=6.1							
SEY	**Seymchan**	**22.56**	**12**	*i* P	**P**		**00 42 29.1**	**-2.1**
SEY				pmax	pmax			
	comp=Z,37nm,0.9s							
HHC	**Hu-ho-hao-te**	**23.10**	**279**	⇓*i*P	**P**		**00 42 35.0**	**-2.2**
HHC				PP	**PnPn**		**00 43 05.3**	**+1.2**
HHC				S	**S**		**00 46 39.2**	**-5.1**
HHC				SS	**SnSn**		**00 47 22.6**	**+1.5**
HHC				pmax	pmax			
	comp=Z,28nm,0.8s							
HHC				pmax	pmax			
	comp=Z,130nm,5.9s							
HHC				LR	LR			
	comp=Z,530nm,14.9s							
HHC				LR	LR			
	comp=Z,1μm,20.6s							
HHC				LR	LR			
	comp=Z,2μm,18.8s							
TIY	**Taiyuan**	**23.23**	**271**	*e*P	**P**		**00 42 36.3**	**-2.2**
TIY				PP	**PnPn**		**00 43 06.1**	**+0.2**
TIY				S	**S**		**00 46 43.8**	**-2.7**
TIY				pmax	pmax			
	comp=Z,150nm,5.9s							
TIY				LR	LR			
	comp=Z,430nm,16.5s							
TIY				LR	LR			
	comp=Z,350nm,16.5s							
TIY				LR	LR			
	comp=Z,630nm,22.0s							
YHNB	**Yeheng**	**23.98**	**233**	P	**P**		**00 42 47.6**	**+2.1**
NACB	**Ninganchiao**	**24.22**	**232**	P	**P**		**00 42 45.0**	**-2.6**
BTO	**Baotou**	**24.30**	**279**	*e*P	**P**		**00 42 46.4**	**-1.9**
BTO				pP	**pP**		**00 43 00.8**	**-0.7**
BTO				sP	**sP**		**00 43 08.2**	**+0.6**
BTO				PP	**PnPn**		**00 43 23.4**	**+3.0**
BTO				S	**S**		**00 46 58.6**	**-5.1**
BTO				sS	**sS**		**00 47 22.4**	**-3.1**
BTO				SS	**SnSn**		**00 47 54.0**	**+3.6**
BTO				pmax	pmax			
	comp=Z,56nm,1.1s							
BTO				pmax	pmax			
	comp=Z,530nm,8.3s							
BTO				LR	LR			
	comp=Z,1μm,16.9s							
BTO				LR	LR			
	comp=Z,2μm,21.6s							
BTO				LR	LR			
	comp=Z,3μm,23.3s							
LYN	**LuoYang**	**24.36**	**264**	P	**P**		**00 42 47.4**	**-1.4**
LYN				sP	sP		00 43 11.0	+2.9
LYN				S	**S**		**00 46 57.3**	**-7.2**
LYN				pmax	pmax			
	comp=Z,19nm,0.8s							
LYN				pmax	pmax			
	comp=Z,220nm,4.9s							
LYN				LR	LR			
	comp=Z,780nm,16.8s							
LYN				LR	LR			
	comp=Z,810nm,17.9s							
LYN				LR	LR			
	comp=Z,2μm,23.4s							
SMY	**Shemya**	**24.38**	**51**	P	**P**		**00 42 49.4**	**+0.6**
SMY	**Shemya**	**24.38**	**51**	P	**P**		**00 42 49.4**	**+0.6**
SMY				pmax	pmax			
	comp=Z,243nm,1.2s							
BOD	**Bodaibo**	**24.47**	**322**	*e*P	**P**		**00 42 49.1**	**-0.5**
BOD				pmax	pmax			
	comp=Z,113nm,1.0s							
SSLB	**Suanglung**	**24.89**	**232**		**P**		**00 42 53.3**	**-0.5**
SSLB	**Suanglung**	**24.89**	**232**	P	**P**		**00 42 56.3**	**+2.5**
WHN	**Wuhan**	**24.90**	**254**	P	**P**		**00 42 52.2**	**-1.5**
WHN				pP	**pP**		**00 43 06.8**	**0.0**
WHN				S	**S**		**00 47 08.3**	**-4.9**
WHN				pmax	pmax			
	comp=Z,110nm,1.0s							
WHN				LR	LR			
	comp=Z,4μm,15.8s							
WHN				LR	LR			
	comp=Z,7μm,18.7s							
WHN				LR	LR			
	comp=Z,6μm,17.0s							
YULB	**Yu-li**	**24.99**	**231**	P	**P**		**00 42 55.6**	**+0.9**
YULB	**Yu-li**	**24.99**	**231**	P	**P**		**00 42 56.2**	**+1.5**
TPUB	**Ta-pu**	**25.46**	**232**	P	**P**		**00 42 59.7**	**+0.8**
TPUB	**Ta-pu**	**25.46**	**232**	P	**P**		**00 43 01.5**	**+2.6**
QZH	**Quanzhou**	**25.51**	**238**	P	**P**		**00 43 00.2**	**+0.9**
QZH				S	**S**		**00 47 22.2**	**-0.8**
QZH				pmax	pmax			
	comp=Z,75nm,1.1s							
QZH				LR	LR			
	comp=Z,690nm,16.0s							
QZH				LR	LR			
	comp=Z,470nm,23.0s							
QZH				LR	LR			
	comp=Z,680nm,19.5s							
TWGBT	**Beinan**	**25.56**	**231**	P	**P**		**00 43 00.8**	**+1.0**
TWG	**Pinlang**	**25.56**	**231**	P	**P**		**00 43 00.5**	**+0.6**
ULN	**Ulaanbaatar**	**25.79**	**297**		**P**		**00 43 00.9**	**-1.0**
ULN	**Ulaanbaatar**	**25.79**	**297**	P	**P**		**00 43 01.8**	**-0.1**
ULN	**Ulaanbaatar**	**25.79**	**297**	*ce*P	**P**		**00 43 01.3**	**-0.6**
ULN				pmax	pmax			
	comp=Z,39nm,1.1s							
KNMB	**Chin-men Tao**	**25.98**	**237**	P	**P**		**00 43 02.8**	**-0.7**
KNMB				IAmb	IAmb		00 43 16.0	
	comp=Z,66nm,0.8s							
SONM	**Songino Array**	**26.23**	**297**		**P**		**00 43 05.2**	**-0.7**
SONM	**Songino Array**	**26.23**	**297**	P	**P**		**00 43 05.2**	**-0.7**
	comp=Z,31nm,1.2s,baz=105,slow=8.3,SNR=68							
SONM				LR	LR		00 54 17.6	
	comp=Z,2μm,18.4s,baz=94,slow=38							
	comp=Z,31nm,1.2s							
XAN	**Xi'an**	**27.24**	**266**	⇓P	**P**		**00 43 14.7**	**-0.2**
XAN				pP	pP		00 43 27.8	-0.3
XAN				S	**S**		**00 47 49.1**	**-1.2**
XAN				pmax	pmax			
	comp=Z,38nm,1.6s							
XAN				pmax	pmax			
	comp=Z,120nm,3.6s							
XAN				LR	LR			
	comp=Z,580nm,19.6s							
XAN				LR	LR			
	comp=Z,950nm,17.2s							
XAN				LR	LR			
	comp=Z,1μm,19.2s							
CNSH	**ChangSha**	**27.25**	**251**	P	**P**		**00 43 14.7**	**-0.3**
CNSH				S	**S**		**00 47 48.0**	**-2.5**
CNSH				pmax	pmax			
	comp=Z,21nm,1.2s							
CNSH				LR	LR			
	comp=Z,760nm,17.1s							
CNSH				LR	LR			
	comp=Z,950nm,17.3s							
CNSH				LR	LR			
	comp=Z,920nm,21.6s							
GUMO	**Guam**	**27.63**	**175**	LR	LR		00 53 15.7	
	comp=Z,569nm,21.7s,baz=11,slow=34							
IRK	**Irkutsk**	**27.95**	**306**	*e*P	**P**		**00 43 20.4**	**-0.7**
IRK				pmax	pmax			
	comp=Z,88nm,1.4s							
ZAK	**Zakamensk**	**28.38**	**302**	*e*P	**P**		**00 43 24.9**	**-0.2**
ZAK				pmax	pmax			
	comp=Z,26nm,1.4s							
ENH	**Enshi**	**28.60**	**258**	P	**P**		**00 43 28.9**	**+1.8**
BILL	**Bilibino**	**29.83**	**18**	P	**P**		**00 43 37.9**	**+0.4**
BILL				IAmb	IAmb		00 43 39.5	
	comp=Z,63nm,1.1s							
BILL	**Bilibino**	**29.83**	**18**	*ce*P	**P**		**00 43 37.2**	**-0.4**
BILL				pmax	pmax			
	comp=Z,64nm,1.1s							
MOY	**Mondy**	**29.91**	**305**	*e*P	**P**		**00 43 38.8**	**+0.2**
MOY				pmax	pmax			
	comp=Z,84nm,2.4s							
H11N2	**WAKE ISLAND Hy**	**29.98**	**128**	T	T		01 15 15.0	
	baz=323,slow=75,SNR=883							
H11N1	**WAKE ISLAND Hy**	**29.99**	**128**	T	T		01 15 19.0	
	baz=323,slow=75,SNR=1152							
H11N3	**WAKE ISLAND Hy**	**30.00**	**128**	T	T		01 15 19.0	
	baz=323,slow=75,SNR=1180							
LZH	**Lanzhou**	**30.26**	**273**	*e*P	**P**		**00 43 40.8**	**-1.1**
LZH				pP	pP		00 43 51.6	-3.5
LZH				PP	**PnPn**		**00 44 43.0**	**+1.7**
LZH				S	**S**		**00 48 38.9**	**+0.9**
LZH				pmax	pmax			
	comp=Z,26nm,1.3s							
LZH				LR	LR			
	comp=Z,470nm,14.1s							
LZH				LR	LR			
	comp=Z,840nm,13.7s							
LZH				LR	LR			
	comp=Z,880nm,14.1s							
H11S1	**WAKE ISLAND Hy**	**30.82**	**130**	T	T		01 16 21.9	
	baz=324,slow=76,SNR=1440							
H11S3	**WAKE ISLAND Hy**	**30.83**	**130**	T	T		01 16 22.6	
	baz=324,slow=76,SNR=634							
H11S2	**WAKE ISLAND Hy**	**30.84**	**130**	T	T		01 16 17.0	
	baz=324,slow=76,SNR=1024							
TIXI	**Tiksi**	**31.22**	**352**		**P**		**00 43 48.0**	**-1.8**
TIXI	**Tiksi**	**31.22**	**352**	*ce*P	**P**		**00 43 47.5**	**-2.3**
TIXI				pmax	pmax			
	comp=Z,17nm,1.1s							
GTA	**Gaotai**	**32.18**	**281**	P	**P**		**00 43 58.4**	**-0.3**
GTA				pP	pP		00 44 10.3	-1.6
GTA				PcP	**PcP**		**00 46 47.6**	**+1.1**
GTA				S	**S**		**00 49 03.2**	**-4.7**
GTA				PcS	**PcS**		**00 50 32.1**	**+0.7**
GTA				pmax	pmax			
	comp=Z,23nm,1.1s							
GTA				pmax	pmax			
	comp=Z,97nm,4.4s							
GTA				LR	LR			
	comp=Z,600nm,18.5s							
GTA				LR	LR			
	comp=Z,1μm,17.8s							
GTA				LR	LR			
	comp=Z,2μm,18.9s							
CD2	**Chengdu**	**32.54**	**264**	P	**P**		**00 44 00.7**	**-1.2**
CD2				pP	pP		00 44 13.4	-1.7
CD2				PP	**PP**		**00 45 15.2**	**-0.9**
CD2				S	**S**		**00 49 12.6**	**-0.9**
CD2				pmax	pmax			
	comp=Z,30nm,1.3s							
CD2				pmax	pmax			
	comp=Z,220nm,5.6s							
CD2				LR	LR			
	comp=Z,940nm,18.4s							
CD2				LR	LR			
	comp=Z,1μm,21.0s							
CD2				LR	LR			
	comp=Z,690nm,16.9s							
GYA	**Guiyang**	**32.77**	**255**	⇓P	**P**		**00 44 03.5**	**-0.5**
GYA				pP	pP		00 44 17.4	+0.1
GYA				S	**S**		**00 49 15.1**	**-2.2**
GYA				pmax	pmax			
	comp=Z,23nm,0.9s							
GYA				pmax	pmax			
	comp=Z,260nm,6.2s							
GYA				LR	LR			
	comp=Z,890nm,17.6s							
GYA				LR	LR			
	comp=Z,1μm,18.5s							
GYA				LR	LR			
	comp=Z,2μm,18.0s							
SPIA	**Saint Paul Isl**	**34.09**	**46**	P	**P**		**00 44 15.1**	**+0.1**
	baz=263							
P08K	**Saint George I**	**34.41**	**47**	P	**P**		**00 44 18.7**	**+1.0**
	baz=264							
NIKH	**Nikolski High**	**34.63**	**53**	P	**P**		**00 44 20.3**	**+0.5**
	baz=270							
GAMB	**Gambell**	**34.84**	**34**	P	**P**		**00 44 21.2**	**-0.2**
	baz=252							
QIZ	**Qiongzhong**	**35.39**	**241**	P	**P**		**00 44 26.5**	**-0.1**
QIZ				S	**S**		**00 49 59.3**	**+1.7**
QIZ				LR	LR			
	comp=Z,350nm,20.4s							
QIZ				LR	LR			
	comp=Z,420nm,21.1s							
UNV	**Unalaska Valle**	**36.03**	**52**	P	**P**		**00 44 32.6**	**+0.8**
	baz=271							
PZH	**PanZhiHua**	**36.36**	**259**	⇓P	**P**		**00 44 35.1**	**+0.1**
PZH				S	**S**		**00 50 11.7**	**-0.9**
PZH				pmax	pmax			
	comp=Z,20nm,1.3s							
PZH				pmax	pmax			
	comp=Z,100nm,5.3s							
PZH				LR	LR			
	comp=Z,390nm,18.2s							
PZH				LR	LR			
	comp=Z,320nm,19.0s							
PZH				LR	LR			
	comp=Z,490nm,16.7s							
KMI	**Kunming**	**36.42**	**256**	⇑P	**P**		**00 44 35.1**	**-0.5**
KMI				S	**S**		**00 50 14.0**	**+0.3**
KMI				pmax	pmax			
	comp=Z,22nm,1.1s							
KMI				pmax	pmax			
	comp=Z,230nm,4.1s							
KMI				LR	LR			
	comp=Z,970nm,14.8s							
KMI				LR	LR			
	comp=Z,580nm,17.2s							
KMI				LR	LR			
	comp=Z,1μm,18.7s							
M11K	**Mekoryuk**	**36.60**	**41**	P	**P**		**00 44 37.4**	**+0.9**
	baz=262							
TNA	**Tin City**	**36.92**	**32**	P	**P**		**00 44 39.4**	**+0.3**
	baz=254							
GOMU	**GeErMu**	**36.99**	**278**	P	**P**		**00 44 40.4**	**-0.2**
GOMU				S	**S**		**00 50 22.1**	**-0.5**
GOMU				pmax	pmax			
	comp=Z,22nm,0.8s							
GOMU				LR	LR			
	comp=Z,330nm,19.2s							
GOMU				LR	LR			
	comp=Z,340nm,19.1s							
GOMU				LR	LR			
	comp=Z,700nm,19.5s							
F14K	**Arctic Creek**	**37.54**	**32**	P	**P**		**00 44 44.7**	**+0.3**
	baz=256							
K13K	**Kusilvak Mount**	**37.56**	**38**		**P**		**00 44 46.0**	**+1.4**
K13K				IAmb	IAmb		00 45 03.3	
	comp=Z,58nm,1.3s							
K13K	**Kusilvak Mount**	**37.56**	**38**	P	**P**		**00 44 45.6**	**+1.0**
	baz=262,SNR=6.4							
ANM	**Nome**	**37.72**	**34**	P	**P**		**00 44 46.8**	**+0.8**
	baz=258							
FALS	**False Pass**	**37.81**	**50**	P	**P**		**00 44 47.1**	**+0.3**
	baz=272							
SLVN	**Son La**	**37.91**	**250**		**P**		**00 44 48.4**	**+0.3**
SLVN				IAmb	IAmb		00 45 08.9	
	comp=Z,46nm,1.3s							
SLVN	**Son La**	**37.91**	**250**	P	**P**		**00 44 48.9**	**+0.8**
M13K	**Dall Lake**	**38.01**	**41**	P	**P**		**00 44 48.7**	**+0.3**
	baz=265							
J14K	**Nanvaranak Lak**	**38.19**	**37**	P	**P**		**00 44 52.0**	**+2.2**
J14K	**Nanvaranak Lak**	**38.19**	**37**	P	**P**		**00 44 51.1**	**+1.2**
	baz=262							
F15K	**North Star Dit**	**38.27**	**32**		**P**		**00 44 51.5**	**+0.9**
F15K	**North Star Dit**	**38.27**	**32**	P	**P**		**00 44 51.9**	**+1.4**
	baz=257							
G15K	**Niukluk**	**38.37**	**34**	P	**P**		**00 44 52.8**	**+1.4**
	baz=258,SNR=5.8							
L14K	**Kuka Creek**	**38.42**	**39**		**P**		**00 44 52.9**	**+1.1**
L14K				IAmb	IAmb		00 45 13.3	
	comp=Z,43nm,1.1s							
L14K	**Kuka Creek**	**38.42**	**39**	P	**P**		**00 44 52.9**	**+1.1**
	baz=264,SNR=11							
S12K	**Black Hills**	**38.56**	**49**	P	**P**		**00 44 53.7**	**+0.6**
	baz=272							
C16K	**Lisburne Hills**	**38.68**	**28**	P	**P**		**00 44 54.9**	**+1.0**
C16K				IAmb	IAmb		00 44 56.0	
	comp=Z,65nm,1.1s							
C16K	**Lisburne Hills**	**38.68**	**28**	P	**P**		**00 44 55.0**	**+1.0**
	baz=253,SNR=7.5							
M14K	**Bethel**	**38.72**	**40**		**P**		**00 44 56.0**	**+1.7**
M14K				IAmb	IAmb		00 45 14.0	
	comp=Z,38nm,0.9s							
M14K	**Bethel**	**38.72**	**40**	P	**P**		**00 44 55.5**	**+1.2**
	baz=266,SNR=7.6							
N14K	**Kuskokwak Cree**	**38.80**	**42**	P	**P**		**00 44 56.5**	**+1.5**
N14K	**Kuskokwak Cree**	**38.80**	**42**	P	**P**		**00 44 56.3**	**+1.2**
	baz=267							
O14K	**Tigyukauivet M**	**38.99**	**43**	P	**P**		**00 44 58.2**	**+1.5**
O14K				IAmb	IAmb		00 45 15.6	
	comp=Z,56nm,1.1s							
O14K	**Tigyukauivet M**	**38.99**	**43**	P	**P**		**00 44 57.8**	**+1.2**
	baz=268							
L15K	**Ungalak Mounta**	**39.02**	**39**	P	**P**		**00 44 57.8**	**+0.9**
	baz=265,SNR=5.5							
H16K	**Elim**	**39.06**	**34**	P	**P**		**00 44 57.2**	**0.0**
	baz=261,SNR=10							
K15K	**Wolf Creek Mou**	**39.06**	**38**		**P**		**00 44 59.4**	**+2.1**
K15K	**Wolf Creek Mou**	**39.06**	**38**	P	**P**		**00 44 58.5**	**+1.2**
	baz=264,SNR=7.7							
G16K	**Koyuk River**	**39.14**	**33**	P	**P**		**00 44 59.1**	**+1.3**
G16K	**Koyuk River**	**39.14**	**33**	P	**P**		**00 44 58.4**	**+0.6**
	baz=260,SNR=7.2							
M15K	**Kasigluk River**	**39.34**	**41**	P	**P**		**00 45 00.6**	**+1.0**
	baz=267,SNR=17							
D17K	**Noatak River**	**39.34**	**29**	P	**P**		**00 45 00.2**	**+0.7**
	baz=256,SNR=9.7							
SDPT	**Sand Point**	**39.48**	**49**	P	**P**		**00 45 02.1**	**+1.3**
SDPT	**Sand Point**	**39.48**	**49**	P	**P**		**00 45 00.8**	**0.0**

baz=274
RDOG Red Dog Mine 39.49 29 P P 00 45 00.8 0.0
baz=256
C17K DeLong Mountai 39.50 28 P P 00 45 02.1 +1.2
baz=255,SNR=7.4
TNCH TengChong 39.59 260 ⇑P P 00 45 02.8 +0.5
TNCH pP pP 00 45 15.2 -0.6
TNCH sP sP 00 45 21.9 +0.1
TNCH S S **00 51 01.1 -0.5**
TNCH pmax pmax
comp=Z,180nm,1.2s
TNCH pmax pmax
comp=Z,630nm,4.1s
TNCH LR LR
comp=Z,640nm,19.9s
TNCH LR LR
comp=Z,1μm,19.6s
TNCH LR LR
comp=Z,670nm,18.0s
J16K Anvik River 39.59 37 P 00 45 03.3 +1.7
J16K Anvik River 39.59 37 P P 00 45 02.9 +1.2
baz=264
N15K Kwethluk River 39.61 41 P 00 45 03.7 +1.8
N15K IAmb IAmb 00 45 21.4
comp=Z,81nm,1.1s
N15K Kwethluk River 39.61 41 P P 00 45 03.2 +1.3
baz=268,SNR=11
I17K Unalakleet 39.62 36 P P 00 45 04.1 +2.3
I17K IAmb IAmb 00 45 22.8
comp=Z,51nm,0.9s
I17K Unalakleet 39.62 36 P P 00 45 02.6 +0.8
baz=263
E17K Hotham Inlet 39.68 31 P P 00 45 03.1 +0.7
baz=258
WMQ Urumqi 39.68 293 *e*P P 00 45 03.4 +0.6
WMQ pmax pmax
comp=Z,82nm,1.3s
WMQ pmax pmax
comp=Z,330nm,3.6s
WMQ LR LR
comp=Z,570nm,13.3s
WMQ LR LR
comp=Z,2μm,17.1s
WMQ LR LR
comp=Z,1μm,19.3s
ZAA0 Zalesovo Array 39.69 309 P P 00 45 02.5 0.0
ZALV Zalesovo Beam 39.69 309 P P 00 45 01.8 -0.7
ZALV Zalesovo Beam 39.69 309 P P 00 45 02.5 0.0
comp=Z,25nm,0.6s,baz=84,slow=7.7,SNR=76
ZALV PcP PcP 00 47 08.8 +0.5
comp=Z,20nm,1.0s,baz=92,slow=2.0,SNR=2.7
ZALV S S 00 50 59.8 -2.3
comp=Z,0.8nm,0.7s,baz=103,slow=12,SNR=1.7
ZALV LR LR 01 02 24.3
comp=Z,1μm,18.2s,baz=79,slow=37
comp=Z,25nm,0.6s
O15K Ungalikthiuk R 39.73 43 P P 00 45 04.3 +1.5
O15K IAmb IAmb 00 45 22.2
comp=Z,92nm,1.0s
O15K Ungalikthiuk R 39.73 43 P P 00 45 04.0 +1.2
baz=270,SNR=11
F17K Baldwin Pennin 39.78 32 P P 00 45 04.6 +1.5
baz=260
NRIK Noril'sk 39.78 333 P 00 45 04.4 +1.3
NRIK IAmb IAmb 00 45 05.0
comp=Z,86nm,1.1s
NRIK Noril'sk 39.78 333 P P 00 45 03.1 -0.1
comp=Z,44nm,1.0s,baz=109,slow=8.9,SNR=55
NRIK S S **00 50 59.3 -3.8**
comp=Z,1.5nm,0.7s,baz=168,slow=14,SNR=1.7
NRIK LR LR 01 02 22.4
comp=Z,2μm,21.4s,baz=106,slow=37
comp=Z,44nm,1.0s
NRIK Noril'sk 39.78 333 P P 00 45 04.4 +1.3
NRIK pmax pmax
comp=Z,86nm,1.2s
G17K Kiwalik Mounta 39.86 33 P P 00 45 04.9 +1.1
baz=261,SNR=17
L16K Owhat River 39.98 39 P 00 45 06.0 +1.1
L16K Owhat River 39.98 39 P P 00 45 05.8 +0.9
baz=267,SNR=15
CHNA Chernabura Isl 40.03 50 P P 00 45 06.9 +1.6
CHNA Chernabura Isl 40.03 50 P P 00 45 05.6 +0.2
baz=275,SNR=6.8
CNBA Chernabura Isl 40.03 50 P 00 45 06.1 +0.7
CNBA IAmb IAmb 00 45 21.9
comp=Z,48nm,0.8s
H17K Granite Mounta 40.09 34 P 00 45 07.2 +1.4
H17K IAmb IAmb 00 45 08.7
comp=Z,53nm,1.0s
H17K Granite Mounta 40.09 34 P P 00 45 06.9 +1.2
baz=263,SNR=13
M16K Timber Creek 40.20 40 P 00 45 08.0 +1.2
M16K IAmb IAmb 00 45 25.6
comp=Z,67nm,1.2s
M16K Timber Creek 40.20 40 P P 00 45 07.9 +1.2
baz=268,SNR=12
B18K Kokolik River 40.21 27 P P 00 45 07.7 +0.9
baz=256
E18K Tukpahlearik C 40.21 30 P 00 45 08.1 +1.3
E18K Tukpahlearik C 40.21 30 P P 00 45 07.1 +0.4
baz=259,SNR=8.8
C18K Utukok River 40.25 28 P P 00 45 07.4 +0.3
baz=257,SNR=8.2
N16K Nishlik Lake 40.28 41 P P 00 45 08.7 +1.3
baz=269,SNR=14
J17K VABM Dome 40.29 36 P 00 45 09.4 +2.0
J17K IAmb IAmb 00 45 26.5
comp=Z,69nm,0.9s
J17K VABM Dome 40.29 36 P P 00 45 09.2 +1.8
baz=265,SNR=9.2
F18K Selawik 40.44 32 P P 00 45 09.8 +1.2
baz=261,SNR=6.4
L17K Donlin 40.56 38 P P 00 45 10.9 +1.2
baz=268,SNR=14
CHGN Chignik 40.58 47 P P 00 45 10.7 +0.9
baz=274
K17K Iditarod 40.59 38 P 00 45 12.2 +2.2
K17K IAmb IAmb 00 45 29.8
comp=Z,86nm,1.1s
K17K Iditarod 40.59 38 P P 00 45 11.4 +1.5
baz=267,SNR=16
O16K Kokwok River B 40.61 42 P 00 45 11.2 +1.1
O16K Kokwok River B 40.61 42 P P 00 45 11.2 +1.1
baz=271,SNR=12
A19K Wainwright 40.67 26 P P 00 45 12.3 +1.9
baz=255
P16K Nushagak River 40.67 43 P P 00 45 11.0 +0.4
P16K Nushagak River 40.67 43 P P 00 45 10.7 +0.1
baz=271
ZSN Zaisan 40.70 299 *e*P P 00 45 10.9 -0.2
ZSN pmax pmax
comp=Z,57nm,1.3s
ZSN Zaisan 40.70 299 *e*P P 00 45 11.0 -0.2
comp=Z,57nm,1.3s
G18K Tagagawik 40.73 33 P 00 45 11.5 +0.4
G18K Tagagawik 40.73 33 P P 00 45 11.9 +0.8
baz=263,SNR=23
H18K Honhosa River 40.77 34 P P 00 45 12.3 +0.9
H18K IAmb IAmb 00 45 14.0
comp=Z,65nm,0.9s
H18K Honhosa River 40.77 34 P P 00 45 12.3 +0.9
baz=264,SNR=20
C19K Lookout Ridge 40.92 28 P P 00 45 12.9 +0.2
C19K Lookout Ridge 40.92 28 P P 00 45 13.2 +0.5
baz=258,SNR=6.9
M17K Holitna River 40.95 40 P 00 45 14.4 +1.5
M17K IAmb IAmb 00 45 34.4
comp=Z,65nm,0.9s
M17K Holitna River 40.95 40 P P 00 45 14.4 +1.5
baz=269,SNR=13
N17K Nushagak Hills 41.06 41 P 00 45 15.2 +1.4
N17K Nushagak Hills 41.06 41 P P 00 45 15.5 +1.6
baz=270,SNR=8.8
O17K Koliganek Bris 41.12 42 P P 00 45 15.6 +1.3
baz=271,SNR=14
F19K Shaleruckik Mo 41.21 31 P 00 45 16.4 +1.5
F19K Shaleruckik Mo 41.21 31 P P 00 45 15.7 +0.7
baz=262,SNR=21
L18K Granite Mounta 41.32 38 P 00 45 18.1 +2.1
L18K Granite Mounta 41.32 38 P P 00 45 17.6 +1.7
baz=269,SNR=15
D19K Kuna River 41.33 29 P 00 45 16.0 0.0
D19K IAmb IAmb 00 45 20.1
comp=Z,54nm,1.0s
D19K Kuna River 41.33 29 P P 00 45 16.5 +0.5
baz=260,SNR=20

J18K Innoko River 41.35 36 P 00 45 17.4 +1.3
J18K Innoko River 41.35 36 P P 00 45 17.0 +0.8
baz=267,SNR=11
GCSA Galena City Sc 41.36 35 P P 00 45 16.7 +0.5
baz=266
Q16K King Salmon 41.38 44 P P 00 45 17.5 +1.1
baz=273
G19K Purcell Mounta 41.40 32 P 00 45 17.1 +0.6
G19K Purcell Mounta 41.40 32 P P 00 45 17.0 +0.4
baz=264,SNR=8.8
P17K Kvichak River 41.47 43 P P 00 45 18.1 +1.0
baz=272
E19K Redstone River 41.50 30 P 00 45 17.8 +0.4
E19K Redstone River 41.50 30 P P 00 45 18.1 +0.8
baz=262,SNR=23
R17L Mt. Peulik Vol 41.60 45 P P 00 45 19.4 +1.1
baz=274
H19K Roundabout Mou 41.60 33 P 00 45 19.3 +1.1
H19K Roundabout Mou 41.60 33 P P 00 45 19.4 +1.3
baz=265,SNR=81
N18K Kilae Creek 41.70 41 P 00 45 20.6 +1.5
N18K IAmb IAmb 00 45 38.5
comp=Z,111nm,1.2s
N18K Kilae Creek 41.70 41 P P 00 45 20.8 +1.7
baz=271,SNR=11
M18K Stony River 41.72 39 P P 00 45 20.8 +1.6
baz=270,SNR=9.2
Q17K Contact Creek 41.81 44 P P 00 45 20.3 +0.2
baz=274,SNR=5.5
J19K Poorman 41.86 36 P 00 45 21.5 +1.1
J19K IAmb IAmb 00 45 39.3
comp=Z,81nm,0.9s
J19K Poorman 41.86 36 P P 00 45 21.2 +0.9
baz=268,SNR=28
D20K Etivluk River 41.91 29 P 00 45 21.1 +0.4
D20K IAmb IAmb 00 45 22.5
comp=Z,60nm,0.9s
D20K Etivluk River 41.91 29 P P 00 45 21.2 +0.4
baz=262,SNR=16
B20K Meade River 41.94 27 P 00 45 21.2 +0.3
B20K IAmb IAmb 00 45 27.0
comp=Z,70nm,0.8s
B20K Meade River 41.94 27 P P 00 45 20.7 -0.1
baz=260,SNR=12
E20K Nigu River 42.00 29 P P 00 45 21.9 +0.3
baz=262,SNR=30
F20K Avaraart Lake 42.03 31 P 00 45 22.3 +0.6
F20K Avaraart Lake 42.03 31 P P 00 45 22.6 +0.9
baz=264,SNR=7.3
O18K Koktuh Hills 42.07 42 P 00 45 23.1 +1.0
O18K IAmb IAmb 00 45 41.2
comp=Z,56nm,1.1s
O18K Koktuh Hills 42.07 42 P P 00 45 22.9 +0.8
baz=273
P18K Big Mountain, 42.08 43 P 00 45 23.1 +0.8
P18K IAmb IAmb 00 45 40.9
comp=Z,70nm,1.1s
P18K Big Mountain, 42.08 43 P P 00 45 22.7 +0.5
baz=273,SNR=6.9
ACHA Angle Creek He 42.11 44 P P 00 45 23.6 +1.0
L19K White Mountain 42.18 38 P P 00 45 22.6 -0.4
baz=270,SNR=28
Q18K Katmai Hardscr 42.24 44 P P 00 45 24.5 +0.9
baz=274
H20K Anotleneega Mo 42.25 34 P P 00 45 25.0 +1.5
baz=267,SNR=53
N19K Bonanza Creek 42.39 40 P 00 45 25.8 +1.0
N19K Bonanza Creek 42.39 40 P P 00 45 25.4 +0.7
baz=272,SNR=6.8
I20K Naaghedeneel 42.39 35 P P 00 45 25.8 +1.2
I20K IAmb IAmb 00 45 43.5
comp=Z,71nm,0.9s
I20K Naaghedeneel 42.39 35 P P 00 45 26.1 +1.5
baz=268,SNR=5.9
M19K Big River Lodg 42.40 39 P 00 45 25.9 +1.1
M19K Big River Lodg 42.40 39 P P 00 45 26.3 +1.5
baz=271,SNR=7.0
O19K Port Alsworth 42.50 41 P P 00 45 26.3 +0.8
O19K Port Alsworth 42.50 41 P P 00 45 27.0 +1.5
baz=273
J20K Nowinta River 42.51 35 P 00 45 26.9 +1.3
J20K IAmb IAmb 00 45 44.5
comp=Z,88nm,0.8s
J20K Nowinta River 42.51 35 P P 00 45 27.2 +1.6
baz=269,SNR=33
K20K Telida 42.54 37 P P 00 45 27.0 +1.1
K20K Telida 42.54 37 P P 00 45 27.4 +1.5
baz=270
MK31 Makanchi Array 42.57 298 *i* P P 00 45 26.2 -0.2
MKAR Makanchi Array 42.57 298 P 00 45 26.1 -0.3
MKAR Makanchi Array 42.57 298 P P 00 45 26.4 +0.1
comp=Z,27nm,0.9s,baz=80,slow=8.9,SNR=82
MKAR PcP PcP 00 47 17.7 -0.2
comp=Z,8.6nm,0.8s,baz=98,slow=1.2,SNR=2.5
MKAR S S 00 51 47.3 +2.1
comp=Z,0.4nm,0.4s,baz=71,slow=14,SNR=4.6
MKAR LR LR 01 04 24.8
comp=Z,1μm,19.2s,baz=94,slow=38
comp=Z,27nm,0.9s
C21K Knifeblade Rid 42.63 28 P P 00 45 27.2 +0.7
baz=263,SNR=8.4
L20K Farewell, AK 42.63 38 P P 00 45 27.9 +1.3
baz=271,SNR=12
R18K Karluk 42.63 45 P P 00 45 26.8 +0.1
baz=276
LSA Lhasa 42.63 271 P P 00 45 27.6 0.0
LSA Lhasa 42.63 271 P P 00 45 28.3 +0.7
LSA pmax pmax
comp=Z,31nm,1.4s
LSA Lhasa 42.63 271 P P 00 45 27.6 0.0
LSA pmax pmax
comp=Z,48nm,1.2s
LSA Lhasa 42.63 271 P P 00 45 28.5 +0.9
IMAR Indian Mountai 42.74 33 P P 00 45 28.3 +0.8
B21K Ikpikpuk River 42.75 27 P 00 45 27.8 +0.4
B21K IAmb IAmb 00 45 29.4
comp=Z,53nm,0.9s
B21K Ikpikpuk River 42.75 27 P P 00 45 27.9 +0.4
baz=263,SNR=12
MAKZ Makanchi 42.77 299 P 00 45 28.1 0.0
MAKZ IAmb IAmb 00 45 31.5
comp=Z,55nm,1.0s
MAKZ Makanchi 42.77 299 P P 00 45 28.1 0.0
MAKZ pmax pmax
comp=Z,55nm,1.0s
MAKZ Makanchi 42.77 299 P P 00 45 28.0 0.0
A22K Sinclair Lake 42.83 25 P P 00 45 28.2 +0.1
baz=261
E21K Killik River 42.84 29 P P 00 45 29.0 +0.7
E21K Killik River 42.84 29 P P 00 45 28.4 +0.1
baz=264
G21K Allakaket 42.87 32 P 00 45 29.8 +1.3
G21K IAmb IAmb 00 45 31.1
comp=Z,71nm,1.1s
G21K Allakaket 42.87 32 P P 00 45 29.9 +1.4
baz=267,SNR=47
SII Sitkinak Islan 42.89 47 P P 00 45 29.8 +1.0
SII IAmb IAmb 00 45 48.1
comp=Z,67nm,1.0s
SII Sitkinak Islan 42.89 47 P P 00 45 28.8 0.0
baz=277
F21K Alatna River 42.92 31 P 00 45 29.9 +1.0
F21K Alatna River 42.92 31 P P 00 45 30.0 +1.0
baz=266,SNR=20
Q19K Cape Douglas, 42.93 43 P P 00 45 30.2 +1.1
baz=275
M20K Styx River 43.00 39 P 00 45 31.3 +1.6
M20K Styx River 43.00 39 P P 00 45 31.5 +1.8
baz=272,SNR=12
P19K Oil Pt 43.08 42 P P 00 45 30.9 +0.5
P19K IAmb IAmb 00 45 50.2
comp=Z,77nm,1.1s
P19K Oil Pt 43.08 42 P P 00 45 31.4 +1.1
baz=275
CHTO Chiang Mai 43.08 252 P 00 45 30.4 -0.4
CHTO Chiang Mai 43.08 252 P P 00 45 31.6 +0.8
CHTO Chiang Mai 43.08 252 P P 00 45 30.4 -0.4
CHTO pmax pmax
comp=Z,25nm,1.0s
ILSW Iliamna Southw 43.10 42 P P 00 45 32.0 +1.4
H21K Melozitna Rive 43.12 33 P P 00 45 32.0 +1.4
baz=269,SNR=37
B22K Teshekpuk Lake 43.25 26 P P 00 45 32.2 +0.8
B22K IAmb IAmb 00 45 51.6
comp=Z,75nm,1.4s
B22K Teshekpuk Lake 43.25 26 P P 00 45 31.6 +0.2

baz=263
RED Redoubt Volcan 43.25 41 P P 00 45 32.8 +1.0
RED IAmb IAmb 00 45 50.8
comp=Z,122nm,1.0s
OHAK Old Harbor 43.30 46 P P 00 45 32.6 +0.6
OHAK IAmb IAmb 00 45 51.3
comp=Z,50nm,0.8s
OHAK Old Harbor 43.30 46 P P 00 45 34.0 +2.0
OHAK Old Harbor 43.30 46 P P 00 45 32.8 +0.8
baz=277
CM31 Chiang Mai Arr 43.32 252 P P 00 45 33.0 +0.3
CMAR Chiang Mai Arr 43.32 252 P P 00 45 33.1 +0.4
CMAR Chiang Mai Arr 43.32 252 P P 00 45 32.9 +0.2
comp=Z,1.5nm,0.5s,baz=50,slow=7.4,SNR=11
CMAR PcP PcP 00 47 20.8 0.0
comp=Z,5.6nm,0.9s,baz=63,slow=3.3,SNR=5.3
CMAR LR LR 01 05 03.2
comp=Z,451nm,18.8s,baz=55,slow=38
comp=Z,1.5nm,0.5s
CMAR Chiang Mai Arr 43.32 252 *ce*P P 00 45 33.4 +0.7
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CHUM Lake Minchumin 43.32 36 P P 00 45 33.8 +1.7
baz=271,SNR=5.1
D22K Ayikyak River 43.35 29 P 00 45 33.2 +0.8
D22K Ayikyak River 43.35 29 P P 00 45 33.4 +1.0
baz=265,SNR=15
O20K Slope Mountain 43.35 41 P P 00 45 33.2 +0.7
baz=275
PPLA Purkeypile 43.40 37 P P 00 45 34.8 +1.8
PPLA IAmb IAmb 00 45 53.3
comp=Z,154nm,1.3s
PPLA Purkeypile 43.40 37 P P 00 45 35.0 +2.0
baz=272,SNR=9.9
CAST Castle Rocks 43.43 37 IAmb IAmb 00 45 52.3
comp=Z,62nm,0.9s
CAST Castle Rocks 43.43 37 P P 00 45 34.9 +1.8
baz=272,SNR=38
F22K John River 43.44 31 P P 00 45 34.2 +1.0
baz=267
I21K Tanana 43.46 34 P P 00 45 34.5 +1.3
I21K Tanana 43.46 34 P P 00 45 34.8 +1.5
baz=270
N20K Mount Spurr 43.47 40 P P 00 45 35.0 +1.4
baz=274
SPCR Spurr Chakacha 43.47 40 P P 00 45 35.1 +1.5
baz=274
SPU Mount Spurr 43.55 40 P P 00 45 35.5 +1.3
SPU IAmb IAmb 00 45 53.8
comp=Z,92nm,1.2s
JAY Jayapura 43.56 182 LR LR 01 03 18.5
comp=Z,183nm,21.2s,baz=9.5,slow=35
KDAK Kodiak Island 43.60 45 P 00 45 35.0 +0.5
KDAK IAmb IAmb 00 45 52.1
comp=Z,94nm,1.0s
KDAK Kodiak Island 43.60 45 LR LR 01 04 35.5
comp=Z,392nm,21.6s,baz=248,slow=37
KDAK Kodiak Island 43.60 45 *i* P P 00 45 34.9 +0.4
KDAK pmax pmax
comp=Z,7.0nm,0.4s
KDAK Kodiak Island 43.60 45 P P 00 45 35.5 +1.0
baz=277
KDAK Kodiak Island 43.60 45 P P 00 45 35.3 +0.8
Q20K Shuyak Island 43.61 44 P P 00 45 35.3 +0.8
baz=276
SYI Shuyak Island 43.61 44 IAmb IAmb 00 45 52.2
comp=Z,96nm,0.9s
E22K Anaktuvuk Pass 43.62 30 P P 00 45 35.4 +0.9
baz=267,SNR=32
G22K Bettles 43.68 31 P P 00 45 35.8 +0.7
baz=268
H22K Ishtalitna Cre 43.71 33 P P 00 45 37.1 +1.8
baz=270,SNR=33
SKT Skwentna 43.75 39 P P 00 45 36.6 +0.9
baz=274,SNR=5.6
HOM Homer 43.88 42 P P 00 45 37.4 +0.7
baz=276
BPAW Bear Paw Mtn. 43.90 36 P P 00 45 38.0 +1.1
BPAW IAmb IAmb 00 45 55.6
comp=Z,48nm,0.9s
BPAW Bear Paw Mtn. 43.90 36 P P 00 45 38.4 +1.6
baz=272,SNR=15
KURK Kurchatov 43.97 305 P 00 45 37.2 -0.3
KURK IAmb IAmb 00 45 38.8
comp=Z,140nm,1.4s
KURK Kurchatov 43.97 305 P P 00 45 36.9 -0.6
KURK Kurchatov 43.97 305 *ce*P P 00 45 37.6 +0.1
KURK pmax pmax
comp=Z,131nm,1.4s
KURK Kurchatov 43.97 305 P P 00 45 37.5 +0.1
MLY Manley 43.98 34 IAmb IAmb 00 45 56.5
comp=Z,55nm,0.9s
MLY Manley 43.98 34 P P 00 45 39.2 +1.7
baz=271,SNR=36
CAPN Captain Cook N 44.02 40 P P 00 45 38.9 +1.1
baz=275
KURBB Kurchatov Arra 44.04 305 P P 00 45 37.5 -0.6
comp=Z,26nm,0.7s,baz=78,slow=8.9,SNR=184
KURBB PcP PcP 00 47 22.5 -0.2
comp=Z,11nm,1.0s,baz=76,slow=3.9,SNR=5.1
KURBB S S **00 52 05.4 -1.0**
comp=Z,0.3nm,0.3s,baz=70,slow=14,SNR=2.2
KURBB LR LR 01 04 41.2
comp=Z,511nm,19.7s,baz=173,slow=37
comp=Z,26nm,0.7s
KURBB Kurchatov Arra 44.04 305 P P 00 45 37.3 -0.8
D23K Nanushuk River 44.08 29 P P 00 45 39.2 +1.0
baz=267,SNR=11
C23K Itkillik River 44.16 27 IAmb IAmb 00 45 41.1
comp=Z,73nm,1.4s
C23K Itkillik River 44.16 27 P P 00 45 40.2 +1.4
baz=266
SUA Susitna One 44.16 39 P P 00 45 40.4 +1.3
SUA IAmb IAmb 00 45 59.5
comp=Z,76nm,1.0s
SUA Susitna One 44.16 39 P P 00 45 39.6 +0.6
baz=275
COLD Coldfoot 44.20 31 P P 00 45 40.1 +0.9
baz=269,SNR=13
TRF Thorofare Moun 44.24 37 P P 00 45 40.2 +0.5
baz=273,SNR=13
BRLK Bradley Lake 44.25 42 IAmb IAmb 00 45 59.9
comp=Z,52nm,1.0s
G23K Bananza Creek 44.27 32 P P 00 45 40.6 +0.9
baz=270,SNR=41
CUT Chulitna 44.31 38 P P 00 45 41.3 +1.2
CUT IAmb IAmb 00 45 58.7
comp=Z,90nm,0.9s
CUT Chulitna 44.31 38 P P 00 45 41.2 +1.1
baz=274
M22K Willow 44.43 39 P P 00 45 41.8 +0.8
baz=275
E23K Chandalar 44.44 30 P P 00 45 42.4 +1.2
baz=269,SNR=20
TOLK Toolik Lake Re 44.47 29 P P 00 45 42.1 +0.7
baz=268,SNR=9.4
H23K Yukon River 44.47 33 IAmb IAmb 00 45 44.5
comp=Z,82nm,0.9s
H23K Yukon River 44.47 33 P P 00 45 43.2 +1.8
baz=271,SNR=54
SLKM Skilak Lake 44.50 41 P P 00 45 42.2 +0.5
SLKM IAmb IAmb 00 45 60.0
comp=Z,58nm,1.1s
MRSI Marisa 44.54 210 P P 00 45 42.4 0.0
comp=Z,2μmcomp=Z,44nm,1.2s
BWN Browne 44.56 35 P P 00 45 44.1 +2.0
I23K Minto, Yukon-K 44.56 34 P P 00 45 43.1 +1.0
I23K IAmb IAmb 00 46 00.9
comp=Z,39nm,0.8s
I23K Minto, Yukon-K 44.56 34 P P 00 45 43.5 +1.4
baz=272,SNR=30
RC01 Rabbit Creek A 44.68 40 P P 00 45 43.2 +0.2
RC01 Rabbit Creek A 44.68 40 P P 00 45 43.3 +0.2
baz=276
NEA2 Nenana 44.71 35 P P 00 45 44.6 +1.2
baz=273,SNR=53
O22K Cooper Landing 44.75 41 P P 00 45 43.8 +0.2
baz=277
D24K Happy Valley 44.75 28 IAmb IAmb 00 45 45.5
comp=Z,50nm,0.8s
D24K Happy Valley 44.75 28 P P 00 45 43.8 +0.2
baz=269,SNR=16
C24K Franklin Bluff 44.81 28 P P 00 45 44.5 +0.5
C24K IAmb IAmb 00 46 10.4
comp=Z,101nm,1.1s
C24K Franklin Bluff 44.81 28 P P 00 45 44.6 +0.5
baz=268

MCK	McKinley	44.82	36	IAmb	IAmb	00 46 04.2		
	comp=Z,79nm,1.0s							
MCK	McKinley	44.82	36	P	P	00 45 45.0	+0.8	
	baz=274,SNR=21							
E24K	Your Creek	44.86	30	P	P	00 45 45.5	+0.9	
	baz=270,SNR=24							
FAKI	Fak Fak	44.88	194	P	P	00 45 45.3	+0.2	
FAKI				IAmb	IAmb	00 45 45.8		
	comp=Z,104nm,1.4s							
FAKI	Fak Fak	44.88	194	P	P	00 45 44.3	-0.8	
	comp=Z,43nm,1.1s							
PMR	Palmer	44.92	39	IAmb	IAmb	00 46 03.4		
	comp=Z,65nm,1.0s							
PMR	Palmer	44.92	39	P	P	00 45 47.5	+2.6	
PMR	Palmer	44.92	39	P	P	00 45 45.0	+0.1	
	baz=276							
SEW	Seward	44.93	41	IAmb	IAmb	00 46 05.7		
	comp=Z,100nm,1.2s							
SEW	Seward	44.93	41	P	P	00 45 45.1	+0.1	
	baz=277							
WAT1	Susitna Watana	45.07	37	P	P	00 45 46.7	+0.5	
	baz=275							
F24K	Squaw Lake	45.09	31		P	00 45 47.5	+1.1	
F24K	Squaw Lake	45.09	31	P	P	00 45 47.3	+0.9	
	baz=271,SNR=12							
WRH	Wood River Hil	45.14	35	IAmb	IAmb	00 46 17.2		
	comp=Z,44nm,0.9s							
H24K	Noodor Dome	45.15	33	P	P	00 45 48.6	+1.8	
H24K				IAmb	IAmb	00 46 06.0		
	comp=Z,66nm,0.8s							
H24K	Noodor Dome	45.15	33	P	P	00 45 48.6	+1.8	
	baz=273							
COLA	College	45.22	34	P	P	00 45 48.7	+1.5	
COLA	College	45.22	34	P	P	00 45 48.8	+1.5	
COLA	College	45.22	34	*i* P	P	00 45 48.2	+0.9	
COLA				pmax	pmax			
	comp=Z,37nm,0.9s							
COLA	College	45.22	34	P	P	00 45 48.5	+1.2	
	baz=274							
COLA	College	45.22	34	P	P	00 45 48.9	+1.6	
CCB	Clear Creek Bu	45.25	35	IAmb	IAmb	00 46 09.6		
	comp=Z,42nm,1.0s							
KNK	Knik Glacier	45.26	39	P	P	00 45 48.8	+1.1	
KNK	Knik Glacier	45.26	39	P	P	00 45 48.2	+0.5	
	baz=277							
G24K	Hadweenzic Riv	45.28	32	IAmb	IAmb	00 45 50.8		
	comp=Z,50nm,1.0s							
G24K	Hadweenzic Riv	45.28	32	P	P	00 45 49.2	+1.4	
	baz=272,SNR=32							
POKR	Poker Plat Res	45.38	34	P	P	00 45 50.6	+2.0	
	baz=274,SNR=16							
PWL	Port Wells	45.38	40	P	P	00 45 49.9	+1.1	
PWL	Port Wells	45.38	40	P	P	00 45 48.9	+0.2	
	baz=277,SNR=10							
WAT6	Susitna Watana	45.46	38	P	P	00 45 50.4	+0.9	
	baz=276,SNR=22							
SANI	Sanana	45.55	203	P	P	00 45 51.5	+1.1	
M23K	Glacier View	45.56	39	P	P	00 45 51.1	+1.0	
	baz=277							
DHY	Denali Highway	45.58	37	P	P	00 45 51.5	+1.1	
	baz=276,SNR=34							
SHLS	Shalkode	45.59	294	*e*P	P	00 45 48.1	-2.6	
SHLS				pmax	pmax			
	comp=Z,15nm,0.6s							
SHLS	Shalkode	45.59	294	*e*P	P	00 45 48.2	-2.5	
	comp=Z,15nm,0.6s							
D25K	Kavik River	45.63	28	P	P	00 45 51.6	+1.1	
	baz=271,SNR=7.3							
ILAR	Eielson Array	45.64	34	P	P	00 45 51.9	+1.2	
ILAR	Eielson Array	45.64	34	P	P	00 45 51.1	+0.5	
	comp=Z,20nm,0.8s,baz=277,slow=7.3,SNR=176							
ILAR				S	S	00 52 28.2	-1.0	
	comp=Z,0.1nm,0.5s,baz=270,slow=8.4,SNR=1.0							
ILAR				LR	LR	01 04 49.0		
	comp=Z,304nm,21.9s,baz=262,slow=36							
	comp=Z,20nm,0.8s							
HDA	Harding Lake	45.64	35	IAmb	IAmb	00 46 08.6		
	comp=Z,56nm,0.8s							
HDA	Harding Lake	45.64	35	P	P	00 45 51.5	+0.8	
	baz=275,SNR=16							
TDK	Taldyqorghan	45.69	297	*e*P	P	00 45 51.2	-0.1	
TDK				pmax	pmax			
	comp=Z,60nm,1.4s							
TDK	Taldyqorghan	45.69	297	*e*P	P	00 45 51.3	-0.1	
	comp=Z,60nm,1.4s							
SCM	Sheep Creek Mo	45.74	39	P	P	00 45 52.4	+0.8	
	baz=277,SNR=17							
G25K	Bearman Lake	45.82	32	P	P	00 45 53.6	+1.6	
	baz=274,SNR=8.8							
F25K	Christian Rive	45.95	31	P	P	00 45 54.8	+1.6	
	baz=273,SNR=20							
E25K	Arctic Village	45.96	30	P	P	00 45 54.8	+1.6	
	baz=273,SNR=7.3							
P23K	Montague Islan	45.96	41	P	P	00 45 53.8	+0.6	
	baz=279							
H25L	Birch Creek	45.97	32	P	P	00 45 55.1	+1.9	
	baz=274,SNR=19							
GLI	Glacier Island	45.98	40	IAmb	IAmb	00 46 11.5		
	comp=Z,60nm,1.1s							
GLI	Glacier Island	45.98	40	P	P	00 45 53.8	+0.4	
	baz=278,SNR=7.4							
KPKS	Kokpek	46.01	295	*e*P	P	00 45 53.9	-0.1	
KPKS	Kokpek	46.01	295	*e*P	P	00 45 53.9	-0.1	
BRDH	Bariadhala	46.07	262	LR	LR	01 07 22.2		
	comp=Z,366nm,19.7s,baz=108,slow=39							
C26K	Camden Bay	46.13	27	P	P	00 45 56.0	+1.6	
	baz=272							
PRP	Porcupine Dome	46.15	33	P	P	00 45 56.2	+1.4	
	baz=275,SNR=43							
K24K	Donnelly Dome	46.21	36	P	P	00 45 56.1	+0.9	
	baz=277,SNR=20							
M24K	Tolsona, Glenn	46.25	38	P	P	00 45 56.8	+1.2	
	baz=278,SNR=9.6							
FID	Port Fidalgo	46.30	40	IAmb	IAmb	00 46 14.8		
	comp=Z,72nm,1.1s							
J25K	Salcha River,	46.30	35		P	00 45 56.8	+0.9	
J25K	Salcha River,	46.30	35	P	P	00 45 56.1	+0.1	
	baz=276,SNR=11							
ARXS	Arharly	46.34	296	*i* P	P	00 45 56.1	-0.5	
SATY	Saty	46.35	295	*e*P	P	00 45 56.4	-0.2	
SATY				pmax	pmax			
	comp=Z,49nm,1.6s							
SATY	Saty	46.35	295	*e*P	P	00 45 56.5	-0.2	
	comp=Z,49nm,1.6s							
BMAR	Burnt Mountain	46.37	31		P	00 45 58.2	+1.8	
KLU	Klutina	46.45	39	P	P	00 45 58.3	+1.1	
	baz=279,SNR=15							
PAX	Paxson	46.45	37		P	00 45 59.2	+2.0	
PAX	Paxson	46.45	37	P	P	00 45 59.2	+2.0	
PAX				pmax	pmax			
	comp=Z,25nm,1.0s							
PAX	Paxson	46.45	37	P	P	00 45 58.1	+0.9	
	baz=278,SNR=9.6							
F26K	Sheenjek River	46.52	30	IAmb	IAmb	00 46 00.8		
	comp=Z,51nm,1.1s							
F26K	Sheenjek River	46.52	30	P	P	00 45 59.4	+1.8	
	baz=274,SNR=26							
PRZ	Przheval'sk	46.55	294		P	00 45 58.8	+0.4	
PRZ				IAmb	IAmb	00 46 00.7		
	comp=Z,56nm,1.1s							
PRZ	Przheval'sk	46.55	294	P	P	00 45 58.8	+0.4	
PRZ				pmax	pmax			
	comp=Z,56nm,1.1s							
C27K	Jago River	46.56	28	IAmb	IAmb	00 46 00.2		
	comp=Z,32nm,0.8s							
C27K	Jago River	46.56	28	P	P	00 45 58.9	+1.1	
	baz=273,SNR=9.9							
Q23K	Middleton Isla	46.58	42	P	P	00 46 00.6	+2.5	
Q23K	Middleton Isla	46.58	42	P	P	00 45 59.3	+1.2	
	baz=280							
RIDG	Independent Ri	46.63	36	IAmb	IAmb	00 46 18.5		
	comp=Z,36nm,0.8s							
RIDG	Independent Ri	46.63	36	P	P	00 45 58.8	+0.2	
	baz=278,SNR=11							
HARP	HAARP	46.68	38	P	P	00 46 00.3	+1.4	
	baz=278,SNR=13							
EYAK	Cordova Ski Ar	46.69	40	P	P	00 46 00.3	+1.4	
EYAK	Cordova Ski Ar	46.69	40	P	P	00 46 01.6	+2.7	
EYAK	Cordova Ski Ar	46.69	40	P	P	00 46 00.3	+1.4	
	baz=280							
G26K	Porcupine Rive	46.72	31	P	P	00 46 00.9	+1.8	
	baz=275,SNR=60							
EVN	Everest	46.79	272	P	P	00 46 01.2	+0.3	
SCRK	Sand Creek	46.98	35		P	00 46 02.2	+0.9	
SCRK	Sand Creek	46.98	35	P	P	00 46 01.8	+0.5	
	baz=278,SNR=64							
DOT	Dot Lake	46.99	36	P	P	00 46 02.5	+1.2	
DOT				IAmb	IAmb	00 46 20.3		
	comp=Z,36nm,0.8s							
CHKK	Chushkaly	47.03	296	*e*P	P	00 46 01.6	-0.3	
CHKK	Chushkaly	47.03	296	*e*P	P	00 46 01.7	-0.3	
N25K	Chitina, Valde	47.06	39	IAmb	IAmb	00 46 21.1		
	comp=Z,38nm,1.1s							
N25K	Chitina, Valde	47.06	39	P	P	00 46 03.0	+1.1	
	baz=280,SNR=6.7							
J26L	Joseph Creek	47.09	35		P	00 46 03.1	+1.0	
J26L	Joseph Creek	47.09	35	P	P	00 46 01.9	-0.3	
	baz=278,SNR=17							
I26K	Coal Creek Min	47.16	34	P	P	00 46 03.0	+0.5	
I26K	Coal Creek Min	47.16	34	P	P	00 46 02.5	-0.1	
	baz=278							
BMRM	Bremner River	47.17	40	P	P	00 46 04.1	+1.4	
	baz=280,SNR=8.4							
RAGM	Ragged Mountai	47.24	40	IAmb	IAmb	00 46 23.3		
	comp=Z,71nm,1.1s							
MENT	Mentasta	47.25	37	P	P	00 46 05.7	+2.3	
AAA	Alma-Ata	47.31	295	*e*P	P	00 46 03.8	-0.4	
AAA				pmax	pmax			
	comp=Z,13nm,0.5s							
AAA	Alma-Ata	47.31	295	*e*P	P	00 46 03.9	-0.3	
	comp=Z,13nm,0.5s							
TNSS	Tian-Shan	47.35	295	*e*P	P	00 46 04.1	-0.8	
TNSS	Tian-Shan	47.35	295	*e*P	P	00 46 04.1	-0.8	
L26K	Log Cabin Wild	47.41	37	P	P	00 46 05.9	+1.4	
	baz=279,SNR=20							
E27K	Coleen River	47.43	30	IAmb	IAmb	00 46 07.6		
	comp=Z,53nm,1.4s							
E27K	Coleen River	47.43	30	P	P	00 46 06.2	+1.5	
	baz=276,SNR=11							
KAIM	Kayak Island	47.45	41	P	P	00 46 07.1	+2.2	
KAIM	Kayak Island	47.45	41	P	P	00 46 06.7	+1.8	
	baz=281							
KUU	Kurty	47.46	296	*e*P	P	00 46 05.0	-0.2	
KUU				pmax	pmax			
	comp=Z,28nm,1.0s							
KUU	Kurty	47.46	296	*e*P	P	00 46 05.1	-0.2	
	comp=Z,28nm,1.0s							
GLB	Gilahina Butte	47.46	39	IAmb	IAmb	00 46 24.1		
	comp=Z,60nm,1.1s							
KDJ	Kajisay	47.53	294	IAmb	IAmb	00 46 07.6		
	comp=Z,33nm,1.1s							
D27M	Malcolm River	47.55	28	P	P	00 46 07.2	+1.5	
D27M	Malcolm River	47.55	28	P	P	00 46 06.8	+1.2	
	baz=276							
G27K	Doyon Strip	47.57	31	IAmb	IAmb	00 46 28.3		
	comp=Z,48nm,1.4s							
G27K	Doyon Strip	47.57	31	P	P	00 46 07.8	+2.0	
	baz=277,SNR=22							
M26K	Nabesna, AK	47.67	37	P	P	00 46 08.5	+1.9	
	baz=280,SNR=33							
H27K	Steamboat Moun	47.70	32	IAmb	IAmb	00 46 26.4		
	comp=Z,51nm,0.8s							
H27K	Steamboat Moun	47.70	32	P	P	00 46 08.8	+2.0	
	baz=278,SNR=39							
SUCK	Suckling Hills	47.74	41	P	P	00 46 08.3	+1.2	
I27K	Kandik River	47.75	33	P	P	00 46 08.7	+1.5	
	baz=278,SNR=18							
BRZS	Berezniki	47.83	305	*c i* P	P	00 46 07.9	-0.1	
BRZS	Berezniki	47.83	305	⇑*i* P	P	00 46 07.9	-0.1	
MCARA	McCarthy VSAT	47.84	39	P	P	00 46 09.3	+1.4	
	baz=281,SNR=8.1							
CRQE	Cirque	47.94	40	P	P	00 46 10.4	+1.6	
	baz=282,SNR=5.9							
BGLC	Bering Glacier	47.97	40	P	P	00 46 10.3	+1.5	
	baz=282							
TGL	Tana Glacier	48.06	40	P	P	00 46 11.2	+1.4	
L27K	Beaver Creek,	48.08	36	P	P	00 46 11.6	+1.8	
	baz=281,SNR=77							
BCAR	Beaver Creek A	48.10	36		P	00 46 11.3	+1.4	
ULHL	Ulahol	48.13	294	P	P	00 46 11.4	+0.8	
	SNR=11							
E28M	Babbage River	48.14	29		P	00 46 12.2	+2.1	
E28M				IAmb	IAmb	00 46 17.2		
	comp=Z,24nm,0.8s							
E28M	Babbage River	48.14	29	P	P	00 46 11.5	+1.3	
	baz=278,SNR=16							
F28M	Old Crow	48.15	30	IAmb	IAmb	00 46 13.4		
	comp=Z,53nm,1.0s							
F28M	Old Crow	48.15	30	P	P	00 46 12.1	+1.9	
	baz=278,SNR=34							
M27K	Edge Creek, AK	48.19	37	P	P	00 46 12.6	+1.8	
	baz=281,SNR=38							
BVAR	Borovoye Array	48.31	310	P	P	00 46 12.0	+0.3	
	comp=Z,34nm,0.8s,baz=74,slow=7.9,SNR=113							
BVAR				S	S	00 53 04.1	-3.6	
	comp=Z,0.4nm,0.5s,baz=72,slow=14,SNR=1.9							
BVAR				LR	LR	01 07 42.6		
	comp=Z,1μm,18.8s,baz=72,slow=37							
	comp=Z,34nm,0.8s							
TKM2	Tokmak 2	48.32	295	P	P	00 46 12.4	+0.3	
	SNR=70							
D28M	Stokes Point	48.33	28	P	P	00 46 13.6	+2.1	
	baz=278							
BRVK	Borovoye	48.37	310		P	00 46 12.6	+0.6	
BRVK				IAmb	IAmb	00 46 13.9		
	comp=Z,68nm,1.1s							
BRVK	Borovoye	48.37	310	P	P	00 46 12.2	+0.2	
BRVK	Borovoye	48.37	310	*ce*P	P	00 46 12.5	+0.4	
BRVK				pmax	pmax			
	comp=Z,76nm,1.1s							
BRVK	Borovoye	48.37	310	P	P	00 46 12.5	+0.4	
BRVK				sP	sP	00 46 30.4	-1.4	
I28M	Miner Creek	48.47	33	P	P	00 46 14.3	+1.5	
	baz=280,SNR=32							
BARN	Barnard Glacie	48.56	39	P	P	00 46 15.2	+1.6	
NRN	Naryn	48.61	293	P	P	00 46 14.8	+0.3	
NRN	Naryn	48.61	293	P	P	00 46 14.8	+0.3	
NRN				pmax	pmax			
	comp=Z,9.0nm,0.8s							
MESA	MESA	48.61	40	P	P	00 46 15.4	+1.3	
	baz=283,SNR=5.0							
BVCY	Beaver Creek	48.64	37	P	P	00 46 15.6	+1.4	
	baz=282,SNR=6.7							
CTG	Chitna Glacier	48.73	39	P	P	00 46 16.1	+1.2	
	baz=283,SNR=6.4							
E29M	Blow River	48.77	29	IAmb	IAmb	00 46 18.1		
	comp=Z,64nm,1.1s							
E29M	Blow River	48.77	29	P	P	00 46 16.8	+1.8	
	baz=279,SNR=34							
SGDS	Sogindy	48.77	296	*e*P	P	00 46 15.3	-0.1	
	comp=Z,52nm,1.9s							
KBK	Karagaybulak	48.86	295	P	P	00 46 16.9	+0.7	
	SNR=18							
CHMS	Chumysh	48.86	296	P	P	00 46 16.7	+0.6	
	SNR=5.7							
LOGN	Logan Glacier	48.92	39	IAmb	IAmb	00 46 41.3		
	comp=Z,39nm,0.9s							
USP	Ospenovka	48.93	296	P	P	00 46 16.9	+0.3	
	SNR=17							
TABL	Table Mountain	48.94	40	P	P	00 46 18.1	+1.5	
TABL				IAmb	IAmb	00 46 35.4		
	comp=Z,56nm,1.1s							
DAWY	Dawson	48.96	35	P	P	00 46 17.2	+0.7	
	baz=282,SNR=5.1							
KSM	Kuching	48.96	225	P	P	00 46 17.3	+0.3	
KSM				IAmb	IAmb	00 46 37.6		
	comp=Z,55nm,1.3s							
H29M	Whitestone	48.96	32	P	P	00 46 18.1	+1.6	
	baz=281,SNR=18							
YUK3	Moose Creek	48.96	38	P	P	00 46 17.9	+1.1	
	baz=283,SNR=19							
G29M	Pine Creek	48.97	31	P	P	00 46 18.8	+2.2	
	baz=280,SNR=44							
FRU1	Bishkek	49.02	296	P	P	00 46 17.4	+0.1	
FRU1				IAmb	IAmb	00 46 34.5		
	comp=Z,24nm,0.7s							
FRU1	Bishkek	49.02	296	P	P	00 46 17.4	+0.1	
FRU1				pmax	pmax			
	comp=Z,24nm,0.7s							
I29M	Ogilvie Camp,	49.16	33	P	P	00 46 19.6	+1.6	
	baz=282,SNR=40							
AAK	Ala-Archa	49.17	295	P	P	00 46 18.8	+0.2	
	SNR=8.6							
AAK	Ala-Archa	49.17	295		P	00 46 18.8	+0.2	
AAK	Ala-Archa	49.17	295	P	P	00 46 18.9	+0.2	
AAK	Ala-Archa	49.17	295	*ce*P	P	00 46 18.7	+0.1	
AAK				pmax	pmax			
	comp=Z,44nm,1.6s							
AAK	Ala-Archa	49.17	295	*i* P	P	00 46 18.7	+0.2	
	SNR=5.4							
O28M	Mount Upton	49.32	39	IAmb	IAmb	00 46 39.0		
	comp=Z,35nm,1.0s							
O28M	Mount Upton	49.32	39	P	P	00 46 20.7	+1.0	
	baz=284,SNR=5.9							
J29N	Klondike Camp	49.38	34	P	P	00 46 21.2	+1.5	
J29N				IAmb	IAmb	00 46 41.5		
	comp=Z,19nm,0.6s							
J29N	Klondike Camp	49.38	34	P	P	00 46 21.2	+1.5	
	baz=282							
KSH	Kashi	49.40	291	P	P	00 46 24.2	+3.9	
KSH				sP	sP	00 46 42.2	+2.1	
KSH				S	S	00 53 31.5	+8.0	
KSH				pmax	pmax			
	comp=Z,20nm,1.1s							
KSH				pmax	pmax			
	comp=Z,170nm,2.6s							
KSH				LR	LR			
	comp=Z,980nm,16.8s							
KSH				LR	LR			
	comp=Z,640nm,18.6s							
KSH				LR	LR			
	comp=Z,2μm,17.5s							
YUK8	Steele Glacier	49.40	38	P	P	00 46 21.1	+0.9	
	baz=284							
SPSI	Sidrap Palu	49.44	210	P	P	00 46 20.2	-0.5	
PCA	Pinnacle	49.45	40	P	P	00 46 21.6	+1.2	
PCA				IAmb	IAmb	00 46 39.8		
	comp=Z,49nm,1.3s							
PINM	Pinnacle	49.46	40	P	P	00 46 21.2	+0.8	
	baz=284							
EPYK	Eagle Plains	49.59	32	P	P	00 46 22.9	+1.6	
	baz=282,SNR=44							
EKS2	Erkin-Say	49.65	296	P	P	00 46 22.5	+0.3	
	SNR=11							
G30M	tAoh Zraii Nji	49.66	31	P	P	00 46 23.1	+1.3	
	baz=282,SNR=40							
F30M	Barrier River	49.69	30		P	00 46 24.0	+1.9	
F30M	Barrier River	49.69	30	P	P	00 46 23.9	+1.9	
	baz=282,SNR=50							
BNSI	Bone	49.72	210	P	P	00 46 22.9	+0.2	
	comp=Z,43nm,1.0s							
L29M	L29M	49.72	36	P	P	00 46 24.4	+2.1	
	baz=284,SNR=58							
M29M	Somme Creek	49.73	37	IAmb	IAmb	00 46 42.2		
	comp=Z,38nm,1.1s							
M29M	Somme Creek	49.73	37	P	P	00 46 24.4	+1.9	
	baz=284,SNR=17							
SRIT	Nakonsritamara	49.75	241	P	P	00 46 23.7	+0.6	
K29M	Barlow Dome	49.81	35	P	P	00 46 24.9	+1.8	
	baz=283,SNR=43							
YUK4	Talbot Arm	49.91	38	P	P	00 46 25.8	+1.8	
	baz=285,SNR=15							
AML	Almayashu	49.92	295	P	P	00 46 25.3	+0.7	
	SNR=20							
I30M	Mount Dempster	49.98	33	P	P	00 46 25.8	+1.5	
	baz=283,SNR=160							
PNL	Peninsula	49.98	40	P	P	00 46 25.3	+1.0	
	baz=285							
YUK6	Outpost Mounta	50.15	39	P	P	00 46 27.0	+1.2	
	baz=285,SNR=6.5							
J30M	Hart River	50.15	34	IAmb	IAmb	00 46 44.9		
	comp=Z,52nm,0.9s							
J30M	Hart River	50.15	34	P	P	00 46 27.2	+1.6	
	baz=284,SNR=25							
O29M	Mount Kennedy	50.21	40	P	P	00 46 28.2	+1.9	
O29M				IAmb	IAmb	00 46 46.8		
	comp=Z,58nm,1.1s							
O29M	Mount Kennedy	50.21	40	P	P	00 46 27.9	+1.6	
	baz=286,SNR=6.9							
INK	Inuvik	50.38	29	LR	LR	01 13 15.4		
	comp=Z,65nm,18.3s,baz=270,slow=42							
INK	Inuvik	50.38	29	P	P	00 46 28.5	+1.4	
	baz=283,SNR=24							
KAPI	Kappang	50.41	210	P	P	00 46 27.2	-0.8	
KAPI				IAmb	IAmb	00 46 49.3		
	comp=Z,42nm,1.2s							
KAPI	Kappang	50.41	210	LR	LR	01 08 34.9		
	comp=Z,103nm,21.0s,baz=16,slow=37							
KAPI	Kappang	50.41	210	P	P	00 46 28.4	+0.4	
KAPI	Kappang	50.41	210	P	P	00 46 27.3	-0.8	
KAPI				pmax	pmax			
	comp=Z,42nm,1.3s							
G31M	Satah River	50.42	31	P	P	00 46 28.8	+1.3	
	baz=284,SNR=20							
M30M	Minto, Yukon	50.44	36	P	P	00 46 29.3	+1.5	
M30M	Minto, Yukon	50.44	36	P	P	00 46 29.7	+1.8	
	baz=285							
F31M	Tsiigehtchic	50.50	30	P	P	00 46 29.3	+1.2	
	baz=284,SNR=16							
MAYO	Mayo, Yukon	50.58	35	P	P	00 46 30.4	+1.7	
	baz=285							
HYT	Haines Junctio	50.58	39	P	P	00 46 31.3	+2.3	
	baz=286,SNR=100							
N30M	Aishikik Lake	50.60	38	P	P	00 46 30.9	+1.8	
	baz=286,SNR=8.1							
H31M	Peel River	50.66	32	P	P	00 46 31.1	+1.7	
	baz=284,SNR=61							
ARSB	Arslanbob	50.73	295		P	00 46 31.1	+0.6	
ARSB	Arslanbob	50.73	295	P	P	00 46 31.1	+0.6	
ARSB				pmax	pmax			
	comp=Z,71nm,0.8s							
P29M	Windy Craggy	50.80	40	P	P	00 46 32.7	+2.1	
	baz=287,SNR=24							
P30M	Million Dollar	51.04	39	P	P	00 46 34.4	+2.1	
	baz=287							
N31M	Braeburn, Yuko	51.20	38	P	P	00 46 35.8	+2.3	
	baz=287,SNR=36							
DZA	Taraz	51.21	297	*e*P	P	00 46 33.7	-0.2	
DZA				pmax	pmax			
	comp=Z,34nm,1.1s							
DZA	Taraz	51.21	297	*e*P	P	00 46 33.7	-0.2	
	comp=Z,34nm,1.1s							
O30N	Mendenhall	51.26	39	IAmb	IAmb	00 46 54.1		
	comp=Z,54nm,1.1s							
O30N	Mendenhall	51.26	39	P	P	00 46 35.8	+1.8	
	baz=287,SNR=13							
PLBC	Pleasant Camp	51.52	40	P	P	00 46 37.8	+1.9	
	baz=288,SNR=11							
KULM	Kulim	51.55	238		P	00 46 36.8	+0.1	
KULM				IAmb	IAmb	00 46 56.6		
	comp=Z,71nm,1.5s							
KULM	Kulim	51.55	238	P	P	00 46 37.7	+1.0	
M31M	Drury Creek, Y	51.62	36	P	P	00 46 38.5	+1.8	
M31M	Drury Creek, Y	51.62	36	P	P	00 46 38.3	+1.6	
	baz=287							
KK31	Karatay Array	51.68	298	IAmb	IAmb	00 46 38.4		
	comp=Z,44nm,1.1s							
KK31	Karatay Array	51.68	298	*i* P	P	00 46 36.7	-0.6	
KKAR	Karatay Array	51.68	298		P	00 46 37.1	-0.3	
KKAR	Karatay Array	51.68	298	IAmb	IAmb	00 46 38.4		
	comp=Z,46nm,1.1s							
KKAR	Karatay Array	51.68	298	P	P	00 46 37.1	-0.3	
WHY	Whitehorse	51.86	38	P	P	00 46 40.4	+1.9	
	baz=288,SNR=17							
IPM	Ipoh	51.94	237	P	P	00

IUG	**Iuzhnay**		**52.40**	**297**	*e*P		**P**		**00 46 42.6**	**-0.3**
	comp=Z,34nm,1.2s									
SVE	**Sverdlovsk**		**52.49**	**317**	*de*P		**P**		**00 46 43.9**	**+0.8**
SVE					pmax		pmax			
	comp=Z,105nm,1.3s									
SVE					MLR		MLR			
	comp=Z,1µm,18.0s									
N32M	**Quiet Lake**		**52.54**	**37**	P		**P**		**00 46 45.0**	**+1.5**
N32M					IAmb		IAmb		00 47 03.1	
	comp=Z,47nm,0.8s									
N32M	**Quiet Lake**		**52.54**	**37**	P		**P**		**00 46 45.0**	**+1.5**
	baz=289									
ALEG	**Aligegeo Malai**		**52.55**	**157**	P		**P**		**00 46 46.0**	**+2.0**
CHM	**Chimkent**		**52.61**	**297**	*e*P		**P**		**00 46 44.1**	**-0.2**
CHM					pmax		pmax			
	comp=Z,24nm,1.0s									
CHM	**Chimkent**		**52.61**	**297**	*e*P		**P**		**00 46 44.1**	**-0.2**
	comp=Z,24nm,1.0s									
BTK	**Batken**		**52.76**	**294**	P		**P**		**00 46 45.4**	**-0.1**
BTK					IAmb		IAmb		00 46 46.5	
	comp=Z,49nm,1.4s									
BTK	**Batken**		**52.76**	**294**	P		**P**		**00 46 45.4**	**-0.1**
BTK					pmax		pmax			
	comp=Z,49nm,1.4s									
P32M	**Atlin**		**52.76**	**39**			**P**		**00 46 47.1**	**+1.9**
P32M					IAmb		IAmb		00 47 04.8	
	comp=Z,40nm,1.1s									
P32M	**Atlin**		**52.76**	**39**	P		**P**		**00 46 46.7**	**+1.6**
	baz=290,SNR=6.4									
R32K	**Eaglecrest**		**52.81**	**41**	P		**P**		**00 46 46.7**	**+1.2**
R32K					IAmb		IAmb		00 47 05.2	
	comp=Z,26nm,0.9s									
R32K	**Eaglecrest**		**52.81**	**41**	P		**P**		**00 46 47.5**	**+2.0**
	baz=290,SNR=6.2									
SIT	**Sitka**		**52.83**	**43**	P		**P**		**00 46 48.0**	**+2.4**
SIT					IAmb		IAmb		00 47 05.6	
	comp=Z,76nm,1.2s									
SIT	**Sitka**		**52.83**	**43**	P		**P**		**00 46 48.0**	**+2.4**
SIT					pmax		pmax			
	comp=Z,76nm,1.2s									
SIT	**Sitka**		**52.83**	**43**	P		**P**		**00 46 47.4**	**+1.8**
	baz=290									
MMPY	**Sheldon Lake,**		**52.88**	**35**			**P**		**00 46 48.0**	**+2.0**
MMPY					IAmb		IAmb		00 47 05.7	
	comp=Z,32nm,0.9s									
MMPY	**Sheldon Lake,**		**52.88**	**35**	P		**P**		**00 46 48.0**	**+2.0**
	baz=289,SNR=8.8									
JIS	**Juneau Island**		**52.88**	**41**	P		**P**		**00 46 48.2**	**+2.3**
HNR	**Honiara**		**52.98**	**158**	LR		LR		01 05 56.4	
	comp=Z,141nm,20.3s,baz=316,slow=32									
P33M	**Teslin, Yukon**		**52.98**	**39**			**P**		**00 46 48.8**	**+2.0**
P33M	**Teslin, Yukon**		**52.98**	**39**	P		**P**		**00 46 48.4**	**+1.6**
	baz=290,SNR=10									
S32K	**Killisnoo**		**53.06**	**42**	P		**P**		**00 46 48.9**	**+1.6**
	baz=291									
SOEI	**Soe**		**53.37**	**202**	P		**P**		**00 46 49.0**	**-1.2**
SOEI	**Soe**		**53.37**	**202**	P		**P**		**00 46 52.2**	**+2.1**
GAR	**Garm**		**53.58**	**293**			**P**		**00 46 50.9**	**-0.7**
Q32M	**Nakina River**		**53.68**	**40**			**P**		**00 46 53.9**	**+1.8**
Q32M	**Nakina River**		**53.68**	**40**	P		**P**		**00 46 53.9**	**+1.8**
	baz=291,SNR=7.0									
ARTI	**Arti**		**53.81**	**317**			**P**		**00 46 52.9**	**+0.1**
ARTI	**Arti**		**53.81**	**317**	LR		LR		01 12 27.3	
	comp=Z,1µm,18.5s,baz=72,slow=39									
ARTI	**Arti**		**53.81**	**317**	*c* iP		**P**		**00 46 53.1**	**+0.3**
ARTI					*PP		**pP**		**00 47 08.0**	**+1.2**
ARTI									00 47 58.3	
ARTI									00 48 52.2	
ARTI					S		**S**		**00 54 23.7**	**+0.3**
ARTI					SS		**SKiKP**		**00 57 57.1**	**-4.2**
ARTI					pmax		pmax			
	comp=Z,148nm,1.3s									
ARTI					MLR		MLR			
	comp=Z,1µm,18.0s									
ARTI	**Arti**		**53.81**	**317**	⇑P		**P**		**00 46 53.0**	**+0.1**
BATI	**Baumata**		**53.97**	**203**	LR		LR		01 10 16.0	
	comp=Z,74nm,20.9s,baz=135,slow=36									
NIL	**Nilore**		**54.02**	**286**	P		**P**		**00 46 55.7**	**+1.0**
NIL	**Nilore**		**54.02**	**286**	P		**P**		**00 46 55.7**	**+1.0**
NIL					pmax		pmax			
	comp=Z,99nm,1.1s									
NIL	**Nilore**		**54.02**	**286**	P		**P**		**00 46 55.6**	**+0.8**
T33K	**Petersburg**		**54.13**	**43**	P		**P**		**00 46 57.0**	**+1.9**
	baz=292									
R33M	**Jennings River**		**54.14**	**39**			**P**		**00 46 57.0**	**+1.6**
R33M					IAmb		IAmb		00 47 15.4	
	comp=Z,41nm,1.2s									
R33M	**Jennings River**		**54.14**	**39**	P		**P**		**00 46 57.3**	**+1.9**
	baz=292,SNR=12									
U33K	**Whale Pass**		**54.30**	**43**	P		**P**		**00 46 57.6**	**+1.2**
U33K					IAmb		IAmb		00 47 16.4	
	comp=Z,59nm,1.1s									
U33K	**Whale Pass**		**54.30**	**43**	P		**P**		**00 46 58.3**	**+1.9**
	baz=292									
CRAG	**Craig**		**54.55**	**44**	P		**P**		**00 47 00.2**	**+2.0**
CRAG					IAmb		IAmb		00 47 18.1	
	comp=Z,39nm,1.0s									
CRAG	**Craig**		**54.55**	**44**	P		**P**		**00 47 00.1**	**+1.9**
	baz=293									
PSI	**Prapat**		**54.56**	**237**	LR		LR		01 12 30.3	
	comp=Z,110nm,19.1s,baz=25,slow=38									
PSI	**Prapat**		**54.56**	**237**	P		**P**		**00 46 58.7**	**-0.2**
PSI	**Prapat**		**54.56**	**237**	P		**P**		**00 46 58.6**	**-0.3**
PSI					pmax		pmax			
	comp=Z,15nm,0.9s									
TGTN	**Hyland Airport**		**54.58**	**36**	P		**P**		**00 47 00.2**	**+1.7**
	baz=292									
WRAK	**Wrangell Islan**		**54.59**	**43**	P		**P**		**00 47 00.3**	**+1.9**
	baz=293									
S34M	**Telegraph Cree**		**54.62**	**41**	P		**P**		**00 47 00.7**	**+2.0**
	baz=293,SNR=6.6									
RPSI	**Rantau Prapat**		**54.64**	**237**			**P**		**00 46 58.6**	**-0.7**
MTN	**Manton Dam**		**54.77**	**193**			**P**		**00 47 00.1**	**-0.1**
MTN					IAmb		IAmb		00 47 20.2	
	comp=Z,60nm,1.3s									
WTLY	**Watson Lake, Y**		**54.89**	**38**	P		**P**		**00 47 02.3**	**+1.7**
	baz=293									
DLBC	**Dease Lake**		**54.96**	**40**	LR		LR		01 14 10.4	
	comp=Z,9.9nm,18.4s,baz=258,slow=40									
DLBC	**Dease Lake**		**54.96**	**40**	P		**P**		**00 47 03.1**	**+1.8**
	baz=293,SNR=9.9									
V35K	**Ketchikan**		**55.40**	**44**	P		**P**		**00 47 06.0**	**+1.7**
	baz=294									
T35M	**Bob Quinn**		**55.43**	**42**			**P**		**00 47 06.5**	**+2.0**
T35M	**Bob Quinn**		**55.43**	**42**	P		**P**		**00 47 07.1**	**+2.5**
	baz=294,SNR=14									
AB31	**Akbulak array**		**55.80**	**308**	*i* P		**P**		**00 47 07.6**	**+0.3**
ABKAR	**Akbulak array**		**55.80**	**308**	P		**P**		**00 47 07.1**	**-0.2**
ABKAR	**Akbulak array**		**55.80**	**308**			IAmb		IAmb	00 47 08.9
	comp=Z,93nm,0.9s									
DIB	**Dawson Inlet,**		**55.81**	**46**	IAmb		IAmb		00 47 27.9	
	comp=Z,30nm,1.0s									
ALE	**Alert**		**55.89**	**4**	P		**P**		**00 47 07.9**	**+0.4**
EUNU	**Eureka**		**55.95**	**9**	IAmb		IAmb		00 47 11.0	
	comp=Z,47nm,1.1s									
WRGLY	**Wrigley**		**55.96**	**33**	P		**P**		**00 47 09.9**	**+1.7**
	baz=295									
U35K	**Hyder**		**55.98**	**43**	P		**P**		**00 47 09.7**	**+1.2**
	baz=295									
MOBC	**Moresby Island**		**56.12**	**46**	P		**P**		**00 47 10.5**	**+0.9**
MOBC					IAmb		IAmb		00 47 28.5	
	comp=Z,50nm,1.2s									
AKTO	**Aktyubinsk**		**56.41**	**310**	LR		LR		01 12 39.9	
	comp=Z,847nm,20.2s,baz=53,slow=37									
LIRD	**Liard River Hi**		**56.42**	**38**	P		**P**		**00 47 13.2**	**+1.6**
	baz=295,SNR=9.1									
RUBB	**Prince Rupert**		**56.53**	**45**	IAmb		IAmb		00 47 31.7	
	comp=Z,26nm,1.0s									
SPB2	**Spitsbergen Ar**		**56.55**	**348**	P		**P**		**00 47 14.1**	**+1.9**
SPB2					IAmb		IAmb		00 47 42.3	
	comp=Z,30nm,0.9s									
SPITS	**Spitsbergen Ar**		**56.55**	**348**	P		**P**		**00 47 12.2**	**-0.1**
	comp=Z,8.4nm,0.7s,baz=69,slow=4.8,SNR=7.5									
	comp=Z,8.4nm,0.7s									
SPITS	**Spitsbergen Ar**		**56.55**	**348**	P		**P**		**00 47 13.2**	**+0.9**
SPITS					pmax		pmax			
	comp=Z,96nm,1.4s									
GSI	**Gunungsitoli**		**56.56**	**237**	P		**P**		**00 47 15.2**	**+2.0**
GSI	**Gunungsitoli**		**56.56**	**237**	P		**P**		**00 47 13.4**	**+0.2**
	comp=Z,39nm,1.3s									
GSI					pP		**pP**		**00 47 22.9**	**-4.4**
	comp=Z,39nm,1.3s									
KBL	**Kabul**		**56.60**	**289**			**P**		**00 47 13.1**	**-0.4**
KBL					IAmb		IAmb		00 47 13.9	
	comp=Z,46nm,1.0s									
KBL	**Kabul**		**56.60**	**289**	P		**P**		**00 47 12.6**	**-1.0**
	SNR=19									
KBL	**Kabul**		**56.60**	**289**	P		**P**		**00 47 13.1**	**-0.4**
KBL					pmax		pmax			
	comp=Z,47nm,1.0s									
KBS	**Kingsbay**		**56.65**	**350**	*ce*P		**P**		**00 47 15.2**	**+2.3**
KBS					pmax		pmax			
	comp=Z,86nm,2.5s									
KHU	**Kahuku**		**56.75**	**93**	P		**P**		**00 47 17.9**	**+3.1**
KHU	**Kahuku**		**56.75**	**93**	P		**P**		**00 47 17.9**	**+3.1**
KHU					pmax		pmax			
	comp=Z,239nm,1.2s									
HG4B	**Hotspring**		**56.91**	**47**	IAmb		IAmb		00 47 33.7	
	comp=Z,35nm,0.9s									
NOR	**Nord**		**56.91**	**356**	*i* P		**P**		**00 47 14.3**	**-0.5**
NOR					IAmb		IAmb		00 47 15.8	
	comp=Z,22nm,1.2s									
KOTAN	**Kotaneelee Air**		**57.04**	**37**	P		**P**		**00 47 17.4**	**+1.4**
	baz=296									
TOAD	**Toad River Com**		**57.07**	**38**	P		**P**		**00 47 17.5**	**+1.3**
	baz=296,SNR=9.5									
MDSI	**Maura Dua**		**57.25**	**227**	P		**P**		**00 47 17.5**	**-0.5**
	comp=Z,33nm,1.4s									
KIRV	**Kirov**		**57.34**	**322**	LR		LR		01 14 27.6	
	comp=Z,508nm,18.8s,baz=69,slow=38									
KIRV	**Kirov**		**57.34**	**322**	*ce*P		**P**		**00 47 18.3**	**+0.3**
KNRA	**Kununurra**		**57.98**	**195**	P		**P**		**00 47 22.8**	**-0.2**
KNRA					IAmb		IAmb		00 47 42.0	
	comp=Z,18nm,0.7s									
KNRA	**Kununurra**		**57.98**	**195**	P		**P**		**00 47 22.6**	**-0.4**
	comp=Z,33nm,1.0s									
RES	**Resolute Bay**		**58.38**	**15**	LR		LR		01 16 43.2	
	comp=Z,161nm,18.7s,baz=322,slow=40									
LVZ	**Lovozero**		**58.58**	**335**	P		**P**		**00 47 26.4**	**-0.3**
LVZ					IAmb		IAmb		00 47 33.8	
	comp=Z,32nm,1.1s									
LVZ	**Lovozero**		**58.58**	**335**	P		**P**		**00 47 26.4**	**-0.3**
LVZ					pmax		pmax			
	comp=Z,32nm,1.1s									
BBB	**Bella Bella**		**58.65**	**46**	P		**P**		**00 47 28.8**	**+1.5**
BBB					IAmb		IAmb		00 47 46.1	
	comp=Z,51nm,1.1s									
BBB	**Bella Bella**		**58.65**	**46**	LR		LR		01 11 07.6	
	comp=Z,132nm,21.8s,baz=292,slow=34									
HYB	**Hyderabad**		**59.05**	**266**	*e*P		**P**		**00 47 30.5**	**-0.2**
MTSU	**Mount Surprise**		**59.09**	**178**	P		**P**		**00 47 31.6**	**+0.9**
APA	**Apatity**		**59.15**	**335**	⇓ *i* P		P		00 47 17.3	-13
APA					pmax		pmax			
	comp=Z,7.0nm,0.8s									
APA					MLR		MLR			
	comp=Z,700nm,14.0s									
KEV	**Kevo**		**59.77**	**339**	P		**P**		**00 47 36.3**	**+1.5**
KEV					IAmb		IAmb		00 47 52.6	
	comp=Z,40nm,1.3s									
KEV	**Kevo**		**59.77**	**339**	P		**P**		**00 47 36.3**	**+1.5**
KEV					pmax		pmax			
	comp=Z,40nm,1.3s									
YKAW3	**Yellowknife Wh**		**59.84**	**31**			**P**		**00 47 36.5**	**+1.1**
YKAW3					IAmb		IAmb		00 47 55.9	
	comp=Z,25nm,1.1s									
YKA	**Yellowknife Ar**		**59.88**	**32**	P		**P**		**00 47 37.6**	**+1.9**
YKA	**Yellowknife Ar**		**59.88**	**32**	P		**P**		**00 47 35.8**	**+0.2**
	comp=Z,9.3nm,0.9s,baz=303,slow=7.7,SNR=14									
YKA					LR		LR		01 18 25.4	
	comp=Z,97nm,18.9s,baz=302,slow=41									
	comp=Z,9.3nm,0.9s									
YKA	**Yellowknife Ar**		**59.88**	**32**	*ce*P		**P**		**00 47 36.5**	**+0.8**
YKA					pmax		pmax			
	comp=Z,9.0nm,0.9s									
YKAW1	**Yellowknife Wh**		**59.93**	**31**	P		**P**		**00 47 37.5**	**+1.5**
YKAW1					IAmb		IAmb		00 47 57.2	
	comp=Z,34nm,1.2s									
ARCES	**ARCESS Array B**		**60.32**	**339**	P		**P**		**00 47 40.0**	**+1.4**
ARCES	**ARCESS Array B**		**60.32**	**339**	P		**P**		**00 47 38.6**	**0.0**
	comp=Z,6.2nm,1.0s,baz=55,slow=5.7,SNR=9.7									
ARCES					LR		LR		01 17 00.2	
	comp=Z,345nm,21.3s,baz=51,slow=39									
	comp=Z,6.2nm,1.0s									
ARCES	**ARCESS Array B**		**60.32**	**339**	P		**P**		**00 47 40.0**	**+1.4**
ARCES					pmax		pmax			
	comp=Z,19nm,1.3s									
KLMR	**Klimovskoe**		**60.59**	**327**	*e*P		**P**		**00 47 38.4**	**-2.1**
KLMR					*e*				00 49 52.4	
KLMR					pmax		pmax			
	comp=Z,104nm,1.4s									
KLMR					MLR		MLR			
	comp=Z,708nm,20.0s									
CTAO	**Charters Tower**		**61.11**	**176**	P		**P**		**00 47 45.2**	**+0.7**
CTAO	**Charters Tower**		**61.11**	**176**	P		**P**		**00 47 45.2**	**+0.7**
WB0	**Warramunga Arr**		**61.12**	**188**			**P**		**00 47 43.3**	**-1.3**
WB0					IAmb		IAmb		00 48 04.8	
	comp=Z,27nm,0.8s									
CBB	**Campbell River**		**61.21**	**47**	IAmb		IAmb		00 48 04.1	
	comp=Z,23nm,0.8s									
BELG	**Belogornoye**		**61.22**	**316**	LR		LR		01 16 47.5	
	comp=Z,1µm,19.0s,baz=59,slow=38									
BELG	**Belogornoye**		**61.22**	**316**	⇓ *i* P		**P**		**00 47 45.3**	**+0.4**
BELG					pmax		pmax			
	comp=Z,29nm,0.9s									
WRAB	**Tennant Creek**		**61.29**	**188**	P		**P**		**00 47 44.6**	**-1.1**
WRAB					IAmb		IAmb		00 48 06.0	
	comp=Z,24nm,0.9s									
WRAB	**Tennant Creek**		**61.29**	**188**	P		**P**		**00 47 44.6**	**-1.1**
WRAB					pmax		pmax			
	comp=Z,24nm,0.9s									
WR8	**Warramunga Arr**		**61.29**	**188**			**P**		**00 47 44.6**	**-1.2**
WR8					IAmb		IAmb		00 48 05.5	
	comp=Z,24nm,0.8s									
WRA	**Warramunga Arr**		**61.30**	**188**	P		**P**		**00 47 43.9**	**-1.9**
WRA	**Warramunga Arr**		**61.30**	**188**	P		**P**		**00 47 44.2**	**-1.6**
	comp=Z,6.6nm,0.6s,baz=7.4,slow=6.7,SNR=47									
WRA					LR		LR		01 14 24.5	
	comp=Z,92nm,21.8s,baz=12,slow=36									
	comp=Z,6.6nm,0.6s									
NEEM	**North Greenlan**		**61.31**	**3**	*i* P		**P**		**00 47 46.3**	**+0.7**
NEEM					IAmb		IAmb		00 47 46.8	
	comp=Z,23nm,0.9s									
QIS	**Mount Isa**		**61.52**	**183**	P		**P**		**00 47 46.1**	**-1.1**
	comp=Z,19nm,1.7s									
QIS	**Mount Isa**		**61.52**	**183**	P		**P**		**00 47 46.7**	**-0.6**
VLAKA	**Lakatoro**		**61.63**	**152**	P		**P**		**00 47 50.5**	**+2.5**
DAG	**Danmarks Havn**		**61.66**	**355**	*i* P		**P**		**00 47 47.2**	**-0.4**
DAG					IAmb		IAmb		00 47 48.4	
	comp=Z,34nm,1.1s									
CLRS	**Cowichan Lake**		**62.53**	**48**			**P**		**00 47 55.0**	**+1.1**
CLRS					IAmb		IAmb		00 48 12.6	
	comp=Z,38nm,0.9s									
LLLB	**Lillooet**		**62.81**	**45**			**P**		**00 47 57.0**	**+1.2**
POIN	**Pond Inlet**		**62.99**	**13**			**P**		**00 47 56.3**	**-0.2**
POIN					IAmb		IAmb		00 48 14.7	
	comp=Z,24nm,0.9s									
PGC	**Sidney**		**63.00**	**48**	P		**P**		**00 47 57.4**	**+0.4**
PGC					IAmb		IAmb		00 48 15.7	
	comp=Z,34nm,0.8s									
B04A	**Port Angeles**		**63.29**	**48**	P		**P**		**00 48 00.2**	**+1.3**
B04A					IAmb		IAmb		00 48 18.1	
	comp=Z,44nm,0.9s									
A04D	**Lummi Island**		**63.38**	**48**	P		**P**		**00 48 01.0**	**+1.6**
NLWA	**Neilton Lookou**		**63.44**	**49**	P		**P**		**00 48 01.5**	**+1.5**
KULLO	**Kullorsuaq**		**63.75**	**6**	*i* P		**P**		**00 48 00.6**	**-0.8**
KULLO					IAmb		IAmb		00 48 08.9	
	comp=Z,19nm,0.8s									
GNW	**Green Mountain**		**63.94**	**49**	P		**P**		**00 48 05.1**	**+1.9**
GNW					IAmb		IAmb		00 48 22.7	
	comp=Z,26nm,1.0s									
PALK	**Pallekele**		**63.96**	**256**	LR		LR		01 17 03.6	
	comp=Z,299nm,21.6s,baz=32,slow=37									
RADR	**Rader Ridge**		**64.01**	**50**	P		**P**		**00 48 05.9**	**+2.2**
E03A	**Lebam**		**64.08**	**50**			**P**		**00 48 06.1**	**+2.0**
DBG	**Daneborg**		**64.15**	**355**	*i* P		**P**		**00 48 03.2**	**-1.0**
DBG					IAmb		IAmb		00 48 05.6	
	comp=Z,38nm,1.6s									
MOS	**Moscow**		**64.30**	**323**	*eP*		**P**		**00 48 03.4**	**-2.0**
MOS					*e*PP		**pP**		**00 48 13.9**	**-5.7**
MOS					*e*				00 50 25.2	
MOS					pmax		pmax			
	comp=Z,109nm,1.4s									
MOS					MLR		MLR			
	comp=Z,500nm,18.0s									
F03A	**Seaside**		**64.42**	**51**	P		**P**		**00 48 07.9**	**+1.5**
D05A	**Enumclaw**		**64.62**	**49**	P		**P**		**00 48 09.1**	**+1.4**
VRH	**Novokhopyorsk**		**64.94**	**317**	*eP*		**P**		**00 48 08.9**	**-0.7**
VRH					pmax		pmax			
	comp=Z,101nm,1.0s									
LON	**Longmire**		**64.97**	**49**	IAmb		IAmb		00 48 29.9	
	comp=Z,24nm,0.8s									
AS01	**Alice Springs**		**65.02**	**188**	P		**P**		**00 48 10.6**	**+0.2**
ASAR	**Alice Springs**		**65.03**	**188**	P		**P**		**00 48 09.9**	**-0.6**
ASAR	**Alice Springs**		**65.03**	**188**	P		**P**		**00 48 09.5**	**-1.0**
	comp=Z,6.5nm,0.8s,baz=9.1,slow=7.0,SNR=42									
ASAR					LR		LR		01 16 48.6	
	comp=Z,132nm,21.7s,baz=342,slow=36									
	comp=Z,6.5nm,0.8s									
ASAR	**Alice Springs**		**65.03**	**188**	P		**P**		**00 48 09.9**	**-0.6**
ILON	**Igloolik, Nuna**		**65.05**	**16**			**P**		**00 48 09.7**	**-0.3**
ILON					IAmb		IAmb		00 48 27.7	
	comp=Z,36nm,0.8s									
OBN	**Obninsk**		**65.15**	**322**	P		**P**		**00 48 11.0**	**+0.1**
OBN	**Obninsk**		**65.15**	**322**	⇑ *i* P		**P**		**00 48 10.2**	**-0.7**
OBN					*e*				00 48 40.9	
OBN					*e*				00 50 32.2	
OBN					*i* S		S		00 57 16.9	+27
OBN					pmax		pmax			
	comp=Z,92nm,1.3s									
OBN					MLR		MLR			
	comp=Z,619nm,17.0s									
I02E	**Swisshome, OR**		**65.26**	**52**	P		**P**		**00 48 13.8**	**+1.9**
I02E					IAmb		IAmb		00 48 31.5	
	comp=Z,44nm,0.9s									
BLKN	**Baker Lake**		**65.29**	**24**	IAmb		IAmb		00 48 30.1	
	comp=Z,43nm,0.8s									
COR	**Corvallis**		**65.32**	**52**	P		**P**		**00 48 14.1**	**+1.9**
COR	**Corvallis**		**65.32**	**52**	P		**P**		**00 48 14.1**	**+1.9**
COR					pmax		pmax			
	comp=Z,94nm,1.0s									
LTY	**Liberty**		**65.33**	**48**	IAmb		IAmb		00 48 31.1	
	comp=Z,39nm,1.1s									
KEF	**Keuruu**		**65.36**	**333**	*eP*		**P**		**00 48 11.8**	**-0.5**
FIA1	**FINESS Array S**		**65.42**	**332**	P		**P**		**00 48 12.9**	**+0.3**
FINES	**FINESS Array B**		**65.42**	**332**	P		**P**		**00 48 12.8**	**+0.2**
FINES	**FINESS Array B**		**65.42**	**332**	P		**P**		**00 48 12.2**	**-0.4**
	comp=Z,33nm,0.9s,baz=48,slow=6.6,SNR=51									
FINES					LR		LR		01 19 01.1	
	comp=Z,1µm,20.5s,baz=44,slow=38									
	comp=Z,33nm,0.9s									
FINES	**FINESS Array B**		**65.42**	**332**	*i* P		**P**		**00 48 12.6**	**0.0**
FINES					pmax		pmax			
	comp=Z,33nm,0.9s									
G04A	**Mulino**		**65.45**	**51**	P		**P**		**00 48 14.9**	**+1.7**
MBWA	**Marble Bar**		**65.50**	**203**	P		**P**		**00 48 13.1**	**-0.4**
MBWA					IAmb		IAmb		00 48 13.7	
	comp=Z,29nm,1.0s									
MBWA	**Marble Bar**		**65.50**	**203**	P		**P**		**00 48 12.8**	**-0.7**
	comp=Z,29nm,1.0s									
MBWA	**Marble Bar**		**65.50**	**203**	P		**P**		**00 48 13.2**	**-0.3**
LPSR	**Galich'ya Gora**		**65.53**	**319**	*eP*		**P**		**00 48 13.2**	**-0.2**
LPSR					pmax		pmax			
	comp=Z,106nm,1.0s									
H04D	**Lebanon**		**65.69**	**51**			**P**		**00 48 15.9**	**+1.3**
H04D					IAmb		IAmb		00 48 34.2	
	comp=Z,28nm,0.8s									
BUCK	**Buck Mountain**		**65.73**	**52**			**P**		**00 48 16.6**	**+1.6**
J01E	**Myrtle Point**		**65.75**	**53**	P		**P**		**00 48 16.9**	**+1.9**
PSA00	**Pilbara Seismi**		**65.85**	**203**	P		**P**		**00 48 14.6**	**-1.2**
PSA00	**Pilbara Seismi**		**65.85**	**203**	P		**P**		**00 48 15.4**	**-0.4**
H04A	**Detroit Lake**		**65.92**	**51**	P		**P**		**00 48 17.4**	**+1.2**
VORR	**Voronezh**		**65.94**	**318**	*eP*		**P**		**00 48 16.4**	**+0.3**
VORR					pmax		pmax			
	comp=Z,82nm,0.5s									
G05A	**Wamic**		**66.11**	**50**	IAmb		IAmb		00 48 36.8	
	comp=Z,42nm,0.9s									
JMIC	**Jan Mayen**		**66.14**	**350**	LR		LR		01 20 13.5	
	comp=Z,85nm,18.2s,baz=8.0,slow=39									
E07A	**Sunnyside**		**66.19**	**48**	P		**P**		**00 48 19.1**	**+1.3**
E07A					IAmb		IAmb		00 48 37.1	
	comp=Z,50nm,1.0s									
VSR	**Storozhevoye**		**66.23**	**318**	*eP*		**P**		**00 48 14.2**	**-3.8**
VSR					pmax		pmax			
	comp=Z,50nm,0.9s									
WAH2	**Wahluke Slope**		**66.24**	**48**	IAmb		IAmb

KIV **Kislovodsk** 68.68 310 ⇑P P 00 48 34.7 +0.9
KIV **Kislovodsk** 68.68 310 P P 00 48 34.6 +0.9
KIV **Kislovodsk** 68.68 310 *i* P P 00 48 34.7 +0.9
SNR=18
KIV **Kislovodsk** 68.68 310 P P 00 48 34.6 +0.9
KBZ **Khabaz** 68.69 310 P P 00 48 34.2 +0.6
comp=Z,56nm,0.9s,baz=43,slow=3.5,SNR=50
KBZ LR LR 01 24 06.7
comp=Z,522nm,18.2s,baz=52,slow=41
comp=Z,56nm,0.9s
KBZ **Khabaz** 68.69 310 *ce*P P 00 48 34.3 +0.6
KBZ pmax pmax
comp=Z,99nm,1.0s
O03E **Paynes Creek** 68.70 55 P P 00 48 34.3 +0.4
SHA1 **Shidzhatmaz** 68.83 310 ⇓*i*P P 00 48 36.2 +1.4
J08A **Circle Bar Ran** 68.87 51 IAmb IAmb 00 48 54.4
comp=Z,49nm,1.2s
MNRC **McLaughlin Min** 69.14 56 P P 00 48 38.0 +1.4
MSO **Missoula** 69.28 45 IAmb IAmb 00 48 56.1
comp=Z,33nm,1.1s
ORV **Oroville** 69.33 55 IAmb IAmb 00 48 56.2
comp=Z,39nm,0.9s
WVOR **Wild Horse Val** 69.33 51 P P 00 48 38.7 +0.9
WVOR **Wild Horse Val** 69.33 51 P P 00 48 38.7 +0.9
WVOR pmax pmax
comp=Z,23nm,0.8s
AFI **Afiamalu** 69.37 132 P P 00 48 40.0 +1.8
AFI **Afiamalu** 69.37 132 P P 00 48 40.0 +1.8
AFI pmax pmax
comp=Z,90nm,1.2s
MNK **Minsk** 69.41 325 *i* P P 00 48 38.4 +0.5
MNK *i* *PP pP 00 48 53.3 +1.0
MNK *i* 00 51 12.0
MNK *i* PPP PPP 00 52 53.1
MNK *i* S S 00 57 42.2 +1.5
MNK *i* *SS sS 00 58 06.5 +1.5
MNK *i* SS SS 01 02 12.4 +4.8
MNK pmax pmax
comp=Z,57nm,1.0s
MNK pmax pmax
comp=E,30nm,1.0s
MNK pmax pmax
comp=N,20nm,1.0s
MNK MLR MLR
comp=E,426nm,19.0s
MNK MLR MLR
comp=N,438nm,19.0s
MNK MLR MLR
comp=Z,747nm,19.0s
ISAL **Salakas** 69.41 327 *e*P P 00 48 41.2 +3.3
JASK **Jask - Hormozg** 69.43 287 P P 00 48 39.0 +0.5
ILULI **Ilulissat** 69.43 5 P P 00 48 37.5 -0.3
ILULI **Ilulissat** 69.43 5 P P 00 48 37.5 -0.3
ILULI pmax pmax
comp=Z,21nm,0.8s
RUSS **Russell Ranch** 69.70 56 P P 00 48 41.3 +1.3
GNI **Garni** 69.75 306 P 00 48 41.7 +1.2
GNI IAmb IAmb 00 48 49.8
comp=Z,80nm,1.2s
GNI **Garni** 69.75 306 LR LR 01 22 09.9
comp=Z,342nm,18.4s,baz=64,slow=38
GNI **Garni** 69.75 306 P P 00 48 40.4 -0.1
GNI **Garni** 69.75 306 *ce*P P 00 48 42.4 +1.9
GNI pmax pmax
comp=Z,82nm,1.3s
FFC **Flin Flon** 69.84 34 P P 00 48 40.8 +0.2
FFC **Flin Flon** 69.84 34 P P 00 48 40.8 +0.2
FFC pmax pmax
comp=Z,27nm,0.9s
FFC **Flin Flon** 69.84 34 P P 00 48 40.9 +0.3
FFC sP sP 00 49 00.1 -0.7
ICESG **Greenland Ices** 69.99 1 *i* P P 00 48 41.9 +0.2
ICESG IAmb IAmb 00 48 43.7
comp=Z,53nm,1.1s
PABE **Paberze** 70.33 328 *e*P P 00 48 43.4 -0.1
NC405 **NORSAR Array S** 70.37 337 IAmb IAmb 00 48 45.0
comp=Z,83nm,1.3s
NC303 **NORSAR Array S** 70.39 337 P P 00 48 44.1 +0.3
NC303 IAmb IAmb 00 48 55.8
comp=Z,32nm,1.1s
MPK **Martis Peak** 70.39 55 P P 00 48 45.6 +1.0
KARS **Kars** 70.47 307 P P 00 48 45.5 +0.6
KARS **Kars** 70.47 307 P P 00 48 45.5 +0.6
KARS pmax pmax
comp=Z,223nm,1.1s
WELL **Weller Preserv** 70.48 56 P P 00 48 45.3 +0.4
NC204 **NORSAR Array S** 70.52 337 IAmb IAmb 00 49 01.8
comp=Z,62nm,1.2s
HFS **Hagfors** 70.55 335 P P 00 48 44.5 -0.3
comp=Z,27nm,1.1s,baz=38,slow=5.4,SNR=18
HFS LR LR 01 22 08.0
comp=Z,502nm,21.1s,baz=40,slow=38
comp=Z,27nm,1.1s
NB201 **NORSAR Array S** 70.55 337 IAmb IAmb 00 49 01.9
comp=Z,46nm,1.1s
SHME **Shamm** 70.56 288 P P 00 48 45.4 -0.1
SNR=5.2
SHME **Shamm** 70.56 288 *i* P P 00 48 45.3 -0.1
SNR=7.6
NB2 **NORSAR Subarra** 70.58 337 P P 00 48 44.7 -0.3
comp=Z,39nm,1.0s,baz=37,slow=6.2
NB2 **NORSAR Subarra** 70.58 337 P P 00 48 44.7 -0.3
baz=37,slow=6.2
NOA **NORSAR Array B** 70.58 337 P P 00 48 44.4 -0.6
comp=Z,15nm,0.9s,baz=36,slow=6.1,SNR=32
NOA LR LR 01 23 53.0
comp=Z,237nm,19.2s,baz=30,slow=39
comp=Z,15nm,0.9s
SOC **Sochi** 70.61 311 *e*P P 00 48 45.2 -0.3
SOC *e* 00 51 18.2
SOC *e*PPP PPP 00 53 05.0
SOC *e*S S 00 57 56.8 +1.6
SOC *e*SS SS 01 02 25.6 -1.1
SOC MLR MLR
comp=Z,280nm,21.0s
BIDO **Bidbid** 70.65 285 P P 00 48 47.1 +1.1
NBO00 **NORSAR Array S** 70.72 337 IAmb IAmb 00 49 02.9
comp=Z,54nm,1.1s
EGMT **Eagleton** 70.72 43 IAmb IAmb 00 49 04.9
comp=Z,53nm,0.9s
PBUR **Paburge** 70.76 329 *e*P P 00 48 46.1 0.0
PNTR **Pine Nut** 70.78 55 P P 00 48 48.0 +1.1
PNTR IAmb IAmb 00 49 06.3
comp=Z,62nm,0.9s
NAO01 **NORSAR Array S** 70.83 337 P P 00 48 46.5 0.0
MDH **Madha** 70.90 287 P P 00 48 47.8 +0.3
CMB **Columbia Colle** 70.94 56 IAmb IAmb 00 49 06.8
comp=Z,59nm,1.2s
MASF **Masafi** 70.96 287 P P 00 48 48.4 +0.4
SNR=5.5
MSFE **Esma-Masafi** 70.97 287 *i* P P 00 48 48.1 +0.1
SNR=9.4
SMDO **Samad** 70.98 284 P P 00 48 49.1 +0.9
MEEK **Meekatharra** 70.99 202 P P 00 48 54.7 +6.9
ANN **Anapa** 71.11 313 *e*P P 00 48 46.3 -2.2
ANN *e**PP pP 00 48 59.6 -3.4
ANN *e* 00 51 22.1
ANN *e*S S 00 57 58.5 -2.4
ANN *e*SS SS 01 02 30.9 -3.4
ANN pmax pmax
comp=Z,101nm,0.9s
OZAP **Van, Ozalp-Mer** 71.12 305 ⇓P P 00 48 50.6 +1.6
SCZ **Santa Cruz** 71.17 58 P P 00 48 49.3 +0.3
SCZ IAmb IAmb 00 49 07.8
comp=Z,31nm,0.9s
UOSS **Minazif** 71.18 287 P P 00 48 49.4 +0.1
UOSS IAmb IAmb 00 48 50.7
comp=Z,55nm,1.1s
UOSS **Minazif** 71.18 287 P P 00 48 49.4 +0.1
UOSS **Minazif** 71.18 287 *i* P P 00 48 48.7 -0.6
SNR=19
HOQ **Hoqain** 71.21 285 P P 00 48 49.9 +0.5
WAKR **Walker** 71.24 55 P P 00 48 51.0 +1.3
WAKR IAmb IAmb 00 49 09.2
comp=Z,46nm,1.0s
BOZ **Bozeman (W)** 71.31 45 IAmb IAmb 00 49 08.8
comp=Z,53nm,0.8s
HATD **Hatta, Dubai** 71.31 287 P P 00 48 50.4 +0.3
SNR=12
HATD **Hatta, Dubai** 71.31 287 *i* P P 00 48 50.0 -0.1
SNR=23
JMDO **Jabal Madar** 71.36 284 P P 00 48 50.5 +0.1
AKASG **Malin Array Be** 71.39 322 P P 00 48 50.4 +0.3
AKASG IAmb IAmb 00 48 51.6
comp=Z,47nm,1.4s

AKASG **Malin Array Be** 71.39 322 P P 00 48 49.6 -0.5
comp=Z,19nm,0.8s,baz=46,slow=6.1,SNR=71
AKASG PP PP 00 51 27.0 -1.4
comp=Z,4.3nm,0.9s,baz=45,slow=9.7,SNR=4.1
AKASG LR LR 01 23 42.1
comp=Z,429nm,18.1s,baz=50,slow=39
comp=Z,19nm,0.8s
AKASG **Malin Array Be** 71.39 322 *ce*P P 00 48 50.0 -0.1
AKASG pmax pmax
comp=Z,18nm,0.8s
AKBB **Malin Array Si** 71.39 322 IAmb IAmb 00 48 51.2
comp=Z,48nm,1.0s
AKBB **Malin Array Si** 71.39 322 *ce*P P 00 48 50.0 -0.1
AKBB pmax pmax
comp=Z,60nm,1.1s
KIEV **Kiev** 71.41 322 P P 00 48 50.0 -0.2
KIEV IAmb IAmb 00 48 51.2
comp=Z,47nm,1.1s
KIEV **Kiev** 71.41 322 ⇓P P 00 48 50.4 +0.3
KIEV **Kiev** 71.41 322 P P 00 48 50.4 +0.3
KIEV **Kiev** 71.41 322 *i* P P 00 48 49.5 -0.6
SNR=25
KIEV **Kiev** 71.41 322 P P 00 48 50.2 +0.1
SOHO **SOHO** 71.44 286 P P 00 48 51.0 +0.2
SOHO **SOHO** 71.44 286 *i* P P 00 48 50.4 -0.4
SNR=9.3
ASHO **Ashiyiah** 71.45 287 P P 00 48 51.2 +0.3
SNR=9.5
ASHO **Ashiyiah** 71.45 287 *i* P P 00 48 50.7 -0.2
SNR=5.7
HOMI **Horasan** 71.53 307 ⇓P P 00 48 52.9 +1.5
NAZ **Nazwa, Dubai** 71.55 287 P P 00 48 51.2 -0.2
SFJD **Kangerlussuaq** 71.66 5 P P 00 48 52.0 +0.6
SFJD **Kangerlussuaq** 71.66 5 LR LR 01 21 40.7
comp=Z,491nm,21.7s,baz=348,slow=37
SFJD **Kangerlussuaq** 71.66 5 P P 00 48 52.0 +0.6
SFJD pmax pmax
comp=Z,28nm,1.2s
SFJD **Kangerlussuaq** 71.66 5 *i* P P 00 48 52.0 +0.6
SFJD IAmb IAmb 00 48 52.4
comp=Z,28nm,1.1s
SUW **Suwalki** 71.72 327 *e*P P 00 48 52.2 +0.2
RYN **Ryan** 71.73 55 IAmb IAmb 00 49 11.9
comp=Z,48nm,1.0s
FAQ **Al Faqa, Dubai** 71.75 287 P P 00 48 53.1 +0.5
SNR=5.4
BSY **Bisya** 71.80 284 P P 00 48 53.5 +0.5
ARQ **Araqi** 71.93 285 P P 00 48 54.2 +0.4
SNR=5.7
NVAR **Mina Array Bea** 71.99 55 P P 00 48 55.1 +0.9
NVAR **Mina Array Bea** 71.99 55 P P 00 48 54.9 +0.7
comp=Z,9.6nm,0.8s,baz=310,slow=6.4,SNR=53
NVAR LR LR 01 15 43.9
comp=Z,120nm,21.8s,baz=290,slow=32
comp=Z,9.6nm,0.8s
ASUD **Al Ashush, Dub** 72.01 287 P P 00 48 54.3 +0.1
SNR=5.3
ASUD **Al Ashush, Dub** 72.01 287 *i* P P 00 48 54.3 +0.1
SNR=6.1
YHL **Hebgen Lake** 72.03 46 IAmb IAmb 00 49 14.1
comp=Z,55nm,0.9s
ALNE **Al Ain** 72.05 286 P P 00 48 54.4 -0.1
SNR=7.3
ALNE **Al Ain** 72.05 286 *i* P P 00 48 54.3 -0.2
SNR=11
NV11 **Mina Array Sit** 72.08 54 IAmb IAmb 00 49 13.9
comp=Z,42nm,1.1s
YHB **Horse Butte** 72.09 46 IAmb IAmb 00 49 14.3
comp=Z,60nm,0.8s
RAMR **Ramage Ranch** 72.11 58 P P 00 48 56.4 +1.8
MHTO **MHTO** 72.31 283 P P 00 48 55.9 -0.2
SNR=5.6
YNM **Yellowstone No** 72.37 46 P P 00 48 57.7 +1.3
YNM IAmb IAmb 00 49 19.2
comp=Z,40nm,1.0s
YNR **Norris Junctio** 72.39 46 P P 00 48 58.4 +1.9
YNR IAmb IAmb 00 49 19.4
comp=Z,73nm,1.4s
GURO **Guroymak-BITLI** 72.39 306 P P 00 48 57.5 +1.0
GURO IAmb IAmb 00 48 58.9
comp=Z,51nm,0.9s
KOPT **Kop Dagi** 72.39 308 P P 00 48 57.4 +0.7
KOPT IAmb IAmb 00 48 59.6
comp=Z,68nm,1.2s
YFT **Old Faithful** 72.48 46 P P 00 48 58.5 +1.4
YFT IAmb IAmb 00 49 18.0
comp=Z,50nm,0.9s
FRB **Frobisher Bay** 72.55 14 LR LR 01 25 14.6
comp=Z,410nm,19.0s,baz=329,slow=39
YNE **Yellowstone No** 72.56 45 IAmb IAmb 00 49 16.5
comp=Z,32nm,0.8s
STKA **Stephens Creek** 72.74 181 LR LR 01 20 08.0
comp=Z,120nm,22.0s,baz=19,slow=35
SIM **Simferopol'** 72.81 315 *e*P P 00 48 58.4 -0.3
SIM *e*S S 00 58 19.7 -0.8
SIM pmax pmax
comp=Z,92nm,1.0s
SIM smax smax
comp=N,48nm,18.6s
SIM MLR MLR
comp=Z,459nm,20.1s
DSP **Deep Springs** 72.86 55 IAmb IAmb 00 49 18.9
comp=Z,58nm,1.1s
FXWY **Fox Creek** 72.91 47 IAmb IAmb 00 49 19.3
comp=Z,43nm,0.8s
TPAW **Teton Pass** 73.04 47 IAmb IAmb 00 49 20.2
comp=Z,59nm,1.1s
HVU **Hansel Valley** 73.14 49 IAmb IAmb 00 49 20.2
comp=Z,41nm,0.9s
SNOW **Snow King Moun** 73.17 47 P P 00 49 02.3 +1.1
SNOW IAmb IAmb 00 49 20.9
comp=Z,43nm,0.9s
DGMT **Dagmar** 73.17 40 IAmb IAmb 00 49 19.3
comp=Z,55nm,0.8s
LAO **LASA Array** 73.40 42 IAmb IAmb 00 49 21.2
comp=Z,45nm,0.9s
AHID **Auburn Hatcher** 73.44 47 pP pP 00 49 19.0 +1.9
AHID IAmb IAmb 00 49 21.6
comp=Z,25nm,0.8s
GRAC **Grapevine Rang** 73.47 55 P P 00 49 03.5 +0.8
GRAC pP PcP 00 49 19.2 +0.6
GRAC IAmb IAmb 00 49 22.3
comp=Z,51nm,0.9s
BCW **Bitter Crk WRg** 73.47 58 P P 00 49 04.6 +1.7
BCW pP PcP 00 49 18.3 -0.5
BCW IAmb IAmb 00 49 22.5
comp=Z,69nm,1.1s
BGU **Big Grassy Mou** 73.55 50 P P 00 49 04.5 +1.2
SORM **Soroca** 73.58 320 ⇓P P 00 49 03.4 +0.3
SORM **Soroca** 73.58 320 P P 00 49 03.4 +0.3
BORG **Borgarnes** 73.58 353 LR LR 01 22 38.5
comp=Z,59nm,19.2s,baz=349,slow=37
JRN **Qarnain Island** 73.59 289 P P 00 49 03.2 -0.4
ISA **Isabella, Lake** 73.61 57 P P 00 49 04.0 +0.3
ISA **Isabella, Lake** 73.61 57 P P 00 49 04.0 +0.3
ISA pmax pmax
comp=Z,27nm,1.3s
R11B **Troy Canyon, C** 73.69 53 P P 00 49 05.1 +0.9
R11B IAmb IAmb 00 49 23.4
comp=Z,46nm,1.3s
HWUT **Hardware Ranch** 73.94 49 P P 00 49 06.1 +0.5
HWUT IAmb IAmb 00 49 25.0
comp=Z,63nm,1.1s
PURM **Purcari** 73.94 318 ⇓P P 00 49 05.5 +0.3
S11A **Rachel** 74.05 54 pP PcP 00 49 22.6 +1.3
S11A IAmb IAmb 00 49 25.8
comp=Z,60nm,0.9s
WCT **Wildcat Mounta** 74.05 55 pP pP 00 49 21.5 +0.7
KIS **Kishinev** 74.14 319 ⇑*i*P P 00 49 06.0 -0.4
comp=Z,60nm,1.4s
KIS *e*L L 01 21 30.0
KIS LRM MLR 01 24 57.0
comp=Z,200nm,16.0s
KIS **Kishinev** 74.14 319 *c*P P 00 49 06.0 -0.4
KIS pmax pmax
comp=Z,60nm,1.4s
KIS MLR MLR
comp=Z,200nm,16.0s
DUG **Dugway, Tooele** 74.15 50 pP pP 00 49 23.3 +2.0
DUG IAmb IAmb 00 49 26.2
comp=Z,41nm,1.0s
TPNV **Topopah Spring** 74.19 55 PcP 00 49 23.3 +1.4
TPNV IAmb IAmb 00 49 26.4
comp=Z,61nm,1.1s
MILM **Milestii Mici** 74.20 319 ⇑*i*P P 00 49 05.9 -0.9
comp=Z,80nm,1.5s

MILM *e*L L 01 16 00.0
MILM LRM MLR 01 24 50.0
comp=Z,400nm,19.0s
MILM **Milestii Mici** 74.20 319 ⇑P P 00 49 06.9 +0.2
MILM **Milestii Mici** 74.20 319 *c**i*P P 00 49 05.9 -0.9
MILM pmax pmax
comp=Z,80nm,1.5s
MILM MLR MLR
comp=Z,600nm,19.5s
CCAC **Calif City Air** 74.22 57 P P 00 49 08.4 +1.2
CCAC IAmb IAmb 00 49 26.3
comp=Z,39nm,0.9s
ARPR **Arapgir-MALATY** 74.27 308 P P 00 49 08.2 +0.7
BW06 **Boulder Array** 74.29 47 P P 00 49 08.3 +0.6
BW06 pP PcP 00 49 21.8 -0.6
BW06 IAmb IAmb 00 49 26.3
comp=Z,36nm,0.8s
PD31 **Pinedale Array** 74.29 47 pP pP 00 49 22.3 +0.1
PD31 IAmb IAmb 00 49 26.4
comp=Z,38nm,0.9s
PDAR **Pinedale Array** 74.29 47 P P 00 49 07.7 0.0
PDAR pP pP 00 49 22.5 +0.3
PDAR **Pinedale Array** 74.29 47 P P 00 49 07.6 0.0
comp=Z,10nm,0.8s,baz=297,slow=5.3,SNR=81
PDAR LR LR 01 22 01.3
comp=Z,75nm,22.0s,baz=323,slow=36
comp=Z,10nm,0.8s
BEL **Belsk** 74.30 327 *e*P P 00 49 08.3 +1.0
MZR **Muzera** 74.34 287 P P 00 49 07.9 -0.1
SNR=11
MZR **Muzera** 74.34 287 *i* P P 00 49 07.6 -0.4
SNR=25
TCUT **Toone Canyon** 74.35 49 pP pP 00 49 24.8 +2.2
TCUT IAmb IAmb 00 49 27.3
comp=Z,54nm,0.9s
NUUK **Nuuk** 74.35 6 *i* P P 00 49 08.2 +0.9
NUUK IAmb IAmb 00 49 09.3
comp=Z,30nm,1.1s
DIKM **Dikmen** 74.37 312 ⇑P P 00 49 08.9 +1.0
GWY **Greenwater Val** 74.41 56 IAmb IAmb 00 49 27.5
comp=Z,52nm,1.3s
QSM **Queen of Sheba** 74.43 56 pP pP 00 49 24.6 +1.8
QSM IAmb IAmb 00 49 28.2
comp=Z,78nm,1.2s
CTU **Camp Tracy** 74.43 49 pP 00 49 24.6 +1.6
TOKA **Tokat** 74.55 310 P P 00 49 09.8 +0.7
TOKA IAmb IAmb 00 49 11.3
comp=Z,50nm,1.2s
KBD **Kabd** 74.58 295 P P 00 49 09.3 0.0
SAKB **Bahrain** 74.59 291 P P 00 49 08.8 -0.6
PSUT **Pine Spring** 74.61 52 pP pP 00 49 27.0 +2.8
IASR **Iasi** 74.62 320 ⇑P P 00 49 10.1 +0.9
PRN **Pahroc Range** 74.62 54 pP pP 00 49 25.4 +1.3
TRNA **Turayna** 74.89 290 P P 00 49 10.7 -0.4
VASR **Vaslui** 74.89 319 ⇑P P 00 49 12.2 +1.4
MUD **Monsted U'grnd** 74.93 335 *i* P P 00 49 15.5 +4.7
MUD IAmb IAmb 00 49 16.0
comp=Z,15nm,0.6s
MPU **Maple Canyon** 74.95 50 IAmb IAmb 00 49 30.8
comp=Z,39nm,0.9s
SLWR **Sila** 74.96 289 P P 00 49 11.5 -0.1
BSUT **Blindstream Ca** 75.10 49 IAmb IAmb 00 49 33.6
comp=Z,40nm,1.0s
KWP **Kalwaria Pacla** 75.11 324 *e*P P 00 49 13.3 +1.3
PRAR **RASCA** 75.14 321 ⇑P P 00 49 12.2 0.0
SMRA **Abu-Samra** 75.16 290 P P 00 49 12.2 -0.5
SNR=8.5
VLDR **Vladesti** 75.31 319 ⇓P P 00 49 14.4 +1.2
TLCR 75.40 318 ⇑P P 00 49 14.9 +1.1
TLCR 75.40 318 P P 00 49 14.8 +1.1
BURAR **Bucovina Array** 75.44 321 P P 00 49 13.9 -0.2
BURAR **Bucovina Array** 75.44 321 ⇑P P 00 49 14.5 +0.4
BURAR **Bucovina Array** 75.44 321 P P 00 49 14.4 +0.4
TATR **Tatarca** 75.50 319 ⇓P P 00 49 15.5 +1.2
TESR **Tescani** 75.54 320 ⇑P P 00 49 15.1 +0.5
ILGA **Ilgaz** 75.63 312 P P 00 49 16.6 +1.2
ULM **Lac du Bonnet** 75.66 34 P P 00 49 14.8 -0.3
comp=Z,8.6nm,0.9s,baz=319,slow=6.3,SNR=7.6
ULM LR LR 01 25 34.8
comp=Z,163nm,19.2s,baz=309,slow=38
comp=Z,8.6nm,0.9s
JURR **Jurilovca** 75.67 318 ⇑P P 00 49 16.4 +1.2
CFR **Carcaliu** 75.75 318 ⇑P P 00 49 16.1 +0.3
CFR **Carcaliu** 75.75 318 P P 00 49 16.0 +0.3
PANC **Panciu** 75.75 319 ⇑P P 00 49 17.2 +1.5
ONER **Baraj Valea Uz** 75.79 320 ⇑P P 00 49 16.1 0.0
KOLS **Kolonicke sedl** 75.82 324 *e*P P 00 49 16.7 +0.6
KOLS *e* 00 49 33.8
KOLS pmax pmax
comp=Z,20nm,1.0s
KOLS **Kolonicke sedl** 75.82 324 *e*P P 00 49 16.7 +0.6
KOLS *e* 00 49 33.8
TPGR **Topolog** 75.83 318 ⇓P P 00 49 16.9 +0.6
V12A **Nelson** 75.83 55 IAmb IAmb 00 49 36.0
comp=Z,44nm,1.3s
ODBI **Odobesti** 75.88 319 ⇓P P 00 49 18.1 +1.6
STHS **Stebnicka Huta** 75.91 325 *e*P P 00 49 17.2 +0.5
STHS *e* 00 49 34.0
STHS pmax pmax
comp=Z,19nm,1.1s
STHS **Stebnicka Huta** 75.91 325 *e*P P 00 49 17.2 +0.5
STHS *e* 00 49 34.0
OJC **Ojcow** 75.93 326 *e*P P 00 49 17.8 +1.1
Q16A **Castle Valley** 75.94 50 IAmb IAmb 00 49 37.4
comp=Z,49nm,1.4s
VRI **Vrincioaia** 75.96 319 ⇓P P 00 49 18.0 +1.0
VRI **Vrincioaia** 75.96 319 P P 00 49 18.0 +1.0
P18A **Preston Nutter** 76.00 49 IAmb IAmb 00 49 37.6
comp=Z,42nm,1.1s
K22A **Casper** 76.01 45 IAmb IAmb 00 49 36.0
comp=Z,66nm,1.2s
PLOR **Plostina** 76.01 319 ⇑P P 00 49 18.9 +1.6
PLOR **Plostina** 76.01 319 P P 00 49 18.9 +1.6
TIRR **Tirgusor** 76.12 318 ⇑P P 00 49 18.3 +0.4
TIRR **Tirgusor** 76.12 318 P P 00 49 18.2 +0.4
TURR **Turia** 76.17 320 ⇑P P 00 49 19.5 +1.3
SRU **San Rafael Swe** 76.19 50 IAmb IAmb 00 49 38.1
comp=Z,50nm,1.0s
E28A **Huff** 76.19 39 IAmb IAmb 00 49 36.8
comp=Z,45nm,0.9s
BMR **Baia Mare** 76.19 322 ⇑P P 00 49 19.3 +1.0
BMR **Baia Mare** 76.19 322 P P 00 49 19.2 +1.0
GAZ **Gaziantep** 76.19 307 P P 00 49 19.2 +0.6
GAZ IAmb IAmb 00 49 21.2
comp=Z,70nm,1.1s
HARR **Harsova** 76.20 318 ⇑P P 00 49 18.8 +0.4
HARR **Harsova** 76.20 318 P P 00 49 18.7 +0.4
PFO **Pinyon Flats O** 76.20 57 P P 00 49 19.4 +0.7
PFO **Pinyon Flats O** 76.20 57 LR LR 01 17 17.1
comp=Z,238nm,21.2s,baz=256,slow=31
PFO **Pinyon Flats O** 76.20 57 P P 00 49 19.4 +0.7
PFO pmax pmax
comp=Z,20nm,1.1s
ARCR **ARCALIA** 76.22 322 ⇑P P 00 49 19.3 +0.8
KNB **Kanab** 76.23 53 P P 00 49 20.2 +1.3
KNB IAmb IAmb 00 49 38.6
comp=Z,31nm,1.0s
KNB **Kanab** 76.23 53 P P 00 49 20.2 +1.3
KNB pmax pmax
comp=Z,31nm,1.0s
TLBR **Topalu** 76.24 318 ⇑P P 00 49 19.9 +1.4
OZUR 76.26 320 ⇑P P 00 49 19.9 +1.2
RSSD **Black Hills** 76.29 43 P P 00 49 19.3 +0.1
RSSD IAmb IAmb 00 49 37.6
comp=Z,38nm,1.0s
RSSD **Black Hills** 76.29 43 P P 00 49 19.3 +0.1
RSSD pmax pmax
comp=Z,38nm,1.0s
NIE **Niedzica** 76.32 325 *e*P P 00 49 20.3 +1.3
BOSR **Bodos** 76.33 320 ⇑P P 00 49 20.6 +1.5
DOPR **Dopca** 76.54 320 ⇓P P 00 49 21.8 +1.5
BR131 **Keskin Array S** 76.57 311 P P 00 49 21.3 +0.5
SNR=9.8
BR131 **Keskin Array S** 76.57 311 *i* P P 00 49 21.6 +0.9
BRTR **Keskin Array B** 76.57 311 P P 00 49 20.6 -0.2
BRTR **Keskin Array B** 76.57 311 P P 00 49 20.9 +0.2
comp=Z,5.9nm,0.8s,baz=67,slow=3.8,SNR=33
BRTR LR LR 01 28 03.2
comp=Z,220nm,20.2s,baz=37,slow=40
comp=Z,5.9nm,0.8s
BRTR **Keskin Array B** 76.57 311 *ce*P P 00 49 21.2 +0.5
BRTR pmax pmax
comp=Z,6.0nm,0.8s
ISR **Istrita** 76.59 319 ⇑P P 00 49 21.9 +1.2

ISR Istrita 76.59 319 P P 00 49 21.8 +1.2
DOK Doka 76.60 283 P P 00 49 20.9 -0.1
MLR Muntele Rosu 76.61 320 IAmb IAmb 00 49 22.9
comp=Z,48nm,1.4s
MLR Muntele Rosu 76.61 320 LR LR 01 27 08.8
comp=Z,509nm,19.1s,baz=64,slow=39
MLR Muntele Rosu 76.61 320 ⇑P P 00 49 21.3 +0.5
MLR Muntele Rosu 76.61 320 P P **00 49 21.3 +0.5**
ICOR Ion Corvin 76.67 318 ⇑P P 00 49 22.1 +1.2
O20A White River Ci 76.79 48 P P **00 49 22.6 +0.6**
O20A IAmb IAmb 00 49 41.3
comp=Z,47nm,1.1s
KIRS Kirsehir-Merke 76.81 311 ⇑P P 00 49 22.8 +0.7
MESR Meseseni 76.83 322 ⇑P P 00 49 23.6 +1.7
CBBR Cluj-Babes-Bol 76.83 322 ⇑P P 00 49 22.4 +0.5
PSN Preselentsi 76.84 317 P P 00 49 22.0 0.0
HMU Henry Mountain 76.85 51 P P **00 49 22.1 -0.4**
HMU IAmb IAmb 00 49 41.6
comp=Z,60nm,1.0s
CJR Cluj-Napoca 76.85 322 ⇑P P 00 49 23.3 +1.3
CJR Cluj-Napoca 76.85 322 P P **00 49 23.3 +1.3**
LANS Liptovska Anna 76.88 325 *eP* P **00 49 23.9 +1.7**
LANS pmax pmax
comp=Z,44nm,2.0s
LANS Liptovska Anna 76.88 325 *eP* P **00 49 23.9 +1.7**
KSP Ksiaz 76.89 328 *eP* P **00 49 22.8 +0.7**
OKC Ostrava-Krasne 76.91 327 AMS AMS 01 25 40.0
comp=Z,700nm,24.8s
ANTO Ankara 76.95 312 P P **00 49 23.8 +1.0**
ANTO IAmb IAmb 00 49 24.9
comp=Z,45nm,1.0s
ANTO Ankara 76.95 312 P P **00 49 23.6 +0.8**
ANTO Ankara 76.95 312 ⇑P P 00 49 23.0 +0.2
ANTO Ankara 76.95 312 P P **00 49 23.8 +1.0**
ANTO pmax pmax
comp=Z,45nm,1.0s
STEB Steborice 76.99 327 *eP* P **00 49 23.6 +0.9**
STEB *ex* x 00 49 39.5
EPLO Experimental L 77.00 34 IAmb IAmb 00 49 41.0
comp=Z,26nm,0.9s
GORT1 Trebel 77.05 332 *eP* P **00 49 23.5 +0.7**
comp=Z,123nm,1.5s,baz=34,slow=5.5
VOIR 77.09 320 ⇑P P 00 49 24.3 +0.8
VOIR 77.09 320 P P **00 49 24.2 +0.8**
MARR Marisel-Cluj 77.10 322 ⇑P P 00 49 24.2 +0.7
OSTC Ostas 77.14 328 *eP* P **00 49 24.6 +1.0**
OSTC AMS AMS 01 25 50.0
comp=Z,500nm,16.0s
OSTC Ostas 77.14 328 *eP* P **00 49 24.6 +1.0**
OSTC MLR MLR
comp=Z,500nm,16.0s
YUH Yuha Desert 77.17 58 P P **00 49 25.0 +1.0**
CHVC Chvalec 77.18 328 *eP* P **00 49 24.6 +0.8**
CHVC Chvalec 77.18 328 *eP* P **00 49 24.6 +0.8**
DRGR 77.20 322 ⇑P P 00 49 24.7 +0.6
DRGR 77.20 322 P P **00 49 24.6 +0.6**
MORC Moravsky Berou 77.21 327 P P **00 49 24.0 0.0**
MORC IAmb IAmb 00 49 41.8
comp=Z,62nm,1.3s
MORC Moravsky Berou 77.21 327 *eP* P **00 49 24.6 +0.6**
MORC *e* 00 49 40.4
MORC Moravsky Berou 77.21 327 ⇑P P 00 49 25.0 +1.0
MORC Moravsky Berou 77.21 327 P P **00 49 25.0 +1.0**
DPC Dobruska-Polom 77.26 328 *eP* P **00 49 25.5 +1.2**
DPC AMS AMS 01 25 50.0
comp=Z,400nm,17.0s
DPC Dobruska-Polom 77.26 328 *eP* P **00 49 25.5 +1.2**
DPC MLR MLR
comp=Z,400nm,17.0s
UPC Upice 77.26 328 *eP* P **00 49 25.2 +1.0**
UPC *ex* x 00 49 38.8
UPC AMS AMS 01 26 50.0
comp=Z,400nm,16.2s
UPC Upice 77.26 328 *eP* P **00 49 25.2 +1.0**
UPC *e* 00 49 38.8
UPC MLR MLR
comp=Z,400nm,16.2s
KRLC Kraliky 77.29 327 *eP* P **00 49 25.3 +0.9**
KRLC Kraliky 77.29 327 *eP* P **00 49 25.3 +0.9**
WHFO Wadi Hawf 77.30 283 P P **00 49 24.6 -0.5**
TNR Turnu Rosu 77.31 321 ⇑P P 00 49 26.1 +1.5
TNR Turnu Rosu 77.31 321 P P **00 49 26.1 +1.5**
BLYC Blythe 77.33 56 P P **00 49 25.5 +0.6**
BLYC IAmb IAmb 00 49 44.8
comp=Z,32nm,0.9s
ARR Arges 77.34 320 ⇑P P 00 49 26.5 +1.7
MDUB Mudurnu 77.42 313 P P **00 49 25.5 0.0**
PV21 Cone Mtn., Par 77.45 50 IAmb IAmb 00 49 45.5
comp=Z,52nm,1.0s
PRD Provadia 77.55 317 P P **00 49 25.6 -0.3**
PV14 Lion Creek, Pa 77.55 50 IAmb IAmb 00 49 46.1
comp=Z,58nm,1.0s
IVI Ivigtut 77.57 5 *i* P P **00 49 26.6 +0.9**
IVI IAmb IAmb 00 49 27.0
comp=Z,10nm,0.9s
ESJX Sierra Juarez 77.57 58 P P **00 49 27.6 +1.0**
ESJX **pP 00 49 43.7 +2.7**
PV22 Blue Mesa, Par 77.58 49 IAmb IAmb 00 49 46.1
comp=Z,52nm,0.9s
GLA Glamis 77.60 57 IAmb IAmb 00 49 45.6
comp=Z,38nm,1.1s
PV04 Paradox Valley 77.60 50 IAmb IAmb 00 49 46.5
comp=Z,56nm,1.0s
FLTG Flechtingen 77.61 332 *eP* P **00 49 26.0 -0.1**
comp=Z,48nm,1.2s,baz=34,slow=5.5
PSZ Piszkesteto 77.63 324 P P **00 49 26.8 +0.4**
PSZ IAmb IAmb 00 49 44.3
comp=Z,48nm,1.2s
PSZ Piszkesteto 77.63 324 ⇑P P 00 49 27.3 +0.8
PSZ Piszkesteto 77.63 324 P P **00 49 27.2 +0.8**
PSZ Piszkesteto 77.63 324 *eP* P **00 49 27.4 +1.0**
VYHS Vyhne 77.65 325 *eP* P **00 49 27.3 +0.8**
VYHS *e* 00 49 43.8
VYHS pmax pmax
comp=Z,26nm,1.3s
VYHS Vyhne 77.65 325 *eP* P **00 49 27.3 +0.8**
VYHS *e* 00 49 43.8
PV16 Nyswonger Mesa 77.65 50 IAmb IAmb 00 49 46.7
comp=Z,46nm,1.0s
LOT Lotru 77.70 321 ⇓P P 00 49 27.8 +0.9
PV12 Saucer Basin, 77.72 50 IAmb IAmb 00 49 57.5
comp=Z,36nm,1.0s
PV07 Paradox Valley 77.72 49 IAmb IAmb 00 49 47.0
comp=Z,29nm,1.0s
PV03 Paradox Valley 77.73 50 IAmb IAmb 00 49 47.1
comp=Z,32nm,0.9s
NRS Narsarsuaq 77.78 4 *i* P P **00 49 27.6 +0.7**
NRS IAmb IAmb 00 49 35.7
comp=Z,6.3nm,0.8s
BRG Berggiesshubel 77.78 329 *eP* P **00 49 27.4 +0.3**
comp=Z,29nm,1.3s,baz=34,slow=5.5
BRG Berggiesshubel 77.78 329 ⇓ *i* P P **00 49 27.7 +0.6**
BRG Amp 00 49 28.4
comp=Z,12nm,1.0s
BRG pP **pP 00 49 43.2 +1.5**
BRG Amp 00 49 44.3
comp=Z,17nm,1.2s
HUMR Humele 77.78 319 ⇑P P 00 49 27.6 +0.3
CLL Collm 77.79 330 IAmb IAmb 00 49 28.5
comp=Z,34nm,1.1s
CLL Collm 77.79 330 ⇑ *i* P P **00 49 27.3 +0.2**
CLL *i* *PP **pP 00 49 43.0 +1.2**
CLL *eS* S **00 59 12.0 -3.4**
CLL pmax pmax
comp=Z,38nm,1.1s
CLL Collm 77.79 330 ⇑ *i* P P **00 49 27.3 +0.2**
comp=Z,38nm,1.1s
CLL *i* PcP **PcP 00 49 35.5 -1.5**
CLL *i* pP **pP 00 49 43.0 +1.2**
CLL *i* sP **sP 00 49 51.2 +3.6**
CLL *e*PP **PP 00 52 21.0 -1.4**
CLL *eS* S **00 59 12.0 -3.4**
CLL *e*SKSac **SKSac 00 59 33.0 -3.2**
CLL *e*PS **PnS 01 00 00.0 -1.0**
CLL *e*SS **SS 01 04 24.0 +8.8**
CLL AMS AMS 01 25 00.0
comp=N,400nm,20.9s
CLL AMS AMS 01 25 00.0
comp=E,400nm,21.5s
CLL Collm 77.79 330 *eP* P **00 49 27.3 +0.1**
comp=E,43nm,1.2s,baz=34,slow=5.5
PVCC Panska Ves 77.81 329 *eP* P **00 49 28.5 +1.2**
PVCC Panska Ves 77.81 329 *eP* P **00 49 28.5 +1.2**
PV13 Radium Mtn., P 77.81 50 IAmb IAmb 00 49 47.6
comp=Z,66nm,1.1s
PV02 Paradox Valley 77.83 50 IAmb IAmb 00 49 47.2
comp=Z,65nm,1.2s
JAVC Velka Javorina 77.86 326 *eP* P **00 49 29.4 +1.7**
NRDL Niedersach Rie 77.87 332 *eP* P **00 49 27.6 +0.1**
comp=Z,53nm,1.5s,baz=34,slow=5.5
PV15 Paradox Valley 77.88 49 IAmb IAmb 00 49 47.9
comp=Z,39nm,1.1s
RETH Rethem/Aller, 77.93 333 *eP* P **00 49 28.3 +0.5**
comp=Z,83nm,1.5s,baz=34,slow=5.5
BSZH Besenyszg 77.93 324 ⇑P P 00 49 29.5 +1.5
COPA Copaceanca 77.95 319 ⇑P P 00 49 28.4 +0.2
VRAC Vranov 77.96 327 *eP* P **00 49 29.1 +0.9**
VRAC *e* 00 49 44.7
VRAC Vranov 77.96 327 LR LR 01 26 49.0
comp=Z,660nm,20.1s,baz=32,slow=38
VRAC Vranov 77.96 327 ⇑P P 00 49 29.0 +0.8
VRAC Vranov 77.96 327 P P **00 49 28.9 +0.8**
PV01 Paradox Valley 77.97 50 IAmb IAmb 00 49 47.9
comp=Z,50nm,1.3s
RICC Richard 77.98 329 *eP* P **00 49 29.6 +1.4**
ABTO Aybut 78.01 283 P P **00 49 29.2 +0.2**
SIRR Siria 78.08 322 ⇓P P 00 49 30.0 +1.1
WUAZ Wupatki 78.10 53 IAmb IAmb 00 49 48.9
comp=Z,41nm,1.0s
Y14A Wickenburg 78.15 55 IAmb IAmb 00 49 48.8
comp=Z,35nm,1.2s
GZR Gura Zlata 78.21 321 ⇓P P 00 49 30.1 +0.4
GZR Gura Zlata 78.21 321 P P **00 49 30.1 +0.4**
GOPC GO Pecny, Ondr 78.21 328 *eP* P **00 49 30.6 +1.0**
GOPC AMS AMS 01 26 30.0
comp=Z,400nm,19.3s
GOPC GO Pecny, Ondr 78.21 328 *eP* P **00 49 30.6 +1.0**
GOPC MLR MLR
comp=Z,400nm,19.3s
PRA Prague 78.23 329 *eP* P **00 49 30.7 +1.1**
PRA AMS AMS 01 26 50.0
comp=Z,400nm,18.4s
PRA Prague 78.23 329 *eP* P **00 49 30.7 +1.1**
PRA MLR MLR
comp=Z,400nm,18.4s
SMOL Smolenice 78.23 326 *eP* P **00 49 30.9 +1.2**
SMOL pmax pmax
comp=Z,12nm,1.0s
KRUC Moravsky 78.23 327 *eP* P **00 49 30.2 +0.5**
BORA Eskisehir 78.25 313 IAmb IAmb 00 49 31.7
comp=Z,61nm,1.4s
SURR Surduc 78.25 322 ⇓P P 00 49 30.4 +0.6
PRU Pruhonice 78.25 329 *eP* P **00 49 30.6 +0.9**
PRU *ex* x 00 49 45.8
PRU AMS AMS 01 26 40.0
comp=Z,300nm,17.9s
PRU Pruhonice 78.25 329 *eP* P **00 49 30.6 +0.9**
PRU *e* 00 49 45.8
PRU MLR MLR
comp=Z,300nm,17.9s
CLZ Clausthal 78.32 332 *eP* P **00 49 30.5 +0.4**
comp=Z,44nm,1.2s,baz=34,slow=5.5
SRO Srobarova 78.40 325 *eP* P **00 49 32.1 +1.5**
SRO *e* 00 49 48.6
SRO pmax pmax
comp=Z,44nm,1.1s
SRO Srobarova 78.40 325 *eP* P **00 49 32.1 +1.5**
SRO *e* 00 49 48.6
MODS Modra-Piesok 78.41 326 *eP* P **00 49 30.9 +0.3**
MODS pmax pmax
comp=Z,69nm,1.3s
MODS Modra-Piesok 78.41 326 *eP* P **00 49 30.9 +0.3**
TREC Trest 78.42 328 AMS AMS 01 26 30.0
comp=Z,400nm,20.0s
VLAD Vladila 78.45 319 ⇑P P 00 49 32.2 +1.2
JMB Yambol 78.48 317 P P **00 49 30.0 -1.1**
BEIL Beino 78.57 306 *eP* P **00 49 32.3 +0.5**
BZS Buzias 78.59 322 ⇑P P 00 49 31.8 +0.2
BZS Buzias 78.59 322 P P **00 49 31.8 +0.2**
FKH Fakeheh 78.63 306 *eP* P **00 49 32.6 +0.3**
GTTG Gottingen 78.70 332 *eP* P **00 49 32.8 +0.6**
comp=Z,40nm,1.1s,baz=34,slow=5.5
TANN Tannenbergstha 78.71 330 *eP* P **00 49 32.6 +0.3**
comp=Z,32nm,1.7s,baz=34,slow=5.5
HERR Herculane 78.76 321 ⇓P P 00 49 33.3 +0.6
F33A 5 Mile Ranch, 78.80 37 IAmb IAmb 00 49 51.6
comp=Z,38nm,1.1s
ZVC Zvikov 78.83 328 AMS AMS 01 27 00.0
comp=Z,300nm,15.9s
MOX Moxa 78.84 330 *eP* P **00 49 33.1 +0.1**
comp=Z,32nm,1.3s,baz=34,slow=5.5
MOX *eL* L 01 27 14.3
comp=Z,458nm,19.8s
NKC Novy Kostel 78.86 330 AMS AMS 01 26 30.0
comp=Z,500nm,22.8s
HWQ Hawqa 78.89 306 *eP* P **00 49 33.3 -0.4**
MDVR Moldovita 79.17 321 ⇑P P 00 49 34.8 -0.1
MANZ Manzenberg 79.19 330 *eP* P **00 49 35.3 +0.3**
comp=Z,3.8nm,1.1s,baz=34,slow=5.5
ZAHL Zahle 79.21 306 *eP* P **00 49 35.8 +0.4**
MPEP Malo Peshtene 79.25 319 P P **00 49 36.0 +0.6**
EYMN Ely 79.27 33 IAmb IAmb 00 49 53.4
comp=Z,38nm,1.1s
CKRC Cesky Krumlov 79.27 328 *eP* P **00 49 36.1 +0.7**
CKRC AMS AMS 01 27 00.0
comp=Z,400nm,19.0s
CKRC Cesky Krumlov 79.27 328 *eP* P **00 49 36.1 +0.7**
CKRC MLR MLR
comp=Z,400nm,19.0s
UBBA Unterbreizbach 79.29 331 *eP* P **00 49 35.3 +0.1**
comp=Z,34nm,1.6s,baz=34,slow=5.5
KHC Kasperske Hory 79.31 329 *eP* P **00 49 36.4 +0.8**
KHC *eS* S **00 59 37.0 +5.1**
KHC AMS AMS 01 27 20.0
comp=Z,400nm,20.3s
KHC Kasperske Hory 79.31 329 *eP* P **00 49 36.4 +0.8**
KHC *eS* S **00 59 37.0 +5.1**
KHC MLR MLR
comp=Z,400nm,20.3s
BHL Bhannes 79.32 306 *eP* P **00 49 36.1 +0.1**
ROTZ Rotzenmuhle 79.33 330 *eP* P **00 49 36.3 +0.6**
comp=Z,7.8nm,1.2s,baz=34,slow=5.5
RONA Rosalia, Austr 79.34 326 *i* P P **00 49 37.2 +1.4**
comp=Z,40nm,1.2s,SNR=18
CONA Conrad Observa 79.34 327 *i* P P **00 49 37.0 +1.1**
comp=Z,38nm,2.1s,SNR=17
EKA Eskdalemuir Ar 79.40 341 P P **00 49 34.7 -1.2**
comp=Z,4.9nm,0.8s,baz=26,slow=5.5,SNR=6.5
comp=Z,4.9nm,0.8s
MORH Mrgy, Hungar 79.48 324 ⇓P P 00 49 36.6 +0.1
GEC2 GERESS Array S 79.49 328 *eP* P **00 49 36.9 +0.2**
comp=Z,102nm,2.7s,baz=34,slow=5.5
GERES GERESS Array B 79.49 328 P P **00 49 36.9 +0.2**
GERES GERESS Array B 79.49 328 P P **00 49 36.7 0.0**
comp=Z,5.2nm,1.0s,baz=35,slow=3.7,SNR=32
GERES LR LR 01 27 44.9
comp=Z,363nm,19.2s,baz=51,slow=38
comp=Z,5.2nm,1.0s
GERES GERESS Array B 79.49 328 P P **00 49 36.9 +0.2**
DQRL Deir Qamar 79.51 306 *eP* P **00 49 36.7 -0.3**
KASTN Kahler Asten 79.53 333 *eP* P **00 49 37.1 +0.3**
comp=Z,29nm,1.2s,baz=34,slow=5.5
WET Wettzell 79.58 329 *eP* P **00 49 37.5 +0.5**
comp=Z,42nm,1.3s,baz=34,slow=5.5
ISP Isparta 79.64 312 IAmb IAmb 00 49 38.8
comp=Z,44nm,1.3s
ISP Isparta 79.64 312 *ceP* P **00 49 37.8 +0.1**
ISP pmax pmax
comp=Z,45nm,1.7s
ISP Isparta 79.64 312 *eP* P **00 49 37.2 -0.5**
RAYN Ar Rayn 79.68 292 P P **00 49 37.9 -0.2**
RAYN Ar Rayn 79.68 292 P P **00 49 38.1 +0.1**
RAYN Ar Rayn 79.68 292 P P **00 49 37.9 -0.2**
RAYN pmax pmax
comp=Z,25nm,1.1s
RAYN Ar Rayn 79.68 292 *i* P P **00 49 37.7 -0.4**
SNR=22
KDZ Kurdzhali 79.72 317 P P **00 49 37.0 -0.9**
BUG Bochum--Univer 79.73 333 *eP* P **00 49 37.7 0.0**
comp=Z,44nm,1.3s,baz=34,slow=5.5
GRA1 Grafenberg Arr 79.77 330 IAmb IAmb 00 49 40.2
comp=Z,46nm,1.0s
GRF Grafenberg Arr 79.77 330 *eP* P **00 49 38.6 +0.5**
comp=Z,67nm,1.1s,baz=34,slow=5.5
GRF *eL* L 01 27 42.6
comp=Z,412nm,20.4s
FRGS Fruska Gora 79.77 323 ⇑ *i* P P **00 49 38.2 0.0**
GRFO Grafenberg 79.77 330 P P **00 49 39.4 +1.4**
GRFO IAmb IAmb 00 49 40.1
comp=Z,47nm,1.0s
GRFO Grafenberg 79.77 330 P P **00 49 39.4 +1.4**
GRFO pmax pmax
comp=Z,47nm,1.0s
ALN Alexandroupoli 79.88 316 IAmb IAmb 00 49 40.6
comp=Z,44nm,1.2s
RDO Rodhopi 79.97 317 IAmb IAmb 00 49 41.4
comp=Z,73nm,1.2s
CSS Mathiatis 80.00 308 IAmb IAmb 00 49 44.4
comp=Z,40nm,1.0s
ARSA Arzberg 80.02 326 *i* P P **00 49 40.4 +0.9**
comp=Z,17nm,1.3s,SNR=6.8
BOVS Bovan 80.03 321 ⇓P P 00 49 39.7 +0.1
VTS Vitosha 80.05 319 P P **00 49 39.6 -0.3**
PLNA Plana 80.06 319 P P **00 49 40.0 +0.1**
MOA Molln 80.06 327 *i* P P **00 49 40.8 +1.1**
comp=Z,17nm,1.5s,SNR=7.1
MMAI Mount Meron Ar 80.08 305 P P **00 49 40.9 +0.8**
comp=Z,33nm,1.0s,baz=29,slow=4.1,SNR=25
MMAI LR LR 01 29 02.1
comp=Z,379nm,19.3s,baz=28,slow=38
comp=Z,33nm,1.0s
ECSD EROS Data Cent 80.23 39 IAmb IAmb 00 49 59.4
comp=Z,34nm,1.1s
E38A The Farm, Brul 80.30 34 IAmb IAmb 00 49 58.7
comp=Z,39nm,1.1s
TNS Taunus Mts 80.34 332 *eP* P **00 49 41.5 +0.3**
comp=Z,27nm,1.2s,baz=34,slow=5.5
TEKS Tekeris 80.36 322 ⇑ *i* P P **00 49 41.1 -0.3**
BIOA Bad Ischl, Aus 80.44 328 *i* P P **00 49 42.7 +0.9**
comp=Z,32nm,1.2s,SNR=20
EZN Ezine 80.51 315 ⇓P P 00 49 42.9 +0.7
EZN Ezine 80.51 315 P P **00 49 42.9 +0.7**
BALJ Balqa 80.56 304 IAmb IAmb 00 49 44.7
comp=Z,52nm,0.9s
MMB Musomishta 80.58 318 P P **00 49 42.3 -0.3**
TUC Tucson 80.62 55 P P **00 49 43.7 +0.6**
TUC Tucson 80.62 55 P P **00 49 43.7 +0.6**
TUC pmax pmax
comp=Z,29nm,1.4s
KKB Krupnik 80.68 319 P P **00 49 43.0 -0.1**
PERS Pernice 80.68 326 *i* P P **00 49 43.4 +0.3**
PERS *i* pP **pP 00 49 59.0 +1.3**
SOKA Soboth 80.68 326 *i* P P **00 49 43.5 +0.4**
comp=Z,54nm,1.1s,SNR=49
RJOB Jochberg 80.75 328 *eP* P **00 49 44.0 +0.6**
comp=Z,40nm,1.2s,baz=34,slow=5.5
TAVA DENIZLI_Tavas 80.80 312 ⇑P P 00 49 44.5 +0.5
BEBN Eben Emael 80.81 334 *dP* P **00 49 44.2 +0.7**
BTNL Ternell 80.84 333 *dP* P **00 49 43.9 +0.1**
comp=Z,9.1nm,1.3s
MEM Membach 80.86 333 *dP* P **00 49 44.1 +0.3**
comp=Z,10nm,1.1s
BBLS Lazi&#263i 80.94 322 ⇑ *i* P P **00 49 45.2 +0.6**
FUR Furstenfeldbru 80.99 329 *eP* P **00 49 45.3 +0.6**
comp=Z,73nm,1.2s,baz=34,slow=5.5
OBKA Obir 81.02 326 ⇑ *i* P P **00 49 44.8 -0.1**
OBKA Obir 81.02 326 *i* P P **00 49 45.4 +0.5**
comp=Z,13nm,0.8s,SNR=13
BSTI Sart Tilman 81.03 334 *dP* P **00 49 44.5 -0.2**
T25A Trinidad 81.03 48 IAmb IAmb 00 50 04.3
comp=Z,44nm,1.0s
LESA Schwarzleotal 81.05 328 *eP* P **00 49 45.9 +0.9**
comp=Z,42nm,1.3s,SNR=27
BHOU Houvegnez 81.08 333 *dP* P **00 49 45.5 +0.5**
comp=Z,8.4nm,1.2s
BHOU *d*PP **PP 00 52 49.5 -0.2**
SCHQ Schefferville 81.13 17 P P **00 49 45.6 +0.3**
comp=Z,14nm,0.9s,baz=346,slow=7.3,SNR=22
comp=Z,14nm,0.9s
GHAJ Ghor Haditha 81.14 304 IAmb IAmb 00 49 47.7
comp=Z,64nm,1.2s
SJES Sjenica 81.14 321 ⇑ *i* P P **00 49 46.1 +0.4**
RUDO Rudo 81.15 322 ⇑ *i* P P **00 49 44.5 -1.1**
A051A Mrakovica 81.19 324 ⇑ *i* P P **00 49 44.9 -0.9**
UCC Uccle 81.24 334 *dP* P **00 49 45.5 -0.4**
comp=Z,7.5nm,1.2s
BCLA Clavier 81.26 334 *dP* P **00 49 45.9 0.0**
comp=Z,8.6nm,1.2s
BCLA *d*PP **PP 00 52 50.3 -0.9**
BLY Banja Luka 81.27 324 ⇑ *i* P P **00 49 45.8 -0.4**
STU Stuttgart 81.28 331 IAmb IAmb 00 49 47.7
comp=Z,37nm,1.1s
MYKA Terra Mystica 81.30 327 *eP* P **00 49 46.2 -0.2**
comp=Z,28nm,1.3s,SNR=12
VAY Valandovo 81.34 319 *i* P P **00 49 47.2 +0.6**
BGES Gesves 81.36 334 *dP* P **00 49 46.1 -0.4**
comp=Z,9.5nm,0.9s
BGES *d*PP **PP 00 52 51.6 -0.5**
PLE Pljevlja 81.36 322 ⇑ *i* P P **00 49 47.1 +0.3**
LJU Ljubljana 81.40 326 *i* P P **00 49 46.6 -0.2**
LJU *i* pP **pP 00 50 02.5 +0.9**
ANMO Albuquerque 81.41 51 P P **00 49 48.5 +1.1**
ANMO Albuquerque 81.41 51 *ceP* P **00 49 48.7 +1.3**
ANMO pmax pmax
comp=Z,18nm,1.3s
IVA Berane 81.47 321 ⇑ *i* P P **00 49 47.8 +0.4**
I37A Lemond, Waseca 81.51 37 IAmb IAmb 00 50 06.6
comp=Z,57nm,1.1s
BMRD Maredsous 81.53 334 *dP* P **00 49 47.2 -0.2**
comp=Z,16nm,1.1s
BMRD *d*PP **PP 00 52 53.1 -0.4**
WATA Walderalm 81.55 329 *eP* P **00 49 48.4 +0.5**
comp=Z,35nm,1.5s,SNR=11
CADS Cadrg 81.58 327 *i* P P **00 49 46.8 -1.1**
WTTA Wattenberg 81.59 328 *eP* P **00 49 48.5 +0.4**
comp=Z,22nm,1.1s,SNR=16
WLF Walferdange 81.61 333 *dP* P **00 49 49.8 +1.9**
ABTA Abfaltersbach 81.66 328 *eP* P **00 49 47.5 -0.8**
comp=Z,19nm,1.2s,SNR=12
KOME Kolasin 81.67 321 ⇑ *i* P P **00 49 48.6 +0.1**
UPM Unac-Piva 81.68 322 ⇑ *i* P P **00 49 48.9 +0.3**
MOTA Moosalm 81.73 329 *i* P P **00 49 49.3 +0.5**
comp=Z,52nm,1.1s,SNR=25
RETA Reutte 81.75 329 *i* P P **00 49 49.4 +0.6**
comp=Z,32nm,1.1s,SNR=22
A050A Klekovaca 81.77 324 ⇑ *i* P P **00 49 48.3 -0.6**
DOU Dourbes 81.77 334 *dP* P **00 49 48.7 0.0**
SQTA Sankt Quirin 81.79 329 *i* P P **00 49 49.6 +0.5**
comp=Z,30nm,1.3s,SNR=12
BDRM Kayabasi 81.90 313 ⇑P P 00 49 49.9 +0.2
BFO Black Forest 81.97 331 P P **00 49 50.3 +0.5**
BFO IAmb IAmb 00 50 07.3
comp=Z,40nm,1.3s
BFO Black Forest 81.97 331 P P **00 49 50.3 +0.5**
BFO pmax pmax
comp=Z,41nm,1.3s
BFO Black Forest 81.97 331 *eP* P **00 49 49.8 0.0**
comp=Z,53nm,1.4s,baz=34,slow=5.5
STAL STALIGIAL 81.97 327 IAmb IAmb 00 50 06.1
comp=Z,36nm,1.1s
TRI Trieste 81.98 326 IAmb IAmb 00 49 50.3
comp=Z,31nm,1.0s
SKDS Skadanscina 82.01 326 ⇑ *i* P P **00 49 49.3 -0.8**
BRY Bratogost 82.09 322 ⇑ *i* P P **00 49 49.6 -1.1**
BRY Bratogost 82.09 322 ⇑ *i* P P **00 49 50.1 -0.6**
PDG Podgorica 82.11 321 IAmb IAmb 00 49 52.1
comp=Z,49nm,1.1s
PDG Podgorica 82.11 321 ⇑ *i* P P **00 49 50.6 0.0**
PDG Podgorica 82.11 321 *i* P P **00 49 50.8 +0.1**
PDG Podgorica 82.11 321 ⇑ *i* P P **00 49 49.9 -0.7**
RAR Rarotonga 82.12 127 LR LR 01 18 30.5
comp=Z,269nm,20.1s,baz=288,slow=30
FETA Feichten 82.14 329 *eP* P **00 49 51.9 +0.9**
comp=Z,20nm,1.0s,SNR=8.9
CEME Cevo 82.18 321 ⇑ *i* P P **00 49 50.8 -0.3**
319A Douglas 82.19 55 IAmb IAmb 00 50 10.7
comp=Z,30nm,0.9s
DAVA Damuels 82.25 329 *i* P P **00 49 52.4 +0.9**
comp=Z,39nm,1.0s,SNR=15
DRME Dracevica, Mon 82.33 321 ⇑ *i* P P **00 49 51.5 -0.3**
DRME Dracevica, Mon 82.33 321 ⇑ *i* P P **00 49 52.1 +0.3**
OHR Ohrid 82.38 319 *i* P P **00 49 52.7 +0.5**
BUM Brajici-Budva 82.39 321 ⇑ *i* P P **00 49 52.0 -0.2**
RTBA Rita Blanca 82.47 47 IAmb IAmb 00 50 12.0
comp=Z,33nm,1.1s
STON Ston 82.50 322 ⇑ *i* P P **00 49 51.6 -1.0**
EIL Elat 82.64 303 LR LR 01 31 27.4
comp=Z,161nm,19.8s,baz=61,slow=39
TIR Tirane 82.65 320 IAmb IAmb 00 49 55.2
comp=Z,65nm,1.2s
FUORN Ofenpass-Fuorn 82.66 329 IAmb IAmb 00 50 14.1
comp=Z,41nm,0.9s
DAVOX Davos/Dischmat 82.67 329 LR LR 01 30 53.7
comp=Z,399nm,18.3s,baz=46,slow=39

N35A	**Tabor**	**82.89**	**40**	IAmb	IAmb	00 50 13.2	
	comp=Z,54nm,1.0s						
TEOL	**Teolo**	**83.13**	**327**	IAmb	IAmb	00 50 12.9	
	comp=Z,72nm,1.3s						
TUE	**Stuetta**	**83.13**	**329**	IAmb	IAmb	00 50 16.2	
	comp=Z,27nm,1.1s						
H43A	**Windswept, Lux**	**83.60**	**34**	IAmb	IAmb	00 49 59.3	
	comp=Z,32nm,1.0s						
L40A	**Anamosa**	**84.03**	**37**	IAmb	IAmb	00 50 01.0	
	comp=Z,26nm,1.0s						
N38A	**Joes South For**	**84.10**	**39**	IAmb	IAmb	00 50 01.9	
	comp=Z,30nm,0.8s						
AMTX	**Amarillo**	**84.19**	**48**	IAmb	IAmb	00 50 20.7	
	comp=Z,32nm,0.9s						
MSTX	**Muleshoe**	**84.23**	**49**	IAmb	IAmb	00 50 21.1	
	comp=Z,31nm,1.0s						
ZCCA	**Zocca**	**84.24**	**327**	IAmb	IAmb	00 50 25.4	
	comp=Z,56nm,1.1s						
GUMA	**Gualdo di Mace**	**84.30**	**325**	IAmb	IAmb	00 50 21.0	
	comp=Z,51nm,1.1s						
CLF	**Chambon-Foret**	**84.33**	**334**	IAmb	IAmb	00 50 24.9	
	comp=Z,32nm,1.2s						
VLDQ	**Val d'Or**	**84.35**	**25**	IAmb	IAmb	00 50 02.0	
	comp=Z,31nm,0.9s						
MURB	**Monte Urbino**	**84.48**	**326**	IAmb	IAmb	00 50 21.9	
	comp=Z,50nm,1.1s						
I45A	**Fountain**	**84.59**	**33**	IAmb	IAmb	00 50 04.6	
	comp=Z,41nm,1.0s						
OK038	**West end E0370**	**84.61**	**45**	IAmb	IAmb	00 50 22.5	
	comp=Z,46nm,1.0s						
MATE	**Matera**	**84.70**	**322**	⇑P	**P**	**00 50 03.7**	**-0.2**
MATE	**Matera**	**84.70**	**322**	*e*P	**P**	**00 50 03.9**	**-0.1**
OSSC	**Osservatorio P**	**84.81**	**327**	IAmb	IAmb	00 50 21.3	
	comp=Z,41nm,1.2s						
MSSA	**Maissana**	**84.86**	**328**	IAmb	IAmb	00 50 22.0	
	comp=Z,44nm,1.2s						
P38A	**Dawn**	**84.87**	**40**	IAmb	IAmb	00 50 24.2	
	comp=Z,29nm,1.0s						
KAN13	**South Haven SW**	**84.88**	**44**	IAmb	IAmb	00 50 23.6	
	comp=Z,32nm,0.8s						
INTR	**Introdacqua**	**84.89**	**324**	IAmb	IAmb	00 50 25.8	
	comp=Z,42nm,1.1s						
CESX	**Cesi**	**84.99**	**325**	IAmb	IAmb	00 50 22.4	
	comp=Z,51nm,1.3s						
VHRN	**Van Horn**	**85.22**	**53**	IAmb	IAmb	00 50 26.0	
	comp=Z,19nm,1.0s						
URZ	**Urewera**	**85.27**	**153**	LR	LR	01 25 26.1	
	comp=Z,212nm,19.1s,baz=303,slow=34						
BNI	**Bardonecchia**	**85.34**	**330**	IAmb	IAmb	00 50 32.8	
	comp=Z,26nm,1.1s						
PAOL	**Paolisi**	**85.38**	**323**	IAmb	IAmb	00 50 24.1	
	comp=Z,33nm,1.3s						
T35A	**Sooner Cattle**	**85.46**	**43**		**sP**	**00 50 25.9**	**-2.5**
T35A				IAmb	IAmb	00 50 26.5	
	comp=Z,34nm,1.0s						
DKNS	**Dickens**	**85.50**	**48**	IAmb	IAmb	00 50 10.8	
	comp=Z,20nm,0.8s						
OK048	**Pawnee Station**	**85.61**	**44**		**sP**	**00 50 26.7**	**-2.5**
OK048				IAmb	IAmb	00 50 27.8	
	comp=Z,27nm,0.9s						
P40A	**Paris**	**85.65**	**39**	IAmb	IAmb	00 50 09.9	
	comp=Z,25nm,0.9s						
OK029	**Liberty Lake**	**85.81**	**45**	IAmb	IAmb	00 50 28.4	
	comp=Z,36nm,1.0s						
TIP	**Timpagrande**	**85.83**	**321**	⇑P	**P**	**00 50 09.8**	**+0.1**
SSB	**Saint Sauveur**	**85.93**	**332**	IAmb	IAmb	00 50 27.9	
	comp=Z,45nm,1.5s						
PPT	**Papeete**	**85.95**	**117**	LR	LR	01 24 02.2	
	comp=Z,408nm,18.9s,baz=308,slow=32						
PPT2	**Papeete2**	**85.97**	**117**	*e*P	**P**	**00 50 07.3**	**-3.3**
	comp=Z,44nm,23.5s						
PPT2	**Papeete2**	**85.97**	**117**	*e*S	**SKSac**	**01 00 35.5**	**+3.4**
	comp=Z,116nm,24.2s						
PPT2				*e*SS	**SS**	**01 06 15.8**	**-3.8**
	comp=Z,84nm,25.2s						
PPT2	**Papeete2**	**85.97**	**117**	*e*LR	LR	01 17 09.2	
	comp=Z,965nm,23.0s						
PPT2				*e*LR	LR	01 17 18.6	
	comp=Z,733nm,23.2s						
OK052	**Battle Ridge R**	**86.01**	**44**	IAmb	IAmb	00 50 29.3	
	comp=Z,45nm,1.3s						
I49A	**Point Hope**	**86.03**	**31**	IAmb	IAmb	00 50 11.7	
	comp=Z,27nm,0.9s						
HDIL	**Hopedale**	**86.11**	**37**	IAmb	IAmb	00 50 30.3	
	comp=Z,30nm,0.9s						
MNHN	**Monahans**	**86.15**	**51**	IAmb	IAmb	00 50 30.4	
	comp=Z,34nm,1.4s						
APMT	**Aspermont**	**86.20**	**48**	IAmb	IAmb	00 50 30.1	
	comp=Z,28nm,1.1s						
DEOK	**Depew**	**86.28**	**44**		pP	00 50 30.5	+3.7
X34A	**Smith Ranch, M**	**86.51**	**46**		pP	00 50 31.5	+3.6
R40A	**Maddies Statio**	**86.52**	**40**	IAmb	IAmb	00 50 31.2	
	comp=Z,38nm,1.5s						
LPIG	**La Paz**	**86.56**	**61**	LR	LR	01 23 18.9	
	comp=Z,44nm,19.2s,baz=292,slow=32						
TAOE	**Nuku Hiva Isla**	**86.58**	**105**	*e*LR	LR	01 17 41.4	
	comp=Z,692nm,21.8s						
TUL3	**Leonard**	**86.60**	**44**		sP	00 50 31.5	-2.6
SADO	**Sadowa**	**86.69**	**28**	LR	LR	01 33 22.9	
	comp=Z,144nm,21.4s,baz=334,slow=39						
P43A	**Skaggs, Pawnee**	**86.74**	**37**	IAmb	IAmb	00 50 32.9	
	comp=Z,13nm,0.8s						
U38A	**Gravette**	**86.92**	**42**		pP	00 50 30.8	+0.9
TRQ	**Mont Tremblant**	**86.95**	**25**	IAmb	IAmb	00 50 15.8	
	comp=Z,34nm,1.0s						
TX31	**Lajitas Ar. Si**	**87.06**	**53**	IAmb	IAmb	00 50 34.9	
	comp=Z,16nm,0.9s						
TXAR	**Lajitas Array**	**87.06**	**53**	P	**P**	**00 50 16.2**	**+0.2**
TXAR	**Lajitas Array**	**87.06**	**53**	P	**P**	**00 50 16.1**	**+0.1**
	comp=Z,6.4nm,0.8s,baz=326,slow=6.0,SNR=50						
	comp=Z,6.4nm,0.8s						
TXAR	**Lajitas Array**	**87.06**	**53**	P	**P**	**00 50 16.2**	**+0.2**
CCM	**Cathedral Cave**	**87.20**	**39**	P	**P**	**00 50 16.4**	**0.0**
CCM				IAmb	IAmb	00 50 35.8	
	comp=Z,30nm,0.9s						
CCM	**Cathedral Cave**	**87.20**	**39**	P	**P**	**00 50 16.4**	**0.0**
CCM				pmax	pmax		
	comp=Z,30nm,1.0s						
N47A	**Urbana**	**87.42**	**34**	IAmb	IAmb	00 50 18.1	
	comp=Z,26nm,1.2s						
P46A	**Rosedale**	**87.81**	**36**	IAmb	IAmb	00 50 20.8	
	comp=Z,26nm,0.8s						
WBO	**Williamsburg**	**87.81**	**26**	IAmb	IAmb	00 50 19.6	
	comp=Z,16nm,1.0s						
MNTQ	**Montreal, Queb**	**87.89**	**24**	IAmb	IAmb	00 50 20.4	
	comp=Z,20nm,1.1s						
N49A	**Columbus Grove**	**88.02**	**33**	IAmb	IAmb	00 50 21.4	
	comp=Z,24nm,1.0s						
T42A	**Van Buren**	**88.09**	**40**	IAmb	IAmb	00 50 39.0	
	comp=Z,32nm,1.4s						
OLIL	**Olney**	**88.12**	**37**	IAmb	IAmb	00 50 40.5	
	comp=Z,27nm,0.9s						
O48B	**Farmland**	**88.17**	**34**	IAmb	IAmb	00 50 21.8	
	comp=Z,35nm,0.9s						
VAE	**Valguarnera**	**88.30**	**321**	LR	LR	01 33 05.0	
	comp=Z,418nm,21.8s,baz=98,slow=38						
BRDY	**Brady**	**88.36**	**49**	IAmb	IAmb	00 50 40.8	
	comp=Z,27nm,1.3s						
O49A	**Covington**	**88.57**	**34**	IAmb	IAmb	00 50 23.8	
	comp=Z,15nm,0.8s						
PBMO	**Poplar Bluff**	**88.61**	**40**	IAmb	IAmb	00 50 24.2	
	comp=Z,26nm,1.1s						
ERPA	**Erie**	**88.67**	**30**	IAmb	IAmb	00 50 24.7	
	comp=Z,19nm,0.9s						
N51A	**Ashland**	**88.76**	**32**	IAmb	IAmb	00 50 25.3	
	comp=Z,22nm,0.9s						
MIAR	**Mount Ida**	**88.80**	**43**	IAmb	IAmb	00 50 25.4	
	comp=Z,19nm,0.9s						
WHAR	**Wooly Hollow**	**88.87**	**42**	IAmb	IAmb	00 50 25.3	
	comp=Z,23nm,0.9s						
VSL	**Villasalto**	**88.92**	**325**	IAmb	IAmb	00 50 42.1	
	comp=Z,18nm,1.2s						
WVNY	**West Valley, N**	**88.93**	**29**	IAmb	IAmb	00 50 25.8	
	comp=Z,29nm,1.1s						
J57A	**Williamstown**	**88.97**	**27**	IAmb	IAmb	00 50 25.7	
	comp=Z,19nm,1.1s						
VT1	**Waterbury**	**89.21**	**24**	IAmb	IAmb	00 50 27.9	
	comp=Z,16nm,1.1s						
WCI	**Wyandotte Cave**	**89.35**	**36**	P	**P**	**00 50 27.1**	**+0.5**
WCI				IAmb	IAmb	00 50 27.7	
	comp=Z,17nm,0.9s						
WCI	**Wyandotte Cave**	**89.35**	**36**	P	**P**	**00 50 27.1**	**+0.5**
WCI				pmax	pmax		
	comp=Z,17nm,1.0s						
CEST	**Esterri de Car**	**89.43**	**332**	IAmb	IAmb	00 50 28.8	
	comp=Z,16nm,1.0s						
ATD	**Arta Tunnel**	**89.45**	**285**	IAmb	IAmb	00 50 29.9	
	comp=Z,32nm,1.1s						
ATD	**Arta Tunnel**	**89.45**	**285**	P	**P**	**00 50 29.0**	**+1.5**
L56A	**Greenwood**	**89.55**	**28**	IAmb	IAmb	00 50 28.6	
	comp=Z,22nm,1.0s						
O52A	**Adamsville**	**89.66**	**32**	IAmb	IAmb	00 50 29.1	
	comp=Z,22nm,1.0s						
P51A	**Williamsport**	**89.70**	**33**	IAmb	IAmb	00 50 29.0	
	comp=Z,23nm,0.9s						
H06N1	**SOCORRO T-PHAS**	**89.71**	**65**	T	T	02 29 34.1	
	SNR=36						
O53A	**New Philadelph**	**89.80**	**32**	IAmb	IAmb	00 50 29.9	
	comp=Z,29nm,0.9s						
H06E1	**SOCORRO T-PHAS**	**89.81**	**65**	T	T	02 29 44.6	
	SNR=9.7						
P52A	**Corning**	**89.95**	**33**	IAmb	IAmb	00 50 30.2	
	comp=Z,16nm,0.9s						
T47A	**Sharon Grove**	**90.00**	**37**	IAmb	IAmb	00 50 30.9	
	comp=Z,20nm,0.9s						
TBI	**Tubuai**	**90.13**	**121**	*e*S	**S**	**01 01 13.3**	**-6.3**
	comp=Z,860nm,31.2s						
TBI	**Tubuai**	**90.13**	**121**	*e*LR	LR	01 19 07.2	
	comp=Z,2μm,24.5s						
TBI				*e*LR	LR	01 19 17.8	
	comp=Z,1μm,27.2s						
O54A	**Avella**	**90.18**	**31**	IAmb	IAmb	00 50 31.9	
	comp=Z,27nm,1.0s						
WVT	**Waverly**	**90.37**	**38**	P	**P**	**00 50 31.8**	**+0.4**
WVT	**Waverly**	**90.37**	**38**	P	**P**	**00 50 31.8**	**+0.4**
WVT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
P53A	**Whipple**	**90.38**	**32**	IAmb	IAmb	00 50 32.6	
	comp=Z,15nm,1.0s						
KSPA	**Keystone Colle**	**90.69**	**28**	IAmb	IAmb	00 50 34.0	
	comp=Z,25nm,1.0s						
SSPA	**Standing Stone**	**90.74**	**29**	P	**P**	**00 50 33.8**	**+0.8**
SSPA				IAmb	IAmb	00 50 34.5	
	comp=Z,21nm,1.0s						
T50A	**Nancy**	**91.00**	**36**	IAmb	IAmb	00 50 35.3	
	comp=Z,13nm,0.9s						
U49A	**Red Boiling Sp**	**91.00**	**37**	IAmb	IAmb	00 50 35.4	
	comp=Z,14nm,1.0s						
Q54A	**Coxs Mills**	**91.03**	**32**	IAmb	IAmb	00 50 35.9	
	comp=Z,26nm,1.4s						
M65A	**Busby, Falmout**	**92.37**	**24**	P	**P**	**00 50 41.1**	**+0.6**
	baz=336						
TKL	**Tuckaleechee C**	**92.61**	**36**	LR	LR	01 33 06.0	
	comp=Z,357nm,22.0s,baz=329,slow=36						
BLA	**Blacksburg**	**92.72**	**33**	IAmb	IAmb	00 51 03.6	
	comp=Z,17nm,1.2s						
ESDC	**Sonseca Array**	**93.81**	**335**	P	**P**	**00 50 47.6**	**+0.3**
ESDC	**Sonseca Array**	**93.81**	**335**	P	**P**	**00 50 46.8**	**-0.5**
	comp=Z,2.3nm,1.0s,baz=26,slow=5.0,SNR=13						
ESDC				PP	**PP**	**00 54 34.6**	**+2.4**
	comp=Z,3.3nm,1.0s,baz=25,slow=8.1,SNR=8.3						
ESDC				LR	LR	01 38 31.8	
	comp=Z,299nm,19.7s,baz=18,slow=39						
	comp=Z,2.3nm,1.0s						
TORD	**Torodi Ar. Bea**	**114.78**	**317**	PKP	**PKiKP**	**00 56 09.9**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=13,slow=2.0,SNR=1.4						
TORD				PP	**PP**	**00 57 01.5**	**-7.1**
	comp=Z,1.7nm,0.4s,baz=30,slow=6.0,SNR=4.7						
VNDA	**Vanda**	**119.09**	**175**	PKP	**PKPdf**	**00 56 17.2**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=335,slow=5.4,SNR=6.0						
GRTLG	**Ghanzi**	**126.89**	**273**		**PKiKP**	**00 56 35.2**	**+0.7**
QSPA	**South Pole Qui**	**130.96**	**180**	PKP	**PKPdf**	**00 56 39.9**	**-0.5**
	comp=Z,4.5nm,1.0s,baz=313,slow=4.3,SNR=12						
SYO	**Syowa Base**	**132.22**	**208**	*e*Pdiff	**Pdif**	**00 53 41.6**	**+4.2**
ELIB	**Princess Elisa**	**137.52**	**204**	*d*PKPdf	**PKiKP**	**00 56 54.2**	**-0.3**
TROLL	**Troll, Antarti**	**143.41**	**200**	⇓P	PKPab	00 56 59.7	+0.3
	comp=Z,880nm,0.9s						
LPAZ	**La Paz**	**143.89**	**56**	PKP	PKPbc	00 57 04.2	+0.1
	comp=Z,3.7nm,0.9s,baz=333,slow=2.8,SNR=11						
LPAZ	**La Paz**	**143.89**	**56**	*e*P	**PKPdf**	**00 57 05.3**	**-1.0**
SNAA	**Sanae**	**144.94**	**198**	⇓P	PKPbc	00 57 03.7	-1.4
	comp=Z,800nm,1.0s						
SNAA	**Sanae**	**144.94**	**198**	PKP	PKPbc	00 57 04.3	-0.9
	comp=Z,42nm,1.0s,baz=124,slow=3.4,SNR=67						
VILB	**Vilhena**	**145.67**	**41**		**PKPab**	**00 57 09.7**	**+0.2**
VILB	**Vilhena**	**145.67**	**41**	*e*P	**PKPab**	**00 57 09.5**	**+0.1**
CLDB	**Colider**	**145.84**	**33**	*e*P	**PKPbc**	**00 57 09.5**	**-0.1**
PDRB	**Porto dos Gac**	**146.12**	**35**	*e*P	**PKPbc**	**00 57 10.3**	**-0.1**
VNA2	**Neumayer--Watz**	**146.52**	**198**	⇓P	**PKPdf**	**00 57 07.9**	**-0.6**
	comp=Z,16nm,0.8s,baz=119,slow=2.0						
H03N2	**Juan Fernandez**	**146.59**	**90**	T	T	03 40 38.0	
	baz=300,slow=77,SNR=56						
H03N3	**Juan Fernandez**	**146.60**	**90**	T	T	03 40 38.9	
	baz=300,slow=77,SNR=36						
H03N1	**Juan Fernandez**	**146.61**	**90**	T	T	03 40 39.3	
	baz=300,slow=77,SNR=49						
VNA3	**Neumayer Olymp**	**146.78**	**196**	⇓P	**PKPdf**	**00 57 08.1**	**-0.8**
	comp=Z,8.2nm,0.9s						
VNA1	**Neumayer--Stat**	**146.91**	**197**	⇓P	**PKPbc**	**00 57 10.0**	**-1.0**
	comp=Z,23nm,1.0s						
SIV	**San Ignacio**	**147.77**	**46**	PKPbc	**PKPdf**	**00 57 13.3**	**+1.0**
	comp=Z,16nm,0.9s,baz=319,slow=2.9,SNR=39						
PTLB	**Pontes e Lacer**	**148.33**	**42**	*e*P	**PKPdf**	**00 57 13.3**	**+0.3**
SNDB	**Serra Nova Dou**	**148.53**	**26**	*e*P	**PKPdf**	**00 57 14.4**	**+0.9**
NBAN	**Anadia - AL**	**148.54**	**357**	*e*P	**PKPdf**	**00 57 14.2**	**+0.7**
SMAI	**San Martin Ant**	**148.76**	**159**		**PKPdf**	**00 57 12.7**	**+0.5**
BBSD	**Serra de San D**	**149.00**	**46**	*e*P	**PKPdf**	**00 57 14.6**	**+0.4**
SALV	**Santo Antonio**	**150.37**	**37**	*e*P	**PKPdf**	**00 57 17.4**	**+1.0**
SDBA	**SAO DESIDERIO**	**150.61**	**14**	*e*P	**PKPbc**	**00 57 19.8**	**-2.5**
BDFB	**Brasilia**	**153.00**	**22**		**PKPab**	**00 57 40.3**	**+1.2**
BDFB	**Brasilia**	**153.00**	**22**	PKPbc	**PKPbc**	**00 57 25.6**	**-2.1**
	comp=Z,7.5nm,1.0s,baz=334,slow=3.4,SNR=7.7						
BDFB				PKPab	**PKPab**	**00 57 38.8**	**-0.3**
	comp=Z,7.3nm,0.8s,baz=353,slow=5.3,SNR=7.6						
BO02	**Sierra Bellavi**	**153.30**	**87**		**PKPdf**	**00 57 20.6**	**+0.2**

*NEIC **01** 00:43:30.9±1.0, 19°.29N±0°.02×155°.13W±0°.02, h5km±1km, Error ellipse: s-maj=4.7km s-min=2.8km az=318.0*

HVO 01 00:43:31.2±1.3, 19°.34N±0°.03×155°.13W±0°.02, h6km±2km, ML2.6/34, ML2.8/42(NEIC), Error ellipse: s-maj=5.5km s-min=1.1km az=143.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STCH	**Steam Cracks**	**0.05**	**10**		Pg	00 43 33.1	+0.3
STCH				IAML		00 43 34.8	
	comp=N,8μm,0.3s						
STCH				IAML		00 43 35.2	
	comp=E,9μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.05**	**320**		Pg	00 43 33.3	+0.4
JCUZ	**Jacuzzi**	**0.05**	**34**		Pg	00 43 33.2	+0.3
JCUZ					Sg	00 43 34.7	+0.7
NPOC	**North of Pu'u**	**0.06**	**23**		Pg	00 43 33.3	+0.4
NPOC					Sg	00 43 34.8	+0.7
PUH	**Pauahi**	**0.09**	**294**		Pg	00 43 33.7	+0.4
PUH				IAML		00 43 35.9	
	comp=E,5μm,0.2s						
PUH				IAML		00 43 36.2	
	comp=N,6μm,0.6s						
KKO	**Keanakako'i**	**0.14**	**295**		Pg	00 43 34.6	+0.4
KKO					Sg	00 43 36.9	+0.7
BYL	**Byron's Ledge**	**0.14**	**301**		Pg	00 43 34.3	+0.1
BYL				IAML		00 43 37.3	
	comp=N,3μm,0.4s						
BYL				IAML		00 43 37.6	
	comp=E,4μm,0.5s						
RIM	**Rim**	**0.14**	**293**		Pg	00 43 34.7	+0.4
RIM					Sg	00 43 37.5	+1.2
HATHI	**Halema'uma'u T**	**0.15**	**305**		Pg	00 43 34.5	+0.1
HATHI				IAML		00 43 39.3	
	comp=E,2μm,1.0s						
HATHI				IAML		00 43 39.6	
	comp=N,2μm,0.7s						
JOKA	**Jonika Flow**	**0.15**	**52**		Pg	00 43 34.5	0.0
SBLHI	**Steaming Bluff**	**0.15**	**305**		Pg	00 43 34.7	+0.2
SBLHI					Sg	00 43 37.3	+0.7
SDHHI	**Sand Hill**	**0.16**	**288**		Pg	00 43 34.8	+0.3
SDHHI					Sg	00 43 37.7	+0.9
UWB	**Uwekahuna Bluf**	**0.16**	**302**		Pg	00 43 34.8	+0.2
UWB					Sg	00 43 37.6	+0.8
OBL	**Observatory Le**	**0.16**	**299**		Pg	00 43 35.0	+0.4
OBL					Sg	00 43 37.9	+1.0
HLP	**Hilina Pali**	**0.17**	**255**		Pg	00 43 34.1	-0.6
HLP				IAML		00 43 38.6	
	comp=E,2μm,0.2s						
HLP				IAML		00 43 40.5	
	comp=N,2μm,0.4s						
UWE	**Uwekahuna**	**0.17**	**298**		Pg	00 43 34.5	-0.3
UWE				IAML		00 43 40.6	
	comp=N,2μm,0.8s						
WRMHI	**West Rim**	**0.17**	**293**		Pg	00 43 35.0	+0.3
WRMHI					Sg	00 43 37.9	+0.8
RSD	**Rainshed**	**0.18**	**312**	Pg	Pg	00 43 39.6	+4.6
HTC	**Hot Caves**	**0.27**	**248**		Pg	00 43 37.1	+0.6
MLH	**Mauna Loa**	**0.28**	**303**		Pg	00 43 36.4	-0.5
MLH				Sg	Sg	00 43 42.1	+1.4
AIN	**Ainahou**	**0.31**	**276**		Pg	00 43 37.5	+0.2
AIN	**Ainahou**	**0.31**	**276**	Sg	Sb	00 43 43.8	-0.8
AIN				IAML		00 43 44.0	
	comp=E,4μm,0.3s						
AIN				IAML		00 43 44.5	
	comp=N,10μm,0.4s						
HMH	**Humu'ula Sheep**	**0.42**	**309**		Pg	00 43 39.0	-0.5
HMH					Sg	00 43 45.8	+0.8
MWH	**Mokuaweoweo**	**0.46**	**288**		Pg	00 43 38.8	-1.5
MWH					Sg	00 43 46.9	+0.5
MWH				IAML		00 43 54.2	
	comp=N,1μm,0.7s						
KHU	**Kahuku**	**0.46**	**259**		Pg	00 43 39.3	-1.0
KHU				IAML		00 43 52.1	
	comp=N,538nm,0.7s						
KHU				IAML		00 43 55.2	
	comp=E,675nm,1.0s						
KHU	**Kahuku**	**0.46**	**259**		Sg	00 43 46.8	+0.4
HPO	**Honuapo**	**0.47**	**238**		Pg	00 43 39.9	-0.4
HPO					Sg	00 43 46.8	+0.4
ALEP	**Alea Permanent**	**0.52**	**293**		Pg	00 43 40.9	-0.5
ALEP					Sg	00 43 49.0	+0.8
POHA	**Pohakuloa**	**0.56**	**318**		Pg	00 43 41.6	-0.5
POHA					Sg	00 43 49.1	-0.4
POHA	**Pohakuloa**	**0.56**	**318**	IAML		00 43 50.7	
	comp=E,999nm,0.5s						
POHA				IAML		00 43 50.9	
	comp=E,1μm,0.6s						
HUH	**Hualalai**	**0.75**	**298**		Pg	00 43 44.2	-1.4
HUH	**Hualalai**	**0.75**	**298**		Sg	00 43 54.0	-1.4
MHA	**Mahukona**	**1.11**	**319**		Pg	00 43 49.2	-3.4

*NEIC **01** 00:48:43.7±2.5, 31°.57S±0°.05×68°.2W±0°.1, h113km±8km, mb4.6/15, Error ellipse: s-maj=12.5km s-min=7.8km az=90.0*

*SJA **01** 00:48:43.5±0.9, 31°.55S×68°.21W, h105km, ML4.2, MW4.2*

*IDC **01** 00:48:44.6±0.6, 31°.56S×68°.09W, h110km±5km, mb3.6/7, mbtmp3.9/11, MS3.8/2, Error ellipse: s-maj=25.8km s-min=16.2km az=86.0*

ISC 01 00:48:43.8±0.5, 31°.55S±0°.03×68°.20W±0°.03, h111km±4km, n119, σ1°.28/160, mb4.5/12, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJA	**San Juan**	**0.31**	**274**	*e*P	**Pn**	**00 49 00.3**	**+0.5**
SJA				*e*S	**Sn**	**00 49 10.9**	**-1.0**
SJA				IAML		00 49 12.4	
	comp=Z,7μm,0.2s						
RTLL	**Cerro Villicun**	**0.32**	**313**	*e*P	**Pn**	**00 48 59.8**	**-0.2**
RTLL				*i* S	**Sn**	**00 49 11.8**	**-0.2**
ZON	**Zonda**	**0.41**	**270**		**Pn**	**00 49 00.4**	**0.0**
ZON				Sn	**Sn**	**00 49 11.1**	**-1.7**
ZON	**Zonda**	**0.41**	**270**	*e*P	**Pn**	**00 49 00.3**	**-0.1**
ZON				*i* S	**Sn**	**00 49 12.3**	**-0.5**
ZON				IAML		00 49 12.7	
	comp=Z,8μm,0.2s						
ZON				IAML		00 49 13.7	
	comp=Z,7μm,0.2s						
DOCA	**Reserva Natura**	**0.96**	**308**	*i* P	**Pn**	**00 49 05.5**	**+0.3**
DOCA				*i* S	**Sn**	**00 49 21.5**	**+0.3**
RTLS	**Leoncito**	**0.97**	**255**	*e*P	**Pn**	**00 49 05.5**	**+0.4**
AVFE	**Valle Fertil**	**1.09**	**36**	*e*P	**Pn**	**00 49 07.0**	**+0.8**
AVFE				IAML		00 49 24.2	
	comp=Z,1μm,0.6s						
ACAN	**Cantantal**	**1.12**	**130**	*e*P	**Pn**	**00 49 07.8**	**+1.3**
ACAN				*e*S	**Sn**	**00 49 24.1**	**+0.4**
ASAL	**Salagasta**	**1.17**	**207**	*e*P	**Pn**	**00 49 07.6**	**+0.6**
ASAL				*i* S	**Sn**	**00 49 25.6**	**+1.0**
ACCO	**Cerro Coronel**	**1.21**	**322**	*e*P	**Pn**	**00 49 08.6**	**+0.8**
ACCO				*e*S	**Sn**	**00 49 26.8**	**+1.0**
ACHE	**Chepes**	**1.37**	**74**	*e*P	**Pn**	**00 49 10.4**	**+1.0**
ACHE				*i* S	**Sn**	**00 49 29.7**	**+1.0**
ACDV	**Cuesta del Vie**	**1.58**	**330**	*e*P	**Pn**	**00 49 12.7**	**+0.8**
ACDV				*e*S	**Sn**	**00 49 33.9**	**+0.6**
AROD	**Rodeo**	**1.76**	**321**	*e*P	**Pn**	**00 49 15.1**	**+0.9**
AROD				*e*S	**Sn**	**00 49 37.9**	**+0.6**
APLL	**PUNTA DE LOS L**	**1.84**	**52**	*e*P	**Pn**	**00 49 15.8**	**+0.8**
APLL				*e*S	**Sn**	**00 49 38.5**	**-0.2**
AGUA	**GUANDACOL**	**2.07**	**353**	*e*P	**Pn**	**00 49 19.0**	**+1.1**
AGUA				*e*S	**Sn**	**00 49 45.5**	**+1.6**
AGUA				IAML		00 49 46.1	
	comp=Z,1μm,0.8s						
CO03	**El Pedregal**	**2.25**	**288**		**Pn**	**00 49 20.9**	**+0.8**
CO03				Sn	**Sn**

MT01	**Popeta**	**3.45**	**227**	*eP*	**Pn**	**00 49 34.5**	**-1.4**
MT01				*eS*	Sn	00 50 04.3	-12
VA05	**Santo Domingo**	**3.56**	**233**		**Pn**	**00 49 35.8**	**-1.6**
BO01	**Tunca**	**3.73**	**220**		**Pn**	**00 49 38.0**	**-1.6**
BO01	**Tunca**	**3.73**	**220**	*eP*	**Pn**	**00 49 38.5**	**-1.0**
BO01				*eS*	**Sn**	**00 50 21.0**	**-1.7**
CYA	**Choya**	**3.73**	**35**	*eP*	**Pn**	**00 49 39.6**	**-0.1**
CYA				*eS*	**Sn**	**00 50 21.6**	**-1.3**
CYA				*eS*		00 50 21.8	
CYA				IAML		00 50 40.8	
	comp=Z,130nm,0.4s						
BO02	**Sierra Bellavi**	**3.89**	**213**		**Pn**	**00 49 41.8**	**0.0**
BO02	**Sierra Bellavi**	**3.89**	**213**	*eP*	**Pn**	**00 49 41.9**	**0.0**
BO02				*eS*	Sn	00 50 35.5	+8.8
BO02				IAML		00 50 41.5	
	comp=Z,115nm,0.2s						
AC04	**Llanos de Chal**	**4.16**	**322**		**Pn**	**00 49 44.8**	**-0.6**
AC04	**Llanos de Chal**	**4.16**	**322**	*eP*	**Pn**	**00 49 45.0**	**-0.4**
AC04				*eS*	**Sn**	**00 50 32.2**	**-1.0**
AC04				IAML		00 50 38.4	
	comp=Z,266nm,0.9s						
GO03	**Copiapo**	**4.32**	**335**		**Pn**	**00 49 47.8**	**+0.2**
GO03	**Copiapo**	**4.32**	**335**	*eP*	**Pn**	**00 49 47.8**	**+0.2**
GO03				*eS*	**Sn**	**00 50 35.2**	**-1.9**
EDS3	**Malargue**	**4.33**	**193**	*eP*	**Pn**	**00 49 47.8**	**+0.1**
EDS3				*eS*	Sn	00 50 26.2	-11
AC06	**Mina Casimiro**	**4.58**	**335**		**Pn**	**00 49 50.5**	**-0.6**
AC02	**Maricunga**	**4.77**	**350**		**Pn**	**00 49 53.4**	**-0.6**
ML02	**Panimavida**	**4.98**	**212**		**Pn**	**00 49 54.7**	**-1.7**
ML02	**Panimavida**	**4.98**	**212**	*eP*	**Pn**	**00 49 54.8**	**-1.6**
BI02	**San Fabin de**	**5.70**	**206**		**Pn**	**00 50 05.0**	**-1.2**
AC01	**Pan de Azucar**	**5.78**	**338**		**Pn**	**00 50 06.6**	**-0.7**
GO02	**Mina Guanaco**	**6.48**	**349**		**Pn**	**00 50 16.2**	**-0.8**
BI05	**Punta Hualpn**	**6.63**	**217**		**Pn**	**00 50 14.0**	**-4.7**
PB14	**IPOC Station P**	**7.17**	**344**	Pn	**Pn**	**00 50 25.5**	**-0.9**
TRQA	**Tornquist**	**8.26**	**143**		**Pn**	**00 50 40.1**	**-0.7**
PB10	**IPOC Station P**	**8.27**	**345**	Pn	**Pn**	**00 50 41.0**	**0.0**
AF01	**San Pedro de A**	**8.56**	**0**	Pn	**Pn**	**00 50 44.8**	**-0.5**
LR03	**Panguipulli**	**8.74**	**202**	Pn	**Pn**	**00 50 45.6**	**-1.7**
PB05	**IPOC Station P**	**8.84**	**348**		**Pn**	**00 50 45.7**	**-3.2**
PB06	**IPOC Station P**	**8.89**	**352**	Pn	**Pn**	**00 50 47.0**	**-2.7**
PLCA	**Paso Flores**	**9.36**	**191**	P	**Pn**	**00 50 55.0**	**-0.7**
	comp=Z,6nm,1.0s,baz=339,slow=17,SNR=2.1						
PB09	**IPOC Station P**	**9.76**	**354**	Pn	**Pn**	**00 50 59.4**	**-1.9**
CPUP	**Villa Florida**	**10.85**	**64**	P	**Pn**	**00 51 14.5**	**-1.5**
	comp=Z,0.4nm,1.0s,baz=0.0,slow=20,SNR=4.1						
PB08	**IPOC Station P**	**11.39**	**355**	Pn	**Pn**	**00 51 20.4**	**-3.2**
GO01	**Chusmiza**	**11.87**	**355**	Pn	**Pn**	**00 51 28.0**	**-2.0**
PLTB	**Pedras Altas**	**12.44**	**95**	Pn	**Pn**	**00 51 34.7**	**-2.4**
PB16	**IPOC Station P**	**13.21**	**355**	P	**P**	**00 51 53.7**	**+0.2**
LPAZ	**La Paz**	**15.19**	**0**	P	**Pn**	**00 52 12.9**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=171,slow=8.6,SNR=11						
TRCB	**Terra Rica**	**16.36**	**62**		**PcP**	**00 57 08.3**	**-5.1**
SIV	**San Ignacio**	**16.80**	**24**	P	**P**	**00 52 32.9**	**+0.2**
	comp=Z,6.0nm,0.7s,baz=201,slow=12,SNR=33						
PTLB	**Pontes e Lacer**	**18.04**	**29**	Pn	**Pn**	**00 52 47.8**	**+0.4**
VILB	**Vilhena**	**19.92**	**23**	P	**P**	**00 53 07.2**	**+0.3**
GO09	**Cerro Castillo**	**19.94**	**188**	P	**P**	**00 53 06.5**	**-0.4**
GO09				IAmb	IAmb	00 53 08.2	
	comp=Z,25nm,1.1s						
EFI	**East Falkland**	**21.45**	**163**	P	**P**	**00 53 22.3**	**-0.7**
EFI				IAmb	IAmb	00 53 37.8	
	comp=Z,26nm,1.1s						
CZSB	**Cruzeiro do Su**	**24.07**	**349**	P	**P**	**00 53 49.7**	**+0.8**
CZSB				IAmb	IAmb	00 53 52.0	
	comp=Z,15nm,0.8s						
MAL2	**Monte Alegre,**	**32.22**	**27**	P	**P**	**00 55 02.1**	**+0.5**
MAL2				IAmb	IAmb	00 55 05.4	
	comp=Z,8.4nm,0.8s						
ESPZ	**Base Esperanza**	**32.65**	**171**	P	**P**	**00 55 05.6**	**+0.7**
PMSA	**Palmer Station**	**33.35**	**177**	P	P	00 55 04.8	-6.0
PMSA				IAmb	IAmb	00 55 18.0	
	comp=Z,22nm,1.1s						
PMSA	**Palmer Station**	**33.35**	**177**	LR	LR	01 07 01.6	
	comp=Z,65nm,19.6s,baz=124,slow=33						
ROSC	**El Rosal**	**36.65**	**350**	P	**P**	**00 55 43.1**	**+2.9**
	comp=Z,3.7nm,0.4s,baz=139,slow=20,SNR=2.4						
	comp=Z,3.7nm,0.4s						
RUSC	**La Rusia**	**37.52**	**352**	P	**P**	**00 55 48.4**	**+0.7**
PTCN	**Pitcairn Islan**	**54.25**	**260**	P	**P**	**00 57 57.5**	**-1.0**
TEIG	**Tepich**	**54.96**	**337**	P	**P**	**00 58 03.8**	**+0.3**
QSPA	**South Pole Qui**	**58.68**	**180**	P	**P**	**00 58 30.8**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=146,slow=11,SNR=2.0						
QSPA				pP	**pP**	**00 58 57.4**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=193,slow=1.7,SNR=2.3						
	comp=Z,1.2nm,0.6s						
TXAR	**Lajitas Array**	**69.31**	**327**	P	**P**	**00 59 40.1**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=151,slow=4.8,SNR=3.4						
TXAR				pP	**pP**	**01 00 09.3**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=150,slow=4.9,SNR=2.7						
	comp=Z,0.2nm,0.4s						
APMT	**Aspermont**	**71.22**	**332**	P	**P**	**00 59 51.3**	**+0.6**
APMT				IAmb	IAmb	00 59 51.9	
	comp=Z,4.9nm,0.6s						
MAW	**Mawson**	**74.58**	**163**	P	**P**	**01 00 10.6**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=236,slow=7.3,SNR=2.2						
MAW				pP	**pP**	**01 00 39.5**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=225,slow=4.3,SNR=2.5						
	comp=Z,2.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.32**	**68**	P	**P**	**01 00 43.5**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=232,slow=7.1,SNR=1.4						
TORD				pP	**pP**	**01 01 12.3**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=258,slow=5.8,SNR=1.5						
	comp=Z,1.1nm,0.3s						
PDAR	**Pinedale Array**	**83.13**	**331**	P	**P**	**01 00 57.7**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=151,slow=4.5,SNR=3.9						
	comp=Z,0.4nm,0.7s						
NVAR	**Mina Array Bea**	**83.81**	**323**	P	**P**	**01 01 01.9**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=128,slow=3.4,SNR=4.1						
NVAR				pP	**pP**	**01 01 30.0**	**0.0**
	comp=Z,0.2nm,0.5s,baz=124,slow=2.2,SNR=2.1						
	comp=Z,0.2nm,0.5s						
BPMT	**Black Pine Rid**	**87.73**	**331**	P	**P**	**01 01 20.4**	**+0.2**
MDT	**Midelt**	**87.77**	**49**	LR	LR	01 39 59.8	
	comp=Z,119nm,21.6s,baz=27,slow=35						
PLID	**Pearl Lake**	**87.78**	**328**	P	**P**	**01 01 20.4**	**+0.1**
THZ	**Tophouse**	**87.89**	**221**	P	**P**	**01 01 19.2**	**-1.8**
THZ				IAmb	IAmb	01 01 29.2	
	comp=Z,12nm,0.9s						
MRNZ	**Matariki Terra**	**88.21**	**221**	P	**P**	**01 01 22.5**	**0.0**
KURBB	**Kurchatov Arra**	**148.88**	**43**	PKP	**PKPdf**	**01 08 15.5**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=296,slow=3.3,SNR=9.7						
KURBB				PKPbc	**PKiKP**	**01 08 19.0**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=291,slow=3.2,SNR=12						
KURBB				pPKPbc	**pPKPbc**	**01 08 47.2**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=298,slow=2.9,SNR=4.3						
ZALV	**Zalesovo Beam**	**150.43**	**33**	PKPbc	**PKPbc**	**01 08 22.1**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=308,slow=4.7,SNR=9.1						
ZALV				PKPab	**PKPab**	**01 08 29.7**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=298,slow=6.2,SNR=3.8						
ZALV				pPKPbc	**pPKPbc**	**01 08 51.4**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=294,slow=4.6,SNR=2.8						
MKAR	**Makanchi Array**	**152.73**	**48**	PKPbc	**PKPbc**	**01 08 26.6**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=298,slow=3.1,SNR=4.2						
MKAR				PKPab	**PKPab**	**01 08 38.5**	**0.0**
	comp=Z,0.3nm,0.6s,baz=311,slow=3.3,SNR=2.4						
MKAR				pPKPbc	**pPKPbc**	**01 08 57.6**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=286,slow=1.0,SNR=2.9						

*NIED **01** 01:04:21.4, 38.30N×141.76E, h56km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr0.46; Mθθ0.45; Mφφ-0.91; Mrθ0.06; Mθφ-0.83; Mφr-0.83; Fault plane solution: Mo1.37000×10^15^ NP1:φs68.00000°, δ47.00000°, λ165.00000°. NP2:φs169.00000°, δ79.00000°, λ44.00000°.*

*NEIC **01** 01:04:21.9±2.0, 38.25N±0.07×141.72E±0.10, h60km±8km, mb4.5/27 Error ellipse: s-maj=13.2km s-min=6.9km az=126.0*

*JMA **01** 01:04:21.4±0.1, 38.3N±0.3×141.8E±0.5, h56km, MD4.1/39, MV4.1/39, E OFF MIYAGI PREF*

JMA Felt I J1 at E OFF MIYAGI PREF .

*IDC **01** 01:04:22.4±1.8, 38.34N×141.80E, h69km±15km, mb3.8/19, mbtmp4.0/25, MS3.0/2, Error ellipse: s-maj=16.0km s-min=10.2km az=118.0*

ISC 01 01:04:20.8±0.8, 38.27N±0.04×141.87E±0.06, h55km±6km, n129, σ1♯30/121, mb4.4/38, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.32**	**278**	P	**Pn**	**01 04 30.7**	**+0.1**
JIKH				S	**Sn**	**01 04 37.3**	**-0.3**
JIKH	**Ishinomakikobu**	**0.32**	**278**	A		01 04 30.7	
	comp=N,24nm,0.9s,comp=E,11nm,0.5s						
JIO	**Ouri**	**0.45**	**295**	P	**Pn**	**01 04 31.8**	**0.0**
JIO				S	**Sn**	**01 04 39.1**	**-0.7**
JIO	**Ouri**	**0.45**	**295**	A	A	01 04 31.8	
	comp=N,17nm,0.5s,comp=E,5.0nm,0.3s						
JKMT	**Kesennumamotoy**	**0.63**	**331**	P	**Pn**	**01 04 33.9**	**+0.1**
JKMT				S	**Sn**	**01 04 42.7**	**-0.6**
JKMT	**Kesennumamotoy**	**0.63**	**331**	A	A	01 04 33.9	
	comp=N,7.0nm,0.6s,comp=E,9.0nm,0.6s						
JOFO	**Osakifurukawao**	**0.82**	**294**	A	A	01 04 35.9	
	comp=N,25nm,1.0s,comp=E,20nm,1.9s						
OFUJ	**Ofunato**	**0.83**	**349**	P	**Pn**	**01 04 36.5**	**+0.1**
OFUJ				S	**Sn**	**01 04 47.5**	**-0.3**
OFUJ	**Ofunato**	**0.83**	**349**	A	A	01 04 36.5	
	comp=N,5.0nm,0.8s,comp=E,5.0nm,4.0s						
JMK	**Ichinoseki**	**0.85**	**324**	⇓P	**Pn**	**01 04 36.8**	**+0.1**
JMK				⇓S	**Sn**	**01 04 47.6**	**-0.7**
JMK	**Ichinoseki**	**0.85**	**324**	A	A	01 04 36.8	
	comp=N,6.0nm,1.2s,comp=E,8.0nm,0.5s						
JMM	**Marumori**	**0.94**	**245**		**Pn**	**01 04 37.2**	**-0.5**
JMM					**Sn**	**01 04 48.8**	**-1.5**
JMM	**Marumori**	**0.94**	**245**	P	**Pn**	**01 04 37.4**	**-0.4**
JMM	**Marumori**	**0.94**	**245**	*i* P	**Pn**	**01 04 37.3**	**-0.5**
JMM				S	**Sn**	**01 04 49.4**	**-0.9**
JMM	**Marumori**	**0.94**	**245**	A	A	01 04 37.3	
	comp=N,13nm,1.0s,comp=E,6.0nm,0.4s						
JMST	**Minamisoumatoc**	**0.94**	**235**	A	A	01 04 38.1	
	comp=N,9.0nm,0.5s,comp=E,8.0nm,1.1s						
JOU	**Okura**	**0.95**	**276**	⇓*i* P	**Pn**	**01 04 37.7**	**-0.3**
JOU				⇓S	**Sn**	**01 04 49.7**	**-1.0**
JOU	**Okura**	**0.95**	**276**	A	A	01 04 37.7	
	comp=N,21nm,0.5s,comp=E,20nm,0.4s						
JFK	**Kawauchi**	**1.19**	**222**	*i* P	**Pn**	**01 04 41.2**	**0.0**
JFK				S	**Sn**	**01 04 56.2**	**-0.3**
JOM	**Ohasama**	**1.29**	**340**	*i* P	**Pn**	**01 04 42.7**	**+0.2**
JOM				S	**Sn**	**01 04 58.9**	**+0.2**
JOM	**Ohasama**	**1.29**	**340**	A	A	01 04 42.7	
	comp=N,7.0nm,0.3s,comp=E,10.0nm,1.3s						
JYK	**Kaneyama**	**1.35**	**299**	⇓*i* P	**Pn**	**01 04 43.1**	**-0.3**
JYK				⇓S	**Sn**	**01 04 59.4**	**-0.8**
JYK	**Kaneyama**	**1.35**	**299**	A	A	01 04 43.1	
	comp=N,4.0nm,2.3s,comp=E,5.0nm,2.4s						
JOTO	**OTAMA OYAMA**	**1.40**	**240**	*i* P	**Pn**	**01 04 44.2**	**+0.1**
JOTO				S	**Sn**	**01 05 01.6**	**+0.1**
JYAR	**Yonezawaarcadi**	**1.40**	**256**	A	A	01 04 44.1	
	comp=N,15nm,1.2s,comp=E,11nm,0.5s						
JYS	**Shirataka**	**1.42**	**269**	*i* P	**Pn**	**01 04 44.2**	**-0.1**
JYS				S	**Sn**	**01 05 01.7**	**-0.2**
JYS	**Shirataka**	**1.42**	**269**	A	A	01 04 44.2	
	comp=N,13nm,0.6s,comp=E,14nm,0.6s						
ONAJ	**Iwakimizuishiy**	**1.44**	**216**	A	A	01 04 45.2	
	comp=N,10.0nm,0.3s,comp=E,12nm,0.3s						
JRG	**Rokugo**	**1.48**	**320**	⇓*i* P	**Pn**	**01 04 45.4**	**+0.2**
JRG				⇓S	**Sn**	**01 05 02.6**	**-0.8**
JRG	**Rokugo**	**1.48**	**320**	A	A	01 04 45.4	
	comp=N,6.0nm,2.0s,comp=E,8.0nm,1.1s						
JYA	**Atsumi**	**1.72**	**282**	A	A	01 04 48.4	
	comp=N,6.0nm,2.6s,comp=E,8.0nm,0.6s						
JYW	**Yuwa**	**1.81**	**315**	A	A	01 04 49.9	
	comp=N,9.0nm,1.0s,comp=E,13nm,0.7s						
JKEN	**Kujiedanarisaw**	**1.94**	**356**	A	A	01 04 52.3	
	comp=N,11nm,0.5s,comp=E,9.0nm,1.1s						
JTM	**Tenmabayashi**	**2.59**	**346**		**Pn**	**01 05 00.5**	**+0.2**
JTM					Sn	**01 05 30.8**	**+0.2**
JTM	**Tenmabayashi**	**2.59**	**346**	P	**Pn**	**01 05 00.8**	**+0.5**
JSD	**Sado**	**2.85**	**267**	P	**Pn**	**01 05 03.3**	**-0.5**
MJAR	**Matsushiro Arr**	**3.38**	**241**	Pn	**Pn**	**01 05 12.2**	**+1.1**
MJAR	**Matsushiro Arr**	**3.38**	**241**	P	**Pn**	**01 05 12.5**	**+1.4**
	comp=E,20nm,0.5s,baz=59,slow=11,SNR=45						
MJAR				S	**Sn**	**01 05 52.4**	**+2.4**
	comp=E,11nm,0.4s,baz=68,slow=34,SNR=7.2						
MJAR				LR	LR	01 06 57.3	
	comp=E,178nm,20.2s,baz=41,slow=46						
MAJO	**Matsushiro**	**3.38**	**241**	Pn	**Pn**	**01 05 12.4**	**+1.3**
MAJO	**Matsushiro**	**3.38**	**241**	P	**Pn**	**01 05 12.8**	**+1.7**
MJB9	**Matsu-Tunnel**	**3.38**	**241**	Pn	**Pn**	**01 05 12.3**	**+1.1**
ERM	**Erimo**	**3.87**	**14**	Pn	**Pn**	**01 05 16.4**	**-1.4**
ERM	**Erimo**	**3.87**	**14**	P	**Pn**	**01 05 17.1**	**-0.7**
JEM	**Erimo**	**3.88**	**14**	P	**Pn**	**01 05 17.1**	**-0.7**
JGF	**Kuroka**	**4.49**	**235**	Pn	**Pn**	**01 05 27.7**	**+1.5**
JGF	**Kuroka**	**4.49**	**235**	P	**Pn**	**01 05 28.4**	**+2.2**
INU	**Inuyama**	**4.86**	**235**	Pn	**Pn**	**01 05 32.1**	**+0.8**
INU	**Inuyama**	**4.86**	**235**	P	**Pn**	**01 05 34.1**	**+2.8**
JHJ2	**Mitsune**	**5.41**	**199**	Pn	**Pn**	**01 05 38.4**	**-0.4**
JKA	**Kamikawa-asahi**	**5.87**	**5**	Pn	**Pn**	**01 05 43.6**	**-1.5**
ASAJ	**Asahikawa**	**5.87**	**5**	P	**Pn**	**01 05 44.6**	**-0.6**
	comp=E,11nm,0.3s,baz=201,slow=11,SNR=9.2						
ASAJ				S	**Sn**	**01 06 51.1**	**0.0**
	comp=E,7.7nm,0.3s,baz=120,slow=20,SNR=3.8						
USA0B	**Ussuriysk Arra**	**9.51**	**312**	Pn	**Pn**	**01 06 35.5**	**+0.6**
USRK	**Ussuriysk Ar.**	**9.51**	**312**	Pn	**Pn**	**01 06 35.6**	**+0.6**
USRK	**Ussuriysk Ar.**	**9.51**	**312**	P	**Pn**	**01 06 35.7**	**+0.7**
	comp=E,11nm,0.5s,baz=125,slow=14,SNR=22						
JNU	**Nakae**	**10.30**	**243**	LR	LR	01 10 58.2	
	comp=E,126nm,19.2s,baz=41,slow=38						
KSRS	**Korea Array**	**11.06**	**270**	P	**Pn**	**01 06 58.4**	**+2.3**
	comp=E,1.8nm,0.6s,baz=77,slow=14,SNR=3.8						
KSAR	**Wonju Array Be**	**11.09**	**270**	Pn	**Pn**	**01 07 00.7**	**+4.1**
JCJ	**Chichijima**	**11.14**	**179**	P	**Pn**	**01 06 56.2**	**-1.2**
JCJ				S	Sn	01 08 47.2	-13
	baz=0.0,slow=0.0						
MDJ	**Mudanjiang**	**11.18**	**308**	P	**Pn**	**01 07 02.3**	**+4.5**
MDJ				pmax	pmax		
	comp=Z,14nm,1.1s						
KLR	**Kul'dur**	**13.16**	**330**	P	**Pn**	**01 07 24.9**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=136,slow=14,SNR=1.8						
PETK	**Petropavlovsk-**	**18.45**	**31**		**P**	**01 08 30.4**	**-1.3**
PETK	**Petropavlovsk-**	**18.45**	**31**	P	**P**	**01 08 30.6**	**-1.0**
	comp=Z,2.5nm,0.9s,baz=224,slow=6.0,SNR=5.2						
NJ2	**Nanjing**	**19.79**	**259**	*eP*	**P**	**01 08 40.2**	**-6.3**
NJ2	**Nanjing**	**19.79**	**259**	*eP*	**P**	**01 08 47.2**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TIA	**Tai'an**	**19.79**	**272**	P	**P**	**01 08 47.3**	**+0.8**
TIA				pmax	pmax		
	comp=Z,11nm,0.8s						
XLT	**XiLinHaoTe**	**20.20**	**294**	*eP*	**P**	**01 08 50.1**	**-0.8**
XLT				pP	pP	01 09 03.6	+0.4
XLT				sP	sP	01 09 10.4	+0.3
XLT				pmax	pmax		
	comp=Z,11nm,0.9s						
MA2	**Magadan**	**22.08**	**12**		**P**	**01 09 10.8**	**-0.1**
HHC	**Hu-ho-hao-te**	**23.45**	**286**	*eP*	**P**	**01 09 26.7**	**+1.4**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
XAN	**Xi'an**	**26.85**	**271**	P	**P**	**01 09 54.3**	**-1.9**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SONM	**Songino Array**	**27.42**	**302**	P	**P**	**01 10 01.2**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=105,slow=8.4,SNR=5.9						
	comp=Z,1.1nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.50**	**123**	T	T	01 40 25.7	
	baz=316,slow=75,SNR=135						
H11N1	**WAKE ISLAND Hy**	**28.50**	**123**	T	T	01 40 23.1	
	baz=316,slow=75,SNR=142						
H11N3	**WAKE ISLAND Hy**	**28.51**	**123**	T	T	01 40 27.1	
	baz=316,slow=75,SNR=103						
H11S1	**WAKE ISLAND Hy**	**29.25**	**125**	T	T	01 41 24.5	
	baz=317,slow=76,SNR=60						
H11S3	**WAKE ISLAND Hy**	**29.25**	**125**	T	T	01 41 24.6	
	baz=317,slow=76,SNR=73						
H11S2	**WAKE ISLAND Hy**	**29.27**	**125**	T	T	01 41 25.7	
	baz=317,slow=76,SNR=66						
GTA	**Gaotai**	**32.56**	**285**	*eP*	**P**	**01 10 46.4**	**-0.5**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PZH	**PanZhiHua**	**35.60**	**263**	P	**P**	**01 11 15.5**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
ZAA0	**Zalesovo Array**	**41.36**	**311**	P	**P**	**01 11 59.9**	**-1.2**
ZAA0				IAmb	IAmb	01 12 01.0	
	comp=Z,3.2nm,0.6s						
ZALV	**Zalesovo Beam**	**41.36**	**311**	P	**P**	**01 12 00.3**	**-0.9**
ZALV	**Zalesovo Beam**	**41.36**	**311**	P	**P**	**01 12 00.4**	**-0.7**
	comp=Z,3.2nm,0.4s,baz=87,slow=7.2,SNR=13						
	comp=Z,3.2nm,0.4s						
O15K	**Ungalikthiuk R**	**42.13**	**41**	P	**P**	**01 12 08.9**	**+1.6**
O15K				IAmb	IAmb	01 12 16.6	
	comp=Z,13nm,1.4s						
M16K	**Timber Creek**	**42.68**	**38**	P	**P**	**01 12 13.2**	**+1.4**
M16K				IAmb	IAmb	01 12 52.2	
	comp=Z,9.5nm,1.3s						
MKAR	**Makanchi Array**	**43.78**	**301**	P	**P**	**01 12 20.0**	**-0.9**
MKAR	**Makanchi Array**	**43.78**	**301**	P	**P**	**01 12 20.2**	**-0.7**
	comp=Z,2.9nm,0.7s,baz=82,slow=8.9,SNR=20						
	comp=Z,2.9nm,0.7s						
MAKZ	**Makanchi**	**43.99**	**301**	P	**P**	**01 12 21.7**	**-0.8**
MAKZ				IAmb	IAmb	01 12 23.0	
	comp=Z,3.7nm,0.8s						
J20K	**Nowinta River**	**45.12**	**34**	P	**P**	**01 12 32.3**	**+1.0**
KURK	**Kurchatov**	**45.47**	**307**	P	**P**	**01 12 33.1**	**-1.1**
KURK				IAmb	IAmb	01 12 34.1	
	comp=Z,9.4nm,0.9s						
B21K	**Ikpikpuk River**	**45.52**	**26**	P	**P**	**01 12 36.6**	**+2.2**
B21K				IAmb	IAmb	01 12 37.5	
	comp=Z,12nm,1.2s						
KURBB	**Kurchatov Arra**	**45.54**	**307**	P	**P**	**01 12 33.9**	**-0.9**
	comp=Z,6.0nm,0.7s,baz=82,slow=8.3,SNR=60						
	comp=Z,6.0nm,0.7s						
D22K	**Ayikyak River**	**46.10**	**27**	P	**P**	**01 12 40.3**	**+1.2**
D22K				IAmb	IAmb	01 13 23.4	
	comp=Z,14nm,1.4s						
EVN	**Everest**	**46.65**	**274**	P	**P**	**01 12 44.8**	**+0.3**
EVN				IAmb	IAmb	01 12 49.0	
	comp=Z,5.6nm,0.6s						
E24K	**Your Creek**	**47.59**	**28**	P	**P**	**01 12 52.0**	**+1.3**
E24K				IAmb	IAmb	01 13 16.3	
	comp=Z,7.9nm,1.4s						
ILAR	**Eielson Array**	**48.27**	**33**	P	**P**	**01 12 56.1**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=275,slow=7.2,SNR=13						
	comp=Z,0.8nm,0.7s						
GLI	**Glacier Island**	**48.47**	**38**	P	**P**	**01 12 57.3**	**-0.2**
GLI				IAmb	IAmb	01 12 58.5	
	comp=Z,13nm,1.4s						
KDJ	**Kajisay**	**48.51**	**296**	P	**P**	**01 12 57.8**	**-0.5**
KDJ				IAmb	IAmb	01 12 59.2	
	comp=Z,2.3nm,0.6s						
C27K	**Jago River**	**49.33**	**26**	P	**P**	**01 13 05.7**	**+1.7**
BVAR	**Borovoye Array**	**50.02**	**312**	P	**P**	**01 13 08.6**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=76,slow=7.5,SNR=9.4						
	comp=Z,1.3nm,0.5s						
E27K	**Coleen River**	**50.17**	**28**	P	**P**	**01 13 12.2**	**+1.8**
E27K				IAmb	IAmb	01 13 23.8	
	comp=Z,9.5nm,1.4s						
I28M	**Miner Creek**	**51.13**	**32**	P	**P**	**01 13 18.9**	**+1.2**
E29M	**Blow River**	**51.52**	**28**	P	**P**	**01 13 22.2**	**+1.8**
E29M				IAmb	IAmb	01 13 59.9	
	comp=Z,7.5nm,1.4s						
EPYK	**Eagle Plains**	**52.28**	**30**	P	**P**	**01 13 28.1**	**+1.9**
I30M	**Mount Dempster**	**52.64**	**32**	P	**P**	**01 13 30.7**	**+1.7**
I30M				IAmb	IAmb	01 13 31.4	
	comp=Z,4.6nm,0.8s						
G31M	**Satah River**	**53.13**	**29**	P	**P**	**01 13 33.3**	**+0.9**
H31M	**Peel River**	**53.34**	**31**	P	**P**	**01 13 35.3**	**+1.2**
H31M				IAmb	IAmb	01 13 56.4	
	comp=Z,12nm,1.5s						
ARTI	**Arti**	**55.79**	**318**	P	**P**	**01 13 51.0**	**-0.9**
ARTI	**Arti**	**55.79**	**318**	P	**P**	**01 13 51.3**	**-0.6**
	comp=Z,4.5nm,0.4s,baz=86,slow=9.1,SNR=6.7						
	comp=Z,4.5nm,0.4s

OBIP	**Obispado Ponce**	**1.94**	**219**	⇑*e*P		Pn		01 06 10.0	+0.2
OBIP	**Obispado Ponce**	**1.94**	**219**	*e*S		Sn		01 06 32.1	-1.2
AGPR	**Aguadilla, PR**	**2.01**	**238**	Pn		Pn		01 06 08.8	-2.0
AGPR				Sn		Sn		01 06 31.3	-3.7
AGPR				IAML				01 06 54.0	
	comp=E,63nm,1.9s								
AGPR	**Aguadilla, PR**	**2.01**	**238**	*e*S		Sn		01 06 35.5	+0.5
LSP	**Las Mesas**	**2.16**	**231**			Pn		01 06 12.0	-0.9
LSP	**Las Mesas**	**2.16**	**231**	⇓*e*P		Pn		01 06 12.0	-0.9
MLPR	**Magueyes Islan**	**2.27**	**226**	⇓*e*P		Pn		01 06 14.2	-0.1
MLPR	**Magueyes Islan**	**2.27**	**226**	*e*S		Sn		01 06 40.4	-1.0
CRPR	**Cabo Rojo, PR**	**2.29**	**228**	Pn		Pn		01 06 12.9	-1.7
CRPR				IAML				01 06 39.2	
	comp=N,45nm,2.0s								
CRPR				Sn		Sn		01 06 40.1	-1.8
CRPR				IAML				01 06 44.4	
	comp=E,37nm,2.4s								
CRPR	**Cabo Rojo, PR**	**2.29**	**228**	⇑*e*P		Pn		01 06 13.8	-0.7
CRPR	**Cabo Rojo, PR**	**2.29**	**228**	*e*S		Sn		01 06 41.2	-0.6

SOME ***01*** *01:13:59.0,39°.25N×72°.00E,h15km,MS4.2*
BJI ***01*** *01:14:01.2,39°.21N×71°.50E,h14km,mB4.9/18,mb4.7/54, ML4.5/4,Ms4.2/28,Ms7 3.9/27*
KRNET ***01*** *01:14:01.7±0.1,39°.23N×71°.59E,h12km,mb5.3*
IDC ***01*** *01:14:01.5±0.4,39°.14N×71°.66E,h0km,mb4.7/40, mbtmp4.7/47,ML4.3/7,MS3.7/32,Error ellipse: s-maj=8.2km s-min=6.6km az=168.0*
MOS ***01*** *01:14:02.5±1.1,39°.20N×71°.59E,h13km,mb5.1/40,Error ellipse: s-maj=4.1km s-min=3.0km az=76.0*
MOS Felt (III) at Karamyk, Kara-Teyit, Shibee, Osh.
NEIC ***01*** *01:14:03.8±1.4,39°.34N±0°.05×71°.61E±0°.07,h10km±1km, mb5.0/269,Error ellipse: s-maj=9.4km s-min=8.7km az=95.0*
GCMT ***01*** *01:14:03.8±0.4,39°.30N±0°.04×71°.66E±0°.04,h22km±1km, MW4.7/68,Moment Tensor Solution. s18,c19; s68,c94; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.26±.14; Mθθ=0.54±.08; Mϕϕ=0.72±.09; Mrθ=0.50±.17; Mθϕ=0.85±.05; Mϕr=0.23±.15; Best double couple: M₀1.49200×10¹⁶ NP1:ϕs=21.00000°,δ46.00000°,λ58.00000°. NP2: ϕs=243.00000°,δ53.00000°,λ119.00000°. Principal axes: T 1.4850, Plg67.0000°, Azm214.0000°; N 0.0130, Plg22.0000°, Azm45.0000°; P -1.4990, Plg4.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NNC ***01*** *01:14:05.9±4.6,39°.42N×71°.49E,h0km,mb5.5,mpv5.2 Error ellipse: s-maj=38.4km s-min=22.2km az=14.0*
BGR ***01*** *01:14:06.2,38°.96N×71°.85E,h33km,mb4.6*
ISC 01 01:14:03.1±0.5,**39°.23N**±0°.02×**71°.59E**±0°.02,**h9**km±2km, **h9km:pP-P,n1017,**σ1s**84**/1005,**mb5.0**/276,**MS3.8**/44, **83C-52D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
DRK	**Karamyk**	**0.30**	**34**	Pg		**Pg**	**01 14 07.8**	**-1.5**
DRK	**Karamyk**	**0.30**	**34**	⇑*i*P		**Pg**	**01 14 07.7**	**-1.5**
DRK				⇑*i*S		**Sg**	**01 14 12.2**	**-1.1**
DRK	**Karamyk**	**0.30**	**34**	PG		**Pg**	**01 14 07.8**	**-1.5**
GAR	**Garm**	**1.01**	**257**			**Pg**	**01 14 20.9**	**-1.7**
GAR	**Garm**	**1.01**	**257**	⇑*i*P		**Pg**	**01 14 21.0**	**-1.7**
GAR				⇑*i*S		**Sg**	**01 14 35.3**	**-0.5**
GAR	**Garm**	**1.01**	**257**	*i* PG		**Pg**	**01 14 21.0**	**-1.7**
GAR				*i* S		**Sg**	**01 14 35.3**	**-0.5**
BTK	**Batken**	**1.02**	**325**	Pg		**Pg**	**01 14 21.6**	**-1.0**
BTK	**Batken**	**1.02**	**325**	⇓*i*P		**Pg**	**01 14 21.0**	**-1.7**
BTK				⇓*i*S		**Sg**	**01 14 35.2**	**-0.7**
BTK	**Batken**	**1.02**	**325**	PG		**Pg**	**01 14 21.7**	**-1.0**
OHH	**Osh**	**1.59**	**35**	⇓*i*P		**Pn**	**01 14 31.3**	**-0.2**
OHH				⇓*i*S		**Sb**	**01 14 52.9**	**0.0**
OHH	**Osh**	**1.59**	**35**	*i* PN		**Pn**	**01 14 31.3**	**-0.2**
OHH				*i* S		**Sb**	**01 14 52.9**	**0.0**
DZET	**Dzherino**	**2.19**	**260**	PN		**Pb**	**01 14 42.2**	**-0.8**
TRKS	**Terek-Say**	**2.32**	**352**	⇓*i*P		**Pn**	**01 14 42.1**	**+0.4**
TRKS				⇓*i*S		**Sn**	**01 15 11.3**	**+0.8**
TRKS	**Terek-Say**	**2.32**	**352**	*i* PN		**Pn**	**01 14 42.1**	**+0.4**
TRKS				*i* S		**Sn**	**01 15 11.3**	**+0.8**
ARSB	**Arslanbob**	**2.35**	**27**	Pn		**Pn**	**01 14 43.9**	**+1.8**
ARSB	**Arslanbob**	**2.35**	**27**	⇑*i*P		**Pn**	**01 14 43.2**	**+1.2**
ARSB				⇑*i*S		**Sb**	**01 15 13.5**	**-1.4**
ARSB	**Arslanbob**	**2.35**	**27**	PN		**Pn**	**01 14 43.9**	**+1.8**
SALK	**Salom-Alik**	**2.38**	**45**	⇑*i*P		**Pn**	**01 14 43.8**	**+1.3**
SALK				⇑*i*S		**Sb**	**01 15 14.2**	**-1.6**
SALK	**Salom-Alik**	**2.38**	**45**	*i* PN		**Pn**	**01 14 43.8**	**+1.3**
SALK				*i* S		**Sb**	**01 15 14.2**	**-1.6**
ARK	**Arkit**	**2.58**	**6**	⇑*i*P		**Pn**	**01 14 46.6**	**+1.4**
ARK				⇑*i*S		**Sb**	**01 15 19.5**	**-2.0**
ARK	**Arkit**	**2.58**	**6**	*i* PN		**Pn**	**01 14 46.6**	**+1.4**
ARK				*i* S		**Sb**	**01 15 19.5**	**-2.0**
IUG	**luzhnay**	**3.14**	**338**	Pg		**Pb**	**01 14 58.5**	**-0.8**
	1μm,0.7s							
IUG				Lg		Lg	01 15 41.9	
	21nm,0.8s							
IUG	**luzhnay**	**3.14**	**338**	*e*PN		**Pn**	**01 14 55.9**	**+3.0**
IUG				*e*			01 15 00.4	
IUG				*e*			01 15 43.4	
IUG	**luzhnay**	**3.14**	**338**	*e*Pn		**Pn**	**01 14 55.9**	**+3.0**
IUG				*e*Pg		**Pb**	**01 15 00.5**	**+1.2**
IUG				*e*Lg		Lg	01 15 43.4	
AML	**Almayashu**	**3.31**	**28**	P		**Pn**	**01 14 58.7**	**+3.2**
	SNR=287							
AML	**Almayashu**	**3.31**	**28**	⇑*e*P		**Pn**	**01 14 56.9**	**+1.4**
AML				⇑*i*S		**Sn**	**01 15 37.3**	**+2.1**
AML	**Almayashu**	**3.31**	**28**	*e*PN		**Pn**	**01 14 56.9**	**+1.4**
MNAS	**Manas**	**3.33**	**12**	⇑*i*P		**Pn**	**01 14 57.0**	**+1.5**
MNAS				⇑*i*S		**Sn**	**01 15 37.4**	**+2.2**
MNAS	**Manas**	**3.33**	**12**	*e*PN		**Pn**	**01 14 57.0**	**+1.5**
KSH	**Kashi**	**3.41**	**84**	Pn		**Pn**	**01 14 55.1**	**-1.5**
KSH				Sn		**Sn**	**01 15 34.5**	**-2.8**
KSH				smax		smax		
	comp=N,1μm,0.8s							
KSH				smax		smax		
	comp=E,1μm,1.1s							
CHM	**Chimkent**	**3.43**	**335**	*e*P		**Pb**	**01 15 04.6**	**+0.5**
	1μm,0.6s							
CHM				*e*S		**Sg**	**01 15 52.5**	**-0.9**
	4μm,0.5s							
DZA	**Taraz**	**3.66**	**357**	*e*PN		**Pn**	**01 15 03.6**	**+3.6**
DZA	**Taraz**	**3.66**	**357**	*e*P		**Pb**	**01 15 05.6**	**-2.5**
	2μm,0.7s							
DZA				*e*S		**Sb**	**01 15 53.2**	**+0.6**
	2μm,0.7s							
DZA	**Taraz**	**3.66**	**357**	*e*Pn		**Pn**	**01 15 03.6**	**+3.6**
DZA				*i* Pg		**Pb**	**01 15 08.3**	**+0.3**
MRKS	**Merke**	**3.72**	**19**	Pg		**Pn**	**01 15 04.2**	**+3.3**
	371nm,0.8s							
MRKS				Lg		Lg	01 15 52.1	
	673nm,0.8s							
MRKS	**Merke**	**3.72**	**19**	*e*P		**Pn**	**01 15 04.2**	**+3.3**
	371nm,0.8s							
MRKS				*e*S		**Sb**	**01 15 52.1**	**-2.3**
	673nm,0.8s							
UCH	**Uchtor**	**3.73**	**36**	P		**Pn**	**01 15 05.1**	**+3.8**
	SNR=79							
UCH	**Uchtor**	**3.73**	**36**	⇑*e*P		**Pn**	**01 15 02.7**	**+1.4**
UCH				⇑*i*S		**Sn**	**01 15 47.2**	**+1.6**
UCH	**Uchtor**	**3.73**	**36**	*e*PN		**Pn**	**01 15 02.7**	**+1.4**
EKS2	**Erkin-Say**	**3.81**	**25**	P		**Pn**	**01 15 05.6**	**+3.6**
	SNR=176							
EKS2	**Erkin-Say**	**3.81**	**25**	⇓*i*P		**Pn**	**01 15 03.6**	**+1.5**
EKS2				⇓*i*S		**Sn**	**01 15 48.8**	**+1.7**
EKS2	**Erkin-Say**	**3.81**	**25**	*i* PN		**Pn**	**01 15 03.6**	**+1.5**
EKS2				*i* S		**Sn**	**01 15 48.8**	**+1.7**
KK31	**Karatay Array**	**3.95**	**349**	Pn		**Pn**	**01 15 06.7**	**+2.7**
KK31	**Karatay Array**	**3.95**	**349**	Pn		**Pn**	**01 15 07.3**	**+3.3**
	233nm,0.5s,baz=161,slow=12,SNR=2144							
KK31				⇑Pg		**Pg**	**01 15 17.0**	**-1.8**
	322nm,0.5s,baz=165,slow=16,SNR=12							
KK31				Lg		Lg	01 16 09.5	
	629nm,0.5s,baz=168,slow=29,SNR=5.1							
KK31	**Karatay Array**	**3.95**	**349**	*e*PN		**Pn**	**01 15 07.3**	**+3.3**
KK31				*e*			01 15 17.0	
KKAR	**Karatay Array**	**3.95**	**349**	Pn		**Pn**	**01 15 06.7**	**+2.7**
KKAR	**Karatay Array**	**3.95**	**349**	⇑*i*P		**Pn**	**01 15 05.6**	**+1.6**
KKAR				⇑*i*S		**Sn**	**01 15 52.2**	**+1.7**
KKAR	**Karatay Array**	**3.95**	**349**	PN		**Pn**	**01 15 06.7**	**+2.7**
BRLS	**Borolday**	**4.02**	**341**	Pg		**Pb**	**01 15 09.6**	**-4.5**
	265nm,0.3s							
BRLS				Lg		Lg	01 16 02.2	
	820nm,0.6s							
BRLS	**Borolday**	**4.02**	**341**	*e*PN		**Pn**	**01 15 04.5**	**-0.4**
BRLS	**Borolday**	**4.02**	**341**	*e*P		**Pb**	**01 15 10.4**	**-3.7**
	336nm,0.3s							
BRLS				*e*S		**Sb**	**01 16 02.2**	**-0.7**
	1μm,0.6s							
BRLS	**Borolday**	**4.02**	**341**	*e*Pn		**Pn**	**01 15 04.5**	**-0.4**
BRLS				*e*Pg		**Pb**	**01 15 13.3**	**-0.8**
NRN	**Naryn**	**4.03**	**55**	Pn		**Pn**	**01 15 07.0**	**+1.7**
NRN	**Naryn**	**4.03**	**55**	⇑*i*P		**Pn**	**01 15 06.4**	**+1.1**
NRN				⇑*i*S		**Sn**	**01 15 53.8**	**+1.1**
NRN	**Naryn**	**4.03**	**55**	*i* PN		**Pn**	**01 15 06.4**	**+1.1**
NRN				*i* S		**Sn**	**01 15 53.8**	**+1.1**
AAK	**Ala-Archa**	**4.05**	**32**	P		**Pn**	**01 15 09.2**	**+3.7**
	SNR=210							
AAK	**Ala-Archa**	**4.05**	**32**	Pn		**Pn**	**01 15 09.1**	**+3.6**
AAK	**Ala-Archa**	**4.05**	**32**	Pn		**Pn**	**01 15 09.3**	**+3.8**
	69nm,0.3s,baz=216,slow=7.7,SNR=128							
AAK				Sn		**Sb**	**01 16 00.6**	**-3.3**
	30nm,0.3s,baz=188,slow=15,SNR=5.1							
	268nm,0.4s							
AAK	**Ala-Archa**	**4.05**	**32**	⇓*i*P		**Pn**	**01 15 07.2**	**+1.7**
AAK				⇓*i*S		**Sn**	**01 15 54.9**	**+1.7**
AAK	**Ala-Archa**	**4.05**	**32**	P		**Pn**	**01 15 09.3**	**+3.8**
FRU1	**Bishkek**	**4.25**	**32**	Pn		**Pn**	**01 15 12.3**	**+4.2**
FRU1	**Bishkek**	**4.25**	**32**	⇓*i*P		**Pn**	**01 15 10.0**	**+1.9**
FRU1				⇓*i*S		**Sn**	**01 15 59.9**	**+2.0**
FRU1	**Bishkek**	**4.25**	**32**	PN		**Pn**	**01 15 12.3**	**+4.2**
KBK	**Karagaybulak**	**4.26**	**36**	P		**Pn**	**01 15 12.7**	**+4.3**
	SNR=565							
KBK	**Karagaybulak**	**4.26**	**36**	⇑*i*P		**Pn**	**01 15 10.0**	**+1.6**
KBK				⇑*i*S		**Sn**	**01 15 59.8**	**+1.4**
KBK	**Karagaybulak**	**4.26**	**36**	*i* PN		**Pn**	**01 15 10.0**	**+1.6**
KBK				*i* S		**Sn**	**01 15 59.8**	**+1.4**
CHMS	**Chumysh**	**4.46**	**31**	P		**Pn**	**01 15 10.5**	**+4.1**
	SNR=46							
CHMS	**Chumysh**	**4.46**	**31**	⇓*i*P		**Pn**	**01 15 12.7**	**+1.8**
CHMS				⇓*i*S		**Sn**	**01 16 04.4**	**+1.4**
CHMS	**Chumysh**	**4.46**	**31**	*i* PN		**Pn**	**01 15 12.7**	**+1.8**
CHMS				*i* S		**Sn**	**01 16 04.4**	**+1.4**
USP	**Ospenovka**	**4.59**	**28**	P		**Pn**	**01 15 16.2**	**+3.4**
	SNR=436							
USP	**Ospenovka**	**4.59**	**28**	⇑*i*P		**Pn**	**01 15 14.4**	**+1.6**
USP				⇑*i*S		**Sn**	**01 16 07.4**	**+1.1**
USP	**Ospenovka**	**4.59**	**28**	*e*PN		**Pn**	**01 15 14.4**	**+1.6**
BOOM	**Boomskoye usch**	**4.64**	**44**	Pn		**Pn**	**01 15 16.2**	**+2.7**
BOOM	**Boomskoye usch**	**4.64**	**44**	⇓*i*P		**Pn**	**01 15 15.2**	**+1.7**
BOOM				⇓*i*S		**Sn**	**01 16 08.9**	**+1.4**
BOOM	**Boomskoye usch**	**4.64**	**44**	PN		**Pn**	**01 15 16.2**	**+2.7**
ULHL	**Ulahol**	**4.64**	**48**	P		**Pn**	**01 15 16.5**	**+2.8**
	SNR=142							
ULHL	**Ulahol**	**4.64**	**48**	⇑*i*P		**Pn**	**01 15 15.4**	**+1.7**
ULHL				⇑*i*S		**Sn**	**01 16 09.1**	**+1.3**
ULHL	**Ulahol**	**4.64**	**48**	*i* PN		**Pn**	**01 15 15.4**	**+1.7**
ULHL				*i* S		**Sn**	**01 16 09.1**	**+1.3**
TKM2	**Tokmak 2**	**4.77**	**38**	P		**Pn**	**01 15 19.0**	**+3.5**
	SNR=418							
TKM2	**Tokmak 2**	**4.77**	**38**	⇑Pn		**Pn**	**01 15 18.8**	**+3.4**
	201nm,0.5s							
TKM2				⇑Sn		**Sn**	**01 16 17.4**	**+6.5**
	375nm,0.7s							
TKM2	**Tokmak 2**	**4.77**	**38**	⇑*i*P		**Pn**	**01 15 17.1**	**+1.7**
TKM2				⇑*i*S		**Sn**	**01 16 12.2**	**+1.3**
TKM2	**Tokmak 2**	**4.77**	**38**	*e*PN		**Pn**	**01 15 17.1**	**+1.7**
SGDS	**Sogindy**	**4.80**	**28**	Pg		**Pn**	**01 15 19.1**	**+3.5**
	136nm,0.6s							
SGDS				Lg		Lg	01 16 17.5	
	272nm,0.7s							
SGDS	**Sogindy**	**4.80**	**28**	*e*Pn		**Pn**	**01 15 18.6**	**+3.0**
SGDS				*e*Pg		**Pb**	**01 15 31.0**	**+3.6**
KST	**Kastek**	**5.04**	**40**	*e*P		**Pb**	**01 15 27.9**	**-3.7**
	110nm,0.8s							
KST				*e*S		**Sb**	**01 16 31.6**	**-0.8**
	298nm,0.6s							
KBL	**Kabul**	**5.11**	**204**	Pn		**Pn**	**01 15 23.1**	**+3.1**
KBL	**Kabul**	**5.11**	**204**	PN		**Pn**	**01 15 23.1**	**+3.1**
KDJ	**Kajisay**	**5.14**	**54**	Pn		**Pn**	**01 15 22.9**	**+2.4**
KDJ	**Kajisay**	**5.14**	**54**	⇑*i*P		**Pn**	**01 15 22.3**	**+1.8**
KDJ				⇑*i*S		**Sn**	**01 16 21.2**	**+1.1**
KDJ	**Kajisay**	**5.14**	**54**	PN		**Pn**	**01 15 22.9**	**+2.4**
MTBS	**Maitube**	**5.34**	**42**	*e*P		**Pb**	**01 15 32.6**	**-4.1**
	136nm,0.6s							
MTBS				*e*S		**Sb**	**01 16 40.1**	**-0.8**
	100nm,0.7s							
TARG	**Taragay, Kyrgy**	**5.36**	**60**			**Pn**	**01 15 24.6**	**+0.9**
TARG	**Taragay, Kyrgy**	**5.36**	**60**	PN		**Pn**	**01 15 24.6**	**+0.9**
IZV	**Izvestkoviy**	**5.37**	**43**	*e*P		Pb	01 15 32.2	-5.0
	144nm,0.6s							
IZV				*e*S		**Sb**	**01 16 39.2**	**-2.7**
	126nm,0.8s							
TNSS	**Tian-Shan**	**5.55**	**45**	*e*PN		**Pn**	**01 15 29.1**	**+2.8**
TNSS				*e*			01 15 44.4	
TNSS	**Tian-Shan**	**5.55**	**45**	*e*P		**Pb**	**01 15 38.1**	**-2.3**
	7.1nm,0.4s							
TNSS				*e*S		**Sb**	**01 16 48.9**	**+1.6**
	20nm,1.1s							
TNSS	**Tian-Shan**	**5.55**	**45**	*e*Pn		**Pn**	**01 15 29.2**	**+2.8**
TNSS				*e*Pg		**Pb**	**01 15 44.4**	**+4.0**
AAA	**Alma-Ata**	**5.65**	**44**	*e*PN		**Pn**	**01 15 31.0**	**+3.7**
AAA				*e*			01 15 46.1	
AAA	**Alma-Ata**	**5.65**	**44**	*e*P		**Pb**	**01 15 40.0**	**-1.9**
	53nm,0.4s							
AAA				*e*S		**Sb**	**01 16 52.5**	**+2.7**
	1.7nm,0.1s							
AAA	**Alma-Ata**	**5.65**	**44**	*e*Pn		**Pn**	**01 15 31.0**	**+3.7**
AAA				*e*Pg		**Pb**	**01 15 46.1**	**+4.2**
KNDC	**Almaty**	**5.68**	**44**	⇓Pn		**Pn**	**01 15 32.3**	**+4.5**
	434nm,0.9s							
KNDC				⇑Lg		Lg	01 17 00.4	
	2μm,1.8s							
KNDC	**Almaty**	**5.68**	**44**	PN		**Pn**	**01 15 32.3**	**+4.5**
NIL	**Nilore**	**5.73**	**166**	Pn		**Pn**	**01 15 32.0**	**+3.6**
NIL	**Nilore**	**5.73**	**166**	PN		**Pn**	**01 15 32.0**	**+3.6**
KUU	**Kurty**	**5.87**	**36**	*e*PN		**Pn**	**01 15 32.2**	**+2.0**
KUU				*e*			01 15 50.2	
KUU	**Kurty**	**5.87**	**36**	*e*P		**Pb**	**01 15 45.2**	**-0.3**
	44nm,0.7s							
KUU				*e*S		**Sb**	**01 17 01.2**	**+5.3**
	145nm,0.7s							
KUU	**Kurty**	**5.87**	**36**	*e*Pn		**Pn**	**01 15 32.3**	**+2.0**
KUU				*e*Pg		**Pb**	**01 15 50.2**	**+4.7**
PRZ	**Przheval'sk**	**6.10**	**56**	Pn		**Pn**	**01 15 36.5**	**+2.8**
PRZ	**Przheval'sk**	**6.10**	**56**	⇑*i*P		**Pn**	**01 15 35.4**	**+1.7**
PRZ				⇑*i*S		**Sn**	**01 16 44.0**	**+0.3**
PRZ	**Przheval'sk**	**6.10**	**56**	PN		**Pn**	**01 15 36.5**	**+2.8**
CHKK	**Chushkaly**	**6.14**	**40**	*e*PN		**Pn**	**01 15 36.3**	**+2.2**
CHKK				*e*			01 15 55.6	
CHKK	**Chushkaly**	**6.14**	**40**	*e*P		**Pb**	**01 15 49.1**	**-1.2**
	6.7nm,0.1s							
CHKK				*e*S		**Sb**	**01 17 08.6**	**+4.7**
	44nm,0.3s							
CHKK	**Chushkaly**	**6.14**	**40**	*e*Pn		**Pn**	**01 15 36.3**	**+2.2**
CHKK				*e*Pg		Pg	01 15 55.6	-5.2
KPKS	**Kokpek**	**6.81**	**49**	*e*PN		**Pn**	**01 15 45.6**	**+2.3**
KPKS				*e*			01 16 06.8	
KPKS	**Kokpek**	**6.81**	**49**	*e*Pn		**Pn**	**01 15 45.7**	**+2.3**
KPKS				*e*Pg		Pb	01 16 06.9	+5.1
KPKS				*e*Lg		Lg	01 17 39.2	
JMU	**Jammu**	**7.03**	**157**	*e*P		**Pn**	**01 15 48.0**	**+1.8**
JMU				*e*S		**Sn**	**01 17 03.5**	**-2.8**
JMU				IAML			01 17 29.8	
	comp=E,905nm,0.8s							
JMU				IAML			01 17 31.2	
	comp=E,979nm,0.9s							
SHLS	**Shalkode**	**7.12**	**54**	*e*P		Pn	01 15 53.0	+5.5
SHLS	**Shalkode**	**7.12**	**54**	*e*Pn		Pn	01 15 53.0	+5.5
SHLS				*e*Pg		**Pg**	**01 16 17.7**	**-1.7**
PDGK	**Podgornoye**	**7.22**	**53**	⇑Pn		**Pn**	**01 15 50.6**	**+1.6**
	comp=E,89nm,1.1s							
PDGK				⇑Lg		Lg	01 17 52.1	
	comp=E,268nm,0.9s							
PDGK	**Podgornoye**	**7.22**	**53**	P		**Pn**	**01 15 50.6**	**+1.6**
TDK	**Taldyqorghan**	**7.68**	**39**	*e*P		**Pn**	**01 15 56.0**	**+1.0**
TDK	**Taldyqorghan**	**7.68**	**39**	*e*P		**Pn**	**01 15 56.1**	**+1.0**
DHRM	**DHARAMSHALA**	**7.95**	**150**	*e*P		**Pn**	**01 16 01.5**	**+2.4**
DHRM				*e*S		**Sn**	**01 17 27.9**	**-1.3**
DHRM				IAML			01 17 41.7	
	comp=E,957nm,0.7s							
DHRM				IAML			01 17 43.0	
	comp=E,932nm,0.7s							
BHK	**Bhakra**	**8.74**	**152**	*e*P		Pn	01 16 15.0	+5.4
BHK				*e*S		**Sn**	**01 17 50.2**	**+1.9**
BHK				IAML			01 17 53.2	
	comp=E,418nm,1.1s							
BHK				IAML			01 18 04.0	
	comp=E,516nm,1.1s							
HNLY	**HANLEY**	**8.79**	**135**	*e*P		**Pn**	**01 16 12.3**	**+1.5**
HNLY				*e*S		**Sn**	**01 17 45.7**	**-4.6**
HNLY				IAML			01 17 56.3	
	comp=N,467nm,2.2s							
HNLY				IAML			01 17 59.0	
	comp=E,539nm,1.5s							
SMLA	**Simla**	**9.28**	**149**	*e*P		**Pn**	**01 16 19.5**	**+2.4**
SMLA				*e*S		**Sn**	**01 17 58.7**	**-2.9**
KLP	**Kalpa**	**9.41**	**143**	*e*P		**Pn**	**01 16 20.9**	**+1.8**
KLP				*e*S		**Sn**	**01 18 00.3**	**-4.9**
KLP				IAML			01 18 16.5	
	comp=E,570nm,0.6s							
KLP				IAML			01 18 20.8	
	comp=E,541nm,1.0s							
DDI	**Dehra Dun**	**10.35**	**147**	*e*P		**Pn**	**01 16 33.9**	**+2.0**
DDI				*e*S		**Sn**	**01 18 22.8**	**-5.2**
MAKZ	**Makanchi**	**10.73**	**42**	Pn		**Pn**	**01 16 36.9**	**0.0**
MAKZ	**Makanchi**	**10.73**	**42**	P		**Pn**	**01 16 40.2**	**+3.3**
BRZS	**Berezniki**	**10.78**	**4**	*e*P		**Pn**	**01 16 38.3**	**+0.7**
BRZS	**Berezniki**	**10.78**	**4**	*e*P		**Pn**	**01 16 38.3**	**+0.7**
JOSI	**Joshimath**	**10.85**	**141**	*e*P		**Pn**	**01 16 40.4**	**+1.6**
JOSI				*e*S		**Sn**	**01 18 34.1**	**-6.3**
JOSI				IAML			01 18 47.7	
	comp=E,511nm,1.2s							
JOSI				IAML			01 18 57.9	
	comp=E,524nm,0.7s							
MKAR	**Makanchi Array**	**10.88**	**43**	Pn		**Pn**	**01 16 39.8**	**+0.8**
MKAR	**Makanchi Array**	**10.88**	**43**	Pn		**Pn**	**01 16 40.7**	**+1.7**
	comp=E,1.5nm,0.3s,baz=233,slow=14,SNR=72							
MKAR				Lg		Lg	01 19 45.6	
	comp=E,0.7nm,0.3s,baz=226,slow=33,SNR=3.0							
	comp=E,14nm,0.7s							
MKAR	**Makanchi Array**	**10.88**	**43**	P		**Pn**	**01 16 39.8**	**+0.8**
MK31	**Makanchi Array**	**10.88**	**43**			**Pn**	**01 16 40.4**	**+1.4**
MK31	**Makanchi Array**	**10.88**	**43**	*i* P		**Pn**	**01 16 39.5**	**+0.5**
MK31				pmax		pmax		
	comp=Z,7.0nm,0.6s							
NDI	**New Delhi**	**11.51**	**154**	*e*P		**Pn**	**01 16 50.3**	**+2.7**
NDI				*e*S		**Sn**	**01 18 50.9**	**-5.4**
NDI				IAML			01 18 59.6	
	comp=Z,227nm,0.7s							
NDI				IAML			01 19 02.0	
	comp=E,233nm,0.8s							
NPLP	**NPLP New Delhi**	**11.53**	**155**	*e*P		**Pn**	**01 16 50.1**	**+2.1**
NPLP				*e*S		**Sn**	**01 18 51.5**	**-5.5**
AYAN	**Aya Nagar**	**11.66**	**155**	*e*P		**Pn**	**01 16 52.0**	**+2.3**
AYAN				*e*S		**Sn**	**01 18 54.1**	**-5.9**
KUDL	**Kundal**	**11.78**	**158**	*e*P		**Pn**	**01 16 54.3**	**+2.9**
KUDL				*e*S		**Sn**	**01 18 57.8**	**-5.2**
KUDL				IAML			01 19 13.1	
	comp=E,222nm,1.4s							
KUDL				IAML			01 19 18.4	
	comp=E,230nm,0.5s							
SONA	**Sohna**	**11.87**	**156**	*e*P		**Pn**	**01 16 54.5**	**+2.0**
PTH	**Pithoragarh**	**11.99**	**141**	*e*P		**Pn**	**01 16 56.2**	**+1.7**
PTH				*e*S		**Sn**	**01 19 00.9**	**-7.6**
LGTI	**Lohaghat**	**12.09**	**141**	*e*P		**Pn**	**01 16 57.0**	**+1.4**
KURBB	**Kurchatov Arra**	**12.40**	**21**	Pn		**Pn**	**01 16 58.4**	**-1.4**
	comp=E,0.3nm,0.3s,baz=209,slow=12,SNR=44							
KURBB				Sn		**Sn**

comp=Z,0.6nm,0.3s,baz=198,slow=20,SNR=1.7
comp=Z,8.2nm,0.4s
ARTI Arti 19.26 337 *c* i P **P 01 18 28.2 +0.5**
ARTI S **Sn 01 22 03.5 -1.0**
ARTI pmax pmax
comp=Z,45nm,1.3s
UOSS Minazif 19.27 227 P **Pn 01 18 29.5 +0.5**
BLSP Bilaspur 19.28 149 IAmb IAmb 01 18 31.2
comp=Z,51nm,0.9s
BLSP *e*P **Pn 01 18 34.8 +5.6**
WSAR Wadi Sarin 19.38 218 P **P 01 18 29.6 +0.3**
baz=38,slow=20,SNR=4.2
HATD Hatta, Dubai 19.40 227 P **Pn 01 18 30.2 -0.4**
ASUD Al Ashush, Dub 20.01 228 P Pn 01 18 38.4 +0.5
GNI Garni 20.66 281 Pn 01 18 45.5 -0.1
GNI IAmb IAmb 01 18 52.3
comp=Z,72nm,0.8s
GNI Garni 20.66 281 P Pn 01 18 45.6 +0.1
comp=Z,62nm,1.0s,baz=125,slow=3.7,SNR=21
GNI S **S 01 22 34.4 +0.2**
comp=Z,2.1nm,0.5s,baz=94,slow=19,SNR=1.2
comp=Z,62nm,1.0s
GNI Garni 20.66 281 *ce*P **P 01 18 43.5 +0.2**
GNI pmax pmax
comp=Z,116nm,1.3s
GNI Garni 20.66 281 P Pn 01 18 45.9 +0.3
GNI Garni 20.66 281 P Pn 01 18 45.8 +0.3
comp=Z,815nmcomp=Z,91nm,1.0s
BELG Belogornoye 21.14 316 P **P 01 18 49.0 +0.9**
comp=Z,71nm,0.7s,baz=112,slow=5.6,SNR=14
BELG S **S 01 22 38.6 -4.6**
comp=Z,10nm,0.6s,baz=100,slow=11,SNR=1.6
BELG LR LR 01 27 37.9
comp=Z,116nm,21.6s,baz=85,slow=38
comp=Z,71nm,0.7s
BELG Belogornoye 21.14 316 *i* P **P 01 18 48.4 +0.3**
BELG pmax pmax
comp=Z,22nm,0.9s
NCK Nalchik 21.39 291 *i* P **P 01 18 51.5 +0.5**
NCK pmax pmax
comp=Z,58nm,1.0s
GTA Gaotai 21.81 81 P **P 01 18 55.4 -0.2**
GTA pP pP 01 18 58.8 -0.2
GTA sP sP 01 19 02.4 +1.9
GTA pmax pmax
comp=Z,28nm,1.3s
GTA pmax pmax
comp=Z,210nm,4.2s
GTA LR LR
comp=Z,230nm,16.7s
GTA LR LR
comp=Z,250nm,17.4s
GTA LR LR
comp=Z,270nm,16.7s
KARS Kars 21.87 283 P **P 01 18 57.9 +1.6**
KARS Kars 21.87 283 P **P 01 18 57.9 +1.6**
KARS pmax pmax
comp=Z,261nm,0.9s
GOF Gofitskoye 21.89 295 *ce*P **P 01 19 00.1 +3.8**
KBZ Khabaz 21.90 291 P **P 01 18 56.2 -0.3**
comp=Z,3.1nm,0.5s,baz=97,slow=11,SNR=6.6
KBZ S **S 01 23 01.2 +2.9**
comp=Z,4.0nm,0.7s,baz=81,slow=11,SNR=2.3
comp=Z,3.1nm,0.5s
KBZ Khabaz 21.90 291 *i* P **P 01 18 57.1 +0.7**
KBZ pmax pmax
comp=Z,17nm,1.0s
KBZ MLR MLR
comp=Z,192nm,16.0s
KVAR Kislovodsk Arr 22.06 292 P **P 01 18 58.8 +0.6**
comp=Z,3.2nm,0.4s,baz=90,slow=20,SNR=2.8
KVAR S **S 01 23 05.3 +3.6**
comp=Z,17nm,0.8s,baz=80,slow=6.1,SNR=5.2
comp=Z,3.2nm,0.4s
KIV Kislovodsk 22.07 292 P **P 01 18 57.7 -0.6**
KIV IAmb IAmb 01 19 14.3
comp=Z,57nm,0.8s
KIV Kislovodsk 22.07 292 ⇓P **P 01 19 01.0 +2.6**
KIV Kislovodsk 22.07 292 P **P 01 19 00.9 +2.6**
KIV Kislovodsk 22.07 292 P **P 01 18 58.1 -0.2**
SHA1 Shidzhatmaz 22.08 291 *i* P **P 01 18 59.3 +0.7**
MZR Muzera 22.34 229 P **P 01 19 01.0 -0.3**
HYB Hyderabad 22.57 162 *e*P **P 01 19 04.5 +0.8**
HOMI Horasan 22.83 282 ⇑P **P 01 19 09.0 +2.4**
GURO Guroymak-BITLI 22.97 278 P **P 01 19 08.8 +0.7**
MOY Mondy 23.91 49 *e*P **P 01 19 17.2 0.0**
MOY pmax pmax
comp=Z,39nm,2.0s
VRH Novokhopyorsk 24.03 310 *e*P **P 01 19 16.5 -1.7**
VRH pmax pmax
comp=Z,20nm,0.7s
KIRV Kirov 24.03 331 P **P 01 19 18.6 +0.5**
comp=Z,48nm,0.6s,baz=135,slow=5.8,SNR=22
KIRV S **S 01 23 43.7 +8.6**
comp=Z,2.6nm,0.4s,baz=153,slow=18,SNR=1.3
KIRV Lg Lg 01 26 43.3
comp=Z,0.4nm,0.3s,baz=66,slow=18,SNR=1.3
KIRV LR LR 01 29 39.4
comp=Z,204nm,20.0s,baz=127,slow=39
comp=Z,48nm,0.6s
ZAK Zakamensk 24.91 53 *e*P **P 01 19 26.4 0.0**
ZAK pmax pmax
comp=Z,13nm,1.4s
VORD Divnogorie 25.43 308 *e*P **P 01 19 31.7 +0.8**
VORD pmax pmax
comp=Z,30nm,0.8s
VSR Storozhevoye 25.57 309 *e*P **P 01 19 33.2 +1.0**
VSR pmax pmax
comp=Z,50nm,0.9s
LZH Lanzhou 25.66 87 *e*P **P 01 19 34.9 +1.5**
LZH pP sP 01 19 39.7 +1.2
LZH pmax pmax
comp=Z,35nm,1.3s
LZH pmax pmax
comp=Z,160nm,4.8s
LZH LR LR
comp=Z,450nm,13.4s
LZH LR LR
comp=Z,240nm,13.1s
LZH LR LR
comp=Z,290nm,13.7s
VORR Voronezh 25.67 310 *e*P **P 01 19 37.6 +4.5**
VORR pmax pmax
comp=Z,64nm,0.5s
ANN Anapa 25.85 294 *e*P **P 01 19 33.3 -1.5**
ANN *e**PP **pP 01 19 36.1 -2.3**
ANN *e*S **S 01 24 04.2 -0.3**
ANN pmax pmax
comp=Z,53nm,0.9s
LPSR Galich'ya Gora 26.11 312 *e*P **P 01 19 37.3 +0.3**
LPSR pmax pmax
comp=Z,70nm,1.3s
SONM Songino Array 26.48 60 P **P 01 19 40.5 -0.1**
comp=Z,4.6nm,0.8s,baz=267,slow=9.8,SNR=11
SONM PcP **PcP 01 23 05.3 -0.1**
comp=Z,1.5nm,0.8s,baz=244,slow=3.6,SNR=4.0
comp=Z,4.6nm,0.8s
ULN Ulaanbaatar 26.92 60 P **P 01 19 44.1 -0.5**
ULN Ulaanbaatar 26.92 60 P **P 01 19 44.5 -0.2**
RAYN Ar Rayn 27.09 242 P **P 01 19 46.2 -0.1**
RAYN Ar Rayn 27.09 242 P **P 01 19 47.0 +0.7**
RAYN Ar Rayn 27.09 242 P **P 01 19 46.8 +0.5**
CD2 Chengdu 27.50 98 P **P 01 19 49.0 -0.9**
CD2 pmax pmax
comp=Z,30nm,1.0s
MOS Moscow 27.89 318 *e*P **P 01 19 51.8 -1.3**
MOS *e*S **S 01 24 37.2 +0.7**
MOS pmax pmax
comp=Z,34nm,1.1s
PZH PanZhiHua 28.19 108 P **P 01 19 57.8 +1.6**
PZH pmax pmax
comp=Z,12nm,1.0s
PZH pmax pmax
comp=Z,110nm,5.2s
SIM Simferopol' 28.21 294 *e*P **P 01 19 57.1 +1.0**
SIM *e*S **S 01 24 44.4 +2.7**
SIM pmax pmax
comp=Z,140nm,1.1s
SIM smax smax
comp=N,159nm,17.2s
OBN Obninsk 28.24 316 P **P 01 19 56.1 0.0**
OBN Obninsk 28.24 316 P **P 01 19 56.2 +0.1**
comp=N,14nm,0.5s,baz=117,slow=2.3,SNR=4.9
comp=N,14nm,0.5s
OBN Obninsk 28.24 316 ⇓P **P 01 19 59.4 +3.3**
OBN Obninsk 28.24 316 *ce*P **P 01 19 56.6 +0.5**
OBN pmax pmax
comp=Z,11nm,0.8s
OBN MLR MLR
comp=Z,120nm,16.0s
ILGA Ilgaz 28.86 286 P **P 01 20 01.3 -0.9**
ILGA IAmb IAmb 01 20 12.0
comp=Z,20nm,1.0s
ASF Jabal al Asfar 28.91 267 P **P 01 20 03.8 +1.3**
comp=Z,2.3nm,0.8s,baz=115,slow=7.7,SNR=3.9
comp=Z,2.3nm,0.8s
KIRS Kirsehir-Merke 29.06 282 ⇑P **P 01 20 05.1 +1.3**
BR131 Keskin Array S 29.15 283 P **P 01 20 05.1 +0.5**
BR131 Keskin Array S 29.15 283 *i* P **P 01 20 05.2 +0.5**
BRTR Keskin Array B 29.15 283 P **P 01 20 05.0 +0.3**
BRTR Keskin Array B 29.15 283 P **P 01 20 05.3 +0.6**
comp=Z,9.6nm,0.9s,baz=88,slow=7.5,SNR=26
BRTR PcP **PcP 01 23 13.9 +1.8**
comp=Z,0.5nm,0.7s,baz=66,slow=1.7,SNR=1.8
comp=Z,9.6nm,0.9s
BRTR Keskin Array B 29.15 283 *ce*P **P 01 20 05.9 +1.2**
BRTR pmax pmax
comp=Z,10.0nm,0.9s
BR106 Keskin Array S 29.17 283 P **P 01 20 05.9 +1.1**
comp=Z,76nmcomp=Z,11nm,1.0s
BR105 Keskin Array S 29.17 283 P **P 01 20 05.9 +1.0**
comp=Z,79nmcomp=Z,12nm,0.9s
KLMR Klimovskoe 29.37 328 *e*P **P 01 20 01.5 -4.7**
KLMR pmax pmax
comp=Z,28nm,1.7s
MMAI Mount Meron Ar 29.74 269 PcP **PcP 01 23 14.4 +0.8**
comp=Z,0.2nm,0.3s,baz=113,slow=5.5,SNR=1.4
ANTO Ankara 29.76 284 P **P 01 20 10.1 +0.1**
ANTO IAmb IAmb 01 20 19.1
comp=Z,44nm,1.8s
ANTO Ankara 29.76 284 ⇑P **P 01 20 12.3 +2.2**
ANTO Ankara 29.76 284 P **P 01 20 12.2 +2.2**
ANTO Ankara 29.76 284 P **P 01 20 10.9 +0.9**
XAN Xi'an 30.26 88 ⇑P **P 01 20 16.1 +1.7**
XAN S **S 01 25 15.8 +1.6**
XAN pmax pmax
comp=Z,25nm,0.7s
XAN pmax pmax
comp=Z,96nm,4.9s
XAN LR LR
comp=Z,360nm,16.1s
XAN LR LR
comp=Z,340nm,12.8s
XAN LR LR
comp=Z,330nm,16.5s
HHC Hu-ho-hao-te 30.47 74 *e*P **P 01 20 17.0 +0.7**
HHC pmax pmax
comp=Z,56nm,5.9s
HHC LR LR
comp=Z,170nm,12.6s
HHC LR LR
comp=Z,190nm,13.9s
HHC LR LR
comp=Z,180nm,13.2s
MDUB Mudurnu 30.85 285 P **P 01 20 19.0 -0.6**
NRIK Noril'sk 31.36 11 P **P 01 20 24.2 +0.5**
NRIK Noril'sk 31.36 11 P **P 01 20 23.9 +0.2**
comp=Z,9.8nm,0.8s,baz=203,slow=7.9,SNR=13
comp=Z,9.8nm,0.8s
NRIK Noril'sk 31.36 11 *i* P **P 01 20 23.9 +0.2**
NRIK pmax pmax
comp=Z,14nm,1.0s
NRIK MLR MLR
comp=Z,64nm,15.0s
CMAR Chiang Mai Arr 31.46 123 P **P 01 20 24.8 -0.2**
comp=Z,1.5nm,0.5s,baz=314,slow=9.6,SNR=6.6
CMAR PcP **PcP 01 23 17.9 -0.3**
comp=Z,1.2nm,0.3s,baz=316,slow=2.5,SNR=4.4
CMAR LR LR 01 35 27.2
comp=Z,79nm,20.4s,baz=340,slow=41
comp=Z,1.5nm,0.5s
CMAR Chiang Mai Arr 31.46 123 *ce*P **P 01 20 25.5 +0.4**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
EIL Elat 31.50 264 P **P 01 20 26.1 +0.8**
comp=Z,4.1nm,0.8s,baz=48,slow=9.3,SNR=4.0
EIL PcP **PcP 01 23 18.7 +0.5**
comp=Z,2.4nm,0.7s,baz=45,slow=4.3,SNR=2.1
comp=Z,4.1nm,0.8s
BORA Eskisehir 31.52 285 P **P 01 20 26.4 +0.8**
AKASG Malin Array Be 31.67 305 P **P 01 20 26.2 -0.4**
AKASG Malin Array Be 31.67 305 P **P 01 20 27.0 +0.4**
comp=Z,0.7nm,0.3s,baz=79,slow=8.2,SNR=12
AKASG LR LR 01 36 31.0
comp=Z,189nm,18.3s,baz=62,slow=42
comp=Z,0.7nm,0.3s
AKASG Malin Array Be 31.67 305 *ce*P **P 01 20 26.8 +0.2**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 31.67 305 IAmb IAmb 01 21 19.4
comp=Z,14nm,0.8s
AKBB Malin Array Si 31.67 305 *ce*P **P 01 20 26.5 -0.1**
AKBB pmax pmax
comp=Z,11nm,0.9s
KIEV Kiev 31.68 305 P **P 01 20 26.1 -0.6**
KIEV IAmb IAmb 01 21 19.4
comp=Z,14nm,0.9s
KIEV Kiev 31.68 305 P **P 01 20 26.1 -0.6**
KIEV pmax pmax
comp=Z,14nm,0.9s
KIEV Kiev 31.68 305 P **P 01 20 26.7 +0.1**
KIEV Kiev 31.68 305 P **P 01 20 26.8 +0.1**
MILM Milestii Mici 31.85 298 *e*P **P 01 20 28.0 -0.2**
comp=Z,28nm,1.1s
MILM Milestii Mici 31.85 298 ⇑P **P 01 20 29.3 +1.1**
MILM Milestii Mici 31.85 298 *e*P **P 01 20 28.0 -0.2**
MILM pmax pmax
comp=Z,28nm,1.1s
JURR Jurilovca 31.94 294 ⇓P **P 01 20 30.0 +0.9**
TLCR 31.95 295 ⇑P **P 01 20 30.8 +1.7**
TLCR 31.95 295 P **P 01 20 30.8 +1.7**
SORM Soroca 32.14 300 ⇑P **P 01 20 31.3 +0.5**
SORM Soroca 32.14 300 P **P 01 20 31.3 +0.5**
TPGR Topolog 32.25 294 ⇓P **P 01 20 33.3 +1.4**
TIRR Tirgusor 32.30 294 ⇓P **P 01 20 34.8 +2.5**
TIRR Tirgusor 32.30 294 P **P 01 20 34.7 +2.5**
VLDR Vladesti 32.41 296 ⇓P **P 01 20 35.9 +2.8**
CFR Carcaliu 32.42 295 ⇓P **P 01 20 34.6 +1.3**
CFR Carcaliu 32.42 295 P **P 01 20 34.4 +1.1**
TATR Tatarca 32.45 296 ⇓P **P 01 20 35.3 +1.8**
TLBR Topalu 32.55 294 ⇑P **P 01 20 36.1 +1.7**
HARR Harsova 32.62 294 ⇑P **P 01 20 36.7 +1.7**
HARR Harsova 32.62 294 P **P 01 20 36.7 +1.7**
TUDR 32.72 296 ⇑P **P 01 20 38.3 +2.5**
ICOR Ion Corvin 32.77 293 ⇑P **P 01 20 38.2 +1.9**
LYN LuoYang 32.83 85 P **P 01 20 40.2 +3.2**
LYN pmax pmax
comp=Z,22nm,0.7s
PALK Pallekele 32.86 163 LR LR 01 35 29.8
comp=Z,101nm,19.1s,baz=356,slow=39
SLVN Son La 32.89 113 P **P 01 20 37.6 -0.1**
SLVN Son La 32.89 113 P **P 01 20 39.1 +1.4**
comp=Z,8.1nm,0.8s
MNK Minsk 32.95 312 *i* P **P 01 20 35.9 -1.9**
comp=E,13nm,0.9s
MNK *i* P **P 01 20 35.9 -1.9**
comp=N,18nm,0.8s
MNK *i* P **P 01 20 35.9 -1.9**
comp=Z,26nm,0.7s,baz=99
MNK *i* PP **PP 01 21 43.6 -8.6**
MNK *i* PPP PPP 01 21 53.8
MNK *i* S **S 01 25 55.5 -0.3**
MNK *i* SS **SnSn 01 27 54.4 +1.6**
MNK *i* SSS SSS 01 28 09.9
MNK *i* LQ LQ 01 31 11.3
MNK *i* LR LR 01 34 21.2
MNK *i* LRM MLR 01 36 49.4
comp=E,98nm,18.0s
MNK *i* LRM MLR 01 36 49.4
comp=N,235nm,17.4s
MNK *i* LRM MLR 01 36 52.3
comp=Z,264nm,17.2s
MNK Minsk 32.95 312 *i* P **P 01 20 35.9 -1.9**
MNK *i* PPP PPP 01 21 53.8
MNK *i* S **S 01 25 55.4 -0.3**
MNK *i* SS **SnSn 01 27 54.3 +1.6**
MNK pmax pmax
comp=N,18nm,0.8s
MNK pmax pmax
comp=E,13nm,0.9s
MNK pmax pmax
comp=Z,26nm,0.7s
MNK MLR MLR
comp=N,235nm,17.0s
MNK MLR MLR
comp=E,98nm,18.0s
MNK MLR MLR
comp=Z,264nm,17.0s
ODBI Odobesti 33.13 296 ⇑P **P 01 20 42.0 +2.5**
VRI Vrincioaia 33.35 296 ⇓P **P 01 20 43.5 +2.0**
VRI Vrincioaia 33.35 296 P **P 01 20 43.4 +2.0**
TESR Tescani 33.36 297 ⇑P **P 01 20 42.6 +1.1**
PLOR Plostina 33.41 296 ⇑P **P 01 20 44.6 +2.6**
PLOR Plostina 33.41 296 P **P 01 20 44.2 +2.2**
NACGM Naroch 33.64 313 *e*P **P 01 20 44.9 +1.0**
HNS HongShan 33.65 79 ⇑P **P 01 20 45.7 +1.6**
HNS pmax pmax
comp=Z,12nm,1.0s
HNS LR LR
comp=Z,160nm,15.7s
HNS LR LR
comp=Z,180nm,18.1s
TURR Turia 33.83 297 ⇓P **P 01 20 47.9 +2.2**
MLR Muntele Rosu 33.93 296 P **P 01 20 48.6 +1.9**
comp=Z,16nm,0.9s,baz=90,slow=4.0,SNR=15
comp=Z,16nm,0.9s
MLR Muntele Rosu 33.93 296 ⇑P **P 01 20 49.0 +2.3**
OZUR 33.99 297 ⇓P **P 01 20 49.5 +2.5**
BOSR Bodos 34.08 297 ⇑P **P 01 20 50.0 +2.2**
BURAR Bucovina Array 34.27 300 P **P 01 20 48.9 -0.6**
CAVK Edirne/Enez-Ca 34.55 287 ⇑P **P 01 20 53.8 +1.9**
VOIR 34.57 296 ⇑P **P 01 20 54.1 +2.0**
VOIR 34.57 296 P **P 01 20 54.1 +2.0**
ALN Alexandroupoli 34.59 288 P **P 01 20 51.5 -0.8**
ALN Alexandroupoli 34.59 288 P **P 01 20 51.5 -0.8**
ALN pmax pmax
comp=Z,4.0nm,0.9s
EZN Ezine 34.63 286 ⇑P **P 01 20 54.6 +2.0**
EZN Ezine 34.63 286 P **P 01 20 54.5 +2.0**
HUMR Humele 34.73 294 ⇑P **P 01 20 55.7 +2.4**
ARR Arges 34.87 296 ⇑P **P 01 20 55.8 +1.1**
ARCR ARCALIA 34.89 299 ⇓P **P 01 20 57.3 +2.5**
ARBE Arbavere 35.00 320 *e*P **P 01 20 57.9 +2.3**
TNR Turnu Rosu 35.08 296 ⇓P **P 01 20 57.9 +1.4**
TNR Turnu Rosu 35.08 296 P **P 01 20 57.9 +1.4**
PABE Paberze 35.33 313 *e*P **P 01 21 00.1 +1.7**
VSVD Vaisvydziai 35.41 314 *e*P **P 01 21 00.8 +1.7**
LOT Lotru 35.46 296 ⇑P **P 01 21 01.3 +1.4**
FINES FINESS Array B 35.52 324 P **P 01 21 00.0 +0.1**
comp=Z,6.6nm,0.6s,baz=105,slow=8.4,SNR=36
FINES PcP **PcP 01 23 29.9 +1.0**
comp=Z,2.6nm,0.7s,baz=91,slow=5.6,SNR=1.8
FINES LR LR 01 36 17.3
comp=Z,135nm,20.8s,baz=72,slow=38
comp=Z,6.6nm,0.6s
FINES FINESS Array B 35.52 324 *ce*P **P 01 21 00.5 +0.6**
FINES pmax pmax
comp=Z,7.0nm,0.6s
MARR Marisel-Cluj 35.77 298 ⇓P **P 01 21 04.2 +1.8**
WHN Wuhan 35.86 91 P **P 01 21 04.3 +1.0**
MTSE Matsula 35.93 319 *e*P **P 01 21 05.5 +1.9**
DEV Deva 36.01 297 ⇑P **P 01 21 06.7 +2.3**
DEV Deva 36.01 297 P **P 01 21 06.6 +2.3**
DRGR 36.04 298 ⇓P **P 01 21 06.1 +1.3**
DRGR 36.04 298 P **P 01 21 06.0 +1.3**
KOLS Kolonicke sedl 36.16 302 *e*P **P 01 21 07.8 +2.2**
KOLS Kolonicke sedl 36.16 302 *e*P **P 01 21 07.8 +2.2**
GZR Gura Zlata 36.16 296 ⇓P **P 01 21 06.6 +0.8**
GZR Gura Zlata 36.16 296 P **P 01 21 06.6 +0.8**
KEF Keuruu 36.28 325 *e*P **P 01 21 08.1 +1.6**
PBUR Paburge 36.53 314 *e*P **P 01 21 09.7 +1.0**
SURR Surduc 36.56 297 ⇓P **P 01 21 11.3 +2.2**
SIRR Siria 36.82 298 ⇑P **P 01 21 13.7 +2.4**
BZS Buzias 36.94 297 ⇑P **P 01 21 13.5 +1.1**
BZS Buzias 36.94 297 P **P 01 21 13.4 +1.1**
MDVR Moldovita 37.00 295 ⇓P **P 01 21 14.5 +1.6**
IDI Anoyia 37.06 279 P **P 01 21 14.3 +0.8**
comp=Z,17nm,1.0s,baz=68,slow=5.4,SNR=6.5
comp=Z,17nm,1.0s
VAY Valandovo 37.06 289 *i* P **P 01 21 15.2 +1.8**
BOVS Bovan 37.20 293 ⇑P **P 01 21 15.9 +1.3**
NIE Niedzica 37.41 303 *e*P **P 01 21 18.0 +1.6**
OJC Ojcow 37.69 304 *e*P **P 01 21 19.2 +0.5**
VADS Vadso 37.94 338 *e*P **P 01 21 20.6 +0.1**
DL2 Dalian 38.45 74 P **P 01 21 28.2 +3.0**
DL2 pmax pmax
comp=Z,24nm,1.0s
VYHS Vyhne 38.46 302 *e*P **P 01 21 27.0 +1.8**
VYHS *e* 01 22 56.2
VYHS Vyhne 38.46 302 *e*P **P 01 21 27.0 +1.8**
VYHS *e*PP **PnPn 01 22 56.2 +1.4**
NJ2 Nanjing 38.72 86 *e*P **P 01 21 27.3 -0.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
ARA0 ARCESS Array S 38.82 336 *e*P **P 01 21 28.6 +0.6**
ARCES ARCESS Array B 38.82 336 P **P 01 21 28.2 +0.3**
ARCES IAmb IAmb 01 21 29.5
comp=Z,89nm,1.8s
ARCES ARCESS Array B 38.82 336 P **P 01 21 28.2 +0.3**
comp=Z,5.2nm,0.6s,baz=116,slow=8.5,SNR=27
ARCES LR LR 01 38 28.4
comp=Z,189nm,20.2s,baz=116,slow=38
comp=Z,5.2nm,0.6s
SRO Srobarova 38.89 301 *e*P **P 01 21 32.8 +4.0**
SRO Srobarova 38.89 301 *e*P **P 01 21 32.8 +4.0**
MORH Mrgy, Hungar 38.90 298 ⇓P **P 01 21 30.2 +1.3**
STEB Steborice 39.01 304 *e*P **P 01 21 30.7 +0.9**
STEB *e*pP **pP 01 21 32.9 -0.4**
GKP Gorka Klasztor 39.15 309 *e*P **P 01 21 31.5 +0.7**
MORC Moravsky Berou 39.17 304 *e*P **P 01 21 31.9 +0.7**
MORC Moravsky Berou 39.17 304 ⇑P **P 01 21 32.3 +1.0**
MORC Moravsky Berou 39.17 304 P **P 01 21 32.2 +1.0**
JAVC Velka Javorina 39.19 302 *e*P **P 01 21 34.3 +3.0**
PDG Podgorica 39.21 292 ⇓P **P 01 21 32.5 +1.0**
SRIT Nakonsritamara 39.50 133 P **P 01 21 34.9 +0.7**
comp=Z,24nm,0.5s
MODS Modra-Piesok 39.51 302 *e*P **P 01 21 35.8 +1.9**
MODS Modra-Piesok 39.51 302 *e*P **P 01 21 35.8 +1.9**
KRLC Kraliky 39.63 304 *e*P **P 01 21 36.0 +1.0**
KRLC *e*pP **pP 01 21 38.0 -0.6**
KRLC Kraliky 39.63 304 *e*P **P 01 21 36.0 +1.0**
KRLC *e* 01 21 38.0
VRAC Vranov 39.84 303 *e*P **P 01 21 37.3 +0.6**
VRAC Vranov 39.84 303 P **P 01 21 38.1 +1.4**
comp=Z,8.5nm,0.9s,baz=82,slow=11,SNR=8.7
VRAC LR LR 01 39 56.4
comp=Z,150nm,21.0s,baz=41,slow=39
comp=Z,8.5nm,0.9s
VRAC Vranov 39.84 303 ⇑P **P 01 21 38.8 +2.1**
KSP Ksiaz 39.87 306 *e*P **P 01 21 37.7 +0.7**
HAMF Hammerfest 39.87 337 *e*P **P 01 21 37.4 +0.7**
DPC Dobruska-Polom 39.90 305 *e*P **P 01 21 38.3 +1.1**
DPC *e*pP **pP 01 21 40.7 -0.1**
DPC Dobruska-Polom 39.90 305 *e*P **P 01 21 38.3 +1.1**
DPC *e* 01 21 40.7
ZEA Zeya 39.92 50 *e*P **P 01 21 38.3 +1.0**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
OSTC Ostas 39.95 305 *e*P **P 01 21 40.1 +2.5**
OSTC Ostas 39.95 305 *e*P **P 01 21 40.1 +2.5**
BLEU Blekinge 39.96 314 *i* P **P 01 21 37.0 -0.6**
CN2 Changchun 39.99 65 *e*P **P 01 21 38.1 +0.1**
CN2 *e*S **S 01 27 41.7 -1.9**
CN2 LR LR
comp=Z,180nm,14.0s
CN2 LR LR
comp=Z,100nm,14.0s
KRUC Moravsky 40.00 303 *e*P **P 01 21 38.8 +0.8**
CHVC Chvalec 40.05 305 *e*P **P 01 21 39.6 +1.2**
CHVC Chvalec 40.05 305 *e*P **P 01 21 39.6 +1.2**
UPC Upice 40.08 305 *e*P **P 01 21 40.2 +1.5**
UPC Upice 40.08 305 *e*P **P 01 21 40.2 +1.5**
RONA Rosalia, Austr 40.25 301 *i* P **P 01 21 41.5 +1.3**
comp=Z,8.0nm,1.1s
HEH HeiHe 40.27 55 *e*P **P 01 21 39.9 -0.3**
HEH pmax pmax
comp=Z,18nm,0.8s
HEH LR LR
comp=Z,140nm,12.1s
HEH LR LR
comp=Z,100nm,13.2s
HEH LR LR
comp=Z,160nm,12.1s
CONA Conrad Observa 40.51 301 *i* P **P 01 21 43.7 +1.4**

comp=Z,16nm,1.0s,SNR=10
ARSA Arzberg 40.84 300 P **P** **01 21 45.0 -0.1**
ARSA Arzberg 40.84 300 *i* P **P** **01 21 46.2 +1.1**
comp=Z,6.2nm,0.9s
BNX BinXian 40.95 62 ⇓P **P** **01 21 44.6 -1.4**
BNX pmax pmax
comp=Z,7.0nm,0.5s
TRO Tromso 40.98 335 *e*P **P** **01 21 46.2 +0.4**
PVCC Panska Ves 40.99 305 *e*P **P** **01 21 49.1 +2.9**
PVCC Panska Ves 40.99 305 *e*P **P** **01 21 49.1 +2.9**
DEL Delary 41.04 314 *i* P **P** **01 21 46.0 -0.5**
PRU Pruhonice 41.08 304 *e*P **P** **01 21 48.4 +1.5**
PRU Pruhonice 41.08 304 *e*P **P** **01 21 48.4 +1.5**
PRA Prague 41.14 305 *e*P **P** **01 21 50.1 +2.7**
PRA Prague 41.14 305 *e*P **P** **01 21 50.1 +2.7**
PERS Pernice 41.23 299 *i* P **P** **01 21 48.8 +0.5**
HFS Hagfors 41.24 320 P **P** **01 21 47.2 -1.0**
comp=Z,12nn,0.5s,baz=96,slow=11,SNR=34
HFS LR LR 01 39 44.8
comp=Z,205nm,18.5s,baz=75,slow=37
comp=Z,12nn,0.5s
SOKA Soboth 41.28 299 *i* P **P** **01 21 50.0 +1.3**
comp=Z,15nn,1.3s,SNR=17
BRG Berggiesshubel 41.35 306 *e*P **P** **01 21 50.1 +1.0**
comp=Z,9.2nm,0.7s,baz=80,slow=8.1
BRG Berggiesshubel 41.35 306 *e*P **P** **01 21 50.1 +1.0**
BRG Amp 01 21 52.7
comp=Z,9.2nm,0.7s
BRG PP **PP** **01 23 23.1 -1.3**
BRG Amp 01 23 26.4
comp=Z,4.1nm,0.9s
ZVC Zvikov 41.38 304 *e*P **P** **01 21 50.2 +0.8**
CKRC Cesky Krumlov 41.39 303 *e*P **P** **01 21 50.8 +1.2**
CKRC Cesky Krumlov 41.39 303 *e*P **P** **01 21 50.8 +1.2**
YAK Yakutsk 41.49 37 P **P** **01 21 49.4 -0.8**
YAK Yakutsk 41.49 37 *e*P **P** **01 21 49.9 -0.2**
YAK *e**PP **pP** **01 21 53.1 -0.7**
YAK *e* 01 23 25.3
YAK *e* 01 23 47.2
YAK *e*PPP PPP 01 23 55.2
YAK *e*S **S** **01 28 06.2 +0.8**
YAK *e**SS **sS** **01 28 15.4 +4.0**
YAK *e*SS **SS** **01 31 11.4 +2.0**
YAK *e* 01 32 00.0
YAK pmax pmax
comp=Z,37nm,0.9s
YAK pmax pmax
comp=N,1.0nm,0.6s
YAK pmax pmax
comp=E,25nm,1.3s
YAK pmax pmax
comp=Z,67nm,3.0s
YAK pmax pmax
comp=N,54nm,4.1s
YAK pmax pmax
comp=E,62nm,4.7s
YAK smax smax
comp=E,60nm,4.0s
YAK smax smax
comp=N,58nm,3.8s
YAK MLR MLR
comp=Z,41nm,18.0s
YAK MLR MLR
comp=N,34nm,15.0s
YAK MLR MLR
comp=E,19nm,9.0s
BJUU Bjuv 41.52 314 *i* P P 01 21 55.5 +5.0
MOA Molln 41.58 301 *i* P **P** **01 21 52.1 +1.0**
comp=E,9.7nm,1.5s
OBKA Obir 41.63 299 *i* P **P** **01 21 53.2 +1.5**
comp=E,13nm,1.5s,SNR=10
BORU Boraas 41.64 316 *i* P **P** **01 21 51.7 +0.3**
FABU Falkenberg 41.67 315 *i* P **P** **01 21 52.9 +1.3**
MOR8 Moi Rana 41.69 329 *e*P **P** **01 21 51.8 0.0**
LJU Ljubljana 41.74 299 *i* P **P** **01 21 53.6 +1.1**
STEI Steigen 41.77 332 *e*P **P** **01 21 54.0 +1.6**
GEC2 GERESS Array S 41.78 303 *e*P **P** **01 21 54.0 +1.1**
comp=E,6.4nm,0.8s,baz=80,slow=8.1
GERES GERESS Array B 41.78 303 P **P** **01 21 53.3 +0.4**
GERES GERESS Array B 41.78 303 P **P** **01 21 53.2 +0.3**
comp=E,3.9nm,0.5s,baz=80,slow=6.8,SNR=28
GERES PP **PP** **01 23 27.8 -1.4**
comp=E,4.4nm,1.1s,baz=78,slow=9.1,SNR=5.0
GERES PcP **PcP** **01 23 50.1 +1.2**
comp=E,1.2nm,0.7s,baz=91,slow=5.3,SNR=4.3
comp=E,3.9nm,0.5s
KHC Kasperske Hory 41.82 303 *e*P **P** **01 21 54.2 +1.1**
KHC *e*pP **pP** **01 21 56.6 0.0**
KHC Kasperske Hory 41.82 303 *e*P **P** **01 21 54.2 +1.1**
KHC *e* 01 21 56.6
CLL Collm 41.89 307 *i* P **P** **01 21 53.8 +0.3**
CLL *i* 01 21 56.1
CLL *i* *SP **sP** **01 21 59.4 +0.8**
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 41.89 307 *i* P **P** **01 21 53.8 +0.3**
comp=Z,8.0nm,1.1s
CLL *i* pP **pP** **01 21 56.1 -1.0**
comp=Z,9.0nm,1.0s
CLL *i* sP **sP** **01 21 59.4 +0.8**
CLL *e*PP **PP** **01 23 31.0 +0.8**
CLL *e*x x 01 23 47.0
CLL Collm 41.89 307 *e*P **P** **01 21 53.8 +0.3**
comp=Z,8.2nm,0.7s,baz=80,slow=8.1
TIP Timpagrande 41.92 288 ⇓P **P** **01 21 55.6 +1.6**
BIOA Bad Ischl, Aus 42.02 301 *i* P **P** **01 21 55.6 +0.8**
comp=Z,11nm,1.3s
ACER Acerenza 42.04 291 P **P** **01 21 55.5 +0.5**
ONAU Onsala 42.10 316 *i* P **P** **01 21 59.7 +4.5**
LEIR Leirfjorden 42.21 329 *e*P **P** **01 21 56.5 +0.6**
MYKA Terra Mystica 42.23 300 *i* P **P** **01 21 57.0 +0.5**
comp=Z,3.9nm,1.0s
CADS Cadrg 42.24 299 *i* P **P** **01 21 56.9 +0.3**
VAGH Vaagaholmen 42.26 330 *e*P **P** **01 21 58.5 +2.2**
WET Wettzell 42.27 303 *e*P **P** **01 21 57.8 +1.0**
comp=Z,13nm,1.1s,baz=80,slow=8.1
KONS Konsvik 42.27 329 *e*P **P** **01 21 57.2 +0.7**
STOK Stokkvaagen 42.29 329 *e*P **P** **01 21 56.5 0.0**
NC602 NORSAR Array S 42.34 321 *e*P **P** **01 21 57.2 +0.1**
TANN Tannenbergstha 42.34 305 *e*P **P** **01 21 58.1 +0.8**
comp=Z,4.0nm,0.8s,baz=80,slow=8.1
CUC Castrocucco 42.37 290 IAmb IAmb 01 22 02.7
comp=Z,19nm,0.7s
NC303 NORSAR Array S 42.45 322 P **P** **01 21 58.1 +0.2**
NB2 NORSAR Subarra 42.51 321 P **P** **01 21 58.2 -0.4**
comp=Z,3.4nm,0.6s,baz=92,slow=8.6
NB2 NORSAR Subarra 42.51 321 P **P** **01 21 58.2 -0.4**
baz=92,slow=8.6
NOA NORSAR Array B 42.51 321 P **P** **01 21 58.0 -0.5**
comp=Z,7.8nm,0.9s,baz=92,slow=8.2,SNR=17
NOA PP **PP** **01 23 35.3 -1.5**
comp=Z,2.5nm,0.8s,baz=92,slow=12,SNR=3.5
NOA LR LR 01 40 24.7
comp=Z,120nm,19.0s,baz=105,slow=37
comp=Z,7.8nm,0.9s
ROTZ Rotzenmuhle 42.60 304 *e*P **P** **01 22 00.8 +1.4**
comp=Z,1.7nm,1.1s,baz=80,slow=8.1
NEUB Neuenburg 42.66 307 *e*P **P** **01 22 00.8 +0.9**
comp=Z,25nm,1.2s,baz=80,slow=8.1
LESA Schwarzleotal 42.71 301 *i* P **P** **01 22 00.9 +0.4**
comp=Z,15nm,0.9s,SNR=13
NC204 NORSAR Array S 42.74 322 P **P** **01 22 01.1 +0.7**
NC204 IAmb IAmb 01 23 09.2
comp=E,65nm,1.6s
MOX Moxa 42.84 306 *e*P **P** **01 22 02.3 +0.9**
comp=Z,7.1nm,0.9s,baz=80,slow=8.1
FLTG Flechtingen 42.85 308 *e*P **P** **01 22 01.6 +0.2**
comp=Z,16nm,1.0s,baz=80,slow=8.1
ABTA Abfaltersbach 42.96 300 *i* P **P** **01 22 03.0 +0.5**
comp=Z,2.7nm,0.6s
TIXI Tiksi 43.08 23 P **P** **01 22 02.5 -0.3**
TIXI Tiksi 43.08 23 P **P** **01 22 02.6 -0.3**
TIXI pmax pmax
comp=Z,40nm,0.7s
KLR Kul'dur 43.20 56 LR LR 01 41 38.8
comp=Z,79nm,19.2s,baz=246,slow=38
KLR Kul'dur 43.20 56 *i* P **P** **01 22 04.3 +0.1**
KLR pmax pmax
comp=Z,6.0nm,0.8s
KLR MLR MLR
comp=Z,72nm,18.0s
GRA1 Grafenberg Arr 43.25 305 IAmb IAmb 01 22 10.2
comp=Z,18nm,0.8s
GRF Grafenberg Arr 43.25 305 *e*P **P** **01 22 06.2 +1.5**
comp=Z,19nm,0.9s,baz=80,slow=8.1
GRFO Grafenberg 43.25 305 P **P** **01 22 04.8 +0.1**
GRFO Grafenberg 43.25 305 P **P** **01 22 04.8 +0.1**
GRFO pmax pmax
comp=Z,18nm,0.9s
KONO Kongsberg 43.29 319*ce*P **P** **01 22 04.4 -0.4**
KONO pmax pmax
comp=Z,57nm,2.5s
KONO Kongsberg 43.29 319 *e*P **P** **01 22 05.6 +0.8**
WTTA Wettenberg 43.44 301 *e*P **P** **01 22 06.6 +0.1**
comp=Z,19nm,1.1s,SNR=7.8
WATA Walderalm 43.46 301 *i* P **P** **01 22 06.9 +0.3**
comp=Z,12nn,1.0s,SNR=8.0
NRCA Norcia 43.49 294 IAmb IAmb 01 22 11.6
comp=Z,21nn,1.0s
NRDL Niedersach Rie 43.52 309 *e*P **P** **01 22 07.8 +1.1**
comp=Z,30nn,1.5s,baz=80,slow=8.1
DOMB Dombas 43.58 323 *e*P **P** **01 22 08.1 +0.9**
KSAR Wonju Array Be 43.59 74 P **P** **01 22 06.8 -0.7**
KSAR Wonju Array Be 43.59 74 P **P** **01 22 06.8 -0.7**
KSRS Korea Array 43.61 74 P **P** **01 22 07.2 -0.4**
comp=Z,3.9nm,0.8s,baz=286,slow=6.8,SNR=12
KSRS PcP **PcP** **01 23 54.3 -0.8**
comp=Z,2.6nm,0.8s,baz=294,slow=3.9,SNR=6.8
KSRS LR LR 01 41 46.8
comp=Z,43µm,18.5s,baz=240,slow=38
comp=Z,3.9nm,0.8s
IPM Ipoh 43.68 135 P **P** **01 22 07.1 -1.3**
IPM IAmb IAmb 01 22 09.0
comp=Z,82nm,2.0s
IPM Ipoh 43.68 135 P **P** **01 22 09.0 +0.5**
comp=Z,16nm,0.7s
SQTA Sankt Quirin 43.73 301 *i* P **P** **01 22 09.0 +0.3**
comp=Z,9.8nm,0.8s
MOTA Moosalm 43.78 301 *e*P **P** **01 22 09.3 +0.2**
comp=Z,16nm,1.0s
TEOL Teolo 43.85 298 IAmb IAmb 01 22 13.8
comp=Z,30nm,0.9s
SKAR Skarslia 43.93 321 *e*P **P** **01 22 10.6 +0.6**
PSI Prapat 43.97 139 LR LR 01 41 57.4
comp=Z,133nm,18.4s,baz=305,slow=38
RETA Reutte 43.97 301 *i* P **P** **01 22 10.7 +0.1**
comp=Z,5.5nm,1.1s
FETA Feichten 44.10 301 *i* P **P** **01 22 12.3 +0.6**
comp=Z,12nn,1.1s
USRK Ussuriysk Ar. 44.48 63 P **P** **01 22 15.5 +0.9**
comp=Z,2.2nm,0.6s,baz=280,slow=8.6,SNR=6.6
USRK LR LR 01 44 09.3
comp=Z,61nm,18.1s,baz=284,slow=41
comp=Z,2.2nm,0.6s
GSI Gunungsitoli 44.59 141 P **P** **01 22 15.6 -0.1**
GSI Gunungsitoli 44.59 141 P **P** **01 22 16.7 +1.0**
comp=Z,50nm,0.8s
DAVA Damuels 44.60 301 *i* P **P** **01 22 15.9 +0.2**
comp=Z,24nm,0.8s,SNR=16
DAVOX Davos/Dischmat 44.72 301 P **P** **01 22 16.6 -0.2**
comp=Z,14nm,0.7s,baz=79,slow=8.4,SNR=28
DAVOX PcP **PcP** **01 23 58.2 -0.7**
comp=Z,4.6nm,0.6s,baz=117,slow=4.5,SNR=4.6
comp=Z,14nm,0.7s
BLS5 Blasjo 44.90 319 *e*P **P** **01 22 18.2 +0.4**
SPITS Spitsbergen Ar 44.95 346 P **P** **01 22 18.6 +0.6**
comp=Z,5.7nm,0.7s,baz=129,slow=4.1,SNR=5.8
SPITS LR LR 01 43 59.4
comp=Z,112nm,18.2s,baz=86,slow=40
comp=Z,5.7nm,0.7s
IBBN Ibbenburen 44.97 309 *e*P **P** **01 22 19.2 +0.8**
comp=Z,16nm,0.9s,baz=80,slow=8.1
BFO Black Forest 45.38 303 P **P** **01 22 21.9 +0.1**
BFO IAmb IAmb 01 22 25.9
comp=Z,12nn,0.8s
BFO Black Forest 45.38 303 P **P** **01 22 21.9 +0.1**
BFO pmax pmax
comp=Z,12nn,0.8s
BFO Black Forest 45.38 303 *e*P **P** **01 22 22.3 +0.5**
comp=Z,14nn,0.9s,baz=80,slow=8.1
MSSA Maissana 45.60 297 IAmb IAmb 01 22 27.4
comp=Z,31nn,1.2s
KBS Kingsbay 46.06 347 *e*P P 01 22 31.6 +4.9
KBS Kingsbay 46.06 347 *i* P **P** **01 22 27.4 +0.7**
BTNL Ternell 46.29 307 *d*P **P** **01 22 30.1 +1.2**
comp=Z,9.4nm,1.0s
MEM Membach 46.36 307 *d*P **P** **01 22 30.1 +0.6**
comp=Z,10nn,1.0s
WLF Walferdange 46.48 305 IAmb IAmb 01 22 34.9
comp=Z,24nn,1.0s
WLF Walferdange 46.48 305 *d*P **P** **01 22 31.4 +1.1**
comp=Z,17nn,0.9s
WLF *d*PP **PP** **01 24 18.3 -1.0**
WLF Walferdange 46.48 305 *e*P **P** **01 22 31.5 +1.1**
comp=Z,22nn,0.9s,baz=80,slow=8.1
SENIN Lac Senin/Sane 46.55 301 IAmb IAmb 01 22 39.7
comp=Z,17nn,0.8s
BNI Bardonecchia 47.33 299 IAmb IAmb 01 22 41.5
comp=Z,20nn,1.0s
UCC Uccle 47.34 307 *d*P **P** **01 22 37.4 +0.3**
UCC *d*PcP **PcP** **01 24 06.8 -1.0**
DOU Dourbes 47.36 306 *d*P **P** **01 22 37.3 +0.1**
comp=Z,6.6nm,0.9s
DOU *d*PP **PP** **01 24 28.1 0.0**
MYKOM Kota Tinggi 47.47 134 P **P** **01 22 38.0 -0.5**
MYKOM Kota Tinggi 47.47 134 P **P** **01 22 39.5 +1.1**
comp=Z,22nn,1.0s
JNU Nakatsue 47.52 78 P **P** **01 22 40.2 +1.5**
comp=Z,40nn,1.1s
SISI Saibi 47.60 141 P **P** **01 22 39.8 +0.3**
comp=Z,40nn,0.9s
KEST Kesra 48.66 286 P **P** **01 22 48.6 +1.0**
comp=Z,9.5nn,0.9s
comp=Z,9.5nn,0.9s
SSB Saint Sauveur 48.70 300 IAmb IAmb 01 22 52.2
comp=Z,12nn,0.9s
CLF Chambon-Foret 49.39 304 IAmb IAmb 01 22 56.0
comp=Z,20nn,0.8s
TYV Tymovskoe 49.69 52 *e*P **P** **01 22 56.3 +1.2**
TYV pmax pmax
comp=Z,9.0nm,1.1s
TYV pmax pmax
comp=Z,100nm,6.2s
TGY Tagaytay City 49.95 106 LR LR 01 47 41.6
comp=Z,190nm,19.1s,baz=186,slow=40
EKA Eskdalemuir Ar 50.68 315 P **P** **01 23 02.3 -0.3**
comp=Z,4.6nm,0.7s,baz=77,slow=6.4,SNR=12
comp=Z,4.6nm,0.7s
YSS Yuzhno-Sakhali 50.90 57 *e*P **P** **01 23 04.9 +0.5**
YSS pmax pmax
comp=Z,20nn,0.7s
KMBO Kilima Mbogo 51.03 226 P **P** **01 23 06.8 +0.8**
NOR Nord 51.21 349 *i* P **P** **01 23 09.6 +3.3**
NOR IAmb IAmb 01 23 10.9
comp=Z,5.6nm,0.8s
KSM Kuching 51.55 127 P **P** **01 23 09.2 -0.4**
KSM IAmb IAmb 01 23 14.1
comp=Z,32nn,1.1s
KSM Kuching 51.55 127 P **P** **01 23 10.2 +0.6**
comp=Z,27nn,1.0s
MJB9 Matsu-Tunnel 51.56 71 IAmb IAmb 01 23 12.5
comp=Z,23nn,1.1s
MAJO Matsushiro 51.56 71 P **P** **01 23 09.1 -0.5**
MAJO IAmb IAmb 01 23 12.5
comp=Z,23nn,1.1s
MAJO Matsushiro 51.56 71 P **P** **01 23 11.1 +1.5**
comp=Z,20nn,1.0s
MAJO Matsushiro 51.56 71 *i* P **P** **01 23 09.7 +0.1**
MAJO pmax pmax
comp=Z,20nn,1.1s
MJAR Matsushiro Arr 51.57 71 P **P** **01 23 08.6 -1.0**
MJAR Matsushiro Arr 51.57 71 P **P** **01 23 09.2 -0.4**
comp=Z,9.8nm,0.8s,baz=293,slow=9.0,SNR=14
comp=Z,9.8nm,0.8s
MJAR Matsushiro Arr 51.57 71 P **P** **01 23 08.6 -1.0**
MJAR pmax pmax
comp=Z,7.0nm,1.0s
KIBK Kibwezi 51.59 225 P **P** **01 23 10.8 +0.8**
ASAJ Asahikawa 51.76 60 LR LR 01 46 53.9
comp=Z,48nn,19.3s,baz=192,slow=38
SEY Seymchan 51.91 35 *i* P **P** **01 23 11.6 -0.1**
SEY pmax pmax
comp=Z,3.0nm,1.0s
MA2 Magadan 51.95 39 P **P** **01 23 11.5 -0.6**
MA2 Magadan 51.95 39 P **P** **01 23 12.3 +0.3**
comp=Z,8.7nm,1.0s
SBUM Sibu 52.00 124 P **P** **01 23 12.8 -0.2**
SBUM Sibu 52.00 124 P **P** **01 23 14.5 +1.5**
comp=Z,8.6nm,0.9s
DAG Danmarks Havn 52.25 343 *i* P **P** **01 23 15.2 +1.2**
DAG IAmb IAmb 01 23 18.2
comp=Z,23nm,0.7s
BILL Bilibino 55.96 27 P **P** **01 23 41.5 +0.2**
BILL Bilibino 55.96 27 *i* P **P** **01 23 41.6 +0.4**
BILL pmax pmax
comp=Z,9.0nm,0.9s
BILL MLR MLR
comp=Z,58nm,16.0s
BORG Borgarnes 56.49 329 LR LR 01 48 03.2
comp=Z,75nm,20.3s,baz=69,slow=36
ESBB Sonseca Array 56.62 296 IAmb IAmb 01 23 50.9
comp=Z,13nm,0.9s
ESDC Sonseca Array 56.62 296 P **P** **01 23 46.5 0.0**
ESDC Sonseca Array 56.62 296 P **P** **01 23 46.5 0.0**
comp=Z,14nm,0.9s,baz=67,slow=6.7,SNR=56
ESDC PcP **PcP** **01 24 43.1 +0.3**
comp=Z,1.3nm,0.6s,baz=50,slow=3.5,SNR=6.1
comp=Z,14nm,0.9s
PAB San Pablo 56.95 297 P **P** **01 23 49.0 +0.1**
PAB San Pablo 56.95 297 P **P** **01 23 49.5 +0.7**
PBRG Braganca 57.60 300 *e*P **P** **01 23 54.4 +1.0**
PBRG *i* IAmb IAmb 01 23 55.8
comp=Z,12nn,1.8s
PETK Petropavlovsk- 57.70 45 P **P** **01 23 52.8 -1.1**
comp=Z,5.4nm,1.0s,baz=332,slow=4.9,SNR=8.3
PETK LR LR 01 49 18.4
comp=Z,46nm,19.5s,baz=284,slow=37
comp=Z,5.4nm,1.0s
TAM Tamanrasset 57.76 274 P **P** **01 23 54.6 -0.2**
TAM Tamanrasset 57.76 274 P **P** **01 23 54.7 -0.2**
TAM pmax pmax
comp=Z,23nm,0.4s
SKR Severo-Kuril's 57.78 48*ce*P **P** **01 23 54.5 +0.1**
DAV Davao City (W) 57.98 109 LR LR 01 52 24.1
comp=Z,68nm,18.6s,baz=332,slow=40
MVO Moncorvo 58.08 299 *e*P **P** **01 23 57.5 +0.8**
MVO *i* IAmb IAmb 01 24 05.3
comp=Z,17nm,1.5s
PET Petropavlovsk 58.27 45*ce*P **P** **01 23 56.0 -1.7**
PET pmax pmax
comp=Z,8.0nm,0.8s
NEEM North Greenlan 58.47 348 *i* P **P** **01 23 59.2 0.0**
NEEM IAmb IAmb 01 24 03.3
comp=Z,20nm,0.8s
PVRL Vila Real 58.49 300 *e*P **P** **01 24 00.4 +0.8**
PVRL *i* IAmb IAmb 01 24 01.7
comp=Z,15nm,1.5s
POLO Lamas de Olo 58.50 300 *e*P **P** **01 24 02.0 +2.2**
POLO *i* IAmb IAmb 01 24 12.5
comp=Z,10nm,1.6s
PCAB Cabril 58.51 300 *e*P **P** **01 24 00.7 +1.0**
PCAB *i* IAmb IAmb 01 24 01.6
comp=Z,43nm,1.2s
PGAV Gavieira, Arco 58.56 301 *e*P **P** **01 24 01.4 +1.2**
PGAV *i* IAmb IAmb 01 24 12.1
comp=Z,20nm,1.4s
SUMG Summit 58.64 341 P **P** **01 24 00.8 +0.3**
SUMG Summit 58.64 341 P **P** **01 24 00.9 +0.3**
SUMG pmax pmax
comp=Z,21nm,0.8s
SUMG Summit 58.64 341 *i* P **P** **01 24 01.6 +1.0**
SUMG IAmb IAmb 01 24 07.4
comp=Z,20nm,0.7s
MPSI Mapaga 58.65 119 P **P** **01 24 01.5 +0.6**
comp=Z,570nmcomp=Z,20nm,1.1s
MTE Manteigas 58.77 299 *e*P **P** **01 24 02.6 +1.0**
MTE *i* IAmb IAmb 01 24 15.6
comp=Z,20nm,1.4s
PVIS Viseu 58.86 299 *e*P **P** **01 24 03.4 +1.1**
PCBR Castelo Branco 58.98 298 *e*P **P** **01 24 03.8 +0.8**
PCBR *i* IAmb IAmb 01 24 14.8
comp=Z,13nm,2.0s
PMRV Marv??o 59.11 298 *e*P **P** **01 24 04.8 +1.0**
PMRV *i* IAmb IAmb 01 24 06.9
comp=Z,18nm,1.4s
PBAR Barrancos 59.44 296 *e*P **P** **01 24 05.8 -0.4**
PBAR *i* IAmb IAmb 01 24 09.1
comp=Z,26nm,1.2s
COI Coimbra 59.45 299 *e*P **P** **01 24 06.9 +0.7**
COI *i* IAmb IAmb 01 24 09.1
comp=Z,47nm,0.8s
PESTR Estremoz 59.50 297 *e*P **P** **01 24 08.6 +2.0**
PESTR *i* IAmb IAmb 01 24 10.6
comp=Z,12nm,2.3s
PSARD Sardoal 59.55 298 *e*P **P** **01 24 09.9 +2.9**
PSARD *i* IAmb IAmb 01 24 20.3
comp=Z,25nm,1.5s
PCAS Casmilo, Conde 59.58 299 *e*P **P** **01 24 09.3 +2.2**
PCAS *i* IAmb IAmb 01 24 12.4
comp=Z,37nm,1.6s
EVO Evora 59.95 297 *e*P **P** **01 24 12.3 +2.6**
EVO *i* IAmb IAmb 01 24 15.9
comp=Z,14nm,1.4s
MRSI Marisa 59.95 117 P **P** **01 24 11.3 +1.4**
comp=Z,42nm,0.9s
PSBE So Bento 60.03 298 *e*P **P** **01 24 11.5 +1.3**
PSBE *i* IAmb IAmb 01 24 28.7
comp=Z,41nm,1.7s
PBEJ Beja 60.09 296 *e*P **P** **01 24 10.0 -0.7**
PBEJ *i* IAmb IAmb 01 24 15.6
comp=Z,14nm,1.3s
MDT Midelt 60.28 290 P **P** **01 24 12.6 +0.5**
comp=Z,1.9nm,0.3s,baz=59,slow=12,SNR=5.0
comp=Z,1.9nm,0.3s
PVAQ Vaqueiros 60.28 296 *e*P **P** **01 24 09.1 -2.9**
PVAQ *i* IAmb IAmb 01 24 14.3
comp=Z,29nm,1.5s
EUNU Eureka 60.32 356 IAmb IAmb 01 24 24.4
comp=Z,17nm,1.6s
PBDV Barranco-do-Ve 60.51 296 *e*P **P** **01 24 14.4 +0.9**
PBDV *i* IAmb IAmb 01 24 18.8
comp=Z,47nm,1.2s
ICESG Greenland Ices 60.86 337 *i* P **P** **01 24 17.1 +1.2**
ICESG IAmb IAmb 01 24 22.6
comp=Z,24nm,1.3s
TTSI Tana Toraja 61.09 122 P **P** **01 24 18.6 +0.9**
KULLO Kullorsuaq 61.53 346 *i* P **P** **01 24 19.9 +0.1**
KULLO IAmb IAmb 01 24 25.6
comp=Z,17nm,0.7s
A19K Wainwright 64.42 17 P **P** **01 24 38.4 -0.8**
baz=317
A21K Barrow 64.56 15 P **P** **01 24 39.3 -0.8**
baz=320
C16K Lisburne Hills 64.73 20 P **P** **01 24 40.2 -1.0**
baz=314
B18K Kokolik River 64.86 18 P **P** **01 24 41.8 -0.2**
baz=316
VOI Vohitsoka 65.09 205 P **P** **01 24 45.6 +1.4**
VOI IAmb IAmb 01 24 47.0
comp=Z,17nm,1.0s
A22K Sinclair Lake 65.15 15 P **P** **01 24 43.0 -0.9**
baz=322
C17K DeLong Mountai 65.16 19 P **P** **01 24 42.6 -1.4**
baz=316
SFJD Kangerlussuaq 65.39 339 LR LR 01 53 36.9
comp=Z,54nm,21.6s,baz=37,slow=36
B20K Meade River 65.46 17 P **P** **01 24 44.4 -1.5**
baz=320
RDOG Red Dog Mine 65.53 20 P **P** **01 24 45.0 -1.4**
baz=316
C18K Utukok River 65.54 19 P **P** **01 24 45.7 -0.8**
baz=317
C19K Lookout Ridge 65.59 18 P **P** **01 24 45.6 -1.2**
baz=318
D17K Noatak River 65.75 20 P **P** **01 24 47.0 -0.8**
baz=316,SNR=9.0
GAMB Gambell 65.84 26 P **P** **01 24 47.2 -1.2**
baz=311
TNA Tin City 65.87 23 P **P** **01 24 48.0 -0.6**
baz=313
B22K Teshekpuk Lake 65.99 15 P **P** **01 24 48.8 -0.6**
baz=323
RES Resolute Bay 66.01 356 LR LR 01 54 03.8
comp=Z,37nm,22.0s,baz=16,slow=36
TORD Torodi Ar. Bea 66.27 268 P **P** **01 24 50.5 -1.4**
TORD IAmb IAmb 01 24 54.4
comp=Z,7.7nm,0.8s
TORD Torodi Ar. Bea 66.27 268 P **P** **01 24 51.3 -0.7**
comp=Z,11nn,0.8s,baz=54,slow=6.0,SNR=8.7
comp=Z,11nn,0.8s
B21K Ikpikpuk River 66.32 16 P **P** **01 24 50.6 -0.8**
baz=322
POIN Pond Inlet 66.38 350 P **P** **01 24 51.9 +0.1**
D19K Kuna River 66.40 18 P **P** **01 24 51.0 -1.1**
baz=320
F14K Arctic Creek 66.41 23 P **P** **01 24 50.5 -1.6**
baz=314
E17K Hotham Inlet 66.53 20 P **P** **01 24 52.0 -0.8**

	baz=317							
D20K	**Etivluk River**	66.59	17	IAmb	IAmb	01 24 57.1		
	comp=Z,18nm,1.1s							
D20K	**Etivluk River**	66.59	17	P	**P**	**01 24 52.5**	**-0.8**	
	baz=321							
E18K	**Tukpahlearik C**	66.60	19	P	**P**	**01 24 51.5**	**-1.8**	
	baz=318							
C21K	**Knifeblade Rid**	66.65	16	P	**P**	**01 24 52.3**	**-1.3**	
	baz=322							
F15K	**North Star Dit**	66.74	22	P	**P**	**01 24 52.8**	**-1.4**	
	baz=315							
C23K	**Itkillik River**	66.97	15	P	**P**	**01 24 54.7**	**-0.8**	
	baz=326							
E20K	**Nigu River**	67.04	17	P	**P**	**01 24 55.1**	**-1.1**	
	baz=321,SNR=10							
F17K	**Baldwin Pennin**	67.16	20	P	**P**	**01 24 54.8**	**-2.1**	
	baz=318							
D22K	**Ayikyak River**	67.33	16	P	**P**	**01 24 56.0**	**-1.9**	
	baz=324							
ANM	**Nome**	67.34	23	P	**P**	**01 24 56.1**	**-2.0**	
	baz=315							
E21K	**Killik River**	67.40	17	P	**P**	**01 24 56.8**	**-1.6**	
	baz=323							
E19K	**Redstone River**	67.42	18	IAmb	IAmb	01 25 09.2		
	comp=Z,13nm,0.9s							
E19K	**Redstone River**	67.42	18	P	**P**	**01 24 56.6**	**-1.9**	
	baz=321,SNR=9.6							
C24K	**Franklin Bluff**	67.43	14	P	**P**	**01 24 57.4**	**-1.2**	
	baz=327							
G15K	**Niukluk**	67.43	22	P	**P**	**01 24 57.4**	**-1.2**	
	baz=316							
F18K	**Selawik**	67.47	20	P	**P**	**01 24 57.5**	**-1.3**	
	baz=319							
G16K	**Koyuk River**	67.63	21	P	**P**	**01 24 58.8**	**-1.1**	
	baz=317							
D23K	**Nanushuk River**	67.67	15	IAmb	IAmb	01 25 04.3		
	comp=Z,12nm,0.9s							
D23K	**Nanushuk River**	67.67	15	P	**P**	**01 24 59.6**	**-0.5**	
	baz=326							
F19K	**Shaleruckik Mo**	67.77	19	P	**P**	**01 24 59.1**	**-1.6**	
	baz=320							
D24K	**Happy Valley**	67.89	15	P	**P**	**01 25 00.6**	**-0.8**	
	baz=327							
C26K	**Camden Bay**	67.95	13	P	**P**	**01 25 00.7**	**-1.1**	
	baz=330							
G17K	**Kiwalik Mounta**	68.03	21	P	**P**	**01 25 01.8**	**-0.5**	
	baz=319							
F20K	**Avaraart Lake**	68.11	18	P	**P**	**01 25 01.7**	**-1.1**	
	baz=322							
E22K	**Anaktuvuk Pass**	68.12	16	P	**P**	**01 25 03.1**	**+0.1**	
E22K				IAmb	IAmb	01 25 07.1		
	comp=Z,12nm,0.8s							
E22K	**Anaktuvuk Pass**	68.12	16	P	**P**	**01 25 02.2**	**-0.8**	
	baz=325,SNR=9.5							
TOLK	**Toolik Lake Re**	68.17	15	P	**P**	**01 25 02.0**	**-1.3**	
	baz=327,SNR=16							
D25K	**Kavik River**	68.20	14	P	**P**	**01 25 02.2**	**-1.3**	
	baz=329,SNR=8.0							
H16K	**Elim**	68.22	22	P	**P**	**01 25 02.2**	**-1.4**	
	baz=318							
G18K	**Tagagawik**	68.27	20	P	**P**	**01 25 02.8**	**-1.1**	
	baz=320							
C27K	**Jago River**	68.41	13	P	**P**	**01 25 03.0**	**-1.7**	
	baz=331							
A36M	**Sachs Harbour**	68.45	6	P	**P**	**01 25 03.3**	**-1.6**	
	baz=346							
G19K	**Purcell Mounta**	68.48	19	P	**P**	**01 25 03.5**	**-1.7**	
	baz=321							
F21K	**Alatna River**	68.49	17	IAmb	IAmb	01 25 08.4		
	comp=Z,18nm,1.1s							
F21K	**Alatna River**	68.49	17	P	**P**	**01 25 03.8**	**-1.5**	
	baz=324,SNR=16							
F22K	**John River**	68.56	17	P	**P**	**01 25 04.2**	**-1.5**	
	baz=325							
IVI	**Ivigtut**	68.62	333	*i* P	**P**	**01 25 09.8**	**+3.7**	
IVI				IAmb	IAmb	01 25 11.6		
	comp=Z,11nm,0.8s							
E23K	**Chandalar**	68.65	15	IAmb	IAmb	01 25 12.4		
	comp=Z,12nm,0.8s							
E23K	**Chandalar**	68.65	15	P	**P**	**01 25 04.4**	**-1.9**	
	baz=327,SNR=12							
H17K	**Granite Mounta**	68.66	21	IAmb	IAmb	01 25 11.6		
	comp=Z,14nm,0.9s							
H17K	**Granite Mounta**	68.66	21	P	**P**	**01 25 04.4**	**-1.9**	
	baz=319							
E24K	**Your Creek**	68.86	15	IAmb	IAmb	01 25 12.5		
	comp=Z,10nm,0.7s							
E24K	**Your Creek**	68.86	15	P	**P**	**01 25 05.2**	**-2.4**	
	baz=328,SNR=15							
H18K	**Honhosa River**	68.92	20	P	**P**	**01 25 06.2**	**-1.8**	
	baz=320							
BATI	**Baumata**	68.96	124	LR	LR	01 58 25.6		
	comp=Z,145nm,18.9s,baz=158,slow=39							
G21K	**Allakaket**	69.06	18	IAmb	IAmb	01 25 12.4		
	comp=Z,12nm,1.1s							
G21K	**Allakaket**	69.06	18	P	**P**	**01 25 07.3**	**-1.6**	
	baz=324,SNR=8.9							
H19K	**Roundabout Mou**	69.13	19	IAmb	IAmb	01 25 13.9		
	comp=Z,14nm,0.9s							
H19K	**Roundabout Mou**	69.13	19	P	**P**	**01 25 07.6**	**-1.6**	
	baz=322							
G22K	**Bettles**	69.19	17	P	**P**	**01 25 08.2**	**-1.4**	
	baz=325							
D27M	**Malcolm River**	69.20	12	P	**P**	**01 25 08.0**	**-1.8**	
	baz=334							
J14K	**Nanvaranak Lak**	69.22	24	P	**P**	**01 25 08.2**	**-1.6**	
	baz=317							
COLD	**Coldfoot**	69.22	16	P	**P**	**01 25 09.6**	**-0.2**	
COLD	**Coldfoot**	69.22	16	P	**P**	**01 25 08.6**	**-1.2**	
	baz=326,SNR=25							
I17K	**Unalakleet**	69.23	22	P	**P**	**01 25 08.0**	**-1.9**	
	baz=319							
E25K	**Arctic Village**	69.39	14	IAmb	IAmb	01 25 14.1		
	comp=Z,8.5nm,0.8s							
E25K	**Arctic Village**	69.39	14	P	**P**	**01 25 09.1**	**-1.8**	
	baz=330							
IMAR	**Indian Mountai**	69.44	18	P	**P**	**01 25 10.6**	**-0.5**	
F24K	**Squaw Lake**	69.46	15	P	**P**	**01 25 09.5**	**-1.8**	
	baz=328							
K13K	**Kusilvak Mount**	69.46	25	P	**P**	**01 25 09.9**	**-1.4**	
	baz=316							
D28M	**Stokes Point**	69.47	11	P	**P**	**01 25 08.9**	**-2.3**	
	baz=335							
H20K	**Anotleneega Mo**	69.55	19	P	**P**	**01 25 10.3**	**-1.6**	
	baz=323,SNR=21							
GCSA	**Galena City Sc**	69.63	20	P	**P**	**01 25 11.0**	**-1.3**	
	baz=322							
G23K	**Bananza Creek**	69.69	16	P	**P**	**01 25 10.9**	**-1.8**	
	baz=327,SNR=9.1							
J16K	**Anvik River**	69.72	22	P	**P**	**01 25 11.0**	**-1.9**	
	baz=319							
F25K	**Christian Rive**	69.84	14	IAmb	IAmb	01 25 19.0		
	comp=Z,11nm,0.8s							
F25K	**Christian Rive**	69.84	14	P	**P**	**01 25 11.6**	**-2.1**	
	baz=330,SNR=14							
H21K	**Melozitna Rive**	69.93	18	IAmb	IAmb	01 25 18.8		
	comp=Z,11nm,1.0s							
H21K	**Melozitna Rive**	69.93	18	P	**P**	**01 25 12.1**	**-2.2**	
	baz=325,SNR=10.0							
E28M	**Babbage River**	70.00	12	IAmb	IAmb	01 25 18.4		
	comp=Z,9.7nm,0.7s							
E28M	**Babbage River**	70.00	12	P	**P**	**01 25 12.4**	**-2.3**	
	baz=335							
F26K	**Sheenjek River**	70.03	14	IAmb	IAmb	01 25 19.8		
	comp=Z,7.9nm,0.8s							
F26K	**Sheenjek River**	70.03	14	P	**P**	**01 25 12.9**	**-1.9**	
	baz=331							
E27K	**Coleen River**	70.04	13	IAmb	IAmb	01 25 18.6		
	comp=Z,11nm,0.8s							
E27K	**Coleen River**	70.04	13	P	**P**	**01 25 13.1**	**-1.8**	
	baz=333							
M11K	**Mekoryuk**	70.06	27	P	**P**	**01 25 13.1**	**-2.0**	
	baz=316							
H22K	**Ishtalitna Cre**	70.07	17	P	**P**	**01 25 13.2**	**-1.9**	
	baz=326							
J17K	**VABM Dome**	70.08	22	P	**P**	**01 25 13.1**	**-2.0**	
	baz=320							
BMAR	**Burnt Mountain**	70.18	14	P	**P**	**01 25 16.2**	**+0.4**	
K15K	**Wolf Creek Mou**	70.19	23	P	**P**	**01 25 13.7**	**-2.1**	
	baz=319							
I20K	**Naaghedeneel**	70.22	19	P	**P**	**01 25 16.6**	**+0.7**	
I20K	**Naaghedeneel**	70.22	19	P	**P**	**01 25 13.9**	**-2.0**	
	baz=324							
G24K	**Hadweenzic Riv**	70.24	15	IAmb	IAmb	01 25 21.2		
	comp=Z,11nm,0.8s							
G24K	**Hadweenzic Riv**	70.24	15	P	**P**	**01 25 15.2**	**-0.9**	
	baz=329,SNR=5.9							
E29M	**Blow River**	70.45	11	IAmb	IAmb	01 25 22.2		
	comp=Z,11nm,0.6s							
E29M	**Blow River**	70.45	11	P	**P**	**01 25 16.5**	**-0.9**	
	baz=336,SNR=11							
G25K	**Bearman Lake**	70.47	15	P	**P**	**01 25 16.0**	**-1.4**	
	baz=330							
I21K	**Tanana**	70.52	18	IAmb	IAmb	01 25 22.5		
	comp=Z,11nm,0.9s							
I21K	**Tanana**	70.52	18	P	**P**	**01 25 16.7**	**-1.1**	
	baz=325							
L14K	**Kuka Creek**	70.54	25	IAmb	IAmb	01 25 21.7		
	comp=Z,13nm,0.7s							
L14K	**Kuka Creek**	70.54	25	P	**P**	**01 25 16.3**	**-1.6**	
	baz=318							
H23K	**Yukon River**	70.54	17	IAmb	IAmb	01 25 21.8		
	comp=Z,11nm,0.9s							
H23K	**Yukon River**	70.54	17	P	**P**	**01 25 16.7**	**-1.3**	
	baz=327,SNR=15							
J19K	**Poorman**	70.56	20	IAmb	IAmb	01 25 21.6		
	comp=Z,10nm,0.8s							
J19K	**Poorman**	70.56	20	P	**P**	**01 25 15.9**	**-2.2**	
	baz=323,SNR=9.9							
L15K	**Ungalak Mounta**	70.66	24	P	**P**	**01 25 17.5**	**-1.2**	
	baz=319							
J18K	**Innoko River**	70.69	21	IAmb	IAmb	01 25 24.1		
	comp=Z,14nm,0.9s							
J18K	**Innoko River**	70.69	21	P	**P**	**01 25 17.2**	**-1.7**	
	baz=322,SNR=9.0							
G26K	**Porcupine Rive**	70.75	14	IAmb	IAmb	01 25 21.1		
	comp=Z,21nm,1.6s							
G26K	**Porcupine Rive**	70.75	14	P	**P**	**01 25 17.3**	**-1.9**	
	baz=332							
J20K	**Nowinta River**	70.80	19	IAmb	IAmb	01 25 24.8		
	comp=Z,14nm,0.8s							
J20K	**Nowinta River**	70.80	19	P	**P**	**01 25 18.4**	**-1.1**	
	baz=324,SNR=15							
SPIA	**Saint Paul Isl**	70.82	31	P	**P**	**01 25 17.9**	**-1.8**	
	baz=314							
K17K	**Iditarod**	70.83	22	P	**P**	**01 25 18.4**	**-1.3**	
	baz=321,SNR=10.0							
F28M	**Old Crow**	70.85	12	IAmb	IAmb	01 25 24.9		
	comp=Z,9.0nm,0.8s							
F28M	**Old Crow**	70.85	12	P	**P**	**01 25 19.1**	**-0.7**	
	baz=335,SNR=9.2							
H24K	**Noodor Dome**	70.90	16	P	**P**	**01 25 20.5**	**+0.3**	
H24K				IAmb	IAmb	01 25 24.8		
	comp=Z,7.9nm,0.8s							
H24K	**Noodor Dome**	70.90	16	P	**P**	**01 25 19.0**	**-1.2**	
	baz=329,SNR=10							
MLY	**Manley**	70.94	18	IAmb	IAmb	01 25 23.6		
	comp=Z,8.8nm,0.9s							
MLY	**Manley**	70.94	18	P	**P**	**01 25 18.7**	**-1.8**	
	baz=326							
H25L	**Birch Creek**	70.96	15	P	**P**	**01 25 18.8**	**-1.6**	
	baz=330							
M13K	**Dall Lake**	71.01	25	P	**P**	**01 25 20.5**	**-0.3**	
M13K	**Dall Lake**	71.01	25	P	**P**	**01 25 19.0**	**-1.8**	
	baz=318							
INK	**Inuvik**	71.14	10	P	**P**	**01 25 19.9**	**-1.6**	
	baz=340,SNR=17							
I23K	**Minto, Yukon-K**	71.16	17	IAmb	IAmb	01 25 27.1		
	comp=Z,21nm,1.2s							
I23K	**Minto, Yukon-K**	71.16	17	P	**P**	**01 25 19.9**	**-1.8**	
	baz=328,SNR=15							
M14K	**Bethel**	71.21	25	P	**P**	**01 25 20.8**	**-1.3**	
	baz=319							
L16K	**Owhat River**	71.26	23	P	**P**	**01 25 22.8**	**+0.4**	
L16K	**Owhat River**	71.26	23	P	**P**	**01 25 20.5**	**-1.9**	
	baz=320,SNR=9.8							
G27K	**Doyon Strip**	71.27	13	IAmb	IAmb	01 25 27.7		
	comp=Z,11nm,0.8s							
G27K	**Doyon Strip**	71.27	13	P	**P**	**01 25 20.6**	**-1.8**	
	baz=333,SNR=20							
L17K	**Donlin**	71.28	22	P	**P**	**01 25 20.3**	**-2.2**	
	baz=321							
F30M	**Barrier River**	71.48	11	P	**P**	**01 25 23.0**	**-0.7**	
	baz=338,SNR=9.6							
K20K	**Telida**	71.49	20	IAmb	IAmb	01 25 27.2		
	comp=Z,10nm,0.8s							
K20K	**Telida**	71.49	20	P	**P**	**01 25 22.7**	**-1.0**	
	baz=324,SNR=13							
P08K	**Saint George I**	71.49	31	P	**P**	**01 25 22.2**	**-1.6**	
	baz=314							
CHUM	**Lake Minchumin**	71.51	19	P	**P**	**01 25 22.3**	**-1.5**	
	baz=325,SNR=6.8							
POKR	**Poker Plat Res**	71.61	16	P	**P**	**01 25 23.3**	**-1.1**	
	baz=329							
BPAW	**Bear Paw Mtn.**	71.66	18	IAmb	IAmb	01 25 28.6		
	comp=Z,11nm,0.9s							
BPAW	**Bear Paw Mtn.**	71.66	18	P	**P**	**01 25 23.6**	**-1.2**	
	baz=326,SNR=15							
M15K	**Kasigluk River**	71.66	24	P	**P**	**01 25 22.2**	**-2.6**	
	baz=320							
PRP	**Porcupine Dome**	71.67	15	P	**P**	**01 25 23.0**	**-2.0**	
	baz=330,SNR=9.3							
L18K	**Granite Mounta**	71.68	22	IAmb	IAmb	01 25 28.3		
	comp=Z,10nm,0.8s							
L18K	**Granite Mounta**	71.68	22	P	**P**	**01 25 22.8**	**-2.1**	
	baz=322,SNR=8.3							
NEA2	**Nenana**	71.69	17	P	**P**	**01 25 23.6**	**-1.4**	
	baz=328,SNR=22							
COLA	**College**	71.73	17	P	**P**	**01 25 25.1**	**0.0**	
COLA	**College**	71.73	17	P	**P**	**01 25 25.1**	**0.0**	
	comp=Z,23nm,0.9s							
COLA	**College**	71.73	17	P	**P**	**01 25 25.1**	**0.0**	
COLA				pmax	pmax			
	comp=Z,34nm,0.9s							
COLA	**College**	71.73	17	P	**P**	**01 25 24.1**	**-1.0**	
	baz=329							
G29M	**Pine Creek**	71.79	12	IAmb	IAmb	01 25 29.0		
	comp=Z,9.8nm,0.8s							
G29M	**Pine Creek**	71.79	12	P	**P**	**01 25 23.9**	**-1.6**	
	baz=336							
H27K	**Steamboat Moun**	71.81	13	IAmb	IAmb	01 25 29.5		
	comp=Z,9.5nm,0.8s							
H27K	**Steamboat Moun**	71.81	13	P	**P**	**01 25 23.9**	**-1.8**	
	baz=334,SNR=12							
F31M	**Tsiigehtchic**	71.93	10	P	**P**	**01 25 24.6**	**-1.6**	
	baz=340,SNR=12							
N14K	**Kuskokwak Cree**	71.93	25	P	**P**	**01 25 26.3**	**-0.1**	
N14K	**Kuskokwak Cree**	71.93	25	P	**P**	**01 25 25.0**	**-1.4**	
	baz=319							
CAST	**Castle Rocks**	71.95	19	IAmb	IAmb	01 25 29.7		
	comp=Z,14nm,0.9s							
CAST	**Castle Rocks**	71.95	19	P	**P**	**01 25 25.3**	**-1.3**	
	baz=326,SNR=20							
M16K	**Timber Creek**	71.95	23	IAmb	IAmb	01 25 30.9		
	comp=Z,13nm,1.0s							
M16K	**Timber Creek**	71.95	23	P	**P**	**01 25 24.8**	**-1.8**	
	baz=321							
G30M	**tAoh Zraii Nji**	72.00	11	IAmb	IAmb	01 25 28.6		
	comp=Z,26nm,1.2s							
G30M	**tAoh Zraii Nji**	72.00	11	P	**P**	**01 25 25.6**	**-1.2**	
	baz=338,SNR=9.5							
IL31		72.03	16	IAmb	IAmb	01 25 30.9		
	comp=Z,11nm,0.8s							
ILAR	**Eielson Array**	72.03	16	P	**P**	**01 25 25.7**	**-1.2**	
ILAR	**Eielson Array**	72.03	16	P	**P**	**01 25 25.8**	**-1.1**	
	comp=Z,12nm,1.0s,baz=332,slow=6.2,SNR=43							
	comp=Z,12nm,1.0s							
M17K	**Holitna River**	72.11	22	P	**P**	**01 25 26.4**	**-1.1**	
	baz=322,SNR=10							
L19K	**White Mountain**	72.23	21	P	**P**	**01 25 28.4**	**+0.2**	
L19K				IAmb	IAmb	01 25 33.8		
	comp=Z,15nm,1.1s							
L19K	**White Mountain**	72.23	21	P	**P**	**01 25 26.9**	**-1.4**	
	baz=324,SNR=10							
L20K	**Farewell, AK**	72.25	20	P	**P**	**01 25 26.5**	**-1.9**	
	baz=324,SNR=16							
N15K	**Kwethluk River**	72.26	24	IAmb	IAmb	01 25 34.1		
	comp=Z,15nm,1.0s							
N15K	**Kwethluk River**	72.26	24	P	**P**	**01 25 26.5**	**-1.9**	
	baz=320							
HDA	**Harding Lake**	72.33	16	P	**P**	**01 25 27.3**	**-1.5**	
	baz=330							
I26K	**Coal Creek Min**	72.33	15	P	**P**	**01 25 26.6**	**-2.1**	
	baz=332,SNR=5.1							
G31M	**Satah River**	72.34	10	IAmb	IAmb	01 25 31.8		
	comp=Z,15nm,0.8s							
G31M	**Satah River**	72.34	10	P	**P**	**01 25 27.3**	**-1.4**	
	baz=339,SNR=9.2							
PPLA	**Purkeypile**	72.36	19	IAmb	IAmb	01 25 31.9		
	comp=Z,10nm,0.7s							
PPLA	**Purkeypile**	72.36	19	P	**P**	**01 25 27.8**	**-1.3**	
	baz=326							
I27K	**Kandik River**	72.36	14	P	**P**	**01 25 27.9**	**-1.1**	
	baz=334,SNR=14							
H29M	**Whitestone**	72.37	12	IAmb	IAmb	01 25 32.5		
	comp=Z,15nm,0.8s							
H29M	**Whitestone**	72.37	12	P	**P**	**01 25 27.5**	**-1.5**	
	baz=336,SNR=11							
TRF	**Thorofare Moun**	72.37	18	IAmb	IAmb	01 25 38.2		
	comp=Z,19nm,1.5s							
TRF	**Thorofare Moun**	72.37	18	P	**P**	**01 25 27.9**	**-1.3**	
	baz=327							
N16K	**Nishlik Lake**	72.44	24	P	**P**	**01 25 28.0**	**-1.5**	
	baz=321							
MCK	**McKinley**	72.46	18		**P**	**01 25 29.2**	**-0.4**	
MCK				IAmb	IAmb	01 25 33.4		
	comp=Z,7.7nm,0.7s							
MCK	**McKinley**	72.46	18	P	**P**	**01 25 29.2**	**-0.4**	
MCK				pmax	pmax			
	comp=Z,8.0nm,0.7s							
MCK	**McKinley**	72.46	18	P	**P**	**01 25 27.8**	**-1.7**	
	baz=328							
EPYK	**Eagle Plains**	72.49	12	P	**P**	**01 25 27.4**	**-2.3**	
	baz=327							
J25K	**Salcha River,**	72.49	16	P	**P**	**01 25 28.4**	**-1.4**	
	baz=331,SNR=12							
M18K	**Stony River**	72.51	22	P	**P**	**01 25 27.6**	**-2.2**	
	baz=323							
O14K	**Tigyukauivet M**	72.58	25	P	**P**	**01 25 28.5**	**-1.8**	
	baz=320							
M19K	**Big River Lodg**	72.58	21	P	**P**	**01 25 27.8**	**-2.5**	
	baz=324							
FRB	**Fobisher Bay**	72.60	343	LR	LR	01 59 35.3		
	comp=Z,45nm,19.1s,baz=89,slow=38							
RND	**Reindeer**	72.76	18	IAmb	IAmb	01 25 45.5		
	comp=Z,16nm,1.2s							
I28M	**Miner Creek**	72.80	13	IAmb	IAmb	01 25 36.1		
	comp=Z,13nm,0.6s							
I28M	**Miner Creek**	72.80	13	P	**P**	**01 25 30.0**	**-1.7**	
	baz=335,SNR=24							
N17K	**Nushagak Hills**	72.88	23	IAmb	IAmb	01 25 34.2		
	comp=Z,18nm,1.4s							
N17K	**Nushagak Hills**	72.88	23	P	**P**	**01 25 30.3**	**-1.8**	
	baz=322							
M20K	**Styx River**	72.95	20	P	**P**	**01 25 29.9**	**-2.7**	
	baz=325							
J26L	**Joseph Creek**	72.97	15	IAmb	IAmb	01 25 35.6		
	comp=Z,8.5nm,0.8s							
J26L	**Joseph Creek**	72.97	15	P	**P**	**01 25 31.0**	**-1.7**	
	baz=332,SNR=20							
O15K	**Ungalikthiuk R**	73.11	25	P	**P**	**01 25 31.2**	**-2.2**	
	baz=321							
K24K	**Donnelly Dome**	73.11	16	P	**P**	**01 25 32.0**	**-1.5**	
	baz=330,SNR=12							
N18K	**Kilae Creek**	73.15	22	P	**P**	**01 25 31.2**	**-2.5**	
	baz=323							
I29M	**Ogilvie Camp,**	73.17	13	IAmb	IAmb	01 25 36.5		
	comp=Z,14nm,0.8s							
I29M	**Ogilvie Camp,**	73.17	13	P	**P**	**01 25 32.4**	**-1.4**	
	baz=336,SNR=20							
SKT	**Skwentna**	73.29	20	P	**P**	**01 25 33.3**	**-1.3**	
SKT	**Skwentna**	73.29	20	P	**P**	**01 25 32.9**	**-1.6**	
	baz=326,SNR=24							
WAT1	**Susitna Watana**	73.32	18	P	**P**	**01 25 32.6**	**-2.1**	
	baz=328							
O16K	**Kokwok River B**	73.34	24	IAmb	IAmb	01 25 38.9		
	comp=Z,16nm,0.8s							
O16K	**Kokwok River B**	73.34	24	P	**P**	**01 25 33.0**	**-1.8**	
	baz=322,SNR=9.3							
SCRK	**Sand Creek**	73.34	16	IAmb	IAmb	01 25 39.5		
	comp=Z,15nm,1.2s							
SCRK	**Sand Creek**	73.34	16	P	**P**	**01 25 33.4**	**-1.5**	
	baz=332,SNR=18							
RIDG	**Independent Ri**	73.37	16	IAmb	IAmb	01 25 37.5		
	comp=Z,15nm,1.0s							
RIDG	**Independent Ri**	73.37	16	P	**P**	**01 25 33.4**	**-1.7**	
	baz=331,SNR=9.8							
H31M	**Peel River**	73.38	11	IAmb	IAmb	01 25 37.9		
	comp=Z,13nm,0.7s							
H31M	**Peel River**	73.38	11	P	**P**	**01 25 33.7**	**-1.3**	
	baz=339,SNR=5.7							
DHY	**Denali Highway**	73.39	17	IAmb	IAmb	01 25 38.1		
	comp=Z,11nm,0.9s							
DHY	**Denali Highway**	73.39	17	P	**P**	**01 25 33.2**	**-2.0**	
	baz=329,SNR=10							
N19K	**Bonanza Creek**	73.45	22	P	**P**	**01 25 34.0**	**-1.6**	
	baz=324							
O17K	**Koliganek Bris**	73.51	23	P	**P**	**01 25 34.1**	**-1.7**	
	baz=323							
I30M	**Mount Dempster**	73.61	12	IAmb	IAmb	01 25 39.5		
	comp=Z,10nm,0.8s							
I30M	**Mount Dempster**	73.61	12	P	**P**	**01 25 34.6**	**-1.9**	
	baz=338,SNR=16							
WAT6	**Susitna Watana**	73.73	18	P	**P**	**01 25 34.7**	**-2.6**	
	baz=329							
N20K	**Mount Spurr**	73.76	20	P	**P**	**01 25 34.9**	**-2.5**	
	baz=326							
SPCR	**Spurr Chakacha**	73.76	20	P	**P**	**01 25 35.2**	**-2.1**	
	baz=326							
P16K	**Nushagak River**	73.82	24	P	**P**	**01 25 35.4**	**-2.2**	
	baz=322							
M22K	**Willow**	73.85	19	P	**P**	**01 25 36.2**	**-1.5**	
	baz=328							
PAX	**Paxson**	73.91	17	IAmb	IAmb	01 25 42.0		
	comp=Z,12nm,0.8s							
PAX	**Paxson**	73.91	17	P	**P**	**01 25 36.9**	**-1.4**	
	baz=331,SNR=13							
SUA	**Susitna One**	73.93	20	P	**P**	**01 25 35.5**	**-2.9**	
	baz=327							
O19K	**Port Alsworth**	74.00	22	P	**P**	**01 25 36.6**	**-2.0**	
	baz=325							
O18K	**Koktuh Hills**	74.02	23	IAmb	IAmb	01 25 43.0		
	comp=Z,22nm,0.9s							
O18K	**Koktuh Hills**	74.02	23	P	**P**	**01 25 36.3**	**-2.5**	
	baz=324							
DAWY	**Dawson**	74.16	14	P	**P**	**01 25 39.0**	**-0.7**	
DAWY				IAmb	IAmb	01 25 42.6		
	comp=Z,9.6nm,0.8s							
DAWY	**Dawson**	74.16	14	P	**P**	**01 25 37.7**	**-2.0**	
	baz=336,SNR=17							
P17K	**Kvichak River**	74.17	23	P	**P**	**01 25 37.6**	**-2.1**	
	baz=323							
J30M	**Hart River**	74.22	12	P	**P**	**01 25 37.8**	**-2.3**	
	baz=338							
PMR	**Palmer**	74.24

baz=324
PWL Port Wells 75.06 19 IAmb IAmb 01 25 47.5
comp=Z,15nm,0.8s
PWL Port Wells 75.06 19 P P 01 25 43.1 -1.8
baz=329
Q17K Contact Creek 75.09 24 P P 01 25 44.2 -1.0
baz=324
KLU Klutina 75.10 18 IAmb IAmb 01 25 50.0
comp=Z,18nm,0.9s
KLU Klutina 75.10 18 P P 01 25 44.4 -0.8
baz=331
FALS False Pass 75.15 29 P P 01 25 45.2 -0.1
baz=319
HOM Homer 75.20 21 P P 01 25 45.4 -0.3
baz=327
MAYO Mayo, Yukon 75.21 12 P P 01 25 45.5 -0.1
baz=338
M27K Edge Creek, AK 75.23 15 IAmb IAmb 01 25 50.7
comp=Z,17nm,1.0s
M27K Edge Creek, AK 75.23 15 P P 01 25 45.4 -0.5
baz=334
L29M L29M 75.27 13 IAmb IAmb 01 25 49.7
comp=Z,16nm,1.1s
L29M L29M 75.27 13 P P 01 25 44.5 -1.5
baz=337,SNR=14
N25K Chitina, Valde 75.31 17 P P 01 25 44.6 -1.8
baz=332
GLI Glacier Island 75.36 18 IAmb IAmb 01 25 51.2
comp=Z,19nm,0.8s
GLI Glacier Island 75.36 18 P P 01 25 45.5 -1.0
baz=330,SNR=5.3
BVCY Beaver Creek 75.38 15 P P 01 25 45.7 -1.1
baz=334
SEW Seward 75.42 20 P P 01 25 46.0 -0.9
baz=328
R17L Mt. Peulik Vol 75.45 24 P P 01 25 46.1 -1.1
baz=324
M29M Somme Creek 75.82 14 P P 01 25 47.6 -1.7
baz=336,SNR=15
CHGN Chignik 75.84 26 P P 01 25 48.4 -0.9
baz=322
MCARA McCarthy VSAT 75.86 16 P P 01 25 48.7 -0.7
baz=333
SDPT Sand Point 75.86 28 P P 01 25 48.5 -1.0
baz=321
Q20K Shuyak Island 75.87 22 P P 01 25 48.8 -0.6
baz=326
BMRM Bremner River 75.87 17 P P 01 25 48.4 -1.2
baz=332
EYAK Cordova Ski Ar 75.97 18 P P 01 25 49.4 -0.6
baz=331
M30M Minto, Yukon 76.00 13 P P 01 25 48.8 -1.4
baz=338
P23K Montague Islan 76.04 19 P P 01 25 49.0 -1.5
baz=330
YUK3 Moose Creek 76.04 15 P P 01 25 49.4 -1.3
baz=335,SNR=19
R18K Karluk 76.11 24 P P 01 25 49.3 -1.5
baz=325
BLKN Baker Lake 76.32 354 IAmb IAmb 01 25 55.2
comp=Z,18nm,1.0s
KNRA Kununurra 76.33 124 P P 01 25 50.9 -1.7
KNRA Kununurra 76.33 124 P P 01 25 52.3 -0.3
CRQE Cirque 76.41 17 P P 01 25 52.0 -0.7
baz=333
KDAK Kodiak Island 76.50 23 LR LR 02 01 25.8
comp=Z,55nm,21.9s,baz=328,slow=37
KDAK Kodiak Island 76.50 23 P P 01 25 51.8 -1.3
baz=326
CHNA Chernabura Isl 76.58 28 P P 01 25 52.2 -1.4
baz=322
CTG Chitna Glacier 76.60 16 P P 01 25 52.6 -1.2
baz=334
CTGM Chitina Glacie 76.60 16 IAmb IAmb 01 25 55.3
comp=Z,27nm,1.4s
YUK8 Steele Glacier 76.63 15 P P 01 25 52.6 -1.6
baz=336
GRNC Granite Creek 76.72 16 IAmb IAmb 01 25 59.3
comp=Z,14nm,1.0s
OHAK Old Harbor 76.75 23 P P 01 25 53.1 -1.4
baz=326
M31M Drury Creek, Y 76.76 12 P P 01 25 54.2 -0.4
baz=340
LOGN Logan Glacier 76.79 16 IAmb IAmb 01 26 00.3
comp=Z,13nm,1.0s
YUK4 Talbot Arm 76.80 14 P P 01 25 53.5 -1.5
baz=336,SNR=12
Q23K Middleton Isla 76.80 19 P P 01 25 52.8 -2.0
baz=331
KAIM Kayak Island 76.84 18 P P 01 25 53.7 -1.2
baz=332
MMPY Sheldon Lake, 76.84 11 IAmb IAmb 01 26 00.0
comp=Z,8.6nm,0.6s
MMPY Sheldon Lake, 76.84 11 P P 01 25 54.0 -1.1
baz=342,SNR=5.9
FARO Faro, Yukon 76.90 12 IAmb IAmb 01 25 58.6
comp=Z,13nm,0.7s
FARO Faro, Yukon 76.90 12 P P 01 25 54.5 -0.9
baz=340,SNR=19
N30M Aishikik Lake 76.98 14 P P 01 25 54.1 -1.8
baz=338,SNR=8.8
O28M Mount Upton 77.01 15 P P 01 25 54.9 -1.4
baz=335
SII Sitkinak Islan 77.02 24 P P 01 25 55.3 -0.8
baz=325
MESA MESA 77.17 16 P P 01 25 55.9 -1.3
baz=334
WRGLY Wrigley 77.18 7 P P 01 25 56.4 -0.4
baz=348
N31M Braeburn, Yuko 77.19 13 IAmb IAmb 01 26 01.8
comp=Z,18nm,0.8s
N31M Braeburn, Yuko 77.19 13 P P 01 25 55.3 -1.7
baz=339,SNR=18
YUK6 Outpost Mounta 77.22 14 P P 01 25 55.3 -2.1
baz=337,SNR=7.7
HYT Haines Junctio 77.49 14 IAmb IAmb 01 26 02.6
comp=Z,14nm,0.8s
HYT Haines Junctio 77.49 14 P P 01 25 57.6 -1.2
baz=337,SNR=23
PINM Pinnacle 77.61 16 P P 01 25 58.1 -1.4
baz=335
O29M Mount Kennedy 77.77 15 P P 01 25 59.7 -0.6
baz=336
O30N Mendenhall 77.81 13 IAmb IAmb 01 26 05.2
comp=Z,13nm,0.8s
O30N Mendenhall 77.81 13 P P 01 25 60.0 -0.5
baz=338,SNR=15
N32M Quiet Lake 77.96 12 P P 01 26 00.9 -0.4
baz=341
WHY Whitehorse 78.12 13 IAmb IAmb 01 26 05.8
comp=Z,12nm,0.7s
WHY Whitehorse 78.12 13 P P 01 26 01.4 -1.0
baz=339
PNL Peninsula 78.18 15 P P 01 26 02.0 -0.6
baz=336
P30M Million Dollar 78.25 14 P P 01 26 02.5 -0.4
baz=338
TGTN Hyland Airport 78.30 10 P P 01 26 03.2 0.0
baz=344
YKAW3 Yellowknife Wh 78.43 3 IAmb IAmb 01 26 07.0
comp=Z,19nm,0.7s
YKA Yellowknife Ar 78.50 3 P P 01 26 03.3 -0.9
YKA Yellowknife Ar 78.50 3 P P 01 26 03.8 -0.4
comp=Z,9.2nm,0.7s,baz=352,slow=6.8,SNR=18
YKA LR LR 02 04 27.9
comp=Z,30nm,18.4s,baz=75,slow=38
comp=Z,9.2nm,0.7s
YKAW1 Yellowknife Wh 78.52 3 IAmb IAmb 01 26 08.9
comp=Z,23nm,0.8s
P29M Windy Craggy 78.55 15 P P 01 26 04.7 +0.1
baz=337
P33M Teslin, Yukon 78.90 12 IAmb IAmb 01 26 09.4
comp=Z,14nm,0.8s
P33M Teslin, Yukon 78.90 12 P P 01 26 06.1 -0.5
baz=341,SNR=13
PLBC Pleasant Camp 78.98 14 P P 01 26 06.9 0.0
baz=338,SNR=7.8
SKAG Skagway 79.17 14 P P 01 26 07.7 -0.2
baz=339
P32M Atlin 79.33 13 P P 01 26 08.7 -0.2
baz=340
WTLY Watson Lake, Y 79.59 10 IAmb IAmb 01 26 15.0
comp=Z,12nm,0.7s
WTLY Watson Lake, Y 79.59 10 P P 01 26 10.0 -0.3
baz=344
SCHQ Schefferville 79.77 337 P P 01 26 10.6 -0.8
comp=Z,5.6nm,0.8s,baz=33,slow=9.3,SNR=8.4
SCHQ LR LR 02 00 35.9
comp=Z,74nm,21.0s,baz=38,slow=35
comp=Z,5.6nm,0.8s
R33M Jennings River 79.97 11 P P 01 26 11.7 -0.8
baz=342,SNR=12
BOSA Boshof 80.13 220 P P 01 26 13.6 -0.1
comp=Z,6.8nm,0.9s,baz=28,slow=3.9,SNR=7.6
comp=Z,6.8nm,0.9s
Q32M Nakina River 80.17 12 P P 01 26 12.3 -1.4
baz=341,SNR=5.5
S31K Pelican 80.40 15 P P 01 26 13.6 -1.0
baz=338
R32K Eaglecrest 80.43 14 P P 01 26 13.8 -1.0
baz=340
DLBC Dease Lake 81.03 11 P P 01 26 16.6 -1.5
baz=343
S32K Killisnoo 81.18 14 P P 01 26 17.4 -1.3
baz=340
TOAD Toad River Com 81.28 9 P P 01 26 18.3 -1.1
baz=347,SNR=7.6
S34M Telegraph Cree 81.36 12 IAmb IAmb 01 26 23.8
comp=Z,12nm,0.8s
S34M Telegraph Cree 81.36 12 P P 01 26 18.5 -1.3
baz=342,SNR=11
SIT Sitka 81.42 14 P P 01 26 18.5 -1.6
baz=339
FCC Fort Churchill 81.64 353 P P 01 26 20.5 -0.7
FCC IAmb IAmb 01 26 24.6
comp=Z,9.7nm,0.8s
FCC Fort Churchill 81.64 353 P P 01 26 20.5 -0.7
FCC pmax pmax
comp=Z,10.0nm,0.8s
T35M Bob Quinn 82.39 12 P P 01 26 24.3 -1.0
baz=343
WRAK Wrangell Islan 82.58 13 IAmb IAmb 01 26 38.2
comp=Z,16nm,1.0s
WRAK Wrangell Islan 82.58 13 P P 01 26 24.7 -1.5
baz=342
U33K Whale Pass 82.73 14 P P 01 26 25.0 -1.9
baz=341
WB0 Warramunga Arr 82.96 122 IAmb IAmb 01 26 30.0
comp=Z,13nm,0.8s
WRA Warramunga Arr 83.05 123 P P 01 26 27.6 -1.6
comp=Z,19nm,0.7s,baz=316,slow=5.5,SNR=72
comp=Z,19nm,0.7s
WRA Warramunga Arr 83.05 123 *i* P P 01 26 27.3 -1.9
WRA pmax pmax
comp=Z,19nm,0.7s
WRAB Tennant Creek 83.05 123 P P 01 26 29.1 0.0
WRAB Tennant Creek 83.05 123 P P 01 26 29.1 0.0
WRAB pmax pmax
comp=Z,25nm,0.9s
WR8 Warramunga Arr 83.17 122 P P 01 26 28.6 -1.2
CRAG Craig 83.34 14 P P 01 26 28.3 -1.8
baz=341
V35K Ketchikan 83.75 13 P P 01 26 31.3 -0.9
baz=342
ASAR Alice Springs 85.45 125 P P 01 26 40.0 -1.3
ASAR Alice Springs 85.45 125 P P 01 26 39.9 -1.3
comp=Z,10nm,0.8s,baz=316,slow=5.3,SNR=39
comp=Z,10nm,0.8s
ASAR Alice Springs 85.45 125 P P 01 26 40.0 -1.3
FFC Flin Flon 86.25 356 P P 01 26 44.6 -0.3
FFC IAmb IAmb 01 26 47.9
comp=Z,12nm,0.8s
FFC Flin Flon 86.25 356 P P 01 26 44.6 -0.3
FFC pmax pmax
comp=Z,12nm,0.8s
LLLB Lillooet 89.76 9 IAmb IAmb 01 27 05.5
comp=Z,11nm,0.9s
CBB Campbell River 89.87 11 IAmb IAmb 01 27 06.0
comp=Z,16nm,1.4s
ULM Lac du Bonnet 90.22 352 P P 01 27 04.8 +0.9
comp=Z,3.3nm,0.6s,baz=14,slow=7.7,SNR=4.6
ULM LR LR 02 09 36.4
comp=Z,44nm,20.0s,baz=28,slow=37
comp=Z,3.3nm,0.6s
EPLO Experimental L 90.53 351 IAmb IAmb 01 27 07.8
comp=Z,6.6nm,0.8s
E46A Sault Ste Mari 92.09 344 IAmb IAmb 01 27 15.7
comp=Z,6.6nm,0.8s
B08A Colville Reser 92.25 7 IAmb IAmb 01 27 16.7
comp=Z,7.8nm,0.8s
SADO Sadowa 92.32 340 LR LR 02 08 51.0
comp=Z,60nm,20.1s,baz=1.0,slow=36
NEW Newport 92.54 6 IAmb IAmb 01 27 18.1
comp=Z,7.5nm,0.7s
NEW Newport 92.54 6 LR LR 02 13 00.3
comp=Z,42nm,18.8s,baz=340,slow=38
NLWA Neilton Lookou 92.66 10 IAmb IAmb 01 27 19.5
comp=Z,7.3nm,0.8s
EGMT Eagleton 93.12 1 IAmb IAmb 01 27 21.1
comp=Z,6.0nm,0.7s
LTY Liberty 93.20 8 IAmb IAmb 01 27 20.5
comp=Z,5.5nm,0.7s
LON Longmire 93.56 9 P P 01 27 19.3 -0.2
LON IAmb IAmb 01 27 22.7
comp=Z,5.8nm,0.7s
LON Longmire 93.56 9 P P 01 27 19.3 -0.2
LON pmax pmax
comp=Z,6.0nm,0.7s
D08A Wollman Farm, 93.58 7 IAmb IAmb 01 27 22.8
comp=Z,5.0nm,0.7s
LYMT Lyon Mountain 94.11 3 P P 01 27 21.8 -0.4
E08A Dider Farm, El 94.13 7 P P 01 27 21.6 -0.4
MSO Missoula 94.18 4 IAmb IAmb 01 27 24.7
comp=Z,8.1nm,1.6s
E09A Wood Farm, Sta 94.19 7 IAmb IAmb 01 27 25.6
comp=Z,6.8nm,0.7s
G40A Rib Lake 94.30 347 IAmb IAmb 01 27 25.6
comp=Z,5.5nm,0.9s
LAO LASA Array 94.44 358 P P 01 27 23.7 +0.1
LRM Limekiln Ridge 95.25 3 P P 01 27 25.7 -1.8
DLMT Dillon 95.70 3 IAmb IAmb 01 27 31.5
comp=Z,5.6nm,1.1s
PLID Pearl Lake 95.78 5 IAmb IAmb 01 27 32.8
comp=Z,3.2nm,0.7s
YNE Yellowstone No 96.13 1 IAmb IAmb 01 27 34.5
comp=Z,9.2nm,1.2s
I07A Izee 96.47 8 P P 01 27 32.4 -0.5
ECSD EROS Data Cent 96.73 351 IAmb IAmb 01 27 37.0
comp=Z,4.1nm,0.8s
RSSD Black Hills 96.94 357 P P 01 27 34.8 -0.4
RSSD IAmb IAmb 01 27 39.9
comp=Z,3.1nm,0.7s
RSSD Black Hills 96.94 357 P P 01 27 34.8 -0.4
RSSD pmax pmax
comp=Z,3.0nm,0.7s
PDAR Pinedale Array 98.38 1 P Pdif 01 27 41.9 +0.2
comp=Z,0.5nm,0.6s,baz=342,slow=3.7,SNR=5.6
PDAR LR LR 02 16 00.8
comp=Z,24nm,20.6s,baz=43,slow=38
comp=Z,0.5nm,0.6s
NVAR Mina Array Bea 102.18 8 P Pdif 01 28 00.5 +1.8
comp=Z,0.4nm,0.5s,baz=355,slow=6.1,SNR=5.2
SYO Syowa Base 110.50 192↑ *e*Pdiff Pdif 01 28 36.4 +2.1
ELIB Princess Elisa 115.93 195 *d*PKPdf PKiKP 01 32 46.3 +1.1
TROLL Troll, Antarti 120.83 200 ||P PKiKP 01 32 55.2 +0.4
comp=Z,114nm,0.6s
SNAA Sanae 122.11 201 ||P PKiKP 01 32 58.9 +1.7
comp=Z,18nm,0.6s
SNAA Sanae 122.11 201 PKP PKiKP 01 32 57.8 +0.6
comp=Z,0.8nm,0.7s,baz=68,slow=5.4,SNR=6.6
VNA2 Neumayer--Watz 123.10 203 ||P PKiKP 01 33 00.3 +1.2
comp=Z,1.9nm,0.6s,baz=23,slow=3.4
VNA3 Neumayer Olymp 123.91 203 ||P PKiKP 01 33 01.8 +1.1
comp=Z,2.3nm,0.7s
ROSC El Rosal 126.02 316 PKP PKPdf 01 33 06.2 -0.5
comp=Z,6.6nm,0.6s,baz=49,slow=20,SNR=5.1
VNDA Vanda 128.00 164 PKP PKPdf 01 33 07.5 -0.5
comp=Z,1.1nm,0.9s,baz=280,slow=6.1,SNR=4.6
QSPA South Pole Qui 129.02 180 PKPdf 01 33 10.0 -0.4
QSPA South Pole Qui 129.02 180 PKP PKPdf 01 33 10.2 -0.1
comp=Z,7.7nm,0.7s,baz=282,slow=3.4,SNR=13
SIV San Ignacio 132.74 286 PKP PKiKP 01 33 19.5 -0.5
comp=Z,0.4nm,0.5s,baz=14,slow=4.2,SNR=2.8
CPUP Villa Florida 135.70 271 PKP PKPdf 01 33 23.1 -1.1
comp=Z,0.8nm,1.0s,baz=7.6,slow=0.2,SNR=3.5
AC02 Maricunga 145.08 279 PKPdf PKPbc 01 33 40.9 -0.3
VA03 San Esteban 148.86 270 PKPbc PKPbc 01 33 51.1 -0.2
BO04 La Punta 149.36 268 PKPbc PKPbc 01 33 51.8 -0.7
PLCA Paso Flores 151.09 255 PKPbc PKPbc 01 33 55.4 -1.1
comp=Z,10nm,1.1s,baz=90,slow=2.0,SNR=6.8
PLCA Paso Flores 151.09 255 *eP* PKPdf 01 33 52.4 +1.8

*NEIC **01** 01:21:16.2±0.9, 19°.40N±0°.03×65°.42W±0°.07, h10km±2km, ML2.4/20, Md3.5/10(RSPR), Error ellipse: s-maj=13.0km s-min=3.5km az=114.0*

RSPR 01 01:21:19.7, 19°.44N×65°.48W, h67km±8km, MD3.5/10, 3C-10D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCPR	Guaynabo City	1.26	207		Pn	01 21 39.7	-1.7
GCPR					Sn	01 21 56.6	-1.1
GCPR				IAML		01 22 01.0	
	comp=N,46nm,0.7s						
GCPR	Guaynabo City	1.26	207	‖ *i*P	Pn	01 21 40.4	-1.0
GCPR	Guaynabo City	1.26	207	*e*S	Sn	01 21 56.9	-0.8
HUMP	Col San Antoni	1.34	195	Pn	Pn	01 21 40.2	-2.3
HUMP				Sn	Sn	01 21 58.4	-1.1
HUMP				IAML		01 22 05.1	
	comp=E,47nm,0.3s						
HUMP	Col San Antoni	1.34	195↑	*e*P	Pn	01 21 41.6	-0.8
HUMP	Col San Antoni	1.34	195	*e*S	Sn	01 21 58.8	-0.7
EMPR	Esperanza - Ma	1.38	226	Pn	Pn	01 21 41.5	-1.4
EMPR					Sn	01 22 01.0	+0.5
EMPR	Esperanza - Ma	1.38	226	‖ *e*P	Pn	01 21 42.8	-0.1
EMPR	Esperanza - Ma	1.38	226	*e*S	Sn	01 22 00.3	-0.2
ECPR	Experimental S	1.40	217	‖ *e*P	Pn	01 21 42.5	-0.7
SJG	San Juan	1.47	206	Pn	Pn	01 21 42.9	-1.2
SJG				IAML		01 22 09.0	
	comp=E,38nm,0.6s						
SJG				IAML		01 22 13.8	
	comp=E,46nm,0.6s						
SJG	San Juan	1.47	206	‖ *e*P	Pn	01 21 43.6	-0.5
SJG	San Juan	1.47	206	*e*S	Sn	01 22 01.8	-0.7
PDPR	Patillas Dam,	1.51	200	Pn	Pn	01 21 43.3	-1.3
PDPR	Patillas Dam,	1.51	200	‖ *e*P	Pn	01 21 44.0	-0.7
PDPR	Patillas Dam,	1.51	200	*e*S	Sn	01 22 04.5	+1.1
IGPR	InterUniversit	1.58	202		Pn	01 21 45.2	-0.5
IGPR					Sn	01 22 05.1	-0.2
IGPR	InterUniversit	1.58	202	‖ *e*P	Pn	01 21 45.2	-0.5
IGPR	InterUniversit	1.58	202	*e*S	Sn	01 22 05.1	-0.2
AOPR	Arecibo Observ	1.62	228	Pn	Pn	01 21 44.8	-1.5
AOPR					Sn	01 22 06.4	+0.1
AOPR	Arecibo Observ	1.62	228	‖ *e*P	Pn	01 21 45.7	-0.6
AOPR	Arecibo Observ	1.62	228	*e*S	Sn	01 22 05.3	-1.0
CELP	Cerrillos	1.71	218	Pn	Pn	01 21 45.5	-1.9
CELP					Sn	01 22 07.9	-0.5
CELP				IAML		01 22 21.4	
	comp=N,34nm,1.3s						
CELP	Cerrillos	1.71	218	‖ *e*P	Pn	01 21 46.7	-0.7
CELP	Cerrillos	1.71	218	*e*S	Sn	01 22 08.4	-0.1
OBIP	Obispado Ponce	1.75	218	Pn	Pn	01 21 46.5	-1.5
OBIP					Sn	01 22 07.5	-1.8
OBIP				IAML		01 22 08.5	
	comp=N,32nm,2.8s						
OBIP				IAML		01 22 19.1	
	comp=E,31nm,0.7s						
OBIP	Obispado Ponce	1.75	218	‖ *e*P	Pn	01 21 47.1	-0.9
OBIP	Obispado Ponce	1.75	218	*e*S	Sn	01 22 08.8	-0.6
AGPR	Aguadilla, PR	1.82	238	Pn	Pn	01 21 48.5	-0.4
AGPR				IAML		01 22 00.3	
	comp=N,64nm,2.5s						
LSP	Las Mesas	1.98	231		Pn	01 21 50.1	-0.9
LSP	Las Mesas	1.98	231↑	*e*P	Pn	01 21 50.1	-0.9
MLPR	Magueyes Islan	2.08	226	‖ *e*P	Pn	01 21 52.3	-0.1
MLPR	Magueyes Islan	2.08	226	*e*S	Sn	01 22 16.5	-0.8
CRPR	Cabo Rojo, PR	2.10	227	Pn	Pn	01 21 51.1	-1.6
CRPR				IAML		01 22 42.2	
	comp=N,34nm,1.8s						
CRPR				IAML		01 23 06.8	
	comp=E,43nm,2.0s						
CRPR	Cabo Rojo, PR	2.10	227↑	*e*P	Pn	01 21 51.8	-0.9
CRPR	Cabo Rojo, PR	2.10	227	*e*S	Sn	01 22 16.9	-0.9

IDC 01 01:22:01.6±1.7, 51°.59N×82°.68E, h0km, mbtmp2.9/3, ML2.6/2, Error ellipse: s-maj=17.0km s-min=15.0km az=97.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	Zalesovo Beam	2.70	28	Pn	Pn	01 22 46.2	0.0
	2.8nm,0.3s,baz=211,slow=16,SNR=17						
ZALV				Sn	Sn	01 23 19.6	+0.1
	2.4nm,0.3s,baz=212,slow=24,SNR=9.8						
	4.8nm,0.3s						
I46RU	ZALESOVO INFRA	2.70	28	I	I	01 42 22.9	
	baz=215,slow=319,SNR=6.5						
KURBB	Kurchatov Arra	2.79	251	Pn	Pn	01 22 47.3	-0.1
	3.2nm,0.8s,baz=64,slow=15,SNR=1.2						
KURBB				Sn	Sn	01 23 22.7	+1.1
	0.7nm,0.3s,baz=68,slow=29,SNR=7.9						
MKAR	Makanchi Array	4.80	183	Pn	Pn	01 23 16.2	+1.0
	0.6nm,0.3s,baz=6.8,slow=11,SNR=1.9						
MKAR				Sn	Sn	01 24 12.8	+1.2
	0.3nm,0.3s,baz=4.1,slow=17,SNR=1.7						
MKAR				Lg	Lg	01 24 29.8	
	1.0nm,0.3s,baz=4.7,slow=25,SNR=5.4						
	1.2nm,0.4s						

KRSC 01 01:35:13.4±1.0, 56°.02N×163°.92E, h15km±14km, MI3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	Krutoberegovo	0.65	287	*eP*	Pg	01 35 25.4	-0.6
KBTR				*eS*	Sb	01 35 35.1	0.0
KBG	Krutoberegovo	0.72	290	*eP*	Pg	01 35 27.2	-0.2
KBG				*eS*	Sg	01 35 37.0	0.0
BKI	Bering	1.42	124	*eP*	Pn	01 35 38.8	+0.2
BKI				*eS*	Sb	01 35 57.5	+0.2
SMKR	Semkarok	1.48	293	*eP*	Pn	01 35 38.6	-0.9
ZLN	Zelenaya	1.75	271	*eP*	Pb	01 35 44.5	-0.7
BZGR	Bezymyannyi-Gr	1.81	269	*eP*	Pb	01 35 45.5	-0.8
KLY	Klyuchi	1.85	280	*eP*	Pn	01 35 42.8	-1.7
BZWR	Bezymyannyi-We	1.93	270	*eP*	Pb	01 35 47.6	-0.6
MKZ	Mys Kozlova	1.93	221	*eP*	Pb	01 35 47.2	-0.9
BZMR	Bezymyannaya	1.93	269	*eP*	Pb	01 35 47.5	-0.8
KIRR	Kirishev	2.01	270	*eP*	Pb	01 35 49.2	-0.5
KPT	Kopyto	2.08	270	*eP*	Pb	01 35 49.8	-0.9
KMNR	Kamenistaya	2.09	264	*eP*	Pb	01 35 50.5	-0.5
TUMD	Tumrok D	2.16	249	*eP*	Pb	01 35 50.7	-1.4
KOZ	Kozyrevsk	2.27	273	*eP*	Pb	01 35 52.5	-1.5
SRDR	Sredinnyy	2.37	279	*eP*	Pn	01 35 53.2	+1.5
SPN	Mys Shipunski	3.70	219	*eP*	Pn	01 36 11.8	+1.9
SPN				*eS*	Sn	01 36 55.0	+1.7
SDLR	Sedlovina	4.01	229	*eP*	Pn	01 36 17.7	+3.4
SMAR	Somma	4.06	229	*eP*	Pn	01 36 19.2	+4.2
AVH	Avacha	4.08	230	*eP*	Pb	01 36 20.4	-4.6
UGLR	Uglovaya	4.09	229	*eP*	Pn	01 36 18.5	+3.2
KOK	Koryaka	4.11	231	*eP*	Pb	01 36 20.6	-4.8
GNL	Ganaly	4.17	238	*eP*	Pn	01 36 20.2	+3.8
GRL	Gorelyy	4.88	227	*eP*	Pn	01 36 30.4	+4.2
ASAK	Asacha	5.08	227	*eP*	Pn	01 36 33.2	+4.3

*IDC **01** 01:37:48.6±8.4, 14°.44N×92°.00W, h0km, mb3.7/3, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=230.1km s-min=115.6km az=33.0*
*GCG **01** 01:37:55.6±1.4, 14°.33N×92°.93W, h30km±8km, MD4.4, ML4.0*
*MEX **01** 01:37:56.0±0.6, 14°.38N×93°.12W, h22km±74km, MD4.1*
*CATAC **01** 01:37:56.1±0.5, 14°N±3°×9°.3W±4°, h1km, M4.3/15, MLv4.3/15, Error ellipse: s-maj=7.1km s-min=5.4km az=76.6, confirmed*
*NEIC **01** 01:38:00.0±1.5, 14°.48N±0°.08×92°.8W±0°.1, h55km±13km, mb4.0/27, Error ellipse: s-maj=21.7km s-min=9.0km az=69.0*

ISC 01 01:37:52.3±1.7, 14°.28N±0°.05×93°.05W±0°.03, h11km±10km, n107,σ2°29/127, mb4.1/12, 1C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		0.98	51	*eP*	Pg	01 38 11.0	-0.1
THIG				*i* S	Sg	01 38 23.0	-1.0
THIG		0.98	51	*i* P	Pg	01 38 11.1	-0.1
THIG				*i* S	Sg	01 38 22.8	-1.3
THIG				IAML		01 38 26.1	
	comp=E,3μm,0.4s						
SMCA	Catarina	1.10	59	*eP*	Pb	01 38 13.1	-0.4
SMCA				IAML		01 38 30.4	
	comp=N,1μm,0.2s						
PATR	El Naranjo	1.15	44	*eP*	Pb	01 38 13.3	-1.0
PATR				*i* S	Sb	01 38 26.9	-2.5
PAVE	Pavencul	1.24	43	*eP*	Pn	01 38 14.8	-1.0

PAVE				eS		Sb	01 38 29.1	-2.9
RTAL	**Retalhuleu**	**1.34**	**80**			**Pn**	**01 38 16.6**	**-0.4**
RTAL	**Retalhuleu**	**1.34**	**80**	eP		**Pn**	**01 38 16.8**	**-0.1**
RTAL				eS		**Sb**	**01 38 33.4**	**-1.2**
RTAL	**Retalhuleu**	**1.34**	**80**	S		**Sb**	**01 38 31.7**	**-2.9**
RTAL	**Retalhuleu**	**1.34**	**80**	⇓P		**Pn**	**01 38 16.9**	**-0.1**
PCIG		**1.42**	**354**	eP		**Pn**	**01 38 16.5**	**-1.6**
PCIG				eS		**Sn**	**01 38 31.4**	**-5.5**
STG8	**El Palmar, Qui**	**1.66**	**84**	eP		**Pn**	**01 38 18.4**	**-3.1**
STG0	**El Palmar, Qui**	**1.66**	**85**	*i* P		**Pn**	**01 38 18.6**	**-3.0**
STG0				IAML			01 38 39.7	
	comp=N,5μm,0.3s							
SOKI	**Kika Raxquin**	**1.68**	**71**	eP		**Pn**	**01 38 22.4**	**+0.3**
SOKI				*i* S		**Sn**	**01 38 43.5**	**-0.4**
SOKI				IAML			01 38 58.0	
	comp=N,2μm,0.8s							
HUEH	**Huehuetenango**	**1.82**	**55**	Pn		**Pn**	**01 38 24.8**	**+1.0**
HUEH	**Huehuetenango**	**1.82**	**55**	eP		**Pn**	**01 38 24.8**	**+1.0**
HUEH				eS		**Sn**	**01 38 44.8**	**-2.2**
HUEH	**Huehuetenango**	**1.82**	**55**	*i* P		**Pn**	**01 38 25.0**	**+1.2**
HUEH	**Huehuetenango**	**1.82**	**55**	P		**Pn**	**01 38 25.1**	**+1.4**
CCIG	**Comitan**	**2.17**	**24**	Pn		**Pn**	**01 38 30.1**	**+1.4**
CCIG	**Comitan**	**2.17**	**24**	eP		**Pn**	**01 38 30.2**	**+1.6**
CCIG				eS		**Sn**	**01 38 52.7**	**-3.0**
CCIG	**Comitan**	**2.17**	**24**	*i* P		**Pn**	**01 38 30.4**	**+1.7**
CCIG				IAML			01 39 03.2	
	comp=N,848nm,0.4s							
CCIG	**Comitan**	**2.17**	**24**	P		**Pb**	**01 38 31.0**	**-0.8**
CCIG	**Comitan**	**2.17**	**24**	S		**Sb**	**01 39 00.5**	**+1.6**
FG8	**Yepocapa, Chim**	**2.42**	**90**	*i* P		Pn	01 38 26.9	-5.0
FG16	**Alotenango, Sa**	**2.46**	**90**	*i* P		Pn	01 38 28.2	-4.4
TGBT	**Tuxtla Gutierr**	**2.48**	**359**	eP		**Pn**	**01 38 32.4**	**-0.3**
TGBT				*i* S		**Sn**	**01 39 03.0**	**0.0**
TGIG		**2.48**	**358**	eP		**Pn**	**01 38 33.7**	**+1.0**
TGIG				eS		**Sn**	**01 38 59.4**	**-3.8**
TGIG		**2.48**	**358**	*i* P		**Pn**	**01 38 33.8**	**+1.0**
TGIG				*i* S		**Sn**	**01 39 02.9**	**-0.2**
TGIG				IAML			01 39 05.7	
	comp=E,754nm,0.4s							
FAME	**Alcaldia de Sa**	**2.98**	**98**	P		**Pn**	**01 38 40.8**	**+1.2**
FAME	**Alcaldia de Sa**	**2.98**	**98**	S		**Sn**	**01 39 12.2**	**-3.1**
HUIG	**Huatulco**	**3.30**	**297**	eP		**Pn**	**01 38 44.4**	**+0.4**
HUIG				eS		**Sn**	**01 39 15.9**	**-7.4**
CMIG	**Matias Romero**	**3.30**	**328**	eP		**Pn**	**01 38 43.9**	**-0.1**
CMIG				eS		**Sn**	**01 39 20.0**	**-3.3**
CEVE	**Cerro Verde**	**3.36**	**97**	P		**Pn**	**01 38 46.1**	**+1.1**
CEVE	**Cerro Verde**	**3.36**	**97**	S		**Sn**	**01 39 24.1**	**-0.9**
JAYA	**Jayaque - finc**	**3.55**	**100**	*i* P		**Pn**	**01 38 48.0**	**+0.4**
JAYA				eS		**Sn**	**01 39 26.4**	**-3.3**
JAYA	**Jayaque - finc**	**3.55**	**100**	P		**Pn**	**01 38 48.3**	**+0.7**
MTO3	**Montecristo**	**3.58**	**88**	Pn		**Pn**	**01 38 49.0**	**+1.0**
PMON	**Piamonte**	**3.67**	**98**	P		**Pn**	**01 38 50.5**	**+1.3**
PMON	**Piamonte**	**3.67**	**98**	S		**Sn**	**01 39 32.1**	**-0.5**
UEES	**Universidad Ev**	**3.74**	**98**	S		**Sn**	**01 39 33.6**	**-0.8**
UEES	**Universidad Ev**	**3.74**	**98**	P		**Pn**	**01 38 51.9**	**+1.7**
SEMO	**Seminario San**	**3.76**	**98**	P		**Pn**	**01 38 52.0**	**+1.6**
UTEC	**Universidad Te**	**3.78**	**98**	P		**Pn**	**01 38 52.1**	**+1.4**
IGN	**Direccin Gen**	**3.81**	**98**	P		**Pn**	**01 38 52.1**	**+1.0**
PAVA	**Las Pavas**	**4.03**	**98**	P		**Pn**	**01 38 56.2**	**+2.0**
PAVA	**Las Pavas**	**4.03**	**98**	S		**Sb**	**01 39 51.4**	**-1.0**
PETF	**Flores**	**4.03**	**49**	Pn		**Pn**	**01 38 55.4**	**+1.3**
PETF	**Flores**	**4.03**	**49**	P		**Pn**	**01 38 55.4**	**+1.3**
SARH	**Santa Rosa de**	**4.18**	**83**	P		**Pn**	**01 38 57.3**	**+1.1**
UESV	**Universidad de**	**4.19**	**98**	P		**Pn**	**01 38 58.3**	**+2.1**
TECO	**Alcaldia de Te**	**4.21**	**100**	P		**Pn**	**01 38 58.2**	**+1.6**
SCLA	**Alcaldia de Sa**	**4.24**	**97**	P		**Pn**	**01 38 58.1**	**+1.2**
PEIG	**Puerto Escondi**	**4.31**	**294**	eP		**Pn**	**01 38 58.5**	**+0.6**
PEIG				eS		Sn	01 39 38.3	-10
NEUV	**Arroyo Zacate**	**4.32**	**323**	eP		**Pn**	**01 38 56.9**	**-1.1**
NEUV				eS		**Sn**	**01 39 41.1**	**-7.2**
VHO	**Vista Hermosa**	**4.50**	**309**	eP		**Pn**	**01 39 03.0**	**+2.3**
VHO				eS		**Sn**	**01 39 51.6**	**-1.6**
SCIG	**Sabancuy**	**4.99**	**21**	eP		**Pn**	**01 39 07.6**	**+0.4**
SCIG				*i* S		Sn	01 39 55.6	-9.3
PNIG	**Pinotepa**	**5.33**	**294**	eP		**Pn**	**01 39 13.4**	**+1.5**
PNIG				eS		**Sn**	**01 40 08.7**	**-4.6**
TOIG	**Toxpalan**	**5.41**	**315**	eP		**Pn**	**01 39 14.2**	**+1.1**
TOIG				*i* S		**Sn**	**01 40 10.9**	**-4.5**
TOIG				eS		Sb	01 40 16.7	-15
TXIG	**Tlaxiaco**	**5.42**	**304**	eS		**Sn**	**01 40 10.1**	**-5.8**
TXIG				*i* S		Sb	01 40 17.2	-15
HLIG	**Huajuapan de L**	**5.77**	**308**	eP		**Pn**	**01 39 21.4**	**+3.2**
HLIG				eS		**Sn**	**01 40 19.7**	**-4.8**
TPIG	**Tehuac#an**	**5.83**	**315**	eP		Pn	01 39 07.1	-12
TPIG				*i* S		**Sn**	**01 40 26.4**	**+0.3**
FTIG	**Fresnillo de T**	**6.07**	**307**	eP		Pn	01 39 16.5	-5.6
FTIG				eS		Sn	01 40 23.4	-8.4
MGIG	**Malinaltepec**	**6.12**	**299**	eP		**Pn**	**01 39 25.6**	**+2.6**
MGIG				eS		**Sn**	**01 40 32.2**	**-0.9**
JAUV	**Jalcomulco**	**6.20**	**325**	eP		**Pn**	**01 39 22.4**	**-1.6**
JAUV				*i* S		**Sn**	**01 40 29.5**	**-5.4**
TLIG	**Tlapa**	**6.23**	**302**	eP		Pn	01 39 17.9	-6.5
TLIG				eS		**Sn**	**01 40 31.1**	**-4.5**
CNGN	**Cerro Negro**	**6.43**	**105**	Pn		**Pn**	**01 39 29.7**	**+2.6**
PPM	**Popocatepetl**	**7.15**	**312**	eP		**Pn**	**01 39 42.0**	**+4.6**
PPM				eS		Sn	01 40 49.9	-9.1
MEIG	**Mezcala**	**7.28**	**301**	eP		**Pn**	**01 39 41.0**	**+2.3**
MEIG				eS		Sn	01 40 52.9	-8.6
CXUV	**Coxquihui**	**7.29**	**324⇑**	eP		**Pn**	**01 39 40.2**	**+1.4**
CXUV				*i* S		**Sn**	**01 41 00.2**	**-1.4**
YAIG	**Yautepec**	**7.35**	**309**	eP		**Pn**	**01 39 42.9**	**+3.1**
YAIG				*i* S		**Sn**	**01 40 59.1**	**-4.2**
PLIG	**Platanillo**	**7.42**	**304**	eP		**Pn**	**01 39 44.2**	**+3.5**
PLIG				eS		**Sn**	**01 40 59.0**	**-6.0**
TEIG	**Tepich**	**7.46**	**37**	Pn		**Pn**	**01 39 41.1**	**-0.1**
DRIO	**Del Rio**	**16.61**	**336**			**P**	**01 41 50.4**	**+2.6**
SAND	**Sanderson**	**17.70**	**333**			**P**	**01 42 01.2**	**+1.3**
SAND				IAmb		IAmb	01 42 02.5	
	comp=Z,3.6nm,0.7s							
TXAR	**Lajitas Array**	**17.91**	**328**	P		**P**	**01 42 05.0**	**+2.8**
TXAR	**Lajitas Array**	**17.91**	**328**	P		**P**	**01 42 04.8**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=149,slow=15,SNR=9.5							
	comp=Z,0.7nm,0.7s							
TX31	**Lajitas Ar. Si**	**17.91**	**328**	P		**P**	**01 42 05.1**	**+2.9**
SGCY	**Sterling City**	**19.04**	**339**	P		**Pn**	**01 42 16.2**	**+0.8**
MNHN	**Monahans**	**19.17**	**334**	P		**Pn**	**01 42 18.3**	**+1.4**
MNHN				IAmb		IAmb	01 42 20.8	
	comp=Z,8.3nm,0.6s							
VHRN	**Van Horn**	**19.75**	**328**	P		**Pn**	**01 42 26.0**	**+2.0**
APMT	**Aspermont**	**20.02**	**342**	P		**Pn**	**01 42 27.6**	**+0.7**
APMT				IAmb		IAmb	01 42 32.5	
	comp=Z,6.2nm,0.5s							
SN07	**Snyder 07**	**20.04**	**340**	P		**P**	**01 42 26.9**	**+1.4**
SN07				IAmb		IAmb	01 42 28.1	
	comp=Z,5.3nm,0.5s							
HTMS	**Hat Mesa**	**20.52**	**334**	P		**P**	**01 42 32.4**	**+1.6**
CLN7	**Carlsbad 7**	**20.55**	**333**	P		Pn	01 42 33.0	-0.3
DKNS	**Dickens**	**20.58**	**341**	P		**P**	**01 42 32.7**	**+1.3**
MSTX	**Muleshoe**	**21.49**	**337**	P		**P**	**01 42 43.5**	**+2.3**
MSTX				IAmb		IAmb	01 42 45.9	
	comp=Z,6.1nm,0.5s							
SMWD	**Samnorwood**	**21.72**	**344**	P		**P**	**01 42 44.8**	**+1.2**
SMWD				IAmb		IAmb	01 42 48.3	
	comp=Z,6.2nm,0.6s							
AMTX	**Amarillo**	**21.94**	**341**	P		**P**	**01 42 46.8**	**+0.7**
BNM	**Barren Site**	**23.29**	**331**	P		**P**	**01 43 02.9**	**+2.4**
RTBA	**Rita Blanca**	**23.70**	**340**	P		**P**	**01 43 05.1**	**+0.7**
RTBA				IAmb		IAmb	01 43 05.8	
	comp=Z,4.3nm,0.8s							
ANMO	**Albuquerque**	**23.86**	**332**	P		**P**	**01 43 07.1**	**+1.1**
ANMO	**Albuquerque**	**23.86**	**332**	P		**P**	**01 43 05.7**	**-0.3**
ANMO				IAmb		IAmb	01 43 12.6	
	comp=Z,2.0nm,0.8s							
ANMO	**Albuquerque**	**23.86**	**332**	P		**P**	**01 43 07.2**	**+1.1**
ANMO				IAmb		IAmb	01 43 12.6	
	comp=Z,1.3nm,0.7s							
T25A	**Trinidad**	**24.91**	**338**	P		**P**	**01 43 16.9**	**+1.2**
T25A				IAmb		IAmb	01 43 20.1	
	comp=Z,5.6nm,0.7s							
SDCO	**Great Sand Dun**	**25.85**	**337**	P		**P**	**01 43 27.2**	**+2.9**
SDCO				IAmb		IAmb	01 43 27.5	
	comp=Z,1.7nm,0.7s							
MVCO	**Mesa Verde**	**26.66**	**332**	P		**P**	**01 43 34.9**	**+3.4**
MVCO				IAmb		IAmb	01 43 35.9	
	comp=Z,2.8nm,0.8s							
PV18	**Skein Mesa, Pa**	**27.70**	**332**	P		**P**	**01 43 42.2**	**+1.3**
PV18				IAmb		IAmb	01 43 47.1	
	comp=Z,5.1nm,1.0s							
PDAR	**Pinedale Array**	**31.75**	**337**	P		**P**	**01 44 17.1**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=141,slow=8.6,SNR=2.1							
	comp=Z,0.4nm,0.4s							

SNOW	**Snow King Moun**	**32.80**	**336**	P		**P**	**01 44 28.3**	**+2.2**
NVAR	**Mina Array Bea**	**32.81**	**322**	P		**P**	**01 44 28.8**	**+2.6**
NVAR	**Mina Array Bea**	**32.81**	**322**	P		**P**	**01 44 28.4**	**+2.2**
	comp=Z,1.0nm,0.7s,baz=143,slow=5.3,SNR=10.0							
	comp=Z,1.0nm,0.7s							
LOHW	**Long Hollow**	**32.87**	**336**	P		**P**	**01 44 27.5**	**+0.9**
LOHW				IAmb		IAmb	01 44 29.8	
	comp=Z,2.8nm,0.8s							
MCMT	**McKenzie Canyo**	**34.78**	**335**	P		**P**	**01 44 45.1**	**+1.9**
LRM	**Limekiln Ridge**	**35.44**	**336**	P		**P**	**01 44 49.5**	**+0.6**
F28M	**Old Crow**	**61.28**	**341**	P		**P**	**01 48 08.5**	**+1.1**
ILAR	**Eielson Array**	**62.18**	**337**	P		**P**	**01 48 13.3**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=110,slow=7.0,SNR=5.5							
	comp=Z,0.4nm,0.7s							
BMAR	**Burnt Mountain**	**62.68**	**340**	P		**P**	**01 48 16.8**	**-0.1**
F21K	**Alatna River**	**65.66**	**338**			**P**	**01 48 37.5**	**+1.0**

KRSC 01 01:42:31.5±0.9, 56°28'N×164°13'E, h50km±15km, MI3.7,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.73**	**265**	eP		Pn	01 42 44.8	-0.8
KBG	**Krutoberegovo**	**0.79**	**269**	eP		Pn	01 42 46.8	+0.4
KBG				eS		Sn	01 42 56.7	-0.6
BKI	**Bering**	**1.50**	**135**	eP		Pn	01 42 58.2	+2.3
BKI				eS		Sn	01 43 17.2	+2.9
SMKR	**Semkarok**	**1.51**	**283**	eP		Pn	01 42 57.9	+1.8
ZLN	**Zelenaya**	**1.88**	**263**	eP		Pn	01 43 04.2	+3.0
LGNR	**Loginova**	**1.93**	**266**	eP		Pn	01 43 04.8	+2.7
KLY	**Klyuchi**	**1.94**	**272**	eP		Pn	01 43 02.8	+1.0
BZGR	**Bezymyannyi-Gr**	**1.95**	**261**	eP		Pn	01 43 04.8	+2.6
BZWR	**Bezymyannyi-We**	**2.06**	**263**	eP		Pn	01 43 07.1	+3.4
KIRR	**Kirishev**	**2.14**	**263**	eP		Pn	01 43 08.1	+3.2
MKZ	**Mys Kozlova**	**2.20**	**219**	eP		Pn	01 43 06.9	+1.4
KPT	**Kopyto**	**2.21**	**263**	eP		Pn	01 43 09.0	+3.3
KMNR	**Kamenistaya**	**2.25**	**258**	eP		Pn	01 43 09.8	+3.5
TUMD	**Tumrok D**	**2.37**	**244**	eP		Pn	01 43 11.5	+3.7
KOZ	**Kozyrevsk**	**2.39**	**266**	eP		Pn	01 43 11.7	+3.6
OSSR	**Ossora**	**3.04**	**350**	eP		Pn	01 43 19.9	+3.0
OSSR				eS		Sn	01 43 54.7	+2.7
NLC	**Nalytchevo**	**4.17**	**224**	eS		Sn	01 44 22.3	+2.5
SDLR	**Sedlovina**	**4.27**	**227**	eP		Pn	01 43 36.8	+2.8
KRER	**Koryakskii**	**4.31**	**228**	eP		Pn	01 43 39.1	+4.5
KRX	**Arik**	**4.31**	**230**	eP		Pn	01 43 38.8	+4.3
SMAR	**Somma**	**4.32**	**228**	eP		Pn	01 43 37.9	+3.2
AVH	**Avacha**	**4.34**	**228**	eP		Pn	01 43 39.4	+4.5
UGLR	**Uglovaya**	**4.35**	**227**	eP		Pn	01 43 38.4	+3.4
KOK	**Koryaka**	**4.36**	**229**	eP		Pn	01 43 39.1	+3.8
GNL	**Ganaly**	**4.40**	**237**	eP		Pn	01 43 38.4	+2.6
GRL	**Gorelyy**	**5.14**	**226**	eP		Pn	01 43 50.2	+4.2
MTVR	**Mutnovka**	**5.15**	**225**	eP		Pn	01 43 50.0	+3.9
ASAK	**Asacha**	**5.34**	**226**	eP		Pn	01 43 52.8	+4.2

*SOME **01** 02:00:36.8, 39°50'N×71°45'E, h10km*
*KRNET **01** 02:00:37.4±0.1, 39°23'N×71°58'E, h11km, mb3.5*
*NNC **01** 02:00:40.4±4.4, 39°25'N×71°59'E, h0km, mb3.9, mpv3.5,*
Error ellipse: s-maj=40.3km s-min=20.2km az=170.0
ISC 01 02:00:38.9±1.0, 39°27'N±0.05×71°54'E±0.03, h10km, n29,
σ2°26/51, 25C-16D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DRK	**Karamyk**	**0.29**	**45**	⇑*i*P		**Pg**	**02 00 43.6**	**-1.3**
DRK				⇑*i*S		**Sg**	**02 00 47.7**	**-1.2**
BTK	**Batken**	**0.96**	**325**	⇑*i*P		**Pg**	**02 00 56.9**	**-0.5**
BTK				⇑*i*S		**Sb**	**02 01 11.1**	**+0.6**
GAR	**Garm**	**0.99**	**254**	⇑*i*P		**Pg**	**02 00 56.7**	**-1.3**
GAR				⇑*i*S		**Sb**	**02 01 10.9**	**-0.5**
OHH	**Osh**	**1.57**	**37**	⇑eP		**Pb**	**02 01 07.1**	**-1.1**
OHH				⇑eS		**Sg**	**02 01 28.9**	**-0.7**
SFK	**Sufi-Kurgan**	**1.69**	**63**	⇓*i*P		**Pb**	**02 01 08.8**	**-1.4**
SFK				⇓*i*S		**Sg**	**02 01 31.7**	**-1.6**
TRKS	**Terek-Say**	**2.27**	**352**	⇓*i*P		**Pb**	**02 01 18.0**	**-2.2**
TRKS				⇓*i*S		**Sb**	**02 01 47.5**	**-0.9**
ARSB	**Arslanbob**	**2.33**	**28**	⇑*i*P		**Pb**	**02 01 19.2**	**-1.9**
ARSB				⇑*i*S		**Sb**	**02 01 49.9**	**0.0**
SALK	**Salom-Alik**	**2.38**	**47**	⇓*i*P		**Pb**	**02 01 19.6**	**-2.4**
SALK				⇓*i*S		**Sb**	**02 01 50.7**	**-0.7**
ARK	**Arkit**	**2.54**	**7**	⇑*i*P		**Pb**	**02 01 22.5**	**-2.2**
ARK				⇑*i*S		**Sb**	**02 01 55.6**	**-0.5**
AML	**Almayashu**	**3.29**	**29**	P		**Pb**	**02 01 34.6**	**-3.0**
	SNR=24							
AML	**Almayashu**	**3.29**	**29**	⇑*i*P		**Pn**	**02 01 32.8**	**+1.9**
AML				⇑*i*S		**Sn**	**02 02 13.3**	**+3.0**
MNAS	**Manas**	**3.29**	**13**	⇓*i*P		**Pn**	**02 01 32.8**	**+2.1**
MNAS				⇓*i*S		**Sb**	**02 02 13.5**	**-4.2**
MRKS	**Merke**	**3.70**	**20**	eP		**Pb**	**02 01 41.1**	**-3.3**
	4.1nm,0.2s							
MRKS				eS		**Sb**	**02 02 26.9**	**-2.3**
	20nm,0.5s							
KK31	**Karatay Array**	**3.90**	**349**	Pn		**Pn**	**02 01 42.6**	**+3.7**
	3.5nm,0.3s,baz=155,slow=11,SNR=74							
KK31				Pg		**Pg**	**02 01 54.0**	**+0.3**
	8.0nm,0.4s,baz=165,slow=18,SNR=8.0							
KK31				⇓Sn		**Sb**	**02 02 32.1**	**-3.0**
	12nm,0.5s,baz=169,slow=31,SNR=3.9							
KK31				Lg		Lg	02 02 45.9	
	14nm,0.6s,baz=169,slow=31,SNR=3.9							
KKAR	**Karatay Array**	**3.90**	**349**	⇑*i*P		**Pn**	**02 01 41.4**	**+2.4**
KKAR				⇑*i*S		**Sn**	**02 02 28.2**	**+3.3**
BRLS	**Boroldaу**	**3.97**	**342**	eP		**Pn**	**02 01 41.6**	**+1.8**
	8.0nm,0.2s							
BRLS				eS		**Sn**	**02 02 27.8**	**+1.4**
	8.7nm,0.4s							
NRN	**Naryn**	**4.04**	**56**	⇑eP		**Pn**	**02 01 42.3**	**+1.2**
NRN				⇑eS		**Sn**	**02 02 29.8**	**+1.3**
AAK	**Ala-Archa**	**4.04**	**33**	⇓*i*P		**Pn**	**02 01 42.9**	**+1.9**
AAK				⇓*i*S		**Sn**	**02 02 30.9**	**+2.5**
KBK	**Karagaybulak**	**4.25**	**36**	P		**Pb**	**02 01 49.2**	**-4.7**
	SNR=9.0							
KBK	**Karagaybulak**	**4.25**	**36**	⇓*i*P		**Pn**	**02 01 45.9**	**+2.0**
KBK				⇓*i*S		**Sn**	**02 02 36.0**	**+2.3**
CHMS	**Chumysh**	**4.44**	**32**	P		Pn	02 01 50.9	+4.5
	SNR=8.1							
USP	**Ospenovka**	**4.57**	**28**	P		**Pn**	**02 01 51.7**	**+3.5**
	SNR=8.8							
BOOM	**Boomskoye usch**	**4.63**	**45**	⇑eP		**Pn**	**02 01 51.1**	**+2.0**
BOOM				⇑eS		**Sn**	**02 02 44.9**	**+1.8**
ULHL	**Ulahol**	**4.64**	**49**	P		Pn	02 01 53.8	+4.4
	SNR=5.9							
TKM2	**Tokmak 2**	**4.76**	**39**	⇑Pn		**Pn**	**02 01 54.5**	**+3.6**
	3.5nm,0.5s							
TKM2				⇑Pg		**Pg**	**02 02 09.0**	**-1.1**
	5.2nm,0.7s							
TKM2				⇓Sn		**Sn**	**02 02 49.2**	**+2.8**
	5.0nm,0.6s							
TKM2				⇓Lg		Lg	02 03 09.4	
	5.4nm,0.5s							
KST	**Kastek**	**5.03**	**40**	eP		**Pb**	**02 02 07.1**	**-0.1**
	2.6nm,0.4s							
KST				eS		**Sb**	**02 03 11.6**	**+3.9**
	3.0nm,0.3s							
KDJ	**Kajisay**	**5.15**	**55**	⇑eP		**Pn**	**02 01 58.4**	**+2.1**
KDJ				⇑eS		**Sn**	**02 02 57.3**	**+1.4**
AB31	**Akbulak array**	**12.97**	**324**	⇓P		**Pn**	**02 03 43.5**	**+0.4**
	0.6nm,0.5s,baz=135,slow=14,SNR=20							
AKTO	**Aktyubinsk**	**14.69**	**324**	⇑P		**Pn**	**02 04 06.1**	**-0.5**
	1.5nm,0.6s							

*JMA **01** 02:11:20.9±0.1, 24°9'N±0°.7×122°.5E±0°.3, h37km, MV2.4/5,*
NW OFF ISHIGAKIJIMA IS
*TAP **01** 02:11:20.7, 24°.92'N×122°.44'E, h19km±1km, ML2.6, D*
ISC 01 02:11:20.6±1.2, 24°.91'N±0°.05×122°.45'E±0°.04, h25km±12km,
n23, σ0°.45/37, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.43**	**283**	eP		**Pb**	**02 11 29.8**	**0.0**
TWB1				eS		**Sb**	**02 11 35.2**	**-0.8**
EOS2	**EOS2**	**0.53**	**203**	eP		**Pb**	**02 11 31.6**	**+0.4**
EOS2				eS		**Sn**	**02 11 39.9**	**-0.7**
SXI1	**Grass Mountain**	**0.56**	**289**	eP		**Pb**	**02 11 32.2**	**+0.3**
SXI1				eS		**Sb**	**02 11 39.8**	**+0.3**
TIPB	**Shuangxi**	**0.57**	**276**	eP		**Pb**	**02 11 32.3**	**+0.2**
TIPB				eS		**Sb**	**02 11 39.9**	**-0.1**
TWC	**Suao**	**0.63**	**242**	eP		**Pb**	**02 11 32.3**	**-0.6**
TWC				eS		**Sb**	**02 11 40.7**	**-0.6**
NWF	**Wu-fen Shan**	**0.63**	**285**	eP		**Pn**	**02 11 33.8**	**-0.3**
NWF				eS		**Sb**	**02 11 42.1**	**+0.5**
WFSB	**Wu-fen Shan**	**0.63**	**285**	eP		**Pn**	**02 11 33.9**	**-0.1**
WFSB				eS		**Sb**	**02 11 42.1**	**+0.6**
EOS3	**EOS3**	**0.63**	**191**	eP		**Pn**	**02 11 33.6**	**-0.2**
EOS3				eS		**Sn**	**02 11 43.1**	**+0.1**
JYNG	**Yonagunijimaku**	**0.64**	**136**	eP		**Pb**	**02 11 33.1**	**0.0**
JYNG				eS		**Sb**	**02 11 41.8**	**+0.1**
YOJ	**Yonaguni jima**	**0.68**	**131**	eP		**Pb**	**02 11 33.8**	**0.0**
YOJ				S		**Sb**	**02 11 42.8**	**+0.1**
EOS4	**EOS4**	**0.80**	**189**	eP		**Pb**	**02 11 36.0**	**+0.4**
FUSB	**Fushanzhiwuyua**	**0.80**	**259**	eP		**Pb**	**02 11 35.9**	**0.0**
ENA	**Nanau**	**0.81**	**234**	eP		**Pn**	**02 11 35.1**	**-1.3**
YM08	**YM08**	**0.83**	**290**	eP		**Pn**	**02 11 36.4**	**-0.3**
TWY	**Chenhua**	**0.86**	**295**	eS		**Sn**	**02 11 49.0**	**+0.3**
NWLT	**Wulai**	**0.88**	**261**	eP		**Pn**	**02 11 36.6**	**-0.8**
LATG	**Datong**	**0.92**	**246**	eP		**Pn**	**02 11 38.2**	**+0.1**
LATG				eS		**Sb**	**02 11 50.4**	**+0.4**
YHNB	**Yeheng**	**1.01**	**256**	eP		**Pn**	**02 11 38.9**	**-0.4**
NSK	**Sanguang**	**1.02**	**257**	eP		**Pn**	**02 11 39.5**	**+0.1**
NSK				eS		**Sn**	**02 11 53.1**	**+0.1**
NACB	**Ninganchiao**	**1.07**	**227**	eP		**Pb**	**02 11 40.7**	**+0.2**
NACB				eS		**Sn**	**02 11 54.4**	**+0.2**
NNSB	**Datong**	**1.09**	**244**	eP		**Pb**	**02 11 41.1**	**+0.2**
ETLH	**Xiulin Townshi**	**1.13**	**232**	eP		**Pn**	**02 11 41.3**	**+0.4**
ETLH				eS		**Sb**	**02 11 56.3**	**+0.4**
LXIB	**Xiulin Townshi**	**1.30**	**227**	eP		**Pn**	**02 11 43.8**	**+0.5**

*GUC **01** 02:12:28.6±0.7, 34°.17S×74°.05W, h7km±23km, ML3.8*
*IDC **01** 02:12:34.7±0.9, 34°.38S×73°.50W, h0km, mb3.8/5,*
mbtmp3.8/7, ML4.0/2, MS2.9/1, Error ellipse: s-maj=44.6km
s-min=19.5km az=84.0
ISC 01 02:12:37.7±1.8, 34°.37S±0°.06×73°.42W±0°.10, h20km±14km,
n35, σ0°.65/35, mb3.9/5, 11C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BO03	**Pichilemu**	**1.21**	**97**	⇑*i*P		**Pn**	**02 12 58.9**	**-0.6**
BO03				eS		**Sb**	**02 13 15.2**	**0.0**
BO03				IAML			02 13 16.5	
	comp=E,2μm,0.5s							
GO05	**Hualane**	**1.38**	**118**	⇑*i*P		**Pn**	**02 13 01.1**	**-0.8**
GO05				*i* S		**Sn**	**02 13 18.2**	**-1.4**
GO05				IAML			02 13 19.8	
	comp=E,782nm,0.4s							
VA05	**Santo Domingo**	**1.66**	**65**	eP		**Pn**	**02 13

JMM	**Marumori**	**2.63**	**2**	Pn		**Pn**	**02 23 48.6**	**-0.8**
JMM	**Marumori**	**2.63**	**2**	P		**Pn**	**02 23 49.1**	**-0.3**
JGF	**Kuroka**	**2.73**	**279**	Pn		**Pn**	**02 23 50.7**	**-0.1**
JGF	**Kuroka**	**2.73**	**279**	P		**Pn**	**02 23 51.6**	**+0.8**
INU	**Inuyama**	**2.98**	**273**	Pn		**Pn**	**02 23 53.9**	**-0.4**
INU	**Inuyama**	**2.98**	**273**	P		**Pn**	**02 23 55.7**	**+1.4**
JSD	**Sado**	**3.40**	**326**	P		**Pn**	**02 24 00.6**	**+0.6**
JTM	**Tenmabayashi**	**5.55**	**3**	P		**Pn**	**02 24 29.5**	**0.0**
ERM	**Erimo**	**7.04**	**15**	P		**Pn**	**02 24 48.2**	**-1.8**
JEM	**Erimo**	**7.04**	**15**	P		**Pn**	**02 24 48.1**	**-1.9**
JCJ	**Chichijima**	**8.22**	**170**	Pn		**Pn**	**02 25 03.7**	**-2.5**
JCJ	**Chichijima**	**8.22**	**170**	Pn		**Pn**	**02 25 04.2**	**-2.1**
	19nm,0.4s,baz=180,slow=0.0							
JCJ	**Chichijima**	**8.22**	**170**	P		**Pn**	**02 25 07.3**	**+1.1**
KSRS	**Korea Array**	**10.51**	**286**	Pn		**Pn**	**02 25 40.3**	**+2.8**
	0.2nm,0.3s,baz=98,slow=14,SNR=4.0							
	0.8nm,0.4s							
MA2	**Magadan**	**25.23**	**12**	LR		LR	02 37 22.3	
	comp=Z,18nm,20.1s,baz=107,slow=35							
H11N2	**WAKE ISLAND Hy**	**27.82**	**117**	T		T	02 57 58.4	
	baz=309,slow=75,SNR=125							
H11N1	**WAKE ISLAND Hy**	**27.82**	**117**	T		T	02 57 57.8	
	baz=309,slow=75,SNR=100							
H11N3	**WAKE ISLAND Hy**	**27.83**	**117**	T		T	02 57 58.7	
	baz=309,slow=75,SNR=102							
SONM	**Songino Array**	**28.33**	**307**	P		**P**	**02 28 58.3**	**-1.0**
	0.3nm,0.6s,baz=107,slow=7.7,SNR=2.2							
	0.3nm,0.6s							
H11S3	**WAKE ISLAND Hy**	**28.46**	**119**	T		T	02 58 47.0	
	baz=312,slow=76,SNR=107							
H11S1	**WAKE ISLAND Hy**	**28.46**	**119**	T		T	02 58 48.9	
	baz=312,slow=76,SNR=137							
H11S2	**WAKE ISLAND Hy**	**28.47**	**119**	T		T	02 58 48.2	
	baz=312,slow=76,SNR=91							
CMAR	**Chiang Mai Arr**	**40.47**	**257**	LR		LR	02 49 11.2	
	comp=Z,11nm,21.4s,baz=225,slow=38							
ZALV	**Zalesovo Beam**	**42.70**	**314**			**P**	**02 31 03.5**	**+1.5**
ZALV	**Zalesovo Beam**	**42.70**	**314**	P		**P**	**02 31 01.1**	**-0.8**
	0.7nm,0.3s,baz=88,slow=10,SNR=2.9							
	0.7nm,0.3s							
MKAR	**Makanchi Array**	**44.58**	**304**	P		**P**	**02 31 17.2**	**-0.1**
	0.6nm,0.8s,baz=83,slow=11,SNR=3.7							
	0.6nm,0.8s							
KURBB	**Kurchatov Arra**	**46.65**	**309**	P		**P**	**02 31 32.8**	**-0.6**
	0.8nm,0.2s,baz=87,slow=7.8,SNR=2.7							
	0.8nm,0.2s							
FITZ	**Fitzroy Crossi**	**54.92**	**198**	P		**P**	**02 32 37.1**	**+1.1**
FITZ				IAmb		IAmb	02 33 07.2	
	comp=Z,1.7nm,1.2s							
WR8	**Warramunga Arr**	**55.20**	**187**	P		**P**	**02 32 37.3**	**-0.7**
WRA	**Warramunga Arr**	**55.20**	**187**	P		**P**	**02 32 37.3**	**-0.7**
WRA	**Warramunga Arr**	**55.20**	**187**	P		**P**	**02 32 37.8**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=2.9,slow=7.2,SNR=14							
	comp=Z,0.9nm,0.5s							
ABKAR	**Akbulak array**	**58.64**	**311**	P		**P**	**02 33 02.5**	**+0.3**
ABKAR				IAmb		IAmb	02 33 23.2	
	comp=Z,2.2nm,1.2s							
ASAR	**Alice Springs**	**58.93**	**187**	P		**P**	**02 33 06.3**	**+2.0**
	comp=Z,0.3nm,0.4s,baz=18,slow=10,SNR=9.0							
	comp=Z,0.3nm,0.4s							
H03N2	**Juan Fernandez**	**147.40**	**98**	T		T	05 27 36.9	
	baz=289,slow=76,SNR=5.3							
H03N3	**Juan Fernandez**	**147.41**	**98**	T		T	05 27 29.6	
	baz=289,slow=76,SNR=8.0							
H03N1	**Juan Fernandez**	**147.42**	**98**	T		T	05 27 39.9	
	baz=289,slow=76,SNR=7.4							

*IDC **01** 02:46:08.4±0.6,52˚.67N×160˚.51E,h0km,mb4.3/29, mbtmp4.4/33,ML4.3/4,MS3.6/23,Error ellipse: s-maj=16.5km s-min=12.2km az=148.0*
*KRSC **01** 02:46:09.2±1.8,52˚.48N×160˚.96E,h39km±22km,Ml4.8, Felt [II] at Petropavlovsk.*
*NEIC **01** 02:46:09.9±2.3,52˚.60N±0˚.10×160˚.7E±0˚.1,h10km±1km, mb4.5/51,Error ellipse: s-maj=16.1km s-min=14.1km az=177.0*
*MOS **01** 02:46:11.7±1.1,52˚.50N×160˚.78E,h44km,mb4.9/32, MS3.4/6,Error ellipse: s-maj=6.2km s-min=3.5km az=104.0*

ISC 01 02:46:09.4±1.2,52˚.73N±0˚.04×160˚.77E±0˚.03,h8km±7km, n362,σt¹49/350,mb4.5/97,MS3.7/24,33C-16D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.58**	**310**	PN		**02 46 24.6**	**+0.6**
SPN				S		**02 46 34.4**	**+0.7**
SPN	**Mys Shipunski**	**0.58**	**310**	*e*P		**02 46 24.7**	**+0.6**
SPN				*e*S		**02 46 34.4**	**+0.7**
NLC	**Nalytchevo**	**0.97**	**298**	PN		**02 46 30.1**	**+0.9**
NLC	**Nalytchevo**	**0.97**	**298**	*e*P		**02 46 30.1**	**+0.9**
DALK	**Dalny**	**1.26**	**285**	PN		**02 46 34.5**	**+1.2**
DALK				S		**02 46 52.2**	**+1.9**
DALK	**Dalny**	**1.26**	**285**	*e*P		**02 46 34.5**	**+1.2**
DALK				*e*S		**02 46 52.2**	**+1.9**
SDLR	**Sedlovina**	**1.27**	**297**	PN		**02 46 34.9**	**+1.4**
SDLR	**Sedlovina**	**1.27**	**297**	*e*P		**02 46 34.9**	**+1.4**
UGLR	**Uglovaya**	**1.27**	**293**	PN		**02 46 35.1**	**+1.5**
UGLR	**Uglovaya**	**1.27**	**293**	*e*P		**02 46 35.2**	**+1.5**
SMAR	**Somma**	**1.30**	**295**	PN		**02 46 35.4**	**+1.2**
SMAR	**Somma**	**1.30**	**295**	*e*P		**02 46 35.5**	**+1.2**
PET	**Petropavlovsk**	**1.32**	**284**			**Pg**	**02 46 35.0**	**+0.3**
PET	**Petropavlovsk**	**1.32**	**284**	*b i*PN		**Pg**	**02 46 35.4**	**+0.8**
PET				*e*S		**Sn**	**02 46 53.9**	**+2.1**
PET				pmax		pmax		
	comp=Z,3μm,0.5s							
PET				smax		smax		
	comp=N,15μm,0.5s							
PET				smax		smax		
	comp=E,9μm,0.5s							
PET	**Petropavlovsk**	**1.32**	**284**	*e*P		**Pg**	**02 46 35.4**	**+0.8**
PET				*e*S		**Sn**	**02 46 53.5**	**+1.7**
PET	**Petropavlovsk**	**1.32**	**284**	Pg		**Pg**	**02 46 35.3**	**+0.7**
AVH	**Avacha**	**1.34**	**294**	PN		**Pg**	**02 46 36.3**	**+1.2**
AVH	**Avacha**	**1.34**	**294**	*e*P		**Pg**	**02 46 36.3**	**+1.2**
KRER	**Koryakskii**	**1.35**	**296**	PN		**Pg**	**02 46 36.5**	**+1.3**
KRER	**Koryakskii**	**1.35**	**296**	*e*P		**Pg**	**02 46 36.6**	**+1.3**
INSR	**Institute**	**1.35**	**285**	PN		**Pg**	**02 46 36.1**	**+0.8**
INSR				S		**Sn**	**02 46 55.1**	**+2.4**
INSR	**Institute**	**1.35**	**285**	*e*P		**Pg**	**02 46 36.1**	**+0.8**
INSR				*e*S		**Sn**	**02 46 55.2**	**+2.4**
KOK	**Koryaka**	**1.41**	**294**	PN		**Pg**	**02 46 37.1**	**+0.8**
KOK	**Koryaka**	**1.41**	**294**	*e*P		**Pg**	**02 46 37.1**	**+0.8**
RUS	**Russkaya**	**1.41**	**259**	PN		**Pn**	**02 46 35.6**	**+0.3**
RUS				S		**Sb**	**02 46 53.9**	**0.0**
RUS	**Russkaya**	**1.41**	**259**	*e*P		**Pn**	**02 46 35.7**	**+0.3**
RUS				*e*S		**Sb**	**02 46 54.0**	**0.0**
KRX	**Arik**	**1.43**	**297**	PN		**Pg**	**02 46 37.3**	**+0.6**
KRX	**Arik**	**1.43**	**297**	*e*P		**Pg**	**02 46 37.4**	**+0.6**
KII	**Karymskiy**	**1.53**	**329**	PN		**Pg**	**02 46 40.0**	**+1.3**
KII	**Karymskiy**	**1.53**	**329**	*e*P		**Pg**	**02 46 40.1**	**+1.3**
MTVR	**Mutnovka**	**1.60**	**262**	PN		**Pn**	**02 46 38.8**	**+0.8**
MTVR	**Mutnovka**	**1.60**	**262**	*e*P		**Pn**	**02 46 38.8**	**+0.8**
KRMR	**Karymshinskiy**	**1.61**	**275**	PN		**Pb**	**02 46 39.1**	**-0.2**
KRMR	**Karymshinskiy**	**1.61**	**275**	*e*P		**Pb**	**02 46 39.1**	**-0.2**
GRL	**Gorelyy**	**1.65**	**265**	PN		**Pb**	**02 46 40.3**	**+0.2**
GRL	**Gorelyy**	**1.65**	**265**	*e*P		**Pb**	**02 46 40.3**	**+0.2**
ASAK	**Asacha**	**1.79**	**260**	PN		**Pb**	**02 46 41.8**	**-0.6**
ASAK	**Asacha**	**1.79**	**260**	*e*P		**Pb**	**02 46 41.8**	**-0.6**
PEA0B	**Petropavlovsk-**	**1.90**	**283**	Pn		**Pb**	**02 46 43.9**	**-0.3**
PEA0B	**Petropavlovsk-**	**1.90**	**283**	*d i*PN		**Pb**	**02 46 44.1**	**-0.1**
PETK	**Petropavlovsk-**	**1.90**	**283**	Pn		**Pn**	**02 46 42.8**	**+0.7**
PETK	**Petropavlovsk-**	**1.90**	**283**	Pn		**Pb**	**02 46 43.6**	**-0.7**
	comp=E,180nm,0.3s,baz=260,slow=14,SNR=639							
PETK				Sn		**Sb**	**02 47 08.8**	**+0.7**
	comp=E,149nm,0.3s,baz=98,slow=20,SNR=5.0							
PETK				LR		LR	02 47 15.3	
	comp=E,384nm,21.8s,baz=155,slow=38							
PETK	**Petropavlovsk-**	**1.90**	**283**	PN		**Pn**	**02 46 42.8**	**+0.7**
MKZ	**Mys Kozlova**	**1.92**	**17**	PN		**Pb**	**02 46 44.5**	**0.0**
MKZ				S		**Sg**	**02 47 09.6**	**-1.3**
MKZ	**Mys Kozlova**	**1.92**	**17**	*e*P		**Pb**	**02 46 44.5**	**0.0**
MKZ				*e*S		**Sg**	**02 47 09.7**	**-1.3**
GNL	**Ganaly**	**1.96**	**301**	PN		**Pg**	**02 46 46.2**	**-0.6**
GNL	**Ganaly**	**1.96**	**301**	*e*P		**Pg**	**02 46 46.3**	**-0.6**
APC	**Apacha**	**2.20**	**277**	PN		**Pb**	**02 46 48.8**	**-0.5**
APC	**Apacha**	**2.20**	**277**	*e*P		**Pb**	**02 46 48.9**	**-0.5**
TUMD	**Tumrok D**	**2.49**	**355**	PN		**Pb**	**02 46 53.6**	**-0.7**
TUMD				S		**Sb**	**02 47 24.8**	**-0.3**
TUMD	**Tumrok D**	**2.49**	**355**	*e*P		**Pb**	**02 46 53.6**	**-0.7**
TUMD				*e*S		**Sb**	**02 47 24.8**	**-0.3**
MIPR	**Malaya Ipel'ka**	**2.49**	**261**	PN		**Pn**	**02 46 51.9**	**+1.7**
MIPR	**Malaya Ipel'ka**	**2.49**	**261**	*e*P		**Pn**	**02 46 52.0**	**+1.7**
PAU	**Pauzhetka**	**2.75**	**244**	PN		**Pn**	**02 46 53.4**	**-0.3**
PAU	**Pauzhetka**	**2.75**	**244**	*e*P		**Pn**	**02 46 53.4**	**-0.3**
KMNR	**Kamenistaya**	**3.05**	**354**	PN		**Pb**	**02 47 02.8**	**-1.1**
KMNR	**Kamenistaya**	**3.05**	**354**	*e*P		**Pb**	**02 47 02.9**	**-1.1**
BZMR	**Bezymyannaya**	**3.22**	**357**	PN		**Pb**	**02 47 05.3**	**-1.5**
BZMR	**Bezymyannaya**	**3.22**	**357**	*e*P		**Pb**	**02 47 05.4**	**-1.5**
BZGR	**Bezymyannyi-Gr**	**3.22**	**359**	PN		**Pb**	**02 47 04.6**	**-2.2**
BZGR	**Bezymyannyi-Gr**	**3.22**	**359**	*e*P		**Pb**	**02 47 04.7**	**-2.2**
KIRR	**Kirishev**	**3.24**	**356**	PN		**Pb**	**02 47 05.2**	**-2.0**
KIRR	**Kirishev**	**3.24**	**356**	*e*P		**Pb**	**02 47 05.3**	**-2.0**
BZWR	**Bezymyannyi-We**	**3.25**	**357**	PN		**Pb**	**02 47 06.2**	**-1.1**
BZWR	**Bezymyannyi-We**	**3.25**	**357**	*e*P		**Pb**	**02 47 06.3**	**-1.1**
KPT	**Kopyto**	**3.26**	**355**	PN		**Pb**	**02 47 05.8**	**-1.7**
KPT	**Kopyto**	**3.26**	**355**	*e*P		**Pb**	**02 47 05.8**	**-1.7**
ZLN	**Zelenaya**	**3.29**	**0**	PN		**Pb**	**02 47 07.6**	**-0.5**
ZLN	**Zelenaya**	**3.29**	**0**	*e*P		**Pb**	**02 47 07.6**	**-0.5**
LGNR	**Loginova**	**3.36**	**359**	PN		**Pb**	**02 47 08.9**	**-0.4**
LGNR	**Loginova**	**3.36**	**359**	*e*P		**Pb**	**02 47 08.9**	**-0.4**
KOZ	**Kozyrevsk**	**3.38**	**351**	PN		**Pb**	**02 47 07.6**	**-1.9**
KOZ	**Kozyrevsk**	**3.38**	**351**	*e*P		**Pb**	**02 47 07.6**	**-1.9**
CIRR	**Tsirk**	**3.39**	**360**	PN		**Pb**	**02 47 07.8**	**-2.0**
CIRR	**Tsirk**	**3.39**	**360**	*e*P		**Pb**	**02 47 07.8**	**-2.0**
ESO	**Esso**	**3.42**	**340**	PN		**Pb**	**02 47 07.4**	**-2.8**
ESO	**Esso**	**3.42**	**340**	*e*P		**Pb**	**02 47 07.5**	**-2.8**
SKR	**Severo-Kuril's**	**3.55**	**237**	*e*PN		**Pn**	**02 47 03.0**	**-1.7**
SKR				pmax		pmax		
	comp=Z,98nm,0.5s							
SKR				MLR		MLR		
	comp=Z,1μm,16.0s							
SKR	**Severo-Kuril's**	**3.55**	**237**	*e*P		**Pn**	**02 47 03.6**	**-1.0**
KLY	**Klyuchi**	**3.59**	**359**	PN		**Pb**	**02 47 11.2**	**-1.9**
KLY	**Klyuchi**	**3.59**	**359**	*e*P		**Pb**	**02 47 11.3**	**-1.9**
SRDR	**Sredinnyy**	**3.65**	**351**	PN		**Pb**	**02 47 10.7**	**-3.3**
SRDR	**Sredinnyy**	**3.65**	**351**	*e*P		**Pb**	**02 47 10.8**	**-3.3**
KBTR	**Krutoberegovo**	**3.69**	**18**	PN		**Pn**	**02 47 09.7**	**+3.1**
KBTR	**Krutoberegovo**	**3.69**	**18**	*e*P		**Pn**	**02 47 09.8**	**+3.1**
BKI	**Bering**	**3.95**	**49**	PN		**Pn**	**02 47 11.6**	**+1.5**
BKI	**Bering**	**3.95**	**49**	*e*P		**Pn**	**02 47 11.7**	**+1.5**
BKI				*e*S		**Sn**	**02 47 54.4**	**-2.3**
SMY	**Shemya**	**8.10**	**85**			**Pn**	**02 48 07.3**	**+0.2**
SMY	**Shemya**	**8.10**	**85**	PN		**Pn**	**02 48 07.3**	**+0.2**
MA2	**Magadan**	**8.84**	**325**	LR		LR	02 52 15.4	
	comp=Z,260nm,19.2s,baz=182,slow=42							
MA2	**Magadan**	**8.84**	**325**	*i* PN		**Pn**	**02 48 21.3**	**+4.0**
MA2				pmax		pmax		
	comp=Z,3.0nm,0.3s							
SEY	**Seymchan**	**11.15**	**340**	Pn		**Pn**	**02 48 52.5**	**+3.5**
	comp=Z,0.5nm,0.3s,baz=124,slow=12,SNR=6.1							
SEY				LR		LR	02 53 39.6	
	comp=Z,204nm,19.0s,baz=190,slow=40							
	comp=Z,1.4nm,0.3s							
SEY	**Seymchan**	**11.15**	**340**	*i* PN		**Pn**	**02 48 51.2**	**+2.3**
SEY				pmax		pmax		
	comp=Z,1.0nm,0.1s							
TYV	**Tymovskoe**	**11.37**	**268**	*e*PN		Pn	02 49 00.4	+8.4
TYV				pmax		pmax		
	comp=Z,101nm,1.4s							
TYV				pmax		pmax		
	comp=Z,100nm,3.6s							
YSS	**Yuzhno-Sakhali**	**12.97**	**251**	*e*PN		**Pn**	**02 49 15.1**	**+1.3**
YSS				pmax		pmax		
	comp=Z,10.0nm,0.8s							
YSS				MLR		MLR		
	comp=Z,300nm,13.0s							
YUK	**Yuzh-Kuril'sk**	**13.16**	**235**	*i* PN		**Pn**	**02 49 17.7**	**+1.2**
YUK				pmax		pmax		
	comp=Z,2.0nm,0.9s							
JKA	**Kamikawa-asahi**	**14.79**	**242**	Pn		**Pn**	**02 49 37.8**	**-1.0**
ASAJ	**Asahikawa**	**14.79**	**242**	Pn		**Pn**	**02 49 37.1**	**-1.7**
	comp=Z,1.3nm,0.3s,baz=73,slow=12,SNR=9.1							
	comp=Z,10nm,0.6s							
GRNR	**Gornyy**	**15.19**	**272**	ĩ *i*P		**P**	**02 49 49.8**	**+0.6**
GRNR				pmax		pmax		
	comp=Z,10.0nm,0.9s							
GRNR				MLR		MLR		
	comp=E,150nm,17.0s							
GRNR				MLR		MLR		
	comp=N,80nm,18.0s							
GRNR				MLR		MLR		
	comp=Z,150nm,16.0s							
BILL	**Bilibino**	**15.59**	**8**	*ce*P		**P**	**02 49 52.7**	**-0.8**
BILL				pmax		pmax		
	comp=Z,15nm,0.9s							
ERM	**Erimo**	**15.99**	**235**	Pn		**Pn**	**02 49 48.0**	**-6.5**
ERM				IAmb		IAmb	02 50 07.1	
	comp=Z,34nm,1.3s							
ERM	**Erimo**	**15.99**	**235**	P		**Pn**	**02 49 48.0**	**-6.5**
ERM				pmax		pmax		
	comp=Z,34nm,1.3s							
JTM	**Tenmabayashi**	**17.95**	**236**	Pn		Pn	02 50 10.4	-8.8
JTM				IAmb		IAmb	02 50 32.5	
	comp=Z,37nm,1.0s							
KLR	**Kul'dur**	**18.54**	**271**	P		**P**	**02 50 23.5**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=58,slow=9.4,SNR=7.3							
KLR				LR		LR	02 58 17.6	
	comp=Z,201nm,19.1s,baz=70,slow=40							
	comp=Z,3.0nm,0.6s							
KLR	**Kul'dur**	**18.54**	**271**	*i* P		**P**	**02 50 25.7**	**-0.5**
KLR				pmax		pmax		
	comp=Z,5.0nm,0.9s							
YAK	**Yakutsk**	**18.99**	**312**	P		**P**	**02 50 29.2**	**-1.8**
	comp=Z,4.3nm,0.3s,baz=272,slow=4.7,SNR=7.1							
	comp=Z,21nm,0.4s							
YAK	**Yakutsk**	**18.99**	**312**	*e*P		**P**	**02 50 29.8**	**-1.2**
YAK				*e*S		**Sn**	**02 53 59.3**	**-4.8**
YAK				pmax		pmax		
	comp=Z,18nm,1.1s							
YAK				pmax		pmax		
	comp=N,5.0nm,1.0s							
YAK				pmax		pmax		
	comp=E,9.0nm,1.3s							
YAK				pmax		pmax		
	comp=Z,21nm,0.8s							
YAK				pmax		pmax		
	comp=N,13nm,1.6s							
YAK				pmax		pmax		
	comp=E,11nm,1.1s							
YAK				smax		smax		
	comp=E,19nm,1.6s							
YAK				smax		smax		
	comp=N,19nm,1.9s							
YAK				MLR		MLR		
	comp=Z,176nm,29.0s							
YAK				MLR		MLR		
	comp=N,136nm,22.0s							
YAK				MLR		MLR		
	comp=E,135nm,17.0s							
ZEA	**Zeya**	**19.99**	**286**	*i* P		**P**	**02 50 42.2**	**+0.2**
USA0B	**Ussuriysk Arra**	**20.79**	**257**	P		**P**	**02 50 48.8**	**-2.0**
USA0B	**Ussuriysk Arra**	**20.79**	**257**	*i* P		**P**	**02 50 48.8**	**-2.0**
USRK	**Ussuriysk Ar.**	**20.79**	**257**	P		**P**	**02 50 48.9**	**-1.9**
USRK	**Ussuriysk Ar.**	**20.79**	**257**	P		**P**	**02 50 49.1**	**-1.7**
	comp=E,13nm,0.8s,baz=54,slow=10,SNR=16							
USRK				LR		LR	02 59 26.2	
	comp=E,210nm,19.0s,baz=74,slow=39							
	comp=E,13nm,0.8s							
HEH	**HeiHe**	**20.81**	**277**	*e*P		**P**	**02 50 50.0**	**-1.0**
HEH				pmax		pmax		
	comp=Z,10.0nm,0.8s							
HEH				LR		LR		
	comp=N,110nm,17.7s							
HEH				LR		LR		
	comp=E,220nm,15.1s							
HEH				LR		LR		
	comp=Z,260nm,17.0s							
MDJ	**Mudanjiang**	**21.99**	**261**	P		**P**	**02 51 01.8**	**-1.9**
MDJ				pmax		pmax		
	comp=Z,13nm,0.8s							
MSHR	**Mys Shultsa**	**22.23**	**255**	*i* P		**P**	**02 51 06.4**	**+0.1**
MSHR				pmax		pmax		
	comp=Z,18nm,1.1s							
PSTR	**Posyet**	**22.40**	**255**	*i* P		**P**	**02 51 05.6**	**-2.4**
N15K	**Kwethluk River**	**22.58**	**55**	*i* P		**P**	**02 51 11.4**	**+1.4**
N15K				IAmb		IAmb	02 51 31.6	
	comp=Z,12nm,1.0s							
MJB9	**Matsu-Tunnel**	**22.65**	**233**	P		**P**	**02 51 10.3**	**-0.5**
MJB9				IAmb		IAmb	02 51 22.4	
	comp=Z,16nm,0.9s							
MAJO	**Matsushiro**	**22.65**	**233**	P		**P**	**02 51 10.2**	**-0.6**
MAJO				IAmb		IAmb	02 51 22.4	
	comp=Z,16nm,0.8s							
MAJO	**Matsushiro**	**22.65**	**233**	*i* P		**P**	**02 51 10.4**	**-0.4**
MAJO				pmax		pmax		
	comp=Z,14nm,0.8s							
MJAR	**Matsushiro Arr**	**22.65**	**233**	P		**P**	**02 51 09.8**	**-1.0**
MJAR	**Matsushiro Arr**	**22.65**	**233**	P		**P**	**02 51 10.4**	**-0.4**
	comp=Z,12nm,0.8s,baz=29,slow=8.9,SNR=22							
	comp=Z,12nm,0.8s							
MJAR	**Matsushiro Arr**	**22.65**	**233**	P		**P**	**02 51 09.8**	**-1.0**
MJAR				pmax		pmax		
	comp=Z,6.0nm,1.2s							
BNX	**BinXian**	**22.73**	**266**	⇓P		**P**	**02 51 09.3**	**-2.2**
BNX				pmax		pmax		
	comp=Z,20nm,1.0s							
M16K	**Timber Creek**	**23.18**	**53**	P		**P**	**02 51 17.5**	**+1.4**
M16K				IAmb		IAmb	02 51 47.6	
	comp=Z,19nm,1.4s							
JGF	**Kuroka**	**23.81**	**233**	P		**P**	**02 51 21.0**	**-1.7**
JGF				IAmb		IAmb	02 51 28.0	
	comp=Z,13nm,1.0s							
C18K	**Utukok River**	**23.92**	**34**	P		**P**	**02 51 24.5**	**+1.0**
C18K				IAmb		IAmb	02 51 48.5	
	comp=Z,19nm,1.3s							
M17K	**Holitna River**	**23.93**	**52**	P		**P**	**02 51 25.8**	**+2.3**
M17K				IAmb		IAmb	02 51 46.7	
	comp=Z,11nm,1.1s							
C19K	**Lookout Ridge**	**24.64**	**33**	P		**P**	**02 51 32.2**	**+2.2**
J19K	**Poorman**	**24.95**	**46**	P		**P**	**02 51 34.5**	**+1.7**
K20K	**Telida**	**25.59**	**48**	P		**P**	**02 51 40.6**	**+1.9**
J20K	**Nowinta River**	**25.62**	**46**	P		**P**	**02 51 40.0**	**+1.1**
OHAK	**Old Harbor**	**26.34**	**62**	P		**P**	**02 51 45.5**	**0.0**
OHAK				IAmb		IAmb	02 52 11.8	
	comp=Z,18nm,1.2s							
KSRS	**Korea Array**	**27.46**	**249**	P		**P**	**02 51 55.2**	**-0.5**
	comp=Z,4.2nm,0.8s,baz=39,slow=8.9,SNR=14							
	comp=Z,4.2nm,0.8s							
KSRS	**Korea Array**	**27.46**	**249**	*e*P		**P**	**02 51 57.4**	**+1.7**
KSRS				pmax		pmax		
	comp=Z,4.0nm,0.8s							
ILAR	**Eielson Array**	**28.78**	**45**	P		**P**	**02 52 08.4**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=265,slow=8.4,SNR=6.7							
ILAR				LR		LR	03 05 26.4	
	comp=Z,63nm,18.1s,baz=264,slow=40							
	comp=Z,0.4nm,0.6s							
XLT	**XiLinHaoTe**	**30.57**	**271**	*e*P		**P**	**02 52 27.1**	**+3.7**
XLT				sP		pwP	02 52 44.2	+19
XLT				pmax		pmax		
	comp=Z,6.0nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**33.28**	**169**	T		T	03 28 16.1	
	baz=353,slow=76,SNR=680							
H11N3	**WAKE ISLAND Hy**	**33.29**	**169**	T		T	03 28 17.2	
	baz=353,slow=76,SNR=388							
H11N1	**WAKE ISLAND Hy**	**33.29**	**169**	T		T	03 28 17.4	
	baz=353,slow=76,SNR=147							
ULN	**Ulaanbaatar**	**33.98**	**284**	*ce*P		**P**	**02 52 52.5**	**-0.9**
ULN				pmax		pmax		
	comp=Z,10.0nm,2.5s							
SONM	**Songino Array**	**34.38**	**284**	P		**P**	**02 52 55.4**	**-1.4**
SONM	**Songino Array**	**34.38**	**284**	P		**P**	**02 52 55.4**	**-1.4**
	comp=Z,1.4nm,0.5s,baz=71,slow=7.5,SNR=9.2							
SONM				LR		LR	03 08 15.2	
	comp=Z,171nm,18.9s,baz=78,slow=39							
	comp=Z,1.4nm,0.5s							
H11S1	**WAKE ISLAND Hy**	**34.46**	**170**	T		T	03 30 37.4	
	baz=352,slow=76,SNR=18							
H11S3	**WAKE ISLAND Hy**	**34.48**	**170**	T		T	03 30 36.5	
	baz=352,slow=76,SNR=28							
H11S2	**WAKE ISLAND Hy**	**34.48**	**170**	T		T	03 30 36.3	
	baz=352,slow=76,SNR=9.9							
HHC	**Hu-ho-hao-te**	**35.05**	**270**	*e*P		**P**	**02 53 02.6**	**0.0**
HHC				pmax		pmax		
	comp=Z,5.0nm,0.7s							
NRIK	**Noril'sk**	**36.44**	**325**	LR		LR	03 09 51.5	
	comp=Z,245nm,19.2s,baz=73,slow=39							
NRIK	**Noril'sk**	**36.44**	**325**	*i* P		**P**	**02 53 14.3**	**+0.2**
NRIK				pmax		pmax		
	comp=Z,2.0nm,0.9

ARTI	**Arti**	**54.04**	**318**		P	**P**	**02 55 33.1**	**-0.7**
ARTI					IAmb	IAmb	02 55 35.9	
	comp=Z,7.4nm,0.7s							
ARTI	**Arti**	**54.04**	**318**		LR	LR	03 21 46.0	
	comp=Z,59nm,20.3s,baz=34,slow=40							
ARTI	**Arti**	**54.04**	**318**	*d*	iP	**P**	**02 55 33.2**	**-0.6**
ARTI							02 57 33.4	
ARTI					S	**S**	**03 03 07.9**	**-1.9**
ARTI					SS	**SKiKP**	**03 06 46.3**	**+0.4**
ARTI					pmax	pmax		
	comp=Z,4.0nm,0.7s							
SUMG	**Summit**	**54.27**	**7**		P	**P**	**02 55 36.4**	**+0.7**
SUMG	**Summit**	**54.27**	**7**		P	**P**	**02 55 36.4**	**+0.7**
SUMG					pmax	pmax		
	comp=Z,17nm,1.0s							
SUMG	**Summit**	**54.27**	**7**	*i*	P	**P**	**02 55 36.9**	**+1.2**
SUMG					IAmb	IAmb	02 55 38.5	
	comp=Z,15nm,0.9s							
BOOM	**Boomskoye usch**	**54.92**	**296**		P	**P**	**02 55 39.5**	**-1.1**
BOOM					IAmb	IAmb	02 55 41.9	
	comp=Z,4.0nm,1.0s							
BOOM	**Boomskoye usch**	**54.92**	**296**		P	**P**	**02 55 39.5**	**-1.1**
BOOM					pmax	pmax		
	comp=Z,4.0nm,1.0s							
NVAR	**Mina Array Bea**	**55.48**	**70**		P	**P**	**02 55 46.4**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=281,slow=7.4,SNR=4.1							
	comp=Z,0.3nm,0.5s							
AAK	**Ala-Archa**	**55.61**	**297**	*ce*	P	**P**	**02 55 45.3**	**-0.2**
AAK					pmax	pmax		
	comp=Z,3.0nm,0.7s							
KIRV	**Kirov**	**55.93**	**324**		LR	LR	03 22 41.8	
	comp=Z,75nm,18.2s,baz=90,slow=39							
KIRV	**Kirov**	**55.93**	**324**	*ce*	P	**P**	**02 55 47.5**	**+0.2**
KSH	**Kashi**	**56.92**	**293**		P	**P**	**02 55 58.1**	**+3.2**
PDAR	**Pinedale Array**	**57.34**	**61**		P	**P**	**02 55 59.7**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=301,slow=3.2,SNR=6.3							
	comp=Z,0.7nm,0.6s							
KK31	**Karatay Array**	**57.42**	**300**		P	**P**	**02 55 57.3**	**-1.0**
KK31					IAmb	IAmb	02 55 58.4	
	comp=Z,3.8nm,0.8s							
KK31	**Karatay Array**	**57.42**	**300**		P	**P**	**02 55 57.3**	**-1.0**
KK31					pmax	pmax		
	comp=Z,4.0nm,0.9s							
KKAR	**Karatay Array**	**57.42**	**300**		P	**P**	**02 55 57.4**	**-0.9**
KKAR					IAmb	IAmb	02 55 58.4	
	comp=Z,3.9nm,0.8s							
KKAR	**Karatay Array**	**57.42**	**300**		P	**P**	**02 55 57.4**	**-0.9**
KKAR					pmax	pmax		
	comp=Z,4.0nm,0.9s							
KLMR	**Klimovskoe**	**57.47**	**330**	*eP*		**P**	**02 55 57.2**	**-1.1**
KLMR					pmax	pmax		
	comp=Z,25nm,1.0s							
ICESG	**Greenland Ices**	**57.57**	**9**	*i*	P	**P**	**02 55 60.0**	**+0.7**
ICESG					IAmb	IAmb	02 56 01.0	
	comp=Z,11nm,1.1s							
SFJD	**Kangerlussuaq**	**58.27**	**14**		LR	LR	03 22 25.4	
	comp=Z,35nm,20.9s,baz=353,slow=37							
AB31	**Akbulak array**	**58.34**	**311**		P	**P**	**02 56 03.5**	**-1.1**
ABKAR	**Akbulak array**	**58.34**	**311**		P	**P**	**02 56 03.0**	**-1.6**
CMAR	**Chiang Mai Arr**	**58.51**	**259**		P	**P**	**02 56 06.2**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=24,slow=6.9,SNR=13							
	comp=Z,3.3nm,0.6s							
CMAR	**Chiang Mai Arr**	**58.51**	**259**	*eP*		**P**	**02 56 06.8**	**+0.6**
CMAR					pmax	pmax		
	comp=Z,3.0nm,0.6s							
PFO	**Pinyon Flats O**	**59.92**	**73**		LR	LR	03 20 11.2	
	comp=Z,30nm,19.0s,baz=210,slow=34							
KEF	**Keuruu**	**60.27**	**338**	*eP*		**P**	**02 56 18.3**	**+0.6**
FIA1	**FINESS Array S**	**60.62**	**337**		P	**P**	**02 56 20.6**	**+0.5**
FINES	**FINESS Array B**	**60.62**	**337**		P	**P**	**02 56 20.5**	**+0.4**
FINES	**FINESS Array B**	**60.62**	**337**		P	**P**	**02 56 20.9**	**+0.9**
	comp=Z,6.2nm,0.5s,baz=30,slow=8.6,SNR=50							
FINES					LR	LR	03 25 37.9	
	comp=Z,29nm,20.1s,baz=58,slow=39							
	comp=Z,6.2nm,0.5s							
PV17	**East Wray Mesa**	**60.83**	**64**		P	**P**	**02 56 23.7**	**+1.5**
PV17					IAmb	IAmb	02 56 30.5	
	comp=Z,3.0nm,0.9s							
BELG	**Belogornoye**	**61.26**	**320**		LR	LR	03 27 06.3	
	comp=Z,78nm,18.2s,baz=80,slow=40							
BELG	**Belogornoye**	**61.26**	**320**	*i*	P	**P**	**02 56 24.5**	**-0.1**
BELG					pmax	pmax		
	comp=Z,6.0nm,0.9s							
RAF	**Rauma**	**61.98**	**339**	*eP*		**P**	**02 56 29.9**	**+0.6**
MEF	**Metsahovi**	**62.09**	**337**	*eP*		**P**	**02 56 30.6**	**+0.5**
OBN	**Obninsk**	**63.04**	**328**	⇓ *eP*		**P**	**02 56 36.6**	**+0.1**
OBN				*e*			02 57 15.8	
OBN				*e*			02 58 53.0	
OBN					pmax	pmax		
	comp=Z,26nm,2.5s							
OBN					MLR	MLR		
	comp=Z,40nm,18.0s							
VSU	**Vasula**	**63.06**	**335**	*i*	P	**P**	**02 56 36.9**	**+0.4**
VSU					pmax	pmax		
	comp=Z,14nm,0.9s							
NC303	**NORSAR Array S**	**63.81**	**344**		P	**P**	**02 56 42.1**	**+0.6**
NB2	**NORSAR Subarra**	**64.01**	**344**		P	**P**	**02 56 43.4**	**+0.5**
	comp=Z,16nm,1.4s,baz=21,slow=6.9							
NOA	**NORSAR Array B**	**64.01**	**344**		P		**02 56 43.4**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=19,slow=5.9,SNR=11							
NOA					LR	LR	03 26 24.0	
	comp=Z,14nm,20.3s,baz=55,slow=38							
	comp=Z,1.4nm,0.6s							
NOA	**NORSAR Array B**	**64.01**	**344**	*eP*		**P**	**02 56 43.4**	**+0.5**
NOA					pmax	pmax		
	comp=Z,2.0nm,0.8s							
LPSR	**Galich'ya Gora**	**64.32**	**325**	*eP*		**P**	**02 56 42.9**	**-2.1**
LPSR					pmax	pmax		
	comp=Z,20nm,0.9s							
HFS	**Hagfors**	**64.42**	**342**		P	**P**	**02 56 46.2**	**+0.7**
	comp=Z,2.8nm,0.4s,baz=46,slow=4.3,SNR=27							
	comp=Z,2.8nm,0.4s							
VRH	**Novokhopyorsk**	**64.45**	**322**	*eP*		**P**	**02 56 43.0**	**-2.9**
VRH					pmax	pmax		
	comp=Z,20nm,0.9s							
VORR	**Voronezh**	**64.98**	**324**	*eP*		**P**	**02 56 47.2**	**-2.1**
VORR					pmax	pmax		
	comp=Z,10.0nm,0.9s							
VSR	**Storozhevoye**	**65.37**	**324**	*eP*		**P**	**02 56 49.0**	**-2.9**
VSR					pmax	pmax		
	comp=Z,10.0nm,1.0s							
VORD	**Divnogorie**	**65.53**	**324**	*eP*		**P**	**02 56 51.5**	**-1.4**
VORD					pmax	pmax		
	comp=Z,10.0nm,0.8s							
SCHQ	**Schefferville**	**65.78**	**28**		P	**P**	**02 56 55.1**	**+0.6**
	comp=Z,2.9nm,0.8s,baz=351,slow=8.3,SNR=5.5							
	comp=Z,2.9nm,0.8s							
MNK	**Minsk**	**66.21**	**332**	*i*	P	**P**	**02 56 58.4**	**+1.2**
MNK				*i*	*PP	sP	02 57 11.4	+12
MNK				*i*			02 59 25.1	
MNK				*i*	PPP	PPP	03 00 59.9	
MNK				*i*	S	**S**	**03 05 45.5**	**-0.4**
MNK				*i*	*SS	sS	03 06 09.7	+21
MNK				*i*	SS	**SS**	**03 10 03.4**	**+2.7**
MNK					pmax	pmax		
	comp=N,8.0nm,1.0s							
MNK					pmax	pmax		
	comp=E,14nm,1.1s							
MNK					pmax	pmax		
	comp=Z,22nm,0.8s							
MNK					MLR	MLR		
	comp=Z,60nm,17.0s							
MNK					MLR	MLR		
	comp=E,386nm,21.0s							
MNK					MLR	MLR		
	comp=N,565nm,25.0s							
AK21	**Malin Array Si**	**69.13**	**330**		P	**P**	**02 57 15.6**	**-0.1**
AK22	**Malin Array Si**	**69.13**	**330**		P	**P**	**02 57 15.7**	**0.0**
AK04	**Malin Array Si**	**69.14**	**329**		P	**P**	**02 57 15.6**	**-0.1**
AKASG	**Malin Array Be**	**69.14**	**329**		P	**P**	**02 57 15.6**	**-0.1**
	comp=N,1.8nm,0.4s,baz=31,slow=6.1,SNR=19							
	comp=N,1.8nm,0.4s							
AKBB	**Malin Array Si**	**69.14**	**329**		P	**P**	**02 57 15.3**	**-0.4**
AKBB	**Malin Array Si**	**69.14**	**329**	*ce*	P	**P**	**02 57 15.0**	**-0.7**
AKBB					pmax	pmax		
	comp=Z,9.0nm,0.9s							
AKBB	**Malin Array Si**	**69.14**	**329**		P	**P**	**02 57 15.7**	**0.0**
KIEV	**Kiev**	**69.15**	**329**		P	**P**	**02 57 15.1**	**-0.7**
KIEV	**Kiev**	**69.15**	**329**	⇑	P	**P**	**02 57 15.4**	**-0.4**
KIEV	**Kiev**	**69.15**	**329**	⇑	P	**P**	**02 57 15.4**	**-0.4**
KIEV	**Kiev**	**69.15**	**329**		P	**P**	**02 57 15.7**	**-0.1**
AK01	**Malin Array Si**	**69.15**	**329**		P	**P**	**02 57 15.7**	**-0.1**
AK20	**Malin Array Si**	**69.17**	**330**		P	**P**	**02 57 15.9**	**0.0**
AK15	**Malin Array Si**	**69.17**	**329**		P	**P**	**02 57 16.0**	**+0.1**
AK11	**Malin Array Si**	**69.17**	**329**		P	**P**	**02 57 16.0**	**0.0**
AK02	**Malin Array Si**	**69.18**	**329**		P	**P**	**02 57 16.0**	**0.0**
AK19	**Malin Array Si**	**69.18**	**330**		P	**P**	**02 57 16.0**	**0.0**
AK08	**Malin Array Si**	**69.19**	**329**		P	**P**	**02 57 16.0**	**0.0**
NCK	**Nalchik**	**69.98**	**316**	*i*	P	**P**	**02 57 21.3**	**+0.2**
NCK					pmax	pmax		
	comp=Z,9.0nm,0.8s							
KIV	**Kislovodsk**	**69.98**	**317**	⇑	P	**P**	**02 57 20.7**	**-0.5**
KIV	**Kislovodsk**	**69.98**	**317**		P	**P**	**02 57 20.7**	**-0.5**
KBZ	**Khabaz**	**70.08**	**317**		P	**P**	**02 57 22.0**	**+0.4**
	comp=Z,13nm,0.9s,baz=81,slow=4.9,SNR=14							
	comp=Z,13nm,0.9s							
KBZ	**Khabaz**	**70.08**	**317**	*eP*		**P**	**02 57 22.0**	**+0.4**
KBZ					pmax	pmax		
	comp=Z,15nm,0.9s							
SHA1	**Shidzhatmaz**	**70.17**	**317**	*i*	P	**P**	**02 57 20.5**	**-2.1**
TX31	**Lajitas Ar. Si**	**70.40**	**67**		P	**P**	**02 57 24.6**	**+0.6**
TXAR	**Lajitas Array**	**70.40**	**67**		P	**P**	**02 57 24.5**	**+0.5**
TXAR	**Lajitas Array**	**70.40**	**67**		P	**P**	**02 57 24.9**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=301,slow=5.2,SNR=24							
	comp=Z,0.8nm,0.6s							
TXAR	**Lajitas Array**	**70.40**	**67**		P	**P**	**02 57 24.5**	**+0.5**
LPIG	**La Paz**	**70.56**	**76**		LR	LR	03 23 52.6	
	comp=Z,21nm,18.6s,baz=184,slow=32							
EKA	**Eskdalemuir Ar**	**71.48**	**350**		P	**P**	**02 57 30.2**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=19,slow=5.5,SNR=3.8							
	comp=Z,1.4nm,0.6s							
SORM	**Soroca**	**71.66**	**329**	⇑	P	**P**	**02 57 31.6**	**+0.4**
SORM	**Soroca**	**71.66**	**329**	⇑	P	**P**	**02 57 31.6**	**+0.4**
GNI	**Garni**	**72.23**	**314**		LR	LR	03 34 01.3	
	comp=Z,44nm,18.7s,baz=70,slow=40							
STHS	**Stebnicka Huta**	**72.60**	**334**	*eP*		**P**	**02 57 38.7**	**+1.8**
STHS	**Stebnicka Huta**	**72.60**	**334**	*eP*		**P**	**02 57 38.7**	**+1.8**
KOLS	**Kolonicke sedl**	**72.76**	**333**	*eP*		**P**	**02 57 39.5**	**+1.7**
KOLS	**Kolonicke sedl**	**72.76**	**333**	*eP*		**P**	**02 57 39.5**	**+1.7**
CLL	**Collm**	**72.84**	**339**	*i*	P	**P**	**02 57 38.9**	**+0.7**
CLL					pmax	pmax		
	comp=Z,9.0nm,0.8s							
CLL	**Collm**	**72.84**	**339**	*i*	P	**P**	**02 57 38.9**	**+0.7**
	comp=Z,9.0nm,0.8s							
DPC	**Dobruska-Polom**	**72.99**	**337**	*eP*		**P**	**02 57 40.8**	**+1.6**
DPC	**Dobruska-Polom**	**72.99**	**337**	*eP*		**P**	**02 57 40.8**	**+1.6**
BUR08	**Bucovina Ar. S**	**73.07**	**330**		P	**P**	**02 57 40.4**	**+0.6**
BUR08					IAmb	IAmb	02 57 42.7	
	comp=Z,5.1nm,0.8s							
BURAR	**Bucovina Array**	**73.09**	**330**		P	**P**	**02 57 40.0**	**+0.1**
BURAR	**Bucovina Array**	**73.09**	**330**	⇑	P	**P**	**02 57 40.1**	**+0.1**
BURAR	**Bucovina Array**	**73.09**	**330**	⇑	P	**P**	**02 57 40.1**	**+0.1**
MORC	**Moravsky Berou**	**73.23**	**336**		P	**P**	**02 57 42.2**	**+1.6**
MORC					IAmb	IAmb	02 57 44.5	
	comp=Z,4.1nm,0.8s							
MORC	**Moravsky Berou**	**73.23**	**336**	*eP*		**P**	**02 57 42.2**	**+1.6**
MORC	**Moravsky Berou**	**73.23**	**336**		P	**P**	**02 57 42.2**	**+1.6**
MORC					pmax	pmax		
	comp=Z,4.0nm,0.8s							
LANS	**Liptovska Anna**	**73.32**	**335**	*eP*		**P**	**02 57 44.0**	**+2.9**
LANS	**Liptovska Anna**	**73.32**	**335**	*eP*		**P**	**02 57 44.0**	**+2.9**
HOMI	**Horasan**	**73.54**	**315**	⇑	P	**P**	**02 57 43.8**	**+0.9**
TESR	**Tescani**	**73.64**	**329**	⇓	P	**P**	**02 57 44.2**	**+1.2**
PRU	**Pruhonice**	**73.74**	**338**	*eP*		**P**	**02 57 46.2**	**+2.7**
PRU	**Pruhonice**	**73.74**	**338**	*eP*		**P**	**02 57 46.2**	**+2.7**
OZAP	**Van, Ozalp-Mer**	**73.78**	**313**	⇑	P	**P**	**02 57 45.8**	**+1.6**
VRAC	**Vranov**	**73.89**	**337**	*eP*		**P**	**02 57 46.6**	**+2.1**
VRAC	**Vranov**	**73.89**	**337**		LR	LR	03 34 21.9	
	comp=Z,52nm,18.8s,baz=44,slow=39							
VRAC	**Vranov**	**73.89**	**337**	⇓	P	**P**	**02 57 45.2**	**+0.7**
VRAC	**Vranov**	**73.89**	**337**	⇓	P	**P**	**02 57 45.2**	**+0.7**
JAVC	**Velka Javorina**	**74.05**	**336**	*eP*		**P**	**02 57 48.4**	**+3.0**
VYHS	**Vyhne**	**74.08**	**335**	*eP*		**P**	**02 57 47.3**	**+1.7**
VYHS	**Vyhne**	**74.08**	**335**	*eP*		**P**	**02 57 47.3**	**+1.7**
KRUC	**Moravsky**	**74.17**	**337**	*eP*		**P**	**02 57 48.6**	**+2.5**
PLOR	**Plostina**	**74.23**	**329**	⇑	P	**P**	**02 57 46.3**	**-0.2**
PLOR	**Plostina**	**74.23**	**329**	⇑	P	**P**	**02 57 46.3**	**-0.2**
ZVC	**Zvikov**	**74.33**	**338**	*eP*		**P**	**02 57 48.3**	**+1.3**
CFR	**Carcaliu**	**74.35**	**327**	⇑	P	**P**	**02 57 47.2**	**0.0**
CFR	**Carcaliu**	**74.35**	**327**	⇑	P	**P**	**02 57 47.2**	**0.0**
TPGR	**Topolog**	**74.54**	**327**	⇓	P	**P**	**02 57 49.7**	**+1.4**
MARR	**Marisel-Cluj**	**74.56**	**331**	⇑	P	**P**	**02 57 48.7**	**+0.1**
DRGR		**74.58**	**332**	⇓	P	**P**	**02 57 49.3**	**+0.7**
DRGR		**74.58**	**332**	⇓	P	**P**	**02 57 49.3**	**+0.7**
MODS	**Modra-Piesok**	**74.59**	**336**	*eP*		**P**	**02 57 48.0**	**-0.6**
MODS	**Modra-Piesok**	**74.59**	**336**	*eP*		**P**	**02 57 48.0**	**-0.6**
MODS				*e*			03 36 11.5	
KHC	**Kasperske Hory**	**74.76**	**338**	*eP*		**P**	**02 57 50.9**	**+1.3**
KHC	**Kasperske Hory**	**74.76**	**338**	*eP*		**P**	**02 57 50.9**	**+1.3**
MLR	**Muntele Rosu**	**74.77**	**329**		P	**P**	**02 57 51.1**	**+1.3**
MLR	**Muntele Rosu**	**74.77**	**329**		LR	LR	03 35 33.5	
	comp=Z,60nm,18.6s,baz=56,slow=40							
MLR	**Muntele Rosu**	**74.77**	**329**	⇑	P	**P**	**02 57 49.8**	**0.0**
MLR	**Muntele Rosu**	**74.77**	**329**	⇑	P	**P**	**02 57 49.8**	**0.0**
MEM	**Memba**	**74.85**	**344**	*dP*		**P**	**02 57 51.3**	**+1.3**
	comp=Z,9.5nm,0.9s							
CKRC	**Cesky Krumlov**	**74.89**	**338**	*eP*		**P**	**02 57 51.9**	**+1.6**
CKRC	**Cesky Krumlov**	**74.89**	**338**	*eP*		**P**	**02 57 51.9**	**+1.6**
GERES	**GERESS Array B**	**75.00**	**338**		P	**P**	**02 57 51.9**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=11,slow=2.7,SNR=12							
	comp=Z,1.6nm,0.8s							
VOIR		**75.10**	**329**	⇑	P	**P**	**02 57 52.4**	**+0.8**
VOIR		**75.10**	**329**	⇑	P	**P**	**02 57 52.4**	**+0.8**
ARR	**Arges**	**75.29**	**330**	⇑	P	**P**	**02 57 54.7**	**+2.0**
SIRR	**Siria**	**75.36**	**332**	⇓	P	**P**	**02 57 54.3**	**+1.3**
CONA	**Conrad Observa**	**75.36**	**336**	*i*	pP	pP	02 57 55.4	+0.3
	comp=Z,2.2nm,1.1s							
RONA	**Rosalia, Austr**	**75.46**	**336**	*i*	pP	pP	02 57 54.6	-1.0
	comp=Z,1.8nm,1.0s							
SURR	**Surduc**	**75.69**	**331**	⇑	P	**P**	**02 57 55.7**	**+0.8**
GZR	**Gura Zlata**	**75.83**	**331**	⇓	P	**P**	**02 57 56.2**	**+0.4**
GZR	**Gura Zlata**	**75.83**	**331**	⇓	P	**P**	**02 57 56.2**	**+0.4**
WRA	**Warramunga Arr**	**75.92**	**206**		P	**P**	**02 57 55.2**	**-1.2**
	comp=Z,2.2nm,1.0s,baz=21,slow=5.8,SNR=2.9							
	comp=Z,2.2nm,1.0s							
BZS	**Buzias**	**75.96**	**332**	⇑	P	**P**	**02 57 57.2**	**+0.7**
BZS	**Buzias**	**75.96**	**332**	⇑	P	**P**	**02 57 57.2**	**+0.7**
ARSA	**Arzberg**	**76.07**	**336**	*i*	pP	pP	02 57 59.5	+0.4
	comp=Z,2.0nm,0.7s							
LESA	**Schwarzleotal**	**76.57**	**338**	*ep*	P	pP	02 58 01.3	-0.7
	comp=Z,2.0nm,1.1s							
SOKA	**Soboth**	**76.73**	**337**	*i*	P	**P**	**02 57 59.8**	**-1.1**
	comp=Z,1.6nm,0.7s							
WATA	**Walderalm**	**76.90**	**339**	*ep*	P	pP	02 58 03.5	-0.4
RETA	**Reutte**	**76.93**	**340**	*i*	P	**P**	**02 57 59.9**	**-2.2**
	comp=Z,2.4nm,0.9s							
WTTA	**Wenenberg**	**76.96**	**339**	*i*	pP	**P**	**02 58 02.7**	**+0.3**
	comp=Z,3.0nm,0.7s							
MOTA	**Moosalm**	**77.00**	**339**	*eP*		**P**	**02 58 01.8**	**-0.7**
	comp=Z,1.7nm,1.0s							
OBKA	**Obir**	**77.00**	**337**	*i*	pP	pP	02 58 03.1	-1.3
	comp=Z,3.5nm,0.8s							
BNN	**Bunyan**	**77.05**	**319**		P	**P**	**02 58 03.4**	**+0.5**
SQTA	**Sankt Quirin**	**77.09**	**339**	*i*	pP	**P**	**02 58 03.6**	**+0.6**
	comp=Z,2.9nm,1.0s							
MYKA	**Terra Mystica**	**77.10**	**337**	*i*	pP	pP	02 58 05.3	+0.3
	comp=Z,1.1nm,0.6s							
BR131	**Keskin Array S**	**77.16**	**321**		P	**P**	**02 58 04.3**	**+0.8**
BR131					IAmb	IAmb	02 58 05.1	
	comp=Z,3.8nm,0.8s							
BR131	**Keskin Array S**	**77.16**	**321**		P	**P**	**02 58 04.3**	**+0.8**
BR131					pmax	pmax		
	comp=Z,4.0nm,0.8s							
BRTR	**Keskin Array B**	**77.16**	**321**		P	**P**	**02 58 04.1**	**+0.5**
BRTR	**Keskin Array B**	**77.16**	**321**		P	**P**	**02 58 04.7**	**+1.1**
	comp=Z,2.2nm,0.6s,baz=46,slow=2.9,SNR=14							
	comp=Z,2.2nm,0.6s							
ABTA	**Abfaltersbach**	**77.25**	**338**	*i*	P	**P**	**02 58 03.9**	**+0.1**
	comp=Z,3.5nm,0.8s							
DAVA	**Damuels**	**77.31**	**340**	*i*	pP	pP	02 58 05.4	-0.8
	comp=Z,2.6nm,0.7s							
FETA	**Feichten**	**77.38**	**340**	*ep*	P	pP	02 58 05.9	-0.8
	comp=Z,3.4nm,0.8s							
BOVS	**Bovan**	**77.74**	**331**	⇓	P	**P**	**02 58 07.0**	**+0.5**
TUE	**Stuetta**	**78.19**	**340**		P	**P**	**02 58 09.1**	**-0.2**
TUE					IAmb	IAmb	02 58 15.2	
	comp=Z,4.9nm,0.7s							
BORA	**Eskisehir**	**78.22**	**323**		P	**P**	**02 58 09.6**	**+0.2**
BORA					IAmb	IAmb	02 58 53.4	
	comp=Z,5.7nm,1.1s							
PDG	**Podgorica**	**79.56**	**332**		P	**P**	**02 58 16.9**	**+0.3**
PDG					IAmb	IAmb	02 58 18.2	
	comp=Z,4.8nm,0.7s							
PDG	**Podgorica**	**79.56**	**332**	⇑	P	**P**	**02 58 17.3**	**+0.7**
ASAR	**Alice Springs**	**79.60**	**205**		P	**P**	**02 58 16.0**	**-0.8**
ASAR	**Alice Springs**	**79.60**	**205**		P	**P**	**02 58 16.4**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=16,slow=5.0,SNR=6.7							
	comp=Z,1.2nm,0.6s							
ASAR	**Alice Springs**	**79.60**	**205**		P	**P**	**02 58 16.0**	**-0.8**
FDMO	**Fiordimonte**	**80.62**	**337**		P	**P**	**02 58 23.5**	**+1.1**
FDMO					IAmb	IAmb	02 58 27.7	
	comp=Z,5.1nm,0.8s							
PPT2	**Papeete2**	**82.12**	**133**	*e*	LR	LR	03 24 10.7	
	comp=Z,60nm,23.0s							
MMAI	**Mount Meron Ar**	**82.26**	**316**		P	**P**	**02 58 32.3**	**+1.1**
	comp=Z,12nm,0.8s,baz=18,slow=5.6,SNR=14							
	comp=Z,12nm,0.8s							
ESDC	**Sonseca Array**	**87.02**	**348**		P	**P**	**02 58 55.8**	**+0.6**
ESDC					IAmb	IAmb	02 58 56.6	
	comp=Z,2.5nm,1.1s							
ESDC	**Sonseca Array**	**87.02**	**348**		P	**P**	**02 58 55.0**	**-0.2**
	comp=Z,2.4nm,1.0s,baz=357,slow=5.0,SNR=13							
	comp=Z,2.4nm,1.0s							
TBI	**Tubuai**	**87.24**	**135**	*e*	LR	LR	03 26 34.8	
	comp=Z,313nm,30.5s							
KEST	**Kesra**	**88.45**	**337**		P	**P**	**02 59 02.0**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=70,slow=4.8,SNR=4.2							
KEST					LR	LR	03 43 47.1	
	comp=Z,43nm,18.3s,baz=9.7,slow=39							
	comp=Z,2.5nm,0.8s							
QSPA	**South Pole Qui**	**142.47**	**180**		PKPpre	PKPpre	03 05 37.0	
BELA	**Belgrano 2**	**154.13**	**173**		PKPdf	**PKPdf**	**03 06 01.8**	**+1.9**

RSNC 01 02:49:42.1±0.0, 7°N±1′×7°3W±°, h143km±1km, M2.5, mB6.5, ML2.3, Mw(mB)6.2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**188**	P		Pn	02 50 01.3	-0.7
BARC				S		Sn	02 50 15.0	-2.0
BRJC	**Barrancabermej**	**0.61**	**284**	P		Pn	02 50 03.1	-0.1
BRJC				S		Sn	02 50 19.7	+0.4
PAMC	**Pamplona, Colo**	**0.68**	**41**	P		Pn	02 50 04.3	0.0
PAMC				S		Sn	02 50 20.9	-0.2
RUSC	**La Rusia**	**0.93**	**176**	P		Pn	02 50 05.2	-1.0
RUSC				S		Sn	02 50 23.6	-1.0
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	P		Pn	02 50 08.1	-1.3
PTBC				S		Sn	02 50 29.0	-1.2
TAMC	**Tame, Arauca**	**1.41**	**106**	P		Pn	02 50 09.7	-0.5
TAMC				S		Sn	02 50 30.8	-0.8
OCAC	**Ocana**	**1.41**	**353**	P		Pn	02 50 09.8	-0.6
OCAC				S		Sn	02 50 31.6	-0.4
SPBC	**San Pablo de B**	**1.49**	**218**	P		Pn	02 50 10.4	-0.7
SPBC				S		Sn	02 50 32.2	-1.1
ZARC	**Zaragoza, Cauc**	**1.82**	**291**	P		Pn	02 50 14.9	+0.2
ZARC				S		Sn	02 50 40.1	+0.4
NORC	**Norcasia**	**2.12**	**234**	P		Pn	02 50 17.4	-0.9
NORC				S		Sn	02 50 46.0	-0.2
CHIC	**Chingaza**	**2.26**	**195**	P		Pn	02 50 20.5	+0.1
CHIC				S		Sn	02 50 48.9	-0.9
ROSC	**El Rosal**	**2.29**	**211**	P		Pn	02 50 21.0	+0.2
ROSC				S		Sn	02 50 49.7	-0.7
HELC	**Santa Helena**	**2.45**	**255**	P		Pn	02 50 22.8	+0.2
HELC				S		Sn	02 50 52.4	-1.3
CVER	**Cruz Verde, Cu**	**2.47**	**202**	P		Pn	02 50 22.7	-0.3
CVER				S		Sn	02 50 56.6	+2.1
UREC	**San J

MW4.7/79,Moment Tensor Solution. s17,c19; s79,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.31±.06; $M_{\theta\theta}$-0.11±.07; $M_{\phi\phi}$1.41±.04; $M_{r\theta}$0.59±.25; $M_{r\phi}$0.30±.04; $M_{\theta\phi}$-0.41±.16; Best double couple: $M_0$1.56600×10^{16} NP1:ϕ_s212.00000°,δ44.00000°,λ-55.00000°. NP2: ϕ_s348.00000°,δ56.00000°,λ-119.00000°. Principal axes: T 1.5000, Plg7.0000°, Azm98.0000°; N 0.1240, Plg24.0000°, Azm5.0000°; P -1.6320, Plg65.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*MOS **01** 03:24:31.4±1.0,54°.84N×164°.46E,h42km,mb5.0/50, MS3.8/8 Error ellipse: s-maj=4.8km s-min=4.2km az=93.4*

ISC 01 03:24:29.9±0.4,54°.80N±0°.04×164°.55E±0°.03,h17km±2km, h17km:pP-P,n1000,σ1s09/881,mb4.9/329,MS4.0/66, 40C-14D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.92**	**63**	Op PN	**Pb**	**Pn**	**03 24 46.4**	**-0.9**
BKI				S	**Sb**	**Sn**	**03 24 57.9**	**-1.2**
BKI	**Bering**	**0.92**	**63**	*e*P	**Pb**	**Pn**	**03 24 46.4**	**-0.9**
BKI				*e*S	**Sb**	**Sn**	**03 24 58.0**	**-1.2**
MKZ	**Mys Kozlova**	**1.65**	**263**	PN	**Pn**	**Pn**	**03 24 56.9**	**-1.2**
MKZ				S	**Sn**	**Sn**	**03 25 15.9**	**-3.0**
MKZ	**Mys Kozlova**	**1.65**	**263**	*e*P	**Pn**	**Pn**	**03 24 57.0**	**-1.2**
MKZ				*e*S	**Sn**	**Sn**	**03 25 15.9**	**-3.0**
KBTR	**Krutoberegovo**	**1.72**	**326**	PN	**Pn**	**Pn**	**03 24 56.1**	**-2.9**
KBTR	**Krutoberegovo**	**1.72**	**326**	*e*P	**Pn**	**Pn**	**03 24 56.2**	**-2.9**
TUMD	**Tumrok D**	**2.42**	**281**	PN	**Pn**	**Pn**	**03 25 08.1**	**-0.6**
TUMD				S	**Sn**	**Sn**	**03 25 34.6**	**-3.4**
TUMD	**Tumrok D**	**2.42**	**281**	*e*P	**Pn**	**Pn**	**03 25 08.2**	**-0.6**
TUMD				*e*S	**Sn**	**Sn**	**03 25 34.6**	**-3.4**
ZLN	**Zelenaya**	**2.46**	**301**	PN	**Pn**	**Pn**	**03 25 09.1**	**-0.2**
ZLN	**Zelenaya**	**2.46**	**301**	*e*P	**Pn**	**Pn**	**03 25 09.1**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**2.48**	**299**	PN	**Pn**	**Pn**	**03 25 09.3**	**-0.2**
BZGR				S	**Sn**	**Sn**	**03 25 38.0**	**-1.4**
BZGR	**Bezymyannyi-Gr**	**2.48**	**299**	*e*P	**Pn**	**Pn**	**03 25 09.4**	**-0.2**
BZGR				*e*S	**Sn**	**Sn**	**03 25 38.0**	**-1.4**
SMKR	**Semkarok**	**2.50**	**317**	PN	**Pn**	**Pn**	**03 25 09.4**	**-0.4**
SMKR	**Semkarok**	**2.50**	**317**	*e*P	**Pn**	**Pn**	**03 25 09.5**	**-0.4**
CIRR	**Tsirk**	**2.54**	**303**	PN	**Pn**	**Pn**	**03 25 10.2**	**-0.2**
CIRR				S	**Sn**	**Sn**	**03 25 38.3**	**-2.6**
CIRR	**Tsirk**	**2.54**	**303**	*e*P	**Pn**	**Pn**	**03 25 10.2**	**-0.2**
CIRR				*e*S	**Sn**	**Sn**	**03 25 38.3**	**-2.6**
LGNR	**Loginova**	**2.55**	**302**	PN	**Pn**	**Pn**	**03 25 10.6**	**0.0**
LGNR				S	**Sn**	**Sn**	**03 25 41.4**	**0.0**
LGNR	**Loginova**	**2.55**	**302**	*e*P	**Pn**	**Pn**	**03 25 10.7**	**0.0**
LGNR				*e*S	**Sn**	**Sn**	**03 25 41.5**	**0.0**
BZMR	**Bezymyannaya**	**2.58**	**298**	PN	**Pn**	**Pn**	**03 25 10.7**	**-0.3**
BZMR	**Bezymyannaya**	**2.58**	**298**	*e*P	**Pn**	**Pn**	**03 25 10.8**	**-0.3**
BZWR	**Bezymyannyi-We**	**2.59**	**298**	PN	**Pn**	**Pn**	**03 25 11.3**	**+0.2**
BZWR				S	**Sn**	**Sn**	**03 25 42.2**	**-0.1**
BZWR	**Bezymyannyi-We**	**2.59**	**298**	*e*P	**Pn**	**Pn**	**03 25 11.4**	**+0.2**
BZWR				*e*S	**Sn**	**Sn**	**03 25 42.2**	**-0.1**
KMNR	**Kamenistaya**	**2.65**	**293**	PN	**Pn**	**Pn**	**03 25 11.8**	**-0.1**
KMNR				S	**Sn**	**Sn**	**03 25 43.8**	**+0.3**
KMNR	**Kamenistaya**	**2.65**	**293**	*e*P	**Pn**	**Pn**	**03 25 11.8**	**-0.1**
KMNR				*e*S	**Sn**	**Sn**	**03 25 43.9**	**+0.3**
KIRR	**Kirishev**	**2.67**	**297**	PN	**Pn**	**Pn**	**03 25 11.9**	**-0.2**
KIRR				S	**Sn**	**Sn**	**03 25 43.1**	**-1.0**
KIRR	**Kirishev**	**2.67**	**297**	*e*P	**Pn**	**Pn**	**03 25 11.9**	**-0.2**
KIRR				*e*S	**Sn**	**Sn**	**03 25 43.1**	**-1.0**
KPT	**Kopyto**	**2.73**	**297**	PN	**Pn**	**Pn**	**03 25 14.0**	**+1.0**
KPT	**Kopyto**	**2.73**	**297**	*e*P	**Pn**	**Pn**	**03 25 14.0**	**+1.0**
KOZ	**Kozyrevsk**	**2.95**	**297**	PN	**Pn**	**Pn**	**03 25 16.4**	**+0.5**
KOZ				S	**Sn**	**Sn**	**03 25 50.4**	**-0.5**
KOZ	**Kozyrevsk**	**2.95**	**297**	*e*P	**Pn**	**Pn**	**03 25 16.4**	**+0.5**
KOZ				*e*S	**Sn**	**Sn**	**03 25 50.5**	**-0.5**
KII	**Karymskiy**	**3.08**	**258**	PN	**Pn**	**Pn**	**03 25 18.3**	**+0.6**
KII				S	**Sn**	**Sn**	**03 25 51.8**	**-2.3**
KII	**Karymskiy**	**3.08**	**258**	*e*P	**Pn**	**Pn**	**03 25 18.3**	**+0.6**
KII				*e*S	**Sn**	**Sn**	**03 25 51.9**	**-2.3**
SRDR	**Sredinnyy**	**3.14**	**301**	PN	**Pn**	**Pn**	**03 25 19.4**	**+0.8**
SRDR				S	**Sn**	**Sn**	**03 25 55.4**	**-0.2**
SRDR	**Sredinnyy**	**3.14**	**301**	*e*P	**Pn**	**Pn**	**03 25 19.4**	**+0.8**
SRDR				*e*S	**Sn**	**Sn**	**03 25 55.4**	**-0.2**
SPN	**Mys Shipunski**	**3.17**	**239**	PN	**Pn**	**Pn**	**03 25 18.1**	**-0.8**
SPN	**Mys Shipunski**	**3.17**	**239**	*e*P	**Pn**	**Pn**	**03 25 18.1**	**-0.8**
SPN				*e*S	**Sn**	**Sn**	**03 25 52.1**	**-4.3**
NLC	**Nalytchevo**	**3.48**	**244**	PN	**Pn**	**Pn**	**03 25 22.7**	**-0.4**
NLC	**Nalytchevo**	**3.48**	**244**	*e*P	**Pn**	**Pn**	**03 25 22.8**	**-0.4**
NLC				*e*S	**Sn**	**Sn**	**03 26 00.7**	**-3.1**
ESO	**Esso**	**3.52**	**291**	PN	**Pn**	**Pn**	**03 25 23.6**	**-0.2**
ESO	**Esso**	**3.52**	**291**	*e*P	**Pn**	**Pn**	**03 25 23.6**	**-0.2**
SDLR	**Sedlovina**	**3.67**	**248**	PN	**Pn**	**Pn**	**03 25 26.0**	**+0.1**
SDLR				S	**Sn**	**Sn**	**03 26 07.0**	**-1.8**
SDLR	**Sedlovina**	**3.67**	**248**	*e*P	**Pn**	**Pn**	**03 25 26.1**	**+0.1**
SDLR				*e*S	**Sn**	**Sn**	**03 26 07.0**	**-1.8**
SMAR	**Somma**	**3.72**	**248**	PN	**Pn**	**Pn**	**03 25 26.8**	**+0.1**
SMAR				S	**Sn**	**Sn**	**03 26 07.8**	**-2.4**
SMAR	**Somma**	**3.72**	**248**	*e*P	**Pn**	**Pn**	**03 25 26.8**	**+0.1**
SMAR				*e*S	**Sn**	**Sn**	**03 26 07.8**	**-2.4**
KRER	**Koryakskii**	**3.73**	**249**	PN	**Pn**	**Pn**	**03 25 27.4**	**+0.6**
KRER				S	**Sn**	**Sn**	**03 26 08.9**	**-1.5**
KRER	**Koryakskii**	**3.73**	**249**	*e*P	**Pn**	**Pn**	**03 25 27.5**	**+0.6**
KRER				*e*S	**Sn**	**Sn**	**03 26 08.9**	**-1.5**
UGLR	**Uglovaya**	**3.73**	**247**	PN	**Pn**	**Pn**	**03 25 27.1**	**+0.3**
UGLR				S	**Sn**	**Sn**	**03 26 08.7**	**-1.6**
UGLR	**Uglovaya**	**3.73**	**247**	*e*P	**Pn**	**Pn**	**03 25 27.1**	**+0.3**
UGLR				*e*S	**Sn**	**Sn**	**03 26 08.8**	**-1.6**
AVH	**Avacha**	**3.75**	**248**	PN	**Pn**	**Pn**	**03 25 27.6**	**+0.6**
AVH				S	**Sn**	**Sn**	**03 26 09.6**	**-1.2**
AVH	**Avacha**	**3.75**	**248**	*e*P	**Pn**	**Pn**	**03 25 27.7**	**+0.6**
AVH				*e*S	**Sn**	**Sn**	**03 26 09.6**	**-1.2**
KRX	**Arik**	**3.76**	**250**	PN	**Pn**	**Pn**	**03 25 27.6**	**+0.4**
KRX	**Arik**	**3.76**	**250**	*e*P	**Pn**	**Pn**	**03 25 27.7**	**+0.4**
KOK	**Koryaka**	**3.80**	**249**	PN	**Pn**	**Pn**	**03 25 28.3**	**+0.6**
KOK	**Koryaka**	**3.80**	**249**	*e*P	**Pn**	**Pn**	**03 25 28.3**	**+0.6**
KOK				*e*S	**Sn**	**Sn**	**03 26 09.6**	**-2.4**
DALK	**Dalny**	**3.86**	**245**	PN	**Pn**	**Pn**	**03 25 28.5**	**+0.1**
DALK	**Dalny**	**3.86**	**245**	*e*P	**Pn**	**Pn**	**03 25 28.5**	**+0.1**
DALK				*e*S	**Sn**	**Sn**	**03 26 10.3**	**-2.9**
PET	**Petropavlovsk**	**3.91**	**245**		**Pn**	**Pn**	**03 25 29.6**	**+0.5**
PET	**Petropavlovsk**	**3.91**	**245**	PN	**Pn**	**Pn**	**03 25 29.6**	**+0.5**
PET	**Petropavlovsk**	**3.91**	**245**	*e*P	**Pn**	**Pn**	**03 25 29.7**	**+0.6**
PET				*e*S	**Sn**	**Sn**	**03 26 11.3**	**-3.3**
INSR	**Institute**	**3.92**	**246**	PN	**Pn**	**Pn**	**03 25 30.1**	**+0.9**
INSR	**Institute**	**3.92**	**246**	*e*P	**Pn**	**Pn**	**03 25 30.2**	**+0.9**
INSR				*e*S	**Sn**	**Sn**	**03 26 12.8**	**-2.0**
GNL	**Ganaly**	**4.03**	**257**	PN	**Pn**	**Pn**	**03 25 32.1**	**+1.2**
GNL	**Ganaly**	**4.03**	**257**	*e*P	**Pn**	**Pn**	**03 25 32.1**	**+1.2**
KRMR	**Karymshinskiy**	**4.28**	**245**	PN	**Pn**	**Pn**	**03 25 35.0**	**+0.8**
KRMR	**Karymshinskiy**	**4.28**	**245**	*e*P	**Pn**	**Pn**	**03 25 35.1**	**+0.8**
KRMR				*e*S	**Sn**	**Sn**	**03 26 21.9**	**-1.9**
RUS	**Russkaya**	**4.30**	**239**	PN	**Pn**	**Pn**	**03 25 34.2**	**-0.3**
RUS	**Russkaya**	**4.30**	**239**	*e*P	**Pn**	**Pn**	**03 25 34.3**	**-0.3**
RUS				*e*S	**Sn**	**Sn**	**03 26 20.2**	**-4.0**
PEA0B	**Petropavlovsk-**	**4.38**	**250**	Pn	**Pn**	**Pn**	**03 25 36.2**	**+0.5**
PEA0B	**Petropavlovsk-**	**4.38**	**250**	PN	**Pn**	**Pn**	**03 25 36.5**	**+0.8**
PETK	**Petropavlovsk-** 38nm,0.4s,baz=72,slow=15,SNR=89	**4.38**	**250**	Pn	**Pn**	**Pn**	**03 25 35.9**	**+0.2**
PETK	12nm,0.3s,baz=98,slow=21,SNR=7.0			Sn		**Sn**	**03 26 27.3**	**+1.0**
MTVR	**Mutnovka**	**4.44**	**241**	PN	**Pn**	**Pn**	**03 25 37.5**	**+1.0**
MTVR	**Mutnovka**	**4.44**	**241**	*e*P	**Pn**	**Pn**	**03 25 37.5**	**+1.0**
MTVR				*e*S	**Sn**	**Sn**	**03 26 25.1**	**-2.7**
GRL	**Gorelyy**	**4.46**	**242**	PN	**Pn**	**Pn**	**03 25 38.1**	**+1.4**
GRL	**Gorelyy**	**4.46**	**242**	*e*P	**Pn**	**Pn**	**03 25 38.2**	**+1.4**
GRL				*e*S	**Sn**	**Sn**	**03 26 26.8**	**-1.4**
ASAK	**Asacha**	**4.64**	**241**	PN	**Pn**	**Pn**	**03 25 40.5**	**+1.3**
ASAK	**Asacha**	**4.64**	**241**	*e*P	**Pn**	**Pn**	**03 25 40.5**	**+1.3**
ASAK				*e*S	**Sn**	**Sn**	**03 26 30.8**	**-1.9**
APC	**Apacha**	**4.76**	**250**	PN	**Pn**	**Pn**	**03 25 42.4**	**+1.7**
APC	**Apacha**	**4.76**	**250**	*e*P	**Pn**	**Pn**	**03 25 42.5**	**+1.7**
APC				*e*S	**Sn**	**Sn**	**03 26 33.5**	**-2.0**
MIPR	**Malaya Ipel'ka**	**5.29**	**245**	PN	**Pn**	**Pn**	**03 25 49.8**	**+1.8**
MIPR	**Malaya Ipel'ka**	**5.29**	**245**	*e*P	**Pn**	**Pn**	**03 25 49.9**	**+1.8**
PAU	**Pauzhetka**	**5.73**	**238**	PN	**Pn**	**Pn**	**03 25 56.1**	**+2.0**
PAU	**Pauzhetka**	**5.73**	**238**	*e*P	**Pn**	**Pn**	**03 25 56.1**	**+2.0**
SMY	**Shemya**	**6.03**	**106**	Pn	**Pn**	**Pn**	**03 25 58.9**	**+0.7**
SMY	**Shemya**	**6.03**	**106**	PN	**Pn**	**Pn**	**03 25 58.9**	**+0.7**
SKR	**Severo-Kuril's**	**6.57**	**235**	*e*PN	**Pn**	**Pn**	**03 26 06.3**	**+0.7**
SKR	comp=Z,217nm,0.7s			pmax	pmax			
SKR	comp=Z,800nm,17.0s			MLR	MLR			
SKR	**Severo-Kuril's**	**6.57**	**235**	*e*P	**Pn**	**Pn**	**03 26 07.2**	**+1.5**
MA2	**Magadan**	**8.88**	**308**	*ce*PN	**Pn**	**Pn**	**03 26 38.6**	**+1.3**
MA2	comp=Z,10.0nm,1.0s			pmax	pmax			
MA2	**Magadan**	**8.88**	**308**	Pn	**Pn**	**Pn**	**03 26 38.5**	**+1.3**
SEY	comp=Z,14nm,0.9s **Seymchan**	**10.29**	**327**	Pn	**Pn**	**Pn**	**03 26 56.0**	**-0.5**
SEY	comp=Z,0.1nm,0.3s,baz=127,slow=12,SNR=14			LR	LR		03 31 09.9	
SEY	comp=Z,391nm,19.4s,baz=122,slow=40 **Seymchan**	**10.29**	**327**	*i* PN	**Pn**	**Pn**	**03 26 57.3**	**+0.8**
KIWB	**Kanaga Island**	**11.33**	**98**	Pn	**Pn**	**Pn**	**03 27 11.8**	**+1.0**
ADK	**Adak**	**11.59**	**97**	Pn	**Pn**	**Pn**	**03 27 13.3**	**-1.0**
ADK	**Adak**	**11.59**	**97**	PN	**Pn**	**Pn**	**03 27 13.3**	**-1.0**
OKH	**Okha**	**12.72**	**273**	*de*PN	**Pn**	**Pn**	**03 27 28.7**	**-1.1**
OKH	comp=Z,100nm,7.8s			pmax	pmax			
OKH	comp=N,500nm,14.0s			MLR	MLR			
OKH	comp=E,1μm,17.0s			MLR	MLR			
OKH	comp=Z,500nm,15.0s			MLR	MLR			
ATKA	**Atka Island**	**12.91**	**93**	Pn	**Pn**	**Pn**	**03 27 33.7**	**+1.4**
BILL	**Bilibino**	**13.31**	**3**	*i* PN	**Pn**	**Pn**	**03 27 39.0**	**+1.2**
TYV	**Tymovskoe**	**13.79**	**262**	*e*P	**Pn**	**Pn**	**03 27 47.4**	**+3.0**
TYV	comp=Z,12nm,1.0s			pmax	pmax			
TYV	comp=Z,300nm,3.6s			pmax	pmax			
SPIA	**Saint Paul Isl** baz=272	**14.28**	**70**	P	**Pn**	**Pn**	**03 27 50.4**	**-0.7**
P08K	**Saint George I**	**14.69**	**72**	Pn	**Pn**	**Pn**	**03 27 56.9**	**+0.3**
P08K	**Saint George I** baz=275	**14.69**	**72**	P	**Pn**	**Pn**	**03 27 56.1**	**-0.5**
GAMB	**Gambell** baz=245	**15.01**	**44**	P	**Pn**	**Pn**	**03 27 59.5**	**-1.4**
NIKH	**Nikolski High**	**15.76**	**86**	Pn	**Pn**	**Pn**	**03 28 11.5**	**+0.7**
NIKH	**Nikolski High** baz=288	**15.76**	**86**	P	**Pn**	**Pn**	**03 28 11.4**	**+0.7**
YSS	**Yuzhno-Sakhali**	**15.79**	**249**	*e*P	**P**	**Pn**	**03 28 17.8**	**+2.8**
YSS				*e*S	**S**	**Sn**	**03 31 14.1**	**-6.0**
YSS	comp=Z,100nm,3.6s			pmax	pmax			
YSS	comp=Z,20nm,1.0s			pmax	pmax			
YSS	comp=Z,700nm,13.0s			MLR	MLR			
M11K	**Mekoryuk** baz=264	**16.55**	**58**	P	**Pn**	**Pn**	**03 28 20.6**	**-0.3**
UNV	**Unalaska Valle**	**16.86**	**81**	Pn	**Pn**	**Pn**	**03 28 25.7**	**+0.8**
UNV	**Unalaska Valle** baz=286	**16.86**	**81**	P	**Pn**	**Pn**	**03 28 25.5**	**+0.6**
LVA	**Lava Point**	**17.05**	**80**		**P**	**Pn**	**03 28 28.6**	**-0.4**
LVA	comp=Z,60nm,0.8s			IAmb	IAmb		03 28 31.3	
AKUT	**Akutan**	**17.21**	**80**	P	**P**	**Pn**	**03 28 31.0**	**+0.3**
TNA	**Tin City** baz=245	**17.25**	**40**	P	**Pn**	**Pn**	**03 28 28.1**	**-1.5**
GRNR	**Gornyy**	**17.43**	**268**	*e*P	**Pn**	**Pn**	**03 28 31.6**	**-0.4**
GRNR	comp=E,440nm,16.0s			MLR	MLR			
GRNR	comp=N,280nm,15.0s			MLR	MLR			
GRNR	comp=Z,240nm,13.0s			MLR	MLR			
K13K	**Kusilvak Mount**	**17.52**	**54**		**P**	**Pn**	**03 28 33.6**	**-0.5**
K13K	**Kusilvak Mount** baz=260	**17.52**	**54**	P	**Pn**	**Pn**	**03 28 32.6**	**-0.5**
JKA	**Kamikawa-asahi**	**17.75**	**242**		**Pn**	**Pn**	**03 28 35.7**	**-0.3**
ASAJ	**Asahikawa** comp=Z,1.7nm,0.3s,baz=40,slow=9.3,SNR=13	**17.75**	**242**	P	**Pn**	**Pn**	**03 28 36.3**	**+0.3**
ASAJ	comp=Z,275nm,18.4s,baz=35,slow=36 comp=Z,24nm,0.9s			LR	LR		03 35 15.9	
ASAJ	**Asahikawa**	**17.75**	**242**	P	**Pn**	**Pn**	**03 28 35.7**	**-0.3**
ASAJ	comp=Z,35nm,0.8s			pmax	pmax			
F14K	**Arctic Creek** baz=248	**17.82**	**42**	P	**Pn**	**Pn**	**03 28 35.6**	**-1.1**
ANM	**Nome** baz=252	**17.87**	**45**	P	**Pn**	**Pn**	**03 28 36.7**	**-0.7**
M13K	**Dall Lake** baz=267	**17.97**	**59**	P	**Pn**	**Pn**	**03 28 38.2**	**-0.3**
J14K	**Nanvaranak Lak**	**18.18**	**51**		**Pn**	**Pn**	**03 28 40.5**	**-0.7**
J14K	**Nanvaranak Lak** baz=259	**18.18**	**51**	P	**Pn**	**Pn**	**03 28 41.0**	**-0.1**
L14K	**Kuka Creek** baz=264	**18.37**	**56**	P	**P**		**03 28 43.1**	**-0.4**
FALS	**False Pass**	**18.37**	**77**	P	**P**		**03 28 42.5**	**-1.1**
FALS	**False Pass** baz=284	**18.37**	**77**	P	**Pn**		**03 28 43.9**	**+0.4**
G15K	**Niukluk** baz=252	**18.55**	**44**	P	**P**		**03 28 44.6**	**-0.8**
F15K	**North Star Dit** baz=249	**18.56**	**42**	P	**P**		**03 28 44.7**	**-0.8**
M14K	**Bethel**	**18.67**	**58**	P	**P**		**03 28 46.8**	**+0.1**
M14K	**Bethel** baz=267	**18.67**	**58**	P	**P**		**03 28 46.5**	**-0.2**
N14K	**Kuskokwak Cree**	**18.78**	**60**	P	**P**		**03 28 47.6**	**-0.3**
N14K	**Kuskokwak Cree** baz=270	**18.78**	**60**	P	**P**		**03 28 47.7**	**-0.2**
S12K	**Black Hills**	**18.96**	**74**	P	**P**		**03 28 50.0**	**+0.1**
S12K	**Black Hills** baz=282,SNR=7.9	**18.96**	**74**	P	**P**		**03 28 50.3**	**+0.3**
L15K	**Ungalak Mounta** baz=265	**18.98**	**55**	P	**P**		**03 28 49.8**	**-0.4**
O14K	**Tigyukauivet M**	**18.99**	**63**	P	**P**		**03 28 50.5**	**+0.2**
O14K	**Tigyukauivet M** baz=272	**18.99**	**63**	P	**P**		**03 28 50.5**	**+0.2**
ERM	**Erimo**	**19.01**	**237**	*ce*P	**Pn**		**03 28 53.4**	**+2.0**
ERM	comp=Z,58nm,1.3s			pmax	pmax			
K15K	**Wolf Creek Mou**	**19.03**	**53**	P	**P**		**03 28 50.8**	**0.0**
K15K	**Wolf Creek Mou** baz=263	**19.03**	**53**	P	**P**		**03 28 50.5**	**-0.2**
H16K	**Elim** baz=255	**19.19**	**46**	P	**P**		**03 28 52.0**	**-0.4**
M15K	**Kasigluk River** baz=268	**19.30**	**58**	P	**P**		**03 28 53.8**	**+0.2**
G16K	**Koyuk River** baz=253	**19.35**	**44**	P	**P**		**03 28 53.5**	**-0.7**
C16K	**Lisburne Hills** baz=241	**19.41**	**34**	P	**P**		**03 28 53.8**	**-0.9**
YAK	**Yakutsk**	**19.44**	**306**	P	**P**		**03 28 53.7**	**-1.5**
YAK	comp=Z,64nm,1.1s			IAmb	IAmb		03 28 57.7	
YAK	**Yakutsk** comp=Z,5.4nm,0.3s,baz=281,slow=20,SNR=7.6 comp=Z,30nm,0.5s	**19.44**	**306**	P	**P**		**03 28 54.0**	**-1.1**
YAK	**Yakutsk**	**19.44**	**306**	*e*P	**P**		**03 28 55.5**	**+0.3**
YAK				*e*S	**Sn**		**03 32 32.3**	**-1.5**
YAK	comp=Z,67nm,1.2s			pmax	pmax			
YAK	comp=N,17nm,1.6s			pmax	pmax			
YAK	comp=E,45nm,2.0s			pmax	pmax			
YAK	comp=Z,79nm,2.2s			pmax	pmax			
YAK	comp=N,91nm,4.0s			pmax	pmax			
YAK	comp=E,65nm,2.3s			smax	smax			
YAK	comp=E,58nm,2.3s			smax	smax			
YAK	comp=N,42nm,2.0s			MLR	MLR			
YAK	comp=Z,514nm,27.0s			MLR	MLR			
YAK	comp=N,126nm,14.0s			MLR	MLR			
YAK	comp=E,202nm,13.0s							
N15K	**Kwethluk River**	**19.58**	**60**	P	**P**		**03 28 56.9**	**+0.2**
N15K	**Kwethluk River** baz=270,SNR=12	**19.58**	**60**	P	**P**		**03 28 56.9**	**+0.2**
J16K	**Anvik River** baz=261	**19.60**	**50**	P	**P**		**03 28 57.0**	**0.0**
I17K	**Unalakleet** baz=259	**19.67**	**49**	P	**P**		**03 28 58.0**	**+0.3**
O15K	**Ungalikthiuk R**	**19.74**	**63**		**P**		**03 28 58.5**	**0.0**
O15K	**Ungalikthiuk R** baz=273,SNR=7.0	**19.74**	**63**	P	**P**		**03 28 58.5**	**0.0**
D17K	**Noatak River** baz=246	**19.91**	**37**	P	**P**		**03 28 59.3**	**-0.9**
SDPT	**Sand Point** baz=284	**19.91**	**74**	P	**P**		**03 29 01.2**	**+0.8**
L16K	**Owhat River**	**19.94**	**55**	P	**P**		**03 29 00.8**	**+0.2**
G17K	**Kiwalik Mounta** baz=255	**20.07**	**44**	P	**P**		**03 29 02.0**	**+0.1**
F17K	**Baldwin Pennin** baz=252	**20.11**	**41**	P	**P**		**03 29 02.3**	**-0.1**
E17K	**Hotham Inlet** baz=249	**20.12**	**39**	P	**P**		**03 29 01.5**	**-1.0**
RDOG	**Red Dog Mine** baz=245	**20.12**	**36**	P	**P**		**03 29 02.1**	**-0.4**
M16K	**Timber Creek** baz=269,SNR=9.1	**20.15**	**57**	P	**P**		**03 29 02.1**	**-0.8**
C17K	**DeLong Mountai** baz=244	**20.21**	**35**	P	**P**		**03 29 02.6**	**-1.0**
H17K	**Granite Mounta** comp=Z,48nm,0.8s	**20.23**	**46**	IAmb	IAmb		03 29 15.5	
H17K	**Granite Mounta** baz=257,SNR=7.5	**20.23**	**46**	P	**P**		**03 29 03.5**	**-0.2**
N16K	**Nishlik Lake** baz=271,SNR=8.5	**20.24**	**59**	P	**P**		**03 29 02.9**	**-1.0**
J17K	**VABM Dome** comp=Z,37nm,0.8s	**20.30**	**50**	IAmb	IAmb		03 29 20.1	
J17K	**VABM Dome** baz=262	**20.30**	**50**	P	**P**		**03 29 04.0**	**-0.6**
TEY	**Ternei**	**20.34**	**253**	*e*P	**P**		**03 28 59.6**	**-5.5**
TEY	comp=N,20nm,0.8s			pmax	pmax			
TEY	comp=E,30nm,0.8s			pmax	pmax			
TEY	comp=Z,60nm,0.8s			pmax	pmax			
L17K	**Donlin** baz=266,SNR=11	**20.52**	**54**	P	**P**		**03 29 06.6**	**-0.3**
CHNA	**Chernabura Isl** baz=285	**20.53**	**75**	P	**P**		**03 29 06.8**	**-0.3**
CNBA	**Chernabura Isl**	**20.53**	**75**	P	**P**		**03 29 05.7**	**-1.4**
K17K	**Iditarod**	**20.57**	**52**	P	**P**		**03 29 07.9**	**+0.4**
K17K	comp=Z,86nm,1.1s			IAmb	IAmb		03 29 19.8	
K17K	**Iditarod** baz=265,SNR=14	**20.57**	**52**	P	**P**		**03 29 07.7**	**+0.3**
O16K	**Kokwok River B** baz=274	**20.60**	**61**	P	**P**		**03 29 07.7**	**-0.1**
E18K	**Tukpahlearik C**	**20.68**	**39**	P	**P**		**03 29 08.8**	**+0.1**
E18K	**Tukpahlearik C** baz=250	**20.68**	**39**	P	**P**		**03 29 07.4**	**-1.2**
P16K	**Nushagak River** baz=275	**20.69**	**63**	P	**P**		**03 29 08.6**	**-0.2**
F18K	**Selawik** baz=253	**20.77**	**41**	P	**P**		**03 29 09.0**	**-0.6**
KLR	**Kul'dur** comp=Z,4.4nm,0.9s,baz=63,slow=11,SNR=7.7	**20.81**	**268**	P	**P**		**03 29 10.5**	**+0.3**
KLR	comp=Z,331nm,19.2s,baz=70,slow=38 comp=Z,4.4nm,0.9s			LR	LR		03 37 44.2	
KLR	**Kul'dur**	**20.81**	**268**	*i* P	Pn		03 29 12.3	-0.4
KLR	comp=Z,15nm,1.2s			pmax	pmax			
CHGN	**Chignik** comp=Z,58nm,0.9s	**20.85**	**71**	IAmb	IAmb		03 29 23.0	
CHGN	**Chignik** baz=282,SNR=8.4	**20.85**	**71**	P	**P**		**03 29 10.7**	**+0.2**
M17K	**Holitna River** comp=Z,49nm,0.9s	**20.90**	**56**	IAmb	IAmb		03 29 22.9	
M17K	**Holitna River** baz=269,SNR=13	**20.90**	**56**	P	**P**		**03 29 11.2**	**+0.2**
H18K	**Honhosa River** baz=258	**20.91**	**46**	P	**P**		**03 29 10.8**	**-0.4**
C18K	**Utukok River**	**20.95**	**35**	P	**P**		**03 29 11.2**	**-0.4**
C18K	**Utukok River** baz=246	**20.95**	**35**	P	**P**		**03 29 11.2**	**-0.4**
G18K	**Tagagawik** baz=256	**20.97**	**43**	P	**P**		**03 29 11.4**	**-0.3**
N17K	**Nushagak Hills** baz=272	**21.02**	**59**	P	**P**		**03 29 11.9**	**-0.4**
B18K	**Kokolik River** baz=244	**21.06**	**33**	P	**P**		**03 29 11.3**	**-1.4**
O17K	**Koliganek Bris** baz=274	**21.10**	**61**	P	**P**		**03 29 12.7**	**-0.5**
L18K	**Granite Mounta** baz=268,SNR=6.8	**21.28**	**54**	P	**P**		**03 29 14.8**	**-0.4**
J18K	**Innoko River**	**21.36**	**50**	P	**P**		**03 29 15.8**	**-0.2**
J18K	comp=Z,53nm,0.9s			IAmb	IAmb		03 29 28.0	
J18K	**Innoko River** baz=265,SNR=16	**21.36**	**50**	P	**P**		**03 29 15.6**	**-0.4**
Q16K	**King Salmon** baz=277,SNR=7.2	**21.41**	**64**	P	**P**		**03 29 16.6**	**0.0**
GCSA	**Galena City Sc** baz=261	**21.46**	**47**	P	**P**		**03 29 16.1**	**-0.9**
P17K	**Kvichak River** baz=276	**21.47**	**62**	P	**P**		**03 29 17.2**	**0.0**
F19K	**Shaleruckik M

TIXI					IAmb	IAmb	03 29 42.0		
	comp=Z,42nm,0.9s								
TIXI	**Tiksi**	**22.74**	**331**		P	**P**	**03 29 27.8**	**-2.8**
TIXI					pmax	pmax			
	comp=Z,42nm,1.0s								
R18K	**Karluk**	**22.74**	**66**		P	**P**	**03 29 30.1**	**-0.6**
	baz=281								
B20K	**Meade River**	**22.80**	**33**		IAmb	IAmb	03 29 43.0		
	comp=Z,38nm,0.7s								
B20K	**Meade River**	**22.80**	**33**		P	**P**	**03 29 29.5**	**-1.7**
	baz=248								
HEH	**HeiHe**	**22.86**	**274**	*e*	P	**P**	**03 29 31.6**	**-0.5**
HEH					pmax	pmax			
	comp=Z,9.0nm,0.9s								
HEH					LR	LR			
	comp=Z,230nm,16.9s								
HEH					LR	LR			
	comp=Z,250nm,17.6s								
HEH					LR	LR			
	comp=Z,490nm,16.6s								
Q19K	**Cape Douglas,**	**22.94**	**63**		P	**P**	**03 29 32.4**	**-0.5**
	baz=278								
M20K	**Styx River**	**22.95**	**55**		P	**P**	**03 29 32.7**	**-0.4**
M20K	**Styx River**	**22.95**	**55**		P	**P**	**03 29 32.1**	**-1.0**
	baz=272								
IMAR	**Indian Mountai**	**22.95**	**44**		P	**P**	**03 29 32.2**	**-0.7**
IMAR						**PcP**	**03 33 22.9**	**+0.6**
P19K	**Oil Pt**	**23.06**	**61**		P	**P**	**03 29 33.2**	**-0.9**
	baz=277								
SII	**Sitkinak Islan**	**23.09**	**69**		P	**P**	**03 29 33.7**	**-0.7**
	baz=284								
G21K	**Allakaket**	**23.14**	**43**		P	**P**	**03 29 34.1**	**-0.8**
	baz=260,SNR=8.8								
F21K	**Alatna River**	**23.28**	**41**		P	**P**	**03 29 35.4**	**-0.9**
	baz=259,SNR=8.1								
H21K	**Melozitna Rive**	**23.29**	**45**		IAmb	IAmb	03 29 47.9		
	comp=Z,63nm,1.1s								
H21K	**Melozitna Rive**	**23.29**	**45**		P	**P**	**03 29 35.7**	**-0.7**
	baz=263,SNR=20								
C21K	**Knifeblade Rid**	**23.30**	**36**		P	**P**	**03 29 35.4**	**-1.0**
	baz=253								
O20K	**Slope Mountain**	**23.32**	**59**		P	**P**	**03 29 35.6**	**-1.1**
	baz=276								
CHUM	**Lake Minchumin**	**23.35**	**50**		P	**P**	**03 29 36.5**	**-0.5**
	baz=268								
E21K	**Killik River**	**23.38**	**38**		P	**P**	**03 29 35.9**	**-1.4**
	baz=256								
PPLA	**Purkeypile**	**23.38**	**52**		IAmb	IAmb	03 29 50.0		
	comp=Z,77nm,1.2s								
PPLA	**Purkeypile**	**23.38**	**52**		P	**P**	**03 29 37.7**	**+0.2**
	baz=270,SNR=11								
JMM	**Marumori**	**23.39**	**233**		P	**P**	**03 29 37.6**	**0.0**
JMM					IAmb	IAmb	03 29 46.9		
	comp=Z,52nm,1.0s								
N20K	**Mount Spurr**	**23.42**	**57**		P	**P**	**03 29 37.7**	**-0.1**
	baz=274								
OHAK	**Old Harbor**	**23.42**	**67**		P	**P**	**03 29 37.4**	**-0.4**
	baz=283								
SPCR	**Spurr Chakacha**	**23.42**	**57**		P	**P**	**03 29 37.4**	**-0.5**
	baz=274								
CAST	**Castle Rocks**	**23.44**	**51**		IAmb	IAmb	03 29 49.8		
	comp=Z,34nm,0.8s								
CAST	**Castle Rocks**	**23.44**	**51**		P	**P**	**03 29 37.6**	**-0.2**
	baz=269,SNR=18								
USRK	**Ussuriysk Ar.**	**23.44**	**257**		P	**P**	**03 29 38.3**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=58,slow=14,SNR=6.2								
USRK					LR	LR	03 39 24.4		
	comp=Z,394nm,18.6s,baz=56,slow=38								
	comp=Z,3.0nm,0.7s								
A21K	**Barrow**	**23.49**	**30**		P	**P**	**03 29 37.3**	**-1.0**
	baz=246								
B21K	**Ikpikpuk River**	**23.50**	**35**		IAmb	IAmb	03 29 49.3		
	comp=Z,56nm,0.8s								
B21K	**Ikpikpuk River**	**23.50**	**35**		P	**P**	**03 29 37.5**	**-0.9**
	baz=252								
I21K	**Tanana**	**23.58**	**47**		P	**P**	**03 29 38.5**	**-0.8**
	baz=265								
STLK	**Strandline Lak**	**23.59**	**56**		P	**P**	**03 29 39.2**	**-0.2**
Q20K	**Shuyak Island**	**23.63**	**63**		P	**P**	**03 29 38.5**	**-1.3**
	baz=280								
KDAK	**Kodiak Island**	**23.68**	**65**	*i*	P	**P**	**03 29 39.3**	**-1.0**
KDAK					pmax	pmax			
	comp=Z,64nm,2.1s								
KDAK	**Kodiak Island**	**23.68**	**65**		P	**P**	**03 29 39.8**	**-0.5**
	baz=282								
SKT	**Skwentna**	**23.71**	**55**		P	**P**	**03 29 40.2**	**-0.3**
	baz=273,SNR=9.3								
F22K	**John River**	**23.83**	**41**		P	**P**	**03 29 40.1**	**-1.6**
	baz=260								
A22K	**Sinclair Lake**	**23.85**	**32**		P	**P**	**03 29 40.8**	**-1.0**
	baz=249								
HOM	**Homer**	**23.86**	**60**		P	**P**	**03 29 41.4**	**-0.5**
	baz=278								
H22K	**Ishtalitna Cre**	**23.91**	**45**		P	**P**	**03 29 42.3**	**-0.1**
	baz=264,SNR=16								
BPAW	**Bear Paw Mtn.**	**23.94**	**49**		IAmb	IAmb	03 29 54.4		
	comp=Z,45nm,1.1s								
BPAW	**Bear Paw Mtn.**	**23.94**	**49**		P	**P**	**03 29 42.7**	**-0.1**
	baz=269,SNR=13								
D22K	**Ayikyak River**	**23.95**	**37**		P	**P**	**03 29 41.7**	**-1.0**
	baz=256								
KTH	**Kantishna Hill**	**23.96**	**51**		IAmb	IAmb	03 29 54.9		
	comp=Z,29nm,0.9s								
CAPN	**Captain Cook N**	**23.97**	**58**		P	**P**	**03 29 42.4**	**-0.6**
	baz=276								
G22K	**Bettles**	**23.99**	**42**		P	**P**	**03 29 41.6**	**-1.6**
	baz=262,SNR=13								
CNPM	**China Poot**	**24.08**	**61**		IAmb	IAmb	03 29 56.0		
	comp=Z,47nm,1.1s								
E22K	**Anaktuvuk Pass**	**24.09**	**39**		IAmb	IAmb	03 29 56.0		
	comp=Z,25nm,0.7s								
E22K	**Anaktuvuk Pass**	**24.09**	**39**		P	**P**	**03 29 43.2**	**-0.9**
	baz=259,SNR=19								
MLY	**Manley**	**24.09**	**47**		IAmb	IAmb	03 29 55.1		
	comp=Z,20nm,0.8s								
MLY	**Manley**	**24.09**	**47**		P	**P**	**03 29 43.7**	**-0.6**
	baz=267,SNR=14								
SUA	**Susitna One**	**24.11**	**56**		IAmb	IAmb	03 29 55.9		
	comp=Z,32nm,1.0s								
SUA	**Susitna One**	**24.11**	**56**		P	**P**	**03 29 44.2**	**-0.3**
	baz=275								
B22K	**Teshekpuk Lake**	**24.11**	**34**		P	**P**	**03 29 43.5**	**-0.7**
	baz=252								
BRLK	**Bradley Lake**	**24.22**	**60**		IAmb	IAmb	03 29 47.5		
	comp=Z,78nm,1.6s								
TRF	**Thorofare Moun**	**24.24**	**51**		P	**P**	**03 29 45.4**	**-0.3**
	baz=271,SNR=39								
CUT	**Chulitna**	**24.28**	**53**		P	**P**	**03 29 45.5**	**-0.3**
M22K	**Willow**	**24.39**	**55**		IAmb	IAmb	03 29 58.0		
	comp=Z,39nm,1.1s								
M22K	**Willow**	**24.39**	**55**		P	**P**	**03 29 46.2**	**-0.6**
	baz=275								
COLD	**Coldfoot**	**24.54**	**42**		P	**P**	**03 29 47.8**	**-0.4**
	baz=262,SNR=24								
G23K	**Bananza Creek**	**24.54**	**43**		P	**P**	**03 29 48.0**	**-0.3**
	baz=264,SNR=10.0								
MDJ	**Mudanjiang**	**24.55**	**260**		P	**P**	**03 29 48.1**	**-0.4**
MDJ					S	**S**	**03 34 08.6**	**+0.4**
MDJ					pmax	pmax			
	comp=Z,9.0nm,1.4s								
MDJ					LR	LR			
	comp=Z,630nm,16.5s								
MDJ					LR	LR			
	comp=Z,440nm,17.9s								
MDJ					LR	LR			
	comp=Z,380nm,23.0s								
RC01	**Rabbit Creek A**	**24.63**	**57**		P	**P**	**03 29 49.1**	**+0.1**
	baz=276								
H23K	**Yukon River**	**24.65**	**45**		P	**P**	**03 29 49.2**	**-0.1**
	baz=266,SNR=33								
D23K	**Nanushuk River**	**24.67**	**38**		P	**P**	**03 29 49.1**	**-0.3**
	baz=258								
I23K	**Minto, Yukon-K**	**24.68**	**47**		P	**P**	**03 29 48.7**	**-0.8**
I23K	**Minto, Yukon-K**	**24.68**	**47**		P	**P**	**03 29 49.4**	**-0.1**
	baz=268,SNR=29								
O22K	**Cooper Landing**	**24.70**	**58**		P	**P**	**03 29 49.3**	**-0.4**
	baz=278								
NEA2	**Nenana**	**24.79**	**48**		P	**P**	**03 29 50.0**	**-0.5**
	baz=269,SNR=31								
MCK	**McKinley**	**24.85**	**50**		P	**P**	**03 29 50.9**	**-0.1**
	baz=271,SNR=12								
PMR	**Palmer**	**24.87**	**55**		P	**P**	**03 29 51.1**	**-0.1**
	baz=276								
E23K	**Chandalar**	**24.89**	**40**		P	**P**	**03 29 51.4**	**-0.1**
	baz=261,SNR=7.4								
SEW	**Seward**	**24.89**	**59**		IAmb	IAmb	03 30 01.2		
	comp=Z,34nm,1.0s								
SEW	**Seward**	**24.89**	**59**		P	**P**	**03 29 50.5**	**-0.8**
	baz=279								
C23K	**Itkillik River**	**24.89**	**36**		P	**P**	**03 29 51.3**	**0.0**
C23K	**Itkillik River**	**24.89**	**36**		P	**P**	**03 29 50.5**	**-0.8**
	baz=256								
GHO	**Glory Hole Cre**	**24.95**	**55**		IAmb	IAmb	03 30 06.5		
	comp=Z,28nm,1.2s								
TOLK	**Toolik Lake Re**	**25.00**	**38**		IAmb	IAmb	03 30 03.5		
	comp=Z,37nm,0.8s								
TOLK	**Toolik Lake Re**	**25.00**	**38**		P	**P**	**03 29 50.9**	**-1.5**
	baz=260,SNR=8.1								
WAT1	**Susitna Watana**	**25.05**	**52**		P	**P**	**03 29 52.1**	**-0.8**
	baz=274								
BNX	**BinXian**	**25.15**	**264**	⇑	P	**P**	**03 29 53.6**	**-0.2**
BNX					pP	**pP**	**03 29 56.6**	**-1.0**
BNX					S	**S**	**03 34 24.3**	**+6.5**
BNX					pmax	pmax			
	comp=Z,8.0nm,0.7s								
BNX					pmax	pmax			
	comp=Z,90nm,6.9s								
BNX					LR	LR			
	comp=Z,360nm,12.7s								
BNX					LR	LR			
	comp=Z,280nm,12.3s								
BNX					LR	LR			
	comp=Z,340nm,15.3s								
KNK	**Knik Glacier**	**25.21**	**56**		IAmb	IAmb	03 30 06.1		
	comp=Z,44nm,0.9s								
KNK	**Knik Glacier**	**25.21**	**56**		P	**P**	**03 29 53.3**	**-1.0**
	baz=277								
E24K	**Your Creek**	**25.31**	**40**		IAmb	IAmb	03 30 07.4		
	comp=Z,44nm,0.9s								
E24K	**Your Creek**	**25.31**	**40**		P	**P**	**03 29 54.4**	**-0.8**
	baz=262								
COLA	**College**	**25.32**	**48**		P	**P**	**03 29 54.2**	**-1.0**
COLA	**College**	**25.32**	**48**	*i*	P	**P**	**03 29 54.8**	**-0.4**
COLA					pmax	pmax			
	comp=Z,56nm,0.9s								
COLA	**College**	**25.32**	**48**		P	**P**	**03 29 54.4**	**-0.8**
	baz=270								
PWL	**Port Wells**	**25.33**	**57**		P	**P**	**03 29 55.4**	**0.0**
	baz=278,SNR=11								
H24K	**Noodor Dome**	**25.34**	**45**		IAmb	IAmb	03 30 20.4		
	comp=Z,22nm,1.0s								
H24K	**Noodor Dome**	**25.34**	**45**		P	**P**	**03 29 54.5**	**-0.9**
	baz=268,SNR=10.0								
D24K	**Happy Valley**	**25.36**	**37**		IAmb	IAmb	03 30 07.1		
	comp=Z,11nm,0.6s								
D24K	**Happy Valley**	**25.36**	**37**		P	**P**	**03 29 54.6**	**-1.0**
	baz=260								
WAT6	**Susitna Watana**	**25.44**	**53**		P	**P**	**03 29 55.8**	**-0.8**
	baz=275								
F24K	**Squaw Lake**	**25.46**	**41**		P	**P**	**03 29 55.6**	**-1.0**
	baz=264,SNR=11								
POKR	**Poker Plat Res**	**25.50**	**47**		IAmb	IAmb	03 30 09.0		
	comp=Z,45nm,1.1s								
POKR	**Poker Plat Res**	**25.50**	**47**		P	**P**	**03 29 56.4**	**-0.5**
	baz=270								
C24K	**Franklin Bluff**	**25.52**	**36**		P	**P**	**03 29 56.4**	**-0.6**
	baz=259								
M23K	**Glacier View**	**25.52**	**55**		P	**P**	**03 29 56.7**	**-0.4**
	baz=276								
G24K	**Hadweenzic Riv**	**25.55**	**43**		P	**P**	**03 29 56.6**	**-0.7**
	baz=266,SNR=17								
DHY	**Denali Highway**	**25.57**	**52**		IAmb	IAmb	03 30 08.9		
	comp=Z,50nm,1.1s								
DHY	**Denali Highway**	**25.57**	**52**		P	**P**	**03 29 56.7**	**-1.1**
	baz=274,SNR=16								
MJAR	**Matsushiro Arr**	**25.68**	**236**		P	**P**	**03 30 00.1**	**+1.3**
MJAR	**Matsushiro Arr**	**25.68**	**236**		P	**P**	**03 30 00.4**	**+1.6**
	comp=Z,18nm,0.9s,baz=20,slow=7.5,SNR=27								
MJAR					LR	LR	03 40 15.8		
	comp=Z,151nm,21.5s,baz=46,slow=37								
	comp=Z,18nm,0.9s								
MJAR	**Matsushiro Arr**	**25.68**	**236**		P	**P**	**03 30 00.1**	**+1.3**
MJAR					pmax	pmax			
	comp=Z,15nm,0.8s								
MJB9	**Matsu-Tunnel**	**25.68**	**236**		P	**P**	**03 29 58.9**	**+0.2**
MJB9					IAmb	IAmb	03 30 03.1		
	comp=Z,42nm,0.9s								
MAJO	**Matsushiro**	**25.68**	**236**		P	**P**	**03 29 59.0**	**+0.2**
MAJO					IAmb	IAmb	03 30 03.1		
	comp=Z,40nm,0.9s								
MAJO	**Matsushiro**	**25.68**	**236**		P	**P**	**03 29 59.0**	**+0.2**
MAJO					pmax	pmax			
	comp=Z,40nm,0.9s								
SCM	**Sheep Creek Mo**	**25.70**	**55**		P	**P**	**03 29 57.5**	**-1.3**
	baz=277,SNR=14								
HDA	**Harding Lake**	**25.71**	**49**		IAmb	IAmb	03 30 08.7		
	comp=Z,24nm,0.8s								
HDA	**Harding Lake**	**25.71**	**49**		P	**P**	**03 29 58.2**	**-0.6**
	baz=272,SNR=22								
ILAR	**Eielson Array**	**25.73**	**48**		P	**P**	**03 29 57.6**	**-1.4**
ILAR	**Eielson Array**	**25.73**	**48**		P	**P**	**03 29 58.0**	**-1.0**
	comp=Z,15nm,0.8s,baz=261,slow=8.8,SNR=88								
	comp=Z,15nm,0.8s								
ILAR	**Eielson Array**	**25.73**	**48**		P	**P**	**03 29 57.6**	**-1.4**
P23K	**Montague Islan**	**25.92**	**59**		P	**P**	**03 30 00.2**	**-0.5**
	baz=280								
GLI	**Glacier Island**	**25.93**	**57**		IAmb	IAmb	03 30 03.6		
	comp=Z,17nm,0.8s								
GLI	**Glacier Island**	**25.93**	**57**		P	**P**	**03 30 00.8**	**-0.1**
	baz=279								
G25K	**Bearman Lake**	**26.10**	**43**		P	**P**	**03 30 01.9**	**-0.4**
	baz=267								
H25L	**Birch Creek**	**26.19**	**44**		P	**P**	**03 30 02.6**	**-0.6**
	baz=269,SNR=6.0								
M24K	**Tolsona, Glenn**	**26.21**	**54**		P	**P**	**03 30 02.8**	**-0.7**
	baz=277,SNR=8.2								
K24K	**Donnelly Dome**	**26.25**	**50**		IAmb	IAmb	03 30 13.8		
	comp=Z,36nm,0.9s								
K24K	**Donnelly Dome**	**26.25**	**50**		P	**P**	**03 30 02.6**	**-1.1**
	baz=274								
FID	**Port Fidalgo**	**26.25**	**57**		IAmb	IAmb	03 30 08.7		
	comp=Z,17nm,0.8s								
D25K	**Kavik River**	**26.25**	**37**		IAmb	IAmb	03 30 15.1		
	comp=Z,37nm,0.8s								
D25K	**Kavik River**	**26.25**	**37**		P	**P**	**03 30 03.1**	**-0.6**
	baz=262,SNR=6.7								
PRP	**Porcupine Dome**	**26.30**	**46**		P	**P**	**03 30 02.9**	**-1.4**
	baz=270,SNR=28								
F25K	**Christian Rive**	**26.33**	**41**		P	**P**	**03 30 03.0**	**-1.4**
	baz=266,SNR=8.6								
J25K	**Salcha River,**	**26.39**	**48**		IAmb	IAmb	03 30 13.9		
	comp=Z,50nm,1.6s								
J25K	**Salcha River,**	**26.39**	**48**		P	**P**	**03 30 03.2**	**-1.8**
	baz=272,SNR=10								
E25K	**Arctic Village**	**26.40**	**40**		P	**P**	**03 30 03.5**	**-1.5**
E25K					IAmb	IAmb	03 30 15.7		
	comp=Z,21nm,0.9s								
E25K	**Arctic Village**	**26.40**	**40**		P	**P**	**03 30 03.7**	**-1.4**
	baz=265,SNR=7.0								
KLU	**Klutina**	**26.41**	**55**		IAmb	IAmb	03 30 15.6		
	comp=Z,24nm,0.9s								
KLU	**Klutina**	**26.41**	**55**		P	**P**	**03 30 04.9**	**-0.3**
	baz=278								
FYU	**Fort Yukon**	**26.44**	**44**		IAmb	IAmb	03 30 16.2		
	comp=Z,54nm,1.0s								
PAX	**Paxson**	**26.45**	**52**		IAmb	IAmb	03 30 21.2		
	comp=Z,18nm,0.8s								
PAX	**Paxson**	**26.45**	**52**		P	**P**	**03 30 05.0**	**-0.7**
	baz=276,SNR=5.8								
DIV	**Divide**	**26.53**	**56**		IAmb	IAmb	03 30 17.0		
	comp=Z,37nm,1.2s								
Q23K	**Middleton Isla**	**26.55**	**60**		P	**P**	**03 30 05.6**	**-0.8**
	baz=282								
EYAK	**Cordova Ski Ar**	**26.64**	**57**		P	**P**	**03 30 05.9**	**-1.3**
	baz=280								
HARP	**HAARP**	**26.65**	**53**		P	**P**	**03 30 05.9**	**-1.5**
	baz=277								
RIDG	**Independent Ri**	**26.66**	**50**		IAmb	IAmb	03 30 16.8		
	comp=Z,36nm,1.0s								
RIDG	**Independent Ri**	**26.66**	**50**		P	**P**	**03 30 06.3**	**-1.2**
	baz=275,SNR=7.4								
BMAR	**Burnt Mountain**	**26.73**	**42**		P	**P**	**03 30 07.8**	**-0.2**
C26K	**Camden Bay**	**26.85**	**36**		P	**P**	**03 30 08.7**	**-0.3**
	baz=262								
F26K	**Sheenjek River**	**26.91**	**41**		P	**P**	**03 30 09.5**	**-0.2**
	baz=267								
DOT	**Dot Lake**	**27.02**	**50**		IAmb	IAmb	03 30 22.4		
	comp=Z,17nm,0.8s								
N25K	**Chitina, Valde**	**27.02**	**55**		IAmb	IAmb	03 30 21.4		
	comp=Z,22nm,1.1s								
N25K	**Chitina, Valde**	**27.02**	**55**		P	**P**	**03 30 10.8**	**+0.1**
	baz=279,SNR=6.8								
G26K	**Porcupine Rive**	**27.02**	**43**		IAmb	IAmb	03 30 21.5		
	comp=Z,29nm,1.0s								
G26K	**Porcupine Rive**	**27.02**	**43**		P	**P**	**03 30 09.5**	**-1.1**
	baz=269,SNR=9.6								
SCRK	**Sand Creek**	**27.02**	**49**		IAmb	IAmb	03 30 20.8		
	comp=Z,42nm,1.0s								
SCRK	**Sand Creek**	**27.02**	**49**		P	**P**	**03 30 09.7**	**-1.1**
	baz=275,SNR=18								
BMRM	**Bremner River**	**27.12**	**56**		IAmb	IAmb	03 30 22.1		
	comp=Z,31nm,1.0s								
BMRM	**Bremner River**	**27.12**	**56**		P	**P**	**03 30 11.2**	**-0.4**
	baz=280								
J26L	**Joseph Creek**	**27.17**	**48**		P	**P**	**03 30 11.6**	**-0.5**
	baz=274								
RAGM	**Ragged Mountai**	**27.19**	**57**		P	**P**	**03 30 11.6**	**-0.7**
RAGM					IAmb	IAmb	03 30 24.1		
	comp=Z,38nm,1.2s								
C27K	**Jago River**	**27.22**	**37**		P	**P**	**03 30 12.1**	**-0.3**
	baz=264								
I26K	**Coal Creek Min**	**27.30**	**46**		P	**P**	**03 30 12.8**	**-0.3**
	baz=273								
HMT	**Hamilton**	**27.40**	**57**		IAmb	IAmb	03 30 24.9		
	comp=Z,22nm,1.0s								
L26K	**Log Cabin Wild**	**27.41**	**51**		P	**P**	**03 30 13.2**	**-0.9**
L26K	**Log Cabin Wild**	**27.41**	**51**		P	**P**	**03 30 14.2**	**+0.1**
	baz=277								
KAIM	**Kayak Island**	**27.41**	**58**		P	**P**	**03 30 14.3**	**+0.2**
	baz=282								
CN2	**Changchun**	**27.41**	**263**	*e*	P	**P**	**03 30 14.4**	**+0.1**
CN2				*e*	S	**S**	**03 34 51.7**	**-2.0**
CN2					LR	LR			
	comp=Z,350nm,18.0s								
CN2					LR	LR			
	comp=Z,240nm,18.0s								
CN2					LR	LR			
	comp=Z,400nm,15.0s								
GLB	**Gilahina Butte**	**27.42**	**55**		IAmb	IAmb	03 30 25.6		
	comp=Z,22nm,1.2s								
M26K	**Nabesna, AK**	**27.65**	**53**		IAmb	IAmb	03 30 40.4		
	comp=Z,18nm,0.9s								
M26K	**Nabesna, AK**	**27.65**	**53**		P	**P**	**03 30 16.2**	**-0.2**
	baz=279,SNR=7.6								
MCARA	**McCarthy VSAT**	**27.80**	**55**		P	**P**	**03 30 17.1**	**-0.6**
	baz=281								
G27K	**Doyon Strip**	**27.86**	**43**		P	**P**	**03 30 18.1**	**-0.1**
	baz=271								
CRQE	**Cirque**	**27.89**	**56**		P	**P**	**03 30 18.8**	**+0.2**
	baz=282								
E27K	**Coleen River**	**27.89**	**40**		P	**P**	**03 30 17.4**	**-1.0**
	baz=269								
BGLC	**Bering Glacier**	**27.93**	**58**		P	**P**	**03 30 18.4**	**-0.4**
	baz=283								
I27K	**Kandik River**	**27.93**	**46**		P	**P**	**03 30 18.2**	**-0.6**
	baz=274								
H27K	**Steamboat Moun**	**27.93**	**44**		IAmb	IAmb	03 30 29.9		
	comp=Z,26nm,0.9s								
H27K	**Steamboat Moun**	**27.93**	**44**		P	**P**	**03 30 18.5**	**-0.4**
	baz=273,SNR=11								
L27K	**Beaver Creek,**	**28.09**	**51**		P	**P**	**03 30 20.6**	**+0.4**
	baz=279,SNR=18								
BCAR	**Beaver Creek A**	**28.11**	**51**		P	**P**	**03 30 20.6**	**+0.1**
D27M	**Malcolm River**	**28.16**	**38**		IAmb	IAmb	03 30 31.2		
	comp=Z,17nm,0.8s								
D27M	**Malcolm River**	**28.16**	**38**		P	**P**	**03 30 20.7**	**-0.2**
	baz=268								
M27K	**Edge Creek, AK**	**28.17**	**53**		IAmb	IAmb	03 30 32.6		
	comp=Z,28nm,0.9s								
M27K	**Edge Creek, AK**	**28.17**	**53**		P	**P**	**03 30 20.4**	**-0.7**
	baz=280,SNR=11								
GRNC	**Granite Creek**	**28.54**	**56**		P	**P**	**03 30 23.2**	**-1.2**
GRNC					IAmb	IAmb	03 30 35.4		
	comp=Z,22nm,1.1s								
F28M	**Old Crow**	**28.54**	**41**		IAmb	IAmb	03 30 35.1		
	comp=Z,17nm,0.9s								
F28M	**Old Crow**	**28.54**	**41**		P	**P**	**03 30 24.4**	**+0.2**
	baz=272								
MESA	**MESA**	**28.56**	**57**		P	**P**	**03 30 24.6**	**-0.1**
	baz=284								
YAH	**Yahtse**	**28.62**	**57**		IAmb	IAmb	03 30 36.4		
	comp=Z,22nm,0.9s								
BVCY	**Beaver Creek**	**28.63**	**52**		P	**P**	**03 30 25.4**	**+0.3**
	baz=280								
I28M	**Miner Creek**	**28.63**	**46**		IAmb	IAmb	03 30 36.1		
	comp=Z,20nm,1.1s								
I28M	**Miner Creek**	**28.63**	**46**		P	**P**	**03 30 24.9**	**-0.3**
	baz=276,SNR=6.8								
E28M	**Babbage River**	**28.66**	**39**		P	**P**	**03 30 25.3**	**0.0**
	baz=270								
CTG	**Chitna Glacier**	**28.68**	**55**		P	**P**	**03 30 26.2**	**+0.5**
	baz=283								
YUK3	**Moose Creek**	**28.93**	**54**		P	**P**	**03 30 28.4**	**+0.4**
	baz=282								
D28M	**Stokes Point**	**28.95**	**38**		P	**P**	**03 30 27.2**	**-0.6**
	baz=269								
DAWY	**Dawson**	**29.03**	**49**		P	**P**	**03 30 28.1**	**-0.5**
	baz=278,SNR=12								
H29M	**Whitestone**	**29.21**	**44**		IAmb	IAmb	03 30 41.1		
	comp=Z,21nm,0.8s								
H29M	**Whitestone**	**29.21**	**44**		P	**P**	**03 30 29.6**	**-0.6**
	baz=275,SNR=6.7								
E29M	**Blow River**	**29.27**	**40**		P	**P**	**03 30 30.3**	**-0.3**
	baz=272								
O28M	**Mount Upton**	**29.27**	**56**		IAmb	IAmb	03 30 42.4		
	comp=Z,25nm,0.9s								
O28M	**Mount Upton**	**29.27**	**56**		P	**P**	**03 30 30.0**	**-1.1**
	baz=284								
G29M	**Pine Creek**	**29.29**	**43**		P	**P**	**03 30 30.5**	**-0.4**
	baz=274,SNR=10								
I29M	**Ogilvie Camp,**	**29.32**	**46**		IAmb	IAmb	03 30 41.4		
	comp=Z,16nm,1.0s							

G31M Satah River 30.76 42 P **P** **03 30 41.9 -1.9**
G31M Satah River 30.76 42 P **P** **03 30 43.0 -0.8**
baz=278
INK Inuvik 30.89 40 IAmb IAmb 03 30 55.5
comp=Z,14nm,0.8s
INK Inuvik 30.89 40 P **P** **03 30 44.4 -0.6**
baz=276
H31M Peel River 30.89 45 IAmb IAmb 03 30 55.9
comp=Z,15nm,1.1s
H31M Peel River 30.89 45 P **P** **03 30 45.0 -0.1**
baz=279
F31M Tsiigehtchic 30.90 41 IAmb IAmb 03 30 55.3
comp=Z,15nm,0.8s
F31M Tsiigehtchic 30.90 41 P **P** **03 30 44.5 -0.5**
baz=277
P30M Million Dollar 30.99 56 P **P** **03 30 46.2 +0.2**
baz=287
N31M Braeburn, Yuko 31.17 53 P **P** **03 30 47.7 +0.1**
baz=286
O30N Mendenhall 31.22 55 P **P** **03 30 47.8 -0.2**
baz=286
PLBC Pleasant Camp 31.47 57 P **P** **03 30 50.8 +0.6**
baz=288
M31M Drury Creek, Y 31.62 51 P **P** **03 30 51.6 0.0**
baz=285,SNR=13
WHY Whitehorse 31.82 54 P **P** **03 30 53.6 +0.2**
baz=287,SNR=6.4
SKAG Skagway 31.98 57 P **P** **03 30 55.0 +0.5**
baz=289
JNU Nakatsue 32.03 241 LR LR 03 45 31.3
comp=Z,78nm,19.7s,baz=48,slow=39
S31K Pelican 32.03 60 P **P** **03 30 55.4 +0.3**
baz=291
FARO Faro, Yukon 32.09 51 IAmb IAmb 03 31 07.5
comp=Z,11nm,0.9s
FARO Faro, Yukon 32.09 51 P **P** **03 30 55.7 +0.1**
baz=286,SNR=5.9
R31K City Hall, Gus 32.12 59 P **P** **03 30 56.3 +0.4**
baz=290
N32M Quiet Lake 32.52 53 P **P** **03 30 59.4 0.0**
baz=288
XLT XiLinHaoTe 32.77 271 *e*P **P** **03 31 04.5 +2.7**
XLT pP pwP 03 31 10.0 -2.0
XLT pmax pmax
comp=Z,6.0nm,0.8s
R32K Eaglecrest 32.77 59 P **P** **03 31 02.3 +0.6**
R32K IAmb IAmb 03 31 13.9
comp=Z,17nm,0.8s
R32K Eaglecrest 32.77 59 P **P** **03 31 02.2 +0.6**
baz=291,SNR=6.6
SIT Sitka 32.82 61 P **P** **03 31 02.7 +0.8**
baz=292
MMPY Sheldon Lake, 32.91 50 IAmb IAmb 03 31 14.7
comp=Z,23nm,0.8s
MMPY Sheldon Lake, 32.91 50 P **P** **03 31 02.7 -0.2**
baz=287,SNR=8.4
P33M Teslin, Yukon 32.94 55 IAmb IAmb 03 31 15.5
comp=Z,23nm,1.3s
P33M Teslin, Yukon 32.94 55 P **P** **03 31 02.4 -0.7**
baz=289,SNR=7.3
S32K Killisnoo 33.04 60 P **P** **03 31 04.5 +0.6**
baz=292
A36M Sachs Harbour 33.30 32 P **P** **03 31 06.2 +0.2**
baz=277
Q32M Nakina River 33.63 57 IAmb IAmb 03 31 21.7
comp=Z,17nm,1.1s
Q32M Nakina River 33.63 57 P **P** **03 31 09.2 -0.1**
baz=291
R33M Jennings River 34.09 55 IAmb IAmb 03 31 25.6
comp=Z,17nm,1.1s
R33M Jennings River 34.09 55 P **P** **03 31 13.1 -0.2**
baz=292,SNR=9.3
T33K Petersburg 34.11 60 P **P** **03 31 14.1 +0.9**
baz=294
U33K Whale Pass 34.31 62 P **P** **03 31 15.9 +1.0**
baz=295
WRAK Wrangell Islan 34.58 61 P **P** **03 31 18.3 +1.0**
baz=295
S34M Telegraph Cree 34.58 58 P **P** **03 31 17.3 0.0**
baz=294
CRAG Craig 34.58 63 P **P** **03 31 18.0 +0.7**
baz=296
TGTN Hyland Airport 34.59 51 P **P** **03 31 18.1 +0.7**
baz=290
WTLY Watson Lake, Y 34.86 54 P **P** **03 31 20.6 +0.9**
baz=292
DLBC Dease Lake 34.91 57 P **P** **03 31 21.3 +1.0**
baz=293
H11N2 WAKE ISLAND Hy 35.05 176 T T 04 09 54.1
baz=359,slow=76,SNR=274
H11N3 WAKE ISLAND Hy 35.07 176 T T 04 09 57.5
baz=359,slow=76,SNR=188
H11N1 WAKE ISLAND Hy 35.07 176 T T 04 09 57.5
baz=359,slow=76,SNR=237
T35M Bob Quinn 35.39 59 P **P** **03 31 25.4 +1.0**
baz=295
V35K Ketchikan 35.42 62 P **P** **03 31 24.8 +0.3**
baz=297
ULN Ulaanbaatar 35.68 283 *ce*P **P** **03 31 28.7 +1.6**
ULN pmax pmax
comp=Z,5.0nm,0.9s
U35K Hyder 35.97 61 P **P** **03 31 30.1 +0.9**
baz=297
NRIK Noril'sk 36.05 324 P **P** **03 31 27.9 -2.0**
NRIK Noril'sk 36.05 324 P **P** **03 31 29.5 -0.4**
comp=Z,1.7nm,0.5s,baz=91,slow=6.5,SNR=5.5
comp=Z,1.7nm,0.5s
NRIK Noril'sk 36.05 324 *i* P **P** **03 31 29.4 -0.4**
NRIK pmax pmax
comp=Z,10.0nm,1.5s
SONM Songino Array 36.07 284 P **P** **03 31 31.2 +0.8**
comp=Z,3.4nm,0.7s,baz=56,slow=7.8,SNR=23
SONM PcP **PcP** **03 33 56.5 +0.3**
comp=Z,2.9nm,0.7s,baz=80,slow=1.7,SNR=9.6
SONM LR LR 03 47 55.6
comp=Z,244nm,18.2s,baz=73,slow=39
comp=Z,3.4nm,0.7s
WRGLY Wrigley 36.10 47 P **P** **03 31 30.7 +0.4**
baz=291
H11S1 WAKE ISLAND Hy 36.26 177 T T 04 11 25.2
baz=359,slow=76,SNR=12
H11S3 WAKE ISLAND Hy 36.27 177 T T 04 11 34.7
baz=359,slow=76,SNR=8.5
H11S2 WAKE ISLAND Hy 36.28 177 T T 04 11 18.2
baz=359,slow=76,SNR=19
TOAD Toad River Com 37.03 54 P **P** **03 31 39.1 +0.8**
baz=296,SNR=11
KOTAN Kotaneelee Air 37.04 52 P **P** **03 31 39.6 +1.2**
baz=295
HHC Hu-ho-hao-te 37.28 270 *e*P **P** **03 31 39.7 -1.1**
HHC pmax pmax
comp=Z,16nm,0.7s
HNS HongShan 37.77 264 ⇑P **P** **03 31 46.6 +1.8**
HNS pmax pmax
comp=Z,18nm,1.0s
HNS LR LR
comp=Z,310nm,17.2s
HNS LR LR
comp=Z,280nm,16.4s
HNS LR LR
comp=Z,310nm,13.2s
BTO Baotou 38.33 271 *e*P **P** **03 31 50.8 +1.1**
BTO pP **sP** **03 31 55.5 +0.4**
BTO sP **pwP** **03 31 57.8 -1.9**
BTO PP **PnPn** **03 33 21.6 +2.6**
BTO S **S** **03 37 45.8 +2.6**
BTO sS **ScP** **03 37 52.6 +2.7**
BTO SS **SnSn** **03 40 21.7 -6.7**
BTO pmax pmax
comp=Z,26nm,0.8s
BTO pmax pmax
comp=Z,230nm,7.5s
BTO LR LR
comp=Z,880nm,16.3s
BTO LR LR
comp=Z,550nm,18.8s
BTO LR LR
comp=Z,660nm,16.3s
BBB Bella Bella 38.76 65 LR LR 03 47 22.0
comp=Z,118nm,19.4s,baz=286,slow=36
NJ2 Nanjing 39.28 254 *e*P **P** **03 31 57.6 +0.1**
NJ2 pP **pP** **03 32 01.8 +0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,250nm,14.2s
NJ2 LR LR
comp=Z,230nm,14.4s
NJ2 LR LR
comp=Z,180nm,12.3s
EUNU Eureka 39.64 15 IAmb IAmb 03 32 11.2
comp=Z,20nm,0.8s
YKA Yellowknife Ar 40.11 45 P **P** **03 32 03.7 -0.3**
comp=Z,3.4nm,0.7s,baz=299,slow=9.0,SNR=4.5
YKA LR LR 03 49 37.1
comp=Z,153nm,18.3s,baz=294,slow=38
comp=Z,3.4nm,0.7s
RES Resolute Bay 40.73 24 P **P** **03 32 08.1 -1.0**
RES Resolute Bay 40.73 24 P **P** **03 32 08.1 -1.0**
RES pmax pmax
comp=Z,10.0nm,0.8s
LYN LuoYang 41.06 262 P **P** **03 32 14.0 +1.7**
LYN pP sP 03 32 18.3 +0.6
LYN sP pwP 03 32 21.4 -1.0
LYN pmax pmax
comp=Z,39nm,1.0s
LYN pmax pmax
comp=Z,130nm,5.1s
LYN LR LR
comp=Z,250nm,16.1s
LYN LR LR
comp=Z,280nm,15.1s
LYN LR LR
comp=Z,400nm,17.9s
LLLB Lillooet 42.88 64 P **P** **03 32 27.9 +0.8**
WHN Wuhan 42.94 257 ⇑P **P** **03 32 28.6 +1.0**
WHN sP **pwP** **03 32 39.8 +2.0**
WHN pmax pmax
comp=Z,82nm,1.1s
WHN LR LR
comp=Z,840nm,17.3s
XAN Xi'an 43.47 265 ⇓P **P** **03 32 33.3 +1.3**
XAN pmax pmax
comp=Z,12nm,1.3s
XAN pmax pmax
comp=Z,140nm,4.2s
XAN LR LR
comp=Z,590nm,17.9s
XAN LR LR
comp=Z,470nm,17.5s
XAN LR LR
comp=Z,390nm,15.1s
GUMO Guam 43.90 208 LR LR 03 50 31.4
comp=Z,37nm,19.9s,baz=70,slow=36
ZALV Zalesovo Beam 44.06 303 P **P** **03 32 36.8 +0.4**
comp=Z,0.7nm,0.5s,baz=82,slow=10,SNR=2.1
ZALV PcP **PcP** **03 34 20.8 -0.6**
comp=Z,4.8nm,0.9s,baz=27,slow=4.0,SNR=7.5
ZALV LR LR 03 52 45.8
comp=Z,131nm,18.4s,baz=50,slow=39
comp=Z,0.7nm,0.5s
LZH Lanzhou 44.96 271 *e*P **P** **03 32 46.0 +2.0**
LZH sP pwP 03 32 55.3 +1.2
LZH pmax pmax
comp=Z,52nm,1.2s
LZH LR LR
comp=Z,440nm,13.1s
LZH LR LR
comp=Z,350nm,14.1s
LZH LR LR
comp=Z,280nm,13.7s
GTA Gaotai 45.01 278 P **P** **03 32 45.7 +1.4**
GTA sP pwP 03 32 56.5 +2.0
GTA pmax pmax
comp=Z,31nm,0.8s
GTA pmax pmax
comp=Z,75nm,4.5s
GTA LR LR
comp=Z,340nm,14.5s
GTA LR LR
comp=Z,350nm,16.0s
GTA LR LR
comp=Z,440nm,16.7s
CNSH ChangSha 45.54 256 P **P** **03 32 49.1 +0.6**
CNSH pmax pmax
comp=Z,19nm,1.2s
SPITS Spitsbergen Ar 45.87 351 P **P** **03 32 49.7 -0.8**
comp=Z,7.4nm,0.6s,baz=63,slow=7.6,SNR=8.9
comp=Z,7.4nm,0.6s
SPB2 Spitsbergen Ar 45.87 351 P **P** **03 32 50.4 -0.1**
ENH Enshi 45.91 261 P **P** **03 32 51.6 +0.1**
NEEM North Greenlan 46.17 10 *i* P **P** **03 32 52.7 -0.6**
NEEM IAmb IAmb 03 33 03.0
comp=Z,16nm,0.9s
BLKN Baker Lake 46.18 37 P **P** **03 32 52.3 -0.8**
NEW Newport 46.78 64 LR LR 03 51 34.7
comp=Z,123nm,20.8s,baz=303,slow=35
F07A Phinny Hill Vi 46.80 68 IAmb IAmb 03 33 12.6
comp=Z,9.4nm,0.8s
ILON Igloolik, Nuna 47.15 26 P **P** **03 33 00.0 -0.6**
ILON IAmb IAmb 03 33 10.7
comp=Z,12nm,0.9s
J04A Umpqua Nationa 47.33 72 IAmb IAmb 03 33 15.6
comp=Z,10nm,0.6s
E09A Wood Farm, Sta 47.35 66 IAmb IAmb 03 33 21.8
comp=Z,7.8nm,0.9s
PINE Pine Mountain 47.61 71 P **P** **03 33 05.1 +0.3**
J05D Fort Rock, OR 47.78 72 IAmb IAmb 03 33 18.9
comp=Z,8.6nm,0.9s
L04D Klamath Falls 47.89 73 P **P** **03 33 07.1 +0.2**
L04D IAmb IAmb 03 33 27.0
comp=Z,15nm,1.0s
KULLO Kullorsuaq 47.93 14 *i* P **P** **03 33 06.6 0.0**
KULLO IAmb IAmb 03 33 16.6
comp=Z,27nm,0.8s
YBH Yreka Blue Hor 47.99 74 LR LR 03 50 24.6
comp=Z,6.1nm,20.1s,baz=299,slow=32
ZSN Zaisan 48.00 296 *e*P **P** **03 33 07.5 0.0**
ZSN pmax pmax
comp=Z,7.0nm,1.0s
ZSN Zaisan 48.00 296 *e*P **P** **03 33 07.5 0.0**
comp=Z,6.9nm,1.0s
CD2 Chengdu 48.73 266 P **P** **03 33 14.5 +1.1**
CD2 S **S** **03 40 15.0 -0.2**
CD2 pmax pmax
comp=Z,80nm,0.9s
CD2 LR LR
comp=Z,450nm,21.8s
CD2 LR LR
comp=Z,410nm,15.7s
CD2 LR LR
comp=Z,360nm,30.2s
WMQ Urumqi 48.86 291 *e*P **P** **03 33 15.5 +1.2**
WMQ LR LR
comp=Z,360nm,21.1s
WMQ LR LR
comp=Z,380nm,18.5s
WMQ LR LR
comp=Z,250nm,24.7s
KURK Kurchatov 49.04 303 P **P** **03 33 14.5 -1.0**
KURK IAmb IAmb 03 33 26.9
comp=Z,12nm,0.8s
KURK Kurchatov 49.04 303 *ce*P **P** **03 33 15.4 -0.1**
KURK pmax pmax
comp=Z,20nm,1.1s
KURBB Kurchatov Arra 49.15 303 P **P** **03 33 16.1 -0.2**
comp=Z,4.0nm,0.6s,baz=55,slow=7.9,SNR=41
KURBB LR LR 03 55 48.1
comp=Z,175nm,18.8s,baz=174,slow=38
comp=Z,4.0nm,0.6s
UPNV Upernavik 49.64 15 *i* P **P** **03 33 18.2 -1.6**
UPNV IAmb IAmb 03 33 29.0
comp=Z,24nm,0.9s
OVMT Ovando 49.68 63 P **P** **03 33 20.2 -0.5**
MK31 Makanchi Array 49.76 297 *ce*P **P** **03 33 20.2 -0.9**
MKAR Makanchi Array 49.76 297 P **P** **03 33 19.6 -1.5**
MKAR Makanchi Array 49.76 297 P **P** **03 33 20.5 -0.6**
comp=Z,2.8nm,0.7s,baz=56,slow=7.4,SNR=24
MKAR LR LR 03 55 34.3
comp=Z,226nm,18.1s,baz=21,slow=38
comp=Z,2.8nm,0.7s
MAKZ Makanchi 49.91 297 P **P** **03 33 19.8 -2.4**
MAKZ IAmb IAmb 03 33 24.9
comp=Z,37nm,1.8s
MAKZ Makanchi 49.91 297 P **P** **03 33 19.8 -2.4**
MAKZ pmax pmax
comp=Z,37nm,1.8s
FFC Flin Flon 49.93 49 P **P** **03 33 22.7 +0.5**
FFC IAmb IAmb 03 33 32.9
comp=Z,9.6nm,0.8s
FFC Flin Flon 49.93 49 P **P** **03 33 22.7 +0.5**
FFC pmax pmax
comp=Z,10.0nm,0.9s
GYA Guiyang 50.41 260 ⇑P **P** **03 33 27.7 +1.3**
GYA S **S** **03 40 33.3 -5.7**
GYA pmax pmax
comp=Z,36nm,1.4s
GYA pmax pmax
comp=Z,190nm,7.5s
GYA LR LR
comp=Z,270nm,12.1s
GYA LR LR
comp=Z,230nm,12.6s
GYA LR LR
comp=Z,220nm,21.0s
FCC Fort Churchill 50.48 41 IAmb IAmb 03 33 36.9
comp=Z,21nm,0.8s
DBG Daneborg 51.14 2 *i* P P 03 33 26.1 -4.9
DBG IAmb IAmb 03 33 34.4
comp=Z,6.2nm,1.0s
PAHR Pah Rah Range 51.22 74 P **P** **03 33 32.3 -0.1**
BVAR Borovoye Array 51.36 310 P **P** **03 33 33.0 -0.1**
comp=Z,5.9nm,0.8s,baz=60,slow=8.9,SNR=15
BVAR PcP **PcP** **03 34 47.0 -0.6**
comp=Z,3.2nm,0.7s,baz=72,slow=5.2,SNR=3.6
BVAR LR LR 03 55 59.2
comp=Z,127nm,20.5s,baz=43,slow=37
comp=Z,5.9nm,0.8s
BVAR Borovoye Array 51.36 310 P **P** **03 33 33.0 -0.1**
BVAR 03 34 47.0
BRVK Borovoye 51.39 310 P **P** **03 33 32.1 -1.1**
BRVK IAmb IAmb 03 33 34.1
comp=Z,27nm,1.6s
BRVK Borovoye 51.39 310 *ce*P **P** **03 33 33.2 0.0**
BRVK pmax pmax
comp=Z,18nm,1.7s
PNTR Pine Nut 51.53 75 IAmb IAmb 03 33 49.9
comp=Z,18nm,0.8s
SUMG Summit 51.91 9 *i* P **P** **03 33 37.0 -0.3**
SUMG IAmb IAmb 03 33 48.2
comp=Z,15nm,0.9s
GCMT Greycliff 52.25 62 P **P** **03 33 39.7 -0.3**
YHH Holmes Hill 52.32 64 P **P** **03 33 40.2 -0.5**
BRZS Berezniki 52.38 305 *e*P **P** **03 33 40.5 -0.2**
BRZS Berezniki 52.38 305 *e*P **P** **03 33 40.6 -0.2**
RYN Ryan 52.45 74 P **P** **03 33 41.8 +0.3**
ARCES ARCESS Array B 52.45 343 P **P** **03 33 40.8 -0.2**
comp=Z,3.1nm,0.8s,baz=26,slow=6.7,SNR=4.3
ARCES LR LR 04 00 24.6
comp=Z,54nm,18.1s,baz=66,slow=41
comp=Z,3.1nm,0.8s
YNE Yellowstone No 52.61 63 P **P** **03 33 42.7 -0.1**
NVAR Mina Array Bea 52.71 74 P **P** **03 33 43.5 0.0**
NVAR Mina Array Bea 52.71 74 P **P** **03 33 44.3 +0.7**
comp=Z,2.5nm,0.7s,baz=301,slow=7.4,SNR=14
NVAR LR LR 03 53 28.6
comp=Z,87nm,20.2s,baz=260,slow=33
comp=Z,2.5nm,0.7s
LHV Little Huntoon 52.73 75 P **P** **03 33 43.8 +0.5**
LHV IAmb IAmb 03 33 56.4
comp=Z,16nm,1.2s
H17A Grant Village 52.73 64 P **P** **03 33 45.1 +1.4**
ELK Elko 52.78 70 P **P** **03 33 44.6 +0.5**
ELK Elko 52.78 70 P **P** **03 33 44.6 +0.5**
ELK pmax pmax
comp=Z,2.0nm,0.8s
SVE Sverdlovsk 52.81 318 *e*P **P** **03 33 44.7 +1.0**
SVE pmax pmax
comp=Z,28nm,1.3s
RLMT Red Lodge 52.91 62 IAmb IAmb 03 33 57.3
comp=Z,11nm,0.8s
TDK Taldyqorghan 52.97 298 *e*P **P** **03 33 45.2 0.0**
TDK Taldyqorghan 52.97 298 *e*P **P** **03 33 45.2 0.0**
PZH PanZhiHua 53.20 264 P **P** **03 33 48.0 +0.8**
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,200nm,5.3s
LAO LASA Array 53.37 59 P **P** **03 33 47.8 -0.3**
LAO IAmb IAmb 03 33 59.8
comp=Z,14nm,0.9s
DSP Deep Springs 53.65 75 P **P** **03 33 51.2 +1.0**
KMI Kunming 53.69 263 ⇓P **P** **03 33 52.0 +1.1**
KMI pmax pmax
comp=Z,27nm,0.9s
SHLS Shalkode 53.70 295 *e*P **P** **03 33 49.2 -1.5**
SHLS pmax pmax
comp=Z,17nm,1.2s
SHLS Shalkode 53.70 295 *e*P **P** **03 33 49.3 -1.5**
comp=Z,16nm,1.2s
KPKS Kokpek 53.89 296 *e*P **P** **03 33 52.2 +0.2**
KPKS Kokpek 53.89 296 *e*P **P** **03 33 52.3 +0.2**
ARTI Arti 53.99 319 P **P** **03 33 51.8 -0.6**
ARTI Arti 53.99 319 LR LR 03 59 35.3
comp=Z,156nm,19.8s,baz=44,slow=39
ARTI Arti 53.99 319 *c i* P **P** **03 33 52.6 +0.2**
ARTI 03 34 55.9
ARTI S **S** **03 41 28.8 +1.7**
ARTI SS **SS** **03 45 07.9 +0.3**
ARTI pmax pmax
comp=Z,23nm,1.0s
GRAC Grapevine Rang 54.25 75 P **P** **03 33 54.9 +0.2**
GRAC IAmb IAmb 03 34 06.8
comp=Z,11nm,0.9s
PD31 Pinedale Array 54.40 65 P **P** **03 33 55.7 -0.2**
PDAR Pinedale Array 54.40 65 P **P** **03 33 55.9 -0.1**
PDAR Pinedale Array 54.40 65 P **P** **03 33 56.5 +0.6**
comp=Z,1.8nm,1.0s,baz=302,slow=2.8,SNR=9.8
comp=Z,1.8nm,1.0s
DUG Dugway, Tooele 54.48 69 P **P** **03 33 57.3 +0.8**
DUG Dugway, Tooele 54.48 69 P **P** **03 33 57.3 +0.8**
DUG pmax pmax
comp=Z,7.0nm,0.9s
QIZ Qiongzhong 54.50 252 P **P** **03 33 56.2 -0.4**
QIZ S **S** **03 41 32.8 -1.9**
QIZ LR LR
comp=Z,260nm,14.2s
QIZ LR LR
comp=Z,210nm,16.7s
CHKK Chushkaly 54.50 297 *e*P **P** **03 33 56.2 -0.1**
CHKK Chushkaly 54.50 297 *e*P **P** **03 33 56.3 -0.1**
S11A Rachel 54.69 73 IAmb IAmb 03 34 10.4
comp=Z,13nm,0.9s
TPNV Topopah Spring 54.91 74 IAmb IAmb 03 34 11.9
comp=Z,13nm,0.9s
ICESG Greenland Ices 55.16 10 *i* P **P** **03 34 02.3 +1.1**
ICESG IAmb IAmb 03 34 12.7
comp=Z,13nm,0.9s
GWY Greenwater Val 55.22 75 IAmb IAmb 03 34 16.8
comp=Z,25nm,1.3s
PRN Pahroc Range 55.25 73 P **P** **03 34 02.1 +0.1**
PRN IAmb IAmb 03 34 18.2
comp=Z,9.5nm,0.8s
MPU Maple Canyon 55.25 68 P **P** **03 34 01.9 -0.2**
MPU IAmb IAmb 03 34 14.2
comp=Z,7.6nm,0.8s
QSM Queen of Sheba 55.27 75 IAmb IAmb 03 34 15.1
comp=Z,19nm,1.4s
BSUT Blindstream Ca 55.34 67 IAmb IAmb 03 34 15.3
comp=Z,14nm,1.3s
KIRV Kirov 55.55 325 LR LR 04 01 53.2
comp=Z,108nm,19.1s,baz=34,slow=40
KIRV Kirov 55.55 325 *ce*P **P** **03 34 04.3 +0.7**
KDJ Kajisay 55.62 296 IAmb IAmb 03 34 16.9
comp=Z,17nm,1.2s
ULM Lac du Bonnet 55.72 50 P **P** **03 34 05.0 0.0**
comp=Z,6.3nm,1.0s,baz=296,slow=7.9,SNR=5.5
ULM LR LR 03 58 41.0
comp=Z,137nm,19.5s,baz=324,slow=37
comp=Z,6.3nm,1.0s
GSC Goldstone, Bar 55.79 76 IAmb IAmb 03 34 18.0
comp=Z,13nm,0.9s
SHPR Sheep Range 55.83 74 P **P** **03 34 07.7 +1.4**
TKM2 Tokmak 2 55.88 297 P **P** **03 34 06.4 -0.2**
SNR=6.2
SLVN Son La 55.98 259 P **P** **03 34 08.6 +1.3**
SLVN IAmb IAmb 03 34 10.1
comp=Z,12nm,0.7s
TMUT Trail Mountain 55.99 69 IAmb IAmb 03 34 23.5
comp=Z,8.3nm,0.8s
SGDS Sogindy 55.99 299 *e*P **P** **03 34 07.4 +0.2**
BOOM Boomskoye usch 56.01 297 P **P** **03 34 07.5 +0.1**
BOOM IAmb IAmb 03 34 19.8
comp=Z,33nm,1.6s
BOOM Boomskoye usch 56.01 297 P **P** **03 34 07.6 +0.1**
BOOM pmax pmax
comp=Z,33nm,1.6s
MVU Marysvale 56.02 70 P **P** **03 34 08.3 +0.6**
ULHL Ulahol 56.03 296 P **P** **03 34 07.8 +0.1**
SNR=6.6
USP Ospenovka 56.19 298 P **P** **03 34 08.4 -0.1**

SNR=8.4
RSSD Black Hills 56.27 60 P **P** **03 34 08.5 -0.9**
RSSD Black Hills 56.27 60 P **P** **03 34 08.5 -0.9**
RSSD pmax pmax
comp=Z,10.0nm,1.3s
P18A Preston Nutter 56.27 68 P **P** **03 34 10.4 +0.9**
SRU San Rafael Swe 56.49 68 IAmb IAmb 03 34 26.9
comp=Z,13nm,0.7s
LCMT Little Creek M 56.53 72 IAmb IAmb 03 34 23.8
comp=Z,12nm,1.2s
AAK Ala-Archa 56.64 298 P **P** **03 34 12.4 +0.5**
SNR=6.3
AAK Ala-Archa 56.64 298 P **P** **03 34 11.7 -0.3**
AAK IAmb IAmb 03 34 13.0
comp=Z,12nm,0.9s
AAK Ala-Archa 56.64 298 LR LR 03 59 32.5
comp=Z,204nm,18.1s,baz=44,slow=37
AAK Ala-Archa 56.64 298 *ce*P **P** **03 34 12.0 0.0**
AAK pmax pmax
comp=Z,16nm,1.0s
KLMR Klimovskoe 56.76 331 *e*P **P** **03 34 10.8 -1.4**
KLMR pmax pmax
comp=Z,37nm,1.2s
O20A White River Ci 56.97 66 P **P** **03 34 14.3 0.0**
O20A IAmb IAmb 03 34 26.2
comp=Z,9.3nm,0.8s
EKS2 Erkin-Say 56.99 298 P **P** **03 34 15.0 +0.6**
SNR=12
PFO Pinyon Flats O 57.22 77 LR LR 03 56 03.0
comp=Z,86nm,20.1s,baz=244,slow=33
PV23 Carpenter Ridg 57.78 68 P **P** **03 34 20.2 0.0**
KSH Kashi 58.14 294 P **P** **03 34 26.0 +3.5**
KSH pmax pmax
comp=Z,15nm,1.3s
BLYC Blythe 58.20 75 P **P** **03 34 23.6 +0.7**
BLYC IAmb IAmb 03 34 34.6
comp=Z,16nm,1.4s
KK31 Karatay Array 58.31 301 P **P** **03 34 22.6 -1.0**
KK31 IAmb IAmb 03 34 27.2
comp=Z,16nm,1.0s
KK31 Karatay Array 58.31 301 P **P** **03 34 22.6 -1.0**
KK31 pmax pmax
comp=Z,16nm,1.0s
KKAR Karatay Array 58.31 301 P **P** **03 34 22.6 -1.0**
KKAR Karatay Array 58.31 301 P **P** **03 34 22.6 -1.0**
ARSB Arslanbob 58.37 298 IAmb IAmb 03 34 38.5
comp=Z,13nm,1.0s
AKTO Aktyubinsk 58.57 314 LR LR 04 02 32.3
comp=Z,148nm,18.6s,baz=274,slow=39
ISCO Idaho Springs 58.60 65 P **P** **03 34 26.1 +0.1**
ISCO IAmb IAmb 03 34 39.3
comp=Z,12nm,1.2s
ISCO Idaho Springs 58.60 65 P **P** **03 34 26.1 +0.1**
ISCO pmax pmax
comp=Z,12nm,1.2s
WUAZ Wupatki 58.65 72 P **P** **03 34 27.4 +1.2**
WUAZ IAmb IAmb 03 34 39.5
comp=Z,22nm,1.5s
AB31 Akbulak array 58.65 312 P **P** **03 34 25.5 -0.2**
ABKAR Akbulak array 58.65 312 P **P** **03 34 24.6 -1.1**
BRLS Boroldav 58.70 301 *e*P **P** **03 34 28.0 +1.7**
BRLS Boroldav 58.70 301 *e*P **P** **03 34 28.0 +1.7**
Y14A Wickenburg 58.91 74 P **P** **03 34 29.0 +1.1**
IUG luzhnay 59.26 300 *e*P **P** **03 34 30.3 +0.1**
IUG pmax pmax
comp=Z,10.0nm,0.9s
IUG luzhnay 59.26 300 *e*P **P** **03 34 30.4 +0.1**
comp=Z,10nm,0.9s
CHM Chimkent 59.34 301 *e*P **P** **03 34 31.0 +0.3**
CHM Chimkent 59.34 301 *e*P **P** **03 34 31.1 +0.3**
EYMN Ely 59.36 49 IAmb IAmb 03 34 41.5
comp=Z,14nm,0.8s
FINES FINESS Array B 59.55 338 P **P** **03 34 31.5 -0.3**
comp=Z,5.4nm,0.8s,baz=35,slow=10,SNR=11
FINES LR LR 04 03 22.0
comp=Z,56nm,20.3s,baz=38,slow=39
comp=Z,5.4nm,0.8s
X18A Snowflake 60.16 72 IAmb IAmb 03 34 49.3
comp=Z,17nm,1.2s
SDCO Great Sand Dun 60.17 66 P **P** **03 34 37.5 +0.6**
SDCO IAmb IAmb 03 34 49.1
comp=Z,11nm,1.4s
ECSD EROS Data Cent 60.19 56 IAmb IAmb 03 34 46.6
comp=Z,22nm,1.9s
E38A The Farm, Brul 60.35 50 IAmb IAmb 03 34 48.1
comp=Z,12nm,0.7s
214A Organ Pipe Nat 60.50 76 P **P** **03 34 38.9 +0.1**
214A IAmb IAmb 03 34 51.0
comp=Z,9.1nm,1.0s
EVN Everest 60.72 278 P **P** **03 34 39.6 -1.5**
EVN IAmb IAmb 03 34 45.5
comp=Z,16nm,0.9s
CHTO Chiang Mai 60.80 261 P **P** **03 34 41.5 +0.5**
CHTO IAmb IAmb 03 34 43.1
comp=Z,16nm,0.8s
CHTO Chiang Mai 60.80 261 P **P** **03 34 41.5 +0.5**
CHTO pmax pmax
comp=Z,16nm,0.9s
SPMN Marine on St. 60.84 52 IAmb IAmb 03 34 51.8
comp=Z,8.9nm,0.8s
BELG Belogornoye 61.08 321 LR LR 04 02 14.7
comp=Z,70nm,19.2s,baz=121,slow=37
BELG Belogornoye 61.08 321 *i*P **P** **03 34 42.0 -0.4**
BELG pmax pmax
comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 61.08 261 P **P** **03 34 43.2 +0.3**
CMAR Chiang Mai Arr 61.08 261 P **P** **03 34 44.5 +1.6**
comp=Z,7.8nm,0.7s,baz=23,slow=7.2,SNR=35
CMAR LR LR 04 04 00.6
comp=Z,115nm,18.3s,baz=50,slow=39
comp=Z,7.8nm,0.7s
BGNE Belgrade 61.19 58 P **P** **03 34 43.6 +0.2**
T25A Trinidad 61.20 66 P **P** **03 34 44.3 +0.5**
T25A IAmb IAmb 03 34 55.7
comp=Z,21nm,1.5s
TUC Tucson 61.36 74 P **P** **03 34 45.0 +0.3**
TUC Tucson 61.36 74 P **P** **03 34 45.1 +0.3**
TUC pmax pmax
comp=Z,7.0nm,1.2s
RKPI Ransiki, Papua 61.44 215 P **P** **03 34 45.3 +0.1**
MOS Moscow 61.60 329 *e*P **P** **03 34 44.8 -1.0**
MOS *e* 03 34 55.1
ANMO Albuquerque 61.76 69 P **P** **03 34 47.9 +0.4**
ANMO Albuquerque 61.76 69 P **P** **03 34 47.5 0.0**
ANMO IAmb IAmb 03 34 59.5
comp=Z,5.6nm,1.0s
ANMO Albuquerque 61.76 69 P **P** **03 34 48.2 +0.7**
ANMO IAmb IAmb 03 34 59.5
comp=Z,5.6nm,1.0s
ANMO Albuquerque 61.76 69 LR LR 04 01 36.7
comp=Z,86nm,18.5s,baz=61,slow=36
ANMO Albuquerque 61.76 69 *ce*P **P** **03 34 49.9 +2.4**
ANMO pmax pmax
comp=Z,6.0nm,1.7s
SWI Sorong 61.85 218 P **P** **03 34 49.4 +1.4**
BRDH Bariadhala 61.98 270 LR LR 04 03 00.5
comp=Z,151nm,18.7s,baz=76,slow=37
BNM Barren Site 62.26 70 P **P** **03 34 51.3 +0.3**
NC204 NORSAR Array S 62.43 346 IAmb IAmb 03 34 52.4
comp=Z,16nm,0.9s
OBN Obninsk 62.45 329 LR LR 04 04 53.0
comp=Z,56nm,18.0s,baz=165,slow=39
OBN Obninsk 62.45 329 ||*e*P **P** **03 34 50.9 -0.6**
OBN *e* 03 35 29.9
OBN *e* 03 37 07.9
OBN pmax pmax
comp=Z,11nm,1.0s
OBN MLR MLR
comp=Z,78nm,16.0s
NB2 NORSAR Subarra 62.59 346 P **P** **03 34 52.1 -0.4**
comp=Z,2.9nm,0.7s,baz=17,slow=6.9
NOA NORSAR Array B 62.59 346 P **P** **03 34 51.9 -0.6**
comp=Z,5.6nm,0.8s,baz=17,slow=6.9,SNR=15
comp=Z,5.6nm,0.8s
RTBA Rita Blanca 62.61 65 IAmb IAmb 03 35 05.2
comp=Z,16nm,1.2s
SCHQ Schefferville 62.88 31 P **P** **03 34 53.6 -0.8**
comp=Z,3.4nm,0.8s,baz=343,slow=7.8,SNR=5.5
comp=Z,3.4nm,0.8s
HFS Hagfors 63.08 344 P **P** **03 34 54.3 -1.4**
comp=Z,4.7nm,0.7s,baz=55,slow=5.6,SNR=11
comp=Z,4.7nm,0.7s
E46A Sault Ste Mari 63.67 46 IAmb IAmb 03 35 09.5
comp=Z,12nm,0.8s
LPSR Galich'ya Gora 63.87 326 *e*P **P** **03 34 59.2 -1.8**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
NIL Nilore 63.98 292 P **P** **03 35 02.8 +0.7**
NIL Nilore 63.98 292 P **P** **03 35 02.8 +0.7**
NIL pmax pmax
comp=Z,24nm,0.9s
L40A Anamosa 64.01 53 IAmb IAmb 03 35 12.2
comp=Z,12nm,0.9s
HNR Honiara 64.10 185 LR LR 03 59 54.6
comp=Z,83nm,18.7s,baz=350,slow=33
VRH Novokhopyorsk 64.14 324 *e*P **P** **03 35 00.2 -2.6**
VRH pmax pmax
comp=Z,10.0nm,0.9s
MSTX Muleshoe 64.47 67 IAmb IAmb 03 35 17.4
comp=Z,23nm,1.3s
VORR Voronezh 64.57 326 *e*P **P** **03 35 04.1 -1.5**
VORR pmax pmax
comp=Z,45nm,0.4s
MNTX Cornudas Mount 64.80 70 IAmb IAmb 03 35 19.7
comp=Z,17nm,1.0s
P38A Dawn 64.82 57 IAmb IAmb 03 35 18.0
comp=Z,13nm,1.0s
SANI Sanana 64.94 223 P **P** **03 35 08.2 -0.3**
comp=Z,38nm,1.0s
VSR Storozhevoye 64.98 326 *e*P **P** **03 35 06.3 -2.0**
VSR pmax pmax
comp=Z,8.0nm,0.9s
MSAI Masohi 65.00 220 P **P** **03 35 09.3 +0.5**
VORD Divnogorie 65.15 325 *e*P **P** **03 35 07.4 -2.0**
VORD pmax pmax
comp=Z,6.0nm,0.8s
MPSI Mapaga 65.37 231 P **P** **03 35 12.5 +1.2**
MNK Minsk 65.38 334 *i*P **P** **03 35 10.4 -0.4**
MNK *i* 03 37 34.7
MNK *i* PPP PPP 03 39 05.6
MNK *i* S **S** **03 43 55.1 +1.3**
MNK *i* SS **SS** **03 48 08.3 +2.4**
MNK pmax pmax
comp=N,17nm,1.0s
MNK pmax pmax
comp=E,9.0nm,1.0s
MNK pmax pmax
comp=Z,22nm,1.0s
MNK MLR MLR
comp=N,77nm,19.0s
MNK MLR MLR
comp=Z,82nm,15.0s
KBL Kabul 65.53 295 P **P** **03 35 10.9 -1.5**
KBL IAmb IAmb 03 35 11.9
comp=Z,16nm,1.1s
KBL Kabul 65.53 295 P **P** **03 35 10.9 -1.5**
KBL pmax pmax
comp=Z,16nm,1.1s
VHRN Van Horn 65.72 71 IAmb IAmb 03 35 25.6
comp=Z,11nm,0.9s
POST Post 65.84 67 IAmb IAmb 03 35 25.6
comp=Z,15nm,1.0s
PECS Pecos 65.88 70 P **P** **03 35 15.5 +1.0**
PECS IAmb IAmb 03 35 27.1
comp=Z,16nm,1.3s
WMOK Wichita Mounta 65.98 64 IAmb IAmb 03 35 26.4
comp=Z,17nm,1.0s
SN07 Snyder 07 66.15 66 IAmb IAmb 03 35 27.4
comp=Z,11nm,1.0s
SN05 Snyder 5 66.32 66 IAmb IAmb 03 35 28.4
comp=Z,8.9nm,0.8s
BUKO Buck Lake 66.42 44 IAmb IAmb 03 35 27.3
comp=Z,14nm,0.9s
MNHN Monahans 66.50 69 IAmb IAmb 03 35 30.0
comp=Z,11nm,0.8s
ALPN Alpine 66.77 70 IAmb IAmb 03 35 31.9
comp=Z,8.9nm,1.0s
U38A Gravette 66.89 59 IAmb IAmb 03 35 31.0
comp=Z,6.9nm,1.0s
SADO Sadowa 67.08 44 LR LR 04 05 46.6
comp=Z,64nm,18.6s,baz=354,slow=37
CCM Cathedral Cave 67.15 56 P **P** **03 35 22.0 -0.5**
CCM Cathedral Cave 67.15 56 P **P** **03 35 22.0 -0.5**
CCM pmax pmax
comp=Z,19nm,1.1s
ABTX Abilene, Hawle 67.17 66 IAmb IAmb 03 35 33.9
comp=Z,13nm,0.8s
HHAR Hobbs 67.23 59 IAmb IAmb 03 35 33.2
comp=Z,17nm,1.0s
Q44A Meyer Farm, Va 67.54 54 P **P** **03 35 24.3 -0.6**
Q44A IAmb IAmb 03 35 36.7
comp=Z,24nm,1.4s
TXAR Lajitas Array 67.57 71 P **P** **03 35 25.9 +0.5**
TXAR Lajitas Array 67.57 71 P **P** **03 35 26.2 +0.9**
comp=Z,5.4nm,0.6s,baz=300,slow=4.4,SNR=62
comp=Z,5.4nm,0.6s
TXAR Lajitas Array 67.57 71 P **P** **03 35 25.9 +0.5**
TRQ Mont Tremblant 67.65 40 P **P** **03 35 24.3 -1.3**
DELO Deloro Mine 67.90 43 P **P** **03 35 28.1 +1.1**
DELO IAmb IAmb 03 35 36.6
comp=Z,12nm,0.8s
LPIG La Paz 67.92 79 LR LR 03 59 06.7
comp=Z,67nm,20.6s,baz=283,slow=31
SAND Sanderson 67.92 69 IAmb IAmb 03 35 39.8
comp=Z,17nm,1.2s
T42A Van Buren 68.04 57 IAmb IAmb 03 35 38.2
comp=Z,7.9nm,0.8s
O48B Farmland 68.22 51 IAmb IAmb 03 35 38.9
comp=Z,15nm,1.0s
AKASG Malin Array Be 68.45 331 P **P** **03 35 29.9 -0.5**
comp=Z,5.5nm,0.8s,baz=29,slow=6.3,SNR=15
AKASG LR LR 04 09 22.6
comp=Z,93nm,18.6s,baz=28,slow=39
comp=Z,5.5nm,0.8s
AKASG Malin Array Be 68.45 331 *i*P **P** **03 35 29.8 -0.6**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 68.45 331 IAmb IAmb 03 35 40.9
comp=Z,14nm,0.9s
AKBB Malin Array Si 68.45 331 *ce*P **P** **03 35 29.7 -0.7**
AKBB pmax pmax
comp=Z,11nm,1.0s
KIEV Kiev 68.46 331 P **P** **03 35 29.4 -1.1**
KIEV IAmb IAmb 03 35 40.9
comp=Z,12nm,0.9s
KIEV Kiev 68.46 331 ⇑P **P** **03 35 30.1 -0.4**
KIEV Kiev 68.46 331 P **P** **03 35 29.4 -1.1**
KIEV pmax pmax
comp=Z,13nm,1.0s
BRDY Brady 68.56 66 IAmb IAmb 03 35 42.5
comp=Z,11nm,1.0s
O49A Covington 68.64 50 IAmb IAmb 03 35 42.0
comp=Z,16nm,0.9s
MIAR Mount Ida 68.79 60 IAmb IAmb 03 35 43.8
comp=Z,14nm,0.9s
WHAR Woody Hollow 68.84 59 IAmb IAmb 03 35 43.6
comp=Z,17nm,1.0s
D62A Allapoint, All 68.88 36 P **P** **03 35 32.7 -0.5**
GKP Gorka Klasztor 68.95 340 *e*P **P** **03 35 36.2 +2.7**
LONY Lake Ozonia 68.99 41 IAmb IAmb 03 35 43.2
comp=Z,8.2nm,0.8s
E62A Clayton Lake 69.11 37 P **P** **03 35 34.3 -0.3**
DRIO Del Rio 69.15 68 IAmb IAmb 03 35 46.2
comp=Z,14nm,0.9s
ACSO Alum Creek Sta 69.20 49 P **P** **03 35 34.8 -0.5**
ACSO IAmb IAmb 03 35 45.7
comp=Z,18nm,1.1s
X40A Basin Creek Fa 69.20 60 IAmb IAmb 03 35 45.7
comp=Z,10nm,1.0s
SPSI Sidrap Palu 69.26 229 P **P** **03 35 38.2 +2.3**
comp=Z,15nm,1.6s
WCI Wyandotte Cave 69.34 53 P **P** **03 35 36.5 +0.3**
WCI Wyandotte Cave 69.34 53 P **P** **03 35 36.5 +0.3**
WCI pmax pmax
comp=Z,18nm,0.8s
WLAR White Oak Lake 69.70 60 P **P** **03 35 38.2 -0.2**
EKA Eskdalemuir Ar 69.77 353 P **P** **03 35 37.8 -0.7**
comp=Z,6.4nm,0.9s,baz=20,slow=5.3,SNR=6.8
comp=Z,6.4nm,0.9s
R49A Shelbyville 69.81 52 IAmb IAmb 03 35 49.8
comp=Z,14nm,1.1s
KVAR Kislovodsk Arr 69.93 319 LR LR 04 08 00.2
comp=Z,129nm,18.2s,baz=265,slow=37
Q51A Peebles 70.03 50 IAmb IAmb 03 35 50.8
comp=Z,13nm,0.8s
KBZ Khabaz 70.04 319 P **P** **03 35 40.4 0.0**
comp=Z,7.9nm,0.9s,baz=111,slow=0.6,SNR=8.9
KBZ LR LR 04 11 05.6
comp=Z,84nm,18.6s,baz=26,slow=40
comp=Z,7.9nm,0.9s
KBZ Khabaz 70.04 319 *ce*P **P** **03 35 41.1 +0.7**
KBZ pmax pmax
comp=Z,11nm,0.9s
R50A Paris 70.20 51 IAmb IAmb 03 35 52.1
comp=Z,13nm,0.8s
KAPI Kappang 70.21 228 P **P** **03 35 42.9 +1.1**
comp=Z,5.5nm,0.4s,baz=250,slow=2.1,SNR=5.3
comp=Z,5.5nm,0.4s
WVT Waverly 70.33 55 P **P** **03 35 41.8 -0.5**
WVT Waverly 70.33 55 P **P** **03 35 41.8 -0.5**
WVT pmax pmax
comp=Z,20nm,0.8s
BSSI Bau Bau, Buton 70.91 227 P **P** **03 35 46.7 +0.7**
U49A Red Boiling Sp 70.98 53 IAmb IAmb 03 35 57.0
comp=Z,15nm,0.9s
T50A Nancy 71.00 52 IAmb IAmb 03 35 57.0
comp=Z,14nm,1.0s
SORM Soroca 71.01 331 ⇑P **P** **03 35 46.0 -0.2**
SORM Soroca 71.01 331 P **P** **03 35 46.0 -0.2**
S51A Beattyville 71.06 51 IAmb IAmb 03 35 57.2
comp=Z,9.8nm,0.9s
KWP Kalwaria Pacla 71.13 335 *e*P **P** **03 35 47.6 +0.6**
Q54A Coxs Mills 71.17 48 IAmb IAmb 03 35 57.8
comp=Z,27nm,1.4s
OJC Ojcow 71.27 337 *e*P **P** **03 35 47.2 -0.7**
Y45A Yeager Farm, C 71.33 58 P **P** **03 35 47.8 -0.6**
KSP Ksiaz 71.44 339 *e*P **P** **03 35 49.5 +0.6**
IBBN Ibbenburen 71.53 345 *e*P **P** **03 35 49.7 +0.4**
comp=Z,15nm,1.0s,baz=19,slow=5.8
CLZ Clausthal 71.58 343 *e*P **P** **03 35 50.2 +0.5**
comp=Z,12nm,1.1s,baz=19,slow=5.8
CLL Collm 71.63 342 IAmb IAmb 03 36 00.9
comp=Z,11nm,1.1s
CLL Collm 71.63 342 *i*P **P** **03 35 49.8 -0.2**
CLL Collm 71.63 342 *i*P **P** **03 35 49.8 -0.2**
CLL *i* pP **pP** **03 35 53.6 -0.5**
CLL *i* x x 03 35 59.4
CLL *e*PP **PP** **03 38 32.0 +3.8**
CLL Collm 71.63 342 *e*P **P** **03 35 50.0 0.0**
comp=Z,10.0nm,1.1s,baz=19,slow=5.8
STHS Stebnicka Huta 71.69 336 *e*P **P** **03 35 50.6 +0.2**
STHS Stebnicka Huta 71.69 336 *e*P **P** **03 35 50.6 +0.2**
UPC Upice 71.81 339 AMS AMS 04 11 50.0
comp=Z,100nm,19.1s
BRG Berggiesshubel 71.87 341 *e*P **P** **03 35 51.7 +0.3**
BRG Amp 03 35 52.1
comp=Z,2.4nm,0.7s
BRG Berggiesshubel 71.87 341 P P 03 36 00.4 +8.9
BRG Amp 03 36 02.2
comp=Z,5.1nm,0.9s
KOLS Kolonicke sedl 71.89 335 *e*P **P** **03 35 51.4 -0.2**
KOLS *e* 03 36 02.4
KOLS *e* 03 38 28.9
KOLS Kolonicke sedl 71.89 335 *e*P **P** **03 35 51.4 -0.2**
KOLS *e* 03 36 02.4
KOLS *e*PP **PP** **03 38 28.9 -1.6**
DPC Dobruska-Polom 71.90 339 *e*P **P** **03 35 52.3 +0.6**
DPC Dobruska-Polom 71.90 339 *e*P **P** **03 35 52.3 +0.6**
STEB Steborice 71.99 338 *e*P **P** **03 35 52.6 +0.4**
STEB *e*pP **pwP** **03 36 03.1 +0.7**
X48A Hartselle 72.06 56 IAmb IAmb 03 36 03.2
comp=Z,23nm,1.2s
KRLC Kraliky 72.07 339 *e*P **P** **03 35 53.5 +0.8**
KRLC Kraliky 72.07 339 *e*P **P** **03 35 53.5 +0.8**
MORC Moravsky Berou 72.19 338 IAmb IAmb 03 36 05.1
comp=Z,14nm,1.0s
MORC Moravsky Berou 72.19 338 *e*P **P** **03 35 53.7 +0.3**
MORC *e* 03 36 03.6
MORC Moravsky Berou 72.19 338 ⇑P **P** **03 35 54.2 +0.8**
MORC Moravsky Berou 72.19 338 P **P** **03 35 54.2 +0.8**
BUR08 Bucovina Ar. S 72.33 332 IAmb IAmb 03 36 05.5
comp=Z,9.1nm,0.9s
BURAR Bucovina Array 72.35 332 P **P** **03 35 53.7 -0.8**
BURAR IAmb IAmb 03 36 05.9
comp=Z,7.0nm,0.8s
BURAR Bucovina Array 72.35 332 ⇑P **P** **03 35 54.7 +0.2**
BURAR Bucovina Array 72.35 332 P **P** **03 35 54.7 +0.2**
LANS Liptovska Anna 72.35 337 *e*P **P** **03 35 55.9 +1.5**
LANS *e* 03 36 06.2
LANS Liptovska Anna 72.35 337 *e*P **P** **03 35 55.9 +1.5**
LANS *e* 03 36 06.2
GNI Garni 72.36 316 LR LR 04 10 05.2
comp=Z,117nm,21.2s,baz=30,slow=38
CPCT Cooper Cave 72.43 53 IAmb IAmb 03 36 05.6
comp=Z,16nm,0.9s
MOX Moxa 72.52 342 *e*P **P** **03 35 55.8 +0.5**
comp=Z,7.5nm,1.0s,baz=19,slow=5.8
MOX *e*pP **pwP** **03 36 04.8 -0.8**
PRU Pruhonice 72.60 340 *e*P **P** **03 35 56.2 +0.4**
PRU Pruhonice 72.60 340 *e*P **P** **03 35 56.2 +0.4**
TKL Tuckaleechee C 72.60 52 LR LR 04 08 21.9
comp=Z,118nm,20.4s,baz=337,slow=36
EDFI Ende, Flores 72.76 225 P **P** **03 35 56.6 -0.6**
comp=Z,20nm,1.3s
NKC Novy Kostel 72.76 342 *e*P **P** **03 35 57.3 +0.5**
NKC Novy Kostel 72.76 342 *e*P **P** **03 35 57.3 +0.5**
VRAC Vranov 72.83 339 *e*P **P** **03 35 57.6 +0.4**
VRAC *e* 03 36 07.4
VRAC Vranov 72.83 339 LR LR 04 14 34.4
comp=Z,15nm,18.4s,baz=32,slow=41
VRAC Vranov 72.83 339 ⇑P **P** **03 35 57.7 +0.4**
VRAC Vranov 72.83 339 P **P** **03 35 57.6 +0.4**
TESR Tescani 72.97 331 ⇑P **P** **03 35 58.1 +0.1**
JAVC Velka Javorina 73.03 338 *e*P **P** **03 36 00.0 +1.6**
V53A Saluda 73.03 52 P **P** **03 35 58.6 -0.1**
V53A IAmb IAmb 03 36 09.5
comp=Z,11nm,0.9s
MANZ Manzenberg 73.06 342 *e*P **P** **03 35 59.1 +0.5**
comp=Z,1.2nm,1.1s,baz=19,slow=5.8
MTN Manton Dam 73.06 214 P **P** **03 35 59.1 +0.3**
KRUC Moravsky 73.11 339 *e*P **P** **03 35 59.2 +0.4**
KRUC *e* 03 36 09.3
VYHS Vyhne 73.11 337 *e*P **P** **03 35 59.0 +0.1**
VYHS *e* 03 36 09.4
VYHS Vyhne 73.11 337 *e*P **P** **03 35 59.0 +0.1**
VYHS *e* 03 36 09.4
MSVF Nonsavu 73.15 167 LR LR 04 04 58.7
comp=Z,39nm,19.9s,baz=267,slow=33
ZVC Zvikov 73.19 340 *e*P **P** **03 35 59.9 +0.6**
ZVC *e*pP **pwP** **03 36 09.8 +0.2**
LRAL Lakeview Retre 73.24 56 IAmb IAmb 03 36 09.9
comp=Z,14nm,0.8s
ROTZ Rotzenmuhle 73.26 342 *e*pP pP 03 36 09.7 +5.9
ZAIG Zacatecas 73.33 74 P **P** **03 36 01.4 +0.6**
ZAIG IAmb IAmb 03 36 12.9
comp=Z,7.5nm,0.8s
MEM Membach 73.44 346 *d*P **P** **03 36 00.9 +0.1**
comp=Z,13nm,1.0s
BTNL Ternell 73.45 346 *d*P **P** **03 36 00.6 -0.2**
comp=Z,10nm,0.9s
TNS Taunus Mts 73.45 344 *e*pP pP 03 36 10.5 +5.5
GRF Grafenberg Arr 73.50 342 *e*P **P** **03 36 02.1 +0.9**
comp=Z,9.8nm,0.9s,baz=19,slow=5.8
GRFO Grafenberg 73.51 342 P **P** **03 36 00.6 -0.6**
GRFO IAmb IAmb 03 36 20.5
comp=Z,23nm,1.3s
GRFO Grafenberg 73.51 342 P **P** **03 36 00.6 -0.6**
GRFO pmax pmax
comp=Z,23nm,1.3s
VRI Vrincioaia 73.54 331 ⇑P **P** **03 36 01.6 +0.1**
VRI Vrincioaia 73.54 331 P **P** **03 36 01.5 +0.1**
BG3 Lake Jocassee 73.54 52 IAmb IAmb 03 36 12.5
comp=Z,19nm,0.8s
U56A King 73.56 50 IAmb IAmb 03 36 12.3
comp=Z,21nm,1.0s
V55A Taylorsville 73.60 51 IAmb IAmb 03 36 12.5
comp=Z,12nm,0.8s
KHC Kasperske Hory 73.61 341 *e*P **P** **03 36 02.8 +1.0**
KHC *e*pP **pwP** **03 36 12.2 +0.1**
KHC AMS AMS 04 12 30.0
comp=Z,100nm,16.3s
KHC Kasperske Hory 73.61 341 *e*P **P** **03 36 02.8 +1.0**
KHC *e**PP **pwP** **03 36 12.2 +0.1**
KHC MLR MLR
comp=Z,100nm,16.3s
HYB Hyderabad 73.67 277 *e*P **P** **03 36 02.5 -0.1**
CFR Carcaliu 73.76 329 ⇑P **P** **03 36 02.8 +0.1**
CFR Carcaliu 73.76 329 P **P** **03 36 02.8 +0.1**
CKRC Cesky Krumlov 73.76 340 *e*pP pP 03 36 12.9 +6.1
DRGR 73.77 334 ||P **P** **03 36 02.6 -0.3**
DRGR 73.77 334 P **P** **03 36 02.5 -0.3**
MARR Marisel-Cluj 73.77 333 ⇑P **P** **03 36 03.2 +0.3**
PSI Prapat 73.84 251 LR LR 04 09 54.8
comp=Z,53nm,20.0s,baz=32,slow=37
GEC2 GERESS Array S 73.86 340 *e*P **P** **03 36 03.9 +0.5**
comp=Z,5.7nm,1.0s,baz=19,slow=5.8
GEC2 *e*pP **pwP** **03 36 13.2 -0.5**

GERES	**GERES Array B**	**73.86 340**	P		**P**		**03 36 03.2**	**-0.2**
GERES	**GERES Array B**	**73.86 340**	P		**P**		**03 36 03.8**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=20,slow=4.3,SNR=18							
GERES			LR		LR		04 13 30.3	
	comp=Z,80nm,18.4s,baz=28,slow=40							
	comp=Z,2.1nm,0.8s							
GERES	**GERES Array B**	**73.86 340**	P		**P**		**03 36 03.2**	**-0.2**
OZAP	**Van, Ozalp-Mer**	**73.93 315**	⇑P		**P**		**03 36 05.4**	**+1.3**
Y52A	**Lilburn**	**73.95 54**	P		**P**		**03 36 04.0**	**0.0**
TPGR	**Topolog**	**73.97 329**	⇑P		**P**		**03 36 04.0**	**+0.1**
NEHR	**Nehoiu**	**74.06 331**	⇑P		**P**		**03 36 04.6**	**+0.1**
MLR	**Muntele Rosu**	**74.10 331**	IAmb		IAmb		03 36 17.2	
	comp=Z,14nm,1.0s							
MLR	**Muntele Rosu**	**74.10 331**	LR		LR		04 10 52.7	
	comp=Z,71nm,19.4s,baz=72,slow=38							
MLR	**Muntele Rosu**	**74.10 331**	⇑P		**P**		**03 36 06.1**	**+1.2**
MLR	**Muntele Rosu**	**74.10 331**	P		**P**		**03 36 06.1**	**+1.2**
KMSC	**Kings Mountain**	**74.14 51**	IAmb		IAmb		03 36 15.6	
	comp=Z,17nm,0.9s							
HARR	**Harsova**	**74.26 329**	⇑P		**P**		**03 36 05.9**	**+0.2**
HARR	**Harsova**	**74.26 329**	P		**P**		**03 36 05.8**	**+0.2**
CONA	**Conrad Observa**	**74.30 339**	*i* pP		**P**		**03 36 07.1**	**+1.1**
	comp=Z,14nm,1.3s							
TIRR	**Tirgusor**	**74.33 329**	⇓P		**P**		**03 36 06.4**	**+0.4**
TIRR	**Tirgusor**	**74.33 329**	P		**P**		**03 36 06.4**	**+0.4**
VOIR		**74.40 332**	⇑P		**P**		**03 36 07.0**	**+0.5**
VOIR		**74.40 332**	P		**P**		**03 36 07.0**	**+0.5**
RONA	**Rosalia, Austr**	**74.42 338**	*i* pP		**P**		**03 36 08.2**	**+1.6**
	comp=Z,7.3nm,1.1s							
HODGE	**Hodges**	**74.48 52**	IAmb		IAmb		03 36 17.8	
	comp=Z,15nm,0.8s							
SIRR	**Siria**	**74.52 334**	⇓P		**P**		**03 36 08.1**	**+0.9**
ARR	**Arges**	**74.58 332**	⇑P		**P**		**03 36 08.6**	**+1.0**
152A	**Waverly Hall**	**74.63 55**	IAmb		IAmb		03 36 18.3	
	comp=Z,21nm,0.9s							
MOA	**Molln**	**74.70 340**	*i* pP		**P**		**03 36 08.5**	**+0.3**
	comp=Z,12nm,1.2s							
SURR	**Surduc**	**74.88 334**	⇓P		**P**		**03 36 09.9**	**+0.7**
ARSA	**Arzberg**	**75.01 339**	*i* pP		**P**		**03 36 11.2**	**+1.2**
	comp=Z,11nm,1.6s							
GZR	**Gura Zlata**	**75.05 333**	⇓P		**P**		**03 36 10.3**	**0.0**
GZR	**Gura Zlata**	**75.05 333**	P		**P**		**03 36 10.3**	**0.0**
RJOB	**Jochberg**	**75.09 341**	*e*P		**P**		**03 36 11.5**	**+1.0**
	comp=Z,8.9nm,0.9s,baz=19,slow=5.8							
BZS	**Buzias**	**75.14 334**	⇑P		**P**		**03 36 10.6**	**-0.1**
BZS	**Buzias**	**75.14 334**	P		**P**		**03 36 10.6**	**-0.1**
BFO	**Black Forest**	**75.31 344**	P		**P**		**03 36 11.2**	**-0.5**
BFO	**Black Forest**	**75.31 344**	P		**P**		**03 36 11.2**	**-0.5**
BFO			pmax		pmax			
	comp=Z,5.0nm,0.7s							
BFO	**Black Forest**	**75.31 344**	*e*P		**P**		**03 36 11.2**	**-0.5**
	comp=Z,5.4nm,0.9s,baz=19,slow=5.8							
LESA	**Schwarzleotal**	**75.42 341**	*i* pP		**P**		**03 36 13.5**	**+1.1**
	comp=Z,5.8nm,0.8s							
ECH	**Echery**	**75.61 345**	P		**P**		**03 36 13.4**	**0.0**
ECH	**Echery**	**75.61 345**	P		**P**		**03 36 13.4**	**0.0**
ECH			pmax		pmax			
	comp=Z,7.0nm,1.0s							
HERR	**Herculane**	**75.62 333**	⇑P		**P**		**03 36 13.4**	**-0.1**
SOKA	**Soboth**	**75.66 339**	*e*pP		**P**		**03 36 14.9**	**+1.1**
	comp=Z,7.1nm,1.7s							
PERS	**Pernice**	**75.68 339**	*i* P		**P**		**03 36 15.1**	**+1.1**
WATA	**Walderalm**	**75.71 341**	*i* pP		**P**		**03 36 14.5**	**+0.3**
	comp=Z,6.0nm,0.8s							
RETA	**Reutte**	**75.71 342**	*i* pP		**P**		**03 36 14.8**	**+0.7**
	comp=Z,6.1nm,0.8s							
WTTA	**Wattenberg**	**75.77 341**	*i* pP		**P**		**03 36 15.7**	**+1.2**
	comp=Z,12nm,0.8s							
MOTA	**Moosalm**	**75.79 342**	*i* pP		**P**		**03 36 15.5**	**+0.8**
	comp=Z,9.4nm,0.9s							
SQTA	**Sankt Quirin**	**75.89 342**	*i* pP		**P**		**03 36 16.2**	**+1.0**
	comp=Z,7.7nm,0.7s							
OBKA	**Obir**	**75.92 339**	*i* pP		**P**		**03 36 16.5**	**+1.1**
	comp=Z,15nm,0.8s							
MYKA	**Terra Mystica**	**75.99 340**	*i* pP		**P**		**03 36 15.9**	**+0.2**
	comp=Z,6.7nm,0.9s							
DAVA	**Damuels**	**76.06 343**	*e*pP		**P**		**03 36 16.5**	**+0.3**
	comp=Z,9.5nm,1.3s							
ABTA	**Abfaltersbach**	**76.10 341**	*e*pP		**P**		**03 36 16.1**	**-0.2**
	comp=Z,23nm,1.2s							
FETA	**Feichten**	**76.17 342**	*i* pP		**P**		**03 36 17.7**	**+0.9**
	comp=Z,8.9nm,0.9s							
CADS	**Cadrg**	**76.36 340**	*i* P		**P**		**03 36 17.9**	**+0.2**
DZM	**Mont Dzumac**	**76.57 178**	*e*LR		LR		03 59 59.3	
	comp=Z,74nm,23.5s							
FUORN	**Ofenpass-Fuorn**	**76.64 342**	IAmb		IAmb		03 36 31.4	
	comp=Z,19nm,1.4s							
BRTR	**Keskin Array B**	**76.91 323**	P		**P**		**03 36 21.2**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=55,slow=3.9,SNR=18							
	comp=Z,2.7nm,0.8s							
TUE	**Stuetta**	**76.94 343**	IAmb		IAmb		03 36 35.1	
	comp=Z,10nm,0.9s							
BOVS	**Bovan**	**76.97 333**	⇑P		**P**		**03 36 21.2**	**+0.1**
ANTO	**Ankara**	**77.07 324**	⇓P		**P**		**03 36 23.4**	**+1.5**
ANTO	**Ankara**	**77.07 324**	P		**P**		**03 36 23.4**	**+1.5**
KIRS	**Kirsehir-Merke**	**77.34 323**	⇑P		**P**		**03 36 23.9**	**+0.4**
WB0	**Warramunga Arr**	**78.61 209**	IAmb		IAmb		03 36 32.0	
	comp=Z,14nm,0.8s							
ZCCA	**Zocca**	**78.70 341**	P		**P**		**03 36 31.4**	**+0.6**
PDG	**Podgorica**	**78.72 335**	IAmb		IAmb		03 36 41.8	
	comp=Z,9.5nm,0.8s							
PDG	**Podgorica**	**78.72 335**	⇑P		**P**		**03 36 30.7**	**-0.2**
BNI	**Bardonecchia**	**78.76 344**	IAmb		IAmb		03 36 50.6	
	comp=Z,32nm,1.9s							
WRAB	**Tennant Creek**	**78.78 209**	P		**P**		**03 36 31.8**	**+0.4**
WRAB			IAmb		IAmb		03 36 33.1	
	comp=Z,16nm,0.9s							
WRAB	**Tennant Creek**	**78.78 209**	P		**P**		**03 36 31.8**	**+0.4**
WRAB			pmax		pmax			
	comp=Z,16nm,1.0s							
WRA	**Warramunga Arr**	**78.79 209**	P		**P**		**03 36 31.0**	**-0.4**
WRA	**Warramunga Arr**	**78.79 209**	P		**P**		**03 36 32.1**	**+0.7**
	comp=Z,11nm,0.8s,baz=20,slow=5.8,SNR=19							
	comp=Z,11nm,0.8s							
WRA	**Warramunga Arr**	**78.79 209**	*i* P		**P**		**03 36 32.0**	**+0.5**
WRA			pmax		pmax			
	comp=Z,11nm,0.9s							
SSB	**Saint Sauveur**	**78.86 346**	IAmb		IAmb		03 36 43.2	
	comp=Z,10.0nm,1.1s							
MURB	**Monte Urbino**	**79.44 340**	P		**P**		**03 36 35.9**	**+0.9**
OSSC	**Osservatorio P**	**79.44 341**	P		**P**		**03 36 34.5**	**-0.4**
OSSC			IAmb		IAmb		03 36 46.9	
	comp=Z,15nm,1.1s							
GUMA	**Gualdo di Mace**	**79.47 339**	IAmb		IAmb		03 36 47.7	
	comp=Z,18nm,0.9s							
FDMO	**Fiordimonte**	**79.55 339**	IAmb		IAmb		03 36 48.3	
	comp=Z,28nm,1.1s							
FITZ	**Fitzroy Crossi**	**79.81 217**	P		**P**		**03 36 37.7**	**+0.7**
FITZ	**Fitzroy Crossi**	**79.81 217**	P		**P**		**03 36 38.1**	**+1.1**
	comp=Z,11nm,1.0s,baz=57,slow=5.0,SNR=7.8							
	comp=Z,11nm,1.0s							
CAMP	**Campotosto**	**79.96 339**	IAmb		IAmb		03 36 49.9	
	comp=Z,15nm,1.0s							
PALK	**Pallekele**	**80.55 269**	LR		LR		04 19 16.8	
	comp=Z,42nm,18.0s,baz=20,slow=41							
CEST	**Esterri de Car**	**81.93 348**	P		**P**		**03 36 48.9**	**+0.5**
CEST			IAmb		IAmb		03 37 02.6	
	comp=Z,14nm,1.1s							
PPT2	**Papeete2**	**81.97 136**	*e*LR		LR		04 02 21.7	
	comp=Z,108nm,30.2s							
PPT2			*e*LR		LR		04 02 42.9	
	comp=Z,91nm,25.0s							
MMAI	**Mount Meron Ar**	**82.24 319**	P		**P**		**03 36 50.0**	**-0.1**
	comp=Z,4.1nm,0.8s,baz=15,slow=6.9,SNR=5.1							
MMAI			LR		LR		04 17 34.2	
	comp=Z,52nm,19.4s,baz=51,slow=39							
	comp=Z,4.1nm,0.8s							
TIP	**Timpagrande**	**82.41 335**	IAmb		IAmb		03 37 03.2	
	comp=Z,14nm,1.1s							
TIP	**Timpagrande**	**82.41 335**	⇓P		**P**		**03 36 51.5**	**+0.6**
ASF	**Jabal al Asfar**	**82.41 317**	LR		LR		04 18 41.3	
	comp=Z,67nm,20.4s,baz=59,slow=40							
ASAR	**Alice Springs**	**82.45 208**	P		**P**		**03 36 51.9**	**+0.9**
ASAR	**Alice Springs**	**82.45 208**	P		**P**		**03 36 52.3**	**+1.3**
	comp=Z,17nm,0.9s,baz=16,slow=5.0,SNR=42							
	comp=Z,17nm,0.9s							
ASAR	**Alice Springs**	**82.45 208**	P		**P**		**03 36 51.9**	**+0.9**
BALJ	**Balqa**	**82.97 318**	IAmb		IAmb		03 36 55.0	
	comp=Z,14nm,0.9s							
PBRG	**Braganca**	**83.48 353**	*e*P		**P**		**03 36 57.8**	**+1.4**
PBRG			*i* IAmb		IAmb		03 37 10.7	
	comp=Z,17nm,1.7s							
POLO	**Lamas de Olo**	**83.98 354**	*e*P		**P**		**03 36 57.0**	**-2.0**
POLO			*i* IAmb		IAmb		03 36 60.0	
	comp=Z,10nm,1.4s							
PVRL	**Vila Real**	**84.07 354**	*e*P		**P**		**03 36 59.1**	**-0.3**
PVRL			*i* IAmb		IAmb		03 37 12.4	
	comp=Z,31nm,1.4s							
MVO	**Moncorvo**	**84.14 354**	*e*P		**P**		**03 36 56.0**	**-3.8**
MVO			*i* IAmb		IAmb		03 37 11.9	
	comp=Z,23nm,1.6s							
PVIS	**Viseu**	**84.64 354**	*e*P		**P**		**03 37 02.2**	**0.0**
PVIS			*e*pP		**pwP**		**03 37 12.4**	**-0.2**
MTE	**Manteigas**	**84.93 354**	*e*P		**P**		**03 37 04.7**	**+0.9**
MTE			*i* IAmb		IAmb		03 37 07.9	
	comp=Z,26nm,1.6s							
MTE			*e*pP		**pwP**		**03 37 14.4**	**+0.3**
PCAS	**Casmilo, Conde**	**85.33 355**	*e*P		**P**		**03 37 06.5**	**+0.8**
PCAS			*e*pP		**pwP**		**03 37 17.3**	**+1.2**
PCAS			*i* IAmb		IAmb		03 37 18.7	
	comp=Z,30nm,1.2s							
ESBB	**Sonseca Array**	**85.38 351**	IAmb		IAmb		03 37 17.8	
	comp=Z,15nm,1.1s							
ESDC	**Sonseca Array**	**85.38 351**	P		**P**		**03 37 06.6**	**+0.5**
ESDC			IAmb		IAmb		03 37 17.8	
	comp=Z,13nm,1.1s							
ESDC	**Sonseca Array**	**85.38 351**	P		**P**		**03 37 06.6**	**+0.5**
	comp=Z,8.1nm,0.9s,baz=0.7,slow=4.9,SNR=53							
	comp=Z,8.1nm,0.9s							
EIL	**Elat**	**85.39 318**	LR		LR		04 21 26.7	
	comp=Z,63nm,18.1s,baz=58,slow=40							
PCBR	**Castelo Branco**	**85.48 354**	*e*P		**P**		**03 37 07.2**	**+0.7**
PCBR			*e*pP		**pwP**		**03 37 17.3**	**+0.4**
PCBR			*i* IAmb		IAmb		03 37 25.8	
	comp=Z,22nm,1.6s							
PSBE	**So Bento**	**85.89 355**	*e*P		**P**		**03 37 09.4**	**+0.8**
PSBE			*i* IAmb		IAmb		03 37 12.9	
	comp=Z,27nm,2.1s							
PMRV	**Marv??o**	**85.89 354**	*e*P		**P**		**03 37 06.5**	**-2.0**
PMRV			*i* IAmb		IAmb		03 37 12.9	
	comp=Z,15nm,1.8s							
RTAL	**Retalhuleu**	**86.00 71**	P		**P**		**03 37 09.6**	**+0.3**
RAYN	**Ar Rayn**	**86.24 306**	P		**P**		**03 37 09.6**	**-1.0**
RAYN			IAmb		IAmb		03 37 10.7	
	comp=Z,5.1nm,0.8s							
RAYN	**Ar Rayn**	**86.24 306**	P		**P**		**03 37 09.6**	**-1.0**
RAYN			pmax		pmax			
	comp=Z,5.0nm,0.8s							
EVO	**Evora**	**86.82 354**	*e*P		**P**		**03 37 13.4**	**+0.3**
EVO			*e*pP		**pwP**		**03 37 24.6**	**+1.1**
EVO			*i* IAmb		IAmb		03 37 25.2	
	comp=Z,24nm,1.6s							
KEST	**Kesra**	**87.34 340**	P		**P**		**03 37 15.5**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=294,slow=12,SNR=3.7							
	comp=Z,2.4nm,0.8s							
STKA	**Stephens Creek**	**88.56 199**	P		**P**		**03 37 21.4**	**+0.3**
	comp=Z,7.2nm,0.8s,baz=342,slow=6.6,SNR=7.9							
	comp=Z,7.2nm,0.8s							
SJG	**San Juan**	**95.56 48**	LR		LR		04 24 08.0	
	comp=Z,29nm,19.4s,baz=14,slow=38							
LPAZ	**La Paz**	**124.36 68**	PKP		**PKiKP**		**03 43 29.3**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=25,slow=5.3,SNR=4.2							
PTLB	**Pontes e Lacer**	**128.29 58**			**PKPdf**		**03 43 35.4**	**+0.2**
PLCA	**Paso Flores**	**141.42 92**	PKhKP		PKPpre		03 43 55.9	
	comp=Z,2.7nm,1.0s,baz=33,slow=2.6,SNR=4.5							
MAW	**Mawson**	**142.94 219**	PKP		**PKPdf**		**03 43 59.8**	**-1.1**
	comp=Z,3.4nm,0.9s,baz=0.3,slow=1.7,SNR=3.5							
QSPA	**South Pole Qui**	**144.55 180**	PKPdf		**PKPab**		**03 44 01.8**	**-0.6**
QSPA	**South Pole Qui**	**144.55 180**	PKP		**PKPab**		**03 44 01.9**	**-0.4**
	comp=Z,17nm,0.9s,baz=307,slow=0.6,SNR=44							
SYO	**Syowa Base**	**151.65 218**	*ep*PKPdf		pPKPdf		03 44 19.0	-0.6
SYO	**Syowa Base**	**151.65 218**	*es*PKPdf		**PKiKP**		**03 44 22.1**	**+0.1**
SYO	**Syowa Base**	**151.65 218**	*ep*PKPbc		pPKPbc		03 44 27.0	+1.1
BELA	**Belgrano 2**	**155.85 170**	PKPab		**PKPab**		**03 44 47.3**	**-0.9**
ELIB	**Princess Elisa**	**156.26 209**	*d*PKP		**PKPab**		**03 44 50.9**	**+0.8**

IDC 01 03:28:52.8±1.6, 2°68S×138°43E, h0km, mb3.3/2, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=32.1km s-min=17.9km az=171.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.27**	**86**	Pn	Pn	03 29 32.1	+0.5
	15nm,0.3s,baz=180,slow=6.6						
JAY				Lg	Lg	03 30 04.7	
	baz=72,slow=20						
WRA	**Warramunga Arr**	**17.62**	**193**	P	Pn	03 32 59.0	-0.9
	0.2nm,0.3s,baz=14,slow=12,SNR=5.8						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**21.32**	**191**	P	P	03 33 41.9	+0.4
	0.6nm,0.6s,baz=18,slow=10,SNR=6.1						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**69.60**	**322**	P	P	03 40 03.8	-0.1
	0.4nm,0.7s,baz=115,slow=8.8,SNR=3.8						
	0.4nm,0.7s						

IDC 01 03:30:45.5±1.6, 2°43S×138°40E, h0km, mb3.4/2, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=29.9km s-min=18.8km az=179.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.31**	**92**	Pn	Pb	03 31 26.6	-1.4
	33nm,0.3s,baz=247,slow=8.9						
JAY				Lg	Lg	03 31 57.5	
	6.3nm,0.3s,baz=267,slow=21,SNR=2.4						
WRA	**Warramunga Arr**	**17.85**	**193**	P	Pn	03 34 54.0	-1.4
	0.3nm,0.3s,baz=15,slow=12,SNR=6.3						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**21.55**	**191**	P	P	03 35 37.4	+0.8
	0.7nm,0.6s,baz=16,slow=11,SNR=3.0						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**69.38**	**322**	P	P	03 41 54.9	-0.3
	0.5nm,0.7s,baz=111,slow=6.8,SNR=3.8						
	0.5nm,0.7s						

RSNC 01 03:41:20.8±0.0, 7°N±1°×7°5W±°, h28km±2km, M2.3, ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZARC	**Zaragoza, Cauc**	**0.30**	**82**	P	Pb	03 41 27.6	-0.5
ZARC				S	Sb	03 41 33.8	+0.7
UREC	**San Jos de Ur**	**0.48**	**309**	P	Pb	03 41 29.5	-1.3
UREC				S	Sb	03 41 37.6	0.0
DBBC	**Dabeiba**	**1.13**	**248**	P	Pn	03 41 39.5	-1.3
DBBC				S	Sn	03 41 54.8	-0.6
PTBC	**PUERTO BERRIO,**	**1.14**	**142**	P	Pn	03 41 39.2	-1.8
PTBC				S	Sn	03 41 53.9	-1.8
HELC	**Santa Helena**	**1.30**	**196**	P	Pn	03 41 42.1	-1.4
HELC				S	Sn	03 41 58.8	-1.4
APAC	**Apartado, Choc**	**1.48**	**288**	P	Pn	03 41 45.3	-0.2
APAC				S	Sn	03 42 03.9	-0.1
BRJC	**Barrancabermej**	**1.48**	**109**	P	Pn	03 41 45.0	-0.6
BRJC				S	Sn	03 42 04.3	+0.2
CBOC	**Ciudad Bolivar**	**1.79**	**208**	P	Pn	03 41 49.7	-0.3
CBOC				S	Sn	03 42 12.2	+0.3
NORC	**Norcasia**	**1.90**	**171**	P	Pn	03 41 50.8	-0.6
NORC				S	Sn	03 42 14.7	+0.3
OCAC	**Ocana**	**1.98**	**67**	P	Pn	03 41 52.5	-0.2
SPBC	**San Pablo de B**	**2.09**	**149**	P	Pn	03 41 53.0	-1.1
SPBC				S	Sn	03 42 18.4	-0.8
BARC	**Barichara**	**2.14**	**113**	P	Pn	03 41 55.3	+0.4
GUY2C	**Guyana, Caldas**	**2.22**	**185**	P	Pn	03 41 56.0	-0.2
SJCC	**San Jacinto, C**	**2.43**	**360**	P	Pn	03 42 01.1	+2.3
SJCC				S	Sn	03 42 26.2	-1.4
PAMC	**Pamplona, Colo**	**2.44**	**92**	P	Pn	03 41 59.5	+0.2
RUSC	**La Rusia**	**2.58**	**127**	P	Pn	03 42 00.7	-0.5
ROSC	**El Rosal**	**2.72**	**162**	P	Pn	03 42 04.8	+1.7
ROSC				S	Sn	03 42 36.5	+1.2
PLMC	**San Jos del P**	**2.76**	**204**	P	Pn	03 42 04.0	+0.7
PLMC				S	Sb	03 42 40.6	-2.5

RSNC 01 03:41:51.3±0.0, 7°N±1°×7°3W±°, h119km±2km, M2.2, ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.34**	**141**	P	Pn	03 42 07.8	-0.8
BARC				S	Sn	03 42 20.3	-1.3
BARC	**Barichara**	**0.34**	**141**	S	Sn	03 42 20.1	-1.5
BRJC	**Barrancabermej**	**0.36**	**288**	P	Pn	03 42 07.3	-1.1
BRJC				S	Sn	03 42 20.6	-0.6
VMM07	**Puerto Wilches**	**0.67**	**318**	P	Pn	03 42 09.4	-0.9
VMM07				S	Sn	03 42 25.0	+0.3
EZNC	**La Esperanza**	**0.77**	**6**	P	Pn	03 42 09.6	-1.6
EZNC				S	Sn	03 42 24.7	-1.5
PAMC	**Pamplona, Colo**	**0.84**	**56**	P	Pn	03 42 11.2	-1.1
PAMC				S	Sn	03 42 28.5	+0.4
PAMC	**Pamplona, Colo**	**0.84**	**56**	S	Sn	03 42 28.1	0.0
RUSC	**La Rusia**	**1.01**	**162**	P	Pn	03 42 13.1	-0.8
RUSC				S	Sn	03 42 30.5	-0.4
RUSC	**La Rusia**	**1.01**	**162**	S	Sn	03 42 30.5	-0.4
PTBC	**PUERTO BERRIO,**	**1.10**	**253**	P	Pn	03 42 12.5	-1.7
PTBC				S	Sn	03 42 29.3	-2.3
OCAC	**Ocana**	**1.37**	**3**	P	Pn	03 42 15.4	-2.0
OCAC				S	Sn	03 42 35.2	-2.0
OCAC	**Ocana**	**1.37**	**3**	S	Pn	03 42 15.6	-1.8
SPBC	**San Pablo de B**	**1.37**	**209**	P	Pn	03 42 16.5	-0.8
SPBC				S	Sn	03 42 36.3	-0.8
ZARC	**Zaragoza, Cauc**	**1.58**	**294**	P	Pn	03 42 19.3	-0.3
ZARC				S	Sn	03 42 41.0	-0.1
AGCC	**Aguachica**	**1.65**	**354**	P	Pn	03 42 20.7	+0.2
AGCC				S	Sn	03 42 42.6	-0.2
TAMC	**Tame, Arauca**	**1.65**	**105**	P	Pn	03 42 19.5	-1.0
TAMC				S	Sn	03 42 41.8	-1.0
NORC	**Norcasia**	**1.95**	**229**	P	Pn	03 42 23.3	-0.8
NORC				S	Sn	03 42 49.7	+0.5
HELC	**Santa Helena**	**2.22**	**253**	P	Pn	03 42 27.1	-0.7
HELC				S	Sn	03 42 55.6	-0.1
UREC	**San Jos de Ur**	**2.29**	**293**	P	Pn	03 42 27.6	-0.8
UREC				S	Sn	03 42 55.1	-1.8
GUY2C	**Guyana, Caldas**	**2.54**	**230**	P	Pn	03 42 30.5	-1.6
GUY2C				S	Sn	03 43 03.6	+0.3
DBBC	**Dabeiba**	**2.79**	**273**	P	Pn	03 42 33.9	-1.1
DBBC				S	Sn	03 43 08.3	-0.3
APAC	**Apartado, Choc**	**3.32**	**288**	P	Pn	03 42 40.7	-1.1
APAC				S	Sn	03 43 19.4	-1.4
PRAC	**Prado**	**3.46**	**205**	P	Pn	03 42 44.2	+0.5
PRAC				S	Sn	03 43 26.2	+2.0
ORTC	**Ortega, Tolima**	**3.46**	**212**	P	Pn	03 42 44.8	+1.1
ORTC				S	Sn	03 43 25.7	+1.5
PLMC	**San Jos del P**	**3.46**	**236**	P	Pn	03 42 43.5	-0.3
PLMC				S	Sn	03 43 24.1	-0.2
SJCC	**San Jacinto, C**	**3.49**	**330**	P	Pn	03 42 41.9	-2.3
SJCC				S	Sn	03 43 21.1	-3.9
CRJC	**Cerrejon, Guaj**	**4.17**	**7**	P	Pn	03 42 50.3	-2.9
CRJC				S	Sn	03 43 39.0	-2.1
MACC	**Macarena, Meta**	**4.71**	**185**	P	Pn	03 42 59.1	-1.2
MACC				S	Sn	03 43 51.7	-2.3

*NNC **01** 03:46:13.1±4.1, 41°15N×83°00E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=33.8km s-min=26.8km az=9.0*
*SOME **01** 03:46:21.1, 41°17N×82°43E, h10km*
ISC 01 03:46:10.0±2.7, 41°0N±0°1×83°1E±0°1, h10km, n18, σ3°36/26, 5C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**3.21**	**321**	Pg	**Pg**	**03 47 11.8**	**+0.3**
	18nm,0.5s						
KTMS				Lg	Lg	03 47 49.6	
	42nm,0.6s						
KTMS	**Ketmen**	**3.21**	**321**	*e*P	**Pg**	**03 47 11.8**	**+0.3**
	18nm,0.5s						
KTMS				*e*S	**Sg**	**03 47 48.6**	**-4.4**
	33nm,0.3s						
SHLS	**Shalkode**	**3.48**	**310**	Pg	**Pb**	**03 47 12.4**	**+0.6**
	46nm,0.3s						
SHLS				Lg	Lg	03 47 50.2	
	111nm,0.4s						
SHLS	**Shalkode**	**3.48**	**310**	*e*P	**Pb**	**03 47 11.7**	**-0.1**
	17nm,0.2s						
SHLS				*e*S	**Sn**	**03 47 48.0**	**+2.3**
	109nm,0.5s						
PDGK	**Podgornoye**	**3.58**	**312**	⇓Pn	**Pn**	**03 47 04.3**	**-1.4**
	2.1nm,0.5s						
PDGK				⇓Pg	**Pg**	**03 47 16.3**	**-2.2**
	11nm,0.4s						
PDGK				⇑Lg	Lg	03 48 02.0	
	18nm,0.5s						
KPKS	**Kokpek**	**4.13**	**308**	Pg	**Pg**	**03 47 26.3**	**-2.8**
	2.2nm,0.5s						
KPKS				Lg	Lg	03 48 13.6	
	64nm,0.4s						
TNSS	**Tian-Shan**	**5.04**	**296**	Pg	**Pg**	**03 47 45.5**	**-1.0**
	2.4nm,0.3s						
TNSS				Lg	Lg	03 48 46.4	
	8.1nm,0.7s						
TNSS	**Tian-Shan**	**5.04**	**296**	*e*P	**Pg**	**03 47 43.5**	**-3.1**
	1.2nm,0.3s						
TNSS				*e*S	**Sb**	**03 48 42.5**	**+3.2**
	5.9nm,0.5s	

QSPA	**South Pole Qui**	**34.89**	**180**	P		**P**	**04 19 32.7**	**+0.5**
	comp=Z,3.0nm,0.6s,baz=201,slow=2.9,SNR=26							
	comp=Z,3.0nm,0.6s							
CPUP	**Villa Florida**	**36.80**	**309**	P		**P**	**04 19 49.7**	**+0.9**
CPUP	**Villa Florida**	**36.80**	**309**	P		**P**	**04 19 49.2**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=146,slow=8.9,SNR=4.9							
	comp=Z,0.5nm,0.6s							
MAW	**Mawson**	**40.37**	**144**	P		**P**	**04 20 18.6**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=204,slow=12,SNR=3.3							
	comp=Z,1.8nm,0.7s							
BOSA	**Boshof**	**45.25**	**75**	P		**P**	**04 20 57.2**	**-1.2**
	comp=Z,1.7nm,0.9s,baz=204,slow=10.0,SNR=1.3							
	comp=Z,1.7nm,0.9s							
LKGWB	**Lokgwabe**	**46.64**	**68**	P		**P**	**04 21 11.0**	**+1.6**
KOOLE	**Kule**	**47.02**	**66**	P		**P**	**04 21 11.5**	**-0.9**
PTLB	**Pontes e Lacer**	**47.21**	**314**	P		**P**	**04 21 13.8**	**+0.1**
PTLB				IAmb		IAmb	04 21 15.2	
	comp=Z,3.8nm,0.8s							
VNDA	**Vanda**	**47.28**	**182**	P		**P**	**04 21 14.8**	**+1.1**
VNDA				IAmb		IAmb	04 21 15.8	
	comp=Z,1.8nm,0.7s							
VNDA	**Vanda**	**47.28**	**182**	P		**P**	**04 21 14.9**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=182,slow=5.8,SNR=8.6							
	comp=Z,1.6nm,0.7s							
GRTLG	**Ghanzi**	**48.89**	**66**	P		**P**	**04 21 25.4**	**-1.6**
GRTLG				IAmb		IAmb	04 22 06.3	
	comp=Z,7.6nm,1.4s							
QNGWA	**Qangwa**	**50.39**	**64**	P		**P**	**04 21 37.5**	**-0.8**
QNGWA				IAmb		IAmb	04 21 38.4	
	comp=Z,4.0nm,0.8s							
LPAZ	**La Paz**	**50.46**	**304**	P		**P**	**04 21 40.8**	**+1.4**
LPAZ				IAmb		IAmb	04 21 41.8	
	comp=Z,5.2nm,0.8s							
LPAZ	**La Paz**	**50.46**	**304**	P		**P**	**04 21 41.3**	**+1.9**
	comp=Z,4.2nm,0.7s,baz=177,slow=4.3,SNR=20							
	comp=Z,4.2nm,0.7s							
MREMI	**Moremi**	**51.23**	**73**	P		**P**	**04 21 43.8**	**-0.8**
MREMI				IAmb		IAmb	04 22 20.2	
	comp=Z,18nm,1.5s							
MACA	**Manacapuru-AM**	**59.02**	**319**	P		**P**	**04 22 40.7**	**0.0**
BOAV	**Boa Vista**	**64.09**	**321**	P		**P**	**04 23 14.1**	**-0.8**
BOAV				IAmb		IAmb	04 23 15.8	
	comp=Z,4.3nm,0.9s							
MDP	**Montagnes des**	**64.11**	**330**	LR		LR	04 49 14.2	
	comp=Z,24nm,20.4s,baz=244,slow=34							
TORD	**Torodi Ar. Bea**	**72.18**	**29**	P		**P**	**04 24 05.3**	**-0.3**
H31M	**Peel River**	**145.22**	**317**			**PKPab**	**04 32 17.0**	**+0.2**
F31M	**Tsiigehtchic**	**145.47**	**320**			**PKPab**	**04 32 17.9**	**+0.3**
G31M	**Satah River**	**145.53**	**319**	PKPdf		**PKPdf**	**04 32 17.4**	**+0.1**
INK	**Inuvik**	**145.63**	**321**	PKPdf		**PKPab**	**04 32 18.5**	**+0.4**
K29M	**Barlow Dome**	**145.90**	**313**	PKPdf		**PKPab**	**04 32 19.6**	**+0.2**
ILAR	**Eielson Array**	**150.08**	**312**	PKPbc		**PKPbc**	**04 32 30.4**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=121,slow=1.8,SNR=9.4							
SONM	**Songino Array**	**150.11**	**85**	PKPbc		**PKPbc**	**04 32 30.0**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=242,slow=3.1,SNR=2.1							

*IDC **01** 04:17:07.8±2.1,25°.36S×179°.68E,h513km±22km,mb3.2/8, mbtmp4.1/11,Error ellipse: s-maj=22.4km s-min=17.9km az=104.0*

ISC 01 04:17:07.3±0.7,25°.42S±0°.09×179°.7E±0°.1,h507km,n18, σ0s72/15,mb3.5/8,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.81**	**348**	P	**P**	**04 19 01.7**	**-0.4**
	6.7nm,0.4s,baz=179,slow=7.1,SNR=17						
DZM	**Mont Dzumac**	**12.62**	**283**	P	**P**	**04 19 53.0**	**+0.5**
	6.2nm,0.8s,baz=97,slow=13,SNR=4.2						
URZ	**Urewera**	**12.99**	**189**	P	**P**	**04 19 56.5**	**+0.4**
	6.6nm,0.4s,baz=136,slow=4.4,SNR=5.1						
URZ				S	**S**	**04 22 14.0**	**-1.2**
	8.6nm,0.5s,baz=86,slow=19,SNR=6.1						
ASAR	**Alice Springs**	**41.57**	**262**	P	**P**	**04 24 09.8**	**-0.7**
	0.5nm,0.3s,baz=93,slow=6.3,SNR=8.2						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**42.08**	**268**	P	**P**	**04 24 14.2**	**-0.3**
	1.1nm,0.6s,baz=103,slow=7.5,SNR=7.6						
	1.1nm,0.6s						
QSPA	**South Pole Qui**	**64.67**	**180**	P	**P**	**04 26 55.2**	**+0.7**
	3.4nm,0.8s,baz=54,slow=0.4,SNR=12						
	3.4nm,0.8s						
KSRS	**Korea Array**	**79.26**	**320**	P	**P**	**04 28 20.2**	**+0.6**
	0.7nm,0.5s,baz=135,slow=6.6,SNR=4.7						
	0.7nm,0.5s						
PETK	**Petropavlovsk-**	**80.52**	**347**	P	**P**	**04 28 26.1**	**+0.2**
	2.7nm,0.8s,baz=123,slow=5.5,SNR=4.9						
	2.7nm,0.8s						
NVAR	**Mina Array Bea**	**86.01**	**44**	P	**P**	**04 28 53.6**	**-0.4**
	0.8nm,0.7s,baz=223,slow=8.3,SNR=4.9						
	0.8nm,0.7s						
TXAR	**Lajitas Array**	**91.44**	**58**	P	**P**	**04 29 20.0**	**+0.7**
	0.4nm,0.8s,baz=199,slow=7.6,SNR=5.1						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**93.56**	**14**	P	**P**	**04 29 26.9**	**-1.2**
	0.2nm,0.6s,baz=234,slow=5.5,SNR=3.3						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**133.32**	**348**	PKP	**PKPdf**	**04 35 24.8**	**+0.3**
	0.8nm,0.6s,baz=46,slow=3.5,SNR=4.2						
FINES	**FINESS Array B**	**139.80**	**341**	PKhKP	PKPpre	04 35 29.2	
	4.3nm,1.1s,baz=90,slow=1.9,SNR=5.3						
NB2	**NORSAR Subarra**	**143.54**	**351**	PKP	PKPab	04 35 41.0	-0.9
	comp=Z,0.7nm,0.5s,baz=23,slow=3.7						
NOA	**NORSAR Array B**	**143.54**	**351**	PKP	PKPab	04 35 41.3	-0.5
	comp=Z,3.2nm,0.8s,baz=21,slow=3.9,SNR=11						
HFS	**Hagfors**	**143.98**	**348**	PKP	PKPbc	04 35 42.5	-0.9
	comp=Z,6.1nm,0.6s,baz=47,slow=2.6,SNR=24						
AKASG	**Malin Array Be**	**146.10**	**326**	PKPbc	**PKPdf**	**04 35 48.5**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=47,slow=4.1,SNR=8.6						
BRTR	**Keskin Array B**	**148.28**	**305**	PKPbc	**PKPbc**	**04 35 55.8**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=127,slow=3.9,SNR=3.6						

IDC 01 04:26:00.3±3.1,29°.86S×178°.24W,h0km,mb3.8/3, mbtmp3.8/3,Error ellipse: s-maj=90.7km s-min=37.2km az=40.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.93**	**266**	P	P	04 34 00.8	-0.4
	0.4nm,0.3s,baz=106,slow=7.6,SNR=4.2						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**43.87**	**272**	P	P	04 34 08.8	0.0
	0.6nm,0.3s,baz=110,slow=8.1,SNR=12						
	0.6nm,0.3s						
QSPA	**South Pole Qui**	**60.24**	**180**	P	P	04 36 10.2	0.0
	0.8nm,0.6s,baz=45,slow=5.7,SNR=7.5						
	0.8nm,0.6s						
FINES	**FINESS Array B**	**144.57**	**340**	PKP	PKPbc	04 45 37.4	+0.7
	0.7nm,0.8s,baz=66,slow=4.9,SNR=4.1						

*IDC **01** 04:29:40.5±1.1,44°.08N×88°.33E,h0km,mb4.0/2, mbtmp3.7/6,ML3.0/4,Error ellipse: s-maj=47.8km s-min=12.7km az=45.0*

*NNC **01** 04:29:42.8±4.2,44°.00N×87°.91E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=31.5km s-min=26.4km az=99.0*

ISC 01 04:29:43.0±1.3,44°.03N±0°.09×88°.05E±0°.10,h18km,n10, σ2s09/18,4C-6D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.91**	**306**	Pn	**Pn**	**04 30 58.5**	**+2.5**
	1.0nm,0.2s,baz=118,slow=15,SNR=91						
MK31				⇓Sn	**Sn**	**04 31 55.0**	**+2.8**
	4.9nm,0.3s,baz=126,slow=28,SNR=11						
MK31				⇓Lg	Lg	04 32 22.7	
	5.4nm,0.3s,baz=106,slow=28,SNR=3.9						
MKAR	**Makanchi Array**	**4.91**	**306**	Pn	**Pn**	**04 30 58.5**	**+2.5**
	1.8nm,0.3s,baz=125,slow=13,SNR=53						
MKAR				Sn	**Sn**	**04 31 53.8**	**+1.6**
	11nm,0.3s,baz=127,slow=25,SNR=14						
MKAR				Lg	Lg	04 32 19.0	
	7.6nm,0.3s,baz=114,slow=26,SNR=6.0						
	4.0nm,0.4s						
MAKZ	**Makanchi**	**5.10**	**305**	⇓Pn	**Pn**	**04 31 00.5**	**+2.0**
	4.7nm,0.3s						
MAKZ				⇑Sn	**Sn**	**04 31 58.6**	**+1.6**
	15nm,0.3s						
MAKZ				⇑Lg	Lg	04 32 29.1	
	6.9nm,0.4s						
PDGK	**Podgornoye**	**6.25**	**267**	⇓Pn	**Pn**	**04 31 14.7**	**+0.3**
	1.4nm,0.3s						
PDGK				⇑Sn	**Sn**	**04 32 26.8**	**+1.4**
	4.6nm,0.5s						
PDGK				⇑Lg	Lg	04 32 57.1	
	9.1nm,0.6s						

KURBB	**Kurchatov Arra**	**9.23**	**319**	⇓Pn		**Pn**	**04 31 55.1**	**0.0**
	0.8nm,0.2s							
KURBB				⇓Sn		**Sn**	**04 33 38.4**	**0.0**
	6.1nm,0.3s							
KURBB	**Kurchatov Arra**	**9.23**	**319**	Pn		**Pn**	**04 31 56.4**	**+1.2**
	0.3nm,0.3s,baz=132,slow=12,SNR=13							
KURBB				Sn		**Sn**	**04 33 38.9**	**+0.5**
	0.3nm,0.3s,baz=126,slow=30,SNR=4.9							
	1.2nm,0.4s							
ZALV	**Zalesovo Beam**	**10.15**	**349**	Pn		**Pn**	**04 32 08.1**	**+0.3**
	0.2nm,0.3s,baz=166,slow=13,SNR=2.3							
ZALV				Sn		**Sn**	**04 34 00.7**	**-0.4**
	0.9nm,0.3s,baz=176,slow=22,SNR=5.4							
	0.7nm,0.3s							
BVAR	**Borovoye Array**	**14.73**	**314**	Pn		**Pn**	**04 33 09.5**	**-0.8**
	baz=119,slow=14,SNR=2.6							
BVAR				Sn		**Sn**	**04 35 47.4**	**-5.6**
	0.1nm,0.3s,baz=115,slow=24,SNR=5.4							
	0.4nm,0.3s							
WRA	**Warramunga Arr**	**76.46**	**136**	P		**P**	**04 41 31.3**	**-0.4**
	1.3nm,0.7s,baz=340,slow=6.1,SNR=11							
	1.3nm,0.7s							
ASAR	**Alice Springs**	**79.39**	**138**	P		**P**	**04 41 47.9**	**0.0**
	0.8nm,0.6s,baz=336,slow=5.9,SNR=6.3							
	0.8nm,0.6s							

*SNET **01** 04:34:55.5±1.1,13°.11N×89°.49W,h43km±23km,ML2.6*
*CATAC **01** 04:35:07.5±0.4,14°.N±3°.×9°.0W±°.,h4km±1km,M2.1/15, MLv2.1/15,Error ellipse: s-maj=7.8km s-min=2.8km az=25.5,confirmed*

ISC 01 04:35:07.7±0.9,13°.73N±0°.04×89°.53W±0°.03,h10km,n32, σ2s47/36,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.11**	**137**	*e*P	**Pg**	**04 35 07.1**	**-3.5**
JAYA				eS	**Sg**	**04 35 15.8**	**+3.1**
JAYA				IAML		04 35 17.4	
	comp=Z,292nm,0.1s						
JAYA	**Jayaque - finc**	**0.11**	**137**	S	**Sg**	**04 35 12.8**	**+0.1**
JAYA	**Jayaque - finc**	**0.11**	**137**	P	**Pg**	**04 35 10.2**	**-0.4**
CEDA	**San Andres**	**0.14**	**62**	P	**Pg**	**04 35 10.7**	**-0.4**
SNJE	**San Jose**	**0.15**	**329**	*e*P	**Pg**	**04 35 10.1**	**-1.3**
SNJE				eS	**Sg**	**04 35 21.5**	**+7.7**
PMON	**Piamonte**	**0.21**	**96**	S	**Sg**	**04 35 16.5**	**+1.4**
PMON	**Piamonte**	**0.21**	**96**	P	**Pg**	**04 35 12.3**	**+0.1**
UEES	**Universidad Ev**	**0.28**	**94**	P	**Pg**	**04 35 13.5**	**+0.1**
SEMO	**Seminario San**	**0.29**	**96**	P	**Pg**	**04 35 14.0**	**+0.3**
NUBE	**Las Nubes**	**0.30**	**304**	*e*P	**Pg**	**04 35 10.8**	**-3.1**
NUBE				eS	**Sg**	**04 35 22.3**	**+1.9**
NUBE	**Las Nubes**	**0.30**	**304**	S	**Sg**	**04 35 17.8**	**-0.1**
NUBE	**Las Nubes**	**0.30**	**304**	P	**Pg**	**04 35 12.9**	**-0.9**
LALI	**Alcalda de L**	**0.32**	**141**	P	**Pg**	**04 35 14.5**	**+0.5**
UTEC	**Universidad Te**	**0.32**	**96**	P	**Pg**	**04 35 14.6**	**+0.5**
IGN	**Direccin Gen**	**0.35**	**93**	P	**Pg**	**04 35 15.4**	**+0.7**
LOMA	**Loma Larga**	**0.35**	**105**	*e*P	Pg	04 35 08.3	-6.6
LOMA				eS	**Sg**	**04 35 17.6**	**-2.0**
LOMA	**Loma Larga**	**0.35**	**105**	P	**Pg**	**04 35 15.4**	**+0.5**
PANCS	**Alcalda de**	**0.36**	**110**	P	**Pg**	**04 35 15.4**	**+0.6**
SLOZ	**Alcaldia de Sa**	**0.38**	**319**	*e*P	**Pg**	**04 35 12.7**	**-2.7**
SLOZ				eS	**Sb**	**04 35 26.7**	**+4.0**
SLOZ	**Alcaldia de Sa**	**0.38**	**319**	P	**Pg**	**04 35 14.5**	**-0.9**
FAME	**Alcaldia de Sa**	**0.49**	**283**	S	**Sb**	**04 35 24.0**	**-1.7**
FAME	**Alcaldia de Sa**	**0.49**	**283**	P	**Pg**	**04 35 16.5**	**-0.8**
PAVA	**Las Pavas**	**0.57**	**92**	*e*P	Pg	04 35 10.9	-8.0
PAVA				eS	**Sg**	**04 35 23.2**	**-3.2**
PAVA	**Las Pavas**	**0.57**	**92**	P	**Pg**	**04 35 19.3**	**+0.4**
COEG	**Centro de Oper**	**0.64**	**100**	*e*P	Pg	04 35 10.3	-10
COEG				eS	**Sg**	**04 35 21.9**	**-6.6**
COEG				IAML		04 35 24.1	
	comp=Z,171nm,0.2s						
MTO3	**Montecristo**	**0.68**	**14**	*i* P	**Pg**	**04 35 17.2**	**-3.8**
MTO3	**Montecristo**	**0.68**	**14**	P	**Pg**	**04 35 20.0**	**-1.0**
TECO	**Alcaldia de Te**	**0.75**	**105**	P	**Pg**	**04 35 22.6**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.78**	**92**	P	**Pg**	**04 35 23.1**	**+0.4**
PACA	**Pacayal**	**1.20**	**103**	P	**Pn**	**04 35 30.5**	**-0.2**
MARCA	**Marcala la Paz**	**1.51**	**74**	P	**Pn**	**04 35 35.3**	**+0.4**
LCND	**La Caada**	**1.65**	**105**	P	**Pb**	**04 35 38.0**	**-0.2**

*JMA **01** 04:43:29.6±0.2,25°.N±1°.×122°.4E±0°.5,h7km,MV2.6/9,NW OFF ISHIGAKIJIMA IS*
*TAP **01** 04:43:29.6,24°.91N×122°.44E,h20km,ML3.3,C*

ISC 01 04:43:29.6±1.0,24°.90N±0°.02×122°.43E±0°.02,h13km±8km, n90,σ0s58/137,1C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.41**	**286**	*i* P	**Pb**	**04 43 38.4**	**-0.4**
TWB1				S	**Sg**	**04 43 44.2**	**+0.8**
EGS		**0.45**	**264**	P	**Pb**	**04 43 39.4**	**-0.1**
EOS2	**EOS2**	**0.51**	**201**	*i* P	**Pb**	**04 43 40.6**	**+0.3**
EOS2				*i* S	**Sb**	**04 43 48.6**	**+1.0**
SXI1	**Grass Mountain**	**0.54**	**292**	⇓*i* P	**Pb**	**04 43 41.1**	**+0.2**
SXI1				S	**Sb**	**04 43 49.0**	**+0.3**
TIPB	**Shuangxi**	**0.55**	**278**	⇑*i* P	**Pb**	**04 43 41.3**	**+0.2**
TIPB				S	**Sb**	**04 43 49.2**	**+0.2**
TWC	**Suao**	**0.60**	**242**	P	**Pg**	**04 43 41.3**	**0.0**
TWC				eS	**Sg**	**04 43 49.1**	**-0.1**
NWF	**Wu-fen Shan**	**0.61**	**287**	P	**Pb**	**04 43 41.6**	**+0.4**
NWF				S	**Sb**	**04 43 50.9**	**+0.1**
WFSB	**Wu-fen Shan**	**0.61**	**287**	P	**Pb**	**04 43 42.4**	**+0.2**
WFSB				S	**Sb**	**04 43 50.6**	**-0.1**
EOS3	**EOS3**	**0.61**	**189**	P	**Pb**	**04 43 42.4**	**+0.3**
EOS3				S	**Sn**	**04 43 52.7**	**-0.9**
ESAO	**Su ao**	**0.62**	**239**	*e*P	**Pg**	**04 43 42.0**	**+0.3**
ESAO				eS	**Sg**	**04 43 49.6**	**-0.2**
JYNG	**Yonagunijimaku**	**0.65**	**133**	P	**Pg**	**04 43 42.0**	**-0.2**
JYNG				S	**Sg**	**04 43 51.0**	**+0.3**
TNOU	**National Taiwa**	**0.65**	**293**	*e*P	**Pb**	**04 43 42.5**	**-0.2**
TNOU				S	**Sb**	**04 43 51.9**	**+0.2**
YOJ	**Yonaguni jima**	**0.68**	**129**	P	**Pg**	**04 43 42.6**	**-0.3**
YOJ	**Yonaguni jima**	**0.68**	**129**	P	**Pg**	**04 43 42.9**	**0.0**
YOJ				S	**Sg**	**04 43 51.5**	**-0.4**
YOJ	**Yonaguni jima**	**0.68**	**129**	P	**Pg**	**04 43 42.7**	**-0.2**
YOJ				S	**Sg**	**04 43 51.5**	**-0.4**
NDS	**Dongshan**	**0.70**	**248**	P	**Pg**	**04 43 42.7**	**-0.4**
TWE	**Neicheng**	**0.71**	**256**	P	**Pg**	**04 43 43.6**	**+0.2**
TWE				eS	**Sg**	**04 43 52.9**	**+0.1**
EWUT	**Wuta**	**0.74**	**233**	P	**Pg**	**04 43 43.8**	**-0.2**
EWUT				eS	**Sb**	**04 43 54.3**	**-0.1**
NWRT	**Kuosheng**	**0.76**	**294**	*e*P	**Pb**	**04 43 44.8**	**+0.1**
NWRT				eS	**Sb**	**04 43 55.7**	**+0.8**
TWA	**Mucha**	**0.77**	**276**	P	**Pb**	**04 43 44.9**	**0.0**
TWA				eS	**Sb**	**04 43 55.4**	**+0.1**
FUSB	**Fushanzhiwuyua**	**0.78**	**260**	P	**Pg**	**04 43 44.6**	**0.0**
FUSB				S	**Sb**	**04 43 56.1**	**+0.6**
EOS4	**EOS4**	**0.78**	**187**	*e*P	**Pb**	**04 43 45.2**	**+0.4**
ENA	**Nanau**	**0.78**	**233**	*e*P	**Pg**	**04 43 44.6**	**-0.1**
ENA				eS	**Sg**	**04 43 54.6**	**-0.3**
PCYT	**Pengchaiyu**	**0.80**	**336**	P	**Pg**	**04 43 44.7**	**-0.4**
PCYT				eS	**Sb**	**04 43 56.7**	**+0.6**
YM08	**YM08**	**0.81**	**291**	P	**Pg**	**04 43 45.2**	**-0.1**
YM01	**YM01**	**0.82**	**288**	P	**Pg**	**04 43 45.6**	**+0.2**
YM01				eS	**Sb**	**04 43 56.9**	**+0.2**
NHDH	**Xindian Distri**	**0.82**	**275**	*e*P	**Pb**	**04 43 46.0**	**+0.3**
ENTT	**Nioudou**	**0.82**	**252**	*e*P	**Pb**	**04 43 46.0**	**+0.2**
ENTT				eS	**Sn**	**04 43 58.1**	**-0.9**
TWY	**Chenhua**	**0.84**	**297**	P	**Pg**	**04 43 45.9**	**+0.1**
TWY				eS	**Sn**	**04 43 58.5**	**-1.0**
EAHA	**Aohua**	**0.84**	**228**	P	**Pb**	**04 43 46.1**	**0.0**
EAHA				eS	**Sg**	**04 43 57.0**	**0.0**
ZUZH	**Zhuzihu**	**0.84**	**288**	*e*P	**Pb**	**04 43 46.1**	**0.0**
NWLT	**Wulai**	**0.85**	**262**	P	**Pb**	**04 43 46.2**	**0.0**
NWLT				eS	**Sb**	**04 43 57.7**	**+0.2**
LATG	**Datong**	**0.90**	**247**	P	**Pb**	**04 43 47.2**	**+0.1**
LATG				S	**Sb**	**04 43 59.0**	**0.0**
TWS1	**Kuangyinshan**	**0.94**	**283**	*e*P	**Pb**	**04 43 47.7**	**-0.1**
YHNB	**Yeheng**	**0.98**	**257**	P	**Pg**	**04 43 48.8**	**+0.2**
YHNB	**Yeheng**	**0.98**	**257**	P	**Pb**	**04 43 48.3**	**-0.2**
NSK	**Sanguang**	**1.00**	**258**	*e*P	**Pb**	**04 43 48.7**	**-0.1**
NSK				eS	**Sb**	**04 44 01.4**	**-0.5**
ETL	**Fush Village**	**1.04**	**225**	P	**Pg**	**04 43 49.7**	**+0.1**
ETL				eS	**Sg**	**04 44 03.2**	**+0.1**
NACB	**Ninganchiao**	**1.04**	**227**	P	**Pb**	**04 43 49.3**	**-0.3**
NACB	**Ninganchiao**	**1.04**	**227**	S	**Sb**	**04 44 03.3**	**+0.1**
NACB	**Ninganchiao**	**1.04**	**227**	P	**Pb**	**04 43 49.0**	**-0.5**
NACB				S	**Sb**	**04 44 02.5**	**-0.6**
NNSB	**Datong**	**1.06**	**244**	P	**Pb**	**04 43 49.7**	**-0.2**
NNSB				S	**Sb**	**04 44 03.7**	**0.0**

NNS	**Nan Shan**	**1.06**	**245**	*e*P		**Pb**	**04 43 49.9**	**0.0**
NNS				eS		**Sb**	**04 44 03.8**	**0.0**
ETLH	**Xiulin Townshi**	**1.10**	**232**	*e*P		**Pb**	**04 43 50.4**	**-0.1**
ETLH				eS		**Sb**	**04 44 04.8**	**-0.1**
TWD	**Chiawan**	**1.11**	**223**	P		**Pb**	**04 43 50.6**	**-0.1**
TWD				S		**Sb**	**04 44 05.3**	**+0.2**
KSHI	**Guanxi Townshi**	**1.14**	**264**	*e*P		**Pg**	**04 43 51.5**	**-0.1**
NFF	**Wufeng Townshi**	**1.22**	**258**	*e*P		**Pn**	**04 43 52.4**	**-0.1**
FUSS	**Fushou**	**1.26**	**239**	*e*P		**Pg**	**04 43 53.8**	**0.0**
FUSS				eS		**Sn**	**04 44 09.9**	**-0.2**
ETM	**Tongmen**	**1.26**	**223**	*e*P		**Pb**	**04 43 53.3**	**+0.1**
LXIB	**Xiulin Townshi**	**1.27**	**227**	*e*P		**Pn**	**04 43 53.2**	**0.0**
LXIB				eS		**Sn**	**04 44 10.2**	**-0.1**
WHF	**Hehuan Shan**	**1.30**	**235**	P		**Pb**	**04 43 54.3**	**+0.2**
WHF				S		**Sn**	**04 44 11.1**	**-0.2**
TWT	**Tachien**	**1.31**	**241**	*e*P		**Pb**	**04 43 54.4**	**+0.3**
TWT				eS		**Sg**	**04 44 11.7**	**-0.1**
LIOB	**Emei**	**1.31**	**259**	*e*P		**Pn**	**04 43 53.4**	**-0.3**
TDCB	**Techi**	**1.32**	**241**	P		**Pb**	**04 43 54.3**	**-0.1**
TDCB				eS		**Sn**	**04 44 11.5**	**0.0**
NSTT	**Nanjuang**	**1.32**	**259**	*e*P		**Pn**	**04 43 53.8**	**0.0**
SHUL	**Shoufeng**	**1.36**	**216**	*e*P		**Pg**	**04 43 55.5**	**-0.2**
ESL	**Shilin**	**1.41**	**220**	*e*P		**Pg**	**04 43 56.4**	**-0.3**
OWD	**Renai**	**1.48**	**231**	*e*P		**Pb**	**04 43 56.8**	**-0.2**
OWD				eS		**Sb**	**04 44 16.3**	**+0.6**
WHP	**Taichung City**	**1.48**	**246**	P		**Pb**	**04 43 57.6**	**+0.5**
WHP				eS		**Sb**	**04 44 16.2**	**+0.3**
WUSB	**Renai**	**1.50**	**233**	P		**Pb**	**04 43 57.5**	**+0.2**
WUSB				eS		**Sg**	**04 44 17.2**	**-0.6**
HATJ	**Hateruma jima**	**1.51**	**123**	*e*P		**Pb**	**04 43 57.4**	**0.0**
WARBT	**Fenglin Townsh**	**1.51**	**219**	*e*P		**Pn**	**04 43 56.0**	**-0.4**
WCS	**Beigang Elemen**	**1.61**	**239**	*e*P		**Pb**	**04 43 59.0**	**+0.2**
WCS				eS		**Sb**	**04 44 19.7**	**+0.1**
VWDT	**VWDT**	**1.63**	**226**	*e*P		**Pn**	**04 43 58.7**	**+0.6**
JIJ	**Ishigaki jima**	**1.65**	**108**	*e*S		**Sb**	**04 44 20.8**	**+0.3**
HGSD	**Ruisui**	**1.67**	**213**	*e*P		**Pn**	**04 43 59.1**	**+0.5**
EHYH	**Wanrong**	**1.71**	**216**	*e*P		**Pb**	**04 44 00.7**	**-0.2**
EHY	**Hungye**	**1.71**	**216**	*e*P		**Pn**	**04 43 59.7**	**+0.5**
SMLT	**Sun Moon Lake**	**1.72**	**234**	*e*P		**Pb**	**04 44 01.2**	**0.0**
SSLB	**Suanglung**	**1.74**	**231**	P		**Pb**	**04 44 00.8**	**-0.6**
SSLB	**Suanglung**	**1.74**	**231**	*e*P		**Pb**	**04 44 00.8**	**-0.6**
JISG	**Ishigakijimahi**	**1.74**	**100**	*e*P		**Pn**	**04 44 00.1**	**+0.5**
JISG				eS		**Sb**	**04 44 23.0**	**-0.2**
YULB	**Yu-li**	**1.82**	**215**	P		**Pb**	**04 44 03.2**	**+0.4**
YULB	**Yu-li**	**1.82**	**215**	*e*P		**Pn**	**04 44 00.8**	**+0.2**
TWF1	**Yuli**	**1.85**	**214**	*e*P		**Pn**	**04 44 00.8**	**-0.2**
WHYT	**Xinyi Township**	**1.87**	**231**	*e*P		**Pb**	**04 44 02.9**	**-0.8**
WJS	**Zhushan**	**1.88**	**236**	*e*P		**Pb**	**04 44 04.1**	**+0.3**
FULB	**Fuli**	**1.98**	**212**	*e*P		**Pn**	**04 44 03.3**	**+0.3**
ALS	**Alishan**	**2.02**	**227**	*e*P		**Pb**	**04 44 05.3**	**-1.2**
CHN5	**Tsauling**	**2.06**	**231**	*e*P		**Pb**	**04 44 06.1**	**-0.8**
EHD	**Haiduan**	**2.07**	**213**	*e*P		**Pn**	**04 44 04.6**	**+0.5**
ELDTW	**Lidau**	**2.13**	**217**	*e*P		**Pn**

TABAC **Tabacon** 1.43 87 *eP* Pb 04 58 18.0 -0.4
CASO **Castillo** 1.46 89⇑ *iP* Pn 04 58 18.3 +0.2
ARE1 **Arenal 1** 1.48 88⇑ *iP* Pb 04 58 18.8 -0.3
VARE2 **V. Arenal** 1.48 88⇑ *iP* Pb 04 58 18.9 -0.3
VARE2 *eS* Sg 04 58 43.0 +3.9
CEDE **Laguna Cedeo** 1.50 87⇑ *iP* Pn 04 58 18.7 +0.2
NANN **Nandasmo** 1.52 4 S Sg 04 58 40.4 +0.1
NANN **Nandasmo** 1.52 4⇑ P Pb 04 58 19.7 -0.1
VACR **Volcan Arenal** 1.52 88⇑ *iP* Pb 04 58 19.3 -0.5
ROBF **Roble, Puntare** 1.52 106 *eP* Pn 04 58 18.6 -0.3
FORC **Fortuna** 1.53 88⇑ *iP* Pb 04 58 19.4 -0.6
SABN **Sabanita** 1.53 2⇑ P Pn 04 58 19.2 +0.2
TUNA **La Fortuna** 1.55 88 *eP* Pn 04 58 19.3 0.0
SOCE **Pocosol** 1.58 91 Pn Pn 04 58 18.6 -1.0
SOCE **Pocosol** 1.58 91 *eP* Pn 04 58 20.0 +0.3
SOCE **Pocosol** 1.58 91⇑ *iP* Pb 04 58 20.2 -0.7
ARZA **Esparza** 1.59 105 *eP* Pg 04 58 23.2 +1.3
MAS3 **Al N del Volca** 1.60 2⇑ P Pb 04 58 20.8 -0.4
LCHIL **Los Chiles** 1.60 67 *eP* Pb 04 58 21.3 0.0
UNAN **Cigeo UNAN** 1.68 358⇑ P Pb 04 58 22.4 -0.2
UNAN S Sg 04 58 45.1 -0.6
MGAN **Managua** 1.72 359 Pn Pn 04 58 22.3 +0.7
MGAN **Managua** 1.72 359⇑ *iP* Pb 04 58 22.4 -0.8
MGAN **Managua** 1.72 359 S Sg 04 58 46.0 -0.8
MGAN **Managua** 1.72 359⇑ P Pb 04 58 22.8 -0.5
WILN **Americas 2** 1.73 1⇓ P Pb 04 58 22.9 -0.6
OROT **Orotina** 1.74 107 *eP* Pn 04 58 21.4 -0.6
SRA1 **San Ramn** 1.75 101 *eP* Pn 04 58 22.1 0.0
SAPS **Ciudad Sandino** 1.75 354 S Sg 04 58 47.2 -0.6
SAPS **Ciudad Sandino** 1.75 354⇑ P Pb 04 58 23.2 -0.6
RAMO **San Ramon** 1.76 101 *eP* Pn 04 58 21.6 -0.7
QUEU **Ciudad Quesada** 1.76 93 *eP* Pb 04 58 23.0 -0.6
BITO **Garabito Jaco** 1.77 117 *eP* Pg 04 58 25.4 0.0
COPN **Copaltepe** 1.79 348⇑ *eP* Pn 04 58 23.2 +0.7
PALD **Palmares** 1.79 101 *eP* Pn 04 58 22.8 0.0
VPL2 **V. Platanar** 1.81 93 *eP* Pn 04 58 23.3 +0.3
COVE **Coope Vega, Sa** 1.81 80 S Sb 04 58 48.3 +0.6
COVE **Coope Vega, Sa** 1.81 80 ⇓P Pb 04 58 24.0 -0.9
ZARE **Zarcero** 1.82 97 *eP* Pb 04 58 24.2 -0.9
APQ3 **Volcan Apoyequ** 1.85 356 P Pb 04 58 25.2 -0.2
APQ3 S Sb 04 58 49.7 +1.0
ACON **Acoyapa** 1.85 34 Pn Pn 04 58 23.3 -0.1
ACON **Acoyapa** 1.85 34⇑ *iP* Pn 04 58 23.5 +0.1
ACON *eS* Sn 04 58 47.2 +0.3
ACON **Acoyapa** 1.85 34 S Sg 04 58 50.1 -1.0
ACON **Acoyapa** 1.85 34 P Pn 04 58 24.1 +0.7
ATEO **Atenas** 1.86 103 *eP* Pn 04 58 23.3 -0.3
GREC **Grecia** 1.91 100 *eP* Pb 04 58 25.8 -0.9
ITAL **Pital** 1.92 89 *eP* Pn 04 58 24.0 -0.3
TCS1 **Tacares** 1.93 101 *eP* Pb 04 58 27.2 +0.3
TCS1 **Tacares** 1.93 101 P Pb 04 58 25.6 -1.3
VPS8 **V Poas** 1.96 97 *eP* Pn 04 58 25.4 +0.2
VPS5 **V. Poas** 1.97 96 *eP* Pb 04 58 28.1 +0.3
MOMN **Momotombo** 2.00 351 ⇓P Pn 04 58 26.7 +1.1
MOM2 **El Cardon** 2.02 353 ⇑P Pn 04 58 26.9 +1.1
BELE **Belen** 2.05 102 *eP* Pn 04 58 26.4 +0.2
SANTA **Santa Ana** 2.06 103 *eP* Pg 04 58 30.0 -1.1
BOAB **BOACO BROADBAN** 2.09 15 Pn Pn 04 58 27.1 +0.4
BOAB **BOACO BROADBAN** 2.09 15 S Sb 04 58 55.7 0.0
BOAB **BOACO BROADBAN** 2.09 15 ⇑P Pn 04 58 27.7 +1.0
HEME **Heredia, Merce** 2.10 101 *eP* Pn 04 58 24.8 -2.1
PAR1A **Puntarenas Pro** 2.10 113 *eP* Pn 04 58 27.8 +0.9
VBV1 **V. Barva** 2.11 98 *eP* Pb 04 58 30.7 +0.6
HDC **Heredia** 2.12 101 Pn Pn 04 58 26.6 -0.5
HDC **Heredia** 2.12 101 *eP* Pn 04 58 27.6 +0.4
HDC **Heredia** 2.12 101 ⇑P Pn 04 58 27.8 +0.7
HDC S Sb 04 58 27.0 -0.8
ACOS **Acosta** 2.12 107 *eP* Pn 04 58 27.0 -0.2
CNGN **Cerro Negro** 2.12 347 Pn Pn 04 58 27.3 +0.1
CNGN **Cerro Negro** 2.12 347 ⇑P Pn 04 58 28.0 +0.8
CNGN **Cerro Negro** 2.12 347 S Sb 04 58 56.5 -0.2
DOMI **Santo Domingo** 2.14 101 *eP* Pb 04 58 29.8 -0.7
PICV **PH. Pirrs** 2.15 111 *eP* Pn 04 58 25.9 -1.6
LUPE **Guadalupe** 2.18 102 *eP* Pn 04 58 28.2 +0.1
AMPA **Desamparados** 2.19 104 *eP* Pg 04 58 32.3 -1.2
ECI **Escuela Centro** 2.19 102 *eP* Pn 04 58 24.4 -3.8
PISJ **San Jernim** 2.21 111 *eP* Pn 04 58 29.3 +0.8
PLRN **Geotermica Pol** 2.22 346 P Pn 04 58 28.9 +0.4
CORON **Coronado** 2.23 101 *eP* Pb 04 58 30.9 -1.1
ABE2 **San Pablo** 2.25 108 *eP* Pn 04 58 29.1 0.0
TRIO **Tres Rios** 2.25 103 *eP* Pb 04 58 33.0 +0.6
HERN **Volcan Telica** 2.26 345 Pn Pn 04 58 29.6 +0.5
CVIMO **Finca Echandi** 2.28 100 *eP* Pn 04 58 30.0 +0.5
LCR2 **La Lucha 2** 2.28 107 Pn Pn 04 58 28.5 -1.1
LCR2 **La Lucha 2** 2.28 107 *eP* Pn 04 58 29.1 -0.2
LCR2 **La Lucha 2** 2.28 107 S Sb 04 58 59.7 -1.8
LCR2 **La Lucha 2** 2.28 107 P Pn 04 58 30.0 +0.4
LLNJ **Naranjito** 2.29 114 *eP* Pn 04 58 30.8 +1.4
PIEC **Cerro El Cedra** 2.37 109 *eP* Pn 04 58 30.0 -0.7
VICA **Volcano Irazu** 2.38 100 *eP* Pn 04 58 31.4 +0.4
REPA **Paraso** 2.39 104 *eP* Pn 04 58 32.4 +1.4
PILE **Guapiles** 2.40 95 *eP* Pn 04 58 28.2 -2.8
CRIN **San Cristobal** 2.41 340 Pn Pn 04 58 31.9 +0.7
CRIN **San Cristobal** 2.41 340 S Sn 04 59 02.9 +2.1
CRIN **San Cristobal** 2.41 340 ⇓P Pn 04 58 32.1 +0.9
RAFA **San Farael, Vo** 2.42 101 *eP* Pn 04 58 33.1 +1.7
VTLA **Turrialba Volc** 2.44 100 *eP* Pb 04 58 34.2 -1.6
CARI **Cariari** 2.45 91 *eP* Pg 04 58 37.0 -1.4
TRT2 **Tortugero** 2.45 87 *eP* Pn 04 58 33.4 +1.7
TRT2 **Tortugero** 2.45 87 ⇓P Pn 04 58 31.6 0.0
CVTQ **Turrialba Volc** 2.45 99 *eP* Pn 04 58 32.8 +0.8
VTR0 **Volcan Turrial** 2.46 99 *eP* Pb 04 58 36.6 +0.5
CVTV **Tajo** 2.47 99 *eP* Pn 04 58 33.9 +1.7
VINA **Juan Vinas** 2.49 102 *eP* Pb 04 58 34.4 -2.1
ABRB **Las Abras (San** 2.50 99 *eP* Pn 04 58 33.0 +0.4
MATN **Matagalpa** 2.51 7 S Sb 04 59 06.3 -1.6
MATN **Matagalpa** 2.51 7⇑ P Pn 04 58 32.7 +0.1
VERB **Verbena** 2.53 100 *eP* Pb 04 58 34.9 -2.3
RESJ **San Isidro (Tu** 2.57 98 *eP* Pb 04 58 36.0 -1.8
ESPN **Las Esperanzas** 2.58 47 Pn Pn 04 58 33.3 -0.1
ESPN **Las Esperanzas** 2.58 47 *eP* Pn 04 58 33.9 +0.4
ESPN **Las Esperanzas** 2.58 47 P Pn 04 58 35.0 +1.5
RVLA **Villa Bonita** 2.61 97 *eP* Pn 04 58 35.8 +2.0
IRES **Siquirres** 2.69 97 *eP* Pb 04 58 37.4 -2.5
OCHAL **Ojochal** 2.86 117 S Sn 04 59 13.7 +1.9
OCHAL **Ojochal** 2.86 117 P Pn 04 58 37.4 +0.1
POTN **Potosi Cosigui** 2.86 334 *eP* Pn 04 58 38.8 +1.5
POTN **Potosi Cosigui** 2.86 334 P Pn 04 58 38.7 +1.5
SAJE **San Jernim** 2.88 111 *eP* Pn 04 58 39.0 +1.3
EDPE **Pejibaye, P** 2.90 115 *eP* Pn 04 58 38.7 +0.8
VERH **Veragua Rainfo** 3.02 99 *eP* Pn 04 58 40.4 +0.8
RCVN **Varillal2** 3.15 0 P Pn 04 58 43.1 +1.7
DRK0 **Durika** 3.15 111 *eP* Pn 04 58 41.4 0.0
DRK0 **Durika** 3.15 111 ⇑P Pn 04 58 41.9 +0.4
CNCH **Conchagua** 3.25 331 P Pn 04 58 44.0 +1.3
LCND **La Caada** 3.31 331 ⇓P Pn 04 58 44.9 +1.4
BRIBI **Bribri** 3.44 103 *eP* Pn 04 58 46.9 +1.6
ALCO **Alturas Coton,** 3.65 113 *eP* Pn 04 58 48.1 -0.1
PACA **Pacayal** 3.66 326 ⇓P Pn 04 58 49.6 +1.1
TGUH **Tegucigalpa,Un** 3.76 344 Pn Pn 04 58 51.0 +1.3
BRU2 **Volcan** 3.84 115 Pn Pn 04 58 48.9 -2.0
MARCA **Marcala la Paz** 4.12 335 *eP* Pn 04 58 56.3 +1.6
MARCA *iS* Sn 04 59 42.3 -0.8
JAYA **Jayaque - finc** 4.51 316 *iP* Pn 04 59 02.4 +2.3
JAYA *eS* Sn 04 59 51.0 -1.8
NUBE **Las Nubes** 4.91 315 *iP* Pn 04 59 07.5 +1.9
NUBE *eS* Sn 04 59 59.8 -2.8
SARH **Santa Rosa de** 4.99 330 *iP* Pn 04 59 09.6 +2.9
MTO3 **Montecristo** 5.00 323 Pn Pn 04 59 09.2 +2.2
RTAL **Retalhuleu** 6.72 308 Pn Pn 04 59 34.3 +3.8
CCIG **Comitan** 8.19 316 Pn Pn 04 59 53.6 +2.9
CCIG **Comitan** 8.19 316 *eP* Pn 04 59 54.5 +3.7
CMIG **Matias Romero** 10.71 309 Pn Pn 05 00 27.9 +2.8
0.3nm,0.3s,baz=134,slow=8.7,SNR=4.3
3.0nm,0.7s
TLIG **Tlapa** 13.92 302 Pn Pn 05 01 13.0 +3.8
SDV **Santo Domingo** 15.44 94 LR LR 05 08 42.1
comp=Z,89nm,19.4s,baz=280,slow=44
ATAH **Atahualpa** 19.10 156 LR LR
comp=Z,190nm,18.3s,baz=326,slow=33
TIGA **Tifton** 21.06 6 P 05 02 37.4 +1.5
TIGA IAmb IAmb 05 02 42.0
comp=Z,20nm,0.9s
HKT **Hockley** 21.40 337 P P 05 02 40.4 +0.8
HKT IAmb IAmb 05 02 47.8
comp=Z,16nm,1.2s
250A **Grady** 21.45 360 P P 05 02 40.1 0.0
250A IAmb IAmb 05 02 43.9
comp=Z,10nm,0.9s
833A **Chaparral WMA,** 21.68 327 P P 05 02 42.8 +0.1
833A IAmb IAmb 05 02 46.9
comp=Z,11nm,0.7s
MLDN **Muldoon** 21.77 334 P P 05 02 44.2 +0.7
152A **Waverly Hall** 22.19 3 P P 05 02 49.1 +1.1
146A **Union** 22.27 354 P P 05 02 48.4 -0.5
LRAL **Lakeview Retre** 22.52 358 P P 05 02 51.3 -0.3
LRAL IAmb IAmb 05 02 54.6
comp=Z,8.5nm,0.8s
NATX **Nacogdoches** 22.63 341 P P 05 02 53.2 +0.4
NATX IAmb IAmb 05 02 55.0
comp=Z,15nm,0.8s
Z47A **Carrollton** 22.74 356 P P 05 02 53.9 +0.1
Z47A IAmb IAmb 05 02 55.7
comp=Z,12nm,0.8s
435B **Jarrell** 22.85 334 P P 05 02 54.0 -1.1
435B IAmb IAmb 05 02 58.7
comp=Z,12nm,0.8s
GOGA **Godfrey** 23.02 6 P P 05 02 57.3 +0.4
DRIO **Del Rio** 23.21 327 P P 05 02 58.9 0.0
Y49A **Blount Mountai** 23.33 360 P P 05 02 59.5 -0.5
Y49A IAmb IAmb 05 03 01.8
comp=Z,12nm,0.7s
Y52A **Lilburn** 23.42 5 P P 05 03 00.2 -0.7
Y52A IAmb IAmb 05 03 01.9
comp=Z,15nm,1.1s
Z41A **Richland Creek** 23.52 346 P P 05 03 01.0 -0.9
Z41A IAmb IAmb 05 03 02.7
comp=Z,13nm,0.9s
Y45A **Yeager Farm, C** 23.54 353 P P 05 03 02.4 +0.3
JCT **Junction City** 23.63 330 P P 05 03 02.7 -0.4
BRDY **Brady** 23.91 332 P P 05 03 04.9 -0.9
BRDY IAmb IAmb 05 03 06.8
comp=Z,8.9nm,0.8s
X48A **Hartselle** 23.93 358 P P 05 03 04.8 -1.1
HODGE **Hodges** 23.98 8 P P 05 03 04.9 -1.5
HODGE IAmb IAmb 05 03 06.9
comp=Z,8.3nm,0.9s
WLAR **White Oak Lake** 24.01 346 P P 05 03 06.3 -0.3
WLAR IAmb IAmb 05 03 07.7
comp=Z,14nm,1.0s
FPAL **Fort Paine** 24.02 1 P P 05 03 05.4 -1.4
X51A **Calhoun** 24.07 3 P P 05 03 05.8 -1.4
X51A IAmb IAmb 05 03 07.4
comp=Z,10nm,0.8s
PLAL **Pickwick Lake** 24.51 356 IAmb IAmb 05 03 12.0
comp=Z,9.8nm,0.8s
PAULI **Pauline** 24.62 9 IAmb IAmb 05 03 13.0
comp=Z,10nm,0.8s
BG3 **Lake Jocassee** 24.65 6 IAmb IAmb 05 03 13.3
comp=Z,9.0nm,0.7s
W52A **Murphy** 24.65 5 IAmb IAmb 05 03 13.1
comp=Z,12nm,0.9s
W50A **Signal Mountai** 24.68 2 IAmb IAmb 05 03 12.9
comp=Z,8.7nm,0.9s
SWET **Sewanee** 24.69 1 IAmb IAmb 05 03 13.7
comp=Z,9.3nm,0.8s
FW06 **Azle** 24.76 337 IAmb IAmb 05 03 15.7
comp=Z,12nm,0.9s
UALR **University of** 24.88 348 P P 05 03 12.8 -1.8
UALR IAmb IAmb 05 03 14.6
comp=Z,13nm,0.9s
TXAR **Lajitas Array** 24.90 322 P P 05 03 15.9 +0.9
TXAR **Lajitas Array** 24.90 322 P P 05 03 16.4 +1.4
comp=Z,2.3nm,0.6s,baz=138,slow=9.7,SNR=35
TXAR PcP PcP 05 06 52.4 +1.6
comp=Z,0.7nm,0.8s,baz=134,slow=5.0,SNR=7.7
comp=Z,2.3nm,0.6s
PLPT **Palo Pinto** 24.92 335 IAmb IAmb 05 03 17.3
comp=Z,9.3nm,1.0s
MIAR **Mount Ida** 24.94 345 IAmb IAmb 05 03 22.4
comp=Z,8.7nm,0.8s
KMSC **Kings Mountain** 25.01 10 IAmb IAmb 05 03 24.8
comp=Z,11nm,1.1s
FW03 **Perin-Whitt E** 25.02 336 IAmb IAmb 05 03 16.6
comp=Z,7.6nm,0.7s
TKL **Tuckaleechee C** 25.22 5 LR LR 05 14 08.4
comp=Z,62nm,18.1s,baz=143,slow=40
V53A **Saluda** 25.33 6 IAmb IAmb 05 03 21.7
comp=Z,8.4nm,0.9s
ABTX **Abilene, Hawle** 25.33 333 IAmb IAmb 05 03 21.3
comp=Z,10nm,0.8s
WHAR **Wooly Hollow** 25.37 348 IAmb IAmb 05 03 19.0
comp=Z,9.6nm,1.0s
WTFS **Witchita Falls** 25.81 336 P P 05 03 24.0 +1.0
MNHN **Monahans** 25.86 326 IAmb IAmb 05 03 25.9
comp=Z,9.4nm,0.8s
U49A **Red Boiling Sp** 25.98 1 IAmb IAmb 05 03 24.5
comp=Z,6.4nm,0.9s
APMT **Aspermont** 26.14 333 P P 05 03 27.8 +1.7
APMT IAmb IAmb 05 03 29.1
comp=Z,5.8nm,0.8s
ODSA **Odessa** 26.35 327 P P 05 03 27.7 -0.4
ODSA IAmb IAmb 05 03 29.7
comp=Z,9.2nm,0.8s
T47A **Sharon Grove** 26.46 358 IAmb IAmb 05 03 28.4
comp=Z,8.9nm,0.9s
POST **Post** 26.57 330 P P 05 03 30.3 +0.3
POST IAmb IAmb 05 03 49.0
comp=Z,6.9nm,1.0s
WMOK **Wichita Mounta** 26.79 337 P P 05 03 33.8 +1.9
WMOK IAmb IAmb 05 03 35.3
comp=Z,9.8nm,0.8s
U38A **Gravette** 26.94 345 P P 05 03 31.4 -1.9
S51A **Beattyville** 27.21 5 IAmb IAmb 05 03 35.5
comp=Z,7.6nm,0.8s
WCI **Wyandotte Cave** 27.69 360 P P 05 03 38.1 -1.8
WCI IAmb IAmb 05 03 39.4
comp=Z,10.0nm,0.9s
MSTX **Muleshoe** 27.92 330 IAmb IAmb 05 03 44.0
comp=Z,7.9nm,0.9s
Q52A **Bidwell** 28.64 6 P P 05 03 46.5 -1.9
P53A **Whipple** 29.27 8 IAmb IAmb 05 03 54.2
comp=Z,9.0nm,0.9s
ANMO **Albuquerque** 30.61 326 P P 05 04 05.6 -0.5
X16A **Lo Mia Camp, P** 33.20 320 P P 05 04 29.3 +0.4
PV03 **Paradox Valley** 34.35 328 IAmb IAmb 05 04 40.7
comp=Z,2.0nm,0.6s
PV12 **Saucer Basin,** 34.37 328 P P 05 04 39.7 +0.6
PV17 **East Wray Mesa** 34.42 327 IAmb IAmb 05 04 41.4
comp=Z,4.0nm,0.7s
PV19 **Morning Glory** 34.46 327 IAmb IAmb 05 04 42.3
comp=Z,4.0nm,0.6s
PV10 **Paradox Valley** 34.54 327 IAmb IAmb 05 04 42.1
comp=Z,4.6nm,0.8s
PV23 **Canyon Ridg** 34.58 328 IAmb IAmb 05 04 43.3
comp=Z,4.2nm,0.9s
SADO **Sadowa** 34.77 9 LR LR 05 19 19.6
comp=Z,97nm,18.0s,baz=206,slow=38
SRU **San Rafael Swe** 35.87 327 IAmb IAmb 05 04 53.8
comp=Z,3.7nm,1.0s
SPR3 **Spring Creek 3** 37.93 323 P P 05 05 10.3 +0.5
PDAR **Pinedale Array** 38.12 332 P P 05 05 10.1 -1.1
comp=Z,0.6nm,0.7s,baz=120,slow=11,SNR=6.8
comp=Z,0.6nm,0.7s
MDND **Maddock** 38.98 346 P 05 05 15.7 -2.3
NV11 **Mina Array Sit** 39.92 320 P P 05 05 28.3 +2.0
NV11 IAmb IAmb 05 05 29.9
comp=Z,5.4nm,1.0s
NVAR **Mina Array Bea** 40.02 320 P P 05 05 29.1 +2.0
comp=Z,3.1nm,0.8s,baz=135,slow=7.5,SNR=22
NVAR PcP PcP 05 07 33.3 +1.1
comp=Z,0.9nm,0.7s,baz=144,slow=5.1,SNR=7.6
comp=Z,3.1nm,0.8s
LHV **Little Huntoon** 40.04 319 P P 05 05 28.9 +1.9
LHV IAmb IAmb 05 05 31.1
comp=Z,6.2nm,0.9s
HLID **Hailey** 41.09 328 P P 05 05 35.6 -0.3
LYMT **Lyon Mountain** 42.60 334 P P 05 05 46.8 -1.5
WVOR **Wild Horse Val** 42.65 324 P P 05 05 47.6 -0.9
BPMT **Black Pine Rid** 42.72 332 P P 05 05 47.8 -1.4
PINE **Pine Mountain** 44.81 324 P P 05 06 05.5 -0.5
PINE IAmb IAmb 05 06 08.3
comp=Z,5.8nm,0.9s
K02D **Willamette Mer** 45.80 321 P P 05 06 14.5 +0.8
H04A **Detroit Lake** 46.06 324 P P 05 06 16.7 +0.9
H04A IAmb IAmb 05 06 18.0
comp=Z,3.4nm,0.5s
J01E **Myrtle Point** 46.22 322 P P 05 06 18.6 +1.7
I02E **Swisshome, OR** 46.70 323 P P 05 06 21.4 +0.8
SCHQ **Schefferville** 46.89 15 P P 05 06 18.4 -3.6
comp=Z,2.0nm,0.7s,baz=200,slow=8.0,SNR=4.4
SCHQ LR LR 05 25 01.3
comp=Z,45nm,19.2s,baz=214,slow=36
comp=Z,2.0nm,0.7s
PLCA **Paso Flores** 52.92 165 P P 05 07 14.8 +6.7
comp=Z,2.5nm,0.9s,baz=297,slow=7.5,SNR=4.1
comp=Z,2.5nm,0.9s
FRB **Frobisher Bay** 54.71 10 LR LR 05 31 12.5
comp=Z,84nm,18.2s,baz=234,slow=37
SFJD **Kangerlussuaq** 61.34 15 LR LR 05 33 59.9
comp=Z,62nm,20.9s,baz=219,slow=36
BMRM **Bremner River** 65.90 333 P P 05 08 39.9 +2.3
ILAR **Eielson Array** 68.35 336 P P 05 08 52.3 -0.7
ILAR **Eielson Array** 68.35 336 P P 05 08 50.9 -2.2
comp=Z,0.5nm,0.9s,baz=85,slow=3.5,SNR=5.0
ILAR LR LR 05 42 44.0
comp=Z,32nm,18.6s,baz=122,slow=40
comp=Z,0.5nm,0.9s
BPAW **Bear Paw Mtn.** 69.78 335 P P 05 09 00.5 -1.4
BPAW IAmb IAmb 05 09 01.6
comp=Z,3.5nm,1.0s
VRAC **Vranov** 90.40 40 LR LR 05 50 38.2
comp=Z,15nm,19.1s,baz=320,slow=35
NRIK **Noril'sk** 100.32 2 LR LR 05 57 45.5
comp=Z,22nm,20.2s,baz=66,slow=36
MKAR **Makanchi Array** 122.13 9 PKP PKPdf 05 16 45.3 -1.6
comp=Z,0.3nm,0.6s,baz=341,slow=3.1,SNR=3.0
KSRS **Korea Array** 122.62 328 PKP PKPdf 05 16 47.9 -0.2
comp=Z,1.0nm,0.6s,baz=318,slow=1.6,SNR=4.7
TOLI2 **Tolitoli** 150.79 292 PKPdf PKPdf 05 17 40.1 +0.2
CMAR **Chiang Mai Arr** 150.86 350 PKPbc PKPbc 05 17 44.8 -0.7
comp=Z,1.4nm,0.3s,baz=334,slow=3.2,SNR=5.9

*NEIC **01** 05:04:20±0.7, 36°.333N±0°.009×97°.521W±0°.007, h8km±4km, Error ellipse: s-maj=1.3km s-min=0.9km az=171*

NEIC 01 05:04:19.8±0.6, 36°.330N±0°.005×97°.52W±0°.01, h4km±3km, mb_Lg2.3/26, ML2.5/42, ML2.6/58, Error ellipse: s-maj=1.3km s-min=0.8km az=98.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	0.41	295		Pg	05 04 28.2	+0.4
CROK					Sg	05 04 34.1	+0.9
OK048	**Pawnee Station**	0.47	79		Pg	05 04 29.5	+0.6
BLOK	**Blackwell**	0.49	30		Pg	05 04 29.9	+0.6
BLOK					Sg	05 04 36.7	+1.0
OK029	**Liberty Lake**	0.54	174		Pg	05 04 30.5	+0.5
OK029					Sg	05 04 37.9	+0.9
OK051	**E0350 and S346**	0.58	72		Pg	05 04 31.4	+0.5
OK051					Sg	05 04 39.1	+0.7
OK051				IAML		05 04 45.4	
	309nm,0.2s						
GC02	**Grant County #**	0.59	332		Pg	05 04 31.4	+0.3
GC02					Sg	05 04 39.6	+0.8
OK052	**Battle Ridge R**	0.67	120		Pg	05 04 33.1	+0.5
OK052					Sg	05 04 42.2	+0.9
OK052				IAML		05 04 42.4	
	362nm,0.2s						
OK052				IAML		05 04 42.4	
	249nm,0.2s						
QUOK	**Quay**	0.67	103		Pg	05 04 33.2	+0.4
QUOK					Sg	05 04 42.2	+0.7
QUOK				IAML		05 04 42.5	
	comp=N,264nm,0.2s						
BCOK	**Bluff Creek, N**	0.68	186		Pg	05 04 33.1	+0.3
BCOK					Sg	05 04 42.4	+0.8
KAN13	**South Haven SW**	0.68	3		Pg	05 04 33.2	+0.3
KAN13					Sg	05 04 42.8	+1.0
KAN13				IAML		05 04 49.3	
	comp=N,233nm,0.3s						
KAN13				IAML		05 04 49.5	
	comp=E,246nm,0.3s						
ADOK	**Arcadia Dam**	0.69	170		Pg	05 04 33.4	+0.4
KAN14	**Manchester OK**	0.72	330		Pg	05 04 33.8	+0.2
KAN14					Sg	05 04 43.7	+0.7
KAN14				IAML		05 04 50.0	
	comp=N,246nm,0.1s						
KAN17	**Caldwell West**	0.74	345		Pg	05 04 34.2	+0.2
KAN17					Sg	05 04 44.2	+0.6
KAN17				IAML		05 04 49.4	
	comp=N,195nm,0.3s						
KAN17				IAML		05 04 54.9	
	comp=E,187nm,0.2s						
OK004	**Okla Sci Mus**	0.81	177		Pg	05 04 35.4	+0.2
OK004					Sg	05 04 46.6	+0.9
KAN09	**Caldwell North**	0.81	354		Pg	05 04 35.5	+0.1
KAN09					Sg	05 04 46.2	+0.4
KAN09				IAML		05 04 52.5	
	comp=N,332nm,0.2s						
KAN01	**Argonia South**	0.84	347		Pg	05 04 36.1	+0.1
KAN01					Sg	05 04 47.5	+0.5
KAN10	**Anthony SW Sta**	0.92	330		Pg	05 04 37.4	0.0
KAN10					Sg	05 04 49.8	+0.4
OKCSW	**OKLAHOMA CITY**	0.93	176		Pg	05 04 37.7	+0.2
OKCSW					Sb	05 04 50.4	-0.7
DEOK	**Depew**	0.96	120		Pb	05 04 38.9	-0.1
DEOK					Sb	05 04 51.4	-0.7
DEOK				IAML		05 04 52.6	
	comp=N,194nm,0.1s						
DEOK				IAML		05 04 53.1	
	comp=E,164nm,0.1s						
KAN08	**Anthony NE Sta**	0.97	338		Pg	05 04 38.5	+0.1
KAN08					Sg	05 04 51.5	+0.6
KAN08				IAML		05 04 57.9	
	comp=E,115nm,0.2s						
OK038	**West end E0370**	1.00	279		Pg	05 04 38.8	-0.1
OK038					Sg	05 04 52.5	+0.6
T35A	**Sooner Cattle**	1.00	54		Pg	05 04 39.0	0.0
T35A					Sg	05 04 52.3	+0.3
T35A				IAML		05 04 54.4	
	comp=E,132nm,0.2s						
T35A				IAML		05 04 54.7	
	comp=E,118nm,0.1s						
KAN12	**Harper NE Stat**	1.04	338		Pg	05 04 39.6	-0.1
KAN12				IAML		05 05 04.9	
	comp=N,200nm,0.3s						
FNO	**Franklin**	1.07	175		Pg	05 04 40.2	-0.2
FNO					Sg	05 04 54.9	+0.5
FNO				IAML		05 04 58.2	
	comp=N,126nm,0.3s						
FNO				IAML		05 04 59.3	
	comp=E,134nm,0.1s						
CSTR	**Hydro, Custer**	1.17	235		Pg	05 04 41.8	-0.4
TUL3	**Leonard**	1.46	106		Pn	05 04 46.6	-0.4
X34A	**Smith Ranch, M**	1.74	189		Pb	05 04 52.2	-0.2
WMOK	**Wichita Mounta**	1.89	213	Pn	Pn	05 04 53.1	+0.1
WMOK					Pb	05 04 53.6	-1.4
RLO	**Rose Lookout**	2.02	94		Pb	05 04 56.1	-1.1
LOOK	**Love County**	2.35	173		Pb	05 05 01.5	-1.2
LOOK					Sb	05 05 31.2	-0.9
U38A	**Gravette**	2.53	87		Pn	05 05 01.8	0.0
SMWD	**Samnorwood**	2.53	242		Pn	05 05 01.1	-0.7
SMWD				IAmb_Lg		05 05 40.8	
	comp=Z,12nm,0.8s						
SMWD	**Samnorwood**	2.53	242	P	Pn	05 05 02.3	+0.5
SMWD				S	Sb	05 05 37.4	0.0
WTFS	**Witchita Falls**	2.67	197		Pn	05 05 04.1	+0.4
HHAR	**Hobbs**	2.89	90		Pn	05 05 05.8	-0.9
Z35A	**Perchaven, San**	3.00	176	Pn	Pn	05 05 07.1	-1.1
FW06	**Azle**	3.35	181	Pn	Pn	05 05 11.6	-1.4
PH03	**Pantex**	3.42	255	P	Pn	05 05 07.2	-6.8
MIAR	**Mount Ida**	3.68	118	IAmb_Lg		05 06 27.1	
	comp=Z,5.8nm,0.9s						
AMTX	**Amarillo**	3.69	248	IAmb_Lg		05 06 20.1	
	comp=Z,11nm,0.8s						
Z38A	**Mt. Pleasant**	3.71	145	IAmb_Lg		05 06 22.2	
	comp=Z,11nm,0.9s						
PH02	**Texas Public H**	3.72	257	P	Pn	05 05 10.2	-8.0
RTBA	**Rita Blanca**	4.21	273	Pn	Pn	05 05 25.5	+0.5
RTBA	**Rita Blanca**	4.21	273	P	Pn	05 05 25.6	+0.6
SN05	**Snyder 5**	4.42	220	IAmb_Lg		05 06 49.8	
	comp=Z,4.5nm,0.8s						
P38A	**Dawn**	4.55	43	IAmb_Lg		05 06 52.1	
	comp=Z,4.5nm,1.0s						
R40A	**Maddies Statio**	4.62	63	IAmb_Lg		05 06 47.1	
	comp=Z,4.5nm,0.7s						
POST	**Post**	4.62	226	IAmb_Lg		05 06 48.2	
	comp=Z,6.9nm,1.1s						
CCM	**Cathedral Cave**	5.30	69	IAmb_Lg		05 07 08.8	
	comp=Z,4.3nm,0.7s						
P40A	**Paris**	5.38	52	IAmb_Lg		05 07 17.7	
	comp=Z,7.0nm,0.9s						
PBMO	**Poplar Bluff**	5.72	83	IAmb_Lg		05 07 24.8	
	comp=Z,7.1nm,0.7s						
JCT	**Junction City**	6.14	199	IAmb_Lg		05 07 41.0	
	comp=Z,5.7nm,0.7s						
Q24A	**Divide**

*UCR **01** 05:08:12.5±1.3, 10°.30N×86°.35W, h19km±5km, MW4.1*
*CATAC **01** 05:08:13.0±0.5, 10°.N±3°×8°.6W±°, h8km±3km, M3.3/12, MLv3.3/12, Error ellipse: s-maj=8.1km s-min=3.8km az=48.6, confirmed*

ISC 01 05:08:12.7±1.6, 10°.30N±0°.05×86°.28W±0°.05, h11km±10km, n67, σ0s77/88, 14C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIBA	**Liberia Airpor**	**0.78**	**68**	⇑*i*P	P	**05 08 29.2**	**-0.4**
ALIBA				*e*S	S	**05 08 40.9**	**-0.3**
ELI1	**Hacienda Flor**	**0.79**	**64**	⇑*e*P	P	**05 08 29.8**	**0.0**
ELI1				*e*S	S	**05 08 42.1**	**+0.5**
NICO	**Nicoya**	**0.84**	**101**	*e*P	P	**05 08 29.1**	**+0.3**
INDI	**Punta indio, G**	**0.88**	**119**	P	P	**05 08 29.8**	**+0.2**
INDI				S	S	**05 08 40.8**	**-0.4**
CMARA	**Lajas Hojancha**	**0.89**	**108**	*e*P	P	**05 08 30.1**	**+0.2**
CMARA	**Lajas Hojancha**	**0.89**	**108**	P	P	**05 08 29.2**	**-0.7**
PLVR	**Palo Verde**	**0.92**	**87**	⇑*e*P	P	**05 08 30.6**	**+0.2**
PLVR				*e*S	S	**05 08 43.0**	**+0.1**
ELVJ	**El Viejo (Barb**	**0.95**	**81**	*e*P	P	**05 08 28.9**	**-2.3**
ELVJ				*e*S	S	**05 08 40.5**	**-3.3**
LAPC	**Finca la Perla**	**0.95**	**61**	⇑*i*P	P	**05 08 31.1**	**-0.2**
LAPC				*e*S	S	**05 08 44.8**	**+0.9**
LCRUZ	**La Cruz**	**1.00**	**39**	⇑*i*P	P	**05 08 32.2**	**+0.1**
LCRUZ				*e*S	S	**05 08 47.1**	**+0.3**
GPS3	**Bodega del ICE**	**1.01**	**63**	⇑*e*S	P	**05 08 32.8**	**0.0**
GPS3				*e*S	S	**05 08 49.4**	**+2.4**
GPS2	**Hotel Rincn d**	**1.02**	**64**	*e*P	P	**05 08 32.2**	**-0.1**
VRLE	**La Escondida,**	**1.02**	**61**	⇑*e*P	P	**05 08 32.2**	**-0.3**
PG27	**Guanacaste Pro**	**1.03**	**59**	⇑*e*P	P	**05 08 32.4**	**-0.2**
PG27				*e*S	S	**05 08 47.0**	**-0.5**
BAGA	**Bagaces**	**1.03**	**77**	*e*P	P	**05 08 32.0**	**-0.5**
BAGA				*e*S	S	**05 08 48.1**	**+0.7**
GPS1	**Guardaparques**	**1.03**	**63**	*e*P	P	**05 08 32.4**	**-0.2**
GPS1				*e*S	S	**05 08 46.1**	**-0.1**
VORI	**VORI**	**1.05**	**61**	⇓*e*P	P	**05 08 32.9**	**-0.1**
VORI				*e*S	S	**05 08 47.7**	**+0.9**
BUAI	**Buenos Aires**	**1.10**	**58**	*e*P	P	**05 08 33.4**	**-0.2**
COLC	**Colonia**	**1.12**	**71**	*e*P	P	**05 08 33.5**	**-0.5**
COLC				*e*S	S	**05 08 50.2**	**+0.5**
PEJA	**Penjamo Buenos**	**1.12**	**58**	⇑*e*P	P	**05 08 34.1**	**0.0**
PEJA				*e*S	S	**05 08 50.2**	**+0.5**
CUI	**Cuipilapa**	**1.16**	**72**	⇑*i*P	P	**05 08 34.4**	**-0.3**
CUI				*e*S	S	**05 08 49.4**	**-0.3**
MESS	**Mesas**	**1.16**	**68**	⇑*i*P	P	**05 08 34.3**	**-0.3**
MESS				*e*S	S	**05 08 50.2**	**+0.2**
CARN	**Rivas**	**1.16**	**40**	*e*P	P	**05 08 34.7**	**+0.1**
CARN	**Rivas**	**1.16**	**40**	P	P	**05 08 34.2**	**-0.5**
CARN				S	S	**05 08 49.7**	**+0.1**
HORNC	**Hornillas**	**1.16**	**69**	⇑*i*P	P	**05 08 34.3**	**-0.5**
HORNC				*e*S	S	**05 08 50.5**	**+0.3**
INVE	**Universidad In**	**1.21**	**81**	*e*P	P	**05 08 35.2**	**-0.4**
MOTZ	**Rio Naranjo**	**1.25**	**72**	⇑*i*P	P	**05 08 36.0**	**-0.1**
TIMP	**Tierras Morena**	**1.27**	**77**	*e*P	P	**05 08 35.9**	**-0.6**
JUNT	**Juntas**	**1.30**	**91**	*e*P	P	**05 08 37.7**	**0.0**
TILA	**Tilaran**	**1.30**	**82**	*e*P	P	**05 08 36.4**	**-0.4**
JTS	**Las Juntas de**	**1.31**	**90**	*e*P	P	**05 08 36.3**	**-0.5**
TENO	**El Achiote**	**1.34**	**72**	⇑*e*P	P	**05 08 36.5**	**-1.0**
TENO				*e*S	S	**05 08 55.4**	**+0.1**
UPAL	**Upala**	**1.38**	**64**	*e*P	P	**05 08 37.5**	**-0.3**
MORN	**Al O del Volca**	**1.39**	**27**	P	P	**05 08 38.1**	**+0.1**
MORN				S	S	**05 08 56.5**	**+0.1**
QUEB	**Quebradon, Cot**	**1.40**	**77**	*e*P	P	**05 08 37.9**	**-0.3**
MTEVE	**Monteverde**	**1.43**	**89**	*e*P	P	**05 08 38.2**	**-0.5**
TABAC	**Tabacon**	**1.50**	**82**	*e*P	P	**05 08 40.2**	**-0.4**
CASO	**Castillo**	**1.53**	**85**	*e*P	P	**05 08 40.4**	**+0.4**
ARE1	**Arenal 1**	**1.54**	**84**	*e*P	P	**05 08 40.6**	**+0.4**
VARE2	**V. Arenal**	**1.54**	**84**	*e*P	P	**05 08 40.8**	**-0.5**
CEDE	**Laguna Cedeo**	**1.56**	**83**	*e*P	P	**05 08 41.5**	**-0.2**
VACR	**Volcan Arenal**	**1.59**	**84**	*e*P	P	**05 08 41.0**	**+0.2**
NANN	**Nandasmo**	**1.64**	**5**	P	P	**05 08 42.2**	**-0.7**
SOCE	**Pocosol**	**1.64**	**87**	P	P	**05 08 41.1**	**-0.3**
SOCE	**Pocosol**	**1.64**	**87**	S	S	**05 09 02.4**	**-0.1**
LCHIL	**Los Chiles**	**1.70**	**64**	*e*P	P	**05 08 44.5**	**+0.5**
UNAN	**Cigeo UNAN**	**1.80**	**0**	P	P	**05 08 44.8**	**-0.9**
UNAN				S	S	**05 09 08.2**	**-0.1**
MGAN	**Managua**	**1.84**	**1**	P	P	**05 08 44.9**	**+0.8**
SAPS	**Ciudad Sandino**	**1.86**	**356**	P	P	**05 08 45.7**	**-1.0**
SAPS	**Ciudad Sandino**	**1.86**	**356**	S	S	**05 09 02.9**	**-0.2**
COVE	**Coope Vega, Sa**	**1.89**	**77**	P	P	**05 08 45.2**	**-0.3**
COVE	**Coope Vega, Sa**	**1.89**	**77**	S	S	**05 09 08.7**	**-0.1**
COPN	**Copaltepe**	**1.90**	**351**	P	P	**05 08 45.5**	**+0.5**
TCS1	**Tacares**	**1.97**	**97**	*e*P	P	**05 08 47.3**	**-1.2**
TCS1	**Tacares**	**1.97**	**97**	P	P	**05 08 45.9**	**-0.1**
ACON	**Acoyapa**	**1.98**	**33**	*e*P	P	**05 08 45.8**	**-0.4**
ACON	**Acoyapa**	**1.98**	**33**	P	P	**05 08 44.8**	**-1.4**
ACON	**Acoyapa**	**1.98**	**33**	S	S	**05 09 14.7**	**+1.2**
ACOS	**Acosta**	**2.14**	**103**	*e*P	P	**05 08 49.6**	**+1.1**
PICV	**PH. Pirrs**	**2.16**	**108**	*e*P	P	**05 08 50.1**	**+1.5**
BOAB	**BOACO BROADBAN**	**2.22**	**16**	P	P	**05 08 49.6**	**+0.2**
BOAB	**BOACO BROADBAN**	**2.22**	**16**	S	S	**05 09 18.7**	**-1.7**
ABE2	**San Pablo**	**2.27**	**105**	*e*P	P	**05 08 53.4**	**-0.4**
LCR2	**La Lucha 2**	**2.31**	**104**	*e*P	P	**05 08 52.0**	**+1.2**
LCR2	**La Lucha 2**	**2.31**	**104**	S	S	**05 09 19.4**	**+0.1**
LCR2	**La Lucha 2**	**2.31**	**104**	P	P	**05 08 51.5**	**+0.7**
PIEC	**Cerro El Cedra**	**2.38**	**106**	*e*P	P	**05 08 57.0**	**+1.2**

IDC 01 05:11:44.4±9.6, 2°.54S×138°.86E, h0km, mb3.4/2, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=407.5km s-min=31.5km az=86.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.85**	**194**	P	P	05 15 55.2	0.0
	0.1nm,0.3s,baz=12,slow=12,SNR=3.6						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**21.54**	**192**	P	P	05 16 35.0	-0.4
	0.7nm,0.8s,baz=19,slow=9.8,SNR=7.3						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**69.75**	**322**	P	P	05 22 56.5	+0.1
	0.5nm,0.8s,baz=112,slow=6.5,SNR=4.3						
	0.5nm,0.8s						

ROM 01 05:24:47.5±0.1, 43°.162N±0°.003×12°.871E±0°.004, h10km, ML0.8/12, 1C, Error ellipse: s-maj=0.3km s-min=0.2km az=317.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNTG	**Esanatoglia**	**0.11**	**29**	P	Pg	05 24 50.7	+0.4
SNTG				S	Sg	05 24 52.7	+0.5
SNTG				AML	AML		
	comp=E,95μm,0.3s						
SNTG				AML	AML		
	comp=N,118μm,0.4s						
SNTG				AML	AML		
	comp=E,95μm,1.7s						
FOSV	**Fossato di Vic**	**0.15**	**329**	P	Pb	05 24 51.8	-0.7
FOSV				S	Sg	05 24 54.1	+0.7
FOSV				AML	AML		
	comp=E,32μm,0.1s						
FOSV				AML	AML		
	comp=N,39μm,0.3s						
CESI	**CESI - Serrava**	**0.16**	**171**	⇑P	Pg	05 24 51.7	+0.7
CESI				S	Sg	05 24 54.4	+0.9
ATCC	**AVT- Casa Cast**	**0.17**	**278**	P	Pg	05 24 51.8	+0.6
ATCC				S	Sg	05 24 54.9	+1.1
ATCC				AML	AML		
	comp=E,82μm,0.7s						
ATCC				AML	AML		
	comp=N,71μm,0.5s						
ASSB	**Assisi San Ben**	**0.20**	**233**	P	Pg	05 24 52.4	+0.7
ASSB				S	Sg	05 24 55.7	+1.2
ASSB				AML	AML		
	comp=E,44μm,0.3s						
ASSB				AML	AML		
	comp=N,47μm,0.4s						
ASSB				AML	AML		
	comp=E,44μm,1.7s						
ASSB				AML	AML		
	comp=N,47μm,1.6s						
FDMO	**Fiordimonte**	**0.20**	**128**	P	Pg	05 24 52.4	+0.7
FDMO				S	Sg	05 24 56.1	+1.4
FDMO				AML	AML		
	comp=E,27μm,0.2s						
FDMO				AML	AML		
	comp=N,22μm,0.5s						
EL6	**Elcito**	**0.24**	**45**	P	Pg	05 24 53.1	+0.6
EL6				S	Sg	05 24 57.0	+1.2
MURB	**Monte Urbino**	**0.27**	**292**	P	Pg	05 24 53.6	+0.6
MURB				AML	AML		
	comp=N,46μm,0.3s						
MURB				AML	AML		
	comp=E,48μm,0.2s						
MURB				AML	AML		
	comp=E,48μm,1.8s						

RHSSO 01 05:25:42.0±0.3, 42°.73N×18°.31E, h3km±2km, ML1.8/6, 2C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TREB	**Trebinje**	**0.03**	**111**	⇓*i*Pg	Pg	05 25 42.2	-0.5
TREB				*e*Sg	Sg	05 25 42.7	-0.6
DBRK	**Dubrovnik**	**0.14**	**245**	*i*Pg	Pg	05 25 44.1	-0.6
DBRK				Sg	Sg	05 25 46.5	+0.1
BRY	**Bratogost**	**0.24**	**43**	⇓*i*Pg	Pg	05 25 45.8	-0.9
BRY				*e*Sg	Sg	05 25 50.7	+0.9
HCY	**Herceg Novi**	**0.31**	**155**	*e*Pg	Pg	05 25 47.2	-0.7
HCY				*e*Sg	Sg	05 25 52.8	+0.8
STON	**Ston**	**0.47**	**288**	⇑*i*Pg	Pg	05 25 50.2	-0.9
STON				*e*Sg	Sg	05 25 57.9	+0.6
STON	**Ston**	**0.47**	**288**	*e*Pg	Pg	05 25 50.2	-0.9
STON				Sg	Sg	05 25 57.7	+0.4
UPM	**Unac-Piva**	**0.64**	**42**	⇑*i*Pg	Pg	05 25 52.9	-1.5
UPM				*e*Sg	Sg	05 26 03.6	+0.9
PDG	**Podgorica**	**0.76**	**113**	*e*Pg	Pg	05 25 55.4	-1.1
PDG				*e*Sg	Sg	05 26 07.0	+0.7
DRME	**Dracevica, Mon**	**0.84**	**130**	*e*Pg	Pg	05 25 57.5	-0.6
DRME				*e*Sg	Sg	05 26 09.3	+0.3
LSTV	**Lastovo**	**1.05**	**273**	*e*Pg	Pg	05 26 01.2	-0.9
LSTV				Sg	Sb	05 26 16.5	-0.4
MAKA	**Makarska**	**1.10**	**301**	Sn	Sb	05 26 18.8	-0.3
RUDO	**Rudo**	**1.18**	**41**	*e*Pg	Pg	05 26 03.5	-1.1
RUDO				*e*Sg	Sg	05 26 18.7	-1.2
SJES	**Sjenica**	**1.33**	**66**	*e*Pg	Pg	05 26 06.2	-1.3
SJES				*e*Sg	Sg	05 26 24.5	-0.2
BBLS	**Lazi&#263i**	**1.39**	**35**	*e*Pg	Pn	05 26 06.8	-1.6
BBLS				*e*Sg	Sg	05 26 25.7	-0.9
VINV	**Vinovac**	**1.86**	**298**	*e*Pn	Pn	05 26 15.1	+0.3
VINV				Sn	Sg	05 26 41.1	-0.7
KIJV	**Kijevo**	**1.89**	**313**	Sn	Sg	05 26 43.3	+0.6
ZIRJ	**Zirje**	**2.16**	**296**	*e*Pn	Pn	05 26 18.2	-0.7
ZIRJ				Sn	Sb	05 26 48.2	-0.7
A050A	**Klekovaca**	**2.18**	**324**	*e*Pn	Pn	05 26 19.4	+0.1
A050A				*e*Sn	Sn	05 26 46.5	-0.4
DUGI	**Dugi Otok**	**2.69**	**299**	Sn	Sn	05 27 00.9	+1.6
VIRC	**Vir**	**2.84**	**305**	*e*Pn	Pn	05 26 30.2	+1.9
VIRC				Sn	Sn	05 27 03.7	+0.8

*UCR **01** 05:33:03.3±1.3, 10°.32N×86°.30W, h0km±3km, MW4.9*
*IDC **01** 05:33:05.6±0.6, 11°.19N×85°.66W, h0km, mb4.1/9, mbtmp4.1/10, ML4.0/1, MS3.4/12, Error ellipse: s-maj=35.6km s-min=9.5km az=54.0*
*CATAC **01** 05:33:06.4±0.4, 10°.N±2°×8°.6W±°, h13km±2km, M4.4/41, mb4.1/2, mB6.7/1, MLv4.5/41, Mw(mB)6.5/1, Error ellipse: s-maj=4.3km s-min=2.2km az=41.0, confirmed*
*NEIC **01** 05:33:10.1±2.0, 10°.51N±0°.04×86°.06W±0°.06, h35km±2km, mb4.5/145, Error ellipse: s-maj=12.4km s-min=3.0km az=234.0*
*GCG **01** 05:33:13.9±2.8, 10°.58N×86°.53W, h50km±999km, MD4.9*

ISC 01 05:33:05.8±1.2, 10°.38N±0°.03×86°.21W±0°.03, h15km±7km, n345, σ1s27/334, mb4.5/78, MS3.5/11, 67C-17D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.63**	**101**	⇑*e*P	P	**05 33 18.6**	**+0.2**
SACU				*e*S	S	**05 33 28.1**	**+1.0**
ALIBA	**Liberia Airpor**	**0.69**	**72**	⇑*i*P	P	**05 33 20.8**	**-0.2**
ALIBA				*e*S	S	**05 33 32.4**	**+1.1**
ELI1	**Hacienda Flor**	**0.70**	**68**	⇑*i*P	P	**05 33 21.3**	**+0.2**
ELI1				*e*S	S	**05 33 34.2**	**+2.5**
NICO	**Nicoya**	**0.79**	**108**	⇑*e*P	P	**05 33 20.8**	**-0.4**
NICO				*e*S	S	**05 33 31.8**	**0.0**
ERIA	**Liberia**	**0.80**	**72**	⇑*e*P	P	**05 33 22.3**	**-0.2**
PLVR	**Palo Verde**	**0.85**	**92**	⇑*e*P	P	**05 33 22.2**	**-0.1**
PLVR				*e*S	S	**05 33 34.8**	**-0.7**
LAPC	**Finca la Perla**	**0.85**	**63**	⇑*e*P	P	**05 33 23.0**	**-0.6**
LAPC				*e*S	S	**05 33 36.6**	**+1.0**
CMARA	**Lajas Hojancha**	**0.86**	**115**	*e*P	P	**05 33 21.6**	**-0.7**
CMARA	**Lajas Hojancha**	**0.86**	**115**	⇑P	P	**05 33 21.7**	**-0.7**
INDI	**Punta indio, G**	**0.87**	**126**	⇓P	P	**05 33 21.6**	**-0.9**
ELVJ	**El Viejo (Barb**	**0.88**	**86**	⇑*e*P	P	**05 33 20.7**	**-2.0**
ELVJ				*e*S	S	**05 33 32.0**	**-2.2**
LCRUZ	**La Cruz**	**0.90**	**40**	⇑*i*P	P	**05 33 24.1**	**+0.2**
LCRUZ				*e*S	S	**05 33 40.1**	**+3.6**
GPS3	**Bodega del ICE**	**0.91**	**66**	⇑*i*P	P	**05 33 26.8**	**+2.7**
GPS3				*e*S	S	**05 33 40.4**	**+3.4**
GPS2	**Hotel Rincn d**	**0.92**	**66**	⇑*i*P	P	**05 33 23.9**	**-0.4**
GPS2				*e*S	S	**05 33 39.1**	**+1.8**
PG27	**Guanacaste Pro**	**0.92**	**61**	⇑*i*P	P	**05 33 24.0**	**-0.4**
PG27				*e*S	S	**05 33 39.1**	**+1.7**
VRLE	**La Escondida,**	**0.92**	**64**	⇑*i*P	P	**05 33 23.8**	**0.0**
VRLE				*e*S	S	**05 33 38.7**	**+1.3**
GPS1	**Guardaparques**	**0.93**	**65**	⇑*i*P	P	**05 33 24.0**	**-0.4**
GPS1				*e*S	S	**05 33 38.0**	**+0.5**
BAGA	**Bagaces**	**0.95**	**81**	⇑*i*P	P	**05 33 24.2**	**0.0**
BAGA				*e*S	S	**05 33 40.1**	**+2.4**
VORI	**VORI**	**0.95**	**63**	⇑*i*P	P	**05 33 24.3**	**0.0**
BUAI	**Buenos Aires**	**0.99**	**60**	⇑*e*P	P	**05 33 25.2**	**0.0**
BUAI				*e*S	S	**05 33 44.0**	**+5.0**
PEJA	**Penjamo Buenos**	**1.02**	**60**	⇑*e*P	P	**05 33 25.7**	**+0.1**
PEJA				*e*S	S	**05 33 41.9**	**+2.2**
CARN	**Rivas**	**1.05**	**40**	⇑*i*P	P	**05 33 26.3**	**+0.4**
CARN				*e*S	S	**05 33 45.5**	**+5.2**
CARN	**Rivas**	**1.05**	**40**	⇑P	P	**05 33 26.3**	**+0.4**
CARN				S	S	**05 33 40.0**	**-0.2**
MESS	**Mesas**	**1.06**	**70**	⇑*i*P	P	**05 33 25.9**	**-0.4**
MESS				*e*S	S	**05 33 42.3**	**+1.6**
CUI	**Cuipilapa**	**1.07**	**75**	⇑*i*P	P	**05 33 26.0**	**0.0**
CUI				*e*S	S	**05 33 43.2**	**+2.4**
HORNC	**Hornillas**	**1.07**	**72**	⇑*e*P	P	**05 33 25.9**	**-0.1**
CNAS	**Canas**	**1.10**	**87**	⇑*e*P	P	**05 33 26.5**	**0.0**
CNAS				*e*S	S	**05 33 44.2**	**+2.8**
INVE	**Universidad In**	**1.13**	**85**	⇑*i*P	P	**05 33 26.9**	**-0.2**
MOTZ	**Rio Naranjo**	**1.16**	**75**	⇑*i*P	P	**05 33 27.5**	**-0.1**
TIMP	**Tierras Morena**	**1.19**	**80**	⇑*i*P	P	**05 33 27.6**	**-0.5**
TILA	**Tilaran**	**1.22**	**86**	⇑*i*P	P	**05 33 28.1**	**-0.3**
JUNT	**Juntas**	**1.24**	**95**	⇑*i*P	P	**05 33 27.9**	**-0.7**
JTS	**Las Juntas de**	**1.24**	**94**		P	**05 33 28.0**	**-0.7**
JTS				Sn	Sb	**05 33 42.0**	**-2.8**
JTS	**Las Juntas de**	**1.24**	**94**	Pg	Pn	**05 33 27.9**	**-0.7**
	88nm,0.3s,baz=301,slow=18,SNR=174						
JTS				Lg	Lg	05 33 44.3	
	248nm,0.3s,baz=305,slow=19,SNR=6.6						
JTS	**Las Juntas de**	**1.24**	**94**	⇑*i*P	P	**05 33 27.9**	**-0.7**
TENO	**El Achiote**	**1.25**	**75**	⇑*e*P	P	**05 33 28.1**	**-0.8**
TENO				*e*S	Sg	**05 33 46.5**	**+0.1**
MORN	**Al O del Volca**	**1.28**	**26**	⇑P	Pb	**05 33 29.8**	**+0.1**
MORN				S	Sg	**05 33 46.6**	**-0.7**
CHIK	**Chiripa**	**1.28**	**87**	*e*P	Pn	**05 33 29.0**	**-0.3**
UPAL	**Upala**	**1.28**	**66**	⇑*i*P	Pb	**05 33 29.4**	**-0.3**
QUEB	**Quebradon, Cot**	**1.32**	**79**	⇑*e*P	Pn	**05 33 29.7**	**+0.1**
QUEB				*e*S	Sg	**05 33 50.0**	**+1.6**
CBL1	**Cabuya**	**1.36**	**126**	*e*P	Pn	**05 33 29.9**	**-0.2**
MTEVE	**Monteverde**	**1.36**	**93**	*e*P	Pn	**05 33 30.1**	**-0.4**
NADN	**Granada**	**1.37**	**7**	⇑*e*P	Pb	**05 33 30.9**	**-0.2**
PAQE	**Paquera**	**1.38**	**114**	*e*P	Pg	**05 33 32.5**	**+0.2**
ENAS	**Puntarenas**	**1.41**	**106**	*e*P	Pb	**05 33 31.8**	**-0.1**
TABAC	**Tabacon**	**1.43**	**85**	*e*P	Pn	**05 33 31.5**	**+0.3**
CASO	**Castillo**	**1.45**	**88**	⇑*e*P	Pn	**05 33 31.9**	**+0.3**
VARE2	**V. Arenal**	**1.47**	**87**	⇑*i*P	Pb	**05 33 32.5**	**-0.4**
ARE1	**Arenal 1**	**1.47**	**87**	⇑*i*P	Pb	**05 33 32.4**	**-0.4**
CEDE	**Laguna Cedeo**	**1.49**	**86**	⇑*e*P	Pb	**05 33 32.8**	**-0.4**
VACR	**Volcan Arenal**	**1.51**	**87**	⇑*i*P	Pn	**05 33 32.9**	**+0.6**
FORC	**Fortuna**	**1.52**	**87**	⇑*e*P	Pn	**05 33 33.0**	**+0.6**
TUNA	**La Fortuna**	**1.54**	**87**	*e*P	Pn	**05 33 33.4**	**+0.6**
NANN	**Nandasmo**	**1.55**	**3**	S	Sb	**05 33 54.1**	**+0.5**
NANN	**Nandasmo**	**1.55**	**3**	⇑P	Pb	**05 33 34.5**	**+0.3**
SABN	**Sabanita**	**1.56**	**2**	⇓P	Pn	**05 33 32.8**	**-0.2**
SOCE	**Pocosol**	**1.57**	**90**		Pn	**05 33 33.3**	**+0.2**
SOCE				Sn	Sn	**05 33 50.8**	**-2.4**
SOCE	**Pocosol**	**1.57**	**90**	*e*P	Pn	**05 33 33.4**	**+0.3**
SOCE	**Pocosol**	**1.57**	**90**	⇓P	Pn	**05 33 33.5**	**+0.3**
LCHIL	**Los Chiles**	**1.61**	**66**	⇑*e*P	Pb	**05 33 34.7**	**-0.5**
MAS3	**Al N del Volca**	**1.63**	**1**	⇓P	Pn	**05 33 34.5**	**+0.5**
MAS3				S	Sb	**05 33 56.3**	**+0.3**
UNAN	**Cigeo UNAN**	**1.72**	**358**	⇓P	Pn	**05 33 36.0**	**+0.8**
UNAN				S	Sb	**05 33 58.6**	**+0.1**
USIM	**UNAN**	**1.72**	**358**	Pn	Pn	**05 33 34.7**	**-0.5**
USIM	**UNAN**	**1.72**	**358**	P	Pn	**05 33 34.0**	**-1.2**
OROT	**Orotina**	**1.73**	**106**	*e*P	Pn	**05 33 34.4**	**-0.8**
SRA1	**San Ramn**	**1.73**	**100**	*e*P	Pn	**05 33 35.2**	**-0.2**
BITO	**Garabito Jaco**	**1.74**	**116**	*e*P	Pg	**05 33 38.9**	**-0.4**
RAMO	**San Ramon**	**1.74**	**100**	*e*P	Pn	**05 33 35.7**	**+0.1**
QUEU	**Ciudad Quesada**	**1.75**	**92**	⇑*i*P	Pn	**05 33 36.3**	**+0.7**
TISN	**Laguna Tiscapa**	**1.75**	**358**	⇓P	Pn	**05 33 35.4**	**-0.2**
MGAN	**Managua**	**1.75**	**359**		Pn	**05 33 36.2**	**+0.6**
MGAN	**Managua**	**1.75**	**359**	⇑*i*P	Pn	**05 33 36.1**	**+0.6**
MGAN	**Managua**	**1.75**	**359**	S	Sb	**05 33 59.5**	**0.0**
MGAN	**Managua**	**1.75**	**359**	⇑P	Pn	**05 33 36.3**	**+0.6**
WILN	**Americas 2**	**1.77**	**1**	⇑P	Pn	**05 33 36.5**	**+0.7**
WILN				S	Sb	**05 33 59.6**	**-0.2**
PALD	**Palmares**	**1.78**	**100**	*e*P	Pn	**05 33 36.0**	**0.0**
SAPS	**Ciudad Sandino**	**1.78**	**354**	S	Sb	**05 34 00.2**	**-0.2**
SAPS	**Ciudad Sandino**	**1.78**	**354**	⇑P	Pn	**05 33 36.8**	**+0.8**
VPL2	**V. Platanar**	**1.80**	**92**	⇑*e*P	Pn	**05 33 37.0**	**+0.6**
ZARE	**Zarcero**	**1.80**	**96**	*e*P	Pn	**05 33 37.7**	**+1.2**
COVE	**Coope Vega, Sa**	**1.81**	**79**	S	Sb	**05 34 00.2**	**-1.0**
COVE	**Coope Vega, Sa**	**1.81**	**79**	⇓P	Pn	**05 33 36.4**	**0.0**
COPN	**Copaltepe**	**1.82**	**348**	*e*P	Pn	**05 33 36.8**	**+0.1**
COPN	**Copaltepe**	**1.82**	**348**	⇑P	Pn	**05 33 36.7**	**+0.1**
ATEO	**Atenas**	**1.85**	**102**	*e*P	Pn	**05 33 35.8**	**-1.2**
ACON	**Acoyapa**	**1.88**	**33**	Pn	Pn	**05 33 37.6**	**+0.3**
ACON	**Acoyapa**	**1.88**	**33**	⇑*i*P	Pn	**05 33 37.6**	**+0.3**
ACON				*e*S	Sg	**05 34 05.7**	**-0.5**
ACON	**Acoyapa**	**1.88**	**33**	S	Sb	**05 34 01.9**	**-1.1**
ACON	**Acoyapa**	**1.88**	**33**	⇑P	Pn	**05 33 37.7**	**+0.4**
APQ3	**Volcan Apoyequ**	**1.88**	**355**	⇓P	Pn	**05 33 38.4**	**+1.0**
GREC	**Grecia**	**1.90**	**99**	*e*P	Pb	**05 33 39.7**	**-0.5**
ITAL	**Pital**	**1.91**	**88**	⇑*i*P	Pn	**05 33 37.9**	**+0.1**
TCS1	**Tacares**	**1.91**	**100**	*e*P	Pn	**05 33 38.3**	**+0.4**
TCS1	**Tacares**	**1.91**	**100**	⇓P	Pn	**05 33 38.3**	**+0.4**
PURI	**Puriscal**	**1.95**	**106**	*e*P	Pn	**05 33 37.6**	**-0.8**
VPS8	**V Poas**	**1.95**	**96**	*e*P	Pn	**05 33 38.9**	**+0.2**
VPS5	**V. Poas**	**1.96**	**95**	*e*P	Pn	**05 33 39.3**	**+0.6**
BELE	**Belen**	**2.03**	**101**	*e*P	Pn	**05 33 40.3**	**+0.7**
MOMN	**Momotombo**	**2.04**	**351**	⇑P	Pn	**05 33 39.9**	**+0.3**
MOMN				S	Sb	**05 34 07.2**	**-0.6**
SANTA	**Santa Ana**	**2.04**	**102**	*e*P	Pb	**05 33 41.6**	**-1.1**
HEME	**Heredia, Merce**	**2.08**	**101**	*e*P	Pn	**05 33 40.9**	**+0.6**
PAR1A	**Puntarenas Pro**	**2.08**	**112**	*e*P	Pn	**05 33 41.5**	**+1.3**
VBV1	**V. Barva**	**2.10**	**97**	*e*P	Pn	**05 33 40.5**	**-0.1**
ACOS	**Acosta**	**2.10**	**106**	*e*P	Pn	**05 33 41.3**	**+0.9**
HDC	**Heredia**	**2.10**	**100**		Pn	**05 33 40.4**	**-0.1**
HDC	**Heredia**	**2.10**	**100**	*e*P	Pn	**05 33 40.5**	**-0.1**
BOAB	**BOACO BROADBAN**	**2.12**	**15**		Pn	**05 33 41.1**	**+0.4**
BOAB	**BOACO BROADBAN**	**2.12**	**15**	S	Sb	**05 34 08.7**	**-1.4**
BOAB	**BOACO BROADBAN**	**2.12**	**15**	⇑P	Pn	**05 33 41.3**	**+0.6**
PICV	**PH. Pirrs**	**2.12**	**111**	*e*P	Pn	**05 33 40.6**	**-0.2**
**D

CCIG Comitan 8.22 316 Pn Pn 05 35 06.5 +1.7
CMIG Matias Romero 10.74 309 Pn Pn 05 35 40.5 +1.4
1.1nm,0.3s,baz=131,slow=10,SNR=6.8
1.9nm,0.5s
CAMR Camarioca 13.43 20 Pn Pn 05 36 15.7 -0.2
FLOC Florencia 13.66 129 Pn Pn 05 36 19.0 -0.1
TLIG Tlapa 13.95 302 Pn 05 36 23.6 +0.5
SDV Santo Domingo 15.43 94 LR LR 05 44 05.1
comp=Z,80nm,18.6s,baz=260,slow=44
CELP Cerrillos 20.50 66 P P 05 37 43.0 -0.4
CELP IAmb IAmb 05 37 53.7
comp=Z,14nm,0.9s
352A Blakely 21.03 3 P P 05 37 47.7 -1.3
352A IAmb IAmb 05 37 53.4
comp=Z,14nm,0.8s
TIGA Tifton 21.09 6 P P 05 37 49.6 -0.1
250A Grady 21.49 360 P 05 37 54.2 +0.2
250A IAmb IAmb 05 37 58.3
comp=Z,12nm,0.7s
833A Chaparral WMA, 21.72 327 P P 05 37 57.7 +1.2
833A IAmb IAmb 05 38 00.7
comp=Z,17nm,0.7s
MLDN Muldoon 21.80 334 P P 05 37 58.7 +1.3
152A Waverly Hall 22.22 3 P 05 38 02.2 +0.4
154A Montrose 22.31 7 P P 05 38 02.7 -0.1
LRAL Lakeview Retre 22.55 358 P 05 38 05.9 +0.5
LRAL IAmb IAmb 05 38 14.3
comp=Z,12nm,0.7s
HNDO Hondo 22.63 329 P P 05 38 05.7 -0.5
NATX Nacogdoches 22.66 341 P 05 38 07.7 +1.1
Z47A Carrollton 22.77 356 P P 05 38 07.8 +0.1
Z47A IAmb IAmb 05 38 09.5
comp=Z,14nm,0.7s
435B Jarrell 22.89 334 P 05 38 09.3 +0.3
435B IAmb IAmb 05 38 12.2
comp=Z,16nm,0.8s
GOGA Godfrey 23.06 6 P P 05 38 10.9 +0.3
DRIO Del Rio 23.24 327 P 05 38 13.2 +0.5
DRIO IAmb IAmb 05 38 15.7
comp=Z,6.7nm,0.7s
Y49A Blount Mountai 23.36 360 P 05 38 13.8 0.0
Y52A Lilburn 23.45 4 P 05 38 14.8 +0.1
Y52A IAmb IAmb 05 38 14.8
comp=Z,14nm,1.0s
Z41A Richland Creek 23.56 346 IAmb IAmb 05 38 15.7
comp=Z,18nm,1.0s
Y45A Yeager Farm, C 23.57 353 P P 05 38 16.7 +0.9
JCT Junction City 23.66 330 IAmb IAmb 05 38 18.9
comp=Z,6.6nm,0.6s
BRDY Brady 23.95 332 P 05 38 18.7 -0.8
BRDY IAmb IAmb 05 38 20.6
comp=Z,12nm,0.6s
X48A Hartselle 23.97 358 IAmb IAmb 05 38 21.9
comp=Z,7.4nm,0.8s
HODGE Hodges 24.01 8 P P 05 38 19.6 -0.4
HODGE IAmb IAmb 05 38 20.4
comp=Z,11nm,0.7s
WLAR White Oak Lake 24.04 346 P 05 38 20.4 +0.1
WLAR IAmb IAmb 05 38 21.2
comp=Z,12nm,0.8s
FPAL Fort Paine 24.05 1 P 05 38 19.6 -0.9
FW16 Waxahatchie 24.10 337 P P 05 38 22.1 +1.2
X51A Calhoun 24.10 3 IAmb IAmb 05 38 20.9
comp=Z,13nm,0.7s
JSC Jenkinsville 24.21 10 P P 05 38 22.1 +0.2
PLAL Pickwick Lake 24.55 356 IAmb IAmb 05 38 25.5
comp=Z,12nm,0.8s
FW07 Weatherford 24.64 336 IAmb IAmb 05 38 27.5
comp=Z,10.0nm,0.7s
PAULI Pauline 24.65 9 IAmb IAmb 05 38 26.5
comp=Z,12nm,0.7s
BG3 Lake Jocassee 24.68 6 P P 05 38 26.3 +0.1
BG3 IAmb IAmb 05 38 26.7
comp=Z,15nm,0.7s
W52A Murphy 24.68 4 P P 05 38 25.8 -0.4
W52A IAmb IAmb 05 38 26.6
comp=Z,16nm,0.8s
W50A Signal Mountai 24.72 2 P P 05 38 26.1 -0.4
W50A IAmb IAmb 05 38 26.3
comp=Z,10nm,0.8s
SWET Sewanee 24.72 1 IAmb IAmb 05 38 27.2
comp=Z,13nm,0.8s
UALR University of 24.92 348 IAmb IAmb 05 38 28.6
comp=Z,13nm,0.8s
TXAR Lajitas Array 24.93 322 P 05 38 30.0 +1.4
TXAR Lajitas Array 24.93 322 P P 05 38 29.7 +1.0
comp=Z,4.7nm,0.6s,baz=139,slow=10,SNR=43
TXAR PcP PcP 05 42 05.2 +1.0
comp=Z,1.2nm,0.8s,baz=145,slow=4.5,SNR=11
TXAR LR LR 05 49 28.5
comp=Z,26nm,19.1s,baz=166,slow=40
comp=Z,4.7nm,0.6s
TX31 Lajitas Ar. Si 24.94 322 P 05 38 30.1 +1.4
TX31 IAmb IAmb 05 38 33.4
comp=Z,5.6nm,0.6s
PLPT Palo Pinto 24.95 335 IAmb IAmb 05 38 30.7
comp=Z,13nm,1.1s
MIAR Mount Ida 24.98 345 P 05 38 27.9 -0.9
MIAR IAmb IAmb 05 38 35.9
comp=Z,11nm,0.8s
Z35A Perchaven, San 24.99 338 IAmb IAmb 05 38 31.6
comp=Z,12nm,0.7s
CPCT Cooper Cave 25.00 3 IAmb IAmb 05 38 29.7
comp=Z,7.0nm,0.7s
KMSC Kings Mountain 25.04 9 IAmb IAmb 05 38 29.9
comp=Z,12nm,0.8s
FW03 Perrin-Whitt E 25.05 336 IAmb IAmb 05 38 30.1
comp=Z,10nm,0.7s
V48A Smith Brothers 25.25 359 IAmb IAmb 05 38 31.0
comp=Z,7.0nm,0.9s
TKL Tuckaleechee C 25.26 5 IAmb IAmb 05 38 35.5
comp=Z,20nm,1.5s
TKL Tuckaleechee C 25.26 5 LR LR 05 48 04.8
comp=Z,62nm,20.0s,baz=217,slow=37
V53A Saluda 25.36 6 P 05 38 32.2 -0.2
V53A IAmb IAmb 05 38 35.2
comp=Z,8.2nm,0.9s
ABTX Abilene, Hawle 25.36 333 IAmb IAmb 05 38 34.8
comp=Z,14nm,0.8s
WHAR Wooly Hollow 25.40 348 P 05 38 31.8 -0.9
WHAR IAmb IAmb 05 38 32.5
comp=Z,8.7nm,0.9s
WVT Waverly 25.67 357 P 05 38 34.3 -0.8
MNHN Monahans 25.89 326 IAmb IAmb 05 38 38.9
comp=Z,10nm,0.8s
LCAR Lake Charles 25.96 351 P 05 38 36.0 -1.7
LCAR IAmb IAmb 05 38 36.7
comp=Z,6.2nm,0.8s
U49A Red Boiling Sp 26.02 1 P P 05 38 37.4 -0.8
U49A IAmb IAmb 05 38 38.0
comp=Z,7.2nm,0.9s
APMT Aspermont 26.17 333 P 05 38 39.6 -0.1
APMT IAmb IAmb 05 38 42.6
comp=Z,9.2nm,0.8s
ODSA Odessa 26.38 328 IAmb IAmb 05 38 43.2
comp=Z,13nm,0.9s
T47A Sharon Grove 26.50 358 IAmb IAmb 05 38 41.9
comp=Z,10.0nm,0.8s
POST Post 26.60 330 P P 05 38 43.5 -0.2
WMOK Wichita Mounta 26.82 337 IAmb IAmb 05 38 48.8
comp=Z,12nm,0.8s
T42A Van Buren 26.89 351 IAmb IAmb 05 38 45.4
comp=Z,5.3nm,0.7s
U38A Gravette 26.98 345 P 05 38 45.8 -1.1
S51A Beattyville 27.24 5 IAmb IAmb 05 38 49.0
comp=Z,9.5nm,0.6s
WCI Wyandotte Cave 27.73 360 P 05 38 52.5 -1.2
WCI IAmb IAmb 05 38 53.4
comp=Z,9.9nm,0.8s
SMWD Samnorwood 27.73 335 IAmb IAmb 05 38 58.0
comp=Z,6.9nm,0.9s
MSTX Muleshoe 27.95 330 IAmb IAmb 05 38 57.5
comp=Z,9.0nm,0.8s
MACA Manacapuru-AM 28.76 117 P 05 39 04.3 +1.2
O52A Adamsville 29.86 7 P P 05 39 11.4 -1.2
SFIN Lafayette 29.88 359 IAmb IAmb 05 39 17.6
comp=Z,7.0nm,0.8s
RTBA Rita Blanca 29.95 333 P P 05 39 13.1 -0.5
O53A New Philadelph 30.07 8 P P 05 39 13.6 -0.9
ANMO Albuquerque 30.64 326 P 05 39 21.4 +1.5
SSPA Standing Stone 31.02 12 P 05 39 22.4 -0.5
SSPA IAmb IAmb 05 39 23.8
comp=Z,7.0nm,0.8s
L40A Anamosa 31.86 353 IAmb IAmb 05 39 29.4
comp=Z,9.0nm,1.1s
LPAZ La Paz 31.98 146 LR LR 05 54 41.5
comp=Z,46nm,18.9s,baz=332,slow=40
SDCO Great Sand Dun 32.30 331 P 05 39 35.2 +0.7
JFWS Jewell Farm 32.60 354 IAmb IAmb 05 39 35.9
comp=Z,7.6nm,0.8s
X16A Lo Mia Camp, P 33.23 320 P 05 39 44.4 +1.8
PV03 Paradox Valley 34.38 328 IAmb IAmb 05 39 54.6
comp=Z,3.5nm,0.8s
PV05 Paradox Valley 34.38 327 IAmb IAmb 05 39 54.4
comp=Z,3.4nm,0.7s
PV12 Saucer Basin, 34.40 328 P P 05 39 53.4 +0.6
PV18 Skein Mesa, Pa 34.41 327 P 05 39 53.2 +0.4
PV16 Nyswonger Mesa 34.46 328 P P 05 39 53.7 +0.5
PV16 IAmb IAmb 05 39 54.9
comp=Z,3.3nm,0.6s
PV17 East Wray Mesa 34.46 327 IAmb IAmb 05 39 55.2
comp=Z,5.6nm,0.7s
PV19 Morning Glory 34.49 327 IAmb IAmb 05 39 55.1
comp=Z,5.5nm,0.6s
PV20 West Nyswonger 34.51 328 IAmb IAmb 05 39 55.6
comp=Z,3.6nm,0.7s
PV10 Paradox Valley 34.57 327 IAmb IAmb 05 39 55.7
comp=Z,7.2nm,0.9s
PV23 Carpenter Ridg 34.61 328 IAmb IAmb 05 39 56.7
comp=Z,7.6nm,1.1s
SADO Sadowa 34.80 9 LR LR 05 54 42.6
comp=Z,97nm,18.6s,baz=204,slow=38
SRU San Rafael Swe 35.90 327 IAmb IAmb 05 40 07.3
comp=Z,3.0nm,0.6s
TPNV Topopah Spring 37.86 319 P 05 40 24.2 +1.8
TPNV IAmb IAmb 05 40 26.7
comp=Z,4.9nm,1.1s
PDAR Pinedale Array 38.16 332 P P 05 40 24.5 -0.3
comp=Z,0.5nm,0.4s,baz=119,slow=11,SNR=7.5
PDAR PcP PcP 05 42 39.8 +0.2
comp=Z,0.6nm,0.7s,baz=152,slow=5.1,SNR=4.9
comp=Z,0.5nm,0.4s
HWUT Hardware Ranch 38.26 329 IAmb IAmb 05 40 26.8
comp=Z,4.4nm,0.7s
DSP Deep Springs 39.22 318 P P 05 40 35.5 +1.9
SNOW Snow King Moun 39.25 331 P P 05 40 34.7 +0.7
NV11 Mina Array Sit 39.96 320 P P 05 40 41.6 +1.7
NV11 IAmb IAmb 05 40 43.5
comp=Z,6.9nm,1.0s
NVAR Mina Array Bea 40.05 320 P P 05 40 42.5 +1.8
NVAR Mina Array Bea 40.05 320 P P 05 40 42.3 +1.6
comp=Z,2.9nm,0.6s,baz=135,slow=7.9,SNR=29
NVAR PcP PcP 05 42 46.9 +1.3
comp=Z,1.8nm,0.7s,baz=133,slow=4.7,SNR=12
comp=Z,2.9nm,0.6s
LHV Little Huntoon 40.08 319 P P 05 40 43.6 +3.0
LHV IAmb IAmb 05 40 44.6
comp=Z,5.0nm,0.8s
ULM Lac du Bonnet 40.54 350 P P 05 40 41.1 -3.2
comp=Z,2.5nm,0.9s,baz=177,slow=5.5,SNR=3.3
comp=Z,2.5nm,0.9s
WAKR Walker 40.82 319 IAmb IAmb 05 40 50.6
comp=Z,4.8nm,0.9s
HLID Hailey 41.13 329 P 05 40 49.6 +0.1
LRM Limekiln Ridge 41.83 332 P P 05 40 56.0 +0.7
BEKR Beckworth 42.18 320 P 05 41 00.2 +2.0
PLID Pearl Lake 43.01 329 P 05 41 06.2 +1.3
PINE Pine Mountain 44.84 324 IAmb IAmb 05 41 21.0
comp=Z,4.7nm,0.9s
HAWA Hanford 45.71 328 P 05 41 26.0 -0.3
HAWA IAmb IAmb 05 41 27.7
comp=Z,3.2nm,0.7s
BDFB Brasilia 45.82 124 P P 05 41 28.8 +1.2
BDFB IAmb IAmb 05 41 49.8
comp=Z,6.4nm,1.2s
BDFB Brasilia 45.82 124 P P 05 41 29.7 +2.1
comp=Z,2.5nm,0.8s,baz=302,slow=14,SNR=4.5
BDFB LR LR 06 01 09.1
comp=Z,74nm,18.5s,baz=312,slow=37
comp=Z,2.5nm,0.8s
H04A Detroit Lake 46.09 324 IAmb IAmb 05 41 37.4
comp=Z,4.6nm,0.6s
HOOD Mount Hood Mea 46.18 325 P P 05 41 31.3 +1.2
MXC Moxie City 46.23 328 P P 05 41 31.2 +0.8
MXC IAmb IAmb 05 41 33.0
comp=Z,3.5nm,0.8s
J01E Myrtle Point 46.25 322 P P 05 41 31.9 +1.3
SCHQ Schefferville 46.92 15 P P 05 41 31.6 -4.0
comp=Z,4.7nm,0.8s,baz=232,slow=7.5,SNR=8.9
SCHQ LR LR 06 00 03.8
comp=Z,48nm,20.8s,baz=212,slow=35
comp=Z,4.7nm,0.8s
PLCA Paso Flores 52.88 165 P P 05 42 28.0 +6.9
comp=Z,2.2nm,0.8s,baz=324,slow=9.2,SNR=5.9
comp=Z,2.2nm,0.8s
FRB Frobisher Bay 54.74 10 LR LR 06 06 34.7
comp=Z,77nm,18.1s,baz=166,slow=37
SFJD Kangerlussuaq 61.37 15 LR LR 06 09 25.9
comp=Z,61nm,19.7s,baz=205,slow=36
INK Inuvik 65.53 343 LR LR 06 15 40.8
comp=Z,30nm,18.1s,baz=254,slow=39
ILAR Eielson Array 68.39 336 P P 05 44 05.9 -0.7
ILAR Eielson Array 68.39 336 P P 05 44 05.1 -1.5
comp=Z,8.8nm,0.9s,baz=99,slow=4.1,SNR=7.8
comp=Z,0.8nm,0.9s
ESDC Sonseca Array 77.51 52 P P 05 44 58.1 -3.1
comp=Z,0.8nm,0.8s,baz=280,slow=6.4,SNR=5.0
comp=Z,0.8nm,0.8s
SPITS Spitsbergen Ar 82.47 12 LR LR 06 22 00.8
comp=Z,29nm,18.4s,baz=294,slow=36
NOA NORSAR Array B 84.58 29 LR LR 06 19 28.1
comp=Z,9.8nm,20.1s,baz=275,slow=33
BELA Belgrano 2 92.62 170 P P 05 46 19.6 +3.3
TIXI Tiksi 94.89 349 P P 05 46 29.0 +2.1
KURBB Kurchatov Arra 117.81 11 PKP PKPdf 05 51 50.3 -1.4
comp=Z,0.4nm,0.7s,baz=360,slow=1.9,SNR=4.4
KSRS Korea Array 122.66 328 PKP PKPdf 05 52 01.4 0.0
comp=Z,1.6nm,0.7s,baz=5.7,slow=1.6,SNR=9.3
NJ2 Nanjing 131.47 331 eP PKPdf 05 52 19.5 +1.1
NJ2 pmax pmax
comp=Z,11nm,0.6s
LZH Lanzhou 132.82 349 ePKP PKPdf 05 52 18.5 -2.6
LZH sPKP 05 52 29.2
PZH PanZhiHua 142.53 348 PKP PKPdf 05 52 39.7 +0.6
CMAR Chiang Mai Arr 150.89 350 PKPbc PKPbc 05 52 57.4 -1.4
comp=Z,2.3nm,0.8s,baz=336,slow=3.7,SNR=7.1

TEH ***01*** *05:41:24.5, 35°.32N×46°.65E, h8km±496km*
ISN ***01*** *05:41:24.5±1.4, 35°.39N×46°.66E, h25km±42km, ML2.8*
ISC 01 05:41:23.4±2.2, 35°.4N±0°.1×46°.70E±0°.05, h8km±12km, n9, σ0.59/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILIN	Lien	0.53	155	Pg	Pg	05 41 33.7	+0.1
IDHR	Dehrasn	0.74	200	Pg	Pg	05 41 36.8	-0.9
SNQR	Sonqor, Kerman	0.94	125	Pg	Pb	05 41 42.3	+0.2
SNQR				Sg	Sn	05 41 56.5	-0.3
IGHG	Ghaleghazi	1.07	186	Pg	Pn	05 41 44.3	-0.6
GLG1	Gilan-e-Gharb	1.44	207	Pg	Pg	05 41 51.3	+0.4
GLG1				Sg	Sg	05 42 09.9	+0.3
ILBA	Ilam Banvizeh	1.81	193	Pg	Pg	05 41 57.8	-0.4
IKRK	Kirkuk	1.92	271	*e*Pg	Pb	05 41 59.0	+0.3
IKRK				*e*Sg	Sb	05 42 22.0	-0.9
IKRK				AML	AML	05 42 34.1	
	comp=N,126nm,0.4s						
IKRK				AML	AML	05 42 42.0	
	comp=E,102nm,0.3s						
IBDR	Badra	2.37	196	*e*Pn	Pn	05 42 03.0	+0.5
IBDR				*e*Sn	Sn	05 42 32.0	+0.2
BHD	Baghdad	2.86	223	*e*Pn	Pn	05 42 10.0	+0.7
BHD				*e*Sn	Sn	05 42 44.0	+0.1

UCR ***01*** *05:41:37.3±1.0, 10°.32N×86°.30W, h18km±4km, MW4.8*
CATAC ***01*** *05:41:38.9±0.2, 10°N±2°×8°6W±°, h10km, M4.1/36, MLv4.1/36, Error ellipse: s-maj=4.8km s-min=2.1km az=47.1, confirmed*
IDC ***01*** *05:41:38.6±0.9, 11°.19N×85°.67W, h0km, mb3.7/5, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=52.2km s-min=10.4km az=53.0*
NEIC ***01*** *05:41:43.0±1.7, 10°.57N±0°.07×86°.01W±0°.07, h35km±2km, mb4.2/62, Error ellipse: s-maj=14.6km s-min=7.9km az=223.0*
ISC 01 05:41:39.4±0.6, 10°.41N±0°.04×86°.19W±0°.04, h21km±3km, n194, σ1°23/203, mb4.2/37, 22C-9D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC

SACU Santa Cruz 0.61 103 eP Pb 05 41 51.2 -0.3
ALIBA Liberia Airpor 0.66 74 eP Pn 05 41 53.3 -0.3
ALIBA eS Sn 05 42 05.9 +2.5
ELI1 Hacienda Flor 0.67 69 eP Pn 05 41 53.7 0.0
LAPC Finca la Perla 0.83 64 eP Pn 05 41 55.1 -0.7
PLVR Palo Verde 0.83 94 eP Pb 05 41 54.7 -0.5
CMARA Lajas Hojancha 0.85 117 eP Pb 05 41 54.3 -1.2
CMARA Lajas Hojancha 0.85 117 S Sb 05 42 05.7 -0.8
CMARA Lajas Hojancha 0.85 117 P Pb 05 41 54.4 -1.1
ELVJ El Viejo (Barb 0.86 87 eP Pb 05 41 53.2 -2.4
INDI Punta indio, G 0.86 128 S Sn 05 42 09.1 +0.8
INDI Punta indio, G 0.86 128 ⇑P Pn 05 41 54.5 -1.9
LCRUZ La Cruz 0.87 39 eP Pn 05 41 56.3 -0.1
GPS3 Bodega del ICE 0.88 67 eP Pn 05 41 57.3 +0.6
GPS2 Hotel Rincn d 0.90 67 eP Pn 05 41 56.3 -0.5
PG27 Guanacaste Pro 0.90 61 eP Pn 05 41 56.4 -0.5
VRLE La Escondida, 0.90 65 eP Pn 05 41 56.2 -0.7
BAGA Bagaces 0.92 82 eP Pn 05 41 56.7 -0.4
VORI VORI 0.93 64 eP Pn 05 41 56.8 -0.6
BUAI Buenos Aires 0.97 61 eP Pn 05 41 57.6 -0.2
PEJA Penjamo Buenos 0.99 60 eP Pn 05 41 58.2 0.0
COLC Colonia 1.01 75 eP Pn 05 41 57.8 -0.5
CARN Rivas 1.02 40 eP Pn 05 41 58.6 +0.2
CARN Rivas 1.02 40 ⇑P Pn 05 41 58.7 +0.2
MESS Mesas 1.04 71 eP Pb 05 41 58.4 -0.3
CUI Cuipilapa 1.04 76 eP Pb 05 41 58.4 -0.3
HORNC Hornillas 1.04 73 eP Pb 05 41 58.4 -0.4
CNAS Canas 1.08 89 eP Pb 05 41 59.0 -0.4
INVE Universidad In 1.11 86 eP Pb 05 41 59.4 -0.6
MOTZ Rio Naranjo 1.14 76 eP Pb 05 42 00.1 -0.3
TIMP Tierras Morena 1.17 81 eP Pb 05 42 00.1 -0.9
TILA Tilaran 1.20 87 eP Pb 05 42 00.7 -0.9
JUNT Juntas 1.22 96 eP Pn 05 42 00.5 -0.8
JTS Las Juntas de 1.23 95 Pn 05 42 00.5 -0.8
JTS Las Juntas de 1.23 95 Pg Pn 05 42 00.3 -1.0
37nm,0.3s,baz=301,slow=22,SNR=20
JTS Lg Lg 05 42 16.8
88nm,0.3s,baz=346,slow=23,SNR=5.2
JTS Las Juntas de 1.23 95 eP Pn 05 42 00.4 -1.0
TENO El Achiote 1.23 76 eP Pn 05 42 00.6 -0.9
MORN Al O del Volca 1.25 25 ⇑P Pb 05 42 02.2 -0.2
MORN S Sb 05 42 19.9 +1.7
UPAL Upala 1.26 67 eP Pb 05 42 01.8 -0.6
QUEB Quebradon, Cot 1.29 80 eP Pb 05 42 02.3 -0.8
NADN Granada 1.34 7 eP Pn 05 42 02.6 -0.4
NADN Granada 1.34 7 P Pb 05 42 03.2 -0.5
NADN S Sb 05 42 21.3 +0.6
MTEVE Monteverde 1.35 94 eP Pn 05 42 02.6 -0.5
VERA Finca Concepci 1.38 71 eP Pb 05 42 03.6 -0.8
TABAC Tabacon 1.41 86 eP Pb 05 42 04.2 -0.7
CASO Castillo 1.43 89 eP Pb 05 42 04.3 -1.1
ARE1 Arenal 1 1.45 88 eP Pb 05 42 05.0 -0.7
VARE2 V. Arenal 1.45 88 eP Pb 05 42 05.0 -0.8
CEDE Laguna Cedeo 1.47 87 eP Pb 05 42 05.3 -0.8
VACR Volcan Arenal 1.49 87 eP Pb 05 42 05.4 -1.0
FORC Fortuna 1.50 88 eP Pb 05 42 05.5 -1.0
NANN Nandasmo 1.53 3 S Sb 05 42 27.5 +1.6
NANN Nandasmo 1.53 3 ⇑P Pb 05 42 06.8 -0.3
SABN Sabanita 1.54 1 P Pn 05 42 06.1 +0.4
SOCE Pocosol 1.55 91 Pb 05 42 06.0 -1.4
SOCE Pocosol 1.55 91 eP Pn 05 42 05.9 -1.4
SOCE Pocosol 1.55 91 S Sb 05 42 27.9 +1.3
SOCE Pocosol 1.55 91 ⇑P Pb 05 42 06.0 -1.4
LCHIL Los Chiles 1.58 66 eP Pb 05 42 07.2 -0.8
MAS3 Al N del Volca 1.61 1 P Pn 05 42 07.1 +0.5
MAS3 S Sb 05 42 28.7 +0.3
UNAN Cigeo UNAN 1.70 357 ⇓P Pn 05 42 08.5 +0.6
UNAN S Sb 05 42 30.5 -0.4
TISN Laguna Tiscapa 1.73 357 ⇑P Pn 05 42 07.6 -0.7
MGAN Managua 1.73 358 Pn 05 42 08.4 +0.1
MGAN Managua 1.73 358 eP Pn 05 42 08.3 0.0
MGAN Managua 1.73 358 S Sb 05 42 31.9 +0.1
MGAN Managua 1.73 358 ⇑P Pn 05 42 08.6 +0.3
WILN Americas 2 1.75 0 P Pn 05 42 08.1 -0.3
SAPS Ciudad Sandino 1.77 353 S Sb 05 42 31.9 -0.9
SAPS Ciudad Sandino 1.77 353 ⇑P Pn 05 42 09.2 +0.4
COVE Coope Vega, Sa 1.79 80 S Sb 05 42 34.5 +1.1
COVE Coope Vega, Sa 1.79 80 ⇓P Pb 05 42 09.9 -1.5
COPN Copaltepe 1.81 348 eP Pn 05 42 09.0 -0.3
COPN Copaltepe 1.81 348 P Pn 05 42 08.3 -1.0
ACON Acoyapa 1.85 33 Pn 05 42 09.9 0.0
ACON Acoyapa 1.85 33 eP Pn 05 42 10.0 0.0
ACON Acoyapa 1.85 33 S Sb 05 42 35.7 +0.5
ACON Acoyapa 1.85 33 ⇑P Pb 05 42 10.1 -2.4
APQ3 Volcan Apoyequ 1.86 355 P Pb 05 42 11.9 -0.9
APQ3 S Sb 05 42 34.7 -1.0
TCS1 Tacares 1.90 101 S Sb 05 42 42.9 +6.2
TCS1 Tacares 1.90 101 ⇑P Pb 05 42 14.0 +0.6
MOMN Momotombo 2.02 350 P Pn 05 42 12.4 +0.1
MOM2 El Cardon 2.04 352 ⇑P Pn 05 42 12.7 +0.2
HDC Heredia 2.08 101 Pn Pn 05 42 14.0 +0.7
HDC Heredia 2.08 101 ⇓P Pb 05 42 15.1 -1.5
BOAB BOACO BROADBAN 2.10 14 Pn 05 42 13.3 0.0
BOAB BOACO BROADBAN 2.10 14 S Sb 05 42 42.4 0.0
BOAB BOACO BROADBAN 2.10 14 ⇑P Pn 05 42 13.6 +0.3
CNGN Cerro Negro 2.14 347 Pn 05 42 13.6 -0.4
CNGN Cerro Negro 2.14 347 S Sb 05 42 43.8 +0.1
CNGN Cerro Negro 2.14 347 ⇑P Pn 05 42 13.9 -0.1
PLRN Geotermica Pol 2.24 345 P Pn 05 42 13.7 -1.6
LCR2 La Lucha 2 2.25 107 Pn 05 42 14.1 -0.5
LCR2 La Lucha 2 2.25 107 S Sb 05 42 45.6 -1.4
LCR2 La Lucha 2 2.25 107 ⇓P Pn 05 42 16.8 +1.1
HERN Volcan Telica 2.28 344 Pn 05 42 16.1 +0.2
PKGN Cerro Pekin 2.38 341 P Pn 05 42 17.3 +0.1
TRT2 Tortugero 2.42 86 S Sb 05 42 51.7 0.0
TRT2 Tortugero 2.42 86 ⇑P Pb 05 42 20.4 -1.9
CRIN San Cristobal 2.43 340 Pn 05 42 18.6 +0.7
CRIN San Cristobal 2.43 340 ⇓P Pn 05 42 18.4 +0.4
CVTV Tajo 2.44 99 eP Pb 05 42 20.4 -2.3
MATN Matagalpa 2.52 6 ⇑P Pn 05 42 18.7 -0.6
ESPN Las Esperanzas 2.57 46 Pn 05 42 20.2 +0.4
OCHAL Ojochal 2.83 117 ⇓P Pn 05 42 25.3 +1.9
BLUN Bluefields 2.86 56 ⇑P Pb 05 42 25.8 -3.9
POTN Potosi Cosigui 2.88 334 ⇑P Pn 05 42 24.9 +0.7
POTN S Sn 05 42 58.3 +0.2
RCPN Sur Rio San Ju 3.10 2 P Pn 05 42 28.3 +0.7
DRK0 Durika 3.12 111 ⇑P Pb 05 42 31.2 -3.0
RCVN Varillal2 3.16 360 ⇑P Pn 05 42 29.1 +1.0
OCON Estacion meteo 3.22 355 ⇓P Pn 05 42 29.8 +0.9
CNCH Conchagua 3.27 331 S Sn 05 43 07.3 -0.8
CNCH Conchagua 3.27 331 ⇓P Pn 05 42 30.2 +0.5
LCND La Caada 3.33 330 S Sn 05 43 09.7 +0.5
LCND La Caada 3.33 330 P Pn 05 42 30.7 +0.4
PACA Pacayal 3.69 326 ⇑P Pn 05 42 36.5 +1.1
TGUH Tegucigalpa,Un 3.78 344 Pn 05 42 37.4 +0.8
TGUH Tegucigalpa,Un 3.78 344 P Pn 05 42 38.9 +2.3
BRU2 Volcan 3.81 115 Pn Pn 05 42 39.5 +2.5
BRU2 Volcan 3.81 115 ⇓P Pn 05 42 39.7 +2.8
COEG Centro de Oper 4.14 321 ⇑P Pn 05 42 41.9 +0.4
JAYA Jayaque - finc 4.54 316 P Pn 05 42 49.7 +2.7
NUBE Las Nubes 4.94 315 ⇑P Pn 05 42 52.9 +0.3
MTO3 Montecristo 5.03 322 Pn 05 42 55.6 +1.6
RTAL Retalhuleu 6.76 308 Pn Pn 05 43 20.2 +2.8
PETP Flores 7.39 332 Pn Pn 05 43 28.6 +2.5
CCIG Comitan 8.22 316 Pn Pn 05 43 41.1 +3.4
CMIG Matias Romero 10.74 309 Pn Pn 05 44 14.0 +1.9
0.3nm,0.3s,baz=157,slow=11,SNR=5.1
1.8nm,0.6s
HKT Hockley 21.43 337 P P 05 46 26.6 +0.6
833A Chaparral WMA, 21.71 327 P P 05 46 28.7 -0.5
833A IAmb IAmb 05 46 32.7
comp=Z,6.7nm,0.6s
152A Waverly Hall 22.20 3 P 05 46 34.7 +0.2
152A IAmb IAmb 05 46 36.6
comp=Z,9.6nm,0.8s
146A Union 22.28 354 P P 05 46 34.9 -0.4
146A IAmb IAmb 05 46 43.6
comp=Z,10.0nm,0.8s
LRAL Lakeview Retre 22.54 358 P 05 46 38.2 +0.2
LRAL IAmb IAmb 05 46 40.3
comp=Z,4.5nm,0.7s
NATX Nacogdoches 22.65 341 P P 05 46 40.1 +0.9
Z47A Carrollton 22.75 356 P P 05 46 39.8 -0.5
Z47A IAmb IAmb 05 46 47.8
comp=Z,8.3nm,1.0s
435B Jarrell 22.88 334 P P 05 46 42.6 +0.9
DRIO Del Rio 23.23 327 P P 05 46 45.7 +0.4
Y49A Blount Mountai 23.34 360 P 05 46 46.3 -0.1
Y49A IAmb IAmb 05 46 47.6
comp=Z,7.3nm,0.7s

Y52A	**Lilburn**	**23.43**	**4**	P	**P**	**05 46 47.3**	**0.0**
Y52A				IAmb	IAmb	05 46 48.2	
	comp=Z,6.6nm,1.0s						
JCT	**Junction City**	**23.65**	**330**	P	**P**	**05 46 48.7**	**-0.8**
BRDY	**Brady**	**23.94**	**332**		**P**	**05 46 52.1**	**0.0**
BRDY				IAmb	IAmb	05 46 52.6	
	comp=Z,5.3nm,0.8s						
X48A	**Hartselle**	**23.95**	**358**		**P**	**05 46 52.2**	**0.0**
FW16	**Waxahatchie**	**24.09**	**337**	P	**P**	**05 46 53.9**	**+0.3**
OXF	**Oxford**	**24.18**	**354**		**P**	**05 46 53.7**	**-0.6**
PLAL	**Pickwick Lake**	**24.53**	**356**	P	**P**	**05 46 57.4**	**-0.2**
PLAL				IAmb	IAmb	05 46 57.9	
	comp=Z,5.0nm,0.8s						
BG3	**Lake Jocassee**	**24.66**	**6**	P	**P**	**05 46 58.5**	**-0.2**
BG3				IAmb	IAmb	05 46 59.2	
	comp=Z,5.3nm,0.8s						
W52A	**Murphy**	**24.66**	**4**	P	**P**	**05 46 58.6**	**-0.2**
W52A				IAmb	IAmb	05 46 59.8	
	comp=Z,7.8nm,1.0s						
SWET	**Sewanee**	**24.70**	**1**	P	**P**	**05 46 58.2**	**-0.9**
SWET				IAmb	IAmb	05 47 07.0	
	comp=Z,6.7nm,0.9s						
UALR	**University of**	**24.90**	**348**	P	**P**	**05 46 59.8**	**-1.1**
UALR				IAmb	IAmb	05 47 07.2	
	comp=Z,6.6nm,0.8s						
TXAR	**Lajitas Array**	**24.93**	**322**		**P**	**05 47 02.3**	**+0.9**
TXAR	**Lajitas Array**	**24.93**	**322**	P	**P**	**05 47 01.4**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=139,slow=9.7,SNR=20						
TXAR				PcP	**PcP**	**05 50 38.0**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=127,slow=4.0,SNR=4.7						
	comp=Z,1.7nm,0.6s						
TX31	**Lajitas Ar. Si**	**24.93**	**322**		**P**	**05 47 01.9**	**+0.5**
PLPT	**Palo Pinto**	**24.94**	**335**	P	**P**	**05 47 02.6**	**+1.2**
MIAR	**Mount Ida**	**24.96**	**345**		**P**	**05 46 59.9**	**-1.6**
MIAR				IAmb	IAmb	05 47 02.0	
	comp=Z,5.2nm,0.8s						
Z35A	**Perchaven, San**	**24.98**	**338**	P	**P**	**05 47 03.0**	**+1.3**
Z35A				IAmb	IAmb	05 47 03.4	
	comp=Z,6.9nm,0.7s						
V53A	**Saluda**	**25.34**	**6**	P	**P**	**05 47 04.9**	**0.0**
V53A				IAmb	IAmb	05 47 07.9	
	comp=Z,3.4nm,0.7s						
ABTX	**Abilene, Hawle**	**25.36**	**333**	P	**P**	**05 47 04.5**	**-0.6**
ABTX				IAmb	IAmb	05 47 07.0	
	comp=Z,4.8nm,0.7s						
WHAR	**Wooly Hollow**	**25.39**	**348**	P	**P**	**05 47 04.6**	**-0.7**
WHAR				IAmb	IAmb	05 47 04.7	
	comp=Z,7.5nm,1.1s						
CLTN	**Cedars of Leba**	**25.57**	**360**	P	**P**	**05 47 05.7**	**-1.3**
WVT	**Waverly**	**25.65**	**357**	P	**P**	**05 47 06.9**	**-0.8**
MNHN	**Monahans**	**25.89**	**326**		**P**	**05 47 10.9**	**+1.0**
MNHN				IAmb	IAmb	05 47 11.7	
	comp=Z,4.1nm,0.7s						
FCAR	**Ozark Folk Cen**	**25.94**	**349**	P	**P**	**05 47 08.8**	**-1.5**
U49A	**Red Boiling Sp**	**26.00**	**1**	P	**P**	**05 47 09.7**	**-1.1**
U49A				IAmb	IAmb	05 47 10.4	
	comp=Z,4.9nm,0.8s						
APMT	**Aspermont**	**26.16**	**333**	P	**P**	**05 47 11.8**	**-0.6**
T47A	**Sharon Grove**	**26.48**	**358**	P	**P**	**05 47 13.7**	**-1.5**
T47A				IAmb	IAmb	05 47 14.2	
	comp=Z,5.8nm,0.8s						
HHAR	**Hobbs**	**26.70**	**346**	P	**P**	**05 47 15.7**	**-1.6**
WMOK	**Wichita Mounta**	**26.81**	**337**	P	**P**	**05 47 20.5**	**+2.2**
WMOK				IAmb	IAmb	05 47 21.1	
	comp=Z,5.4nm,0.8s						
S51A	**Beattyville**	**27.22**	**5**	P	**P**	**05 47 21.4**	**-0.5**
S51A				IAmb	IAmb	05 47 24.4	
	comp=Z,5.4nm,1.1s						
WCI	**Wyandotte Cave**	**27.71**	**360**	P	**P**	**05 47 24.8**	**-1.4**
WCI				IAmb	IAmb	05 47 25.3	
	comp=Z,5.8nm,0.8s						
R49A	**Shelbyville**	**27.78**	**2**	P	**P**	**05 47 25.7**	**-1.2**
R49A				IAmb	IAmb	05 47 25.9	
	comp=Z,3.5nm,0.7s						
MSTX	**Muleshoe**	**27.95**	**330**	P	**P**	**05 47 28.4**	**-0.2**
MSTX				IAmb	IAmb	05 47 48.0	
	comp=Z,3.7nm,0.7s						
Q51A	**Peebles**	**28.61**	**5**	P	**P**	**05 47 32.9**	**-1.4**
P52A	**Corning**	**29.33**	**6**	P	**P**	**05 47 40.1**	**-0.6**
P52A				IAmb	IAmb	05 47 40.4	
	comp=Z,5.7nm,0.8s						
O53A	**New Philadelph**	**30.05**	**8**	P	**P**	**05 47 46.7**	**-0.4**
M57A	**Sunshine Farm,**	**31.83**	**13**	P	**P**	**05 48 02.7**	**-0.1**
SDCO	**Great Sand Dun**	**32.29**	**331**		**P**	**05 48 08.2**	**+1.1**
GO01	**Chusmiza**	**34.26**	**151**	P	**P**	**05 48 25.7**	**+1.0**
PV13	**Radium Mtn., P**	**34.29**	**327**	P	**P**	**05 48 25.4**	**+0.9**
PV13				IAmb	IAmb	05 48 26.3	
	comp=Z,2.2nm,0.9s						
PV03	**Paradox Valley**	**34.37**	**328**	P	**P**	**05 48 25.5**	**+0.2**
PV18	**Skein Mesa, Pa**	**34.40**	**327**		**P**	**05 48 26.6**	**+1.1**
PV11	**David Mesa, Pa**	**34.42**	**328**	P	**P**	**05 48 27.1**	**+1.5**
PV17	**East Wray Mesa**	**34.45**	**327**	P	**P**	**05 48 27.2**	**+1.3**
PV17				IAmb	IAmb	05 48 34.5	
	comp=Z,3.8nm,1.0s						
J59A	**Piesco**	**34.47**	**15**	P	**P**	**05 48 25.1**	**-0.7**
PV10	**Paradox Valley**	**34.56**	**327**	P	**P**	**05 48 27.5**	**+0.6**
PV10				IAmb	IAmb	05 48 38.7	
	comp=Z,4.0nm,0.9s						
G62A	**West of Eustis**	**37.21**	**18**	P	**P**	**05 48 49.1**	**-0.1**
PDAR	**Pinedale Array**	**38.15**	**332**	P	**P**	**05 48 56.4**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=117,slow=8.7,SNR=2.5						
	comp=Z,0.3nm,0.6s						
HWUT	**Hardware Ranch**	**38.25**	**329**	P	**P**	**05 48 59.4**	**+1.0**
HWUT				IAmb	IAmb	05 48 59.5	
	comp=Z,2.3nm,0.9s						
NVAR	**Mina Array Bea**	**40.05**	**320**	P	**P**	**05 49 15.5**	**+2.1**
NVAR	**Mina Array Bea**	**40.05**	**320**	P	**P**	**05 49 15.1**	**+1.6**
	comp=Z,1.9nm,0.7s,baz=134,slow=7.1,SNR=14						
NVAR				PcP	**PcP**	**05 51 20.1**	**+1.9**
	comp=Z,0.6nm,0.6s,baz=92,slow=4.5,SNR=3.7						
	comp=Z,1.9nm,0.7s						
BOZ	**Bozeman (W)**	**41.28**	**333**	P	**P**	**05 49 23.6**	**+0.1**
BEKR	**Beckworth**	**42.18**	**320**	P	**P**	**05 49 32.6**	**+1.7**
H04A	**Detroit Lake**	**46.09**	**324**	P	**P**	**05 50 02.8**	**+0.8**
H04A				IAmb	IAmb	05 50 11.8	
	comp=Z,2.7nm,0.6s						
SCHQ	**Schefferville**	**46.90**	**15**	P	**P**	**05 50 04.5**	**-3.7**
	comp=Z,0.7nm,0.5s,baz=228,slow=12,SNR=3.5						
	comp=Z,0.7nm,0.5s						
G03D	**McMinnville, O**	**47.02**	**324**	P	**P**	**05 50 10.7**	**+1.4**
ILAR	**Eielson Array**	**68.38**	**336**	P	**P**	**05 52 37.0**	**-2.2**
	comp=Z,0.4nm,0.9s,baz=103,slow=3.9,SNR=4.6						
	comp=Z,0.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**150.88**	**350**	PKPbc	**PKPbc**	**06 01 31.1**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=95,slow=1.4,SNR=5.2						

*IDC **01** 05:47:33.2±0.9,2°.66S×138°.46E, h0km, mb3.8/6, mbtmp3.9/9, ML3.9/3, MS2.7/3, Error ellipse: s-maj=21.0km s-min=16.3km az=169.0*

*DJA **01** 05:47:36.9±0.5,3°S±5°×13°9E±°, h10km, M4.1/3, MLv4.1/3*

ISC 01 05:47:37.9±0.8, 2°.8S±0°.1×138°.57E±0°.07, h32km, n14, σ0$59/12, mb3.8/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.77**	**11**	P	Pn	05 47 47.3	-5.2
GENI	**Genyem**	**1.60**	**85**	P	**Pn**	**05 48 04.7**	**+0.7**
JAY	**Jayapura**	**2.15**	**84**	Pn	**Pn**	**05 48 11.9**	**+0.4**
	11nm,0.3s,baz=247,slow=8.5,SNR=35						
JAY				LR	LR	05 48 35.7	
	comp=Z,46nm,21.5s,baz=354,slow=28						
JAY				Lg	Lg	05 48 45.7	
	18nm,0.3s,baz=309,slow=17,SNR=5.5						
	39nm,0.4s						
JAY	**Jayapura**	**2.15**	**84**	P	**Pn**	**05 48 11.9**	**+0.4**
BAKI	**Biak**	**2.91**	**302**	P	**Pn**	**05 48 22.5**	**+0.6**
GUMO	**Guam**	**17.39**	**21**	LR	LR	05 56 36.1	
	comp=Z,35nm,21.3s,baz=98,slow=31						
WRA	**Warramunga Arr**	**17.58**	**193**	P	**Pn**	**05 51 39.9**	**-0.7**
	0.8nm,0.3s,baz=17,slow=12,SNR=17						
WRA				LR	LR	05 59 44.7	
	comp=Z,71nm,19.1s,baz=23,slow=42						
	2.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.84**	**219**	P	**P**	**05 52 06.4**	**+0.2**
	0.2nm,0.3s,baz=47,slow=11,SNR=1.3						
	2.4nm,1.0s						
ASAR	**Alice Springs**	**21.28**	**192**	P	**P**	**05 52 22.6**	**+0.7**
	5.5nm,0.7s,baz=17,slow=8.9,SNR=25						
	5.5nm,0.7s						
SONM	**Songino Array**	**57.69**	**335**	P	**P**	**05 57 25.7**	**+0.2**
	0.4nm,0.5s,baz=160,slow=5.4,SNR=2.7						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**73.68**	**325**	P	**P**	**05 59 08.6**	**+0.1**
	0.2nm,0.3s,baz=121,slow=6.0,SNR=5.3						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**79.26**	**325**	P	**P**	**05 59 39.8**	**-0.3**
	0.9nm,0.7s,baz=134,slow=6.2,SNR=3.7						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**85.92**	**24**	P	**P**	**06 00 13.6**	**-0.9**
	0.4nm,0.7s,baz=261,slow=4.7,SNR=5.1						
	0.4nm,0.7s						
QSPA	**South Pole Qui**	**87.20**	**180**	P	**P**	**06 00 20.8**	**-0.1**
	1.0nm,0.6s,baz=36,slow=0.2,SNR=14						
	1.0nm,0.6s						

*ASRS **01** 06:00:26.0±1.2,54°.12N×86°.41E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 06:00:29.3±2.6, 54°.08N×86°.43E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=21.8km s-min=13.2km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**263**	I	I	06 05 59.7	
	baz=81,slow=327,SNR=4.7						
ZALV	**Zalesovo Beam**	**0.96**	**263**	Pg	Pg	06 00 46.5	-1.1
	0.7nm,0.3s,baz=82,slow=18,SNR=8.0						
ZALV				Lg	Lg	06 01 01.5	
	1.3nm,0.3s,baz=83,slow=31,SNR=9.2						
ZALV				Rg	Rg	06 01 05.9	
	2.0nm,0.4s,baz=77,slow=26,SNR=7.8						
KURBB	**Kurchatov Arra**	**5.95**	**238**	Pn	Pn	06 01 59.7	+1.2
	0.1nm,0.3s,baz=54,slow=13,SNR=5.2						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.76**	**202**	Pn	Pn	06 02 24.3	+0.9
	0.2nm,0.3s,baz=26,slow=13,SNR=7.7						
	0.2nm,0.3s						

*IDC **01** 06:04:58.9±0.7,2°.55S×138°.40E, h0km, mb4.1/11, mbtmp4.1/14, ML3.8/3, MS3.6/19, Error ellipse: s-maj=18.0km s-min=14.8km az=20.0*

*NEIC **01** 06:04:59.3±1.8,2°.41S±0°.09×138°.45E±0°.06, h10km±1km, mb4.4/16, Error ellipse: s-maj=16.7km s-min=7.0km az=149.0*

*DJA **01** 06:05:02.8±0.5,2°.5S±5°×13°9E±°, h10km, M4.2/5, MLv4.2/5*

ISC 01 06:05:02.7±0.5, 2°.55S±0°.06×138°.45E±0°.07, h32km, n58, σ1$51/43, mb4.2/17, MS3.6/16, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.62**	**25**	P	**Pb**	**06 05 12.8**	**-2.4**
GENI	**Genyem**	**1.72**	**91**	P	**Pn**	**06 05 31.8**	**+1.4**
JAY	**Jayapura**	**2.25**	**89**	Pn	**Pn**	**06 05 39.0**	**+1.2**
	7.9nm,0.3s,baz=265,slow=5.6,SNR=18						
JAY				Lg	Lg	06 06 12.3	
	15nm,0.3s,baz=302,slow=21,SNR=8.5						
	40nm,0.3s						
JAY	**Jayapura**	**2.25**	**89**	P	**Pn**	**06 05 38.8**	**+1.0**
BAKI	**Biak**	**2.70**	**300**	P	**Pn**	**06 05 47.0**	**+3.0**
FAKI	**Fak Fak**	**6.20**	**266**	Pn	**Pn**	**06 06 31.9**	**-0.3**
MANU	**Manus Island**	**8.93**	**87**	Pn	**Pn**	**06 07 09.0**	**-0.5**
SAUI	**Saumlaki**	**8.93**	**233**	Pn	**Pn**	**06 07 10.0**	**+0.4**
COEN	**Coen**	**12.26**	**158**	Pn	**Pn**	**06 07 55.3**	**+0.1**
MTN	**Manton Dam**	**12.53**	**215**		**Pn**	**06 07 59.7**	**+0.8**
SOEI	**Soe**	**15.80**	**242**	Pn	**Pn**	**06 08 43.6**	**+0.4**
SOEI				IAmb	IAmb	06 09 08.0	
	comp=Z,53nm,1.0s						
DAV	**Davao City (W)**	**16.01**	**307**	LR	LR	06 16 03.1	
	comp=Z,112nm,18.0s,baz=148,slow=42						
KNRA	**Kununurra**	**16.16**	**216**		**P**	**06 08 49.4**	**-1.1**
KNRA				IAmb	IAmb	06 09 03.4	
	comp=Z,16nm,0.6s						
GUMO	**Guam**	**17.26**	**22**	LR	LR	06 15 33.2	
	comp=Z,110nm,18.7s,baz=162,slow=37						
WB0	**Warramunga Arr**	**17.56**	**193**		**P**	**06 09 06.8**	**+0.7**
WRAB	**Tennant Creek**	**17.73**	**193**	P	**Pn**	**06 09 08.0**	**+0.7**
WRAB				IAmb	IAmb	06 09 43.3	
	comp=Z,16nm,0.9s						
WB2	**Warramunga Arr**	**17.74**	**193**		**Pn**	**06 09 07.3**	**-0.1**
WB2				IAmb	IAmb	06 09 18.1	
	comp=Z,20nm,0.9s						
WRA	**Warramunga Arr**	**17.74**	**193**	P	**Pn**	**06 09 07.2**	**-0.3**
WRA	**Warramunga Arr**	**17.74**	**193**	P	**Pn**	**06 09 06.6**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=14,slow=12,SNR=15						
WRA				LR	LR	06 16 51.7	
	comp=Z,293nm,18.2s,baz=350,slow=40						
	comp=Z,3.5nm,0.7s						
TOLI2	**Tolitoli**	**18.03**	**281**		**Pn**	**06 09 07.8**	**-3.3**
CTAO	**Charters Tower**	**19.02**	**157**	P	**P**	**06 09 22.4**	**+0.2**
CTAO				IAmb	IAmb	06 09 31.1	
	comp=Z,30nm,1.5s						
FITZ	**Fitzroy Crossi**	**19.91**	**218**	P	**P**	**06 09 31.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.91**	**218**	P	**P**	**06 09 33.0**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=24,slow=13,SNR=4.2						
	comp=Z,4.5nm,0.9s						
AS31	**Alice Springs**	**21.44**	**191**		**P**	**06 09 48.4**	**0.0**
AS31				IAmb	IAmb	06 09 59.3	
	comp=Z,6.5nm,0.7s						
ASAR	**Alice Springs**	**21.45**	**191**		**P**	**06 09 49.0**	**+0.5**
ASAR	**Alice Springs**	**21.45**	**191**	P	**P**	**06 09 48.4**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=20,slow=12,SNR=19						
ASAR				LR	LR	06 19 07.3	
	comp=Z,254nm,18.4s,baz=12,slow=40						
	comp=Z,2.7nm,0.7s						
HNR	**Honiara**	**22.43**	**109**	LR	LR	06 19 58.6	
	comp=Z,89nm,18.1s,baz=335,slow=40						
MBWA	**Marble Bar**	**25.97**	**223**	P	**P**	**06 10 32.0**	**-0.6**
MBWA				IAmb	IAmb	06 11 08.1	
	comp=Z,27nm,1.4s						
UGM	**Wanagama**	**28.30**	**258**	P	**P**	**06 10 52.0**	**-1.7**
STKA	**Stephens Creek**	**29.32**	**175**	LR	LR	06 24 01.8	
	comp=Z,230nm,18.8s,baz=345,slow=39						
HKPS	**Hong Kong Po S**	**34.24**	**317**	P	**P**	**06 11 43.4**	**-2.5**
TOO	**Toolangi**	**35.45**	**170**	P	**P**	**06 11 55.7**	**-0.5**
TOO				IAmb	IAmb	06 12 38.6	
	comp=Z,9.8nm,1.3s						
JHJ2	**Mitsune**	**35.50**	**2**	P	**P**	**06 11 53.6**	**-2.9**
JNU	**Nakatsue**	**36.20**	**349**	LR	LR	06 26 27.1	
	comp=Z,74nm,19.9s,baz=152,slow=36						
JSG	**Sagara**	**37.03**	**360**	P	**P**	**06 12 07.0**	**-2.7**
MJAR	**Matsushiro Arr**	**38.90**	**360**	LR	LR	06 26 49.5	
	comp=Z,46nm,19.5s,baz=157,slow=34						
KSRS	**Korea Array**	**40.99**	**347**	P	**P**	**06 12 41.8**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=166,slow=8.9,SNR=5.2						
	comp=Z,0.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**44.13**	**300**	P	**P**	**06 13 09.3**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=100,slow=3.5,SNR=5.1						
CMAR				LR	LR	06 33 15.1	
	comp=Z,25nm,18.4s,baz=285,slow=38						
	comp=Z,0.8nm,0.3s						
ASAJ	**Asahikawa**	**46.61**	**4**	LR	LR	06 32 35.1	
	comp=Z,24nm,19.7s,baz=188,slow=36						
USRK	**Ussuriysk Ar.**	**46.90**	**354**	LR	LR	06 31 36.8	
	comp=Z,48nm,18.8s,baz=193,slow=34						
LZH	**Lanzhou**	**50.20**	**323**	eP	P	06 14 04.0	+8.1
LZH				pmax	pmax		
	comp=Z,22nm,1.3s						
KLR	**Kul'dur**	**51.90**	**354**	LR	LR	06 34 34.5	
	comp=Z,44nm,18.7s,baz=204,slow=34						
GTA	**Gaotai**	**54.79**	**324**	eP	P	**06 14 32.2**	**+2.4**
GTA				pP	pP	06 14 35.2	-4.5
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SONM	**Songino Array**	**57.47**	**335**	P	**P**	**06 14 51.2**	**+2.5**
	comp=Z,0.6nm,0.6s,baz=124,slow=4.3,SNR=4.1						
	comp=Z,0.6nm,0.6s						
YAK	**Yakutsk**	**64.76**	**355**	LR	LR	06 42 36.6	
	comp=Z,42nm,18.8s,baz=154,slow=35						
MKAR	**Makanchi Array**	**69.51**	**322**	P	**P**	**06 16 10.1**	**+1.8**
	comp=Z,5.6nm,0.9s,baz=120,slow=7.3,SNR=14						
	comp=Z,5.6nm,0.9s						
KSH	**Kashi**	**70.79**	**313**	P	**P**	**06 16 19.1**	**+2.7**
KSH				pmax	pmax		
	comp=Z,15nm,0.8s						
ZALV	**Zalesovo Beam**	**71.67**	**330**	P	**P**	**06 16 22.1**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=64,slow=3.4,SNR=6.3						
	comp=Z,1.8nm,0.8s						
KURBB	**Kurchatov Arra**	**73.45**	**325**	P	**P**	**06 16 32.8**	**+0.8**
	comp=Z,2.4nm,1.0s,baz=112,slow=5.6,SNR=9.0						
	comp=Z,2.4nm,1.0s						
TIXI	**Tiksi**	**74.33**	**357**	LR	LR	06 49 02.0	
	comp=Z,41nm,19.1s,baz=190,slow=36						
BVAR	**Borovoye Array**	**79.03**	**325**	P	**P**	**06 17 04.8**	**+1.1**
	comp=Z,1.9nm,0.5s,baz=89,slow=6.4,SNR=7.8						
	comp=Z,1.9nm,0.5s						
NRIK	**Noril'sk**	**79.50**	**344**	P	**P**	**06 17 07.1**	**+1.3**
	comp=Z,2.7nm,0.8s,baz=88,slow=7.1,SNR=4.0						
	comp=Z,2.7nm,0.8s						
KDAK	**Kodiak Island**	**81.10**	**30**	LR	LR	06 48 34.2	
	comp=Z,53nm,20.8s,baz=235,slow=32						
MAW	**Mawson**	**82.17**	**202**	LR	LR	06 53 00.5	
	comp=Z,63nm,18.3s,baz=59,slow=35						
ILAR	**Eielson Array**	**85.80**	**24**	P	**P**	**06 17 38.9**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=263,slow=4.4,SNR=12						
ILAR				LR	LR	06 54 34.2	
	comp=Z,26nm,19.2s,baz=138,slow=35						
	comp=Z,0.8nm,0.7s						
QSPA	**South Pole Qui**	**87.39**	**180**	P	**P**	**06 17 46.8**	**+0.2**
	comp=Z,4.6nm,1.0s,baz=41,slow=0.3,SNR=7.1						
QSPA				LR	LR	06 57 16.4	
	comp=Z,64nm,19.0s,baz=30,slow=36						
	comp=Z,4.6nm,1.0s						
BBB	**Bella Bella**	**94.11**	**38**	LR	LR	06 52 01.5	
	comp=Z,30nm,21.3s,baz=226,slow=30						
LPAZ	**La Paz**	**147.75**	**126**	PKPbc	**PKiKP**	**06 24 48.9**	**+0.8**
	comp=Z,4.1nm,1.0s,baz=131,slow=1.3,SNR=7.8						

TAP 01 06:08:20.5, 24°.25N×121°.67E, h7km, ML1.0, 1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.09**	**46**	*e*P	Pg	06 08 23.5	+0.9
NACB	**Ninganchiao**	**0.10**	**224**	⇓P	Pg	06 08 23.7	+0.9
NACB				*i* S	Sg	06 08 25.8	+1.4
ETLH	**Xiulin Townshi**	**0.18**	**256**	P	Pg	06 08 24.9	+0.7
ETLH				S	Sg	06 08 28.3	+1.6
ENA	**Nanau**	**0.19**	**19**	*i* P	Pg	06 08 25.2	+0.9
ENA				S	Sg	06 08 28.9	+2.0
LATG	**Datong**	**0.31**	**335**	P	Pg	06 08 27.6	+0.9
LATG				*i* S	Sb	06 08 33.4	-0.6
LXIB	**Xiulin Townshi**	**0.33**	**226**	*i* P	Pb	06 08 28.1	-0.8
WHF	**Hehuan Shan**	**0.39**	**254**	*e*P	Pb	06 08 30.1	+0.1
WHF				*e*S	Sb	06 08 37.2	+0.8
SHUL	**Shoufeng**	**0.47**	**192**	P	Pb	06 08 31.0	-0.2

*SOME **01** 06:28:19.4, 41°.43N×78°.60E*

*NNC **01** 06:28:19.6±1.4, 41°.33N×78°.60E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=10.1km s-min=5.6km az=173.0*

*KRNET **01** 06:28:20.9±0.1, 41°.40N×78°.51E, h13km, mb2.5*

ISC 01 06:28:21.5±2.5, 41°.4N±0°.1×78°.48E±0°.09, h0km, n10, σ0$47/14, 6C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.06**	**357**	⇑*e*P	**Pg**	**06 28 41.6**	**-0.2**
PRZ				⇑*e*S	**Sb**	**06 28 57.4**	**+0.1**
KDJ	**Kajisay**	**1.20**	**306**	⇓*e*P	**Pg**	**06 28 44.2**	**-0.3**
KDJ				⇓*e*S	**Sb**	**06 29 01.1**	**-0.3**
NRN	**Naryn**	**1.87**	**271**	⇓*e*P	**Pb**	**06 28 56.7**	**0.0**
NRN				⇓*e*S	**Sg**	**06 29 22.1**	**+0.6**
TNSS	**Tian-Shan**	**1.97**	**325**	Pg	**Pb**	**06 28 58.5**	**-0.1**
	3.0nm,0.3s						
TNSS				Lg	Lg	06 29 27.2	
	5.5nm,0.5s						
PDGK	**Podgornoye**	**2.04**	**21**	⇑Pg	**Pn**	**06 28 57.4**	**+0.1**
	1.0nm,0.3s						
PDGK				⇓Lg	Lg	06 29 27.0	
	11nm,0.6s						
IZV	**Izvestkoviy**	**2.12**	**320**	Pg	**Pb**	**06 29 01.2**	**+0.2**
	4.5nm,0.2s						
IZV				Lg	Lg	06 29 31.6	
	16nm,0.5s						
BOOM	**Boomskoye usch**	**2.17**	**300**	⇑*e*P	**Pb**	**06 29 00.7**	**-1.1**
BOOM				⇑*e*S	**Sb**	**06 29 29.8**	**+0.4**
MTBS	**Maitube**	**2.29**	**319**	Pg	**Pb**	**06 29 03.4**	**-0.3**
	3.1nm,0.3s						
MTBS				Lg	Lg	06 29 35.4	
	10nm,0.3s						
KST	**Kastek**	**2.47**	**312**	Pg	**Pb**	**06 29 07.2**	**+0.3**
	2.1nm,0.3s						
KST				Lg	Lg	06 29 42.0	
	8.8nm,0.6s						
TKM2	**Tokmak 2**	**2.61**	**306**	⇑Pg	**Pb**	**06 29 09.7**	**+0.3**
	0.2nm,0.2s						
TKM2				⇓Lg	Lg	06 29 45.5	
	7.0nm,0.6s						

*IDC **01** 06:40:47.0±1.1, 56°.48N×164°.45E, h0km, mb3.5/7, mbtmp3.5/8, ML2.5/1, Error ellipse: s-maj=52.4km s-min=17.3km az=162.0*

*KRSC **01** 06:40:46.8±1.5, 56°.09N×164°.83E, h63km±27km, Ml3.9*

ISC 01 06:40:47.9±0.7, 56°.11N±0°.04×164°.73E±0°.04, h16km, n44, σ1$83/50, mb3.5/7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**1.07**	**276**	*e*P	**Pb**	**06 41 06

*ASRS **01** 06:45:14.0±1.4,54˚.27N×87˚.10E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 06:45:14.0±3.8,54˚.41N×87˚.31E,h0km,mbtmp2.5/2, ML2.1/2,Error ellipse: s-maj=33.8km s-min=22.0km az=40.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.53**	**254**	I	I	06 53 30.0	
	baz=75,slow=310,SNR=12						
ZALV	**Zalesovo Beam**	**1.54**	**254**	Pg	Pn	06 45 42.6	+0.1
	0.7nm,0.3s,baz=71,slow=16,SNR=6.0						
ZALV				Lg	Lg	06 46 03.3	
	0.6nm,0.3s,baz=68,slow=23,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.56**	**238**	Pn	Pn	06 46 50.3	-1.3
	baz=53,slow=13,SNR=4.2						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**8.26**	**205**	Pn	Pn	06 47 17.3	+2.4
	baz=27,slow=15,SNR=2.0						
	0.1nm,0.4s						

*NEIC **01** 06:54:23.1±1.5,19˚.50N×0˚.04×65˚.37W±0˚.05,h10km±2km, ML2.5/22,Md3.6/11(RSPR),Error ellipse: s-maj=8.4km s-min=6.6km az=117.0*

RSPR 01 06:54:24.3,19˚.69N×65˚.26W,h47km±22km,MD3.6/11, 13C,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.58**	**210**		Pn	06 54 48.0	-1.8
GCPR					Sn	06 55 06.3	-2.7
GCPR				IAML		06 55 11.6	
	comp=N,60nm,1.0s						
GCPR	**Guaynabo City**	**1.58**	**210**	*eP*	Pn	06 54 48.8	-1.0
GCPR	**Guaynabo City**	**1.58**	**210**	*eS*	Sn	06 55 08.3	-0.7
HUMP	**Col San Antoni**	**1.63**	**200**		Pn	06 54 47.9	-2.7
HUMP					Sn	06 55 08.3	-2.1
HUMP				IAML		06 55 16.0	
	comp=E,54nm,0.7s						
HUMP	**Col San Antoni**	**1.63**	**200**	*eP*	Pn	06 54 50.1	-0.5
HUMP	**Col San Antoni**	**1.63**	**200**	*eS*	Sn	06 55 09.2	-1.3
EMPR	**Esperanza - Ma**	**1.70**	**225**		Pn	06 54 49.9	-1.6
EMPR					Sn	06 55 09.7	-2.3
EMPR	**Esperanza - Ma**	**1.70**	**225**	*eP*	Pn	06 54 50.5	-1.0
EMPR	**Esperanza - Ma**	**1.70**	**225**	*eS*	Sn	06 55 10.5	-1.5
ECPR	**Experimental S**	**1.71**	**218**	*eP*	Pn	06 54 50.1	-1.6
ECPR	**Experimental S**	**1.71**	**218**	*eS*	Sn	06 55 12.0	-0.4
SJG	**San Juan**	**1.78**	**208**		Pn	06 54 50.8	-1.7
SJG				IAML		06 55 21.6	
	comp=E,53nm,0.8s						
SJG				IAML		06 55 26.7	
	comp=E,47nm,0.5s						
SJG	**San Juan**	**1.78**	**208**	*eP*	Pn	06 54 52.0	-0.6
SJG	**San Juan**	**1.78**	**208**	*eS*	Sn	06 55 13.3	-0.6
PDPR	**Patillas Dam,**	**1.81**	**204**		Pn	06 54 51.9	-1.1
PDPR	**Patillas Dam,**	**1.81**	**204**	*eP*	Pn	06 54 52.6	-0.3
PDPR	**Patillas Dam,**	**1.81**	**204**	*eS*	Sn	06 55 13.0	-1.8
IGPR	**InterUniversit**	**1.89**	**205**		Pn	06 54 53.5	-0.5
IGPR					Sn	06 55 15.2	-1.5
IGPR	**InterUniversit**	**1.89**	**205**	*eP*	Pn	06 54 53.5	-0.5
IGPR	**InterUniversit**	**1.89**	**205**	*eS*	Sn	06 55 15.2	-1.5
AOPR	**Arecibo Observ**	**1.94**	**227**		Pn	06 54 53.9	-1.0
AOPR					Sn	06 55 18.2	+0.2
AOPR	**Arecibo Observ**	**1.94**	**227**	*eP*	Pn	06 54 54.0	-0.8
AOPR	**Arecibo Observ**	**1.94**	**227**	*eS*	Sn	06 55 17.0	-1.1
CELP	**Cerrillos**	**2.03**	**218**		Pn	06 54 53.7	-2.3
CELP				IAML		06 55 30.2	
	comp=N,39nm,1.0s						
CELP	**Cerrillos**	**2.03**	**218**	*eP*	Pn	06 54 54.9	-1.1
CELP	**Cerrillos**	**2.03**	**218**	*eS*	Sn	06 55 19.8	-0.4
OBIP	**Obispado Ponce**	**2.07**	**218**		Pn	06 54 54.3	-2.3
OBIP				IAML		06 55 25.0	
	comp=N,48nm,1.0s						
OBIP				IAML		06 55 27.1	
	comp=E,40nm,0.9s						
AGPR	**Aguadilla, PR**	**2.13**	**236**		Pn	06 54 56.3	-1.1
AGPR					Sn	06 55 21.2	-1.4
AGPR				IAML		06 55 30.0	
	comp=N,62nm,2.7s						
AGPR				IAML		06 55 57.0	
	comp=E,68nm,2.5s						
AGPR	**Aguadilla, PR**	**2.13**	**236**	*eP*	Pn	06 54 56.5	-0.9
AGPR	**Aguadilla, PR**	**2.13**	**236**	*eS*	Sn	06 55 21.9	-0.7
LSP	**Las Mesas**	**2.29**	**229**		Pn	06 54 58.4	-1.2
LSP	**Las Mesas**	**2.29**	**229**	*eP*	Pn	06 54 58.4	-1.2
PRSN	**Puerto Rico Se**	**2.31**	**231**	Pn	Pn	06 54 57.9	-1.9
PRSN				IAML		06 55 31.2	
	comp=N,71nm,0.2s						
MLPR	**Magueyes Islan**	**2.40**	**225**	*eP*	Pn	06 55 00.4	-0.7
CRPR	**Cabo Rojo, PR**	**2.42**	**227**		Pn	06 54 59.9	-1.5
CRPR					Sn	06 55 26.2	-3.5
CRPR				IAML		06 55 43.0	
	comp=E,36nm,2.3s						
CRPR				IAML		06 56 20.7	
	comp=N,32nm,2.3s						
CRPR	**Cabo Rojo, PR**	**2.42**	**227**	*eP*	Pn	06 55 00.3	-1.1
CRPR	**Cabo Rojo, PR**	**2.42**	**227**	*eS*	Sn	06 55 29.3	-0.5

*ASRS **01** 06:54:41.0±0.7,53˚.45N×87˚.48E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 06:54:44.5±3.5,53˚.44N×87˚.48E,h0km,mbtmp2.5/2, ML2.2/2,Error ellipse: s-maj=34.0km s-min=17.4km az=60.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.66**	**289**	I	I	07 03 55.7	
	baz=106,slow=320,SNR=6.1						
ZALV	**Zalesovo Beam**	**1.66**	**289**	Pg	Pn	06 55 13.8	-1.1
	0.7nm,0.3s,baz=110,slow=15,SNR=11						
ZALV				Lg	Lg	06 55 38.2	
	0.5nm,0.3s,baz=110,slow=25,SNR=2.7						
KURBB	**Kurchatov Arra**	**6.20**	**247**	Pn	Pn	06 56 17.6	+0.3
	baz=62,slow=14,SNR=2.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.44**	**209**	Pn	Pn	06 56 35.8	+1.6
	0.1nm,0.3s,baz=30,slow=14,SNR=1.9						
	0.1nm,0.3s						

IDC 01 06:57:53.5±2.2,15˚.35S×173˚.57W,h0km,mb3.9/3, mbtmp3.9/3,MS3.3/4,Error ellipse: s-maj=63.4km s-min=44.3km az=31.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**24.26**	**198**	LR	LR	07 11 21.7	
	comp=Z,110nm,19.1s,baz=52,slow=33						
H11S2	**WAKE ISLAND Hy**	**38.84**	**329**	T	T	07 45 53.2	
	baz=147,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**38.85**	**329**	T	T	07 45 54.1	
	baz=147,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**38.85**	**329**	T	T	07 45 54.6	
	baz=147,slow=75,SNR=8.0						
H11N3	**WAKE ISLAND Hy**	**39.78**	**331**	T	T	07 47 37.7	
	baz=150,slow=76,SNR=2.6						
H11N1	**WAKE ISLAND Hy**	**39.79**	**331**	T	T	07 47 34.4	
	baz=150,slow=76,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**39.80**	**331**	T	T	07 47 49.4	
	baz=150,slow=76,SNR=2.6						
WRA	**Warramunga Arr**	**49.69**	**257**	P	P	07 06 47.4	-0.3
	0.3nm,0.4s,baz=91,slow=7.2,SNR=7.5						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**49.97**	**252**	P	P	07 06 49.9	+0.1
	0.7nm,0.4s,baz=87,slow=7.9,SNR=18						
	0.7nm,0.4s						
MJAR	**Matsushiro Arr**	**68.79**	**320**	LR	LR	07 32 58.4	
	comp=Z,15nm,21.9s,baz=145,slow=31						
QSPA	**South Pole Qui**	**74.69**	**180**	P	P	07 09 34.9	0.0
	2.6nm,1.0s,baz=81,slow=2.6,SNR=9.0						
	2.6nm,1.0s						
SEY	**Seymchan**	**82.43**	**345**	LR	LR	07 43 18.2	
	comp=Z,11nm,21.1s,baz=78,slow=33						
ILAR	**Eielson Array**	**82.43**	**11**	LR	LR	07 39 35.9	
	comp=Z,19nm,21.8s,baz=256,slow=30						
BRTR	**Keskin Array B**	**146.01**	**321**	PKPbc	PKPdf	07 17 35.1	0.0
	1.1nm,0.7s,baz=64,slow=2.9,SNR=5.7						

*WEL **01** 07:32:20.9±0.6,34˚.5S×5˚.17˚.8W±1˚.0,h12km,M4.1/9, mB4.8/6,ML4.5/15,MLv4.2/9,Mw(mB)4.0/6,Error ellipse: s-maj=14.2km s-min=3.6km az=110.5,confirmed*

*IDC **01** 07:32:21.6±2.0,33˚.69S×178˚.90W,h0km,mb3.7/3, mbtmp3.8/4,ML4.0/1,Error ellipse: s-maj=44.0km s-min=33.6km az=87.0*

ISC 01 07:32:20.8±1.1,33˚.80S±0˚.07×178˚.4W±0˚.1,h10km,n27, σ1§43/42,mb3.7/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.54**	**5**	S	Sn	07 34 20.6	-1.7
RIZ	**Raoul Island**	**4.55**	**5**	S	Sn	07 34 21.6	-1.2
WMGZ	**Waiomatatini S**	**4.78**	**212**	P	Pn	07 33 33.8	+1.0
WMGZ				S	Sn	07 34 29.1	+0.9
PKGZ	**Pakihiroa**	**4.97**	**214**	P	Pn	07 33 34.8	-0.6
PKGZ				S	Sn	07 34 32.9	-0.1
PUZ	**Puketiti**	**5.06**	**212**	P	Pn	07 33 37.7	+1.0
PUZ				S	Sn	07 34 33.9	-1.3
RUGZ	**Raukumara Rang**	**5.24**	**216**	P	Pn	07 33 38.3	-1.0
RUGZ				S	Sn	07 34 39.8	0.0
TWGZ	**Tauwhareparae**	**5.27**	**213**	P	Pn	07 33 41.3	+1.7
TWGZ				S	Sn	07 34 39.7	-0.7
CNGZ	**Carnagh Statio**	**5.43**	**209**	P	Pn	07 33 41.7	0.0
TKGZ	**Te Karaka**	**5.54**	**212**	P	Pn	07 33 43.6	+0.3
TKGZ				S	Sn	07 34 45.1	-1.9
MWZ	**Matawai**	**5.60**	**215**	P	Pn	07 33 42.7	-1.5
MWZ				S	Sn	07 34 48.0	-0.7
URZ	**Urewera**	**5.75**	**218**	Pn	Pn	07 33 46.1	-0.1
	4.2nm,0.3s,baz=218,slow=1.3,SNR=27						
URZ				Sn	Sn	07 34 50.3	-1.9
	4.4nm,0.3s,baz=223,slow=2.5,SNR=9.7						
	12nm,0.3s						
URZ	**Urewera**	**5.75**	**218**	P	Pn	07 33 46.8	+0.6
URZ				S	Sn	07 34 49.7	-2.5
OPRZ	**Ohinepanea**	**5.76**	**224**	P	Pn	07 33 47.6	+1.3
OPRZ				S	Sn	07 34 51.5	-0.8
RAGZ	**Rawiri**	**5.79**	**215**	P	Pn	07 33 47.2	+0.5
RIGZ	**Rimuhau**	**5.80**	**211**	P	Pn	07 33 46.9	0.0
RIGZ				S	Sn	07 34 52.8	-0.7
PRGZ	**Paritu Road**	**5.93**	**209**	P	Pn	07 33 47.1	-1.6
PRGZ				S	Sn	07 34 55.8	-1.0
SNGZ	**Shannon Statio**	**6.05**	**213**	P	Pn	07 33 50.2	-0.1
SNGZ				S	Sn	07 34 58.6	-1.0
MUGZ	**Murupara**	**6.09**	**219**	P	Pn	07 33 49.7	-1.2
MUGZ				S	Sn	07 34 57.5	-3.2
MHGZ	**Mahia Peninsul**	**6.12**	**208**	P	Pn	07 33 50.4	-0.9
MHGZ				S	Sn	07 34 59.4	-2.0
OUZ	**Omahuta**	**6.76**	**256**	P	Pn	07 34 03.2	+3.1
OTVZ	**Oturere**	**7.18**	**220**	P	Pn	07 34 06.4	+0.4
HIZ	**Hauiti**	**7.21**	**227**	P	Pn	07 34 07.5	+1.3
CTZ	**Chatham Island**	**10.02**	**173**	P	Pn	07 34 44.9	+0.2
ASAR	**Alice Springs**	**42.70**	**271**	P	P	07 40 17.3	-0.9
	1.1nm,0.7s,baz=111,slow=7.8,SNR=11						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**44.00**	**276**	P	P	07 40 27.2	-1.4
	1.3nm,0.6s,baz=118,slow=7.6,SNR=7.8						
	1.3nm,0.6s						
QSPA	**South Pole Qui**	**56.32**	**180**	P	P	07 42 04.8	+3.2
	0.4nm,0.7s,baz=11,slow=1.3,SNR=1.2						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**148.18**	**338**	PKPbc	**PKPbc**	07 52 07.0	+0.9
	3.8nm,1.0s,baz=38,slow=3.4,SNR=4.0						

*SJA **01** 07:41:17.4±1.1,22˚.71S×67˚.65W,h150km,ML3.8,MW3.7*
*SCB **01** 07:41:18.7±1.2,22˚.67S×67˚.77W,h157km±12km,ML4.0/2, MW3.1,Error ellipse: s-maj=4.5km s-min=3.8km az=0.0*
*NEIC **01** 07:41:19.0±1.3,22˚.68S±0˚.06×67˚.78W±0˚.07,h165km±9km, mb4.2/13,ML4.0(GUC),Error ellipse: s-maj=9.3km s-min=8.0km az=53.0*
*IDC **01** 07:41:19.3±2.9,22˚.60S×67˚.54W,h160km±33km,mb3.7/4, mbtmp3.9/7,Error ellipse: s-maj=41.0km s-min=19.2km az=109.0*
*GUC **01** 07:41:19.6±0.8,22˚.66S×67˚.79W,h169km±7km,ML3.9*

ISC 01 07:41:18.5±0.6,22˚.67S±0˚.03×67˚.79W±0˚.04,h165km±7km, n108,σ1§20/138,mb3.9/4,6C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.46**	**232**		Pn	07 41 42.3	+0.7
AF01	**San Pedro de A**	**0.46**	**232**	*iP*	Pn	07 41 42.4	+0.7
AF01	**San Pedro de A**	**0.46**	**232**	*eP*	Pn	07 41 41.7	0.0
AF01	**San Pedro de A**	**0.46**	**232**	Pg	Pn	07 41 42.1	+0.4
PB09	**IPOC Station P**	**1.60**	**303**		Pn	07 41 51.7	+1.3
PB09				Sn	Sn	07 42 15.5	+0.5
PB09	**IPOC Station P**	**1.60**	**303**	*iP*	Pn	07 41 51.7	+1.3
PB09				*eS*	Sn	07 42 15.8	+0.8
PB09				IAML		07 42 19.3	
	comp=N,638nm,0.7s						
PB09	**IPOC Station P**	**1.60**	**303**	*eP*	Pn	07 41 51.0	+0.6
PB09				*eS*	Sn	07 42 16.3	+1.3
PB09				IAML		07 42 19.1	
	comp=Z,384nm,0.3s						
PB09	**IPOC Station P**	**1.60**	**303**	Pg	Pn	07 41 51.7	+1.3
PB06	**IPOC Station P**	**1.65**	**268**		Pn	07 41 51.6	+0.8
PB06				Sn	Sn	07 42 16.8	+1.0
PB06	**IPOC Station P**	**1.65**	**268**	*iP*	Pn	07 41 51.6	+0.8
PB06				*eS*	Sn	07 42 16.8	+1.0
PB06				IAML		07 42 20.0	
	comp=E,1µm,0.2s						
PB06	**IPOC Station P**	**1.65**	**268**	*eP*	Pn	07 41 51.6	+0.8
PB06				*eS*	Sn	07 42 17.2	+1.5
PB06				IAML		07 42 18.2	
	comp=Z,744nm,0.3s						
PB06	**IPOC Station P**	**1.65**	**268**	Pg	Pn	07 41 51.8	+1.0
PB03	**IPOC Station P**	**1.92**	**288**		Pn	07 41 54.4	+0.5
PB03				Sn	Sn	07 42 20.9	-0.2
YJA	**Yavi**	**2.16**	**77**	*iP*	Pn	07 41 57.3	+0.5
YJA	**Yavi**	**2.16**	**77**	*eP*	Pn	07 41 57.3	+0.5
YJA	**Yavi**	**2.16**	**77**	Pg	Pn	07 41 56.9	+0.1
PB05	**IPOC Station P**	**2.23**	**265**		Pn	07 41 57.9	+0.6
PB05				Sn	Sn	07 42 26.6	-0.7
PB05	**IPOC Station P**	**2.23**	**265**	*iP*	Pn	07 41 58.0	+0.6
PB05				*eS*	Sn	07 42 26.9	-0.5
PB05				IAML		07 42 28.2	
	comp=E,546nm,0.4s						
PB05	**IPOC Station P**	**2.23**	**265**	*eP*	Pn	07 41 58.0	+0.6
PB05				*eS*	Sn	07 42 27.3	0.0
PB05				IAML		07 42 31.3	
	comp=Z,454nm,0.3s						
PB05	**IPOC Station P**	**2.23**	**265**	Pg	Pn	07 41 58.2	+0.9
PB01	**IPOC Station P**	**2.26**	**315**		Pn	07 41 58.0	+0.4
PB01				Sn	Sn	07 42 27.7	-0.2
PB01	**IPOC Station P**	**2.26**	**315**	*eP*	Pn	07 41 58.2	+0.6
PB01				*eS*	Sn	07 42 27.7	-0.2
PB01	**IPOC Station P**	**2.26**	**315**	*eP*	Pn	07 41 58.1	+0.4
PB01				*eS*	Sn	07 42 28.8	+1.0
PB01				IAML		07 42 30.1	
	comp=Z,493nm,0.1s						
PB01	**IPOC Station P**	**2.26**	**315**	Pg	Pn	07 41 58.0	+0.4
PB01				Sg	Sn	07 42 28.1	+0.2
PB01				IAML		07 42 30.0	
	comp=Z,608nm,0.2s						
MOCB	**Mochara**	**2.45**	**55**	Pg	Pn	07 42 00.2	0.0
PB10	**IPOC Station P**	**2.68**	**251**		Pn	07 42 03.0	+0.5
PB10	**IPOC Station P**	**2.68**	**251**	*iP*	Pn	07 42 03.0	+0.5
PB10				*eS*	Sn	07 42 35.3	-1.4
PB10				IAML		07 42 42.0	
	comp=E,328nm,0.5s						
PB10	**IPOC Station P**	**2.68**	**251**	*eP*	Pn	07 42 02.5	0.0
PB10				*eS*	Sn	07 42 36.8	+0.2
PB10				IAML		07 42 38.1	
	comp=Z,273nm,0.4s						
PB10	**IPOC Station P**	**2.68**	**251**	Pg	Pn	07 42 03.1	+0.5
PB08	**IPOC Station P**	**2.82**	**333**		Pn	07 42 05.8	+1.2
PB08	**IPOC Station P**	**2.82**	**333**	*eP*	Pn	07 42 05.3	+0.7
PB08				*eS*	Sn	07 42 41.4	+1.1
PB08	**IPOC Station P**	**2.82**	**333**	Pg	Pn	07 42 05.2	+0.6
PATCX	**Punta Patache**	**2.87**	**310**		Pn	07 42 04.9	0.0
PATCX	**Punta Patache**	**2.87**	**310**	*eP*	Pn	07 42 05.0	+0.1
SLA	**San Lorenzo**	**2.92**	**135**	*eP*	Pn	07 42 06.8	+1.1
GO02	**Mina Guanaco**	**2.98**	**213**		Pn	07 42 07.2	+0.7
GO02	**Mina Guanaco**	**2.98**	**213**	*iP*	Pn	07 42 07.2	+0.7
GO02				*eS*	Sn	07 42 43.7	-0.1
GO02	**Mina Guanaco**	**2.98**	**213**	*eP*	Pn	07 42 06.5	0.0
GO02				*eS*	Sn	07 42 43.8	+0.1
TA01	**Diego Aracena**	**3.06**	**313**		Pn	07 42 07.6	+0.4
TA01	**Diego Aracena**	**3.06**	**313**	*eP*	Pn	07 42 08.2	+1.0
TA01	**Diego Aracena**	**3.06**	**313**	*eP*	Pn	07 42 08.4	+0.3
TA01				*eS*	Sn	07 42 44.7	-0.2
AOVT	**TarijaAcel**	**3.08**	**69**	Pg	Pn	07 42 07.3	-0.3
PB14	**IPOC Station P**	**3.09**	**230**		Pn	07 42 08.3	+0.5
PB14	**IPOC Station P**	**3.09**	**230**	*eP*	Pn	07 42 08.4	+0.6
PB14				*eS*	Sn	07 42 45.4	-0.8
PB14				IAML		07 42 46.4	
	comp=Z,401nm,0.1s						
PB14	**IPOC Station P**	**3.09**	**230**	Pg	Pn	07 42 08.3	+0.5
TA02	**Huaiquique**	**3.23**	**317**	Pn	Pn	07 42 09.6	+0.2
GO01	**Chusmiza**	**3.26**	**336**		Pn	07 42 11.0	+0.9
GO01	**Chusmiza**	**3.26**	**336**	*eP*	Pn	07 42 10.9	+0.7
GO01				*eS*	Sn	07 42 52.2	+1.8
GO01				IAML		07 42 55.3	
GO01	**Chusmiza**	**3.26**	**336**	*eP*	Pn	07 42 11.1	+0.9
GO01				*eS*	Sn	07 42 52.4	+2.0
GO01	**Chusmiza**	**3.26**	**336**	Pg	Pn	07 42 11.1	+0.9
PB11	**IPOC Station P**	**3.38**	**329**		Pn	07 42 11.2	-0.3
PB11	**IPOC Station P**	**3.38**	**329**	*eP*	Pn	07 42 11.0	-0.3
PB11				*eS*	Sn	07 42 51.0	-1.5
PB11	**IPOC Station P**	**3.38**	**329**	*eP*	Pn	07 42 11.1	-0.3
PB11				*eS*	Sn	07 42 51.9	-0.6
PB11				IAML		07 42 55.3	
	comp=Z,120nm,0.2s						
PB11	**IPOC Station P**	**3.38**	**329**	Pg	Pn	07 42 11.1	-0.3
PB11				Sg	Sn	07 42 51.2	-1.3
PB11				IAML		07 42 53.0	
	comp=Z,223nm,0.2s						
FSA	**Cafayete**	**3.80**	**155**	*eP*	Pn	07 42 17.8	+1.1
FSA				*eS*	Sn	07 42 41.5	-21
SOEO	**Opoqueri**	**4.09**	**359**	Pg	Pn	07 42 21.8	+1.0
AC01	**Pan de Azucar**	**4.31**	**216**	Pn	Pn	07 42 22.9	-0.2
AC01	**Pan de Azucar**	**4.31**	**216**	*i P*	Pn	07 42 22.2	-0.9
AC01	**Pan de Azucar**	**4.31**	**216**	*eP*	Pn	07 42 21.7	-1.3
AC01				*eP*		07 42 22.5	
AC01				*eS*	Sn	07 43 11.1	-2.4
AC02	**Maricunga**	**4.32**	**196**		Pn	07 42 22.8	-0.9
AC02	**Maricunga**	**4.32**	**196**	*eP*	Pn	07 42 23.5	-0.2
AC02				*eS*	Sn	07 43 16.3	+1.7
PB16	**IPOC Station P**	**4.60**	**339**		Pn	07 42 27.8	+0.2
PB16	**IPOC Station P**	**4.60**	**339**	*eP*	Pn	07 42 27.4	-0.2
PB16				*eS*	Sn	07 43 21.7	+0.3
PB16	**IPOC Station P**	**4.60**	**339**	Pg	Pn	07 42 28.0	+0.4
SOET	**ToroToro**	**4.90**	**23**	Pg	Pn	07 42 31.5	+0.3
AC06	**Mina Casimiro**	**5.21**	**206**	Pn	Pn	07 42 33.4	-1.5
GO03	**Copiapo**	**5.38**	**204**	Pn	Pn	07 42 34.6	-2.5
GO03	**Copiapo**	**5.38**	**204**	*eP*	Pn	07 42 35.7	-1.5
GO03				*eS*	Sn	07 43 24.1	-15
BBOJ	**La Paz, Jacaqu**	**5.68**	**356**	Pg	Pn	07 42 42.4	+0.8
SOEJ	**Jacaque**	**5.68**	**356**	Pg	Pn	07 42 41.9	+0.3
BBOE	**La Paz, Chanca**	**5.83**	**358**	Pg	Pn	07 42 44.2	+0.5
BBOD	**La Paz, Gloria**	**6.05**	**353**	Pg	Pn	07 42 47.1	+0.6
AC04	**Llanos de Chal**	**6.26**	**208**	Pn	Pn	07 42 46.0	-2.7
LPAZ	**La Paz**	**6.36**	**357**		Pn	07 42 48.4	-2.3
LPAZ	**La Paz**	**6.36**	**357**	P	Pn	07 42 50.9	+0.2
	comp=Z,2.6nm,0.3s,baz=187,slow=9.0,SNR=33						
LPAZ				S	Sn	07 44 02.6	-0.4
	comp=Z,1.2nm,0.5s,baz=197,slow=6.1,SNR=1.4						
LPAZ	**La Paz**	**6.36**	**357**	Pg	Pn	07 42 51.1	+0.4
BBOB	**La Paz, Bander**	**6.50**	**357**	Pg	Pn	07 42 53.1	+0.6
GO04	**Tololo Observa**	**7.94**	**199**		Pn	07 43 10.3	-0.9
CO06	**Fray Jorge**	**8.68**	**203**	Pn	Pn	07 43 21.2	+0.4
CO02	**Combarbal**	**8.97**	**198**	Pn	Pn	07 43 21.0	-3.7
PTLB	**Pontes e Lacer**	**10.88**	**50**		Pn	07 43 46.3	-3.6
MT02	**Curacav**	**10.95**	**195**	Pn	Pn	07 43 48.6	-2.1
MT09	**Talagante**	**11.42**	**194**	Pn	Pn	07 43 53.6	-3.3
MT01	**Popeta**	**11.56**	**195**	Pn	Pn	07 43 56.2	-2.4
BO01	**Tunca**	**12.03**	**193**	Pn	Pn	07 44 00.5	-4.1
VILB	**Vilhena**	**12.06**	**38**		Pn	07 44 03.5	-1.8
BO02	**Sierra Bellavi**	**12.36**	**192**	Pn	Pn	07 44 07.3	-1.6
ITAB	**Concordia**	**14.91**	**111**		P	07 44 42.8	+0.1
PLTB	**Pedras Altas**	**15.52**	**129**		Pn	07 44 48.6	0.0
CZSB	**Cruzeiro do Su**	**15.59**	**342**		Pn	07 44 48.9	-0.7
CZSB				IAmb	IAmb	07 44 51.0	
	comp=Z,16nm,1.5s						
TRQA	**Tornquist**	**16.13**	**163**		P	07 44 57.1	+1.0
TRQA				IAmb	IAmb	07 45 27.6	
	comp=Z,18nm,1.4s						
PLCA	**Paso Flores**	**18.16**	**187**	Pn	P	07 45 20.1	+1.7
PLCA	**Paso Flores**	**18.16**	**187**	P	P	07 45 20.1	+1.7
	comp=Z,1.2nm,0.9s,baz=7.1,slow=15,SNR=1.7						
VAO	**Valinhos**	**19.20**	**95**	P	P	07 45 29.1	-0.7
VAO				IAmb	IAmb	07 45 29.5	
	comp=Z,7.8nm,0.6s						
BDFB	**Brasilia**	**19.93**	**73**	P	P	07 45 37.4	-0.5
BDFB				IAmb	IAmb	07 46 00.9	
	comp=Z,13nm,1.5s						
BDFB	**Brasilia**	**19.93**	**73**	P	P	07 45 37.1	-0.8
	comp=Z,1.5nm,0.5s,baz=249,slow=14,SN

comp=Z,37nm,0.6s
GO09 Cerro Castillo 27.01 262 P **P** **07 57 05.8 +0.2**
GO09 IAmb IAmb 07 57 46.5
comp=Z,133nm,1.9s
PLTB Pedras Altas 30.95 311 P **P** **07 57 40.0 -0.7**
PLTB IAmb IAmb 07 58 01.1
comp=Z,59nm,1.9s
SYO Syowa Base 31.12 140⇑*e*P **P** **07 57 40.8 -0.9**
SYO Syowa Base 31.12 140‖*e*pP pP 07 57 55.7 -5.2
PLCA Paso Flores 32.34 280 P **P** **07 57 53.2 +0.3**
PLCA Paso Flores 32.34 280 P **P** **07 57 52.7 -0.2**
comp=Z,2.3nm,1.0s,baz=199,slow=12,SNR=4.1
comp=Z,2.3nm,1.0s
QSPA South Pole Qui 33.82 180 P **P** **07 58 06.7 +1.1**
QSPA IAmb IAmb 07 58 07.5
comp=Z,53nm,1.5s
QSPA South Pole Qui 33.82 180 P **P** **07 58 06.5 +0.9**
comp=Z,11nm,0.5s,baz=208,slow=2.4,SNR=187
QSPA LR LR 08 10 24.6
comp=Z,53nm,19.1s,baz=126,slow=34
comp=Z,11nm,0.5s
QSPA South Pole Qui 33.82 180 P **P** **07 58 06.4 +0.7**
CPUP Villa Florida 37.27 311 P **P** **07 58 34.1 -1.2**
CPUP Villa Florida 37.27 311 P **P** **07 58 33.6 -1.7**
comp=Z,0.7nm,0.7s,baz=14,slow=7.9,SNR=4.9
comp=Z,0.7nm,0.7s
MT03 Universidad Ad 37.66 289 P **P** **07 58 38.8 +0.1**
MT03 IAmb IAmb 07 58 43.0
comp=Z,39nm,1.5s
MT01 Popeta 37.76 288 P **P** **07 58 39.0 -0.3**
MT01 IAmb IAmb 07 58 54.5
comp=Z,33nm,1.4s
CFA Coronel Fontan 37.96 293 P **P** **07 58 40.4 -0.8**
comp=Z,2.0nm,0.6s
comp=Z,2.0nm,0.6s
ZON Zonda 38.23 293 P **P** **07 58 43.3 -0.2**
CO02 Combarbal 39.71 290 P **P** **07 58 54.2 -1.6**
CO03 El Pedregal 39.83 291 P **P** **07 58 55.6 -1.3**
CO03 IAmb IAmb 07 59 31.1
comp=Z,54nm,1.9s
CO01 Juntas del Tor 40.22 293 P **P** **07 58 59.8 -0.4**
CO01 IAmb IAmb 07 59 57.5
comp=Z,40nm,1.9s
AQDB Aquidauana 41.86 317 P **P** **07 59 12.2 -1.3**
AC04 Llanos de Chal 42.15 293 P **P** **07 59 14.6 -1.2**
AC04 IAmb IAmb 08 00 13.4
comp=Z,51nm,1.3s
AF01 San Pedro de A 45.09 300 P **P** **07 59 40.0 +0.3**
AF01 IAmb IAmb 07 59 40.1
comp=Z,27nm,0.7s
SBA Scott Base 45.72 184 P **P** **07 59 45.1 +1.3**
BOSA Boshof 45.80 75 P **P** **07 59 45.2 +0.1**
BOSA IAmb IAmb 08 01 14.0
comp=Z,35nm,1.6s
BOSA Boshof 45.80 75 P **P** **07 59 43.8 -1.3**
comp=Z,3.1nm,0.8s,baz=200,slow=8.4,SNR=4.1
BOSA LR LR 08 15 59.2
comp=Z,79nm,18.9s,baz=204,slow=32
comp=Z,3.1nm,0.8s
PB06 IPOC Station P 45.97 299 P **P** **07 59 45.1 -1.4**
PB06 IAmb IAmb 08 00 01.2
comp=Z,23nm,1.2s
VNDA Vanda 46.21 183 P **P** **07 59 48.9 +1.3**
VNDA IAmb IAmb 07 59 51.4
comp=Z,14nm,0.7s
VNDA Vanda 46.21 183 P **P** **07 59 48.4 +0.8**
comp=Z,14nm,0.7s,baz=188,slow=6.2,SNR=55
VNDA LR LR 08 17 06.3
comp=Z,37nm,18.5s,baz=288,slow=33
comp=Z,14nm,0.7s
VNDA Vanda 46.21 183 P **P** **07 59 48.7 +1.1**
PB09 IPOC Station P 46.58 300 P **P** **07 59 51.4 +0.1**
CCD Concordia, Ant 47.26 170 P **P** **07 59 56.5 +0.3**
CCD sP **pwP** **08 00 19.3 0.0**
PB01 IPOC Station P 47.34 300 P **P** **07 59 56.7 -0.4**
PB01 IAmb IAmb 08 00 34.6
comp=Z,46nm,1.6s
KOOLE Kule 47.72 65 P **P** **08 00 00.3 +0.2**
KOOLE IAmb IAmb 08 00 00.8
comp=Z,17nm,0.7s
PTLB Pontes e Lacer 47.76 316 P **P** **07 59 59.5 -0.8**
PB08 IPOC Station P 47.95 301 P **P** **08 00 02.0 -0.2**
PB08 IAmb IAmb 08 01 28.7
comp=Z,52nm,1.9s
SIV San Ignacio 48.03 313 P **P** **08 00 00.7 -1.7**
comp=Z,1.1nm,0.5s,baz=160,slow=8.1,SNR=11
comp=Z,1.1nm,0.5s
GO01 Chusmiza 48.38 302 P **P** **08 00 05.3 -0.3**
PB11 IPOC Station P 48.52 301 P **P** **08 00 05.5 -0.8**
LBTB Lobatse 48.85 72 P **P** **08 00 09.1 +0.3**
LBTB IAmb IAmb 08 00 13.8
comp=Z,37nm,1.6s
GRTLG Ghanzi 49.59 65 P **P** **08 00 14.6 +0.1**
GRTLG IAmb IAmb 08 01 57.0
comp=Z,36nm,1.4s
TSUM Tsumeb 49.63 60 P **P** **08 00 15.2 +0.5**
PB16 IPOC Station P 49.68 302 P **P** **08 00 15.1 -0.5**
PB16 IAmb IAmb 08 01 54.1
comp=Z,29nm,1.7s
VILB Vilhena 50.45 316 P **P** **08 00 19.7 -1.2**
VILB IAmb IAmb 08 01 02.8
comp=Z,35nm,1.9s
LPAZ La Paz 50.82 305 **P** **08 00 23.9 -0.4**
LPAZ IAmb IAmb 08 00 32.2
comp=Z,7.8nm,0.7s
LPAZ La Paz 50.82 305 P **P** **08 00 23.9 -0.5**
comp=Z,6.5nm,0.6s,baz=134,slow=4.8,SNR=45
comp=Z,6.5nm,0.6s
LPAZ La Paz 50.82 305 P **P** **08 00 23.8 -0.5**
QNGWA Qangwa 51.11 64 **P** **08 00 26.2 +0.3**
QNGWA IAmb IAmb 08 00 27.0
comp=Z,12nm,0.9s
MREMI Moremi 51.82 72 P **P** **08 00 31.5 +0.3**
PHDHD Phuduhudu 52.26 68 P **P** **08 00 34.4 0.0**
PHDHD IAmb IAmb 08 00 35.1
comp=Z,27nm,1.4s
KSANE Kasane 54.58 67 **P** **08 00 51.6 +0.1**
KSANE IAmb IAmb 08 00 52.2
comp=Z,14nm,0.9s
DRV Dumont d'Urvil 56.82 174 P **P** **08 01 06.5 -0.2**
DRV PcP **PcP** **08 02 01.7 +0.4**
LSZ Lusaka 58.25 68 **P** **08 01 17.6 +0.1**
LSZ IAmb IAmb 08 01 18.3
comp=Z,9.4nm,0.8s
RUSC La Rusia 72.76 311 P **P** **08 02 51.4 0.0**
RUSC IAmb IAmb 08 04 25.3
comp=Z,26nm,1.7s
TORD Torodi Ar. Bea 73.25 29 P **P** **08 02 54.0 +0.3**
TORD Torodi Ar. Bea 73.25 29 P **P** **08 02 53.0 -0.6**
comp=Z,1.4nm,0.4s,baz=208,slow=5.3,SNR=2.2
comp=Z,1.4nm,0.4s
ROCAM Rodrigues Isla 73.81 101 P **P** **08 02 57.5 +0.5**
DSLB Salisbury 77.27 326 *e*P P 08 03 21.5 +4.9
MLZ Mavora Lakes 77.82 191 P **P** **08 03 20.1 +0.6**
MQZ McQueen's Vall 78.91 194 P **P** **08 03 26.7 +1.2**
RPZ Rata Peaks 79.11 193 LR LR 08 35 20.4
comp=Z,94nm,20.0s,baz=290,slow=33
MRZ Mangatainoka R 81.46 197 P **P** **08 03 40.4 +1.1**
BBOO Buckleboo 89.91 166 P **P** **08 04 23.0 +1.7**
RAO Raoul Island 91.22 205 P **P** **08 04 28.7 +1.4**
STKA Stephens Creek 91.48 170 P **P** **08 04 29.6 +1.1**
PPT2 Papeete2 92.18 233 *e*LR LR 08 34 05.6
comp=Z,50nm,25.5s
ASAR Alice Springs 98.55 162 P Pdif 08 05 03.3 +2.4
ASAR Alice Springs 98.55 162 P Pdif 08 05 03.0 +2.0
comp=Z,1.1nm,0.6s,baz=182,slow=4.0,SNR=21
comp=Z,1.1nm,0.6s
AS31 Alice Springs 98.55 162 P Pdif 08 05 01.8 +0.8
DZM Mont Dzumac 101.03 192 *e*LR LR 08 38 24.7
comp=Z,46nm,23.3s
A36M Sachs Harbour 144.68 328 **PKPab** **08 10 55.6 -0.2**
L29M L29M 146.39 310 **PKPbc** **08 11 01.0 -0.4**
I30M Mount Dempster 146.40 314 **PKPbc** **08 11 00.7 -0.8**
F30M Barrier River 146.89 318 PKPdf **PKPbc** **08 11 02.3 -0.4**
G29M Pine Creek 147.54 317 PKPdf **PKPbc** **08 11 04.0 -0.5**
CRQM Cirque 147.76 305 PKPdf **PKPbc** **08 11 04.1 -1.4**
RIDG Independent Ri 149.46 309 PKPdf **PKPbc** **08 11 07.5 -2.1**
SONM Songino Array 150.47 87 PKPbc **PKPbc** **08 11 11.9 -0.7**
comp=Z,0.6nm,0.4s,baz=256,slow=1.6,SNR=3.7
ILAR Eielson Array 150.57 311 PKPbc **PKPbc** **08 11 11.5 -0.7**
comp=Z,1.4nm,0.8s,baz=131,slow=1.5,SNR=14
O15K Ungaliktiuk R 155.28 296 PKPdf **PKPdf** **08 11 15.9 +2.2**
PETK Petropavlovsk- 175.81 219 PKPdf **PKPdf** **08 11 31.0 +0.4**

*IDC **01** 07:55:14.5±3.6,54.32°N×87.30°E,h0km,mbtmp2.5/2, ML2.3/2,Error ellipse: s-maj=32.4km s-min=20.9km az=45.0.*
ASRS 01 07:55:12.0±0.5,54.28°N×87.12°E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**257**	I	I	08 03 49.2	
	baz=75,slow=312,SNR=5.7						
ZALV	**Zalesovo Beam**	**1.40**	**257**	Pg	Pb	07 55 41.4	+2.5
	0.5nm,0.3s,baz=71,slow=18,SNR=5.8						
ZALV				Lg	Lg	07 56 02.5	
	1.1nm,0.3s,baz=74,slow=24,SNR=7.9						
KURBB	**Kurchatov Arra**	**6.40**	**239**	Pn	Pn	07 56 52.0	+4.5
	baz=56,slow=14,SNR=4.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**8.10**	**204**	Pn	Pn	07 57 15.6	+4.8
	baz=18,slow=15,SNR=1.8						
	0.1nm,0.4s						

*CATAC **01** 07:57:40.7±0.5,14°N×92°W±°,h20km±4km,M3.8/31, MLv3.8/31,Error ellipse: s-maj=6.2km s-min=2.8km az=40.9,confirmed*
*GCG **01** 07:57:41.1±2.5,13.68°N×91.24°W,h46km±40km,MD4.1, ML3.8,MW3.0*
*SNET **01** 07:57:42.0±1.4,13.81°N×91.11°W,h20km±7km,ML3.8*
ISC 01 07:57:38.6±1.8,13.62°N±0.06°×91.25°W±0.04°,h9km±12km, n92,σ1.01/108,13C-19D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESSJ	**San Jos, E**	**0.73**	**94**	*i* P	**Pg**	**07 57 53.3**	**+0.6**
STG0	**El Palmar, Qui**	**0.81**	**354**	*i* P	**Pn**	**07 57 59.6**	**+3.3**
STG8	**El Palmar, Qui**	**0.84**	**353**	*i* P	**Pn**	**07 58 00.1**	**+3.3**
STG8				*i* S	**Sn**	**07 58 14.2**	**+4.9**
STG8				IAML		07 58 15.7	
	comp=N,5μm,0.2s						
ESSG	**Sabana Grande**	**0.87**	**28**	*i* P	**Pb**	**07 57 55.9**	**+0.1**
ESSG				*i* S	**Sb**	**07 58 07.7**	**+0.1**
ESSG				IAML		07 58 08.4	
	comp=N,3μm,0.1s						
FG8	**Yepocapa, Chim**	**0.93**	**46**	*i* P	**Pg**	**07 57 56.0**	**-0.5**
FG16	**Alotenango, Sa**	**0.97**	**48**	*i* P	**Pg**	**07 57 57.0**	**-0.3**
FG16				*i* S	**Sb**	**07 58 10.6**	**-0.1**
FG16				IAML		07 58 18.9	
	comp=N,14μm,0.2s						
RTAL	**Retalhuleu**	**1.00**	**335**	*e*P	**Pb**	**07 57 57.9**	**-0.3**
RTAL	**Retalhuleu**	**1.00**	**335**	S	**Sb**	**07 58 11.2**	**-0.3**
RTAL	**Retalhuleu**	**1.00**	**335**	⇓P	**Pb**	**07 57 57.9**	**-0.3**
GCG4	**OSOP**	**1.19**	**36**	*i* P	**Pn**	**07 58 01.6**	**0.0**
SOKI	**Kika Raxquin**	**1.21**	**353**	*i* P	**Pb**	**07 58 01.2**	**-0.7**
SOKI				IAML		07 58 18.6	
	comp=E,2μm,0.3s						
FAME	**Alcaldia de Sa**	**1.22**	**79**	⇓P	**Pn**	**07 58 01.2**	**-0.7**
NUBE	**Las Nubes**	**1.46**	**79**	*e*P	**Pn**	**07 58 04.7**	**-0.5**
NUBE				*e*S	**Sn**	**07 58 22.6**	**-2.0**
NUBE	**Las Nubes**	**1.46**	**79**	*i* P	**Pn**	**07 58 04.9**	**-0.3**
NUBE				*i* S	**Sn**	**07 58 23.0**	**-1.6**
NUBE	**Las Nubes**	**1.46**	**79**	⇑P	**Pn**	**07 58 04.9**	**-0.3**
SMCA	**Catarina**	**1.47**	**327**	*i* P	**Pn**	**07 58 04.3**	**-1.0**
SMCA				*i* S	**Sn**	**07 58 23.8**	**-0.9**
LOAL	**Lomas de Alarc**	**1.48**	**75**	*e*P	**Pn**	**07 58 05.3**	**-0.1**
LOAL				*e*S	**Sn**	**07 58 23.3**	**-1.6**
LOAL	**Lomas de Alarc**	**1.48**	**75**	S	**Sn**	**07 58 24.6**	**-0.3**
LOAL	**Lomas de Alarc**	**1.48**	**75**	⇓P	**Pn**	**07 58 05.7**	**+0.3**
SLOZ	**Alcaldia de Sa**	**1.48**	**74**	*e*P	**Pn**	**07 58 05.7**	**+0.2**
SLOZ				*e*S	**Sn**	**07 58 24.0**	**-1.0**
SLOZ	**Alcaldia de Sa**	**1.48**	**74**	⇓P	**Pn**	**07 58 05.7**	**+0.2**
SLOZ	**Alcaldia de Sa**	**1.48**	**74**	S	**Sn**	**07 58 24.7**	**-0.3**
RTR	**El Retiro**	**1.58**	**80**	*e*P	**Pn**	**07 58 07.2**	**+0.2**
CEVE	**Cerro Verde**	**1.59**	**82**	*e*P	**Pn**	**07 58 07.4**	**+0.2**
CEVE				*e*S	**Sn**	**07 58 26.6**	**-1.5**
CEVE	**Cerro Verde**	**1.59**	**82**	P	**Pn**	**07 58 07.4**	**+0.2**
CEVE	**Cerro Verde**	**1.59**	**82**	S	**Sn**	**07 58 27.9**	**-0.2**
SBLS	**San Blas**	**1.60**	**82**	*e*P	**Pn**	**07 58 07.4**	**+0.2**
SBLS				*e*P	**Pn**	**07 58 07.4**	**+0.2**
SBLS				*e*S	**Sn**	**07 58 26.7**	**-1.4**
SNJE	**San Jose**	**1.62**	**81**	*e*P	**Pn**	**07 58 07.7**	**+0.2**
SNJE				*e*S	**Sn**	**07 58 27.7**	**-0.9**
THIG		**1.62**	**323**	*i* P	**Pn**	**07 58 06.5**	**-0.8**
THIG				*i* S	**Sn**	**07 58 26.2**	**-2.1**
THIG				IAML		07 58 32.7	
	comp=N,562nm,0.2s						
HUEH	**Huehuetenango**	**1.71**	**352**	*i* P	**Pb**	**07 58 09.4**	**-0.9**
HUEH				*i* S	**Sb**	**07 58 31.8**	**-0.3**
HUEH				IAML		07 58 36.9	
	comp=E,720nm,0.7s						
HUEH	**Huehuetenango**	**1.71**	**352**	S	**Sn**	**07 58 29.4**	**-1.5**
HUEH	**Huehuetenango**	**1.71**	**352**	⇓P	**Pb**	**07 58 09.9**	**-0.5**
JAYA	**Jayaque - finc**	**1.75**	**89**	*e*P	**Pn**	**07 58 09.1**	**-0.1**
JAYA				IAML		07 58 32.5	
	comp=Z,1μm,0.2s						
JAYA	**Jayaque - finc**	**1.75**	**89**	*i* P	**Pn**	**07 58 09.2**	**-0.1**
JAYA				*i* S	**Sn**	**07 58 30.5**	**-1.3**
JAYA	**Jayaque - finc**	**1.75**	**89**	⇓P	**Pn**	**07 58 09.3**	**-0.1**
CEDA	**San Andres**	**1.81**	**84**	⇓P	**Pn**	**07 58 10.5**	**+0.5**
LALI	**Alcalda de L**	**1.88**	**94**	*i* P	**Pn**	**07 58 11.4**	**+0.5**
LALI	**Alcalda de L**	**1.88**	**94**	⇓P	**Pn**	**07 58 11.7**	**+0.8**
LALI	**Alcalda de L**	**1.88**	**94**	S	**Sn**	**07 58 35.8**	**+1.0**
PMON	**Piamonte**	**1.88**	**87**	*e*P	**Pn**	**07 58 11.1**	**0.0**
PMON	**Piamonte**	**1.88**	**87**	⇓P	**Pn**	**07 58 11.5**	**+0.4**
PMON	**Piamonte**	**1.88**	**87**	S	**Sn**	**07 58 35.6**	**+0.6**
BOQS	**Boqueron**	**1.92**	**86**	*e*P	**Pn**	**07 58 12.4**	**+0.8**
ITCA	**Escuela Especi**	**1.92**	**88**	⇓P	**Pn**	**07 58 12.2**	**+0.7**
UEES	**Universidad Ev**	**1.96**	**87**	⇑P	**Pn**	**07 58 12.7**	**+0.7**
UEES	**Universidad Ev**	**1.96**	**87**	S	**Sn**	**07 58 36.2**	**+0.6**
SEMO	**Seminario San**	**1.97**	**87**	S	**Sn**	**07 58 37.1**	**0.0**
SEMO	**Seminario San**	**1.97**	**87**	P	**Pn**	**07 58 12.8**	**+0.6**
MTO3	**Montecristo**	**1.99**	**67**	*e*P	**Pn**	**07 58 12.6**	**-0.1**
MTO3	**Montecristo**	**1.99**	**67**	P	**Pn**	**07 58 12.7**	**0.0**
UTEC	**Universidad Te**	**1.99**	**87**	P	**Pn**	**07 58 13.3**	**+0.7**
LOMA	**Loma Larga**	**2.02**	**89**	*e*P	**Pn**	**07 58 13.4**	**+0.5**
LOMA				IAML		07 58 41.1	
	comp=Z,543nm,0.1s						
LOMA	**Loma Larga**	**2.02**	**89**	⇓P	**Pn**	**07 58 13.7**	**+0.7**
UDBS	**Universidad Do**	**2.04**	**87**	S	**Sn**	**07 58 39.2**	**+0.4**
UDBS	**Universidad Do**	**2.04**	**87**	⇑P	**Pn**	**07 58 14.0**	**+0.9**
ESQI	**Esquipulas**	**2.08**	**63**	*e*P	**Pn**	**07 58 14.0**	**+0.3**
ESQI	**Esquipulas**	**2.08**	**63**	S	**Sn**	**07 58 39.9**	**+0.1**
ESQI	**Esquipulas**	**2.08**	**63**	P	**Pn**	**07 58 14.1**	**+0.3**
PAVA	**Las Pavas**	**2.25**	**87**	S	**Sn**	**07 58 44.9**	**+0.8**
PAVA	**Las Pavas**	**2.25**	**87**	⇑P	**Pn**	**07 58 16.9**	**+0.8**
COEG	**Centro de Oper**	**2.30**	**90**	*e*P	**Pn**	**07 58 17.7**	**+0.9**
COEG				*e*S	**Sn**	**07 58 45.5**	**+0.2**
COEG	**Centro de Oper**	**2.30**	**90**	S	**Sn**	**07 58 46.1**	**+0.8**
COEG	**Centro de Oper**	**2.30**	**90**	⇑P	**Pn**	**07 58 17.9**	**+1.1**
TECO	**Alcaldia de Te**	**2.40**	**92**	⇓P	**Pn**	**07 58 19.1**	**+1.0**
SCLA	**Alcaldia de Sa**	**2.45**	**88**	S	**Sn**	**07 58 49.8**	**+0.8**
SCLA	**Alcaldia de Sa**	**2.45**	**88**	⇓P	**Pn**	**07 58 19.9**	**+1.0**
PQSS	**Presa 15 de Se**	**2.62**	**89**	⇑P	**Pn**	**07 58 21.7**	**+0.7**
ALJI	**Alcalda de J**	**2.62**	**96**	⇓P	**Pn**	**07 58 21.9**	**+0.8**
SARH	**Santa Rosa de**	**2.68**	**64**	*i* P	**Pn**	**07 58 22.4**	**+0.4**
SARH	**Santa Rosa de**	**2.68**	**64**	S	**Sn**	**07 58 54.7**	**+0.1**
SARH	**Santa Rosa de**	**2.68**	**64**	⇑P	**Pn**	**07 58 22.4**	**+0.4**
CCIG	**Comitan**	**2.79**	**342**	*i* P	**Pn**	**07 58 24.8**	**+1.2**
CCIG				IAML		07 59 12.7	
	comp=N,55nm,0.4s						
CCIG	**Comitan**	**2.79**	**342**	S	**Sn**	**07 58 56.5**	**-0.9**
CCIG	**Comitan**	**2.79**	**342**	⇓P	**Pn**	**07 58 24.5**	**+0.9**
PACA	**Pacayal**	**2.85**	**93**	⇑P	**Pn**	**07 58 25.0**	**+0.6**
RANC	**El Ranchito**	**2.89**	**93**	⇑P	**Pn**	**07 58 25.6**	**+0.7**
INTHN	**La Esperanza I**	**3.13**	**77**	⇓P	**Pn**	**07 58 28.9**	**+0.6**
MARCA	**Marcala la Paz**	**3.17**	**80**	S	**Sn**	**07 59 07.1**	**+0.4**
MARCA	**Marcala la Paz**	**3.17**	**80**	⇑P	**Pn**	**07 58 29.5**	**+0.7**
LCND	**La Caada**	**3.28**	**95**	*e*P	**Pn**	**07 58 31.6**	**+1.4**
LCND	**La Caada**	**3.28**	**95**	S	**Sn**	**07 59 09.2**	**-0.2**
LCND	**La Caada**	**3.28**	**95**	⇓P	**Pn**	**07 58 31.5**	**+1.3**
CNCH	**Conchagua**	**3.34**	**95**	S	**Sn**	**07 59 11.5**	**+0.5**
CNCH	**Conchagua**	**3.34**	**95**	⇑P	**Pn**	**07 58 32.8**	**+1.7**
PETF	**Flores**	**3.54**	**22**	⇓P	**Pn**	**07 58 34.1**	**+0.3**
COMHN	**El Horno**	**3.68**	**77**	⇑P	**Pn**	**07 58 36.3**	**+0.5**
POTN	**Potosi Cosigui**	**3.69**	**99**	P	**Pn**	**07 58 36.6**	**+0.7**
TGUH	**Tegucigalpa,Un**	**3.89**	**83**	⇑P	**Pn**	**07 58 39.2**	**+0.5**
CHOHN	**Orocuina**	**3.98**	**91**	P	**Pn**	**07 58 40.5**	**+0.5**
CRIN	**San Cristobal**	**4.19**	**102**	P	**Pn**	**07 58 44.3**	**+1.5**
PKGN	**Cerro Pekin**	**4.27**	**102**	P	**Pn**	**07 58 44.6**	**+0.8**
YUSH	**Yuscaran**	**4.29**	**85**	⇓P	**Pn**	**07 58 44.4**	**+0.1**

*SCB **01** 08:07:29.5±0.8,17.62°S×69.30°W,h169km±10km,ML3.1/1, MW2.8,Error ellipse: s-maj=6.6km s-min=5.4km az=1.0*
ISC 01 08:07:29.2±2.4,17.60S±0.08°×69.3W±0.1°,h173km±14km, n22,σ0.76/26,1C-1D,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB18	**Visviri**	**0.14**	**272**⇑	*i* P	**Pn**	**08 07 53.4**	**+0.6**
PB18				*e*S	**Sn**	**08 08 10.6**	**-0.2**
PB18				IAML		08 08 12.2	
	comp=N,135nm,0.8s						
PB16	**IPOC Station P**	**0.76**	**193**	*i* P	**Pn**	**08 07 55.8**	**+0.6**
PB16				*e*S	**Sn**	**08 08 14.6**	**-0.7**
PB16				IAML		08 08 17.7	
	comp=E,61nm,0.6s						
PB16	**IPOC Station P**	**0.76**	**193**	Pg	**Pn**	**08 07 55.5**	**+0.3**
BBOD	**La Paz, Gloria**	**1.18**	**36**	Pg	**Pn**	**08 07 58.7**	**+0.4**
BBOJ	**La Paz, Jacaqu**	**1.25**	**61**	Pg	**Pn**	**08 07 59.2**	**+0.3**
SOEJ	**Jacaque**	**1.25**	**61**	Pg	**Pn**	**08 07 59.3**	**+0.5**
BBOE	**La Paz, Chanca**	**1.50**	**59**	Pg	**Pn**	**08 08 01.9**	**+0.7**
SOEQ	**Opoqueri**	**1.68**	**125**	Pg	**Pn**	**08 08 03.3**	**+0.5**
LPAZ	**La Paz**	**1.73**	**42**	Pg	**Pn**	**08 08 03.8**	**+0.2**
BBOB	**La Paz, Bander**	**1.84**	**39**	Pg	**Pn**	**08 08 05.0**	**+0.3**
GO01	**Chusmiza**	**2.07**	**176**⇓	*i* P	**Pn**	**08 08 08.2**	**+1.2**
GO01	**Chusmiza**	**2.07**	**176**	Pg	**Pn**	**08 08 07.8**	**+0.8**
PB11	**IPOC Station P**	**2.18**	**188**	*e*P	**Pn**	**08 08 08.4**	**+0.5**
PB11	**IPOC Station P**	**2.18**	**188**	Pg	**Pn**	**08 08 08.7**	**+0.8**
PB08	**IPOC Station P**	**2.54**	**176**	*e*P	**Pn**	**08 08 13.6**	**+1.3**
PB08				*e*S	**Sn**	**08 08 45.5**	**-0.4**
PB08	**IPOC Station P**	**2.54**	**176**	Pg	**Pn**	**08 08 13.0**	**+0.7**
SOET	**ToroToro**	**3.39**	**99**	Pg	**Pn**	**08 08 23.1**	**+0.4**
PB01	**IPOC Station P**	**3.43**	**182**	*e*P	**Pn**	**08 08 23.8**	**+0.8**
PB01	**IPOC Station P**	**3.43**	**182**	Pg	**Pn**	**08 08 23.6**	**+0.6**
PB01				Sg	**Sn**	**08 09 03.2**	**-1.8**
PB01				IAML		08 09 08.3	
	comp=E,34nm,0.7s						
PB09	**IPOC Station P**	**4.18**	**179**	Pg	**Pn**	**08 08 33.1**	**+0.6**
PB06	**IPOC Station P**	**5.09**	**183**	Pg	**Pn**	**08 08 44.7**	**+0.4**
PB05	**IPOC Station P**	**5.29**	**189**	Pg	**Pn**	**08 08 47.0**	**0.0**

*NEIC **01** 08:14:22.1±1.8,35.13°N±0.02°×95.32°W±0.02°,h5km±1km, mb_Lg2.2/28,ML2.5/7,ML2.7/12,Error ellipse: s-maj=3.5km s-min=2.9km az=164.0*
NEIC 01 08:14:22.2±2.3,35.14N±0.02°×95.34W±0.02°,h7km±1km, Error ellipse: s-maj=3.0km s-min=2.9km az=13.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUL3	**Leonard**	**0.86**	**335**		Pg	08 14 38.6	-0.2
TUL3					Sg	08 14 50.1	+0.2
RLO	**Rose Lookout**	**1.06**	**14**		Pg	08 14 42.1	-0.5
RLO					Sb	08 14 56.7	-0.3
DEOK	**Depew**	**1.18**	**307**		Pg	08 14 44.5	-0.4
DEOK					Sg	08 15 00.1	-0.2
DEOK				IAML		08 15 02.0	
	comp=E,142nm,0.1s						
OK052	**Battle Ridge R**	**1.47**	**306**		Pn	08 14 49.2	0.0
OK052				Sg	Sb	08 15 09.1	+0.3
U38A	**Gravette**	**1.52**	**30**		Pn	08 14 49.8	0.0
U38A					Sb	08 15 10.2	+0.1
QUOK	**Quay**	**1.52**	**313**		Pn	08 14 50.1	+0.2
QUOK				Sg	Sg	08 15 11.0	-0.2
MIAR	**Mount Ida**	**1.56**	**112**		Pb	08 14 51.0	-0.5
MIAR					Sn	08 15 10.8	-0.2
HHAR	**Hobbs**	**1.61**	**44**		Pn	08 14 51.3	+0.2
HHAR				Sg	Sb	08 15 13.4	+0.4
FNO	**Franklin**	**1.69**	**275**		Pb	08 14 53.6	-0.1
FNO				Sg	Sg	08 15 16.5	-0.2
ADOK	**Arcadia Dam**	**1.74**	**288**	Pn	Pn	08 14 52.9	0.0
OKCSW	**OKLAHOMA CITY**	**1.74**	**280**	Pn	Pn	08 14 52.6	-0.3
OKCSW				IAmb_Lg		08 15 21.7	
	comp=Z,16nm,0.8s						
OK048	**Pawnee Station**	**1.83**	**315**		Pn	08 14 54.3	+0.2
OK051	**E0350 and S346**	**1.83**	**319**		Pn	08 14 54.0	-0.1
OK051					Sb	08 15 20.1	+0.9
Z38A	**Mt. Pleasant**	**1.89**	**171**	Pn	Pn	08 14 55.0	0.0
T35A	**Sooner Cattle**	**2.02**	**332**	Pn	Pb	08 14 58.2	-1.0
X34A	**Smith Ranch, M**	**2.12**	**256**		Pn	08 14 58.6	+0.5
X34A				IAmb_Lg		08 15 34.6	
	comp=Z,13nm,0.9s						
X40A	**Basin Creek Fa**	**2.16**	**107**		Pn	08 14 60.0	+1.3
X40A				IAmb_Lg		08 15 35.0	
	comp=Z,9.5nm,0.8s						
WLAR	**White Oak Lake**	**2.34**	**127**	Pn	Pn	08 15 00.8	-0.3
Z35A	**Perchaven, San**	**2.40**	**222**		Pn	08 15 00.7	-1.2
UALR	**University of**	**2.48**	**97**		Pn	08 15 01.7	-1.4
UALR				IAmb_Lg		08 15 46.2	
	comp=Z,7.6nm,0.9s						
WHAR	**Wooly Hollow**	**2.50**	**86**		Pn	08 15 02.7	-0.6
KAN13	**South Haven SW**	**2.55**	**318**	Pn	Pn	08 15 03.2	-0.8
KAN13				IAmb_Lg		08 15 50.2	
	comp=Z,10nm,0.8s						
FCAR	**Ozark Folk Cen**	**2.73**	**73**		Pn	08 15 06.1	-0.3
FCAR				IAmb_Lg		08 15 46.9	
	comp=Z,6.5nm,0.8s						
KAN17	**Caldwell West**	**2.74**	**315**	IAmb_Lg		08 15 56.8	
	comp=Z,7.2nm,0.8s						
FW06	**Azle**	**2.84**	**221**		Pn	08 15 06.3	-1.7
WMOK	**Wich

HOED				IAML			08 30 04.7		
	comp=Z,339nm,0.3s								
HRAO	**HartRAO**	**2.61**	**286**	*e*P		**Pn**	**08 29 38.6**	**+2.9**
HRAO				*e*S		**Sb**	**08 30 12.9**	**+0.4**
HRAO				IAML			08 30 26.2		
	comp=Z,158nm,0.5s								
LEPH	**Lephalale, Lim**	**3.67**	**318**	*e*P		**Pn**	**08 29 53.3**	**+3.1**
LEPH				*e*S		**Sn**	**08 30 37.9**	**+4.3**
LEPH				IAML			08 30 51.5		
	comp=Z,247nm,0.5s								
KSTD	**Kokstad**	**4.11**	**194**	*e*P		**Pn**	**08 29 56.7**	**+0.3**
KSTD				*e*S		**Sn**	**08 30 44.3**	**-0.4**
KSTD				IAML			08 31 14.1		
	comp=Z,71nm,0.4s								
LBTB	**Lobatse**	**4.68**	**289**	Pn		**Pn**	**08 30 05.7**	**+1.5**
LBTB				IAmb_Lg			08 31 26.7		
	comp=Z,110nm,0.8s								
LBTB	**Lobatse**	**4.68**	**289**	*e*P		**Pn**	**08 30 08.0**	**+3.8**
LBTB				*e*S		**Sn**	**08 31 03.3**	**+4.7**
LBTB				IAML			08 31 30.5		
	comp=Z,85nm,0.8s								
MREMI	**Moremi**	**4.89**	**325**	Pn		**Pn**	**08 30 07.7**	**+0.7**
BOSA	**Boshof**	**5.04**	**246**	Pn		**Pn**	**08 30 11.1**	**+2.0**
BOSA				IAmb_Lg			08 31 40.3		
	comp=Z,80nm,0.7s								
BOSA	**Boshof**	**5.04**	**246**	*e*P		**Pn**	**08 30 11.6**	**+2.5**
BOSA				*e*S		**Sn**	**08 31 09.2**	**+1.6**
BOSA				IAML			08 31 40.1		
	comp=Z,60nm,0.5s								
MAKGR	**Makgori**	**5.17**	**278**	Pn		**Pn**	**08 30 12.3**	**+1.5**
MAKGR	**Makgori**	**5.17**	**278**	*i* P		**Pn**	**08 30 13.5**	**+2.7**
MAKGR				⇓*i* S		**Sn**	**08 31 07.4**	**-3.1**
MAKGR				IAML			08 31 42.8		
	comp=N,454nm,0.4s								
LPHEP	**Lephephe**	**5.30**	**307**	Pn		**Pn**	**08 30 11.1**	**-1.6**
LPHEP	**Lephephe**	**5.30**	**307**	*i* P		**Pn**	**08 30 14.8**	**+2.1**
LPHEP				*i* S		**Sn**	**08 31 08.2**	**-5.7**
LPHEP				IAML			08 31 48.9		
	comp=E,68nm,1.3s								
HVD	**Gariep Dam**	**5.91**	**227**	*e*P		**Pn**	**08 30 22.7**	**+1.6**
HVD				*e*S		**Sn**	**08 31 29.1**	**+0.1**
KDWAN	**Kaudwane**	**6.19**	**300**	Pn		**Pn**	**08 30 24.5**	**-0.4**
KDWAN	**Kaudwane**	**6.19**	**300**	*i* P		**Pn**	**08 30 26.4**	**+1.6**
KDWAN				*i* S		**Sn**	**08 31 29.5**	**-6.3**
KDWAN				IAML			08 32 14.8		
	comp=N,120nm,0.7s								
BROLN	**Tlhalogang**	**6.20**	**332**	*i* P		**Pn**	**08 30 25.5**	**+0.4**
BROLN				*i* S		Sn	08 31 27.1	-9.1	
BROLN				IAML			08 32 08.1		
	comp=N,64nm,0.6s								
PHPEN	**Phepeng**	**6.95**	**278**	Pn		**Pn**	**08 30 36.5**	**+1.1**
PHPEN				IAmb_Lg			08 32 38.3		
	comp=Z,86nm,0.9s								
PHPEN	**Phepeng**	**6.95**	**278**	*i* P		**Pn**	**08 30 36.6**	**+1.2**
PHPEN				*i* S		**Sn**	**08 31 49.8**	**-4.8**
SOOWA	**Sowa**	**7.19**	**326**	*i* P		**Pn**	**08 30 38.1**	**-0.5**
SOOWA				*i* S		Sn	08 31 49.6	-11	
SOOWA				IAML			08 32 43.1		
	comp=N,179nm,0.5s								
GRHM	**Grahamstown, E**	**7.53**	**207**	Pn		**Pn**	**08 30 46.0**	**+2.9**
GRHM	**Grahamstown, E**	**7.53**	**207**	*e*P		**Pn**	**08 30 44.1**	**+1.0**
GRHM				*e*S		**Sn**	**08 32 06.3**	**-2.3**
GRHM				IAML			08 32 35.8		
	comp=Z,5.5nm,0.4s								
GRAF	**Camdeboo Natio**	**7.68**	**221**	*e*P		**Pn**	**08 30 46.5**	**+1.1**
GRAF				*e*S		**Sn**	**08 32 11.1**	**-1.5**
GRAF				IAML			08 32 35.1		
	comp=Z,8.9nm,0.8s								
ALKP	**Alkanpan, Nort**	**7.98**	**244**	*e*P		**Pn**	**08 30 51.7**	**+2.2**
ALKP				*e*S		**Sn**	**08 32 19.3**	**-0.5**
ALKP				IAML			08 32 20.5		
	comp=Z,31nm,0.1s								
BRAK	**Brakfontein**	**8.39**	**230**	*e*P		**Pn**	**08 30 58.0**	**+3.0**
BRAK				*e*S		**Sn**	**08 32 28.1**	**-1.8**
BRAK				IAML			08 33 27.1		
	comp=Z,27nm,0.5s								
KGCAE	**Kacgae**	**8.40**	**295**	Pn		**Pn**	**08 30 55.7**	**+0.4**
PHDHD	**Phuduhudu**	**8.41**	**318**	IAmb_Lg			08 33 30.1		
	comp=Z,95nm,0.9s								
GRAN	**Grantham**	**9.19**	**230**	*e*P		**Pn**	**08 31 07.7**	**+1.7**
GRAN				*e*S		**Sn**	**08 32 47.5**	**-2.1**
GRAN				IAML			08 33 07.8		
	comp=Z,7.6nm,0.6s								
AUGR	**Augrabies**	**9.21**	**255**	*e*P		**Pn**	**08 31 10.1**	**+3.8**
AUGR				*e*S		**Sn**	**08 32 50.0**	**0.0**
AUGR				IAML			08 33 58.0		
	comp=Z,19nm,0.4s								
FRAZ	**Fraserburg**	**9.52**	**234**	*e*P		**Pn**	**08 31 13.0**	**+2.3**
FRAZ				*e*S		**Sn**	**08 32 56.2**	**-1.6**
FRAZ				IAML			08 32 59.2		
	comp=Z,8.9nm,0.3s								
ARMS	**Ukamas**	**9.66**	**259**	*e*P		**Pn**	**08 31 15.0**	**+2.5**
ARMS				*e*S		**Sn**	**08 33 00.6**	**-0.5**
GRTLG	**Ghanzi**	**9.96**	**300**	Pn		**Pn**	**08 31 17.0**	**+0.4**
KSANE	**Kasane**	**10.06**	**330**	Pn		**Pn**	**08 31 16.4**	**-1.7**
KSANE				IAmb_Lg			08 34 18.3		
	comp=Z,40nm,1.0s								
KSANE	**Kasane**	**10.06**	**330**	*i* P		**Pn**	**08 31 15.7**	**-2.4**
KSANE				IAML			08 34 12.4		
	comp=E,117nm,1.4s								
SUR	**Sutherland**	**10.19**	**233**	Pn		**Pn**	**08 31 21.9**	**+2.1**
QNGWA	**Qangwa**	**11.10**	**308**	Pn		**Pn**	**08 31 31.4**	**-0.8**
QNGWA	**Qangwa**	**11.10**	**308**	*i* P		**Pn**	**08 31 30.1**	**-2.1**
QNGWA				*i* S		Sn	08 33 20.2	-16	
QNGWA				IAML			08 34 49.4		
	comp=N,26nm,4.8s								
LSZ	**Lusaka**	**11.49**	**349**	Pn		**Pn**	**08 31 33.6**	**-4.0**
KOMG	**Komaggas**	**11.89**	**252**	*e*P		**Pn**	**08 31 46.3**	**+3.3**
KOMG				*e*S		**Sn**	**08 33 53.6**	**-2.1**
KOMG				IAML			08 33 53.7		
	comp=Z,4.8nm,0.5s								

IDC 01 08:32:19.7±2.8, 2°.61S×138°.51E, h0km, mb3.3/2, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=412.3km s-min=31.7km az=106.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.70**	**193**	P	Pn	08 36 26.6	-1.2
	0.2nm,0.3s,baz=15,slow=13,SNR=7.0						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**21.40**	**192**	P	P	08 37 09.8	+0.6
	0.7nm,0.6s,baz=17,slow=9.4,SNR=14						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**85.83**	**24**	P	P	08 45 00.8	-0.1
	0.3nm,0.9s,baz=272,slow=7.6,SNR=4.3						
	0.3nm,0.9s						

*IDC **01** 08:34:27.0±0.7, 27°.16N×140°.36E, h479km±13km, mb3.3/3, mbtmp4.1/6, Error ellipse: s-maj=44.6km s-min=15.0km az=77.0*

*JMA **01** 08:34:29.4±0.3, 28°.2N±2°×14°.1E±°, h492km±4km, MV4.0/25, W OFF OGASAWARA*

ISC 01 08:34:27.8±0.9, 27°.27N±0°.08×140°.5E±0°.1, h500km, n18, σ1°.77/24, mb3.7/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.52**	**96**	P	**P**	**08 35 31.2**	**+0.5**
CBIJ				S	**S**	**08 36 19.8**	**-2.1**
JCJ	**Chichijima**	**1.52**	**96**	P	**P**	**08 35 29.6**	**-1.2**
	baz=180,slow=0.0						
JCJ				S	**S**	**08 36 18.2**	**-3.7**
	baz=180,slow=0.0						
JHH2	**Haha-jima-NKT2**	**1.63**	**112**	P	**P**	**08 35 32.3**	**+1.0**
JHH2				*S*	**S**	**08 36 22.4**	**-0.3**
BSO1	**Boso 1**	**7.37**	**3**	*e*P	**P**	**08 36 18.2**	**+1.3**
BSO1				*e*S	**S**	**08 37 46.8**	**+0.2**
BSO3	**Boso 3**	**7.51**	**0**	*e*P	**P**	**08 36 18.8**	**+0.2**
BSO3				*e*S	**S**	**08 37 46.0**	**-3.7**
BSO4	**Boso 4**	**7.70**	**359**	*e*P	**P**	**08 36 23.6**	**+2.9**
JIE	**Ise**	**7.81**	**336**	*e*P	**P**	**08 36 23.9**	**+1.8**
JKN2	**Miekihoku**	**7.83**	**333**	*e*P	**P**	**08 36 23.8**	**+1.5**
JRY	**Ryogami san**	**8.82**	**352**	*e*P	**P**	**08 36 32.7**	**0.0**
JYT	**Yasato**	**8.93**	**358**	P	**P**	**08 36 34.9**	**+1.1**
JHO	**Hitachi**	**9.31**	**0**	P	**P**	**08 36 38.6**	**+0.9**
JHO				*e*S	**S**	**08 38 21.7**	**-2.9**
MJAR	**Matsushiro Arr**	**9.44**	**349**	P	**P**	**08 36 40.2**	**+1.1**
	1.8nm,0.3s,baz=176,slow=9.8,SNR=5.4						
JNU	**Nakatsue**	**10.15**	**307**	P	**P**	**08 36 46.0**	**-0.7**
	4.1nm,0.8s,baz=301,slow=5.7,SNR=2.5						
USRK	**Ussuriysk Ar.**	**18.23**	**340**	P	**P**	**08 38 11.0**	**+1.0**
	3.7nm,0.8s,baz=146,slow=9.4,SNR=6.2						
WRA	**Warramunga Arr**	**47.31**	**188**	P	**P**	**08 42 15.5**	**-0.2**
	1.6nm,0.3s,baz=4.2,slow=7.5,SNR=28						
	1.6nm,0.3s						
ASAR	**Alice Springs**	**51.04**	**188**	P	**P**	**08 42 43.0**	**-0.2**
	0.6nm,0.5s,baz=358,slow=5.0,SNR=24						
	0.6nm,0.5s						
FINES	**FINESS Array B**	**77.12**	**333**	P	**P**	**08 45 29.2**	**+0.3**
	3.1nm,1.0s,baz=35,slow=5.1,SNR=5.3						
	3.1nm,1.0s						
PLCA	**Paso Flores**	**151.14**	**126**	PKPbc	**PKiKP**	**08 53 26.2**	**+1.7**
	0.9nm,0.6s,baz=207,slow=3.0,SNR=3.3						

*NEIC **01** 08:43:06.1±1.2, 59°.2S±0°.1×25°.1W±0°.1, h10km±1km, mb4.3/18, Error ellipse: s-maj=20.9km s-min=11.3km az=339.0*

*IDC **01** 08:43:07.2±1.0, 59°.61S×25°.92W, h0km, mb4.1/5, mbtmp4.1/6, ML4.4/1, MS3.2/1, Error ellipse: s-maj=40.0km s-min=26.0km az=77.0*

ISC 01 08:43:06.2±0.6, 59°.2S±0°.1×25°.1W±0°.1, h10km, n37, σ0s86/35, mb4.1/12, 5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**8.00**	**303**	Pn	Pn	08 45 11.6	+9.3
VNA1	**Neumayer--Stat**	**13.41**	**155**	⇓P	**Pn**	**08 46 16.8**	**+0.6**
	comp=Z,4.4nm,0.2s						
VNA3	**Neumayer Olymp**	**13.60**	**159**	⇓P	**Pn**	**08 46 18.2**	**-0.5**
	comp=Z,11nm,0.2s						
VNA2	**Neumayer--Watz**	**13.80**	**155**	⇓P	**Pn**	**08 46 21.2**	**-0.4**
	comp=Z,1.9nm,0.2s,baz=310,slow=14						
SNAA	**Sanae**	**15.36**	**153**	⇓P	**Pn**	**08 46 43.1**	**+0.3**
	comp=Z,38nm,0.3s						
SNAA	**Sanae**	**15.36**	**153**		**Pn**	**08 46 42.5**	**-0.2**
SNAA				IAmb	IAmb	08 46 54.6	
	comp=Z,7.2nm,0.5s						
SNAA	**Sanae**	**15.36**	**153**	Pn	**Pn**	**08 46 43.1**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=317,slow=16,SNR=109						
SNAA				Sn	Sn	08 49 19.2	-14
	comp=Z,0.2nm,0.3s,baz=300,slow=8.7,SNR=6.7						
	comp=Z,3.2nm,0.3s						
ESPZ	**Base Esperanza**	**15.77**	**241**		**Pn**	**08 46 48.3**	**+0.3**
TROLL	**Troll, Antarti**	**16.89**	**150**	⇓P	**P**	**08 47 03.7**	**-0.7**
	comp=Z,49nm,0.2s						
EFI	**East Falkland**	**20.01**	**278**	P	**P**	**08 47 38.1**	**-0.6**
MG03	**Isla Dawson**	**25.20**	**262**	P	**P**	**08 48 32.2**	**+0.7**
QSPA	**South Pole Qui**	**31.00**	**180**	P	**P**	**08 49 23.1**	**-0.4**
QSPA	**South Pole Qui**	**31.00**	**180**	P	**P**	**08 49 23.8**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=243,slow=2.2,SNR=14						
QSPA				LR	LR	09 00 55.0	
	comp=Z,48nm,19.9s,baz=339,slow=35						
	comp=Z,1.6nm,0.8s						
TRQA	**Tornquist**	**31.68**	**295**	P	**P**	**08 49 29.2**	**-0.3**
TRQA				IAmb	IAmb	08 49 46.2	
	comp=Z,6.9nm,1.1s						
PLCA	**Paso Flores**	**33.75**	**283**	P	**P**	**08 49 47.2**	**-0.5**
PLCA				IAmb	IAmb	08 50 00.8	
	comp=Z,2.6nm,0.9s						
PLCA	**Paso Flores**	**33.75**	**283**	P	**P**	**08 49 47.9**	**+0.1**
	comp=Z,2.1nm,1.1s,baz=154,slow=11,SNR=4.4						
	comp=Z,2.1nm,1.1s						
BI02	**San Fabin de**	**37.25**	**286**	P	**P**	**08 50 17.2**	**-0.6**
BI02				IAmb	IAmb	08 50 42.0	
	comp=Z,6.8nm,1.1s						
ML02	**Panimavida**	**38.03**	**287**	P	**P**	**08 50 24.3**	**0.0**
ML02				IAmb	IAmb	08 50 45.1	
	comp=Z,7.6nm,0.9s						
BO04	**La Punta**	**39.06**	**290**	P	**P**	**08 50 31.3**	**-1.8**
BO04				IAmb	IAmb	08 50 33.5	
	comp=Z,3.1nm,0.8s						
MT09	**Talagante**	**39.42**	**290**	P	**P**	**08 50 34.6**	**-1.5**
MT09				IAmb	IAmb	08 50 56.9	
	comp=Z,8.2nm,1.0s						
MT02	**Curacav**	**39.91**	**290**	P	**P**	**08 50 39.0**	**-1.1**
MT02				IAmb	IAmb	08 50 51.2	
	comp=Z,11nm,1.1s						
VNDA	**Vanda**	**43.43**	**182**	P	**P**	**08 51 08.6**	**+0.2**
VNDA	**Vanda**	**43.43**	**182**	P	**P**	**08 51 08.4**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=217,slow=4.4,SNR=5.1						
	comp=Z,1.0nm,0.7s						
LBTB	**Lobatse**	**48.98**	**68**	P	**P**	**08 51 52.0**	**-0.8**
LBTB				IAmb	IAmb	08 52 01.9	
	comp=Z,1.4nm,0.8s						
KGCAE	**Kacgae**	**49.24**	**63**	P	**P**	**08 51 53.0**	**-1.8**
LPAZ	**La Paz**	**53.15**	**305**	P	**P**	**08 52 25.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**75.33**	**27**	P	**P**	**08 54 51.2**	**+1.7**
TORD	**Torodi Ar. Bea**	**75.33**	**27**	P	P	08 54 57.1	+7.7
	comp=Z,1.5nm,0.4s,baz=192,slow=6.2,SNR=1.6						
	comp=Z,1.5nm,0.4s						
STKA	**Stephens Creek**	**88.55**	**169**	P	**P**	**08 55 58.7**	**-0.1**
ASAR	**Alice Springs**	**95.59**	**161**	P	**P**	**08 56 31.5**	**-0.1**
ASAR	**Alice Springs**	**95.59**	**161**	P	**P**	**08 56 31.9**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=179,slow=4.7,SNR=5.9						
	comp=Z,0.5nm,0.7s						
AS31	**Alice Springs**	**95.60**	**161**	P	**P**	**08 56 32.3**	**+0.6**
AS31				IAmb	IAmb	08 56 58.6	
	comp=Z,0.6nm,0.8s						
R32K	**Eaglecrest**	**144.96**	**300**		**PKPdf**	**09 02 43.2**	**+1.2**
M30M	**Minto, Yukon**	**148.04**	**306**		**PKPbc**	**09 02 49.1**	**-1.2**
H31M	**Peel River**	**148.37**	**312**	PKPbc	**PKPbc**	**09 02 50.4**	**-0.8**
SONM	**Songino Array**	**149.68**	**90**	PKPbc	**PKiKP**	**09 02 57.8**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=210,slow=2.7,SNR=6.2						
ILAR	**Eielson Array**	**153.02**	**307**	PKPbc	**PKiKP**	**09 03 02.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=155,slow=3.0,SNR=3.1						

*DNK **01** 08:45:07.9±1.9, 79°.67N×4°.17E, h10km*

*BER **01** 08:45:09.4±2.6, 79°.58N×3°.40E, h10km, mb(Pn)4.1, ML3.3(NAO), Confirmed Earthquake*

*NAO **01** 08:45:09.4±0.5, 79°.55N×3°.54E, h15km, ML3.3*

*KOLA **01** 08:45:09.0, 79°.95N×5°.75E, h0km, ML2.9, Error ellipse: s-maj=74.5km s-min=25.3km az=30.0, Greenland sea*

*IDC **01** 08:45:13.4±3.2, 79°.58N×5°.49E, h0km, mb3.6/2, mbtmp3.6/5, ML3.2/3, MS3.0/17, Error ellipse: s-maj=48.9km s-min=33.4km az=63.0*

*FCIAR **01** 08:45:13.0, 79°.41N×4°.44E, h10km, station OMEGA has station magnitude of 3.80*

ISC 01 08:45:07.7±0.8, 79°.63N±0°.06×3°.29E±0°.05, h16km, n55, σ2s64/62, MS3.0/12, 1C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.77**	**109**	Pn	**Pn**	**08 45 37.5**	**0.0**
KBS				Sn	**Sn**	**08 45 56.6**	**-3.1**
KBS	**Kingsbay**	**1.77**	**109**	P	**Pn**	**08 45 37.2**	**-0.3**
KBS				S	**Sn**	**08 45 56.9**	**-2.7**
KBS	**Kingsbay**	**1.77**	**109**	*e*P	**Pn**	**08 45 37.6**	**0.0**
KBS				*e*S	**Sn**	**08 45 56.9**	**-2.7**
KBS				IAML		08 46 07.2	
	comp=Z,138nm,0.3s						
KBS	**Kingsbay**	**1.77**	**109**	*i* P	**Pn**	**08 45 37.7**	**+0.1**
KBS				*i* S	**Sn**	**08 45 56.9**	**-2.7**
BRBB	**Barentsburg B**	**2.62**	**121**	S	**Sn**	**08 46 21.5**	**+0.8**
BRBB	**Barentsburg B**	**2.62**	**121**	*e*P	**Pn**	**08 45 50.4**	**+1.2**
BRBA	**Barentsburg A**	**2.64**	**121**	Pn	**Pn**	**08 45 51.0**	**+1.4**
BRBA				Sn	**Sn**	**08 46 19.8**	**-1.4**
BRBA	**Barentsburg A**	**2.64**	**121**	Pn	**Pn**	**08 45 51.0**	**+1.4**
BRBA				Sn	**Sn**	**08 46 19.8**	**-1.4**
SPA0	**Spitsbergen Ar**	**2.92**	**113**	Pn	**Pn**	**08 45 54.4**	**+1.0**
	baz=315,slow=10						
SPA0				Sn	**Sn**	**08 46 25.6**	**-2.4**
	baz=317,slow=14						
SPA0	**Spitsbergen Ar**	**2.92**	**113**	⇑*i* P	**Pn**	**08 45 54.2**	**+0.8**
SPA0				*i* S	**Sn**	**08 46 25.3**	**-2.7**
SPA0	**Spitsbergen Ar**	**2.92**	**113**	Pn	**Pn**	**08 45 54.4**	**+1.0**
	baz=315,slow=10						
SPA0				Sn	**Sn**	**08 46 25.6**	**-2.4**
	baz=317,slow=14						
SPITS	**Spitsbergen Ar**	**2.92**	**113**	Pn	**Pn**	**08 45 54.2**	**+0.8**
	baz=314,slow=7.6						
SPITS				Sn	**Sn**	**08 46 24.4**	**-3.5**
	baz=316,slow=12						
	comp=Z,28nm,0.2s						
SPITS	**Spitsbergen Ar**	**2.92**	**113**	P	**Pn**	**08 45 54.0**	**+0.7**
SPITS				S	**Sn**	**08 46 26.5**	**-1.5**
HSPB	**Hornsund (broa**	**3.62**	**131**	Pn	**Pn**	**08 46 03.8**	**+0.8**
HSPB				Sn	**Sn**	**08 46 42.3**	**-3.0**
HSPB	**Hornsund (broa**	**3.62**	**131**	P	**Pn**	**08 46 03.6**	**+0.6**
HSPB				S	**Sn**	**08 46 42.0**	**-3.4**
HSPB	**Hornsund (broa**	**3.62**	**131**	*e*P	**Pn**	**08 46 03.3**	**+0.3**
HSPB				*e*S	**Sn**	**08 46 41.4**	**-3.9**
HSPB	**Hornsund (broa**	**3.62**	**131**	Pn	**Pn**	**08 46 03.8**	**+0.8**
HSPB				Sn	**Sn**	**08 46 42.3**	**-3.0**
NOR	**Nord**	**3.80**	**311**	Pn	**Pn**	**08 46 07.3**	**+1.8**
NOR	**Nord**	**3.80**	**311**	*e*P	**Pn**	**08 46 06.7**	**+1.2**
NOR				Pn	**Pn**	**08 46 07.3**	**+1.8**
NOR	**Nord**	**3.80**	**311**	*i* P	**Pn**	**08 46 07.3**	**+1.8**
HOPEN	**Hopen**	**5.45**	**114**	Pn	**Pn**	**08 46 28.6**	**+0.5**
HOPEN				Sn	**Sn**	**08 47 25.3**	**-5.0**
HOPEN	**Hopen**	**5.45**	**114**	*e*P	**Pn**	**08 46 28.1**	**0.0**
HOPEN				*e*S	**Sn**	**08 47 24.4**	**-5.9**
DBG	**Daneborg**	**7.46**	**237**	Pn	**Pn**	**08 46 56.1**	**+0.5**
DBG				Sn	**Sn**	**08 48 13.9**	**-5.7**
DBG	**Daneborg**	**7.46**	**237**	Pn	**Pn**	**08 46 56.1**	**+0.5**
DBG				Sn	**Sn**	**08 48 13.9**	**-5.7**
DBG	**Daneborg**	**7.46**	**237**	*i* P	**Pn**	**08 46 56.1**	**+0.5**
ZFI2	**Zemlya Franca-**	**7.49**	**60**	*e*P	**Pn**	**08 46 57.7**	**+1.7**
ZFI2				*e*S	**Sn**	**08 48 14.6**	**-5.8**
OMEGA	**Omega**	**7.50**	**60**	*e*P	**Pn**	**08 46 58.0**	**+1.8**
OMEGA				*e*S	**Sn**	**08 48 15.4**	**-5.4**
	comp=Z,26nm,2.1s						
JNW	**Jan Mayen West**	**9.11**	**205**	*e*P	**Pn**	**08 47 19.1**	**+0.9**
JNE	**Jan Mayen East**	**9.13**	**204**	*e*P	**Pn**	**08 47 17.8**	**-0.8**
JMI	**Jan Mayen**	**9.23**	**205**	*e*P	**Pn**	**08 47 20.0**	**+0.2**
NEEM	**North Greenlan**	**10.66**	**286**	*i* P	**Pn**	**08 47 37.9**	**-1.9**
ARA0	**ARCESS Array S**	**11.59**	**139**	Pn	**Pn**	**08 47 53.0**	**+0.9**
	baz=346,slow=12						
ARA0				Sn	Sn	08 49 51.9	-9.1
	baz=344,slow=18						
ARA0	**ARCESS Array S**	**11.59**	**139**	Pn	**Pn**	**08 47 53.0**	**+0.9**
	baz=346,slow=12						
ARA0				Sn	Sn	08 49 51.9	-9.1
	baz=344,slow=18						
ARCES	**ARCESS Array B**	**11.59**	**139**	Pn	**Pn**	**08 47 52.9**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=348,slow=12,SNR=12						
ARCES				LR	LR	08 52 14.2	
	comp=Z,38nm,20.4s,baz=50,slow=37						
	comp=Z,1.9nm,0.6s						
SUMG	**Summit**	**11.91**	**256**	*i* P	**Pn**	**08 47 56.9**	**0.0**
UPNV	**Upernavik**	**14.92**	**275**	*i* P	**Pn**	**08 48 34.1**	**-3.5**
NUUG	**Nuugaatsiaq**	**15.40**	**270**	*i* P	**Pn**	**08 48 40.5**	**-3.4**
NOA	**NORSAR Array B**	**18.83**	**168**	LR	LR	08 55 27.6	
	comp=Z,18nm,20.5s,baz=345,slow=33						
SFJD	**Kangerlussuaq**	**18.87**	**259**	LR	LR	08 57 12.0	
	comp=Z,63nm,19.5s,baz=17,slow=37						
FINES	**FINESS Array B**	**19.48**	**146**	P	**Pn**	**08 49 37.2**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=353,slow=9.8,SNR=3.4						
FINES				LR	LR	08 56 49.9	
	comp=Z,30nm,20.6s,baz=58,slow=36						
	comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**19.84**	**165**	LR	LR	08 56 00.7	
	comp=Z,40nm,20.1s,baz=42,slow=33						
NRIK	**Noril'sk**	**22.20**	**69**	LR	LR	08 59 33.1	
	comp=Z,25nm,19.7s,baz=323,slow=39						
FRB	**Frobisher Bay**	**25.05**	**274**	LR	LR	09 01 16.1	
	comp=Z,40nm,18.3s,baz=248,slow=38						
KIRV	**Kirov**	**25.37**	**118**	LR	LR	09 01 05.7	
	comp=Z,30nm,19.9s,baz=334,slow=38						
ARTI	**Arti**	**28.96**	**110**	LR	LR	09 03 45.2	
	comp=Z,31nm,21.8s,baz=82,slow=39						
BELG	**Belogornoye**	**31.07**	**124**	LR	LR	09 03 46.2	
	comp=Z,26nm,21.4s,baz=275,slow=36						
DAVOX	**Davos/Dischmat**	**33.06**	**172**	LR	LR	09 04 26.2	
	comp=Z,28nm,18.6s,baz=80,slow=35						
SCHQ	**Schefferville**	**33.09**	**265**	LR	LR	09 04 18.5	
	comp=Z,33nm,18.4s,baz=294,slow=34						
BVAR	**Borovoye Array**	**34.27**	**99**	LR	LR	09 08 51.2	
	comp=Z,39nm,18.1s,baz=304,slow=42						
MLR	**Muntele Rosu**	**35.25**	**152**	LR	LR	09 07 20.5	
	comp=Z,23nm,19.2s,baz=34,slow=38						
KURBB	**Kurchatov Arra**	**38.05**	**92**	P	**P**	**08 52 29.4**	**+4.6**
	comp=Z,0.7nm,0.7s,baz=342,slow=8.4,SNR=5.1						
	comp=Z,0.7nm,0.7s						
MKAR	**Makanchi Array**	**42.41**	**90**	P	**P**	**08 53 05.7**	**+4.7**
	comp=Z,0.5nm,0.7s,baz=352,slow=7.4,SNR=4.7						
	comp=Z,0.5nm,0.7s						
SADO	**Sadowa**	**44.99**	**273**	LR	LR	09 12 03.9	
	comp=Z,30nm,19.6s,baz=143,slow=36						
AAK	**Ala-Archa**	**45.02**	**99**	LR	LR	09 14 27.8	
	comp=Z,32nm,18.3s,baz=343,slow=39						
ANMO	**Albuquerque**	**59.30**

IKFM	**Kafar-mosalman**	**2.59**	**101**	Pn	**Pb**	**09 16 51.8**	**-2.6**
HGHA	**Hamedan- Ghaye**	**3.64**	**65**	Pn	**Pn**	**09 17 05.9**	**+1.6**
HAGD	**Aghdareh**	**3.67**	**77**	Pn	**Pn**	**09 17 07.3**	**+2.6**

*NEIC **01** 09:20:27.4±2.1,1.°87S±0.°05×120.°60E±0.°06,h10km±1km, mb4.6/20,Error ellipse: s-maj=10.2km s-min=8.1km az=254.0*

*IDC **01** 09:20:31.0±3.1,1.°81S×120.°60E,h41km±29km,mb4.0/15, mbtmp4.2/17,ML3.5/2,MS3.3/18,Error ellipse: s-maj=27.1km s-min=11.5km az=68.0*

ISC 01 09:20:30.2±0.4,**1.°86S**±0.°05×**120.°63E**±0.°06,**h33**km,**n72,** σ1§**11/61,mb4.5/34,MS3.4/17,1D,Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**2.29**	**69**		**Pn**	**09 21 05.5**	**-0.3**
TOLI2	**Tolitoli**	**2.96**	**3**		**Pn**	**09 21 15.8**	**+0.8**
KAPI	**Kappang**	**3.25**	**196**		**Pn**	**09 21 19.5**	**+0.6**
KAPI	**Kappang**	**3.25**	**196**	P	**Pn**	**09 21 19.0**	**+0.1**
	7.8nm,0.3s,baz=9.5,slow=8.4,SNR=15						
KAPI				S	**Sn**	**09 21 58.5**	**+2.0**
	144nm,0.7s,baz=222,slow=21,SNR=4.0 130nm,0.7s						
BKB	**Balikpapan**	**3.78**	**279**	Pn	**Pn**	**09 21 25.6**	**-0.6**
MYLDM	**Lahad Datu**	**7.31**	**343**		**Pn**	**09 22 15.0**	**+0.2**
DAV	**Davao City (W)**	**10.16**	**29**	LR	LR	09 26 45.8	
	comp=Z,74nm,21.5s,baz=162,slow=37						
FAKI	**Fak Fak**	**11.66**	**95**	Pn	**Pn**	**09 23 13.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**16.87**	**163**		**Pn**	**09 24 22.3**	**-1.7**
FITZ	**Fitzroy Crossi**	**16.87**	**163**	P	**Pn**	**09 24 25.1**	**+1.1**
	0.1nm,0.3s,baz=50,slow=9.1,SNR=4.4						
FITZ				LR	LR	09 32 36.0	
	comp=Z,78nm,20.9s,baz=40,slow=43 2.9nm,1.0s						
IPM	**Ipoh**	**20.58**	**288**	P	**P**	**09 25 07.2**	**+0.7**
RPSI	**Rantau Prapat**	**22.16**	**282**	P	**P**	**09 25 24.1**	**+0.5**
PSI	**Prapat**	**22.19**	**282**	P	**P**	**09 25 24.1**	**+0.1**
	7.5nm,0.6s,baz=125,slow=14,SNR=4.6 7.5nm,0.6s						
WB0	**Warramunga Arr**	**22.31**	**144**		**P**	**09 25 24.6**	**-0.6**
WB0				IAmb	IAmb	09 25 29.0	
	comp=Z,30nm,1.3s						
WRAB	**Tennant Creek**	**22.42**	**144**	P	**P**	**09 25 26.5**	**+0.2**
WRAB				IAmb	IAmb	09 25 29.2	
	comp=Z,42nm,1.5s						
WRA	**Warramunga Arr**	**22.42**	**144**	P	**P**	**09 25 26.2**	**-0.1**
	comp=Z,6.7nm,0.8s,baz=313,slow=12,SNR=24						
WRA				LR	LR	09 34 39.7	
	comp=Z,137nm,20.2s,baz=342,slow=38 comp=Z,6.7nm,0.8s						
WR8	**Warramunga Arr**	**22.52**	**144**		**P**	**09 25 26.9**	**-0.6**
WR0	**Warramunga Arr**	**22.55**	**144**	P	**P**	**09 25 28.4**	**+0.7**
WR0				IAmb	IAmb	09 25 30.8	
	comp=Z,24nm,1.2s						
ASAR	**Alice Springs**	**25.20**	**150**		**P**	**09 25 53.7**	**+0.6**
ASAR	**Alice Springs**	**25.20**	**150**	P	**P**	**09 25 54.0**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=324,slow=7.8,SNR=11						
ASAR				PcP	**PcP**	**09 29 26.1**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=335,slow=2.1,SNR=4.8						
ASAR				LR	LR	09 36 06.9	
	comp=Z,156nm,20.9s,baz=335,slow=37 comp=Z,0.9nm,0.7s						
COEN	**Coen**	**25.32**	**119**	P	**P**	**09 25 54.3**	**0.0**
COEN				IAmb	IAmb	09 26 31.2	
	comp=Z,16nm,1.2s						
CM31	**Chiang Mai Arr**	**29.38**	**314**	P	**P**	**09 26 30.8**	**+0.2**
CM31				IAmb	IAmb	09 26 32.1	
	comp=Z,8.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.38**	**314**		**P**	**09 26 30.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**29.38**	**314**	P	**P**	**09 26 30.6**	**0.0**
	comp=Z,4.3nm,0.7s,baz=140,slow=7.4,SNR=24						
CMAR				LR	LR	09 39 25.1	
	comp=Z,72nm,19.8s,baz=130,slow=39 comp=Z,4.3nm,0.7s						
JOW	**Kunigami**	**29.47**	**14**	LR	LR	09 37 20.5	
	comp=Z,67nm,21.6s,baz=55,slow=34						
CHTO	**Chiang Mai**	**29.61**	**315**		**P**	**09 26 32.1**	**-0.6**
CHTO				IAmb	IAmb	09 26 34.0	
	comp=Z,7.1nm,0.8s						
NWAO	**Narrogin (SRO)**	**31.06**	**186**	LR	LR	09 37 50.3	
	comp=Z,91nm,20.2s,baz=250,slow=33						
KMI	**Kunming**	**31.94**	**328**	P	**P**	**09 26 55.2**	**+1.8**
KMI				pmax	pmax		
	comp=Z,13nm,1.3s						
PZH	**PanZhiHua**	**33.58**	**328**	P	**P**	**09 27 10.6**	**+2.9**
PZH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
NJ2	**Nanjing**	**33.77**	**357**	*eP*	**P**	**09 27 11.5**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
STKA	**Stephens Creek**	**35.81**	**149**	P	**P**	**09 27 27.3**	**+0.6**
STKA	**Stephens Creek**	**35.81**	**149**	P	**P**	**09 27 27.5**	**+0.8**
	comp=Z,4.1nm,0.7s,baz=324,slow=8.5,SNR=8.1						
STKA				LR	LR	09 42 03.4	
	comp=Z,125nm,20.1s,baz=243,slow=36 comp=Z,4.1nm,0.7s						
JNU	**Nakatsue**	**36.12**	**15**	LR	LR	09 41 00.5	
	comp=Z,27nm,21.9s,baz=158,slow=34						
XAN	**Xi'an**	**37.37**	**344**	⇓P	P	09 27 35.3	-4.7
XAN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN				pmax	pmax		
	comp=Z,160nm,6.1s						
KSRS	**Korea Array**	**39.70**	**9**	P	**P**	**09 27 59.2**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=210,slow=8.4,SNR=2.4 comp=Z,0.7nm,0.6s						
LZH	**Lanzhou**	**40.87**	**339**	*eP*	**P**	**09 28 12.2**	**+2.8**
LZH				pP	sP	09 28 23.4	0.0
LZH				pmax	pmax		
	comp=Z,31nm,1.3s						
MJAR	**Matsushiro Arr**	**41.57**	**22**	LR	LR	09 43 06.2	
	comp=Z,15nm,20.1s,baz=210,slow=33						
HHC	**Hu-ho-hao-te**	**43.31**	**350**	*eP*	**P**	**09 28 31.9**	**+2.8**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
EVN	**Everest**	**43.98**	**315**		**P**	**09 28 34.7**	**-0.7**
GTA	**Gaotai**	**45.30**	**337**	*eP*	**P**	**09 28 46.1**	**+0.9**
GTA				pP	pP	09 28 50.7	-4.8
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				LR	LR		
	comp=N,83nm,14.9s						
GTA				LR	LR		
	comp=E,59nm,15.3s						
GTA				LR	LR		
	comp=Z,83nm,17.1s						
XLT	**XiLinHaoTe**	**45.74**	**355**	*eP*	**P**	**09 28 48.6**	**+0.1**
XLT				pP	pP	09 29 01.2	+2.7
XLT				sP	sP	09 29 06.6	+4.0
XLT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MDJ	**Mudanjiang**	**46.96**	**9**	P	P	09 29 06.0	+8.0
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
JKA	**Kamikawa-asahi**	**49.82**	**21**	P	**P**	**09 29 19.4**	**-0.7**
ULN	**Ulaanbaatar**	**50.93**	**348**		**P**	**09 29 27.8**	**-0.8**
ULN				IAmb	IAmb	09 29 29.7	
	comp=Z,9.5nm,0.8s						
SONM	**Songino Array**	**51.03**	**348**		**P**	**09 29 29.1**	**-0.2**
SONM				IAmb	IAmb	09 29 30.4	
	comp=Z,5.6nm,0.8s						
SONM	**Songino Array**	**51.03**	**348**	P	**P**	**09 29 29.8**	**+0.5**
	comp=Z,4.7nm,0.7s,baz=164,slow=8.7,SNR=20						
SONM				LR	LR	09 52 07.4	
	comp=Z,46nm,19.9s,baz=198,slow=37 comp=Z,4.7nm,0.7s						
KLR	**Kul'dur**	**51.79**	**9**	LR	LR	09 52 43.4	
	comp=Z,20nm,18.8s,baz=174,slow=37						
KSH	**Kashi**	**58.03**	**320**	P	**P**	**09 30 20.2**	**-0.1**
KSH				pP	pP	09 30 32.5	+1.9
KSH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KDJ	**Kajisay**	**58.79**	**323**	IAmb	IAmb	09 30 38.0	
	comp=Z,5.7nm,1.0s						
MKAR	**Makanchi Array**	**58.99**	**330**		**P**	**09 30 26.3**	**-0.4**
MKAR	**Makanchi Array**	**58.99**	**330**	P	**P**	**09 30 26.4**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=131,slow=7.5,SNR=20						
MKAR				LR	LR	09 56 50.0	
	comp=Z,38nm,21.1s,baz=197,slow=37 comp=Z,3.4nm,0.8s						
MAKZ	**Makanchi**	**59.16**	**330**	P	**P**	**09 30 27.6**	**-0.2**
MAKZ				IAmb	IAmb	09 30 40.0	
	comp=Z,8.4nm,1.1s						

KBL	**Kabul**	**60.37**	**312**		**P**	**09 30 35.8**	**-0.9**
AAK	**Ala-Archa**	**60.71**	**322**	LR	LR	09 59 56.9	
	comp=Z,36nm,20.2s,baz=104,slow=39						
ZAA0	**Zalesovo Array**	**63.06**	**337**		**P**	**09 30 52.2**	**-2.0**
ZALV	**Zalesovo Beam**	**63.06**	**337**		**P**	**09 30 52.6**	**-1.5**
ZALV	**Zalesovo Beam**	**63.06**	**337**	P	**P**	**09 30 52.8**	**-1.4**
	comp=Z,5.2nm,0.9s,baz=116,slow=3.4,SNR=15 comp=Z,5.2nm,0.9s						
KURBB	**Kurchatov Arra**	**63.42**	**331**	P	**P**	**09 30 55.7**	**-0.8**
	comp=Z,3.7nm,0.8s,baz=128,slow=6.4,SNR=12 comp=Z,3.7nm,0.9s						
KKAR	**Karatay Array**	**63.42**	**321**	P	**P**	**09 30 55.9**	**-1.0**
YAK	**Yakutsk**	**64.10**	**5**	LR	LR	10 00 30.9	
	comp=Z,20nm,18.8s,baz=188,slow=38						
MA2	**Magadan**	**65.66**	**16**	LR	LR	10 01 34.3	
	comp=Z,9.3nm,18.8s,baz=222,slow=38						
BVAR	**Borovoye Array**	**68.88**	**330**	P	**P**	**09 31 30.0**	**-1.6**
	comp=Z,1.9nm,0.8s,baz=126,slow=7.3,SNR=4.1 comp=Z,1.9nm,0.8s						
SEY	**Seymchan**	**68.90**	**15**	LR	LR	10 00 54.8	
	comp=Z,11nm,21.1s,baz=284,slow=35						
AB31	**Akbulak array**	**72.77**	**323**	P	**P**	**09 31 53.8**	**-1.5**
ABKAR	**Akbulak array**	**72.77**	**323**	P	**P**	**09 31 54.1**	**-1.2**
NRIK	**Noril'sk**	**74.51**	**348**	P	**P**	**09 32 03.4**	**-1.7**
	comp=Z,1.4nm,0.4s,baz=154,slow=0.1,SNR=4.0						
NRIK				LR	LR	10 06 26.1	
	comp=Z,19nm,20.9s,baz=158,slow=37 comp=Z,1.4nm,0.4s						
MAW	**Mawson**	**76.46**	**199**	P	**P**	**09 32 16.4**	**0.0**
	comp=Z,3.5nm,0.8s,baz=152,slow=4.6,SNR=4.4 comp=Z,3.5nm,0.8s						
VNDA	**Vanda**	**78.75**	**172**	P	**P**	**09 32 29.1**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=292,slow=7.0,SNR=3.7 comp=Z,0.8nm,0.8s						
QSPA	**South Pole Qui**	**88.08**	**180**	P	**P**	**09 33 17.0**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=225,slow=0.5,SNR=7.4 comp=Z,1.0nm,0.7s						
SNAA	**Sanae**	**98.26**	**195**	P	**P**	**09 34 04.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**118.58**	**284**	PKPdf	**PKPdf**	**09 39 15.1**	**-0.7**
CPUP	**Villa Florida**	**151.90**	**184**	PKPbc	**PKPbc**	**09 40 22.7**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=47,slow=4.7,SNR=4.0						

*IDC **01** 09:42:25.8±1.7,3.°09S×119.°18E,h0km,mb3.4/3, mbtmp3.5/4,ML3.6/1,MS3.1/1,Error ellipse: s-maj=107.8km s-min=23.0km az=65.0*

*DJA **01** 09:42:27.3±0.3,3.°5S×11.°9E±.°,h10km,M4.0/12,mB4.9/1, mb4.1/2,MLv3.9/12,Mw(mB)4.2/1*

ISC 01 09:42:30.8±1.1,**3.°04S**±0.°05×**119.°4E**±0.°1,**h35**km,**n15,** σ1§**55/14,mb3.3/3,Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTSI	**Tana Toraja**	**0.45**	**91**	P	Pn	09 42 34.1	-6.7
SPSI	**Sidrap Palu**	**1.00**	**156**	P	**Pn**	**09 42 45.1**	**-3.3**
BNSI	**Bone**	**1.54**	**151**	P	**Pn**	**09 42 55.3**	**-0.5**
KAPI	**Kappang**	**2.00**	**169**	Pn	**Pn**	**09 43 01.0**	**-1.1**
	24nm,0.3s,baz=329,slow=9.5,SNR=69						
KAPI				Sn	**Sn**	**09 43 28.1**	**+2.2**
	58nm,0.3s,baz=220,slow=23,SNR=15 152nm,0.5s						
PCI	**Palu**	**2.17**	**12**	P	**Pn**	**09 43 03.8**	**-0.7**
APSI	**Ampana**	**3.11**	**47**	P	**Pn**	**09 43 18.4**	**+1.0**
BSSI	**Bau Bau, Buton**	**3.28**	**160**	P	**Pn**	**09 43 19.7**	**0.0**
MPSI	**Mapaga**	**3.40**	**9**	P	**Pn**	**09 43 19.6**	**-1.7**
LUWI	**Luwuk**	**3.94**	**60**	P	**Pn**	**09 43 27.0**	**-1.8**
PLAI	**Plampang**	**5.96**	**195**	P	**Pn**	**09 43 55.6**	**-1.1**
	0.1nm21nm,1.1s						
TWSI	**Taliwang, Sumb**	**6.18**	**203**	P	**Pn**	**09 43 59.2**	**-0.4**
WRA	**Warramunga Arr**	**22.27**	**140**	P	**P**	**09 47 25.6**	**+0.6**
	0.8nm,0.7s,baz=316,slow=11,SNR=4.7 0.8nm,0.7s						
ASAR	**Alice Springs**	**24.86**	**147**	P	**P**	**09 47 50.8**	**+0.4**
	0.7nm,0.7s,baz=330,slow=9.1,SNR=9.7 0.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.34**	**317**	LR	LR	10 00 47.6	
	comp=Z,35nm,18.5s,baz=205,slow=38						
MKAR	**Makanchi Array**	**59.39**	**331**	P	**P**	**09 52 29.9**	**+0.1**
	0.5nm,0.6s,baz=147,slow=6.0,SNR=2.9 0.5nm,0.6s						

*ASRS **01** 09:51:55.0±1.1,53.°76N×91.°07E,h0km,M2.8,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 09:52:00.5±3.6,**53.°60N×90.°91E,h0**km,**mbtmp3.2/3, ML2.6/3,Error ellipse: s-maj=33.3km s-min=26.1km az=28.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.63**	**278**	I	I	10 15 00.0	
	baz=90,slow=314,SNR=2.6						
ZALV	**Zalesovo Beam**	**3.63**	**278**	Pn	Pn	09 52 59.6	+1.6
	0.9nm,0.3s,baz=94,slow=15,SNR=10.0						
ZALV				Lg	Lg	09 53 53.7	
	2.0nm,0.3s,baz=92,slow=34,SNR=8.5 2.0nm,0.3s						
KURBB	**Kurchatov Arra**	**8.18**	**254**	Pn	Pn	09 53 59.7	-0.7
	0.1nm,0.3s,baz=67,slow=14,SNR=8.0						
KURBB				Sn	Sn	09 55 33.2	-0.3
	baz=66,slow=25,SNR=6.4						
KURBB				Lg	Lg	09 56 19.5	
	baz=67,slow=32,SNR=8.1 1.0nm,0.4s						
MKAR	**Makanchi Array**	**8.77**	**222**	Pn	Pn	09 54 09.4	+0.9
	0.1nm,0.3s,baz=37,slow=11,SNR=3.3						
MKAR				Lg	Lg	09 56 36.8	
	baz=40,slow=32,SNR=3.7 0.7nm,0.6s						

*BER **01** 09:56:33.4±2.3,81.°63N×3.°78W,h10km,mb(Pn)3.3, Confirmed Earthquake*

*FCIAR **01** 09:56:33.0,81.°62N×4.°00W,h10km,station ZFI2 has station magnitude of 3.70 station OMEGA has station magnitude of 3.70*

*DNK **01** 09:56:35.0±1.8,81.°54N×3.°73W,h36km±20km,ML1.3*

ISC 01 09:56:29.2±1.3,**81.°56N**±0.°09×**3.°47W**±0.°06,**h10**km,**n13,** σ2§**74/24,North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**1.94**	**278**	*eP*	**Pn**	**09 57 03.1**	**+0.9**
NOR				*eS*	**Sn**	**09 57 26.8**	**+0.2**
NOR	**Nord**	**1.94**	**278**	*eP*	**Pn**	**09 57 03.3**	**+1.1**
NOR				*eS*	**Sn**	**09 57 25.7**	**-0.9**
NOR				IAML		09 57 28.2	
	comp=Z,3.7nm,0.3s						
KBS	**Kingsbay**	**3.71**	**127**	*eP*	**Pn**	**09 57 29.0**	**+2.6**
KBS				*eS*	**Sn**	**09 58 09.8**	**-0.3**
KBS				IAML		09 58 16.9	
	comp=Z,4.5nm,0.9s						
KBS	**Kingsbay**	**3.71**	**127**	*eP*	**Pn**	**09 57 29.1**	**+2.6**
KBS				*eS*	**Sn**	**09 58 08.2**	**-1.9**
BRBA	**Barentsburg A**	**4.69**	**129**	*eP*	**Pn**	**09 57 44.2**	**+4.4**
BRBA				IAML		09 58 39.0	
	comp=Z,7.8nm,0.8s						
SPA0	**Spitsbergen Ar**	**4.84**	**124**	*eP*	**Pn**	**09 57 44.7**	**+2.7**
SPA0				*eS*	**Sn**	**09 58 38.2**	**+0.1**
SPA0	**Spitsbergen Ar**	**4.84**	**124**	*eP*	**Pn**	**09 57 44.8**	**+2.8**
SPA0				IAML		09 57 48.7	
	comp=Z,4.6nm,0.3s						
SPA0				*eS*	**Sn**	**09 58 39.2**	**+1.1**
HOPEN	**Hopen**	**7.31**	**118**	*eP*	**Pn**	**09 58 17.9**	**+2.1**
HOPEN				*eS*	**Sn**	**09 59 35.9**	**-2.7**
HOPEN	**Hopen**	**7.31**	**118**	*eP*	**Pn**	**09 58 18.0**	**+2.2**
HOPEN				*eS*	**Sn**	**09 59 36.9**	**-1.8**
HOPEN				IAML		09 59 55.2	
	comp=Z,4.7nm,0.7s						
ZFI2	**Zemlya Franca-**	**7.67**	**70**	*eP*	**Pn**	**09 58 22.7**	**+2.0**
ZFI2				*eS*	**Sn**	**09 59 42.9**	**-4.4**
	comp=Z,23nm,2.8s						
OMEGA	**Omega**	**7.69**	**70**	*eP*	**Pn**	**09 58 23.0**	**+2.1**
OMEGA				*eS*	**Sn**	**09 59 43.3**	**-4.7**
	comp=Z,20nm,2.0s						
DBG	**Daneborg**	**8.03**	**214**	*eP*	**Pn**	**09 58 26.8**	**+1.2**
DBG				*eS*	**Sn**	**09 59 50.8**	**-5.5**
DBG	**Daneborg**	**8.03**	**214**	*eP*	**Pn**	**09 58 27.0**	**+1.3**
DBG				*eS*	Sn	09 59 46.9	-9.4
DBG				IAML		10 00 00.1	
	comp=Z,0.6nm,0.3s						

*IDC **01** 10:26:35.8±0.9,18.°60S×176.°16E,h0km,mb4.0/6, mbtmp4.0/6,MS3.5/11,Error ellipse: s-maj=27.9km s-min=19.1km az=150.0*

ISC 01 10:26:39.8±0.9,**18.°6S**±0.°2×**176.°2E**±0.°1,**h26**km,**n23,** σ1§**40/8,mb4.0/6,MS3.5/11,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.98**	**65**	Pn	**Pn**	**10 27 10.7**	**-1.0**
	34nm,0.3s,baz=246,slow=12,SNR=113						
MSVF				Sn	**Sn**	**10 27 36.3**	**+0.6**
	91nm,0.3s,baz=291,slow=19,SNR=17						
MSVF				LR	LR	10 28 06.2	
	comp=Z,626nm,19.3s,baz=205,slow=45						
RAR	**Rarotonga**	**22.77**	**101**	LR	LR	10 38 51.1	
	comp=Z,107nm,20.9s,baz=266,slow=32						
PPT	**Papeete**	**32.56**	**94**	LR	LR	10 43 23.3	
	comp=Z,62nm,19.1s,baz=270,slow=31						
H11S2	**WAKE ISLAND Hy**	**37.99**	**345**	T	T	11 14 15.2	
	baz=166,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**38.00**	**345**	T	T	11 14 21.7	
	baz=166,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**38.01**	**345**	T	T	11 14 22.1	
	baz=166,slow=76,SNR=25						
H11N1	**WAKE ISLAND Hy**	**39.12**	**346**	T	T	11 15 46.6	
	baz=166,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**39.12**	**346**	T	T	11 15 46.7	
	baz=166,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hy**	**39.14**	**346**	T	T	11 15 46.8	
	baz=166,slow=76,SNR=7.7						
WRA	**Warramunga Arr**	**39.44**	**261**	P	**P**	**10 34 06.6**	**-1.4**
	1.1nm,1.1s,baz=98,slow=8.7,SNR=3.4 1.1nm,1.1s						
ASAR	**Alice Springs**	**39.64**	**255**	P	**P**	**10 34 08.8**	**-1.0**
	1.1nm,0.7s,baz=84,slow=8.8,SNR=12						
ASAR				LR	LR	10 48 45.3	
	comp=Z,94nm,21.3s,baz=124,slow=34 1.1nm,0.7s						
GUMO	**Guam**	**44.42**	**314**	LR	LR	10 51 17.3	
	comp=Z,43nm,21.8s,baz=154,slow=33						
DAV	**Davao City (W)**	**56.01**	**292**	LR	LR	10 58 42.8	
	comp=Z,60nm,18.9s,baz=61,slow=34						
VNDA	**Vanda**	**59.40**	**184**	P	**P**	**10 36 41.1**	**+1.6**
	1.9nm,0.9s,baz=24,slow=14,SNR=6.4 1.9nm,0.9s						
MJAR	**Matsushiro Arr**	**65.51**	**327**	P	**P**	**10 37 22.6**	**+1.6**
	1.3nm,0.7s,baz=155,slow=4.3,SNR=4.4 1.3nm,0.7s						
JNU	**Nakatsue**	**67.18**	**320**	LR	LR	11 05 53.6	
	comp=Z,28nm,18.2s,baz=138,slow=35						
ASAJ	**Asahikawa**	**69.54**	**335**	LR	LR	11 02 53.8	
	comp=Z,42nm,20.4s,baz=166,slow=31						
QSPA	**South Pole Qui**	**71.48**	**180**	P	**P**	**10 37 57.5**	**-0.6**
	4.6nm,1.0s,baz=21,slow=1.3,SNR=15 4.6nm,1.0s						
KLR	**Kul'dur**	**78.17**	**332**	LR	LR	11 13 20.2	
	comp=Z,14nm,18.2s,baz=170,slow=36						
KDAK	**Kodiak Island**	**80.39**	**16**	LR	LR	11 08 58.3	
	comp=Z,19nm,19.1s,baz=218,slow=32						
SEY	**Seymchan**	**83.37**	**349**	LR	LR	11 10 26.6	
	comp=Z,14nm,21.3s,baz=26,slow=32						
NVAR	**Mina Array Bea**	**83.54**	**46**	P	**P**	**10 39 05.6**	**-0.3**
	0.6nm,0.9s,baz=212,slow=5.3,SNR=5.3 0.6nm,0.9s						
PLCA	**Paso Flores**	**94.54**	**136**	LR	LR	11 13 31.6	
	comp=Z,28nm,19.2s,baz=236,slow=30						

*KOLA **01** 10:42:08.3,67.°67N×34.°20E,h0km,ML2.2,Error ellipse: s-maj=3.2km s-min=1.3km az=130.0,Khibiny, mines Koashva, Nyurkpakh*

*IDC **01** 10:42:11.7±2.7,67.°66N×33.°51E,h0km,mbtmp2.8/2, ML2.0/2,Error ellipse: s-maj=28.9km s-min=10.3km az=77.0*

ISC 01 10:42:07.2±1.1,**67.°65N**±0.°04×**34.°24E**±0.°05,**h0**km,**n12,** σ0§**97/21,Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.30**	**32**	P	**Pg**	**10 42 13.1**	**+0.3**
LVZ				S	**Sg**	**10 42 17.5**	**+0.8**
APA	**Apatity**	**0.33**	**257**	P	**Pg**	**10 42 13.8**	**+0.4**
APA				S	**Sg**	**10 42 18.6**	**+0.9**
APA0	**Apatity Array**	**0.48**	**266**	P	**Pg**	**10 42 16.1**	**-0.2**
APA0				S	**Sg**	**10 42 22.9**	**+0.4**
KVDA	**Kovda**	**1.10**	**210**	P	**Pg**	**10 42 28.1**	**0.0**
KVDA				S	**Sg**	**10 42 43.2**	**+0.9**
TERR	**Teriberka**	**1.59**	**11**	P	**Pn**	**10 42 36.2**	**-0.4**
TERR				S	**Sn**	**10 42 56.8**	**-1.1**
VADS	**Vadso**	**3.05**	**327**	P	**Pn**	**10 42 56.6**	**+0.1**
VADS				S	**Sn**	**10 43 33.3**	**-0.4**
VADS	**Vadso**	**3.05**	**327**	*eP*	**Pn**	**10 42 55.4**	**-1.2**
KEV	**Kevo**	**3.38**	**312**	*eP*	**Pn**	**10 43 01.7**	**+0.6**
ARCES	**ARCESS Array B**	**3.72**	**305**	Pn	**Pn**	**10 43 06.0**	**+0.1**
	0.2nm,0.3s,baz=119,slow=15,SNR=24						
ARCES				Pg	**Pb**	**10 43 14.3**	**+0.6**
	0.2nm,0.3s,baz=113,slow=16,SNR=14						
ARCES				Sn	**Sn**	**10 43 49.0**	**-1.3**
	0.3nm,0.3s,baz=116,slow=30,SNR=7.3						
ARCES				Lg	Lg	10 43 59.5	
	0.7nm,0.3s,baz=115,slow=31,SNR=12 0.6nm,0.4s						
ARCES	**ARCESS Array B**	**3.72**	**305**	P	**Pn**	**10 43 05.9**	**+0.1**
ARCES				S	**Sn**	**10 43 49.1**	**-1.2**
I37NO	**I37NO**	**5.96**	**291**	I	I	11 17 10.0	
	baz=96,slow=308,SNR=5.6						
FINES	**FINESS Array B**	**7.14**	**213**	Pn	**Pn**	**10 43 53.5**	**+0.8**
	0.1nm,0.3s,baz=29,slow=14,SNR=1.7						
FINES				Sn	**Sn**	**10 45 11.8**	**-2.7**
	0.1nm,0.3s,baz=35,slow=22,SNR=1.4						
FINES				Lg	Lg	10 45 49.1	
	0.1nm,0.3s,baz=35,slow=29,SNR=1.0 1.4nm,0.8s						

*DNK **01**

		13nm,0.3s							
SHLS					Lg	Lg	11 10 05.5		
		56nm,0.5s							
SHLS	**Shalkode**		**2.99**	**308**	*e*P	**Pb**	**11 09 22.4**	**-3.8**	
		13nm,0.3s							
SHLS					*e*S	**Sb**	**11 10 02.6**	**-0.2**	
		56nm,0.3s							
PDGK	**Podgornoye**		**3.08**	**311**	⇑Pg	**Pg**	**11 09 29.3**	**-2.4**	
		12nm,0.6s							
PDGK					⇑Lg	Lg	11 10 14.8		
		27nm,0.6s							
BLB	**Baldybastay**		**4.13**	**313**	Pg	**Pb**	**11 09 46.5**	**+0.9**	
		20nm,0.5s							
BLB					Lg	Lg	11 10 45.8		
		8.2nm,0.6s							
ARXS	**Arharly**		**4.57**	**311**	Pg	**Pb**	**11 09 54.7**	**+1.7**	
		2.4nm,0.4s							
ARXS					Lg	Lg	11 10 59.3		
		7.3nm,0.6s							
TNSS	**Tian-Shan**		**4.57**	**294**	Pg	**Pb**	**11 09 55.7**	**+2.5**	
		1.3nm,0.5s							
TNSS					Lg	Lg	11 11 00.3		
		4.1nm,0.8s							
TNSS	**Tian-Shan**		**4.57**	**294**	*e*P	**Pb**	**11 09 55.0**	**+1.7**	
		0.3nm,0.2s							
TNSS					*e*S	**Sg**	**11 10 58.7**	**-0.8**	
		3.0nm,0.6s							
KTBS	**Karatobe**		**5.01**	**300**	Pg	**Pb**	**11 10 02.3**	**+1.7**	
		2.1nm,0.5s							
KTBS					Lg	Lg	11 11 12.1		
		14nm,0.3s							
KST	**Kastek**		**5.26**	**291**	Pg	**Pb**	**11 10 06.7**	**+1.9**	
		4.2nm,0.6s							
KST					Lg	Lg	11 11 19.5		
		11nm,0.6s							
KST	**Kastek**		**5.26**	**291**	*e*P	**Pb**	**11 10 07.9**	**+3.1**	
		4.2nm,0.6s							
KST					*e*S	**Sg**	**11 11 20.9**	**-0.5**	
		13nm,0.5s							
KUU	**Kurty**		**5.31**	**301**	Pg	**Pg**	**11 10 10.2**	**-4.3**	
		2.4nm,0.1s							
KUU					Lg	Lg	11 11 25.2		
		9.7nm,0.4s							
KUU	**Kurty**		**5.31**	**301**	*e*P	**Pg**	**11 10 10.2**	**-4.3**	
		2.4nm,0.1s							
KUU					*e*S	**Sg**	**11 11 25.2**	**+1.9**	
		9.7nm,0.4s							
MK31	**Makanchi Array**		**5.46**	**357**	⇑Pn	**Pn**	**11 09 54.1**	**-0.1**	
		0.1nm,0.2s,baz=189,slow=12,SNR=6.7							
MK31					⇓Pg	**Pb**	**11 10 10.3**	**+2.1**	
		0.4nm,0.3s,baz=178,slow=18,SNR=8.1							
MK31					⇑Lg	Lg	11 11 28.6		
		2.2nm,0.4s,baz=173,slow=27,SNR=4.2							
TKM2	**Tokmak 2**		**5.48**	**289**	⇑Pn	**Pn**	**11 09 53.7**	**-1.0**	
		1.3nm,0.5s							
TKM2					⇓Sn	**Sn**	**11 11 05.2**	**+7.2**	
		2.4nm,0.5s							
TKM2					⇑Lg	Lg	11 11 27.8		
		14nm,0.8s							
KRBS	**Karabastau**		**5.67**	**297**	Pg	**Pb**	**11 10 12.5**	**+0.7**	
		1.0nm,0.6s							
KRBS					Lg	Lg	11 11 29.6		
		2.3nm,0.5s							

*KNET **01** 11:15:18.7±0.5, 42.00N×74.75E, h18km±3km, ml3.3, Error ellipse: s-maj=4.0km s-min=3.0km az=15.0*
*SOME **01** 11:15:18.8, 41.93N×74.72E, h15km*
*KRNET **01** 11:15:18.8±0.1, 41.97N×74.71E, h21km, mb4.1*
*MOS **01** 11:15:19.7±1.8, 42.03N×74.65E, h7km, mb3.7/4, Error ellipse: s-maj=6.0km s-min=4.7km az=72.1*
*NNC **01** 11:15:20.5±0.8, 42.04N×74.69E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=5.5km s-min=3.6km az=19.0*

ISC 01 11:15:19.3±1.0, 41°98N±0°02×74°65E±0°01, h6km±8km, n107, σ1§63/175, 47C-33D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**0.27**	**337**	P			**Pg**	**11 15 25.2**	**+0.5**
	2µm,0.2s,SNR=1747								
UCH				⇓S			**Sb**	**11 15 30.2**	**-1.7**
	2µm,0.2s								
UCH	**Uchtor**	**0.27**	**337**	⇑*i*P			**Pg**	**11 15 25.2**	**+0.5**
UCH				⇑*i*S			**Sg**	**11 15 29.6**	**+1.3**
UCH	**Uchtor**	**0.27**	**337**	*i* PG			**Pg**	**11 15 25.2**	**+0.5**
UCH				*i* S			**Sg**	**11 15 29.6**	**+1.3**
AAK	**Ala-Archa**	**0.67**	**350**	⇓P			**Pg**	**11 15 32.2**	**+0.1**
	113nm,0.1s,SNR=36								
AAK				⇑S			**Sb**	**11 15 41.5**	**-1.6**
	1µm,0.3s								
AAK	**Ala-Archa**	**0.67**	**350**	⇑P			**Pg**	**11 15 32.1**	**+0.1**
	1µm,0.6s								
AAK				⇓S			**Sb**	**11 15 41.4**	**-1.6**
	1µm,0.3s								
AAK	**Ala-Archa**	**0.67**	**350**	⇑*i*P			**Pg**	**11 15 31.9**	**-0.2**
AAK				⇑*i*S			**Sg**	**11 15 41.1**	**+0.3**
AAK	**Ala-Archa**	**0.67**	**350**	*d* iPG			**Pg**	**11 15 32.2**	**+0.1**
AAK				*i* S			**Sg**	**11 15 38.7**	**-2.1**
AAK				pmax		pmax			
	comp=Z,1µm,0.6s								
AAK				smax		smax			
	comp=Z,1µm,0.3s								
KBK	**Karagaybulak**	**0.71**	**18**	⇑P			**Pg**	**11 15 32.6**	**-0.3**
	comp=Z,316nm,0.1s,SNR=176								
KBK				⇑S			**Sg**	**11 15 42.6**	**+0.4**
	comp=Z,900nm,0.2s								
KBK	**Karagaybulak**	**0.71**	**18**	⇑*i*P			**Pg**	**11 15 32.3**	**-0.6**
KBK				⇑*i*S			**Sg**	**11 15 42.1**	**-0.1**
KBK	**Karagaybulak**	**0.71**	**18**	*i* PG			**Pg**	**11 15 32.3**	**-0.6**
KBK				*i* S			**Sg**	**11 15 42.1**	**-0.1**
AML	**Almayashu**	**0.73**	**282**	P			**Pb**	**11 15 34.2**	**-0.5**
	comp=Z,178nm,0.1s,SNR=564								
AML				⇓S			**Sn**	**11 15 45.0**	**-3.2**
	comp=Z,1µm,0.2s								
AML	**Almayashu**	**0.73**	**282**	⇑*i*P			**Pb**	**11 15 33.6**	**-1.1**
AML				⇑*i*S			**Sb**	**11 15 44.1**	**-1.0**
AML	**Almayashu**	**0.73**	**282**	*i* PG			**Pb**	**11 15 33.6**	**-1.1**
AML				*i* S			**Sb**	**11 15 44.1**	**-1.0**
FRU1	**Bishkek**	**0.83**	**359**	⇑*i*P			**Pg**	**11 15 35.1**	**-0.1**
FRU1				⇑*i*S			**Sb**	**11 15 46.5**	**-1.1**
FRU1	**Bishkek**	**0.83**	**359**	*i* PG			**Pg**	**11 15 35.1**	**-0.1**
FRU1				*i* S			**Sb**	**11 15 46.5**	**-1.1**
EKS2	**Erkin-Say**	**0.94**	**317**	⇓P			**Pn**	**11 15 37.6**	**-1.6**
	comp=Z,34nm,0.1s,SNR=86								
EKS2	**Erkin-Say**	**0.94**	**317**	⇑*i*P			**Pb**	**11 15 37.0**	**-1.1**
EKS2				⇑*i*S			**Sg**	**11 15 50.0**	**+0.4**
EKS2	**Erkin-Say**	**0.94**	**317**	*i* PG			**Pb**	**11 15 37.0**	**-1.1**
EKS2				*i* S			**Sg**	**11 15 50.0**	**+0.4**
CHMS	**Chumysh**	**1.02**	**4**	P			**Pb**	**11 15 38.4**	**-1.0**
	comp=Z,284nm,0.3s,SNR=176								
CHMS				⇑S			**Sg**	**11 15 52.2**	**+0.1**
	comp=Z,503nm,0.2s								
CHMS	**Chumysh**	**1.02**	**4**	⇑P			**Pb**	**11 15 38.3**	**-1.0**
	comp=Z,78nm,0.3s								
CHMS				⇓S			**Sg**	**11 15 52.1**	**+0.1**
	comp=Z,252nm,0.3s								
CHMS	**Chumysh**	**1.02**	**4**	⇑*i*P			**Pb**	**11 15 38.0**	**-1.4**
CHMS				⇑*i*S			**Sb**	**11 15 51.7**	**-1.3**
CHMS	**Chumysh**	**1.02**	**4**	*i* PG			**Pb**	**11 15 38.0**	**-1.4**
CHMS				*i* S			**Sb**	**11 15 51.7**	**-1.3**
BOOM	**Boomskoye usch**	**1.08**	**62**	⇑*e*P			**Pb**	**11 15 38.3**	**-2.2**
BOOM				⇑*e*S			**Sb**	**11 15 52.6**	**-2.4**
BOOM	**Boomskoye usch**	**1.08**	**62**	*i* PG			**Pb**	**11 15 38.3**	**-2.2**
BOOM				*i* S			**Sb**	**11 15 52.6**	**-2.4**
NRN	**Naryn**	**1.15**	**118**	⇑*e*P			**Pb**	**11 15 39.3**	**-2.4**
NRN				⇑*e*S			**Sb**	**11 15 53.6**	**-3.4**
TKM2	**Tokmak 2**	**1.17**	**36**	P			**Pn**	**11 15 40.4**	**-2.0**
	comp=Z,78nm,0.1s,SNR=132								
TKM2				⇓S			**Sb**	**11 15 55.7**	**-1.8**
	comp=Z,211nm,0.1s								
TKM2	**Tokmak 2**	**1.17**	**36**	⇓P			**Pn**	**11 15 40.3**	**-2.0**
	comp=Z,34nm,0.2s								
TKM2				⇓S			**Sb**	**11 15 55.4**	**-2.1**
	comp=Z,176nm,0.4s								
TKM2	**Tokmak 2**	**1.17**	**36**	⇑*i*P			**Pn**	**11 15 40.2**	**-2.2**
TKM2				⇑*i*S			**Sb**	**11 15 55.6**	**-1.9**
TKM2	**Tokmak 2**	**1.17**	**36**	*i* PG			**Pn**	**11 15 40.3**	**-2.2**
TKM2				*i* S			**Sb**	**11 15 55.6**	**-1.9**
ULHL	**Ulahol**	**1.21**	**77**	⇓P			**Pn**	**11 15 40.3**	**-2.7**
	comp=Z,69nm,0.1s,SNR=326								
ULHL				⇓S			**Sb**	**11 15 55.5**	**-3.3**
	comp=Z,221nm,0.1s								
ULHL	**Ulahol**	**1.21**	**77**	⇓*i*P			**Pn**	**11 15 40.4**	**-2.6**
ULHL				⇓*i*S			**Sb**	**11 15 56.1**	**-2.6**
ULHL	**Ulahol**	**1.21**	**77**	*i* PG			**Pn**	**11 15 40.4**	**-2.6**
ULHL				*i* S			**Sb**	**11 15 56.1**	**-2.6**
SALK	**Salom-Alik**	**1.26**	**210**	⇑*i*P			**Pn**	**11 15 42.3**	**-1.4**
SALK				⇑*i*S			**Sn**	**11 15 59.4**	**-1.6**
SALK	**Salom-Alik**	**1.26**	**210**	*i* PG			**Pn**	**11 15 42.3**	**-1.4**
SALK				*i* S			**Sn**	**11 15 59.4**	**-1.6**
USP	**Ospenovka**	**1.29**	**355**	⇓P			**Pb**	**11 15 43.5**	**-0.5**
	comp=Z,230nm,0.2s,SNR=226								
USP				⇓S			**Sg**	**11 16 00.9**	**+0.1**
	comp=Z,237nm,0.2s								
USP	**Ospenovka**	**1.29**	**355**	⇓*i*P			**Pb**	**11 15 42.9**	**-1.1**
USP				⇓*i*S			**Sn**	**11 16 00.2**	**-1.3**
USP	**Ospenovka**	**1.29**	**355**	*i* PG			**Pb**	**11 15 42.9**	**-1.1**
USP				*i* S			**Sn**	**11 16 00.2**	**-1.3**
MRKS	**Merke**	**1.30**	**306**	P			**Pg**	**11 15 44.2**	**-0.1**
	comp=Z,155nm,0.4s								
MRKS				S			**Sg**	**11 16 02.7**	**+1.5**
	comp=Z,252nm,0.7s								
MRKS	**Merke**	**1.30**	**306**	*e*P			**Pg**	**11 15 44.2**	**-0.1**
	comp=Z,155nm,0.4s								
MRKS				*e*S			**Sg**	**11 16 02.7**	**+1.5**
	comp=Z,252nm,0.7s								
ARSB	**Arslanbob**	**1.42**	**243**	⇑*e*P			**Pb**	**11 15 45.5**	**-0.7**
ARSB				⇑*i*S			**Sg**	**11 16 04.7**	**-0.1**
ARSB	**Arslanbob**	**1.42**	**243**	*i* PG			**Pb**	**11 15 45.5**	**-0.7**
ARSB				*i* S			**Sg**	**11 16 04.7**	**-0.1**
KST	**Kastek**	**1.44**	**42**	P			**Pb**	**11 15 45.3**	**-1.3**
	comp=Z,17nm,0.4s								
KST				S			**Sb**	**11 16 03.9**	**-1.2**
	comp=Z,237nm,0.2s								
KST	**Kastek**	**1.44**	**42**	*e*P			**Pb**	**11 15 45.3**	**-1.3**
	comp=Z,17nm,0.4s								
KST				*e*S			**Sb**	**11 16 03.9**	**-1.2**
	comp=Z,237nm,0.2s								
SGDS	**Sogindy**	**1.47**	**359**	P			**Pg**	**11 15 46.8**	**-0.7**
	comp=Z,84nm,0.4s								
SGDS				S			**Sg**	**11 16 06.6**	**+0.1**
	comp=Z,167nm,0.3s								
MNAS	**Manas**	**1.67**	**288**	⇓*i*P			**Pb**	**11 15 50.0**	**-0.6**
MNAS				⇓*i*S			**Sg**	**11 16 12.5**	**-0.6**
MNAS	**Manas**	**1.67**	**288**	*i* PN			**Pb**	**11 15 50.0**	**-0.6**
MNAS				*i* S			**Sg**	**11 16 12.5**	**-0.6**
MTBS	**Maitube**	**1.74**	**48**	P			**Pb**	**11 15 51.1**	**-0.7**
	comp=Z,55nm,0.2s								
MTBS				S			**Sg**	**11 16 14.0**	**-1.3**
	comp=Z,193nm,0.6s								
MTBS	**Maitube**	**1.74**	**48**	*e*P			**Pb**	**11 15 51.1**	**-0.7**
	comp=Z,55nm,0.2s								
MTBS				*e*S			**Sg**	**11 16 14.0**	**-1.3**
	comp=Z,193nm,0.6s								
KRBS	**Karabastau**	**1.87**	**23**	P			**Pb**	**11 15 53.5**	**-0.4**
	comp=Z,149nm,0.4s								
KRBS				S			**Sg**	**11 16 18.2**	**-1.2**
	comp=Z,561nm,0.5s								
KDJ	**Kajisay**	**1.89**	**85**	⇓*e*P			**Pb**	**11 15 52.2**	**-2.1**
KDJ				⇓*i*S			**Sb**	**11 16 16.5**	**-1.7**
KDJ	**Kajisay**	**1.89**	**85**	*i* PN			**Pb**	**11 15 52.2**	**-2.1**
KDJ				*i* S			**Sb**	**11 16 16.5**	**-1.7**
TNSS	**Tian-Shan**	**2.00**	**57**	Pg			**Pb**	**11 15 56.2**	**0.0**
	comp=Z,58nm,0.5s								
TNSS				Lg			Lg	11 16 22.9	
	comp=Z,52nm,0.6s								
TNSS	**Tian-Shan**	**2.00**	**57**	*e*P			**Pb**	**11 15 56.2**	**0.0**
	comp=Z,58nm,0.5s								
TNSS				*e*S			**Sg**	**11 16 22.9**	**-0.6**
	comp=Z,52nm,0.6s								
ARK	**Arkit**	**2.02**	**266**	⇑*e*P			**Pb**	**11 15 54.9**	**-1.5**
ARK				⇑*i*S			**Sb**	**11 16 21.0**	**-0.8**
ARK	**Arkit**	**2.02**	**266**	*i* PN			**Pb**	**11 15 54.9**	**-1.5**
ARK				*i* S			**Sb**	**11 16 21.0**	**-0.8**
OHH	**Osh**	**2.03**	**225**	⇑*i*P			**Pb**	**11 15 54.8**	**-1.8**
OHH				⇑*i*S			**Sb**	**11 16 20.9**	**-1.2**
OHH	**Osh**	**2.03**	**225**	*i* PN			**Pb**	**11 15 54.8**	**-1.8**
OHH				*i* S			**Sb**	**11 16 20.9**	**-1.2**
AAA	**Alma-Ata**	**2.07**	**53**	*e*PN			**Pg**	**11 15 59.1**	**+0.1**
KNDC	**Almaty**	**2.11**	**53**	⇓Pn			**Pg**	**11 15 58.5**	**-1.2**
	comp=Z,306nm,0.5s								
KNDC				⇓Sn			**Sg**	**11 16 27.4**	**+0.5**
	comp=Z,209nm,0.3s								
KNDC	**Almaty**	**2.11**	**53**	PN			**Pb**	**11 15 57.6**	**-0.3**
KNDC								11 16 27.9	
SFK	**Sufi-Kurgan**	**2.15**	**204**	⇓*i*P			**Pb**	**11 15 56.4**	**-2.4**
SFK				⇓*i*S			**Sb**	**11 16 23.8**	**-2.0**
SFK	**Sufi-Kurgan**	**2.15**	**204**	*i* PN			**Pb**	**11 15 56.4**	**-2.4**
SFK				*i* S			**Sb**	**11 16 23.8**	**-2.0**
KUU	**Kurty**	**2.28**	**32**	Pg			**Pb**	**11 16 00.5**	**-0.3**
	comp=Z,47nm,0.7s								
KUU				Lg			Lg	11 16 30.2	
	comp=Z,1µm,0.4s								
KUU	**Kurty**	**2.28**	**32**	*e*P			**Pb**	**11 16 00.5**	**-0.3**
	comp=Z,47nm,0.7s								
KUU				*e*S			**Sg**	**11 16 30.2**	**-2.2**
	comp=Z,1µm,0.4s								
KTBS	**Karatobe**	**2.28**	**40**	Pg			**Pb**	**11 16 00.8**	**-0.2**
	comp=Z,247nm,0.6s								
KTBS				Lg			Lg	11 16 30.8	
	comp=Z,4.6nm,0.5s								
CHKK	**Chushkaly**	**2.54**	**42**	Pg			**Pb**	**11 16 05.1**	**-0.2**
	comp=Z,100nm,0.8s								
CHKK				Lg			Lg	11 16 38.6	
	comp=Z,539nm,0.4s								
CHKK	**Chushkaly**	**2.54**	**42**	*e*P			**Pb**	**11 16 05.1**	**-0.2**
	comp=Z,100nm,0.8s								
CHKK				*e*S			**Sg**	**11 16 38.6**	**-2.2**
	comp=Z,539nm,0.4s								
KSH	**Kashi**	**2.66**	**157**	Pn			**Pg**	**11 16 09.9**	**-0.3**
KSH				Sn			**Sg**	**11 16 49.3**	**+4.6**
KSH				smax		smax			
	comp=N,150nm,0.9s								
KSH				smax		smax			
	comp=E,330nm,0.7s								
TRKS	**Terek-Say**	**2.67**	**261**	⇑*i*P			**Pn**	**11 16 03.9**	**+0.9**
TRKS				⇑*i*S			**Sb**	**11 16 36.6**	**-4.0**
TRKS	**Terek-Say**	**2.67**	**261**	*i* PN			**Pn**	**11 16 03.9**	**+0.9**
TRKS				*i* S			**Sb**	**11 16 36.6**	**-4.0**
PRZ	**Przheval'sk**	**2.83**	**79**	⇑*i*P			**Pn**	**11 16 05.2**	**0.0**
PRZ				⇑*i*S			**Sn**	**11 16 39.0**	**-0.6**
PRZ	**Przheval'sk**	**2.83**	**79**	*i* PN			**Pn**	**11 16 05.2**	**0.0**
PRZ				*i* S			**Sn**	**11 16 39.0**	**-0.6**
ARXS	**Arharly**	**3.22**	**45**	Pg			**Pb**	**11 16 16.8**	**-0.1**
	comp=E,34nm,0.6s								
ARXS				Lg			Lg	11 16 58.6	
	comp=E,250nm,0.5s								
ARXS	**Arharly**	**3.22**	**45**	*e*PN			**Pb**	**11 16 12.8**	**-4.1**
KK31	**Karatay Array**	**3.26**	**291**	⇓Pn			**Pb**	**11 16 15.0**	**-2.6**
	comp=E,3.6nm,0.2s,baz=112,slow=12,SNR=159								
KK31				⇑Lg			Lg	11 17 02.3	
	comp=E,86nm,0.5s,baz=125,slow=25,SNR=11								
KK31	**Karatay Array**	**3.26**	**291**	*e*PN			**Pb**	**11 16 15.6**	**-2.0**
KK31								11 17 02.1	
DRK	**Karamyk**	**3.31**	**222**	⇑*e*P			**Pn**	**11 16 12.4**	**+0.5**
DRK				⇑*e*S			**Sn**	**11 16 51.8**	**+0.1**
KPKS	**Kokpek**	**3.32**	**62**	Pg			**Pb**	**11 16 18.6**	**-0.1**
	comp=E,7.2nm,0.5s								
KPKS				Lg			Lg	11 17 01.3	
	comp=E,433nm,0.9s								
KPKS	**Kokpek**	**3.32**	**62**	*e*PN			**Pb**	**11 16 16.8**	**-1.8**
IUG	**luzhnay**	**3.45**	**274**	Pg			**Pg**	**11 16 23.9**	**-1.4**
	comp=E,169nm,0.5s								
IUG				Lg			Lg	11 17 10.5	
	comp=E,545nm,0.6s								
IUG	**luzhnay**	**3.45**	**274**	*e*PN			**Pb**	**11 16 18.4**	**-2.4**
BTK	**Batken**	**3.48**	**238**	⇓*i*P			**Pn**	**11 16 15.1**	**+1.0**
BTK				⇓*i*S			**Sn**	**11 16 56.2**	**+0.6**
BTK	**Batken**	**3.48**	**238**	*i* PN			**Pn**	**11 16 15.1**	**+1.0**
BTK				*i* S			**Sn**	**11 16 56.2**	**+0.6**
BRLS	**Borolday**	**3.71**	**288**	Pg			**Pg**	**11 16 29.2**	**-1.2**
	comp=E,24nm,0.6s								
BRLS				Lg			Lg	11 17 19.6	
	comp=E,139nm,0.9s								
BRLS	**Borolday**	**3.71**	**288**	*e*PN			**Pb**	**11 16 22.6**	**-2.7**
BRLS	**Borolday**	**3.71**	**288**	*e*P			**Pg**	**11 16 29.2**	**-1.2**
	comp=E,24nm,0.6s								
BRLS				*e*S			**Sg**	**11 17 19.6**	**+1.1**
	comp=E,139nm,0.9s								
SHLS	**Shalkode**	**3.74**	**70**	Pg			**Pg**	**11 16 32.0**	**+1.0**
	comp=E,45nm,0.5s								
SHLS				Lg			Lg	11 17 24.4	
	comp=E,173nm,0.7s								
SHLS	**Shalkode**	**3.74**	**70**	*e*PN			**Pb**	**11 16 27.0**	**+1.2**
SHLS	**Shalkode**	**3.74**	**70**	*e*P			**Pg**	**11 16 32.0**	**+1.0**
	comp=E,45nm,0.5s								
SHLS				*e*S			**Sg**	**11 17 24.4**	**+5.0**
	comp=E,173nm,0.7s								
PDGK	**Podgornoye**	**3.81**	**68**	⇑Pn			**Pn**	**11 16 21.5**	**+2.8**
	comp=E,12nm,0.5s								
PDGK				⇑Lg			Lg	11 17 14.4	
	comp=E,123nm,0.6s								
PDGK	**Podgornoye**	**3.81**	**68**	PN			**Pn**	**11 16 21.6**	**+2.9**
PDGK								11 17 14.1	
MK31	**Makanchi Array**	**7.28**	**46**	⇑Pn			**Pn**	**11 17 09.0**	**+2.8**
	comp=E,1.8nm,0.5s,baz=222,slow=14,SNR=19								
MK31				⇓Lg			Lg	11 19 07.3	
	comp=E,9.4nm,0.7s,baz=224,slow=28,SNR=4.2								
MK31	**Makanchi Array**	**7.28**	**46**	*i* P			**Pn**	**11 17 08.3**	**+2.1**
MK31				pmax		pmax			
	comp=Z,9.0nm,0.6s								
KURBB	**Kurchatov Arra**	**9.05**	**16**	⇓Lg			Lg	11 20 03.3	
	comp=Z,40nm,0.7s								
KURK	**Kurchatov**	**9.15**	**16**	*e*P			**Pn**	**11 17 31.9**	**+0.1**
BRVK	**Borovoye**	**11.47**	**347**	*c* iP			**Pn**	**11 18 04.0**	**+0.5**
AB31	**Akbulak array**	**12.59**	**310**	⇑P			**Pn**	**11 18 19.6**	**+0.7**
	comp=E,4.5nm,0.6s,baz=118,slow=14,SNR=53								
AB31	**Akbulak array**	**12.59**	**310**	P			**Pn**	**11 18 19.3**	**+0.4**
AKTO	**Aktyubinsk**	**14.26**	**312**	⇓P			**Pn**	**11 18 42.7**	**+1.0**
	comp=Z,3nm,1.1s								
AKTO	**Aktyubinsk**	**14.26**	**312**	P			**Pn**	**11 18 42.7**	**+1.0**
ARTI	**Arti**	**17.84**	**329**	P			**P**	**11 19 28.5**	**-0.2**
ARTI				S			**Sn**	**11 22 46.3**	**-0.7**
BELG	**Belogornoye**	**21.00**	**309**	⇑*i*P			Pn	11 20 05.9	+0.2
BELG				pmax		pmax			
	comp=Z,3.0nm,1.3s								
GNI	**Garni**	**22.58**	**275**	*e*P			**P**	**11 20 24.3**	**+3.8**
GNI				pmax		pmax			
	comp=Z,3.0nm,0.9s								
KIRV	**Kirov**	**22.94**	**325**	*e*P			**P**	**11 20 25.8**	**+1.9**
KBZ	**Khabaz**	**23.27**	**285**	⇓*e*P			**P**	**11 20 29.4**	**+1.9**
KBZ				pmax		pmax			
	comp=Z,3.0nm,1.4s								
NRIK	**Noril'sk**	**28.24**	**10**	*i* P			**P**	**11 21 14.8**	**+2.1**
NRIK				pmax		pmax			
	comp=Z,1.0nm,0.9s								
BR131	**Keskin Array S**	**30.90**	**280**	*i* P			P	11 21 40.7	+4.0

*NEIC **01** 11:20:27.0±1.9, 23.2S±0.1×174.7W±0.1, h10km±1km, mb4.6/15, Error ellipse: s-maj=21.1km s-min=17.3km az=173.0*
*IDC **01** 11:20:29.7±0.6, 23.13S×175.40W, h0km, mb4.2/13, mbtmp4.2/14, ML4.1/1, MS3.7/23, Error ellipse: s-maj=25.3km s-min=18.2km az=127.0*

ISC 01 11:20:31.6±0.6, 23.3S±0.1×175.3W±0.1, h10km, n63, σ1§58/39, mb4.6/23, MS3.9/20, 5D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.49**	**51**	Pn			Pn	11 21 56.5	-11
MSVF	**Nonsavu**	**8.36**	**310**				**Pn**	**11 22 35.0**	**+1.9**
MSVF	**Nonsavu**	**8.36**	**310**	Pn			**Pn**	**11 22 34.6**	**+1.6**
	2.3nm,0.3s,baz=134,slow=17,SNR=18								
MSVF				LR			LR	11 25 25.1	
	comp=Z,810nm,19.5s,baz=103,slow=36								
AFI	**Afiamalu**	**9.88**	**20**	Pn			Pn	11 22 47.3	-6.6
RAR	**Rarotonga**	**14.47**	**85**	LR			LR	11 29 42.9	
	comp=Z,235nm,19.3s,baz=269,slow=38								
URZ	**Urewera**	**16.30**	**202**	Pn			**Pn**	**11 24 20.3**	**-0.3**
	0.7nm,0.3s,baz=96,slow=12,SNR=2.1								
	11nm,0.8s								
DZM	**Mont Dzumac**	**16.94**	**270**				**P**	**11 24 33.5**	**+2.5**
DZM						IAmb	IAmb	11 24 49.4	
	comp=Z,13nm,1.0s								
DZM	**Mont Dzumac**	**16.94**	**270**	LR			LR	11 29 46.5	
	comp=Z,116nm,20.3s,baz=132,slow=33								
PPT	**Papeete**	**24.70**	**81**	LR			LR	11 34 45.4	
	comp=Z,167nm,18.7s,baz=290,slow=34								
HNR	**Honiara**	**27.43**	**296**	LR			LR	11 36 02.5	
	comp=Z,113nm,18.4s,baz=208,slow=34								

VNA1	**Neumayer--Stat**	**85.88**	**176**	⇓P		**P**	**11 33 11.8**	**+0.6**
	comp=Z,5.1nm,0.8s							
KLR	**Kul'dur**	**86.22**	**328**	LR		LR	12 07 51.8	
	comp=Z,42nm,19.4s,baz=160,slow=33							
TXAR	**Lajitas Array**	**86.43**	**56**	P		**P**	**11 33 14.5**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=198,slow=7.9,SNR=5.3							
	comp=Z,0.6nm,0.8s							
ANMO	**Albuquerque**	**87.18**	**50**	LR		LR	12 08 36.5	
	comp=Z,124nm,18.0s,baz=303,slow=33							
PDAR	**Pinedale Array**	**89.26**	**42**	P		**P**	**11 33 27.1**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=183,slow=2.7,SNR=4.4							
PDAR				LR		LR	12 11 20.9	
	comp=Z,27nm,18.3s,baz=180,slow=34							
	comp=Z,0.5nm,0.7s							
ILAR	**Eielson Array**	**90.47**	**12**	P		**P**	**11 33 32.5**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=221,slow=4.2,SNR=9.6							
	comp=Z,0.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**93.44**	**288**	P		**P**	**11 33 48.5**	**+0.7**
	comp=Z,3.1nm,0.8s,baz=128,slow=3.2,SNR=15							
CMAR				LR		LR	12 12 43.5	
	comp=Z,16nm,21.0s,baz=285,slow=34							
	comp=Z,3.1nm,0.8s							
YAK	**Yakutsk**	**95.64**	**337**	LR		LR	12 15 35.2	
	comp=Z,17nm,18.2s,baz=166,slow=35							
ZALV	**Zalesovo Beam**	**114.25**	**320**	PKP		PKPdf	11 39 09.7	-1.4
	comp=Z,1.0nm,0.6s,baz=90,slow=1.5,SNR=4.1							
MKAR	**Makanchi Array**	**114.95**	**312**	PKP		PKPdf	11 39 11.6	-1.2
	comp=Z,0.5nm,0.7s,baz=48,slow=1.8,SNR=5.0							
KURBB	**Kurchatov Arra**	**117.81**	**316**	PKP		**PKPdf**	**11 39 16.1**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=92,slow=1.9,SNR=7.0							
BVAR	**Borovoye Array**	**122.84**	**319**	PKP		**PKPdf**	**11 39 26.6**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=90,slow=3.0,SNR=6.7							
ARCES	**ARCESS Array B**	**132.09**	**350**	PKP		**PKPdf**	**11 39 43.7**	**-1.2**
	comp=Z,2.9nm,0.9s,baz=321,slow=1.7,SNR=3.8							
AKASG	**Malin Array Be**	**146.67**	**331**	PKPbc		**PKPdf**	**11 40 11.8**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=39,slow=4.2,SNR=11							
BRTR	**Keskin Array B**	**150.59**	**311**	PKPbc		**PKPdf**	**11 40 23.7**	**+4.9**
	comp=Z,2.2nm,0.7s,baz=113,slow=3.2,SNR=11							

*NEIC **01** 11:22:48.5±2.6, 47.72N±0.02×121.96W±0.04, h28km±8km, Error ellipse: s-maj=4.3km s-min=2.5km az=131.0*
*PNSN **01** 11:22:48.9, 47.71N×121.86W, h23km, MD2.1, Fault plane solution: NP1:θ=235.00000°, δ40.00000°, λ10.00000°.*

SEA 01 11:22:48.9±3.2, 47.71N±0.03×121.86W±0.04, h23km±7km, ML2.1/28, ML2.1/26(NEIC), Error ellipse: s-maj=4.4km s-min=3.8km az=100.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTW	**Haystack Looko**	**0.11**	**35**		Pb	11 22 53.2	-0.2
EARN	**East Ridge Ele**	**0.12**	**283**		Pb	11 22 53.4	0.0
ALCT	**Alcott Element**	**0.13**	**241**		Pb	11 22 53.6	0.0
BLH	**Bald Hill**	**0.17**	**318**		Pb	11 22 53.5	-0.4
LEOT	**Leota Junior H**	**0.18**	**288**		Pb	11 22 54.0	-0.1
LEOT					Sb	11 22 58.4	+0.8
MARYW	**Marymoor Park**	**0.18**	**254**		Pb	11 22 54.1	+0.1
ELW	**Echo Lake**	**0.22**	**181**		Pb	11 22 54.3	-0.3
ELW					Sb	11 22 58.7	+0.3
WISC	**Wilburton Inst**	**0.23**	**244**		Sb	11 23 00.5	+1.7
EVGW	**Everett Gatewa**	**0.24**	**306**		Pb	11 22 54.6	-0.3
EVGW					Sb	11 22 59.5	+0.5
FINN	**Finn Hill Juni**	**0.25**	**272**		Sb	11 23 00.8	+1.7
NOWS	**NOAA--Sand Poi**	**0.27**	**265**		Pb	11 22 55.5	+0.3
NOWS					Sn	11 23 01.5	-1.2
BRKS	**Brookside Elem**	**0.29**	**279**		Pb	11 22 55.6	+0.1
BRKS					Sb	11 23 01.4	+1.3
CDMR	**Cedar Moraine**	**0.30**	**166**		Pb	11 22 55.5	-0.2
SP2	**Seward Park 2**	**0.30**	**239**		Pb	11 22 55.7	-0.1
LYNC	**Lynnwood City**	**0.31**	**291**		Pb	11 22 55.8	-0.1
LYNC					Sb	11 23 01.6	+0.9
MPL	**Maple valley S**	**0.33**	**222**		Sb	11 23 01.5	+0.4
BEVT	**Boeing Everett**	**0.34**	**307**		Pb	11 22 56.5	0.0
BEVT					Sb	11 23 02.6	+1.0
BSFP	**Boeing Fire Pr**	**0.35**	**237**		Sb	11 23 03.2	+1.5
HOLY	**Holy Rosary Sc**	**0.38**	**248**		Sn	11 23 04.8	-0.8
KNEL	**Kent Elementar**	**0.42**	**219**		Sn	11 23 05.3	-1.3
SWID	**South Whidbey**	**0.47**	**309**		Pb	11 22 58.3	-0.2
JCW	**Jim Creek**	**0.48**	**355**		Pb	11 22 58.2	-0.6
VVHS	**Vashon High Sc**	**0.49**	**234**		Pb	11 22 58.5	-0.4
KINR	**Kitsap County**	**0.53**	**275**		Pb	11 22 58.9	-0.6
KINR					Sb	11 23 07.3	+0.6
D05A	**Enumclaw**	**0.53**	**189**		Pb	11 22 59.1	-0.4
D05A					Sb	11 23 07.0	+0.2
D05A	**Enumclaw**	**0.53**	**189**	IAML		11 23 07.2	
	comp=N,51nm,0.5s						
D05A				IAML		11 23 10.4	
	comp=E,27nm,0.3s						
B05A	**Bryant**	**0.57**	**344**		Pb	11 22 59.5	-0.8
PAYL	**Puyallup Schoo**	**0.60**	**211**		Pb	11 23 00.1	-0.6
PAYL					Sb	11 23 09.7	+0.9
GPW	**Glacier Peak**	**0.64**	**50**		Pb	11 23 01.2	-0.3
GMW	**Gold Mountain**	**0.65**	**256**		Pb	11 23 00.1	-1.4
KIMR	**Kitsap County**	**0.65**	**251**		Sb	11 23 09.8	-0.3
GNW	**Green Mountain**	**0.67**	**258**		Pb	11 23 00.3	-1.5
GNW	**Green Mountain**	**0.67**	**258**	IAML		11 23 10.4	
	comp=E,94nm,0.1s						
WRW	**Wenatchee Ridg**	**0.68**	**77**		Pb	11 23 01.8	-0.3
B013	**Quilcene**	**0.71**	**279**		Pb	11 23 01.0	-1.6
B013					Sb	11 23 10.4	-1.6
GHW	**Garrison Hill**	**0.73**	**203**		Pb	11 23 01.7	-1.1
C04A	**Brinnon**	**0.75**	**271**		Pb	11 23 01.5	-1.7
C04A					Sb	11 23 11.2	-1.8
B941	**Kapowsin**	**0.77**	**199**		Pb	11 23 02.2	-1.3
RPW	**Rockport**	**0.77**	**18**		Pb	11 23 03.3	-0.4
SVOH	**Skagit Valley**	**0.78**	**318**		Pb	11 23 02.7	-0.9
SVOH					Sb	11 23 13.5	-0.3
FMW	**Mount Fremont**	**0.79**	**170**		Pb	11 23 03.0	-1.1
BLN	**Blyn Mountain**	**0.80**	**292**		Pb	11 23 02.6	-1.6
HDW	**Hoodsport**	**0.81**	**266**		Pb	11 23 02.5	-1.8
OBSR	**Observation Ro**	**0.81**	**178**		Pb	11 23 03.5	-1.0
D04E	**Lakebay**	**0.81**	**229**		Pb	11 23 03.7	-0.6
D04E					Sn	11 23 16.0	-0.2
RCS	**Mount Rainier-**	**0.85**	**174**		Pb	11 23 04.2	-0.9
PANH	**Panhandle Gap,**	**0.87**	**170**		Pb	11 23 04.3	-1.1
SQM	**Sequim**	**0.88**	**295**		Pb	11 23 04.2	-1.2
RCM	**Mount Rainier-**	**0.88**	**174**		Pb	11 23 04.7	-1.0
RCM					Sb	11 23 16.7	-0.5
REMR	**Mount Rainier-**	**0.89**	**179**		Pb	11 23 04.6	-1.2
SLFW	**Sugar Loaf**	**0.90**	**87**		Pb	11 23 06.0	0.0
LTY	**Liberty**	**0.93**	**119**		Pb	11 23 06.3	0.0
LON	**Longmire**	**0.96**	**178**		Pb	11 23 05.9	-1.1
LON				IAML		11 23 18.7	
	comp=E,67nm,0.4s						
LON				IAML		11 23 18.9	
	comp=N,34nm,0.2s						
LON	**Longmire**	**0.96**	**178**		Pb	11 23 05.7	-1.2
MBW	**Mount Baker**	**1.07**	**359**		Pn	11 23 08.2	-0.5
NLW	**Nelson Butte**	**1.09**	**70**		Pb	11 23 09.1	0.0
A04D	**Lummi Island**	**1.16**	**331**	Pn	Pn	11 23 07.5	-2.1
A04D				IAML		11 23 25.2	
	comp=E,24nm,0.3s						
A04D				IAML		11 23 25.8	
	comp=N,41nm,0.2s						
EBG	**Ellensburg**	**1.19**	**132**		Pb	11 23 11.3	+0.5
NAC	**Naches**	**1.21**	**144**		Pb	11 23 11.2	+0.1
CBSW	**Chelan Butte S**	**1.23**	**85**		Pb	11 23 11.8	+0.3
B017	**Montesano**	**1.36**	**239**		Pn	11 23 12.3	0.0
NLWA	**Neilton Lookou**	**1.40**	**257**		Pn	11 23 12.6	-0.4
NLWA						11 23 33.6	
	comp=N,19nm,0.5s			IAML			
NLWA				IAML		11 23 35.0	
	comp=N,17nm,0.7s						
PGC	**Sidney**	**1.42**	**312**		Pn	11 23 12.5	-0.7
PGC	**Sidney**	**1.42**	**312**	IAML		11 23 31.0	
	comp=E,30nm,0.1s						
PGC				IAML		11 23 31.3	
	comp=N,30nm,0.2s						
MXC	**Moxie City**	**1.56**	**136**		Pn	11 23 15.9	+0.6
B023	**Clatskanie**	**1.81**	**208**		Pn	11 23 19.0	+0.5
WAH2	**Wahluke Slope**	**1.83**	**121**	Pn	Pn	11 23 20.0	+1.1
WAH2				IAML		11 23 53.2	
	comp=E,22nm,0.5s						
WAH2				IAML		11 23 57.7	
	comp=N,22nm,0.5s						
RADR	**Rader Ridge**	**1.85**	**226**	Pn	Pn	11 23 19.9	+0.7
RADR				IAML		11 23 41.9	
	comp=N,20nm,1.6s						
CLRS	**Cowichan Lake**	**1.88**	**307**		Pn	11 23 19.7	+0.2
CLRS	**Cowichan Lake**	**1.88**	**307**	IAML		11 23 43.6	
	comp=N,11nm,2.1s						

*IDC **01** 11:23:05.7±2.6, 3.99N×95.29E, h0km, mb3.6/3, mbtmp3.6/5, ML3.9/2, MS3.0/2, Error ellipse: s-maj=84.3km s-min=26.7km az=58.0*
*DJA **01** 11:23:05.4±0.5, 5.N±5.×9.6E±., h76km±11km, M4.3/10, mb4.3/5, MLv4.3/10*

ISC 01 11:23:15.1±1.8, 4.9N±0.2×96.1E±0.2, h35km, n20, σ2.48/8, mb3.5/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**0.87**	**67**	P	Pn	11 23 28.2	-2.7
LHMI	**Lhok Sumawe**	**0.87**	**67**	P	Pn	11 23 28.0	-2.9
TSI	**Tuntungan**	**2.77**	**120**	P	**Pn**	**11 23 57.7**	**+0.6**
PSI	**Prapat**	**3.46**	**127**	Pn	**Pn**	**11 24 06.3**	**-0.3**
	6.7nm,0.3s,baz=330,slow=9.9,SNR=17						
PSI				Sn	**Sn**	**11 24 49.8**	**+3.4**
	10nm,0.3s,baz=151,slow=9.9,SNR=4.8						
PSI				LR	LR	11 25 43.0	
	comp=Z,147nm,20.6s,baz=215,slow=41						
	14nm,0.4s						
PSI	**Prapat**	**3.46**	**127**	P	**Pn**	**11 24 06.5**	**-0.1**
GSI	**Gunungsitoli**	**3.83**	**158**	P	Pn	11 24 09.3	-2.3
KULM	**Kulim**	**4.51**	**85**	P	Pn	11 24 18.9	-2.0
IPM	**Ipoh**	**4.88**	**94**	P	**Pn**	**11 24 24.1**	**-2.0**
MNSI	**Mandailing Nat**	**5.31**	**140**	P	Pn	11 24 31.3	-0.7
CMAR	**Chiang Mai Arr**	**13.77**	**11**	Pn	**P**	**11 26 37.8**	**+1.8**
	0.2nm,0.3s,baz=203,slow=10,SNR=5.0						
	0.3nm,0.3s						
H08S2	**Diego Garcia H**	**26.68**	**242**	T	T	11 55 46.9	
	baz=62,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**26.68**	**242**	T	T	11 55 45.0	
	baz=62,slow=75,SNR=16						
H08S1	**Diego Garcia H**	**26.69**	**242**	T	T	11 55 48.2	
	baz=62,slow=75,SNR=4.3						
MKAR	**Makanchi Array**	**43.44**	**346**	P	**P**	**11 31 15.3**	**+0.7**
	0.2nm,0.5s,baz=160,slow=9.2,SNR=1.7						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**44.92**	**125**	P	**P**	**11 31 23.5**	**-3.4**
	0.4nm,0.5s,baz=302,slow=9.3,SNR=6.3						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**46.48**	**129**	P	P	11 31 36.5	-2.8
	1.2nm,0.6s,baz=300,slow=7.3,SNR=22						
	1.2nm,0.6s						
H04N2	**CROZET ISLANDS**	**64.25**	**213**	T	T	12 41 53.1	
	baz=51,slow=75,SNR=6.2						
H04N1	**CROZET ISLANDS**	**64.26**	**213**	T	T	12 41 45.4	
	baz=51,slow=75,SNR=6.0						
H04N3	**CROZET ISLANDS**	**64.27**	**213**	T	T	12 41 45.0	
	baz=51,slow=75,SNR=7.0						
MA2	**Magadan**	**68.51**	**26**	LR	LR	12 06 31.7	
	comp=Z,17nm,19.9s,baz=162,slow=37						

*AZER **01** 11:33:18.1, 41.70N×44.73E, h3km, ml2.9*
*TIF **01** 11:33:20.1, 41.76N×44.72E, h14km*
*NORS **01** 11:33:20.9, 41.74N×44.83E, h3km, MPVA4.0*
*MOS **01** 11:33:20.0, 41.70N×44.77E, h3km, MPVA3.9*
*AFAD **01** 11:33:21.0, 41.58N×44.70E, h8km±3km, ML2.3*
*DRS **01** 11:33:22.7, 41.81N×44.82E, h54km*

ISC 01 11:33:21.2±0.8, 41.73N±0.01×44.75E±0.01, h13km±4km, n102, σ1.06/189, 2C, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBLG	**Delisi**	**0.01**	**296**	P	**Pg**	**11 33 23.1**	**-0.5**
TBLG				S	**Sg**	**11 33 25.1**	**0.0**
TBLG	**Delisi**	**0.01**	**296**	ePG	**Pg**	**11 33 23.1**	**-0.5**
SEAG	**Tbilisi Sea**	**0.05**	**45**	P	**Pg**	**11 33 23.3**	**-0.6**
SEAG				S	**Sg**	**11 33 25.2**	**-0.4**
SEAG	**Tbilisi Sea**	**0.05**	**45**	ePG	**Pg**	**11 33 23.2**	**-0.6**
BTNK	**Botanikuri**	**0.06**	**141**	ePG	**Pg**	**11 33 23.6**	**-0.2**
KZRT	**Kazreti**	**0.43**	**218**	P	**Pg**	**11 33 28.4**	**-1.4**
KZRT				S	**Sg**	**11 33 35.0**	**-0.6**
KZRT	**Kazreti**	**0.43**	**218**	ePG	**Pg**	**11 33 28.4**	**-1.4**
KZRT				eS	**Sg**	**11 33 34.9**	**-0.6**
TRLG	**Trialeti**	**0.52**	**249**	P	**Pg**	**11 33 31.2**	**-0.4**
TRLG				S	**Sg**	**11 33 38.7**	**+0.2**
TRLG	**Trialeti**	**0.52**	**249**	ePG	**Pg**	**11 33 31.1**	**-0.4**
TRLG				eS	**Sg**	**11 33 38.6**	**+0.2**
DGRG	**David-gareji**	**0.54**	**120**	P	**Pb**	**11 33 32.8**	**+0.2**
DGRG				S	**Sn**	**11 33 43.1**	**-0.5**
DGRG	**David-gareji**	**0.54**	**120**	ePG	**Pb**	**11 33 32.8**	**+0.2**
DGRG				eS	**Sn**	**11 33 43.1**	**-0.5**
CHRG	**Chargali**	**0.62**	**12**	P	**Pg**	**11 33 32.0**	**-1.3**
CHRG				S	**Sg**	**11 33 40.4**	**-1.1**
GUDG	**Gudauri**	**0.77**	**345**	P	**Pg**	**11 33 34.6**	**-1.5**
GUDG	**Gudauri**	**0.77**	**345**	ePG	**Pg**	**11 33 34.6**	**-1.5**
QZX	**Qazax, Azerbai**	**0.81**	**145**	P	**Pg**	**11 33 36.4**	**-0.6**
QZX				S	**Sb**	**11 33 48.3**	**+0.2**
ALIG	**Mtskhetisjvari**	**0.91**	**295**	P	**Pg**	**11 33 37.0**	**-1.8**
ALIG				S	**Sg**	**11 33 49.1**	**-1.6**
ALIG	**Mtskhetisjvari**	**0.91**	**295**	ePG	**Pg**	**11 33 36.9**	**-1.8**
ALIG				eS	**Sg**	**11 33 49.0**	**-1.6**
SHTL	**Shatili**	**0.98**	**18**	P	**Pg**	**11 33 38.6**	**-1.5**
SHTL	**Shatili**	**0.98**	**18**	PG	**Pg**	**11 33 38.5**	**-1.5**
BGD	**Bogdanovka**	**0.98**	**242**	P	**Pg**	**11 33 39.5**	**-0.7**
BGD				S	**Sg**	**11 33 52.8**	**-0.2**
BGD	**Bogdanovka**	**0.98**	**242**	ePG	**Pg**	**11 33 39.5**	**-0.7**
BGD				eS	**Sg**	**11 33 52.8**	**-0.2**
AKH	**Akhalkalaki**	**1.00**	**252**	P	**Pg**	**11 33 39.2**	**-1.3**
AKH				S	**Sg**	**11 33 52.8**	**-0.7**
AKH	**Akhalkalaki**	**1.00**	**252**	i Pg	**Pg**	**11 33 39.2**	**-1.3**
AKH				i Sg	**Sg**	**11 33 52.4**	**-1.1**
AKH	**Akhalkalaki**	**1.00**	**252**	i PG	**Pg**	**11 33 39.2**	**-1.3**
AKH				i S	**Sg**	**11 33 52.4**	**-1.1**
LGD	**Lagodekhi**	**1.12**	**84**	P	**Pg**	**11 33 41.6**	**-1.2**
LGD				S	**Sn**	**11 33 58.3**	**+0.4**
LGD	**Lagodekhi**	**1.12**	**84**	ePG	**Pg**	**11 33 41.6**	**-1.2**
LGD				eS	**Sn**	**11 33 58.2**	**+0.4**
LACR	**Lac**	**1.15**	**343**	i Pg	**Pg**	**11 33 41.5**	**-1.9**
LACR				eSg	**Sg**	**11 33 57.9**	**-0.5**
LACR	**Lac**	**1.15**	**343**	i PG	**Pg**	**11 33 41.5**	**-1.9**
LACR				eS	**Sg**	**11 33 57.9**	**-0.5**
TLTR	**Tlyarata**	**1.25**	**72**	ePG	**Pg**	**11 33 43.9**	**-1.5**
TLTR				eS	**Sb**	**11 34 01.0**	**+0.1**
TLTR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GDB	**GEDABAY**	**1.26**	**143**	P	**Pb**	**11 33 43.3**	**-1.5**
GDB				S	**Sg**	**11 34 00.6**	**-1.2**
GARIG	**Gari**	**1.30**	**313**	P	**Pn**	**11 33 44.2**	**-0.9**
GARIG				S	**Sb**	**11 34 01.6**	**-0.5**
VLKR	**Vladikavkaz**	**1.32**	**358**	ePg	**Pn**	**11 33 44.9**	**-0.5**
VLKR				eSg	**Sn**	**11 34 03.7**	**+0.8**
VLKR	**Vladikavkaz**	**1.32**	**358**	ePG	**Pg**	**11 33 46.8**	**+0.2**
VLKR				eS	**Sn**	**11 34 04.3**	**+1.4**
KMGR	**Komgaron**	**1.33**	**4**	ePg	**Pb**	**11 33 46.0**	**-0.1**
KMGR				eSg	**Sn**	**11 34 05.0**	**+1.7**
KMGR	**Komgaron**	**1.33**	**4**	ePG	**Pb**	**11 33 46.0**	**-0.1**
KMGR				eS	**Sn**	**11 34 04.9**	**+1.7**
VSHL	**Vashlovani**	**1.33**	**111**	P	**Pg**	**11 33 46.5**	**-0.4**
EAK	**Akyaka**	**1.35**	**220**	P	**Pn**	**11 33 44.2**	**-1.7**
EAK				S	**Sb**	**11 34 03.6**	**-0.1**
EAK				i IAML		11 34 09.0	
	comp=Z,154nm,0.5s						
ZKTA	**Zakatala**	**1.40**	**93**	P	**Pn**	**11 33 46.9**	**+0.3**
ZKTA				S	**Sg**	**11 34 07.3**	**+0.9**
BTLR	**Botlikh**	**1.44**	**49**	ePG	**Pn**	**11 33 47.3**	**+0.2**
BTLR				eS	**Sb**	**11 34 05.8**	**-0.4**
KORR	**Kora**	**1.45**	**340**	ePG	**Pb**	**11 33 48.4**	**+0.3**
KORR				eS	**Sg**	**11 34 08.1**	**+0.1**
TKB	**Tkibuli**	**1.45**	**296**	P	**Pn**	**11 33 46.6**	**-0.6**
TKB				S	**Sn**	**11 34 05.7**	**-0.4**
TKB	**Tkibuli**	**1.45**	**296**	ePG	**Pn**	**11 33 46.5**	**-0.6**
TKB				eS	**Sn**	**11 34 05.7**	**-0.4**
DIGR	**Digorskoe uzhe**	**1.46**	**324**	ePG	**Pn**	**11 33 47.8**	**+0.3**
DIGR				eS	**Sg**	**11 34 08.1**	**-0.2**
ARNR	**Ardon**	**1.49**	**347**	ePg	**Pg**	**11 33 49.7**	**-0.2**
ARNR				eSg	**Sg**	**11 34 10.1**	**+0.8**
ARNR	**Ardon**	**1.49**	**347**	ePG	**Pg**	**11 33 49.7**	**-0.2**
ARNR				eS	**Sg**	**11 34 10.1**	**+0.8**
EPOS	**Posof**	**1.53**	**262**	P	**Pn**	**11 33 48.0**	**-0.5**
EPOS				S	**Sn**	**11 34 07.7**	**-0.6**
EPOS				i IAML		11 34 10.0	
	comp=Z,53nm,0.5s						
GNI	**Garni**	**1.57**	**180**	ePg	**Pn**	**11 33 49.8**	**+0.8**
GNI				eSg	**Sg**	**11 34 12.1**	**+0.2**
GNI	**Garni**	**1.57**	**180**	ePN	**Pn**	**11 33 49.8**	**+0.8**
GNI				eS	**Sg**	**11 34 12.1**	**+0.2**
DVE	**Vedeno**	**1.60**	**39**	ePg	**Pb**	**11 33 50.0**	**-0.6**
DVE				eSg	**Sb**	**11 34 11.1**	**+0.4**
DVE	**Vedeno**	**1.60**	**39**	ePN	**Pb**	**11 33 50.0**	**-0.6**
DVE				eS	**Sb**	**11 34 11.1**	**+0.4**
GANJ	**Ganja**	**1.60**	**132**	Pn	**Pn**	**11 33 49.2**	**0.0**
GANJ				Sn	**Sn**	**11 34 10.3**	**+0.5**
BTKR	**Batakoyurt**	**1.65**	**355**	ePg	**Pg**	**11 33 52.0**	**-0.9**
BTKR				eSg	**Sg**	**11 34 15.7**	**+1.3**
BTKR	**Batakoyurt**	**1.65**	**355**	ePN	**Pg**	**11 33 52.0**	**-0.9**
BTKR				eS	**Sg**	**11 34 15.7**	**+1.3**
XNZR	**Khunzakh**	**1.67**	**60**	ePg	**Pg**	**11 33 52.9**	**-0.3**
XNZR				eSg	**Sg**	**11 34 13.9**	**-0.9**
GROC	**Groznyy**	**1.67**	**27**	ePg	**Pb**	**11 33 51.2**	**-0.6**
GROC				eSg	**Sg**	**11 34 13.4**	**-1.4**
GROC	**Groznyy**	**1.67**	**27**	ePN	**Pb**	**11 33 51.2**	**-0.6**
GROC				eS	**Sg**	**11 34 13.4**	**-1.4**
HNZR	**Khunzah**	**1.68**	**60**	ePN	**Pg**	**11 33 52.9**	**-0.6**
HNZR				eS	**Sg**	**11 34 13.9**	**-1.4**
BOZK	**Kars-Merkez-Bo**	**1.76**	**230**	P	**Pn**	**11 33 51.0**	**-0.5**
BOZK				S	**Sn**	**11 34 15.3**	**+1.5**
BOZK				i IAML		11 34 52.0	
	comp=Z,35nm,1.5s						
GNBR	**Gunib**	**1.77**	**67**	ePg	**Pb**	**11 33 53.1**	**-0.6**
GNBR				eSg	**Sg**	**11 34 17.2**	**-1.1**
GNBR	**Gunib**	**1.77**	**67**	ePN	**Pb**	**11 33 53.1**	**-0.6**
GNBR				eS	**Sg**	**11 34 16.9**	**-1.4**
GNBR				pmax	pmax		
	comp=Z,34nm,0.5s						
KMKR	**Kumukh**	**1.80**	**76**	ePg	**Pb**	**11 33 53.2**	**-0.9**
KMKR				eSg	**Sb**	**11 34 17.1**	**+0.5**
KMKR	**Kumukh**	**1.80**	**76**	ePN	**Pb**	**11 33 53.2**	**-0.9**
KMKR				eS	**Sb**	**11 34 17.1**	**+0.5**
UNCR	**Uncukul**	**1.81**	**56**	ePg	**Pn**	**11 33 52.8**	**+0.7**
UNCR				eSg	**Sb**	**11 34 16.3**	**-0.5**
UNCR	**Uncukul**	**1.81**	**56**	ePN	**Pn**	**11 33 52.8**	**+0.7**
GOLE	**Ardahan-G⇑lle**	**1.85**	**242**	P	**Pb**	**11 33 55.4**	**+0.4**
GOLE				S	**Sb**	**11 34 19.1**	**+1.0**
GOLE				i IAML		11 34 21.0	
	comp=Z,90nm,0.2s						
ARKR	**Arakani**	**1.88**	**62**	ePg	**Pb**	**11 33 54.6**	**-0.9**
ARKR				eSg	**Sb**	**11 34 19.8**	**+0.8**
ARKR	**Arakani**	**1.88**	**62**	ePN	**Pb**	**11 33 54.6**	**-0.9**
SEKA	**Sheki**	**1.91**	**105**	Pn	**Pb**	**11 33 55.1**	**-0.8**
SEKA				Sn	**Sg**	**11 34 23.2**	**+0.6**
IGDI	**IGDIR**	**1.93**	**196**	P	**Pn**	**11 33 53.5**	**-0.2**
IGDI				S	**Sn**	**11 34 19.5**	**+1.7**
IGDI				i IAML		11 34 23.0	
	comp=Z,27nm,0.5s						
IGDI	**IGDIR**	**1.93**	**196**	Pn	**Pn**	**11 33 55.1**	**+1.4**
IGDI				Sn	**Sg**	**11 34 23.1**	**0.0**
DLMR	**Dylym**	**1.93**	**45**	ePg	**Pb**	**11 33 55.4**	**-0.9**
DLMR				eSg	**Sb**	**11 34 21.0**	**+0.6**
DLMR	**Dylym**	**1.93**	**45**	ePN	**Pb**	**11 33 55.4**	**-0.9**
DLMR				pmax	pmax		
	comp=Z,72nm,0.1s						
KRNR	**Karanay**	**1.94**	**55**	ePg	**Pb**	**11 33 55.6**	**-0.9**
KRNR				eSg	**Sb**	**11 34 20.5**	**-0.2**
KRNR	**Karanay**	**1.94**	**55**	ePN	**Pb**	**11 33 55.6**	**-0.9**
MNGR	**Mingechevir, A**	**2.00**	**118**	Pn	**Pn**	**11 33 55.6**	**+0.9**
MNGR				Sn	**Sg**	**11 34 25.5**	**0.0**
BUJR	**Buynaksk**	**2.06**	**57**	ePg	**Pb**	**11 33 57.9**	**-0.6**
BUJR				eSg	**Sb**	**11 34 23.6**	**-0.5**
BUJR	**Buynaksk**	**2.06**	**57**	ePN	**Pb**	**11 33 57.9**	**-0.6**
BUJR				eS	**Sb**	**11 34 23.6**	**-0.5**
URKR	**Urkarakh**	**2.19**	**77**	ePg	**Pb**	**11 33 59.3**	**-1.5**
URKR				eSg	**Sb**	**11 34 28.0**	**0.0**
URKR	**Urkarakh**	**2.19**	**77**	ePN	**Pb**	**11 33 59.3**	**-1.5**
URKR				eS	**Sb**	**11 34 27.9**	**0.0**
URKR				pmax	pmax		
	comp=Z,16nm,0.1s						
DAGI	**Agillar**	**2.23**	**254**	P	**Pb**	**

KRLC	**Kraliky**	**1.52**	**262**	*e*PG		**Pn**	**12 12 33.6**	**-0.2**
KRLC				*e*SG		**Sg**	**12 12 53.3**	**-0.9**
	comp=Z,68nm,0.6s							
STHS	**Stebnicka Huta**	**1.64**	**122**	*e*PN		**Pg**	**12 12 37.5**	**+0.8**
STHS				*e*SN		**Sg**	**12 13 00.5**	**+2.6**
STHS				*e*LG		Lg	12 13 08.3	
DPC	**Dobruska-Polom**	**1.79**	**272**	*e*PG		**Pn**	**12 12 38.1**	**+0.5**
DPC				*e*SG		**Sg**	**12 13 02.8**	**-0.2**
	comp=Z,48nm,0.6s							
VYHS	**Vyhne**	**1.83**	**186**	*e*PN		**Pn**	**12 12 38.1**	**+0.1**
VYHS				*e*SN		**Sn**	**12 13 01.0**	**-0.8**
OSTC	**Ostas**	**1.88**	**279**	*e*PG		**Pb**	**12 12 39.6**	**-0.8**
KSP	**Ksiaz**	**1.88**	**288**	*e*Pg		**Pg**	**12 12 42.1**	**+0.7**
KSP				*e*Sg		**Sg**	**12 13 07.5**	**+1.7**
VRAC	**Vranov**	**1.92**	**240**	Pn		**Pn**	**12 12 40.1**	**+0.8**
	4.0nm,0.3s,baz=55,slow=15,SNR=14							
VRAC				Lg		Lg	12 13 04.0	
	10nm,0.3s,baz=348,slow=22,SNR=18							
VRAC	**Vranov**	**1.92**	**240**	*e*Pn		**Pn**	**12 12 39.4**	**+0.1**
	baz=60							
VRAC				*e*Sg		**Sn**	**12 13 04.2**	**+0.1**
	50nm,0.5s,baz=60							
KECS	**Kecovo**	**2.03**	**154**	*e*PN		**Pn**	**12 12 41.0**	**+0.2**
KECS				*e*SN		**Sb**	**12 13 08.8**	**-0.1**
KECS				*e*LG		Lg	12 13 17.7	
KRUC	**Moravsky**	**2.17**	**236**	*e*Pn		**Pn**	**12 12 42.7**	**+0.1**
	baz=55							
KRUC				*e*Sg		**Sb**	**12 13 11.8**	**-1.0**
	81nm,1.1s,baz=55							
MODS	**Modra-Piesok**	**2.28**	**213**	*e*SN		**Sn**	**12 13 14.2**	**+1.1**
GOPC	**GO Pecny, Ondr**	**2.82**	**264**	*e*SG		**Sb**	**12 13 33.2**	**+1.6**
	comp=Z,24nm,0.7s							
PRU	**Pruhonice**	**2.96**	**266**	*e*SG		**Sg**	**12 13 38.7**	**-1.8**
	comp=Z,17nm,0.6s							
CONA	**Conrad Observa**	**3.21**	**223**	*i* Pn		**Pn**	**12 12 56.7**	**-0.3**
	0.7nm,0.2s							
CONA				*e*Sn		**Sn**	**12 13 35.4**	**-0.5**
	6.5nm,0.5s							
RONA	**Rosalia, Austr**	**3.21**	**217**	*e*Sn		**Sn**	**12 13 36.7**	**+0.8**
	7.8nm,0.5s							
BRG	**Berggiesshubel**	**3.35**	**282**	Pg		**Pg**	**12 13 08.6**	**-0.8**
BRG				Sg		**Sg**	**12 13 54.1**	**+1.3**
BRG				Amp			12 14 06.6	
	comp=Z,15nm,0.7s							
CKRC	**Cesky Krumlov**	**3.47**	**246**	*e*PG		**Pb**	**12 13 07.7**	**+0.1**
CKRC				*e*SG		**Sb**	**12 13 52.6**	**+2.3**
	comp=Z,30nm,0.8s							
KHC	**Kasperske Hory**	**3.79**	**254**	*e*PN		**Pn**	**12 13 06.0**	**+1.1**
KHC				*e*SG		**Sb**	**12 14 01.8**	**+2.4**
	comp=Z,18nm,0.6s							
GERES	**GERESS Array B**	**3.82**	**250**	Pn		**Pn**	**12 13 06.3**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=64,slow=18,SNR=8.3							
GERES				Pg		**Pb**	**12 13 15.6**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=64,slow=24,SNR=4.8							
GERES				Lg		Lg	12 14 05.2	
	comp=Z,0.5nm,0.3s,baz=65,slow=27,SNR=7.2							
	comp=Z,0.6nm,0.4s							
CLL	**Collm**	**4.01**	**287**	*e*Pg		**Pg**	**12 13 24.0**	**+1.9**
CLL				*e*Sg		**Sg**	**12 14 15.0**	**+1.0**
	comp=Z,14nm,1.0s							
MOA	**Molln**	**4.03**	**234**	*e*Sn		**Sn**	**12 13 57.5**	**+1.3**
	comp=Z,3.5nm,0.5s							
BIOA	**Bad Ischl, Aus**	**4.46**	**236**	*e*Sg		**Sg**	**12 14 27.8**	**-0.7**
	comp=Z,10nm,0.6s							
LESA	**Schwarzleotal**	**5.14**	**238**	*e*Sg		**Sg**	**12 14 50.6**	**+0.2**
	comp=Z,7.0nm,0.5s							
WTTA	**Wattenberg**	**5.81**	**241**	*e*Sg		**Sg**	**12 15 13.6**	**+1.8**
AKASG	**Malin Array Be**	**6.46**	**83**	Pg		**Pg**	**12 14 06.1**	**-2.9**
	comp=Z,0.4nm,0.3s,baz=270,slow=16,SNR=4.3							
AKASG				Lg		Lg	12 15 41.2	
	comp=Z,0.5nm,0.3s,baz=267,slow=25,SNR=4.2							
DAVOX	**Davos/Dischmat**	**7.08**	**244**	Lg		Lg	12 15 50.1	
	comp=Z,0.6nm,0.3s,baz=18,slow=18,SNR=5.4							
FINES	**FINESS Array B**	**11.81**	**17**	Pn		**Pn**	**12 14 52.7**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=193,slow=11,SNR=1.7							
	comp=Z,0.9nm,0.4s							
ARCES	**ARCESS Array B**	**19.53**	**7**	Pn		**P**	**12 16 32.3**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=184,slow=9.9,SNR=1.8							
	comp=Z,1.2nm,0.8s							

*SDD **01** 12:21:37.6±1.5, 18°.50N×68°.65W,h131km±8km, MD3.6, ML3.4, MW3.5*
*RSPR **01** 12:21:38.8, 18°.59N×68°.74W,h128km±3km, MD3.2/11*
*NEIC **01** 12:21:39.8±1.3, 18°.6N±0°.1×68°.79W±0°.05,h117km±9km, ML3.2/28, Md3.2/11(RSPR), Error ellipse: s-maj=20.0km s-min=6.2km az=186.0*
*OSPL **01** 12:21:39.7±3.5, 18°.33N×68°.82W,h144km±48km, ML3.0*
ISC 01 12:21:37.9±1.4,**18°.51N**±0°.06×**68°.80W**±0°.03,**h126**km±9km, **n69,σ1°s56/91,21C-2D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.12**	**45**	⇑*e*Pg		**Pn**	**12 21 54.5**	**-0.6**
HIDR				*e*Sg		**Sn**	**12 22 06.9**	**-1.1**
HIDR				IAML			12 22 07.1	
	comp=N,1μm,0.3s							
MIDR	**Miches**	**0.53**	**334**	*e*Pg		**Pn**	**12 21 56.5**	**-0.2**
MIDR				⇑*e*Sg		**Sn**	**12 22 09.6**	**-1.2**
MIDR				IAML			12 22 11.0	
	comp=N,440nm,0.4s							
SMDR	**Samana, DR**	**0.86**	**335**	⇑*e*P		**Pn**	**12 21 58.9**	**-0.2**
SMDR	**Samana, DR**	**0.86**	**335**	*e*S		**Sn**	**12 22 15.9**	**+0.7**
SDD	**Santo Domingo**	**1.05**	**267**	Pn		**Pn**	**12 22 03.0**	**+2.1**
IDE	**Isla Desecheo**	**1.27**	**95**			**Pn**	**12 22 03.0**	**-0.1**
IDE						**Sn**	**12 22 22.7**	**+0.4**
IDE	**Isla Desecheo**	**1.27**	**95**	⇑*e*P		**Pn**	**12 22 03.0**	**-0.1**
IDE	**Isla Desecheo**	**1.27**	**95**	*e*S		**Sn**	**12 22 22.7**	**+0.4**
NADR	**Nagua**	**1.30**	**310**	⇑*e*Pg		**Pn**	**12 22 03.1**	**-0.4**
NADR				*e*Sg		**Sn**	**12 22 24.1**	**+1.1**
NADR				IAML			12 22 28.5	
	comp=N,2μm,0.3s							
BANI	**BANI**	**1.48**	**266**	Pn		**Pn**	**12 22 06.6**	**+1.1**
BANI						**Sn**	**12 22 26.7**	**+0.1**
BANI	**BANI**	**1.48**	**266**	*e*Pg		**Pn**	**12 22 05.1**	**-0.5**
BANI				⇑*e*Sg		**Sn**	**12 22 27.5**	**+0.8**
BANI				IAML			12 22 30.4	
	comp=N,206nm,0.2s							
CADR	**Cabrera**	**1.58**	**317**	*e*Pg		**Pn**	**12 22 06.3**	**-0.3**
CADR				⇓*e*Sg		**Sn**	**12 22 27.0**	**-1.4**
CADR				IAML			12 22 36.5	
	comp=N,404nm,0.5s							
PRSN	**Puerto Rico Se**	**1.60**	**100**	Pn		**Pn**	**12 22 08.4**	**+1.5**
AGPR	**Aguadilla, PR**	**1.61**	**91**			**Pn**	**12 22 08.1**	**+1.1**
AGPR						**Sn**	**12 22 29.8**	**+0.7**
AGPR	**Aguadilla, PR**	**1.61**	**91**	IAML			12 22 34.3	
	comp=E,175nm,0.3s							
AGPR				IAML			12 22 36.1	
	comp=N,225nm,0.6s							
AGPR	**Aguadilla, PR**	**1.61**	**91**	⇑*e*P		**Pn**	**12 22 08.1**	**+1.1**
AGPR	**Aguadilla, PR**	**1.61**	**91**	*e*S		**Sn**	**12 22 29.8**	**+0.7**
AGPR	**Aguadilla, PR**	**1.61**	**91**	⇑*e*Pg		**Pn**	**12 22 04.9**	**-2.0**
AGPR				*e*Sg		**Sn**	**12 22 23.3**	**-5.7**
AGPR				IAML			12 22 38.6	
	comp=N,159nm,0.3s							
AGPR	**Aguadilla, PR**	**1.61**	**91**	*i* P		**Pn**	**12 22 08.2**	**+1.3**
AGPR				*e*S		**Sn**	**12 22 31.1**	**+2.1**
AGPR				IAML			12 22 41.0	
	comp=Z,89nm,0.6s							
LSP	**Las Mesas**	**1.67**	**101**			**Pn**	**12 22 09.0**	**+1.3**
LSP						**Sn**	**12 22 33.4**	**+3.1**
LSP	**Las Mesas**	**1.67**	**101**	⇑*e*P		**Pn**	**12 22 09.0**	**+1.3**
LSP	**Las Mesas**	**1.67**	**101**	*e*S		**Sn**	**12 22 33.4**	**+3.1**
CRPR	**Cabo Rojo, PR**	**1.69**	**107**			**Pn**	**12 22 08.4**	**+0.5**
CRPR						**Sn**	**12 22 28.6**	**-2.1**
CRPR	**Cabo Rojo, PR**	**1.69**	**107**	⇑*e*P		**Pn**	**12 22 08.4**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.69**	**107**	*e*S		**Sn**	**12 22 28.6**	**-2.1**
CRPR	**Cabo Rojo, PR**	**1.69**	**107**	*i* P		**Pn**	**12 22 08.5**	**+0.7**
CRPR				IAML			12 22 44.5	
	comp=Z,64nm,0.4s							
ABDR	**Alto Bandera**	**1.75**	**280**	⇓*e*Pg		**Pn**	**12 22 09.8**	**+0.8**
ABDR				*e*Sg		**Sn**	**12 22 32.9**	**+0.2**
ABDR				IAML			12 22 37.1	
	comp=N,163nm,0.3s							
MLPR	**Magueyes Islan**	**1.76**	**107**	⇑*e*P		**Pn**	**12 22 08.7**	**0.0**
MLPR	**Magueyes Islan**	**1.76**	**107**	*e*S		**Sn**	**12 22 32.9**	**+0.7**
AOPR	**Arecibo Observ**	**1.95**	**94**			**Pn**	**12 22 11.7**	**+0.6**
AOPR						**Sn**	**12 22 37.2**	**+0.7**
AOPR	**Arecibo Observ**	**1.95**	**94**	⇑*e*P		**Pn**	**12 22 11.7**	**+0.6**
AOPR	**Arecibo Observ**	**1.95**	**94**	*e*S		**Sn**	**12 22 37.2**	**+0.7**
SC01	**Santiago de lo**	**2.04**	**297**	Pn		**Pn**	**12 22 11.2**	**-0.9**
SC01				IAML			12 22 48.3	
	comp=E,211nm,0.3s							
SC01	**Santiago de lo**	**2.04**	**297**	*i* P		**Pn**	**12 22 13.7**	**+1.6**
SC01				*e*S		**Sn**	**12 22 40.8**	**+2.5**
SC01				IAML			12 22 51.5	
	comp=Z,91nm,0.5s							
OBIP	**Obispado Ponce**	**2.14**	**102**			**Pn**	**12 22 14.2**	**+0.8**
OBIP						**Sn**	**12 22 41.0**	**+0.5**
OBIP	**Obispado Ponce**	**2.14**	**102**	IAML			12 22 48.1	
	comp=E,63nm,0.4s							
OBIP	**Obispado Ponce**	**2.14**	**102**	⇑*e*P		**Pn**	**12 22 14.2**	**+0.8**
OBIP	**Obispado Ponce**	**2.14**	**102**	*e*S		**Sn**	**12 22 41.0**	**+0.5**
CELP	**Cerrillos**	**2.16**	**101**			**Pn**	**12 22 14.9**	**+1.3**
CELP						**Sn**	**12 22 40.2**	**-0.8**
CELP	**Cerrillos**	**2.16**	**101**	IAML			12 22 52.5	
	comp=E,84nm,0.5s							
CELP				IAML			12 22 53.5	
	comp=N,88nm,0.5s							
CELP	**Cerrillos**	**2.16**	**101**	⇑*e*P		**Pn**	**12 22 14.9**	**+1.3**
CELP	**Cerrillos**	**2.16**	**101**	*e*S		**Sn**	**12 22 40.2**	**-0.8**
EMPR	**Esperanza - Ma**	**2.16**	**90**			**Pn**	**12 22 13.7**	**+0.1**
EMPR						**Sn**	**12 22 41.4**	**+0.5**
EMPR	**Esperanza - Ma**	**2.16**	**90**	⇑*e*P		**Pn**	**12 22 13.7**	**+0.1**
EMPR	**Esperanza - Ma**	**2.16**	**90**	*e*S		**Sn**	**12 22 41.4**	**+0.5**
ECPR	**Experimental S**	**2.33**	**94**	⇑*e*P		**Pn**	**12 22 15.9**	**+0.2**
ECPR	**Experimental S**	**2.33**	**94**	*e*S		**Sn**	**12 22 45.2**	**+0.5**
PODR	**Polo**	**2.38**	**262**	*e*Pg		**Pn**	**12 22 16.0**	**-0.5**
PODR				*e*Sg		**Sn**	**12 22 45.5**	**-0.6**
PODR				IAML			12 22 48.9	
	comp=N,60nm,0.3s							
PODR	**Polo**	**2.38**	**262**	*i* P		**Pn**	**12 22 16.2**	**-0.3**
PODR				*e*S		**Sn**	**12 22 41.2**	**-5.0**
SDDR	**Presa de Saban**	**2.40**	**282**			**Pn**	**12 22 18.8**	**+2.1**
SDDR				IAML			12 22 52.9	
	comp=N,89nm,0.7s							
SDDR				IAML			12 22 54.1	
	comp=N,87nm,1.0s							
SDDR	**Presa de Saban**	**2.40**	**282**	*i* P		**Pn**	**12 22 18.7**	**+1.9**
SDDR				IAML			12 22 55.4	
	comp=Z,35nm,0.5s							
LONE3	**El Aguacate, B**	**2.52**	**273**	*i* P		**Pn**	**12 22 21.9**	**+3.5**
GCPR	**Guaynabo City**	**2.59**	**94**			**Pn**	**12 22 17.7**	**-1.4**
GCPR						**Sn**	**12 22 47.8**	**-2.9**
GCPR	**Guaynabo City**	**2.59**	**94**	⇑*e*P		**Pn**	**12 22 17.7**	**-1.4**
GCPR	**Guaynabo City**	**2.59**	**94**	*e*S		**Sn**	**12 22 47.8**	**-2.9**
IGPR	**InterUniversit**	**2.62**	**101**			**Pn**	**12 22 20.2**	**+0.7**
IGPR						**Sn**	**12 22 51.0**	**-0.4**
IGPR	**InterUniversit**	**2.62**	**101**	⇑*e*P		**Pn**	**12 22 20.2**	**+0.7**
IGPR	**InterUniversit**	**2.62**	**101**	*e*S		**Sn**	**12 22 51.0**	**-0.4**
LOPP1	**Punta Rusia, P**	**2.63**	**301**	*i* P		**Pn**	**12 22 19.7**	**+0.1**
LOPP1				*e*S		**Sn**	**12 22 51.9**	**+0.2**
LOPP1				IAML			12 23 06.3	
	comp=Z,94nm,0.6s							
PDPR	**Patillas Dam,**	**2.69**	**100**	Pn		**Pn**	**12 22 21.8**	**+1.4**
PDPR				IAML			12 22 59.0	
	comp=E,43nm,0.4s							
PDPR				IAML			12 23 01.3	
	comp=N,59nm,0.1s							
PDPR	**Patillas Dam,**	**2.69**	**100**	⇑*e*P		**Pn**	**12 22 20.7**	**+0.3**
PDPR	**Patillas Dam,**	**2.69**	**100**	*e*S		**Sn**	**12 22 52.8**	**-0.1**
LOBH	**Bahia de las A**	**2.77**	**257**	*i* P		**Pn**	**12 22 21.2**	**-0.2**
LOBH				*e*S		**Sn**	**12 22 52.4**	**-2.4**
LOBH				IAML			12 22 56.8	
	comp=Z,75nm,0.8s							
HUMP	**Col San Antoni**	**2.83**	**97**			**Pn**	**12 22 23.3**	**+1.1**
HUMP						**Sn**	**12 22 53.6**	**-2.7**
HUMP	**Col San Antoni**	**2.83**	**97**	IAML			12 23 00.8	
	comp=E,76nm,0.2s							
HUMP				IAML			12 23 03.2	
	comp=N,82nm,0.6s							
HUMP	**Col San Antoni**	**2.83**	**97**	⇑*e*P		**Pn**	**12 22 23.3**	**+1.1**
HUMP	**Col San Antoni**	**2.83**	**97**	*e*S		**Sn**	**12 22 53.6**	**-2.7**
MCDR	**Montecristi**	**3.03**	**298**	*e*Pg		**Pn**	**12 22 24.4**	**-0.4**
MCDR				⇑*e*Sg		**Sn**	**12 22 59.7**	**-1.1**
MCDR				IAML			12 23 10.5	
	comp=N,67nm,0.3s							
GRTK	**Grand Turk**	**3.70**	**324**	Pn		**Pn**	**12 22 34.5**	**+0.8**
GRTK				IAML			12 23 24.4	
	comp=N,46nm,0.8s							
GRTK				IAML			12 23 54.4	
	comp=N,48nm,1.0s							

*IDC **01** 12:24:03.4±2.5, 8°.84N×82°.84W, h0km, mb3.8/4, mbtmp4.2/9, ML4.5/4, MS3.3/15, Error ellipse: s-maj=66.7km s-min=16.5km az=20.0*
*UCR **01** 12:24:03.8±0.9, 8°.33N×82°.83W, h22km±2km, MW4.5, Fault plane solution: NP1:φs140.64000°, δ61.12000°, λ72.81000°.*
*UPA **01** 12:24:04.6±0.9, 8°.40N×82°.79W, h19km±1km, MW4.5, Fault plane solution: NP1:φs89.00000°, δ38.00000°, λ58.00000°.*
*CATAC **01** 12:24:04.6±0.5, 8°N±3°×8°3W±°, h9km±2km, M4.8/18, MLv4.8/18, Error ellipse: s-maj=8.3km s-min=5.6km az=56.7, confirmed*
*NEIC **01** 12:24:05.9±1.5, 8°.47N±0°.10×82°.79W±0°.07, h27km±7km, mb4.4/20, Error ellipse: s-maj=15.0km s-min=8.6km az=201.0*
ISC 01 12:24:04.1±0.8,**8°.38N**±0°.02×**82°.83W**±0°.02,**h18**km±2km, **n230,σ1°s11/248,mb4.4/14,MS3.5/10,34C-34D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.05**	**58**	⇑*i*P		**Pg**	**12 24 08.5**	**+1.1**
LESP3				*e*S		**Sg**	**12 24 10.6**	**+0.9**
LPPC	**Paso Canoas**	**0.15**	**358**	⇓*e*P		**Pg**	**12 24 09.3**	**+0.9**
LPPC				*e*S		**Sg**	**12 24 13.7**	**+2.3**
CDITO	**Canoas**	**0.20**	**349**	⇓P		**Pg**	**12 24 09.8**	**+0.8**
CDITO				S		**Sg**	**12 24 12.4**	**0.0**
LIMO3	**Limones**	**0.28**	**186**	⇑*i*P		**Pb**	**12 24 10.9**	**+0.5**
LIMO3				*i* S		**Sn**	**12 24 17.3**	**-1.6**
LMNES	**Limones**	**0.28**	**185**	⇓*e*P		**Pb**	**12 24 10.8**	**+0.4**
LMNES	**Limones**	**0.28**	**185**	⇑*i*P		**Pb**	**12 24 10.9**	**+0.4**
NELY	**Ciudad Neily**	**0.29**	**338**	⇓*e*P		**Pb**	**12 24 10.9**	**+0.2**
NELY				*e*S		**Sb**	**12 24 16.8**	**+1.6**
DVD	**David**	**0.38**	**81**	⇑*i*P		**Pb**	**12 24 12.3**	**-0.1**
DVD				*i* S		**Sb**	**12 24 18.1**	**0.0**
CSTBL	**De las Acacias**	**0.39**	**85**	*e*P		**Pb**	**12 24 12.4**	**-0.1**
CSTBL	**De las Acacias**	**0.39**	**85**	⇓*i*P		**Pb**	**12 24 12.5**	**-0.1**
CSTBL				*e*S		**Sb**	**12 24 18.2**	**0.0**
FITO	**Golfito**	**0.40**	**308**	⇓*e*P		**Pg**	**12 24 11.7**	**-0.7**
FITO				*e*S		**Sg**	**12 24 18.0**	**0.0**
PEDE3	**Pedregal, Chir**	**0.41**	**89**	⇑*e*P		**Pb**	**12 24 12.5**	**-0.2**
PEDE3				*i* P		**Pb**	**12 24 12.6**	**-0.2**
PEDE3				*e*S		**Sb**	**12 24 18.6**	**-0.1**
MLIR3	**Monte Lirio, C**	**0.41**	**1**	⇓*i*P		**Pb**	**12 24 13.6**	**+0.6**
MLIR3				*e*S		**Sb**	**12 24 19.8**	**+0.9**
LOCO3	**Loma Colorada,**	**0.41**	**86**	⇓*i*P		**Pb**	**12 24 12.8**	**-0.1**
LOCO3				*i* S		**Sb**	**12 24 18.9**	**0.0**
CLLRA	**Cordillera,**	**0.42**	**31**	⇓*e*P		**Pb**	**12 24 13.1**	**0.0**
CLLRA	**Cordillera,**	**0.42**	**31**	⇓*i*P		**Pb**	**12 24 13.2**	**0.0**
EDAD	**Golfito**	**0.43**	**310**	⇓*e*P		**Pg**	**12 24 12.2**	**-0.6**
EDAD				*e*S		**Sg**	**12 24 18.7**	**-0.1**
BRU2	**Volcan**	**0.44**	**19**			**Pb**	**12 24 13.3**	**0.0**
BRU2	**Volcan**	**0.44**	**19**	⇓*e*P		**Pb**	**12 24 13.4**	**0.0**
BRU2				*e*S		**Sb**	**12 24 20.6**	**+0.9**
BRU2	**Volcan**	**0.44**	**19**	⇓*i*P		**Pb**	**12 24 13.5**	**+0.1**
BRU2				*e*S		**Sb**	**12 24 21.0**	**+1.4**
BRU2	**Volcan**	**0.44**	**19**	⇓P		**Pb**	**12 24 13.5**	**+0.1**
BRU2				S		**Sb**	**12 24 19.9**	**+0.2**
RSRNO	**Rio Sereno**	**0.44**	**357**	*e*P		**Pb**	**12 24 13.9**	**+0.5**
RSRNO	**Rio Sereno**	**0.44**	**357**	⇑*i*P		**Pb**	**12 24 13.9**	**+0.5**
LOMA3	**Las Lomas, Chi**	**0.44**	**83**	⇓*i*P		**Pb**	**12 24 13.1**	**-0.3**
LOMA3				*i* S		**Sb**	**12 24 19.3**	**-0.3**
TBS2		**0.45**	**23**	⇓*e*P		**Pn**	**12 24 14.5**	**-1.3**
SCLRA	**Santa Clara, W**	**0.46**	**7**	⇓*e*P		**Pb**	**12 24 13.9**	**+0.2**
SCLRA	**Santa Clara, W**	**0.46**	**7**	⇓*i*P		**Pb**	**12 24 14.0**	**+0.4**
PTAR3	**Potrerillos Ar**	**0.46**	**47**	*i* P		**Pb**	**12 24 13.7**	**0.0**
PTAR3				*i* S		**Sb**	**12 24 21.2**	**+1.0**
VITO	**San Vito**	**0.46**	**343**	*e*P		**Pb**	**12 24 13.9**	**+0.2**
BC3P	**Paso Ancho**	**0.49**	**27**	⇓*i*P		**Pb**	**12 24 14.1**	**-0.2**
BC3P				*e*S		**Sb**	**12 24 22.3**	**+1.1**
CHIR3	**Chiriqui UPA,**	**0.50**	**88**	⇓*i*P		**Pg**	**12 24 13.9**	**-0.2**
CHIR3				*i* S		**Sb**	**12 24 21.0**	**-0.2**
BQTLY	**Boquete Panama**	**0.53**	**44**	⇓*e*P		**Pb**	**12 24 14.5**	**-0.4**
BQTLY	**Boquete Panama**	**0.53**	**44**	⇓*i*P		**Pg**	**12 24 14.6**	**-0.1**
BQSF3	**Alto Boquete,**	**0.54**	**48**	⇓*i*P		**Pb**	**12 24 14.6**	**-0.4**
BQSF3				*i* S		**Sb**	**12 24 22.7**	**+0.4**
ALCO	**Alturas Coton,**	**0.57**	**0**	⇓*e*P		**Pb**	**12 24 15.1**	**-0.4**
PSOM3	**Paja de Sombre**	**0.59**	**59**	⇓*i*P		**Pb**	**12 24 15.2**	**-0.6**
PSOM3				*e*S		**Sg**	**12 24 23.8**	**0.0**
EDP2	**Potrero Grande**	**0.72**	**332**	⇑*e*P		**Pb**	**12 24 17.8**	**-0.2**
EDP2				*e*S		**Sn**	**12 24 28.9**	**-0.9**
PBNVO	**Pueblo Nuevo,**	**0.81**	**51**	⇓*e*P		**Pb**	**12 24 18.4**	**-1.2**
RBALA	**Bur**	**0.84**	**53**	⇓*e*P		**Pb**	**12 24 19.1**	**-0.9**
RBALA	**Bur**	**0.84**	**53**	⇓*i*P		**Pb**	**12 24 19.2**	**-0.9**
RBALA				*e*S		**Sb**	**12 24 29.2**	**-1.8**
PANP	**Palmar Norte**	**0.85**	**313**	*e*P		**Pb**	**12 24 19.2**	**-1.1**
BURE	**Buenos Aires**	**0.93**	**328**	*e*P		**Pb**	**12 24 20.7**	**-1.0**
DRK0	**Durika**	**0.97**	**335**	⇑*e*P		**Pb**	**12 24 21.1**	**-1.3**
DRK0	**Durika**	**0.97**	**335**	⇑*e*P		**Pb**	**12 24 21.4**	**-1.0**
DRK0				*e*S		**Sg**	**12 24 35.7**	**-0.1**
DRK0	**Durika**	**0.97**	**335**	⇑P		**Pb**	**12 24 21.4**	**-1.0**
RMDIO	**Remedios, Chir**	**1.00**	**99**	⇓*e*P		**Pb**	**12 24 21.6**	**-1.2**
RMDIO	**Remedios, Chir**	**1.00**	**99**	⇓*i*P		**Pb**	**12 24 21.7**	**-1.2**
RMDIO				*e*S		**Sb**	**12 24 33.4**	**-2.4**
EDPE	**Pejibaye, P**	**1.06**	**317**	⇑*e*P		**Pb**	**12 24 22.8**	**-1.2**
OCHAL	**Ojochal**	**1.07**	**312**	S		**Sn**	**12 24 38.3**	**-0.4**
OCHAL	**Ojochal**	**1.07**	**312**	⇑P		**Pb**	**12 24 23.1**	**-1.0**
PDCAN	**Manzana , Fuen**	**1.13**	**94**	⇓*e*P		**Pn**	**12 24 22.6**	**-2.4**
PDCAN	**Manzana , Fuen**	**1.13**	**94**	*e*P		**Pn**	**12 24 22.6**	**-2.4**
ISBTO	**Bastimentos Is**	**1.14**	**33**	*e*P		**Pb**	**12 24 25.2**	**-0.1**
ISBTO	**Bastimentos Is**	**1.14**	**33**	⇓*i*P		**Pb**	**12 24 25.4**	**+0.1**
SAJE	**San Jernim**	**1.17**	**325**	⇑*e*P		**Pn**	**12 24 24.1**	**-1.6**
BRIBI	**Bribri**	**1.23**	**1**	*e*P		**Pb**	**12 24 27.1**	**+0.3**
MESA3	**La Mesa, Verag**	**1.65**	**98**	⇑*i*P		**Pn**	**12 24 31.1**	**-1.0**
LLNJ	**Naranjito**	**1.66**	**311**	*e*P		**Pn**	**12 24 32.0**	**-0.2**
PIEC	**Cerro El Cedra**	**1.66**	**318**	*e*P		**Pn**	**12 24 31.8**	**-0.7**
QUEP	**Quepos**	**1.68**	**309**	*e*P		**Pn**	**12 24 32.3**	**-0.2**
GMAL	**Guarumal, Vera**	**1.70**	**111**	*e*P		**Pn**	**12 24 30.6**	**-2.2**
GMAL	**Guarumal, Vera**	**1.70**	**111**	*e*P		**Pn**	**12 24 30.8**	**-2.0**
GMAL	**Guarumal, Vera**	**1.70**	**111**	S		**Sn**	**12 24 51.6**	**-2.5**
GMAL	**Guarumal, Vera**	**1.70**	**111**	P		**Pn**	**12 24 30.4**	**-2.4**
RSUS3	**Rio de Jesus,**	**1.70**	**103**	⇑*e*P		**Pn**	**12 24 32.1**	**-1.4**
TURIB	**Turrialba**	**1.74**	**331**	*e*P		**Pn**	**12 24 33.1**	**-0.3**
VINA	**Juan Vinas**	**1.76**	**329**	*e*P		**Pn**	**12 24 33.7**	**0.0**
REPA	**Paraso**	**1.77**	**325**	*e*P		**Pn**	**12 24 33.9**	**0.0**
VERB	**Verbena**	**1.77**	**331**	*e*P		**Pn**	**12 24 33.8**	**-0.1**
LCR2	**La Lucha 2**	**1.78**	**320**			**Pn**	**12 24 33.2**	**-0.9**
LCR2	**La Lucha 2**	**1.78**	**320

ZARC	**Zaragoza, Cauc**	**7.95**	**96**	P		**Pn**	**12 25 59.0 +0.2**
	17nm,0.6s						
GUY2C	**Guyana, Caldas**	**8.05**	**112**	P		**Pn**	**12 26 00.7 +0.1**
	18nm,0.8s						
NORC	**Norcasia**	**8.39**	**109**	P		**Pn**	**12 26 07.3 +2.5**
	5.0nm,0.8s						
POPC	**Popayan, Colom**	**8.44**	**133**	P		**Pn**	**12 26 08.9 +3.2**
	7.6nm,0.7s						
PTBC	**PUERTO BERRIO,**	**8.51**	**102**	P		**Pn**	**12 26 07.3 +0.9**
	183nm6.5nm,0.7s						
ORTC	**Ortega, Tolima**	**8.75**	**120**	P		**Pn**	**12 26 08.0 -1.8**
	11nm,0.9s						
MTO3	**Montecristo**	**8.76**	**314**			**Pn**	**12 26 11.7 +1.6**
ROSC	**El Rosal**	**9.16**	**112**	LR		LR	12 29 36.1
	comp=Z,208nm,21.1s,baz=266,slow=36						
PRAC	**Prado**	**9.16**	**120**	P		**Pn**	**12 26 17.8 +2.4**
	15nm,1.1s						
RUSC	**La Rusia**	**9.99**	**104**	P		**Pn**	**12 26 29.5 +2.3**
	23nm,1.2s						
VILC	**Villavicencio,**	**10.03**	**114**	P		**Pn**	**12 26 30.9 +3.5**
SDV	**Santo Domingo**	**12.07**	**87**	Pn		**Pn**	**12 26 55.1 -0.4**
SDV	**Santo Domingo**	**12.07**	**87**	Pn		**Pn**	**12 26 55.5 0.0**
	2.9nm,0.6s,baz=304,slow=7.9,SNR=6.4						
SDV				LR		LR	12 32 16.4
	comp=Z,212nm,18.2s,baz=247,slow=41						
CMIG	**Matias Romero**	**14.59**	**308**	Pn		**Pn**	**12 27 28.3 -1.5**
	1.1nm,0.3s,baz=138,slow=10,SNR=10						
	2.4nm,0.3s						
ATAH	**Atahualpa**	**16.03**	**164**	LR		LR	12 33 22.2
	comp=Z,102nm,20.9s,baz=336,slow=34						
PCRV	**Puerto La Cruz**	**18.05**	**83**	P		**P**	**12 28 15.8 +1.3**
	0.7nm,0.3s,baz=179,slow=4.1,SNR=5.6						
PCRV				LR		LR	12 36 49.9
	comp=Z,152nm,19.1s,slow=42						
	18nm,0.8s						
CELP	**Cerrillos**	**18.51**	**57**			**Pn**	**12 28 20.6 +0.9**
SJG	**San Juan**	**18.89**	**58**	P		**Pn**	**12 28 24.8 +0.5**
	3.8nm,0.3s,baz=259,slow=10,SNR=5.2						
SJG				LR		LR	12 35 05.3
	comp=Z,34nm,19.0s,baz=142,slow=36						
	9.9nm,0.3s						
TKL	**Tuckaleechee C**	**27.17**	**358**	LR		LR	12 40 27.4
	comp=Z,54nm,18.5s,baz=168,slow=37						
WHAR	**Wooly Hollow**	**28.15**	**343**			**P**	**12 29 54.2 -1.1**
WHAR				IAmb		IAmb	12 30 11.3
	comp=Z,16nm,1.5s						
LCAR	**Lake Charles**	**28.59**	**346**	P		**P**	**12 29 58.5 -0.7**
LCAR				IAmb		IAmb	12 29 58.9
	comp=Z,5.0nm,0.7s						
TXAR	**Lajitas Array**	**28.59**	**320**	LR		LR	12 43 08.4
	comp=Z,24nm,19.6s,baz=162,slow=40						
T42A	**Van Buren**	**29.49**	**346**			**P**	**12 30 06.2 -1.0**
T42A				IAmb		IAmb	12 30 06.6
	comp=Z,4.4nm,0.6s						
PB16	**IPOC Station P**	**29.62**	**154**	P		**P**	**12 30 09.8 +0.6**
PB16				IAmb		IAmb	12 30 23.1
	comp=Z,6.9nm,1.2s						
MDP	**Montagnes des**	**30.15**	**94**	LR		LR	12 43 00.2
	comp=Z,136nm,19.6s,baz=254,slow=38						
CCM	**Cathedral Cave**	**30.51**	**347**			**P**	**12 30 15.4 -0.7**
CCM				IAmb		IAmb	12 30 15.6
	comp=Z,4.6nm,0.7s						
GO01	**Chusmiza**	**30.94**	**154**	P		**P**	**12 30 21.5 +0.8**
SIV	**San Ignacio**	**32.41**	**138**	LR		LR	12 44 33.8
	comp=Z,35nm,18.1s,baz=286,slow=38						
L40A	**Anamosa**	**34.36**	**349**	IAmb		IAmb	12 30 49.9
	comp=Z,8.8nm,1.1s						
PFO	**Pinyon Flats O**	**39.89**	**314**	LR		LR	12 47 42.2
	comp=Z,65nm,18.2s,baz=200,slow=36						
PDAR	**Pinedale Array**	**41.52**	**330**	P		**P**	**12 31 49.8 -0.8**
	comp=Z,0.3nm,0.3s,baz=118,slow=8.6,SNR=3.8						
	comp=Z,0.3nm,0.3s						
BDFB	**Brasilia**	**41.94**	**125**	LR		LR	12 49 49.2
	comp=Z,77nm,18.3s,baz=319,slow=37						
ULM	**Lac du Bonnet**	**43.13**	**348**	P		**P**	**12 32 01.6 -1.7**
	comp=Z,2.1nm,0.5s,baz=155,slow=8.4,SNR=5.8						
	comp=Z,2.1nm,0.5s						
NVAR	**Mina Array Bea**	**43.74**	**319**	P		**P**	**12 32 09.1 +0.4**
	comp=Z,0.7nm,0.5s,baz=131,slow=6.4,SNR=7.9						
NVAR				LR		LR	12 52 20.4
	comp=Z,59nm,20.6s,baz=23,slow=39						
	comp=Z,0.7nm,0.5s						
HLID	**Hailey**	**44.59**	**327**			**P**	**12 32 15.1 -0.3**
LRM	**Limekiln Ridge**	**45.17**	**331**	P		**P**	**12 32 19.7 -0.4**
HRY	**Holter Researc**	**45.53**	**332**	P		**P**	**12 32 22.1 -0.6**
BPMT	**Black Pine Rid**	**46.09**	**331**	P		**P**	**12 32 26.1 -1.3**
O02D	**Mt. Diablo Mer**	**47.61**	**318**	P		**P**	**12 32 38.9 -0.2**
RCBR	**Riachuelo**	**48.88**	**105**	LR		LR	12 56 00.6
	comp=Z,21nm,18.1s,baz=253,slow=39						
NEW	**Newport**	**49.16**	**330**	LR		LR	12 55 35.0
	comp=Z,38nm,18.4s,baz=156,slow=39						
H04A	**Detroit Lake**	**49.67**	**324**	P		**P**	**12 32 54.8 0.0**
H04A				IAmb		IAmb	12 32 55.3
	comp=Z,2.3nm,0.7s						
K29M	**Barlow Dome**	**67.46**	**337**	P		**P**	**12 34 58.7 0.0**
G31M	**Satah River**	**67.90**	**341**	P		**P**	**12 35 00.2 -1.0**
G31M				IAmb		IAmb	12 35 05.0
	comp=Z,6.9nm,1.2s						
A36M	**Sachs Harbour**	**68.60**	**347**	P		**P**	**12 35 03.1 -2.3**
I28M	**Miner Creek**	**69.14**	**338**	P		**P**	**12 35 09.6 +0.4**
P23K	**Montague Islan**	**70.20**	**331**	P		**P**	**12 35 16.0 +0.3**
J25K	**Salcha River,**	**70.89**	**336**	P		**P**	**12 35 19.2 -0.7**
J25K				IAmb		IAmb	12 35 20.1
	comp=Z,3.9nm,1.3s						
ILAR	**Eielson Array**	**71.56**	**336**	P		**P**	**12 35 22.1 -1.8**
	comp=Z,0.4nm,0.7s,baz=176,slow=4.5,SNR=7.9						
ILAR				LR		LR	13 10 37.2
	comp=Z,24nm,18.8s,baz=322,slow=39						
	comp=Z,0.4nm,0.7s						
BMAR	**Burnt Mountain**	**71.68**	**339**	P		**P**	**12 35 23.9 -0.7**
SUA	**Susitna One**	**72.20**	**332**	P		**P**	**12 35 26.8 -1.1**
G21K	**Allakaket**	**74.70**	**337**	P		**P**	**12 35 41.9 -0.4**
G21K				IAmb		IAmb	12 35 51.6
	comp=Z,4.0nm,1.1s						
ASAR	**Alice Springs**	**141.70**	**242**	PKP		**PKPdf**	**12 43 36.2 +0.9**
	comp=Z,0.3nm,0.6s,baz=103,slow=3.3,SNR=4.3						
WRA	**Warramunga Arr**	**142.26**	**248**	PKP		**PKiKP**	**12 43 39.9 +0.5**
	comp=Z,0.3nm,0.7s,baz=112,slow=1.5,SNR=1.8						

*NOU **01** 12:24:37.7,24˚.42S×179˚.71W,h486km,mB5.2/12,South of Fiji Islands*
*IDC **01** 12:24:37.9±1.6,24˚.30S×179˚.93E,h499km±16km,mb3.4/8, mbtmp4.2/11,Error ellipse: s-maj=18.9km s-min=17.4km az=150.0*
*NEIC **01** 12:24:38.5±1.4,24˚.3S±0˚.1×179˚.9W±0˚.1,h518km±15km, mb4.4/21,Error ellipse: s-maj=21.4km s-min=17.4km az=196.0*

ISC 01 12:24:39.4±0.8,24˚.41S±0˚.08×180˚.0E±0˚.1,h517km,n86, σ1§62/88,mb4.3/19,4D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.17**	**159**	P	**P**	**12 26 08.5**	**-0.3**
GLKZ	**Green Lake**	**5.18**	**159**	P	**P**	**12 26 08.6**	**-0.2**
LKBA	**Tubou, Lakemba**	**6.25**	**11**	P	P	12 26 16.1	-2.9
MSVF	**Nonsavu**	**6.88**	**344**	P	P	12 26 23.2	-2.1
MSVF	**Nonsavu**	**6.88**	**344**	P	P	12 26 22.5	-2.7
	2.0nm,0.3s,baz=247,slow=21,SNR=11						
MSVF	**Nonsavu**	**6.88**	**344**	P	P	12 26 22.9	-2.4
TAVE	**Taveuni**	**7.66**	**1**	P	P	12 26 30.9	-2.1
DGTI	**Dogotuki**	**8.07**	**358**	P	P	12 26 34.8	-2.3
OUENC	**Ouen Island, N**	**12.23**	**277**	P	**P**	**12 27 22.4**	**+2.0**
DZM	**Mont Dzumac**	**12.66**	**278**	P	**P**	**12 27 25.3**	**+0.2**
DZM	**Mont Dzumac**	**12.66**	**278**	P	**P**	**12 27 24.4**	**-0.7**
	7.6nm,0.7s,baz=215,slow=22,SNR=20						
DZM	**Mont Dzumac**	**12.66**	**278**	P	**P**	**12 27 25.9**	**+0.8**
AFI	**Afiamalu**	**13.02**	**38**	P	P	12 27 25.6	-3.3
HAZ	**Te Kaha**	**13.44**	**188**	P	**P**	**12 27 33.1**	**+0.3**
HAZ				S	**S**	**12 29 56.4**	**+0.7**
RUGZ	**Raukumara Rang**	**13.65**	**188**	P	**P**	**12 27 36.2**	**+1.0**
RUGZ				S	**S**	**12 30 02.4**	**+2.2**
PUZ	**Puketiti**	**13.70**	**186**	P	**P**	**12 27 36.6**	**+1.0**
PUZ				S	**S**	**12 29 59.6**	**-1.2**
TWGZ	**Tauwhareparae**	**13.83**	**187**	P	**P**	**12 27 38.3**	**+1.3**
TWGZ				S	**S**	**12 30 07.1**	**+3.7**
URZ	**Urewera**	**14.02**	**189**	P	**P**	**12 27 37.8**	**-1.2**
	4.0nm,0.3s,baz=275,slow=2.0,SNR=10.0						
URZ	**Urewera**	**14.02**	**189**	P	**P**	**12 27 37.9**	**-1.1**
URZ	**Urewera**	**14.02**	**189**	S	**S**	**12 30 07.5**	**+0.5**
URZ	**Urewera**	**14.02**	**189**	P	**P**	**12 27 37.5**	**-1.4**
URZ				S	**S**	**12 30 07.2**	**+0.2**
MWZ	**Matawai**	**14.04**	**188**	P	**P**	**12 27 38.2**	**-1.0**
MWZ				S	**S**	**12 30 09.5**	**+2.1**
TLZ	**Tolley Road**	**14.38**	**194**	P	**P**	**12 27 45.0**	**+2.2**
VLAKA	**Lakatoro**	**14.39**	**303**	P	**P**	**12 27 44.5**	**+1.4**
RAHZ	**Arahi**	**14.67**	**189**	P	**P**	**12 27 44.7**	**-1.0**
RAHZ				S	**S**	**12 30 18.8**	**-0.7**
HIZ	**Hauiti**	**14.72**	**196**	P	**P**	**12 27 50.2**	**+3.9**
BKZ	**Black Stump Fm**	**15.01**	**191**	P	**P**	**12 27 48.5**	**-0.8**
BKZ	**Black Stump Fm**	**15.01**	**191**	P	**P**	**12 27 46.5**	**-2.9**
KOUNC	**Koumac, New Ca**	**15.01**	**282**	P	**P**	**12 27 51.4**	**+1.8**
NTVZ	**North Tongarir**	**15.09**	**193**	P	**P**	**12 27 50.8**	**+0.5**
ETVZ	**East Tongariro**	**15.12**	**193**	P	**P**	**12 27 50.0**	**-0.6**
KWHZ	**Kaweka Forest**	**15.27**	**191**	P	**P**	**12 27 50.3**	**-1.8**
WNVZ	**Wahianoa**	**15.33**	**193**	P	**P**	**12 27 51.1**	**-1.7**
KRHZ	**Kereru**	**15.49**	**190**	P	**P**	**12 27 50.2**	**-4.1**
NEZ	**North Egmont**	**15.63**	**197**	P	**P**	**12 27 58.7**	**+2.8**
PNHZ	**Pukenui**	**15.78**	**191**	P	**P**	**12 27 53.6**	**-3.8**
PNHZ				S	**S**	**12 30 35.7**	**-4.6**
PXZ	**Pawanui**	**15.79**	**189**	P	**P**	**12 27 55.5**	**-1.9**
TSZ	**Takapari Road**	**15.97**	**191**	P	**P**	**12 27 57.6**	**-1.7**
DVHZ	**Dannevirke**	**16.16**	**191**	P	**P**	**12 27 59.7**	**-1.6**
BFZ	**Birch Farm**	**16.52**	**190**	P	**P**	**12 28 03.0**	**-1.8**
MRZ	**Mangatainoka R**	**16.62**	**192**	P	**P**	**12 28 03.1**	**-2.7**
QRZ	**Quartz Range**	**17.52**	**199**	P	**P**	**12 28 14.1**	**-0.3**
QRZ	**Quartz Range**	**17.52**	**199**	P	**P**	**12 28 13.5**	**-0.9**
NNZ	**Nelson**	**17.64**	**197**	P	**P**	**12 28 14.8**	**-0.7**
THZ	**Tophouse**	**18.28**	**197**	P	**P**	**12 28 20.8**	**-0.6**
THZ				IAmb	IAmb	12 29 03.0	
	comp=Z,25nm,1.4s						
THZ	**Tophouse**	**18.28**	**197**	P	**P**	**12 28 20.5**	**-0.9**
DSZ	**Denniston Nort**	**18.58**	**200**	P	**P**	**12 28 23.9**	**-0.1**
KHZ	**Kahutara**	**18.73**	**195**	P	**P**	**12 28 24.3**	**-1.2**
GVZ	**Greta Valley S**	**19.38**	**196**	P	**P**	**12 28 29.2**	**-2.1**
LTZ	**Lake Taylor**	**19.40**	**197**	P	**P**	**12 28 29.3**	**-2.3**
INZ	**Inchbonnie**	**19.58**	**199**	P	**P**	**12 28 31.9**	**-1.2**
WVZ	**Waitaha Valley**	**20.12**	**200**	P	**P**	**12 28 38.0**	**0.0**
MQZ	**McQueen's Vall**	**20.17**	**196**	P	**P**	**12 28 37.8**	**-0.6**
RPZ	**Rata Peaks**	**20.60**	**199**	P	**P**	**12 28 42.9**	**+0.5**
	comp=Z,3.3nm,0.4s,baz=66,slow=3.0,SNR=3.2						
	comp=Z,3.3nm,0.4s						
CAN	**Canberra**	**28.88**	**241**	P	**P**	**12 29 56.5**	**+0.5**
CTAO	**Charters Tower**	**31.47**	**271**	P	**P**	**12 30 18.5**	**-0.1**
TOO	**Toolangi**	**32.16**	**238**	P	**P**	**12 30 24.5**	**+0.2**
TOO				IAmb	IAmb	12 30 54.8	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**34.52**	**249**	P	**P**	**12 30 44.3**	**0.0**
STKA	**Stephens Creek**	**34.52**	**249**	P	**P**	**12 30 44.4**	**+0.1**
	comp=Z,3.0nm,0.5s,baz=93,slow=10.0,SNR=14						
	comp=Z,3.0nm,0.5s						
COEN	**Coen**	**36.18**	**280**	P	**P**	**12 30 58.2**	**-0.1**
COEN				IAmb	IAmb	12 30 58.9	
	comp=Z,20nm,1.3s						
BBOO	**Buckleboo**	**39.23**	**247**	P	**P**	**12 31 22.0**	**-1.1**
BBOO				IAmb	IAmb	12 32 05.4	
	comp=Z,25nm,1.1s						
AS31	**Alice Springs**	**41.94**	**261**		**P**	**12 31 44.0**	**-0.8**
ASAR	**Alice Springs**	**41.94**	**261**	P	**P**	**12 31 43.9**	**-1.0**
	comp=Z,2.7nm,0.3s,baz=94,slow=6.8,SNR=156						
ASAR				ScP	**ScP**	**12 36 30.8**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=101,slow=5.2,SNR=4.5						
	comp=Z,2.7nm,0.3s						
WR8	**Warramunga Arr**	**42.21**	**267**		**P**	**12 31 45.6**	**-1.4**
WRAB	**Tennant Creek**	**42.35**	**267**	P	**P**	**12 31 46.6**	**-1.5**
WRAB				IAmb	IAmb	12 31 47.1	
	comp=Z,9.8nm,0.4s						
WB0	**Warramunga Arr**	**42.35**	**267**	P	**P**	**12 31 46.8**	**-1.3**
WB0				IAmb	IAmb	12 31 47.5	
	comp=Z,8.8nm,0.7s						
WRA	**Warramunga Arr**	**42.36**	**267**		**P**	**12 31 46.0**	**-2.2**
WRA	**Warramunga Arr**	**42.36**	**267**	P	**P**	**12 31 46.6**	**-1.5**
	comp=Z,7.7nm,0.3s,baz=98,slow=8.3,SNR=244						
WRA				ScP	**ScP**	**12 36 33.9**	**+2.7**
	comp=Z,2.9nm,1.0s,baz=99,slow=4.3,SNR=8.0						
	comp=Z,7.7nm,0.3s						
FORT	**Forrest**	**46.12**	**250**	P	**P**	**12 32 15.7**	**-1.4**
FORT				IAmb	IAmb	12 32 37.0	
	comp=Z,10nm,1.0s						
MTN	**Manton Dam**	**47.48**	**275**	P	**P**	**12 32 26.3**	**-1.3**
MTN				IAmb	IAmb	12 32 35.1	
	comp=Z,19nm,1.2s						
KNRA	**Kununurra**	**48.67**	**270**		**P**	**12 32 35.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**50.78**	**266**	P	**P**	**12 32 51.5**	**-0.4**
MBWA	**Marble Bar**	**55.27**	**260**	P	**P**	**12 33 22.7**	**-1.3**
MBWA				IAmb	IAmb	12 33 23.6	
	comp=Z,16nm,1.2s						
MORW	**Morawa**	**56.69**	**250**	P	**P**	**12 33 32.8**	**-0.9**
MORW				IAmb	IAmb	12 34 04.6	
	comp=Z,28nm,1.5s						
TOLI2	**Tolitoli**	**62.69**	**285**	P	**P**	**12 34 13.6**	**-0.3**
TOLI2				IAmb	IAmb	12 34 47.5	
	comp=Z,9.7nm,0.9s						
QSPA	**South Pole Qui**	**65.67**	**180**	P	**P**	**12 34 32.8**	**+0.6**
QSPA	**South Pole Qui**	**65.67**	**180**	P	**P**	**12 34 33.6**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=247,slow=0.7,SNR=12						
	comp=Z,1.4nm,0.7s						
TROLL	**Troll, Antarti**	**83.82**	**181**	⇓P	**P**	**12 36 13.8**	**-0.2**
	comp=Z,21nm,0.2s						
SNAA	**Sanae**	**84.16**	**179**	⇓P	**P**	**12 36 14.9**	**-0.7**
	comp=Z,1.5nm,0.3s						
SNAA	**Sanae**	**84.16**	**179**	P	**P**	**12 36 14.8**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=212,slow=8.8,SNR=8.5						
	comp=Z,0.3nm,0.5s						
VNA3	**Neumayer Olymp**	**84.37**	**177**	⇓P	**P**	**12 36 16.3**	**-0.2**
	comp=Z,0.3nm,0.2s						
VNA2	**Neumayer--Watz**	**84.78**	**178**	⇓P	**P**	**12 36 18.7**	**+0.2**
	comp=Z,0.1nm,0.2s,baz=189,slow=4.9						
NVAR	**Mina Array Bea**	**85.13**	**44**	P	**P**	**12 36 20.0**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=233,slow=8.6,SNR=4.4						
	comp=Z,0.4nm,0.7s						
TXAR	**Lajitas Array**	**90.71**	**58**	P	**P**	**12 36 47.7**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=215,slow=6.1,SNR=13						
	comp=Z,1.1nm,0.7s						
HFS	**Hagfors**	**143.04**	**349**	PKhKP	PKPpre	12 43 09.5	
	comp=Z,1.2nm,0.3s,baz=49,slow=4.5,SNR=10						
BRTR	**Keskin Array B**	**147.87**	**307**	PKPbc	**PKPdf**	**12 43 26.0**	**+3.2**
	comp=Z,0.5nm,0.4s,baz=137,slow=2.4,SNR=2.6						

IDC 01 12:25:43.4±57.0,22˚.00S×179˚.53E,h0km,mb4.1/3, mbtmp4.1/3,MS2.9/2,Error ellipse: s-maj=1017.0km s-min=153.1km az=84.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.47**	**342**	LR	LR	12 27 45.1	
	comp=Z,40nm,19.3s,baz=324,slow=27						
STKA	**Stephens Creek**	**35.07**	**246**	P	P	12 32 36.6	-1.7
	1.9nm,0.5s,baz=76,slow=12,SNR=3.5						
	1.9nm,0.5s						
ASAR	**Alice Springs**	**41.95**	**259**	P	P	12 33 36.2	-0.1
	0.6nm,0.3s,baz=90,slow=9.4,SNR=5.3						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**42.13**	**264**	P	P	12 33 38.8	+1.0
	2.4nm,0.4s,baz=98,slow=8.3,SNR=9.5						
	2.4nm,0.4s						
VNDA	**Vanda**	**56.23**	**185**	LR	LR	12 56 40.5	
	comp=Z,29nm,18.2s,baz=339,slow=33						

*SJA **01** 12:44:23.3±0.6,24˚.01S×67˚.50W,h180km,ML3.6,MW3.7*
*GUC **01** 12:44:25.3±0.7,24˚.01S×67˚.59W,h174km±6km,ML3.8*

ISC 01 12:44:22.6±1.6,24˚.03S±0˚.03×67˚.50W±0˚.05, h186km±13km,n31,σ1§49/52,2C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**1.08**	**101**	*eP*	Pn	12 44 46.4	-5.6
SALTA				*eP*		12 44 51.1	
AF01	**San Pedro de A**	**1.24**	**330**	⇓*iP*	**Pn**	**12 44 53.4**	**+0.3**
AF01				*i* S	**Sn**	**12 45 15.5**	**-1.2**
AF01				IAML		12 45 17.5	
	comp=E,702nm,0.6s						
AF01	**San Pedro de A**	**1.24**	**330**	*eP*	**Pn**	**12 44 53.7**	**+0.6**
AF01				*eS*	**Sn**	**12 45 16.2**	**-0.5**
AF01				IAML		12 45 25.2	
	comp=Z,333nm,0.3s						
SLA	**San Lorenzo**	**1.94**	**111**	*eP*	**Pn**	**12 45 01.0**	**+1.4**
GO02	**Mina Guanaco**	**2.21**	**239**	*eP*	**Pn**	**12 45 04.0**	**+1.3**
GO02				*i* S	**Sn**	**12 45 33.6**	**-0.3**
GO02				IAML		12 45 34.6	
	comp=E,476nm,0.3s						
GO02	**Mina Guanaco**	**2.21**	**239**	*eP*	**Pn**	**12 45 04.2**	**+1.5**
GO02				*eS*	**Sn**	**12 45 34.0**	**+0.2**
PB06	**IPOC Station P**	**2.32**	**304**	*eP*	**Pn**	**12 45 04.9**	**+1.2**
PB06				*i* S	**Sn**	**12 45 34.2**	**-1.4**
PB06				IAML		12 45 36.4	
	comp=N,1μm,0.3s						
PB06	**IPOC Station P**	**2.32**	**304**	*eP*	**Pn**	**12 45 04.8**	**+1.0**
PB06				*eS*	**Sn**	**12 45 34.6**	**-1.1**
PB06				IAML		12 45 37.8	
	comp=Z,378nm,0.2s						
FSA	**Cafayete**	**2.49**	**147**	*eP*	**Pn**	**12 45 07.4**	**+1.7**
FSA				*eS*	**Sn**	**12 45 34.6**	**-4.7**
YJA	**Yavi**	**2.59**	**45**	*eP*	**Pn**	**12 45 08.5**	**+1.3**
YJA				*eS*	Sn	12 45 30.2	-12
PB14	**IPOC Station P**	**2.72**	**257**	*eP*	Pn	12 44 58.4	-10
PB14				*eS*	**Sn**	**12 45 43.4**	**-0.7**
PB14				IAML		12 45 44.3	
	comp=Z,96nm,0.1s						
PB09	**IPOC Station P**	**2.74**	**324**	*eP*	**Pn**	**12 45 10.3**	**+1.6**
PB09				*i* S	**Sn**	**12 45 44.5**	**0.0**
PB09				IAML		12 45 51.0	
	comp=N,325nm,0.2s						
PB09	**IPOC Station P**	**2.74**	**324**	*eP*	**Pn**	**12 45 09.8**	**+1.2**
PB09				*eS*	**Sn**	**12 45 44.9**	**+0.3**
PB09				IAML		12 45 47.2	
	comp=Z,283nm,0.3s						
PB05	**IPOC Station P**	**2.75**	**295**	*eP*	**Pn**	**12 45 09.4**	**+0.8**
PB05				*eS*	**Sn**	**12 45 42.3**	**-2.1**
PB05				IAML		12 45 51.0	
	comp=E,214nm,0.3s						
PB05	**IPOC Station P**	**2.75**	**295**	*eP*	**Pn**	**12 45 09.6**	**+1.0**
PB05				*eS*	**Sn**	**12 45 44.0**	**-0.4**
PB05				IAML		12 45 48.5	
	comp=Z,119nm,0.2s						
PB10	**IPOC Station P**	**2.85**	**280**	*eP*	**Pn**	**12 45 11.1**	**+1.5**
PB10				*i* S	**Sn**	**12 45 44.3**	**-2.1**
PB10				IAML		12 45 50.1	
	comp=E,179nm,0.3s						
PB10	**IPOC Station P**	**2.85**	**280**	*eP*	**Pn**	**12 45 11.2**	**+1.5**
PB10				*eS*	**Sn**	**12 45 45.6**	**-0.7**
PB10				IAML		12 45 52.8	
	comp=Z,131nm,0.4s						
AC02	**Maricunga**	**3.16**	**207**	⇑*eP*	**Pn**	**12 45 15.9**	**+2.0**
AC02				*eS*	**Sn**	**12 45 54.6**	**+0.6**
AC02				IAML		12 46 02.5	
	comp=N,90nm,0.2s						
AC02	**Maricunga**	**3.16**	**207**	*eP*	**Pn**	**12 45 14.8**	**+0.9**
AC02				*eS*	Sn	12 45 43.4	-11
PB01	**IPOC Station P**	**3.49**	**328**	*eP*	**Pn**	**12 45 18.4**	**+0.7**
PB01				*eS*	**Sn**	**12 45 58.6**	**-2.1**
PB01	**IPOC Station P**	**3.49**	**328**	*eP*	**Pn**	**12 45 18.4**	**+0.7**
PB01				*eS*	**Sn**	**12 45 59.9**	**-0.8**
PB01				IAML		12 46 01.9	
	comp=Z,199nm,0.2s						
AC01	**Pan de Azucar**	**3.52**	**232**	⇑*iP*	**Pn**	**12 45 18.3**	**+0.5**
AC01				*i* S	**Sn**	**12 45 58.6**	**-2.4**
AC01	**Pan de Azucar**	**3.52**	**232**	*eP*	**Pn**	**12 45 18.4**	**+0.6**
AC01				*eS*	**Sn**	**12 45 59.5**	**-1.5**
AC01				IAML		12 46 09.7	
	comp=Z,42nm,0.4s						
PATCX	**Punta Patache**	**4.03**	**322**	*eP*	**Pn**	**12 45 25.0**	**+0.6**
PATCX				*eS*	**Sn**	**12 46 10.7**	**-2.1**
PATCX				IAML		12 46 22.5	
	comp=Z,134nm,0.4s						
TA01	**Diego Aracena**	**4.25**	**324**	*eS*	**Sn**	**12 46 16.9**	**-0.7**
TA01				IAML		12 46 30.3	
	comp=Z,59nm,0.5s						
GO03	**Copiapo**	**4.32**	**214**	*eP*	**Pn**	**12 45 29.0**	**+1.0**
GO03				*eS*	**Sn**	**12 46 18.0**	**-1.4**
GO01	**Chusmiza**	**4.62**	**340**	*eP*	**Pn**	**12 45 33.2**	**+1.0**
GO01				*eS*	**Sn**	**12 46 27.1**	**+0.3**
CYA	**Choya**	**4.65**	**161**	*eP*	**Pn**	**12 45 34.3**	**+2.1**
PB11	**IPOC Station P**	**4.70**	**334**	*eP*	**Pn**	**12 45 32.8**	**-0.1**
PB11				*eS*	**Sn**	**12 46 26.2**	**-2.0**
PB11				IAML		12 46 27.8	
	comp=Z,69nm,0.6s						
VCA	**Vinchina**	**4.73**	**188**	*eP*	**Pn**	**12 45 36.2**	**+2.9**
VCA				IAML		12 46 38.2	
	comp=Z,26nm,4.9s						
AC04	**Llanos de Chal**	**5.26**	**217**	*eP*	**Pn**	**12 45 39.9**	**-0.1**
AC04				*eS*	Sn	12 46 27.5	-13

SMLA eS Sn 13 13 26.4 -1.0
SMLA IAML 13 13 30.6
comp=E,204nm,0.4s
SMLA IAML 13 13 31.8
comp=E,193nm,0.6s
KLP Kalpa 7.69 130 eP Pn **13 12 09.5 -1.1**
KLP eS Sn **13 13 30.9 -5.3**
KLP IAML 13 13 35.1
comp=E,273nm,0.5s
KLP IAML 13 13 39.8
comp=N,267nm,0.5s
DDI Dehra Dun 8.46 137 eS Sn **13 13 50.9 -3.6**
BKNR BIKANER 8.78 169 eS Sn **13 13 57.1 -5.2**
BKNR IAML 13 13 59.1
comp=E,419nm,0.4s
BKNR IAML 13 14 01.9
comp=N,166nm,0.2s
JOSI Joshimath 9.17 129 eS Sn **13 14 06.7 -5.4**
NDI New Delhi 9.38 146 eS Sn **13 14 10.4 -6.3**
NDI IAML 13 14 15.8
comp=N,34nm,0.4s
NPLP NPLP New Delhi 9.40 147 eS Sn **13 14 11.4 -5.8**
KUDL Kundal 9.55 151 eP Pn **13 12 34.5 -0.9**
KUDL eS Sn **13 14 14.5 -6.4**
KUDL IAML 13 14 17.4
comp=E,52nm,0.5s
KUDL IAML 13 14 31.5
comp=E,28nm,0.8s
JASL Jaisalmer 9.72 182 eS Sn **13 14 18.3 -6.8**
JASL IAML 13 14 21.2
comp=E,118nm,0.7s
JASL IAML 13 14 24.6
comp=N,82nm,0.5s
TKRD Thakurdwara 9.80 138 eS Sn **13 14 22.3 -4.8**
UGON Onchagaon 10.01 144 eS Sn **13 14 28.0 -4.1**
PTH Pithoragarh 10.29 131 eS Sn **13 14 31.5 -7.6**
LGTI Lohaghat 10.38 131 eS Sn **13 14 35.4 -5.5**
AJM Ajmer 10.54 164 eS Sn **13 14 37.6 -7.5**
JHNI Jhansi 12.76 149 eS Sn 13 15 29.4 -9.2
MAKZ Makanchi 12.86 35 Pn **13 13 18.8 -0.7**
MAKZ Makanchi 12.86 35 P Pn **13 13 18.8 -0.7**
MK31 Makanchi Array 13.00 35*c* *i*P Pn **13 13 20.5 -0.8**
MKAR Makanchi Array 13.00 35 Pn **13 13 21.2 0.0**
MKAR Makanchi Array 13.00 35 Pn Pn **13 13 20.2 -1.1**
comp=N,0.1nm,0.3s,baz=223,slow=14,SNR=18
comp=N,1.8nm,0.7s
MKAR Makanchi Array 13.00 35 *i*P Pn **13 13 21.7 +0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
BHPL Bhopal 14.38 157 eP P **13 13 42.7 -0.2**
BHPL eS Sn 13 16 08.9 -9.1
WMQ Urumqi 14.38 55 eP Pn **13 13 41.0 +1.8**
KURBB Kurchatov Arra 14.88 18 Pn Pn **13 13 42.9 -2.4**
comp=Z,0.2nm,0.3s,baz=207,slow=10,SNR=5.8
comp=Z,0.8nm,0.2s
KURK Kurchatov 14.99 18 P Pn **13 13 42.9 -3.8**
AB31 Akbulak array 15.07 330 Pn **13 13 43.3 -4.4**
AB31 Akbulak array 15.07 330 P Pn **13 13 43.4 -4.4**
comp=Z,3.0nm,0.4s,baz=138,slow=12,SNR=134
ABKAR Akbulak array 15.07 330 Pn **13 13 43.2 -4.6**
BVA0 Borovoye Array 16.37 358 ⇑P Pn **13 14 02.1 -1.8**
comp=Z,2.8nm,0.7s,baz=173,slow=10,SNR=16
BVAR Borovoye Array 16.37 358 Pn Pn **13 13 59.9 -4.0**
comp=Z,0.2nm,0.3s,baz=168,slow=9.9,SNR=13
comp=Z,1.9nm,0.4s
BRVK Borovoye 16.41 358 P Pn **13 14 04.1 -0.2**
BRVK Borovoye 16.41 358 ⇑*i*P Pn **13 14 03.5 -0.8**
AKTO Aktyubinsk 16.77 329 ⇓P Pn **13 14 06.3 -2.5**
comp=Z,8.1nm,0.7s
AKTO Aktyubinsk 16.77 329 Pn Pn **13 14 05.7 -3.1**
comp=Z,1.4nm,0.3s,baz=123,slow=12,SNR=18
AKTO Sn **Sn** **13 17 11.0 -4.1**
comp=Z,0.3nm,0.3s,baz=83,slow=21,SNR=3.6
comp=Z,9.4nm,0.5s
ZAA0 Zalesovo Array 19.65 24 P P **13 14 40.4 -0.2**
ZAA0 IAmb IAmb 13 14 53.6
comp=Z,7.7nm,0.5s
ZALV Zalesovo Beam 19.65 24 P P **13 14 40.5 0.0**
ZALV Zalesovo Beam 19.65 24 P P **13 14 41.0 +0.5**
comp=Z,3.0nm,0.3s,baz=211,slow=9.9,SNR=14
comp=Z,3.0nm,0.3s
ZALV Zalesovo Beam 19.65 24 P P **13 14 40.5 0.0**
GNI Garni 21.10 288 eP P **13 14 57.8 +1.3**
GNI pmax pmax
comp=Z,14nm,0.9s
ARTI Arti 21.57 340 P P **13 14 59.9 -1.3**
ARTI IAmb IAmb 13 15 25.4
comp=Z,10nm,0.6s
ARTI Arti 21.57 340 P P **13 15 01.1 -0.1**
comp=Z,4.1nm,0.5s,baz=172,slow=4.4,SNR=6.7
ARTI LR LR 13 24 06.8
comp=Z,38nm,19.5s,baz=185,slow=38
comp=Z,4.1nm,0.5s
ARTI Arti 21.57 340*c* *i*P P **13 15 01.5 +0.3**
ARTI 13 15 32.1
ARTI S **S** **13 18 54.7 +1.4**
ARTI pmax pmax
comp=Z,4.0nm,0.7s
GTA Gaotai 22.56 74 eP P **13 15 14.6 +2.8**
GTA pP pP 13 15 37.1 +2.3
GTA sP sP 13 15 50.0 +0.5
GTA pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 22.76 297 P P **13 15 11.4 -2.1**
comp=Z,2.2nm,0.8s,baz=38,slow=5.7,SNR=2.4
comp=Z,2.2nm,0.8s
BELG Belogornoye 22.93 321 *i*P P **13 15 14.8 -0.2**
BELG pmax pmax
comp=Z,3.0nm,1.2s
PZH PanZhiHua 27.71 103 P P **13 16 02.6 +3.8**
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.3s
BR131 Keskin Array S 29.64 288 *i*P P **13 16 15.6 -0.1**
BRTR Keskin Array B 29.64 288 P P **13 16 16.9 +1.1**
comp=Z,0.6nm,0.4s,baz=89,slow=7.3,SNR=3.3
comp=Z,0.6nm,0.4s
HHC Hu-ho-hao-te 31.45 70 eP P **13 16 33.9 +2.2**
HHC pmax pmax
comp=Z,21nm,0.6s
AKASG Malin Array Be 33.05 309 P P **13 16 47.4 +2.1**
comp=Z,0.8nm,0.7s,baz=108,slow=8.3,SNR=1.8
comp=Z,0.8nm,0.7s
AKBB Malin Array Si 33.05 309 *i*P P **13 16 46.4 +1.1**
AKBB pmax pmax
comp=Z,19nm,2.8s
XLT XiLinHaoTe 34.55 64 eP P **13 16 56.6 -1.9**
XLT pP pP 13 17 22.7 -2.7
XLT sP sP 13 17 35.3 -3.8
XLT PcP **PcP** **13 19 29.7 -1.1**
XLT pmax pmax
comp=Z,8.0nm,0.7s
FINES FINESS Array B 37.49 326 P P **13 17 25.6 +2.4**
comp=Z,3.3nm,0.9s,baz=136,slow=18,SNR=3.7
comp=Z,3.3nm,0.9s
NJ2 Nanjing 39.19 82 eP P **13 17 40.4 +2.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
ARCES ARCESS Array B 41.09 337 P P **13 17 54.6 +1.6**
ARCES IAmb IAmb 13 18 29.3
comp=Z,10nm,1.4s
ARCES ARCESS Array B 41.09 337 P P **13 17 54.7 +1.6**
comp=Z,0.5nm,0.4s,baz=112,slow=7.7,SNR=13
ARCES LR LR 13 36 10.2
comp=Z,24nm,18.7s,baz=116,slow=38
comp=Z,0.5nm,0.4s
ARCES ARCESS Array B 41.09 337 P P **13 17 54.6 +1.6**
ARCES pmax pmax
comp=Z,11nm,1.4s
VRAC Vranov 41.12 306 LR LR 13 38 30.2
comp=Z,40nm,18.3s,baz=11,slow=41
HFS Hagfors 43.10 322 P P **13 18 12.3 +2.8**
comp=Z,2.0nm,0.5s,baz=106,slow=11,SNR=7.5
comp=Z,2.0nm,0.5s
KHC Kasperske Hory 43.10 306 ⇑*i*P P **13 18 10.9 +1.2**
KHC pmax pmax
comp=Z,2.0nm,0.9s
NB2 NORSAR Subarra 44.41 323 P P **13 18 23.7 +3.7**
comp=Z,0.7nm,0.4s,baz=98,slow=7.9
NOA NORSAR Array B 44.41 323 P P **13 18 23.4 +3.4**
comp=Z,1.0nm,0.6s,baz=96,slow=7.8,SNR=5.8
comp=Z,1.0nm,0.6s
NC204 NORSAR Array S 44.65 323 P P **13 18 21.2 -0.6**
KLR Kul'dur 44.83 54 ⇑*i*P P **13 18 23.4 0.0**
KLR *e**PP **pP** **13 18 50.0 -1.2**
KLR *e**SP **sP** **13 19 04.0 -0.7**
KLR pmax pmax
comp=Z,2.0nm,1.1s
USA0B Ussuriysk Arra 45.85 61 *i*P P **13 18 31.9 +0.3**
MEM Membach 47.77 309 *d*P P **13 18 46.2 -0.2**
MEM *d*PcP **PcP** **13 20 14.4 +0.8**
BMRD Maredsous 48.60 308 *d*PcP PcP **13 20 16.4 -0.2**
MAJO Matsushiro 52.64 69 *i*P P **13 19 23.9 +0.5**
MAJO pmax pmax
comp=Z,4.0nm,1.1s
ESDC Sonseca Array 57.62 298 P P **13 19 59.8 +0.7**
comp=Z,0.3nm,0.7s,baz=63,slow=6.3,SNR=1.9
comp=Z,0.3nm,0.7s
PEA0B Petropavlovsk- 59.66 44 P P **13 20 13.1 +0.1**
PEA0B Petropavlovsk- 59.66 44 P P **13 20 13.1 +0.1**
PEA0B pmax pmax
comp=Z,8.0nm,1.2s
TORD Torodi Ar. Bea 65.99 269 P P **13 20 55.7 +0.2**
TORD Torodi Ar. Bea 65.99 269 P P **13 20 55.8 +0.3**
comp=Z,0.5nm,0.5s,baz=41,slow=6.4,SNR=9.6
comp=Z,0.5nm,0.5s
M13K Dall Lake 73.41 25 P P **13 21 41.5 +1.3**
KNRA Kununurra 75.09 123 P P **13 21 52.4 +1.9**
KNRA IAmb IAmb 13 22 29.5
comp=Z,12nm,1.2s
WB0 Warramunga Arr 81.77 122 P P **13 22 28.9 +1.6**
WB0 IAmb IAmb 13 22 38.6
comp=Z,15nm,1.5s
WRA Warramunga Arr 81.85 122 P P **13 22 28.6 +0.9**
comp=Z,0.6nm,0.4s,baz=324,slow=4.9,SNR=13
comp=Z,0.6nm,0.4s
WRAB Tennant Creek 81.85 122 P P **13 22 29.2 +1.5**
WRAB IAmb IAmb 13 23 07.5
comp=Z,12nm,1.4s
WRAB Tennant Creek 81.85 122 *i*P P **13 22 27.7 0.0**
WRAB pmax pmax
comp=Z,6.0nm,1.1s
WR8 Warramunga Arr 81.97 122 P P **13 22 29.5 +1.1**
WR8 IAmb IAmb 13 22 32.1
comp=Z,6.5nm,1.2s
AS31 Alice Springs 84.13 125 P P **13 22 40.7 +1.3**
ASAR Alice Springs 84.13 125 P P **13 22 41.1 +1.7**
ASAR Alice Springs 84.13 125 P P **13 22 40.6 +1.2**
comp=Z,1.0nm,0.7s,baz=310,slow=4.9,SNR=19
comp=Z,1.0nm,0.7s
ULM Lac du Bonnet 92.72 352 *e*P P **13 23 20.9 +0.9**

NNC 01 13:42:24.8±9.1, 37.02N×70.76E, h233km±108km, mb2.5, mpv3.7, 3C-2D, Error ellipse: s-maj=96.3km s-min=61.1km az=176.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.08**	**358**	P	Pn	13 43 54.1	+0.5
	1.8nm,0.3s,baz=189,slow=13,SNR=26						
KK31				⇑S	S	13 45 05.4	+1.2
	3.6nm,0.3s,baz=189,slow=26,SNR=4.8						
TKM2	**Tokmak 2**	**6.96**	**31**	⇑P	Pn	13 44 04.7	-0.3
	5.3nm,0.7s						
TKM2				⇑S	S	13 45 25.2	+0.2
	13nm,0.8s						
AB31	**Akbulak array**	**14.54**	**331**	⇓P	Pn	13 45 38.2	-1.7
	0.1nm,0.3s,baz=142,slow=11,SNR=11						
AKTO	**Aktyubinsk**	**16.24**	**330**	⇓P	Pn	13 46 00.3	0.0
	1.9nm,0.6s						

*IDC **01** 13:44:55.1±2.3, 23.84S×174.97W, h0km, mb3.7/3, mbtmp3.7/4, ML5.1/1, MS3.2/1, Error ellipse: s-maj=64.1km s-min=40.0km az=141.0*
*NEIC **01** 13:44:55.1±1.5, 23.5S±0.1×174.72W±0.06, h10km±2km, mb4.3/10, Error ellipse: s-maj=24.2km s-min=8.8km az=176.0*

ISC 01 13:44:55.1±1.3, 23.6S±0.2×174.7W±0.1, h10km, n20, σ1864/20, mb4.0/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.32**	**45**	Pn	**Pn**	**13 46 27.5**	**-0.9**
MSVF	**Nonsavu**	**8.97**	**309**	Pn	**Pn**	**13 47 03.0**	**-1.8**
MSVF	**Nonsavu**	**8.97**	**309**	Pn	**Pn**	**13 47 06.5**	**+1.6**
	0.7nm,0.3s,baz=134,slow=16,SNR=8.7						
MSVF				LR	LR	13 50 02.8	
	comp=Z,156nm,18.6s,baz=95,slow=34						
	5.3nm,0.8s						
AFI	**Afiamalu**	**10.04**	**16**	Pn	**Pn**	**13 47 17.4**	**-2.1**
FUNA	**Funafuti**	**16.11**	**338**		**Pn**	**13 48 43.9**	**+2.1**
AS31	**Alice Springs**	**46.88**	**259**	P	**P**	**13 53 25.4**	**-0.5**
AS31				IAmb	IAmb	13 53 56.6	
	comp=Z,1.8nm,1.2s						
ASAR	**Alice Springs**	**46.88**	**259**	P	**P**	**13 53 25.6**	**-0.3**
ASAR	**Alice Springs**	**46.88**	**259**	P	**P**	**13 53 25.8**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=94,slow=7.5,SNR=7.3						
	comp=Z,0.2nm,0.6s						
WR8	**Warramunga Arr**	**47.14**	**264**	P	**P**	**13 53 26.2**	**-1.7**
WRAB	**Tennant Creek**	**47.28**	**264**	P	**P**	**13 53 27.0**	**-2.0**
WB0	**Warramunga Arr**	**47.28**	**264**	P	**P**	**13 53 27.2**	**-1.8**
WB0				IAmb	IAmb	13 53 58.9	
	comp=Z,8.4nm,1.3s						
WRA	**Warramunga Arr**	**47.29**	**264**	P	**P**	**13 53 27.2**	**-1.9**
WRA	**Warramunga Arr**	**47.29**	**264**	P	**P**	**13 53 27.3**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=104,slow=8.2,SNR=15						
	comp=Z,0.5nm,0.4s						
KNRA	**Kununurra**	**53.57**	**268**	P	**P**	**13 54 15.3**	**-1.3**
FITZ	**Fitzroy Crossi**	**55.71**	**264**	P	**P**	**13 54 30.9**	**-1.2**
FITZ				IAmb	IAmb	13 54 43.5	
	comp=Z,1.7nm,1.2s						
PEA0B	**Petropavlovsk-**	**80.09**	**344**	P	**P**	**13 57 05.1**	**+0.3**
PEA0B				IAmb	IAmb	13 57 30.9	
	comp=Z,12nm,1.4s						
PETK	**Petropavlovsk-**	**80.09**	**344**	P	**P**	**13 57 06.5**	**+1.7**
	comp=Z,1.7nm,0.9s,baz=135,slow=5.6,SNR=5.5						
	comp=Z,1.7nm,0.9s						
U33K	**Whale Pass**	**86.88**	**22**	P	**P**	**13 57 39.2**	**-0.4**
AKASG	**Malin Array Be**	**147.21**	**332**	PKPbc	**PKPbc**	**14 04 40.2**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=43,slow=4.1,SNR=4.3						
BRTR	**Keskin Array B**	**151.20**	**311**	PKPbc	**PKPbc**	**14 04 51.0**	**+2.0**
	comp=Z,0.6nm,0.6s,baz=49,slow=2.6,SNR=2.7						

*PRE **01** 14:08:53.6±0.9, 23.77S×26.26E, h5km, ML3.3*
*BGSI **01** 14:08:57.0±1.5, 23.91S×26.48E, h3km, 6km, ML3.4*

ISC 01 14:08:55.6±0.8, 23.86S±0.04×26.34E±0.03, h10km, n29, σ221/56, Botswana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPHEP	**Lephephe**	**0.66**	**318**	*i*P	**Pb**	**14 09 10.5**	**+1.3**
LPHEP				IAML		14 09 20.9	
	comp=N,1μm,0.3s						
LBTB	**Lobatse**	**1.34**	**210**	*e*P	**Pn**	**14 09 20.5**	**0.0**
LBTB				*e*S	**Sg**	**14 09 39.8**	**+1.1**
LBTB				IAML		14 09 40.3	
	comp=Z,863nm,0.4s						
LEPH	**Lephalale, Lim**	**1.34**	**90**	*e*P	**Pn**	**14 09 20.1**	**-0.3**
LEPH				*e*S	**Sg**	**14 09 40.0**	**+1.3**
LEPH				IAML		14 09 40.8	
	comp=Z,774nm,0.5s						
KDWAN	**Kaudwane**	**1.61**	**287**	*i*P	**Pb**	**14 09 26.8**	**+1.2**
KDWAN				*i*S	**Sg**	**14 09 48.6**	**+1.2**
KDWAN				IAML		14 09 54.5	
	comp=N,714nm,0.1s						
MREMI	**Moremi**	**1.64**	**39**	*i*P	**Pn**	**14 09 24.8**	**+0.2**
MREMI				*i*S	**Sn**	**14 09 43.6**	**-2.2**
MREMI				IAML		14 09 47.3	
	comp=E,3μm,0.3s						
SKOMA	**Sekoma**	**2.29**	**253**	*i*P	**Pn**	**14 09 35.0**	**+1.4**
SKOMA				IAML		14 10 16.2	
	comp=E,265nm,0.2s						
HRAO	**HartRAO**	**2.37**	**149**	*e*P	**Pn**	**14 09 36.3**	**+1.6**
HRAO				*e*S	**Sn**	**14 10 05.7**	**+1.9**
HRAO				IAML		14 10 12.8	
	comp=Z,191nm,0.2s						
MAKGR	**Makgori**	**2.40**	**215**	*i*P	**Pn**	**14 09 36.6**	**+1.5**
MAKGR				*i*S	**Sn**	**14 10 05.0**	**+0.4**
MAKGR				IAML		14 10 18.2	
	comp=N,984nm,0.5s						
BROLN	**Tlhalogang**	**2.89**	**19**	*i*P	**Pn**	**14 09 42.3**	**+0.4**
BROLN				*i*S	**Sn**	**14 10 16.1**	**-0.7**
BROLN				IAML		14 10 26.3	
	comp=E,178nm,0.3s						
PRYS	**Parys**	**3.19**	**163**	*e*P	**Pn**	**14 09 47.4**	**+1.3**
PRYS				*e*S	**Sn**	**14 10 26.1**	**+1.8**
PRYS				IAML		14 10 43.1	
	comp=Z,113nm,0.3s						
SOOWA	**Sowa**	**3.28**	**358**	*i*P	**Pn**	**14 09 48.9**	**+1.8**
SOOWA				*i*S	**Sn**	**14 10 26.4**	**+0.1**
SOOWA				IAML		14 10 40.9	
	comp=E,390nm,0.5s						
PHPEN	**Phepeng**	**3.55**	**242**	*i*P	**Pn**	**14 09 51.8**	**+0.8**
PHPEN				*i*S	**Sn**	**14 10 33.0**	**-0.1**
KGCAE	**Kacgae**	**3.93**	**284**	*i*P	**Pn**	**14 09 58.8**	**+2.7**
KGCAE				*i*S	**Sn**	**14 10 43.2**	**+0.9**
KGCAE				IAML		14 11 09.8	
	comp=N,220nm,0.4s						
CRLN	**Carolina, Mapu**	**3.96**	**123**	*e*P	**Pn**	**14 09 57.5**	**+0.8**
CRLN				*e*S	**Sn**	**14 10 44.8**	**+1.5**
CRLN				IAML		14 11 02.3	
	comp=Z,43nm,0.5s						
PHDHD	**Phuduhudu**	**4.01**	**335**	*i*P	**Pn**	**14 09 59.3**	**+2.1**
PHDHD				IAML		14 11 03.4	
	comp=E,209nm,0.7s						
PILG	**Pilgrimsrest,**	**4.13**	**106**	*e*P	**Pn**	**14 10 00.1**	**+1.1**
PILG				*e*S	**Sn**	**14 10 48.1**	**+0.7**
PILG				IAML		14 11 05.4	
	comp=Z,107nm,0.5s						
BOSA	**Boshof**	**4.84**	**191**	*e*P	**Pn**	**14 10 09.4**	**+0.8**
BOSA				*e*S	**Sn**	**14 11 04.8**	**0.0**
BOSA				IAML		14 11 33.4	
	comp=Z,45nm,0.5s						
KOOLE	**Kule**	**5.71**	**277**	*i*P	**Pn**	**14 10 21.9**	**+1.3**
KOOLE				*i*S	**Sn**	**14 11 25.0**	**-1.3**
KOOLE				IAML		14 12 02.9	
	comp=N,76nm,0.9s						
QNGWA	**Qangwa**	**6.45**	**311**	*i*P	**Pn**	**14 10 32.6**	**+1.8**
QNGWA				*i*S	**Sn**	**14 11 43.4**	**-1.2**
QNGWA				IAML		14 12 22.8	
	comp=N,20nm,0.7s						
HVD	**Gariep Dam**	**6.76**	**186**	*e*P	**Pn**	**14 10 36.2**	**+1.1**
HVD				*e*S	**Sn**	**14 11 50.4**	**-2.0**
KEIM	**Keimoes**	**6.82**	**224**	*e*P	**Pn**	**14 10 35.2**	**-0.6**
KEIM				*e*S	**Sn**	**14 11 50.0**	**-3.7**
KEIM				IAML		14 12 34.9	
	comp=Z,34nm,0.6s						
ALKP	**Alkanpan, Nort**	**7.08**	**210**	*e*P	**Pn**	**14 10 39.8**	**+0.5**
ALKP				*e*S	**Sn**	**14 11 56.3**	**-3.7**
ALKP				IAML		14 12 46.0	
	comp=Z,29nm,0.6s						
ARMS	**Ukamas**	**7.25**	**234**	*e*P	**Pn**	**14 10 41.7**	**-0.1**
ARMS				*e*S	**Sn**	**14 12 00.6**	**-3.7**
BFON	**Badsfontein, M**	**8.25**	**196**	*e*P	**Pn**	**14 10 56.9**	**+1.4**
BFON				*e*S	**Sn**	**14 12 25.5**	**-3.5**
BFON				IAML		14 13 15.7	
	comp=Z,30nm,0.5s						
BRAK	**Brakfontein**	**8.46**	**200**	*e*P	**Pn**	**14 10 59.9**	**+1.6**
BRAK				*i*S	**Sn**	**14 12 29.7**	**-4.3**
BRAK				*e*S	**Sn**	**14 12 29.7**	**-4.3**
BRAK				IAML		14 13 22.6	
	comp=Z,40nm,0.4s						
GRAF	**Camdeboo Natio**	**8.55**	**191**	*e*P	**Pn**	**14 11 00.2**	**+0.7**
GRAF				*e*S	**Sn**	**14 12 32.5**	**-3.6**
GRAF				IAML		14 13 30.4	
	comp=Z,29nm,0.6s						
FRAZ	**Fraserburg**	**9.15**	**207**	*e*P	**Pn**	**14 11 07.8**	**0.0**
FRAZ				*e*S	**Sn**	**14 12 46.0**	**-4.9**
FRAZ				IAML		14 13 41.3	
	comp=Z,16nm,0.5s						
GRAN	**Grantham**	**9.18**	**203**	*e*P	**Pn**	**14 11 09.7**	**+1.5**
GRAN				*e*S	**Sn**	**14 12 47.6**	**-4.1**
GRAN				IAML		14 13 48.5	
	comp=Z,29nm,0.6s						
KOMG	**Komaggas**	**9.87**	**231**	*e*P	**Pn**	**14 11 17.8**	**+0.1**
KOMG				*e*S	**Sn**	**14 13 01.9**	**-6.7**
KOMG				IAML		14 13 43.6	
	comp=Z,4.3nm,0.7s						

*KRNET **01** 14:15:21.6±0.1, 40.20N×74.68E, h15km, mb3.0*
*SOME **01** 14:15:22.8, 40.25N×74.70E, h5km*
*NNC **01** 14:15:24.9±1.4, 40.32N×74.64E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=10.3km s-min=6.0km az=165.0*

ISC 01 14:15:19.9±1.3, 40.16N±0.05×74.66E±0.03, h12km±10km, n40, σ097/61, 26C-13D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.90**	**261**	⇑*e*P	**Pn**	**14 15 39.3**	**+0.6**
SFK				⇑*e*S	**Sn**	**14 15 52.2**	**+0.4**
SALK	**Salom-Alik**	**0.97**	**319**	⇑*e*P	**Pn**	**14 15 39.9**	**+0.4**
SALK				⇑*e*S	**Sn**	**14 15 53.1**	**-0.2**
JNKS	**Jany-Kuch**	**1.17**	**40**	⇑*e*P	**Pg**	**14 15 43.2**	**+0.7**
JNKS				⇑*e*S	**Sn**	**14 15 59.0**	**+0.5**
OHH	**Osh**	**1.48**	**285**	⇓*e*P	**Pg**	**14 15 49.6**	**+1.2**
OHH				⇓*e*S	**Sg**	**14 16 10.0**	**+2.4**
NRN	**Naryn**	**1.63**	**38**	⇑*e*P	**Pg**	**14 15 51.3**	**+0.1**
NRN				⇑*e*S	**Sg**	**14 16 12.3**	**0.0**
ARSB	**Arslanbob**	**1.73**	**313**	⇑*e*P	**Pg**	**14 15 53.6**	**+0.5**
ARSB				⇑*e*S	**Sg**	**14 16 17.0**	**+1.5**
UCH	**Uchtor**	**2.07**	**357**	⇓*e*P	**Pg**	**14 15 59.3**	**-0.3**
UCH				⇓*e*S	**Sg**	**14 16 26.7**	**+0.2**
AML	**Almayashu**	**2.10**	**340**	P	**Pg**	**14 16 01.2**	**+0.9**
	SNR=5.7						
AML	**Almayashu**	**2.10**	**340**	⇑*e*P	**Pg**	**14 15 59.8**	**-0.5**
AML				⇑*e*S	**Sg**	**14 16 27.7**	**+0.2**
DRK	**Karamyk**	**2.31**	**254**	⇑*e*P	**Pg**	**14 16 03.3**	**-0.9**
DRK				⇑*e*S	**Sg**	**14 16 33.8**	**-0.3**
ULHL	**Ulahol**	**2.40**	**29**	P	**Pg**	**14 16 06.5**	**+0.6**
	SNR=19						
ULHL	**Ulahol**	**2.40**	**29**	⇓*e*P	**Pb**	**14 16 03.6**	**+0.4**
ULHL				⇓*e*S	**Sb**	**14 16 34.3**	**+1.4**
AAK	**Ala-Archa**	**2.48**	**357**	P	**Pg**	**14 16 08.1**	**+0.6**
	SNR=7.4						
AAK	**Ala-Archa**	**2.48**	**357**	⇓Pg	**Pg**	**14 16 07.3**	**-0.2**
AAK				⇑Lg	Lg	14 16 40.5	
AAK	**Ala-Archa**	**2.48**	**357**	⇑*e*P	**Pb**	**14 16 04.8**	**+0.3**
AAK				⇑*e*S	**Sb**	**14 16 36.2**	**+1.1**
KBK	**Karagaybulak**	**2.50**	**5**	P	**Pg**	**14 16 08.3**	**+0.3**
	SNR=11						
KBK	**Karagaybulak**	**2.50**	**5**	⇑*e*P	**Pb**	**14 16 05.1**	**+0.1**
KBK				⇑*e*S	**Sb**	**14 16 36.8**	**+1.0**
BOOM	**Boomskoye usch**	**2.52**	**22**	⇓*e*P	**Pb**	**14 16 05.2**	**0.0**
BOOM				⇓*e*S	**Sb**	**14 16 37.5**	**+1.3**
EKS2	**Erkin-Say**	**2.59**	**345**	P	Pg	14 16 45.1	+36
	SNR=5.0						
KDJ	**Kajisay**	**2.73**	**43**	⇓*e*P	**Pb**	**14 16 08.6**	**-0.3**
KDJ				⇓*e*S	**Sb**	**14 16 42.8**	**+0.3**
MRKS	**Merke**	**2.80**	**338**	Pg	**Pg**	**14 16 13.1**	**-0.5**
	1.5nm,0.4s						
MRKS				Lg	Lg	14 16 49.2	
	13nm,0.3s						
MRKS	**Merke**	**2.80**	**338**	*e*P	**Pg**	**14 16 13.1**	**-0.5**
	1.5nm,0.4s						
MRKS				*e*S	**Sg**	**14 16 49.2**	**-0.7**
	13nm,0.3s						
MNAS	**Manas**	**2.84**	**326**	⇓*e*P	**Pb**	**14 16 09.7**	**-0.9**
MNAS				⇓*e*S	**Sb**	**14 16 45.4**	**0.0**
TKM2	**Tokmak 2**	**2.85**	**14**	P	**Pg**	**14 16 12.5**	**-2.0**
	SNR=21						
TKM2	**Tokmak 2**	**2.85**	**14**	⇑Pg	**Pg**	**14 16 12.4**	**-2.0**
	5.4nm,0.3s						
TKM2				⇑Lg	Lg	14 16 47.8	
	0.8nm,0.1s						
BTK	**Batken**	**2.95**	**269**	⇑*e*P	**Pb**	**14 16 12.0**	**-0.5**
BTK				⇑*e*S	**Sb**	**14 16 48.8**	**+0.2**
TRKS	**Terek-Say**	**3.00**	**298**	⇑*e*P	**Pb**	**14 16 12.0**	**-1.5**
TRKS				⇑*e*S	**Sb**	**14 16 48.0**	**-2.2**
KST	**Kastek**	**3.04**	**18**	Pg	**Pg**	**14 16 17.5**	**-0.7**
	4.4nm,0.6s						
KST				Lg	Lg	14 16 56.9	
	5.9nm,0.7s						
KST	**Kastek**	**3.04**	**18**	*e*P	**Pg**	**14 16 17.5**	**-0.7**
	4.4nm,0.6s						
KST				*e*S	**Sg**	**14 16 56.9**	**-0.7**
	5.9nm,0.7s						
MTBS	**Maitube**	**3.25**	**23**	Pg	**Pg**	**14 16 22.2**	**0.0**
	7.0nm,0.3s						
MTBS				Lg	Lg	14 17 05.1	
	6.0nm,0.4s						
MTBS	**Maitube**	**3.25**	**23**	*e*P	**Pg**	**14 16 21.2**	**-1.0**
	5.4nm,0.1s						
MTBS				*e*S	**Sg**	**14 17 02.9**	**-1.4**
	4.7nm,0.2s						
TNSS	**Tian-Shan**	**3.34**	**30**	Pg	**Pg**	**14 16 23.

	1.5nm,0.9s								
TNSS	**Tian-Shan**	**3.34**	**30**	*e*P		**Pg**	**14 16 23.8**	**-0.2**
	1.8nm,0.5s								
TNSS				*e*S		**Sg**	**14 17 08.2**	**+0.7**
	1.5nm,0.9s								
KOTS	**Kotyrbulak**	**3.58**	**30**	Pg		**Pg**	**14 16 28.2**	**-0.2**
	7.7nm,0.6s								
KOTS				Lg		Lg	14 17 15.6		
	12nm,0.8s								
KOTS	**Kotyrbulak**	**3.58**	**30**	*e*P		**Pg**	**14 16 27.0**	**-1.4**
	7.7nm,0.6s								
KOTS				*e*S		**Sg**	**14 17 12.9**	**-1.9**
	16nm,0.7s								
KRBS	**Karabastau**	**3.61**	**12**	Pg		**Pg**	**14 16 27.4**	**-1.7**
	4.6nm,0.6s								
KRBS				Lg		Lg	14 17 13.8		
KTBS	**Karatobe**	**3.85**	**22**	Pg		**Pg**	**14 16 33.1**	**-0.7**
	9.1nm,0.3s								
KTBS				Lg		Lg	14 17 23.7		
IUG	**Iuzhnay**	**4.02**	**301**	Pg		**Pg**	**14 16 37.0**	**0.0**
	14nm,0.6s								
IUG				Lg		Lg	14 17 30.6		
	19nm,0.4s								
KK31	**Karatay Array**	**4.28**	**315**	Pg		**Pg**	**14 16 40.7**	**-1.2**
	0.3nm,0.2s,baz=134,slow=18,SNR=5.0								
KK31				⇑Lg		Lg	14 17 35.3		
	0.9nm,0.3s								
BLB	**Baldybastay**	**4.85**	**35**	Pg		**Pg**	**14 16 51.7**	**-1.1**
	9.1nm,0.7s								
BLB				Lg		Lg	14 17 55.6		
	5.8nm,0.7s								

*NEIC **01** 14:19:24.9±2.6,21°.5S±0°.1×173°.85W±0°.09,h10km±1km, mb4.9/41,Error ellipse: s-maj=17.7km s-min=13.8km az=172.0*
*BJI **01** 14:19:26.2,21°.78S×174°.02W,h23km,mb4.9/23,mB5.2/2, Ms4.9/2,Ms7 4.8/1*
*MOS **01** 14:19:29.8±1.0,21°.45S×174°.58W,h36km,mb5.0/10, Error ellipse: s-maj=17.1km s-min=13.9km az=44.4*
*IDC **01** 14:19:35.0±2.6,21°.51S×174°.51W,h72km±22km,mb4.1/11, mbtmp4.4/14,MS3.8/17,Error ellipse: s-maj=17.1km s-min=15.1km az=141.0*
*NOU **01** 14:20:46.5,18°.16S×179°.09W,h0km,MLv3.1/4,Fiji Islands Region*
ISC 01 14:19:27.9±0.4,21°.64S±0°.07×174°.13W±0°.07,h25km, n132,σ2s12/112,mb4.8/46,MS3.9/16,5C-7D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue**	**4.69**	**58**	Pn		Pn	14 20 31.6	-5.5
LKBA	**Tubou, Lakemba**	**5.56**	**307**	P		**Pn**	**14 20 51.8**	**+2.7**
TAVE	**Taveuni**	**7.34**	**311**	P		**Pn**	**14 21 16.5**	**+3.0**
DGTI	**Dogotuki**	**7.87**	**311**	P		**Pn**	**14 21 23.1**	**+2.3**
AFI	**Afiamalu**	**8.01**	**17**	Pn		**Pn**	**14 21 18.8**	**-4.0**
AFI	**Afiamalu**	**8.01**	**17**	P		**Pn**	**14 21 18.8**	**-4.0**
MSVF	**Nonsavu**	**8.33**	**296**			**Pn**	**14 21 30.8**	**+3.6**
MSVF	**Nonsavu**	**8.33**	**296**	P		**Pn**	**14 21 29.4**	**+2.1**
	86nm,0.8s,baz=127,slow=14,SNR=58							
MSVF				S		**Sn**	**14 22 56.3**	**-4.3**
	5.3nm,0.9s,baz=32,slow=23,SNR=0.5							
MSVF				LR		LR	14 24 17.4	
	comp=Z,2μm,19.8s,baz=89,slow=36							
MSVF	**Nonsavu**	**8.33**	**296**	P		Pn	14 21 31.8	+4.6
MSVF	**Nonsavu**	**8.33**	**296***c*	*i*P		**Pn**	**14 21 31.3**	**+4.1**
RAR	**Rarotonga**	**13.38**	**91**	Pn		Pn	14 22 31.8	-4.4
RAR	**Rarotonga**	**13.38**	**91**	LR		LR	14 28 23.6	
	comp=Z,352nm,18.4s,baz=274,slow=38							
RAR	**Rarotonga**	**13.38**	**91**	P		Pn	14 22 31.8	-4.4
DZM	**Mont Dzumac**	**18.04**	**265**			**P**	**14 23 38.8**	**+1.4**
DZM	**Mont Dzumac**	**18.04**	**265**	*e*P		**P**	**14 23 39.3**	**+1.9**
	46nm,1.1s							
DZM				*e*S		**S**	**14 27 00.7**	**-2.6**
	683nm,24.2s							
DZM				*e*LR		LR	14 27 55.5	
	438nm,21.4s							
DZM	**Mont Dzumac**	**18.04**	**265**	P		**P**	**14 23 38.4**	**+1.0**
	17nm,0.9s,baz=84,slow=18,SNR=12							
URZ	**Urewera**	**18.20**	**203**	P		**P**	**14 23 42.2**	**+3.3**
	9.4nm,0.9s,baz=29,slow=13,SNR=1.5							
URZ				S		**Sn**	**14 26 54.8**	**-6.6**
	23nm,1.1s,baz=60,slow=20,SNR=2.6							
TBI	**Tubuai**	**22.85**	**99**	*e*S		S	14 28 27.6	-10
	875nm,29.5s							
TBI				*e*LR		LR	14 29 48.0	
	2μm,30.0s							
TBI				*e*LR		LR	14 29 50.9	
	651nm,24.5s							
KHZ	**Kahutara**	**23.16**	**204**	P		**P**	**14 24 32.9**	**+0.5**
KHZ				IAmb		IAmb	14 24 38.6	
	comp=Z,77nm,1.9s							
PPT2	**Papeete2**	**23.46**	**84**	*e*S		**S**	**14 28 40.7**	**-7.3**
	comp=Z,211nm,26.5s							
PPT2				*e*LR		LR	14 30 08.6	
	comp=Z,275nm,27.2s							
PPT2				*e*LR		LR	14 30 09.9	
	comp=Z,272nm,22.8s							
PPT	**Papeete**	**23.47**	**84**	LR		LR	14 32 54.4	
	comp=Z,253nm,18.0s,baz=276,slow=34							
RPZ	**Rata Peaks**	**25.23**	**206**	P		**P**	**14 24 52.5**	**+0.7**
HNR	**Honiara**	**27.72**	**292**	LR		LR	14 34 37.6	
	comp=Z,137nm,19.6s,baz=164,slow=33							
EIDS	**Eidsvold**	**32.07**	**256**	P		**P**	**14 25 52.3**	**-0.7**
EIDS				IAmb		IAmb	14 26 42.5	
	comp=Z,29nm,1.4s							
TAOE	**Nuku Hiva Isla**	**35.06**	**74**	*e*LR		LR	14 35 25.4	
	comp=Z,137nm,24.7s							
CTAO	**Charters Tower**	**36.99**	**265**	P		**P**	**14 26 34.0**	**-1.6**
CTAO	**Charters Tower**	**36.99**	**265**	P		**P**	**14 26 34.0**	**-1.6**
CTAO				pmax		pmax		
	comp=Z,16nm,1.2s							
STKA	**Stephens Creek**	**40.59**	**246**	P		**P**	**14 27 06.0**	**+0.2**
STKA	**Stephens Creek**	**40.59**	**246**	P		**P**	**14 27 05.2**	**-0.5**
	comp=Z,4.5nm,0.9s,baz=86,slow=13,SNR=4.7							
STKA				LR		LR	14 43 01.3	
	comp=Z,125nm,18.2s,baz=198,slow=35							
	comp=Z,4.5nm,0.9s							
STKA	**Stephens Creek**	**40.59**	**246**	*i* P		**P**	**14 27 05.4**	**-0.3**
COEN	**Coen**	**41.26**	**273**	P		**P**	**14 27 10.0**	**-1.4**
COEN				IAmb		IAmb	14 27 11.9	
	comp=Z,60nm,1.9s							
AS31	**Alice Springs**	**47.79**	**257**			**P**	**14 28 01.7**	**-1.8**
ASAR	**Alice Springs**	**47.79**	**257**			**P**	**14 28 01.3**	**-2.2**
ASAR	**Alice Springs**	**47.79**	**257**	P		**P**	**14 28 02.2**	**-1.3**
	comp=Z,10nm,0.8s,baz=90,slow=8.3,SNR=75							
ASAR				PcP		**PcP**	**14 29 32.5**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=98,slow=4.2,SNR=2.0							
ASAR				S		**S**	**14 34 53.0**	**-6.0**
	comp=Z,0.4nm,1.0s,baz=97,slow=15,SNR=3.5							
ASAR				LR		LR	14 47 41.3	
	comp=Z,187nm,18.3s,baz=92,slow=36							
	comp=Z,10nm,0.8s							
WR8	**Warramunga Arr**	**47.88**	**262**			**P**	**14 28 02.9**	**-1.3**
WR8				IAmb		IAmb	14 28 04.0	
	comp=Z,13nm,1.1s							
WB0	**Warramunga Arr**	**48.02**	**262**			**P**	**14 28 03.9**	**-1.4**
WB0				IAmb		IAmb	14 28 04.4	
	comp=Z,10nm,0.9s							
WRAB	**Tennant Creek**	**48.02**	**262**	P		**P**	**14 28 04.0**	**-1.4**
WRAB				IAmb		IAmb	14 28 04.9	
	comp=Z,14nm,1.1s							
WRAB	**Tennant Creek**	**48.02**	**262***d*	*i*P		**P**	**14 28 03.8**	**-1.5**
WRAB				pmax		pmax		
	comp=Z,16nm,1.1s							
WRA	**Warramunga Arr**	**48.03**	**262**	P		**P**	**14 28 03.1**	**-2.3**
	comp=Z,7.9nm,1.0s,baz=90,slow=6.0,SNR=35							
WRA				PcP		**PcP**	**14 29 32.8**	**-0.5**
	comp=Z,1.6nm,1.1s,baz=98,slow=2.9,SNR=2.7							
	comp=Z,7.9nm,1.0s							
FORT	**Forrest**	**52.18**	**247**	P		**P**	**14 28 36.0**	**-0.8**
FORT				IAmb		IAmb	14 28 41.2	
	comp=Z,24nm,1.6s							
GUMO	**Guam**	**53.34**	**307**	LR		LR	14 49 54.5	
	comp=Z,74nm,18.9s,baz=138,slow=34							
KNRA	**Kununurra**	**54.19**	**266**	P		**P**	**14 28 50.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**56.46**	**262**	P		**P**	**14 29 07.2**	**-0.8**
VNDA	**Vanda**	**57.13**	**186**	P		**P**	**14 29 14.3**	**+2.4**
VNDA	**Vanda**	**57.13**	**186**	P		**P**	**14 29 15.2**	**+3.3**
	comp=Z,2.0nm,0.9s,baz=345,slow=7.1,SNR=9.2							
	comp=Z,2.0nm,0.9s							
BATI	**Baumata**	**60.56**	**270**	LR		LR	14 55 55.5	
	comp=Z,151nm,18.4s,baz=120,slow=36							
MBWA	**Marble Bar**	**61.13**	**257**	P		**P**	**14 29 39.6**	**-0.9**
MORW	**Morawa**	**62.74**	**248**	P		**P**	**14 29 50.3**	**-1.0**
CASY	**Casey**	**64.50**	**206**	P		**P**	**14 30 04.7**	**+2.5**
QSPA	**South Pole Qui**	**68.44**	**180**	P		**P**	**14 30 29.2**	**+1.6**
	comp=Z,3.1nm,1.0s,baz=70,slow=6.7,SNR=9.0							
	comp=Z,3.1nm,1.0s							
MJA0	**Matsu Arr-Jizo**	**73.28**	**322**	*e*P		**P**	**14 30 57.1**	**-0.2**
MJAR	**Matsushiro Arr**	**73.31**	**322**	P		**P**	**14 30 57.0**	**-0.3**
MJAR	**Matsushiro Arr**	**73.31**	**322**	P		**P**	**14 30 56.8**	**-0.6**
	comp=Z,7.7nm,0.9s,baz=159,slow=5.7,SNR=14							
	comp=Z,7.7nm,0.9s							
MJAR	**Matsushiro Arr**	**73.31**	**322**	P		**P**	**14 30 57.1**	**-0.3**
MJAR				pmax		pmax		
	comp=Z,6.0nm,0.9s							
MAJO	**Matsushiro**	**73.31**	**322**			**P**	**14 30 56.7**	**-0.6**
MAJO				IAmb		IAmb	14 30 58.1	
	comp=Z,7.7nm,0.9s							
MAJO	**Matsushiro**	**73.31**	**322**	*i* P		**P**	**14 30 56.8**	**-0.6**
MAJO				pmax		pmax		
	comp=Z,8.0nm,0.9s							
MJB9	**Matsu-Tunnel**	**73.31**	**322**	P		**P**	**14 30 56.7**	**-0.7**
MJB9				IAmb		IAmb	14 30 58.1	
	comp=Z,7.7nm,0.9s							
ASAJ	**Asahikawa**	**76.49**	**329**	LR		LR	15 03 10.9	
	comp=Z,79nm,18.0s,baz=152,slow=34							
PFO	**Pinyon Flats O**	**77.69**	**46**	*i* P		**P**	**14 31 21.4**	**-1.3**
PEA0B	**Petropavlovsk-**	**78.35**	**343**	P		**P**	**14 31 25.5**	**-0.2**
PEA0B	**Petropavlovsk-**	**78.35**	**343**	⇓*i*P		**P**	**14 31 25.2**	**-0.6**
PETK	**Petropavlovsk-**	**78.35**	**343**	P		**P**	**14 31 25.5**	**-0.2**
PETK	**Petropavlovsk-**	**78.35**	**343**	P		**P**	**14 31 25.1**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=130,slow=8.0,SNR=13							
	comp=Z,3.6nm,0.8s							
PETK	**Petropavlovsk-**	**78.35**	**343**	P		**P**	**14 31 25.5**	**-0.2**
YSS	**Yuzhno-Sakhali**	**78.57**	**331**	*e*P		**P**	**14 31 28.0**	**+0.9**
YSS				pmax		pmax		
	comp=Z,10.0nm,1.2s							
YSS				MLR		MLR		
	comp=Z,100nm,19.0s							
YBH	**Yreka Blue Hor**	**78.98**	**37**	LR		LR	15 01 06.6	
	comp=Z,6.4nm,19.0s,baz=252,slow=32							
NVAR	**Mina Array Bea**	**79.42**	**41**	P		**P**	**14 31 34.5**	**+2.2**
	comp=Z,0.7nm,0.6s,baz=271,slow=7.5,SNR=5.1							
NVAR				LR		LR	15 04 24.6	
	comp=Z,82nm,18.0s,baz=208,slow=34							
	comp=Z,0.7nm,0.6s							
KSRS	**Korea Array**	**80.16**	**317**	P		**P**	**14 31 36.5**	**+0.5**
	comp=Z,4.9nm,1.1s,baz=142,slow=6.2,SNR=19							
	comp=Z,4.9nm,1.1s							
KSAR	**Wonju Array Be**	**80.18**	**317**			**P**	**14 31 36.4**	**+0.3**
KSAR	**Wonju Array Be**	**80.18**	**317**	P		**P**	**14 31 36.4**	**+0.3**
MSHR	**Mys Shultsa**	**81.39**	**322**	*e*P		**P**	**14 31 42.3**	**-0.1**
MSHR				pmax		pmax		
	comp=Z,5.0nm,0.6s							
USA0B	**Ussuriysk Arra**	**81.97**	**324**	⇑*i*P		**P**	**14 31 45.9**	**+0.4**
NJ2	**Nanjing**	**83.41**	**308**	*e*P		**P**	**14 31 53.5**	**+0.2**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.6s							
MDJ	**Mudanjiang**	**83.56**	**323**	P		P	14 31 59.9	+6.2
MDJ				pmax		pmax		
	comp=Z,11nm,2.4s							
J14K	**Nanvaranak Lak**	**84.52**	**5**	P		**P**	**14 31 56.3**	**-1.8**
TXAR	**Lajitas Array**	**84.66**	**56**	P		**P**	**14 32 02.6**	**+2.8**
	comp=Z,0.2nm,0.6s,baz=217,slow=9.7,SNR=4.1							
TXAR				LR		LR	15 03 25.2	
	comp=Z,35nm,19.9s,baz=202,slow=31							
KLR	**Kul'dur**	**85.38**	**328**	LR		LR	15 07 45.3	
	comp=Z,31nm,18.1s,baz=158,slow=34							
CN2	**Changchun**	**85.43**	**321**	*e*P		**P**	**14 32 04.6**	**+1.3**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
BNX	**BinXian**	**85.47**	**323**	⇓P		**P**	**14 32 04.0**	**+0.6**
BNX				pmax		pmax		
	comp=Z,6.0nm,0.8s							
ELIB	**Princess Elisa**	**85.89**	**185**	*d*P		**P**	**14 32 05.4**	**0.0**
	comp=Z,3.3nm,0.8s							
K20K	**Telida**	**86.17**	**9**	IAmb		IAmb	14 32 33.3	
	comp=Z,9.7nm,1.2s							
SYO	**Syowa Base**	**86.38**	**192**	⇑*e*PcP		**PcP**	**14 32 09.2**	**-0.9**
CAST	**Castle Rocks**	**86.53**	**10**			**P**	**14 32 07.8**	**-0.5**
CMIG	**Matias Romero**	**86.62**	**70**	LR		LR	15 07 30.7	
	comp=Z,56nm,18.0s,baz=171,slow=33							
TIA	**Tai'an**	**86.73**	**311**	P		**P**	**14 32 11.2**	**+1.3**
TIA				pmax		pmax		
	comp=Z,10.0nm,0.9s							
LRM	**Limekiln Ridge**	**87.33**	**38**	P		**P**	**14 32 11.7**	**-1.2**
MCK	**McKinley**	**87.35**	**11**	IAmb		IAmb	14 32 17.9	
	comp=Z,8.6nm,1.0s							
M27K	**Edge Creek, AK**	**87.55**	**14**	IAmb		IAmb	14 32 27.6	
	comp=Z,9.1nm,1.1s							
L27K	**Beaver Creek,**	**88.18**	**14**	IAmb		IAmb	14 32 19.0	
	comp=Z,7.1nm,1.4s							
SEY	**Seymchan**	**88.34**	**345**	LR		LR	15 13 16.7	
	comp=Z,27nm,18.1s,baz=158,slow=37							
SEY	**Seymchan**	**88.34**	**345**	⇑*i*P		**P**	**14 32 17.4**	**+0.5**
SEY				pmax		pmax		
	comp=Z,9.0nm,1.1s							
CCB	**Clear Creek Bu**	**88.39**	**11**	IAmb		IAmb	14 32 19.0	
	comp=Z,13nm,1.6s							
COLA	**College**	**88.59**	**11**	*e*P		**P**	**14 32 17.4**	**-0.6**
COLA				pmax		pmax		
	comp=Z,5.0nm,1.1s							
ILAR	**Eielson Array**	**88.67**	**11**	P		**P**	**14 32 18.6**	**+0.1**
ILAR	**Eielson Array**	**88.67**	**11**	P		**P**	**14 32 19.4**	**+0.9**
	comp=Z,1.1nm,1.0s,baz=218,slow=3.8,SNR=7.5							
	comp=Z,1.1nm,1.0s							
J26L	**Joseph Creek**	**89.07**	**13**	IAmb		IAmb	14 32 34.8	
	comp=Z,5.8nm,0.8s							
L29M	**L29M**	**89.10**	**16**	IAmb		IAmb	14 32 35.0	
	comp=Z,6.8nm,1.0s							
DAWY	**Dawson**	**89.60**	**15**	IAmb		IAmb	14 32 37.0	
	comp=Z,4.9nm,0.9s							
K29M	**Barlow Dome**	**89.86**	**15**	IAmb		IAmb	14 32 42.8	
	comp=Z,11nm,1.3s							
ZEA	**Zeya**	**90.41**	**330**	*e*P		**P**	**14 32 28.1**	**+1.2**
ZEA				*e*			14 42 46.9	
BILL	**Bilibino**	**90.57**	**353**	*e*P		**P**	**14 32 25.5**	**-1.8**
BILL				pmax		pmax		
	comp=Z,5.0nm,1.3s							
XAN	**Xi'an**	**91.71**	**306**	⇑P		**P**	**14 32 34.9**	**+1.4**
XAN				S		**S**	**14 43 38.9**	**+6.1**
XAN				pmax		pmax		
	comp=Z,21nm,1.1s							
ATAH	**Atahualpa**	**92.69**	**99**	LR		LR	15 07 16.9	
	comp=Z,82nm,18.2s,baz=302,slow=31							
HHC	**Hu-ho-hao-te**	**92.75**	**313**	*e*P		**P**	**14 32 39.1**	**+0.9**
HHC				pmax		pmax		
	comp=Z,17nm,0.7s							
CMAR	**Chiang Mai Arr**	**93.90**	**288**			**P**	**14 32 44.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**93.90**	**288**	P		**P**	**14 32 45.3**	**+1.4**
	comp=Z,3.8nm,0.9s,baz=111,slow=4.1,SNR=20							
	comp=Z,3.8nm,0.9s							
CHTO	**Chiang Mai**	**94.03**	**289**	P		**P**	**14 32 44.4**	**-0.1**
CHTO				IAmb		IAmb	14 32 47.3	
	comp=Z,5.2nm,0.8s							
CHTO	**Chiang Mai**	**94.03**	**289**	P		**P**	**14 32 44.4**	**-0.1**
CHTO				pmax		pmax		
	comp=Z,5.0nm,0.9s							
PZH	**PanZhiHua**	**94.44**	**297**	P		**P**	**14 32 47.5**	**+1.1**
PZH				pmax		pmax		
	comp=Z,8.0nm,0.9s							
LPAZ	**La Paz**	**98.28**	**111**	LR		LR	15 10 13.1	
	comp=Z,58nm,18.6s,baz=260,slow=31							
KURK	**Kurchatov**	**117.28**	**317**	PKIKP		**PKiKP**	**14 38 12.6**	**+1.7**
KURBB	**Kurchatov Arra**	**117.34**	**317**	PKP		**PKiKP**	**14 38 12.6**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=169,slow=0.9,SNR=2.3							
BVAR	**Borovoye Array**	**122.28**	**320**	PKP		**PKiKP**	**14 38 21.3**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=56,slow=3.6,SNR=3.1							
ARTI	**Arti**	**128.29**	**326**	*i* PKIKP		**PKPdf**	**14 38 32.2**	**+0.4**
ARTI							14 40 37.0	
ARTI							14 45 43.0	
ARTI				SS		SS	14 57 52.6	+2.9
ARCES	**ARCESS Array B**	**130.65**	**351**	PKP		**PKPdf**	**14 38 36.6**	**+0.6**
	comp=Z,2.0nm,0.9s,baz=329,slow=1.4,SNR=3.6							
BELG	**Belogornoye**	**135.65**	**324**	*e*PKIKP		**PKPdf**	**14 38 45.1**	**-0.7**
BELG				pmax		pmax		
	comp=Z,1.0nm,1.3s							
OBN	**Obninsk**	**139.44**	**333**	⇓*e*PKIKP		**PKPdf**	**14 38 51.7**	**-1.0**
OBN				*e*			14 41 45.8	
OBN				*e*SSS		SSS	15 05 14.0	
OBN				pmax		pmax		
	comp=Z,58nm,2.5s							
AKASG	**Malin Array Be**	**145.70**	**333**	PKPbc		**PKPdf**	**14 39 03.9**	**0.0**
	comp=Z,4.7nm,0.8s,baz=42,slow=4.1,SNR=16							
CLL	**Collm**	**149.87**	**351**	⇓*i*PKP2		**PKiKP**	**14 39 17.0**	**+0.4**
CLL				pmax		pmax		
	comp=Z,16nm,1.5s							
CLL				pmax		pmax		
	comp=Z,8.0nm,1.0s							
CLL	**Collm**	**149.87**	**351**	*i* PKPbc		**PKiKP**	**14 39 17.0**	**+0.4**
	comp=Z,16nm,1.5s							
CLL				⇓*i*PKPab		**PKPab**	**14 39 21.8**	**+0.6**
	comp=Z,8.0nm,1.0s							
CLL				*ex*		x	14 39 29.0	
BRTR	**Keskin Array B**	**150.26**	**314**	PKPbc		**PKPbc**	**14 39 17.4**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=129,slow=1.1,SNR=10							
MORC	**Moravsky Berou**	**150.44**	**345**	*e*PKP		**PKPdf**	**14 39 06.9**	**-5.0**
MORC				*e*			14 39 23.6	
VRAC	**Vranov**	**151.10**	**345**	*e*PKP		**PKPdf**	**14 39 08.1**	**-4.8**
VRAC				*e*			14 39 24.9	
VYHS	**Vyhne**	**151.26**	**342**	*e*PKIKP		**PKiKP**	**14 39 20.4**	**+0.8**
VYHS				*e*			14 39 29.8	
VYHS	**Vyhne**	**151.26**	**342**	*e*PKP		**PKiKP**	**14 39 20.4**	**+0.8**
VYHS				*e*			14 39 29.8	
KRUC	**Moravsky**	**151.38**	**345**	*e*PKP		**PKPdf**	**14 39 08.2**	**-5.1**
MODS	**Modra-Piesok**	**151.80**	**344**	*e*PKIKP		**PKiKP**	**14 39 21.8**	**+1.0**
MODS	**Modra-Piesok**	**151.80**	**344**	*e*PKP		**PKiKP**	**14 39 21.8**	**+1.0**
KHC	**Kasperske Hory**	**151.89**	**349**	*e*PKPAB		**PKPab**	**14 39 29.9**	**+0.2**
KHC	**Kasperske Hory**	**151.89**	**349**	*e*PKIKP		**PKPab**	**14 39 29.9**	**+0.2**
GERES	**GERESS Array B**	**152.14**	**349**	PKPbc		**PKPbc**	**14 39 19.9**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=116,slow=3.1,SNR=5.9							
ESDC	**Sonseca Array**	**160.16**	**23**	PKP		**PKPdf**	**14 39 26.1**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=311,slow=3.5,SNR=3.5							

*NEIC **01** 14:31:44.6±1.3,21°.43S±0°.09×173°.7W±0°.1,h10km±1km, mb4.5/8,Error ellipse: s-maj=24.0km s-min=6.8km az=125.0*
*IDC **01** 14:32:00.5±4.6,21°.55S×174°.78W,h96km±39km,mb3.5/11, mbtmp3.9/12,MS3.5/1,Error ellipse: s-maj=27.5km s-min=20.8km az=97.0*
ISC 01 14:31:45.4±0.6,21°.46S±0°.10×173°.65W±0°.09,h10km,n25, σ2s15/22,mb4.1/15,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue**	**4.22**	**56**	Pn		**Pn**	**14 32 49.6**	**-0.2**
NIUE				Sn		**Sn**	**14 33 38.5**	**-0.7**
AFI	**Afiamalu**	**7.72**	**14**	Pn		**Pn**	**14 33 36.6**	**-1.3**
MSVF	**Nonsavu**	**8.66**	**294**	P		**Pn**	**14 33 51.8**	**+1.0**
	22nm,0.8s,baz=123,slow=15,SNR=19							
MSVF				LR		LR	14 36 39.1	
	comp=Z,358nm,18.7s,baz=76,slow=36							
MRZ	**Mangatainoka R**	**21.22**	**203**	P		**P**	**14 36 31.7**	**+0.4**
MRZ				IAmb		IAmb	14 36 36.6	
	comp=Z,38nm,1.4s							
ASAR	**Alice Springs**	**48.26**	**257**	P		**P**	**14 40 25.4**	**-1.6**
ASAR	**Alice Springs**	**48.26**	**257**	P		**P**	**14 40 23.3**	**-3.7**
	comp=Z,2.3nm,0.9s,baz=84,slow=8.5,SNR=18							
	comp=Z,2.3nm,0.9s							
WR8	**Warramunga Arr**	**48.34**	**262**	P		**P**	**14 40 25.3**	**-2.2**
WR8				IAmb		IAmb	14 40 41.7	
	comp=Z,6.6nm,1.2s							
WB0	**Warramunga Arr**	**48.48**	**262**	P		**P**	**14 40 25.9**	**-2.8**
WRAB	**Tennant Creek**	**48.49**	**262**	P		**P**	**14 40 26.1**	**-2.5**
WRAB				IAmb		IAmb	14 40 29.2	
	comp=Z,6.0nm,1.1s							
WRA	**Warramunga Arr**	**48.49**	**262**	P		**P**	**14 40 25.4**	**-3.4**
	comp=Z,1.4nm,0.8s,baz=96,slow=8.2,SNR=6.5							
	comp=Z,1.4nm,0.8s							
MTN	**Manton Dam**	**53.23**	**270**	P		**P**	**14 41 01.4**	**-3.1**
VNDA	**Vanda**	**57.36**	**186**	P		**P**	**14 41 35.0**	**+1.7**
VNDA	**Vanda**	**57.36**	**186**	P		**P**	**14 41 36.5**	**+3.2**
	comp=Z,0.7nm,0.8s,baz=23,slow=5.6,SNR=4.9							
	comp=Z,0.7nm,0.8s							
QSPA	**South Pole Qui**	**68.62**	**180**	P		**P**	**14 42 47.7**	**-0.8**
QSPA	**South Pole Qui**	**68.62**	**180**	P		P	14 42 53.2	+4.7
	comp=Z,1.0nm,0.9s,baz=317,slow=0.7,SNR=5.1							
	comp=Z,1.0nm,0.9s							
MJAR	**Matsushiro Arr**	**73.44**	**321**	P		**P**	**14 43 18.1**	**0.0**
	comp=Z,2.6nm,0.9s,baz=167,slow=5.7,SNR=4.2							
	comp=Z,2.6nm,0.9s							
BELA	**Belgrano 2**	**78.06**	**172**	P		**P**	**14 43 41.8**	**-2.1**
BELA				IAmb		IAmb	14 44 03.6	
	comp=Z,3.9nm,1.4s							
PETK	**Petropavlovsk-**	**78.31**	**343**

FITO	**Golfito**	**0.40**	**307**	⇑*iP*		**Pb**		**14 46 45.7**	**-1.6**
FITO				*eS*		**Sb**		**14 46 52.0**	**-1.3**
MLIR3	**Monte Lirio, C**	**0.41**	**2**	⇑*iP*		**Pb**		**14 46 47.6**	**+0.1**
MLIR3				*eS*		**Sb**		**14 46 54.2**	**+0.5**
PEDE3	**Pedregal, Chir**	**0.41**	**90**	⇓*iP*		**Pb**		**14 46 47.1**	**-0.4**
PEDE3				*eS*		**Sb**		**14 46 53.6**	**-0.1**
LOCO3	**Loma Colorada,**	**0.41**	**87**	⇓*iP*		**Pb**		**14 46 47.3**	**-0.3**
LOCO3				*eS*		**Sb**		**14 46 53.6**	**-0.2**
CLLRA	**Cordillera,**	**0.42**	**32**	⇓*eP*		**Pb**		**14 46 47.5**	**-0.2**
CLLRA	**Cordillera,**	**0.42**	**32**	⇓*iP*		**Pb**		**14 46 47.5**	**-0.2**
EDAD	**Golfito**	**0.42**	**309**	⇑*iP*		**Pb**		**14 46 46.3**	**-1.5**
EDAD				*eS*		**Sb**		**14 46 53.1**	**-0.9**
RSRNO	**Rio Sereno**	**0.43**	**357**	⇑*eP*		**Pb**		**14 46 48.0**	**+0.1**
RSRNO				*eS*		**Sb**		**14 46 56.7**	**+2.3**
RSRNO	**Rio Sereno**	**0.43**	**357**	⇑*iP*		**Pb**		**14 46 48.0**	**+0.1**
BRU2	**Volcan**	**0.43**	**19**	⇓*iP*		**Pb**		**14 46 47.6**	**-0.4**
BRU2				*eS*		**Sb**		**14 46 55.5**	**+1.0**
BRU2	**Volcan**	**0.43**	**19**	⇓*iP*		**Pb**		**14 46 47.7**	**-0.3**
BRU2				*eS*		**Sb**		**14 46 55.5**	**+1.0**
BRU2	**Volcan**	**0.43**	**19**	P		**Pb**		**14 46 47.7**	**-0.3**
BRU2	**Volcan**	**0.43**	**19**	S		**Sb**		**14 46 54.5**	**+0.1**
LOMA3	**Las Lomas, Chi**	**0.44**	**84**	⇓*iP*		**Pb**		**14 46 47.6**	**-0.4**
LOMA3				*eS*		**Sb**		**14 46 54.7**	**+0.1**
TBS2		**0.44**	**23**	⇓*iP*		**Pb**		**14 46 48.7**	**+0.6**
SCLRA	**Santa Clara, W**	**0.45**	**7**	⇑*iP*		**Pb**		**14 46 48.3**	**+0.1**
VITO	**San Vito**	**0.45**	**343**	⇑*iP*		**Pb**		**14 46 48.0**	**-0.2**
VITO				*eS*		**Sb**		**14 46 56.5**	**+1.5**
PTAR3	**Potrerillos Ar**	**0.45**	**48**	⇓*iP*		**Pb**		**14 46 48.0**	**-0.3**
PTAR3				*eS*		**Sb**		**14 46 55.5**	**+0.5**
BC3P	**Paso Ancho**	**0.48**	**27**	⇓*iP*		**Pn**		**14 46 48.3**	**-1.1**
BC3P				*eS*		**Sb**		**14 46 56.4**	**+0.5**
CHIR3	**Chiriqui UPA,**	**0.50**	**89**	⇓*eP*		**Pn**		**14 46 48.4**	**-1.1**
CHIR3				*eS*		**Sb**		**14 46 56.1**	**0.0**
BQTLY	**Boquete Panama**	**0.52**	**45**	⇓*iP*		**Pn**		**14 46 48.8**	**-1.1**
BQTLY				*eS*		**Sn**		**14 46 57.2**	**-0.6**
BQTLY	**Boquete Panama**	**0.52**	**45**	⇓*iP*		**Pn**		**14 46 48.9**	**-1.1**
BQSF3	**Alto Boquete,**	**0.53**	**48**	⇓*iP*		**Pn**		**14 46 48.9**	**-1.1**
BQSF3				*eS*		**Sn**		**14 46 58.1**	**0.0**
GUAL3	**Gualaca, Chiri**	**0.55**	**75**	⇓*iP*		**Pn**		**14 46 49.0**	**-1.2**
GUAL3				*eS*		**Sn**		**14 46 57.1**	**-1.2**
ALCO	**Alturas Coton,**	**0.56**	**0**	⇑*eP*		**Pn**		**14 46 49.2**	**-1.3**
ALCO				*eS*		**Sn**		**14 46 58.1**	**-0.8**
PSOM3	**Paja de Sombre**	**0.59**	**60**	⇓*iP*		**Pn**		**14 46 49.6**	**-1.2**
PSOM3				*eS*		**Sn**		**14 46 58.9**	**-0.5**
EDP2	**Potrero Grande**	**0.71**	**332**	⇑*iP*		**Pn**		**14 46 51.5**	**-0.9**
EDP2				*eS*		**Sn**		**14 47 02.6**	**+0.3**
RBALA	**Bur**	**0.83**	**54**	⇓*iP*		**Pn**		**14 46 53.4**	**-0.7**
RBALA				*eS*		**Sn**		**14 47 05.2**	**-0.2**
RBALA	**Bur**	**0.83**	**54**	⇓*iP*		**Pn**		**14 46 53.4**	**-0.7**
PANP	**Palmar Norte**	**0.84**	**313**	⇓*eP*		**Pn**		**14 46 52.9**	**-1.3**
PANP				*eS*		**Sn**		**14 47 05.0**	**-0.5**
DRK0	**Durika**	**0.96**	**335**	⇓*eP*		**Pn**		**14 46 55.0**	**-1.1**
DRK0				*eS*		**Sn**		**14 47 07.9**	**-0.8**
DRK0	**Durika**	**0.96**	**335**	*eP*		**Pn**		**14 46 54.9**	**-1.1**
DRK0				*eS*		**Sn**		**14 47 08.3**	**-0.5**
DRK0	**Durika**	**0.96**	**335**	P		**Pn**		**14 46 54.8**	**-1.2**
DRK0	**Durika**	**0.96**	**335**	S		**Sn**		**14 47 06.4**	**-2.3**
EDPE	**Pejibaye, P**	**1.06**	**317**	*eP*		**Pn**		**14 46 56.3**	**-0.9**
OCHAL	**Ojochal**	**1.07**	**311**	P		**Pn**		**14 46 56.1**	**-1.2**
OCHAL	**Ojochal**	**1.07**	**311**	S		**Sn**		**14 47 10.0**	**-1.2**
KKNTU	**Kakint²**	**1.11**	**66**	*i P*		**Pn**		**14 46 57.1**	**-0.9**
KKNTU				*eS*		**Sn**		**14 47 11.8**	**-0.4**
ISBTO	**Bastimentos Is**	**1.14**	**33**	⇓*iP*		**Pn**		**14 46 54.7**	**-3.6**
MESA3	**La Mesa, Verag**	**1.65**	**98**	*eP*		**Pn**		**14 47 05.7**	**+0.4**
LLNJ	**Naranjito**	**1.65**	**311**	*eP*		**Pn**		**14 47 05.9**	**+0.5**
PIEC	**Cerro El Cedra**	**1.66**	**318**	*eP*		**Pn**		**14 47 05.5**	**-0.2**
GMAL	**Guarumal, Vera**	**1.70**	**111**	*eP*		**Pn**		**14 47 05.7**	**-0.2**
GMAL	**Guarumal, Vera**	**1.70**	**111**	*eP*		**Pn**		**14 47 05.8**	**+0.3**
TURIB	**Turrialba**	**1.73**	**331**	*eP*		**Pn**		**14 47 06.0**	**-0.5**
VERB	**Verbena**	**1.77**	**331**	*eP*		**Pn**		**14 47 07.3**	**+0.2**
LCR2	**La Lucha 2**	**1.77**	**319**	*eP*		**Pn**		**14 47 06.5**	**-0.8**
LCR2	**La Lucha 2**	**1.77**	**319**	P		**Pn**		**14 47 06.7**	**-0.6**
LCR2	**La Lucha 2**	**1.77**	**319**	S		**Sn**		**14 47 30.1**	**+1.2**
PISJ	**San Jernim**	**1.77**	**314**	*eP*		**Pn**		**14 47 07.8**	**+0.6**
ABE2	**San Pablo**	**1.78**	**318**	*eP*		**Pn**		**14 47 08.2**	**+0.9**
RESJ	**San Isidro (Tu**	**1.82**	**334**	*eP*		**Pn**		**14 47 08.6**	**+0.9**
PICV	**PH. Pirrs**	**1.82**	**313**	*eP*		**Pn**		**14 47 08.2**	**+0.4**
IRES	**Siquirres**	**1.82**	**339**	*eP*		**Pn**		**14 47 08.6**	**+0.9**
ABRB	**Las Abras (San**	**1.83**	**332**	⇓*iP*		**Pn**		**14 47 08.9**	**+0.9**
RAFA	**San Farael, Vo**	**1.84**	**328**	*eP*		**Pn**		**14 47 09.1**	**+0.9**
CVTV	**Tajo**	**1.84**	**331**	⇑*eP*		**Pn**		**14 47 08.2**	**-0.1**
PAR1A	**Puntarenas Pro**	**1.85**	**311**	*eP*		**Pn**		**14 47 08.5**	**+0.4**
CVTQ	**Turrialba Volc**	**1.85**	**330**	*eP*		**Pn**		**14 47 09.2**	**+0.7**
VTLA	**Turrialba Volc**	**1.85**	**330**	*eP*		**Pn**		**14 47 08.7**	**+0.2**
VTR0	**Volcan Turrial**	**1.86**	**331**	*eP*		**Pn**		**14 47 08.4**	**+0.5**
RVLA	**Villa Bonita**	**1.87**	**337**	*eP*		**Pn**		**14 47 09.2**	**+0.9**
VICA	**Volcano Irazu**	**1.88**	**328**	*eP*		**Pn**		**14 47 09.1**	**+0.2**
CVIMO	**Finca Echandi**	**1.96**	**326**	*eP*		**Pn**		**14 47 11.1**	**+1.2**
CALO3	**Calobre, Verag**	**1.97**	**92**	*eP*		**Pn**		**14 47 11.1**	**+1.3**
HEME	**Heredia, Merce**	**2.05**	**321**	*eP*		**Pn**		**14 47 12.5**	**+1.5**
BELE	**Belen**	**2.07**	**320**	*eP*		**Pn**		**14 47 12.7**	**+1.5**
VBV1	**V. Barva**	**2.12**	**324**	*eP*		**Pn**		**14 47 14.1**	**+2.0**
CACAO	**El Cacao, Vera**	**2.21**	**118**	⇑*eP*		**Pn**		**14 47 13.2**	**+0.2**
VPS8	**V Poas**	**2.26**	**322**	*eP*		**Pn**		**14 47 16.9**	**+2.9**
TRT2	**Tortugero**	**2.33**	**338**	P		**Pn**		**14 47 15.5**	**+0.8**
AZU	**Azuero**	**2.60**	**103**	*eP*		**Pn**		**14 47 20.8**	**+2.3**
SOCE	**Pocosol**	**2.65**	**319**	*eP*		**Pn**		**14 47 21.1**	**+1.9**
SOCE	**Pocosol**	**2.65**	**319**	P		**Pn**		**14 47 21.1**	**+1.9**
SOCE	**Pocosol**	**2.65**	**319**	S		**Sn**		**14 47 53.9**	**+3.6**
VACR	**Volcan Arenal**	**2.76**	**319**	*eP*		**Pn**		**14 47 24.1**	**+3.5**
ARE1	**Arenal 1**	**2.78**	**318**	*eP*		**Pn**		**14 47 23.1**	**+2.3**
VARE2	**V. Arenal**	**2.78**	**318**	*eP*		**Pn**		**14 47 22.4**	**+1.5**
CEB	**Laguna Cedeo**	**2.79**	**318**	*eP*		**Pn**		**14 47 22.6**	**+1.6**
JTS	**Las Juntas de**	**2.82**	**312**	*eP*		**Pn**		**14 47 21.4**	**-0.1**
JTS	**Las Juntas de**	**2.82**	**312**	*eP*		**Pn**		**14 47 22.7**	**+1.3**
TABAC	**Tabacon**	**2.84**	**318**	*eP*		**Pn**		**14 47 25.4**	**+3.6**
QUEB	**Quebradon, Cot**	**3.01**	**318**	*eP*		**Pn**		**14 47 25.6**	**+1.5**
INDI	**Punta indio, G**	**3.02**	**299**	P		**Pn**		**14 47 23.9**	**-0.2**
INDI	**Punta indio, G**	**3.02**	**299**	S		**Sn**		**14 47 56.7**	**-2.6**
CMARA	**Lajas Hojancha**	**3.03**	**303**	P		**Pn**		**14 47 24.3**	**-0.1**
BCIP	**Isla Barro Col**	**3.06**	**75**	*eP*		Pn		14 47 19.8	-4.9
PLVR	**Palo Verde**	**3.16**	**308**	*eP*		**Pn**		**14 47 26.1**	**-0.2**
LAPC	**Finca la Perla**	**3.49**	**313**	*eP*		**Pn**		**14 47 31.5**	**+0.8**

*NEIC **01** 14:47:50.6±1.4, 20.7°S±0.1°×178.5°W±0.2, h555km±8km, mb4.3/47, Error ellipse: s-maj=22.7km s-min=17.5km az=120.0*
*IDC **01** 14:47:51.0±1.5, 20.73°S×178.60°W, h559km±15km, mb3.3/11, mbtmp4.2/13, Error ellipse: s-maj=17.0km s-min=11.1km az=150.0*
ISC 01 14:47:50.6±0.4, **20.74S**±0.08×**178.64W**±0.08, **h550**km, **n84**, σ1§**33**/84, **mb4.2**/41, **4C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.33**	**313**	P	**P**	**14 49 15.2**	**0.0**
	44nm,0.7s,baz=137,slow=11,SNR=55						
NIUE	**Niue**	**8.36**	**80**	P	**P**	**14 49 53.8**	**+1.7**
RAO	**Raoul Island**	**8.50**	**176**	P	**P**	**14 49 57.0**	**+3.8**
DZM	**Mont Dzumac**	**13.96**	**262**	P	**P**	**14 50 49.7**	**+0.2**
	6.5nm,0.7s,baz=79,slow=18,SNR=12						
MRZ	**Mangatainoka R**	**20.46**	**193**	P	**P**	**14 51 47.3**	**-3.4**
QRZ	**Quartz Range**	**21.38**	**199**	P	**P**	**14 51 57.7**	**-1.3**
MRNZ	**Matariki Terra**	**21.85**	**198**	P	**P**	**14 52 01.4**	**-1.8**
KHZ	**Kahutara**	**22.59**	**195**	P	**P**	**14 52 07.4**	**-2.4**
EIDS	**Eidsvold**	**28.20**	**255**	P	**P**	**14 53 00.9**	**+1.3**
CTAO	**Charters Tower**	**32.87**	**265**	P	**P**	**14 53 40.9**	**+1.1**
CTAO				IAmb	IAmb	14 53 53.9	
	comp=Z,22nm,1.5s						
TOO	**Toolangi**	**35.27**	**234**	P	**P**	**14 54 00.5**	**+0.8**
TOO				IAmb	IAmb	14 54 25.7	
	comp=Z,17nm,1.4s						
STKA	**Stephens Creek**	**37.14**	**244**	P	**P**	**14 54 15.9**	**+0.7**
STKA	**Stephens Creek**	**37.14**	**244**	P	**P**	**14 54 15.7**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=66,slow=10.0,SNR=3.8						
	comp=Z,2.4nm,0.7s						
BBOO	**Buckleboo**	**41.90**	**244**	P	**P**	**14 54 53.4**	**0.0**
WR8	**Warramunga Arr**	**43.82**	**262**	P	**P**	**14 55 08.5**	**-0.1**
WR8				IAmb	IAmb	14 55 47.2	
	comp=Z,8.9nm,1.2s						
AS31	**Alice Springs**	**43.88**	**257**		**P**	**14 55 09.2**	**+0.2**
ASAR	**Alice Springs**	**43.88**	**257**	P	**P**	**14 55 08.9**	**-0.1**
ASAR	**Alice Springs**	**43.88**	**257**	P	**P**	**14 55 09.2**	**+0.2**
	comp=Z,4.8nm,0.8s,baz=99,slow=7.8,SNR=64						
ASAR				PcP	**PcP**	**14 56 43.0**	**0.0**
	comp=Z,1.2nm,0.6s,baz=106,slow=3.3,SNR=12						
ASAR				S	**S**	**15 01 00.5**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=91,slow=15,SNR=8.5						
	comp=Z,4.8nm,0.8s						

WB0	**Warramunga Arr**	**43.95**	**263**		P	**P**		**14 55 09.3**	**-0.2**
WB0					IAmb	IAmb		14 55 09.8	
	comp=Z,5.7nm,0.9s								
WRAB	**Tennant Creek**	**43.96**	**262**		P	**P**		**14 55 09.4**	**-0.3**
WRA	**Warramunga Arr**	**43.97**	**262**		P	**P**		**14 55 09.5**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=96,slow=7.3,SNR=97								
WRA					S	**S**		**15 01 01.3**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=99,slow=14,SNR=4.6								
	comp=Z,1.0nm,0.3s								
FORT	**Forrest**	**48.65**	**247**		P	**P**		**14 55 44.5**	**-0.5**
FORT					IAmb	IAmb		14 56 13.5	
	comp=Z,10nm,1.2s								
KNRA	**Kununurra**	**50.05**	**267**		P	**P**		**14 55 55.2**	**-0.2**
KNRA					IAmb	IAmb		14 55 56.1	
	comp=Z,7.3nm,0.8s								
	comp=Z,0.5nm,0.5s,baz=354,slow=7.0,SNR=6.3								
	comp=Z,0.5nm,0.5s								
CASY	**Casey**	**63.49**	**205**		P	**P**		**14 57 26.2**	**-0.5**
QSPA	**South Pole Qui**	**69.33**	**180**		P	**P**		**14 58 02.1**	**-0.9**
	comp=Z,3.0nm,0.6s,baz=312,slow=0.7,SNR=27								
	comp=Z,3.0nm,0.6s								
JOW	**Kunigami**	**69.86**	**310**		P	**P**		**14 58 05.6**	**-1.1**
ADK	**Adak**	**72.33**	**1**		P	**P**		**14 58 19.9**	**-0.7**
NIKH	**Nikolski High**	**73.89**	**6**		P	**P**		**14 58 29.3**	**-0.2**
UNV	**Unalaska Valle**	**75.01**	**7**		P	**P**		**14 58 34.1**	**-1.6**
PEA0B	**Petropavlovsk-**	**76.35**	**346**		P	**P**		**14 58 43.1**	**-0.1**
PEA0B					IAmb	IAmb		14 58 52.1	
	comp=Z,11nm,1.3s								
PETK	**Petropavlovsk-**	**76.35**	**346**		P	**P**		**14 58 43.0**	**-0.2**
PETK	**Petropavlovsk-**	**76.35**	**346**		P	**P**		**14 58 43.2**	**0.0**
	comp=Z,2.6nm,0.8s,baz=146,slow=7.5,SNR=7.3								
	comp=Z,2.6nm,0.8s								
SDPT	**Sand Point**	**77.35**	**11**		P	**P**		**14 58 48.0**	**-0.6**
SDPT					IAmb	IAmb		14 59 16.7	
	comp=Z,13nm,0.7s								
BELA	**Belgrano 2**	**79.39**	**173**		P	**P**		**14 58 58.1**	**-1.3**
BELA					IAmb	IAmb		14 59 05.0	
	comp=Z,4.2nm,0.5s								
PLK4	**Peulik 4**	**80.27**	**12**		P	**P**		**14 59 03.8**	**-0.4**
O14K	**Tigyukauivet M**	**80.98**	**9**		P	**P**		**14 59 06.9**	**-0.7**
O14K					IAmb	IAmb		14 59 15.4	
	comp=Z,14nm,1.3s								
N14K	**Kuskokwak Cree**	**81.56**	**9**		P	**P**		**14 59 10.8**	**+0.2**
N14K					IAmb	IAmb		14 59 11.6	
	comp=Z,12nm,0.7s								
NVAR	**Mina Array Bea**	**81.61**	**44**		P	**P**		**14 59 11.7**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=225,slow=9.3,SNR=6.9								
	comp=Z,1.3nm,0.7s								
O16K	**Kokwok River B**	**81.80**	**10**		P	**P**		**14 59 10.7**	**-1.1**
O16K					IAmb	IAmb		14 59 29.5	
	comp=Z,10nm,1.4s								
N15K	**Kwethluk River**	**82.03**	**9**		P	**P**		**14 59 13.2**	**+0.1**
N15K					IAmb	IAmb		14 59 14.8	
	comp=Z,9.1nm,1.1s								
J05D	**Fort Rock, OR**	**82.67**	**38**			**P**		**14 59 17.0**	**+0.1**
J05D					IAmb	IAmb		14 59 18.2	
	comp=Z,8.6nm,0.8s								
M16K	**Timber Creek**	**83.02**	**10**		P	**P**		**14 59 18.6**	**+0.6**
M17K	**Holitna River**	**83.62**	**10**		P	**P**		**14 59 21.1**	**+0.1**
M17K					IAmb	IAmb		14 59 22.5	
	comp=Z,12nm,1.1s								
L18K	**Granite Mounta**	**84.51**	**10**		P	**P**		**14 59 25.9**	**+0.6**
K20K	**Telida**	**86.02**	**11**		P	**P**		**14 59 31.8**	**-0.8**
K20K					IAmb	IAmb		15 00 15.2	
	comp=Z,5.8nm,1.4s								
ELIB	**Princess Elisa**	**86.33**	**187**	*dP*		**P**		**14 59 33.1**	**-1.2**
	comp=Z,3.3nm,0.7s								
CAST	**Castle Rocks**	**86.44**	**12**		P	**P**		**14 59 33.0**	**-1.6**
PLID	**Pearl Lake**	**86.78**	**39**			**P**		**14 59 36.3**	**-0.7**
TRF	**Thorofare Moun**	**86.81**	**12**			**P**		**14 59 35.3**	**-1.3**
TRF					IAmb	IAmb		14 59 36.1	
	comp=Z,6.6nm,0.8s								
TROLL	**Troll, Antarti**	**87.49**	**180**	⇑*P*		**P**		**14 59 38.2**	**-1.5**
	comp=Z,50nm,0.6s								
TXAR	**Lajitas Array**	**87.69**	**58**	P		**P**		**14 59 41.5**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=212,slow=4.4,SNR=8.9								
	comp=Z,1.1nm,0.9s								
SNAA	**Sanae**	**87.78**	**179**		P	**P**		**14 59 39.3**	**-1.8**
SNAA					IAmb	IAmb		15 00 15.0	
	comp=Z,6.3nm,1.5s								
M27K	**Edge Creek, AK**	**87.81**	**16**		P	**P**		**14 59 41.2**	**-0.1**
M27K					IAmb	IAmb		14 59 42.3	
	comp=Z,5.6nm,1.1s								
VNA3	**Neumayer Olymp**	**87.94**	**176**	⇑*P*		**P**		**14 59 40.0**	**-1.8**
	comp=Z,5.8nm,0.6s								
H21K	**Melozitna Rive**	**88.35**	**10**	P		**P**		**14 59 42.8**	**-0.7**
H21K					IAmb	IAmb		14 59 43.5	
	comp=Z,2.6nm,0.9s								
VNA2	**Neumayer--Vatz**	**88.37**	**177**	⇑*P*		**P**		**14 59 42.5**	**-1.2**
	comp=Z,2.5nm,0.6s,baz=182,slow=4.7								
CCB	**Clear Creek Bu**	**88.38**	**13**			**P**		**14 59 42.4**	**-1.3**
CCB					IAmb	IAmb		14 59 43.2	
	comp=Z,5.2nm,0.7s								
IMAR	**Indian Mountai**	**88.50**	**10**	P		**P**		**14 59 43.9**	**-0.3**
VNA1	**Neumayer--Stat**	**88.60**	**177**	⇑*P*		P		14 59 40.1	-4.6
	comp=Z,1.5nm,0.6s								
ILAR	**Eielson Array**	**88.68**	**13**	P		**P**		**14 59 43.4**	**-1.7**
	comp=Z,1.3nm,0.8s,baz=223,slow=5.8,SNR=16								
	comp=Z,1.3nm,0.8s								
M29M	**Somme Creek**	**88.80**	**17**	P		**P**		**14 59 45.8**	**0.0**
M29M					IAmb	IAmb		14 59 46.6	
	comp=Z,3.5nm,0.8s								
HHC	**Hu-ho-hao-te**	**89.09**	**315**	*eP*		**P**		**14 59 49.9**	**+2.2**
HHC					pmax	pmax			
	comp=Z,11nm,0.7s								
J26L	**Joseph Creek**	**89.19**	**14**	P		**P**		**14 59 47.4**	**-0.2**
J26L					IAmb	IAmb		14 59 48.4	
	comp=Z,4.4nm,0.8s								
L29M	**L29M**	**89.43**	**17**	P		**P**		**14 59 48.7**	**+0.1**
L29M					IAmb	IAmb		14 59 49.7	
	comp=Z,4.6nm,0.9s								
PDAR	**Pinedale Array**	**89.55**	**43**	P		**P**		**14 59 49.5**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=208,slow=2.9,SNR=8.9								
	comp=Z,1.1nm,0.6s								
CMAR	**Chiang Mai Arr**	**89.63**	**290**	P		**P**		**14 59 52.1**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=142,slow=3.2,SNR=5.8								
	comp=Z,0.4nm,0.3s								
DAWY	**Dawson**	**89.86**	**16**			**P**		**14 59 50.3**	**-0.4**
DAWY					IAmb	IAmb		14 59 51.2	
	comp=Z,2.7nm,0.9s								
PZH	**PanZhiHua**	**90.29**	**298**	P		**P**		**14 59 54.7**	**+1.1**
MKAR	**Makanchi Array**	**110.93**	**313**	PKiKP		**PKiKP**		**15 05 20.1**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=90,slow=1.2,SNR=4.2								
KURBB	**Kurchatov Arra**	**113.82**	**317**	PKiKP		**PKiKP**		**15 05 25.5**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=100,slow=2.1,SNR=5.4								
BVAR	**Borovoye Array**	**118.88**	**320**	PKP		**PKPdf**		**15 05 34.8**	**-1.8**
	comp=Z,1.5nm,0.6s,baz=123,slow=1.5,SNR=9.2								
FINES	**FINESS Array B**	**135.83**	**343**	PKP		**PKPdf**		**15 06 06.2**	**-2.3**
	comp=Z,1.9nm,0.9s,baz=114,slow=6.4,SNR=1.2								
HFS	**Hagfors**	**139.68**	**350**	PKhKP		PKPpre		15 06 08.1	
	comp=Z,2.2nm,0.7s,baz=46,slow=6.2,SNR=2.4								
AKASG	**Malin Array Be**	**142.93**	**330**	PKP				15 06 18.2	
	comp=Z,4.4nm,0.5s,baz=44,slow=4.3,SNR=26								
EKA	**Eskdalemuir Ar**	**145.30**	**5**	PKPbc		**PKPdf**		**15 06 24.6**	**-1.1**
	comp=Z,2.4nm,0.7s,baz=353,slow=5.8,SNR=3.5								
BRTR	**Keskin Array B**	**146.56**	**312**	PKPbc		**PKPdf**		**15 06 30.2**	**+1.7**
	comp=Z,2.0nm,0.7s,baz=143,slow=4.6,SNR=9.7								
MMAI	**Mount Meron Ar**	**147.41**	**299**	PKPbc		**PKPdf**		**15 06 33.0**	**+3.0**
	comp=Z,5.6nm,0.7s,baz=85,slow=4.8,SNR=5.7								
GERES	**GERESS Array B**	**150.27**	**343**	PKPbc		**PKPdf**		**15 06 39.4**	**+5.3**
	comp=Z,1.8nm,0.7s,baz=0.0,slow=1.5,SNR=8.0								
ESDC	**Sonseca Array**	**160.59**	**12**	PKPab		**PKPab**		**15 07 31.4**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=328,slow=5.3,SNR=4.2								

*IDC **01** 15:18:58.9±1.2, 1.14°N×126.19°E, h0km, mb3.7/5, mbtmp3.7/6, ML3.2/1, MS2.6/1, Error ellipse: s-maj=68.0km s-min=20.4km az=76.0*
*DJA **01** 15:19:03.5±0.3, 1.1°N±4.1°×12.6°E±0.1°, h10km, M3.7/10, mb3.8/2, MLv3.6/10*
ISC 01 15:19:05.2±0.9, **1.06N**±0.07×**126.44E**±0.08, **h39**km, **n11**, σ1§**24**/10, **mb3.7/5, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.97**	**107**	P	**Pn**	**15 19 23.3**	**+1.0**
KMSI	**Cibinong**	**2.51**	**259**	P	**Pn**	**15 19 44.4**	**+1.0**
SGSI	**Sangihe**	**2.76**	**341**	P	**Pn**	**15 19 48.6**	**+1.7**
SANI	**Sanana**	**3.12**	**188**	P	**Pn**	**15 19 53.3**	**+1.3**
KAPI	**Kappang**	**9.00**	**228**	LR	LR	15 25 22.5	
	comp=Z,44nm,21.6s,baz=48,slow=43						

FITZ	**Fitzroy Crossi**	**19.06**	**182**		P	**Pn**		**15 23 24.6**	**-0.7**
	0.1nm,0.3s,baz=1.7,slow=12,SNR=1.6								
	2.7nm,1.0s								
WRA	**Warramunga Arr**	**22.27**	**160**		P	**P**		**15 23 58.8**	**-0.2**
	2.0nm,0.5s,baz=337,slow=9.6,SNR=30								
	2.0nm,0.5s								
ASAR	**Alice Springs**	**25.63**	**164**		P	**P**		**15 24 31.1**	**-0.2**
	0.8nm,0.5s,baz=343,slow=9.2,SNR=23								
	0.8nm,0.5s								
STKA	**Stephens Creek**	**35.77**	**158**		P	**P**		**15 26 01.3**	**+0.6**
	1.2nm,0.6s,baz=351,slow=9.2,SNR=4.0								
	1.2nm,0.6s								
PETK	**Petropavlovsk-**	**58.00**	**22**	P		**P**		**15 28 53.7**	**-0.2**
	0.3nm,0.7s,baz=202,slow=7.3,SNR=1.2								
	0.3nm,0.7s								
MKAR	**Makanchi Array**	**59.58**	**326**	P		**P**		**15 29 03.3**	**-1.7**
	0.4nm,0.6s,baz=124,slow=7.8,SNR=5.2								
	0.4nm,0.6s								

*IDC **01** 15:20:50.1±1.4, 37.22°N×138.85°E, h0km, mb3.8/4, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=36.1km s-min=11.4km az=116.0*
*NEIC **01** 15:20:53.7±1.4, 37.12°N±0.06°×138.72°E±0.10°, h10km±2km, mb4.2/3, Error ellipse: s-maj=16.6km s-min=3.0km az=126.0*
*JMA **01** 15:20:53.1±0.1, 37.2°N±0.4°×138.6°E±0.5, h14km±2km, MV3.2/20, MID NIIGATA PREF*
JMA Felt II J1 at MID NIIGATA PREF .
**ISC 01 15:20

comp=Z,0.1nm,0.6s,baz=351,slow=21,SNR=1.5
comp=Z,0.7nm,0.4s

KSRS	**Korea Array**	**32.26**	**4**	P		**P**	**15 50 02.2**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=176,slow=9.4,SNR=2.2							
	comp=Z,0.4nm,0.4s							
MORW	**Morawa**	**35.15**	**194**	P		**P**	**15 50 27.3**	**+0.2**
MORW				IAmb		IAmb	15 51 08.4	
	comp=Z,7.7nm,1.1s							
FORT	**Forrest**	**35.80**	**176**	P		**P**	**15 50 33.1**	**+0.4**
FORT				IAmb		IAmb	15 51 03.7	
	comp=Z,9.4nm,1.1s							
JTM	**Tenmabayashi**	**38.22**	**19**	P		**P**	**15 50 53.5**	**+0.6**
NWAO	**Narrogin (SRO)**	**38.62**	**191**	P		**P**	**15 50 57.3**	**+1.0**
BBOO	**Buckleboo**	**39.09**	**166**	P		**P**	**15 51 01.4**	**+1.1**
USRK	**Ussuriysk Ar.**	**39.35**	**8**	P		**P**	**15 51 03.1**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=184,slow=5.2,SNR=4.5							
	comp=Z,0.9nm,0.5s							
STKA	**Stephens Creek**	**39.94**	**158**	P		**P**	**15 51 08.7**	**+1.4**
STKA	**Stephens Creek**	**39.94**	**158**	P		**P**	**15 51 08.3**	**+1.0**
	comp=Z,2.7nm,0.6s,baz=335,slow=7.2,SNR=8.0							
	comp=Z,2.7nm,0.6s							
ERM	**Erimo**	**40.03**	**21**	P		**P**	**15 51 08.3**	**+0.5**
JKA	**Kamikawa-asahi**	**41.70**	**19**	P		**P**	**15 51 22.5**	**+0.9**
CAN	**Canberra**	**45.99**	**153**	P		**P**	**15 51 57.2**	**+1.3**
CAN				IAmb		IAmb	15 52 33.9	
	comp=Z,28nm,1.5s							
PEA0B	**Petropavlovsk-**	**54.70**	**23**	P		**P**	**15 53 02.0**	**+1.3**
PEA0B				IAmb		IAmb	15 53 12.4	
	comp=Z,13nm,1.4s							
PETK	**Petropavlovsk-**	**54.70**	**23**	P		**P**	**15 53 00.8**	**0.0**
PETK	**Petropavlovsk-**	**54.70**	**23**	P		**P**	**15 53 00.9**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=220,slow=1.0,SNR=7.0							
	comp=Z,1.3nm,0.7s							
MKAR	**Makanchi Array**	**55.60**	**325**	P		**P**	**15 53 07.1**	**-0.3**
MKAR	**Makanchi Array**	**55.60**	**325**	P		**P**	**15 53 07.2**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=125,slow=7.4,SNR=13							
MKAR				PcP		**PcP**	**15 54 03.2**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=146,slow=4.4,SNR=5.0							
	comp=Z,0.5nm,0.4s							
MAKZ	**Makanchi**	**55.79**	**325**	P		**P**	**15 53 08.8**	**+0.1**
KURBB	**Kurchatov Arra**	**59.80**	**328**	P		**P**	**15 53 36.5**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=122,slow=6.0,SNR=4.5							
	comp=Z,0.8nm,0.3s							
KKAR	**Karatay Array**	**61.25**	**317**	P		**P**	**15 53 45.8**	**-0.7**
LBZ	**Lake Benmore**	**63.63**	**146**	P		**P**	**15 54 03.4**	**+1.2**
KHZ	**Kahutara**	**64.43**	**142**	P		**P**	**15 54 07.4**	**0.0**
BKZ	**Black Stump Fm**	**64.57**	**138**	P		**P**	**15 54 09.1**	**+0.6**
TIXI	**Tiksi**	**66.47**	**1**	P		**P**	**15 54 19.8**	**-0.2**
TIXI				IAmb		IAmb	15 54 48.1	
	comp=Z,5.4nm,1.1s							
AB31	**Akbulak array**	**70.17**	**321**	P		**P**	**15 54 42.8**	**-0.6**
ABKAR	**Akbulak array**	**70.17**	**321**	P		**P**	**15 54 42.8**	**-0.6**
CASY	**Casey**	**72.04**	**186**	P		**P**	**15 54 55.3**	**+1.2**
CASY				IAmb		IAmb	15 55 30.7	
	comp=Z,4.3nm,0.9s							
N14K	**Kuskokwak Cree**	**77.09**	**30**	P		**P**	**15 55 24.4**	**+1.0**
N14K				IAmb		IAmb	15 55 38.6	
	comp=Z,15nm,1.1s							
M14K	**Bethel**	**77.14**	**29**	P		**P**	**15 55 24.6**	**+1.0**
M14K				IAmb		IAmb	15 55 28.7	
	comp=Z,12nm,1.2s							
N15K	**Kwethluk River**	**77.93**	**30**	P		**P**	**15 55 29.6**	**+1.5**
N15K				IAmb		IAmb	15 55 36.2	
	comp=Z,18nm,1.4s							
L16K	**Owhat River**	**78.51**	**28**	P		**P**	**15 55 32.1**	**+0.9**
L16K				IAmb		IAmb	15 55 54.3	
	comp=Z,7.2nm,1.4s							
M16K	**Timber Creek**	**78.63**	**29**	P		**P**	**15 55 33.1**	**+1.2**
M16K				IAmb		IAmb	15 55 38.0	
	comp=Z,5.7nm,1.1s							
O16K	**Kokwok River B**	**78.82**	**30**	P		**P**	**15 55 34.3**	**+1.4**
O16K				IAmb		IAmb	15 55 58.3	
	comp=Z,11nm,1.4s							
E19K	**Redstone River**	**80.48**	**22**	P		**P**	**15 55 43.5**	**+1.8**
E19K				IAmb		IAmb	15 55 43.9	
	comp=Z,9.8nm,1.4s							
F20K	**Avaraart Lake**	**81.00**	**23**	P		**P**	**15 55 46.0**	**+1.5**
F20K				IAmb		IAmb	15 56 07.9	
	comp=Z,8.5nm,1.5s							
IMAR	**Indian Mountai**	**81.65**	**24**	P		**P**	**15 55 48.7**	**+0.8**
E21K	**Killik River**	**81.84**	**22**	P		**P**	**15 55 49.7**	**+0.8**
CAST	**Castle Rocks**	**82.13**	**27**	P		**P**	**15 55 51.5**	**+1.0**
CNPM	**China Poot**	**82.28**	**31**	P		**P**	**15 55 51.7**	**+0.3**
I23K	**Minto, Yukon-K**	**83.41**	**25**	P		**P**	**15 55 57.9**	**+0.9**
I23K				IAmb		IAmb	15 55 59.2	
	comp=Z,8.4nm,1.4s							
H24K	**Noodor Dome**	**84.05**	**24**	P		**P**	**15 56 01.8**	**+1.5**
ILAR	**Eielson Array**	**84.46**	**25**	P		**P**	**15 56 02.0**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=261,slow=5.5,SNR=5.3							
	comp=Z,0.4nm,0.4s							
VNDA	**Vanda**	**84.99**	**173**	P		**P**	**15 56 05.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=330,slow=4.7,SNR=5.9							
	comp=Z,0.3nm,0.3s							
BMAR	**Burnt Mountain**	**85.34**	**23**	P		**P**	**15 56 08.2**	**+1.5**
J26L	**Joseph Creek**	**85.90**	**26**	P		**P**	**15 56 10.2**	**+0.6**
BCAR	**Beaver Creek A**	**86.79**	**27**	P		**P**	**15 56 15.0**	**+1.1**
E28M	**Babbage River**	**87.15**	**21**	P		**P**	**15 56 16.3**	**+0.8**
E28M				IAmb		IAmb	15 56 56.9	
	comp=Z,8.4nm,1.4s							
M29M	**Somme Creek**	**88.38**	**28**	P		**P**	**15 56 22.6**	**+1.1**
G31M	**Satah River**	**89.39**	**23**	P		**P**	**15 56 26.8**	**+0.8**
G31M				IAmb		IAmb	15 56 36.5	
	comp=Z,8.0nm,1.4s							
TXAR	**Lajitas Array**	**121.84**	**51**	PKP		**PKiKP**	**16 02 23.6**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=332,slow=2.1,SNR=2.0							

IDC 01 15:43:56.4±3.8, 6°.58N×125°.61E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=386.4km s-min=27.1km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.72**	**162**	P	P	15 49 46.6	-0.2
	1.1nm,0.3s,baz=341,slow=10,SNR=15						
	1.1nm,0.3s						
ASAR	**Alice Springs**	**31.14**	**165**	P	P	15 50 17.4	+0.3
	0.4nm,0.6s,baz=341,slow=9.3,SNR=1.6						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**54.60**	**325**	P	P	15 53 26.7	-0.1
	0.2nm,0.3s,baz=111,slow=8.1,SNR=5.5						
	0.2nm,0.3s						

*SDD **01** 15:58:08.8±1.6, 19°.83N×71°.13W, h31km±21km, MD3.0, ML2.2, MW2.7*
*OSPL **01** 15:58:08.2±4.7, 19°.87N×71°.15W, h25km±32km, ML1.9*
ISC 01 15:58:07.0±1.4, 19°.89N±0°.06×71°.13W±0°.06, h27km±5km, n11, σ1°41/17, 4C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPP1	**Punta Rusia, P**	**0.07**	**244**	*i* P	**Pn**	**15 58 12.0**	**+0.2**
LOPP1				*e*S	**Sb**	**15 58 15.0**	**0.0**
LOPP1				IAML		15 58 15.6	
	comp=Z,332nm,0.1s						
LUDR	**Luperon**	**0.16**	**88**	↑*e*Pg	**Pn**	**15 58 14.3**	**+0.5**
LUDR				IAML		15 58 28.5	
	comp=E,519nm,0.2s						
MCDR	**Montecristi**	**0.50**	**271**	↑*e*Pg	**Pn**	**15 58 18.2**	**-0.2**
MCDR				↓↓*e*Sg	**Sn**	**15 58 26.6**	**+0.5**
MCDR				IAML		15 58 28.0	
	comp=E,91nm,0.2s						
MCDR				IAML		15 58 30.5	
	comp=N,112nm,0.1s						
SC01	**Santiago de lo**	**0.59**	**140**	*i* P	**Pn**	**15 58 19.5**	**-0.2**
REDR	**Restauracion**	**0.76**	**199**	*e*Pg	**Pn**	**15 58 21.9**	**0.0**
REDR				↑↑*e*Sg	**Sn**	**15 58 32.2**	**-0.3**
REDR				IAML		15 58 33.1	
	comp=N,166nm,0.1s						
REDR				IAML		15 58 34.0	
	comp=E,212nm,0.1s						
SDDR	**Presa de Saban**	**0.91**	**190**	↑*e*Pg	**Pn**	**15 58 23.9**	**-0.3**
SDDR				↓↓*e*Sg	**Sn**	**15 58 35.6**	**-0.8**
SDDR				IAML		15 58 35.8	
	comp=E,31nm,0.2s						
SDDR				IAML		15 58 36.9	
	comp=N,56nm,0.4s						
SDDR	**Presa de Saban**	**0.91**	**190**	*i* P	**Pn**	**15 58 24.0**	**-0.1**
SDDR				*e*S	**Sb**	**15 58 34.6**	**-1.4**
SDDR				IAML		15 58 36.8	
	comp=Z,30nm,0.3s						
ABDR	**Alto Bandera**	**1.17**	**156**	*e*Pg	**Pb**	**15 58 28.0**	**-0.8**
ABDR				IAML		15 58 44.8	
	comp=N,40nm,1.6s						
ABDR				IAML		15 58 45.0	
	comp=E,30nm,0.3s						
LONE3	**El Aguacate, B**	**1.31**	**194**	*i* P	**Pb**	15 58 34.6	+3.5
LONE3				*e*S	**Sb**	**15 58 51.6**	**+4.1**
LONE3				IAML		15 58 54.4	
	comp=Z,18nm,1.5s						
PODR	**Polo**	**1.72**	**185**	*e*Pg	**Pb**	**15 58 37.6**	**-0.4**
PODR				IAML		15 59 03.4	
	comp=E,30nm,2.1s						
PODR				IAML		15 59 05.3	
	comp=N,22nm,2.0s						
PODR	**Polo**	**1.72**	**185**	*i* P	**Pb**	**15 58 36.9**	**-1.1**
PODR				*e*S	**Sb**	**15 59 01.2**	**+2.0**

*ISK **01** 16:31:34.4, 38°.37N×42°.82E, h5km, ML2.3/8*
*AFAD **01** 16:31:34.5, 38°.24N×42°.83E, h7km±1km, ML2.6*
ISC 01 16:31:34.7±0.9, 38°.30N±0°.03×42°.84E±0°.03, h11km±8km, n16, σ0°64/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKDM	**Akdamar-Van**	**0.11**	**77**	Pg	**Pg**	**16 31 37.7**	**-0.1**
AKDM				Sg	**Sg**	**16 31 40.2**	**+0.1**
GEVA	**Gevas**	**0.17**	**87**	P	**Pg**	**16 31 38.5**	**-0.1**
GEVA				S	**Sg**	**16 31 41.8**	**+0.3**
GEVA				*i* IAML		16 31 42.0	
	comp=N,2μm,0.3s						
GEVA				*i* IAML		16 31 44.0	
	comp=E,2μm,0.3s						
PERV	**Siirt/Pervari-**	**0.43**	**213**	P	**Pg**	**16 31 42.5**	**-0.6**
PERV				S	**Sg**	**16 31 48.2**	**-0.6**
PERV				*i* IAML		16 31 53.0	
	comp=N,523nm,0.4s						
PERV				*i* IAML		16 31 53.0	
	comp=E,513nm,0.5s						
TVAN	**Van**	**0.50**	**63**	P	**Pg**	**16 31 44.2**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.51**	**350**	P	**Pb**	**16 31 45.6**	**-0.2**
ADCV				*i* IAML		16 31 54.0	
	comp=N,469nm,0.2s						
ADCV				*i* IAML		16 31 54.0	
	comp=E,455nm,0.4s						
ADCV				S	**Sb**	**16 31 54.3**	**+1.0**
VANB	**Van**	**0.52**	**56**	Pg	**Pg**	**16 31 44.2**	**-0.7**
BLIS	**Bitlis-Merkez**	**0.58**	**281**	P	**Pg**	**16 31 45.9**	**-0.1**
BLIS				S	**Sg**	**16 31 53.7**	**0.0**
BLIS				*i* IAML		16 31 55.0	
	comp=E,206nm,0.6s						
GURO	**Guroymak-BITLI**	**0.68**	**292**	Pg	**Pg**	**16 31 47.4**	**-0.5**
GURO				Sg	**Sg**	**16 31 56.4**	**-0.4**
SRTM	**Siirt_Merkez**	**0.79**	**247**	P	**Pb**	**16 31 50.0**	**-0.3**
MLAZ	**Malazgirt-MUS**	**0.87**	**345**	Pg	**Pg**	**16 31 50.2**	**-1.2**
SIRN	**Sırnak**	**0.87**	**203**	P	**Pb**	**16 31 51.6**	**-0.3**
SIRN				S	**Sb**	**16 32 04.2**	**+0.6**
HAKT	**HAKKARI**	**1.01**	**137**	P	**Pg**	**16 31 53.3**	**-0.9**
AGRB	**Hanur-Agry**	**1.28**	**5**	Pn	**Pg**	**16 31 58.3**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.30**	**264**	Pn	**Pg**	**16 31 59.8**	**+0.1**
BNGB	**Bingl**	**1.82**	**293**	Pn	**Pn**	**16 32 06.9**	**+0.8**
KOPR	**Koprukoy-ERZUR**	**1.85**	**336**	Pn	**Pn**	**16 32 06.8**	**+0.3**

NEIC 01 16:35:15.7±1.1, 39°.35N±0°.01×99°.46W±0°.03, h5km±2km, mb_Lg2.5/42, Error ellipse: s-maj=4.0km s-min=2.9km az=264.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBKS	**Cedar Bluff**	**0.57**	**202**	Pg	Pg	16 35 26.2	-0.5
CBKS				Sg	Sg	16 35 32.9	-1.2
R32A	**Long Quarter,**	**1.09**	**147**	Pg	Pg	16 35 35.4	-1.2
R32A				Sg	Sg	16 35 48.6	-2.2
KSU1	**Kansas State U**	**2.23**	**95**	Pn	Pn	16 35 53.4	+0.1
KSU1					Sn	16 36 22.4	+1.2
BGNE	**Belgrade**	**2.29**	**25**	Pn	Pn	16 35 54.0	-0.2
KAN08	**Anthony NE Sta**	**2.42**	**151**	Pn	Pn	16 35 55.1	-0.8
KSCO	**Kaye Shedlock'**	**2.48**	**263**	Pn	Pn	16 35 56.8	-0.2
OGNE	**Ogallala**	**2.54**	**310**	Pn	Pn	16 35 57.2	-0.4
OGNE				IAmb_Lg		16 36 38.8	
	comp=Z,25nm,0.7s						
KAN14	**Manchester OK**	**2.66**	**153**	IAmb_Lg		16 36 41.7	
	comp=Z,16nm,0.9s						
CROK	**Carrier**	**3.07**	**157**	Pn	Pn	16 36 04.8	0.0
ELIS	**Ellis County**	**3.27**	**179**	Pn	Pn	16 36 06.4	-1.3
T35A	**Sooner Cattle**	**3.36**	**135**	Pn	Pn	16 36 08.8	-0.1
T35A				IAmb_Lg		16 37 03.9	
	comp=Z,11nm,0.8s						
OK051	**E0350 and S346**	**3.51**	**143**	Pn	Pn	16 36 10.4	-0.6
OK051				IAmb_Lg		16 37 15.6	
	comp=Z,13nm,0.8s						
OK048	**Pawnee Station**	**3.54**	**145**	IAmb_Lg		16 37 07.6	
	comp=Z,9.3nm,0.7s						
DEOK	**Depew**	**4.21**	**145**	IAmb_Lg		16 37 40.2	
	comp=Z,14nm,1.1s						
SMWD	**Samnorwood**	**4.28**	**189**	IAmb_Lg		16 37 36.2	
	comp=Z,10nm,0.8s						
P38A	**Dawn**	**4.60**	**85**	IAmb_Lg		16 37 48.8	
	comp=Z,8.6nm,0.8s						
WMOK	**Wichita Mounta**	**4.63**	**173**	Pn	Pn	16 36 26.4	0.0
RLO	**Rose Lookout**	**4.74**	**131**	Pn	Pn	16 36 27.4	-0.4
ISCO	**Idaho Springs**	**4.78**	**277**	Pn	Pn	16 36 30.5	+1.9
AMTX	**Amarillo**	**4.79**	**202**	Pn	Pn	16 36 28.8	+0.1
AMTX				IAmb_Lg		16 38 00.3	
	comp=Z,9.3nm,0.7s						
ECSD	**EROS Data Cent**	**4.88**	**25**	Pn	Pn	16 36 32.3	+2.6
X34A	**Smith Ranch, M**	**4.91**	**164**	Pn	Pn	16 36 30.9	+0.7
SDCO	**Great Sand Dun**	**5.00**	**253**	Pn	Pn	16 36 32.3	+0.7
HHAR	**Hobbs**	**5.33**	**123**	IAmb_Lg		16 38 19.2	
	comp=Z,5.7nm,1.0s						
R40A	**Maddies Statio**	**5.71**	**98**	Pn	Pn	16 36 42.5	+1.3
RSSD	**Black Hills**	**5.87**	**326**	IAmb_Lg		16 38 37.7	
	comp=Z,4.9nm,0.8s						
MSTX	**Muleshoe**	**5.99**	**207**	IAmb_Lg		16 38 32.6	
	comp=Z,7.1nm,0.8s						
SN07	**Snyder 07**	**6.35**	**191**	IAmb_Lg		16 38 39.3	
	comp=Z,6.8nm,0.9s						
MIAR	**Mount Ida**	**6.72**	**134**	IAmb_Lg		16 38 55.0	
	comp=Z,7.7nm,1.1s						
WHAR	**Wooly Hollow**	**7.00**	**123**	Pn	Pn	16 36 58.0	-0.9

KRSC 01 16:43:08.9±1.2, 56°.23N×164°.46E, h49km±17km, Ml3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.92**	**270**	*e*P	Pn	16 43 25.4	0.0
KBG	**Krutoberegovo**	**0.98**	**272**	*e*P	Pn	16 43 26.7	+0.4
KBG				*e*S	Sn	16 43 39.0	0.0
BKI	**Bering**	**1.34**	**139**	*i* P	Pn	16 43 33.9	+2.8
BKI				*e*S	Sn	16 43 50.8	+3.1
SMKR	**Semkarok**	**1.70**	**283**	*e*P	Pn	16 43 39.5	+3.3
SMKR				*e*S	Sn	16 44 00.1	+3.4
KLY	**Klyuchi**	**2.12**	**274**	*e*P	Pn	16 43 43.2	+1.3
BZGR	**Bezymyannyi-Gr**	**2.13**	**264**	*e*P	Pn	16 43 45.4	+3.4
BZWR	**Bezymyannyi-We**	**2.23**	**265**	*e*P	Pn	16 43 46.8	+3.2
MKZ	**Mys Kozlova**	**2.28**	**224**	*e*P	Pn	16 43 46.0	+2.0
MKZ				*e*S	Sn	16 44 12.3	+1.4
KIRR	**Kirishev**	**2.32**	**265**	*e*P	Pn	16 43 48.2	+3.5
KPT	**Kopyto**	**2.39**	**266**	*e*P	Pn	16 43 49.5	+3.9
KMNR	**Kamenistaya**	**2.42**	**261**	*e*P	Pn	16 43 50.2	+4.2
TUMD	**Tumrok D**	**2.51**	**248**	*e*P	Pn	16 43 50.7	+3.4
TUMD				*e*S	Sn	16 44 21.5	+4.9
KOZ	**Kozyrevsk**	**2.57**	**268**	*e*P	Pn	16 43 52.6	+4.5
SRDR	**Sredinnyy**	**2.65**	**274**	*e*P	Pn	16 43 52.9	+3.8
SRDR				*e*S	Sn	16 44 23.8	+3.9
OSSR	**Ossora**	**3.12**	**347**	*e*P	Pn	16 43 58.5	+3.0
OSSR				*e*S	Sn	16 44 32.9	+1.3
ESO	**Esso**	**3.24**	**267**	*e*P	Pn	16 44 00.9	+3.7
KII	**Karymskiy**	**3.62**	**235**	*e*P	Pn	16 44 07.1	+4.7
PALN	**Palana**	**3.75**	**322**	*e*P	Pn	16 44 08.3	+4.2
SPN	**Mys Shipunski**	**4.05**	**221**	*e*P	Pn	16 44 10.6	+2.3
NLC	**Nalytchevo**	**4.26**	**226**	*e*S	Sn	16 45 02.5	+3.0
SDLR	**Sedlovina**	**4.38**	**230**	*e*P	Pn	16 44 16.3	+3.5
KRER	**Koryakskii**	**4.42**	**231**	*e*P	Pn	16 44 17.8	+4.4
KRX	**Arik**	**4.42**	**232**	*e*P	Pn	16 44 17.3	+3.8
SMAR	**Somma**	**4.42**	**230**	*e*P	Pn	16 44 17.4	+3.8
AVH	**Avacha**	**4.45**	**231**	*e*P	Pn	16 44 18.1	+4.2
UGLR	**Uglovaya**	**4.45**	**230**	*e*P	Pn	16 44 17.5	+3.7
KOK	**Koryaka**	**4.47**	**231**	*e*P	Pn	16 44 18.0	+3.8
GNL	**Ganaly**	**4.53**	**239**	*e*P	Pn	16 44 19.2	+4.3
DALK	**Dalny**	**4.61**	**228**	*e*P	Pn	16 44 19.1	+3.2
PET	**Petropavlovsk**	**4.65**	**229**	*e*P	Pn	16 44 19.5	+3.0
RUS	**Russkaya**	**5.15**	**225**	*e*P	Pn	16 44 26.9	+3.5
GRL	**Gorelyy**	**5.24**	**228**	*e*P	Pn	16 44 29.7	+4.9
MTVR	**Mutnovka**	**5.25**	**227**	*e*P	Pn	16 44 29.7	+4.9
ASAK	**Asacha**	**5.43**	**228**	*e*P	Pn	16 44 31.9	+4.5

*IDC **01** 16:44:38.3±0.7, 1°.99N×127°.50E, h0km, mb4.0/12, mbtmp4.0/12, Error ellipse: s-maj=41.4km s-min=13.7km az=79.0*
*NEIC **01** 16:44:52.9±1.5, 1°.80N±0°.09×127°.4E±0°.1, h122km±8km, mb4.4/24, Error ellipse: s-maj=19.0km s-min=13.1km az=75.0*
ISC 01 16:44:51.0±0.5, 1°.87N±0°.07×127°.4E±0°.1, h112km, n43, σ1°06/43, mb4.3/21, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.09**	**182**	Pn	**Pn**	**16 45 15.1**	**+1.8**
LUWI	**Luwuk**	**5.46**	**238**	Pn	**Pn**	**16 46 11.9**	**+1.8**
TOLI2	**Tolitoli**	**6.66**	**264**	Pn	**Pn**	**16 46 26.6**	**+0.3**
MTN	**Manton Dam**	**15.08**	**166**	Pn	**Pn**	**16 48 17.3**	**-1.0**
MTN				IAmb	IAmb	16 48 51.1	
	comp=Z,26nm,1.3s						
KNRA	**Kununurra**	**17.48**	**176**	P	**Pn**	**16 48 48.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**19.92**	**185**	P	**P**	**16 49 13.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**19.92**	**185**	P	**P**	**16 49 13.8**	**-0.2**
	comp=Z,2.8nm,0.5s,baz=14,slow=8.9,SNR=21						
	comp=Z,2.8nm,0.5s						
WB0	**Warramunga Arr**	**22.57**	**163**		**P**	**16 49 41.5**	**-0.7**
WB0				IAmb	IAmb	16 49 42.4	
	comp=Z,12nm,0.3s						
WRAB	**Tennant Creek**	**22.71**	**163**	P	**P**	**16 49 42.8**	**-0.8**
WRAB				IAmb	IAmb	16 49 44.0	
	comp=Z,8.2nm,0.6s						
WRA	**Warramunga Arr**	**22.72**	**163**	P	**P**	**16 49 41.2**	**-2.5**
WRA	**Warramunga Arr**	**22.72**	**163**	P	**P**	**16 49 43.4**	**-0.3**
	comp=Z,9.0nm,0.4s,baz=344,slow=11,SNR=83						
	comp=Z,9.0nm,0.4s						
WR8	**Warramunga Arr**	**22.78**	**163**		**P**	**16 49 43.8**	**-0.5**
WR8				IAmb	IAmb	16 49 44.6	
	comp=Z,13nm,0.5s						
AS31	**Alice Springs**	**26.16**	**166**		**P**	**16 50 14.6**	**-0.5**
ASAR	**Alice Springs**	**26.16**	**166**	P	**P**	**16 50 14.8**	**-0.3**
ASAR	**Alice Springs**	**26.16**	**166**	P	**P**	**16 50 15.0**	**-0.1**
	comp=Z,2.7nm,0.5s,baz=347,slow=7.5,SNR=140						
	comp=Z,2.7nm,0.5s						
FORT	**Forrest**	**32.47**	**179**	P	**P**	**16 51 10.7**	**-0.2**
FORT				IAmb	IAmb	16 51 21.1	
	comp=Z,8.3nm,1.1s						
MORW	**Morawa**	**32.63**	**199**	P	**P**	**16 51 11.0**	**-1.3**
KSRS	**Korea Array**	**35.42**	**1**	P	**P**	**16 51 35.2**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=178,slow=11,SNR=4.5						
	comp=Z,1.0nm,0.8s						
BBOO	**Buckleboo**	**35.45**	**167**	P	**P**	**16 51 36.5**	**-0.2**
MJAR	**Matsushiro Arr**	**35.92**	**15**	P	**P**	**16 51 39.5**	**-1.1**
MJAR				IAmb	IAmb	16 51 46.2	
	comp=Z,4.3nm,1.5s						
MJAR	**Matsushiro Arr**	**35.92**	**15**	P	**P**	**16 51 39.2**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=188,slow=8.8,SNR=7.4						
	comp=Z,0.9nm,0.4s						
STKA	**Stephens Creek**	**36.16**	**159**	P	**P**	**16 51 43.1**	**+0.4**
STKA	**Stephens Creek**	**36.16**	**159**	P	**P**	**16 51 42.7**	**-0.1**
	comp=Z,6.0nm,1.0s,baz=336,slow=12,SNR=5.5						
	comp=Z,6.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**42.35**	**5**	P	**P**	**16 52 33.8**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=201,slow=7.7,SNR=3.9						
	comp=Z,1.0nm,0.7s						
TAU	**Tasmania Unive**	**48.05**	**160**	P	**P**	**16 53 18.6**	**-0.4**
SONM	**Songino Array**	**49.26**	**341**	P	**P**	**16 53 28.3**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=166,slow=6.9,SNR=1.9						
	comp=Z,0.4nm,0.5s						
PEA0B	**Petropavlovsk-**	**56.90**	**21**	P	**P**	**16 54 25.2**	**+1.0**
PEA0B				IAmb	IAmb	16 54 35.4	
	comp=Z,18nm,1.5s						
PETK	**Petropavlovsk-**	**56.90**	**21**	P	**P**	**16 54 25.1**	**+0.8**
PETK	**Petropavlovsk-**	**56.90**	**21**	P	**P**	**16 54 23.4**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=214,slow=7.6,SNR=5.0						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**59.46**	**326**	P	**P**	**16 54 43.0**	**+0.8**
MKAR	**Makanchi Array**	**59.46**	**326**	P	**P**	**16 54 43.1**	**+0.9**
	comp=Z,1.4nm,0.4s,baz=120,slow=8.5,SNR=27						
	comp=Z,1.4nm,0.4s						
MAKZ	**Makanchi**	**59.64**	**325**	P	**P**	**16 54 44.2**	**+0.8**
KURBB	**Kur

*BJI **01** 16:59:21.8,8°.81N×124°.49E,h554km,mB5.9/57, mb6.2/100*
*MAN **01** 16:59:24.9,9°.21N×124°.29E,h554km,mb6.2,ML5.3, MS5.9*
*NEIC **01** 16:59:25.7,9°.14N×124°.31E,h560km,Moment Tensor Solution. Duration:* 4*s*7 *Moment tensor: Scale 10^17^Nm; Mrr=7.43; Mθθ=1.15; Mφφ8.58; Mrθ-2.02; Mθφ-0.53; Mφr-4.50; Fault plane solution: M0.9.47000×10^17^ NP1: φs160.70000°,δ32.77000°,λ-116.84000°. NP2: φs11.74000°,δ61.13000°,λ-73.80000°. Principal axes: T 9.7584, Plg15.0000°, Azm90.0000°; N -0.6088, Plg14.0000°, Azm184.0000°; P -9.1496, Plg69.0000°, Azm316.0000°;*
*DJA **01** 16:59:25.9±0.2,9°N±2°×12°4E±°,h543km±2km,M5.7/133, mb6.0/133,mB6.1/117,MLv6.8/6,Mw(mB)5.7/117, MwMwp5.4/45,Mwp5.5/45*
*GCMT **01** 16:59:25.3±0.1,9°.15N±0°.01×124°.09E±0°.01,h546km, MW5.9/143,Moment Tensor Solution. s143,c289; s102,c117; Duration: 2*s*3 Moment tensor: Scale 10^18^ Nm; Mrr=0.77±.01; Mθθ=0.06±.01; Mφφ0.83±.01; Mrθ-0.26±.01; Mθφ0.02±.01; Mφr-0.52±.01; Best double couple: M0.0.99300×10^18^ NP1:φs167.00000°,δ30.00000°, λ-116.00000°. NP2:φs16.00000°,δ63.00000°, λ-76.00000°. Principal axes: T 0.9940, Plg17.0000°, Azm96.0000°; N -0.0030, Plg13.0000°, Azm190.0000°; P -0.9910, Plg68.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*
*MOS **01** 16:59:25.2±0.8,9°.19N×124°.16E,h553km,mb6.0/77 Error ellipse: s-maj=6.9km s-min=3.7km az=115.3*
*IPGP **01** 16:59:25.0,9°.14N×124°.21E,h547km,Mw6.0,Fault plane solution: NP1:φs163.00000°,δ31.00000°,λ-117.00000°. NP2:φs13.00000°,δ63.00000°,λ-75.00000°.*
*NEIC **01** 16:59:25.3±2.3,9°.17N±0°.08×124°.19E±0°.09,h533km±2km, mb5.7/414,Mwb5.9/50,Mww5.9/59,Error ellipse: s-maj=14.6km s-min=13.7km az=244.0,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=7.98; Mθθ0.29; Mφφ7.69; Mrθ-2.67; Mθφ0.28; Mφr-4.47; Fault plane solution: M0.9.41000×10^17^ NP1:φs169.78000°, δ31.15000°,λ-113.41000°. NP2:φs16.61000°,δ61.66000°, λ-76.50000°. Principal axes: T 8.9842, Plg16.0000°, Azm97.0000°; N 0.8065, Plg12.0000°, Azm190.0000°; P -9.7907, Plg70.0000°, Azm316.0000°;*
*NEIC **01** 16:59:25.7,9°.14N×124°.21E,h560km*
*NEIC **01** 16:59:26.5,9°.19N×124°.20E,h549km*
*IDC **01** 16:59:26.2±0.5,9°.15N×124°.17E,h552km±5km,mb5.5/48, mbtmp6.3/52,Error ellipse: s-maj=8.6km s-min=5.2km az=75.0*
ISC 01 16:59:25.7±0.2,**9°.15N**±0°.02×**124°.17E**±0°.03,**h550**km±1km, **h552**km:**pP-P,n1992,**σ1§**43**/2539,**mb5.8**/469,**86C-210D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.49**	**146**	P		**P**	**17 00 34.9**	**-3.0**
DAV	**Davao City (W)**	**2.49**	**146**	P		**P**	**17 00 38.6**	**+0.7**
	7µm,0.7s,baz=37,slow=1.5,SNR=187							
DAV				S		**S**	**17 01 38.1**	**+1.5**
	4µm,0.8s,baz=252,slow=20,SNR=1.2							
DAV	**Davao City (W)**	**2.49**	**146**	∥P		**P**	**17 00 39.0**	**+1.1**
DAV	**Davao City (W)**	**2.49**	**146**	P		**P**	**17 00 38.7**	**+0.9**
DAV	**Davao City (W)**	**2.49**	**146**	P		**P**	**17 00 38.8**	**+0.9**
SGSI	**Sangihe**	**5.59**	**166**	P		**P**	**17 00 58.8**	**-2.0**
TGY	**Tagaytay City**	**5.85**	**328**	P		**P**	**17 01 03.8**	**+0.7**
	8µm,0.8s,baz=180,slow=2.2,SNR=124							
TGY				S		**S**	**17 02 24.5**	**+1.8**
	6µm,0.9s,baz=356,slow=20,SNR=3.9							
MYLDM	**Lahad Datu**	**6.87**	**235**			**P**	**17 01 15.2**	**+2.7**
MYLDM	**Lahad Datu**	**6.87**	**235**	P		**P**	**17 01 15.3**	**+2.8**
KKM	**Kota Kinabalu**	**8.47**	**249**			**P**	**17 01 29.2**	**+0.9**
KKM	**Kota Kinabalu**	**8.47**	**249**	P		**P**	**17 01 29.5**	**+1.2**
KMSI	**Cibinong**	**8.52**	**181**	P		**P**	**17 01 28.8**	**+0.1**
	6µm45µm6µm,1.0s							
TOLI2	**Tolitoli**	**8.67**	**203**			**P**	**17 01 30.4**	**+0.2**
TOLI2	**Tolitoli**	**8.67**	**203**	P		**P**	**17 01 31.0**	**+0.8**
MRSI	**Marisa**	**8.90**	**195**	P		**P**	**17 01 33.4**	**+0.9**
	5µm32µm3µm,0.7s							
TNTI	**Ternate**	**8.91**	**159**			**P**	**17 01 31.9**	**-0.7**
TNTI	**Ternate**	**8.91**	**159**	P		**P**	**17 01 32.7**	**+0.1**
TNTI	**Ternate**	**8.91**	**159**	S		**S**	**17 03 17.9**	**+1.2**
TNTI	**Ternate**	**8.91**	**159**	P		**P**	**17 01 32.3**	**-0.3**
	5µm29µm3µm,0.7s							
SZP	**Santa**	**9.10**	**337**	P		**P**	**17 01 34.8**	**+0.4**
SZP	**Santa**	**9.10**	**337**	S		**S**	**17 03 19.7**	**-0.4**
MPSI	**Mapaga**	**9.73**	**206**	P		**P**	**17 01 42.1**	**+1.1**
	18µm1µm,0.9s							
LUWI	**Luwuk**	**10.22**	**188**			**P**	**17 01 45.1**	**-0.8**
LUWI	**Luwuk**	**10.22**	**188**	P		**P**	**17 01 45.8**	**-0.2**
LUWI	**Luwuk**	**10.22**	**188**	S		**S**	**17 03 43.5**	**+2.3**
LUWI	**Luwuk**	**10.22**	**188**	P		**P**	**17 01 46.9**	**+0.9**
	14µm2µm,0.7s							
APSI	**Ampana**	**10.30**	**194**	P		**P**	**17 01 47.5**	**+0.7**
	26µm3µm,1.1s							
PCI	**Palu**	**10.88**	**204**	P		**P**	**17 01 53.4**	**+0.6**
	3µm25µm2µm,1.2s							
SANI	**Sanana**	**11.27**	**171**	P		**P**	**17 01 54.5**	**-2.3**
SANI	**Sanana**	**11.27**	**171**	P		**P**	**17 01 54.1**	**-2.7**
	15µm2µm,0.7s							
SMKI	**Samarinda**	**11.79**	**216**	P		**P**	**17 02 05.0**	**+2.9**
	10µm46µm4µm,1.4s							
SWI	**Sorong**	**12.20**	**144**	P		**P**	**17 02 07.3**	**+0.9**
	7µm22µm2µm,0.5s							
BKB	**Balikpapan**	**12.63**	**215**			**P**	**17 02 11.3**	**+0.5**
BKB	**Balikpapan**	**12.63**	**215**	P		**P**	**17 02 12.2**	**+1.4**
BKB	**Balikpapan**	**12.63**	**215**	P		**P**	**17 02 12.0**	**+1.2**
	8µm25µm2µm,0.9s							
NLAI	**Namlea**	**12.65**	**167**	P		**P**	**17 02 12.2**	**+1.2**
	15µm1µm,0.7s							
TTSI	**Tana Toraja**	**12.87**	**200**	P		**P**	**17 02 12.8**	**-0.5**
	482nm,0.7s							
AAI	**Ambon**	**13.37**	**162**	P		**P**	**17 02 19.3**	**+0.8**
	11µm1µm,0.6s							
SBUM	**Sibu**	**13.62**	**241**			**P**	**17 02 22.4**	**+1.3**
SBUM	**Sibu**	**13.62**	**241**	P		**P**	**17 02 22.4**	**+1.3**
SBUM	**Sibu**	**13.62**	**241**	S		**S**	**17 04 49.1**	**+3.7**
SPSI	**Sidrap Palu**	**13.75**	**199**	P		**P**	**17 02 22.7**	**+0.3**
TWGBT	**Beinan**	**13.91**	**348**	P		**P**	**17 02 21.6**	**-2.3**
TWG	**Pinlang**	**13.91**	**348**	P		**P**	**17 02 21.3**	**-2.7**
BNSI	**Bone**	**14.06**	**197**	P		**P**	**17 02 26.3**	**+0.7**
	507nm,1.1s							
YULB	**Yu-li**	**14.43**	**349**			**P**	**17 02 26.1**	**-3.1**
YULB	**Yu-li**	**14.43**	**349**	P		**P**	**17 02 26.2**	**-3.1**
YULB	**Yu-li**	**14.43**	**349**	S		**S**	**17 05 00.5**	**0.0**
FAKI	**Fak Fak**	**14.44**	**146**			**P**	**17 02 29.9**	**+0.3**
FAKI	**Fak Fak**	**14.44**	**146**	P		**P**	**17 02 29.9**	**+0.3**
FAKI	**Fak Fak**	**14.44**	**146**	P		**P**	**17 02 29.8**	**+0.3**
	8µm32µm4µm,0.8s							
TPUB	**Ta-pu**	**14.47**	**347**	P		**P**	**17 02 28.4**	**-1.4**
TPUB	**Ta-pu**	**14.47**	**347**	P		**P**	**17 02 28.9**	**-0.8**
RKPI	**Ransiki, Papua**	**14.54**	**136**	P		**P**	**17 02 31.6**	**+1.0**
	12µm41µm5µm,0.9s							
BNDI	**Bandanaira**	**14.73**	**157**	P		**P**	**17 02 34.0**	**+1.5**
BNDI	**Bandanaira**	**14.73**	**157**	P		**P**	**17 02 33.0**	**+0.5**
	8µm35µm5µm,0.8s							
KAPI	**Kappang**	**14.74**	**198**			**P**	**17 02 31.3**	**-1.3**
KAPI	**Kappang**	**14.74**	**198**	P		**P**	**17 02 31.5**	**-1.1**
	67nm,0.7s,baz=30,slow=4.7,SNR=26							
KAPI				ScP		**ScP**	**17 09 45.3**	**-0.5**
	64nm,0.9s,baz=216,slow=0.6,SNR=7.6							
KAPI	**Kappang**	**14.74**	**198**	P		**P**	**17 02 32.1**	**-0.5**
KAPI	**Kappang**	**14.74**	**198**	P		**P**	**17 02 34.6**	**+2.0**
KAPI	**Kappang**	**14.74**	**198**	*c* *i*P		**P**	**17 02 31.0**	**-1.6**
SSLB	**Suanglung**	**14.88**	**348**			**P**	**17 02 31.8**	**-2.1**
SSLB	**Suanglung**	**14.88**	**348**	P		**P**	**17 02 31.8**	**-2.1**
NACB	**Ninganchiao**	**15.14**	**351**			**P**	**17 02 33.9**	**-2.7**
NACB	**Ninganchiao**	**15.14**	**351**	P		**P**	**17 02 34.1**	**-2.5**
YOJ	**Yonaguni jima**	**15.27**	**356**			**P**	**17 02 36.8**	**-1.1**
YOJ	**Yonaguni jima**	**15.27**	**356**	P		**P**	**17 02 37.0**	**-0.8**
YOJ	**Yonaguni jima**	**15.27**	**356**	P		**P**	**17 02 36.8**	**-1.1**
JMJ	**Miyako jima 2**	**15.62**	**4**	P		**P**	**17 02 40.8**	**-0.6**
BSSI	**Bau Bau, Buton**	**15.63**	**194**	P		**P**	**17 02 41.8**	**+0.1**
YHNB	**Yeheng**	**15.66**	**351**	P		**P**	**17 02 40.2**	**-1.8**
BAKI	**Biak**	**15.71**	**130**	P		**P**	**17 02 43.7**	**+1.1**
	45µm5µm,1.1s							
KSM	**Kuching**	**15.76**	**242**			**P**	**17 02 43.3**	**+0.4**
KSM	**Kuching**	**15.76**	**242**	P		**P**	**17 02 43.4**	**+0.4**
KMPI	**Kaimana, Papua**	**15.88**	**143**	P		**P**	**17 02 44.5**	**+0.3**
TATO	**Taipei**	**15.95**	**351**	P		**P**	**17 02 42.5**	**-2.1**
TATO	**Taipei**	**15.95**	**351**	P		**P**	**17 02 43.4**	**-1.3**
TATO				S		**S**	**17 05 25.0**	**-2.2**
TATO	**Taipei**	**15.95**	**351**	P		**P**	**17 02 43.3**	**-1.3**
KNMB	**Chin-men Tao**	**16.20**	**341**			**P**	**17 02 45.8**	**-1.3**
HKPS	**Hong Kong Po S**	**16.22**	**325**			**P**	**17 02 47.3**	**0.0**
SRPI	**Serui, Papua**	**16.26**	**132**	P		**P**	**17 02 48.6**	**+0.8**
QZH	**Quanzhou**	**16.58**	**342**	∥*i*P		**P**	**17 02 50.8**	**+0.2**
QZH				sP		sP	17 04 54.0	-11
QZH				S		**S**	**17 05 34.0**	**-3.7**
QZH				ScS		**ScS**	**17 13 29.1**	**0.0**
QZH				pmax		pmax		
	comp=Z,1µm,0.7s							
QZH				pmax		pmax		
	comp=Z,3µm,5.3s							
QIZ	**Qiongzhong**	**17.00**	**307**	P		**P**	**17 02 55.2**	**+0.7**
QIZ	**Qiongzhong**	**17.00**	**307**	P		**P**	**17 02 55.5**	**+1.0**
QIZ				sP		sP	17 05 01.4	-8.0
QIZ				S		**S**	**17 05 46.1**	**+1.3**
QIZ				pmax		pmax		
	comp=Z,1µm,0.9s							
QIZ	**Qiongzhong**	**17.00**	**307**	P		**P**	**17 02 55.2**	**+0.7**
GZH	**Guangzhou**	**17.31**	**324**	P		**P**	**17 03 00.9**	**+3.7**
GZH				sP		**sP**	**17 05 08.0**	**-4.8**
GZH				S		**S**	**17 05 55.6**	**+6.0**
GZH				ScP		**ScP**	**17 09 51.5**	**+0.8**
GZH				pmax		pmax		
	comp=Z,1µm,0.9s							
MMRI	**Maumere**	**17.77**	**186**			**P**	**17 03 02.0**	**+0.4**
MMRI	**Maumere**	**17.77**	**186**	P		**P**	**17 03 03.9**	**+2.3**
MMRI	**Maumere**	**17.77**	**186**	P		**P**	**17 03 03.2**	**+1.6**
	15µm2µm,0.6s							
JMZ	**Minamidaito 2**	**17.88**	**21**	P		**P**	**17 03 02.0**	**-0.4**
JMZ	**Minamidaito 2**	**17.88**	**21**	P		**P**	**17 03 02.2**	**-0.2**
EDFI	**Ende, Flores**	**17.95**	**188**	P		**P**	**17 03 04.0**	**+0.7**
	9µm946nm,0.6s							
JOW	**Kunigami**	**18.01**	**12**	P		**P**	**17 03 04.7**	**+1.0**
	273nm,0.4s,baz=209,slow=7.7,SNR=60							
JOW				S		**S**	**17 06 02.3**	**+1.3**
	12nm,0.4s,baz=252,slow=25,SNR=6.8							
JOW				ScP		**ScP**	**17 09 52.2**	**0.0**
	28nm,0.8s,baz=297,slow=4.5,SNR=3.0							
JOW	**Kunigami**	**18.01**	**12**	P		**P**	**17 03 04.5**	**+0.9**
SMPI	**Sarmi**	**18.23**	**127**	P		**P**	**17 03 07.3**	**+1.5**
SAUI	**Saumlaki**	**18.44**	**157**			**P**	**17 03 08.4**	**+0.7**
SAUI	**Saumlaki**	**18.44**	**157**	P		**P**	**17 03 09.2**	**+1.5**
SAUI	**Saumlaki**	**18.44**	**157**	P		**P**	**17 03 08.7**	**+1.0**
	44µm4µm,0.9s							
SOEI	**Soe**	**18.78**	**180**	P		**P**	**17 03 10.9**	**0.0**
SOEI	**Soe**	**18.78**	**180**	P		**P**	**17 03 10.8**	**-0.1**
	4µm478nm,0.9s							
PLAI	**Plampang**	**18.96**	**200**	P		**P**	**17 03 13.9**	**+1.5**
PLAI	**Plampang**	**18.96**	**200**	P		**P**	**17 03 13.4**	**+1.0**
	14µm1µm,0.7s							
KMMI	**Kalianget**	**19.04**	**213**	P		**P**	**17 03 15.3**	**+2.2**
	6µm636nm,0.7s							
WSI	**Waingapu**	**19.09**	**192**	P		**P**	**17 03 11.8**	**-1.8**
	25µm2µm,0.6s							
BATI	**Baumata**	**19.23**	**182**	P		**P**	**17 03 15.0**	**0.0**
	933nm,0.6s,baz=27,slow=1.2,SNR=154							
BATI				S		**S**	**17 06 17.3**	**-3.8**
	256nm,0.7s,baz=153,slow=24,SNR=11							
BATI				ScP		**ScP**	**17 09 56.0**	**+0.8**
	467nm,0.7s,baz=304,slow=1.5,SNR=15							
WBSI	**Waikabubak, Su**	**19.26**	**194**	P		**P**	**17 03 15.6**	**+0.4**
	6µm475nm,0.9s							
SRBI	**Singaraja**	**19.31**	**208**	P		**P**	**17 03 17.2**	**+1.6**
	5µm425nm,0.6s							
BASI	**Baing, Sumba**	**19.57**	**191**	P		**P**	**17 03 17.1**	**-0.9**
	11µm995nm,0.6s							
GENI	**Genyem**	**19.75**	**125**	P		**P**	**17 03 21.3**	**+1.6**
GENI	**Genyem**	**19.75**	**125**	P		**P**	**17 03 20.7**	**+1.0**
GRJI	**Gresik**	**19.76**	**217**	P		**P**	**17 03 22.3**	**+2.6**
	7µm459nm,0.9s							
JAY	**Jayapura**	**20.14**	**124**	P		**P**	**17 03 23.9**	**+0.6**
	989nm,0.7s,baz=297,slow=4.0,SNR=282							
JAY				ScP		**ScP**	**17 09 57.4**	**0.0**
	63nm,0.9s,baz=322,slow=1.5,SNR=11							
	989nm,0.7s							
JAGI	**Jajag, Banyuwa**	**20.15**	**210**	P		**P**	**17 03 24.2**	**+1.0**
JAGI	**Jajag, Banyuwa**	**20.15**	**210**	P		**P**	**17 03 24.1**	**+0.9**
JAGI	**Jajag, Banyuwa**	**20.15**	**210**	P		**P**	**17 03 24.2**	**+1.0**
	6µm504nm,1.3s							
TPI	**Tanjungpandan**	**20.27**	**235**	P		**P**	**17 03 24.9**	**+0.6**
	2µm12µm2µm,0.8s							
GMJI	**Gumukmas**	**20.34**	**212**	P		**P**	**17 03 25.6**	**+0.7**
	357nm,0.9s							
NGJI	**Ngawi**	**20.73**	**218**	P		**P**	**17 03 30.7**	**+2.2**
	307nm,0.9s							
GUMO	**Guam**	**20.76**	**76**			**P**	**17 03 29.2**	**+0.4**
GUMO	**Guam**	**20.76**	**76**	P		**P**	**17 03 29.0**	**+0.2**
	3µm,0.4s,baz=206,slow=1.9,SNR=320							
GUMO				S		**S**	**17 06 43.7**	**-1.8**
	47nm,0.6s,baz=0.0,slow=20,SNR=1.2							
	3µm,0.4s							
GUMO	**Guam**	**20.76**	**76**	P		**P**	**17 03 28.7**	**-0.1**
GUMO	**Guam**	**20.76**	**76**	P		**P**	**17 03 29.2**	**+0.4**
SMRI	**Semarang**	**21.12**	**221**	P		**P**	**17 03 33.5**	**+1.5**
SMRI	**Semarang**	**21.12**	**221**	P		**P**	**17 03 34.7**	**+2.6**
SMRI	**Semarang**	**21.12**	**221**	P		**P**	**17 03 33.6**	**+1.5**
	392nm,0.7s							
WOJI	**Wonogiri, Jawa**	**21.42**	**218**	P		**P**	**17 03 35.2**	**+0.5**
	256nm,0.5s							
MYKOM	**Kota Tinggi**	**21.50**	**251**	P		**P**	**17 03 36.8**	**+1.4**
PCJI	**Pacitan**	**21.55**	**217**	P		**P**	**17 03 37.2**	**+1.3**
CNSH	**ChangSha**	**21.69**	**332**	P		**P**	**17 03 38.3**	**+1.3**
CNSH				S		**S**	**17 07 00.4**	**+0.6**
CNSH				pmax		pmax		
	comp=Z,180nm,0.9s							
UGM	**Wanagama**	**21.73**	**219**	P		**P**	**17 03 38.6**	**+1.1**
UGM	**Wanagama**	**21.73**	**219**	P		**P**	**17 03 39.0**	**+1.5**
UGM	**Wanagama**	**21.73**	**219**	P		**P**	**17 03 39.9**	**+2.4**
	4µm233nm,0.6s							
SSE	**Sheshan**	**22.01**	**353**	P		**P**	**17 03 40.5**	**+0.7**
SSE				S		**S**	**17 07 06.1**	**+1.4**
SSE				pmax		pmax		
	comp=Z,100nm,0.8s							
SSE				pmax		pmax		
	comp=Z,290nm,4.0s							
DRS	**Darwin Rock St**	**22.46**	**163**	P		**P**	**17 03 43.7**	**-0.3**
PMBI	**Palembang**	**22.75**	**239**	P		**P**	**17 03 48.4**	**+1.7**
	7µm884nm,1.1s							
MTN	**Manton Dam**	**22.92**	**162**	P		**P**	**17 03 47.2**	**-0.9**
MTN	**Manton Dam**	**22.92**	**162**	P		**P**	**17 03 46.9**	**-1.2**
	comp=Z,259nm,0.8s							
MTN	**Manton Dam**	**22.92**	**162**	P		**P**	**17 03 47.5**	**-0.6**
SLVN	**Son La**	**22.96**	**304**			**P**	**17 03 50.3**	**+1.7**
SLVN	**Son La**	**22.96**	**304**	P		**P**	**17 03 50.5**	**+2.0**
WHN	**Wuhan**	**23.18**	**338**	∥P		**P**	**17 03 52.2**	**+2.0**
WHN				sP		**sP**	**17 06 20.3**	**+2.8**
WHN				PcP		**PcP**	**17 07 19.5**	**+1.0**
WHN				S		**S**	**17 07 26.6**	**+3.5**
WHN				ScP		**ScP**	**17 10 05.6**	**+0.9**
WHN				ScS		**ScS**	**17 13 52.8**	**+1.0**
WHN				pmax		pmax		
	comp=Z,2µm,0.9s							
WHN				pmax		pmax		
	comp=Z,5µm,2.7s							
KDU	**Kakadu**	**23.21**	**159**	P		**P**	**17 03 49.8**	**-0.9**
	comp=Z,625nm,0.7s							
KDU	**Kakadu**	**23.21**	**159**	P		**P**	**17 03 49.8**	**-0.9**
BBJI	**Bungbulang**	**23.31**	**225**	P		**P**	**17 03 51.2**	**-0.5**
NJ2	**Nanjing**	**23.32**	**349**	∥*i*P		**P**	**17 03 52.9**	**+1.5**
NJ2				sP		**sP**	**17 06 17.5**	**-1.6**
NJ2				S		**S**	**17 07 28.2**	**+2.9**
NJ2				PcS		PcS	17 10 50.4	-8.2
NJ2				ScS		**ScS**	**17 13 54.6**	**+2.3**
NJ2				pmax		pmax		
	comp=Z,540nm,0.9s							
DBJI	**Dramaga**	**23.34**	**229**	P		**P**	**17 03 53.1**	**+1.2**
	comp=Z,9µmcomp=Z,563nm,0.7s							
IPM	**Ipoh**	**23.44**	**260**			**P**	**17 03 53.6**	**+0.8**
IPM	**Ipoh**	**23.44**	**260**	P		**P**	**17 03 53.7**	**+0.8**
SBJI	**Serang**	**23.52**	**230**	P		**P**	**17 03 54.7**	**+1.2**
CNJI	**Cibinong**	**23.57**	**227**	P		**P**	**17 03 53.5**	**-0.4**
KULM	**Kulim**	**23.64**	**262**			**P**	**17 03 55.6**	**+0.9**
KULM	**Kulim**	**23.64**	**262**	P		**P**	**17 03 55.5**	**+0.9**
BLSI	**Bandar Lampung**	**23.75**	**233**	P		**P**	**17 03 56.2**	**+0.7**
	comp=Z,10µmcomp=Z,1µm,0.7s							
KLI	**Kotabumi**	**23.76**	**235**	P		**P**	**17 03 56.1**	**+0.5**
	comp=Z,15µmcomp=Z,2µm,0.9s							
SKJI	**Sukabumi**	**23.78**	**228**	P		**P**	**17 03 57.2**	**+1.4**
	comp=Z,16µmcomp=Z,839nm,0.5s							
GYA	**Guiyang**	**23.91**	**318**	∥P		**P**	**17 03 58.7**	**+1.8**
GYA				sP		sP	17 06 28.0	+2.3
GYA				PcP		**PcP**	**17 07 21.6**	**+1.2**
GYA				S		**S**	**17 07 35.1**	**0.0**
GYA				ScP		**ScP**	**17 10 07.9**	**+0.9**
GYA				pmax		pmax		
	comp=Z,110nm,0.7s							
GYA				pmax		pmax		
	comp=Z,2µm,4.6s							
MDSI	**Maura Dua**	**24.10**	**237**	P		**P**	**17 03 58.3**	**-0.3**
	comp=Z,2µmcomp=Z,6µmcomp=Z,724nm,0.9s							
CGJI	**Cibinong**	**24.17**	**230**	P		**P**	**17 03 58.5**	**-0.8**
SRIT	**Nakonsritamara**	**24.28**	**271**	P		**P**	**17 04 02.3**	**+2.1**
LHSI	**Lahat**	**24.28**	**239**	P		**P**	**17 04 00.7**	**+0.4**
	comp=Z,7µmcomp=Z,922nm,0.9s							
LWLI	**Liwa**	**24.49**	**236**	P		**P**	**17 04 02.2**	**-0.1**
BKNI	**Bangkinang**	**24.64**	**250**	P		**P**	**17 04 05.1**	**+1.7**
BKNI	**Bangkinang**	**24.64**	**250**	P		**P**	**17 04 04.4**	**+1.0**
	comp=Z,3µmcomp=Z,14µmcomp=Z,2µm,0.9s							
JNU	**Nakatsue**	**24.65**	**14**	P		**P**	**17 04 02.5**	**-0.8**
	comp=Z,127nm,0.9s,baz=190,slow=3.2,SNR=59							
	comp=Z,127nm,0.9s							
JNU	**Nakatsue**	**24.65**	**14**	P		**P**	**17 04 02.8**	**-0.5**
JCJ	**Chichijima**	**24.67**	**41**			**P**	**17 04 02.6**	**-0.9**
JCJ	**Chichijima**	**24.67**	**41**	P		**P**	**17 04 02.7**	**-0.9**
KSI	**Kapahiang**	**24.99**	**240**	P		**P**	**17 04 07.3**	**+0.7**
	comp=Z,14µmcomp=Z,1µm,0.8s							
MNAI	**Manna**	**25.05**	**238**	P		**P**	**17 04 07.2**	**+0.2**
MNAI	**Manna**	**25.05**	**238**	P		**P**	**17 04 07.1**	**+0.1**
KNRA	**Kununurra**	**25.08**	**170**	P		**P**	**17 04 07.1**	**-0.2**
KNRA	**Kununurra**	**25.08**	**170**	P		**P**	**17 04 06.5**	**-0.7**
	comp=Z,124nm,0.8s							
ENH	**Enshi**	**25.10**	**329**	P		**P**	**17 04 08.6**	**+1.3**
PPI	**Padang Panjang**	**25.53**	**249**	P		**P**	**17 04 11.6**	**+0.3**
	comp=Z,4µmcomp=Z,12µmcomp=Z,1µm,1.1s							
MANU	**Manus Island**	**25.65**	**115**			**P**	**17 04 12.9**	**+0.5**
JTU	**Tsushima**	**25.71**	**10**	P		**P**	**17 04 12.8**	**+0.3**
MNSI	**Mandailing Nat**	**25.84**	**253**	P		**P**	**17 04 14.5**	**+0.4**
KMI	**Kunming**	**25.85**	**311**	∥P		**P**	**17 04 16.6**	**+2.3**
KMI				sP		sP	17 06 49.7	+2.9
KMI				PcP		**PcP**	**17 07 26.1**	**+1.1**
KMI				S		**S**	**17 08 05.1**	**-0.7**
KMI				ScP		**ScP**	**17 10 13.1**	**+0.3**
KMI				ScS		**ScS**	**17 14 04.6**	**+0.9**
KMI				pmax		pmax		
	comp=Z,820nm,0.8s							
PSI	**Prapat**	**25.88**	**257**	P		**P**	**17 04 15.5**	**+1.0**
PSI	**Prapat**	**25.88**	**257**	P		**P**	**17 04 15.5**	**+1.0**
RPSI	**Rantau Prapat**	**25.90**	**257**			**P**	**17 04 15.5**	**+0.9**
JMN	**Monobe**	**26.05**	**19**	P		**P**	**17 04 16.1**	**+0.5**
TSI	**Tuntungan**	**26.05**	**259**	P		**P**	**17 04 17.6**	**+1.7**
	comp=Z,616nm,0.9s							
CM31	**Chiang Mai Arr**	**26.16**	**293**	P		**P**	**17 04 18.8**	**+2.0**
	SNR=133							
CM31				S		**S**	**17 08 13.1**	**+2.8**
CMAR	**Chiang Mai Arr**	**26.16**	**293**			**P**	**17 04 18.2**	**+1.4**
CMAR	**Chiang Mai Arr**	**26.16**	**293**	P		**P**	**17 04 18.4**	**+1.6**
	comp=Z,226nm,0.6s,baz=97,slow=7.6,SNR=1340							
CMAR				PcP		**PcP**	**17 07 26.2**	**+0.7**
	comp=Z,84nm,0.8s,baz=124,slow=3.1,SNR=19							
CMAR				ScP		**ScP**	**17 10 13.8**	**+0.2**
	comp=Z,83nm,0.8s,baz=86,slow=1.6,SNR=28							
CMAR				PKiKP		**PKiKP**	**17 15 03.4**	**-0.7**
	comp=Z,7.6nm,0.7s,baz=250,slow=1.3,SNR=17							
	comp=Z,226nm,0.6s							
CHTO	**Chiang Mai**	**26.26**	**294**			**P**	**17 04 18.8**	**+1.1**
CHTO	**Chiang Mai**	**26.26**	**294**	P		**P**	**17 04 19.1**	**+1.4**
CHTO				S		**S**	**17 08 12.9**	**+0.9**
CHTO	**Chiang Mai**	**26.26**	**294**	P		**P**	**17 04 18.8**	**+1.1**
CHTO	**Chiang Mai**	**26.26**	**294**	P		**P**	**17 04 18.8**	**+1.1**
XMI	**Christmas Isla**	**26.78**	**224**	P		**P**	**17 04 21.7**	**-0.6**
FITZ	**

DL2 sP **sP** **17 07 19.0 -2.7**
DL2 PcP **PcP** **17 07 34.7 +0.7**
DL2 S **S** **17 09 02.8 -2.3**
DL2 ScP **ScP** **17 10 22.7 -1.5**
DL2 PcS **PcS** **17 11 17.0 -1.0**
DL2 ScS **ScS** **17 14 20.2 -0.3**
DL2 pmax pmax
comp=Z,1μm,0.9s
DL2 pmax pmax
comp=Z,1μm,4.9s
CMBY CAMPBELL BAY 30.01 268 *e*P **P** **17 04 51.1 +0.7**
CMBY IAmb IAmb 17 04 54.6
comp=Z,279nm,0.7s
CMBY *e*S **S** **17 09 08.4 -2.0**
MAJO Matsushiro 30.10 23 **P** **17 04 49.6 -1.4**
MAJO IAmb IAmb 17 04 51.1
comp=Z,300nm,1.2s
MAJO Matsushiro 30.10 23 P **P** **17 04 49.6 -1.4**
MAJO Matsushiro 30.10 23 ⇓*i*P **P** **17 04 49.7 -1.2**
MAJO pmax pmax
comp=Z,278nm,1.2s
MAJO Matsushiro 30.10 23 ⇓P **P** **17 04 49.8 -1.2**
MAJO PcP **PcP** **17 07 35.6 +0.5**
MAJO ScP **ScP** **17 10 26.8 +1.2**
MJAR Matsushiro Arr 30.10 23 P **P** **17 04 49.5 -1.4**
MJAR IAmb IAmb 17 04 51.1
comp=Z,206nm,0.9s
MJAR Matsushiro Arr 30.10 23 P **P** **17 04 49.8 -1.1**
comp=Z,161nm,0.8s,baz=193,slow=9.3,SNR=372
MJAR PcP **PcP** **17 07 35.9 +0.7**
comp=Z,71nm,0.8s,baz=183,slow=2.7,SNR=13
MJAR S **S** **17 09 07.2 -4.0**
comp=Z,14nm,0.8s,baz=194,slow=8.8,SNR=4.5
MJAR ScP **ScP** **17 10 26.2 +0.6**
comp=Z,25nm,0.8s,baz=185,slow=2.8,SNR=7.0
MJAR P3KPbc 17 36 30.8
comp=Z,1.6nm,0.6s,baz=23,slow=4.2,SNR=4.6
comp=Z,161nm,0.8s
MJB9 Matsu-Tunnel 30.11 23 IAmb IAmb 17 04 51.1
comp=Z,293nm,1.2s
TIY Taiyuan 30.35 341 *e*P **P** **17 04 54.4 +1.3**
TIY sP **sP** **17 07 29.7 +1.6**
TIY S **S** **17 09 16.4 +1.3**
TIY pmax pmax
comp=Z,670nm,0.7s
TIY pmax pmax
comp=Z,2μm,5.3s
MBWA Marble Bar 30.43 188 P **P** **17 04 53.6 -0.3**
MBWA Marble Bar 30.43 188 P **P** **17 04 53.6 -0.3**
comp=Z,273nm,0.6s
MBWA Marble Bar 30.43 188 P **P** **17 04 53.9 0.0**
MBWA Marble Bar 30.43 188 P **P** **17 04 53.5 -0.4**
MBWA Marble Bar 30.43 188 P **P** **17 04 53.8 -0.1**
MBWA PcP **PcP** **17 07 36.6 +0.3**
MBWA ScP **ScP** **17 10 25.9 -1.0**
WRAB Tennant Creek 30.59 161 P **P** **17 04 54.9 -0.4**
WRAB Tennant Creek 30.59 161*c i*P **P** **17 04 54.9 -0.4**
WRAB pmax pmax
comp=Z,459nm,0.7s
WRA Warramunga Arr 30.59 161 **P** **17 04 54.7 -0.7**
WRA Warramunga Arr 30.59 161 P **P** **17 04 55.0 -0.3**
comp=Z,277nm,0.5s,baz=332,slow=10,SNR=556
WRA PcP **PcP** **17 07 36.9 +0.1**
comp=Z,83nm,0.8s,baz=334,slow=3.0,SNR=8.9
WRA S **S** **17 09 14.2 -4.9**
comp=Z,215nm,0.7s,baz=339,slow=14,SNR=30
WRA ScP **ScP** **17 10 26.8 -0.7**
comp=Z,252nm,0.7s,baz=342,slow=3.8,SNR=20
WRA P3KPbc 17 36 26.6
comp=Z,8.4nm,0.8s,baz=160,slow=4.1,SNR=16
WRA PKP2ab 17 40 27.4
comp=Z,1.2nm,1.1s,baz=149,slow=3.7,SNR=4.5
comp=Z,277nm,0.5s
RABL Rabaul 30.89 114 **P** **17 04 58.7 +0.7**
DGPR DIGLIPUR 30.89 280 *e*P **P** **17 04 57.9 -0.1**
DGPR IAmb IAmb 17 04 59.3
comp=Z,232nm,0.4s
DGPR *e*S **S** **17 09 23.2 -0.7**
JSD Sado 31.44 22 P **P** **17 05 01.4 -1.0**
BJT Baijiatuau 31.56 348 P **P** **17 05 04.3 +1.0**
BJT Baijiatuau 31.56 348 P **P** **17 05 04.1 +0.8**
BJT Baijiatuau 31.56 348 P **P** **17 05 04.3 +1.0**
BJT pmax pmax
comp=Z,1μm,0.8s
BJT Baijiatuau 31.56 348 ⇓P **P** **17 05 04.5 +1.2**
BJI Beijing 31.58 348 P **P** **17 05 04.5 +1.0**
BJI PcP **PcP** **17 07 40.0 +1.0**
BJI S **S** **17 09 34.3 +0.7**
BJI ScP **ScP** **17 10 32.0 +1.6**
BJI ScS **ScS** **17 14 31.5 +1.7**
BJI pmax pmax
comp=Z,700nm,0.9s
BJI pmax pmax
comp=Z,670nm,3.5s
JMM Marumori 32.28 25 P **P** **17 05 09.0 -0.5**
SNY Shenyang 32.55 359 ⇓P **P** **17 05 12.5 +0.8**
SNY sP **PcP** **17 07 44.1 +2.4**
SNY S **S** **17 09 49.8 +1.4**
SNY pmax pmax
comp=Z,690nm,0.8s
SNY pmax pmax
comp=Z,760nm,4.4s
LZH Lanzhou 32.58 328 ⇓P **P** **17 05 14.6 +2.3**
LZH S **S** **17 09 52.4 +3.0**
LZH ScP **ScP** **17 10 35.1 +0.9**
LZH pmax pmax
comp=Z,2μm,1.3s
LZH pmax pmax
comp=Z,4μm,4.8s
IMP Imphal 32.73 302 *e*P **P** **17 05 13.9 +0.3**
IMP IAmb IAmb 17 05 15.3
comp=Z,218nm,0.8s
GIRL Giralia 33.06 197 P **P** **17 05 17.4 +1.1**
comp=Z,636nm,1.2s
GIRL Giralia 33.06 197 P **P** **17 05 18.0 +1.7**
QIS Mount Isa 33.20 153 P **P** **17 05 17.4 -0.1**
comp=Z,910nm,0.8s
QIS Mount Isa 33.20 153 P **P** **17 05 17.4 -0.1**
AZL Aizawl 33.39 300 *e*P **P** **17 05 20.2 +1.0**
AZL IAmb IAmb 17 05 22.3
comp=Z,145nm,0.3s
HHC Hu-ho-hao-te 33.49 343 ⇓*i*P **P** **17 05 21.3 +1.4**
HHC pP pP 17 06 55.5 +3.1
HHC sP sP 17 07 58.1 +2.1
HHC S **S** **17 10 05.0 +2.0**
HHC pmax pmax
comp=Z,590nm,1.0s
HHC pmax pmax
comp=Z,510nm,5.9s
MTSU Mount Surprise 33.62 144 P **P** **17 05 21.2 +0.1**
comp=Z,365nm,0.9s
MTSU Mount Surprise 33.62 144 P **P** **17 05 21.4 +0.2**
BTO Baotou 33.76 340 *e*P **P** **17 05 23.9 +1.8**
BTO pP **pP** **17 06 57.4 +2.6**
BTO PP **PP** **17 07 00.0 -4.3**
BTO sP **sP** **17 07 58.0 -0.3**
BTO S **S** **17 10 12.0 +5.0**
BTO sS **sS** **17 12 59.3 +1.3**
BTO SS **SS** **17 13 09.8 -10**
BTO pmax pmax
comp=Z,200nm,0.9s
BTO pmax pmax
comp=Z,3μm,7.2s
MSHR Mys Shultsa 33.86 9*ce*P **P** **17 05 23.2 +0.5**
MSHR pmax pmax
comp=Z,430nm,1.2s
PSTR Posyet 33.88 9*d i*P **P** **17 05 24.0 +1.1**
PATS Pohnpei 33.88 91 **P** **17 05 24.0 +0.6**
PATS Pohnpei 33.88 91 P **P** **17 05 23.8 +0.5**
comp=Z,0.0nmcomp=Z,1μm,0.7s
PATS Pohnpei 33.88 91 P **P** **17 05 24.3 +0.9**
ZIRO ZIRO 33.94 307 *e*P **P** **17 05 25.2 +1.3**
ZIRO IAmb IAmb 17 05 26.8
comp=Z,137nm,0.3s
AS31 Alice Springs 33.97 164 P **P** **17 05 24.3 +0.2**
ASAR Alice Springs 33.98 164 P **P** **17 05 24.5 +0.5**
comp=Z,268nm,0.4s,baz=341,slow=7.1,SNR=8104
ASAR PcP **PcP** **17 07 46.2 0.0**
comp=Z,52nm,0.5s,baz=348,slow=2.9,SNR=6.2
ASAR S **S** **17 10 08.6 -2.0**
comp=Z,156nm,0.7s,baz=347,slow=19,SNR=33
ASAR P3KPbc 17 36 13.9
comp=Z,6.6nm,0.8s,baz=156,slow=4.8,SNR=46
ASAR PKP2ab 17 40 11.3
comp=Z,1.2nm,0.9s,baz=157,slow=5.6,SNR=4.6
comp=Z,268nm,0.4s
AS01 Alice Springs 33.99 164 P **P** **17 05 24.3 +0.2**
WRKA Warakurna 34.22 173 P **P** **17 05 26.1 +0.1**
comp=Z,119nm,1.0s
TEZP TEZPUR 34.40 304 *e*P **P** **17 05 28.6 +1.1**
TEZP IAmb IAmb 17 05 30.0
comp=Z,122nm,0.8s
COCO West Island 34.46 233 P **P** **17 05 27.1 -1.0**
COCO IAmb IAmb 17 05 28.1
comp=Z,289nm,1.1s
COCO West Island 34.46 233 P **P** **17 05 27.6 -0.6**
COCO West Island 34.46 233 P **P** **17 05 27.1 -1.0**
COCO pmax pmax
comp=Z,289nm,1.1s
VLA Vladivostok 34.51 10*c i*P **P** **17 05 29.4 +1.3**
VLA pmax pmax
comp=Z,390nm,1.0s
CN2 Changchun 34.54 2 ⇓P **P** **17 05 28.3 -0.1**
CN2 pP pwP 17 07 05.0 +0.3
CN2 PcP **PcP** **17 07 48.0 +0.5**
CN2 sP sP 17 08 05.0 +0.9
CN2 S **S** **17 10 20.6 +2.1**
CN2 ScP **ScP** **17 10 42.0 +1.2**
CN2 ScS **ScS** **17 14 45.6 +0.2**
CN2 pmax pmax
comp=Z,110nm,0.6s
CN2 pmax pmax
comp=Z,650nm,6.0s
SHL Shillong 34.74 302 P **P** **17 05 28.8 -1.8**
SNR=164
SHL Shillong 34.74 302 *e*P **P** **17 05 28.8 -1.8**
SHL IAmb IAmb 17 05 29.6
comp=Z,300nm,0.5s
JTM Tenmabayashi 34.90 23 IAmb IAmb 17 05 33.1
comp=Z,161nm,0.8s
JTM Tenmabayashi 34.90 23 P **P** **17 05 31.6 +0.2**
XLT XiLinHaoTe 35.33 350 *e*P **P** **17 05 35.9 +0.8**
XLT PP **PP** **17 07 17.8 -1.1**
XLT PcP **PcP** **17 07 50.1 +0.1**
XLT S **S** **17 10 29.1 -1.4**
XLT ScP **ScP** **17 10 44.3 +0.5**
XLT ScS **ScS** **17 14 46.5 -3.4**
XLT pmax pmax
comp=Z,520nm,0.9s
XLT pmax pmax
comp=Z,2μm,3.8s
TAWA Tawang 35.56 305 *e*P **P** **17 05 39.9 +2.3**
TAWA IAmb IAmb 17 05 41.2
comp=Z,221nm,0.5s
USA0B Ussuriysk Arra 35.57 10 IAmb IAmb 17 05 39.6
comp=Z,171nm,0.8s
USA0B Ussuriysk Arra 35.57 10*d i*P **P** **17 05 37.8 +0.8**
USRK Ussuriysk Ar. 35.57 10 P **P** **17 05 37.7 +0.6**
USRK Ussuriysk Ar. 35.57 10 P **P** **17 05 37.9 +0.8**
comp=Z,125nm,0.6s,baz=194,slow=6.8,SNR=389
USRK ScP **ScP** **17 10 45.2 +0.7**
comp=Z,20nm,0.8s,baz=244,slow=3.3,SNR=6.5
comp=Z,125nm,0.6s
MDJ Mudanjiang 35.65 7 P **P** **17 05 38.4 +0.8**
MDJ PcP **PcP** **17 07 49.9 -0.9**
MDJ sP sP 17 08 13.2 +0.9
MDJ S **S** **17 10 36.8 +1.7**
MDJ ScP **ScP** **17 10 46.2 +1.4**
MDJ sS sS 17 13 29.8 +2.4
MDJ ScS **ScS** **17 14 52.0 +0.5**
MDJ pmax pmax
comp=Z,720nm,0.8s
MDJ pmax pmax
comp=Z,800nm,3.5s
MDJ Mudanjiang 35.65 7 P **P** **17 05 38.6 +0.9**
MDJ Mudanjiang 35.65 7 P **P** **17 05 38.5 +0.9**
MDJ PcP **PcP** **17 07 53.0 +2.3**
MEEK Meekatharra 35.98 188 P **P** **17 05 40.8 +0.1**
comp=Z,369nm,0.6s
MEEK Meekatharra 35.98 188 P **P** **17 05 40.4 -0.3**
CTAO Charters Tower 36.29 143 **P** **17 05 44.1 +0.8**
CTAO Charters Tower 36.29 143 P **P** **17 05 44.0 +0.7**
CTAO Charters Tower 36.29 143 P **P** **17 05 44.1 +0.8**
CTAO pmax pmax
comp=Z,411nm,0.7s
CTAO Charters Tower 36.29 143 ⇑P **P** **17 05 44.4 +1.1**
CTAO PcP **pwP** **17 07 20.9 +0.7**
CTAO ScP **ScP** **17 10 47.7 0.0**
BNX BinXian 36.56 4 ⇓P **P** **17 05 45.2 0.0**
BNX PcP **PcP** **17 07 52.4 -1.1**
BNX S **S** **17 10 49.1 +0.4**
BNX pmax pmax
comp=Z,170nm,0.8s
BNX pmax pmax
comp=Z,330nm,2.7s
ERM Erimo 36.76 24 P **P** **17 05 47.8 +0.9**
ERM Erimo 36.76 24 P **P** **17 05 47.7 +0.9**
ERM Erimo 36.76 24*ce*P **P** **17 05 48.0 +1.2**
ERM pmax pmax
comp=Z,132nm,0.8s
ERM Erimo 36.76 24 P **P** **17 05 48.0 +1.2**
JEM Erimo 36.76 24 P **P** **17 05 47.9 +1.1**
LSA Lhasa 37.04 308 P **P** **17 05 51.9 +2.0**
LSA S **S** **17 10 58.2 +1.0**
LSA pmax pmax
comp=Z,340nm,0.7s
LSA Lhasa 37.04 308 P **P** **17 05 52.0 +2.0**
LSA Lhasa 37.04 308 P **P** **17 05 51.9 +2.0**
LSA PcP **PcP** **17 07 56.9 +0.9**
LSA ScP **ScP** **17 10 51.0 0.0**
GTA Gaotai 37.18 328 P **P** **17 05 52.9 +2.4**
GTA pP pP 17 07 28.0 +2.8
GTA PcP **PcP** **17 07 57.2 +1.4**
GTA sP sP 17 08 30.8 +2.7
GTA ScP **ScP** **17 10 52.2 +1.3**
GTA S **S** **17 11 00.2 +1.9**
GTA SS **SS** **17 14 09.2 -5.9**
GTA ScS **ScS** **17 15 00.1 -0.6**
GTA pmax pmax
comp=Z,1μm,0.8s
GTA pmax pmax
comp=Z,2μm,4.9s
TEY Ternei 37.33 15⇑*e*P P 17 05 42.6 -8.9
TEY pmax pmax
comp=Z,100nm,6.3s
TEY pmax pmax
comp=N,350nm,0.8s
TEY pmax pmax
comp=E,40nm,0.8s
TEY pmax pmax
comp=Z,510nm,0.8s
TEY pmax pmax
comp=E,500nm,4.4s
TEY pmax pmax
comp=N,300nm,1.4s
GOMU GeErMu 37.91 320 P **P** **17 05 58.5 +1.7**
GOMU S **S** **17 11 05.7 -3.9**
GOMU pmax pmax
comp=N,100nm,0.8s
GTK Tadong 38.12 303 *e*P **P** **17 06 00.5 +2.1**
GTK IAmb IAmb 17 06 01.8
comp=Z,261nm,0.8s
ASAJ Asahikawa 38.34 22 PcP **PcP** **17 07 59.7 +0.5**
comp=Z,36nm,0.5s,baz=265,slow=6.0,SNR=4.1
ASAJ ScP **ScP** **17 10 56.4 +1.3**
comp=Z,27nm,0.6s,baz=269,slow=7.8,SNR=5.8
JKA Kamikawa-asahi 38.34 22 IAmb IAmb 17 06 02.0
comp=Z,251nm,0.9s
MORW Morawa 38.80 191 IAmb IAmb 17 06 04.9
comp=Z,197nm,0.7s
MORW Morawa 38.80 191 P **P** **17 06 03.4 -0.2**
comp=Z,352nm,0.6s
MORW Morawa 38.80 191 P **P** **17 06 03.4 -0.2**
TATA Tatamba Isabel 39.54 115 P **P** **17 06 10.3 +0.5**
YUK Yuzh-Kuril'sk 39.54 25*c i*P **P** **17 06 09.1 -0.3**
YUK *e* 17 07 59.0
YUK *e*S **S** **17 11 32.2 -0.4**
YUK pmax pmax
comp=E,198nm,0.8s
YUK pmax pmax
comp=Z,755nm,0.8s
YUK pmax pmax
comp=N,87nm,0.3s
KNTI KHUNTI 39.69 295 *e*P **P** **17 06 12.6 +1.5**
KNTI IAmb IAmb 17 06 13.5
comp=Z,140nm,0.6s
FORT Forrest 39.87 175 P **P** **17 06 12.3 +0.1**
comp=Z,129nm,0.7s
SAVO Savo Central 39.88 116 P **P** **17 06 12.6 0.0**
HNR Honiara 40.12 116 P **P** **17 06 14.5 0.0**
HNR Honiara 40.12 116 P **P** **17 06 14.9 +0.4**
HNR Honiara 40.12 116 P **P** **17 06 14.5 0.0**
HNR pmax pmax
comp=Z,898nm,0.7s
HNR Honiara 40.12 116 P **P** **17 06 14.8 +0.4**
HIA Hailar 40.16 356 P **P** **17 06 15.3 +1.0**
HIA Hailar 40.16 356 P **P** **17 06 15.3 +1.0**
HIA PcP **PcP** **17 08 05.8 +0.9**
HIA ScP **ScP** **17 11 02.7 +0.6**
BLDU Ballidu 40.18 190 P **P** **17 06 13.8 -0.9**
comp=Z,143nm,0.9s
BLDU Ballidu 40.18 190 P **P** **17 06 14.4 -0.3**
KMBL Kambalda 40.34 183 P **P** **17 06 15.2 -0.9**
comp=Z,272nm,0.6s
KLR Kul'dur 40.45 8 P **P** **17 06 17.0 +0.4**
comp=Z,120nm,0.6s,baz=195,slow=7.0,SNR=275
KLR PcP **PcP** **17 08 06.3 +0.5**
comp=Z,62nm,0.7s,baz=224,slow=4.5,SNR=6.4
KLR ScP **ScP** **17 11 04.7 +1.5**
comp=Z,23nm,0.7s,baz=269,slow=5.2,SNR=5.8
KLR S **S** **17 11 44.5 -1.2**
comp=Z,10nm,0.9s,baz=352,slow=13,SNR=7.1
comp=Z,120nm,0.6s
KLR Kul'dur 40.45 8*d i*P **P** **17 06 17.0 +0.4**
KLR pmax pmax
comp=Z,124nm,0.7s
ALEG Aligegeo Malai 40.49 115 P **P** **17 06 18.1 +0.6**
QLP Quilpie 40.51 152 P **P** **17 06 17.5 +0.1**
comp=Z,1μm,0.7s
QLP Quilpie 40.51 152 P **P** **17 06 17.8 +0.4**
VIS Vishakhapatnam 40.55 287 *e*P **P** **17 06 19.7 +1.8**
VIS IAmb IAmb 17 06 21.3
comp=Z,189nm,0.8s
VIS *e*S **S** **17 11 48.5 +0.4**
RAGD RAYAGADA 40.63 289 *e*P **P** **17 06 20.3 +1.8**
RAGD IAmb IAmb 17 06 21.3
comp=Z,177nm,0.5s
JHSG JHARSUGUGA 40.77 293 *e*P **P** **17 06 22.1 +2.4**
YSS Yuzhno-Sakhali 40.87 19 P **P** **17 06 20.1 +0.2**
YSS IAmb IAmb 17 06 22.1
comp=Z,163nm,0.8s
YSS Yuzhno-Sakhali 40.87 19 P **P** **17 06 20.3 +0.4**
YSS Yuzhno-Sakhali 40.87 19*ce*P **P** **17 06 20.3 +0.4**
YSS *e* 17 08 05.7
YSS *e**SP **sP** **17 08 58.2 +1.4**
YSS *e*S **S** **17 11 49.5 -2.2**
YSS *e**SS **sS** **17 14 47.7 -0.7**
YSS *e*SS **SS** **17 15 16.0 -0.5**
YSS *e* 17 15 21.5
YSS pmax pmax
comp=Z,500nm,3.6s
YSS pmax pmax
comp=N,300nm,3.8s
YSS pmax pmax
comp=E,300nm,3.8s
YSS pmax pmax
comp=Z,190nm,0.7s
YSS smax smax
comp=N,2μm,6.9s
YSS smax smax
comp=E,700nm,5.1s
YSS smax smax
comp=N,70nm,1.2s
YSS smax smax
comp=E,20nm,0.9s
YSS Yuzhno-Sakhali 40.87 19 P **P** **17 06 20.1 +0.2**
YSS PcP **PcP** **17 08 07.5 +0.2**
YSS ScP **ScP** **17 11 06.6 +1.8**
KLBR Kellerberrin 40.97 188 P **P** **17 06 20.5 -0.5**
comp=Z,742nm,0.5s
KLBR Kellerberrin 40.97 188 P **P** **17 06 20.9 -0.1**
HEH HeiHe 41.06 3 *e*P **P** **17 06 21.7 +0.3**
HEH PcP **PcP** **17 08 07.8 -0.1**
HEH ScP **ScP** **17 11 05.8 +0.2**
HEH S **S** **17 11 47.8 -6.7**
HEH pmax pmax
comp=Z,520nm,0.9s
HEH pmax pmax
comp=Z,2μm,3.7s
NGOA Tingoa Renbel 41.19 119 P **P** **17 06 23.6 +0.6**
ULN Ulaanbaatar 41.22 342 P **P** **17 06 23.6 +0.7**
ULN Ulaanbaatar 41.22 342 P **P** **17 06 23.8 +0.9**
ULN P **P** **17 06 23.8 +0.9**
ULN S **S** **17 11 57.2 0.0**
ULN S **S** **17 11 57.2 0.0**
ULN Ulaanbaatar 41.22 342*ce*P **P** **17 06 24.1 +1.2**
ULN *i* *PP **PcP** **17 08 08.7 0.0**
ULN pmax pmax
comp=Z,416nm,0.8s
ULN Ulaanbaatar 41.22 342 P **P** **17 06 23.4 +0.5**
ULN PcP **PcP** **17 08 09.4 +0.7**
ULN ScP **ScP** **17 11 07.4 +0.9**
KUR Kuril'sk 41.35 25*d i*P **P** **17 06 23.6 -0.2**
KUR *e*S **S** **17 11 59.4 +0.6**
KUR SS **SS** **17 15 24.6 +0.2**
KUR pmax pmax
comp=Z,875nm,1.3s
KUR pmax pmax
comp=Z,841nm,1.3s
SONM Songino Array 41.39 342 P **P** **17 06 24.9 +0.7**
SONM IAmb IAmb 17 06 26.6
comp=Z,258nm,0.8s
SONM Songino Array 41.39 342 P **P** **17 06 25.1 +0.9**
comp=Z,277nm,0.8s,baz=158,slow=9.0,SNR=801
SONM PcP **PcP** **17 08 09.5 +0.3**
comp=Z,94nm,0.8s,baz=168,slow=3.6,SNR=9.0
SONM ScP **ScP** **17 11 07.8 +0.7**
comp=Z,48nm,0.8s,baz=162,slow=4.2,SNR=12
SONM PKiKP **PKiKP** **17 15 14.9 +0.2**
comp=Z,2.5nm,0.5s,baz=157,slow=1.4,SNR=4.5
comp=Z,277nm,0.8s
MUN Mundaring 41.60 190 P **P** **17 06 25.6 -0.4**
comp=Z,203nm,0.6s
MUN Mundaring 41.60 190 P **P** **17 06 26.1 +0.2**
VAR Varanasi 42.26 298 *e*P **P** **17 06 32.6 +1.4**
VAR IAmb IAmb 17 06 34.1
comp=Z,186nm,0.6s
HURO Huro Makira 42.30 117 P **P** **17 06 31.4 -0.4**
BLSP Bilaspur 42.34 293 *e*P **P** **17 06 33.0 +0.9**
BLSP IAmb IAmb 17 06 34.6
comp=Z,198nm,0.9s
NWAO Narrogin (SRO) 42.36 189 P **P** **17 06 32.4 +0.5**
NWAO Narrogin (SRO) 42.36 189 P **P** **17 06 31.9 -0.1**
NWAO S **S** **17 12 11.3 -2.3**
NWAO Narrogin (SRO) 42.36 189 P **P** **17 06 32.2 +0.3**
NWAO Narrogin (SRO) 42.36 189 P **P** **17 06 32.4 +0.5**
NWAO pmax pmax
comp=Z,406nm,0.7s
NWAO Narrogin (SRO) 42.36 189 P **P** **17 06 32.0 +0.1**
UGL Uglegorsk 42.53 17 ⇓*i*P P 17 06 25.9 -7.1
UGL pmax pmax
comp=Z,1μm,1.1s
UGL pmax pmax
comp=Z,800nm,0.9s
GRNR Gornyy 42.71 11 ⇓*i*P **P** **17 06 35.6 +1.2**
GRNR pmax pmax
comp=E,10.0nm,0.5s
GRNR pmax pmax
comp=N,50nm,1.2s
GRNR pmax pmax
comp=Z,100nm,1.3s
RMQ Roma 42.72 147 P **P** **17 06 36.7 +1.8**
VJD Vijayawada 42.99 284 *e*P **P** **17 06 39.2 +2.1**
VJD IAmb IAmb 17 06 40.0
comp=Z,209nm,0.6s
PALK Pallekele 43.05 271 P **P** **17 06 38.7 +1.0**
PALK IAmb IAmb 17 06 40.2
comp=Z,230nm,0.7s
PALK Pallekele 43.05 271 P **P** **17 06 39.5 +1.8**
PALK S **S** **17 12 25.0 +0.8**
PALK Pallekele 43.05 271*d i*P **P** **17 06 39.3 +1.6**
PALK pmax pmax
comp=Z,283nm,0.6s
PALK Pallekele 43.05 271 P **P** **17 06 39.1 +1.4**
PALK PcP **pP** **17 08 16.0 +0.4**
EIDS Eidsvold 43.17 143 P **P** **17 06 38.7 +0.3**
EIDS Eidsvold 43.17 143 P **P** **17 06 38.5 0.0**
comp=Z,506nm,0.9s
EIDS Eidsvold 43.17 143 P **P** **17 06 39.0 +0.6**
MDRS Chennai 43.24 279 *e*P **P** **17 06 41.4 +2.3**
BBOO Buckleboo 43.24 165 P **P** **17 06 39.1 +0.3**
BBOO Buckleboo 43.24 165 P **P** **17 06 38.9 +0.1**
comp=Z,880nm,0.8s

BBOO Buckleboo 43.24 165 P **P** **17 06 39.3 +0.5**
ALBI Allahabad 43.32 297 *e*P **P** **17 06 40.6 +1.0**
ALBI IAmb IAmb 17 06 42.1
comp=Z,165nm,0.7s
CIT Chita 43.62 350 *e*P **P** **17 06 42.6 +1.1**
CIT pmax pmax
comp=Z,588nm,1.6s
WHYH Whyalla 43.85 164 P **P** **17 06 44.3 +0.8**
RKGY Rocky Gully 44.05 189 P **P** **17 06 45.7 +0.7**
comp=Z,188nm,0.7s
STKA Stephens Creek 44.07 159 P **P** **17 06 45.5 +0.2**
comp=Z,2µm,0.8s
STKA Stephens Creek 44.07 159 P **P** **17 06 46.0 +0.8**
comp=Z,199nm,0.4s,baz=340,slow=7.8,SNR=456
STKA ScP **ScP** **17 11 17.1 -1.0**
comp=Z,31nm,0.7s,baz=334,slow=8.6,SNR=3.8
STKA S **S** **17 12 35.8 -2.2**
comp=Z,35nm,0.8s,baz=60,slow=20,SNR=12
comp=Z,199nm,0.4s
STKA Stephens Creek 44.07 159 P **P** **17 06 46.0 +0.8**
PTPS Port Pirie 44.10 163 P **P** **17 06 47.4 +2.0**
TYV Tymovskoe 44.30 17 *e*P **P** **17 06 47.8 +1.1**
TYV *e*S **S** **17 12 43.1 +2.4**
TYV pmax pmax
comp=Z,101nm,0.9s
TYV pmax pmax
comp=Z,700nm,4.0s
TYV smax smax
comp=N,15nm,1.4s
TYV smax smax
comp=E,15nm,1.4s
TYV smax smax
comp=N,2µm,6.2s
TYV smax smax
comp=E,1µm,6.2s
LKN LUCKNOW 44.49 299 *e*P **P** **17 06 49.4 +0.8**
ZEA Zeya 44.53 3 *i*P **P** **17 06 48.7 +0.2**
ZAK Zakamensk 44.60 341 *e*P **P** **17 06 49.1 -0.1**
ZAK *e* 17 08 19.2
ZAK pmax pmax
comp=Z,63nm,1.4s
ZAK pmax pmax
comp=Z,58nm,0.8s
HTT Hallett 44.61 162 P **P** **17 06 49.6 +0.2**
comp=Z,54nm,0.8s
HTT Hallett 44.61 162 P **P** **17 06 50.1 +0.6**
HYB Hyderabad 45.06 285⇓*e*P **P** **17 06 54.3 +1.1**
HYB IVmB_BB 17 06 55.1
comp=Z,8µm,0.4s
HYB *e*PcP **PcP** **17 08 23.7 +1.3**
HYB *e*pP **pP** **17 08 31.3 -1.7**
HYB *e*PP **PP** **17 08 49.0 +0.8**
HYB *e*ScP **ScP** **17 11 22.0 -0.6**
HYB *e*PcS **PcS** **17 12 17.1 -0.4**
HYB *e*S **S** **17 12 53.5 +1.0**
HYB *e*PKiKP **PKiKP** **17 15 18.5 -0.3**
HYB *e*ScS **ScS** **17 15 50.6 +0.7**
HYB *e*SS **SS** **17 16 27.8 +2.5**
CMSA Cobar Meteorol 45.40 154 P **P** **17 06 56.5 +1.0**
comp=Z,896nm,0.8s
CMSA Cobar Meteorol 45.40 154 P **P** **17 06 57.1 +1.6**
LGTI Lohaghat 45.77 302 *e*P **P** **17 07 00.3 +1.9**
PTH Pithoragarh 45.82 303 *e*P **P** **17 06 58.9 -0.2**
PTH IAmb IAmb 17 07 01.7
comp=Z,278nm,0.9s
GHSS Government Hou 45.91 163 P **P** **17 07 00.5 +1.3**
IRK Irkutsk 45.93 343 *e*P **P** **17 06 58.2 -1.1**
IRK *e*S **S** **17 13 05.4 +1.7**
IRK pmax pmax
comp=Z,358nm,2.1s
LUES Luesalemba Tem 45.96 114 P **P** **17 07 01.5 +1.5**
KOD Kodaikanal 46.02 275 *e*P **P** **17 07 01.9 +1.1**
JHNI Jhansi 46.23 297 *e*P **P** **17 07 01.3 -0.7**
JHNI IAmb IAmb 17 07 03.1
comp=Z,307nm,0.6s
MOY Mondy 46.45 340 *e*P **P** **17 07 04.8 +1.5**
MOY pmax pmax
comp=Z,513nm,2.1s
TRD Trivandrum 46.63 273 *e*P **P** **17 07 06.3 +1.1**
TRD IAmb IAmb 17 07 07.7
comp=Z,171nm,0.4s
JOSI Joshimath 46.66 304 *e*P **P** **17 07 06.4 +0.9**
JOSI IAmb IAmb 17 07 09.1
comp=Z,282nm,0.6s
BHPL Bhopal 46.81 293 *e*P **P** **17 07 07.1 +0.6**
BHPL IAmb IAmb 17 07 08.1
comp=Z,330nm,0.6s
BHPL *e*S **S** **17 13 12.1 -4.8**
WMQ Urumqi 46.87 324⇓P **P** **17 07 08.1 +1.6**
WMQ PcP **PcP** **17 08 29.1 +0.8**
WMQ ScP **ScP** **17 11 30.3 +0.5**
WMQ S **S** **17 13 18.0 +0.9**
WMQ sS sS 17 16 21.5 +2.5
WMQ pmax pmax
comp=Z,370nm,1.3s
WMQ pmax pmax
comp=Z,2µm,3.7s
NRDN NARMADA NAGAR 46.97 292 *e*P **P** **17 07 11.0 +3.4**
NRDN IAmb IAmb 17 07 13.9
comp=Z,334nm,0.7s
LATR Latur 47.03 287 *e*P **P** **17 07 09.3 +1.3**
LATR IAmb IAmb 17 07 10.8
comp=Z,214nm,0.7s
GUNA GUNA 47.15 295 *e*P **P** **17 07 09.4 +0.5**
GUNA IAmb IAmb 17 07 11.0
comp=Z,318nm,0.6s
ARMA Armidale 47.37 147 P **P** **17 07 12.1 +1.5**
ARMA IAmb IAmb 17 07 13.7
comp=Z,263nm,0.7s
ARMA Armidale 47.37 147 P **P** **17 07 11.8 +1.2**
comp=Z,486nm,0.7s
ARMA Armidale 47.37 147 P **P** **17 07 12.2 +1.7**
UGON Onchagaon 47.43 300 *e*P **P** **17 07 09.3 -1.7**
DDI Dehra Dun 47.84 303 *e*P **P** **17 07 15.2 +1.2**
DDI IAmb IAmb 17 07 16.9
comp=Z,361nm,0.6s
JMIU JAMIA UNIVERSI 48.02 300 *e*P **P** **17 07 15.1 -0.2**
JMIU IAmb IAmb 17 07 16.5
comp=Z,266nm,0.5s
KLP Kalpa 48.03 304 *e*P **P** **17 07 16.8 +1.0**
KLP IAmb IAmb 17 07 17.9
comp=Z,346nm,0.6s
LDR Lodi Road 48.09 300 *e*P **P** **17 07 15.3 -0.5**
LDR IAmb IAmb 17 07 16.9
comp=Z,190nm,0.6s
NDI New Delhi 48.11 300 *e*P **P** **17 07 15.3 -0.8**
NDI IAmb IAmb 17 07 17.1
comp=Z,257nm,0.5s
AYAN Aya Nagar 48.14 300 *e*P **P** **17 07 15.1 -1.1**
NPLP NPLP New Delhi 48.14 300 *e*P **P** **17 07 16.0 -0.3**
NPLP IAmb IAmb 17 07 17.3
comp=Z,375nm,0.6s
BHGR Bahadurgarh 48.35 300 *e*P **P** **17 07 18.4 +0.6**
MNGI Mangalore 48.52 279 *e*P **P** **17 07 19.9 +0.7**
KUDL Kundal 48.61 300 *e*P **P** **17 07 19.6 -0.2**
KUDL IAmb IAmb 17 07 21.2
comp=Z,292nm,0.7s
KUDL *e*S **S** **17 13 38.1 -3.3**
SMLA Simla 48.80 304 *e*P **P** **17 07 22.0 +1.0**
SMLA IAmb IAmb 17 07 23.7
comp=Z,346nm,0.6s
SMLA *e*S **S** **17 13 38.7 -5.2**
RTK Rohtak 48.88 301 *e*P **P** **17 07 22.1 +0.4**
RTK IAmb IAmb 17 07 23.5
comp=Z,253nm,0.6s
YNG Young 48.94 153 P **P** **17 07 23.0 +0.9**
comp=Z,125nm,0.7s
SKR Severo-Kuril's 49.09 26⇓*i*P **P** **17 07 23.3 +0.5**
SKR *e* 17 08 35.9
SKR *e**PP **sP** **17 10 01.4 -2.1**
SKR *i*S **S** **17 13 45.2 -1.9**
SKR *e* 17 16 14.0
SKR *e**SS **sS** **17 16 44.5 -6.6**
SKR pmax pmax
comp=Z,1µm,3.7s
SKR pmax pmax
comp=Z,349nm,0.6s
SKR smax smax
comp=N,2µm,10.5s
SKR smax smax
comp=E,2µm,7.5s
BOD Bodaibo 49.19 353 *e*P **P** **17 07 23.9 +0.4**
BOD pmax pmax
comp=Z,344nm,0.9s

KAD Karad 49.22 285 *e*P **P** **17 07 24.6 +0.2**
KOUNC Koumac, New Ca 49.27 127 P **P** **17 07 26.6 +1.9**
MGCD Mangrove Creek 49.32 150 P **P** **17 07 25.9 +1.1**
comp=Z,160nm,0.8s
MGCD Mangrove Creek 49.32 150 P **P** **17 07 27.5 +2.7**
NTLH Newcastle Hard 49.36 149 P **P** **17 07 28.0 +2.8**
BHK Bhakra 49.49 304 *e*P **P** **17 07 25.3 -1.0**
BHK IAmb IAmb 17 07 28.5
comp=Z,202nm,0.6s
SYDH Sydney Hard Ro 49.58 151 P **P** **17 07 28.8 +2.0**
POO Poona 49.60 286 *e*P **P** **17 07 27.6 +0.3**
POO IAmb IAmb 17 07 28.6
comp=Z,449nm,0.4s
VLAKA Lakatoro 49.62 120 P **P** **17 07 28.6 +1.2**
DHRM DHARAMSHALA 49.82 305 *e*P **P** **17 07 29.4 +0.5**
DHRM IAmb IAmb 17 07 31.4
comp=Z,293nm,0.5s
RIV Riverview 49.84 150 P **P** **17 07 30.7 +2.1**
comp=Z,328nm,0.9s
RIV Riverview 49.84 150 P **P** **17 07 31.1 +2.5**
CAN Canberra 50.06 153 P **P** **17 07 31.8 +1.5**
CAN ScP **ScP** **17 11 43.6 +0.1**
WOLH Wollongong Har 50.17 151 P **P** **17 07 33.4 +2.3**
CNB Canberra Magne 50.22 153 P **P** **17 07 32.5 +1.0**
comp=Z,392nm,0.9s
CNB Canberra Magne 50.22 153 P **P** **17 07 32.4 +0.9**
HMDM Hanimaadhoo 50.52 271 P **P** **17 07 35.8 +1.7**
HMDM Hanimaadhoo 50.52 271 P **P** **17 07 36.0 +2.0**
SNR=5.5
TOO Toolangi 50.58 158 P **P** **17 07 35.2 +1.1**
TOO Toolangi 50.58 158 P **P** **17 07 35.0 +0.9**
comp=Z,115nm,0.8s
TOO Toolangi 50.58 158 P **P** **17 07 35.2 +1.1**
TOO pmax pmax
comp=Z,69nm,0.7s
BOM Bombay 50.61 287 *e*P **P** **17 07 35.3 +0.7**
BOM IAmb IAmb 17 07 36.8
comp=Z,219nm,0.7s
ZSN Zaisan 50.61 326 *e*P **P** **17 07 35.1 +1.0**
ZSN *e*S **S** **17 14 09.3 +1.3**
ZSN Zaisan 50.61 326 *e*P **P** **17 07 35.2 +1.0**
ZSN *e*S **S** **17 14 09.3 +1.3**
GEXS Deakin Univers 50.71 160 P **P** **17 07 36.7 +1.8**
DVP Devils Point 51.02 122 P **P** **17 07 39.9 +2.4**
JMU Jammu 51.09 305 *e*P **P** **17 07 39.4 +1.6**
JMU *e*S **S** **17 14 15.5 +0.6**
SRGN SRI GANGA NAGA 51.23 301 *e*P **P** **17 07 39.4 +0.5**
BKNR BIKANER 51.36 299 *e*P **P** **17 07 40.0 +0.1**
BKNR IAmb IAmb 17 07 41.3
comp=Z,210nm,0.7s
PEA0B Petropavlovsk- 51.52 25 IAmb IAmb 17 07 42.8
comp=Z,707nm,1.3s
PEA0B Petropavlovsk- 51.52 25*d*iP **P** **17 07 41.6 +1.0**
PETK Petropavlovsk- 51.52 25 P **P** **17 07 40.7 +0.1**
comp=Z,168nm,0.6s,baz=198,slow=3.4,SNR=1175
PETK PcP **PcP** **17 08 45.2 0.0**
comp=Z,67nm,0.8s,baz=195,slow=3.2,SNR=5.0
PETK ScP **ScP** **17 11 49.7 +0.3**
comp=Z,41nm,0.8s,baz=197,slow=4.5,SNR=8.5
PETK PKPPKP **P'P'df** **17 38 05.7 -2.7**
comp=Z,3.1nm,1.0s,baz=76,slow=6.3,SNR=3.6
comp=Z,168nm,0.6s
SHLS Shalkode 51.60 319 *e*P **P** **17 07 40.7 -0.8**
SHLS *e*S **S** **17 14 19.1 -2.5**
SHLS pmax pmax
comp=Z,459nm,0.7s
SHLS Shalkode 51.60 319 *e*P **P** **17 07 40.7 -0.8**
comp=Z,460nm,0.7s
SHLS *e*S **S** **17 14 19.1 -2.5**
KAAM Kaadhehdhoo 51.66 263 P **P** **17 07 43.0 +0.8**
KAAM IAmb IAmb 17 07 45.2
comp=Z,523nm,0.9s
KAAM Kaadhehdhoo 51.66 263 P **P** **17 07 44.1 +1.8**
SNR=6.9
PDGK Podgornoye 51.66 319 P **P** **17 07 43.1 +1.1**
NOUC Port Laguerre 51.68 128 P **P** **17 07 43.3 +1.0**
MK31 Makanchi Array 51.69 324*d*iP **P** **17 07 43.1 +1.1**
MKAR Makanchi Array 51.69 324 P **P** **17 07 43.1 +1.1**
comp=Z,1µm,0.5s,baz=115,slow=7.5
MKAR PcP **PcP** **17 08 46.3 +0.3**
comp=Z,239nm,0.8s,baz=114,slow=5.4,SNR=8.1
MKAR ScP **ScP** **17 11 50.4 0.0**
comp=Z,46nm,0.8s,baz=121,slow=4.7,SNR=6.8
MKAR PKPPKP **P'P'df** **17 38 04.8 -3.9**
comp=Z,2.3nm,0.9s,baz=247,slow=5.2,SNR=3.8
MKAR P4KPbc 17 44 59.8
comp=Z,11nm,0.8s,baz=115,slow=4.8,SNR=40
comp=Z,1µm,0.5s
DZM Mont Dzumac 51.78 127 IAmb IAmb 17 07 46.3
comp=Z,425nm,0.7s
DZM Mont Dzumac 51.78 127 ScP **ScP** **17 11 52.0 +0.7**
comp=Z,19nm,0.8s,baz=36,slow=7.1,SNR=5.0
DZM Mont Dzumac 51.78 127 P **P** **17 07 44.5 +1.4**
DZM Mont Dzumac 51.78 127 P **P** **17 07 44.4 +1.4**
PET Petropavlovsk 51.86 26 P **P** **17 07 43.8 +0.8**
PET Petropavlovsk 51.86 26 P **P** **17 07 44.1 +1.1**
PET Petropavlovsk 51.86 26 *e*P **P** **17 07 44.1 +1.1**
PET *e* 17 08 46.0
PET *e**PP **pwP** **17 09 33.0 +0.4**
PET *e* 17 10 25.6
PET *e*S **S** **17 14 23.5 -1.0**
PET *e**SS **ScS** **17 16 30.9 -3.8**
PET pmax pmax
comp=Z,539nm,0.7s
PET pmax pmax
comp=Z,1µm,4.6s
PET pmax pmax
comp=Z,200nm,4.5s
PET pmax pmax
comp=Z,400nm,4.5s
PET Petropavlovsk 51.86 26 P **P** **17 07 43.9 +0.8**
comp=Z,6µmcomp=Z,628nm,1.1s
PET Petropavlovsk 51.86 26 P **P** **17 07 44.0 +1.1**
PET ScP **ScP** **17 11 50.8 0.0**
MAKZ Makanchi 51.88 324 P **P** **17 07 44.4 +1.0**
MAKZ Makanchi 51.88 324 P **P** **17 07 44.4 +1.0**
MAKZ pmax pmax
comp=Z,1µm,0.6s
MAKZ Makanchi 51.88 324 P **P** **17 07 44.5 +1.2**
MAKZ PcP **PcP** **17 08 45.2 -1.6**
MAKZ ScP **ScP** **17 11 50.4 -0.7**
KPKS Kokpek 52.24 319 *e*P **P** **17 07 47.2 +1.1**
KPKS *e*S **S** **17 14 31.3 +1.1**
KPKS Kokpek 52.24 319 *e*P **P** **17 07 47.2 +1.1**
KPKS *e*S **S** **17 14 31.3 +1.1**
OUENC Ouen Island, N 52.27 128 P **P** **17 07 48.1 +1.6**
LHI Lord Howe Isla 52.45 142 IAmb IAmb 17 07 50.3
comp=Z,204nm,0.6s
LHI Lord Howe Isla 52.45 142 P **P** **17 07 49.0 +1.4**
comp=Z,346nm,0.8s
KSH Kashi 52.47 313 P **P** **17 07 50.2 +2.4**
KSH PcP **PcP** **17 08 49.7 +0.4**
KSH pP pP 17 09 34.7 +2.7
KSH S **S** **17 14 37.9 +4.6**
KSH pmax pmax
comp=Z,280nm,1.0s
KSH pmax pmax
comp=Z,2µm,2.6s
NIL Nilore 52.67 305 P **P** **17 07 50.0 +0.7**
NIL Nilore 52.67 305 P **P** **17 07 50.0 +0.7**
NIL pmax pmax
comp=Z,2µm,0.7s
NIL Nilore 52.67 305 P **P** **17 07 50.5 +1.2**
INH Isangel 52.79 123 P **P** **17 07 51.8 +1.6**
YAK Yakutsk 52.94 3 P **P** **17 07 50.8 +0.2**
YAK Yakutsk 52.94 3 P **P** **17 07 51.0 +0.5**
comp=Z,2µm,0.8s,baz=187,slow=1.8,SNR=606
comp=Z,2µm,0.8s
YAK Yakutsk 52.94 3*d*iP **P** **17 07 50.8 +0.2**
YAK *e* 17 08 50.3
YAK *e* 17 09 58.4
YAK *e*S **S** **17 14 39.7 +1.2**
YAK *e* 17 16 39.0
YAK *e**SS **sS** **17 17 45.8 -0.1**
YAK *e*SS **SS** **17 18 31.2 +3.2**
YAK pmax pmax
comp=Z,2µm,0.8s
YAK pmax pmax
comp=N,841nm,1.7s
YAK pmax pmax
comp=E,254nm,1.8s
YAK pmax pmax
comp=Z,331nm,2.7s
YAK pmax pmax
comp=N,138nm,1.3s
YAK pmax pmax
comp=E,52nm,1.5s
YAK smax smax
comp=E,943nm,4.5s
YAK smax smax
comp=N,858nm,6.1s
YAK Yakutsk 52.94 3 P **P** **17 07 51.0 +0.5**
YAK ScP **ScP** **17 11 57.0 +1.6**
TDK Taldyqorghan 53.13 321 *e*P **P** **17 07 53.5 +1.2**
TDK pmax pmax
comp=Z,394nm,0.6s
TDK Taldyqorghan 53.13 321 *e*P **P** **17 07 53.5 +1.2**
comp=Z,394nm,0.6s
ARXS Arharly 53.13 319 *e*P **P** **17 07 53.0 +0.6**
TNSS Tian-Shan 53.19 318 *e*P **P** **17 07 54.0 +0.8**
TNSS Tian-Shan 53.19 318 *e*P **P** **17 07 54.1 +0.8**
JASL Jaisalmer 53.24 297 *e*P **P** **17 07 53.7 +0.3**
JASL IAmb IAmb 17 07 55.5
comp=Z,280nm,0.9s
KNDC Almaty 53.26 318 P **P** **17 07 54.8 +1.5**
AAA Alma-Ata 53.29 318 *e*P **P** **17 07 54.8 +1.3**
AAA pmax pmax
comp=Z,341nm,0.5s
AAA Alma-Ata 53.29 318 *e*P **P** **17 07 54.8 +1.3**
comp=Z,340nm,0.5s
ULHL Ulahol 53.34 317 P **P** **17 07 55.5 +1.4**
SNR=38
CHKK Chushkaly 53.52 319 *e*P **P** **17 07 56.0 +0.9**
CHKK Chushkaly 53.52 319 *e*P **P** **17 07 56.0 +0.9**
BOOM Boomskoye usch 53.64 317 IAmb IAmb 17 07 58.7
comp=Z,204nm,0.7s
BHUJ Bhuj 53.90 292 *e*P **P** **17 07 59.6 +1.5**
BHUJ IAmb IAmb 17 08 01.0
comp=Z,185nm,0.6s
KUU Kurty 53.96 318 *e*P **P** **17 07 59.4 +1.2**
KUU *e*S **S** **17 14 53.8 +1.1**
KUU pmax pmax
comp=Z,515nm,0.7s
KUU Kurty 53.96 318 *e*P **P** **17 07 59.4 +1.2**
comp=Z,514nm,0.7s
KUU *e*S **S** **17 14 53.9 +1.1**
TKM2 Tokmak 2 54.05 317 P **P** **17 08 00.3 +1.3**
SNR=30
TKM2 Tokmak 2 54.05 317 P **P** **17 08 00.2 +1.1**
MA2 Magadan 54.17 16 P **P** **17 08 00.3 +1.0**
MA2 IAmb IAmb 17 08 01.6
comp=Z,297nm,0.8s
MA2 Magadan 54.17 16 P **P** **17 08 00.4 +1.0**
comp=Z,233nm,0.6s,baz=207,slow=6.9,SNR=219
MA2 PcP **PcP** **17 08 55.1 -0.1**
comp=Z,85nm,0.8s,baz=205,slow=4.3,SNR=4.4
MA2 ScP **ScP** **17 12 02.2 +1.4**
comp=Z,35nm,0.8s,baz=174,slow=6.7,SNR=5.7
comp=Z,233nm,0.6s
MA2 Magadan 54.17 16 P **P** **17 08 00.4 +1.0**
MA2 Magadan 54.17 16*d*iP **P** **17 08 00.4 +1.0**
MA2 pmax pmax
comp=Z,496nm,1.2s
MA2 Magadan 54.17 16 P **P** **17 08 00.2 +0.8**
comp=Z,5µmcomp=Z,527nm,1.0s
MA2 Magadan 54.17 16 P **P** **17 08 00.3 +1.0**
MA2 PcP **PcP** **17 08 56.4 +1.1**
MA2 ScP **ScP** **17 12 02.3 +1.4**
KBK Karagaybulak 54.38 317 P **P** **17 08 02.9 +1.5**
SNR=21
UCH Uchtor 54.51 316 P **P** **17 08 04.0 +1.3**
SNR=18
ZAA0 Zalesovo Array 54.64 333 IAmb IAmb 17 08 04.1
comp=Z,343nm,0.8s
ZALV Zalesovo Beam 54.64 333 P **P** **17 08 02.7 -0.1**
ZALV Zalesovo Beam 54.64 333 P **P** **17 08 02.8 +0.1**
comp=Z,242nm,0.4s,baz=116,slow=6.8,SNR=854
ZALV PcP **PcP** **17 08 56.4 -0.8**
comp=Z,62nm,0.7s,baz=147,slow=8.7,SNR=3.6
ZALV S **S** **17 14 59.8 -1.4**
comp=Z,7.5nm,0.6s,baz=129,slow=12,SNR=3.6
ZALV PKPPKP **P'P'df** **17 37 56.3 -7.7**
comp=Z,3.6nm,0.8s,baz=298,slow=6.6,SNR=5.8
comp=Z,242nm,0.4s
CHMS Chumysh 54.65 317 P **P** **17 08 04.0 +1.0**
SNR=223
FRU1 Bishkek 54.66 317 IAmb IAmb 17 08 05.6
comp=Z,238nm,0.6s
AAK Ala-Archa 54.68 316 P **P** **17 08 05.0 +1.5**
SNR=150
AAK Ala-Archa 54.68 316 P **P** **17 08 04.5 +1.0**
AAK IAmb IAmb 17 08 06.9
comp=Z,222nm,0.8s
AAK Ala-Archa 54.68 316 P **P** **17 08 05.0 +1.5**
AAK P **P** **17 08 05.0 +1.5**
AAK S **S** **17 15 04.4 +1.9**
AAK S **S** **17 15 04.4 +1.9**
AAK Ala-Archa 54.68 316*d*iP **P** **17 08 04.8 +1.3**
AAK pmax pmax
comp=Z,272nm,0.8s
AAK Ala-Archa 54.68 316 *i*P **P** **17 08 04.8 +1.3**
SNR=160
AAK Ala-Archa 54.68 316⇓P **P** **17 08 04.8 +1.3**
AAK PcP **PcP** **17 08 58.2 +0.4**
AAK ScP **ScP** **17 12 03.8 +0.1**
SGDS Sogindy 54.91 317 *e*P **P** **17 08 05.7 +0.8**
USP Ospenovka 54.92 317 P **P** **17 08 06.1 +1.1**
SNR=755
AML Almayashu 55.04 316 P **P** **17 08 07.8 +1.5**
SNR=48
EKS2 Erkin-Say 55.18 316 P **P** **17 08 08.4 +1.5**
SNR=60
ARSB Arslanbob 55.25 314 IAmb IAmb 17 08 09.8
comp=Z,307nm,0.6s
MOO Moorlands 55.49 159 P **P** **17 08 10.2 +1.3**
MOO Moorlands 55.49 159 P **P** **17 08 10.0 +1.2**
KURBB Kurchatov Arra 55.84 327 P **P** **17 08 11.8 +0.6**
comp=Z,1µm,0.6s,baz=124,slow=6.9,SNR=2341
KURBB S **S** **17 15 16.9 +0.1**
comp=Z,10nm,1.2s,baz=123,slow=10,SNR=6.5
KURBB PKPPKP **P'P'df** **17 37 55.1 -7.4**
comp=Z,1.8nm,0.7s,baz=281,slow=3.7,SNR=7.1
KURBB P4KPbc 17 45 16.0
comp=Z,2.9nm,0.8s,baz=118,slow=3.7,SNR=12
comp=Z,1µm,0.6s
KURBB Kurchatov Arra 55.84 327 P **P** **17 08 11.9 +0.8**
KURK Kurchatov 55.84 327 P **P** **17 08 11.8 +0.7**
KURK Kurchatov 55.84 327 P **P** **17 08 12.2 +1.1**
KURK P **P** **17 08 12.4 +1.1**
KURK S **S** **17 15 16.5 -0.4**
KURK S **S** **17 15 16.5 -0.4**
KURK Kurchatov 55.84 327*d*iP **P** **17 08 12.0 +0.9**
KURK pmax pmax
comp=Z,2µm,0.6s
KURK Kurchatov 55.84 327⇓P **P** **17 08 12.0 +0.9**
KURK PcP **PcP** **17 09 01.0 -0.9**
TAU Tasmania Unive 55.95 160 P **P** **17 08 13.2 +1.2**
TAU Tasmania Unive 55.95 160 P **P** **17 08 12.9 +0.9**
TAU Tasmania Unive 55.95 160 P **P** **17 08 13.2 +1.2**
TAU pmax pmax
comp=Z,98nm,1.0s
KBL Kabul 56.27 305 P **P** **17 08 15.2 +0.4**
KBL Kabul 56.27 305 P **P** **17 08 15.6 +0.9**
SNR=172
KBL P **P** **17 08 15.6 +0.9**
SNR=172
KBL S **S** **17 15 23.4 -0.1**
KBL S **S** **17 15 23.4 -0.1**
KBL Kabul 56.27 305 P **P** **17 08 15.2 +0.4**
KBL pmax pmax
comp=Z,752nm,0.7s
BTK Batken 56.38 312 IAmb IAmb 17 08 17.5
comp=Z,422nm,0.6s
DZA Taraz 56.94 316 *e*P **P** **17 08 19.8 +0.9**
DZA pmax pmax
comp=Z,297nm,0.6s
DZA Taraz 56.94 316 *e*P **P** **17 08 19.9 +0.9**
comp=Z,297nm,0.6s
SIMJ Simiganj 57.32 310⇓P **P** **17 08 22.4 +0.6**
SEY Seymchan 57.42 15 P **P** **17 08 23.3 +1.6**
comp=Z,171nm,0.8s,baz=223,slow=5.9,SNR=508
SEY PcP **PcP** **17 09 08.8 +0.9**
comp=Z,46nm,0.5s,baz=219,slow=2.1,SNR=5.7
comp=Z,171nm,0.8s
SEY Seymchan 57.42 15*d*iP **P** **17 08 23.3 +1.6**
SEY pmax pmax
comp=Z,305nm,1.3s
FUNA Funafuti 57.55 106 P **P** **17 08 23.7 +0.2**
FUNA IAmb IAmb 17 08 27.1
comp=Z,407nm,1.0s

KK31 **Karatay Array** 57.58 316 *i* P P 17 08 23.8 +0.5
KKAR **Karatay Array** 57.58 316 P P 17 08 23.8 +0.5
KKAR **Karatay Array** 57.58 316 lAmb lAmb 17 08 25.7
comp=Z,625nm,0.7s
KKAR **Karatay Array** 57.58 316 P P 17 08 23.8 +0.5
IUG **luzhnay** 57.60 314 *e*P P 17 08 24.6 +1.0
IUG pmax pmax
comp=Z,514nm,0.5s
IUG **luzhnay** 57.60 314 *e*P P 17 08 24.7 +1.0
comp=Z,514nm,0.5s
CHM **Chimkent** 57.96 315 *e*P P 17 08 26.9 +1.1
CHM pmax pmax
comp=Z,222nm,0.5s
CHM **Chimkent** 57.96 315 *e*P P 17 08 27.0 +1.1
comp=Z,222nm,0.5s
MIDW **Midway** 57.99 63 P P 17 08 26.4 +0.1
MIDW **Midway** 57.99 63 P P 17 08 27.5 +1.2
BRLS **Borolday** 58.02 315*d* *i*P P 17 08 27.3 +1.0
BRLS pmax pmax
comp=Z,219nm,0.5s
BRLS **Boroldaу** 58.02 315⇓ *i*P P 17 08 27.3 +1.0
comp=Z,218nm,0.5s
BRZS **Berezniki** 58.83 324*d* *i*P P 17 08 32.4 +0.8
BRZS *e*S S 17 15 56.1 +0.9
BRZS **Berezniki** 58.83 324⇓ *i*P P 17 08 32.5 +0.8
BRZS *e*S S 17 15 56.1 +0.9
MSVF **Nonsavu** 59.54 117 P P 17 08 38.6 +1.6
MSVF lAmb lAmb 17 08 40.9
comp=Z,306nm,0.8s
MSVF **Nonsavu** 59.54 117 P P 17 08 39.0 +2.1
MSVF **Nonsavu** 59.54 117⇑ *i*P P 17 08 39.0 +2.1
MSVF pmax pmax
comp=Z,368nm,0.8s
MSVF **Nonsavu** 59.54 117 P P 17 08 39.0 +2.1
DGTI **Dogotuki** 60.52 115 P P 17 08 45.2 +1.8
TAVE **Taveuni** 60.98 115 P P 17 08 48.9 +2.5
BVAR **Borovoye Array** 61.42 326 P P 17 08 49.2 +0.5
comp=Z,364nm,0.5s,baz=120,slow=8.8,SNR=1453
BVAR PcP PcP 17 09 24.4 +0.1
comp=Z,149nm,0.7s,baz=106,slow=4.8,SNR=5.6
BVAR S S 17 16 26.3 -1.1
comp=Z,3.6nm,0.9s,baz=134,slow=6.2,SNR=1.4
BVAR P4KPbc 17 45 43.0
comp=Z,7.5nm,0.7s,baz=108,slow=4.7,SNR=13
comp=Z,364nm,0.5s
BRVK **Borovoye** 61.50 326 P P 17 08 49.7 +0.6
BRVK **Borovoye** 61.50 326 P P 17 08 49.9 +0.8
BRVK P P 17 08 49.9 +0.8
BRVK S S 17 16 25.9 -2.3
BRVK S S 17 16 25.9 -2.3
BRVK **Borovoye** 61.50 326*ce*P P 17 08 49.7 +0.6
BRVK pmax pmax
comp=Z,756nm,0.7s
BRVK **Borovoye** 61.50 326 ⇓P P 17 08 49.8 +0.6
BRVK PcP PcP 17 09 25.3 +0.7
NGCH **Negor - Chabah** 61.81 294 P P 17 08 53.2 +1.5
LKBA **Tubou, Lakemba** 62.50 116 P P 17 07 57.5 +1.3
TIXI **Tiksi** 62.51 2 P P 17 08 54.7 -0.6
TIXI **Tiksi** 62.51 2 P P 17 08 55.0 -0.4
comp=Z,305nm,0.5s,baz=204,slow=5.4,SNR=187
TIXI PcP PcP 17 09 28.8 +0.4
comp=Z,93nm,0.6s,baz=265,slow=2.1,SNR=4.8
comp=Z,305nm,0.5s
TIXI **Tiksi** 62.51 2*ce*P P 17 08 54.8 -0.6
TIXI pmax pmax
comp=Z,481nm,0.9s
TIXI **Tiksi** 62.51 2 P P 17 08 54.9 -0.4
TIXI PcP PcP 17 09 28.9 +0.6
JLN **Jalan Bani Buh** 63.28 290 P P 17 09 01.3 0.0
SNR=8.8
WSAR **Wadi Sarin** 64.02 291 P P 17 09 06.1 +0.1
SNR=22
WSAR S S 17 16 58.8 -1.2
ADK **Adak** 64.03 36 P P 17 09 05.5 0.0
ADK lAmb lAmb 17 09 06.7
comp=Z,164nm,0.8s
ADK **Adak** 64.03 36 P P 17 09 05.7 +0.2
ADK **Adak** 64.03 36 P P 17 09 05.5 0.0
ADK pmax pmax
comp=Z,164nm,0.8s
ADK **Adak** 64.03 36 P P 17 09 05.7 +0.2
ADK PcP PcP 17 09 35.0 0.0
OUZ **Omahuta** 64.20 136 P P 17 09 09.9 +3.1
OUZ **Omahuta** 64.20 136 P P 17 09 09.7 +2.9
BIDO **Bidbid** 64.49 292 P P 17 09 09.6 +0.6
SNR=58
BIDO S S 17 17 02.8 -2.8
JMDO **Jabal Madar** 64.50 290 P P 17 09 09.3 +0.2
SNR=16
SMDO **Samad** 64.55 291 P P 17 09 09.5 0.0
SNR=23
SMDO P P 17 09 09.5 0.0
SNR=23
SMDO S S 17 17 05.4 -1.2
SMDO S S 17 17 05.4 -1.2
NRIK **Noril'sk** 64.60 346 P P 17 09 09.1 +0.3
NRIK **Noril'sk** 64.60 346 P P 17 09 09.2 +0.4
comp=Z,337nm,0.6s,baz=123,slow=6.5,SNR=662
NRIK PcP PcP 17 09 37.5 +0.4
comp=Z,190nm,0.4s,baz=134,slow=5.2,SNR=16
NRIK S S 17 17 04.3 -1.0
comp=Z,13nm,1.0s,baz=334,slow=20,SNR=18
comp=Z,337nm,0.6s
NRIK **Noril'sk** 64.60 346*d* *i*P P 17 09 09.0 +0.3
NRIK pmax pmax
comp=Z,564nm,1.1s
MHTO **MHTO** 64.62 289 P P 17 09 10.0 +0.2
SNR=26
MHTO S S 17 17 04.8 -2.5
JASK **Jask - Hormozg** 64.78 294 P P 17 09 11.8 +1.0
SNR=9.1
JASK S S 17 17 09.0 -0.1
JOHN **Johnston Islan** 64.82 76 P P 17 09 12.0 +0.9
JOHN **Johnston Islan** 64.82 76 P P 17 09 12.8 +1.7
DQM **DQM** 65.04 288 P P 17 09 12.9 +0.4
SNR=12
BILL **Bilibino** 65.04 16 P P 17 09 11.6 0.0
BILL lAmb lAmb 17 09 13.0
comp=Z,127nm,0.7s
BILL **Bilibino** 65.04 16*ce*P P 17 09 11.7 +0.1
BILL pmax pmax
comp=Z,165nm,0.9s
BILL **Bilibino** 65.04 16 P P 17 09 11.7 +0.1
WCZ **Waipu Caves** 65.11 137 P P 17 09 15.1 +2.6
HOQ **Hoqain** 65.24 292 P P 17 09 14.0 +0.3
SNR=37
HOQ S S 17 17 11.9 -2.7
BSY **Bisya** 65.33 291 P P 17 09 14.6 +0.3
SNR=16
BSY P P 17 09 14.6 +0.3
SNR=16
BSY S S 17 17 14.1 -1.7
BSY S S 17 17 14.1 -1.7
ATKA **Atka Island** 65.59 36 P P 17 09 15.5 +0.2
SOHO **SOHO** 65.95 292 P P 17 09 18.5 +0.4
SOHO S S 17 17 19.6 -3.4
SOHO **SOHO** 65.95 292 *i*P P 17 09 17.8 -0.3
SNR=68
ARQ **Araqi** 65.96 291 P P 17 09 18.7 +0.5
SNR=17
ARQ P P 17 09 18.7 +0.5
SNR=17
ARQ S S 17 17 20.2 -3.0
ARQ S S 17 17 20.2 -3.0
MDH **Madha** 66.18 294 P P 17 09 18.8 -0.7
SNR=8.7
MDH **Madha** 66.18 294 *i*P P 17 09 18.4 -1.1
SNR=6.4
UOSS **Minazif** 66.26 293 P P 17 09 19.2 -0.9
UOSS lAmb lAmb 17 09 26.9
comp=Z,119nm,0.6s
UOSS **Minazif** 66.26 293 P P 17 09 19.9 -0.1
UOSS P P 17 09 19.9 -0.1
UOSS S S 17 17 22.6 -4.1
UOSS S S 17 17 22.6 -4.1
UOSS **Minazif** 66.26 293 *i*P P 17 09 19.1 -0.9
SNR=28
UOSS **Minazif** 66.26 293 P P 17 09 19.4 -0.7
UOSS PcP PcP 17 09 44.0 -1.0
MSFE **Esma-Masafi** 66.31 294 *i*P P 17 09 20.4 0.0
SNR=40
MASF **Masafi** 66.31 294 P P 17 09 21.2 +0.8
SNR=19
MASF S S 17 17 24.5 -2.8
HATD **Hatta, Dubai** 66.33 293 P P 17 09 21.0 +0.5
SNR=31
HATD P P 17 09 21.0 +0.5
SNR=31
HATD S S 17 17 25.2 -2.3
HATD S S 17 17 25.2 -2.3
HATD **Hatta, Dubai** 66.33 293 *i*P P 17 09 20.4 -0.1
SNR=130
SHME **Shamm** 66.34 294 P P 17 09 21.2 +0.7
SNR=13
SHME P P 17 09 21.2 +0.7
SNR=13
SHME S S 17 17 26.3 -1.2
SHME S S 17 17 26.3 -1.2
SHME **Shamm** 66.34 294 *i*P P 17 09 20.6 +0.1
SNR=40
AB31 **Akbulak array** 66.38 320 P P 17 09 20.6 +0.3
ABKAR **Akbulak array** 66.38 320 P P 17 09 20.5 +0.2
ABKAR **Akbulak array** 66.38 320 lAmb lAmb 17 09 22.0
comp=Z,370nm,0.7s
ASHO **Ashiyiah** 66.39 293 P P 17 09 21.4 +0.5
SNR=34
ASHO S S 17 17 25.0 -3.3
ASHO **Ashiyiah** 66.39 293 *i*P P 17 09 21.0 +0.1
SNR=66
KUZ **Kuaotunu** 66.48 137 P P 17 09 23.7 +2.6
KUZ **Kuaotunu** 66.48 137 P P 17 09 23.5 +2.4
MSZ **Milford Sound** 66.53 147 P P 17 09 22.9 +1.7
JCZ **Jackson Bay** 66.60 147 P P 17 09 23.5 +1.7
JCZ **Jackson Bay** 66.60 147 P P 17 09 23.5 +1.7
DCZ **Deep Cove** 66.66 148 lAmb lAmb 17 09 24.5
comp=Z,155nm,0.7s
DCZ **Deep Cove** 66.66 148 P P 17 09 23.0 +1.0
ALNE **Al Ain** 66.67 292 P P 17 09 23.2 +0.6
SNR=60
ALNE S S 17 17 27.8 -3.7
ALNE **Al Ain** 66.67 292 *i*P P 17 09 23.1 +0.5
SNR=113
QRZ **Quartz Range** 66.73 142 lAmb lAmb 17 09 25.5
comp=Z,212nm,0.9s
QRZ **Quartz Range** 66.73 142 P P 17 09 24.0 +1.4
QRZ **Quartz Range** 66.73 142 P P 17 09 24.4 +1.8
NAZ **Nazwa, Dubai** 66.76 293 P P 17 09 23.4 +0.3
SNR=16
NAZ S S 17 17 30.0 -2.5
NAZ **Nazwa, Dubai** 66.76 293 *i*P P 17 09 23.4 +0.3
SNR=10
UMQ **Umm Al-Quwin** 66.76 294 P P 17 09 24.5 +1.4
SNR=8.3
UMQ S S 17 17 33.0 +0.5
UMQ **Umm Al-Quwin** 66.76 294 *i*P P 17 09 24.3 +1.3
SNR=12
NEZ **North Egmont** 66.80 140 P P 17 09 26.3 +3.2
FAQ **Al Faqa, Dubai** 66.82 293 P P 17 09 23.7 +0.2
SNR=12
FAQ P P 17 09 23.7 +0.2
SNR=12
FAQ S S 17 17 30.5 -2.7
FAQ S S 17 17 30.5 -2.7
FAQ **Al Faqa, Dubai** 66.82 293 *i*P P 17 09 23.5 0.0
SNR=14
FOZ **Fox Glacier** 66.82 146 P P 17 09 24.1 +1.1
DSZ **Denniston Nort** 66.85 143 lAmb lAmb 17 09 26.1
comp=Z,538nm,2.0s
DSZ **Denniston Nort** 66.85 143 P P 17 09 26.1 +2.8
TOZ **Tahuroa Road** 66.86 138 P P 17 09 25.7 +2.3
HIZ **Hauiti** 66.87 139 lAmb lAmb 17 09 27.5
comp=Z,319nm,0.9s
HIZ **Hauiti** 66.87 139 P P 17 09 25.7 +2.2
HIZ **Hauiti** 66.87 139 P P 17 09 26.5 +3.1
GCSZ **Gaunt Creek Bo** 66.97 145 P P 17 09 25.0 +1.1
WVZ **Waitaha Valley** 67.05 145 P P 17 09 24.8 +0.4
ASUD **Al Ashush, Dub** 67.06 293 P P 17 09 25.7 +0.8
SNR=14
ASUD S S 17 17 35.8 -0.2
ASUD **Al Ashush, Dub** 67.06 293 *i*P P 17 09 25.3 +0.4
SNR=35
MLZ **Mavora Lakes** 67.10 148 P P 17 09 25.2 +0.4
VRZ **Vera Road** 67.15 139 P P 17 09 27.8 +2.7
TLZ **Tolley Road** 67.21 138 P P 17 09 28.3 +2.7
UMZA **Um Al Zommool** 67.22 291 P P 17 09 26.4 +0.5
UMZA P P 17 09 26.4 +0.5
UMZA S S 17 17 34.9 -3.0
UMZA S S 17 17 34.9 -3.0
WKZ **Wanaka** 67.22 147 P P 17 09 26.3 +0.8
INZ **Inchbonnie** 67.24 144 P P 17 09 25.9 +0.3
WHZ **Wether Hill Ro** 67.36 148 P P 17 09 26.8 +0.5
AJN **Ajban** 67.37 293 P P 17 09 27.0 +0.2
SNR=10
AJN S S 17 17 35.8 -3.9
AJN **Ajban** 67.37 293 *i*P P 17 09 27.0 +0.2
SNR=22
NNZ **Nelson** 67.48 142 lAmb lAmb 17 09 29.1
comp=Z,178nm,1.1s
NNZ **Nelson** 67.48 142 P P 17 09 27.2 +0.1
THZ **Tophouse** 67.52 143 lAmb lAmb 17 09 29.0
comp=Z,114nm,0.7s
THZ **Tophouse** 67.52 143 P P 17 09 27.7 +0.2
AFI **Afiamalu** 67.55 109 P P 17 09 30.6 +2.4
DMTO **DMTO** 67.56 285 P P 17 09 29.3 +1.1
SNR=7.9
LBZ **Lake Benmore** 67.57 146 P P 17 09 28.8 +1.1
RPZ **Rata Peaks** 67.63 145 P P 17 09 28.8 +0.8
RPZ **Rata Peaks** 67.63 145 P P 17 09 28.7 +0.7
EAZ **Earnscleugh** 67.64 147 P P 17 09 28.5 +0.5
WAZ **Wanganui** 67.65 140 P P 17 09 30.6 +2.4
NGZ **Ngauruhoe** 67.72 139 P P 17 09 30.6 +1.7
LTZ **Lake Taylor** 67.75 144 P P 17 09 29.2 +0.3
ARCZ **Arundel** 67.84 145 P P 17 09 29.7 +0.3
AKTO **Aktyubinsk** 67.87 321 P P 17 09 29.9 +0.5
comp=Z,575nm,0.7s,baz=94,slow=6.4,SNR=1017
AKTO S S 17 17 40.7 -3.9
comp=Z,5.5nm,0.9s,baz=253,slow=19,SNR=7.2
comp=Z,575nm,0.7s
OXZ **Oxford** 67.95 144 lAmb lAmb 17 09 31.4
comp=Z,141nm,0.5s
OXZ **Oxford** 67.95 144 P P 17 09 30.2 +0.2
APZ **The Paps** 68.02 149 P P 17 09 31.0 +0.7
TMZ **Timaru** 68.02 146 P P 17 09 31.9 +1.5
SVE **Sverdlovsk** 68.04 328*c* *i*P P 17 09 30.8 +0.5
SVE *e*S S 17 17 45.1 -1.3
SVE pmax pmax
comp=Z,1μm,0.7s
WACZ **Wakanui South** 68.22 145 P P 17 09 32.6 +1.1
URZ **Urewera** 68.22 137 P P 17 09 32.3 +0.6
URZ **Urewera** 68.22 137 P P 17 09 32.8 +1.1
ODZ **Otahua Downs** 68.24 146 P P 17 09 32.7 +1.0
ODZ **Otahua Downs** 68.24 146 P P 17 09 32.6 +1.0
RBK **Rabkut** 68.28 285 P P 17 09 33.3 +0.7
SNR=13
RBK S S 17 17 49.1 -1.5
KHZ **Kahutara** 68.28 143 P P 17 09 31.8 -0.2
KHZ **Kahutara** 68.28 143 P P 17 09 31.9 0.0
TUZ **Tuapeka** 68.28 148 P P 17 09 32.9 +0.9
BKZ **Black Stump Fm** 68.30 139 P P 17 09 33.1 +0.9
BKZ **Black Stump Fm** 68.30 139 P P 17 09 33.2 +0.9
DOK **Doka** 68.30 286 P P 17 09 33.4 +0.7
SNR=19
DOK S S 17 17 49.2 -1.5
CMWZ **Cape Campbell** 68.30 142 P P 17 09 32.1 0.0
GVZ **Greta Valley S** 68.31 143 P P 17 09 32.9 +0.7
GVZ lAmb lAmb 17 09 34.5
comp=Z,152nm,0.7s
GVZ **Greta Valley S** 68.31 143 P P 17 09 32.9 +0.7
RTZ **Ruatahuna** 68.32 138 lAmb lAmb 17 09 34.5
comp=Z,284nm,0.7s
RTZ **Ruatahuna** 68.32 138 P P 17 09 32.9 +0.4
SNZO **South Karori** 68.35 141 P P 17 09 31.7 -0.7
SNZO lAmb lAmb 17 09 33.1
comp=Z,181nm,0.6s
SNZO **South Karori** 68.35 141 P P 17 09 31.8 -0.6
HAZ **Te Kaha** 68.41 137 P P 17 09 33.3 +0.5
SYZ **Scrubby Hill** 68.41 148 P P 17 09 33.0 +0.4
SYZ **Scrubby Hill** 68.41 148 P P 17 09 33.8 +1.1
TSZ **Takapari Road** 68.44 140 P P 17 09 34.1 +1.0
MRZ **Mangatainoka R** 68.53 140 P P 17 09 33.9 +0.3
MQZ **McQueen's Vall** 68.54 144 P P 17 09 34.6 +1.1
MWZ **Matawai** 68.54 137 P P 17 09 34.1 +0.4
MXZ **Matakaoa Point** 68.67 136 lAmb lAmb 17 09 36.3
comp=Z,168nm,0.7s
MXZ **Matakaoa Point** 68.67 136 P P 17 09 35.4 +1.0
MXZ **Matakaoa Point** 68.67 136 P P 17 09 35.4 +1.0
WHFO **Wadi Hawf** 68.67 286 P P 17 09 35.2 +0.3
SNR=8.2
WHFO S S 17 17 52.4 -2.7
HHSZ **Highcliff Hill** 68.75 147 P P 17 09 36.4 +1.6
MZR **Muzera** 68.76 291 P P 17 09 36.5 +1.1
SNR=115
MZR S S 17 17 53.3 -2.6
MZR **Muzera** 68.76 291 *i*P P 17 09 36.2 +0.9
SNR=748
PUZ **Puketiti** 68.89 137 P P 17 09 36.0 +0.2
NIKH **Nikolski High** 68.94 37 P P 17 09 35.7 -0.1
NIKH **Nikolski High** 68.94 37 P P 17 09 35.9 +0.1
baz=257,SNR=25
NIKH S S 17 17 56.4 -0.4
baz=257
BFZ **Birch Farm** 68.96 140 lAmb lAmb 17 09 37.9
comp=Z,165nm,0.7s
BFZ **Birch Farm** 68.96 140 P P 17 09 36.5 +0.3
BFZ **Birch Farm** 68.96 140 P P 17 09 37.0 +0.8
KNZ **Kokohu** 69.00 138 P P 17 09 37.0 +0.6
PXZ **Pawanui** 69.00 139 P P 17 09 37.7 +1.3
ARTI **Arti** 69.11 327 P P 17 09 36.4 -0.3
ARTI **Arti** 69.11 327 P P 17 09 36.5 -0.3
comp=Z,532nm,0.7s,baz=115,slow=3.0,SNR=494
ARTI S S 17 17 55.6 -3.1
comp=Z,11nm,0.8s,baz=290,slow=18,SNR=11
comp=Z,532nm,0.7s
ARTI **Arti** 69.11 327*d* *i*P P 17 09 36.5 -0.3
ARTI 17 09 55.6
ARTI *PP pP 17 11 27.7 -1.7
ARTI S S 17 17 58.0 -0.7
ARTI 17 18 41.2
ARTI SSS SSS 17 25 58.9
ARTI pmax pmax
comp=Z,432nm,0.7s
ARTI **Arti** 69.11 327 ⇓P P 17 09 36.6 -0.3
ARTI PcP PcP 17 09 56.3 0.0
ABTO **Aybut** 69.16 285 P P 17 09 38.7 +0.8
SNR=14
ABTO S S 17 17 57.7 -3.0
SPIA **Saint Paul Isl** 69.22 32 lAmb lAmb 17 09 39.4
comp=Z,215nm,0.6s
SPIA **Saint Paul Isl** 69.22 32 P P 17 09 38.5 +1.1
baz=254
SPIA S S 17 18 02.6 +2.8
baz=254
GHWR **Ruwais** 69.30 292 P P 17 09 39.5 +1.0
GHWR S S 17 17 58.9 -3.1
JRN **Qarnain Island** 69.31 293 P P 17 09 39.1 +0.6
SNR=41
P08K **Saint George I** 69.43 33 lAmb lAmb 17 09 40.8
comp=Z,348nm,0.8s
P08K **Saint George I** 69.43 33 P P 17 09 39.8 +1.1
baz=255
P08K S S 17 18 04.7 +2.4
baz=255
MSEY **Mahe Island** 69.83 262 P P 17 09 42.5 +0.5
MSEY lAmb lAmb 17 09 43.5
comp=Z,196nm,0.6s
MSEY **Mahe Island** 69.83 262 P P 17 09 42.9 +0.9
MSEY **Mahe Island** 69.83 262 P P 17 09 42.5 +0.5
MSEY pmax pmax
comp=Z,196nm,0.6s
MSEY **Mahe Island** 69.83 262 *i*P P 17 09 42.4 +0.5
SNR=12
SLWR **Sila** 70.38 292 P P 17 09 45.9 +0.9
SLWR S S 17 18 12.0 -2.3
UNV **Unalaska Valle** 70.50 36 P P 17 09 45.1 +0.1
baz=258,SNR=59
UNV S S 17 18 13.9 -0.6
baz=258
GAMB **Gambell** 70.55 25 lAmb lAmb 17 09 47.2
comp=Z,236nm,0.8s
GAMB **Gambell** 70.55 25 P P 17 09 46.3 +1.2
baz=250,SNR=14
GAMB S S 17 18 17.0 +2.2
baz=250
NIUE **Niue** 70.73 114 P P 17 09 50.0 +2.9
TRNA **Turayna** 70.80 293 P P 17 09 48.3 +0.8
SNR=36
TRNA S S 17 18 17.8 -1.3
AKUT **Akutan** 70.98 36 P P 17 09 47.8 -0.1
SHMA **Al-Shehemyia** 71.00 294 S S 17 18 19.4 -1.9
SMRA **Abu-Samra** 71.15 293 P P 17 09 50.2 +0.7
SNR=51
SMRA S S 17 18 21.7 -1.3
SAKB **Bahrain** 71.38 294 P P 17 09 51.4 +0.6
SAKB S S 17 18 24.9 -0.6
M11K **Mekoryuk** 72.07 29 lAmb lAmb 17 09 56.7
comp=Z,188nm,1.0s
M11K **Mekoryuk** 72.07 29 P P 17 09 55.6 +1.5
baz=257
M11K S SKiKP 17 18 34.8 +2.7
baz=257
FALS **False Pass** 72.46 35 P P 17 09 56.9 +0.4
FALS **False Pass** 72.46 35 P P 17 09 56.2 -0.2
baz=261,SNR=12
FALS S S 17 18 34.8 -1.6
baz=261
TNA **Tin City** 72.65 24 P P 17 09 58.1 +0.7
baz=253
TNA S S 17 18 39.5 +1.2
baz=253
K13K **Kusilvak Mount** 73.15 28 lAmb lAmb 17 10 02.5
comp=Z,164nm,0.9s
K13K **Kusilvak Mount** 73.15 28 P P 17 10 01.4 +1.1
baz=258
K13K S S 17 18 43.9 0.0
baz=258
F14K **Arctic Creek** 73.27 24 P P 17 10 02.2 +1.3
baz=255
F14K S S 17 18 47.8 +2.7
baz=255
S12K **Black Hills** 73.35 35 P P 17 10 00.7 -0.9
baz=262
S12K S S 17 18 43.8 -2.6
baz=262
ANM **Nome** 73.43 25 P P 17 10 03.0 +1.1
baz=256,SNR=5.3
ANM S S 17 18 49.0 +2.0
baz=256
M13K **Dall Lake** 73.46 30 P P 17 10 03.5 +1.4
baz=259,SNR=19
M13K S S 17 18 50.4 +3.1
baz=259
J14K **Nanvaranak Lak** 73.82 27 P P 17 10 05.1 +1.0
baz=258
J14K S S 17 18 51.4 +0.2
baz=258
KBD **Kabd** 73.83 298 P P 17 10 05.1 +0.3
KBD S S 17 18 49.4 -3.2
AKT **Akhty** 73.85 310*de*P P 17 10 05.6 +0.7
AKT *e**PP pP 17 12 02.2 +2.7
AKT *e* 17 12 59.8
AKT *e*S S 17 18 50.5 -2.1
AKT *e* 17 19 24.5
AKT pmax pmax
comp=Z,489nm,0.7s
L14K **Kuka Creek** 73.95 29 lAmb lAmb 17 10 07.2
comp=Z,165nm,0.8s
L14K **Kuka Creek** 73.95 29 P P 17 10 06.1 +1.3
baz=260
L14K S S 17 18 54.8 +2.1
baz=260
F15K **North Star Dit** 74.00 24 lAmb lAmb 17 10 07.3
comp=Z,238nm,1.2s
F15K **North Star Dit** 74.00 24 P P 17 10 06.4 +1.2
baz=256,SNR=24
F15K S S 17 18 53.8 +0.6
baz=256
G15K **Niukluk** 74.09 25 P P 17 10 06.3 +0.7
baz=257,SNR=26
G15K S S 17 18 54.0 -0.1
baz=257
N14K **Kuskokwak Cree** 74.20 30 lAmb lAmb 17 10 08.2
comp=Z,238nm,0.9s
N14K **Kuskokwak Cree** 74.20 30 P P 17 10 07.2 +1.0
baz=261,SNR=49
N14K S S 17 18 56.4 +1.0
baz=261
M14K **Bethel** 74.20 29 lAmb lAmb 17 10 08.3
comp=Z,200nm,0.8s
M14K **Bethel** 74.20 29 P P 17 10 07.4 +1.2
baz=260
M14K S S 17 18 56.9 +1.6
baz=260
SDPT **Sand Point** 74.20 35 P P 17 10 06.3 -0.1
SDPT **Sand Point** 74.20 35 P P 17 10 06.3 -0.1
baz=263,SNR=83

SDPT S **S** **17 18 54.3 -1.3**
baz=263
KIRV **Kirov** **74.30 328** P **P** **17 10 06.9 0.0**
comp=Z,964nm,0.5s,baz=90,slow=1.4,SNR=321
comp=Z,964nm,0.5s
O14K **Tigyukauivet M** **74.30 31** IAmb IAmb 17 10 08.6
comp=Z,176nm,0.8s
O14K **Tigyukauivet M** **74.30 31** P **P** **17 10 07.8 +0.9**
baz=261,SNR=51
O14K S **S** **17 18 57.3 +0.7**
baz=261
C16K **Lisburne Hills** **74.37 21** IAmb IAmb 17 10 09.2
comp=Z,223nm,1.1s
C16K **Lisburne Hills** **74.37 21** P **P** **17 10 08.1 +1.0**
baz=255,SNR=10
C16K S **S** **17 18 58.8 +1.7**
baz=255
L15K **Ungalak Mounta** **74.58 28** P **P** **17 10 09.2 +0.8**
baz=260,SNR=36
L15K S **S** **17 19 00.1 +0.6**
baz=260
BELG **Belogornoye** **74.60 322** P **P** **17 10 08.6 -0.1**
comp=Z,1μm,0.7s,baz=5.3,slow=0.6,SNR=484
comp=Z,1μm,0.7s
BELG **Belogornoye** **74.60 322** *d i* P **P** **17 10 08.4 -0.3**
BELG pmax pmax
comp=Z,247nm,0.8s
CNBA **Chernabura Isl** **74.65 36** IAmb IAmb 17 10 10.1
comp=Z,214nm,0.9s
CHNA **Chernabura Isl** **74.65 36** P **P** **17 10 09.1 +0.2**
CHNA **Chernabura Isl** **74.65 36** P **P** **17 10 09.2 +0.3**
baz=264,SNR=32
CHNA S **S** **17 19 00.2 -0.3**
baz=264
K15K **Wolf Creek Mou** **74.66 28** P **P** **17 10 10.2 +1.3**
baz=260,SNR=33
K15K S **S** **17 19 02.5 +2.0**
baz=260
H16K **Elim** **74.77 25** P **P** **17 10 10.3 +0.9**
baz=259,SNR=38
H16K S **S** **17 19 01.8 +0.3**
baz=259
M15K **Kasigluk River** **74.81 30** P **P** **17 10 10.4 +0.7**
baz=262,SNR=76
M15K S **S** **17 19 01.7 -0.3**
baz=262
S14K **Fog Glacier** **74.83 34** P **P** **17 10 09.8 -0.3**
baz=264
S14K S **S** **17 19 00.6 -2.0**
baz=264
G16K **Koyuk River** **74.87 25** P **P** **17 10 11.0 +1.0**
baz=259,SNR=21
G16K S **S** **17 19 03.1 +0.6**
baz=259
N15K **Kwethluk River** **75.02 30** P **P** **17 10 12.1 +1.1**
baz=262,SNR=87
N15K S **S** **17 19 03.9 -0.5**
baz=262
O15K **Ungalikthiuk R** **75.03 31** P **P** **17 10 11.8 +0.8**
baz=263,SNR=41
O15K S **S** **17 19 04.2 -0.3**
baz=263
D17K **Noatak River** **75.06 22** P **P** **17 10 12.6 +1.6**
baz=257,SNR=51
D17K S **S** **17 19 07.6 +3.1**
baz=257
CTZ **Chatham Island** **75.08 140** P **P** **17 10 12.9 +1.4**
C17K **DeLong Mountai** **75.20 21** P **P** **17 10 12.9 +1.1**
baz=257,SNR=18
C17K S **S** **17 19 06.5 +0.5**
baz=257
RDOG **Red Dog Mine** **75.20 22** P **P** **17 10 13.0 +1.2**
baz=258,SNR=14
RDOG S **S** **17 19 06.6 +0.4**
baz=258
J16K **Anvik River** **75.24 27** P **P** **17 10 13.5 +1.4**
baz=261,SNR=35
J16K S **S** **17 19 09.1 +2.5**
baz=261
I17K **Unalakleet** **75.30 26** IAmb IAmb 17 10 14.9
comp=Z,179nm,0.9s
I17K **Unalakleet** **75.30 26** P **P** **17 10 13.7 +1.3**
baz=261,SNR=14
I17K S **S** **17 19 08.4 +1.2**
baz=261
E17K **Hotham Inlet** **75.41 23** P **P** **17 10 14.3 +1.4**
baz=259
E17K S **S** **17 19 09.8 +1.5**
baz=259
CHGN **Chignik** **75.46 34** P **P** **17 10 13.0 -0.4**
baz=265,SNR=57
F17K **Baldwin Pennin** **75.51 24** P **P** **17 10 14.8 +1.3**
baz=259,SNR=16
F17K S **S** **17 19 10.9 +1.5**
baz=259
L16K **Owhat River** **75.53 29** P **P** **17 10 14.8 +1.1**
baz=262,SNR=99
L16K S **S** **17 19 10.2 +0.4**
baz=262
G17K **Kiwalik Mounta** **75.59 25** P **P** **17 10 15.3 +1.3**
baz=260,SNR=71
G17K S **S** **17 19 11.1 +0.8**
baz=260
M16K **Timber Creek** **75.69 29** IAmb IAmb 17 10 16.6
comp=Z,172nm,0.7s
M16K **Timber Creek** **75.69 29** P **P** **17 10 15.8 +1.2**
baz=263,SNR=86
M16K S **S** **17 19 11.6 0.0**
baz=263
N16K **Nishlik Lake** **75.72 30** P **P** **17 10 16.2 +1.3**
baz=263
N16K S **S** **17 19 12.5 +0.6**
baz=263
H17K **Granite Mounta** **75.80 25** IAmb IAmb 17 10 17.5
comp=Z,204nm,0.9s
H17K **Granite Mounta** **75.80 25** P **P** **17 10 16.6 +1.4**
baz=261,SNR=69
H17K S **S** **17 19 14.1 +1.4**
baz=261
B18K **Kokolik River** **75.88 21** P **P** **17 10 17.3 +1.8**
baz=258
B18K S **S** **17 19 15.6 +2.3**
baz=258
CASY **Casey** **75.89 186** P **P** **17 10 15.2 -0.3**
E18K **Tukpahlearik C** **75.94 23** IAmb IAmb 17 10 18.2
comp=Z,159nm,0.8s
E18K **Tukpahlearik C** **75.94 23** P **P** **17 10 17.2 +1.3**
baz=260
E18K S **S** **17 19 14.9 +0.8**
baz=260
J17K **VABM Dome** **75.94 27** P **P** **17 10 17.4 +1.4**
baz=262,SNR=44
J17K S **S** **17 19 15.6 +1.5**
baz=262
C18K **Utukok River** **75.95 21** IAmb IAmb 17 10 17.5
comp=Z,164nm,0.6s
C18K **Utukok River** **75.95 21** P **P** **17 10 17.1 +1.1**
baz=259,SNR=36
C18K S **S** **17 19 15.2 +1.0**
baz=259
P16K **Nushagak River** **75.95 31** IAmb IAmb 17 10 18.4
comp=Z,186nm,0.6s
P16K **Nushagak River** **75.95 31** P **P** **17 10 17.0 +1.0**
baz=264,SNR=9.2
P16K S **S** **17 19 15.4 +1.0**
baz=264
O16K **Kokwok River B** **75.95 31** P **P** **17 10 17.1 +1.0**
baz=264,SNR=68
O16K S **S** **17 19 14.9 +0.5**
baz=264
RAYN **Ar Rayn** **76.07 292** P **P** **17 10 18.0 +0.4**
RAYN **Ar Rayn** **76.07 292** P **P** **17 10 18.4 +0.8**
RAYN S **S** **17 19 14.8 -2.3**
RAYN **Ar Rayn** **76.07 292** ⇓P **P** **17 10 18.2 +0.6**
RAYN **Ar Rayn** **76.07 292** *i* P **P** **17 10 17.9 +0.4**
SNR=1306
GNI **Garni** **76.09 309** P **P** **17 10 18.4 +0.9**
GNI IAmb IAmb 17 10 27.5
comp=Z,373nm,0.7s
GNI **Garni** **76.09 309** P **P** **17 10 19.0 +1.5**
comp=Z,267nm,0.7s,baz=272,slow=0.3,SNR=38
GNI S **S** **17 19 18.9 +1.8**
comp=Z,2.8nm,0.4s,baz=48,slow=23,SNR=3.4
comp=Z,267nm,0.7s
GNI **Garni** **76.09 309** P **P** **17 10 19.5 +1.9**
GNI S **S** **17 19 16.0 -1.1**
GNI **Garni** **76.09 309** *d i* P **P** **17 10 18.9 +1.3**
GNI pmax pmax
comp=Z,329nm,0.8s
GNI **Garni** **76.09 309** P **P** **17 10 18.4 +0.9**
comp=Z,5μmcomp=Z,521nm,0.7s
L17K **Donlin** **76.14 28** P **P** **17 10 18.8 +1.7**
baz=263,SNR=87
L17K S **S** **17 19 17.5 +1.2**
baz=263
F18K **Selawik** **76.17 24** P **P** **17 10 18.2 +1.0**
baz=261
F18K S **S** **17 19 17.4 +1.0**
baz=261
K17K **Iditarod** **76.20 28** P **P** **17 10 18.9 +1.4**
baz=263,SNR=67
K17K S **S** **17 19 18.9 +1.9**
baz=263
A19K **Wainwright** **76.29 20** P **P** **17 10 19.5 +1.7**
baz=259
A19K S **S** **17 19 18.9 +1.3**
baz=259
M17K **Holitna River** **76.46 29** P **P** **17 10 20.5 +1.6**
baz=264,SNR=61
M17K S **S** **17 19 21.4 +1.6**
baz=264
G18K **Tagagawik** **76.46 24** P **P** **17 10 19.4 +0.6**
baz=262,SNR=25
G18K S **S** **17 19 19.6 -0.1**
baz=262
O17K **Koliganek Bris** **76.48 31** P **P** **17 10 19.9 +1.0**
baz=265,SNR=47
O17K S **S** **17 19 20.4 +0.4**
baz=265
H18K **Honhosa River** **76.48 25** P **P** **17 10 19.9 +1.0**
baz=262
H18K S **S** **17 19 20.2 +0.3**
baz=262
N17K **Nushagak Hills** **76.50 30** P **P** **17 10 20.6 +1.5**
baz=265,SNR=69
N17K S **S** **17 19 21.1 +0.8**
baz=265
C19K **Lookout Ridge** **76.60 21** P **P** **17 10 21.2 +1.7**
baz=260
C19K S **S** **17 19 22.5 +1.3**
baz=260
Q16K **King Salmon** **76.61 32** P **P** **17 10 19.7 0.0**
baz=266,SNR=17
R17L **Mt. Peulik Vol** **76.69 33** P **P** **17 10 20.1 -0.1**
baz=266
R17L S **S** **17 19 19.4 -3.0**
baz=266
OZAP **Van, Ozalp-Mer** **76.69 308** ⇓P **P** **17 10 22.5 +1.5**
P17K **Kvichak River** **76.76 31** P **P** **17 10 21.5 +1.0**
baz=266,SNR=82
P17K S **S** **17 19 22.8 -0.2**
baz=266
L18K **Granite Mounta** **76.90 28** P **P** **17 10 22.7 +1.5**
baz=265,SNR=102
L18K S **S** **17 19 25.1 +0.7**
baz=265
NCK **Nalchik** **76.94 313** *d i* P **P** **17 10 22.2 +0.3**
NCK pmax pmax
comp=Z,241nm,0.8s
F19K **Shaleruckik Mo** **76.94 23** P **P** **17 10 21.9 +0.5**
baz=263,SNR=25
F19K S **S** **17 19 23.0 -1.7**
baz=263
Q17K **Contact Creek** **76.98 32** P **P** **17 10 21.5 -0.4**
baz=266,SNR=105
Q17K S **S** **17 19 21.6 -4.1**
baz=266
CHIR **Chirikof Islan** **76.99 35** IAmb IAmb 17 10 23.9
comp=Z,402nm,0.8s
CHIR **Chirikof Islan** **76.99 35** P **P** **17 10 22.9 +1.0**
CHIR **Chirikof Islan** **76.99 35** P **P** **17 10 23.1 +1.2**
baz=267,SNR=10
CHIR S **S** **17 19 27.1 +1.6**
baz=267
J18K **Innoko River** **77.00 27** P **P** **17 10 22.6 +0.8**
baz=264,SNR=61
J18K S **S** **17 19 24.4 -1.2**
baz=264
D19K **Kuna River** **77.04 22** P **P** **17 10 23.1 +1.2**
baz=262
D19K S **S** **17 19 26.2 +0.4**
baz=262
SBV **Sambava** **77.04 254** P **P** **17 10 23.6 +0.7**
GCSA **Galena City Sc** **77.06 26** P **P** **17 10 23.2 +1.2**
baz=264,SNR=15
GCSA S **S** **17 19 26.8 +0.8**
baz=264
G19K **Purcell Mounta** **77.13 24** P **P** **17 10 23.6 +1.1**
baz=263,SNR=46
G19K S **S** **17 19 26.9 +0.2**
baz=263
N18K **Kilae Creek** **77.15 30** P **P** **17 10 24.0 +1.3**
baz=266,SNR=31
N18K S **S** **17 19 27.8 +0.6**
baz=266
E19K **Redstone River** **77.23 23** IAmb IAmb 17 10 25.3
comp=Z,246nm,1.1s
E19K **Redstone River** **77.23 23** P **P** **17 10 24.1 +1.1**
baz=263
E19K S **S** **17 19 28.0 +0.2**
baz=263
M18K **Stony River** **77.24 29** P **P** **17 10 24.6 +1.4**
baz=266,SNR=152
M18K S **S** **17 19 29.6 +1.6**
baz=266
H19K **Roundabout Mou** **77.33 25** IAmb IAmb 17 10 25.9
comp=Z,674nm,1.6s
H19K **Roundabout Mou** **77.33 25** P **P** **17 10 24.9 +1.5**
baz=264,SNR=174
H19K S **S** **17 19 29.5 +0.8**
baz=264
GOF **Gofitskoye** **77.33 314** *ce* P **P** **17 10 24.0 0.0**
GOF *e* S **S** **17 19 28.1 -1.5**
P18K **Big Mountain,** **77.39 31** P **P** **17 10 24.3 +0.2**
baz=267,SNR=22
P18K S **S** **17 19 27.5 -2.3**
baz=267
O18K **Koktuh Hills** **77.43 31** IAmb IAmb 17 10 26.5
comp=Z,316nm,0.8s
O18K **Koktuh Hills** **77.43 31** P **P** **17 10 25.5 +1.2**
baz=266,SNR=80
O18K S **S** **17 19 30.9 +0.7**
baz=266
GEVA **Gevas** **77.44 307** IAmb IAmb 17 10 28.0
comp=Z,625nm,1.1s
KBZ **Khabaz** **77.44 313** P **P** **17 10 25.0 +0.4**
comp=Z,155nm,0.9s,baz=140,slow=2.1,SNR=110
KBZ S **S** **17 19 29.9 -0.8**
comp=Z,7.0nm,1.0s,baz=329,slow=20,SNR=8.2
comp=Z,155nm,0.9s
KBZ **Khabaz** **77.44 313** *d i* P **P** **17 10 25.0 +0.4**
KBZ pmax pmax
comp=Z,250nm,0.9s
Q18K **Katmai Hardscr** **77.47 32** P **P** **17 10 24.1 -0.4**
baz=267
Q18K S **S** **17 19 26.8 -3.9**
baz=267
J19K **Poorman** **77.54 26** P **P** **17 10 25.9 +1.1**
baz=265,SNR=67
J19K S **S** **17 19 31.2 +0.1**
baz=265
B20K **Meade River** **77.58 20** IAmb IAmb 17 10 27.1
comp=Z,255nm,0.8s
B20K **Meade River** **77.58 20** P **P** **17 10 26.0 +1.2**
baz=262
B20K S **S** **17 19 31.7 +0.4**
baz=262
KVAR **Kislovodsk Arr** **77.59 313** S **S** **17 19 30.9 -1.8**
comp=Z,48nm,1.2s,baz=323,slow=10,SNR=5.8
KIV **Kislovodsk** **77.59 313** P **P** **17 10 25.6 +0.1**
KIV **Kislovodsk** **77.59 313** P **P** **17 10 26.2 +0.7**
KIV S **S** **17 19 32.1 -0.5**
KIV **Kislovodsk** **77.59 313** ⇓P **P** **17 10 26.0 +0.4**
KIV **Kislovodsk** **77.59 313** ⇓P **P** **17 10 26.0 +0.4**
KIV **Kislovodsk** **77.59 313** *i* P **P** **17 10 25.8 +0.3**
SNR=115
D20K **Etivluk River** **77.61 22** IAmb IAmb 17 10 27.2
comp=Z,254nm,0.8s
D20K **Etivluk River** **77.61 22** P **P** **17 10 26.2 +1.1**
baz=263
D20K S **S** **17 19 32.4 +0.6**
baz=263
SHA1 **Shidzhatmaz** **77.62 313** *d i* P **P** **17 10 26.0 +0.1**
R18K **Karluk** **77.71 33** P **P** **17 10 25.7 0.0**
baz=268
E20K **Nigu River** **77.72 22** P **P** **17 10 26.9 +1.2**
baz=264
E20K S **S** **17 19 33.0 0.0**
baz=264
L19K **White Mountain** **77.75 28** IAmb IAmb 17 10 28.2
comp=Z,184nm,0.8s
L19K **White Mountain** **77.75 28** P **P** **17 10 27.2 +1.3**
baz=266,SNR=145
L19K S **S** **17 19 34.2 +0.7**
baz=266
F20K **Avaraart Lake** **77.77 23** P **P** **17 10 27.2 +1.3**
baz=264,SNR=82
F20K S **S** **17 19 34.8 +1.5**
baz=264
SII **Sitkinak Islan** **77.82 34** IAmb IAmb 17 10 28.4
comp=Z,343nm,0.6s
SII **Sitkinak Islan** **77.82 34** P **P** **17 10 27.6 +1.2**
SII **Sitkinak Islan** **77.82 34** P **P** **17 10 27.7 +1.2**
baz=268,SNR=18
SII S **S** **17 19 36.1 +1.8**
baz=268
N19K **Bonanza Creek** **77.85 30** IAmb IAmb 17 10 29.0
comp=Z,327nm,0.8s
N19K **Bonanza Creek** **77.85 30** P **P** **17 10 28.0 +1.4**
baz=267,SNR=149
N19K S **S** **17 19 34.4 -0.2**
baz=267
KHU **Kahuku** **77.86 72** IAmb IAmb 17 10 31.3
comp=Z,463nm,1.5s
POHA **Pohakuloa** **77.89 72** P **P** **17 10 28.3 +0.5**
POHA IAmb IAmb 17 10 31.9
comp=Z,162nm,0.7s
POHA **Pohakuloa** **77.89 72** P **P** **17 10 29.7 +1.9**
O19K **Port Alsworth** **77.90 30** IAmb IAmb 17 10 28.5
comp=Z,223nm,1.0s
O19K **Port Alsworth** **77.90 30** P **P** **17 10 27.5 +0.9**
baz=267,SNR=16
O19K S **S** **17 19 34.2 -0.7**
baz=267
A21K **Barrow** **77.93 19** P **P** **17 10 27.8 +1.2**
baz=263,SNR=5.9
A21K S **S** **17 19 36.0 +1.1**
baz=263
HMH **Humu'ula Sheep** **77.95 72** IAmb IAmb 17 10 32.2
comp=Z,180nm,0.7s
M19K **Big River Lodg** **77.95 29** P **P** **17 10 28.5 +1.5**
baz=267,SNR=66
M19K S **S** **17 19 36.6 +1.0**
baz=267
H20K **Anotleneega Mo** **77.97 25** P **P** **17 10 28.3 +1.2**
baz=266
H20K S **S** **17 19 36.2 +0.5**
baz=266
AIN **Ainahou** **77.99 72** IAmb IAmb 17 10 32.8
comp=Z,442nm,0.9s
MLH **Mauna Loa** **78.05 72** IAmb IAmb 17 10 32.6
comp=Z,346nm,0.7s
I20K **Naaghedeneel** **78.09 26** IAmb IAmb 17 10 30.2
comp=Z,383nm,0.9s
I20K **Naaghedeneel** **78.09 26** P **P** **17 10 29.3 +1.7**
baz=266,SNR=62
I20K S **S** **17 19 38.7 +1.9**
baz=266
HLP **Hilina Pali** **78.14 72** IAmb IAmb 17 10 33.4
comp=Z,314nm,0.8s
UWE **Uwekahuna** **78.14 72** IAmb IAmb 17 10 34.6
comp=Z,204nm,0.8s
HATHI **Halema'uma'u T** **78.17 72** IAmb IAmb 17 10 32.9
comp=Z,248nm,1.1s
BYL **Byron's Ledge** **78.18 72** IAmb IAmb 17 10 32.9
comp=Z,251nm,0.9s
K20K **Telida** **78.18 27** P **P** **17 10 29.6 +1.4**
baz=267,SNR=106
K20K S **S** **17 19 38.6 +0.7**
baz=267
Q19K **Cape Douglas,** **78.19 32** IAmb IAmb 17 10 29.0
comp=Z,272nm,0.9s
Q19K **Cape Douglas,** **78.19 32** P **P** **17 10 27.9 -0.4**
baz=268,SNR=11
J20K **Nowinta River** **78.20 26** P **P** **17 10 29.7 +1.5**
baz=266,SNR=122
J20K S **S** **17 19 39.5 +1.5**
baz=266
VRH **Novokhopyorsk** **78.20 320** *e* P **P** **17 10 27.9 -0.6**
VRH *e* S **S** **17 19 33.8 -4.7**
VRH pmax pmax
comp=Z,520nm,0.6s
VRH smax smax
comp=N,240nm,1.2s
XMAS **Kiritimati** **78.21 90** P **P** **17 10 32.0 +2.7**
L20K **Farewell, AK** **78.22 28** P **P** **17 10 29.7 +1.3**
baz=267,SNR=106
L20K S **S** **17 19 38.0 -0.4**
baz=267
PUH **Pauahi** **78.22 72** P **P** **17 10 30.4 +0.9**
PUH IAmb IAmb 17 10 33.5
comp=Z,411nm,0.8s
HOMI **Horasan** **78.27 309** ⇑P **P** **17 10 31.1 +1.6**
STCH **Steam Cracks** **78.31 72** IAmb IAmb 17 10 33.9
comp=Z,338nm,0.8s
C21K **Knifeblade Rid** **78.32 21** P **P** **17 10 30.1 +1.3**
baz=265
C21K S **S** **17 19 39.6 +0.5**
baz=265
OHAK **Old Harbor** **78.33 33** IAmb IAmb 17 10 30.7
comp=Z,216nm,0.8s
OHAK **Old Harbor** **78.33 33** P **P** **17 10 29.6 +0.5**
OHAK **Old Harbor** **78.33 33** P **P** **17 10 30.0 +0.9**
baz=269,SNR=49
OHAK S **S** **17 19 39.4 -0.2**
baz=269
B21K **Ikpikpuk River** **78.42 21** P **P** **17 10 30.7 +1.4**
baz=265,SNR=84
B21K S **S** **17 19 39.9 -0.1**
baz=265
P19K **Oil Pt** **78.42 31** P **P** **17 10 29.4 -0.2**
baz=268,SNR=10
P19K S **S** **17 19 37.8 -2.8**
baz=268
A22K **Sinclair Lake** **78.42 19** P **P** **17 10 30.7 +1.4**
baz=264
A22K S **S** **17 19 40.7 +0.7**
baz=264
IMAR **Indian Mountai** **78.47 24** P **P** **17 10 30.6 +0.9**
M20K **Styx River** **78.55 29** P **P** **17 10 31.7 +1.4**
baz=268
M20K S **S** **17 19 42.9 +1.0**
baz=268
E21K **Killik River** **78.55 22** P **P** **17 10 31.1 +1.0**
baz=266
E21K S **S** **17 19 40.4 -1.3**
baz=266
G21K **Allakaket** **78.60 24** IAmb IAmb 17 10 32.6
comp=Z,208nm,0.9s
G21K **Allakaket** **78.60 24** P **P** **17 10 31.4 +1.0**
baz=267
G21K S **S** **17 19 43.1 +0.9**
baz=267
F21K **Alatna River** **78.66 23** P **P** **17 10 31.5 +0.8**
baz=266
F21K S **S** **17 19 42.5 -0.3**
baz=266
RED **Redoubt Volcan** **78.67 30** IAmb IAmb 17 10 31.8
comp=Z,317nm,0.7s
KDAK **Kodiak Island** **78.72 33** P **P** **17 10 31.7 +0.5**
KDAK IAmb IAmb 17 10 32.8
comp=Z,265nm,0.7s
KDAK **Kodiak Island** **78.72 33** *d i* P **P** **17 10 31.8 +0.7**
KDAK pmax pmax
comp=Z,293nm,0.6s
KDAK **Kodiak Island** **78.72 33** P **P** **17 10 31.8 +0.7**
baz=269
KDAK S **S** **17 19 41.7 -1.9**
baz=269
O20K **Slope Mountain** **78.74 30** P **P** **17 10 31.3 0.0**
baz=269,SNR=21
O20K S **S** **17 19 40.3 -3.7**
baz=269
Q20K **Shuyak Island** **78.83 32** P **P** **17 10 32.2 +0.5**
baz=269,SNR=16
Q20K S **S** **17 19 42.3 -2.4**
baz=269
SYI **Shuyak Island** **78.83 32** IAmb IAmb 17 10 33.0
comp=Z,240nm,0.7s
H21K **Melozitna Rive** **78.84 25** P **P** **17 10 33.1 +1.4**
baz=267,SNR=101
H21K S **S** **17 19 45.9 +1.1**
baz=267
B22K **Teshekpuk Lake** **78.88 20** IAmb IAmb 17 10 33.9

	comp=Z,299nm,0.8s									
B22K	**Teshekpuk Lake**	**78.88**	**20**	P	**P**	**17 10 33.1**	**+1.3**			
	baz=266,SNR=18									
B22K				S	**S**	**17 19 45.6**	**+0.7**			
	baz=266									
N20K	**Mount Spurr**	**78.97**	**29**	P	**P**	**17 10 32.6**	**+0.1**			
	baz=269									
SPCR	**Spurr Chakacha**	**78.97**	**29**	P	**P**	**17 10 33.0**	**+0.5**			
	baz=269,SNR=26									
CHUM	**Lake Minchumin**	**78.99**	**27**	P	**P**	**17 10 33.8**	**+1.3**			
	baz=268,SNR=94									
CHUM				S	**S**	**17 19 46.1**	**-0.1**			
	baz=268									
PPLA	**Purkeypile**	**79.02**	**28**	IAmb	IAmb	17 10 34.1				
	comp=Z,138nm,0.6s									
PPLA	**Purkeypile**	**79.02**	**28**	P	**P**	**17 10 33.5**	**+0.7**			
	baz=268,SNR=91									
PPLA				S	**S**	**17 19 45.2**	**-1.7**			
	baz=268									
D22K	**Ayikyak River**	**79.05**	**22**	IAmb	IAmb	17 10 34.7				
	comp=Z,147nm,0.6s									
D22K	**Ayikyak River**	**79.05**	**22**	P	**P**	**17 10 34.2**	**+1.4**			
	baz=267									
D22K				S	**S**	**17 19 47.2**	**+0.5**			
	baz=267									
CAST	**Castle Rocks**	**79.08**	**27**	IAmb	IAmb	17 10 34.9				
	comp=Z,254nm,0.8s									
CAST	**Castle Rocks**	**79.08**	**27**	P	**P**	**17 10 33.8**	**+0.8**			
	baz=268,SNR=432									
CAST				S	**S**	**17 19 46.3**	**-0.9**			
	baz=268									
F22K	**John River**	**79.17**	**23**	P	**P**	**17 10 35.0**	**+1.5**			
	baz=268									
F22K				S	**S**	**17 19 47.6**	**-0.5**			
	baz=268									
HOM	**Homer**	**79.23**	**31**	IAmb	IAmb	17 10 35.8				
	comp=Z,538nm,1.0s									
HOM	**Homer**	**79.23**	**31**	P	**P**	**17 10 34.8**	**+1.0**			
	baz=270,SNR=5.6									
SKT	**Skwentna**	**79.31**	**29**	IAmb	IAmb	17 10 35.6				
	comp=Z,261nm,1.0s									
SKT	**Skwentna**	**79.31**	**29**	P	**P**	**17 10 34.0**	**-0.3**			
	baz=269,SNR=202									
SKT				S	**S**	**17 19 46.4**	**-3.2**			
	baz=269									
E22K	**Anaktuvuk Pass**	**79.34**	**22**	P	**P**	**17 10 35.6**	**+1.3**			
	baz=268,SNR=84									
E22K				S	**S**	**17 19 49.5**	**-0.3**			
	baz=268									
G22K	**Bettles**	**79.42**	**24**	P	**P**	**17 10 35.7**	**+1.0**			
	baz=268									
G22K				S	**S**	**17 19 50.4**	**0.0**			
	baz=268									
CNPM	**China Poot**	**79.44**	**31**	IAmb	IAmb	17 10 35.9				
	comp=Z,435nm,0.8s									
H22K	**Ishtalitna Cre**	**79.44**	**25**	P	**P**	**17 10 36.5**	**+1.7**			
	baz=269,SNR=110									
H22K				S	**S**	**17 19 51.9**	**+1.0**			
	baz=269									
KLMR	**Klimovskoe**	**79.47**	**330**	*e*P	**P**	**17 10 33.4**	**-1.6**			
KLMR				*e*		17 10 40.0				
KLMR				*e*		17 13 44.6				
KLMR				S	**S**	**17 19 47.4**	**-3.8**			
KLMR				pmax	pmax					
	comp=Z,693nm,0.7s									
CAPN	**Captain Cook N**	**79.48**	**30**	P	**P**	**17 10 36.3**	**+1.3**			
	baz=270,SNR=5.6									
VSLR	**Vesyoloye**	**79.53**	**313**	*d* iP	**P**	**17 10 35.9**	**+0.1**			
BPAW	**Bear Paw Mtn.**	**79.58**	**26**	IAmb	IAmb	17 10 37.5				
	comp=Z,350nm,1.0s									
BPAW	**Bear Paw Mtn.**	**79.58**	**26**	P	**P**	**17 10 36.5**	**+0.8**			
	baz=269,SNR=400									
BPAW				S	**S**	**17 19 52.1**	**-0.3**			
	baz=269									
SUA	**Susitna One**	**79.68**	**29**	P	**P**	**17 10 36.1**	**-0.2**			
	baz=270									
SUA				S	**S**	**17 19 49.7**	**-3.9**			
	baz=270									
MLY	**Manley**	**79.69**	**25**	IAmb	IAmb	17 10 38.1				
	comp=Z,444nm,1.5s									
MLY	**Manley**	**79.69**	**25**	P	**P**	**17 10 37.3**	**+1.1**			
	baz=269,SNR=142									
MLY				S	**S**	**17 19 53.0**	**-0.6**			
	baz=269									
VORD	**Divnogorie**	**79.74**	**320**	*e*P	**P**	**17 10 36.1**	**-0.6**			
VORD				*e*S	**S**	**17 19 50.5**	**-3.9**			
VORD				pmax	pmax					
	comp=Z,250nm,0.6s									
VORD				smax	smax					
	comp=N,70nm,0.9s									
SOC	**Sochi**	**79.75**	**313**	*e*P	**P**	**17 10 35.2**	**-1.7**			
SOC				*e**PP	**pP**	**17 12 31.1**	**-3.3**			
SOC				*e*PPP	PPP	17 15 38.9				
SOC				*e*S	**S**	**17 19 52.0**	**-2.9**			
SOC				*e*SS	**SS**	**17 25 18.7**	**-0.7**			
SOC				*e*SSS	SSS	17 28 55.3				
SOC				pmax	pmax					
	comp=Z,270nm,0.6s									
VORR	**Voronezh**	**79.77**	**321**	*e*P	**P**	**17 10 36.3**	**-0.5**			
VORR				pmax	pmax					
	comp=Z,360nm,0.5s									
D23K	**Nanushuk River**	**79.78**	**21**	IAmb	IAmb	17 10 40.6				
	comp=Z,231nm,0.9s									
D23K	**Nanushuk River**	**79.78**	**21**	P	**P**	**17 10 38.3**	**+1.8**			
	baz=269,SNR=102									
D23K				S	**S**	**17 19 55.0**	**+0.8**			
	baz=269									
ATD	**Arta Tunnel**	**79.78**	**280**	P	**P**	**17 10 40.1**	**+2.3**			
	SNR=11									
VSR	**Storozhevoye**	**79.81**	**320**	*e*P	**P**	**17 10 36.4**	**-0.7**			
VSR				*e*S	**S**	**17 19 54.0**	**-1.1**			
VSR				pmax	pmax					
	comp=Z,290nm,0.5s									
VSR				smax	smax					
	comp=N,120nm,1.1s									
C23K	**Itkillik River**	**79.82**	**21**	P	**P**	**17 10 38.1**	**+1.3**			
	baz=269,SNR=192									
C23K				S	**S**	**17 19 54.7**	**+0.1**			
	baz=269									
TRF	**Thorofare Moun**	**79.89**	**27**	IAmb	IAmb	17 10 38.7				
	comp=Z,178nm,0.8s									
TRF	**Thorofare Moun**	**79.89**	**27**	P	**P**	**17 10 37.7**	**+0.3**			
	baz=270,SNR=197									
TRF				S	**S**	**17 19 52.4**	**-3.5**			
	baz=270									
CUT	**Chulitna**	**79.90**	**28**	IAmb	IAmb	17 10 39.9				
	comp=Z,282nm,0.6s									
CUT	**Chulitna**	**79.90**	**28**	P	**P**	**17 10 37.4**	**+0.1**			
	baz=270,SNR=12									
LPSR	**Galich'ya Gora**	**79.91**	**322**	*e*P	**P**	**17 10 37.0**	**-0.5**			
LPSR				*e*S	**S**	**17 19 51.1**	**-5.0**			
LPSR				pmax	pmax					
	comp=Z,720nm,0.8s									
LPSR				smax	smax					
	comp=E,70nm,1.2s									
COLD	**Coldfoot**	**79.93**	**23**	P	**P**	**17 10 38.9**	**+1.6**			
	baz=270,SNR=161									
COLD				S	**S**	**17 19 56.3**	**+0.5**			
	baz=270									
FIS	**Fire Island**	**79.93**	**29**	IAmb	IAmb	17 10 40.9				
	comp=Z,406nm,1.0s									
SLKM	**Skilak Lake**	**79.94**	**30**	IAmb	IAmb	17 10 38.4				
	comp=Z,243nm,0.6s									
M22K	**Willow**	**79.97**	**29**	P	**P**	**17 10 37.7**	**0.0**			
	baz=271,SNR=91									
M22K				S	**S**	**17 19 54.4**	**-1.9**			
	baz=271									
G23K	**Bananza Creek**	**80.00**	**24**	P	**P**	**17 10 39.4**	**+1.5**			
	baz=270,SNR=186									
G23K				S	**S**	**17 19 57.5**	**+0.8**			
	baz=270									
E23K	**Chandalar**	**80.16**	**22**	IAmb	IAmb	17 10 42.4				
	comp=Z,204nm,0.7s									
E23K	**Chandalar**	**80.16**	**22**	P	**P**	**17 10 40.4**	**+1.7**			
	baz=270									
E23K				S	**S**	**17 19 58.3**	**0.0**			
	baz=270									
RC01	**Rabbit Creek A**	**80.17**	**29**	IAmb	IAmb	17 10 39.7				
	comp=Z,246nm,0.7s									
RC01	**Rabbit Creek A**	**80.17**	**29**	P	**P**	**17 10 38.8**	**+0.1**			
	baz=271,SNR=76									
RC01				S	**S**	**17 19 55.1**	**-3.3**			
	baz=271									
TOLK	**Toolik Lake Re**	**80.18**	**22**	IAmb	IAmb	17 10 41.1				
	comp=Z,195nm,0.7s									
TOLK	**Toolik Lake Re**	**80.18**	**22**	P	**P**	**17 10 40.2**	**+1.5**			
	baz=270,SNR=142									
TOLK				S	**S**	**17 19 57.6**	**-0.8**			
	baz=270									
O22K	**Cooper Landing**	**80.19**	**30**	P	**P**	**17 10 39.0**	**+0.2**			
	baz=271,SNR=47									
O22K				S	**S**	**17 19 55.8**	**-2.8**			
	baz=271									
H23K	**Yukon River**	**80.19**	**25**	P	**P**	**17 10 40.3**	**+1.5**			
	baz=270,SNR=135									
H23K				S	**S**	**17 19 59.3**	**+0.7**			
	baz=270									
BWN	**Browne**	**80.25**	**26**	IAmb	IAmb	17 10 42.5				
	comp=Z,180nm,0.8s									
I23K	**Minto, Yukon-K**	**80.28**	**25**	IAmb	IAmb	17 10 42.4				
	comp=Z,200nm,0.7s									
I23K	**Minto, Yukon-K**	**80.28**	**25**	P	**P**	**17 10 40.1**	**+1.0**			
	baz=271,SNR=296									
I23K				S	**S**	**17 19 59.7**	**+0.3**			
	baz=271									
SEW	**Seward**	**80.33**	**30**	IAmb	IAmb	17 10 40.8				
	comp=Z,188nm,0.8s									
SEW	**Seward**	**80.33**	**30**	P	**P**	**17 10 39.9**	**+0.4**			
	baz=272,SNR=44									
SEW				S	**S**	**17 19 57.8**	**-2.2**			
	baz=272									
NEA2	**Nenana**	**80.41**	**26**	IAmb	IAmb	17 10 41.8				
	comp=Z,161nm,0.7s									
NEA2	**Nenana**	**80.41**	**26**	P	**P**	**17 10 40.1**	**+0.1**			
	baz=271,SNR=240									
NEA2				S	**S**	**17 19 58.0**	**-2.8**			
	baz=271									
D24K	**Happy Valley**	**80.45**	**21**	P	**P**	**17 10 41.7**	**+1.7**			
	baz=270,SNR=164									
D24K				S	**S**	**17 19 59.8**	**-1.2**			
	baz=270									
PMR	**Palmer**	**80.45**	**29**	IAmb	IAmb	17 10 42.2				
	comp=Z,180nm,0.7s									
PMR	**Palmer**	**80.45**	**29**	P	**P**	**17 10 40.4**	**+0.3**			
PMR	**Palmer**	**80.45**	**29**	P	**P**	**17 10 40.3**	**+0.1**			
	baz=272,SNR=45									
PMR				S	**S**	**17 19 58.2**	**-3.0**			
	baz=272									
C24K	**Franklin Bluff**	**80.48**	**21**	P	**P**	**17 10 41.5**	**+1.3**			
	baz=270,SNR=85									
MCK	**McKinley**	**80.49**	**27**	IAmb	IAmb	17 10 41.5				
	comp=Z,357nm,0.7s									
MCK	**McKinley**	**80.49**	**27**	P	**P**	**17 10 40.5**	**+0.2**			
	baz=271,SNR=180									
MCK				S	**S**	**17 19 57.6**	**-4.1**			
	baz=271									
RAR	**Rarotonga**	**80.49**	**113**	P	**P**	**17 10 43.2**	**+2.1**			
RND	**Reindeer**	**80.53**	**27**	IAmb	IAmb	17 10 41.5				
	comp=Z,176nm,0.6s									
MOS	**Moscow**	**80.56**	**325**	*e*P	**P**	**17 10 38.7**	**-2.2**			
MOS				*e**PP	**pP**	**17 12 40.4**	**+2.0**			
MOS				*e*S	**S**	**17 19 56.9**	**-5.7**			
MOS				*e*		17 20 04.1				
MOS				pmax	pmax					
	comp=Z,468nm,0.6s									
MOS				pmax	pmax					
	comp=Z,600nm,0.6s									
MOS				pmax	pmax					
	comp=N,101nm,0.4s									
MOS				pmax	pmax					
	comp=N,100nm,0.4s									
MOS				pmax	pmax					
	comp=E,139nm,0.4s									
MOS				pmax	pmax					
	comp=E,200nm,0.4s									
MOS				smax	smax					
	comp=E,300nm,1.4s									
MOS				smax	smax					
	comp=N,500nm,1.4s									
E24K	**Your Creek**	**80.58**	**22**	P	**P**	**17 10 42.2**	**+1.3**			
	baz=271									
E24K				S	**S**	**17 20 03.7**	**+1.1**			
	baz=271									
WAT1	**Susitna Watana**	**80.69**	**28**	P	**P**	**17 10 41.5**	**+0.1**			
	baz=272									
WAT1				S	**S**	**17 20 00.5**	**-3.3**			
	baz=272									
KNK	**Knik Glacier**	**80.78**	**29**	IAmb	IAmb	17 10 43.5				
	comp=Z,195nm,0.8s									
KNK	**Knik Glacier**	**80.78**	**29**	P	**P**	**17 10 42.6**	**+0.7**			
	baz=272,SNR=44									
KNK				S	**S**	**17 20 03.1**	**-1.6**			
	baz=272									
ABPO	**Ambohimpanom**	**80.80**	**249**	P	**P**	**17 10 42.7**	**-0.3**			
ABPO				IAmb	IAmb	17 10 45.3				
	comp=Z,172nm,0.8s									
ABPO	**Ambohimpanom**	**80.80**	**249**	P	**P**	**17 10 42.7**	**-0.3**			
ABPO				pmax	pmax					
	comp=Z,172nm,0.8s									
F24K	**Squaw Lake**	**80.83**	**23**	IAmb	IAmb	17 10 44.7				
	comp=Z,172nm,0.7s									
F24K	**Squaw Lake**	**80.83**	**23**	P	**P**	**17 10 43.7**	**+1.6**			
	baz=272,SNR=154									
F24K				S	**S**	**17 20 06.5**	**+1.5**			
	baz=272									
PWL	**Port Wells**	**80.86**	**30**	IAmb	IAmb	17 10 43.8				
	comp=Z,397nm,1.0s									
PWL	**Port Wells**	**80.86**	**30**	P	**P**	**17 10 42.7**	**+0.4**			
	baz=272,SNR=94									
PWL				S	**S**	**17 20 04.8**	**-0.7**			
	baz=272									
H24K	**Noodor Dome**	**80.88**	**25**	P	**P**	**17 10 43.5**	**+1.1**			
	baz=272									
H24K				S	**S**	**17 20 06.5**	**+0.9**			
	baz=272									
COLA	**College**	**80.92**	**26**	P	**P**	**17 10 43.1**	**+0.6**			
COLA	**College**	**80.92**	**26**	P	**P**	**17 10 42.7**	**+0.2**			
COLA	**College**	**80.92**	**26**	⇑P	**P**	**17 10 42.8**	**+0.2**			
COLA	**College**	**80.92**	**26**	P	**P**	**17 10 42.4**	**-0.1**			
	baz=272									
COLA				S	**S**	**17 20 03.3**	**-2.6**			
	baz=272									
G24K	**Hadweenzic Riv**	**81.01**	**24**	P	**P**	**17 10 44.5**	**+1.5**			
	baz=272,SNR=38									
G24K				S	**S**	**17 20 08.0**	**+1.1**			
	baz=272									
WAT6	**Susitna Watana**	**81.07**	**28**	P	**P**	**17 10 44.1**	**+0.5**			
	baz=273,SNR=210									
WAT6				S	**S**	**17 20 06.4**	**-1.5**			
	baz=273									
POKR	**Poker Plat Res**	**81.09**	**25**	P	**P**	**17 10 43.3**	**-0.2**			
	baz=272									
M23K	**Glacier View**	**81.11**	**29**	P	**P**	**17 10 44.1**	**+0.5**			
	baz=273,SNR=95									
M23K				S	**S**	**17 20 06.6**	**-1.4**			
	baz=273									
OBN	**Obninsk**	**81.20**	**324**	P	**P**	**17 10 43.7**	**-0.4**			
OBN	**Obninsk**	**81.20**	**324**	P	**P**	**17 10 43.9**	**-0.2**			
	comp=Z,426nm,0.4s,baz=6.7,slow=2.0,SNR=78									
	comp=Z,426nm,0.4s									
OBN	**Obninsk**	**81.20**	**324**	⇓P	**P**	**17 10 43.9**	**-0.2**			
OBN	**Obninsk**	**81.20**	**324**	*d* iP	**P**	**17 10 43.7**	**-0.4**			
OBN				*e*		17 13 58.1				
OBN				*e*S	**SKSac**	**17 20 13.9**	**+3.1**			
OBN				pmax	pmax					
	comp=Z,359nm,0.6s									
DHY	**Denali Highway**	**81.21**	**27**	IAmb	IAmb	17 10 46.6				
	comp=Z,132nm,0.6s									
DHY	**Denali Highway**	**81.21**	**27**	P	**P**	**17 10 44.5**	**+0.2**			
	baz=273,SNR=215									
DHY				S	**S**	**17 20 07.7**	**-1.6**			
	baz=273									
SCM	**Sheep Creek Mo**	**81.30**	**29**	IAmb	IAmb	17 10 46.5				
	comp=Z,359nm,1.3s									
SCM	**Sheep Creek Mo**	**81.30**	**29**	P	**P**	**17 10 45.5**	**+0.8**			
	baz=273,SNR=70									
SCM				S	**S**	**17 20 09.4**	**-0.6**			
	baz=273									
D25K	**Kavik River**	**81.31**	**21**	P	**P**	**17 10 46.0**	**+1.4**			
	baz=273,SNR=102									
D25K				S	**S**	**17 20 09.0**	**-0.9**			
	baz=273									
ANN	**Anapa**	**81.32**	**314**	*i* P	**P**	**17 10 44.2**	**-0.8**			
ANN				*e**PP	**pP**	**17 12 44.1**	**+1.1**			
ANN				*e*		17 14 01.9				
ANN				*e*S	**S**	**17 20 09.1**	**-1.6**			
ANN				pmax	pmax					
	comp=Z,1μm,0.8s									
ANN				pmax	pmax					
	comp=E,194nm,0.8s									
ANN				pmax	pmax					
	comp=N,350nm,0.9s									
HDA	**Harding Lake**	**81.33**	**26**	P	**P**	**17 10 44.3**	**-0.4**			
	baz=273,SNR=191									
HDA				S	**S**	**17 20 06.2**	**-4.0**			
	baz=273									
ILAR	**Eielson Array**	**81.34**	**26**	P	**P**	**17 10 43.6**	**-1.1**			
	comp=N,42nm,0.5s,baz=247,slow=4.5,SNR=404									
ILAR				S	**S**	**17 20 09.2**	**-1.0**			
	comp=N,3.3nm,1.1s,baz=272,slow=8.4,SNR=6.8									
ILAR				PKKPbc	**PKKPbc**	**17 29 13.9**	**-3.7**			
	comp=N,4.6nm,0.5s,baz=113,slow=1.6,SNR=19									
ILAR				PKPPKP	**P'P'df**	**17 37 16.4**	**-2.9**			
	comp=N,1.3nm,0.9s,baz=344,slow=1.4,SNR=4.3									
	comp=N,42nm,0.5s									
P23K	**Montague Islan**	**81.36**	**31**	IAmb	IAmb	17 10 46.9				
	comp=Z,357nm,0.9s									
P23K	**Montague Islan**	**81.36**	**31**	P	**P**	**17 10 45.7**	**+0.7**			
	baz=273,SNR=48									
P23K				S	**S**	**17 20 10.3**	**-0.3**			
	baz=273									
LVZ	**Lovozero**	**81.41**	**337**	P	**P**	**17 10 44.7**	**-0.4**			
LVZ	**Lovozero**	**81.41**	**337**	⇓P	**P**	**17 10 45.1**	**0.0**			
GLI	**Glacier Island**	**81.46**	**30**	IAmb	IAmb	17 10 46.5				
	comp=Z,116nm,0.7s									
GLI	**Glacier Island**	**81.46**	**30**	P	**P**	**17 10 46.0**	**+0.6**			
	baz=273,SNR=40									
GLI				S	**S**	**17 20 10.5**	**-1.0**			
	baz=273									
G25K	**Bearman Lake**	**81.56**	**24**	P	**P**	**17 10 47.4**	**+1.7**			
	baz=273									
G25K				S	**S**	**17 20 14.7**	**+2.5**			
	baz=273									
E25K	**Arctic Village**	**81.68**	**22**	P	**P**	**17 10 48.2**	**+1.8**			
	baz=274,SNR=78									
E25K				S	**S**	**17 20 15.6**	**+2.1**			
	baz=274									
F25K	**Christian River**	**81.68**	**23**	P	**P**	**17 10 48.4**	**+1.9**			
	baz=274,SNR=71									
F25K				S	**S**	**17 20 15.9**	**+2.3**			
	baz=274									
H25L	**Birch Creek**	**81.70**	**24**	P	**P**	**17 10 48.4**	**+1.9**			
	baz=274,SNR=22									
H25L				S	**SKSac**	**17 20 16.3**	**+2.5**			
	baz=274									
KHAM	**Kharkiv**	**81.73**	**319**	P	**P**	**17 10 47.1**	**0.0**			
HIN	**Hinchinbrook I**	**81.79**	**30**	IAmb	IAmb	17 10 49.0				
	comp=Z,224nm,1.0s									
C26K	**Camden Bay**	**81.79**	**20**	P	**P**	**17 10 49.0**	**+2.1**			
	baz=274									
C26K				S	**S**	**17 20 15.4**	**+0.9**			
	baz=274									
M24K	**Tolsona, Glenn**	**81.82**	**28**	P	**P**	**17 10 48.8**	**+1.4**			
	baz=274,SNR=93									
M24K				S	**S**	**17 20 15.6**	**+0.3**			
	baz=274									
VOI	**Vohitsoka**	**81.85**	**246**	IAmb	IAmb	17 10 49.4				
	comp=Z,267nm,1.0s									
VOI	**Vohitsoka**	**81.85**	**246**	P	**P**	**17 10 48.0**	**-0.3**			
	SNR=20									
PRP	**Porcupine Dome**	**81.87**	**25**	P	**P**	**17 10 47.2**	**-0.4**			
	baz=274,SNR=15									
PRP				S	**SKSac**	**17 20 13.9**	**-1.3**			
	baz=274									
K24K	**Donnelly Dome**	**81.89**	**27**	IAmb	IAmb	17 10 50.8				
	comp=Z,268nm,0.6s									
K24K	**Donnelly Dome**	**81.89**	**27**	P	**P**	**17 10 48.0**	**+0.4**			
	baz=274,SNR=140									
K24K				S	**SKSac**	**17 20 14.0**	**-1.2**			
	baz=274									
APA	**Apatity**	**81.91**	**337**	⇓*i* P	**P**	**17 10 45.8**	**-1.7**			
APA				*i* *PP	**pP**	**17 12 42.0**	**-3.6**			
APA				*i*		17 14 06.2				
APA				*i* S	**SKSac**	**17 20 12.0**	**-3.0**			
APA				*i* SS	**SS**	**17 25 51.0**	**+1.1**			
APA				pmax	pmax					
	comp=Z,476nm,0.9s									
Q23K	**Middleton Isla**	**81.93**	**31**	P	**P**	**17 10 48.8**	**+1.0**			
	baz=274									
Q23K				S	**SKSac**	**17 20 17.7**	**+2.3**			
	baz=274									
Q23K				S	**SKSac**	**17 20 17.7**	**+2.3**			
	baz=274									
KLU	**Klutina**	**81.99**	**29**	IAmb	IAmb	17 10 50.0				
	comp=Z,146nm,0.7s									
KLU	**Klutina**	**81.99**	**29**	P	**P**	**17 10 49.1**	**+0.9**			
	baz=274,SNR=97									
KLU				S	**SKSac**	**17 20 16.9**	**+0.9**			
	baz=274									
J25K	**Salcha River,**	**82.00**	**26**	P	**P**	**17 10 47.6**	**-0.6**			
	baz=274,SNR=162									
J25K				S	**SKSac**	**17 20 14.4**	**-1.6**			
	baz=274									
PAX	**Paxson**	**82.09**	**27**	IAmb	IAmb	17 10 50.6				
	comp=Z,239nm,0.9s									
PAX	**Paxson**	**82.09**	**27**	P	**P**	**17 10 49.5**	**+0.8**			
	baz=274,SNR=258									
PAX				S	**SKSac**	**17 20 17.1**	**+0.5**			
	baz=274									
DIV	**Divide**	**82.09**	**29**	IAmb	IAmb	17 10 50.7				
	comp=Z,319nm,0.7s									
BMAR	**Burnt Mountain**	**82.10**	**23**	P	**P**	**17 10 50.3**	**+1.7**			
EYAK	**Cordova Ski Ar**	**82.15**	**30**	P	**P**	**17 10 49.8**	**+1.0**			
EYAK	**Cordova Ski Ar**	**82.15**	**30**	P	**P**	**17 10 49.9**	**+1.0**			
	baz=275,SNR=62									
EYAK				S	**SKSac**	**17 20 18.2**	**+1.4**			
	baz=275									
C27K	**Jago River**	**82.23**	**21**	P	**P**	**17 10 51.1**	**+2.0**			
	baz=275,SNR=59									
C27K				S	**SKSac**	**17 20 17.6**	**+0.5**			
	baz=275									
F26K	**Sheenjek River**	**82.25**	**23**	P	**P**	**17 10 51.1**	**+1.8**			
	baz=275,SNR=67									
F26K				S	**SKSac**	**17 20 20.3**	**+2.9**			
	baz=275									
HARP	**HAARP**	**82.28**	**28**	P	**P**	**17 10 50.8**	**+1.2**			
	baz=275,SNR=62									
HARP				S	**SKSac**	**17 20 20.0**	**+2.2**			
	baz=275									
RIDG	**Independent Ri**	**82.30**	**27**	P	**P**	**17 10 50.2**	**+0.5**			
	baz=275,SNR=477									
RIDG				S	**SKSac**	**17 20 18.8**	**+0.8**			
	baz=275									
G26K	**Porcupine Rive**	**82.45**	**23**	P	**P**	**17 10 52.1**	**+1.8**			
	baz=276									
G26K				S	**SKSac**	**17 20 21.1**	**+2.5**			
	baz=276									
N25K	**Chitina, Valde**	**82.61**	**29**	IAmb	IAmb	17 10 53.6				
	comp=Z,301nm,1.1s									
N25K	**Chitina, Valde**	**82.61**	**29**	P	**P**	**

L26K baz=276,SNR=16 S **SKSac** **17 20 27.0 +4.3**
FKH **Fakeheh** **83.08 304** *e*P **P** **17 10 55.4 +1.1**
VADS **Vadso** **83.10 340** *e*P **P** **17 10 51.2 -2.3**
VADS comp=Z,92nm,0.9s IAmb IAmb 17 10 54.1
VADS *e*SKSac **SKSac** **17 20 21.6 -1.1**
E27K **Coleen River** **83.15 22** P **P** **17 10 55.5 +1.7**
E27K baz=277 S **S** **17 20 29.4 +1.2**
BERG **Berg Lake** **83.17 30** IAmb IAmb 17 10 56.2
DIKM **Dikmen** **83.19 311** ⇑P **P** **17 10 55.2 +0.6**
VRDI **Verde Repeater** **83.20 29** IAmb IAmb 17 10 56.1
BEIL **Beino** **83.23 304** *e*P **P** **17 10 56.1 +1.1**
D27M **Malcolm River** **83.24 21** P **P** **17 10 56.0 +1.6**
D27M baz=278 S **S** **17 20 29.8 +0.7**
M26K **Nabesna, AK** **83.28 28** IAmb IAmb 17 10 57.3
M26K **Nabesna, AK** **83.28 28** P **P** **17 10 55.5 +0.9**
M26K baz=277,SNR=216 S **S** **17 20 29.7 +0.1**
HOPEN **Hopen** **83.30 347** *e*P **P** **17 10 54.0 -0.4**
HOPEN IAmb IAmb 17 10 56.6
HOPEN *e*SKSac **SKSac** **17 20 23.5 -0.3**
G27K **Doyon Strip** **83.31 23** P **P** **17 10 56.2 +1.6**
G27K baz=277 S **S** **17 20 31.5 +1.7**
MCARA **McCarthy VSAT** **83.39 29** IAmb IAmb 17 11 05.4
MCARA **McCarthy VSAT** **83.39 29** P **P** **17 10 56.2 +1.1**
MCARA baz=277,SNR=25 S **S** **17 20 31.8 +1.2**
CRQM **Cirque** **83.41 30** IAmb IAmb 17 10 57.4
BGLC **Bering Glacier** **83.41 30** P **P** **17 10 56.8 +1.6**
CRQE **Cirque** **83.43 30** P **P** **17 10 56.4 +0.9**
H27K **Steamboat Moun** **83.43 24** IAmb IAmb 17 10 58.2
H27K **Steamboat Moun** **83.43 24** P **P** **17 10 57.1 +1.8**
H27K baz=278 S **S** **17 20 33.4 +2.4**
HWQ **Hawqa** **83.46 304** *e*P **P** **17 10 57.0 +0.8**
I27K **Kandik River** **83.48 25** P **P** **17 10 57.3 +1.7**
I27K baz=278 S **S** **17 20 33.1 +1.6**
K27K **Chicken** **83.49 26** P **P** **17 10 57.4 +1.8**
K27K baz=277,SNR=443 S **S** **17 20 33.4 +1.9**
TGL **Tana Glacier** **83.56 30** IAmb IAmb 17 10 58.0
ZAHL **Zahle** **83.56 303** *e*P **P** **17 10 57.7 +1.0**
RCY **Rachaya** **83.64 303** *e*P **P** **17 10 58.2 +1.0**
SIM **Simferopol'** **83.65 314** *e*P **P** **17 10 56.9 +0.1**
SIM comp=Z,224nm,0.9s *e* 17 14 21.7
SIM *e*S **SKSac** **17 20 31.4 +4.2**
SIM comp=Z,2µm,0.8s pmax pmax
SIM comp=Z,147nm,21.5s pmax pmax
SIM comp=E,74nm,12.9s smax smax
L27K **Beaver Creek,** **83.73 27** IAmb IAmb 17 10 59.4
L27K **Beaver Creek,** **83.73 27** P **P** **17 10 58.2 +1.4**
L27K baz=278 S **S** **17 20 35.1 +1.1**
SHBL **Chebaa** **83.73 303** *e*P **P** **17 10 58.8 +1.1**
BHL **Bhannes** **83.74 303** *e*P **P** **17 10 58.4 +0.7**
BCAR **Beaver Creek A** **83.75 27** P **P** **17 10 58.2 +1.2**
QRWL **Qaraoun** **83.76 303** *e*P **P** **17 10 58.7 +1.0**
M27K **Edge Creek, AK** **83.80 28** P **P** **17 10 58.4 +1.0**
M27K baz=278,SNR=113 S **S** **17 20 35.7 +0.8**
ISLE **Juniper Island** **83.81 30** IAmb IAmb 17 10 59.4
E28M **Babbage River** **83.84 22** P **P** **17 10 58.5 +1.3**
E28M baz=279 S **S** **17 20 35.4 +0.5**
F28M **Old Crow** **83.88 23** IAmb IAmb 17 10 59.8
F28M **Old Crow** **83.88 23** P **P** **17 10 58.7 +1.2**
F28M baz=279,SNR=180 S **S** **17 20 36.7 +1.4**
KEV **Kevo** **83.96 340** P **P** **17 10 56.8 -0.9**
KEV **Kevo** **83.96 340** P **P** **17 10 56.8 -0.9**
KEV comp=Z,114nm,0.9s pmax pmax
D28M **Stokes Point** **84.01 21** P **P** **17 10 59.2 +1.2**
MMAI **Mount Meron Ar** **84.06 302** P **P** **17 11 00.5 +1.3**
MMAI comp=Z,179nm,0.6s,baz=78,slow=7.8,SNR=228 PKKPbc **PKKPbc** **17 29 09.7 -0.4**
MESA **MESA** **84.06 30** P **P** **17 10 60.0 +1.2**
MESA comp=Z,1.6nm,0.4s,baz=66,slow=2.1,SNR=8.2 comp=Z,179nm,0.6s baz=278,SNR=16 S **S** **17 20 39.9 +2.2**
BZK **Bozkurt** **84.08 311** ⇑P **P** **17 10 59.6 +0.7**
PUL **Pulkovo** **84.10 330** ⇑*i*P **P** **17 10 58.8 +0.1**
PUL comp=Z,518nm,0.7s pmax pmax
I28M **Miner Creek** **84.19 25** IAmb IAmb 17 11 02.0
I28M **Miner Creek** **84.19 25** P **P** **17 11 00.5 +1.3**
I28M comp=Z,180nm,0.9s baz=279,SNR=382 S **S** **17 20 39.5 +0.9**
CTG **Chitna Glacier** **84.25 29** P **P** **17 11 01.0 +1.4**
CTG baz=278,SNR=147 S **S** **17 20 40.6 +1.2**
BVCY **Beaver Creek** **84.26 28** P **P** **17 11 00.9 +1.4**
BVCY baz=279,SNR=55 S **S** **17 20 40.9 +1.7**
ILGA **Ilgaz** **84.41 311** IAmb IAmb 17 11 02.5
E29M **Blow River** **84.48 22** P **P** **17 11 01.2 +0.8**
E29M comp=Z,161nm,0.5s baz=281 S **S** **17 20 41.7 +0.7**
KIRS **Kirsehir-Merke** **84.50 309** ⇓P **P** **17 11 01.2 0.0**
ARA0 **ARCESS Array S** **84.52 340** *e*P **P** **17 10 59.1 -1.4**
ARA0 comp=Z,267nm,1.0s IAmb IAmb 17 11 01.7
ARA0 *e*SKSac **SKSac** **17 20 31.9 +0.2**
ARCES **ARCESS Array B** **84.52 340** P **P** **17 10 59.8 -0.8**
ARCES comp=Z,323nm,1.1s IAmb IAmb 17 11 02.1
ARCES **ARCESS Array B** **84.52 340** P **P** **17 11 00.1 -0.4**
ARCES comp=Z,123nm,0.5s,baz=81,slow=5.9,SNR=336 PKiKP **PKiKP** **17 16 09.4 +0.1**
ARCES comp=Z,1.9nm,0.4s,baz=121,slow=1.7,SNR=7.3 PKKPbc **PKKPbc** **17 29 06.7 -3.8**
YUK3 **Moose Creek** **84.55 28** P **P** **17 11 02.0 +0.9**
YUK3 comp=Z,1.1nm,0.4s,baz=250,slow=3.3,SNR=8.9 comp=Z,123nm,0.5s baz=279,SNR=26 S **S** **17 20 44.2 +1.8**
BR131 **Keskin Array S** **84.64 309** IAmb IAmb 17 11 05.3
BR131 **Keskin Array S** **84.64 309** P **P** **17 11 01.7 -0.3**
BR131 comp=Z,112nm,0.7s SNR=81 S **SKSac** **17 20 31.5 -2.5**
BR131 **Keskin Array S** **84.64 309** *d*P **P** **17 11 01.4 -0.5**
BRTR **Keskin Array B** **84.64 309** P **P** **17 11 01.5 -0.5**
BRTR comp=Z,63nm,0.4s,baz=132,slow=3.3,SNR=302 PKKPbc **PKKPbc** **17 29 08.8 -0.4**
CRZF **Crozet Islands** **84.64 221** P **P** **17 11 01.9 +0.4**
DAWY **Dawson** **84.65 26** P **P** **17 11 02.1 +0.8**
DAWY comp=Z,1.7nm,0.9s,baz=221,slow=2.0,SNR=5.9 comp=Z,63nm,0.4s baz=280 S **S** **17 20 45.2 +2.2**
H29M **Whitestone** **84.70 24** IAmb IAmb 17 11 04.2
H29M **Whitestone** **84.70 24** P **P** **17 11 02.5 +1.0**
H29M comp=Z,130nm,0.8s baz=280,SNR=159 S **S** **17 20 45.2 +1.9**
SPB2 **Spitsbergen Ar** **84.70 349** IAmb IAmb 17 11 03.3
SPA0 **Spitsbergen Ar** **84.70 349** *e*P **P** **17 11 01.0 -0.3**
SPA0 comp=Z,197nm,0.7s IAmb IAmb 17 11 03.1
SPITS **Spitsbergen Ar** **84.70 349** P **P** **17 11 01.0 -0.3**
SPITS comp=Z,117nm,0.8s comp=Z,112nm,0.6s,baz=87,slow=7.9,SNR=100 PKiKP **PKiKP** **17 16 09.3 -0.2**
SPITS comp=Z,8.9nm,0.9s,baz=343,slow=4.5,SNR=5.5 PKKPbc **PKKPbc** **17 29 06.4 -3.8**
G29M **Pine Creek** **84.71 23** IAmb IAmb 17 11 02.9
G29M **Pine Creek** **84.71 23** P **P** **17 11 02.4 +0.9**
G29M comp=Z,5.2nm,0.5s,baz=126,slow=4.3,SNR=13 comp=Z,112nm,0.6s comp=Z,120nm,0.7s baz=281 S **S** **17 20 44.9 +1.6**
O28M **Mount Upton** **84.83 29** P **P** **17 11 03.6 +1.0**
O28M baz=279 S **S** **17 20 47.2 +1.8**
CIDE **Kastamonu/Cide** **84.88 311** ⇓P **P** **17 11 02.8 0.0**
I29M **Ogilvie Camp,** **84.88 25** P **P** **17 11 03.2 +0.8**
I29M baz=281 S **S** **17 20 45.5 +0.4**
HAMF **Hammerfest** **84.89 341** *e*P **P** **17 11 01.6 -0.8**
PCA **Pinnacle** **84.91 30** IAmb IAmb 17 11 04.5
PINM **Pinnacle** **84.92 30** P **P** **17 11 03.8 +1.0**
PINM comp=Z,103nm,0.6s baz=279,SNR=28 S **S** **17 20 47.3 +1.6**
YUK8 **Steele Glacier** **84.95 29** P **P** **17 11 04.3 +1.2**
YUK8 baz=279 baz=280,SNR=54 S **S** **17 20 49.6 +3.1**
J29N **Klondike Camp** **85.09 26** P **P** **17 11 04.8 +1.2**
J29N baz=280 baz=281 S **S** **17 20 49.2 +2.0**
KBS **Kingsbay** **85.25 350** P **P** **17 11 03.2 -0.8**
KBS **Kingsbay** **85.25 350** *d*P **P** **17 11 03.4 -0.6**
KBS comp=Z,96nm,0.8s pmax pmax
KBS **Kingsbay** **85.25 350** *e*P **P** **17 11 03.4 -0.6**
KBS baz=281 IAmb IAmb 17 11 04.7
KBS comp=Z,80nm,0.8s *e*SKSac **SKSac** **17 20 38.5 +2.5**
KBS IAMs_20 IAMs_20 17 48 40.6
KBS **Kingsbay** **85.25 350** *i*P **P** **17 11 03.6 -0.4**
ANTO **Ankara** **85.26 309** P **P** **17 11 04.5 -0.4**
ANTO **Ankara** **85.26 309** P **P** **17 11 05.0 +0.1**
ANTO **Ankara** **85.26 309** ⇓P **P** **17 11 04.8 -0.1**
ANTO **Ankara** **85.26 309** ⇓P **P** **17 11 04.8 -0.1**
HSPB **Hornsund (broa** **85.27 348** *e*P **P** **17 11 04.4 +0.3**
EPYK **Eagle Plains** **85.32 24** P **P** **17 11 04.9 +0.4**
EPYK baz=282 S **S** **17 20 48.7 -0.6**
M29M **Somme Creek** **85.36 28** P **P** **17 11 06.3 +1.4**
M29M baz=281,SNR=145 S **S** **17 20 54.4 +4.5**
L29M **L29M** **85.38 27** P **P** **17 11 06.3 +1.4**
L29M baz=281 S **S** **17 20 53.0 +2.9**
G30M **tAoh Zraii Nji** **85.39 23** P **P** **17 11 04.9 0.0**
G30M baz=282 S **S** **17 20 49.0 -0.9**
PNL **Peninsula** **85.41 30** P **P** **17 11 05.6 +0.5**
PNL **Peninsula** **85.41 30** P **P** **17 11 05.9 +0.8**
PNL baz=280,SNR=22 S **S** **17 20 52.3 +1.9**
F30M **Barrier River** **85.41 22** IAmb IAmb 17 11 06.5
F30M **Barrier River** **85.41 22** P **P** **17 11 05.4 +0.5**
F30M comp=Z,152nm,0.7s baz=283 S **S** **17 20 49.7 -0.4**
YUK4 **Talbot Arm** **85.47 29** P **P** **17 11 06.7 +1.1**
YUK4 baz=281,SNR=39 S **S** **17 20 53.3 +2.0**
K29M **Barlow Dome** **85.51 26** P **P** **17 11 06.6 +1.0**
K29M baz=282,SNR=126 S **S** **17 20 54.1 +2.8**
CSS **Mathiatis** **85.51 305** P **P** **17 11 06.1 0.0**
YUK6 **Outpost Mounta** **85.69 29** P **P** **17 11 07.6 +0.9**
YUK6 baz=281,SNR=46 S **S** **17 20 56.3 +2.9**
I30M **Mount Dempster** **85.70 25** IAmb IAmb 17 11 07.9
I30M **Mount Dempster** **85.70 25** P **P** **17 11 07.0 +0.5**
I30M comp=Z,94nm,0.7s baz=282 S **S** **17 20 54.5 +1.3**
O29M **Mount Kennedy** **85.70 30** P **P** **17 11 07.6 +0.9**
O29M baz=281 S **S** **17 20 56.3 +3.0**
J30M **Hart River** **85.86 25** P **P** **17 11 08.2 +0.9**
J30M baz=282 S **S** **17 20 56.3 +1.6**
FINES **FINESS Array B** **85.89 332** P **P** **17 11 06.9 -0.4**
FINES comp=Z,208nm,0.5s,baz=78,slow=4.6,SNR=1507 PKiKP **PKiKP** **17 16 11.4 -0.3**
FINES comp=Z,4.7nm,0.5s,baz=101,slow=4.1,SNR=3.7 S **SKSac** **17 20 39.0 -1.4**
FINES comp=Z,6.4nm,1.0s,baz=154,slow=17,SNR=3.3 ScS **S** **17 20 53.5 -1.2**
FINES comp=Z,7.0nm,0.8s,baz=93,slow=12,SNR=5.0 PKKPbc **PKKPbc** **17 29 04.3 -2.6**
INK **Inuvik** **86.08 21** IAmb IAmb 17 11 09.7
INK **Inuvik** **86.08 21** P **P** **17 11 08.2 +0.2**
INK comp=Z,4.0nm,0.6s,baz=151,slow=4.4,SNR=12 comp=Z,208nm,0.5s comp=Z,270nm,1.2s baz=285,SNR=123 S **S** **17 20 55.7 -0.5**
M30M **Minto, Yukon** **86.09 27** P **P** **17 11 09.5 +1.2**
M30M baz=285 baz=282,SNR=72 S **S** **17 21 00.8 +4.1**
AKBB **Malin Array Be** **86.11 321** P **P** **17 11 07.8 -0.8**
AKASG **Malin Array Be** **86.11 321** P **P** **17 11 07.9 -0.7**
AKASG comp=Z,206nm,0.7s,baz=68,slow=4.9,SNR=341 S **SKSac** **17 20 43.0 +0.8**
AKBB **Malin Array Si** **86.11 321** *d*P **P** **17 11 07.7 -0.8**
AKBB comp=Z,0.7nm,0.6s,baz=85,slow=11,SNR=4.6 comp=Z,206nm,0.7s comp=Z,153nm,0.6s baz=282 pmax pmax
AKBB **Malin Array Si** **86.11 321** P **P** **17 11 07.8 -0.8**
HYT **Haines Junctio** **86.12 29** IAmb IAmb 17 11 12.2
HYT **Haines Junctio** **86.12 29** P **P** **17 11 09.6 +1.0**
HYT comp=Z,122nm,0.7s baz=282,SNR=148 S **S** **17 20 59.1 +1.8**
KIEV **Kiev** **86.12 321** P **P** **17 11 07.7 -1.0**
KIEV baz=282 IAmb IAmb 17 11 09.7
KIEV **Kiev** **86.12 321** ⇓P **P** **17 11 08.0 -0.7**
KIEV **Kiev** **86.12 321** *i*P **P** **17 11 08.0 -0.7**
VSU comp=Z,366nm,1.3s SNR=13 pmax pmax
VSU **Vasula** **86.15 329** *d*iP **P** **17 11 06.9 -1.7**
VSU **Vasula** **86.15 329** *e*P **P** **17 11 07.3 -1.2**
G31M **Satah River** **86.15 23** IAmb IAmb 17 11 09.8
G31M **Satah River** **86.15 23** P **P** **17 11 08.4 0.0**
G31M comp=Z,146nm,0.8s baz=284,SNR=104 S **S** **17 20 56.3 -0.6**
N30M **Aishikik Lake** **86.19 28** P **P** **17 11 10.1 +1.2**
N30M baz=282,SNR=106 S **S** **17 21 01.0 +3.2**
F31M **Tsiigehtchic** **86.22 22** P **P** **17 11 08.8 +0.1**
F31M baz=285,SNR=102 S **S** **17 20 56.1 -1.5**
AK17 **Malin Array Si** **86.22 321** P **P** **17 11 08.5 -0.6**
P29M **Windy Craggy** **86.25 30** IAmb IAmb 17 11 11.3
P29M **Windy Craggy** **86.25 30** P **P** **17 11 10.4 +1.2**
P29M comp=Z,138nm,0.8s baz=282,SNR=83 S **S** **17 21 00.8 +2.4**
JETT **Jettan, Norway** **86.25 340** *e*P **P** **17 11 08.3 -0.6**
JETT IAmb IAmb 17 11 09.1
JETT comp=Z,428nm,0.7s IAMs_20 IAMs_20 17 43 36.2
MNK **Minsk** **86.26 324** *i*P **P** **17 11 09.2 0.0**
MNK comp=E,143nm,0.9s *i*P **P** **17 11 09.2 0.0**
MNK comp=N,278nm,0.9s *i*P **P** **17 11 09.2 0.0**
MNK comp=Z,786nm,0.9s,baz=80 *i*pP **pP** **17 13 09.5 +0.5**
MNK *i*PP **PP** **17 14 40.1 +0.1**
MNK *i*PPP PPP 17 16 39.5
MNK *i*S S 17 20 41.4 -17
MNK *i*sS **sS** **17 24 30.4 +0.7**
MNK *i*SS **SS** **17 26 54.9 +1.1**
MNK *i*SSS SSS 17 30 35.1
MNK *i*LRM MLR 17 53 30.6
MNK **Minsk** **86.26 324** *i*P **P** **17 11 09.2 0.0**
MNK comp=Z,392nm,17.4s *i**PP **pP** **17 13 09.4 +0.5**
MNK *i* 17 14 40.0
MNK *i*PPP PPP 17 16 39.5
MNK *i*S **SKSac** **17 20 41.4 -1.6**
MNK *i*SS **SS** **17 26 54.9 +1.1**
MNK *i*SSS SSS 17 30 35.0
MNK pmax pmax
MNK comp=Z,786nm,0.9s pmax pmax
MNK comp=N,278nm,0.9s pmax pmax
MNK comp=E,143nm,0.9s MLR MLR
MNK comp=Z,392nm,17.0s
MAYO **Mayo, Yukon** **86.27 26** P **P** **17 11 10.1 +1.0**
MAYO baz=283,SNR=20 S **S** **17 21 00.3 +2.0**
KEF **Keuruu** **86.30 332** *e*P **P** **17 11 08.5 -0.7**
ARBE **Arbavere** **86.33 330** *e*P **P** **17 11 09.3 -0.1**
PURM **Purcari** **86.38 316** ⇓P **P** **17 11 10.0 +0.1**
H31M **Peel River** **86.39 24** IAmb IAmb 17 11 11.4
H31M **Peel River** **86.39 24** P **P** **17 11 09.9 +0.3**
H31M comp=Z,121nm,0.7s baz=284 S **S** **17 20 59.1 -0.4**
KIBK **Kibwezi** **86.54 267** IAmb IAmb 17 11 14.2
KIBK **Kibwezi** **86.54 267** P **P** **17 11 12.8 +1.2**
SAHE **Sakarya_HENDEK** **86.58 311** ⇓P **P** **17 11 10.1 -1.0**
TRO **Tromso** **86.73 340** *e*P **P** **17 11 09.3 -1.8**
TRO comp=Z,146nm,0.6s IAmb IAmb 17 11 11.1
TRO *e*SKSac **SKSac** **17 20 45.8 +0.5**
TRO comp=Z,669nm,24.6s IAMs_20 IAMs_20 17 45 30.4
N31M **Braeburn, Yuko** **86.80 28** IAmb IAmb 17 11 14.7
N31M **Braeburn, Yuko** **86.80 28** P **P** **17 11 12.9 +1.2**
N31M comp=Z,185nm,1.1s baz=283,SNR=104 S **S** **17 21 05.7 +2.3**
NACGM **Naroch** **86.81 325** ⇓*i*P **P** **17 11 11.6 -0.2**
MEF **Metsahovi** **86.95 330** *e*P **P** **17 11 12.4 +0.1**
PLBC **Pleasant Camp** **86.97 30** P **P** **17 11 13.2 +0.7**
PLBC comp=Z,217nm,0.9s,baz=79 baz=283,SNR=27 S **S** **17 21 06.5 +1.5**
KIS **Kishinev** **87.01 317** ⇓*i*P **P** **17 11 11.8 -1.1**
KIS comp=Z,130nm,0.5s *i*pP **pP** **17 13 14.0 +1.1**
KIS *i*S **S** **17 21 01.0 -4.9**
KIS **Kishinev** **87.01 317** *d*iP **P** **17 11 12.0 -0.9**
KIS *i**PP **pP** **17 13 14.0 +1.1**
KIS *i* 17 14 03.0
KIS *i* 17 14 49.0
KIS *e*S **S** **17 21 01.0 -4.9**
KIS pmax pmax
MILM **Milestii Mici** **87.03 317** *e*P **P** **17 11 11.0 -2.0**
MILM **Milestii Mici** **87.03 317** PM1 17 11 13.0
MILM comp=Z,350nm,9.3s comp=Z,200nm,0.7s **Milestii Mici** **87.03 317** PM2 17 11 14.0
MILM comp=Z,770nm,7.7s *i*pP pP 17 13 14.0 +1.0
MILM *i*S **S** **17 21 07.0 +0.9**
MILM *i*sS sS 17 24 34.0 -4.5
MILM **Milestii Mici** **87.03 317** ⇑P **P** **17 11 12.2 -0.8**
MILM **Milestii Mici** **87.03 317** ⇓*i*P **P** **17 11 11.0 -2.0**
MILM *i**PP **pP** **17 13 14.0 +1.0**
MILM *i* 17 14 44.0
MILM *i*S **S** **17 21 01.0 -5.1**
MILM pmax pmax
BORA **Eskisehir** **87.04 310** IAmb IAmb 17 11 14.2
ISAL **Salakas** **87.05 326** *e*P **P** **17 11 13.0 +0.1**
SORM **Soroca** **87.12 318** ⇓P **P** **17 11 12.5 -0.9**
SORM **Soroca** **87.12 318** ⇓P **P** **17 11 12.5 -0.9**
KMBO **Kilima Mbogo** **87.13 268** P **P** **17 11 15.2 +0.7**
KMBO comp=Z,200nm,0.7s IAmb IAmb 17 11 17.3
KMBO **Kilima Mbogo** **87.13 268** P **P** **17 11 15.4 +0.9**
KMBO **Kilima Mbogo** **87.13 268** P **P** **17 11 15.2 +0.7**
KMBO comp=Z,202nm,1.1s pmax pmax
KMBO **Kilima Mbogo** **87.13 268** *i*P **P** **17 11 15.1 +0.6**
M31M **Drury Creek, Y** **87.26 27** P **P** **17 11 14.4 +0.6**
M31M comp=Z,203nm,1.1s SNR=27 baz=284 S **S** **17 21 08.4 +0.7**
ISP **Isparta** **87.32 308** IAmb IAmb 17 11 15.2
ISP **Isparta** **87.32 308** *d*iP **P** **17 11 13.5 -1.3**
ISP comp=Z,176nm,0.8s pmax pmax
ISP **Isparta** **87.32 308** *e*P **P** **17 11 13.8 -1.0**
TLCR **87.33 315** ⇓P **P** **17 11 14.5 0.0**
TLCR **87.33 315** ⇓P **P** **17 11 14.5 0.0**
JURR **Jurilovca** **87.36 315** ⇓P **P** **17 11 14.4 -0.2**
S31K **Pelican** **87.37 32** P **P** **17 11 15.2 +0.9**
S31K comp=Z,142nm,0.7s baz=283,SNR=11 S **S** **17 21 09.2 +0.4**
WHY **Whitehorse** **87.41 29** P **P** **17 11 15.8 +1.1**
WHY comp=Z,142nm,0.7s baz=284,SNR=186 S **S** **17 21 11.2 +1.8**
SILT **Sile** **87.44 311** ⇑P **P** **17 11 14.9 -0.1**
SKAG **Skagway** **87.48 30** IAmb IAmb 17 11 17.8
SKAG **Skagway** **87.48 30** P **P** **17 11 16.0 +1.2**
comp=Z,116nm,0.8s baz=284

SKAG Skagway 87.48 30 P **P** 17 11 16.1 +1.2
baz=284,SNR=64
SKAG S **S** 17 21 11.3 +1.5
baz=284
NOR Nord 87.50 355 *i* P **P** 17 11 14.0 -0.5
NOR IAmb IAmb 17 11 15.5
comp=Z,149nm,0.8s
R31K City Hall, Gus 87.52 31 P **P** 17 11 16.0 +1.0
baz=283
A36M Sachs Harbour 87.58 17 IAmb IAmb 17 11 16.7
comp=Z,90nm,0.8s
A36M Sachs Harbour 87.58 17 P **P** 17 11 15.4 +0.4
baz=292
A36M S **S** 17 21 09.7 -0.6
baz=292
MTSE Matsula 87.59 329 *e*P **P** 17 11 15.5 +0.2
EFOR EFORIE 87.66 314 ⇑P **P** 17 11 18.1 +2.1
TPGR Topolog 87.67 315 ⇓P **P** 17 11 15.9 -0.2
GIUM Giurgiulesti 87.70 316 ⇑P **P** 17 11 16.4 +0.2
VLDR Vladesti 87.72 316 ⇓P **P** 17 11 16.7 +0.4
FARO Faro, Yukon 87.73 27 IAmb IAmb 17 11 17.9
comp=Z,166nm,0.9s
FARO Faro, Yukon 87.73 27 P **P** 17 11 17.0 +1.0
baz=285
FARO S **S** 17 21 14.0 +1.9
baz=285
MANR Mangalia 87.74 314 ⇑P **P** 17 11 16.7 +0.3
TIRR Tirgusor 87.75 315 IAmb IAmb 17 11 17.4
comp=Z,104nm,0.7s
TIRR Tirgusor 87.75 315 ⇓P **P** 17 11 16.2 -0.2
TIRR Tirgusor 87.75 315 ⇓P **P** 17 11 16.2 -0.2
VASR Vaslui 87.77 317 ⇑P **P** 17 11 16.8 +0.3
TATR Tatarca 87.79 316 ⇑P **P** 17 11 17.0 +0.4
MFTR Murfatlar 87.79 314 ⇑P **P** 17 11 16.8 +0.2
CFR Carcaliu 87.81 315 ⇑P **P** 17 11 16.3 -0.4
CFR Carcaliu 87.81 315 ⇑P **P** 17 11 16.3 -0.4
IASR Iasi 87.81 317 ⇓P **P** 17 11 16.4 -0.3
KLYT Kilyos 87.87 311 ⇓P **P** 17 11 16.4 -0.7
VARL Varlezi 87.87 316 ⇑P **P** 17 11 17.6 +0.7
NEGRR Negrea 87.92 316 ⇑P **P** 17 11 17.5 +0.3
MAW Mawson 87.95 200 P **P** 17 11 16.6 -0.1
comp=Z,24nm,0.6s,baz=66,slow=5.6,SNR=24
MAW PKiKP **PKiKP** 17 16 15.7 +0.8
comp=Z,4.8nm,0.9s,baz=62,slow=6.7,SNR=1.9
MAW PKKP **PKKPdf** 17 28 56.2 +0.2
comp=Z,4.9nm,0.5s,baz=177,slow=2.9,SNR=6.2
comp=Z,24nm,0.6s
BIR Birlad 87.95 316 ⇑P **P** 17 11 18.6 +1.2
BIR Birlad 87.95 316 ⇑P **P** 17 11 18.6 +1.2
SCHLR Schela 87.96 316 ⇑P **P** 17 11 17.7 +0.3
TLBR Topalu 87.99 315 ⇑P **P** 17 11 17.7 +0.1
IZVR Izvoarele 88.00 316 ⇑P **P** 17 11 18.1 +0.6
RAF Rauma 88.01 332 *e*P **P** 17 11 17.1 -0.2
HARR Harsova 88.04 315 ⇓P **P** 17 11 17.9 +0.1
HARR Harsova 88.04 315 ⇓P **P** 17 11 17.9 +0.1
TUDR 88.05 316 ⇓P **P** 17 11 18.8 +1.0
SIT Sitka 88.06 33 P **P** 17 11 18.7 +1.1
baz=284,SNR=6.8
SIT S **S** 17 21 18.5 +3.3
baz=284
RNPP8 Varash 88.08 322 P **P** 17 11 17.2 -0.6
PSN Preselentsi 88.09 314 *e*P **P** 17 11 17.7 -0.4
N32M Quiet Lake 88.14 28 P **P** 17 11 19.0 +1.0
baz=286
N32M S **S** 17 21 16.7 +0.8
baz=286
VSVD Vaisvydziai 88.17 326 *e*P **P** 17 11 17.9 -0.2
R32K Eaglecrest 88.18 31 P **P** 17 11 19.4 +1.2
baz=284,SNR=26
R32K S **S** 17 21 19.8 +3.5
baz=284
ICOR Ion Corvin 88.24 314 ⇑P **P** 17 11 19.3 +0.5
COSR Cosmesti PH 88.25 316 ⇓P **P** 17 11 19.9 +1.2
JIS Juneau Island 88.25 31 P **P** 17 11 19.9 +1.5
P32M Atlin 88.25 30 P **P** 17 11 19.4 +0.9
baz=285,SNR=33
P32M S **S** 17 21 19.1 +2.1
baz=285
PABE Paberze 88.26 326 *e*P **P** 17 11 18.2 -0.3
LODK Lodwar 88.29 273 IAmb IAmb 17 11 22.1
comp=Z,220nm,1.8s
LODK Lodwar 88.29 273 P **P** 17 11 20.5 +0.8
SNR=22
KSL Kastellorizon 88.35 306 P **P** 17 11 20.0 +0.6
S32K Killisnoo 88.35 32 P **P** 17 11 19.6 +0.7
baz=284,SNR=5.3
S32K S **S** 17 21 20.6 +2.8
baz=284
PANC Panciu 88.36 316 ⇓P **P** 17 11 20.2 +1.0
CTYL Yalikoy Yolu 88.38 312 ⇑P **P** 17 11 19.1 -0.4
ODBI Odobesti 88.44 316 ⇑P **P** 17 11 21.1 +1.5
AMRR Amara 88.47 315 ⇑P **P** 17 11 20.6 +0.8
AMRR Amara 88.47 315 ⇑P **P** 17 11 20.6 +0.8
P33M Teslin, Yukon 88.52 29 P **P** 17 11 20.5 +0.7
baz=286
P33M S **S** 17 21 20.3 +0.8
baz=286
MMPY Sheldon Lake, 88.55 27 IAmb IAmb 17 11 22.0
comp=Z,136nm,1.0s
MMPY Sheldon Lake, 88.55 27 P **P** 17 11 21.0 +1.1
baz=287
MMPY S **S** 17 21 20.2 +0.5
baz=287
STEI Steigen 88.56 339 *e*P **P** 17 11 18.5 -1.2
TESR Tescani 88.57 317 ⇓P **P** 17 11 20.0 -0.2
GRER 88.57 316 ⇑P **P** 17 11 22.1 +1.8
SLIT Slitere, Latvi 88.64 328 *e*P **P** 17 11 19.8 -0.4
TAVA DENIZLI_Tavas 88.64 308 ⇑P **P** 17 11 20.9 0.0
VRI Vrincioaia 88.65 316 ⇓P **P** 17 11 20.9 +0.3
VRI Vrincioaia 88.65 316 ⇓P **P** 17 11 20.9 +0.3
FETY Fethiye 88.66 307 P **P** 17 11 20.2 -0.7
PRAR RASCA 88.68 318 ⇓P **P** 17 11 20.9 +0.1
PLOR Plostina 88.70 316 ⇑P **P** 17 11 21.3 +0.4
PLOR Plostina 88.70 316 ⇑P **P** 17 11 21.3 +0.4
PRD Provadia 88.70 313 *e*P **P** 17 11 20.7 -0.2
BISRR Bisoca 88.72 316 ⇓P **P** 17 11 22.2 +1.1
MANT Manisa 88.73 309 IAmb IAmb 17 11 22.1
comp=Z,110nm,0.7s
BAND Balkesir-Ban 88.73 311 ⇓P **P** 17 11 20.7 -0.5
FAUS Fauske 88.73 339 *e*P **P** 17 11 19.4 -1.2
FAUS IAmb IAmb 17 11 21.0
comp=Z,291nm,0.7s
FAUS *e*SKSac **SKSac** 17 20 56.9 -0.3
ONER Baraj Valea Uz 88.78 317 ⇓P **P** 17 11 21.2 -0.1
NEF NEVSHA 88.78 314 *e*P **P** 17 11 21.3 0.0
LEHL Lehliu 88.86 315 ⇓P **P** 17 11 22.2 +0.6
PHSR Pinarhisar 88.92 312 ⇑P **P** 17 11 21.8 -0.2
ISR Istrita 88.92 315 ⇑P **P** 17 11 22.9 +0.9
ISR Istrita 88.92 315 ⇑P **P** 17 11 22.9 +0.9
NEHR Nehoiu 89.03 316 ⇑P **P** 17 11 23.3 +0.9
SUW Suwalki 89.06 325 *e*P **P** 17 11 21.9 -0.4
SUW Suwalki 89.06 325 *e*P **P** 17 11 22.3 0.0
LOF Lofoten 89.08 339 *e*P **P** 17 11 20.5 -1.6
TURR Turia 89.09 316 ⇑P **P** 17 11 23.4 +0.7
VNDA Vanda 89.09 172 P **P** 17 11 22.3 +0.3
comp=Z,25nm,0.4s,baz=321,slow=5.9,SNR=271
VNDA PKKP **PKKPdf** 17 28 55.6 +1.4
comp=Z,10nm,0.8s,baz=214,slow=1.2,SNR=6.7
VNDA PKPPKP **P'P'df** 17 37 01.2 -1.9
comp=Z,1.3nm,0.9s,baz=177,slow=3.5,SNR=4.4
comp=Z,25nm,0.4s
Q32M Nakina River 89.13 30 P **P** 17 11 23.9 +1.0
baz=286
Q32M S **S** 17 21 26.4 +0.9
baz=286
SULR 89.22 315 ⇑P **P** 17 11 24.1 +0.8
OZUR 89.24 316 ⇑P **P** 17 11 23.5 +0.1
PBUR Paburge 89.25 327 *e*P **P** 17 11 23.3 +0.2
MLR Muntele Rosu 89.26 316 P **P** 17 11 23.4 -0.2
comp=Z,130nm,0.7s,baz=35,slow=1.0,SNR=154
comp=Z,130nm,0.7s
MLR Muntele Rosu 89.26 316 ⇑P **P** 17 11 23.8 +0.1
MLR Muntele Rosu 89.26 316 ⇑P **P** 17 11 23.8 +0.1
BURAR Bucovina Array 89.29 318 P **P** 17 11 23.7 0.0
BURAR IAmb IAmb 17 11 26.7
comp=Z,109nm,0.6s
BURAR Bucovina Array 89.29 318 ⇓P **P** 17 11 24.0 +0.3
BURAR Bucovina Array 89.29 318 ⇓P **P** 17 11 24.0 +0.3
BUR08 Bucovina Ar. S 89.30 318 IAmb IAmb 17 11 28.6
comp=Z,86nm,0.7s
PLAR PLOIESTI 89.33 315 ⇑P **P** 17 11 24.8 +1.0
BOSR Bodos 89.33 316 ⇑P **P** 17 11 25.9 +2.1
JMB Yambol 89.47 313 *e*P **P** 17 11 24.2 -0.3
JMB Yambol 89.47 313 P **P** 17 11 24.8 +0.2

U33K Whale Pass 89.47 33 P **P** 17 11 25.2 +1.0
baz=286,SNR=12
U33K S **S** 17 21 28.7 +0.6
baz=286
MOR8 Moi Rana 89.49 338 *e*P **P** 17 11 21.9 -2.2
MOR8 IAmb IAmb 17 11 23.1
comp=Z,174nm,0.7s
ARG Arkhangelos 89.49 306 P **P** 17 11 24.4 -0.4
DOPR Dopca 89.54 316 ⇑P **P** 17 11 25.0 +0.2
EUNU Eureka 89.56 5 IAmb IAmb 17 11 26.0
comp=Z,110nm,0.8s
CRAG Craig 89.65 34 P **P** 17 11 25.9 +0.9
baz=286,SNR=9.7
CRAG S **S** 17 21 29.8 +0.1
baz=286
R33M Jennings River 89.65 30 P **P** 17 11 26.3 +1.2
baz=287
R33M S **S** 17 21 31.6 +1.7
baz=287
SZH Strazhitsa 89.71 314 *e*P **P** 17 11 25.3 -0.3
SZH Strazhitsa 89.71 314 P **P** 17 11 25.6 0.0
VAGH Vaagaholmen 89.71 338 *e*P **P** 17 11 23.2 -1.9
WRAK Wrangell Islan 89.81 33 IAmb IAmb 17 11 27.5
comp=Z,71nm,0.8s
WRAK Wrangell Islan 89.81 33 P **P** 17 11 26.6 +0.9
baz=286,SNR=15
WRAK S **S** 17 21 31.3 +0.2
baz=286
KONS Konsvik 89.86 338 *e*P **P** 17 11 24.5 -1.3
BDRM Kayabasi 89.87 307 ⇓P **P** 17 11 25.6 -0.9
VOIR 89.89 316 ⇓P **P** 17 11 25.9 -0.6
VOIR 89.89 316 ⇓P **P** 17 11 25.9 -0.6
BLCB Balcova 89.92 309 P **P** 17 11 26.6 -0.1
MTUR Matau 89.92 316 ⇑P **P** 17 11 26.7 0.0
MTUR Matau 89.92 316 ⇑P **P** 17 11 26.7 0.0
STOK Stokkvaagen 89.96 338 *e*P **P** 17 11 24.8 -1.4
STOK IAmb IAmb 17 11 26.1
comp=Z,112nm,0.7s
STOK *e*S **S** 17 21 31.4 -0.7
STOK *e*SP **SPn** 17 22 44.1 +0.4
ARCR ARCALIA 89.98 318 ⇑P **P** 17 11 27.5 +0.7
TGMR Targu Mures 90.00 317 ⇓P **P** 17 11 28.3 +1.4
S34M Telegraph Cree 90.01 31 P **P** 17 11 27.9 +1.3
baz=287,SNR=41
S34M S **S** 17 21 32.8 -0.2
baz=287
LEIR Leirfjorden 90.01 338 *e*P **P** 17 11 25.3 -1.2
SBA Scott Base 90.02 172 P **P** 17 11 27.0 +0.8
SBA IAmb IAmb 17 11 29.4
comp=Z,197nm,2.0s
SBA Scott Base 90.02 172 P **P** 17 11 27.0 +0.8
SBA pmax pmax
comp=Z,197nm,2.0s
COPA Copaceanca 90.06 315 ⇑P **P** 17 11 27.7 +0.5
HUMR Humele 90.14 315 ⇑P **P** 17 11 27.3 -0.3
ALN Alexandroupoli 90.16 311 IAmb IAmb 17 11 27.9
comp=Z,51nm,0.8s
ALN Alexandroupoli 90.16 311 P **P** 17 11 26.6 -1.1
EZN Ezine 90.17 310 P **P** 17 11 27.3 -0.6
EZN Ezine 90.17 310 ⇓P **P** 17 11 27.2 -0.6
EZN Ezine 90.17 310 ⇓P **P** 17 11 27.2 -0.6
MDB Medias 90.18 317 ⇑P **P** 17 11 28.9 +1.2
MDB Medias 90.18 317 ⇑P **P** 17 11 28.9 +1.2
ARR Arges 90.19 316 ⇓P **P** 17 11 27.9 0.0
SMG Samos 90.22 308 P **P** 17 11 27.2 -0.9
TGTN Hyland Airport 90.23 27 P **P** 17 11 28.8 +1.1
baz=290
TGTN S **S** 17 21 34.9 -0.1
baz=290
DIM Dimitrovgrad 90.26 313 *e*P **P** 17 11 27.9 -0.2
DIM Dimitrovgrad 90.26 313 P **P** 17 11 29.3 +1.2
PRK Paraskevi 90.33 310 P **P** 17 11 27.4 -1.1
TNR Turnu Rosu 90.37 316 ⇑P **P** 17 11 29.4 +0.8
TNR Turnu Rosu 90.37 316 ⇑P **P** 17 11 29.4 +0.8
KARP Karpathos 90.39 306 P **P** 17 11 28.7 -0.2
KARP Karpathos 90.39 306 *e*P **P** 17 11 28.8 -0.2
DLBC Dease Lake 90.41 30 P **P** 17 11 29.7 +1.1
baz=288
DLBC S **S** 17 21 35.1 -1.5
baz=288
BMR Baia Mare 90.41 318 ⇓P **P** 17 11 29.4 +0.6
BMR Baia Mare 90.41 318 ⇓P **P** 17 11 29.4 +0.6
KWP Kalwaria Pacla 90.43 320 *e*P **P** 17 11 28.9 +0.1
WTLY Watson Lake, Y 90.47 29 P **P** 17 11 29.9 +1.2
baz=289
WTLY S **S** 17 21 35.4 -1.6
baz=289
RDO Rodhopi 90.48 312 IAmb IAmb 17 11 29.8
comp=Z,66nm,0.7s
RDO Rodhopi 90.48 312 P **P** 17 11 28.1 -1.1
V35K Ketchikan 90.51 34 P **P** 17 11 29.4 +0.4
baz=287,SNR=5.8
V35K S **S** 17 21 36.9 -0.5
baz=287
KDZ Kurdzhali 90.52 312 *e*P **P** 17 11 28.5 -0.9
KDZ Kurdzhali 90.52 312 P **P** 17 11 28.4 -1.1
CJR Cluj-Napoca 90.58 317 ⇓P **P** 17 11 30.2 +0.6
CJR Cluj-Napoca 90.58 317 ⇓P **P** 17 11 30.2 +0.6
CBBR Cluj-Babes-Bol 90.59 317 ⇓P **P** 17 11 30.8 +1.1
DIB Dawson Inlet, 90.63 36 IAmb IAmb 17 11 30.8
comp=Z,68nm,1.0s
SMTH Samothraki Isl 90.63 311 P **P** 17 11 28.9 -1.1
SIGR SIGRI 90.66 310 P **P** 17 11 29.1 -1.0
VLAD Vladila 90.66 315 ⇑P **P** 17 11 30.5 +0.5
CHOS Chios island 90.68 309 P **P** 17 11 29.3 -1.0
R9F13 Warsaw-Wawer 90.71 323 *e*P **P** 17 11 29.9 -0.1
T35M Bob Quinn 90.75 32 P **P** 17 11 31.3 +1.1
baz=288,SNR=33
T35M S **S** 17 21 40.4 +0.8
baz=288
LOT Lotru 90.76 316 ⇑P **P** 17 11 30.6 0.0
KOLS Kolonicke sedl 90.89 320 *e*P **P** 17 11 31.4 +0.5
KOLS pmax pmax
comp=Z,67nm,0.7s
KOLS Kolonicke sedl 90.89 320 *e*P **P** 17 11 31.4 +0.5
KOLS *e* 17 32 33.5
MARR Marisel-Cluj 90.90 317 ⇓P **P** 17 11 31.2 +0.1
RZN Rozhen 90.95 312 *e*P **P** 17 11 30.9 -0.7
BEL Belsk 91.03 323 *e*P **P** 17 11 31.9 +0.4
NSS Namsos 91.08 336 *e*P **P** 17 11 30.0 -1.5
DRGR 91.15 318 ⇓P **P** 17 11 32.3 0.0
DRGR 91.15 318 ⇓P **P** 17 11 32.3 0.0
U35K Hyder 91.19 33 P **P** 17 11 32.8 +0.7
baz=288
THAS Thassos island 91.20 311 P **P** 17 11 31.7 -0.9
ZKR Zakros 91.23 306 P **P** 17 11 33.7 +0.8
DEV Deva 91.25 317 ⇑P **P** 17 11 33.1 +0.5
DEV Deva 91.25 317 ⇑P **P** 17 11 33.1 +0.5
KAVA Kavala 91.27 312 P **P** 17 11 32.1 -0.7
MPEP Malo Peshtene 91.28 314 *e*P **P** 17 11 32.7 -0.2
SRE Strehaia 91.34 316 ⇓P **P** 17 11 34.0 +0.9
SRE Strehaia 91.34 316 ⇓P **P** 17 11 34.0 +0.9
APE Apeiranthos 91.37 308 P **P** 17 11 31.6 -1.9
APE Apeiranthos 91.37 308 ⇓P **P** 17 11 31.5 -1.9
APE Apeiranthos 91.37 308 *c* *i*P **P** 17 11 31.4 -2.1
APE pmax pmax
comp=Z,95nm,0.7s
STHS Stebnicka Huta 91.41 320 *e*P **P** 17 11 33.7 +0.3
STHS Stebnicka Huta 91.41 320 *e*P **P** 17 11 33.7 +0.3
VALD Valchedram 91.41 315 *e*P **P** 17 11 33.6 +0.2
GZR Gura Zlata 91.45 316 ⇓P **P** 17 11 33.4 -0.3
GZR Gura Zlata 91.45 316 ⇓P **P** 17 11 33.4 -0.3
RUBB Prince Rupert 91.56 34 IAmb IAmb 17 11 35.5
comp=Z,74nm,0.8s
DAG Danmarks Havn 91.57 352 *i* P **P** 17 11 32.5 -0.9
DAG IAmb IAmb 17 11 34.6
comp=Z,276nm,0.8s
CMBO Columbo, Santo 91.59 307 P **P** 17 11 33.1 -1.3
THR3 Thira Island, 91.61 307 P **P** 17 11 33.5 -1.0
SNT5 Nea Kammeni, S 91.61 307 P **P** 17 11 30.2 -4.3
PUNG Punghina 91.62 315 ⇓P **P** 17 11 35.2 +0.8
THR6 Thira Island, 91.62 307 P **P** 17 11 33.5 -1.1
HG4B Hotspring 91.64 36 IAmb IAmb 17 11 35.7
comp=Z,75nm,0.7s
SAP3 Santorini-Thir 91.65 307 P **P** 17 11 34.0 -0.7
THR5 Thira Island, 91.65 307 P **P** 17 11 33.8 -0.9
THR9 Santorini-Faro 91.66 307 P **P** 17 11 33.4 -1.3
WRGLY Wrigley 91.68 25 P **P** 17 11 34.9 +0.7
baz=294
BORR Bors 91.68 318 ⇓P **P** 17 11 36.2 +1.6
KOKK Kokkinochori, 91.69 312 P **P** 17 11 33.5 -1.3
RMGR Halanga-Turnu 91.69 316 ⇑P **P** 17 11 36.0 +1.3
MMB Musomishta 91.70 312 *e*P **P** 17 11 33.6 -1.3

MMB Musomishta 91.70 312 P **P** 17 11 34.0 -0.9
PLNA Plana 91.71 313 *e*P **P** 17 11 34.8 -0.2
SKY Skiros Island 91.72 310 P **P** 17 11 35.0 0.0
SURR Surduc 91.81 317 ⇓P **P** 17 11 35.0 -0.2
DJES Djerdap 91.81 316 ⇓P **P** 17 11 35.0 -0.3
OUR Ouranopolis 91.81 311 P **P** 17 11 34.5 -0.9
VTS Vitosha 91.82 314 *e*P **P** 17 11 35.1 -0.4
VTS Vitosha 91.82 314 P **P** 17 11 34.9 -0.6
HERR Herculane 91.83 316 ⇓P **P** 17 11 35.1 -0.3
SRS Serrai 91.92 312 P **P** 17 11 34.6 -1.2
SIRR Siria 91.98 317 ⇓P **P** 17 11 36.1 0.0
LIRD Liard River Hi 91.99 29 S **S** 17 21 50.6 +0.1
baz=292
KARY Karystos 92.00 309 P **P** 17 11 34.7 -1.5
NIE Niedzica 92.00 321 *e*P **P** 17 11 36.9 +0.8
HFS Hagfors 92.07 332 P **P** 17 11 35.1 -1.0
comp=Z,104nm,0.8s,baz=104,slow=4.7,SNR=244
HFS PKKP **PKKPdf** 17 28 47.6 +0.2
comp=Z,4.3nm,0.5s,baz=194,slow=3.1,SNR=23
comp=Z,104nm,0.8s
KKB Krupnik 92.08 313 *e*P **P** 17 11 35.7 -0.9
KKB Krupnik 92.08 313 P **P** 17 11 36.5 -0.2
OJC Ojcow 92.08 321 *e*P **P** 17 11 36.6 +0.2
KYMI Kymi, Euboea I 92.12 309 P **P** 17 11 35.6 -1.2
PAIG Paliouri 92.14 311 P **P** 17 11 35.9 -0.9
KECS Kecovo 92.15 320 *e*P **P** 17 11 36.8 +0.1
KECS pmax pmax
comp=Z,108nm,0.7s
KECS Kecovo 92.15 320 *e*P **P** 17 11 36.8 +0.1
KECS *e* 17 36 08.9
AOS Alonnisos 92.16 310 P **P** 17 11 35.6 -1.4
BZS Buzias 92.18 317 ⇓P **P** 17 11 36.4 -0.5
BZS Buzias 92.18 317 ⇓P **P** 17 11 36.4 -0.5
PLG Polygyros 92.20 311 P **P** 17 11 35.7 -1.5
IDI Anoyia 92.26 306 P **P** 17 11 36.9 -0.8
IDI Anoyia 92.26 306 P **P** 17 11 36.8 -0.8
comp=Z,140nm,0.6s,baz=108,slow=3.2,SNR=76
comp=Z,140nm,0.6s
PEHC Pehcevo 92.26 313 *i* P **P** 17 11 41.7 +4.2
MHLO Agia Marina, M 92.33 308 P **P** 17 11 36.8 -1.0
MDVR Moldovita 92.34 316 ⇑P **P** 17 11 37.9 +0.1
DION Dionisos Attik 92.38 309 P **P** 17 11 36.9 -1.2
HORT Hortiatis 92.41 312 P **P** 17 11 36.3 -1.9
TMBK Timbaki Herakl 92.41 306 P **P** 17 11 38.8 +0.6
KNT Kendrikon 92.42 312 P **P** 17 11 36.8 -1.3
BLEU Blekinge 92.42 328 *i* P **P** 17 11 36.4 -1.3
PTL Penteli 92.44 309 P **P** 17 11 37.2 -1.2
ATHU Athens Univers 92.52 309 P **P** 17 11 36.6 -2.0
VLY Voula,Athens 92.54 309 P **P** 17 11 27.5 -11
PRNS Prines Rethymn 92.55 306 P **P** 17 11 38.5 -0.3
ATH Athens Observa 92.57 309 P **P** 17 11 37.0 -1.9
BANR Banloc 92.57 317 ⇓P **P** 17 11 39.9 +1.2
LANS Liptovska Anna 92.60 321 *e*P **P** 17 11 39.8 +0.9
LANS pmax pmax
comp=Z,20nm,0.9s
LANS Liptovska Anna 92.60 321 *e*P **P** 17 11 39.8 +0.9
TOAD Toad River Com 92.61 29 P **P** 17 11 39.1 +0.4
baz=292
TOAD S **S** 17 21 54.5 -1.5
baz=292
BOVS Bovan 92.64 315 ⇓P **P** 17 11 38.7 -0.4
GKP Gorka Klasztor 92.66 325 *e*P **P** 17 11 39.0 0.0
GKP Gorka Klasztor 92.66 325 *e*P **P** 17 11 39.7 +0.7
KOTAN Kotaneelee Air 92.67 28 P **P** 17 11 39.6 +0.8
baz=293
KOTAN S **S** 17 21 56.8 +0.5
baz=293
PSZ Piszkesteto 92.69 319 IAmb IAmb 17 11 40.9
comp=Z,48nm,0.9s
PSZ Piszkesteto 92.69 319 ⇑P **P** 17 11 39.4 0.0
PSZ Piszkesteto 92.69 319 ⇑P **P** 17 11 39.4 0.0
PSZ Piszkesteto 92.69 319 *e*P **P** 17 11 39.3 0.0
NB201 NORSAR Array S 92.80 333 IAmb IAmb 17 11 39.9
comp=Z,92nm,0.8s
NC602 NORSAR Array S 92.81 333 IAmb IAmb 17 11 39.7
comp=Z,50nm,0.8s
NC602 NORSAR Array S 92.81 333 *e*P **P** 17 11 37.9 -1.6
NC602 IAmb IAmb 17 11 39.5
comp=Z,52nm,0.8s
NC602 *e*PP **PP** 17 15 32.1 +1.1
NC602 *e*SKSac **SKSac** 17 21 20.5 +0.1
NC602 *e*SP SPn 17 23 16.3 -0.9
NC602 IAMs_20 IAMs_20 17 42 10.7
comp=Z,927nm,3.6s
NB2 NORSAR Subarra 92.83 333 P **P** 17 11 38.5 -1.2
comp=Z,132nm,0.8s,baz=66,slow=4.6
NB2 PP PP 17 15 19.5 -12
comp=Z,14nm,0.7s,baz=67,slow=8.6
NB2 PKKP **PKKPdf** 17 28 46.8 +0.6
comp=Z,3.1nm,0.6s,baz=250,slow=2.5
NB2 NORSAR Subarra 92.83 333 P **P** 17 11 38.5 -1.2
baz=66,slow=4.6
NOA NORSAR Array B 92.83 333 P **P** 17 11 38.5 -1.2
comp=Z,115nm,0.8s,baz=66,slow=4.6,SNR=326
NOA PKKP **PKKPdf** 17 28 46.6 +0.4
comp=Z,3.8nm,0.8s,baz=70,slow=2.9,SNR=13
NOA SKKPbc SKKPbc 17 31 33.5 -2.1
comp=Z,2.3nm,0.9s,baz=254,slow=2.1,SNR=3.8
comp=Z,115nm,0.8s
CHAN Chania 92.88 306 P **P** 17 11 40.8 +0.4
RES Resolute Bay 92.95 10 IAmb IAmb 17 11 41.5
comp=Z,89nm,0.8s
NBO00 NORSAR Array S 93.03 333 IAmb IAmb 17 11 41.0
comp=Z,76nm,0.8s
LTK Loutraki 93.13 309 P **P** 17 11 38.8 -2.7
KTI Kastanea 93.18 312 P **P** 17 11 38.2 -3.7
VYHS Vyhne 93.20 320 *e*P **P** 17 11 41.4 -0.2
VYHS pmax pmax
comp=Z,149nm,2.2s
VYHS Vyhne 93.20 320 *e*P **P** 17 11 41.4 -0.2
VYHS *e*PP **PP** 17 15 36.4 +2.0
VYHS *e* 17 32 32.7
OKC Ostrava-Krasne 93.22 321 *e*P **P** 17 11 42.2 +0.6
OKC Ostrava-Krasne 93.22 321 *e*P **P** 17 11 42.2 +0.6
TYRN Tyrnavos 93.27 311 P **P** 17 11 39.8 -2.3
DOMB Dombas 93.33 335 *e*P **P** 17 11 41.2 -0.7
DOMB IAmb IAmb 17 11 42.6
comp=Z,84nm,0.9s
DOMB *e*pP **pP** 17 13 42.2 -0.8
DOMB *e*sP **sP** 17 14 39.3 +1.0
DOMB *e*PP **PP** 17 15 36.8 +1.8
DOMB *e*SKSac SKSac 17 21 08.5 -15
DOMB IAMs_20 IAMs_20 17 36 54.5
comp=Z,569nm,17.3s
DEL Delary 93.36 329 *i* P **P** 17 11 41.2 -0.9
AGG Agios Georgios 93.37 310 P **P** 17 11 40.4 -2.2
ANKY Antikythira Is 93.39 307 P **P** 17 11 42.6 -0.1
STEB Steborice 93.42 322 *e*P **P** 17 11 43.0 +0.5
KZN Kozani 93.46 312 P **P** 17 11 41.7 -1.4
THL Klokotos Trika 93.47 311 P **P** 17 11 40.4 -2.6
VLI Veliai 93.47 308 P **P** 17 11 40.6 -2.5
BORU Boraas 93.48 330 *i* P **P** 17 11 41.3 -1.2
KTHA Kythira Island 93.48 307 P **P** 17 11 42.2 -0.9
MBAR Mbarara 93.48 270 P **P** 17 11 43.2 -0.6
MBAR Mbarara 93.48 270 P **P** 17 11 43.8 0.0
MBAR Mbarara 93.48 270 *d* *i*P **P** 17 11 43.6 -0.2
MBAR pmax pmax
comp=Z,35nm,0.9s
NEEM North Greenlan 93.50 359 *i* P **P** 17 11 43.0 +0.3
OSL Oslo 93.52 332 *e*P **P** 17 11 41.4 -1.3
MAKR Makrakomi, Fth 93.52 310 P **P** 17 11 41.8 -1.5
FRGS Fruska Gora 93.53 317 ⇓ *i*P **P** 17 11 42.7 -0.5
MAUC Maruska 93.56 321 *e*P **P** 17 11 43.4 +0.2
MORC Moravsky Berou 93.61 322 IAmb IAmb 17 11 45.6
comp=Z,68nm,0.9s
MORC Moravsky Berou 93.61 322 *e*P **P** 17 11 43.6 +0.2
MORC *e*PP **PP** 17 15 39.1 +1.6
MORC Moravsky Berou 93.61 322 ⇑P **P** 17 11 44.2 +0.7
MORC Moravsky Berou 93.61 322 ⇑P **P** 17 11 44.2 +0.7
FNA Florina 93.63 312 IAmb IAmb 17 11 43.0
comp=Z,55nm,0.7s
FNA Florina 93.63 312 P **P** 17 11 41.7 -2.1
GUR Goura 93.63 309 P **P** 17 11 42.5 -1.4
STRU Stroemstad 93.68 332 *i* P **P** 17 11 42.8 -0.7
MOL Molde 93.72 335 *e*P **P** 17 11 42.9 -0.7
SERG Sergoula 93.73 310 P **P** 17 11 43.0 -1.2
SRO Srobarova 93.74 319 *e*P **P** 17 11 44.2 +0.2
SRO pmax pmax
comp=Z,67nm,0.7s
SRO Srobarova 93.74 319 *e*P **P** 17 11 44.2 +0.2
VLX Vlachokerasia 93.74 309 P **P** 17 11 42.7 -1.7
FABU Falkenberg 93.75 329 *i* P **P** 17 11 42.4 -1.4
KLV Kalavryta, Ach 93.75 309 P **P** 17 11 43.0 -1.4

EVR Evrytania 93.79 310 P **P** 17 11 44.3 -0.3
DBG Daneborg 93.81 351 *i* P **P** 17 11 43.7 -0.1
DBG IAmb IAmb 17 11 44.8
comp=Z,180nm,0.9s
JAVC Velka Javorina 93.82 321 *e*P **P** 17 11 45.6 +1.2
EFP Efpalio 93.84 310 P **P** 17 11 43.5 -1.2
KPRO Kipourio 93.85 311 P **P** 17 11 43.1 -1.7
TEKS Tekeris 93.90 316 ⇓*i*P **P** 17 11 43.9 -1.0
BJUU Bjuv 93.95 328 *i* P **P** 17 11 44.0 -0.7
PENT Pentalofos 93.96 312 P **P** 17 11 43.6 -1.8
SJES Sjenica 93.96 315 ⇓*i*P **P** 17 11 45.1 -0.2
OHR Ohrid 93.96 313 *i* P **P** 17 11 43.7 -1.5
HOLB Holberg 93.97 37 IAmb IAmb 17 11 46.9
comp=Z,82nm,1.0s
KRLC Kraliky 93.97 322 *e*P **P** 17 11 45.6 +0.5
KRLC Kraliky 93.97 322 *e*P **P** 17 11 45.6 +0.5
ONAU Onsala 93.99 330 *i* P **P** 17 11 43.7 -1.2
MORH Mrgy, Hungar 94.01 318 ⇓P **P** 17 11 45.0 -0.3
KSP Ksiaz 94.02 323 *e*P **P** 17 11 45.5 +0.3
TETR Tetrakomo, Epi 94.08 311 P **P** 17 11 44.5 -1.3
PVO Paravola 94.08 310 P **P** 17 11 45.3 -0.5
SMOL Smolenice 94.08 320 *e*P **P** 17 11 46.8 +1.2
SMOL pmax pmax
comp=Z,19nm,1.5s
KBN Korca 94.10 312 P **P** 17 11 45.6 -0.3
DRO Drossia 94.11 309 P **P** 17 11 46.3 +0.4
TULEG Thule 94.12 3 *i* P **P** 17 11 44.5 -0.6
TULEG IAmb IAmb 17 11 45.6
comp=Z,50nm,0.9s
IVA Berane 94.12 314 ⇓*i*P **P** 17 11 44.9 -1.1
AKN Aaknes 94.13 335 *e*P **P** 17 11 45.1 -0.4
ITM Ithomi 94.14 309 P **P** 17 11 44.9 -1.2
BCI Bajram Curri 94.14 314 P **P** 17 11 45.7 -0.3
KONO Kongsberg 94.15 332 P **P** 17 11 44.8 -0.8
KONO IAmb IAmb 17 11 46.0
comp=Z,66nm,0.8s
KONO Kongsberg 94.15 332 ⇓P **P** 17 11 44.6 -1.0
KONO Kongsberg 94.15 332 *e*P **P** 17 11 43.4 -2.2
KONO IAmb IAmb 17 11 45.8
comp=Z,71nm,0.8s
OSTC Ostas 94.16 323 *e*P **P** 17 11 46.3 +0.4
OSTC Ostas 94.16 323 *e*P **P** 17 11 46.3 +0.4
DPC Dobruska-Polom 94.16 322 *e*P **P** 17 11 46.5 +0.5
DPC *e*PP **PP** 17 15 43.1 +1.4
DPC Dobruska-Polom 94.16 322 *e*P **P** 17 11 46.5 +0.5
DPC *e* 17 15 43.1
BBLS Lazi&#263i 94.18 315 ⇓*i*P **P** 17 11 46.1 -0.1
MODS Modra-Piesok 94.22 320 *e*P **P** 17 11 45.5 -0.7
MODS *e* 17 32 38.1
MODS pmax pmax
comp=Z,44nm,0.9s
MODS Modra-Piesok 94.22 320 *e*P **P** 17 11 45.5 -0.7
MODS *e* 17 32 38.1
MODS *e* 17 36 11.4
AMPL Ampelaki 94.24 310 P **P** 17 11 45.1 -1.4
SKAR Skarslia 94.27 334 *e*P **P** 17 11 45.6 -0.6
SKAR IAmb IAmb 17 11 47.2
comp=Z,93nm,0.8s
SKAR *e*pP **pP** 17 13 47.6 +0.2
SKAR *e*PP **PP** 17 15 44.1 +1.9
SKAR *e*SKSac **SKSac** 17 21 29.3 +0.9
SKAR IAMs_20 IAMs_20 17 39 49.9
comp=Z,2µm,3.8s
RUDO Rudo 94.28 315 *e*P **P** 17 11 45.7 -0.9
UPC Upice 94.30 323 *e*P **P** 17 11 46.9 +0.4
UPC *e*PP **PP** 17 15 44.2 +1.5
UPC Upice 94.30 323 *e*P **P** 17 11 46.9 +0.4
UPC *e* 17 15 44.2
AXS Araxos 94.30 310 P **P** 17 11 46.3 -0.5
JAN Janina 94.31 311 P **P** 17 11 46.3 -0.6
VRAC Vranov 94.34 321 *e*P **P** 17 11 47.2 +0.5
VRAC *e*PP **PP** 17 15 44.0 +0.9
VRAC Vranov 94.34 321 P **P** 17 11 47.2 +0.5
comp=Z,61nm,0.8s,baz=80,slow=3.2,SNR=67
comp=Z,61nm,0.8s
VRAC Vranov 94.34 321 ⇓P **P** 17 11 47.5 +0.7
VRAC Vranov 94.34 321 ⇓P **P** 17 11 47.5 +0.7
PLE Pljevlja 94.35 315 ⇓*i*P **P** 17 11 47.2 +0.1
PUK Puka 94.36 314 P **P** 17 11 47.2 +0.1
KOME Kolasin 94.40 314 ⇓*i*P **P** 17 11 46.6 -0.7
COP Copenhagen 94.41 328 *i* P **P** 17 11 46.5 -0.3
COP IAmb IAmb 17 11 47.0
comp=Z,122nm,1.0s
KRUC Moravsky 94.55 321 *e*P **P** 17 11 47.9 +0.2
KRUC *e*PP **PP** 17 15 44.0 -0.7
TIR Tirane 94.57 313 ⇓P **P** 17 11 47.9 -0.1
TIR Tirane 94.57 313 ⇓P **P** 17 11 47.9 -0.1
NYDR Nydri-Lefkada 94.68 310 P **P** 17 11 46.9 -1.6
TSLK Tsoukalades, L 94.68 310 P **P** 17 11 48.0 -0.5
LKD2 Lefkada island 94.69 310 P **P** 17 11 47.3 -1.3
PDG Podgorica 94.70 314 ⇓*i*P **P** 17 11 47.5 -1.0
PDG Podgorica 94.70 314 ⇓P **P** 17 11 47.9 -0.6
PDG Podgorica 94.70 314 ⇓*i*P **P** 17 11 47.7 -0.8
UPM Unac-Piva 94.72 315 ⇓*i*P **P** 17 11 47.9 -0.9
UPM Unac-Piva 94.72 315 ⇓*i*P **P** 17 11 48.0 -0.9
IGT Igoumenitsa 94.73 311 P **P** 17 11 47.3 -1.4
EVGI Lefkada island 94.74 310 P **P** 17 11 47.3 -1.4
DRME Dracevica, Mon 94.82 314 ⇓*i*P **P** 17 11 48.1 -1.0
DRME Dracevica, Mon 94.82 314 ⇓*i*P **P** 17 11 48.4 -0.7
LTHK Lithakia 94.84 309 P **P** 17 11 48.0 -1.3
ULC Ulcinj 94.84 314 ⇓*i*P **P** 17 11 47.9 -1.3
FSK Fiskardo 94.85 310 P **P** 17 11 47.9 -1.4
SRN Sarande 94.88 312 P **P** 17 11 48.4 -1.0
RUE Ruedersdorf 94.90 325 *e*P **P** 17 11 49.6 +0.4
RUE Ruedersdorf 94.90 325 *e*P **P** 17 11 49.5 +0.4
comp=Z,297nm,0.9s,baz=66,slow=4.6
VLS Valsamata 94.91 310 P **P** 17 11 48.3 -1.2
CEME Cevo 94.91 314 ⇓*i*P **P** 17 11 48.5 -1.0
HYA Hoyanger 94.96 335 *e*P **P** 17 11 48.2 -1.0
HYA IAmb IAmb 17 11 50.3
comp=Z,100nm,0.9s
HYA *e*pP **pP** 17 13 51.3 +0.9
HYA *e*sP **sP** 17 14 47.2 +1.6
HYA *e*PP **PP** 17 15 52.5 +5.2
HYA *e*SKSac **SKSac** 17 21 31.9 +0.2
HYA IAMs_20 IAMs_20 17 37 10.9
comp=Z,2µm,3.7s
BUM Brajici-Budva 95.00 314 ⇓*i*P **P** 17 11 48.9 -1.1
TREC Trest 95.03 321 *e*P **P** 17 11 50.4 +0.5
TREC Trest 95.03 321 *e*P **P** 17 11 50.4 +0.5
DMLN Damoulianata-K 95.05 310 P **P** 17 11 49.0 -1.3
RONA Rosalia, Austr 95.06 320 *i* P **P** 17 11 49.9 -0.2
comp=Z,8.9nm,0.5s,SNR=8.1
RONA *i* PP **PP** 17 15 52.9 +4.2
comp=Z,17nm,1.2s
BRY Bratogost 95.07 315 ⇓*i*P **P** 17 11 49.4 -1.0
BRY Bratogost 95.07 315 ⇓*i*P **P** 17 11 49.4 -1.0
KEK Kerkira 95.08 311 P **P** 17 11 51.7 +1.4
HCY Herceg Novi 95.24 314 ⇓*i*P **P** 17 11 49.8 -1.2
HCY Herceg Novi 95.24 314 ⇓*i*P **P** 17 11 49.9 -1.1
GOPC GO Pecny, Ondr 95.24 322 *e*P **P** 17 11 51.1 +0.3
GOPC GO Pecny, Ondr 95.24 322 *e*P **P** 17 11 51.1 +0.3
TREB Trebinje 95.26 315 *e*P **P** 17 11 49.9 -1.1
CONA Conrad Observa 95.26 320 *i* P **P** 17 11 51.0 -0.1
comp=Z,6.0nm,0.5s,SNR=12
CONA *i* PP **PP** 17 15 48.9 -1.4
comp=Z,12nm,1.2s
HOMB Homborsund 95.27 331 *i* P **P** 17 11 48.5 -2.2
PRU Pruhonice 95.36 322 *e*P **P** 17 11 51.8 +0.5
PRU *e*PP **PP** 17 15 52.0 +1.2
PRU Pruhonice 95.36 322 *e*P **P** 17 11 51.8 +0.5
PRU *e* 17 15 52.0
ODD1 Odda 95.37 333 *e*P **P** 17 11 50.5 -0.7
PRA Prague 95.40 322 *e*P **P** 17 11 52.2 +0.7
PRA Prague 95.40 322 *e*P **P** 17 11 52.2 +0.7
BRG Berggiesshubel 95.40 323 *e*P **P** 17 11 51.7 +0.2
comp=Z,174nm,0.8s,baz=66,slow=4.6
BRG Berggiesshubel 95.40 323 ⇓*i*P **P** 17 11 51.6 +0.2
BRG Amp 17 11 53.3
comp=Z,156nm,0.8s
BRG Berggiesshubel 95.40 323 pP pP 17 13 52.0 -0.7
BRG Berggiesshubel 95.40 323 SP SP 17 23 41.0 -1.6
RICC Richard 95.43 323 *e*P **P** 17 11 52.2 +0.6
BLY Banja Luka 95.44 317 ⇓*i*P **P** 17 11 51.3 -0.5
KOGS Kog 95.51 319 *i* Pdiff **P** 17 11 51.5 -0.5
KOGS *i* PP **PP** 17 15 55.5 +3.5
KOGS *e* 17 21 33.5
A051A Mrakovica 95.54 317 ⇓*i*P **P** 17 11 51.7 -0.6
YKAW3 Yellowknife Wh 95.57 23 IAmb IAmb 17 11 53.4
comp=Z,40nm,0.8s
YKA Yellowknife Ar 95.61 24 P **P** 17 11 51.5 -0.7
YKA Yellowknife Ar 95.61 24 P **P** 17 11 52.4 +0.3
comp=Z,39nm,0.9s,baz=305,slow=5.3,SNR=36
YKA PKiKP **PKiKP** 17 16 28.8 +0.6
comp=Z,2.1nm,0.5s,baz=283,slow=8.2,SNR=10
YKA PKKP **PKKPdf** 17 28 40.5 -0.7
comp=Z,1.0nm,0.5s,baz=310,slow=5.4,SNR=5.7
comp=Z,39nm,0.9s
YKAW1 Yellowknife Wh 95.66 23 IAmb IAmb 17 11 53.4
comp=Z,36nm,0.8s
STON Ston 95.67 315 ⇓*i*P **P** 17 11 51.3 -1.5
BLS5 Blasjo 95.68 333 *e*P **P** 17 11 51.4 -1.2
BLS5 IAmb IAmb 17 11 53.9
comp=Z,260nm,0.8s
BLS5 *e*pP **pP** 17 13 55.0 +1.2
BLS5 *e*PP **PP** 17 15 54.6 +1.6
BLS5 IAMs_20 IAMs_20 17 35 09.5
comp=Z,923nm,10.2s
ARSA Arzberg 95.71 320 *i* P **P** 17 11 52.7 -0.3
comp=Z,11nm,0.7s,SNR=10
ARSA *i* PP **PP** 17 15 55.8 +2.2
comp=Z,8.9nm,0.8s
BER Bergen 95.71 334 *e*P **P** 17 11 51.5 -1.1
ASK Askoy 95.72 334 *e*P **P** 17 11 51.9 -0.8
MUD Monsted U'grnd 95.75 330 *i* P **P** 17 11 52.8 -0.1
MUD IAmb IAmb 17 11 53.6
comp=Z,65nm,0.9s
ZVC Zvikov 95.77 322 *e*P **P** 17 11 53.7 +0.5
CLL Collm 95.79 324 ⇓*i*P **P** 17 11 53.1 -0.1
CLL *e**PP **pP** 17 13 57.0 +2.5
CLL *e* 17 21 35.0
CLL *e*S **ScS** 17 22 24.0 +0.3
CLL pmax pmax
comp=Z,130nm,1.2s
CLL Collm 95.79 324 ⇓*i*P **P** 17 11 53.1 -0.1
comp=Z,130nm,1.2s
CLL *e*pP **pP** 17 13 53.0 -1.5
CLL *e*sP **sP** 17 14 44.0 -5.7
CLL *e*x x 17 15 16.0
CLL *e*PP **PP** 17 15 51.0 -3.0
CLL *e*pPP 17 17 38.0
CLL *e*PPP PPP 17 18 04.0
CLL *e*sPP 17 18 38.0
CLL *e*SKSac **SKSac** 17 21 35.0 -1.5
CLL *e*S **ScS** 17 22 24.0 +0.3
CLL *e*SP **SP** 17 23 42.0 -4.7
CLL *e*PS **PS** 17 24 57.0 -2.8
CLL *e*sSKSac 17 25 45.0
CLL *e*sS **sS** 17 26 04.0 +2.1
CLL *e*sPS 17 27 04.0
CLL *e*SS SS 17 28 56.0 -13
CLL *e*sSS 17 32 18.0
CLL *e*SSS SSS 17 33 02.0
CLL *e*SSSS 17 36 06.0
CLL Collm 95.79 324 *e*P **P** 17 11 53.1 -0.1
comp=Z,97nm,0.9s,baz=66,slow=4.6
SNART Snartemo 95.85 332 *i* P **P** 17 11 54.4 +1.1
CKRC Cesky Krumlov 95.92 321 *e*P **P** 17 11 54.2 +0.3
CKRC *e*x x 17 13 54.3
CKRC *e*PP **PP** 17 15 53.5 -1.7
CKRC Cesky Krumlov 95.92 321 *e*P **P** 17 11 54.2 +0.3
CKRC *e* 17 13 54.3
CKRC *e* 17 15 53.5
SSRD Sdr. Stenderup 95.95 329 *i* P **P** 17 11 54.6 +0.8
SSRD IAmb IAmb 17 11 55.0
comp=Z,197nm,0.9s
SCTE Santa Cesarea 95.96 312 IAmb IAmb 17 11 54.5
comp=Z,46nm,0.9s
A050A Klekovaca 95.96 317 ⇓*i*P **P** 17 11 53.5 -0.8
GORT1 Trebel 96.09 326 *e*P **P** 17 11 54.9 +0.4
comp=Z,283nm,1.1s,baz=66,slow=4.6
SOKA Soboth 96.22 319 *i* P **P** 17 11 55.0 -0.4
comp=Z,17nm,1.1s,SNR=24
SOKA *i* PP **PP** 17 16 01.8 +4.3
comp=Z,52nm,1.5s
SOKA *i* SKS **SKSac** 17 21 40.8 +1.7
comp=Z,3.6nm,1.1s
CRES Cresnjevec Ost 96.23 318 ⇓*i*P **P** 17 11 55.0 -0.4
BSEG Bad Segeberg 96.24 327 *e*P **P** 17 11 55.4 +0.2
comp=Z,70nm,0.8s,baz=66,slow=4.6
KHC Kasperske Hory 96.26 322 *e*P **P** 17 11 55.7 +0.2
KHC *e*x x 17 12 17.0
KHC *e*pP **pP** 17 13 55.0 -1.8
KHC *e*PP **PP** 17 15 52.8 -4.9
KHC *e*SKS **SKSac** 17 21 36.5 -2.7
KHC Kasperske Hory 96.26 322 *d* iP **P** 17 11 55.5 0.0
KHC pmax pmax
comp=Z,104nm,1.8s
GEC2 GERESS Array S 96.29 321 *e*P **P** 17 11 55.7 0.0
comp=Z,32nm,0.7s,baz=66,slow=4.6
GERES GERESS Array B 96.29 321 P **P** 17 11 55.5 -0.2
GERES GERESS Array B 96.29 321 P **P** 17 11 55.7 0.0
comp=Z,31nm,0.7s,baz=73,slow=4.5,SNR=141
GERES PP **PP** 17 15 54.0 -4.0
comp=Z,3.5nm,0.7s,baz=78,slow=7.0,SNR=3.8
GERES PKiKP **PKiKP** 17 16 30.2 +0.2
comp=Z,3.0nm,0.6s,baz=85,slow=1.7,SNR=8.8
GERES PKKP **PKKPdf** 17 28 38.1 -1.8
comp=Z,1.0nm,0.7s,baz=214,slow=1.4,SNR=6.3
GERES SKKP 17 31 21.9
comp=Z,1.1nm,0.8s,baz=218,slow=6.3,SNR=4.9
comp=Z,31nm,0.7s
MOA Molln 96.30 320 *i* P **P** 17 11 55.9 +0.3
comp=Z,62nm,1.0s,SNR=42
MOA *e*PP **PP** 17 15 57.1 -1.0
comp=Z,4.7nm,0.5s
KMY Karmoy 96.33 333 *e*P **P** 17 11 54.0 -1.4
FLTG Flechtingen 96.40 325 *e*P **P** 17 11 55.7 -0.2
comp=Z,82nm,0.9s,baz=66,slow=4.6
KULLO Kullorsuaq 96.42 0 *i* P **P** 17 11 55.2 -0.4
KULLO IAmb IAmb 17 11 56.3
comp=Z,97nm,0.9s
TANN Tannenbergstha 96.45 323 *e*P **P** 17 11 56.2 0.0
comp=Z,91nm,0.9s,baz=66,slow=4.6
NKC Novy Kostel 96.52 323 *e*P **P** 17 11 57.0 +0.4
NKC Novy Kostel 96.52 323 *e*P **P** 17 11 57.0 +0.4
SYO Syowa Base 96.53 201 ⇓*e*Pdiff **P** 17 11 55.3 -0.7
SYO Syowa Base 96.53 201 ⇓*e*pP pP 17 13 57.6 +0.8
NEUB Neuenburg 96.54 324 *e*P **P** 17 11 56.8 +0.3
comp=Z,196nm,0.8s,baz=66,slow=4.6
OBKA Obir 96.59 319 ⇓*i*P **P** 17 11 56.5 -0.6
OBKA Obir 96.59 319 *i* Pdiff **P** 17 11 56.7 -0.4
comp=Z,15nm,1.1s,SNR=12
OBKA *i* PP **PP** 17 16 02.0 +1.6
comp=Z,8.9nm,0.6s
OBKA *i* SKS **SKSac** 17 21 45.7 +4.6
comp=Z,9.0nm,1.6s
WET Wettzell 96.68 322 *e*P **P** 17 11 57.5 +0.2
comp=Z,148nm,1.7s,baz=66,slow=4.6
BIOA Bad Ischl, Aus 96.75 320 *i* Pdiff **P** 17 11 57.5 -0.2
comp=Z,12nm,0.8s,SNR=11
BIOA *i* PP **PP** 17 16 01.5 0.0
comp=Z,11nm,0.8s
BIOA *e*SKS **SKSac** 17 21 42.7 +1.0
comp=Z,5.9nm,1.2s
LJU Ljubljana 96.77 319 *i* Pdiff **P** 17 11 57.5 -0.3
LJU *i* PP **PP** 17 16 04.6 +3.0
LJU *i* 17 21 39.8
MANZ Manzenberg 96.82 323 *e*P **P** 17 11 58.2 +0.2
comp=Z,16nm,0.9s,baz=66,slow=4.6
ROTZ Rotzenmuhle 96.85 323 *e*P **P** 17 11 58.6 +0.5
comp=Z,26nm,0.8s,baz=66,slow=4.6
MOX Moxa 96.85 324 *e*P **P** 17 11 58.2 +0.2
comp=Z,85nm,0.9s,baz=66,slow=4.6
CEY Cerknica 96.94 318 ⇓*i*P **P** 17 11 58.1 -0.5
NRDL Niedersach Rie 96.96 326 *e*P **P** 17 11 58.9 +0.6
comp=Z,146nm,0.9s,baz=66,slow=4.6
MATE Matera 97.06 313 ⇑P **P** 17 11 58.4 -0.7
MATE Matera 97.06 313 *e*P **P** 17 11 58.8 -0.4
MYKA Terra Mystica 97.13 319 *i* Pdiff **P** 17 11 58.6 -0.8
comp=Z,7.1nm,0.6s,SNR=9.9
MYKA *i* PP **PP** 17 16 06.3 +1.8
comp=Z,6.4nm,0.7s
MYKA *i* SKS **SKSac** 17 21 44.0 +0.1
comp=Z,7.2nm,1.1s
CADS Cadrg 97.22 319 *i* Pdiff Pdif 17 11 58.8 -1.0
CADS *e*PP **PP** 17 16 06.5 +1.5
CADS *i* 17 21 42.3
CADS *e* 17 27 34.1
PRED Cave del Predi 97.25 319 IAmb IAmb 17 12 04.7
comp=Z,18nm,0.6s
RJOB Jochberg 97.26 321 *e*P Pdif 17 11 59.6 -0.4
comp=Z,58nm,1.1s,baz=66,slow=4.6
SCO Scoresbysund 97.28 349 IAmb IAmb 17 12 02.2
comp=Z,54nm,1.2s
SCO Scoresbysund 97.28 349 *i* P **P** 17 11 59.8 +0.3
SCO IAmb IAmb 17 12 01.3
comp=Z,29nm,0.5s
TRI Trieste 97.39 319 IAmb IAmb 17 11 59.8
comp=Z,24nm,0.7s
SABO M.te Sabotino 97.39 319 IAmb IAmb 17 12 00.9
comp=Z,20nm,0.7s
GTTG Gottingen 97.44 325 *e*P **P** **17 12 01.1 +0.5**
comp=Z,56nm,0.7s,baz=66,slow=4.6
LESA Schwarzleotal 97.45 320 *i* Pdiff Pdif 17 12 00.5 -0.4
comp=Z,26nm,0.5s,SNR=23
LESA *e*PP **PP** **17 16 07.0 +0.2**
comp=Z,25nm,0.9s
LESA *i* SKS **SKSac** **17 21 42.9 -2.5**
comp=Z,12nm,1.2s
GRF Grafenberg Arr 97.46 323 *e*P **P** **17 12 01.2 +0.4**
comp=Z,88nm,0.8s,baz=66,slow=4.6
GRFO Grafenberg 97.47 323 P **P** **17 12 01.1 +0.3**
GRFO Grafenberg 97.47 323 P **P** **17 12 01.1 +0.3**
GRFO pmax pmax
comp=Z,77nm,0.8s
TIP Timpagrande 97.48 312 IAmb IAmb 17 12 02.9
comp=Z,69nm,1.3s
TIP Timpagrande 97.48 312 ⇑P **P** **17 12 01.3 +0.1**
SUMG Summit 97.66 355 *i* P Pdif 17 12 01.5 -0.1
SUMG IAmb IAmb 17 12 03.6
comp=Z,65nm,1.1s
UBBA Unterbreizbach 97.72 324 *e*P **P** **17 12 01.9 +0.1**
comp=Z,42nm,0.9s,baz=66,slow=4.6
ABTA Abfaltersbach 97.81 320 *i* Pdiff Pdif 17 12 01.4 -1.1
comp=Z,12nm,0.7s,SNR=16
ABTA *i* PP **PP** **17 16 08.9 -0.7**
comp=Z,8.7nm,0.8s
ABTA *e*SKS **SKSac** **17 21 46.6 -0.6**
comp=Z,6.1nm,0.9s
LSZ Lusaka 98.09 256 P Pdif 17 12 04.3 -0.1
WTTA Wattenberg 98.17 321 *i* Pdiff Pdif 17 12 03.8 -0.4
comp=Z,24nm,0.5s,SNR=30
WTTA *i* PP **PP** **17 16 11.9 -0.5**
comp=Z,29nm,0.9s
WTTA *i* SKS **SKSac** **17 21 47.2 -2.0**
comp=Z,14nm,0.8s
WATA Walderalm 98.18 321 *i* Pdiff Pdif 17 12 03.7 -0.5
comp=Z,24nm,0.5s,SNR=22
WATA *i* PP **PP** **17 16 11.5 -0.8**
comp=Z,21nm,1.0s
WATA *i* SKS **SKSac** **17 21 48.7 -0.5**
comp=Z,9.2nm,1.0s
UPNV Upernavik 98.24 0 *i* P Pdif 17 12 03.2 -0.5
UPNV IAmb IAmb 17 12 04.9
comp=Z,55nm,0.9s
IBBN Ibbenburen 98.34 326 *e*P **P** **17 12 05.1 +0.5**
comp=Z,162nm,0.9s,baz=66,slow=4.6
SQTA Sankt Quirin 98.45 321 *i* Pdiff Pdif 17 12 05.1 -0.3
comp=Z,52nm,1.0s,SNR=24
SQTA *i* PP **PP** **17 16 10.2 -4.2**
comp=Z,10nm,0.7s
SQTA *i* SKS **SKSac** **17 21 49.1 -1.4**
comp=Z,11nm,1.0s
KASTN Kahler Asten 98.46 325 *e*P **P** **17 12 05.6 +0.3**
comp=Z,61nm,1.1s,baz=66,slow=4.6
MOTA Moosalm 98.47 321 *i* Pdiff Pdif 17 12 04.9 -0.6
comp=Z,34nm,0.9s,SNR=30
MOTA *i* PP **PP** **17 16 11.3 -3.3**
comp=Z,17nm,1.1s
MOTA *e*SKS **SKSac** **17 21 48.8 -1.9**
comp=Z,23nm,1.1s
LRW Lerwick 98.58 336 *e*P Pdif 17 12 05.2 -0.3
RETA Reutte 98.62 321 *i* Pdiff Pdif 17 12 05.7 -0.4
comp=Z,11nm,0.5s,SNR=13
RETA *i* PP **PP** **17 16 13.0 -2.7**
comp=Z,8.7nm,0.7s
RETA *i* SKS **SKSac** **17 21 50.2 -1.1**
comp=Z,10nm,1.4s
FETA Feichten 98.83 321 *i* Pdiff Pdif 17 12 07.0 -0.1
comp=Z,27nm,0.9s,SNR=21
FETA *i* PP PP 17 16 08.7 -8.6
comp=Z,12nm,1.0s
FETA *e*SKS **SKSac** **17 21 46.0 -6.5**
comp=Z,30nm,1.5s
TNS Taunus Mts 98.87 324 *e*P **P** **17 12 07.5 +0.3**
comp=Z,76nm,1.1s,baz=66,slow=4.6
QSPA South Pole Qui 99.02 180 P **Pdif** **17 12 07.8 +0.4**
comp=Z,3.4nm,0.7s,baz=161,slow=1.7,SNR=25
QSPA PKiKP **PKiKP** **17 16 35.3 +1.1**
comp=Z,6.0nm,0.9s,baz=310,slow=1.3,SNR=1.4
QSPA S **SKSac** **17 21 50.3 -2.0**
comp=Z,12nm,0.9s,baz=106,slow=21,SNR=28
QSPA PKKPbc **PKKPbc** **17 28 31.0 -3.3**
comp=Z,20nm,0.8s,baz=310,slow=0.7,SNR=7.6
comp=Z,3.4nm,0.7s
STU Stuttgart 99.05 323 *e*P **Pdif** **17 12 08.7 +0.8**
DAVA Damuels 99.25 321 *i* Pdiff **Pdif** **17 12 08.9 -0.1**
comp=Z,15nm,0.8s,SNR=10
DAVA *e*PP **PP** **17 16 18.9 -1.5**
comp=Z,16nm,0.7s
DAVA *i* SKS **SKSac** **17 21 51.6 -3.0**
comp=Z,5.9nm,1.0s
DAVOX Davos/Dischmat 99.46 321 P **Pdif** **17 12 10.2 +0.2**
comp=Z,34nm,0.8s,baz=77,slow=4.0,SNR=54
DAVOX S **SKSac** **17 21 54.5 -1.1**
comp=Z,16nm,0.9s,baz=169,slow=20,SNR=14
comp=Z,34nm,0.8s
NUUG Nuugaatsiaq 99.47 359 *i* P **Pdif** **17 12 08.9 -0.3**
BFO Black Forest 99.76 322 *e*P **Pdif** **17 12 10.8 -0.2**
comp=Z,24nm,0.8s,baz=66,slow=4.6
BTNL Ternell 100.03 325 *d*Pdif **Pdif** **17 12 12.7 +0.5**
comp=Z,27nm,1.0s
MEM Membach 100.09 325 *d*Pdif **Pdif** **17 12 12.6 +0.2**
comp=Z,39nm,1.0s
BHOU Houvegnez 100.21 325 *d*Pdif **Pdif** **17 12 13.4 +0.4**
comp=Z,28nm,1.0s
UMMG Uummannaq 100.31 359 *i* P **Pdif** **17 12 13.2 +0.2**
BSTI Sart Tilman 100.35 325 *d*Pdif **Pdif** **17 12 14.1 +0.5**
comp=Z,15nm,0.9s
WLF Walferdange 100.45 324 *d*Pdif **Pdif** **17 12 13.7 -0.3**
comp=Z,58nm,1.0s
WLF Walferdange 100.45 324 *e*P **Pdif** **17 12 15.9 +1.8**
comp=Z,111nm,1.0s,baz=66,slow=4.6
BCLA Clavier 100.58 325 *d*Pdif **Pdif** **17 12 15.1 +0.5**
comp=Z,14nm,0.9s
BGES Gesves 100.71 325 *d*Pdif **Pdif** **17 12 15.5 +0.3**
comp=Z,11nm,0.8s
SOEG Soedalen 100.90 351 *i* P **Pdif** **17 12 16.4 +0.8**
UCC Uccle 100.92 326 *d*Pdif **Pdif** **17 12 16.2 +0.1**
comp=Z,38nm,0.8s
BMRD Maredsous 100.93 325 *d*Pdif **Pdif** **17 12 16.5 +0.3**
comp=Z,46nm,0.8s
ICESG Greenland Ices 101.13 354 *i* P **Pdif** **17 12 16.6 -0.5**
DOU Dourbes 101.13 325 *d*Pdif **Pdif** **17 12 17.4 +0.3**
comp=Z,46nm,0.8s
ILULI Ilulissat 101.76 358 *i* P **Pdif** **17 12 19.9 +0.5**
ELIB Princess Elisa 102.00 198 *d*Pdif **Pdif** **17 12 21.0 +0.4**
comp=Z,8.6nm,0.7s
ELIB *d*PKP **PP** **17 16 40.6 +0.1**
EDMD Edmundbyers 102.01 331 *e*P **Pdif** **17 12 20.0 -0.9**
BOSA Boshof 102.11 243 P **Pdif** **17 12 21.1 -1.0**
comp=Z,5.5nm,0.6s,baz=101,slow=4.6,SNR=18
BOSA PKKPbc **PKKPbc** **17 28 24.1 +0.4**
comp=Z,6.2nm,0.5s,baz=254,slow=2.4,SNR=21
EKA Eskdalemuir Ar 102.27 332 P **Pdif** **17 12 21.3 -0.7**
comp=Z,13nm,0.8s,baz=57,slow=6.1,SNR=20
EKA PKiKP **PP** **17 16 41.4 -0.9**
comp=Z,3.2nm,0.5s,baz=22,slow=3.6,SNR=6.3
EKA PKKPbc **PKKPbc** **17 28 20.9 -3.3**
comp=Z,2.7nm,0.3s,baz=245,slow=2.9,SNR=24
EKA SKKP 17 31 09.5
comp=Z,2.8nm,0.7s,baz=253,slow=2.3,SNR=5.7
ESK Eskdalemuir 102.30 332 *e*P **Pdif** **17 12 22.1 0.0**
NEWG New Galloway 102.89 332 *e*P **Pdif** **17 12 24.7 -0.1**
HLM1 Long Mynd 103.80 330 *e*P **Pdif** **17 12 28.6 -0.4**
SFJD Kangerlussuaq 103.96 358 *i* P **Pdif** **17 12 30.1 +0.9**
MCH1 Michaelchurch 104.16 329 *e*P **Pdif** **17 12 29.2 -1.3**
KEST Kesra 104.21 310 Pdiff **Pdif** **17 12 31.1 -0.1**
comp=Z,4.8nm,0.7s,baz=17,slow=2.0,SNR=5.7
KEST PKiKP **PKiKP** **17 16 44.2 -0.4**
comp=Z,14nm,0.8s,baz=126,slow=0.4,SNR=12
KEST PP **PP** **17 16 57.1 -0.3**
comp=Z,9.3nm,0.6s,baz=4.1,slow=6.2,SNR=4.2
NVAR Mina Array Bea 105.11 46 Pdiff **Pdif** **17 12 35.7 +0.4**
comp=Z,4.1nm,0.6s,baz=276,slow=5.3,SNR=20
NVAR PKiKP **PKiKP** **17 16 47.9 +1.4**
comp=Z,2.6nm,0.6s,baz=243,slow=3.0,SNR=7.6
NVAR PKKPbc **PKKPbc** **17 28 14.5 -1.0**
comp=Z,2.5nm,0.7s,baz=209,slow=26,SNR=6.2
NVAR PKKPab **PKKPab** **17 28 33.8 -1.9**
comp=Z,3.1nm,0.5s,baz=209,slow=30,SNR=9.7
TROLL Troll, Antarti 108.13 196 ⇑P **Pdif** **17 12 49.4 +1.5**
comp=Z,91nm,0.7s

TROLL ||PKiKP **PKiKP** 17 16 50.6 -0.3
comp=Z,612nm,0.5s
PDAR Pinedale Array 108.86 39 PKiKP **PKiKP** 17 16 53.5 +0.2
comp=Z,3.0nm,0.4s,baz=57,slow=0.8,SNR=17
PDAR PP **PP** 17 17 30.9 +0.1
comp=Z,3.6nm,0.7s,baz=281,slow=2.4,SNR=4.6
PDAR PKKPbc **PKKPbc** 17 28 01.8 -2.5
comp=Z,3.0nm,0.6s,baz=131,slow=4.8,SNR=7.9
PDAR PKKP **PKKPdf** 17 28 16.1 -1.0
comp=Z,6.7nm,0.6s,baz=127,slow=5.8,SNR=15
SNAA Sanae 109.75 196 ↑P **Pdif** 17 12 56.6 +1.6
comp=Z,46nm,0.5s
SNAA ||x x 17 16 53.1
comp=Z,94nm,0.8s
SNAA Sanae 109.75 196 Pdiff **Pdif** 17 12 56.2 +1.2
comp=Z,1.1nm,0.4s,baz=177,slow=7.1,SNR=28
SNAA PKiKP **PKiKP** 17 16 53.4 -0.5
comp=Z,4.5nm,0.6s,baz=207,slow=7.8,SNR=14
SNAA PP **PP** 17 17 37.4 +0.9
comp=Z,2.8nm,0.7s,baz=155,slow=7.3,SNR=3.1
ULM Lac du Bonnet 111.36 26 PKiKP **PKiKP** 17 16 57.0 -0.4
comp=Z,15nm,0.6s,baz=318,slow=3.5,SNR=15
ULM PKKPbc **PKKPbc** 17 27 53.0 -3.3
comp=Z,4.7nm,0.4s,baz=129,slow=2.7,SNR=8.2
VNA2 Neumayer--Watz 111.38 195 ↑P **Pdif** 17 13 04.9 +2.8
comp=Z,1.3nm,0.6s,baz=172,slow=6.3
VNA2 ||PKiKP **PKiKP** 17 16 56.7 -0.2
comp=Z,40nm,0.6s,baz=93,slow=1.5
ESDC Sonseca Array 111.72 319 Pdiff **Pdif** 17 13 04.4 -0.1
comp=Z,1.1nm,0.9s,baz=42,slow=3.5,SNR=6.2
ESDC PKiKP **PKiKP** 17 16 57.8 -0.8
comp=Z,3.3nm,0.7s,baz=7.2,slow=3.0,SNR=14
ESDC PP **PP** 17 17 51.6 +0.7
comp=Z,13nm,0.9s,baz=44,slow=7.3,SNR=9.0
ESDC PKKPbc **PKKPbc** 17 27 52.5 -2.3
comp=Z,1.2nm,0.9s,baz=266,slow=3.1,SNR=5.4
ESDC SKKPbc SKKPbc 17 30 43.0 -2.5
comp=Z,1.3nm,0.8s,baz=272,slow=2.7,SNR=6.4
VNA3 Neumayer Olymp 111.76 195 ↑P **Pdif** 17 13 07.1 +3.3
comp=Z,1.8nm,1.0s
VNA3 ||PKiKP **PKiKP** 17 16 57.1 -0.5
comp=Z,24nm,0.6s
VNA1 Neumayer--Stat 111.78 195 ||PKiKP **PKiKP** 17 16 56.5 -1.1
comp=Z,19nm,0.8s
PBRG Braganca 112.25 322 *e*PP **PP** 17 17 55.5 +1.0
MVO Moncorvo 112.80 322 *e*PKPdf **PKiKP** 17 17 01.2 +0.6
MVO *e*PP **PP** 17 17 59.6 +1.3
PGAV Gaveiria, Arco 113.06 323 *e*PKPdf **PKiKP** 17 17 01.5 +0.4
PGAV *e*PP **PP** 17 18 02.0 +1.8
PCAB Cabril 113.07 323 *e*PKPdf **PKiKP** 17 17 01.5 +0.4
PCAB *e*PP **PP** 17 18 01.3 +1.1
POLO Lamas de Olo 113.14 323 *e*PKPdf **PKiKP** 17 17 02.1 +0.8
POLO *e*PP **PP** 17 18 02.8 +2.0
PVRL Vila Real 113.15 322 *e*PKPdf **PKiKP** 17 17 02.0 +0.8
PVRL *e*PP **PP** 17 18 02.4 +1.6
MTE Manteigas 113.57 322 *e*PKPdf **PKiKP** 17 17 02.8 +0.7
MTE *e*PP **PP** 17 18 05.2 +1.5
PVIS Viseu 113.59 322 *e*PKPdf **PKiKP** 17 17 02.5 +0.4
PVIS *e*PP **PP** 17 18 05.1 +1.2
PTO Porto 113.76 323 *e*PKPdf **PKiKP** 17 17 02.5 +0.2
PCBR Castelo Branco 113.86 321 *e*PKPdf **PKiKP** 17 17 02.9 +0.4
PCBR *e*PP **PP** 17 17 07.4 +1.7
PMRV Marv??o 114.05 321 *e*PKPdf **PKiKP** 17 17 03.4 +0.4
PMRV *e*PP **PP** 17 18 07.5 +0.5
COI Coimbra 114.21 322 *e*PP **PP** 17 18 09.5 +1.4
PCAS Casmilo, Conde 114.36 322 *e*PKPdf **PKiKP** 17 17 03.8 +0.2
PCAS *e*PP **PP** 17 18 09.9 +0.7
PSARD Sardoal 114.42 321 *e*PKPdf PKPdf 17 17 03.1 -0.5
PSARD *e*PP **PP** 17 18 11.3 +1.7
PESTR Estremoz 114.50 320 *e*PKPdf **PKiKP** 17 17 04.1 +0.2
PESTR *e*PP **PP** 17 18 11.5 +1.3
PBAR Barrancos 114.55 319 *e*PKPdf **PKiKP** 17 17 04.4 +0.5
PBAR *e*PP **PP** 17 18 11.4 +0.8
PMTG Montargil 114.78 321 *e*PKPdf **PKiKP** 17 17 04.6 +0.2
PMTG *e*PP **PP** 17 18 14.0 +1.9
PSBE So Bento 114.87 321 *e*PKPdf **PKiKP** 17 17 05.2 +0.7
PSBE *e*PP **PP** 17 18 14.5 +1.8
EVO Evora 114.96 320 *e*PKPdf **PKiKP** 17 17 05.4 +0.6
EVO *e*PP **PP** 17 18 14.8 +1.4
PBEJ Beja 115.17 320 *e*PKPdf **PKiKP** 17 17 05.7 +0.6
PBEJ *e*PP **PP** 17 18 16.4 +1.5
PVAQ Vaqueiros 115.43 319 *e*PKPdf **PKiKP** 17 17 06.6 +0.9
MESJ Messejana 115.50 320 *e*PKPdf **PKiKP** 17 17 06.4 +0.6
MESJ *e*PP **PP** 17 18 18.2 +1.0
PCVE Castro Verde 115.51 319 *e*PKPdf **PKiKP** 17 17 06.4 +0.6
PCVE *e*PP **PP** 17 18 18.9 +1.7
SCHQ Schefferville 115.59 7 PKP **PKPdf** 17 17 05.3 -0.1
comp=Z,28nm,0.4s,baz=324,slow=1.2,SNR=124
SCHQ PP **PP** 17 18 17.4 +0.5
comp=Z,22nm,0.9s,baz=348,slow=5.3,SNR=7.5
SCHQ PKKPbc **PKKPbc** 17 27 38.9 -3.7
comp=Z,3.9nm,0.7s,baz=132,slow=1.5,SNR=10.0
SCHQ SKKPbc SKKPbc 17 30 30.2 -4.2
comp=Z,7.9nm,0.7s,baz=179,slow=1.4,SNR=8.8
PBDV Barranco-do-Ve 115.67 319 *e*PKPdf **PKiKP** 17 17 07.5 +1.4
PBDV *e*PP **PP** 17 18 17.7 -0.7
PTEO Sao Teotonio 116.00 320 *e*PKPdf **PKiKP** 17 17 07.7 +0.9
PTEO *e*PP **PP** 17 18 22.0 +1.4
MORF Marmelete 116.10 319 *e*PKPdf **PKiKP** 17 17 07.5 +0.5
MORF Marmelete 116.10 319 *e*PKPdf **PKiKP** 17 17 08.0 +0.9
MORF *e*PP **PP** 17 18 22.9 +1.6
PFVI Vila Bisbo 116.31 319 *e*PKPdf **PKiKP** 17 17 08.1 +0.8
PFVI *e*PP **PP** 17 18 27.2 +4.5
TORD Torodi Ar. Bea 118.74 290 PKP **PKPdf** 17 17 12.1 -0.5
comp=Z,65nm,0.4s,baz=55,slow=2.0,SNR=167
TORD PP **PP** 17 18 42.4 +1.9
comp=Z,6.8nm,0.6s,baz=65,slow=7.0,SNR=4.7
TORD SKP 17 19 54.9
comp=Z,30nm,0.8s,baz=26,slow=1.6,SNR=11
TORD PKKPbc **PKKPbc** 17 27 30.4 +0.2
comp=Z,4.1nm,0.6s,baz=284,slow=2.8,SNR=14
TORD SKKPbc SKKPbc 17 30 23.1 -0.6
comp=Z,4.5nm,0.9s,baz=307,slow=3.0,SNR=7.0
TXAR Lajitas Array 120.12 48 PKP **PKiKP** 17 17 15.7 +0.5
comp=Z,36nm,0.7s,baz=308,slow=0.7,SNR=150
TXAR PKKPbc **PKKPbc** 17 27 24.9 -0.9
comp=Z,6.5nm,0.7s,baz=104,slow=5.0,SNR=16
PMPST Porto Santo, M 123.64 320 *e*PKPdf **PKiKP** 17 17 22.0 +0.1
PMPST *e*PP **PP** 17 19 12.8 +0.7
PMPS Porto Santo 123.65 320 *e*PKPdf **PKiKP** 17 17 22.3 +0.4
PMAR Madeira 124.24 320 *e*PKPdf **PKiKP** 17 17 23.8 +0.5
PMAR *e*PP **PP** 17 19 17.8 +1.4
BART Pico Bartolome 125.22 330 *e*PKP **PKiKP** 17 17 25.1 +0.1
PGRON Lagoa das Cont 125.32 331 *e*PKP **PKiKP** 17 17 26.2 +1.1
PAGU Agualva, Azore 125.38 333 *e*PKP **PKiKP** 17 17 25.8 +0.6
PSBA Serra de Santa 125.44 333 *e*PKP **PKiKP** 17 17 26.2 +0.9
PSET Sete Cidades 125.45 331 *e*PKP **PKiKP** 17 17 26.8 +1.4
PSMN Pico do Norte, 125.77 330 *e*PKP **PKiKP** 17 17 25.8 -0.2
PSMA Santa Maria 125.81 330 *e*PKP **PKiKP** 17 17 26.5 +0.4
ROSA Rosais 125.89 333 *e*PKP **PKiKP** 17 17 27.2 +1.0
SSPA Standing Stone 125.44 21 PKPpre 17 17 18.6
DBIC Dimbokro 126.83 285 PKP **PKPdf** 17 17 28.1 -0.1
comp=Z,84nm,0.7s,baz=100,slow=2.2,SNR=42
DBIC PP **PP** 17 19 31.9 -2.4
comp=Z,14nm,0.6s,baz=96,slow=5.4,SNR=3.2
M65A Busby, Falmout 127.73 14 P **PKiKP** 17 17 29.5 -0.2
baz=341
TKL Tuckaleechee C 128.22 29 SKKPbc SKKPbc 17 29 49.4 -3.6
comp=Z,5.3nm,0.6s,baz=102,slow=11,SNR=9.8
LRAL Lakeview Retre 128.61 34 PKPpre 17 17 16.3
Y52A Lilburn 129.51 31 PKPpre 17 17 21.7
GOGA Godfrey 130.18 31 PKPpre 17 17 23.8
GOGA Godfrey 130.18 31 PKHKP PKPpre 17 17 23.8
MG03 Isla Dawson 133.90 168 PKPpre 17 17 31.6
MTO3 Montecristo 139.34 55 PKPpre 17 17 45.1
CAMR Camarioca 139.38 38 *e*P **PKPdf** **17 17 51.4 0.0**
CAIB Caibarien 140.94 36 *e*P PKPpre 17 17 50.0
FSCY Frank Sound, G 142.26 41 *e*P PKPpre 17 17 45.9
COPN Copaltepe 142.80 56 *e*P **PKPdf** **17 17 55.0 -2.8**
JAPN Al SSO del Vol 143.91 56↑*e*P **PKPdf** **17 17 59.4 -0.3**
ACON Acoyapa 144.07 55||*i*P **PKPdf** **17 17 59.9 0.0**
HLGC Holguín 144.13 33 *e*P **PKPdf** **17 17 59.9 -0.1**
PILO Pilon 144.15 36 *e*P PKPbc 17 17 59.6 0.0
PILO Pilon 144.15 36 P **PKPdf** **17 17 59.9 -0.1**
LCRUZ La Cruz 144.19 56 *e*P PKPbc 17 17 59.0 -0.8
CARN Rivas 144.22 56 *e*P PKPbc 17 17 59.4 -0.5
LMGC Las Mercedes 144.26 36 *e*P **PKPdf** **17 18 00.1 -0.1**
YAR Yar 144.38 34 *e*P **PKPab** **17 18 00.6 0.0**
ELI1 Hacienda Flor 144.49 57 *e*P **PKPab** **17 18 01.1 -0.1**
ALIBA Liberia Airpor 144.52 57 *e*P **PKPab** **17 18 01.7 +0.4**
ALIBA *e*P PKPbc 17 18 01.8 +1.0
LAPC Finca la Perla 144.52 57||*e*P **PKPdf** **17 18 00.2 -0.5**
BUAI Buenos Aires 144.54 56||*e*P **PKPdf** **17 18 00.8 -0.1**
PEJA Penjamo Buenos 144.55 56 *e*P **PKPdf** **17 18 00.4 -0.4**
VRLE La Escondida, 144.56 57 *e*P **PKPdf** **17 18 00.8 -0.2**
GPS1 Guardaparques 144.58 57 *e*P **PKPab** **17 18 01.8 +0.1**
PINC Pinares de May 144.60 34 *e*P **PKPab** **17 18 01.3 -0.1**
ESPN Las Esperanzas 144.64 54 *e*P **PKPab** **17 18 01.8 0.0**
CHIV Chivirico 144.67 35 *e*P PKPbc 17 18 01.4 +0.3
CHIV Chivirico 144.67 35 P **PKPab** **17 18 01.8 +0.1**
MESS Mesas 144.73 57 *e*P PKPbc 17 18 01.7 +0.1
HORNC Hornillas 144.76 57 *e*P **PKPdf** **17 18 01.3 0.0**
COLC Colonia 144.76 57 *e*P **PKPdf** **17 18 01.4 +0.1**
CUI Cuipilapa 144.80 57 *e*P **PKPdf** **17 18 00.4 -0.9**
PLVR Palo Verde 144.81 57 *e*P **PKPab** **17 18 02.3 -0.4**
NICO Nicoya 144.84 58 *e*P **PKPab** **17 18 02.5 -0.1**
MOAC Moa 144.91 32 *e*P **PKPab** **17 18 02.3 -0.3**
CMARA Lajas Hojancha 144.93 58||*i*P **PKPdf** **17 18 01.8 +0.3**
TENO El Achiote 144.93 56 *e*P PKPbc 17 18 02.2 0.0
MARVS Santiago de Cu 144.94 34 *e*P PKPbc 17 18 01.7 -0.2
TIMP Tierras Morena 144.96 57 *e*P PKPbc 17 18 02.0 -0.2
NMDO Nuevo Mundo 144.98 32 *e*P PKPbc 17 18 02.1 0.0
NMDO Nuevo Mundo 144.98 32 P **PKPab** **17 18 02.6 -0.2**
INVE Universidad In 144.98 57 *e*P PKPbc 17 18 02.4 +0.2
QUEB Quebradon, Cot 145.04 56 *e*P **PKPbc** **17 18 02.4 -0.1**
RCC Rio Carpintero 145.05 34 *e*P **PKPbc** **17 18 02.0 -0.3**
TILA Tilaran 145.06 57 *e*P **PKPdf** **17 18 02.0 +0.3**
BLUN Bluefields 145.17 53 *e*P **PKPbc** **17 18 02.6 -0.2**
JUNT Juntas 145.17 57 *e*P **PKPbc** **17 18 02.9 +0.1**
JTS Las Juntas de 145.17 57||*e*P **PKPdf** **17 18 02.1 +0.3**
JTS *e*P **PKPdf** **17 18 02.2 +0.3**
TABAC Tabacon 145.21 57||*i*P **PKPbc** **17 18 03.2 +0.1**
CEDE Laguna Cedeo 145.27 56||*e*P **PKPbc** **17 18 03.4 +0.2**
ARE1 Arenal 1 145.27 57 *e*P **PKPbc** **17 18 03.2 0.0**
ARE1 ||*e*P **PKPbc** **17 18 03.2 0.0**
VARE2 V. Arenal 145.27 57||*i*P **PKPbc** **17 18 03.3 +0.1**
VARE2 *e*P **PKPbc** **17 18 03.4 +0.1**
VACR Volcan Arenal 145.30 56 *e*P **PKPbc** **17 18 03.3 +0.1**
FORC Fortuna 145.31 56 *e*P **PKPbc** **17 18 03.7 +0.4**
QMBU Quimbuelo 145.37 33 *e*P **PKPbc** **17 18 02.7 -0.6**
QMBU Quimbuelo 145.37 33 P **PKPbc** **17 18 03.5 +0.3**
MTDJ Mount Denham 145.37 38 *e*P **PKPbc** **17 18 03.4 0.0**
MTDJ Mount Denham 145.37 38||*i*P **PKPbc** **17 18 03.8 +0.3**
GTBY Guantanamo Bay 145.43 33 *e*P **PKPbc** **17 18 02.8 -0.5**
CBL1 Cabuya 145.43 58||*e*P **PKPab** **17 18 04.6 -0.2**
MCJ Malvern 145.51 39||*i*P **PKPbc** **17 18 04.1 +0.3**
MASC Masc 145.69 32 *e*P **PKPbc** **17 18 03.5 -0.6**
MASC Masc 145.69 32 P **PKPab** **17 18 05.4 -0.3**
OROT Orotina 145.73 57 *e*P **PKPbc** **17 18 04.7 +0.2**
STH Stony Hill 145.93 37||*i*P **PKPbc** **17 18 05.6 +0.7**
PLCA Paso Flores 145.94 160 PKPbc **PKPdf** **17 18 03.4 +0.8**
comp=Z,93nm,0.6s,baz=224,slow=2.8,SNR=136
PLCA SKPbc **SKiKP** **17 20 51.0 -0.1**
comp=Z,92nm,0.8s,baz=231,slow=1.6,SNR=18
PLCA Paso Flores 145.94 160 *e*P **PKPdf** **17 18 02.1 -0.4**
VBV1 V. Barva 145.97 56 *e*P **PKPbc** **17 18 05.0 -0.5**
HOJ Hope 146.02 37 *i*P **PKPab** **17 18 06.1 -0.9**
GRTK Grand Turk 146.03 26 *e*P **PKPbc** **17 18 04.4 -0.6**
ACOS Acosta 146.09 57 *e*P **PKPdf** **17 18 01.8 -1.8**
PAR1A Puntarenas Pro 146.12 57 *e*P **PKPbc** **17 18 05.4 -0.1**
CVIMO Finca Echandi 146.15 56 *e*P **PKPdf** **17 18 03.9 +0.1**
PICV PH. Pirrs 146.16 57 *e*P **PKPbc** **17 18 05.6 -0.1**
ABE2 San Pablo 146.23 57 *e*P **PKPab** **17 18 07.6 -0.8**
LCR2 La Lucha 2 146.25 57||*e*P **PKPdf** **17 18 04.8 +0.8**
VICA Volcano Irazu 146.25 56 *e*P **PKPdf** **17 18 04.8 +0.6**
CVTQ Turrialba Volc 146.31 56 *e*P **PKPbc** **17 18 05.6 -0.9**
CVTV Tajo 146.32 56 *e*P **PKPdf** **17 18 04.8 +0.6**
ABRB Las Abras (San 146.35 56 *e*P **PKPbc** **17 18 05.3 -1.1**
PIEC Cerro El Cedra 146.36 57 *e*P **PKPdf** **17 18 05.3 +1.1**
VERB Verbena 146.40 56 *e*P **PKPbc** **17 18 07.3 +0.8**
IRES Siquirres 146.47 56 *e*P **PKPbc** **17 18 07.4 +0.9**
VERH Veragua Rainfo 146.82 56 *e*P **PKPdf** **17 18 05.9 +1.2**
SAJE San Jernim 146.88 57 *e*P **PKPdf** **17 18 05.7 +0.7**
DRK0 Durika 147.14 57 *e*P **PKPdf** **17 18 06.0 +0.6**
ALCO Alturas Coton, 147.65 57 *e*P **PKPbc** **17 18 08.1 -1.8**
SDDR Presa de Saban 148.16 29 *e*P **PKPdf** **17 18 07.0 +0.2**
PBNVO Pueblo Nuevo, 148.21 56 *e*P **PKPbc** **17 18 09.9 -1.1**
CAZU Cerro Azul, Pa 150.25 53 *e*P **PKPdf** **17 18 10.0 -0.3**
SJG San Juan 151.06 21 PKP **PKPdf** **17 18 11.3 +0.1**
comp=Z,8.7nm,0.3s,baz=343,slow=11,SNR=2.4
SJG PKPbc **PKPbc** **17 18 17.4 -0.3**
comp=Z,98nm,0.3s,baz=327,slow=2.4,SNR=17
CFA Coronel Fontan 154.85 154 PKP **PKPdf** **17 18 16.3 -0.2**
comp=Z,9.3nm,0.8s,baz=246,slow=2.6,SNR=28
CFA PKPbc **PKiKP** **17 18 25.6 0.0**
comp=Z,14nm,0.5s,baz=232,slow=2.7,SNR=20
OTAV Otavalo 155.62 69 *e*P **PKPdf** **17 18 17.1 -1.4**
SDV Santo Domingo 156.80 40 PKPab **PKPab** **17 18 52.2 -0.4**
comp=Z,78nm,0.6s,baz=293,slow=2.8,SNR=7.3
SDV Santo Domingo 156.80 40 *e*P **PKPdf** **17 18 19.0 -0.6**
ROSC El Rosal 156.92 54 PKP **PKPdf** **17 18 20.7 +0.6**
comp=Z,40nm,1.0s,baz=136,slow=5.4,SNR=16
ROSC PKPab **PKPab** **17 18 53.4 -0.1**
comp=Z,17nm,0.5s,baz=338,slow=20,SNR=4.8
ATAH Atahualpa 157.57 87 PKP **PKPdf** **17 18 22.6 +1.7**
comp=Z,36nm,0.9s,baz=292,slow=1.9,SNR=16
CPSB Cacapava Do Su 158.73 186 *e*P **PKPdf** **17 18 20.7 -0.6**
PCRV Puerto La Cruz 158.90 25 PKPab **PKPab** **17 19 02.3 +0.8**
comp=Z,12nm,0.4s,baz=145,slow=4.3,SNR=3.4
NNA Nana 159.15 100 PKP **PKPdf** **17 18 22.8 +0.6**
comp=Z,39nm,0.8s,baz=300,slow=2.8,SNR=12
NNA PKPab **PKPab** **17 19 04.1 +1.2**
comp=Z,40nm,0.6s,baz=265,slow=6.7,SNR=9.6
RCBR Riachuelo 159.97 278 PKP **PKPdf** **17 18 23.8 +0.6**
comp=Z,14nm,0.8s,baz=346,slow=3.2,SNR=11
RCBR PKPab **PKPab** **17 19 07.0 +0.5**
comp=Z,32nm,0.7s,baz=40,slow=9.3,SNR=21
RCBR Riachuelo 159.97 278 *e*P **PKPdf** **17 18 22.6 -0.5**
NBAN Anadia - AL 160.70 267 *e*P **PKPdf** **17 18 21.4 -2.5**
CAM01 Campos-RJ 161.44 226 *e*P **PKPdf** **17 18 21.8 -2.6**
ITAB Concordia 161.67 191 *e*P **PKPdf** **17 18 21.6 -3.0**
NBCL Cascavel-CE 161.91 285 *e*P **PKPdf** **17 18 22.8 -2.4**
RIB01 Linhares ES 161.96 234 *e*P **PKPdf** **17 18 22.6 -2.5**
VAS01 Vassouras-RJ 162.34 221 *e*P **PKPdf** **17 18 23.2 -2.2**
SLP01 Ubatuba-SP 162.59 215 *e*P **PKPdf** **17 18 21.9 -3.8**
GUA01 Guaratinga, BA 162.73 243 *e*P **PKPdf** **17 18 23.4 -2.4**
CPUP Villa Florida 162.85 175 PKP **PKPdf** **17 18 25.9 +0.2**
comp=Z,7.7nm,0.8s,baz=340,slow=0.5,SNR=44
CPUP PKPab **PKPab** **17 19 18.1 -0.3**
comp=Z,2.5nm,0.7s,baz=3.7,slow=2.6,SNR=6.0
PET01 Itanhaem-SP 162.87 207 *e*P **PKPdf** **17 18 24.3 -1.5**
CMC01 Camacan, BA 162.91 247 *e*P **PKPdf** **17 18 23.8 -2.3**
SJMB Sao Joao De Ma 162.92 235 *e*P **PKPdf** **17 18 23.6 -2.4**
CZSB Cruzeiro do Su 163.25 86 *e*P **PKPdf** **17 18 23.6 -2.9**
VAO Valinhos 163.82 211 *e*P **PKPdf** **17 18 24.0 -2.9**
BSCB Bom Sucesso 164.12 221 *e*P **PKPdf** **17 18 24.4 -2.8**
FRTD Fartura 164.66 202 *e*P **PKPdf** **17 18 24.3 -2.2**
DIAM Diamantina, MG 165.10 231 *e*P **PKPdf** **17 18 25.5 -2.6**
MDP Montagnes des 165.49 347 PKP **PKPdf** **17 18 28.6 +0.1**
comp=Z,22nm,0.8s,baz=22,slow=4.1,SNR=11
MDP PKPab **PKPab** **17 19 30.4 +0.1**
comp=Z,118nm,0.8s,baz=356,slow=5.0,SNR=47
MDP PP **PP** **17 23 17.9 +0.8**
comp=Z,17nm,0.8s,baz=23,slow=8.1,SNR=5.9
LPAZ La Paz 166.06 122 PKP **PKPdf** **17 18 30.4 +0.8**
comp=Z,40nm,0.8s,baz=354,slow=1.1,SNR=132
LPAZ La Paz 166.06 122 *e*P **PKPdf** **17 18 26.1 -3.5**
TRCB Terra Rica 166.09 192 *e*P **PKPdf** **17 18 25.9 -2.8**
PCMB Pacaembu 166.86 199 *e*P **PKPdf** **17 18 27.0 -2.2**
PMNB Patos De Minas 166.96 223 *e*P **PKPdf** **17 18 26.1 -3.4**
ITRB Iturama 168.25 206 *e*P **PKPdf** **17 18 28.0 -2.3**
IPMB Ipameri, GO 168.52 219 *e*P **PKPdf** **17 18 28.2 -2.4**
RPRD Ribas do Rio P 168.55 190 *e*P **PKPdf** **17 18 27.8 -2.7**
BDQN Bodoquena, MS 168.73 176 *e*P **PKPdf** **17 18 28.4 -2.2**
SDBA SAO DESIDERIO 168.79 252 *e*P **PKPdf** **17 18 28.6 -2.2**
BDFB Brasilia 170.01 229 PKP **PKPdf** **17 18 31.1 -0.5**
comp=Z,29nm,0.8s,baz=182,slow=2.5,SNR=37
BDFB PKPab **PKPab** **17 19 50.0 -0.7**
comp=Z,20nm,0.6s,baz=117,slow=3.9,SNR=9.8
BBSD Serra de San D 170.75 150 *e*P **PKPdf** **17 18 29.1 -2.7**
SIV San Ignacio 171.49 144 PKP **PKPdf** **17 18 32.4 +0.2**
comp=Z,33nm,0.8s,baz=204,slow=1.3,SNR=147
SIV PKPab **PKPab** **17 19 56.7 -0.3**
comp=Z,9.8nm,0.8s,baz=222,slow=5.4,SNR=5.9
MACA Manacapuru-AM 172.34 39 *e*P **PKPdf** **17 18 30.3 -2.4**
VILB Vilhena 174.28 132 *e*P **PKPdf** **17 18 31.1 -2.3**
SNDB Serra Nova Dou 174.73 237 *e*P **PKPdf** **17 18 31.2 -2.3**
ITTB Itaituba 175.25 359 *e*P **PKPdf** **17 18 31.1 -2.7**
PDRB Porto dos Gac 177.40 160 *e*P **PKPdf** **17 18 31.1 -3.1**
NPGB Novo Progresso 177.86 347 *e*P **PKPdf** **17 18 32.0 -2.2**

*OSUNB **01** 17:13:27.1±1.0, 15°.49S×167°.49E, h82km±8km, mb5.6/7, Error ellipse: s-maj=4.8km s-min=5.3km az=0.0*

*NEIC **01** 17:13:28.9, 15°.48S×167°.49E, h100km*
*ISC-PP **01** 17:13:28, 15°.44S×167°.53E, h145km±1km, Mwppsmc6.5, Moment Tensor Solution. s29 Moment tensor: Scale 10^18Nm; Mrr=0.14±.10; Mθθ=0.75±.19; Mϕϕ=0.39±.21; Mrθ=0.12±.13; Mθϕ=-0.16±.12; Mrϕ=0.30±.21; Fault plane solution: M0=5.89000×10^18 NP1:ϕs=38.20000°, δ48.40000°, λ236.80000°. NP2:ϕs=262.80000°, δ51.20000°, λ-58.30000°.*
*IDC **01** 17:13:28.8±0.6, 15°.46S×167°.62E, h101km±4km, mb5.7/26, mbtmp6.1/28, MS5.1/46 Error ellipse: s-maj=11.7km s-min=9.5km az=67.0*
*NEIC **01** 17:13:28.4±2.3, 15°.44S±0°.08×167°.53E±0°.08, h91km±1km, mb5.7/566, Mwb6.0/47, Mww6.0/41, Error ellipse: s-maj=13.5km s-min=12.6km az=143.0, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr=0.82; Mθθ=0.91; Mϕϕ=0.09; Mrθ=0.69; Mϕθ=-0.51; Mϕr=-0.37; Fault plane solution: M0=1.28000×10^18 NP1:ϕs=219.24000°, δ39.19000°, λ40.49000°. NP2:ϕs=95.75000°, δ65.78000°, λ121.81000°. Principal axes: T 1.2956, Plg57.0000°, Azm49.0000°; N -0.0360, Plg29.0000°, Azm261.0000°; P -1.2596, Plg15.0000°, Azm163.0000°;*
*NEIC **01** 17:13:28.9, 15°.38S×167°.39E, h100km, Moment Tensor Solution. Duration: 5s1 Moment tensor: Scale 10^18Nm; Mrr=0.92; Mθθ=0.79; Mϕϕ=0.14; Mrθ=0.45; Mϕθ=-0.79; Mϕr=-0.34; Fault plane solution: M0=1.30000×10^18 NP1: ϕs=208.41000°, δ48.30000°, λ46.24000°. NP2:ϕs=83.63000°, δ57.37000°, λ127.82000°. Principal axes: T 1.2599, Plg58.0000°, Azm49.0000°; N 0.0699, Plg31.0000°, Azm241.0000°; P -1.3299, Plg5.0000°, Azm148.0000°;*
*NEIC **01** 17:13:29.2, 15°.47S×167°.51E, h99km*
*NOU **01** 17:13:29.7, 15°.43S×167°.50E, h99km, ML6.0/180, Vanuatu Islands*
*IPGP **01** 17:13:30.0, 15°.46S×167°.49E, h96km, Mw6.1, Fault plane solution: NP1:ϕs=209.00000°, δ48.00000°, λ40.00000°. NP2:ϕs=90.00000°, δ61.00000°, λ131.00000°.*
*MOS **01** 17:13:31.2±1.6, 15°.29S×167°.39E, h123km, mb6.1/43, MS5.3/10, Error ellipse: s-maj=8.2km s-min=5.8km az=126.2*
*BJI **01** 17:13:31.7, 14°.76S×167°.58E, h119km, mB6.1/62, mb6.1/97*
*GCMT **01** 17:13:32.4±0.1, 15°.46S×167°.38E, h111km, MW6.1/168, Moment Tensor Solution. s158,c350; s168,c572; Duration: 29s6 Moment tensor: Scale 10^18Nm; Mrr=0.90±.01; Mθθ=0.78±.01; Mϕϕ=0.11±.01; Mrθ=0.63±.01; Mϕθ=1.03±.01; Mϕr=0.45±.01; Best double couple: M0=1.54200×10^18 NP1:ϕs=201.00000°, δ51.00000°, λ37.00000°. NP2:ϕs=86.00000°, δ62.00000°, λ135.00000°. Principal axes: T 1.5230, Plg50.0000°, Azm48.0000°; N 0.0370, Plg39.0000°, Azm241.0000°; P -1.5600, Plg6.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 01 17:13:30.0±0.2, 15°.48S±0°.03×167°.57E±0°.03, h113km±1km, h113km:pP-P,n1862,σ1°.37/1760, mb5.7/454, 181C-111D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**0.64**	**193**	P	**Pn**	**Pn**	**17 13 46.5**	**-1.6**
VLAKA	**Lakatoro**	**0.64**	**193**	S	**Sn**	**Sn**	**17 14 00.5**	**-1.2**
DVP	**Devils Point**	**2.31**	**165**	P	**Pn**	**Pn**	**17 14 07.5**	**+0.4**
DVP	**Devils Point**	**2.31**	**165**	S	**Sn**	**Sn**	**17 14 36.3**	**+0.9**
INH	**Isangel**	**4.36**	**158**	P	**Pn**	**Pn**	**17 14 33.9**	**-0.3**
INH	**Isangel**	**4.36**	**158**	S	**Sn**	**Sn**	**17 15 25.9**	**+1.8**
LUES	**Luesalemba Tem**	**5.06**	**341**	P	**Pn**	**Pn**	**17 14 43.5**	**-0.2**
LUES	**Luesalemba Tem**	**5.06**	**341**	S	**Sn**	**Sn**	**17 15 39.9**	**-1.1**
KOUNC	**Koumac, New Ca**	**5.93**	**211**	P	**Pn**	**Pn**	**17 14 55.2**	**-0.2**
DZM	**Mont Dzumac**	**6.64**	**189**	P	**Pn**	**Pn**	**17 15 04.4**	**-0.7**
DZM	**Mont Dzumac**	**6.64**	**189**	*e*Pn	**Pn**	**Pn**	**17 15 02.7**	**-2.5**
DZM	10μm,1.1s			*e*Sn	**Sn**	**Sn**	**17 16 15.8**	**-3.7**
DZM	8μm,0.8s			*e*LR	LR	LR	17 16 34.8	
DZM	**Mont Dzumac**	**6.64**	**189**	P	**Pn**	**Pn**	**17 15 04.6**	**-0.6**
DZM	52μm,29.1s 1μm,0.3s,baz=27,slow=16			S	**Sn**	**Sn**	**17 16 17.1**	**-2.4**
DZM	**Mont Dzumac**	**6.64**	**189**	P	**Pn**	**Pn**	**17 15 05.3**	**+0.1**
DZM	**Mont Dzumac**	**6.64**	**189**	↑P	**Pn**	**Pn**	**17 15 04.5**	**-0.7**
OUENC	**Ouen Island, N**	**6.93**	**186**	P	**Pn**	**Pn**	**17 15 09.8**	**+0.8**
OUENC	**Ouen Island, N**	**6.93**	**186**	S	**Sn**	**Sn**	**17 16 28.6**	**+2.2**
NGOA	**Tingoa Renbel**	**8.28**	**297**	P	**Pn**	**Pn**	**17 15 26.7**	**-0.6**
NGOA	**Tingoa Renbel**	**8.28**	**297**	S	**Sn**	**Sn**	**17 16 57.7**	**-1.5**
ALEG	**Aligegeo Malai**	**9.48**	**314**	P	**Pn**	**Pn**	**17 15 43.8**	**+0.2**
HNR	**Honiara**	**9.57**	**308**	P	**Pn**	**Pn**	**17 15 44.5**	**-0.3**
HNR	**Honiara**	**9.57**	**308**	P	**Pn**	**Pn**	**17 15 44.8**	**-0.1**
HNR	2μm,0.4s,baz=145,slow=8.0,SNR=149			S	**Sn**	**Sn**	**17 17 25.6**	**-4.9**
HNR	2μm,1.0s,baz=62,slow=17,SNR=1.5			LR	LR	LR	17 19 23.6	
HNR	**Honiara**	**9.57**	**308**	P	**Pn**	**Pn**	**17 15 45.0**	**+0.2**
HNR	**Honiara**	**9.57**	**308**	↑P	**Pn**	**Pn**

TOZ Tahuroa Road 23.25 164 P P 17 18 28.6 +1.2
TGRZ Tauranga 23.46 162 P P 17 18 30.4 +1.0
KMRZ Kaimai 23.47 163 P P 17 18 30.5 +0.9
RIV Riverview 23.52 216 P P 17 18 30.8 +0.9
comp=Z,292nm,1.2s
RIV Riverview 23.52 216 P P 17 18 32.0 +2.0
RIV Riverview 23.52 216 ⇑P P 17 18 31.0 +1.0
WIZ White Island 23.55 161 P P 17 18 30.6 +0.3
COEN Coen 23.64 270 P 17 18 31.4 +0.1
COEN Coen 23.64 270 P P 17 18 31.3 +0.1
comp=Z,122nm,0.9s
COEN Coen 23.64 270 P P 17 18 31.9 +0.6
COEN Coen 23.64 270 ⇑P P 17 18 31.8 +0.5
OPRZ Ohinepanea 23.65 162 P P 17 18 32.4 +1.3
SYDH Sydney Hard Ro 23.71 217 P P 17 18 33.5 +1.8
KARZ Kaharoa 23.72 163 P P 17 18 33.2 +1.4
TLZ Tolley Road 23.82 164 P P 17 18 34.1 +1.4
HIZ Hauiti 23.82 166 P 17 18 34.0 +1.3
HIZ Hauiti 23.82 166 P P 17 18 34.3 +1.7
HIZ Hauiti 23.82 166 P P 17 18 34.3 +1.7
OMRZ Omania 23.84 163 P P 17 18 34.3 +1.4
HAZ Te Kaha 23.96 160 P P 17 18 35.0 +1.1
MXZ Matakaoa Point 23.96 159 P P 17 18 35.0 +1.1
MXZ Matakaoa Point 23.96 159 P P 17 18 33.9 0.0
MXZ S S 17 22 38.8 -3.7
MANU Manus Island 23.98 302 P 17 18 34.9 +0.5
MANU Manus Island 23.98 302 ⇑P P 17 18 34.8 +0.5
PATS Pohnpei 24.00 337 P P 17 18 33.1 -1.3
PATS Pohnpei 24.00 337 P P 17 18 33.7 -0.7
comp=Z,0.0nmcomp=Z,791nm,1.8s
PATS Pohnpei 24.00 337 P 17 18 35.4 +1.0
PATS Pohnpei 24.00 337 ⇑P P 17 18 34.1 -0.3
WOLH Wollongong Har 24.11 216 P P 17 18 36.3 +1.1
URZ Urewera 24.20 161 LR LR 17 26 40.3
comp=Z,8µm,19.2s,baz=346,slow=33
URZ Urewera 24.20 161 P P 17 18 36.9 +0.8
URZ S S 17 22 47.9 +1.6
QLP Quilpie 24.38 239 P P 17 18 37.7 -0.1
comp=Z,1µm,0.6s
QLP Quilpie 24.38 239 P P 17 18 38.7 +0.9
QLP Quilpie 24.38 239 ⇑P P 17 18 38.3 +0.5
NEZ North Egmont 24.38 168 P P 17 18 39.8 +2.0
VRZ Vera Road 24.38 166 P P 17 18 38.9 +1.2
KHEZ Kahui Hut 24.39 168 P P 17 18 40.2 +2.4
MWZ Matawai 24.40 161 P P 17 18 38.7 +0.8
MWZ S S 17 22 49.4 -0.1
PUZ Puketiti 24.40 159 P P 17 18 37.8 -0.1
RTZ Ruatahuna 24.49 162 P P 17 18 39.0 +0.2
RTZ S S 17 22 51.6 +0.6
NGZ Ngauruhoe 24.63 165 P P 17 18 41.6 +1.4
NGZ S S 17 22 59.5 +6.0
BKZ Black Stump Fm 24.86 163 P 17 18 42.4 +0.3
BKZ Black Stump Fm 24.86 163 P P 17 18 42.8 +0.7
BKZ Black Stump Fm 24.86 163 P P 17 18 42.9 +0.7
BKZ S S 17 22 57.0 +0.1
WAZ Wanganui 25.04 166 P P 17 18 45.5 +1.8
WAZ S S 17 23 05.5 +5.9
KNZ Kokohu 25.07 161 P P 17 18 44.0 0.0
KNZ S S 17 23 01.1 +1.0
YNG Young 25.48 219 P P 17 18 48.4 +0.6
comp=Z,222nm,1.1s
TSZ Takapari Road 25.56 165 P P 17 18 48.2 -0.2
TSZ S S 17 23 08.6 +0.8
CMSA Cobar Meteorol 25.57 227 P P 17 18 48.9 +0.3
comp=Z,326nm,1.4s
CMSA Cobar Meteorol 25.57 227 P P 17 18 49.3 +0.7
CNB Canberra Magne 25.62 216 P P 17 18 49.5 +0.4
comp=Z,186nm,1.0s
CNB Canberra Magne 25.62 216 P P 17 18 50.2 +1.1
QRZ Quartz Range 25.62 171 IAmb IAmb 17 18 53.4
comp=Z,305nm,1.0s
QRZ Quartz Range 25.62 171 P P 17 18 50.5 +1.6
QRZ Quartz Range 25.62 171 P P 17 18 50.2 +1.3
PXZ Pawanui 25.77 163 P P 17 18 50.1 -0.2
MRZ Mangatainoka R 26.04 166 IAmb IAmb 17 19 18.9
comp=Z,400nm,1.5s
MRZ Mangatainoka R 26.04 166 P P 17 18 51.7 -1.0
NNZ Nelson 26.13 170 IAmb IAmb 17 19 40.5
comp=Z,181nm,1.1s
NNZ Nelson 26.13 170 P P 17 18 53.8 +0.3
BFZ Birch Farm 26.22 165 IAmb IAmb 17 19 37.1
comp=Z,360nm,1.3s
BFZ Birch Farm 26.22 165 P P 17 18 53.5 -0.8
BFZ Birch Farm 26.22 165 P P 17 18 53.7 -0.6
DSZ Denniston Nort 26.43 173 IAmb IAmb 17 19 39.4
comp=Z,389nm,1.2s
DSZ Denniston Nort 26.43 173 P P 17 18 57.8 +1.6
SNZO South Karori 26.47 168 P P 17 18 55.8 -0.8
SNZO South Karori 26.47 168 P P 17 18 56.2 -0.3
SNZO South Karori 26.47 168 ⇑P P 17 18 56.2 -0.3
SNZO South Karori 26.47 168 P P 17 18 55.8 -0.8
SNZO S S 17 23 24.3 +2.2
THZ Tophouse 26.59 171 IAmb IAmb 17 19 02.4
comp=Z,129nm,0.7s
THZ Tophouse 26.59 171 P P 17 18 58.2 +0.5
QIS Mount Isa 27.05 255 P P 17 19 01.6 -0.5
comp=Z,225nm,0.9s
QIS Mount Isa 27.05 255 P P 17 19 02.6 +0.5
KHZ Kahutara 27.33 170 IAmb IAmb 17 19 55.6
comp=Z,596nm,1.6s
KHZ Kahutara 27.33 170 P P 17 19 03.7 -0.5
KHZ Kahutara 27.33 170 P P 17 19 03.6 -0.5
KHZ Kahutara 27.33 170 ⇑P P 17 19 03.3 -1.0
INZ Inchbonnie 27.35 174 IAmb IAmb 17 19 07.9
comp=Z,368nm,0.8s
INZ Inchbonnie 27.35 174 P P 17 19 05.1 +0.6
LTZ Lake Taylor 27.50 172 P P 17 19 06.9 +1.0
WVZ Waitaha Valley 27.63 175 P P 17 19 07.2 +0.2
GVZ Greta Valley S 27.79 171 IAmb IAmb 17 19 10.8
comp=Z,139nm,0.7s
GVZ Greta Valley S 27.79 171 P P 17 19 06.9 -1.5
OXZ Oxford 28.01 173 P P 17 19 10.6 +0.2
FOZ Fox Glacier 28.02 177 IAmb IAmb 17 19 14.4
comp=Z,171nm,0.9s
FOZ Fox Glacier 28.02 177 P P 17 19 11.1 +0.7
RPZ Rata Peaks 28.30 175 LR LR 17 30 02.4
comp=Z,7µm,19.0s,baz=350,slow=35
RPZ Rata Peaks 28.30 175 P P 17 19 14.1 +1.2
MNZS Menzies Bay Ba 28.44 172 P P 17 19 12.9 -1.2
MQZ McQueen's Vall 28.46 172 IAmb IAmb 17 19 16.9
comp=Z,172nm,0.9s
MQZ McQueen's Vall 28.46 172 P P 17 19 14.1 -0.2
JCZ Jackson Bay 28.52 178 P P 17 19 16.7 +1.8
JCZ Jackson Bay 28.52 178 P P 17 19 16.7 +1.8
STKA Stephens Creek 28.73 231 P P 17 19 16.7 -0.2
STKA Stephens Creek 28.73 231 P P 17 19 16.9 -0.1
comp=Z,757nm,1.6s
STKA Stephens Creek 28.73 231 P P 17 19 17.5 +0.5
comp=Z,50nm,0.6s,baz=43,slow=9.0,SNR=43
STKA PcP PcP 17 22 23.9 -0.6
comp=Z,158nm,0.8s,baz=72,slow=3.9,SNR=11
STKA ScP ScP 17 25 58.0 +2.3
comp=Z,61nm,0.9s,baz=57,slow=2.3,SNR=12
STKA LR LR 17 30 04.7
comp=Z,5µm,19.2s,baz=55,slow=35
comp=Z,50nm,0.6s
STKA Stephens Creek 28.73 231 P P 17 19 18.0 +1.1
STKA Stephens Creek 28.73 231 *c iP* P 17 19 17.8 +0.9
LBZ Lake Benmore 28.89 176 IAmb IAmb 17 19 21.8
comp=Z,131nm,0.8s
LBZ Lake Benmore 28.89 176 P P 17 19 19.5 +1.3
TMZ Timaru 28.95 175 P P 17 19 17.9 -0.8
WKZ Wanaka 29.28 178 IAmb IAmb 17 20 25.1
comp=Z,369nm,1.3s
WKZ Wanaka 29.28 178 P P 17 19 23.1 +1.6
TOO Toolangi 29.43 217 P P 17 19 23.0 0.0
TOO Toolangi 29.43 217 P P 17 19 22.4 -0.6
comp=Z,28nm,1.3s
TOO Toolangi 29.43 217 P P 17 19 23.0 0.0
TOO pmax pmax
comp=Z,61nm,1.4s
TOO Toolangi 29.43 217 ⇑P P 17 19 24.1 +1.1
JAY Jayapura 29.44 293 P P 17 19 23.6 +0.2
ODZ Otahua Downs 29.58 176 IAmb IAmb 17 19 30.9
comp=Z,101nm,0.8s
ODZ Otahua Downs 29.58 176 P P 17 19 26.2 +2.0
ODZ Otahua Downs 29.58 176 P P 17 19 25.4 +1.1
ODZ Otahua Downs 29.58 176 ⇑P P 17 19 24.2 -0.1
EAZ Earnscleugh 29.69 178 P P 17 19 25.7 +0.5
GENI Genyem 29.88 293 P P 17 19 28.3 +1.1
GENI Genyem 29.88 293 P P 17 19 28.8 +1.6
comp=Z,5µmcomp=Z,157nm,1.0s
DCZ Deep Cove 29.89 181 IAmb IAmb 17 19 35.4
comp=Z,126nm,1.0s
BRAT Ballarat 30.34 219 P P 17 19 32.8 +1.8
GLAD Gladstone 30.56 210 P P 17 19 33.7 +0.8
SYZ Scrubby Hill 30.99 178 P P 17 19 38.0 +1.4
CORO Coronation Par 31.33 210 P P 17 19 42.0 +2.3
SMPI Sarmi 31.45 292 P P 17 19 41.8 +0.7
comp=Z,5µmcomp=Z,447nm,1.3s
HTT Hallett 31.45 230 P P 17 19 40.8 -0.2
comp=Z,21nm,1.2s
HTT Hallett 31.45 230 P P 17 19 41.1 +0.1
HTT Hallett 31.45 230 ⇑P P 17 19 41.5 +0.5
RAR Rarotonga 31.48 105 P P 17 19 42.5 +1.3
RAR Rarotonga 31.48 105 LR LR 17 28 52.9
comp=Z,1µm,21.5s,baz=277,slow=29
RAR Rarotonga 31.48 105 P P 17 19 44.0 +2.8
RAR Rarotonga 31.48 105 P P 17 19 42.6 +1.3
RAR pmax pmax
comp=Z,735nm,1.7s
RAR Rarotonga 31.48 105 P P 17 19 43.3 +2.0
WR8 Warramunga Arr 31.78 257 IAmb IAmb 17 20 08.8
comp=Z,236nm,1.4s
WB0 Warramunga Arr 31.87 257 IAmb IAmb 17 19 46.4
comp=Z,150nm,0.7s
WRAB Tennant Creek 31.92 257 P P 17 19 43.5 -1.7
WRAB IAmb IAmb 17 19 46.8
comp=Z,81nm,0.8s
WRAB Tennant Creek 31.92 257 *i* P P 17 19 43.7 -1.5
WRAB pmax pmax
comp=Z,145nm,1.1s
WRA Warramunga Arr 31.93 257 P P 17 19 43.0 -2.2
WRA Warramunga Arr 31.93 257 P P 17 19 43.6 -1.6
comp=Z,87nm,0.8s,baz=84,slow=8.3,SNR=89
WRA pP pP 17 20 08.2 -2.0
comp=Z,50nm,0.9s,baz=87,slow=9.0,SNR=5.1
WRA PcP PcP 17 22 32.9 -0.3
comp=Z,60nm,0.9s,baz=83,slow=3.0,SNR=11
WRA S S 17 24 45.4 -3.1
comp=Z,9.9nm,0.9s,baz=84,slow=16,SNR=11
WRA ScP ScP 17 26 07.7 +1.2
comp=Z,76nm,1.1s,baz=85,slow=3.6,SNR=22
WRA PKiKP PKiKP 17 30 01.4 -0.3
comp=Z,8.2nm,0.9s,baz=57,slow=0.8,SNR=11
WRA LR LR 17 33 52.2
comp=Z,4µm,18.3s,baz=87,slow=38
WRA P3KPbc 17 51 15.1
comp=Z,3.3nm,0.9s,baz=276,slow=3.0,SNR=12
comp=Z,87nm,0.8s
WRA Warramunga Arr 31.93 257 *i* P P 17 19 43.7 -1.6
WRA pmax pmax
comp=Z,86nm,0.8s
MOO Moorlands 32.07 209 P P 17 19 44.3 -1.9
comp=Z,194nm,2.1s
MOO Moorlands 32.07 209 P P 17 19 45.0 -1.2
WHYH Whyalla 32.29 232 P P 17 19 48.6 +0.4
GHSS Government Hou 32.40 228 P P 17 19 50.6 +1.5
AS01 Alice Springs 32.64 250 P P 17 19 50.9 -0.6
AS31 Alice Springs 32.68 250 IAmb IAmb 17 19 54.3
comp=Z,99nm,0.8s
AS31 Alice Springs 32.68 250 P P 17 19 50.5 -1.4
comp=Z,139nm,0.6s
ASAR Alice Springs 32.68 250 P P 17 19 50.7 -1.2
comp=Z,214nm,0.6s,baz=76,slow=7.7,SNR=258
ASAR PcP PcP 17 22 35.5 +0.3
comp=Z,52nm,0.8s,baz=97,slow=3.0,SNR=9.9
ASAR ScP ScP 17 26 10.1 +1.0
comp=Z,44nm,0.9s,baz=92,slow=3.4,SNR=22
ASAR PKiKP PKiKP 17 30 02.1 0.0
comp=Z,4.0nm,0.8s,baz=123,slow=1.2,SNR=4.8
ASAR LR LR 17 31 53.6
comp=Z,5µm,21.0s,baz=85,slow=34
ASAR P3KPbc 17 51 12.7
comp=Z,1.6nm,0.8s,baz=261,slow=3.8,SNR=11
comp=Z,214nm,0.6s
BBOO Buckleboo 33.35 233 IAmb IAmb 17 20 00.8
comp=Z,158nm,0.7s
BBOO Buckleboo 33.35 233 P P 17 19 57.6 0.0
comp=Z,270nm,0.8s
BBOO Buckleboo 33.35 233 P P 17 19 57.9 +0.4
SRPI Serui, Papua 33.72 291 P P 17 20 02.7 +1.8
comp=Z,114nm,1.0s
KDU Kakadu 34.13 270 P P 17 20 03.4 -1.0
comp=Z,118nm,1.2s
KDU Kakadu 34.13 270 P P 17 20 03.9 -0.5
KDU Kakadu 34.13 270 ⇑P P 17 20 03.4 -1.0
BAKI Biak 34.13 292 P P 17 20 06.9 +2.4
comp=Z,4µmcomp=Z,295nm,1.6s
MTN Manton Dam 35.40 270 IAmb IAmb 17 21 06.0
comp=Z,71nm,1.0s
MTN Manton Dam 35.40 270 P P 17 20 13.9 -1.4
comp=Z,75nm,0.7s
MTN Manton Dam 35.40 270 P P 17 20 15.1 -0.3
MTN Manton Dam 35.40 270 ⇑P P 17 20 14.8 -0.6
DRS Darwin Rock St 35.69 270 P P 17 20 18.0 +0.2
RKPI Ransiki, Papua 35.74 290 P P 17 20 19.4 +1.1
comp=Z,8µmcomp=Z,506nm,1.3s
SAUI Saumlaki 36.24 278 ⇑P P 17 20 25.9 +3.3
GUMO Guam 36.59 321 P P 17 20 24.5 -0.9
GUMO Guam 36.59 321 P P 17 20 24.4 -0.9
comp=Z,382nm,0.7s,baz=152,slow=10,SNR=38
GUMO pP pP 17 20 49.1 -1.3
comp=Z,176nm,0.8s,baz=183,slow=21,SNR=2.9
GUMO LR LR 17 36 38.8
comp=Z,2µm,18.4s,baz=136,slow=38
comp=Z,382nm,0.7s
GUMO Guam 36.59 321 P P 17 20 24.9 -0.5
GUMO Guam 36.59 321 P P 17 20 24.5 -0.9
GUMO pmax pmax
comp=Z,405nm,0.7s
GUMO Guam 36.59 321 P P 17 20 24.9 -0.5
FAKI Fak Fak 36.95 286 P P 17 20 27.8 -0.9
FAKI Fak Fak 36.95 286 P P 17 20 28.7 +0.1
FAKI Fak Fak 36.95 286 P P 17 20 28.5 -0.1
comp=Z,4µmcomp=Z,365nm,1.2s
FAKI Fak Fak 36.95 286 ⇑P P 17 20 28.2 -0.4
KNRA Kununurra 37.35 264 P P 17 20 30.3 -1.6
comp=Z,679nm,0.9s
WRKA Warakurna 37.93 249 P P 17 20 35.7 -1.1
comp=Z,76nm,0.9s
BNDI Bandanaira 38.59 282 P P 17 20 43.2 +0.8
BNDI Bandanaira 38.59 282 P P 17 20 45.4 +3.0
SWI Sorong 38.66 289 P P 17 20 43.1 +0.1
comp=Z,5µmcomp=Z,651nm,1.0s
XMAS Kiritimati 38.74 66 P P 17 20 44.6 +1.0
XMAS Kiritimati 38.74 66 P P 17 20 45.9 +2.3
FORT Forrest 39.17 240 P P 17 20 46.6 -0.4
comp=Z,359nm,0.7s
JOHN Johnston Islan 39.18 36 P P 17 20 47.7 +0.5
JOHN Johnston Islan 39.18 36 P P 17 20 48.6 +1.4
JOHN Johnston Islan 39.18 36 ⇑P P 17 20 48.4 +1.2
FITZ Fitzroy Crossi 40.17 260 P 17 20 54.5 -0.9
FITZ IAmb IAmb 17 20 58.0
comp=Z,80nm,0.7s
FITZ Fitzroy Crossi 40.17 260 LR LR 17 35 27.0
comp=Z,4µm,21.2s,baz=87,slow=33
FITZ Fitzroy Crossi 40.17 260 ⇑P P 17 20 55.6 +0.1
AAI Amon 40.47 283 P P 17 21 00.9 +2.9
comp=Z,4µmcomp=Z,224nm,1.2s
PAE Paea 41.07 99 *eP* P 17 21 01.9 -0.9
comp=Z,86nm,1.2s
PAE *eS* S 17 27 00.6 -6.8
comp=Z,418nm,27.6s
PAE *eSS* SS 17 30 02.3 -12
comp=Z,1µm,23.4s
PAE *eLR* LR 17 32 19.7
comp=Z,1µm,24.1s
PPT2 Papeete2 41.07 99 *eP* P 17 21 03.8 +0.8
comp=Z,306nm,1.2s
PPT2 *eS* S 17 27 03.0 -4.7
comp=Z,2µm,28.2s
PPT2 *eSS* SS 17 30 16.3 +1.8
comp=Z,25µm,28.5s
PPT2 *eLR* LR 17 32 25.9
comp=Z,7µm,26.8s
PPT2 *eLR* LR 17 32 34.5
comp=Z,6µm,30.8s
PPT Papeete 41.08 99 P P 17 21 03.4 +0.5
comp=Z,184nm,0.8s,baz=182,slow=7.4,SNR=11
comp=Z,184nm,0.8s
TBI Tubuai 41.15 108 *eP* P 17 20 55.7 -7.8
comp=Z,4µm,25.8s
TBI *eS* S 17 27 03.1 -5.5
comp=Z,6µm,30.0s
TBI *eSS* SS 17 30 19.0 +3.2
comp=Z,61µm,29.8s
TBI *eLR* LR 17 32 34.5
comp=Z,42µm,30.2s
TBI *eLR* LR 17 32 36.3
comp=Z,8µm,43.8s
TVO Taravao 41.37 99 *eP* P 17 21 01.1 -4.3
comp=Z,75nm,0.9s
TVO Taravao 41.37 99 *eLR* LR 17 32 23.1
comp=Z,1µm,24.4s
NLAI Namlea 41.65 283 P P 17 21 08.8 +1.1
comp=Z,9µmcomp=Z,678nm,1.6s
SOEI Soe 42.58 272 P P 17 21 16.7 +1.3
SOEI Soe 42.58 272 P 17 21 15.5 +0.1
SOEI IAmb IAmb 17 21 19.0
comp=Z,227nm,1.2s
SOEI Soe 42.58 272 P P 17 21 16.4 +1.0
SOEI Soe 42.58 272 P P 17 21 17.8 +2.4
comp=Z,4µmcomp=Z,161nm,0.9s
SOEI Soe 42.58 272 ⇑P P 17 21 16.2 +0.8
TNTI Ternate 42.88 288 P 17 21 17.4 -0.2
TNTI IAmb IAmb 17 21 22.3
comp=Z,93nm,0.9s
TNTI Ternate 42.88 288 P P 17 21 18.5 +0.9
TNTI Ternate 42.88 288 P P 17 21 20.4 +2.8
TNTI Ternate 42.88 288 ⇑P P 17 21 18.2 +0.5
PMOR Pomariorio Ree 42.91 96 *eP* P 17 21 16.3 -1.6
comp=Z,1µm,1.4s
PMOR *eS* S 17 27 32.7 -2.0
comp=Z,943nm,21.1s
PMOR *eSS* SS 17 30 46.9 -3.6
comp=Z,2µm,22.9s
PMOR *eLR* LR 17 33 10.7
comp=Z,8µm,28.7s
BATI Baumata 43.07 272 P P 17 21 20.4 +1.2
comp=Z,5µmcomp=Z,463nm,0.8s
SANI Sanana 43.10 284 P P 17 21 18.5 -0.9
SANI Sanana 43.10 284 P P 17 21 19.5 0.0
SANI Sanana 43.10 284 P P 17 21 19.4 0.0
comp=Z,6µmcomp=Z,230nm,1.5s
SANI Sanana 43.10 284 ⇑P P 17 21 18.9 -0.5
VAH Vaihoa 43.14 96 *eP* P 17 21 18.1 -1.6
comp=Z,521nm,1.4s
VAH *eSS* SS 17 30 36.0 -19
VAH *eLR* LR 17 33 18.6
comp=Z,9µm,32.2s
KMBL Kambalda 44.47 241 P P 17 21 28.5 -1.8
comp=Z,139nm,1.4s
MMRI Maumere 44.78 273 P 17 21 31.5 -1.4
MMRI Maumere 44.78 273 P P 17 21 32.4 -0.5
MMRI Maumere 44.78 273 P P 17 21 33.8 +0.9
comp=Z,4µmcomp=Z,248nm,1.1s
MMRI Maumere 44.78 273 ⇑P P 17 21 31.8 -1.1
EDFI Ende, Flores 45.28 273 P P 17 21 36.3 -0.7
comp=Z,3µmcomp=Z,226nm,1.0s
MBWA Marble Bar 45.63 255 P P 17 21 38.8 -0.7
MBWA Marble Bar 45.63 255 P P 17 21 38.5 -1.0
comp=Z,327nm,0.8s
MBWA Marble Bar 45.63 255 P P 17 21 39.7 +0.2
MBWA Marble Bar 45.63 255 ⇑P P 17 21 39.2 -0.3
MBWA Marble Bar 45.63 255 P P 17 21 39.5 -0.1
MBWA ScP ScP 17 27 01.5 +2.8
MBWA Marble Bar 45.63 255 P P 17 21 39.6 +0.1
SGSI Sangihe 45.76 291 P P 17 21 41.0 +0.4
MIDW Midway 45.82 19 P P 17 21 42.2 +1.4
KMSI Cibinong 45.92 286 P P 17 21 44.0 +2.2
BASI Baing, Sumba 46.04 271 P P 17 21 45.3 +2.5
comp=Z,5µmcomp=Z,487nm,0.9s
WSI Waingapu 46.42 271 P P 17 21 47.2 +1.4
comp=Z,6µmcomp=Z,226nm,0.8s
LUWI Luwuk 46.46 284 P P 17 21 44.3 -1.7
LUWI Luwuk 46.46 284 P P 17 21 45.9 -0.2
LUWI Luwuk 46.46 284 P P 17 21 46.9 +0.8
LUWI Luwuk 46.46 284 P P 17 21 48.8 +2.7
comp=Z,4µmcomp=Z,299nm,1.2s
MEEK Meekatharra 46.77 248 P P 17 21 46.9 -1.4
comp=Z,316nm,1.0s
MEEK Meekatharra 46.77 248 P P 17 21 48.4 0.0
BSSI Bau Bau, Buton 47.07 276 P P 17 21 53.5 +2.6
comp=Z,3µmcomp=Z,220nm,1.6s
DAV Davao City (W) 47.25 295 LR LR 17 41 46.7
comp=Z,830nm,18.3s,baz=122,slow=36
WBSI Waikabubak, Su 47.30 271 P P 17 21 53.8 +1.1
comp=Z,3µmcomp=Z,308nm,0.8s
APSI Ampana 47.56 283 P P 17 21 55.9 +1.3
comp=Z,3µmcomp=Z,131nm,1.0s
MRSI Marisa 47.77 285 P P 17 21 56.5 +0.2
comp=Z,113nm,1.0s
BNSI Bone 47.92 278 P P 17 21 57.8 +0.4
comp=Z,6µmcomp=Z,308nm,1.3s
KLBR Kellerberrin 47.99 241 P P 17 21 56.7 -1.2
comp=Z,346nm,0.7s
KLBR Kellerberrin 47.99 241 P P 17 21 57.7 -0.1
KAPI Kappang 48.09 277 P P 17 21 58.4 -0.3
KAPI Kappang 48.09 277 P P 17 21 59.6 +0.9
KAPI Kappang 48.09 277 *c iP* P 17 21 58.6 -0.1
KAPI pmax pmax
comp=Z,122nm,1.0s
KAPI Kappang 48.09 277 ⇑P P 17 21 58.8 +0.1
KAPI Kappang 48.09 277 P P 17 21 59.0 +0.3
KAPI S S 17 28 49.7 +0.6
SPSI Sidrap Palu 48.37 279 P P 17 22 00.8 -0.1
TTSI Tana Toraja 48.59 280 P P 17 22 04.4 +1.8
comp=Z,3µmcomp=Z,147nm,1.3s
NWAO Narrogin (SRO) 48.62 240 P P 17 22 01.9 -0.7
NWAO Narrogin (SRO) 48.62 240 P P 17 22 02.0 -0.5
comp=Z,440nm,1.1s
NWAO Narrogin (SRO) 48.62 240 LR LR 17 42 03.2
comp=Z,5µm,18.5s,baz=89,slow=35
NWAO Narrogin (SRO) 48.62 240 P P 17 22 03.1 +0.6
NWAO Narrogin (SRO) 48.62 240 P P 17 22 02.8 +0.3
NWAO Narrogin (SRO) 48.62 240 P P 17 22 01.9 -0.7
NWAO pmax pmax
comp=Z,234nm,1.0s
NWAO Narrogin (SRO) 48.62 240 P P 17 22 02.8 +0.3
NWAO sP pP 17 22 27.4 -1.4
BLDU Ballidu 48.77 243 P P 17 22 03.1 -0.7
comp=Z,62nm,1.5s
BLDU Ballidu 48.77 243 P P 17 22 03.9 +0.1
JCJ Chichijima 48.98 330 P P 17 22 04.0 -1.2
JCJ Chichijima 48.98 330 P P 17 22 05.0 -0.2
JCJ Chichijima 48.98 330 ⇑P P 17 22 04.4 -0.8
PLAI Plampang 49.03 272 P P 17 22 05.8 -0.2
PLAI Plampang 49.03 272 P P 17 22 05.8 -0.2
comp=Z,4µmcomp=Z,255nm,0.8s
TOLI2 Tolitoli 49.09 285 P P 17 22 04.8 -1.6
TOLI2 Tolitoli 49.09 285 P P 17 22 05.7 -0.7
RKGY Rocky Gully 49.09 237 P P 17 22 07.0 +0.8
comp=Z,60nm,0.9s
MORW Morawa 49.21 245 P P 17 22 06.4 -0.8
comp=Z,301nm,0.9s
MORW Morawa 49.21 245 ⇑P P 17 22 07.0 -0.2
PCI Palu 49.26 282 P P 17 22 09.1 +1.4
comp=Z,6µmcomp=Z,7µmcomp=Z,448nm,0.9s
MUN Mundaring 49.35 241 P P 17 22 07.7 -0.5
comp=Z,183nm,1.1s
MUN Mundaring 49.35 241 P P 17 22 08.3 +0.1
MPSI Mapaga 49.63 284 P P 17 22 10.1 -0.4
comp=Z,4µmcomp=Z,388nm,1.0s
HON Honolulu 49.79 44 P P 17 22 12.5 +1.0
HON Honolulu 49.79 44 P P 17 22 12.5 +1.0
HON pmax pmax
comp=Z,295nm,1.1s
KHU Kahuku 50.03 48 P P 17 22 13.7 0.0
KHU Kahuku 50.03 48 P P 17 22 13.7 0.0
KHU pmax pmax
comp=Z,351nm,0.8s
HMH Humu'ula Sheep 50.36 47 P P 17 22 16.8 +0.5
POHA Pohakuloa 50.43 47 P P 17 22 18.7 +2.0
GIRL Giralia 50.70 253 P P 17 22 18.7 +0.2
comp=Z,308nm,0.9s
GIRL Giralia 50.70 253 P P 17 22 19.7 +1.2
GIRL Giralia 50.70 253 ⇑P P 17 22 19.0 +0.6
TAOE Nuku Hiva Isla 51.43 89 P P 17 22 24.8 +0.6
TAOE Nuku Hiva Isla 51.43 89 *eP* P 17 22 22.9 -1.3
comp=Z,3µm,1.1s
TAOE *eS* S 17 29 27.5 -8.4
comp=Z,3µm,24.9s
TAOE *eSS* SS 17 33 00.8 -12
comp=Z,3µm,25.1s
TAOE *eLQ* LQ 17 34 59.1
comp=Z,4µm,28.7s
TAOE *eLR* LR 17 37 07.5
comp=Z,7µm,33.6s
TAOE Nuku Hiva Isla 51.43 89 P P 17 22 26.0 +1.8
SRBI Singaraja 51.67 272 P P 17 22 27.4 +1.6
SMKI Samarinda 51.89 282 P P 17 22 32.0 +4.5
comp=Z,304nm,1.0s

BKB	Balikpapan	51.92	281	P		P	17 22 30.4	+2.7
JAGI	Jajag, Banyuwa	52.61	271	P		P	17 22 31.5	-1.3
JAGI	Jajag, Banyuwa	52.61	271	P		P	17 22 32.5	-0.3
	comp=Z,4µmcomp=Z,176nm,1.5s							
JAGI	Jajag, Banyuwa	52.61	271	⇑P		P	17 22 31.1	-1.7
MYLDM	Lahad Datu	52.75	289	P		P	17 22 35.6	+1.8
MYLDM	Lahad Datu	52.75	289	⇑P		P	17 22 35.4	+1.6
KMMI	Kalianget	53.12	273	P		P	17 22 40.2	+3.7
GMJI	Gumukmas	53.33	271	P		P	17 22 40.1	+2.0
JMZ	Minamidaito 2	54.19	319	P		P	17 22 46.9	+2.8
DRV	Dumont d'Urvil	54.28	193	P		P	17 22 43.9	-0.2
DRV				sP		pP	17 23 10.3	-0.6
DRV				PcP		PcP	17 23 46.1	-0.7
TGY	Tagaytay City	54.68	300	P		P	17 22 49.5	+1.6
	comp=Z,2µm,1.0s,baz=102,slow=2.9,SNR=18							
	comp=Z,2µm,1.0s							
JHJ2	Mitsune	55.12	332	⇑P		P	17 22 51.3	+0.7
KKM	Kota Kinabalu	55.17	289	P		P	17 22 52.1	+0.5
KKM	Kota Kinabalu	55.17	289	⇑P		P	17 22 51.5	-0.1
PCJI	Pacitan	55.54	271	P		P	17 22 55.2	+1.1
	comp=Z,5µmcomp=Z,457nm,1.4s							
WOJI	Wonogiri, Jawa	55.86	271	P		P	17 22 58.2	+1.8
	comp=Z,5µmcomp=Z,337nm,1.4s							
UGM	Wanagama	56.23	271	P		P	17 23 00.0	+0.9
UGM	Wanagama	56.23	271	P		P	17 23 01.5	+2.4
	comp=Z,4µmcomp=Z,221nm,1.3s							
SMRI	Semarang	56.51	272	P		P	17 23 03.7	+2.6
SMRI	Semarang	56.51	272	P		P	17 23 03.6	+2.5
	comp=Z,2µmcomp=Z,189nm,1.2s							
SMRI	Semarang	56.51	272	⇑P		P	17 23 03.2	+2.2
JOW	Kunigami	56.80	317	P		P	17 23 03.3	+0.5
	comp=Z,479nm,0.7s,baz=159,slow=6.1,SNR=65							
JOW				LR		LR	17 45 58.9	
	comp=Z,2µm,21.9s,baz=126,slow=34							
	comp=Z,479nm,0.7s							
JOW	Kunigami	56.80	317	P		P	17 23 03.8	+1.1
JOW	Kunigami	56.80	317	⇑P		P	17 23 03.2	+0.5
JSG	Sagara	57.17	331	P		P	17 23 07.4	+2.2
JSG	Sagara	57.17	331	⇑P		P	17 23 06.5	+1.3
STKI	Sintang	57.48	280	P		P	17 23 08.9	+1.0
	comp=Z,297nm,1.2s							
SBUM	Sibu	57.56	283	IAmb		IAmb	17 23 12.1	
	comp=Z,56nm,1.1s							
SBUM	Sibu	57.56	283	P		P	17 23 09.1	+0.7
SBUM	Sibu	57.56	283	⇑P		P	17 23 08.6	+0.2
JGF	Kuroka	58.31	331	P		P	17 23 12.7	-0.6
JGF	Kuroka	58.31	331	⇑P		P	17 23 12.5	-0.8
JMN	Monobe	58.54	327	P		P	17 23 15.0	+0.1
JMN	Monobe	58.54	327	⇑P		P	17 23 14.9	+0.1
MJAR	Matsushiro Arr	58.70	332	P		P	17 23 14.1	-1.8
MJAR	Matsushiro Arr	58.70	332	P		P	17 23 14.8	-1.2
	comp=Z,176nm,0.9s,baz=168,slow=8.1,SNR=137							
MJAR				PcP		PcP	17 24 06.1	+1.5
	comp=Z,94nm,1.0s,baz=166,slow=5.3,SNR=7.0							
MJAR				LR		LR	17 46 11.8	
	comp=Z,779nm,21.7s,baz=130,slow=33							
	comp=Z,176nm,0.9s							
MAJO	Matsushiro	58.70	332	P		P	17 23 14.7	-1.3
MAJO	Matsushiro	58.70	332	P		P	17 23 15.1	-0.9
MAJO	Matsushiro	58.70	332	*c iP*		P	17 23 15.1	-0.9
MAJO				pmax		pmax		
	comp=Z,519nm,1.3s							
MAJO	Matsushiro	58.70	332	⇑P		P	17 23 15.0	-0.9
MAJO	Matsushiro	58.70	332	P		P	17 23 15.3	-0.6
MAJO	Matsushiro	58.70	332	P		P	17 23 15.0	-1.0
JMM	Marumori	58.73	335	P		P	17 23 15.5	-0.5
JMM	Marumori	58.73	335	P		P	17 23 16.1	+0.1
JMM	Marumori	58.73	335	⇑P		P	17 23 15.7	-0.4
JCJI	Jatiwangi	58.74	272	P		P	17 23 19.2	+2.6
	comp=Z,525nm,1.6s							
YOJ	Yonaguni jima	58.88	312	P		P	17 23 18.2	+0.8
YOJ	Yonaguni jima	58.88	312	⇑P		P	17 23 17.6	+0.3
KSM	Kuching	59.04	281	P		P	17 23 18.8	+0.1
KSM	Kuching	59.04	281	⇑P		P	17 23 18.5	-0.2
BBJI	Bungbulang	59.11	270	P		P	17 23 18.6	-0.7
TWGBT	Beinan	59.32	309	P		P	17 23 21.4	+0.9
YULB	Yu-li	59.49	310	P		P	17 23 22.9	+1.2
CNJI	Cibinong	59.64	271	P		P	17 23 23.8	+0.9
	comp=Z,2µmcomp=Z,185nm,1.1s							
JNU	Nakatsue	59.70	324	P		P	17 23 22.6	-0.3
	comp=Z,419nm,0.8s,baz=92,slow=2.1,SNR=124							
JNU				LR		LR	17 45 07.7	
	comp=Z,812nm,21.4s,baz=124,slow=32							
	comp=Z,419nm,0.8s							
JNU	Nakatsue	59.70	324	P		P	17 23 22.7	-0.2
JNU	Nakatsue	59.70	324	⇑P		P	17 23 22.4	-0.5
NACB	Ninganchiao	59.74	311	P		P	17 23 23.1	-0.2
JSD	Sado	59.93	333	P		P	17 23 24.2	-0.1
JSD	Sado	59.93	333	⇑P		P	17 23 24.1	-0.1
TPUB	Ta-pu	59.94	309	P		P	17 23 24.1	-0.6
SSLB	Suanglung	59.98	310	P		P	17 23 24.2	-0.8
DBJI	Dramaga	60.19	271	P		P	17 23 26.7	+0.1
	comp=Z,7µmcomp=Z,528nm,1.4s							
YHNB	Yeheng	60.19	311	P		P	17 23 26.2	-0.3
SKJI	Sukabumi	60.27	271	P		P	17 23 25.9	+0.9
TATO	Taipei	60.29	311	P		P	17 23 26.2	-0.8
TATO	Taipei	60.29	311	P		P	17 23 26.9	-0.1
TPI	Tanjungpandan	60.30	276	P		P	17 23 27.5	+0.1
	comp=Z,2µmcomp=Z,220nm,1.1s							
XMI	Christmas Isla	60.34	267	P		P	17 23 28.3	+0.6
XMI	Christmas Isla	60.34	267	⇑P		P	17 23 30.3	+2.6
SBJI	Serang	60.89	272	P		P	17 23 32.9	+1.5
	comp=Z,803nm,1.3s							
JTM	Tenmabayashi	61.15	337	P		P	17 23 32.6	+0.1
CGJI	Cibinong	61.19	271	P		P	17 23 32.2	-1.2
ERM	Erimo	61.49	339	P		P	17 23 34.7	-0.1
ERM	Erimo	61.49	339	P		P	17 23 36.1	+1.3
ERM	Erimo	61.49	339	*i P*		P	17 23 34.9	+0.1
ERM				pmax		pmax		
	comp=Z,405nm,1.8s							
ERM	Erimo	61.49	339	P		P	17 23 35.0	+0.3
ERM	Erimo	61.49	339	P		P	17 23 35.0	+0.3
ERM				S		S	17 31 50.5	+3.2
JEM	Erimo	61.49	339	P		P	17 23 36.2	+1.4
JTU	Tsushima	61.56	325	P		P	17 23 36.5	+1.1
BLSI	Bandar Lampung	61.93	272	P		P	17 23 39.7	+1.3
	comp=Z,255nm,0.8s							
VNDA	Vanda	62.12	181	P		P	17 23 38.7	+0.1
VNDA				IAmb		IAmb	17 23 43.1	
	comp=Z,142nm,1.4s							
VNDA	Vanda	62.12	181	P		P	17 23 38.9	+0.4
	comp=Z,27nm,0.6s,baz=349,slow=7.8,SNR=42							
VNDA				LR		LR	17 46 52.7	
	comp=Z,692nm,21.5s,baz=1.5,slow=32							
VNDA				PKP2ab			17 52 55.6	
	comp=Z,8.2nm,1.1s,baz=307,slow=5.2,SNR=4.0							
	comp=Z,27nm,0.6s							
VNDA	Vanda	62.12	181	P		P	17 23 39.0	+0.4
VNDA				ScP		ScP	17 28 12.6	+3.2
SBA	Scott Base	62.39	180	P		P	17 23 41.6	+1.2
SBA	Scott Base	62.39	180	P		P	17 23 41.6	+1.2
SBA				pmax		pmax		
	comp=Z,265nm,1.1s							
QZH	Quanzhou	62.40	309	⇑*iP*		P	17 23 41.2	-0.1
QZH				pP		pP	17 24 07.5	-1.3
QZH				sP		PcP	17 24 19.1	-0.7
QZH				S		S	17 32 00.8	+1.3
QZH				sS		sS	17 32 44.3	-1.4
QZH				pmax		pmax		
	comp=Z,330nm,1.1s							
QZH				pmax		pmax		
	comp=Z,1µm,5.3s							
QZH				LR		LR		
	comp=Z,640nm,17.4s							
QZH				LR		LR		
	comp=Z,2µm,20.6s							
QZH				LR		LR		
	comp=Z,2µm,18.9s							
YUK	Yuzh-Kuril'sk	62.46	342	*i* P		P	17 23 40.8	-0.4
CASY	Casey	62.94	202	P		P	17 23 44.3	+0.1
CASY				IAmb		IAmb	17 23 47.8	
	comp=Z,56nm,0.8s							
CASY	Casey	62.94	202	⇑P		P	17 23 44.5	+0.3
CASY	Casey	62.94	202	P		P	17 23 44.0	-0.2
CASY				PcP		PcP	17 24 21.0	-0.3
KUR	Kuril'sk	63.02	344	*eP*		P	17 23 44.2	-0.7
KUR							17 24 16.0	
KUR				*eS*		S	17 32 06.0	-0.4
KUR				*e*SSS		SSS	17 39 05.0	
KUR				pmax		pmax		
	comp=Z,3µm,4.0s							
KUR				pmax		pmax		
	comp=Z,1µm,1.3s							
KUR				MLR		MLR		
	comp=Z,2µm,19.0s							
PMBI	Palembang	63.02	275	P		P	17 23 48.4	+2.8
PMBI	Palembang	63.02	275	P		P	17 23 48.3	+2.7
PMBI	Palembang	63.02	275	⇑P		P	17 23 48.0	+2.4
LWLI	Liwa	63.16	272	P		P	17 23 47.1	+0.4
	comp=Z,6µmcomp=Z,533nm,1.2s							
MDSI	Maura Dua	63.18	273	P		P	17 23 44.9	-1.8
JKA	Kamikawa-asahi	63.54	340	⇑P		P	17 23 49.0	+0.6
ASAJ	Asahikawa	63.55	340	LR		LR	17 48 00.4	
	comp=Z,2µm,20.4s,baz=162,slow=33							
LHSI	Lahat	63.98	273	P		P	17 23 52.4	+0.4
	comp=Z,3µmcomp=Z,164nm,1.2s							
TJN	Taejon	64.05	325	P		P	17 23 52.5	+0.6
TJN	Taejon	64.05	325	*c iP*		P	17 23 51.4	-0.5
CCD	Concordia, Ant	64.22	192	P		P	17 23 53.2	+0.2
CCD				PcP		PcP	17 24 27.6	+0.6
SSE	Sheshan	64.26	316	P		P	17 23 54.8	+1.4
SSE				S		S	17 32 25.5	+3.1
SSE				pmax		pmax		
	comp=Z,69nm,0.9s							
SSE				pmax		pmax		
	comp=Z,420nm,5.3s							
SSE				LR		LR		
	comp=Z,790nm,18.8s							
SSE				LR		LR		
	comp=Z,730nm,18.8s							
HKPS	Hong Kong Po S	64.40	304	P		P	17 23 54.6	+0.1
KSRS	Korea Array	64.52	326	P		P	17 23 54.8	-0.1
	comp=Z,92nm,0.8s,baz=140,slow=6.7,SNR=140							
KSRS				pP		pP	17 24 21.8	-0.6
	comp=Z,9.2nm,0.8s,baz=149,slow=5.1,SNR=1.2							
KSRS				PKiKP		PKiKP	17 30 34.8	+0.5
	comp=Z,1.3nm,0.6s,baz=209,slow=0.5,SNR=5.8							
KSRS				LR		LR	17 50 23.5	
	comp=Z,438µm,20.4s,baz=130,slow=34							
KSRS				PKPPKP		P'P'df	17 52 40.2	-1.0
	comp=Z,3.2nm,1.0s,baz=329,slow=2.3,SNR=7.8							
	comp=Z,92nm,0.8s							
KSAR	Wonju Array Be	64.53	326	P		P	17 23 54.5	-0.5
KSAR	Wonju Array Be	64.53	326	P		P	17 23 54.5	-0.5
KS19	Wonju Array Si	64.59	326	IAmb		IAmb	17 23 57.9	
	comp=Z,119nm,0.9s							
KSI	Kapahiang	64.92	273	P		P	17 23 58.5	+0.3
	comp=Z,234nm,0.7s							
INCN	Inchon	65.25	325	P		P	17 23 59.3	-0.4
INCN				IAmb		IAmb	17 24 02.9	
	comp=Z,179nm,0.9s							
INCN	Inchon	65.25	325	P		P	17 24 00.3	+0.6
INCN	Inchon	65.25	325	P		P	17 23 59.3	-0.4
INCN				pmax		pmax		
	comp=Z,179nm,0.9s							
INCN	Inchon	65.25	325	⇑P		P	17 23 59.7	0.0
INCN	Inchon	65.25	325	PcP		PcP	17 24 32.7	+1.5
MYKOM	Kota Tinggi	65.26	279	P		P	17 23 59.2	-1.1
MYKOM				IAmb		IAmb	17 24 02.9	
	comp=Z,74nm,0.9s							
MYKOM	Kota Tinggi	65.26	279	P		P	17 24 00.8	+0.5
MYKOM	Kota Tinggi	65.26	279	⇑P		P	17 24 00.2	-0.1
GZH	Guangzhou	65.44	305	P		P	17 24 02.8	+1.6
GZH				pP		pP	17 24 27.1	-1.9
GZH				sP		sP	17 24 40.7	-0.6
GZH				S		S	17 32 41.9	+4.7
GZH				pmax		pmax		
	comp=Z,340nm,1.1s							
GZH				LR		LR		
	comp=Z,2µm,19.6s							
GZH				LR		LR		
	comp=Z,2µm,19.8s							
GZH				LR		LR		
	comp=Z,4µm,23.1s							
YSS	Yuzhno-Sakhali	66.03	342	P		P	17 24 05.0	+0.6
YSS	Yuzhno-Sakhali	66.03	342	P		P	17 24 05.5	+1.0
YSS	Yuzhno-Sakhali	66.03	342	*ceP*		P	17 24 05.2	+0.7
YSS				*e**PP		pP	17 24 31.9	-0.1
YSS				*e*S		S	17 32 42.4	-1.0
YSS				*e*			17 33 16.3	
YSS				*e*			17 33 49.6	
YSS				*e*SS		SS	17 36 57.4	-3.9
YSS				pmax		pmax		
	comp=Z,2µm,3.4s							
YSS				pmax		pmax		
	comp=N,1µm,2.1s							
YSS				pmax		pmax		
	comp=Z,660nm,1.2s							
YSS				smax		smax		
	comp=N,2µm,8.6s							
YSS				smax		smax		
	comp=E,900nm,6.9s							
YSS				MLR		MLR		
	comp=Z,1µm,19.0s							
YSS				MLR		MLR		
	comp=N,1µm,17.0s							
YSS	Yuzhno-Sakhali	66.03	342	⇑P		P	17 24 05.2	+0.7
YSS	Yuzhno-Sakhali	66.03	342	P		P	17 24 05.3	+0.8
QIZ	Qiongzhong	66.36	299	P		P	17 24 08.5	+1.4
QIZ				S		S	17 32 49.2	+0.8
QIZ				SS		SS	17 37 08.4	+1.1
QIZ				pmax		pmax		
	comp=N,250nm,0.9s							
QIZ				LR		LR		
	comp=N,2µm,15.0s							
QIZ	Qiongzhong	66.36	299	P		P	17 24 08.6	+1.4
NJ2	Nanjing	66.42	316	⇑P		P	17 24 07.3	0.0
NJ2				pP		pP	17 24 34.2	-0.9
NJ2				S		S	17 32 50.0	+1.3
NJ2				sS		sS	17 33 31.7	-2.7
NJ2				pmax		pmax		
	comp=N,230nm,1.0s							
TEY	Ternei	66.48	337	*eP*		P	17 23 59.4	-8.0
SKR	Severo-Kuril's	66.64	352	*c iP*		P	17 24 07.5	-0.8
SKR				*i* S		S	17 32 50.4	-0.2
SKR				*i* *SS		SKSac	17 33 47.6	-6.6
SKR				pmax		pmax		
	comp=Z,290nm,1.2s							
SKR				pmax		pmax		
	comp=Z,800nm,13.0s							
SKR				MLR		MLR		
	comp=Z,1µm,18.0s							
MSHR	Mys Shultsa	66.78	332	*c iP*		P	17 24 08.9	-0.5
MSHR				pmax		pmax		
	comp=Z,400nm,1.2s							
VLA	Vladivostok	66.87	332	*d iP*		P	17 24 10.7	+0.8
VLA				pmax		pmax		
	comp=Z,761nm,1.6s							
PSTR	Posyet	67.00	331	*eP*		P	17 24 10.9	+0.2
BKNI	Bangkinang	67.51	277	P		P	17 24 14.0	-0.7
BKNI	Bangkinang	67.51	277	P		P	17 24 16.1	+1.5
BKNI	Bangkinang	67.51	277	P		P	17 24 16.6	+2.0
BKNI	Bangkinang	67.51	277	⇑P		P	17 24 16.7	+2.1
USA0B	Ussuriysk Arra	67.69	333	*c iP*		P	17 24 15.4	+0.4
USRK	Ussuriysk Ar.	67.69	333			P	17 24 15.1	0.0
USRK	Ussuriysk Ar.	67.69	333	P		P	17 24 15.5	+0.5
	comp=Z,266nm,0.7s,baz=140,slow=6.2,SNR=105							
USRK				PKP2ab			17 52 37.5	
	comp=Z,2.1nm,0.8s,baz=347,slow=5.9,SNR=6.4							
	comp=Z,266nm,0.7s							
PPI	Padang Panjang	67.90	276	P		P	17 24 17.4	+0.3
	comp=Z,92nm,1.1s							
UGL	Uglegorsk	68.14	342	*eP*		P	17 24 12.2	-5.6
UGL				*e*S		S	17 33 02.2	-6.4
UGL				pmax		pmax		
	comp=Z,3µm,3.1s							
UGL				pmax		pmax		
	comp=Z,700nm,1.0s							
UGL				smax		smax		
	comp=N,2µm,7.5s							
UGL				smax		smax		
	comp=E,1µm,7.5s							
SMY	Shemya	68.16	4	P		P	17 24 19.5	+1.7
SMY	Shemya	68.16	4	⇑P		P	17 24 19.5	+1.7
CNSH	ChangSha	68.41	309	P		P	17 24 19.9	0.0
CNSH				S		S	17 33 13.1	+0.4
CNSH				LR		LR		
	comp=E,1µm,15.9s							
CNSH				LR		LR		
	comp=E,2µm,15.0s							
CNSH				LR		LR		
	comp=E,1µm,20.2s							
ADK	Adak	68.47	10	P		P	17 24 19.4	-0.4
ADK	Adak	68.47	10	P		P	17 24 21.1	+1.3
ADK	Adak	68.47	10	P		P	17 24 19.4	-0.4
ADK				pmax		pmax		
	comp=Z,289nm,1.3s							
ADK	Adak	68.47	10	⇑P		P	17 24 20.7	+1.0
COCO	West Island	68.49	263	P		P	17 24 23.3	+2.6
PET	Petropavlovsk	68.66	354	P		P	17 24 19.8	-1.0
PET	Petropavlovsk	68.66	354	P		P	17 24 20.7	-0.2
PET	Petropavlovsk	68.66	354	*eP*		P	17 24 21.8	+0.9
PET				*e**PP		pP	17 24 48.5	+0.6
PET				*e*S		S	17 33 17.1	+2.5
PET				*e**SS		sS	17 34 00.5	-1.4
PET				pmax		pmax		
	comp=Z,1µm,5.7s							
PET				pmax		pmax		
	comp=Z,230nm,1.4s							
PET				pmax		pmax		
	comp=Z,600nm,7.7s							
PET				MLR		MLR		
	comp=Z,400nm,17.0s							
PET				MLR		MLR		
	comp=Z,500nm,15.0s							
PET	Petropavlovsk	68.66	354	P		P	17 24 20.6	-0.2
WHN	Wuhan	68.66	312	⇑P		P	17 24 21.4	0.0
WHN				pP		pP	17 24 50.7	+1.4
WHN				S		S	17 33 13.4	-2.2
WHN				sS		sS	17 34 01.3	-0.6
WHN				pmax		pmax		
	comp=Z,800nm,0.8s							
WHN				LR		LR		
	comp=Z,8µm,24.1s							
IPM	Ipoh	68.77	281	P		P	17 24 22.3	-0.3
IPM	Ipoh	68.77	281	⇑P		P	17 24 22.2	-0.3
PEA0B	Petropavlovsk-	68.84	354	*c iP*		P	17 24 21.7	-0.4
PETK	Petropavlovsk-	68.84	354	P		P	17 24 21.8	-0.2
PETK	Petropavlovsk-	68.84	354	P		P	17 24 22.5	+0.5
	comp=Z,190nm,0.9s,baz=182,slow=6.6,SNR=169							
PETK				PKiKP		PKiKP	17 30 39.0	-0.6
	comp=Z,2.6nm,0.8s,baz=134,slow=2.9,SNR=8.1							
PETK				LR		LR	17 49 36.2	
	comp=Z,3µm,20.9s,baz=158,slow=32							
PETK				PKPPKP		P'P'df	17 52 33.1	+0.4
	comp=Z,9.7nm,1.1s,baz=122,slow=1.9,SNR=11							
	comp=Z,190nm,0.9s							
MNSI	Mandailing Nat	69.04	277	P		P	17 24 23.0	-1.2
	comp=Z,4µmcomp=Z,496nm,1.0s							
DL2	Dalian	69.07	323	⇓*iP*		P	17 24 23.7	-0.1
DL2				pP		pP	17 24 49.5	-2.1
DL2				S		S	17 33 20.6	+0.5
DL2				pmax		pmax		
	comp=Z,750nm,0.9s							
DL2				pmax		pmax		
	comp=Z,1µm,9.9s							
MDJ	Mudanjiang	69.08	332	P		P	17 24 24.1	+0.4
MDJ				S		S	17 33 22.9	+2.9
MDJ				pmax		pmax		
	comp=Z,1µm,1.0s							
MDJ				pmax		pmax		
	comp=Z,2µm,3.6s							
MDJ	Mudanjiang	69.08	332	P		P	17 24 24.2	+0.5
MDJ	Mudanjiang	69.08	332	P		P	17 24 24.2	+0.5
ATKA	Atka Island	69.24	12	P		P	17 24 24.5	0.0
ATKA	Atka Island	69.24	12	⇑P		P	17 24 24.6	0.0
KULM	Kulim	69.38	282	IAmb		IAmb	17 24 29.2	
	comp=Z,276nm,1.2s							
KULM	Kulim	69.38	282	P		P	17 24 26.7	+0.4
KULM	Kulim	69.38	282	⇑P		P	17 24 25.9	-0.4
TYV	Tymovskoe	69.58	343	*eP*		P	17 24 27.4	+0.8
TYV				*e*S		S	17 33 23.9	-1.7
TYV				pmax		pmax		
	comp=Z,2µm,2.2s							
TYV				pmax		pmax		
	comp=Z,307nm,1.2s							
TYV				smax		smax		
	comp=N,800nm,9.3s							
TYV				smax		smax		
	comp=E,1µm,9.3s							
SNY	Shenyang	69.99	326	⇑P		P	17 24 29.1	-0.3
SNY				S		S	17 33 32.0	+1.2
SNY				pmax		pmax		
	comp=E,960nm,5.9s							
SNY				LR		LR		
	comp=E,900nm,18.9s							
SNY				LR		LR		
	comp=E,660nm,18.9s							
SNY				LR		LR		
	comp=E,1µm,38.2s							
PBSI	Pulau Batu	70.05	276	P		P	17 24 32.1	+1.7
	comp=E,8µmcomp=E,496nm,1.5s							
TIA	Tai'an	70.09	318	P		P	17 24 29.8	-0.4
TIA				S		S	17 33 23.7	-8.6
TIA				pmax		pmax		
	comp=E,54nm,1.4s							
TIA				pmax		pmax		
	comp=E,2µm,7.8s							
TIA				LR		LR		
	comp=E,1µm,18.9s							
TIA				LR		LR		
	comp=E,2µm,17.2s							
TIA				LR		LR		
	comp=E,3µm,23.9s							
RPSI	Rantau Prapat	70.22	279	P		P	17 24 29.0	-2.4
PSI	Prapat	70.26	279	P		P	17 24 30.6	-1.2
PSI	Prapat	70.26	279	P		P	17 24 29.0	-2.8
PSI				pmax		pmax		
	comp=Z,265nm,1.1s							
CN2	Changchun	70.44	329	⇓P		P	17 24 32.0	-0.1
CN2				sP		sP	17 25 12.6	+0.4
CN2				S		S	17 33 35.6	-0.3
CN2				sS		sS	17 34 23.6	+0.2
CN2				pmax		pmax		
	comp=Z,390nm,0.8s							
CN2				pmax		pmax		
	comp=Z,2µm,4.0s							
CN2				LR		LR		
	comp=Z,1µm,25.0s							
CN2				LR		LR		
	comp=Z,790nm,25.0s							
CN2				LR		LR		
	comp=Z,2µm,27.0s							
TSI	Tuntungan	70.81	279	P		P	17 24 34.6	-0.4
	comp=Z,5µmcomp=Z,381nm,1.0s							
BNX	BinXian	70.94	331	⇑P		P	17 24 34.9	-0.2
BNX				PcP		PcP	17 24 54.5	-0.3
BNX				S		S	17 33 35.6	-6.0
BNX				pmax		pmax		
	comp=Z,140nm,0.6s							
BNX				LR		LR		
	comp=Z,750nm,22.5s							
BNX				LR		LR		
	comp=Z,1µm,16.6s							
BNX				LR		LR		
	comp=Z,1µm,24.9s							
GSI	Gunungsitoli	71.11	277	P		P	17 24 36.0	-0.9
GSI	Gunungsitoli	71.11	277	P		P	17 24 36.8	0.0
GSI	Gunungsitoli	71.11	277	P		P	17 24 36.6	-0.2
	comp=Z,5µmcomp=Z,512nm,0.9s							
GSI	Gunungsitoli	71.11	277	⇑P		P	17 24 36.4	-0.4
NIKH	Nikolski High	71.15	15	P		P	17 24 34.9	-1.3
NIKH	Nik

NKL comp=N,4µm,18.0s MLR MLR
comp=Z,3µm,17.0s
LYN LuoYang 72.21 315 P **P** **17 24 43.3 +0.3**
LYN S **S** **17 33 55.8 -0.9**
LYN SKS **SKSac** **17 34 29.8 -7.3**
LYN sS sS 17 34 46.4 +1.8
LYN pmax pmax
comp=Z,1µm,0.8s
LYN pmax pmax
comp=Z,3µm,3.8s
LYN LR LR
comp=Z,1µm,22.0s
LYN LR LR
comp=Z,960nm,20.3s
LYN LR LR
comp=Z,3µm,22.0s
HNS HongShan 72.35 318 ⇑P **P** **17 24 44.1 +0.4**
HNS S **S** **17 33 57.4 -0.8**
HNS pmax pmax
comp=Z,500nm,1.0s
HNS pmax pmax
comp=Z,2µm,4.4s
HNS LR LR
comp=Z,1µm,18.8s
HNS LR LR
comp=Z,2µm,22.5s
SLVN Son La 72.37 299 IAmb IAmb 17 24 48.3
comp=Z,210nm,1.3s
SLVN Son La 72.37 299 P **P** **17 24 44.9 +0.6**
GYA Guiyang 72.38 305 ⇑P **P** **17 24 44.4 +0.1**
GYA PcP **PcP** **17 25 03.8 +2.2**
GYA S **S** **17 34 00.2 +0.9**
GYA pmax pmax
comp=Z,85nm,0.8s
GYA pmax pmax
comp=Z,2µm,6.9s
GYA LR LR
comp=Z,520nm,13.8s
GYA LR LR
comp=Z,630nm,14.9s
GYA LR LR
comp=Z,1µm,18.7s
UNV Unalaska Valle 72.53 16 P **P** **17 24 44.5 +0.1**
UNV Unalaska Valle 72.53 16 P **P** **17 24 43.4 -1.0**
baz=206,SNR=7.9
LHMI Lhok Sumawe 72.87 281 P **P** **17 24 49.5 +2.2**
LHMI Lhok Sumawe 72.87 281 P **P** **17 24 49.6 +2.2**
comp=Z,4µmcomp=Z,334nm,1.1s
LHMI Lhok Sumawe 72.87 281 ⇑P **P** **17 24 49.3 +2.0**
LVA Lava Point 72.94 16 IAmb IAmb 17 24 52.1
comp=Z,183nm,1.4s
BJT Baijiatuao 73.02 321 P **P** **17 24 48.4 +0.8**
BJI Beijing 73.03 321 P **P** **17 24 48.0 +0.3**
BJI S **S** **17 34 06.6 +0.8**
BJI pmax pmax
comp=Z,160nm,0.8s
BJI pmax pmax
comp=Z,910nm,4.5s
BJI LR LR
comp=Z,700nm,18.0s
BJI LR LR
comp=Z,620nm,16.1s
BJI LR LR
comp=Z,870nm,20.9s
MLSI Meulaboh, Aceh 73.09 279 P **P** **17 24 48.2 -0.5**
TIY Taiyuan 74.01 317 *e*P **P** **17 24 54.5 +0.9**
TIY sP **sP** **17 25 35.7 +2.0**
TIY S **S** **17 34 19.8 +2.7**
TIY pmax pmax
comp=Z,93nm,0.8s
TIY pmax pmax
comp=Z,2µm,4.8s
FALS False Pass 74.27 17 P **P** **17 24 56.4 +1.8**
FALS False Pass 74.27 17 P **P** **17 24 53.4 -1.2**
baz=209
P08K Saint George I 74.32 13 P **P** **17 24 53.4 -1.5**
baz=203
HEH HeiHe 74.36 335 *e*P **P** **17 24 54.7 -0.5**
HEH PP **PP** **17 27 43.5 +0.4**
HEH S **S** **17 34 20.4 +0.1**
HEH SS **SS** **17 39 07.0 -2.2**
HEH pmax pmax
comp=Z,290nm,0.9s
HEH pmax pmax
comp=Z,2µm,5.9s
XAN Xi'an 74.41 313 ⇑P **P** **17 24 56.1 +0.1**
XAN S **S** **17 34 21.1 -0.6**
XAN pmax pmax
comp=Z,650nm,0.8s
XAN pmax pmax
comp=Z,3µm,5.2s
XAN LR LR
comp=Z,2µm,20.6s
XAN LR LR
comp=Z,2µm,22.0s
XAN LR LR
comp=Z,4µm,22.7s
QSPA South Pole Qui 74.55 180 P **P** **17 24 56.9 +0.5**
comp=Z,402nm,0.9s,baz=13,slow=2.1,SNR=138
QSPA pP **pP** **17 25 23.3 -1.2**
comp=Z,105nm,0.8s,baz=317,slow=1.4,SNR=3.1
QSPA S **S** **17 34 23.5 +1.1**
comp=Z,15nm,1.0s,baz=273,slow=2.3,SNR=18
QSPA LR LR 17 55 11.5
comp=Z,1µm,18.4s,baz=20,slow=34
comp=Z,402nm,0.9s
SPIA Saint Paul Isl 74.71 12 P **P** **17 24 56.6 -0.4**
baz=202
KMI Kunming 74.95 302 ⇑P **P** **17 25 00.7 +1.2**
KMI S **S** **17 34 32.2 +3.8**
KMI pmax pmax
comp=Z,470nm,1.3s
KMI LR LR
comp=Z,310nm,17.6s
KMI LR LR
comp=Z,1µm,23.4s
KMI LR LR
comp=Z,2µm,26.6s
CHNA Chernabura Isl 75.39 19 P **P** **17 25 01.8 +0.8**
CHNA Chernabura Isl 75.39 19 P **P** **17 24 59.4 -1.5**
baz=213
S12K Black Hills 75.39 17 P **P** **17 24 59.6 -1.5**
baz=210
XLT XiLinHaoTe 75.48 324 *e*P **P** **17 25 02.3 +0.3**
XLT PcP **PcP** **17 25 15.5 +1.0**
XLT pP pP 17 25 32.8 +2.5
XLT S **S** **17 34 31.4 -1.9**
XLT sS sS 17 35 22.8 +1.6
XLT pmax pmax
comp=Z,490nm,0.8s
XLT pmax pmax
comp=Z,790nm,4.3s
CMAR Chiang Mai Arr 75.52 294 P **P** **17 25 03.4 +0.8**
CMAR Chiang Mai Arr 75.52 294 P **P** **17 25 03.5 +0.9**
comp=Z,89nm,0.8s,baz=125,slow=4.1,SNR=110
CMAR PKiKP **PKiKP** **17 30 51.2 +0.9**
comp=Z,4.5nm,0.9s,baz=249,slow=0.3,SNR=7.6
CMAR PKPPKP **P'P'df** **17 52 22.8 -1.7**
comp=Z,1.5nm,0.8s,baz=272,slow=4.6,SNR=4.1
CMAR LR LR 18 01 12.5
comp=Z,294nm,18.1s,baz=105,slow=38
comp=Z,89nm,0.8s
CMAR Chiang Mai Arr 75.52 294 *i*P **P** **17 25 03.5 +0.9**
CMAR pmax pmax
comp=Z,95nm,0.8s
SDPT Sand Point 75.55 18 IAmb IAmb 17 25 04.8
comp=Z,79nm,0.8s
SDPT Sand Point 75.55 18 P **P** **17 25 01.6 -0.3**
SDPT Sand Point 75.55 18 P **P** **17 25 00.4 -1.5**
baz=212
CHTO Chiang Mai 75.65 294 P **P** **17 25 03.3 -0.1**
CHTO Chiang Mai 75.65 294 P **P** **17 25 04.2 +0.8**
CHTO Chiang Mai 75.65 294 P **P** **17 25 03.3 -0.1**
CHTO pmax pmax
comp=Z,236nm,1.0s
CHTO Chiang Mai 75.65 294 ⇑P **P** **17 25 03.0 -0.4**
CHTO Chiang Mai 75.65 294 P **P** **17 25 04.0 +0.6**
CHTO S **S** **17 34 40.4 +4.5**
MA2 Magadan 76.03 351 P **P** **17 25 03.0 -1.6**
MA2 IAmb IAmb 17 25 06.9
comp=Z,115nm,0.8s
MA2 Magadan 76.03 351 LR LR 17 54 09.0
comp=Z,591nm,21.6s,baz=168,slow=32
MA2 Magadan 76.03 351 P **P** **17 25 04.5 -0.1**
MA2 Magadan 76.03 351*c i*P **P** **17 25 03.6 -1.0**
MA2 pmax pmax
comp=Z,155nm,0.9s
CMBY CAMPBELL BAY 76.27 281 *e*P **P** **17 25 06.6 -0.4**
HHC Hu-ho-hao-te 76.34 320 ⇑*i*P **P** **17 25 07.7 +0.7**
HHC pP pP 17 25 37.6 +2.3
HHC S **S** **17 34 44.9 +1.9**
HHC pmax pmax
comp=Z,370nm,0.9s
HHC pmax pmax
comp=Z,630nm,5.9s
PZH PanZhiHua 76.35 303 ⇑P **P** **17 25 07.4 +0.1**
PZH S **S** **17 34 44.0 +0.4**
PZH sS **sS** **17 35 31.5 -1.2**
PZH SS **SS** **17 39 32.9 -7.6**
PZH pmax pmax
comp=Z,230nm,1.2s
PZH pmax pmax
comp=Z,890nm,4.9s
PZH LR LR
comp=Z,1µm,22.2s
PZH LR LR
comp=Z,760nm,16.5s
PZH LR LR
comp=Z,850nm,18.8s
S14K Fog Glacier 76.62 18 P **P** **17 25 06.4 -1.7**
baz=213
CD2 Chengdu 76.69 308 P **P** **17 25 09.6 +0.5**
CD2 PcP **PcP** **17 25 20.7 +0.7**
CD2 S **S** **17 34 48.3 +1.2**
CD2 pmax pmax
comp=Z,80nm,1.3s
CD2 pmax pmax
comp=Z,2µm,5.7s
CD2 LR LR
comp=Z,2µm,22.6s
CD2 LR LR
comp=Z,2µm,23.0s
CD2 LR LR
comp=Z,3µm,20.5s
CHGN Chignik 76.98 19 P **P** **17 25 08.9 -1.1**
baz=214
HIA Hailar 77.08 330 P **P** **17 25 10.2 -0.6**
HIA Hailar 77.08 330*c i*P **P** **17 25 10.6 -0.2**
HIA pmax pmax
comp=Z,520nm,1.3s
ZEA Zeya 77.10 337 *e*P **P** **17 25 11.5 +0.8**
ZEA *e* 17 25 22.7
ZEA *e**PP **pP** **17 25 40.9 +1.9**
ZEA *e**SP **sP** **17 25 52.5 +1.6**
ZEA *e*S **S** **17 34 53.6 +3.3**
ZEA *e* 17 35 16.2
ZEA *e**SS **sS** **17 35 39.8 +1.2**
ZEA pmax pmax
comp=E,300nm,2.6s
ZEA pmax pmax
comp=N,600nm,2.5s
ZEA pmax pmax
comp=Z,1µm,2.7s
ZEA pmax pmax
comp=E,80nm,0.7s
ZEA pmax pmax
comp=N,290nm,0.8s
ZEA pmax pmax
comp=Z,560nm,0.8s
ZEA smax smax
comp=E,900nm,9.4s
ZEA smax smax
comp=N,1µm,10.7s
BTO Baotou 77.18 319 *e*P **P** **17 25 13.0 +1.3**
BTO pP **pP** **17 25 44.9 +4.9**
BTO sP **sP** **17 25 58.2 +6.2**
BTO PP **PP** **17 28 10.8 +3.6**
BTO S **S** **17 34 49.5 -2.5**
BTO pmax pmax
comp=N,140nm,1.9s
BTO pmax pmax
comp=N,4µm,7.7s
BTO LR LR
comp=N,2µm,18.7s
BTO LR LR
comp=N,2µm,21.4s
BTO LR LR
comp=N,3µm,20.6s
CHIR Chirikof Islan 77.49 20 P **P** **17 25 11.9 -0.9**
baz=216
TNCH TengChong 78.40 300 ⇑P **P** **17 25 19.5 +0.6**
TNCH pP pP 17 25 45.9 -1.6
TNCH S **S** **17 35 04.6 -1.3**
TNCH sS sS 17 35 50.9 -4.1
TNCH pmax pmax
comp=N,310nm,1.4s
TNCH pmax pmax
comp=N,1µm,3.7s
TNCH LR LR
comp=N,470nm,17.2s
TNCH LR LR
comp=N,480nm,18.9s
TNCH LR LR
comp=N,2µm,26.5s
M11K Mekoryuk 78.50 13 IAmb IAmb 17 25 23.2
comp=Z,224nm,1.4s
M11K Mekoryuk 78.50 13 P **P** **17 25 17.8 -0.5**
baz=206
SII Sitkinak Islan 78.56 20 IAmb IAmb 17 25 21.6
comp=Z,110nm,1.0s
SII Sitkinak Islan 78.56 20 P **P** **17 25 19.7 +0.9**
SII Sitkinak Islan 78.56 20 P **P** **17 25 18.1 -0.7**
baz=218
O14K Tigyukauivet M 78.68 16 P **P** **17 25 18.5 -0.9**
baz=211
R17L Mt. Peulik Vol 78.72 19 P **P** **17 25 18.6 -1.1**
baz=215
PLK4 Peulik 4 78.72 19 IAmb IAmb 17 25 23.6
comp=Z,87nm,0.8s
O15K Ungalikthiuk R 79.00 16 P **P** **17 25 20.2 -0.9**
baz=212
LZH Lanzhou 79.04 312 ⇑P **P** **17 25 23.4 +1.3**
LZH pP pP 17 25 48.2 -2.3
LZH S **S** **17 35 15.4 +3.1**
LZH pmax pmax
comp=Z,770nm,1.3s
LZH pmax pmax
comp=Z,2µm,4.4s
LZH LR LR
comp=Z,1µm,15.8s
LZH LR LR
comp=Z,1µm,16.5s
LZH LR LR
comp=Z,2µm,16.1s
SEY Seymchan 79.06 353 LR LR 17 57 30.8
comp=Z,2µm,19.7s,baz=158,slow=33
SEY Seymchan 79.06 353*c i*P **P** **17 25 20.8 -0.6**
SEY pmax pmax
comp=Z,291nm,1.5s
DGPR DIGLIPUR 79.12 287 *e*P **P** **17 25 23.0 +0.3**
N14K Kuskokwak Cree 79.15 15 P **P** **17 25 21.2 -0.7**
baz=210,SNR=9.0
M13K Dall Lake 79.17 14 IAmb IAmb 17 25 25.0
comp=Z,400nm,1.9s
M13K Dall Lake 79.17 14 P **P** **17 25 21.6 -0.4**
baz=208,SNR=9.5
R18K Karluk 79.28 20 P **P** **17 25 21.3 -1.3**
baz=217
Q17K Contact Creek 79.38 19 P **P** **17 25 22.3 -1.1**
baz=216,SNR=36
OHAK Old Harbor 79.39 20 IAmb IAmb 17 25 27.4
comp=Z,65nm,0.8s
OHAK Old Harbor 79.39 20 P **P** **17 25 24.3 +1.0**
OHAK Old Harbor 79.39 20 P **P** **17 25 22.5 -0.8**
baz=218
P16K Nushagak River 79.39 17 IAmb IAmb 17 25 26.6
comp=Z,110nm,0.8s
P16K Nushagak River 79.39 17 P **P** **17 25 22.4 -0.8**
baz=214
Q16K King Salmon 79.49 18 P **P** **17 25 23.3 -0.5**
baz=215,SNR=22
N15K Kwethluk River 79.77 16 IAmb IAmb 17 25 30.9
comp=Z,215nm,1.4s
N15K Kwethluk River 79.77 16 P **P** **17 25 25.0 -0.3**
baz=212,SNR=28
M14K Bethel 79.80 15 IAmb IAmb 17 25 29.8
comp=Z,121nm,1.1s
M14K Bethel 79.80 15 P **P** **17 25 25.0 -0.4**
baz=210,SNR=31
O16K Kokwok River B 79.83 17 P **P** **17 25 24.0 -1.6**
baz=214,SNR=16
Q18K Katmai Hardscr 79.97 19 P **P** **17 25 25.4 -1.2**
baz=216,SNR=28
P17K Kvichak River 79.98 18 P **P** **17 25 25.0 -1.4**
baz=215
KDAK Kodiak Island 80.06 20 LR LR 17 53 03.4
comp=Z,1µm,21.9s,baz=208,slow=30
KDAK Kodiak Island 80.06 20 *i*P **P** **17 25 27.4 +0.5**
KDAK pmax pmax
comp=Z,45nm,0.8s
KDAK Kodiak Island 80.06 20 ⇑P **P** **17 25 27.2 +0.3**
KDAK Kodiak Island 80.06 20 P **P** **17 25 26.2 -0.7**
baz=219
M15K Kasigluk River 80.07 15 P **P** **17 25 26.3 -0.6**
baz=211
L14K Kuka Creek 80.15 14 IAmb IAmb 17 25 31.9
comp=Z,110nm,1.1s
L14K Kuka Creek 80.15 14 P **P** **17 25 26.9 -0.3**
baz=209
K13K Kusilvak Mount 80.23 13 IAmb IAmb 17 25 32.5
comp=Z,72nm,1.0s
K13K Kusilvak Mount 80.23 13 P **P** **17 25 27.2 -0.5**
baz=207
O17K Koliganek Bris 80.26 17 P **P** **17 25 27.2 -0.7**
baz=214,SNR=11
N16K Nishlik Lake 80.38 16 P **P** **17 25 28.6 0.0**
baz=213
P18K Big Mountain, 80.50 18 IAmb IAmb 17 25 35.2
comp=Z,111nm,1.1s
P18K Big Mountain, 80.50 18 P **P** **17 25 28.2 -1.1**
baz=216,SNR=19
Q19K Cape Douglas, 80.62 19 P **P** **17 25 29.4 -0.5**
baz=218
GAMB Gambell 80.62 9 ⇑P **P** **17 25 29.8 +0.1**
GAMB Gambell 80.62 9 P **P** **17 25 29.5 -0.2**
baz=200
L15K Ungalak Mounta 80.72 14 P **P** **17 25 29.9 -0.5**
baz=210
Q20K Shuyak Island 80.77 20 P **P** **17 25 30.3 -0.3**
baz=219
SYI Shuyak Island 80.78 20 IAmb IAmb 17 25 34.3
comp=Z,110nm,1.0s
M16K Timber Creek 80.80 16 P **P** **17 25 30.4 -0.4**
baz=213,SNR=27
N17K Nushagak Hills 80.86 17 P **P** **17 25 30.7 -0.4**
baz=214,SNR=15
O18K Koktuh Hills 80.88 18 P **P** **17 25 30.9 -0.4**
baz=216,SNR=8.8
J14K Nanvaranak Lak 81.19 13 IAmb IAmb 17 25 38.3
comp=Z,103nm,0.9s
J14K Nanvaranak Lak 81.19 13 P **P** **17 25 32.4 -0.4**
baz=208
K15K Wolf Creek Mou 81.25 14 IAmb IAmb 17 25 38.1
comp=Z,121nm,1.1s
K15K Wolf Creek Mou 81.25 14 P **P** **17 25 33.5 +0.4**
baz=210,SNR=24
L16K Owhat River 81.25 15 P **P** **17 25 33.2 0.0**
baz=212,SNR=19
MAW Mawson 81.30 202 P **P** **17 25 34.4 +0.9**
comp=Z,95nm,1.1s,baz=104,slow=7.3,SNR=46
MAW LR LR 17 57 34.9
comp=Z,2µm,20.0s,baz=99,slow=32
comp=Z,95nm,1.1s
P19K Oil Pt 81.32 19 IAmb IAmb 17 25 36.6
comp=Z,110nm,0.9s
P19K Oil Pt 81.32 19 P **P** **17 25 32.9 -0.8**
baz=218,SNR=6.6
N18K Kilae Creek 81.35 17 P **P** **17 25 33.7 -0.1**
baz=216,SNR=8.4
O19K Port Alsworth 81.42 18 IAmb IAmb 17 25 38.4
comp=Z,111nm,1.2s
O19K Port Alsworth 81.42 18 P **P** **17 25 33.5 -0.6**
baz=217,SNR=8.7
M17K Holitna River 81.52 16 IAmb IAmb 17 25 40.0
comp=Z,192nm,1.6s
M17K Holitna River 81.52 16 P **P** **17 25 34.8 +0.2**
baz=214,SNR=24
ILSW Iliamna Southw 81.61 19 IAmb IAmb 17 25 40.9
comp=Z,156nm,1.2s
HOM Homer 81.83 20 P **P** **17 25 36.1 -0.2**
baz=220
O20K Slope Mountain 81.85 19 P **P** **17 25 35.5 -0.9**
baz=219
CNPM China Poot 81.86 20 IAmb IAmb 17 25 41.1
comp=Z,154nm,1.1s
CIT Chita 81.87 330 *e*P **P** **17 25 37.2 +0.5**
CIT *e* 17 26 09.9
CIT *e* 17 28 42.5
CIT *e*S **S** **17 35 42.2 +1.3**
CIT *e* 17 37 07.7
CIT pmax pmax
comp=Z,2µm,1.3s
N19K Bonanza Creek 81.87 18 P **P** **17 25 36.0 -0.6**
baz=217
L17K Donlin 81.91 15 P **P** **17 25 37.0 +0.3**
baz=213,SNR=37
M18K Stony River 82.03 17 P **P** **17 25 37.1 -0.2**
baz=216,SNR=48
RED Redoubt Volcan 82.07 19 IAmb IAmb 17 25 41.0
comp=Z,256nm,1.5s
BRLK Bradley Lake 82.16 20 IAmb IAmb 17 25 42.2
comp=Z,276nm,1.5s
IMP Imphal 82.17 298 *e*P **P** **17 25 38.5 -0.5**
IMP IAmb IAmb 17 25 42.0
comp=Z,98nm,0.8s
IMP *e*S **S** **17 35 45.4 +0.2**
J16K Anvik River 82.32 14 IAmb IAmb 17 25 44.4
comp=Z,80nm,0.8s
J16K Anvik River 82.32 14 P **P** **17 25 38.6 -0.1**
baz=211,SNR=30
K17K Iditarod 82.39 15 IAmb IAmb 17 25 44.1
comp=Z,113nm,1.1s
K17K Iditarod 82.39 15 P **P** **17 25 39.0 -0.1**
baz=213
L18K Granite Mounta 82.40 16 IAmb IAmb 17 25 44.3
comp=Z,79nm,1.0s
L18K Granite Mounta 82.40 16 P **P** **17 25 39.4 +0.2**
baz=215,SNR=35
ANM Nome 82.44 11 P **P** **17 25 39.9 +0.6**
baz=206
M19K Big River Lodg 82.77 17 IAmb IAmb 17 25 46.8
comp=Z,91nm,1.1s
M19K Big River Lodg 82.77 17 P **P** **17 25 41.0 -0.2**
baz=217,SNR=38
J17K VABM Dome 82.78 14 IAmb IAmb 17 25 46.1
comp=Z,71nm,1.0s
J17K VABM Dome 82.78 14 P **P** **17 25 41.7 +0.6**
baz=212
I17K Unalakleet 82.82 14 P **P** **17 25 41.8 +0.5**
baz=211
YAK Yakutsk 82.83 343 P **P** **17 25 41.0 -0.4**
YAK Yakutsk 82.83 343 LR LR 18 02 34.3
comp=Z,956nm,18.3s,baz=126,slow=36
YAK Yakutsk 82.83 343*c i*P **P** **17 25 41.0 -0.4**
YAK *e* 17 28 50.6
YAK *e*PPP PPP 17 30 42.9
YAK *e*S **S** **17 35 52.1 +2.0**
YAK *e**SS **sS** **17 36 33.3 -5.3**
YAK *e*SS **SS** **17 41 15.5 -0.4**
YAK pmax pmax
comp=Z,2µm,1.6s
YAK pmax pmax
comp=N,209nm,2.0s
YAK pmax pmax
comp=E,180nm,1.5s
YAK pmax pmax
comp=Z,226nm,3.5s
YAK pmax pmax
comp=E,208nm,4.3s
YAK pmax pmax
comp=N,116nm,1.6s
YAK smax smax
comp=N,271nm,3.8s
YAK smax smax
comp=E,148nm,3.5s
YAK Yakutsk 82.83 343 ⇑P **P** **17 25 41.0 -0.4**
CAPN Captain Cook N 82.85 19 P **P** **17 25 41.0 -0.5**
baz=220
N20K Mount Spurr 82.86 18 P **P** **17 25 39.9 -1.8**
baz=219
SPCR Spurr Chakacha 82.86 18 P **P** **17 25 40.7 -1.0**
baz=219,SNR=6.0
AZL Aizawl 82.86 297 *e*P **P** **17 25 41.9 -0.7**
AZL IAmb IAmb 17 25 50.4
comp=Z,78nm,1.0s
AZL *e*S **S** **17 35 53.9 +1.5**
L19K White Mountain 82.87 17 IAmb IAmb 17 25 47.6
comp=Z,202nm,1.4s

L19K	White Mountain	82.87	17	P	P	17 25 40.9	-0.8		
	baz=216								
SEW	Seward	82.89	20	IAmb	IAmb	17 25 46.5			
	comp=Z,130nm,1.1s								
SEW	Seward	82.89	20	P	P	17 25 41.1	-0.6		
	baz=222,SNR=18								
TNA	Tin City	82.89	10	P	P	17 25 41.4	-0.2		
	baz=204								
ULN	Ulaanbaatar	82.91	324	P	P	17 25 42.6	+0.2		
ULN	Ulaanbaatar	82.91	324	*c iP*	P	17 25 42.9	+0.5		
ULN				pmax	pmax				
	comp=Z,1μm,1.1s								
ULN	Ulaanbaatar	82.91	324	⇑P	P	17 25 42.8	+0.4		
G15K	Niukluk	83.08	12	P	P	17 25 42.6	-0.1		
	baz=208,SNR=9.9								
O22K	Cooper Landing	83.09	20	P	P	17 25 42.1	-0.6		
	baz=221,SNR=22								
F14K	Arctic Creek	83.09	11	P	P	17 25 42.8	+0.1		
	baz=205								
PAF	Port-aux-Franc	83.11	221	P	P	17 25 44.5	+1.2		
PAF	Port-aux-Franc	83.11	221	P	P	17 25 44.5	+1.2		
PAF				pmax	pmax				
	comp=Z,728nm,1.1s								
M20K	Styx River	83.12	18	P	P	17 25 42.3	-0.8		
	baz=218								
H16K	Elim	83.14	13	P	P	17 25 42.7	-0.2		
	baz=209								
ZIRO	ZIRO	83.22	301	*eP*	P	17 25 44.6	+0.2		
ZIRO				IAmb	IAmb	17 25 50.7			
	comp=Z,60nm,0.6s								
ZIRO				*ex*	x	17 25 50.9			
ZIRO				*eS*	**S**	**17 35 57.6**	**+1.6**		
SONM	Songino Array	83.27	324	P	P	17 25 44.0	-0.2		
SONM	Songino Array	83.27	324	P	P	17 25 44.3	0.0		
	comp=Z,301nm,1.0s,baz=152,slow=8.1,SNR=163								
SONM				PKiKP	**PKiKP**	**17 31 02.2**	**+0.7**		
	comp=Z,3.2nm,0.6s,baz=40,slow=0.9,SNR=4.3								
SONM				PKPPKP	**P'P'df**	**17 52 09.4**	**+0.8**		
	comp=Z,0.7nm,0.5s,baz=259,slow=1.5,SNR=3.5								
	comp=Z,301nm,1.0s								
BILL	Bilibino	83.29	360	P	P	17 25 43.2	-0.5		
BILL	Bilibino	83.29	360	*c iP*	P	17 25 42.7	-1.0		
BILL				pmax	pmax				
	comp=Z,257nm,1.0s								
L20K	Farewell, AK	83.38	17	P	P	17 25 44.7	+0.4		
	baz=217								
GTA	Gaotai	83.39	314	P	P	17 25 46.1	+1.0		
GTA				pP	pP	17 26 11.9	-1.9		
GTA				sP	sP	17 26 29.9	+4.2		
GTA				PP	**PP**	**17 28 59.7**	**+0.9**		
GTA				S	**S**	**17 35 59.3**	**+2.1**		
GTA				sS	sS	17 36 43.3	-3.5		
GTA				pmax	pmax				
	comp=Z,720nm,1.2s								
GTA				pmax	pmax				
	comp=Z,2μm,6.5s								
GTA				LR	LR				
	comp=Z,850nm,19.6s								
GTA				LR	LR				
	comp=Z,1μm,20.4s								
GTA				LR	LR				
	comp=Z,2μm,22.2s								
BRDH	Bariadhala	83.41	296	P	P	17 25 46.5	+1.2		
	comp=Z,146nm,0.4s,baz=69,slow=12,SNR=4.5								
	comp=Z,146nm,0.4s								
J18K	Innoko River	83.42	15	IAmb	IAmb	17 25 47.5			
	comp=Z,62nm,0.7s								
J18K	Innoko River	83.42	15	P	P	17 25 44.3	-0.2		
	baz=215,SNR=62								
Q23K	Middleton Isla	83.46	22	P	P	17 25 43.9	-0.8		
	baz=224								
P23K	Montague Islan	83.51	21	IAmb	IAmb	17 25 49.6			
	comp=Z,89nm,1.1s								
P23K	Montague Islan	83.51	21	P	P	17 25 44.1	-0.8		
	baz=223,SNR=13								
SUA	Susitna One	83.51	19	P	P	17 25 43.7	-1.4		
	baz=220								
RC01	Rabbit Creek A	83.54	19	P	P	17 25 44.2	-0.9		
	baz=221,SNR=53								
F15K	North Star Dit	83.61	11	P	P	17 25 44.9	-0.5		
	baz=207								
SKT	Skwentna	83.67	18	P	P	17 25 43.4	-2.4		
	baz=220,SNR=27								
TEZP	TEZPUR	83.77	300	*eP*	P	17 25 46.6	-0.4		
TEZP				IAmb	IAmb	17 25 50.8			
	comp=Z,65nm,1.1s								
G16K	Koyuk River	83.78	12	IAmb	IAmb	17 25 51.2			
	comp=Z,322nm,1.9s								
G16K	Koyuk River	83.78	12	P	P	17 25 45.7	-0.5		
	baz=209,SNR=15								
PWL	Port Wells	83.82	20	IAmb	IAmb	17 25 48.5			
	comp=Z,128nm,0.8s								
PWL	Port Wells	83.82	20	P	P	17 25 45.2	-1.4		
	baz=222,SNR=45								
H17K	Granite Mounta	83.90	13	IAmb	IAmb	17 25 51.6			
	comp=Z,59nm,0.8s								
H17K	Granite Mounta	83.90	13	P	P	17 25 46.7	-0.2		
	baz=212,SNR=14								
M22K	Willow	83.92	19	P	P	17 25 46.1	-0.9		
	baz=221,SNR=23								
K20K	Telida	84.03	16	IAmb	IAmb	17 25 53.1			
	comp=Z,172nm,1.1s								
K20K	Telida	84.03	16	P	P	17 25 47.9	+0.3		
	baz=217								
HIN	Hinchinbrook I	84.11	21	IAmb	IAmb	17 25 49.9			
	comp=Z,77nm,0.9s								
PMR	Palmer	84.11	19	IAmb	IAmb	17 25 52.8			
	comp=Z,255nm,1.4s								
PMR	Palmer	84.11	19	P	P	17 25 48.8	+0.8		
PMR	Palmer	84.11	19	P	P	17 25 47.6	-0.3		
	baz=222,SNR=12								
MCCM	Marconi Confer	84.12	48	IAmb	IAmb	17 25 51.3			
	comp=Z,71nm,0.8s								
J19K	Poorman	84.14	15	IAmb	IAmb	17 25 53.1			
	comp=Z,101nm,1.0s								
J19K	Poorman	84.14	15	P	P	17 25 47.8	-0.3		
	baz=216,SNR=64								
SHL	Shillong	84.18	298	*eP*	P	17 25 46.3	-3.1		
SHL				IAmb	IAmb	17 25 49.2			
	comp=Z,90nm,0.8s								
PPLA	Purkeypile	84.19	17	P	P	17 25 47.9	-0.6		
	baz=219,SNR=16								
KNK	Knik Glacier	84.19	20	IAmb	IAmb	17 25 50.0			
	comp=Z,70nm,0.8s								
KNK	Knik Glacier	84.19	20	P	P	17 25 48.1	-0.3		
	baz=222,SNR=16								
KMPM	Mount Pierce	84.22	45	IAmb	IAmb	17 25 52.1			
	comp=Z,65nm,1.0s								
G17K	Kiwalik Mounta	84.22	13	P	P	17 25 48.1	-0.4		
	baz=211,SNR=16								
GLI	Glacier Island	84.25	20	IAmb	IAmb	17 25 50.4			
	comp=Z,76nm,0.8s								
GLI	Glacier Island	84.25	20	P	P	17 25 47.7	-1.1		
	baz=224,SNR=25								
KCPM	Cahto Peak	84.28	46	IAmb	IAmb	17 25 52.8			
	comp=Z,132nm,0.9s								
GHO	Glory Hole Cre	84.31	19	IAmb	IAmb	17 25 53.4			
	comp=Z,77nm,0.9s								
HOPS	Hopland Field	84.34	47	IAmb	IAmb	17 25 52.9			
	comp=Z,217nm,1.6s								
FID	Port Fidalgo	84.37	21	IAmb	IAmb	17 25 51.0			
	comp=Z,63nm,0.9s								
CUT	Chulitna	84.37	18	P	P	17 25 48.3	-1.0		
	baz=221,SNR=11								
KMRM	Mail Ridge	84.42	46	IAmb	IAmb	17 25 53.6			
	comp=Z,116nm,0.8s								
H18K	Honhosa River	84.43	14	P	P	17 25 48.9	-0.7		
	baz=213								
GCSA	Galena City Sc	84.44	15	P	P	17 25 49.4	-0.1		
	baz=214								
EYAK	Cordova Ski Ar	84.48	21	P	P	17 25 50.0	+0.2		
EYAK	Cordova Ski Ar	84.48	21	P	P	17 25 49.3	-0.5		
	baz=225,SNR=10								
KAIM	Kayak Island	84.51	22	IAmb	IAmb	17 25 52.5			
	comp=Z,125nm,0.8s								
KAIM	Kayak Island	84.51	22	P	P	17 25 50.0	-0.1		
	baz=226,SNR=16								
KRPM	Rodgers	84.61	45	IAmb	IAmb	17 25 54.2			
	comp=Z,75nm,1.1s								
CAST	Castle Rocks	84.63	17	P	P	17 25 48.7	-1.9		
	baz=219,SNR=188								
J20K	Nowinta River	84.67	16	IAmb	IAmb	17 25 55.5			
	comp=Z,102nm,0.9s								
J20K	Nowinta River	84.67	16	P	P	17 25 50.5	-0.2		
	baz=217,SNR=87								
KHMM	Horse Mountain	84.68	45	IAmb	IAmb	17 25 55.0			
	comp=Z,75nm,0.8s								
M23K	Glacier View	84.71	20	P	P	17 25 49.5	-1.6		
	baz=223,SNR=11								
RAGM	Ragged Mountai	84.74	22	IAmb	IAmb	17 25 53.4			
	comp=Z,212nm,1.8s								
BBGB	Big Mountain B	84.82	50	IAmb	IAmb	17 25 57.6			
	comp=Z,108nm,1.0s								
KRMB	Red Mountain	84.84	45	IAmb	IAmb	17 25 55.2			
	comp=Z,55nm,0.9s								
HMT	Hamilton	84.85	22	IAmb	IAmb	17 25 53.8			
	comp=Z,63nm,0.7s								
PMPB	Monarch Peak	84.86	50	IAmb	IAmb	17 25 55.4			
	comp=Z,92nm,1.1s								
SCM	Sheep Creek Mo	84.87	20	IAmb	IAmb	17 25 54.0			
	comp=Z,59nm,0.8s								
SCM	Sheep Creek Mo	84.87	20	P	P	17 25 51.1	-0.9		
	baz=223,SNR=20								
TAWA	Tawang	84.89	300	*eP*	P	17 25 53.8	+0.7		
TAWA				IAmb	IAmb	17 25 58.6			
	comp=Z,81nm,0.9s								
TAWA				*eS*	SKSac	17 36 08.1	+0.2		
F17K	Baldwin Pennin	84.92	12	IAmb	IAmb	17 25 56.8			
	comp=Z,159nm,1.0s								
F17K	Baldwin Pennin	84.92	12	P	P	17 25 51.5	-0.4		
	baz=210,SNR=13								
CHUM	Lake Minchumin	84.92	17	P	P	17 25 51.2	-0.8		
	baz=219,SNR=19								
KBO	Bosley Butte	84.93	44	IAmb	IAmb	17 25 55.6			
	comp=Z,72nm,1.1s								
G18K	Tagagawik	84.99	13	IAmb	IAmb	17 25 57.4			
	comp=Z,186nm,1.2s								
G18K	Tagagawik	84.99	13	P	P	17 25 52.5	+0.1		
	baz=213								
O02D	Mt. Diablo Mer	85.04	46	IAmb	IAmb	17 25 56.9			
	comp=Z,111nm,0.8s								
BGLC	Bering Glacier	85.06	22	P	P	17 25 52.7	0.0		
	baz=227								
KTH	Kashna Hill	85.06	17	IAmb	IAmb	17 25 57.1			
	comp=Z,85nm,0.9s								
I20K	Naaghedeneel	85.08	15	P	P	17 25 52.8	0.0		
	baz=217,SNR=44								
KLU	Klutina	85.09	20	P	P	17 25 52.1	-1.0		
	baz=225,SNR=11								
KEBM	Edson Butte	85.15	43	IAmb	IAmb	17 25 56.9			
	comp=Z,55nm,0.9s								
TRF	Thorofare Moun	85.17	18	IAmb	IAmb	17 25 55.8			
	comp=Z,66nm,0.8s								
TRF	Thorofare Moun	85.17	18	P	P	17 25 52.1	-1.4		
	baz=220,SNR=57								
BMRM	Bremner River	85.17	21	P	P	17 25 52.6	-0.8		
	baz=226,SNR=18								
H19K	Roundabout Mou	85.19	14	IAmb	IAmb	17 25 58.1			
	comp=Z,155nm,0.9s								
H19K	Roundabout Mou	85.19	14	P	P	17 25 53.0	-0.3		
	baz=215,SNR=91								
WAT1	Susitna Watana	85.22	19	P	P	17 25 52.8	-0.8		
	baz=222								
BOD	Bodaibo	85.28	334	*eP*	P	17 25 53.1	-0.8		
BOD				pmax	pmax				
	comp=Z,757nm,1.6s								
WAT6	Susitna Watana	85.29	19	P	P	17 25 52.9	-1.2		
	baz=223,SNR=26								
E17K	Hotham Inlet	85.36	12	P	P	17 25 54.2	0.0		
	baz=210,SNR=23								
F18K	Selawik	85.38	13	P	P	17 25 54.2	0.0		
	baz=212,SNR=36								
BCW	Bitter Crk WRg	85.41	52	IAmb	IAmb	17 25 58.8			
	comp=Z,82nm,1.0s								
WAX	Waxell Ridge	85.44	22	IAmb	IAmb	17 25 56.9			
	comp=Z,105nm,0.7s								
M24K	Tolsona, Glenn	85.45	20	IAmb	IAmb	17 26 00.2			
	comp=Z,70nm,1.1s								
M24K	Tolsona, Glenn	85.45	20	P	P	17 25 54.3	-0.5		
	baz=224,SNR=11								
BPAW	Bear Paw Mtn.	85.46	17	IAmb	IAmb	17 25 58.6			
	comp=Z,80nm,1.3s								
BPAW	Bear Paw Mtn.	85.46	17	P	P	17 25 54.3	-0.4		
	baz=220,SNR=39								
DIB	Dawson Inlet,	85.50	31	IAmb	IAmb	17 25 57.5			
	comp=Z,58nm,1.0s								
H20K	Anotleneega Mo	85.54	15	P	P	17 25 55.0	-0.2		
	baz=216								
J01E	Myrtle Point	85.54	43	IAmb	IAmb	17 25 58.6			
	comp=Z,64nm,0.8s								
CRQM	Cirque	85.55	22	IAmb	IAmb	17 25 57.4			
	comp=Z,46nm,0.8s								
G19K	Purcell Mounta	85.55	14	P	P	17 25 55.0	-0.1		
	baz=214,SNR=101								
RND	Reindeer	85.56	18	IAmb	IAmb	17 25 59.9			
	comp=Z,202nm,1.4s								
CRQE	Cirque	85.56	22	P	P	17 25 54.8	-0.6		
	baz=227,SNR=12								
MESA	MESA	85.59	23	IAmb	IAmb	17 25 57.9			
	comp=Z,59nm,0.7s								
MESA	MESA	85.59	23	P	P	17 25 55.4	-0.3		
	baz=228,SNR=12								
N25K	Chitina, Valde	85.62	21	IAmb	IAmb	17 25 58.7			
	comp=Z,40nm,0.8s								
N25K	Chitina, Valde	85.62	21	P	P	17 25 55.7	0.0		
	baz=226,SNR=37								
HG4B	Hotspring	85.66	33	IAmb	IAmb	17 25 58.1			
	comp=Z,51nm,0.9s								
D17K	Noatak River	85.67	11	P	P	17 25 56.2	+0.6		
	baz=208,SNR=15								
GOMU	GeErMu	85.69	309	P	P	17 25 59.2	+2.2		
GOMU				S	SKSac	17 36 17.6	+5.0		
GOMU				LR	LR				
	comp=Z,570nm,17.1s								
GOMU				LR	LR				
	comp=Z,1μm,17.5s								
GOMU				LR	LR				
	comp=Z,2μm,17.7s								
ISLE	Juniper Island	85.73	22	IAmb	IAmb	17 25 58.1			
	comp=Z,56nm,0.8s								
YBH	Yreka Blue Hor	85.75	45	IAmb	IAmb	17 25 59.5			
	comp=Z,51nm,1.0s								
YBH	Yreka Blue Hor	85.75	45	LR	LR	17 55 21.9			
	comp=Z,94nm,21.9s,baz=260,slow=29								
DHY	Denali Highway	85.76	19	P	P	17 25 55.4	-1.1		
	baz=223,SNR=20								
MCK	McKinley	85.78	18	IAmb	IAmb	17 26 00.8			
	comp=Z,101nm,1.1s								
MCK	McKinley	85.78	18	P	P	17 25 54.9	-1.5		
	baz=222,SNR=30								
C16K	Lisburne Hills	85.79	10	P	P	17 25 56.1	-0.2		
	baz=206								
AFDM	Forest Hills D	85.81	48	IAmb	IAmb	17 25 59.9			
	comp=Z,74nm,0.9s								
CMB	Columbia Colle	85.88	49	IAmb	IAmb	17 26 00.2			
	comp=Z,51nm,0.9s								
E18K	Tukpahlearik C	85.89	12	IAmb	IAmb	17 26 01.6			
	comp=Z,123nm,0.9s								
E18K	Tukpahlearik C	85.89	12	P	P	17 25 56.6	-0.2		
	baz=211								
F19K	Shaleruckik Mo	85.98	13	IAmb	IAmb	17 26 01.7			
	comp=Z,126nm,1.0s								
F19K	Shaleruckik Mo	85.98	13	P	P	17 25 56.7	-0.5		
	baz=213,SNR=57								
HARP	HAARP	85.99	20	P	P	17 25 56.9	-0.5		
	baz=225,SNR=7.6								
I02E	Swisshome, OR	86.01	42	IAmb	IAmb	17 26 00.6			
	comp=Z,61nm,0.9s								
RDOG	Red Dog Mine	86.01	11	IAmb	IAmb	17 26 02.1			
	comp=Z,83nm,0.9s								
RDOG	Red Dog Mine	86.01	11	P	P	17 25 57.7	+0.3		
	baz=208,SNR=11								
MCARA	McCarthy VSAT	86.01	21	P	P	17 25 57.0	-0.5		
	baz=227								
TABL	Table Mountain	86.07	23	IAmb	IAmb	17 26 01.0			
	comp=Z,76nm,0.7s								
I03D	Drain, OR	86.16	43	IAmb	IAmb	17 26 01.0			
	comp=Z,50nm,1.0s								
PINM	Pinnacle	86.18	23	P	P	17 25 57.5	-0.9		
	baz=230								
H21K	Melozitna Rive	86.19	15	IAmb	IAmb	17 26 01.2			
	comp=Z,54nm,0.9s								
H21K	Melozitna Rive	86.19	15	P	P	17 25 58.4	+0.1		
	baz=218,SNR=78								
LSA	Lhasa	86.20	302	IAmb	IAmb	17 26 02.7			
	comp=Z,75nm,0.8s								
LSA	Lhasa	86.20	302	P	P	17 25 59.7	-0.1		
LSA				S	SKSac	17 36 16.4	+0.1		
LSA				pmax	pmax				
	comp=Z,20nm,0.8s								
LSA				LR	LR				
	comp=Z,510nm,22.3s								
LSA				LR	LR				
	comp=Z,1μm,24.8s								
LSA	Lhasa	86.20	302	P	P	17 25 59.7	-0.1		
IMAR	Indian Mountai	86.22	15	P	P	17 25 58.0	-0.4		
HATC	Hat Creek Radi	86.22	46	IAmb	IAmb	17 26 02.3			
	comp=Z,99nm,0.9s								
L04D	Klamath Falls	86.22	44	IAmb	IAmb	17 26 02.0			
	comp=Z,62nm,0.9s								
PNL	Peninsula	86.23	24	P	P	17 25 59.7	+1.0		
PNL	Peninsula	86.23	24	P	P	17 25 57.6	-1.0		
	baz=231								
MLY	Manley	86.25	16	P	P	17 25 57.6	-1.0		
	baz=220,SNR=11								
BARN	Barnard Glacie	86.28	22	IAmb	IAmb	17 26 01.2			
	comp=Z,48nm,0.8s								
PAX	Paxson	86.29	20	P	P	17 25 57.8	-1.1		
	baz=225								
ZAK	Zakamensk	86.33	325	*eP*	P	17 25 58.7	-0.8		
ZAK				pmax	pmax				
	comp=Z,371nm,1.4s								
SIT	Sitka	86.34	27	P	P	17 25 58.5	-0.6		
	baz=234								
C17K	DeLong Mountai	86.34	10	P	P	17 25 59.1	+0.1		
	baz=208								
CTG	Chitna Glacier	86.34	22	P	P	17 25 58.1	-1.2		
	baz=229,SNR=20								
CTGM	Chitina Glacie	86.34	22	IAmb	IAmb	17 26 04.2			
	comp=Z,61nm,0.9s								
LOGN	Logan Glacier	86.37	23	IAmb	IAmb	17 26 01.4			
	comp=Z,33nm,0.6s								
NEA2	Nenana	86.38	17	P	P	17 25 58.8	-0.4		
	baz=222,SNR=33								
ISA	Isabella, Lake	86.39	52	IAmb	IAmb	17 26 03.3			
	comp=Z,93nm,1.1s								
CRAG	Craig	86.44	29	P	P	17 25 59.3	-0.4		
	baz=236								
HOLB	Holberg	86.46	35	IAmb	IAmb	17 26 02.3			
	comp=Z,67nm,1.0s								
S31K	Pelican	86.48	26	IAmb	IAmb	17 26 02.3			
	comp=Z,64nm,1.3s								
S31K	Pelican	86.48	26	P	P	17 25 58.9	-0.9		
	baz=233								
HEBO	Mount Hebo	86.55	41	IAmb	IAmb	17 26 03.2			
	comp=Z,111nm,1.0s								
WRH	Wood River Hil	86.58	18	IAmb	IAmb	17 26 01.6			
	comp=Z,47nm,0.7s								
CBX	Cerro Bola	86.58	55	IAmb	IAmb	17 26 06.1			
	comp=Z,113nm,1.1s								
BUCK	Buck Mountain	86.61	42	IAmb	IAmb	17 26 04.1			
	comp=Z,68nm,1.0s								
F20K	Avaraart Lake	86.61	14	IAmb	IAmb	17 26 05.2			
	comp=Z,84nm,0.9s								
F20K	Avaraart Lake	86.61	14	P	P	17 25 59.9	-0.3		
	baz=215,SNR=68								
BEKR	Beckworth	86.61	47	IAmb	IAmb	17 26 03.5			
	comp=Z,63nm,1.1s								
E19K	Redstone River	86.62	13	P	P	17 25 59.6	-0.7		
	baz=214								
MPK	Martis Peak	86.62	48	IAmb	IAmb	17 26 07.7			
	comp=Z,86nm,1.1s								
O28M	Mount Upton	86.64	23	IAmb	IAmb	17 26 04.0			
	comp=Z,42nm,0.7s								
O28M	Mount Upton	86.64	23	P	P	17 25 59.6	-1.3		
	baz=230,SNR=12								
G21K	Allakaket	86.70	15	P	P	17 26 00.0	-0.8		
	baz=217								
M26K	Nabesna, AK	86.72	21	P	P	17 26 00.4	-0.6		
	baz=227,SNR=32								
I23K	Minto, Yukon-K	86.72	17	P	P	17 25 59.8	-1.1		
	baz=221,SNR=14								
IRK	Irkutsk	86.72	327	*eP*	P	17 25 58.9	-2.3		
IRK				*eS*	S	17 36 30.3	+1.1		
IRK				pmax	pmax				
	comp=Z,348nm,2.3s								
WAKR	Walker	86.75	49	IAmb	IAmb	17 26 05.3			
	comp=Z,95nm,1.2s								
H22K	Ishtalitna Cre	86.75	16	P	P	17 26 00.7	-0.4		
	baz=219,SNR=44								
K04D	Chiloquin, OR	86.76	44	IAmb	IAmb	17 26 04.2			
	comp=Z,63nm,1.1s								
J04A	Umpqua Nationa	86.78	44	IAmb	IAmb	17 26 04.9			
	comp=Z,70nm,0.8s								
CCB	Clear Creek Bu	86.79	18	IAmb	IAmb	17 26 03.1			
	comp=Z,46nm,0.8s								
K24K	Donnelly Dome	86.79	19	IAmb	IAmb	17 26 05.5			
	comp=Z,71nm,1.0s								
K24K	Donnelly Dome	86.79	19	P	P	17 26 00.6	-0.7		
	baz=225,SNR=20								
U33K	Whale Pass	86.80	29	P	P	17 26 00.8	-0.6		
	baz=236								
MENT	Mentasta	86.84	20	P	P	17 26 02.1	+0.5		
C18K	Utukok River	86.84	11	IAmb	IAmb	17 26 05.9			
	comp=Z,105nm,0.9s								
C18K	Utukok River	86.84	11	P	P	17 26 01.0	-0.5		
	baz=210								
PNTR	Pine Nut	86.85	48	IAmb	IAmb	17 26 08.7			
	comp=Z,56nm,0.9s								
G03D	McMinnville, O	86.86	41	IAmb	IAmb	17 26 04.5			
	comp=Z,94nm,1.0s								
P29M	Windy Craggy	86.87	25	P	P	17 26 00.4	-1.4		
	baz=232,SNR=11								
HDA	Harding Lake	86.87	18	P	P	17 26 00.2	-1.4		
	baz=224,SNR=103								
H04D	Lebanon	86.91	42	IAmb	IAmb	17 26 04.8			
	comp=Z,58nm,1.0s								
S32K	Killisnoo	86.91	27	P	P	17 26 01.2	-0.7		
	baz=235								
COLA	College	86.94	17	P	P	17 26 01.5	-0.5		
COLA				IAmb	IAmb	17 26 03.3			
	comp=Z,76nm,0.8s								
COLA	College	86.94	17	P	P	17 26 01.0	-0.9		
COLA	College	86.94	17	*c iP*	P	17 26 01.6	-0.3		
COLA				pmax	pmax				
	comp=Z,56nm,0.7s								
COLA	College	86.94	17	⇑P	P	17 26 00.6	-1.4		
COLA	College	86.94	17	P	P	17 26 00.5	-1.4		
	baz=223								
COLA	College	86.94	17	P	P	17 26 01.8	-0.1		
R31K	City Hall, Gus	86.95	26	P	P	17 26 01.2	-0.9		
	baz=234								
O29M	Mount Kennedy	86.96	24	P	P	17 26 01.0	-1.3		
	baz=231								
VTX	Valle De La Tr	86.97	56	IAmb	IAmb	17 26 08.3			
	comp=Z,80nm,1.1s								
F03A	Seaside	86.99	41	IAmb	IAmb	17 26 05.6			
	comp=Z,87nm,0.9s								
L26K	Log Cabin Wild	87.03	20	P	P	17 26 02.2	-

	comp=Z,62nm,1.1s							
E03A	**Lebam**	**87.25**	**40**	IAmb	IAmb	17 26 06.9		
	comp=Z,138nm,1.0s							
C03A	**Quillayute Air**	**87.26**	**39**	IAmb	IAmb	17 26 07.0		
	comp=Z,74nm,0.9s							
F21K	**Alatna River**	**87.27**	**14**	IAmb	IAmb	17 26 06.1		
	comp=Z,43nm,0.7s							
F21K	**Alatna River**	**87.27**	**14**	P	**P**	**17 26 02.9**	**-0.7**	
	baz=217							
D19K	**Kuna River**	**87.30**	**12**	P	**P**	**17 26 02.9**	**-0.8**	
	baz=213							
PLBC	**Pleasant Camp**	**87.32**	**25**	P	**P**	**17 26 03.0**	**-0.9**	
	baz=233,SNR=15							
WRAK	**Wrangell Islan**	**87.33**	**29**	⇑P	**P**	**17 26 03.2**	**-0.7**	
WRAK	**Wrangell Islan**	**87.33**	**29**	P	**P**	**17 26 03.0**	**-1.0**	
	baz=237,SNR=5.7							
LHV	**Little Huntoon**	**87.33**	**49**	IAmb	IAmb	17 26 08.0		
	comp=Z,120nm,1.4s							
H04A	**Detroit Lake**	**87.33**	**42**	IAmb	IAmb	17 26 06.2		
	comp=Z,59nm,1.0s							
B18K	**Kokolik River**	**87.36**	**10**	P	**P**	**17 26 03.4**	**-0.5**	
	baz=210							
WISH	**Wishkah**	**87.37**	**40**	IAmb	IAmb	17 26 07.4		
	comp=Z,80nm,1.0s							
J05D	**Fort Rock, OR**	**87.38**	**44**	IAmb	IAmb	17 26 07.9		
	comp=Z,59nm,0.8s							
K05A	**Summer Lake**	**87.38**	**44**	IAmb	IAmb	17 26 07.5		
	comp=Z,78nm,1.1s							
DSP	**Deep Springs**	**87.39**	**50**	IAmb	IAmb	17 26 08.2		
	comp=Z,97nm,1.1s							
F04D	**Rainier, OR**	**87.40**	**41**	IAmb	IAmb	17 26 07.3		
	comp=Z,77nm,0.9s							
R32K	**Eaglecrest**	**87.40**	**27**	P	**P**	**17 26 03.7**	**-0.6**	
	baz=235,SNR=5.1							
NLWA	**Neilton Lookou**	**87.43**	**39**	IAmb	IAmb	17 26 07.4		
	comp=Z,44nm,0.9s							
NLWA	**Neilton Lookou**	**87.43**	**39**	⇑P	**P**	**17 26 06.7**	**+1.9**	
YUK6	**Outpost Mounta**	**87.44**	**23**	P	**P**	**17 26 04.2**	**-0.5**	
	baz=231							
RYN	**Ryan**	**87.46**	**49**	IAmb	IAmb	17 26 07.7		
	comp=Z,56nm,1.1s							
BVCY	**Beaver Creek**	**87.47**	**21**	P	**P**	**17 26 04.1**	**-0.5**	
	baz=229,SNR=5.8							
SCRK	**Sand Creek**	**87.48**	**19**	IAmb	IAmb	17 26 09.2		
	comp=Z,49nm,1.0s							
SCRK	**Sand Creek**	**87.48**	**19**	P	**P**	**17 26 03.5**	**-1.2**	
	baz=226,SNR=38							
P30M	**Million Dollar**	**87.48**	**24**	P	**P**	**17 26 03.4**	**-1.4**	
	baz=233							
J25K	**Salcha River,**	**87.49**	**18**	IAmb	IAmb	17 26 08.9		
	comp=Z,81nm,1.0s							
J25K	**Salcha River,**	**87.49**	**18**	P	**P**	**17 26 03.7**	**-1.0**	
	baz=225,SNR=88							
E20K	**Nigu River**	**87.50**	**13**	P	**P**	**17 26 04.6**	**-0.1**	
	baz=215							
GSC	**Goldstone, Bar**	**87.53**	**52**	IAmb	IAmb	17 26 08.8		
	comp=Z,108nm,1.4s							
GTK	**Tadong**	**87.53**	**299**	*e*P	**P**	**17 26 05.9**	**0.0**	
GTK				IAmb	IAmb	17 26 11.9		
	comp=Z,97nm,0.8s							
GTK				*e*S	**SKSac**	**17 36 25.6**	**+1.7**	
C19K	**Lookout Ridge**	**87.54**	**11**	IAmb	IAmb	17 26 07.4		
	comp=Z,81nm,0.9s							
C19K	**Lookout Ridge**	**87.54**	**11**	P	**P**	**17 26 04.3**	**-0.5**	
	baz=212							
NVAR	**Mina Array Bea**	**87.54**	**49**	P	**P**	**17 26 05.3**	**-0.5**	
NVAR	**Mina Array Bea**	**87.54**	**49**	P	**P**	**17 26 05.5**	**-0.3**	
	comp=Z,24nm,0.9s,baz=234,slow=8.1,SNR=62							
NVAR				pP	**pP**	**17 26 33.8**	**-0.4**	
	comp=Z,8.2nm,0.8s,baz=228,slow=8.2,SNR=2.8							
NVAR				sP	**sP**	**17 26 45.1**	**-0.8**	
	comp=Z,8.5nm,0.8s,baz=228,slow=8.1,SNR=2.3							
NVAR				PKiKP	**PKiKP**	**17 31 04.6**	**-4.3**	
	comp=Z,2.4nm,0.8s,baz=140,slow=3.3,SNR=4.8							
NVAR				PKKPbc	**PKKPbc**	**17 43 56.4**	**+0.8**	
	comp=Z,5.7nm,0.7s,baz=89,slow=3.2,SNR=18							
NVAR				PKPPKP	**P'P'df**	**17 51 56.8**	**-4.9**	
	comp=Z,2.2nm,1.0s,baz=74,slow=2.7,SNR=5.1							
NVAR				LR	LR	17 57 40.0		
	comp=Z,2µm,21.3s,baz=266,slow=30							
	comp=Z,24nm,0.9s							
L27K	**Beaver Creek,**	**87.56**	**21**	P	**P**	**17 26 04.8**	**-0.2**	
	baz=228							
BCAR	**Beaver Creek A**	**87.58**	**21**	P	**P**	**17 26 04.5**	**-0.7**	
YUK4	**Talbot Arm**	**87.58**	**23**	P	**P**	**17 26 05.2**	**-0.2**	
	baz=231,SNR=22							
SFX	**San Felipe**	**87.60**	**57**	IAmb	IAmb	17 26 10.7		
	comp=Z,62nm,1.1s							
H24K	**Noodor Dome**	**87.65**	**17**	P	**P**	**17 26 04.0**	**-1.5**	
	baz=223							
NV11	**Mina Array Sit**	**87.65**	**49**	IAmb	IAmb	17 26 09.3		
	comp=Z,228nm,1.9s							
HYT	**Haines Junctio**	**87.70**	**24**	P	**P**	**17 26 05.9**	**0.0**	
	baz=232,SNR=14							
GRAC	**Grapevine Rang**	**87.71**	**51**	IAmb	IAmb	17 26 09.7		
	comp=Z,89nm,1.1s							
QSM	**Queen of Sheba**	**87.71**	**52**	IAmb	IAmb	17 26 09.3		
	comp=Z,98nm,1.3s							
G23K	**Bananza Creek**	**87.73**	**16**	P	**P**	**17 26 05.6**	**-0.2**	
	baz=221,SNR=28							
CBB	**Campbell River**	**87.73**	**36**	IAmb	IAmb	17 26 09.3		
	comp=Z,82nm,1.0s							
SKAG	**Skagway**	**87.75**	**25**	P	**P**	**17 26 06.4**	**+0.5**	
SKAG	**Skagway**	**87.75**	**25**	⇑P	**P**	**17 26 05.5**	**-0.4**	
SKAG	**Skagway**	**87.75**	**25**	P	**P**	**17 26 05.5**	**-0.4**	
	baz=234,SNR=7.6							
PINE	**Pine Mountain**	**87.78**	**43**	IAmb	IAmb	17 26 09.4		
	comp=Z,63nm,1.0s							
D20K	**Etivluk River**	**87.79**	**12**	P	**P**	**17 26 06.0**	**0.0**	
	baz=214							
F22K	**John River**	**87.81**	**14**	P	**P**	**17 26 06.1**	**0.0**	
	baz=219,SNR=26							
CLRS	**Cowichan Lake**	**87.91**	**38**	IAmb	IAmb	17 26 09.9		
	comp=Z,57nm,0.9s							
HOOD	**Mount Hood Mea**	**87.94**	**42**	IAmb	IAmb	17 26 10.1		
	comp=Z,84nm,1.1s							
GWY	**Greenwater Val**	**87.94**	**52**	IAmb	IAmb	17 26 10.5		
	comp=Z,95nm,1.3s							
J26L	**Joseph Creek**	**87.97**	**19**	P	**P**	**17 26 06.8**	**-0.2**	
	baz=227,SNR=15							
SYO	**Syowa Base**	**88.07**	**197**	⇑*i*P	**P**	**17 26 07.0**	**-0.4**	
SYO	**Syowa Base**	**88.07**	**197**	⇑*i*PcP	**PcP**	**17 26 09.0**	**-0.1**	
COLD	**Coldfoot**	**88.08**	**15**	P	**P**	**17 26 07.8**	**+0.4**	
	baz=220,SNR=10							
PRP	**Porcupine Dome**	**88.09**	**18**	P	**P**	**17 26 07.2**	**-0.4**	
	baz=225,SNR=7.5							
G05A	**Wamic**	**88.12**	**42**	IAmb	IAmb	17 26 10.4		
	comp=Z,58nm,1.0s							
K27K	**Chicken**	**88.13**	**20**	P	**P**	**17 26 08.0**	**+0.4**	
	baz=228							
E21K	**Killik River**	**88.14**	**13**	IAmb	IAmb	17 26 10.5		
	comp=Z,75nm,0.8s							
E21K	**Killik River**	**88.14**	**13**	P	**P**	**17 26 07.7**	**+0.1**	
	baz=217							
GNW	**Green Mountain**	**88.15**	**39**	IAmb	IAmb	17 26 10.5		
	comp=Z,60nm,1.0s							
U35K	**Hyder**	**88.16**	**30**	P	**P**	**17 26 07.3**	**-0.5**	
	baz=239							
WCT	**Wildcat Mounta**	**88.19**	**51**	IAmb	IAmb	17 26 11.9		
	comp=Z,101nm,1.3s							
MOY	**Mondy**	**88.22**	**325**	*e*P	**P**	**17 26 07.7**	**-0.8**	
MOY				pmax	pmax			
	comp=Z,279nm,2.4s							
A19K	**Wainwright**	**88.22**	**10**	P	**P**	**17 26 08.0**	**+0.1**	
	baz=210							
PGC	**Sidney**	**88.24**	**38**	IAmb	IAmb	17 26 11.4		
	comp=Z,58nm,1.0s							
N30M	**Aishikik Lake**	**88.25**	**23**	P	**P**	**17 26 08.1**	**-0.3**	
	baz=233,SNR=8.2							
GLA	**Glamis**	**88.29**	**55**	IAmb	IAmb	17 26 14.3		
	comp=Z,69nm,1.1s							
M29M	**Somme Creek**	**88.34**	**22**	P	**P**	**17 26 08.1**	**-0.7**	
	baz=231,SNR=12							
E22K	**Anaktuvuk Pass**	**88.39**	**14**	P	**P**	**17 26 08.3**	**-0.5**	
	baz=219,SNR=18							
G24K	**Hadweenzic Riv**	**88.39**	**16**	P	**P**	**17 26 08.7**	**-0.2**	
	baz=223,SNR=16							
P32M	**Atlin**	**88.49**	**26**	P	**P**	**17 26 09.4**	**-0.1**	
	baz=236,SNR=12							
TPNV	**Topopah Spring**	**88.53**	**51**	IAmb	IAmb	17 26 13.6		
	comp=Z,73nm,1.1s							
C21K	**Knifeblade Rid**	**88.54**	**13**	P	**P**	**17 26 09.4**	**-0.1**	
	baz=216							
G06A	**Carlson Farm,**	**88.56**	**42**	IAmb	IAmb	17 26 12.3		
	comp=Z,58nm,1.4s							
T35M	**Bob Quinn**	**88.61**	**29**	P	**P**	**17 26 09.5**	**-0.6**	
	baz=239							
WHY	**Whitehorse**	**88.63**	**25**	P	**P**	**17 26 10.0**	**-0.2**	
	baz=234,SNR=10							
I26K	**Coal Creek Min**	**88.65**	**19**	P	**P**	**17 26 09.0**	**-1.1**	
	baz=227							
S34M	**Telegraph Cree**	**88.69**	**28**	P	**P**	**17 26 10.0**	**-0.5**	
	baz=238,SNR=11							
Q32M	**Nakina River**	**88.76**	**27**	P	**P**	**17 26 10.1**	**-0.9**	
	baz=237							
B20K	**Meade River**	**88.76**	**11**	P	**P**	**17 26 09.5**	**-1.0**	
	baz=214							
BLYC	**Blythe**	**88.76**	**55**	IAmb	IAmb	17 26 16.9		
	comp=Z,92nm,1.2s							
N31M	**Braeburn, Yuko**	**88.76**	**24**	P	**P**	**17 26 10.4**	**-0.3**	
	baz=234,SNR=13							
D22K	**Ayikyak River**	**88.77**	**13**	IAmb	IAmb	17 26 14.2		
	comp=Z,54nm,0.7s							
D22K	**Ayikyak River**	**88.77**	**13**	P	**P**	**17 26 10.2**	**-0.4**	
	baz=218							
WVOR	**Wild Horse Val**	**88.81**	**45**	IAmb	IAmb	17 26 14.8		
	comp=Z,116nm,1.4s							
G25K	**Bearman Lake**	**88.82**	**17**	P	**P**	**17 26 10.1**	**-0.7**	
	baz=224							
I07A	**Izee**	**88.85**	**44**	IAmb	IAmb	17 26 14.8		
	comp=Z,104nm,1.1s							
E23K	**Chandalar**	**88.86**	**15**	P	**P**	**17 26 10.8**	**-0.3**	
	baz=221							
L29M	**L29M**	**88.88**	**22**	P	**P**	**17 26 11.4**	**+0.1**	
	baz=232							
F24K	**Squaw Lake**	**88.89**	**16**	P	**P**	**17 26 11.6**	**+0.4**	
	baz=223,SNR=16							
PALK	**Pallekele**	**88.92**	**278**	P	**P**	**17 26 12.0**	**-0.6**	
PALK	**Pallekele**	**88.92**	**278**	LR	LR	18 04 29.9		
	comp=Z,671nm,21.2s,baz=110,slow=34							
PALK	**Pallekele**	**88.92**	**278**	P	**P**	**17 26 12.0**	**-0.6**	
PALK				pmax	pmax			
	comp=Z,130nm,1.1s							
PALK	**Pallekele**	**88.92**	**278**	P	**P**	**17 26 12.2**	**-0.4**	
B21K	**Ikpuk River**	**88.95**	**12**	P	**P**	**17 26 11.3**	**-0.1**	
	baz=216,SNR=16							
M30M	**Minto, Yukon**	**89.04**	**22**	P	**P**	**17 26 10.4**	**-1.6**	
	baz=233,SNR=18							
DAWY	**Dawson**	**89.05**	**21**	P	**P**	**17 26 10.4**	**-1.7**	
	baz=230,SNR=14							
KNTI	**KHUNTI**	**89.09**	**294**	*e*P	**P**	**17 26 12.7**	**-0.5**	
S11A	**Rachel**	**89.14**	**51**	IAmb	IAmb	17 26 16.3		
	comp=Z,165nm,1.6s							
E24K	**Your Creek**	**89.15**	**15**	P	**P**	**17 26 12.3**	**-0.1**	
	baz=222,SNR=6.3							
V12A	**Nelson**	**89.17**	**53**	IAmb	IAmb	17 26 16.6		
	comp=Z,91nm,1.6s							
SHPR	**Sheep Range**	**89.20**	**52**	IAmb	IAmb	17 26 17.1		
	comp=Z,73nm,1.5s							
P33M	**Teslin, Yukon**	**89.22**	**26**	P	**P**	**17 26 11.9**	**-1.1**	
	baz=236,SNR=10							
LPIG	**La Paz**	**89.25**	**65**	LR	LR	17 56 08.5		
	comp=Z,723nm,21.6s,baz=252,slow=29							
J08A	**Circle Bar Ran**	**89.26**	**45**	IAmb	IAmb	17 26 16.6		
	comp=Z,104nm,1.0s							
F07A	**Phinny Hill Vi**	**89.28**	**42**	IAmb	IAmb	17 26 16.4		
	comp=Z,71nm,1.0s							
D23K	**Nanushuk River**	**89.30**	**14**	IAmb	IAmb	17 26 18.9		
	comp=Z,55nm,0.9s							
D23K	**Nanushuk River**	**89.30**	**14**	P	**P**	**17 26 13.6**	**+0.5**	
	baz=220,SNR=22							
TOLK	**Toolik Lake Re**	**89.31**	**14**	P	**P**	**17 26 13.3**	**+0.1**	
	baz=221,SNR=11							
MXC	**Moxie City**	**89.32**	**41**	IAmb	IAmb	17 26 16.6		
	comp=Z,53nm,1.0s							
I27K	**Kandik River**	**89.33**	**19**	P	**P**	**17 26 13.5**	**+0.2**	
	baz=228							
LTY	**Liberty**	**89.35**	**40**	IAmb	IAmb	17 26 15.8		
	comp=Z,46nm,0.9s							
MALK	**Mahakanadarawa**	**89.37**	**279**	P	**P**	**17 26 12.9**	**-1.7**	
MALK	**Mahakanadarawa**	**89.37**	**279**	⇑P	**P**	**17 26 17.5**	**+2.8**	
DLBC	**Dease Lake**	**89.47**	**28**	LR	LR	17 58 56.4		
	comp=Z,109nm,21.0s,baz=232,slow=30							
DLBC	**Dease Lake**	**89.47**	**28**	P	**P**	**17 26 13.1**	**-1.0**	
	baz=239,SNR=18							
R11B	**Troy Canyon, C**	**89.51**	**50**	IAmb	IAmb	17 26 19.3		
	comp=Z,46nm,1.2s							
ELIB	**Princess Elisa**	**89.53**	**191**	*d*P	**P**	**17 26 14.0**	**-0.5**	
	comp=Z,138nm,1.1s							
ELIB				*d*pP	**pP**	**17 26 41.5**	**-1.8**	
F25K	**Christian Rive**	**89.54**	**16**	P	**P**	**17 26 14.2**	**0.0**	
	baz=225,SNR=15							
214A	**Upon Pipe Nat**	**89.55**	**57**	IAmb	IAmb	17 26 20.2		
	comp=Z,54nm,1.1s							
K29M	**Barlow Dome**	**89.55**	**21**	P	**P**	**17 26 14.7**	**+0.2**	
	baz=232,SNR=13							
R33M	**Jennings River**	**89.56**	**27**	P	**P**	**17 26 14.1**	**-0.5**	
	baz=238							
PRN	**Pahroc Range**	**89.58**	**51**	IAmb	IAmb	17 26 20.9		
	comp=Z,98nm,1.1s							
E07A	**Sunnyside**	**89.59**	**41**	IAmb	IAmb	17 26 17.9		
	comp=Z,90nm,0.8s							
G26K	**Porcupine Rive**	**89.60**	**17**	IAmb	IAmb	17 26 19.3		
	comp=Z,41nm,0.8s							
G26K	**Porcupine Rive**	**89.60**	**17**	P	**P**	**17 26 14.7**	**+0.2**	
	baz=226,SNR=21							
RAGD	**RAYAGADA**	**89.63**	**290**	*e*P	**P**	**17 26 16.2**	**+0.4**	
N32M	**Quiet Lake**	**89.63**	**25**	P	**P**	**17 26 14.6**	**-0.3**	
	baz=236							
J29N	**Klondike Camp**	**89.69**	**21**	P	**P**	**17 26 15.0**	**-0.1**	
	baz=234							
W13A	**Hualapai Mount**	**89.70**	**53**	IAmb	IAmb	17 26 21.4		
	comp=Z,59nm,1.0s							
BMAR	**Burnt Mountain**	**89.71**	**17**	P	**P**	**17 26 14.3**	**-0.8**	
M31M	**Drury Creek, Y**	**89.72**	**23**	P	**P**	**17 26 14.5**	**-0.7**	
	baz=235							
HAWA	**Hanford**	**89.73**	**41**	IAmb	IAmb	17 26 18.6		
	comp=Z,95nm,0.9s							
I28M	**Miner Creek**	**89.76**	**19**	P	**P**	**17 26 14.1**	**-1.3**	
	baz=230,SNR=11							
B22K	**Teshekpuk Lake**	**89.78**	**12**	IAmb	IAmb	17 26 19.7		
	comp=Z,69nm,0.8s							
B22K	**Teshekpuk Lake**	**89.78**	**12**	P	**P**	**17 26 15.1**	**-0.1**	
	baz=217							
H27K	**Steamboat Moun**	**89.78**	**18**	P	**P**	**17 26 15.0**	**-0.4**	
	baz=228,SNR=12							
WAH2	**Wahluke Slope**	**89.85**	**41**	IAmb	IAmb	17 26 18.9		
	comp=Z,80nm,1.1s							
D24K	**Happy Valley**	**89.87**	**14**	IAmb	IAmb	17 26 20.2		
	comp=Z,54nm,1.1s							
D24K	**Happy Valley**	**89.87**	**14**	P	**P**	**17 26 15.8**	**+0.1**	
	baz=222,SNR=12							
E25K	**Arctic Village**	**89.93**	**16**	P	**P**	**17 26 16.3**	**+0.2**	
	baz=225,SNR=10							
A21K	**Barrow**	**89.96**	**11**	P	**P**	**17 26 16.6**	**+0.6**	
	baz=214							
YPT	**Yellepit**	**89.96**	**42**	IAmb	IAmb	17 26 18.9		
	comp=Z,39nm,0.9s							
MAYO	**Mayo, Yukon**	**89.98**	**22**	P	**P**	**17 26 15.7**	**-0.6**	
	baz=234							
C23K	**Itkillik River**	**89.98**	**13**	IAmb	IAmb	17 26 20.1		
	comp=Z,52nm,0.8s							
C23K	**Itkillik River**	**89.98**	**13**	P	**P**	**17 26 16.5**	**+0.3**	
	baz=220,SNR=11							
LLLB	**Lillooet**	**90.00**	**37**	IAmb	IAmb	17 26 19.6		
	comp=Z,70nm,1.1s							
A22K	**Sinclair Lake**	**90.00**	**11**	P	**P**	**17 26 16.7**	**+0.5**	
	baz=216							
F26K	**Sheenjek River**	**90.02**	**17**	P	**P**	**17 26 17.3**	**+0.8**	
	baz=226,SNR=12							
G27K	**Doyon Strip**	**90.12**	**18**	P	**P**	**17 26 17.5**	**+0.5**	
	baz=228							
FARO	**Faro, Yukon**	**90.14**	**24**	P	**P**	**17 26 16.5**	**-0.7**	
	baz=236,SNR=7.1							
HSIG		**90.17**	**60**	IAmb	IAmb	17 26 23.2		
	comp=Z,54nm,1.3s							
I29M	**Ogilvie Camp,**	**90.23**	**20**	P	**P**	**17 26 17.0**	**-0.5**	
	baz=231							
C24K	**Franklin Bluff**	**90.33**	**14**	P	**P**	**17 26 18.5**	**+0.7**	
	baz=222							
D08A	**Wollman Farm,**	**90.37**	**41**	IAmb	IAmb	17 26 21.4		
	comp=Z,54nm,0.9s							
J30M	**Hart River**	**90.41**	**21**	P	**P**	**17 26 17.8**	**-0.7**	
	baz=233							
ELK	**Elko**	**90.58**	**48**	IAmb	IAmb	17 26 22.9		
	comp=Z,46nm,1.1s							
ELK	**Elko**	**90.58**	**48**	LR	LR	17 59 19.3		
	comp=Z,2µm,21.8s,baz=257,slow=30							
D25K	**Kavik River**	**90.59**	**15**	P	**P**	**17 26 19.1**	**0.0**	
	baz=224,SNR=5.8							
BMO	**Blue Mountains**	**90.60**	**43**	IAmb	IAmb	17 26 22.4		
	comp=Z,45nm,1.1s							
SPR3	**Spring Creek 3**	**90.65**	**50**	IAmb	IAmb	17 26 23.2		
	comp=Z,34nm,0.9s							
E09A	**Wood Farm, Sta**	**90.66**	**42**	IAmb	IAmb	17 26 22.6		
	comp=Z,90nm,1.3s							
H29M	**Whitestone**	**90.75**	**19**	P	**P**	**17 26 18.9**	**-0.9**	
	baz=231,SNR=7.3							
TIXI	**Tiksi**	**90.76**	**349**	P	**P**	**17 26 18.6**	**-1.2**	
TIXI	**Tiksi**	**90.76**	**349**	LR	LR	18 05 23.0		
	comp=Z,1µm,19.9s,baz=156,slow=34							
TIXI	**Tiksi**	**90.76**	**349**	*c i*P	**P**	**17 26 18.8**	**-1.0**	
TIXI				pmax	pmax			
	comp=Z,200nm,1.2s							
I30M	**Mount Dempster**	**90.78**	**20**	P	**P**	**17 26 19.3**	**-0.9**	
	baz=233,SNR=12							
PMSA	**Palmer Station**	**90.97**	**160**	P	**P**	**17 26 21.6**	**+0.6**	
PMSA	**Palmer Station**	**90.97**	**160**	LR	LR	18 00 51.2		
	comp=Z,1µm,21.5s,baz=226,slow=31							
PMSA	**Palmer Station**	**90.97**	**160**	*e*P	**P**	**17 26 20.0**	**-1.1**	
E27K	**Coleen River**	**91.06**	**17**	P	**P**	**17 26 20.8**	**-0.5**	
	baz=228							
MFID	**Camas Ranch**	**91.08**	**45**	IAmb	IAmb	17 26 24.9		
	comp=Z,35nm,1.0s							
MMPY	**Sheldon Lake,**	**91.16**	**24**	P	**P**	**17 26 20.2**	**-1.8**	
	baz=238,SNR=11							
F28M	**Old Crow**	**91.18**	**18**	P	**P**	**17 26 21.4**	**-0.5**	
	baz=230							
G29M	**Pine Creek**	**91.29**	**19**	P	**P**	**17 26 22.3**	**-0.1**	
	baz=232							
TUC	**Tucson**	**91.29**	**57**	P	**P**	**17 26 23.2**	**-0.1**	
TUC				IAmb	IAmb	17 26 29.1		
	comp=Z,55nm,1.3s							
TUC	**Tucson**	**91.29**	**57**	P	**P**	**17 26 23.2**	**-0.1**	
TUC				pmax	pmax			
	comp=Z,55nm,1.3s							
EPYK	**Eagle Plains**	**91.37**	**19**	P	**P**	**17 26 22.7**	**-0.1**	
	baz=233,SNR=8.6							
C26K	**Camden Bay**	**91.38**	**15**	P	**P**	**17 26 22.5**	**-0.2**	
	baz=225							
X16A	**Lo Mia Camp, P**	**91.40**	**55**	IAmb	IAmb	17 26 29.6		
	comp=Z,49nm,1.1s							
C27K	**Jago River**	**91.47**	**15**	IAmb	IAmb	17 26 28.0		
	comp=Z,32nm,0.8s							
C27K	**Jago River**	**91.47**	**15**	P	**P**	**17 26 23.4**	**+0.2**	
	baz=226,SNR=6.2							
LIRD	**Liard River Hi**	**91.72**	**28**	P	**P**	**17 26 24.4**	**-0.1**	
	baz=242							
WUAZ	**Wupatki**	**91.79**	**54**	IAmb	IAmb	17 26 31.2		
	comp=Z,82nm,1.2s							
TGTN	**Hyland Airport**	**91.80**	**26**	P	**P**	**17 26 24.5**	**-0.5**	
	baz=240							
H31M	**Peel River**	**91.81**	**20**	P	**P**	**17 26 23.4**	**-1.5**	
	baz=235							
TOAD	**Toad River Com**	**91.86**	**29**	P	**P**	**17 26 24.5**	**-0.7**	
	baz=243,SNR=39							
G30M	**tAoh Zraii Nji**	**91.89**	**19**	IAmb	IAmb	17 26 28.9		
	comp=Z,26nm,0.9s							
G30M	**tAoh Zraii Nji**	**91.89**	**19**	P	**P**	**17 26 24.9**	**-0.3**	
	baz=233,SNR=17							
E28M	**Babbage River**	**91.91**	**17**	IAmb	IAmb	17 26 40.9		
	comp=Z,95nm,1.9s							
E28M	**Babbage River**	**91.91**	**17**	P	**P**	**17 26 25.6**	**+0.4**	
	baz=230,SNR=6.0							
D27M	**Malcolm River**	**91.93**	**16**	IAmb	IAmb	17 26 33.4		
	comp=Z,22nm,0.7s							
D27M	**Malcolm River**	**91.93**	**16**	P	**P**	**17 26 26.0**	**+0.6**	
	baz=229							
NEW	**Newport**	**91.95**	**40**	IAmb	IAmb	17 26 28.2		
	comp=Z,24nm,0.9s							
NEW	**Newport**	**91.95**	**40**	LR	LR	18 03 49.2		
	comp=Z,1µm,18.7s,baz=262,slow=33							
MVU	**Marysvale**	**92.06**	**51**	IAmb	IAmb	17 28 17.0		
	comp=Z,26nm,0.7s							
TROLL	**Troll, Antarti**	**92.14**	**185**	⇑P	**P**	**17 26 26.0**	**-0.6**	
	comp=Z,15µm,0.6s							
DUG	**Dugway, Tooele**	**92.15**	**49**	IAmb	IAmb	17 28 22.1		
	comp=Z,59nm,1.7s							
319A	**Douglas**	**92.24**	**58**	IAmb	IAmb	17 26 33.4		
	comp=Z,58nm,1.0s							
E29M	**Below River**	**92.25**	**18**	P	**P**	**17 26 26.9**	**+0.2**	
	baz=232							
F30M	**Barrier River**	**92.41**	**19**	P	**P**	**17 26 27.1**	**-0.4**	
	baz=234							
G31M	**Satah River**	**92.48**	**20**	P	**P**	**17 26 27.7**	**-0.1**	
	baz=235,SNR=7.9							
D28M	**Stokes Point**	**92.60**	**17**	P	**P**	**17 26 28.3**	**0.0**	
	baz=231							
X18A	**Snowflake**	**92.61**	**55**	IAmb	IAmb	17 26 35.0		
	comp=Z,48nm,1.3s							
HVU	**Hansel Valley**	**92.67**	**47**	IAmb	IAmb	17 26 32.3		
	comp=Z,21nm,0.9s							
KOD	**Kodaikanal**	**92.78**	**280**	*e*P	**P**	**17 26 31.2**	**+0.4**	
KOD				IAmb	IAmb	17 26 34.8		
	comp=Z,60nm,0.8s							
SNAA	**Sanae**	**92.82**	**183**	⇑P	**P**	**17 26 28.6**	**-0.9**	
	comp=Z,3µm,0.7s

comp=Z,36nm,1.0s
PV13 Radium Mtn., P 94.51 52 IAmb IAmb 17 30 26.7
comp=Z,45nm,1.5s
PV03 Paradox Valley 94.52 52 IAmb IAmb 17 30 27.4
comp=Z,42nm,1.4s
WRGLY Wrigley 94.58 25 P **P** **17 26 36.8 -0.8**
baz=245
PV02 Paradox Valley 94.59 52 IAmb IAmb 17 30 27.3
comp=Z,66nm,1.3s
PV22 Blue Mesa, Par 94.64 51 IAmb IAmb 17 28 06.4
comp=Z,23nm,0.7s
PV01 Paradox Valley 94.69 52 IAmb IAmb 17 28 05.0
comp=Z,18nm,0.8s
YHL Hebgen Lake 94.71 45 IAmb IAmb 17 30 28.5
comp=Z,32nm,1.6s
PV07 Paradox Valley 94.72 52 IAmb IAmb 17 28 06.4
comp=Z,30nm,1.1s
PV15 Paradox Valley 94.82 52 IAmb IAmb 17 27 55.1
comp=Z,20nm,0.8s
PTH Pithoragarh 95.24 299 *e*P **P** **17 26 41.3 -0.4**
PTH IAmb IAmb 17 26 44.3
comp=Z,96nm,1.4s
PDAR Pinedale Array 95.24 47 P **P** **17 26 40.4 -1.0**
PDAR Pinedale Array 95.24 47 P **P** **17 26 40.9 -0.6**
comp=Z,4.9nm,0.9s,baz=247,slow=3.1,SNR=13
PDAR PKKP **PKKPbc** **17 43 33.5 -2.5**
comp=Z,7.5nm,0.8s,baz=97,slow=4.6,SNR=24
PDAR PKPPKP **P'P'df** **17 51 43.0 -4.1**
comp=Z,1.5nm,0.9s,baz=126,slow=3.8,SNR=9.7
PDAR LR LR 18 02 22.1
comp=Z,622nm,21.9s,baz=256,slow=31
comp=Z,4.9nm,0.9s
USHA Ushuaia 95.48 151 LR LR 18 00 17.3
comp=Z,678nm,21.4s,baz=210,slow=29
ANMO Albuquerque 95.49 55 P **P** **17 26 42.3 -0.4**
ANMO Albuquerque 95.49 55 LR LR 18 02 04.0
comp=Z,2µm,20.6s,baz=354,slow=30
ANMO Albuquerque 95.49 55*c i*P **P** **17 26 43.5 +0.8**
MNTX Cornudas Mount 95.53 59 IAmb IAmb 17 27 39.1
comp=Z,20nm,0.9s
VHRN Van Horn 95.63 60 IAmb IAmb 17 26 48.7
comp=Z,64nm,1.9s
JOSI Joshimath 96.05 300 *e*P **P** **17 26 45.5 +0.2**
BHPL Bhopal 96.10 292 *e*P **P** **17 26 45.6 +0.1**
NRDN NARMADA NAGAR 96.21 292 *e*P **P** **17 26 47.3 +1.3**
TX31 Lajitas Ar. Si 96.38 61 IAmb IAmb 17 27 28.9
comp=Z,13nm,0.8s
TXAR Lajitas Array 96.38 61 P **P** **17 26 46.9 +0.1**
comp=Z,4.3nm,0.8s,baz=222,slow=5.2,SNR=14
TXAR PP **PP** **17 30 42.9 +0.7**
comp=Z,13nm,1.1s,baz=254,slow=4.5,SNR=14
TXAR PKKP **PKKPbc** **17 43 32.0 -0.2**
comp=Z,2.8nm,0.8s,baz=84,slow=4.3,SNR=7.1
TXAR PKPPKP **P'P'df** **17 51 39.3 -6.5**
comp=Z,1.3nm,1.1s,baz=173,slow=5.0,SNR=5.3
TXAR LR LR 18 02 24.0
comp=Z,585nm,21.3s,baz=248,slow=30
comp=Z,4.3nm,0.8s
ZSN Zaisan 96.41 317 *e*P **P** **17 26 45.6 -0.8**
ZSN pmax pmax
comp=Z,68nm,1.0s
ZSN Zaisan 96.41 317 *e*P **P** **17 26 45.6 -0.8**
comp=Z,68nm,1.0s
GUNA GUNA 96.53 294 *e*P **P** **17 26 46.8 -0.7**
GUNA IAmb IAmb 17 26 50.6
comp=Z,42nm,0.7s
KLP Kalpa 97.37 301 *e*P **P** **17 26 50.9 -0.5**
KAD Karad 97.63 286 *e*P **P** **17 26 51.3 -1.3**
KAD IAmb IAmb 17 26 54.0
comp=Z,42nm,0.8s
A36M Sachs Harbour 97.81 17 P **P** **17 26 51.0 -1.1**
baz=244
MK31 Makanchi Array 97.94 316*c i*P **P** **17 26 52.7 -0.6**
MKAR Makanchi Array 97.94 316 P **P** **17 26 52.7 -0.6**
MKAR Makanchi Array 97.94 316 P **P** **17 26 52.9 -0.4**
comp=Z,102nm,0.8s,baz=95,slow=6.1,SNR=136
MKAR PKiKP **PKiKP** **17 31 25.8 -0.5**
comp=Z,7.0nm,0.7s,baz=103,slow=2.2,SNR=19
MKAR PKKPbc **PKKPbc** **17 43 24.9 -3.6**
comp=Z,2.4nm,0.7s,baz=277,slow=3.8,SNR=8.7
MKAR LR LR 18 09 59.2
comp=Z,601nm,21.9s,baz=93,slow=35
comp=Z,102nm,0.8s
YKA Yellowknife Ar 98.08 27 P **P** **17 26 53.0 -0.5**
YKA Yellowknife Ar 98.08 27 P **P** **17 26 52.3 -1.1**
comp=Z,29nm,0.8s,baz=263,slow=4.8,SNR=37
YKA PKKP **PKKPbc** **17 43 27.4 -1.4**
comp=Z,8.0nm,0.9s,baz=55,slow=2.2,SNR=7.2
YKA LR LR 18 09 01.5
comp=Z,512nm,18.1s,baz=260,slow=34
comp=Z,29nm,0.8s
YKA Yellowknife Ar 98.08 27 P **P** **17 26 53.0 -0.5**
YKAW3 Yellowknife Wh 98.10 27 IAmb IAmb 17 26 55.1
comp=Z,49nm,0.9s
YKAW1 Yellowknife Wh 98.13 27 IAmb IAmb 17 26 55.2
comp=Z,40nm,0.8s
MAKZ Makanchi 98.16 316 P **P** **17 26 53.6 -0.7**
MAKZ Makanchi 98.16 316 P **P** **17 26 53.6 -0.7**
MAKZ pmax pmax
comp=Z,108nm,1.1s
ZALV Zalesovo Beam 98.17 324 P **P** **17 26 52.3 -1.7**
ZALV Zalesovo Beam 98.17 324 P **P** **17 26 52.8 -1.2**
comp=Z,99nm,0.7s,baz=114,slow=4.1,SNR=168
ZALV PKiKP **PKiKP** **17 31 24.9 -1.4**
comp=Z,5.8nm,0.6s,baz=139,slow=1.8,SNR=9.0
ZALV LR LR 18 09 50.7
comp=Z,583nm,22.0s,baz=106,slow=34
comp=Z,99nm,0.7s
SMLA Simla 98.18 300 *e*P **P** **17 26 53.4 -1.2**
OZNA Ozona 98.89 60 IAmb IAmb 17 31 00.8
comp=Z,64nm,1.6s
DRIO Del Rio 98.99 62 IAmb IAmb 17 27 17.6
comp=Z,12nm,0.8s
SHLS Shalkode 99.06 312 *e*P **Pdif** **17 26 56.0 -2.5**
SHLS Shalkode 99.06 312 *e*P **Pdif** **17 26 56.1 -2.5**
PDGK Podgornoye 99.08 312 P **Pdif** **17 26 58.3 -0.3**
DHRM DHARAMSHALA 99.15 301 *e*P **Pdif** **17 26 57.7 -1.6**
DHRM IAmb IAmb 17 27 08.2
comp=Z,12nm,0.7s
KPKS Kokpek 99.68 312 *e*P **Pdif** **17 27 00.2 -1.0**
KPKS Kokpek 99.68 312 *e*P **Pdif** **17 27 00.3 -1.0**
TDK Taldyqorghan 100.19 314 *e*P **Pdif** **17 27 02.5 -0.9**
TDK Taldyqorghan 100.19 314 *e*P **Pdif** **17 27 02.5 -0.9**
NRIK Noril'sk 100.88 339 P **Pdif** **17 27 05.1 -0.7**
comp=Z,123nm,1.1s,baz=104,slow=4.8,SNR=85
NRIK PKiKP **PKiKP** **17 31 31.8 +1.0**
comp=Z,12nm,0.7s,baz=99,slow=0.9,SNR=7.1
NRIK Noril'sk 100.88 339*c i*P **Pdif** **17 27 04.9 -0.9**
KSH Kashi 100.89 308 P **Pdif** **17 27 08.8 +2.1**
KSH PP **PP** **17 31 19.2 +2.9**
KSH pmax pmax
comp=Z,10.0nm,1.3s
KSH LR LR
comp=Z,440nm,14.4s
KSH LR LR
comp=Z,740nm,20.3s
KSH LR LR
comp=Z,950nm,20.3s
AAA Alma-Ata 100.90 312 *e*P **Pdif** **17 27 05.4 -1.2**
AAA Alma-Ata 100.90 312 *e*P **Pdif** **17 27 05.4 -1.2**
KURK Kurchatov 101.16 320*c i*P **Pdif** **17 27 06.3 -1.2**
KURBB Kurchatov Arra 101.20 320 P **Pdif** **17 27 07.3 -0.3**
comp=Z,13nm,0.8s,baz=99,slow=4.5,SNR=54
KURBB pP **pPdif** **17 27 34.6 -1.9**
comp=Z,3.8nm,0.8s,baz=100,slow=4.0,SNR=1.8
KURBB PP **PP** **17 31 17.3 -0.8**
comp=Z,12nm,0.9s,baz=102,slow=7.0,SNR=8.3
KURBB PKiKP **PKiKP** **17 31 32.6 +0.7**
comp=Z,35nm,0.9s,baz=101,slow=1.8,SNR=18
KURBB PKKPbc **PKKPbc** **17 43 18.1 -1.3**
comp=Z,3.6nm,1.0s,baz=277,slow=3.4,SNR=7.6
KUU Kurty 101.43 312 *e*P **Pdif** **17 27 07.8 -1.1**
KUU Kurty 101.43 312 *e*P **Pdif** **17 27 07.9 -1.1**
TKM2 Tokmak 2 101.79 311 *i*P **Pdif** **17 27 10.6 -0.2**
TKM2 pmax pmax
comp=Z,11nm,0.9s
PLCA Paso Flores 102.39 139 PKKPbc PKKPbc 17 43 15.1 -0.3
comp=Z,10nm,1.2s,baz=50,slow=3.3,SNR=4.6
BRZS Berezniki 104.81 318 *e*P **Pdif** **17 27 22.7 -1.1**
BRZS Berezniki 104.81 318 *e*Pdif **Pdif** **17 27 22.8 -1.1**
DZA Taraz 104.89 311 *e*P **Pdif** **17 27 23.0 -1.3**
DZA Taraz 104.89 311 *e*Pdif **Pdif** **17 27 23.0 -1.3**
KK31 Karatay Array 105.51 311 *i*P **Pdif** **17 27 26.1 -1.0**
IUG luzhnay 105.75 310 *e*P **Pdif** **17 27 26.8 -1.5**
IUG luzhnay 105.75 310 *e*Pdif **Pdif** **17 27 26.9 -1.4**
ULM Lac du Bonnet 105.91 42 PKiKP **PKiKP** **17 31 38.7 -1.8**
comp=Z,6.9nm,0.5s,baz=264,slow=4.2,SNR=9.0
ULM PKKPbc **PKKPbc** **17 43 04.4 -0.9**
comp=Z,3.0nm,0.6s,baz=71,slow=1.9,SNR=5.5
ULM PKKP **PKKPdf** **17 43 16.8 +0.3**
comp=Z,3.0nm,0.7s,baz=108,slow=3.0,SNR=3.3
BRLS Boroldav 105.99 311 *e*P **Pdif** **17 27 28.4 -0.8**
BRLS Boroldav 105.99 311 *e*Pdif **Pdif** **17 27 28.4 -0.8**
CHM Chimkent 106.08 310 *e*P **Pdif** **17 27 28.3 -1.3**
CHM Chimkent 106.08 310 *e*Pdif **Pdif** **17 27 28.4 -1.3**
BVA0 Borovoye Array 106.51 321 *i*P **Pdif** **17 27 31.1 -0.2**
BVAR Borovoye Array 106.51 321 Pdiff **Pdif** **17 27 30.4 -0.8**
comp=Z,17nm,0.8s,baz=91,slow=4.8,SNR=27
BVAR PKiKP **PKiKP** **17 31 41.4 -0.2**
comp=Z,36nm,0.8s,baz=99,slow=2.0,SNR=25
BVAR PKKPbc **PKKPbc** **17 43 01.2 -2.4**
comp=Z,1.4nm,0.6s,baz=276,slow=2.8,SNR=4.3
JTS Las Juntas de 109.39 84 PP **PP** **17 32 19.5 -0.1**
comp=Z,18nm,1.0s,baz=304,slow=3.8,SNR=5.7
SVE Sverdlovsk 112.08 325*d i*PKiKP **PKiKP** **17 31 53.1 +1.2**
SVE pmax pmax
comp=Z,94nm,1.5s
JLN Jalan Bani Buh 112.21 288 P **PKiKP** **17 31 52.9 -0.3**
AB31 Akbulak array 113.06 317 *i*P **Pdif** **17 28 00.6 +0.2**
ARTI Arti 113.37 325 PKKPbc PKKPbc 17 42 40.6 -0.8
comp=Z,3.6nm,0.6s,baz=169,slow=5.2,SNR=4.5
ARTI Arti 113.37 325 *i* PKiKP **PKiKP** **17 31 53.7 -0.7**
ARTI 17 32 48.7
ARTI PPP PPP 17 35 14.1
ARTI 17 38 55.2
ARTI SP SP 17 42 14.4 +4.2
ARTI PS PKKPdf 17 43 34.9 +32
ARTI SS **SS** **17 48 32.8 +8.7**
ARTI SSS SSS 17 52 37.1
MHTO MHTO 113.37 286 P **PKiKP** **17 31 54.8 -0.6**
BIDO Bidbid 113.57 289 P **PKiKP** **17 31 55.4 -0.3**
SNR=7.1
SMDO Samad 113.58 289 P **PKiKP** **17 31 57.1 +1.2**
DQM DQM 113.61 285 P **PKiKP** **17 31 57.4 +1.5**
TKL Tuckaleechee C 113.90 58 PKiKP **PKiKP** **17 31 54.5 -1.5**
comp=Z,13nm,0.8s,baz=173,slow=7.2,SNR=12
JASK Jask - Hormozg 114.08 292 P **PKiKP** **17 31 58.9 +2.2**
AKTO Aktyubinsk 114.22 319 PKKPbc PKKPbc 17 42 37.0 -1.3
comp=Z,1.1nm,0.7s,baz=254,slow=3.0,SNR=5.6
BSY Bisya 114.32 288 P PKPdf 17 31 56.4 -0.9
HOQ Hoqain 114.32 289 P **PKiKP** **17 31 58.1 +0.9**
ARQ Araqi 115.01 289 P **PKPdf** **17 31 57.7 -0.9**
SOHO SOHO 115.09 290 *i*P **PKPdf** **17 31 57.7 -0.9**
SNR=17
MDH Madha 115.43 291 P **PKPdf** **17 31 57.1 -2.1**
MDH Madha 115.43 291 *i*P **PKPdf** **17 31 57.8 -1.4**
SNR=9.5
KBS Kingsbay 115.47 355 *e*PKPdf **PKPdf** **17 31 58.7 +0.9**
UOSS Minazif 115.48 291 *i*P **PKPdf** **17 31 58.0 -1.4**
SNR=6.6
UOSS Minazif 115.48 291 PKP **PKPdf** **17 31 58.5 -0.9**
HATD Hatta, Dubai 115.53 290 P **PKPdf** **17 31 58.7 -0.8**
SNR=24
HATD Hatta, Dubai 115.53 290 *i*P **PKPdf** **17 31 58.6 -0.9**
SNR=9.2
MSFE Esma-Masafi 115.56 291 *i*P **PKPdf** **17 31 58.9 -0.7**
SNR=8.6
MASF Masafi 115.56 291 P **PKPdf** **17 31 58.7 -0.9**
SNR=13
ASHO Ashiyiah 115.58 290 P **PKPdf** **17 31 58.8 -0.8**
ASHO Ashiyiah 115.58 290 *i*P **PKPdf** **17 31 58.7 -0.8**
SNR=9.4
SHME Shamm 115.64 292 *i*P **PKPdf** **17 31 59.1 -0.5**
SNR=9.0
DMTO DMTO 115.70 282 P **PKPdf** **17 31 59.0 -0.9**
SPA0 Spitsbergen Ar 115.71 354 *e*PKPdf **PKPdf** **17 31 59.7 +1.3**
SPA0 *e*SP SP 17 42 34.5 +4.1
SPITS Spitsbergen Ar 115.71 354 PKP **PKiKP** **17 31 57.5 -0.9**
comp=Z,114nm,1.0s,baz=99,slow=5.2,SNR=34
ALNE Al Ain 115.79 290 P **PKPdf** **17 31 59.5 -0.5**
ALNE Al Ain 115.79 290 *i*P **PKPdf** **17 31 59.4 -0.6**
SNR=31
NAZ Nazwa, Dubai 115.97 291 P **PKPdf** **17 31 60.0 -0.3**
SNR=14
NAZ Nazwa, Dubai 115.97 291 *i*P **PKPdf** **17 32 00.0 -0.3**
SNR=27
FAQ Al Faqa, Dubai 116.01 290 P **PKPdf** **17 31 59.7 -0.7**
FAQ Al Faqa, Dubai 116.01 290 P **PKPdf** **17 31 59.7 -0.7**
ASUD Al Ashush, Dub 116.23 290 P **PKPdf** **17 32 00.6 -0.2**
ASUD Al Ashush, Dub 116.23 290 *i*P **PKPdf** **17 32 00.4 -0.4**
SNR=22
AJN Ajban 116.54 290 *i*P **PKPdf** **17 31 59.6 -1.8**
SNR=8.5
LPAZ La Paz 116.61 117 PKP **PKPdf** **17 32 01.9 -0.7**
comp=Z,3.3nm,0.5s,baz=42,slow=4.0,SNR=7.6
LPAZ PKKPbc **PKKPbc** **17 42 29.3 -0.7**
comp=Z,5.6nm,1.0s,baz=61,slow=3.4,SNR=11
DOK Doka 116.61 283 P **PKPdf** **17 32 01.2 -0.5**
ABTO Aybut 117.20 282 P **PKPdf** **17 32 02.7 -0.2**
SADO Sadowa 117.24 47 PKKPbc PKKPbc 17 42 26.9 -0.8
comp=Z,4.9nm,0.7s,baz=150,slow=5.7,SNR=4.9
MZR Muzera 117.75 288 P **PKPdf** **17 32 03.7 -0.1**
MZR Muzera 117.75 288 *i*P **PKiKP** **17 32 04.1 +0.3**
SNR=6.4
ROSC El Rosal 118.36 93 PKP **PKPdf** **17 32 04.6 -1.1**
comp=Z,11nm,0.4s,baz=108,slow=11,SNR=7.7
GHWR Ruwais 118.40 289 P **PKPdf** **17 32 04.4 -0.6**
JRN Qarnain Island 118.51 290 P **PKPdf** **17 32 06.9 +1.7**
SNR=11
DAG Danmarks Havn 118.61 2 PP PP 17 33 19.4 -3.4
SLWR Sila 119.49 289 P **PKPdf** **17 32 06.8 -0.3**
LVZ Lovozero 119.61 341*c i*PKiKP **PKiKP** **17 32 07.0 +0.8**
VADS Vadso 119.68 345 *e*PKPdf **PKiKP** **17 32 06.2 0.0**
VADS *e*PP **PP** **17 33 30.8 +0.5**
VADS *e*SP SP 17 43 09.6 +3.1
VADS *e*SS **SS** **17 49 48.8 +3.6**
VADS IVMs_BB IVMs_BB 18 15 42.5
comp=Z,2µm,3.6s
CPUP Villa Florida 119.73 133 PKP **PKPdf** **17 32 06.7 -0.9**
comp=Z,2.4nm,0.8s,baz=143,slow=1.8,SNR=9.0
CPUP PKKPab **PKKPbc** **17 42 19.1 +0.9**
comp=Z,2.4nm,0.8s,baz=252,slow=1.9,SNR=8.7
CPUP PKKP **PKKPdf** **17 42 49.7 +0.5**
comp=Z,0.6nm,0.4s,baz=310,slow=4.8,SNR=3.7
APA Apatity 120.18 341 ||*i*PKiKP **PKPdf** **17 32 06.4 -0.7**
APA *i* *PP **sPKPdf** **17 32 54.0 +5.5**
APA *i* 17 33 30.6
APA pmax pmax
comp=Z,79nm,0.8s
APA MLR MLR
comp=Z,2µm,24.0s
BELG Belogornoye 120.30 322*c i*PKiKP **PKPdf** **17 32 07.4 -0.4**
KEV Kevo 120.52 345 PKP **PKPdf** **17 32 07.1 -0.6**
HAMF Hammerfest 120.65 347 *e*PKPdf **PKiKP** **17 32 09.1 +1.1**
HAMF IAmb IAmb 17 32 09.2
comp=Z,122nm,0.7s
HAMF *e*PP **PP** **17 33 32.0 -4.9**
HAMF *e*SS SS 17 49 55.1 -2.4
SUMG Summit 120.93 9 PP PP 17 33 28.2 -11
ARA0 ARCESS Array S 121.05 345 *e*PKPdf **PKiKP** **17 32 09.8 +0.9**
ARA0 IVmB_BB 17 32 10.1
comp=Z,2µm,0.7s
ARA0 *e*SS SS 17 50 05.0 +2.2
ARA0 IVMs_BB IVMs_BB 18 14 19.9
comp=Z,708nm,3.6s
ARCES ARCESS Array B 121.05 345 PKP **PKPdf** **17 32 07.9 -0.9**
comp=Z,107nm,0.6s,baz=84,slow=2.1,SNR=207
ARCES SKiKP **SKiKP** **17 35 34.5 +0.1**
comp=Z,12nm,0.9s,baz=57,slow=2.2,SNR=4.2
ARCES PKKPab **PKKPab** **17 42 10.6 -1.6**
comp=Z,6.1nm,0.8s,baz=225,slow=2.8,SNR=12
SJPY San Joaquin 121.42 133 *e*P **PKPdf** **17 32 09.7 -1.2**
KLMR Klimovskoe 121.48 333 *e*PKiKP **PKPdf** **17 32 07.7 -2.1**
KLMR *e* 17 32 37.6
KLMR *e*SP SP 17 43 21.3 -1.7
KLMR SSS SSS 17 54 41.9
KLMR pmax pmax
comp=Z,447nm,1.3s
KLMR MLR MLR
comp=Z,1µm,19.0s
LABB Ljbrea 121.79 112 PKP **PKPdf** **17 32 10.9 -1.0**
JETT Jettan, Norway 122.21 347 *e*PKPdf **PKiKP** **17 32 11.9 +0.7**
JETT *e*PP **PP** **17 33 45.6 -1.9**
AKT Akhty 122.38 309 *i*PKiKP **PKPdf** **17 32 11.8 -0.5**
AKT *e* 17 32 40.0
AKT *e* 17 33 46.4
AKT pmax pmax
comp=Z,277nm,1.0s
TRO Tromso 122.46 348 *e*PKPdf **PKiKP** **17 32 12.4 +0.7**
TRO *e*PP **PP** **17 33 49.1 0.0**
SIV San Ignacio 122.69 121 PKP **PKPdf** **17 32 12.0 -1.6**
comp=Z,10nm,0.7s,baz=246,slow=3.1,SNR=18
SIV PKKPab **PKKPab** **17 42 08.4 0.0**
comp=Z,4.9nm,1.0s,baz=75,slow=6.7,SNR=9.0
SCHQ Schefferville 122.76 34 PKP **PKPdf** **17 32 11.1 -1.4**
comp=Z,36nm,0.9s,baz=316,slow=1.7,SNR=22
SCHQ PKKPab **PKKPab** **17 42 06.1 +0.8**
comp=Z,14nm,0.7s,baz=110,slow=3.3,SNR=19
SFJD Kangerlussuaq 122.80 17 PKP **PKiKP** **17 32 12.3 -0.1**
SDV Santo Domingo 122.87 89 PKP **PKPdf** **17 32 13.6 -0.5**
comp=Z,68nm,0.9s,baz=172,slow=0.5,SNR=31
SDV PKKPbc **PKKPbc** **17 42 05.9 -0.3**
comp=Z,2.6nm,0.6s,baz=199,slow=2.7,SNR=3.5
SDV Santo Domingo 122.87 89 PKP **PKPdf** **17 32 13.8 -0.3**
BOSA Boshof 122.99 220 PKP **PKPdf** **17 32 13.9 0.0**
comp=Z,101nm,0.9s,baz=134,slow=2.0,SNR=63
BOSA PKKPab **PKKPbc** **17 42 05.1 -1.2**
comp=Z,4.1nm,0.9s,baz=310,slow=4.7,SNR=3.9
BOSA Boshof 122.99 220 PKiKP **PKPdf** **17 32 14.0 0.0**
BOSA Boshof 122.99 220 PKP **PKiKP** **17 32 15.6 +1.4**
VRH Novokhopyorsk 124.16 322*c i*PKiKP **PKPdf** **17 32 14.6 -0.6**
VRH pmax pmax
comp=Z,515nm,0.8s
PTGB Pitanga 124.40 135 *e*P **PKPdf** **17 32 15.4 -1.3**
PTGB Pitanga 124.40 135 PKP **PKPdf** **17 32 15.9 -0.8**
PTLB Pontes e Lacer 124.57 122 *e*P **PKPdf** **17 32 15.5 -1.6**
PTLB Pontes e Lacer 124.57 122 PKP **PKPdf** **17 32 17.1 +0.1**
STEI Steigen 124.63 348 *e*PKPdf **PKiKP** **17 32 16.7 +0.7**
MOS Moscow 124.67 328 *i*PKiKP **PKPdf** **17 32 14.9 -1.2**
MOS *e* 17 32 48.5
MOS pmax pmax
comp=Z,426nm,1.1s
MOS pmax pmax
comp=Z,600nm,1.4s
LOF Lofoten 124.80 348 *e*PKPdf **PKiKP** **17 32 16.9 +0.6**
GNI Garni 124.82 308*c i*PKiKP **PKPdf** **17 32 17.1 0.0**
GNI pmax pmax
comp=Z,483nm,1.7s
GNI pmax pmax
comp=Z,318nm,1.1s
GNI Garni 124.82 308 P **PKiKP** **17 32 17.8 +0.3**
VILB Vilhena 124.94 118 *e*P **PKPdf** **17 32 17.3 -0.6**
TEFE Tefe 125.01 106 *e*P **PKPdf** **17 32 17.9 -0.1**
TEFE Tefe 125.01 106 PKP **PKiKP** **17 32 18.2 -0.2**
NCK Nalchik 125.03 313*c i*PKiKP **PKiKP** **17 32 17.6 0.0**
NCK pmax pmax
comp=Z,234nm,1.1s
GOF Gofitskoye 125.06 314*c i*PKiKP **PKiKP** **17 32 18.8 +1.2**
FAUS Fauske 125.08 347 *e*PKPdf **PKiKP** **17 32 17.6 +0.7**
FAUS IVmB_BB 17 32 18.0
comp=Z,488nm,0.9s
FAUS IVmB_BB 17 32 31.2
comp=Z,1µm,4.5s
FAUS *e*PP **PP** **17 34 07.4 +0.7**
FAUS IVMs_BB IVMs_BB 18 16 11.2
comp=Z,842nm,3.8s
RAYN Ar Rayn 125.11 288 ||PKiKP **PKiKP** **17 32 18.5 +0.1**
RAYN Ar Rayn 125.11 288 *i*P **PKPdf** **17 32 18.1 +0.1**
SNR=210
MAKGR Makgori 125.24 222 *i*P **PKiKP** **17 32 18.5 -0.2**
TRCB Terra Rica 125.27 133 *e*P **PKPdf** **17 32 17.0 -1.3**
TRCB Terra Rica 125.27 133 PKP **PKPdf** **17 32 17.4 -1.0**
LPSR Galich'ya Gora 125.27 324*c i*PKiKP **PKPdf** **17 32 17.1 -0.2**
LPSR pmax pmax
comp=Z,865nm,1.1s
LBTB Lobatse 125.28 223 PKP **PKiKP** **17 32 18.9 +0.1**
comp=Z,71nm,0.9s,baz=147,slow=3.3,SNR=46
VORR Voronezh 125.46 323 *e*PKiKP **PKPdf** **17 32 17.8 +0.1**
VORR pmax pmax
comp=Z,750nm,1.0s
KBZ Khabaz 125.47 313 PKP **PKiKP** **17 32 19.4 +1.0**
comp=Z,69nm,0.9s,baz=157,slow=1.2,SNR=39
KBZ Khabaz 125.47 313 *i*PKiKP **PKiKP** **17 32 18.3 -0.1**
KBZ pmax pmax
comp=Z,96nm,1.0s
OBN Obninsk 125.49 328 ||P **PKiKP** **17 32 19.4 +1.4**
OBN Obninsk 125.49 328*c i*PKiKP **PKPdf** **17 32 18.8 -0.8**
OBN *e* 17 32 50.8
OBN *e* 17 34 13.7
OBN pmax pmax
comp=Z,396nm,1.1s
KIV Kislovodsk 125.57 313 ||P **PKiKP** **17 32 18.9 +0.1**
KIV Kislovodsk 125.57 313 ||PKiKP **PKiKP** **17 32 18.9 +0.1**
KIV Kislovodsk 125.57 313 *i*P **PKiKP** **17 32 19.0 +0.3**
SNR=43
KIV Kislovodsk 125.57 313 PKP **PKPdf** **17 32 17.9 -0.4**
OZAP Van, Ozalp-Mer 125.63 307 ||P **PKiKP** **17 32 19.7 +0.5**
MREMI Moremi 125.64 227 *i*P **PKiKP** **17 32 19.4 -0.2**
VSR Storozhevoye 125.66 323 *e*PKiKP **PKPdf** **17 32 16.7 -1.4**
VSR pmax pmax
comp=Z,300nm,1.0s
VORD Divnogorie 125.67 322 *e*PKiKP **PKPdf** **17 32 17.4 -0.7**
VORD pmax pmax
comp=Z,260nm,1.0s
RPRD Ribas do Rio P 125.95 130 *e*P **PKiKP** **17 32 20.7 +0.6**
VAGH Vaagaholmen 126.06 348 *e*PKPdf **PKiKP** **17 32 19.4 +0.5**
VAGH *e*PP **PP** **17 34 15.0 +1.8**
VAGH *e*SS SS 17 51 07.6 +1.8
VAGH IVMs_BB IVMs_BB 18 17 24.7
comp=Z,1µm,3.6s
LPHEP Lephephe 126.22 225 *i*P **PKiKP** **17 32 20.5 -0.2**
MOR8 Moi Rana 126.29 347 *e*PKPdf **PKiKP** **17 32 19.5 +0.1**
KONS Konsvik 126.29 348 *e*PKPdf **PKiKP** **17 32 19.8 +0.5**
STOK Stokkvaagen 126.45 348 *e*PKPdf **PKiKP** **17 32 20.1 +0.5**
FINES FINESS Array B 126.53 338 PKhKP PKPpre **17 32 03.5**
comp=Z,2.0nm,0.5s,baz=44,slow=3.3,SNR=6.4
FINES PKP **PKPdf** **17 32 18.8 -0.6**
comp=Z,152nm,1.0s,baz=40,slow=3.2,SNR=71
LEIR Leirfjorden 126.62 347 *e*PKPdf **PKiKP** **17 32 20.5 +0.5**
BROLN Tlhalogang 126.66 228 *i*P **PKPdf** **17 32 20.8 -0.4**
SKOMA Sekoma 126.71 222 *i*P **PKiKP** **17 32 21.7 +0.1**
SKOMA Sekoma 126.71 222 *i*P SKPbc 17 35 50.0
HOMI Horasan 126.98 309 ||P **PKiKP** **17 32 23.1 +1.2**
PCMB Pacaembu 127.00 133 *e*P **PKPdf** **17 32 20.7 -1.0**
PCMB Pacaembu 127.00 133 PKP **PKiKP** **17 32 22.1 -0.1**
FRTB Fartura 127.01 136 *e*P **PKPdf** **17 32 22.2 0.0**
FRTB Fartura 127.01 136 PKP **PKPdf** **17 32 21.9 +0.2**
KDWAN Kaudwane 127.01 224 *i*P **PKiKP** **17 32 22.2 -0.1**
KIBK Kibwezi 127.04 255 PP PP 17 34 16.4 -5.2
SALV Santo Antonio 127.11 124 *e*P **PKiKP** **17 32 22.9 +0.5**
SALV Santo Antonio 127.11 124 PKP **PKiKP** **17 32 22.7 +0.2**
SALV PKP **PKPdf** **17 32 23.1 +1.1**
MAS01 UHE Manso 127.57 123 PKP **PKiKP** **17 32 23.6 +0.2**
SOC Sochi 127.75 313 *e*PKiKP **PKPdf** **17 32 20.4 -2.0**
SOC *e* 17 34 20.1
SOC *e*PPP PPP 17 37 07.1
SOC *e*SS SS 17 51 26.1 -2.6
SOC *e*SSS SSS 17 56 09.2
SOC pmax pmax
comp=Z,97nm,0.9s
SOOWA Sowa 127.81 228 *i*P **PKPdf** **17 32 23.5 +0.2**
KHAM Kharkiv 127.84 322 PKP **PKiKP** **17 32 23.2 +0.2**
PET01 Itanhaem-SP 127.85 139 *e*P **PKPdf** **17 32 23.1 -0.2**
PET01 Itanhaem-SP 127.85 139 PKP **PKiKP** **17 32 23.6 -0.2**
KMBO Kilima Mbogo 128.21 256 *i*P **PKiKP** **17 32 25.3 +0.3**
SNR=16
NSS Namsos 128.23 347 *e*PKPdf **PKiKP** **17 32 23.5 +0.3**
NSS IVmB_BB 17 32 23.9
comp=Z,1µm,1.1s
NSS IVMs_BB IVMs_BB 18 17 14.0
comp=Z,1µm,3.5s
PDRB Porto dos Gac 128.54 119 PKP **PKPdf** **17 32 25.0 +0.2**
MACA Manacapuru-AM 128.79 107 *e*P **PKPdf** **17 32 25.3 0.0**
PCRV Puerto La Cruz 128.92 89 PKP **PKPdf** **17 32 24.7 -0.8**
comp=Z,24nm,1.0s,baz=70,slow=2.2,SNR=4.6
ANN Anapa 128.96 316 *i*PKiKP **PKPdf** **17 32 22.9 -1.7**
ANN *e* 17 32 53.5
ANN *e* 17 34 31.8
ANN *e* 17 39 19.1
ANN pmax pmax
comp=Z,197nm,1.1s
KGCAE Kacgae 129.00 222 *i*P **PKiKP** **17 32 26.3 0.0**
KGCAE Kacgae 129.00 222 *i*P SKPbc 17 35 37.3
PHDHD Phuduhudu 129.24 227 *i*P SKPbc 17 35 40.5 +3.0
BB19B Bebedouro 129.26 135 PKP **PKiKP** **17 32 26.6 -0.1**
PARB Paraibuna 129.58 139 PKP **PKiKP** **17 32 27.0 -0.4**
CLDB Colider 129.70 119 *e*P **PKPdf** **17 32 26.3 -0.6**
CLDB Colider 129.70 119 PKP **PKiKP** **17 32 27.6 -0.2**
MNK Minsk 130.11 330 *i*PKiKP **PKiKP** **17 32 29.3 +2.0**
MNK *i* 17 34 42.3
MNK *i*PPP PPP 17 37 29.4
MNK *i* 17 39 28.9
MNK *i*SS SS 17 52 00.1 +3.4

MNK *i* SSS SSS 17 56 48.1
MNK pmax pmax
comp=Z,195nm,0.9s
MNK pmax pmax
comp=E,39nm,0.9s
MNK pmax pmax
comp=N,47nm,1.1s
MNK MLR MLR
comp=N,1μm,23.0s
MNK MLR MLR
comp=E,1μm,19.0s
KOOLE Kule 130.18 221 *i* P **PKiKP 17 32 28.5 -0.2**
KOOLE Kule 130.18 221 *i* P **SKPbc 17 35 42.8 +2.0**
KSANE Kasane 130.33 230 *i* P **PKiKP 17 32 28.7 -0.3**
KSANE Kasane 130.33 230 *i* P **SKPbc 17 35 43.2 +1.8**
GRTLG Ghanzi 130.70 223 *i* P **PKPdf 17 32 28.9 +0.1**
GRTLG Ghanzi 130.70 223 *i* P **SKPbc 17 35 43.3 +0.6**
MOL Molde 130.90 348 *e*PKPdf **PKiKP 17 32 28.5 -0.1**
DOMB Dombas 131.05 347 *e*PKPdf **PKiKP 17 32 28.7 -0.4**
DOMB IVMs_BB IVMs_BB 18 22 32.2
comp=Z,1μm,3.6s
SIM Simferopol' 131.12 317 *e*PKIKP **PKiKP 17 32 29.6 -0.1**
SIM pmax pmax
comp=Z,150nm,0.8s
SIM pmax pmax
comp=Z,256nm,9.3s
CANS Sao Roque de M 131.24 136 PKP **PKiKP 17 32 30.4 -0.5**
AKN Aaknes 131.37 348 *e*PKPdf **PKiKP 17 32 29.4 -0.2**
NB2 NORSAR Subarra131.42 345 PKPdf **PKPdf 17 32 29.0 +0.1**
comp=Z,62nm,1.0s,baz=31,slow=1.9
NB2 PP **PP 17 34 50.9 +2.6**
comp=Z,193nm,2.5s,baz=40,slow=6.2
NB2 pPKP 17 35 45.2
comp=Z,67nm,1.1s,baz=31,slow=5.1
NB2 NORSAR Subarra131.42 345 PKPdf **PKPdf 17 32 29.0 +0.1**
baz=31,slow=1.9
NOA NORSAR Array B131.42 345 PKhKP PKPpre 17 32 16.4
comp=Z,18nm,1.1s,baz=51,slow=2.0,SNR=12
NOA PKP **PKPdf 17 32 28.3 -0.6**
comp=Z,41nm,0.7s,baz=32,slow=1.9,SNR=44
NOA SKPbc **SKPab 17 35 45.0 +0.6**
comp=Z,15nm,0.8s,baz=32,slow=2.9,SNR=16
DIKM Dikmen 131.46 312 ⇓P **PKiKP 17 32 31.6 +1.1**
AK03 Malin Array Si 131.50 326 PKP **PKiKP 17 32 29.9 -0.4**
AKASG Malin Array Be 131.52 326 PKhKP PKPpre 17 32 14.1
comp=Z,0.7nm,0.4s,baz=62,slow=2.8,SNR=5.6
AKASG PKP **PKPdf 17 32 29.3 0.0**
comp=Z,69nm,0.9s,baz=57,slow=2.1,SNR=64
AKASG SKPbc **SKPab 17 35 45.6 +0.5**
comp=Z,52nm,0.9s,baz=45,slow=4.4,SNR=21
AKBB Malin Array Si 131.52 326 PKP **PKiKP 17 32 30.0 -0.3**
HFS Hagfors 131.52 343 PKhKP PKPpre 17 32 14.7
comp=Z,3.3nm,0.6s,baz=29,slow=3.7,SNR=5.9
HFS PKP **PKPdf 17 32 28.7 -0.3**
comp=Z,43nm,0.7s,baz=134,slow=4.3,SNR=31
HFS SKPbc **SKPab 17 35 45.8 +1.0**
comp=Z,21nm,0.8s,baz=85,slow=3.4,SNR=9.7
KIEV Kiev 131.53 326 ⇓P **PKiKP 17 32 30.9 +0.6**
KIEV Kiev 131.53 326 ⇓PKIKP **PKiKP 17 32 30.9 +0.6**
KIEV Kiev 131.53 326 *i* P **PKPdf 17 32 29.3 0.0**
SNR=19
IPMB Ipameri, GO 131.53 132 PKP **PKPdf 17 32 30.4 0.0**
NC602 NORSAR Array S 131.60 345 *e*PKPdf **PKiKP 17 32 29.8 -0.4**
NC602 *e*PP **PP 17 34 49.6 +0.2**
NC602 IVMs_BB IVMs_BB 18 21 20.7
comp=Z,2μm,3.6s
VAS01 Vassouras-RJ 131.71 140 *e*P **PKPdf 17 32 30.8 +0.2**
BSCB Bom Sucesso 131.81 138 *e*P **PKPdf 17 32 30.4 -0.5**
BSCB Bom Sucesso 131.81 138 PKP **PKiKP 17 32 31.7 -0.3**
SFA1 Serra Facao 131.91 132 PKP **PKPdf 17 32 31.6 +0.5**
NPGB Novo Progresso 131.94 115 PKP **PKPdf 17 32 31.4 +0.2**
QNGWA Qangwa 132.01 225 *i* P **PKiKP 17 32 32.0 -0.4**
QNGWA Qangwa 132.01 225 *i* P **SKPbc 17 35 48.9 +1.4**
BZK Bozkurt 132.25 313 ⇑P **PKiKP 17 32 32.9 +0.9**
FOO Floro 132.28 349 *e*PKPdf **PKiKP 17 32 31.1 -0.3**
PMNB Patos De Minas 132.41 134 *e*P **PKiKP 17 32 32.7 -0.5**
SKAR Skarslia 132.43 346 *e*PKPdf **PKiKP 17 32 31.4 -0.5**
HYA Hoyanger 132.45 348 *e*PKPdf **PKiKP 17 32 31.5 -0.4**
BEIL Beino 132.53 303 *e*P **PKPdf 17 32 32.3 +0.5**
SUW Suwalki 132.59 332 *e*PKP **PKiKP 17 32 32.0 -0.4**
HWQ Hawqa 132.77 303 *e*P **PKPdf 17 32 32.5 +0.2**
ITTB Itaituba 132.81 111 PKP **PKPdf 17 32 33.2 +0.3**
SUE Sulen 132.83 349 *e*PKPdf **PKiKP 17 32 32.2 -0.4**
SNDB Serra Nova Dou 132.84 123 PKP **PKPdf 17 32 33.4 +0.5**
RNPP9 Sopachiv 132.89 328 PKP **PKiKP 17 32 32.6 -0.4**
CIDE Kastamonu/Cide 133.01 313 ⇓P **PKiKP 17 32 34.3 +0.7**
KONO Kongsberg 133.03 345 ⇓PKIKP **PKiKP 17 32 34.1 +1.0**
KONO Kongsberg 133.03 345 *e*PKPdf **PKiKP 17 32 32.6 -0.5**
PURM Purcari 133.18 320 ⇓P **PKiKP 17 32 34.4 +0.7**
BDFB Brasilia 133.19 130 PKP **PKPdf 17 32 33.9 +0.2**
comp=Z,13nm,0.7s,baz=193,slow=3.1,SNR=12
BDFB SKPbc **SKPbc 17 35 51.9 +0.3**
comp=Z,50nm,1.1s,baz=283,slow=1.5,SNR=15
KIRS Kirsehir-Merke 133.19 309 ⇓P **PKiKP 17 32 33.7 -0.5**
BRTR Keskin Array B 133.22 310 PKhKP PKPpre 17 32 20.6
comp=Z,1.9nm,0.8s,baz=119,slow=3.5,SNR=6.4
BRTR PKP **PKPdf 17 32 33.5 +0.4**
comp=Z,61nm,0.9s,baz=136,slow=2.2,SNR=55
BRTR PP **PP 17 34 58.2 -2.9**
comp=Z,7.9nm,1.0s,baz=98,slow=5.6,SNR=4.0
BRTR SKP 17 35 56.8
comp=Z,6.4nm,0.9s,baz=116,slow=2.9,SNR=5.3
ASK Askoy 133.28 348 *e*PKPdf **PKiKP 17 32 33.0 -0.5**
SORM Soroca 133.31 323 ⇓P **PKiKP 17 32 33.9 -0.1**
SORM Soroca 133.31 323 ⇓PKIKP **PKiKP 17 32 33.9 -0.1**
MMAI Mount Meron Ar 133.44 301 PKhKP PKPpre 17 32 22.2
comp=Z,3.2nm,0.7s,baz=257,slow=38,SNR=2.5
MMAI PKP **PKiKP 17 32 35.3 +0.4**
comp=Z,99nm,1.0s,baz=70,slow=5.4,SNR=28
MMAI SKPab **SKPab 17 35 54.2 +0.1**
comp=Z,23nm,0.8s,baz=73,slow=2.9,SNR=10
ODD1 Odda 133.50 347 *e*PKPdf **PKPdf 17 32 33.4 +0.6**
KIS Kishinev 133.60 321 *e*PKP **PKPdf 17 32 32.0 -1.3**
comp=Z,120nm,0.9s
KIS *e*L L 18 28 43.0
KIS LRM MLR 18 31 04.0
comp=Z,300nm,22.0s
KIS Kishinev 133.60 321 *e*PKIKP **PKPdf 17 32 32.0 -1.3**
KIS *i* 17 35 00.0
KIS pmax pmax
comp=Z,120nm,1.0s
KIS MLR MLR
comp=Z,300nm,22.0s
MILM Milestii Mici 133.64 321 *i* PKP **PKPdf 17 32 34.0 +0.6**
MILM Milestii Mici 133.64 321 ⇓P **PKiKP 17 32 34.7 0.0**
MILM Milestii Mici 133.64 321 *d* PKIKP **PKPdf 17 32 34.0 +0.6**
MILM *i* 17 34 59.0
MILM pmax pmax
comp=Z,400nm,1.1s
MILM MLR MLR
comp=Z,700nm,21.0s
ANTO Ankara 133.79 311 ⇓P **PKiKP 17 32 35.4 0.0**
ANTO Ankara 133.79 311 ⇓PKIKP **PKiKP 17 32 35.4 0.0**
ANTO Ankara 133.79 311 PKP **PKPdf 17 32 34.0 -0.1**
BLS5 Blasjo 133.98 347 *e*PKPdf **PKPdf 17 32 34.3 +0.6**
KMPD K-Podol'skiy 134.17 324 PKP **PKiKP 17 32 35.1 -0.6**
DRBR Darabani 134.28 324 ⇑P **PKiKP 17 32 35.7 -0.3**
VASR Vaslui 134.39 321 ⇑P **PKiKP 17 32 37.2 +1.0**
KMY Karmoy 134.43 347 *e*PKPdf **PKPdf 17 32 35.2 +0.7**
TLCR 134.45 319 ⇑P **PKiKP 17 32 36.4 0.0**
TLCR 134.45 319 ⇑PKIKP **PKiKP 17 32 36.4 0.0**
HOMB Homborsund 134.52 345 *e*PKPdf **PKPdf 17 32 35.4 +0.7**
JURR Jurilovca 134.60 319 ⇓P **PKiKP 17 32 37.2 +0.5**
VLDR Vladesti 134.60 320 ⇑P **PKiKP 17 32 37.2 +0.5**
TSUM Tsumeb 134.61 222 PKhKP PKPpre 17 32 24.1
comp=Z,7.8nm,0.9s,baz=134,slow=3.7,SNR=4.0
TSUM PKP **PKiKP 17 32 37.4 -0.3**
comp=Z,32nm,0.9s,baz=135,slow=4.3,SNR=14
TSUM SKP 17 36 01.5
comp=Z,15nm,0.9s,baz=123,slow=8.0,SNR=6.6
LRW Lerwick 134.66 352 *e*P **PKPdf 17 32 33.3 -1.6**
GIUM Giurgiulesti 134.69 320 ⇓P **PKiKP 17 32 37.4 +0.5**
R9F13 Warsaw-Wawer 134.70 331 *e*PKP **PKiKP 17 32 37.1 +0.4**
R9F13 *e* 17 35 59.6
R9F13 *e*PS PS 17 45 04.4 -28
VARL Varlezi 134.71 321 ⇑P **PKiKP 17 32 38.1 +1.2**
TATR Tatarca 134.73 320 ⇑P **PKiKP 17 32 38.0 +1.0**
JQT1 Jequitai-MG 134.74 135 PKP **PKPdf 17 32 36.9 +0.4**
SSV2 Sao Salvador 134.76 127 PKP **PKPdf 17 32 37.2 +0.6**
SNART Snartemo 134.78 346 *e*PKPdf **PKPdf 17 32 35.8 +0.6**
TPGR Topolog 134.85 319 ⇑P **PKiKP 17 32 38.3 +1.1**
SAHE Sakarya_HENDEK 134.85 313 ⇓P **PKiKP 17 32 37.7 +0.3**

NEGRR Negrea 134.87 320 ⇓P **PKiKP 17 32 37.7 +0.4**
CFR Carcaliu 134.88 320 ⇓P **PKiKP 17 32 37.2 0.0**
CFR Carcaliu 134.88 320 ⇓PKIKP **PKiKP 17 32 37.2 0.0**
SCHLR Schela 134.93 320 ⇑P **PKiKP 17 32 37.9 +0.6**
IZVR Izvoarele 134.93 320 ⇑P **PKiKP 17 32 38.7 +1.3**
PRAR RASCA 134.94 323 ⇓P **PKiKP 17 32 37.6 +0.3**
TUDR 134.97 320 ⇓P **PKiKP 17 32 38.3 +0.9**
TIRR Tirgusor 135.03 318 ⇓P **PKiKP 17 32 38.2 +0.6**
TIRR Tirgusor 135.03 318 ⇓PKIKP **PKiKP 17 32 38.2 +0.6**
EFOR EFORIE 135.06 318 ⇑P **PKiKP 17 32 38.5 +0.9**
COSR Cosmesti PH 135.06 321 ⇓P **PKiKP 17 32 38.8 +1.2**
BEL Belsk 135.12 331 *e*PKP **PKiKP 17 32 38.2 +0.7**
TESR Tescani 135.13 322 ⇓P **PKiKP 17 32 37.5 -0.3**
MFTR Murfatlar 135.15 318 ⇑P **PKiKP 17 32 38.2 +0.3**
PANC Panciu 135.15 321 ⇓P **PKiKP 17 32 38.5 +0.7**
MAL2 Monte Alegre, 135.20 109 PKP **PKiKP 17 32 38.2 -0.8**
MANR Mangalia 135.20 318 ⇓P **PKiKP 17 32 38.9 +0.9**
TLBR Topalu 135.22 319 ⇓P **PKiKP 17 32 38.6 +0.6**
HARR Harsova 135.23 319 ⇑P **PKiKP 17 32 38.1 +0.1**
HARR Harsova 135.23 319 ⇑PKIKP **PKiKP 17 32 38.1 +0.1**
BIZ Bicaz 135.24 323 ⇑P **PKiKP 17 32 38.0 +0.1**
ODBI Odobesti 135.26 321 ⇑P **PKiKP 17 32 39.3 +1.3**
ONER Baraj Valea Uz 135.38 322 ⇓P **PKiKP 17 32 38.7 +0.4**
BURAR Bucovina Array 135.39 324 ⇑P **PKiKP 17 32 39.5 +1.1**
BURAR Bucovina Array 135.39 324 ⇑PKIKP **PKiKP 17 32 39.5 +1.1**
VRI Vrincioaia 135.41 321 ⇓P **PKiKP 17 32 38.2 -0.2**
VRI Vrincioaia 135.41 321 ⇓PKIKP **PKiKP 17 32 38.2 -0.2**
PLOR Plostina 135.47 321 ⇑P **PKiKP 17 32 38.0 -0.5**
PLOR Plostina 135.47 321 ⇑PKIKP **PKiKP 17 32 38.0 -0.5**
ICOR Ion Corvin 135.58 318 ⇓P **PKiKP 17 32 38.9 +0.1**
BISRR Bisoca 135.58 321 ⇓P **PKiKP 17 32 39.7 +0.9**
KWP Kalwaria Pacla 135.58 328 *e*PKP **PKiKP 17 32 38.6 0.0**
SILT Silo 135.59 314 ⇓P **PKiKP 17 32 39.2 +0.3**
AMRR Amara 135.64 319 ⇓P **PKiKP 17 32 39.1 +0.3**
AMRR Amara 135.64 319 ⇓PKIKP **PKiKP 17 32 39.1 +0.3**
GKP Gorka Klasztor 135.67 335 *e*PKP **PKPdf 17 32 37.4 +0.4**
PGOR Pogoanele 135.72 320 ⇓P **PKiKP 17 32 40.1 +1.1**
OZUR 135.86 322 ⇓P **PKiKP 17 32 40.5 +1.1**
ISR Istrita 135.89 320 ⇓P **PKiKP 17 32 39.8 +0.4**
ISR Istrita 135.89 320 ⇓PKIKP **PKiKP 17 32 39.8 +0.4**
NEHR Nehoiu 135.89 321 ⇓P **PKiKP 17 32 39.5 +0.1**
BOSR Bodos 135.95 322 ⇓P **PKiKP 17 32 40.1 +0.6**
LEHL Lehliu 136.03 319 ⇑P **PKiKP 17 32 40.0 +0.4**
MLR Muntele Rosu 136.07 321 ⇓P **PKiKP 17 32 39.7 -0.2**
MLR Muntele Rosu 136.07 321 ⇓PKIKP **PKiKP 17 32 39.7 -0.2**
DOPR Dopca 136.16 322 ⇓P **PKiKP 17 32 40.5 +0.6**
ARCR ARCALIA 136.17 324 ⇑P **PKiKP 17 32 40.4 +0.5**
KOLS Kolonicke sedl 136.23 327 *e*PKP **PKiKP 17 32 41.2 +1.3**
KOLS *e* 17 36 03.6
PRD Provadia 136.26 317 *e*P **PKiKP 17 32 40.9 +0.8**
SULR 136.29 320 ⇑P **PKiKP 17 32 40.9 +0.7**
PLAR PLOIESTI 136.31 320 ⇑P **PKiKP 17 32 40.8 +0.6**
BMR Baia Mare 136.32 325 ⇓P **PKiKP 17 32 40.2 +0.1**
BMR Baia Mare 136.32 325 ⇓PKIKP **PKiKP 17 32 40.2 +0.1**
TGMR Targu Mures 136.38 323 ⇓P **PKiKP 17 32 40.5 +0.2**
CTYL Yalikoy Yolu 136.40 315 ⇑P **PKiKP 17 32 40.8 +0.3**
ATM1 UHE Belo Monte 136.43 112 PKP **PKPdf 17 32 40.2 +0.5**
STHS Stebnicka Huta 136.46 328 *e*PKIKP **PKiKP 17 32 41.5 +1.1**
STHS Stebnicka Huta 136.46 328 *e*PKP **PKiKP 17 32 41.5 +1.1**
STHS *e* 17 36 04.0
BIGH Upper Bighouse 136.59 353 *e*P PKPpre 17 32 31.4
BMO2 UHE Belo Monte 136.61 112 PKP **PKPdf 17 32 40.6 +0.6**
OJC Ojcow 136.66 330 *e*PKP **PKiKP 17 32 40.4 -0.4**
MTUR Matau 136.75 321 ⇓P **PKiKP 17 32 41.7 +0.5**
MTUR Matau 136.75 321 ⇓PKIKP **PKiKP 17 32 41.7 +0.5**
CBBR Cluj-Babes-Bol 136.80 324 ⇑P **PKiKP 17 32 41.6 +0.5**
CJR Cluj-Napoca 136.81 324 ⇓P **PKiKP 17 32 41.2 0.0**
CJR Cluj-Napoca 136.81 324 ⇓PKIKP **PKiKP 17 32 41.2 0.0**
PHSR Pinarhisar 136.85 315 ⇓P **PKiKP 17 32 41.5 +0.1**
BMO1 UHE Belo Monte 136.91 112 PKP **PKPdf 17 32 40.5 0.0**
MESR Meseseni 136.92 325 ⇑P **PKiKP 17 32 42.3 +0.9**
ARR Arges 136.93 322 ⇓P **PKiKP 17 32 40.8 -0.7**
NIE Niedzica 136.94 329 *e*PKP **PKiKP 17 32 42.2 +0.8**
BAND Balkesir-Ban 136.98 313 ⇓P **PKiKP 17 32 41.3 -0.4**
TNR Turnu Rosu 136.99 322 ⇑P **PKiKP 17 32 41.7 +0.1**
TNR Turnu Rosu 136.99 322 ⇑PKIKP **PKiKP 17 32 41.7 +0.1**
MARR Marisel-Cluj 137.10 324 ⇑P **PKiKP 17 32 42.4 +0.4**
JMB Yambol 137.14 317 *e*P **PKiKP 17 32 41.9 -0.1**
HUMR Humele 137.15 320 ⇓P **PKPdf 17 32 40.9 +0.9**
COPA Copaceanca 137.20 320 ⇑P **PKiKP 17 32 42.5 +0.4**
DRGR 137.26 324 ⇓P **PKiKP 17 32 42.1 -0.1**
DRGR 137.26 324 ⇓PKIKP **PKiKP 17 32 42.1 -0.1**
LOT Lotru 137.40 322 ⇓P **PKiKP 17 32 41.7 -0.9**
TAVA DENIZLI_Tavas 137.45 309 ⇑P **PKiKP 17 32 43.3 +0.4**
LANS Liptovska Anna 137.52 329 *e*PKIKP **PKiKP 17 32 43.8 +1.2**
LANS Liptovska Anna 137.52 329 *e*PKP **PKiKP 17 32 43.8 +1.2**
LANS *e* 17 36 08.0
SMTB Santa Maria do 137.59 122 PKP **PKiKP 17 32 42.8 -1.0**
BORR Bors 137.60 325 ⇓P **PKiKP 17 32 41.9 -0.9**
RUE Ruedersdorf 137.64 336 *e*PKPdf **PKiKP 17 32 42.4 -0.3**
baz=38,slow=2.0
DEV Deva 137.67 323 ⇓P **PKiKP 17 32 42.2 -0.8**
DEV Deva 137.67 323 ⇓PKIKP **PKiKP 17 32 42.2 -0.8**
OKC Ostrava-Krasne 137.70 331 *e*PKPDF **PKiKP 17 32 43.0 +0.1**
BSEG Bad Segeberg 137.71 340 *e*PKPdf **PKiKP 17 32 42.7 -0.1**
baz=38,slow=2.0
BSEG *e*SKPbc **SKiKP 17 36 06.9 -1.7**
baz=35,slow=2.7
VLAD Vladila 137.78 320 ⇑P **PKiKP 17 32 43.8 +0.6**
STEB Steborice 137.81 331 *e*PKPpre PKPpre 17 32 31.7
STEB *ex* x 17 32 42.9
STEB *e*SKP 17 36 07.5
KSP Ksiaz 137.84 333 *e*PKP **PKiKP 17 32 43.4 +0.2**
DIM Dimitrovgrad 137.97 317 *e*P **PKiKP 17 32 43.6 -0.1**
GZR Gura Zlata 138.02 323 ⇓P **PKiKP 17 32 43.0 -0.8**
GZR Gura Zlata 138.02 323 ⇓PKIKP **PKiKP 17 32 43.0 -0.8**
MORC Moravsky Berou 138.03 331 *e*PKP PKPdf 17 32 33.6 -8.0
MORC *e* 17 32 43.1
MORC *e*PP **PP 17 35 32.3 +1.9**
MORC *e* 17 36 08.6
MORC *e* 17 48 20.6
MORC Moravsky Berou 138.03 331 ⇓P **PKiKP 17 32 43.7 +0.1**
MORC Moravsky Berou 138.03 331 ⇓PKIKP **PKiKP 17 32 43.7 +0.1**
OSTC Ostas 138.08 333 *e*PKPpre PKPpre 17 32 32.5
OSTC *e*PKPDF **PKiKP 17 32 43.8 +0.1**
OSTC *e*SKP 17 36 08.8
OSTC Ostas 138.08 333 *e*PKHKP PKPpre 17 32 32.5
OSTC *e* 17 32 43.8
PSZ Piszkesteto 138.10 327 ⇓P **PKiKP 17 32 43.7 -0.2**
PSZ Piszkesteto 138.10 327 ⇓PKIKP **PKiKP 17 32 43.7 -0.2**
CHVC Chvalec 138.12 333 *e*PKPpre PKPpre 17 32 33.5
CHVC *e*PKPDF **PKiKP 17 32 44.3 +0.5**
CHVC Chvalec 138.12 333 *e*PKHKP PKPpre 17 32 33.5
CHVC *e* 17 32 44.3
GORT1 Trebel 138.15 339 *e*PKPdf **PKiKP 17 32 43.1 -0.5**
baz=38,slow=2.0
SIRR Siria 138.16 324 ⇓P **PKiKP 17 32 44.2 +0.3**
SRE Strehaia 138.16 321 ⇑P **PKiKP 17 32 44.0 0.0**
SRE Strehaia 138.16 321 ⇑PKIKP **PKiKP 17 32 44.0 0.0**
KRLC Kraliky 138.17 332 *e*PKPpre PKPpre 17 32 33.6
KRLC *e*PKPDF **PKiKP 17 32 43.8 -0.1**
KRLC *e*SKP 17 36 09.0
KRLC Kraliky 138.17 332 *e*PKHKP PKPpre 17 32 33.6
KRLC *e* 17 32 43.8
MAUC Maruska 138.18 330 *e*PKPpre PKPpre 17 32 32.5
MAUC *e*PKPDF **PKiKP 17 32 43.8 -0.1**
DPC Dobruska-Polom 138.18 332 *e*PKPpre PKPpre 17 32 33.9
DPC *e*SKP 17 36 08.3
DPC Dobruska-Polom 138.18 332 *e*PKHKP PKPpre 17 32 33.9
CAVK Edirne/Enez-Ca 138.18 315 ⇑P **PKiKP 17 32 43.6 -0.5**
SURR Surduc 138.19 323 ⇓P **PKiKP 17 32 43.7 -0.3**
UPC Upice 138.20 333 *e*PKPpre PKPpre 17 32 33.7
UPC Upice 138.20 333 *e*PKHKP PKPpre 17 32 33.7
VYHS Vyhne 138.27 329 *e*PKP **PKiKP 17 32 43.6 -0.5**
VYHS *e*PP **PP 17 35 33.9 +1.9**
VYHS *e* 17 36 09.7
KDZ Kurdzhali 138.32 316 *e*P **PKiKP 17 32 43.8 -0.6**
EZN Ezine 138.44 313 ⇓P **PKiKP 17 32 44.1 -0.6**
EZN Ezine 138.44 313 ⇓PKIKP **PKiKP 17 32 44.1 -0.6**
HERR Herculane 138.51 322 ⇓P **PKiKP 17 32 44.1 -0.6**
MPEP Malo Peshtene 138.52 319 *e*P **PKiKP 17 32 44.8 0.0**
VALD Valchedram 138.54 320 *e*P **PKiKP 17 32 44.8 0.0**
BZS Buzias 138.56 324 ⇑P **PKiKP 17 32 44.4 -0.4**
BZS Buzias 138.56 324 ⇑PKIKP **PKiKP 17 32 44.4 -0.4**
DJES Djerdap 138.57 322 ⇓P **PKPdf 17 32 43.6 +0.9**
JAVC Velka Javorina 138.60 330 *e*PKP **PKPdf 17 32 35.7 -7.0**
JAVC *e* 17 32 45.2
BDRM Kayabasi 138.68 309 ⇑P **PKiKP 17 32 44.8 -0.6**
RZN Rozhen 138.69 317 *e*P **PKiKP 17 32 44.8 -0.6**
FLTG Flechtingen 138.71 338 *e*PKPdf **PKiKP 17 32 44.4 -0.4**
baz=38,slow=2.0
FLTG *e*SKPbc **SKiKP 17 36 09.4 -1.4**
baz=35,slow=2.7
TIM Timisoara 138.72 324 ⇓P **PKiKP 17 32 45.5 +0.4**
TIM Timisoara 138.72 324 ⇓PKIKP **PKiKP 17 32 45.5 +0.4**
VRAC Vranov 138.80 331 *e*PKP PKPpre 17 32 35.7
VRAC *e* 17 32 44.5
VRAC *e*PP **PP 17 35 37.1 +2.0**
VRAC *e* 17 36 11.0
VRAC *e* 17 48 28.6
VRAC Vranov 138.80 331 ⇑P **PKiKP 17 32 44.9 -0.3**
VRAC Vranov 138.80 331 ⇑PKIKP **PKiKP 17 32 44.9 -0.3**
PVCC Panska Ves 138.81 334 *e*PKPDF **PKiKP 17 32 45.5 +0.4**
PVCC *e*SKP 17 36 10.6
PVCC Panska Ves 138.81 334 *e*PKIKP **PKiKP 17 32 45.5 +0.4**
BRG Berggiesshubel 138.81 335 *e*PKPdf **PKiKP 17 32 44.5 -0.6**
baz=38,slow=2.0
BRG *e*SKPbc **SKiKP 17 36 10.2 -0.9**
baz=35,slow=2.7
BRG Berggiesshubel 138.81 335 *e*PKP PKPdf 17 32 34.1 -8.8
BRG Amp 17 32 40.1
comp=Z,54nm,1.0s
BRG Berggiesshubel 138.81 335 P **PKiKP 17 32 44.6 -0.6**
BRG Amp 17 32 47.9
comp=Z,178nm,1.2s
CLL Collm 138.86 336 *e*PKHKP PKPpre 17 32 34.0
CLL *i* 17 32 44.4
CLL *e* 17 33 16.0
CLL pmax pmax
comp=Z,27nm,0.9s
CLL pmax pmax
comp=Z,259nm,1.8s
CLL pmax pmax
comp=Z,225nm,1.6s
CLL Collm 138.86 336 *e*PKPdf **PKiKP 17 32 44.9 -0.3**
baz=38,slow=2.0
CLL *e*SKPbc **SKiKP 17 36 10.1 -1.0**
baz=35,slow=2.7
LAWE Loch Awe, Argy 138.95 354 *e*P **PKPdf 17 32 36.7 -6.3**
SMOL Smolenice 138.95 330 *e*PKIKP **PKiKP 17 32 45.3 -0.2**
BANR Banloc 138.97 324 ⇓P **PKiKP 17 32 45.9 +0.3**
NRDL Niedersach Rie 138.97 339 *e*PKPdf **PKiKP 17 32 44.9 -0.3**
baz=38,slow=2.0
SRO Srobarova 138.98 328 *e*PKIKP **PKiKP 17 32 45.2 -0.3**
SRO Srobarova 138.98 328 *e*PKP **PKiKP 17 32 45.2 -0.3**
MDVR Moldovita 138.98 322 ⇑P **PKiKP 17 32 45.1 -0.6**
RICC Richard 139.00 334 *e*PKPpre PKPpre 17 32 35.7
RETH Rethem/Aller, 139.02 340 *e*PKPdf **PKiKP 17 32 45.0 -0.4**
baz=38,slow=2.0
KRUC Moravsky 139.06 331 *e*PKP PKPpre 17 32 35.7
KRUC *e* 17 32 44.7
KRUC *e*PP **PP 17 35 38.1 +1.3**
KRUC *e* 17 36 11.2
KRUC *e* 17 48 30.0
ASSE Asse, Remlinge 139.07 338 *e*PKPdf **PKiKP 17 32 45.4 -0.1**
baz=38,slow=2.0
ASSE *e*SKPbc **SKiKP 17 36 10.6 -0.8**
baz=35,slow=2.7
PLNA Plana 139.17 318 *e*P **PKiKP 17 32 46.2 -0.1**
GOPC GO Pecny, Ondr 139.17 333 *e*PKPpre PKPpre 17 32 37.7
GOPC *e*SKP 17 36 10.7
GOPC GO Pecny, Ondr 139.17 333 *e*PKHKP PKPpre 17 32 37.7
MDP Montagnes des 139.19 100 PKhKP PKPpre 17 32 35.6
comp=Z,6.5nm,0.8s,baz=225,slow=13,SNR=2.4
MDP PKP **PKPdf 17 32 45.6 +0.8**
comp=Z,43nm,1.0s,baz=246,slow=3.6,SNR=9.9
MDP SKP 17 36 10.2
comp=Z,22nm,0.9s,baz=245,slow=2.2,SNR=10.0
PRA Prague 139.21 334 *e*PKPpre PKPpre 17 32 38.2
PRA Prague 139.21 334 *e*PKIKP PKPpre 17 32 38.2
VTS Vitosha 139.22 319 *e*P **PKiKP 17 32 46.1 -0.3**
PRU Pruhonice 139.22 333 *e*PKPpre PKPpre 17 32 38.9
PRU *e*PKPDF **PKiKP 17 32 45.8 -0.2**
PRU *e*SKP 17 36 10.9
PRU Pruhonice 139.22 333 *e*PKIKP PKPpre 17 32 38.9
TREC Trest 139.31 332 *e*SKP 17 36 11.6
MMB Musomishta 139.41 317 *e*P **PKiKP 17 32 45.6 -1.1**
CLZ Clausthal 139.42 338 *e*PKPdf **PKiKP 17 32 46.4 0.0**
baz=38,slow=2.0
CLZ *e*SKPbc **SKiKP 17 36 11.9 -0.4**
baz=35,slow=2.7
EKA Eskdalemuir Ar 139.59 352 PKhKP PKPpre 17 32 34.6
comp=Z,7.1nm,0.5s,baz=358,slow=2.0,SNR=21
EKA SKP 17 36 10.2
comp=Z,66nm,1.2s,baz=339,slow=2.1,SNR=12
BOVS Bovan 139.63 321 ⇑P **PKiKP 17 32 46.0 -1.0**
KKB Krupnik 139.68 318 *e*P **PKiKP 17 32 46.4 -0.8**
TANN Tannenbergstha 139.77 335 *e*PKPdf **PKiKP 17 32 47.1 -0.1**
baz=38,slow=2.0
TANN *e*SKPbc **SKiKP 17 36 12.8 -0.3**
baz=35,slow=2.7
ZVC Zvikov 139.78 333 *e*PKPpre PKPpre 17 32 36.9
ZVC *e*PKPDF **PKiKP 17 32 48.6 +1.4**
GTTG Gottingen 139.81 338 *e*PKPdf **PKiKP 17 32 47.0 -0.1**
baz=38,slow=2.0
GTTG *e*SKPbc **SKiKP 17 36 12.7 -0.4**
baz=35,slow=2.7
MORH Mrgy, Hungar 139.85 326 ⇑P **PKiKP 17 32 47.3 -0.1**
PEHC Pehcevo 139.85 318 *i* P PKPpre 17 32 39.9
FRGS Fruska Gora 139.86 324 *e*P PKPpre 17 32 39.1
EDMD Edmundbyers 139.90 351 *e*P PKPpre 17 32 39.6
IBBN Ibbenburen 139.91 341 *e*PKPdf **PKiKP 17 32 47.1 -0.2**
baz=38,slow=2.0
IBBN *e*SKPbc **SKiKP 17 36 12.7 -0.6**
baz=35,slow=2.7
MOX Moxa 139.92 336 *e*PKPdf **PKiKP 17 32 46.4 -1.0**
baz=38,slow=2.0
RONA Rosalia, Austr 140.06 330 *i* PKP **PKPdf 17 32 45.4 0.0**
comp=Z,94nm,1.1s,SNR=16
RONA *i* PP **PP 17 35 44.6 +1.6**
comp=Z,57nm,1.8s
RONA *e*SKP 17 36 14.3
comp=Z,67nm,1.8s,SNR=6.5
CONA Conrad Observa 140.11 330 *i* PKiKP **PKiKP 17 32 47.2 -0.8**
comp=Z,108nm,1.4s,SNR=21
CONA *i* PP **PP 17 35 46.2 +2.8**
comp=Z,58nm,1.6s
CONA *e*SKP 17 36 14.4
comp=Z,45nm,1.6s,SNR=5.0
CONA Conrad Observa 140.11 330 S **SKiKP 17 36 14.4 +0.5**
comp=Z,45nm,1.6s,SNR=5.0
CLGH Cloghs, Cushen 140.18 354 *e*P PKPpre 17 32 40.8
CKRC Cesky Krumlov 140.19 332 *e*PKPpre PKPpre 17 32 39.4
CKRC *e*PKPDF **PKiKP 17 32 48.1 0.0**
CKRC *e*SKP 17 36 13.6
CKRC Cesky Krumlov 140.19 332 *e*PKHKP PKPpre 17 32 39.4
CKRC *e* 17 32 48.1
MANZ Manzenberg 140.24 335 *e*PKPdf **PKiKP 17 32 47.4 -0.7**
baz=38,slow=2.0
MANZ *e*SKPbc **SKiKP 17 36 14.2 +0.1**
baz=35,slow=2.7
KHC Kasperske Hory 140.28 333 *e*PKPpre PKPpre 17 32 38.7
KHC *e*PKPDF **PKiKP 17 32 48.0 -0.3**
KHC *e*PP **PP 17 35 43.0 -1.2**
KHC *e*SKP 17 36 14.3
KHC *e*SKKS 17 48 26.7
KHC Kasperske Hory 140.28 333 *e*PKHKP PKPpre 17 32 38.7
KHC *e* 17 32 48.0
KHC *e* 17 35 43.0
IDGL Inch Island, C 140.31 356 PKPdf **PKPdf 17 32 45.1 -0.4**
ROTZ Rotzenmuhle 140.38 335 *e*PKPdf **PKiKP 17 32 47.7 -0.7**
baz=38,slow=2.0
ROTZ *e*SKPbc **SKiKP 17 36 14.4 +0.1**
baz=35,slow=2.7
TEKS Tekeris 140.39 324 *e*P PKPpre 17 32 38.5
GEC2 GERESS Array S 140.44 333 *e*PKPdf **P

BBLS	**Lazi&#263i**	**140.86**	**323**	*eP*		PKPpre	17 32 42.6	
SJES	**Sjenica**	**140.88**	**322**	*eP*		PKPpre	17 32 42.4	
MOA	**Molln**	**140.92**	**331**	*i* PKP		PKPpre	17 32 43.2	
	comp=Z,30nm,0.7s,SNR=21							
MOA				*i* PP	**PP**		**17 35 50.2**	**+2.1**
	comp=Z,32nm,1.5s							
MOA				*i* SKP			17 36 16.8	
	comp=Z,25nm,1.0s							
KOGS	**Kog**	**140.94**	**328**	*i* PKPdf		PKPpre	17 32 41.1	
KOGS				*i*			17 32 48.0	
KOGS				*i*			17 36 16.4	
RUDO	**Rudo**	**141.03**	**323**	*eP*		PKPpre	17 32 40.1	
IVA	**Berane**	**141.15**	**321**	⇓*i* PKP		PKPpre	17 32 42.8	
PLE	**Pljevlja**	**141.19**	**322**	⇓*i* PKP		PKPpre	17 32 42.7	
LBWR	**Ladybower, Pea**	**141.24**	**350**	*eP*		PKPpre	17 32 41.3	
ILTH	**Belurgan, Co L**	**141.24**	**354**	PKPdf		PKPpre	17 32 44.3	
IDI	**Anoyia**	**141.25**	**308**	PKP		PKPpre	17 32 41.4	
BIOA	**Bad Ischl, Aus**	**141.32**	**332**	*i* PKP		PKPpre	17 32 44.5	
	comp=Z,45nm,1.3s,SNR=39							
BIOA				*i* PP	**PP**		**17 35 51.7**	**+1.1**
	comp=Z,46nm,1.4s							
BIOA				*e*SKP			17 36 17.7	
	comp=Z,33nm,1.2s							
KOME	**Kolasin**	**141.39**	**321**	⇓*i* PKP		PKPpre	17 32 43.6	
SOKA	**Soboth**	**141.39**	**329**	*i* PKP		PKPpre	17 32 44.9	
	comp=Z,105nm,1.0s,SNR=32							
SOKA				*e*PP	**PP**		**17 35 51.9**	**+0.7**
	comp=Z,74nm,1.6s							
SOKA				*e*SKP			17 36 14.8	
	comp=Z,43nm,1.1s,SNR=7.1							
SOKA	**Soboth**	**141.39**	**329**	*e*S		**SKPbc**	**17 36 14.8**	**+0.1**
	comp=Z,43nm,1.1s,SNR=7.1							
TNS	**Taumus Mts**	**141.44**	**338**	*e*SKPbc		**SKiKP**	**17 36 17.1**	**+0.6**
	baz=35,slow=2.7							
UPM	**Unac-Piva**	**141.55**	**322**	*eP*		PKPpre	17 32 43.3	
UPM	**Unac-Piva**	**141.55**	**322**	⇓*i* PKP		PKPpre	17 32 43.5	
OHR	**Ohrid**	**141.55**	**318**	*i* P		PKPpre	17 32 42.2	
A051A	**Mrakovica**	**141.55**	**326**	*eP*		PKPpre	17 32 43.9	
BLY	**Banja Luka**	**141.57**	**325**	*eP*		PKPpre	17 32 44.0	
WME	**Myndd Eilian**	**141.63**	**352**	*eP*		PKPpre	17 32 42.8	
OBKA	**Obir**	**141.75**	**330**	*eP*		PKPpre	17 32 44.0	
OBKA	**Obir**	**141.75**	**330**	*i* PKP		PKPpre	17 32 44.8	
	comp=Z,30nm,0.9s,SNR=26							
OBKA				*i* PP	**PP**		**17 35 53.1**	**-0.3**
	comp=Z,50nm,1.9s							
WLF1	**Llynfaes**	**141.75**	**352**	*eP*		PKPpre	17 32 44.1	
CRES	**Cresnjevec Ost**	**141.77**	**328**	*eP*		PKPpre	17 32 42.3	
PDG	**Podgorica**	**141.79**	**321**	*eP*		PKPpre	17 32 44.8	
PDG	**Podgorica**	**141.79**	**321**	⇑⇑P		**PKiKP**	**17 32 50.7**	**-0.8**
PDG	**Podgorica**	**141.79**	**321**	⇓*i* PKP		PKPpre	17 32 44.4	
BEBN	**Eben Emael**	**141.87**	**341**	*d*PKPdf		PKPpre	17 32 45.7	
BTNL	**Ternell**	**141.91**	**341**	*d*PKPdf		PKPpre	17 32 44.4	
CEME	**Cevo**	**141.93**	**321**	⇓*i* PKP		PKPpre	17 32 44.8	
MEM	**Membach**	**141.93**	**341**	*d*PKPdf		PKPpre	17 32 44.6	
ELMS	**Elmsett, Ipswi**	**141.94**	**347**	*eP*		PKPpre	17 32 43.2	
BRY	**Bratogost**	**141.94**	**322**	*eP*		PKPpre	17 32 43.2	
BRY	**Bratogost**	**141.94**	**322**	⇓*i* PKP		PKPpre	17 32 43.3	
LESA	**Schwarzleotal**	**141.96**	**332**	*i* PKP		PKPpre	17 32 45.0	
	comp=Z,216nm,1.3s,SNR=99							
LESA				*i* PP	**PP**		**17 35 57.0**	**+2.5**
	comp=Z,41nm,1.4s							
LESA				*i* SKP			17 36 18.9	
	comp=Z,62nm,1.1s							
FOEL	**Foel Wylfa**	**141.97**	**351**	*eP*		PKPpre	17 32 43.7	
DRME	**Dracevica, Mon**	**141.97**	**321**	*eP*		PKPpre	17 32 44.7	
DRME	**Dracevica, Mon**	**141.97**	**321**	⇓*i* PKP		PKPpre	17 32 44.7	
TIR	**Tirane**	**142.02**	**319**	⇓P		**PKPdf**	**17 32 49.5**	**+0.5**
TIR	**Tirane**	**142.02**	**319**	⇓PKIKP		**PKPdf**	**17 32 49.5**	**+0.5**
DSB	**Dublin**	**142.02**	**354**	PKP		PKPpre	17 32 44.7	
DSB	**Dublin**	**142.02**	**354**	PKPdf		PKPpre	17 32 44.6	
ULC	**Ulcinj**	**142.06**	**320**	⇓*i* PKP		PKPpre	17 32 45.1	
IGLA	**Glengowla, Co**	**142.07**	**357**	PKPdf		PKPpre	17 32 45.0	
IGLA	**Glengowla, Co**	**142.07**	**357**	*eP*		PKPpre	17 32 44.4	
BUM	**Brajici-Budva**	**142.08**	**321**	⇓*i* PKP		PKPpre	17 32 44.7	
LJU	**Ljubljana**	**142.09**	**329**	*e*PKPdf		PKPpre	17 32 43.4	
LJU				*i*			17 32 50.5	
LJU				*e*PP	**PP**		**17 35 56.8**	**+1.5**
LJU				*i*			17 36 19.4	
MYKA	**Terra Mystica**	**142.10**	**330**	*i* PKP		PKPpre	17 32 45.8	
	comp=Z,42nm,0.6s,SNR=41							
MYKA				*e*PP	**PP**		**17 35 55.2**	**-0.2**
	comp=Z,71nm,1.6s,SNR=8.0							
MYKA				*e*SKP			17 36 16.4	
	comp=Z,49nm,0.9s							
MYKA	**Terra Mystica**	**142.10**	**330**	P		**PP**	**17 35 55.2**	**-0.2**
	comp=Z,71nm,1.6s,SNR=8.0							
A050A	**Klekovaca**	**142.10**	**326**	*eP*		PKPpre	17 32 44.2	
BHOU	**Houvegnez**	**142.15**	**341**	*d*PKPdf		PKPpre	17 32 45.6	
TREB	**Trebinje**	**142.16**	**322**	*eP*		PKPpre	17 32 44.0	
HCY	**Herceg Novi**	**142.24**	**322**	*eP*		PKPpre	17 32 44.8	
HCY	**Herceg Novi**	**142.24**	**322**	⇓*i* PKP		PKPpre	17 32 45.0	
UCC	**Uccle**	**142.26**	**343**	*d*PKPdf		PKPpre	17 32 44.4	
HLM1	**Long Mynd**	**142.28**	**350**	*eP*		PKPpre	17 32 44.3	
BCLA	**Clavier**	**142.31**	**341**	*d*PKPdf		PKPpre	17 32 44.8	
CADS	**Cadrg**	**142.34**	**330**	*i* PKPdf		PKPpre	17 32 44.4	
CEY	**Cerknica**	**142.35**	**329**	*eP*		PKPpre	17 32 44.4	
STU	**Stuttgart**	**142.36**	**336**	*e*SKPbc		**SKiKP**	**17 36 19.3**	**+0.8**
	baz=35,slow=2.7							
BGES	**Gesves**	**142.41**	**342**	*d*PKPdf		PKPpre	17 32 45.5	
STON	**Ston**	**142.46**	**323**	*eP*		PKPpre	17 32 43.8	
WATA	**Walderalm**	**142.52**	**333**	*i* PKP		**PKPdf**	**17 32 48.0**	**-2.0**
	comp=Z,148nm,1.3s,SNR=62							
WATA				*i* SKP			17 36 18.3	
	comp=Z,57nm,1.0s							
ABTA	**Abfaltersbach**	**142.54**	**332**	*i* PKP		PKPpre	17 32 46.5	
	comp=Z,224nm,1.1s,SNR=123							
ABTA				*i* SKP			17 36 18.0	
	comp=Z,68nm,1.8s,SNR=5.6							
ABTA	**Abfaltersbach**	**142.54**	**332**	*e*S		**SKPbc**	**17 36 18.0**	**+0.4**
	comp=Z,68nm,1.8s,SNR=5.6							
WTTA	**Wattenberg**	**142.54**	**333**	*i* PKP		**PKPdf**	**17 32 48.3**	**-1.7**
	comp=Z,202nm,1.1s,SNR=71							
WTTA				*e*SKP			17 36 17.7	
	comp=Z,79nm,1.4s							
BMRD	**Maredsous**	**142.58**	**342**	*d*PKPdf		PKPpre	17 32 46.5	
WLF	**Walferdange**	**142.70**	**340**	PKP		**PKPdf**	**17 32 47.0**	**-3.0**
WLF	**Walferdange**	**142.70**	**340**	*d*PKPdf		PKPpre	17 32 46.0	
WLF	**Walferdange**	**142.70**	**340**	*e*SKPbc		**SKiKP**	**17 36 20.4**	**+1.3**
	baz=35,slow=2.7							
MOTA	**Moosalm**	**142.72**	**333**	*i* PKP		**PKPdf**	**17 32 48.6**	**-1.7**
	comp=Z,260nm,0.9s,SNR=161							
MOTA				*e*SKP			17 36 17.4	
	comp=Z,57nm,1.0s,SNR=5.4							
MOTA	**Moosalm**	**142.72**	**333**	*e*S		**SKPbc**	**17 36 17.4**	**-0.7**
	comp=Z,57nm,1.0s,SNR=5.4							
RETA	**Reutte**	**142.75**	**334**	*e*PKP		**PKPdf**	**17 32 48.8**	**-1.5**
	comp=Z,175nm,1.8s,SNR=56							
RETA				*i* PP	**PP**		**17 36 00.4**	**+1.1**
	comp=Z,51nm,1.9s							
SQTA	**Sankt Quirin**	**142.77**	**333**	*i* PKP		**PKPdf**	**17 32 48.7**	**-1.7**
	comp=Z,144nm,0.9s,SNR=111							
SQTA				*i* SKP			17 36 17.2	
	comp=Z,55nm,0.8s							
MCH1	**Michaelchurch**	**142.80**	**350**	*eP*		PKPpre	17 32 46.1	
DOU	**Dourbes**	**142.81**	**342**	*d*PKPdf		PKPpre	17 32 45.7	
STRD	**Stroud**	**142.88**	**349**	*eP*		PKPpre	17 32 46.7	
IWEX	**Carrickbyrne,**	**142.92**	**354**	PKPdf		**PKPdf**	**17 32 47.3**	**-3.0**
IWEX	**Carrickbyrne,**	**142.92**	**354**	*eP*		**PKPdf**	**17 32 47.2**	**-3.0**
MONM	**Monmouth**	**142.92**	**350**	*eP*		PKPpre	17 32 46.5	
SWN1	**Swindon**	**143.06**	**349**	*eP*		PKPbc	17 32 47.4	-0.3
RSBS	**Rosebush, Pemb**	**143.10**	**352**	*eP*		PKPbc	17 32 47.1	-0.7
FETA	**Feichten**	**143.13**	**333**	*i* PKP		PKPbc	17 32 49.3	+1.0
	comp=Z,248nm,0.9s,SNR=172							
FETA				*i* SKP			17 36 19.6	
	comp=Z,42nm,1.0s,SNR=7.5							
DAVA	**Damuels**	**143.28**	**334**	*e*PKP		**PKPdf**	**17 32 50.6**	**-0.7**
	comp=Z,340nm,1.2s,SNR=101							
DAVA				*i* PP	**PP**		**17 36 03.5**	**+1.0**
	comp=Z,28nm,1.0s							
VAL	**Valentia**	**143.59**	**358**	PKP		PKPab	17 32 48.4	+0.3
VAL	**Valentia**	**143.59**	**358**	PKPdf		PKPbc	17 32 49.4	+0.3
HTL	**Hartland**	**144.00**	**351**	*eP*		PKPbc	17 32 50.5	+0.2
MATE	**Matera**	**144.38**	**320**	⇑P		**PKPdf**	**17 32 53.5**	**+0.3**
SBD	**Saint Breward**	**144.45**	**351**	*eP*		**PKPab**	**17 32 51.3**	**-0.2**
DYA	**Yadsworthy**	**144.47**	**351**	*eP*		**PKPab**	**17 32 50.9**	**-0.7**
CCA1	**Carnmenellis**	**144.90**	**352**	*eP*		**PKPab**	**17 32 52.8**	**-0.3**
NBPS	**Pedro II - PI**	**145.14**	**122**	PKP		**PKPbc**	**17 32 52.7**	**-2.4**
TIP	**Timpagrande**	**145.20**	**318**	⇑P		**PKPab**	**17 32 55.2**	**+0.4**
AQU	**L'Aquila**	**145.22**	**326**	PKP		**PKPbc**	**17 32 53.5**	**-1.0**
JSA	**Saint Aubin**	**145.35**	**348**	*eP*		**PKPdf**	**17 32 54.4**	**-0.2**
NBMA	**Muriti-CE**	**145.42**	**129**	PKP		**PKPdf**	**17 32 54.3**	**-1.6**
VLC	**Villacollemand**	**145.47**	**331**	PKP		**PKPdf**	**17 32 53.8**	**-1.2**
NBAN	**Anadia - AL**	**145.61**	**135**	PKP		**PKPdf**	**17 32 54.9**	**-1.3**
NBPB	**Pedra_Branca-C**	**145.94**	**126**	PKP		**PKPdf**	**17 32 56.1**	**-0.6**
SBBR	**Sobral**	**146.47**	**122**	PKP		**PKPdf**	**17 32 56.7**	**-0.9**
NBCA	**Caruaru-PE**	**146.82**	**134**	PKP		**PKPdf**	**17 32 57.4**	**-0.8**
NBPA	**Parau_RN**	**147.71**	**129**	PKP		**PKPdf**	**17 33 00.4**	**+0.8**
NBCL	**Cascavel-CE**	**147.77**	**125**	PKP		**PKPdf**	**17 33 00.5**	**+0.7**
RCBR	**Riachuelo**	**148.55**	**131**	PKPbc		**PKPbc**	**17 33 03.5**	**-1.4**
	comp=Z,38nm,0.8s,baz=243,slow=10,SNR=29							
RCBR	**Riachuelo**	**148.55**	**131**	PKP		**PKPdf**	**17 33 02.2**	**+1.1**
NBPV	**Pedro Velho**	**148.59**	**132**	PKP		**PKPdf**	**17 33 02.1**	**+1.0**
EJON	**La Jonquera**	**150.07**	**337**	PKP		**PKPdf**	**17 33 02.0**	**-0.6**
H07S1	**FLORES T-PHASE**	**151.06**	**31**	*e*PKP		**PKiKP**	**17 33 11.4**	**+0.6**
MAHO	**Mahon**	**151.64**	**332**	PKP		**PKPdf**	**17 33 04.0**	**-1.0**
KEST	**Kesra**	**151.97**	**320**	PKPbc		**PKiKP**	**17 33 12.7**	**-0.1**
	comp=Z,48nm,0.9s,baz=298,slow=1.1,SNR=40							
ETOS	**Mallorca**	**152.38**	**334**	PKP		**PKPdf**	**17 33 06.0**	**-0.2**
PCED	**Cedros**	**152.86**	**29**	*e*PKP		**PKiKP**	**17 33 15.6**	**+1.1**
CALA	**Caldeira**	**152.90**	**29**	*e*PKP		**PKiKP**	**17 33 15.5**	**+0.9**
ROSA	**Rosais**	**152.99**	**28**	*e*PKP		**PKiKP**	**17 33 16.0**	**+1.3**
PICO	**Pico**	**153.09**	**29**	*e*PKP		**PKiKP**	**17 33 16.8**	**+1.8**
PCAN	**Candelaria**	**153.09**	**29**	*e*PKP		**PKiKP**	**17 33 17.1**	**+2.2**
PMAN	**Manadas**	**153.13**	**28**	*e*PKP		**PKiKP**	**17 33 16.5**	**+1.5**
ECAL	**Calabor**	**153.18**	**351**	PKP		**PKPdf**	**17 33 07.2**	**-0.3**
PID	**Ribeirinha**	**153.28**	**28**	*e*PKP		**PKiKP**	**17 33 17.5**	**+2.2**
PBRG	**Braganca**	**153.31**	**350**	*e*PKPdf		**PKPdf**	**17 33 06.2**	**-1.4**
PBRG				*e*PKPbc		**PKiKP**	**17 33 16.6**	**+1.2**
PBRG				*e*PKPab		**PKPab**	**17 33 29.0**	**+1.6**
PBRG				*e*PP		**PP**	**17 36 59.8**	**-0.7**
PSBA	**Serra de Santa**	**153.36**	**27**	*e*PKP		**PKiKP**	**17 33 17.6**	**+2.1**
PGAV	**Gavieira, Arco**	**153.37**	**353**	*e*PKPdf		**PKPdf**	**17 33 08.6**	**+0.8**
PGAV				*e*PKPbc		**PKiKP**	**17 33 16.6**	**+1.1**
PGAV				*e*PKPab		**PKPab**	**17 33 29.5**	**+1.8**
PGAV				*e*PP		**PP**	**17 37 01.4**	**+0.6**
PAGU	**Agualva, Azore**	**153.42**	**26**	*e*PKP		**PKiKP**	**17 33 17.1**	**+1.6**
PCAB	**Cabril**	**153.59**	**353**	*e*PKPdf		**PKPdf**	**17 33 09.0**	**+1.0**
PCAB				*e*PKPbc		**PKiKP**	**17 33 17.1**	**+1.3**
PCAB				*e*PKPab		**PKPab**	**17 33 30.3**	**+1.8**
PCAB				*e*PP		**PP**	**17 37 02.6**	**+0.7**
EIBI	**Ibiza**	**153.61**	**335**	PKP		**PKPdf**	**17 33 07.2**	**-0.9**
POLO	**Lamas de Olo**	**153.89**	**352**	*e*PKPdf		**PKPdf**	**17 33 10.1**	**+1.6**
POLO				*e*PKPbc		**PKiKP**	**17 33 18.1**	**+1.5**
POLO				*e*PKPab		**PKPab**	**17 33 31.0**	**+1.1**
POLO				*e*PP		**PP**	**17 37 03.9**	**+0.2**
ECHE	**Chera**	**153.97**	**340**	PKP		**PKPdf**	**17 33 08.3**	**-0.3**
PVRL	**Vila Real**	**153.98**	**352**	*e*PKPdf		**PKPdf**	**17 33 07.8**	**-0.8**
PVRL				*e*PKPbc		**PKiKP**	**17 33 18.2**	**+1.6**
PVRL				*e*PKPab		**PKPab**	**17 33 32.6**	**+2.4**
PVRL				*e*PP		**PP**	**17 37 04.1**	**-0.1**
MVO	**Moncorvo**	**153.99**	**351**	*e*PKPdf		**PKPdf**	**17 33 10.2**	**+1.6**
MVO				*e*PKPbc		**PKiKP**	**17 33 18.0**	**+1.2**
MVO				*e*PKPab		**PKPab**	**17 33 31.5**	**+1.2**
MVO				*e*PP		**PP**	**17 37 05.1**	**+0.9**
UCM	**Universidad Co**	**154.00**	**344**	PKP		**PKPdf**	**17 33 08.9**	**+0.2**
PTO	**Porto**	**154.22**	**353**	*e*PKPdf		**PKPdf**	**17 33 09.8**	**+1.0**
PTO				*e*PKPbc		**PKiKP**	**17 33 18.2**	**+1.1**
PTO				*e*PKPab		**PKPab**	**17 33 33.4**	**+2.2**
PVIS	**Viseu**	**154.55**	**352**	*e*PKPdf		**PKPdf**	**17 33 10.3**	**+0.9**
PVIS				*e*PKPbc		**PKiKP**	**17 33 18.9**	**+1.0**
PVIS				*e*PKPab		**PKPab**	**17 33 34.0**	**+1.3**
PVIS				*e*PP		**PP**	**17 37 07.9**	**+0.6**
ESDC	**Sonseca Array**	**154.78**	**345**	PKP		**PKPdf**	**17 33 11.1**	**+1.3**
	comp=Z,20nm,1.1s,baz=360,slow=2.1,SNR=48							
ESDC				PKPbc		**PKiKP**	**17 33 20.1**	**+1.6**
	comp=Z,28nm,1.0s,baz=16,slow=3.8,SNR=26							
ESDC				PKPab		**PKPab**	**17 33 33.9**	**+0.1**
	comp=Z,86nm,1.0s,baz=16,slow=3.3,SNR=31							
ESDC				PP		**PP**	**17 37 04.5**	**-4.3**
	comp=Z,25nm,1.0s,baz=21,slow=6.3,SNR=12							
MTE	**Manteigas**	**154.81**	**351**	*e*PKPdf		**PKPdf**	**17 33 11.4**	**+1.6**
MTE				*e*PKPbc		**PKiKP**	**17 33 19.7**	**+1.2**
MTE				*e*PKPab		**PKPab**	**17 33 35.5**	**+1.6**
MTE				*e*PP		**PP**	**17 37 09.4**	**+0.6**
PSET	**Sete Cidades**	**154.83**	**25**	*e*PKP		**PKPdf**	**17 33 12.7**	**+2.9**
CMLA	**Cha da Macela**	**154.97**	**25**	*e*PKP		**PKPdf**	**17 33 10.3**	**+0.4**
PAB	**San Pablo**	**155.00**	**345**	⇑PKIKP		**PKPdf**	**17 33 11.9**	**+1.8**
BART	**Pico Bartolome**	**155.10**	**25**	*e*PKP		**PKPdf**	**17 33 12.0**	**+1.7**
COI	**Coimbra**	**155.12**	**353**	*e*PKPdf		**PKPdf**	**17 33 11.6**	**+1.6**
COI				*e*PKPbc		PKPbc	17 33 20.1	
COI				*e*PKPab		**PKPab**	**17 33 36.9**	**+1.9**
COI				*e*PP		**PP**	**17 37 11.7**	**+1.2**
PCAS	**Casmilo, Conde**	**155.28**	**353**	*e*PKPdf		**PKPdf**	**17 33 11.7**	**+1.4**
PCAS				*e*PKPbc		PKPbc	17 33 20.6	
PCAS				*e*PKPab		**PKPab**	**17 33 37.0**	**+1.2**
PCAS				*e*PP		**PP**	**17 37 11.6**	**+0.2**
PCBR	**Castelo Branco**	**155.35**	**351**	*e*PKPdf		**PKPdf**	**17 33 10.8**	**+0.4**
PCBR				*e*PKPbc		PKPbc	17 33 21.3	
PCBR				*e*PKPab		**PKPab**	**17 33 36.4**	**+0.4**
PCBR				*e*PP		**PP**	**17 37 12.2**	**+0.5**
PSARD	**Sardoal**	**155.68**	**352**	*e*PKPdf		**PKPdf**	**17 33 12.4**	**+1.5**
PSARD				*e*PKPbc		PKPbc	17 33 21.9	
PSARD				*e*PKPab		**PKPab**	**17 33 38.2**	**+0.7**
PSARD				*e*PP		**PP**	**17 37 14.6**	**+1.0**
PMRV	**Marv??o**	**155.74**	**350**	*e*PKPdf		**PKPdf**	**17 33 12.8**	**+1.2**
PMRV				*e*PKPbc		PKPbc	17 33 21.9	
PMRV				*e*PKPab		**PKPab**	**17 33 38.0**	**+0.2**
PMRV				*e*PP		**PP**	**17 37 16.5**	**+2.5**
PSMA	**Santa Maria**	**155.78**	**25**	*e*PKP		**PKPdf**	**17 33 13.4**	**+2.3**
PSMN	**Pico do Norte,**	**155.80**	**25**	*e*PKP		**PKPdf**	**17 33 11.9**	**+0.8**
PSBE	**So Bento**	**155.85**	**353**	*e*PKPdf		**PKPdf**	**17 33 10.8**	**-0.3**
PSBE				*e*PKPbc		PKPbc	17 33 22.8	
PSBE				*e*PKPab		**PKPab**	**17 33 38.2**	**0.0**
PSBE				*e*PP		**PP**	**17 37 15.8**	**+1.2**
PMTG	**Montargil**	**156.21**	**352**	*e*PKPdf		**PKPdf**	**17 33 12.2**	**+0.6**
PMTG				*e*PKPbc		PKPbc	17 33 22.4	
PMTG				*e*PKPab		**pPKPdf**	**17 33 41.6**	**+0.1**
PMTG				*e*PP		**PP**	**17 37 17.4**	**+0.9**
EANR	**'Ain N'Sour**	**156.30**	**332**	P		**PKPdf**	**17 33 09.5**	**-2.4**
PESTR	**Estremoz**	**156.32**	**351**	*e*PKPdf		**PKPdf**	**17 33 12.7**	**+0.9**
PESTR				*e*PKPbc		PKPbc	17 33 23.6	
PESTR				*e*PKPab		**PKPab**	**17 33 40.8**	**+0.6**
PESTR				*e*PP		**PP**	**17 37 18.8**	**+1.7**
PACT	**Alcochete**	**156.59**	**353**	*e*PKPdf		**PKPdf**	**17 33 13.6**	**+1.6**
PACT				*e*PKPab		**pPKPdf**	**17 33 43.9**	**+1.9**
PACT				*e*PP		**PP**	**17 37 20.4**	**+1.8**
LIS	**Lisbon**	**156.67**	**354**	*e*PKPdf		**PKPdf**	**17 33 11.9**	**-0.2**
LIS				*e*PKPab		**pPKPdf**	**17 33 42.5**	**+0.4**
LIS				*e*PP		**PP**	**17 37 20.9**	**+1.9**
EVO	**Evora**	**156.71**	**351**	PKP		**PKPdf**	**17 33 06.4**	**-5.9**
EVO	**Evora**	**156.71**	**351**	*e*PKPdf		**PKPdf**	**17 33 13.9**	**+1.7**
EVO				*e*PKPab		**pPKPdf**	**17 33 43.2**	**+1.0**
EVO				*e*PP		**PP**	**17 37 20.4**	**+1.2**
PBAR	**Barrancos**	**156.90**	**349**	*e*PKPdf		**PKPdf**	**17 33 14.3**	**+1.8**
PBAR				*e*PKPab		**PKPab**	**17 33 43.8**	**+1.0**
PBAR				*e*PP		**PP**	**17 37 20.8**	**+0.5**
PBEJ	**Beja**	**157.19**	**351**	*e*PKPdf		**PKPdf**	**17 33 14.1**	**+1.2**
PBEJ				*e*PKPab		**PKPab**	**17 33 45.3**	**+1.3**
PBEJ				*e*PP		**PP**	**17 37 22.9**	**+1.0**
MESJ	**Messejana**	**157.42**	**351**	*e*PKPdf		**PKPdf**	**17 33 15.8**	**-0.3**
MESJ				*e*PKPab		**PKPab**	**17 33 45.5**	**+0.5**
MESJ				*e*PP		**PP**	**17 37 24.8**	**+1.6**
PCVE	**Castro Verde**	**157.60**	**351**	*e*PKPdf		**PKPdf**	**17 33 14.8**	**+1.4**
PCVE				*e*PKPab		**PKPab**	**17 33 47.6**	**+1.8**
PCVE				*e*PP		**PP**	**17 37 24.5**	**+0.3**
EMAL	**Malaga-Limoner**	**157.64**	**343**	PKP		**PKPdf**	**17 33 09.8**	**-3.7**
PVAQ	**Vaqueiros**	**157.77**	**350**	*e*PKPdf		**PKPdf**	**17 33 15.1**	**+1.5**
PVAQ				*e*PKPab		**PKPab**	**17 33 47.7**	**+1.2**
PVAQ				*e*PP		**PP**	**17 37 26.4**	**+1.3**
PTEO	**Sao Teotonio**	**157.78**	**352**	*e*PKPdf		**PKPdf**	**17 33 14.2**	**+0.6**
PTEO				*e*PKPab		**PKPab**	**17 33 47.6**	**+1.1**
PTEO				*e*PP		**PP**	**17 37 28.4**	**+3.3**
PBDV	**Barranco-do-Ve**	**157.96**	**350**	*e*PKPdf		**PKPdf**	**17 33 14.4**	**+0.5**
PBDV				*e*PKPab		**PKPab**	**17 33 49.2**	**+1.8**
PBDV				*e*PP		**PP**	**17 37 27.9**	**+1.7**
MORF	**Marmelete**	**158.01**	**352**	*e*PKPdf		**PKPdf**	**17 33 13.6**	**-0.4**
MORF				*e*PKPab		**PKPab**	**17 33 48.1**	**+0.5**
MORF				*e*PP		**PP**	**17 37 27.8**	**+1.4**
MORF	**Marmelete**	**158.01**	**352**	*e*PKPdf		**PKPdf**	**17 33 13.2**	**-0.8**
MORF				*e*PKPab		**PKPab**	**17 33 49.7**	**+2.1**
MORF				*e*PP		**PP**	**17 37 28.8**	**+2.3**
PFVI	**Vila Bisbo**	**158.20**	**352**	*e*PKPdf		**PKPdf**	**17 33 15.5**	**+1.4**
PFVI				*e*PKPab		**PKPab**	**17 33 49.5**	**+1.2**
PFVI				*e*PP		**PP**	**17 37 28.7**	**+1.3**
CNIL	**Conil**	**158.43**	**346**	PKP		**PKPdf**	**17 33 13.2**	**-1.2**
PMPST	**Porto Santo, M**	**162.13**	**11**	*e*PKPdf		**PKPdf**	**17 33 19.8**	**+1.1**
PMPST				*e*PKPab		**PKPab**	**17 34 09.0**	**+3.4**
PMPST				*e*PP		**PP**	**17 37 50.4**	**+1.7**
PMOZ	**Porto Moniz, M**	**162.20**	**13**	*e*PKPdf		**PKPdf**	**17 33 20.7**	**+1.8**
PMAR	**Madeira**	**162.36**	**13**	*e*PKPdf		**PKPdf**	**17 33 19.2**	**+0.1**
TIO	**Tiouine**	**163.91**	**344**	PKP		**PKPdf**	**17 33 16.6**	**-4.0**
TORD	**Torodi Ar. Bea**	**166.12**	**262**	PKP		**PKPdf**	**17 33 22.1**	**-0.7**
	comp=Z,30nm,1.0s,baz=40,slow=1.0,SNR=65							
TORD				PKPab		**PKPab**	**17 34 24.0**	**0.0**
	comp=Z,38nm,0.9s,baz=85,slow=4.3,SNR=13							
TORD				PP		**PP**	**17 38 09.8**	**-2.1**
	comp=Z,12nm,1.2s,baz=67,slow=5.6,SNR=7.0							
DBIC	**Dimbokro**	**168.52**	**221**	PKP		**PKPdf**	**17 33 24.5**	**0.0**
	comp=Z,59nm,1.0s,baz=181,slow=0.9,SNR=24							
DBIC				PKPab		**PKPab**	**17 34 34.9**	**+0.6**
	comp=Z,46nm,1.0s,baz=183,slow=3.5,SNR=8.4							
DBIC	**Dimbokro**	**168.52**	**221**	PKP		**PKPdf**	**17 33 25.1**	**+0.6**

JMA 01 17:22:47.5±0.2, 32°.1N±0°.6×129°.2E±0°.8, h8km, MV1.3/10, SW OFF KYUSHU, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFU	**Fukue jima 2**	**0.71**	**328**	*e*P	Pg	17 23 01.2	0.0

comp=Z,6.4nm,1.0s
SNAA Sanae 77.03 178 P **P** 17 57 18.0 +0.7
comp=Z,3.0nm,1.0s,baz=188,slow=4.9,SNR=7.2
comp=Z,3.0nm,1.0s
VNA3 Neumayer Olymp 77.17 176 ⇑P **P** 17 57 19.0 +1.0
comp=Z,8.6nm,0.8s
VNA2 Neumayer--Watz 77.60 177 ⇑P **P** 17 57 21.8 +1.4
comp=Z,6.1nm,0.8s,baz=180,slow=5.4
VNA1 Neumayer--Stat 77.83 176 ⇑P **P** 17 57 24.0 +2.4
comp=Z,7.4nm,0.9s
KSRS Korea Array 85.39 320 P **P** 17 58 02.5 +0.6
comp=Z,0.7nm,0.8s,baz=158,slow=6.5,SNR=3.1
comp=Z,0.7nm,0.8s
PETK Petropaviovsk- 86.97 345 P **P** 17 58 08.8 -0.5
comp=Z,2.0nm,0.9s,baz=142,slow=7.5,SNR=7.0
comp=Z,2.0nm,0.9s
NVAR Mina Array Bea 88.87 43 P **P** 17 58 19.2 +0.2
comp=Z,1.1nm,0.7s,baz=215,slow=7.5,SNR=5.4
comp=Z,1.1nm,0.7s
TPNV Topopah Spring 89.09 45 P **P** 17 58 18.9 -1.1
TPNV IAmb IAmb 17 58 22.4
comp=Z,4.1nm,1.1s
TXAR Lajitas Array 92.75 57 P **P** 17 58 37.5 +0.3
comp=Z,0.3nm,0.7s,baz=241,slow=4.9,SNR=3.5
comp=Z,0.3nm,0.7s
LTY Liberty 93.67 35 P **P** 17 58 38.6 -2.4
PLID Pearl Lake 94.59 39 P **P** 17 58 45.8 +0.4
PLID IAmb IAmb 17 58 47.3
comp=Z,1.8nm,0.9s
KURBB Kurchatov Arra 122.07 313 PKP **PKPdf** 18 04 17.9 -0.8
comp=Z,0.6nm,0.8s,baz=103,slow=2.1,SNR=8.7
FINES FINESS Array B 146.30 340 PKPbc **PKPdf** 18 05 04.0 +0.7
comp=Z,6.2nm,1.0s,baz=70,slow=3.4,SNR=12
AKASG Malin Array Be 152.36 322 PKPbc **PKPbc** 18 05 19.2 -0.9
comp=Z,0.5nm,0.4s,baz=47,slow=3.5,SNR=5.5
AKASG PKPab **sPKPbc** 18 05 29.3 0.0
comp=Z,2.1nm,0.8s,baz=49,slow=4.0,SNR=7.9
BRTR Keskin Array B 153.37 297 PKPbc **PKPbc** 18 05 21.9 -1.0
comp=Z,0.9nm,0.9s,baz=107,slow=2.0,SNR=3.6
BRTR PKPab **PKPab** 18 05 34.0 -1.2
comp=Z,0.8nm,0.8s,baz=284,slow=2.0,SNR=4.3

*NEIC **01** 17:46:31.4±1.6,68.89N±0.08×17.0W±0.1,h10km±1km, mb4.5/9, Error ellipse: s-maj=13.8km s-min=7.9km az=197.0*
*REY **01** 17:46:32.6,68.73N×16.48W,h10km*
*IDC **01** 17:46:32.3±0.9,68.78N×16.76W,h0km,mb3.8/11, mbtmp3.9/18,ML3.2/6, Error ellipse: s-maj=21.9km s-min=16.1km az=25.0*
*DNK **01** 17:46:41.2±2.1,69.75N×17.65W,h10km±97km,ML1.4*
ISC 01 17:46:32.7±0.6,68.85N±0.05×16.71W±0.06,h10km,n88, σ1s99/95,mb4.0/29,Iceland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**2.37**	**193**	S			**Sn**	**17 47 35.5**	**-5.2**
IGRI				P			**Pn**	**17 47 09.3**	**-2.3**
ILEI	**Leirhofn**	**2.45**	**178**	P			**Pn**	**17 47 10.6**	**-2.1**
ILEI				S			**Sn**	**17 47 40.1**	**-2.5**
SCO	**Scoresbysund**	**2.46**	**314**				Pn	17 47 07.5	-5.4
SCO	**Scoresbysund**	**2.46**	**314**	*i* P			**Pn**	**17 47 09.0**	**-3.8**
SCO				*i* S			Sn	17 47 31.3	-12
SCO				IAML				17 47 35.8	
	comp=Z,4.5nm,0.3s								
IBRE	**Brettingsstaoi**	**2.78**	**190**	P			**Pn**	**17 47 15.1**	**-2.0**
IBRE				S			**Sn**	**17 47 49.4**	**-1.2**
IGIL	**Gilhagi**	**2.79**	**177**	P			**Pn**	**17 47 15.2**	**-2.1**
IGIL				S			**Sn**	**17 47 48.6**	**-2.3**
ISIG	**Siglufjorour**	**2.86**	**198**	P			**Pn**	**17 47 16.4**	**-1.9**
IDIM	**Dimmadalss**	**2.90**	**182**	P			**Pn**	**17 47 17.0**	**-1.9**
IGRA	**Granastaoir**	**2.96**	**187**	P			**Pn**	**17 47 17.9**	**-1.8**
IHLA	**Hella**	**2.99**	**193**	P			**Pn**	**17 47 18.2**	**-1.8**
IHLA				S			**Sn**	**17 47 51.4**	**-4.5**
ISKI	**Skildingahlsh**	**2.99**	**183**	P			**Pn**	**17 47 17.9**	**-2.3**
IGHA	**Grjothals**	**3.02**	**180**	P			**Pn**	**17 47 18.7**	**-1.8**
IGHA				S			**Sn**	**17 47 55.3**	**-1.4**
IHRN	**Hraun**	**3.05**	**207**	P			**Pn**	**17 47 19.9**	**-1.0**
IKVO	**Krokottuvotn**	**3.15**	**181**	P			**Pn**	**17 47 20.7**	**-1.6**
IREN	**Reynihlio**	**3.22**	**181**	P			**Pn**	**17 47 21.7**	**-1.5**
IREN				S			**Sn**	**17 47 59.9**	**-1.6**
IGRS	**Grimsstaoir**	**3.23**	**176**	P			**Pn**	**17 47 21.6**	**-1.9**
IMEL	**Melhnausar**	**3.29**	**180**	P			**Pn**	**17 47 22.7**	**-1.6**
IMEL				S			**Sn**	**17 48 02.6**	**-0.9**
ISVA	**Svartarkot**	**3.53**	**184**	P			**Pn**	**17 47 26.6**	**-1.0**
ISVA				S			**Sn**	**17 48 09.0**	**-0.4**
IASK	**Askja**	**3.81**	**180**	P			**Pn**	**17 47 30.4**	**-1.1**
IADA	**Aoalbol**	**3.87**	**173**	P			**Pn**	**17 47 30.2**	**-2.0**
IMKO	**Mokollar**	**3.89**	**178**	P			**Pn**	**17 47 30.9**	**-1.6**
THOR	**Thorvaldshraun**	**3.93**	**180**	P			**Pn**	**17 47 32.0**	**-1.1**
IVSH	**V-Sauoahnukur**	**4.08**	**174**	P			**Pn**	**17 47 33.0**	**-2.1**
IDYN	**Dyngjuhals**	**4.08**	**184**	P			**Pn**	**17 47 34.4**	**-0.9**
IKRE	**Kreppuhraun**	**4.08**	**178**	P			**Pn**	**17 47 33.8**	**-1.4**
ISTE	**Stelbrattur**	**4.17**	**197**	P			**Pn**	**17 47 38.0**	**+1.6**
IKIS	**Kista**	**4.21**	**185**	P			**Pn**	**17 47 36.8**	**-0.2**
IVON	**Vonarskard**	**4.21**	**186**	P			**Pn**	**17 47 37.5**	**+0.5**
ISKR	**Skrokkalda**	**4.36**	**190**	P			**Pn**	**17 47 40.5**	**+1.5**
IGRF	**Grimsfjall**	**4.47**	**183**	P			**Pn**	**17 47 41.2**	**+0.6**
IASB	**sbjarnarstai**	**4.50**	**206**	P			**Pn**	**17 47 41.2**	**+0.3**
BORG	**Borgarnes**	**4.50**	**206**				**Pn**	**17 47 40.1**	**-0.8**
BORG	**Borgarnes**	**4.50**	**206**	Pn			**Pn**	**17 47 40.5**	**-0.4**
	comp=Z,6.9nm,0.3s,baz=358,slow=5.5,SNR=33								
	comp=Z,73nm,0.8s								
IJOK	**Jokulheimar**	**4.59**	**188**	P			**Pn**	**17 47 43.7**	**+1.5**
IKSK	**Karasker**	**4.71**	**179**	P			**Pn**	**17 47 42.4**	**-1.4**
IIEY	**Innrieyrar**	**4.81**	**187**	P			**Pn**	**17 47 47.0**	**+1.9**
SLET	**Slettubjorg**	**4.93**	**180**	P			**Pn**	**17 47 46.9**	**+0.1**
SOEG	**Soedalen**	**5.43**	**270**	*i* P			**Pn**	**17 47 57.8**	**+4.2**
DBG	**Daneborg**	**5.60**	**350**	*i* P			Pn	17 47 50.5	-5.4
SUMG	**Summit**	**8.08**	**307**				**Pn**	**17 48 27.7**	**-2.6**
SUMG	**Summit**	**8.08**	**307**	*i* P			**Pn**	**17 48 27.9**	**-2.3**
SPITS	**Spitsbergen Ar**	**12.97**	**30**	Pn			**Pn**	**17 49 36.8**	**+0.1**
	comp=Z,14nm,0.9s,baz=222,slow=14,SNR=18								
SPB2	**Spitsbergen Ar**	**12.97**	**30**	Pn			**Pn**	**17 49 37.5**	**+0.8**
NOA	**NORSAR Array B**	**14.05**	**110**	Pn			**Pn**	**17 49 51.9**	**+0.3**
	baz=310,slow=13,SNR=1.6								
	comp=Z,0.9nm,0.8s								
ARCES	**ARCESS Array B**	**14.80**	**68**	Pn			**Pn**	**17 50 02.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=287,slow=10,SNR=1.5								
	comp=Z,2.3nm,0.9s								
EKA	**Eskdalemuir Ar**	**14.91**	**149**	Pn			**Pn**	**17 50 02.4**	**-0.8**
	baz=345,slow=12								
	comp=Z,1.2nm,0.7s								
HFS	**Hagfors**	**15.55**	**109**	Pn			**Pn**	**17 50 11.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=315,slow=11,SNR=2.3								
	comp=Z,2.7nm,0.8s								
FINES	**FINESS Array B**	**19.06**	**92**	P			**Pn**	**17 50 55.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=334,slow=13,SNR=6.2								
	comp=Z,2.7nm,0.7s								
FRB	**Frobisher Bay**	**20.88**	**281**	P			**P**	**17 51 15.7**	**+1.1**
	comp=Z,5.4nm,0.7s,baz=70,slow=11,SNR=1.9								
	comp=Z,5.4nm,0.7s								
CLL	**Collm**	**22.59**	**126**	P			**P**	**17 51 32.6**	**-0.3**
CLL	**Collm**	**22.59**	**126**	*i* P			**P**	**17 51 32.7**	**-0.3**
	comp=Z,8.0nm,1.0s								
CLL				*i* x			x	17 51 40.8	
PABE	**Paberze**	**22.64**	**106**	P			**P**	**17 51 33.0**	**-0.5**
PABE				IAmb		IAmb	IAmb	17 51 39.7	
	comp=Z,33nm,1.2s								
CLF	**Chambon-Foret**	**22.91**	**146**	P			**P**	**17 51 36.4**	**0.0**
GEC2	**GERESS Array S**	**25.00**	**128**	P			**P**	**17 51 56.4**	**0.0**
GEC2				IAmb		IAmb	IAmb	17 52 00.5	
	comp=Z,9.6nm,1.0s								
GERES	**GERESS Array B**	**25.00**	**128**	P			**P**	**17 51 55.6**	**-0.8**
GERES	**GERESS Array B**	**25.00**	**128**	P			**P**	**17 51 56.8**	**+0.4**
	comp=Z,6.9nm,1.1s,baz=325,slow=8.6,SNR=20								
	comp=Z,6.9nm,1.1s								
MORC	**Moravsky Berou**	**25.32**	**121**	P			**P**	**17 51 56.7**	**-2.5**
MORC				IAmb		IAmb	IAmb	17 52 02.7	
	comp=Z,8.0nm,1.1s								
DAVA	**Damuels**	**25.38**	**135**	*i* P			**P**	**17 52 03.9**	**+4.0**
	comp=Z,3.6nm,0.8s								
VRAC	**Vranov**	**25.44**	**123**	P			**P**	**17 52 01.2**	**+1.0**
	comp=Z,1.4nm,0.2s,baz=331,slow=11,SNR=4.0								
	comp=Z,1.4nm,0.2s								
MOTA	**Moosalm**	**25.64**	**133**	*i* P			**P**	**17 52 06.3**	**+4.0**
	comp=Z,8.5nm,1.2s								
WATA	**Walderalm**	**25.78**	**132**	*i* P			**P**	**17 52 07.4**	**+3.8**
	comp=Z,1.6nm,0.5s								
SQTA	**Sankt Quirin**	**25.79**	**133**	*i* P			**P**	**17 52 06.4**	**+2.8**
	comp=Z,6.4nm,0.9s								
FETA	**Feichten**	**25.84**	**134**	*i* P			**P**	**17 52 06.1**	**+2.0**
	comp=Z,1.7nm,0.7s								
DAVOX	**Davos/Dischmat**	**25.85**	**135**	P			**P**	**17 52 05.2**	**+1.0**
	comp=Z,2.2nm,0.7s,baz=326,slow=9.7,SNR=4.0								
	comp=Z,2.2nm,0.7s								
WTTA	**Wattenberg**	**25.86**	**132**	*i* P			**P**	**17 52 06.9**	**+2.5**
	comp=Z,8.5nm,1.0s								
LESA	**Schwarzleotal**	**26.00**	**131**	*e*P			**P**	**17 52 08.1**	**+2.6**
	comp=Z,4.9nm,1.1s								
TUE	**Stuetta**	**26.00**	**136**	P			**P**	**17 52 04.6**	**-1.0**
BIOA	**Bad Ischl, Aus**	**26.02**	**129**	*i* P			**P**	**17 52 10.6**	**+5.0**
	comp=Z,3.6nm,1.2s								
MOA	**Molln**	**26.06**	**128**	*e*P			**P**	**17 52 07.9**	**+2.0**
	comp=Z,4.6nm,1.2s								
CONA	**Conrad Observa**	**26.45**	**126**	*i* P			**P**	**17 52 10.8**	**+1.3**
	comp=Z,5.3nm,1.1s								
ABTA	**Abfaltersbach**	**26.57**	**131**	*i* P			**P**	**17 52 13.7**	**+3.0**
	comp=Z,3.0nm,0.9s								
MYKA	**Terra Mystica**	**26.99**	**130**	*e*P			**P**	**17 52 16.0**	**+1.6**
	comp=Z,2.9nm,1.3s								
SOKA	**Soboth**	**27.34**	**128**	*i* P			**P**	**17 52 19.8**	**+2.2**
	comp=Z,0.8nm,0.8s								
OBKA	**Obir**	**27.36**	**129**	*i* P			**P**	**17 52 19.3**	**+1.6**
	comp=Z,3.9nm,1.4s								
AKASG	**Malin Array Be**	**28.40**	**106**	P			**P**	**17 52 27.1**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=332,slow=9.3,SNR=3.0								
	comp=Z,0.6nm,0.5s								
FNA	**Florina**	**34.59**	**124**	P			**P**	**17 53 21.3**	**-0.1**
BRTR	**Keskin Array B**	**39.48**	**111**	P			**P**	**17 54 03.6**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=318,slow=5.8,SNR=1.7								
	comp=Z,0.2nm,0.3s								
BVAR	**Borovoye Array**	**41.09**	**67**	P			**P**	**17 54 18.7**	**+2.6**
	comp=Z,0.6nm,0.6s,baz=336,slow=6.8,SNR=2.3								
	comp=Z,0.6nm,0.6s								
ILAR	**Eielson Array**	**42.14**	**331**	P			**P**	**17 54 25.2**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=1.7,slow=5.9,SNR=4.1								
	comp=Z,0.6nm,0.9s								
BCAR	**Beaver Creek A**	**42.73**	**327**	P			**P**	**17 54 28.6**	**-0.8**
L27K	**Beaver Creek,**	**42.74**	**327**	P			**P**	**17 54 28.0**	**-1.5**
L27K				IAmb		IAmb	IAmb	17 54 31.7	
	comp=Z,4.9nm,1.1s								
O29M	**Mount Kennedy**	**44.55**	**323**	P			**P**	**17 54 40.6**	**-3.6**
LOGN	**Logan Glacier**	**44.60**	**325**	P			**P**	**17 54 42.4**	**-2.2**
LOGN				IAmb		IAmb	IAmb	17 55 09.0	
	comp=Z,9.8nm,0.8s								
KURBB	**Kurchatov Arra**	**45.80**	**62**	P			**P**	**17 54 55.1**	**+1.1**
	comp=Z,2.0nm,1.1s,baz=332,slow=7.2,SNR=4.7								
	comp=Z,2.0nm,1.1s								
MKAR	**Makanchi Array**	**50.35**	**62**	P			**P**	**17 55 28.9**	**-0.5**
MKAR	**Makanchi Array**	**50.35**	**62**	P			**P**	**17 55 31.2**	**+1.9**
	comp=Z,2.3nm,1.1s,baz=335,slow=5.5,SNR=9.0								
	comp=Z,2.3nm,1.1s								
PDAR	**Pinedale Array**	**51.89**	**291**	P			**P**	**17 55 43.2**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=13,slow=3.4,SNR=1.4								
	comp=Z,0.3nm,0.7s								
ASAR	**Alice Springs**	**131.44**	**37**	PKP			**PKPdf**	**18 05 44.8**	**0.0**
	comp=Z,0.3nm,0.9s,baz=343,slow=2.5,SNR=1.8								

*AFAD **01** 17:48:20.9,40.06N×33.23E,h7km±2km,ML2.3*
*ISK **01** 17:48:20.3,40.07N×33.23E,h3km,ML2.7/17*
ISC 01 17:48:21.2±0.9,40.07N±0.02×33.23E±0.02,h13km±7km, n29,σ0s62/43,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GOKD	**Ankara-Kalecik**	**0.19**	**87**	P			**Pg**	**17 48 25.3**	**-0.3**
GOKD				*i* IAML				17 48 29.0	
	comp=N,2µm,0.4s								
GOKD				*i* IAML				17 48 29.0	
	comp=E,2µm,0.3s								
GOKD				S			**Sg**	**17 48 29.3**	**+0.8**
ANTO	**Ankara**	**0.39**	**240**	Pg			**Pg**	**17 48 28.6**	**-0.4**
ANTO				Sg			**Sb**	**17 48 34.8**	**-1.0**
LOD	**Lodumlu**	**0.40**	**244**	Pg			**Pg**	**17 48 28.8**	**-0.3**
LOD				Sg			**Sb**	**17 48 35.3**	**-0.8**
ELDT	**Eldivan**	**0.45**	**20**	P			**Pg**	**17 48 29.5**	**-0.7**
ELDT				S			**Sg**	**17 48 36.7**	**+0.4**
ELDT				*i* IAML				17 48 37.0	
	comp=N,658nm,0.5s								
ELDT				*i* IAML				17 48 37.0	
	comp=E,604nm,0.3s								
BR131	**Keskin Array S**	**0.46**	**137**	Pg			**Pg**	**17 48 30.1**	**-0.3**
BR131				Sg			**Sb**	**17 48 37.2**	**-1.0**
KESK	**Krkkale-Ke**	**0.51**	**147**	P			**Pg**	**17 48 31.2**	**0.0**
KESK				S			**Sb**	**17 48 38.5**	**-0.9**
KESK				*i* IAML				17 48 42.0	
	comp=N,108nm,0.4s								
KESK				*i* IAML				17 48 43.0	
	comp=E,96nm,0.3s								
DELI	**KIRIKKALE**	**0.54**	**97**	P			**Pg**	**17 48 31.3**	**-0.4**
DELI				*i* IAML				17 48 39.0	
	comp=E,102nm,0.4s								
DELI				S			**Sg**	**17 48 39.0**	**+0.1**
DELI				*i* IAML				17 48 42.0	
	comp=N,162nm,0.5s								
CANT	**Cankiri**	**0.62**	**29**	Pg			**Pg**	**17 48 33.2**	**-0.1**
AFSR	**Afar-Bala (An**	**0.63**	**191**	Pg			**Pg**	**17 48 33.3**	**-0.2**
CMDR	**Camlidere-ANKA**	**0.72**	**307**	P			**Pg**	**17 48 34.8**	**-0.4**
CMDR				S			**Sb**	**17 48 45.4**	**-0.1**
CMDR				*i* IAML				17 48 47.0	
	comp=N,131nm,0.2s								
YENC	**ankr-Yen**	**0.78**	**37**	P			**Pb**	**17 48 36.0**	**-0.6**
YENC				*i* IAML				17 48 48.0	
	comp=N,204nm,0.3s								
YENC				*i* IAML				17 48 48.0	
	comp=E,220nm,0.4s								
YENC				S			**Sb**	**17 48 48.1**	**+0.9**
KAMT	**Kaman**	**0.79**	**151**	Pg			**Pb**	**17 48 36.3**	**-0.6**
SUNG	**orum-Sungurl**	**0.79**	**81**	P			**Pb**	**17 48 36.3**	**-0.5**
SUNG				*i* IAML				17 48 53.0	
	comp=N,60nm,0.3s								
SUNG				*i* IAML				17 48 54.0	
	comp=E,94nm,0.4s								
KKUL	**Konya-Kulu**	**0.92**	**195**	P			**Pb**	**17 48 39.0**	**-0.1**
KKUL				S			**Sn**	**17 48 53.6**	**+0.5**
KKUL				*i* IAML				17 48 57.0	
	comp=E,107nm,0.4s								
KKUL				*i* IAML				17 48 58.0	
	comp=N,72nm,0.5s								
CDAG	**Cicekdag**	**0.99**	**116**	P			**Pg**	**17 48 39.4**	**-0.9**
CDAG				S			**Sb**	**17 48 53.0**	**-0.1**
CDAG				*i* IAML				17 48 58.0	
	comp=N,185nm,0.4s								
CDAG				*i* IAML				17 48 58.0	
	comp=E,168nm,0.4s								
KULU	**Kulu**	**1.03**	**190**	Pg			**Pb**	**17 48 41.2**	**+0.2**
ILGA	**Ilgaz**	**1.05**	**21**	P			**Pg**	**17 48 40.7**	**-0.9**
ILGA				S			**Sn**	**17 48 56.6**	**0.0**
ILGA				*i* IAML				17 49 00.0	
	comp=N,60nm,0.9s								
ILGA				*i* IAML				17 49 00.0	
	comp=E,74nm,0.4s								
KIRS	**Kirsehir-Merke**	**1.07**	**150**	P			**Pg**	**17 48 40.8**	**-1.1**
KIRS				S			**Sb**	**17 48 56.0**	**+0.4**
CORM	**Corum**	**1.08**	**84**	Pn			**Pb**	**17 48 41.7**	**-0.2**
SERE	**Serefiikochisa**	**1.15**	**167**	Pn			**Pn**	**17 48 43.2**	**+0.1**
YUVA	**Yuva-Kibriscik**	**1.22**	**286**	Pn			**Pb**	**17 48 44.3**	**0.0**
MCUR	**KIREHR**	**1.35**	**131**	P			**Pg**	**17 48 46.5**	**-0.6**
MCUR				S			**Sn**	**17 49 04.8**	**+1.1**
MCUR				*i* IAML				17 49 08.0	
	comp=E,75nm,0.2s								
MCUR				*i* IAML				17 49 09.0	
	comp=N,56nm,0.4s								
SVRH	**Sivrihisar-ESK**	**1.45**	**245**	Pn			**Pb**	**17 48 48.1**	**0.0**
CHBY	**Cihanbeyli**	**1.50**	**190**	Pn			**Pb**	**17 48 48.9**	**-0.1**
KOZK	**Kozakli-Nevseh**	**1.53**	**123**	Pn			**Pb**	**17 48 49.4**	**0.0**
MDUB	**Mudurnu**	**1.60**	**285**	Pn			**Pb**	**17 48 50.3**	**-0.5**
CIFT	**Cifteler, Eski**	**1.81**	**248**	Pn			**Pb**	**17 48 53.6**	**-0.7**
SULT	**Sultanhani-AKS**	**1.88**	**173**	Pn			**Pb**	**17 48 54.8**	**-0.6**
LADK	**Ladik-KONYA**	**1.98**	**200**	Pn			**Pn**	**17 48 55.7**	**+1.2**

IDC 01 17:48:52.8±8.4,20.19S×175.84W,h162km±43km, mb2.9/2,mbtmp3.4/3,Error ellipse: s-maj=113.2km s-min=77.6km az=141.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.28**	**292**	P			Pn	17 50 23.3	-0.1
	2.3nm,0.6s,baz=143,slow=20,SNR=2.3								
ASAR	**Alice Springs**	**46.56**	**256**	P			P	17 57 04.8	+0.1
	0.3nm,0.5s,baz=94,slow=7.1,SNR=7.5								
ASAR				ScP			ScP	18 02 14.1	-0.5
	1.1nm,1.0s,baz=94,slow=3.6,SNR=6.0								
	0.3nm,0.5s								
WRA	**Warramunga Arr**	**46.65**	**261**	P			P	17 57 04.8	-0.5
	0.2nm,0.4s,baz=98,slow=7.4,SNR=1.3								
	0.2nm,0.4s								
FINES	**FINESS Array B**	**136.02**	**345**	PKP			PKPdf	18 07 53.4	-0.6
	2.9nm,0.9s,baz=66,slow=3.4,SNR=2.1								

NOU 01 17:51:13.4,15.52S×167.54E,h66km,MLv4.2/13, Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**0.59**	**191**	P			Pn	17 51 27.3	+0.5
DVP	**Devils Point**	**2.28**	**164**	P			Pn	17 51 48.6	-0.2
KOUNC	**Koumac, New Ca**	**5.88**	**211**	P			Pn	17 52 39.3	+1.3
KOUNC	**Koumac, New Ca**	**5.88**	**211**	S			Sn	17 53 44.8	+0.7
DZM	**Mont Dzumac**	**6.60**	**189**	P			Pn	17 52 46.9	-1.0
DZM	**Mont Dzumac**	**6.60**	**189**	S			Sn	17 54 01.8	0.0
OUENC	**Ouen Island, N**	**6.89**	**185**	P			Pn	17 52 52.7	+0.9

*NEIC **01** 18:02:31.2±1.3,3.26N±0.04×103.4W±0.2,h10km±2km, mb4.5/18, Error ellipse: s-maj=40.9km s-min=7.3km az=271.0*
*IDC **01** 18:02:31.2±1.0,3.51N×103.59W,h0km,mb4.2/5, mbtmp4.1/5,Error ellipse: s-maj=59.6km s-min=24.0km az=67.0*
ISC 01 18:02:32.4±0.8,3.5N±0.1×103.3W±0.2,h10km,n43, σ1s05/34,mb4.5/16,3C,Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MTO3	**Montecristo**	**17.50**	**51**				**P**	**18 06 37.9**	**-0.3**
TXAR	**Lajitas Array**	**25.69**	**359**	P			**P**	**18 08 03.7**	**+0.8**
	2.4nm,0.8s,baz=179,slow=10,SNR=7.2								
	2.4nm,0.8s								
MIAR	**Mount Ida**	**32.19**	**15**	P			**P**	**18 09 00.8**	**+0.2**
PV05	**Paradox Valley**	**34.82**	**352**	P			**P**	**18 09 25.4**	**+1.6**
PV05				IAmb		IAmb	IAmb	18 09 27.7	
	comp=Z,12nm,1.5s								
PV13	**Radium Mtn., P**	**34.86**	**352**	P			**P**	**18 09 25.0**	**+0.8**
PV13				IAmb		IAmb	IAmb	18 09 27.6	
	comp=Z,9.7nm,1.5s								
PV02	**Paradox Valley**	**34.90**	**353**	P			**P**	**18 09 25.4**	**+0.9**
PV02				IAmb		IAmb	IAmb	18 09 25.9	
	comp=Z,9.4nm,1.0s								
PV12	**Saucer Basin,**	**35.02**	**352**	P			**P**	**18 09 25.9**	**+0.5**
PV12				IAmb		IAmb	IAmb	18 09 26.9	
	comp=Z,9.0nm,1.1s								
T42A	**Van Buren**	**35.21**	**17**	P			**P**	**18 09 25.9**	**-1.0**
T42A				IAmb		IAmb	IAmb	18 09 27.6	
	comp=Z,4.7nm,0.9s								
R40A	**Maddies Statio**	**36.06**	**15**	P			**P**	**18 09 33.7**	**-0.5**
R40A				IAmb		IAmb	IAmb	18 09 35.5	
	comp=Z,7.4nm,1.0s								
CCM	**Cathedral Cave**	**36.12**	**16**	P			**P**	**18 09 34.3**	**-0.4**
CCM				IAmb		IAmb	IAmb	18 09 35.3	
	comp=Z,4.7nm,0.8s								
TMUT	**Trail Mountain**	**36.35**	**350**	P			**P**	**18 09 36.9**	**-0.1**
S44A	**Carbondale**	**36.38**	**19**	P			**P**	**18 09 37.0**	**+0.1**
P40A	**Paris**	**37.29**	**14**	P			**P**	**18 09 44.6**	**0.0**
P40A				IAmb		IAmb	IAmb	18 09 45.4	
	comp=Z,9.6nm,1.0s								
Q44A	**Meyer Farm, Va**	**37.56**	**18**	P			**P**	**18 09 47.2**	**+0.2**
HWUT	**Hardware Ranch**	**38.66**	**350**	P			**P**	**18 09 56.6**	**+0.1**
PD31	**Pinedale Array**	**39.49**	**353**	P			**P**	**18 10 03.0**	**-0.4**
PDAR	**Pinedale Array**	**39.49**	**353**	P			**P**	**18 10 03.3**	**-0.2**
PDAR	**Pinedale Array**	**39.49**	**353**	P			**P**	**18 10 03.8**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=170,slow=8.8,SNR=19								
	comp=Z,2.5nm,0.8s								
LPAZ	**La Paz**	**39.95**	**120**	P			**P**	**18 10 10.2**	**+2.1**
	comp=Z,1.3nm,0.7s,baz=290,slow=7.5,SNR=4.1								
	comp=Z,1.3nm,0.7s								
MCMT	**McKenzie Canyo**	**42.01**	**350**	P			**P**	**18 10 24.4**	**+0.2**
AC01	**Pan de Azucar**	**43.25**	**135**	P			**P**	**18 10 31.1**	**-3.2**
H03N2

JOB				*e*S	**Sn**	**18 05 33.9**	**-0.8**
JCH	**Churui**	**4.97**	**267**	*e*P	**Pn**	**18 04 50.6**	**+2.9**
JCH				*e*S	**Sn**	**18 05 45.4**	**+1.4**
JKK2	**Kamakawa 2**	**5.39**	**281**	*e*P	Pn	18 04 59.6	+6.0
JNBK	**Urakawa-nobuka**	**5.47**	**264**	*e*S	**Sn**	**18 05 55.1**	**-1.2**
JANG	**Nango**	**6.97**	**250**	*e*P	**Pn**	**18 05 14.5**	**-0.8**
JANG				*e*S	**Sn**	**18 06 29.7**	**-3.6**

IDC 01 18:32:22.2±3.0, 31°.62S×177°.68W, h0km, mb3.9/2, mbtmp4.0/3, ML3.0/1, Error ellipse: s-maj=73.4km s-min=45.6km az=127.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.89**	**211**	Pn	Pn	18 34 18.0	-0.1
URZ	0.2nm,0.3s,baz=34,slow=4.0,SNR=2.7			Sn	Sn	18 35 46.8	-1.2
	1.6nm,0.3s,baz=25,slow=23,SNR=10 18nm,1.1s						
ASAR	**Alice Springs**	**43.33**	**268**	P	P	18 40 26.2	0.0
	0.7nm,0.6s,baz=105,slow=7.6,SNR=15 0.7nm,0.6s						
WRA	**Warramunga Arr**	**44.43**	**273**	P	P	18 40 34.8	-0.3
	1.9nm,0.6s,baz=115,slow=7.5,SNR=15 1.9nm,0.6s						
QSPA	**South Pole Qui**	**58.50**	**180**	P	P	18 42 24.0	+4.0
	1.6nm,0.9s,baz=245,slow=1.7,SNR=13						
FINES	**FINESS Array B**	**146.38**	**340**	PKPbc	PKPdf	18 52 03.4	+0.4
	2.6nm,0.8s,baz=59,slow=4.9,SNR=8.9						

*IDC **01** 19:14:16.9±1.0, 33°.02N×83°.22E, h0km, mb3.8/9, mbtmp3.8/11, ML2.9/2, MS3.6/1, Error ellipse: s-maj=34.6km s-min=16.4km az=56.0*

ISC 01 19:14:22.3±1.3, 33°.1N±0°.1×83°.3E±0°.2, h35km, n12, σ0s91/11, mb4.0/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.66**	**357**	Pn	**Pn**	**19 17 32.6**	**-0.9**
	0.1nm,0.3s,baz=178,slow=13,SNR=6.6 0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**17.82**	**350**	P	**Pn**	**19 18 27.5**	**+0.2**
	baz=176,slow=13,SNR=5.4 0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.27**	**132**	P	**P**	**19 18 54.8**	**-0.2**
	2.4nm,0.7s,baz=300,slow=11,SNR=27 2.4nm,0.7s						
ZALV	**Zalesovo Beam**	**20.84**	**3**	P	**P**	**19 18 59.9**	**-0.8**
	0.9nm,0.5s,baz=196,slow=9.0,SNR=4.2 0.9nm,0.5s						
SONM	**Songino Array**	**22.79**	**43**	P	**P**	**19 19 23.2**	**+1.3**
	2.3nm,1.1s,baz=224,slow=10,SNR=5.1 2.3nm,1.1s						
KSRS	**Korea Array**	**36.44**	**70**	P	**P**	**19 21 23.9**	**+0.2**
	0.3nm,0.5s,baz=266,slow=10,SNR=2.1 0.3nm,0.5s						
TGY	**Tagaytay City**	**39.09**	**110**	LR	LR	19 39 09.2	
	comp=Z,85nm,20.9s,baz=138,slow=38						
FINES	**FINESS Array B**	**45.93**	**326**	P	**P**	**19 22 40.9**	**-0.4**
	2.6nm,0.8s,baz=98,slow=7.8,SNR=10.0 2.6nm,0.8s						
HFS	**Hagfors**	**51.87**	**323**	P	**P**	**19 23 28.2**	**+1.3**
	0.9nm,0.5s,baz=94,slow=8.3,SNR=6.0 0.9nm,0.5s						
NOA	**NORSAR Array B**	**53.05**	**325**	P	**P**	**19 23 36.6**	**+0.9**
	0.5nm,0.7s,baz=77,slow=8.0,SNR=1.9 0.5nm,0.7s						
WRA	**Warramunga Arr**	**71.84**	**130**	P	**P**	**19 25 41.2**	**-0.5**
	2.6nm,0.7s,baz=318,slow=5.9,SNR=26 2.6nm,0.7s						
ASAR	**Alice Springs**	**74.28**	**133**	P	**P**	**19 25 55.7**	**-0.4**
	2.0nm,0.7s,baz=315,slow=5.8,SNR=41 2.0nm,0.7s						

KRSC 01 19:15:09.3±2.4, 49°.77N×157°.03E, h49km±25km, MI3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.08**	**328**	*e*P	Pn	19 15 28.1	0.0
SKR				*e*S	Sn	19 15 41.9	-0.1
PAU	**Pauzhetka**	**1.70**	**355**	*e*P	Pn	19 15 39.0	+2.4
PAU				*e*S	Sn	19 16 00.5	+3.4
MIPR	**Malaya Ipel'ka**	**2.51**	**356**	*e*P	Pn	19 15 50.0	+2.4
MIPR				*e*S	Sn	19 16 19.8	+2.8
ASAK	**Asacha**	**2.67**	**12**	*e*P	Pn	19 15 53.7	+3.8
MTVR	**Mutnovka**	**2.81**	**15**	*e*P	Pn	19 15 55.6	+3.7
MTVR				*e*S	Sn	19 16 29.2	+4.6
RUS	**Russkaya**	**2.82**	**19**	*e*P	Pn	19 15 55.0	+3.2
RUS				*e*S	Sn	19 16 28.4	+3.8
GRL	**Gorelyy**	**2.86**	**13**	*e*P	Pn	19 15 56.3	+3.8
GRL				*e*S	Sn	19 16 31.3	+5.6
DALK	**Dalny**	**3.44**	**18**	*e*P	Pn	19 16 04.1	+3.8
UGLR	**Uglovaya**	**3.62**	**17**	*e*P	Pn	19 16 07.3	+4.4
AVH	**Avacha**	**3.66**	**16**	*e*P	Pn	19 16 07.8	+4.4
KOK	**Koryaka**	**3.66**	**15**	*e*P	Pn	19 16 08.1	+4.6
SMAR	**Somma**	**3.67**	**17**	*e*P	Pn	19 16 08.2	+4.6
SDLR	**Sedlovina**	**3.70**	**18**	*e*P	Pn	19 16 07.8	+3.8
KRX	**Arik**	**3.73**	**15**	*e*P	Pn	19 16 08.5	+4.0
SPN	**Mys Shipunski**	**3.82**	**28**	*e*P	Pn	19 16 09.2	+3.6
SPN				*e*S	Sn	19 16 53.7	+4.6
GNL	**Ganaly**	**3.97**	**8**	*e*P	Pn	19 16 12.0	+4.3
BKI	**Bering**	**7.70**	**42**	*e*S	Sn	19 18 23.7	-0.8

CATAC 01 19:18:40.2±0.5, 10°.N±3°.×8°.5W±°, h40km±7km, M2.7/7, MLv2.7/7, Error ellipse: s-maj=6.7km s-min=5.3km az=59.5, confirmed, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMARA	**Lajas Hojancha**	**0.29**	**245**	P	Pn	19 18 50.0	+1.5
CMARA	**Lajas Hojancha**	**0.29**	**245**	S	Sn	19 18 57.8	+3.5
INDI	**Punta indio, G**	**0.44**	**231**	S	Sn	19 18 59.5	+2.3
INDI	**Punta indio, G**	**0.44**	**231**	P	Pn	19 18 51.3	+1.1
SOCE	**Pocosol**	**0.58**	**66**	P	Pn	19 18 52.8	+0.7
SOCE	**Pocosol**	**0.58**	**66**	S	Sn	19 19 02.8	+2.4
COVE	**Coope Vega, Sa**	**0.93**	**52**	P	Pn	19 18 56.5	-0.4
COVE	**Coope Vega, Sa**	**0.93**	**52**	S	Sn	19 19 09.8	+0.7
LCR2	**La Lucha 2**	**1.20**	**110**	P	Pn	19 19 00.8	+0.1
LCR2	**La Lucha 2**	**1.20**	**110**	S	Sn	19 19 16.6	+0.7
ACON	**Acoyapa**	**1.81**	**359**	S	Sn	19 19 31.7	+1.0
ACON	**Acoyapa**	**1.81**	**359**	P	Pn	19 19 09.3	+0.3
DRK0	**Durika**	**2.08**	**115**	P	Pn	19 19 12.8	0.0
DRK0	**Durika**	**2.08**	**115**	S	Sn	19 19 37.4	-0.1

*IDC **01** 19:20:45.0±1.4, 41°.87S×88°.14E, h0km, mb3.7/6, mbtmp3.7/6, MS4.0/16, Error ellipse: s-maj=43.1km s-min=25.6km az=100.0*

ISC 01 19:20:47.5±1.2, 41°.9S±0°.2×88°.1E±0°.3, h17km, n30, σ1s01/7, mb3.8/6, MS4.0/16, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**21.52**	**80**	T	T	19 47 34.0	
	baz=243,slow=74,SNR=656						
H01W3	**Cape Leeuwin H**	**21.53**	**80**	T	T	19 47 34.7	
	baz=243,slow=74,SNR=700						
H01W1	**Cape Leeuwin H**	**21.54**	**80**	T	T	19 47 35.4	
	baz=243,slow=74,SNR=902						
NWAO	**Narrogin (SRO)**	**24.72**	**78**	LR	LR	19 33 37.6	
	comp=Z,329nm,20.0s,baz=224,slow=31						
H04S1	**CROZET ISLANDS**	**26.19**	**247**	T	T	19 54 14.2	
	baz=91,slow=76,SNR=320						
H04S2	**CROZET ISLANDS**	**26.20**	**247**	T	T	19 54 00.9	
	baz=91,slow=76,SNR=436						
H04S3	**CROZET ISLANDS**	**26.20**	**247**	T	T	19 54 13.3	
	baz=91,slow=76,SNR=453						
H04N2	**CROZET ISLANDS**	**26.30**	**248**	T	T	19 54 20.6	
	baz=93,slow=75,SNR=1907						
H04N3	**CROZET ISLANDS**	**26.31**	**248**	T	T	19 54 18.0	
	baz=93,slow=75,SNR=1556						
H04N1	**CROZET ISLANDS**	**26.32**	**248**	T	T	19 54 24.1	
	baz=93,slow=75,SNR=812						
MAW	**Mawson**	**29.18**	**200**	LR	LR	19 35 55.4	
	comp=Z,351nm,20.6s,baz=0.5,slow=31						
H08S2	**Diego Garcia H**	**36.77**	**334**	T	T	20 06 56.9	
	baz=160,slow=76,SNR=192						
H08S1	**Diego Carcia H**	**36.78**	**334**	T	T	20 06 57.5	
	baz=160,slow=76,SNR=138						
H08S3	**Diego Garcia H**	**36.79**	**334**	T	T	20 07 01.5	
	baz=160,slow=76,SNR=596						

ASAR	**Alice Springs**	**42.03**	**79**	P	**P**	**19 28 37.5**	**-0.7**
	0.8nm,0.7s,baz=225,slow=6.9,SNR=10						
ASAR				PcP	**PcP**	**19 30 33.6**	**+0.6**
	0.5nm,0.8s,baz=220,slow=2.0,SNR=5.3						
ASAR				LR	LR	19 43 54.5	
	comp=Z,353nm,21.0s,baz=234,slow=33 0.8nm,0.7s						
WRA	**Warramunga Arr**	**44.65**	**75**	P	**P**	**19 28 59.4**	**0.0**
	3.0nm,1.1s,baz=231,slow=9.0,SNR=4.6 3.0nm,1.1s						
PSI	**Prapat**	**45.53**	**15**	LR	LR	19 43 41.6	
	comp=Z,375nm,21.2s,baz=222,slow=30						
VNDA	**Vanda**	**46.02**	**163**	P	**P**	**19 29 09.8**	**+0.3**
	0.4nm,0.7s,baz=290,slow=10,SNR=4.5 0.4nm,0.7s						
QSPA	**South Pole Qui**	**48.29**	**180**	P	**P**	**19 29 27.4**	**-0.1**
	1.3nm,1.0s,baz=269,slow=2.5,SNR=5.7						
QSPA				LR	LR	19 48 01.4	
	comp=Z,198nm,19.7s,baz=256,slow=34 1.3nm,1.0s						
PALK	**Pallekele**	**49.36**	**350**	LR	LR	19 47 17.2	
	comp=Z,164nm,18.7s,baz=207,slow=32						
BOSA	**Boshof**	**51.93**	**264**	LR	LR	19 48 13.1	
	comp=Z,150nm,18.7s,baz=160,slow=32						
LBTB	**Lobatse**	**53.66**	**267**	LR	LR	19 48 41.1	
	comp=Z,135nm,20.2s,baz=154,slow=31						
MATP	**Matopo**	**54.18**	**274**	LR	LR	19 48 49.0	
	comp=Z,90nm,19.7s,baz=138,slow=31						
CMAR	**Chiang Mai Arr**	**60.85**	**12**	P	**P**	**19 31 00.1**	**+1.2**
	1.1nm,0.9s,baz=186,slow=6.9,SNR=5.4						
CMAR				LR	LR	19 54 25.9	
	comp=Z,49nm,19.9s,baz=260,slow=33 1.1nm,0.9s						
TSUM	**Tsumeb**	**63.07**	**268**	LR	LR	19 54 29.6	
	comp=Z,134nm,19.1s,baz=144,slow=32						
BRDH	**Bariadhala**	**64.30**	**4**	LR	LR	19 56 00.0	
	comp=Z,297nm,18.2s,baz=152,slow=33						
MKAR	**Makanchi Array**	**88.42**	**356**	P	**P**	**19 33 36.8**	**-1.3**
	0.3nm,0.7s,baz=157,slow=4.7,SNR=2.9						
MKAR				LR	LR	20 12 35.8	
	comp=Z,65nm,18.3s,baz=201,slow=35 0.3nm,0.7s						
GNI	**Garni**	**90.61**	**328**	LR	LR	20 10 02.8	
	comp=Z,52nm,20.0s,baz=154,slow=33						
AKTO	**Aktyubinsk**	**95.61**	**341**	LR	LR	20 15 13.7	
	comp=Z,61nm,20.1s,baz=68,slow=34						
BVAR	**Borovoye Array**	**95.74**	**349**	LR	LR	20 15 23.3	
	comp=Z,52nm,19.0s,baz=186,slow=34						

*ISN **01** 19:38:04.1±0.7, 32°.10N×49°.15E, h16km±48km, ML4.1*
*IDC **01** 19:38:04.6±0.6, 32°.29N×48°.97E, h0km, mb4.1/27, mbtmp4.1/34, ML3.7/6, MS3.6/5, Error ellipse: s-maj=14.6km s-min=10.2km az=1.0*
*NAO **01** 19:38:05.1, 31°.87N×49°.05E, h33km, mb3.9*
*MOS **01** 19:38:05.1±1.2, 32°.22N×48°.97E, h19km, mb4.5/19, Error ellipse: s-maj=7.0km s-min=4.6km az=113.1*
*NEIC **01** 19:38:05.9±2.1, 32°.22N±0°.07×48°.98E±0°.08, h10km±1km, mb4.4/40, Error ellipse: s-maj=13.5km s-min=9.9km az=213.0*
*TEH **01** 19:38:08.0, 32°.34N×49°.00E, h15km±40km*
*DSN **01** 19:38:14.6±1.1, 31°.50N×49°.19E, h10km, ML4.0/5, Error ellipse: s-maj=15.2km s-min=7.3km az=11.0*
*OMAN **01** 19:38:14.6±0.3, 31°.81N×49°.47E, h10km, mb4.8/28, Error ellipse: s-maj=4.0km s-min=3.0km az=351.0*

ISC 01 19:38:07.2±0.3, 32°.19N±0°.03×48°.99E±0°.03, h20km, n346, σ1s66/371, mb4.3/78, MS3.5/7, 35C-20D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.91**	**199**	Pg	**Pn**	**19 38 27.7**	**+3.0**
JHBN	**Jahan bin**	**1.42**	**88**	Pg	**Pn**	**19 38 32.6**	**+0.5**
ZNGN	**Zangian**	**1.58**	**92**	Pg	**Pn**	**19 38 36.0**	**+1.7**
IKFM	**Kafar-mosalman**	**1.64**	**324**	Pg	**Pn**	**19 38 34.6**	**-0.2**
IPIR	**Pirpir**	**1.68**	**72**	Pg	**Pn**	**19 38 36.5**	**+0.8**
IDOB	**Doab**	**1.73**	**337**	Pg	**Pn**	**19 38 36.3**	**0.0**
ABEH	**Behbahan**	**1.92**	**145**	Pn	**Pb**	**19 38 42.6**	**+1.1**
IBRJ	**Brojen**	**1.95**	**98**	Pn	**Pn**	**19 38 42.1**	**+2.7**
IKLH	**Kolahrood**	**2.46**	**62**	Pn	**Pn**	**19 38 48.4**	**+2.1**
IBZA	**Bozab**	**2.46**	**338**	Pn	**Pn**	**19 38 47.4**	**+1.0**
RAFI	**Al-Rafai**	**2.49**	**260**	*e*Pn	**Pn**	**19 38 48.0**	**+1.5**
RAFI				*e*Sn	**Sb**	**19 39 19.0**	**-2.4**
RAFI				AML	AML	19 39 43.1	
	comp=E,1μm,0.4s						
RAFI				AML	AML	19 39 45.0	
	comp=N,1μm,0.7s						
KLNJ	**Kolanjah**	**2.51**	**117**	Pn	**Pn**	**19 38 50.0**	**+2.8**
QAMS	**Qamsar**	**2.54**	**52**	Pn	**Pn**	**19 38 49.4**	**+1.9**
IGAR	**Gharneh**	**2.59**	**84**	Pn	**Pn**	**19 38 50.4**	**+2.2**
HAGD	**Aghdareh**	**2.63**	**3**	Pn	**Pn**	**19 38 49.4**	**+0.7**
KCHF	**Cheshme Sefid,**	**2.65**	**322**	Pn	**Pn**	**19 38 50.1**	**+1.3**
ILBA	**Ilam Banvizeh**	**2.74**	**302**	Pn	**Pn**	**19 38 50.8**	**+0.7**
SNQR	**Sonqor, Kerman**	**2.90**	**337**	Pn	**Pn**	**19 38 53.9**	**+1.5**
IRAM	**Ramesheh**	**2.91**	**97**	Pn	**Pn**	**19 38 54.9**	**+2.4**
IZEF	**Zefreh**	**2.91**	**75**	Pn	**Pn**	**19 38 54.8**	**+2.3**
IGHG	**Ghaleghazi**	**2.94**	**317**	Pn	**Pn**	**19 38 53.9**	**+0.9**
IQOM	**Qom**	**3.17**	**33**	Pn	**Pn**	**19 38 57.0**	**+0.9**
KRSH	**Karshahi**	**3.18**	**55**	Pn	**Pn**	**19 38 58.1**	**+1.9**
KBD	**Kabd**	**3.21**	**201**	P	**Pb**	**19 39 01.4**	**-1.9**
KBD				S	**Sb**	**19 39 41.2**	**-0.8**
ILIN	**Lien**	**3.21**	**329**	Pn	**Pn**	**19 38 57.7**	**+1.1**
GLG1	**Gilan-e-Gharb**	**3.22**	**307**	Pn	**Pn**	**19 38 57.2**	**+0.6**
IDHR	**Dehrash**	**3.32**	**320**	Pn	**Pn**	**19 38 59.1**	**+1.0**
KAZ2	**Kazeron-Fars-I**	**3.44**	**138**	Pn	**Pn**	**19 39 03.9**	**+4.1**
ISFB	**Sefidab**	**3.47**	**51**	Pn	**Pn**	**19 39 01.4**	**+1.2**
QABG	**Abgarm-Qazvin**	**3.54**	**8**	Pn	**Pn**	**19 39 02.1**	**+0.8**
IVRN	**Varamin**	**3.61**	**38**	Pn	**Pn**	**19 39 03.1**	**+1.1**
KGS1	**Ghasr-e-Shirin**	**3.67**	**310**	Pn	**Pn**	**19 39 03.6**	**+0.9**
SHI	**Shiraz**	**3.95**	**129**	Pn	**Pn**	**19 39 10.4**	**+3.6**
ISAD	**Sadrabad**	**4.00**	**93**	Pn	**Pn**	**19 39 09.9**	**+2.4**
BHD	**Baghdad**	**4.03**	**287**	*e*Pn	**Pn**	**19 39 09.0**	**+1.3**
BHD				*e*Sn	**Sn**	**19 39 57.0**	**+2.6**
BHD				AML	AML	19 40 36.9	
	comp=E,365nm,0.9s						
ANAR	**Anarak**	**4.12**	**75**	Pn	**Pn**	**19 39 10.8**	**+1.7**
IDMV	**Damavand**	**4.22**	**36**	Pn	**Pn**	**19 39 11.3**	**+0.7**
DSBU	**Dashti - Bushe**	**4.29**	**152**	Pn	**Pn**	**19 39 14.7**	**+3.4**
IGZV	**Ghazvin**	**4.31**	**13**	Pn	**Pn**	**19 39 12.2**	**+0.5**
ILAS	**Lasjerd**	**4.59**	**45**	Pn	**Pn**	**19 39 16.6**	**+0.9**
KLST	**Kelardasht - M**	**4.64**	**21**	Pn	**Pn**	**19 39 17.4**	**+0.9**
IFIR	**Firoozkooh**	**4.65**	**41**	Pn	**Pn**	**19 39 17.8**	**+1.2**
MZPU	**Pul - Mazandar**	**4.75**	**26**	Pn	**Pn**	**19 39 19.0**	**+1.2**
IMEH	**Mehriz**	**4.85**	**98**	Pn	**Pn**	**19 39 21.7**	**+2.4**
IPRN	**Peran**	**4.90**	**34**	Pn	**Pn**	**19 39 21.6**	**+1.8**
IALA	**Alasht**	**5.01**	**38**	Pn	**Pn**	**19 39 22.6**	**+1.1**
IKRK	**Kirkuk**	**5.02**	**311**	*e*Pn	**Pn**	**19 39 23.0**	**+1.6**
IKRK				*e*Sn	**Sn**	**19 40 21.0**	**+2.1**
IHSH	**Hashtrud**	**5.30**	**345**	Pn	**Pn**	**19 39 26.1**	**+0.7**
MAHB	**Mahabad**	**5.31**	**330**	Pn	**Pn**	**19 39 26.6**	**+1.1**
IKIA	**Kiasar**	**5.58**	**43**	Pn	**Pn**	**19 39 30.8**	**+1.5**
IGLO	**Ghaloghah**	**5.88**	**42**	Pn	**Pn**	**19 39 34.3**	**+1.0**
SAKB	**Bahrain**	**6.33**	**167**	P	**Pn**	**19 39 42.1**	**+2.7**
SAKB				S	**Sn**	**19 40 53.5**	**+2.3**
SHMA	**Al-Shehemyia**	**6.54**	**164**	P	**Pn**	**19 39 44.3**	**+2.1**
	SNR=8.9						
SHMA				S	**Sn**	**19 40 58.2**	**+1.9**
KHGB	**Koh Garbi**	**6.66**	**104**	Pn	**Pn**	**19 39 46.8**	**+2.8**
GRMI	**Germi**	**6.67**	**353**	Pn	**Pn**	**19 39 44.6**	**+0.6**
TAPT	**Tabas- Tapeh t**	**7.33**	**66**	Pn	**Pn**	**19 39 54.1**	**+0.9**
SMRA	**Abu-Samra**	**7.59**	**167**	P	**Pn**	**19 39 58.8**	**+2.2**
SMRA				S	**Sn**	**19 41 21.7**	**-0.4**
TRNA	**Turayna**	**7.68**	**165**	P	**Pn**	**19 39 59.7**	**+1.9**
	SNR=18						
TRNA				S	**Sn**	**19 41 23.6**	**-0.7**
GEVA	**Gevas**	**7.80**	**323**	Pn	**Pn**	**19 39 58.5**	**-1.1**
JRN	**Qarnain Island**	**7.98**	**154**	P	**Pn**	**19 40 04.1**	**+2.2**
JRN				S	**Sn**	**19 41 31.2**	**-0.4**
ITEG	**Tejag**	**8.27**	**83**	Pn	**Pn**	**19 40 08.3**	**+2.1**
SBZV	**Sabzevar**	**8.27**	**57**	Pn	**Pn**	**19 40 07.4**	**+1.2**
SLWR	**Sila**	**8.43**	**163**	P	**Pn**	**19 40 10.5**	**+2.3**
SLWR				S	**Sn**	**19 41 42.6**	**-0.2**
IKOO	**Kooshah**	**8.48**	**86**	Pn	**Pn**	**19 40 10.9**	**+1.8**
GURO	**Guroymak-BITLI**	**8.52**	**320**		**Pn**	**19 40 06.5**	**-3.0**
AFRZ	**Afriz**	**8.53**	**79**	Pn	**Pn**	**19 40 11.6**	**+2.0**
BSRN	**Basiran**	**8.60**	**89**	Pn	**Pn**	**19 40 12.8**	**+2.1**
GNI	**Garni**	**8.65**	**338**	Pn	**Pn**	**19 40 12.6**	**+1.2**
	comp=E,0.9nm,0.3s,baz=344,slow=22,SNR=2.2						
GNI				Lg	Lg	19 42 37.8	
	comp=E,0.2nm,0.3s,baz=45,slow=23,SNR=1.5 comp=E,3.3nm,0.4s						
GNI	**Garni**	**8.65**	**338**	*e*P	**Pn**	**19 40 08.3**	**-3.1**
GNI	**Garni**	**8.65**	**338**	P	**Pn**	**19 40 10.8**	**-0.6**
	comp=E,13nm,0.9s						
SHME	**Shamm**	**8.75**	**133**	P	**Pn**	**19 40 13.6**	**+1.1**
SHME				S	**Sn**	**19 41 48.2**	**-2.4**
SHME	**Shamm**	**8.75**	**133**	P	**Pn**	**19 40 13.0**	**+0.4**
ISFR	**Sfrayin**	**8.87**	**54**	Pn	**Pn**	**19 40 15.9**	**+1.5**
GHWR	**Ruwais**	**8.88**	**156**	P	**Pn**	**19 40 16.4**	**+2.0**
GHWR				S	**Sn**	**19 41 53.1**	**-0.8**
RAYN	**Ar Rayn**	**9.17**	**201**		**Pn**	**19 40 18.3**	**-0.1**
RAYN	**Ar Rayn**	**9.17**	**201**	P	**Pn**	**19 40 18.3**	**-0.1**
RAYN	**Ar Rayn**	**9.17**	**201**	*i* P	**Pn**	**19 40 18.8**	**+0.4**
	SNR=37						
IAKL	**Akhelmad**	**9.19**	**59**	Pn	**Pn**	**19 40 20.0**	**+1.2**
AJN	**Ajban**	**9.25**	**144**	P	**Pn**	**19 40 21.7**	**+2.2**
AJN				S	**Sn**	**19 42 00.9**	**-2.1**
MASF	**Masafi**	**9.26**	**135**	P	**Pn**	**19 40 21.3**	**+1.7**
MASF				S	**Sn**	**19 41 60.0**	**-3.2**
NAZ	**Nazwa, Dubai**	**9.26**	**139**	P	**Pn**	**19 40 22.2**	**+2.6**
NAZ				S	**Sn**	**19 42 02.1**	**-1.1**
NAZ	**Nazwa, Dubai**	**9.26**	**139**	*i* P	**Pn**	**19 40 20.1**	**+0.5**
	SNR=12						
MSFE	**Esma-Masafi**	**9.26**	**135**	P	**Pn**	**19 40 20.5**	**+0.8**
MSFE				S	**Sn**	**19 41 58.7**	**-4.7**
IPAY	**Payeh**	**9.30**	**60**	Pn	**Pn**	**19 40 22.1**	**+1.8**
ASUD	**Al Ashush, Dub**	**9.37**	**142**	P	**Pn**	**19 40 24.2**	**+3.1**
	SNR=9.6						
ASUD				S	**Sn**	**19 42 04.9**	**-1.1**
ASUD	**Al Ashush, Dub**	**9.37**	**142**	*i* P	**Pn**	**19 40 21.5**	**+0.3**
	SNR=9.5						
MDH	**Madha**	**9.39**	**135**	P	**Pn**	**19 40 22.3**	**+0.9**
MDH				S	**Sn**	**19 42 02.9**	**-3.5**
MDH	**Madha**	**9.39**	**135**	P	**Pn**	**19 40 21.4**	**0.0**
FAQ	**Al Faqa, Dubai**	**9.42**	**140**	P	**Pn**	**19 40 24.4**	**+2.7**
FAQ				S	**Sn**	**19 42 02.9**	**-4.1**
IEMG	**Emamgholi**	**9.50**	**54**	Pn	**Pn**	**19 40 24.7**	**+1.6**
UOSS	**Minazif**	**9.60**	**137**		**Pn**	**19 40 25.9**	**+1.6**
UOSS	**Minazif**	**9.60**	**137**	P	**Pn**	**19 40 26.4**	**+2.1**
UOSS				S	**Sn**	**19 42 06.9**	**-4.8**
UOSS	**Minazif**	**9.60**	**137**	P	**Pn**	**19 40 24.8**	**+0.4**
SHRT	**Shahrakht**	**9.61**	**78**	Pn	**Pn**	**19 40 26.4**	**+2.0**
HATD	**Hatta, Dubai**	**9.65**	**138**	P	**Pn**	**19 40 26.6**	**+1.6**
HATD				S	**Sn**	**19 42 09.7**	**-3.2**
HATD	**Hatta, Dubai**	**9.65**	**138**	P	**Pn**	**19 40 25.9**	**+0.9**
ASHO	**Ashiyiah**	**9.72**	**138**	P	**Pn**	**19 40 27.1**	**+1.1**
ASHO				S	**Sn**	**19 42 12.4**	**-2.2**
ASHO	**Ashiyiah**	**9.72**	**138**	P	**Pn**	**19 40 25.9**	**0.0**
TBJM	**Torbat-e-JAM**	**9.93**	**69**	Pn	**Pn**	**19 40 30.3**	**+1.4**
MZR	**Muzera**	**9.98**	**155**	P	**Pn**	**19 40 31.5**	**+2.1**
	SNR=8.0						
MZR				S	**Sn**	**19 42 19.5**	**-1.3**
MZR	**Muzera**	**9.98**	**155**	*i* P	**Pn**	**19 40 30.2**	**+0.8**
	SNR=7.8						
JASK	**Jask - Hormozg**	**10.00**	**127**	P	**Pn**	**19 40 32.9**	**+3.2**
JASK				S	**Sn**	**19 42 20.4**	**-1.0**
ALNE	**Al Ain**	**10.06**	**142**	P	**Pn**	**19 40 31.1**	**+0.5**
ALNE				S	**Sn**	**19 42 19.8**	**-3.0**
ALNE	**Al Ain**	**10.06**	**142**	*i* P	**Pn**	**19 40 30.5**	**-0.1**
	SNR=9.4						
ASF	**Jabal al Asfar**	**10.25**	**273**	Pn	**Pn**	**19 40 31.8**	**-1.4**
	comp=E,22nm,0.4s,baz=117,slow=7.2,SNR=54						
ASF				Sn	**Sn**	**19 42 25.5**	**-2.1**
	comp=E,1.2nm,0.3s,baz=330,slow=21,SNR=1.6						
ASF				Lg	Lg	19 43 31.0	
	comp=E,0.1nm,0.3s,baz=121,slow=23,SNR=3.1						
SOHO	**SOHO**	**10.42**	**138**	P	**Pn**	**19 40 35.9**	**+0.4**
SOHO				S	**Sn**	**19 42 29.8**	**-1.9**
SOHO	**SOHO**	**10.42**	**138**	P	**Pn**	**19 40 35.2**	**+0.3**
GAZ	**Gaziantep**	**10.89**	**300**		**Pn**	**19 40 40.3**	**-1.7**
UMZA	**Um Al Zommool**	**10.91**	**148**	P	**Pn**	**19 40 43.2**	**+1.0**
UMZA				S	**Sn**	**19 42 39.6**	**-4.1**
ARQ	**Araqi**

GAR IAmb IAmb 19 42 29.4
comp=Z,30nm,1.0s
AB31 Akbulak array 18.93 23 P P 19 42 26.0 -0.6
ABKAR Akbulak array 18.93 23 P 19 42 26.0 -0.6
BTK Batken 19.27 60 P 19 42 30.8 +0.2
BTK Batken 19.27 60 P P 19 42 30.8 +0.2
BTK pmax pmax
comp=Z,14nm,1.2s
AKTO Aktyubinsk 19.42 18 P P 19 42 31.9 -0.2
comp=Z,0.5nm,0.3s,baz=200,slow=9.8,SNR=11
comp=Z,4.6nm,0.7s
VRH Novokhopyorsk 19.74 346 *eP* **P 19 42 36.3 +0.8**
VRH pmax pmax
comp=Z,32nm,0.8s
EZN Ezine 19.82 299 ⇑P **P 19 42 36.4 -0.1**
EZN Ezine 19.82 299 ⇑P **P 19 42 36.4 -0.1**
EZN Ezine 19.82 299 P **P 19 42 36.9 +0.4**
comp=Z,14nm,0.9s
JURR Jurilovca 20.07 314 ⇑P **P 19 42 39.6 +0.4**
VORD Divnogorie 20.08 342 *eP* Pn 19 42 40.7 -0.4
VORD pmax pmax
comp=Z,9.0nm,0.9s
KK31 Karatay Array 20.17 51 P 19 42 40.8 +0.5
KK31 Karatay Array 20.17 51 P **P 19 42 40.8 +0.5**
KK31 pmax pmax
comp=Z,10.0nm,1.0s
KKAR Karatay Array 20.17 51 P 19 42 40.7 +0.4
KKAR Karatay Array 20.17 51 P **P 19 42 40.0 -0.3**
KKAR IAmb IAmb 19 42 48.8
comp=Z,10nm,1.0s
KKAR Karatay Array 20.17 51 P **P 19 42 40.7 +0.4**
KKAR pmax pmax
comp=Z,10.0nm,1.0s
CAVK Edirne/Enez-Ca 20.19 301 ⇓P Pn 19 42 41.5 -0.9
IDI Anoyia 20.27 285 P **P 19 42 42.2 +0.8**
IDI Anoyia 20.27 285 P Pn 19 42 42.8 -0.7
comp=Z,32nm,0.7s,baz=74,slow=12,SNR=12
comp=Z,32nm,0.7s
ALN Alexandroupoli 20.34 302 P 19 42 42.1 0.0
ALN Alexandroupoli 20.34 302 P **P 19 42 42.1 0.0**
ALN pmax pmax
comp=Z,34nm,0.8s
VSR Storozhevoye 20.34 342 *eP* **P 19 42 42.6 +0.6**
VSR pmax pmax
comp=Z,7.0nm,1.0s
TPGR Topolog 20.40 314 ⇑P Pn 19 42 46.8 +1.8
NIL Nilore 20.41 79 P 19 42 42.5 -0.5
NIL IAmb IAmb 19 42 54.1
comp=Z,13nm,0.7s
NIL Nilore 20.41 79 P **P 19 42 42.5 -0.5**
NIL pmax pmax
comp=Z,13nm,0.7s
PURM Purcari 20.51 320 P **P 19 42 44.2 +0.4**
comp=Z,6µmcomp=Z,44nm,0.6s
CFR Carcaliu 20.74 315 ⇑P **P 19 42 44.7 -1.7**
CFR Carcaliu 20.74 315 ⇑P **P 19 42 44.7 -1.7**
VORR Voronezh 20.75 343 *eP* Pn 19 42 49.3 +0.4
VORR pmax pmax
comp=Z,24nm,0.4s
RDO Rodhopi 20.78 302 IAmb IAmb 19 42 51.6
comp=Z,23nm,0.9s
ARSB Arslanbob 21.22 58 IAmb IAmb 19 43 04.9
comp=Z,19nm,1.0s
LPSR Galich'ya Gora 21.67 343 *eP* **P 19 42 54.2 -2.1**
LPSR pmax pmax
comp=Z,24nm,0.7s
ISR Istrita 21.68 313 ⇑P **P 19 42 58.2 +1.6**
ISR Istrita 21.68 313 ⇑P **P 19 42 58.2 +1.6**
ISR Istrita 21.68 313 P **P 19 42 56.9 +0.2**
comp=Z,19nm,1.0s
ODBI Odobesti 21.69 315 P **P 19 42 57.0 +0.3**
comp=Z,11nm,1.0s
BISRR Bisoca 21.79 314 ⇓P **P 19 42 54.3 -3.5**
VRI Vrincioaia 21.94 315 ⇓P **P 19 42 59.1 -0.3**
VRI Vrincioaia 21.94 315 ⇓P **P 19 42 59.1 -0.3**
VRI Vrincioaia 21.94 315 P **P 19 42 59.7 +0.3**
comp=Z,9.6nm,1.5s
PLOR Plostina 21.98 315 ⇑P **P 19 42 59.6 -0.2**
PLOR Plostina 21.98 315 ⇑P **P 19 42 59.6 -0.2**
MLR Muntele Rosu 22.23 313 IAmb IAmb 19 43 13.1
comp=Z,12nm,0.9s
MLR Muntele Rosu 22.23 313 ⇑P **P 19 43 04.3 +1.7**
MLR Muntele Rosu 22.23 313 ⇑P **P 19 43 04.3 +1.7**
MLR Muntele Rosu 22.23 313 P **P 19 43 03.9 +1.3**
comp=Z,14nm,0.8s
SORM Soroca 22.31 322 ⇓P **P 19 43 05.3 +2.0**
SORM Soroca 22.31 322 ⇓P **P 19 43 05.3 +2.0**
TESR Tescani 22.32 316 ⇑P **P 19 43 01.0 -2.5**
TESR Tescani 22.32 316 P **P 19 43 03.0 -0.5**
comp=Z,15nm,0.8s
ONER Baraj Valea Uz 22.38 316 ⇓P **P 19 43 03.8 -0.3**
HUMR Humele 22.41 310 ⇑P **P 19 43 04.0 -0.4**
TURR Turia 22.47 315 ⇑P **P 19 43 05.8 +0.8**
OZUR 22.62 315 ⇓P **P 19 43 07.3 +0.6**
AAK Ala-Archa 22.70 55 LR LR 19 53 43.9
comp=Z,227nm,18.5s,baz=268,slow=41
AAK Ala-Archa 22.70 55*ceP* **P 19 43 08.5 +0.8**
AAK pmax pmax
comp=Z,6.0nm,1.4s
VOIR 22.77 312 ⇓P **P 19 43 08.4 +0.2**
VOIR 22.77 312 ⇓P **P 19 43 08.4 +0.2**
VOIR 22.77 312 P **P 19 43 08.5 +0.2**
comp=Z,28nm,0.8s
DOPR Dopca 22.80 314 ⇑P **P 19 43 08.9 +0.3**
ARR Arges 23.00 312 ⇑P **P 19 43 12.3 +1.6**
KSH Kashi 23.00 64 P **P 19 43 08.7 -2.2**
KSH sP pP 19 43 17.7 +1.0
KSH pmax pmax
comp=Z,42nm,1.2s
NDNU Novodnistrovsk 23.11 321 P P 19 43 12.1 +0.4
AK07 Malin Array Si 23.47 327 P P 19 43 15.9 +0.6
AK10 Malin Array Si 23.49 327 P P 19 43 16.0 +0.6
AK08 Malin Array Si 23.51 327 P P 19 43 15.7 +0.1
AK05 Malin Array Si 23.52 327 P P 19 43 15.7 -0.1
AK02 Malin Array Si 23.55 327 P P 19 43 15.6 -0.4
AK01 Malin Array Si 23.57 327 P P 19 43 15.9 -0.3
AKASG Malin Array Be 23.57 327 P P 19 43 15.6 -0.6
comp=Z,1.8nm,0.7s,baz=134,slow=8.7,SNR=11
comp=Z,1.8nm,0.7s
AKBB Malin Array Si 23.57 327 P 19 43 15.0 -1.2
AKBB Malin Array Si 23.57 327 ⇓*iP* **P 19 43 15.5 -0.7**
AKBB pmax pmax
comp=Z,8.0nm,0.9s
AKBB Malin Array Si 23.57 327 P P 19 43 15.9 -0.3
KIEV Kiev 23.57 327 P P 19 43 15.2 -1.1
KIEV Kiev 23.57 327 ⇑P **P 19 43 15.1 -1.1**
KIEV Kiev 23.57 327 ⇑P **P 19 43 15.1 -1.1**
KIEV Kiev 23.57 327 P P 19 43 15.9 -0.3
comp=Z,30nm,1.0s
LOT Lotru 23.58 311 ⇑P **P 19 43 15.6 -0.9**
AK11 Malin Array Si 23.58 327 P P 19 43 15.7 -0.6
BOOM Boomskoye usch 23.68 57 IAmb IAmb 19 43 23.9
comp=Z,8.9nm,0.9s
FNA Florina 23.73 299 IAmb IAmb 19 43 19.1
comp=Z,18nm,1.5s
BURAR Bucovina Array 23.74 317 P P 19 43 16.5 -1.5
BURAR Bucovina Array 23.74 317 ⇑P **P 19 43 18.5 +0.5**
BURAR Bucovina Array 23.74 317 ⇑P **P 19 43 18.5 +0.5**
GZR Gura Zlata 24.19 311 ⇑P **P 19 43 21.5 -0.7**
GZR Gura Zlata 24.19 311 ⇑P **P 19 43 21.5 -0.7**
OHR Ohrid 24.23 300 *iP* **P 19 43 24.0 +1.4**
BOVS Bovan 24.26 306 ⇑P **P 19 43 22.4 -0.5**
KDJ Kajisay 24.46 58 IAmb IAmb 19 43 51.6
comp=Z,7.1nm,1.0s
MARR Marisel-Cluj 24.53 314 ⇓P **P 19 43 25.4 +0.1**
OBN Obninsk 24.54 343⇑*eP* **P 19 43 25.5 +0.3**
OBN *e* 19 43 57.0
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,63nm,19.0s
MDVR Moldovita 24.65 309 ⇓P **P 19 43 26.3 -0.2**
BZS Buzias 25.03 310 ⇑P **P 19 43 29.8 0.0**
BZS Buzias 25.03 310 ⇑P **P 19 43 29.8 0.0**
ARTI Arti 25.06 12*c iP* **P 19 43 26.1 -3.9**
ARTI S **S 19 47 49.3 -3.9**
ARTI pmax pmax
comp=Z,4.0nm,0.9s
SIRR Siria 25.26 312 ⇓P **P 19 43 31.0 -0.9**
RNPP5 Staryi Chortor 25.50 325 P **P 19 43 34.7 +0.8**
BERU Beregovo 25.54 317 P **P 19 43 35.1 +0.7**
BRVK Borovoye 25.90 30*d iP* **P 19 43 37.2 -0.4**
BRVK pmax pmax
comp=Z,5.0nm,1.2s
BVAR Borovoye Array 25.92 30 P **P 19 43 37.6 -0.2**
comp=Z,3.3nm,0.6s,baz=227,slow=8.2,SNR=17
BVAR LR LR 19 55 49.2
comp=Z,81nm,18.1s,baz=220,slow=41
comp=Z,3.3nm,0.6s
KOLS Kolonicke sedl 26.11 318 *eP* **P 19 43 40.9 +1.4**
KOLS Kolonicke sedl 26.11 318 *eP* **P 19 43 40.9 +1.4**
KIRV Kirov 26.40 1*c iP* **P 19 43 42.0 0.0**
MNK Minsk 26.87 332 *i* P **P 19 43 44.5 -1.9**
comp=E,8.0nm,0.9s
MNK *i* P **P 19 43 44.5 -1.9**
comp=N,11nm,1.0s
MNK *i* P **P 19 43 44.5 -1.9**
comp=Z,12nm,0.9s,baz=137
MNK *i* PP **PnPn 19 44 24.5 -3.9**
MNK *i* PPP PPP 19 44 33.0
MNK *i* S **S 19 48 20.8 -1.0**
MNK *i* SS **SnSn 19 49 26.3 -0.7**
MNK *i* SSS SSS 19 49 39.9
MNK *i* LQ LQ 19 52 14.6
MNK *i* LR LR 19 53 54.6
MNK *i* LRM MLR 19 55 53.9
comp=Z,44nm,18.1s
MNK *i* LRM MLR 19 56 06.5
comp=N,321nm,23.0s
MNK *i* LRM MLR 19 56 07.7
comp=E,297nm,23.3s
MNK Minsk 26.87 332 *i* P **P 19 43 44.4 -1.9**
MNK *i* PPP PPP 19 44 33.0
MNK *i* S **S 19 48 20.8 -1.0**
MNK *i* SS **SnSn 19 49 26.3 -0.7**
MNK pmax pmax
comp=N,11nm,1.0s
MNK pmax pmax
comp=Z,12nm,0.9s
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK MLR MLR
comp=Z,44nm,18.0s
MNK MLR MLR
comp=N,321nm,23.0s
MNK MLR MLR
comp=E,297nm,23.0s
TIP Timpagrande 27.00 294 IAmb IAmb 19 43 51.6
comp=Z,11nm,1.1s
TIP Timpagrande 27.00 294 ⇓P **P 19 43 48.2 +0.5**
TIP Timpagrande 27.00 294 P **P 19 43 48.5 +0.8**
comp=Z,8.3nm,1.0s
MORH Mrgy, Hungar 27.18 310 ⇓P **P 19 43 47.1 -2.1**
MATE Matera 27.20 297 ⇑P **P 19 43 52.1 +2.7**
NACGM Naroch 27.60 332 *eP* **P 19 43 53.9 +1.0**
comp=Z,8.0nm,0.9s,baz=136
VYHS Vyhne 27.93 314 *eP* **P 19 44 00.4 +4.5**
VYHS Vyhne 27.93 314 *eP* **P 19 44 00.4 +4.5**
MPLH Magyarpolny 28.22 311 P **P 19 43 59.2 +0.6**
KURBB Kurchatov Arra 28.53 41 P **P 19 44 02.2 +0.9**
comp=Z,2.2nm,0.7s,baz=244,slow=9.5,SNR=14
comp=Z,2.2nm,0.7s
KURK Kurchatov 28.62 41 P 19 44 01.8 -0.2
KURK IAmb IAmb 19 44 13.6
comp=Z,6.2nm,0.8s
KURK Kurchatov 28.62 41*d iP* **P 19 44 02.7 +0.6**
KURK pmax pmax
comp=Z,6.0nm,1.0s
RONA Rosalia, Austr 29.20 312 *eP* **P 19 44 07.1 -0.2**
comp=Z,1.7nm,0.7s
MK31 Makanchi Array 29.29 50*d iP* **P 19 44 08.5 +0.4**
MKAR Makanchi Array 29.29 50 P **P 19 44 07.4 -0.7**
MKAR Makanchi Array 29.29 50 P **P 19 44 09.2 +1.1**
comp=Z,1.5nm,0.6s,baz=251,slow=8.5,SNR=13
comp=Z,1.5nm,0.6s
MKAR Makanchi Array 29.29 50 P **P 19 44 07.4 -0.7**
KLMR Klimovskoe 29.34 351 *eP* **P 19 44 05.6 -2.7**
KLMR pmax pmax
comp=Z,13nm,1.1s
ARSA Arzberg 29.55 310 *eP* **P 19 44 10.7 +0.3**
comp=Z,1.0nm,0.5s
CONA Conrad Observa 29.55 312 *eP* **P 19 44 10.3 -0.2**
comp=Z,2.6nm,1.0s
SOKA Soboth 29.69 309 *eP* **P 19 44 12.5 +0.7**
comp=Z,0.6nm,0.5s
OBKA Obir 29.96 309 *eP* **P 19 44 14.0 -0.1**
comp=Z,1.3nm,0.7s
MOA Molln 30.54 311 *eP* **P 19 44 19.5 +0.3**
comp=Z,3.6nm,0.9s
MYKA Terra Mystica 30.60 308 *iP* **P 19 44 19.3 -0.4**
comp=Z,2.6nm,1.1s
BIOA Bad Ischl, Aus 30.90 310 *eP* **P 19 44 22.5 +0.2**
comp=Z,3.3nm,0.8s
GERES GERESS Array B 31.22 313 P **P 19 44 24.4 -0.8**
comp=Z,1.1nm,0.7s,baz=106,slow=10.0,SNR=7.2
comp=Z,1.1nm,0.7s
ABTA Abfaltersbach 31.38 308 *eP* **P 19 44 26.0 -0.7**
comp=Z,4.4nm,0.8s
KHC Kasperske Hory 31.39 313 *eP* **P 19 44 26.0 -0.6**
KHC Kasperske Hory 31.39 313 *eP* **P 19 44 26.0 -0.6**
LESA Schwarzleotal 31.45 310 *iP* **P 19 44 26.6 -0.6**
comp=Z,4.0nm,0.9s
CTI Castel Tesino 31.80 307 IAmb IAmb 19 44 33.5
comp=Z,4.1nm,0.9s
WTTA Wattenberg 32.09 309 *iP* **P 19 44 32.2 -0.8**
comp=Z,5.8nm,0.8s
WATA Walderalm 32.15 309 *eP* **P 19 44 32.5 -0.9**
comp=Z,5.3nm,0.9s
WMQ Urumqi 32.36 58 *eP* **P 19 44 37.3 +2.1**
SQTA Sankt Quirin 32.36 309 *iP* **P 19 44 34.8 -0.5**
comp=Z,7.2nm,0.6s
MOTA Moosalm 32.46 309 *iP* **P 19 44 35.2 -1.0**
comp=Z,6.7nm,0.9s
FETA Feichten 32.63 308 *eP* **P 19 44 37.2 -0.5**
comp=Z,6.4nm,0.8s
RETA Rette 32.72 309 *iP* **P 19 44 37.4 -0.9**
comp=Z,2.0nm,0.4s
FINES FINESS Array B 32.84 340 P **P 19 44 39.1 +0.1**
comp=Z,3.0nm,0.5s,baz=149,slow=8.9,SNR=13
comp=Z,3.0nm,0.5s
KEST Kesra 32.92 287 P **P 19 44 41.9 +1.6**
comp=Z,3.3nm,0.8s,baz=291,slow=9.4,SNR=3.8
comp=Z,3.3nm,0.8s
DAVA Damuels 33.26 308 *iP* **P 19 44 42.3 -0.8**
comp=Z,12nm,0.8s
BLEU Blekinge 33.31 326 *eP* **P 19 44 44.8 +1.5**
TUE Stuetta 33.45 307 IAmb IAmb 19 44 58.6
comp=Z,3.6nm,0.8s
ZAA0 Zalesovo Array 33.49 39 P 19 44 44.4 -0.6
ZAA0 IAmb IAmb 19 44 55.3
comp=Z,8.0nm,1.0s
ZALV Zalesovo Beam 33.49 39 P 19 44 44.0 -0.9
ZALV Zalesovo Beam 33.49 39 P **P 19 44 44.5 -0.4**
comp=Z,3.4nm,0.5s,baz=253,slow=9.1,SNR=8.9
comp=Z,3.4nm,0.5s
DEL Delary 34.32 326 *eP* **P 19 44 50.8 -1.3**
DEL *e* 19 44 54.2
BNI Bardonecchia 35.07 304 P 19 44 57.6 -1.3
BNI IAmb IAmb 19 45 07.3
comp=Z,7.6nm,0.8s
BNI Bardonecchia 35.07 304 P **P 19 44 57.7 -1.3**
BNI pmax pmax
comp=Z,8.0nm,0.8s
BORU Boraas 35.43 327 *eP* **P 19 45 02.3 +0.7**
HFS Hagfors 36.36 331 P **P 19 45 09.0 -0.6**
comp=Z,7.6nm,0.6s,baz=125,slow=9.3,SNR=24
comp=Z,7.6nm,0.6s
MBAR Mbarara 36.90 211 ⇓*iP* **P 19 45 14.9 0.0**
MBAR pmax pmax
comp=Z,4.0nm,1.2s
NB2 NORSAR Subarra 37.88 331 P **P 19 45 21.1 -1.4**
comp=Z,1.1nm,0.6s,baz=122,slow=8.6
NOA NORSAR Array B 37.88 331 P **P 19 45 21.4 -1.1**
comp=Z,1.3nm,0.5s,baz=123,slow=8.4,SNR=7.1
comp=Z,1.3nm,0.5s
ARCES ARCESS Array B 39.66 347 P **P 19 45 37.5 +0.1**
comp=Z,1.6nm,0.9s,baz=142,slow=6.1,SNR=4.5
comp=Z,1.6nm,0.9s
GTA Gaotai 41.39 65 *eP* P 19 45 57.6 +5.4
GTA pmax pmax
comp=Z,3.0nm,1.4s
GTA LR LR
comp=N,150nm,16.7s
GTA LR LR
comp=E,120nm,15.6s
GTA LR LR
comp=Z,140nm,16.0s
EKA Eskdalemuir Ar 42.91 319 P **P 19 46 03.8 -0.4**
comp=Z,0.3nm,0.4s,baz=99,slow=8.4,SNR=1.9
comp=Z,0.3nm,0.4s
ESDC Sonseca Array 43.00 295 P **P 19 46 05.5 +0.2**
comp=Z,1.2nm,0.9s,baz=64,slow=8.6,SNR=7.4
ESDC LR LR 20 07 19.4
comp=Z,64nm,18.1s,baz=233,slow=41
comp=Z,1.2nm,0.9s
PBAR Barrancos 45.60 294 *eP* **P 19 46 26.2 +0.2**
PBAR *i* IAmb IAmb 19 46 28.3
comp=Z,24nm,1.9s
SONM Songino Array 45.61 53 P **P 19 46 26.7 +0.5**
comp=Z,0.4nm,0.4s,baz=270,slow=6.0,SNR=5.1
comp=Z,0.4nm,0.4s
PMRV Marv??o 45.66 296 *eP* **P 19 46 28.5 +2.0**
PMRV *i* IAmb IAmb 19 46 36.4
comp=Z,14nm,1.4s
PCBR Castelo Branco 45.66 296 *eP* **P 19 46 27.3 +0.9**
PCBR *i* IAmb IAmb 19 46 28.4
comp=Z,21nm,1.5s
POLO Lamas de Olo 45.68 298 *eP* **P 19 46 28.8 +2.1**
POLO *i* IAmb IAmb 19 46 37.1
comp=Z,15nm,2.0s
PZH PanZhiHua 45.96 83 P **P 19 46 30.4 +1.3**
ULN Ulaanbaatar 46.05 53 *eP* **P 19 46 29.6 0.0**
ULN pmax pmax
comp=Z,1.0nm,0.5s
CMAR Chiang Mai Arr 46.79 94 P **P 19 46 36.1 +0.5**
comp=Z,1.0nm,0.7s,baz=292,slow=8.2,SNR=11
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 47.16 258 P 19 46 38.5 +0.1
TORD IAmb IAmb 19 46 40.6
comp=Z,6.0nm,1.1s
TORD Torodi Ar. Bea 47.16 258 P **P 19 46 39.0 +0.5**
comp=Z,2.0nm,0.4s,baz=47,slow=8.5,SNR=1.6
comp=Z,2.0nm,0.4s
SPITS Spitsbergen Ar 48.24 351 P **P 19 46 45.7 -0.3**
comp=Z,4.0nm,0.8s,baz=142,slow=8.7,SNR=11
comp=Z,4.0nm,0.8s
HHC Hu-ho-hao-te 50.08 61 *eP* **P 19 47 01.8 +1.0**
HHC pmax pmax
comp=Z,5.0nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.0s
OPO Ambohidratompo 50.50 182 LR LR 20 07 22.4
comp=Z,50nm,20.0s,baz=178,slow=35
IPM Ipoh 55.86 108 P **P 19 47 43.2 -0.5**
DBIC Dimbokro 56.08 255 P **P 19 47 45.3 +0.1**
comp=Z,4.0nm,0.7s,baz=44,slow=8.2,SNR=4.2
comp=Z,4.0nm,0.7s
ZEA Zeya 58.06 43 *eP* **P 19 47 59.4 +0.7**
SUMG Summit 58.88 339 P **P 19 48 04.6 +0.1**
SUMG Summit 58.88 339 P **P 19 48 04.6 +0.1**
SUMG pmax pmax
comp=Z,11nm,1.2s
HEH HeiHe 58.95 47 *eP* **P 19 48 04.6 -0.4**
HEH pmax pmax
comp=Z,6.0nm,0.7s
KSRS Korea Array 63.22 61 P **P 19 48 33.4 -0.8**
comp=Z,1.5nm,0.5s,baz=281,slow=7.2,SNR=12
comp=Z,1.5nm,0.5s
USRK Ussuriysk Ar. 63.73 53 P **P 19 48 36.5 -0.8**
comp=Z,1.7nm,0.7s,baz=314,slow=5.4,SNR=5.0
comp=Z,1.7nm,0.7s
BOSA Boshof 64.54 203 P **P 19 48 44.1 +1.3**
comp=Z,4.4nm,1.1s,baz=348,slow=19,SNR=2.0
comp=Z,4.4nm,1.1s
PETK Petropavlovsk- 74.99 36 P **P 19 49 47.8 +0.9**
comp=Z,0.9nm,0.8s,baz=328,slow=7.4,SNR=3.8
comp=Z,0.9nm,0.8s
SCHQ Schefferville 77.37 328 P **P 19 50 00.7 +0.3**
comp=Z,2.4nm,0.7s,baz=202,slow=4.7,SNR=2.7
comp=Z,2.4nm,0.7s
ILAR Eielson Array 82.56 7 P **P 19 50 28.9 +0.6**
comp=Z,0.5nm,0.9s,baz=328,slow=3.3,SNR=2.4
comp=Z,0.5nm,0.9s
WRA Warramunga Arr 96.61 109 P **P 19 51 37.6 +1.6**
comp=Z,0.4nm,0.7s,baz=315,slow=4.3,SNR=1.6
comp=Z,0.4nm,0.7s
ASAR Alice Springs 98.20 113 P Pdif 19 51 44.9 +1.7
comp=Z,0.4nm,0.9s,baz=314,slow=5.2,SNR=2.7
comp=Z,0.4nm,0.9s
QSPA South Pole Qui 122.02 180 PKP **PKPdf 19 56 59.8 +0.5**
comp=Z,0.9nm,0.8s,baz=246,slow=1.1,SNR=5.6

IDC 01 19:43:38.0±265.0, 19°.89N×157°.07W, h0km, Error ellipse: s-maj=98.8km s-min=25.5km az=105.0, Hawaiian Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I59US	**HAWAII INFRASO**	**1.15**	**105**	I	I		19 50 20.0	
	0.1nm,0.5s,baz=285,slow=323,SNR=2.6							
I58US	**Midway Islands**	**20.29**	**298**	I	I		21 48 40.0	
	0.1nm,0.8s,baz=109,slow=311,SNR=1.7							
I60US	**Wake Island**	**34.18**	**275**	I	I		23 10 56.4	
	baz=85,slow=309,SNR=0.9							

*IDC **01** 19:45:26.1±0.8, 22°.20N×45°.07W, h0km, mb4.0/9, mbtmp4.0/9, MS3.6/22, Error ellipse: s-maj=25.8km s-min=22.9km az=163.0*
*NEIC **01** 19:45:26.6±1.8, 21°.9N±0°.2×45°.1W±0°.2, h10km±2km, mb4.7/22, Error ellipse: s-maj=27.0km s-min=25.3km az=152.0*
ISC 01 19:45:27.0±0.7, 22°.0N±0°.1×45°.2W±0°.0, h10km, n55, σ1852/30, mb4.4/16, MS3.6/21, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ILAM	**Ilet Lapin Mar**	**16.53**	**247**			**Pn**	**19 49 21.0**	**+1.9**
MPOM	**Morne Pois Mar**	**16.68**	**246**		Pn	**Pn**	**19 49 18.2**	**-2.7**
MDP	**Montagnes des**	**18.32**	**204**		LR	LR	19 55 18.9	
	comp=Z,72nm,19.2s,baz=54,slow=32							
HUMP	**Col San Antoni**	**19.78**	**262**		P	**P**	**19 49 57.1**	**-0.4**
HUMP					IAmb	IAmb	19 50 04.6	
	comp=Z,37nm,1.4s							
PDPR	**Patillas Dam,**	**19.97**	**262**		P	**P**	**19 49 58.2**	**-1.4**
PDPR					IAmb	IAmb	19 50 06.3	
	comp=Z,36nm,1.4s							
SJG	**San Juan**	**20.06**	**263**		LR	LR	19 56 07.7	
	comp=Z,175nm,21.6s,baz=57,slow=32							
CELP	**Cerrillos**	**20.47**	**263**		P	**P**	**19 50 04.2**	**-0.8**
CELP					IAmb	IAmb	19 50 10.5	
	comp=Z,38nm,1.2s							
OBIP	**Obispado Ponce**	**20.50**	**263**		P	**P**	**19 50 04.8**	**-0.6**
OBIP					IAmb	IAmb	19 50 14.8	
	comp=Z,65nm,1.4s							
UUPR	**Utuado, UPR, P**	**20.55**	**263**		P	Pn	19 50 08.9	+0.8
PCRV	**Puerto La Cruz**	**22.06**	**241**		LR	LR	19 58 19.6	
	comp=Z,114nm,20.1s,slow=35							
SDV	**Santo Domingo**	**27.73**	**246**		LR	LR	20 01 04.9	
	comp=Z,98nm,22.0s,baz=66,slow=34							
BBTS	**Babate**	**28.14**	**100**		LR	LR	19 59 43.5	
	comp=Z,200nm,18.9s,baz=170,slow=31							
RUSC	**La Rusia**	**31.37**	**243**		P	**P**	**19 51 49.6**	**+0.8**
RUSC					IAmb	IAmb	19 52 00.9	
	comp=Z,18nm,1.1s							
T59A	**Double "B" Far**	**31.67**	**305**		P	**P**	**19 51 51.9**	**+1.3**
T59A					IAmb	IAmb	19 52 07.9	
	comp=Z,14nm,1.0s							
R58B	**Mineral**	**32.24**	**307**		P	**P**	**19 51 54.7**	**-1.0**
R58B					IAmb	IAmb	19 52 16.6	
	comp=Z,23nm,1.3s							
BIRD	**Birdtown, Kers**	**33.31**	**300**		P	**P**	**19 52 03.7**	**-1.3**
KMSC	**Kings Mountain**	**34.12**	**300**		P	**P**	**19 52 10.3**	**-1.8**
SADO	**Sadowa**	**35.89**	**317**		LR	LR	20 04 00.1	
	comp=Z,139nm,20.8s,baz=134,slow=31							
TKL	**Tuckaleechee C**	**36.18**	**301**		LR	LR	20 06 48.3	
	comp=Z,101nm,18.1s,baz=129,slow=35							
SCHQ	**Schefferville**	**36.55**	**339**		LR	LR	20 05 27.5	
	comp=Z,89nm,21.2s,baz=126,slow=33							
MDT	**Midelt**	**37.39**	**64**		LR	LR	20 05 19.8	
	comp=Z,84nm,18.4s,baz=252,slow=32							
BDFB	**Brasilia**	**37.55**	**184**		P	**P**	**19 52 43.4**	**+1.7**
	comp=Z,3.0nm,0.7s,baz=32,slow=9.5,SNR=3.2							
	comp=Z,3.0nm,0.7s							
JTS	**Las Juntas de**	**39.81**	**259**		LR	LR	20 07 27.0	
	comp=Z,89nm,19.5s,baz=34,slow=33							
DBIC	**Dimbokro**	**41.80**	**105**		LR	LR	20 07 12.3	
	comp=Z,108nm,18.7s,baz=312,slow=31							
H10N3	**ASCENSION HYDR**	**42.28**	**131**		T	T	20 38 26.1	
	baz=315,slow=75,SNR=90							
H10N2	**ASCENSION HYDR**	**42.28**	**131**		T	T	20 38 22.3	
	baz=315,slow=75,SNR=78							
H10N1	**ASCENSION HYDR**	**42.30**	**131**		T	T	20 38 22.8	
	baz=315,slow=75,SNR=135							
H10S3	**ASCENSION HYDR**	**42.96**	**133**		T	T	20 39 23.1	
	baz=314,slow=74,SNR=42							

H10S2	**ASCENSION HYDR**	**42.98**	**133**	T	T	20 39 25.1		
	baz=266,slow=74,SNR=40							
LPAZ	**La Paz**	**44.23**	**212**	P	**P**	**19 53 33.0**	**-4.4**	
LPAZ	**La Paz**	**44.23**	**212**	P	**P**	**19 53 39.9**	**+2.5**	
	comp=Z,1.0nm,0.5s,baz=11,slow=12,SNR=4.7							
	comp=Z,1.0nm,0.5s							
FRB	**Frobisher Bay**	**44.52**	**345**	LR	LR	20 09 56.6		
	comp=Z,94nm,21.9s,baz=148,slow=33							
TORD	**Torodi Ar. Bea**	**45.41**	**93**	P	**P**	**19 53 44.8**	**-1.5**	
	comp=Z,2.8nm,0.6s,baz=301,slow=8.3,SNR=1.4							
TORD				LR	LR	20 09 56.2		
	comp=Z,161nm,20.4s,baz=306,slow=32							
	comp=Z,2.8nm,0.6s							
CMIG	**Matias Romero**	**46.92**	**273**	LR	LR	20 12 08.7		
	comp=Z,51nm,20.7s,baz=38,slow=34							
WMOK	**Wichita Mounta**	**48.30**	**297**	P	**P**	**19 54 08.4**	**-0.3**	
ULM	**Lac du Bonnet**	**48.43**	**318**	P	**P**	**19 54 09.7**	**+0.3**	
ULM				IAmb	IAmb	19 54 17.5		
	comp=Z,5.4nm,1.1s							
ULM	**Lac du Bonnet**	**48.43**	**318**	LR	LR	20 11 54.8		
	comp=Z,123nm,20.0s,baz=86,slow=33							
BRDY	**Brady**	**48.56**	**293**	P	**P**	**19 54 11.3**	**+0.6**	
BRDY				IAmb	IAmb	19 54 52.5		
	comp=Z,4.0nm,0.8s							
KEST	**Kesra**	**49.09**	**61**	P	**P**	**19 54 15.2**	**+0.4**	
	comp=Z,3.1nm,0.8s,baz=282,slow=4.3,SNR=4.3							
KEST				LR	LR	20 13 03.4		
	comp=Z,76nm,19.0s,baz=249,slow=34							
	comp=Z,3.1nm,0.8s							
TXAR	**Lajitas Array**	**52.74**	**291**	P	**P**	**19 54 44.0**	**+1.6**	
	comp=Z,0.5nm,0.9s,baz=94,slow=5.9,SNR=4.7							
	comp=Z,0.5nm,0.9s							
VHRN	**Van Horn**	**53.72**	**293**		**P**	**19 54 48.6**	**-1.0**	
ANMO	**Albuquerque**	**54.60**	**298**	LR	LR	20 17 30.7		
	comp=Z,43nm,19.5s,baz=208,slow=35							
NOA	**NORSAR Array B**	**54.84**	**30**	LR	LR	20 14 18.6		
	comp=Z,55nm,20.6s,baz=34,slow=32							
PDAR	**Pinedale Array**	**56.77**	**307**	P	**P**	**19 55 12.6**	**+0.9**	
	comp=Z,0.9nm,0.8s,baz=79,slow=7.7,SNR=6.7							
PDAR				LR	LR	20 19 07.2		
	comp=Z,29nm,18.8s,baz=68,slow=36							
	comp=Z,0.9nm,0.8s							
YKA	**Yellowknife Ar**	**61.19**	**330**	LR	LR	20 20 13.7		
	comp=Z,44nm,20.4s,baz=126,slow=34							
PLID	**Pearl Lake**	**61.35**	**310**	P	**P**	**19 55 43.2**	**-0.1**	
V12A	**Nelson**	**61.36**	**300**	P	**P**	**19 55 44.1**	**+0.7**	
V12A				IAmb	IAmb	19 55 46.3		
	comp=Z,4.1nm,1.1s							
FINES	**FINESS Array B**	**61.94**	**31**	LR	LR	20 17 06.7		
	comp=Z,116nm,21.9s,baz=164,slow=31							
AKASG	**Malin Array Be**	**63.48**	**43**	LR	LR	20 20 46.5		
	comp=Z,34nm,18.9s,baz=156,slow=34							
DSP	**Deep Springs**	**63.62**	**302**	P	**P**	**19 55 59.9**	**+1.6**	
DSP				IAmb	IAmb	19 56 08.6		
	comp=Z,5.0nm,1.2s							
BRTR	**Keskin Array B**	**67.91**	**55**	P	**P**	**19 56 26.6**	**+0.4**	
	comp=Z,0.5nm,0.7s,baz=278,slow=6.3,SNR=3.6							
	comp=Z,0.5nm,0.7s							
N31M	**Braeburn, Yuko**	**71.17**	**330**	P	**P**	**19 56 46.3**	**+0.5**	
N31M				IAmb	IAmb	19 56 48.7		
	comp=Z,12nm,1.2s							
ILAR	**Eielson Array**	**75.13**	**334**	P	**P**	**19 57 08.4**	**-0.7**	
	comp=Z,1.6nm,0.9s,baz=64,slow=5.6,SNR=12							
	comp=Z,1.6nm,0.8s							
CCB	**Clear Creek Bu**	**75.55**	**334**	P	**P**	**19 57 11.4**	**-0.1**	
BVAR	**Borovoye Array**	**86.83**	**33**	P	**P**	**19 58 11.5**	**-0.2**	
	comp=Z,0.5nm,0.5s,baz=336,slow=3.2,SNR=2.6							
	comp=Z,0.5nm,0.5s							

*NOU **01** 19:56:51.6,30˚.925×176˚.62W,h44km,mb5.1/47, Kermadec Islands Region*
*BJI **01** 19:56:51.9,30˚.725×177˚.73W,h10km,mB5.5/8,mb5.0/20, Ms5.0/9,Ms7 4.7/9*
*MOS **01** 19:56:55.5±1.0,30˚.63S×178˚.02W,h23km,mb5.4/14, MS4.6/4,Error ellipse: s-maj=11.9km s-min=9.4km az=89.3*
*NEIC **01** 19:56:58.7±2.8,30˚.63S±0˚.06×178˚.0W±0˚.1,h35km±1km, mb5.2/133,Error ellipse: s-maj=21.6km s-min=9.5km az=96.0*
*IDC **01** 19:56:59.0±1.9,30˚.56S×178˚.10W,h39km±15km,mb4.5/20, mbtmp4.7/21,ML3.4/1,MS4.4/48,Error ellipse: s-maj=13.9km s-min=12.4km az=91.0*
*GCMT **01** 19:57:00.7±0.2,30˚.67S±0˚.01×177˚.69W±0˚.01,h46km, MW5.3/107,Moment Tensor Solution. s84,c124; s107,c160; Duration: 1ꝛ0 Moment tensor: Scale 10^17 Nm; Mrr0.90±.03; Mθθ-0.14±.02; Mϕϕ-0.76±.02; Mrθ0.11±.02; Mθϕ-0.25±.01; Mϕr0.46±.02; Best double couple: M=0.99900×10^17 NP1:ϕs202.00000°,δ31.00000°, λ95.00000°. NP2:ϕs16.00000°,δ59.00000°,λ87.00000°. Principal axes: T 1.0240, Plg76.0000°, Azm278.0000°; N -0.0510, Plg2.0000°, Azm18.0000°; P -0.9730, Plg14.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 19:56:58.9±0.2,30˚.77S±0˚.03×177˚.87W±0˚.04,h46km, n516,σ1ꝛ74/441,mb5.2/120,**MS4.4**/54,**33C-17D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.51**	**358**	P	**Pn**	**19 57 21.1**	**-2.4**
GLKZ				S	**Sn**	**19 57 35.9**	**-6.0**
RAO	**Raoul Island**	**1.52**	**358**		**Pn**	**19 57 21.3**	**-2.2**
RAO				Sn	**Sn**	**19 57 36.5**	**-5.7**
RAO	**Raoul Island**	**1.52**	**358**	Pn	**Pn**	**19 57 21.4**	**-2.2**
	1μm,0.3s,baz=50,slow=17,SNR=19						
RAO				Sn	**Sn**	**19 57 37.0**	**-5.1**
	10μm,0.3s,baz=58,slow=23,SNR=19						
RAO				LR	LR	19 57 47.3	
	comp=Z,5μm,20.1s,baz=140,slow=37						
RAO	**Raoul Island**	**1.52**	**358**	P	**Pn**	**19 57 21.4**	**-2.2**
RIZ	**Raoul Island**	**1.52**	**358**	P	**Pn**	**19 57 21.3**	**-2.4**
RIZ				S	**Sn**	**19 57 36.9**	**-5.4**
MXZ	**Matakaoa Point**	**7.48**	**204**	Pn	**Pn**	**19 58 44.5**	**-0.9**
MXZ	**Matakaoa Point**	**7.48**	**204**	P	**Pn**	**19 58 42.8**	**-2.5**
MXZ				S	**Sn**	**20 00 09.5**	**+0.7**
HAZ	**Te Kaha**	**7.84**	**206**	P	**Pn**	**19 58 48.0**	**-2.3**
HAZ				S	**Sn**	**20 00 19.0**	**+1.3**
PUZ	**Puketiti**	**7.95**	**203**	P	**Pn**	**19 58 48.5**	**-3.4**
PUZ				S	**Sn**	**20 00 20.0**	**-0.5**
RUGZ	**Raukumara Rang**	**8.06**	**206**	P	**Pn**	**19 58 50.2**	**-3.3**
RUGZ				S	**Sn**	**20 00 23.7**	**+0.4**
TWGZ	**Tauwhareparae**	**8.14**	**204**	P	**Pn**	**19 58 51.5**	**-3.0**
TWGZ				S	**Sn**	**20 00 25.0**	**-0.2**
WCZ	**Waipu Caves**	**8.30**	**230**	P	Pn	19 59 03.3	+6.6
CNGZ	**Carnagh Statio**	**8.34**	**202**	P	**Pn**	**19 58 54.3**	**-2.9**
CNGZ				S	**Sn**	**20 00 29.8**	**-0.3**
TKGZ	**Te Karaka**	**8.42**	**204**	P	**Pn**	**19 58 55.3**	**-3.0**
TKGZ				S	**Sn**	**20 00 32.5**	**+0.5**
OUZ	**Omahuta**	**8.43**	**236**	P	Pn	19 59 04.2	+5.8
OUZ	**Omahuta**	**8.43**	**236**	P	Pn	19 59 04.3	+5.9
MWZ	**Matawai**	**8.44**	**205**	P	**Pn**	**19 58 55.0**	**-3.6**
MWZ				S	**Sn**	**20 00 30.9**	**-1.7**
MARZ	**Manawahe**	**8.49**	**211**	P	**Pn**	**19 58 57.7**	**-1.5**
MARZ				S	**Sn**	**20 00 35.7**	**+2.0**
URZ	**Urewera**	**8.54**	**208**	Pn	**Pn**	**19 58 56.5**	**-3.4**
	6.6nm,0.3s,baz=275,slow=8.1,SNR=9.4						
URZ				Sn	**Sn**	**20 00 31.8**	**-3.0**
	24nm,0.3s,baz=318,slow=22,SNR=10						
URZ	**Urewera**	**8.54**	**208**	P	**Pn**	**19 58 57.1**	**-2.8**
URZ	**Urewera**	**8.54**	**208**	P	**Pn**	**19 58 56.9**	**-3.0**
URZ				S	**Sn**	**20 00 32.8**	**-2.0**
RAGZ	**Rawiri**	**8.63**	**205**	P	**Pn**	**19 58 59.1**	**-2.0**
RAGZ				S	**Sn**	**20 00 35.7**	**-1.5**
RIGZ	**Rimuhau**	**8.69**	**203**	P	**Pn**	**19 58 59.7**	**-2.3**
RIGZ				S	**Sn**	**20 00 37.2**	**-1.5**
TOZ	**Tahuroa Road**	**8.85**	**217**		**Pn**	**19 59 03.0**	**-1.1**
MUGZ	**Murupara**	**8.86**	**208**	P	Pn	19 59 00.4	-3.9
MUGZ				S	**Sn**	**20 00 40.5**	**-2.3**
RTZ	**Ruatahuna**	**8.90**	**207**		Pn	19 59 00.0	-4.9
SNGZ	**Shannon Statio**	**8.91**	**205**	P	**Pn**	**19 59 02.4**	**-2.6**
SNGZ				S	**Sn**	**20 00 42.5**	**-1.5**
KNZ	**Kokohu**	**9.01**	**203**	P	Pn	19 59 01.9	-4.4
KNZ				S	**Sn**	**20 00 44.2**	**-2.1**
MHGZ	**Mahia Peninsul**	**9.05**	**201**	P	Pn	19 59 02.5	-4.4
RAHZ	**Arahi**	**9.12**	**206**	P	**Pn**	**19 59 04.7**	**-3.2**
RAHZ				S	**Sn**	**20 00 47.5**	**-1.7**
MTHZ	**Maungataniwha**	**9.16**	**207**	P	**Pn**	**19 59 05.2**	**-3.2**
MTHZ				S	**Sn**	**20 00 47.2**	**-2.9**
NMHZ	**Naumai**	**9.38**	**206**	P	Pn	19 59 07.5	-4.0
ARHZ	**Aropaoanui**	**9.46**	**205**	P	Pn	19 59 08.6	-3.9
MCHZ	**McNeill Hill**	**9.73**	**206**	P	**Pn**	**19 59 12.8**	**-3.3**
HIZ	**Hauiti**	**9.77**	**216**		**Pn**	**19 59 17.2**	**+0.4**
HIZ	**Hauiti**	**9.77**	**216**	P	**Pn**	**19 59 16.6**	**-0.2**
HIZ	**Hauiti**	**9.77**	**216**	P	Pn	19 59 24.8	+8.0
KWHZ	**Kaweka Forest**	**9.81**	**207**	P	Pn	19 59 13.5	-3.9
NTVZ	**North Tongariro**	**9.85**	**211**	P	**Pn**	**19 59 16.7**	**-1.3**
TMVZ	**Te Maari**	**9.85**	**211**	P	**Pn**	**19 59 17.4**	**-0.6**
ETVZ	**East Tongariro**	**9.86**	**211**	P	**Pn**	**19 59 17.6**	**-0.6**
WTVZ	**West Tongariro**	**9.90**	**211**	P	**Pn**	**19 59 20.9**	**+2.2**
NNVZ	**North Ngauruho**	**9.90**	**211**	P	**Pn**	**19 59 18.3**	**-0.4**
OTVZ	**Oturere**	**9.91**	**211**	P	**Pn**	**19 59 17.4**	**-1.4**
SNVZ	**South Ngauruho**	**9.94**	**211**	P	**Pn**	**19 59 18.8**	**-0.4**
NGZ	**Ngauruhoe**	**9.95**	**211**	P	**Pn**	**19 59 18.6**	**-0.7**
KAHZ	**Kahuranaki**	**9.97**	**204**	P	Pn	19 59 13.9	-5.6
KRHZ	**Kereru**	**10.02**	**206**	P	Pn	19 59 14.6	-5.7
FWVZ	**Far West T-bar**	**10.03**	**211**	P	**Pn**	**19 59 19.6**	**-1.0**
WHVZ	**Whangaehu Hut**	**10.04**	**210**	P	**Pn**	**19 59 19.6**	**-1.1**
MOVZ	**Moawhango**	**10.07**	**209**	P	**Pn**	**19 59 21.4**	**+0.5**
WNVZ	**Wahianoa**	**10.07**	**210**	P	**Pn**	**19 59 17.6**	**-3.5**
PXZ	**Pawanui**	**10.19**	**204**	P	Pn	19 59 17.2	-5.3
VRZ	**Vera Road**	**10.29**	**214**	P	**Pn**	**19 59 28.4**	**+4.5**
PNHZ	**Pukenui**	**10.32**	**206**	P	Pn	19 59 18.4	-5.9
WPHZ	**Waipukurau**	**10.37**	**205**	P	Pn	19 59 21.1	-3.9
PRHZ	**Porangahau**	**10.47**	**204**	P	Pn	19 59 20.8	-5.6
TSZ	**Takapari Road**	**10.54**	**207**	P	Pn	19 59 22.1	-5.3
DVHZ	**Dannevirke**	**10.67**	**205**	P	Pn	19 59 23.8	-5.3
BFZ	**Birch Farm**	**10.98**	**204**		Pn	19 59 27.0	-6.3
BFZ	**Birch Farm**	**10.98**	**204**	P	Pn	19 59 26.6	-6.7
MRZ	**Mangatainoka R**	**11.21**	**207**		Pn	19 59 29.3	-7.1
MRZ	**Mangatainoka R**	**11.21**	**207**	P	Pn	19 59 29.5	-6.9
OGWZ	**Otaki Gorge**	**11.21**	**207**	P	Pn	19 59 34.4	-6.0
MTW	**Mount Morrison**	**11.67**	**206**	P	Pn	19 59 35.7	-7.0
TRWZ	**Traveller**	**11.81**	**204**	P	**Pn**	**19 59 45.9**	**+1.2**
MSWZ	**Moikau Station**	**11.98**	**206**	Pn	Pn	19 59 42.1	-4.9
MSWZ	**Moikau Station**	**11.98**	**206**	P	Pn	19 59 41.4	-5.7
SNZO	**South Karori**	**12.11**	**208**	Pn	Pn	19 59 43.6	-5.0
SNZO	**South Karori**	**12.11**	**208**	P	**Pn**	**19 59 46.4**	**-2.2**
PLWZ	**Palliser**	**12.12**	**205**	Pn	Pn	19 59 44.3	-4.6
BHW	**Baring Head**	**12.12**	**207**	Pn	Pn	19 59 44.6	-4.3
BHW	**Baring Head**	**12.12**	**207**	P	**Pn**	**19 59 46.7**	**-2.2**
TCW	**Tory Channel**	**12.20**	**209**	Pn	Pn	19 59 45.4	-4.6
TUWZ	**Tuamarina**	**12.52**	**210**		Pn	19 59 47.1	-7.2
NNZ	**Nelson**	**12.59**	**212**		Pn	19 59 49.2	-6.1
TKNZ	**Takaka Hill**	**12.64**	**213**		**Pn**	**19 59 53.2**	**-2.8**
QRZ	**Quartz Range**	**12.69**	**215**	Pn	**Pn**	**19 59 56.4**	**-0.3**
QRZ	**Quartz Range**	**12.69**	**215**	P	**Pn**	**19 59 57.5**	**+0.8**
BSWZ	**Blackbirch Sta**	**12.78**	**209**		**Pn**	**19 59 54.8**	**-3.1**
CTZ	**Chatham Island**	**12.98**	**176**	Pn	**Pn**	**19 59 59.6**	**-0.9**
CTZ	**Chatham Island**	**12.98**	**176**	P	Pn	19 59 50.7	-10
CTZ	**Chatham Island**	**12.98**	**176**	P	**Pn**	**19 59 59.2**	**-1.3**
MRNZ	**Matariki Terra**	**13.02**	**213**		**Pn**	**19 59 58.6**	**-2.6**
THZ	**Tophouse**	**13.24**	**212**		**Pn**	**20 00 01.2**	**-3.1**
MSVF	**Nonsavu**	**13.50**	**343**	Pn	**Pn**	**20 00 08.0**	**0.0**
	0.8nm,0.3s,baz=166,slow=16,SNR=7.2						
MSVF				LR	LR	20 04 30.2	
	comp=Z,4μm,19.3s,baz=184,slow=34						
MSVF	**Nonsavu**	**13.50**	**343**	P	**Pn**	**20 00 08.8**	**+0.8**
MSVF	**Nonsavu**	**13.50**	**343**	*i* P	**Pn**	**20 00 07.5**	**-0.5**
KHZ	**Kahutara**	**13.51**	**208**		Pn	19 59 59.6	-8.1
DSZ	**Denniston Nort**	**13.75**	**214**	Pn	**Pn**	**20 00 10.3**	**-0.8**
GVZ	**Greta Valley S**	**14.17**	**208**		**Pn**	**20 00 13.6**	**-3.2**
LTZ	**Lake Taylor**	**14.34**	**211**		**Pn**	**20 00 17.3**	**-1.9**
DGTI	**Dogotuki**	**14.57**	**351**	P	**Pn**	**20 00 20.3**	**-2.0**
OXZ	**Oxford**	**14.88**	**210**	P	Pn	20 00 22.4	-3.9
MQZ	**McQueen's Vall**	**14.94**	**208**	Pn	Pn	20 00 22.6	-4.4
RPZ	**Rata Peaks**	**15.62**	**211**		**Pn**	**20 00 31.8**	**-4.1**
RPZ	**Rata Peaks**	**15.62**	**211**	Pn	Pn	20 00 29.6	-6.3
	3.6nm,0.3s,baz=20,slow=5.9,SNR=12						
RPZ				Sn	Sn	20 03 13.0	-15
	3.7nm,0.3s,baz=323,slow=23,SNR=8.8						
RPZ				LR	LR	20 07 13.6	
	comp=Z,610nm,18.6s,baz=49,slow=39						
RPZ	**Rata Peaks**	**15.62**	**211**	P	**Pn**	**20 00 33.9**	**-2.0**
QUENC	**Quen Island, N**	**16.00**	**298**	P	**P**	**20 00 46.5**	**+2.9**
FOZ	**Fox Glacier**	**16.06**	**214**	Pn	**Pn**	**20 00 38.6**	**-2.8**
DZM	**Mont Dzumac**	**16.50**	**298**		**P**	**20 00 51.7**	**+2.4**
DZM	**Mont Dzumac**	**16.50**	**298**	*e*Pn	**Pn**	**20 00 43.7**	**-3.5**
	269nm,1.4s						
DZM				*e*LR	LR	20 04 15.1	
	7μm,24.9s						
DZM	**Mont Dzumac**	**16.50**	**298**	Pn	**P**	**20 00 51.5**	**+2.2**
	0.4nm,0.3s,baz=118,slow=13,SNR=6.9						
DZM				LR	LR	20 06 04.2	
	comp=Z,4μm,18.2s,baz=136,slow=34						
DZM	**Mont Dzumac**	**16.50**	**298**	P	**P**	**20 00 52.7**	**+3.4**
LBZ	**Lake Benmore**	**16.54**	**211**	Pn	**Pn**	**20 00 43.5**	**-4.0**
ODZ	**Otahua Downs**	**16.86**	**209**	P	**Pn**	**20 00 49.0**	**-2.5**
JCZ	**Jackson Bay**	**16.96**	**215**	P	**Pn**	**20 00 51.6**	**-1.3**
WKZ	**Wanaka**	**17.41**	**213**	P	Pn	20 00 51.4	-7.0
SYZ	**Scrubby Hill**	**18.69**	**209**	P	**P**	**20 01 12.0**	**-1.1**
RAR	**Rarotonga**	**18.82**	**64**	P	**Pn**	**20 01 14.7**	**-1.1**
	1.3nm,0.3s,baz=93,slow=1.0,SNR=4.5						
RAR				S	Sn	20 04 25.9	-20
	61nm,1.0s,baz=60,slow=16,SNR=4.2						
RAR				LR	LR	20 07 45.5	
	comp=Z,745nm,18.3s,baz=250,slow=34						
	58nm,0.9s						
ARMA	**Armidale**	**26.22**	**263**		**P**	**20 02 32.9**	**+3.2**
ARMA					IAmb	IAmb	20 02 34.5	
	comp=Z,83nm,1.6s						
ARMA	**Armidale**	**26.22**	**263**	P	**P**	**20 02 33.2**	**+3.6**
ARMA	**Armidale**	**26.22**	**263**	P	**P**	**20 02 32.9**	**+3.2**
TBI	**Tubuai**	**26.31**	**81**	*e*S	**S**	**20 06 59.2**	**-0.8**
	comp=Z,3μm,29.2s						
TBI				*e*LR	LR	20 08 59.8	
	comp=Z,14μm,27.5s						
TBI				*e*LR	LR	20 09 02.8	
	comp=Z,3μm,28.5s						
MGCD	**Mangrove Creek**	**26.38**	**257**	P	**P**	**20 02 34.2**	**+3.3**
	comp=Z,90nm,0.9s						
MGCD	**Mangrove Creek**	**26.38**	**257**	P	**P**	**20 02 35.0**	**+4.1**
SYDH	**Sydney Hard Ro**	**26.66**	**255**	P	**P**	**20 02 36.8**	**+3.4**
CNB	**Canberra Magne**	**27.77**	**252**	P	**P**	**20 02 45.3**	**+1.9**
	comp=Z,41nm,0.9s						
EIDS	**Eidsvold**	**27.87**	**273**		**P**	**20 02 45.6**	**+1.2**
EIDS					IAmb	IAmb	20 02 49.5	
	comp=Z,69nm,1.3s						
EIDS	**Eidsvold**	**27.87**	**273**	P	**P**	**20 02 45.4**	**+1.0**
	comp=Z,42nm,1.4s						
YNG	**Young**	**28.58**	**254**	P	**P**	**20 02 52.3**	**+1.6**
	comp=Z,51nm,1.1s						
PPT2	**Papeete2**	**28.86**	**69**	*e*S	**S**	**20 07 37.5**	**-3.0**
	comp=Z,387nm,25.8s						
PPT2				*e*LQ	LQ	20 08 53.0	
	comp=Z,751nm,23.2s						
PPT2				*e*LR	LR	20 10 07.0	
	comp=Z,3μm,26.2s						
PPT2				*e*LR	LR	20 10 14.2	
	comp=Z,2μm,25.2s						
PPT	**Papeete**	**28.87**	**69**	LR	LR	20 14 05.2	
	comp=Z,456nm,18.4s,baz=241,slow=35						
HNR	**Honiara**	**29.63**	**311**	LR	LR	20 13 06.0	
	comp=Z,592nm,21.6s,baz=176,slow=33						
SAVO	**Savo Central**	**29.93**	**311**	P	**P**	**20 03 03.3**	**+0.5**
TAU	**Tasmania Unive**	**30.17**	**237**	P	**P**	**20 03 03.6**	**-1.0**
TAU	**Tasmania Unive**	**30.17**	**237**	P	**P**	**20 03 06.2**	**+1.6**
TAU	**Tasmania Unive**	**30.17**	**237**	P	**P**	**20 03 03.6**	**-1.0**
TAU				pmax	pmax		
	comp=Z,129nm,1.6s						
TOO	**Toolangi**	**30.92**	**247**	P	**P**	**20 03 13.4**	**+2.0**
TOO	**Toolangi**	**30.92**	**247**	P	**P**	**20 03 12.6**	**+1.2**
	comp=Z,16nm,1.9s						
TOO	**Toolangi**	**30.92**	**247**	P	**P**	**20 03 13.4**	**+2.0**
TOO				pmax	pmax		
	comp=Z,28nm,1.4s						
CMSA	**Cobar Meteorol**	**31.11**	**259**	P	**P**	**20 03 14.6**	**+1.6**
	comp=Z,153nm,1.1s						
QLP	**Quilpie**	**33.41**	**268**	P	**P**	**20 03 34.0**	**+0.8**
	comp=Z,107nm,1.5s						
QLP	**Quilpie**	**33.41**	**268**	P	**P**	**20 03 34.4**	**+1.2**
CTAO	**Charters Tower**	**33.97**	**280**		**P**	**20 03 39.5**	**+1.3**
CTAO	**Charters Tower**	**33.97**	**280**	P	**P**	**20 03 39.8**	**+1.6**
CTAO	**Charters Tower**	**33.97**	**280**	P	**P**	**20 03 39.5**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,90nm,0.9s						
STKA	**Stephens Creek**	**34.51**	**257**		**P**	**20 03 44.0**	**+1.2**
STKA	**Stephens Creek**	**34.51**	**257**	P	**P**	**20 03 44.3**	**+1.6**
	comp=Z,872nm,1.1s						
STKA	**Stephens Creek**	**34.51**	**257**	P	**P**	**20 03 44.6**	**+1.9**
	comp=Z,108nm,0.4s,baz=102,slow=10,SNR=528						
STKA				LR	LR	20 16 54.5	
	comp=Z,1μm,18.4s,baz=97,slow=35						
STKA	**Stephens Creek**	**34.51**	**257**	P	**P**	**20 03 44.8**	**+2.1**
STKA	**Stephens Creek**	**34.51**	**257**	*c i* P	**P**	**20 03 44.5**	**+1.8**
MTSU	**Mount Surprise**	**36.48**	**281**	P	**P**	**20 04 00.3**	**+0.5**
	comp=Z,37nm,1.1s						
MTSU	**Mount Surprise**	**36.48**	**281**	P	**P**	**20 04 01.0**	**+1.2**
HTT	**Hallett**	**36.51**	**254**	P	**P**	**20 04 00.5**	**+0.5**
	comp=Z,20nm,1.2s						
HTT	**Hallett**	**36.51**	**254**	P	**P**	**20 04 01.5**	**+1.5**
PTPS	**Port Pirie**	**37.31**	**254**	P	**P**	**20 04 08.8**	**+2.1**
WHYH	**Whyalla**	**37.69**	**255**	P	**P**	**20 04 11.6**	**+1.7**
BBOO	**Buckleboo**	**38.98**	**255**	P	**P**	**20 04 20.5**	**-0.2**
BBOO	**Buckleboo**	**38.98**	**255**	P	**P**	**20 04 20.6**	**-0.2**
	comp=Z,95nm,1.6s						
BBOO	**Buckleboo**	**38.98**	**255**	P	**P**	**20 04 21.3**	**+0.5**
QIS	**Mount Isa**	**39.46**	**275**	P	**P**	**20 04 24.7**	**-0.2**
	comp=Z,18nm,1.1s						
QIS	**Mount Isa**	**39.46**	**275**	P	**P**	**20 04 25.4**	**+0.5**
COEN	**Coen**	**39.48**	**286**		**P**	**20 04 26.1**	**+1.0**
COEN				IAmb	IAmb	20 04 27.4	
	comp=Z,29nm,0.8s						
COEN	**Coen**	**39.48**	**286**	P	**P**	**20 04 24.8**	**-0.4**
	comp=Z,51nm,1.5s						
COEN	**Coen**	**39.48**	**286**	P	**P**	**20 04 26.4**	**+1.2**
TAOE	**Nuku Hiva Isla**	**41.35**	**66**	*e*S	S	20 10 42.8	-10
	comp=Z,440nm,26.9s						
TAOE				*e*SS	**SS**	**20 13 53.9**	**-3.5**
	comp=Z,344nm,25.9s						
TAOE				*e*LR	LR	20 15 50.9	
	comp=Z,2μm,26.8s						
AS01	**Alice Springs**	**43.16**	**267**	P	**P**	**20 04 55.5**	**+0.1**
AS31	**Alice Springs**	**43.20**	**267**		**P**	**20 04 54.8**	**-0.9**
AS31	**Alice Springs**	**43.20**	**267**	P	**P**	**20 04 55.8**	**+0.1**
	comp=Z,13nm,0.4s						
ASAR	**Alice Springs**	**43.20**	**267**		**P**	**20 04 55.3**	**-0.3**
ASAR	**Alice Springs**	**43.20**	**267**	P	**P**	**20 04 55.6**	**0.0**
	comp=Z,17nm,0.4s,baz=104,slow=7.3,SNR=396						
ASAR				PcP	**PcP**	**20 06 44.1**	**-0.3**
	comp=Z,1.8nm,0.4s,baz=99,slow=3.3,SNR=1.7						
ASAR				ScP	**ScP**	**20 10 32.8**	**+0.8**
	comp=Z,2.7nm,0.8s,baz=123,slow=4.5,SNR=7.3						
ASAR				LR	LR	20 22 39.6	
	comp=Z,1μm,18.5s,baz=114,slow=36						
	comp=Z,17nm,0.4s						
WR8	**Warramunga Arr**	**44.08**	**273**		**P**	**20 05 02.2**	**-0.6**
WR8				IAmb	IAmb	20 05 04.8	
	comp=Z,36nm,0.7s						
WRAB	**Tennant Creek**	**44.22**	**272**	P	**P**	**20 05 03.6**	**-0.3**
WRAB				IAmb	IAmb	20 05 05.4	
	comp=Z,39nm,0.7s						
WRAB	**Tennant Creek**	**44.22**	**272**	*c i* P	**P**	**20 05 03.9**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,114nm,1.7s						
WRA	**Warramunga Arr**	**44.23**	**272**		**P**	**20 05 03.0**	**-0.9**
WRA	**Warramunga Arr**	**44.23**	**272**	P	**P**	**20 05 03.3**	**-0.6**
	comp=Z,36nm,0.3s,baz=111,slow=8.1,SNR=599						
WRA				PcP	**PcP**	**20 06 47.9**	**-0.1**
	comp=Z,13nm,1.3s,baz=137,slow=2.2,SNR=1.3						
WRA				ScP	**ScP**	**20 10 38.5**	**+2.3**
	comp=Z,1.6nm,0.9s,baz=98,slow=4.3,SNR=5.0						
WRA				S	**S**	**20 11 32.5**	**-1.9**
	comp=Z,0.8nm,1.0s,baz=113,slow=15,SNR=7.6						
WRA				PKiKP	**PKiKP**	**20 13 48.1**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=108,slow=0.7,SNR=6.2						
WRA				LR	LR	20 22 59.7	
	comp=Z,1μm,18.2s,baz=132,slow=36						
WB0	**Warramunga Arr**	**44.25**	**273**		**P**	**20 05 03.0**	**-1.1**
FORT	**Forrest**	**46.06**	**255**		**P**	**20 05 18.0**	**-0.3**
FORT	**Forrest**	**46.06**	**255**	P	**P**	**20 05 17.4**	**-0.9**
	comp=Z,24nm,0.5s

comp=Z,112nm,0.5s
SNAA Sanae 77.78 178 P 20 08 52.2 +1.4
SNAA IAmb IAmb 20 09 10.9
comp=Z,35nm,1.1s
SNAA Sanae 77.78 178 P P 20 08 52.3 +1.5
comp=Z,4.8nm,0.5s,baz=206,slow=9.0,SNR=38
SNAA LR LR 20 43 02.9
comp=Z,153nm,18.2s,baz=196,slow=35
comp=Z,4.8nm,0.5s
SNAA Sanae 77.78 178 *i* P **P 20 08 52.3 +1.5**
SNAA pmax pmax
comp=Z,25nm,1.2s
VNA3 Neumayer Olymp 77.92 176 ⇑P **P 20 08 52.8 +1.3**
comp=Z,21nm,0.7s
VNA2 Neumayer--Watz 78.36 177 ⇑P **P 20 08 55.6 +1.6**
comp=Z,20nm,0.7s,baz=188,slow=6.2
VNA1 Neumayer--Stat 78.59 176 ⇑P **P 20 08 57.0 +1.8**
comp=Z,30nm,1.0s
MJAR Matsushiro Arr 78.61 325 P P 20 08 53.6 -2.1
MJAR Matsushiro Arr 78.61 325 P P 20 08 53.8 -2.0
comp=Z,2.2nm,0.7s,baz=164,slow=5.1,SNR=5.7
MJAR LR LR 20 38 28.3
comp=Z,106nm,21.3s,baz=148,slow=32
comp=Z,2.2nm,0.7s
JNU Nakatsue 79.91 318 LR LR 20 40 18.0
comp=Z,98nm,21.2s,baz=152,slow=33
H03S2 Juan Fernandez 80.16 123 T T 21 38 20.6
baz=238,slow=74,SNR=154
H03S1 Juan Fernandez 80.17 123 T T 21 38 21.8
baz=238,slow=74,SNR=97
H03S3 Juan Fernandez 80.18 123 T T 21 38 17.0
baz=238,slow=74,SNR=112
H03N3 Juan Fernandez 80.36 123 T T 21 38 31.3
baz=242,slow=72,SNR=58
H03N2 Juan Fernandez 80.36 123 T T 21 38 26.2
baz=242,slow=72,SNR=53
H03N1 Juan Fernandez 80.37 123 T T 21 38 27.1
baz=242,slow=72,SNR=64
PLCA Paso Flores 82.17 133 P P 20 09 17.6 +2.5
PLCA Paso Flores 82.17 133 P P 20 09 17.7 +2.5
comp=Z,6.6nm,0.7s,baz=225,slow=4.3,SNR=7.5
PLCA LR LR 20 37 33.8
comp=Z,360nm,20.2s,baz=246,slow=30
comp=Z,6.6nm,0.7s
ASAJ Asahikawa 82.82 332 LR LR 20 42 14.2
comp=Z,342nm,20.1s,baz=174,slow=33
BI02 San Fabin de 83.97 129 IAmb IAmb 20 09 43.6
comp=Z,16nm,0.8s
LPIG La Paz 84.64 58 LR LR 20 37 49.0
comp=Z,307nm,21.8s,baz=215,slow=29
KSRS Korea Array 84.70 320 P **P 20 09 27.9 +0.1**
comp=Z,1.5nm,0.8s,baz=152,slow=6.2,SNR=7.3
comp=Z,1.5nm,0.8s
YSS Yuzhno-Sakhali 85.13 334 *eP* **P 20 09 30.2 +0.5**
YSS *e* 20 19 55.1
YSS *eS* **S 20 19 57.7 +2.0**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,200nm,19.0s
QIZ Qiongzhong 85.26 295 P **P 20 09 29.3 -1.7**
QIZ S **S 20 20 01.2 +3.0**
QIZ LR LR
comp=Z,240nm,7.6s
QIZ LR LR
comp=Z,250nm,11.8s
MT01 Popeta 85.55 127 P **P 20 09 34.1 +1.7**
PSI Prapat 85.59 276 LR LR 20 48 19.4
comp=Z,403nm,20.9s,baz=130,slow=36
ESJX Sierra Juarez 85.66 49 IAmb IAmb 20 09 52.3
comp=Z,29nm,1.4s
MT09 Talagante 85.78 127 P **P 20 09 34.5 +0.8**
PET Petropavlovsk 85.92 346 *i* P **P 20 09 34.0 +0.5**
PET pmax pmax
comp=Z,12nm,1.5s
GSI Gunungsitoli 85.98 274 P 20 09 34.7 -0.1
GSI Gunungsitoli 85.98 274 P **P 20 09 34.9 +0.1**
YUH Yuha Desert 86.09 48 IAmb IAmb 20 09 53.9
comp=Z,22nm,1.4s
GDXM Geysers 86.14 40 IAmb IAmb 20 09 38.4
comp=Z,12nm,1.0s
PEA0B Petropavlovsk- 86.20 346 P **P 20 09 34.3 -0.6**
PEA0B IAmb IAmb 20 09 36.1
comp=Z,23nm,1.1s
PEA0B Petropavlovsk- 86.20 346 *c i* P **P 20 09 34.6 -0.3**
PETK Petropavlovsk- 86.20 346 P **P 20 09 33.9 -1.0**
PETK Petropavlovsk- 86.20 346 P **P 20 09 34.4 -0.5**
comp=Z,8.9nm,0.8s,baz=130,slow=6.7,SNR=24
PETK LR LR 20 45 58.4
comp=Z,159nm,18.6s,baz=162,slow=34
comp=Z,8.9nm,0.8s
PFO Pinyon Flats O 86.38 47 P 20 09 37.8 +1.4
PFO IAmb IAmb 20 09 39.8
comp=Z,14nm,1.1s
PFO Pinyon Flats O 86.38 47 P **P 20 09 38.0 +1.6**
comp=Z,9.9nm,1.0s,baz=246,slow=7.0,SNR=7.7
PFO LR LR 20 41 08.3
comp=Z,118nm,20.6s,baz=223,slow=31
comp=Z,9.9nm,1.0s
ISA Isabella, Lake 86.48 45 IAmb IAmb 20 09 40.1
comp=Z,23nm,1.1s
NJ2 Nanjing 86.57 311 *eP* **P 20 09 38.2 +1.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
MT08 Bocatoma Ro 86.64 127 IAmb IAmb 20 09 57.8
comp=Z,21nm,1.1s
VLA Vladivostok 86.78 326 *i* P **P 20 09 38.5 +0.6**
VLA pmax pmax
comp=Z,20nm,0.7s
KHMM Horse Mountain 87.11 38 IAmb IAmb 20 09 52.8
comp=Z,21nm,1.4s
HSIG 87.14 54 IAmb IAmb 20 09 58.8
comp=Z,28nm,1.3s
GSC Goldstone, Bar 87.26 46 IAmb IAmb 20 09 59.5
comp=Z,16nm,1.1s
USRK Ussuriysk Ar. 87.53 326 P **P 20 09 41.8 +0.2**
comp=Z,4.7nm,0.8s,baz=127,slow=2.5,SNR=5.6
USRK LR LR 20 44 58.8
comp=Z,98nm,20.2s,baz=144,slow=33
comp=Z,4.7nm,0.8s
QSM Queen of Sheba 87.66 45 IAmb IAmb 20 10 01.1
comp=Z,14nm,1.1s
BLYC Blythe 87.70 48 P 20 09 43.4 +0.8
BLYC IAmb IAmb 20 10 03.2
comp=Z,31nm,1.5s
WAKR Walker 87.83 42 IAmb IAmb 20 10 02.1
comp=Z,29nm,1.4s
DSP Deep Springs 87.92 44 IAmb IAmb 20 10 02.5
comp=Z,16nm,1.4s
PNTR Pine Nut 88.13 41 IAmb IAmb 20 10 03.2
comp=Z,16nm,1.0s
LHV Little Huntoon 88.20 43 IAmb IAmb 20 10 03.7
comp=Z,12nm,1.0s
YBH Yreka Blue Hor 88.25 38 P **P 20 09 46.7 +1.5**
comp=Z,0.2nm,0.8s,baz=329,slow=0.6,SNR=7.9
YBH LR LR 20 41 57.2
comp=Z,10.0nm,21.1s,baz=238,slow=31
GMN Gold Mountain 88.30 44 IAmb IAmb 20 09 48.7
comp=Z,23nm,1.6s
WCT Wildcat Mounta 88.35 45 IAmb IAmb 20 09 49.0
comp=Z,15nm,1.5s
NVAR Mina Array Bea 88.44 43 P **P 20 09 47.0 +0.7**
NVAR Mina Array Bea 88.44 43 P **P 20 09 45.7 -0.6**
comp=Z,10.0nm,1.0s,baz=221,slow=7.7,SNR=26
NVAR LR LR 20 42 56.9
comp=Z,174nm,20.5s,baz=212,slow=31
comp=Z,10.0nm,1.0s
RYN Ryan 88.44 42 IAmb IAmb 20 10 04.6
comp=Z,32nm,1.9s
TYV Tymovskoe 88.44 336 *eP* **P 20 09 45.6 -0.1**
TYV pmax pmax
comp=Z,100nm,2.9s
TYV pmax pmax
comp=Z,15nm,1.2s
NV11 Mina Array Sit 88.52 43 IAmb IAmb 20 10 05.0
comp=Z,14nm,1.1s
PAHR Pah Rah Range 88.67 41 IAmb IAmb 20 10 05.5
comp=Z,16nm,1.4s
TPNV Topopah Spring 88.68 45 IAmb IAmb 20 10 06.3
comp=Z,14nm,1.1s
Y14A Wickenburg 88.79 49 IAmb IAmb 20 10 07.1
comp=Z,18nm,1.1s
CFA Coronel Fontan 88.92 127 P **P 20 09 50.8 +2.0**
comp=Z,7.1nm,1.0s,baz=257,slow=3.8,SNR=10.0
comp=Z,7.1nm,1.0s
W13A Hualapai Mount 88.96 47 IAmb IAmb 20 09 52.4
comp=Z,15nm,1.1s
MDJ Mudanjiang 89.00 325 P **P 20 09 50.2 +1.7**
MDJ pmax pmax
comp=Z,11nm,1.9s
BBOR Butler Butte 89.09 37 IAmb IAmb 20 10 07.7
comp=Z,25nm,2.0s
TUC Tucson 89.25 51 P **P 20 09 52.5 +2.3**
TUC Tucson 89.25 51 P **P 20 09 52.5 +2.3**
TUC pmax pmax
comp=Z,38nm,1.3s
K05A Summer Lake 89.91 38 IAmb IAmb 20 09 56.1
comp=Z,30nm,1.3s
X16A Lo Mia Camp, P 90.11 49 P **P 20 09 56.3 +2.1**
X16A IAmb IAmb 20 10 13.8
comp=Z,22nm,1.0s
J05D Fort Rock, OR 90.12 38 IAmb IAmb 20 10 12.5
comp=Z,19nm,1.3s
TIA Tai'an 90.31 313 P **P 20 09 55.1 +0.2**
TIA pmax pmax
comp=Z,9.0nm,1.0s
CN2 Changchun 90.51 323 P **P 20 09 55.2 -0.4**
CN2 PP **PP 20 13 32.5 +1.3**
CN2 SKS **SKSac 20 20 24.4 +1.4**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,130nm,4.0s
CN2 LR LR
comp=Z,120nm,20.0s
CN2 LR LR
comp=Z,110nm,20.0s
CN2 LR LR
comp=Z,220nm,22.0s
H04A Detroit Lake 90.61 36 IAmb IAmb 20 09 58.4
comp=Z,12nm,0.9s
PINE Pine Mountain 90.63 37 IAmb IAmb 20 09 59.4
comp=Z,19nm,1.1s
KDAK Kodiak Island 90.75 13 LR LR 20 45 25.2
comp=Z,139nm,20.0s,baz=194,slow=32
WUAZ Wupatki 90.83 48 IAmb IAmb 20 10 16.8
comp=Z,17nm,1.0s
KNB Kanab 90.83 47 IAmb IAmb 20 10 16.7
comp=Z,16nm,1.1s
BNX BinXian 90.88 325 ⇓P **P 20 09 56.8 -0.5**
BNX pmax pmax
comp=Z,5.0nm,0.9s
WVOR Wild Horse Val 90.93 40 IAmb IAmb 20 10 16.0
comp=Z,13nm,1.2s
X18A Snowflake 91.15 50 IAmb IAmb 20 10 18.4
comp=Z,12nm,0.9s
E03A Lebam 91.25 34 IAmb IAmb 20 10 02.0
comp=Z,17nm,1.0s
KLR Kul'dur 91.41 330 LR LR 20 44 25.5
comp=Z,154nm,21.8s,baz=154,slow=31
I07A Izee 91.58 38 IAmb IAmb 20 10 19.1
comp=Z,7.9nm,1.0s
J08A Circle Bar Ran 91.64 39 IAmb IAmb 20 10 03.6
comp=Z,11nm,1.2s
ELK Elko 91.74 42 P **P 20 10 02.8 +1.1**
comp=Z,6.3nm,1.2s,baz=247,slow=6.1,SNR=8.8
ELK LR LR 20 43 39.6
comp=Z,136nm,21.8s,baz=240,slow=30
comp=Z,6.3nm,1.2s
G06A Carlson Farm, 91.78 36 IAmb IAmb 20 10 04.0
comp=Z,16nm,1.0s
N15K Kwethluk River 91.78 9 P **P 20 10 01.5 +0.3**
N15K IAmb IAmb 20 10 03.5
comp=Z,15nm,1.0s
VHRN Van Horn 92.36 55 IAmb IAmb 20 10 23.4
comp=Z,26nm,1.9s
TXAR Lajitas Array 92.49 57 P **P 20 10 06.4 +1.1**
TXAR Lajitas Array 92.49 57 P **P 20 10 06.6 +1.3**
comp=Z,2.4nm,1.1s,baz=215,slow=6.1,SNR=15
TXAR LR LR 20 42 25.5
comp=Z,121nm,21.5s,baz=236,slow=30
comp=Z,2.4nm,1.1s
G08A Pilot Rock 92.69 37 IAmb IAmb 20 10 24.0
comp=Z,12nm,1.1s
CMIG Matias Romero 92.76 72 LR LR 20 44 57.8
comp=Z,98nm,18.4s,baz=210,slow=31
ALPN Alpine 93.09 56 IAmb IAmb 20 10 26.4
comp=Z,7.4nm,0.9s
NNA Nana 93.21 106 LR LR 20 42 48.0
comp=Z,248nm,21.8s,baz=233,slow=29
TMUT Trail Mountain 93.24 46 IAmb IAmb 20 10 27.6
comp=Z,6.8nm,0.9s
BMO Blue Mountains 93.27 38 IAmb IAmb 20 10 26.1
comp=Z,21nm,1.9s
BBB Bella Bella 93.37 28 LR LR 20 44 17.7
comp=Z,118nm,21.7s,baz=223,slow=30
SRU San Rafael Swe 93.55 46 IAmb IAmb 20 12 17.8
comp=Z,4.8nm,0.6s
CMAR Chiang Mai Arr 93.63 289 P **P 20 10 10.2 -0.5**
comp=Z,0.8nm,0.8s,baz=136,slow=3.7,SNR=4.9
CMAR PKKPbc **PKKPbc 20 27 16.3 +1.2**
comp=Z,0.3nm,0.3s,baz=304,slow=4.5,SNR=4.2
CMAR LR LR 20 55 18.2
comp=Z,54nm,19.2s,baz=140,slow=38
comp=Z,0.8nm,0.8s
MA2 Magadan 93.68 345 LR LR 20 47 31.5
comp=Z,213nm,21.3s,baz=160,slow=32
ANMO Albuquerque 93.72 51 P **P 20 10 12.2 +1.2**
comp=Z,3.0nm,0.9s,baz=298,slow=6.5,SNR=5.6
ANMO LR LR 20 47 03.4
comp=Z,77nm,18.3s,baz=338,slow=32
comp=Z,3.0nm,0.9s
HVU Hansel Valley 93.83 43 IAmb IAmb 20 10 29.4
comp=Z,9.8nm,1.0s
PLID Pearl Lake 94.12 39 IAmb IAmb 20 10 31.1
comp=Z,23nm,1.6s
BSUT Blindstream Ca 94.27 45 IAmb IAmb 20 11 44.1
comp=Z,11nm,1.4s
ATAH Atahualpa 94.46 101 LR LR 20 42 34.9
comp=Z,14nm,21.4s,baz=248,slow=29
L19K White Mountain 94.47 11 P **P 20 10 13.8 +0.3**
PZH PanZhiHua 95.58 297 P **P 20 10 20.7 +1.1**
PZH pmax pmax
comp=Z,11nm,1.3s
PZH pmax pmax
comp=Z,100nm,5.8s
NEW Newport 95.61 36 LR LR 20 45 21.4
comp=Z,167nm,21.8s,baz=194,slow=30
XLT XiLinHaoTe 95.69 318 *eP* **P 20 10 22.8 +3.1**
XLT pP pP 20 10 27.1 -5.2
XLT PP **PP 20 14 15.3 +3.2**
XLT pmax pmax
comp=Z,8.0nm,0.7s
XLT pmax pmax
comp=Z,130nm,6.3s
XLT LR LR
comp=Z,210nm,22.1s
XLT LR LR
comp=Z,240nm,21.3s
PDAR Pinedale Array 96.33 44 P **P 20 10 23.8 +1.0**
comp=Z,0.5nm,0.6s,baz=227,slow=5.2,SNR=4.2
PDAR PKKPbc **PKKPbc 20 27 09.6 +0.4**
comp=Z,0.8nm,0.7s,baz=26,slow=2.9,SNR=5.5
PDAR LR LR 20 46 29.4
comp=Z,80nm,21.8s,baz=219,slow=31
comp=Z,0.5nm,0.6s
SEY Seymchan 96.37 347 LR LR 20 50 50.4
comp=Z,175nm,20.1s,baz=172,slow=34
HHC Hu-ho-hao-te 96.58 314 *eP* **P 20 10 24.7 +0.9**
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,130nm,7.6s
ZEA Zeya 96.63 331 *eP* **P 20 10 22.9 -0.6**
DLBC Dease Lake 97.42 23 LR LR 20 46 45.6
comp=Z,14nm,22.0s,baz=216,slow=31
JTS Las Juntas de 97.67 83 LR LR 20 44 24.0
comp=Z,188nm,21.9s,baz=260,slow=29
WRH Wood River Hil 97.77 13 P Pdif 20 10 28.0 -0.4
WRH IAmb IAmb 20 10 33.0
comp=Z,12nm,1.5s
LPAZ La Paz 97.89 114 P Pdif 20 10 33.5 +2.5
comp=Z,1.2nm,0.7s,baz=206,slow=4.3,SNR=4.4
LPAZ LR LR 20 46 23.1
comp=Z,121nm,21.9s,baz=218,slow=30
comp=Z,1.2nm,0.7s
ILAR Eielson Array 98.26 13 P Pdif 20 10 30.4 -0.3
comp=Z,0.6nm,0.9s,baz=221,slow=5.5,SNR=4.8
ILAR LR LR 20 49 34.4
comp=Z,66nm,20.0s,baz=210,slow=32
comp=Z,0.6nm,0.9s
LZH Lanzhou 99.03 307 *eP* **Pdif 20 10 35.5 +0.5**
LZH sP pP 20 10 45.8 -1.9
LZH pmax pmax
comp=Z,25nm,1.3s
LZH LR LR
comp=Z,140nm,17.2s
LZH LR LR
comp=Z,110nm,17.9s
LZH LR LR
comp=Z,160nm,17.2s
CPUP Villa Florida 99.66 128 LR LR 20 47 56.2
comp=Z,48nm,20.7s,baz=110,slow=31
WMQ Urumqi 113.55 308 *eP* **PKiKP PKiKP 20 15 33.3 +1.4**
ZSN Zaisan 116.60 311 *eP* **PKiKP PKiKP 20 15 37.7 +0.1**
ZSN Zaisan 116.60 311 *eP* **PKiKP PKiKP 20 15 37.7 +0.1**
BOSA Boshof 116.96 203 PKP **PKiKP 20 15 40.4 +1.2**
comp=Z,1.9nm,0.4s,baz=170,slow=2.5,SNR=17
MK31 Makanchi Array 118.10 310 *c i* PKiKP **PKPdf 20 15 39.3 -1.2**
MKAR Makanchi Array 118.10 310 **PKPdf 20 15 39.2 -1.3**
MKAR Makanchi Array 118.10 310 PKP **PKPdf 20 15 39.8 -0.8**
comp=Z,1.1nm,0.4s,baz=120,slow=2.3,SNR=20
MKAR PKKPbc **PKKPab 20 26 01.6 +0.4**
comp=Z,0.3nm,0.5s,baz=268,slow=2.7,SNR=6.5
MAKZ Makanchi 118.31 310 **PKPdf 20 15 39.5 -1.4**
MAKZ Makanchi 118.31 310 PKiKP **PKPdf 20 15 39.5 -1.4**
ZALV Zalesovo Beam 118.39 318 **PKPdf 20 15 39.1 -1.7**
ZALV Zalesovo Beam 118.39 318 PKP **PKPdf 20 15 40.0 -0.8**
comp=Z,0.9nm,0.5s,baz=106,slow=2.1,SNR=5.6
ZALV Zalesovo Beam 118.39 318 PKiKP **PKPdf 20 15 40.0 -0.8**
SHLS Shalkode 119.02 305 *e* PKiKP **PKPdf 20 15 41.8 -0.7**
SHLS Shalkode 119.02 305 *e* PKP **PKPdf 20 15 41.9 -0.6**
KPKS Kokpek 119.65 305 *e* PKiKP **PKPdf 20 15 43.7 -0.1**
KPKS Kokpek 119.65 305 *e* PKP **PKPdf 20 15 43.7 -0.1**
NRIK Noril'sk 120.02 336 PKP **PKiKP 20 15 43.1 -0.4**
comp=Z,2.6nm,0.7s,baz=83,slow=0.9,SNR=4.4
TDK Taldyqorghan 120.25 307 *e* PKiKP **PKiKP 20 15 44.7 -0.1**
TDK Taldyqorghan 120.25 307 *e* PKP **PKiKP 20 15 44.7 -0.1**
KSH Kashi 120.53 300 PKP **PKiKP 20 15 46.5 +0.8**
AAA Alma-Ata 120.83 305 *e* PKiKP **PKiKP 20 15 45.8 -0.2**
AAA Alma-Ata 120.83 305 *e* PKP **PKiKP 20 15 45.9 -0.2**
KURK Kurchatov 121.39 314 **PKPdf 20 15 44.7 -2.0**
KURK Kurchatov 121.39 314 *c i* PKiKP **PKPdf 20 15 45.9 -0.7**
KURBB Kurchatov Arra 121.43 313 PKP **PKiKP 20 15 45.9 -0.9**
comp=Z,3.3nm,0.5s,baz=107,slow=2.0,SNR=34
AAK Ala-Archa 122.42 304 *c i* PKiKP **PKPdf 20 15 48.8 -0.3**
AAK pmax pmax
comp=Z,3.0nm,0.7s
SGDS Sogindy 122.51 305 *e* PKP **PKiKP 20 15 49.0 -0.3**
KOOLE Kule 123.80 200 **PKiKP 20 15 53.3 +0.6**
BRZS Berezniki 125.02 312 *e* PKiKP **PKiKP 20 15 53.8 -0.2**
BRZS Berezniki 125.02 312 *e* PKP **PKiKP 20 15 53.9 -0.2**
KKAR Karatay Array 125.37 303 **PKPdf 20 15 52.7 -1.9**
KKAR Karatay Array 125.37 303 PKiKP **PKPdf 20 15 52.7 -1.9**
IUG luzhnay 125.53 302 *e* PKiKP **PKiKP 20 15 55.0 -0.4**
IUG *e* 20 17 45.7
IUG luzhnay 125.53 302 *e* PKP **PKiKP 20 15 55.0 -0.4**
IUG *e* PP **PP 20 17 45.7 -1.5**
BRLS Borolday 125.85 303 *e* PKiKP **PKiKP 20 15 55.4 -0.5**
BRLS *e* 20 17 48.0
BRLS Borolday 125.85 303 *e* PKP **PKiKP 20 15 55.5 -0.5**
BRLS *e* PP **PP 20 17 48.0 -1.2**
CHM Chimkent 125.88 302 *e* PKiKP **PKiKP 20 15 55.7 -0.3**
CHM Chimkent 125.88 302 *e* PKP **PKiKP 20 15 55.7 -0.3**
BVAR Borovoye Array 126.75 316 PKP **PKiKP 20 15 56.8 -0.6**
comp=Z,4.7nm,0.4s,baz=96,slow=2.6,SNR=26
BRVK Borovoye 126.82 316 **PKPdf 20 15 56.4 -0.6**
BRVK Borovoye 126.82 316 *c i* PKiKP **PKiKP 20 15 57.0 -0.5**
BRVK pmax pmax
comp=Z,13nm,1.3s
LSZ Lusaka 127.80 212 **PKiKP 20 16 01.8 +1.0**
LSZ Lusaka 127.80 212 PKiKP **PKiKP 20 16 01.8 +1.0**
SVE Sverdlovsk 132.26 321 *e* PKiKP **PKiKP 20 16 07.4 -0.9**
ARTI Arti 133.55 320 *i* PKiKP **PKPdf 20 16 09.7 0.0**
KIRV Kirov 137.69 325 ⇑*i* PKiKP **PKiKP 20 16 18.6 -0.6**
H10N3 ASCENSION HYDR 138.42 155 T T 22 52 07.4
baz=204,slow=75,SNR=260
H10N1 ASCENSION HYDR 138.43 155 T T 22 52 02.4
baz=204,slow=75,SNR=259
H10N2 ASCENSION HYDR 138.44 155 T T 22 52 08.8
baz=204,slow=75,SNR=252
ARCES ARCESS Array B 138.98 348 PKPpre 20 16 11.8
ARCES ARCESS Array B 138.98 348 PKhKP PKPpre 20 16 11.5
comp=Z,1.3nm,0.4s,baz=61,slow=2.6,SNR=17
ARCES ARCESS Array B 138.98 348 PKHKP PKPpre 20 16 11.8
KIF Kilpisjarvi 140.24 350 *eP* **Pdif 20 13 45.8 +8.5**
BELG Belogornoye 140.54 317 *i* PKiKP **PKPdf 20 16 22.7 0.0**
BELG *i* 20 16 26.8
BELG pmax pmax
comp=Z,2.0nm,0.9s
KLMR Klimovskoe 141.14 332 *e* PKiKP **PKPdf 20 16 23.0 -0.5**
KLMR pmax pmax
comp=Z,37nm,2.0s
AKT Akhty 142.04 299 *e* PKiKP **PKPdf 20 16 26.0 +0.1**
AKT pmax pmax
comp=Z,24nm,1.6s
VRH Novokhopyorsk 144.39 316 *e* PKiKP **PKPab 20 16 26.5 -1.3**
VRH pmax pmax
comp=Z,4.0nm,0.9s
MOS Moscow 144.71 325 *i* PKiKP **PKPab 20 16 27.1 -1.7**
MOS pmax pmax
comp=Z,48nm,1.5s
OZAP Van, Ozalp-Mer 144.94 295 ⇑P **PKPdf 20 16 31.0 -0.3**
GOF Gofitskoye 145.10 306 *ce* PKiKP **PKPbc 20 16 29.8 -0.8**
KBZ Khabaz 145.41 304 PKPbc **PKPab 20 16 31.4 -0.4**
comp=Z,7.8nm,0.8s,baz=265,slow=1.3,SNR=8.7
LPSR Galich'ya Gora 145.47 320 *e* PKP2 **PKPdf 20 16 29.3 -2.1**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 145.53 304 **PKPdf 20 16 28.5 -3.5**
KIV Kislovodsk 145.53 304 ⇑P **PKPbc 20 16 31.9 -0.2**
KIV Kislovodsk 145.53 304 ⇑PKiKP **PKPbc 20 16 31.9 -0.2**
FIA1 FINESS Array S 145.53 340 **PKPdf 20 16 30.5 -0.7**
FINES FINESS Array B 145.53 340 PKPbc **PKPdf 20 16 30.7 -0.5**
comp=Z,50nm,0.5s,baz=58,slow=4.1,SNR=390
OBN Obninsk 145.54 325 **PKPdf 20 16 30.2 -1.2**
OBN Obninsk 145.54 325 *c i* PKP2 **PKPdf 20 16 30.5 -0.9**
OBN *e* 20 19 59.5
OBN *e* PPP PPP 20 23 04.4
OBN MLR MLR
comp=Z,152nm,21.0s
KARS Kars 145.59 298 **PKPab 20 16 33.0 +0.1**
KARS Kars 145.59 298 PKiKP **PKPab 20 16 33.0 +0.1**
NSS Namsos 145.66 352 *eP* **PKPbc 20 16 31.3 -0.4**
VORR Voronezh 145.69 318 *e* PKP2 **PKPdf 20 16 29.8 -2.0**
VORR pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 145.89 318 *e* PKiKP **PKPdf 20 16 30.6 -1.6**
VSR pmax pmax
comp=Z,20nm,1.0s
VORD Divnogorie 145.91 317 *e* PKiKP **PKPdf 20 16 31.2 -1.0**
VORD pmax pmax
comp=Z,10.0nm,1.0s
SOC Sochi 147.71 304 *e* PKiKP **PKPdf 20 16 35.2 -0.3**
SOC *e* 20 20 04.5
SOC *e* PPP PPP 20 23 21.6
SOC *e* SSS SSS 20 44 41.2
SOC MLR MLR
comp=Z,117nm,21.0s
MOL Molde 148.00 355 *eP* **PKPbc 20 16 38.0 -0.5**
DOMB Dombas 148.40 354 *eP* **PKPbc 20 16 39.6 0.0**
AKN Aaknes 148.43 356 *eP* **PKiKP 20 16 40.4 -0.9**
FOO Floro 149.11 357 *eP* **PKPbc 20 16 40.9 -0.4**
NB2 NORSAR Subarra 149.14 351 PKP **PKPbc 20 16 41.0 -0.5**
comp=Z,45nm,1.0s,baz=15,slow=2.6
NOA NORSAR Array B 149.14 351 PKPbc **PKPbc 20 16 41.2 -0.4**
comp=Z,12nm,0.8s,baz=14,slow=4.2,SNR=32
NC602 NORSAR Array S 149.39 351 *eP* **PKPbc 20 16 41.7 -0.4**
HYA Hoyanger 149.48 356 *eP* **PKPbc 20 16 42.3 0.0**
HFS Hagfors 149.63 349 PKPbc **PKPbc 20 16 42.3 -0.5**
comp=Z,14nm,0.6s,baz=27,slow=2.5,SNR=42
SUE Sulen 149.66 357 *eP* **PKPbc 20 16 42.6 -0.1**
SKAR Skarslia 149.81 354 *eP* **PKiKP 20 16 43.6 -0.5**
MNK Minsk 149.96 330 *i* PKP2 **PKiKP 20 16 43.9 -0.7**
MNK *i* 20 20 19.1
MNK *i* PPP PPP 20 23 36.5
MNK *i* 20 23 45.8
MNK *i* SSS SSS 20 45 13.3
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=Z,44nm,1.0s
MNK pmax pmax
comp=E,17nm,0.9s
MNK MLR MLR
comp=E,373nm,21.0s
MNK MLR MLR
comp=Z,238nm,23.0s
MNK MLR MLR

	comp=N,126nm,23.0s							
NACGM	**Naroch**	**150.16**	**331**	⇓	*i* PKP	**PKiKP**	**20 16 44.7**	**-0.3**
	comp=Z,50nm,1.1s,baz=47							
ASK	**Askoy**	**150.22**	**357**		*e*P	**PKPbc**	**20 16 43.6**	**-0.5**
OSL	**Oslo**	**150.27**	**351**		*e*P	**PKiKP**	**20 16 44.9**	**-0.1**
BER	**Bergen**	**150.31**	**357**		*e*P	**PKiKP**	**20 16 44.3**	**-0.8**
KONO	**Kongsberg**	**150.69**	**352**		*e*P	**PKiKP**	**20 16 45.3**	**-0.7**
ODD1	**Odda**	**150.70**	**355**		*e*P	**PKiKP**	**20 16 46.2**	**+0.2**
STRU	**Stroemstad**	**151.08**	**350**		*i* P	**PKPbc**	**20 16 45.8**	**-0.4**
SIM	**Simferopol'**	**151.27**	**309**		*i* PKIKP	**PKPbc**	**20 16 45.8**	**-1.3**
SIM					*e*		20 20 27.4	
SIM					*e*PPP	PPP	20 23 46.1	
SIM					pmax	pmax		
	comp=Z,27nm,1.2s							
SIM					pmax	pmax		
	comp=Z,18μm,14.9s							
SIM					pmax	pmax		
	comp=Z,74nm,26.0s							
AKASG	**Malin Array Be**	**151.66**	**322**		PKPbc	**PKiKP**	**20 16 48.0**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=41,slow=1.3,SNR=4.7							
AKASG	**Malin Array Be**	**151.66**	**322**		PKiKP	**PKiKP**	**20 16 48.0**	**-0.2**
KIEV	**Kiev**	**151.68**	**322**	⇑	P	**PKPbc**	**20 16 47.2**	**-0.6**
KIEV	**Kiev**	**151.68**	**322**	⇑	PKIKP	**PKPbc**	**20 16 47.2**	**-0.6**
AK09	**Malin Array Si**	**151.68**	**322**		PKP	**PKPdf**	**20 16 40.9**	**-0.6**
MMAI	**Mount Meron Ar**	**151.73**	**283**		PKPbc	**PKiKP**	**20 16 50.2**	**+1.1**
	comp=Z,4.1nm,0.3s,baz=88,slow=6.8,SNR=30							
BORU	**Boraas**	**152.15**	**348**		*i* P	**PKPbc**	**20 16 48.0**	**-0.7**
HOMB	**Homborsund**	**152.16**	**353**		*e*P	**PKiKP**	**20 16 49.2**	**+0.3**
HOMB	**Homborsund**	**152.16**	**353**		*i* P	**PKPbc**	**20 16 48.0**	**-0.7**
ONAU	**Onsala**	**152.53**	**348**		*i* P	**PKPbc**	**20 16 48.8**	**-0.7**
BLEU	**Blekinge**	**152.72**	**343**		*i* P	**PKPbc**	**20 16 49.3**	**-0.7**
KIRS	**Kirsehir-Merke**	**152.75**	**297**	⇑	P	**PKPbc**	**20 16 50.5**	**-0.3**
FABU	**Falkenberg**	**152.76**	**347**		*i* P	**PKPbc**	**20 16 49.6**	**-0.4**
BRTR	**Keskin Array B**	**152.88**	**298**		PKPbc	**PKPbc**	**20 16 50.7**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=107,slow=3.0,SNR=15							
DEL	**Delary**	**153.02**	**346**	⇓	*i* P	**PKiKP**	**20 16 50.4**	**-0.4**
ANTO	**Ankara**	**153.49**	**298**	⇓	P	**PKiKP**	**20 16 53.1**	**+0.6**
ANTO	**Ankara**	**153.49**	**298**	⇓	PKIKP	**PKiKP**	**20 16 53.1**	**+0.6**
SORM	**Soroca**	**153.54**	**318**	⇓	P	**PKiKP**	**20 16 51.7**	**-0.4**
SORM	**Soroca**	**153.54**	**318**	⇓	PKIKP	**PKiKP**	**20 16 51.7**	**-0.4**
BJUU	**Bjuv**	**153.57**	**346**		*i* P	**PKiKP**	**20 16 51.5**	**-0.4**
MILM	**Milestii Mici**	**153.88**	**316**	⇓	P	**PKiKP**	**20 16 57.7**	**+4.8**
MILM	**Milestii Mici**	**153.88**	**316**	⇓	PKIKP	**PKiKP**	**20 16 57.7**	**+4.8**
DBIC	**Dimbokro**	**155.14**	**163**		PKP	**PKPdf**	**20 16 49.0**	**+1.3**
	comp=Z,4.4nm,0.8s,baz=145,slow=7.0,SNR=3.1							
DBIC	**Dimbokro**	**155.14**	**163**		PKIKP	**PKPdf**	**20 16 49.0**	**+1.3**
EKA	**Eskdalemuir Ar**	**155.16**	**7**		PKPbc	PKPdf	20 16 55.0	+8.7
	comp=Z,0.3nm,0.4s,baz=0.2,slow=2.9,SNR=3.5							
EKA					PKPab	**PKPab**	**20 17 11.4**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=358,slow=5.6,SNR=5.4							
TESR	**Tescani**	**155.37**	**317**	⇓	P	**PKPab**	**20 17 11.9**	**-0.7**
HARR	**Harsova**	**155.44**	**312**	⇓	P	**PKPab**	**20 17 13.7**	**+0.8**
HARR	**Harsova**	**155.44**	**312**	⇓	PKP2	**PKPab**	**20 17 13.7**	**+0.8**
BURAR	**Bucovina Array**	**155.59**	**320**	⇑	P	PKPab	20 17 03.7	-10
BURAR	**Bucovina Array**	**155.59**	**320**	⇑	PKIKP	PKPab	20 17 03.7	-10
VRI	**Vrincioaia**	**155.65**	**315**	⇑	P	**PKPab**	**20 17 14.2**	**+0.4**
VRI	**Vrincioaia**	**155.65**	**315**	⇑	PKP2	**PKPab**	**20 17 14.2**	**+0.4**
TURR	**Turia**	**155.98**	**316**	⇓	P	**PKPab**	**20 17 15.9**	**+0.7**
KOLS	**Kolonicke sedl**	**156.29**	**326**		*e*PKIKP	PKPdf	20 16 59.4	+11
MLR	**Muntele Rosu**	**156.31**	**315**	⇑	P	**PKPab**	**20 17 16.7**	**-0.1**
MLR	**Muntele Rosu**	**156.31**	**315**	⇑	PKP2	**PKPab**	**20 17 16.7**	**-0.1**
VOIR		**156.88**	**316**	⇓	P	**PKPab**	**20 17 16.3**	**-2.9**
VOIR		**156.88**	**316**	⇓	PKP2	**PKPab**	**20 17 16.3**	**-2.9**
HUMR	**Humele**	**157.39**	**314**	⇑	P	**PKPab**	**20 17 20.9**	**-0.4**
COPA	**Copaceanca**	**157.43**	**313**	⇑	P	**PKPab**	**20 17 17.9**	**-3.6**
MORC	**Moravsky Berou**	**157.75**	**333**		*e*PKP	**PKPdf**	**20 16 49.1**	**-0.9**
CLL	**Collm**	**157.96**	**342**		*e*PKIKP	**PKPdf**	**20 16 48.0**	**-2.1**
CLL					*i*		20 17 00.9	
CLL					*i*		20 17 20.9	
CLL					pmax	pmax		
	comp=Z,49nm,2.6s							
CLL					pmax	pmax		
	comp=Z,11nm,1.3s							
CLL					pmax	pmax		
	comp=Z,15nm,1.1s							
BRG	**Berggiesshubel**	**158.07**	**340**	⇓	*e*PKPf		20 16 50.8	
BRG					Amp		20 16 51.3	
	comp=Z,8.9nm,1.5s							
BRG					PKPab	**PKPab**	**20 17 22.5**	**-1.4**
BRG					Amp		20 17 24.7	
	comp=Z,11nm,1.0s							
BRG	**Berggiesshubel**	**158.07**	**340**		PP	PP	20 20 56.0	-7.5
VYHS	**Vyhne**	**158.20**	**329**		*e*PKIKP	PKPdf	20 17 03.0	+12
VYHS					*e*		20 17 24.8	
SURR	**Surduc**	**158.41**	**319**	⇓	P	**PKPab**	**20 17 25.1**	**-0.5**
JAVC	**Velka Javorina**	**158.43**	**331**		*e*PKP	**PKPdf**	**20 16 50.4**	**-0.5**
VRAC	**Vranov**	**158.50**	**334**		*e*PKP	**PKPdf**	**20 16 51.5**	**+0.6**
KRUC	**Moravsky**	**158.77**	**333**		*e*PKP	**PKPdf**	**20 16 51.0**	**-0.2**
CONA	**Conrad Observa**	**159.90**	**332**		*i* PKP	**PKPdf**	**20 16 52.3**	**-0.4**
	comp=Z,3.0nm,1.2s							
CONA					*e*PKP	**PKPab**	**20 17 32.2**	**+0.1**
	comp=Z,7.1nm,1.4s							
RONA	**Rosalia, Austr**	**159.91**	**331**		*i* PKP	**PKPdf**	**20 16 51.7**	**-0.9**
	comp=Z,1.8nm,0.9s							
RONA					*i* PKP	**PKPab**	**20 17 32.8**	**+0.7**
	comp=Z,5.6nm,1.1s							
GERES	**GERESS Array B**	**159.92**	**337**		PKP	**PKPdf**	**20 16 52.2**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=56,slow=0.9,SNR=5.5							
GERES					PKPab	**PKPab**	**20 17 31.6**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=37,slow=3.6,SNR=4.7							
MORH	**Mrgy, Hungar**	**159.95**	**325**	⇓	P	**PKPdf**	**20 16 52.1**	**-0.5**
ARSA	**Arzberg**	**160.58**	**332**		*i* PKP	**PKPdf**	**20 16 53.6**	**+0.2**
	comp=Z,2.6nm,0.7s							
ARSA					*e*pPKP	**pPKPab**	**20 17 41.1**	**-6.7**
	comp=Z,0.6nm,0.4s							
BIOA	**Bad Ischl, Aus**	**160.94**	**336**		*e*PKP	**PKPdf**	**20 16 51.6**	**-2.1**
	comp=Z,0.9nm,0.6s							
BIOA					*e*PKP	**PKPab**	**20 17 36.5**	**0.0**
	comp=Z,6.6nm,1.1s							
SOKA	**Soboth**	**161.24**	**331**		*i* PKP	**PKPdf**	**20 16 54.0**	**-0.2**
	comp=Z,5.8nm,1.8s							
SOKA					*i* PKP	**PKPab**	**20 17 36.8**	**-1.2**
	comp=Z,1.4nm,0.7s							
LESA	**Schwarzleotal**	**161.50**	**337**		*i* PKP	**PKPdf**	**20 16 54.6**	**+0.1**
	comp=Z,3.1nm,0.9s							
LESA					*i* PKP	**PKPab**	**20 17 40.1**	**+1.0**
	comp=Z,8.1nm,1.2s							
OBKA	**Obir**	**161.57**	**332**		*i* PKP	**PKPdf**	**20 16 53.5**	**-1.0**
	comp=Z,3.6nm,1.2s							
OBKA					*e*pPKP	**PKPab**	**20 17 42.3**	**+2.8**
	comp=Z,2.5nm,0.8s							
MYKA	**Terra Mystica**	**161.83**	**334**		*e*PKP	**PKPdf**	**20 16 54.2**	**-0.6**
	comp=Z,0.9nm,0.4s							
MYKA					*e*PKP	**PKPab**	**20 17 39.8**	**-0.8**
	comp=Z,3.2nm,0.9s							
WATA	**Walderalm**	**161.93**	**339**		*e*PKP	**PKPdf**	**20 16 55.1**	**+0.2**
	comp=Z,4.5nm,1.1s							
WATA					*e*PKP	**PKPab**	**20 17 41.3**	**+0.2**
	comp=Z,3.3nm,0.9s							
LJU	**Ljubljana**	**161.96**	**331**		*i* PKPdf	**PKPdf**	**20 16 54.3**	**-0.6**
WTTA	**Wattenberg**	**161.98**	**339**		*i* PKP	**PKPdf**	**20 16 54.5**	**-0.6**
	comp=Z,4.9nm,1.0s							
WTTA					*e*PKP	**PKPab**	**20 17 39.4**	**-2.0**
	comp=Z,1.9nm,0.6s							
RETA	**Reutte**	**162.04**	**341**		*e*PKP	**PKPdf**	**20 16 55.1**	**+0.1**
	comp=Z,3.5nm,1.3s							
RETA					*e*PKP	**PKPab**	**20 17 41.0**	**-0.4**
	comp=Z,4.9nm,0.9s							
MOTA	**Moosalm**	**162.07**	**340**		*i* PKP	**PKPdf**	**20 16 55.2**	**+0.1**
	comp=Z,4.3nm,1.2s							
MOTA					*e*PKP	**PKPab**	**20 17 40.4**	**-1.2**
	comp=Z,13nm,1.1s							
BOJS	**Bojanci**	**162.07**	**329**		*e*PKPdf	**PKPdf**	**20 16 54.2**	**-0.7**
ABTA	**Abfaltersbach**	**162.14**	**336**		*i* PKP	**PKPdf**	**20 16 54.9**	**-0.2**
	comp=Z,6.4nm,1.4s							
ABTA					*i* PKP	**PKPab**	**20 17 40.9**	**-1.0**
	comp=Z,3.6nm,1.2s							
SQTA	**Sankt Quirin**	**162.15**	**339**		*e*PKP	**PKPdf**	**20 16 55.1**	**0.0**
	comp=Z,2.5nm,0.8s							
SQTA					*i* PKP	**PKPab**	**20 17 41.7**	**-0.3**
	comp=Z,5.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**162.45**	**179**		PKP	**PKPdf**	**20 16 57.4**	**+1.1**
	comp=Z,2.3nm,0.3s,baz=162,slow=1.8,SNR=2.1							
TORD					PKPab	**PKPab**	**20 17 45.1**	**+1.2**
	comp=Z,7.1nm,0.7s,baz=174,slow=5.4,SNR=6.6							
DAVA	**Damuels**	**162.46**	**342**		*i* PKP	**PKPdf**	**20 16 55.6**	**0.0**
	comp=Z,6.8nm,1.2s							
DAVA					*e*PKP	**PKPab**	**20 17 38.2**	**-5.1**
	comp=Z,4.8nm,0.8s							
FETA	**Feichten**	**162.47**	**340**		*e*PKP	**PKPdf**	**20 16 55.1**	**-0.4**
	comp=Z,5.0nm,1.1s							
FETA					*i* PKP	**PKPab**	**20 17 43.7**	**+0.2**
	comp=Z,7.3nm,1.1s							
TIP	**Timpagrande**	**165.38**	**309**	⇑	P	**PKPdf**	**20 16 58.9**	**+0.5**
ESDC	**Sonseca Array**	**169.82**	**28**		PKP	**PKPdf**	**20 17 02.4**	**+0.9**
	comp=Z,1.8nm,1.1s,baz=337,slow=2.8,SNR=7.8							
ESDC					PKPab	**PKPab**	**20 18 16.6**	**+0.7**
	comp=Z,1.4nm,0.9s,baz=335,slow=3.3,SNR=4.4							

SJA ***01*** *20:10:01.3±0.7,21.°05S×68.°72W,h137km±4km, ML3.3, MW3.5*
GUC ***01*** *20:10:04.3±0.7,21.°07S×68.°76W,h117km±4km, ML3.5*
ISC 01 20:10:02.7±1.5, 21.°07S±0.°03×68.°80W±0.°05, h132km±11km, n29, σ1.°06/55, 2C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°		Phase	ID	Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.65**	**273**	⇓	*e*P		**Pn**	**Pn**	**20 10 22.8**	**-0.2**
PB01					*e*S		**Sn**	**Sn**	**20 10 36.8**	**-1.6**
PB01					IAML				20 10 38.2	
	comp=N,2μm,0.4s									
PB01	**IPOC Station P**	**0.65**	**273**		*e*P		**Pn**	**Pn**	**20 10 22.8**	**-0.2**
PB01					*e*S		**Sn**	**Sn**	**20 10 39.2**	**+0.8**
PB01					IAML				20 10 41.0	
	comp=Z,430nm,0.3s									
PB09	**IPOC Station P**	**0.83**	**210**	⇑	*e*P		**Pn**	**Pn**	**20 10 24.8**	**+0.3**
PB09					*e*S		**Sn**	**Sn**	**20 10 40.8**	**-0.3**
PB09					IAML				20 10 42.0	
	comp=N,1μm,0.4s									
PB09	**IPOC Station P**	**0.83**	**210**		*e*P		**Pn**	**Pn**	**20 10 24.9**	**+0.3**
PB09					*e*S		**Sn**	**Sn**	**20 10 41.5**	**+0.4**
PB09					IAML				20 10 42.1	
	comp=Z,796nm,0.5s									
PB08	**IPOC Station P**	**0.99**	**340**	⇓	*e*P		**Pn**	**Pn**	**20 10 26.2**	**+0.1**
PB08					*e*S		**Sn**	**Sn**	**20 10 42.9**	**-1.0**
PB08					IAML				20 10 44.5	
	comp=N,713nm,0.2s									
PB08	**IPOC Station P**	**0.99**	**340**		*e*P		**Pn**	**Pn**	**20 10 25.5**	**-0.6**
PB08					*e*S		**Sn**	**Sn**	**20 10 44.0**	**+0.2**
PB08					IAML				20 10 45.3	
	comp=Z,350nm,0.3s									
PATCX	**Punta Patache**	**1.29**	**281**	⇓	*e*P		**Pn**	**Pn**	**20 10 29.3**	**+0.5**
PATCX					*e*S		**Sn**	**Sn**	**20 10 48.0**	**-0.6**
PATCX					IAML				20 10 51.7	
	comp=E,1μm,0.3s									
PATCX	**Punta Patache**	**1.29**	**281**		*e*P		**Pn**	**Pn**	**20 10 29.1**	**+0.4**
PATCX					*e*S		**Sn**	**Sn**	**20 10 50.5**	**+1.9**
PATCX					IAML				20 10 50.9	
	comp=Z,599nm,0.4s									
HMBC	**Humberstone**	**1.29**	**308**	⇓	*e*P		**Pn**	**Pn**	**20 10 28.9**	**0.0**
HMBC					*e*S		**Sn**	**Sn**	**20 10 47.8**	**-0.9**
HMBC					IAML				20 10 50.0	
	comp=N,1μm,0.4s									
HMBC	**Humberstone**	**1.29**	**308**		*e*P		**Pn**	**Pn**	**20 10 28.8**	**0.0**
HMBC					*e*S		**Sn**	**Sn**	**20 10 49.3**	**+0.6**
TA01	**Diego Aracena**	**1.39**	**291**		*i* P		**Pn**	**Pn**	**20 10 29.8**	**+0.1**
TA01					*i* S		**Sn**	**Sn**	**20 10 49.9**	**-0.3**
TA01					IAML				20 10 52.0	
	comp=E,671nm,0.3s									
TA01	**Diego Aracena**	**1.39**	**291**		*e*P		**Pn**	**Pn**	**20 10 29.3**	**-0.4**
TA01					*e*S		**Sn**	**Sn**	**20 10 51.1**	**+0.9**
TA01					IAML				20 10 52.1	
	comp=Z,266nm,0.3s									
GO01	**Chusmiza**	**1.45**	**345**	⇓	*e*P		**Pn**	**Pn**	**20 10 31.0**	**+0.1**
GO01					*e*S		**Sn**	**Sn**	**20 10 52.0**	**-0.3**
GO01					IAML				20 10 54.6	
	comp=N,2μm,0.1s									
GO01	**Chusmiza**	**1.45**	**345**		*e*P		**Pn**	**Pn**	**20 10 30.9**	**+0.1**
GO01					*e*S		**Sn**	**Sn**	**20 10 52.7**	**+0.4**
TA02	**Huaiquique**	**1.48**	**302**	⇑	*e*P		**Pn**	**Pn**	**20 10 30.3**	**-0.4**
TA02					*e*S		**Sn**	**Sn**	**20 10 51.6**	**-0.5**
TA02					IAML				20 10 54.4	
	comp=E,948nm,0.1s									
TA02	**Huaiquique**	**1.48**	**302**		*e*P		**Pn**	**Pn**	**20 10 30.8**	**+0.1**
TA02					*e*S		**Sn**	**Sn**	**20 10 53.2**	**+1.1**
TA02					IAML				20 10 57.2	
	comp=Z,451nm,0.1s									
PB11	**IPOC Station P**	**1.53**	**328**		*e*P		**Pn**	**Pn**	**20 10 31.4**	**-0.2**
PB11					*e*S		**Sn**	**Sn**	**20 10 52.7**	**-0.8**
PB11					IAML				20 10 54.8	
	comp=E,1μm,0.2s									
PB11	**IPOC Station P**	**1.53**	**328**		*e*P		**Pn**	**Pn**	**20 10 31.4**	**-0.2**
PB11					IAML				20 10 54.2	
	comp=Z,351nm,0.2s									
PB06	**IPOC Station P**	**1.78**	**204**		*e*P		**Pn**	**Pn**	**20 10 34.8**	**+0.6**
PB06					*e*S		**Sn**	**Sn**	**20 10 58.6**	**+0.2**
PB06	**IPOC Station P**	**1.78**	**204**		*e*P		**Pn**	**Pn**	**20 10 34.9**	**+0.6**
PB06					*e*S		**Sn**	**Sn**	**20 10 59.4**	**+1.0**
PB06					IAML				20 11 02.6	
	comp=Z,227nm,0.3s									
AF01	**San Pedro de A**	**1.96**	**163**		*e*P		**Pn**	**Pn**	**20 10 38.0**	**+1.5**
AF01					*e*S		**Sn**	**Sn**	**20 11 02.4**	**-0.1**
AF01					IAML				20 11 41.5	
	comp=Z,155nm,0.3s									
PB05	**IPOC Station P**	**2.20**	**216**		*e*P		**Pn**	**Pn**	**20 10 39.6**	**+0.3**
PB05					*i* S		**Sn**	**Sn**	**20 11 05.7**	**-1.8**
PB05					IAML				20 11 08.9	
	comp=E,123nm,0.2s									
PB05	**IPOC Station P**	**2.20**	**216**		*e*P		**Pn**	**Pn**	**20 10 39.8**	**+0.5**
PB05					*e*S		**Sn**	**Sn**	**20 11 05.8**	**-1.7**
PB05					IAML				20 11 09.2	
	comp=Z,100nm,0.4s									
PB16	**IPOC Station P**	**2.81**	**346**		*e*P		**Pn**	**Pn**	**20 10 48.6**	**+1.2**
PB16					IAML				20 11 33.2	
	comp=Z,60nm,0.4s									
PB10	**IPOC Station P**	**2.92**	**213**		*i* P		**Pn**	**Pn**	**20 10 48.5**	**+0.1**
PB10					*i* S		**Sn**	**Sn**	**20 11 19.1**	**-4.5**
PB10					IAML				20 11 46.9	
	comp=E,53nm,0.3s									
PB10	**IPOC Station P**	**2.92**	**213**		*e*P		**Pn**	**Pn**	**20 10 48.7**	**+0.3**
PB10					*e*S		**Sn**	**Sn**	**20 11 24.4**	**+0.8**
PB10					IAML				20 11 42.5	
	comp=Z,35nm,0.5s									
YJA	**Yavi**	**3.25**	**110**		*e*P		**Pn**	**Pn**	**20 10 54.1**	**+1.1**
YJA					*e*S		**Sn**	**Sn**	**20 11 28.9**	**-2.9**
PB14	**IPOC Station P**	**3.83**	**202**		*e*P		**Pn**	**Pn**	**20 11 01.0**	**+0.5**
PB14					IAML				20 11 50.1	
	comp=Z,32nm,0.5s									
GO02	**Mina Guanaco**	**4.13**	**190**		*e*P		**Pn**	**Pn**	**20 11 04.6**	**0.0**
GO02					*e*S		**Sn**	**Sn**	**20 11 53.4**	**+0.9**

ATH 01 20:14:36.8, 37.°64N×20.°75E, h16km±1km, ML1.8/3, Manual Solution by A.Fokaefs First location: 2019/07/01 20:16:49, This location: 2019/07/02 04:28:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.10**	**43**	P		P	Pg	20 14 40.3	0.0
LTHK				S			Sg	20 14 41.9	-0.6
ORTH	**Orthonies,Zaky**	**0.22**	**349**	P		P	Pg	20 14 42.0	+0.1
ORTH				S			Sg	20 14 45.1	-0.2
PSDA	**Pessada-Kefalo**	**0.49**	**345**	P		P	Pg	20 14 46.7	0.0
VLS	**Valsamata**	**0.56**	**347**	P		P	Pg	20 14 47.4	-0.4
VLS				S			Sg	20 14 55.5	+0.2
DMLN	**Damoulianata-K**	**0.67**	**334**	P		P	Pg	20 14 49.6	-0.3
AXS	**Araxos**	**0.75**	**41**	P		P	Pg	20 14 51.1	-0.3
DRO	**Drossia**	**0.82**	**67**	P		P	Pb	20 14 52.7	0.0
FSK	**Fiskardo**	**0.83**	**350**	P		P	Pb	20 14 52.3	-0.6
FSK				S			Sg	20 15 04.2	+0.1
NYDR	**Nydri-Lefkada**	**1.08**	**358**	P		P	Pb	20 14 56.6	-0.4

NEIC ***01*** *20:15:32.9±0.8, 19.°12N±0.°03×155.°50W±0.°04, h46km±5km, Error ellipse: s-maj=7.2km s-min=2.3km az=127.0*
HVO 01 20:15:34.3±1.3, 19.°09N±0.°05×155.°48W±0.°03, h43km±4km, ML2.4/8, ML2.5/28(NEIC), Error ellipse: s-maj=7.7km s-min=3.1km az=157.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.07**	**271**	Pn		Pn	Pn	20 15 40.3	-0.9
HTC	**Hot Caves**	**0.17**	**28**			Pn	Pn	20 15 41.1	-0.6
KHU	**Kahuku**	**0.20**	**321**			Pn	Pn	20 15 41.3	-0.9
KHU						Sn	Sn	20 15 46.6	-1.2
KHU	**Kahuku**	**0.20**	**321**	IAML				20 15 46.7	
	comp=N,444nm,0.5s								
KHU				IAML				20 15 47.0	
	comp=E,390nm,1.0s								
HLP	**Hilina Pali**	**0.26**	**38**	Pn		Pn	Pn	20 15 41.2	-1.3
HLP				IAML				20 15 48.3	
	comp=N,473nm,0.8s								
AIN	**Ainahou**	**0.28**	**4**				Sn	20 15 48.1	-0.8
AIN	**Ainahou**	**0.28**	**4**	Pn		Pn	Pn	20 15 41.8	-1.1
AIN				IAML				20 15 48.4	
	comp=N,906nm,0.5s								
AIN				IAML				20 15 55.3	
	comp=E,598nm,0.4s								
UWE	**Uwekahuna**	**0.38**	**28**	Pn		Pn	Pn	20 15 41.8	-2.0
OBL	**Observatory Le**	**0.38**	**30**				Pn	20 15 42.6	-1.2
PUH	**Pauahi**	**0.38**	**41**	Pn		Pn	Pn	20 15 42.4	-1.4
PUH				IAML				20 15 55.3	
	comp=N,279nm,0.6s								
BYL	**Byron's Ledge**	**0.38**	**33**	Pn		Pn	Pn	20 15 42.7	-1.2
BYL				IAML				20 15 54.3	
	comp=N,254nm,0.9s								
BYL				IAML				20 16 00.2	
	comp=E,396nm,0.7s								
HATHI	**Halema'uma'u T**	**0.39**	**32**				Pn	20 15 42.6	-1.4
HATHI	**Halema'uma'u T**	**0.39**	**32**	IAML				20 15 59.5	
	comp=E,378nm,0.8s								
HATHI				IAML				20 16 02.4	
	comp=N,316nm,1.0s								
KNHH	**Kane Nui o Ham**	**0.41**	**45**	Pn		Pn	Pn	20 15 41.9	-2.3
MLH	**Mauna Loa**	**0.41**	**13**	Pn		Pn	Pn	20 15 42.9	-1.5
MLH				IAML				20 15 57.3	
	comp=N,298nm,0.8s								
RSD	**Rainshed**	**0.42**	**27**	Pn		Pn	Pn	20 15 41.6	-2.7
STCH	**Steam Cracks**	**0.45**	**49**	Pn		Pn	Pn	20 15 42.1	-2.5
JCUZ	**Jacuzzi**	**0.46**	**51**				Sn	20 15 50.9	-1.4
HMH	**Humu'ula Sheep**	**0.51**	**360**				Pn	20 15 44.6	-1.1
HMH				IAML				20 16 08.0	
	comp=N,215nm,0.6s								
JOKA	**Jonika Flow**	**0.57**	**53**	Pn		Pn	Pn	20 15 44.1	-2.0
JOKA				IAML				20 16 11.8	
	comp=N,256nm,1.0s								
HUH	**Hualalai**	**0.68**	**331**	Pn		Pn	Pn	20 15 45.9	-2.0
HUH				IAML				20 16 05.2	
	comp=N,282nm,0.6s								
HUH				IAML				20 16 12.8	
	comp=E,224nm,2.1s								

NEIC ***01*** *20:16:15.2±1.1, 19.°18N±0.°03×155.°53W±0.°02, h45km±5km, Error ellipse: s-maj=4.8km s-min=2.3km az=152.0*
HVO 01 20:16:16.4±1.7, 19.°12N±0.°03×155.°49W±0.°04, h45km±1km, Md2.5/5, ML2.8/30(NEIC), Error ellipse: s-maj=6.0km s-min=3.0km az=131.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.07**	**240**				Pn	20 16 22.2	-1.4
HTC	**Hot Caves**	**0.14**	**38**				Pn	20 16 23.3	-0.6
KHU	**Kahuku**	**0.17**	**316**				Pn	20 16 23.6	-0.8
KHU	**Kahuku**	**0.17**	**316**	IAML				20 16 28.9	
	comp=N,801nm,0.5s								
KHU				IAML				20 16 29.2	
	comp=E,1μm,1.0s								
SDHHI	**Sand Hill**	**0.32**	**35**				Sn	20 16 30.5	-1.4
UWE	**Uwekahuna**	**0.35**	**32**	Pn			Pn

KHU					Sn	20 21 25.8	-1.8	
KHU	**Kahuku**	**0.22**	**311**	IAML		20 21 27.0		
	comp=E,902nm,1.2s							
KHU				IAML		20 21 34.6		
	comp=N,786nm,0.9s							
HLP	**Hilina Pali**	**0.23**	**32**		Pn	20 21 21.3	-0.6	
HLP					Sn	20 21 27.1	-0.3	
HLP	**Hilina Pali**	**0.23**	**32**	IAML		20 21 27.6		
	comp=E,2μm,1.1s							
HLP				IAML		20 21 35.4		
	comp=N,1μm,0.9s							
AIN	**Ainahou**	**0.27**	**356**		Pn	20 21 21.6	-0.8	
AIN	**Ainahou**	**0.27**	**356**	IAML		20 21 27.7		
	comp=E,2μm,0.8s							
AIN				IAML		20 21 28.2		
	comp=N,3μm,1.1s							
SDHHI	**Sand Hill**	**0.32**	**25**		Pn	20 21 21.7	-1.1	
PUH	**Pauahi**	**0.34**	**38**	IAML		20 21 28.4		
	comp=E,752nm,0.9s							
PUH				IAML		20 21 29.6		
	comp=N,765nm,1.0s							
BYL	**Byron's Ledge**	**0.35**	**28**	IAML		20 21 33.1		
	comp=N,617nm,2.6s							
BYL				IAML		20 21 40.3		
	comp=E,876nm,0.9s							
HATHI	**Halema'uma'u T**	**0.36**	**28**	IAML		20 21 30.7		
	comp=E,1μm,1.2s							
MLH	**Mauna Loa**	**0.40**	**7**	IAML		20 21 29.9		
	comp=N,916nm,1.1s							
MLH				IAML		20 21 35.8		
	comp=E,732nm,1.1s							
MWH	**Mokuaweoweo**	**0.41**	**339**	IAML		20 21 35.4		
	comp=N,812nm,1.0s							
HMH	**Humu'ula Sheep**	**0.50**	**355**	IAML		20 21 31.8		
	comp=E,650nm,0.8s							
JOKA	**Jonika Flow**	**0.53**	**51**		Pn	20 21 24.4	-0.9	
JOKA				IAML		20 21 36.6		
	comp=N,626nm,1.1s							
POHA	**Pohakuloa**	**0.66**	**352**		Pn	20 21 25.6	-1.6	
POHA	**Pohakuloa**	**0.66**	**352**	IAML		20 21 52.0		
	comp=N,401nm,0.9s							
POHA				IAML		20 21 53.8		
	comp=N,387nm,1.0s							

NEIC ***01*** *20:24:33.0±1.5, 19°.15N±0°.03×155°.49W±0°.05, h48km±5km, Error ellipse: s-maj=7.3km s-min=3.2km az=115.0*

HVO 01 20:24:34.5±1.8, 19°.09N±0°.05×155°.48W±0°.04, h43km±5km, Md2.4/5, ML2.5/24(NEIC), Error ellipse: s-maj=9.0km s-min=3.2km az=149.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.17**	**26**		Pn	20 24 41.2	-0.7
KHU	**Kahuku**	**0.21**	**320**		Pn	20 24 39.4	-3.0
KHU				IAML		20 24 54.7	
	comp=E,300nm,0.9s						
HLP	**Hilina Pali**	**0.26**	**37**	Pn	Pn	20 24 41.2	-1.5
HLP				IAML		20 24 47.8	
	comp=N,440nm,1.7s						
AIN	**Ainahou**	**0.28**	**3**		Sn	20 24 48.1	-0.9
KKO	**Keanakako'i**	**0.37**	**33**		Pn	20 24 42.8	-1.1
PUH	**Pauahi**	**0.38**	**41**	Pn	Pn	20 24 41.6	-2.3
PUH				IAML		20 24 52.1	
	comp=E,293nm,0.5s						
PUH				IAML		20 24 57.6	
	comp=N,303nm,0.6s						
BYL	**Byron's Ledge**	**0.38**	**32**	Pn	Pn	20 24 41.9	-2.1
BYL				IAML		20 24 52.9	
	comp=E,331nm,0.6s						
BYL				IAML		20 24 57.0	
	comp=N,266nm,0.5s						
HATHI	**Halema'uma'u T**	**0.39**	**31**		Pn	20 24 43.0	-1.2
HATHI	**Halema'uma'u T**	**0.39**	**31**	IAML		20 24 54.2	
	comp=N,368nm,0.6s						
KNHH	**Kane Nui o Ham**	**0.41**	**45**		Pn	20 24 43.3	-1.1
MLH	**Mauna Loa**	**0.41**	**12**	Pn	Pn	20 24 42.8	-1.8
MLH				IAML		20 24 50.1	
	comp=E,277nm,0.6s						
STCH	**Steam Cracks**	**0.44**	**48**	Pn	Pn	20 24 42.1	-2.7
STCH				IAML		20 24 48.4	
	comp=N,208nm,0.5s						
HMH	**Humu'ula Sheep**	**0.51**	**359**		Pn	20 24 44.6	-1.2
HMH	**Humu'ula Sheep**	**0.51**	**359**	IAML		20 24 52.1	
	comp=N,286nm,0.3s						
HMH				IAML		20 24 52.4	
	comp=E,523nm,0.6s						
JOKA	**Jonika Flow**	**0.56**	**52**	Pn	Pn	20 24 43.1	-3.1
JOKA				IAML		20 24 59.0	
	comp=N,290nm,0.8s						

DJA 01 20:32:00.6±1.0, 2°S±3°×12°3E±°, h12km±8km, M3.8/14, mb3.9/3, MLv3.8/14, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.81**	**2**	P	Pg	20 32 16.5	+0.1
APSI	**Ampana**	**1.44**	**311**	P	Pn	20 32 26.2	-0.3
KDI	**Kendari**	**2.09**	**183**	P	Pn	20 32 35.0	-0.4
MRSI	**Marisa**	**2.46**	**341**	P	Pn	20 32 39.7	-0.8
PCI	**Palu**	**3.05**	**288**	P	Pn	20 32 49.7	+0.9
TTSI	**Tana Toraja**	**3.15**	**248**	P	Pn	20 32 49.8	-0.2
SANI	**Sanana**	**3.25**	**93**	P	Pn	20 32 50.1	-1.4
MPSI	**Mapaga**	**3.58**	**308**	P	Pn	20 32 55.4	-0.6
SPSI	**Sidrap Palu**	**3.63**	**235**	P	Pn	20 32 57.3	+0.6
BNSI	**Bone**	**3.64**	**226**	P	Pn	20 32 57.2	+0.3
BSSI	**Bau Bau, Buton**	**4.81**	**208**	P	Pn	20 33 12.7	-0.2
EDFI	**Ende, Flores**	**6.92**	**189**	P	Pn	20 33 43.1	+1.0

IDC ***01*** *20:35:44.7±1.4, 79°.67N×1°.86E, h0km, mb3.6/4, mbtmp3.9/10, ML3.5/5, MS3.1/6, Error ellipse: s-maj=29.4km s-min=21.4km az=30.0*

DNK ***01*** *20:35:47.6±3.4, 79°.78N×3°.39E, h32km±52km, ML2.6*

BER ***01*** *20:35:48.3±3.3, 79°.62N×3°.39E, h17km±20km, mb(Pn)4.5, ML4.0(NAO), Confirmed Earthquake*

KOLA ***01*** *20:35:48.1, 79°.57N×4°.41E, h0km, ML3.4, Error ellipse: s-maj=33.0km s-min=17.6km az=20.0, Greenland sea, Knipovich ridge, north*

NAO ***01*** *20:35:48.3±0.0, 79°.90N×4°.32E, h28km±9km, ML4.0*

FCIAR ***01*** *20:35:50.0, 79°.47N×4°.14E, h10km, station ZFI2 has station magnitude of 4.00 station OMEGA has station magnitude of 4.20*

ISC 01 20:35:43.2±0.7, 79°.70N±0°.06×2°.49E±0°.04, h10km, n64, σ3°37/85, mb3.5/4, MS3.1/3, 1C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.93**	**109**	Pn	**Pn**	**20 36 15.4**	**-0.5**
KBS				Sn	**Sn**	**20 36 34.7**	**-5.5**
KBS	**Kingsbay**	**1.93**	**109**	P	**Pn**	**20 36 14.8**	**-1.2**
KBS				S	**Sn**	**20 36 34.9**	**-5.3**
KBS	**Kingsbay**	**1.93**	**109**	*e*P	**Pn**	**20 36 15.1**	**-0.9**
KBS	**Kingsbay**	**1.93**	**109**	*i* P	**Pn**	**20 36 15.3**	**-0.7**
BRBB	**Barentsburg B**	**2.78**	**120**	Pn	**Pn**	**20 36 28.6**	**+0.9**
BRBB				Sn	**Sn**	**20 36 59.3**	**-1.9**
BRBB	**Barentsburg B**	**2.78**	**120**	P	**Pn**	**20 36 28.7**	**+1.0**
BRBB				S	**Sn**	**20 36 59.0**	**-2.2**
BRBB	**Barentsburg B**	**2.78**	**120**	*e*P	**Pn**	**20 36 28.0**	**+0.3**
BRBB				*e*S	**Sn**	**20 36 59.8**	**-1.5**
BRBA	**Barentsburg A**	**2.81**	**120**	Pn	**Pn**	**20 36 28.9**	**+0.8**
BRBA				Sn	**Sn**	**20 36 59.1**	**-2.7**
BRBA	**Barentsburg A**	**2.81**	**120**	*e*P	**Pn**	**20 36 28.6**	**+0.6**
BRBA				*e*S	**Sn**	**20 36 59.6**	**-2.2**
BRBA				IAML		20 37 03.1	
	comp=Z,149nm,0.2s						
SPA0	**Spitsbergen Ar**	**3.08**	**113**	Pn	**Pn**	**20 36 31.9**	**+0.1**
	baz=313,slow=8.6						
SPA0				Sn	**Sn**	**20 37 03.8**	**-4.8**
	baz=310,slow=16						
SPA0	**Spitsbergen Ar**	**3.08**	**113**	*i*P	**Pn**	**20 36 32.0**	**+0.1**
SPA0				*i* S	**Sn**	**20 37 03.7**	**-4.9**
SPA0	**Spitsbergen Ar**	**3.08**	**113**	Pn	**Pn**	**20 36 31.9**	**+0.1**
	baz=313,slow=8.6						
SPA0				Sn	**Sn**	**20 37 03.8**	**-4.8**
	baz=310,slow=16						
SPITS	**Spitsbergen Ar**	**3.08**	**113**	Pn	**Pn**	**20 36 32.1**	**+0.3**
	comp=Z,180nm,0.3s,baz=318,slow=7.8,SNR=2973						
SPITS				Sn	**Sn**	**20 37 04.0**	**-4.6**
	baz=337,slow=8.2						
SPITS	**Spitsbergen Ar**	**3.08**	**113**	P	**Pn**	**20 36 31.6**	**-0.2**
SPITS				S	**Sn**	**20 37 05.2**	**-3.4**
NOR	**Nord**		**3.65**	**311**	Pn	**Pn**	**20 36 44.0**	**+4.4**
NOR	**Nord**		**3.65**	**311**	*e*P	**Pn**	**20 36 44.1**	**+4.5**
NOR	**Nord**		**3.65**	**311**	*i* P	**Pn**	**20 36 43.0**	**+3.4**
NOR					IAML		20 37 24.0	
	comp=N,17nm,0.6s							
HSPB	**Hornsund (broa**		**3.78**	**129**	Pn	**Pn**	**20 36 41.5**	**0.0**
HSPB					Sn	**Sn**	**20 37 20.4**	**-5.4**
HSPB	**Hornsund (broa**		**3.78**	**129**	P	**Pn**	**20 36 41.5**	**0.0**
HSPB					S	**Sn**	**20 37 20.4**	**-5.4**
HSPB	**Hornsund (broa**		**3.78**	**129**	*e*P	**Pn**	**20 36 41.4**	**0.0**
HSPB					*e*S	**Sn**	**20 37 19.4**	**-6.4**
HSPB	**Hornsund (broa**		**3.78**	**129**	*e*P	**Pn**	**20 36 41.4**	**-0.1**
HSPB					*e*S	**Sn**	**20 37 19.6**	**-6.3**
HSPB					IAML		20 37 25.5	
	comp=Z,73nm,0.3s							
DAG	**Danmarks Havn**		**5.20**	**246**	*i* P	**Pn**	**20 37 03.3**	**+2.4**
DAG					*i* S	**Sn**	**20 37 59.0**	**-1.8**
DAG					IAML		20 38 07.3	
	comp=Z,39nm,0.4s							
HOPEN	**Hopen**		**5.61**	**113**	Pn	**Pn**	**20 37 06.2**	**-0.3**
HOPEN					Sn	**Sn**	**20 38 04.5**	**-6.4**
HOPEN	**Hopen**		**5.61**	**113**	*e*P	**Pn**	**20 37 06.1**	**-0.5**
HOPEN					*e*S	**Sn**	**20 38 03.7**	**-7.2**
HOPEN	**Hopen**		**5.61**	**113**	*e*P	**Pn**	**20 37 06.3**	**-0.3**
DBG	**Daneborg**		**7.38**	**235**	Pn	**Pn**	**20 37 33.4**	**+2.6**
DBG					Sn	**Sn**	**20 38 50.5**	**-3.9**
DBG	**Daneborg**		**7.38**	**235**	*e*P	**Pn**	**20 37 33.7**	**+2.9**
DBG	**Daneborg**		**7.38**	**235**	*i* P	**Pn**	**20 37 33.6**	**+2.8**
DBG					*i* S	**Sn**	**20 38 48.9**	**-5.5**
DBG					IAML		20 38 55.7	
	comp=Z,21nm,0.5s							
ZFI2	**Zemlya Franca-**		**7.57**	**60**	*e*P	**Pn**	**20 37 34.1**	**+0.7**
ZFI2					*i* S	**Sn**	**20 38 51.7**	**-7.4**
	comp=Z,43nm,0.6s							
OMEGA	**Omega**		**7.59**	**60**	*e*P	**Pn**	**20 37 34.3**	**+0.7**
OMEGA					*e*S	**Sn**	**20 38 52.3**	**-7.3**
	comp=Z,65nm,0.6s							
JNE	**Jan Mayen East**		**9.15**	**203**	*e*P	**Pn**	**20 37 57.5**	**+2.5**
HAMF	**Hammerfest**		**10.48**	**138**	Pn	**Pn**	**20 38 14.2**	**+1.0**
HAMF	**Hammerfest**		**10.48**	**138**	Pn	**Pn**	**20 38 14.2**	**+1.0**
NEEM	**North Greenlan**		**10.51**	**285**	*i* P	**Pn**	**20 38 14.1**	**+0.2**
NEEM					*i* S	**Sn**	**20 40 05.2**	**-6.4**
NEEM					IAML		20 40 09.9	
	comp=Z,19nm,0.7s							
TRO	**Tromso**		**10.94**	**149**	Pn	**Pn**	**20 38 23.7**	**+4.3**
TRO	**Tromso**		**10.94**	**149**	Pn	**Pn**	**20 38 23.7**	**+4.3**
SCO	**Scoresbysund**		**11.03**	**227**	*i* P	**Pn**	**20 38 23.1**	**+2.3**
SCO					*e*S	**Sn**	**20 40 16.7**	**-7.3**
JETT	**Jettan, Norway**		**11.15**	**146**	Pn	**Pn**	**20 38 23.7**	**+1.2**
JETT	**Jettan, Norway**		**11.15**	**146**	Pn	**Pn**	**20 38 23.7**	**+1.2**
KIF	**Kilpisjarvi**		**11.72**	**146**	Pn	**Pn**	**20 38 31.9**	**+1.7**
KIF	**Kilpisjarvi**		**11.72**	**146**	Pn	**Pn**	**20 38 31.9**	**+1.7**
ARA0	**ARCESS Array S**		**11.74**	**137**	Pn	**Pn**	**20 38 30.8**	**+0.3**
	baz=350,slow=14							
ARA0					Sn	Sn	20 40 28.4	-13
	baz=349,slow=18							
ARA0	**ARCESS Array S**		**11.74**	**137**	Pn	**Pn**	**20 38 30.8**	**+0.3**
	baz=350,slow=14							
ARA0					Sn	Sn	20 40 28.4	-13
	baz=349,slow=18							
ARCES	**ARCESS Array B**		**11.74**	**137**	Pn	**Pn**	**20 38 31.4**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=344,slow=12,SNR=48							
ARCES					Sn	Sn	20 40 32.1	-9.3
	comp=Z,0.1nm,0.3s,baz=350,slow=20,SNR=1.8							
ARCES					LR	LR	20 43 04.2	
	comp=Z,65nm,18.1s,baz=354,slow=37							
	comp=Z,4.7nm,0.6s							
SUMG	**Summit**		**11.79**	**255**	*i* P	**Pn**	**20 38 33.0**	**+1.6**
SUMG					*i* S	Sn	20 40 35.3	-7.6
SUMG					IAML		20 40 44.8	
	comp=Z,12nm,0.9s							
HEF	**Hetta**		**12.60**	**142**	Pn	**Pn**	**20 38 44.0**	**+1.8**
HEF	**Hetta**		**12.60**	**142**	Pn	**Pn**	**20 38 44.0**	**+1.8**
APA0	**Apatity Array**		**14.53**	**129**	Pn	**Pn**	**20 39 06.1**	**-2.4**
	baz=339,slow=12							
APA0	**Apatity Array**		**14.53**	**129**	Pn	**Pn**	**20 39 06.1**	**-2.4**
	baz=339,slow=12							
UPNV	**Upernavik**		**14.77**	**274**	*i* P	**Pn**	**20 39 11.1**	**-0.7**
ICESG	**Greenland Ices**		**14.98**	**249**	*i* P	**Pn**	**20 39 15.9**	**+0.9**
UMMG	**Uummannaq**		**15.79**	**266**	*i* P	**Pn**	**20 39 22.9**	**-2.3**
SFJD	**Kangerlussuaq**		**18.74**	**258**	Pn	**P**	**20 40 02.2**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=32,slow=11,SNR=2.8							
SFJD					LR	LR	20 47 48.1	
	comp=Z,71nm,19.0s,baz=36,slow=39							
	comp=Z,7.7nm,0.5s							
NOA	**NORSAR Array B**		**18.94**	**167**	LR	LR	20 46 36.9	
	comp=Z,21nm,20.3s,baz=345,slow=34							
RES	**Resolute Bay**		**19.58**	**308**	P	**P**	**20 40 12.2**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=41,slow=11,SNR=5.6							
	comp=Z,1.1nm,0.5s							
FINES	**FINESS Array B**		**19.62**	**145**	P	**Pn**	**20 40 15.3**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=354,slow=10,SNR=7.4							
	comp=Z,3.9nm,0.8s							
HFS	**Hagfors**		**19.96**	**163**	P	**Pn**	**20 40 19.2**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=12,slow=7.4,SNR=4.3							
	comp=Z,4.9nm,1.0s							
NRIK	**Noril'sk**		**22.31**	**69**	P	**P**	**20 40 45.0**	**+4.6**
	comp=Z,2.5nm,0.8s,baz=323,slow=9.9,SNR=3.6							
	comp=Z,2.5nm,0.8s							
KIRV	**Kirov**		**25.54**	**117**	LR	LR	20 52 37.3	
	comp=Z,50nm,18.7s,baz=4.4,slow=40							
ARTI	**Arti**		**29.12**	**109**	LR	LR	20 55 04.9	
	comp=Z,56nm,18.3s,baz=26,slow=40							
AKASG	**Malin Array Be**		**30.53**	**146**	LR	LR	20 54 02.2	
	comp=Z,45nm,21.5s,baz=294,slow=36							
BVAR	**Borovoye Array**		**34.43**	**98**	P	**P**	**20 42 34.3**	**+4.0**
	comp=Z,0.6nm,0.6s,baz=330,slow=9.8,SNR=7.3							
	comp=Z,0.6nm,0.6s							
KURBB	**Kurchatov Arra**		**38.19**	**91**	P	**P**	**20 43 06.6**	**+4.2**
	comp=Z,0.7nm,0.8s,baz=356,slow=7.3,SNR=7.0							
	comp=Z,0.7nm,0.8s							
MKAR	**Makanchi Array**		**42.55**	**89**	P	**P**	**20 43 43.0**	**+4.4**
	comp=Z,0.6nm,0.7s,baz=344,slow=7.3,SNR=7.0							
	comp=Z,0.6nm,0.7s							

BJI ***01*** *20:39:44.6, 7°.93S×128°.90E, h152km, mB5.0/28, mb5.6/83*

NEIC ***01*** *20:39:50.5, 7°.50S×128°.43E, h150km, Moment Tensor Solution. Duration: 1ŧ8 Moment tensor: Scale 10^16Nm; Mrr4.00; Mθθ-2.92; Mϕϕ-1.08; Mrθ-1.97; Mθϕ2.76; Mϕr1.96; Fault plane solution: M0 5.31000×10^16 NP1: ϕs118.39000°, δ29.56000°, λ78.41000°. NP2: ϕs311.66000°, δ61.10000°, λ96.50000°. Principal axes: T 4.8241, Plg73.0000°, Azm238.0000°; N 0.8635, Plg6.0000°, Azm129.0000°; P -5.6876, Plg16.0000°, Azm37.0000°;*

MOS ***01*** *20:39:50.5±0.9, 7°.31S×128°.39E, h155km, mb5.6/45 Error ellipse: s-maj=8.7km s-min=4.8km az=111.1*

NEIC ***01*** *20:39:50.5, 7°.40S×128°.43E, h150km*

NEIC ***01*** *20:39:50.6±2.2, 7°.39S±0°.05×128°.44E±0°.06, h139km±4km, mb5.4/271, Mww5.1/23, Error ellipse: s-maj=9.3km s-min=7.1km az=120.0*

IDC ***01*** *20:39:51.5±1.0, 7°.39S×128°.38E, h151km±7km, mb5.2/36, mbtmp5.6/40, MS3.9/14, Error ellipse: s-maj=11.1km s-min=7.3km az=96.0*

DJA ***01*** *20:39:51.3±0.2, 8°S±1°×12°8E±°, h151km±2km, M5.2/104, mb5.5/104, mB5.7/58, MLv5.8/18, Mw(mB)5.2/58, MwMwp4.8/5, Mwp5.2/5*

GCMT ***01*** *20:39:51.5±0.2, 7°.47S±0°.01×128°.48E±0°.02, h153km±1km, MW5.2/124, Moment Tensor Solution. s54,c68; s124,c183; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.10±.14; Mθθ-4.81±.21; Mϕϕ-0.28±.21; Mrθ-3.55±.14; Mθϕ3.50±.16; Mϕr2.11±.14; Best double couple: M07.20900×10^16 NP1:ϕs116.00000°, δ28.00000°, λ87.00000°. NP2:ϕs300.00000°, δ62.00000°, λ92.00000°. Principal axes: T 6.4030, Plg72.0000°, Azm214.0000°; N 1.6140, Plg2.0000°, Azm119.0000°; P -8.0140, Plg17.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 20:39:51.0±0.3, 7°.44S±0°.03×128°.47E±0°.03, h152km±2km, h153km:pP-P, n1145, σ1ŧ30/1114, mb5.5/264, 67C-23D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.86**	**101**		**Pn**	**20 40 37.1**	**+0.4**
SAUI	**Saumlaki**	**2.86**	**101**	P	**Pn**	**20 40 37.8**	**+1.1**
SAUI	**Saumlaki**	**2.86**	**101**	S	**Sn**	**20 41 12.9**	**+0.9**
SAUI	**Saumlaki**	**2.86**	**101**	P	**Pn**	**20 40 37.3**	**+0.6**
BNDI	**Bandanaira**	**3.23**	**26**	P	**Pn**	**20 40 42.9**	**+1.5**
BNDI	**Bandanaira**	**3.23**	**26**	P	**Pn**	**20 40 42.7**	**+1.3**
AAI	**Ambon**	**3.74**	**356**	P	**Pn**	**20 40 49.7**	**+1.7**
MSAI	**Masohi**	**4.09**	**6**	P	**Pn**	**20 40 54.5**	**+1.9**
NLAI	**Namlea**	**4.39**	**342**	P	**Pn**	**20 40 59.0**	**+2.6**
SOEI	**Soe**	**4.75**	**241**		**Pn**	**20 41 01.0**	**-0.3**
SOEI	**Soe**	**4.75**	**241**	P	**Pn**	**20 41 01.4**	**+0.1**
SOEI	**Soe**	**4.75**	**241**	S	**Sn**	**20 41 57.0**	**+1.0**
SOEI	**Soe**	**4.75**	**241**	P	**Pn**	**20 41 00.9**	**-0.3**
BATI	**Baumata**	**5.49**	**240**	P	**Pn**	**20 41 10.8**	**-0.2**
	9μm,0.6s,baz=127,slow=3.4,SNR=732						
BATI					**Sn**	**20 42 11.6**	**-1.8**
	1μm,0.3s,baz=181,slow=22,SNR=13						
BATI	**Baumata**	**5.49**	**240**	P	**Pn**	**20 41 10.7**	**-0.2**
DRS	**Darwin Rock St**	**5.51**	**154**	P	**Pn**	**20 41 10.3**	**-0.9**
FAKI	**Fak Fak**	**5.86**	**40**		**Pn**	**20 41 14.6**	**-1.3**
FAKI	**Fak Fak**	**5.86**	**40**	P	**Pn**	**20 41 14.9**	**-1.0**
FAKI	**Fak Fak**	**5.86**	**40**	S	**Sn**	**20 42 21.0**	**-1.4**
FAKI	**Fak Fak**	**5.86**	**40**	P	**Pn**	**20 41 14.6**	**-1.3**
	5.5nm5μm12μm1μm,0.7s						
SANI	**Sanana**	**5.89**	**335**	P	**Pn**	**20 41 19.0**	**+2.6**
SANI	**Sanana**	**5.89**	**335**	P	**Pn**	**20 41 18.7**	**+2.3**
	3μm311nm,1.0s						
MTN	**Manton Dam**	**5.98**	**154**		**Pn**	**20 41 16.2**	**-1.3**
MTN	**Manton Dam**	**5.98**	**154**	P	**Pn**	**20 41 16.7**	**-0.8**
	comp=Z,2μm,0.5s						
MTN	**Manton Dam**	**5.98**	**154**	S	**Sn**	**20 42 19.7**	**-5.5**
MTN	**Manton Dam**	**5.98**	**154**	P	**Pn**	**20 41 16.9**	**-0.6**
BBSI	**Bau Bau**	**6.17**	**288**	P	**Pn**	**20 41 21.7**	**+1.6**
	comp=Z,2.6nmcomp=Z,8μmcomp=Z,745nm,1.1s						
MMRI	**Maumere**	**6.28**	**259**		**Pn**	**20 41 21.0**	**-0.5**
MMRI	**Maumere**	**6.28**	**259**	P	**Pn**	**20 41 21.4**	**-0.1**
MMRI	**Maumere**	**6.28**	**259**	P	**Pn**	**20 41 21.1**	**-0.5**
	comp=Z,5.2nmcomp=Z,5μmcomp=Z,12μmcomp=Z,1μm,1.0s						
KMPI	**Kaimana, Papua**	**6.42**	**55**	P	**Pn**	**20 41 22.4**	**-1.0**
KDU	**Kakadu**	**6.54**	**143**	P	**Pn**	**20 41 23.9**	**-1.1**
	comp=Z,605nm,0.6s						
KDU	**Kakadu**	**6.54**	**143**	S	**Sn**	**20 42 31.4**	**-7.2**
KDU	**Kakadu**	**6.54**	**143**	P	**Pn**	**20 41 23.8**	**-1.1**
KDI	**Kendari**	**6.77**	**300**	P	**Pn**	**20 41 29.9**	**+1.9**
EDFI	**Ende, Flores**	**6.83**	**259**	P	**Pn**	**20 41 28.1**	**-0.9**
	comp=Z,1.5nmcomp=Z,4μmcomp=Z,5μmcomp=Z,385nm,0.8s						
SWI	**Sorong**	**7.10**	**23**	P	**Pn**	**20 41 32.3**	**-0.2**
	comp=Z,6.6nmcomp=Z,2μm,1.1s						
BSSI	**Bau Bau, Buton**	**8.03**	**279**	P	**Pn**	**20 41 45.5**	**+0.7**
	comp=Z,4μmcomp=Z,447nm,1.1s						
RKPI	**Ransiki, Papua**	**8.19**	**44**	P	**Pn**	**20 41 45.9**	**-1.1**
KNRA	**Kununurra**	**8.19**	**178**		**Pn**	**20 41 45.0**	**-2.0**
KNRA	**Kununurra**	**8.19**	**178**	P	**Pn**	**20 41 45.1**	**-1.9**
	comp=Z,3μm,0.7s						
KNRA				S	Sn	20 43 07.8	-11
TNTI	**Ternate**	**8.23**	**352**		**Pn**	**20 41 49.1**	**+1.6**
TNTI	**Ternate**	**8.23**	**352**	P	**Pn**	**20 41 50.0**	**+2.5**
TNTI	**Ternate**	**8.23**	**352**	P	**Pn**	**20 41 49.2**	**+1.6**
	comp=Z,2μmcomp=Z,252nm,1.1s						
BASI	**Baing, Sumba**	**8.27**	**250**	P	**Pn**	**20 41 45.8**	**-2.3**
	comp=Z,13μmcomp=Z,1μm,0.9s						
WSI	**Waingapu**	**8.38**	**254**	P	**Pn**	**20 41 47.2**	**-2.3**
LUWI	**Luwuk**	**8.52**	**318**	Pn	Pn	20 41 56.2	+4.8
BNSI	**Bone**	**8.85**	**289**	P	**Pn**	**20 41 57.1**	**+1.4**
	comp=Z,2μmcomp=Z,315nm,0.9s						
KAPI	**Kappang**	**8.99**	**285**		**Pn**	**20 41 57.4**	**-0.3**
KAPI	**Kappang**	**8.99**	**285**	P	**Pn**	**20 41 57.8**	**+0.1**
	comp=Z,102nm,0.9s,baz=121,slow=8.4,SNR=23						
KAPI				S	**Sn**	**20 43 37.5**	**-0.1**
	comp=Z,19nm,0.5s,baz=43,slow=17,SNR=1.2						
KAPI	**Kappang**	**8.99**	**285**	P	**Pn**	**20 41 58.1**	**+0.4**
KAPI	**Kappang**	**8.99**	**285**	P	**Pn**	**20 41 59.6**	**+1.9**
KAPI	**Kappang**	**8.99**	**285**	*e*P	**Pn**	**20 41 56.4**	**-1.3**
KMSI	**Cibinong**	**9.13**	**330**	P	**Pn**	**20 42 01.9**	**+2.4**
	comp=Z,4μmcomp=Z,583nm,1.0s						
WBSI	**Waikabubak, Su**	**9.24**	**256**	P	**Pn**	**20 41 57.7**	**-3.3**
	comp=Z,6μmcomp=Z,595nm,0.8s						
SPSI	**Sidrap Palu**	**9.32**	**291**	P	**Pn**	**20 42 02.8**	**+0.8**
	comp=Z,109nm,0.9s						
APSI	**Ampana**	**9.39**	**313**	P	**Pn**	**20 42 06.4**	**+3.4**
SRPI	**Serui, Papua**	**9.52**	**55**	P	**Pn**	**20 42 03.3**	**-1.4**
	comp=Z,4μmcomp=Z,466nm,0.8s						
TTSI	**Tana Toraja**	**9.65**	**296**	P	**Pn**	**20 42 09.0**	**+2.5**
	comp=Z,103nm,0.8s						
BAKI	**Biak**	**9.82**	**51**	P	**Pn**	**20 42 09.3**	**+0.6**
MRSI	**Marisa**	**10.21**	**320**

comp=Z,441nm,19.6s,baz=342,slow=39
ASAR ScP **ScP** **20 51 37.4 -0.1**
comp=Z,5.9nm,0.5s,baz=340,slow=1.8,SNR=4.4
AS01 Alice Springs 16.97 163 P **P** **20 43 38.0 -1.0**
comp=Z,571nm,0.7s
AS01 Alice Springs 16.97 163 P **Pn** **20 43 39.9 +0.4**
PCJI Pacitan 17.15 266 P **P** **20 43 39.3 -1.6**
comp=Z,105nm,0.6s
WOJI Wonogiri, Jawa 17.39 268 P **P** **20 43 42.4 -1.2**
WRKA Warakurna 17.50 181 P **Pn** **20 43 45.7 -0.2**
comp=Z,264nm,0.8s
UGM Wanagama 17.79 267 **P** **20 43 46.7 -1.3**
UGM Wanagama 17.79 267 P **P** **20 43 47.9 -0.1**
SMRI Semarang 17.89 270 P **P** **20 43 48.8 -0.2**
comp=Z,108nm,0.7s
KKM Kota Kinabalu 18.13 317 P **Pn** **20 43 53.7 +0.2**
KKM Kota Kinabalu 18.13 317 P **Pn** **20 43 55.2 +1.7**
STKI Sintang 18.51 293 P **Pn** **20 43 57.1 -0.7**
comp=Z,7µmcomp=Z,857nm,0.8s
MTSU Mount Surprise 18.74 126 P **Pn** **20 43 59.7 -0.8**
comp=Z,58nm,0.8s
MTSU Mount Surprise 18.74 126 P **Pn** **20 44 00.2 -0.3**
SBUM Sibu 18.95 301 P **Pn** **20 44 03.9 +0.9**
MANU Manus Island 19.58 75 P **P** **20 44 07.8 +0.4**
KSM Kuching 20.16 295 P **P** **20 44 14.0 +0.2**
KSM Kuching 20.16 295 P **P** **20 44 15.3 +1.6**
GIRL Giralia 20.40 221 P **P** **20 44 17.4 +1.3**
GIRL Giralia 20.40 221 P **P** **20 44 17.5 +1.3**
comp=Z,390nm,1.1s
GIRL Giralia 20.40 221 P Pn 20 44 18.4 -1.6
BBJI Bungbulang 20.64 269 P **P** **20 44 16.9 -2.0**
LEM Lembang 20.70 270 P **P** **20 44 18.9 -0.7**
comp=Z,116nm,0.8s
TPI Tanjungpandan 21.24 282 P **P** **20 44 25.7 +0.4**
comp=Z,2µmcomp=Z,209nm,0.9s
MEEK Meekatharra 21.27 205 P **P** **20 44 25.1 -0.3**
comp=Z,166nm,0.7s
MEEK Meekatharra 21.27 205 P **P** **20 44 25.6 +0.1**
CTAO Charters Tower 21.34 128 P **P** **20 44 25.9 -0.4**
CTAO Charters Tower 21.34 128 P **P** **20 44 27.5 +1.2**
CTAO Charters Tower 21.34 128 P **P** **20 44 25.9 -0.4**
DBJI Dramaga 21.57 271 P **P** **20 44 25.8 -3.0**
comp=Z,81nm,0.9s
TGY Tagaytay City 22.67 341 P **P** **20 44 40.6 +0.9**
comp=Z,642nm,0.6s,baz=346,slow=0.4,SNR=24
comp=Z,642nm,0.6s
FORT Forrest 23.22 181 P **P** **20 44 45.2 +0.6**
FORT IAmb IAmb 20 45 16.2
comp=Z,124nm,0.7s
FORT Forrest 23.22 181 P **P** **20 44 45.1 +0.4**
comp=Z,135nm,0.9s
PMBI Palembang 24.01 280 P **P** **20 44 54.5 +2.5**
PMBI Palembang 24.01 280 P **P** **20 44 54.0 +2.0**
PMBI Palembang 24.01 280 P **P** **20 44 54.1 +2.0**
comp=Z,9µmcomp=Z,879nm,1.2s
QLP Quilpie 24.23 144 P **P** **20 44 54.7 +0.8**
comp=Z,890nm,0.7s
QLP Quilpie 24.23 144 P **P** **20 44 55.2 +1.3**
MDSI Maura Dua 24.33 276 P **P** **20 44 53.3 -1.6**
comp=Z,61nm,1.0s
LWLI Liwa 24.38 274 P **P** **20 44 54.3 -1.2**
comp=Z,3µmcomp=Z,126nm,1.1s
MORW Morawa 24.50 207 P **P** **20 44 55.8 -0.5**
MORW Morawa 24.50 207 P **P** **20 44 56.5 +0.2**
comp=Z,479nm,0.9s
MORW Morawa 24.50 207 P **P** **20 44 57.4 +1.2**
KMBL Kambalda 24.59 194 P **P** **20 44 56.6 -0.4**
comp=Z,165nm,1.0s
LHSI Lahat 25.08 277 P **P** **20 45 01.4 -0.3**
comp=Z,2µmcomp=Z,149nm,1.1s
BLDU Ballidu 25.55 204 P **P** **20 45 06.7 +0.9**
comp=Z,271nm,0.7s
BLDU Ballidu 25.55 204 P **P** **20 45 06.6 +0.8**
KSI Kapahiang 26.02 277 P **P** **20 45 10.7 +0.4**
comp=Z,6µmcomp=Z,102nm,0.9s
KLBR Kellerberrin 26.03 201 P **P** **20 45 10.3 +0.3**
comp=Z,367nm,0.9s
KLBR Kellerberrin 26.03 201 P **P** **20 45 10.9 +0.8**
BBOO Buckleboo 26.21 165 P **P** **20 45 12.2 +0.5**
BBOO Buckleboo 26.21 165 P **P** **20 45 12.7 +0.9**
comp=Z,311nm,0.7s
BBOO Buckleboo 26.21 165 P **P** **20 45 12.6 +0.9**
MYKOM Kota Tinggi 26.21 290 P **P** **20 45 11.6 -0.3**
MYKOM IAmb IAmb 20 45 14.7
comp=Z,190nm,1.3s
MYKOM Kota Tinggi 26.21 290 P **P** **20 45 14.0 +2.1**
GUMO Guam 26.49 38 P **P** **20 45 13.6 -0.7**
GUMO IAmb IAmb 20 45 16.3
comp=Z,221nm,1.2s
GUMO Guam 26.49 38 P **P** **20 45 14.7 +0.3**
comp=Z,47nm,0.3s,baz=187,slow=1.7,SNR=7.1
comp=Z,47nm,0.3s
GUMO Guam 26.49 38 P **P** **20 45 15.3 +1.0**
WHYH Whyalla 26.83 163 P **P** **20 45 18.2 +1.0**
MUN Mundaring 26.96 203 P **P** **20 45 18.6 +0.2**
comp=Z,122nm,0.6s
MUN Mundaring 26.96 203 P **P** **20 45 19.0 +0.6**
STKA Stephens Creek 27.22 155 P **P** **20 45 21.6 +0.8**
STKA Stephens Creek 27.22 155 P **P** **20 45 21.3 +0.6**
comp=Z,981nm,0.9s
STKA Stephens Creek 27.22 155 P **P** **20 45 21.9 +1.1**
comp=Z,107nm,0.5s,baz=330,slow=9.2,SNR=421
STKA LR LR 20 57 09.3
comp=Z,362nm,21.6s,baz=332,slow=38
comp=Z,107nm,0.5s
STKA Stephens Creek 27.22 155 P **P** **20 45 21.7 +0.9**
NWAO Narrogin (SRO) 27.42 201 P **P** **20 45 22.3 -0.2**
NWAO Narrogin (SRO) 27.42 201 P **P** **20 45 22.5 0.0**
comp=Z,177nm,1.0s
NWAO Narrogin (SRO) 27.42 201 P **P** **20 45 23.1 +0.6**
comp=Z,55nm,0.6s,baz=38,slow=7.7,SNR=53
NWAO LR LR 20 56 49.6
comp=Z,274nm,19.1s,baz=80,slow=37
comp=Z,55nm,0.6s
NWAO Narrogin (SRO) 27.42 201 P **P** **20 45 23.1 +0.6**
NWAO Narrogin (SRO) 27.42 201 P **P** **20 45 23.4 +0.9**
NWAO Narrogin (SRO) 27.42 201 P **P** **20 45 23.3 +0.8**
HTT Hallett 27.62 161 P **P** **20 45 25.5 +1.1**
comp=Z,25nm,1.3s
HTT Hallett 27.62 161 P **P** **20 45 25.4 +1.1**
EIDS Eidsvold 28.00 132 IAmb IAmb 20 46 04.8
comp=Z,124nm,2.0s
EIDS Eidsvold 28.00 132 P **P** **20 45 27.9 +0.1**
comp=Z,23nm,1.6s
EIDS Eidsvold 28.00 132 P **P** **20 45 28.5 +0.8**
BKNI Bangkinang 28.42 285 P **P** **20 45 32.7 +1.1**
BKNI Bangkinang 28.42 285 P **P** **20 45 32.1 +0.5**
comp=Z,92nm,1.1s
PPI Padang Panjang 28.83 283 P **P** **20 45 34.2 -1.1**
comp=Z,80nm,0.8s
CMSA Cobar Meteorol 28.87 148 P **P** **20 45 36.1 +0.7**
comp=Z,254nm,0.7s
CMSA Cobar Meteorol 28.87 148 P **P** **20 45 36.8 +1.4**
RKGY Rocky Gully 29.04 200 P **P** **20 45 38.1 +1.2**
comp=Z,59nm,1.0s
IPM Ipoh 29.83 293 P **P** **20 45 43.3 -0.8**
IPM IAmb IAmb 20 45 45.8
comp=Z,85nm,0.7s
IPM Ipoh 29.83 293 P **P** **20 45 44.8 +0.7**
MNSI Mandailing Nat 29.95 285 P **P** **20 45 43.8 -1.4**
comp=Z,1µmcomp=Z,115nm,0.7s
KULM Kulim 30.50 294 IAmb IAmb 20 45 52.1
comp=Z,94nm,0.8s
KULM Kulim 30.50 294 P **P** **20 45 50.8 +0.8**
SAVO Savo Central 31.06 95 P **P** **20 45 55.6 +0.6**
RPSI Rantau Prapat 31.15 288 P **P** **20 45 54.7 -1.1**
PSI Prapat 31.18 288 P **P** **20 45 55.3 -0.9**
PSI Prapat 31.18 288 P **P** **20 45 54.7 -1.5**
PSI pmax pmax
comp=Z,153nm,0.9s
YULB Yu-li 31.43 347 P **P** **20 45 55.1 -3.0**
ARMA Armidale 31.53 139 P **P** **20 46 00.0 +1.1**
comp=Z,24nm,1.2s
ARMA Armidale 31.53 139 P **P** **20 46 01.9 +2.9**
TSI Tuntungan 31.76 289 P **P** **20 46 00.3 -0.7**
comp=Z,147nm,1.4s
SSLB Suanglung 31.89 347 P **P** **20 46 00.7 -1.4**
ALEG Aligegeo Malai 31.93 95 P **P** **20 46 02.5 -0.1**
GSI Gunungsitoli 32.02 285 IAmb IAmb 20 46 06.5
comp=Z,62nm,0.7s
GSI Gunungsitoli 32.02 285 P **P** **20 46 04.0 +0.7**
GSI Gunungsitoli 32.02 285 P **P** **20 46 02.0 -1.3**
comp=Z,95nm,1.2s
QIZ Qiongzhong 32.07 325 IAmb IAmb 20 46 04.7
comp=Z,37nm,0.7s

YNG Young 32.44 148 P **P** **20 46 08.7 +1.9**
comp=Z,142nm,0.8s
YHNB Yeheng 32.65 348 P **P** **20 46 08.4 -0.4**
SRIT Nakonsritamara 32.88 298 P **P** **20 46 11.6 +0.7**
PATS Pohnpei 32.97 65 P **P** **20 46 12.2 +0.5**
PATS IAmb IAmb 20 46 13.8
comp=Z,102nm,1.0s
PATS Pohnpei 32.97 65 P **P** **20 46 09.6 -2.0**
PATS Pohnpei 32.97 65 P **P** **20 46 13.1 +1.4**
BRAT Ballarat 33.10 157 P **P** **20 46 14.7 +2.3**
CAN Canberra 33.54 149 P **P** **20 46 18.7 +2.3**
CAN ScP **ScP** **20 52 25.1 +1.0**
QZH Quanzhou 33.59 344 P **P** **20 46 17.2 +0.4**
QZH pP **pP** **20 46 47.5 -0.4**
QZH S **S** **20 51 28.8 +0.7**
QZH pmax pmax
comp=Z,110nm,0.7s
MLBS Spotswood, Mel 33.72 156 P **P** **20 46 19.5 +1.7**
CNB Canberra Magne 33.73 148 P **P** **20 46 20.0 +2.0**
comp=Z,43nm,1.4s
CNB Canberra Magne 33.73 148 P **P** **20 46 19.8 +1.8**
TOO Toolangi 33.74 155 P **P** **20 46 20.7 +2.6**
TOO IAmb IAmb 20 46 21.4
comp=Z,37nm,0.6s
TOO Toolangi 33.74 155 P **P** **20 46 20.7 +2.6**
TOO Toolangi 33.74 155 P **P** **20 46 20.7 +2.6**
TOO pmax pmax
comp=Z,37nm,0.6s
GEXS Deakin Univers 33.81 157 P **P** **20 46 21.3 +2.7**
LHMI Lhok Sumawe 33.87 291 P **P** **20 46 21.5 +2.0**
LHMI Lhok Sumawe 33.87 291 P **P** **20 46 18.6 -0.9**
comp=Z,261nm,0.8s
MLSI Meulaboh, Aceh 34.04 289 P **P** **20 46 19.2 -1.7**
comp=Z,310nm,1.0s
JOW Kunigami 34.07 360 P **P** **20 46 20.9 0.0**
JOW IAmb IAmb 20 46 22.9
comp=Z,85nm,1.1s
JOW Kunigami 34.07 360 P **P** **20 46 22.3 +1.4**
SLVN Son La 37.40 320 P **P** **20 46 50.5 +0.9**
SLVN IAmb IAmb 20 46 51.9
comp=Z,64nm,0.9s
SLVN Son La 37.40 320 P **P** **20 46 51.2 +1.7**
CNSH ChangSha 38.46 338 P **P** **20 46 59.0 +0.8**
CNSH pmax pmax
comp=Z,37nm,0.9s
MOO Moorlands 38.58 158 P **P** **20 47 02.5 +3.4**
CM31 Chiang Mai Arr 38.87 312 IAmb IAmb 20 47 04.3
comp=Z,88nm,1.0s
CM31 Chiang Mai Arr 38.87 312 P **P** **20 47 02.9 +1.1**
SNR=25
CMAR Chiang Mai Arr 38.87 312 P **P** **20 47 01.9 +0.1**
CMAR Chiang Mai Arr 38.87 312 P **P** **20 47 02.4 +0.6**
comp=Z,57nm,1.0s,baz=145,slow=7.3,SNR=158
CMAR PcP **PcP** **20 49 11.2 +1.4**
comp=Z,14nm,0.7s,baz=173,slow=2.5,SNR=18
CMAR ScP **ScP** **20 52 44.7 +0.7**
comp=Z,3.1nm,0.8s,baz=161,slow=3.6,SNR=7.5
comp=Z,57nm,1.0s
CMAR Chiang Mai Arr 38.87 312 *ce*P **P** **20 47 02.4 +0.6**
CMAR pmax pmax
comp=Z,61nm,1.0s
CHTO Chiang Mai 39.09 312 P **P** **20 47 04.0 +0.4**
CHTO IAmb IAmb 20 47 06.0
comp=Z,119nm,1.1s
CHTO Chiang Mai 39.09 312 P **P** **20 47 04.4 +0.8**
CHTO Chiang Mai 39.09 312 P **P** **20 47 04.4 +0.8**
CHTO Chiang Mai 39.09 312 P **P** **20 47 04.0 +0.4**
CHTO pmax pmax
comp=Z,119nm,1.1s
CHTO Chiang Mai 39.09 312 P **P** **20 47 04.3 +0.6**
CHTO PcP **PcP** **20 49 11.8 +1.3**
CHTO ScP **ScP** **20 52 45.0 +0.2**
NOUC Port Laguerre 39.24 116 P **P** **20 47 06.2 +1.3**
DZM Mont Dzumac 39.36 116 P **P** **20 47 07.2 +1.2**
DZM Mont Dzumac 39.36 116 P **P** **20 47 08.0 +2.0**
DZM Mont Dzumac 39.36 116 P **P** **20 47 07.6 +1.6**
DZM PcP **PcP** **20 49 13.2 +1.7**
GYA Guiyang 39.79 329 ⇑P **P** **20 47 10.0 +0.6**
GYA pmax pmax
comp=Z,100nm,0.8s
OUENC Ouen Island, N 39.81 116 P **P** **20 47 12.2 +2.6**
WHN Wuhan 40.12 341 ⇑P **P** **20 47 13.0 +1.1**
WHN pP **pwP** **20 47 50.1 -0.1**
WHN pmax pmax
comp=Z,390nm,0.8s
NJ2 Nanjing 40.33 347 ⇑*i*P **P** **20 47 14.4 +0.8**
NJ2 pP **pwP** **20 47 51.4 -0.5**
NJ2 S **S** **20 53 09.6 -0.4**
NJ2 pmax pmax
comp=Z,100nm,0.7s
NJ2 pmax pmax
comp=Z,150nm,3.6s
JNU Nakatsue 40.40 3 P **P** **20 47 14.9 +0.6**
KMI Kunming 40.93 323 ⇑P **P** **20 47 20.5 +1.6**
KMI PcP **PcP** **20 49 18.4 +1.8**
KMI S **S** **20 53 18.9 -0.7**
KMI SS **SS** **20 56 32.7 +5.0**
KMI pmax pmax
comp=Z,76nm,0.8s
JMN Monobe 41.26 7 P **P** **20 47 21.8 +0.5**
JMN Monobe 41.26 7 P **P** **20 47 22.6 +1.3**
INH Isangel 41.35 111 P **P** **20 47 23.8 +1.5**
ENH Enshi 41.69 335 IAmb IAmb 20 47 25.8
comp=Z,72nm,0.7s
ENH Enshi 41.69 335 P **P** **20 47 25.2 +0.4**
ENH Enshi 41.69 335 P **P** **20 47 24.9 +0.1**
ENH PcP **PcP** **20 49 18.2 -0.5**
ENH ScP **ScP** **20 52 55.2 +0.4**
PZH PanZhiHua 42.55 323 P **P** **20 47 34.6 +2.6**
PZH pmax pmax
comp=Z,120nm,5.4s
TNCH TengChong 43.50 319 ⇑P **P** **20 47 40.4 +0.7**
TNCH sP sP 20 48 27.2 -1.4
TNCH PcP **PcP** **20 49 26.2 +1.1**
TNCH ScP **ScP** **20 53 03.2 +0.8**
TNCH S **S** **20 53 59.1 +1.8**
TNCH pmax pmax
comp=Z,91nm,0.9s
TJN Taejon 43.59 359 P **P** **20 47 40.3 +0.2**
TJN Taejon 43.59 359 P **P** **20 47 41.2 +1.1**
TJN Taejon 43.59 359 *d*P **P** **20 47 41.0 +0.9**
LYN LuoYang 44.42 341 P **P** **20 47 46.9 +0.2**
LYN pP pwP 20 48 24.4 -1.2
LYN S **S** **20 54 07.7 -2.3**
LYN sS sS 20 55 15.3 +7.8
LYN pmax pmax
comp=Z,140nm,0.9s
KSAR Wonju Array Be 44.65 359 P **P** **20 47 48.5 +0.1**
KSAR Wonju Array Be 44.65 359 P **P** **20 47 48.5 +0.1**
KSRS Korea Array 44.66 359 P **P** **20 47 49.3 +0.8**
comp=Z,20nm,0.5s,baz=179,slow=9.4,SNR=106
KSRS PcP **PcP** **20 49 29.2 +0.7**
comp=Z,9.2nm,0.8s,baz=188,slow=3.4,SNR=11
KSRS ScP **ScP** **20 53 06.7 +0.1**
comp=Z,1.9nm,0.8s,baz=178,slow=4.6,SNR=5.8
comp=Z,20nm,0.5s
MJAR Matsushiro Arr 44.69 11 P **P** **20 47 47.9 -1.0**
MJAR Matsushiro Arr 44.69 11 P **P** **20 47 47.9 -1.0**
comp=Z,19nm,0.6s,baz=192,slow=9.1,SNR=68
MJAR PcP **PcP** **20 49 29.3 +0.6**
comp=Z,14nm,0.9s,baz=189,slow=3.4,SNR=7.8
MJAR ScP **ScP** **20 53 06.9 0.0**
comp=Z,9.2nm,0.8s,baz=180,slow=4.5,SNR=14
comp=Z,19nm,0.6s
MAJO Matsushiro 44.69 11 P **P** **20 47 47.8 -1.0**
MAJO Matsushiro 44.69 11 P **P** **20 47 48.1 -0.8**
MAJO Matsushiro 44.69 11 *c*P **P** **20 47 47.6 -1.2**
MAJO *i* *PP **pP** **20 48 20.2 -1.2**
MAJO pmax pmax
comp=Z,29nm,0.7s
MAJO Matsushiro 44.69 11 P **P** **20 47 47.9 -0.9**
MAJO PcP **PcP** **20 49 29.0 +0.3**
MAJO ScP **ScP** **20 53 07.5 +0.7**
TIA Tai'an 44.71 347 P **P** **20 47 48.6 -0.4**
TIA PcP **PcP** **20 49 29.9 +1.2**
TIA pmax pmax
comp=Z,77nm,0.8s
KS19 Wonju Array Si 44.71 359 P **P** **20 47 48.9 0.0**
CD2 Chengdu 44.88 329 P **P** **20 47 50.4 -0.1**
CD2 pmax pmax
comp=Z,150nm,0.7s
XAN Xi'an 45.22 337 ⇑P **P** **20 47 52.6 -0.5**
XAN pP pP 20 48 24.9 -0.7
XAN S **S** **20 54 18.3 -3.4**

XAN pmax pmax
comp=Z,300nm,0.7s
XAN pmax pmax
comp=Z,130nm,3.8s
XAN Xi'an 45.22 337 P **P** **20 47 52.9 -0.2**
XAN PcP **PcP** **20 49 31.8 +1.2**
HNS HongShan 46.42 345 ⇑P **P** **20 48 02.5 +0.1**
HNS PcP **PcP** **20 49 35.7 +1.0**
HNS ScP **ScP** **20 53 15.0 +1.1**
HNS S **S** **20 54 34.6 -4.0**
HNS pmax pmax
comp=Z,240nm,0.8s
JMM Marumori 46.52 13 IAmb IAmb 20 48 04.5
comp=Z,64nm,0.5s
JMM Marumori 46.52 13 P **P** **20 48 03.4 +0.3**
DL2 Dalian 46.54 353 P **P** **20 48 03.5 +0.2**
DL2 pmax pmax
comp=Z,95nm,0.7s
TIY Taiyuan 47.35 343 *e*P **P** **20 48 09.9 +0.2**
TIY S **S** **20 54 54.9 +3.0**
TIY pmax pmax
comp=Z,200nm,0.7s
BJT Baijiatuau 48.57 347 P **P** **20 48 19.4 +0.5**
BJT Baijiatuau 48.57 347 ⇑P **P** **20 48 19.1 +0.1**
BJT PcP **PcP** **20 49 43.5 +1.2**
BJI Beijing 48.59 347 P **P** **20 48 19.0 0.0**
BJI PcP **PcP** **20 49 43.5 +1.2**
BJI S **S** **20 55 05.2 -3.9**
BJI pmax pmax
comp=Z,68nm,0.8s
BJI pmax pmax
comp=Z,86nm,3.5s
YSA Yasawairara 48.79 106 P **P** **20 48 22.2 +1.2**
LZH Lanzhou 49.09 333 ⇑P **P** **20 48 24.2 +1.0**
LZH pP pP 20 48 56.4 +0.1
LZH sP sP 20 49 16.4 +3.8
LZH PcP **PcP** **20 49 46.0 +1.5**
LZH S **S** **20 55 13.6 -3.2**
LZH SS **SS** **20 58 49.8 -0.4**
LZH pmax pmax
comp=Z,310nm,1.2s
LZH pmax pmax
comp=Z,280nm,4.1s
LZH LR LR
comp=Z,380nm,14.4s
LZH LR LR
comp=Z,240nm,13.7s
LZH LR LR
comp=Z,160nm,13.4s
SNY Shenyang 49.23 355 ⇑P **P** **20 48 23.9 0.0**
SNY pmax pmax
comp=Z,260nm,0.6s
MSVF Nonsavu 49.33 107 P **P** **20 48 26.4 +1.1**
MSVF Nonsavu 49.33 107 P **P** **20 48 26.7 +1.5**
MSVF Nonsavu 49.33 107 ||*i*P **P** **20 48 26.9 +1.7**
MSVF pmax pmax
comp=Z,33nm,1.0s
JTM Tenmabayashi 49.37 13 IAmb IAmb 20 48 26.6
comp=Z,62nm,0.7s
JTM Tenmabayashi 49.37 13 P **P** **20 48 25.4 +0.4**
OUZ Omahuta 49.71 130 P **P** **20 48 30.5 +2.8**
PALK Pallekele 49.82 286 P **P** **20 48 28.3 -0.7**
MSHR Mys Shultsa 49.84 3*c i*P **P** **20 48 28.0 -0.5**
MSHR pmax pmax
comp=Z,37nm,0.9s
HHC Hu-ho-hao-te 50.51 343 ⇑*i*P **P** **20 48 34.2 +0.5**
HHC pmax pmax
comp=Z,78nm,0.9s
HHC pmax pmax
comp=Z,75nm,5.9s
JCZ Jackson Bay 50.64 143 P **P** **20 48 36.9 +2.1**
JCZ Jackson Bay 50.64 143 P **P** **20 48 37.5 +2.8**
BTO Baotou 50.74 342 *e*P **P** **20 48 36.8 +1.3**
BTO pP **pwP** **20 49 12.9 -2.0**
BTO sP **sP** **20 49 31.2 +6.1**
BTO PP **PP** **20 50 36.8 +3.6**
BTO pmax pmax
comp=Z,44nm,0.6s
BTO pmax pmax
comp=Z,470nm,8.1s
DGTI Dogotuki 50.82 105 P **P** **20 48 38.1 +1.7**
FOZ Fox Glacier 50.97 142 P **P** **20 48 38.9 +1.8**
MLZ Mavora Lakes 50.99 145 P **P** **20 48 39.0 +1.7**
ERM Erimo 51.02 14 P **P** **20 48 36.4 -1.0**
ERM Erimo 51.02 14 P **P** **20 48 38.6 +1.3**
ERM Erimo 51.02 14*ce*P **P** **20 48 37.5 +0.2**
ERM pmax pmax
comp=Z,23nm,0.8s
JEM Erimo 51.02 14 P **P** **20 48 38.3 +1.0**
CN2 Changchun 51.07 357 P **P** **20 48 37.5 -0.2**
CN2 PcP **PcP** **20 49 51.6 +0.2**
CN2 pmax pmax
comp=Z,30nm,0.6s
CN2 LR LR
comp=Z,80nm,17.0s
CN2 LR LR
comp=Z,150nm,17.0s
WHZ Wether Hill Ro 51.20 145 P **P** **20 48 39.7 +1.0**
WHZ IAmb IAmb 20 48 40.9
comp=Z,59nm,0.6s
WHZ Wether Hill Ro 51.20 145 P **P** **20 48 40.1 +1.3**
WKZ Wanaka 51.20 144 P **P** **20 48 40.5 +1.7**
WVZ Waitaha Valley 51.30 141 P **P** **20 48 41.2 +1.7**
DSZ Denniston Nort 51.31 139 IAmb IAmb 20 48 44.0
comp=Z,134nm,1.3s
QRZ Quartz Range 51.35 137 P **P** **20 48 42.5 +2.5**
LSA Lhasa 51.48 318 IAmb IAmb 20 48 44.4
comp=Z,94nm,0.9s
LSA Lhasa 51.48 318 P **P** **20 48 42.4 +0.8**
LSA pmax pmax
comp=Z,110nm,0.8s
LSA Lhasa 51.48 318 *i* P **P** **20 48 42.2 +0.6**
SNR=62
LSA Lhasa 51.48 318 P **P** **20 48 42.5 +0.9**
USA0B Ussuriysk Arra 51.49 3*c i*P **P** **20 48 41.1 +0.2**
USRK Ussuriysk Ar. 51.49 3 P **P** **20 48 40.6 -0.3**
USRK Ussuriysk Ar. 51.49 3 P **P** **20 48 41.2 +0.3**
comp=Z,16nm,0.7s,baz=185,slow=6.8,SNR=36
comp=Z,16nm,0.7s
INZ Inchbonnie 51.57 140 IAmb IAmb 20 49 32.9
comp=Z,117nm,1.6s
EAZ Earnscleugh 51.60 144 P **P** **20 48 43.7 +2.0**
LBZ Lake Benmore 51.66 143 P **P** **20 48 43.4 +1.2**
MRNZ Matariki Terra 51.77 138 P **P** **20 48 44.0 +0.9**
APZ The Paps 51.78 146 P **P** **20 48 44.9 +1.9**
MDJ Mudanjiang 51.82 1 P **P** **20 48 44.4 +1.1**
MDJ pP pP 20 49 17.0 +0.3
MDJ S **S** **20 55 53.4 -0.4**
MDJ pmax pmax
comp=Z,28nm,0.8s
MDJ Mudanjiang 51.82 1 P **P** **20 48 44.2 +0.9**
RPZ Rata Peaks 51.83 141 P **P** **20 48 45.5 +2.0**
RPZ Rata Peaks 51.83 141 LR LR 21 11 03.6
comp=Z,214nm,20.3s,baz=10.0,slow=36
RPZ Rata Peaks 51.83 141 P **P** **20 48 45.6 +2.0**
KUZ Kuaotunu 51.88 131 P **P** **20 48 46.3 +2.3**
THZ Tophouse 52.04 138 P **P** **20 48 47.5 +2.3**
TOZ Tahuroa Road 52.10 133 IAmb IAmb 20 48 49.3
comp=Z,87nm,1.6s
LTZ Lake Taylor 52.12 140 IAmb IAmb 20 48 49.1
comp=Z,99nm,1.7s
LTZ Lake Taylor 52.12 140 P **P** **20 48 48.4 +2.7**
TMZ Timaru 52.15 142 P **P** **20 48 47.2 +1.3**
TUZ Tuapeka 52.20 144 P **P** **20 48 47.5 +1.4**
SYZ Scrubby Hill 52.25 145 P **P** **20 48 47.6 +1.1**
OXZ Oxford 52.25 140 P **P** **20 48 48.2 +1.6**
ODZ Otahua Downs 52.29 143 P **P** **20 48 48.8 +2.0**
XLT XiLinHaoTe 52.31 349 *e*P **P** **20 48 47.7 +0.6**
XLT pP pP 20 49 19.4 -1.2
XLT sP sP 20 49 37.5 +0.6
XLT S **S** **20 55 56.0 -4.8**
XLT sS sS 20 57 01.2 +1.4
XLT ScS **ScS** **20 58 16.9 -4.7**
XLT pmax pmax
comp=Z,140nm,0.9s
WAZ Wanganui 52.56 135 P **P** **20 48 51.7 +2.7**
HHSZ Highcliff Hill 52.72 144 P **P** **20 48 52.7 +2.7**
NGZ Ngauruhoe 52.75 134 P **P** **20 48 53.3 +2.8**
KHZ Kahutara 52.77 139 IAmb IAmb 20 48 52.6
comp=Z,57nm,0.8s
KHZ Kahutara 52.77 139 P **P** **20 48 51.9 +1.5**
MQZ McQueen's Vall 52.83 141 P **P** **20 48 52.3 +1.5**
ASAJ Asahikawa 52.88 13 P **P** **20 48 51.7 +0.6**
comp=Z,34nm,0.7s,baz=227,slow=9.9,SNR=42

comp=Z,34nm,0.7s
JKA Kamikawa-asahi 52.88 13 lAmb lAmb 20 48 52.4
comp=Z,39nm,0.7s
BNX BinXian 52.95 359 ⇓P **P** **20 48 51.2 -0.4**
BNX pmax pmax
comp=Z,10.0nm,0.5s
BHW Baring Head 53.19 137 lAmb lAmb 20 48 54.7
comp=Z,30nm,0.7s
MRZ Mangatainoka R 53.35 136 P **P** **20 48 55.6 +0.9**
TSZ Takapari Road 53.37 135 P **P** **20 48 55.9 +1.0**
BKZ Black Stump Fm 53.38 134 lAmb lAmb 20 48 56.9
comp=Z,32nm,0.7s
BKZ Black Stump Fm 53.38 134 P **P** **20 48 56.5 +1.4**
BKZ Black Stump Fm 53.38 134 P **P** **20 48 56.2 +1.2**
URZ Urewera 53.48 133 LR LR 21 11 49.7
comp=Z,139nm,19.8s,baz=332,slow=36
RTZ Ruatahuna 53.52 133 lAmb lAmb 20 48 57.8
comp=Z,38nm,0.7s
GTA Gaotai 53.64 333 P **P** **20 48 58.5 +1.6**
GTA pP pP 20 49 28.9 -1.8
GTA PcP **PcP** **20 50 02.5 +1.1**
GTA ScP **ScP** **20 53 46.0 +0.9**
GTA S **S** **20 56 18.4 -0.6**
GTA ScS **ScS** **20 58 31.1 -0.1**
GTA pmax pmax
comp=Z,220nm,0.9s
GTA pmax pmax
comp=Z,69nm,5.5s
GTA LR LR
comp=Z,120nm,18.2s
GTA LR LR
comp=Z,230nm,17.1s
GTA LR LR
comp=Z,170nm,18.9s
GOMU GeErMu 53.69 326 P **P** **20 48 58.5 +0.8**
HAZ Te Kaha 53.78 132 P **P** **20 48 59.1 +1.2**
MWZ Matawai 53.81 133 P **P** **20 48 59.3 +1.1**
BFZ Birch Farm 53.82 136 P **P** **20 48 59.4 +1.3**
MXZ Matakaoa Point 54.10 131 P **P** **20 49 01.8 +1.6**
PUZ Puketiti 54.25 132 P **P** **20 49 02.6 +1.2**
HYB Hyderabad 55.15 297 IVmB_BB 20 49 07.3
comp=Z,966nm,1.6s
HYB *eP* **P** **20 49 07.5 -0.6**
HYB *ep*P pP 20 49 40.2 -1.6
YSS Yuzhno-Sakhali 55.62 12 P **P** **20 49 11.0 +0.1**
YSS Yuzhno-Sakhali 55.62 12 P **P** **20 49 11.8 +0.9**
YSS Yuzhno-Sakhali 55.62 12 *eP* **P** **20 49 11.0 +0.1**
YSS *e* 20 50 06.4
YSS pmax pmax
comp=Z,80nm,0.5s
YSS Yuzhno-Sakhali 55.62 12 P **P** **20 49 11.4 +0.5**
KLR Kul'dur 56.50 3 P **P** **20 49 17.7 +0.6**
comp=Z,12nm,0.9s,baz=215,slow=4.8,SNR=22
KLR PcP **PcP** **20 50 11.7 -0.4**
comp=Z,6.1nm,0.6s,baz=257,slow=5.2,SNR=5.0
KLR ScP **ScP** **20 53 58.1 +0.9**
comp=Z,3.8nm,0.9s,baz=247,slow=0.9,SNR=3.9
comp=Z,12nm,0.9s
KLR Kul'dur 56.50 3*c i*P **P** **20 49 17.0 -0.1**
KLR pmax pmax
comp=Z,26nm,1.1s
HIA Hailar 56.98 353 P **P** **20 49 22.5 +2.0**
HEH HeiHe 57.46 359 *eP* **P** **20 49 23.4 -0.4**
HEH pmax pmax
comp=Z,46nm,0.8s
HEH pmax pmax
comp=Z,130nm,5.4s
ULN Ulaanbaatar 58.23 343 P **P** **20 49 30.1 +0.7**
ULN Ulaanbaatar 58.23 343 P **P** **20 49 30.6 +1.2**
ULN Ulaanbaatar 58.23 343*ce*P **P** **20 49 30.4 +1.0**
ULN pmax pmax
comp=Z,120nm,1.0s
ULN Ulaanbaatar 58.23 343 P **P** **20 49 30.6 +1.2**
ULN PcP **sP** **20 50 19.9 -0.1**
ULN ScP **ScP** **20 54 06.2 +1.1**
GRNR Gornyy 58.38 6⇑ *i*P **P** **20 49 30.9 +0.7**
GRNR pmax pmax
comp=Z,30nm,0.7s
GRNR MLR MLR
comp=E,390nm,20.0s
SONM Songino Array 58.39 343 P **P** **20 49 30.6 +0.1**
SONM Songino Array 58.39 343 P **P** **20 49 31.5 +0.9**
comp=E,98nm,0.9s,baz=161,slow=7.0,SNR=288
SONM ScP **ScP** **20 54 05.5 -0.3**
comp=E,4.0nm,0.8s,baz=162,slow=5.3,SNR=5.1
SONM PKP2bc 21 19 18.0
comp=E,2.8nm,1.0s,baz=310,slow=2.2,SNR=8.2
comp=E,98nm,0.9s
TYV Tymovskoe 59.35 10 *eP* **P** **20 49 38.0 +1.1**
TYV pmax pmax
comp=Z,34nm,0.7s
TYV pmax pmax
comp=Z,100nm,2.9s
DRV Dumont d'Urvil 59.67 175 ⇑P **P** **20 49 40.2 +1.3**
CASY Casey 60.05 188 P **P** **20 49 42.5 +1.0**
CASY lAmb lAmb 20 49 43.4
comp=Z,51nm,0.8s
CASY Casey 60.05 188 P **P** **20 49 42.9 +1.4**
CIT Chita 60.59 349 *eP* **P** **20 49 46.4 +1.0**
CIT *e* 20 50 28.6
CIT *e* 20 50 41.1
CIT *e* 20 53 26.2
CIT pmax pmax
comp=Z,74nm,1.2s
ZEA Zeya 60.95 359 *eP* **P** **20 49 48.5 +0.7**
ZEA *e* 20 50 31.0
ZEA pmax pmax
comp=N,20nm,0.7s
ZEA pmax pmax
comp=Z,50nm,0.7s
ZAK Zakamensk 61.59 342 *eP* **P** **20 49 52.4 +0.1**
ZAK pmax pmax
comp=Z,27nm,1.2s
SKR Severo-Kuril's 62.64 19⇓ *i*P **P** **20 49 59.6 +0.5**
WMQ Urumqi 62.94 328 *eP* **P** **20 50 02.2 +0.8**
WMQ pmax pmax
comp=Z,170nm,1.1s
WMQ pmax pmax
comp=Z,330nm,3.7s
IRK Irkutsk 62.95 344 *eP* **P** **20 49 59.7 -1.5**
IRK *eS* **S** **20 58 21.8 +2.8**
IRK pmax pmax
comp=Z,124nm,1.1s
MOY Mondy 63.43 341 *eP* **P** **20 50 05.6 +1.1**
MOY pmax pmax
comp=Z,114nm,1.5s
PEA0B Petropavlovsk- 65.22 19*c i*P **P** **20 50 16.8 +0.8**
PETK Petropavlovsk- 65.22 19 P **P** **20 50 15.6 -0.4**
PETK Petropavlovsk- 65.22 19 P **P** **20 50 16.2 +0.3**
comp=Z,116nm,0.6s,baz=180,slow=3.8,SNR=274
PETK PcP **PcP** **20 50 47.2 +0.1**
comp=Z,19nm,0.6s,baz=204,slow=2.4,SNR=4.5
PETK LR LR 21 15 15.8
comp=Z,29nm,21.9s,baz=190,slow=33
PETK PKP2ab 21 19 01.6
comp=Z,1.3nm,0.8s,baz=57,slow=5.3,SNR=5.1
comp=Z,116nm,0.6s
PET Petropavlovsk 65.46 20 P **P** **20 50 17.7 +0.2**
PET Petropavlovsk 65.46 20 P **P** **20 50 18.4 +1.0**
PET Petropavlovsk 65.46 20 *eP* **P** **20 50 18.4 +1.0**
PET pmax pmax
comp=Z,131nm,0.6s
PET Petropavlovsk 65.46 20 P **P** **20 50 18.4 +1.0**
BOD Bodaibo 66.09 352 *eP* **P** **20 50 21.7 +0.3**
BOD pmax pmax
comp=Z,58nm,0.8s
NIL Nilore 66.36 312 P **P** **20 50 23.1 -0.6**
NIL Nilore 66.36 312 P **P** **20 50 23.1 -0.6**
NIL pmax pmax
comp=Z,137nm,0.6s
NIL Nilore 66.36 312 P **P** **20 50 23.7 0.0**
ZSN Zaisan 66.86 329 *eP* **P** **20 50 27.2 +0.6**
ZSN pmax pmax
comp=Z,33nm,0.8s
ZSN Zaisan 66.86 329 *eP* **P** **20 50 27.2 +0.6**
comp=Z,33nm,0.8s
SHLS Shalkode 67.14 323 *eP* **P** **20 50 27.5 -1.1**
SHLS pmax pmax
comp=Z,42nm,0.7s
SHLS Shalkode 67.14 323 *eP* **P** **20 50 27.5 -1.1**
comp=Z,42nm,0.7s
PDGK Podgornoye 67.23 323 P **P** **20 50 29.2 +0.1**
PRZ Przheval'sk 67.40 322 lAmb lAmb 20 50 33.0
comp=Z,76nm,0.8s
CCD Concordia, Ant 67.69 181 P **P** **20 50 33.8 +2.0**
CCD PcP **PcP** **20 50 59.3 +1.7**
MK31 Makanchi Array 67.77 328*ce*P **P** **20 50 32.7 +0.4**
MKAR Makanchi Array 67.77 328 P **P** **20 50 32.4 0.0**
MKAR Makanchi Array 67.77 328 P **P** **20 50 32.9 +0.5**
comp=Z,42nm,0.5s,baz=123,slow=7.0,SNR=412
MKAR S **S** **20 59 15.4 -2.6**
comp=Z,1.0nm,1.0s,baz=138,slow=14,SNR=2.7
MKAR PKPPKP **P'P'df** **21 18 51.4 -0.9**
comp=Z,1.0nm,0.9s,baz=342,slow=3.2,SNR=5.5
comp=Z,42nm,0.5s
KPKS Kokpek 67.79 323 *eP* **P** **20 50 33.0 +0.4**
KPKS Kokpek 67.79 323 *eP* **P** **20 50 33.0 +0.4**
MAKZ Makanchi 67.94 327 P **P** **20 50 33.6 +0.2**
MAKZ Makanchi 67.94 327 P **P** **20 50 33.6 +0.2**
MAKZ pmax pmax
comp=Z,88nm,0.9s
MAKZ Makanchi 67.94 327 P **P** **20 50 33.8 +0.4**
MAKZ PcP **PcP** **20 50 57.7 -1.0**
KDJ Kajisay 67.95 321 lAmb lAmb 20 50 35.8
comp=Z,46nm,0.6s
TNSS Tian-Shan 68.59 322 *eP* **P** **20 50 38.1 +0.1**
TNSS Tian-Shan 68.59 322 *eP* **P** **20 50 38.1 +0.1**
AAA Alma-Ata 68.71 322 *eP* **P** **20 50 38.6 +0.3**
AAA pmax pmax
comp=Z,30nm,0.6s
AAA Alma-Ata 68.71 322 *eP* **P** **20 50 38.6 +0.3**
comp=Z,30nm,0.6s
ARXS Arharly 68.72 323 *eP* **P** **20 50 39.0 +0.6**
TDK Taldyqorghan 68.84 324 *eP* **P** **20 50 39.4 +0.4**
TDK pmax pmax
comp=Z,87nm,1.1s
TDK Taldyqorghan 68.84 324 *eP* **P** **20 50 39.4 +0.4**
comp=Z,87nm,1.1s
CHKK Chushkaly 69.02 323 *eP* **P** **20 50 40.4 +0.2**
CHKK Chushkaly 69.02 323 *eP* **P** **20 50 40.4 +0.2**
MA2 Magadan 69.13 12 P **P** **20 50 40.8 +0.4**
MA2 lAmb lAmb 20 50 42.3
comp=Z,57nm,0.9s
MA2 Magadan 69.13 12 P **P** **20 50 41.3 +0.8**
comp=Z,55nm,0.8s,baz=182,slow=5.1,SNR=41
MA2 LR LR 21 19 29.5
comp=Z,34nm,21.5s,baz=210,slow=34
comp=Z,55nm,0.8s
MA2 Magadan 69.13 12 P **P** **20 50 41.5 +1.1**
MA2 Magadan 69.13 12*ce*P **P** **20 50 40.9 +0.4**
MA2 *i* *PP **pP** **20 51 15.5 -0.5**
MA2 pmax pmax
comp=Z,56nm,0.8s
MA2 Magadan 69.13 12 P **P** **20 50 41.3 +0.8**
MA2 pP **pP** **20 51 15.2 -0.9**
YAK Yakutsk 69.27 1 P **P** **20 50 41.4 +0.1**
comp=Z,364nm,0.6s,baz=5.2,slow=0.6,SNR=112
comp=Z,364nm,0.6s
YAK Yakutsk 69.27 1*c i*P **P** **20 50 41.3 +0.1**
YAK *e* 20 51 03.5
YAK *e**PP **pP** **20 51 16.4 -0.5**
YAK *e* 20 53 16.1
YAK *e*PPP PPP 20 54 58.5
YAK *e*S **S** **20 59 35.0 +0.1**
YAK *e* 21 00 24.5
YAK *e*SS **SS** **21 04 07.4 +2.4**
YAK pmax pmax
comp=Z,313nm,0.9s
YAK pmax pmax
comp=N,41nm,1.1s
YAK pmax pmax
comp=E,16nm,0.9s
YAK pmax pmax
comp=Z,127nm,2.9s
YAK pmax pmax
comp=N,89nm,3.7s
YAK pmax pmax
comp=E,35nm,3.5s
YAK smax smax
comp=E,89nm,1.6s
YAK smax smax
comp=N,43nm,1.7s
YAK Yakutsk 69.27 1 P **P** **20 50 41.3 +0.1**
KUU Kurty 69.43 322 *eP* **P** **20 50 43.2 +0.5**
KUU Kurty 69.43 322 *eP* **P** **20 50 43.2 +0.5**
AAK Ala-Archa 69.90 321 PKP2bc 21 18 50.0
comp=N,1.7nm,0.3s,baz=253,slow=4.3,SNR=17
AAK Ala-Archa 69.90 321*c i*P **P** **20 50 46.8 +1.0**
AAK pmax pmax
comp=Z,49nm,0.6s
SGDS Sogindy 70.24 321⇑ *i*P **P** **20 50 48.0 +0.3**
comp=Z,30nm,1.1s
SEM Semipalatinsk 71.10 330*c i*P **P** **20 50 52.8 -0.1**
SEM pmax pmax
comp=Z,58nm,0.8s
SEM Semipalatinsk 71.10 330⇑ *i*P **P** **20 50 52.8 -0.1**
comp=Z,58nm,0.8s
ZALV Zalesovo Beam 71.31 334 P **P** **20 50 53.1 -0.7**
ZALV Zalesovo Beam 71.31 334 P **P** **20 50 53.6 -0.2**
comp=Z,115nm,0.7s,baz=126,slow=4.4,SNR=419
ZALV S **S** **20 59 55.8 -3.3**
comp=Z,1.8nm,0.8s,baz=130,slow=13,SNR=5.4
ZALV LR LR 21 21 21.8
comp=Z,52nm,21.5s,baz=146,slow=35
comp=Z,115nm,0.7s
DZA Taraz 72.05 320 *eP* **P** **20 50 58.8 +0.3**
DZA Taraz 72.05 320 *eP* **P** **20 50 58.9 +0.3**
KURBB Kurchatov Arra 72.09 329 P **P** **20 50 59.0 +0.5**
comp=Z,211nm,0.8s,baz=130,slow=5.0,SNR=910
KURBB S **S** **21 00 00.6 -7.6**
comp=Z,0.6nm,0.9s,baz=130,slow=11,SNR=4.8
comp=Z,211nm,0.8s
KURBB Kurchatov Arra 72.09 329 P **P** **20 50 58.6 0.0**
KURK Kurchatov 72.11 329 P **P** **20 50 59.0 +0.3**
KURK Kurchatov 72.11 329 P **P** **20 50 59.2 +0.6**
KURK Kurchatov 72.11 329*ce*P **P** **20 50 59.1 +0.5**
KURK pmax pmax
comp=Z,267nm,0.9s
VNDA Vanda 72.20 173 P **P** **20 50 59.9 +1.0**
comp=Z,22nm,0.6s,baz=319,slow=6.5,SNR=153
VNDA LR LR 21 23 44.9
comp=Z,115nm,18.2s,baz=346,slow=36
comp=Z,22nm,0.6s
SEY Seymchan 72.52 11 P **P** **20 51 01.8 +0.9**
comp=Z,101nm,0.6s,baz=209,slow=5.5,SNR=391
comp=Z,101nm,0.6s
CHM Chimkent 72.90 318 *eP* **P** **20 51 04.0 +0.4**
CHM pmax pmax
comp=Z,75nm,0.9s
CHM Chimkent 72.90 318 *eP* **P** **20 51 04.1 +0.4**
comp=Z,75nm,0.9s
BRLS Borolday 73.08 319*c i*P **P** **20 51 04.9 +0.3**
BRLS pmax pmax
comp=Z,34nm,0.7s
BRLS Borolday 73.08 319⇑ *i*P **P** **20 51 05.0 +0.3**
comp=Z,34nm,0.7s
SBA Scott Base 73.11 172 P **P** **20 51 05.8 +1.6**
SBA Scott Base 73.11 172 P **P** **20 51 05.8 +1.6**
SBA pmax pmax
comp=Z,26nm,0.8s
JLN Jalan Bani Buh 73.71 296 P **P** **20 51 08.4 -0.4**
MAW Mawson 73.99 201 P **P** **20 51 10.6 +1.2**
comp=Z,8.8nm,1.3s
MAW Mawson 73.99 201 P **P** **20 51 10.8 +1.4**
comp=Z,21nm,0.8s,baz=70,slow=7.1,SNR=23
MAW LR LR 21 20 24.1
comp=Z,60nm,19.9s,baz=66,slow=33
comp=Z,21nm,0.8s
WSAR Wadi Sarin 74.69 296 P **P** **20 51 14.1 -0.3**
comp=Z,0.3nm,0.9s,baz=123,slow=24,SNR=17
WSAR Wadi Sarin 74.69 296 P **P** **20 51 14.1 -0.3**
MHTO MHTO 74.72 294 P **P** **20 51 13.9 -0.7**
BRZS Berezniki 74.83 326*c i*P **P** **20 51 15.1 +0.5**
BRZS Berezniki 74.83 326⇑ *i*P **P** **20 51 15.2 +0.5**
DQM DQM 74.85 293 P **P** **20 51 15.7 +0.4**
JMDO Jabal Madar 74.94 295 P **P** **20 51 15.9 0.0**
SMDO Samad 75.16 296 P **P** **20 51 16.7 -0.6**
BIDO Bidbid 75.21 297 P **P** **20 51 17.4 0.0**
SNR=8.9
BSY Bisya 75.84 296 P **P** **20 51 20.3 -0.7**
HOQ Hoqain 75.95 296 P **P** **20 51 22.3 +0.7**
SNR=7.3
JASK Jask - Hormozg 76.06 299 P **P** **20 51 23.7 +1.5**
ARQ Araqi 76.59 296 P **P** **20 51 25.1 -0.2**
DMTO DMTO 76.75 290 P **P** **20 51 25.3 -0.8**
SOHO SOHO 76.78 297 P **P** **20 51 25.9 -0.3**
SOHO SOHO 76.78 297 *i* P **P** **20 51 25.8 -0.5**
SNR=20
UOSS Minazif 77.27 298 P **P** **20 51 28.7 -0.3**
UOSS Minazif 77.27 298 P **P** **20 51 29.4 +0.4**
UOSS Minazif 77.27 298 P **P** **20 51 29.0 0.0**
MDH Madha 77.28 298 P **P** **20 51 28.6 -0.4**
HATD Hatta, Dubai 77.31 297 P **P** **20 51 29.0 -0.2**
HATD Hatta, Dubai 77.31 297 *i* P **P** **20 51 28.6 -0.6**
SNR=8.3
ASHO Ashiyiah 77.33 297 P **P** **20 51 29.8 +0.4**
ASHO Ashiyiah 77.33 297 *i* P **P** **20 51 31.0 +1.6**
SNR=9.8
MSFE Esma-Masafi 77.41 298 *i* P **P** **20 51 30.4 +0.6**
SNR=8.7
MASF Masafi 77.42 298 P **P** **20 51 30.2 +0.4**
ALNE Al Ain 77.45 297 P **P** **20 51 30.2 +0.1**
SNR=6.3
ALNE Al Ain 77.45 297 *i* P **P** **20 51 31.2 +1.1**
SNR=25
SHME Shamm 77.60 299 P **P** **20 51 31.2 +0.4**
SHME Shamm 77.60 299 *i* P **P** **20 51 30.7 -0.1**
SNR=17
BVA0 Borovoye Array 77.63 328 *i* P **P** **20 51 30.4 0.0**
BVAR Borovoye Array 77.63 328 P **P** **20 51 30.6 +0.2**
comp=Z,74nm,0.7s,baz=123,slow=5.5,SNR=330
comp=Z,74nm,0.7s
UMZA Um Al Zommool 77.66 295 P **P** **20 51 30.5 -0.7**
DOK Doka 77.70 291 P **P** **20 51 30.2 -1.2**
BRVK Borovoye 77.70 328 P **P** **20 51 30.9 +0.2**
BRVK lAmb lAmb 20 51 32.1
comp=Z,121nm,0.9s
BRVK Borovoye 77.70 328 P **P** **20 51 31.2 +0.5**
BRVK Borovoye 77.70 328*ce*P **P** **20 51 31.1 +0.4**
BRVK pmax pmax
comp=Z,146nm,1.0s
NAZ Nazwa, Dubai 77.76 297 P **P** **20 51 32.0 +0.3**
NAZ Nazwa, Dubai 77.76 297 P **P** **20 51 31.7 0.0**
FAQ Al Faqa, Dubai 77.76 297 P **P** **20 51 31.5 -0.2**
FAQ Al Faqa, Dubai 77.76 297 *i* P **P** **20 51 30.9 -0.8**
SNR=12
WHFO Wadi Hawf 77.89 290 P **P** **20 51 31.5 -1.0**
ASUD Al Ashush, Dub 77.97 297 P **P** **20 51 32.7 -0.1**
ASUD Al Ashush, Dub 77.97 297 *i* P **P** **20 51 31.9 -0.9**
SNR=7.6
ABTO Aybut 78.21 289 P **P** **20 51 33.7 -0.7**
AJN Ajban 78.25 297 P **P** **20 51 35.2 +0.8**
TIXI Tiksi 78.92 0 P **P** **20 51 36.8 -0.3**
TIXI Tiksi 78.92 0 P **P** **20 51 36.7 -0.3**
comp=Z,76nm,0.6s,baz=196,slow=4.0,SNR=78
comp=Z,76nm,0.6s
TIXI Tiksi 78.92 0*ce*P **P** **20 51 36.8 -0.3**
TIXI pmax pmax
comp=Z,73nm,0.6s
MZR Muzera 79.24 295 P **P** **20 51 39.7 -0.1**
SNR=5.6
MZR Muzera 79.24 295 *i* P **P** **20 51 39.3 -0.5**
SNR=22
VOI Vohitsoka 79.57 249 P **P** **20 51 42.1 +0.2**
BILL Bilibino 79.89 14*ce*P **P** **20 51 45.0 +2.6**
BILL pmax pmax
comp=Z,7.0nm,0.5s
GHWR Ruwais 79.99 296 P **P** **20 51 43.4 -0.5**
NIKH Nikolski High 80.05 33 lAmb lAmb 20 51 53.7
comp=Z,96nm,1.0s
NIKH Nikolski High 80.05 33 P **P** **20 51 43.5 0.0**
baz=243
JRN Qarnain Island 80.23 297 P **P** **20 51 44.8 -0.4**
SLWR Sila 81.07 296 P **P** **20 51 49.5 -0.1**
SPIA Saint Paul Isl 81.28 29 P **P** **20 51 50.0 +0.1**
baz=242
P08K Saint George I 81.35 30 P **P** **20 51 50.7 +0.3**
baz=242
NRIK Noril'sk 81.62 346 P **P** **20 51 52.2 +0.6**
comp=Z,74nm,0.6s,baz=136,slow=5.0,SNR=71
comp=Z,74nm,0.6s
NRIK Noril'sk 81.62 346*c i*P **P** **20 51 52.1 +0.6**
NRIK pmax pmax
comp=Z,71nm,0.7s
TRNA Turayna 81.64 296 P **P** **20 51 52.4 -0.2**
UNV Unalaska Valle 81.69 33 P **P** **20 51 52.7 +0.4**
baz=245
AB31 Akbulak array 81.91 322 lAmb lAmb 20 51 54.4
comp=Z,73nm,0.6s
AB31 Akbulak array 81.91 322 *i* P **P** **20 51 53.3 -0.2**
ABKAR Akbulak array 81.91 322 P **P** **20 51 53.2 -0.3**
ABKAR Akbulak array 81.91 322 lAmb lAmb 20 51 54.4
comp=Z,74nm,0.6s
SMRA Abu-Samra 81.98 296 P **P** **20 51 54.1 -0.3**
AKUT Akutan 82.21 33 lAmb lAmb 20 52 54.7
comp=Z,114nm,1.2s
SAKB Bahrain 82.49 297 P **P** **20 51 58.2 +1.2**
QSPA South Pole Qui 82.54 180 P **P** **20 51 56.9 +0.3**
QSPA lAmb lAmb 20 51 58.3
comp=Z,73nm,0.8s
QSPA South Pole Qui 82.54 180 P **P** **20 51 57.3 +0.6**
comp=Z,69nm,0.8s,baz=314,slow=1.2,SNR=369
QSPA PKKPbc **PKKPbc** **21 10 21.0 -3.9**
comp=Z,2.6nm,0.9s,baz=197,slow=0.8,SNR=5.8
comp=Z,69nm,0.8s
SYO Syowa Base 82.70 201⇑ *i*P **P** **20 51 58.5 +1.2**
AKTO Aktyubinsk 83.49 323 P **P** **20 52 01.9 +0.2**
comp=Z,104nm,0.7s,baz=103,slow=5.1,SNR=273
comp=Z,104nm,0.7s
FALS False Pass 83.75 33 P **P** **20 52 03.0 +0.1**
baz=248
GAMB Gambell 83.90 23 P **P** **20 52 04.2 +0.9**
baz=240
SVE Sverdlovsk 84.36 329*d i*P **P** **20 52 06.3 +0.4**
SVE *eS* **SKSac** **21 02 16.5 +1.4**
SVE pmax pmax
comp=Z,169nm,0.9s
M11K Mekoryuk 84.61 27 P **P** **20 52 07.9 +0.8**
baz=245
S12K Black Hills 84.79 32 lAmb lAmb 20 52 09.6
comp=Z,38nm,0.7s
S12K Black Hills 84.79 32 P **P** **20 52 08.1 0.0**
baz=249,SNR=6.3
ARTI Arti 85.35 328 P **P** **20 52 09.7 -1.2**
ARTI Arti 85.35 328 P **P** **20 52 10.0 -0.9**
comp=Z,114nm,0.8s,baz=119,slow=3.0,SNR=197
comp=Z,114nm,0.8s
ARTI Arti 85.35 328*c i*P **P** **20 52 09.9 -0.9**
ARTI 20 55 28.7
ARTI PPP PPP 20 57 21.6
ARTI S **SKSac** **21 02 20.9 -0.5**
ARTI pmax pmax
comp=Z,124nm,0.8s
SDPT Sand Point 85.51 33 P **P** **20 52 12.5 +0.9**
SDPT Sand Point 85.51 33 P **P** **20 52 11.6 0.0**
baz=250,SNR=9.4
KBD Kabd 85.60 300 P **P** **20 52 13.0 +0.3**
CHNA Chernabura Isl 85.82 33 P **P** **20 52 14.4 +1.2**
CHNA Chernabura Isl 85.82 33 P **P** **20 52 13.2 0.0**
baz=251,SNR=5.4
M13K Dall Lake 85.92 28 lAmb lAmb 20 52 15.8
comp=Z,65nm,0.7s
M13K Dall Lake 85.92 28 P **P** **20 52 15.0 +1.4**
baz=247
K13K Kusilvak Mount 85.94 26 P **P** **20 52 14.6 +1.0**
baz=246
TNA Tin City 86.19 22 P **P** **20 52 15.2 +0.5**
baz=243
S14K Fog Glacier 86.31 32 P **P** **20 52 16.2 +0.5**
baz=251
O14K Tigyukauivet M 86.46 29 lAmb lAmb 20 52 18.7
comp=Z,116nm,1.5s
O14K Tigyukauivet M 86.46 29 P **P** **20 52 17.1 +0.8**
baz=249,SNR=11
N14K Kuskokwak Cree 86.50 28 lAmb lAmb 20 52 18.1
comp=Z,78nm,1.1s
N14K Kuskokwak Cree 86.50 28 P **P** **20 52 17.1 +0.6**
baz=249,SNR=7.5
RAYN Ar Rayn 86.53 294 P **P** **20 52 16.8 -0.7**
RAYN lAmb lAmb 20 52 19.6
comp=Z,27nm,0.6s
RAYN Ar Rayn 86.53 294 P **P** **20 52 17.2 -0.3**
RAYN Ar Rayn 86.53 294 ⇑P **P** **20 52 17.2 -0.3**
L14K Kuka Creek 86.57 27 lAmb lAmb 20 52 18.8
comp=Z,107nm,1.2s
L14K Kuka Creek 86.57 27 P **P** **20 52 17.6 +0.9**
baz=248
LKRN Lenkeran, Azer 86.63 310 P **P** **20 52 18.6 +1.1**
M14K Bethel 86.68 27 P **P** **20 52 18.0 +0.8**
baz=249,SNR=36
ANM Nome 86.73 23 P **P** **20 52 17.8 +0.4**
baz=245
J14K Nanvaranak Lak 86.73 25 lAmb lAmb 20 52 19.4
comp=Z,87nm,1.6s
J14K Nanvaranak Lak 86.73 25 P **P** **20 52 18.3 +0.9**
baz=247

F14K	**Arctic Creek** baz=244	86.75	22	P		P	20 52 18.1	+0.6
CHGN	**Chignik** baz=252,SNR=6.1	86.92	32	P		P	20 52 18.7	+0.2
O15K	**Ungalikthiuk R** comp=Z,55nm,1.4s	87.13	29	IAmb		IAmb	20 52 21.1	
O15K	**Ungalikthiuk R** baz=250,SNR=9.2	87.13	29	P		P	20 52 19.9	+0.4
L15K	**Ungalak Mounta** baz=249,SNR=18	87.23	27	P		P	20 52 20.4	+0.5
M15K	**Kasigluk River** baz=250,SNR=26	87.24	28	P		P	20 52 20.8	+0.8
N15K	**Kwethluk River** comp=Z,68nm,0.9s	87.34	28	IAmb		IAmb	20 52 22.9	
N15K	**Kwethluk River** baz=250,SNR=25	87.34	28	P		P	20 52 21.4	+0.9
G15K	**Niukluk** baz=246	87.42	23	P		P	20 52 21.5	+0.7
K15K	**Wolf Creek Mou** baz=249,SNR=6.7	87.43	26	P		P	20 52 21.6	+0.7
F15K	**North Star Dit** baz=246	87.48	22	P		P	20 52 21.5	+0.5
P16K	**Nushagak River** baz=252	87.98	30	P		P	20 52 24.2	+0.7
AKT	**Akhty**	87.99	312	*e*	P	P	20 52 23.6	-0.6
AKT				*e*	*PP	pP	20 53 00.4	-1.0
AKT				*e*			20 55 49.9	
AKT	comp=Z,75nm,1.0s				pmax	pmax		
H16K	**Elim** baz=248	88.00	24	P		P	20 52 24.4	+0.9
N16K	**Nishlik Lake** baz=251,SNR=22	88.06	28	P		P	20 52 25.1	+1.1
O16K	**Kokwok River B** comp=Z,33nm,1.1s	88.11	29	IAmb		IAmb	20 52 25.8	
O16K	**Kokwok River B** baz=252,SNR=14	88.11	29	P		P	20 52 24.8	+0.7
L16K	**Owhat River** comp=Z,25nm,0.7s	88.14	27	IAmb		IAmb	20 52 25.7	
L16K	**Owhat River** baz=251,SNR=23	88.14	27	P		P	20 52 24.8	+0.6
M16K	**Timber Creek** comp=Z,32nm,0.6s	88.15	28	IAmb		IAmb	20 52 26.7	
M16K	**Timber Creek** baz=251,SNR=25	88.15	28	P		P	20 52 25.0	+0.6
J16K	**Anvik River** comp=Z,42nm,0.8s	88.18	25	IAmb		IAmb	20 52 26.5	
J16K	**Anvik River** baz=250	88.18	25	P		P	20 52 25.1	+0.7
G16K	**Koyuk River** comp=Z,28nm,0.9s	88.23	23	IAmb		IAmb	20 52 26.2	
G16K	**Koyuk River** baz=248,SNR=5.4	88.23	23	P		P	20 52 25.0	+0.4
CHIR	**Chirikof Islan** baz=254	88.28	33	P		P	20 52 25.5	+0.5
C16K	**Lisburne Hills** baz=245	88.30	20	P		P	20 52 25.4	+0.5
MNGR	**Mingechevir, A**	88.33	311	P		P	20 52 27.9	+2.3
SEKA	**Sheki**	88.33	312	P		P	20 52 26.2	+0.5
I17K	**Unalakleet** baz=250	88.35	25	P		P	20 52 25.7	+0.5
R17L	**Mt. Peulik Vol** baz=254	88.39	31	P		P	20 52 25.7	+0.2
PLK4	**Peulik 4** comp=Z,47nm,1.1s	88.39	31	IAmb		IAmb	20 52 27.0	
O17K	**Koliganek Bris** baz=253,SNR=16	88.64	29	P		P	20 52 27.4	+0.7
P17K	**Kvichak River** baz=253	88.80	30	P		P	20 52 28.0	+0.7
L17K	**Donlin** baz=252,SNR=13	88.80	27	P		P	20 52 28.1	+0.8
Q17K	**Contact Creek** baz=254,SNR=12	88.81	31	P		P	20 52 27.0	-0.7
N17K	**Nushagak Hills** baz=253,SNR=7.5	88.82	28	P		P	20 52 27.9	+0.4
D17K	**Noatak River** baz=247	88.84	21	P		P	20 52 28.0	+0.6
J17K	**VABM Dome** comp=Z,30nm,0.8s	88.87	25	IAmb		IAmb	20 52 29.2	
J17K	**VABM Dome** baz=251,SNR=12	88.87	25	P		P	20 52 28.1	+0.5
GANJ	**Ganja**	88.87	311	P		P	20 52 28.9	+0.7
G17K	**Kiwalik Mounta** baz=250	88.94	23	P		P	20 52 28.3	+0.4
M17K	**Holitna River** baz=252,SNR=8.0	88.97	28	P		P	20 52 28.9	+0.8
K17K	**Iditarod** comp=Z,41nm,0.8s	88.98	26	IAmb		IAmb	20 52 29.9	
K17K	**Iditarod** baz=252,SNR=24	88.98	26	P		P	20 52 28.8	+0.6
H17K	**Granite Mounta** comp=Z,23nm,0.8s	89.04	24	IAmb		IAmb	20 52 30.1	
H17K	**Granite Mounta** baz=250	89.04	24	P		P	20 52 28.5	+0.1
F17K	**Baldwin Pennin** baz=249	89.04	22	P		P	20 52 28.6	+0.2
RDOG	**Red Dog Mine** comp=Z,31nm,0.9s	89.04	20	IAmb		IAmb	20 52 29.4	
RDOG	**Red Dog Mine** baz=247	89.04	20	P		P	20 52 28.5	+0.1
E17K	**Hotham Inlet** baz=248,SNR=5.4	89.06	22	P		P	20 52 28.8	+0.3
C17K	**DeLong Mountai** baz=247	89.11	20	P		P	20 52 28.8	+0.1
NAX	**Nakhchivan**	89.23	310	P		P	20 52 30.9	+0.9
SII	**Sitkinak Islan** baz=255	89.25	33	P		P	20 52 29.6	0.0
Q18K	**Katmai Hardscr** baz=255	89.36	31	P		P	20 52 29.8	-0.4
R18K	**Karluk** baz=255	89.36	32	P		P	20 52 29.9	-0.1
P18K	**Big Mountain,** baz=254	89.45	30	P		P	20 52 30.1	-0.4
N18K	**Kilae Creek** baz=254	89.48	28	P		P	20 52 30.8	+0.2
L18K	**Granite Mounta** comp=Z,20nm,0.7s	89.55	27	IAmb		IAmb	20 52 33.6	
L18K	**Granite Mounta** baz=253,SNR=16	89.55	27	P		P	20 52 31.4	+0.6
O18K	**Koktuh Hills** baz=254	89.58	29	P		P	20 52 31.0	-0.1
E18K	**Tukpahlearik C** comp=Z,24nm,0.8s	89.63	21	IAmb		IAmb	20 52 32.2	
E18K	**Tukpahlearik C** baz=250,SNR=7.5	89.63	21	P		P	20 52 31.3	+0.2
F18K	**Selawik** baz=250	89.70	22	P		P	20 52 31.6	+0.2
H18K	**Honhosa River** baz=252,SNR=5.4	89.73	24	P		P	20 52 32.2	+0.6
M18K	**Stony River** baz=254,SNR=19	89.74	28	P		P	20 52 32.1	+0.4
G18K	**Tagagawik** baz=251,SNR=7.9	89.85	23	P		P	20 52 31.8	-0.4
C18K	**Utukok River** comp=Z,21nm,0.8s	89.86	20	IAmb		IAmb	20 52 33.0	
C18K	**Utukok River** baz=249	89.86	20	P		P	20 52 32.1	-0.2
OHAK	**Old Harbor**	89.89	32	P		P	20 52 33.2	+0.7
OHAK	**Old Harbor** baz=256	89.89	32	P		P	20 52 32.9	+0.4
J18K	**Innoko River** comp=Z,25nm,0.8s	89.90	26	IAmb		IAmb	20 52 33.4	
J18K	**Innoko River** baz=253,SNR=24	89.90	26	P		P	20 52 32.5	0.0
B18K	**Kokolik River** baz=248	89.91	19	P		P	20 52 32.7	+0.3
GNI	**Garni**	89.97	310	P		P	20 52 33.4	-0.2
GNI	**Garni** comp=Z,8.8nm,0.9s,baz=147,slow=9.8,SNR=4.6 comp=Z,8.8nm,0.9s	89.97	310	*ce*	P	P	20 52 33.8	+0.2
GNI	**Garni** comp=Z,14nm,1.0s	89.97	310	*ce*	P	P	20 52 34.3	+0.7
GNI					pmax	pmax		
Q19K	**Cape Douglas,** baz=256	90.12	30	P		P	20 52 34.0	+0.4
N19K	**Bonanza Creek** comp=Z,32nm,0.9s	90.18	29	IAmb		IAmb	20 52 35.9	
N19K	**Bonanza Creek** baz=255,SNR=11	90.18	29	P		P	20 52 34.3	+0.3
GCSA	**Galena City Sc** baz=253	90.21	24	P		P	20 52 33.9	0.0
BELG	**Belogornoye** comp=Z,42nm,0.6s,baz=325,slow=0.9,SNR=29 comp=Z,42nm,0.6s	90.28	323	P		P	20 52 33.5	-0.9
BELG	**Belogornoye** comp=Z,10.0nm,0.8s	90.28	323	*c*	*i*	P	20 52 33.2	-1.2
BELG						pmax	pmax	
OZAP	**Van, Ozalp-Mer**	90.30	309	⇑P		P	20 52 36.3	+1.1
L19K	**White Mountain** comp=Z,27nm,0.9s	90.37	27	IAmb		IAmb	20 52 36.2	
L19K	**White Mountain** baz=255,SNR=27	90.37	27	P		P	20 52 35.1	+0.4
KDAK	**Kodiak Island**	90.39	32	P		P	20 52 35.0	+0.1
KDAK	**Kodiak Island**	90.39	32	P		P	20 52 35.0	+0.1
KDAK	comp=Z,119nm,2.0s				pmax	pmax		
KDAK	**Kodiak Island** baz=257	90.39	32	P		P	20 52 35.2	+0.4
A19K	**Wainwright** baz=249	90.45	19	P		P	20 52 35.5	+0.7
F19K	**Shaleruckik Mo** baz=252	90.48	22	P		P	20 52 35.4	+0.4
P19K	**Oil Pt** baz=256	90.50	30	P		P	20 52 35.5	+0.1
M19K	**Big River Lodg** baz=255,SNR=13	90.50	27	P		P	20 52 35.8	+0.5
J19K	**Poorman** comp=Z,37nm,1.4s	90.52	25	IAmb		IAmb	20 52 37.2	
J19K	**Poorman** baz=254,SNR=16	90.52	25	P		P	20 52 35.6	+0.3
G19K	**Purcell Mounta** comp=Z,38nm,1.1s	90.53	23	IAmb		IAmb	20 52 37.1	
G19K	**Purcell Mounta** baz=253,SNR=19	90.53	23	P		P	20 52 35.4	0.0
C19K	**Lookout Ridge** baz=250	90.56	20	P		P	20 52 36.0	+0.5
H19K	**Roundabout Mou** comp=Z,33nm,0.9s	90.61	24	IAmb		IAmb	20 52 37.4	
H19K	**Roundabout Mou** baz=253,SNR=18	90.61	24	P		P	20 52 35.8	+0.1
KIRV	**Kirov** comp=Z,15nm,0.5s,baz=70,slow=2.8,SNR=8.8 comp=Z,15nm,0.5s	90.62	329	P		P	20 52 34.8	-1.1
KIRV	**Kirov**	90.62	329	*c*	*i*	P	20 52 34.5	-1.4
Q20K	**Shuyak Island** baz=257	90.67	31	P		P	20 52 35.9	-0.2
D19K	**Kuna River** baz=252,SNR=15	90.87	21	P		P	20 52 37.0	0.0
E19K	**Redstone River** baz=253,SNR=22	90.87	22	P		P	20 52 37.0	+0.1
L20K	**Farewell, AK** baz=256,SNR=27	90.88	27	P		P	20 52 37.5	+0.4
O20K	**Slope Mountain** baz=257	90.90	29	P		P	20 52 37.3	+0.1
K20K	**Telida** comp=Z,25nm,0.7s	91.02	26	IAmb		IAmb	20 52 39.1	
K20K	**Telida** baz=256,SNR=25	91.02	26	P		P	20 52 38.1	+0.4
KMBO	**Kilima Mbogo**	91.06	269	P		P	20 52 39.0	-0.3
KMBO	**Kilima Mbogo**	91.06	269	P		P	20 52 39.0	-0.3
KMBO	comp=Z,7.0nm,1.1s				pmax	pmax		
M20K	**Styx River** comp=Z,25nm,0.8s	91.08	28	IAmb		IAmb	20 52 39.4	
M20K	**Styx River** baz=256	91.08	28	P		P	20 52 38.4	+0.3
J20K	**Nowinta River** comp=Z,19nm,0.8s	91.19	25	IAmb		IAmb	20 52 39.8	
J20K	**Nowinta River** baz=255,SNR=19	91.19	25	P		P	20 52 38.9	+0.5
I20K	**Naaghedeneel** baz=255	91.21	25	P		P	20 52 38.5	0.0
H20K	**Anotlemeega Mo** baz=255,SNR=6.4	91.23	24	P		P	20 52 38.9	+0.2
HOM	**Homer** baz=258	91.28	30	P		P	20 52 38.6	-0.4
F20K	**Avaraart Lake** comp=Z,18nm,0.7s	91.31	22	IAmb		IAmb	20 52 40.1	
F20K	**Avaraart Lake** baz=254,SNR=20	91.31	22	P		P	20 52 38.9	0.0
SPCR	**Spurr Chakacha** baz=257	91.35	28	P		P	20 52 39.3	0.0
D20K	**Etivluk River** comp=Z,44nm,1.0s	91.46	21	IAmb		IAmb	20 52 40.6	
D20K	**Etivluk River** baz=253,SNR=14	91.46	21	P		P	20 52 39.6	-0.1
E20K	**Nigu River** baz=254,SNR=22	91.48	21	P		P	20 52 39.8	0.0
B20K	**Meade River** comp=Z,57nm,1.2s	91.66	19	IAmb		IAmb	20 52 41.4	
B20K	**Meade River** baz=253	91.66	19	P		P	20 52 40.6	+0.2
BRLK	**Bradley Lake** comp=Z,16nm,0.7s	91.68	30	IAmb		IAmb	20 52 43.5	
PPLA	**Purkeypile** comp=Z,30nm,1.1s	91.74	27	IAmb		IAmb	20 52 42.4	
PPLA	**Purkeypile** baz=257,SNR=9.7	91.74	27	P		P	20 52 41.2	0.0
CAPN	**Captain Cook N** baz=258	91.76	29	P		P	20 52 41.3	+0.2
GURO	**Guyuak-BITLI** comp=Z,34nm,1.0s	91.80	308	IAmb		IAmb	20 52 44.3	
IMAR	**Indian Mountai**	91.80	24	P		P	20 52 40.6	-0.6
SKT	**Skwentna** comp=Z,26nm,0.6s	91.84	28	IAmb		IAmb	20 52 41.1	
SKT	**Skwentna** baz=258,SNR=21	91.84	28	P		P	20 52 40.3	-1.2
KBZ	**Khabaz** comp=Z,10.0nm,0.9s,baz=157,slow=2.3,SNR=13 comp=Z,10.0nm,0.9s	91.89	314	P		P	20 52 41.4	-0.8
KBZ	**Khabaz** comp=Z,16nm,1.0s	91.89	314	*c*	*i*	P	20 52 41.7	-0.4
KBZ					pmax	pmax		
CAST	**Castle Rocks** baz=257,SNR=27	91.90	26	P		P	20 52 41.1	-0.7
CHUM	**Lake Minchumin** baz=257	91.90	26	P		P	20 52 41.7	0.0
G21K	**Allakaket** baz=256,SNR=11	92.03	23	P		P	20 52 42.2	-0.1
KIV	**Kislovodsk**	92.08	314	P		P	20 52 42.5	-0.6
KIV	**Kislovodsk**	92.08	314	⇓P		P	20 52 43.4	+0.2
KIV	**Kislovodsk**	92.08	314	⇓P		P	20 52 43.4	+0.2
SUA	**Susitna One** baz=258	92.09	28	P		P	20 52 42.4	-0.4
H21K	**Melozitna Rive** baz=257,SNR=9.2	92.10	24	P		P	20 52 42.8	+0.1
HOMI	**Horasan**	92.11	310	⇓P		P	20 52 50.0	+6.5
F21K	**Alatna River** baz=256	92.21	22	P		P	20 52 42.8	-0.4
A21K	**Barrow** baz=253	92.21	18	P		P	20 52 43.0	0.0
C21K	**Knifeblade Rid** baz=255	92.22	20	P		P	20 52 43.2	+0.1
E21K	**Killik River** baz=256,SNR=5.3	92.32	21	P		P	20 52 43.5	-0.2
B21K	**Ikpikpuk River** baz=255,SNR=8.7	92.40	20	P		P	20 52 43.9	0.0
KTH	**Kantishna Hill** comp=Z,27nm,0.9s	92.44	26	IAmb		IAmb	20 52 45.0	
M22K	**Willow** baz=259	92.45	28	P		P	20 52 44.2	-0.1
SEW	**Seward** baz=260	92.46	30	P		P	20 52 44.0	-0.3
RC01	**Rabbit Creek A** comp=Z,24nm,0.8s	92.50	29	IAmb		IAmb	20 52 44.9	
RC01	**Rabbit Creek A** baz=259,SNR=7.9	92.50	29	P		P	20 52 44.1	-0.5
CUT	**Chulitna** baz=259	92.50	27	P		P	20 52 44.4	-0.2
BPAW	**Bear Paw Mtn.** baz=258,SNR=10.0	92.52	26	P		P	20 52 44.1	-0.5
A22K	**Sinclair Lake** baz=255,SNR=6.2	92.64	19	P		P	20 52 45.1	+0.1
TRF	**Thorofare Moun** baz=259	92.70	26	P		P	20 52 44.8	-0.8
H22K	**Ishtalitna Cre** baz=258,SNR=8.8	92.73	24	P		P	20 52 45.7	+0.2
F22K	**John River** baz=257,SNR=6.3	92.76	22	P		P	20 52 45.8	+0.1
MLY	**Manley** comp=Z,19nm,0.8s	92.81	25	IAmb		IAmb	20 52 47.1	
MLY	**Manley** baz=259,SNR=22	92.81	25	P		P	20 52 45.9	-0.1
PMR	**Palmer** comp=Z,21nm,0.7s	92.88	28	IAmb		IAmb	20 52 46.5	
PMR	**Palmer**	92.88	28	P		P	20 52 46.0	-0.3
PMR	**Palmer** baz=260,SNR=5.6	92.88	28	P		P	20 52 46.0	-0.3
D22K	**Ayikyak River** baz=257	92.89	21	P		P	20 52 46.4	+0.2
G22K	**Bettles** baz=258	92.89	23	P		P	20 52 46.4	+0.2
B22K	**Teshekpuk Lake** baz=256	92.97	19	P		P	20 52 46.5	0.0
GHO	**Glory Hole Cre** comp=Z,21nm,0.8s	93.01	28	IAmb		IAmb	20 52 47.3	
E22K	**Anaktuvuk Pass** comp=Z,44nm,1.5s	93.03	22	IAmb		IAmb	20 52 48.0	
E22K	**Anaktuvuk Pass** baz=258,SNR=11	93.03	22	P		P	20 52 47.0	0.0
PWL	**Port Wells** comp=Z,24nm,1.0s	93.13	29	IAmb		IAmb	20 52 48.7	
PWL	**Port Wells** baz=260,SNR=6.7	93.13	29	P		P	20 52 47.1	-0.4
KNK	**Knik Glacier** baz=260,SNR=10.0	93.17	29	P		P	20 52 47.5	-0.2
KOPT	**Kop Dagi** comp=Z,24nm,0.9s	93.17	310	IAmb		IAmb	20 52 56.2	
MCK	**McKinley** comp=Z,31nm,0.8s	93.34	26	IAmb		IAmb	20 52 48.5	
MCK	**McKinley** baz=260,SNR=14	93.34	26	P		P	20 52 47.6	-0.9
TROLL	**Troll, Antarti** comp=Z,2um,0.6s	93.36	195	⇑P		P	20 52 50.4	+1.8
WAT1	**Susitna Watana** baz=260	93.36	27	P		P	20 52 48.0	-0.6
I23K	**Minto, Yukon-K** baz=260,SNR=38	93.41	25	P		P	20 52 48.5	-0.1
G23K	**Bananza Creek** comp=Z,34nm,1.1s	93.43	23	IAmb		IAmb	20 52 50.0	
G23K	**Bananza Creek** baz=259,SNR=26	93.43	23	P		P	20 52 49.0	+0.2
NEA2	**Nenana** comp=Z,13nm,0.7s	93.44	25	IAmb		IAmb	20 52 50.1	
NEA2	**Nenana** baz=260,SNR=16	93.44	25	P		P	20 52 49.0	+0.2
P23K	**Montague Islan** comp=Z,27nm,0.8s	93.45	30	IAmb		IAmb	20 52 49.9	
P23K	**Montague Islan** baz=261	93.45	30	P		P	20 52 49.1	+0.1
COLD	**Coldfoot** comp=Z,19nm,0.6s	93.46	23	IAmb		IAmb	20 52 49.9	
COLD	**Coldfoot** baz=259,SNR=16	93.46	23	P		P	20 52 49.1	+0.2
H23K	**Yukon River** comp=Z,19nm,0.9s	93.46	24	IAmb		IAmb	20 52 50.0	
H23K	**Yukon River** baz=260,SNR=14	93.46	24	P		P	20 52 48.9	0.0
M23K	**Glacier View** baz=261,SNR=18	93.57	28	P		P	20 52 49.2	-0.3
D23K	**Nanushuk River** comp=Z,32nm,1.1s	93.61	21	IAmb		IAmb	20 52 51.6	
D23K	**Nanushuk River** baz=259,SNR=12	93.61	21	P		P	20 52 49.8	+0.3
WAT6	**Susitna Watana** baz=261,SNR=27	93.69	27	P		P	20 52 49.9	-0.3
VRH	**Novokhopyorsk** comp=Z,38nm,0.7s	93.70	321	*e*	P	P	20 52 48.8	-1.5
VRH					pmax	pmax		
GLI	**Glacier Island** comp=Z,19nm,0.8s	93.74	29	IAmb		IAmb	20 52 50.9	
GLI	**Glacier Island** baz=262,SNR=7.5	93.74	29	P		P	20 52 50.0	-0.3
SCM	**Sheep Creek Mo** baz=261,SNR=18	93.77	28	P		P	20 52 50.4	-0.1
C23K	**Itkillik River** baz=259,SNR=11	93.81	20	P		P	20 52 50.5	+0.1
E23K	**Chandalar** comp=Z,21nm,0.8s	93.83	22	IAmb		IAmb	20 52 51.9	
E23K	**Chandalar** baz=260,SNR=14	93.83	22	P		P	20 52 50.9	+0.2
WRH	**Wood River Hil** comp=Z,30nm,0.8s	93.83	26	IAmb		IAmb	20 52 50.5	
Q23K	**Middleton Isla** baz=262	93.90	31	P		P	20 52 51.2	+0.2
DHY	**Denali Highway** baz=261,SNR=38	93.93	27	P		P	20 52 51.2	-0.2
TOLK	**Toolik Lake Re** baz=260,SNR=7.2	93.95	21	P		P	20 52 51.3	+0.1
HIN	**Hinchinbrook I** comp=Z,24nm,0.7s	93.96	30	IAmb		IAmb	20 52 52.1	
COLA	**College**	94.00	25	P		P	20 52 51.6	+0.3
COLA	**College**	94.00	25	⇓P		P	20 52 50.4	-0.9
COLA	**College** baz=261	94.00	25	P		P	20 52 51.6	+0.3
FID	**Port Fidalgo** comp=Z,14nm,0.8s	94.02	29	IAmb		IAmb	20 52 52.2	
H24K	**Noodor Dome** comp=Z,31nm,0.9s	94.13	24	IAmb		IAmb	20 52 53.1	
H24K	**Noodor Dome** baz=261,SNR=31	94.13	24	P		P	20 52 52.2	+0.1
POKR	**Poker Flat Res** baz=262	94.21	25	P		P	20 52 52.0	-0.4
E24K	**Your Creek** baz=261	94.25	22	P		P	20 52 52.4	-0.2
D24K	**Happy Valley** comp=Z,39nm,1.4s	94.30	21	IAmb		IAmb	20 52 54.5	
D24K	**Happy Valley** baz=261,SNR=5.4	94.30	21	P		P	20 52 52.7	0.0
HDA	**Harding Lake** comp=Z,22nm,0.8s	94.31	26	IAmb		IAmb	20 52 53.2	
HDA	**Harding Lake** baz=262,SNR=22	94.31	26	P		P	20 52 51.2	-1.6
M24K	**Tolsona, Glenn** baz=262,SNR=19	94.34	28	P		P	20 52 53.3	+0.2
EYAK	**Cordova Ski Ar** baz=263	94.35	30	P		P	20 52 52.9	-0.2
KLU	**Klutina** comp=Z,15nm,0.8s	94.38	29	IAmb		IAmb	20 52 54.2	
KLU	**Klutina** baz=263,SNR=7.7	94.38	29	P		P	20 52 53.3	-0.1
F24K	**Squaw Lake** comp=Z,19nm,0.9s	94.39	23	IAmb		IAmb	20 52 55.1	
F24K	**Squaw Lake** baz=261,SNR=14	94.39	23	P		P	20 52 53.3	+0.1
ILAR	**Eielson Array**	94.39	25	P		P	20 52 51.0	-2.2
ILAR	**Eielson Array** comp=Z,7.7nm,0.7s,baz=265,slow=4.4,SNR=68	94.39	25	P		P	20 52 51.7	-1.5
ILAR	comp=Z,0.8nm,0.6s,baz=264,slow=3.1,SNR=6.8				PKiKP	PKiKP	20 57 35.5	-0.2
ILAR	comp=Z,1.7nm,0.8s,baz=40,slow=1.8,SNR=13 comp=Z,7.7nm,0.7s				PKKP	PKKPdf	21 09 52.8	-1.3
G24K	**Hadweenzic Riv** comp=Z,31nm,1.1s	94.42	23	IAmb		IAmb	20 52 54.5	
G24K	**Hadweenzic Riv** baz=262,SNR=11	94.42	23	P		P	20 52 53.7	+0.4
C24K	**Franklin Bluff** comp=Z,20nm,0.8s	94.44	20	IAmb		IAmb	20 52 54.6	
C24K	**Franklin Bluff** baz=261	94.44	20	P		P	20 52 53.1	-0.1
ARPR	**Arapgir-MALATY** comp=Z,31nm,1.1s	94.73	309	IAmb		IAmb	20 53 00.2	
K24K	**Donnelly Dome** baz=263,SNR=10	94.74	26	P		P	20 52 54.4	-0.5
PAX	**Paxson** comp=Z,24nm,0.7s	94.78	27	IAmb		IAmb	20 52 56.5	
PAX	**Paxson** baz=263,SNR=29	94.78	27	P		P	20 52 54.9	-0.2
HARP	**HAARP** baz=263	94.85	28	P		P	20 52 55.5	+0.1
RAGM	**Ragged Mountai** comp=Z,17nm,0.8s	94.86	30	IAmb		IAmb	20 52 57.3	
SNAA	**Sanae** comp=Z,365nm,0.8s	94.88	194	⇑P		P	20 52 56.9	+1.4
SNAA				⇑PP		PP	20 56 47.1	+1.2
SNAA	**Sanae** comp=Z,29nm,1.0s	94.88	194	IAmb		IAmb	20 52 58.0	
SNAA	**Sanae** comp=Z,16nm,0.8s,baz=146,slow=5.1,SNR=26	94.88	194	P		P	20 52 56.8	+1.4
SNAA	comp=Z,2.8nm,0.9s,baz=269,slow=1.8,SNR=7.8 comp=Z,16nm,0.8s				PKKP	PKKPdf	21 09 48.9	-3.5
SNAA	**Sanae** comp=Z,35nm,1.1s	94.88	194	*c*	*i*	P	20 52 56.6	+1.1
SNAA					pmax	pmax		
KAIM	**Kayak Island** baz=264,SNR=5.6	94.93	30	P		P	20 52 56.3	+0.5
BMRM	**Bremner River** comp=Z,20nm,0.8s	94.95	29	IAmb		IAmb	20 52 56.8	
BMRM	**Bremner River** baz=264,SNR=5.9	94.95	29	P		P	20 52 56.0	0.0
G25K	**Bearman Lake** baz=263	94.97	23	P		P	20 52 56.1	+0.3
J25K	**Salcha River,** baz=263,SNR=18	95.02	26	P		P	20 52 54.7	-1.4
H25L	**Birch Creek** baz=263	95.03	24	P		P	20 52 56.3	+0.3
N25K	**Chitina, Valde** comp=Z,19nm,0.7s	95.03	29	IAmb		IAmb	20 52 57.4	
N25K	**Chitina, Valde** baz=264,SNR=6.3	95.03	29	P		P	20 52 56.1	-0.2
HMT	**Hamilton** comp=Z,22nm,0.8s	95.05	30	IAmb		IAmb	20 52 57.4	

PRP	Porcupine Dome	95.06	25	P		P		20 52 55.1	-1.3	
	baz=263,SNR=5.6									
RIDG	Independent Ri	95.15	26	P		P		20 52 56.4	-0.3	
	baz=264,SNR=22									
D25K	Kavik River	95.19	21	P		P		20 52 56.3	-0.5	
	baz=263									
VORD	Divnogorie	95.20	321	*e*P		P		20 52 55.0	-2.1	
VORD				pmax		pmax				
	comp=Z,40nm,0.9s									
F25K	Christian Rive	95.25	23	IAmb		IAmb		20 52 58.5		
	comp=Z,12nm,0.8s									
F25K	Christian Rive	95.25	23	P		P		20 52 57.5	+0.3	
	baz=263									
VSR	Storozhevoye	95.30	321	*e*P		P		20 52 53.2	-4.4	
VSR				pmax		pmax				
	comp=Z,30nm,1.0s									
VORR	Voronezh	95.31	321	*e*P		P		20 52 56.7	-1.0	
VORR				pmax		pmax				
	comp=Z,50nm,0.5s									
E25K	Arctic Village	95.34	22	IAmb		IAmb		20 52 58.8		
	comp=Z,15nm,0.9s									
E25K	Arctic Village	95.34	22	P		P		20 52 57.9	+0.3	
	baz=264,SNR=7.3									
GLB	Gilahina Butte	95.39	29	IAmb		IAmb		20 52 58.8		
	comp=Z,19nm,0.9s									
GAZ	Gaziantep	95.44	307	IAmb		IAmb		20 53 00.1		
	comp=Z,13nm,0.8s									
SCRK	Sand Creek	95.55	26	P		P		20 52 58.3	-0.4	
	baz=264,SNR=14									
LPSR	Galich'ya Gora	95.57	322	*e*P		P		20 52 57.5	-1.3	
LPSR				pmax		pmax				
	comp=Z,50nm,0.9s									
BMAR	Burnt Mountain	95.64	23	P		P		20 52 59.2	+0.3	
CRQE	Cirque	95.67	30	P		P		20 52 59.4	+0.1	
	baz=265,SNR=5.4									
L26K	Log Cabin Wild	95.75	27	IAmb		IAmb		20 53 00.5		
	comp=Z,12nm,0.7s									
L26K	Log Cabin Wild	95.75	27	P		P		20 53 00.0	+0.5	
	baz=265,SNR=5.1									
MCARA	McCarthy VSAT	95.76	29	P		P		20 52 59.7	+0.2	
	baz=265									
C26K	Camden Bay	95.77	20	P		P		20 52 60.0	+0.6	
	baz=264									
J26L	Joseph Creek	95.78	26	P		P		20 52 59.5	-0.2	
	baz=265,SNR=32									
TGL	Tana Glacier	95.80	30	IAmb		IAmb		20 53 01.0		
	comp=Z,23nm,0.8s									
F26K	Sheenjek River	95.83	23	P		P		20 53 00.3	+0.5	
	baz=265									
M26K	Nabesna, AK	95.86	28	P		P		20 53 00.0	0.0	
	baz=265									
G26K	Porcupine Rive	95.91	23	IAmb		IAmb		20 53 01.6		
	comp=Z,25nm,1.0s									
G26K	Porcupine Rive	95.91	23	P		P		20 53 00.5	+0.4	
	baz=265,SNR=8.2									
ANN	Anapa	95.92	314	*e*P		P		20 52 53.8	-6.8	
ANN				*e**PP		pP		20 53 32.8	-5.1	
ANN				*e*S		SKSac		21 03 15.7	-6.9	
ANN				*e*SS		SS		21 10 38.6	-1.3	
ANN				pmax		pmax				
	comp=Z,100nm,1.5s									
KLMR	Klimovskoe	95.92	331	*e*P		P		20 52 57.3	-2.9	
KLMR				*e**PP		pP		20 53 35.3	-2.4	
KLMR				*e*				20 56 52.0		
KLMR				pmax		pmax				
	comp=Z,39nm,1.4s									
I26K	Coal Creek Min	96.02	25	IAmb		IAmb		20 53 01.7		
	comp=Z,11nm,1.0s									
I26K	Coal Creek Min	96.02	25	P		P		20 53 00.1	-0.5	
	baz=265									
C27K	Jago River	96.16	21	P		P		20 53 01.5	+0.3	
	baz=265									
MESA	MESA	96.19	30	P		P		20 53 02.1	+0.3	
	baz=266									
GRNC	Granite Creek	96.32	30	IAmb		IAmb		20 53 03.6		
	comp=Z,13nm,0.6s									
M27K	Edge Creek, AK	96.37	28	IAmb		IAmb		20 53 03.8		
	comp=Z,29nm,1.3s									
M27K	Edge Creek, AK	96.37	28	P		P		20 53 02.6	+0.1	
	baz=266,SNR=7.6									
BARN	Barnard Glacie	96.39	29	IAmb		IAmb		20 53 04.1		
	comp=Z,18nm,0.7s									
K27K	Chicken	96.39	26	P		P		20 53 03.3	+1.0	
	baz=266									
L27K	Beaver Creek,	96.44	27	P		P		20 53 03.0	+0.3	
	baz=266,SNR=34									
BCAR	Beaver Creek A	96.46	27	P		P		20 53 02.6	-0.1	
VNA2	Neumayer--Watz	96.46	193	⇑P		P		20 53 03.7	+1.1	
	comp=Z,5.6nm,0.6s,baz=132,slow=5.1									
CTG	Chitna Glacier	96.54	29	P		P		20 53 03.6	+0.4	
	baz=267									
MMAI	Mount Meron Ar	96.56	302	P		P		20 53 04.1	+0.2	
	comp=Z,4.3nm,0.9s,baz=93,slow=5.1,SNR=3.1									
	comp=Z,4.3nm,0.9s									
MOS	Moscow	96.56	325	*e*P		P		20 52 59.8	-3.4	
TABL	Table Mountain	96.61	30	IAmb		IAmb		20 53 08.8		
	comp=Z,11nm,0.8s									
I27K	Kandik River	96.68	25	P		P		20 53 04.1	+0.4	
	baz=267,SNR=28									
VNA3	Neumayer Olymp	96.73	193	⇑P		P		20 53 04.9	+1.0	
	comp=Z,5.8nm,0.6s									
G27K	Doyon Strip	96.73	24	P		P		20 53 04.2	+0.3	
	baz=267,SNR=7.0									
H27K	Steamboat Moun	96.75	24	IAmb		IAmb		20 53 05.6		
	comp=Z,22nm,1.3s									
H27K	Steamboat Moun	96.75	24	P		P		20 53 04.5	+0.5	
	baz=267,SNR=15									
E27K	Coleen River	96.83	22	IAmb		IAmb		20 53 05.3		
	comp=Z,17nm,0.8s									
E27K	Coleen River	96.83	22	P		P		20 53 04.3	0.0	
	baz=267,SNR=7.3									
BVCY	Beaver Creek	96.85	28	P		P		20 53 05.1	+0.6	
	baz=267									
VNA1	Neumayer--Stat	96.86	193	⇑P		P		20 53 06.3	+1.9	
	comp=Z,9.8nm,0.8s									
YUK3	Moose Creek	97.01	29	P		Pdif		20 53 05.6	+0.1	
	baz=267,SNR=5.6									
PINM	Pinnacle	97.03	30	P		Pdif		20 53 05.5	+0.1	
	baz=267									
O28M	Mount Upton	97.09	30	IAmb		IAmb		20 53 07.1		
	comp=Z,8.9nm,0.7s									
O28M	Mount Upton	97.09	30	P		P		20 53 05.8	-0.1	
	baz=268,SNR=5.9									
D27M	Malcolm River	97.10	21	P		Pdif		20 53 06.2	+0.6	
	baz=268									
OBN	Obninsk	97.13	325	P		P		20 53 04.7	-1.1	
OBN	Obninsk	97.13	325	P		P		20 53 05.5	-0.3	
	comp=Z,24nm,0.6s,baz=266,slow=5.2,SNR=7.3									
	comp=Z,24nm,0.6s									
OBN	Obninsk	97.13	325	*c**e*P		P		20 53 04.3	-1.5	
OBN				*e**PP		pP		20 53 41.0	-2.4	
OBN				*e*				20 57 12.7		
OBN				*e*S		S		21 04 08.7	-7.0	
OBN				pmax		pmax				
	comp=Z,24nm,0.9s									
YUK8	Steele Glacier	97.32	29	P		Pdif		20 53 07.3	+0.3	
	baz=268									
I28M	Miner Creek	97.38	25	P		Pdif		20 53 07.2	+0.3	
	baz=268,SNR=27									
PNL	Peninsula	97.44	31	P		Pdif		20 53 07.4	+0.2	
	baz=268									
F28M	Old Crow	97.46	23	IAmb		IAmb		20 53 07.9		
	comp=Z,11nm,0.7s									
F28M	Old Crow	97.46	23	P		Pdif		20 53 07.2	+0.1	
	baz=269,SNR=9.0									
DAWY	Dawson	97.57	26	IAmb		IAmb		20 53 08.9		
	comp=Z,14nm,0.7s									
DAWY	Dawson	97.57	26	P		Pdif		20 53 08.1	+0.3	
	baz=269,SNR=18									
E28M	Babbage River	97.60	22	IAmb		IAmb		20 53 08.2		
	comp=Z,11nm,0.8s									
E28M	Babbage River	97.60	22	P		Pdif		20 53 08.1	+0.4	
	baz=269,SNR=5.1									
YUK4	Talbot Arm	97.86	29	P		Pdif		20 53 10.0	+0.7	
	baz=269									
LSZ	Lusaka	97.88	253	P		P		20 53 09.9	-0.3	
LSZ				IAmb		IAmb		20 53 11.2		
	comp=Z,12nm,0.8s									
LSZ	Lusaka	97.88	253	P		P		20 53 10.0	-0.3	
LSZ				pmax		pmax				
	comp=Z,12nm,0.8s									
D28M	Stokes Point	97.90	21	P		Pdif		20 53 09.5	+0.5	
	baz=270									
BOSA	Boshof	97.93	240	P		Pdif		20 53 10.7	+0.3	
	comp=Z,7.8nm,0.9s,baz=112,slow=4.0,SNR=14									
BOSA				PKKP		PKKPbc		21 09 43.5	-0.7	
	comp=Z,4.1nm,1.0s,baz=290,slow=7.1,SNR=3.6									
	comp=Z,7.8nm,0.9s									
M29M	Somme Creek	97.97	28	IAmb		IAmb		20 53 11.1		
	comp=Z,8.4nm,0.8s									
M29M	Somme Creek	97.97	28	P		Pdif		20 53 10.2	+0.6	
	baz=269,SNR=5.3									
YUK6	Outpost Mounta	97.99	29	P		Pdif		20 53 10.1	+0.1	
	baz=269									
H29M	Whitestone	98.03	24	P		Pdif		20 53 10.2	+0.5	
	baz=270									
I29M	Ogilvie Camp,	98.06	25	IAmb		IAmb		20 53 10.7		
	comp=Z,18nm,1.1s									
I29M	Ogilvie Camp,	98.06	25	P		Pdif		20 53 09.9	0.0	
	baz=270,SNR=16									
J29N	Klondike Camp	98.09	26	P		Pdif		20 53 10.5	+0.4	
	baz=270									
L29M	L29M	98.12	27	P		Pdif		20 53 10.6	+0.4	
	baz=270,SNR=9.0									
KIRS	Kirsehir-Merke	98.17	308	⇓P		P		20 53 09.9	-1.1	
G29M	Pine Creek	98.17	23	P		Pdif		20 53 10.4	+0.1	
	baz=270,SNR=11									
E29M	Blow River	98.21	22	P		Pdif		20 53 10.8	+0.4	
	baz=271									
P29M	Windy Craggy	98.29	31	P		Pdif		20 53 11.1	+0.1	
	baz=270									
K29M	Barlow Dome	98.40	27	IAmb		IAmb		20 53 13.1		
	comp=Z,22nm,1.3s									
K29M	Barlow Dome	98.40	27	P		Pdif		20 53 12.0	+0.4	
	baz=270,SNR=14									
BRTR	Keskin Array B	98.41	309	P		P		20 53 11.2	-1.0	
BRTR	Keskin Array B	98.41	309	P		P		20 53 11.4	-0.8	
	comp=Z,2.7nm,0.9s,baz=101,slow=4.6,SNR=10									
BRTR				PP		PP		20 57 15.7	+1.3	
	comp=Z,2.9nm,0.8s,baz=116,slow=8.3,SNR=6.9									
	comp=Z,2.7nm,0.9s									
BRTR	Keskin Array B	98.41	309	*c**e*P		P		20 53 11.3	-0.9	
BRTR				pmax		pmax				
	comp=Z,3.0nm,1.0s									
HYT	Haines Junctio	98.41	30	IAmb		IAmb		20 53 12.9		
	comp=Z,7.1nm,0.7s									
HYT	Haines Junctio	98.41	30	P		Pdif		20 53 11.9	+0.2	
	baz=270									
N30M	Aishikik Lake	98.61	29	P		Pdif		20 53 12.7	+0.2	
	baz=270									
P30M	Million Dollar	98.68	30	P		Pdif		20 53 12.9	+0.1	
	baz=270									
EPYK	Eagle Plains	98.70	24	IAmb		IAmb		20 53 13.9		
	comp=Z,19nm,1.2s									
EPYK	Eagle Plains	98.70	24	P		Pdif		20 53 12.8	+0.1	
	baz=271,SNR=5.9									
M30M	Minto, Yukon	98.74	28	P		Pdif		20 53 13.3	+0.3	
	baz=271									
I30M	Mount Dempster	98.87	25	P		P		20 53 13.3	-0.3	
	baz=272,SNR=5.3									
G30M	tAoh Zraii Nji	98.88	23	IAmb		IAmb		20 53 14.7		
	comp=Z,9.4nm,0.8s									
G30M	tAoh Zraii Nji	98.88	23	P		P		20 53 12.6	-0.9	
	baz=272,SNR=8.8									
J30M	Hart River	98.91	26	IAmb		IAmb		20 53 15.1		
	comp=Z,7.0nm,0.8s									
J30M	Hart River	98.91	26	P		P		20 53 13.5	-0.3	
	baz=272,SNR=14									
PLBC	Pleasant Camp	98.99	31	P		P		20 53 14.0	0.0	
	baz=271									
F30M	Bachler River	99.02	23	P		Pdif		20 53 14.1	+0.1	
	baz=272									
S31K	Pelican	99.07	33	P		Pdif		20 53 14.3	-0.1	
	baz=270									
N31M	Braeburn, Yuko	99.24	29	P		Pdif		20 53 14.9	-0.3	
	baz=272									
R31K	City Hall, Gus	99.33	32	P		Pdif		20 53 15.5	-0.1	
	baz=271									
SKAG	Skagway	99.52	31	P		Pdif		20 53 16.5	+0.1	
	baz=272									
SIT	Sitka	99.57	33	P		Pdif		20 53 16.7	0.0	
	baz=271									
G31M	Satah River	99.65	23	P		Pdif		20 53 16.2	-0.6	
	baz=274,SNR=5.5									
H31M	Peel River	99.69	25	P		Pdif		20 53 17.0	-0.1	
	baz=274									
WHY	Whitehorse	99.70	30	P		Pdif		20 53 17.1	-0.3	
	baz=272									
F31M	Tsiigehtchic	99.82	23	P		Pdif		20 53 17.5	0.0	
	baz=274									
INK	Inuvik	99.83	22	PKKPbc		PKKPbc		21 09 38.1	-2.3	
	comp=Z,1.6nm,0.5s,baz=54,slow=5.6,SNR=4.5									
INK	Inuvik	99.83	22	P		Pdif		20 53 17.6	0.0	
	baz=275									
M31M	Drury Creek, Y	99.87	28	P		Pdif		20 53 17.9	-0.1	
	baz=273									
S32K	Killisnoo	99.97	33	P		Pdif		20 53 18.6	+0.1	
	baz=272									
R32K	Eaglecrest	99.97	32	P		Pdif		20 53 18.8	+0.3	
	baz=272									
P32M	Atlin	100.33	31	P		Pdif		20 53 20.4	+0.2	
	baz=273									
FARO	Faro, Yukon	100.36	28	P		Pdif		20 53 20.7	+0.5	
	baz=274									
P33M	Teslin, Yukon	100.75	30	P		Pdif		20 53 22.4	+0.4	
	baz=274									
U33K	Whale Pass	100.83	34	P		Pdif		20 53 22.8	+0.5	
	baz=273									
CRAG	Craig	100.86	35	P		Pdif		20 53 22.9	+0.5	
	baz=273									
Q32M	Nakina River	101.11	31	P		Pdif		20 53 24.1	+0.3	
	baz=274									
WRAK	Wrangell Islan	101.24	34	P		Pdif		20 53 24.7	+0.6	
	baz=274									
MMPY	Sheldon Lake,	101.29	28	P		Pdif		20 53 24.6	+0.3	
	baz=276									
ARA0	ARCESS Array S	101.46	340	*e*P		Pdif		20 53 24.2	-0.6	
ARCES	ARCESS Array B	101.46	340	P		Pdif		20 53 24.0	-0.9	
	comp=Z,7.0nm,0.7s,baz=83,slow=6.4,SNR=35									
ARCES				PKiKP		PKiKP		20 57 48.4	+0.3	
	comp=Z,0.7nm,0.5s,baz=90,slow=1.7,SNR=8.6									
ARCES				PKKPbc		PKKPbc		21 09 32.7	-3.0	
	comp=Z,0.9nm,0.5s,baz=261,slow=3.1,SNR=11									
AKASG	Malin Array Be	101.57	320	P		Pdif		20 53 24.4	-1.3	
	comp=Z,4.9nm,0.9s,baz=76,slow=4.1,SNR=12									
AKASG				PP		PP		20 57 37.3	-0.4	
	comp=Z,1.3nm,0.6s,baz=78,slow=7.4,SNR=5.0									
KIEV	Kiev	101.58	320	⇓P		Pdif		20 53 24.7	-1.1	
KIEV	Kiev	101.58	320	⇓P		Pdif		20 53 24.7	-1.1	
SPITS	Spitsbergen Ar	101.70	349	P		Pdif		20 53 25.8	0.0	
	comp=Z,22nm,0.7s,baz=79,slow=4.6,SNR=15									
V35K	Ketchikan	101.72	35	P		Pdif		20 53 26.6	+0.3	
	baz=274									
R33M	Jennings River	101.74	31	P		Pdif		20 53 27.1	+0.5	
	baz=275									
S34M	Telegraph Cree	101.79	32	P		Pdif		20 53 27.0	+0.4	
	baz=275									
HAMF	Hammerfest	101.87	341	*e*P		Pdif		20 53 25.5	-1.1	
A36M	Sachs Harbour	102.05	18	P		Pdif		20 53 27.8	+0.4	
	baz=283									
MNK	Minsk	102.16	324	*i* P		Pdif		20 53 27.2	-1.1	
MNK				*i*				20 57 40.3		
MNK				*i* PPP		PPP		20 59 52.3		
MNK				*i* S		SKSac		21 03 53.2	-0.1	
MNK				*i* SS		SS		21 12 07.8	+1.3	
MNK				*i* SSS		SSS		21 16 02.3		
MNK				pmax		pmax				
	comp=E,6.0nm,0.9s									
MNK				pmax		pmax				
	comp=N,12nm,1.0s									
MNK				pmax		pmax				
	comp=Z,30nm,0.9s									
SORM	Soroca	102.25	318	⇑P		Pdif		20 53 27.9	-0.9	
SORM	Soroca	102.25	318	⇑P		Pdif		20 53 27.9	-0.9	
DLBC	Dease Lake	102.32	32	P		Pdif		20 53 29.1	+0.1	
	baz=276									
T35M	Bob Quinn	102.35	33	P		Pdif		20 53 29.6	+0.5	
	baz=275									
FINES	FINESS Array B	102.42	331	P		Pdif		20 53 27.5	-1.8	
	comp=Z,2.8nm,0.6s,baz=72,slow=6.2,SNR=11									
FINES				PKiKP		PKiKP		20 57 50.7	+0.7	
	comp=Z,3.9nm,0.6s,baz=116,slow=2.3,SNR=11									
CFR	Carcaliu	102.52	315	⇓P		Pdif		20 53 30.2	+0.1	
CFR	Carcaliu	102.52	315	⇓P		Pdif		20 53 30.2	+0.1	
U35K	Hyder	102.57	34	P		Pdif		20 53 30.5	+0.5	
	baz=275									
WTLY	Watson Lake, Y	102.76	30	P		Pdif		20 53 31.4	+0.5	
	baz=277									
JETT	Jettan, Norway	103.20	340	*e*P		Pdif		20 53 31.9	-0.8	
VRI	Vrincioaia	103.47	315	⇑P		Pdif		20 53 34.0	-0.4	
VRI	Vrincioaia	103.47	315	⇑P		Pdif		20 53 34.0	-0.4	
TESR	Tescani	103.49	316	⇑P		Pdif		20 53 34.1	-0.3	
PLOR	Plostina	103.53	315	⇓P		Pdif		20 53 34.4	-0.3	
PLOR	Plostina	103.53	315	⇓P		Pdif		20 53 34.4	-0.3	
TRO	Tromso	103.69	340	*e*P		Pdif		20 53 32.2	-2.5	
MLR	Muntele Rosu	104.04	315	⇑P		Pdif		20 53 37.4	+0.3	
MLR	Muntele Rosu	104.04	315	⇑P		Pdif		20 53 37.4	+0.3	
BURAR	Bucovina Array	104.39	317	⇑P		Pdif		20 53 38.6	+0.1	
BURAR	Bucovina Array	104.39	317	⇑P		Pdif		20 53 38.6	+0.1	
WRGLY	Wrigley	104.71	26	P		Pdif		20 53 40.1	+0.6	
	baz=283									
TOAD	Toad River Com	104.75	31	P		Pdif		20 53 40.5	+0.8	
	baz=280									
STEI	Steigen	105.48	339	*e*P		Pdif		20 53 41.9	-0.8	
FAUS	Fauske	105.64	338	*e*P		Pdif		20 53 42.8	-0.7	
MARR	Marisel-Cluj	105.90	316	⇓P		Pdif		20 53 45.6	+0.3	
HERR	Herculane	106.58	315	⇑P		Pdif		20 53 48.5	+0.3	
SURR	Surduc	106.69	315	⇑P		Pdif		20 53 48.2	-0.5	
NIE	Niedzica	107.42	319	*e*PKP		PKiKP		20 58 01.4	+1.8	
NSS	Namsos	107.90	336	*e*P		Pdif		20 53 53.2	-0.3	
HFS	Hagfors	108.62	331	Pdiff		Pdif		20 53 56.0	-1.0	
	comp=Z,2.3nm,0.5s,baz=112,slow=3.5,SNR=14									
HFS				PKiKP		PKiKP		20 58 00.1	-1.4	
	comp=Z,2.2nm,0.6s,baz=93,slow=7.7,SNR=4.3									
YKA	Yellowknife Ar	108.81	26	PKiKP		PKiKP		20 58 02.1	+0.3	
	comp=Z,7.2nm,0.7s,baz=309,slow=2.2,SNR=12									
STEB	Steborice	108.94	320	*e*PKP		PKiKP		20 58 03.4	+1.0	
MORC	Moravsky Berou	109.12	320	*e*PKiKP		PKiKP		20 58 03.1	+0.3	
JAVC	Velka Javorina	109.21	319	*e*PKiKP		PKiKP		20 58 04.0	+0.9	
NB2	NORSAR Subarra	109.47	333	P		Pdif		20 54 00.2	-0.6	
	comp=Z,1.4nm,0.7s,baz=71,slow=4.4									
NB2				PKPdf		PKiKP		20 58 02.6	-0.6	
	comp=Z,5.8nm,0.9s,baz=68,slow=1.9									
NB2	NORSAR Subarra	109.47	333	*e*		PKiKP		20 58 02.6	-0.6	
	baz=68,slow=1.9									
NOA	NORSAR Array B	109.47	333	Pdiff		Pdif		20 54 00.4	-0.3	
	comp=Z,0.7nm,0.6s,baz=69,slow=4.5,SNR=3.9									
NOA				PKiKP		PKiKP		20 58 03.0	-0.1	
	comp=Z,3.9nm,0.8s,baz=263,slow=3.1,SNR=10									
KRLC	Kraliky	109.54	321	*e*PKP		PKiKP		20 58 04.5	+0.9	
KSP	Ksiaz	109.68	321	*e*PKP		PKiKP		20 58 04.8	+1.0	
DPC	Dobruska-Polom	109.77	321	*e*PKP		PKiKP		20 58 05.0	+1.0	
OSTC	Ostas	109.79	321	*e*PKP		PKiKP		20 58 05.0	+1.0	
VRAC	Vranov	109.82	320	*e*PKiKP		PKiKP		20 58 04.6	+0.5	
CHVC	Chvalec	109.88	321	*e*PKP		PKiKP		20 58 04.8	+0.6	
KRUC	Moravsky	110.00	320	*e*PKiKP		PKiKP		20 58 04.7	+0.3	
NEEM	North Greenlan	110.03	360	*i* P		PKiKP		20 58 03.1	-1.1	
RONA	Rosalia, Austr	110.34	318	*i* PKiKP		PKiKP		20 58 05.7	+0.6	
	comp=Z,4.3nm,0.7s									
RONA				*e*PKKP		PKKPbc		21 09 01.8	-6.0	
	comp=Z,1.3nm,0.5s									
TREC	Trest	110.53	320	*e*PKP		PKiKP		20 58 05.8	+0.3	
TREC	Trest	110.53	320	*e*PKiKP		PKiKP		20 58 05.8	+0.3	
CONA	Conrad Observa	110.58	318	*i* PKiKP		PKiKP		20 58 05.3	-0.4	
	comp=Z,2.6nm,0.8s									
CONA				*e*PKKP		PKKPbc		21 09 05.6	-1.5	
	comp=Z,2.4nm,0.8s									
PVCC	Panska Ves	110.82	321	*e*PKP		PKiKP		20 58 06.4	+0.5	
PVCC	Panska Ves	110.82	321	*e*PKiKP		PKiKP		20 58 06.4	+0.5	
ARSA	Arzberg	110.95	318	*e*PKiKP		PKiKP		20 58 08.9	+2.5	
	comp=Z,3.9nm,1.1s									
ARSA				*e*PKKP		PKKPbc		21 09 03.6	-2.2	
	comp=Z,1.7nm,0.6s									
PRU	Pruhonice	110.97	321	*e*PKP		PKiKP		20 58 06.7	+0.5	
PRU	Pruhonice	110.97	321	*e*PKiKP		PKiKP		20 58 06.7	+0.5	
BRG	Berggiesshubel	111.12	322	*e*P		PKiKP		20 58 06.8	+0.3	
BRG				Amp				20 58 07.7		
	comp=Z,4.9nm,0.8s									
SOKA	Soboth	111.40	317	*i* PKiKP		PKiKP		20 58 07.0	-0.3	
	comp=Z,3.7nm,0.7s									
SOKA				*i* PKKP		PKKPbc		21 09 03.3	-1.0	
	comp=Z,2.0nm,0.8s									
BOJS	Bojanci	111.49	316	*i* PKiKP		PKiKP		20 58 07.6	+0.3	
CLL	Collm	111.58	322	*i* PKiKP		PKiKP		20 58 07.3	0.0	
CLL				*e*				20 58 50.0		
CLL				pmax		pmax				
	comp=Z,8.0nm,0.8s									
CLL				pmax		pmax				
	comp=Z,15nm,1.6s									
CLL	Collm	111.58	322	*i* PKiKP		PKiKP		20 58 07.3	0.0	
	comp=Z,8.0nm,0.8s									
CLL		

FETA	**Feichten**	**114.18**	**318**	*i* PKP	**PKiKP**	**20 58 12.8**	**+0.2**	
	comp=Z,6.2nm,0.6s,SNR=5.3							
FETA				*i* SKP		21 01 34.3		
	comp=Z,4.5nm,1.2s							
FETA				*e*PKKP	**PKKPab**	**21 08 60.0**	**-0.4**	
	comp=Z,4.1nm,1.4s							
SUMG	**Summit**	**114.43**	**356**	*i* P	PKPdf	20 58 09.0	-3.8	
SUMG				*i* P	**PKiKP**	**20 58 13.0**	**+0.2**	
UPNV	**Upernavik**	**114.66**	**2**	*i* P	**PKiKP**	**20 58 11.4**	**-1.2**	
DAVA	**Damuels**	**114.66**	**319**	*e*S	**SKiKP**	**21 01 34.6**	**-0.5**	
	comp=Z,7.7nm,1.4s							
DAVA	**Damuels**	**114.66**	**319**	*i* PKP	**PKiKP**	**20 58 13.7**	**+0.2**	
	comp=Z,17nm,0.5s,SNR=6.3							
DAVA				*e*SKP		21 01 34.6		
	comp=Z,7.7nm,1.4s							
DAVA				*i* PKKP	**PKKPab**	**21 09 00.2**	**+1.9**	
	comp=Z,12nm,1.1s							
BFO	**Black Forest**	**115.34**	**320**		**PKiKP**	**20 58 13.1**	**-1.6**	
BFO	**Black Forest**	**115.34**	**320**	PKIKP	**PKiKP**	**20 58 13.1**	**-1.6**	
LRM	**Limekiln Ridge**	**115.41**	**43**		**PKPdf**	**20 58 15.6**	**+0.4**	
MCMT	**McKenzie Canyo**	**115.41**	**44**		**PKPdf**	**20 58 16.1**	**+0.8**	
BTNL	**Ternell**	**115.93**	**323**	*d*PKPdf	**PKiKP**	**20 58 15.9**	**+0.1**	
MEM	**Membach**	**115.99**	**323**	*d*PKPdf	**PKiKP**	**20 58 16.0**	**+0.1**	
BHOU	**Houvegnez**	**116.09**	**323**	*d*PKPdf	**PKiKP**	**20 58 16.6**	**+0.6**	
BCLA	**Clavier**	**116.48**	**323**	*d*PKPdf	**PKPdf**	**20 58 16.7**	**-0.1**	
BMRD	**Maredsous**	**116.84**	**323**	*d*PKPdf	**PKiKP**	**20 58 17.9**	**+0.4**	
DOU	**Dourbes**	**117.02**	**323**	*d*PKPdf	**PKiKP**	**20 58 17.9**	**+0.1**	
SOEG	**Soedalen**	**117.84**	**352**	*i* P	**PKPdf**	**20 58 17.7**	**-1.1**	
KEST	**Kesra**	**117.87**	**306**	PKP	**PKiKP**	**20 58 20.7**	**+0.7**	
	comp=Z,12nm,0.8s,baz=201,slow=1.1,SNR=16							
KEST				PP	**PP**	**20 59 31.2**	**-4.7**	
	comp=Z,17nm,1.0s,baz=287,slow=7.4,SNR=7.5							
ICESG	**Greenland Ices**	**117.93**	**355**	*i* P	**PKPdf**	**20 58 19.1**	**-0.5**	
FFC	**Flin Flon**	**118.11**	**30**		**PKPdf**	**20 58 19.6**	**-0.2**	
FFC	**Flin Flon**	**118.11**	**30**	PKIKP	**PKPdf**	**20 58 19.6**	**-0.2**	
PDAR	**Pinedale Array**	**118.28**	**45**		**PKPdf**	**20 58 20.7**	**-0.1**	
PDAR	**Pinedale Array**	**118.28**	**45**	PKP	**PKiKP**	**20 58 21.4**	**+0.5**	
	comp=Z,9.4nm,0.7s,baz=239,slow=1.1,SNR=49							
PDAR				SKP		21 01 42.2		
	comp=Z,1.0nm,0.9s,baz=146,slow=2.9,SNR=4.6							
PDAR				PKKPbc	**PKKPbc**	**21 08 40.0**	**-0.8**	
	comp=Z,2.6nm,0.6s,baz=115,slow=6.4,SNR=16							
ILULI	**Ilulissat**	**118.30**	**360**	*i* P	**PKPdf**	**20 58 18.7**	**-1.0**	
EKA	**Eskdalemuir Ar**	**118.81**	**331**	PKP	**PKPdf**	**20 58 21.0**	**-0.1**	
	comp=Z,3.8nm,0.5s,baz=356,slow=3.1,SNR=17							
CLF	**Chambon-Foret**	**119.25**	**322**		**PKiKP**	**20 58 23.3**	**+1.1**	
TUC	**Tucson**	**119.85**	**57**		**PKiKP**	**20 58 25.2**	**+1.2**	
TUC	**Tucson**	**119.85**	**57**	PKIKP	**PKiKP**	**20 58 25.2**	**+1.2**	
SFJD	**Kangerlussuaq**	**120.53**	**360**		**PKPdf**	**20 58 23.8**	**-0.3**	
SFJD	**Kangerlussuaq**	**120.53**	**360**	PKIKP	**PKPdf**	**20 58 23.8**	**-0.3**	
SFJD	**Kangerlussuaq**	**120.53**	**360**	*i* P	**PKPdf**	**20 58 22.4**	**-1.7**	
ANGG	**Ammassalik, Gr**	**121.11**	**353**	*i* P	**PKPdf**	**20 58 22.7**	**-2.5**	
ISOG	**Isortoq, Green**	**121.32**	**354**	*i* P	**PKPdf**	**20 58 24.1**	**-1.6**	
RSSD	**Black Hills**	**121.60**	**42**		**PKPdf**	**20 58 26.8**	**-0.3**	
RSSD	**Black Hills**	**121.60**	**42**	PKIKP	**PKPdf**	**20 58 26.8**	**-0.3**	
ANMO	**Albuquerque**	**122.79**	**53**		**PKiKP**	**20 58 30.9**	**+1.1**	
ANMO	**Albuquerque**	**122.79**	**53**	*c i*PKIKP	**PKPdf**	**20 58 26.9**	**-2.8**	
ANMO				pmax	pmax			
	comp=Z,21nm,1.0s							
NUUK	**Nuuk**	**123.36**	**0**	*i* P	**PKPdf**	**20 58 29.1**	**-0.5**	
ULM	**Lac du Bonnet**	**123.64**	**33**	PKP	**PKPdf**	**20 58 30.5**	**-0.1**	
	comp=Z,23nm,0.7s,baz=312,slow=2.6,SNR=31							
EPLO	**Experimental L**	**125.11**	**32**		**PKPdf**	**20 58 33.0**	**-0.4**	
NRS	**Narsarsuaq**	**126.20**	**356**	*i* P	**PKPdf**	**20 58 34.0**	**-1.1**	
LL02	**Futaleuf**	**126.33**	**162**		**PKiKP**	**20 58 36.8**	**+0.3**	
TXAR	**Lajitas Array**	**126.46**	**59**		**PKPdf**	**20 58 36.8**	**+0.1**	
TXAR	**Lajitas Array**	**126.46**	**59**	PKP	**PKiKP**	**20 58 37.8**	**+0.6**	
	comp=Z,4.1nm,0.6s,baz=263,slow=3.3,SNR=18							
TXAR				SKPbc	SKiKP	21 01 42.4	-17	
	comp=Z,1.4nm,0.9s,baz=270,slow=2.9,SNR=4.2							
ESDC	**Sonseca Array**	**126.74**	**315**		**PKPdf**	**20 58 36.6**	**-0.3**	
ESDC	**Sonseca Array**	**126.74**	**315**	PKP	**PKiKP**	**20 58 37.2**	**-0.2**	
	comp=Z,6.6nm,0.9s,baz=32,slow=2.6,SNR=30							
ESDC				PP	**PP**	**21 00 35.1**	**-0.3**	
	comp=Z,2.5nm,0.9s,baz=58,slow=8.2,SNR=7.9							
PAB	**San Pablo**	**127.06**	**315**		**PKiKP**	**20 58 38.1**	**0.0**	
PAB	**San Pablo**	**127.06**	**315**	PKIKP	**PKiKP**	**20 58 38.1**	**0.0**	
TORD	**Torodi Ar. Bea**	**127.40**	**281**		**PKPdf**	**20 58 38.1**	**-0.6**	
TORD	**Torodi Ar. Bea**	**127.40**	**281**	PKP	**PKiKP**	**20 58 39.2**	**-0.1**	
	comp=Z,18nm,0.7s,baz=64,slow=2.7,SNR=22							
PBRG	**Braganca**	**127.70**	**318**	*e*PKPdf	**PKiKP**	**20 58 39.6**	**+0.3**	
MVO	**Moncorvo**	**128.19**	**318**	*e*PKPdf	**PKiKP**	**20 58 40.9**	**+0.6**	
PCAB	**Cabril**	**128.59**	**319**	*e*PKPdf	**PKiKP**	**20 58 42.1**	**+1.0**	
PVRL	**Vila Real**	**128.60**	**318**	*e*PKPdf	**PKiKP**	**20 58 42.1**	**+1.0**	
POLO	**Lamas de Olo**	**128.60**	**318**	*e*PKPdf	**PKiKP**	**20 58 41.8**	**+0.7**	
PGAV	**Gavieira, Arco**	**128.63**	**319**	*e*PKPdf	**PKPdf**	**20 58 40.6**	**+0.1**	
MTE	**Manteigas**	**128.90**	**317**	*e*PKPdf	**PKiKP**	**20 58 42.1**	**+0.4**	
PLCA	**Paso Flores**	**128.97**	**161**		**PKiKP**	**20 58 42.6**	**+0.7**	
PLCA	**Paso Flores**	**128.97**	**161**	PKP	**PKiKP**	**20 58 43.0**	**+1.1**	
	comp=Z,11nm,0.8s,baz=212,slow=1.6,SNR=13							
PLCA	**Paso Flores**	**128.97**	**161**	PKIKP	**PKiKP**	**20 58 42.6**	**+0.7**	
PVIS	**Viseu**	**128.98**	**318**	*e*PKPdf	**PKiKP**	**20 58 42.4**	**+0.5**	
PCBR	**Castelo Branco**	**129.11**	**316**	*e*PKPdf	**PKiKP**	**20 58 42.1**	**+0.1**	
PMRV	**Marv??o**	**129.24**	**316**	*e*PKPdf	**PKiKP**	**20 58 42.0**	**-0.3**	
PTO	**Porto**	**129.25**	**318**	*e*PKPdf	**PKiKP**	**20 58 42.4**	**+0.1**	
PBAR	**Barrancos**	**129.54**	**314**	*e*PKPdf	**PKPdf**	**20 58 41.9**	**-0.4**	
PESTR	**Estremoz**	**129.63**	**315**	*e*PKPdf	**PKiKP**	**20 58 44.2**	**+1.0**	
PSARD	**Sardoal**	**129.69**	**316**	*e*PKPdf	**PKiKP**	**20 58 44.2**	**+1.0**	
PCAS	**Casmilo, Conde**	**129.78**	**316**	*e*PKPdf	**PKPdf**	**20 58 39.2**	**-3.3**	
PMTG	**Montargil**	**129.98**	**316**	*e*PKPdf	**PKPdf**	**20 58 42.5**	**-0.5**	
EVO	**Evora**	**130.07**	**315**	*e*PKPdf	**PKiKP**	**20 58 43.9**	**-0.1**	
PBEJ	**Beja**	**130.20**	**314**	*e*PKPdf	**PKiKP**	**20 58 44.4**	**+0.1**	
PVAQ	**Vaqueiros**	**130.36**	**314**	*e*PKPdf	**PKiKP**	**20 58 46.0**	**+1.4**	
PCVE	**Castro Verde**	**130.49**	**314**	*e*PKPdf	**PKiKP**	**20 58 44.9**	**0.0**	
MORF	**Marmelete**	**131.08**	**314**	*e*PKPdf	**PKiKP**	**20 58 47.0**	**+0.8**	
SCHQ	**Schefferville**	**131.17**	**12**	PKP	**PKiKP**	**20 58 46.2**	**+0.4**	
	comp=Z,19nm,0.6s,baz=333,slow=1.6,SNR=32							
SCHQ				SKPbc	**SKPbc**	**21 01 55.4**	**-0.2**	
	comp=Z,41nm,0.7s,baz=22,slow=4.6,SNR=27							
PFVI	**Vila Bisbo**	**131.28**	**314**	*e*PKPdf	**PKiKP**	**20 58 47.3**	**+0.8**	
BI02	**San Fabin de**	**132.38**	**158**		**PKPdf**	**20 58 45.6**	**-2.2**	
CCM	**Cathedral Cave**	**132.94**	**44**		**PKPdf**	**20 58 48.5**	**-0.1**	
CCM	**Cathedral Cave**	**132.94**	**44**	PKIKP	**PKPdf**	**20 58 48.5**	**-0.1**	
DBIC	**Dimbokro**	**133.69**	**272**	PKP	**PKPdf**	**20 58 50.8**	**+0.1**	
	comp=Z,15nm,0.7s,baz=126,slow=3.9,SNR=12							
DBIC				SKPbc	**SKPbc**	**21 02 04.2**	**-1.3**	
	comp=Z,14nm,1.0s,baz=134,slow=3.4,SNR=7.3							
BO01	**Tunca**	**134.47**	**157**		**PKPdf**	**20 58 52.3**	**+0.6**	
ICQ	**Pointe Anglais**	**136.02**	**15**		**PKPdf**	**20 58 53.7**	**-0.3**	
SDMD	**Soldier's Deli**	**140.88**	**32**		**PKPdf**	**20 59 04.0**	**+0.7**	
PLTB	**Pedras Altas**	**140.97**	**177**		**PKPdf**	**20 59 00.9**	**-2.9**	
PB10	**IPOC Station P**	**144.06**	**149**		PKPbc	20 59 07.6	-0.1	
TGUH	**Tegucigalpa,Un**	**144.31**	**76**		PKPbc	20 59 09.3	+0.5	
MBO	**M'Bour**	**145.38**	**285**		**PKPdf**	**20 59 11.3**	**-0.5**	
CPUP	**Villa Florida**	**145.96**	**171**		**PKPbc**	**20 59 13.1**	**-0.4**	
CPUP	**Villa Florida**	**145.96**	**171**	PKPbc	**PKPbc**	**20 59 13.8**	**+0.2**	
	comp=Z,13nm,0.9s,baz=58,slow=2.1,SNR=56							
JTS	**Las Juntas de**	**146.87**	**83**		**PKPdf**	**20 59 14.7**	**+0.2**	
JTS	**Las Juntas de**	**146.87**	**83**	PKIKP	**PKPdf**	**20 59 14.7**	**+0.2**	
NNA	**Nana**	**148.28**	**127**		**PKPbc**	**20 59 20.9**	**+0.5**	
NNA	**Nana**	**148.28**	**127**	*c i*PKIKP	**PKPdf**	**20 59 16.1**	**-0.7**	
NNA				*i*		20 59 21.8		
NNA				pmax	pmax			
	comp=Z,213nm,1.0s							
LPAZ	**La Paz**	**151.27**	**145**	PKPbc	**PKiKP**	**20 59 29.6**	**+0.8**	
	comp=Z,49nm,0.8s,baz=7.2,slow=1.6,SNR=67							
BDFB	**Brasilia**	**156.81**	**189**	PKP	**PKPdf**	**20 59 29.4**	**0.0**	
	comp=Z,8.0nm,0.8s,baz=260,slow=4.4,SNR=8.4							
BDFB				PKPab	**PKPab**	**21 00 00.5**	**+1.1**	
	comp=Z,7.6nm,0.7s,baz=63,slow=3.9,SNR=5.9							
ROSC	**El Rosal**	**157.20**	**95**	PKP	**PKPdf**	**20 59 31.4**	**+1.2**	
	comp=Z,14nm,0.8s,baz=180,slow=22,SNR=6.6							
SJG	**San Juan**	**162.25**	**52**		**PKPdf**	**20 59 34.8**	**-0.5**	
SJG	**San Juan**	**162.25**	**52**	PKIKP	**PKPdf**	**20 59 34.8**	**-0.5**	
HUMP	**Col San Antoni**	**162.46**	**51**		**PKPab**	**21 00 24.0**	**0.0**	

*SOME **01** 20:49:03.8, 39.07N × 72.07E, h0km*
*IDC **01** 20:49:11.6±1.0, 39.13N × 71.72E, h0km, mb3.9/10, mbtmp4.0/12, ML3.9/2, Error ellipse: s-maj=21.6km s-min=15.4km az=139.0*
*KRNET **01** 20:49:11.9±0.1, 39.25N × 71.56E, h13km, mb4.2*
*NNC **01** 20:49:14.9±8.7, 39.44N × 71.45E, h0km, mb4.7, mpv4.2, Error ellipse: s-maj=65.9km s-min=36.8km az=5.0*

ISC 01 20:49:13.7±0.7, 39.26N±0.04×71.65E±0.03, h10km, n56, σ2ş19/79, mb4.0/10, 29C-25D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.25**	**29**	⇑*i*P		**Pg**		**20 49 17.8**	**-1.2**
DRK				⇑*i*S		**Sg**		**20 49 22.0**	**-0.5**
BTK	**Batken**	**1.02**	**322**	⇑*i*P		**Pg**		**20 49 30.7**	**-2.6**
BTK				⇑*i*S		**Sg**		**20 49 44.4**	**-2.2**
GAR	**Garm**	**1.07**	**256**	⇓*i*P		**Pg**		**20 49 30.8**	**-3.4**
GAR				⇓*i*S		**Sg**		**20 49 44.6**	**-3.4**
OHH	**Osh**	**1.54**	**34**	⇑*i*P		**Pb**		**20 49 41.4**	**-0.9**
OHH				⇑*i*S		**Sb**		**20 50 02.7**	**+0.8**
SFK	**Sufi-Kurgan**	**1.62**	**62**	⇓*i*P		**Pb**		**20 49 43.0**	**-0.8**
SFK				⇓*i*S		**Sg**		**20 50 05.8**	**0.0**
TRKS	**Terek-Say**	**2.30**	**351**	⇑*i*P		**Pn**		**20 49 51.7**	**-0.1**
TRKS				⇑*i*S		**Sn**		**20 50 20.6**	**+0.3**
ARSB	**Arslanbob**	**2.30**	**26**	⇑*i*P		**Pn**		**20 49 53.1**	**+1.3**
ARSB				⇑*i*S		**Sb**		**20 50 23.1**	**-0.8**
SALK	**Salom-Alik**	**2.33**	**45**	⇑*i*P		**Pb**		**20 49 53.8**	**-2.0**
SALK				⇑*i*S		**Sb**		**20 50 24.1**	**-0.6**
ARK	**Arkit**	**2.55**	**5**	⇑*i*P		**Pn**		**20 49 56.3**	**+1.1**
ARK				⇑*i*S		**Sn**		**20 50 28.6**	**+2.3**
IUG	**Iuzhnay**	**3.13**	**337**	Pg		**Pb**		**20 50 08.6**	**-1.0**
	212nm,0.5s								
IUG				Lg		Lg		20 50 53.6	
	413nm,0.8s								
AML	**Almayashu**	**3.26**	**28**	P		**Pb**		**20 50 09.0**	**-2.9**
	SNR=96								
AML	**Almayashu**	**3.26**	**28**	⇓*i*P		**Pn**		**20 50 06.7**	**+1.4**
AML				⇓*i*S		**Sn**		**20 50 46.8**	**+2.4**
MNAS	**Manas**	**3.29**	**11**	⇑*i*P		**Pn**		**20 50 06.8**	**+1.4**
MNAS				⇑*i*S		**Sn**		**20 50 46.7**	**+2.1**
CHM	**Chimkent**	**3.43**	**334**	*e*P		**Pb**		**20 50 15.1**	**+0.7**
	84nm,0.5s								
CHM				*e*S		**Sg**		**20 51 04.8**	**+1.1**
	197nm,0.6s								
JNKS	**Jany-Kuch**	**3.56**	**58**	⇓*i*P		**Pn**		**20 50 11.0**	**+1.8**
JNKS				⇓*i*S		**Sn**		**20 50 54.1**	**+2.7**
UCH	**Uchtor**	**3.68**	**35**	P		**Pb**		**20 50 15.9**	**-3.1**
	SNR=12								
UCH	**Uchtor**	**3.68**	**35**	⇑*i*P		**Pn**		**20 50 12.5**	**+1.5**
UCH				⇑*i*S		**Sn**		**20 50 56.8**	**+2.1**
MRKS	**Merke**	**3.68**	**18**	Pg		**Pb**		**20 50 14.6**	**-4.3**
	53nm,0.8s								
MRKS				Lg		Lg		20 51 04.1	
	48nm,0.5s								
MRKS	**Merke**	**3.68**	**18**	*e*P		**Pb**		**20 50 14.6**	**-4.3**
	53nm,0.8s								
MRKS				*e*S		**Sb**		**20 51 04.1**	**+0.5**
	48nm,0.5s								
EKS2	**Erkin-Say**	**3.76**	**25**	P		**Pb**		**20 50 16.1**	**-4.2**
	SNR=46								
EKS2	**Erkin-Say**	**3.76**	**25**	⇑*i*P		**Pn**		**20 50 13.3**	**+1.4**
EKS2				⇑*i*S		**Sn**		**20 50 58.2**	**+1.9**
KK31	**Karatay Array**	**3.93**	**348**	⇑Pn		**Pn**		**20 50 17.1**	**+3.0**
	21nm,0.4s,baz=168,slow=13,SNR=424								
KK31				⇑Lg		Lg		20 51 18.2	
	31nm,0.4s,baz=171,slow=31,SNR=8.7								
KKAR	**Karatay Array**	**3.93**	**348**	⇑*i*P		**Pn**		**20 50 15.1**	**+1.0**
KKAR				⇑*i*S		**Sn**		**20 51 01.2**	**+0.8**
NRN	**Naryn**	**3.97**	**55**	⇓*e*P		**Pn**		**20 50 16.5**	**+1.5**
NRN				⇓*e*S		**Sn**		**20 51 03.3**	**+1.5**
AAK	**Ala-Archa**	**4.00**	**32**	P		Pb		20 50 19.8	-4.7
	SNR=25								
AAK	**Ala-Archa**	**4.00**	**32**	Pn		Pb		20 50 19.7	-4.7
	16nm,0.3s,baz=193,slow=3.9,SNR=38								
AAK				Sn		**Sb**		**20 51 09.8**	**-3.2**
	3.3nm,0.3s,baz=99,slow=20,SNR=3.6								
	33nm,0.4s								
AAK	**Ala-Archa**	**4.00**	**32**	⇓*i*P		**Pn**		**20 50 16.9**	**+1.7**
AAK				⇓*i*S		**Sn**		**20 51 04.3**	**+2.0**
AAK	**Ala-Archa**	**4.00**	**32**	*i* P		Pb		20 50 19.5	-4.9
	SNR=26								
BRLS	**Borolday**	**4.01**	**341**	Pg		**Pn**		**20 50 16.4**	**+1.3**
	21nm,0.4s								
BRLS				Lg		Lg		20 51 07.0	
	48nm,0.9s								
BRLS	**Borolday**	**4.01**	**341**	*e*P		**Pb**		**20 50 22.2**	**-2.1**
	8.0nm,0.2s								
BRLS				*e*S		**Sb**		**20 51 16.6**	**+3.8**
	137nm,0.5s								
FRU1	**Bishkek**	**4.20**	**32**	⇓*i*P		**Pn**		**20 50 19.8**	**+1.9**
FRU1				⇓*i*S		**Sn**		**20 51 09.3**	**+2.2**
KBK	**Karagaybulak**	**4.21**	**35**	P		Pb		20 50 23.2	-4.8
	SNR=55								
KBK	**Karagaybulak**	**4.21**	**35**	⇑*i*P		**Pn**		**20 50 19.8**	**+1.7**
KBK				⇑*i*S		**Sn**		**20 51 09.3**	**+1.8**
CHMS	**Chumysh**	**4.41**	**31**	P		Pn		20 50 25.2	+4.5
	SNR=67								
CHMS	**Chumysh**	**4.41**	**31**	⇓*i*P		**Pn**		**20 50 22.2**	**+1.5**
CHMS				⇓*i*S		**Sn**		**20 51 13.9**	**+1.8**
USP	**Ospenovka**	**4.54**	**27**	P		**Pn**		**20 50 26.5**	**+4.0**
	SNR=58								
USP	**Ospenovka**	**4.54**	**27**	⇑*i*P		**Pn**		**20 50 24.3**	**+1.7**
USP				⇑*i*S		**Sn**		**20 51 16.9**	**+1.4**
BOOM	**Boomskoye usch**	**4.58**	**44**	⇓*i*P		**Pn**		**20 50 25.1**	**+1.9**
BOOM				⇓*i*S		**Sn**		**20 51 18.5**	**+1.9**
ULHL	**Ulahol**	**4.59**	**48**	P		Pb		20 50 28.8	-5.7
	SNR=9.1								
ULHL	**Ulahol**	**4.59**	**48**	⇓*i*P		**Pn**		**20 50 25.1**	**+1.7**
ULHL				⇓*i*S		**Sn**		**20 51 18.6**	**+1.7**
TKM2	**Tokmak 2**	**4.72**	**38**	P		Pn		20 50 29.6	+4.5
	SNR=8.5								
TKM2	**Tokmak 2**	**4.72**	**38**	⇓P		**Pn**		**20 50 29.0**	**+3.9**
	19nm,0.5s								
TKM2				⇑S		**Sn**		**20 51 27.0**	**+7.0**
	16nm,0.6s								
TKM2	**Tokmak 2**	**4.72**	**38**	⇓*e*P		**Pn**		**20 50 27.1**	**+2.0**
TKM2				⇓*i*S		**Sn**		**20 51 21.8**	**+1.8**
SGDS	**Sogindy**	**4.75**	**27**	Pg		**Pb**		**20 50 34.4**	**-2.7**
	13nm,0.9s								
SGDS				Lg		Lg		20 51 38.0	
	32nm,0.9s								
KDJ	**Kajisay**	**5.09**	**54**	⇓*i*P		**Pn**		**20 50 32.2**	**+2.0**
KDJ				⇓*i*S		**Sn**		**20 51 30.7**	**+1.6**
ZALV	**Zalesovo Beam**	**17.21**	**27**	P		**P**		**20 53 16.4**	**+0.8**
	1.0nm,0.3s,baz=230,slow=13,SNR=4.3								
	5.8nm,0.6s								
BRTR	**Keskin Array B**	**29.19**	**283**	P		**P**		**20 55 17.0**	**+1.5**
	0.7nm,0.7s,baz=88,slow=9.4,SNR=2.6								
	0.7nm,0.7s								
FINES	**FINESS Array B**	**35.52**	**324**	P		**P**		**20 56 11.6**	**+1.2**
	1.5nm,0.7s,baz=114,slow=7.8,SNR=1.8								
	1.5nm,0.7s								
ARCES	**ARCESS Array B**	**38.81**	**336**	P		**P**		**20 56 38.8**	**+0.6**
	3.2nm,1.0s,baz=113,slow=9.2,SNR=2.3								
	3.2nm,1.0s								
HFS	**Hagfors**	**41.25**	**320**	P		**P**		**20 56 58.8**	**+0.2**
	3.4nm,0.8s,baz=96,slow=9.3,SNR=5.1								
	3.4nm,0.8s								
GERES	**GERESS Array B**	**41.81**	**303**	P		**P**		**20 57 03.7**	**+0.3**
	0.2nm,0.4s,baz=62,slow=9.0,SNR=2.2								
	0.2nm,0.4s								
NOA	**NORSAR Array B**	**42.52**	**321**	P		**P**		**20 57 10.0**	**+1.0**
	0.8nm,0.8s,baz=91,slow=8.3,SNR=2.2								
	0.8nm,0.8s								
ESDC	**Sonseca Array**	**56.65**	**297**	P		**P**		**20 58 55.9**	**-1.2**
	1.6nm,0.9s,baz=69,slow=6.1,SNR=4.4								
	1.6nm,0.9s								
INK	**Inuvik**	**71.10**	**10**	P		**P**		**21 00 32.1**	**+0.4**
	1.6nm,0.5s,baz=321,slow=3.7,SNR=4.5								
	1.6nm,0.5s								
WRA	**Warramunga Arr**	**83.03**	**123**	P		**P**		**21 01 38.5**	**-1.0**
	1.4nm,0.8s,baz=324,slow=4.8,SNR=6.9								
	1.4nm,0.8s								
ASAR	**Alice Springs**	**85.42**	**126**	P		**P**		**21 01 50.7**	**-0.8**
	0.7nm,0.7s,baz=309,slow=5.3,SNR=5.2								
	0.7nm,0.7s								

*IDC **01** 20:55:49.4±3.8, 2.88S × 103.30E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=230.7km s-min=20.0km az=53.0*
*DJA **01** 20:55:51.1±1.0, 4.4S±4.4 × 10.2E±0.8, h24km±9km, M4.1/12, mb4.2/4, MLv4.1/12*

ISC 01 20:55:49.3±0.9, 2.97S±0.07×103.14E±0.06, h10km, n17, σ1ş65/15, mb3.9/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**0.87**	**219**	P		**Pg**		**20 56 06.0**	**-0.1**
KSI				S		**Sg**		**20 56 16.5**	**-1.0**
LHSI	**Lahat**	**0.93**	**156**	P		Pn		20 56 16.3	+7.8
MNAI	**Manna**	**1.39**	**188**	P		Pn		20 56 06.9	-8.0
MNAI				S		Sn		20 56 18.6	-15
MDSI	**Maura Dua**	**1.83**	**146**	P		**Pg**		**20 56 24.2**	**-0.2**
LWLI	**Liwa**	**2.23**	**156**	P		**Pn**		**20 56 24.3**	**-2.2**
SISI	**Saibi**	**4.37**	**292**	P		**Pn**		**20 56 53.5**	**-2.2**
CGJI	**Cibinong**	**4.42**	**145**	P		**Pn**		**20 56 54.0**	**-2.5**
TPI	**Tanjungpandan**	**4.51**	**87**	P		**Pg**		**20 57 14.2**	**-1.6**
	0.1nm16nm,1.9s								
CNJI	**Cibinong**	**5.86**	**137**	P		**Pn**		**20 57 15.7**	**-0.6**
	0.1nm22nm,1.0s								
CMJI	**Cimerak**	**7.13**	**132**	P		**Pn**		**20 57 34.3**	**+0.6**
WRA	**Warramunga Arr**	**34.80**	**121**	P		**P**		**21 02 40.6**	**0.0**
	0.5nm,0.6s,baz=297,slow=7.9,SNR=2.5								
	0.5nm,0.6s								
ASAR	**Alice Springs**	**36.16**	**127**	P		**P**		**21 02 53.3**	**+1.1**
	0.2nm,0.3s,baz=299,slow=7.5,SNR=9.3								
	0.2nm,0.3s								
STKA	**Stephens Creek**	**46.18**	**133**	P		**P**		**21 04 16.3**	**+1.8**
	6.3nm,1.2s,baz=311,slow=18,SNR=2.3								
	6.3nm,1.2s								
MKAR	**Makanchi Array**	**52.85**	**342**	P		**P**		**21 05 07.1**	**+1.9**
	0.8nm,0.7s,baz=149,slow=7.6,SNR=9.1								
	0.8nm,0.7s								
ZALV	**Zalesovo Beam**	**58.74**	**347**	P		**P**		**21 05 49.4**	**+2.1**
	1.2nm,0.7s,baz=157,slow=7.4,SNR=4.6								
	1.2nm,0.7s								
BVAR	**Borovoye Array**	**62.20**	**338**	P		**P**		**21 06 10.9**	**-0.1**
	0.5nm,0.5s,baz=123,slow=6.6,SNR=3.6								
	0.5nm,0.5s								
TXAR	**Lajitas Array**	**143.45**	**41**	PKhKP		PKPpre		21 15 22.5	
	0.2nm,0.5s,baz=330,slow=1.4,SNR=5.5								

*IDC **01** 21:00:53.7±0.8, 21.11S × 174.39W, h0km, mb4.2/10, mbtmp4.2/10, MS3.7/15, Error ellipse: s-maj=28.6km s-min=22.6km az=110.0*
*NEIC **01** 21:00:54.

comp=Z,9.8nm,1.4s
ILAR Eielson Array 88.23 11 P **P 21 13 44.6 -0.1**
comp=Z,0.6nm,0.8s,baz=214,slow=5.0,SNR=5.9
comp=Z,0.6nm,0.8s
IMAR Indian Mountai 88.29 8 P **P 21 13 45.7 +0.8**
G21K Allakaket 88.83 8 P **P 21 13 49.1 +1.6**
G21K IAmb IAmb 21 16 29.9
comp=Z,18nm,1.8s
GSI Gunungsitoli 89.18 272 P **P 21 13 51.3 +0.9**
E19K Redstone River 89.30 6 P **P 21 13 51.3 +1.6**
E19K IAmb IAmb 21 15 20.6
comp=Z,19nm,1.7s
E22K Anaktuvuk Pass 90.58 8 P **P 21 13 56.6 +0.9**
E22K IAmb IAmb 21 14 08.6
comp=Z,6.4nm,1.1s
I30M Mount Dempster 90.84 15 P **P 21 13 58.9 +1.8**
I30M IAmb IAmb 21 14 17.8
comp=Z,4.1nm,1.2s
BMAR Burnt Mountain 91.04 11 P **P 21 14 00.6 +2.7**
XLT XiLinHaoTe 91.13 317 *e*P **P 21 14 00.7 +1.9**
XLT sP sP 21 14 09.1 +1.7
XLT pmax pmax
comp=Z,12nm,1.0s
XAN Xi'an 91.73 306 ⇓P **P 21 14 02.7 +0.9**
XAN pmax pmax
comp=Z,11nm,0.9s
HHC Hu-ho-hao-te 92.71 313 *e*P **P 21 14 08.1 +1.8**
HHC pmax pmax
comp=Z,6.0nm,0.6s
CMAR Chiang Mai Arr 94.07 288 P **P 21 14 13.3 +0.4**
CMAR Chiang Mai Arr 94.07 288 P **P 21 14 12.9 0.0**
comp=Z,2.9nm,0.9s,baz=112,slow=4.5,SNR=17
comp=Z,2.9nm,0.9s
PZH PanZhiHua 94.54 297 P **P 21 14 16.8 +1.7**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.2s
LZH Lanzhou 96.36 306 *e*P **P 21 14 23.7 +0.5**
LZH sP sP 21 14 32.7 +0.9
LZH pmax pmax
comp=Z,18nm,1.3s
BVAR Borovoye Array 122.17 320 PKP **PKPdf 21 19 48.5 0.0**
comp=Z,1.0nm,0.7s,baz=108,slow=2.3,SNR=4.5
EKA Eskdalemuir Ar 145.25 9 PKPbc **PKPdf 21 20 32.7 +1.4**
comp=Z,2.6nm,0.6s,baz=327,slow=3.0,SNR=8.8
AKASG Malin Array Be 145.49 334 **PKPdf 21 20 30.9 -1.0**
AKASG Malin Array Be 145.49 334 PKPbc **PKPdf 21 20 31.8 -0.1**
comp=Z,5.6nm,0.7s,baz=42,slow=4.1,SNR=25
AKBB Malin Array Si 145.49 334 PKPbc **PKPdf 21 20 31.4 -0.5**
AKBB Malin Array Si 145.49 334 PKP **PKPdf 21 20 31.3 -0.6**
AK04 Malin Array Si 145.50 334 PKP **PKPdf 21 20 31.3 -0.6**
AK01 Malin Array Si 145.50 334 PKP **PKPdf 21 20 31.4 -0.5**
KIEV Kiev 145.50 334 PKPbc **PKPdf 21 20 31.3 -0.6**
KIEV Kiev 145.50 334 PKP **PKPdf 21 20 31.3 -0.6**
AK21 Malin Array Si 145.51 334 PKP **PKPdf 21 20 31.4 -0.5**
AK22 Malin Array Si 145.51 334 PKP **PKPdf 21 20 31.4 -0.5**
AK08 Malin Array Si 145.53 334 PKP **PKPdf 21 20 31.4 -0.6**
AK11 Malin Array Si 145.53 334 PKP **PKPdf 21 20 31.5 -0.5**
MI28 Mi28,Pidlybu 145.93 336 PKP **PKPdf 21 20 32.3 -0.3**
RNPP8 Varash 146.27 338 PKP **PKPdf 21 20 32.9 -0.3**
LUBAR Lubar, Ukraine 146.69 334 PKP **PKPdf 21 20 33.8 -0.2**
CLL Collm 149.53 352 *i* PKPbc **PKiKP 21 20 44.2 0.0**
comp=Z,6.0nm,0.8s
CLL *i* PKiKP **sPKPdf 21 20 46.3 -0.1**
comp=Z,5.0nm,0.8s
CLL *e*PKSdf **PKSdf 21 24 12.0 -1.3**
CLL *e*PP **PP 21 24 16.0 +0.9**
KOLS Kolonicke sedl 149.54 339 *e*PKP **PKiKP 21 20 44.2 -0.1**
BURAR Bucovina Array 149.54 334 PKPbc **PKiKP 21 20 44.4 -0.1**
MORC Moravsky Berou 150.15 345 *e*PKP **PKiKP 21 20 45.4 -0.2**
BRTR Keskin Array B 150.21 314 PKPbc **PKPbc 21 20 44.4 -1.0**
comp=Z,1.6nm,0.8s,baz=66,slow=2.8,SNR=9.7
LANS Liptovska Anna 150.22 342 *e*PKP **PKiKP 21 20 47.8 +2.0**
VRAC Vranov 150.81 346 *e*PKP **PKiKP 21 20 47.8 +0.9**
JAVC Velka Javorina 150.97 344 *e*PKP **PKiKP 21 20 49.2 +1.9**
VYHS Vyhne 150.99 343 *e*PKP **PKiKP 21 20 48.3 +1.0**
KRUC Moravsky 151.08 346 *e*PKP **PKiKP 21 20 47.9 +0.4**
MMAI Mount Meron Ar 151.58 301 PKPbc **PKiKP 21 20 49.4 +0.2**
comp=Z,1.9nm,0.6s,baz=64,slow=3.4,SNR=4.8
GERES GERESS Array B 151.82 349 PKPbc **PKiKP 21 20 50.3 +1.2**
comp=Z,0.8nm,0.6s,baz=42,slow=2.9,SNR=7.9
CONA Conrad Observa 152.27 346 *e*PKiKP **PKiKP 21 20 51.4 +1.3**
comp=Z,4.5nm,1.1s
RONA Rosalia, Austr 152.38 345 *i* PKiKP **PKiKP 21 20 52.1 +1.8**
comp=Z,1.6nm,0.5s
LESA Schwarzleotal 153.37 350 *e*pPKiKP **PKiKP 21 20 56.8 +4.4**
comp=Z,2.4nm,1.1s
WATA Walderalm 153.62 352 *i* PKP **PKPdf 21 20 46.6 +1.5**
comp=Z,4.0nm,0.6s
SOKA Soboth 153.64 346 *e*pPKiKP pPKPdf 21 20 58.5 +7.5
comp=Z,1.1nm,0.7s
MOTA Moosalm 153.67 352 *e*pPKP pPKPdf 21 20 49.2 -1.9
comp=Z,1.9nm,1.0s
WTTA Wattenberg 153.68 352 *e*pPKP pPKPdf 21 20 48.3 -2.8
comp=Z,2.7nm,0.8s
DAVA Damuels 153.86 354 *e*pPKP pPKPdf 21 20 51.2 -0.2
comp=Z,7.4nm,1.1s
OBKA Obir 153.90 347 *e*pPKP pPKPdf 21 20 51.2 -0.1
comp=Z,1.1nm,0.8s
FETA Feichten 154.03 353 *e*pPKP pPKPdf 21 20 50.4 -1.2
comp=Z,2.9nm,1.1s
ABTA Abfaltersbach 154.05 350 *e*pPKP pPKPdf 21 20 50.6 -1.0
comp=Z,1.7nm,0.9s

IDC 01 21:11:37.9±4.2, 28°.86N×67°.94E, h0km, mb3.3/5, mbtmp3.4/5, Error ellipse: s-maj=139.8km s-min=29.4km az=82.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**21.13**	**28**	P	P	21 16 25.0	+0.6
	1.0nm,1.0s,baz=224,slow=9.7,SNR=5.0 1.0nm,1.0s						
KURBB	**Kurchatov Arra**	**23.17**	**17**	P	P	21 16 45.2	-0.8
	0.4nm,0.7s,baz=207,slow=9.4,SNR=2.9 0.4nm,0.7s						
BVAR	**Borovoye Array**	**24.21**	**4**	P	P	21 16 56.3	+0.2
	0.2nm,0.2s,baz=178,slow=8.7,SNR=1.8 0.2nm,0.2s						
WRA	**Warramunga Arr**	**80.35**	**119**	P	P	21 23 51.5	+0.1
	0.4nm,0.7s,baz=312,slow=5.5,SNR=2.4 0.4nm,0.7s						
ASAR	**Alice Springs**	**82.19**	**122**	P	P	21 24 01.2	0.0
	0.3nm,0.6s,baz=313,slow=5.8,SNR=5.4 0.3nm,0.6s						

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*BER **01** 21:18:44.0±4.4, 79°.88N×18°.83E, h29km±87km, ML2.4, ML2.6(NAO), Confirmed Earthquake*
*FCIAR **01** 21:18:46.0, 79°.85N×18°.06E, h10km, station OMEGA has station magnitude of 3.40*

ISC 01 21:18:36.4±1.5, 80°.11N±0°.09×18°.65E±0°.08, h10km, n11, σ2s01/18, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.71**	**229**	*e*P	**Pb**	**21 19 07.3**	**-0.4**
KBS				*e*S	**Sn**	**21 19 25.6**	**-2.3**
KBS				IAML		21 19 26.2	
	comp=Z,118nm,0.3s						
SPA0	**Spitsbergen Ar**	**1.99**	**194**	⇑*i*P	**Pb**	**21 19 11.3**	**-1.2**
SPA0				*i* S	**Sn**	**21 19 33.1**	**-1.7**
SPA0	**Spitsbergen Ar**	**1.99**	**194**	Pn	**Pb**	**21 19 11.5**	**-1.0**
	baz=20,slow=16						
SPA0				Sn	**Sn**	**21 19 33.7**	**-1.1**
	baz=32,slow=28						
BRBA	**Barentsburg A**	**2.22**	**205**	*e*P	**Pb**	**21 19 16.1**	**-0.5**
BRBA				IAML		21 19 42.2	
	comp=Z,35nm,0.3s						
HSPB	**Hornsund (broa**	**3.18**	**193**	P	**Pb**	**21 19 32.0**	**-0.9**
HSPB				S	**Sn**	**21 20 06.5**	**+2.2**
HSPB	**Hornsund (broa**	**3.18**	**193**	*e*Pg	**Pb**	**21 19 33.2**	**+0.3**
HOPEN	**Hopen**	**3.84**	**157**	*e*P	**Pn**	**21 19 38.5**	**+3.1**
HOPEN				*e*S	**Sn**	**21 20 17.1**	**-3.3**
HOPEN	**Hopen**	**3.84**	**157**	*e*P	**Pn**	**21 19 38.3**	**+3.0**
HOPEN				*e*		21 19 50.3	
ZFI2	**Zemlya Franca-**	**4.84**	**68**	*e*P	**Pb**	**21 20 01.2**	**+0.1**
ZFI2				*e*S	**Sb**	**21 20 57.3**	**-1.9**
OMEGA	**Omega**	**4.85**	**68**	P	**Pb**	**21 20 01.5**	**+0.2**
OMEGA				*e*S	**Sb**	**21 20 57.3**	**-2.3**
	comp=Z,24nm,1.4s						
ARA0	**ARCESS Array S**	**10.77**	**167**	Pn	**Pn**	**21 21 12.2**	**+1.9**
	baz=356,slow=10						
ARA0				Sn	**Sn**	21 22 58.0	-13
	baz=3.1,slow=22						

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*NEIC **01** 21:47:28.1±1.6, 19°.12N±0°.04×155°.47W±0°.04, h55km±3km, Error ellipse: s-maj=7.4km s-min=3.4km az=134.0*
HVO 01 21:47:30.5±0.9, 19°.09N±0°.03×155°.45W±0°.03, h41km±2km, Md2.5/9, ML2.7/32(NEIC), Error ellipse: s-maj=5.1km s-min=2.8km az=123.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HPO	**Honuapo**	**0.10**	**270**	Pn	Pn	21 47 37.2	0.0
HPO				Sn	Sn	21 47 42.9	+1.0
HTC	**Hot Caves**	**0.16**	**19**		Pn	21 47 37.2	-0.5
KHU	**Kahuku**	**0.22**	**315**	Pn	Pn	21 47 36.4	-2.0
KHU				Sn	Sn	21 47 41.6	-2.2
KHU				IAML		21 47 42.7	
	comp=E,678nm,0.5s						
KHU				IAML		21 47 42.7	
	comp=N,710nm,0.4s						
HLP	**Hilina Pali**	**0.25**	**33**	Pn	Pn	21 47 37.0	-1.4
AIN	**Ainahou**	**0.28**	**359**	Pn	Pn	21 47 38.0	-0.9
AIN				Sn	Sn	21 47 43.4	-1.9
SDHHI	**Sand Hill**	**0.33**	**26**		Pn	21 47 38.3	-1.1
SDHHI					Sn	21 47 44.1	-1.5
WRMHI	**West Rim**	**0.35**	**24**		Pn	21 47 38.3	-1.2
KKO	**Keanakako'i**	**0.35**	**30**		Pn	21 47 38.5	-1.2
PUH	**Pauahi**	**0.36**	**38**	Pn	Pn	21 47 38.4	-1.3
PUH				IAML		21 47 47.4	
	comp=N,451nm,1.3s						
UWE	**Uwekahuna**	**0.36**	**24**	Pn	Pn	21 47 38.0	-1.7
UWE				IAML		21 47 56.2	
	comp=N,647nm,0.6s						
BYL	**Byron's Ledge**	**0.37**	**29**	Pn	Pn	21 47 38.7	-1.1
BYL				IAML		21 47 49.1	
	comp=E,654nm,1.0s						
HATHI	**Halema'uma'u T**	**0.38**	**28**	Pn	Pn	21 47 38.1	-1.8
HATHI				IAML		21 47 50.9	
	comp=E,574nm,0.5s						
HATHI				IAML		21 47 52.1	
	comp=N,477nm,1.0s						
KNHH	**Kane Nui o Ham**	**0.39**	**43**	Pn	Pn	21 47 38.5	-1.5
RSD	**Rainshed**	**0.41**	**24**	Pn	Pn	21 47 36.8	-3.5
MLH	**Mauna Loa**	**0.41**	**9**	Pn	Pn	21 47 39.4	-1.0
MLH				IAML		21 47 45.9	
	comp=N,600nm,0.3s						
MLH				IAML		21 47 51.8	
	comp=E,415nm,0.4s						
MWH	**Mokuaweoweo**	**0.42**	**341**	Pn	Pn	21 47 38.4	-2.4
MWH				IAML		21 47 47.8	
	comp=N,500nm,0.4s						
MWH				IAML		21 47 59.1	
	comp=E,650nm,0.6s						
STCH	**Steam Cracks**	**0.43**	**46**	Pn	Pn	21 47 38.7	-1.7
HMH	**Humu'ula Sheep**	**0.51**	**357**	Pn	Pn	21 47 39.1	-2.7
HMH				Sn	Sn	21 47 46.6	-3.0
JOKA	**Jonika Flow**	**0.54**	**51**	Pn	Pn	21 47 39.0	-3.0
JOKA				IAML		21 47 49.0	
	comp=N,411nm,0.9s						

IDC 01 21:55:38.2±1.9, 8°.27S×117°.15E, h0km, mb3.6/3, mbtmp3.6/5, ML3.1/2, MS3.4/1, Error ellipse: s-maj=43.8km s-min=24.1km az=65.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**4.14**	**39**	Pn	Pn	21 56 43.8	+1.1
	0.7nm,0.3s,baz=189,slow=8.5,SNR=1.2						
KAPI				Sn	Sn	21 57 31.4	-0.6
	2.7nm,0.3s,baz=40,slow=20,SNR=6.5 3.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**12.79**	**141**	Pn	Pn	21 58 40.7	-0.8
	0.1nm,0.3s,baz=316,slow=16,SNR=1.5						
FITZ				Sn	Sn	22 01 02.8	-1.9
	baz=225,slow=14 0.6nm,0.3s						
WRA	**Warramunga Arr**	**20.29**	**127**	P	P	22 00 15.8	+0.1
	4.7nm,1.2s,baz=300,slow=12,SNR=14 4.7nm,1.2s						
ASAR	**Alice Springs**	**22.18**	**136**	P	P	22 00 36.2	+0.1
	1.7nm,0.8s,baz=316,slow=9.4,SNR=15 1.7nm,0.8s						
ASAJ	**Asahikawa**	**57.01**	**22**	LR	LR	22 31 46.4	
	comp=Z,30nm,19.2s,baz=290,slow=38						
MKAR	**Makanchi Array**	**62.99**	**334**	P	P	22 06 06.7	-0.1
	0.5nm,0.8s,baz=144,slow=5.4,SNR=3.9 0.5nm,0.8s						

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*SKHL **01** 21:56:53.5±0.5, 44°.10N×147°.10E, h68km±5km, mb4.7/3*
*MOS **01** 21:56:53.3±1.1, 44°.09N×146°.97E, h56km, mb4.0/5, Error ellipse: s-maj=14.6km s-min=10.0km az=59.3*
*JMA **01** 21:56:53.3±0.2, 43°.8N±0°.9×14°.7E±°, h51km, MV3.4/27, E OFF HOKKAIDO*
ISC 01 21:56:53.9±0.9, 43°.96N±0°.07×147°.13E±0°.06, h60km±7km, n41, σ1s28/60, mb3.7/5, 3C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.23**	**248**	*e*Pn	**Pn**	**21 57 04.2**	**+0.7**
SHO				*i* S	**Sn**	**21 57 11.2**	**+0.8**
SHO				pmax	pmax		
	comp=N,546nm,0.1s						
SHO				pmax	pmax		
	comp=E,784nm,0.1s						
SHO				pmax	pmax		
	comp=Z,2μm,0.1s						
SHO				smax	smax		
	comp=N,5μm,0.2s						
SHO				smax	smax		
	comp=E,9μm,0.2s						
SHO	**Shikotan**	**0.23**	**248**	*i* P	**Pn**	**21 57 04.0**	**+0.5**
SHO				AMB	AMB	21 57 04.5	
	comp=E,770nm,0.2s						
SHO				*i* S	**Sn**	**21 57 11.3**	**+0.8**
SHO				A	A	21 57 11.6	
	comp=E,5μm,0.2s						
SHO				A	A	21 57 11.6	
	comp=E,4μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.92**	**275**	*e*PN	**Pn**	**21 57 09.3**	**-1.5**
YUK				*e*S	**Sn**	**21 57 22.1**	**-1.2**
YUK				pmax	pmax		
	comp=Z,292nm,0.2s						
YUK				pmax	pmax		
	comp=N,123nm,0.1s						
YUK				pmax	pmax		
	comp=E,90nm,0.1s						
YUK				smax	smax		
	comp=N,1μm,0.2s						
YUK				smax	smax		
	comp=E,2μm,0.1s						
YUK	**Yuzh-Kuril'sk**	**0.92**	**275**	*e*P	**Pn**	**21 57 09.3**	**-1.5**
YUK				AMB	AMB	21 57 11.0	
	comp=E,180nm,0.2s						
YUK				*e*S	**Sn**	**21 57 21.3**	**-2.0**
YUK				A	A	21 57 23.3	
	comp=E,800nm,0.3s						
YUK				A	A	21 57 23.3	
	comp=E,2μm,0.3s						
NEM2	**Nemuro 2**	**1.17**	**240**	P	**Pn**	**21 57 12.7**	**-1.4**
NEM2				S	**Sn**	**21 57 27.1**	**-2.0**
NMR	**Nemuro--Hokkai**	**1.17**	**240**	*e*PN	**Pn**	**21 57 12.8**	**-1.4**
NMR				*e*S	**Sn**	**21 57 27.1**	**-2.2**
NMR	**Nemuro--Hokkai**	**1.17**	**240**	*e*P	**Pn**	**21 57 12.8**	**-1.4**
NMR				*e*S	**Sn**	**21 57 27.3**	**-2.0**
GLVR	**Golovnino**	**1.18**	**260**	*e*PN	**Pn**	**21 57 13.9**	**-0.4**
GLVR				*e*S	**Sn**	**21 57 28.9**	**-0.6**
GLVR				pmax	pmax		
	comp=Z,130nm,0.1s						
GLVR				smax	smax		
	comp=N,806nm,0.3s						
GLVR				smax	smax		
	comp=E,359nm,0.1s						
GLVR	**Golovnino**	**1.18**	**260**	*e*P	**Pn**	**21 57 13.9**	**-0.4**
GLVR				AMB	AMB	21 57 15.1	
	comp=E,130nm,0.2s						
GLVR				*e*S	**Sn**	**21 57 28.9**	**-0.6**
GLVR				A	A	21 57 32.8	
	comp=E,810nm,0.2s						
GLVR				A	A	21 57 32.8	
	comp=E,360nm,0.2s						
RUSJ	**Misakicho**	**1.36**	**277**	*e*PN	**Pn**	**21 57 17.1**	**+0.4**
RUSJ				*e*S	**Sn**	**21 57 34.9**	**+1.1**
KUR	**Kuril'sk**	**1.38**	**22**	PN	**Pn**	**21 57 16.2**	**-0.7**
KUR				*i* S	**Sn**	**21 57 33.9**	**-0.3**
KUR				smax	smax		
	comp=N,532nm,0.2s						
KUR				smax	smax		
	comp=E,312nm,0.3s						
KUR	**Kuril'sk**	**1.38**	**22**	*e*P	**Pn**	**21 57 14.8**	**-2.1**
KUR				*e*S	**Sn**	**21 57 31.9**	**-2.3**
KUR				A	A	21 57 35.3	
	comp=E,530nm,0.2s						
KUR				A	A	21 57 35.3	
	comp=E,310nm,0.2s						
JRA	**Rausu**	**1.45**	**270**	*e*P	**Pn**	**21 57 17.9**	**+0.1**
JRA				*e*S	**Sn**	**21 57 36.1**	**+0.3**
JNSB	**Nemuroshibetsu**	**1.54**	**264**	*e*P	**Pn**	**21 57 19.6**	**+0.4**
JNSB				*e*S	**Sn**	**21 57 38.2**	**+0.1**
JKHN	**Kushirohamanak**	**1.68**	**239**	S	**Sn**	**21 57 39.7**	**-1.6**
JNK	**Nakash**	**1.78**	**259**	*i* P	**Pn**	**21 57 22.1**	**-0.2**
JNK				*e*S	**Sn**	**21 57 43.0**	**-1.0**
AKK	**Akkeshi**	**1.91**	**241**	*e*P	**Pn**	**21 57 23.2**	**-0.9**
JAK	**Akkeshi**	**2.01**	**242**	P	**Pn**	**21 57 24.6**	**-0.9**
JAK				*e*S	**Sn**	**21 57 47.6**	**-1.9**
JTKR	**Abashiri--Toko**	**2.32**	**271**	*e*P	**Pn**	**21 57 30.1**	**+0.4**
JAR	**Ashorobuto**	**2.52**	**256**	*e*P	**Pn**	**21 57 33.1**	**+0.6**
JAR				*e*S	**Sn**	**21 58 02.2**	**+0.2**
JOB	**Onbets**	**2.62**	**247**	*e*P	**Pn**	**21 57 33.8**	**0.0**
JOB				S	**Sn**	**21 58 03.2**	**-1.1**
JMP	**Maruseppu**	**2.72**	**272**	P	**Pn**	**21 57 35.9**	**+0.7**
JCH	**Churui**	**3.06**	**245**	*e*P	**Pn**	**21 57 39.1**	**-0.6**
JCH				*e*S	**Sn**	**21 58 14.3**	**-0.8**
JKK2	**Kamakawa 2**	**3.16**	**270**	*e*P	**Pn**	**21 57 42.8**	**+1.5**
ERM	**Erimo**	**3.50**	**238**	*i* PN	**Pn**	**21 57 47.2**	**+1.4**
MAJO	**Matsushiro**	**10.06**	**226**	*e*PN	**Pn**	**21 59 17.1**	**+1.5**
PEA0B	**Petropavlovsk-**	**11.52**	**34**	⇑*i*PN	**Pn**	**21 59 36.3**	**+0.9**
KLR	**Kul'dur**	**11.81**	**302**	*i* PN	**Pn**	**21 59 37.7**	**-1.7**
KLR	**Kul'dur**	**11.81**	**302**	*e*P	**Pn**	**21 59 37.0**	**-2.4**
SEY	**Seymchan**	**19.25**	**7**	*i* P	**P**	**22 01 13.3**	**+0.2**
SEY				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SEY	**Seymchan**	**19.25**	**7**	*e*P	**P**	**22 01 13.3**	**+0.2**
BILL	**Bilibino**	**26.16**	**16**	*i* P	**P**	**22 02 25.5**	**+3.3**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL	**Bilibino**	**26.16**	**16**	*e*P	**P**	**22 02 22.8**	**+0.6**
ULN	**Ulaanbaatar**	**27.93**	**292**	*i* P	**P**	**22 02 38.9**	**+0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,2.1s						
ULN	**Ulaanbaatar**	**27.93**	**292**	*e*P	**P**	**22 02 38.9**	**+0.4**
MK31	**Makanchi Array**	**44.47**	**297**	⇑*i*P	**P**	**22 04 59.6**	**+0.6**
KURK	**Kurchatov**	**45.40**	**304**	*e*P	**P**	**22 05 04.8**	**-1.4**
KURK				pmax	pmax		
	comp=Z,6.0nm,2.4s						
KURK	**Kurchatov**	**45.40**	**304**	*e*P	**P**	**22 05 04.8**	**-1.4**
BRVK	**Borovoye**	**49.40**	**309**	*e*P	**P**	**22 05 38.4**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRVK	**Borovoye**	**49.40**	**309**	*e*P	**P**	**22 05 38.4**	**+1.1**
ARTI	**Arti**	**54.29**	**317**	*e*P	**P**	**22 06 14.7**	**+1.1**
ARTI				pmax	pmax		
	comp=Z,1.0nm,1.6s						

ISC 01 22:46:53.2±1.0, 45°.35N±0°.04×14°.53E±0°.05, h28km±6km, n10, σ1s25/16, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIY	**Rijeka**	**0.04**	**231**	*i* Pg	**Pb**	**22 46 56.7**	**-1.2**
KNDS	**Knezji Dol**	**0.21**	**330**	*i* Pg	**Pn**	**22 46 58.8**	**-1.8**
KNDS				*i* Sg	**Sn**	**22 47 04.1**	**+0.5**
KNDS				IAML		22 47 04.9	
	comp=Z,1.8nm,0.1s						
GBRS	**Gornja Briga**	**0.27**	**48**	⇓*i*Pg	**Pb**	**22 46 59.6**	**-0.5**
GBRS				*i* Sg	**Sn**	**22 47 04.9**	**-1.7**
GBRS				IAML		22 47 05.9	
	comp=Z,3.7nm,0.1s						
CEY	**Cerknica**	**0.40**	**350**	*e*Pg	**Pb**	**22 47 02.7**	**+0.8**
CEY				*e*Sg	**Sn**	**22 47 11.0**	**+1.3**
CEY				IAML		22 47 13.0	
	comp=Z,1.3nm,0.1s						
SKDS	**Skadanscina**	**0.41**	**299**	*i* Pg	**Pb**	**22 47 01.6**	**-0.6**
SKDS				*e*Sg	**Sb**	**22 47 09.1**	**+0.9**
SKDS				IAML		22 47 09.8	
	comp=Z,2.1nm,0.1s						
VISS	**Visnje**	**0.50**	**26**	*e*Pg	**Pb**	**22 47 03.9**	**+0.3**
VISS				*e*Sg	**Sb**	**22 47 12.7**	**+2.0**
VISS				IAML		22 47 14.8	
	comp=Z,1.3nm,0.1s						
BOJS	**Bojanci**	**0.53**	**73**	*e*Sg	**Sb**	**22 47 11.5**	**0.0**
OZLJ	**Ozalj**	**0.71**	**68**	Sg	**Sn**	**22 47 16.9**	**-0.5**
VIRC	**Vir**	**1.12**	**160**	Sg	**Sn**	**22 47 26.5**	**-1.0**
DUGI	**Dugi Otok**	**1.41**	**164**	*i* Pg	**Pn**	**22 47 18.1**	**+1.1**
DUGI				Sg	**Sn**	**22 47 35.6**	**+1.0**

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*IDC **01** 22:58:04.4±0.6, 2°.23N×96°.05E, h0km, mb4.3/24, mbtmp4.3/27, ML3.9/3, MS3.6/26, Error ellipse: s-maj=20.8km s-min=13.0km az=43.0*
*BJI **01** 22:58:04.1, 1°.99N×96°.17E, h20km, mB4.9/9, mb4.9/52, Ms4.3/18, Ms7 4.1/19*
*DJA **01** 22:58:06.3±1.5, 2°.N±3°×9°.6E±°, h12km±10km, M4.8/28, mb4.9/28, mB5.4/9, MLv4.8/14, Mw(mB)4.8/9*
*NEIC **01** 22:58:08.7±1.5, 2°.26N±0°.07×96°.13E±0°.08, h21km±6km, mb4.8/64, Error ellipse: s-maj=15.1km s-min=6.0km az=50.0*
ISC 01 22:58:06.3±0.4, 2°.24N±0°.05×96°.04E±0°.05, h10km, n192, σ1s22/177, mb4.8/79, MS3.8/33, 2C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.80**	**121**	Pn	**Pn**	**22 58 36.9**	**-0.5**
GSI	**Gunungsitoli**	**1.80**	**121**	P	**Pn**	**22 58 36.9**	**-0.5**
GSI	**Gunungsitoli**	**1.80**	**121**	P	**Pn**	**22 58 36.9**	**-0.5**
MLSI	**Meulaboh, Aceh**	**2.04**	**10**	P	**Pn**	**22 58 40.7**	**-0.1**
TSI	**Tuntungan**	**2.81**	**64**	P	**Pn**	**22 58 52.8**	**+1.4**
RPSI	**Rantau Prapat**	**2.92**	**81**		**Pn**	**22 58 52.6**	**-0.2**
RPSI					**Sn**	**22 59 30.3**	**+2.3**
RPSI	**Rantau Prapat**	**2.92**	**81**	Pn	**Pn**	**22 58 52.7**	**-0.2**
PSI	**Prapat**	**2.94**	**79**	Pn	**Pn**	**22 58 52.6**	**-0.6**
	8.8nm,0.3s,baz=268,slow=6.1,SNR=26						
PSI				Sn	**Sn**	**22 59 30.3**	**+1.7**
	15nm,0.3s,baz=141,slow=22,SNR=4.5						
PSI				LR	LR	23 00 04.6	
	comp=Z,419nm,19.9s,baz=36,slow=41 39nm,0.6s						
PSI	**Prapat**	**2.94**	**79**	P	**Pn**	**22 58 53.2**	**0.0**
LHMI	**Lhok Sumawe**	**3.10**	**17**	Pn	**Pn**	**22 58 55.5**	**+0.1**
LHMI	**Lhok Sumawe**	**3.10**	**17**	P	**Pn**	**22 58 56.8**	**+1.4**
LHMI	**Lhok Sumawe**	**3.10**	**17**	P	**Pn**	**22 58 56.5**	**+1.1**
MNSI	**Mandailing Nat**	**3.82**	**112**	P	**Pn**	**22 59 05.3**	**0.0**
PPI	**Padang Panjang**	**5.12**	**122**	P	**Pn**	**22 59 24.0**	**+0.9**
	0.3nm79nm,0.9s						
CMBY	**CAMPBELL BAY**	**5.18**	**336**	*e*P	**Pn**	**22 59 27.2**	**+3.2**
CMBY				*e*S	**Sn**	**23 00 21.0**	**-2.9**
BKNI	**Bangkinang**	**5.35**	**111**	Pn	**Pn**	**22 59 25.7**

CM31 Chiang Mai Arr 16.36 10 P **Pn** **23 01 57.9 +1.5**
CMAR Chiang Mai Arr 16.36 10 Pn **Pn** **23 01 56.2 -0.1**
CMAR Chiang Mai Arr 16.36 10 Pn **Pn** **23 01 55.3 -1.0**
0.5nm,0.3s,baz=197,slow=11,SNR=38
CMAR LR LR 23 09 08.4
comp=Z,381nm,18.5s,baz=215,slow=40
8.2nm,0.8s
CHTO Chiang Mai 16.71 10 Pn **Pn** **23 01 59.3 -1.5**
SLVN Son La 20.46 21 P **P** **23 02 43.3 -1.1**
SLVN Son La 20.46 21 P **P** **23 02 45.0 +0.6**
KKM Kota Kinabalu 20.47 79 P **P** **23 02 43.7 -0.9**
KKM IAmb IAmb 23 02 46.8
comp=Z,48nm,0.8s
RAGD RAYAGADA 20.91 325 *eP* **P** **23 02 50.9 +1.7**
RAGD IAmb IAmb 23 02 55.9
comp=Z,34nm,1.1s
SMKI Samarinda 21.33 97 P **P** **23 02 54.7 +0.9**
comp=Z,3µmcomp=Z,48nm,0.6s
QIZ Qiongzhong 21.47 38 P **P** **23 02 57.0 +1.8**
QIZ S **S** **23 06 53.2 -0.4**
QIZ LR LR
comp=Z,380nm,9.7s
QIZ LR LR
comp=Z,620nm,10.4s
AZL Aizawl 21.61 352 *eP* **P** **23 02 55.3 -1.5**
AZL IAmb IAmb 23 03 00.8
comp=Z,44nm,0.7s
IMP Imphal 22.55 355 *eP* **P** **23 03 04.7 -2.1**
IMP IAmb IAmb 23 03 09.4
comp=Z,11nm,1.0s
IMP *ex* x 23 09 14.6
MYLDM Lahad Datu 22.60 82 P **P** **23 03 07.5 0.0**
MYLDM IAmb IAmb 23 03 16.7
comp=Z,31nm,0.9s
TNCH TengChong 22.78 6 P **P** **23 03 10.9 +1.5**
TNCH pmax pmax
comp=Z,67nm,1.0s
KNTI KHUNTI 23.17 334 *eP* **P** **23 03 17.0 +3.7**
KNTI IAmb IAmb 23 03 17.6
comp=Z,43nm,0.9s
SHL Shillong 23.53 351 P **P** **23 03 15.1 -2.0**
SHL Shillong 23.53 351 *eP* **P** **23 03 15.0 -2.0**
KMI Kunming 23.65 15 P **P** **23 03 19.4 +1.1**
KMI pmax pmax
comp=Z,17nm,0.8s
KMI LR LR
comp=Z,390nm,13.8s
KMI LR LR
comp=Z,180nm,12.8s
KMI LR LR
comp=Z,390nm,12.8s
PCI Palu 24.00 97 P **P** **23 03 21.6 +0.1**
comp=Z,3µmcomp=Z,22nm,0.7s
TTSI Tana Toraja 24.34 102 P **P** **23 03 25.1 +0.4**
comp=Z,21nm,1.1s
TEZP TEZPUR 24.43 353 *eP* **P** **23 03 24.9 -0.5**
TEZP IAmb IAmb 23 03 28.5
comp=Z,13nm,0.7s
TOLI2 Tolitoli 24.76 92 P **P** **23 03 26.8 -1.6**
TOLI2 IAmb IAmb 23 03 30.4
comp=Z,20nm,1.0s
TOLI2 Tolitoli 24.76 92 P **P** **23 03 28.2 -0.3**
KAPI Kappang 24.76 107 P **P** **23 03 28.0 -0.5**
KAPI IAmb IAmb 23 03 29.3
comp=Z,25nm,0.9s
BNSI Bone 24.94 105 P **P** **23 03 30.4 +0.3**
comp=Z,31nm,1.5s
BKSI Bulukumba 25.20 107 P **P** **23 03 32.9 +0.4**
comp=Z,437nmcomp=Z,30nm,0.9s
ZIRO ZIRO 25.23 355 *eP* **P** **23 03 31.4 -1.3**
ZIRO IAmb IAmb 23 03 33.9
comp=Z,27nm,0.7s
H08S2 Diego Garcia H 25.46 247 T T 23 30 12.4
baz=68,slow=75,SNR=2554
H08S3 Diego Garcia H 25.46 247 T T 23 30 04.6
baz=68,slow=75,SNR=3798
H08S1 Diego Carcia H 25.48 247 T T 23 30 16.3
baz=68,slow=75,SNR=1812
TAWA Tawang 25.52 351 *eP* **P** **23 03 36.0 +0.4**
TAWA IAmb IAmb 23 03 38.5
comp=Z,13nm,0.8s
APSI Ampana 25.80 97 P **P** **23 03 38.9 +1.0**
comp=Z,44nm,1.1s
GTK Tadong 25.93 345 *eP* **P** **23 03 41.0 +1.9**
GTK IAmb IAmb 23 03 42.8
comp=Z,28nm,0.8s
EVN Everest 27.05 342 P **P** **23 03 49.9 +0.1**
LSA Lhasa 27.70 351 P **P** **23 03 55.6 +0.2**
LSA IAmb IAmb 23 03 57.5
comp=Z,25nm,0.9s
LSA Lhasa 27.70 351 P **P** **23 03 56.3 +0.9**
LSA pmax pmax
comp=Z,30nm,0.9s
CD2 Chengdu 29.43 14 P **P** **23 04 09.5 -0.8**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 LR LR
comp=Z,450nm,13.5s
CD2 LR LR
comp=Z,550nm,15.9s
CD2 LR LR
comp=Z,670nm,11.4s
BATI Baumata 30.16 115 LR LR 23 17 26.4
comp=Z,265nm,19.8s,baz=226,slow=39
ENH Enshi 30.65 23 P **P** **23 04 19.1 -2.1**
ENH IAmb IAmb 23 04 20.7
comp=Z,19nm,0.6s
PTH Pithoragarh 31.04 333 *eP* **P** **23 04 26.2 +1.4**
SMLA Simla 33.81 330 *eP* **P** **23 04 49.7 +0.9**
SMLA IAmb IAmb 23 04 57.1
comp=Z,7.2nm,0.8s
XAN Xi'an 33.84 19 ⇑P **P** **23 04 48.1 -1.0**
XAN pP sP 23 05 01.4 +8.5
XAN pmax pmax
comp=Z,120nm,0.8s
XAN pmax pmax
comp=Z,100nm,3.8s
XAN LR LR
comp=Z,200nm,7.5s
XAN LR LR
comp=Z,250nm,10.0s
XAN LR LR
comp=Z,260nm,15.8s
LZH Lanzhou 34.44 11 *eP* **P** **23 04 54.0 -0.4**
LZH sP sP 23 05 08.0 +10
LZH pmax pmax
comp=Z,24nm,1.3s
LZH LR LR
comp=Z,170nm,13.1s
LZH LR LR
comp=Z,260nm,13.7s
LZH LR LR
comp=Z,220nm,14.4s
DHRM DHARAMSHALA 35.16 330 *eP* **P** **23 04 59.5 -1.2**
DHRM IAmb IAmb 23 05 08.7
comp=Z,9.6nm,0.6s
FITZ Fitzroy Crossi 35.48 126 P **P** **23 05 02.3 -1.1**
LYN LuoYang 35.60 24 P **P** **23 05 04.5 +0.2**
LYN pP sP 23 05 13.6 +5.6
LYN pmax pmax
comp=Z,81nm,0.8s
LYN LR LR
comp=Z,230nm,16.1s
LYN LR LR
comp=Z,350nm,17.2s
LYN LR LR
comp=Z,450nm,14.8s
FAKI Fak Fak 36.56 98 P **P** **23 05 10.7 -2.1**
NJ2 Nanjing 36.61 34 *eP* **P** **23 05 14.5 +1.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
KNRA Kununurra 36.93 120 P **P** **23 05 14.3 -1.6**
KNRA IAmb IAmb 23 06 26.9
comp=Z,20nm,1.4s
GTA Gaotai 37.15 5 P **P** **23 05 18.2 +0.6**
GTA pP sP 23 05 24.1 +2.7
GTA pmax pmax
comp=Z,20nm,0.8s
GTA LR LR
comp=Z,140nm,14.9s
GTA LR LR
comp=Z,110nm,14.2s
GTA LR LR
comp=Z,160nm,15.6s
MTN Manton Dam 37.93 114 P **P** **23 05 22.2 -2.2**
MTN IAmb IAmb 23 05 25.5
comp=Z,19nm,1.1s
HNS HongShan 38.97 24 ⇑P **P** **23 05 33.2 +0.4**
HNS pmax pmax
comp=Z,38nm,0.8s
HNS LR LR
comp=Z,140nm,15.7s
HNS LR LR
comp=Z,120nm,15.5s
HNS LR LR
comp=Z,160nm,15.7s
TIA Tai'an 39.02 28 P **P** **23 05 32.7 -0.6**
TIA pmax pmax
comp=Z,11nm,0.8s
BTO Baotou 40.23 17 *eP* **P** **23 05 44.1 +0.7**
BTO pP **sP** **23 05 53.9 +6.7**
BTO sP pP 23 05 58.0 +12
BTO S **S** **23 11 50.5 -0.1**
BTO sS sS 23 12 05.6 +10
BTO SS **SS** **23 14 44.5 -4.4**
BTO pmax pmax
comp=Z,47nm,0.9s
BTO pmax pmax
comp=Z,140nm,7.0s
BTO LR LR
comp=Z,450nm,12.1s
BTO LR LR
comp=Z,700nm,16.5s
BTO LR LR
comp=Z,440nm,13.7s
NWAO Narrogin (SRO) 40.31 152 LR LR 23 22 09.0
comp=Z,97nm,18.2s,baz=317,slow=36
H01W3 Cape Leeuwin H 40.65 157 T T 23 48 57.1
baz=333,slow=76,SNR=404
H01W2 Cape Leeuwin H 40.66 157 T T 23 48 58.0
baz=333,slow=76,SNR=405
H01W1 Cape Leeuwin H 40.66 157 T T 23 48 58.2
baz=333,slow=76,SNR=414
HHC Hu-ho-hao-te 40.91 18 ⇓*iP* **P** **23 05 50.2 +1.1**
HHC pP sP 23 05 56.2 +3.4
HHC pmax pmax
comp=Z,14nm,0.9s
KSH Kashi 41.35 336 P **P** **23 05 52.5 -0.2**
KSH pmax pmax
comp=Z,5.0nm,0.9s
BJT Baijiatuau 41.80 23 P **P** **23 05 56.4 +0.2**
BJI Beijing 41.83 23 P **P** **23 05 56.7 +0.3**
BJI pmax pmax
comp=Z,21nm,0.7s
WMQ Urumqi 42.06 351 *eP* **P** **23 06 01.0 +2.6**
SMPI Sarmi 42.87 95 P **P** **23 06 04.4 -0.9**
comp=Z,37nm,1.0s
DRK Karamyk 43.13 332 P **P** **23 06 09.2 +1.7**
KDJ Kajisay 43.16 339 P **P** **23 06 08.7 +1.2**
KDJ IAmb IAmb 23 06 12.2
comp=Z,13nm,0.9s
DL2 Dalian 43.32 29 P **P** **23 06 08.7 +0.1**
DL2 pmax pmax
comp=Z,25nm,0.7s
GAR Garm 43.46 331 P **P** **23 06 10.0 +0.1**
GAR IAmb IAmb 23 06 11.5
comp=Z,19nm,1.0s
WB0 Warramunga Arr 43.54 122 P **P** **23 06 09.5 -1.2**
WRA Warramunga Arr 43.57 122 P **P** **23 06 09.9 -1.0**
comp=Z,3.3nm,0.8s,baz=301,slow=9.1,SNR=15
WRA LR LR 23 24 50.5
comp=Z,116nm,21.3s,baz=290,slow=37
comp=Z,3.3nm,0.8s
WRAB Tennant Creek 43.58 122 P **P** **23 06 10.1 -0.9**
ULHL Ulahol 43.60 339 P **P** **23 06 12.5 +1.4**
SNR=5.6
WR8 Warramunga Arr 43.71 122 P **P** **23 06 11.2 -0.8**
WR8 IAmb IAmb 23 06 30.5
comp=Z,8.5nm,0.6s
BOOM Boomskoye usch 43.92 339 P **P** **23 06 14.8 +1.1**
BTK Batken 44.05 332 P **P** **23 06 15.2 +0.6**
BTK IAmb IAmb 23 06 17.9
comp=Z,30nm,1.4s
ARSB Arslanbob 44.10 335 P **P** **23 06 16.1 +1.1**
ARSB IAmb IAmb 23 06 17.8
comp=Z,19nm,0.8s
TKM2 Tokmak 2 44.42 338 P **P** **23 06 19.2 +1.5**
SNR=5.8
AML Almayashu 44.48 336 P **P** **23 06 20.2 +1.8**
SNR=6.5
AAK Ala-Archa 44.59 337 LR LR 23 26 19.0
comp=Z,97nm,21.4s,baz=144,slow=38
JNU Nakatsue 44.81 43 LR LR 23 26 30.2
comp=Z,62nm,18.9s,baz=177,slow=38
EKS2 Erkin-Say 44.90 337 P **P** **23 06 23.4 +2.0**
SNR=8.5
ASAR Alice Springs 44.95 127 P **P** **23 06 21.7 -0.3**
ASAR Alice Springs 44.95 127 P **P** **23 06 21.4 -0.5**
comp=Z,1.9nm,0.6s,baz=301,slow=8.0,SNR=26
ASAR PcP **PcP** **23 08 03.6 +0.2**
comp=Z,0.4nm,0.7s,baz=316,slow=4.7,SNR=1.4
comp=Z,1.9nm,0.6s
AS31 Alice Springs 44.95 127 P **P** **23 06 21.1 -0.9**
USP Ospenovka 45.13 338 P **P** **23 06 24.6 +1.5**
SNR=16
XLT XiLinHaoTe 45.13 20 *eP* **P** **23 06 23.2 0.0**
XLT sP sP 23 06 34.9 +8.0
XLT PP **PP** **23 08 08.8 0.0**
XLT pmax pmax
comp=Z,8.0nm,0.9s
XLT LR LR
comp=Z,180nm,17.0s
XLT LR LR
comp=Z,220nm,14.9s
KSRS Korea Array 45.67 36 P **P** **23 06 25.6 -1.9**
comp=Z,1.6nm,0.7s,baz=227,slow=8.5,SNR=8.6
comp=Z,1.6nm,0.7s
MKAR Makanchi Array 45.96 347 P **P** **23 06 30.1 +0.5**
comp=Z,14nm,0.9s,baz=161,slow=7.9,SNR=81
MKAR LR LR 23 28 13.4
comp=Z,44nm,20.1s,baz=173,slow=39
comp=Z,14nm,0.9s
MAKZ Makanchi 46.05 347 P **P** **23 06 30.8 +0.5**
MAKZ IAmb IAmb 23 06 32.2
comp=Z,18nm,1.1s
SONM Songino Array 46.29 10 P **P** **23 06 31.9 -0.4**
SONM IAmb IAmb 23 06 34.0
comp=Z,8.6nm,1.1s
SONM Songino Array 46.29 10 P **P** **23 06 32.3 0.0**
comp=Z,7.6nm,0.6s,baz=192,slow=9.2,SNR=39
SONM PcP **PcP** **23 08 08.2 +0.5**
comp=Z,1.5nm,0.6s,baz=187,slow=3.1,SNR=3.8
SONM LR LR 23 28 19.9
comp=Z,177nm,18.3s,baz=198,slow=39
comp=Z,7.6nm,0.6s
ULN Ulaanbaatar 46.43 10 P **P** **23 06 32.1 -1.3**
ULN IAmb IAmb 23 06 34.9
comp=Z,10nm,1.3s
KK31 Karatay Array 46.62 334 P **P** **23 06 34.4 -0.4**
KK31 IAmb IAmb 23 06 37.0
comp=Z,6.8nm,0.9s
KKAR Karatay Array 46.62 334 P **P** **23 06 34.9 +0.1**
KKAR IAmb IAmb 23 06 37.0
comp=Z,7.1nm,0.9s
KURBB Kurchatov Arra 50.43 346 P **P** **23 07 04.7 +0.6**
comp=Z,3.1nm,0.7s,baz=164,slow=6.9,SNR=36
KURBB LR LR 23 32 16.8
comp=Z,52nm,19.1s,baz=162,slow=41
comp=Z,3.1nm,0.7s
KURK Kurchatov 50.50 346 P **P** **23 07 05.4 +0.9**
KURK IAmb IAmb 23 07 06.2
comp=Z,14nm,1.4s
JGF Kuroka 50.64 44 P **P** **23 07 05.2 -0.8**
BNX BinXian 51.30 28 ⇓P **P** **23 07 10.0 -0.7**
BNX pmax pmax
comp=Z,5.0nm,1.1s
MJAR Matsushiro Arr 51.72 44 P **P** **23 07 12.4 -1.7**
comp=Z,1.6nm,0.9s,baz=242,slow=2.6,SNR=4.1
MJAR LR LR 23 30 47.5
comp=Z,42nm,19.6s,baz=236,slow=38
comp=Z,1.6nm,0.9s
ZAA0 Zalesovo Array 52.36 352 P **P** **23 07 18.2 -0.2**
ZAA0 IAmb IAmb 23 07 19.8
comp=Z,16nm,0.8s
ZALV Zalesovo Beam 52.36 352 P **P** **23 07 18.4 -0.1**
ZALV Zalesovo Beam 52.36 352 P **P** **23 07 18.9 +0.5**
comp=Z,14nm,0.6s,baz=177,slow=7.0,SNR=65
ZALV LR LR 23 33 30.0
comp=Z,60nm,19.1s,baz=170,slow=41
comp=Z,14nm,0.6s
USRK Ussuriysk Ar. 52.49 32 P **P** **23 07 18.3 -1.3**
USRK Ussuriysk Ar. 52.49 32 P **P** **23 07 19.6 0.0**
comp=Z,1.8nm,0.6s,baz=249,slow=7.6,SNR=4.9
comp=Z,1.8nm,0.6s
RAYN Ar Rayn 53.24 298 P **P** **23 07 26.7 +1.1**
BVAR Borovoye Array 54.89 341 P **P** **23 07 37.1 0.0**
comp=Z,6.3nm,0.7s,baz=141,slow=8.7,SNR=37
comp=Z,6.3nm,0.7s
STKA Stephens Creek 54.91 132 P **P** **23 07 38.0 +0.5**
STKA Stephens Creek 54.91 132 P **P** **23 07 36.5 -1.1**
comp=Z,3.0nm,0.9s,baz=98,slow=11,SNR=3.6
comp=Z,3.0nm,0.9s
BRVK Borovoye 54.95 341 P **P** **23 07 37.5 0.0**
JTM Tenmabayashi 55.84 40 P **P** **23 07 44.6 +0.5**
AB31 Akbulak array 56.05 332 P **P** **23 07 45.7 +0.3**
AB31 IAmb IAmb 23 07 47.0
comp=Z,28nm,1.9s
ABKAR Akbulak array 56.05 332 P **P** **23 07 46.1 +0.6**
ABKAR IAmb IAmb 23 07 47.0
comp=Z,28nm,1.9s
AKTO Aktyubinsk 57.77 332 P **P** **23 07 56.2 -1.4**
comp=Z,1.3nm,0.7s,baz=108,slow=6.4,SNR=3.6
AKTO LR LR 23 36 15.3
comp=Z,42nm,18.7s,baz=226,slow=40
comp=Z,1.3nm,0.7s
ASAJ Asahikawa 58.54 38 LR LR 23 33 58.2
comp=Z,38nm,18.7s,baz=184,slow=37
ARTI Arti 61.82 337 P **P** **23 08 25.2 -0.2**
ARTI IAmb IAmb 23 08 25.6
comp=Z,5.0nm,0.9s
ARTI Arti 61.82 337 P **P** **23 08 24.7 -0.7**
comp=Z,2.5nm,0.7s,baz=162,slow=7.1,SNR=6.2
ARTI LR LR 23 38 44.6
comp=Z,51nm,18.2s,baz=130,slow=40
comp=Z,2.5nm,0.7s
H04N2 CROZET ISLANDS 61.99 213 T T 00 15 48.7
baz=52,slow=75,SNR=3309
H04N1 CROZET ISLANDS 62.00 213 T T 00 15 48.7
baz=52,slow=75,SNR=3330
H04N3 CROZET ISLANDS 62.01 213 T T 00 15 47.4
baz=52,slow=75,SNR=4797
H04S1 CROZET ISLANDS 62.35 213 T T 00 16 05.1
baz=51,slow=76,SNR=850
H04S3 CROZET ISLANDS 62.36 213 T T 00 16 04.8
baz=51,slow=76,SNR=981
H04S2 CROZET ISLANDS 62.37 213 T T 00 16 06.2
baz=51,slow=76,SNR=624
BELG Belogornoye 64.08 329 P **P** **23 08 38.7 -1.8**
comp=Z,11nm,0.9s,baz=170,slow=5.7,SNR=4.9
comp=Z,11nm,0.9s
YAK Yakutsk 64.75 17 P **P** **23 08 43.7 -1.0**
NRIK Noril'sk 67.22 357 P **P** **23 08 59.9 -0.6**
NRIK IAmb IAmb 23 11 15.6
comp=Z,4.7nm,0.6s
NRIK Noril'sk 67.22 357 P **P** **23 08 59.9 -0.6**
comp=Z,2.6nm,0.4s,baz=131,slow=6.6,SNR=4.9
NRIK LR LR 23 42 31.8
comp=Z,60nm,20.1s,baz=168,slow=40
comp=Z,2.6nm,0.4s
BR131 Keskin Array S 67.56 312 P **P** **23 09 03.5 +0.2**
BRTR Keskin Array B 67.56 312 P **P** **23 09 03.5 +0.2**
BRTR Keskin Array B 67.56 312 P **P** **23 09 02.6 -0.7**
comp=Z,1.0nm,0.8s,baz=130,slow=6.7,SNR=7.4
comp=Z,1.0nm,0.8s
LSZ Lusaka 69.30 253 LR LR 23 35 49.0
comp=Z,34nm,20.0s,baz=106,slow=33
TIXI Tiksi 72.37 10 P **P** **23 09 31.5 -0.7**
TIXI IAmb IAmb 23 10 27.6
comp=Z,12nm,1.1s
SEY Seymchan 73.27 23 LR LR 23 43 23.3
comp=Z,30nm,19.2s,baz=191,slow=37
LBTB Lobatse 73.31 243 LR LR 23 36 22.6
comp=Z,45nm,20.0s,baz=86,slow=31
IDI Anoyia 73.35 306 LR LR 23 45 37.8
comp=Z,30nm,19.4s,baz=304,slow=39
AKASG Malin Array Be 73.73 322 P **P** **23 09 40.3 -0.3**
comp=Z,1.3nm,0.8s,baz=91,slow=5.2,SNR=7.3
comp=Z,1.3nm,0.8s
AKBB Malin Array Si 73.73 322 P **P** **23 09 40.5 -0.1**
AKBB IAmb IAmb 23 12 17.3
comp=Z,4.3nm,0.5s
KIEV Kiev 73.74 322 P **P** **23 09 40.6 -0.1**
KIEV IAmb IAmb 23 10 09.0
comp=Z,13nm,1.6s
MLR Muntele Rosu 74.52 317 P **P** **23 09 45.1 -0.4**
comp=Z,2.1nm,0.9s,baz=138,slow=15,SNR=3.4
comp=Z,2.1nm,0.9s
BURAR Bucovina Array 75.48 319 P **P** **23 09 52.0 +1.0**
BUR08 Bucovina Ar. S 75.50 319 P **P** **23 09 51.7 +0.6**
FIA1 FINESS Array S 78.54 333 P **P** **23 10 08.4 +0.7**
FINES FINESS Array B 78.54 333 P **P** **23 10 08.2 +0.4**
FINES FINESS Array B 78.54 333 P **P** **23 10 08.1 +0.3**
comp=Z,3.6nm,0.7s,baz=98,slow=5.8,SNR=11
FINES LR LR 23 49 35.6
comp=Z,50nm,19.4s,baz=94,slow=39
comp=Z,3.6nm,0.7s
ARCES ARCESS Array B 81.17 340 P **P** **23 10 22.4 +0.5**
ARCES ARCESS Array B 81.17 340 P **P** **23 10 22.4 +0.5**
comp=Z,2.3nm,0.7s,baz=90,slow=5.8,SNR=14
comp=Z,2.3nm,0.7s
GERES GERESS Array B 83.27 319 P **P** **23 10 33.5 0.0**
comp=Z,1.5nm,0.9s,baz=107,slow=4.6,SNR=9.4
comp=Z,1.5nm,0.9s
HFS Hagfors 84.24 330 LR LR 23 52 49.6
comp=Z,32nm,18.6s,baz=60,slow=39
NOA NORSAR Array B 85.53 331 LR LR 23 52 19.9
comp=Z,38nm,20.1s,baz=100,slow=38
SPITS Spitsbergen Ar 85.70 348 P **P** **23 10 44.9 -0.2**
comp=Z,5.6nm,0.8s,baz=119,slow=12,SNR=2.4
SPITS LR LR 23 54 09.5
comp=Z,72nm,21.2s,baz=77,slow=39
comp=Z,5.6nm,0.8s
QSPA South Pole Qui 92.18 180 P **P** **23 11 16.8 +0.6**
comp=Z,0.8nm,0.9s,baz=310,slow=17,SNR=2.0
comp=Z,0.8nm,0.9s
C18K Utukok River 92.56 21 P **P** **23 11 18.3 +0.5**
TORD Torodi Ar. Bea 93.72 283 P **P** **23 11 23.5 -0.7**
comp=Z,0.4nm,0.3s,baz=98,slow=2.9,SNR=4.5
comp=Z,0.4nm,0.3s
J16K Anvik River 94.00 26 P **P** **23 11 25.0 +0.6**
G19K Purcell Mounta 94.73 23 P **P** **23 11 27.7 -0.1**
F20K Avaraart Lake 94.98 22 P **P** **23 11 29.1 +0.2**
H19K Roundabout Mou 95.16 24 P **P** **23 11 30.4 +0.6**
MDT Midelt 97.73 303 LR LR 00 00 28.8
comp=Z,17nm,18.4s,baz=216,slow=38
TXAR Lajitas Array 143.37 30 PKP PKPab 23 17 39.3 +1.3
comp=Z,0.4nm,0.6s,baz=157,slow=3.5,SNR=4.8
CPUP Villa Florida 144.96 224 PKP **PKPbc** **23 17 44.1 +0.2**
comp=Z,0.6nm,0.8s,baz=321,slow=7.8,SNR=1.9

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*IDC **01** 23:00:57.3±0.6,27.80N×140.12E,h497km±15km,mb3.3/9, mbtmp4.1/12,Error ellipse: s-maj=46.5km s-min=11.7km az=75.0*
*JMA **01** 23:00:58.9±0.2,28.2°N±2°×14.0°E±°,h515km,MV4.2/28,W OFF OGASAWARA*
*NEIC **01** 23:00:58.8±0.6,27.7°N±0.1°×140.0°E±0.2,h495km±11km, mb4.0/12,Error ellipse: s-maj=22.7km s-min=14.5km az=112.0*
ISC 01 23:00:57.8±0.6,**27.78**N±0.06×**139.8**E±0.1,**h478**km,**n41,**
σ1.8**9**/46,**mb3.9**/15,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.25**	**107**	*eP*	P	23 02 04.7	+2.4
CBIJ				*eS*	**S**	**23 02 55.9**	**+1.3**
JCJ	**Chichijima**	**2.25**	**107**	P	**P**	**23 02 04.7**	**+2.3**
JCJ				S	**S**	**23 02 56.2**	**+1.5**
JCJ	**Chichijima**	**2.25**	**107**	P	**P**	**23 02 03.2**	**+0.9**
	baz=0.0,slow=0.0						
JCJ				S	**S**	**23 02 54.3**	**-0.4**
	baz=0.0,slow=0.0						
JHH2	**Haha-jima-NKT2**	**2.43**	**117**	P	P	23 02 06.3	+2.9
JHH2				*eS*	**S**	**23 02 60.0**	**+3.5**
BSO1	**Boso 1**	**6.93**	**8**	*eP*	**P**	**23 02 44.2**	**+2.4**
BSO3	**Boso 3**	**7.03**	**5**	*eP*	**P**	**23 02 45.2**	**+2.0**
BSO3				*eS*	**S**	**23 04 09.6**	**0.0**
JIE	**Ise**	**7.09**	**339**	*eP*	**P**	**23 02 48.5**	**+4.4**
BSO4	**Boso 4**	**7.21**	**4**	*eP*	**P**	**23 02 47.5**	**+2.4**
JMN	**Monobe**	**7.80**	**321**	P	**P**	**23 02 55.1**	**+3.6**
JGF	**Kuroka**	**8.06**	**346**	P	**P**	**23 02 56.7**	**+2.4**
JRY	**Ryogami san**	**8.25**	**355**	*eP*	**P**	**23 02 57.4**	**+1.2**
JAG	**Ashikaga**	**8.63**	**358**	*eP*	**P**	**23 03 00.6**	**+0.5**
JAG				*eS*	**S**	**23 04 37.9**	**-2.9**
JHO	**Hitachi**	**8.83**	**4**	*eP*	**P**	**23 03 04.1**	**+1.7**
JHO				*eS*	**S**	**23 04 43.1**	**-1.7**
MJAR	**Matsushiro Arr**	**8.84**	**352**	P	**P**	**23 03 04.4**	**+1.9**
MJAR	**Matsushiro Arr**	**8.84**	**352**	P	**P**	**23 03 03.1**	**+0.6**
	1.0nm,0.2s,baz=171,slow=12,SNR=8.8						

MAJO	**Matsushiro**	**8.84**	**352**	P	**P**	**23 03 04.7**	**+2.3**
MJB9	**Matsu-Tunnel**	**8.84**	**352**	P	**P**	**23 03 04.4**	**+1.9**
JMM	**Marumori**	**10.10**	**5**	P	**P**	**23 03 17.4**	**+1.5**
KSRS	**Korea Array**	**13.87**	**317**	P	**P**	**23 03 59.1**	**+2.8**
	0.7nm,0.7s,baz=135,slow=9.0,SNR=1.9						
YULB	**Yu-li**	**17.22**	**259**	P	**P**	**23 04 33.9**	**+2.1**
USRK	**Ussuriysk Ar.**	**17.54**	**341**	P	**P**	**23 04 35.1**	**+0.5**
	2.3nm,0.7s,baz=165,slow=14,SNR=6.2						
MMRI	**Maumere**	**39.98**	**208**	P	**P**	**23 07 49.5**	**-0.7**
COEN	**Coen**	**41.62**	**175**	P	**P**	**23 08 02.8**	**-0.6**
COEN				IAmb	IAmb	23 08 12.3	
	comp=Z,6.2nm,1.0s						
WB0	**Warramunga Arr**	**47.55**	**187**	P	**P**	**23 08 47.8**	**-1.4**
WB0				IAmb	IAmb	23 08 50.4	
	comp=Z,3.8nm,0.9s						
ZALV	**Zalesovo Beam**	**47.56**	**319**	P	**P**	**23 08 47.7**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=100,slow=6.3,SNR=1.4						
	comp=Z,0.7nm,0.3s						
FITZ	**Fitzroy Crossi**	**47.61**	**198**	P	**P**	**23 08 49.1**	**-0.6**
WRAB	**Tennant Creek**	**47.72**	**187**	P	**P**	**23 08 49.0**	**-1.4**
WRAB				IAmb	IAmb	23 08 49.3	
	comp=Z,2.7nm,0.6s						
WR0	**Warramunga Arr**	**47.73**	**187**	P	**P**	**23 08 49.1**	**-1.3**
WR0				IAmb	IAmb	23 08 49.4	
	comp=Z,2.9nm,0.5s						
WR8	**Warramunga Arr**	**47.73**	**187**	P	**P**	**23 08 49.2**	**-1.3**
WR8				IAmb	IAmb	23 08 49.5	
	comp=Z,4.2nm,0.4s						
WB2	**Warramunga Arr**	**47.73**	**187**	P	**P**	**23 08 49.2**	**-1.3**
WRA	**Warramunga Arr**	**47.73**	**187**	P	**P**	**23 08 49.1**	**-1.4**
WRA	**Warramunga Arr**	**47.73**	**187**	P	**P**	**23 08 49.1**	**-1.4**
	comp=Z,2.1nm,0.3s,baz=4.0,slow=7.6,SNR=31						
	comp=Z,2.1nm,0.3s						
MKAR	**Makanchi Array**	**48.38**	**309**	P	**P**	**23 08 54.5**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=90,slow=10.0,SNR=8.5						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**51.02**	**314**	P	**P**	**23 09 13.8**	**-0.8**
	comp=Z,2.1nm,0.4s,baz=91,slow=7.4,SNR=23						
	comp=Z,2.1nm,0.4s						
ASAR	**Alice Springs**	**51.46**	**187**	P	**P**	**23 09 16.6**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=6.7,slow=6.0,SNR=11						
	comp=Z,0.6nm,0.4s						
BVAR	**Borovoye Array**	**56.08**	**317**	P	**P**	**23 09 49.9**	**-0.6**
	comp=Z,4.1nm,0.4s,baz=88,slow=6.9,SNR=32						
	comp=Z,4.1nm,0.4s						
FORT	**Forrest**	**59.29**	**192**	P	**P**	**23 10 11.3**	**-1.3**
FORT				IAmb	IAmb	23 10 16.8	
	comp=Z,4.3nm,1.1s						
ARCES	**ARCESS Array B**	**72.19**	**340**	P	**P**	**23 11 31.8**	**-1.1**
	comp=Z,3.3nm,1.1s,baz=58,slow=5.6,SNR=1.8						
	comp=Z,3.3nm,1.1s						
FINES	**FINESS Array B**	**76.38**	**333**	P	**P**	**23 11 55.3**	**-1.6**
	comp=Z,1.1nm,0.3s,baz=72,slow=5.8,SNR=21						
	comp=Z,1.1nm,0.3s						
HFS	**Hagfors**	**81.94**	**336**	P	**P**	**23 12 24.1**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=68,slow=3.9,SNR=1.2						
	comp=Z,0.5nm,0.3s						
FFC	**Flin Flon**	**82.28**	**31**	P	**P**	**23 12 30.4**	**+2.1**

*SKO **01** 23:07:47.8, 40°.44N×20°.84E, h21km, ML2.6*
*TIR **01** 23:07:47.9, 40°.45N×20°.85E, h13km, Ml2.9/8*
*THE **01** 23:07:47.2, 40°.5N±0°.9×20°.8E±1°.0, h10km±3km, M2.6/8, MLh2.6/8*
*ATH **01** 23:07:47.6, 40°.48N×20°.85E, h14km±4km, ML2.8/5, Manual Solution by M.Papanikolaou First location: 2019/07/01 23:08:52, This location: 2021/06/07 20:31:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

ISC 01 23:07:47.7±0.9, 40°.42N±0°.02×20°.80E±0°.02, h7km±8km, n56, σ0°91/79, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.19**	**92**	Pg	**Pg**	**23 07 51.8**	**+0.2**
NEST				Sg	**Sg**	**23 07 55.0**	**+0.7**
NEST				AML	AML	23 07 57.8	
	11nm,0.3s						
NEST	**Nestorio**	**0.19**	**92**	P	**Pg**	**23 07 52.0**	**+0.4**
NEST				S	**Sg**	**23 07 55.5**	**+1.3**
NEST	**Nestorio**	**0.19**	**92**	P	**Pg**	**23 07 52.0**	**+0.4**
NEST				S	**Sg**	**23 07 55.0**	**+0.7**
KBN	**Korca**	**0.20**	**358**	Pg	**Pg**	**23 07 50.7**	**-1.1**
KBN				Sg	**Sg**	**23 07 54.9**	**+0.3**
KBN				AML	AML	23 07 59.0	
	10nm,0.5s						
KBN	**Korca**	**0.20**	**358**	P	**Pg**	**23 07 50.7**	**-1.1**
KBN				S	**Sg**	**23 07 53.9**	**-0.6**
FNA	**Florina**	**0.57**	**51**	Pg	**Pg**	**23 07 58.3**	**-0.4**
FNA				Sg	**Sb**	**23 08 07.1**	**-1.2**
FNA				AML	AML	23 08 10.8	
	1.5nm,0.3s						
FNA	**Florina**	**0.57**	**51**	P	**Pg**	**23 07 58.1**	**-0.5**
FNA				S	**Sg**	**23 08 06.7**	**+0.6**
FNA	**Florina**	**0.57**	**51**	*i* Pg	**Pg**	**23 07 57.9**	**-0.8**
FNA				*i* Sg	**Sb**	**23 08 07.9**	**-0.4**
FNA	**Florina**	**0.57**	**51**	P	**Pg**	**23 07 58.0**	**-0.7**
KPRO	**Kipourio**	**0.64**	**137**	P	**Pg**	**23 07 59.9**	**0.0**
KPRO				S	**Sb**	**23 08 10.3**	**0.0**
KPRO	**Kipourio**	**0.64**	**137**	P	**Pg**	**23 07 59.6**	**-0.3**
KPRO				S	**Sb**	**23 08 09.3**	**-0.9**
OHR	**Ohrid**	**0.69**	**0**	*i* Pg	**Pg**	**23 08 00.6**	**-0.4**
OHR				*i* Sg	**Sg**	**23 08 11.1**	**+1.1**
OHR				*e*Lg	Lg	23 08 11.7	
	comp=N,146nm,0.7s						
OHR				*e*Lg	Lg	23 08 11.9	
	comp=E,319nm,0.6s						
KZN	**Kozani**	**0.75**	**99**	P	**Pb**	**23 08 02.7**	**-0.4**
KZN				S	**Sb**	**23 08 13.0**	**-0.6**
KZN	**Kozani**	**0.75**	**99**	P	**Pg**	**23 08 01.8**	**-0.4**
KZN				S	**Sg**	**23 08 11.8**	**-0.2**
JAN	**Janina**	**0.77**	**177**	P	**Pg**	**23 08 01.9**	**-0.5**
JAN				S	**Sb**	**23 08 13.7**	**-0.2**
JAN	**Janina**	**0.77**	**177**	P	**Pg**	**23 08 02.5**	**+0.1**
SRN	**Sarande**	**0.82**	**229**	Pg	**Pg**	**23 08 03.1**	**-0.3**
SRN				Sg	**Sn**	**23 08 18.2**	**+0.4**
SRN				AML	AML	23 08 18.9	
	comp=E,0.9nm,0.5s						
SRN	**Sarande**	**0.82**	**229**	P	**Pg**	**23 08 02.9**	**-0.4**
SRN				S	**Sg**	**23 08 14.9**	**+0.9**
IGT	**Igoumenitsa**	**0.96**	**202**	P	**Pg**	**23 08 06.3**	**+0.3**
IGT				S	**Sn**	**23 08 22.6**	**+1.2**
IGT	**Igoumenitsa**	**0.96**	**202**	P	**Pg**	**23 08 05.7**	**-0.4**
IGT				S	**Sn**	**23 08 20.9**	**-0.4**
IGT	**Igoumenitsa**	**0.96**	**202**	*i* Pg	**Pg**	**23 08 05.7**	**-0.4**
IGT				*i* Sg	**Sn**	**23 08 21.7**	**+0.3**
VLO	**Vlora**	**0.99**	**273**	Pg	**Pg**	**23 08 07.6**	**+0.8**
VLO				Sg	**Sn**	**23 08 22.2**	**-0.1**
VLO				AML	AML	23 08 30.0	
	comp=E,4.2nm,0.4s						
KEK	**Kerkira**	**1.04**	**228**	P	**Pb**	**23 08 08.6**	**+0.6**
LFKM	**Lefkimmi**	**1.13**	**210**	P	**Pb**	**23 08 07.3**	**-2.1**
LFKM				S	**Sb**	**23 08 24.4**	**+0.2**
TETR	**Tetrakomo, Epi**	**1.14**	**161**	P	**Pn**	**23 08 09.9**	**-0.1**
TIR	**Tirane**	**1.16**	**323**	Pg	**Pb**	**23 08 09.0**	**-1.1**
TIR				Sg	**Sn**	**23 08 27.7**	**+1.3**
TIR				AML	AML	23 08 34.4	
	comp=E,0.4nm,0.5s						
TYRN	**Tyrnavos**	**1.31**	**122**	P	**Pn**	**23 08 11.6**	**-0.7**
THE	**Thessaloniki**	**1.67**	**82**	*i* Pn	**Pn**	**23 08 17.1**	**0.0**
EVR	**Evrytania**	**1.69**	**152**	P	**Pg**	**23 08 19.9**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.71**	**183**	P	**Pg**	**23 08 20.0**	**-0.4**
PUK	**Puka**	**1.76**	**337**	Pn	**Pb**	**23 08 20.3**	**+0.1**
PUK				Sn	**Sg**	**23 08 45.5**	**+1.4**
PUK				AML	AML	23 08 50.3	
	comp=E,0.5nm,0.5s						
KNT	**Kendrikon**	**1.76**	**64**	*i* Pn	**Pn**	**23 08 18.9**	**+0.5**
KNT				*i* Sn	**Sg**	**23 08 47.5**	**+3.4**
SCTE	**Santa Cesarea**	**1.82**	**260**	P	**Pn**	**23 08 19.0**	**-0.3**
PVO	**Paravola**	**1.89**	**162**	P	**Pb**	**23 08 22.7**	**+0.3**
ULC	**Ulcinj**	**1.94**	**323**	*i* Pn	**Pn**	**23 08 22.2**	**+1.2**
FSK	**Fiskardo**	**1.97**	**185**	P	**Pb**	**23 08 22.6**	**-1.2**
BCI	**Bajram Curri**	**2.02**	**344**	Pn	**Pb**	**23 08 25.3**	**+0.6**
BCI				Sn	**Sg**	**23 08 52.4**	**-0.2**
BCI				AML	AML	23 08 58.0	
	comp=E,0.4nm,0.5s						
ANX	**Ano Chora**	**2.02**	**154**	P	**Pb**	**23 08 24.7**	**-0.1**
PLG	**Polygyros**	**2.02**	**91**	P	**Pn**	**23 08 22.3**	**+0.1**
PEHC	**Pehcevo**	**2.09**	**49**	*i* Pn	Pn	23 08 15.7	-7.4
DRME	**Dracevica, Mon**	**2.14**	**326**	*e*Pn	**Pn**	**23 08 25.1**	**+1.3**
SRS	**Serrai**	**2.23**	**71**	*i* Pn	**Pb**	**23 08 27.3**	**-1.0**
KKB	**Krupnik**	**2.26**	**50**	*i* Pn	**Pg**	**23 08 30.1**	**-0.8**
PDG	**Podgorica**	**2.32**	**330**	*e*Pn	**Pn**	**23 08 26.8**	**+0.6**
MMB	**Musomishta**	**2.50**	**62**	*i* Pn	**Pg**	**23 08 35.0**	**-0.6**
HCY	**Herceg Novi**	**2.66**	**320**	*e*Pn	**Pn**	**23 08 29.9**	**-1.0**
TREB	**Trebinje**	**2.94**	**322**	*e*Pn	**Pn**	**23 08 34.0**	**-0.7**
BRY	**Bratogost**	**3.00**	**326**	*e*Pn	**Pn**	**23 08 35.2**	**-0.5**
UPM	**Unac-Piva**	**3.12**	**334**	*e*Pn	**Pn**	**23 08 39.2**	**+1.8**
RUDO	**Rudo**	**3.37**	**342**	*e*Pn	**Pn**	**23 08 41.3**	**+0.7**
STON	**Ston**	**3.37**	**318**	*e*Pn	**Pn**	**23 08 39.7**	**-1.0**
BBLS	**Lazi&#263i**	**3.59**	**344**	*e*Pn	**Pb**	**23 08 52.6**	**+1.1**
BLY	**Banja Luka**	**5.08**	**330**	*e*Pn	**Pn**	**23 09 04.4**	**+0.3**
A050A	**Klekovaca**	**5.14**	**324**	*e*Pn	**Pn**	**23 09 05.3**	**+0.3**
A051A	**Mrakovica**	**5.41**	**329**	*e*Pn	**Pn**	**23 09 06.0**	**-2.7**
CLL	**Collm**	**12.16**	**336**	*e*Px	Px	23 10 42.0	

*IDC **01** 23:10:34.9±1.2, 61°.16N×147°.24W, h49km±12km, mb3.7/16, mbtmp4.0/18, ML3.3/4, MS3.1/5, Error ellipse: s-maj=15.7km s-min=8.9km az=109.0*
*AEIC **01** 23:10:34.6±1.5, 61°.22N±0°.02×146°.88W±0°.04, h20km±1km, ML3.7, ML3.9/226(NEIC), Mwr3.8/50(SLM), Error ellipse: s-maj=3.0km s-min=2.8km az=167.0*
*NEIC **01** 23:10:34.2±1.9, 61°.23N±0°.02×146°.86W±0°.04, h28km±9km, Error ellipse: s-maj=2.9km s-min=2.4km az=186.0*
*NEIC **01** 23:10:34, 61°.22N×146°.90W, h33km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; Mrr=0.90; Mθθ0.05; Mϕϕ0.85; Mrθ5.04; Mrϕ2.40; Mθϕ0.68; Fault plane solution: Mo5.69000×10^{14} NP1:ϕs260.00000°, δ85.00000°, λ-65.00000°. NP2:ϕs1.00000°, δ25.00000°, λ-168.00000°. Principal axes: T 5.6891, Plg35.0000°, Azm329.0000°; N 0.0020, Plg25.0000°, Azm78.0000°; P -5.6911, Plg44.0000°, Azm195.0000°;*

ISC 01 23:10:33.5±0.9, 61°.21N±0°.02×146°.91W±0°.02, h32km±6km, n234, σ1s17/221, mb4.2/17, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLI	**Glacier Island**	**0.34**	**196**		**Sn**	**23 10 47.6**	**-0.3**
GLI	**Glacier Island**	**0.34**	**196**		**Pb**	**23 10 41.5**	**-0.2**
GLI				IAML		23 10 48.4	
	comp=N,13μm,0.5s						
GLI				IAML		23 10 48.6	
	comp=E,22μm,0.6s						
FID	**Port Fidalgo**	**0.50**	**155**		**Pb**	**23 10 43.7**	**-0.4**
FID				Sg	**Sb**	**23 10 51.5**	**+0.1**
FID				IAML		23 10 52.9	
	comp=E,11μm,0.4s						
FID				IAML		23 10 53.4	
	comp=N,8μm,0.3s						
KLU	**Klutina**	**0.56**	**58**		**Pb**	**23 10 44.5**	**-0.6**
KLU				Sg	**Sb**	**23 10 52.1**	**-0.9**
KLU				IAML		23 10 53.4	
	comp=E,8μm,0.4s						
DIV	**Divide**	**0.56**	**97**		**Pb**	**23 10 44.3**	**-0.8**
DIV	**Divide**	**0.56**	**97**	Sg	**Sb**	**23 10 51.9**	**-1.0**
DIV				IAML		23 10 52.6	
	comp=E,3μm,0.4s						
DIV				IAML		23 10 53.6	
	comp=N,9μm,0.4s						
SCM	**Sheep Creek Mo**	**0.66**	**342**		**Pb**	**23 10 46.3**	**-0.5**
SCM	**Sheep Creek Mo**	**0.66**	**342**		**Sb**	**23 10 55.6**	**-0.2**
SCM				IAML		23 10 56.1	
	comp=E,9μm,0.6s						
SCM				IAML		23 10 58.0	
	comp=N,5μm,0.9s						
M23K	**Glacier View**	**0.71**	**327**		**Pb**	**23 10 46.9**	**-0.6**
M23K					**Sb**	**23 10 56.8**	**-0.2**
KNK	**Knik Glacier**	**0.78**	**286**		**Pn**	**23 10 48.4**	**+0.1**
KNK				IAML		23 10 59.7	
	comp=E,6μm,0.4s						
KNK				IAML		23 10 59.9	
	comp=N,5μm,0.6s						
KNK	**Knik Glacier**	**0.78**	**286**		**Sn**	**23 10 58.9**	**+0.1**
PWL	**Port Wells**	**0.78**	**244**		**Pb**	**23 10 47.9**	**-0.7**
PWL					**Pn**	**23 10 48.1**	**-0.1**
PWL					**Sb**	**23 10 58.7**	**-0.2**
PWL	**Port Wells**	**0.78**	**244**	IAML		23 10 59.7	
	comp=N,3μm,0.5s						
PWL				IAML		23 11 00.7	
	comp=E,3μm,0.5s						
HIN	**Hinchinbrook I**	**0.84**	**166**		**Pn**	**23 10 49.3**	**+0.3**
HIN				IAML		23 11 03.7	
	comp=N,5μm,0.5s						
HIN				IAML		23 11 04.4	
	comp=E,6μm,0.5s						
EYAK	**Cordova Ski Ar**	**0.87**	**139**		**Pn**	**23 10 49.9**	**+0.4**
EYAK				IAML		23 11 04.9	
	comp=E,3μm,0.6s						
EYAK	**Cordova Ski Ar**	**0.87**	**139**	P	**Pn**	**23 10 49.7**	**+0.3**
EYAK	**Cordova Ski Ar**	**0.87**	**139**	S	**Sn**	**23 11 02.9**	**+1.9**
M24K	**Tolsona, Glenn**	**0.97**	**21**		**Pb**	**23 10 51.4**	**-0.5**
M24K				IAML		23 11 06.2	
	comp=N,3μm,0.9s						
M24K				IAML		23 11 14.2	
	comp=E,3μm,0.8s						
GHO	**Glory Hole Cre**	**1.12**	**301**		**Pn**	**23 10 53.5**	**+0.4**
GHO				IAML		23 11 10.5	
	comp=E,2μm,0.7s						
GHO				IAML		23 11 10.9	
	comp=N,3μm,0.6s						
GHO	**Glory Hole Cre**	**1.12**	**301**		**Sb**	**23 11 08.5**	**-0.3**
PMR	**Palmer**	**1.14**	**291**		**Pn**	**23 10 53.6**	**+0.5**
PMR				IAML		23 11 09.1	
	comp=N,3μm,0.5s						
PMR				IAML		23 11 09.7	
	comp=E,2μm,0.6s						
PMR	**Palmer**	**1.14**	**291**		**Sb**	**23 11 08.6**	**-0.5**
PMR	**Palmer**	**1.14**	**291**	P	**Pn**	**23 10 53.4**	**+0.3**
PMR	**Palmer**	**1.14**	**291**	S	**Sb**	**23 11 08.7**	**-0.4**
BMRM	**Bremner River**	**1.14**	**101**		**Pn**	**23 10 53.1**	**-0.3**
BMRM				IAML		23 11 11.6	
	comp=N,4μm,0.9s						
N25K	**Chitina, Valde**	**1.18**	**69**		**Pn**	**23 10 53.9**	**0.0**
N25K				IAML		23 11 12.1	
	comp=E,2μm,0.4s						
P23K	**Montague Islan**	**1.24**	**192**		**Pb**	**23 10 55.3**	**-0.9**
P23K					**Sb**	**23 11 13.1**	**+1.2**
GOAT	**Goat Mountain**	**1.24**	**119**		**Pn**	**23 10 55.1**	**+0.5**
GOAT					**Sb**	**23 11 12.0**	**0.0**
RAGM	**Ragged Mountai**	**1.37**	**126**		**Sb**	**23 11 16.9**	**+1.2**
RC01	**Rabbit Creek A**	**1.38**	**266**		**Pb**	**23 10 57.6**	**-1.0**
RC01	**Rabbit Creek A**	**1.38**	**266**	Sg	**Sb**	**23 11 17.3**	**+1.4**
WAT6	**Susitna Watana**	**1.44**	**344**		**Pn**	**23 10 57.5**	**+0.1**
HARP	**HAARP**	**1.46**	**34**		**Pb**	**23 10 58.9**	**-1.1**
WACK	**Wrangell Chich**	**1.46**	**56**		**Pn**	**23 10 58.6**	**+0.7**
WASW	**Wrangell South**	**1.50**	**60**		**Pn**	**23 10 59.1**	**+0.8**
WASW					**Pb**	**23 10 59.2**	**-1.6**
GLB	**Gilahina Butte**	**1.51**	**80**		**Pn**	**23 10 59.1**	**+0.8**
GLB				Sn	**Sn**	**23 11 18.3**	**+1.4**
GLB				IAML		23 11 19.6	
	comp=N,1μm,0.5s						
GLB				IAML		23 11 20.7	
	comp=E,1μm,0.5s						
O22K	**Cooper Landing**	**1.56**	**243**	Sn	**Sb**	**23 11 20.1**	**-0.9**
HMT	**Hamilton**	**1.56**	**123**		**Pn**	**23 10 59.5**	**+0.5**
HMT				Sn	**Sn**	**23 11 19.6**	**+1.4**
FIS	**Fire Island**	**1.61**	**269**		**Pb**	**23 11 01.8**	**-0.7**
FIS				Sg	**Sb**	**23 11 24.5**	**+2.1**
M22K	**Willow**	**1.64**	**291**		**Pn**	**23 11 01.2**	**+1.2**
M22K	**Willow**	**1.64**	**291**	Sg	**Sb**	**23 11 24.1**	**+0.9**
SEW	**Seward**	**1.67**	**230**		**Pn**	**23 11 01.7**	**+1.2**
SEW				Sn	**Sn**	**23 11 22.2**	**+1.5**
VRDI	**Verde Repeater**	**1.67**	**88**		**Pn**	**23 11 01.4**	**+0.7**
VRDI				Sn	**Sn**	**23 11 22.7**	**+1.6**
VRDI				IAML		23 11 28.9	
	comp=N,2μm,0.7s						
NICHA	**Nichawak Mount**	**1.74**	**123**		**Pn**	**23 11 01.7**	**+0.2**
NICHA					**Pb**	**23 11 01.9**	**-2.9**
SLKM	**Skilak Lake**	**1.77**	**248**		**Pn**	**23 11 03.2**	**+1.3**
SLKM				Sn	**Sn**	**23 11 24.8**	**+1.6**
SLKM				IAML		23 11 27.1	
	comp=N,2μm,0.4s						
SLKM				IAML		23 11 28.1	
	comp=E,2μm,0.7s						
BERG	**Berg Lake**	**1.77**	**116**		**Pn**	**23 11 02.1**	**+0.2**
BERG				Sn	**Sn**	**23 11 24.6**	**+1.3**
BERG				IAML		23 11 35.5	
	comp=N,2μm,0.6s						
KAIM	**Kayak Island**	**1.78**	**135**		**Pn**	**23 11 02.6**	**+0.7**
KAIM				Sn	**Sn**	**23 11 24.8**	**+1.4**
Q23K	**Middleton Isla**	**1.80**	**171**		**Pn**	**23 11 02.6**	**+0.3**
Q23K				Sg	**Sb**	**23 11 30.2**	**+2.2**
Q23K				IAML		23 11 34.7	
	comp=N,1μm,0.7s						
Q23K				IAML		23 11 34.8	
	comp=E,1μm,0.6s						
SUA	**Susitna One**	**1.87**	**280**		**Pn**	**23 11 04.5**	**+1.2**
SUA	**Susitna One**	**1.87**	**280**	IAML		23 11 30.8	
	comp=N,798nm,0.5s						
MCARA	**McCarthy VSAT**	**1.88**	**83**	Sn	**Sn**	**23 11 27.8**	**+1.7**
MCARA				IAML		23 11 35.6	
	comp=E,2μm,0.7s						
DHY	**Denali Highway**	**1.89**	**354**		**Pn**	**23 11 05.0**	**+1.3**
DHY				Sn	**Sb**	**23 11 28.9**	**-1.8**
DHY				IAML		23 11 31.2	
	comp=E,2μm,0.4s						
DHY				IAML		23 11 33.6	
	comp=N,1μm,0.5s						
CRQM	**Cirque**	**1.89**	**102**		**Pn**	**23 11 04.4**	**+0.7**
CRQM	**Cirque**	**1.89**	**102**	Sn	**Sn**	**23 11 28.3**	**+1.8**
PAX	**Paxson**	**1.90**	**20**		**Pn**	**23 11 05.1**	**+1.4**
PAX				Sn	**Sb**	**23 11 28.9**	**-1.9**
SUCK	**Suckling Hills**	**1.92**	**125**		**Pn**	**23 11 04.8**	**+1.0**
SUCK				Sn	**Sn**	**23 11 28.0**	**+1.2**
SUCK				Sg	**Sb**	**23 11 33.0**	**+1.8**
CUT	**Chulitna**	**2.00**	**308**		**Pn**	**23 11 06.7**	**+1.8**
CUT				Sn	**Sb**	**23 11 32.5**	**-1.1**
TGL	**Tana Glacier**	**2.04**	**101**		**Pn**	**23 11 06.4**	**+0.7**
BGLC	**Bering Glacier**	**2.09**	**120**		**Pn**	**23 11 06.9**	**+0.7**
CAPN	**Captain Cook N**	**2.12**	**260**		**Pn**	**23 11 08.7**	**+2.2**
WAX	**Waxell Ridge**	**2.13**	**109**		**Pn**	**23 11 07.4**	**+0.6**
WAX				IAML		23 11 45.5	
	comp=E,1μm,0.7s						
PTPK	**Patty Peak**	**2.15**	**89**		**Pn**	**23 11 08.3**	**+1.1**
M26K	**Nabesna, AK**	**2.21**	**55**		**Pn**	**23 11 09.7**	**+1.7**
MENT	**Mentasta**	**2.30**	**39**		**Pn**	**23 11 10.7**	**+1.6**
ISLE	**Juniper Island**	**2.31**	**103**		**Pn**	**23 11 09.9**	**+0.4**
ISLE				IAML		23 11 45.3	
	comp=E,801nm,0.6s						
ISLE				IAML		23 11 50.0	
	comp=N,852nm,0.8s						
SKT	**Skwentna**	**2.34**	**291**		**Pn**	**23 11 10.8**	**+1.1**
SKT				IAML		23 11 42.9	
	comp=E,760nm,0.5s						
RND	**Reindeer**	**2.39**	**338**		**Pn**	**23 11 12.2**	**+1.8**
RND				IAML		23 11 44.1	
	comp=N,686nm,0.6s						
RND				IAML		23 11 45.8	
	comp=E,680nm,0.9s						
STLK	**Strandline Lak**	**2.39**	**279**		**Pn**	**23 11 12.1**	**+1.7**
STLK				IAML		23 11 49.7	
	comp=N,763nm,0.6s						
BRLK	**Bradley Lake**	**2.44**	**235**		**Pn**	**23 11 12.3**	**+1.2**
BRLK				IAML		23 11 56.3	
	comp=E,550nm,0.8s						
L26K	**Log Cabin Wild**	**2.48**	**41**	IAML		23 11 48.4	
	comp=E,761nm,0.5s						
L26K				IAML		23 11 51.5	
	comp=N,872nm,0.5s						
BARN	**Barnard Glacie**	**2.55**	**91**		**Pn**	**23 11 13.1**	**+0.3**
BARN				IAML		23 11 59.2	
	comp=E,410nm,0.8s						
GRNC	**Granite Creek**	**2.56**	**98**		**Pn**	**23 11 13.6**	**+0.7**
GRNC	**Granite Creek**	**2.56**	**98**	IAML		23 11 55.1	
	comp=N,616nm,0.7s						
MESA	**MESA**	**2.65**	**111**	IAML		23 12 00.8	
	comp=N,727nm,0.7s						
MESA				IAML		23 12 04.3	
	comp=E,646nm,0.7s						
M27K	**Edge Creek, AK**	**2.66**	**62**		**Pn**	**23 11 16.0**	**+1.8**
K24K	**Donnelly Dome**	**2.66**	**11**		**Pn**	**23 11 16.3**	**+2.2**
YAH	**Yahtse**	**2.67**	**106**	Pn	**Pn**	**23 11 14.9**	**+0.5**
YAH				IAML		23 12 01.4	
	comp=N,388nm,1.0s						
MCK	**McKinley**	**2.71**	**341**		**Pn**	**23 11 16.9**	**+2.2**
MCK				IAML		23 11 52.8	
	comp=E,612nm,0.7s						
RIDG	**Independent Ri**	**2.72**	**20**		**Pn**	**23 11 17.1**	**+2.2**
RIDG				IAML		23 12 03.3	
	comp=E,672nm,0.8s						
RIDG				IAML		23 12 06.1	
	comp=N,524nm,0.8s						
CTGM	**Chitina Glacie**	**2.72**	**93**	Pn	**Pn**	**23 11 16.2**	**+1.1**
CNPM	**China Poot**	**2.73**	**234**		**Pn**	**23 11 15.8**	**+0.8**
SPWE	**Spurr West**	**2.73**	**274**		**Pn**	**23 11 16.0**	**+0.8**
TRF	**Thorofare Moun**	**2.75**	**326**	IAML		23 11 58.8	
	comp=E,473nm,0.7s						
TRF				IAML		23 12 04.2	
	comp=N,691nm,0.9s						
DOT	**Dot Lake**	**2.79**	**27**		**Pn**	**23 11 18.3**	**+2.4**
DOT				IAML		23 12 03.1	
	comp=E,371nm,0.7s						
DOT				IAML		23 12 05.4	
	comp=N,411nm,0.6s						
RKAV	**Rock Avalanche**	**2.88**	**106**		**Pn**	**23 11 17.9**	**+0.7**
LOGN	**Logan Glacier**	**2.90**	**95**		**Pn**	**23 11 18.9**	**+1.4**
TABL	**Table Mountain**	**2.93**	**103**		**Pn**	**23 11 18.4**	**+0.4**
TABL	**Table Mountain**	**2.93**	**103**	I

comp=E,199nm,0.7s
M19K Big River Lodg 3.65 284 IAML 23 12 32.8
comp=N,149nm,0.8s
M19K IAML 23 12 32.9
comp=E,158nm,0.8s
AU22 Augustine Moun 3.70 243 Pn 23 11 30.0 +1.6
COLA College 3.71 354 Pn 23 11 29.7 +1.3
COLA College 3.71 354 P **Pn 23 11 30.0 +1.6**
COLA College 3.71 354 S **Sn 23 12 15.2 +4.3**
N19K Bonanza Creek 3.71 267 Pn 23 11 28.6 0.0
AUCH Augustine Cone 3.74 243 Pn 23 11 30.3 +1.3
O19K Port Alsworth 3.78 258 Pn 23 11 30.9 +1.4
O19K IAML 23 12 23.3
comp=E,306nm,0.5s
SYI Shuyak Island 3.79 229 Pn **Pn 23 11 30.7 +1.1**
BCPM Bancas Point 3.80 106 Pn 23 11 29.8 0.0
BCPM Bancas Point 3.80 106 IAML 23 12 14.6
comp=E,214nm,0.7s
BCPM IAML 23 12 32.5
comp=N,187nm,0.8s
L19K White Mountain 3.91 288 Pn 23 11 32.1 +0.9
L19K IAML 23 12 36.3
comp=N,129nm,0.6s
L19K IAML 23 12 40.8
comp=E,112nm,0.8s
YKU2 Yakutat 3.98 112 Pn **Pn 23 11 33.0 +0.9**
K20K Telida 3.98 306 Pn 23 11 33.1 +0.9
K20K Telida 3.98 306 IAML 23 12 40.6
comp=N,192nm,0.7s
PNL Peninsula 4.03 109 Pn 23 11 33.3 +0.4
PNL Peninsula 4.03 109 P **Pn 23 11 34.5 +1.6**
Q19K Cape Douglas, 4.08 239 Pn 23 11 34.7 +1.2
MLY Manley 4.21 337 IAML 23 12 28.8
comp=E,120nm,0.5s
MLY IAML 23 12 29.0
comp=N,169nm,0.5s
O18K Koktuh Hills 4.32 255 IAML 23 12 54.1
comp=N,98nm,0.8s
PRP Porcupine Dome 4.37 8 Pn 23 11 38.7 +0.9
PRP Porcupine Dome 4.37 8 IAML 23 12 38.2
comp=N,181nm,0.7s
PRP IAML 23 12 47.8
comp=E,135nm,0.5s
I26K Coal Creek Min 4.45 21 Pn 23 11 40.2 +1.6
I26K Coal Creek Min 4.45 21 IAML 23 13 01.2
comp=N,166nm,1.2s
KDAK Kodiak Island 4.49 223 IAML 23 12 29.0
comp=N,80nm,0.9s
KDAK IAML 23 12 31.2
comp=N,118nm,0.6s
KDAK Kodiak Island 4.49 223 P **Pn 23 11 39.6 +0.5**
comp=N,9.3nm,0.3s,baz=30,slow=7.8,SNR=198
KDAK S **Sn 23 12 27.5 -2.7**
comp=N,24nm,0.3s,baz=53,slow=2.0,SNR=12
comp=N,38nm,0.5s
L29M L29M 4.54 61 IAML 23 13 04.2
comp=N,99nm,0.9s
L29M IAML 23 13 11.9
comp=E,87nm,0.8s
HYT Haines Junctio 4.59 91 Pn 23 11 41.9 +1.2
H24K Noodor Dome 4.67 355 Pn 23 11 42.9 +1.2
H24K Noodor Dome 4.67 355 IAML 23 13 01.5
comp=E,121nm,0.8s
H24K IAML 23 13 03.6
comp=N,88nm,1.0s
KAHG Katmai Hook Gl 4.71 238 Pn 23 11 43.3 +0.9
L18K Granite Mounta 4.76 287 Pn 23 11 42.3 +0.3
L18K Granite Mounta 4.76 287 IAML 23 13 12.7
comp=N,84nm,1.0s
H23K Yukon River 4.79 347 IAML 23 12 50.3
comp=N,89nm,0.9s
H23K IAML 23 13 03.1
comp=E,75nm,1.1s
P29M Windy Craggy 4.81 105 IAML 23 13 01.4
comp=N,128nm,1.0s
P29M IAML 23 13 04.2
comp=E,69nm,0.8s
P29M Windy Craggy 4.81 105 Pn 23 11 44.2 +0.5
P29M Pb 23 11 45.4 -12
KAHC Katmai Hardscr 4.81 241 Pn 23 11 44.2 +0.4
J19K Poorman 4.90 309 IAML 23 13 10.1
comp=N,135nm,0.7s
M30M Minto, Yukon 4.98 70 Pn 23 11 46.8 +0.9
I20K Naaghedeneel 4.99 320 Pn 23 11 47.2 +1.3
M17K Holitna River 5.08 277 IAML 23 13 17.6
comp=N,116nm,0.7s
K29M Barlow Dome 5.09 55 IAML 23 13 16.9
comp=N,57nm,0.9s
J18K Innoko River 5.10 301 IAML 23 13 25.7
comp=N,56nm,0.7s
P17K Kvichak River 5.16 251 Pn 23 11 49.0 +0.6
OHAK Old Harbor 5.17 222 Pn 23 11 48.3 -0.1
OHAK Old Harbor 5.17 222 P **Pn 23 11 48.3 -0.1**
H21K Melozitna Rive 5.19 332 Pn 23 11 49.9 +1.1
H21K Melozitna Rive 5.19 332 IAML 23 13 16.1
comp=E,59nm,0.8s
H21K IAML 23 13 23.3
comp=N,76nm,0.9s
O17K Koliganek Bris 5.24 259 Pn 23 11 49.6 +0.1
I28M Miner Creek 5.29 33 IAML 23 13 23.0
comp=N,81nm,0.8s
CAHL Cahill 5.30 237 Pn 23 11 51.4 +1.0
N31M Braeburn, Yuko 5.37 82 IAML 23 13 30.4
comp=N,57nm,1.1s
N31M IAML 23 13 35.0
comp=E,48nm,1.2s
H27K Steamboat Moun 5.58 23 Pn 23 11 55.8 +1.6
H20K Anotleneega Mo 5.60 324 Pn 23 11 55.4 +1.0
G23K Bananza Creek 5.70 347 Pn 23 11 57.2 +1.4
O16K Kokwok River B 5.78 259 Pn 23 11 56.7 -0.1
WHY Whitehorse 5.89 90 Pn 23 11 59.5 +1.0
J30M Hart River 5.90 50 Pn 23 12 00.8 +2.2
G26K Porcupine Rive 5.93 12 Pn 23 11 59.6 +0.8
P16K Nushagak River 5.95 253 Pn 23 11 60.0 +0.7
PLK4 Peulik 4 6.01 238 Pn 23 12 00.9 +0.8
L16K Owhat River 6.05 280 Pn 23 12 00.6 +0.1
J17K VABM Dome 6.09 296 Pn 23 12 01.4 +0.3
H19K Roundabout Mou 6.10 319 Pn 23 12 01.7 +0.5
COLD Coldfoot 6.21 348 Pn 23 12 04.0 +1.2
F24K Squaw Lake 6.35 357 Pn 23 12 06.1 +1.3
F25K Christian Rive 6.44 4 Pn 23 12 06.3 +0.4
H18K Honhosa River 6.52 312 Pn 23 12 07.4 +0.3
N15K Kwethluk River 6.56 267 Pn 23 12 08.1 +0.5
F26K Sheenjek River 6.62 9 Pn 23 12 08.9 +0.4
F21K Alatna River 6.68 337 Pn 23 12 10.3 +1.0
G19K Purcell Mounta 6.71 322 Pn 23 12 10.7 +1.2
J16K Anvik River 6.73 294 Pn 23 12 09.8 0.0
M15K Kasigluk River 6.73 272 Pn 23 12 10.1 +0.1
P32M Atlin 6.74 98 Pn 23 12 11.0 +1.0
O15K Ungalikthiuk R 6.75 258 Pn 23 12 10.5 +0.3
E24K Your Creek 6.93 355 Pn 23 12 13.5 +0.8
JIS Juneau Island 6.98 109 P **Pn 23 12 14.3 +1.0**
E23K Chandalar 6.98 352 Pn 23 12 14.9 +1.5
P33M Teslin, Yukon 6.99 92 Pn 23 12 14.2 +0.7
H17K Granite Mounta 6.99 308 Pn 23 12 14.5 +1.1
L15K Ungalak Mounta 7.01 280 Pn 23 12 13.7 0.0
K15K Wolf Creek Mou 7.03 285 Pn 23 12 14.2 +0.2
G18K Tagagawik 7.04 317 Pn 23 12 14.6 +0.5
SIT Sitka 7.26 120 P **Pn 23 12 17.7 +0.5**
S32K Killisnoo 7.33 115 Pn 23 12 18.9 +0.8
M14K Bethel 7.34 273 Pn 23 12 18.8 +0.6
F19K Shaleruckik Mo 7.38 325 Pn 23 12 19.2 +0.3
TOLK Toolik Lake Re 7.55 353 Pn 23 12 20.8 -0.4
L14K Kuka Creek 7.60 278 Pn 23 12 23.3 +1.4
Q32M Nakina River 7.66 101 Pn 23 12 22.7 -0.1
G31M Satah River 7.96 39 Pn 23 12 27.1 +0.3
E20K Nigu River 8.11 335 Pn 23 12 29.6 +0.8
F31M Tsiigehtchic 8.46 37 Pn 23 12 32.6 -1.0
C21K Knifeblade Rid 8.63 341 Pn 23 12 35.4 -0.5
DLBC Dease Lake 8.94 101 P **Pn 23 12 42.4 +2.1**
comp=N,3.4nm,0.3s,baz=248,slow=20,SNR=3.4
INK Inuvik 9.11 33 P **Pn 23 12 44.8 +2.2**
comp=E,0.3nm,0.3s,baz=223,slow=18,SNR=4.7
INK S **Sn 23 14 25.6 +1.8**
comp=E,2.3nm,0.6s,baz=233,slow=13,SNR=1.6
INK LR LR 23 16 30.0
comp=E,133nm,18.6s,baz=207,slow=38
comp=E,1.5nm,0.3s
CHNA Chernabura Isl 9.27 232 P **Pn 23 12 45.4 +0.7**
BBB Bella Bella 13.67 123 LR LR 23 18 36.0
comp=E,62nm,21.2s,baz=170,slow=35
NEW Newport 21.29 114 LR LR 23 23 37.6
comp=E,42nm,21.9s,baz=168,slow=36
SEY Seymchan 27.57 300 LR LR 23 28 45.9
comp=E,33nm,19.0s,baz=170,slow=40
NVAR Mina Array Bea 28.90 129 P **P 23 16 30.2 +0.8**
comp=E,1.2nm,0.8s,baz=328,slow=10,SNR=4.8
comp=E,1.2nm,0.8s
TXAR Lajitas Array 42.74 118 P **P 23 18 29.0 +1.4**
comp=E,0.3nm,0.8s,baz=353,slow=7.6,SNR=2.4
comp=E,0.3nm,0.8s
ARCES ARCESS Array B 49.44 4 P **P 23 19 19.4 -0.3**
comp=E,0.7nm,0.4s,baz=1.3,slow=8.1,SNR=8.6
comp=E,0.7nm,0.4s
KSRS Korea Array 55.79 286 P **P 23 20 06.3 -0.7**
comp=E,0.5nm,0.3s,baz=47,slow=7.5,SNR=1.6
comp=E,0.5nm,0.3s
SONM Songino Array 56.44 309 P **P 23 20 10.8 -0.9**
comp=E,0.5nm,0.4s,baz=32,slow=8.7,SNR=3.7
comp=E,0.5nm,0.4s
NOA NORSAR Array B 56.93 12 P **P 23 20 15.2 +0.3**
comp=E,0.9nm,0.7s,baz=348,slow=7.2,SNR=3.5
comp=E,0.9nm,0.7s
FINES FINESS Array B 57.56 4 P **P 23 20 19.0 -0.2**
comp=E,1.1nm,0.5s,baz=1.6,slow=8.8,SNR=21
comp=E,1.1nm,0.5s
HFS Hagfors 58.07 11 P **P 23 20 22.4 -0.4**
comp=E,2.0nm,0.8s,baz=344,slow=2.1,SNR=1.6
comp=E,2.0nm,0.8s
ZALV Zalesovo Beam 58.10 327 P **P 23 20 22.2 -0.9**
comp=E,1.8nm,0.8s,baz=354,slow=7.4,SNR=4.5
comp=E,1.8nm,0.8s
EKA Eskdalemuir Ar 60.33 23 P **P 23 20 38.4 -0.1**
comp=E,1.6nm,0.8s,baz=349,slow=7.1,SNR=3.4
comp=E,1.6nm,0.8s
ARTI Arti 61.07 344 P **P 23 20 43.4 -0.2**
comp=E,1.7nm,0.4s,baz=312,slow=5.0,SNR=4.2
comp=E,1.7nm,0.4s
BVAR Borovoye Array 62.31 336 P **P 23 20 50.5 -1.5**
comp=E,1.5nm,0.6s,baz=31,slow=9.0,SNR=5.3
comp=E,1.5nm,0.6s
KURBB Kurchatov Arra 62.73 329 P **P 23 20 54.0 -0.8**
comp=E,0.8nm,0.5s,baz=23,slow=6.8,SNR=6.8
comp=E,0.8nm,0.5s
MKAR Makanchi Array 65.27 325 P **P 23 21 10.4 -1.1**
comp=E,0.7nm,0.4s,baz=30,slow=6.7,SNR=17
comp=E,0.7nm,0.4s
AKASG Malin Array Be 68.40 3 P **P 23 21 30.9 -0.5**
comp=E,1.3nm,0.5s,baz=359,slow=6.1,SNR=4.4
comp=E,1.3nm,0.5s
ESDC Sonseca Array 75.04 29 P **P 23 22 11.8 +0.2**
comp=E,1.7nm,0.7s,baz=343,slow=5.8,SNR=15
comp=E,1.7nm,0.7s
PPT Papeete 78.53 183 P **P 23 22 31.1 -0.1**
comp=E,31nm,0.6s,baz=168,slow=12,SNR=1.9
QSPA South Pole Qui 151.02 180 PKPbc **PKPbc 23 30 20.1 -1.2**
comp=E,2.5nm,1.0s,baz=79,slow=2.9,SNR=4.2

*JMA **01** 23:33:09.7±0.2,36˚N±1˚×135.4E±0.8, h353km±1km, MV2.7/17, NW OFF KINKI DISTRICT*
*IDC **01** 23:33:10.0±1.2, 36.00N×135.29E, h382km±19km, mb2.8/1, mbtmp3.6/7, Error ellipse: s-maj=28.6km s-min=22.4km az=110.0*
ISC 01 23:33:08.4±0.9,**36.1N**±0.1×**135.50E**±0.08,**h350**km,**n15,** σ1§**19/17,Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKY	**Yasaka**	**0.54**	**217**	P	**Pn**	**23 33 54.4**	**+1.5**
JKY				*e*S	**S**	**23 34 29.2**	**+0.8**
JWT	**Wachi**	**0.78**	**186**	*i* P	**Pn**	**23 33 54.9**	**+1.4**
JWT				S	**S**	**23 34 30.0**	**+0.5**
JIE	**Ise**	**1.93**	**149**	*e*P	**Pn**	**23 34 00.5**	**+1.2**
JHS	**Saijyo**	**2.21**	**242**	P	**Pn**	**23 34 02.2**	**+0.8**
MJAR	**Matsushiro Arr**	**2.24**	**77**	P	Pn	23 34 08.1	+6.7
	0.8nm,0.4s,baz=266,slow=8.2,SNR=2.2						
JGT2	**ShimaneMisato**	**2.63**	**249**	*e*P	**Pn**	**23 34 05.3**	**+0.7**
JHT	**Toyohira**	**2.88**	**242**	*e*P	**Pn**	**23 34 07.5**	**+0.7**
JAG	**Ashikaga**	**3.21**	**82**	*e*P	**Pn**	**23 34 11.9**	**+2.2**
JAG				*e*S	**S**	**23 34 58.3**	**-0.7**
JTO	**Tosashimizu**	**3.89**	**216**	*e*P	**Pn**	**23 34 17.1**	**+0.7**
JNU	**Nakatsue**	**4.81**	**234**	P	**Pn**	**23 34 26.8**	**+0.7**
	4.9nm,0.3s,baz=32,slow=5.1,SNR=6.1						
KSRS	**Korea Array**	**6.24**	**285**	P	**Pn**	**23 34 43.4**	**+1.4**
	1.6nm,0.5s,baz=110,slow=11,SNR=8.3						
USRK	**Ussuriysk Ar.**	**8.57**	**343**	P	**P**	**23 35 11.9**	**+0.2**
	3.1nm,0.5s,baz=168,slow=10,SNR=9.6						
ASAJ	**Asahikawa**	**9.71**	**32**	P	**P**	**23 35 24.1**	**-0.3**
	5.3nm,0.6s,baz=238,slow=19,SNR=3.9						
KLR	**Kul'dur**	**13.45**	**349**	P	**Pn**	**23 36 06.7**	**-0.4**
	0.8nm,0.4s,baz=171,slow=13,SNR=2.0						
WRA	**Warramunga Arr**	**55.70**	**181**	P	**P**	**23 42 08.0**	**-1.7**
	0.4nm,0.5s,baz=359,slow=7.6,SNR=5.5						
	0.4nm,0.5s						

*IDC **01** 23:36:37.6±0.5,20˚67S×174˚06W, h0km, mb4.3/15, mbtmp4.3/16, ML4.5/1, MS3.8/17, Error ellipse: s-maj=23.3km s-min=16.4km az=116.0*
*NEIC **01** 23:36:38.3±2.8, 20˚61S±0˚09×173˚49W±0˚08, h10km±1km, mb4.9/33, Error ellipse: s-maj=15.3km s-min=11.6km az=160.0*
*NOU **01** 23:36:57.4, 20˚30S×174˚47W, h110km, mb4.8/7, Tonga Islands*
ISC 01 23:36:41.5±0.5,**20˚54S**±0˚08×**173˚92W**±0˚10,**h27**km, **n118,** σ1§**53/96, mb4.8/32, MS3.8/14, 6C-3D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.03**	**70**	Pn	Pn	23 37 35.4	-6.1
NIUE				Sn	Sn	23 38 17.5	-10
LKBA	**Tubou, Lakemba**	**5.16**	**296**	P	Pn	23 38 03.7	+6.7
TAVE	**Taveuni**	**6.83**	**303**	P	Pn	23 38 27.8	+7.7
AFI	**Afiamalu**	**6.91**	**18**	Pn	**Pn**	**23 38 18.8**	**-2.3**
AFI				Sn	**Sn**	**23 39 35.8**	**-3.1**
DGTI	**Dogotuki**	**7.35**	**304**	P	Pn	23 38 34.6	+7.4
MSVF	**Nonsavu**	**8.09**	**289**	Pn	Pn	23 38 42.1	+4.8
MSVF	**Nonsavu**	**8.09**	**289**	Pn	Pn	23 38 45.1	+7.7
	1.9nm,0.3s,baz=128,slow=12,SNR=38						
MSVF				LR	LR	23 41 23.9	
	comp=Z,938nm,21.6s,baz=93,slow=36						
MSVF	**Nonsavu**	**8.09**	**289**	P	Pn	23 38 45.0	+7.7
RAR	**Rarotonga**	**13.24**	**95**	Pn	Pn	23 39 39.5	-8.4
	2.6nm,0.3s,baz=266,slow=15,SNR=2.1						
RAR				Sn	Sn	23 41 55.0	-19
	1.1nm,0.3s,baz=118,slow=12,SNR=1.9						
RAR				LR	LR	23 45 44.8	
	comp=Z,484nm,18.1s,baz=283,slow=41						
VLAKA	**Lakatoro**	**18.25**	**281**	P	**P**	**23 40 56.3**	**+3.3**
DZM	**Mont Dzumac**	**18.36**	**262**	P	**P**	**23 40 55.8**	**+1.5**
DZM	**Mont Dzumac**	**18.36**	**262**	*e*Pn	Pn	23 40 44.8	-10
54nm,1.4s							
DZM				*e*LR	LR	23 44 58.0	
357nm,27.4s							
DZM	**Mont Dzumac**	**18.36**	**262**	P	**P**	**23 40 55.1**	**+0.8**
16nm,0.8s,baz=81,slow=19,SNR=16							
DZM				LR	LR	23 46 43.3	
	comp=Z,258nm,18.2s,baz=134,slow=33						
DZM	**Mont Dzumac**	**18.36**	**262**	P	**P**	**23 40 58.5**	**+4.2**
URZ	**Urewera**	**19.29**	**202**	P	**P**	**23 41 02.8**	**-1.5**
	1.6nm,0.3s,baz=16,slow=20,SNR=2.1						
	6.8nm,0.4s						
TBI	**Tubuai**	**22.86**	**102**	*e*S	S	23 45 23.5	-27
709nm,24.0s							
TBI				*e*LR	LR	23 46 41.0	
924nm,34.2s							
TBI				*e*LR	LR	23 46 45.4	
2µm,31.8s							
PPT2	**Papeete2**	**23.19**	**87**	*e*P	P	23 41 16.9	-30
42nm,24.8s							
PPT2				*e*S	S	23 45 30.0	-27
267nm,26.0s							
PPT2				*e*LR	LR	23 46 45.5	
345nm,30.8s							
PPT2				*e*LR	LR	23 46 54.8	
517nm,28.2s							
PPT	**Papeete**	**23.20**	**87**	LR	LR	23 49 11.4	
	comp=Z,249nm,18.4s,baz=284,slow=32						
TAOE	**Nuku Hiva Isla**	**34.59**	**75**	*e*LR	LR	23 52 09.0	
242nm,28.1s							
STKA	**Stephens Creek**	**41.22**	**245**	P	**P**	**23 44 22.7**	**-1.6**
2.7nm,0.7s,baz=83,slow=12,SNR=6.8							
STKA				LR	LR	23 59 44.1	
	comp=Z,114nm,18.6s,baz=72,slow=34						
	2.7nm,0.7s						
COEN	**Coen**	**41.40**	**272**		**P**	**23 44 26.2**	**+0.2**
COEN				IAmb	IAmb	23 44 27.1	
	comp=Z,16nm,0.9s						

BBOO	**Buckleboo**	**45.95**	**244**	P	**P**	**23 45 00.6**	**-1.8**
AS31	**Alice Springs**	**48.22**	**256**		**P**	**23 45 18.6**	**-1.7**
WR8	**Warramunga Arr**	**48.22**	**261**	P	**P**	**23 45 19.5**	**-0.8**
ASAR	**Alice Springs**	**48.23**	**256**	P	**P**	**23 45 18.7**	**-1.6**
ASAR	**Alice Springs**	**48.23**	**256**	P	**P**	**23 45 18.5**	**-1.8**
	comp=Z,5.5nm,0.8s,baz=88,slow=8.5,SNR=47						
ASAR				PcP	**PcP**	**23 46 48.0**	**+0.7**
	comp=Z,2.2nm,0.9s,baz=101,slow=4.5,SNR=4.9						
ASAR				S	**S**	**23 52 12.6**	**-5.8**
	comp=Z,0.6nm,0.9s,baz=94,slow=15,SNR=3.6						
ASAR				LR	LR	00 03 49.8	
	comp=Z,125nm,18.7s,baz=124,slow=34						
	comp=Z,5.5nm,0.8s						
WB0	**Warramunga Arr**	**48.36**	**261**	P	**P**	**23 45 19.7**	**-1.7**
WRA	**Warramunga Arr**	**48.38**	**261**		**P**	**23 45 19.2**	**-2.3**
WRA	**Warramunga Arr**	**48.38**	**261**	P	**P**	**23 45 18.9**	**-2.6**
	comp=Z,3.4nm,0.8s,baz=98,slow=7.0,SNR=15						
WRA				PcP	**PcP**	**23 46 48.9**	**+1.0**
	comp=Z,2.1nm,0.9s,baz=101,slow=3.0,SNR=4.6						
	comp=Z,3.4nm,0.8s						
GUMO	**Guam**	**52.83**	**306**	LR	LR	00 06 03.2	
	comp=Z,22nm,20.7s,baz=76,slow=33						
SBA	**Scott Base**	**58.12**	**185**	P	**P**	**23 46 33.5**	**+1.3**
VNDA	**Vanda**	**58.24**	**186**	P	**P**	**23 46 33.2**	**+0.1**
VNDA	**Vanda**	**58.24**	**186**	P	**P**	**23 46 32.7**	**-0.4**
	comp=Z,1.5nm,1.0s,baz=21,slow=7.1,SNR=5.2						
	comp=Z,1.5nm,1.0s						
SOEI	**Soe**	**60.32**	**270**		**P**	**23 46 49.3**	**+0.6**
TNTI	**Ternate**	**61.18**	**283**	P	**P**	**23 46 54.4**	**+0.1**
MBWA	**Marble Bar**	**61.57**	**256**	P	**P**	**23 46 56.0**	**-0.9**
DAV	**Davao City (W)**	**65.45**	**288**	LR	LR	00 13 47.5	
	comp=Z,42nm,20.9s,baz=160,slow=34						
TOLI2	**Tolitoli**	**67.36**	**280**		**P**	**23 47 34.1**	**-0.8**
QSPA	**South Pole Qui**	**69.53**	**180**		**P**	**23 47 48.1**	**+0.3**
QSPA				IAmb	IAmb	23 47 59.7	
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**69.53**	**180**	P	**P**	**23 47 47.8**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=68,slow=2.9,SNR=10						
	comp=Z,3.3nm,0.8s						
MJAR	**Matsushiro Arr**	**72.57**	**321**	P	**P**	**23 48 06.9**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=156,slow=5.8,SNR=9.2						
	comp=Z,3.0nm,0.7s						
LPIG	**La Paz**	**76.17**	**57**	LR	LR	00 18 14.9	
	comp=Z,138nm,18.0s,baz=203,slow=33						
KSM	**Kuching**	**77.21**	**276**	P	**P**	**23 48 34.5**	**+0.8**
KSM				IAmb	IAmb	23 50 27.1	
	comp=Z,9.4nm,0.6s						
PEA0B	**Petropavlovsk-**	**77.36**	**343**		**P**	**23 48 34.4**	**+0.7**
PEA0B				IAmb	IAmb	23 48 35.9	
	comp=Z,8.5nm,0.8s						
PETK	**Petropavlovsk-**	**77.36**	**343**		**P**	**23 48 34.6**	**+1.0**
PETK	**Petropavlovsk-**	**77.36**	**343**	P	**P**	**23 48 34.9**	**+1.2**
	comp=Z,6.3nm,0.7s,baz=130,slow=7.2,SNR=26						
	comp=Z,6.3nm,0.7s						
NVAR	**Mina Array Bea**	**78.48**	**41**	P	**P**	**23 48 42.5**	**+1.9**
	comp=Z,2.6nm,0.8s,baz=220,slow=8.7,SNR=11						
	comp=Z,2.6nm,0.8s						
PLK4	**Peulik 4**	**79.25**	**10**	P	**P**	**23 48 46.3**	**+2.2**
KSRS	**Korea Array**	**79.50**	**317**	P	**P**	**23 48 47.1**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=132,slow=5.7,SNR=3.3						
	comp=Z,0.7nm,0.3s						
USRK	**Ussuriysk Ar.**	**81.20**	**324**	LR	LR	00 22 11.4	
	comp=Z,72nm,19.1s,baz=139,slow=34						
MAW	**Mawson**	**82.79**	**199**	P	**P**	**23 49 02.3**	**-0.6**
	comp=Z,4.5nm,0.9s,baz=165,slow=3.3,SNR=5.0						
	comp=Z,4.5nm,0.9s						
H03S2	**Juan Fernandez**	**82.80**	**123**	T	T	01 21 45.8	
	baz=248						
H03S1	**Juan Fernandez**	**82.81**	**123**	T	T	01 21 49.3	
	baz=248						
H03S3	**Juan Fernandez**	**82.81**	**123**	T	T	01 21 37.5	
	baz=248						
L18K	**Granite Mounta**	**83.61**	**8**		**P**	**23 49 06.6**	**-0.4**
L18K				IAmb	IAmb	23 49 43.2	
	comp=Z,13nm,1.5s						
RC01	**Rabbit Creek A**	**83.65**	**12**	P	**P**	**23 49 05.6**	**-1.6**
RC01				IAmb	IAmb	23 49 09.3	
	comp=Z,8.1nm,1.1s						
SRU	**San Rafael Swe**	**83.84**	**44**	P	**P**	**23 49 06.8**	**-2.2**
SRU				IAmb	IAmb	23 49 11.8	
	comp=Z,8.4nm,1.4s						
TXAR	**Lajitas Array**	**83.89**	**56**	P	**P**	**23 49 06.8**	**-2.6**
TXAR	**Lajitas Array**	**83.89**	**56**	P	**P**	**23 49 08.9**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=268,slow=5.9,SNR=2.6						
TXAR				LR	LR	00 20 47.7	
	comp=Z,49nm,18.6s,baz=220,slow=32						
	comp=Z,0.3nm,0.8s						
BNX	**BinXian**	**84.71**	**323**	⇑P	**P**	**23 49 14.6**	**+1.6**
BNX				pmax	pmax		
	comp=Z,7.0nm,0.9s						
J18K	**Innoko River**	**84.81**	**8**	P	**P**	**23 49 12.3**	**-0.8**
J18K				IAmb	IAmb	23 49 16.3	
	comp=Z,5.1nm,0.9s						
MA2	**Magadan**	**84.89**	**343**	LR	LR	00 20 37.7	
	comp=Z,22nm,21.3s,baz=114,slow=31						
PCA	**Pinnacle**	**84.89**	**16**	P	**P**	**23 49 13.3**	**-0.4**
PCA				IAmb	IAmb	23 49 26.9	
	comp=Z,8.4nm,0.7s						
TRF	**Thorofare Moun**	**85.74**	**10**		**P**	**23 49 17.9**	**0.0**
TRF				IAmb	IAmb	23 49 20.0	
	comp=Z,5.8nm,0.8s						
J20K	**Nowinta River**	**85.83**	**9**		**P**	**23 49 17.4**	**-0.8**
J20K				IAmb	IAmb	23 49 21.1	
	comp=Z,8.5nm,1.1s						
RND	**Reindeer**	**85.95**	**11**	P	**P**	**23 49 18.6**	**-0.3**
RND				IAmb	IAmb	23 49 21.5	
	comp=Z,12nm,1.0s						
CMIG	**Matias Romero**	**86.07**	**70**	LR	LR	00 21 22.2	
	comp=Z,100nm,18.5s,baz=236,slow=31						
PDAR	**Pinedale Array**	**86.41**	**42**	P	**P**	**23 49 22.3**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=180,slow=0.4,SNR=6.2						
	comp=Z,0.8nm,0.8s						
H19K	**Roundabout Mou**	**86.83**	**7**	P	**P**	**23 49 25.5**	**+2.5**
H19K				IAmb	IAmb	23 49 39.2	
	comp=Z,8.6nm,1.1s						
DOT	**Dot Lake**	**87.10**	**13**	P	**P**	**23 49 23.8**	**-0.7**
H21K	**Melozitna Rive**	**87.42**	**9**	P	**P**	**23 49 28.7**	**+2.8**
H21K				IAmb	IAmb	23 49 52.0	
	comp=Z,12nm,1.7s						
SYO	**Syowa Base**	**87.49**	**191**	‖*e*P	**P**	**23 49 26.0**	**-0.4**
ILAR	**Eielson Array**	**87.56**	**11**	P	**P**	**23 49 27.2**	**+0.6**
	comp=Z,2.6nm,1.1s,baz=219,slow=4.7,SNR=10.0						
	comp=Z,2.6nm,1.1s						
IMAR	**Indian Mountai**	**87.60**	**8**	P	**P**	**23 49 29.1**	**+2.3**
J25K	**Salcha River,**	**87.70**	**12**		**P**	**23 49 27.4**	**0.0**
SNAA	**Sanae**	**87.83**	**177**	P	**P**	**23 49 27.1**	**-1.0**
	comp=Z,1.1nm,0.9s,baz=178,slow=3.7,SNR=3.6						
	comp=Z,1.1nm,0.9s						
PRP	**Porcupine Dome**	**88.48**	**11**	P	**P**	**23 49 29.6**	**-1.5**
DAWY	**Dawson**	**88.50**	**14**		**P**	**23 49 30.0**	**-1.1**
DAWY				IAmb	IAmb	23 49 34.4	
	comp=Z,5.6nm,1.1s						
I30M	**Mount Dempster**	**90.18**	**15**		**P**	**23 49 38.1**	**-1.0**
I30M				IAmb	IAmb	23 49 45.5	
	comp=Z,8.7nm,1.4s						
F31M	**Tsiigehtchic**	**92.61**	**14**		**P**	**23 49 50.0**	**-0.1**
F31M				IAmb	IAmb	23 49 58.5	
	comp=Z,8.8nm,1.1s						
ATAH	**Atahualpa**	**92.67**	**99**	LR	LR	00 22 53.8	
	comp=Z,43nm,21.6s,baz=328,slow=30						
CMAR	**Chiang Mai Arr**	**93.74**	**288**	P	**P**	**23 49 57.0**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=116,slow=2.2,SNR=8.4						
CMAR				LR	LR	00 31 31.5	
	comp=Z,16nm,19.5s,baz=215,slow=35						
	comp=Z,0.9nm,0.3s						
LPAZ	**La Paz**	**98.50**	**111**	LR	LR

BRTR	**Keskin Array B**	**149.63 315**	PKP	**PKPdf**	**23 56 24.4**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=5.2,slow=17,SNR=2.0					
BRTR			PKPbc	**PKPbc**	**23 56 30.1**	**+1.0**
	comp=Z,3.8nm,0.9s,baz=143,slow=3.1,SNR=20					
PRU	**Pruhonice**	**149.85 349**	*e*PKP	**PKiKP**	**23 56 31.3**	**+1.3**
BMRD	**Maredsous**	**150.28 2**	*d*PKP	**PKiKP**	**23 56 31.6**	**+0.7**
ZVC	**Zvikov**	**150.45 349**	*e*PKP	**PKiKP**	**23 56 32.5**	**+1.2**
KHC	**Kasperske Hory**	**150.85 350**	*e*PKP	**PKiKP**	**23 56 33.1**	**+0.9**
WLF	**Walferdange**	**150.94 360**	*d*PKP	**PKiKP**	**23 56 33.8**	**+1.5**
GERES	**GERESS Array B**	**151.10 350**	PKPbc	**PKiKP**	**23 56 33.6**	**+0.8**
	comp=Z,2.8nm,1.0s,baz=3.8,slow=2.0,SNR=13					
MMAI	**Mount Meron Ar**	**151.12 302**	PKPbc	**PKiKP**	**23 56 34.2**	**+0.9**
	comp=Z,5.3nm,0.7s,baz=236,slow=0.3,SNR=8.4					
CONA	**Conrad Observa**	**151.55 346**	*e*PKiKP	**PKiKP**	**23 56 34.2**	**+0.5**
	comp=Z,7.6nm,1.5s					
RONA	**Rosalia, Austr**	**151.67 345**	*i* PKiKP	**PKiKP**	**23 56 34.9**	**+1.0**
	comp=Z,4.3nm,0.7s					
MOA	**Molln**	**151.96 348**	*i* PKiKP	**PKiKP**	**23 56 35.6**	**+1.1**
	comp=Z,5.5nm,1.5s					
BIOA	**Bad Ischl, Aus**	**152.23 349**	*e*pPKP	**PKPab**	**23 56 45.7**	**+1.2**
	comp=Z,4.2nm,1.2s					
ARSA	**Arzberg**	**152.27 346**	*e*PKiKP	**PKiKP**	**23 56 36.1**	**+0.9**
	comp=Z,2.8nm,1.0s					
LESA	**Schwarzleotal**	**152.65 350**	*i* PKiKP	**PKiKP**	**23 56 36.7**	**+0.7**
	comp=Z,2.1nm,0.8s					
RETA	**Reutte**	**152.85 353**	*e*pPKP	pPKPdf	23 56 38.0	+1.1
	comp=Z,2.7nm,1.3s					
WATA	**Walderalm**	**152.90 352**	*e*PKiKP	**PKiKP**	**23 56 37.4**	**+0.8**
	comp=Z,2.0nm,0.8s					
SOKA	**Soboth**	**152.92 346**	*i* PKiKP	**PKPbc**	**23 56 37.1**	**+0.7**
	comp=Z,3.4nm,1.1s					
MOTA	**Moosalm**	**152.95 352**	*i* PKiKP	**PKiKP**	**23 56 37.6**	**+0.9**
	comp=Z,3.9nm,1.0s					
WTTA	**Wattenberg**	**152.96 352**	*i* PKiKP	**PKiKP**	**23 56 37.5**	**+0.8**
	comp=Z,4.3nm,0.8s					
SQTA	**Sankt Quirin**	**153.06 352**	*e*PKiKP	**PKPbc**	**23 56 37.5**	**+0.7**
	comp=Z,1.2nm,0.6s					
DAVA	**Damuels**	**153.14 354**	*e*PKiKP	**PKiKP**	**23 56 38.0**	**+0.8**
	comp=Z,3.6nm,1.1s					
OBKA	**Obir**	**153.19 347**	*i* pPKP	pPKPdf	23 56 39.3	+1.8
	comp=Z,1.4nm,0.8s					
FETA	**Feichten**	**153.31 353**	*i* pPKP	**PKPdf**	**23 56 34.1**	**+4.2**
	comp=Z,3.6nm,1.0s					
ABTA	**Abfaltersbach**	**153.34 350**	*e*PKP	**PKPbc**	**23 56 36.5**	**-0.9**
	comp=Z,3.5nm,0.8s					

*JMA **01** 23:40:21.7±0.2,24°.4N±0°.8×122°.2E±0°.4, h62km±3km, MV2.9/13, TAIWAN REGION*
*TAP **01** 23:40:22.0,24°.50N×122°.12E, h69km, ML3.5, C*
ISC 01 23:40:21.6±1.2,24°48N±0°.02×122°22E±0°.02, h68km±5km, n123,σ0ş99/210, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.06**	**167**	*i* P	**Pn**	**23 40 31.9**	**+0.6**
EOS2				*i* S	**Sn**	**23 40 39.5**	**+1.1**
EOS3	**EOS3**	**0.21**	**154**	*i* P	**Pn**	**23 40 32.2**	**+0.4**
EOS3				*i* S	**Sn**	**23 40 40.3**	**+1.1**
ESAO	**Su ao**	**0.35**	**286**	P	**Pn**	**23 40 33.3**	**+0.4**
ESAO				S	**Sn**	**23 40 40.8**	**-0.4**
TWC	**Suao**	**0.36**	**291**	*e*P	**Pn**	**23 40 32.9**	**-0.1**
TWC				*e*S	**Sn**	**23 40 40.8**	**-0.5**
EOS4	**EOS4**	**0.37**	**165**	*e*P	**Pn**	**23 40 33.0**	**+0.4**
EOS4				S	**Sn**	**23 40 40.9**	**+0.3**
EWUT	**Wuta**	**0.40**	**266**	P	**Pn**	**23 40 33.2**	**-0.1**
EWUT				S	**Sn**	**23 40 41.2**	**-0.7**
ENA	**Nanau**	**0.44**	**264**	*i* P	**Pn**	**23 40 33.6**	**0.0**
ENA				*i* S	**Sn**	**23 40 42.5**	**0.0**
EGS		**0.45**	**325**	*i* P	**Pn**	**23 40 34.3**	**+0.6**
EGS				*i* S	**Sn**	**23 40 41.9**	**-0.7**
EAHA	**Aohua**	**0.46**	**251**	P	**Pn**	**23 40 34.0**	**+0.2**
EAHA				S	**Sn**	**23 40 42.6**	**-0.1**
EHP	**Heping Village**	**0.47**	**249**	*e*P	**Pn**	**23 40 33.8**	**-0.1**
EHP				*e*S	**Sn**	**23 40 43.8**	**+0.9**
NDS	**Dongshan**	**0.48**	**289**	P	**Pn**	**23 40 33.9**	**-0.2**
NDS				S	**Sn**	**23 40 42.5**	**-0.7**
ILA	**Ilan**	**0.52**	**304**	*e*P	**Pn**	**23 40 34.6**	**+0.3**
ILA				*e*S	**Sn**	**23 40 43.6**	**-0.1**
TWE	**Neicheng**	**0.56**	**296**	*i* P	**Pn**	**23 40 35.2**	**+0.5**
TWE				*i* S	**Sn**	**23 40 44.3**	**-0.1**
TWB1	**Santiao Chiao**	**0.57**	**339**	*i* P	**Pn**	**23 40 34.5**	**-0.3**
TWB1				*i* S	**Sn**	**23 40 43.6**	**-1.0**
TIPB	**Shuangxi**	**0.61**	**324**	P	**Pn**	**23 40 35.5**	**+0.1**
TIPB				S	**Sn**	**23 40 44.9**	**-0.6**
ENTT	**Nioudou**	**0.61**	**285**	*i* P	**Pn**	**23 40 35.7**	**+0.3**
ENTT				*i* S	**Sn**	**23 40 45.8**	**+0.2**
ETL	**Fush Village**	**0.63**	**240**	P	**Pn**	**23 40 35.5**	**-0.1**
ETL				S	**Sn**	**23 40 45.4**	**-0.4**
LATG	**Datong**	**0.63**	**275**	P	**Pn**	**23 40 36.2**	**+0.6**
LATG				S	**Sn**	**23 40 46.2**	**+0.1**
FUSB	**Fushanzhiwuyua**	**0.64**	**296**	P	**Pn**	**23 40 36.3**	**+0.6**
FUSB				S	**Sn**	**23 40 45.6**	**-0.5**
NACB	**Ninganchiao**	**0.64**	**242**	P	**Pn**	**23 40 35.1**	**-0.5**
NACB	**Ninganchiao**	**0.64**	**242**	*e*P	**Pn**	**23 40 35.2**	**-0.5**
NACB				S	**Sn**	**23 40 45.0**	**-1.1**
JYNG	**Yonagunijimaku**	**0.66**	**92**	P	**Pn**	**23 40 36.1**	**+0.3**
SXI1	**Grass Mountain**	**0.69**	**333**	*i* P	**Pn**	**23 40 36.4**	**+0.1**
SXI1				*i* S	**Sn**	**23 40 46.5**	**-0.6**
TWD	**Chiawan**	**0.69**	**235**	*i* P	**Pn**	**23 40 35.8**	**-0.4**
TWD				*i* S	**Sn**	**23 40 46.5**	**-0.5**
NWF	**Wu-fen Shan**	**0.71**	**326**	*i* P	**Pn**	**23 40 36.2**	**-0.4**
NWF				*i* S	**Sn**	**23 40 46.6**	**-1.0**
WFSB	**Wu-fen Shan**	**0.71**	**326**	P	**Pn**	**23 40 36.6**	**+0.1**
WFSB				S	**Sn**	**23 40 46.9**	**-0.6**
NWLT	**Wulai**	**0.72**	**295**	P	**Pn**	**23 40 37.4**	**+0.9**
NWLT				S	**Sn**	**23 40 47.4**	**-0.2**
ETLH	**Xiulin Townshi**	**0.72**	**248**	*i* P	**Pn**	**23 40 36.6**	**-0.1**
ETLH				S	**Sn**	**23 40 47.9**	**0.0**
YOJ	**Yonaguni jima**	**0.72**	**91**	P	**Pn**	**23 40 36.8**	**+0.2**
YOJ	**Yonaguni jima**	**0.72**	**91**	P	**Pn**	**23 40 36.8**	**+0.2**
YOJ				*e*S	**Sn**	**23 40 47.5**	**-0.2**
HWA	**Hwalien**	**0.75**	**228**	P	**Pn**	**23 40 36.8**	**-0.1**
HWA				S	**Sn**	**23 40 48.5**	**+0.4**
NNSB	**Datong**	**0.76**	**267**	P	**Pn**	**23 40 37.3**	**+0.1**
NNSB				S	**Sn**	**23 40 48.2**	**-0.5**
TWA	**Mucha**	**0.76**	**311**	*i* P	**Pn**	**23 40 37.4**	**+0.4**
TWA				*i* S	**Sn**	**23 40 47.6**	**-1.0**
NNS	**Nan Shan**	**0.77**	**267**	*i* P	**Pn**	**23 40 37.7**	**+0.4**
NNS				S	**Sn**	**23 40 48.8**	**0.0**
TNOU	**National Taiwa**	**0.78**	**329**	P	**Pn**	**23 40 37.0**	**-0.3**
TNOU				S	**Sn**	**23 40 48.3**	**-0.6**
YHNB	**Yeheng**	**0.79**	**284**	P	**Pn**	**23 40 37.8**	**+0.3**
YHNB	**Yeheng**	**0.79**	**284**	P	**Pn**	**23 40 37.6**	**+0.2**
YHNB				S	**Sn**	**23 40 49.9**	**+0.7**
NHDH	**Xindian Distri**	**0.79**	**308**	*e*P	**Pn**	**23 40 37.5**	**+0.1**
NHDH				*e*S	**Sn**	**23 40 49.2**	**+0.1**
NSK	**Sanguang**	**0.81**	**284**	*i* P	**Pn**	**23 40 38.0**	**+0.4**
NSK				*i* S	**Sn**	**23 40 49.4**	**-0.1**
NHY	**Taipei**	**0.81**	**314**	*e*P	**Pn**	**23 40 38.9**	**+1.3**
TATO	**Taipei**	**0.83**	**307**	P	**Pn**	**23 40 38.1**	**+0.3**
TEYL	**Yanliau Villag**	**0.83**	**223**	P	**Pn**	**23 40 37.4**	**-0.5**
TEYL				S	**Sn**	**23 40 49.7**	**-0.2**
ETM	**Tongmen**	**0.83**	**233**	P	**Pn**	**23 40 37.6**	**-0.3**
ETM				S	**Sn**	**23 40 49.7**	**-0.3**
TAP	**Taipei**	**0.85**	**311**	P	**Pn**	**23 40 38.8**	**+0.7**
TAP				*e*S	**Sn**	**23 40 50.4**	**0.0**
LXIB	**Xiulin Townshi**	**0.86**	**238**	*i* P	**Pn**	**23 40 38.1**	**-0.3**
LXIB				*e*S	**Sn**	**23 40 50.3**	**-0.6**
YM01	**YM01**	**0.89**	**319**	*e*P	**Pn**	**23 40 38.4**	**-0.2**
YM01				*e*S	**Sn**	**23 40 51.3**	**0.0**
YM08	**YM08**	**0.91**	**321**	*i* P	**Pn**	**23 40 38.7**	**-0.2**
YM08				*i* S	**Sn**	**23 40 50.5**	**-1.1**
SHUL	**Shoufeng**	**0.91**	**221**	*e*P	**Pn**	**23 40 38.7**	**-0.1**
SHUL				S	**Sn**	**23 40 51.2**	**-0.4**
ZUZH	**Zhuzihu**	**0.92**	**318**	P	**Pn**	**23 40 38.9**	**-0.1**
ZUZH				*i* S	**Sn**	**23 40 50.8**	**-1.1**
FUSS	**Fushou**	**0.92**	**256**	*e*P	**Pn**	**23 40 39.6**	**+0.5**
FUSS				*e*S	**Sn**	**23 40 52.1**	**-0.1**
WHF	**Hehuan Shan**	**0.93**	**249**	P	**Pn**	**23 40 39.6**	**+0.1**
WHF				*e*S	**Sn**	**23 40 51.5**	**-1.2**
ANP	**Anpu**	**0.95**	**318**	*e*P	**Pn**	**23 40 40.5**	**+1.1**
ANP				*e*S	**Sn**	**23 40 51.5**	**-1.1**
TWS1	**Kuangyinshan**	**0.96**	**311**	*i* P	**Pn**	**23 40 39.8**	**+0.4**
TWS1				S	**Sn**	**23 40 52.9**	**+0.3**
TWY	**Chenhua**	**0.97**	**325**	*i* P	**Pn**	**23 40 40.2**	**+0.6**
TWY				S	**Sn**	**23 40 52.8**	**-0.2**
ESL	**Shilin**	**0.97**	**228**	*i* P	**Pn**	**23 40 39.2**	**-0.4**
ESL				S	**Sn**	**23 40 52.1**	**-0.9**
TWT	**Tachien**	**0.98**	**257**	*e*P	**Pn**	**23 40 41.5**	**+1.7**
TWT				*e*S	**Sn**	**23 40 53.5**	**+0.2**
NTST	**Danshui**	**0.98**	**315**	P	**Pn**	**23 40 40.2**	**+0.6**
NTST				*e*S	**Sn**	**23 40 53.4**	**+0.3**
TEGC	**Jichi Village**	**0.98**	**219**	*e*P	**Pn**	**23 40 39.7**	**-0.1**
TEGC				*e*S	**Sn**	**23 40 53.3**	**0.0**
TDCB	**Techi**	**0.99**	**257**	*e*P	**Pn**	**23 40 41.4**	**+1.4**
TDCB				*i* S	**Sn**	**23 40 53.8**	**+0.1**
KSHI	**Guanxi Townshi**	**0.99**	**288**	P	**Pn**	**23 40 41.3**	**+1.4**
NFF	**Wufeng Townshi**	**1.01**	**279**	*i* P	**Pn**	**23 40 41.2**	**+1.0**
NFF				*e*S	**Sn**	**23 40 54.8**	**+0.8**
NCUH	**Zhongli**	**1.06**	**298**	*e*P	**Pn**	**23 40 41.4**	**+0.8**
WARBT	**Fenglin Townsh**	**1.07**	**225**	*i* P	**Pn**	**23 40 40.2**	**-0.7**
EGFH	**Guangfu**	**1.08**	**222**	*e*P	**Pn**	**23 40 40.7**	**-0.3**
OWD	**Renai**	**1.08**	**242**	*i* P	**Pn**	**23 40 41.3**	**+0.1**
OWD				*e*S	**Sn**	**23 40 55.0**	**-0.7**
LIOB	**Emei**	**1.11**	**279**	P	**Pn**	**23 40 42.4**	**+1.0**
LIOB				S	**Sn**	**23 40 57.1**	**+1.0**
WUSB	**Renai**	**1.11**	**245**	*i* P	**Pn**	**23 40 42.1**	**+0.6**
WUSB				S	**Sn**	**23 40 56.3**	**-0.1**
NSTT	**Nanjuang**	**1.12**	**278**	*e*P	**Pn**	**23 40 42.5**	**+1.0**
NSTT				*i* S	**Sn**	**23 40 57.2**	**+0.9**
PCYT	**Pengchaiyu**	**1.16**	**353**	*e*P	**Pn**	**23 40 42.4**	**+0.4**
WHP	**Taichung City**	**1.18**	**261**	P	**Pn**	**23 40 44.0**	**+1.7**
WHP				*e*S	**Sn**	**23 40 58.6**	**+0.9**
VWDT	**VWDT**	**1.22**	**234**	*i* P	**Pn**	**23 40 43.2**	**+0.5**
VWDT				*i* S	**Sn**	**23 40 58.3**	**-0.3**
HGSD	**Ruisui**	**1.22**	**217**	*e*P	**Pn**	**23 40 43.7**	**+0.9**
HGSD				*e*S	**Sn**	**23 41 00.8**	**+2.2**
EHYH	**Wanrong**	**1.26**	**219**	P	**Pn**	**23 40 42.7**	**-0.7**
EHYH				*i* S	**Sn**	**23 40 58.4**	**-1.3**
WCS	**Beigang Elemen**	**1.26**	**251**	*e*P	**Pn**	**23 40 44.1**	**+0.8**
EHY	**Hungye**	**1.27**	**220**	P	**Pn**	**23 40 42.6**	**-0.8**
EHY				*e*S	**Sn**	**23 40 58.0**	**-1.7**
NMLH	**Miaoli**	**1.30**	**273**	*e*P	**Pn**	**23 40 45.4**	**+1.6**
TWQ1	**Liyutan**	**1.32**	**265**	*e*P	**Pn**	**23 40 45.5**	**+1.4**
NSY	**Sanyi**	**1.33**	**268**	*e*P	**Pn**	**23 40 45.1**	**+0.9**
SMLT	**Sun Moon Lake**	**1.34**	**244**	*e*P	**Pn**	**23 40 46.2**	**+1.7**
SSLB	**Suanglung**	**1.34**	**240**	P	**Pn**	**23 40 44.9**	**+0.5**
SSLB	**Suanglung**	**1.34**	**240**	*e*P	**Pn**	**23 40 45.1**	**+0.7**
SSLB				*e*S	**Sn**	**23 41 01.6**	**0.0**
ECBN	**Changbin**	**1.35**	**211**	*e*P	**Pn**	**23 40 44.3**	**-0.2**
ECBN				*e*S	**Sn**	**23 41 00.6**	**-1.1**
YULB	**Yu-li**	**1.37**	**218**	P	**Pn**	**23 40 43.9**	**-0.9**
YULB	**Yu-li**	**1.37**	**218**	*i* P	**Pn**	**23 40 44.0**	**-0.7**
YULB				S	**Sn**	**23 41 00.1**	**-2.0**
IRIF	**Iriomote-Funau**	**1.39**	**96**	P	**Pn**	**23 40 45.1**	**+0.2**
IRIF				S	**Sn**	**23 41 02.4**	**-0.1**
TWF1	**Yuli**	**1.40**	**217**	*e*P	**Pn**	**23 40 44.5**	**-0.7**
WHYT	**Xinyi Township**	**1.47**	**238**	*e*P	**Pn**	**23 40 47.6**	**+1.6**
CHKH	**Chenggong**	**1.48**	**211**	*e*P	**Pn**	**23 40 46.1**	**-0.1**
CHKH				*e*S	**Sn**	**23 41 02.7**	**-2.1**
WJS	**Zhushan**	**1.51**	**245**	*e*P	**Pn**	**23 40 48.8**	**+2.3**
WJS				*i* S	**Sn**	**23 41 07.9**	**+2.5**
WNT	**Mingjian**	**1.52**	**247**	*e*P	**Pn**	**23 40 48.8**	**+2.1**
FULB	**Fuli**	**1.53**	**214**	*i* P	**Pn**	**23 40 46.6**	**-0.2**
FULB				S	**Sn**	**23 41 05.5**	**-0.4**
WCHH	**Zhanghua**	**1.56**	**256**	*e*P	**Pn**	**23 40 48.6**	**+1.3**
WCHH				*e*S	**Sn**	**23 41 07.6**	**+0.8**
CHKT	**Chengkung**	**1.58**	**210**	*e*P	**Pn**	**23 40 46.7**	**-0.8**
CHKT				S	**Sn**	**23 41 04.1**	**-3.0**
ALS	**Alishan**	**1.61**	**234**	*e*P	**Pn**	**23 40 49.6**	**+1.4**
EHD	**Haiduan**	**1.61**	**215**	*e*P	**Pn**	**23 40 47.1**	**-0.9**
JKRS	**Kuro-shima**	**1.65**	**98**	*e*P	**Pn**	**23 40 49.3**	**+0.8**
JKRS				*e*S	**Sn**	**23 41 09.6**	**+0.8**
ECS	**Chishang**	**1.65**	**214**	*e*P	**Pn**	**23 40 48.6**	**+0.1**
CHN5	**Tsauling**	**1.66**	**238**	*e*P	**Pn**	**23 40 50.5**	**+1.8**
ELDTW	**Lidau**	**1.69**	**221**	*i* P	**Pn**	**23 40 49.0**	**-0.1**
ELDTW				S	**Sn**	**23 41 09.4**	**-0.5**
WGK	**Gukeng**	**1.71**	**243**	*e*P	**Pn**	**23 40 49.2**	**0.0**
EDH	**Donghe**	**1.72**	**209**	*i* P	**Pn**	**23 40 48.7**	**-0.7**
EDH				*e*S	**Sn**	**23 41 07.7**	**-2.7**
JIJ	**Ishigaki jima**	**1.76**	**93**	P	**Pn**	**23 40 50.1**	**+0.2**
JIJ				S	**Sn**	**23 41 10.9**	**-0.5**
WCKO	**Fanlu**	**1.80**	**235**	*e*P	**Pn**	**23 40 52.6**	**+2.1**
STYH	**Taoyuan**	**1.85**	**226**	*i* P	**Pn**	**23 40 52.4**	**+1.3**
STYH				S	**Sn**	**23 41 15.2**	**+1.5**
LONT	**Longtian**	**1.85**	**213**	*e*P	**Pn**	**23 40 51.8**	**+0.6**
TPUB	**Ta-pu**	**1.87**	**231**	P	**Pn**	**23 40 52.5**	**+1.1**
TPUB	**Ta-pu**	**1.87**	**231**	*e*P	**Pn**	**23 40 53.2**	**+1.8**
TPUB				*e*S	**Sn**	**23 41 16.2**	**+2.1**
JISG	**Ishigakijimahi**	**1.91**	**86**	P	**Pn**	**23 40 52.2**	**+0.3**
JISG				*e*S	**Sn**	**23 41 14.8**	**-0.2**
WTP	**Ta-pu**	**1.91**	**230**	*e*P	**Pn**	**23 40 52.1**	**+0.1**
TWGBT	**Beinan**	**1.95**	**212**	P	**Pn**	**23 40 52.1**	**-0.5**
TWGBT	**Beinan**	**1.95**	**212**	*e*P	**Pn**	**23 40 51.6**	**-0.9**
TWGBT				S	**Sn**	**23 41 14.0**	**-2.1**
TWG	**Pinlang**	**1.96**	**213**	*e*P	**Pn**	**23 40 51.6**	**-1.0**
TWG				S	**Sn**	**23 41 13.9**	**-2.2**
TTN	**Taitung**	**1.98**	**210**	*e*S	**Sn**	**23 41 18.0**	**+1.4**
WSF	**Szhu**	**2.01**	**246**	*e*S	**Sn**	**23 41 19.1**	**+1.7**
CHN1	**Nanshi**	**2.01**	**231**	*e*S	**Sn**	**23 41 19.8**	**+2.3**
WSL	**Shuilin Townsh**	**2.05**	**243**	*e*S	**Sn**	**23 41 20.9**	**+2.4**
ICHU	**Yijhu**	**2.09**	**238**	*e*S	**Sn**	**23 41 21.7**	**+2.2**
JTJ	**Tarama**	**2.27**	**85**	P	**Pn**	**23 40 57.9**	**+1.1**
JTJ				*e*S	**Sn**	**23 41 24.3**	**+0.6**
VWUC	**VWUC**	**2.57**	**282**	*i* P	**Pn**	**23 41 00.9**	**0.0**
VWUC				*i* S	**Sn**	**23 41 28.7**	**-2.3**
MATB	**Ma-tsu**	**2.65**	**310**	*i* P	**Pn**	**23 41 02.2**	**+0.2**
MATB				*e*S	**Sn**	**23 41 31.4**	**-1.5**
PTMZ	**Houxiangcun**	**2.87**	**282**	*e*P	**Pn**	**23 41 05.1**	**+0.2**
PTMZ				S	**Sn**	**23 41 36.3**	**-2.1**
MHZQ	**Yeshan**	**3.31**	**300**	*e*P	**Pn**	**23 41 11.2**	**+0.3**
MHZQ				S	**Sn**	**23 41 47.4**	**-1.7**
KNMB	**Chin-men Tao**	**3.49**	**271**	*e*P	**Pn**	**23 41 13.1**	**-0.3**
KNMB				*i* S	**Sn**	**23 41 50.7**	**-2.8**

*IDC **01** 23:46:08.1±1.0,11°.85N×43°.40E, h0km, mb3.7/7, mbtmp3.7/7, MS3.4/4, Error ellipse: s-maj=49.6km s-min=10.1km az=116.0*
*SGS **01** 23:46:12.2,12°.00N×42°.38E, h7km, Ml3.7*
ISC 01 23:46:09.2±1.2,11°.89N±0°.09×43°.0E±0°.2, h19km, n25, σ1ş72/20, mb3.9/7, MS3.5/3, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**0.39**	**206**	LR	LR	23 46 47.6	
	comp=Z,44nm,18.5s,baz=304,slow=63						
I19DJ	**I19DJ**	**0.43**	**160**	Pg	**Pb**	**23 46 16.4**	**-2.0**
	baz=0.2,slow=18						
I19DJ				I	I	23 48 20.0	
	baz=4.4,slow=315,SNR=2.3						
FRSS	**Farasan al Kab**	**4.90**	**350**	P	**Pn**	**23 47 22.0**	**0.0**
FRSS	**Farasan al Kab**	**4.90**	**350**	S	**Sn**	**23 48 16.0**	**-2.2**
JAZS	**Jizan**	**5.15**	**359**	P	**Pn**	**23 47 25.3**	**-0.1**
NJRNS	**Najran**	**5.84**	**11**	P	**Pn**	**23 47 36.2**	**+1.2**
DRBS	**Ad Darb**	**5.95**	**353**	S	**Sn**	**23 48 39.8**	**-4.3**
DRBS				P	**Pn**	**23 47 36.0**	**-0.3**
ASIR2	**ASIR2**	**6.18**	**2**	P	**Pn**	**23 47 40.4**	**+0.7**
BRK03	**Al Birk**	**6.35**	**350**	P	**Pn**	**23 47 41.9**	**0.0**
KNGHS	**KNGHS**	**6.39**	**4**	P	**Pn**	**23 47 44.5**	**+1.9**
ASIR1	**ASIR1**	**6.69**	**359**	P	Pn	23 47 50.6	+3.9
AMGES	**AMGES**	**6.70**	**348**	P	**Pn**	**23 47 46.7**	**+1.1**
BRK04	**Al Birk**	**6.81**	**350**	P	**Pn**	**23 47 49.0**	**+0.9**
BRK04	**Al Birk**	**6.81**	**350**	S	**Sn**	**23 49 03.4**	**-1.8**
TATS	**Tathlith**	**7.62**	**3**	P	**Pn**	**23 47 58.0**	**-1.5**
EIL	**Elat**	**19.22**	**338**	LR	LR	23 56 02.3	
	comp=Z,42nm,18.5s,baz=307,slow=31						
BRTR	**Keskin Array B**	**28.95**	**345**	P	P	23 52 11.4	+3.8
	0.6nm,0.8s,baz=143,slow=5.0,SNR=4.5 0.6nm,0.8s						
LSZ	**Lusaka**	**30.73**	**209**	LR	LR	00 04 52.4	
	comp=Z,44nm,21.6s,baz=78,slow=36						
GERES	**GERESS Array B**	**44.16**	**332**	P	**P**	**23 54 19.3**	**+2.5**
	0.3nm,0.6s,baz=111,slow=7.5,SNR=4.0 0.3nm,0.6s						
ARTI	**Arti**	**45.97**	**12**	P	**P**	**23 54 32.1**	**+1.1**
	1.0nm,0.5s,baz=170,slow=6.1,SNR=5.3 1.0nm,0.5s						
BVAR	**Borovoye Array**	**46.51**	**23**	P	**P**	**23 54 36.7**	**+1.4**
	0.9nm,0.7s,baz=231,slow=6.9,SNR=3.6 0.9nm,0.7s						
MKAR	**Makanchi Array**	**47.98**	**36**	P	**P**	**23 54 46.8**	**-0.1**
	0.5nm,0.8s,baz=224,slow=6.0,SNR=3.7 0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**48.30**	**30**	P	**P**	**23 54 50.5**	**+1.4**
	0.4nm,0.2s,baz=230,slow=8.3,SNR=2.0 0.4nm,0.2s						
ZALV	**Zalesovo Beam**	**53.39**	**29**	P	**P**	**23 55 27.6**	**+0.1**
	0.9nm,0.6s,baz=248,slow=7.6,SNR=4.4						
ZALV				LR	LR	00 21 21.2	
	comp=Z,34nm,18.0s,baz=101,slow=40 0.9nm,0.6s						
BDFB	**Brasilia**	**94.12**	**255**	LR	LR	00 39 56.6	
	comp=Z,41nm,18.4s,baz=343,slow=34						

*JMA **01** 23:53:17.4±0.2,26°.N±1°.×12°.5E±°, h99km, MV3.2/18, NW OFF MIYAKOJIMA ISLAND*
*IDC **01** 23:53:20.1±6.8,26°.09N×125°.82E, h141km±84km, mb3.3/4, mbtmp3.6/5, MS3.1/1, Error ellipse: s-maj=98.6km s-min=18.3km az=61.0*
ISC 01 23:53:16.8±1.0,25°.93N±0°.10×125°.45E±0°.08, h106km±11km, n22,σ1ş17/35, mb3.7/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**1.02**	**190**	P	**Pn**	**23 53 38.2**	**+0.3**
JIKM				S	**Sn**	**23 53 53.4**	**-0.4**
JIRB	**Irabujima**	**1.13**	**193**	P	**Pn**	**23 53 39.3**	**+0.2**
JIRB				*e*S	**Sn**	**23 53 54.9**	**-0.9**
JOGS	**Gusukube**	**1.17**	**182**	P	**Pn**	**23 53 40.0**	**+0.5**
JOGS				*e*S	**Sn**	**23 53 56.3**	**-0.3**
JMJ2	**Miyako jima3**	**1.19**	**185**	P	**Pn**	**23 53 40.2**	**+0.5**
JMJ2				*e*S	**Sn**	**23 53 56.5**	**-0.6**
JKE	**Kume jima 2**	**1.26**	**72**	*e*P	**Pn**	**23 53 41.4**	**+0.8**
JKE				*e*S	**Sn**	**23 53 59.0**	**+0.5**
JTJ	**Tarama**	**1.45**	**208**	*e*P	**Pn**	**23 53 43.1**	**+0.3**
JTJ				S	**Sn**	**23 54 01.7**	**-0.9**
JISG	**Ishigakijimahi**	**1.69**	**218**	P	**Pn**	**23 53 46.1**	**+0.4**
JISG				S	**Sn**	**23 54 07.0**	**-0.7**
JAGN	**Aguni-jima**	**1.74**	**67**	S	**Sn**	**23 54 08.9**	**+0.2**
JIJ	**Ishigaki jima**	**1.96**	**218**	P	**Pn**	**23 53 49.1**	**-0.1**
JIJ				S	**Sn**	**23 54 11.4**	**-2.3**
JJT3	**Tamagusuku3**	**2.11**	**84**	*e*P	**Pn**	**23 53 51.8**	**+0.8**
JJT3				S	**Sn**	**23 54 17.7**	**+0.5**
JKRS	**Kuro-shima**	**2.13**	**218**	S	**Sn**	**23 54 17.0**	**-0.7**
IRIF	**Iriomote-Funau**	**2.23**	**225**	*e*P	**Pn**	**23 53 53.2**	**+0.7**
IRIF				*e*S	**Sn**	**23 54 18.9**	**-1.0**
JNTH	**Nagotoyohara**	**2.38**	**75**	*e*P	**Pn**	**23 53 55.2**	**+0.6**
JNTH				*e*S	**Sn**	**23 54 22.0**	**-1.5**
JIH	**Iheya**	**2.51**	**63**	*e*S	**Sn**	**23 54 25.4**	**-1.0**
JOW	**Kunigami**	**2.69**	**70**	P	**Pn**	**23 53 58.5**	**-0.1**
	10.0nm,0.4s,baz=124,slow=18,SNR=6.6						
JOW				S	**Sn**	**23

USA0B	**Ussuriysk Arra**	**10.84**	**279**	*i* PN		**Pn**	**23 56 49.9**	**0.0**	
KLR	**Kul'dur**	**11.96**	**304**	*i* PN		**Pn**	**23 57 04.1**	**-1.1**	
KLR	**Kul'dur**	**11.96**	**304**	*e*P		**Pn**	**23 57 04.3**	**-0.9**	
PEA0B	**Petropavlovsk-**	**11.97**	**33**	*i* PN		**Pn**	**23 57 05.3**	**-0.1**	
SEY	**Seymchan**	**19.73**	**7**	*i* P		**P**	**23 58 41.5**	**-0.7**	
SEY				pmax	pmax				
	comp=Z,1.0nm,1.2s								
BILL	**Bilibino**	**26.64**	**16**	*i* P		**P**	**23 59 50.8**	**+0.4**	
BILL				pmax	pmax				
	comp=Z,4.0nm,1.3s								
BILL	**Bilibino**	**26.64**	**16**	*e*P		**P**	**23 59 50.8**	**+0.4**	
ULN	**Ulaanbaatar**	**28.00**	**293**	*i* P		**P**	**00 00 02.7**	**-0.2**	
ULN	**Ulaanbaatar**	**28.00**	**293**	*e*P		**P**	**00 00 02.7**	**-0.2**	
KURK	**Kurchatov**	**45.56**	**304**	*i* P		**P**	**00 02 32.0**	**+0.7**	
KURK				pmax	pmax				
	comp=Z,3.0nm,2.4s								
KURK	**Kurchatov**	**45.56**	**304**	*e*P		**P**	**00 02 32.0**	**+0.7**	
BRVK	**Borovoye**	**49.60**	**310**	*i* P		**P**	**00 03 03.5**	**+0.8**	
BRVK				pmax	pmax				
	comp=Z,1.0nm,1.0s								
BRVK	**Borovoye**	**49.60**	**310**	*e*P		**P**	**00 03 03.5**	**+0.8**	
ARTI	**Arti**	**54.54**	**317**	*d* P		**P**	**00 03 39.3**	**0.0**	
ARTI				*PP		**pP**	**00 03 53.7**	**-1.2**	
ARTI							00 05 39.9		
ARTI				S		**S**	**00 11 15.9**	**+1.9**	
ARTI				SS		**SS**	**00 14 52.5**	**-4.0**	
ARTI				pmax	pmax				
	comp=Z,10.0nm,4.2s								

NEIC ***01*** *23:54:19.1±1.0,4.°67N±0.°06×94.°43E±0.°10,h34km±7km, mb4.4/22, Error ellipse: s-maj=14.4km s-min=7.2km az=109.0*

IDC ***01*** *23:54:19.9±2.9,4.°78N×94.°59E,h41km±26km, mb3.9/17, mbtmp4.1/20, ML4.1/3, MS3.3/3, Error ellipse: s-maj=24.3km s-min=12.1km az=50.0*

DJA ***01*** *23:54:22.0±0.8,5.°1N±4.°9×91.°5E±.°, h35km±10km, M4.7/12, mB5.4/3, mb4.7/11, MLv4.6/12, Mw(mB)4.8/3*

ISC 01 23:54:18.9±0.5,4.°69N±0.°07×94.°46E±0.°07,h35km,n93, σ0s89/86,mb4.3/47,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**1.99**	**102**	P	**Pn**	**23 54 50.2**	**+0.2**
LHMI	**Lhok Sumawe**	**2.54**	**78**		**Pn**	**23 54 58.7**	**+1.0**
LHMI	**Lhok Sumawe**	**2.54**	**78**	P	**Pn**	**23 54 58.5**	**+0.9**
GSI	**Gunungsitoli**	**4.58**	**137**	Pn	**Pn**	**23 55 25.8**	**0.0**
GSI	**Gunungsitoli**	**4.58**	**137**	P	**Pn**	**23 55 25.8**	**0.0**
PSI	**Prapat**	**4.84**	**113**	P	**Pn**	**23 55 31.0**	**+1.7**
	6.7nm,0.3s,baz=323,slow=16,SNR=12						
PSI				S	**Sn**	**23 56 24.1**	**-0.2**
	33nm,0.5s,baz=12,slow=19,SNR=4.4 19nm,0.3s						
RPSI	**Rantau Prapat**	**4.88**	**114**		**Pn**	**23 55 30.2**	**+0.4**
KULM	**Kulim**	**6.20**	**84**		**Pn**	**23 55 48.2**	**+0.2**
MNSI	**Mandailing Nat**	**6.41**	**127**	P	**Pn**	**23 55 52.0**	**+1.1**
IPM	**Ipoh**	**6.55**	**92**		**Pn**	**23 55 53.1**	**+0.2**
PPI	**Padang Panjang**	**7.83**	**131**	P	**Pn**	**23 56 11.6**	**+1.2**
	0.1nm26nm,0.8s						
PALK	**Pallekele**	**13.92**	**281**	P	**Pn**	**23 57 34.9**	**+1.1**
	0.2nm,0.3s,baz=312,slow=0.4,SNR=1.2						
PALK				S	Sn	23 59 54.5	-13
	5.6nm,0.4s,baz=181,slow=16,SNR=6.2						
PALK				LR	LR	00 02 35.8	
	comp=Z,103nm,19.0s,baz=122,slow=35 4.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**14.37**	**17**	P	**Pn**	**23 57 39.8**	**-0.1**
	0.9nm,0.3s,baz=211,slow=12,SNR=22						
CMAR				LR	LR	00 02 46.8	
	comp=Z,52nm,19.1s,baz=205,slow=36 1.7nm,0.3s						
CHTO	**Chiang Mai**	**14.71**	**17**		**P**	**23 57 49.3**	**-0.9**
KSM	**Kuching**	**16.15**	**101**	P	**P**	**23 58 06.8**	**+0.5**
KSM				IAmb	IAmb	23 58 11.7	
	comp=Z,14nm,0.7s						
PZH	**PanZhiHua**	**22.79**	**17**	P	**P**	**23 59 21.7**	**+3.0**
H08S2	**Diego Garcia H**	**25.11**	**241**	T	T	00 25 41.5	
	baz=61,slow=75,SNR=508						
H08S3	**Diego Garcia H**	**25.11**	**241**	T	T	00 25 39.7	
	baz=61,slow=75,SNR=599						
H08S1	**Diego Carcia H**	**25.12**	**241**	T	T	00 25 52.4	
	baz=61,slow=75,SNR=419						
MPSI	**Mapaga**	**25.78**	**99**	P	**P**	**23 59 47.8**	**+1.0**
	comp=Z,868nmcomp=Z,13nm,1.0s						
KAPI	**Kappang**	**27.04**	**111**	P	**P**	**23 59 57.1**	**-1.1**
	comp=Z,2.6nm,0.5s,baz=97,slow=20,SNR=1.6 comp=Z,2.6nm,0.5s						
TPUB	**Ta-pu**	**31.31**	**51**	P	**P**	**00 00 36.0**	**-0.1**
GTA	**Gaotai**	**34.90**	**7**	*e*P	**P**	**00 01 07.3**	**-0.1**
GTA				pP	pwP	00 01 19.4	-0.7
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HNS	**HongShan**	**37.46**	**27**	⇑P	**P**	**00 01 29.3**	**+0.2**
HNS				pmax	pmax		
	comp=Z,11nm,0.7s						
FITZ	**Fitzroy Crossi**	**38.19**	**127**	LR	LR	00 18 46.1	
	comp=Z,102nm,18.1s,baz=282,slow=38						
HHC	**Hu-ho-hao-te**	**39.15**	**21**	*e*P	**P**	**00 01 47.4**	**+4.0**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ	**Urumqi**	**39.43**	**352**	*e*P	**P**	**00 01 47.1**	**+1.5**
WMQ				LR	LR		
	comp=Z,220nm,24.1s						
KDJ	**Kajisay**	**40.34**	**340**	P	**P**	**00 01 53.0**	**-0.3**
BOOM	**Boomskoye usch**	**41.09**	**339**	P	**P**	**00 02 00.3**	**+0.7**
BOOM				IAmb	IAmb	00 02 16.0	
	comp=Z,5.6nm,0.9s						
ARSB	**Arslanbob**	**41.24**	**335**	P	**P**	**00 02 00.7**	**0.0**
ARSB				IAmb	IAmb	00 02 19.7	
	comp=Z,9.1nm,0.8s						
AAK	**Ala-Archa**	**41.75**	**338**	P	**P**	**00 02 05.5**	**+0.6**
AAK				IAmb	IAmb	00 02 24.0	
	comp=Z,4.2nm,0.9s						
UOSS	**Minazif**	**41.88**	**303**	P	**P**	**00 02 06.5**	**+0.4**
MKAR	**Makanchi Array**	**43.25**	**348**		**P**	**00 02 16.1**	**-0.8**
MKAR	**Makanchi Array**	**43.25**	**348**	P	**P**	**00 02 16.7**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=167,slow=8.0,SNR=25 comp=Z,2.2nm,0.6s						
MAKZ	**Makanchi**	**43.33**	**348**		**P**	**00 02 17.1**	**-0.5**
MAKZ				IAmb	IAmb	00 02 31.0	
	comp=Z,3.7nm,0.7s						
KK31	**Karatay Array**	**43.74**	**335**	P	**P**	**00 02 20.2**	**-0.7**
KKAR	**Karatay Array**	**43.74**	**335**	P	**P**	**00 02 20.5**	**-0.4**
KKAR				IAmb	IAmb	00 02 21.7	
	comp=Z,2.5nm,0.8s						
SONM	**Songino Array**	**44.19**	**12**	P	**P**	**00 02 23.7**	**-0.9**
SONM	**Songino Array**	**44.19**	**12**	P	**P**	**00 02 23.2**	**-1.4**
SONM				PcP	**PcP**	**00 04 09.0**	**0.0**
	comp=Z,0.8nm,0.6s,baz=192,slow=10.0,SNR=6.5 comp=Z,0.3nm,0.5s,baz=198,slow=2.3,SNR=2.1 comp=Z,0.8nm,0.6s						
KSRS	**Korea Array**	**44.70**	**39**	P	**P**	**00 02 26.4**	**-2.2**
	comp=Z,0.5nm,0.4s,baz=221,slow=11,SNR=4.3 comp=Z,0.5nm,0.4s						
WB0	**Warramunga Arr**	**46.18**	**123**	P	**P**	**00 02 40.0**	**-0.7**
WRA	**Warramunga Arr**	**46.21**	**123**	P	**P**	**00 02 40.4**	**-0.5**
WRA	**Warramunga Arr**	**46.21**	**123**	P	**P**	**00 02 40.9**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=301,slow=9.3,SNR=22 comp=Z,3.9nm,0.8s						
WRAB	**Tennant Creek**	**46.22**	**123**	P	**P**	**00 02 40.9**	**0.0**
WRAB				IAmb	IAmb	00 02 56.6	
	comp=Z,7.6nm,0.8s						
WR8	**Warramunga Arr**	**46.35**	**123**	P	**P**	**00 02 41.9**	**-0.1**
AS31	**Alice Springs**	**47.68**	**128**	P	**P**	**00 02 51.5**	**-0.8**
ASAR	**Alice Springs**	**47.68**	**128**	P	**P**	**00 02 51.8**	**-0.6**
ASAR	**Alice Springs**	**47.68**	**128**	P	**P**	**00 02 52.3**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=298,slow=7.9,SNR=18						
ASAR				PcP	**PcP**	**00 04 21.9**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=298,slow=3.1,SNR=4.8 comp=Z,2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**47.69**	**346**	P	**P**	**00 02 52.1**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=172,slow=6.6,SNR=10 comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**47.76**	**346**		**P**	**00 02 52.6**	**+0.1**
KURK				IAmb	IAmb	00 03 00.8	
	comp=Z,5.2nm,1.1s						
ZAA0	**Zalesovo Array**	**49.73**	**353**	P	**P**	**00 03 07.6**	**0.0**
ZAA0				IAmb	IAmb	00 03 08.8	
	comp=Z,3.0nm,0.8s						
ZALV	**Zalesovo Beam**	**49.73**	**353**	P	**P**	**00 03 07.1**	**-0.5**
ZALV	**Zalesovo Beam**	**49.73**	**353**	P	**P**	**00 03 07.5**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=174,slow=7.6,SNR=14 comp=Z,2.4nm,0.5s						

USRK	**Ussuriysk Ar.**	**51.33**	**34**	P		**P**	**00 03 19.5**	**-0.3**	
	comp=Z,1.0nm,0.6s,baz=264,slow=4.6,SNR=2.6 comp=Z,1.0nm,0.6s								
BVAR	**Borovoye Array**	**52.09**	**342**	P		**P**	**00 03 25.6**	**+0.3**	
	comp=Z,1.2nm,0.6s,baz=145,slow=9.6,SNR=8.7 comp=Z,1.2nm,0.6s								
BRVK	**Borovoye**	**52.15**	**342**	P	P	**P**	**00 03 26.1**	**+0.2**	
BRVK				IAmb	IAmb		00 03 40.8		
	comp=Z,3.5nm,0.7s								
AB31	**Akbulak array**	**53.17**	**332**			**P**	**00 03 33.1**	**-0.3**	
AB31				IAmb	IAmb		00 03 51.4		
	comp=Z,5.8nm,0.8s								
ABKAR	**Akbulak array**	**53.17**	**332**			**P**	**00 03 33.1**	**-0.3**	
ARTI	**Arti**	**58.97**	**338**	P	P	**P**	**00 04 15.1**	**+0.3**	
ARTI	**Arti**	**58.97**	**338**	P	P	**P**	**00 04 16.2**	**+1.5**	
	comp=Z,0.8nm,0.5s,baz=129,slow=6.4,SNR=3.2 comp=Z,0.8nm,0.5s								
H04N2	**CROZET ISLANDS**	**63.19**	**212**	T		T	01 13 20.0		
	baz=49,slow=75,SNR=210								
H04N1	**CROZET ISLANDS**	**63.20**	**212**	T		T	01 13 16.3		
	baz=49,slow=75,SNR=244								
H04N3	**CROZET ISLANDS**	**63.20**	**212**	T		T	01 13 14.8		
	baz=49,slow=75,SNR=240								
H04S1	**CROZET ISLANDS**	**63.57**	**211**	T		T	01 13 47.6		
	baz=47,slow=76,SNR=19								
H04S3	**CROZET ISLANDS**	**63.58**	**211**	T		T	01 13 51.5		
	baz=47,slow=76,SNR=78								
H04S2	**CROZET ISLANDS**	**63.59**	**211**	T		T	01 13 53.6		
	baz=47,slow=76,SNR=29								
NRIK	**Noril'sk**	**64.72**	**357**	P		**P**	**00 04 52.6**	**-0.5**	
	comp=Z,1.0nm,0.4s,baz=155,slow=4.0,SNR=0.9 comp=Z,1.0nm,0.4s								
BRTR	**Keskin Array B**	**64.76**	**312**	P		**P**	**00 04 54.0**	**-0.2**	
	comp=Z,0.9nm,0.6s,baz=125,slow=7.4,SNR=7.3 comp=Z,0.9nm,0.6s								
MLR	**Muntele Rosu**	**71.67**	**316**	P		**P**	**00 05 36.9**	**-0.6**	
MLR				IAmb	IAmb		00 05 39.0		
	comp=Z,5.0nm,1.0s								
BURAR	**Bucovina Array**	**72.61**	**318**	P		**P**	**00 05 42.8**	**-0.3**	
FINES	**FINESS Array B**	**75.66**	**333**	P		**P**	**00 05 59.9**	**-0.5**	
	comp=Z,1.2nm,0.7s,baz=96,slow=5.3,SNR=7.4 comp=Z,1.2nm,0.7s								
OJC	**Ojcow**	**76.61**	**320**	P		**P**	**00 06 05.0**	**-1.0**	
ARCES	**ARCESS Array B**	**78.35**	**340**	P		**P**	**00 06 15.0**	**-0.4**	
	comp=Z,1.1nm,0.8s,baz=114,slow=5.4,SNR=3.9 comp=Z,1.1nm,0.8s								
CONA	**Conrad Observa**	**78.89**	**318**	*i* P		**P**	**00 06 19.0**	**+0.1**	
	comp=Z,2.6nm,1.2s								
ARSA	**Arzberg**	**79.06**	**317**	*i* P		**P**	**00 06 20.5**	**+0.7**	
	comp=Z,3.0nm,1.1s								
SOKA	**Soboth**	**79.35**	**316**	*i* P		**P**	**00 06 22.2**	**+0.8**	
	comp=Z,4.1nm,1.0s								
OBKA	**Obir**	**79.67**	**316**	*e*P		**P**	**00 06 23.9**	**+0.7**	
	comp=Z,3.2nm,0.8s								
MOA	**Molln**	**79.96**	**318**	*e*P		**P**	**00 06 24.3**	**-0.3**	
	comp=Z,3.1nm,0.9s								
BIOA	**Bad Ischl, Aus**	**80.37**	**317**	*e*P		**P**	**00 06 26.9**	**+0.1**	
	comp=Z,1.2nm,0.6s								
GERES	**GERESS Array B**	**80.40**	**319**	P		**P**	**00 06 27.8**	**+0.7**	
	comp=Z,3.5nm,1.0s,baz=94,slow=4.4,SNR=17 comp=Z,3.5nm,1.0s								
LESA	**Schwarzleotal**	**81.00**	**317**	*e*P		**P**	**00 06 29.4**	**-0.9**	
	comp=Z,1.9nm,0.6s								
ABTA	**Abfaltersbach**	**81.08**	**316**	*e*P		**P**	**00 06 30.9**	**+0.1**	
	comp=Z,3.0nm,1.0s								
HFS	**Hagfors**	**81.35**	**330**	P		**P**	**00 06 31.2**	**-0.5**	
	comp=Z,2.5nm,0.9s,baz=87,slow=10,SNR=1.6 comp=Z,2.5nm,0.9s								
WTTA	**Wattenberg**	**81.70**	**317**	*e*P		**P**	**00 06 33.7**	**-0.4**	
	comp=Z,2.3nm,0.7s								
WATA	**Walderalm**	**81.75**	**317**	*e*P		**P**	**00 06 34.2**	**-0.1**	
	comp=Z,3.0nm,1.2s								
SQTA	**Sankt Quirin**	**81.99**	**317**	*i* P		**P**	**00 06 35.3**	**-0.3**	
	comp=Z,2.9nm,0.7s								
MOTA	**Moosalm**	**82.07**	**317**	*i* P		**P**	**00 06 35.6**	**-0.5**	
	comp=Z,2.5nm,1.1s								
RETA	**Reutte**	**82.31**	**317**	*i* P		**P**	**00 06 37.1**	**-0.1**	
	comp=Z,1.9nm,0.6s								
FETA	**Feichten**	**82.32**	**317**	*i* P		**P**	**00 06 37.4**	**+0.1**	
	comp=Z,5.7nm,1.4s								
DAVA	**Damuels**	**82.90**	**317**	*e*P		**P**	**00 06 40.1**	**-0.3**	
	comp=Z,1.4nm,0.6s								
TXAR	**Lajitas Array**	**141.96**	**26**	PKP		**PKPdf**	**00 13 45.9**	**-2.2**	
	comp=Z,0.2nm,0.5s,baz=318,slow=1.6,SNR=1.6								
CPUP	**Villa Florida**	**145.49**	**228**	PKPbc		**PKPab**	**00 13 54.7**	**+0.3**	
	comp=Z,0.6nm,0.6s,baz=50,slow=2.6,SNR=3.7								
LPAZ	**La Paz**	**159.38**	**235**	PKPab		**PKPab**	**00 14 53.4**	**+0.2**	
	comp=Z,1.3nm,0.8s,baz=224,slow=2.9,SNR=4.8								

IDC ***02*** *00:04:21.2±1.1,26.°18S×176.°78W,h0km, mb3.9/5, mbtmp3.9/6, ML4.8/2, MS3.7/22, Error ellipse: s-maj=38.4km s-min=22.7km az=88.0*

ISC 02 00:04:23.1±1.2,26.°05S±0.°09×176.°5W±0.°3,h35km,n36, σ2s74/11,mb4.0/7,MS3.8/20,4D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.43**	**201**	Pn	**Pn**	**00 05 14.1**	**0.0**
	143nm,0.3s,baz=40,slow=23,SNR=1.7						
RAO				Sn	**Sn**	**00 05 54.4**	**+0.9**
	84nm,0.3s,baz=270,slow=23,SNR=1.2						
MSVF	**Nonsavu**	**9.71**	**327**	Pn	**Pn**	**00 06 41.9**	**+1.5**
	0.3nm,0.3s,baz=164,slow=10,SNR=3.6						
MSVF				LR	LR	00 09 43.9	
	comp=Z,791nm,20.0s,baz=166,slow=33 4.8nm,0.9s						
URZ	**Urewera**	**13.32**	**202**	LR	LR	00 11 51.6	
	comp=Z,625nm,19.6s,baz=14,slow=34						
DZM	**Mont Dzumac**	**16.09**	**281**	eLR	LR	00 11 33.7	
	1400:23.4s						
TBI	**Tubuai**	**24.68**	**90**	*e*S	S	00 14 19.3	+19
	2μm,25.8s						
TBI				eLR	LR	00 16 03.0	
	743nm,28.5s						
TBI				eLR	LR	00 16 11.8	
	940nm,34.8s						
PPT2	**Papeete2**	**26.32**	**77**	eLR	LR	00 16 45.3	
	296nm,26.5s						
PPT2				eLR	LR	00 16 52.6	
	184nm,28.2s						
HNR	**Honiara**	**27.80**	**302**	LR	LR	00 18 52.3	
	comp=Z,64nm,19.7s,baz=120,slow=32						
STKA	**Stephens Creek**	**36.97**	**251**	LR	LR	00 25 03.4	
	comp=Z,155nm,18.7s,baz=65,slow=34						
ASAR	**Alice Springs**	**44.87**	**262**	P	**P**	**00 12 34.0**	**-0.3**
	0.6nm,0.7s,baz=109,slow=7.8,SNR=4.4 0.6nm,0.7s						
WRA	**Warramunga Arr**	**45.47**	**267**	P	P	00 12 40.1	+1.0
	1.6nm,0.8s,baz=103,slow=8.1,SNR=6.4 1.6nm,0.8s						
VNDA	**Vanda**	**52.54**	**186**	LR	LR	00 32 27.2	
	comp=Z,44nm,20.1s,baz=10,slow=32						
GUMO	**Guam**	**54.47**	**312**	LR	LR	00 34 58.8	
	comp=Z,26nm,18.1s,baz=104,slow=34						
NWAO	**Narrogin (SRO)**	**57.28**	**246**	LR	LR	00 36 48.1	
	comp=Z,105nm,18.2s,baz=54,slow=34						
QSPA	**South Pole Aui**	**64.04**	**180**	P	P	00 14 55.4	+2.3
	2.0nm,1.0s,baz=54,slow=3.9,SNR=4.0						
QSPA				LR	LR	00 41 05.8	
	comp=Z,38nm,18.0s,baz=41,slow=34 2.0nm,1.0s						
MAW	**Mawson**	**76.84**	**200**	LR	LR	00 47 37.5	
	comp=Z,49nm,21.1s,baz=119,slow=34						
ASAJ	**Asahikawa**	**79.25**	**331**	LR	LR	00 50 02.1	
	comp=Z,44nm,18.0s,baz=165,slow=35						
LPIG	**La Paz**	**81.10**	**58**	LR	LR	00 47 42.9	
	comp=Z,54nm,18.0s,baz=177,slow=32						
PETK	**Petropavlovsk-**	**81.97**	**345**	P	**P**	**00 16 42.0**	**+3.1**
	0.7nm,0.8s,baz=101,slow=6.2,SNR=3.8						
PETK				LR	LR	00 48 58.2	
	comp=Z,31nm,19.1s,baz=152,slow=33 0.7nm,0.8s						
TROLL	**Troll, Antarti**	**82.20**	**180**	⇓P	P	00 16 44.2	+3.9
	comp=Z,73nm,0.6s						
PFO	**Pinyon Flats O**	**82.27**	**47**	LR	LR	00 47 50.1	
	comp=Z,45nm,18.1s,baz=216,slow=32						
SNAA	**Sanae**	**82.44**	**178**	⇓P	P	00 16 45.4	+4.0
	comp=Z,22nm,0.8s						
SNAA	**Sanae**	**82.44**	**178**	P	**P**	**00 16 43.5**	**+2.1**
	comp=Z,1.0nm,1.0s,baz=204,slow=10.0,SNR=3.1						
SNAA				LR	LR	00 51 25.2	
	comp=Z,39nm,19.1s,baz=228,slow=34 comp=Z,1.0nm,1.0s						
VNA3	**Neumayer Olymp**	**82.53**	**176**	⇓P	P	00 16 45.5	+3.7
	comp=Z,2.7nm,0.6s						
VNA2	**Neumayer--Watz**	**82.99**	**176**	⇓P	P	00 16 48.3	+4.1
	comp=Z,2.4nm,0.7s,baz=183,slow=5.4						
KDAK	**Kodiak Island**	**85.89**	**13**	LR	LR	00 48 30.6	

	comp=Z,49nm,20.6s,baz=213,slow=31								
ELK	**Elko**	**87.43**	**42**	LR	LR	00 48 26.0			
	comp=Z,38nm,21.0s,baz=270,slow=30								
KLR	**Kul'dur**	**87.99**	**329**	LR	LR	00 54 47.5			
	comp=Z,33nm,18.1s,baz=119,slow=34								
ANMO	**Albuquerque**	**89.81**	**51**	LR	LR	00 53 19.7			
	comp=Z,66nm,18.4s,baz=301,slow=33								
NEW	**Newport**	**91.07**	**35**	LR	LR	00 53 31.9			
	comp=Z,36nm,19.3s,baz=200,slow=32								
PDAR	**Pinedale Array**	**92.06**	**43**	LR	LR	00 54 01.8			
	comp=Z,20nm,19.3s,baz=229,slow=32								
JTS	**Las Juntas de**	**95.81**	**81**	LR	LR	00 52 11.6			
	comp=Z,59nm,20.6s,baz=286,slow=30								
YAK	**Yakutsk**	**97.75**	**337**	LR	LR	01 04 04.9			
	comp=Z,12nm,18.6s,baz=180,slow=37								
NOA	**NORSAR Array B**	**144.63**	**354**	PKP		**PKiKP**	**00 23 58.1**	**-1.0**	
	comp=Z,2.0nm,0.9s,baz=18,slow=2.4,SNR=4.4								
HFS	**Hagfors**	**145.21**	**351**	PKPbc		**PKiKP**	**00 23 59.4**	**-0.9**	
	comp=Z,2.3nm,0.8s,baz=56,slow=3.6,SNR=2.0								
BRTR	**Keskin Array B**	**151.42**	**306**	PKP		**PKPbc**	**00 24 09.1**	**-4.4**	
	comp=Z,0.4nm,0.8s,baz=7.1,slow=3.5,SNR=2.5								
BRTR				PKPbc		**PKPab**	**00 24 18.7**	**-3.1**	
	comp=Z,0.7nm,0.9s,baz=134,slow=2.8,SNR=4.3								
MMAI	**Mount Meron Ar**	**151.48**	**292**	PKPbc		**PKPab**	**00 24 18.7**	**-3.5**	
	comp=Z,0.2nm,0.3s,baz=45,slow=2.2,SNR=2.7								

SJA ***02*** *00:05:05.0±0.8,31.°80S×72.°14W,h11km±5km, ML3.6, MW3.7*

GUC ***02*** *00:05:06.2±0.8,31.°83S×71.°99W,h24km±18km, ML3.5*

ISC 02 00:05:03.9±1.7,31.°81S±0.°02×72.°09W±0.°06,h12km±10km, n28,σ1s91/55,4C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.01**	**138**	⇓*e*P	**Pb**	**00 05 23.3**	**0.0**
VA06				*e*S	**Sg**	**00 05 34.9**	**-1.6**
VA06				IAML		00 05 38.2	
	comp=E,3μm,0.4s						
CO02	**Combarbal**	**1.11**	**57**	⇓*e*P	**Pb**	**00 05 24.9**	**-0.3**
CO02				*e*S	**Sb**	**00 05 38.9**	**-0.8**
CO02				IAML		00 05 41.9	
	comp=E,4μm,0.5s						
CO02	**Combarbal**	**1.11**	**57**	*e*P	**Sg**	**00 05 39.5**	**-0.3**
CO06	**Fray Jorge**	**1.20**	**191**	⇑*e*P	**Pn**	**00 05 26.7**	**+0.1**
CO06				*e*S	**Sb**	**00 05 42.5**	**+0.4**
VA01	**Torpederas**	**1.27**	**163**	⇑*e*P	**Pb**	**00 05 27.8**	**+0.1**
VA01				*e*S	**Sb**	**00 05 43.4**	**-0.6**
ROCH	**El Roble**	**1.48**	**142**	⇑*e*P	**Pn**	**00 05 30.8**	**+0.3**
ROCH				*e*S	**Sn**	**00 05 49.2**	**-0.7**
ROCH				IAML		00 05 54.7	
	comp=N,2μm,0.6s						
CO03	**El Pedregal**	**1.54**	**51**	*e*P	**Pn**	**00 05 32.1**	**+0.7**
CO03				*e*S	**Sn**	**00 05 50.5**	**-1.0**
CO03				IAML		00 05 53.4	
	comp=E,649nm,0.3s						
CO03	**El Pedregal**	**1.54**	**51**	*e*P	**Sg**	**00 05 46.6**	**-7.0**
CO03				*e*S	**Sb**	**00 05 56.1**	**+4.0**
VA03	**San Esteban**	**1.61**	**126**	*e*P	**Pn**	**00 05 32.5**	**+0.1**
VA03				*e*S	**Sn**	**00 05 52.4**	**-0.8**
VA03				IAML		00 05 58.0	
	comp=E,1μm,0.5s						
VA03	**San Esteban**	**1.61**	**126**	*e*P	**Pg**	**00 05 37.0**	**+2.1**
VA03				*e*S	**Sn**	**00 05 49.1**	**-4.1**
VA03				IAML		00 05 56.5	
	comp=Z,603nm,1.1s						
MT02	**Curacav**	**1.65**	**151**	⇑*e*P	**Pn**	**00 05 33.4**	**+0.6**
MT02				*e*S	**Sn**	**00 05 52.9**	**-1.1**
PEL	**Peldehue**	**1.78**	**139**	*e*P	**Pn**	**00 05 35.1**	**+0.4**
PEL				*e*S	**Sn**	**00 05 57.6**	**+0.3**
PEL				IAML		00 06 02.1	
	comp=E,856nm,0.4s						
VA05	**Santo Domingo**	**1.88**	**168**	*e*P	**Pn**	**00 05 37.0**	**+1.1**
VA05				*e*S	**Sb**	**00 06 00.7**	**-1.1**
VA05				IAML		00 06 11.7	
	comp=N,825nm,0.4s						
MT05	**Renca**	**1.95**	**144**	*e*S	**Sb**	**00 06 02.6**	**-1.1**
MT05				IAML		00 06 05.3	
	comp=E,715nm,0.4s						
MT10	**Hacienda Santa**	**1.96**	**138**	*e*P	**Pn**	**00 05 38.0**	**+0.8**
MT10

JWY	**Kouya**	1.41	292		P		**Pn**	**00 07 23.8**	**+0.5**
JWY					*eS*		**S**	**00 08 01.3**	**-0.8**
JGF	**Kuroka**	1.90	5		P		**Pn**	**00 07 26.1**	**0.0**
JGF	**Kuroka**	1.90	5		P		**Pn**	**00 07 26.4**	**+0.2**
JYTA	**Yamagatataniai**	1.92	349		P		**Pn**	**00 07 26.8**	**+0.6**
JYTA					*eS*		**S**	**00 08 07.2**	**-0.3**
JYN	**Shimob**	2.12	32		P		**Pn**	**00 07 27.5**	**-0.2**
JWT	**Wachi**	2.15	318		P		**Pn**	**00 07 28.2**	**+0.4**
JWT					S		**S**	**00 08 09.6**	**-0.7**
JOD2	**Odawara 2**	2.22	45		P		**Pn**	**00 07 28.1**	**-0.3**
JOD2					*eS*		**S**	**00 08 11.5**	**+0.2**
JAI	**Aioi**	2.27	273		P		**Pn**	**00 07 28.9**	**+0.1**
JAI					S		**S**	**00 08 11.2**	**-0.8**
JHJ2	**Mitsune**	2.29	104				**Pn**	**00 07 28.5**	**-0.5**
JHJ2	**Mitsune**	2.29	104		*eP*		**Pn**	**00 07 28.5**	**-0.5**
JAOM	**Aogashimamukai**	2.50	119		*eP*		**Pn**	**00 07 30.4**	**-0.3**
JKG	**Kaga**	2.66	345		*eP*		**Pn**	**00 07 32.2**	**+0.4**
JKG					*eS*		**S**	**00 08 17.6**	**+0.1**
JRY	**Ryogami san**	2.71	31	⇓	P		**Pn**	**00 07 32.4**	**+0.1**
JRY				⇓	*eS*		**S**	**00 08 17.7**	**-0.7**
JMN	**Monobe**	2.74	271				**Pn**	**00 07 33.1**	**+0.4**
JMN	**Monobe**	2.74	271		P		**Pn**	**00 07 32.9**	**+0.2**
JMN	**Monobe**	2.74	271		P		**Pn**	**00 07 33.0**	**+0.4**
MAJO	**Matsushiro**	2.96	16				**Pn**	**00 07 34.2**	**-0.2**
MAJO	**Matsushiro**	2.96	16		P		**Pn**	**00 07 34.4**	**0.0**
MAJO	**Matsushiro**	2.96	16	*d*	*iP*		**Pn**	**00 07 34.2**	**-0.2**
MAT	**Matsushiro**	2.96	16		P		**Pn**	**00 07 34.1**	**-0.3**
MAT					*eS*		**S**	**00 08 20.6**	**-1.6**
MJAR	**Matsushiro Arr**	2.96	16		P		**Pn**	**00 07 34.2**	**-0.2**
	304nm,0.6s,baz=189,slow=9.3,SNR=721								
MJAR					S		**S**	**00 08 20.8**	**-1.4**
	19nm,0.5s,baz=144,slow=46,SNR=1.6								
MJB9	**Matsu-Tunnel**	2.96	16				**Pn**	**00 07 34.1**	**-0.3**
BSO1	**Boso 1**	3.29	72		P		**Pn**	**00 07 34.3**	**-2.6**
BSO1					S		**S**	**00 08 25.5**	**-1.3**
JAG	**Ashikaga**	3.30	34	⇓	P		**Pn**	**00 07 36.0**	**-1.5**
JHS	**Saijyo**	3.59	292		P		**Pn**	**00 07 41.0**	**+0.6**
JSZ	**Suzu**	3.74	2		P		**Pn**	**00 07 41.8**	**+0.1**
JTO	**Tosashimizu**	3.75	258		P		**Pn**	**00 07 42.0**	**0.0**
JOI	**OKI**	4.13	310		P		**Pn**	**00 07 46.0**	**+0.4**
JSD	**Sado**	4.42	11		P		**Pn**	**00 07 48.4**	**-0.1**
JMM	**Marumori**	5.09	34				**Pn**	**00 07 54.2**	**-1.6**
JMM	**Marumori**	5.09	34		P		**Pn**	**00 07 54.4**	**-1.4**
JNU	**Nakatsue**	5.29	265				**Pn**	**00 07 58.6**	**+0.4**
JNU	**Nakatsue**	5.29	265		P		**Pn**	**00 07 58.3**	**+0.1**
	19nm,0.4s,baz=97,slow=1.9,SNR=32								
JNU					S		**S**	**00 09 05.5**	**-0.1**
	11nm,0.9s,baz=234,slow=19,SNR=1.3								
JNU	**Nakatsue**	5.29	265		P		**Pn**	**00 07 58.8**	**+0.6**
JTM	**Tenmabayashi**	7.72	23				**Pn**	**00 08 24.7**	**-1.2**
JTM	**Tenmabayashi**	7.72	23		P		**Pn**	**00 08 25.0**	**-0.9**
JCJ	**Chichijima**	7.88	145		P		Pn	00 08 19.7	-8.2
KSRS	**Korea Array**	8.41	299		P		**Pn**	**00 08 34.9**	**+0.8**
	8.1nm,0.6s,baz=113,slow=13,SNR=49								
KSRS					S		**S**	**00 10 10.9**	**-0.3**
	4.5nm,0.9s,baz=113,slow=20,SNR=5.1								
KSAR	**Wonju Array Be**	8.44	299				**Pn**	**00 08 34.1**	**-0.2**
KSAR	**Wonju Array Be**	8.44	299		P		**Pn**	**00 08 34.1**	**-0.2**
KS19	**Wonju Array Si**	8.47	299				**Pn**	**00 08 34.5**	**-0.2**
TJN	**Taejon**	8.47	291				**Pn**	**00 08 35.9**	**+1.1**
TJN	**Taejon**	8.47	291		P		**P**	**00 08 36.3**	**-0.9**
TJN	**Taejon**	8.47	291	*d*	*iP*		**P**	**00 08 36.0**	**-1.2**
INCN	**Inchon**	9.37	297				**Pn**	**00 08 45.4**	**-0.1**
INCN	**Inchon**	9.37	297		P		**P**	**00 08 47.0**	**-0.2**
INCN	**Inchon**	9.37	297		P		**Pn**	**00 08 45.4**	**-0.1**
ERM	**Erimo**	9.55	28				**Pn**	**00 08 45.4**	**-2.1**
ERM	**Erimo**	9.55	28		P		**Pn**	**00 08 45.9**	**-1.6**
ERM	**Erimo**	9.55	28	*c*	*iP*		**Pn**	**00 08 45.8**	**-1.7**
ERM					pmax		pmax		
	comp=Z,58nm,0.8s								
JEM	**Erimo**	9.55	28		P		**Pn**	**00 08 45.6**	**-1.9**
JOW	**Kunigami**	10.29	231		P		**Pn**	**00 08 55.8**	**-0.8**
	comp=Z,11nm,0.5s,baz=52,slow=16,SNR=4.1								
ASAJ	**Asahikawa**	11.22	20		P		**P**	**00 09 07.6**	**0.0**
	comp=Z,30nm,0.4s,baz=226,slow=12,SNR=24								
ASAJ					S		**S**	**00 11 05.4**	**-7.2**
	comp=Z,16nm,0.6s,baz=114,slow=20,SNR=3.8								
JKA	**Kamikawa-asahi**	11.22	20				**Pn**	**00 09 06.5**	**-0.8**
USA0B	**Ussuriysk Arra**	11.23	341		P		**P**	**00 09 07.7**	**0.0**
USA0B	**Ussuriysk Arra**	11.23	341	⇑	*iP*		**P**	**00 09 08.1**	**+0.4**
USRK	**Ussuriysk Ar.**	11.23	341				**Pn**	**00 09 07.1**	**-0.3**
USRK	**Ussuriysk Ar.**	11.23	341		P		**P**	**00 09 08.1**	**+0.4**
	comp=Z,14nm,0.7s,baz=164,slow=11,SNR=28								
TEY	**Ternei**	11.33	358		*eP*		**Pn**	**00 09 03.8**	**-4.7**
DL2	**Dalian**	13.56	297		P		**P**	**00 09 33.1**	**-0.5**
DL2					S		**S**	**00 12 03.3**	**+1.8**
DL2					pmax		pmax		
	comp=Z,27nm,1.0s								
DL2					pmax		pmax		
	comp=Z,71nm,5.7s								
YSS	**Yuzhno-Sakhali**	13.90	16				**P**	**00 09 36.7**	**-0.4**
YSS	**Yuzhno-Sakhali**	13.90	16	⇓	*eP*		**Pn**	**00 09 38.8**	**0.0**
YSS					*eS*		**S**	**00 12 09.0**	**+1.0**
YSS					pmax		pmax		
	comp=Z,70nm,0.6s								
YSS					smax		smax		
	comp=N,30nm,1.1s								
YSS					smax		smax		
	comp=E,50nm,1.2s								
BNX	**BinXian**	14.16	331	⇑	P		**P**	**00 09 39.6**	**-0.4**
BNX					pmax		pmax		
	comp=Z,2.0nm,0.3s								
KLR	**Kul'dur**	16.03	347		P		**P**	**00 10 00.1**	**-0.2**
	comp=Z,3.1nm,0.6s,baz=165,slow=6.8,SNR=8.1								
TIA	**Tai'an**	16.63	284		P		**P**	**00 10 06.8**	**-0.2**
TIA					pmax		pmax		
	comp=Z,38nm,0.7s								
TYV	**Tymovskoe**	17.61	12		*eP*		**Pn**	**00 10 20.4**	**-1.0**
TYV					pmax		pmax		
	comp=Z,11nm,0.8s								
TYV					pmax		pmax		
	comp=Z,200nm,5.8s								
HNS	**HongShan**	18.64	288	⇑	P		**P**	**00 10 27.5**	**-0.9**
HNS					pmax		pmax		
	comp=Z,14nm,0.6s								
WHN	**Wuhan**	19.58	267	⇑	P		**P**	**00 10 38.1**	**-0.3**
WHN					pmax		pmax		
	comp=Z,340nm,0.7s								
ZEA	**Zeya**	21.23	344		*eP*		**P**	**00 10 54.4**	**+0.9**
ZEA					pmax		pmax		
	comp=Z,10.0nm,0.8s								
CNSH	**ChangSha**	21.49	262		P		**P**	**00 10 56.1**	**-0.1**
CNSH					pmax		pmax		
	comp=Z,33nm,0.6s								
HHC	**Hu-ho-hao-te**	21.54	297		*eP*		**P**	**00 10 58.5**	**+1.8**
HHC					pmax		pmax		
	comp=Z,7.0nm,0.9s								
HHC					pmax		pmax		
	comp=Z,86nm,5.5s								
PEA0B	**Petropavlovsk-**	24.31	31		P		**P**	**00 11 21.2**	**-0.3**
PEA0B					IAmb		IAmb	00 11 23.2	
	comp=Z,14nm,1.1s								
PEA0B	**Petropavlovsk-**	24.31	31	⇑	*iP*		**P**	**00 11 21.9**	**+0.4**
PETK	**Petropavlovsk-**	24.31	31				**P**	**00 11 21.3**	**-0.2**
PETK	**Petropavlovsk-**	24.31	31		P		**P**	**00 11 21.4**	**-0.1**
	comp=Z,7.4nm,0.9s,baz=228,slow=7.2,SNR=17								
	comp=Z,7.4nm,0.9s								
ULN	**Ulaanbaatar**	26.64	311		P		**P**	**00 11 43.5**	**+1.1**
ULN	**Ulaanbaatar**	26.64	311	*c*	*eP*		**P**	**00 11 43.5**	**+1.1**
ULN					pmax		pmax		
	comp=Z,4.0nm,0.7s								
SONM	**Songino Array**	27.04	311		P		**P**	**00 11 46.7**	**+0.6**
SONM	**Songino Array**	27.04	311		P		**P**	**00 11 46.6**	**+0.6**
	comp=Z,4.8nm,0.8s,baz=117,slow=8.7,SNR=19								
SONM					pP		**pP**	**00 12 52.6**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=120,slow=8.5,SNR=2.4								
SONM					ScP		**ScP**	**00 18 01.3**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=172,slow=4.4,SNR=2.4								
	comp=Z,4.8nm,0.8s								
LZH	**Lanzhou**	27.37	284		*eP*		**P**	**00 11 51.3**	**+2.2**
LZH					pmax		pmax		
	comp=Z,21nm,1.4s								
MA2	**Magadan**	27.40	15		P		**P**	**00 11 48.7**	**-0.2**
MA2					IAmb		IAmb	00 11 50.8	
	comp=Z,19nm,0.8s								
MA2	**Magadan**	27.40	15		P		**P**	**00 11 48.7**	**-0.2**
	comp=Z,17nm,0.8s,baz=180,slow=8.9,SNR=12								
	comp=Z,17nm,0.8s								
MA2	**Magadan**	27.40	15	*d*	*iP*		**P**	**00 11 48.9**	**0.0**
MA2				*i*	*PP		**pP**	**00 12 52.8**	**-1.3**
MA2					pmax		pmax		
	comp=Z,22nm,0.9s								
YAK	**Yakutsk**	28.75	353		*eP*		**P**	**00 12 01.1**	**+0.4**
YAK					pmax		pmax		
	comp=Z,13nm,0.8s								
YAK					pmax		pmax		
	comp=N,2.0nm,0.7s								
YAK					pmax		pmax		
	comp=E,5.0nm,1.3s								
GTA	**Gaotai**	30.39	292		P		**P**	**00 12 15.9**	**+0.3**
GTA					pmax		pmax		
	comp=Z,5.0nm,1.0s								
SEY	**Seymchan**	30.78	14		P		**P**	**00 12 18.6**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=206,slow=8.0,SNR=8.7								
	comp=Z,3.8nm,0.7s								
KMI	**Kunming**	31.07	263		P		**P**	**00 12 21.1**	**-0.7**
KMI					pmax		pmax		
	comp=Z,23nm,0.9s								
PZH	**PanZhiHua**	31.37	266		P		**P**	**00 12 25.1**	**+0.9**
SLVN	**Son La**	31.83	256		P		**P**	**00 12 28.4**	**+0.2**
MYLDM	**Lahad Datu**	33.27	216		P		**P**	**00 12 40.2**	**-0.3**
MYLDM					IAmb		IAmb	00 12 41.8	
	comp=Z,22nm,1.1s								
CHTO	**Chiang Mai**	37.12	256		P		**P**	**00 13 12.7**	**-0.4**
CHTO					IAmb		IAmb	00 13 13.7	
	comp=Z,17nm,0.8s								
CHTO	**Chiang Mai**	37.12	256		P		**P**	**00 13 12.7**	**-0.4**
CHTO					pmax		pmax		
	comp=Z,17nm,0.8s								
CM31	**Chiang Mai Arr**	37.31	256		P		**P**	**00 13 14.4**	**-0.3**
CMAR	**Chiang Mai Arr**	37.31	256		P		**P**	**00 13 14.3**	**-0.4**
CMAR	**Chiang Mai Arr**	37.31	256		P		**P**	**00 13 14.5**	**-0.2**
	comp=Z,11nm,0.7s,baz=48,slow=7.9,SNR=46								
	comp=Z,11nm,0.7s								
BILL	**Bilibino**	38.21	17		P		**P**	**00 13 22.1**	**+0.6**
BILL	**Bilibino**	38.21	17	*c*	*iP*		**P**	**00 13 22.1**	**+0.6**
BILL					pmax		pmax		
	comp=Z,21nm,0.6s								
TIXI	**Tiksi**	38.27	356		P		**P**	**00 13 21.5**	**-0.3**
TIXI					IAmb		IAmb	00 13 22.5	
	comp=Z,10nm,0.8s								
TIXI	**Tiksi**	38.27	356		P		**P**	**00 13 21.7**	**-0.2**
	comp=Z,7.1nm,0.6s,baz=107,slow=7.1,SNR=4.5								
	comp=Z,7.1nm,0.6s								
SBUM	**Sibu**	38.87	222		P		**P**	**00 13 26.9**	**-0.6**
WMQ	**Urumqi**	39.36	300		*eP*		**P**	**00 13 32.9**	**+1.5**
KSM	**Kuching**	40.75	224		IAmb		IAmb	00 13 43.7	
	comp=Z,19nm,0.7s								
ZALV	**Zalesovo Beam**	41.72	315		P		**P**	**00 13 50.1**	**0.0**
	comp=Z,0.6nm,0.3s,baz=80,slow=9.2,SNR=1.8								
ZALV					PcP		**PcP**	**00 15 38.0**	**-1.0**
	comp=Z,2.7nm,0.7s,baz=111,slow=3.8,SNR=6.7								
ZALV					ScP		**ScP**	**00 18 53.7**	**-0.9**
	comp=Z,2.3nm,0.3s,baz=50,slow=2.3,SNR=5.4								
	comp=Z,0.6nm,0.3s								
KAPI	**Kappang**	41.89	207		P		**P**	**00 13 51.3**	**-0.7**
KAPI					IAmb		IAmb	00 13 52.4	
	comp=Z,19nm,1.0s								
KAPI	**Kappang**	41.89	207		P		**P**	**00 13 51.3**	**-0.7**
KAPI					pmax		pmax		
	comp=Z,19nm,1.0s								
NIKH	**Nikolski High**	42.58	46		P		**P**	**00 13 56.8**	**-0.3**
	baz=265								
P08K	**Saint George I**	42.62	41		P		**P**	**00 13 56.9**	**-0.4**
	baz=261								
MK31	**Makanchi Array**	43.05	305	*c*	*iP*		**P**	**00 14 00.8**	**-0.2**
MKAR	**Makanchi Array**	43.05	305		P		**P**	**00 14 00.7**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=90,slow=10,SNR=6.7								
MKAR					PcP		**PcP**	**00 15 42.9**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=87,slow=3.8,SNR=3.0								
MKAR					ScP		**ScP**	**00 18 58.8**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=76,slow=5.1,SNR=3.7								
	comp=Z,1.3nm,0.5s								
UNV	**Unalaska Valle**	44.04	45		P		**P**	**00 14 08.1**	**-0.5**
	baz=266								
IPM	**Ipoh**	44.44	237		P		**P**	**00 14 11.1**	**-1.2**
IPM					IAmb		IAmb	00 14 12.2	
	comp=Z,20nm,0.7s								
NRIK	**Noril'sk**	44.92	337		P		**P**	**00 14 15.0**	**-0.3**
NRIK	**Noril'sk**	44.92	337		P		**P**	**00 14 15.6**	**+0.3**
	comp=Z,5.0nm,0.8s,baz=102,slow=11,SNR=9.0								
NRIK					PcP		**PcP**	**00 15 49.1**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=100,slow=5.7,SNR=3.6								
	comp=Z,5.0nm,0.8s								
NRIK	**Noril'sk**	44.92	337	*i*	P		**P**	**00 14 15.4**	**+0.1**
NRIK					pmax		pmax		
	comp=Z,8.0nm,1.0s								
M11K	**Mekoryuk**	45.00	36		P		**P**	**00 14 16.2**	**+0.2**
	baz=260								
KURK	**Kurchatov**	45.35	310				**P**	**00 14 19.0**	**+0.1**
KURK	**Kurchatov**	45.35	310	*d*	*iP*		**P**	**00 14 18.9**	**+0.1**
KURK					pmax		pmax		
	comp=Z,6.0nm,0.9s								
KURBB	**Kurchatov Arra**	45.41	310		P		**P**	**00 14 19.7**	**+0.4**
	comp=Z,2.2nm,0.2s,baz=146,slow=11,SNR=8.9								
KURBB					pP		**pP**	**00 15 30.4**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=95,slow=8.6,SNR=2.3								
KURBB					PcP		**PcP**	**00 15 51.9**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=48,slow=1.4,SNR=1.6								
	comp=Z,2.2nm,0.2s								
TNA	**Tin City**	45.44	29		P		**P**	**00 14 19.7**	**+0.4**
	baz=253								
K13K	**Kusilvak Mount**	46.01	34		P		**P**	**00 14 23.4**	**-0.4**
	baz=260								
F14K	**Arctic Creek**	46.06	29		P		**P**	**00 14 24.2**	**0.0**
	baz=255								
ANM	**Nome**	46.23	30		P		**P**	**00 14 25.6**	**+0.1**
	baz=257								
M13K	**Dall Lake**	46.40	36		P		**P**	**00 14 26.9**	**+0.1**
	baz=262								
J14K	**Nanvaranak Lak**	46.66	33		P		**P**	**00 14 27.9**	**-0.8**
	baz=260								
S12K	**Black Hills**	46.71	43		P		**P**	**00 14 28.3**	**-1.0**
	baz=268								
F15K	**North Star Dit**	46.79	29		P		**P**	**00 14 30.5**	**+0.7**
F15K					IAmb		IAmb	00 14 32.7	
	comp=Z,18nm,0.8s								
F15K	**North Star Dit**	46.79	29		P		**P**	**00 14 29.9**	**+0.1**
	baz=256								
L14K	**Kuka Creek**	46.85	35		P		**P**	**00 14 31.2**	**+0.9**
L14K					IAmb		IAmb	00 14 33.3	
	comp=Z,21nm,1.3s								
L14K	**Kuka Creek**	46.85	35		P		**P**	**00 14 30.5**	**+0.3**
	baz=262								
G15K	**Niukluk**	46.88	30		P		**P**	**00 14 31.0**	**+0.6**
	baz=258								
PSI	**Prapat**	47.10	238		P		**P**	**00 14 32.1**	**-0.9**
PSI					pmax		pmax		
	comp=Z,11nm,0.7s								
M14K	**Bethel**	47.12	36		P		**P**	**00 14 33.0**	**+0.7**
M14K					IAmb		IAmb	00 14 35.0	
	comp=Z,22nm,0.9s								
M14K	**Bethel**	47.12	36		P		**P**	**00 14 32.7**	**+0.4**
	baz=264								
RPSI	**Rantau Prapat**	47.17	237		P		**P**	**00 14 32.1**	**-1.3**
RPSI					IAmb		IAmb	00 14 33.0	
	comp=Z,11nm,0.7s								
N14K	**Kuskokwak Cree**	47.17	37		P		**P**	**00 14 32.5**	**-0.3**
N14K					IAmb		IAmb	00 14 35.2	
	comp=Z,46nm,1.4s								
N14K	**Kuskokwak Cree**	47.17	37		P		**P**	**00 14 33.0**	**+0.3**
	baz=264								
C16K	**Lisburne Hills**	47.20	25		P		**P**	**00 14 33.4**	**+0.6**
	baz=253								
O14K	**Tigyukauivet M**	47.33	38		P		**P**	**00 14 34.2**	**+0.2**
	baz=266								
BKNI	**Bangkinang**	47.44	233		P		**P**	**00 14 35.4**	**0.0**
L15K	**Ungalak Mounta**	47.46	35		P		**P**	**00 14 35.3**	**+0.4**
	baz=263								
K15K	**Wolf Creek Mou**	47.52	34		P		**P**	**00 14 35.9**	**+0.5**
	baz=262								
H16K	**Elim**	47.56	31		P		**P**	**00 14 36.6**	**+0.9**
	baz=260								
SDPT	**Sand Point**	47.60	43		P		**P**	**00 14 36.3**	**+0.2**
	baz=270								
G16K	**Koyuk River**	47.66	30		P		**P**	**00 14 37.6**	**+1.2**
	baz=259								
M15K	**Kasigluk River**	47.74	36		P		**P**	**00 14 38.1**	**+1.1**
	baz=265								
D17K	**Noatak River**	47.87	26		P		**P**	**00 14 39.7**	**+1.8**
	baz=256								
N15K	**Kwethluk River**	47.99	37		P		**P**	**00 14 39.9**	**+0.9**
N15K					IAmb		IAmb	00 14 41.4	
	comp=Z,10nm,0.8s								
N15K	**Kwethluk River**	47.99	37		P		**P**	**00 14 40.5**	**+1.5**
	baz=266								
RDOG	**Red Dog Mine**	48.02	26		P		**P**	**00 14 40.3**	**+1.1**
	baz=256								
C17K	**DeLong Mountai**	48.03	25		P		**P**	**00 14 40.2**	**+1.0**
	baz=255								
O15K	**Ungalikthiuk R**	48.06	38		IAmb		IAmb	00 14 41.8	
	comp=Z,28nm,1.1s								
O15K	**Ungalikthiuk R**	48.06	38		P		**P**	**00 14 40.2**	**+0.6**
	baz=267,SNR=5.3								
J16K	**Anvik River**	48.07	33		P		**P**	**00 14 39.6**	**0.0**
	baz=262								
I17K	**Unalakleet**	48.11	32		P		**P**	**00 14 40.4**	**+0.6**
	baz=262								
CHNA	**Chernabura Isl**	48.11	44		P		**P**	**00 14 39.8**	**-0.2**
	baz=271								
S14K	**Fog Glacier**	48.12	42		P		**P**	**00 14 40.9**	**+0.7**
	baz=270								
E17K	**Hotham Inlet**	48.21	27		P		**P**	**00 14 41.3**	**+0.8**
	baz=258								
F17K	**Baldwin Pennin**	48.30	28		P		**P**	**00 14 42.7**	**+1.5**
	baz=259								
G17K	**Kiwalik Mounta**	48.38	30		P		**P**	**00 14 43.1**	**+1.3**
	baz=260								
L16K	**Owhat River**	48.42	35		P		**P**	**00 14 43.4**	**+1.2**
	baz=265								
H17K	**Granite Mounta**	48.60	30		P		**P**	**00 14 44.5**	**+1.0**
H17K	**Granite Mounta**	48.60	30		P		**P**	**00 14 44.9**	**+1.4**
	baz=262								
M16K	**Timber Creek**	48.61	36		P		**P**	**00 14 44.4**	**+0.7**
M16K					IAmb		IAmb	00 14 46.1	
	comp=Z,15nm,1.2s								
M16K	**Timber Creek**	48.61	36		P		**P**	**00 14 44.7**	**+1.0**
	baz=266								
KSH	**Kashi**	48.65	295		P		**P**	**00 14 48.4**	**+3.9**
KSH					pmax		pmax		
	comp=Z,4.0nm,0.7s								
N16K	**Nishlik Lake**	48.67	36		P		**P**	**00 14 45.6**	**+1.4**
	baz=267								
B18K	**Kokolik River**	48.73	24		P		**P**	**00 14 45.9**	**+1.4**
	baz=256								
E18K	**Tukpahlearik C**	48.74	27		P		**P**	**00 14 45.6**	**+1.0**
E18K	**Tukpahlearik C**	48.74	27		P		**P**	**00 14 46.2**	**+1.6**
	baz=259								
J17K	**VABM Dome**	48.77	32		P		**P**	**00 14 45.3**	**+0.5**
J17K					IAmb		IAmb	00 14 47.6	
	comp=Z,14nm,0.9s								
J17K	**VABM Dome**	48.77	32		P		**P**	**00 14 46.2**	**+1.4**
	baz=264								
C18K	**Utukok River**	48.78	25		P		**P**	**00 14 46.1**	**+1.2**
	baz=257								
F18K	**Selawik**	48.96	28		P		**P**	**00 14 47.5**	**+1.3**
	baz=260								
O16K	**Kokwok River B**	48.97	38		P		**P**	**00 14 46.8**	**+0.5**
O16K	**Kokwok River B**	48.97	38		P		**P**	**00 14 47.7**	**+1.3**
	baz=268								
P16K	**Nushagak River**	49.00	38		P		**P**	**00 14 48.2**	**+1.5**
	baz=269								
L17K	**Donlin**	49.01	34		P		**P**	**00 14 48.3**	**+1.7**
	baz=266								
K17K	**Iditarod**	49.05	33		P		**P**	**00 14 48.5**	**+1.6**
	baz=265,SNR=5.2								
AAK	**Ala-Archa**	49.07	300	*i*	P		**P**	**00 14 48.5**	**+0.8**
AAK					pmax		pmax		
	comp=Z,2.0nm,0.8s								
A19K	**Wainwright**	49.18	23		P		**P**	**00 14 49.0**	**+1.2**
	baz=256								
G18K	**Tagagawik**	49.25	29				**P**	**00 14 49.1**	**+0.6**
G18K					IAmb		IAmb	00 14 50.7	
	comp=Z,16nm,1.1s								
G18K	**Tagagawik**	49.25	29		P		**P**	**00 14 49.8**	**+1.3**
	baz=262,SNR=6.1								
H18K	**Honhosa River**	49.28	30		P		**P**	**00 14 49.1**	**+0.5**
H18K	**Honhosa River**	49.28	30		P		**P**	**00 14 49.8**	**+1.1**
	baz=263								
M17K	**Holitna River**	49.37	35		P

J20K Nowinta River 51.01 32 P **P** 00 15 02.4 +0.9
J20K IAmb IAmb 00 15 04.1
comp=Z,11nm,0.8s
J20K Nowinta River 51.01 32 P **P** 00 15 03.2 +1.8
baz=268,SNR=9.8
K20K Telida 51.01 33 P **P** 00 15 02.3 +0.7
K20K IAmb IAmb 00 15 04.2
comp=Z,16nm,0.7s
K20K Telida 51.01 33 P **P** 00 15 03.2 +1.7
baz=268,SNR=20
L20K Farewell, AK 51.08 34 P **P** 00 15 03.8 +1.7
baz=269,SNR=5.7
C21K Knifeblade Rid 51.15 25 P **P** 00 15 04.2 +1.7
baz=263
Q19K Cape Douglas, 51.26 38 P **P** 00 15 04.6 +1.2
baz=272
IMAR Indian Mountai 51.26 29 P **P** 00 15 03.6 +0.2
B21K Ikpikpuk River 51.27 25 P **P** 00 15 04.5 +1.3
B21K Ikpikpuk River 51.27 25 P **P** 00 15 04.9 +1.6
baz=263
A22K Sinclair Lake 51.34 23 P **P** 00 15 05.3 +1.5
baz=261
G21K Allakaket 51.39 29 P **P** 00 15 03.4 -0.9
G21K Allakaket 51.39 29 P **P** 00 15 05.6 +1.3
baz=266
M20K Styx River 51.43 35 P **P** 00 15 05.7 +1.0
baz=270
F21K Alatna River 51.45 28 **P** 00 15 05.4 +0.6
F21K Alatna River 51.45 28 P **P** 00 15 05.8 +1.1
baz=266
H21K Melozitna Rive 51.63 30 P **P** 00 15 06.6 +0.5
H21K Melozitna Rive 51.63 30 P **P** 00 15 07.5 +1.4
baz=268,SNR=8.9
RED Redoubt Volcan 51.64 36 P **P** 00 15 06.3 0.0
RED IAmb IAmb 00 15 07.8
comp=Z,18nm,1.0s
O20K Slope Mountain 51.73 37 P **P** 00 15 07.7 +0.8
baz=272
B22K Teshekpuk Lake 51.76 24 P **P** 00 15 08.4 +1.5
B22K Teshekpuk Lake 51.76 24 P **P** 00 15 08.4 +1.5
baz=263
KK31 Karatay Array 51.83 301 P **P** 00 15 07.8 -0.1
KK31 Karatay Array 51.83 301 P **P** 00 15 07.8 -0.1
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 51.83 301 P **P** 00 15 08.1 +0.1
KKAR Karatay Array 51.83 301 P **P** 00 15 08.0 +0.1
KKAR Karatay Array 51.83 301 P **P** 00 15 08.0 +0.1
PPLA Purkeypile 51.86 33 P **P** 00 15 08.5 +0.5
PPLA IAmb IAmb 00 15 10.2
comp=Z,9.8nm,0.6s
PPLA Purkeypile 51.86 33 P **P** 00 15 09.7 +1.7
baz=270,SNR=5.1
D22K Ayikyak River 51.88 26 P **P** 00 15 08.8 +1.0
D22K IAmb IAmb 00 15 10.4
comp=Z,20nm,0.8s
D22K Ayikyak River 51.88 26 P **P** 00 15 09.4 +1.6
baz=265,SNR=5.3
KDAK Kodiak Island 51.88 40 P **P** 00 15 08.2 +0.3
comp=Z,15nm,0.7s,baz=65,slow=2.6,SNR=20
comp=Z,15nm,0.7s
KDAK Kodiak Island 51.88 40 P **P** 00 15 08.3 +0.3
baz=274
N20K Mount Spurr 51.89 35 P **P** 00 15 09.3 +1.2
baz=272
SPCR Spurr Chakacha 51.89 35 P **P** 00 15 09.5 +1.4
baz=272
CAST Castle Rocks 51.91 33 **P** 00 15 08.7 +0.6
CAST Castle Rocks 51.91 33 P **P** 00 15 09.7 +1.5
baz=270,SNR=7.8
SPU Mount Spurr 51.97 36 P **P** 00 15 09.0 +0.4
SPU IAmb IAmb 00 15 10.7
comp=Z,15nm,1.2s
F22K John River 51.97 27 P **P** 00 15 10.2 +1.7
baz=267
STLK Strandline Lak 52.06 35 P **P** 00 15 09.6 +0.2
E22K Anaktuvuk Pass 52.15 27 P **P** 00 15 11.3 +1.5
baz=267
SKT Skwentna 52.19 34 P **P** 00 15 10.3 +0.1
SKT Skwentna 52.19 34 P **P** 00 15 10.8 +0.6
baz=272,SNR=5.6
G22K Bettles 52.21 28 P **P** 00 15 11.4 +1.2
baz=268
H22K Ishtalitna Cre 52.23 30 P **P** 00 15 12.1 +1.7
baz=269,SNR=9.3
BPAW Bear Paw Mtn. 52.39 32 P **P** 00 15 11.9 +0.3
BPAW Bear Paw Mtn. 52.39 32 P **P** 00 15 13.0 +1.3
baz=271
CAPN Captain Cook N 52.42 36 P **P** 00 15 13.5 +1.6
baz=273
KTH Kantishna Hill 52.43 32 P **P** 00 15 12.3 +0.4
MLY Manley 52.49 31 **P** 00 15 12.9 +0.5
MLY Manley 52.49 31 P **P** 00 15 13.7 +1.3
baz=270,SNR=7.3
SUA Susitna One 52.58 35 P **P** 00 15 14.2 +1.0
baz=273
D23K Nanushuk River 52.60 26 P **P** 00 15 14.2 +1.1
D23K Nanushuk River 52.60 26 P **P** 00 15 14.9 +1.8
baz=267
FITZ Fitzroy Crossi 52.67 194 P **P** 00 15 13.5 -0.7
C23K Itkillik River 52.68 25 P **P** 00 15 14.6 +1.1
C23K IAmb IAmb 00 15 16.1
comp=Z,19nm,1.0s
C23K Itkillik River 52.68 25 P **P** 00 15 15.0 +1.5
baz=266,SNR=5.4
TRF Thorofare Moun 52.71 33 P **P** 00 15 15.1 +1.0
baz=272
COLD Coldfoot 52.73 28 P **P** 00 15 14.8 +0.8
COLD Coldfoot 52.73 28 P **P** 00 15 15.4 +1.4
baz=269
CUT Chulitna 52.76 34 P **P** 00 15 15.8 +1.5
baz=273
G23K Bananza Creek 52.79 28 P **P** 00 15 14.7 +0.2
G23K Bananza Creek 52.79 28 P **P** 00 15 16.1 +1.6
baz=270,SNR=8.9
M22K Willow 52.87 35 P **P** 00 15 15.1 0.0
M22K Willow 52.87 35 P **P** 00 15 16.1 +1.1
baz=273
E23K Chandalar 52.97 27 P **P** 00 15 17.0 +1.2
E23K Chandalar 52.97 27 P **P** 00 15 17.8 +1.9
baz=269,SNR=20
H23K Yukon River 52.98 30 P **P** 00 15 17.1 +1.2
H23K IAmb IAmb 00 15 18.9
comp=Z,10nm,0.9s
H23K Yukon River 52.98 30 P **P** 00 15 17.9 +2.0
baz=271,SNR=8.1
TOLK Toolik Lake Re 52.99 26 P **P** 00 15 17.1 +1.1
TOLK IAmb IAmb 00 15 19.0
comp=Z,12nm,1.1s
TOLK Toolik Lake Re 52.99 26 P **P** 00 15 17.4 +1.4
baz=268,SNR=5.2
BWN Browne 53.06 32 P **P** 00 15 17.4 +1.0
BWN IAmb IAmb 00 15 19.2
comp=Z,20nm,0.8s
I23K Minto, Yukon-K 53.07 30 P **P** 00 15 17.7 +1.2
baz=271
RC01 Rabbit Creek A 53.09 36 P **P** 00 15 16.8 +0.1
RC01 IAmb IAmb 00 15 18.6
comp=Z,16nm,1.3s
RC01 Rabbit Creek A 53.09 36 P **P** 00 15 17.9 +1.1
baz=274
NEA2 Nenana 53.21 31 P **P** 00 15 17.9 +0.3
NEA2 IAmb IAmb 00 15 19.8
comp=Z,17nm,1.0s
NEA2 Nenana 53.21 31 P **P** 00 15 18.8 +1.3
baz=272,SNR=14
WB0 Warramunga Arr 53.24 183 P **P** 00 15 17.2 -1.0
D24K Happy Valley 53.28 25 P **P** 00 15 18.2 +0.3
D24K Happy Valley 53.28 25 P **P** 00 15 19.3 +1.4
baz=269,SNR=11
MCK McKinley 53.31 32 P **P** 00 15 17.4 -0.9
MCK McKinley 53.31 32 P **P** 00 15 17.4 -0.9
MCK pmax pmax
comp=Z,12nm,1.2s
MCK McKinley 53.31 32 P **P** 00 15 18.9 +0.6
baz=273
SEW Seward 53.31 37 P **P** 00 15 18.7 +0.4
baz=275
C24K Franklin Bluff 53.34 25 P **P** 00 15 19.7 +1.4
baz=268
PMR Palmer 53.35 35 P **P** 00 15 19.0 +0.5
PMR IAmb IAmb 00 15 19.8
comp=Z,19nm,1.0s
PMR Palmer 53.35 35 P **P** 00 15 19.0 +0.5
PMR pmax pmax
comp=Z,19nm,1.0s
PMR Palmer 53.35 35 P **P** 00 15 19.0 +0.5
baz=274
RND Reindeer 53.36 33 P **P** 00 15 18.9 +0.2
RND IAmb IAmb 00 15 20.0
comp=Z,12nm,0.9s
RND Reindeer 53.36 33 P **P** 00 15 18.9 +0.2
RND pmax pmax
comp=Z,12nm,0.9s
E24K Your Creek 53.39 27 P **P** 00 15 19.3 +0.5
E24K IAmb IAmb 00 15 21.6
comp=Z,18nm,1.4s
E24K Your Creek 53.39 27 P **P** 00 15 20.3 +1.5
baz=270,SNR=6.0
WRAB Tennant Creek 53.40 183 P **P** 00 15 18.3 -1.2
WRAB Tennant Creek 53.40 183 *i*P **P** 00 15 18.0 -1.4
WRAB pmax pmax
comp=Z,10.0nm,1.6s
WRA Warramunga Arr 53.41 183 P **P** 00 15 17.6 -1.9
WRA Warramunga Arr 53.41 183 P **P** 00 15 18.2 -1.3
comp=Z,4.8nm,0.3s,baz=360,slow=7.6,SNR=77
comp=Z,4.8nm,0.3s
WRA Warramunga Arr 53.41 183 *ce*P **P** 00 15 18.2 -1.3
WRA pmax pmax
comp=Z,6.0nm,0.3s
WR8 Warramunga Arr 53.42 183 IAmb IAmb 00 15 19.0
comp=Z,19nm,1.2s
GHO Glory Hole Cre 53.43 35 P **P** 00 15 19.1 -0.1
GHO IAmb IAmb 00 15 20.9
comp=Z,18nm,0.9s
WAT1 Susitna Watana 53.53 33 P **P** 00 15 20.4 +0.5
baz=274
F24K Squaw Lake 53.62 27 P **P** 00 15 21.3 +0.8
F24K IAmb IAmb 00 15 23.0
comp=Z,9.4nm,0.8s
F24K Squaw Lake 53.62 27 P **P** 00 15 22.5 +2.0
baz=271,SNR=8.5
WRH Wood River Hil 53.64 31 P **P** 00 15 20.5 -0.1
H24K Noodor Dome 53.67 30 P **P** 00 15 20.9 0.0
H24K Noodor Dome 53.67 30 P **P** 00 15 22.8 +1.9
baz=272,SNR=7.7
KNK Knik Glacier 53.68 35 P **P** 00 15 21.1 +0.1
KNK IAmb IAmb 00 15 22.6
comp=Z,25nm,0.9s
KNK Knik Glacier 53.68 35 P **P** 00 15 21.8 +0.7
baz=275
PWL Port Wells 53.79 36 IAmb IAmb 00 15 23.6
comp=Z,18nm,1.0s
PWL Port Wells 53.79 36 P **P** 00 15 22.2 +0.4
baz=275,SNR=6.1
G24K Hadweenzic Riv 53.80 28 P **P** 00 15 22.7 +0.9
G24K Hadweenzic Riv 53.80 28 P **P** 00 15 23.0 +1.2
baz=272
WAT6 Susitna Watana 53.92 34 P **P** 00 15 23.4 +0.5
baz=275,SNR=7.5
M23K Glacier View 54.00 35 P **P** 00 15 23.8 +0.5
baz=275
DHY Denali Highway 54.05 33 **P** 00 15 24.0 +0.2
DHY Denali Highway 54.05 33 P **P** 00 15 24.1 +0.4
baz=275,SNR=5.6
HDA Harding Lake 54.14 31 P **P** 00 15 23.9 -0.3
HDA IAmb IAmb 00 15 25.3
comp=Z,13nm,1.1s
HDA Harding Lake 54.14 31 P **P** 00 15 24.3 +0.1
baz=274,SNR=6.4
IL31 54.14 31 P **P** 00 15 24.2 0.0
ILAR Eielson Array 54.14 31 P **P** 00 15 23.7 -0.5
ILAR Eielson Array 54.14 31 P **P** 00 15 24.1 -0.1
comp=Z,2.4nm,0.8s,baz=279,slow=6.2,SNR=19
comp=Z,2.4nm,0.8s
D25K Kavik River 54.15 25 P **P** 00 15 24.8 +0.5
D25K IAmb IAmb 00 15 26.5
comp=Z,15nm,0.7s
D25K Kavik River 54.15 25 P **P** 00 15 25.6 +1.3
baz=271,SNR=10
SCM Sheep Creek Mo 54.18 35 P **P** 00 15 25.1 +0.5
SCM Sheep Creek Mo 54.18 35 P **P** 00 15 25.1 +0.5
SCM pmax pmax
comp=Z,30nm,0.9s
SCM Sheep Creek Mo 54.18 35 P **P** 00 15 25.7 +1.0
baz=276,SNR=12
P23K Montague Islan 54.34 37 P **P** 00 15 26.6 +0.9
baz=277
G25K Bearman Lake 54.34 28 P **P** 00 15 27.2 +1.6
baz=273
GLI Glacier Island 54.39 36 P **P** 00 15 26.2 +0.1
GLI IAmb IAmb 00 15 27.5
comp=Z,16nm,0.7s
GLI Glacier Island 54.39 36 P **P** 00 15 26.9 +0.8
baz=276,SNR=7.0
F25K Christian Rive 54.48 27 **P** 00 15 27.9 +1.2
F25K IAmb IAmb 00 15 29.8
comp=Z,9.8nm,0.8s
F25K Christian Rive 54.48 27 P **P** 00 15 28.7 +2.0
baz=273,SNR=13
E25K Arctic Village 54.48 27 P **P** 00 15 27.9 +1.2
E25K IAmb IAmb 00 15 29.6
comp=Z,11nm,0.9s
E25K Arctic Village 54.48 27 P **P** 00 15 28.4 +1.7
baz=272,SNR=6.5
H25L Birch Creek 54.49 29 P **P** 00 15 27.9 +1.3
baz=274
C26K Camden Bay 54.65 24 P **P** 00 15 29.4 +1.6
baz=272
PRP Porcupine Dome 54.66 30 P **P** 00 15 28.9 +0.8
PRP Porcupine Dome 54.66 30 P **P** 00 15 29.1 +1.0
baz=274
M24K Tolsona, Glenn 54.70 34 P **P** 00 15 28.5 +0.2
M24K IAmb IAmb 00 15 30.5
comp=Z,12nm,0.8s
M24K Tolsona, Glenn 54.70 34 P **P** 00 15 29.3 +1.0
baz=276
K24K Donnelly Dome 54.70 32 P **P** 00 15 29.1 +0.9
baz=275
FID Port Fidalgo 54.71 36 P **P** 00 15 28.3 0.0
FID IAmb IAmb 00 15 29.9
comp=Z,13nm,0.8s
HIN Hinchinbrook I 54.74 36 **P** 00 15 29.1 +0.5
J25K Salcha River, 54.80 31 P **P** 00 15 29.6 +0.6
baz=275
KLU Klutina 54.89 35 P **P** 00 15 29.6 -0.1
KLU IAmb IAmb 00 15 31.6
comp=Z,14nm,1.1s
KLU Klutina 54.89 35 P **P** 00 15 30.4 +0.8
baz=277
BMAR Burnt Mountain 54.90 28 P **P** 00 15 31.0 +1.4
PAX Paxson 54.93 33 P **P** 00 15 30.0 +0.1
PAX Paxson 54.93 33 P **P** 00 15 30.0 +0.1
PAX pmax pmax
comp=Z,6.0nm,1.1s
PAX Paxson 54.93 33 P **P** 00 15 30.6 +0.7
baz=276
DIV Divide 55.00 35 P **P** 00 15 31.0 +0.5
DIV IAmb IAmb 00 15 32.5
comp=Z,14nm,0.7s
F26K Sheenjek River 55.05 27 P **P** 00 15 32.2 +1.6
F26K IAmb IAmb 00 15 33.8
comp=Z,15nm,0.7s
F26K Sheenjek River 55.05 27 P **P** 00 15 32.9 +2.2
baz=274,SNR=15
C27K Jago River 55.08 25 P **P** 00 15 32.4 +1.6
baz=273
EYAK Cordova Ski Ar 55.09 36 P **P** 00 15 32.1 +1.1
RIDG Independent Ri 55.12 32 P **P** 00 15 31.8 +0.5
baz=276,SNR=5.5
HARP HAARP 55.14 34 P **P** 00 15 32.7 +1.3
baz=277
G26K Porcupine Rive 55.24 28 P **P** 00 15 32.9 +0.9
G26K Porcupine Rive 55.24 28 P **P** 00 15 33.6 +1.6
baz=275
SCRK Sand Creek 55.47 32 **P** 00 15 33.7 -0.1
SCRK IAmb IAmb 00 15 35.3
comp=Z,11nm,1.0s
SCRK Sand Creek 55.47 32 P **P** 00 15 34.2 +0.4
baz=277,SNR=13
DOT Dot Lake 55.48 32 P **P** 00 15 34.0 +0.3
DOT IAmb IAmb 00 15 34.6
comp=Z,8.2nm,0.9s
N25K Chitina, Valde 55.50 35 P **P** 00 15 35.0 +1.0
baz=278
BMRM Bremner River 55.59 35 **P** 00 15 35.0 +0.4
BMRM Bremner River 55.59 35 P **P** 00 15 35.7 +1.1
baz=278,SNR=8.4
J26L Joseph Creek 55.59 31 P **P** 00 15 34.9 +0.3
baz=277,SNR=7.6
RAGM Ragged Mountai 55.64 36 P **P** 00 15 35.3 +0.3
RAGM IAmb IAmb 00 15 50.5
comp=Z,16nm,1.2s
I26K Coal Creek Min 55.67 30 P **P** 00 15 35.0 0.0
baz=277
MENT Mentasta 55.72 33 P **P** 00 15 36.2 +0.7
KAIM Kayak Island 55.84 37 P **P** 00 15 37.6 +1.3
baz=279
HMT Hamilton 55.85 36 P **P** 00 15 37.4 +1.0
HMT IAmb IAmb 00 15 38.7
comp=Z,16nm,1.0s
L26K Log Cabin Wild 55.88 33 P **P** 00 15 37.3 +0.7
GLB Gilahina Butte 55.90 35 P **P** 00 15 36.8 +0.1
GLB IAmb IAmb 00 15 39.0
comp=Z,9.4nm,0.9s
E27K Coleen River 55.96 26 **P** 00 15 38.2 +1.2
E27K IAmb IAmb 00 15 39.8
comp=Z,9.4nm,0.7s
E27K Coleen River 55.96 26 P **P** 00 15 38.7 +1.6
baz=276,SNR=6.7
D27M Malcolm River 56.08 25 P **P** 00 15 39.3 +1.4
baz=276
G27K Doyon Strip 56.10 28 P **P** 00 15 39.5 +1.4
G27K Doyon Strip 56.10 28 P **P** 00 15 39.8 +1.7
baz=277
VRDI Verde Repeater 56.10 35 P **P** 00 15 37.4 -1.0
VRDI IAmb IAmb 00 15 40.4
comp=Z,12nm,0.9s
BERG Berg Lake 56.12 36 P **P** 00 15 38.7 +0.4
M26K Nabesna, AK 56.13 34 P **P** 00 15 38.4 -0.1
M26K IAmb IAmb 00 15 40.7
comp=Z,10nm,0.8s
M26K Nabesna, AK 56.13 34 P **P** 00 15 39.8 +1.4
baz=279,SNR=7.9
SUCK Suckling Hills 56.13 36 P **P** 00 15 38.8 +0.4
SUCK IAmb IAmb 00 15 41.6
comp=Z,18nm,1.0s
H27K Steamboat Moun 56.22 29 **P** 00 15 40.6 +1.7
H27K Steamboat Moun 56.22 29 P **P** 00 15 40.8 +1.8
baz=278,SNR=5.2
I27K Kandik River 56.27 30 P **P** 00 15 40.4 +1.1
baz=278,SNR=6.2
MCARA McCarthy VSAT 56.28 35 P **P** 00 15 40.7 +1.3
MCARA McCarthy VSAT 56.28 35 P **P** 00 15 40.6 +1.2
baz=279
K27K Chicken 56.30 31 P **P** 00 15 40.7 +1.2
baz=278
CRQM Cirque 56.33 35 P **P** 00 15 40.6 +0.6
CRQM IAmb IAmb 00 15 42.1
comp=Z,21nm,1.0s
CRQE Cirque 56.35 35 P **P** 00 15 41.1 +1.0
baz=280
TGL Tana Glacier 56.48 35 P **P** 00 15 41.4 +0.4
TGL IAmb IAmb 00 15 42.9
comp=Z,13nm,0.8s
WAX Waxell Ridge 56.52 36 P **P** 00 15 41.1 -0.1
WAX IAmb IAmb 00 15 43.3
comp=Z,11nm,0.7s
L27K Beaver Creek, 56.56 33 **P** 00 15 41.9 +0.6
L27K Beaver Creek, 56.56 33 P **P** 00 15 42.8 +1.5
baz=279,SNR=9.4
BCAR Beaver Creek A 56.58 33 **P** 00 15 41.9 +0.4
M27K Edge Creek, AK 56.65 33 P **P** 00 15 42.7 +0.6
M27K IAmb IAmb 00 15 44.4
comp=Z,11nm,0.8s
M27K Edge Creek, AK 56.65 33 P **P** 00 15 43.5 +1.4
baz=280,SNR=8.5
E28M Babbage River 56.67 26 P **P** 00 15 42.6 +0.6
E28M IAmb IAmb 00 15 44.2
comp=Z,6.4nm,0.7s
E28M Babbage River 56.67 26 P **P** 00 15 43.8 +1.8
baz=278
F28M Old Crow 56.68 27 **P** 00 15 42.8 +0.7
F28M IAmb IAmb 00 15 44.9
comp=Z,15nm,1.2s
F28M Old Crow 56.68 27 P **P** 00 15 43.7 +1.6
baz=278,SNR=6.4
ARTI Arti 56.69 319 *c i*P **P** 00 15 42.0 -0.3
ARTI 00 16 35.1
ARTI *PP **pP** 00 16 55.2 -2.3
ARTI 00 17 51.4
ARTI S **S** 00 23 06.0 -0.2
ARTI pmax pmax
comp=Z,1.0nm,0.5s
ISLE Juniper Island 56.75 36 P **P** 00 15 41.9 -0.9
ISLE IAmb IAmb 00 15 44.1
comp=Z,13nm,0.7s
I28M Miner Creek 56.98 30 IAmb IAmb 00 15 46.9
comp=Z,13nm,1.1s
I28M Miner Creek 56.98 30 P **P** 00 15 45.6 +1.3
baz=279,SNR=14
BARN Barnard Glacie 56.99 35 P **P** 00 15 45.0 +0.5
GRNC Granite Creek 57.01 35 P **P** 00 15 44.4 -0.3
YAH Yahtse 57.08 36 P **P** 00 15 46.2 +0.9
YAH IAmb IAmb 00 15 47.4
comp=Z,12nm,1.2s
BVCY Beaver Creek 57.11 33 P **P** 00 15 46.6 +1.4
baz=280
ASAR Alice Springs 57.13 184 P **P** 00 15 44.8 -1.0
ASAR Alice Springs 57.13 184 P **P** 00 15 44.7 -1.1
comp=Z,2.2nm,0.3s,baz=355,slow=4.6,SNR=33
comp=Z,2.2nm,0.3s
CTG Chitna Glacier 57.16 35 P **P** 00 15 46.8 +1.1
baz=281
CTGM Chitina Glacie 57.16 35 P **P** 00 15 45.3 -0.4
CTGM IAmb IAmb 00 15 47.3
comp=Z,7.6nm,0.7s
E29M Blow River 57.30 26 **P** 00 15 46.8 +0.4
E29M Blow River 57.30 26 P **P** 00 15 48.1 +1.7
baz=279
LOGN Logan Glacier 57.35 35 P **P** 00 15 46.9 -0.1
YUK3 Moose Creek 57.42 34 P **P** 00 15 48.4 +0.9
baz=281,SNR=5.9
AB31 Akbulak array 57.45 311 **P** 00 15 47.8 0.0
ABKAR Akbulak array 57.45 311 P **P** 00 15 47.7 0.0
ABKAR Akbulak array 57.45 311 IAmb IAmb 00 15 48.1
comp=Z,2.6nm,0.5s
DAWY Dawson 57.46 31 P **P** 00 15 47.7 +0.1
DAWY Dawson 57.46 31 P **P** 00 15 48.5 +1.0
baz=281
H29M Whitestone 57.49 29 P **P** 00 15 48.8 +1.1
H29M IAmb IAmb 00 15 50.5
comp=Z,13nm,1.4s
H29M Whitestone 57.49 29 P **P** 00 15 49.3 +1.6
baz=280
G29M Pine Creek 57.50 28 **P** 00 15 48.6 +0.8
G29M IAmb IAmb 00 15 50.7
comp=Z,15nm,0.9s
G29M Pine Creek 57.50 28 P **P** 00 15 49.6 +1.8
baz=280,SNR=8.7
I29M Ogilvie Camp, 57.67 30 P **P** 00 15 50.4 +1.4
baz=281,SNR=5.7
O28M Mount Upton 57.75 35 P **P** 00 15 50.2 +0.3
O28M Mount Upton 57.75 35 P **P** 00 15 51.2 +1.3
baz=282
PINM Pinnacle 57.86 36 P **P** 00 15 51.6 +1.2
baz=282
J29N Klondike Camp 57.88 31 P **P** 00 15 51.4 +0.8
J29N IAmb IAmb 00 15 53.7
comp=Z,15nm,1.4s
EPYK Eagle Plains 58.11 28 P **P** 00 15 53.5 +1.5
baz=282,SNR=15
G30M tAoh Zraii Nji 58.18 28 P **P** 00 15 53.5 +1.0
baz=282,SNR=7.5
M29M Somme Creek 58.20 33 P **P** 00 15 54.4 +1.6
M29M IAmb IAmb 00 15 55.6
comp=Z,9.1nm,0.8s
M29M Somme Creek 58.20 33 P **P** 00 15 54.7 +1.9
baz=282,SNR=15
L29M L29M 58.20 32 **P** 00 15 53.8 +1.1
L29M IAmb IAmb 00 15 56.4
comp=Z,16nm,1.0s
L29M L29M 58.20 32 P **P** 00 15 54.9 +2.1
baz=282,SNR=12
F30M Barrier River 58.22 27 **P** 00 15 54.1 +1.4
F30M IAmb IAmb 00 15 55.3
comp=Z,24nm,1.1s
F30M Barrier River 58.22 27 P **P** 00 15 54.4 +1.6
baz=282,SNR=8.5
K29M Barlow Dome 58.31 31 **P** 00 15 54.7 +1.2
K29M Barlow Dome 58.31 31 P **P** 00 15 55.2 +1.7
baz=282,SNR=10
AKTO Aktyubinsk 58.34 312 P **P** 00 15 54.4 +0.6
comp=Z,0.7nm,0.5s,baz=58,slow=10,SNR=4.2
comp=Z,0.7nm,0.5s
YUK4 Talbot Arm 58.36 34 P **P** 00 15 55.7 +1.7
baz=283

PNL Peninsula 58.38 36 P P 00 15 55.2 +1.2
baz=283
I30M Mount Dempster 58.49 30 IAmb IAmb 00 15 57.3
comp=Z,11nm,0.8s
I30M Mount Dempster 58.49 30 P P 00 15 56.1 +1.3
baz=283,SNR=24
YUK6 Outpost Mounta 58.58 35 P P 00 15 56.6 +1.0
baz=284,SNR=5.0
O29M Mount Kennedy 58.63 35 P P 00 15 57.3 +1.4
baz=284
J30M Hart River 58.66 30 P 00 15 57.2 +1.3
J30M Hart River 58.66 30 P P 00 15 57.1 +1.2
baz=283
INK Inuvik 58.90 26 P P 00 15 58.0 +0.7
comp=Z,3.7nm,0.5s,baz=307,slow=8.6,SNR=12
comp=Z,3.7nm,0.5s
INK Inuvik 58.90 26 P P 00 15 58.1 +0.7
baz=283
M30M Minto, Yukon 58.92 33 P P 00 15 58.3 +0.7
baz=284
G31M Satah River 58.95 27 IAmb IAmb 00 15 58.7
comp=Z,7.3nm,0.7s
G31M Satah River 58.95 27 P P 00 15 58.1 +0.5
baz=283,SNR=6.9
HYT Haines Junctio 59.02 35 P 00 15 59.6 +1.1
HYT Haines Junctio 59.02 35 P P 00 16 00.0 +1.6
baz=284,SNR=5.4
F31M Tsiigehtchic 59.02 27 P P 00 15 58.4 +0.2
F31M Tsiigehtchic 59.02 27 P P 00 15 58.8 +0.7
baz=284
N30M Aishikik Lake 59.06 34 P P 00 15 59.3 +0.7
N30M Aishikik Lake 59.06 34 P P 00 15 59.3 +0.7
baz=284
H31M Peel River 59.18 29 P P 00 16 00.7 +1.3
baz=284,SNR=17
P29M Windy Craggy 59.21 36 P 00 15 59.8 +0.2
P29M IAmb IAmb 00 16 02.4
comp=Z,10nm,0.8s
P29M Windy Craggy 59.21 36 P P 00 16 01.6 +2.0
baz=285
P30M Million Dollar 59.46 35 P P 00 16 03.1 +1.7
baz=285
N31M Braeburn, Yuko 59.66 34 P 00 16 03.0 +0.4
N31M IAmb IAmb 00 16 05.3
comp=Z,9.0nm,1.1s
N31M Braeburn, Yuko 59.66 34 P P 00 16 04.3 +1.6
baz=285
PLBC Pleasant Camp 59.93 36 P P 00 16 05.9 +1.5
baz=286,SNR=5.9
M31M Drury Creek, Y 60.10 33 P P 00 16 06.2 +0.6
M31M Drury Creek, Y 60.10 33 P P 00 16 06.7 +1.1
baz=286
WHY Whitehorse 60.31 35 P 00 16 08.3 +1.2
WHY IAmb IAmb 00 16 09.6
comp=Z,15nm,1.0s
WHY Whitehorse 60.31 35 P P 00 16 08.3 +1.2
baz=286,SNR=6.1
S31K Pelican 60.42 38 P P 00 16 08.1 +0.4
S31K IAmb IAmb 00 16 10.1
comp=Z,14nm,1.1s
S31K Pelican 60.42 38 P P 00 16 09.0 +1.3
baz=287
SKAG Skagway 60.43 36 P P 00 16 08.4 +0.6
SKAG IAmb IAmb 00 16 13.2
comp=Z,9.4nm,1.0s
FARO Faro, Yukon 60.56 33 P P 00 16 09.7 +1.0
FARO IAmb IAmb 00 16 11.0
comp=Z,8.8nm,1.0s
FARO Faro, Yukon 60.56 33 P P 00 16 09.9 +1.2
baz=287
A36M Sachs Harbour 60.62 21 P 00 16 09.7 +0.9
A36M Sachs Harbour 60.62 21 P P 00 16 10.0 +1.2
baz=288,SNR=15
SIT Sitka 61.16 39 P P 00 16 13.9 +1.3
baz=288
P32M Atlin 61.18 35 P 00 16 13.8 +0.9
P32M IAmb IAmb 00 16 15.2
comp=Z,7.2nm,0.9s
P32M Atlin 61.18 35 P P 00 16 14.2 +1.3
baz=288
R32K Eaglecrest 61.19 37 P P 00 16 14.0 +1.1
baz=288
MMPY Sheldon Lake, 61.37 32 P P 00 16 15.5 +1.4
baz=288,SNR=5.5
S32K Killisnoo 61.41 38 P P 00 16 15.7 +1.4
baz=288
P33M Teslin, Yukon 61.42 35 P 00 16 14.8 +0.4
P33M Teslin, Yukon 61.42 35 P P 00 16 15.7 +1.2
baz=288,SNR=5.7
DZM Mont Dzumac 62.08 149 P P 00 16 18.7 -0.6
comp=Z,3.8nm,0.7s,baz=353,slow=13,SNR=2.9
comp=Z,3.8nm,0.7s
Q32M Nakina River 62.09 36 P P 00 16 19.2 +0.2
Q32M IAmb IAmb 00 16 27.0
comp=Z,11nm,1.4s
Q32M Nakina River 62.09 36 P P 00 16 20.5 +1.4
baz=289
R33M Jennings River 62.57 35 P P 00 16 23.0 +0.8
R33M Jennings River 62.57 35 P P 00 16 23.7 +1.5
baz=290
U33K Whale Pass 62.62 39 P P 00 16 23.7 +1.4
baz=290
CRAG Craig 62.84 40 P P 00 16 24.7 +1.0
CRAG Craig 62.84 40 P P 00 16 25.0 +1.3
baz=290
WRAK Wrangell Islan 62.92 39 P P 00 16 25.7 +1.4
baz=291
S34M Telegraph Cree 63.01 37 P P 00 16 25.3 +0.4
S34M Telegraph Cree 63.01 37 P P 00 16 26.3 +1.4
baz=291
TGTN Hyland Airport 63.06 32 P P 00 16 26.9 +1.6
baz=291
SPITS Spitsbergen Ar 63.10 349 PKP2bc 00 45 28.6
comp=Z,1.1nm,0.3s,baz=222,slow=1.9,SNR=6.3
SPITS Spitsbergen Ar 63.10 349 P P 00 16 26.6 +1.4
SPITS pmax pmax
comp=Z,26nm,1.1s
WTLY Watson Lake, Y 63.34 34 P P 00 16 28.0 +1.0
DLBC Dease Lake 63.37 36 P P 00 16 28.7 +1.5
baz=291
V35K Ketchikan 63.70 40 P P 00 16 30.8 +1.4
baz=292
T35M Bob Quinn 63.79 38 P P 00 16 31.1 +1.1
T35M IAmb IAmb 00 16 32.8
comp=Z,7.0nm,0.8s
T35M Bob Quinn 63.79 38 P P 00 16 31.6 +1.6
baz=292
EUNU Eureka 63.97 8 P P 00 16 31.5 +0.7
EUNU IAmb IAmb 00 16 32.0
comp=Z,6.7nm,0.8s
WRGLY Wrigley 64.47 30 P P 00 16 35.5 +1.3
baz=294
FORT Forrest 64.71 189 P P 00 16 35.4 -0.7
TOAD Toad River Com 65.51 34 P P 00 16 42.1 +1.2
baz=295
ARCES ARCESS Array B 65.87 339 P P 00 16 43.5 +0.5
ARCES IAmb IAmb 00 16 44.0
comp=Z,11nm,1.1s
ARCES ARCESS Array B 65.87 339 P P 00 16 43.4 +0.3
comp=Z,6.4nm,0.9s,baz=67,slow=9.3,SNR=15
comp=Z,6.4nm,0.9s
ARCES ARCESS Array B 65.87 339 P P 00 16 43.5 +0.5
ARCES pmax pmax
comp=Z,11nm,1.1s
RES Resolute Bay 66.66 13 P 00 16 48.1 +0.3
RES IAmb IAmb 00 16 49.2
comp=Z,8.0nm,1.0s
RES Resolute Bay 66.66 13 P P 00 16 48.1 +0.3
RES pmax pmax
comp=Z,8.0nm,1.0s
AFI Afiamalu 67.86 125 P P 00 16 56.2 -0.1
AFI Afiamalu 67.86 125 P P 00 16 56.2 -0.1
AFI pmax pmax
comp=Z,93nm,1.1s
YKAW3 Yellowknife Wh 68.36 28 P P 00 16 58.5 -0.2
YKAW3 IAmb IAmb 00 17 02.5
comp=Z,18nm,1.0s
FINES FINESS Array B 70.11 332 P P 00 17 09.2 -0.1
comp=Z,4.0nm,0.5s,baz=57,slow=6.2,SNR=52
comp=Z,4.0nm,0.5s
KBZ Khabaz 70.40 310 *d* iP P 00 17 12.5 +1.2
KBZ pmax pmax
comp=Z,5.0nm,1.2s
KIV Kislovodsk 70.43 310 *e*P P 00 17 12.6 +0.9
KIV pmax pmax
comp=Z,6.0nm,1.1s
NLWA Neilton Lookou 71.52 45 P 00 17 19.1 +1.0

GNW Green Mountain 72.04 45 P P 00 17 21.2 +0.2
GNW IAmb IAmb 00 17 24.3
comp=Z,7.8nm,1.0s
E03A Lebam 72.12 46 P P 00 17 22.0 +0.5
COR Corvallis 73.27 47 P P 00 17 29.1 +0.8
COR Corvallis 73.27 47 P P 00 17 29.1 +0.8
COR pmax pmax
comp=Z,32nm,1.3s
ILON Igloolik, Nuna 73.33 13 P 00 17 28.2 +0.1
B08A Colville Reser 73.64 43 P P 00 17 30.6 +0.3
B08A IAmb IAmb 00 17 32.1
comp=Z,8.0nm,0.9s
H04D Lebanon 73.65 47 P P 00 17 31.3 +0.8
H04D IAmb IAmb 00 17 37.0
comp=Z,9.4nm,1.0s
BUCK Buck Mountain 73.67 48 P 00 17 32.1 +1.4
I03D Drain, OR 73.70 48 P P 00 17 31.3 +0.5
BLKN Baker Lake 73.78 21 IAmb IAmb 00 17 31.9
comp=Z,8.1nm,1.0s
HOOD Mount Hood Mea 73.89 46 P P 00 17 32.9 +0.8
H04A Detroit Lake 73.91 47 P P 00 17 32.5 +0.5
H04A IAmb IAmb 00 17 33.9
comp=Z,8.6nm,0.9s
SUMG Summit 73.97 359 P P 00 17 32.7 +0.4
SUMG IAmb IAmb 00 17 34.1
comp=Z,6.0nm,0.6s
SUMG Summit 73.97 359 P P 00 17 32.7 +0.4
SUMG pmax pmax
comp=Z,6.0nm,0.6s
MXC Moxie City 74.03 44 P P 00 17 33.2 +0.5
MXC IAmb IAmb 00 17 34.8
comp=Z,11nm,1.3s
KSXB Camp Six Broad 74.33 50 P P 00 17 34.5 -0.1
KSXB IAmb IAmb 00 17 37.6
comp=Z,11nm,1.1s
WAH2 Wahluke Slope 74.36 44 P P 00 17 35.1 +0.6
WAH2 IAmb IAmb 00 17 36.9
comp=Z,4.4nm,0.7s
L02F Cave Junction 74.38 50 P P 00 17 35.0 +0.3
L02F IAmb IAmb 00 17 37.0
comp=Z,5.0nm,0.8s
BBOR Butler Butte 74.54 49 P 00 17 35.8 0.0
BBOR IAmb IAmb 00 17 38.0
comp=Z,8.5nm,1.2s
G06A Carlson Farm, 74.55 46 P P 00 17 36.0 +0.3
G06A IAmb IAmb 00 17 37.8
comp=Z,6.8nm,1.0s
D08A Wollman Farm, 74.57 44 P 00 17 36.1 +0.5
D08A IAmb IAmb 00 17 37.5
comp=Z,6.8nm,1.1s
HAWA Hanford 74.58 44 P P 00 17 35.6 -0.1
HAWA IAmb IAmb 00 17 37.8
comp=Z,8.1nm,1.2s
I05D Terrebonne, OR 74.60 47 IAmb IAmb 00 17 38.0
comp=Z,7.5nm,0.8s
AKASG Malin Array Be 74.76 321 P P 00 17 36.1 -0.5
comp=Z,0.9nm,0.4s,baz=52,slow=5.3,SNR=6.0
comp=Z,0.9nm,0.4s
NEW Newport 74.92 42 IAmb IAmb 00 17 39.6
comp=Z,6.3nm,0.9s
YBH Yreka Blue Hor 75.13 50 IAmb IAmb 00 17 41.4
comp=Z,6.4nm,0.9s
J05D Fort Rock, OR 75.23 48 P P 00 17 40.7 +1.0
E09A Wood Farm, Sta 75.31 44 P 00 17 40.4 +0.5
G08A Pilot Rock 75.51 45 P P 00 17 41.0 -0.2
LNOR Lincton Mounta 75.59 44 P P 00 17 41.8 +0.2
LNOR IAmb IAmb 00 17 44.6
comp=Z,7.0nm,1.5s
HFS Hagfors 75.64 334 P P 00 17 41.1 -0.3
comp=Z,1.3nm,0.4s,baz=54,slow=5.4,SNR=12
comp=Z,1.3nm,0.4s
K05A Summer Lake 75.74 48 P 00 17 42.9 +0.2
NB2 NORSAR Subarra 75.86 336 P P 00 17 42.5 -0.2
comp=Z,2.2nm,0.7s,baz=44,slow=5.6
NOA NORSAR Array B 75.86 336 P P 00 17 42.6 -0.2
comp=Z,3.5nm,0.8s,baz=45,slow=5.5,SNR=10
comp=Z,3.5nm,0.8s
BMO Blue Mountains 76.73 45 IAmb IAmb 00 17 49.4
comp=Z,4.3nm,0.8s
J08A Circle Bar Ran 76.87 47 P 00 17 49.5 +0.6
MCCM Marconi Confer 76.93 53 P P 00 17 49.0 0.0
ORV Oroville 77.07 51 P P 00 17 49.4 -0.5
ORV Oroville 77.07 51 P P 00 17 49.4 -0.5
ORV pmax pmax
comp=Z,14nm,1.5s
WVOR Wild Horse Val 77.29 47 P P 00 17 51.6 +0.5
WVOR IAmb IAmb 00 17 53.2
comp=Z,5.7nm,0.9s
WVOR Wild Horse Val 77.29 47 P P 00 17 51.7 +0.5
WVOR pmax pmax
comp=Z,6.0nm,1.0s
BEKR Beckworth 77.64 50 P 00 17 52.8 -0.4
AFDM Forest Hills D 77.75 51 P P 00 17 53.3 -0.3
AFDM IAmb IAmb 00 17 54.6
comp=Z,3.8nm,0.8s
OVMT Ovando 77.89 41 P P 00 17 54.4 0.0
BPMT Black Pine Rid 78.02 42 P P 00 17 55.2 0.0
PAHR Pah Rah Range 78.35 50 P 00 17 57.7 +0.6
PAHR IAmb IAmb 00 17 58.7
comp=Z,7.5nm,1.0s
FFC Flin Flon 78.35 31 P P 00 17 56.4 -0.2
FFC IAmb IAmb 00 17 57.7
comp=Z,4.4nm,0.9s
FFC Flin Flon 78.35 31 P P 00 17 56.4 -0.2
FFC pmax pmax
comp=Z,4.0nm,0.9s
MFID Camas Ranch 78.43 45 P 00 17 57.7 +0.4
MFID IAmb IAmb 00 17 59.5
comp=Z,5.6nm,1.1s
FCC Fort Churchill 78.49 25 P P 00 17 57.6 +0.4
FCC IAmb IAmb 00 17 57.8
comp=Z,6.5nm,0.9s
FCC Fort Churchill 78.49 25 P P 00 17 57.6 +0.4
FCC pmax pmax
comp=Z,7.0nm,1.0s
PNTR Pine Nut 78.56 51 P P 00 17 58.0 -0.3
CMB Columbia Colle 78.64 52 P 00 17 58.5 0.0
CMB IAmb IAmb 00 17 59.5
comp=Z,3.4nm,0.8s
CMB Columbia Colle 78.64 52 P P 00 17 58.5 0.0
CMB pmax pmax
comp=Z,3.0nm,0.8s
BURAR Bucovina Array 78.71 320 P P 00 17 58.7 0.0
LRM Limekiln Ridge 78.94 42 P P 00 18 00.4 +0.1
EGMT Eagleton 79.05 39 P 00 18 00.9 +0.4
DLMT Dillon 79.14 42 P P 00 18 01.7 +0.5
HLID Hailey 79.17 45 P 00 18 02.3 +0.9
HLID IAmb IAmb 00 18 03.6
comp=Z,3.5nm,0.8s
MCMT McKenzie Canyo 79.32 43 P P 00 18 02.4 +0.1
RYN Ryan 79.51 51 P P 00 18 03.4 +0.1
RYN IAmb IAmb 00 18 05.2
comp=Z,6.0nm,1.0s
BOZ Bozeman (W) 79.53 42 P 00 18 03.7 +0.4
BOZ IAmb IAmb 00 18 04.6
comp=Z,3.7nm,0.8s
BOZ Bozeman (W) 79.53 42 P P 00 18 03.7 +0.4
BOZ pmax pmax
comp=Z,4.0nm,0.8s
LHV Little Huntoon 79.74 51 P P 00 18 05.5 +1.2
NVAR Mina Array Bea 79.77 51 P P 00 18 05.3 +0.5
NVAR Mina Array Bea 79.77 51 P P 00 18 04.5 -0.3
comp=Z,3.6nm,0.8s,baz=273,slow=4.9,SNR=13
comp=Z,3.6nm,0.8s
NV11 Mina Array Sit 79.86 51 P P 00 18 05.2 +0.1
NV11 IAmb IAmb 00 18 07.8
comp=Z,5.1nm,1.1s
YHL Hebgen Lake 80.24 42 P P 00 18 07.2 -0.1
YHL IAmb IAmb 00 18 09.5
comp=Z,6.4nm,1.0s
ELK Elko 80.35 47 P 00 18 08.1 +0.3
GCMT Greycliff 80.49 41 P P 00 18 08.9 +0.5
DSP Deep Springs 80.59 51 P 00 18 08.5 -0.3
DSP IAmb IAmb 00 18 11.1
comp=Z,4.2nm,1.0s
TPH Tonopah 80.67 50 P P 00 18 09.6 +0.1
MZP Montezuma Peak 80.78 51 P P 00 18 09.9 -0.3
MZP IAmb IAmb 00 18 11.8
comp=Z,7.2nm,1.3s
YNE Yellowstone No 80.80 41 IAmb IAmb 00 18 12.1
comp=Z,6.1nm,0.8s
YMP Mirror Lake Pl 80.88 42 P P 00 18 11.8 +1.2
MMAI Mount Meron Ar 80.99 304 P P 00 18 11.3 +0.1
comp=Z,2.0nm,0.8s,baz=303,slow=19,SNR=6.1
comp=Z,2.0nm,0.8s

FXWY Fox Creek 81.08 43 P P 00 18 12.0 +0.4
FXWY IAmb IAmb 00 18 14.2
comp=Z,5.7nm,1.2s
GMN Gold Mountain 81.09 51 P P 00 18 11.9 +0.1
GMN IAmb IAmb 00 18 13.5
comp=Z,3.6nm,0.9s
RLMT Red Lodge 81.13 41 P 00 18 12.3 +0.4
RLMT IAmb IAmb 00 18 13.9
comp=Z,10nm,1.4s
BKZ Black Stump Frn 81.14 150 P P 00 18 11.9 +0.4
MORC Moravsky Berou 81.18 325 P P 00 18 12.2 +0.4
HVU Hansel Valley 81.21 45 P P 00 18 12.4 +0.1
HVU IAmb IAmb 00 18 14.0
comp=Z,5.5nm,0.7s
TPAW Teton Pass 81.22 43 P P 00 18 12.3 -0.1
TPAW IAmb IAmb 00 18 14.8
comp=Z,4.4nm,0.7s
PSZ Piszkesteto 81.28 323 P P 00 18 12.5 +0.2
PSZ IAmb IAmb 00 18 13.9
comp=Z,3.9nm,1.0s
KRLC Kraliky 81.33 326 *e*P P 00 18 12.8 +0.2
SNOW Snow King Moun 81.35 43 P P 00 18 12.9 -0.1
SNOW IAmb IAmb 00 18 15.5
comp=Z,6.6nm,1.1s
DPC Dobruska-Polom 81.36 326 *e*P P 00 18 13.3 +0.6
R11B Troy Canyon, C 81.55 49 P 00 18 13.7 -0.4
R11B IAmb IAmb 00 18 15.4
comp=Z,3.5nm,0.7s
BGU Big Grassy Mou 81.58 46 P P 00 18 14.9 +0.7
AHID Auburn Hatcher 81.58 44 P P 00 18 14.9 +0.7
AHID IAmb IAmb 00 18 16.9
comp=Z,2.7nm,0.7s
MRNZ Matariki Terra 81.59 154 P P 00 18 13.5 -0.2
LAO LASA Array 81.75 38 P P 00 18 15.3 +0.5
WCT Wildcat Mounta 81.80 51 P 00 18 14.8 -0.5
GWY Greenwater Val 82.13 52 IAmb IAmb 00 18 18.6
comp=Z,11nm,1.2s
CLL Collm 82.18 328 *i* P P 00 18 16.6 -0.2
CLL pmax pmax
comp=Z,4.0nm,0.6s
CLL Collm 82.18 328 *i* P P 00 18 16.6 -0.2
comp=Z,4.0nm,0.6s
CLL *i* x x 00 18 20.0
TCUT Toone Canyon 82.43 45 P P 00 18 19.4 +0.7
PRN Pahroc Range 82.45 50 P 00 18 19.8 +1.1
PRN IAmb IAmb 00 18 21.3
comp=Z,7.0nm,1.0s
PD31 Pinedale Array 82.47 43 IAmb IAmb 00 18 20.1
comp=Z,5.6nm,0.9s
PDAR Pinedale Array 82.47 43 P 00 18 19.0 +0.2
PDAR Pinedale Array 82.47 43 P P 00 18 19.1 +0.2
comp=Z,4.0nm,0.8s,baz=318,slow=2.0,SNR=24
comp=Z,4.0nm,0.8s
CTU Camp Tracy 82.49 46 P P 00 18 18.7 -0.2
CTU IAmb IAmb 00 18 22.9
comp=Z,5.2nm,1.0s
PSUT Pine Spring 82.53 48 P P 00 18 19.0 -0.2
PSUT IAmb IAmb 00 18 20.9
comp=Z,4.5nm,0.8s
MSWZ Moikau Station 82.55 152 P P 00 18 18.6 -0.1
GSC Goldstone, Bar 82.56 52 P P 00 18 18.4 -0.8
GSC Goldstone, Bar 82.56 52 P P 00 18 18.4 -0.8
GSC pmax pmax
comp=Z,10.0nm,0.3s
JLU Jordanelle 82.72 46 P P 00 18 20.3 +0.1
JLU IAmb IAmb 00 18 22.3
comp=Z,5.5nm,0.9s
MPU Maple Canyon 82.98 46 P P 00 18 21.2 -0.3
MPU IAmb IAmb 00 18 22.9
comp=Z,5.8nm,0.7s
ZVC Zvikov 82.98 327 *e*P P 00 18 21.2 +0.2
BSUT Blindstream Ca 83.17 45 P P 00 18 23.0 +0.4
KHC Kasperske Hory 83.48 327 *e*P P 00 18 23.7 +0.1
KHC Kasperske Hory 83.48 327 *e*P P 00 18 23.7 +0.1
MVU Marysvale 83.56 48 IAmb IAmb 00 18 26.8
comp=Z,5.6nm,0.8s
V12A Nelson 83.59 51 IAmb IAmb 00 18 26.1
comp=Z,4.3nm,0.9s
GEC2 GERESS Array S 83.63 326 P P 00 18 24.2 -0.2
GERES GERESS Array B 83.63 326 P P 00 18 23.1 -1.3
GERES GERESS Array B 83.63 326 P P 00 18 24.1 -0.3
comp=Z,1.0nm,0.7s,baz=46,slow=7.6,SNR=8.0
comp=Z,1.0nm,0.7s
TMUT Trail Mountain 83.68 47 P P 00 18 24.9 -0.2
PFO Pinyon Flats O 83.79 54 P P 00 18 25.1 -0.4
PFO IAmb IAmb 00 18 26.8
comp=Z,5.5nm,0.8s
PFO Pinyon Flats O 83.79 54 P P 00 18 25.1 -0.4
PFO pmax pmax
comp=Z,6.0nm,0.8s
LCMT Little Creek M 83.84 49 P P 00 18 25.9 +0.2
LCMT IAmb IAmb 00 18 27.6
comp=Z,5.9nm,0.9s
Q16A Castle Valley 83.94 47 P P 00 18 27.3 +1.0
P18A Preston Nutter 84.05 46 P P 00 18 27.5 +0.5
KNB Kanab 84.10 49 P P 00 18 27.4 +0.3
KNB Kanab 84.10 49 P P 00 18 27.4 +0.3
KNB pmax pmax
comp=Z,9.0nm,0.8s
ULM Lac du Bonnet 84.16 31 P P 00 18 26.9 0.0
ULM IAmb IAmb 00 18 27.7
comp=Z,6.6nm,1.2s
ULM Lac du Bonnet 84.16 31 P P 00 18 26.2 -0.7
comp=Z,2.4nm,0.7s,baz=275,slow=3.8,SNR=3.4
comp=Z,2.4nm,0.7s
ULM Lac du Bonnet 84.16 31 P P 00 18 26.9 0.0
ULM pmax pmax
comp=Z,7.0nm,1.2s
SRU San Rafael Swe 84.21 46 P P 00 18 27.7 +0.1
SRU San Rafael Swe 84.21 46 P P 00 18 27.7 +0.1
SRU pmax pmax
comp=Z,10.0nm,0.7s
K22A Casper 84.24 42 P 00 18 27.3 -0.4
K22A IAmb IAmb 00 18 30.1
comp=Z,6.9nm,0.9s
W13A Hualapai Mount 84.59 51 P P 00 18 29.8 +0.2
W13A IAmb IAmb 00 18 31.0
comp=Z,3.2nm,0.9s
RSSD Black Hills 84.61 39 P P 00 18 29.5 0.0
RSSD IAmb IAmb 00 18 31.6
comp=Z,2.7nm,0.7s
RSSD Black Hills 84.61 39 P P 00 18 29.5 0.0
RSSD pmax pmax
comp=Z,3.0nm,0.7s
HMU Henry Mountain 84.82 47 P P 00 18 30.1 -0.7
HMU IAmb IAmb 00 18 32.2
comp=Z,5.3nm,0.7s
O20A White River Ci 84.91 44 P P 00 18 30.1 -1.0
O20A IAmb IAmb 00 18 32.6
comp=Z,6.9nm,0.9s
EKA Eskdalemuir Ar 85.03 339 P P 00 18 30.4 -0.6
comp=Z,1.2nm,0.6s,baz=22,slow=4.7,SNR=4.3
comp=Z,1.2nm,0.6s
PDG Podgorica 85.28 319 P P 00 18 32.0 -0.6
PV21 Cone Mtn., Par 85.49 46 P P 00 18 34.7 +0.7
PV21 IAmb IAmb 00 18 35.9
comp=Z,7.7nm,1.0s
EPLO Experimental L 85.51 30 P P 00 18 33.9 +0.3
EPLO IAmb IAmb 00 18 34.2
comp=Z,3.4nm,0.8s
PV23 Carpenter Ridg 85.54 46 P P 00 18 34.8 +0.5
PV10 Paradox Valley 85.58 46 P P 00 18 35.5 +1.0
PV14 Lion Creek, Pa 85.59 46 P P 00 18 34.3 -0.2
PV22 Blue Mesa, Par 85.62 46 P P 00 18 35.2 +0.6
PV22 IAmb IAmb 00 18 36.6
comp=Z,6.0nm,1.1s
PV20 West Nyswonger 85.64 46 P P 00 18 35.1 +0.5
PV04 Paradox Valley 85.64 46 P P 00 18 34.7 0.0
PV04 IAmb IAmb 00 18 36.9
comp=Z,7.8nm,1.1s
PV19 Morning Glory 85.65 46 P P 00 18 35.7 +0.9
PV17 East Wray Mesa 85.69 46 P P 00 18 35.4 +0.5
PV16 Nyswonger Mesa 85.69 46 P P 00 18 35.1 +0.1
PV16 IAmb IAmb 00 18 38.4
comp=Z,4.5nm,1.2s
PV11 David Mesa, Pa 85.72 46 P P 00 18 35.0 -0.1
PV05 Paradox Valley 85.73 46 P P 00 18 35.6 +0.4
SABO M.te Sabotino 85.73 324 P P 00 18 33.5 -1.3
SABO IAmb IAmb 00 18 33.5
comp=Z,10nm,1.3s
PV18 Skein Mesa, Pa 85.74 46 P P 00 18 35.6 +0.4
PV12 Saucer Basin, 85.75 46 P P 00 18 36.0 +0.7
PV03 Paradox Valley 85.77 46 P P 00 18 35.9 +0.6
PV03 IAmb IAmb 00 18 37.2
comp=Z,5.1nm,0.9s

PV07	**Paradox Valley**	**85.77**	**46**	P	**P**	**00 18 34.8**	**-0.6**
PV07				IAmb	IAmb	00 18 37.3		
	comp=Z,6.1nm,1.3s							
PV13	**Radium Mtn., P**	**85.85**	**46**	P	**P**	**00 18 34.7**	**-1.1**
PV02	**Paradox Valley**	**85.86**	**46**	P	**P**	**00 18 36.1**	**+0.3**
PV02				IAmb	IAmb	00 18 37.8		
	comp=Z,6.4nm,0.9s							
Y14A	**Wickenburg**	**85.88**	**52**	P	**P**	**00 18 35.3**	**-0.5**
Y14A				IAmb	IAmb	00 18 42.4		
	comp=Z,2.2nm,0.6s							
PV15	**Paradox Valley**	**85.93**	**46**	P	**P**	**00 18 37.0**	**+0.8**
PV15				IAmb	IAmb	00 18 40.3		
	comp=Z,7.2nm,1.4s							
WUAZ	**Wupatki**	**85.95**	**50**	P	**P**	**00 18 35.5**	**-0.7**
WUAZ				IAmb	IAmb	00 18 37.5		
	comp=Z,9.1nm,1.5s							
PV01	**Paradox Valley**	**86.01**	**46**	P	**P**	**00 18 36.8**	**+0.3**
ISCO	**Idaho Springs**	**86.65**	**43**	P	**P**	**00 18 40.0**	**+0.4**
ISCO				IAmb	IAmb	00 18 41.6		
	comp=Z,3.3nm,0.8s							
ISCO	**Idaho Springs**	**86.65**	**43**	P	**P**	**00 18 40.1**	**+0.4**
ISCO				pmax	pmax			
	comp=Z,3.0nm,0.8s							
214A	**Organ Pipe Nat**	**87.23**	**53**	P	**P**	**00 18 42.2**	**0.0**
214A				IAmb	IAmb	00 18 43.5		
	comp=Z,2.5nm,0.8s							
F33A	**5 Mile Ranch,**	**87.25**	**34**	P	**P**	**00 18 42.5**	**+0.5**
SDCO	**Great Sand Dun**	**88.09**	**45**	P	**P**	**00 18 47.5**	**+0.9**
ECSD	**EROS Data Cent**	**88.66**	**36**	P	**P**	**00 18 48.5**	**-0.2**
ECSD				IAmb	IAmb	00 18 49.8		
	comp=Z,7.4nm,1.1s							
TAOE	**Nuku Hiva Isla**	**88.83**	**101**	P	**P**	**00 18 51.2**	**+1.2**
ANMO	**Albuquerque**	**89.39**	**47**	P	**P**	**00 18 52.2**	**-0.3**
ANMO	**Albuquerque**	**89.39**	**47**	P	**P**	**00 18 52.3**	**-0.2**
ANMO				IAmb	IAmb	00 18 54.5		
	comp=Z,2.8nm,1.0s							
ANMO	**Albuquerque**	**89.39**	**47**	P	**P**	**00 18 52.6**	**+0.1**
ANMO				IAmb	IAmb	00 18 54.5		
	comp=Z,3.0nm,1.1s							
ANMO	**Albuquerque**	**89.39**	**47**	⇓ *i* P	**P**	**00 18 52.7**	**+0.2**
ANMO				pmax	pmax			
	comp=Z,11nm,4.0s							
SCHQ	**Schefferville**	**89.43**	**14**	P	**P**	**00 18 52.2**	**+0.2**
	comp=Z,3.0nm,1.0s,baz=56,slow=1.2,SNR=2.3							
	comp=Z,3.0nm,1.0s							
SBM	**South Baldy**	**89.58**	**49**	P	**P**	**00 18 53.8**	**+0.2**
I37A	**Lemond, Waseca**	**89.98**	**34**	P	**P**	**00 18 55.1**	**+0.3**
COWI	**Conover**	**90.23**	**30**	P	**P**	**00 18 56.3**	**+0.4**
G40A	**Rib Lake**	**90.44**	**31**	P	**P**	**00 18 56.8**	**-0.1**
G40A				IAmb	IAmb	00 18 57.8		
	comp=Z,3.6nm,0.8s							
E46A	**Sault Ste Mari**	**91.95**	**27**	P	**P**	**00 19 05.0**	**+1.1**
AMTX	**Amarillo**	**92.30**	**45**	P	**P**	**00 19 05.0**	**-0.8**
KAN09	**Caldwell North**	**92.99**	**41**	P	**P**	**00 19 08.4**	**-0.4**
VHRN	**Van Horn**	**93.08**	**50**	P	**P**	**00 19 09.1**	**-0.5**
VHRN				IAmb	IAmb	00 19 11.9		
	comp=Z,7.5nm,1.4s							
TX31	**Lajitas Ar. Si**	**94.91**	**50**	P	**P**	**00 19 17.5**	**-0.4**
TX31				IAmb	IAmb	00 19 19.0		
	comp=Z,2.1nm,0.8s							
TXAR	**Lajitas Array**	**94.91**	**50**	P	**P**	**00 19 17.7**	**-0.2**
TXAR	**Lajitas Array**	**94.91**	**50**	P	**P**	**00 19 17.9**	**0.0**
	comp=Z,1.6nm,0.8s,baz=280,slow=3.4,SNR=19							
TXAR				pP	**pP**	**00 20 42.0**	**+0.8**	
	comp=Z,0.3nm,0.7s,baz=311,slow=4.5,SNR=3.2							
	comp=Z,1.6nm,0.8s							
QSPA	**South Pole Qui**	**123.45**	**180**	PKP	**PKPdf**	**00 24 47.9**	**-1.5**
	comp=Z,1.2nm,0.9s,baz=187,slow=1.2,SNR=5.4							
LPAZ	**La Paz**	**151.37**	**59**	PKPbc	**PKPbc**	**00 25 48.5**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=345,slow=2.8,SNR=13							

IDC ***02*** *00:08:28.6±0.8,27.˚74N×95.˚22E,h0km,mb4.0/18, mbtmp4.0/19,ML4.1/2,Error ellipse: s-maj=28.9km s-min=16.0km az=63.0*

NEIC ***02*** *00:08:32.9±2.0,27.˚78N±0.˚07×94.˚9E±0.˚1,h10km±2km, mb4.4/18,Error ellipse: s-maj=17.2km s-min=11.3km az=70.0*

NDI ***02*** *00:08:36.5±1.5,27.˚60N×94.˚91E,h10km,ML3.8,MW3.6*

ISC 02 00:08:30.9±0.7,27.75N±0.05×95.01E±0.06,h10km,n49, σ1931/56,mb4.2/23,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIRO	**ZIRO**	**1.05**	**258**	*e*P	**Pn**	**00 08 54.5**	**+2.6**
ZIRO				*e*S	**Sn**	**00 09 07.6**	**+0.9**
ZIRO				IAML		00 09 14.7	
	comp=E,2μm,0.3s						
ZIRO				IAML		00 09 17.2	
	comp=E,1μm,0.3s						
TEZP	**TEZPUR**	**2.27**	**241**	*e*P	**Pb**	**00 09 12.5**	**+0.6**
TAWA	**Tawang**	**2.79**	**268**	*e*P	**Pb**	**00 09 21.0**	**-0.2**
TAWA				*e*S	**Sb**	**00 09 53.0**	**-2.6**
TAWA				IAML		00 09 56.8	
	comp=E,963nm,0.2s						
TAWA				IAML		00 09 59.7	
	comp=E,1μm,0.2s						
IMP	**Imphal**	**3.06**	**198**	*e*P	**Pn**	**00 09 24.0**	**+4.6**
IMP				*e*S	**Sn**	**00 09 56.6**	**+0.5**
IMP				IAML		00 10 02.5	
	comp=E,108nm,0.2s						
IMP				IAML		00 10 04.7	
	comp=E,78nm,0.5s						
SHL	**Shillong**	**3.54**	**233**	Pn	**Pn**	**00 09 25.9**	**-0.2**
SHL				Sn	**Sn**	**00 10 06.3**	**-1.9**
SHL	**Shillong**	**3.54**	**233**	*e*P	**Pn**	**00 09 27.9**	**+1.8**
SHL				*e*S	**Sn**	**00 10 07.4**	**-0.8**
SHL				IAML		00 10 08.3	
	comp=E,1μm,0.2s						
SHL				IAML		00 10 08.5	
	comp=N,980nm,0.1s						
LSA	**Lhasa**	**3.91**	**301**		**Pn**	**00 09 32.8**	**+1.3**
AZL	**Aizawl**	**4.50**	**208**	*e*P	**Pn**	**00 09 41.3**	**+1.9**
AZL				*e*S	**Sn**	**00 10 30.9**	**-1.1**
AZL				IAML		00 10 36.3	
	comp=E,220nm,0.3s						
AZL				IAML		00 10 38.6	
	comp=E,261nm,0.3s						
GTK	**Tadong**	**5.70**	**267**	*e*P	**Pn**	**00 09 59.5**	**+3.6**
GTK				*e*S	**Sn**	**00 11 00.6**	**-0.9**
GTK				IAML		00 11 06.2	
	comp=E,387nm,0.3s						
GTK				IAML		00 11 09.2	
	comp=E,343nm,0.1s						
BRDH	**Bariadhala**	**5.90**	**212**	Pn	**Pn**	**00 10 00.4**	**+2.0**
	comp=E,2.7nm,0.3s,baz=60,slow=20,SNR=6.6						
BRDH				Sn	**Sn**	**00 11 05.5**	**-0.5**
	comp=E,47nm,0.3s,baz=61,slow=22,SNR=2.1						
EVN	**Everest**	**7.25**	**274**		**Pn**	**00 10 17.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**9.93**	**158**	Pn	**Pn**	**00 10 52.7**	**-1.1**
	comp=E,0.8nm,0.3s,baz=331,slow=12,SNR=5.3						
	comp=E,0.6nm,0.3s						
NIL	**Nilore**	**19.60**	**293**		**P**	**00 13 00.1**	**+0.7**
NIL				IAmb	IAmb	00 13 01.1	
	comp=Z,10nm,0.6s						
TARG	**Taragay, Kyrgy**	**19.81**	**319**	P	**P**	**00 13 03.5**	**+1.4**
PRZ	**Przheval'sk**	**19.96**	**322**		**P**	**00 13 05.1**	**+1.6**
PRZ				IAmb	IAmb	00 13 09.8	
	comp=Z,23nm,0.7s						
KDJ	**Kajisay**	**20.42**	**319**		**P**	**00 13 09.6**	**+1.1**
KDJ				IAmb	IAmb	00 13 14.9	
	comp=Z,11nm,0.7s						
BOOM	**Boomskoye usch**	**21.37**	**318**		**P**	**00 13 19.9**	**+1.2**
BOOM				IAmb	IAmb	00 13 25.5	
	comp=Z,24nm,1.4s						
MKAR	**Makanchi Array**	**21.49**	**336**		**P**	**00 13 19.5**	**-0.2**
MKAR	**Makanchi Array**	**21.49**	**336**	P	**P**	**00 13 19.9**	**+0.2**
	comp=Z,3.5nm,0.6s,baz=143,slow=13,SNR=15						
	comp=Z,3.5nm,0.6s						
MAKZ	**Makanchi**	**21.61**	**335**		**P**	**00 13 20.6**	**-0.6**
SONM	**Songino Array**	**21.93**	**21**	P	**P**	**00 13 24.9**	**+0.3**
SONM	**Songino Array**	**21.93**	**21**	P	**P**	**00 13 23.3**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=210,slow=11,SNR=6.8						
	comp=Z,0.6nm,0.5s						
AAK	**Ala-Archa**	**22.32**	**317**		**P**	**00 13 29.1**	**+0.2**
AAK				IAmb	IAmb	00 13 37.8	
	comp=Z,13nm,1.1s						
DRK	**Karamyk**	**22.53**	**307**	P	**P**	**00 13 31.9**	**+0.6**
ARSB	**Arslanbob**	**22.56**	**313**	P	**P**	**00 13 32.0**	**+0.6**
ARSB				IAmb	IAmb	00 13 40.3	
	comp=Z,5.1nm,0.4s						
KBL	**Kabul**	**23.20**	**293**		**P**	**00 13 37.8**	**-0.4**
KBL				IAmb	IAmb	00 13 41.2	
	comp=Z,12nm,0.7s						

GAR	**Garm**	**23.40**	**305**	P	**P**	**00 13 40.0**	**-0.2**
GAR				IAmb	IAmb	00 13 42.0		
	comp=Z,14nm,0.6s							
BTK	**Batken**	**23.45**	**308**		**P**	**00 13 41.5**	**+0.9**
KURBB	**Kurchatov Arra**	**26.06**	**336**	P	**P**	**00 14 04.8**	**+0.4**
	comp=Z,4.1nm,0.2s,baz=149,slow=9.5,SNR=7.6							
	comp=Z,4.1nm,0.2s							
KURK	**Kurchatov**	**26.10**	**336**		**P**	**00 14 04.9**	**+0.2**
ZALV	**Zalesovo Beam**	**27.23**	**347**	P	**P**	**00 14 15.9**	**+1.0**
	comp=Z,0.7nm,0.4s,baz=132,slow=5.6,SNR=2.3							
	comp=Z,0.7nm,0.4s							
BVAR	**Borovoye Array**	**31.16**	**331**	P	**P**	**00 14 50.5**	**+0.7**
	comp=Z,1.4nm,0.4s,baz=133,slow=12,SNR=7.3							
	comp=Z,1.4nm,0.4s							
AB31	**Akbulak array**	**34.40**	**318**	P	**P**	**00 15 19.0**	**+0.8**
ABKAR	**Akbulak array**	**34.40**	**318**	P	**P**	**00 15 18.8**	**+0.6**
AKTO	**Aktyubinsk**	**36.03**	**319**	P	**P**	**00 15 32.0**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=104,slow=5.6,SNR=5.5							
	comp=Z,1.0nm,0.5s							
BRTR	**Keskin Array B**	**51.51**	**300**	P	**P**	**00 17 36.8**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=118,slow=8.4,SNR=6.6							
	comp=Z,0.7nm,0.6s							
EIL	**Elat**	**52.19**	**287**	P	**P**	**00 17 43.6**	**+1.5**
	comp=Z,3.3nm,0.7s,baz=72,slow=9.6,SNR=4.2							
	comp=Z,3.3nm,0.7s							
AKASG	**Malin Array Be**	**53.94**	**314**	P	**P**	**00 17 53.6**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=78,slow=6.5,SNR=4.6							
	comp=Z,0.5nm,0.4s							
ELL	**Elmali**	**54.86**	**297**	P	**P**	**00 18 01.9**	**+0.1**
FINES	**FINESS Array B**	**56.00**	**327**	P	**P**	**00 18 09.4**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=85,slow=7.7,SNR=7.1							
	comp=Z,2.2nm,0.6s							
WRA	**Warramunga Arr**	**60.80**	**137**	P	P	00 18 41.1	-2.3	
	comp=Z,0.5nm,0.8s,baz=323,slow=7.6,SNR=1.5							
	comp=Z,0.5nm,0.8s							
HFS	**Hagfors**	**62.10**	**326**	P	**P**	**00 18 51.7**	**0.0**
	comp=Z,2.1nm,0.6s,baz=90,slow=10,SNR=6.8							
	comp=Z,2.1nm,0.6s							
NB2	**NORSAR Subarra**	**63.18**	**327**	P	**P**	**00 18 58.6**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=79,slow=6.9							
NOA	**NORSAR Array B**	**63.18**	**327**	P	**P**	**00 18 58.7**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=80,slow=6.8,SNR=3.9							
	comp=Z,0.9nm,0.6s							
ASAR	**Alice Springs**	**63.41**	**140**	P	**P**	**00 18 59.5**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=324,slow=6.5,SNR=4.2							
	comp=Z,0.3nm,0.5s							
GERES	**GERESS Array B**	**64.14**	**313**	P	**P**	**00 19 05.8**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=72,slow=4.3,SNR=8.2							
	comp=Z,1.1nm,0.7s							
KEST	**Kesra**	**71.11**	**301**	P	**P**	**00 19 50.3**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=95,slow=6.0,SNR=5.3							
	comp=Z,2.1nm,0.8s							
EKA	**Eskdalemuir Ar**	**72.05**	**324**	P	**P**	**00 19 55.0**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=76,slow=7.1,SNR=3.5							
	comp=Z,1.3nm,0.7s							
ESDC	**Sonseca Array**	**79.17**	**309**	P	**P**	**00 20 35.1**	**-1.2**
	comp=Z,0.6nm,1.0s,baz=45,slow=3.4,SNR=2.6							
	comp=Z,0.6nm,1.0s							

IDC ***02*** *00:13:48.1±0.9,29.˚48N×51.˚35E,h0km,mb4.0/23, mbtmp4.0/28,ML3.7/5,MS3.0/4,Error ellipse: s-maj=20.0km s-min=13.7km az=2.0*

MOS ***02*** *00:13:49.1±1.0,29.˚49N×51.˚46E,h19km,mb4.3/25,Error ellipse: s-maj=7.2km s-min=5.0km az=102.5*

NEIC ***02*** *00:13:50.3±1.4,29.˚51N±0.˚05×51.˚48E±0.˚08,h10km±1km, mb4.1/35,Error ellipse: s-maj=12.9km s-min=7.1km az=108.0*

TEH ***02*** *00:13:51.7,29.˚55N×51.˚47E,h16km±20km*

THR ***02*** *00:13:54.0±0.0,29.˚85N×51.˚50E,h14km±894km,mb4.3*

OMAN ***02*** *00:13:58.1±0.2,29.˚05N×51.˚85E,h10km±7km,mb4.5/14, ml4.0/6,Error ellipse: s-maj=13.5km s-min=2.7km az=337.0*

DSN ***02*** *00:13:58.4±1.9,28.˚73N×51.˚57E,h10km,ML3.6/9,Error ellipse: s-maj=25.7km s-min=11.1km az=7.0*

NAO ***02*** *00:14:19.3,32.˚12N×49.˚13E,h33km,mb4.0*

ISC 02 00:13:51.1±0.8,29.56N±0.03×51.55E±0.03,h19km±2km, n287,σ2915/305,mb4.2/66,MS3.3/3,20C-12D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ2	**Kazeron-Fars-I**	**0.11**	**62**	Pg	**Pg**	**00 13 56.2**	**+1.0**
SHI	**Shiraz**	**0.85**	**84**	Pg	**Pn**	**00 14 09.6**	**+1.5**
DSBU	**Dashti - Bushe**	**1.22**	**192**	Pg	**Pb**	**00 14 14.0**	**+0.4**
DSBU				Sg	**Sg**	**00 14 31.7**	**+1.0**
KLNJ	**Kolanjah**	**1.45**	**2**	Pg	**Pg**	**00 14 18.9**	**-0.1**
ABEH	**Behbahan**	**1.53**	**313**	Pg	**Pb**	**00 14 19.6**	**+0.8**
JHRM	**Jahrom**	**2.07**	**120**	Pn	**Pb**	**00 14 28.6**	**+0.6**
IBRJ	**Brojen**	**2.35**	**354**	Pn	**Pb**	**00 14 31.7**	**-1.3**
IRAM	**Ramesheh**	**2.35**	**18**	Pn	**Pb**	**00 14 32.9**	**-0.2**
ZNGN	**Zangian**	**2.62**	**347**	Pn	**Pb**	**00 14 35.5**	**-2.1**
LMD1	**Lamerd**	**2.63**	**147**	*e*Pn	**Pg**	**00 14 42.0**	**+0.4**
LMD1				IAML		00 15 33.5	
	comp=Z,2.5nm,1.0s						
JHBN	**Jahan bin**	**2.77**	**344**	Pn	**Pn**	**00 14 36.9**	**+2.2**
IGAR	**Gharneh**	**2.87**	**8**	Pn	**Pb**	**00 14 39.1**	**-2.6**
ISAD	**Sadrabad**	**2.98**	**38**	Pn	**Pb**	**00 14 41.9**	**-1.9**
IMEH	**Mehriz**	**3.22**	**55**	Pn	**Pb**	**00 14 45.3**	**-2.4**
IZEF	**Zefreh**	**3.39**	**11**	Pn	**Pn**	**00 14 46.5**	**+3.2**
GTMR	**Gotvand**	**3.58**	**325**	*e*Pn	**Pn**	**00 14 47.7**	**+2.1**
GTMR				IAML		00 16 03.3	
	comp=Z,0.8nm,1.0s						
ICHK	**Chekchek**	**3.63**	**42**	Pn	**Pn**	**00 14 50.5**	**+3.9**
SAKB	**Bahrain**	**3.68**	**194**	P	**Pn**	**00 14 48.6**	**+1.7**
SAKB				S	**Sn**	**00 15 30.0**	**+0.3**
SHMA	**Al-Shehemyia**	**3.73**	**188**	P	**Pn**	**00 14 49.1**	**+1.6**
	SNR=30						
SHMA				S	**Sn**	**00 15 31.3**	**+0.4**
IKLH	**Kolahrood**	**3.75**	**0**	Pn	**Pn**	**00 14 51.3**	**+3.1**
YZKH	**Yazd**	**3.85**	**42**	*e*Pn	**Pn**	**00 14 53.5**	**+4.1**
YZKH				IAML		00 15 59.9	
	comp=Z,0.1nm,1.0s						
ANAR	**Anarak**	**4.07**	**27**	Pn	**Pn**	**00 14 55.3**	**+2.8**
QAMS	**Qamsar**	**4.17**	**358**	Pn	**Pn**	**00 14 56.8**	**+3.0**
KHGB	**Koh Gabri**	**4.36**	**78**	Pn	**Pn**	**00 14 59.8**	**+3.4**
KHMZ	**Khomeyn**	**4.38**	**342**	*e*Pn	**Pn**	**00 14 59.1**	**+2.3**
KHMZ				IAML		00 16 13.5	
	comp=Z,0.1nm,1.0s						
KRSH	**Karshahi**	**4.42**	**6**	Pn	**Pn**	**00 15 00.3**	**+3.0**
NGRK	**Negar Kerman**	**4.52**	**88**	Pn	**Pn**	**00 15 02.7**	**+3.9**
ZRDN	**Zarand Kerman**	**4.54**	**71**	Pn	**Pn**	**00 15 02.6**	**+3.6**
KRBR	**Kerman**	**4.55**	**83**	Pn	**Pn**	**00 15 03.1**	**+3.8**
KRBR	**Kerman**	**4.55**	**83**	IAML		00 16 33.0	
	comp=Z,0.3nm,1.0s						
JRN	**Qarnain Island**	**4.74**	**166**	P	**Pn**	**00 15 01.6**	**0.0**
JRN				S	**Sn**	**00 15 52.1**	**-4.0**
ISFB	**Sefidab**	**4.81**	**7**	Pn	**Pn**	**00 15 05.1**	**+2.4**
TRNA	**Turayna**	**4.81**	**184**	P	**Pn**	**00 15 03.9**	**+1.3**
	SNR=75						
SMRA	**Abu-Samra**	**4.84**	**188**	P	**Pn**	**00 15 04.0**	**+1.1**
	SNR=13						
GHVR	**GHOM**	**4.91**	**358**	*i* P	**Pn**	**00 15 07.4**	**+3.4**
GHVR				IAML		00 16 50.4	
	comp=Z,0.9nm,1.0s						
KRM1	**Kerman Provinc**	**5.05**	**78**	Pn	**Pn**	**00 15 09.4**	**+3.3**
IKFM	**Kafar-mosalman**	**5.06**	**322**	Pn	**Pn**	**00 15 08.0**	**+2.1**
ASAO	**Ashtian**	**5.14**	**346**	*i* P	**Pn**	**00 15 10.0**	**+2.7**
ASAO				IAML		00 16 38.8	
	comp=Z,0.2nm,1.0s						
CHMN	**Cheshme madani**	**5.22**	**85**	Pn	**Pn**	**00 15 11.5**	**+3.0**
SHME	**Shamm**	**5.37**	**130**	P	**Pn**	**00 15 12.0**	**+1.9**
SHME				S	**Sn**	**00 16 10.7**	**-0.7**
SHME	**Shamm**	**5.37**	**130**	P	**Pn**	**00 15 10.7**	**+0.5**
IVRN	**Varamin**	**5.42**	**2**	Pn	**Pn**	**00 15 13.4**	**+2.4**
SLWR	**Sila**	**5.47**	**179**	P	**Pn**	**00 15 12.6**	**+1.1**
SLWR				S	**Sn**	**00 16 12.8**	**-1.2**
GHWR	**Ruwais**	**5.70**	**168**	P	**Pn**	**00 15 15.1**	**+0.4**
GHWR				S	**Sn**	**00 16 16.1**	**-3.6**
NAZ	**Nazwa, Dubai**	**5.84**	**140**	P	**Pn**	**00 15 17.9**	**+1.2**
NAZ				S	**Sn**	**00 16 21.3**	**-1.9**
MASF	**Masafi**	**5.85**	**134**	P	**Pn**	**00 15 17.9**	**+1.1**
MASF				S	**Sn**	**00 16 19.9**	**-3.5**
MSFE	**Esma-Masafi**	**5.86**	**134**	P	**Pn**	**00 15 16.9**	**0.0**
ASUD	**Al Ashush, Dub**	**5.96**	**145**	P	**Pn**	**00 15 20.0**	**+1.7**
	SNR=21						
ASUD				S	**Sn**	**00 16 24.7**	**-1.3**
ASUD	**Al Ashush, Dub**	**5.96**	**145**	*i* P	**Pn**	**00 15 18.8**	**+0.5**
	SNR=20						
MDH	**Madha**	**5.99**	**134**	P	**Pn**	**00 15 19.4**	**+0.7**
MDH				S	**Sn**	**00 16 23.2**	**-3.6**
FAQ	**Al Faqa, Dubai**	**6.00**	**142**	S	**Sn**	**00 16 23.5**	**-3.5**
IDMV	**Damavand**	**6.01**	**4**	Pn	**Pn**	**00 15 21.7**	**+2.4**

KBAM	**BAM**	**6.04**	**92**	Pn	**Pn**	**00 15 22.8**	**+3.2**
DAMV	**Damavand**	**6.06**	**3**	*e*Pn	**Pn**	**00 15 22.4**	**+2.4**
DAMV				IAML		00 17 08.5		
	comp=Z,0.1nm,1.0s							
ILBA	**Ilam Banvizeh**	**6.09**	**313**	Pn	**Pn**	**00 15 22.1**	**+1.9**
ILBA	**Ilam Banvizeh**	**6.09**	**313**	*i* P	**Pn**	**00 15 22.1**	**+1.9**
ILBA				IAML		00 16 54.1		
	comp=Z,0.1nm,1.0s							
MZWR	**Madinat Zayed**	**6.14**	**160**	P	**Pn**	**00 15 21.8**	**+1.0**
MZWR				S	**Sn**	**00 16 27.5**	**-3.1**
UOSS	**Minazif**	**6.19**	**137**	Pn	**Pn**	**00 15 21.9**	**+0.4**
UOSS	**Minazif**	**6.19**	**137**	P	**Pn**	**00 15 22.6**	**+1.1**
UOSS				S	**Sn**	**00 16 27.7**	**-4.1**
UOSS	**Minazif**	**6.19**	**137**	P	**Pn**	**00 15 22.3**	**+0.8**
UOSS	**Minazif**	**6.19**	**137**		**Pn**	**00 15 23.1**	**+1.6**
HATD	**Hatta, Dubai**	**6.24**	**138**	P	**Pn**	**00 15 23.7**	**+1.5**
HATD				S	**Sn**	**00 16 27.8**	**-5.2**
HATD	**Hatta, Dubai**	**6.24**	**138**	P	**Pn**	**00 15 23.4**	**+1.2**
HATD				S	**Sn**	**00 16 27.1**	**-5.9**
SNQR	**Sonqor, Kerman**	**6.24**	**329**	Pn	**Pn**	**00 15 24.1**	**+1.7**
TABS	**Tabas**	**6.26**	**48**	*e*Pn	**Pn**	**00 15 26.1**	**+3.5**
TABS				IAML		00 17 41.4		
	comp=Z,0.1nm,1.0s							
ASHO	**Ashiyiah**	**6.30**	**139**	P	**Pn**	**00 15 25.0**	**+1.9**
	SNR=14							
ASHO				S	**Sn**	**00 16 31.0**	**-3.6**
ASHO	**Ashiyiah**	**6.30**	**139**	*i* P	**Pn**	**00 15 23.7**	**+0.6**
	SNR=14							
SNGE	**Sanandaj**	**6.56**	**328**	*i* P	**Pn**	**00 15 28.4**	**+1.6**
SNGE				IAML		00 16 20.9		
	comp=Z,0.0nm,1.0s							
IALA	**Alasht**	**6.59**	**9**	Pn	**Pn**	**00 15 30.6**	**+3.4**
ALNE	**Al Ain**	**6.64**	**145**	P	**Pn**	**00 15 28.7**	**+0.9**
	SNR=17							
ALNE				S	**Sn**	**00 16 39.7**	**-3.3**
ALNE	**Al Ain**	**6.64**	**145**	*i* P	**Pn**	**00 15 28.0**	**+0.3**
	SNR=9.9							
JASK	**Jask - Hormozg**	**6.70**	**122**	P	**Pn**	**00 15 28.9**	**+0.4**
JASK				S	**Sn**	**00 16 40.7**	**-3.6**
MZR	**Muzera**	**6.76**	**165**	P	**Pn**	**00 15 30.2**	**+0.9**
	SNR=20							
MZR				S	**Sn**	**00 16 41.6**	**-4.1**
MZR	**Muzera**	**6.76**	**165**	*i* P	**Pn**	**00 15 29.4**	**+0.1**
	SNR=20							
SOHO	**SOHO**	**7.00**	**139**	P	**Pn**	**00 15 32.9**	**+0.2**
SOHO				S	**Sn**	**00 16 48.7**	**-3.1**
SOHO	**SOHO**	**7.00**	**139**	P	**Pn**	**00 15 32.2**	**-0.4**
KGS1	**Ghasr-e-Shirin**	**7.06**	**316**	Pn	**Pn**	**00 15 34.7**	**+1.2**
IGLO	**Ghaloghah**	**7.18**	**15**	Pn	**Pn**	**00 15 39.6**	**+4.2**
SHRO	**Shahrood**	**7.43**	**29**	*e*Pn	**Pn**	**00 15 41.8**	**+3.2**
SHRO				IAML		00 17 55.3		
	comp=Z,0.0nm,1.0s							
UMZA	**Um Al Zommool**	**7.55**	**154**	P	**Pn**	**00 15 39.4**	**-0.8**
UMZA				S	**Sn**	**00 17 01.3**	**-3.9**
ARQ	**Araqi**	**7.63**	**143**	P	**Pn**	**00 15 42.0**	**+0.6**
	SNR=29							
ARQ				S	**Sn**	**00 17 00.2**	**-7.2**
HOQ	**Hoqain**	**7.88**	**138**	P	**Pn**	**00 15 46.7**	**+2.0**
HOQ				S	**Sn**	**00 17 08.8**	**-4.6**
RAYN	**Ar Rayn**	**8.09**	**223**		**Pn**	**00 15 46.2**	**-1.3**
RAYN	**Ar Rayn**	**8.09**	**223**	P	**Pn**	**00 15 46.3**	**-1.3**
RAYN	**Ar Rayn**	**8.09**	**223**	*i* P	**Pn**	**00 15 46.4**	**-1.3**
	SNR=32							
BSY	**Bisya**	**8.47**	**142**	P	**Pn**	**00 15 53.3**	**+0.4**
	SNR=9.8							
BSY				S	**Sn**	**00 17 22.7**	**-5.4**
SHRT	**Shahrakht**	**8.50**	**59**	*e*Pn	Pn	00 15 58.6	+5.4
SHRT				IAML		00 15 59.4		
	comp=Z,7.9nm,0.8s							
SMDO	**Samad**	**8.71**	**136**	P	**Pn**	**00 15 56.5**	**+0.3**
SMDO				S	**

KKAR Karatay Array 20.34 43 P Pn 00 18 27.4 -0.9
KKAR pmax pmax
comp=Z,4.0nm,0.7s
AB31 Akbulak array 20.69 16 **P** **00 18 30.8 +0.9**
ABKAR Akbulak array 20.69 16 **P** **00 18 30.6 +0.7**
ARSB Arslanbob 20.98 50 P **P** **00 18 34.1 +0.8**
ARSB IAmb IAmb 00 18 35.8
comp=Z,5.3nm,0.8s
ARSB Arslanbob 20.98 50 P **P** **00 18 34.1 +0.8**
ARSB pmax pmax
comp=Z,5.0nm,0.8s
AKTO Aktyubinsk 21.41 11 P **P** **00 18 38.3 +0.5**
comp=Z,2.4nm,0.4s,baz=197,slow=9.1,SNR=17
comp=Z,2.4nm,0.4s
KSH Kashi 22.38 57 P **P** **00 18 47.0 -1.4**
KSH pmax pmax
comp=Z,12nm,0.9s
AAK Ala-Archa 22.59 49 P **P** **00 18 51.1 +0.5**
AAK Ala-Archa 22.59 49⇑ *i* P **P** **00 18 50.6 0.0**
AAK pmax pmax
comp=Z,2.0nm,0.9s
BELG Belogornoye 23.00 354 LR LR 00 31 05.2
comp=Z,36nm,18.5s,baz=116,slow=45
BELG Belogornoye 23.00 354 *i* P **P** **00 18 54.1 -0.4**
BELG pmax pmax
comp=Z,2.0nm,1.1s
IDI Anoyia 23.18 291 P **P** **00 18 56.2 -0.4**
IDI IAmb IAmb 00 19 04.0
comp=Z,9.3nm,0.9s
VORD Divnogorie 23.28 340 *e*P **P** **00 18 55.2 -2.2**
VORD pmax pmax
comp=Z,9.0nm,1.0s
VSR Storozhevoye 23.53 340 *e*P **P** **00 18 57.6 -2.4**
VSR pmax pmax
comp=Z,6.0nm,0.8s
VORR Voronezh 23.93 341 *e*P **P** **00 18 56.9 -6.8**
VORR pmax pmax
comp=Z,10.0nm,0.8s
CFR Carcaliu 24.15 317⇑ P **P** **00 19 06.5 +0.6**
CFR Carcaliu 24.15 317⇑ P **P** **00 19 06.5 +0.6**
KDJ Kajisay 24.17 52 P **P** **00 19 07.6 +1.2**
KDJ IAmb IAmb 00 19 10.3
comp=Z,2.3nm,0.6s
KDJ Kajisay 24.17 52 P **P** **00 19 07.6 +1.2**
KDJ pmax pmax
comp=Z,2.0nm,0.6s
VRI Vrincioaia 25.35 317⇓ P **P** **00 19 18.2 +1.4**
VRI Vrincioaia 25.35 317⇓ P **P** **00 19 18.2 +1.4**
NEHR Nehoiu 25.39 316⇓ P **P** **00 19 19.7 +2.5**
PLOR Plostina 25.39 317⇓ P **P** **00 19 19.1 +1.9**
PLOR Plostina 25.39 317⇓ P **P** **00 19 19.1 +1.9**
COPA Copaceanca 25.46 312⇑ P **P** **00 19 22.3 +4.5**
MLR Muntele Rosu 25.64 315 P **P** **00 19 19.9 +0.3**
MLR Muntele Rosu 25.64 315⇑ P **P** **00 19 22.4 +2.9**
MLR Muntele Rosu 25.64 315 P **P** **00 19 19.9 +0.3**
MLR pmax pmax
comp=Z,9.0nm,0.9s
SORM Soroca 25.73 323⇑ P **P** **00 19 19.4 -0.8**
SORM Soroca 25.73 323⇑ P **P** **00 19 19.4 -0.8**
TESR Tescani 25.74 318⇓ P **P** **00 19 21.6 +1.2**
HUMR Humele 25.79 313⇑ P **P** **00 19 25.6 +4.9**
TURR Turia 25.88 317⇓ P **P** **00 19 23.5 +1.9**
OZUR 26.04 316⇑ P **P** **00 19 26.5 +3.4**
VOIR 26.16 315⇑ P **P** **00 19 27.8 +3.5**
VOIR 26.16 315⇑ P **P** **00 19 27.8 +3.5**
AKASG Malin Array Be 26.96 328 P **P** **00 19 29.0 -2.3**
comp=Z,0.4nm,0.4s,baz=140,slow=8.8,SNR=4.7
comp=Z,0.4nm,0.4s
AKASG Malin Array Be 26.96 328 *e*P **P** **00 19 31.4 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 26.96 328 P **P** **00 19 31.2 0.0**
AKBB IAmb IAmb 00 19 37.8
comp=Z,4.2nm,0.8s
AKBB Malin Array Si 26.96 328 *e*P **P** **00 19 30.8 -0.5**
AKBB pmax pmax
comp=Z,5.0nm,1.0s
KIEV Kiev 26.96 328 P **P** **00 19 30.0 -1.3**
KIEV IAmb IAmb 00 19 37.9
comp=Z,3.8nm,0.8s
KIEV Kiev 26.96 328⇑ P **P** **00 19 31.4 +0.1**
KIEV Kiev 26.96 328⇑ P **P** **00 19 31.4 +0.1**
BURAR Bucovina Array 27.16 319 P **P** **00 19 33.3 +0.1**
BURAR Bucovina Array 27.16 319⇑ P **P** **00 19 34.7 +1.4**
BURAR Bucovina Array 27.16 319⇑ P **P** **00 19 34.7 +1.4**
BUR08 Bucovina Ar. S 27.18 319 P **P** **00 19 33.4 -0.1**
BUR08 IAmb IAmb 00 19 35.0
comp=Z,3.0nm,0.9s
BRVK Borovoye 27.21 25 P **P** **00 19 34.8 +1.3**
BRVK IAmb IAmb 00 19 43.4
comp=Z,2.9nm,1.1s
BRVK Borovoye 27.21 25⇑ *i* P **P** **00 19 34.2 +0.7**
BRVK pmax pmax
comp=Z,4.0nm,1.2s
BVAR Borovoye Array 27.22 25 P **P** **00 19 36.0 +2.3**
comp=Z,1.7nm,0.5s,baz=221,slow=5.9,SNR=10
comp=Z,1.7nm,0.5s
BVAR Borovoye Array 27.22 25 P **P** **00 19 36.0 +2.3**
ARTI Arti 27.25 8 P **P** **00 19 35.2 +1.3**
ARTI IAmb IAmb 00 19 36.7
comp=Z,3.6nm,0.8s
ARTI Arti 27.25 8 P **P** **00 19 34.4 +0.6**
ARTI S **S** **00 24 14.0 +2.1**
GZR Gura Zlata 27.57 313⇓ P **P** **00 19 42.6 +5.6**
GZR Gura Zlata 27.57 313⇓ P **P** **00 19 42.6 +5.6**
BOVS Bovan 27.60 309⇑ P P 00 19 44.7 +7.6
OBN Obninsk 27.71 341 *e*P **P** **00 19 38.5 +0.6**
OBN *i* 00 20 21.6
OBN *i* 00 22 51.3
OBN pmax pmax
comp=Z,4.0nm,0.8s
KEK Kerkira 27.89 300 P **P** **00 19 40.2 +0.5**
MARR Marisel-Cluj 27.93 316⇓ P **P** **00 19 44.9 +4.7**
SCTE Santa Cesarea 28.96 300 P **P** **00 19 50.3 +1.0**
KIRV Kirov 29.06 358⇑ *i* P **P** **00 19 50.2 +0.3**
KURBB Kurchatov Arra 29.20 36 P **P** **00 19 53.3 +2.0**
comp=Z,1.8nm,0.6s,baz=238,slow=9.1,SNR=6.4
comp=Z,1.8nm,0.6s
MAKZ Makanchi 29.22 45 P **P** **00 19 52.5 +0.9**
MAKZ IAmb IAmb 00 19 54.4
comp=Z,2.1nm,0.7s
MAKZ Makanchi 29.22 45 P **P** **00 19 52.5 +0.9**
MAKZ pmax pmax
comp=Z,2.0nm,0.7s
KURK Kurchatov 29.30 36 P **P** **00 19 54.1 +1.9**
KURK IAmb IAmb 00 19 55.5
comp=Z,3.8nm,1.0s
KURK Kurchatov 29.30 36*c* *i* P **P** **00 19 54.3 +2.1**
KURK pmax pmax
comp=Z,4.0nm,0.9s
MK31 Makanchi Array 29.41 46*c* *i* P **P** **00 19 54.9 +1.6**
MKAR Makanchi Array 29.41 46 P **P** **00 19 54.0 +0.7**
MKAR Makanchi Array 29.41 46 P **P** **00 19 55.0 +1.8**
comp=Z,1.1nm,0.5s,baz=243,slow=7.5,SNR=16
MKAR LR LR 00 33 34.5
comp=Z,65nm,19.1s,baz=194,slow=40
comp=Z,1.1nm,0.5s
KOLS Kolonicke sedl 29.52 319 *e*P **P** **00 19 56.1 +1.9**
KOLS Kolonicke sedl 29.52 319 *e*P **P** **00 19 56.1 +1.9**
MNK Minsk 30.22 332 *i* P **P** **00 19 59.0 -1.3**
comp=E,10.0nm,0.9s
MNK *i* P **P** **00 19 59.0 -1.3**
comp=N,12nm,0.9s
MNK *i* P **P** **00 19 59.0 -1.3**
comp=Z,6.0nm,0.8s,baz=136
MNK *i* PP PP 00 20 56.0 -12
MNK *i* S **S** **00 24 58.8 +0.2**
MNK *i* SS **SnSn** **00 26 32.9 +0.3**
MNK *i* SSS SSS 00 26 47.6
MNK *i* LQ LQ 00 29 46.3
MNK *i* LR LR 00 32 04.0
MNK *i* LRM MLR 00 33 35.6
comp=Z,38nm,17.9s
MNK *i* LRM MLR 00 33 44.3
comp=N,197nm,23.4s
MNK *i* LRM MLR 00 33 45.2
comp=E,264nm,24.4s
MNK Minsk 30.22 332 *i* P **P** **00 19 58.9 -1.3**
MNK *i* 00 20 56.0
MNK *i* 00 22 55.3
MNK *i* S **S** **00 24 58.7 +0.2**
MNK *i* SS **SnSn** **00 26 32.9 +0.3**
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK pmax pmax
comp=N,12nm,0.9s
MNK MLR MLR
comp=Z,38nm,18.0s
MNK MLR MLR
comp=N,197nm,23.0s
MNK MLR MLR
comp=E,264nm,24.0s
LANS Liptovska Anna 31.25 318 *e*P P 00 20 15.7 +6.2
LANS Liptovska Anna 31.25 318 *e*P P 00 20 15.7 +6.2
VYHS Vyhne 31.34 316 *e*P P 00 20 16.0 +5.8
VYHS Vyhne 31.34 316 *e*P P 00 20 16.0 +5.8
WMQ Urumqi 32.02 54 *e*P **P** **00 20 20.6 +4.2**
WMQ pmax pmax
comp=Z,16nm,0.9s
JAVC Velka Javorina 32.19 316 *e*P P 00 20 24.3 +6.5
KLMR Klimovskoe 32.31 349 *e*P **P** **00 20 16.3 -2.3**
KLMR pmax pmax
comp=Z,7.0nm,0.8s
STEB Steborice 32.59 318 *e*P **P** **00 20 21.6 +0.4**
STEB *e*pP **pP** **00 20 27.1 -0.2**
RONA Rosalia, Austr 32.59 314 *i* pP pP 00 20 25.9 -1.5
comp=Z,2.4nm,0.8s
MORC Moravsky Berou 32.65 318 **P** **00 20 21.6 -0.2**
MORC Moravsky Berou 32.65 318 *e*P P 00 20 27.3 +5.5
MORC Moravsky Berou 32.65 318 P **P** **00 20 21.6 -0.2**
MORC pmax pmax
comp=Z,5.0nm,1.0s
ARSA Arzberg 32.93 313 P **P** **00 20 24.5 +0.2**
ARSA IAmb IAmb 00 20 37.4
comp=Z,2.4nm,0.9s
ARSA Arzberg 32.93 313 *e*pP pP 00 20 30.0 -0.3
comp=Z,2.3nm,0.9s
CONA Conrad Observa 32.95 314 *i* pP pP 00 20 29.9 -0.6
comp=Z,3.0nm,1.0s
VRAC Vranov 33.02 317 *e*P P 00 20 30.1 +5.1
KRUC Moravsky 33.04 316 *e*P P 00 20 30.1 +4.9
KRLC Kraliky 33.23 318 *e*P **P** **00 20 26.9 +0.1**
KRLC *e*pP **pP** **00 20 31.7 -1.2**
KRLC Kraliky 33.23 318 *e*P **P** **00 20 26.9 +0.1**
KRLC *e* 00 20 31.7
OBKA Obir 33.33 311 *e*P **P** **00 20 29.3 +1.5**
comp=Z,2.0nm,1.1s
KMBO Kilima Mbogo 33.43 207 P **P** **00 20 28.8 -0.4**
KMBO Kilima Mbogo 33.43 207 P **P** **00 20 28.8 -0.4**
KMBO pmax pmax
comp=Z,2.0nm,1.1s
FDMO Fiordimonte 33.49 304 P **P** **00 20 29.5 +0.3**
DPC Dobruska-Polom 33.61 318 *e*P **P** **00 20 29.8 -0.4**
DPC Dobruska-Polom 33.61 318 *e*P **P** **00 20 29.8 -0.4**
CHVC Chvalec 33.86 318 *e*P **P** **00 20 31.9 -0.5**
CHVC Chvalec 33.86 318 *e*P **P** **00 20 31.9 -0.5**
MOA Molln 33.93 313 *i* pP pP 00 20 38.2 -0.9
comp=Z,5.1nm,0.9s
ZAA0 Zalesovo Array 34.26 35 P **P** **00 20 35.9 +0.2**
ZALV Zalesovo Beam 34.26 35 P **P** **00 20 36.7 +1.0**
ZALV Zalesovo Beam 34.26 35 P **P** **00 20 36.9 +1.2**
comp=Z,3.3nm,0.5s,baz=255,slow=9.1,SNR=16
comp=Z,3.3nm,0.5s
ZALV Zalesovo Beam 34.26 35 *e*P **P** **00 20 37.4 +1.7**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
BIOA Bad Ischl, Aus 34.28 313 *i* pP pP 00 20 41.0 -1.1
comp=Z,3.5nm,0.6s
ZVC Zvikov 34.52 316 *e*P **P** **00 20 38.7 +0.7**
ZVC *e*pP **pP** **00 20 42.6 -1.6**
GEC2 GERESS Array S 34.62 314 P **P** **00 20 39.7 +0.7**
GEC2 IAmb IAmb 00 20 46.6
comp=Z,2.1nm,1.1s
GERES GERESS Array B 34.62 314 P **P** **00 20 39.9 +0.9**
GERES GERESS Array B 34.62 314 P **P** **00 20 38.7 -0.3**
comp=Z,0.4nm,0.6s,baz=101,slow=4.2,SNR=6.2
comp=Z,0.4nm,0.6s
ABTA Abfaltersbach 34.74 311 *i* pP **P** **00 20 42.9 +2.9**
comp=Z,2.5nm,0.8s
KHC Kasperske Hory 34.79 315 *e*P **P** **00 20 40.9 +0.5**
KHC *e*pP **pP** **00 20 44.9 -1.6**
KHC Kasperske Hory 34.79 315 *e*P **P** **00 20 40.9 +0.5**
KHC *e* 00 20 44.9
LESA Schwarzleotal 34.82 312 *e*P **P** **00 20 39.8 -1.0**
comp=Z,1.2nm,0.5s
WTTA Wattenberg 35.46 311 *i* P **P** **00 20 45.7 -0.7**
comp=Z,3.4nm,0.8s
WATA Walderalm 35.52 311 *i* P **P** **00 20 46.3 -0.5**
comp=Z,4.2nm,0.6s
SQTA Sankt Quirin 35.73 311 *i* P **P** **00 20 48.2 -0.4**
comp=Z,5.8nm,0.5s
MOTA Moosalm 35.83 311 *i* P **P** **00 20 48.1 -1.4**
comp=Z,2.7nm,0.7s
CLL Collm 35.92 318 *i* P **P** **00 20 50.3 +0.3**
CLL *e* 00 20 56.0
CLL pmax pmax
comp=Z,6.0nm,1.3s
CLL Collm 35.92 318 *i* P **P** **00 20 50.3 +0.3**
comp=Z,6.0nm,1.3s
CLL *ex* x 00 20 56.0
FETA Feichten 35.99 310 *i* P **P** **00 20 50.9 0.0**
comp=Z,6.0nm,0.8s
FINES FINESS Array B 36.06 339 P **P** **00 20 50.0 -1.1**
comp=Z,2.9nm,0.9s,baz=148,slow=11,SNR=3.5
comp=Z,2.9nm,0.9s
FINES FINESS Array B 36.06 339 *i* P **P** **00 20 50.5 -0.6**
FINES pmax pmax
comp=Z,3.0nm,0.9s
RETA Reutte 36.09 311 *i* P **P** **00 20 50.8 -0.8**
comp=Z,3.6nm,0.5s
DAVA Damuels 36.62 311 *i* P **P** **00 20 55.7 -0.6**
comp=Z,13nm,0.8s
BNI Bardonecchia 38.38 306 **P** **00 21 11.0 -0.2**
BNI Bardonecchia 38.38 306 P **P** **00 21 11.0 -0.2**
BNI pmax pmax
comp=Z,6.0nm,0.8s
ECH Echery 38.62 311 P **P** **00 21 13.5 +0.5**
ECH IAmb IAmb 00 21 18.6
comp=Z,4.9nm,1.0s
ECH Echery 38.62 311 P **P** **00 21 13.5 +0.5**
ECH pmax pmax
comp=Z,5.0nm,1.0s
HFS Hagfors 39.71 331 P **P** **00 21 21.7 -0.3**
comp=Z,4.0nm,0.4s,baz=125,slow=9.3,SNR=20
comp=Z,4.0nm,0.4s
GTA Gaotai 40.57 63 *e*P **P** **00 21 31.9 +2.4**
GTA pmax pmax
comp=Z,4.0nm,1.0s
NB201 NORSAR Array S 41.21 331 P **P** **00 21 34.9 +0.6**
NB2 NORSAR Subarra 41.23 331 P **P** **00 21 33.7 -0.9**
comp=Z,1.3nm,0.5s,baz=122,slow=8.6
NOA NORSAR Array B 41.23 331 P **P** **00 21 34.1 -0.4**
comp=Z,1.1nm,0.5s,baz=123,slow=8.5,SNR=7.1
comp=Z,1.1nm,0.5s
ARCES ARCESS Array B 42.71 347 P **P** **00 21 46.3 -0.2**
comp=Z,1.0nm,0.5s,baz=148,slow=8.1,SNR=14
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 42.71 347 *e*PSPZ
ARCES pmax pmax
comp=Z,1.0nm,0.5s
PZH PanZhiHua 44.14 81 P **P** **00 22 00.5 +1.7**
CMAR Chiang Mai Arr 44.42 93 P **P** **00 22 03.0 +2.1**
comp=Z,0.6nm,0.3s,baz=307,slow=9.1,SNR=1.7
comp=Z,0.6nm,0.3s
CMAR Chiang Mai Arr 44.42 93 P **P** **00 22 03.0 +2.1**
NRIK Noril'sk 44.85 17 P **P** **00 22 05.0 +1.3**
comp=Z,0.9nm,0.3s,baz=216,slow=4.8,SNR=4.2
comp=Z,0.9nm,0.3s
NRIK Noril'sk 44.85 17 *i* P **P** **00 22 04.4 +0.8**
NRIK pmax pmax
comp=Z,1.0nm,0.4s
SONM Songino Array 45.52 51 P **P** **00 22 11.7 +2.2**
comp=Z,0.5nm,0.4s,baz=262,slow=8.0,SNR=2.0
comp=Z,0.5nm,0.4s
ULN Ulaanbaatar 45.96 51*d* *i* P **P** **00 22 13.1 +0.1**
ULN pmax pmax
comp=Z,4.0nm,1.5s
ESDC Sonseca Array 46.14 298 P **P** **00 22 14.0 -0.5**
comp=Z,0.3nm,0.7s,baz=71,slow=7.6,SNR=6.8
comp=Z,0.3nm,0.7s
EKA Eskdalemuir Ar 46.34 320 P **P** **00 22 14.8 -0.8**
comp=Z,0.3nm,0.3s,baz=101,slow=7.7,SNR=4.7
comp=Z,0.3nm,0.3s
TORD Torodi Ar. Bea 48.84 261 P **P** **00 22 34.8 -0.8**
comp=Z,2.2nm,0.7s,baz=51,slow=8.6,SNR=4.4
comp=Z,2.2nm,0.7s
HHC Hu-ho-hao-te 49.45 60 *e*P **P** **00 22 40.7 +0.6**
HHC pmax pmax
comp=Z,5.0nm,0.7s
HHC pmax pmax
comp=Z,63nm,3.9s
SPITS Spitsbergen Ar 51.16 351 P **P** **00 22 53.3 +0.9**
comp=Z,4.8nm,0.7s,baz=143,slow=14,SNR=5.1
comp=Z,4.8nm,0.7s
TIA Tai'an 54.55 65 P **P** **00 23 19.6 +1.6**
TIA pmax pmax
comp=Z,9.0nm,0.7s
BORG Borgarnes 56.40 331 *i* P **P** **00 23 28.7 -2.1**
DBIC Dimbokro 57.62 258 P **P** **00 23 39.0 -1.3**
comp=Z,1.8nm,0.6s,baz=95,slow=7.1,SNR=4.5
comp=Z,1.8nm,0.6s
YAK Yakutsk 58.85 33 *i* P **P** **00 23 48.6 +0.5**
YAK pmax pmax
comp=Z,11nm,0.8s
KLR Kul'dur 62.11 47 *i* P **P** **00 24 10.8 +0.2**
KLR pmax pmax
comp=Z,1.0nm,0.6s
KSRS Korea Array 62.58 61 P **P** **00 24 14.2 +0.2**
comp=Z,0.5nm,0.3s,baz=281,slow=7.1,SNR=2.0
comp=Z,0.5nm,0.3s
SCHQ Schefferville 80.75 329 P **P** **00 26 03.1 0.0**
comp=Z,2.8nm,0.9s,baz=78,slow=9.3,SNR=4.1
comp=Z,2.8nm,0.9s
ILAR Eielson Array 84.88 8 P **P** **00 26 24.0 -0.3**
comp=Z,0.2nm,0.3s,baz=316,slow=2.5,SNR=4.8
comp=Z,0.2nm,0.3s
WRA Warramunga Arr 93.65 111 P **P** **00 27 06.0 -0.6**
comp=Z,0.9nm,1.1s,baz=312,slow=4.4,SNR=4.9
comp=Z,0.9nm,1.1s

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*SOME **02** 00:39:33.7, 42.07N×79.05E, h5km*
*NNC **02** 00:39:33.5±1.5, 42.05N×79.10E, h0km, mb2.8, mpv3.0, Error ellipse: s-maj=10.3km s-min=5.3km az=159.0*
*KRNET **02** 00:39:34.8±0.1, 42.04N×79.01E, h10km, mb2.2*

ISC 02 00:39:33.2±2.3, 42.03N±0.07×79.06E±0.07, h1km±13km, n19, σ0.957/30, 4C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	Time h m s	ISC	Res ISC
PRZ	**Przheval'sk**	**0.67**	**313**	⇓ *e*P	**Pb**	**00 39 47.3**		**-0.5**
PRZ				⇓ *e*S	**Sb**	**00 39 56.5**		**-1.1**
TARG	**Taragay, Kyrgy**	**0.98**	**252**	⇓ *e*P	**Pb**	**00 39 53.2**		**-0.2**
TARG				⇓ *e*S	**Sb**	**00 40 06.4**		**-0.6**
SHLS	**Shalkode** 5.6nm,0.1s	**1.16**	**15**	P	**Pn**	**00 39 57.4**		**+0.6**
SHLS				S	**Sn**	**00 40 13.9**		**+0.5**
SHLS	**Shalkode** 5.6nm,0.1s	**1.16**	**15**	*e*P	**Pn**	**00 39 56.8**		**-0.1**
SHLS				*e*S	**Sn**	**00 40 13.4**		**0.0**
KDJ	**Kajisay**	**1.40**	**275**	⇑ *e*P	**Pg**	**00 40 00.4**		**+0.3**
KDJ				⇑ *e*S	**Sn**	**00 40 19.2**		**-0.2**
KPKS	**Kokpek** 0.3nm,0.2s	**1.46**	**349**	P	**Pn**	**00 40 00.8**		**-0.1**
KPKS				S	**Sg**	**00 40 21.4**		**+1.2**
KOTS	**Kotyrbulak** 7.5nm,0.1s	**1.87**	**311**	Pg	**Pg**	**00 40 08.8**		**-0.3**
KOTS				Lg	Lg	00 40 34.3		
KOTS	**Kotyrbulak** 7.5nm,0.1s	**1.87**	**311**	*e*P	**Pb**	**00 40 08.2**		**-0.2**
KOTS				*e*S	**Sg**	**00 40 33.1**		**-0.3**
BLB	**Baldybastay** 5.9nm,0.1s	**2.11**	**349**	Pg	**Pb**	**00 40 11.9**		**-0.5**
BLB				Lg	Lg	00 40 39.6		
ULHL	**Ulahol**	**2.11**	**277**	⇓ *e*P	**Pb**	**00 40 12.8**		**+0.4**
ULHL				⇓ *e*S	**Sg**	**00 40 40.6**		**-0.3**
MTBS	**Maitube** 0.4nm,0.1s	**2.23**	**300**	Pg	**Pb**	**00 40 14.1**		**-0.3**
MTBS				Lg	Lg	00 40 43.5		
MTBS	**Maitube** 0.4nm,0.1s	**2.23**	**300**	*e*P	**Pb**	**00 40 14.1**		**-0.3**
MTBS				*e*S	**Sb**	**00 40 43.5**		**+0.9**
KNOS	**Konyrlen** 1.3nm,0.2s	**2.33**	**2**	Pg	**Pb**	**00 40 15.4**		**-0.7**
KNOS				Lg	Lg	00 40 45.7		
ARXS	**Arharly** 1.7nm,0.2s	**2.36**	**338**	Pg	**Pb**	**00 40 16.4**		**-0.2**
ARXS				Lg	Lg	00 40 47.4		
BOOM	**Boomskoye usch**	**2.36**	**282**	⇑ *e*P	**Pb**	**00 40 16.3**		**-0.4**
BOOM				⇑ *e*S	**Sb**	**00 40 46.7**		**+0.3**
KTBS	**Karatobe** 6.9nm,0.4s	**2.42**	**315**	Pg	**Pb**	**00 40 18.3**		**+0.7**
KTBS				Lg	Lg	00 40 51.1		
KST	**Kastek** 0.8nm,0.1s	**2.50**	**295**	Pg	**Pb**	**00 40 19.8**		**+0.7**
KST				Lg	Lg	00 40 53.3		
KST	**Kastek** 0.8nm,0.1s	**2.50**	**295**	*e*P	**Pb**	**00 40 19.8**		**+0.7**
KST				*e*S	**Sg**	**00 40 53.3**		**-0.3**
KRBS	**Karabastau** 0.4nm,0.2s	**2.99**	**305**	Pg	**Pb**	**00 40 27.9**		**+0.5**
KRBS				Lg	Lg	00 41 07.1		

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*NEIC **02** 00:47:36.4±1.3, 18.0S±0.1×178.3W±0.1, h622km±10km, mb4.3/27, Error ellipse: s-maj=20.3km s-min=15.3km az=161.0*
*IDC **02** 00:47:37.0±1.1, 18.01S×178.46W, h628km±10km, mb3.4/11, mbtmp4.3/13, Error ellipse: s-maj=21.6km s-min=12.6km az=142.0*

ISC 02 00:47:35.4±0.6, 18.0S±0.1×178.38W±0.10, h600km, n59, σ1.989/60, mb4.2/29, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	Time h m s	ISC	Res ISC
MSVF	**Nonsavu** 12nm,0.6s,baz=1.0,slow=0.9,SNR=20	**3.41**	**274**	P	**P**	**00 48 59.5**		**+2.4**
MSVF				S	**S**	**00 50 09.4**		**+5.8**
DZM	**Mont Dzumac** 7.5nm,0.9s,baz=167,slow=22,SNR=4.1	**14.82**	**252**	P	**P**	**00 50 42.1**		**0.0**
DZM	**Mont Dzumac** 3.7nm,0.5s,baz=53,slow=20,SNR=1.2	**14.82**	**252**	P	**P**	**00 50 41.8**		**-0.3**
THZ	**Tophouse**	**24.82**	**196**	P	**P**	**00 52 11.5**		**-0.4**
THZ				IAmb	IAmb	00 52 30.5		
AMCZ	**Amberley**	**26.21**	**195**	P	**P**	**00 52 26.0**		**+2.0**
LBZ	**Lake Benmore**	**28.00**	**198**	P	**P**	**00 52 37.0**		**-2.6**
EIDS	**Eidsvold**	**29.26**	**250**	P	**P**	**00 52 50.3**		**-0.6**
EIDS				IAmb	IAmb	00 53 20.3		
MLZ	**Mavora Lakes**	**29.51**	**200**	P	**P**	**00 52 52.3**		**-0.4**
ARMA	**Armidale**	**29.91**	**240**	P	**P**	**00 52 56.7**		**+0.2**
ARMA				IAmb	IAmb	00 53 21.0		
CTAO	**Charters Tower**	**33.46**	**261**	P	**P**	**00 53 26.3**		**-0.3**
CTAO				IAmb	IAmb	00 53 26.7		
PATS	**Pohnpei**	**33.75**	**315**	P	**P**	**00 53 26.1**		**-3.0**
COEN	**Coen**	**37.13**	**271**	P	**P**	**00 53 56.8**		**-0.2**
COEN				IAmb	IAmb	00 53 58.2		
STKA	**Stephens Creek**	**38.61**	**241**		**P**	**00 54 08.9**		**+0.1**
STKA	**Stephens Creek** comp=Z,5.9nm,0.5s,baz=89,slow=11,SNR=17	**38.61**	**241**	P	**P**	**00 54 08.7**		**-0.1**
	comp=Z,5.9nm,0.5s							
WR8	**Warramunga Arr**	**44.49**	**260**	P	**P**	**00 54 54.0**		**-1.2**
WR8				IAmb	IAmb	00 55 08.6		
WB0	**Warramunga Arr** comp=Z,7.6nm,1.2s	**44.61**	**260**	P	**P**	**00 54 54.8**		**-1.3**
WB0				IAmb	IAmb	00 54 55.4		
WRAB	**Tennant Creek** comp=Z,7.7nm,0.6s	**44.63**	**260**	P	**P**	**00 54 55.0**		**-1.3**
WRAB				IAmb	IAmb	00 54 55.5		
WRA	**Warramunga Arr** comp=Z,5.2nm,0.6s	**44.64**	**260**		**P**	**00 54 55.1**		**-1.2**
WRA	**Warramunga Arr** comp=Z,3.9nm,0.5s,baz=95,slow=7.4,SNR=94	**44.64**	**260**	P	**P**	**00 54 55.1**		**-1.2**
	comp=Z,3.9nm,0.5s							
AS31	**Alice Springs**	**44.79**	**254**		**P**	**00 54 56.6**		**-0.8**
AS31				IAmb	IAmb	00 54 57.6		

comp=Z,6.7nm,0.5s
ASAR Alice Springs 44.79 254 P P 00 54 56.6 -0.8
comp=Z,20nm,0.6s,baz=86,slow=8.9,SNR=140
ASAR S S 01 00 49.8 -2.6
comp=Z,0.4nm,0.7s,baz=84,slow=15,SNR=5.3
comp=Z,20nm,0.6s
GIRL Giralia 62.89 253 P P 00 57 04.2 -0.3
JSG Sagara 66.70 322 P P 00 57 27.3 -0.8
MJAR Matsushiro Arr 68.01 323 P P 00 57 34.5 -1.6
comp=Z,1.3nm,0.5s,baz=122,slow=7.9,SNR=2.8
comp=Z,1.3nm,0.5s
QSPA South Pole Qui 72.04 180 P P 00 57 59.6 0.0
QSPA South Pole Qui 72.04 180 P P 00 57 58.6 -1.0
comp=Z,2.0nm,0.8s,baz=324,slow=1.2,SNR=6.5
comp=Z,2.0nm,0.8s
PETK Petropavlovsk- 73.79 345 P P 00 58 08.2 -1.3
comp=Z,2.1nm,0.6s,baz=123,slow=7.7,SNR=11
comp=Z,2.1nm,0.6s
NVAR Mina Array Bea 79.48 44 P P 00 58 41.0 -0.1
comp=Z,0.8nm,0.7s,baz=223,slow=9.9,SNR=8.1
comp=Z,0.8nm,0.7s
BNX BinXian 80.19 325 ⇑P **P 00 58 44.4 0.0**
BNX pmax pmax
comp=Z,4.0nm,1.0s
J05D Fort Rock, OR 80.38 38 P 00 58 45.0 -0.6
M17K Holitna River 80.90 10 P P 00 58 47.2 -0.5
M17K IAmb IAmb 00 58 48.9
comp=Z,6.1nm,0.9s
K17K Iditarod 82.00 9 P P 00 58 52.9 -0.4
LTY Liberty 83.03 35 P P 00 58 55.1 -3.8
LTY IAmb IAmb 00 58 59.3
comp=Z,4.6nm,0.6s
CAST Castle Rocks 83.72 12 P 00 58 59.8 -2.1
CAST IAmb IAmb 00 59 00.7
comp=Z,4.6nm,0.8s
TRF Thorofare Moun 84.10 12 P P 00 59 02.4 -1.6
TRF IAmb IAmb 00 59 03.6
comp=Z,6.7nm,0.6s
CCB Clear Creek Bu 85.68 13 P P 00 59 09.7 -1.6
CCB IAmb IAmb 00 59 10.2
comp=Z,5.0nm,1.2s
ILAR Eielson Array 85.98 13 P P 00 59 10.9 -1.8
comp=Z,0.8nm,0.4s,baz=224,slow=4.6,SNR=13
comp=Z,0.8nm,0.4s
TX31 Lajitas Ar. Si 86.03 58 P 00 59 13.3 -0.6
TXAR Lajitas Array 86.03 58 P P 00 59 14.6 +0.7
TXAR Lajitas Array 86.03 58 P P 00 59 13.2 -0.7
comp=Z,1.4nm,0.8s,baz=273,slow=5.7,SNR=3.6
comp=Z,1.4nm,0.8s
M29M Somme Creek 86.14 17 P P 00 59 12.8 -0.8
J26L Joseph Creek 86.50 14 P P 00 59 14.9 -0.4
J26L IAmb IAmb 00 59 15.6
comp=Z,2.4nm,0.7s
HHC Hu-ho-hao-te 87.36 314 *e*P **P 00 59 21.4 +1.5**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,59nm,4.2s
PDAR Pinedale Array 87.41 43 P P 00 59 19.9 -0.3
comp=Z,0.7nm,0.6s,baz=213,slow=4.2,SNR=7.0
comp=Z,0.7nm,0.6s
SNAA Sanae 90.49 179 P P 00 59 32.5 -1.4
comp=Z,1.4nm,1.1s,baz=213,slow=4.8,SNR=6.9
comp=Z,1.4nm,1.1s
LZH Lanzhou 90.98 308 *e*P **P 00 59 38.5 +1.6**
LZH pmax pmax
comp=Z,18nm,1.3s
ARCES ARCESS Array B 126.42 350 PKP **PKPdf 01 05 29.2 -1.2**
comp=Z,1.7nm,1.0s,baz=90,slow=2.7,SNR=1.1
BRTR Keskin Array B 144.88 315 PKP **PKPdf 01 06 04.2 -1.3**
comp=Z,0.5nm,0.5s,baz=63,slow=3.0,SNR=3.9
MMAI Mount Meron Ar 146.22 303 PKPbc **PKPdf 01 06 09.9 +2.1**
comp=Z,0.4nm,0.3s,baz=90,slow=10,SNR=1.6
GERES GERESS Array B 147.72 345 PKPbc **PKPdf 01 06 12.9 +3.0**
comp=Z,1.0nm,0.5s,baz=13,slow=2.9,SNR=11
CONA Conrad Observa 147.97 342 *e*PKiKP **PKPdf 01 06 13.2 +2.9**
comp=Z,4.2nm,1.7s
RONA Rosalia, Austr 148.04 341 *e*PKiKP **PKPbc 01 06 14.9 +0.5**
comp=Z,3.2nm,1.0s
BIOA Bad Ischl, Aus 148.80 344 *i* PKP **PKiKP 01 06 20.5 +3.3**
comp=Z,1.1nm,0.7s
SOKA Soboth 149.34 342 *i* PKP **PKPdf 01 06 15.4 +2.9**
comp=Z,2.2nm,1.4s
OBKA Obir 149.64 342 *i* PKP **PKPdf 01 06 16.4 +3.4**
comp=Z,2.3nm,1.3s
MOTA Moosalm 149.72 347 *e*PKP **PKiKP 01 06 24.4 +5.1**
comp=Z,1.8nm,0.7s
ABTA Abfaltersbach 149.97 345 *i* PKP **PKPdf 01 06 17.7 +4.2**
comp=Z,3.1nm,0.7s
DAVA Damuels 150.02 349 *e*PKP **PKPab 01 06 27.3 -0.5**
FETA Feichten 150.11 347 *i* PKiKP **PKPbc 01 06 19.1 -0.4**
comp=Z,3.8nm,1.1s

SJA ***02*** *00:48:09.1±0.7, 38.91S×72.64W, h32km±3km, ML3.8, MW3.7*
IDC ***02*** *00:48:11.0±4.6, 39.18S×73.01W, h47km±33km, mb3.7/4, mbtmp3.9/5, ML3.8/1, Error ellipse: s-maj=68.9km s-min=18.8km az=95.0*
GUC ***02*** *00:48:11.5±0.7, 38.93S×72.64W, h59km±5km, ML4.0*
ISC 02 00:48:11.1±1.0, 38°93S±0.03×72°77W±0.04, h49km±11km, n43, σ2§03/61, mb4.0/6, 9C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LC01	**Cunco**	**0.69**	**88**	⇓*i*P	**Pn**	**00 48 24.1**	**-0.7**
LC01				*e*S	**Sn**	**00 48 33.7**	**-0.9**
LR03	**Panguipulli**	**0.78**	**155**	⇑*i*P	**Pn**	**00 48 26.0**	**+0.2**
LR03				*e*S	**Sn**	**00 48 36.7**	**+0.2**
LR03				IAML		00 48 37.9	
	comp=E,14μm,0.2s						
LR03	**Panguipulli**	**0.78**	**155**	*e*P	**Pn**	**00 48 26.1**	**+0.2**
LR03				*e*S	**Sn**	**00 48 35.9**	**-0.7**
LR03				IAML		00 48 37.7	
	comp=Z,9μm,0.5s						
LR02	**Universidad Au**	**0.95**	**203**	*e*P	**Pn**	**00 48 29.1**	**+1.0**
LR02				IAML		00 48 50.6	
	comp=E,9μm,0.5s						
BI04	**Isla Mocha**	**1.02**	**300**	⇑*i*P	**Pn**	**00 48 31.2**	**+2.3**
BI04				*e*S	**Sn**	**00 48 45.0**	**+2.9**
BI04				IAML		00 48 47.0	
	comp=N,5μm,0.2s						
LR04	**Corral**	**1.08**	**208**	⇓*i*P	**Pn**	**00 48 29.0**	**-0.8**
LR04				IAML		00 48 51.1	
	comp=N,6μm,0.2s						
LR04	**Corral**	**1.08**	**208**	*e*P	**Pn**	**00 48 28.4**	**-1.5**
LR04				IAML		00 48 47.4	
	comp=Z,3μm,0.2s						
GO06	**Curarrehue**	**1.20**	**124**	⇑*i*P	**Pn**	**00 48 31.0**	**-0.6**
GO06				*e*S	**Sn**	**00 48 46.4**	**-0.5**
LR05	**Currie**	**1.43**	**156**	⇑*i*P	**Pn**	**00 48 34.8**	**+0.2**
LR05				*e*S	**Sn**	**00 48 52.1**	**-0.2**
LR05				IAML		00 48 55.1	
	comp=E,4μm,0.2s						
LR05	**Currie**	**1.43**	**156**	*e*P	**Pn**	**00 48 34.9**	**+0.2**
LR05				*e*S	**Sn**	**00 48 52.2**	**0.0**
LR05				IAML		00 48 54.7	
	comp=Z,986nm,0.2s						
BI05	**Punta Hualpn**	**2.20**	**351**	⇑*i*P	**Pn**	**00 48 46.0**	**+0.8**
BI05				IAML		00 49 13.7	
	comp=N,1μm,0.2s						
BI05	**Punta Hualpn**	**2.20**	**351**	*e*P	**Pn**	**00 48 45.4**	**+0.2**
BI05				IAML		00 49 22.6	
	comp=Z,320nm,0.3s						
LL03	**Petrohue**	**2.23**	**173**	*e*P	**Pn**	**00 48 45.5**	**0.0**
LL03				IAML		00 49 26.9	
	comp=N,992nm,0.6s						
LL03	**Petrohue**	**2.23**	**173**	*e*P	**Pn**	**00 48 46.5**	**+1.0**
LL03				*e*S	**Sn**	**00 49 15.5**	**+3.7**
LL03				IAML		00 49 28.6	
	comp=Z,450nm,0.2s						
PLCA	**Paso Flores**	**2.48**	**137**	P	**Pn**	**00 48 48.7**	**-0.4**
PLCA				S	**Sn**	**00 49 23.1**	**+4.8**
	comp=Z,2.7nm,0.3s,baz=304,slow=15,SNR=58						
	comp=Z,22nm,0.3s,baz=270,slow=14,SNR=4.0						
	comp=Z,12nm,0.4s						
PLCA	**Paso Flores**	**2.48**	**137**	*e*P	**Pn**	**00 48 48.9**	**-0.3**
PLCA				*e*S	Sn	00 49 29.1	+11
LL05	**Los Muermos**	**2.54**	**192**	*e*P	**Pn**	**00 48 49.1**	**-0.6**
LL05				IAML		00 49 29.9	
	comp=N,415nm,0.3s						
BI02	**San Fabin de**	**2.55**	**28**	*e*P	**Pn**	**00 48 50.4**	**+0.3**
ML02	**Panimavida**	**3.34**	**19**	*e*P	**Pn**	**00 49 01.3**	**+0.6**
ML02				*e*S	**Sn**	**00 49 39.6**	**+0.5**
ML02				IAML		00 49 57.9	
	comp=Z,165nm,0.5s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LL01	**San Ignacio de**	**3.46**	**176**	*e*P	**Pn**	**00 49 03.5**	**+1.1**
LL01				*e*S	**Sn**	**00 49 44.5**	**+2.4**
LL07	**Hotel Espejo d**	**3.94**	**188**	*e*P	**Pn**	**00 49 07.7**	**-1.2**
GO05	**Hualane**	**3.97**	**10**	*e*P	**Pn**	**00 49 08.9**	**-0.6**
GO07	**Milladeo Hill,**	**4.24**	**189**	*e*P	**Pn**	**00 49 11.7**	**-1.4**
BO02	**Sierra Bellavi**	**4.42**	**22**	*e*P	**Pn**	**00 49 16.0**	**+0.3**
BO02				*e*S	**Sn**	**00 50 06.7**	**+0.8**
BO02				IAML		00 50 10.4	
	comp=Z,148nm,0.5s						
BO01	**Tunca**	**4.72**	**17**	*e*P	**Pn**	**00 49 18.8**	**-1.0**
BO01				*e*S	**Sn**	**00 50 11.8**	**-1.5**
BO01				IAML		00 50 13.0	
	comp=Z,43nm,0.1s						
MT01	**Popeta**	**5.20**	**14**	*e*P	**Pn**	**00 49 25.1**	**-1.3**
MT01				*e*S	**Sn**	**00 50 23.1**	**-1.9**
MT01				IAML		00 50 26.0	
	comp=Z,68nm,0.2s						
H03S1	**Juan Fernandez**	**7.09**	**314**	P	**Pn**	**00 49 52.1**	**+0.2**
	baz=100,slow=10,SNR=13						
H03S1				S	**Sn**	**00 51 07.1**	**-3.9**
H03S1				T	T	00 55 47.8	
	baz=140						
H03S3	**Juan Fernandez**	**7.10**	**314**	P	**Pn**	**00 49 52.1**	**-0.1**
	baz=100,slow=10,SNR=11						
H03S3				S	**Sn**	**00 51 07.1**	**-4.2**
H03S3				T	T	00 55 49.7	
	baz=140,slow=74						
H03S2	**Juan Fernandez**	**7.10**	**314**	P	**Pn**	**00 49 52.1**	**-0.1**
H03S2				S	**Sn**	**00 51 07.1**	**-4.2**
	SNR=11						
H03S2				T	T	00 55 44.7	
	baz=140,slow=74						
H03N3	**Juan Fernandez**	**7.39**	**316**	P	**Pn**	**00 49 57.9**	**+1.8**
	baz=305,slow=74,SNR=16						
H03N3				S	**Sn**	**00 51 15.2**	**-3.2**
	baz=100,slow=74,SNR=4.1						
H03N1	**Juan Fernandez**	**7.39**	**316**	P	**Pn**	**00 49 57.9**	**+1.8**
	baz=305,slow=74,SNR=8.5						
H03N1				S	**Sn**	**00 51 15.2**	**-3.3**
	baz=290,slow=74,SNR=10						
H03N2	**Juan Fernandez**	**7.40**	**316**	P	**Pn**	**00 49 57.9**	**+1.6**
	baz=305,slow=74,SNR=17						
H03N2				S	Sn	**00 51 15.2**	**-3.5**
LPAZ	**La Paz**	**22.92**	**11**	P	**P**	**00 53 14.3**	**+2.7**
	comp=Z,1.3nm,0.8s,baz=172,slow=8.8,SNR=6.2						
LPAZ				S	**S**	**00 57 24.5**	**+6.1**
	comp=Z,0.8nm,0.5s,baz=197,slow=6.9,SNR=6.9						
	comp=Z,1.3nm,0.8s						
VNA3	**Neumayer Olymp**	**45.07**	**156**	⇑P	**P**	**00 56 19.8**	**-1.9**
	comp=Z,1.0nm,0.7s						
VNA2	**Neumayer--Watz**	**45.75**	**155**	⇑P	**P**	**00 56 25.3**	**-1.8**
	comp=Z,1.4nm,0.6s,baz=274,slow=7.3						
SNAA	**Sanae**	**47.29**	**156**	⇑P	**P**	**00 56 37.6**	**-1.6**
	comp=Z,49nm,0.9s						
SNAA	**Sanae**	**47.29**	**156**	P	**P**	**00 56 37.6**	**-1.6**
	comp=Z,2.2nm,0.9s,baz=290,slow=5.9,SNR=10						
	comp=Z,2.2nm,0.9s						
TROLL	**Troll, Antarti**	**48.98**	**157**	⇑P	**P**	**00 56 50.8**	**-1.5**
	comp=Z,76nm,0.5s						
QSPA	**South Pole Qui**	**51.32**	**180**	P	**P**	**00 57 08.6**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=160,slow=0.6,SNR=2.2						
	comp=Z,0.9nm,0.7s						
BOSA	**Boshof**	**78.32**	**117**	P	**P**	**01 00 06.9**	**+0.5**
	comp=Z,3.7nm,1.1s,baz=221,slow=9.3,SNR=1.5						
	comp=Z,3.7nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**24.98**	**266**	T	T	03 24 13.3	
	baz=124						
H11S1	**WAKE ISLAND Hy**	**24.99**	**266**	T	T	03 24 14.5	
	baz=124						
H11S3	**WAKE ISLAND Hy**	**25.00**	**266**	T	T	03 24 12.3	
	baz=124						

IDC 02 00:54:27.5±5.7, 11°18S×167°29E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=290.8km s-min=36.5km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**29.49**	**359**	T	T	01 31 10.9	
	baz=181,slow=76,SNR=8.9						
H11S3	**WAKE ISLAND Hy**	**29.50**	**359**	T	T	01 31 11.2	
	baz=181,slow=76,SNR=7.2						
H11S1	**WAKE ISLAND Hy**	**29.51**	**359**	T	T	01 31 12.6	
	baz=181,slow=76,SNR=6.9						
WRA	**Warramunga Arr**	**32.86**	**251**	P	P	01 01 03.3	-0.1
	0.8nm,0.6s,baz=82,slow=9.3,SNR=5.0						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**34.09**	**244**	P	P	01 01 14.2	0.0
	0.8nm,0.7s,baz=71,slow=9.8,SNR=8.1						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**83.17**	**18**	P	P	01 06 55.2	0.0
	0.3nm,0.8s,baz=224,slow=3.8,SNR=2.6						
	0.3nm,0.8s						

IDC ***02*** *01:00:09.9±2.3, 38.43N×141.92E, h63km±17km, mb3.7/13, mbtmp3.9/19, MS2.7/4, Error ellipse: s-maj=23.0km s-min=11.2km az=109.0*
JMA ***02*** *01:00:10.4±0.1, 38.4N±0.3×141.7E±0.5, h52km, MV4.0/37, KINKAZAN REGION*
JMA Felt II J1 at KINKAZAN REGION .
NIED ***02*** *01:00:10.4, 38.37N×141.67E, h52km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.36; Mθθ0.19; Mϕϕ-0.55; Mrθ0.66; Mϕθ0.12; Mϕr0.75; Fault plane solution: M₀1.11000×10¹⁵ NP1: ϕs144.00000°, δ23.00000°, λ23.00000°. NP2:ϕs33.00000°, δ81.00000°, λ111.00000°.*
ISC 02 01:00:09.1±1.3, 38°36N±0.07×141°9E±0.1, h53km±8km, n39, σ1§05/41, mb4.0/13, 13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.31**	**261**	P	**Pn**	**01 00 18.8**	**+0.2**
JIKH				*e*S	**Sn**	**01 00 24.7**	**-0.7**
JIO	**Ouri**	**0.41**	**284**	⇓*e*P	**Pn**	**01 00 19.5**	**0.0**
JIO				⇓S	**Sn**	**01 00 25.8**	**-1.2**
JKMT	**Kesennumamotoy**	**0.54**	**327**	⇓*i*P	**Pn**	**01 00 21.5**	**+0.5**
JKMT				⇓*i*S	**Sn**	**01 00 29.2**	**-0.5**
OFUJ	**Ofunato**	**0.73**	**349**	*i* P	**Pn**	**01 00 24.3**	**+0.9**
OFUJ				S	**Sn**	**01 00 34.1**	**+0.2**
JMK	**Ichinoseki**	**0.77**	**320**	⇓*i*P	**Pn**	**01 00 24.2**	**+0.3**
JMK				⇓S	**Sn**	**01 00 33.9**	**-0.8**
JOU	**Okura**	**0.93**	**271**	⇓*i*P	**Pn**	**01 00 25.4**	**-0.7**
JMM	**Marumori**	**0.97**	**240**	⇓*i*P	**Pn**	**01 00 25.7**	**-0.8**
JMM				⇓eS	**Sn**	**01 00 37.0**	**-2.3**
JOM	**Ohasama**	**1.20**	**339**	⇓*i*P	**Pn**	**01 00 30.2**	**+0.6**
JYK	**Kaneyama**	**1.30**	**296**	⇓*i*P	**Pn**	**01 00 30.5**	**-0.4**
JRG	**Rokugo**	**1.41**	**318**	⇓*i*P	**Pn**	**01 00 32.7**	**+0.3**
JYS	**Shirataka**	**1.41**	**265**	⇓*i*P	**Pn**	**01 00 32.0**	**-0.5**
JOTO	**OTAMA OYAMA**	**1.44**	**237**	P	**Pn**	**01 00 32.6**	**-0.3**
MJAR	**Matsushiro Arr**	**3.42**	**239**	P	**Pn**	**01 01 00.8**	**+0.9**
	5.4nm,0.3s,baz=36,slow=13,SNR=46						
MJAR				S	**Sn**	**01 01 42.9**	**+3.7**
	4.4nm,0.4s,baz=273,slow=11,SNR=4.3						
MJAR				LR	LR	01 02 43.1	
	comp=Z,68nm,21.3s,baz=50,slow=44						
ASAJ	**Asahikawa**	**5.78**	**5**	P	**Pn**	**01 01 32.2**	**0.0**
	2.6nm,0.4s,baz=209,slow=27,SNR=1.9						
ASAJ				S	**Sn**	**01 02 37.1**	**-0.1**
	5.9nm,0.5s,baz=198,slow=19,SNR=1.5						
USRK	**Ussuriysk Ar.**	**9.44**	**311**	P	**Pn**	**01 02 23.3**	**+1.0**
	2.9nm,0.4s,baz=124,slow=14,SNR=7.6						
JNU	**Nakatsue**	**10.33**	**243**	P	**Pn**	**01 02 37.2**	**+2.6**
	2.4nm,0.4s,baz=65,slow=19,SNR=1.7						
JNU				LR	LR	01 06 54.7	
	comp=Z,44nm,19.2s,baz=91,slow=39						
KSRS	**Korea Array**	**11.04**	**270**	P	**Pn**	**01 02 46.2**	**+1.9**
	1.2nm,0.3s,baz=81,slow=14,SNR=1.4						
KLR	**Kul'dur**	**13.08**	**329**	LR	LR	01 08 26.8	
	comp=Z,37nm,18.0s,baz=175,slow=38						
PETK	**Petropavlovsk-**	**18.37**	**31**	P	**P**	**01 04 17.8**	**-1.5**
	0.3nm,0.4s,baz=215,slow=12,SNR=1.5						
SEY	**Seymchan**	**25.43**	**11**	LR	LR	01 15 11.1	
	comp=Z,28nm,18.2s,baz=169,slow=36						
SONM	**Songino Array**	**27.36**	**302**	P	**P**	**01 05 48.9**	**-0.3**
	0.4nm,0.4s,baz=92,slow=8.7,SNR=4.0						
	0.4nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.56**	**123**	T	T	01 36 15.4	
	baz=316,slow=75,SNR=423						
H11N1	**WAKE ISLAND Hy**	**28.57**	**123**	T	T	01 36 16.1	
	baz=316,slow=75,SNR=653						
H11N3	**WAKE ISLAND Hy**	**28.57**	**123**	T	T	01 36 16.8	
	baz=316,slow=75,SNR=518						

H11S1	**WAKE ISLAND Hy**	**29.32**	**125**	T	T	01 37 13.4	
	baz=318,slow=76,SNR=44						
H11S3	**WAKE ISLAND Hy**	**29.32**	**126**	T	T	01 37 13.9	
	baz=318,slow=76,SNR=113						
H11S2	**WAKE ISLAND Hy**	**29.33**	**125**	T	T	01 37 15.0	
	baz=318,slow=76,SNR=33						
ZALV	**Zalesovo Beam**	**41.29**	**311**	P	**P**	**01 07 48.7**	**-0.3**
	1.7nm,0.4s,baz=78,slow=7.7,SNR=9.4						
	1.7nm,0.4s						
MKAR	**Makanchi Array**	**43.72**	**301**	P	**P**	**01 08 08.2**	**-0.7**
	2.4nm,0.8s,baz=86,slow=9.4,SNR=15						
	2.4nm,0.8s						
KURBB	**Kurchatov Arra**	**45.47**	**307**	P	**P**	**01 08 22.1**	**-0.7**
	6.9nm,0.7s,baz=82,slow=8.1,SNR=44						
KURBB				PcP	**PcP**	**01 10 00.9**	**0.0**
	0.3nm,0.5s,baz=86,slow=3.5,SNR=2.1						
	6.9nm,0.7s						
BVAR	**Borovoye Array**	**49.95**	**312**	P	**P**	**01 08 56.8**	**-0.6**
	0.7nm,0.4s,baz=90,slow=7.2,SNR=4.2						
BVAR				PcP	**PcP**	**01 10 17.2**	**+0.4**
	1.0nm,0.6s,baz=64,slow=3.4,SNR=2.9						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**58.42**	**188**	P	**P**	**01 09 59.3**	**0.0**
	1.4nm,0.6s,baz=7.8,slow=7.7,SNR=14						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**62.15**	**188**	P	**P**	**01 10 25.0**	**+0.3**
	0.5nm,0.6s,baz=15,slow=6.7,SNR=5.0						
	0.5nm,0.6s						
ARCES	**ARCESS Array B**	**62.88**	**339**	P	**P**	**01 10 28.9**	**-0.2**
	2.2nm,1.0s,baz=42,slow=7.0,SNR=3.8						
	2.2nm,1.0s						
FINES	**FINESS Array B**	**67.81**	**332**	P	**P**	**01 11 01.2**	**+0.2**
	0.9nm,0.7s,baz=120,slow=5.0,SNR=3.4						
	0.9nm,0.7s						
HFS	**Hagfors**	**73.03**	**336**	P	**P**	**01 11 32.8**	**-0.1**
	3.0nm,0.9s,baz=76,slow=9.1,SNR=1.9						
	3.0nm,0.9s						
NOA	**NORSAR Array B**	**73.10**	**337**	P	**P**	**01 11 33.4**	**0.0**
	0.8nm,0.8s,baz=33,slow=2.6,SNR=2.1						
	0.8nm,0.8s						
AKASG	**Malin Array Be**	**73.46**	**322**	P	**P**	**01 11 35.4**	**-0.2**
	0.5nm,0.4s,baz=45,slow=6.4,SNR=2.0						
	0.5nm,0.4s						
GERES	**GERESS Array B**	**81.77**	**328**	P	**P**	**01 12 21.8**	**-0.4**
	0.2nm,0.4s,baz=45,slow=7.2,SNR=2.2						
	0.2nm,0.4s						

JMA ***02*** *01:19:09.3±0.7, 47°N±5°×15°0E±°, h405km, MV3.7/12, KURILE ISLANDS REGION*
MOS ***02*** *01:19:10.2±1.2, 47.91N×148.28E, h388km, mb4.2/3, Error ellipse: s-maj=14.2km s-min=6.1km az=57.4*
SKHL ***02*** *01:19:10.2±0.9, 47.60N×148.50E, h386km±6km, mb4.6/7, msha5.0/3*
IDC ***02*** *01:19:12.3±1.2, 47.98N×148.21E, h391km±13km, mb3.2/15, mbtmp4.1/23, Error ellipse: s-maj=17.1km s-min=9.7km az=154.0*
NEIC ***02*** *01:19:13.3±0.8, 48.1N±0.1×148.2E±0.2, h394km±9km, mb4.0/60, Error ellipse: s-maj=22.7km s-min=15.3km az=135.0*
ANF ***02*** *01:20:08.7±0.3, 51.90N×152.66E, h628km±3km, Mb4.3/44, Error ellipse: s-maj=4.0km s-min=3.0km az=44.0*
ISC 02 01:19:11.6±0.4, 47°74N±0°05×148°48E±0°05, h400km, n336, σ1§89/346, mb3.9/45, 1C, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.54**	**190**	*e*P	**Pn**	**01 20 09.5**	**-1.8**
KUR				AMB	AMB	01 20 10.0	
	90nm,0.4s						
KUR				*e*S	**S**	**01 20 56.5**	**-3.0**
KUR				A	A	01 21 00.8	
	30nm,0.6s						
KUR				A	A	01 21 00.8	
	30nm,0.6s						
YSS	**Yuzhno-Sakhali**	**3.97**	**261**	⇑*i*PN	**Pn**	**01 20 21.8**	**-1.5**
YSS				pmax	pmax		
	comp=Z,60nm,0.9s						
YSS	**Yuzhno-Sakhali**	**3.97**	**261**	*e*P	**Pn**	**01 20 21.8**	**-1.5**
YSS				AMB	AMB	01 20 22.3	
	comp=Z,60nm,0.9s						
SHO	**Shikotan**	**4.04**	**197**	PN	**Pn**	**01 20 21.0**	**-3.0**
SHO	**Shikotan**	**4.04**	**197**	*e*P	**Pn**	**01 20 20.8**	**-3.2**
SHO				AMB	AMB	01 20 22.4	
	comp=Z,80nm,0.6s						
SHO				*e*S	S	01 21 15.2	-7.6
SHO				A	A	01 21 19.0	
	comp=Z,120nm,0.4s						
SHO				A	A	01 21 19.0	
	comp=Z,150nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.13**	**207**	*e*P	**Pn**	**01 20 22.2**	**-2.7**
YUK				AMB	AMB	01 20 23.9	
	comp=Z,200nm,0.4s						
YUK				*e*S	**S**	**01 21 20.5**	**-3.9**
YUK				A	A	01 21 23.0	
	comp=Z,160nm,0.7s						
YUK				A	A	01 21 23.0	
	comp=Z,220nm,0.7s						
JRA	**Rausu**	**4.47**	**213**	*e*P	**Pn**	**01 20 26.4**	**-1.8**
NEM2	**Nemuro 2**	**4.78**	**205**	*e*P	Pn	01 20 26.8	-4.6
NEM2				*e*S	S	01 21 27.6	-8.5
NMR	**Nemuro--Hokkai**	**4.78**	**205**	*e*P	**Pn**	**01 20 27.9**	**-3.4**
JNK	**Nakash**	**4.92**	**214**	*e*P	**Pn**	**01 20 30.0**	**-2.8**
TYV	**Tymovskoe**	**4.93**	**312**	*e*PN	**Pn**	**01 20 29.9**	**-2.8**
TYV				*e*S	**S**	**01 21 34.4**	**-4.4**
TYV				pmax	pmax		
	comp=Z,37nm,0.5s						
TYV				pmax	pmax		
	comp=Z,100nm,2.3s						
TYV				smax	smax		
	comp=N,7.0nm,1.2s						
TYV				smax	smax		
	comp=E,17nm,1.2s						
TYV	**Tymovskoe**	**4.93**	**312**	*e*P	**Pn**	**01 20 30.0**	**-2.8**
TYV				AMB	AMB	01 20 30.8	
	comp=E,20nm,0.5s						
TYV				*e*S	**S**	**01 21 38.6**	**-0.2**
JTKR	**Abashiri--Toko**	**4.94**	**222**	*e*P	**Pn**	**01 20 32.2**	**-0.7**
JTKR				*e*S	**S**	**01 21 37.1**	**-2.0**
AKK	**Akkeshi**	**5.37**	**210**	*e*P	**Pn**	**01 20 34.8**	**-2.7**
JAK	**Akkeshi**	**5.44**	**211**	*e*P	**Pn**	**01 20 35.4**	**-2.8**
JKA	**Kamikawa-asahi**	**5.47**	**231**		**Pn**	**01 20 38.7**	**+0.2**
JKA	**Kamikawa-asahi**	**5.47**	**231**	*e*P	**Pn**	**01 20 38.7**	**+0.2**
ASAJ	**Asahikawa**	**5.47**

KLR Kul'dur 11.21 284 PN P 01 21 41.0 -1.4
KLR Kul'dur 11.21 284 eP Pn 01 21 43.3 -0.2
USRK Ussuriysk Ar. 12.01 259 P P 01 21 51.0 -0.2
comp=E,4.3nm,0.5s,baz=70,slow=10,SNR=9.3
BKI Bering 13.19 49 PN Pn 01 22 07.1 +0.8
BKI Bering 13.19 49 eP Pn 01 22 07.1 +0.8
MJB9 Matsu-Tunnel 13.52 218 Pn 01 22 10.9 +0.5
MAJO Matsushiro 13.52 218 Pn 01 22 10.5 +0.1
MAJO Matsushiro 13.52 218 P Pn 01 22 10.5 +0.1
MJAR Matsushiro Arr 13.52 218 P Pn 01 22 11.5 +1.0
MJAR Matsushiro Arr 13.52 218 P P 01 22 09.3 +1.3
comp=E,16nm,0.6s,baz=19,slow=12,SNR=45
SEY Seymchan 15.39 7 P P 01 22 26.8 -1.0
comp=E,0.5nm,0.3s,baz=158,slow=7.2,SNR=4.0
KSRS Korea Array 18.24 243 P P 01 22 59.9 +1.3
comp=E,2.9nm,0.7s,baz=51,slow=9.9,SNR=14
KSAR Wonju Array Be 18.27 243 P 01 22 59.6 +0.7
KSAR Wonju Array Be 18.27 243 P P 01 22 59.7 +0.7
JNU Nakatsue 19.75 229 P P 01 23 15.2 +1.5
comp=E,3.1nm,0.5s,baz=98,slow=7.1,SNR=2.7
P08K Saint George I 26.84 55 P P 01 24 21.5 +4.3
baz=274
GAMB Gambell 26.96 39 P P 01 24 19.0 +0.9
baz=254
NIKH Nikolski High 27.40 63 P P 01 24 30.1 +7.9
baz=283
SONM Songino Arpay 28.03 286 P P 01 24 27.7 -0.2
comp=E,0.5nm,0.5s,baz=66,slow=3.6,SNR=2.9
comp=E,0.5nm,0.5s
UNV Unalaska Valle 28.71 61 P P 01 24 39.9 +6.3
baz=282
M11K Mekoryuk 28.82 47 P P 01 24 36.3 +1.8
baz=268
F14K Arctic Creek 29.65 37 P P 01 24 42.1 +0.3
baz=256
K13K Kusilvak Mount 29.73 44 P P 01 24 44.5 +2.0
baz=266
M13K Dall Lake 30.23 47 P P 01 24 49.1 +2.2
baz=270
J14K Nanvaranak Lak 30.34 43 P P 01 24 48.8 +1.1
baz=265
F15K North Star Dit 30.39 37 P P 01 24 48.2 0.0
baz=258
G15K Niukluk 30.48 38 P P 01 24 49.8 +0.8
baz=260
L14K Kuka Creek 30.61 45 P P 01 24 51.4 +1.2
baz=269
N14K Kuskokwak Cree 31.05 48 P P 01 24 55.7 +1.7
baz=273
S12K Black Hills 31.06 56 P P 01 24 58.2 +4.0
baz=281
H16K Elim 31.18 39 P P 01 24 55.4 +0.3
baz=263
K15K Wolf Creek Mou 31.23 44 P P 01 24 56.6 +1.0
baz=268
G16K Koyuk River 31.26 38 P P 01 24 55.8 0.0
baz=261
O14K Tigyukauivet M 31.27 50 P P 01 24 58.4 +2.5
baz=274
D17K Noatak River 31.47 33 P P 01 24 57.1 -0.5
baz=256
M15K Kasigluk River 31.56 47 P P 01 24 59.4 +1.0
baz=272
C17K DeLong Mountai 31.64 32 P P 01 24 58.1 -1.0
baz=254
J16K Anvik River 31.73 42 P P 01 25 01.0 +1.1
baz=267
I17K Unalakleet 31.75 41 P P 01 25 00.4 +0.4
baz=266
N15K Kwethluk River 31.85 48 P P 01 25 02.8 +1.8
baz=274
F17K Baldwin Pennin 31.89 36 P P 01 25 00.9 -0.3
baz=260
G17K Kiwalik Mounta 31.98 38 P P 01 25 02.1 +0.1
baz=262
O15K Ungalikthiuk R 32.01 50 P P 01 25 04.5 +2.2
baz=276
L16K Owhat River 32.17 45 P P 01 25 04.7 +1.1
baz=271
H17K Granite Mounta 32.21 39 P P 01 25 04.4 +0.5
baz=264
C18K Utukok River 32.39 32 P P 01 25 05.7 +0.2
baz=256
M16K Timber Creek 32.41 46 P P 01 25 07.6 +1.9
baz=273
J17K VABM Dome 32.43 42 P P 01 25 06.6 +0.7
baz=268
N16K Nishlik Lake 32.51 47 P P 01 25 08.3 +1.7
baz=274
CHNA Chernabura Isl 32.58 58 P P 01 25 12.9 +5.6
baz=284
L17K Donlin 32.73 44 P P 01 25 09.5 +1.0
baz=271
K17K Iditarod 32.75 43 P P 01 25 09.3 +0.7
baz=270
A19K Wainwright 32.85 29 P P 01 25 09.3 0.0
baz=253
G18K Tagagawik 32.85 37 P 01 25 10.4 +0.9
G18K Tagagawik 32.85 37 P P 01 25 09.7 +0.2
baz=264,SNR=6.5
O16K Kokwok River B 32.88 49 P P 01 25 12.3 +2.6
baz=276
H18K Honhosa River 32.89 39 P P 01 25 10.4 +0.7
baz=266
P16K Nushagak River 32.97 50 P P 01 25 12.7 +2.3
baz=277
M17K Holitna River 33.14 45 P 01 25 14.1 +2.1
M17K Holitna River 33.14 45 P P 01 25 13.1 +1.1
baz=273,SNR=6.1
N17K Nushagak Hills 33.29 47 P P 01 25 15.4 +2.2
baz=275
F19K Shaleruckim Mo 33.33 35 P P 01 25 14.0 +0.5
baz=263
O17K Koliganek Bris 33.37 48 P P 01 25 15.9 +2.0
baz=277
GCSA Galena City Sc 33.48 39 P P 01 25 15.9 +1.1
baz=268
L18K Granite Mounta 33.49 44 P P 01 25 16.5 +1.6
baz=272
J18K Innoko River 33.49 42 P P 01 25 15.9 +0.9
baz=270
G19K Purcell Mounta 33.52 37 P P 01 25 15.1 0.0
baz=265
E19K Redstone River 33.62 34 P P 01 25 16.1 0.0
baz=262
Q16K King Salmon 33.69 50 P P 01 25 19.4 +2.7
baz=279
H19K Roundabout Mou 33.72 38 P 01 25 18.0 +1.1
H19K Roundabout Mou 33.72 38 P P 01 25 17.2 +0.4
baz=267,SNR=5.1
P17K Kvichak River 33.75 49 P P 01 25 19.8 +2.7
baz=278
M18K Stony River 33.91 45 P P 01 25 20.4 +1.9
baz=274
N18K Kilae Creek 33.92 47 P P 01 25 21.0 +2.3
baz=276
R17L Mt. Peulik Vol 33.96 52 P P 01 25 22.1 +3.0
baz=281
J19K Poorman 33.99 41 P P 01 25 20.4 +1.1
baz=270
D20K Etivluk River 34.05 32 P P 01 25 20.4 +0.8
baz=261
E20K Nigu River 34.13 33 P P 01 25 21.0 +0.6
baz=262
Q17K Contact Creek 34.13 51 P P 01 25 23.8 +3.2
baz=280
F20K Avaraart Lake 34.15 35 P P 01 25 21.1 +0.6
baz=265
O18K Koktuh Hills 34.32 48 P P 01 25 24.5 +2.4
baz=278
L19K White Mountain 34.35 44 P P 01 25 23.8 +1.6
baz=274
P18K Big Mountain, 34.35 49 P P 01 25 24.4 +2.0
baz=279
H20K Anotleneega Mo 34.37 38 P P 01 25 23.0 +0.6
baz=268
I20K Naaghedeneel 34.51 39 P P 01 25 24.2 +0.6
baz=270
Q18K Katmai Hardscr 34.55 50 P P 01 25 26.3 +2.2
baz=280
M19K Big River Lodg 34.58 44 P P 01 25 25.4 +1.2
baz=275
N19K Bonanza Creek 34.60 46 P P 01 25 26.2 +1.7
baz=277
CHIR Chirikof Islan 34.65 55 P P 01 25 29.1 +4.3
baz=285
J20K Nowinta River 34.65 40 P 01 25 26.2 +1.5
J20K IAmb IAmb 01 25 26.9
comp=Z,4.9nm,0.8s
J20K Nowinta River 34.65 40 P P 01 25 25.6 +0.9
baz=271
K20K Telida 34.68 42 P P 01 25 25.6 +0.6
baz=273
C21K Knifeblade Rid 34.77 32 P P 01 25 26.1 +0.4
baz=262
L20K Farrell, AK 34.79 43 P P 01 25 26.3 +0.2
baz=274
IMAR Indian Mountai 34.86 37 P P 01 25 27.2 +0.7
B21K Ikpikpuk River 34.90 31 P P 01 25 26.5 -0.3
baz=261
E21K Killik River 34.97 33 P P 01 25 27.3 -0.1
baz=264
G21K Allakaket 34.99 36 P 01 25 28.1 +0.5
G21K IAmb IAmb 01 25 29.8
comp=Z,4.8nm,0.8s
G21K Allakaket 34.99 36 P P 01 25 27.7 +0.1
baz=268
A22K Sinclair Lake 35.02 28 P P 01 25 27.8 +0.1
baz=258
F21K Alatna River 35.04 35 P P 01 25 28.5 +0.4
baz=266
M20K Styx River 35.17 44 P P 01 25 30.8 +1.5
baz=276
H21K Melozitna Rive 35.24 38 P P 01 25 30.7 +0.9
H21K Melozitna Rive 35.24 38 P P 01 25 30.2 +0.4
baz=270
P19K Oil Pt 35.33 48 P P 01 25 32.4 +1.8
baz=280
B22K Teshekpuk Lake 35.41 30 P P 01 25 31.3 +0.3
baz=261
D22K Ayikyak River 35.49 32 P P 01 25 32.0 +0.3
baz=264
PPLA Purkeypile 35.55 43 P P 01 25 33.9 +1.3
baz=275
F22K John River 35.56 35 P P 01 25 32.7 +0.2
baz=267
CAST Castle Rocks 35.57 42 P 01 25 34.1 +1.5
CAST Castle Rocks 35.57 42 P P 01 25 33.6 +1.0
baz=274
O20K Slope Mountain 35.59 48 P P 01 25 35.0 +2.2
baz=279
E22K Anaktuvuk Pass 35.74 34 P P 01 25 34.4 +0.4
E22K Anaktuvuk Pass 35.74 34 P P 01 25 33.9 -0.1
baz=266
G22K Bettles 35.80 36 P P 01 25 34.9 +0.5
baz=269
H22K Ishtalitna Cre 35.83 37 P P 01 25 35.6 +0.9
baz=271
SKT Skwentna 35.92 44 P P 01 25 37.0 +1.5
baz=277
KDAK Kodiak Island 35.94 51 P P 01 25 38.8 +3.1
baz=283
BPAW Bear Paw Mtn. 36.03 41 P P 01 25 37.7 +1.3
BPAW Bear Paw Mtn. 36.03 41 P P 01 25 37.8 +1.3
baz=274
KTH Kantishna Hill 36.09 41 P P 01 25 38.5 +1.6
KTH IAmb IAmb 01 25 39.4
comp=Z,5.0nm,0.8s
MLY Manley 36.11 39 P P 01 25 37.7 +0.7
baz=273
HOM Homer 36.13 48 P P 01 25 39.9 +2.6
baz=281
D23K Nanushuk River 36.22 32 P P 01 25 38.2 +0.4
baz=266
C23K Itkillik River 36.31 31 P P 01 25 38.7 +0.1
baz=265
SUA Susitna One 36.34 45 P P 01 25 40.2 +1.0
baz=279
TRF Thorofare Moun 36.38 42 P P 01 25 40.4 +0.9
baz=276
G23K Bananza Creek 36.38 36 P P 01 25 39.5 +0.1
G23K Bananza Creek 36.38 36 P P 01 25 39.5 +0.1
baz=271
E23K Chandalar 36.56 34 P P 01 25 41.3 +0.4
baz=269
H23K Yukon River 36.59 38 P P 01 25 42.5 +1.4
H23K IAmb IAmb 01 25 43.1
comp=Z,5.0nm,0.8s
H23K Yukon River 36.59 38 P P 01 25 42.0 +1.0
baz=272,SNR=5.2
TOLK Toolik Lake Re 36.60 33 P P 01 25 41.4 +0.3
baz=268
I23K Minto, Yukon-K 36.69 39 P P 01 25 43.0 +1.3
I23K IAmb IAmb 01 25 43.4
comp=Z,4.3nm,0.4s
I23K Minto, Yukon-K 36.69 39 P P 01 25 42.8 +1.0
baz=274
NEA2 Nenana 36.84 40 P P 01 25 43.9 +0.8
baz=275
D24K Happy Valley 36.89 32 P P 01 25 43.9 +0.4
baz=268
MCK McKinley 36.96 41 P P 01 25 45.1 +0.9
baz=266
C24K Franklin Bluff 36.96 31 P P 01 25 44.2 +0.2
baz=267
E24K Your Creek 36.99 34 P P 01 25 44.7 +0.3
baz=270
SEW Seward 37.16 47 P P 01 25 47.6 +1.9
baz=282
F24K Squaw Lake 37.22 35 P P 01 25 46.7 +0.5
baz=271
WAT1 Susitna Watana 37.22 43 P P 01 25 47.5 +1.1
baz=278
H24K Noodor Dome 37.27 38 P P 01 25 47.4 +0.6
baz=274
COLA College 37.34 39 P P 01 25 47.9 +0.7
baz=275
WAT6 Susitna Watana 37.62 43 P P 01 25 50.8 +0.9
baz=279
DHY Denali Highway 37.73 42 P 01 25 51.7 +1.0
DHY IAmb IAmb 01 25 51.8
comp=Z,4.1nm,0.6s
DHY Denali Highway 37.73 42 P P 01 25 51.6 +1.0
baz=279,SNR=5.3
IL31 37.76 39 P P 01 25 51.6 +0.9
IL31 IAmb IAmb 01 25 52.9
comp=Z,4.7nm,0.6s
ILAR Eielson Array 37.76 39 P P 01 25 52.0 +1.3
comp=Z,3.1nm,0.6s,baz=272,slow=8.2,SNR=41
comp=Z,3.1nm,0.6s
D25K Kaltik River 37.77 32 P P 01 25 50.6 -0.2
baz=270
HDA Harding Lake 37.77 40 P P 01 25 51.1 +0.3
baz=277
SCM Sheep Creek Mo 37.91 44 P P 01 25 53.3 +1.2
baz=281
F25K Christian Rive 38.07 35 P P 01 25 53.6 +0.2
baz=273
E25K Arctic Village 38.08 34 P P 01 25 53.8 +0.4
baz=272
H25L Birch Creek 38.08 37 P P 01 25 54.1 +0.7
baz=275
GLI Glacier Island 38.18 46 P P 01 25 56.6 +2.4
baz=282
PRP Porcupine Dome 38.27 38 P P 01 25 55.8 +0.7
baz=276
K24K Donnelly Dome 38.35 41 P P 01 25 56.1 +0.5
baz=279
J25K Salcha River, 38.43 39 P P 01 25 56.1 -0.2
baz=278
PAX Paxson 38.60 42 P P 01 25 59.1 +1.3
baz=280
KLU Klutina 38.63 44 P P 01 25 59.6 +1.6
baz=282
F26K Sheenjek River 38.64 34 P P 01 25 58.6 +0.6
baz=274
C27K Jago River 38.70 31 P P 01 25 59.3 +0.8
baz=272
RIDG Independent Ri 38.77 41 P P 01 25 59.8 +0.7
baz=280
HARP HAARP 38.83 43 P P 01 26 01.0 +1.4
baz=281
G26K Porcupine Rive 38.84 36 P P 01 26 00.5 +1.0
baz=276
SCRK Sand Creek 39.11 40 P 01 26 02.4 +0.5
SCRK Sand Creek 39.11 40 P P 01 26 02.3 +0.3
baz=280,SNR=7.8
J26L Joseph Creek 39.21 39 P P 01 26 03.6 +0.8
baz=280
N25K Chitina, Valde 39.23 44 P P 01 26 04.2 +1.3
baz=283
I26K Coal Creek Min 39.28 38 P P 01 26 03.8 +0.6
baz=279
BMRM Bremner River 39.36 45 P P 01 26 05.4 +1.5
baz=284
G27K Doyon Strip 39.69 36 P P 01 26 07.5 +0.9
baz=278
H27K Steamboat Moun 39.82 36 P P 01 26 08.5 +0.9
baz=279
M26K Nabesna, AK 39.82 43 P P 01 26 10.0 +2.3
M26K IAmb IAmb 01 26 10.8
comp=Z,4.7nm,0.8s
M26K Nabesna, AK 39.82 43 P P 01 26 08.2 +0.5
baz=283,SNR=6.2
I27K Kandik River 39.87 37 P P 01 26 08.8 +0.8
baz=280
K27K Chicken 39.93 40 P P 01 26 09.6 +1.1
K27K IAmb IAmb 01 26 10.6
comp=Z,4.9nm,0.7s
K27K Chicken 39.93 40 P P 01 26 09.2 +0.7
baz=281
MCARA McCarthy VSAT 40.02 44 P P 01 26 10.9 +1.6
baz=284
CRQE Cirque 40.13 45 P P 01 26 12.2 +1.9
baz=285
BGLC Bering Glacier 40.18 46 P P 01 26 12.6 +2.1
baz=286
L27K Beaver Creek, 40.22 41 P 01 26 11.8 +0.8
L27K IAmb IAmb 01 26 13.8
comp=Z,8.2nm,1.1s
L27K Beaver Creek, 40.22 41 P P 01 26 12.2 +1.3
baz=283,SNR=11
BCAR Beaver Creek A 40.24 41 P 01 26 12.7 +1.6
E28M Babbage River 40.27 33 P P 01 26 11.9 +0.6
baz=277
F28M Old Crow 40.27 34 P P 01 26 12.1 +0.8
baz=278
M27K Edge Creek, AK 40.34 42 P P 01 26 14.1 +2.1
M27K IAmb IAmb 01 26 14.8
comp=Z,6.9nm,0.7s
M27K Edge Creek, AK 40.34 42 P P 01 26 13.5 +1.5
baz=284,SNR=12
I28M Miner Creek 40.59 38 P 01 26 15.5 +1.6
I28M Miner Creek 40.59 38 P P 01 26 14.8 +0.9
baz=281,SNR=7.0
GRNC Granite Creek 40.77 45 P P 01 26 17.1 +1.5
GRNC IAmb IAmb 01 26 18.2
comp=Z,5.5nm,0.6s
BVCY Beaver Creek 40.79 42 P P 01 26 17.1 +1.6
baz=284
E29M Blow River 40.90 33 P P 01 26 17.4 +1.1
baz=279
CTG Chitna Glacier 40.91 44 P P 01 26 18.9 +2.3
baz=286
H29M Whitestone 41.08 36 P P 01 26 18.9 +1.1
baz=281
DAWY Dawson 41.08 40 P P 01 26 19.0 +1.2
baz=283
G29M Pine Creek 41.09 35 P P 01 26 18.8 +1.0
baz=281
YUK3 Moose Creek 41.12 43 P P 01 26 20.3 +1.9
baz=286
I29M Ogilvie Camp, 41.27 37 P P 01 26 20.3 +1.0
I29M IAmb IAmb 01 26 21.2
comp=Z,4.4nm,0.7s
I29M Ogilvie Camp, 41.27 37 P P 01 26 20.6 +1.3
baz=282,SNR=5.7
O28M Mount Upton 41.50 45 P P 01 26 23.4 +1.8
baz=287
EPYK Eagle Plains 41.71 36 P P 01 26 24.0 +1.2
EPYK Eagle Plains 41.71 36 P P 01 26 24.1 +1.3
baz=282
G30M tAoh Zraii Nji 41.78 35 P P 01 26 24.4 +1.1
baz=282
F30M Barrier River 41.82 34 P 01 26 25.3 +1.6
F30M IAmb IAmb 01 26 26.3
comp=Z,6.0nm,0.8s
F30M Barrier River 41.82 34 P P 01 26 24.4 +0.8
baz=282
L29M L29M 41.85 41 P 01 26 26.1 +2.1
L29M IAmb IAmb 01 26 27.2
comp=Z,7.5nm,0.8s
L29M L29M 41.85 41 P P 01 26 25.8 +1.8
baz=286,SNR=9.0
M29M Somme Creek 41.87 42 P P 01 26 25.7 +1.5
M29M Somme Creek 41.87 42 P P 01 26 25.6 +1.3
baz=286
K29M Barlow Dome 41.94 40 P P 01 26 26.4 +1.6
baz=285
I30M Mount Dempster 42.09 37 P 01 26 27.4 +1.4
I30M IAmb IAmb 01 26 28.3
comp=Z,6.1nm,0.7s
I30M Mount Dempster 42.09 37 P P 01 26 26.9 +0.9
baz=284,SNR=14
PNL Peninsula 42.19 46 P P 01 26 28.7 +2.0
baz=289
J30M Hart River 42.27 38 P 01 26 28.9 +1.5
J30M Hart River 42.27 38 P P 01 26 28.3 +0.9
baz=285,SNR=6.1
YUK6 Outpost Mounta 42.32 44 P P 01 26 29.4 +1.4
baz=288
G31M Satah River 42.54 35 P P 01 26 30.2 +0.9
baz=284
M30M Minto, Yukon 42.58 41 P P 01 26 32.0 +2.2
M30M Minto, Yukon 42.58 41 P P 01 26 31.7 +1.8
baz=287
F31M Tsiigehtchic 42.62 34 P P 01 26 30.8 +0.8
baz=283
HYT Haines Junctio 42.75 44 P 01 26 33.9 +2.5
HYT Haines Junctio 42.75 44 P P 01 26 33.5 +2.1
baz=289,SNR=9.2
N30M Aishikik Lake 42.76 43 P P 01 26 32.7 +1.5
baz=288
H31M Peel River 42.78 36 P 01 26 32.5 +1.2
H31M IAmb IAmb 01 26 33.1
comp=Z,4.9nm,0.6s
H31M Peel River 42.78 36 P P 01 26 32.8 +1.5
baz=285,SNR=5.0
P29M Windy Craggy 43.01 46 P P 01 26 35.2 +2.0
baz=290
P30M Million Dollar 43.23 45 P P 01 26 37.3 +2.3
baz=290
N31M Braeburn, Yuko 43.35 43 P 01 26 38.1 +2.2
N31M IAmb IAmb 01 26 39.3
comp=Z,5.4nm,0.9s
N31M Braeburn, Yuko 43.35 43 P P 01 26 38.1 +2.2
baz=289
MKAR Makanchi Array 43.67 294 P P 01 26 38.1 -0.5
comp=Z,0.9nm,0.5s,baz=62,slow=6.3,SNR=14
comp=Z,0.9nm,0.5s
PLBC Pleasant Camp 43.72 46 P P 01 26 41.1 +2.3
baz=291
M31M Drury Creek, Y 43.76 41 P P 01 26 41.2 +2.1
baz=289
WHY Whitehorse 44.03 44 P P 01 26 43.4 +2.1
baz=291
KURK Kurchatov 44.17 301 P P 01 26 42.1 -0.3
KURK Kurchatov 44.17 301 eP P 01 26 42.1 -0.3
FARO Faro, Yukon 44.22 41 P P 01 26 44.6 +2.0
baz=290
KURBB Kurchatov Arra 44.26 301 P P 01 26 42.1 -1.0
comp=Z,1.1nm,0.5s,baz=72,slow=8.9,SNR=19
KURBB ScP ScP 01 31 33.0 +0.8
comp=Z,0.4nm,0.8s,baz=54,slow=3.1,SNR=4.9
comp=Z,1.1nm,0.5s
R31K City Hall, Gus 44.39 47 P P 01 26 46.3 +2.4
baz=293
P32M Atlin 44.95 45 P P 01 26 51.2 +2.8
baz=293
MMPY Sheldon Lake, 45.01 40 P P 01 26 50.9 +2.0
baz=291
P33M Teslin, Yukon 45.15 44 P 01 26 51.7 +1.7
P33M Teslin, Yukon 45.15 44 P P 01 26 52.0 +2.0
baz=293,SNR=5.2
S32K Killisnoo 45.31 48 P P 01 26 54.1 +3.0
baz=294
Q32M Nakina River 45.87 45 P P 01 26 57.9 +2.1
baz=294
R33M Jennings River 46.32 44 P P 01 27 01.6 +2.4
baz=295
V35K Ketchikan 47.69 50 P P 01 27 13.0 +3.6
baz=298
BVAR Borovoye Array 47.77 307 P P 01 27 09.7 -0.4
comp=Z,1.0nm,0.6s,baz=53,slow=9.1,SNR=5.5
comp=Z,1.0nm,0.6s
TOAD Toad River Com 49.23 43 P P 01 27 23.5 +2.5
baz=299
CMAR Chiang Mai Arr 49.61 251 P P 01 27 25.4 +1.0
comp=Z,1.3nm,0.3s,baz=37,slow=8.8,SNR=2.7
CMAR ScP ScP 01 31 55.3 0.0
comp=Z,0.9nm,0.3s,baz=44,slow=35,SNR=0.9
comp=Z,1.3nm,0.3s
YKA Yellowknife Ar 51.99 36 P P 01 27 40.6 -0.6
comp=Z,4.1nm,0.8s,baz=309,slow=7.1,SNR=4.3

	comp=Z,4.1nm,0.8s							
AB31	**Akbulak array**	**55.34**	**307**			**P**	**01 28 05.2**	**-0.2**
ABKAR	**Akbulak array**	**55.34**	**307**			**P**	**01 28 04.9**	**-0.5**
HOOD	**Mount Hood Mea**	**58.40**	**56**	P		**P**	**01 28 29.4**	**+2.6**
PLID	**Pearl Lake**	**61.65**	**53**			**P**	**01 28 50.9**	**+2.1**
PLID				IAmb		IAmb	01 28 51.6	
	comp=Z,3.4nm,0.9s							
FINES	**FINESS Array B**	**61.76**	**333**	P		**P**	**01 28 47.8**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=38,slow=9.6,SNR=8.9							
	comp=Z,1.4nm,0.6s							
LYMT	**Lyon Mountain**	**62.38**	**50**	P		**P**	**01 28 56.2**	**+2.6**
LRM	**Limekiln Ridge**	**63.06**	**51**	P		**P**	**01 29 00.5**	**+2.5**
BOZ	**Bozeman (W)**	**63.64**	**51**			**P**	**01 29 03.4**	**+1.8**
BOZ				IAmb		IAmb	01 29 04.6	
	comp=Z,3.2nm,0.9s							
BOZ	**Bozeman (W)**	**63.64**	**51**	P		**P**	**01 29 03.4**	**+1.8**
BOZ				pmax		pmax		
	comp=Z,3.0nm,0.9s							
NVAR	**Mina Array Bea**	**64.72**	**60**	P		**P**	**01 29 11.1**	**+2.3**
	comp=Z,1.2nm,0.8s,baz=297,slow=8.1,SNR=5.9							
	comp=Z,1.2nm,0.8s							
NOA	**NORSAR Array B**	**66.22**	**339**	P		**P**	**01 29 16.7**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=31,slow=6.7,SNR=1.8							
	comp=Z,0.4nm,0.5s							
HFS	**Hagfors**	**66.38**	**337**	P		**P**	**01 29 17.0**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=48,slow=2.1,SNR=1.3							
	comp=Z,1.9nm,0.8s							
BW06	**Boulder Array**	**66.66**	**52**	P		**P**	**01 29 22.6**	**+1.6**
BW06				IAmb		IAmb	01 29 23.6	
	comp=Z,3.6nm,1.0s							
PD31	**Pinedale Array**	**66.66**	**52**	P		**P**	**01 29 22.8**	**+1.8**
PD31				IAmb		IAmb	01 29 23.6	
	comp=Z,3.1nm,0.9s							
PDAR	**Pinedale Array**	**66.66**	**52**	P		**P**	**01 29 22.8**	**+1.8**
	comp=Z,2.3nm,0.8s,baz=294,slow=1.5,SNR=13							
	comp=Z,2.3nm,0.8s							
WB0	**Warramunga Arr**	**68.37**	**194**	P		**P**	**01 29 33.7**	**+2.3**
WB0				IAmb		IAmb	01 29 44.6	
	comp=Z,4.8nm,1.3s							
P18A	**Preston Nutter**	**68.48**	**55**	P		**P**	**01 29 34.9**	**+2.5**
P18A				IAmb		IAmb	01 29 35.1	
	comp=Z,4.8nm,1.4s							
WR0	**Warramunga Arr**	**68.54**	**194**	P		**P**	**01 29 36.1**	**+3.7**
WR0				IAmb		IAmb	01 29 44.2	
	comp=Z,4.8nm,1.3s							
RSSD	**Black Hills**	**68.54**	**48**	P		**P**	**01 29 34.2**	**+1.7**
RSSD				IAmb		IAmb	01 29 34.8	
	comp=Z,2.2nm,0.7s							
RSSD	**Black Hills**	**68.54**	**48**	P		**P**	**01 29 34.2**	**+1.7**
RSSD				pmax		pmax		
	comp=Z,2.0nm,0.7s							
WRA	**Warramunga Arr**	**68.56**	**194**	P		**P**	**01 29 34.3**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=174,slow=16,SNR=1.8							
	comp=Z,0.5nm,0.8s							
SRU	**San Rafael Swe**	**68.69**	**55**	P		**P**	**01 29 35.0**	**+1.5**
SRU	**San Rafael Swe**	**68.69**	**55**	P		**P**	**01 29 35.0**	**+1.5**
SRU				pmax		pmax		
	comp=Z,4.0nm,0.6s							
HMU	**Henry Mountain**	**69.39**	**56**	P		**P**	**01 29 40.1**	**+2.2**
HMU				IAmb		IAmb	01 29 40.8	
	comp=Z,5.8nm,1.1s							
PV21	**Cone Mtn., Par**	**69.93**	**55**	P		**P**	**01 29 42.6**	**+1.5**
PV23	**Carpenter Ridg**	**69.99**	**55**	P		**P**	**01 29 43.1**	**+1.7**
PV10	**Paradox Valley**	**70.03**	**55**	P		**P**	**01 29 44.2**	**+2.6**
PV20	**West Nyswonger**	**70.09**	**55**	P		**P**	**01 29 44.3**	**+2.3**
PV19	**Morning Glory**	**70.11**	**55**	P		**P**	**01 29 44.0**	**+1.9**
PV17	**East Wray Mesa**	**70.14**	**55**	P		**P**	**01 29 44.6**	**+2.3**
PV16	**Nyswonger Mesa**	**70.14**	**55**	P		**P**	**01 29 44.4**	**+2.1**
PV16				IAmb		IAmb	01 29 45.1	
	comp=Z,6.7nm,1.4s							
PV18	**Skein Mesa, Pa**	**70.19**	**55**			**P**	**01 29 44.6**	**+2.0**
PV05	**Paradox Valley**	**70.21**	**55**	P		**P**	**01 29 44.6**	**+2.0**
PV13	**Radium Mtn., P**	**70.31**	**55**	P		**P**	**01 29 45.4**	**+2.2**
PV01	**Paradox Valley**	**70.46**	**55**	P		**P**	**01 29 46.1**	**+1.9**
CLL	**Collm**	**74.20**	**333**	*e*P		**P**	**01 30 06.0**	**+0.5**
TX31	**Lajitas Ar. Si**	**79.69**	**58**			**P**	**01 30 38.6**	**+2.3**
TX31				IAmb		IAmb	01 30 39.3	
	comp=Z,1.8nm,0.8s							
TXAR	**Lajitas Array**	**79.69**	**58**	P		**P**	**01 30 38.4**	**+2.2**
	comp=Z,1.3nm,0.6s,baz=301,slow=4.2,SNR=24							
	comp=Z,1.3nm,0.6s							
MMAI	**Mount Meron Ar**	**79.76**	**308**	P		**P**	**01 30 37.4**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=4.6,slow=7.2,SNR=1.3							
	comp=Z,0.4nm,0.5s							
DRIO	**Del Rio**	**81.34**	**56**	P		**P**	**01 30 47.3**	**+2.5**
DRIO				IAmb		IAmb	01 30 47.9	
	comp=Z,3.6nm,0.9s							

*IDC **02** 01:34:23.3±0.8,2.°57S×138.°44E,h0km,mb3.9/8, mbtmp3.9/11,ML3.8/3,MS2.6/3,Error ellipse: s-maj=27.4km s-min=18.7km az=84.0*

ISC 02 01:34:27.9±0.8,2.°7S±0.°1×138.°5E±0.°1,h32km,n14, σ1s35/13,mb3.9/8,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.20**	**85**	Pn	**Pn**	**01 35 02.2**	**-0.1**
	13nm,0.3s,baz=248,slow=12,SNR=37						
JAY				Lg	Lg	01 35 32.3	
	7.8nm,0.3s,baz=294,slow=21,SNR=7.2						
JAY				LR	LR	01 35 48.0	
	comp=Z,156nm,18.6s,baz=304,slow=37						
	34nm,0.5s						
DAV	**Davao City (W)**	**16.16**	**307**	LR	LR	01 42 55.8	
	comp=Z,23nm,21.8s,baz=310,slow=32						
GUMO	**Guam**	**17.38**	**21**	LR	LR	01 43 20.3	
	comp=Z,24nm,21.8s,baz=130,slow=31						
WRA	**Warramunga Arr**	**17.61**	**193**	P	**Pn**	**01 38 30.4**	**-0.6**
	0.6nm,0.3s,baz=16,slow=12,SNR=16						
WRA				S	Sn	01 41 36.8	-9.4
	0.2nm,0.4s,baz=15,slow=23,SNR=2.0						
	2.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.83**	**219**	P	**P**	**01 38 57.4**	**+1.2**
	0.1nm,0.3s,baz=74,slow=15,SNR=1.7						
	4.5nm,1.2s						
ASAR	**Alice Springs**	**21.30**	**192**	P	**P**	**01 39 12.5**	**+0.4**
	2.2nm,0.7s,baz=22,slow=10,SNR=16						
ASAR				S	**S**	**01 43 04.0**	**-3.2**
	0.2nm,0.3s,baz=20,slow=25,SNR=1.9						
	2.2nm,0.7s						
MKAR	**Makanchi Array**	**69.67**	**322**	P	**P**	**01 45 34.6**	**+0.1**
	1.8nm,0.9s,baz=115,slow=8.1,SNR=8.7						
	1.8nm,0.9s						
ZALV	**Zalesovo Beam**	**71.84**	**330**	P	**P**	**01 45 47.4**	**-0.1**
	0.8nm,0.6s,baz=116,slow=3.4,SNR=2.3						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**73.61**	**325**	P	**P**	**01 45 57.5**	**-0.6**
	0.5nm,0.7s,baz=112,slow=5.4,SNR=6.1						
	0.5nm,0.7s						
VNDA	**Vanda**	**75.80**	**175**	P	**P**	**01 46 11.8**	**+1.5**
	0.8nm,0.7s,baz=330,slow=6.7,SNR=5.8						
	0.8nm,0.7s						
BVAR	**Borovoye Array**	**79.20**	**325**	P	**P**	**01 46 28.7**	**-1.1**
	0.9nm,0.6s,baz=85,slow=8.8,SNR=3.8						
	0.9nm,0.6s						
ILAR	**Eielson Array**	**85.92**	**24**	P	**P**	**01 47 03.5**	**-1.0**
	0.8nm,0.7s,baz=261,slow=4.6,SNR=9.8						
	0.8nm,0.7s						
QSPA	**South Pole Qui**	**87.23**	**180**	P	**P**	**01 47 12.0**	**+0.9**
	1.7nm,0.9s,baz=269,slow=1.2,SNR=6.1						
	1.7nm,0.9s						
LPAZ	**La Paz**	**147.60**	**127**	PKPbc	**PKPab**	**01 54 13.1**	**0.0**
	1.6nm,1.1s,baz=344,slow=2.8,SNR=4.7						

*NEIC **02** 01:38:45.9±1.1,26.°18S±0.°07×177.°33W±0.°09,h32km±5km, mb4.6/13,Error ellipse: s-maj=12.7km s-min=8.5km az=130.0*

*IDC **02** 01:38:46.4±3.0,26.°09S×177.°39W,h41km±25km,mb3.6/6, mbtmp3.9/8,ML5.0/2,MS3.8/34,Error ellipse: s-maj=30.5km s-min=16.0km az=79.0*

ISC 02 01:38:45.6±0.6,26.°11S±0.°07×177.°3W±0.°1,h35km,n69, σ0s90/36,mb4.5/13,MS3.9/28,5C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.18**	**189**	P	**Pn**	**01 39 33.5**	**+0.4**
	392nm,0.3s,baz=82,slow=9.9,SNR=7.5						
RAO				S	**Sn**	**01 40 11.2**	**+1.4**
	681nm,0.3s,baz=66,slow=22,SNR=6.5						
RAO				LR	LR	01 40 39.3	
	comp=Z,1μm,19.6s,baz=108,slow=36						
MSVF	**Nonsavu**	**9.37**	**332**	Pn	**Pn**	**01 40 59.2**	**+1.0**
MSVF	**Nonsavu**	**9.37**	**332**	P	**Pn**	**01 40 58.6**	**+0.3**
	0.3nm,0.3s,baz=151,slow=15,SNR=10						
MSVF				LR	LR	01 44 02.3	
	comp=Z,2μm,19.9s,baz=159,slow=34						
	12nm,0.9s						
URZ	**Urewera**	**12.99**	**200**	LR	LR	01 46 20.8	
	comp=Z,686nm,19.1s,baz=14,slow=35						
DZM	**Mont Dzumac**	**15.35**	**282**	P	**Pn**	**01 42 19.6**	**-0.1**
	5.7nm,1.1s,baz=94,slow=15,SNR=3.2						
DZM				LR	LR	01 47 01.2	
	comp=Z,236nm,18.2s,baz=54,slow=32						
BFZ	**Birch Farm**	**15.49**	**199**	Pn	**Pn**	**01 42 20.7**	**-0.7**
MSWZ	**Moikau Station**	**16.46**	**200**	Pn	**Pn**	**01 42 31.5**	**-2.3**
PLWZ	**Palliser**	**16.59**	**200**	Pn	**Pn**	**01 42 34.7**	**-0.9**
RAR	**Rarotonga**	**16.81**	**77**	Pn	**Pn**	**01 42 38.4**	**+0.2**
RAR				IAmb	IAmb	01 42 39.7	
	comp=Z,70nm,1.2s						
RAR	**Rarotonga**	**16.81**	**77**	LR	LR	01 47 07.7	
	comp=Z,406nm,20.7s,baz=272,slow=30						
KHZ	**Kahutara**	**17.91**	**202**		**Pn**	**01 42 51.3**	**-0.5**
RPZ	**Rata Peaks**	**19.95**	**205**	LR	LR	01 51 32.3	
	comp=Z,690nm,19.5s,baz=3.5,slow=38						
WKZ	**Wanaka**	**21.68**	**207**	P	**P**	**01 43 32.4**	**-0.9**
PPT	**Papeete**	**27.09**	**77**	LR	LR	01 53 54.7	
	comp=Z,43nm,18.2s,baz=297,slow=34						
HNR	**Honiara**	**27.18**	**303**	LR	LR	01 53 09.9	
	comp=Z,130nm,19.0s,baz=112,slow=32						
ARMA	**Armidale**	**27.62**	**254**	P	**P**	**01 44 28.8**	**-1.2**
ARMA				IAmb	IAmb	01 44 34.0	
	comp=Z,13nm,1.2s						
STKA	**Stephens Creek**	**36.22**	**251**	LR	LR	01 59 13.1	
	comp=Z,196nm,18.5s,baz=58,slow=34						
COEN	**Coen**	**38.87**	**280**	P	**P**	**01 46 07.9**	**0.0**
COEN				IAmb	IAmb	01 46 09.9	
	comp=Z,10nm,1.1s						
BBOO	**Buckleboo**	**40.87**	**249**	P	**P**	**01 46 25.2**	**+0.9**
BBOO				IAmb	IAmb	01 46 41.3	
	comp=Z,13nm,1.2s						
ASAR	**Alice Springs**	**44.10**	**262**	P	**P**	**01 46 51.0**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=102,slow=8.6,SNR=9.1						
ASAR				LR	LR	02 04 23.5	
	comp=Z,161nm,18.1s,baz=120,slow=35						
	comp=Z,1.4nm,0.9s						
WRA	**Warramunga Arr**	**44.70**	**267**	P	**P**	**01 46 55.3**	**-0.2**
WRA	**Warramunga Arr**	**44.70**	**267**	P	**P**	**01 46 54.1**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=103,slow=8.3,SNR=7.2						
WRA				LR	LR	02 02 41.5	
	comp=Z,118nm,21.1s,baz=60,slow=32						
	comp=Z,0.8nm,0.7s						
WB0	**Warramunga Arr**	**44.70**	**268**	P	**P**	**01 46 55.0**	**-0.6**
WB0				IAmb	IAmb	01 47 07.6	
	comp=Z,9.9nm,1.1s						
FORT	**Forrest**	**47.85**	**251**	P	**P**	**01 47 22.9**	**+2.7**
VNDA	**Vanda**	**52.41**	**186**	LR	LR	02 08 05.5	
	comp=Z,54nm,19.1s,baz=21,slow=34						
GUMO	**Guam**	**53.94**	**313**	LR	LR	02 09 18.6	
	comp=Z,46nm,18.0s,baz=121,slow=34						
NWAO	**Narrogin (SRO)**	**56.55**	**246**	LR	LR	02 12 02.2	
	comp=Z,145nm,18.1s,baz=86,slow=35						
QSPA	**South Pole Qui**	**63.99**	**180**	P	**P**	**01 49 15.8**	**+0.5**
QSPA				IAmb	IAmb	01 49 31.2	
	comp=Z,5.0nm,1.0s						
QSPA	**South Pole Qui**	**63.99**	**180**	P	**P**	**01 49 16.2**	**+0.9**
	comp=Z,2.7nm,0.9s,baz=20,slow=3.2,SNR=6.2						
QSPA				LR	LR	02 13 00.4	
	comp=Z,46nm,20.7s,baz=40,slow=32						
	comp=Z,2.7nm,0.9s						
DAV	**Davao City (W)**	**64.44**	**293**	LR	LR	02 13 49.3	
	comp=Z,46nm,21.8s,baz=84,slow=33						
MJAR	**Matsushiro Arr**	**75.08**	**324**	LR	LR	02 17 34.3	
	comp=Z,38nm,21.9s,baz=141,slow=31						
PMSA	**Palmer Station**	**75.93**	**156**	LR	LR	02 21 02.4	
	comp=Z,146nm,18.6s,baz=238,slow=33						
JNU	**Nakatsue**	**76.78**	**317**	LR	LR	02 23 03.7	
	comp=Z,13nm,18.8s,baz=130,slow=35						
ASAJ	**Asahikawa**	**78.93**	**332**	LR	LR	02 19 32.9	
	comp=Z,115nm,21.8s,baz=172,slow=31						
LPIG	**La Paz**	**81.78**	**58**	LR	LR	02 23 42.1	
	comp=Z,62nm,18.5s,baz=189,slow=33						
PETK	**Petropavlovsk-**	**81.82**	**345**	LR	LR	02 23 36.3	
	comp=Z,55nm,19.2s,baz=138,slow=33						
TROLL	**Troll, Antarti**	**82.15**	**180**	⇑P	**P**	**01 51 02.4**	**-0.1**
	comp=Z,135nm,0.7s						
H03S2	**Juan Fernandez**	**82.35**	**124**	T	T	03 21 50.0	
	baz=242,slow=74,SNR=436						
H03S1	**Juan Fernandez**	**82.36**	**124**	T	T	03 21 51.1	
	baz=242,slow=74,SNR=505						
H03S3	**Juan Fernandez**	**82.37**	**124**	T	T	03 21 54.9	
	baz=242,slow=74,SNR=498						
SNAA	**Sanae**	**82.42**	**178**	⇑P	**P**	**01 51 03.2**	**-0.7**
	comp=Z,25nm,0.7s						
SNAA	**Sanae**	**82.42**	**178**	P	**P**	**01 51 03.5**	**-0.3**
SNAA				IAmb	IAmb	01 51 18.4	
	comp=Z,9.2nm,1.4s						
SNAA	**Sanae**	**82.42**	**178**	P	**P**	**01 51 03.0**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=223,slow=7.9,SNR=6.1						
SNAA				LR	LR	02 24 35.8	
	comp=Z,80nm,19.8s,baz=104,slow=33						
	comp=Z,0.8nm,0.8s						
VNA3	**Neumayer Olymp**	**82.53**	**176**	⇑P	**P**	**01 51 03.9**	**-0.5**
	comp=Z,3.1nm,0.6s						
PFO	**Pinyon Flats O**	**82.87**	**47**	LR	LR	02 19 44.9	
	comp=Z,62nm,19.9s,baz=210,slow=30						
VNA2	**Neumayer--Watz**	**82.98**	**177**	⇑P	**P**	**01 51 06.7**	**0.0**
	comp=Z,3.9nm,0.7s,baz=180,slow=5.1						
VNA1	**Neumayer--Stat**	**83.20**	**176**	⇑P	**P**	**01 51 07.3**	**-0.5**
	comp=Z,3.1nm,1.0s						
USRK	**Ussuriysk Ar.**	**83.93**	**326**	LR	LR	02 22 01.7	
	comp=Z,69nm,20.9s,baz=111,slow=31						
NVAR	**Mina Array Bea**	**84.69**	**43**	P	**P**	**01 51 16.2**	**0.0**
	comp=Z,0.3nm,0.7s,baz=307,slow=5.4,SNR=1.7						
NVAR				LR	LR	02 24 50.6	
	comp=Z,59nm,18.1s,baz=240,slow=33						
	comp=Z,0.3nm,0.7s						
PLCA	**Paso Flores**	**85.00**	**133**	LR	LR	02 24 12.4	
	comp=Z,36nm,19.9s,baz=242,slow=32						
PSI	**Prapat**	**85.60**	**275**	LR	LR	02 29 53.1	
	comp=Z,62nm,20.5s,baz=174,slow=36						
KDAK	**Kodiak Island**	**86.11**	**13**	LR	LR	02 23 00.3	
	comp=Z,66nm,21.9s,baz=208,slow=31						
KLR	**Kul'dur**	**87.64**	**329**	LR	LR	02 27 23.5	
	comp=Z,51nm,19.8s,baz=152,slow=33						
MA2	**Magadan**	**89.33**	**344**	LR	LR	02 27 12.7	
	comp=Z,33nm,20.1s,baz=152,slow=32						
TXAR	**Lajitas Array**	**89.57**	**57**	LR	LR	02 23 57.8	
	comp=Z,38nm,20.2s,baz=219,slow=30						
ANMO	**Albuquerque**	**90.43**	**51**	LR	LR	02 28 06.1	
	comp=Z,100nm,18.0s,baz=324,slow=33						
NEW	**Newport**	**91.56**	**35**	LR	LR	02 25 04.6	
	comp=Z,87nm,21.8s,baz=235,slow=30						
ILAR	**Eielson Array**	**93.62**	**13**	P	**P**	**01 51 57.1**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=204,slow=4.0,SNR=2.6						
	comp=Z,0.3nm,0.8s						
H10S3	**ASCENSION HYDR**	**141.29**	**152**	T	T	04 36 19.4	
	baz=203,slow=74,SNR=22						
H10S2	**ASCENSION HYDR**	**141.30**	**152**	T	T	04 36 22.5	
	baz=17,slow=74,SNR=24						
H10N3	**ASCENSION HYDR**	**142.36**	**151**	T	T	04 37 44.3	
	baz=202,slow=75,SNR=23						
H10N1	**ASCENSION HYDR**	**142.36**	**151**	T	T	04 37 44.3	
	baz=202,slow=75,SNR=20						
H10N2	**ASCENSION HYDR**	**142.38**	**151**	T	T	04 37 44.9	
	baz=202,slow=75,SNR=20						
NB2	**NORSAR Subarra**	**144.59**	**353**	PKP	**PKPab**	**01 58 16.6**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=11,slow=3.5						
NOA	**NORSAR Array B**	**144.59**	**353**	PKP	**PKPab**	**01 58 16.5**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=9.1,slow=2.3,SNR=4.3						
HFS	**Hagfors**	**145.14**	**350**	PKPbc	**PKPbc**	**01 58 18.1**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=35,slow=5.3,SNR=9.8						
MMAI	**Mount Meron Ar**	**150.78**	**291**	PKPbc	**PKPbc**	**01 58 35.0**	**+0.4**
	comp=Z,4.7nm,1.0s,baz=48,slow=2.3,SNR=2.6						
BRTR	**Keskin Array B**	**150.83**	**305**	PKPbc	**PKPbc**	**01 58 34.3**	**-0.4**
BRTR	**Keskin Array B**	**150.83**	**305**	PKPbc	**PKPbc**	**01 58 34.5**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=123,slow=2.9,SNR=5.3						

CATAC 02 01:47:01.5±0.5,12.°N±3.°×8.°7W±.°,h177km±3km,M2.4/15, MLv2.4/15,6C,Error ellipse: s-maj=7.0km s-min=3.5km az=32.6,confirmed,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.08**	**17**	P	Pn	01 47 25.4	+0.5
SAPS	**Ciudad Sandino**	**0.22**	**72**	⇑P	Pn	01 47 26.0	+0.9
SAPS	**Ciudad Sandino**	**0.22**	**72**	S	Sn	01 47 44.5	+1.2
APQ3	**Volcan Apoyequ**	**0.30**	**55**	P	Pn	01 47 25.9	+0.6
APQ3				S	Sn	01 47 46.4	+2.8
MOMN	**Momotombo**	**0.31**	**14**	⇑P	Pn	01 47 26.0	+0.5
MOMN				S	Sn	01 47 46.2	+2.2
UNAN	**Cigeo UNAN**	**0.34**	**88**	P	Pn	01 47 26.3	+0.8
UNAN				S	Sn	01 47 44.5	+0.8
TISN	**Laguna Tiscapa**	**0.34**	**83**	⇑P	Pn	01 47 26.6	+1.1
R4DEC	**Barrio San Lui**	**0.36**	**82**	P	Pn	01 47 26.3	+0.8
MGAN	**Managua**	**0.36**	**83**	P	Pn	01 47 26.3	+0.8
WILN	**Americas 2**	**0.42**	**82**	P	Pn	01 47 26.5	+0.8
NANN	**Nandasmo**	**0.51**	**108**	S	Sn	01 47 48.4	+3.5
NANN	**Nandasmo**	**0.51**	**108**	⇑P	Pn	01 47 28.3	+2.2
POTN	**Potosi Cosigui**	**1.25**	**316**	⇑P	Pn	01 47 32.0	+1.0
POTN				S	Sn	01 47 54.1	+0.4
CHOHN	**Orocuina**	**1.47**	**339**	S	Sn	01 47 57.7	+0.1
CHOHN	**Orocuina**	**1.47**	**339**	⇑P	Pn	01 47 34.1	+1.0
RCPN	**Sur Rio San Ju**	**1.50**	**20**	P	Pn	01 47 32.8	-0.7
RCPN	**Sur Rio San Ju**	**1.50**	**20**	S	Sn	01 47 58.9	+0.7
RCVN	**Varillal2**	**1.53**	**16**	P	Pn	01 47 34.0	+0.3
RCVN	**Varillal2**	**1.53**	**16**	S	Sn	01 47 57.8	-1.0
CNCH	**Conchagua**	**1.67**	**315**	S	Sn	01 48 01.9	+0.9
CNCH	**Conchagua**	**1.67**	**315**	P	Pn	01 47 35.3	+0.3
LCND	**La Caada**	**1.73**	**314**	P	Pn	01 47 36.1	+0.6
LCND	**La Caada**	**1.73**	**314**	S	Sn	01 48 01.6	-0.3
YUSH	**Yuscaran**	**1.85**	**353**	P	Pn	01 47 37.5	+0.5
YUSH	**Yuscaran**	**1.85**	**353**	S	Sn	01 48 04.4	-0.2
TGUH	**Tegucigalpa,Un**	**2.05**	**342**	P	Pn	01 47 40.1	+1.1
TGUH				S	Sn	01 48 07.6	-0.7
PACA	**Pacayal**	**2.15**	**309**	S	Sn	01 48 11.4	+1.1
ALJI	**Alcalda de J**	**2.26**	**303**	S	Sn	01 48 12.8	+0.6
INDI	**Punta indio, G**	**2.48**	**154**	S	Sn	01 48 15.5	-1.2
TECO	**Alcaldia de Te**	**2.55**	**304**	S	Sn	01 48 17.6	-0.6
SCLA	**Alcaldia de Sa**	**2.60**	**308**	S	Sn	01 48 19.0	-0.4
PMON	**Piamonte**	**3.08**	**302**	S	Sn	01 48 29.6	-0.2
JAYA	**Jayaque - finc**	**3.16**	**300**	S	Sn	01 48 31.0	-0.7
JAYA	**Jayaque - finc**	**3.16**	**300**	P	Pn	01 47 52.3	0.0
NUBE	**Las Nubes**	**3.56**	**300**	S	Sn	01 48 41.1	+0.4
FAME	**Alcaldia de Sa**	**3.74**	**298**	S	Sn	01 48 43.7	-0.6

IDC 02 01:54:38.1±3.0,31.°09S×177.°40W,h0km,mb3.7/2, mbtmp3.9/3,ML3.9/1,Error ellipse: s-maj=66.0km s-min=26.1km az=101.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.89**	**346**	Pn	Pn	01 55 10.8	-0.9
	113nm,0.3s,baz=198,slow=20,SNR=1.5						
RAO				Sn	Sb	01 55 37.3	-0.2
	407nm,0.3s,baz=151,slow=19,SNR=4.0						
URZ	**Urewera**	**8.46**	**211**	Pn	Pn	01 56 40.9	-1.0
	1.4nm,0.3s,baz=30,slow=4.2,SNR=6.3						
URZ				Sn	Sn	01 58 10.2	-8.0
	0.7nm,0.3s,baz=262,slow=20,SNR=1.3						
	6.6nm,0.2s						
ASAR	**Alice Springs**	**43.59**	**267**	P	P	02 02 43.7	-0.7
	0.3nm,0.3s,baz=108,slow=8.5,SNR=2.5						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**44.64**	**273**	P	P	02 02 53.4	+0.6
	0.7nm,0.4s,baz=115,slow=7.9,SNR=8.6						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**145.97**	**340**	PKPbc	PKPdf	02 14 18.3	0.0
	1.2nm,0.6s,baz=46,slow=3.6,SNR=7.0						

*IDC **02** 01:56:48.9±5.5,23.°72S×179.°49E,h476km±55km,mb3.4/9, mbtmp4.3/10,Error ellipse: s-maj=36.8km s-min=17.2km az=57.0*

*NEIC **02** 01:56:55.4±1.4,23.°8S±0.°2×179.°4E±0.°2,h543km±12km, mb4.4/19,Error ellipse: s-maj=29.5km s-min=13.9km az=220.0*

ISC 02 01:56:54.2±0.9,23.°9S±0.°1×179.°4E±0.°1,h537km,n44, σ1s52/44,mb4.2/19,4C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.06**	**276**	P	**P**	**01 59 33.2**	**-0.3**
DZM	**Mont Dzumac**	**12.06**	**276**	P	**P**	**01 59 31.6**	**-1.9**
	6.0nm,1.0s,baz=84,slow=17,SNR=3.4						
TOZ	**Tahuroa Road**	**14.23**	**193**	P	**P**

comp=Z,0.2nm,0.4s,baz=359,slow=2.9,SNR=4.7
TORD Torodi Ar. Bea 169.13 192 PKPab **PKPab 02 17 16.3 +0.3**
comp=Z,1.8nm,0.3s,baz=185,slow=4.0,SNR=1.5

TAP ***02*** *02:14:46.6, 24°.82N × 121°.94E, h15km, ML3.0, C*
ISC 02 02:14:46.3±0.9, 24°.82N±0°.02×121°.96E±0°.02, h10km±6km, n87, σ0s74/114, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.03**	**314**	*eP*	**Pg**	**02 14 47.1**	**-1.1**
NTC	**Toucheng**	**0.12**	**285**	*eP*	**Pg**	**02 14 50.1**	**+0.9**
TWB1	**Santiao Chiao**	**0.19**	**9**	P	**Pg**	**02 14 50.7**	**+0.4**
TWB1				S	**Sg**	**02 14 53.1**	**+0.1**
TIPB	**Shuangxi**	**0.19**	**321**	*i* P	**Pg**	**02 14 51.2**	**+0.8**
TIPB				*i* S	**Sg**	**02 14 54.1**	**+1.0**
ILA	**Ilan**	**0.20**	**253**	*i* P	**Pb**	**02 14 51.5**	**-0.5**
TWC	**Suao**	**0.23**	**205**	P	**Pg**	**02 14 51.8**	**+0.7**
TWC				S	**Sg**	**02 14 54.9**	**+0.5**
ESAO	**Su ao**	**0.27**	**203**	P	**Pg**	**02 14 52.5**	**+0.8**
SXI1	**Grass Mountain**	**0.28**	**345**	P	**Pg**	**02 14 52.8**	**+0.8**
SXI1				S	**Sg**	**02 14 56.7**	**+0.8**
TWE	**Neicheng**	**0.28**	**249**	*i* P	**Pb**	**02 14 52.8**	**-0.6**
TWE				S	**Sg**	**02 14 56.7**	**+0.9**
NDS	**Dongshan**	**0.29**	**229**	*eP*	**Pg**	**02 14 52.0**	**-0.1**
NWF	**Wu-fen Shan**	**0.29**	**327**	P	**Pb**	**02 14 53.2**	**-0.5**
WFSB	**Wu-fen Shan**	**0.29**	**327**	P	**Pb**	**02 14 53.2**	**-0.4**
WFSB				*eS*	**Sg**	**02 14 57.1**	**+0.9**
FUSB	**Fushanzhiwuyua**	**0.34**	**259**	P	**Pg**	**02 14 53.8**	**+0.7**
FUSB				*i* S	**Sb**	**02 14 59.0**	**-0.9**
TNOU	**National Taiwa**	**0.36**	**333**	P	**Pb**	**02 14 54.6**	**-0.3**
TNOU				*eS*	**Sg**	**02 14 59.3**	**+0.9**
TWA	**Mucha**	**0.37**	**295**	P	**Pb**	**02 14 54.7**	**-0.3**
TWA				S	**Sb**	**02 15 00.2**	**-0.6**
ENTT	**Nioudou**	**0.40**	**243**	P	**Pb**	**02 14 55.0**	**-0.4**
ENTT				*eS*	**Sb**	**02 15 00.7**	**-0.9**
EWUT	**Wuta**	**0.41**	**203**	P	**Pg**	**02 14 54.9**	**+0.6**
NWLT	**Wulai**	**0.41**	**264**	P	**Pb**	**02 14 55.3**	**-0.4**
NWLT				S	**Sg**	**02 15 00.5**	**+0.5**
ENA	**Nanau**	**0.44**	**207**	*eP*	**Pb**	**02 14 56.0**	**-0.1**
ENA				*eS*	**Sg**	**02 15 01.1**	**+0.3**
TATO	**Taipei**	**0.45**	**290**	P	**Pb**	**02 14 56.5**	**+0.2**
TATO	**Taipei**	**0.45**	**290**	S	**Sb**	**02 15 02.2**	**-0.9**
EOS2	**EOS2**	**0.47**	**148**	*eP*	**Pb**	**02 14 56.8**	**+0.1**
YM01	**YM01**	**0.48**	**313**	P	**Pb**	**02 14 57.1**	**+0.4**
YM01				*eS*	**Sb**	**02 15 03.5**	**-0.4**
LATG	**Datong**	**0.48**	**234**	P	**Pb**	**02 14 56.4**	**-0.5**
LATG				*eS*	**Sb**	**02 15 03.9**	**-0.3**
YM08	**YM08**	**0.49**	**318**	*eP*	**Pb**	**02 14 56.9**	**-0.1**
ZUZH	**Zhuzihu**	**0.50**	**312**	*i* P	**Pb**	**02 14 57.5**	**+0.3**
EAHA	**Aohua**	**0.53**	**202**	*eP*	**Pb**	**02 14 58.0**	**+0.4**
ANP	**Anpu**	**0.54**	**312**	*eP*	**Pb**	**02 14 57.9**	**+0.1**
YHNB	**Yeheng**	**0.55**	**254**	P	**Pg**	**02 14 56.2**	**-0.8**
YHNB	**Yeheng**	**0.55**	**254**	S	**Sg**	**02 15 04.8**	**+0.5**
YHNB	**Yeheng**	**0.55**	**254**	*eP*	**Pb**	**02 14 57.5**	**-0.5**
TWY	**Chenhua**	**0.56**	**324**	P	**Pb**	**02 14 58.3**	**+0.3**
TWS1	**Kuangyinshan**	**0.56**	**300**	P	**Pn**	**02 14 59.0**	**-1.3**
NSK	**Sanguang**	**0.56**	**255**	*eP*	**Pb**	**02 14 57.8**	**-0.5**
NTST	**Danshui**	**0.57**	**307**	P	**Pb**	**02 14 59.1**	**+0.8**
NTST				*eS*	**Sb**	**02 15 05.8**	**-0.7**
EOS3	**EOS3**	**0.63**	**148**	P	**Pb**	**02 14 59.4**	**+0.2**
EOS3				*eS*	**Sn**	**02 15 09.6**	**-1.4**
NNSB	**Datong**	**0.65**	**233**	*eP*	**Pb**	**02 14 59.9**	**+0.1**
KSHI	**Guanxi Townshi**	**0.71**	**266**	*eP*	**Pn**	**02 15 01.5**	**-0.8**
NACB	**Ninganchiao**	**0.73**	**207**	P	**Pg**	**02 15 00.1**	**-0.2**
NACB	**Ninganchiao**	**0.73**	**207**	*eP*	**Pb**	**02 15 01.1**	**+0.1**
NACB				*eS*	**Sb**	**02 15 10.3**	**-0.6**
ETL	**Fush Village**	**0.73**	**205**	P	**Pb**	**02 15 01.5**	**+0.5**
ETL				*eS*	**Sb**	**02 15 11.3**	**+0.2**
ETLH	**Xiulin Townshi**	**0.75**	**215**	*eP*	**Pb**	**02 15 01.4**	**-0.1**
ETLH				*eS*	**Sn**	**02 15 13.0**	**-1.4**
EOS4	**EOS4**	**0.77**	**155**	*eP*	**Pn**	**02 15 03.0**	**+0.1**
EOS4				*eS*	**Sn**	**02 15 13.7**	**-0.2**
NFF	**Wufeng Townshi**	**0.79**	**256**	*eP*	**Pb**	**02 15 02.2**	**+0.2**
PCYT	**Pengchaiyu**	**0.81**	**7**	*eP*	**Pg**	**02 15 02.8**	**+0.9**
TWD	**Chiawan**	**0.81**	**204**	*eP*	**Pb**	**02 15 02.7**	**+0.3**
TWD				*eS*	**Sb**	**02 15 13.0**	**-0.4**
FUSS	**Fushou**	**0.87**	**229**	*eP*	**Pb**	**02 15 03.5**	**-0.1**
LIOB	**Emei**	**0.87**	**258**	*eP*	**Pn**	**02 15 03.9**	**-0.7**
SBCB	**Hsinchu**	**0.88**	**268**	*eP*	**Pn**	**02 15 04.9**	**+0.2**
NSTT	**Nanjuang**	**0.89**	**258**	*eP*	**Pn**	**02 15 04.2**	**-0.6**
NSTT				*eS*	**Sn**	**02 15 17.1**	**-0.6**
TWT	**Tachien**	**0.91**	**232**	*eP*	**Pn**	**02 15 05.0**	**-0.2**
TDCB	**Techi**	**0.92**	**232**	*eP*	**Pg**	**02 15 04.5**	**+0.4**
WHF	**Hehuan Shan**	**0.92**	**223**	*eP*	**Pg**	**02 15 04.7**	**+0.5**
LXIB	**Xiulin Townshi**	**0.94**	**212**	*eP*	**Pb**	**02 15 04.6**	**-0.1**
LXIB				*eS*	**Sn**	**02 15 17.9**	**-1.3**
ETM	**Tongmen**	**0.95**	**206**	*eP*	**Pg**	**02 15 05.1**	**+0.4**
YOJ	**Yonaguni jima**	**1.02**	**110**	P	**Pg**	**02 15 06.7**	**+0.7**
WHP	**Taichung City**	**1.07**	**240**	*eP*	**Pg**	**02 15 07.6**	**+0.8**
SHUL	**Shoufeng**	**1.09**	**199**	*eP*	**Pg**	**02 15 08.7**	**+1.4**
NMLH	**Miaoli**	**1.10**	**255**	*eP*	**Pg**	**02 15 08.9**	**+1.5**
ESL	**Shilin**	**1.11**	**206**	*eP*	**Pn**	**02 15 07.7**	**-0.2**
OWD	**Renai**	**1.12**	**220**	*eP*	**Pg**	**02 15 08.1**	**+0.3**
OWD				*eS*	**Sn**	**02 15 22.9**	**-0.7**
WUSB	**Renai**	**1.13**	**223**	*eP*	**Pb**	**02 15 07.7**	**-0.2**
WUSB				*eS*	**Sn**	**02 15 24.4**	**+0.6**
NSY	**Sanyi**	**1.16**	**250**	*eP*	**Pg**	**02 15 10.2**	**+1.6**
NSY				*eS*	**Sg**	**02 15 26.7**	**+3.0**
TWQ1	**Liyutan**	**1.18**	**247**	*eP*	**Pg**	**02 15 10.4**	**+1.5**
TWQ1				*eS*	**Sg**	**02 15 25.7**	**+1.5**
WARBT	**Fenglin Townsh**	**1.22**	**205**	*eP*	**Pb**	**02 15 09.1**	**-0.3**
WCS	**Beigang Elemen**	**1.22**	**232**	*eP*	**Pg**	**02 15 10.0**	**+0.3**
EGFH	**Guangfu**	**1.25**	**203**	*eP*	**Pn**	**02 15 08.5**	**-1.2**
VWDT	**VWDT**	**1.30**	**215**	*eP*	**Pg**	**02 15 11.7**	**+0.5**
SMLT	**Sun Moon Lake**	**1.34**	**226**	*eP*	**Pg**	**02 15 13.0**	**+0.9**
TYC	**Yuchr**	**1.36**	**228**	*eP*	**Pg**	**02 15 12.7**	**+0.3**
SSLB	**Suanglung**	**1.38**	**222**	P	**Pg**	**02 15 12.8**	**+0.1**
SSLB	**Suanglung**	**1.38**	**222**	*eP*	**Pg**	**02 15 12.7**	**-0.1**
HGSD	**Ruisui**	**1.41**	**200**	*eP*	**Pg**	**02 15 13.9**	**+0.5**
EHY	**Hungye**	**1.43**	**204**	*eP*	**Pn**	**02 15 12.4**	**+0.1**
EHYH	**Wanrong**	**1.44**	**203**	*eP*	**Pb**	**02 15 12.8**	**-0.3**
WHYT	**Xinyi Township**	**1.51**	**222**	*eP*	**Pg**	**02 15 16.6**	**+1.3**
YULB	**Yu-li**	**1.55**	**203**	P	**Pg**	**02 15 16.1**	**+0.1**
YULB	**Yu-li**	**1.55**	**203**	*eP*	**Pg**	**02 15 15.9**	**-0.1**
TWF1	**Yuli**	**1.58**	**202**	*eP*	**Pb**	**02 15 16.2**	**+0.5**
ALS	**Alishan**	**1.68**	**219**	*eP*	**Pg**	**02 15 18.6**	**+0.2**
CHN5	**Tsauling**	**1.69**	**224**	*eP*	**Pg**	**02 15 19.6**	**+0.9**
FULB	**Fuli**	**1.73**	**201**	*eP*	**Pg**	**02 15 18.8**	**-0.6**
EHD	**Haiduan**	**1.80**	**203**	*eP*	**Pb**	**02 15 19.5**	**+0.2**
ELDTW	**Lidau**	**1.84**	**208**	*eP*	**Pg**	**02 15 21.2**	**-0.4**
WTP	**Ta-pu**	**1.99**	**218**	*eP*	**Pb**	**02 15 23.5**	**+0.9**
TWK	**Hsinying**	**2.05**	**221**	*eP*	**Pb**	**02 15 23.3**	**-0.3**
CHN1	**Nanshi**	**2.09**	**219**	*eP*	**Pb**	**02 15 24.9**	**+0.6**

HVO ***02*** *02:36:40.6±1.1, 19°.472N±0°.009×155°.450W±0°.003, h0km±9km, ML2.8/34, ML2.8/42(NEIC), Error ellipse: s-maj=1.3km s-min=0.3km az=194.0*
NEIC 02 02:36:40.9±0.7, 19°.471N±0°.008×155°.459W±0°.003, h9km±3km, Error ellipse: s-maj=1.3km s-min=0.2km az=196.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLH	**Mauna Loa**	**0.07**	**72**		**Pg**	**02 36 42.7**	**-0.6**
MLH	**Mauna Loa**	**0.07**	**72**		**Sg**	**02 36 44.5**	**-0.5**
MLH	**Mauna Loa**	**0.07**	**72**	IAML		02 36 43.9	
	comp=E,5μm,0.1s						
MLH				IAML		02 36 44.3	
	comp=N,7μm,0.1s						
AIN	**Ainahou**	**0.10**	**180**		**Pg**	**02 36 43.7**	**+0.2**
AIN					**Sg**	**02 36 45.9**	**+0.5**
AIN	**Ainahou**	**0.10**	**180**	IAML		02 36 46.3	
	comp=E,20μm,0.3s						
AIN				IAML		02 36 46.4	
	comp=N,14μm,0.2s						
MWH	**Mokuaweoweo**	**0.13**	**276**		**Pg**	**02 36 44.2**	**0.0**
MWH					**Sg**	**02 36 47.0**	**+0.4**
MWH	**Mokuaweoweo**	**0.13**	**276**	IAML		02 36 48.1	
	comp=N,12μm,0.5s						
MWH				IAML		02 36 48.2	
	comp=E,14μm,0.3s						
HMH	**Humu'ula Sheep**	**0.13**	**350**		**Pg**	**02 36 44.2**	**+0.1**
HMH					**Sg**	**02 36 46.8**	**+0.4**
HMH	**Humu'ula Sheep**	**0.13**	**350**	IAML		02 36 47.0	
	comp=N,11μm,0.3s						
HMH				IAML		02 36 47.0	
	comp=E,3μm,0.3s						
WRMHI	**West Rim**	**0.16**	**113**		**Pg**	**02 36 44.5**	**0.0**
WRMHI					**Sg**	**02 36 47.2**	**+0.2**
UWE	**Uwekahuna**	**0.16**	**108**		**Pg**	**02 36 44.6**	**+0.1**
UWE					**Sg**	**02 36 47.6**	**+0.6**
UWE	**Uwekahuna**	**0.16**	**108**	IAML		02 36 48.0	
	comp=E,7μm,0.2s						
UWE				IAML		02 36 48.2	
	comp=N,10μm,0.2s						
RSD	**Rainshed**	**0.17**	**93**		**Pg**	**02 36 44.6**	**0.0**
RSD					**Sg**	**02 36 47.7**	**+0.5**
OBL	**Observatory Le**	**0.17**	**108**		**Pg**	**02 36 44.6**	**0.0**
OBL					**Sg**	**02 36 47.7**	**+0.5**
SDHHI	**Sand Hill**	**0.17**	**118**		**Pg**	**02 36 44.7**	**0.0**
SDHHI					**Sg**	**02 36 47.5**	**+0.3**
UWB	**Uwekahuna Bluf**	**0.18**	**105**		**Pg**	**02 36 44.7**	**0.0**
UWB					**Sg**	**02 36 47.6**	**+0.3**
SBLHI	**Steaming Bluff**	**0.18**	**104**		**Pg**	**02 36 44.7**	**-0.1**
SBLHI					**Sg**	**02 36 47.7**	**+0.2**
ALEP	**Alea Permanent**	**0.19**	**292**		**Pg**	**02 36 45.0**	**0.0**
ALEP					**Sg**	**02 36 48.0**	**+0.1**
RIM	**Rim**	**0.19**	**113**		**Pg**	**02 36 44.9**	**0.0**
RIM					**Sg**	**02 36 48.2**	**+0.5**
HATHI	**Halema'uma'u T**	**0.19**	**104**		**Pg**	**02 36 44.8**	**-0.1**
HATHI					**Sg**	**02 36 47.7**	**0.0**
HATHI	**Halema'uma'u T**	**0.19**	**104**	IAML		02 36 48.5	
	comp=N,3μm,0.2s						
HATHI				IAML		02 36 50.7	
	comp=E,2μm,0.3s						
BYL	**Byron's Ledge**	**0.20**	**107**		**Pg**	**02 36 45.0**	**-0.1**
BYL					**Sg**	**02 36 48.0**	**+0.2**
BYL	**Byron's Ledge**	**0.20**	**107**	IAML		02 36 48.5	
	comp=N,1μm,0.2s						
BYL				IAML		02 36 50.8	
	comp=E,1μm,0.5s						
KKO	**Keanakako'i**	**0.20**	**112**		**Pg**	**02 36 45.1**	**+0.1**
KKO					**Sg**	**02 36 48.0**	**+0.1**
HLP	**Hilina Pali**	**0.23**	**141**		**Pg**	**02 36 45.6**	**+0.1**
HLP					**Sg**	**02 36 49.2**	**+0.5**
HLP	**Hilina Pali**	**0.23**	**141**	IAML		02 36 49.7	
	comp=E,2μm,0.4s						
HLP				IAML		02 36 49.7	
	comp=N,2μm,0.3s						
HTC	**Hot Caves**	**0.24**	**166**		**Pg**	**02 36 45.8**	**0.0**
PUH	**Pauahi**	**0.25**	**113**		**Pg**	**02 36 45.8**	**-0.2**
PUH					**Sg**	**02 36 49.4**	**0.0**
PUH	**Pauahi**	**0.25**	**113**	IAML		02 36 52.8	
	comp=N,680nm,0.5s						
PUH				IAML		02 36 53.6	
	comp=E,916nm,0.9s						
KHU	**Kahuku**	**0.27**	**213**		**Pg**	**02 36 46.1**	**-0.3**
KHU					**Sg**	**02 36 50.5**	**+0.5**
KHU	**Kahuku**	**0.27**	**213**	IAML		02 36 54.9	
	comp=E,2μm,0.4s						
KHU				IAML		02 36 54.9	
	comp=N,1μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.29**	**108**		**Pg**	**02 36 46.4**	**-0.3**
POHA	**Pohakuloa**	**0.29**	**346**		**Pg**	**02 36 46.7**	**-0.2**
POHA					**Sg**	**02 36 51.1**	**+0.2**
POHA	**Pohakuloa**	**0.29**	**346**	IAML		02 36 55.9	
	comp=N,1μm,0.4s						
POHA				IAML		02 36 56.0	
	comp=N,1μm,0.7s						
STCH	**Steam Cracks**	**0.33**	**105**		**Pg**	**02 36 46.9**	**-0.5**
STCH					**Sg**	**02 36 51.6**	**-0.2**
STCH	**Steam Cracks**	**0.33**	**105**	IAML		02 36 53.5	
	comp=E,3μm,0.2s						
STCH				IAML		02 36 53.9	
	comp=N,1μm,0.2s						
NPOC	**North of Pu'u**	**0.34**	**103**		**Pg**	**02 36 47.1**	**-0.6**
NPOC					**Sg**	**02 36 52.1**	**-0.1**
JCUZ	**Jacuzzi**	**0.35**	**104**		**Pg**	**02 36 47.3**	**-0.6**
JCUZ					**Sg**	**02 36 52.4**	**-0.1**
HUH	**Hualalai**	**0.41**	**301**		**Pg**	**02 36 49.8**	**+0.6**
HUH					**Sb**	**02 36 56.4**	**-0.7**
HUH	**Hualalai**	**0.41**	**301**	IAML		02 37 02.0	
	comp=N,1μm,0.3s						
HUH				IAML		02 37 03.4	
	comp=E,803nm,0.4s						
JOKA	**Jonika Flow**	**0.43**	**95**		**Pg**	**02 36 48.7**	**-0.7**
JOKA					**Sg**	**02 36 55.7**	**+0.6**
JOKA	**Jonika Flow**	**0.43**	**95**	IAML		02 36 56.0	
	comp=E,1μm,0.4s						
JOKA				IAML		02 36 57.0	
	comp=N,1μm,0.2s						

IDC ***02*** *02:40:49.0±3.5, 47°.79N × 153°.68E, h0km, mb3.7/11, mbtmp3.7/11, Error ellipse: s-maj=84.2km s-min=29.6km az=152.0*
ISC 02 02:40:59.4±2.9, 47°.5N±0°.5×153°.9E±0°.3, h100km, n17, σ1s29/11, mb3.6/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.53**	**252**	P	**P**	**02 45 40.4**	**+0.2**
	0.3nm,0.3s,baz=47,slow=11,SNR=1.8 0.3nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**29.69**	**155**	T	T	03 18 59.7	
	baz=341,slow=76						
H11N1	**WAKE ISLAND Hy**	**29.71**	**155**	T	T	03 18 59.4	
	baz=341,slow=76						
H11N3	**WAKE ISLAND Hy**	**29.71**	**155**	T	T	03 19 03.5	
	baz=341,slow=76						
H11S1	**WAKE ISLAND Hy**	**30.80**	**156**	T	T	03 20 35.8	
	baz=342,slow=76						
H11S3	**WAKE ISLAND Hy**	**30.80**	**156**	T	T	03 20 39.0	
	baz=342,slow=76						
H11S2	**WAKE ISLAND Hy**	**30.81**	**156**	T	T	03 20 34.1	
	baz=342,slow=76						
ILAR	**Eielson Array**	**35.62**	**39**	P	**P**	**02 47 46.0**	**-1.0**
	0.2nm,0.6s,baz=277,slow=7.1,SNR=2.3 0.2nm,0.6s						
MKAR	**Makanchi Array**	**47.04**	**297**	P	**P**	**02 49 19.2**	**-1.4**
	0.2nm,0.5s,baz=70,slow=8.3,SNR=2.1 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**47.45**	**303**	P	**P**	**02 49 22.3**	**-1.4**
	0.8nm,0.8s,baz=64,slow=8.5,SNR=4.7 0.8nm,0.8s						
BVAR	**Borovoye Array**	**50.76**	**309**	P	**P**	**02 49 48.0**	**-0.8**
	0.6nm,0.3s,baz=54,slow=9.7,SNR=4.0 0.6nm,0.3s						
FINES	**FINESS Array B**	**63.55**	**335**	P	**P**	**02 51 19.4**	**+0.8**
	1.3nm,0.7s,baz=43,slow=7.5,SNR=8.5 1.3nm,0.7s						
NOA	**NORSAR Array B**	**67.65**	**341**	P	**P**	**02 51 46.6**	**+1.4**
	0.9nm,0.7s,baz=29,slow=6.6,SNR=4.2 0.9nm,0.7s						
HFS	**Hagfors**	**67.90**	**340**	P	**P**	**02 51 48.4**	**+1.7**
	1.3nm,0.4s,baz=45,slow=4.3,SNR=11 1.3nm,0.4s						
AKASG	**Malin Array Be**	**71.18**	**326**	P	**P**	**02 52 06.3**	**-0.7**
	0.4nm,0.3s,baz=38,slow=6.1,SNR=2.1 0.4nm,0.3s						
EKA	**Eskdalemuir Ar**	**75.70**	**347**	P	**P**	**02 52 33.8**	**+0.4**
	0.9nm,0.8s,baz=16,slow=6.6,SNR=1.7 0.9nm,0.8s						
BRTR	**Keskin Array B**	**78.17**	**317**	P	**P**	**02 52 48.9**	**+1.2**
	0.4nm,0.6s,baz=45,slow=6.5,SNR=2.9 0.4nm,0.6s						

UCR ***02*** *02:45:00.8±1.1, 8°.36N × 82°.84W, h29km±2km, MW3.9*
UPA ***02*** *02:45:01.6±1.0, 8°.41N × 82°.82W, h29km±3km, MW4.2, Fault plane solution: NP1:φs=8.00000°, δ75.00000°, λ=-166.00000°.*
CATAC ***02*** *02:45:02.0±1.0, 8°N±6°×8°3W±°, h18km±4km, M3.8/6, MLv3.8/6, Error ellipse: s-maj=14.5km s-min=10.6km az=41.2, confirmed*
ISC 02 02:45:01.2±0.9, 8°.40N±0°.03×82°.83W±0°.03, h32km±5km, n78, σ0s96/95, 12C-15D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.04**	**75**	*i* P	**Pb**	**02 45 06.4**	**-0.2**
LESP3				*eS*	**Sb**	**02 45 09.9**	**-0.4**
LPPC	**Paso Canoas**	**0.14**	**354**	*eP*	**Pn**	**02 45 06.9**	**-0.3**
LPPC				*eS*	**Sb**	**02 45 11.8**	**+0.6**
CDITO	**Canoas**	**0.18**	**345**	P	**Pb**	**02 45 07.1**	**-0.4**
CDITO	**Canoas**	**0.18**	**345**	S	**Sb**	**02 45 12.5**	**+0.6**
NELY	**Ciudad Neily**	**0.28**	**335**	*eP*	**Pb**	**02 45 08.1**	**-0.6**
NELY				*eS*	**Sn**	**02 45 14.2**	**0.0**
LMNES	**Limones**	**0.30**	**187**	*eP*	**Pb**	**02 45 08.6**	**-0.2**
LMNES	**Limones**	**0.30**	**187**	*i* P	**Pb**	**02 45 08.7**	**-0.1**
DVD	**David**	**0.37**	**84**	*i* P	**Pb**	**02 45 09.7**	**-0.2**
DVD				*eS*	**Sn**	**02 45 16.6**	**+0.1**
CSTBL	**De las Acacias**	**0.38**	**88**	*eP*	**Pb**	**02 45 09.8**	**-0.2**
MLIR3	**Monte Lirio, C**	**0.39**	**0**	*eP*	**Pn**	**02 45 10.7**	**-0.1**
MLIR3				*eS*	**Sn**	**02 45 17.0**	**-0.2**
FITO	**Golfito**	**0.40**	**305**	*eP*	**Pb**	**02 45 08.6**	**-1.6**
FITO				*eS*	**Sb**	**02 45 15.2**	**-1.2**
PEDE3	**Pedregal, Chir**	**0.40**	**92**	*i* P	**Pb**	**02 45 09.9**	**-0.4**
PEDE3				*eS*	**Sb**	**02 45 16.5**	**+0.1**
CLLRA	**Cordillera,**	**0.40**	**31**	*eP*	**Pb**	**02 45 10.2**	**-0.3**
BRU2	**Volcan**	**0.42**	**19**	*eP*	**Pb**	**02 45 10.4**	**-0.2**
BRU2	**Volcan**	**0.42**	**19**	*i* P	**Pb**	**02 45 10.5**	**-0.2**
BRU2				*eS*	**Sn**	**02 45 18.3**	**+0.4**
BRU2	**Volcan**	**0.42**	**19**	P	**Pb**	**02 45 10.5**	**-0.2**
RSRNO	**Rio Sereno**	**0.42**	**355**	*eP*	**Pn**	**02 45 10.9**	**-0.2**
RSRNO	**Rio Sereno**	**0.42**	**355**	*i* P	**Pn**	**02 45 11.0**	**-0.2**
EDAD	**Golfito**	**0.42**	**307**	*eP*	**Pb**	**02 45 09.1**	**-1.6**
EDAD				*eS*	**Sb**	**02 45 15.8**	**-1.3**
TBS2		**0.43**	**23**	*eP*	**Pn**	**02 45 11.4**	**+0.1**
TBS2		**0.43**	**23**	*i* P	**Pn**	**02 45 11.4**	**+0.1**
LOMA3	**Las Lomas, Chi**	**0.43**	**85**	*i* P	**Pb**	**02 45 10.4**	**-0.3**
SCLRA	**Santa Clara, W**	**0.44**	**6**	*eP*	**Pb**	**02 45 10.9**	**-0.1**
SCLRA	**Santa Clara, W**	**0.44**	**6**	*i* P	**Pn**	**02 45 11.2**	**-0.2**
PTAR3	**Potrerillos Ar**	**0.44**	**48**	*i* P	**Pb**	**02 45 10.9**	**-0.1**
VITO	**San Vito**	**0.44**	**341**	*eP*	**Pb**	**02 45 10.9**	**-0.1**
BC3P	**Paso Ancho**	**0.47**	**27**	*i* P	**Pb**	**02 45 11.1**	**-0.3**
CHIR3	**Chiriqui UPA,**	**0.49**	**90**	*i* P	**Pb**	**02 45 11.2**	**-0.4**
CHIR3				*eS*	**Sn**	**02 45 19.1**	**-0.4**
BQTLY	**Boquete Panama**	**0.51**	**45**	*eP*	**Pb**	**02 45 11.6**	**-0.4**
BQTLY	**Boquete Panama**	**0.51**	**45**	*i* P	**Pb**	**02 45 11.7**	**-0.4**
BQSF3	**Alto Boquete,**	**0.52**	**48**	*i* P	**Pb**	**02 45 11.7**	**-0.5**
ALCO	**Alturas Coton,**	**0.55**	**359**	*eP*	**Pb**	**02 45 12.0**	**-0.8**
PSOM3	**Paja de Sombre**	**0.57**	**60**	*i* P	**Pb**	**02 45 12.4**	**-0.6**
PSOM3				*eS*	**Sb**	**02 45 20.4**	**-0.7**
EDP2	**Potrero Grande**	**0.71**	**331**	*eP*	**Pn**	**02 45 14.3**	**-0.7**
RBALA	**Bur**	**0.82**	**54**	*eP*	**Pn**	**02 45 16.1**	**-0.5**
RBALA	**Bur**	**0.82**	**54**	*i* P	**Pn**	**02 45 16.2**	**-0.4**
PANP	**Palmar Norte**	**0.84**	**312**	*eP*	**Pn**	**02 45 15.8**	**-1.0**
DRK0	**Durika**	**0.96**	**334**	*eP*	**Pn**	**02 45 17.7**	**-0.8**
DRK0	**Durika**	**0.96**	**334**	*i* P	**Pn**	**02 45 17.8**	**-0.8**
DRK0				*eS*	**Sn**	**02 45 31.2**	**0.0**
DRK0	**Durika**	**0.96**	**334**	P	**Pn**	**02 45 17.8**	**-0.8**
DRK0	**Durika**	**0.96**	**334**	S	**Sn**	**02 45 30.5**	**-0.7**
RMDIO	**Remedios, Chir**	**1.00**	**100**	*eP*	**Pn**	**02 45 18.8**	**-0.2**
RMDIO	**Remedios, Chir**	**1.00**	**100**	*i* P	**Pn**	**02 45 19.1**	**+0.1**
EDPE	**Pejibaye, P**	**1.06**	**316**	*eP*	**Pn**	**02 45 19.0**	**-0.8**
OCHAL	**Ojochal**	**1.07**	**311**	S	**Sn**	**02 45 34.0**	**+0.3**
OCHAL	**Ojochal**	**1.07**	**311**	P	**Pn**	**02 45 19.2**	**-0.8**
KKNTU	**Kakint²**	**1.10**	**66**	*eP*	**Pn**	**02 45 19.6**	**-0.8**
KKNTU	**Kakint²**	**1.10**	**66**	*i* P	**Pn**	**02 45 19.9**	**-0.5**
PDCAN	**Manzana , Fuen**	**1.12**	**95**	*eP*	**Pn**	**02 45 19.6**	**-1.2**
PDCAN	**Manzana , Fuen**	**1.12**	**95**	*i* P	**Pn**	**02 45 20.1**	**-0.7**
MESA3	**La Mesa, Verag**	**1.64**	**99**	*i* P	**Pn**	**02 45 28.4**	**+0.5**
LLNJ	**Naranjito**	**1.65**	**310**	*eP*	**Pn**	**02 45 28.7**	**+0.6**
PIEC	**Cerro El Cedra**	**1.65**	**318**	*eP*	**Pn**	**02 45 28.4**	**+0.2**
GMAL	**Guarumal, Vera**	**1.70**	**112**	*eP*	**Pn**	**02 45 27.8**	**-0.8**
GMAL	**Guarumal, Vera**	**1.70**	**112**	*eP*	**Pn**	**02 45 28.2**	**-0.4**
GMAL				*eS*	**Sn**	**02 45 50.7**	**+1.4**
RSUS3	**Rio de Jesus,**	**1.70**	**104**	*i* P	**Pn**	**02 45 29.9**	**+1.2**
RSUS3				*eS*	**Sn**	**02 45 49.7**	**+0

NNS	**Nan Shan**	**1.34 270**	*e*P		**Pn**	**02 48 47.0**	**-0.2**
YM01	**YM01**	**1.35 301**	*e*P		**Pn**	**02 48 46.3**	**-0.9**
YM01			*e*S		**Sn**	**02 49 03.1**	**-1.1**
SHUL	**Shoufeng**	**1.35 241**	*e*P		**Pn**	**02 48 46.6**	**-0.6**
SHUL			*e*S		**Sn**	**02 49 03.3**	**-0.9**
YM08	**YM08**	**1.35 303**	*e*P		**Pn**	**02 48 46.6**	**-0.6**
YHNB	**Yeheng**	**1.35 279**	P		**Pn**	**02 48 47.9**	**+0.6**
YHNB	**Yeheng**	**1.35 279**	P		**Sn**	**02 48 47.6**	**+0.2**
YHNB			*e*S		**Sn**	**02 49 04.2**	**-0.2**
PCYT	**Pengchaiyu**	**1.36 329**	*e*P		**Pn**	**02 48 47.5**	**+0.2**
NSK	**Sanguang**	**1.37 279**	*e*P		**Pn**	**02 48 47.9**	**+0.4**
NSK			*e*S		**Sn**	**02 49 03.9**	**-1.0**
ZUZH	**Zhuzihu**	**1.37 301**	*e*P		**Pn**	**02 48 47.1**	**-0.5**
ZUZH			*e*S		**Sn**	**02 49 03.9**	**-1.0**
LXIB	**Xiulin Townshi**	**1.38 252**	*e*P		**Pn**	**02 48 46.6**	**-1.1**
LXIB			*e*S		**Sn**	**02 49 03.4**	**-1.7**
TWY	**Chenhua**	**1.39 306**	*e*P		**Pn**	**02 48 47.4**	**-0.4**
TWY			*e*S		**Sn**	**02 49 06.5**	**+1.2**
ESL	**Shilin**	**1.44 244**	*e*P		**Pn**	**02 48 47.6**	**-0.8**
FUSS	**Fushou**	**1.48 262**	*e*P		**Pn**	**02 48 49.6**	**+0.5**
FUSS			S		**Sn**	**02 49 07.6**	**0.0**
WHF	**Hehuan Shan**	**1.48 258**	*e*P		**Pn**	**02 48 49.0**	**-0.2**
EGFH	**Guangfu**	**1.52 239**	*e*P		**Pn**	**02 48 48.8**	**-0.6**
EGFH			S		**Sn**	**02 49 07.1**	**-1.1**
WARBT	**Fenglin Townsh**	**1.52 241**	P		**Pn**	**02 48 48.6**	**-0.9**
WARBT			S		**Sn**	**02 49 06.4**	**-2.0**
TWT	**Tachien**	**1.54 263**	*e*P		**Pn**	**02 48 50.7**	**+0.9**
KSHI	**Guanxi Townshi**	**1.55 282**	*e*P		**Pn**	**02 48 49.8**	**-0.1**
TDCB	**Techi**	**1.55 263**	*e*P		**Pn**	**02 48 50.3**	**+0.3**
NFF	**Wufeng Townshi**	**1.58 277**	P		**Pn**	**02 48 50.9**	**+0.5**
NFF			S		**Sn**	**02 49 09.8**	**-0.2**
OWD	**Renai**	**1.60 252**	P		**Pn**	**02 48 50.1**	**-0.6**
OWD			*e*S		**Sn**	**02 49 09.7**	**-0.9**
HGSD	**Ruisui**	**1.62 234**	*e*P		**Pn**	**02 48 50.0**	**-0.7**
HGSD			*e*S		**Sn**	**02 49 10.1**	**-0.5**
WUSB	**Renai**	**1.64 254**	P		**Pn**	**02 48 51.0**	**-0.2**
WUSB			S		**Sn**	**02 49 10.8**	**-0.7**
EHYH	**Wanrong**	**1.67 235**	*e*P		**Pn**	**02 48 51.0**	**-0.6**
EHYH			*e*S		**Sn**	**02 49 11.2**	**-0.9**
LIOB	**Emei**	**1.68 277**	*e*P		**Pn**	**02 48 52.8**	**+1.2**
EHY	**Hungye**	**1.68 236**	*e*P		**Pn**	**02 48 51.3**	**-0.4**
EHY			*e*S		**Sn**	**02 49 10.5**	**-1.8**
NSTT	**Nanjuang**	**1.69 276**	*e*P		**Pn**	**02 48 51.1**	**-0.6**
NSTT			*e*S		**Sn**	**02 49 12.9**	**+0.5**
JTJ	**Tarama**	**1.70 83**	*e*P		**Pn**	**02 48 52.2**	**+0.3**
VWDT	**VWDT**	**1.71 246**	*e*P		**Pn**	**02 48 51.7**	**-0.2**
VWDT			*e*S		**Sn**	**02 49 11.8**	**-1.0**
WHP	**Taichung City**	**1.74 264**	*e*P		**Pn**	**02 48 53.6**	**+1.1**
WHP			S		**Sn**	**02 49 14.5**	**+0.7**
YULB	**Yu-li**	**1.77 233**	P		**Pn**	**02 48 52.1**	**-0.7**
YULB	**Yu-li**	**1.77 233**	*i* P		**Pn**	**02 48 52.2**	**-0.6**
YULB			S		**Sn**	**02 49 12.6**	**-1.8**
TWF1	**Yuli**	**1.79 232**	P		**Pn**	**02 48 52.6**	**-0.6**
TWF1			S		**Sn**	**02 49 13.6**	**-1.3**
WCS	**Beigang Elemen**	**1.81 258**	*e*P		**Pn**	**02 48 53.8**	**+0.4**
WCS			*e*S		**Sn**	**02 49 16.1**	**+0.8**
CHKH	**Chenggong**	**1.83 227**	*e*P		**Pn**	**02 48 52.4**	**-1.2**
CHKH			*e*S		**Sn**	**02 49 13.2**	**-2.6**
SSLB	**Suanglung**	**1.85 249**	P		**Pn**	**02 48 54.0**	**0.0**
SSLB	**Suanglung**	**1.85 249**	P		**Pn**	**02 48 53.8**	**-0.2**
SSLB			S		**Sn**	**02 49 15.2**	**-1.2**
SMLT	**Sun Moon Lake**	**1.87 253**	P		**Pn**	**02 48 54.6**	**+0.4**
SMLT			S		**Sn**	**02 49 17.0**	**+0.2**
FULB	**Fuli**	**1.89 229**	*e*P		**Pn**	**02 48 53.8**	**-0.8**
FULB			*e*S		**Sn**	**02 49 16.1**	**-1.3**
TYC	**Yuchr**	**1.90 254**	P		**Pn**	**02 48 54.8**	**+0.3**
TYC			S		**Sn**	**02 49 16.8**	**-0.7**
CHKT	**Chengkung**	**1.91 225**	*e*P		**Pn**	**02 48 53.1**	**-1.7**
CHKT			*e*S		**Sn**	**02 49 14.7**	**-3.1**
WHYT	**Xinyi Township**	**1.97 248**	*e*P		**Pn**	**02 48 55.8**	**+0.2**
WHYT			*e*S		**Sn**	**02 49 19.6**	**+0.2**
EHD	**Haiduan**	**1.99 229**	*e*P		**Pn**	**02 48 54.5**	**-1.3**
EHD			*e*S		**Sn**	**02 49 17.6**	**-2.0**
WJS	**Zhushan**	**2.04 252**	*e*P		**Pn**	**02 48 57.4**	**+1.0**
WJS			*e*S		**Sn**	**02 49 22.8**	**+2.0**
EDH	**Donghe**	**2.04 224**	*e*P		**Pn**	**02 48 55.3**	**-1.2**
EDH			*e*S		**Sn**	**02 49 18.3**	**-2.7**
WNT	**Mingjian**	**2.06 254**	*e*P		**Pn**	**02 48 57.9**	**+1.2**
WNT			*e*S		**Sn**	**02 49 23.4**	**+2.1**
ALS	**Alishan**	**2.09 244**	*e*P		**Pn**	**02 48 57.5**	**+0.1**
ELDTW	**Lidau**	**2.10 233**	*e*P		**Pn**	**02 48 56.4**	**-1.0**
ELDTW			*e*S		**Sn**	**02 49 20.2**	**-2.3**
CHN5	**Tsauling**	**2.16 247**	*e*P		**Pn**	**02 48 59.5**	**+1.3**
CHN5			*e*S		**Sn**	**02 49 25.7**	**+1.8**
LONT	**Longtian**	**2.20 226**	*e*P		**Pn**	**02 48 57.1**	**-1.6**
WDLH	**Douliu**	**2.24 251**	*e*P		**Pn**	**02 49 00.8**	**+1.5**
WDLH			*e*S		**Sn**	**02 49 29.1**	**+3.2**
STYH	**Taoyuan**	**2.29 236**	*e*P		**Pn**	**02 49 00.5**	**+0.7**
STYH			*e*S		**Sn**	**02 49 28.1**	**+1.2**
WCKO	**Fanlu**	**2.29 244**	*e*P		**Pn**	**02 49 01.6**	**+1.7**
WCKO			*e*S		**Sn**	**02 49 29.2**	**+2.3**
TWGBT	**Beinan**	**2.30 225**	P		**Pn**	**02 49 01.6**	**+1.6**
TWGBT	**Beinan**	**2.30 225**	S		**Sn**	**02 49 26.0**	**-1.2**
TWGBT	**Beinan**	**2.30 225**	*e*P		**Pn**	**02 48 59.6**	**-0.4**
TWGBT			S		**Sn**	**02 49 25.9**	**-1.3**
TWG	**Pinlang**	**2.30 225**	*e*P		**Pn**	**02 48 59.5**	**-0.6**
TWG			*e*S		**Sn**	**02 49 25.1**	**-2.2**
TPUB	**Ta-pu**	**2.33 241**	P		**Pn**	**02 49 01.8**	**+1.3**
TPUB	**Ta-pu**	**2.33 241**	*e*P		**Pn**	**02 49 01.4**	**+1.0**
TPUB			*e*S		**Sn**	**02 49 29.6**	**+1.5**
WTP	**Ta-pu**	**2.37 240**	*e*P		**Pn**	**02 49 02.3**	**+1.2**
WTP			*e*S		**Sn**	**02 49 31.6**	**+2.6**
TWK	**Hsinying**	**2.46 242**	*e*P		**Pn**	**02 49 03.8**	**+1.5**
TWK			*e*S		**Sn**	**02 49 33.1**	**+1.8**
CHN1	**Nanshi**	**2.47 240**	*e*P		**Pn**	**02 49 03.7**	**+1.4**
CHN1			*e*S		**Sn**	**02 49 32.9**	**+1.5**
SNST	**Tainan City**	**2.48 241**	*e*P		**Pn**	**02 49 04.2**	**+1.7**
ECL	**Taimali**	**2.54 224**	*e*P		**Pn**	**02 49 02.1**	**-1.1**
WSL	**Shuilin Townsh**	**2.57 249**	*e*P		**Pn**	**02 49 04.9**	**+1.2**
WSL			*e*S		**Sn**	**02 49 36.1**	**+2.3**
SSD	**Sandimen**	**2.65 230**	*e*P		**Pn**	**02 49 05.8**	**+1.0**
SSD			*e*S		**Sn**	**02 49 37.5**	**+1.7**
TSMG	**Majia**	**2.67 230**	*e*P		**Pn**	**02 49 05.8**	**+0.7**
TSMG			*e*S		**Sn**	**02 49 37.5**	**+1.3**
MASBT	**Mashibuluo**	**2.74 228**	P		**Pn**	**02 49 06.5**	**+0.6**
MASBT			*e*S		**Sn**	**02 49 39.8**	**+1.9**
EAST	**Anshuo**	**2.76 222**	*e*P		**Pn**	**02 49 07.6**	**+1.2**
SCZT	**Fangliau**	**2.91 225**	*e*P		**Pn**	**02 49 09.6**	**+1.2**

GCG ***02*** *02:55:38.7±2.0, 15°.88N×91°.49W, h2km±10km, MD4.7, ML4.0, MW3.5*

CATAC ***02*** *02:55:40.0±0.3, 16°.N±2°.×9°.1W±°, h1km, M4.0/10, MLv4.0/10, Error ellipse: s-maj=4.2km s-min=3.5km az=58.2, confirmed*

ISC 02 02:55:39.4±1.4,**15°.83N**±0°.03×**91°.46W**±0°.05,**h5**km±12km, **n31**,σ2**s19**/24,**Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUEH	**Huehuetenango**	**0.51 184**		P	**Pg**	**02 55 48.9**	**-0.3**
CCIG	**Comitan**	**0.79 305**		*i* P	**Pg**	**02 55 53.5**	**-1.0**
CCIG				*i* S	**Sg**	**02 56 07.3**	**+2.6**
CCIG				IAML		02 56 10.9	
	comp=E,2μm,0.5s						
CCIG	**Comitan**	**0.79 305**		P	**Pg**	**02 55 54.1**	**-0.4**
SMCA	**Catarina**	**1.14 211**		*i* P	**Pg**	**02 56 01.3**	**+0.2**
SMCA				*i* S	**Sg**	**02 56 15.8**	**-0.1**
SMCA				IAML		02 56 21.6	
	comp=N,1μm,3.0s						
THIG		**1.20 220**		IAML		02 56 31.6	
	comp=N,2μm,1.7s						
RTAL	**Retalhuleu**	**1.32 190**		P	**Pg**	**02 56 04.4**	**-0.3**
RTAL	**Retalhuleu**	**1.32 190**		S	**Sg**	**02 56 18.5**	**-3.3**
STG8	**El Palmar, Qui**	**1.38 175**		*i* P	Pg	02 55 59.7	-6.1
STG0	**El Palmar, Qui**	**1.40 175**		*i* P	Pg	02 56 00.0	-6.3
STG0				*i* S	Sg	02 56 17.6	-6.9
STG0				IAML		02 56 21.6	
	comp=E,3μm,0.2s						
GCG4	**OSOP**	**1.53 144**		*i* P	**Pn**	**02 56 07.4**	**-0.1**
GCG4				*i* S	**Sg**	**02 56 31.0**	**+2.4**
GCG4				IAML		02 56 38.1	
	comp=N,3μm,0.5s						
ESSG	**Sabana Grande**	**1.56 157**		*i* P	**Pn**	**02 56 07.9**	**0.0**
ESSG				*i* S	**Sn**	**02 56 31.3**	**+2.7**
ESSG				IAML		02 56 36.9	
	comp=N,1μm,0.5s						
FG8	**Yepocapa, Chim**	**1.79 151**		*i* P	Pn	02 56 06.7	-4.4
FG8				*i* S	**Sn**	**02 56 29.5**	**-4.8**
FG16	**Alotenango, Sa**	**1.80 149**		*i* P	Pn	02 56 07.0	-4.4
FG16				*i* S	**Sn**	**02 56 31.8**	**-2.9**
FG16				IAML		02 56 35.0	
	comp=E,4μm,0.3s						
TGIG		**1.85 301**		*i* P	**Pn**	**02 56 12.3**	**+0.5**
TGIG				*i* S	**Sn**	**02 56 37.3**	**+1.6**
TGIG				AMP		02 56 43.8	
	comp=E,905nm,0.9s						
PETF	**Flores**	**1.87 55**		*i* P	**Pn**	**02 56 11.7**	**-0.4**
PETF				*i* S	**Sn**	**02 56 36.8**	**+0.6**
PETF				IAML		02 56 42.5	
	comp=E,3μm,0.3s						
PETF	**Flores**	**1.87 55**		P	Pn	02 56 11.4	-0.7
ESQI	**Esquipulas**	**2.41 121**		P	Pn	02 56 21.5	+1.9
ESQI	**Esquipulas**	**2.41 121**		S	**Sn**	**02 56 50.7**	**+1.1**
SLOZ	**Alcaldia de Sa**	**2.42 138**		P	Pn	02 56 21.4	+1.7
SLOZ	**Alcaldia de Sa**	**2.42 138**		S	**Sn**	**02 56 52.6**	**+2.8**
FAME	**Alcaldia de Sa**	**2.42 144**		P	Pn	02 56 21.7	+2.0
FAME	**Alcaldia de Sa**	**2.42 144**		S	**Sn**	**02 56 50.6**	**+0.8**
MTO3	**Montecristo**	**2.48 125**		*i* P	Pn	02 56 24.1	+3.5
MTO3	**Montecristo**	**2.48 125**		S	Sn	02 56 55.0	+3.5
MTO3	**Montecristo**	**2.48 125**		P	Pn	02 56 23.0	+2.3
NUBE	**Las Nubes**	**2.52 139**		*i* P	Pn	02 56 22.3	+1.2
NUBE				*i* S	Sn	02 56 55.9	+3.6
NUBE	**Las Nubes**	**2.52 139**		P	**Pn**	**02 56 21.3**	**+0.2**
NUBE	**Las Nubes**	**2.52 139**		S	**Sn**	**02 56 54.2**	**+1.9**
SARH	**Santa Rosa de**	**2.81 112**		*i* P	Pn	02 56 24.1	-1.0
SCIG	**Sabancuy**	**3.13 5**		*i* P	Pn	02 56 27.2	-2.2
SCIG				*i* S	**Sn**	**02 57 03.4**	**-3.8**
SCIG				IAML		02 57 22.9	
	comp=E,522nm,1.0s						
MARCA	**Marcala la Paz**	**3.71 116**		*i* P	Pn	02 56 38.9	+1.4

IDC ***02*** *04:05:04.4±1.7, 40°.68N×140°.85E, h134km±17km, mb3.5/6, mbtmp3.8/9, Error ellipse: s-maj=29.3km s-min=15.5km az=104.0*

JMA ***02*** *04:05:05.1±0.1, 40°.6N±0°.3×140°.7E±0°.6, h124km, MV2.9/39, WESTERN AOMORI PREF*

ISC 02 04:05:04.2±0.8,**40°.64N**±0°.04×**140°.73E**±0°.07,**h131**km±6km, **n23**,σ**0s73**/33,**mb3.8**/6,**Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHS	**Hirosakihyakuz**	**0.28 272**		*i* P	**Pn**	**04 05 22.6**	**+0.3**
JHHS				S	**Sn**	**04 05 36.0**	**-0.1**
JTM	**Tenmabayashi**	**0.30 61**		P	**Pn**	**04 05 22.6**	**+0.2**
JTM				*e*S	**Sn**	**04 05 35.8**	**-0.4**
JAH	**Hinai**	**0.46 189**		P	**Pn**	**04 05 23.2**	**+0.1**
JAH				*e*S	**Sn**	**04 05 36.9**	**-0.5**
JIW	**Iwasaki**	**0.55 265**		*e*P	**Pn**	**04 05 24.0**	**+0.3**
JIW				*e*S	**Sn**	**04 05 37.8**	**-0.5**
JANG	**Nango**	**0.66 114**		*i* P	**Pn**	**04 05 24.5**	**+0.1**
JANG				*e*S	**Sn**	**04 05 39.3**	**-0.3**
JOT	**Ohata**	**0.78 18**		P	**Pn**	**04 05 26.1**	**+0.8**
JSR	**Shiriuchi**	**0.92 345**		*e*P	**Pn**	**04 05 26.9**	**+0.5**
JSR				S	**Sn**	**04 05 42.6**	**-0.7**
JOMM	**Oshimamatsumae**	**1.04 329**		*i* P	**Pn**	**04 05 27.9**	**+0.4**
JOMM				S	**Sn**	**04 05 45.0**	**-0.2**
JOM	**Ohasama**	**1.25 159**		*i* P	**Pn**	**04 05 29.8**	**+0.2**
JRO	**Rokugo**	**1.25 183**		*i* P	**Pn**	**04 05 30.4**	**+0.7**
JKB	**Kayabe**	**1.27 10**		*i* P	**Pn**	**04 05 30.6**	**+0.8**
JKB				*e*S	**Sn**	**04 05 49.5**	**+0.2**
JOSM	**Okushiri--Mats**	**1.72 327**		P	**Pn**	**04 05 34.9**	**+0.1**
JOSM				*e*S	**Sn**	**04 05 57.5**	**-0.8**
JMK	**Ichinoseki**	**1.73 167**		*i* P	**Pn**	**04 05 35.2**	**+0.2**
JYK	**Kaneyama**	**1.75 189**		P	**Pn**	**04 05 35.5**	**+0.3**
ASAJ	**Asahikawa**	**3.74 21**		P	**Pn**	**04 06 00.7**	**+0.2**
	6.4nm,0.3s,baz=216,slow=13,SNR=10						
ASAJ				S	**Sn**	**04 06 42.6**	**-1.5**
	3.7nm,0.5s,baz=325,slow=25,SNR=3.6						
MJAR	**Matsushiro Arr**	**4.54 207**		P	**Pn**	**04 06 12.7**	**+1.4**
	2.4nm,0.5s,baz=350,slow=17,SNR=9.3						
USRK	**Ussuriysk Ar.**	**7.38 302**		P	**Pn**	**04 06 50.9**	**+1.8**
	1.9nm,0.6s,baz=101,slow=15,SNR=3.0						
ZALV	**Zalesovo Beam**	**39.15 309**		P	**P**	**04 12 17.9**	**-1.0**
	0.6nm,0.5s,baz=106,slow=9.2,SNR=2.0						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**41.83 299**		P	**P**	**04 12 40.2**	**-0.8**
	0.4nm,0.8s,baz=66,slow=11,SNR=3.1						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**43.43 305**		P	**P**	**04 12 54.2**	**+0.4**
	1.6nm,0.4s,baz=78,slow=8.6,SNR=8.8						
	1.6nm,0.4s						
WRA	**Warramunga Arr**	**60.56 187**		P	**P**	**04 15 00.6**	**-0.2**
	0.5nm,1.0s,baz=5.1,slow=6.6,SNR=4.9						
	0.5nm,1.0s						
FINES	**FINESS Array B**	**65.39 331**		P	**P**	**04 15 32.4**	**+0.2**
	1.7nm,0.8s,baz=47,slow=6.6,SNR=2.1						
	1.7nm,0.8s						
HFS	**Hagfors**	**70.59 335**		P	**P**	**04 16 05.9**	**+1.1**
	6.1nm,1.2s,baz=35,slow=5.3,SNR=1.0						
	6.1nm,1.2s						

BJI ***02*** *04:07:17.4, 31°.30S×175°.40W, h10km, mB5.8/26, mb5.2/26, Ms5.2/37, Ms7 5.0/38*

NEIC ***02*** *04:07:17.3±2.0, 31°.24S±0°.08×175°.9W±0°.1, h10km±1km, mb5.2/28, Mww5.4/27, Error ellipse: s-maj=20.9km s-min=13.3km az=84.0*

NEIC ***02*** *04:07:17.4, 31°.25S×175°.88W, h14km*

NEIC ***02*** *04:07:17.4, 31°.25S×176°.23W, h14km, Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^17Nm; Mrr0.96; Mθθ0.08; Mφφ-1.04; Mrθ-0.20; Mθφ-0.29; Mφr1.08; Fault plane solution: Mo1.51000×10^17 NP1: φs212.15000°, δ25.28000°, λ123.45000°. NP2: φs356.00000°, δ69.13000°, λ75.41000°. Principal axes: T 1.4886, Plg63.0000°, Azm243.0000°; N 0.0422, Plg14.0000°, Azm1.0000°; P -1.5309, Plg23.0000°, Azm97.0000°;*

NOU ***02*** *04:07:24.7, 31°.60S×176°.19W, h36km, mb5.1/28, Kermadec Islands Region*

IDC ***02*** *04:07:26.2±0.4, 31°.12S×177°.49W, h0km, mb4.6/18, mbtmp4.5/21, ML4.4/3, MS5.0/49, Error ellipse: s-maj=16.9km s-min=13.9km az=87.0*

MOS ***02*** *04:07:30.4±2.8, 31°.09S×177°.60W, h34km, mb5.2/8, Error ellipse: s-maj=13.1km s-min=10.0km az=107.2*

GCMT ***02*** *04:07:32.4±0.1, 31°.23S±0°.01×177°.11W±0°.01, h12km, MW5.4/147, Moment Tensor Solution. s116,c203; s147,c257; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr1.10±.01; Mθθ-0.04±.01; Mφφ-1.06±.01; Mrθ0.08±.03; Mθφ-0.32±.01; Mφr1.04±.03; Best double couple: Mo1.53500×10^17 NP1:φs204.00000°, δ24.00000°, λ105.00000°. NP2:φs8.00000°, δ67.00000°, λ83.00000°. Principal axes: T 1.5210, Plg68.0000°, Azm265.0000°; N 0.0270, Plg6.0000°, Azm11.0000°; P -1.5490, Plg21.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 04:07:26.7±1.1,**31°.36S**±0°.04×**177°.28W**±0°.06,**h8**km±6km, **n383**,σ2**s24**/358,**mb5.1**/66,**MS5.0**/66,**18C-23D**,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.16 345**		P	**Pn**	**04 08 00.6**	**-2.3**
GLKZ				S	**Sn**	**04 08 26.6**	**-3.3**
RAO	**Raoul Island**	**2.17 345**			**Pn**	**04 08 00.8**	**-2.3**
RAO	**Raoul Island**	**2.17 345**		Pn	**Pn**	**04 08 01.0**	**-2.0**
	363nm,0.3s,baz=308,slow=3.4,SNR=8.6						
RAO				Sn	**Sn**	**04 08 22.9**	**-7.3**
	659nm,0.3s,baz=76,slow=19,SNR=9.9						
RAO	**Raoul Island**	**2.17 345**		P	**Pn**	**04 08 00.8**	**-2.3**
RIZ	**Raoul Island**	**2.18 345**		P	**Pn**	**04 08 01.3**	**-1.9**
RIZ				S	**Sn**	**04 08 27.0**	**-3.3**
MXZ	**Matakaoa Point**	**7.18 209**		Pn	**Pn**	**04 09 12.6**	**+0.6**
MXZ	**Matakaoa Point**	**7.18 209**		P	**Pn**	**04 09 12.2**	**+0.2**
MXZ				S	**Sn**	**04 10 30.9**	**-2.9**
WMGZ	**Waiomatatini S**	**7.36 208**		P	**Pn**	**04 09 10.8**	**-3.6**
WMGZ				S	**Sn**	**04 10 37.8**	**-0.3**
PKGZ	**Pakihiroa**	**7.54 209**		P	**Pn**	**04 09 14.0**	**-2.8**
PKGZ				S	**Sn**	**04 10 41.4**	**-1.1**
HAZ	**Te Kaha**	**7.57 211**		P	**Pn**	**04 09 15.4**	**-1.9**
HAZ				S	**Sn**	**04 10 42.3**	**-1.0**
PUZ	**Puketiti**	**7.64 208**		P	**Pn**	**04 09 14.6**	**-3.7**
PUZ				S	**Sn**	**04 10 41.6**	**-3.4**
RUGZ	**Raukumara Rang**	**7.79 211**		P	**Pn**	**04 09 18.4**	**-2.1**
RUGZ				S	**Sn**	**04 10 46.2**	**-2.7**
TWGZ	**Tauwhareparae**	**7.84 209**		P	**Pn**	**04 09 19.7**	**-1.3**
TWGZ				S	**Sn**	**04 10 47.1**	**-3.0**
CNGZ	**Carnagh Statio**	**8.02 206**		P	**Pn**	**04 09 20.9**	**-2.5**
CNGZ				S	**Sn**	**04 10 50.2**	**-4.1**
TKGZ	**Te Karaka**	**8.12 208**		P	**Pn**	**04 09 23.6**	**-1.3**
TKGZ				S	**Sn**	**04 10 52.8**	**-4.0**
MWZ	**Matawai**	**8.16 210**		P	**Pn**	**04 09 22.8**	**-2.7**
MWZ				S	**Sn**	**04 10 55.2**	**-2.7**
URZ	**Urewera**	**8.29 212**		Pn	**Pn**	**04 09 25.2**	**-1.9**
	5.2nm,0.3s,baz=292,slow=7.4,SNR=9.8						
URZ				Sn	**Sn**	**04 10 57.7**	**-3.2**
	23nm,0.3s,baz=69,slow=23,SNR=19						
URZ	**Urewera**	**8.29 212**		P	**Pn**	**04 09 26.8**	**-0.3**
URZ	**Urewera**	**8.29 212**		P	**Pn**	**04 09 25.9**	**-1.2**
URZ				S	**Sn**	**04 10 59.1**	**-1.8**
WCZ	**Waipu Caves**	**8.35 235**		P	**Pn**	**04 09 32.7**	**+4.8**
RAGZ	**Rawiri**	**8.35 210**		S	**Sn**	**04 10 59.1**	**-3.4**
RIGZ	**Rimuhau**	**8.38 208**		P	**Pn**	**04 09 26.2**	**-2.3**
RIGZ				S	**Sn**	**04 11 01.5**	**-1.9**
PRGZ	**Paritu Road**	**8.53 206**		P	**Pn**	**04 09 26.7**	**-3.8**
PRGZ				S	**Sn**	**04 11 04.3**	**-2.5**
OUZ	**Omahuta**	**8.56 241**		P	Pn	04 09 36.5	+5.7
OUZ	**Omahuta**	**8.56 241**		P	**Pn**	**04 09 35.3**	**+4.4**
SNGZ	**Shannon Statio**	**8.62 209**		P	**Pn**	**04 09 29.6**	**-2.1**
SNGZ				S	**Sn**	**04 11 06.5**	**-2.7**
MUGZ	**Murupara**	**8.62 213**		P	**Pn**	**04 09 30.6**	**-1.2**
MUGZ				S	**Sn**	**04 11 06.2**	**-3.0**
RTZ	**Ruatahuna**	**8.64 211**			**Pn**	**04 09 32.5**	**+0.5**
TOZ	**Tahuroa Road**	**8.71 221**		Pn	**Pn**	**04 09 35.6**	**+2.6**
MHGZ	**Mahia Peninsul**	**8.72 206**		S	**Sn**	**04 11 06.8**	**-4.7**
HSRZ	**Hossack Road**	**8.74 216**		P	**Pn**	**04 09 32.2**	**-1.2**
HSRZ				S	**Sn**	**04 11 14.6**	**+2.4**
RAHZ	**Arahi**	**8.84 210**		P	**Pn**	**04 09 35.9**	**+1.2**
RAHZ				S	**Sn**	**04 11 10.4**	**-4.2**
MTHZ	**Maungataniwha**	**8.89 211**		P	**Pn**	**04 09 35.2**	**-0.3**
MTHZ				S	**Sn**	**04 11 12.2**	**-3.7**
BKZ	**Black Stump Fm**	**9.31 211**			**Pn**	**04 09 42.5**	**+1.4**
KWHZ	**Kaweka Forest**	**9.55 211**		P	**Pn**	**04 09 43.2**	**-1.3**
KWHZ				S	**Sn**	**04 11 27.4**	**-4.6**
HIZ	**Hauiti**	**9.62 220**		Pn	**Pn**	**04 09 48.7**	**+3.2**
HIZ	**Hauiti**	**9.62 220**		P	**Pn**	**04 09 46.9**	**+1.4**
HIZ	**Hauiti**	**9.62 220**		S	**Sn**	**04 11 39.1**	**+5.3**
HIZ	**Hauiti**	**9.62 220**		P	**Pn**	**04 09 48.9**	**+3.4**
NTVZ	**North Tongarir**	**9.63 215**		P	**Pn**	**04 09 44.6**	**-1.2**
TMVZ	**Te Maari**	**9.63 215**		P	**Pn**	**04 09 43.8**	**-1.9**
ETVZ	**East Tongariro**	**9.65 215**		P	**Pn**	**04 09 45.6**	**-0.3**
KAHZ	**Kahuranaki**	**9.67 208**		P	Pn	04 09 41.4	-4.7
OTVZ	**Oturere**	**9.69 215**		P	**Pn**	**04 09 45.3**	**-1.2**
SNVZ	**South Ngauruho**	**9.72 215**		P	**Pn**	**04 09 44.3**	**-2.7**
NGZ	**Ngauruhoe**	**9.73 215**		P	**Pn**	**04 09 48.5**	**+1.4**
KRHZ	**Kereru**	**9.75 210**		P	**Pn**	**04 09 45.0**	**-2.2**
WNVZ	**Wahianoa**	**9.85 214**		P	**Pn**	**04 09 47.9**	**-0.8**
PNHZ	**Pukenui**	**10.05 210**		P	**Pn**	**04 09 47.5**	**-3.8**
PRHZ	**Porangahau**	**10.17 207**		P	**Pn**	**04 09 51.6**	**-1.3**
TSZ	**Takapari Road**	**10.27 210**		P	**Pn**	**04 09 51.5**	**-2.9**
BFZ	**Birch Farm**	**10.68 208**		Pn	**Pn**	**04 09 58.0**	**-1.9**
BFZ	**Birch Farm**	**10.68 208**		P	**Pn**	**04 09 58.6**	**-1.3**
MRZ	**Mangatainoka R**	**10.94 210**			Pn	04 09 56.8	-6.7
MRZ	**Mangatainoka R**	**10.94 210**		P	Pn	04 09 58.4	-5.0
HOWZ	**Holdsworth Sta**	**11.16 209**		P	**Pn**	**04 10 02

comp=Z,53nm,0.9s
QLP Quilpie 33.89 268 P **P 04 14 12.2 +2.1**
CTAO Charters Tower 34.57 280 P **P 04 14 16.2 +0.1**
CTAO IAmb IAmb 04 14 31.6
comp=Z,48nm,0.8s
CTAO Charters Tower 34.57 280 P **P 04 14 16.2 +0.1**
CTAO pmax pmax
comp=Z,48nm,0.9s
STKA Stephens Creek 34.88 258 **P 04 14 18.6 0.0**
STKA Stephens Creek 34.88 258 P **P 04 14 19.3 +0.7**
comp=Z,247nm,0.8s
STKA Stephens Creek 34.88 258 P **P 04 14 18.5 -0.1**
comp=Z,24nm,0.7s,baz=93,slow=9.6,SNR=34
STKA LR LR 04 28 15.4
comp=Z,3µm,18.3s,baz=96,slow=36
comp=Z,24nm,0.7s
STKA Stephens Creek 34.88 258 P **P 04 14 20.1 +1.5**
STKA Stephens Creek 34.88 258 ⇑*i*P **P 04 14 19.5 +0.9**
HTT Hallett 36.84 255 P **P 04 14 35.3 -0.2**
comp=Z,14nm,1.7s
HTT Hallett 36.84 255 P **P 04 14 37.3 +1.8**
MTSU Mount Surprise 37.09 282 P **P 04 14 38.2 +0.5**
comp=Z,19nm,0.9s
BBOO Buckleboo 39.32 255 **P 04 14 55.4 -0.9**
BBOO IAmb IAmb 04 15 10.2
comp=Z,39nm,0.9s
BBOO Buckleboo 39.32 255 P **P 04 14 55.4 -0.9**
comp=Z,48nm,1.0s
BBOO Buckleboo 39.32 255 P **P 04 14 57.3 +1.0**
QIS Mount Isa 40.01 275 P **P 04 15 02.5 +0.3**
comp=Z,18nm,1.4s
QIS Mount Isa 40.01 275 P **P 04 15 02.8 +0.6**
COEN Coen 40.13 286 P **P 04 15 03.2 -0.1**
COEN IAmb IAmb 04 15 07.8
comp=Z,26nm,0.9s
COEN Coen 40.13 286 P **P 04 15 03.6 +0.4**
comp=Z,41nm,1.8s
COEN Coen 40.13 286 P **P 04 15 05.2 +1.9**
TAOE Nuku Hiva Isla 41.13 65 *e*PKP2 P 04 14 50.4 -21
comp=Z,169nm,22.5s
TAOE *e*S S 04 20 52.7 -32
comp=Z,693nm,24.1s
TAOE *e*LR LR 04 25 36.5
comp=Z,2µm,21.2s
AS17 Alice Springs 43.61 268 P **P 04 15 31.0 -0.7**
comp=Z,55nm,0.8s
AS01 Alice Springs 43.65 268 P **P 04 15 31.9 -0.1**
AS31 Alice Springs 43.69 268 **P 04 15 31.9 -0.4**
AS31 Alice Springs 43.69 268 P **P 04 15 32.0 -0.4**
comp=Z,15nm,0.9s
ASAR Alice Springs 43.69 268 P **P 04 15 31.6 -0.7**
comp=Z,18nm,0.7s,baz=104,slow=7.2,SNR=118
ASAR PcP **PcP 04 17 19.0 -0.4**
comp=Z,2.5nm,0.6s,baz=120,slow=4.1,SNR=1.7
ASAR ScP **ScP 04 21 13.1 +1.7**
comp=Z,6.2nm,1.0s,baz=121,slow=4.7,SNR=13
ASAR LR LR 04 34 11.7
comp=Z,3µm,18.3s,baz=118,slow=37
comp=Z,18nm,0.7s
WR0 Warramunga Arr 44.58 273 P **P 04 15 38.7 -0.8**
WR8 Warramunga Arr 44.62 273 **P 04 15 39.1 -0.7**
WRAB Tennant Creek 44.75 273 P **P 04 15 39.2 -1.6**
WRAB Tennant Creek 44.75 273 *i*P **P 04 15 38.8 -2.1**
WRAB pmax pmax
comp=Z,39nm,1.2s
WRA Warramunga Arr 44.76 273 P **P 04 15 39.6 -1.2**
WRA Warramunga Arr 44.76 273 P **P 04 15 39.9 -1.0**
comp=Z,9.2nm,0.5s,baz=111,slow=8.0,SNR=33
WRA ScP **ScP 04 21 17.4 +1.7**
comp=Z,7.0nm,1.1s,baz=118,slow=4.3,SNR=8.5
WRA LR LR 04 34 26.1
comp=Z,6µm,18.3s,baz=114,slow=36
comp=Z,9.2nm,0.5s
WRA Warramunga Arr 44.76 273 *e*P **P 04 15 39.7 -1.2**
WB0 Warramunga Arr 44.79 273 **P 04 15 40.7 -0.5**
FORT Forrest 46.41 256 P **P 04 15 52.4 -1.4**
FORT IAmb IAmb 04 16 07.1
comp=Z,18nm,0.8s
FORT Forrest 46.41 256 P **P 04 15 52.8 -1.1**
comp=Z,28nm,1.1s
SBA Scott Base 47.13 185 P P 04 15 53.1 -5.8
SBA Scott Base 47.13 185 P P 04 15 53.1 -5.8
SBA pmax pmax
comp=Z,46nm,1.2s
VNDA Vanda 47.21 186 P P 04 15 52.3 -7.2
VNDA IAmb IAmb 04 16 43.9
comp=Z,19nm,1.5s
VNDA Vanda 47.21 186 P **P 04 16 02.7 +3.2**
comp=Z,0.9nm,0.7s,baz=18,slow=6.7,SNR=11
VNDA LR LR 04 32 21.5
comp=Z,2µm,20.6s,baz=18,slow=32
comp=Z,0.9nm,0.7s
WRKA Warakurna 47.98 263 P **P 04 16 04.9 -1.3**
comp=Z,23nm,1.1s
JAY Jayapura 48.89 297 LR LR 04 34 29.1
comp=Z,868nm,21.8s,baz=184,slow=33
KMBL Kambalda 51.34 253 P **P 04 16 29.9 -1.8**
comp=Z,13nm,1.2s
KNRA Kununurra 51.40 275 P **P 04 16 30.3 -2.0**
KNRA Kununurra 51.40 275 P **P 04 16 31.2 -1.1**
comp=Z,25nm,1.5s
FITZ Fitzroy Crossi 52.98 270 **P 04 16 42.5 -1.6**
FITZ Fitzroy Crossi 52.98 270 P **P 04 16 43.0 -1.0**
comp=Z,11nm,1.4s
FITZ Fitzroy Crossi 52.98 270 LR LR 04 39 35.4
comp=Z,5µm,18.2s,baz=121,slow=36
FITZ Fitzroy Crossi 52.98 270 P **P 04 16 43.9 -0.2**
CASY Casey 54.59 208 P **P 04 16 51.4 -3.7**
CASY IAmb IAmb 04 17 16.9
comp=Z,21nm,0.8s
KLBR Kellerberrin 54.63 251 P **P 04 16 54.5 -1.5**
comp=Z,51nm,1.1s
NWAO Narrogin (SRO) 54.65 250 P **P 04 16 54.7 -1.4**
NWAO Narrogin (SRO) 54.65 250 LR LR 04 37 39.8
comp=Z,1µm,21.5s,baz=83,slow=33
NWAO Narrogin (SRO) 54.65 250 P **P 04 16 54.7 -1.4**
NWAO pmax pmax
comp=Z,72nm,1.6s
MEEK Meekatharra 55.58 257 P **P 04 17 01.0 -2.0**
comp=Z,29nm,1.3s
MEEK Meekatharra 55.58 257 P **P 04 17 03.1 +0.1**
MBWA Marble Bar 56.74 264 P **P 04 17 09.4 -1.9**
MBWA IAmb IAmb 04 17 24.6
comp=Z,23nm,1.1s
MORW Morawa 56.86 254 P **P 04 17 10.4 -1.6**
MORW IAmb IAmb 04 17 24.3
comp=Z,68nm,1.8s
MORW Morawa 56.86 254 P **P 04 17 12.8 +0.8**
GUMO Guam 57.59 315 LR LR 04 40 51.4
comp=Z,1µm,18.9s,baz=124,slow=35
BATI Baumata 58.39 278 LR LR 04 43 36.3
comp=Z,6µm,18.3s,baz=138,slow=37
QSPA South Pole Qui 58.76 180 P **P 04 17 28.0 +3.0**
comp=Z,6.3nm,0.7s,baz=39,slow=1.1,SNR=36
QSPA LR LR 04 42 15.6
comp=Z,2µm,18.0s,baz=43,slow=35
comp=Z,6.3nm,0.7s
GIRL Giralia 60.79 260 P **P 04 17 39.8 +0.3**
KAPI Kappang 64.39 280 LR LR 04 46 24.2
comp=Z,1µm,18.4s,baz=120,slow=36
DAV Davao City (W) 66.59 295 LR LR 04 49 25.5
comp=Z,336nm,18.0s,baz=162,slow=38
PMSA Palmer Station 71.14 155 LR LR 04 44 02.7
comp=Z,2µm,19.6s,baz=238,slow=31
MAW Mawson 71.63 200 P **P 04 18 50.1 +1.8**
comp=Z,3.1nm,0.7s,baz=142,slow=9.8,SNR=8.6
MAW LR LR 04 50 47.7
comp=Z,3µm,18.6s,baz=115,slow=36
comp=Z,3.1nm,0.7s
TGY Tagaytay City 74.51 297 LR LR 04 49 13.3
comp=Z,248nm,21.8s,baz=141,slow=34
USHA Ushuaia 74.78 145 LR LR 04 45 36.2
comp=Z,931nm,18.3s,baz=220,slow=30
SYO Syowa Base 76.33 193⇑*e*PcP **P 04 19 18.2 +2.5**
SYO Syowa Base 76.33 193⇑*e*PP PP 04 21 59.2 -7.2
TROLL Troll, Antarti 76.92 180 ⇑P **P 04 19 21.3 +2.1**
comp=Z,651nm,1.0s
SNAA Sanae 77.18 178 ⇑P **P 04 19 22.3 +1.7**
comp=Z,78nm,0.4s
SNAA Sanae 77.18 178 P P 04 19 11.8 -8.9
SNAA IAmb IAmb 04 19 46.3
comp=Z,26nm,1.1s
SNAA Sanae 77.18 178 P **P 04 19 22.3 +1.7**
comp=Z,5.1nm,0.8s,baz=190,slow=5.3,SNR=12
SNAA LR LR 04 50 38.3
comp=Z,1µm,20.1s,baz=202,slow=34
comp=Z,5.1nm,0.8s
VNA3 Neumayer Olymp 77.31 176 ⇑P **P 04 19 22.9 +1.6**
comp=Z,23nm,0.7s
VNA2 Neumayer--Watz 77.75 177 ⇑P **P 04 19 25.7 +1.9**
comp=Z,13nm,0.7s,baz=174,slow=6.9
JOW Kunigami 77.76 312 LR LR 04 47 46.5
comp=Z,539nm,21.9s,baz=159,slow=31
VNA1 Neumayer--Stat 77.98 176 ⇑P **P 04 19 26.5 +1.6**
comp=Z,22nm,1.1s
MJAR Matsshiro Arr 79.38 325 P **P 04 19 31.1 -2.0**
comp=Z,2.3nm,0.7s,baz=159,slow=5.1,SNR=9.1
comp=Z,2.3nm,0.7s
MAJO Matsushiro 79.38 325 *i*P P 04 19 27.6 -5.5
MAJO pmax pmax
comp=Z,3.0nm,1.0s
H03S2 Juan Fernandez 79.42 123 T T 05 47 02.5
baz=238,slow=74
H03S1 Juan Fernandez 79.43 123 T T 05 47 13.1
baz=238,slow=74
H03S3 Juan Fernandez 79.44 123 T T 05 47 01.9
baz=238,slow=74
JNU Nakatsue 80.68 318 LR LR 04 51 27.4
comp=Z,303nm,21.1s,baz=138,slow=33
PLCA Paso Flores 81.40 133 P **P 04 19 46.5 +2.2**
comp=Z,3.7nm,0.8s,baz=240,slow=6.7,SNR=4.5
PLCA LR LR 04 48 44.9
comp=Z,2µm,19.4s,baz=234,slow=30
comp=Z,3.7nm,0.8s
QZH Quanzhou 83.01 305 P **P 04 19 55.4 +2.8**
QZH SKS **S 04 30 11.6 -0.7**
QZH S **ScS 04 30 21.9 -4.7**
QZH LR LR
comp=Z,890nm,18.2s
QZH LR LR
comp=Z,630nm,18.9s
ASAJ Asahikawa 83.57 332 LR LR 04 52 12.5
comp=Z,796nm,20.9s,baz=174,slow=32
LPIG La Paz 84.51 58 LR LR 04 50 20.7
comp=Z,2µm,19.3s,baz=220,slow=30
TJN Taejon 85.03 318 *e*P P 04 19 56.2 -6.5
SSE Sheshan 85.20 311 P P 04 19 55.2 -8.5
SSE Sheshan 85.20 311 S **S 04 30 35.4 +1.4**
SSE pmax pmax
comp=Z,6.0nm,0.8s
SSE pmax pmax
comp=Z,150nm,5.9s
SSE LR LR
comp=N,140nm,16.9s
SSE LR LR
comp=E,160nm,16.5s
KSRS Korea Array 85.48 319 P **P 04 20 04.2 -0.6**
comp=E,3.2nm,0.8s,baz=146,slow=5.5,SNR=12
comp=E,3.2nm,0.8s
YSS Yuzhno-Sakhali 85.88 334 *e*P **P 04 20 08.5 +1.9**
YSS *e*PPS PPS 04 31 25.0
YSS pmax pmax
comp=Z,30nm,1.1s
YSS pmax pmax
comp=Z,400nm,3.6s
QIZ Qiongzhong 85.96 295 P **P 04 20 04.4 -3.3**
QIZ PP **PP 04 23 28.6 +0.7**
QIZ S **S 04 30 38.6 -3.4**
QIZ pmax pmax
comp=Z,390nm,5.9s
QIZ LR LR
comp=Z,360nm,15.7s
QIZ LR LR
comp=Z,510nm,16.5s
PFO Pinyon Flats O 86.40 47 LR LR 04 52 47.4
comp=Z,2µm,19.0s,baz=240,slow=32
PET Petropavlovsk 86.61 346 *e*P P 04 20 02.7 -7.4
PET *e* 04 30 36.3
PET *e*S **S 04 30 44.0 -2.7**
PET *e*PPS PPS 04 32 09.8
PET *e*SS **SS 04 36 28.4 -0.1**
PET pmax pmax
comp=Z,200nm,12.3s
PET MLR MLR
comp=Z,800nm,19.0s
PET MLR MLR
comp=Z,800nm,20.0s
PET Petropavlovsk 86.61 346 P P 04 19 57.8 -12
comp=Z,39nm,1.3s
TEY Ternei 86.83 329 *e*P P 04 20 04.2 -7.2
PETK Petropavlovsk- 86.89 345 P **P 04 20 12.0 +0.5**
comp=Z,2.2nm,0.8s,baz=99,slow=6.6,SNR=9.1
PETK LR LR 04 59 59.5
comp=Z,446nm,18.0s,baz=149,slow=36
comp=Z,2.2nm,0.8s
NJ2 Nanjing 87.34 310 *e*P P 04 20 08.2 -6.0
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 pmax pmax
comp=Z,360nm,4.0s
USA0B Ussuriysk Arra 88.30 326 *e*P P 04 20 10.0 -8.5
USRK Ussuriysk Ar. 88.30 326 P **P 04 20 18.1 -0.4**
comp=Z,8.2nm,0.8s,baz=129,slow=3.5,SNR=12
USRK LR LR 04 58 50.3
comp=Z,346nm,18.4s,baz=130,slow=35
comp=Z,8.2nm,0.8s
YBH Yreka Blue Hor 88.40 38 LR LR 04 55 21.1
comp=Z,88nm,18.9s,baz=248,slow=32
NVAR Mina Array Bea 88.52 42 P **P 04 20 21.9 +1.9**
comp=Z,2.4nm,0.7s,baz=224,slow=7.2,SNR=15
NVAR LR LR 04 53 35.2
comp=Z,1µm,19.3s,baz=238,slow=31
comp=Z,2.4nm,0.7s
TYV Tymovskoe 89.18 336 *e*P **P 04 20 25.9 +3.5**
TYV pmax pmax
comp=Z,33nm,1.5s
TYV pmax pmax
comp=Z,500nm,5.3s
WHN Wuhan 89.42 307 ⇑P **P 04 20 25.1 +1.0**
WHN LR LR
comp=Z,820nm,27.2s
MDJ Mudanjiang 89.76 325 P **P 04 20 25.9 +0.6**
MDJ sP pwP 04 20 30.5 -4.7
MDJ SKS **SKSac 04 30 54.9 -1.1**
MDJ S **ScS 04 31 19.0 -2.5**
MDJ pmax pmax
comp=Z,23nm,1.2s
MDJ pmax pmax
comp=Z,490nm,6.8s
MDJ LR LR
comp=Z,420nm,22.0s
MDJ LR LR
comp=Z,370nm,22.0s
MDJ LR LR
comp=Z,810nm,20.6s
DL2 Dalian 90.07 317 P **P 04 20 28.5 +1.6**
DL2 SKS **SKSac 04 30 57.0 -1.0**
DL2 S **S 04 31 15.5 -4.8**
DL2 pmax pmax
comp=Z,24nm,1.3s
DL2 pmax pmax
comp=Z,400nm,6.5s
DL2 LR LR
comp=Z,360nm,24.6s
DL2 LR LR
comp=Z,450nm,21.4s
DL2 LR LR
comp=Z,770nm,22.3s
TIA Tai'an 91.08 313 P P 04 20 26.7 -5.0
TIA pmax pmax
comp=Z,2.0nm,0.3s
KDAK Kodiak Island 91.19 13 LR LR 04 58 11.7
comp=Z,588nm,18.4s,baz=209,slow=34
CN2 Changchun 91.28 322 *e*P **P 04 20 34.7 +2.3**
CN2 *e*sP pwP 04 20 41.0 -1.3
CN2 *e*S **S 04 31 35.9 +4.7**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,100nm,15.0s
CN2 LR LR
comp=Z,300nm,17.0s
GRNR Gornyy 91.42 333⇓*i*P **P 04 20 36.5 +3.6**
GRNR pmax pmax
comp=Z,5.0nm,1.3s
BNX BinXian 91.65 325 ⇓P **P 04 20 33.7 -0.4**
BNX pmax pmax
comp=Z,7.0nm,0.7s
BNX LR LR
comp=Z,250nm,17.3s
BNX LR LR
comp=Z,480nm,22.0s
BNX LR LR
comp=Z,460nm,21.8s
ELK Elko 91.83 42 LR LR 04 55 48.7
comp=Z,1µm,19.2s,baz=232,slow=32
KLR Kul'dur 92.17 329 LR LR 04 56 22.5
comp=Z,711nm,21.4s,baz=147,slow=32
TXAR Lajitas Array 92.38 57 P **P 04 20 38.8 +0.7**
comp=Z,0.4nm,0.9s,baz=227,slow=5.0,SNR=8.6
TXAR LR LR 04 55 08.3
comp=Z,894nm,19.2s,baz=226,slow=31
comp=Z,0.4nm,0.9s
CMIG Matias Romero 92.46 72 LR LR 04 53 42.1
comp=Z,750nm,19.9s,baz=230,slow=30
NNA Nana 92.56 106 LR LR 04 53 51.4
comp=Z,1µm,20.1s,baz=228,slow=30
LYN LuoYang 93.08 309 ⇑P **P 04 20 42.0 +1.0**
LYN SKS **SKSac 04 31 16.9 +1.6**
LYN S **ScS 04 31 51.1 +1.5**
LYN SS SS 04 38 15.1 +12
LYN pmax pmax
comp=Z,23nm,0.8s
LYN pmax pmax
comp=Z,440nm,8.6s
LYN LR LR
comp=Z,590nm,19.2s
LYN LR LR
comp=Z,330nm,19.9s
LYN LR LR
comp=Z,530nm,19.9s
HNS HongShan 93.33 312 ⇑P **P 04 20 45.0 +2.9**
HNS SKS **SKSac 04 31 17.3 +0.8**
HNS S **ScS 04 31 53.3 +1.8**
HNS pmax pmax
comp=Z,16nm,1.7s
HNS LR LR
comp=Z,270nm,16.7s
HNS LR LR
comp=Z,430nm,17.5s
HNS LR LR
comp=Z,500nm,18.2s
BBB Bella Bella 93.65 28 LR LR 04 57 06.4
comp=Z,1µm,19.2s,baz=216,slow=32
ANMO Albuquerque 93.69 51 LR LR 04 57 21.2
comp=Z,2µm,18.5s,baz=324,slow=32
ATAH Atahualpa 93.85 101 LR LR 04 55 30.9
comp=Z,493nm,18.6s,baz=256,slow=31
CMAR Chiang Mai Arr 94.30 289 LR LR 05 06 41.8
comp=Z,165nm,19.1s,baz=130,slow=38
MA2 Magadan 94.38 344 LR LR 05 02 40.8
comp=Z,501nm,18.4s,baz=147,slow=35
KMI Kunming 94.81 296 P **P 04 20 50.6 +1.1**
KMI PP **PP 04 24 38.8 +0.3**
KMI SKS **SKSac 04 31 26.6 +0.9**
KMI S **S 04 32 02.7 -1.1**
KMI pmax pmax
comp=Z,180nm,4.6s
KMI LR LR
comp=Z,500nm,18.7s
KMI LR LR
comp=Z,400nm,20.0s
KMI LR LR
comp=Z,550nm,17.6s
HEH HeiHe 94.85 328 *e*P **P 04 20 50.5 +1.8**
HEH pmax pmax
comp=Z,8.0nm,0.9s
XAN Xi'an 95.18 307 P P 04 20 40.6 -10
XAN pmax pmax
comp=Z,7.0nm,0.7s
NEW Newport 95.78 36 LR LR 04 57 06.0
comp=Z,2µm,20.2s,baz=226,slow=31
PZH PanZhiHua 96.30 297 P P 04 20 50.4 -5.7
PZH PP **PP 04 24 51.0 +1.1**
PZH SKS **SKSac 04 31 32.4 -0.9**
PZH S **ScS 04 32 18.3 +1.2**
PZH pmax pmax
comp=Z,190nm,4.5s
PZH LR LR
comp=Z,250nm,18.6s
PZH LR LR
comp=Z,330nm,16.2s
PZH LR LR
comp=Z,350nm,20.1s
PDAR Pinedale Array 96.40 43 P **P 04 20 58.0 +1.7**
comp=Z,0.5nm,0.7s,baz=217,slow=1.5,SNR=5.7
PDAR LR LR 04 59 16.5
comp=Z,771nm,18.9s,baz=226,slow=32
comp=Z,0.5nm,0.7s
SEY Seymchan 97.05 347 P **P 04 20 58.6 +0.2**
comp=Z,2.0nm,0.2s,baz=179,slow=4.4,SNR=1.5
SEY LR LR 05 01 35.6
comp=Z,609nm,19.4s,baz=154,slow=34
comp=Z,2.0nm,0.2s
LPAZ La Paz 97.19 114 P Pdif 04 21 02.9 +1.7
comp=Z,0.7nm,0.7s,baz=272,slow=7.6,SNR=5.1
LPAZ LR LR 04 57 43.4
comp=Z,493nm,18.9s,baz=220,slow=31
comp=Z,0.7nm,0.7s
JTS Las Juntas de 97.24 82 LR LR 04 55 47.8
comp=Z,748nm,20.0s,baz=263,slow=30
HHC Hu-ho-hao-te 97.34 314 *e*P P 04 20 53.4 -7.1
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,170nm,5.6s
HHC LR LR
comp=Z,220nm,18.5s
HHC LR LR
comp=Z,370nm,17.2s
HHC LR LR
comp=Z,550nm,19.3s
ZEA Zeya 97.38 330 *e*P Pdif 04 21 01.5 +1.3
ZEA *e* 04 33 44.3
ZEA pmax pmax
comp=Z,10.0nm,1.1s
DLBC Dease Lake 97.75 23 LR LR 04 57 57.9
comp=Z,40nm,20.3s,baz=202,slow=31
TNCH TengChong 98.02 294 *e*P Pdif 04 21 04.1 0.0
TNCH SKS **SKSac 04 31 41.3 -1.1**
TNCH S **ScS 04 32 33.2 +1.6**
TNCH pmax pmax
comp=Z,240nm,4.6s
TNCH LR LR
comp=Z,270nm,16.6s
TNCH LR LR
comp=Z,310nm,16.3s
TNCH LR LR
comp=Z,410nm,20.3s
ILAR Eielson Array 98.72 13 P Pdif 04 21 05.7 -0.3
comp=Z,0.5nm,0.9s,baz=205,slow=4.0,SNR=4.2
ILAR PP **PP 04 25 06.8 -0.8**
comp=Z,0.4nm,0.9s,baz=219,slow=7.0,SNR=2.4
ILAR LR LR 05 01 51.4
comp=Z,446nm,19.4s,baz=194,slow=33
comp=Z,0.5nm,0.9s
CPUP Villa Florida 98.91 128 LR LR 05 00 38.3
comp=Z,290nm,18.2s,baz=90,slow=32
LZH Lanzhou 99.79 306 *e*P **Pdif 04 21 05.2 -6.4**
LZH sS sS 04 32 54.7 +8.2
LZH SS **SS 04 39 43.8 +5.3**
LZH pmax pmax
comp=Z,18nm,1.3s
LZH LR LR
comp=Z,340nm,16.5s
LZH LR LR
comp=Z,320nm,18.2s
LZH LR LR
comp=Z,410nm,18.9s
WMQ Urumqi 114.30 308 *e*PKP PKPdf 04 25 56.2 -11
WMQ LR LR
comp=Z,320nm,18.5s
WMQ LR LR
comp=Z,220nm,18.5s
MK31 Makanchi Array 118.86 310 *i* PKIKP PKPdf 04 26 05.4 -10
MKAR Makanchi Array 118.86 310 PKP **PKPdf 04 26 14.4 -1.0**
comp=Z,0.7nm,0.5s,baz=219,slow=2.0,SNR=8.0
MKAR PKKPbc **PKKPab 04 36 33.3 +2.1**
comp=Z,0.4nm,0.6s,baz=316,slow=3.3,SNR=4.3
ZALV Zalesovo Beam 119.16 318 PKP **PKPdf 04 26 14.8 -0.9**
comp=Z,1.0nm,0.7s,baz=330,slow=5.1,SNR=4.0
KURK Kurchatov 122.16 313 PKIKP **PKPdf 04 26 20.9 -0.6**
KURBB Kurchatov Arra 122.19 313 PKP **PKPdf 04 26 20.9 -0.8**
comp=Z,2.4nm,0.7s,baz=106,slow=1.7,SNR=18
BVAR Borovoye Array 127.52 315 PKP **PKPdf 04 26 31.5 -0.3**
comp=Z,1.1nm,0.5s,baz=101,slow=1.5,SNR=7.9
ARTI Arti 134.32 320 PKP **PKiKP 04 26 45.7 -0.2**

comp=Z,1.9nm,0.5s,baz=122,slow=7.8,SNR=4.2
ARTI SKPbc **SKPbc** **04 30 13.9 -0.4**
comp=Z,4.3nm,0.8s,baz=90,slow=22,SNR=11
ARTI Arti 134.32 320 *i* PKHKP PKPpre 04 26 35.9
ARTI 04 29 12.9
ARTI PPP PPP 04 32 07.0
ARTI SS SS 04 47 04.5 -2.3
AKTO Aktyubinsk 135.20 312 PKP **PKiKP** **04 26 47.5 -0.4**
comp=Z,2.0nm,0.5s,baz=83,slow=1.9,SNR=5.3
AKTO SKPbc **SKPbc** **04 30 17.9 +0.5**
comp=Z,1.0nm,0.3s,baz=226,slow=19,SNR=9.5
ARCES ARCESS Array B 139.65 348 PKhKP PKPpre 04 26 47.5
comp=Z,3.2nm,1.0s,baz=53,slow=6.2,SNR=5.1
ARCES PKP **PKPdf** **04 26 54.0 -0.1**
comp=Z,2.0nm,0.8s,baz=64,slow=2.1,SNR=8.2
BELG Belogornoye 141.31 316 *i* PKHKP PKPpre 04 26 51.1
BELG pmax pmax
comp=Z,3.0nm,1.1s
KLMR Klimovskoe 141.90 332 *e*PKHKP PKPpre 04 26 48.2
KLMR pmax pmax
comp=Z,12nm,1.4s
BORG Borgarnes 143.40 17 PKP **PKPdf** **04 27 01.8 +1.0**
comp=Z,8.4nm,1.1s,baz=57,slow=2.3,SNR=3.5
VRH Novokhopyorsk 145.16 316 *e*PKIKP **PKPdf** **04 27 04.0 -0.3**
VRH pmax pmax
comp=Z,10.0nm,0.9s
MOS Moscow 145.47 325 *i* PKIKP **PKPbc** **04 27 04.0 -0.8**
MOS *e* 04 27 17.5
MOS pmax pmax
comp=Z,500nm,1.7s
MOS pmax pmax
comp=Z,238nm,1.6s
OZAP Van, Ozalp-Mer 145.65 294 ||P **PKPab** **04 27 07.1 +0.6**
GOF Gofitskoye 145.85 305 *ce*PKIKP **PKiKP** **04 27 09.0 -0.9**
KBZ Khabaz 146.16 303 PKPbc **PKPab** **04 27 07.1 -0.8**
comp=Z,14nm,1.0s,baz=51,slow=2.0,SNR=20
LPSR Galich'ya Gora 146.24 320 *e*PKP2 **PKPab** **04 27 07.2 -0.8**
LPSR pmax pmax
comp=Z,130nm,1.0s
FINES FINESS Array B 146.25 340 PKPbc **PKPab** **04 27 06.8 -0.9**
comp=Z,13nm,0.6s,baz=40,slow=3.2,SNR=30
KIV Kislovodsk 146.28 303 *i* PKIKP **PKPdf** **04 27 04.2 -2.4**
KIV pmax pmax
comp=Z,27nm,1.1s
OBN Obninsk 146.31 325 PKPbc **PKPbc** **04 27 06.9 -0.5**
comp=Z,38nm,0.8s,baz=19,slow=2.5,SNR=42
OBN Obninsk 146.31 325 ||P **PKPab** **04 27 08.6 +0.5**
OBN Obninsk 146.31 325 *i* PKP2 **PKPbc** **04 27 06.8 -0.5**
OBN *i* 04 34 07.2
OBN pmax pmax
comp=Z,359nm,1.7s
VORR Voronezh 146.46 318 *e*PKP2 **PKPbc** **04 27 07.1 -0.8**
VORR pmax pmax
comp=Z,90nm,1.0s
VSR Storozhevoye 146.66 317 *e*PKP2 **PKPbc** **04 27 08.1 -0.4**
VSR pmax pmax
comp=Z,60nm,1.1s
VORD Divnogorie 146.68 317 *e*PKP2 **PKPbc** **04 27 08.4 -0.2**
VORD pmax pmax
comp=Z,40nm,1.0s
HOMI Horasan 147.24 296 ||P **PKiKP** **04 27 13.6 +0.3**
ERBR Yeremizino-Bor 147.49 307 *i* PKP2 **PKPbc** **04 27 10.6 -0.5**
ERBR pmax pmax
comp=Z,84nm,0.9s
LABN Labinsk 147.55 305 *i* PKIKP **PKPdf** **04 27 09.0 +0.4**
LABN *e* 04 34 05.1
LABN pmax pmax
comp=Z,22nm,0.6s
SOC Sochi 148.46 303 *e*PKHKP PKPpre 04 26 53.9
SOC *e*PPP PPP 04 34 00.8
NB2 NORSAR Subarra1 49.78 352 PKP **PKPbc** **04 27 16.4 -0.1**
comp=Z,85nm,2.0s,baz=13,slow=4.1
NB2 NORSAR Subarra1 49.78 352 PKP **PKPbc** **04 27 16.4 -0.1**
baz=13,slow=4.1
NOA NORSAR Array B 149.78 352 PKPbc **PKPbc** **04 27 16.3 -0.3**
comp=Z,1.5nm,0.6s,baz=14,slow=4.2,SNR=6.9
ANN Anapa 149.80 306 *i* PKIKP **PKPdf** **04 27 08.3 -3.9**
ANN pmax pmax
comp=Z,36nm,0.8s
HFS Hagfors 150.30 349 PKPbc **PKPbc** **04 27 17.7 0.0**
comp=Z,6.1nm,0.7s,baz=79,slow=7.7,SNR=7.6
MNK Minsk 150.72 330 *i* PKIKP **PKPdf** **04 27 07.6 -5.8**
MNK *i* PPP PPP 04 34 11.4
MNK *i* SS SS 04 50 14.1 -1.9
MNK *i* SSS SSS 04 55 58.8
GAZ Gaziantep 151.02 291 **PKiKP** **04 27 22.1 +1.2**
BNN Bunyan 152.00 295 **PKiKP** **04 27 25.6 +2.6**
SIM Simferopol' 152.03 308 *i* PKIKP PKPdf 04 27 02.1 -14
SIM pmax pmax
comp=Z,16nm,0.6s
DIKM Dikmen 152.05 301 ⇑P **PKiKP** **04 27 24.0 +1.3**
MMAI Mount Meron Ar 152.35 282 PKPbc **PKiKP** **04 27 24.1 +0.4**
comp=Z,4.9nm,0.5s,baz=165,slow=1.6,SNR=10
AKASG Malin Array Be 152.44 322 PKPbc **PKiKP** **04 27 23.3 +0.1**
AKASG PKPab **PKPab** **04 27 32.5 -0.7**
comp=Z,3.9nm,0.6s,baz=52,slow=2.7,SNR=11
comp=Z,6.8nm,0.6s,baz=50,slow=3.8,SNR=14
AKBB Malin Array Si 152.44 322 **PKiKP** **04 27 22.8 -0.4**
AKBB Malin Array Si 152.44 322 PKIKP **PKiKP** **04 27 22.8 -0.4**
KIEV Kiev 152.45 322 **PKiKP** **04 27 23.2 -0.1**
KIEV Kiev 152.45 322 ⇑P **PKiKP** **04 27 22.9 -0.3**
KIEV Kiev 152.45 322 ⇑PKIKP **PKiKP** **04 27 22.9 -0.3**
ILGA Ilgaz 153.30 300 **PKiKP** **04 27 27.1 +1.4**
KIRS Kirsehir-Merke 153.46 296 ||P **PKiKP** **04 27 27.0 +1.1**
BR131 Keskin Array S 153.59 297 PKPab **PKiKP** **04 27 26.6 +0.4**
BR131 Keskin Array S 153.59 297 PKIKP **PKiKP** **04 27 26.6 +0.4**
BRTR Keskin Array B 153.59 297 PKPab **PKiKP** **04 27 28.4 +2.2**
BRTR Keskin Array B 153.59 297 PKPbc **PKiKP** **04 27 26.8 +0.5**
comp=Z,3.0nm,0.8s,baz=125,slow=2.3,SNR=16
BRTR PKPab **PKPab** **04 27 38.1 -0.6**
comp=Z,4.0nm,0.8s,baz=144,slow=4.9,SNR=7.9
ANTO Ankara 154.21 298 ||P **PKiKP** **04 27 28.9 +1.5**
ANTO Ankara 154.21 298 ||PKIKP **PKiKP** **04 27 28.9 +1.5**
EKA Eskdalemuir Ar 155.67 8 PKPab **PKPab** **04 27 44.9 -1.8**
comp=Z,2.2nm,0.8s,baz=10,slow=2.6,SNR=3.5
TPGR Topolog 155.82 311 ||P **PKPab** **04 27 48.4 +0.6**
CFR Carcaliu 155.87 312 ||PKIKP PKPdf 04 27 33.9 +13
TESR Tescani 156.14 316 ||P **PKPab** **04 27 48.8 -0.3**
HARR Harsova 156.21 311 ||P **PKPab** **04 27 43.1 -6.4**
HARR Harsova 156.21 311 ||PKP2 **PKPab** **04 27 43.1 -6.4**
BURAR Bucovina Array 156.36 320 ⇑P **PKPab** **04 27 50.2 +0.1**
BURAR Bucovina Array 156.36 320 ⇑PKP2 **PKPab** **04 27 50.2 +0.1**
VRI Vrincioaia 156.42 315 ||P **PKPab** **04 27 51.4 +1.0**
VRI Vrincioaia 156.42 315 ||PKP2 **PKPab** **04 27 51.4 +1.0**
PLOR Plostina 156.47 315 ||P **PKPab** **04 27 51.0 +0.4**
PLOR Plostina 156.47 315 ||PKP2 **PKPab** **04 27 51.0 +0.4**
TURR Turia 156.75 316 ||P **PKPab** **04 27 52.9 +1.1**
KOLS Kolonicke sedl 157.06 326 *e*PKP2 **PKPab** **04 27 48.5 -4.5**
MLR Muntele Rosu 157.08 315 ||P **PKPab** **04 27 51.1 -2.3**
MLR Muntele Rosu 157.08 315 ||PKP2 **PKPab** **04 27 51.1 -2.3**
STHS Stebnicka Huta 157.21 328 *e*PKP **PKPab** **04 27 58.8 +5.2**
STHS *e* 04 28 07.5
VOIR 157.65 315 ||P **PKPab** **04 27 55.7 -0.1**
VOIR 157.65 315 ||PKP2 **PKPab** **04 27 55.7 -0.1**
MARR Marisel-Cluj 158.07 320 ||P **PKPab** **04 27 54.8 -2.7**
DPC Dobruska-Polom 158.48 336 *e*PKPAB **PKPab** **04 27 59.4 +0.3**
DPC *ex* x 04 28 13.0
DPC Dobruska-Polom 158.48 336 *e*PKP2 **PKPab** **04 27 59.4 +0.3**
MORC Moravsky Berou 158.50 333 *e*PKP PKPab 04 27 48.6 -11
MORC *e* 04 28 01.9
KRLC Kraliky 158.54 335 *e*PKPAB **PKPab** **04 28 00.0 +0.6**
KRLC *ex* x 04 28 12.3
KRLC Kraliky 158.54 335 *e*PKP2 **PKPab** **04 28 00.0 +0.6**
CLL Collm 158.66 342 *e*PKIKP PKPdf 04 27 14.0 -10
CLL MLR MLR
comp=Z,600nm,18.4s
BRG Berggiesshubel 158.79 340 *e*PKP **PKPab** **04 28 02.7 +2.4**
BRG Amp 04 28 03.9
comp=Z,25nm,2.0s
VYHS Vyhne 158.96 329 *e*PKP2 **PKPab** **04 28 03.8 +2.6**
VYHS Vyhne 158.96 329 *e*PKP **PKPab** **04 28 03.8 +2.6**
VYHS *e* 04 28 15.5
SURR Surduc 159.18 319 ||P **PKPab** **04 28 02.5 +0.3**
JAVC Velka Javorina 159.18 331 *e*PKP **PKPab** **04 28 03.4 +1.2**
VRAC Vranov 159.24 334 *e*PKP PKPab 04 27 50.8 -12
VRAC *e* 04 28 05.3
KRUC Moravsky 159.52 334 *e*PKP **PKPab** **04 28 06.4 +2.8**
MODS Modra-Piesok 159.72 331 *e*PKP2 **PKPab** **04 28 06.3 +1.8**
MODS Modra-Piesok 159.72 331 *e*PKP **PKPab** **04 28 06.3 +1.8**
MODS *e* 04 28 18.9
KHC Kasperske Hory 160.44 338 *e*PKPAB **PKPab** **04 28 08.4 +0.8**
KHC *ex* x 04 28 19.5
KHC Kasperske Hory 160.44 338 *e*PKP2 **PKPab** **04 28 08.4 +0.8**

CONA Conrad Observa 160.65 333 *i* PKP **PKPab** **04 28 11.8 +3.1**
comp=Z,18nm,2.0s,SNR=5.6
GERES GERESS Array B 160.66 338 PKPab **PKPab** **04 28 07.7 -1.0**
comp=Z,1.2nm,0.9s,baz=29,slow=2.4,SNR=6.9
RONA Rosalia, Austr 160.66 331 *i* PKP **PKPab** **04 28 11.1 +2.5**
comp=Z,19nm,1.6s,SNR=5.7
MOA Molln 161.32 335 *i* PKP **PKPab** **04 28 15.1 +3.6**
comp=Z,13nm,1.5s
ARSA Arzberg 161.33 332 *i* PKP **PKPab** **04 28 14.3 +2.8**
comp=Z,11nm,1.4s
BIOA Bad Ischl, Aus 161.67 336 *i* PKP **PKPab** **04 28 16.1 +3.0**
comp=Z,16nm,1.3s,SNR=6.3
TORD Torodi Ar. Bea 161.85 177 PKPab **PKPab** **04 28 15.6 +1.1**
comp=Z,1.2nm,0.5s,baz=132,slow=3.2,SNR=3.7
SOKA Soboth 161.99 332 *i* PKP **PKPab** **04 28 16.6 +2.0**
comp=Z,12nm,1.4s,SNR=5.8
LESA Schwarzleotal 162.23 337 *i* PKP **PKPab** **04 28 18.3 +2.8**
comp=Z,21nm,1.7s
OBKA Obir 162.32 332 *i* PKP **PKPab** **04 28 15.7 -0.3**
comp=Z,1.7nm,0.6s
MYKA Terra Mystica 162.57 334 *i* PKP **PKPab** **04 28 19.7 +2.6**
comp=Z,8.5nm,1.6s
WATA Walderalm 162.66 339 *i* PKP **PKPab** **04 28 20.0 +2.6**
comp=Z,21nm,1.7s
WTTA Wattenberg 162.70 339 *i* PKP **PKPab** **04 28 20.8 +3.0**
comp=Z,13nm,1.0s
RETA Reutte 162.75 341 *i* PKP **PKPab** **04 28 20.3 +2.5**
comp=Z,7.1nm,1.0s
MOTA Moosalm 162.79 340 *i* PKP **PKPab** **04 28 20.5 +2.4**
comp=Z,17nm,1.4s,SNR=5.9
SQTA Sankt Quirin 162.87 340 *i* PKP **PKPab** **04 28 21.3 +2.9**
comp=Z,15nm,1.4s
ABTA Abfaltersbach 162.88 337 *i* PKP **PKPab** **04 28 20.2 +1.8**
comp=Z,8.1nm,1.2s
PMOZ Porto Moniz, M 163.05 80 *e*LR LR 05 35 25.5
PMOZ *i* IAMs_20 IAMs_20 05 44 46.8
comp=Z,471nm,18.0s
DAVA Damuels 163.17 343 *i* PKP **PKPab** **04 28 21.9 +2.2**
comp=Z,12nm,1.1s
FETA Feichten 163.19 341 *i* PKP **PKPab** **04 28 22.1 +2.2**
comp=Z,8.7nm,1.6s
PGAV Gavieira, Arco 166.23 37 *e*PKPdf **PKPdf** **04 27 33.2 +0.8**
PGAV *e*PKPab PKPab 04 28 14.3 -19
PGAV *e*tx tx 04 33 04.5
PGAV *e*SS SS 04 53 06.7 +5.3
PGAV *e*LR LR 05 34 33.5
PGAV *i* IAMs_20 IAMs_20 05 45 21.1
comp=Z,1μm,18.0s
POLO Lamas de Olo 166.91 37 *e*PKPdf **PKPdf** **04 27 37.3 +4.3**
POLO *e*PKPab PKPab 04 28 14.1 -22
POLO *e*tx tx 04 33 01.2
PBRG Braganca 167.10 33 *e*PKPdf **PKPdf** **04 27 33.5 +0.5**
COI Coimbra 167.37 43 *e*PKPdf **PKPdf** **04 27 38.2 +5.0**
COI *e*PKPab PKPab 04 28 14.4 -24
COI *e*tx tx 04 33 04.7
PCAS Casmilo, Conde 167.42 43 *e*PKPdf **PKPdf** **04 27 33.5 +0.3**
PCAS *e*PKPab PKPab 04 28 15.6 -23
PCAS *e*tx tx 04 33 12.8
MVO Moncorvo 167.45 36 *e*PKPdf **PKPdf** **04 27 35.6 +2.3**
MVO *e*PKPab PKPab 04 28 15.7 -23
MVO *e*SS SS 04 53 33.1 +19
MVO *e*LR LR 05 31 44.4
MVO *i* IAMs_20 IAMs_20 05 37 41.5
comp=Z,847nm,20.0s
MTE Manteigas 167.73 40 *e*PKPdf **PKPdf** **04 27 36.7 +3.2**
MTE *e*PKPab PKPab 04 28 14.7 -25
MTE *e*SS SS 04 53 28.1 +11
MTE *e*LR LR 05 33 34.9
MTE *i* IAMs_20 IAMs_20 05 38 45.3
comp=Z,856nm,18.0s
PSARD Sardoal 167.91 44 *e*PKPdf **PKPdf** **04 27 34.0 +0.4**
PSARD *e*PKPab PKPab 04 28 16.4 -24
PSARD *e*tx tx 04 33 10.3
PMTG Montargil 168.20 46 *e*PKPdf **PKPdf** **04 27 36.1 +2.3**
PMTG *e*PKPab PKPab 04 28 15.1 -27
PMTG *e*tx tx 04 33 13.5
PMRV Marv??o 168.47 43 *e*PKPdf **PKPdf** **04 27 33.6 -0.5**
PMRV *e*PKPab PKPab 04 28 15.6 -28
PMRV *e*tx tx 04 33 09.2
PMRV *e*LR LR 05 35 39.0
PMRV *i* IAMs_20 IAMs_20 05 43 13.6
comp=Z,756nm,18.0s
PESTR Estremoz 168.72 46 *e*PKPab PKPab 04 28 15.6 -29
PESTR *e*tx tx 04 33 12.7
PTEO Sao Teotonio 168.72 54 *e*PKPdf **PKPdf** **04 27 37.0 +2.8**
PTEO *e*PKPab PKPab 04 28 17.1 -27
PTEO *e*tx tx 04 33 18.3
PFVI Vila Bisbo 168.84 56 *e*PKPdf **PKPdf** **04 27 40.0 +5.7**
PFVI *e*PKPab PKPab 04 28 17.7 -27
PFVI *e*tx tx 04 33 20.6
MORF Marmelete 168.88 55 *e*tx tx 04 33 20.6
PCVE Castro Verde 169.14 52 *e*PKPdf **PKPdf** **04 27 38.8 +4.3**
PCVE *e*PKPab PKPab 04 28 17.6 -29
PCVE *e*tx tx 04 33 19.2
PBDV Barranco-do-Ve 169.41 53 *e*PKPdf **PKPdf** **04 27 30.9 -3.8**
PBDV *e*PKPab PKPab 04 28 16.5 -31
PBDV *e*tx tx 04 33 19.1
PVAQ Vaqueiros 169.48 52 *e*PKPdf **PKPdf** **04 27 38.8 +4.1**
PVAQ *e*PKPab PKPab 04 28 17.6 -30
PVAQ *e*tx tx 04 33 21.3
PVAQ *e*LR LR 05 36 20.1
PVAQ *i* IAMs_20 IAMs_20 05 46 00.1
comp=Z,994nm,18.0s
PBAR Barrancos 169.48 47 *e*PKPdf **PKPdf** **04 27 39.0 +4.3**
PBAR *e*PKPab PKPab 04 28 17.3 -30
PBAR *e*tx tx 04 33 19.1
ESDC Sonseca Array 170.07 31 PKPab **PKPab** **04 28 48.9 -1.5**
comp=Z,1.4nm,0.9s,baz=329,slow=0.7,SNR=4.7

NOU 02 04:10:37.3, 15°49S×167°51E, h70km, MLv 4.7/12,
Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLAKA	**Lakatoro**	**0.62**	**188**	P	Pn	04 10 52.1	+0.8
DVP	**Devils Point**	**2.32**	**164**	P	Pn	04 11 13.4	+0.2
KOUNC	**Koumac, New Ca**	**5.89**	**211**	P	Pn	04 12 02.8	+0.7
DZM	**Mont Dzumac**	**6.62**	**189**	P	Pn	04 12 12.5	+0.4
OUENC	**Ouen Island, N**	**6.92**	**185**	P	Pn	04 12 17.1	+1.0
OUENC	**Ouen Island, N**	**6.92**	**185**	S	Sn	04 13 33.3	-0.1
NGOA	**Tingoa Renbel**	**8.23**	**297**	P	Pn	04 12 33.7	-0.4
	113nm,1.1s						

IDC 02 04:13:05.7±8.5, 30°65S×174°26W, h0km, mb4.0/2,
mbtmp4.0/2, Error ellipse: s-maj=386.3km
s-min=61.2km az=155.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.31**	**266**	P	P	04 21 33.5	0.0
	1.9nm,0.7s,baz=108,slow=7.9,SNR=5.9						
	1.9nm,0.7s						
WRA	**Warramunga Arr**	**47.33**	**270**	P	P	04 21 41.3	-0.1
	1.3nm,0.5s,baz=114,slow=8.3,SNR=3.5						
	1.3nm,0.5s						
FINES	**FINESS Array B**	**146.42**	**342**	PKPbc	PKPdf	04 32 46.9	+0.3
	0.8nm,0.5s,baz=63,slow=5.2,SNR=4.2						

*IDC **02** 04:24:52.6±0.5, 31°19S×177°60W, h0km, mb4.5/15,*
mbtmp4.5/15, Error ellipse: s-maj=20.0km s-min=15.9km
az=82.0
*NEIC **02** 04:24:55.1±1.2, 31°30S±0°09×177°5W±0°1, h10km±1km,*
mb4.8/64, Error ellipse: s-maj=20.9km s-min=15.6km
az=82.0

ISC 02 04:24:54.5±0.4, 31°32S±0°05×177°62W±0°09, h10km,
n153, σ1°39/161, mb4.8/52, 5C-3D, Kermadec Islands
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.07**	**353**	P	**Pn**	**04 25 27.5**	**-1.8**
GLKZ				S	**Sn**	**04 25 52.7**	**-2.5**
RAO	**Raoul Island**	**2.08**	**353**		**Pn**	**04 25 28.5**	**-1.0**
RAO	**Raoul Island**	**2.08**	**353**	Pn	**Pn**	**04 25 27.3**	**-2.2**
	189nm,0.3s,baz=122,slow=9.4,SNR=4.1						
RAO				Sn	**Sn**	**04 25 49.1**	**-6.3**
	278nm,0.3s,baz=257,slow=22,SNR=4.7						
RIZ	**Raoul Island**	**2.09**	**352**	P	**Pn**	**04 25 28.2**	**-1.3**
RIZ				S	**Sn**	**04 25 55.2**	**-0.4**
MXZ	**Matakaoa Point**	**7.08**	**207**	Pn	**Pn**	**04 26 36.7**	**-1.5**
MXZ	**Matakaoa Point**	**7.08**	**207**	P	**Pn**	**04 26 39.0**	**+0.9**
MXZ				S	**Sn**	**04 27 58.1**	**-0.5**
WMGZ	**Waiomatatini S**	**7.26**	**206**	P	**Pn**	**04 26 38.6**	**-2.1**
WMGZ				S	**Sn**	**04 28 04.6**	**+1.4**
PKGZ	**Pakihiroa**	**7.43**	**207**	P	**Pn**	**04 26 40.5**	**-2.5**
PKGZ				S	**Sn**	**04 28 06.1**	**-1.3**
HAZ	**Te Kaha**	**7.46**	**209**	P	**Pn**	**04 26 41.0**	**-2.4**
HAZ				S	**Sn**	**04 28 06.3**	**-1.7**
PUZ	**Puketiti**	**7.54**	**206**	P	Pn	04 26 40.7	-3.9
PUZ				S	**Sn**	**04 28 07.5**	**-2.6**
RUGZ	**Raukumara Rang**	**7.68**	**209**	P	**Pn**	**04 26 43.4**	**-3.1**
RUGZ				S	**Sn**	**04 28 14.2**	**+0.6**
TWGZ	**Tauwhareparae**	**7.74**	**207**	P	Pn	04 26 42.6	-4.7
TWGZ				S	**Sn**	**04 28 14.3**	**-0.8**
CNGZ	**Carnagh Statio**	**7.93**	**204**	P	Pn	04 26 46.3	-3.5
CNGZ				S	**Sn**	**04 28 18.8**	**-0.8**
TKGZ	**Te Karaka**	**8.02**	**206**	P	**Pn**	**04 26 50.7**	**-0.3**
TKGZ				S	**Sn**	**04 28 19.5**	**-2.3**
MWZ	**Matawai**	**8.05**	**208**	P	Pn	04 26 44.7	-6.9
MWZ				S	**Sn**	**04 28 21.5**	**-1.3**
WCZ	**Waipu Caves**	**8.13**	**233**	P	Pn	04 26 58.3	+5.7
URZ	**Urewera**	**8.17**	**211**	Pn	Pn	04 26 49.7	-3.4
	1.6nm,0.3s,baz=244,slow=3.9,SNR=7.6						
URZ				Sn	**Sn**	**04 28 23.0**	**-2.5**
	4.4nm,0.3s,baz=120,slow=23,SNR=6.0						
URZ	**Urewera**	**8.17**	**211**	P	Pn	04 26 48.9	-4.2
URZ				S	**Sn**	**04 28 23.0**	**-2.5**
RAGZ	**Rawiri**	**8.24**	**208**	S	**Sn**	**04 28 25.7**	**-1.7**
RIGZ	**Rimuhau**	**8.29**	**206**	P	Pn	04 26 51.3	-3.5
RIGZ				S	**Sn**	**04 28 25.9**	**-2.5**
PRGZ	**Paritu Road**	**8.43**	**205**	P	**Pn**	**04 26 54.6**	**-2.2**
PRGZ				S	**Sn**	**04 28 26.2**	**-5.8**
MUGZ	**Murupara**	**8.50**	**211**	P	Pn	04 26 53.9	-3.8
MUGZ				S	**Sn**	**04 28 30.5**	**-3.1**
SNGZ	**Shannon Statio**	**8.51**	**208**	S	**Sn**	**04 28 32.5**	**-1.6**
MHGZ	**Mahia Peninsul**	**8.63**	**204**	P	Pn	04 26 56.1	-3.3
MHGZ				S	**Sn**	**04 28 33.4**	**-3.4**
BKZ	**Black Stump Fm**	**9.19**	**210**	P	Pn	04 26 59.9	-7.2
BKZ				S	**Sn**	**04 28 48.6**	**-2.1**
HIZ	**Hauiti**	**9.47**	**219**	P	Pn	04 27 18.1	+7.2
BFZ	**Birch Farm**	**10.58**	**206**	P	Pn	04 27 20.2	-5.9
BFZ				S	Sn	04 29 17.5	-7.2
MSVF	**Nonsavu**	**14.09**	**343**		**Pn**	**04 28 15.0**	**+0.7**
MSVF	**Nonsavu**	**14.09**	**343**	Pn	**Pn**	**04 28 14.5**	**+0.2**
	baz=172,slow=16						
RPZ	**Rata Peaks**	**15.27**	**213**	Pn	**Pn**	**04 28 27.1**	**-3.1**
	2.2nm,0.3s,baz=48,slow=5.2,SNR=5.8						
RPZ				Sn	Sn	04 31 02.9	-17
	0.5nm,0.3s,baz=198,slow=20,SNR=1.5						
DZM	**Mont Dzumac**	**16.95**	**299**		**Pn**	**04 28 53.0**	**+1.0**
ARMA	**Armidale**	**26.38**	**264**	P	**P**	**04 30 32.8**	**+1.6**
CTAO	**Charters Tower**	**34.28**	**280**		**P**	**04 31 43.6**	**+2.5**
STKA	**Stephens Creek**	**34.60**	**258**		**P**	**04 31 45.0**	**+1.2**
STKA	**Stephens Creek**	**34.60**	**258**	P	**P**	**04 31 43.9**	**+0.1**
	10nm,0.7s,baz=98,slow=9.7,SNR=20						
	10nm,0.7s						
BBOO	**Buckleboo**	**39.05**	**255**	P	**P**	**04 32 22.2**	**+0.6**
BBOO				IAmb	IAmb	04 32 22.7	
	comp=Z,18nm,0.7s						
COEN	**Coen**	**39.85**	**287**	P	**P**	**04 32 28.5**	**0.0**
AS31	**Alice Springs**	**43.40**	**268**		**P**	**04 32 58.7**	**+1.1**
ASAR	**Alice Springs**	**43.40**	**268**	P	**P**	**04 32 57.9**	**+0.3**
	comp=Z,12nm,0.7s,baz=106,slow=7.5,SNR=107						
ASAR				PcP	**PcP**	**04 34 45.9**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=110,slow=3.7,SNR=2.4						
	comp=Z,12nm,0.7s						
WR8	**Warramunga Arr**	**44.33**	**273**		**P**	**04 33 04.8**	**-0.2**
WR8				IAmb	IAmb	04 33 15.5	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**44.47**	**273**		**P**	**04 33 06.8**	**+0.7**
WRA	**Warramunga Arr**	**44.47**	**273**	P	**P**	**04 33 05.6**	**-0.5**
	comp=Z,4.5nm,0.4s,baz=112,slow=7.9,SNR=45						
WRA				PcP	**PcP**	**04 34 49.1**	**-0.6**
	comp=Z,2.8nm,0.9s,baz=125,slow=3.2,SNR=3.1						
	comp=Z,4.5nm,0.4s						
WB0	**Warramunga Arr**	**44.50**	**273**		**P**	**04 33 06.5**	**+0.1**
WB0				IAmb	IAmb	04 33 20.4	
	comp=Z,16nm,0.8s						
SBA	**Scott Base**	**47.15**	**184**	P	**P**	**04 33 27.7**	**+1.2**
SBA				IAmb	IAmb	04 33 31.0	
	comp=Z,17nm,1.5s						
VNDA	**Vanda**	**47.22**	**186**	P	**P**	**04 33 28.0**	**+0.9**
VNDA	**Vanda**	**47.22**	**186**	P	**P**	**04 33 28.0**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=14,slow=7.0,SNR=6.8						
	comp=Z,0.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.69**	**270**	P	**P**	**04 34 09.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**52.69**	**270**	P	**P**	**04 34 08.8**	**-0.7**
	comp=Z,9.4nm,0.8s,baz=119,slow=10,SNR=22						
	comp=Z,9.4nm,0.8s						
CASY	**Casey**	**54.48**	**208**	P	**P**	**04 34 22.7**	**+0.8**
QSPA	**South Pole Qui**	**58.79**	**180**		**P**	**04 34 54.3**	**+1.5**
QSPA	**South Pole Qui**	**58.79**	**180**	P	**P**	**04 34 54.1**	**+1.4**
	comp=Z,13nm,1.1s,baz=29,slow=1.0,SNR=33						
	comp=Z,13nm,1.1s						
BELA	**Belgrano 2**	**68.83**	**172**	P	**P**	**04 35 58.3**	**-0.3**
BELA				IAmb	IAmb	04 36 20.9	
	comp=Z,7.3nm,1.2s						
MAW	**Mawson**	**71.56**	**201**	P	**P**	**04 36 16.1**	**+0.7**
	comp=Z,5.2nm,1.0s,baz=100,slow=4.3,SNR=5.6						
	comp=Z,5.2nm,1.0s						
ESPZ	**Base Esperanza**	**74.59**	**156**	P	**P**	**04 36 33.9**	**+0.5**
SYO	**Syowa Base**	**76.30**	**193**	‖*ep*P	pP	04 36 45.0	+0.4
SYO	**Syowa Base**	**76.30**	**193**	‖*es*P	sP	04 36 49.0	+3.9
TROLL	**Troll, Antarti**	**76.95**	**180**	⇑P	**P**	**04 36 47.2**	**+0.2**
	comp=Z,284nm,1.1s						
SNAA	**Sanae**	**77.23**	**178**	⇑P	**P**	**04 36 48.4**	**-0.1**
	comp=Z,79nm,0.7s						
SNAA	**Sanae**	**77.23**	**178**		**P**	**04 36 48.3**	**-0.1**
SNAA				IAmb	IAmb	04 36 49.6	
	comp=Z,11nm,1.2s						
SNAA	**Sanae**	**77.23**	**178**	P	**P**	**04 36 48.5**	**0.0**
	comp=Z,6.5nm,1.1s,baz=166,slow=4.4,SNR=10						
	comp=Z,6.5nm,1.1s						
VNA3	**Neumayer Olymp**	**77.37**	**176**	⇑P	**P**	**04 36 48.8**	**-0.3**
	comp=Z,10nm,0.7s						
VNA2	**Neumayer--Watz**	**77.81**	**177**	⇑P	**P**	**04 36 51.7**	**+0.1**
	comp=Z,11nm,0.5s,baz=174,slow=6.1						
VNA1	**Neumayer--Stat**	**78.03**	**176**	⇑P	**P**	**04 36 53.0**	**+0.2**
	comp=Z,6.7nm,0.6s						
MJAR	**Matsushiro Arr**	**79.19**	**325**	P	**P**	**04 36 58.1**	**-1.5**
	comp=Z,0.8nm,0.4s,baz=165,slow=5.0,SNR=2.8						
	comp=Z,0.8nm,0.4s						
PLCA	**Paso Flores**	**81.64**	**133**	P	**P**	**04 37 13.2**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=243,slow=9.0,SNR=3.5						
	comp=Z,2.8nm,0.9s						
KSRS	**Korea Array**	**85.26**	**319**	P	**P**	**04 37 31.1**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=149,slow=6.1,SNR=4.8						
	comp=Z,1.0nm,0.5s						
PETK	**Petropavlovsk-**	**86.78**	**345**	P	**P**	**04 37 38.2**	**-0.3**
	comp=Z

SHPR	**Sheep Range**	**89.28**	**46**			**P**		04 37 51.7	**+0.6**
TUC	**Tucson**	**89.43**	**51**	P		**P**		04 37 52.6	**+0.8**
TUC				IAmb		IAmb		04 37 54.0	
	comp=Z,9.5nm,1.5s								
PRN	**Pahroc Range**	**89.94**	**45**			**P**		04 37 54.5	**+0.4**
PRN				IAmb		IAmb		04 37 58.0	
	comp=Z,7.3nm,1.0s								
K05A	**Summer Lake**	**90.21**	**38**			**P**		04 37 55.5	**+0.2**
K05A				IAmb		IAmb		04 37 56.8	
	comp=Z,10nm,1.1s								
X16A	**Lo Mia Camp, P**	**90.30**	**49**			**P**		04 37 55.9	**0.0**
X16A				IAmb		IAmb		04 37 58.0	
	comp=Z,5.4nm,1.0s								
J05D	**Fort Rock, OR**	**90.42**	**37**			**P**		04 37 56.0	**-0.2**
J05D				IAmb		IAmb		04 37 58.2	
	comp=Z,8.6nm,1.3s								
LCMT	**Little Creek M**	**90.79**	**46**	P		**P**		04 37 57.8	**-0.3**
TIA	**Tai'an**	**90.84**	**313**	P		**P**		04 37 59.0	**+0.9**
TIA				pmax		pmax			
	comp=Z,13nm,0.8s								
H04A	**Detroit Lake**	**90.92**	**36**	P		**P**		04 37 58.6	**+0.2**
H04A				IAmb		IAmb		04 37 59.1	
	comp=Z,8.5nm,1.2s								
PINE	**Pine Mountain**	**90.93**	**37**			**P**		04 37 58.9	**+0.2**
PINE				IAmb		IAmb		04 38 00.1	
	comp=Z,7.5nm,1.0s								
WUAZ	**Wupatki**	**91.03**	**48**			**P**		04 37 58.9	**-0.3**
WUAZ				IAmb		IAmb		04 38 01.1	
	comp=Z,7.2nm,1.0s								
KNB	**Kanab**	**91.05**	**46**			**P**		04 37 59.4	**+0.1**
KNB				IAmb		IAmb		04 38 03.6	
	comp=Z,6.0nm,0.9s								
I05D	**Terrebonne, OR**	**91.11**	**37**	P		**P**		04 37 59.2	**-0.1**
PSUT	**Pine Spring**	**91.39**	**45**			**P**		04 38 01.2	**+0.3**
SPR3	**Spring Creek 3**	**91.40**	**44**			**P**		04 37 59.7	**-1.4**
BNX	**BinXian**	**91.45**	**325**	∥P		**P**		04 38 01.4	**+0.7**
BNX				pmax		pmax			
	comp=Z,4.0nm,0.3s								
E03A	**Lebam**	**91.58**	**34**			**P**		04 38 00.6	**-0.7**
I07A	**Izee**	**91.88**	**38**			**P**		04 38 02.2	**-0.7**
I07A				IAmb		IAmb		04 38 04.2	
	comp=Z,5.2nm,1.1s								
J08A	**Circle Bar Ran**	**91.93**	**39**			**P**		04 38 02.5	**-0.7**
J08A				IAmb		IAmb		04 38 04.3	
	comp=Z,4.6nm,1.0s								
ELK	**Elko**	**92.00**	**42**			**P**		04 38 03.3	**-0.4**
G06A	**Carlson Farm,**	**92.09**	**36**			**P**		04 38 03.2	**-0.6**
G06A				IAmb		IAmb		04 38 06.8	
	comp=Z,4.7nm,0.9s								
MVU	**Marysvale**	**92.36**	**46**	P		**P**		04 38 05.0	**-0.5**
MVU				IAmb		IAmb		04 38 09.3	
	comp=Z,5.4nm,1.3s								
TXAR	**Lajitas Array**	**92.61**	**57**	P		**P**		04 38 06.3	**-0.4**
	comp=Z,1.2nm,1.1s,baz=209,slow=2.7,SNR=4.9								
	comp=Z,1.2nm,1.1s								
G08A	**Pilot Rock**	**92.99**	**37**			**P**		04 38 07.4	**-0.7**
G08A				IAmb		IAmb		04 38 09.1	
	comp=Z,6.8nm,1.1s								
MFID	**Camas Ranch**	**93.41**	**40**			**P**		04 38 09.6	**-0.5**
MFID				IAmb		IAmb		04 38 13.7	
	comp=Z,4.6nm,0.9s								
TMUT	**Trail Mountain**	**93.47**	**45**			**P**		04 38 10.1	**-0.6**
HVU	**Hansel Valley**	**94.08**	**43**			**P**		04 38 12.0	**-1.2**
HVU				IAmb		IAmb		04 38 14.2	
	comp=Z,5.2nm,1.1s								
JLU	**Jordanelle**	**94.13**	**44**	P		**P**		04 38 12.6	**-1.0**
JLU				IAmb		IAmb		04 38 26.7	
	comp=Z,9.8nm,1.6s								
HLID	**Hailey**	**94.29**	**41**			**P**		04 38 13.3	**-0.8**
PLID	**Pearl Lake**	**94.41**	**39**			**P**		04 38 13.9	**-0.8**
PLID				IAmb		IAmb		04 38 15.3	
	comp=Z,4.3nm,0.9s								
PZH	**PanZhiHua**	**96.02**	**297**	P		**P**		04 38 24.4	**+2.0**
HHC	**Hu-ho-hao-te**	**97.11**	**314**	*eP*		Pdif		04 38 29.5	+2.4
HHC				pmax		pmax			
	comp=Z,9.0nm,0.6s								
HHC				pmax		pmax			
	comp=Z,56nm,5.3s								
DOT	**Dot Lake**	**98.31**	**14**	P		**P**		04 38 30.9	**-0.8**
LZH	**Lanzhou**	**99.53**	**306**	*eP*		**Pdif**		04 38 40.3	**+2.2**
LZH				pP		pwP		04 38 45.7	-1.0
LZH				pmax		pmax			
	comp=Z,17nm,1.3s								
WMQ	**Urumqi**	**114.05**	**308**	*e*PKP		**PKiKP**		04 43 36.4	**+2.6**
WMQ				sPKP				04 43 47.7	
WMQ				LR		LR			
	comp=Z,210nm,18.7s								
MKAR	**Makanchi Array**	**118.61**	**310**	PKP		**PKPdf**		04 43 41.4	**-1.0**
	comp=Z,0.6nm,0.7s,baz=117,slow=1.6,SNR=5.9								
KURBB	**Kurchatov Arra**	**121.96**	**313**	PKP		**PKPdf**		04 43 46.6	**-2.1**
	comp=Z,1.4nm,0.2s,baz=108,slow=2.0,SNR=9.0								
BVAR	**Borovoye Array**	**127.29**	**315**	PKP		**PKPdf**		04 43 58.0	**-0.9**
	comp=Z,1.4nm,0.5s,baz=48,slow=2.2,SNR=7.5								
ARCES	**ARCESS Array B**	**139.56**	**348**	PKhKP		PKPpre		04 44 09.6	
	comp=Z,1.6nm,0.9s,baz=351,slow=6.3,SNR=4.9								
KBZ	**Khabaz**	**145.89**	**303**	PKPbc		**PKPdf**		04 44 34.0	**+0.6**
	comp=Z,7.5nm,1.0s,baz=90,slow=6.1,SNR=7.7								
KIV	**Kislovodsk**	**146.01**	**303**	PKP		**PKPdf**		04 44 33.0	**-0.7**
FINES	**FINESS Array B**	**146.12**	**340**	PKPbc		**PKPdf**		04 44 33.5	**+0.3**
	comp=Z,12nm,0.7s,baz=50,slow=3.6,SNR=77								
NB2	**NORSAR Subarra**	**149.71**	**351**	PKP		**PKPbc**		04 44 42.7	**-1.2**
	comp=Z,1.2nm,0.7s,baz=11,slow=2.6								
NOA	**NORSAR Array B**	**149.71**	**351**	PKPbc		**PKPbc**		04 44 42.9	**-1.0**
	comp=Z,4.3nm,1.0s,baz=14,slow=4.2,SNR=5.5								
HFS	**Hagfors**	**150.21**	**349**	PKPbc		**PKPbc**		04 44 43.4	**-1.7**
	comp=Z,6.0nm,0.8s,baz=46,slow=4.2,SNR=4.7								
MMAI	**Mount Meron Ar**	**152.06**	**282**	PKPbc		**PKPbc**		04 44 50.7	**+0.3**
	comp=Z,2.3nm,0.5s,baz=94,slow=4.5,SNR=5.1								
AKASG	**Malin Array Be**	**152.23**	**322**	PKPbc		**PKPbc**		04 44 49.4	**-0.6**
	comp=Z,3.1nm,0.8s,baz=49,slow=2.4,SNR=9.4								
AKASG				PKPab		**PKPab**		04 44 58.8	**-1.1**
	comp=Z,8.5nm,0.9s,baz=50,slow=3.0,SNR=8.9								
BRTR	**Keskin Array B**	**153.32**	**297**	PKPbc		**PKPbc**		04 44 52.3	**-0.8**
	comp=Z,1.4nm,0.8s,baz=96,slow=3.7,SNR=7.3								
BRTR				PKPab		**PKPab**		04 45 04.1	**-1.0**
	comp=Z,2.8nm,0.8s,baz=106,slow=3.6,SNR=9.7								
STHS	**Stebnicka Huta**	**157.02**	**327**	*e*PKP		**PKPab**		04 45 20.1	**-0.3**
MORC	**Moravsky Berou**	**158.34**	**333**	*e*PKP		**PKPab**		04 45 28.3	**+2.3**
CLL	**Collm**	**158.54**	**342**	*i* PKPdf		**PKPdf**		04 44 53.2	**+1.4**
CLL				*i* PKPab		**PKPab**		04 45 26.0	**-0.8**
	comp=Z,4.0nm,0.6s								
VYHS	**Vyhne**	**158.78**	**329**	*e*PKP		**PKPab**		04 45 28.2	**+0.2**
JAVC	**Velka Javorina**	**159.01**	**331**	*e*PKP		**PKPab**		04 45 29.8	**+0.8**
VRAC	**Vranov**	**159.08**	**333**	*e*PKP		**PKPab**		04 45 28.6	**-0.6**
KRUC	**Moravsky**	**159.36**	**333**	*e*PKP		**PKPab**		04 45 30.0	**-0.4**
CONA	**Conrad Observa**	**160.48**	**332**	*i* PKP		**PKPab**		04 45 35.3	**-0.2**
	comp=Z,3.0nm,1.0s								
RONA	**Rosalia, Austr**	**160.49**	**331**	*e*PKP		**PKPab**		04 45 35.1	**-0.4**
	comp=Z,4.5nm,1.0s								
GERES	**GERESS Array B**	**160.51**	**337**	PKPab		**PKPab**		04 45 33.8	**-1.7**
	comp=Z,0.2nm,0.3s,baz=30,slow=6.4,SNR=4.1								
MOA	**Molln**	**161.16**	**335**	*e*PKP		**PKPab**		04 45 38.4	**0.0**
	comp=Z,3.2nm,1.2s								
BIOA	**Bad Ischl, Aus**	**161.52**	**335**	*i* PKP		**PKPab**		04 45 40.2	**+0.3**
	comp=Z,1.6nm,0.4s								
SOKA	**Soboth**	**161.82**	**331**	*i* PKP		**PKPab**		04 45 41.2	**-0.2**
	comp=Z,3.9nm,1.4s								
TORD	**Torodi Ar. Bea**	**161.90**	**178**	PKPab		**PKPab**		04 45 41.2	**-1.0**
	comp=Z,1.5nm,0.8s,baz=186,slow=1.6,SNR=4.0								
LESA	**Schwarzleotal**	**162.09**	**337**	*i* PKP		**PKPab**		04 45 42.2	**-0.3**
	comp=Z,2.6nm,0.7s								
WTTA	**Wattenberg**	**162.56**	**339**	*e*PKP		**PKPab**		04 45 43.5	**-1.2**
	comp=Z,4.5nm,0.9s								
RETA	**Reutte**	**162.62**	**341**	*e*PKP		**PKPab**		04 45 45.1	**+0.3**
	comp=Z,2.6nm,0.7s								
MOTA	**Moosalm**	**162.65**	**340**	*e*PKP		**PKPab**		04 45 45.9	**+0.9**
	comp=Z,4.5nm,1.0s								
ABTA	**Abfaltersbach**	**162.73**	**336**	*i* PKP		**PKPab**		04 45 44.6	**-0.7**
	comp=Z,7.5nm,1.6s								
SQTA	**Sankt Quirin**	**162.74**	**339**	*i* PKP		**PKPab**		04 45 44.5	**-0.8**
	comp=Z,3.4nm,0.7s								
FETA	**Feichten**	**163.06**	**340**	*i* PKP		**PKPab**		04 45 47.4	**+0.6**
	comp=Z,5.7nm,1.3s								

***CATAC* 02 04:44:27.2±0.4, 10°N±2°×8°5W±°, h4km±2km, M2.8/9, MLv2.8/9, Error ellipse: s-maj=5.6km s-min=3.1km az=21.6, confirmed, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCS1	**Tacares**	**0.67**	**39**	P	Pg	04 44 40.4	+0.4
LCR2	**La Lucha 2**	**0.74**	**73**	P	Pg	04 44 41.4	-0.1
LCR2	**La Lucha 2**	**0.74**	**73**	S	Sg	04 44 52.2	+1.0
INDI	**Punta indio, G**	**0.84**	**294**	P	Pg	04 44 43.3	0.0
INDI	**Punta indio, G**	**0.84**	**294**	S	Sb	04 44 55.4	-0.6
CMARA	**Lajas Hojancha**	**0.85**	**306**	S	Sg	04 44 55.2	+0.8
CMARA	**Lajas Hojancha**	**0.85**	**306**	P	Pg	04 44 43.3	-0.2
SOCE	**Pocosol**	**0.86**	**7**	P	Pg	04 44 43.3	-0.5
SOCE	**Pocosol**	**0.86**	**7**	S	Sg	04 44 55.7	+0.7
OCHAL	**Ojochal**	**1.15**	**111**	S	Sb	04 45 05.1	+0.3
OCHAL	**Ojochal**	**1.15**	**111**	P	Pg	04 44 47.9	-1.3
COVE	**Coope Vega, Sa**	**1.23**	**15**	S	Sg	04 45 06.5	-0.4
COVE	**Coope Vega, Sa**	**1.23**	**15**	P	Pg	04 44 50.3	-0.6
TRT2	**Tortugero**	**1.42**	**43**	P	Pn	04 44 52.4	-1.4
TRT2	**Tortugero**	**1.42**	**43**	S	Sn	04 45 12.9	0.0
DRK0	**Durika**	**1.48**	**100**	P	Pn	04 44 53.3	-1.5
DRK0	**Durika**	**1.48**	**100**	S	Sb	04 45 14.3	-0.4

IDC ***02*** *05:57:42.5±2.4, 5°.27N×94°.46E, h0km, mb3.7/7, mbtmp3.7/8, ML3.4/1, Error ellipse: s-maj=93.9km s-min=17.4km az=55.0*
DJA ***02*** *05:57:47.5±3.1, 5°N±11°×9°4E±1°.1, h19km±36km, M4.0/1, MLv4.0/7, MLv4.0/1*
ISC 02 05:57:47.7±1.2, 5°.17N±0°.08×94°.3E±0°.1, h43km, n19, σ1s81/15, mb3.7/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**2.31**	**113**	P	**Pn**	**05 58 25.3**	**+2.0**
LHMI	**Lhok Sumawe**	**2.67**	**89**	P	**Pn**	**05 58 29.1**	**+0.9**
SNSI	**Sinabang, Aceh**	**3.43**	**143**	P	**Pn**	**05 58 37.9**	**-0.7**
TSI	**Tuntungan**	**4.59**	**111**	P	**Pn**	**05 58 55.4**	**+0.8**
PSI	**Prapat**	**5.20**	**117**	Pn	**Pn**	**05 59 01.8**	**-1.4**
	1.4nm,0.3s,baz=284,slow=9.5,SNR=2.2						
PSI				Sn	**Sn**	**06 00 01.6**	**-0.5**
	0.8nm,0.3s,baz=338,slow=19,SNR=1.4						
	2.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**13.97**	**19**	Pn	**Pn**	**06 01 05.8**	**+2.6**
	0.5nm,0.3s,baz=214,slow=12,SNR=7.5						
CMAR				Sn	**Sn**	**06 03 32.3**	**-4.7**
	1.1nm,0.3s,baz=223,slow=26,SNR=6.0						
H08S3	**Diego Garcia H**	**25.18**	**240**	T	T	06 29 02.4	
	baz=60,slow=74						
H08S2	**Diego Garcia H**	**25.18**	**240**	T	T	06 29 08.6	
	baz=60,slow=74						
H08S1	**Diego Garcia H**	**25.20**	**240**	T	T	06 29 05.8	
	baz=60						
FITZ	**Fitzroy Crossi**	**38.63**	**128**	P	**P**	**06 05 06.4**	**-0.8**
	1.1nm,0.6s,baz=303,slow=9.8,SNR=1.4						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**42.74**	**348**	P	**P**	**06 05 40.6**	**-0.2**
	0.9nm,0.6s,baz=149,slow=9.6,SNR=5.4						
	0.9nm,0.6s						
SONM	**Songino Array**	**43.76**	**12**	P	**P**	**06 05 48.7**	**-0.4**
	0.7nm,0.7s,baz=188,slow=9.0,SNR=4.0						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**46.63**	**124**	P	**P**	**06 06 11.8**	**-0.4**
	0.6nm,0.7s,baz=302,slow=9.2,SNR=5.5						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**47.18**	**346**	P	**P**	**06 06 16.7**	**+0.7**
	0.9nm,0.6s,baz=172,slow=7.1,SNR=12						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**48.12**	**128**	P	**P**	**06 06 24.4**	**+0.6**
	0.2nm,0.3s,baz=301,slow=8.0,SNR=4.3						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**49.23**	**353**	P	**P**	**06 06 32.2**	**+0.4**
	0.6nm,0.5s,baz=165,slow=6.0,SNR=2.7						
	0.6nm,0.5s						
H04N2	**CROZET ISLANDS**	**63.50**	**212**	T	T	07 17 08.9	
	baz=48						
H04N1	**CROZET ISLANDS**	**63.51**	**212**	T	T	07 17 06.7	
	baz=48						
H04N3	**CROZET ISLANDS**	**63.52**	**212**	T	T	07 17 06.2	
	baz=48						

IDC 02 05:59:54.6±4.1, 5°.31S×151°.50E, h0km, mb3.4/3, mbtmp3.4/3, MS3.8/1, Error ellipse: s-maj=160.5km s-min=52.6km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.14**	**227**	P	P	06 04 52.5	+0.3
	0.5nm,0.6s,baz=49,slow=10,SNR=4.7						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**24.91**	**221**	P	P	06 05 18.4	-1.2
	0.1nm,0.3s,baz=56,slow=9.3,SNR=5.3						
	0.1nm,0.3s						
BATI	**Baumata**	**28.00**	**258**	LR	LR	06 18 45.1	
	comp=Z,173nm,19.7s,baz=152,slow=40						
FITZ	**Fitzroy Crossi**	**28.28**	**241**	P	P	06 05 51.2	+1.2
	1.5nm,0.8s,baz=66,slow=10.0,SNR=1.8						
	1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.23**	**287**	PKPbc	PKPbc	06 19 45.9	-0.5
	0.3nm,0.5s,baz=80,slow=2.3,SNR=4.1						

MOS ***02*** *06:01:50.2±1.0, 44°.49N×148°.35E, h61km, mb3.8/4, Error ellipse: s-maj=12.3km s-min=9.7km az=138.6*
JMA ***02*** *06:01:50.2±0.3, 44°N±1°×14°8E±°, h0km, MV4.6/33, SE OFF ETOROFU*
IDC ***02*** *06:01:53.9±2.5, 44°.58N×148°.20E, h78km±22km, mb3.3/12, mbtmp3.6/16, MS3.3/2, Error ellipse: s-maj=22.9km s-min=15.0km az=150.0*
SKHL ***02*** *06:01:53.3±0.9, 44°.60N×148°.20E, h66km±4km, mb4.9/7*
ISC 02 06:01:50.4±1.2, 44°.36N±0°.06×148°.46E±0°.07, h50km±11km, n65, σ1s49/83, mb3.6/13, 5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.97**	**334**	*d* iPN	**Pn**	**06 02 06.0**	**-1.7**
KUR				*e*S	**Sn**	**06 02 17.9**	**-2.6**
KUR	**Kuril'sk**	**0.97**	**334**	*i* P	**Pn**	**06 02 06.7**	**-1.0**
KUR				AMB	AMB	06 02 07.4	
	900nm,0.4s						
KUR				*e*S	**Sn**	**06 02 17.2**	**-3.3**
KUR				A	A	06 02 18.5	
	2µm,0.3s						
KUR				A	A	06 02 18.5	
	3µm,0.3s						
KUR				*e*rx	rx	06 02 20.8	
SHO	**Shikotan**	**1.27**	**248**	*d* iPN	**Pn**	**06 02 12.6**	**+0.9**
SHO				*e*S	**Sn**	**06 02 26.1**	**-1.6**
SHO				pmax	pmax		
	comp=N,60nm,0.2s						
SHO				pmax	pmax		
	comp=E,146nm,0.2s						
SHO				pmax	pmax		
	comp=Z,157nm,0.2s						
SHO				smax	smax		
	comp=N,699nm,0.2s						
SHO				smax	smax		
	comp=E,2µm,0.2s						
SHO	**Shikotan**	**1.27**	**248**	*i* P	**Pn**	**06 02 12.6**	**+0.9**
SHO				AMB	AMB	06 02 13.0	
	comp=E,190nm,0.3s						
SHO				*e*S	**Sn**	**06 02 26.3**	**-1.4**
SHO				A	A	06 02 29.1	
	comp=E,1µm,0.3s						
SHO				A	A	06 02 29.1	
	comp=E,2µm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.90**	**261**	*d* iPN	**Pn**	**06 02 20.1**	**-0.2**
YUK				*e*S	**Sn**	**06 02 40.9**	**-2.1**
YUK				pmax	pmax		
	comp=Z,838nm,0.1s						
YUK				pmax	pmax		
	comp=E,207nm,0.2s						
YUK				pmax	pmax		
	comp=N,217nm,0.1s						
YUK				smax	smax		
	comp=E,549nm,0.1s						
YUK				smax	smax		
	comp=N,2µm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.90**	**261**	*i* P	**Pn**	**06 02 20.3**	**0.0**
YUK				AMB	AMB	06 02 21.9	
	comp=N,550nm,0.2s						
YUK				*e*S	**Sn**	**06 02 40.8**	**-2.2**
YUK				A	A	06 02 41.8	
	comp=N,1µm,0.4s						
YUK				A	A	06 02 41.8	
	comp=N,1µm,0.4s						
NEM2	**Nemuro 2**	**2.20**	**244**	*i* P	**Pn**	**06 02 24.0**	**-0.4**
NEM2				*e*S	**Sn**	**06 02 48.8**	**-1.7**
GLVR	**Golovnino**	**2.21**	**255**	*e*PN	**Pn**	**06 02 24.8**	**+0.3**
GLVR				*e*S	**Sn**	**06 02 50.2**	**-0.4**
GLVR				pmax	pmax		
	comp=N,40nm,0.1s						
GLVR				pmax	pmax		
	comp=E,118nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,294nm,0.1s						
GLVR				smax	smax		
	comp=N,1µm,0.2s						
GLVR				smax	smax		
	comp=E,2µm,0.3s						
GLVR	**Golovnino**	**2.21**	**255**	*e*P	**Pn**	**06 02 24.8**	**+0.3**
GLVR				AMB	AMB	06 02 26.0	
	comp=E,290nm,0.3s						
GLVR				*e*S	**Sn**	**06 02 50.2**	**-0.4**
GLVR				A	A	06 02 58.2	
	comp=E,1µm,0.3s						
GLVR				A	A	06 02 58.2	
	comp=E,2µm,0.3s						
NMR	**Nemuro--Hokkai**	**2.21**	**244**	*d* iPN	**Pn**	**06 02 24.0**	**-0.5**
NMR				*e*S	**Sn**	**06 02 48.6**	**-2.0**
NMR	**Nemuro--Hokkai**	**2.21**	**244**	*i* P	**Pn**	**06 02 24.0**	**-0.5**
NMR				*e*S	**Sn**	**06 02 48.8**	**-1.8**
RUSJ	**Misakicho**	**2.33**	**265**	∥iPN	**Pn**	**06 02 27.2**	**+1.1**
JRA	**Rausu**	**2.44**	**261**	P	**Pn**	**06 02 28.7**	**+1.0**
JRA				*e*S	**Sn**	**06 02 56.8**	**+0.5**
JNSB	**Nemuroshibetsu**	**2.56**	**258**	P	**Pn**	**06 02 30.3**	**+1.0**
JNSB				*e*S	**Sn**	**06 03 00.0**	**+0.8**
JKHN	**Kushirohamanak**	**2.71**	**243**	P	**Pn**	**06 02 31.5**	**+0.1**
JKHN				*e*S	**Sn**	**06 03 01.6**	**-1.3**
JNK	**Nakash**	**2.81**	**255**	P	**Pn**	**06 02 33.5**	**+0.7**
JNK				*e*S	**Sn**	**06 03 06.0**	**+0.5**
AKK	**Akkeshi**	**2.95**	**244**	*e*P	**Pn**	**06 02 34.9**	**+0.2**
JAK	**Akkeshi**	**3.05**	**245**	P	**Pn**	**06 02 36.2**	**+0.1**
JAK				*e*S	**Sn**	**06 03 10.1**	**-1.3**
JTKR	**Abashiri--Toko**	**3.30**	**265**	*e*P	**Pn**	**06 02 42.1**	**+2.6**
JTKR				*e*S	**Sn**	**06 03 20.5**	**+3.1**
JAR	**Ashorobuto**	**3.56**	**254**	*e*P	**Pn**	**06 02 44.5**	**+1.5**
JAR				*e*S	**Sn**	**06 03 24.6**	**+0.9**
JOB	**Onbets**	**3.66**	**248**	P	**Pn**	**06 02 45.4**	**+1.0**
JOB				*e*S	**Sn**	**06 03 26.5**	**+0.2**
JCH	**Churui**	**4.10**	**247**	P	**Pn**	**06 02 50.9**	**+0.4**
JCH				*e*S	**Sn**	**06 03 35.7**	**-1.4**
JKK2	**Kamakawa 2**	**4.14**	**265**	*e*P	**Pn**	**06 02 54.3**	**+3.3**
ASAJ	**Asahikawa**	**4.22**	**269**	P	**Pn**	**06 02 54.6**	**+2.5**
	comp=E,12nm,0.4s,baz=73,slow=21,SNR=5.9						
ASAJ				S	**Sn**	**06 03 39.8**	**-0.3**
	comp=E,5.1nm,0.3s,baz=170,slow=17,SNR=1.2						
JSE	**Soyaes**	**4.24**	**280**	*e*P	**Pn**	**06 02 52.9**	**+0.6**
JSE				*e*S	**Sn**	**06 03 44.5**	**+4.1**
ERM	**Erimo**	**4.53**	**241**	*i* PN	**Pn**	**06 02 58.8**	**+2.4**
JNBK	**Urakawa-nobuka**	**4.65**	**245**	*e*P	**Pn**	**06 02 59.4**	**+1.3**
JNBK				*e*S	**Sn**	**06 03 51.4**	**+0.6**
YSS	**Yuzhno-Sakhali**	**4.77**	**305**	*e*PN	**Pn**	**06 02 59.5**	**-0.1**
YSS				*e*S	**Sn**	**06 03 51.0**	**-2.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				smax	smax		
	comp=N,10.0nm,0.8s						
YSS				smax	smax		
	comp=E,20nm,0.9s						
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
YSS	**Yuzhno-Sakhali**	**4.77**	**305**	*e*P	**Pn**	**06 02 59.3**	**-0.3**
JOT	**Ohata**	**6.21**	**244**	*e*P	**Pn**	**06 03 19.9**	**+0.6**
JANG	**Nango**	**6.50**	**235**	*e*P	**Pn**	**06 03 23.4**	**-0.1**
JANG				*e*S	**Sn**	**06 04 33.8**	**-2.5**
TYV	**Tymovskoe**	**7.60**	**331**	*e*P	**Pn**	**06 03 38.9**	**+0.6**
SKR	**Severo-Kuril's**	**8.18**	**37**	*e*P	**Pn**	**06 03 49.2**	**+3.0**
SKR				AMB	AMB	06 03 50.4	
	comp=Z,20nm,0.4s						
SKR				*e*S	**Sn**	**06 05 17.3**	**+0.2**
NKL	**Nikolayevsk**	**10.18**	**333**	*e*P	**Pn**	**06 04 14.0**	**+0.3**
NKL				AMB	AMB	06 04 16.8	
	comp=Z,40nm,0.7s						
PETK	**Petropavlovsk-**	**10.66**	**32**	P	**Pn**	**06 04 22.1**	**+1.9**
	comp=Z,1.1nm,0.7s,baz=42,slow=28,SNR=3.6						
USRK	**Ussuriysk Ar.**	**11.81**	**275**	P	**Pn**	**06 04 36.3**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=86,slow=9.3,SNR=5.6						
USRK				LR	LR	06 09 01.7	
	comp=Z,75nm,18.4s,baz=48,slow=37						
SEY	**Seymchan**	**18.75**	**6**	P	**P**	**06 06 04.3**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=0.0,slow=20,SNR=1.9						
JOW	**Kunigami**	**23.88**	**230**	LR	LR	06 16 31.5	
	comp=Z,149nm,18.8s,baz=183,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.97**	**142**	T	T	06 38 36.3	
	baz=333,slow=76,SNR=222						
H11N1	**WAKE ISLAND Hy**	**28.98**	**142**	T	T	06 38 32.9	
	baz=333

0.6nm,0.6s,baz=8.6,slow=7.6,SNR=3.5
0.6nm,0.6s
ASAR Alice Springs 53.87 190 P P 06 19 34.0 +1.5
0.3nm,0.8s,baz=3.2,slow=7.1,SNR=2.4
0.3nm,0.8s

*UCR **02** 06:22:16.5±1.4, 10°.34N×86°.30W, h1km±5km, MW4.0*
*CATAC **02** 06:22:17.9±0.6, 10°.N±3°×8°.6W±°, h4km±3km, M3.2/10, MLv3.2/10, Error ellipse: s-maj=9.3km s-min=4.9km az=63.1, confirmed*
ISC 02 06:22:17.1±1.6, 10°.33N±0°.05×86°.27W±0°.06, h3km±11km, n63, σ0°61/82, 15C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.68**	**95**	⇑*eP*		**Pb**	**06 22 31.6**	**0.0**
SACU				*eS*		**Sb**	**06 22 41.0**	**-0.4**
ALIBA	**Liberia Airpor**	**0.76**	**70**	⇑*iP*		**Pb**	**06 22 33.7**	**+0.7**
ALIBA				*eS*		**Sn**	**06 22 46.1**	**-0.7**
ELI1	**Hacienda Flor**	**0.78**	**66**	⇑*iP*		**Pb**	**06 22 34.2**	**+1.0**
ELI1				*eS*		**Sn**	**06 22 46.9**	**-0.2**
NICO	**Nicoya**	**0.84**	**103**	⇓*eP*		**Pb**	**06 22 34.1**	**-0.1**
NICO				*eS*		**Sb**	**06 22 47.0**	**+1.1**
ERIA	**Liberia**	**0.88**	**69**	⇑*eP*		**Pb**	**06 22 35.2**	**+0.2**
ERIA				*eS*		**Sn**	**06 22 48.8**	**-0.7**
INDI	**Punta indio, G**	**0.89**	**121**	S		**Sg**	**06 22 45.7**	**+0.1**
INDI	**Punta indio, G**	**0.89**	**121**	P		**Pb**	**06 22 35.0**	**-0.1**
CMARA	**Lajas Hojancha**	**0.89**	**110**	*eP*		**Pg**	**06 22 34.8**	**+0.6**
CMARA	**Lajas Hojancha**	**0.89**	**110**	P		**Pb**	**06 22 35.5**	**+0.3**
CMARA	**Lajas Hojancha**	**0.89**	**110**	S		**Sg**	**06 22 46.0**	**+0.2**
PLVR	**Palo Verde**	**0.91**	**88**	*eP*		**Pg**	**06 22 35.1**	**+0.6**
PLVR				*eS*		**Sb**	**06 22 47.6**	**-0.5**
LAPC	**Finca la Perla**	**0.94**	**62**	⇑*eP*		**Pg**	**06 22 35.6**	**+0.5**
LAPC				*eS*		**Sb**	**06 22 48.9**	**+0.1**
LCRUZ	**La Cruz**	**0.98**	**40**	⇑*iP*		**Pb**	**06 22 36.8**	**+0.1**
LCRUZ				*eS*		**Sn**	**06 22 51.5**	**-0.6**
GPS3	**Bodega del ICE**	**0.99**	**64**	⇑*eP*		**Pn**	**06 22 38.1**	**+0.1**
GPS3				*eS*		**Sn**	**06 22 52.9**	**+0.4**
GPS2	**Hotel Rincn d**	**1.00**	**65**	⇑*eP*		**Pg**	**06 22 36.8**	**+0.5**
GPS2				*eS*		**Sb**	**06 22 51.4**	**+0.7**
VRLE	**La Escondida,**	**1.00**	**63**	*eP*		**Pg**	**06 22 36.9**	**+0.5**
PG27	**Guanacaste Pro**	**1.01**	**60**	*eP*		**Pg**	**06 22 36.8**	**+0.4**
GPS1	**Guardaparques**	**1.01**	**64**	*eP*		**Pg**	**06 22 37.0**	**+0.5**
GPS1				*eS*		**Sb**	**06 22 51.0**	**0.0**
VORI	**VORI**	**1.03**	**62**	*eP*		**Pg**	**06 22 37.2**	**+0.2**
PEJA	**Penjamo Buenos**	**1.10**	**59**	*eP*		**Pb**	**06 22 38.8**	**0.0**
COLC	**Colonia**	**1.11**	**72**	*eP*		**Pg**	**06 22 38.2**	**-0.1**
MESS	**Mesas**	**1.14**	**69**	⇑*eP*		**Pg**	**06 22 38.9**	**-0.1**
MESS				*eS*		**Sb**	**06 22 55.0**	**+0.3**
CUI	**Cuipilapa**	**1.14**	**73**	*eP*		**Pg**	**06 22 38.9**	**-0.1**
CUI				*eS*		**Sb**	**06 22 55.3**	**+0.6**
HORNC	**Hornillas**	**1.14**	**70**	⇑*iP*		**Pg**	**06 22 38.8**	**-0.3**
HORNC				*eS*		**Sb**	**06 22 54.5**	**-0.4**
CNAS	**Canas**	**1.17**	**85**	*eP*		**Pg**	**06 22 39.7**	**+0.2**
CNAS				*eS*		**Sn**	**06 22 57.4**	**+0.6**
INVE	**Universidad In**	**1.20**	**83**	⇑*eP*		**Pg**	**06 22 39.8**	**-0.3**
MOTZ	**Rio Naranjo**	**1.23**	**73**	*eP*		**Pg**	**06 22 40.1**	**-0.7**
TIMP	**Tierras Morena**	**1.26**	**78**	*eP*		**Pg**	**06 22 41.4**	**+0.1**
TIMP				*eS*		**Sb**	**06 22 58.6**	**+0.4**
TILA	**Tilaran**	**1.29**	**84**	*eP*		**Pg**	**06 22 41.9**	**0.0**
JUNT	**Juntas**	**1.29**	**92**	*eP*		**Pg**	**06 22 40.5**	**-1.5**
JTS	**Las Juntas de**	**1.30**	**91**	⇑*eP*		**Pg**	**06 22 40.9**	**-1.2**
JAPN	**Al SSO del Vol**	**1.33**	**26**	P		**Pn**	**06 22 42.7**	**+0.2**
JAPN				S		**Sb**	**06 22 60.0**	**-0.1**
MORN	**Al O del Volca**	**1.36**	**27**	P		**Pn**	**06 22 42.8**	**-0.2**
UPAL	**Upala**	**1.36**	**65**	*eP*		**Pn**	**06 22 42.0**	**-1.0**
QUEB	**Quebradon, Cot**	**1.39**	**78**	⇑*iP*		**Pn**	**06 22 42.6**	**-0.8**
QUEB				*eS*		**Sn**	**06 23 02.6**	**+0.4**
NADN	**Granada**	**1.43**	**10**	*eP*		**Pn**	**06 22 43.2**	**-0.8**
NADN	**Granada**	**1.43**	**10**	P		**Pn**	**06 22 43.4**	**-0.5**
NADN				S		**Sn**	**06 23 04.3**	**+1.0**
CASO	**Castillo**	**1.52**	**86**	*eP*		**Pn**	**06 22 44.8**	**-0.4**
ARE1	**Arenal 1**	**1.54**	**85**	⇑*eP*		**Pn**	**06 22 45.4**	**0.0**
VARE2	**V. Arenal**	**1.54**	**85**	*eP*		**Pn**	**06 22 45.1**	**-0.4**
CEDE	**Laguna Cedeo**	**1.55**	**84**	*eP*		**Pn**	**06 22 45.9**	**+0.2**
VACR	**Volcan Arenal**	**1.58**	**85**	*eP*		**Pn**	**06 22 45.6**	**+0.3**
FORC	**Fortuna**	**1.58**	**85**	*eP*		**Pn**	**06 22 46.0**	**-0.1**
NANN	**Nandasmo**	**1.61**	**5**	P		**Pg**	**06 22 48.2**	**+0.2**
SOCE	**Pocosol**	**1.63**	**88**	*eP*		**Pn**	**06 22 47.3**	**+0.6**
SOCE	**Pocosol**	**1.63**	**88**	P		**Pn**	**06 22 46.4**	**-0.3**
SOCE	**Pocosol**	**1.63**	**88**	S		**Sb**	**06 23 09.0**	**+0.2**
LCHIL	**Los Chiles**	**1.69**	**65**	*eP*		**Pn**	**06 22 47.7**	**+0.2**
PALD	**Palmares**	**1.83**	**98**	*eP*		**Pn**	**06 22 48.6**	**-0.9**
SAPS	**Ciudad Sandino**	**1.84**	**356**	P		**Pb**	**06 22 51.3**	**-0.1**
SAPS	**Ciudad Sandino**	**1.84**	**356**	S		**Sb**	**06 23 14.3**	**-0.4**
COPN	**Copaltepe**	**1.87**	**350**	*eP*		**Pn**	**06 22 49.7**	**-0.3**
COPN	**Copaltepe**	**1.87**	**350**	P		**Pn**	**06 22 50.0**	**+0.1**
ATEO	**Atenas**	**1.90**	**100**	*eP*		**Pn**	**06 22 49.6**	**-0.7**
ACON	**Acoyapa**	**1.96**	**33**	⇑*iP*		**Pn**	**06 22 50.4**	**-0.8**
ACON	**Acoyapa**	**1.96**	**33**	P		**Pn**	**06 22 50.0**	**-1.2**
ACON	**Acoyapa**	**1.96**	**33**	S		**Sn**	**06 23 17.1**	**+0.8**
PAR1A	**Puntarenas Pro**	**2.12**	**110**	*eP*		**Pb**	**06 22 55.1**	**-1.0**
PICV	**PH. Pirrs**	**2.13**	**109**	*eP*		**Pn**	**06 22 54.8**	**+0.8**
ABE2	**San Pablo**	**2.27**	**106**	*eP*		**Pn**	**06 22 56.3**	**+0.6**
LCR2	**La Lucha 2**	**2.31**	**104**	*eP*		**Pn**	**06 22 56.4**	**+0.2**
ABRB	**Las Abras (San**	**2.54**	**97**	*eP*		**Pb**	**06 23 01.7**	**-1.7**
SAJE	**San Jernim**	**2.89**	**109**	*eP*		**Pn**	**06 23 05.8**	**+1.6**

IDC 02 06:25:44.2±7.0, 7°.42S×129°.69E, h174km±72km, mb3.3/1, mbtmp3.5/4, MS3.5/1, Error ellipse: s-maj=64.7km s-min=33.8km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.32**	**200**	P		Pn	06 28 22.9	+1.9
	2.3nm,0.8s,baz=23,slow=12,SNR=8.5							
FITZ				S		Sn	06 30 25.5	-1.4
	1.6nm,0.6s,baz=86,slow=20,SNR=6.1							
WRA	**Warramunga Arr**	**13.24**	**161**	P		Pn	06 28 44.8	-0.9
	0.4nm,0.4s,baz=337,slow=13,SNR=8.1							
WRA				S		Sn	06 31 07.3	-5.6
	0.4nm,0.4s,baz=347,slow=21,SNR=6.6							
ASAR	**Alice Springs**	**16.66**	**166**	P		P	06 29 27.0	-0.1
	0.1nm,0.3s,baz=350,slow=10,SNR=6.0							
ASAR				S		S	06 32 32.7	+1.0
	0.1nm,0.4s,baz=304,slow=38,SNR=1.3							
TGY	**Tagaytay City**	**23.08**	**338**	LR		LR	06 42 13.7	
	comp=Z,106nm,18.4s,baz=162,slow=43							
MKAR	**Makanchi Array**	**68.41**	**327**	P		P	06 36 26.9	-0.1
	0.3nm,0.3s,baz=122,slow=7.4,SNR=5.0							
	0.3nm,0.3s							

*ASRS **02** 06:30:26.0±1.0, 54°.14N×86°.44E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 02 06:30:29.2±2.7, 54°.13N×86°.46E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=22.3km s-min=13.2km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**260**	I		I	06 36 00.0	
	0.1nm,1.0s,baz=80,slow=324,SNR=5.2							
ZALV	**Zalesovo Beam**	**0.98**	**260**	Pg		Pg	06 30 46.9	-1.1
	1.0nm,0.3s,baz=82,slow=17,SNR=12							
ZALV				Lg		Lg	06 31 02.4	
	2.1nm,0.3s,baz=76,slow=28,SNR=7.9							
ZALV				I		I	06 36 03.2	
	baz=58,slow=19,SNR=11							
KURBB	**Kurchatov Arra**	**5.99**	**237**	Pn		Pn	06 31 59.8	+0.8
	0.1nm,0.3s,baz=54,slow=13,SNR=5.4							
	1.0nm,0.5s							
MKAR	**Makanchi Array**	**7.81**	**202**	Pn		Pn	06 32 25.1	+1.1
	0.3nm,0.3s,baz=25,slow=14,SNR=8.5							
	0.4nm,0.3s							

*NIED **02** 06:34:12.9, 36°.98N×141°.32E, h30km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.26; $M_{\theta\theta}$0.21; $M_{\phi\phi}$3.04; $M_{r\theta}$-0.93; $M_{\theta\phi}$0.86; $M_{r\phi}$1.35; Fault plane solution: $M_0$3.64000×10^{14} NP1:ϕ_s32.00000°, δ39.00000°, λ-61.00000°. NP2:ϕ_s177.00000°, δ57.00000°, λ-111.00000°.*
*JMA **02** 06:34:12.9±0.1, 37°.0N±0°.2×141°.3E±0°.5, h30km, MD4.1/40, MV3.7/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF.
*IDC **02** 06:34:18.2±3.6, 37°.02N×141°.21E, h64km±32km, mb3.4/9, mbtmp3.6/11, ML2.8/2, Error ellipse: s-maj=25.6km s-min=20.5km az=81.0*
ISC 02 06:34:12.4±1.6, 37°.01N±0°.05×141°.37E±0°.06, h17km±9km, n36, σ0°92/31, mb3.7/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.47**	**282**	*i* P		**Pg**	**06 34 22.2**	**+0.3**
ONAJ				*eS*		**Sg**	**06 34 28.7**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.47**	**282**	A		A	06 34 22.2	
	comp=N,29nm,0.3s,comp=E,70nm,0.3s							
JFK	**Kawauchi**	**0.53**	**312**	*eP*		**Pg**	**06 34 23.4**	**+0.3**
JFK				*eS*		**Sg**	**06 34 30.4**	**+0.1**
JFK	**Kawauchi**	**0.53**	**312**	A		A	06 34 23.4	
	comp=N,11nm,0.8s,comp=E,10.0nm,0.5s							
JFFD	**Fukushimafurud**	**0.65**	**277**	*i* P		**Pg**	**06 34 24.9**	**-0.4**
JFFD				*eS*		**Sg**	**06 34 33.1**	**-0.8**
JHO	**Hitachi**	**0.76**	**238**	P		**Pb**	**06 34 26.1**	**-1.0**
JHO				*eS*		**Sb**	**06 34 35.8**	**-1.4**
JMST	**Minamisoumatoc**	**0.81**	**332**	P		**Pb**	**06 34 27.7**	**-0.4**
JMST				*eS*		**Sb**	**06 34 38.1**	**-0.6**
JMM	**Marumori**	**0.97**	**332**	P		**Pb**	**06 34 30.2**	**-0.6**
JMM				*eS*		**Sb**	**06 34 42.5**	**-0.8**
JOTO	**OTAMA OYAMA**	**0.99**	**304**	*i* P		**Pb**	**06 34 31.1**	**-0.1**
JOTO				*eS*		**Sb**	**06 34 43.6**	**-0.3**
JOTO	**OTAMA OYAMA**	**0.99**	**304**	A		A	06 34 31.1	
	comp=N,11nm,0.3s,comp=E,13nm,0.3s							
JSB	**Shiboa**	**1.16**	**268**	A		A	06 34 32.8	
	comp=N,6.0nm,0.9s,comp=E,10.0nm,2.3s							
JYAR	**Yonezawaarcadi**	**1.33**	**313**	A		A	06 34 35.8	
	comp=N,13nm,0.5s,comp=E,8.0nm,1.3s							
JFY	**Yanaizu**	**1.39**	**287**	*eP*		**Pn**	**06 34 37.1**	**+0.1**
JFY				*eS*		**Sn**	**06 34 54.5**	**-0.4**
JIO	**Ouri**	**1.44**	**359**	*eP*		**Pn**	**06 34 37.2**	**-0.6**
JIO				*eS*		**Sn**	**06 34 54.8**	**-1.5**
JOU	**Okura**	**1.47**	**338**	*eS*		**Sn**	**06 34 57.2**	**+0.3**
JOU	**Okura**	**1.47**	**338**	A		A	06 34 57.2	
	comp=N,4.0nm,3.6s,comp=E,3.0nm,1.7s							
MJAR	**Matsushiro Arr**	**2.58**	**261**	P		**Pn**	**06 34 54.1**	**+0.6**
	comp=E,1.0nm,0.3s,baz=88,slow=15,SNR=26							
MJAR				S		**Sn**	**06 35 25.4**	**+1.0**
	comp=E,22nm,0.7s,baz=81,slow=26,SNR=5.6							
	comp=E,5.4nm,0.4s							
KSRS	**Korea Array**	**10.73**	**276**	P		**Pn**	**06 36 48.0**	**+2.7**
	comp=E,0.1nm,0.3s,baz=92,slow=14,SNR=1.6							
	comp=E,0.3nm,0.3s							
SONM	**Songino Array**	**27.77**	**304**	P		**P**	**06 39 59.2**	**-1.2**
	comp=E,0.4nm,0.5s,baz=99,slow=8.9,SNR=1.5							
	comp=E,0.4nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**28.17**	**121**	T		T	07 09 33.0	
	baz=314,slow=75,SNR=272							
H11N1	**WAKE ISLAND Hy**	**28.17**	**121**	T		T	07 09 32.9	
	baz=314,slow=75,SNR=292							
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T		T	07 09 34.5	
	baz=314,slow=75,SNR=248							
H11S1	**WAKE ISLAND Hy**	**28.88**	**123**	T		T	07 10 24.6	
	baz=316,slow=76,SNR=107							
H11S3	**WAKE ISLAND Hy**	**28.88**	**123**	T		T	07 10 20.2	
	baz=316,slow=76,SNR=59							
H11S2	**WAKE ISLAND Hy**	**28.89**	**123**	T		T	07 10 24.2	
	baz=316,slow=76,SNR=64							
ZALV	**Zalesovo Beam**	**41.91**	**312**	P		**P**	**06 42 01.0**	**-0.7**
	comp=E,1.0nm,0.6s,baz=59,slow=5.7,SNR=4.1							
	comp=E,1.0nm,0.6s							
MKAR	**Makanchi Array**	**44.10**	**302**	P		**P**	**06 42 18.4**	**-1.3**
	comp=E,0.5nm,0.7s,baz=92,slow=9.2,SNR=5.4							
	comp=E,0.5nm,0.7s							
KURBB	**Kurchatov Arra**	**45.99**	**308**	P		**P**	**06 42 34.1**	**-0.4**
	comp=E,0.8nm,0.6s,baz=83,slow=8.0,SNR=10							
	comp=E,0.8nm,0.6s							
ILAR	**Eielson Array**	**49.53**	**32**	P		**P**	**06 43 02.3**	**+0.5**
	comp=E,0.5nm,0.9s,baz=272,slow=5.8,SNR=5.4							
	comp=E,0.5nm,0.9s							
WRA	**Warramunga Arr**	**57.03**	**188**	P		**P**	**06 43 57.0**	**-0.4**
	comp=E,0.7nm,0.6s,baz=5.4,slow=7.2,SNR=7.7							
	comp=E,0.7nm,0.6s							
ASAR	**Alice Springs**	**60.76**	**188**	P		**P**	**06 44 23.3**	**0.0**
	comp=E,0.4nm,0.7s,baz=12,slow=5.8,SNR=4.4							
	comp=E,0.4nm,0.7s							
NVAR	**Mina Array Bea**	**75.03**	**53**	P		**P**	**06 45 54.2**	**+0.8**
	comp=E,0.6nm,0.7s,baz=314,slow=6.7,SNR=4.0							
	comp=E,0.6nm,0.7s							
TXAR	**Lajitas Array**	**90.16**	**52**	P		**P**	**06 47 12.9**	**+0.8**
	comp=E,0.2nm,0.5s,baz=328,slow=4.1,SNR=3.4							
	comp=E,0.2nm,0.5s							
H03N2	**Juan Fernandez**	**147.06**	**96**	T		T	09 38 19.1	
	baz=292,slow=76							
H03N3	**Juan Fernandez**	**147.07**	**96**	T		T	09 38 17.5	
	baz=292,slow=76							
H03N1	**Juan Fernandez**	**147.07**	**96**	T		T	09 38 20.3	
	baz=292,slow=76							

*JSO **02** 06:42:42.4±0.0, 32°.N±1°×3°.5E±°, h16km±1km, M2.3/17, Md2.8/17, ML2.3/17, MLv2.3/17, MLv2.3/17*
*GII **02** 06:42:43.0±0.0, 32°.20N±0°.02×35°.502E±0°.008, h16km, Mws2.0, confirmed*
ISC 02 06:42:42.3±0.9, 32°.20N±0°.02×35°.52E±0°.03, h19km±2km, n55, σ0°46/67, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HMDT	**Nahal Hemdat**	**0.06**	**2**	P		**Pg**	**06 42 45.6**	**-0.2**
HMDT				S		**Sg**	**06 42 47.5**	**-0.7**
HMDT	**Nahal Hemdat**	**0.06**	**2**	S		**Sg**	**06 42 48.7**	**+0.4**
HMDT	**Nahal Hemdat**	**0.06**	**2**	P		**Pg**	**06 42 45.8**	**0.0**
ROII	**Roi**	**0.06**	**329**	P		**Pg**	**06 42 45.9**	**0.0**
ROII				S		**Sg**	**06 42 49.0**	**+0.8**
HMRA	**Hamra**	**0.07**	**273**	P		**Pg**	**06 42 45.8**	**-0.2**
HMRA				S		**Sg**	**06 42 48.3**	**0.0**
QRNJ	**Al-Qirein**	**0.14**	**17**	P		**Pg**	**06 42 46.7**	**+0.1**
BALJ	**Balqa**	**0.15**	**138**	P		**Pg**	**06 42 46.7**	**0.0**
MEFR	**Maale Efrayim**	**0.16**	**219**	P		**Pg**	**06 42 46.8**	**-0.1**
MEFR				S		**Sg**	**06 42 50.6**	**+0.7**
PZL	**Pazael**	**0.17**	**204**	P		**Pg**	**06 42 46.9**	**0.0**
PZL				S		**Sg**	**06 42 50.6**	**+0.6**
MEHL	**Mehola**	**0.17**	**358**	P		**Pg**	**06 42 47.0**	**0.0**
MEHL				S		**Sg**	**06 42 50.6**	**+0.5**
UJAP	**Al Uja**	**0.25**	**192**	P		**Pg**	**06 42 48.0**	**-0.1**
UJAP	**Al Uja**	**0.25**	**192**	P		**Pg**	**06 42 48.2**	**+0.1**
MMLI	**Mount Malkishu**	**0.26**	**340**	P		**Pb**	**06 42 47.2**	**-1.0**
MMLI	**Mount Malkishu**	**0.26**	**340**	S		**Sg**	**06 42 53.0**	**+0.6**
MMLI	**Mount Malkishu**	**0.26**	**340**	P		**Pg**	**06 42 48.3**	**+0.1**
YITV	**Yitav**	**0.26**	**199**	P		**Pg**	**06 42 48.3**	**0.0**
YITV				S		**Sg**	**06 42 53.1**	**+0.7**
NAAM	**Naama**	**0.29**	**190**	P		**Pb**	**06 42 49.2**	**+0.4**
NAAM				S		**Sb**	**06 42 53.9**	**+0.7**
SALP	**Salfit**	**0.31**	**246**	S		**Sg**	**06 42 53.8**	**0.0**
SALP	**Salfit**	**0.31**	**246**	P		**Pg**	**06 42 48.7**	**-0.5**
GNNR	**Gan-Ner**	**0.37**	**334**	P		**Pg**	**06 42 50.1**	**0.0**
GNNR				S		**Sb**	**06 42 55.7**	**0.0**
MLDT	**Moledet**	**0.40**	**349**	P		**Pg**	**06 42 49.9**	**-0.7**
MLDT				S		**Sb**	**06 42 56.8**	**+0.3**
ALMO	**Almog**	**0.41**	**188**	P		**Pg**	**06 42 50.8**	**0.0**
ALMO				S		**Sb**	**06 42 56.8**	**0.0**
SLTI	**Sal'it**	**0.41**	**276**	P		**Pg**	**06 42 50.1**	**-0.8**
SLTI	**Sal'it**	**0.41**	**276**	S		**Sg**	**06 42 56.9**	**+0.2**
SLTI	**Sal'it**	**0.41**	**276**	P		**Pg**	**06 42 50.4**	**-0.4**
GOLA	**Golan Heights**	**0.53**	**12**	P		**Pg**	**06 42 53.2**	**+0.3**
GOLA				S		**Sg**	**06 43 01.1**	**+1.0**
HSUJ	**Al Zarqa**	**0.57**	**99**	P		**Pg**	**06 42 53.7**	**-0.1**
BLGI	**Bet Lehem HaGe**	**0.60**	**332**	P		**Pb**	**06 42 54.1**	**-0.1**
OFRI	**`Ofer**	**0.62**	**313**	S		**Sg**	**06 43 03.5**	**+0.4**
OFRI	**`Ofer**	**0.62**	**313**	P		**Pb**	**06 42 53.9**	**-0.6**
DSI	**Dead Sea**	**0.64**	**191**	P		**Pb**	**06 42 54.0**	**-0.7**
DSI	**Dead Sea**	**0.64**	**191**	S		**Sg**	**06 43 03.3**	**-0.1**
DSI	**Dead Sea**	**0.64**	**191**	P		**Pb**	**06 42 54.1**	**-0.6**
KSHT	**Keshet**	**0.82**	**17**	S		**Sg**	**06 43 09.8**	**+0.5**
KSHT	**Keshet**	**0.82**	**17**	P		**Pb**	**06 42 57.8**	**-0.2**
AMAZ	**Amatzia**	**0.84**	**218**	S		**Sg**	**06 43 10.2**	**+0.3**
AMAZ	**Amatzia**	**0.84**	**218**	P		**Pb**	**06 42 58.1**	**-0.2**
GHAJ	**Ghor Haditha**	**0.89**	**178**	P		**Pb**	**06 42 59.3**	**+0.2**
GHAJ	**Ghor Haditha**	**0.89**	**178**	P		**Pb**	**06 42 59.0**	**0.0**
MDBI	**Mazsada**	**0.89**	**189**	S		**Sb**	**06 43 10.6**	**0.0**
MDBI	**Mazsada**	**0.89**	**189**	P		**Pb**	**06 42 58.3**	**-0.7**
YTIR	**Yattir**	**0.90**	**203**	S		**Sg**	**06 43 11.5**	**-0.3**
YTIR	**Yattir**	**0.90**	**203**	P		**Pb**	**06 42 59.3**	**0.0**
HNTI	**Hanita**	**0.93**	**342**	P		**Pb**	**06 42 59.9**	**+0.1**
GEM	**Giv'at Ha'Em**	**1.02**	**7**	P		**Pb**	**06 43 01.2**	**-0.1**
GEM	**Giv'at Ha'Em**	**1.02**	**7**	S		**Sg**	**06 43 15.5**	**-0.1**
GEM	**Giv'at Ha'Em**	**1.02**	**7**	P		**Pb**	**06 43 01.4**	**+0.1**
SWQJ	**Swaqa**	**1.05**	**154**	P		**Pb**	**06 43 00.3**	**-1.6**
NATI	**Neve Ativ**	**1.08**	**9**	P		**Pb**	**06 43 01.9**	**-0.4**
NATI	**Neve Ativ**	**1.08**	**9**	S		**Sn**	**06 43 16.6**	**-0.1**
NATI	**Neve Ativ**	**1.08**	**9**	P		**Pb**	**06 43 01.9**	**-0.4**
ASF	**Jabal al Asfar**	**1.16**	**91**	P		**Pn**	**06 43 03.0**	**-0.6**
PRNI	**Paran**	**1.89**	**194**	P		**Pn**	**06 43 13.9**	**+0.4**
KRMI	**Paran Flat**	**2.18**	**199**	P		**Pn**	**06 43 17.8**	**+0.2**
MBRI	**Mt Berech**	**2.45**	**193**	P		**Pn**	**06 43 21.0**	**-0.3**

*IDC **02** 06:49:42.2±3.8, 53°.79N×88°.20E, h0km, mbtmp2.6/3, ML1.9/2, Error ellipse: s-maj=36.5km s-min=21.0km az=47.0*
ASRS 02 06:49:40.0±1.2, 53°.79N×88°.23E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.03**	**276**	I		I	07 01 58.9	
	baz=93,slow=304,SNR=4.9							
ZALV	**Zalesovo Beam**	**2.03**	**276**	Pn		Pb	06 50 17.3	-0.4
	0.8nm,0.3s,baz=96,slow=13,SNR=11							
ZALV				Lg		Lg	06 50 46.0	
	2.3nm,0.3s,baz=93,slow=26,SNR=13							
	2.8nm,0.4s							
KURBB	**Kurchatov Arra**	**6.75**	**246**	Pn		Pn	06 51 22.6	+2.3
	0.1nm,0.3s,baz=62,slow=14,SNR=3.5							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**7.97**	**211**	Pn		Pn	06 51 40.1	+3.1
	0.1nm,0.3s,baz=22,slow=14,SNR=1.3							

*ASRS **02** 07:00:07.0±1.2, 53°.61N×87°.86E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 02 07:00:09.2±3.1, 53°.67N×87°.94E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=24.5km s-min=16.8km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.87**	**280**	I		I	07 10 12.3	
	baz=99,slow=315,SNR=8.6							
ZALV	**Zalesovo Beam**	**1.87**	**280**	Pn		Pn	07 00 42.6	+0.2
	1.7nm,0.3s,baz=96,slow=15,SNR=11							
ZALV				Lg		Lg	07 01 08.1	
	2.3nm,0.3s,baz=95,slow=30,SNR=10							
KURBB	**Kurchatov Arra**	**6.54**	**246**	Pn		Pn	07 01 46.4	-0.2
	0.1nm,0.3s,baz=61,slow=14,SNR=4.1							
KURBB				Sn		Sn	07 03 02.6	+0.8
	baz=37,slow=31,SNR=4.0							
KURBB				Lg		Lg	07 03 35.2	
	baz=63,slow=30,SNR=4.4							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**7.78**	**210**	Pn		Pn	07 02 04.9	+1.4
	baz=28,slow=14,SNR=3.6							
MKAR				Sn		Sn	07 03 31.9	-0.4
	0.1nm,0.3s,baz=35,slow=33,SNR=2.3							
MKAR				Lg		Lg	07 04 16.8	
	baz=16,slow=32,SNR=2.7							
	0.1nm,0.3s							

*GCG **02** 07:01:33.8±1.2, 14°.74N×92°.59W, h68km±8km, MD

TXIG				*e*S	**Sn**	07 03 57.4	**+1.4**	
HLIG	**Huajuapan de L**	**5.92**	**304**	*e*P	**Pn**	07 02 56.0	**-1.0**	
FTIG	**Fresnillo de T**	**6.23**	**303**	*e*P	**Pn**	07 03 01.5	**+0.4**	
FTIG				*e*S	**Sn**	07 04 09.0	**-2.0**	
MGIG	**Malinaltepec**	**6.35**	**295**	*e*P	**Pn**	07 03 06.0	**+3.3**	
MGIG				*e*S	**Sn**	07 04 10.7	**-3.2**	
TLIG	**Tlapa**	**6.43**	**298**	*e*P	**Pn**	07 03 05.6	**+1.8**	
CRIG	**Cruz Grande**	**6.62**	**290**	*e*P	**Pn**	07 03 08.4	**+2.1**	
CRIG				*e*S	**Sn**	07 04 19.6	**-0.7**	

IDC 02 07:20:17.3±4.2, 28°.13S×178°.52W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=104.7km s-min=21.8km az=46.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.24**	**155**	Pn	Pn	07 20 42.0	+0.1
	287nm,0.3s,baz=277,slow=23,SNR=2.2						
RAO				Sn	Sn	07 21 00.4	+1.2
	315nm,0.3s,baz=83,slow=21,SNR=2.4						
ASAR	**Alice Springs**	**42.82**	**265**	P	P	07 28 17.2	-0.1
	0.4nm,0.7s,baz=110,slow=8.1,SNR=7.4						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**43.60**	**270**	P	P	07 28 23.5	-0.1
	0.8nm,0.5s,baz=112,slow=8.2,SNR=9.4						
	0.8nm,0.5s						
FINES	**FINESS Array B**	**142.86**	**341**	PKP	PKPdf	07 39 50.5	-1.6
	1.7nm,0.5s,baz=64,slow=3.2,SNR=8.2						

*ASRS **02** 07:35:26.0±0.9, 53°.95N×86°.50E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 02 07:35:26.1±3.0, 54°.00N×86°.73E, h0km, mbtmp2.5/2, ML2.4/2, Error ellipse: s-maj=25.4km s-min=15.0km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.13**	**268**	I	I	07 41 11.8	
	baz=88,slow=330,SNR=15						
ZALV	**Zalesovo Beam**	**1.13**	**268**	Pg	Pg	07 35 47.6	-0.1
	0.6nm,0.3s,baz=84,slow=15,SNR=5.5						
ZALV				Lg	Lg	07 36 04.2	
	0.5nm,0.3s,baz=87,slow=31,SNR=19						
KURBB	**Kurchatov Arra**	**6.06**	**239**	Pn	Pn	07 36 55.8	-1.1
	0.1nm,0.3s,baz=56,slow=14,SNR=6.6						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.75**	**203**	Pn	Pn	07 37 23.0	+2.8
	0.1nm,0.3s,baz=24,slow=14,SNR=2.3						
	0.1nm,0.3s						

*NEIC **02** 07:37:15.7±0.8, 19°.295N×0°.006×155°.221W±0°.009, h11km±1km, Error ellipse: s-maj=1.2km s-min=0.8km az=117.0*

HVO 02 07:37:15.7±0.9, 19°.302N±0°.006×155°.213W±0°.007, h8km±2km, ML3.7/41, ML3.9/42(NEIC), Error ellipse: s-maj=1.0km s-min=0.9km az=210.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.07**	**358**		Pg	07 37 18.1	+0.3
PUH				Sg	Sg	07 37 19.1	-0.3
PUH				IAML		07 37 20.0	
	comp=E,52μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.09**	**28**		Pg	07 37 18.4	+0.3
HLP	**Hilina Pali**	**0.09**	**266**		Pg	07 37 18.5	+0.5
HLP					Sg	07 37 19.4	-0.2
KKO	**Keanakako'i**	**0.11**	**332**		Pg	07 37 18.5	+0.2
KKO					Sg	07 37 20.9	+0.8
RIM	**Rim**	**0.11**	**328**		Pg	07 37 18.5	+0.2
RIM					Sg	07 37 21.1	+0.9
SDHHI	**Sand Hill**	**0.12**	**319**		Pg	07 37 18.7	+0.2
SDHHI					Sg	07 37 21.0	+0.6
STCH	**Steam Cracks**	**0.12**	**45**	Pg	Pg	07 37 18.8	+0.3
STCH				Sg	Sg	07 37 20.1	-0.3
STCH				IAML		07 37 21.4	
	comp=N,34μm,0.2s						
STCH				IAML		07 37 21.4	
	comp=E,28μm,0.4s						
BYL	**Byron's Ledge**	**0.12**	**338**		Pg	07 37 18.6	+0.1
BYL					Sg	07 37 21.1	+0.6
BYL	**Byron's Ledge**	**0.12**	**338**	IAML		07 37 21.4	
	comp=N,70μm,0.4s						
BYL				IAML		07 37 22.7	
	comp=E,45μm,0.5s						
HATHI	**Halema'uma'u T**	**0.13**	**339**		Pg	07 37 18.7	+0.1
HATHI					Sg	07 37 21.4	+0.7
HATHI	**Halema'uma'u T**	**0.13**	**339**	IAML		07 37 21.5	
	comp=N,24μm,0.3s						
HATHI				IAML		07 37 21.8	
	comp=E,48μm,0.5s						
WRMHI	**West Rim**	**0.13**	**322**		Pg	07 37 18.8	0.0
WRMHI					Sg	07 37 21.4	+0.6
JCUZ	**Jacuzzi**	**0.13**	**52**		Pg	07 37 19.1	+0.4
JCUZ					Sg	07 37 21.6	+0.9
NPOC	**North of Pu'u**	**0.13**	**47**		Pg	07 37 19.0	+0.3
NPOC					Sg	07 37 21.7	+1.0
OBL	**Observatory Le**	**0.13**	**330**		Pg	07 37 19.0	+0.3
OBL					Sg	07 37 21.9	+1.1
SBLHI	**Steaming Bluff**	**0.14**	**337**		Pg	07 37 18.8	0.0
SBLHI					Sg	07 37 21.3	+0.5
UWB	**Uwekahuna Bluf**	**0.14**	**333**		Pg	07 37 18.9	+0.2
UWB					Sg	07 37 21.6	+0.6
UWE	**Uwekahuna**	**0.14**	**327**		Pg	07 37 19.1	+0.3
UWE					Sg	07 37 22.0	+1.0
UWE	**Uwekahuna**	**0.14**	**327**	IAML		07 37 22.3	
	comp=E,37μm,0.6s						
UWE				IAML		07 37 24.2	
	comp=N,29μm,0.3s						
RSD	**Rainshed**	**0.17**	**339**		Pg	07 37 19.5	+0.1
RSD					Sg	07 37 22.5	+0.6
HTC	**Hot Caves**	**0.19**	**250**		Pg	07 37 20.2	+0.7
HTC					Sg	07 37 23.5	+1.4
JOKA	**Jonika Flow**	**0.24**	**56**		Pg	07 37 20.6	+0.1
JOKA	**Jonika Flow**	**0.24**	**56**	IAML		07 37 26.1	
	comp=N,10μm,0.2s						
JOKA				IAML		07 37 27.7	
	comp=E,7μm,0.2s						
AIN	**Ainahou**	**0.24**	**287**		Pg	07 37 20.9	+0.2
AIN					Sg	07 37 25.1	+1.2
AIN	**Ainahou**	**0.24**	**287**	IAML		07 37 26.7	
	comp=E,49μm,0.3s						
AIN				IAML		07 37 26.8	
	comp=N,59μm,0.2s						
MLH	**Mauna Loa**	**0.25**	**319**		Pg	07 37 21.1	+0.2
MLH	**Mauna Loa**	**0.25**	**319**		Sg	07 37 25.6	+1.3
KHU	**Kahuku**	**0.38**	**262**		Sg	07 37 29.1	+0.7
KHU	**Kahuku**	**0.38**	**262**		Pg	07 37 23.2	-0.1
KHU				IAML		07 37 29.4	
	comp=N,6μm,0.5s						
KHU				IAML		07 37 29.6	
	comp=E,10μm,0.5s						
HPO	**Honuapo**	**0.39**	**237**		Sg	07 37 29.3	+1.0
HPO	**Honuapo**	**0.39**	**237**		Pg	07 37 23.2	-0.1
HMH	**Humu'ula Sheep**	**0.39**	**320**		Sb	07 37 30.4	-1.1
HMH	**Humu'ula Sheep**	**0.39**	**320**		Pg	07 37 23.4	-0.1
HMH				IAML		07 37 31.1	
	comp=N,31μm,0.2s						
HMH				IAML		07 37 31.1	
	comp=E,21μm,0.2s						
MWH	**Mokuaweoweo**	**0.41**	**297**		Pg	07 37 23.5	-0.3
MWH					Sg	07 37 30.6	+1.4
MWH	**Mokuaweoweo**	**0.41**	**297**	IAML		07 37 31.2	
	comp=E,15μm,0.7s						
MWH				IAML		07 37 32.4	
	comp=N,14μm,0.3s						
ALEP	**Alea Permanent**	**0.47**	**300**		Pg	07 37 24.5	-0.5
ALEP					Sg	07 37 31.7	+0.5
POHA	**Pohakuloa**	**0.54**	**326**		Pg	07 37 25.8	-0.6
POHA					Sg	07 37 33.4	-0.1
POHA	**Pohakuloa**	**0.54**	**326**	IAML		07 37 34.4	
	comp=N,13μm,0.5s						
POHA				IAML		07 37 34.8	
	comp=N,7μm,0.4s						
CPH	**Captain Cook**	**0.69**	**286**		Pg	07 37 27.2	-1.8
CPH					Sg	07 37 38.2	+0.2
HUH	**Hualalai**	**0.70**	**303**		Pg	07 37 28.3	-1.0
HUH					Sg	07 37 38.4	-0.1
KKH	**Kailua Kona**	**0.84**	**295**		Pg	07 37 29.4	-2.4
MHA	**Mahukona**	**1.09**	**324**	Pg	Pg	07 37 33.4	-3.4
MHA	**Mahukona**	**1.09**	**324**		Sg	07 37 46.8	-4.2
HLK	**Haleakala**	**1.75**	**326**		Pn	07 37 42.1	-4.4
HLK					Sn	07 38 03.4	-5.7
KHLH	**Kahului Airpor**	**1.95**	**325**		Pn	07 37 45.6	-3.5
KHLH					Sn	07 38 10.0	-3.9
WMR	**Waimanalo Ridg**	**3.07**	**311**		Pn	07 37 59.8	-4.8
WMR					Sn	07 38 34.9	-6.5
DHH	**Diamond Head**	**3.12**	**309**		Pn	07 38 00.5	-4.7
DHH					Sn	07 38 36.1	-6.5
HON	**Honolulu**	**3.30**	**308**		Pn	07 38 03.1	-4.6
HON					Sn	07 38 40.0	-7.2
OPA	**Opana**	**3.54**	**313**		Pn	07 38 06.8	-4.2
OPA					Sn	07 38 46.8	-6.2

*IDC **02** 07:38:23.6±2.8, 10°.70S×112°.68E, h0km, mb3.6/3, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=122.4km s-min=24.9km az=46.0*

*DJA **02** 07:38:27.1±1.0, 11°.5S±10°×111°.3E±°, h10km, MLv4.2/13*

ISC 02 07:38:28.8±1.1, 10°.3S±0°.1×113°.12E±0°.08, h28km, n20, σ2s15/17, mb3.4/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**2.06**	**9**	P	**Pn**	**07 39 03.1**	**+1.4**
JAGI	**Jajag, Banyuwa**	**2.11**	**29**	P	**Pn**	**07 39 03.6**	**+1.3**
ABJI	**Asem Bagus**	**2.74**	**24**	P	**Pb**	**07 39 14.5**	**-2.7**
SRBI	**Singaraja**	**3.04**	**43**	P	**Pn**	**07 39 16.5**	**+1.5**
WOJI	**Wonogiri, Jawa**	**3.29**	**319**	P	**Pn**	**07 39 19.7**	**+1.1**
KMMI	**Kalianget**	**3.36**	**14**	P	**Pn**	**07 39 22.3**	**+2.8**
NGJI	**Ngawi**	**3.37**	**331**	P	**Pb**	**07 39 24.8**	**-3.1**
UGM	**Wanagama**	**3.51**	**313**	P	**Pn**	**07 39 23.0**	**+1.3**
TWSI	**Taliwang, Sumb**	**4.03**	**67**	P	**Pn**	**07 39 29.8**	**+1.1**
PLAI	**Plampang**	**4.83**	**72**	P	**Pn**	**07 39 41.1**	**+1.4**
CMJI	**Cimerak**	**5.26**	**298**	P	**Pn**	**07 39 46.0**	**+0.3**
SBJI	**Serang**	**8.08**	**301**	P	**Pn**	**07 40 28.5**	**+4.0**
SPSI	**Sidrap Palu**	**9.13**	**47**	P	**Pn**	**07 40 41.8**	**+2.9**
FITZ	**Fitzroy Crossi**	**14.38**	**124**	Pn	**Pn**	**07 41 49.4**	**-1.2**
	0.2nm,0.3s,baz=291,slow=8.6,SNR=1.6						
FITZ				Sn	Sn	07 44 15.3	-14
	baz=142,slow=19,SNR=1.2						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**22.58**	**118**	P	**P**	**07 43 28.1**	**+0.9**
	1.1nm,0.7s,baz=290,slow=12,SNR=6.5						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**23.85**	**126**	P	**P**	**07 43 40.3**	**+0.3**
	0.8nm,0.7s,baz=300,slow=8.9,SNR=17						
	0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.84**	**334**	P	**P**	**07 44 51.9**	**+0.3**
	1.0nm,0.4s,baz=151,slow=8.4,SNR=4.6						
	1.0nm,0.4s						
H08S2	**Diego Garcia H**	**40.20**	**270**	T	T	08 28 52.5	
	baz=96,slow=76,SNR=35						
H08S3	**Diego Garcia H**	**40.21**	**270**	T	T	08 29 01.9	
	baz=96,slow=76,SNR=33						
H08S1	**Diego Carcia H**	**40.22**	**270**	T	T	08 28 56.4	
	baz=96,slow=76,SNR=19						

*RSNC **02** 07:48:51.0±1.0, 3°.N±6°×8°.5W±°, h0km, M4.3, mB5.0, mb4.7, Mw(mB)4.3*

*IDC **02** 07:48:52.6±1.1, 3°.39N×84°.21W, h0km, mb4.0/7, mbtmp4.0/8, ML2.5/1, MS3.5/12, Error ellipse: s-maj=39.3km s-min=20.4km az=59.0*

*NEIC **02** 07:48:55.6±1.5, 3°.27N±0°.09×84°.2W±0°.1, h10km±1km, mb4.4/41, Error ellipse: s-maj=22.4km s-min=12.6km az=247.0*

*CATAC **02** 07:48:56.8±1.0, 4°.N±7°×8°.4W±1°.3, h1km, M5.2/11, mb5.2/11, mB5.8/6, MLv5.1/10, Mw(mB)5.4/6, Error ellipse: s-maj=29.1km s-min=11.0km az=111.4, confirmed*

ISC 02 07:48:58.3±0.6, 3°.37N±0°.06×84°.21W±0°.10, h35km, n97, σ1s74/75, mb4.3/28, MS3.6/7, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDITO	**Canoas**	**5.34**	**14**	P	**Pn**	**07 50 13.7**	**-1.9**
CDITO	**Canoas**	**5.34**	**14**	S	**Sn**	**07 51 13.2**	**-2.8**
BRU2	**Volcan**	**5.60**	**16**	Pn	**Pn**	**07 50 19.6**	**+0.3**
BRU2	**Volcan**	**5.60**	**16**	P	**Pn**	**07 50 17.0**	**-2.3**
BRU2	**Volcan**	**5.60**	**16**	S	**Sn**	**07 51 17.9**	**-4.7**
OCHAL	**Ojochal**	**5.72**	**6**	P	**Pn**	**07 50 18.5**	**-2.4**
OCHAL	**Ojochal**	**5.72**	**6**	S	**Sn**	**07 51 22.7**	**-2.6**
DRK0	**Durika**	**5.94**	**9**	P	**Pn**	**07 50 22.1**	**-1.9**
DRK0	**Durika**	**5.94**	**9**	S	**Sn**	**07 51 29.0**	**-1.8**
PAC1	**Pacto, Paraso**	**6.23**	**120**	P	**Pn**	**07 50 26.3**	**-1.7**
	1μm65nm,0.8s						
LCR2	**La Lucha 2**	**6.34**	**2**	Pn	**Pn**	**07 50 28.3**	**-1.2**
LCR2	**La Lucha 2**	**6.34**	**2**	P	**Pn**	**07 50 28.2**	**-1.3**
LCR2	**La Lucha 2**	**6.34**	**2**	S	**Sn**	**07 51 35.7**	**-5.1**
OTAV	**Otavalo**	**6.54**	**118**		**Pn**	**07 50 31.0**	**-1.5**
OTAV	**Otavalo**	**6.54**	**118**	P	**Pn**	**07 50 30.4**	**-2.1**
	17nm,1.1s						
INDI	**Punta indio, G**	**6.58**	**349**	P	**Pn**	**07 50 30.2**	**-2.6**
HDC	**Heredia**	**6.59**	**1**		**Pn**	**07 50 32.3**	**-0.6**
TCS1	**Tacares**	**6.63**	**359**	P	**Pn**	**07 50 32.3**	**-1.2**
CMARA	**Lajas Hojancha**	**6.72**	**350**	P	**Pn**	**07 50 32.3**	**-2.3**
JTS	**Las Juntas de**	**6.92**	**354**		**Pn**	**07 50 36.4**	**-1.0**
JTS	**Las Juntas de**	**6.92**	**354**	Pn	**Pn**	**07 50 36.2**	**-1.2**
	44nm,0.3s,baz=166,slow=4.9,SNR=106						
JTS				Sn	**Sn**	**07 51 54.2**	**-0.7**
	baz=330,slow=20						
JTS				LR	LR	07 52 42.2	
	comp=Z,854nm,20.7s,baz=181,slow=33						
JTS	**Las Juntas de**	**6.92**	**354**	P	**Pn**	**07 50 35.2**	**-2.1**
	2μm190nm,0.6s						
SOCE	**Pocosol**	**6.98**	**357**	Pn	**Pn**	**07 50 37.7**	**-0.5**
SOCE	**Pocosol**	**6.98**	**357**	P	**Pn**	**07 50 37.9**	**-0.3**
SOCE	**Pocosol**	**6.98**	**357**	S	**Sn**	**07 51 59.2**	**+2.7**
BONI	**La Bonita**	**7.28**	**113**	P	**Pn**	**07 50 43.7**	**+1.3**
	33nm,1.0s						
COVE	**Coope Vega, Sa**	**7.31**	**358**	P	**Pn**	**07 50 42.3**	**-0.3**
PIAT	**Ana Tenorio**	**7.36**	**126**	P	**Pn**	**07 50 42.9**	**-0.8**
	14nm,1.1s						
JAMC	**Jamndi, Valle**	**7.52**	**91**	P	**Pn**	**07 50 45.3**	**-0.5**
	31nm,1.1s						
POPC	**Popayan, Colom**	**7.57**	**96**	P	**Pn**	**07 50 45.0**	**-1.4**
PLMC	**San Jos del P**	**8.05**	**79**	P	**Pn**	**07 50 54.1**	**+1.2**
	630nm56nm,1.1s						
CBOC	**Ciudad Bolivar**	**8.54**	**73**	P	**Pn**	**07 51 00.9**	**+1.2**
	22nm,0.9s						
ACON	**Acoyapa**	**8.60**	**354**		**Pn**	**07 51 00.4**	**0.0**
ACON	**Acoyapa**	**8.60**	**354**	P	**Pn**	**07 50 59.5**	**-0.9**
ACON	**Acoyapa**	**8.60**	**354**	P	**Pn**	**07 51 00.7**	**+0.3**
	38nm,0.9s						
FLOC	**Florencia**	**8.73**	**102**	Pn	**Pn**	**07 51 01.1**	**-1.1**
FLOC	**Florencia**	**8.73**	**102**	P	**Pn**	**07 51 05.5**	**+3.3**
	24nm,1.1s						
ESPN	**Las Esperanzas**	**8.77**	**359**	Pn	**Pn**	**07 51 03.6**	**+0.9**
ANIL	**Santa Ana**	**8.85**	**82**	P	**Pn**	**07 51 06.7**	**+2.5**
ORTC	**Ortega, Tolima**	**8.96**	**86**	P	**Pn**	**07 51 07.4**	**+2.0**
	56nm,1.1s						
GUY2C	**Guyana, Caldas**	**9.01**	**78**	P	**Pn**	**07 51 09.0**	**+2.6**
	522nm49nm,1.1s						
BOAB	**BOACO BROADBAN**	**9.14**	**351**		**Pn**	**07 51 08.5**	**+0.7**
NORC	**Norcasia**	**9.56**	**76**	P	**Pn**	**07 51 17.2**	**+3.5**
	32nm,1.1s						
ROSC	**El Rosal**	**9.97**	**81**	Pn	**Pn**	**07 51 19.1**	**-0.5**
	0.8nm,0.3s,baz=3.1,slow=23,SNR=6.7						
ROSC				LR	LR	07 55 08.4	
	comp=Z,246nm,18.6s,baz=242,slow=38						
	10.0nm,0.9s						
PTBC	**PUERTO BERRIO,**	**10.21**	**72**	P	**Pn**	**07 51 25.8**	**+3.3**
	170nm21nm,1.1s						
MACC	**Macarena, Meta**	**10.42**	**96**	P	**Pn**	**07 51 26.4**	**+1.0**
TGUH	**Tegucigalpa,Un**	**11.04**	**344**		**Pn**	**07 51 34.8**	**+0.7**
ATAH	**Atahualpa**	**11.94**	**151**	LR	LR	07 56 09.5	
	comp=Z,376nm,19.8s,baz=337,slow=36						
SDV	**Santo Domingo**	**14.56**	**67**	LR	LR	07 58 09.9	
	comp=Z,88nm,19.2s,baz=244,slow=38						
CMIG	**Matias Romero**	**17.20**	**323**	LR	LR	07 58 26.4	
	comp=Z,150nm,18.1s,baz=158,slow=33						
PCRV	**Puerto La Cruz**	**20.57**	**70**	LR	LR	08 02 52.2	
	comp=Z,68nm,19.9s,slow=41						
CELP	**Cerrillos**	**22.62**	**48**		**P**	**07 53 58.8**	**+2.4**
UUPR	**Utuado, UPR, P**	**22.63**	**48**	P	**P**	**07 53 57.7**	**+1.2**
SJG	**San Juan**	**22.97**	**49**	LR	LR	08 02 22.9	
	comp=Z,66nm,22.0s,baz=244,slow=35						
LPAZ	**La Paz**	**25.18**	**141**	P	**P**	**07 54 20.8**	**-0.6**
	2.8nm,1.1s,baz=337,slow=8.2,SNR=3.9						
LPAZ				LR	LR	08 04 40.4	
	comp=Z,179nm,20.0s,baz=282,slow=38						
	2.8nm,1.1s						
SIV	**San Ignacio**	**29.89**	**131**	LR	LR	08 07 08.7	
	comp=Z,232nm,20.5s,baz=296,slow=37						
TKL	**Tuckaleechee C**	**32.13**	**1**	LR	LR	08 08 23.1	
	comp=Z,132nm,18.5s,baz=191,slow=36						
LCAR	**Lake Charles**	**33.17**	**350**		**P**	**07 55 32.4**	**+0.8**
LCAR				IAmb	IAmb	07 55 33.0	
	comp=Z,7.1nm,1.3s						
T35A	**Sooner Cattle**	**35.26**	**343**	P	**P**	**07 55 50.4**	**+0.7**
T35A				IAmb	IAmb	07 55 51.0	
	comp=Z,7.2nm,1.0s						
Q51A	**Peebles**	**35.50**	**1**	P	**P**	**07 55 52.8**	**+1.0**
Q51A				IAmb	IAmb	07 55 57.8	
	comp=Z,7.0nm,0.9s						
H03N2	**Juan Fernandez**	**36.95**	**173**	T	T	08 35 13.1	
	baz=351,slow=76,SNR=11						
H03N1	**Juan Fernandez**	**36.95**	**173**	T	T	08 35 18.7	
	baz=351,slow=76,SNR=12						
H03N3	**Juan Fernandez**	**36.96**	**173**	T	T	08 35 12.8	
	baz=351,slow=76,SNR=11						
CRNM	**Carthage**	**36.97**	**328**		**P**	**07 56 05.9**	**+1.2**
RTBA	**Rita Blanca**	**37.08**	**335**	P	**P**	**07 56 06.8**	**+1.3**
RTBA				IAmb	IAmb	07 56 16.4	
	comp=Z,9.3nm,1.2s						
ANMO	**Albuquerque**	**37.60**	**329**		**P**	**07 56 10.2**	**+0.2**
ANMO	**Albuquerque**	**37.60**	**329**	P	**P**	**07 56 10.1**	**+0.2**
ANMO				IAmb	IAmb	07 56 32.7	
	comp=Z,2.5nm,0.8s						
ZON	**Zonda**	**37.73**	**158**	P	**P**	**07 56 09.8**	**-1.1**
ZON				IAmb	IAmb	07 56 47.5	
	comp=Z,10nm,1.3s						
LUPA	**Lehigh Univers**	**37.91**	**11**	P	**P**	**07 56 13.5**	**+1.2**
LUPA				IAmb	IAmb	07 56 14.4	
	comp=Z,13nm,1.3s						
CPUP	**Villa Florida**	**39.34**	**140**	LR	LR	08 14 25.1	
	comp=Z,28nm,20.4s,baz=184,slow=39						
SDCO	**Great Sand Dun**	**39.38**	**333**		**P**	**07 56 26.8**	**+1.7**
MVCO	**Mesa Verde**	**40.40**	**330**	P	**P**	**07 56 34.0**	**+0.6**
MVCO				IAmb	IAmb	07 56 36.6	
	comp=Z,9.9nm,1.5s						
WUAZ	**Wupatki**	**40.69**	**325**		**P**	**07 56 37.5**	**+1.7**
WUAZ				IAmb	IAmb	07 56 39.8	
	comp=Z,7.7nm,1.1s						
SADO	**Sadowa**	**41.47**	**5**	LR	LR	08 13 55.6	
	comp=Z,152nm,18.2s,baz=172,slow=36						
HMU	**Henry Mountain**	**42.11**	**328**	IAmb	IAmb	07 56 56.2	
	comp=Z,7.0nm,1.0s						
KNB	**Kanab**	**42.57**	**325**	P	**P**	**07 56 52.2**	**+0.9**
KNB				IAmb	IAmb	07 56 54.7	
	comp=Z,7.7nm,1.3s						
H62A	**Milan**	**42.62**	**14**	P	**P**	**07 56 51.9**	**+0.7**
SRU	**San Rafael Swe**	**42.88**	**330**	IAmb	IAmb	07 56 57.0	
	comp=Z,6.8nm,1.3s						
BSUT	**Blindstream Ca**	**44.08**	**331**	IAmb	IAmb	07 57 10.7	
	comp=Z,7.7nm,1.4s						
WCT	**Wildcat Mounta**	**44.66**	**322**	IAmb	IAmb	07 57 11.9	
	comp=Z,6.0nm,1.4s						
SPR3	**Spring Creek 3**	**44.81**	**326**	IAmb	IAmb	07 57 12.5	
	comp=Z,5.3nm,1.2s						
PDAR	**Pinedale Array**	**45.27**	**334**	P	**P**	**07 57 11.3**	**-1.5**
	comp=Z,0.5nm,0.8s,baz=134,slow=6.4,SNR=5.7						
PDAR				PcP	**PcP**	**07 58 52.3**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=143,slow=3.8,SNR=2.6						
	comp=Z,0.5nm,0.8s						
HWUT	**Hardware Ranch**	**45.29**	**331**	IAmb	IAmb	07 57 20.1	
	comp=Z,4.0nm,0.9s						
BGU	**Big Grassy Mou**	**45.51**	**329**	IAmb	IAmb	07 57 17.3	
	comp=Z,5.4nm,1.2s						
AGMN	**Agassiz Nation**	**45.87**	**349**	IAmb	IAmb	07 57 18.8	
	comp=Z,5.8nm,1.0s						
ELK	**Elko**	**46.54**	**327**	IAmb	IAmb	07 57 31.2	
	comp=Z,2.7nm,0.8s						
NVAR	**Mina Array Bea**	**46.73**	**323**	P	**P**	**07 57 24.6**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=133,slow=7.0,SNR=9.2						
	comp=Z,1.1nm,0.7s						
ULM	**Lac du Bonnet**	**47.75**	**350**	P	**P**	**07 57 30.9**	**-1.0**
	comp=Z,5.4nm,1.0s,baz=157,slow=10,SNR=4.1						
	comp=Z,5.4nm,1.0s						
F10A	**Beach Ranch, E**	**51.28**	**331**	IAmb	IAmb	07 58 00.9	
	comp=Z,8.7nm,1.4s						
J05D	**Fort Rock, OR**	**51.55**	**326**	IAmb	IAmb	07 58 04.2	
	comp=Z,7.6nm,1.2s						
MXC	**Moxie City**	**53.22**	**330**	IAmb	IAmb	07 58 16.7	
	comp=Z,3.1nm,1.0s						
SMAI	**San Martin Ant**	**72.34**	**173**	P	**P**	**08 00 21.4**	**+1.3**
ILAR	**Eielson Array**	**75.58**	**337**	P	**P**	**08 00 38.8**	**-0.5**
	comp=Z,0.8nm,1.0s,baz=139,slow=3.9,SNR=5.4						
	comp=Z,0.8nm,1.0s						
ESDC	**Sonseca Array**	**80.35**	**50**	P	**P**	**08 01 05.5**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=252,slow=4.4,SNR=4.1						
	comp=Z,0.7nm,0.7s						
BELA	**Belgrano 2**	**85.42**	**171**	P	**P**	**08 01 31.9**	**+0.2**
QSPA	**South Pole Qui**	**93.39**	**180**	P	**P**	**08 02 10.6**	**+0.7**
QSPA	**South Pole Qui**	**93.39**	**180**	P	**P**	**08 02 09.8**	**0.0**
	comp=Z,2.4nm,1.1s,baz=86,slow=6.6,SNR=3.4						
	comp=Z,2.4nm,1.1s						

GCG 02 07:49:38.6±2.0, 15°.83N×91°.47W, h0km±12km, MD3.6, ML2.7, Mexico-Guatemala border region

| Code | Station Name | Δ° | AZ° | Phase

735A	**Kenedy**	**0.19**	**143**		**Pg**	**07 51 30.7**	**-0.3**
735A					**Sg**	**07 51 33.4**	**-0.2**
735A				IAML		07 51 36.1	
	1μm,0.3s						
735A	**Kenedy**	**0.19**	**143**	⇑P	**Pg**	**07 51 30.7**	**-0.3**
735A				S	**Sg**	**07 51 35.0**	**+1.4**
EF04	**Eagle Ford 04**	**0.24**	**33**		**Pg**	**07 51 31.7**	**-0.2**
EF04					**Sg**	**07 51 36.1**	**+1.1**
EF04	**Eagle Ford 04**	**0.24**	**33**	P	**Pg**	**07 51 31.7**	**-0.2**
EF04				S	**Sg**	**07 51 36.1**	**+1.1**
EF68	**Kenedy**	**0.24**	**189**	P	**Pg**	**07 51 32.1**	**+0.1**
EF68				S	**Sg**	**07 51 37.3**	**+2.1**
EF52	**Campbellton**	**0.28**	**234**	P	**Pg**	**07 51 33.2**	**+0.4**
EF75	**Tulsita**	**0.33**	**163**	P	**Pg**	**07 51 33.8**	**+0.1**
EF75				S	**Sb**	**07 51 40.7**	**-0.5**
EF72	**Nordheim**	**0.34**	**116**	P	**Pg**	**07 51 33.9**	**0.0**
EF05	**Yorktown**	**0.37**	**93**	P	**Pg**	**07 51 34.5**	**+0.1**
EF05				S	**Sb**	**07 51 41.8**	**-0.5**
EF71	**Pawnee**	**0.39**	**194**	P	**Pg**	**07 51 35.1**	**+0.2**
EF71				S	**Sb**	**07 51 42.8**	**-0.2**
EF01	**Eagle Ford 01**	**0.40**	**287**		**Pg**	**07 51 35.2**	**+0.1**
EF01					**Sb**	**07 51 43.4**	**+0.1**
EF01	**Eagle Ford 01**	**0.40**	**287**	P	**Pg**	**07 51 35.2**	**+0.1**
EF01				S	**Sb**	**07 51 43.4**	**+0.1**
EF62	**Nixon**	**0.42**	**32**	S	**Sg**	**07 51 41.9**	**+1.2**
EF67	**Cuero**	**0.51**	**77**	P	**Pb**	**07 51 37.9**	**-0.9**
EF67				S	**Sb**	**07 51 46.6**	**+0.1**
EF55	**Cheapside**	**0.52**	**61**	P	**Pb**	**07 51 38.1**	**-0.8**
EF51	**Christine**	**0.54**	**246**	P	**Pb**	**07 51 38.8**	**-0.3**
EF51				S	**Sb**	**07 51 48.0**	**+0.9**
EF76	**Three Rivers**	**0.54**	**205**	P	**Pb**	**07 51 38.6**	**-0.5**
EF76				S	**Sb**	**07 51 48.0**	**+0.8**
EF02	**Christine**	**0.57**	**246**	P	**Pb**	**07 51 39.6**	**0.0**
EF02				S	**Sb**	**07 51 48.9**	**+0.8**
EF63	**Gonzales**	**0.70**	**36**	P	**Pg**	**07 51 40.3**	**-0.4**
EF58	**Charlotte**	**0.71**	**256**	P	**Pb**	**07 51 41.5**	**-0.5**
EF58				S	**Sb**	**07 51 53.2**	**+1.1**
EF74	**Calliham**	**0.71**	**217**	P	**Pb**	**07 51 41.9**	**-0.2**
EF74				S	**Sn**	**07 51 54.0**	**-1.2**
EF64	**Waelder**	**0.91**	**37**	P	**Pb**	**07 51 45.7**	**+0.3**
EF64				S	**Sb**	**07 51 57.6**	**-0.3**
EF65	**Schulenburg**	**1.06**	**52**	P	**Pb**	**07 51 47.9**	**-0.2**
EF65				S	**Sn**	**07 52 03.5**	**-0.5**
MLDN	**Muldoon**	**1.08**	**44**		**Pn**	**07 51 49.3**	**+0.3**
MLDN					**Sn**	**07 52 04.2**	**-0.2**
MLDN				IAML		07 52 05.2	
	121nm,0.8s						
MLDN				IAML		07 52 10.2	
	80nm,0.7s						
MLDN	**Muldoon**	**1.08**	**44**	S	**Sn**	**07 52 04.4**	**+0.1**
HNDO	**Hondo**	**1.28**	**294**		**Pn**	**07 51 50.1**	**-1.7**
HNDO					**Sg**	**07 52 07.1**	**-1.3**
HNDO	**Hondo**	**1.28**	**294**	P	**Pn**	**07 51 50.1**	**-1.7**
HNDO				Pg	**Pg**	**07 51 52.2**	**+0.4**
HNDO				S	**Sn**	**07 52 09.8**	**+0.5**
833A	**Chaparral WMA,**	**1.45**	**242**		**Pn**	**07 51 53.7**	**-0.4**
833A					**Sn**	**07 52 10.3**	**-3.2**
833A	**Chaparral WMA,**	**1.45**	**242**	P	**Pn**	**07 51 54.2**	**+0.1**
833A	**Chaparral WMA,**	**1.45**	**242**	S	**Sn**	**07 52 12.9**	**-0.6**
KVTX	**Kingsville**	**1.46**	**178**	S	**Sg**	**07 52 17.7**	**+3.5**
435B	**Jarrell**	**1.79**	**10**	Pn	**Pb**	**07 51 59.8**	**-0.8**
435B					**Sb**	**07 52 23.6**	**+0.3**
435B				IAmb_Lg		07 52 30.1	
	comp=Z,37nm,0.8s						
435B	**Jarrell**	**1.79**	**10**	S	**Sg**	**07 52 25.9**	**+1.1**
435B	**Jarrell**	**1.79**	**10**	P	**Pg**	**07 52 02.2**	**+0.6**
JCT	**Junction City**	**2.18**	**313**		**Pn**	**07 52 03.7**	**-0.5**
JCT	**Junction City**	**2.18**	**313**	P	**Pn**	**07 52 03.9**	**-0.4**
JCT				Pg	**Pb**	**07 52 06.9**	**-0.3**
DRIO	**Del Rio**	**2.38**	**281**		**Pn**	**07 52 06.1**	**-0.8**
DRIO	**Del Rio**	**2.38**	**281**	Pg	**Pb**	**07 52 09.7**	**-0.9**
BRDY	**Brady**	**2.45**	**338**		**Pn**	**07 52 08.1**	**+0.2**
BRDY				IAmb_Lg		07 52 53.3	
	comp=Z,14nm,0.8s						
BRDY	**Brady**	**2.45**	**338**	Pg	**Pn**	**07 52 09.0**	**+1.2**
WHTX	**Lake Whitney,**	**3.00**	**8**	Pn	**Pn**	**07 52 16.3**	**+0.9**
WHTX				IAmb_Lg		07 53 10.1	
	comp=Z,12nm,1.0s						
OZNA	**Ozona**	**3.36**	**305**	Pn	**Pn**	**07 52 20.3**	**-0.1**
OZNA				IAmb_Lg		07 53 20.0	
	comp=Z,9.9nm,0.8s						
FW13	**Cleburne**	**3.36**	**7**	Pn	**Pn**	**07 52 20.5**	**+0.1**
SAND	**Sanderson**	**3.77**	**285**		**Pn**	**07 52 25.0**	**-1.1**
SAND				IAmb_Lg		07 53 31.8	
	comp=Z,7.2nm,0.7s						
PLPT	**Palo Pinto**	**3.80**	**355**		**Pn**	**07 52 25.8**	**-0.7**
PLPT				IAmb_Lg		07 53 35.9	
	comp=Z,5.6nm,0.8s						
ABTX	**Abilene, Hawle**	**3.89**	**338**	Pn	**Pn**	**07 52 28.0**	**+0.3**
ABTX				IAmb_Lg		07 53 39.7	
	comp=Z,4.8nm,0.9s						
SGCY	**Sterling City**	**3.99**	**317**		**Pn**	**07 52 29.2**	**+0.1**
Z35A	**Perchaven, San**	**4.35**	**8**	Pn	**Pn**	**07 52 34.1**	**+0.2**
SN05	**Snyder 5**	**4.61**	**327**	IAmb_Lg		07 54 03.0	
	comp=Z,8.8nm,0.8s						
APMT	**Aspermont**	**4.69**	**337**	Pn	**Pn**	**07 52 39.4**	**+0.7**
MNHN	**Monahans**	**4.78**	**300**	Pn	**Pn**	**07 52 39.6**	**-0.3**
MNHN				IAmb_Lg		07 54 00.9	
	comp=Z,11nm,1.0s						
SN07	**Snyder 07**	**4.79**	**329**	Pn	**Pn**	**07 52 40.4**	**+0.3**
TX31	**Lajitas Ar. Si**	**5.02**	**275**	Pn	**Pn**	**07 52 42.6**	**-0.7**
POST	**Post**	**5.07**	**324**	IAmb_Lg		07 54 19.8	
	comp=Z,6.6nm,0.8s						
ALPN	**Alpine**	**5.14**	**287**	IAmb_Lg		07 54 22.4	
	comp=Z,6.9nm,0.9s						
DKNS	**Dickens**	**5.30**	**332**	Pn	**Pn**	**07 52 47.7**	**+0.6**
WMOK	**Wichita Mounta**	**5.75**	**353**	Pn	**Pn**	**07 52 53.9**	**+0.6**
WMOK				IAmb_Lg		07 54 40.7	
	comp=Z,5.0nm,0.7s						
VHRN	**Van Horn**	**6.37**	**288**	Pn	**Pn**	**07 53 01.2**	**-0.6**
MSTX	**Muleshoe**	**6.44**	**321**	IAmb_Lg		07 54 54.0	
	comp=Z,4.3nm,0.9s						
AMTX	**Amarillo**	**6.66**	**332**	IAmb_Lg		07 55 02.1	
	comp=Z,8.8nm,0.7s						
MNTX	**Cornudas Mount**	**6.97**	**294**	IAmb_Lg		07 55 20.2	
	comp=Z,6.8nm,1.2s						

TRN 02 07:53:18.2, 15°45N×61°38W, h15km, MD2.0, Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSLB	**Salisbury**	**0.04**	**254**	*e*P	Pg	07 53 21.1	+0.2
DSLB	**Salisbury**	**0.04**	**254**	*e*P	Pg	07 53 21.1	+0.1
DSLB	**Salisbury**	**0.04**	**254**	*e*P	Pg	07 53 21.8	+0.9
DSLB				*e*S	Sg	07 53 23.4	+0.7
DLDT	**Laudat, Domini**	**0.12**	**164**	*e*P	Pg	07 53 21.7	-0.1
DLDT	**Laudat, Domini**	**0.12**	**164**	*e*P	Pb	07 53 22.5	+0.3
DLDT				*e*S	Sb	07 53 25.0	0.0
MDN	**Morne-Daniel**	**0.13**	**184**	*e*P	Pb	07 53 22.2	-0.1
MDN	**Morne-Daniel**	**0.13**	**184**	*e*P	Pg	07 53 22.0	+0.2
MDN	**Morne-Daniel**	**0.13**	**184**	*e*P	Pb	07 53 22.7	+0.4
MDN				*e*S	Sb	07 53 25.4	+0.3
DWS	**Wesley**	**0.14**	**30**	*e*P	Pb	07 53 22.3	-0.2
DWS	**Wesley**	**0.14**	**30**	*e*P	Pb	07 53 23.1	+0.6
DWS				*e*S	Sb	07 53 25.6	+0.2
DRTD	**Roseau, Domini**	**0.15**	**181**	*e*P	Pb	07 53 22.4	-0.3
DRTD	**Roseau, Domini**	**0.15**	**181**	*e*P	Pb	07 53 23.1	+0.4
DRTD				*e*S	Sb	07 53 26.2	+0.5
MAGL	**Barre de l'ile**	**0.51**	**11**	*e*P	Pb	07 53 29.6	+0.8
MAGL				*e*S	Sb	07 53 37.0	+1.0

IDC ***02*** *07:53:26.1±3.2, 3°.31N×84°.24W, h0km, mb3.8/5, mbtmp3.8/6, ML2.0/1, MS3.4/1, Error ellipse: s-maj=78.3km s-min=33.8km az=21.0*

NEIC ***02*** *07:53:30.1±1.0, 3°.39N±0°.09×84°.1W±0°.1, h10km±1km, mb4.3/47, Error ellipse: s-maj=23.1km s-min=12.5km az=242.0*

CATAC ***02*** *07:54:39.0±1.3, 9°N±11°×8°.5W±°, h1km, M4.3/13, mb5.1/5, mB5.1/3, MLv4.0/13, Mw(mB)4.5/3, Error ellipse: s-maj=23.6km s-min=10.3km az=9.1, confirmed*

ISC 02 07:53:32.7±0.6, 3°.40N±0°.09×84°.06W±0°.10, h35km, n83, σ1°03/79, mb4.3/27, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**5.53**	**14**	Pn	**Pn**	**07 54 52.8**	**0.0**
LCR2	**La Lucha 2**	**6.30**	**0**	Pn	**Pn**	**07 55 01.9**	**-1.5**
OTAV	**Otavalo**	**6.42**	**119**		**Pn**	**07 55 04.4**	**-0.9**
HDC	**Heredia**	**6.56**	**360**	Pn	**Pn**	**07 55 06.0**	**-0.9**
INDI	**Punta indio, G**	**6.58**	**347**	P	**Pn**	**07 55 03.8**	**-3.3**
TCS1	**Tacares**	**6.60**	**358**	P	**Pn**	**07 55 05.7**	**-1.8**
CMARA	**Lajas Hojancha**	**6.72**	**348**	P	**Pn**	**07 55 06.1**	**-2.9**
JTS	**Las Juntas de**	**6.91**	**353**	Pn	**Pn**	**07 55 10.1**	**-1.5**
JTS	**Las Juntas de**	**6.91**	**353**	Pn	**Pn**	**07 55 09.8**	**-1.8**
	32nm,0.3s,baz=122,slow=7.2,SNR=62						
SOCE	**Pocosol**	**6.96**	**355**	Pn	**Pn**	**07 55 12.0**	**-0.4**
SOCE	**Pocosol**	**6.96**	**355**	P	**Pn**	**07 55 11.5**	**-0.8**
COVE	**Coope Vega, Sa**	**7.28**	**357**	P	**Pn**	**07 55 16.4**	**-0.3**
ACON	**Acoyapa**	**8.59**	**353**		**Pn**	**07 55 34.5**	**-0.1**
ACON	**Acoyapa**	**8.59**	**353**	P	**Pn**	**07 55 33.1**	**-1.5**
ESPN	**Las Esperanzas**	**8.74**	**358**	Pn	**Pn**	**07 55 36.7**	**-0.1**
MGAN	**Managua**	**8.96**	**346**	Pn	**Pn**	**07 55 37.7**	**-2.0**
SAPS	**Ciudad Sandino**	**9.02**	**345**	P	**Pn**	**07 55 40.6**	**0.0**
COPN	**Copaltepe**	**9.08**	**344**	P	**Pn**	**07 55 41.5**	**+0.1**
CRIN	**San Cristobal**	**9.70**	**342**	Pn	**Pn**	**07 55 49.7**	**-0.3**
ROSC	**El Rosal**	**9.82**	**81**	Pn	**Pn**	**07 55 53.5**	**+1.6**
	0.3nm,0.3s,baz=299,slow=19,SNR=1.6 2.7nm,0.4s						
POTN	**Potosi Cosigui**	**10.13**	**341**	P	**Pn**	**07 55 55.9**	**+0.1**
CNCH	**Conchagua**	**10.50**	**339**	P	**Pn**	**07 56 02.1**	**+1.1**
LCND	**La Caada**	**10.55**	**339**	P	**Pn**	**07 56 02.2**	**+0.6**
ALJI	**Alcalda de J**	**10.83**	**336**	P	**Pn**	**07 56 06.1**	**+0.8**
TGUH	**Tegucigalpa,Un**	**11.06**	**344**		**Pn**	**07 56 08.0**	**-0.6**
SCLA	**Alcaldia de Sa**	**11.23**	**336**	P	**Pn**	**07 56 12.1**	**+1.2**
PAVA	**Las Pavas**	**11.32**	**335**	P	**Pn**	**07 56 14.8**	**+2.5**
GDHS	**Morne Mazeau,**	**25.38**	**58**	P	**P**	**07 58 57.3**	**+0.3**
MPOM	**Morne Pois Mar**	**25.38**	**63**	P	**P**	**07 58 57.0**	**0.0**
553A	**Crawfordville**	**26.65**	**359**	P	**P**	**07 59 07.2**	**-1.1**
HKT	**Hockley**	**28.67**	**338**	P	**P**	**07 59 26.7**	**+0.4**
HKT				IAmb	IAmb	07 59 26.9	
	comp=Z,5.7nm,1.2s						
FCAR	**Ozark Folk Cen**	**33.18**	**348**	P	**P**	**08 00 06.8**	**+0.7**
FCAR				IAmb	IAmb	08 00 46.5	
	comp=Z,3.3nm,1.3s						
T47A	**Sharon Grove**	**33.55**	**356**	P	**P**	**08 00 09.8**	**+0.5**
T47A				IAmb	IAmb	08 00 10.5	
	comp=Z,7.1nm,1.4s						
VHRN	**Van Horn**	**33.65**	**326**	P	**P**	**08 00 09.8**	**-0.7**
VHRN				IAmb	IAmb	08 00 36.7	
	comp=Z,4.7nm,1.4s						
ADOK	**Arcadia Dam**	**34.38**	**341**	P	**P**	**08 00 16.2**	**-0.3**
P43A	**Skaggs, Pawnee**	**36.41**	**353**	P	**P**	**08 00 34.9**	**+0.9**
P43A				IAmb	IAmb	08 00 40.8	
	comp=Z,3.9nm,0.8s						
H03N2	**Juan Fernandez**	**36.96**	**173**	T	T	08 39 46.9	
	baz=350,slow=74						
H03N1	**Juan Fernandez**	**36.96**	**173**	T	T	08 39 48.0	
	baz=350,slow=74						
H03N3	**Juan Fernandez**	**36.98**	**173**	T	T	08 39 47.8	
	baz=350						
CRNM	**Carthage**	**37.02**	**328**	P	**P**	**08 00 39.6**	**+0.1**
BNM	**Barren Site**	**37.12**	**328**	P	**P**	**08 00 40.5**	**+0.1**
ANMO	**Albuquerque**	**37.65**	**329**	P	**P**	**08 00 45.0**	**+0.2**
ANMO	**Albuquerque**	**37.65**	**329**	P	**P**	**08 00 45.2**	**+0.4**
ANMO				IAmb	IAmb	08 00 51.8	
	comp=Z,1.3nm,0.9s						
T25A	**Trinidad**	**38.43**	**333**	P	**P**	**08 00 52.0**	**+0.5**
BO04	**La Punta**	**39.29**	**162**	P	**P**	**08 00 57.7**	**-0.7**
BO04				IAmb	IAmb	08 01 14.5	
	comp=Z,17nm,1.2s						
SDCO	**Great Sand Dun**	**39.42**	**333**	P	**P**	**08 01 00.2**	**+0.4**
X16A	**Lo Mia Camp, P**	**40.01**	**324**	P	**P**	**08 01 04.8**	**+0.2**
Y14A	**Wickenburg**	**40.63**	**322**	P	**P**	**08 01 09.6**	**0.0**
ML02	**Panimavida**	**40.72**	**164**	P	**P**	**08 01 10.6**	**+0.4**
WUAZ	**Wupatki**	**40.75**	**325**	P	**P**	**08 01 11.2**	**+0.5**
WUAZ				IAmb	IAmb	08 01 17.6	
	comp=Z,6.3nm,1.1s						
SADO	**Sadowa**	**41.43**	**5**	P	**P**	**08 01 16.5**	**+0.6**
SADO				IAmb	IAmb	08 01 35.7	
	comp=Z,8.6nm,1.4s						
SRU	**San Rafael Swe**	**42.92**	**329**	P	**P**	**08 01 28.1**	**-0.3**
SRU				IAmb	IAmb	08 01 34.9	
	comp=Z,3.9nm,1.1s						
V12A	**Nelson**	**42.95**	**322**	P	**P**	**08 01 28.6**	**0.0**
RSSD	**Black Hills**	**44.23**	**339**	P	**P**	**08 01 38.9**	**0.0**
CCAC	**Calif City Air**	**44.58**	**319**	P	**P**	**08 01 41.9**	**+0.2**
WCT	**Wildcat Mounta**	**44.73**	**322**	P	**P**	**08 01 42.0**	**-0.9**
S11A	**Rachel**	**44.76**	**324**	P	**P**	**08 01 43.6**	**+0.4**
S11A				IAmb	IAmb	08 02 16.8	
	comp=Z,3.0nm,1.0s						
SPR3	**Spring Creek 3**	**44.87**	**326**	P	**P**	**08 01 43.8**	**-0.4**
SPR3				IAmb	IAmb	08 01 50.4	
	comp=Z,4.5nm,1.3s						
PDAR	**Pinedale Array**	**45.30**	**334**	P	**P**	**08 01 46.2**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=159,slow=6.1,SNR=2.8 comp=Z,0.2nm,0.5s						
HWUT	**Hardware Ranch**	**45.34**	**331**		**P**	**08 01 46.9**	**-0.8**
HWUT				IAmb	IAmb	08 01 53.2	
	comp=Z,4.5nm,1.1s						
AGMN	**Agassiz Nation**	**45.87**	**349**		**P**	**08 01 50.5**	**-1.1**
AGMN				IAmb	IAmb	08 01 57.3	
	comp=Z,5.5nm,1.0s						
MDND	**Maddock**	**46.26**	**346**	P	**P**	**08 01 54.2**	**-0.5**
ELK	**Elko**	**46.59**	**327**	P	**P**	**08 01 57.2**	**-0.6**
ELK				IAmb	IAmb	08 01 58.7	
	comp=Z,1.5nm,0.9s						
NVAR	**Mina Array Bea**	**46.80**	**323**	P	**P**	**08 01 59.0**	**-0.4**
NVAR	**Mina Array Bea**	**46.80**	**323**	P	**P**	**08 01 58.8**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=116,slow=6.0,SNR=8.8 comp=Z,0.9nm,0.7s						
ULM	**Lac du Bonnet**	**47.74**	**350**	P	**P**	**08 02 04.2**	**-2.0**
	comp=Z,4.0nm,0.9s,baz=168,slow=5.7,SNR=3.8 comp=Z,4.0nm,0.9s						
PAHR	**Pah Rah Range**	**48.26**	**323**	P	**P**	**08 02 10.9**	**+0.3**
PAHR				IAmb	IAmb	08 02 47.8	
	comp=Z,4.9nm,1.4s						
RCBR	**Riachuelo**	**48.96**	**101**	LR	LR	08 24 20.9	
	comp=Z,38nm,20.0s,baz=208,slow=38						
MCCM	**Marconi Confer**	**49.50**	**319**	P	**P**	**08 02 20.4**	**+0.5**
WVOR	**Wild Horse Val**	**49.60**	**327**	P	**P**	**08 02 21.1**	**+0.2**
WVOR				IAmb	IAmb	08 02 26.8	
	comp=Z,5.0nm,1.5s						
COYC	**Coyhaique**	**49.91**	**169**	P	**P**	**08 02 23.5**	**+0.7**
MSO	**Missoula**	**50.42**	**334**	P	**P**	**08 02 27.4**	**+0.4**
MSO				IAmb	IAmb	08 02 59.6	
	comp=Z,4.8nm,1.4s						
CBB	**Campbell River**	**58.09**	**330**	P	**P**	**08 03 23.1**	**+0.5**
WRAK	**Wrangell Islan**	**65.29**	**333**	P	**P**	**08 04 11.3**	**+0.4**
RSD	**Rainshed**	**71.17**	**289**	P	**P**	**08 04 47.9**	**-0.8**
I30M	**Mount Dempster**	**71.91**	**339**	P	**P**	**08 04 53.1**	**+0.8**
I30M				IAmb	IAmb	08 04 53.7	
	comp=Z,2.7nm,1.2s						
F31M	**Tsiigehtchic**	**72.33**	**342**	P	**P**	**08 04 55.6**	**+1.0**
DOT	**Dot Lake**	**74.01**	**336**	P	**P**	**08 05 06.1**	**+1.4**
DOT				IAmb	IAmb	08 05 33.5	
	comp=Z,4.6nm,1.2s						
E29M	**Blow River**	**74.16**	**342**	P	**P**	**08 05 06.3**	**+0.9**
E29M				IAmb	IAmb	08 05 45.9	
	comp=Z,8.1nm,1.4s						
RIDG	**Independent Ri**	**74.37**	**336**	P	**P**	**08 05 07.8**	**+1.1**
RIDG				IAmb	IAmb	08 05 08.6	
	comp=Z,6.9nm,1.3s						
ILAR	**Eielson Array**	**75.61**	**337**	P	**P**	**08 05 11.7**	**-2.1**
	comp=Z,0.5nm,0.8s,baz=113,slow=6.5,SNR=4.3 comp=Z,0.5nm,0.8s						
ESDC	**Sonseca Array**	**80.21**	**50**	P	**P**	**08 05 39.6**	**-0.4**
	comp=Z,0.8nm,1.0s,baz=276,slow=8.1,SNR=2.1 comp=Z,0.8nm,1.0s						
STAL	**STALIGIAL**	**92.25**	**44**	P	**P**	**08 06 39.5**	**+0.2**
STAL				IAmb	IAmb	08 07 22.9	
	comp=Z,2.2nm,0.9s						

MOS ***02*** *08:00:11.1±1.1, 11°.38S×166°.29E, h39km, mb5.4/40, MS5.3/5, Error ellipse: s-maj=9.4km s-min=7.7km az=112.6*

IDC ***02*** *08:00:11.2±2.2, 11°.52S×166°.52E, h32km±15km, mb4.7/20, mbtmp4.8/20, ML6.0/1, MS4.9/56, Error ellipse: s-maj=17.6km s-min=13.3km az=98.0*

ISC-PP ***02*** *08:00:13, 11°.50S×166°.41E, h36km±2km, Mwppsm6.2, Moment Tensor Solution. s36 Moment tensor: Scale 10^18Nm; Mrr0.44±.23; Mθθ-0.67±.24; Mφφ0.23±.22; Mrθ-0.17±.25; Mrφ-0.33±.15; Mθφ0.12±.18; Fault plane solution: M0 2.75000×10^18 NP1:φs128.50000°, δ49.40000°, λ140.60000°. NP2:φs246.60000°, δ61.20000°, λ48.00000°.*

NEIC ***02*** *08:00:13.4, 11°.49S×166°.41E, h46km*

NEIC ***02*** *08:00:13.4, 11°.49S×166°.21E, h46km, Moment Tensor Solution. Duration: 3s3 Moment tensor: Scale 10^17Nm; Mrr4.32; Mθθ-0.07; Mφφ-4.25; Mrθ-0.10; Mθφ0.92; Mφr0.10;*

Fault plane solution: M0 4.38000×10^17 NP1: φs169.17000°, δ44.25000°, λ91.44000°. NP2: φs347.15000°, δ45.77000°, λ88.59000°. Principal axes: T 4.3236, Plg89.0000°, Azm205.0000°; N 0.1163, Plg1.0000°, Azm348.0000°; P -4.4399, Plg1.0000°, Azm78.0000°;

NEIC ***02*** *08:00:13.9±1.5, 11°.50S±0°.06×166°.41E±0°.08, h43km±1km, mb5.3/305, Ms_20 5.3/725, Mwb5.8/73, Mww5.7/19 Error ellipse: s-maj=13.7km s-min=10.9km az=88.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr6.30; Mθθ-1.48; Mφφ-4.82; Mrθ0.24; Mθφ1.09; Mrφ0.19;*

Fault plane solution: M0 5.82000×10^17 NP1: φs345.66000°, δ45.60000°, λ93.05000°. NP2: φs161.30000°, δ44.49000°, λ86.89000°. Principal axes: T 6.3139, Plg88.0000°, Azm329.0000°; N -1.1669, Plg2.2000°, Azm164.0000°; P -5.1470, Plg1.0000°, Azm74.0000°;

NEIC ***02*** *08:00:14.3, 11°.50S×166°.37E, h44km*

BJI ***02*** *08:00:15.0, 10°.97S×166°.40E, h59km, mB5.4/72, mb5.1/72, Ms5.3/86, Ms7 5.2/84*

IPGP ***02*** *08:00:15.0, 11°.51S×166°.38E, h51km, Mw5.8, Fault plane solution: NP1:φs157.00000°, δ42.00000°, λ99.00000°. NP2:φs324.00000°, δ49.00000°, λ82.00000°.*

GCMT ***02*** *08:00:16.9±0.1, 11°.50S±0°.01×166°.04E±0°.01, h51km, MW5.7/154, Moment Tensor Solution. s154, c309; s152, c294; Duration: 18 Moment tensor: Scale 10^17 Nm; Mrr5.07±.05; Mθθ-0.20±.04; Mφφ-4.88±.04; Mrθ-0.47±.04; Mrφ0.95±.03; Mθφ0.63±.04; Best double couple: M0 5.12800×10^17 NP1:φs173.00000°, δ41.00000°, λ96.00000°. NP2:φs345.00000°, δ49.00000°, λ85.00000°. Principal axes: T 5.1420, Plg84.0000°, Azm215.0000°; N -0.0340, Plg4.0000°, Azm348.0000°; P -5.1140, Plg4.0000°, Azm79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NOU ***02*** *08:00:18.1, 11°.50S×166°.03E, h56km, mb5.4/109, Santa Cruz Islands*

ISC 02 08:00:14.3±0.3, 11°.48S±0°.04×166°.38E±0°.04, h55km±2km, h56km:pP-P, n961, σ1°72/558, mb5.2/248, MS5.3/439, 16C-5D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**0.93**	**331**	P	**Pn**	**08 00 31.9**	**+0.6**
LUES	**Luesalemba Tem**	**0.93**	**331**	P	**Sn**	**08 00 44.7**	**+1.0**
HURO	**Huro Makira**	**4.51**	**282**	P	**Pn**	**08 01 19.5**	**-0.6**
HURO	**Huro Makira**	**4.51**	**282**	S	**Sn**	**08 02 08.4**	**-2.9**
VLAKA	**Lakatoro**	**4.71**	**168**	P	**Pn**	**08 01 25.9**	**+3.0**
VLAKA	**Lakatoro**	**4.71**	**168**	S	**Sn**	**08 02 21.9**	**+5.6**
NGOA	**Tingoa Renbel**	**6.19**	**269**	P	**Pn**	**08 01 41.9**	**-1.3**
NGOA	**Tingoa Renbel**	**6.19**	**269**	S	**Sn**	**08 02 48.3**	**-4.4**
ALEG	**Aligegeo Malai**	**6.21**	**295**	P	**Pn**	**08 01 44.0**	**+0.5**
ALEG	**Aligegeo Malai**	**6.21**	**295**	S	**Sn**	**08 02 50.8**	**-2.5**
DVP	**Devils Point**	**6.46**	**164**	P	**Pn**	**08 01 53.1**	**+6.3**
HNR	**Honiara**	**6.64**	**287**		**Pn**	**08 01 50.3**	**+0.9**
HNR	**Honiara**	**6.64**	**287**	Pn	**Pn**	**08 01 50.6**	**+1.2**
	312nm,0.3s,baz=136,slow=3.4,SNR=59						
HNR				Sn	**Sn**	**08 03 04.5**	**+0.7**
	63nm,0.3s,baz=272,slow=20,SNR=1.1						
HNR				LR	LR	08 04 43.8	
	comp=Z,27μm,19.8s,baz=116,slow=40						
HNR	**Honiara**	**6.64**	**287**	P	**Pn**	**08 01 51.1**	**+1.7**
HNR	**Honiara**	**6.64**	**287**	S	**Sn**	**08 03 00.7**	**-3.1**
SAVO	**Savo Central**	**6.86**	**289**	P	**Pn**	**08 01 53.2**	**+0.8**
TATA	**Tatamba Isabel**	**7.17**	**295**	P	**Pn**	**08 01 57.5**	**+0.9**
INH	**Isangel**	**8.50**	**161**	P	**Pn**	**08 02 20.3**	**+5.5**
KOUNC	**Koumac, New Ca**	**9.24**	**192**	P	**Pn**	**08 02 27.0**	**+2.0**
DZM	**Mont Dzumac**	**10.54**	**180**		**Pn**	**08 02 43.5**	**+0.7**
DZM	**Mont Dzumac**	**10.54**	**180**	*e*Pn	**Pn**	**08 02 43.1**	**+0.3**
	219nm,1.0s						
DZM				*e*LR	LR	08 05 04.4	
	29μm,26.1s						
DZM	**Mont Dzumac**	**10.54**	**180**	Pn	**Pn**	**08 02 43.8**	**+1.1**
	3.5nm,0.3s,baz=328,slow=15,SNR=55						
DZM				Sn	**Sn**	**08 04 35.1**	**-4.3**
	5.3nm,0.3s,baz=330,slow=23,SNR=1.9						
DZM				LR	LR	08 05 34.5	
	comp=Z,2μm,21.5s,baz=20,slow=31						
DZM	**

CNB	Canberra Magne	28.32	210	P	P	08 06 04.0	+1.0		
URZ	Urewera	28.35	162	LR	LR	08 15 41.8			
	comp=Z,5µm,21.8s,baz=344,slow=33								
URZ	Urewera	28.35	162	P	P	08 06 02.8	-0.3		
WMGZ	Waiomatatini S	28.36	160	P	P	08 06 04.9	+1.6		
CAN	Canberra	28.50	211	P	P	08 06 05.2	+0.5		
CAN				IAmb	IAmb	08 06 21.4			
	comp=Z,159nm,2.0s								
CAN	Canberra	28.50	211	P	P	08 06 05.0	+0.4		
	comp=Z,0.0nmcomp=Z,37nm,2.2s								
CAN	Canberra	28.50	211	P	P	08 06 06.7	+2.1		
CAN	Canberra	28.50	211	P	P	08 06 05.2	+0.5		
CAN				pmax	pmax				
	comp=Z,159nm,2.0s								
NEZ	North Egmont	28.52	167	P	P	08 06 13.4	+8.6		
VRZ	Vera Road	28.53	166	P	P	08 06 06.6	+1.9		
PUZ	Puketiti	28.54	160	P	P	08 06 06.4	+1.5		
MWZ	Matawai	28.54	161	P	P	08 06 06.3	+1.4		
TWGZ	Tauwhareparae	28.54	161	P	P	08 06 06.3	+1.3		
RTZ	Ruatahuna	28.64	162	P	P	08 06 07.0	+1.2		
MRHZ	Matea Rd	28.68	164	P	P	08 06 07.6	+1.4		
NTVZ	North Tongarir	28.73	165	P	P	08 06 10.4	+3.8		
TKGZ	Te Karaka	28.74	161	P	P	08 06 06.7	+0.1		
TMVZ	Te Maari	28.75	165	P	P	08 06 09.8	+3.0		
NGZ	Ngauruhoe	28.78	165	P	P	08 06 08.7	+1.5		
OTVZ	Ohurere	28.79	165	P	P	08 06 08.8	+1.6		
COVZ	Chateau Observ	28.79	165	P	P	08 06 09.8	+2.6		
SNVZ	South Ngauruho	28.80	165	P	P	08 06 12.1	+4.7		
MTHZ	Maungataniwha	28.82	163	P	P	08 06 08.1	+0.7		
FWVZ	Far West T-bar	28.84	165	P	P	08 06 09.5	+1.7		
CNGZ	Carnagh Statio	28.90	161	P	P	08 06 08.7	+0.7		
SNGZ	Shannon Statio	28.90	162	P	P	08 06 08.7	+0.7		
WNVZ	Wahianoa	28.92	165	P	P	08 06 10.6	+2.2		
RAHZ	Arahi	28.95	163	P	P	08 06 09.0	+0.5		
RIGZ	Rimuhau	28.96	161	P	P	08 06 08.9	+0.3		
BKZ	Black Stump Fm	29.01	164	P	P	08 06 10.6	+1.5		
BKZ	Black Stump Fm	29.01	164	P	P	08 06 09.0	-0.1		
NMHZ	Naumai	29.03	163	P	P	08 06 10.1	+0.8		
MOVZ	Moawhango	29.04	165	P	P	08 06 10.1	+0.7		
WHHZ	Waihua	29.14	162	P	P	08 06 13.9	+3.7		
KNZ	Kokohu	29.22	162	P	P	08 06 11.5	+0.6		
KWHZ	Kaweka Forest	29.23	164	P	P	08 06 11.5	+0.5		
ARHZ	Aropaoanui	29.24	163	P	P	08 06 11.5	+0.4		
MCHZ	McNeill Hill	29.32	164	P	P	08 06 12.7	+0.9		
KRHZ	Kereru	29.42	164	P	P	08 06 12.0	-0.7		
TSZ	Takapari Road	29.71	165	P	P	08 06 14.8	-0.4		
QRZ	Quartz Range	29.73	171	P	P	08 06 16.9	+1.5		
H11S2	WAKE ISLAND Hy	29.78	1	T	T	08 36 54.0			
	baz=181,slow=76,SNR=138								
H11S3	WAKE ISLAND Hy	29.78	1	T	T	08 37 04.8			
	baz=181,slow=76,SNR=124								
H11S1	WAKE ISLAND Hy	29.80	1	T	T	08 36 55.4			
	baz=181,slow=76,SNR=168								
PXZ	Pawanui	29.92	164	P	P	08 06 16.6	-0.4		
MRZ	Mangatainoka R	30.18	166	P	P	08 06 18.2	-1.1		
NNZ	Nelson	30.26	169	P	P	08 06 21.2	+1.2		
BFZ	Birch Farm	30.36	165	IAMs_20	IAMs_20	08 17 13.9			
	comp=Z,6µm,21.0s								
BFZ	Birch Farm	30.36	165	P	P	08 06 19.3	-1.7		
TCW	Tory Channel	30.42	168	P	P	08 06 21.2	-0.3		
STKA	Stephens Creek	30.56	225	P	P	08 06 23.5	+0.6		
STKA	Stephens Creek	30.56	225	P	P	08 06 23.5	+0.6		
	comp=Z,266nm,1.1s								
STKA	Stephens Creek	30.56	225	P	P	08 06 23.5	+0.6		
	comp=Z,35nm,0.8s,baz=33,slow=9.2,SNR=41								
STKA				LR	LR	08 17 46.8			
	comp=Z,6µm,21.3s,baz=48,slow=34								
	comp=Z,35nm,0.8s								
STKA	Stephens Creek	30.56	225	P	P	08 06 23.6	+0.7		
THZ	Tophouse	30.71	170	P	P	08 06 23.4	-0.6		
H11N1	WAKE ISLAND Hy	31.00	1	T	T	08 38 36.0			
	baz=182,slow=76,SNR=115								
H11N3	WAKE ISLAND Hy	31.00	1	T	T	08 38 24.8			
	baz=182,slow=76,SNR=92								
H11N2	WAKE ISLAND Hy	31.01	1	T	T	08 38 32.6			
	baz=182,slow=76,SNR=70								
INZ	Inchbonnie	31.44	173	P	P	08 06 30.0	-0.4		
KHZ	Kahutara	31.45	170	P	P	08 06 31.9	+1.4		
KHZ	Kahutara	31.45	170	P	P	08 06 29.3	-1.2		
LTZ	Lake Taylor	31.61	172	P	P	08 06 31.3	-0.7		
WVZ	Waitaha Valley	31.71	174	P	P	08 06 33.6	+0.8		
WR0	Warramunga Arr	31.74	251	P	P	08 06 32.7	-0.7		
WR8	Warramunga Arr	31.78	251	P	P	08 06 33.3	-0.5		
WR8				IAmb	IAmb	08 06 58.4			
	comp=Z,50nm,1.2s								
WB0	Warramunga Arr	31.84	251	P	P	08 06 33.9	-0.4		
WR2	Warramunga Arr	31.90	251	P	P	08 06 34.1	-0.7		
GVZ	Greta Valley S	31.90	171	P	P	08 06 33.5	-1.1		
WRAB	Tennant Creek	31.91	251	P	P	08 06 34.4	-0.5		
WRAB	Tennant Creek	31.91	251	P	P	08 06 34.4	-0.5		
WRAB				pmax	pmax				
	comp=Z,118nm,1.6s								
WRA	Warramunga Arr	31.92	251	P	P	08 06 33.9	-1.2		
WRA	Warramunga Arr	31.92	251	P	P	08 06 34.5	-0.6		
	comp=Z,28nm,0.8s,baz=84,slow=9.2,SNR=68								
WRA				PcP	PcP	08 09 24.7	+0.2		
	comp=Z,5.9nm,0.8s,baz=80,slow=2.7,SNR=5.5								
WRA				ScP	ScP	08 13 05.4	+1.9		
	comp=Z,4.0nm,1.2s,baz=79,slow=3.0,SNR=5.4								
WRA				LR	LR	08 18 09.1			
	comp=Z,4µm,21.5s,baz=68,slow=34								
	comp=Z,28nm,0.8s								
TOO	Toolangi	32.03	212	P	P	08 06 36.4	+0.6		
	comp=Z,19nm,1.2s								
FOZ	Fox Glacier	32.08	175	P	P	08 06 38.2	+2.2		
OXZ	Oxford	32.11	172	P	P	08 06 39.1	+2.8		
RPZ	Rata Peaks	32.38	174	LR	LR	08 18 25.5			
	comp=Z,2µm,21.9s,baz=341,slow=34								
RPZ	Rata Peaks	32.38	174	P	P	08 06 38.5	-0.1		
JCZ	Jackson Bay	32.55	177	P	P	08 06 43.5	+3.2		
MQZ	McQueen's Vall	32.57	172	P	P	08 06 39.9	-0.4		
GUMO	Guam	32.79	319	LR	LR	08 20 47.7			
	comp=Z,1µm,18.4s,baz=136,slow=38								
BRAT	Ballarat	32.85	214	P	P	08 06 44.9	+2.0		
LBZ	Lake Benmore	32.96	175	P	P	08 06 43.3	-0.5		
TMZ	Timaru	33.03	174	P	P	08 06 43.0	-1.4		
AS17	Alice Springs	33.08	244	P	P	08 06 44.2	-0.9		
	comp=Z,44nm,0.7s								
AS01	Alice Springs	33.12	244	P	P	08 06 45.1	-0.4		
AS31	Alice Springs	33.16	244	P	P	08 06 45.0	-0.9		
AS31	Alice Springs	33.16	244	P	P	08 06 45.3	-0.6		
ASAR	Alice Springs	33.16	244	P	P	08 06 45.0	-0.8		
ASAR	Alice Springs	33.16	244	P	P	08 06 44.8	-1.1		
	comp=Z,28nm,0.7s,baz=73,slow=9.5,SNR=261								
ASAR				PcP	PcP	08 09 27.4	-0.6		
	comp=Z,5.6nm,0.6s,baz=83,slow=2.3,SNR=7.5								
ASAR				S	S	08 11 59.4	-2.3		
	comp=Z,0.4nm,0.8s,baz=66,slow=18,SNR=0.9								
ASAR				ScP	ScP	08 13 09.9	+2.2		
	comp=Z,3.7nm,1.0s,baz=72,slow=3.4,SNR=6.5								
ASAR				LR	LR	08 19 13.7			
	comp=Z,5µm,21.2s,baz=72,slow=34								
	comp=Z,28nm,0.7s								
ASAR	Alice Springs	33.16	244	P	P	08 06 45.0	-0.8		
KDU	Kakadu	33.16	264	P	P	08 06 46.1	+0.2		
KDU	Kakadu	33.16	264	P	P	08 06 46.5	+0.6		
HTT	Hallett	33.30	225	P	P	08 06 47.4	+0.4		
	comp=Z,19nm,1.4s								
HTT	Hallett	33.30	225	P	P	08 06 48.1	+1.1		
WKZ	Wanaka	33.31	177	IAMs_20	IAMs_20	08 19 07.9			
	comp=Z,5µm,20.0s								
WKZ	Wanaka	33.31	177	P	P	08 06 47.7	+0.9		
ODZ	Otahua Downs	33.65	175	P	P	08 06 51.5	+1.8		
EAZ	Earnscleugh	33.73	176	P	P	08 06 50.3	-0.1		
MLZ	Mavora Lakes	33.81	178	P	P	08 06 53.0	+1.9		
RAR	Rarotonga	33.83	111	LR	LR	08 17 54.4			
	comp=Z,9µm,21.0s,baz=276,slow=32								
WHYH	Whyalla	34.02	226	P	P	08 06 54.2	+1.1		
WHZ	Wether Hill Ro	34.33	178	P	P	08 06 56.8	+1.2		
MTN	Manton Dam	34.47	264	P	P	08 06 57.9	+0.7		
MTN				IAMs_20	IAMs_20	08 19 13.9			
	comp=Z,5µm,21.0s								
MTN	Manton Dam	34.47	264	P	P	08 06 57.2	0.0		
	comp=Z,49nm,0.8s								
MTN	Manton Dam	34.47	264	P	P	08 06 58.1	+0.9		
TUZ	Tuapeka	34.47	176	P	P	08 06 56.7	-0.1		
FAKI	Fak Fak	34.88	281	P	P	08 07 01.1	+0.3		
FAKI				IAmb	IAmb	08 07 19.7			
	comp=Z,71nm,1.4s								
BBOO	Buckleboo	34.99	228	P	P	08 07 02.1	+0.5		
BBOO	Buckleboo	34.99	228	P	P	08 07 01.6	0.0		
	comp=Z,39nm,1.7s								
BBOO	Buckleboo	34.99	228	P	P	08 07 02.6	+1.0		
SYZ	Scrubby Hill	35.02	177	P	P	08 07 01.8	+0.2		
TAU	Tasmania Unive	35.43	204	P	P	08 07 05.2	+0.1		
TAU	Tasmania Unive	35.43	204	P	P	08 07 05.2	+0.1		
TAU				pmax	pmax				
	comp=Z,132nm,1.5s								
KNRA	Kununurra	36.77	259	P	P	08 07 17.0	0.0		
	comp=Z,102nm,1.3s								
JOHN	Johnston Islan	36.78	41	IAMs_20	IAMs_20	08 18 43.4			
	comp=Z,4µm,22.0s								
WRKA	Wakurina	38.45	244	P	P	08 07 29.8	-1.4		
	comp=Z,22nm,0.9s								
FITZ	Fitzroy Crossi	39.87	256	P	P	08 07 42.9	-0.1		
FITZ	Fitzroy Crossi	39.87	256	P	P	08 07 42.3	-0.7		
FITZ	Fitzroy Crossi	39.87	256	LR	LR	08 23 30.3			
	comp=Z,5µm,20.0s,baz=85,slow=35								
FORT	Forrest	40.31	236	P	P	08 07 46.2	-0.3		
	comp=Z,53nm,1.0s								
SANI	Sanana	41.13	280	P	P	08 07 55.5	+2.0		
SOEI	Soe	41.40	268	P	P	08 07 54.3	-1.6		
SOEI				IAmb	IAmb	08 08 38.1			
	comp=Z,77nm,1.0s								
SOEI	Soe	41.40	268	P	P	08 07 57.0	+1.2		
BATI	Baumata	41.94	267	LR	LR	08 25 20.3			
	comp=Z,3µm,21.6s,baz=133,slow=36								
MIDW	Midway	42.48	21	IAMs_20	IAMs_20	08 21 25.6			
	comp=Z,3µm,22.0s								
PPT	Papeete	42.99	103	LR	LR	08 22 50.4			
	comp=Z,1µm,19.0s,baz=266,slow=32								
PPT2	Papeete2	42.99	103	*eP*		08 08 06.3	-2.4		
	comp=Z,604nm,27.0s								
PPT2	Papeete2	42.99	103	*e*PP	PP	08 09 49.2	-0.2		
	comp=Z,426nm,26.2s								
PPT2				*e*S	S	08 14 25.1	-5.5		
	comp=Z,2µm,27.5s								
PPT2				*e*SS	SS	08 17 40.5	-3.8		
	comp=Z,2µm,28.2s								
PPT2				*e*LQ	LQ	08 18 20.5			
	comp=Z,4µm,28.0s								
PPT2				*e*LR	LR	08 20 09.2			
	comp=Z,6µm,31.8s								
PPT2				*e*LR	LR	08 20 09.3			
	comp=Z,10µm,29.2s								
MMRI	Maumere	43.52	270	P	P	08 08 12.6	-0.4		
MMRI	Maumere	43.52	270	P	P	08 08 15.0	+2.0		
TBI	Tubuai	43.60	112	*e*P	P	08 08 16.1	+2.7		
	comp=Z,2µm,26.5s								
TBI	Tubuai	43.60	112	*e*PP	PP	08 09 55.1	-0.6		
	comp=Z,2µm,27.5s								
TBI				*e*S	S	08 14 36.3	-2.8		
	comp=Z,5µm,28.0s								
TBI				*e*SS	SS	08 17 48.3	-7.4		
	comp=Z,10µm,34.0s								
TBI				*e*LQ	LQ	08 18 34.8			
	comp=Z,25µm,30.0s								
TBI				*e*LR	LR	08 20 23.2			
	comp=Z,10µm,30.0s								
TBI				*e*LR	LR	08 20 24.4			
	comp=Z,45µm,29.0s								
LUWI	Luwuk	44.50	280	P	P	08 08 20.1	-0.7		
LUWI	Luwuk	44.50	280	P	P	08 08 22.0	+1.2		
DAV	Davao City (W)	44.58	292	LR	LR	08 27 03.1			
	comp=Z,891nm,19.9s,baz=100,slow=36								
JCJ	Chichijima	44.96	329	P	P	08 08 25.0	+0.8		
JCJ				IAmb	IAmb	08 09 30.0			
	comp=Z,30nm,0.7s								
JCJ	Chichijima	44.96	329	LR	LR	08 24 26.9			
	comp=Z,788nm,21.4s,baz=135,slow=32								
KMBL	Kambalda	45.53	237	P	P	08 08 27.7	-1.1		
	comp=Z,30nm,1.5s								
MBWA	Marble Bar	45.65	252	P	P	08 08 29.9	+0.1		
MBWA	Marble Bar	45.65	252	P	P	08 08 29.9	+0.1		
	comp=Z,50nm,1.3s								
MBWA	Marble Bar	45.65	252	P	P	08 08 30.5	+0.7		
MBWA	Marble Bar	45.65	252	P	P	08 08 30.2	+0.4		
KAPI	Kappang	46.54	274	P	P	08 08 36.7	-0.3		
KAPI	Kappang	46.54	274	LR	LR	08 31 38.8			
	comp=Z,381nm,19.3s,baz=99,slow=40								
KAPI	Kappang	46.54	274	P	P	08 08 37.7	+0.8		
KAPI	Kappang	46.54	274	P	P	08 08 36.7	-0.3		
KAPI				pmax	pmax				
	comp=Z,201nm,1.4s								
TOLI2	Tolitoli	47.00	282	P	P	08 08 40.0	-0.5		
TOLI2				IAmb	IAmb	08 08 54.2			
	comp=Z,40nm,1.0s								
TOLI2	Tolitoli	47.00	282	P	P	08 08 41.4	+0.9		
MEEK	Meekatharra	47.32	244	P	P	08 08 43.1	+0.2		
	comp=Z,143nm,0.7s								
MEEK	Meekatharra	47.32	244	P	P	08 08 44.3	+1.4		
PLAI	Plampang	47.87	268	P	P	08 08 48.3	+1.0		
KHU	Kahuku	48.32	51	IAMs_20	IAMs_20	08 24 01.8			
	comp=Z,3µm,22.0s								
HUH	Hualalai	48.41	51	IAMs_20	IAMs_20	08 24 36.2			
	comp=Z,3µm,19.0s								
MWH	Mokuaweoweo	48.47	51	IAMs_20	IAMs_20	08 24 35.9			
	comp=Z,3µm,20.0s								
AIN	Ainahou	48.51	51	IAMs_20	IAMs_20	08 23 53.9			
	comp=Z,3µm,22.0s								
HLP	Hilina Pali	48.58	51	IAMs_20	IAMs_20	08 24 19.8			
	comp=Z,3µm,22.0s								
HMH	Humu'ula Sheep	48.63	51	IAMs_20	IAMs_20	08 24 10.0			
	comp=Z,4µm,22.0s								
UWE	Uwekahuna	48.67	51	IAMs_20	IAMs_20	08 24 43.0			
	comp=Z,3µm,21.0s								
POHA	Pohakuloa	48.68	51	IAMs_20	IAMs_20	08 24 00.4			
	comp=Z,3µm,22.0s								
HATHI	Halema'uma'u T	48.69	51	IAMs_20	IAMs_20	08 24 01.7			
	comp=Z,3µm,20.0s								
PUH	Pauahi	48.70	51	IAMs_20	IAMs_20	08 24 11.8			
	comp=Z,4µm,22.0s								
JOKA	Jonika Flow	48.90	51	IAMs_20	IAMs_20	08 24 16.0			
	comp=Z,4µm,22.0s								
KLBR	Kellerberrin	49.00	238	P	P	08 08 55.3	-0.5		
	comp=Z,161nm,0.8s								
KLBR	Kellerberrin	49.00	238	P	P	08 08 56.2	+0.4		
BLDU	Ballidu	49.68	240	P	P	08 09 00.3	-0.6		
	comp=Z,32nm,1.1s								
BLDU	Ballidu	49.68	240	P	P	08 09 02.5	+1.6		
NWAO	Narrogin (SRO)	49.74	236	P	P	08 09 01.4	0.0		
NWAO	Narrogin (SRO)	49.74	236	P	P	08 09 01.0	-0.4		
	comp=Z,140nm,1.6s								
NWAO	Narrogin (SRO)	49.74	236	LR	LR	08 30 02.8			
	comp=Z,7µm,19.8s,baz=74,slow=36								
NWAO	Narrogin (SRO)	49.74	236	P	P	08 09 01.7	+0.3		
NWAO	Narrogin (SRO)	49.74	236	P	P	08 09 01.9	+0.5		
NWAO	Narrogin (SRO)	49.74	236	P	P	08 09 01.4	0.0		
NWAO				pmax	pmax				
	comp=Z,105nm,1.2s								
NWAO				MLR	MLR				
	comp=Z,7µm,20.0s								
NWAO	Narrogin (SRO)	49.74	236	P	P	08 09 01.5	+0.1		
MORW	Morawa	49.96	242	P	P	08 09 03.5	+0.3		
MORW	Morawa	49.96	242	P	P	08 09 03.2	0.0		
	comp=Z,80nm,1.2s								
MORW	Morawa	49.96	242	P	P	08 09 03.7	+0.5		
RKGY	Rocky Gully	50.36	234	P	P	08 09 06.2	+0.2		
	comp=Z,45nm,1.3s								
MUN	Mundaring	50.37	238	P	P	08 09 06.1	-0.1		
	comp=Z,81nm,1.1s								
MUN	Mundaring	50.37	238	P	P	08 09 07.2	+1.0		
MYLDM	Lahad Datu	50.42	287	P	P	08 09 06.9	+0.1		
MYLDM	Lahad Datu	50.42	287	P	P	08 09 08.0	+1.2		
JAGI	Jajag, Banyuwa	51.47	268	P	P	08 09 12.6	-2.1		
JAGI	Jajag, Banyuwa	51.47	268	P	P	08 09 16.4	+1.7		
TAOE	Nuku Hiva Isla	52.64	92	*e*P	P	08 09 21.2	-2.3		
	comp=Z,486nm,26.1s								
TAOE				*e*S	S	08 16 44.2	-3.3		
	comp=Z,855nm,26.0s								
TAOE				*e*SS	SS	08 20 22.5	-4.1		
	comp=Z,776nm,29.9s								
TAOE				*e*LQ	LQ	08 22 19.7			
	comp=Z,1µm,31.9s								
TAOE				*e*LR	LR	08 24 33.8			
	comp=Z,4µm,27.1s								
KKM	Kota Kinabalu	52.85	287	P	P	08 09 25.9	+0.8		
KKM	Kota Kinabalu	52.85	287	P	P	08 09 26.4	+1.3		
JOW	Kunigami	53.09	316	P	P	08 09 27.1	+0.7		
JOW	Kunigami	53.09	316	LR	LR	08 31 34.5			
	comp=Z,1µm,19.2s,baz=122,slow=35								
JOW	Kunigami	53.09	316	P	P	08 09 28.2	+1.7		
INU	Inuyama	54.23	330	P	P	08 09 36.1	+1.5		
JGF	Kuroka	54.27	331	P	P	08 09 34.4	-0.6		
JGF				IAmb	IAmb	08 09 51.4			
	comp=Z,16nm,0.7s								
JGF	Kuroka	54.27	331	P	P	08 09 35.4	+0.4		
JMN	Monobe	54.57	327	P	P	08 09 37.7	+0.5		
JMN				IAMs_20	IAMs_20	08 31 16.0			
	comp=Z,2µm,19.0s								
JMN	Monobe	54.57	327	P	P	08 09 39.2	+2.0		
JMM	Marumori	54.62	335	P	P	08 09 37.7	+0.3		
JMM				IAmb	IAmb	08 10 13.2			
	comp=Z,52nm,1.5s								
MJAR	Matsushiro Arr	54.64	332	P	P	08 09 36.8	-0.8		
MJAR	Matsushiro Arr	54.64	332	P	P	08 09 36.6	-1.0		
	comp=Z,5.9nm,0.7s,baz=166,slow=8.3,SNR=16								
MJAR				LR	LR	08 30 45.1			
	comp=Z,903nm,21.7s,baz=136,slow=34								
	comp=Z,5.9nm,0.7s								
MJAR	Matsushiro Arr	54.64	332	P	P	08 09 36.8	-0.8		
MJAR				pmax	pmax				
	comp=Z,13nm,0.9s								
MAJO	Matsushiro	54.64	332	P	P	08 09 36.6	-1.0		
MAJO				IAmb	IAmb	08 09 54.2			
	comp=Z,20nm,0.8s								
MAJO	Matsushiro	54.64	332	P	P	08 09 37.8	+0.2		
MAJO	Matsushiro	54.64	332	*i* P	P	08 09 34.6	-3.0		
MAJO				pmax	pmax				
	comp=Z,11nm,0.8s								
MJB9	Matsu-Tunnel	54.64	332		P	08 09 36.9	-0.7		
MJB9				IAmb	IAmb	08 09 54.1			
	comp=Z,18nm,0.8s								
UGM	Wanagama	55.10	268	P	P	08 09 41.8	+0.4		
UGM	Wanagama	55.10	268	P	P	08 09 42.9	+1.5		
YOJ	Yonaguni jima	55.39	311	IAMs_20	IAMs_20	08 28 33.2			
	comp=Z,2µm,22.0s								
SBUM	Sibu	55.59	281	P	P	08 09 45.4	+0.5		
SBUM				IAmb	IAmb	08 10 10.0			
	comp=Z,37nm,1.5s								
SBUM	Sibu	55.59	281	P	P	08 09 47.6	+2.7		
JNU	Nakatsue	55.79	324	P	P	08 09 45.9	-0.2		
JNU	Nakatsue	55.79	324	LR	LR	08 31 23.2			
	comp=Z,656nm,21.0s,baz=138,slow=34								
JNU	Nakatsue	55.79	324	P	P	08 09 48.1	+2.1		
JSD	Sado	55.85	333	P	P	08 09 49.0	+2.8		
YULB	Yu-li	56.09	308	P	P	08 09 50.0	+1.7		
TPUB	Ta-pu	56.55	308	P	P	08 09 53.6	+2.0		
YHNB	Yeheng	56.73	310	P	P	08 09 54.9	+2.0		
KSM	Kuching	57.18	279	P	P	08 09 57.1	+0.8		
DRV	Dumont d'Urvil	57.91	192	P	P	08 09 59.7	-0.8		
DRV				sP	sP	08 10 17.3	-3.5		
BBJI	Bungbulang	57.99	268	P	P	08 10 03.4	+1.4		
QZH	Quanzhou	59.00	308	P	P	08 10 10.4	+1.7		
QZH				pmax	pmax				
	comp=Z,520nm,4.2s								
QZH				LR	LR				
	comp=Z,810nm,22.0s								
QZH				LR	LR				
	comp=Z,1µm,20.6s								
QZH				LR	LR				
	comp=Z,1µm,24.7s								
JKA	Kamikawa-asahi	59.40	340	P	P	08 10 11.4	+0.3		
JKA				IAmb	IAmb	08 10 28.8			
	comp=Z,27nm,0.8s								
JKA				IAMs_20	IAMs_20	08 30 38.3			
	comp=Z,2µm,22.0s								
ASAJ	Asahikawa	59.41	340	LR	LR	08 31 11.9			
	comp=Z,2µm,21.8s,baz=174,slow=31								
ASAJ	Asahikawa	59.41	340	P	P	08 10 11.4	+0.3		
ASAJ				pmax	pmax				
	comp=Z,27nm,0.8s								
TJN	Taejon	60.14	324	P	P	08 10 18.2	+1.9		
TJN	Taejon	60.14	324	*i* P	P	08 10 15.0	-1.3		
KSRS	Korea Array	60.58	325	P	P	08 10 19.5	+0.2		
	comp=Z,5.0nm,0.6s,baz=136,slow=7.1,SNR=26								
	comp=Z,5.0nm,0.6s								
SSE	Sheshan	60.59	316	P	P	08 10 19.2	-0.3		
SSE				S	S	08 18 31.9	+0.2		
SSE				pmax	pmax				
	comp=Z,16nm,0.7s								
SSE				pmax	pmax				
	comp=Z,220nm,7.2s								
SSE				LR	LR				
	comp=Z,300nm,21.3s								
SSE				LR	LR				
	comp=Z,360nm,21.3s								
KSAR	Wonju Array Be	60.59	325	P	P	08 10 20.5	+1.1		
KSAR	Wonju Array Be	60.59	325	P	P	08 10 20.5

comp=Z,560nm,23.1s
MDJ LR LR
comp=Z,560nm,23.9s
MDJ LR LR
comp=Z,2µm,22.9s
MDJ Mudanjiang 65.02 332 P P 08 10 51.0 +2.3
WHN Wuhan 65.14 311 ⇑P **P 08 10 50.1 +0.3**
WHN S **S 08 19 27.4 -1.3**
WHN LR LR
comp=Z,5µm,25.5s
WHN LR LR
comp=Z,4µm,22.2s
WHN LR LR
comp=Z,9µm,27.0s
DL2 Dalian 65.19 323 P P 08 10 50.1 +0.1
DL2 S **S 08 19 28.2 -0.9**
DL2 pmax pmax
comp=Z,36nm,0.7s
DL2 pmax pmax
comp=Z,350nm,7.8s
DL2 LR LR
comp=Z,850nm,21.9s
DL2 LR LR
comp=Z,970nm,23.1s
DL2 LR LR
comp=Z,2µm,24.5s
ATKA Atka Island 65.60 13 IAMs_20 IAMs_20 08 33 40.4
comp=Z,2µm,22.0s
BKNI Bangkinang 65.93 276 P P 08 10 56.9 +1.7
VNDA Vanda 66.08 181 P P 08 10 55.0 -0.1
VNDA IAmb IAmb 08 11 12.8
comp=Z,75nm,1.9s
VNDA Vanda 66.08 181 P P 08 10 54.7 -0.4
comp=Z,3.7nm,0.6s,baz=350,slow=8.7,SNR=37
VNDA LR LR 08 36 03.5
comp=Z,955nm,20.7s,baz=6.0,slow=33
comp=Z,3.7nm,0.6s
VNDA Vanda 66.08 181 P P 08 10 55.0 -0.1
VNDA pmax pmax
comp=Z,75nm,2.0s
VNDA Vanda 66.08 181 P P 08 10 55.1 0.0
CASY Casey 66.21 201 P P 08 10 56.0 -0.1
CASY Casey 66.21 201 P P 08 10 55.6 -0.5
TIA Tai'an 66.35 318 P P 08 10 56.8 -0.7
TIA S **S 08 19 41.9 -1.4**
TIA pmax pmax
comp=Z,5.0nm,0.6s
TIA pmax pmax
comp=Z,410nm,4.8s
TIA LR LR
comp=Z,2µm,21.3s
TIA LR LR
comp=Z,520nm,18.2s
SBA Scott Base 66.37 180 P P 08 10 57.7 +0.7
SBA Scott Base 66.37 180 P P 08 10 57.7 +0.7
SBA pmax pmax
comp=Z,59nm,1.3s
CN2 Changchun 66.43 329 ⇑P **P 08 10 58.3 +0.5**
CN2 *e*pP sP 08 11 19.3 +0.6
CN2 *e*S **S 08 19 42.0 -2.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,100nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,500nm,18.0s
BNX BinXian 66.88 331 ⇑P **P 08 11 00.3 -0.4**
BNX pP **sP 08 11 20.1 -1.4**
BNX S **S 08 19 49.3 -0.1**
BNX pmax pmax
comp=Z,6.0nm,0.6s
BNX pmax pmax
comp=Z,120nm,4.3s
BNX LR LR
comp=Z,440nm,21.1s
BNX LR LR
comp=Z,350nm,23.5s
BNX LR LR
comp=Z,1µm,28.0s
IPM Ipoh 66.91 280 P P 08 11 01.9 +0.3
IPM Ipoh 66.91 280 P **P 08 11 03.7 +2.2**
GRNR Gornyy 67.26 340 ⇑*i*P **P 08 11 03.7 +0.7**
GRNR pmax pmax
comp=Z,3.0nm,0.9s
KULM Kulim 67.47 281 P P 08 11 05.3 +0.2
KULM Kulim 67.47 281 P P 08 11 06.6 +1.5
KLR Kul'dur 67.70 336 LR LR 08 36 42.4
comp=Z,1µm,21.8s,baz=150,slow=32
KLR Kul'dur 67.70 336 *i* P **P 08 11 04.6 -1.1**
KLR pmax pmax
comp=Z,12nm,0.9s
CCD Concordia, Ant 67.90 191 P P 08 11 06.7 -0.5
RPSI Rantau Prapat 68.52 278 P 08 11 11.2 -0.4
RPSI IAmb IAmb 08 11 27.3
comp=Z,47nm,1.1s
PSI Prapat 68.54 278 LR LR 08 43 17.7
comp=Z,507nm,20.9s,baz=114,slow=38
PSI Prapat 68.54 278 P P 08 11 13.2 +1.2
PSI Prapat 68.54 278 P P 08 11 11.3 -0.7
PSI pmax pmax
comp=Z,47nm,1.1s
LYN LuoYang 68.59 314 P P 08 11 12.1 +0.4
LYN S **S 08 20 10.5 +0.2**
LYN SS **SS 08 24 35.4 -0.4**
LYN pmax pmax
comp=Z,68nm,0.6s
LYN pmax pmax
comp=Z,680nm,6.4s
LYN LR LR
comp=Z,1µm,22.3s
LYN LR LR
comp=Z,1µm,22.3s
LYN LR LR
comp=Z,4µm,23.0s
HNS HongShan 68.62 318 ⇑P **P 08 11 12.2 +0.5**
HNS pP **sP 08 11 28.8 -3.7**
HNS S **S 08 20 06.6 -3.8**
HNS pmax pmax
comp=Z,22nm,1.1s
HNS pmax pmax
comp=Z,540nm,7.0s
HNS LR LR
comp=Z,770nm,20.0s
HNS LR LR
comp=Z,770nm,21.0s
HNS LR LR
comp=Z,2µm,24.3s
ENH Enshi 68.65 309 P P 08 11 14.7 +2.5
GYA Guiyang 69.17 304 ⇓P **P 08 11 18.1 +2.5**
GYA pP sP 08 11 34.1 -2.3
GYA S **S 08 20 18.4 +0.7**
GYA pmax pmax
comp=Z,28nm,0.6s
GYA pmax pmax
comp=Z,500nm,9.2s
GYA LR LR
comp=Z,510nm,23.8s
GYA LR LR
comp=Z,430nm,20.3s
GYA LR LR
comp=Z,560nm,18.4s
BJT Baijiatuau 69.20 321 P P 08 11 17.3 +2.0
BJI Beijing 69.20 321 P P 08 11 16.2 +0.9
BJI pP **sP 08 11 32.6 -3.5**
BJI PP **PP 08 13 51.2 +2.2**
BJI PcS 08 15 43.0
BJI S **S 08 20 17.3 0.0**
BJI pmax pmax
comp=Z,8.0nm,0.7s
BJI pmax pmax
comp=Z,220nm,10.7s
BJI LR LR
comp=Z,340nm,25.7s
BJI LR LR
comp=Z,280nm,29.2s
BJI LR LR
comp=Z,860nm,27.7s
SRIT Nakonsritamara 69.33 284 P P 08 11 18.3 +1.6
SLVN Son La 69.46 298 P P 08 11 17.4 0.0
SLVN Son La 69.46 298 P P 08 11 19.2 +1.8
GSI Gunungsitoli 69.52 276 P P 08 11 18.2 +0.3
GSI Gunungsitoli 69.52 276 P P 08 11 18.7 +0.8

HEH HeiHe 70.26 335 *e*P **P 08 11 22.5 +0.9**
HEH pP **pP 08 11 37.6 +1.0**
HEH S **S 08 20 28.2 -1.1**
HEH pmax pmax
comp=Z,12nm,1.0s
HEH pmax pmax
comp=Z,500nm,7.6s
HEH LR LR
comp=Z,350nm,22.7s
HEH LR LR
comp=Z,620nm,23.6s
HEH LR LR
comp=Z,970nm,20.7s
TIY Taiyuan 70.30 317 *e*P **P 08 11 22.7 +0.5**
TIY pP **sP 08 11 40.3 -2.7**
TIY sP **PcP 08 11 46.5 +2.9**
TIY PP **PP 08 13 59.4 +0.8**
TIY SKS **SKSac 08 21 15.1 -4.2**
TIY pmax pmax
comp=Z,440nm,5.4s
TIY LR LR
comp=Z,790nm,21.3s
TIY LR LR
comp=Z,700nm,21.3s
TIY LR LR
comp=Z,1µm,24.1s
P08K Saint George I 70.71 14 IAMs_20 IAMs_20 08 35 06.7
comp=Z,2µm,22.0s
XAN Xi'an 70.87 312 ⇑P **P 08 11 26.0 +0.2**
XAN pP pP 08 11 39.4 -1.2
XAN PP **PP 08 13 58.6 -5.0**
XAN S **S 08 20 37.7 +0.5**
XAN SKS **SKSac 08 21 18.0 -5.8**
XAN pmax pmax
comp=Z,37nm,0.6s
XAN pmax pmax
comp=Z,810nm,8.7s
XAN LR LR
comp=Z,1µm,24.7s
XAN LR LR
comp=Z,1µm,23.1s
XAN LR LR
comp=Z,3µm,22.4s
SPIA Saint Paul Isl 71.08 13 IAMs_20 IAMs_20 08 36 12.3
comp=Z,2µm,20.0s
XLT XiLinHaoTe 71.57 324 *e*P **P 08 11 29.8 -0.1**
XLT PcP **PcP 08 11 47.2 -1.7**
XLT SKS SKiKP 08 21 20.0 +16
XLT SS **SS 08 25 19.5 -2.0**
XLT pmax pmax
comp=Z,25nm,0.7s
XLT pmax pmax
comp=Z,400nm,6.8s
XLT LR LR
comp=Z,47nm,17.1s
XLT LR LR
comp=Z,350nm,23.9s
XLT LR LR
comp=Z,600nm,21.8s
KMI Kunming 71.87 301 ⇑P **P 08 11 33.3 +1.1**
KMI pP pP 08 11 45.6 -1.5
KMI S **S 08 20 49.6 +0.1**
KMI sS sS 08 21 16.3 +2.8
KMI pmax pmax
comp=Z,24nm,1.0s
KMI pmax pmax
comp=Z,570nm,5.2s
KMI LR LR
comp=Z,320nm,20.0s
KMI LR LR
comp=Z,1µm,24.6s
KMI LR LR
comp=Z,1µm,23.7s
MA2 Magadan 71.92 352 IAMs_20 IAMs_20 08 36 45.9
comp=Z,2µm,22.0s
MA2 Magadan 71.92 352 LR LR 08 37 53.4
comp=Z,1µm,22.0s,baz=171,slow=31
MA2 Magadan 71.92 352 P **P 08 11 32.7 +1.2**
comp=Z,23nm,1.5s
CNBA Chernabura Isl 72.00 20 IAMs_20 IAMs_20 08 36 10.1
comp=Z,2µm,21.0s
HHC Hu-ho-hao-te 72.56 319 *e*P **P 08 11 39.0 +3.1**
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,300nm,6.2s
HHC LR LR
comp=Z,810nm,16.8s
HHC LR LR
comp=Z,990nm,21.0s
HHC LR LR
comp=Z,2µm,21.9s
CM31 Chiang Mai Arr 72.85 293 P **P 08 11 38.6 +0.6**
CM31 IAmb IAmb 08 11 56.8
comp=Z,48nm,1.2s
CMAR Chiang Mai Arr 72.85 293 P **P 08 11 39.2 +1.2**
CMAR Chiang Mai Arr 72.85 293 P **P 08 11 39.5 +1.5**
comp=Z,13nm,0.8s,baz=121,slow=4.6,SNR=35
CMAR LR LR 08 41 11.2
comp=Z,464nm,21.8s,baz=100,slow=34
comp=Z,13nm,0.8s
CHTO Chiang Mai 72.97 294 P **P 08 11 39.1 +0.5**
CHTO IAmb IAmb 08 11 57.0
comp=Z,90nm,1.6s
CHTO Chiang Mai 72.97 294 P **P 08 11 41.3 +2.7**
CHTO Chiang Mai 72.97 294 P **P 08 11 39.1 +0.5**
CHTO pmax pmax
comp=Z,90nm,1.7s
ZEA Zeya 72.98 337 *e*P **P 08 11 37.8 -0.1**
ZEA *e* 08 11 56.1
ZEA pmax pmax
comp=Z,200nm,6.9s
ZEA pmax pmax
comp=Z,20nm,0.7s
HIA Hailar 73.05 330 P **P 08 11 41.1 +2.6**
PZH PanZhiHua 73.23 302 P **P 08 11 42.5 +2.3**
PZH pP **sP 08 11 58.9 -2.1**
PZH S **S 08 21 04.1 -0.6**
PZH SS **SS 08 25 49.1 +1.6**
PZH pmax pmax
comp=Z,20nm,0.7s
PZH pmax pmax
comp=Z,440nm,7.5s
PZH LR LR
comp=Z,430nm,24.9s
PZH LR LR
comp=Z,870nm,23.3s
PZH LR LR
comp=Z,1µm,24.5s
CD2 Chengdu 73.36 307 P **P 08 11 41.1 +0.4**
CD2 pP pwP 08 11 57.1 -0.6
CD2 S **S 08 21 07.0 +1.2**
CD2 sS sS 08 21 34.5 +4.0
CD2 SS **SS 08 25 51.1 +1.9**
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 pmax pmax
comp=Z,980nm,4.5s
CD2 LR LR
comp=Z,580nm,26.9s
CD2 LR LR
comp=Z,2µm,23.3s
CD2 LR LR
comp=Z,2µm,24.5s
BTO Baotou 73.42 319 *e*P **P 08 11 44.0 +3.0**
BTO pmax pmax
comp=Z,27nm,0.6s
BTO pmax pmax
comp=Z,990nm,11.0s
BTO LR LR
comp=Z,2µm,23.5s
BTO LR LR
comp=Z,2µm,23.5s
BTO LR LR
comp=Z,4µm,24.8s
CHGN Chignik 73.60 20 P **P 08 11 41.1 -0.4**
CHGN IAmb IAmb 08 12 27.2
comp=Z,25nm,1.1s
CHGN IAMs_20 IAMs_20 08 37 12.0
comp=Z,1µm,21.0s
CHIR Chirikof Islan 74.17 21 IAMs_20 IAMs_20 08 36 48.1
comp=Z,2µm,22.0s
M11K Mekoryuk 74.89 14 IAMs_20 IAMs_20 08 38 53.2
comp=Z,2µm,22.0s
SEY Seymchan 74.97 353 LR LR 08 40 16.6
comp=Z,2µm,21.7s,baz=170,slow=32

SEY Seymchan 74.97 353 *i* P **P 08 11 47.7 -1.6**
SEY pmax pmax
comp=Z,17nm,1.5s
SII Sitkinak Islan 75.25 21 IAMs_20 IAMs_20 08 37 53.7
comp=Z,2µm,22.0s
PLK4 Peulik 4 75.34 20 IAmb IAmb 08 11 55.7
comp=Z,20nm,0.8s
PLK4 IAMs_20 IAMs_20 08 38 06.1
comp=Z,1µm,21.0s
TNCH TengChong 75.40 300 P **P 08 11 52.4 -0.5**
TNCH PcP **pwP 08 12 08.5 -1.5**
TNCH S **S 08 21 30.2 +1.0**
TNCH pmax pmax
comp=Z,640nm,5.8s
TNCH LR LR
comp=Z,670nm,29.7s
TNCH LR LR
comp=Z,710nm,29.3s
TNCH LR LR
comp=Z,790nm,23.6s
LZH Lanzhou 75.50 312 P **P 08 11 54.6 +1.4**
LZH pP pP 08 12 09.8 +1.6
LZH sP sP 08 12 17.5 +3.3
LZH sS sS 08 21 58.4 +3.3
LZH pmax pmax
comp=Z,59nm,1.3s
LZH pmax pmax
comp=Z,610nm,8.9s
LZH LR LR
comp=Z,630nm,21.0s
LZH LR LR
comp=Z,1µm,21.6s
LZH LR LR
comp=Z,2µm,21.3s
M13K Dall Lake 75.61 15 IAMs_20 IAMs_20 08 38 22.2
comp=Z,2µm,22.0s
OHAK Old Harbor 76.08 21 IAMs_20 IAMs_20 08 38 18.6
comp=Z,2µm,22.0s
M14K Bethel 76.26 15 IAMs_20 IAMs_20 08 38 30.3
comp=Z,2µm,22.0s
L14K Kuka Creek 76.58 15 IAMs_20 IAMs_20 08 39 03.7
comp=Z,1µm,22.0s
K13K Kusilvak Mount 76.62 14 IAMs_20 IAMs_20 08 40 27.8
comp=Z,1µm,20.0s
KDAK Kodiak Island 76.75 21 IAMs_20 IAMs_20 08 38 49.4
comp=Z,2µm,22.0s
KDAK Kodiak Island 76.75 21 LR LR 08 39 23.2
comp=Z,2µm,21.8s,baz=212,slow=31
GAMB Gambell 76.88 10 IAMs_20 IAMs_20 08 39 20.8
comp=Z,2µm,22.0s
Q19K Cape Douglas, 77.26 20 IAMs_20 IAMs_20 08 38 54.7
comp=Z,2µm,22.0s
M16K Timber Creek 77.29 16 IAmb IAmb 08 12 08.5
comp=Z,31nm,0.7s
SYI Shuyak Island 77.44 21 IAMs_20 IAMs_20 08 39 18.6
comp=Z,2µm,21.0s
O18K Koktuh Hills 77.47 19 IAMs_20 IAMs_20 08 39 57.2
comp=Z,1µm,22.0s
K15K Wolf Creek Mou 77.68 15 IAmb IAmb 08 12 10.1
comp=Z,26nm,0.9s
K15K IAMs_20 IAMs_20 08 39 47.8
comp=Z,2µm,22.0s
L16K Owhat River 77.72 16 P **P 08 12 05.5 +0.6**
CIT Chita 77.84 330 *e*P **P 08 12 08.4 +2.5**
CIT *e* 08 12 23.0
CIT pmax pmax
comp=Z,76nm,0.7s
N18K Kilae Creek 77.91 18 P **P 08 12 07.3 +1.2**
P19K Oil Pt 77.95 20 IAMs_20 IAMs_20 08 39 28.9
comp=Z,1µm,22.0s
M17K Holitna River 78.03 17 P **P 08 12 07.7 +1.0**
M17K IAmb IAmb 08 12 14.5
comp=Z,20nm,0.8s
ILSW Iliamna Southw 78.23 19 IAmb IAmb 08 12 41.8
comp=Z,30nm,1.1s
N19K Bonanza Creek 78.44 18 IAMs_20 IAMs_20 08 40 16.0
comp=Z,1µm,22.0s
HOM Homer 78.48 20 IAMs_20 IAMs_20 08 39 42.0
comp=Z,2µm,22.0s
QSPA South Pole Qui 78.53 180 P **P 08 12 09.2 -0.5**
QSPA IAmb IAmb 08 12 24.2
comp=Z,43nm,1.0s
QSPA South Pole Qui 78.53 180 P **P 08 12 09.2 -0.5**
comp=Z,27nm,0.8s,baz=194,slow=1.1,SNR=158
QSPA LR LR 08 44 47.5
comp=Z,450nm,18.9s,baz=25,slow=34
comp=Z,27nm,0.8s
YAK Yakutsk 78.68 343 IAMs_20 IAMs_20 08 47 08.0
comp=Z,1µm,20.0s
YAK Yakutsk 78.68 343 LR LR 08 47 42.8
comp=Z,749nm,18.2s,baz=144,slow=36
YAK Yakutsk 78.68 343 *e*P **P 08 12 08.7 -1.5**
YAK *e* 08 12 17.9
YAK *e**PP **pP 08 12 23.5 -1.9**
YAK *e* 08 15 05.2
YAK *e*PPP PPP 08 16 52.9
YAK *e*S **S 08 21 58.2 -4.8**
YAK *e* 08 22 20.9
YAK *e**SS **ScS 08 22 26.9 +0.2**
YAK *e*SSS SSS 08 30 26.0
YAK pmax pmax
comp=Z,8.0nm,0.7s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,71nm,2.4s
YAK pmax pmax
comp=N,43nm,2.5s
YAK pmax pmax
comp=E,51nm,3.3s
YAK smax smax
comp=N,27nm,1.6s
YAK smax smax
comp=E,28nm,1.9s
YAK MLR MLR
comp=Z,1µm,18.0s
YAK MLR MLR
comp=N,387nm,18.0s
YAK MLR MLR
comp=E,350nm,16.0s
J16K Anvik River 78.75 15 IAMs_20 IAMs_20 08 39 58.0
comp=Z,1µm,22.0s
ANM Nome 78.78 12 IAMs_20 IAMs_20 08 42 34.9
comp=Z,1µm,20.0s
BRLK Bradley Lake 78.82 20 IAmb IAmb 08 12 16.3
comp=Z,28nm,0.7s
K17K Iditarod 78.86 16 IAmb IAmb 08 12 16.7
comp=Z,22nm,0.8s
K17K IAMs_20 IAMs_20 08 40 35.1
comp=Z,1µm,22.0s
L18K Granite Mounta 78.90 17 IAmb IAmb 08 12 17.5
comp=Z,27nm,0.7s
ULN Ulaanbaatar 79.01 324 P 08 12 13.3 +0.7
ULN Ulaanbaatar 79.01 324 *i* P **P 08 12 11.8 -0.8**
ULN pmax pmax
comp=Z,22nm,1.0s
TNA Tin City 79.18 11 IAMs_20 IAMs_20 08 41 03.5
comp=Z,1µm,22.0s
J17K VABM Dome 79.22 15 P **P 08 12 14.1 +0.9**
J17K IAmb IAmb 08 12 18.7
comp=Z,19nm,0.8s
J17K IAMs_20 IAMs_20 08 40 56.6
comp=Z,2µm,22.0s
IMP Imphal 79.26 298 *e*P **P 08 12 13.0 -1.4**
BILL Bilibino 79.31 360 P **P 08 12 13.8 +0.2**
BILL Bilibino 79.31 360 *i* P **P 08 12 12.1 -1.5**
BILL pmax pmax
comp=Z,16nm,0.8s
M19K Big River Lodg 79.32 18 IAmb IAmb 08 12 31.2
comp=Z,64nm,1.8s
SONM Songino Array 79.38 324 P 08 12 15.1 +0.5
SONM Songino Array 79.38 324 P **P 08 12 14.7 +0.1**
comp=Z,6.6nm,0.7s,baz=140,slow=6.1,SNR=22
SONM LR LR 08 47 24.2
comp=Z,356nm,19.5s,baz=116,slow=36
comp=Z,6.6nm,0.7s
SONM Songino Array 79.38 324 P **P 08 12 15.1 +0.5**
SONM pmax pmax
comp=Z,21nm,1.2s
KOHI KOHIMA 79.40 299 *e*P **P 08 12 13.0 -2.2**
CAPN Captain Cook N 79.47 20 IAMs_20 IAMs_20 08 40 29.3
comp=Z,2µm,22.0s
M20K Styx River 79.68 18 IAmb IAmb 08 12 35.0
comp=Z,52nm,2.0s
M20K IAMs_20 IAMs_20 08 41 16.6

comp=Z,1µm,22.0s
O22K Cooper Landing **79.74 20** IAMs_20 IAMs_20 08 41 45.4
comp=Z,2µm,21.0s
GTA Gaotai **79.80 314** P **P** **08 12 18.5 +1.4**
GTA pP pP 08 12 33.6 +1.4
GTA sP sP 08 12 40.8 +2.7
GTA pmax pmax
comp=Z,43nm,0.9s
GTA pmax pmax
comp=Z,700nm,7.3s
GTA LR LR
comp=Z,770nm,21.1s
GTA LR LR
comp=Z,980nm,20.0s
GTA LR LR
comp=Z,2µm,23.3s
J18K Innoko River **79.89 16** IAMs_20 IAMs_20 08 41 06.4
comp=Z,1µm,22.0s
AZL Aizawl **80.03 297** *e*P **P** **08 12 18.9 +0.3**
SUA Susitna One **80.12 19** IAMs_20 IAMs_20 08 41 03.5
comp=Z,1µm,22.0s
G16K Koyuk River **80.14 13** IAMs_20 IAMs_20 08 42 04.8
comp=Z,1µm,21.0s
ZIRO ZIRO **80.18 301** *e*P **P** **08 12 18.0 -1.5**
SKT Skwentna **80.25 19** IAMs_20 IAMs_20 08 41 23.9
comp=Z,1µm,22.0s
H17K Granite Mounta **80.30 14** IAMs_20 IAMs_20 08 41 18.1
comp=Z,1µm,22.0s
PWL Port Wells **80.49 21** IAmb IAmb 08 12 44.9
comp=Z,28nm,1.1s
M22K Willow **80.54 19** IAmb IAmb 08 13 38.8
comp=Z,67nm,1.4s
M22K IAMs_20 IAMs_20 08 41 15.4
comp=Z,2µm,22.0s
J19K Poorman **80.61 16** IAmb IAmb 08 12 38.3
comp=Z,70nm,1.9s
J19K IAMs_20 IAMs_20 08 43 23.4
comp=Z,1µm,21.0s
BRDH Bariadhala **80.64 295** LR LR 08 47 24.1
comp=Z,313nm,21.5s,baz=156,slow=35
PMR Palmer **80.75 20** IAmb IAmb 08 12 54.6
comp=Z,48nm,1.7s
PMR Palmer **80.75 20** P **P** **08 12 25.4 +4.0**
TEZP TEZPUR **80.79 300** *e*P **P** **08 12 22.0 -0.5**
KNK Knik Glacier **80.84 20** IAMs_20 IAMs_20 08 42 30.5
comp=Z,2µm,21.0s
H18K Honhosa River **80.85 14** IAMs_20 IAMs_20 08 41 58.6
comp=Z,1µm,21.0s
GLI Glacier Island **80.94 21** IAMs_20 IAMs_20 08 41 48.0
comp=Z,2µm,20.0s
GHO Glory Hole Cre **80.94 20** P **P** **08 12 23.5 +0.8**
GHO IAmb IAmb 08 12 57.7
comp=Z,78nm,1.8s
J20K Nowinta River **81.16 16** IAMs_20 IAMs_20 08 41 56.9
comp=Z,1µm,22.0s
BOD Bodaibo **81.18 335** *e*P **P** **08 12 22.8 -1.1**
BOD pmax pmax
comp=Z,23nm,2.5s
SHL Shillong **81.27 298** *e*P **P** **08 12 21.1 -4.2**
SHL IAmb IAmb 08 12 41.3
comp=Z,25nm,2.6s
KAIM Kayak Island **81.27 23** IAmb IAmb 08 12 50.2
comp=Z,41nm,1.0s
KAIM IAMs_20 IAMs_20 08 42 00.8
comp=Z,2µm,21.0s
F17K Baldwin Pennin **81.27 13** IAMs_20 IAMs_20 08 42 39.7
comp=Z,1µm,21.0s
SCM Sheep Creek Mo **81.52 20** IAmb IAmb 08 12 30.8
comp=Z,30nm,0.8s
SCM IAMs_20 IAMs_20 08 42 49.5
comp=Z,1µm,21.0s
I20K Naaghedeneel **81.55 16** IAmb IAmb 08 12 53.2
comp=Z,31nm,1.1s
HMT Hamilton **81.60 22** IAMs_20 IAMs_20 08 43 02.6
comp=Z,2µm,20.0s
SUCK Suckling Hills **81.61 23** IAMs_20 IAMs_20 08 42 40.9
comp=Z,2µm,20.0s
KTH Kantishna Hill **81.61 18** IAMs_20 IAMs_20 08 41 45.9
comp=Z,1µm,22.0s
H19K Roundabout Mou **81.62 15** IAMs_20 IAMs_20 08 42 11.1
comp=Z,1µm,22.0s
TRF Thorofare Moun **81.73 18** **P** **08 12 26.9 +0.1**
TRF IAMs_20 IAMs_20 08 42 33.0
comp=Z,2µm,22.0s
KLU Klutina **81.77 21** IAMs_20 IAMs_20 08 41 53.3
comp=Z,2µm,21.0s
BERG Berg Lake **81.85 23** P **P** **08 12 27.9 +0.5**
BERG IAmb IAmb 08 13 18.0
comp=Z,32nm,0.9s
BERG IAMs_20 IAMs_20 08 42 58.2
comp=Z,2µm,20.0s
TAWA Tawang **81.88 300** *e*P **P** **08 12 26.1 -2.6**
G19K Purcell Mounta **81.97 14** P **P** **08 12 28.4 +0.6**
G19K IAmb IAmb 08 13 06.0
comp=Z,27nm,1.3s
G19K IAMs_20 IAMs_20 08 41 58.1
comp=Z,1µm,22.0s
C16K Lisburne Hills **82.07 10** IAMs_20 IAMs_20 08 42 53.8
comp=Z,1µm,21.0s
M24K Tolsona, Glenn **82.11 20** IAmb IAmb 08 12 34.5
comp=Z,31nm,0.7s
WAX Waxell Ridge **82.20 23** IAmb IAmb 08 13 04.1
comp=Z,24nm,0.9s
WAX IAMs_20 IAMs_20 08 42 59.7
comp=Z,2µm,20.0s
E18K Tukpahlearik C **82.24 12** IAMs_20 IAMs_20 08 42 37.3
comp=Z,1µm,21.0s
GOMU GeErMu **82.27 309** P **P** **08 12 32.3 +1.7**
GOMU SS SS 08 28 01.4 -2.5
GOMU pmax pmax
comp=Z,12nm,0.8s
GOMU LR LR
comp=Z,260nm,18.9s
GOMU LR LR
comp=Z,550nm,18.8s
GOMU LR LR
comp=Z,1µm,18.6s
CRQM Cirque **82.30 22** IAMs_20 IAMs_20 08 43 36.5
comp=Z,1µm,20.0s
N25K Chitina, Valde **82.32 21** IAmb IAmb 08 12 57.0
comp=Z,25nm,1.1s
RDOG Red Dog Mine **82.32 11** P **P** **08 12 30.2 +0.5**
RDOG IAmb IAmb 08 12 35.2
comp=Z,14nm,0.7s
MCCM Marconi Confer **82.34 49** IAMs_20 IAMs_20 08 40 10.2
comp=Z,2µm,22.0s
MCK McKinley **82.35 18** P **P** **08 12 30.8 +0.9**
MCK IAmb IAmb 08 12 53.4
comp=Z,35nm,1.3s
MCK IAMs_20 IAMs_20 08 45 10.4
comp=Z,1µm,20.0s
MCK McKinley **82.35 18** P **P** **08 12 30.8 +0.9**
MCK pmax pmax
comp=Z,35nm,1.3s
ZAK Zakamensk **82.41 325** *e*P **P** **08 12 29.8 -0.8**
ZAK pmax pmax
comp=Z,13nm,1.0s
TGL Tana Glacier **82.41 23** IAMs_20 IAMs_20 08 43 29.1
comp=Z,2µm,20.0s
VRDI Verde Repeater **82.49 22** IAmb IAmb 08 12 57.0
comp=Z,46nm,1.8s
VRDI IAMs_20 IAMs_20 08 41 36.1
comp=Z,1µm,22.0s
ISLE Juniper Island **82.50 23** IAMs_20 IAMs_20 08 43 30.4
comp=Z,2µm,20.0s
HOPS Hopland Field **82.50 48** IAMs_20 IAMs_20 08 40 27.5
comp=Z,1µm,20.0s
BWN Browne **82.51 18** IAmb IAmb 08 13 11.3
comp=Z,44nm,1.0s
BWN IAMs_20 IAMs_20 08 43 17.9
comp=Z,2µm,21.0s
KHMM Horse Mountain **82.72 46** P **P** **08 12 32.8 +0.2**
KHMM IAmb IAmb 08 12 38.4
comp=Z,38nm,1.3s
MCARA McCarthy VSAT **82.74 22** IAMs_20 IAMs_20 08 41 43.9
comp=Z,1µm,22.0s
MLY Manley **82.77 17** P **P** **08 12 32.5 +0.4**
GRNC Granite Creek **82.80 23** P **P** **08 12 33.1 +0.5**
GRNC IAMs_20 IAMs_20 08 43 28.5
comp=Z,2µm,20.0s
NEA2 Nenana **82.93 18** IAmb IAmb 08 12 56.1
comp=Z,41nm,1.7s
NEA2 IAMs_20 IAMs_20 08 43 19.8
comp=Z,1µm,21.0s
E19K Redstone River **83.00 13** IAmb IAmb 08 12 50.8
comp=Z,74nm,1.8s
E19K IAMs_20 IAMs_20 08 43 55.4
comp=Z,1µm,21.0s
F20K Avaraart Lake **83.02 14** IAMs_20 IAMs_20 08 43 04.8
comp=Z,1µm,22.0s
BARN Barnard Glacie **83.05 23** IAMs_20 IAMs_20 08 43 47.9
comp=Z,1µm,20.0s
CTGM Chitina Glacie **83.11 23** IAmb IAmb 08 12 59.3
comp=Z,37nm,1.1s
CTGM IAMs_20 IAMs_20 08 43 38.6
comp=Z,2µm,20.0s
O02D Mt. Diablo Mer **83.13 47** P **P** **08 12 35.3 +0.7**
WRH Wood River Hil **83.14 18** IAmb IAmb 08 12 38.2
comp=Z,17nm,0.9s
G21K Allakaket **83.15 15** IAMs_20 IAMs_20 08 43 20.4
comp=Z,1µm,22.0s
LOGN Logan Glacier **83.15 23** P **P** **08 12 35.4 +1.1**
LOGN IAmb IAmb 08 12 59.4
comp=Z,34nm,1.3s
LOGN IAMs_20 IAMs_20 08 43 07.6
comp=Z,2µm,20.0s
K24K Donnelly Dome **83.40 19** IAmb IAmb 08 12 40.6
comp=Z,21nm,0.8s
M26K Nabesna, AK **83.41 21** IAmb IAmb 08 13 00.6
comp=Z,34nm,1.1s
O28M Mount Upton **83.43 23** IAmb IAmb 08 13 01.0
comp=Z,23nm,1.1s
O28M IAMs_20 IAMs_20 08 42 25.1
comp=Z,2µm,21.0s
S31K Pelican **83.43 27** IAMs_20 IAMs_20 08 41 36.3
comp=Z,1µm,21.0s
K02D Willamette Mer **83.45 44** IAmb IAmb 08 12 41.5
comp=Z,24nm,1.3s
HDA Harding Lake **83.45 19** IAMs_20 IAMs_20 08 42 58.5
comp=Z,2µm,22.0s
COLA College **83.50 18** P **P** **08 12 35.5 -0.3**
COLA IAmb IAmb 08 12 59.1
comp=Z,18nm,0.7s
COLA College **83.50 18** IAMs_20 IAMs_20 08 44 16.7
comp=Z,1µm,21.0s
COLA College **83.50 18** *i* P **P** **08 12 33.4 -2.4**
COLA pmax pmax
comp=Z,17nm,0.8s
MENT Mentasta **83.51 21** P **P** **08 12 36.6 +0.6**
MENT IAmb IAmb 08 12 43.9
comp=Z,15nm,0.8s
MENT Mentasta **83.51 21** P **P** **08 12 39.6 +3.6**
D19K Kuna River **83.66 12** P **P** **08 12 37.1 +0.5**
D19K IAmb IAmb 08 12 41.5
comp=Z,23nm,1.0s
D19K IAMs_20 IAMs_20 08 44 39.8
comp=Z,1µm,21.0s
RIDG Independent Ri **83.67 20** IAmb IAmb 08 13 10.3
comp=Z,52nm,1.2s
RIDG IAMs_20 IAMs_20 08 43 08.2
comp=Z,2µm,21.0s
L26K Log Cabin Wild **83.70 21** IAmb IAmb 08 13 02.2
comp=Z,31nm,1.1s
F21K Alatna River **83.70 15** IAmb IAmb 08 13 06.4
comp=Z,33nm,1.8s
F21K IAMs_20 IAMs_20 08 43 26.0
comp=Z,2µm,22.0s
IL31 **83.72 18** P **P** **08 12 36.1 -0.8**
ILAR Eielson Array **83.72 18** P **P** **08 12 36.1 -0.8**
comp=Z,5.3nm,0.9s,baz=230,slow=5.7,SNR=38
ILAR LR LR 08 43 30.8
comp=Z,376nm,21.9s,baz=213,slow=31
comp=Z,5.3nm,0.9s
P29M Windy Craggy **83.74 25** IAmb IAmb 08 13 01.4
comp=Z,23nm,1.1s
P29M IAMs_20 IAMs_20 08 41 26.3
comp=Z,2µm,22.0s
YBH Yreka Blue Hor **83.75 45** P **P** **08 12 38.6 +0.8**
YBH Yreka Blue Hor **83.75 45** LR LR 08 43 07.3
comp=Z,48nm,21.0s,baz=258,slow=31
YBH Yreka Blue Hor **83.75 45** P **P** **08 12 38.6 +0.8**
YBH pmax pmax
comp=Z,20nm,1.2s
M27K Edge Creek, AK **83.79 22** IAmb IAmb 08 13 09.2
comp=Z,18nm,0.9s
M27K IAMs_20 IAMs_20 08 42 42.5
comp=Z,2µm,22.0s
POKR Poker Plat Res **83.80 18** IAMs_20 IAMs_20 08 44 14.7
comp=Z,1µm,20.0s
C19K Lookout Ridge **83.86 12** IAMs_20 IAMs_20 08 44 06.2
comp=Z,1µm,22.0s
DOT Dot Lake **83.86 20** IAmb IAmb 08 12 43.0
comp=Z,23nm,0.8s
AFDM Forest Hills D **84.02 48** IAmb IAmb 08 13 04.9
comp=Z,22nm,1.2s
I03D Drain, OR **84.04 43** P **P** **08 12 40.6 +1.5**
I03D IAmb IAmb 08 13 05.1
comp=Z,26nm,1.3s
J25K Salcha River, **84.09 19** P **P** **08 12 39.1 +0.2**
SCRK Sand Creek **84.11 20** **P** **08 12 39.1 0.0**
SCRK IAmb IAmb 08 12 44.0
comp=Z,27nm,0.8s
SCRK IAMs_20 IAMs_20 08 42 47.9
comp=Z,1µm,22.0s
D20K Etivluk River **84.16 13** P **P** **08 12 39.5 +0.4**
D20K IAmb IAmb 08 12 44.3
comp=Z,29nm,0.9s
D20K IAMs_20 IAMs_20 08 47 52.0
comp=Z,999nm,20.0s
H24K Noodor Dome **84.18 17** IAMs_20 IAMs_20 08 43 49.7
comp=Z,1µm,22.0s
BBOR Butler Butte **84.19 44** IAmb IAmb 08 13 00.3
comp=Z,23nm,1.9s
L04D Klamath Falls **84.21 45** IAmb IAmb 08 13 06.1
comp=Z,39nm,1.3s
G23K Bananza Creek **84.21 16** IAmb IAmb 08 13 06.5
comp=Z,52nm,1.9s
G23K IAMs_20 IAMs_20 08 44 57.5
comp=Z,1µm,21.0s
L27K Beaver Creek, **84.25 21** IAmb IAmb 08 13 04.4
comp=Z,18nm,1.1s
BCAR Beaver Creek A **84.27 21** **P** **08 12 40.0 +0.2**
HATC Hat Creek Radi **84.31 47** P **P** **08 12 40.5 -0.1**
R32K Eaglecrest **84.37 27** IAMs_20 IAMs_20 08 41 42.0
comp=Z,1µm,22.0s
COR Corvallis **84.40 43** IAMs_20 IAMs_20 08 40 58.5
comp=Z,1µm,22.0s
BUCK Buck Mountain **84.47 43** IAmb IAmb 08 13 31.0
comp=Z,27nm,1.2s
HYT Haines Junctio **84.52 24** **P** **08 12 41.5 +0.2**
COLD Coldfoot **84.54 16** IAmb IAmb 08 13 08.1
comp=Z,48nm,2.0s
MAW Mawson **84.56 202** P **P** **08 12 41.5 +0.2**
MAW Mawson **84.56 202** P **P** **08 12 41.0 -0.3**
comp=Z,8.5nm,1.0s,baz=87,slow=7.5,SNR=7.5
MAW LR LR 08 44 48.5
comp=Z,954nm,21.9s,baz=96,slow=32
comp=Z,8.5nm,1.0s
BBB Bella Bella **84.58 34** LR LR 08 42 47.8
comp=Z,1µm,21.2s,baz=262,slow=30
GTK Tadong **84.58 299** *e*P **P** **08 12 42.9 +0.5**
J26L Joseph Creek **84.59 19** IAMs_20 IAMs_20 08 43 15.7
comp=Z,1µm,22.0s
PASC Pasadena Art C **84.61 54** IAMs_20 IAMs_20 08 41 15.7
comp=Z,1µm,22.0s
SKAG Skagway **84.66 26** P P 08 12 46.8 +5.0
PRP Porcupine Dome **84.66 18** IAmb IAmb 08 13 19.6
comp=Z,38nm,1.9s
J04A Umpqua Nationa **84.71 44** IAmb IAmb 08 12 48.0
comp=Z,44nm,1.3s
BEKR Beckworth **84.78 48** IAmb IAmb 08 13 03.0
comp=Z,55nm,1.8s
K27K Chicken **84.78 20** IAMs_20 IAMs_20 08 44 13.8
comp=Z,1µm,21.0s
E22K Anaktuvuk Pass **84.81 15** IAMs_20 IAMs_20 08 44 35.4
comp=Z,2µm,22.0s
G24K Hadweenzic Riv **84.91 17** IAmb IAmb 08 12 48.5
comp=Z,24nm,1.1s
G24K IAMs_20 IAMs_20 08 44 36.9
comp=Z,1µm,21.0s
E03A Lebam **84.97 41** **P** **08 12 44.3 +0.6**
E03A IAmb IAmb 08 13 09.8
comp=Z,30nm,1.2s
B20K Meade River **85.09 12** IAMs_20 IAMs_20 08 44 21.5
comp=Z,1µm,22.0s
M29M Somme Creek **85.10 23** IAMs_20 IAMs_20 08 44 45.2
comp=Z,2µm,20.0s
NLWA Neilton Lookou **85.10 40** IAMs_20 IAMs_20 08 44 47.9
comp=Z,944nm,20.0s
D22K Ayikyak River **85.17 14** IAmb IAmb 08 14 05.9
comp=Z,56nm,1.8s
D22K IAMs_20 IAMs_20 08 45 17.9
comp=Z,1µm,22.0s
U35K Hyder **85.29 30** IAMs_20 IAMs_20 08 42 17.6
comp=Z,1µm,22.0s
E23K Chandalar **85.31 15** IAmb IAmb 08 13 20.3
comp=Z,23nm,1.2s
B21K Ikpikpuk River **85.32 13** IAMs_20 IAMs_20 08 45 43.7
comp=Z,1µm,21.0s
J05D Fort Rock, OR **85.32 44** IAmb IAmb 08 12 51.2
comp=Z,35nm,1.4s
K05A Summer Lake **85.36 45** IAmb IAmb 08 12 51.4
comp=Z,39nm,1.4s
F24K Squaw Lake **85.37 16** IAmb IAmb 08 13 20.0
comp=Z,29nm,1.4s
F24K IAMs_20 IAMs_20 08 47 30.2
comp=Z,948nm,20.0s
P32M Atlin **85.42 26** IAMs_20 IAMs_20 08 41 53.8
comp=Z,1µm,22.0s
PAHR Pah Rah Range **85.43 48** IAmb IAmb 08 13 06.3
comp=Z,49nm,1.6s
FYU Fort Yukon **85.46 17** IAMs_20 IAMs_20 08 45 26.5
comp=Z,954nm,20.0s
N31M Braeburn, Yuko **85.59 24** IAmb IAmb 08 13 11.4
comp=Z,17nm,1.2s
E24K Your Creek **85.61 15** IAmb IAmb 08 13 48.9
comp=Z,33nm,1.8s
E24K IAMs_20 IAMs_20 08 45 31.5
comp=Z,1µm,21.0s
L29M L29M **85.61 22** IAMs_20 IAMs_20 08 45 31.8
comp=Z,2µm,20.0s
I05D Terrebonne, OR **85.62 43** IAmb IAmb 08 13 07.2
comp=Z,40nm,1.6s
LHV Little Huntoon **85.62 50** IAmb IAmb 08 13 07.4
comp=Z,41nm,1.5s
PINE Pine Mountain **85.70 44** IAmb IAmb 08 12 53.1
comp=Z,21nm,1.3s
RYN Ryan **85.72 49** IAmb IAmb 08 13 22.4
comp=Z,32nm,1.5s
Q32M Nakina River **85.73 27** IAMs_20 IAMs_20 08 42 46.0
comp=Z,1µm,22.0s
DAWY Dawson **85.73 21** IAmb IAmb 08 13 12.3
comp=Z,22nm,1.4s
TOLK Toolik Lake Re **85.75 15** IAmb IAmb 08 13 04.8
comp=Z,48nm,1.8s
TOLK IAMs_20 IAMs_20 08 44 43.1
comp=Z,1µm,22.0s
DSP Deep Springs **85.75 51** IAmb IAmb 08 13 14.2
comp=Z,13nm,1.0s
M30M Minto, Yukon **85.81 23** IAMs_20 IAMs_20 08 45 05.9
comp=Z,2µm,20.0s
PFO Pinyon Flats O **85.82 55** LR LR 08 42 56.7
comp=Z,2µm,21.2s,baz=262,slow=30
PFO Pinyon Flats O **85.82 55** *ce*P **P** **08 12 48.2 -0.2**
PFO pmax pmax
comp=Z,22nm,1.5s
NVAR Mina Array Bea **85.83 50** P **P** **08 12 48.9 +0.4**
NVAR Mina Array Bea **85.83 50** P **P** **08 12 47.4 -1.1**
comp=Z,1.0nm,0.9s,baz=255,slow=4.7,SNR=30
NVAR LR LR 08 43 00.1
comp=Z,2µm,21.7s,baz=260,slow=30
comp=Z,1.0nm,0.9s
NV11 Mina Array Sit **85.94 50** IAmb IAmb 08 13 13.3
comp=Z,16nm,1.1s
G05A Wamic **85.95 42** IAmb IAmb 08 13 14.6
comp=Z,24nm,1.1s
GSC Goldstone, Bar **86.03 53** IAmb IAmb 08 13 08.4
comp=Z,18nm,1.2s
F25K Christian Rive **86.04 17** IAmb IAmb 08 13 14.1
comp=Z,18nm,1.1s
F25K IAMs_20 IAMs_20 08 45 11.0
comp=Z,2µm,22.0s
P33M Teslin, Yukon **86.13 26** IAMs_20 IAMs_20 08 42 38.6
comp=Z,1µm,22.0s
B22K Teshekpuk Lake **86.14 13** IAmb IAmb 08 12 54.4
comp=Z,34nm,1.2s
B22K IAMs_20 IAMs_20 08 48 30.3
comp=Z,1µm,20.0s
G26K Porcupine Rive **86.14 18** IAMs_20 IAMs_20 08 47 35.6
comp=Z,976nm,20.0s
QSM Queen of Sheba **86.18 52** IAmb IAmb 08 13 15.9
comp=Z,15nm,1.1s
BMAR Burnt Mountain **86.23 17** P **P** **08 12 50.3 +0.7**
K29M Barlow Dome **86.27 22** IAMs_20 IAMs_20 08 47 31.0
comp=Z,1µm,20.0s
D24K Happy Valley **86.31 15** IAMs_20 IAMs_20 08 45 00.9
comp=Z,1µm,21.0s
H27K Steamboat Moun **86.36 19** IAMs_20 IAMs_20 08 45 28.5
comp=Z,2µm,21.0s
C23K Itkillik River **86.38 14** IAMs_20 IAMs_20 08 45 49.8
comp=Z,1µm,22.0s
I28M Miner Creek **86.39 20** IAmb IAmb 08 13 32.3
comp=Z,39nm,1.9s
E25K Arctic Village **86.43 16** IAmb IAmb 08 13 18.4
comp=Z,30nm,1.4s
E25K IAMs_20 IAMs_20 08 45 25.1
comp=Z,1µm,22.0s
DLBC Dease Lake **86.49 28** LR LR 08 43 34.9
comp=Z,46nm,21.8s,baz=230,slow=30
N32M Quiet Lake **86.51 25** IAMs_20 IAMs_20 08 43 03.1
comp=Z,2µm,22.0s
R33M Jennings River **86.53 27** IAMs_20 IAMs_20 08 43 22.2
comp=Z,1µm,22.0s
F26K Sheenjek River **86.53 17** IAmb IAmb 08 13 30.2
comp=Z,18nm,1.4s
F26K IAMs_20 IAMs_20 08 45 34.0
comp=Z,2µm,21.0s
WCT Wildcat Mounta **86.61 52** IAmb IAmb 08 13 11.2
comp=Z,22nm,1.4s
TIXI Tiksi **86.63 349** LR LR 08 47 11.3
comp=Z,652nm,21.9s,baz=158,slow=32
TIXI Tiksi **86.63 349** *i* P **P** **08 12 51.1 -0.2**
TIXI pmax pmax
comp=Z,19nm,1.5s
G27K Doyon Strip **86.69 18** IAmb IAmb 08 13 33.1
comp=Z,33nm,1.9s
G27K IAMs_20 IAMs_20 08 44 37.2
comp=Z,2µm,22.0s
C24K Franklin Bluff **86.75 14** IAMs_20 IAMs_20 08 46 18.5
comp=Z,2µm,21.0s
WVOR Wild Horse Val **86.84 46** IAmb IAmb 08 13 28.7
comp=Z,29nm,1.4s
I29M Ogilvie Camp, **86.88 20** IAmb IAmb 08 13 17.7
comp=Z,15nm,0.8s
I29M IAMs_20 IAMs_20 08 44 55.3
comp=Z,2µm,21.0s
TPNV Topopah Spring **86.94 52** IAmb IAmb 08 13 14.0
comp=Z,47nm,1.9s
D25K Kavik River **87.04 15** IAmb IAmb 08 13 19.9
comp=Z,18nm,1.4s
D25K IAMs_20 IAMs_20 08 46 49.4
comp=Z,1µm,21.0s
J30M Hart River **87.11 21** IAMs_20 IAMs_20 08 44 48.4
comp=Z,1µm,22.0s
PALK Pallekele **87.22 278** LR LR 08 55 15.6
comp=Z,424nm,19.8s,baz=114,slow=38
J08A Circle Bar Ran **87.25 45** IAmb IAmb 08 13 21.0
comp=Z,17nm,1.2s
HAWA Hanford **87.52 42** IAmb IAmb 08 13 13.1
comp=Z,35nm,1.9s
G08A Pilot Rock **87.53 43** IAmb IAmb 08 13 13.2
comp=Z,38nm,1.9s
E27K Coleen River **87.59 17** IAmb IAmb 08 13 22.2
comp=Z,18nm,1.1s
SHPR Sheep Range **87.66 52** IAmb IAmb 08 13 16.7
comp=Z,38nm,1.9s
SRIG Santa Rosalia **87.68 62** IAMs_20 IAMs_20 08 44 18.2
comp=Z,2µm,21.0s
V12A Nelson **87.68 53** IAmb IAmb 08 13 16.5
comp=Z,30nm,1.5s
F28M Old Crow **87.74 18** IAMs_20 IAMs_20 08 45 53.9
comp=Z,2µm,22.0s
113A Mohawk Valley, **87.77 56** IAmb IAmb 08 13 16.2
comp=Z,49nm,1.8s
E08A Dider Farm, El **87.86 42** IAmb IAmb 08 13 14.7
comp=Z,34nm,1.7s
G29M Pine Creek **87.89 19** IAmb IAmb 08 13 40.4
comp=Z,19nm,1.2s
G29M IAMs_20 IAMs_20 08 45 50.9
comp=Z,1µm,21.0s
C27K Jago River **87.94 16** IAMs_20 IAMs_20 08 46 27.8
comp=Z,1µm,22.0s
PRN Pahroc Range **87.99 51** IAmb IAmb 08 13 25.4
comp=Z,30nm,1.3s
EPYK Eagle Plains **88.00 20** IAMs_20 IAMs_20 08 46 22.8
comp=Z,1µm,21.0s
W13A Hualapai Mount **88.28 54** IAmb IAmb 08 13 26.8
comp=Z,47nm,1.9s
D27M Malcolm River **88.44 16** IAmb IAmb 08 13 25.9
comp=Z,16nm,0.8s
D27M IAMs_20 IAMs_20 08 46 22.9
comp=Z,2µm,22.0s

H31M Peel River 88.49 21 IAMs_20 IAMs_20 08 45 30.9
comp=Z,2μm,22.0s
BMO Blue Mountains 88.51 44 IAmb IAmb 08 13 21.9
comp=Z,38nm,1.9s
BMO IAMs_20 IAMs_20 08 43 57.3
comp=Z,1μm,22.0s
G30M tAoh Zraii Nji 88.51 19 IAmb IAmb 08 13 46.8
comp=Z,12nm,1.1s
G30M IAMs_20 IAMs_20 08 44 59.3
comp=Z,971nm,22.0s
LPIG La Paz 88.62 65 LR LR 08 44 13.1
comp=Z,349nm,21.4s,baz=251,slow=30
ELK Elko 88.77 48 P **P** **08 13 03.4 +0.7**
ELK IAmb IAmb 08 13 22.6
comp=Z,35nm,1.8s
ELK IAMs_20 IAMs_20 08 45 09.4
comp=Z,1μm,21.0s
ELK Elko 88.77 48 LR LR 08 45 30.8
comp=Z,1μm,20.9s,baz=255,slow=31
ELK Elko 88.77 48 P **P** **08 13 03.4 +0.7**
ELK pmax pmax
comp=Z,35nm,1.8s
E29M Blow River 88.80 18 IAMs_20 IAMs_20 08 46 37.9
comp=Z,1μm,22.0s
SPR3 Spring Creek 3 88.97 50 P **P** **08 13 04.7 +1.0**
F30M Barrier River 89.01 19 IAMs_20 IAMs_20 08 45 52.4
comp=Z,1μm,22.0s
MFID Camas Ranch 89.10 45 IAmb IAmb 08 13 24.0
comp=Z,13nm,1.1s
G31M Satah River 89.12 20 IAMs_20 IAMs_20 08 47 18.4
comp=Z,1μm,21.0s
HSIG 89.19 60 IAMs_20 IAMs_20 08 44 05.2
comp=Z,2μm,21.0s
PLID Pearl Lake 89.47 44 IAMs_20 IAMs_20 08 44 13.6
comp=Z,1μm,22.0s
F31M Tsiigehtchic 89.57 19 IAMs_20 IAMs_20 08 48 03.4
comp=Z,945nm,21.0s
NEW Newport 89.67 41 IAMs_20 IAMs_20 08 45 28.7
comp=Z,911nm,21.0s
NEW Newport 89.67 41 LR LR 08 45 29.1
comp=Z,935nm,21.9s,baz=254,slow=30
WMQ Urumqi 89.84 315 *e*P **P** **08 13 09.6 +2.3**
WMQ SKS **SKSac** **08 23 24.7 -8.9**
WMQ pmax pmax
comp=Z,58nm,0.9s
WMQ pmax pmax
comp=Z,410nm,3.9s
WMQ LR LR
comp=Z,470nm,20.9s
WMQ LR LR
comp=Z,670nm,23.7s
WMQ LR LR
comp=Z,1μm,24.0s
ALBI Allahabad 90.00 296 *e*P **P** **08 13 07.0 -1.4**
BELA Belgrano 2 90.01 176 P **P** **08 13 08.6 +1.1**
BELA IAmb IAmb 08 13 54.1
comp=Z,19nm,1.2s
X16A Lo Mia Camp, P 90.06 55 IAmb IAmb 08 13 28.2
comp=Z,34nm,1.9s
TUC Tucson 90.09 57 P **P** **08 13 09.1 +0.2**
TUC Tucson 90.09 57 P **P** **08 13 09.1 +0.2**
TUC pmax pmax
comp=Z,14nm,1.4s
INK Inuvik 90.10 19 LR LR 08 47 09.7
comp=Z,639nm,21.9s,baz=218,slow=31
HLID Hailey 90.13 46 IAmb IAmb 08 13 29.2
comp=Z,13nm,1.2s
WUAZ Wupatki 90.37 54 IAMs_20 IAMs_20 08 44 15.1
comp=Z,1μm,22.0s
DUG Dugway, Tooele 90.41 49 IAmb IAmb 08 13 30.2
comp=Z,39nm,1.9s
DUG IAMs_20 IAMs_20 08 45 21.9
comp=Z,1μm,21.0s
X18A Snowflake 91.28 55 IAmb IAmb 08 13 33.8
comp=Z,33nm,1.9s
HYB Hyderabad 91.33 287 *e*P **P** **08 13 15.3 +0.5**
SYO Syowa Base 91.55 197⇓ *e*P **P** **08 13 15.2 +0.4**
SYO Syowa Base 91.55 197⇑ pP pP 08 13 28.4 -2.0
SYO Syowa Base 91.55 197⇑ esP sP 08 13 36.5 +0.2
DLMT Dillon 91.86 44 IAmb IAmb 08 13 42.6
comp=Z,10nm,0.9s
DLMT IAMs_20 IAMs_20 08 46 25.9
comp=Z,1μm,22.0s
SRU San Rafael Swe 91.86 51 IAmb IAmb 08 13 36.8
comp=Z,18nm,1.7s
BSUT Blindstream Ca 92.01 49 IAmb IAmb 08 14 14.7
comp=Z,15nm,1.3s
P18A Preston Nutter 92.19 50 IAmb IAmb 08 13 38.7
comp=Z,27nm,2.0s
PTH Pithoragarh 92.28 300 *e*P **P** **08 13 18.9 -0.2**
PTH IAmb IAmb 08 13 34.7
comp=Z,25nm,1.9s
BOZ Bozeman (W) 92.57 44 IAmb IAmb 08 13 37.9
comp=Z,26nm,1.9s
BOZ IAMs_20 IAMs_20 08 46 25.8
comp=Z,1μm,22.0s
PV03 Paradox Valley 92.96 52 IAmb IAmb 08 14 17.9
comp=Z,20nm,1.8s
PV12 Saucer Basin, 93.01 52 IAmb IAmb 08 13 48.3
comp=Z,12nm,1.1s
PD31 Pinedale Array 93.39 47 IAmb IAmb 08 13 43.3
comp=Z,24nm,1.9s
PDAR Pinedale Array 93.39 47 P **P** **08 13 25.0 +0.9**
comp=Z,1.0nm,0.6s,baz=284,slow=3.1,SNR=10
PDAR PKKPbc **PKKPdf** **08 30 30.2 -0.9**
comp=Z,0.3nm,0.6s,baz=104,slow=6.4,SNR=3.8
PDAR LR LR 08 48 50.3
comp=Z,346nm,21.0s,baz=243,slow=31
comp=Z,1.0nm,0.6s
NRDN NARMADA NAGAR 93.64 292 *e*P **P** **08 13 25.0 -0.4**
NRDN IAmb IAmb 08 13 44.1
comp=Z,14nm,1.5s
HNLY HANLEY 93.96 302 *e*P **P** **08 13 26.7 -0.6**
HNLY IAmb IAmb 08 13 37.8
comp=Z,8.8nm,1.0s
RLMT Red Lodge 94.09 45 IAMs_20 IAMs_20 08 48 01.1
comp=Z,916nm,21.0s
ANMO Albuquerque 94.18 55 IAMs_20 IAMs_20 08 47 16.0
comp=Z,1μm,21.0s
ANMO Albuquerque 94.18 55 IAMs_20 IAMs_20 08 47 16.0
comp=Z,1μm,21.0s
ANMO Albuquerque 94.18 55 LR LR 08 47 49.8
comp=Z,1μm,21.4s,baz=1.0,slow=30
ANMO Albuquerque 94.18 55 *i* P **P** **08 13 26.8 -1.0**
ANMO pmax pmax
comp=Z,9.0nm,4.2s
MK31 Makanchi Array 94.26 317 *e*P **P** **08 13 27.5 -0.2**
MKAR Makanchi Array 94.26 317 **P** **08 13 27.4 -0.3**
MKAR Makanchi Array 94.26 317 P **P** **08 13 27.5 -0.2**
comp=Z,12nm,0.6s,baz=97,slow=6.1,SNR=133
MKAR PKKPbc **PKKPdf** **08 30 27.3 -2.1**
comp=Z,0.3nm,0.6s,baz=248,slow=2.8,SNR=3.5
MKAR LR LR 08 55 42.0
comp=Z,170nm,21.9s,baz=100,slow=35
comp=Z,12nm,0.6s
ZAA0 Zalesovo Array 94.27 324 IAmb IAmb 08 13 29.4
comp=Z,8.3nm,0.8s
ZALV Zalesovo Beam 94.27 324 **P** **08 13 26.1 -1.4**
ZALV Zalesovo Beam 94.27 324 P **P** **08 13 26.2 -1.3**
comp=Z,5.3nm,0.6s,baz=109,slow=3.6,SNR=22
ZALV LR LR 08 54 59.7
comp=Z,415nm,20.5s,baz=88,slow=35
comp=Z,5.3nm,0.6s
ZALV Zalesovo Beam 94.27 324 P **P** **08 13 26.1 -1.4**
A36M Sachs Harbour 94.33 17 IAmb IAmb 08 13 43.0
comp=Z,10nm,0.8s
EGMT Eagleton 94.37 42 IAmb IAmb 08 14 04.8
comp=Z,8.0nm,1.0s
MAKZ Makanchi 94.47 317 **P** **08 13 28.4 -0.3**
MAKZ Makanchi 94.47 317 P **P** **08 13 28.4 -0.3**
MAKZ pmax pmax
comp=Z,22nm,1.0s
YKA Yellowknife Ar 95.07 27 LR LR 08 49 13.2
comp=Z,586nm,21.9s,baz=286,slow=31
PMSA Palmer Station 95.11 161 LR LR 08 51 03.9
comp=Z,496nm,20.6s,baz=225,slow=32
SMLA Simla 95.17 301 *e*P **P** **08 13 32.0 -0.1**
SMLA IAmb IAmb 08 13 40.6
comp=Z,29nm,1.4s
KUDL Kundal 95.22 298 *e*P **P** **08 13 32.6 +0.1**
KUDL IAmb IAmb 08 13 46.9
comp=Z,27nm,1.7s
KAD Karad 95.41 286 *e*P **P** **08 13 33.1 -0.5**
KAD IAmb IAmb 08 13 49.0
comp=Z,25nm,0.8s
SDCO Great Sand Dun 95.45 53 IAMs_20 IAMs_20 08 48 28.5
comp=Z,1μm,22.0s

TXAR Lajitas Array 95.49 61 P **P** **08 13 32.9 -0.9**
comp=Z,1.1nm,0.7s,baz=250,slow=4.2,SNR=13
TXAR PKKPbc **PKKPbc** **08 30 24.8 -1.2**
comp=Z,0.2nm,0.6s,baz=73,slow=4.3,SNR=6.0
TXAR LR LR 08 48 48.7
comp=Z,808nm,20.8s,baz=254,slow=31
TROLL Troll, Antarti 96.01 185⇑ P **P** **08 13 33.6 -1.9**
comp=Z,150nm,0.7s
DHRM DHARAMSHALA 96.09 302 *e*P **P** **08 13 35.5 -1.1**
DHRM IAmb IAmb 08 13 38.9
comp=Z,28nm,1.1s
NVL N'lazarevskaya 96.13 188 *e*P P 08 13 17.9 -18
NVL *e* 08 13 38.7
NVL *e*PPP PPP 08 17 35.6
NVL pmax pmax
comp=Z,12nm,1.0s
T25A Trinidad 96.20 53 IAMs_20 IAMs_20 08 50 40.4
comp=Z,997nm,20.0s
LAO LASA Array 96.47 44 IAMs_20 IAMs_20 08 49 00.1
comp=Z,874nm,21.0s
TARG Taragay, Kyrgy 96.48 311 IAmb IAmb 08 13 56.5
comp=Z,9.2nm,1.4s
SNAA Sanae 96.73 183⇑ P **P** **08 13 38.1 -0.5**
comp=Z,35nm,0.6s
SNAA Sanae 96.73 183 P **P** **08 13 36.6 -2.0**
comp=Z,0.9nm,0.8s,baz=211,slow=9.0,SNR=9.1
SNAA LR LR 08 56 40.9
comp=Z,450nm,19.8s,baz=128,slow=35
comp=Z,0.9nm,0.8s
SNAA Sanae 96.73 183 *i* P **P** **08 13 37.8 -0.8**
SNAA pmax pmax
comp=Z,12nm,1.9s
NRIK Noril'sk 96.74 339 P **P** **08 13 39.0 +0.6**
comp=Z,1.8nm,0.6s,baz=129,slow=5.3,SNR=2.4
NRIK LR LR 08 54 24.3
comp=Z,864nm,21.8s,baz=104,slow=34
comp=Z,1.8nm,0.6s
NRIK Noril'sk 96.74 339 *i* P **P** **08 13 38.2 -0.2**
NRIK pmax pmax
comp=Z,4.0nm,1.1s
KDJ Kajisay 97.00 311 IAmb IAmb 08 13 43.0
comp=Z,5.3nm,0.8s
MSTX Muleshoe 97.01 57 IAMs_20 IAMs_20 08 50 34.0
comp=Z,1μm,21.0s
KURK Kurchatov 97.37 320 Pdif 08 13 42.4 +0.7
KURK IAmb IAmb 08 13 59.2
comp=Z,11nm,1.2s
KURK Kurchatov 97.37 320 IAMs_20 IAMs_20 08 55 56.9
comp=Z,902nm,22.0s
KURK Kurchatov 97.37 320 P Pdif 08 13 42.4 +0.7
KURK pmax pmax
comp=Z,11nm,1.2s
KURK MLR MLR
comp=Z,900nm,22.0s
KURBB Kurchatov Arra 97.41 320 P **P** **08 13 40.5 -1.3**
comp=Z,1.1nm,0.6s,baz=99,slow=4.6,SNR=9.7
comp=Z,1.1nm,0.6s
VNA3 Neumayer Olymp 97.43 181⇑ P **P** **08 13 41.7 0.0**
comp=Z,1.1nm,0.4s
VNA2 Neumayer--Watz 97.68 182⇑ P **P** **08 13 40.5 -2.3**
comp=Z,2.7nm,0.6s,baz=174,slow=6.3
KSCO Kaye Shedlock' 97.89 52 IAMs_20 IAMs_20 08 49 10.9
comp=Z,1μm,22.0s
AMTX Amarillo 98.04 56 IAMs_20 IAMs_20 08 49 15.6
comp=Z,1μm,21.0s
833A Chaparral WMA, 99.03 63 IAMs_20 IAMs_20 08 54 30.9
comp=Z,692nm,19.0s
AAK Ala-Archa 99.04 312 LR LR 08 59 09.3
comp=Z,248nm,21.8s,baz=77,slow=36
AAK Ala-Archa 99.04 312 *i* P **Pdif** **08 13 47.5 -2.2**
AAK pmax pmax
comp=Z,3.0nm,0.7s
USHA Ushuaia 99.53 151 LR LR 08 51 03.0
comp=Z,529nm,20.8s,baz=217,slow=31
CBKS Cedar Bluff 100.09 52 IAMs_20 IAMs_20 08 51 06.4
comp=Z,778nm,21.0s
E28A Huff 100.23 44 IAMs_20 IAMs_20 08 52 51.6
comp=Z,875nm,21.0s
KVTX Kingsville 100.24 64 IAMs_20 IAMs_20 08 49 49.0
comp=Z,954nm,20.0s
OK038 West end E0370 100.62 55 IAMs_20 IAMs_20 08 51 52.3
comp=Z,1μm,21.0s
R32A Long Quarter, 100.85 53 IAMs_20 IAMs_20 08 52 41.4
comp=Z,837nm,20.0s
WHTX Lake Whitney, 101.17 59 IAMs_20 IAMs_20 08 52 11.3
comp=Z,1μm,21.0s
BGNE Belgrade 101.57 50 IAMs_20 IAMs_20 08 51 50.3
comp=Z,1μm,22.0s
OK048 Pawnee Station 102.05 55 IAMs_20 IAMs_20 08 51 56.4
comp=Z,1μm,21.0s
OK051 E0350 and S346 102.15 55 IAMs_20 IAMs_20 08 51 05.9
comp=Z,1μm,22.0s
HKT Hockley 102.33 62 IAMs_20 IAMs_20 08 52 21.0
comp=Z,1μm,22.0s
T35A Sooner Cattle 102.44 55 IAMs_20 IAMs_20 08 53 43.7
comp=Z,1μm,21.0s
237A Washetta, Mont 102.56 60 IAMs_20 IAMs_20 08 56 33.2
comp=Z,928nm,20.0s
BVAR Borovoye Array 102.67 322 P **Pdif** **08 14 03.6 -1.7**
comp=Z,2.0nm,0.8s,baz=71,slow=6.4,SNR=5.8
BRVK Borovoye 102.73 322 IAMs_20 IAMs_20 08 59 00.8
comp=Z,832nm,22.0s
L34A Svendsen Farm, 102.94 49 IAMs_20 IAMs_20 08 53 06.5
comp=Z,1μm,21.0s
F33A 5 Mile Ranch, 103.22 45 IAMs_20 IAMs_20 08 53 27.8
comp=Z,1μm,22.0s
Z38A Mt. Pleasant 103.37 58 IAMs_20 IAMs_20 08 53 11.5
comp=Z,1μm,21.0s
H03S2 Juan Fernandez 103.38 129 T T 10 11 15.3
baz=242,slow=74,SNR=44
H03S1 Juan Fernandez 103.39 129 T T 10 11 15.6
baz=242,slow=74,SNR=38
H03S3 Juan Fnandez 103.39 129 T T 10 11 14.7
baz=242,slow=74,SNR=37
NATX Nacogdoches 103.51 60 IAMs_20 IAMs_20 08 52 08.3
comp=Z,1μm,22.0s
441A DeRidder 104.68 61 IAMs_20 IAMs_20 08 54 07.6
comp=Z,1μm,21.0s
WLAR White Oak Lake 104.97 58 IAMs_20 IAMs_20 08 54 54.1
comp=Z,1μm,20.0s
S39A Bolivar 105.03 54 IAMs_20 IAMs_20 08 53 55.1
comp=Z,956nm,20.0s
I37A Lemond, Waseca 105.21 47 IAMs_20 IAMs_20 08 56 42.0
comp=Z,811nm,20.0s
X40A Basin Creek Fa 105.25 57 IAMs_20 IAMs_20 08 55 52.5
comp=Z,1μm,20.0s
SPMN Marine on St. 105.66 46 IAMs_20 IAMs_20 08 56 03.7
comp=Z,760nm,21.0s
R40A Maddies Statio 105.89 53 IAMs_20 IAMs_20 08 54 32.4
comp=Z,1μm,21.0s
FCAR Ozark Folk Cen 105.91 56 IAMs_20 IAMs_20 09 00 05.8
comp=Z,945nm,19.0s
CCAR Cane Creek 106.09 58 IAMs_20 IAMs_20 08 55 49.9
comp=Z,1μm,20.0s
P40A Paris 106.11 52 IAMs_20 IAMs_20 08 56 05.0
comp=Z,1μm,21.0s
CCM Cathedral Cave 106.69 54 IAMs_20 IAMs_20 08 54 56.5
comp=Z,1μm,21.0s
LCAR Lake Charles 106.70 56 IAMs_20 IAMs_20 09 00 21.8
comp=Z,676nm,18.0s
VBMS Vicksburg 107.05 60 IAMs_20 IAMs_20 08 54 40.5
comp=Z,1μm,22.0s
FVM French Village 107.34 54 IAMs_20 IAMs_20 08 55 17.6
comp=Z,1μm,22.0s
JFWS Jewell Farm 107.50 49 IAMs_20 IAMs_20 09 03 28.6
comp=Z,877nm,19.0s
GNAR Gosnell 107.62 56 IAMs_20 IAMs_20 08 56 31.1
comp=Z,1μm,20.0s
PEBM Pemiscott Bayo 107.75 56 IAMs_20 IAMs_20 08 54 49.6
comp=Z,1μm,22.0s
PARMO Parma 107.85 55 IAMs_20 IAMs_20 09 01 27.2
comp=Z,1μm,18.0s
346A Big Creek Wild 107.91 61 IAMs_20 IAMs_20 08 56 00.1
comp=Z,694nm,21.0s
TBO Thunder Bay 107.91 43 IAMs_20 IAMs_20 08 57 05.2
comp=Z,683nm,21.0s
Y45A Yeager Farm, C 107.94 58 IAMs_20 IAMs_20 09 01 36.9
comp=Z,866nm,19.0s
LNXT Lenox 108.05 56 IAMs_20 IAMs_20 08 56 13.5
comp=Z,1μm,20.0s
P43A Skaggs, Pawnee 108.06 52 IAMs_20 IAMs_20 08 57 44.7
comp=Z,1μm,20.0s
OXF Oxford 108.07 57 IAMs_20 IAMs_20 08 57 23.3
comp=Z,1μm,20.0s
TEIG Tepich 108.15 72 IAMs_20 IAMs_20 08 54 14.1
comp=Z,768nm,21.0s
HALT Halls 108.17 56 IAMs_20 IAMs_20 08 56 25.7
comp=Z,1μm,20.0s

GLAT Glass 108.21 56 IAMs_20 IAMs_20 08 56 40.9
comp=Z,1μm,20.0s
COWI Conover 108.22 45 IAMs_20 IAMs_20 08 56 39.3
comp=Z,1μm,22.0s
HICK Hickman 108.27 55 IAMs_20 IAMs_20 08 55 31.3
comp=Z,813nm,22.0s
146A Union 108.31 59 IAMs_20 IAMs_20 08 56 15.6
comp=Z,1μm,21.0s
TGUH Tegucigalpa,Un 108.39 79 IAMs_20 IAMs_20 08 52 17.5
comp=Z,1μm,21.0s
POIN Pond Inlet 108.40 17 IAMs_20 IAMs_20 08 58 59.7
comp=Z,1μm,21.0s
HERN Volcan Telica 108.62 80 IAMs_20 IAMs_20 08 50 33.6
comp=Z,805nm,22.0s
K43A Burlington 108.91 49 IAMs_20 IAMs_20 09 02 00.0
comp=Z,1μm,19.0s
F42A Maple Grove Fa 108.93 45 IAMs_20 IAMs_20 08 59 11.3
comp=Z,796nm,20.0s
OLIL Olney 109.17 53 IAMs_20 IAMs_20 08 56 46.1
comp=Z,1μm,21.0s
H43A Windswept, Lux 109.25 47 IAMs_20 IAMs_20 08 57 45.9
comp=Z,945nm,21.0s
P46A Rosedale 109.85 52 IAMs_20 IAMs_20 08 56 54.0
comp=Z,1μm,22.0s
T47A Sharon Grove 109.97 55 IAMs_20 IAMs_20 08 56 23.5
comp=Z,939nm,21.0s
X48A Hartselle 110.03 57 IAMs_20 IAMs_20 08 56 28.0
comp=Z,956nm,22.0s
MT08 Bocatoma Ro 110.19 132 IAMs_20 IAMs_20 08 54 42.0
comp=Z,1μm,21.0s
V48A Smith Brothers 110.21 56 IAMs_20 IAMs_20 08 57 16.8
comp=Z,1μm,22.0s
BLO Bloomington 110.39 52 IAMs_20 IAMs_20 09 00 13.4
comp=Z,1μm,19.0s
Y49A Blount Mountai 110.55 58 IAMs_20 IAMs_20 08 58 29.9
comp=Z,1μm,21.0s
CLTN Cedars of Leba 110.61 56 IAMs_20 IAMs_20 08 56 12.3
comp=Z,780nm,22.0s
451A Vernon 111.07 62 IAMs_20 IAMs_20 09 00 35.0
comp=Z,754nm,21.0s
FPAL Fort Paine 111.21 57 IAMs_20 IAMs_20 08 57 15.4
comp=Z,764nm,22.0s
P48A Milroy 111.23 52 IAMs_20 IAMs_20 09 00 30.6
comp=Z,943nm,20.0s
O48B Farmland 111.40 51 IAMs_20 IAMs_20 09 02 45.0
comp=Z,739nm,19.0s
W50A Signal Mountai 111.45 57 IAMs_20 IAMs_20 08 59 54.6
comp=Z,1μm,20.0s
J47A Sunmer 111.46 48 IAMs_20 IAMs_20 09 04 21.3
comp=Z,743nm,19.0s
GLMI Grayling 111.47 46 IAMs_20 IAMs_20 08 58 19.6
comp=Z,1μm,22.0s
E46A Sault Ste Mari 111.54 45 IAMs_20 IAMs_20 09 00 52.3
comp=Z,1μm,20.0s
T50A Nancy 111.79 55 IAMs_20 IAMs_20 08 59 22.5
comp=Z,988nm,20.0s
352A Blakely 111.79 61 IAMs_20 IAMs_20 09 00 03.1
comp=Z,617nm,19.0s
X51A Calhoun 111.83 57 IAMs_20 IAMs_20 08 57 56.8
comp=Z,1μm,22.0s
O49A Covington 112.03 51 IAMs_20 IAMs_20 08 59 55.7
comp=Z,963nm,21.0s
CPCT Cooper Cave 112.09 56 IAMs_20 IAMs_20 08 58 56.6
comp=Z,1μm,21.0s
R50A Paris 112.14 53 IAMs_20 IAMs_20 08 59 18.7
comp=Z,1μm,21.0s
553A Crawfordville 112.20 62 IAMs_20 IAMs_20 09 02 58.9
comp=Z,818nm,20.0s
Y52A Lilburn 112.50 58 IAMs_20 IAMs_20 08 59 50.6
comp=Z,1μm,21.0s
W52A Murphy 112.58 57 IAMs_20 IAMs_20 08 58 29.7
comp=Z,1μm,22.0s
I49A Point Hope 112.84 47 IAMs_20 IAMs_20 08 58 51.8
comp=Z,1μm,22.0s
TZTN Tazewell 112.84 55 IAMs_20 IAMs_20 08 58 51.4
comp=Z,1μm,22.0s
GOGA Godfrey 113.01 59 IAMs_20 IAMs_20 08 58 52.1
comp=Z,1μm,22.0s
P51A Williamsport 113.06 52 IAMs_20 IAMs_20 09 00 19.9
comp=Z,962nm,21.0s
ACSO Alum Creek Sta 113.06 51 IAMs_20 IAMs_20 09 00 56.0
comp=Z,1μm,20.0s
K50A Casco 113.10 48 IAMs_20 IAMs_20 09 05 05.9
comp=Z,1μm,18.0s
V53A Saluda 113.47 56 IAMs_20 IAMs_20 09 00 00.2
comp=Z,1μm,21.0s
656A Willston 113.85 63 IAMs_20 IAMs_20 09 04 13.5
comp=Z,586nm,19.0s
N53A Lisbon 114.64 50 IAMs_20 IAMs_20 08 59 46.6
comp=Z,1μm,22.0s
257A Skidaway Islan 115.11 60 IAMs_20 IAMs_20 09 04 21.7
comp=Z,847nm,19.0s
ERPA Erie 115.12 49 IAMs_20 IAMs_20 09 00 02.2
comp=Z,768nm,22.0s
MCWV Mont Chateau 115.52 52 IAMs_20 IAMs_20 09 02 57.0
comp=Z,794nm,20.0s
060A Indiantown 115.76 65 IAMs_20 IAMs_20 09 02 50.4
comp=Z,728nm,21.0s
NHSC New Hope 115.77 59 IAMs_20 IAMs_20 09 01 18.3
comp=Z,1μm,22.0s
CSU Charleston Sou 115.87 59 IAMs_20 IAMs_20 09 01 31.8
comp=Z,1μm,21.0s
VLDQ Val d'Or 115.88 42 IAMs_20 IAMs_20 09 03 58.1
comp=Z,916nm,20.0s
APA Apatity 116.04 342⇓ *i* PKIKP **PKiKP** **08 18 47.7 -2.9**
APA *i* 08 19 56.8
APA pmax pmax
comp=Z,5.0nm,1.2s
APA MLR MLR
comp=Z,1μm,23.4s
KEV Kevo 116.38 345 IAMs_20 IAMs_20 09 07 41.0
comp=Z,1μm,22.0s
BELG Belogornoye 116.44 323 PKKPbc PKKPbc 08 29 20.4 -1.7
comp=Z,8.7nm,0.5s,baz=258,slow=1.3,SNR=4.6
V58A Windy Hill, Pi 116.47 56 IAMs_20 IAMs_20 09 01 12.5
comp=Z,1μm,22.0s
J55A Hilton 116.53 47 IAMs_20 IAMs_20 09 02 57.6
comp=Z,1μm,21.0s
MMNY Mt. Morris Dam 116.55 48 IAMs_20 IAMs_20 09 07 45.2
comp=Z,761nm,19.0s
ARCES ARCESS Array B 116.90 346 **PKiKP** **08 18 53.2 +0.9**
ARCES ARCESS Array B 116.90 346 PKP **PKPdf** **08 18 50.9 -1.4**
comp=Z,2.6nm,0.6s,baz=91,slow=2.6,SNR=16
ARCES ARCESS Array B 116.90 346 PKIKP **PKiKP** **08 18 53.2 +0.9**
SUMG Summit 117.16 8 IAMs_20 IAMs_20 09 03 05.9
comp=Z,609nm,22.0s
ILULI Ilulissat 117.54 14 IAMs_20 IAMs_20 09 07 55.2
comp=Z,734nm,21.0s
K57A Scipio Center 117.56 48 IAMs_20 IAMs_20 09 02 09.9
comp=Z,1μm,22.0s
J57A Williamstown 117.81 47 IAMs_20 IAMs_20 09 03 56.5
comp=Z,1μm,20.0s
SDMD Soldier's Deli 117.85 51 IAMs_20 IAMs_20 09 07 20.8
comp=Z,661nm,19.0s
KUQ Kuujjuuaa 117.88 29 IAMs_20 IAMs_20 09 01 57.8
comp=Z,946nm,22.0s
BINY Binghamton 118.04 48 IAMs_20 IAMs_20 09 03 21.7
comp=Z,1μm,21.0s
MVL Millersville 118.14 51 IAMs_20 IAMs_20 09 02 15.4
comp=Z,1μm,21.0s
TRQ Mont Tremblant 118.22 44 IAMs_20 IAMs_20 09 05 04.1
comp=Z,669nm,21.0s
V61A Roper 118.52 55 IAMs_20 IAMs_20 09 00 15.8
comp=Z,1μm,22.0s
LONY Lake Ozonia 118.57 45 IAMs_20 IAMs_20 09 03 20.3
comp=Z,854nm,22.0s
WUPA West Chester U 118.71 51 IAMs_20 IAMs_20 09 02 11.6
comp=Z,703nm,22.0s
L59A Walton 118.73 48 IAMs_20 IAMs_20 09 03 53.9
comp=Z,910nm,21.0s
J59A Piesco 118.87 47 IAMs_20 IAMs_20 09 04 08.4
comp=Z,1μm,20.0s
MNTQ Montreal, Queb 119.03 44 IAMs_20 IAMs_20 09 03 22.4
comp=Z,589nm,21.0s
SFJD Kangerlussuaq 119.31 16 IAMs_20 IAMs_20 09 08 04.6
comp=Z,953nm,20.0s
P61A Hammonton 119.38 51 IAMs_20 IAMs_20 09 08 18.1
comp=Z,701nm,19.0s
LPAZ La Paz 119.44 116 PKP **PKPdf** **08 18 57.8 -1.7**
comp=Z,1.1nm,0.5s,baz=42,slow=3.4,SNR=9.9
LPAZ PKKPbc **PKKPbc** **08 29 10.5 -0.7**
comp=Z,0.6nm,0.7s,baz=90,slow=6.1,SNR=2.2
VT1 Waterbury 119.91 45 IAMs_20 IAMs_20 09 04 18.8
comp=Z,915nm,22.0s
HNH Hanover 120.39 46 IAMs_20 IAMs_20 09 06 16.4
comp=Z,688nm,21.0s
LBNH Lisbon 120.51 45 IAMs_20 IAMs_20 09 04 35.6
comp=Z,887nm,21.0s

SCO	**Scoresbysund**	**120.81**	**3**	IAMs_20	IAMs_20	09 08 59.4			
	comp=Z,719nm,19.0s								
UCCT	**U. Connecticut**	**120.87**	**48**	IAMs_20	IAMs_20	09 07 27.5			
	comp=Z,848nm,19.0s								
H62A	**Milan**	**120.95**	**45**	IAMs_20	IAMs_20	09 06 37.4			
	comp=Z,653nm,21.0s								
I62A	**Tamworth**	**121.01**	**46**	IAMs_20	IAMs_20	09 06 58.9			
	comp=Z,749nm,20.0s								
G62A	**West of Eustis**	**121.20**	**44**	IAMs_20	IAMs_20	09 04 58.9			
	comp=Z,532nm,20.0s								
E62A	**Clayton Lake**	**121.47**	**42**	IAMs_20	IAMs_20	09 05 27.7			
	comp=Z,786nm,21.0s								
I63A	**Otisfield**	**121.49**	**45**	IAMs_20	IAMs_20	09 05 55.6			
	comp=Z,923nm,21.0s								
OBN	**Obninsk**	**121.49**	**329**	*i* PKIKP	**PKiKP**	**08 19 02.3**	**+0.7**		
OBN				pmax	pmax				
	comp=Z,7.0nm,1.0s								
D62A	**Allapoint, AII**	**121.63**	**41**	IAMs_20	IAMs_20	09 08 01.7			
	comp=Z,907nm,20.0s								
KIV	**Kislovodsk**	**121.97**	**315**	*i* PKIKP	**PKPdf**	**08 19 01.2**	**-1.7**		
KIV				*e*		08 20 34.5			
KIV				*e*PS	PKKPdf	08 30 29.1	+52		
KIV				*e*SS	SS	08 37 07.7	-3.8		
KIV				pmax	pmax				
	comp=Z,5.0nm,1.1s								
WVL	**Waterville**	**121.99**	**44**	IAMs_20	IAMs_20	09 07 28.6			
	comp=Z,932nm,21.0s								
M65A	**Busby, Falmout**	**122.08**	**48**	IAMs_20	IAMs_20	09 05 28.3			
	comp=Z,997nm,21.0s								
FINES	**FINESS Array B**	**122.40**	**339**	PKP	**PKPdf**	**08 19 01.8**	**-1.2**		
	comp=Z,1.7nm,0.6s,baz=321,slow=2.4,SNR=6.8								
F64A	**Sherman**	**122.48**	**43**	IAMs_20	IAMs_20	09 13 04.5			
	comp=Z,939nm,19.0s								
RAYN	**Ar Rayn**	**122.70**	**291**		**PKPdf**	**08 19 04.9**	**+0.1**		
RAYN	**Ar Rayn**	**122.70**	**291**	PKIKP	**PKPdf**	**08 19 04.9**	**+0.1**		
G65A	**Princeton**	**123.21**	**43**	IAMs_20	IAMs_20	09 06 13.0			
	comp=Z,974nm,21.0s								
EMMW	**East Machias**	**123.44**	**44**	IAMs_20	IAMs_20	09 05 00.1			
	comp=Z,764nm,22.0s								
ANGG	**Ammassalik, Gr**	**123.47**	**12**	IAMs_20	IAMs_20	09 06 38.0			
	comp=Z,707nm,22.0s								
BATG	**Bathurst New B**	**123.48**	**40**	IAMs_20	IAMs_20	09 09 46.9			
	comp=Z,670nm,20.0s								
SDDR	**Presa de Saban**	**124.06**	**75**	IAMs_20	IAMs_20	09 02 57.6			
	comp=Z,796nm,21.0s								
BOSA	**Boshof**	**125.22**	**222**	PKP	**PKPdf**	**08 19 09.3**	**-0.4**		
	comp=Z,3.9nm,0.6s,baz=134,slow=1.7,SNR=8.8								
MNK	**Minsk**	**126.07**	**331**	*i* PKIKP	**PKPdf**	**08 19 07.7**	**-2.6**		
MNK				*i*		08 19 25.3			
MNK				*i*		08 21 01.6			
MNK				*i* PPP	PPP	08 23 43.1			
MNK				*i*		08 26 14.1			
MNK				*i* SS	SS	08 37 59.9	-2.0		
MNK				*i* SSS	SSS	08 42 39.4			
MNK				pmax	pmax				
	comp=E,19nm,0.8s								
MNK				pmax	pmax				
	comp=Z,11nm,0.5s								
MNK				pmax	pmax				
	comp=N,17nm,0.6s								
MNK				MLR	MLR				
	comp=Z,883nm,24.0s								
MNK				MLR	MLR				
	comp=E,597nm,23.0s								
MNK				MLR	MLR				
	comp=N,429nm,22.0s								
KIBK	**Kibwezi**	**126.83**	**258**	IAMs_20	IAMs_20	09 10 49.6			
	comp=Z,759nm,20.0s								
PABE	**Paberze**	**127.19**	**334**	IAMs_20	IAMs_20	09 13 45.3			
	comp=Z,828nm,22.0s								
NB2	**NORSAR Subarra**	**127.28**	**345**	PKP	**PKPdf**	**08 19 12.5**	**0.0**		
	comp=Z,1.1nm,0.6s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**127.28**	**345**	PKP	**PKPdf**	**08 19 12.5**	**0.0**		
	comp=Z,1.0nm,0.7s,baz=44,slow=1.8,SNR=4.1								
HFS	**Hagfors**	**127.38**	**343**	PKP	**PKPdf**	**08 19 12.3**	**-0.4**		
	comp=Z,4.0nm,0.9s,baz=70,slow=1.7,SNR=2.3								
AKASG	**Malin Array Be**	**127.56**	**327**	PKP	**PKPdf**	**08 19 13.1**	**-0.2**		
	comp=Z,0.2nm,0.3s,baz=52,slow=2.5,SNR=1.7								
KIEV	**Kiev**	**127.57**	**327**	IAMs_20	IAMs_20	09 18 04.8			
	comp=Z,757nm,21.0s								
KIEV	**Kiev**	**127.57**	**327**	PKP	**PKiKP**	**08 19 14.1**	**+0.3**		
KMBO	**Kilima Mbogo**	**127.92**	**259**	IAMs_20	IAMs_20	09 09 01.7			
	comp=Z,675nm,22.0s								
PRSN	**Puerto Rico Se**	**127.98**	**76**	IAMs_20	IAMs_20	09 06 13.7			
	comp=Z,710nm,21.0s								
AGPR	**Aguadilla, PR**	**128.01**	**76**	IAMs_20	IAMs_20	09 06 26.5			
	comp=Z,591nm,22.0s								
FURI	**Furi**	**128.51**	**272**	IAMs_20	IAMs_20	09 13 09.2			
	comp=Z,557nm,20.0s								
LUBAR	**Lubar, Ukraine**	**128.78**	**327**	PKP	**PKiKP**	**08 19 16.5**	**+0.2**		
KONO	**Kongsberg**	**128.89**	**345**	IAMs_20	IAMs_20	09 15 00.2			
	comp=Z,923nm,22.0s								
BRTR	**Keskin Array B**	**129.71**	**313**	PKP	**PKiKP**	**08 19 18.6**	**0.0**		
	comp=Z,0.4nm,0.5s,baz=113,slow=3.3,SNR=1.7								
MMAI	**Mount Meron Ar**	**130.34**	**304**	PKP	**PKPdf**	**08 19 19.7**	**+0.5**		
	comp=Z,0.3nm,0.3s,baz=81,slow=9.1,SNR=2.0								
LODK	**Lodwar**	**130.84**	**265**	IAMs_20	IAMs_20	09 11 43.2			
	comp=Z,793nm,22.0s								
TIRR	**Tirgusor**	**131.25**	**320**	IAMs_20	IAMs_20	09 22 44.2			
	comp=Z,555nm,20.0s								
CSS	**Mathiatis**	**131.48**	**307**	IAMs_20	IAMs_20	09 23 40.9			
	comp=Z,489nm,21.0s								
SABA	**Saba**	**131.69**	**77**	IAMs_20	IAMs_20	09 09 07.1			
	comp=Z,524nm,20.0s								
SEUS	**St. Eustatius**	**131.94**	**77**	IAMs_20	IAMs_20	09 07 32.7			
	comp=Z,697nm,22.0s								
MLR	**Muntele Rosu**	**132.23**	**323**	IAMs_20	IAMs_20	09 18 49.7			
	comp=Z,529nm,22.0s								
MORC	**Moravsky Berou**	**133.97**	**332**	IAMs_20	IAMs_20	09 19 48.8			
	comp=Z,781nm,21.0s								
PSZ	**Piszkesteto**	**134.11**	**329**	IAMs_20	IAMs_20	09 17 24.8			
	comp=Z,709nm,22.0s								
BRG	**Berggiesshubel**	**134.71**	**336**	*e*PKP	**PKPdf**	**08 19 27.0**	**+0.2**		
BRG	**Berggiesshubel**	**134.71**	**336**	PP	PP	08 21 58.0	-2.1		
BRG	**Berggiesshubel**	**134.71**	**336**	PKS		08 23 00.0			
BRG	**Berggiesshubel**	**134.71**	**336**	SKS	**SKSdf**	**08 26 44.0**	**+11**		
CLL	**Collm**	**134.74**	**337**	IAMs_20	IAMs_20	09 22 45.4			
	comp=Z,645nm,21.0s								
CLL	**Collm**	**134.74**	**337**	*e*PKIKP	**PKiKP**	**08 19 28.0**	**-0.3**		
CLL				*e*		08 22 05.0			
EKA	**Eskdalemuir Ar**	**135.48**	**351**	PKP	**PKPdf**	**08 19 28.4**	**+0.3**		
	comp=Z,0.2nm,0.3s,baz=24,slow=2.5,SNR=1.8								
GERES	**GERESS Array B**	**136.36**	**334**	PKP	**PKPdf**	**08 19 29.0**	**-1.1**		
	comp=Z,1.2nm,0.7s,baz=56,slow=5.0,SNR=5.5								
GERES				SKP		08 23 02.3			
	comp=Z,0.3nm,0.3s,baz=22,slow=4.9,SNR=3.7								
GERES	**GERESS Array B**	**136.36**	**334**	PKIKP	**PKPdf**	**08 19 29.0**	**-1.1**		
GRA1	**Grafenberg Arr**	**136.72**	**337**	IAMs_20	IAMs_20	09 23 35.7			
	comp=Z,712nm,20.0s								
GRFO	**Grafenberg**	**136.72**	**337**	IAMs_20	IAMs_20	09 23 36.1			
	comp=Z,736nm,20.0s								
MEM	**Membach**	**137.78**	**341**	*d*PKPdf	**PKPdf**	**08 19 32.2**	**-0.3**		
PDG	**Podgorica**	**137.94**	**323**	IAMs_20	IAMs_20	09 24 12.7			
	comp=Z,717nm,22.0s								
DSB	**Dublin**	**137.94**	**354**	IAMs_20	IAMs_20	09 16 23.0			
	comp=Z,478nm,21.0s								
BCLA	**Clavier**	**138.17**	**342**	*d*PKP	**PKiKP**	**08 19 35.7**	**+0.4**		
SABO	**M.te Sabotino**	**138.55**	**331**	IAMs_20	IAMs_20	09 22 11.5			
	comp=Z,915nm,22.0s								
WLF	**Walferdange**	**138.56**	**341**	IAMs_20	IAMs_20	09 22 06.4			
	comp=Z,686nm,21.0s								
TRI	**Trieste**	**138.67**	**331**	IAMs_20	IAMs_20	09 21 45.3			
	comp=Z,790nm,22.0s								
ITM	**Ithomi**	**139.11**	**315**	IAMs_20	IAMs_20	09 28 26.0			
	comp=Z,535nm,22.0s								
ECH	**Echery**	**139.46**	**339**	IAMs_20	IAMs_20	09 23 58.3			
	comp=Z,454nm,20.0s								
FUORN	**Ofenpass-Fuorn**	**139.55**	**335**	IAMs_20	IAMs_20	09 27 21.3			
	comp=Z,574nm,20.0s								
DAVOX	**Davos/Dischmat**	**139.59**	**335**	PKP	**PKPdf**	**08 19 35.8**	**-0.4**		
	comp=Z,3.1nm,0.5s,baz=226,slow=5.8,SNR=4.4								
FDMO	**Fiordimonte**	**140.94**	**328**	IAMs_20	IAMs_20	09 26 56.6			
	comp=Z,556nm,21.0s								
SENIN	**Lac Senin/Sane**	**140.96**	**337**	IAMs_20	IAMs_20	09 24 34.2			
	comp=Z,579nm,21.0s								
CLF	**Chambon-Foret**	**141.21**	**343**	IAMs_20	IAMs_20	09 23 49.2			
	comp=Z,719nm,21.0s								
TIP	**Timpagrande**	**141.41**	**321**	IAMs_20	IAMs_20	09 26 43.1			
	comp=Z,505nm,22.0s								
CUC	**Castrocucco**	**141.48**	**323**	IAMs_20	IAMs_20	09 26 04.0			
	comp=Z,593nm,22.0s								
SSB	**Saint Sauveur**	**142.90**	**339**	IAMs_20	IAMs_20	09 23 04.8			
	comp=Z,488nm,22.0s								
VSL	**Villasalto**	**145.43**	**328**		**PKPbc**	**08 19 46.5**	**-0.1**		
KEST	**Kesra**	**148.13**	**323**	PKPbc	**PKPbc**	**08 19 54.6**	**0.0**		
	comp=Z,11nm,0.8s,baz=314,slow=2.7,SNR=9.0								
CMAH	**Djebel Manchou**	**148.59**	**326**	P	**PKPbc**	**08 19 55.6**	**-0.1**		

PBRG	**Braganca**	**149.19**	**350**	*e*PKPbc	**PKPbc**	**08 19 57.0**	**0.0**		
PGAV	**Gavieira, Arco**	**149.27**	**352**	*e*PKPbc	**PKiKP**	**08 19 58.3**	**-0.2**		
PGAV				*e*PP	**PP**	**08 23 34.0**	**+5.9**		
PGAV				*e*SS	SS	08 42 46.0	+10		
PGAV				*e*LR	LR	09 12 25.7			
PGAV				*i* IAMs_20	IAMs_20	09 29 03.1			
	comp=Z,715nm,20.0s								
DFRA	**Djebel Bou Aff**	**149.47**	**328**	P	**PKiKP**	**08 19 58.6**	**-0.5**		
POLO	**Lamas de Olo**	**149.78**	**351**	*e*PKPbc	**PKiKP**	**08 19 59.9**	**+0.3**		
MVO	**Moncorvo**	**149.86**	**350**	*e*PKPbc	**PKPbc**	**08 19 58.9**	**+0.1**		
MVO				*e*LR	LR	09 15 45.0			
MVO				*i* IAMs_20	IAMs_20	09 27 51.4			
	comp=Z,550nm,20.0s								
PVRL	**Vila Real**	**149.87**	**351**	*e*PKPbc	**PKPbc**	**08 19 59.0**	**+0.2**		
PVIS	**Viseu**	**150.44**	**351**	*e*PKPab	**PKPab**	**08 20 06.9**	**+0.3**		
ESDC	**Sonseca Array**	**150.64**	**345**		**PKPbc**	**08 20 00.6**	**-0.1**		
ESDC	**Sonseca Array**	**150.64**	**345**	PKPbc	**PKPbc**	**08 20 00.3**	**-0.3**		
	comp=Z,2.5nm,0.8s,baz=20,slow=2.8,SNR=12								
MTE	**Manteigas**	**150.69**	**350**	IAMs_20	IAMs_20	09 28 09.8			
	comp=Z,696nm,20.0s								
MTE	**Manteigas**	**150.69**	**350**	*e*PKPdf	**PKPdf**	**08 19 56.4**	**+1.1**		
MTE				*e*PP	**PP**	**08 23 39.6**	**+3.3**		
MTE				*e*LR	LR	09 14 34.7			
MTE				*i* IAMs_20	IAMs_20	09 28 42.1			
	comp=Z,590nm,20.0s								
PAB	**San Pablo**	**150.86**	**345**	IAMs_20	IAMs_20	09 29 42.5			
	comp=Z,706nm,22.0s								
COI	**Coimbra**	**151.01**	**352**	IAMs_20	IAMs_20	09 26 59.2			
	comp=Z,755nm,22.0s								
PCBR	**Castelo Branco**	**151.23**	**350**	*e*PKPab	**PKPab**	**08 20 09.4**	**-0.5**		
PSARD	**Sardoal**	**151.57**	**351**	*e*PKPab	**PKPab**	**08 20 14.0**	**+2.7**		
PMRV	**Marv??o**	**151.62**	**350**	*e*PKPdf	**PKPdf**	**08 19 57.0**	**+0.4**		
PMRV				*e*PKPbc	**PKiKP**	**08 20 03.3**	**0.0**		
PMRV				*e*PP	**PP**	**08 23 41.2**	**-0.4**		
PMRV				*e*LR	LR	09 16 12.1			
PMRV				*i* IAMs_20	IAMs_20	09 29 19.0			
	comp=Z,558nm,20.0s								
CART	**Cartagena**	**151.64**	**339**	IAMs_20	IAMs_20	09 27 21.8			
	comp=Z,443nm,22.0s								
CMLA	**Cha da Macela**	**151.73**	**20**	IAMs_20	IAMs_20	09 20 48.4			
	comp=Z,643nm,22.0s								
EVO	**Evora**	**152.59**	**350**	*e*PKPbc	**PKiKP**	**08 20 06.0**	**+0.7**		
MESJ	**Messejana**	**153.31**	**350**	*e*PKPdf	**PKPdf**	**08 19 59.2**	**+0.1**		
MESJ				IAMs_20	IAMs_20	09 28 57.6			
	comp=Z,960nm,20.9s								
PVAQ	**Vaqueiros**	**153.64**	**349**	*e*PP	**PP**	**08 23 56.9**	**+3.8**		
PVAQ				*e*SS	SS	08 43 31.2	+7.0		
PVAQ				*e*LR	LR	09 14 21.4			
PVAQ				*i* IAMs_20	IAMs_20	09 30 30.9			
	comp=Z,1μm,22.0s								
MORF	**Marmelete**	**153.90**	**351**	*e*PKPdf	**PKPdf**	**08 20 00.0**	**-0.1**		
MORF				IAMs_20	IAMs_20	09 29 03.6			
	comp=Z,867nm,25.0s								
MORF	**Marmelete**	**153.90**	**351**	*e*PKIKP	**PKPdf**	**08 20 00.0**	**-0.1**		
PMOZ	**Porto Moniz, M**	**158.50**	**8**	*e*PKPdf	**PKPdf**	**08 20 06.7**	**+0.4**		
PMOZ				*e*PP	**PP**	**08 24 25.7**	**+5.6**		
PMOZ				*e*LR	LR	09 21 41.2			
PMOZ				*i* IAMs_20	IAMs_20	09 24 30.9			
	comp=Z,597nm,22.0s								
TAM	**Tamanrasset**	**158.55**	**304**	IAMs_20	IAMs_20	09 36 43.2			
	comp=Z,644nm,22.0s								
TORD	**Torodi Ar. Bea**	**164.94**	**278**	PKP	**PKPdf**	**08 20 12.1**	**-1.2**		
	comp=Z,1.0nm,0.3s,baz=42,slow=2.3,SNR=2.3								
TORD				PKPab	**PKPab**	**08 21 09.7**	**-0.3**		
	comp=Z,3.2nm,0.8s,baz=79,slow=4.4,SNR=3.9								

*GCG **02** 08:03:42.7±1.7, 15°.87N×91°.45W, h1km±9km, MD4.5*
*CATAC **02** 08:03:44.2±0.3, 16°.N±2°×9°.2W±°, h1km, M3.4/10, MLv3.4/10, Error ellipse: s-maj=4.0km s-min=3.3km az=63.9, confirmed*

ISC 02 08:03:43.5±0.9, 15°.78N±0°.03×91°.47W±0°.03, h30km, n34, σ1§48/37, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
HUEH	**Huehuetenango**	**0.46**	**184**	*e*P	**Pb**	**08 03 52.5**	**-0.9**
HUEH	**Huehuetenango**	**0.46**	**184**	P	**Pb**	**08 03 53.1**	**-0.3**
HUEH	**Huehuetenango**	**0.46**	**184**	S	**Sb**	**08 03 58.4**	**-1.7**
CCIG	**Comitan**	**0.82**	**308**	*i* P	**Pn**	**08 03 57.7**	**-1.4**
CCIG	**Comitan**	**0.82**	**308**	P	**Pn**	**08 03 58.4**	**-0.7**
CCIG	**Comitan**	**0.82**	**308**	S	**Sn**	**08 04 09.6**	**-0.7**
SOKI	**Kika Raxquin**	**0.95**	**176**	*e*P	**Pb**	**08 04 02.5**	**+0.8**
SMCA	**Catarina**	**1.08**	**213**	*e*P	**Pb**	**08 04 04.5**	**+0.8**
THIG		**1.16**	**222**	*i* P	**Pb**	**08 04 07.5**	**+2.6**
RTAL	**Retalhuleu**	**1.26**	**190**	P	**Pb**	**08 04 08.5**	**+1.9**
RTAL	**Retalhuleu**	**1.26**	**190**	S	**Sb**	**08 04 24.8**	**+2.3**
STG8	**El Palmar, Qui**	**1.32**	**175**	*e*P	**Pn**	**08 04 03.5**	**-2.6**
STG0	**El Palmar, Qui**	**1.35**	**175**	*i* P	**Pn**	**08 04 04.2**	**-2.1**
GCG4	**OSOP**	**1.49**	**142**	*i* P	**Pb**	**08 04 12.1**	**+1.5**
ESSG	**Sabana Grande**	**1.51**	**156**	*i* P	**Pb**	**08 04 12.6**	**+1.6**
FG8	**Yepocapa, Chim**	**1.74**	**150**	*i* P	**Pn**	**08 04 11.0**	**-0.8**
FG16	**Alotenango, Sa**	**1.76**	**148**	*e*P	**Pn**	**08 04 11.1**	**-1.0**
TGIG		**1.88**	**302**	*e*P	**Pb**	**08 04 16.3**	**-0.8**
TGIG				*e*S	**Sb**	**08 04 41.5**	**+1.3**
PETF	**Flores**	**1.91**	**53**	*e*P	**Pn**	**08 04 15.0**	**+1.1**
PETF				*e*S	**Sb**	**08 04 40.0**	**-1.2**
PETF	**Flores**	**1.91**	**53**	P	**Pb**	**08 04 16.7**	**-0.9**
PETF	**Flores**	**1.91**	**53**	S	**Sb**	**08 04 42.3**	**+1.2**
SLOZ	**Alcaldia de Sa**	**2.38**	**137**	S	**Sb**	**08 04 55.8**	**+1.1**
SLOZ	**Alcaldia de Sa**	**2.38**	**137**	P	**Pb**	**08 04 26.3**	**+0.6**
ESQI	**Esquipulas**	**2.38**	**120**	P	**Pb**	**08 04 26.3**	**+0.6**
ESQI	**Esquipulas**	**2.38**	**120**	S	**Sb**	**08 04 55.7**	**+0.9**
MTO3	**Montecristo**	**2.45**	**124**	*e*P	**Pb**	**08 04 25.2**	**-1.8**
MTO3	**Montecristo**	**2.45**	**124**	S	**Sb**	**08 04 58.2**	**+1.3**
MTO3	**Montecristo**	**2.45**	**124**	P	**Pb**	**08 04 28.0**	**+0.9**
NUBE	**Las Nubes**	**2.48**	**139**	P	**Pb**	**08 04 26.4**	**-1.0**
NUBE	**Las Nubes**	**2.48**	**139**	S	**Sb**	**08 04 57.5**	**0.0**
CEVE	**Cerro Verde**	**2.63**	**137**	S	**Sb**	**08 05 02.0**	**-0.1**
SARH	**Santa Rosa de**	**2.79**	**110**	*e*P	**Pn**	**08 04 28.6**	**+2.4**
SARH				*e*S	**Sb**	**08 05 03.9**	**-2.8**
CEDA	**San Andres**	**2.80**	**134**	S	**Sb**	**08 05 05.5**	**-1.3**
SCIG	**Sabancuy**	**3.19**	**5**	*e*P	**Pn**	**08 04 32.8**	**+1.3**

*MEX **02** 08:07:56.9±0.6, 14°.42N×93°.57W, h22km±97km, MD4.1*
*GCG **02** 08:07:56.6±1.1, 14°.39N×93°.50W, h50km±114km, MD4.2, ML3.4*

ISC 02 08:07:47.3±1.8, 14°.20N±0°.07×93°.75W±0°.03, h13km±13km, n24, σ2§06/41, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PCIG		**1.58**	**19**	*e*P	**Pn**	**08 08 16.2**	**+1.2**
PCIG				*e*S	**Sn**	**08 08 31.9**	**-3.5**
THIG		**1.60**	**64**	*e*P	**Pg**	**08 08 18.1**	**-0.1**
THIG				*e*S	**Sn**	**08 08 34.9**	**-1.0**
THIG		**1.60**	**64**	*i* P	**Pg**	**08 08 18.0**	**-0.1**
THIG				IAML		08 08 35.9	
	comp=E,306nm,0.4s						
PATR	**El Naranjo**	**1.73**	**58**	*e*P	**Pb**	**08 08 19.1**	**0.0**
PATR				*e*S	**Sn**	**08 08 36.5**	**-2.9**
PAVE	**Pavencul**	**1.81**	**57**	*e*P	**Pb**	**08 08 20.5**	**-0.1**
PAVE				*e*S	**Sn**	**08 08 39.5**	**-2.0**
RTAL	**Retalhuleu**	**2.02**	**81**	*e*P	**Pb**	**08 08 25.2**	**+1.2**
RTAL				*e*S	**Sn**	**08 08 44.6**	**-1.6**
STG8	**El Palmar, Qui**	**2.34**	**84**	*i* P	**Pn**	**08 08 27.1**	**+1.3**
STG8				IAML		08 08 54.2	
	comp=N,359nm,0.1s						
STG0	**El Palmar, Qui**	**2.35**	**84**	*i* P	**Pn**	**08 08 27.0**	**+1.2**
STG0				*i* S	**Sn**	**08 08 49.7**	**-4.8**
STG0				IAML		08 08 52.7	
	comp=E,733nm,0.2s						
HUEH	**Huehuetenango**	**2.44**	**63**	*e*P	**Pb**	**08 08 31.2**	**-0.1**
HUEH				*e*S	**Sn**	**08 08 57.7**	**+0.7**
HUEH	**Huehuetenango**	**2.44**	**63**	*i* P	**Pb**	**08 08 31.4**	**+0.1**
HUEH				IAML		08 09 08.8	
	comp=E,289nm,0.3s						
CCIG	**Comitan**	**2.59**	**37**	*e*P	**Pb**	**08 08 33.4**	**-0.3**
CCIG				*e*S	**Sn**	**08 09 01.0**	**+0.5**
CCIG	**Comitan**	**2.59**	**37**	*i* P	**Pb**	**08 08 33.3**	**-0.5**
CCIG				*i* S	**Sn**	**08 09 01.4**	**+0.8**
CCIG				IAML		08 09 10.7	
	comp=N,91nm,0.5s						
TGIG		**2.63**	**13**	*e*P	**Pb**	**08 08 33.2**	**-1.2**
TGIG				*e*S	**Sn**	**08 08 59.8**	**-1.7**
TGIG		**2.63**	**13**	*i* P	**Pb**	**08 08 33.2**	**-1.2**
HUIG	**Huatulco**	**2.76**	**305**	*e*P	**Pb**	**08 08 37.0**	**+0.5**
HUIG				*e*S	**Sn**	**08 09 04.5**	**-0.1**
CMIG	**Matias Romero**	**3.07**	**339**	*e*P	**Pn**	**08 08 39.5**	**+3.9**
CMIG				*e*S	**Sn**	**08 09 12.2**	**-0.1**
PEIG	**Puerto Escondi**	**3.73**	**299**	*e*P	**Pb**	**08 08 50.8**	**-2.4**
PEIG				*e*S	**Sn**	**08 09 27.3**	**-1.3**
NEUV	**Arroyo Zacate**	**4.01**	**331**	*e*P	**Pn**	**08 08 51.1**	**+2.6**
NEUV				*e*S	**Sn**	**08 09 34.4**	**-1.0**
VHO	**Vista Hermosa**	**4.05**	**315**	*e*P	**Pb**	**08 08 56.5**	**-2.1**
VHO				*e*S	**Sn**	**08 09 37.5**	**+0.9**
YOIG	**Yosondua**	**4.51**	**306**	*e*P	**Pb**	**08 09 03.9**	**-2.6**
YOIG				*e*S	**Sn**	**08 09 49.7**	**+1.6**
PNIG	**Pinotepa**	**4.75**	**298**	*e*P	Pb	08 09 06.3	-4.3
PNIG				*e*S	**Sn**	**08 09 52.5**	**-1.2**
TXIG	**Tlaxiaco**	**4.92**	**309**	*e*P	**Pb**	**08 09 09.5**	**-4.0**
TXIG				*e*S	**Sn**	**08 10 02.8**	**+4.7**
TOIG	**Toxpalan**	**5.01**	**321**	*e*P	Pn	08 09 09.5	+7.1
TOIG				*e*S	**Sn**	**08 09 58.1**	**-2.2**
FTIG	**Fresnillo de T**	**5.60**	**312**	*e*P	Pb	08 09 18.8	-6.2
FTIG				*e*S	**Sn**	**08 10 13.1**	**-1.7**

*IDC **02** 08:44:36.4±3.2, 53°.57N×87°.91E, h0km, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=28.7km s-min=17.0km az=54.0*

ASRS 02 08:44:32.0±1.2, 53°.64N×87°.94E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**281**	I	I	08 55 00.0	
	baz=98,slow=326,SNR=10.0						
ZALV	**Zalesovo Beam**	**1.88**	**281**	Pg	Pg	08 45 09.7	+1.7
	0.9nm,0.3s,baz=101,slow=16,SNR=5.9						
ZALV				Lg	Lg	08 45 36.2	
	1.9nm,0.3s,baz=104,slow=30,SNR=17						
KURBB	**Kurchatov Arra**	**6.53**	**246**	Pn	Pn	08 46 13.3	+4.0
	baz=62,slow=14,SNR=2.5						
KURBB				Lg	Lg	08 48 02.3	
	baz=66,slow=35,SNR=5.4						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**7.75**	**210**	Pn	Pn	08 46 31.1	+5.1
	baz=27,slow=13,SNR=5.1						
MKAR				Lg	Lg	08 48 40.6	
	baz=30,slow=32,SNR=2.2						
	0.1nm,0.3s						

STR 02 08:49:09.1±0.9, 45°N±5°×°±°, h0km, MLv1.5/7, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
OGSM	**Saint Maurice**	**0.27**	**8**	Pg	Pg	08 49 15.1	+0.9
ORIF	**Oris-en-Rattie**	**0.46**	**159**	Pg	Pg	08 49 17.8	-0.1
ORIF			

baz=11
PAJU SG 09 08 52.2
MASU Masugnsbyn 0.44 273 P Pb 09 08 48.5 -0.7
MASU S **Sb 09 08 55.8 -0.6**
ERTU Ertsjaerv 0.96 203 P **Pg 09 08 56.6 -0.3**
ERTU Ertsjaerv 0.96 203 PB 09 08 56.9
ERTU SB 09 09 10.6
HEF Hetta 0.99 11 *eP* **Pg 09 08 57.6 +0.1**
HEF *eS* **Sb 09 09 12.1 -0.1**
HEF Hetta 0.99 11 PB 09 08 57.3
HEF MSG 09 09 07.0
comp=Z,8.2nm,0.2s
HEF SB 09 09 11.7
DUNU Dundret 1.05 254 P **Pb 09 08 59.6 +0.1**
KUA Kurravaara 1.19 297 P **Pn 09 09 02.1 -0.3**
KOVU Salmi 1.38 306 P **Pb 09 09 05.7 +0.5**
RNF Rovaniemi 1.40 125 PN 09 09 03.2
RNF SN 09 09 25.2
RATU Laukkuluspa 1.42 288 P **Pb 09 09 06.1 +0.4**
TOF Tornio 1.44 161 PN 09 09 04.8
TOF MSG 09 09 22.0
comp=Z,2.8nm,0.2s
TOF SG 09 09 23.0
HARU Harads 1.54 215 P **Pn 09 09 07.3 +0.1**
KALU Kalix 1.59 177 P **Pn 09 09 07.4 -0.4**
KALU Kalix 1.59 177 PG 09 09 07.5
baz=0.0
KALU SN 09 09 29.0
SALU Saltoluokta 1.79 270 *eP* **Pg 09 09 12.7 -0.2**
SALU *eS* **Sg 09 09 37.3 +1.3**
KIF Kilpisjarvi 1.80 332 *eP* **Pg 09 09 12.9 -0.1**
KIF *eS* **Sg 09 09 36.9 +0.6**
RANF Ranua 2.03 133 PG 09 09 14.3
RANF SG 09 09 39.9
RAJF Raja-Jooseppi 2.21 60 PG 09 09 16.4
RAJF SG 09 09 45.7
ARA0 ARCESS Array S 2.28 21 *eP* **Pn 09 09 17.8 +0.4**
ARA0 IAML 09 09 51.1
comp=Z,3.8nm,0.1s
ARA0 ARCESS Array S 2.28 21 PG 09 09 17.9
ARA0 SG 09 09 47.5
ARCES ARCESS Array B 2.28 21 Pn **Pn 09 09 17.8 +0.5**
comp=Z,0.2nm,0.3s,baz=201,slow=14,SNR=29
ARCES Lg Lg 09 09 47.8
comp=Z,0.9nm,0.3s,baz=201,slow=29,SNR=22
comp=Z,0.6nm,0.3s
JETT Jettan, Norway 2.35 336 *eP* **Pb 09 09 20.8 -1.0**
JETT IAML 09 09 56.2
comp=Z,12nm,0.2s
I37NO I37NO 2.36 316 I I 09 23 18.2
comp=Z,0.1nm,0.7s,baz=132,slow=324,SNR=8.2
VRF Varrio 2.50 80 PG 09 09 21.4
VRF MSG 09 09 49.7
comp=Z,4.3nm,0.2s
VRF SG 09 09 53.0
OUL Oulu 2.61 154 PB 09 09 22.6
KU2 Taivalkoski 2.67 128 PB 09 09 23.1
KU2 SG 09 09 59.0
OLKF Oulanka, Finla 2.71 112 PG 09 09 24.6
OLKF MSG 09 09 56.7
comp=Z,2.5nm,0.2s
OLKF SG 09 10 00.2
KEV Kevo 2.72 30 *eP* **Pn 09 09 23.1 -0.3**
KEV Kevo 2.72 30 PG 09 09 23.8
KEV MSG 09 09 56.4
comp=Z,3.0nm,0.2s
KEV SG 09 09 59.4
MSF Maaselka 2.80 120 PB 09 09 25.0
baz=304
MSF SG 09 10 02.3
KU6 Riekki 3.03 115 PB 09 09 27.9
KU6 MSG 09 10 06.0
comp=Z,1.6nm,0.2s
KU6 SG 09 10 09.4
OBFB Ulkokalla 3.12 178 SG 09 10 16.5
OUF Merijarvi 3.15 167 PB 09 09 30.5
KU1 Kurvinen 3.18 123 PN 09 09 30.0
UMAU Umeaa 3.71 197 PN 09 09 38.6
RMF Romuvaara 4.27 136 SG 09 10 46.8
FINES FINESS Array B 6.15 167 Pn **Pn 09 10 11.8 +1.4**
comp=Z,0.1nm,0.3s,baz=1.6,slow=13,SNR=3.5
FINES Sn **Sn 09 11 20.6 -0.8**
comp=Z,0.1nm,0.3s,baz=357,slow=21,SNR=1.4
FINES Lg Lg 09 11 50.3
comp=Z,0.1nm,0.3s,baz=352,slow=27,SNR=3.5
comp=Z,1.6nm,0.9s

*IDC **02** 09:09:39.0±1.1,67.47N×23.33E,h0km,mbtmp3.1/3, ML2.1/3,Error ellipse: s-maj=22.7km s-min=6.9km az=101.0*
*UPP **02** 09:09:39.2±0.3,67.42N×23.32E,h0km,ML2.1,Unknown*
*HEL **02** 09:09:39.6±0.1,67.43N×23.35E,h0km,ML1.9,Explosion Hypocentre not reviewed by the ISC*
*BER **02** 09:09:41.1±1.7,67.36N×23.35E,h0km,ML1.8,Suspected explosion*

ISC 02 09:09:38.0±0.9,67.46N±0.03×23.40E±0.05,h0km,n18, σ0s75/25,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KLF	**Kolari**	**0.32**	**136**	PG			09 09 45.1	
	baz=308							
KLF				SG			09 09 49.3	
PAJU	**Pajala**	**0.45**	**194**	P		**Pg**	**09 09 47.0**	**+0.4**
PAJU				S		**Sg**	**09 09 52.4**	**0.0**
PAJU	**Pajala**	**0.45**	**194**	PG			09 09 47.1	
PAJU				SG			09 09 52.1	
MASU	**Masugnsbyn**	**0.54**	**270**	P		**Pg**	**09 09 49.0**	**+0.6**
MASU				S		**Sg**	**09 09 56.4**	**+1.1**
HEF	**Hetta**	**0.96**	**6**	PB			09 09 57.6	
HEF				MSG			09 10 09.7	
	comp=Z,12nm,0.2s							
HEF				SB			09 10 11.0	
ERTU	**Ertsjaerv**	**1.03**	**208**	P		**Pg**	**09 09 57.3**	**-0.4**
ERTU				S		**Sg**	**09 10 10.7**	**-0.3**
ERTU	**Ertsjaerv**	**1.03**	**208**	PG			09 09 57.5	
DUNU	**Dundret**	**1.15**	**254**	P		**Pg**	**09 09 60.0**	**0.0**
KUA	**Kurravaara**	**1.27**	**294**	P		**Pb**	**09 10 02.5**	**-0.2**
RNF	**Rovaniemi**	**1.33**	**129**	PG			09 10 03.6	
RNF				SG			09 10 21.5	
TOF	**Tornio**	**1.43**	**165**	PN			09 10 06.1	
TOF				MSG			09 10 22.1	
	comp=Z,6.4nm,0.2s							
TOF				SB			09 10 23.7	
KOVU	**Salmi**	**1.45**	**303**	P		**Pb**	**09 10 05.9**	**+0.1**
RATU	**Laukkuluspa**	**1.50**	**286**	P		**Pg**	**09 10 06.5**	**-0.3**
KALU	**Kalix**	**1.61**	**181**	P		**Pn**	**09 10 07.9**	**+0.3**
KALU	**Kalix**	**1.61**	**181**	PG			09 10 08.0	
KALU				SN			09 10 31.3	
HARU	**Harads**	**1.62**	**218**	P		**Pn**	**09 10 07.8**	**0.0**
HARU				S		**Sn**	**09 10 29.2**	**0.0**
KIF	**Kilpisjarvi**	**1.83**	**329**	*eP*		**Pg**	**09 10 13.0**	**0.0**
KIF				*eS*		**Sg**	**09 10 36.7**	**0.0**
KIF	**Kilpisjarvi**	**1.83**	**329**	PG			09 10 13.4	
KIF				MSG			09 10 35.3	
	comp=Z,19nm,0.2s							
KIF				SN			09 10 38.3	
SALU	**Saltoluokta**	**1.89**	**270**	*eP*		**Pn**	**09 10 12.1**	**+0.5**
RANF	**Ranua**	**1.98**	**136**	PG			09 10 14.6	
	baz=314							
RANF				SG			09 10 40.1	
RAJF	**Raja-Jooseppi**	**2.12**	**59**	SG			09 10 45.9	
ARA0	**ARCESS Array S**	**2.23**	**19**	*eP*		**Pb**	**09 10 18.5**	**-0.5**
ARA0				*eS*		**Sn**	**09 10 45.5**	**+1.2**
ARA0				IAML			09 10 50.0	
	comp=Z,6.0nm,0.2s							
ARA0	**ARCESS Array S**	**2.23**	**19**	PG			09 10 19.9	
ARA0				SB			09 10 47.1	
ARCES	**ARCESS Array B**	**2.23**	**19**	Pn		**Pb**	**09 10 18.0**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=199,slow=15,SNR=7.0							
ARCES				Lg		Lg	09 10 48.5	
	comp=Z,1.2nm,0.3s,baz=206,slow=30,SNR=15							
	comp=Z,1.1nm,0.2s							
JETT	**Jettan, Norway**	**2.38**	**334**	*eP*		**Pb**	**09 10 20.8**	**-0.9**
JETT				*eS*		**Sb**	**09 10 51.1**	**-0.4**
JETT				IAML			09 10 55.2	
	comp=Z,17nm,0.2s							
VRF	**Varrio**	**2.40**	**80**	MSG			09 10 51.1	
	comp=Z,6.6nm,0.2s							
VRF				SG			09 10 53.0	
I37NO	**I37NO**	**2.41**	**314**	I		I	09 24 18.8	
	baz=132,slow=324							
OUL	**Oulu**	**2.59**	**156**	PG			09 10 24.2	
	baz=341							
OUL				SG			09 10 58.6	
KU2	**Taivalkoski**	**2.61**	**130**	SG			09 10 58.8	
OLKF	**Oulanka, Finla**	**2.63**	**113**	MSG			09 10 57.3	
	comp=Z,3.8nm,0.2s							
OLKF				SG			09 11 00.5	
KEV	**Kevo**	**2.66**	**28**	*eP*		**Pb**	**09 10 25.8**	**-0.6**
KEV	**Kevo**	**2.66**	**28**	MSG			09 10 58.9	
	comp=Z,4.1nm,0.2s							
KEV				SG			09 11 01.2	
MSF	**Maaselka**	**2.73**	**122**	SG			09 11 02.8	
KU6	**Riekki**	**2.95**	**116**	MSG			09 11 06.7	
	comp=Z,2.3nm,0.2s							
KU6				SG			09 11 09.2	
FINES	**FINESS Array B**	**6.15**	**168**	Pn		**Pn**	**09 11 11.9**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=351,slow=10,SNR=6.0							
FINES				Sn		**Sn**	**09 12 20.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=352,slow=24,SNR=1.2							
FINES				Lg		Lg	09 12 52.0	
	comp=Z,0.2nm,0.3s,baz=352,slow=25,SNR=2.0							
	comp=Z,0.6nm,0.3s							
HFS	**Hagfors**	**8.50**	**215**	Pn		**Pn**	**09 11 40.9**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=27,slow=14,SNR=1.7							
	comp=Z,4.3nm,1.1s							

IDC 02 09:20:19.4±3.1,53.37N×87.29E,h0km,mbtmp2.8/2, ML2.5/2,Error ellipse: s-maj=29.9km s-min=16.6km az=66.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.58**	**293**	I		I	09 28 30.0	
	baz=109,slow=322,SNR=2.3							
ZALV	**Zalesovo Beam**	**1.58**	**293**	Pg		Pn	09 20 46.7	-1.9
	0.3nm,0.3s,baz=112,slow=17,SNR=2.8							
ZALV				Lg		Lg	09 21 10.3	
	0.7nm,0.3s,baz=114,slow=30,SNR=5.9							
KURBB	**Kurchatov Arra**	**6.07**	**247**	Pn		Pn	09 21 50.8	+0.5
	0.2nm,0.3s,baz=63,slow=14,SNR=5.6							
	0.8nm,0.3s							
MKAR	**Makanchi Array**	**7.32**	**208**	Pn		Pn	09 22 09.0	+1.4
	0.1nm,0.3s,baz=27,slow=13,SNR=2.3							
	0.2nm,0.7s							

*IDC **02** 09:24:14.9±0.9,30.36S×177.76W,h0km,mb4.4/4, mbtmp4.4/4,Error ellipse: s-maj=28.1km s-min=17.8km az=92.0*
*NEIC **02** 09:24:19.4±1.2,30.11S±0.06×177.5W±0.1,h35km±2km, mb4.6/16,Error ellipse: s-maj=19.7km s-min=8.5km az=110.0*

ISC 02 09:24:19.6±0.7,30.52S±0.05×177.8W±0.1,h35km,n56, σ1s86/66,mb4.5/13,3C,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GLKZ	**Green Lake**	**1.26**	**354**	P		**Pn**	**09 24 40.6**	**0.0**
GLKZ				S		**Sn**	**09 24 54.1**	**-2.2**
RAO	**Raoul Island**	**1.27**	**354**	Pn			09 24 35.2	-5.6
RAO	**Raoul Island**	**1.27**	**354**	Pn		**Pn**	**09 24 38.5**	**-2.3**
	365nm,0.3s,baz=351,slow=21,SNR=8.4							
RAO				Sn		**Sn**	**09 24 54.7**	**-1.8**
	1µm,0.3s,baz=187,slow=22,SNR=9.0							
RIZ	**Raoul Island**	**1.27**	**354**	P		**Pn**	**09 24 40.2**	**-0.6**
RIZ				S		**Sn**	**09 24 56.4**	**-0.4**
WMGZ	**Waiomatatini S**	**7.94**	**202**	P		**Pn**	**09 26 11.0**	**-1.5**
WMGZ				S		**Sn**	**09 27 40.8**	**-0.3**
PKGZ	**Pakihiroa**	**8.10**	**204**	P		**Pn**	**09 26 12.7**	**-2.0**
PKGZ				S		**Sn**	**09 27 44.8**	**-0.2**
HAZ	**Te Kaha**	**8.11**	**206**	P		**Pn**	**09 26 13.3**	**-1.5**
HAZ				S		**Sn**	**09 27 46.4**	**+1.2**
PUZ	**Puketiti**	**8.22**	**203**	P		**Pn**	**09 26 14.0**	**-2.3**
PUZ				S		**Sn**	**09 27 46.5**	**-1.5**
RUGZ	**Raukumara Rang**	**8.33**	**206**	P		**Pn**	**09 26 16.0**	**-2.0**
RUGZ				S		**Sn**	**09 27 50.9**	**0.0**
TWGZ	**Tauwhareparae**	**8.41**	**204**	P		**Pn**	**09 26 16.5**	**-2.5**
TWGZ				S		**Sn**	**09 27 52.6**	**-0.1**
WCZ	**Waipu Caves**	**8.54**	**229**	P		Pn	09 26 28.9	+8.2
CNGZ	**Carnagh Statio**	**8.61**	**202**	P		**Pn**	**09 26 18.0**	**-3.7**
CNGZ				S		**Sn**	**09 27 56.4**	**-1.2**
OUZ	**Omahuta**	**8.65**	**235**	P		Pn	09 26 29.1	+6.9
TKGZ	**Te Karaka**	**8.69**	**203**	P		**Pn**	**09 26 19.7**	**-3.1**
MWZ	**Matawai**	**8.71**	**205**	P		**Pn**	**09 26 20.2**	**-3.0**
MWZ				S		**Sn**	**09 27 58.5**	**-1.6**
URZ	**Urewera**	**8.81**	**207**	Pn		**Pn**	**09 26 21.3**	**-3.0**
	0.4nm,0.3s,baz=266,slow=3.9,SNR=7.6							
URZ				Sn		**Sn**	**09 27 59.8**	**-2.6**
	2.0nm,0.3s,baz=214,slow=19,SNR=10							
URZ	**Urewera**	**8.81**	**207**	P		**Pn**	**09 26 21.3**	**-3.0**
URZ				S		**Sn**	**09 28 00.2**	**-2.1**
RIGZ	**Rimuhau**	**8.96**	**203**	P		**Pn**	**09 26 23.3**	**-3.2**
RIGZ				S		**Sn**	**09 28 04.6**	**-1.6**
PRGZ	**Paritu Road**	**9.12**	**202**	P		**Pn**	**09 26 24.8**	**-3.9**
PRGZ				S		**Sn**	**09 28 07.8**	**-2.3**
SNGZ	**Shannon Statio**	**9.18**	**205**	P		**Pn**	**09 26 27.4**	**-2.1**
SNGZ				S		**Sn**	**09 28 10.2**	**-1.3**
MHGZ	**Mahia Peninsul**	**9.32**	**201**	P		Pn	09 26 26.5	-4.9
MHGZ				S		**Sn**	**09 28 11.2**	**-3.8**
MSVF	**Nonsavu**	**13.28**	**342**	Pn		Pn	09 27 20.8	-5.0
CAN	**Canberra**	**28.23**	**251**	P		**P**	**09 30 11.8**	**+2.5**
CTAO	**Charters Tower**	**34.02**	**279**	P		**P**	**09 31 02.3**	**+2.0**
CTAO				IAmb		IAmb	09 31 03.2	
	comp=Z,7.6nm,0.7s							
STKA	**Stephens Creek**	**34.65**	**257**			**P**	**09 31 07.9**	**+2.2**
STKA	**Stephens Creek**	**34.65**	**257**	P		**P**	**09 31 07.6**	**+1.9**
	comp=Z,13nm,0.8s,baz=97,slow=11,SNR=30							
	comp=Z,13nm,0.8s							
BBOO	**Buckleboo**	**39.13**	**254**	P		**P**	**09 31 44.9**	**+1.1**
BBOO				IAmb		IAmb	09 31 46.8	
	comp=Z,8.6nm,0.8s							
COEN	**Coen**	**39.50**	**286**	P		**P**	**09 31 48.3**	**+1.3**
COEN				IAmb		IAmb	09 32 21.3	
	comp=Z,15nm,1.3s							
AS31	**Alice Springs**	**43.30**	**267**	P		**P**	**09 32 19.1**	**+0.8**
ASAR	**Alice Springs**	**43.30**	**267**	P		**P**	**09 32 18.6**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=105,slow=7.4,SNR=33							
	comp=Z,1.8nm,0.5s							
WR8	**Warramunga Arr**	**44.16**	**272**	P		**P**	**09 32 26.0**	**+0.8**
WRAB	**Tennant Creek**	**44.30**	**272**	P		**P**	**09 32 27.0**	**+0.8**
WRAB				IAmb		IAmb	09 32 27.6	
	comp=Z,3.7nm,0.8s							
WRA	**Warramunga Arr**	**44.30**	**272**	P		**P**	**09 32 27.1**	**+0.8**
WRA	**Warramunga Arr**	**44.30**	**272**	P		**P**	**09 32 25.9**	**-0.5**
	comp=Z,3.8nm,0.4s,baz=112,slow=7.9,SNR=26							
	comp=Z,3.8nm,0.4s							
WB0	**Warramunga Arr**	**44.33**	**272**	P		**P**	**09 32 27.2**	**+0.7**
WB0				IAmb		IAmb	09 32 27.5	
	comp=Z,4.6nm,0.7s							
JOHN	**Johnston Islan**	**47.64**	**11**	P		P	09 32 46.6	-5.7
KNRA	**Kununurra**	**50.92**	**274**	P		**P**	**09 33 18.0**	**+0.4**
KNRA				IAmb		IAmb	09 33 41.2	
	comp=Z,20nm,1.5s							
FAKI	**Fak Fak**	**54.57**	**290**	P		**P**	**09 33 43.6**	**-1.1**
CASY	**Casey**	**55.13**	**208**	P		**P**	**09 33 49.1**	**+1.1**
QSPA	**South Pole Qui**	**59.59**	**180**	P		**P**	**09 34 21.9**	**+2.3**
QSPA				IAmb		IAmb	09 34 29.6	
	comp=Z,7.3nm,0.8s							
QSPA	**South Pole Qui**	**59.59**	**180**	P		**P**	**09 34 21.4**	**+1.7**
	comp=Z,1.4nm,0.8s,baz=256,slow=1.7,SNR=30							
	comp=Z,1.4nm,0.8s							
SNAA	**Sanae**	**78.03**	**178**	⇑P		P	09 36 07.3	-6.8
	comp=Z,22nm,1.1s							
SNAA	**Sanae**	**78.03**	**178**	P		**P**	**09 36 15.9**	**+1.7**
SNAA				IAmb		IAmb	09 36 35.3	
	comp=Z,5.4nm,1.5s							
VNA3	**Neumayer Olymp**	**78.18**	**176**	⇑P		**P**	**09 36 16.1**	**+1.3**
	comp=Z,2.3nm,0.6s							
VNA2	**Neumayer--Watz**	**78.61**	**177**	⇑P		**P**	**09 36 16.8**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=158,slow=6.1							
MKAR	**Makanchi Array**	**118.00**	**310**	PKP		**PKiKP**	**09 43 02.7**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=29,slow=3.3,SNR=2.4							
KURBB	**Kurchatov Arra**	**121.31**	**314**	PKP		**PKiKP**	**09 43 08.1**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=91,slow=2.0,SNR=3.1							
SCHQ	**Schefferville**	**126.19**	**42**	PKP		**PKiKP**	**09 43 19.9**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=180,slow=3.0,SNR=3.9							
FIA1	**FINESS Array S**	**145.32**	**340**	PKPbc		**PKPbc**	**09 43 50.9**	**-1.9**
FINES	**FINESS Array B**	**145.32**	**340**	PKPbc		**PKPdf**	**09 43 52.2**	**-0.7**
FINES	**FINESS Array B**	**145.32**	**340**	PKPbc		**PKPab**	**09 43 52.7**	**-0.2**
	comp=Z,4.8nm,0.8s,baz=116,slow=4.4,SNR=9.6							
KARS	**Kars**	**145.55**	**298**	PKPdf		**PKPdf**	**09 43 52.5**	**-1.7**
NOA	**NORSAR Array B**	**148.90**	**352**	PKPbc		**PKPbc**	**09 44 01.1**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=7.7,slow=2.4,SNR=1.1							
HFS	**Hagfors**	**149.40**	**349**	PKPbc		**PKPbc**	**09 44 04.0**	**-0.2**
	comp=Z,4.9nm,1.0s,baz=239,slow=0.8,SNR=2.7							
AKASG	**Malin Array Be**	**151.51**	**323**	PKPbc		**PKiKP**	**09 44 09.8**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=47,slow=3.1,SNR=7.8							
TORD	**Torodi Ar. Bea**	**162.71**	**178**	PKPab		**PKPab**	**09 45 08.8**	**+1.9**
	comp=Z,2.0nm,0.4s,baz=177,slow=5.3,SNR=3.0							

*IDC **02** 09:25:13.0±3.1,53.51N×87.56E,h0km,mbtmp2.7/2, ML2.4/2,Error ellipse: s-maj=26.5km s-min=15.6km az=61.0*

ASRS 02 09:25:08.0±0.7,53.52N×87.68E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**285**	I		I	09 34 40.0	
	0.2nm,0.9s,baz=102,slow=323,SNR=10							
ZALV	**Zalesovo Beam**	**1.75**	**285**	Pg		Pg	09 25 42.3	+0.7
	1.3nm,0.3s,baz=102,slow=18,SNR=12							
ZALV				Lg		Lg	09 26 07.5	
	1.6nm,0.3s,baz=103,slow=28,SNR=11							
KURBB	**Kurchatov Arra**	**6.34**	**246**	Pn		Pn	09 26 47.2	+4.5
	baz=63,slow=13,SNR=2.2							
KURBB				Lg		Lg	09 28 30.0	
	baz=64,slow=33,SNR=8.1							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**7.57**	**209**	Pn		Pn	09 27 05.7	+6.1
	0.1nm,0.3s,baz=29,slow=14,SNR=4.4							
MKAR				Lg		Lg	09 29 10.1	
	0.1nm,0.3s,baz=30,slow=31,SNR=4.3							
	0.2nm,0.3s							

*FUNV **02** 09:28:13.9,11.67N×70.81W,h31km,MW3.5*
*RSNC **02** 09:28:15.9±0.7,11.4°×7.1W±°,h80km±10km,M3.0, mb4.1,mB5.3,ML2.7,MLv3.6,Mw(mB)4.7*

ISC 02 09:28:11.1±1.4,11.69N±0.07×70.85W±0.03,h98km,n24, σ2s35/40,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URIC	**Uribia, Colomb**	**1.12**	**271**	P		**Pn**	**09 28 33.4**	**+0.7**
URIC				S		**Sn**	**09 28 48.6**	**-0.4**
CRJC	**Cerrejon, Guaj**	**2.10**	**252**	P		**Pn**	**09 28 45.7**	**+0.7**
CRJC				S		**Sn**	**09 29 10.4**	**-0.5**
MCQV	**Machiques**	**2.32**	**226**	*eP*		**Pn**	**09 28 49.4**	**+1.6**
MCQV				*eS*		**Sn**	**09 29 15.3**	**-0.6**
TEPV	**Terepaima**	**2.36**	**136**	*eP*		**Pn**	**09 28 50.0**	**+1.7**
TEPV				*eS*		**Sn**	**09 29 15.1**	**-1.8**
SMRC	**Santa Marta, M**	**3.35**	**261**	P		**Pn**	**09 29 04.6**	**+3.1**
SMRC				S		**Sn**	**09 29 38.4**	**-2.1**
BENV	**Beln**	**3.62**	**118**	*eS*		**Sn**	**09 29 44.2**	**-2.9**
ARGC	**Ariguani, Magd**	**3.80**	**242**	P		**Pn**	**09 29 08.3**	**+0.7**
ARGC				S		**Sn**	**09 29 50.1**	**-1.2**
BAUV	**El Baul**	**3.88**	**134**	*eP*		**Pn**	**09 29 10.4**	**+1.7**
BAUV				*eS*		**Sn**	**09 29 51.1**	**-2.1**
TACV	**Tcata**	**4.06**	**112**	*eP*		**Pn**	**09 29 12.4**	**+1.3**
TACV				*eS*		**Sn**	**09 29 55.0**	**-2.6**
CAPV	**Capacho**	**4.06**	**201**	*eP*		**Pn**	**09 29 13.0**	**+1.7**
CAPV				*eS*		**Sn**	**09 29 56.5**	**-1.5**
FUNV	**FUNVISIS**	**4.14**	**107**	*eP*		**Pn**	**09 29 13.5**	**+1.2**
FUNV				*eS*		**Sn**	**09 29 57.3**	**-2.5**
OCAC	**Ocana**	**4.20**	**216**	P		**Pn**	**09 29 14.1**	**+1.0**
OCAC				S		**Sn**	**09 29 58.2**	**-3.1**
SJCC	**San Jacinto, C**	**4.61**	**248**	P		**Pn**	**09 29 18.4**	**-0.2**
SJCC				S		**Sn**	**09 30 07.4**	**-3.7**
TAMC	**Tame, Arauca**	**5.30**	**190**	P		**Pn**	**09 29 29.4**	**+1.5**
	0.1nm20nm,0.6s							
TAMC				S		**Sn**	**09 30 24.4**	**-3.4**
	0.1nm20nm,0.6s							
BRJC	**Barrancabermej**	**5.49**	**212**	P		**Pn**	**09 29 31.4**	**+1.0**
	0.1nm24nm,0.6s							
BARC	**Barichara**	**5.56**	**205**	P		**Pn**	**09 29 33.5**	**+1.8**
ZARC	**Zaragoza, Cauc**	**5.74**	**224**	P		**Pn**	**09 29 34.2**	**+0.3**
	708nm16nm,0.6s							
ZARC				S		**Sn**	**09 30 34.9**	**-3.7**
	708nm16nm,0.6s							
CACV	**CAICARA DEL OR**	**5.90**	**134**	*eP*		Pn	09 29 42.1	+6.0
CACV				*eS*		**Sn**	**09 30 48.9**	**+6.6**
RUSC	**La Rusia**	**6.17**	**201**	P		**Pn**	**09 29 41.7**	**+1.6**
	5.2nm,1.7s							
RUSC				S		**Sn**	**09 30 47.7**	**-1.8**
	5.2nm,1.7s							
PTBC	**PUERTO BERRIO,**	**6.23**	**215**	P		**Pn**	**09 29 40.3**	**-0.3**
PCRV	**Puerto La Cruz**	**6.28**	**103**	*eP*		**Pn**	**09 29 41.8**	**+0.5**
PCRV				*eS*		**Sn**	**09 30 48.7**	**-3.0**
HELC	**Santa Helena**	**7.15**	**221**	P		Pn	09 29 58.9	+5.5
HELC				S		**Sn**	**09 31 15.5**	**+2.1**
NORC	**Norcasia**	**7.27**	**213**	P		Pn	09 30 01.4	+6.7
NORC				S		**Sn**	**09 31 13.1**	**-2.6**
GUY2C	**Guyana, Caldas**	**7.82**	**215**	P		**Pn**	**09 30 06.6**	**+4.0**

STR 02 09:32:02.8±0.6,47.7N±3°×±°,h0km,MLv2.2/11,LOCSAT earthModelID haslach_taup-2.11 preliminary,France

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FOURG	**Fourg**	**0.05**	**296**	Pg		Pg	09 32 03.8	+0.1
BOUC	**Bouclans**	**0.31**	**58**	Pg		Pg	09 32 08.3	-0.4
RIVEL	**MONT RIVEL**	**0.33**	**174**	Pg		Pg	09 32 08.6	-0.4
RIVEL				Sg		Sg	09 32 14.1	+0.8
STFL	**Fournets-Luisa**	**0.47**	**86**	Pg		Pg	09 32 12.7	+0.8
STFL				Sg		Sb	09 32 20.2	-1.4
CHMF	**Charmoille**	**0.56**	**73**	Pg		Pg	09 32 12.7	-0.8
GIMEL	**St. Georges /**	**0.61**	**154**	Pg		Pg	09 32 13.8	-0.7
GIMEL				Sg		Sg	09 32 23.2	+0.8
RONF	**Ronchamp**	**0.82**	**40**	Pg		Pg	09 32 18.6	+0.1
RONF				Sg		Sg	09 32 30.0	+0.9
BOURR	**Bourrignon**	**0.98**	**71**	Pg		Pg	09 32 20.7	-0.7
AIGLE	**Aigle**	**1.05**	**135**	Pg		Pg	09 32 23.4	+0.5
ETNF	**Estrennes**	**1.18**	**5**	Pg		Pg	09 32 25.2	-0.2
ETNF				Sg		Sb	09 32 41.6	-0.3

**STR 02 09:32:28.9±1.9,46.7

	comp=E,2μm,0.2s							
GO03	**Copiapo**	**0.58**	**41**	*e*P		Pn	09 33 36.5	+10
GO03	**Copiapo**	**0.58**	**41**	*e*P		**Pn**	**09 33 26.1**	**-0.6**
GO03				*e*S		**Sn**	**09 33 36.6**	**-0.2**
AC06	**Mina Casimiro**	**0.73**	**23**	*i*P		**Pn**	**09 33 28.3**	**0.0**
AC06				*i* S		**Sn**	**09 33 39.2**	**-0.3**
AC06				IAML			09 33 40.0	
	comp=N,2μm,0.3s							
LCO	**Las Campanas**	**0.97**	**182**	*e*P		**Pn**	**09 33 30.0**	**-1.4**
LCO				*e*S		**Sn**	**09 33 43.1**	**-2.0**
LCO	**Las Campanas**	**0.97**	**182**	*e*P		**Pn**	**09 33 30.3**	**-1.1**
LCO				*e*S		**Sn**	**09 33 44.5**	**-0.6**
LCO				IAML			09 33 45.3	
	comp=Z,3μm,0.2s							
AC02	**Maricunga**	**1.82**	**49**	*e*P		**Pn**	**09 33 42.4**	**-0.2**
AC02				*i* S		**Sn**	**09 34 03.6**	**-1.5**
AC02				IAML			09 34 06.7	
	comp=N,392nm,0.3s							
AC02	**Maricunga**	**1.82**	**49**	*e*P		**Pn**	**09 33 42.5**	**-0.2**
AC02				*e*S		**Sn**	**09 34 05.9**	**+0.8**
AC02	**Maricunga**	**1.82**	**49**	*e*P		**Pn**	**09 33 42.5**	**-0.2**
AC02				*e*S		**Sn**	**09 34 05.8**	**+0.7**
AC01	**Pan de Azucar**	**1.88**	**2**	*e*P		**Pn**	**09 33 43.6**	**+0.5**
AC01				*i* S		**Sn**	**09 34 06.5**	**+0.6**
AC01	**Pan de Azucar**	**1.88**	**2**	*e*P		**Pn**	**09 33 42.9**	**-0.2**
CO05	**La Serena**	**1.94**	**195**	*e*P		**Pn**	**09 33 43.3**	**-0.6**
CO05				*i* S		**Sn**	**09 34 07.7**	**+0.3**
CO05				IAML			09 34 13.0	
	comp=N,722nm,0.2s							
CO01	**Juntas del Tor**	**2.00**	**166**	*e*P		**Pn**	**09 33 44.6**	**-0.3**
CO01				*e*S		**Sn**	**09 34 07.8**	**-1.3**
CO01				IAML			09 34 10.7	
	comp=E,254nm,0.1s							
CO01	**Juntas del Tor**	**2.00**	**166**	*e*P		**Pn**	**09 33 44.7**	**-0.3**
CO01				*e*S		**Sn**	**09 34 10.2**	**+1.1**
GO04	**Tololo Observa**	**2.13**	**183**	*e*P		**Pn**	**09 33 45.9**	**-0.8**
GO04	**Tololo Observa**	**2.13**	**183**	*e*P		**Pn**	**09 33 46.0**	**-0.8**
GO04				*e*S		**Sn**	**09 34 14.2**	**+1.8**
GO04	**Tololo Observa**	**2.13**	**183**	*e*P		**Pn**	**09 33 46.0**	**-0.8**
GO04				*e*S		**Sn**	**09 34 13.7**	**+1.3**
VCA	**Vinchina**	**2.28**	**108**	*e*P		**Pn**	**09 33 49.3**	**+0.6**
VCA				*e*P			09 33 49.6	
VCA				*e*S		**Sn**	**09 34 19.4**	**+3.6**
VCA				IAML			09 34 28.0	
	comp=Z,213nm,0.3s							
VCA	**Vinchina**	**2.28**	**108**	*e*P		**Pn**	**09 33 48.5**	**-0.1**
VCA				*e*S		**Sn**	**09 34 16.4**	**+0.6**
AROD	**Rodeo**	**2.37**	**154**	*e*P		**Pn**	**09 33 50.8**	**+0.9**
AROD				*e*S		**Sn**	**09 34 11.6**	**-6.6**
AGUA	**GUANDACOL**	**2.40**	**128**	*e*P		Pn	09 33 40.7	-9.5
ACDV	**Cuesta del Vie**	**2.52**	**148**	*e*P		**Pn**	**09 33 52.4**	**+0.5**
ACDV				*e*S		**Sn**	**09 34 19.6**	**-2.2**
CO06	**Fray Jorge**	**2.76**	**198**	*e*P		**Pn**	**09 33 53.6**	**-1.4**
CO06				*e*S		**Sn**	**09 34 26.3**	**-1.0**
CO03	**El Pedregal**	**2.79**	**180**	*e*P		**Pn**	**09 33 54.8**	**-0.8**
CO03				*e*S		**Sn**	**09 34 26.7**	**-1.5**
CO03				IAML			09 34 34.9	
	comp=E,422nm,0.3s							
CO03	**El Pedregal**	**2.79**	**180**	*e*P		**Pn**	**09 33 55.0**	**-0.6**
CO03				*e*S		**Sn**	**09 34 28.1**	**-0.1**
CO03				IAML			09 34 32.7	
	comp=Z,185nm,0.2s							
ACCO	**Cerro Coronel**	**2.91**	**152**	*e*P		**Pn**	**09 33 58.2**	**+1.0**
ACCO				*e*S		**Sn**	**09 34 37.3**	**+6.1**
GO02	**Mina Guanaco**	**3.02**	**19**	*e*P		**Pn**	**09 33 56.1**	**-2.7**
GO02				*e*S		**Sn**	**09 34 36.1**	**+2.1**
CO02	**Combarbal**	**3.17**	**185**	*e*P		**Pn**	**09 33 59.5**	**-1.2**
CO02				*e*S		**Sn**	**09 34 35.6**	**-1.8**
CO02				IAML			09 34 46.8	
	comp=E,862nm,0.3s							
CO02	**Combarbal**	**3.17**	**185**	*e*P		**Pn**	**09 33 59.5**	**-1.2**
CO02				*e*S		**Sn**	**09 34 38.1**	**+0.6**
CO02				IAML			09 34 47.3	
	comp=Z,212nm,0.4s							
ACLC	**CERRO LA CRUZ**	**3.55**	**114**	*e*P		**Pn**	**09 34 04.9**	**-1.0**
ACLC				*e*S		**Sn**	**09 34 44.7**	**-2.0**
RTLL	**Cerro Villicun**	**3.80**	**150**	*e*P		**Pn**	**09 34 09.0**	**-0.2**
RTLL				*e*S		**Sn**	**09 34 54.4**	**+1.7**
ZON	**Zonda**	**3.90**	**154**	*e*P		Pn	09 33 55.4	-15
ZON				*e*S		**Sn**	**09 34 56.4**	**+1.1**
RTLS	**Leoncito**	**3.94**	**163**	*e*P		**Pn**	**09 34 11.8**	**+0.6**
RTLS				*e*S		**Sn**	**09 34 58.6**	**+2.2**
RTLS				IAML			09 35 13.0	
	comp=Z,85nm,0.6s							
CYA	**Choya**	**4.31**	**97**	*e*P		**Pn**	**09 34 15.8**	**-0.4**
CYA				*e*S		**Sn**	**09 35 06.2**	**+1.0**
CYA				IAML			09 35 07.0	
	comp=Z,48nm,0.4s							
APLL	**PUNTA DE LOS L**	**4.32**	**124**	*e*P		**Pn**	**09 34 14.9**	**-1.4**
APLL				*e*S		**Sn**	**09 35 05.2**	**-0.2**
AUSP	**Uspallata**	**4.32**	**165**	*e*P		**Pn**	**09 34 16.5**	**-0.1**
AUSP				*e*S		Sn	09 34 49.6	-16
FSA	**Cafayete**	**4.60**	**66**	*e*P		Pn	09 34 25.3	+5.1
VA03	**San Esteban**	**4.71**	**179**	*e*P		**Pn**	**09 34 20.8**	**-0.9**
VA03				IAML			09 35 29.8	
	comp=Z,67nm,0.8s							
ASAL	**Salagasta**	**4.81**	**161**	*e*P		**Pn**	**09 34 23.7**	**+0.6**
ASAL				*e*S		**Sn**	**09 35 18.4**	**+0.9**
ROC1	**El Roble**	**4.94**	**183**	*e*P		**Pn**	**09 34 23.0**	**-1.9**
ROC1				*e*S		Sn	09 35 31.0	+10
PEL	**Peldehue**	**5.09**	**180**	*e*P		**Pn**	**09 34 29.6**	**+2.7**
PEL				*e*S		**Sn**	**09 35 28.1**	**+3.7**

MOS **02** *09:44:30.9±1.2,1.′40S×67.′53E,h12km,mb5.3/69, MS5.2/23,Error ellipse: s-maj=6.9km s-min=4.3km az=89.1*

IDC **02** *09:44:31.5±0.5,1.′16S×67.′43E,h0km,mb4.3/34, mbtmp4.3/34,ML6.4/1,MS5.2/67,Error ellipse: s-maj=14.6km s-min=12.1km az=72.0*

BJI **02** *09:44:31.2,1.′89S×67.′31E,h31km,mB5.5/65,mb5.1/80, Ms5.6/90,Ms7.5.4/89*

ISC-PP **02** *09:44:33,1.′52S×67.′61E,h15km,Mwppsm6.2,Moment Tensor Solution. s46 Moment tensor: Scale 10¹⁸Nm; Mrr0.41±.16; Mθθ-0.37±.15; Mϕϕ0.61±.21; Mrθ-0.15±.15; Mθϕ0.20±.13; Mϕr0.32±.11; Fault plane solution: M0 2.32000×10¹⁸ NP1:ϕs328.30000°,δ81.90000°, λ153.50000°. NP2:ϕs62.30000°,δ63.80000°,λ9.00000°.*

NEIC **02** *09:44:33.5,1.′51S×67.′59E,h16km*

NEIC **02** *09:44:33.2±2.0,1.′52S±0.′08×67.′61E±0.′07,h10km±1km, mb5.3/119,Ms_20 5.4/898,Mwb5.7/52,Mww5.8/47,Error ellipse: s-maj=14.4km s-min=11.9km az=156.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.26; Mθθ-4.54; Mϕϕ4.28; Mrθ-1.60; Mθϕ-1.70; Mϕr-0.51; Fault plane solution: M0 5.02000×10¹⁷ NP1: ϕs125.71000°,δ76.24000°,λ-170.20000°. NP2: ϕs33.36000°,δ80.48000°,λ-13.96000°. Principal axes: T 4.6067, Plg3.0000°, Azm80.0000°; N 0.7415, Plg73.0000°, Azm180.0000°; P -5.3482, Plg17.0000°, Azm349.0000°;*

NEIC **02** *09:44:33.5,1.′51S×67.′59E,h16km,Moment Tensor Solution. Duration: 3s9 Moment tensor: Scale 10¹⁷Nm; Mrr-1.53; Mθθ-4.38; Mϕϕ5.91; Mrθ-0.05; Mθϕ-1.84; Mϕr2.13; Fault plane solution: M06.01000×10¹⁷ NP1: ϕs304.00000°,δ75.42000°,λ174.29000°. NP2: ϕs35.45000°,δ84.47000°,λ14.65000°. Principal axes: T 6.7642, Plg14.0000°, Azm261.0000°; N -2.0316, Plg74.0000°, Azm56.0000°; P -4.7326, Plg6.0000°, Azm169.0000°;*

NEIC **02** *09:44:33.5,1.′51S×67.′59E,h10km*

IPGP **02** *09:44:33.0,1.′51S×67.′59E,h14km,Mw5.7,Fault plane solution: NP1:ϕs212.00000°,δ88.00000°,λ-3.00000°. NP2:ϕs302.00000°,δ87.00000°,λ-178.00000°.*

GCMT **02** *09:44:38.2±0.1,1.′22S×67.′55E,h17km,MW5.9/170, Moment Tensor Solution. s151,c294; s170,c537; Duration: 2s1 Moment tensor: Scale 10¹⁸Nm; Mrr-0.14±.01; Mθθ-0.71±.01; Mϕϕ0.84±.01; Mrθ-0.14±.01; Mθϕ-0.25±.01; Mϕr0.03±.01; Best double couple: M0 0.83100×10¹⁸ NP1:ϕs35.00000°,δ80.00000°, λ-7.00000°. NP2:ϕs127.00000°,δ84.00000°, λ-169.00000°. Principal axes: T 0.8850, Plg3.0000°, Azm261.0000°; N -0.1090, Plg78.0000°, Azm158.0000°; P -0.7770, Plg12.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 02 09:44:34.1±0.3,**1.′49S**±0.′04×**67.′63E**±0.′03,**h15km**,**n1056,**

σ2s38/788,**mb5.1**/215,**MS5.4**/543,**48C-18D**,**Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAAM	**Kaadhehdhoo**	**5.71**	**70**			**Pn**	**09 45 55.9**	**-2.6**
KAAM	**Kaadhehdhoo**	**5.71**	**70**	P		**Pn**	**09 45 55.8**	**-2.7**
	SNR=43							
HMDM	**Hanimaadhoo**	**9.91**	**34**			**Pn**	**09 46 55.3**	**-0.7**
HMDM	**Hanimaadhoo**	**9.91**	**34**	P		**Pn**	**09 46 55.7**	**-0.4**
	SNR=12							
MSEY	**Mahe Island**	**12.54**	**255**			**Pn**	**09 47 30.3**	**-1.8**
MSEY	**Mahe Island**	**12.54**	**255**	P		**Pn**	**09 47 30.7**	**-1.5**
MSEY				P		**Pn**	**09 47 30.7**	**-1.5**
MSEY				P		**Pn**	**09 47 30.7**	**-1.5**
MSEY				S		**Sn**	**09 49 57.2**	**+5.5**
MSEY				S		**Sn**	**09 49 57.2**	**+5.5**
MSEY				S		**Sn**	**09 49 57.2**	**+5.5**
MSEY	**Mahe Island**	**12.54**	**255**	P		**Pn**	**09 47 30.3**	**-1.8**
TRD	**Trivandrum**	**13.61**	**43**	*e*P		**Pn**	**09 47 46.7**	**0.0**
TRD				IAmb		IAmb	09 47 47.5	
	comp=Z,120nm,0.3s							
TRD				IAMs_20		IAMs_20	09 52 11.5	
	comp=Z,33μm,18.6s							
KOD	**Kodaikanal**	**15.22**	**40**	*e*P		**Pn**	**09 48 07.9**	**-1.0**
KOD				IAmb		IAmb	09 48 10.2	
	comp=Z,93nm,0.3s							
PALK	**Pallekele**	**15.68**	**56**			**Pn**	**09 48 13.7**	**-1.0**
PALK				IAmb		IAmb	09 48 17.6	
	comp=Z,336nm,1.3s							
PALK	**Pallekele**	**15.68**	**56**	Pn		**Pn**	**09 48 13.8**	**-1.0**
	comp=Z,150nm,0.3s,baz=241,slow=12,SNR=268							
PALK				Sn		Sn	09 50 56.9	-12
	comp=Z,5.6nm,0.3s,baz=101,slow=4.0,SNR=2.6							
PALK				LR		LR	09 52 59.0	
	comp=Z,19μm,21.9s,baz=235,slow=32							
PALK	**Pallekele**	**15.68**	**56**	P		**Pn**	**09 48 12.7**	**-2.0**
PALK				P		**Pn**	**09 48 12.7**	**-2.0**
PALK				S		**Sn**	**09 51 08.3**	**-0.2**
PALK				S		**Sn**	**09 51 08.3**	**-0.2**
PALK	**Pallekele**	**15.68**	**56**	*i* P		**Pn**	**09 48 13.0**	**-1.8**
MALK	**Mahakanadarawa**	**16.19**	**52**	P		**Pn**	**09 48 20.8**	**-0.5**
MDRS	**Chennai**	**19.13**	**40**	*e*P		**P**	**09 48 56.0**	**-0.8**
MDRS				IAmb		IAmb	09 48 57.5	
	comp=Z,68nm,0.7s							
MDRS				IAMs_20		IAMs_20	09 55 03.9	
	comp=Z,26μm,17.8s							
KAD	**Karad**	**19.77**	**19**	*e*P		**P**	**09 49 04.2**	**+0.4**
KAD				IAmb		IAmb	09 49 17.4	
	comp=Z,57nm,0.9s							
POO	**Poona**	**20.82**	**17**	*e*P		**P**	**09 49 15.8**	**+0.6**
POO				IAMs_20		IAMs_20	09 55 53.9	
	comp=Z,13μm,18.7s							
SBV	**Sambava**	**21.18**	**235**	P		**P**	**09 49 21.7**	**+2.6**
HYB	**Hyderabad**	**21.66**	**29**	*e*P		**P**	**09 49 24.3**	**0.0**
HYB				*e*S		**S**	**09 53 25.4**	**+1.5**
HYB				IVMs_BB		IVMs_BB	09 57 30.9	
	comp=Z,9μm,8.3s							
VJD	**Vijayawada**	**22.03**	**35**	*e*P		**P**	**09 49 28.6**	**+0.4**
VJD				IAmb		IAmb	09 49 38.5	
	comp=Z,289nm,1.6s							
RER	**Riviere de l'E**	**22.73**	**210**	P		**P**	**09 49 33.2**	**-2.6**
RER				IAmb		IAmb	09 49 54.0	
	comp=Z,125nm,1.1s							
DMTO	**DMTO**	**22.81**	**327**	P		**P**	**09 49 41.0**	**+4.3**
DMTO				P		**P**	**09 49 41.0**	**+4.3**
DMTO				P		**P**	**09 49 41.0**	**+4.3**
DMTO				S		**S**	**09 53 52.2**	**+6.6**
DMTO				S		**S**	**09 53 52.2**	**+6.6**
DMTO				S		**S**	**09 53 52.2**	**+6.6**
RBK	**Rabkut**	**23.05**	**326**	P		**P**	**09 49 43.6**	**+4.4**
RBK				S		**S**	**09 53 54.6**	**+4.8**
ABTO	**Aybut**	**23.46**	**324**	P		**P**	**09 49 44.4**	**+1.1**
ABTO				P		**P**	**09 49 44.4**	**+1.1**
ABTO				S		**S**	**09 54 03.5**	**+7.0**
ABTO				S		**S**	**09 54 03.5**	**+7.0**
DQM	**DQM**	**23.48**	**336**	P		**P**	**09 49 46.7**	**+3.3**
	SNR=5.5							
DQM				P		**P**	**09 49 46.7**	**+3.3**
	SNR=5.5							
DQM				P		**P**	**09 49 46.7**	**+3.3**
	SNR=5.5							
DQM				S		**S**	**09 53 59.6**	**+2.9**
DQM				S		**S**	**09 53 59.6**	**+2.9**
DQM				S		**S**	**09 53 59.6**	**+2.9**
WHFO	**Wadi Hawf**	**23.63**	**325**	S		**S**	**09 54 06.0**	**+6.8**
DOK	**Doka**	**23.99**	**327**	P		**P**	**09 49 49.8**	**+1.4**
	SNR=5.5							
DOK				P		**P**	**09 49 49.8**	**+1.4**
	SNR=5.5							
DOK				S		**S**	**09 54 13.5**	**+8.6**
DOK				S		**S**	**09 54 13.5**	**+8.6**
MHTO	**MHTO**	**24.26**	**338**	P		**P**	**09 49 51.6**	**+0.8**
	SNR=7.9							
MHTO				P		**P**	**09 49 51.6**	**+0.8**
	SNR=7.9							
MHTO				P		**P**	**09 49 51.6**	**+0.8**
	SNR=7.9							
MHTO				S		**S**	**09 54 14.5**	**+5.3**
MHTO				S		**S**	**09 54 14.5**	**+5.3**
MHTO				S		**S**	**09 54 14.5**	**+5.3**
VIS	**Vishakhapatnam**	**24.57**	**38**	*e*P		**P**	**09 49 54.0**	**+0.4**
VIS				IAMs_20		IAMs_20	09 59 01.2	
	comp=Z,8μm,17.6s							
BHUJ	**Bhuj**	**24.68**	**4**	*e*P		**P**	**09 49 55.1**	**+0.6**
JLN	**Jalan Bani Buh**	**24.83**	**342**	P		**P**	**09 49 59.7**	**+3.7**
JLN				S		**S**	**09 54 21.8**	**+3.4**
NGP	**Nagpur**	**25.12**	**26**	*e*P		**P**	**09 50 00.6**	**+1.9**
JMDO	**Jabal Madar**	**25.48**	**339**	P		**P**	**09 50 04.7**	**+2.9**
	SNR=5.5							
JMDO				P		**P**	**09 50 04.7**	**+2.9**
	SNR=5.5							
JMDO				P		**P**	**09 50 04.7**	**+2.9**
	SNR=5.5							
JMDO				S		**S**	**09 54 32.2**	**+3.5**
JMDO				S		**S**	**09 54 32.2**	**+3.5**
JMDO				S		**S**	**09 54 32.2**	**+3.5**
NRDN	**NARMADA NAGAR**	**25.80**	**21**	*e*P		**P**	**09 50 04.1**	**-0.7**
WSAR	**Wadi Sarin**	**26.10**	**341**	LR		LR	09 58 05.0	
	comp=Z,71nm,20.6s,baz=172,slow=32							
WSAR	**Wadi Sarin**	**26.10**	**341**	P		**P**	**09 50 09.8**	**+2.4**
WSAR				S		**S**	**09 54 39.2**	**+0.7**
SMDO	**Samad**	**26.13**	**340**	P		**P**	**09 50 10.4**	**+2.5**
SMDO				P		**P**	**09 50 10.4**	**+2.5**
SMDO				P		**P**	**09 50 10.4**	**+2.5**
SMDO				S		**S**	**09 54 41.8**	**+2.6**
SMDO				S		**S**	**09 54 41.8**	**+2.6**
SMDO				S		**S**	**09 54 41.8**	**+2.6**
BSY	**Bisya**	**26.15**	**338**	P		**P**	**09 50 11.2**	**+3.3**
BSY				P		**P**	**09 50 11.2**	**+3.3**
BSY				S		**S**	**09 54 43.8**	**+4.4**
BSY				S		**S**	**09 54 43.8**	**+4.4**
BHPL	**Bhopal**	**26.37**	**21**	*e*P		**P**	**09 50 10.7**	**+0.7**
BHPL				IAmb		IAmb	09 50 16.3	
	comp=Z,84nm,1.2s							
BHPL				IAMs_20		IAMs_20	09 59 09.4	
	comp=Z,7μm,18.8s							
BIDO	**Bidbid**	**26.53**	**340**	P		**P**	**09 50 11.7**	**+0.4**
BIDO				P		**P**	**09 50 11.7**	**+0.4**
BIDO				S		**S**	**09 54 48.2**	**+2.9**
BIDO				S		**S**	**09 54 48.2**	**+2.9**
HOQ	**Hoqain**	**26.87**	**339**	P		**P**	**09 50 17.2**	**+2.8**
HOQ				P		**P**	**09 50 17.2**	**+2.8**
HOQ				P		**P**	**09 50 17.2**	**+2.8**
HOQ				S		**S**	**09 54 53.1**	**+2.4**
HOQ				S		**S**	**09 54 53.1**	**+2.4**
HOQ				S		**S**	**09 54 53.1**	**+2.4**
ARQ	**Araqi**	**26.95**	**337**	P		**P**	**09 50 18.4**	**+3.2**
ARQ				P		**P**	**09 50 18.4**	**+3.2**
ARQ				P		**P**	**09 50 18.4**	**+3.2**
ARQ				S		**S**	**09 54 53.3**	**+1.4**
ARQ				S		**S**	**09 54 53.3**	**+1.4**
ARQ				S		**S**	**09 54 53.3**	**+1.4**
UMZA	**Um Al Zommool**	**26.96**	**334**	P		**P**	**09 50 17.8**	**+2.6**
UMZA				P		**P**	**09 50 17.8**	**+2.6**
UMZA				S		**S**	**09 54 52.5**	**+0.5**
UMZA				S		**S**	**09 54 52.5**	**+0.5**
BLSP	**Bilaspur**	**27.42**	**30**	*e*P		**P**	**09 50 19.7**	**+0.3**
BLSP				IAmb		IAmb	09 50 33.5	
	comp=Z,53nm,1.3s							
SOHO	**SOHO**	**27.66**	**338**	P		**P**	**09 50 24.3**	**+2.8**
SOHO				P		**P**	**09 50 24.3**	**+2.8**
SOHO				S		**S**	**09 55 07.2**	**+4.0**
SOHO				S		**S**	**09 55 07.2**	**+4.0**
ATD	**Arta Tunnel**	**27.82**	**298**	LR		LR	09 59 03.4	
	comp=Z,218nm,20.9s,baz=111,slow=32							
ATD	**Arta Tunnel**	**27.82**	**298**	P		**P**	**09 50 27.2**	**+4.0**
ATD				S		**S**	**09 55 10.1**	**+4.0**
ALNE	**Al Ain**	**27.90**	**336**	P		**P**	**09 50 27.0**	**+3.3**
ALNE				S		**S**	**09 55 13.4**	**+6.5**
MZR	**Muzera**	**27.98**	**331**	P		**P**	**09 50 27.8**	**+3.3**
MZR				P		**P**	**09 50 27.8**	**+3.3**
MZR				S		**S**	**09 55 14.1**	**+5.9**
MZR				S		**S**	**09 55 14.1**	**+5.9**
ASHO	**Ashiyiah**	**28.34**	**337**	P		**P**	**09 50 30.5**	**+2.9**
ASHO				P		**P**	**09 50 30.5**	**+2.9**
ASHO				S		**S**	**09 55 13.7**	**-0.2**
ASHO				S		**S**	**09 55 13.7**	**-0.2**
ASHO	**Ashiyiah**	**28.34**	**337**	P		**P**	**09 50 30.0**	**+2.4**
HATD	**Hatta, Dubai**	**28.44**	**338**	P		**P**	**09 50 31.3**	**+2.8**
HATD				P		**P**	**09 50 31.3**	**+2.8**
HATD	**Hatta, Dubai**	**28.44**	**338**	P		**P**	**09 50 30.9**	**+2.4**
UOSS	**Minazif**	**28.52**	**338**	P		**P**	**09 50 31.1**	**+1.8**
UOSS				S		**S**	**09 55 22.7**	**+6.0**
UOSS	**Minazif**	**28.52**	**338**	P		**P**	**09 50 31.3**	**+2.0**
ASUD	**Al Ashush, Dub**	**28.58**	**336**	P		**P**	**09 50 30.3**	**+0.6**
ASUD				P		**P**	**09 50 30.3**	**+0.6**
ASUD				S		**S**	**09 55 22.2**	**+4.7**
ASUD				S		**S**	**09 55 22.2**	**+4.7**
ASUD	**Al Ashush, Dub**	**28.58**	**336**	P		**P**	**09 50 32.1**	**+2.4**
FAQ	**Al Faqa, Dubai**	**28.58**	**337**	P		**P**	**09 50 29.5**	**-0.3**
FAQ				S		**S**	**09 55 22.7**	**+5.1**
FAQ	**Al Faqa, Dubai**	**28.58**	**337**	P		**P**	**09 50 31.7**	**+1.9**
AJN	**Ajban**	**28.66**	**335**	P		**P**	**09 50 32.1**	**+1.6**
AJN				S		**S**	**09 55 19.3**	**+0.4**
NAZ	**Nazwa, Dubai**	**28.77**	**337**	P		**P**	**09 50 33.8**	**+2.4**
NAZ				P		**P**	**09 50 33.8**	**+2.4**
NAZ				P		**P**	**09 50 33.8**	**+2.4**
NAZ				S		**S**	**09 55 20.7**	**+0.2**
NAZ				S		**S**	**09 55 20.7**	**+0.2**
NAZ				S		**S**	**09 55 20.7**	**+0.2**
NAZ	**Nazwa, Dubai**	**28.77**	**337**	P		**P**	**09 50 33.7**	**+2.4**
JASK	**Jask - Hormozg**	**28.79**	**342**	P		**P**	**09 50 35.3**	**+3.7**
JASK				S		**S**	**09 55 26.9**	**+6.0**
MDH	**Madha**	**28.81**	**338**	P		**P**	**09 50 32.3**	**+0.5**
MDH				P		**P**	**09 50 32.3**	**+0.5**
MDH				S		**S**	**09 55 23.8**	**+2.7**
MDH				S		**S**	**09 55 23.8**	**+2.7**
MSFE	**Esma-Masafi**	**28.91**	**338**	P		**P**	**09 50 32.6**	**-0.1**
MASF	**Masafi**	**28.92**	**338**	P		**P**	**09 50 32.2**	**-0.6**
MASF				P		**P**	**09 50 32.2**	**-0.6**
MASF				P		**P**	**09 50 32.2**	**-0.6**
MASF				S		**S**	**09 55 26.3**	**+3.2**
MASF				S		**S**	**09 55 26.3**	**+3.2**
MASF				S		**S**	**09 55 26.3**	**+3.2**
GHWR	**Ruwais**	**29.09**	**331**	P		**P**	**09 50 34.0**	**-0.2**
GHWR				S		**S**	**09 55 27.2**	**+1.7**
UMQ	**Umm Al-Quwin**	**29.25**	**337**	S		**S**	**09 55 29.6**	**+1.5**
BANOM	**Banah**	**29.38**	**339**	P		**P**	**09 50 39.2**	**+2.3**
BANOM				P		**P**	**09 50 39.2**	**+2.3**
BNDA	**BANDA**	**29.50**	**24**	*e*P		**P**	**09 50 38.8**	**+0.8**
SHME	**Shamm**	**29.55**	**339**	P		**P**	**09 50 41.4**	**+3.0**
SHME				S		**S**	**09 55 34.1**	**+1.3**
KIBK	**Kibwezi**	**29.58**	**268**	P		**P**	**09 50 42.3**	**+3.4**
KIBK	**Kibwezi**	**29.58**	**268**	P		**P**	**09 50 42.8**	**+3.9**
SLWR	**Sila**	**29.76**	**330**	P		**P**	**09 50 38.4**	**-1.8**
SLWR				P		**P**	**09 50 38.4**	**-1.8**
SLWR				S		**S**	**09 55 36.9**	**+0.8**
SLWR				S		**S**	**09 55 36.9**	**+0.8**
BKNR	**BIKANER**	**29.84**	**10**	*e*P		**P**	**09 50 43.2**	**+2.3**
JRN	**Qarnain Island**	**29.93**	**332**	P		**P**	**09 50 44.2**	**+2.5**
JRN				S		**S**	**09 55 43.5**	**+4.7**
ALBI	**Allahabad**	**29.97**	**26**	*e*P		**P**	**09 50 42.6**	**+0.5**
LHMI	**Lhok Sumawe**	**30.04**	**77**	P		**P**	**09 50 42.0**	**-0.9**
LHMI				IAMs_20		IAMs_20	10 00 40.7	
	comp=Z,10μm,20.0s							
GSI	**Gunungsitoli**	**30.07**	**85**	P		**P**	**09 50 41.2**	**-2.0**
GSI				IAmb		IAmb	09 51 39.4	
	comp=Z,30nm,0.7s							
GSI				IAMs_20		IAMs_20	09 59 49.6	
	comp=Z,11μm,22.0s							
GSI	**Gunungsitoli**	**30.07**	**85**	P		P	09 50 49.1	+5.9
	comp=Z,47nm,1.6s							
KMBO	**Kilima Mbogo**	**30.37**	**270**	P		**P**	**09 50 45.0**	**-1.1**
KMBO				IAmb		IAmb	09 50 55.6	
	comp=Z,60nm,1.9s							
KMBO	**Kilima Mbogo**	**30.37**	**270**	P		**P**	**09 50 48.5**	**+2.4**
KMBO				P		**P**	**09 50 48.5**	**+2.4**
KMBO				S		**S**	**09 55 53.3**	**+6.7**
KMBO				S		**S**	**09 55 53.3**	**+6.7**
KMBO	**Kilima Mbogo**	**30.37**	**270**	P		**P**	**09 50 45.0**	**-1.1**
KMBO				pmax		pmax		
	comp=Z,60nm,1.9s							
TRNA	**Turayna**	**30.55**	**330**	P		**P**	**09 50 49.9**	**+2.7**
TRNA				S		**S**	**09 55 54.0**	**+5.4**
KUDL	**Kundal**	**30.67**	**15**	*e*P		**P**	**09 50 48.8**	**+0.

EVN Everest 34.60 31 P **P** **09 51 21.5 -2.0**
EVN IAmb IAmb 09 51 31.7
comp=Z,20nm,0.7s
EVN IAMs_20 IAMs_20 10 03 46.2
comp=Z,6µm,18.0s
AZL Aizawl 34.97 43 *e*P **P** **09 51 26.1 +0.1**
AZL IAmb IAmb 09 51 30.0
comp=Z,28nm,0.7s
GTK Tadong 35.05 34 *e*P **P** **09 51 26.8 +0.1**
GTK IAmb IAmb 09 51 37.0
comp=Z,30nm,0.8s
NIL Nilore 35.35 8 **P** **09 51 28.1 -1.0**
NIL Nilore 35.35 8 P **P** **09 51 29.6 +0.4**
NIL Nilore 35.35 8 P **P** **09 51 28.1 -1.0**
NIL pmax pmax
comp=Z,85nm,1.1s
MNAI Manna 35.39 95 IAMs_20 IAMs_20 10 02 54.5
comp=Z,8µm,20.0s
SHL Shillong 35.70 39 P **P** **09 51 30.6 -1.8**
SHL Shillong 35.70 39 P **P** **09 51 29.6 -2.8**
SNR=15
SHL Shillong 35.70 39 *e*P **P** **09 51 33.0 +0.6**
SHL IAmb IAmb 09 51 33.6
comp=Z,62nm,1.1s
SHL IAMs_20 IAMs_20 10 05 43.0
comp=Z,7µm,20.8s
SHL Shillong 35.70 39 P **P** **09 51 30.6 -1.8**
SHL pmax pmax
comp=Z,65nm,0.9s
HNLY HANLEY 35.73 16 *e*P **P** **09 51 33.0 0.0**
HNLY IAmb IAmb 09 51 41.7
comp=Z,60nm,1.4s
KBU Kabul Universi 35.85 2 P **P** **09 51 33.0 -0.6**
KBL Kabul 35.87 2 **P** **09 51 32.8 -1.0**
KBL IAmb IAmb 09 51 42.1
comp=Z,69nm,1.4s
KBL Kabul 35.87 2 P **P** **09 51 33.1 -0.7**
SNR=24
KBL P **P** **09 51 33.1 -0.7**
SNR=24
KBL S **S** **09 57 11.3 0.0**
KBL S **S** **09 57 11.3 0.0**
KBL Kabul 35.87 2 P **P** **09 51 32.8 -1.0**
KBL pmax pmax
comp=Z,69nm,1.4s
LHSI Lahat 35.93 94 P P 09 51 39.2 +4.9
SRNI Srinagar 36.05 10 *e*P **P** **09 51 35.3 +0.3**
MYKOM Kota Tinggi 36.36 85 P **P** **09 51 38.0 0.0**
MYKOM IAMs_20 IAMs_20 10 05 23.3
comp=Z,6µm,19.0s
IMP Imphal 36.55 43 *e*P **P** **09 51 39.7 +0.1**
IMP IAmb IAmb 09 51 50.2
comp=Z,30nm,1.0s
CM31 Chiang Mai Arr 36.63 56 P **P** **09 51 42.0 +1.8**
SNR=8.0
CM31 P **P** **09 51 42.0 +1.8**
SNR=8.0
CM31 S **S** **09 57 27.2 +4.2**
CM31 S **S** **09 57 27.2 +4.2**
CMAR Chiang Mai Arr 36.63 56 P **P** **09 51 41.6 +1.3**
comp=Z,17nm,0.8s,baz=244,slow=11,SNR=73
comp=Z,17nm,0.8s
CHTO Chiang Mai 36.80 55 **P** **09 51 41.1 -0.7**
CHTO IAmb IAmb 09 51 44.8
comp=Z,51nm,0.9s
CHTO Chiang Mai 36.80 55 P **P** **09 51 41.6 -0.1**
CHTO P **P** **09 51 41.6 -0.1**
CHTO S **S** **09 57 26.8 +1.1**
CHTO S **S** **09 57 26.8 +1.1**
CHTO Chiang Mai 36.80 55 P **P** **09 51 41.1 -0.7**
CHTO pmax pmax
comp=Z,51nm,1.0s
CHTO MLR MLR
comp=Z,4µm,18.0s
MBAR Mbarara 36.90 271 P **P** **09 51 41.2 -1.6**
MBAR IAmb IAmb 09 52 12.2
comp=Z,72nm,1.7s
MBAR Mbarara 36.90 271 S **S** **09 57 33.6 +6.0**
MBAR Mbarara 36.90 271 *i*P **P** **09 51 41.0 -1.8**
TEZP TEZPUR 37.02 39 *e*P **P** **09 51 43.7 +0.3**
TEZP IAmb IAmb 09 51 52.5
comp=Z,23nm,0.9s
TAWA Tawang 37.15 37 *e*P **P** **09 51 44.8 -0.2**
KOHI KOHIMA 37.25 42 *e*P **P** **09 51 45.7 +0.1**
KOHI IAmb IAmb 09 51 49.4
comp=Z,40nm,0.9s
LSA Lhasa 38.30 34 P **P** **09 51 55.0 +0.2**
LSA IAmb IAmb 09 52 06.0
comp=Z,48nm,0.8s
LSA Lhasa 38.30 34 P **P** **09 51 56.3 +1.5**
LSA S **S** **09 57 50.4 +1.3**
LSA pmax pmax
comp=Z,43nm,1.0s
LSA LR LR
comp=Z,2µm,9.7s
LSA LR LR
comp=Z,5µm,16.5s
LSA Lhasa 38.30 34 P **P** **09 51 56.3 +1.5**
LSA P **P** **09 51 56.3 +1.5**
LSA Lhasa 38.30 34 P **P** **09 51 55.0 +0.2**
LSA pmax pmax
comp=Z,48nm,0.8s
ZIRO ZIRO 38.32 39 *e*P **P** **09 51 54.6 -0.1**
ZIRO IAmb IAmb 09 51 58.7
comp=Z,59nm,1.2s
TNCH TengChong 39.88 47 P **P** **09 52 09.0 +1.2**
TNCH S **S** **09 58 14.3 +1.8**
TNCH SS **SS** **10 01 07.6 -1.6**
TNCH pmax pmax
comp=Z,67nm,0.5s
TNCH pmax pmax
comp=Z,670nm,4.7s
TNCH LR LR
comp=Z,4µm,14.7s
TNCH LR LR
comp=Z,2µm,14.7s
TNCH LR LR
comp=Z,6µm,20.4s
LSZ Lusaka 41.25 248 **P** **09 52 17.9 -1.3**
LSZ Lusaka 41.25 248 LR LR 10 07 44.1
comp=Z,3µm,18.9s,baz=77,slow=34
LSZ Lusaka 41.25 248 P **P** **09 52 17.9 -1.3**
LSZ pmax pmax
comp=Z,35nm,1.1s
BTK Batken 41.45 4 P **P** **09 52 19.9 -0.6**
BTK IAmb IAmb 09 52 27.9
comp=Z,45nm,1.1s
BTK Batken 41.45 4 P **P** **09 52 19.9 -0.6**
BTK pmax pmax
comp=Z,45nm,1.2s
BTK MLR MLR
comp=Z,3µm,21.0s
KSH Kashi 41.52 10 P **P** **09 52 16.5 -4.6**
KSH PP **PP** **09 53 58.8 +1.6**
KSH S **S** **09 58 28.1 -8.3**
KSH SS SS 10 01 26.6 -15
KSH pmax pmax
comp=Z,44nm,1.1s
KSH pmax pmax
comp=Z,530nm,5.2s
KSH LR LR
comp=Z,5µm,16.8s
KSH LR LR
comp=Z,4µm,14.1s
KSH LR LR
comp=Z,7µm,16.1s
SLVN Son La 42.10 55 P **P** **09 52 26.4 +0.4**
SLVN IAMs_20 IAMs_20 10 09 44.2
comp=Z,4µm,18.0s
MATP Matopo 42.59 241 LR LR 10 07 01.8
comp=Z,1µm,20.3s,baz=78,slow=32
KSM Kuching 42.77 86 IAMs_20 IAMs_20 10 07 24.3
comp=Z,6µm,20.0s
ARSB Arslanbob 42.89 6 P **P** **09 52 31.7 -0.5**
ARSB Arslanbob 42.89 6 P **P** **09 52 31.7 -0.5**
ARSB pmax pmax
comp=Z,28nm,1.0s
KMI Kunming 43.08 50 ⇑P **P** **09 52 36.0 +1.9**
KMI S **S** **09 58 59.8 -0.2**
KMI SS **SS** **10 02 07.9 -4.8**
KMI pmax pmax
comp=Z,21nm,0.8s
KMI pmax pmax
comp=Z,340nm,4.7s
KMI LR LR
comp=Z,5µm,16.6s
KMI LR LR
comp=Z,3µm,17.0s
KMI LR LR
comp=Z,4µm,19.2s
PZH PanZhiHua 43.10 47 P **P** **09 52 35.8 +1.7**
PZH S **S** **09 59 03.2 +3.2**
PZH SS **SS** **10 02 09.1 -3.7**
PZH pmax pmax
comp=Z,40nm,0.9s
PZH pmax pmax
comp=Z,330nm,4.7s
PZH LR LR
comp=Z,2µm,21.0s
PZH LR LR
comp=Z,2µm,16.7s
PZH LR LR
comp=Z,2µm,21.6s
IUG luzhnay 43.49 3 *e*P **P** **09 52 34.9 -2.1**
IUG pmax pmax
comp=Z,47nm,1.4s
IUG luzhnay 43.49 3 *e*P **P** **09 52 34.9 -2.1**
comp=Z,47nm,1.4s
CHM Chimkent 43.65 2 *e*P **P** **09 52 36.4 -1.7**
CHM pmax pmax
comp=Z,38nm,1.0s
CHM Chimkent 43.65 2 *e*P **P** **09 52 36.4 -1.7**
comp=Z,38nm,1.0s
EIL Elat 43.98 317 LR LR 10 08 30.7
comp=Z,6µm,18.4s,baz=128,slow=33
TARG Taragay, Kyrgy 44.00 11 P **P** **09 52 40.2 -1.3**
TARG IAmb IAmb 09 53 07.7
comp=Z,44nm,1.2s
TARG IAMs_20 IAMs_20 10 11 28.7
comp=Z,5µm,20.0s
TARG Taragay, Kyrgy 44.00 11 P **P** **09 52 40.2 -1.3**
TARG pmax pmax
comp=Z,44nm,1.2s
TARG MLR MLR
comp=Z,5µm,20.0s
KDJ Kajisay 44.27 10 P **P** **09 52 41.8 -1.6**
KDJ Kajisay 44.27 10 P **P** **09 52 41.8 -1.6**
KDJ pmax pmax
comp=Z,88nm,1.1s
DZA Taraz 44.31 4 *e*P **P** **09 52 41.4 -2.0**
DZA Taraz 44.31 4 *e*P **P** **09 52 41.5 -2.0**
ASF Jabal al Asfar 44.36 322 LR LR 10 09 12.4
comp=Z,3µm,19.4s,baz=164,slow=34
AAK Ala-Archa 44.36 7 P **P** **09 52 42.9 -1.2**
AAK Ala-Archa 44.36 7 P **P** **09 52 42.8 -1.2**
comp=Z,1.7nm,0.3s,baz=180,slow=15,SNR=1.4
AAK LR LR 10 11 27.6
comp=Z,3µm,21.4s,baz=197,slow=37
comp=Z,1.7nm,0.3s
AAK Ala-Archa 44.36 7 P **P** **09 52 47.1 +3.0**
AAK P **P** **09 52 47.1 +3.0**
AAK S **S** **09 59 21.0 +2.9**
AAK S **S** **09 59 21.0 +2.9**
AAK Ala-Archa 44.36 7 *ce*P **P** **09 52 43.2 -0.9**
AAK pmax pmax
comp=Z,46nm,1.7s
AAK Ala-Archa 44.36 7 P **P** **09 52 46.2 +2.1**
BRLS Borolday 44.37 2 *e*P **P** **09 52 40.1 -3.8**
BRLS Borolday 44.37 2 *e*P **P** **09 52 40.1 -3.8**
BOOM Boomskoye usch 44.42 9 P **P** **09 52 43.5 -1.0**
BOOM IAMs_20 IAMs_20 10 10 00.8
comp=Z,6µm,21.0s
BOOM Boomskoye usch 44.42 9 P **P** **09 52 43.5 -1.0**
BOOM pmax pmax
comp=Z,98nm,1.4s
KK31 Karatay Array 44.47 3 P **P** **09 52 44.6 -0.1**
KK31 Karatay Array 44.47 3 P **P** **09 52 44.6 -0.1**
KK31 pmax pmax
comp=Z,29nm,1.3s
KKAR Karatay Array 44.47 3 P **P** **09 52 44.8 +0.1**
KKAR Karatay Array 44.47 3 P **P** **09 52 43.5 -1.3**
KKAR Karatay Array 44.47 3 P **P** **09 52 43.5 -1.3**
GHAJ Ghor Haditha 44.62 320 P **P** **09 52 44.4 -1.7**
GHAJ IAmb IAmb 09 53 15.6
comp=Z,78nm,1.6s
GHAJ IAMs_20 IAMs_20 10 08 41.3
comp=Z,5µm,18.0s
SBUM Sibu 44.75 85 P **P** **09 52 46.6 -0.8**
PRZ Przheval'sk 44.84 11 IAMs_20 IAMs_20 10 11 58.4
comp=Z,5µm,22.0s
SGDS Songindy 45.18 7 *e*P **P** **09 52 48.7 -1.8**
comp=Z,67nm,2.1s
GOMU GeErMu 45.25 31 P **P** **09 52 51.9 +0.4**
GOMU S **S** **09 59 31.7 +0.1**
GOMU pmax pmax
comp=Z,6.0nm,0.8s
GOMU LR LR
comp=Z,3µm,12.6s
GOMU LR LR
comp=Z,2µm,12.1s
GOMU LR LR
comp=Z,3µm,12.6s
SHLS Shalkode 45.70 12 *e*P **P** **09 52 53.5 -1.2**
SHLS pmax pmax
comp=Z,77nm,1.8s
SHLS Shalkode 45.70 12 *e*P **P** **09 52 53.6 -1.2**
comp=Z,77nm,1.8s
KPKS Kokpek 45.84 11 *e*P **P** **09 52 53.7 -2.0**
KPKS Kokpek 45.84 11 *e*P **P** **09 52 53.8 -2.0**
MMAI Mount Meron Ar 45.85 321 P **P** **09 52 54.3 -1.7**
comp=Z,0.8nm,0.3s,baz=151,slow=7.4,SNR=6.1
MMAI LR LR 10 10 09.5
comp=Z,3µm,18.5s,baz=130,slow=34
comp=Z,0.8nm,0.3s
QIZ Qiongzhong 46.21 62 P **P** **09 52 57.0 -1.9**
QIZ S **S** **09 59 45.4 +0.2**
QIZ LR LR
comp=Z,2µm,21.3s
QIZ LR LR
comp=Z,3µm,22.2s
GNI Garni 46.43 336 P **P** **09 52 60.0 -0.5**
GNI Garni 46.43 336 LR LR 10 12 07.3
comp=Z,3µm,21.7s,baz=146,slow=36
GNI Garni 46.43 336 P **P** **09 53 01.6 +1.1**
GNI P **P** **09 53 01.6 +1.1**
GNI S **S** **09 59 48.0 -0.1**
GNI S **S** **09 59 48.0 -0.1**
GNI Garni 46.43 336 *ce*P **P** **09 52 58.0 -2.5**
GNI pmax pmax
comp=Z,120nm,1.7s
GNI Garni 46.43 336 P **P** **09 53 03.3 +2.8**
GNI Garni 46.43 336 P **P** **09 52 59.8 -0.7**
comp=Z,2µmcomp=Z,50nm,1.4s
AKT Akhty 46.43 339 *e*P **P** **09 52 57.1 -3.4**
AKT *e* 09 54 30.0
AKT *e* 09 54 47.1
AKT pmax pmax
comp=Z,48nm,1.2s
H04N2 CROZET ISLANDS 46.60 195 T T 10 43 35.0
baz=19,slow=75,SNR=461
H04N1 CROZET ISLANDS 46.61 195 T T 10 43 32.2
baz=19,slow=75,SNR=443
H04N3 CROZET ISLANDS 46.62 195 T T 10 43 30.6
baz=19,slow=75,SNR=437
BTLS Baital 46.68 6 *e*P **P** **09 53 00.3 -1.9**
BTLS pmax pmax
comp=Z,38nm,2.1s
BTLS Baital 46.68 6 *e*P **P** **09 53 00.3 -1.9**
comp=Z,38nm,2.1s
GYA Guiyang 46.79 51 ⇓P **P** **09 53 04.6 +1.0**
GYA S **S** **09 59 52.7 -0.9**
GYA pmax pmax
comp=Z,73nm,1.0s
GYA pmax pmax
comp=Z,470nm,8.5s
GYA LR LR
comp=Z,2µm,19.7s
GYA LR LR
comp=Z,1µm,23.0s
GYA LR LR
comp=Z,2µm,22.7s
LBTB Lobatse 46.80 236 P **P** **09 53 02.4 -1.2**
LBTB IAmb IAmb 09 53 20.9
comp=Z,38nm,1.2s
LBTB Lobatse 46.80 236 LR LR 10 09 51.6
comp=Z,3µm,21.6s,baz=66,slow=32
LBTB Lobatse 46.80 236 P **P** **09 53 02.4 -1.2**
LBTB pmax pmax
comp=Z,38nm,1.3s
CD2 Chengdu 47.10 44 P **P** **09 53 06.1 +0.3**
CD2 PP **PP** **09 54 57.2 +0.5**
CD2 S **S** **09 59 58.9 +1.2**
CD2 pmax pmax
comp=Z,30nm,1.0s
CD2 pmax pmax
comp=Z,570nm,4.8s
CD2 LR LR
comp=Z,3µm,23.8s
CD2 LR LR
comp=Z,4µm,15.5s
CD2 LR LR
comp=Z,4µm,16.8s
TDK Taldyqorghan 47.27 10 *e*P **P** **09 53 05.2 -1.6**
TDK Taldyqorghan 47.27 10 *e*P **P** **09 53 05.3 -1.6**
KARS Kars 47.52 335 P **P** **09 53 09.1 +0.1**
KARS Kars 47.52 335 P **P** **09 53 09.1 +0.1**
KARS pmax pmax
comp=Z,210nm,1.4s
KARS MLR MLR
comp=Z,9µm,20.0s
HOMI Horasan 47.56 333 ⇑P P 09 53 02.3 -7.2
PAF Port-aux-Franc 47.73 178 P **P** **09 53 08.9 -1.4**
PAF Port-aux-Franc 47.73 178 P **P** **09 53 08.9 -1.4**
PAF pmax pmax
comp=Z,1µm,1.9s
MAKGR Makgori 47.78 236 P **P** **09 53 10.1 -1.1**
KOPT Kop Dagi 48.19 332 P **P** **09 53 12.7 -1.7**
ARPR Arapgir-MALATY 48.53 329 P **P** **09 53 16.3 -0.6**
ARPR IAMs_20 IAMs_20 10 14 14.0
comp=Z,4µm,18.0s
WMQ Urumqi 48.56 19 *e*P **P** **09 53 21.0 +4.1**
WMQ PP **PP** **09 55 07.4 -2.5**
WMQ S **S** **10 00 17.6 -0.5**
WMQ pmax pmax
comp=Z,550nm,4.5s
WMQ LR LR
comp=Z,4µm,16.9s
WMQ LR LR
comp=Z,3µm,12.7s
WMQ LR LR
comp=Z,2µm,22.1s
BOSA Boshof 48.58 232 P **P** **09 53 16.0 -1.4**
BOSA Boshof 48.58 232 P **P** **09 53 16.0 -1.4**
comp=Z,1.6nm,0.6s,baz=98,slow=7.2,SNR=4.4
BOSA LR LR 10 10 37.3
comp=Z,2µm,21.4s,baz=71,slow=32
comp=Z,1.6nm,0.6s
KKM Kota Kinabalu 49.08 81 P **P** **09 53 20.7 -0.8**
KKM IAmb IAmb 09 53 34.4
comp=Z,51nm,1.1s
KKM IAMs_20 IAMs_20 10 13 22.6
comp=Z,4µm,20.0s
BNN Bunyan 49.66 327 P **P** **09 53 24.6 -0.9**
MAKZ Makanchi 49.73 13 P **P** **09 53 25.8 0.0**
MAKZ IAmb IAmb 09 53 38.2
comp=Z,38nm,1.2s
MAKZ IAMs_20 IAMs_20 10 15 09.2
comp=Z,4µm,22.0s
MAKZ Makanchi 49.73 13 P **P** **09 53 25.8 0.0**
MAKZ pmax pmax
comp=Z,38nm,1.3s
MAKZ MLR MLR
comp=Z,4µm,22.0s
MK31 Makanchi Array 49.78 13 *ce*P **P** **09 53 26.3 +0.1**
MKAR Makanchi Array 49.78 13 P **P** **09 53 25.0 -1.2**
MKAR Makanchi Array 49.78 13 P **P** **09 53 22.4 -3.7**
comp=Z,4.0nm,0.9s,baz=189,slow=7.2,SNR=22
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 49.78 13 *ce*P **P** **09 53 25.6 -0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
KBZ Khabaz 50.18 337 P **P** **09 53 25.7 -3.5**
comp=Z,11nm,0.9s,baz=158,slow=5.2,SNR=12
KBZ LR LR 10 13 56.3
comp=Z,2µm,21.1s,baz=154,slow=35
comp=Z,11nm,0.9s
KBZ Khabaz 50.18 337 *i*P **P** **09 53 26.1 -3.1**
KBZ pmax pmax
comp=Z,34nm,0.9s
GTA Gaotai 50.28 32 P **P** **09 53 30.6 +0.4**
GTA pP sP 09 53 36.5 +1.0
GTA S **S** **10 00 41.3 -1.1**
GTA SS **SS** **10 04 16.1 -0.2**
GTA pmax pmax
comp=Z,290nm,4.7s
GTA LR LR
comp=Z,5µm,17.1s
GTA LR LR
comp=Z,4µm,19.6s
GTA LR LR
comp=Z,5µm,18.5s
SHA1 Shidzhatmaz 50.28 337 *i*P **P** **09 53 30.2 -0.1**
LZH Lanzhou 50.35 38 *e*P **P** **09 53 34.1 +3.3**
LZH pP pwP 09 53 38.0 -0.6
LZH PP **PP** **09 55 31.7 +5.2**
LZH S **S** **10 00 43.2 -0.4**
LZH pmax pmax
comp=Z,30nm,1.1s
LZH pmax pmax
comp=Z,350nm,6.9s
LZH LR LR
comp=Z,2µm,17.4s
LZH LR LR
comp=Z,2µm,18.0s
LZH LR LR
comp=Z,5µm,18.4s
TOKA Tokat 50.40 329 P **P** **09 53 31.8 +0.7**
TOKA IAmb IAmb 09 53 51.5
comp=Z,33nm,0.9s
KIV Kislovodsk 50.45 337 P **P** **09 53 30.2 -1.2**
KIV IAmb IAmb 09 53 43.1
comp=Z,47nm,1.2s
KIV Kislovodsk 50.45 337 P **P** **09 53 30.8 -0.5**
KIV P **P** **09 53 30.8 -0.5**
KIV S **S** **10 00 45.6 +0.9**
KIV S **S** **10 00 45.6 +0.9**
KIV Kislovodsk 50.45 337 *e*P **P** **09 53 29.2 -2.2**
KIV *e* 09 55 25.2
KIV *e*S **S** **10 00 42.5 -2.1**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,964nm,17.0s
KIV Kislovodsk 50.45 337 P **P** **09 53 33.8 +2.4**
KIV Kislovodsk 50.45 337 P **P** **09 53 30.6 -0.8**
comp=Z,515nmcomp=Z,17nm,1.0s
ENH Enshi 50.87 48 **P** **09 53 33.4 -1.3**
ENH IAmb IAmb 09 53 42.1
comp=Z,50nm,1.0s
ENH IAMs_20 IAMs_20 10 14 33.5
comp=Z,4µm,21.0s
KIRS Kirsehir-Merke 50.91 326 ⇓P P 09 53 29.1 -5.9
AB31 Akbulak array 50.98 354 P **P** **09 53 32.3 -2.9**
AB31 IAmb IAmb 09 53 42.1
comp=Z,25nm,1.0s
ABKAR Akbulak array 50.98 354 P **P** **09 53 32.4 -2.8**
ZSN Zaisan 51.02 15 *e*P **P** **09 53 34.0 -1.5**
ZSN pmax pmax
comp=Z,46nm,2.1s
ZSN Zaisan 51.02 15 *e*P **P** **09 53 34.1 -1.5**
comp=Z,46nm,2.1s
HKPS Hong Kong Po S 51.13 60 IAMs_20 IAMs_20 10 12 47.7
comp=Z,4µm,22.0s
SOC Sochi 51.38 334 *i*P **P** **09 53 36.9 -1.3**
SOC *e* 09 55 31.3
SOC *e*PPP PPP 09 56 30.6
SOC *e*S **S** **10 00 58.9 +1.6**
SOC *e*SS **SS** **10 04 26.0 -7.3**
SOC *e*SSS SSS 10 05 58.4
SOC MLR MLR
comp=Z,1µm,13.0s
BRZS Berezniki 51.46 4 *e*P **P** **09 53 37.0 -1.8**
BRZS Berezniki 51.46 4 *e*P **P** **09 53 36.1 -2.6**
BRTR Keskin Array B 51.48 327 P **P** **09 53 36.1 -3.1**
comp=Z,5.5nm,1.0s,baz=144,slow=11,SNR=18
BRTR LR LR 10 15 15.7
comp=Z,2µm,18.6s,baz=142,slow=36
comp=Z,5.5nm,1.0s
BRTR Keskin Array B 51.48 327 *ce*P **P** **09 53 39.2 -0.1**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BR131 Keskin Array S 51.48 327 P **P** **09 53 38.5 -0.8**
BR131 IAmb IAmb 09 53 48.2
comp=Z,66nm,1.6s
BR131 Keskin Array S 51.48 327 P **P** **09 53 40.0 +0.7**
SNR=21

BR131 S **S** **10 01 00.8 +1.6**
BR131 Keskin Array S 51.48 327 *i* P **P** **09 53 39.1 -0.2**
ELL Elmali 51.71 321 P **P** **09 53 41.0 0.0**
ELL Elmali 51.71 321 P **P** **09 53 41.0 0.0**
ELL pmax pmax
comp=Z,420nm,2.0s
LABN Labinsk 51.81 336 *e*P **P** **09 53 38.7 -2.8**
LABN *e*PPP PPP 09 56 38.8
LABN *e*S **S** **10 00 59.0 -4.2**
LABN *e*SSS SSS 10 06 12.8
LABN pmax pmax
comp=Z,51nm,0.6s
LABN MLR MLR
comp=Z,1µm,14.0s
TSUM Tsumeb 52.04 247 P **P** **09 53 43.4 -0.4**
TSUM Tsumeb 52.04 247 LR LR 10 14 11.4
comp=Z,5µm,19.3s,baz=97,slow=34
ANTO Ankara 52.05 326 P **P** **09 53 43.5 0.0**
ANTO IAmb IAmb 09 53 55.9
comp=Z,37nm,1.1s
ANTO Ankara 52.05 326 P **P** **09 53 46.2 +2.8**
ANTO P **P** **09 53 46.2 +2.8**
ANTO Ankara 52.05 326 P **P** **09 53 43.5 0.0**
ANTO pmax pmax
comp=Z,37nm,1.2s
ANTO Ankara 52.05 326 P **P** **09 53 42.9 -0.5**
comp=Z,327nmcomp=Z,11nm,1.8s
KAPI Kappang 52.14 95 LR LR 10 16 01.9
comp=Z,3µm,18.6s,baz=262,slow=36
ILGA Ilgaz 52.38 328 P **P** **09 53 45.6 -0.4**
ILGA IAmb IAmb 09 53 55.2
comp=Z,67nm,1.4s
AKTO Aktyubinsk 52.38 352 P **P** **09 53 41.9 -3.7**
comp=Z,9.0nm,0.8s,baz=168,slow=7.7,SNR=5.3
AKTO LR LR 10 15 49.8
comp=Z,970nm,21.7s,baz=180,slow=36
comp=Z,9.0nm,0.8s
XAN Xi'an 52.46 44 ⇑P **P** **09 53 46.8 +0.2**
XAN S **S** **10 01 12.5 -0.1**
XAN ScS **ScS** **10 03 35.3 -1.1**
XAN SS **SS** **10 04 55.2 +4.3**
XAN pmax pmax
comp=Z,110nm,1.0s
XAN pmax pmax
comp=Z,460nm,3.5s
XAN LR LR
comp=Z,4µm,19.9s
XAN LR LR
comp=Z,2µm,17.2s
XAN LR LR
comp=Z,5µm,19.9s
CNSH ChangSha 52.51 52 P **P** **09 53 47.5 +0.5**
CNSH S **S** **10 01 13.1 -0.3**
CNSH pmax pmax
comp=Z,44nm,1.0s
CNSH LR LR
comp=Z,2µm,15.3s
CNSH LR LR
comp=Z,2µm,17.0s
CNSH LR LR
comp=Z,3µm,20.1s
KURBB Kurchatov Arra 52.75 9 P **P** **09 53 45.1 -3.2**
comp=Z,4.1nm,1.0s,baz=203,slow=7.8,SNR=20
KURBB LR LR 10 16 05.2
comp=Z,3µm,21.4s,baz=182,slow=36
comp=Z,4.1nm,1.0s
TAVA DENIZLI_Tavas 52.77 321 ⇑P P 09 53 43.5 -5.4
ERBR Yeremizino-Bor 52.79 336 *e*P **P** **09 53 47.6 -1.1**
ERBR *e*S **S** **10 01 16.9 +0.3**
ERBR *e*SSS SSS 10 06 39.2
ERBR pmax pmax
comp=Z,12nm,0.5s
SEM Semipalatinsk 52.82 10 *e*P **P** **09 53 47.3 -1.8**
SEM pmax pmax
comp=Z,63nm,1.9s
SEM Semipalatinsk 52.82 10 *e*P **P** **09 53 47.4 -1.8**
comp=Z,63nm,1.9s
KURK Kurchatov 52.85 9 P **P** **09 53 47.2 -1.9**
KURK IAmb IAmb 09 53 55.9
comp=Z,41nm,1.2s
KURK Kurchatov 52.85 9 IAMs_20 IAMs_20 10 15 56.8
comp=Z,4µm,21.0s
KURK Kurchatov 52.85 9 P **P** **09 53 51.1 +2.1**
KURK P **P** **09 53 51.1 +2.1**
KURK P **P** **09 53 51.1 +2.1**
KURK Kurchatov 52.85 9*ce*P **P** **09 53 47.6 -1.5**
KURK pmax pmax
comp=Z,27nm,1.7s
TOLI2 Tolitoli 53.21 88 P **P** **09 53 51.0 -1.4**
TOLI2 IAmb IAmb 09 53 59.9
comp=Z,36nm,1.3s
TOLI2 IAMs_20 IAMs_20 10 14 57.9
comp=Z,4µm,20.0s
WIN Windhoek 53.33 243 P **P** **09 53 52.0 -1.4**
WIN Windhoek 53.33 243 P **P** **09 53 52.0 -1.4**
WIN pmax pmax
comp=Z,20nm,1.0s
ANN Anapa 53.35 333 *e*P **P** **09 53 49.9 -2.9**
ANN *e* 09 55 50.6
ANN *e*S **S** **10 01 19.8 -4.4**
ANN pmax pmax
comp=Z,41nm,0.9s
ANN MLR MLR
comp=Z,2µm,17.0s
MDUB Mudurnu 53.36 326 P **P** **09 53 51.7 -1.5**
BORA Eskisehir 53.39 325 P **P** **09 53 51.2 -2.1**
BORA IAmb IAmb 09 54 17.4
comp=Z,30nm,0.8s
MORW Morawa 53.60 126 P **P** **09 53 57.4 +2.3**
comp=Z,30nm,2.1s
IDI Anoyia 54.14 317 P **P** **09 53 57.1 -1.9**
IDI Anoyia 54.14 317 P **P** **09 53 58.7 -0.3**
IDI IAmb IAmb 09 54 37.5
comp=Z,30nm,1.2s
BVAR Borovoye Array 54.37 2 P **P** **09 53 57.4 -2.8**
comp=Z,1.5nm,0.6s,baz=164,slow=6.0,SNR=8.2
BVAR LR LR 10 18 09.8
comp=Z,2µm,18.7s,baz=189,slow=37
comp=Z,1.5nm,0.6s
MBWA Marble Bar 54.38 115 P **P** **09 54 02.3 +1.4**
comp=Z,16nm,2.9s
BRVK Borovoye 54.40 2 P **P** **09 54 00.1 -0.3**
BRVK IAmb IAmb 09 54 12.9
comp=Z,34nm,1.2s
BRVK Borovoye 54.40 2 P **P** **09 54 02.4 +2.0**
BRVK P **P** **09 54 02.4 +2.0**
BRVK Borovoye 54.40 2*ce*P **P** **09 53 59.1 -1.3**
BRVK pmax pmax
comp=Z,17nm,1.7s
H01W3 Cape Leeuwin H 54.52 133 T T 10 53 15.3
baz=299,slow=75,SNR=11
H01W2 Cape Leeuwin H 54.53 133 T T 10 53 15.8
baz=299,slow=75,SNR=9.9
H01W1 Cape Leeuwin H 54.54 133 T T 10 53 16.8
baz=299,slow=75,SNR=9.9
WHN Wuhan 54.68 50 ⇓P **P** **09 54 04.3 +1.5**
WHN S **S** **10 01 43.8 +1.1**
WHN SS **SS** **10 05 30.5 +4.6**
WHN pmax pmax
comp=Z,120nm,1.0s
WHN LR LR
comp=Z,2µm,13.1s
WHN LR LR
comp=Z,5µm,13.0s
WHN LR LR
comp=Z,9µm,18.2s
MMRI Maumere 54.80 99 P **P** **09 54 02.3 -1.7**
MEEK Meekatharra 54.91 122 P P 09 54 13.9 +9.3
TGY Tagaytay City 55.02 72 LR LR 10 14 56.7
comp=Z,4µm,21.1s,baz=272,slow=33
LUWI Luwuk 55.13 90 P **P** **09 54 05.4 -1.0**
LUWI Luwuk 55.13 90 IAMs_20 IAMs_20 10 14 35.6
comp=Z,4µm,22.0s
LYN LuoYang 55.22 45 P **P** **09 54 08.1 +1.4**
LYN S **S** **10 01 52.2 +2.4**
LYN SS **SS** **10 05 40.2 +5.9**
LYN pmax pmax
comp=Z,26nm,0.8s
LYN pmax pmax
comp=Z,420nm,5.0s
LYN LR LR
comp=Z,4µm,19.2s
LYN LR LR
comp=Z,2µm,23.0s
LYN LR LR
comp=Z,5µm,18.9s

KNMB Chin-men Tao 55.55 59 P **P** **09 54 07.2 -2.1**
KNMB IAMs_20 IAMs_20 10 16 36.8
comp=Z,4µm,20.0s
EZN Ezine 55.82 322 ⇑P P 09 54 02.3 -8.5
EZN Ezine 55.82 322 ⇑P P 09 54 02.3 -8.6
QZH Quanzhou 55.89 58 *e*P **P** **09 54 13.0 +1.3**
QZH S **S** **10 02 03.4 +4.3**
QZH LR LR
comp=Z,3µm,16.8s
QZH LR LR
comp=Z,4µm,19.2s
QZH LR LR
comp=Z,5µm,19.9s
KLBR Kellerberrin 55.91 128 P **P** **09 54 13.9 +2.1**
comp=Z,20nm,0.8s
NWAO Narrogin (SRO) 56.02 129 LR LR 10 14 25.4
comp=Z,1µm,19.3s,baz=292,slow=32
BELG Belogornoye 56.28 345 *i*P **P** **09 54 11.1 -2.8**
comp=Z,3µm,21.6s,baz=137,slow=37
BELG Belogornoye 56.28 345 *i*P **P** **09 54 11.1 -2.8**
BELG pmax pmax
comp=Z,9.0nm,1.0s
BATI Baumata 56.33 101 LR LR 10 17 28.6
comp=Z,7µm,21.8s,baz=278,slow=35
ALN Alexandroupoli 56.64 323 P **P** **09 54 15.2 -1.5**
ALN Alexandroupoli 56.64 323 P **P** **09 54 15.2 -1.5**
ALN pmax pmax
comp=Z,11nm,1.0s
TIY Taiyuan 56.86 42 *e*P **P** **09 54 17.6 -0.8**
TIY S **S** **10 02 12.1 +0.4**
TIY SS **SS** **10 06 04.0 +3.8**
TIY pmax pmax
comp=Z,190nm,4.7s
TIY LR LR
comp=Z,3µm,18.6s
TIY LR LR
comp=Z,1µm,18.5s
TIY LR LR
comp=Z,2µm,19.2s
SOEI Soe 56.89 101 P **P** **09 54 21.9 +2.8**
SOEI Soe 56.89 101 P **P** **09 54 17.6 -1.6**
SOEI IAMs_20 IAMs_20 10 18 50.3
comp=Z,3µm,21.0s
VRH Novokhopyorsk 56.94 341 *e*P **P** **09 54 19.2 +0.6**
VRH pmax pmax
comp=Z,10.0nm,1.0s
BTO Baotou 56.95 38 *e*P **P** **09 54 20.1 +1.0**
BTO pP **sP** **09 54 24.8 +0.4**
BTO PP **PP** **09 56 28.1 +2.3**
BTO S **S** **10 02 13.4 +0.5**
BTO SS **SS** **10 05 59.2 -2.4**
BTO pmax pmax
comp=Z,33nm,1.7s
BTO pmax pmax
comp=Z,630nm,7.8s
BTO LR LR
comp=Z,6µm,24.7s
BTO LR LR
comp=Z,5µm,21.8s
BTO LR LR
comp=Z,8µm,22.8s
ZAA0 Zalesovo Array 57.07 12 P **P** **09 54 18.3 -1.3**
ZALV Zalesovo Beam 57.07 12 P **P** **09 54 17.6 -1.9**
ZALV Zalesovo Beam 57.07 12 P **P** **09 54 16.6 -3.0**
comp=Z,3.8nm,0.6s,baz=207,slow=6.3,SNR=12
ZALV LR LR 10 19 13.0
comp=Z,3µm,21.8s,baz=206,slow=37
comp=Z,3.8nm,0.6s
ZALV Zalesovo Beam 57.07 12 *i*P **P** **09 54 17.7 -1.9**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
RDO Rodhopi 57.09 323 P **P** **09 54 18.8 -1.2**
RDO IAmb IAmb 09 54 38.8
comp=Z,26nm,1.4s
TPUB Ta-pu 57.12 61 IAMs_20 IAMs_20 10 16 23.1
comp=Z,4µm,22.0s
PRD Provadia 57.26 326 *e*P **P** **09 54 23.1 +2.1**
TWG Pinlang 57.36 62 IAMs_20 IAMs_20 10 18 29.7
comp=Z,3µm,20.0s
KDZ Kurdzhali 57.50 323 *e*P **P** **09 54 25.4 +2.5**
SSLB Suanglung 57.55 61 IAMs_20 IAMs_20 10 21 18.6
comp=Z,3µm,18.0s
TIRR Tirgusor 57.55 328 P **P** **09 54 21.5 -1.6**
TIRR IAmb IAmb 09 54 31.5
comp=Z,32nm,1.3s
TIRR Tirgusor 57.55 328 ⇓P P 09 54 15.4 -7.6
TIRR Tirgusor 57.55 328 ⇓P P 09 54 15.4 -7.7
VORD Divnogorie 57.57 339 *e*P **P** **09 54 21.0 -2.1**
VORD pmax pmax
comp=Z,30nm,1.0s
YULB Yu-li 57.73 61 P **P** **09 54 22.9 -1.9**
VSR Storozhevoye 57.82 339 *e*P **P** **09 54 22.8 -2.1**
VSR pmax pmax
comp=Z,20nm,1.0s
HHC Hu-ho-hao-te 58.05 38 ⇑*i*P **P** **09 54 27.9 +1.1**
HHC S **S** **10 02 27.0 -0.3**
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,290nm,4.4s
HHC LR LR
comp=Z,1µm,16.8s
HHC LR LR
comp=Z,2µm,17.7s
HHC LR LR
comp=Z,1µm,17.7s
CFR Carcaliu 58.17 328 ⇑P P 09 54 19.5 -7.9
CFR Carcaliu 58.17 328 ⇑P P 09 54 19.5 -8.0
ARTI Arti 58.18 354 P **P** **09 54 26.6 -0.7**
ARTI IAmb IAmb 09 54 33.9
comp=Z,25nm,1.0s
ARTI Arti 58.18 354 P **P** **09 54 23.3 -4.0**
comp=Z,7.8nm,0.9s,baz=195,slow=4.8,SNR=9.7
ARTI LR LR 10 20 34.8
comp=Z,1µm,18.6s,baz=166,slow=37
comp=Z,7.8nm,0.9s
ARTI Arti 58.18 354*c* *i*P **P** **09 54 26.7 -0.6**
ARTI 09 55 23.5
ARTI 09 56 35.8
ARTI PPP PPP 09 57 54.5
ARTI S **S** **10 02 30.0 +1.7**
ARTI SS **SS** **10 06 13.7 -6.5**
ARTI pmax pmax
comp=Z,33nm,1.8s
ARTI MLR MLR
comp=Z,2µm,18.0s
YHNB Yeheng 58.19 60 IAMs_20 IAMs_20 10 18 43.6
comp=Z,3µm,20.0s
NACB Ninganchiao 58.23 60 IAMs_20 IAMs_20 10 18 23.5
comp=Z,3µm,20.0s
HNS HongShan 58.23 43 ⇑P **P** **09 54 29.3 +1.3**
HNS S **S** **10 02 29.6 +0.1**
HNS pmax pmax
comp=Z,18nm,0.8s
HNS LR LR
comp=Z,2µm,18.6s
HNS LR LR
comp=Z,1µm,16.3s
HNS LR LR
comp=Z,2µm,20.8s
SANI Sanana 58.33 91 P **P** **09 54 31.0 +1.8**
TATO Taipei 58.38 59 IAMs_20 IAMs_20 10 18 59.9
comp=Z,3µm,19.0s
SVE Sverdlovsk 58.41 355 *e*P **P** **09 54 28.7 -0.2**
SVE *e*S **S** **10 02 35.1 +3.9**
SVE *e*SS **SS** **10 06 26.7 +3.0**
SVE *e*SSS SSS 10 08 49.9
SVE pmax pmax
comp=Z,46nm,1.6s
SVE MLR MLR
comp=Z,2µm,18.0s
MMB Musomishta 58.42 322 *e*P **P** **09 54 32.1 +2.8**
NJ2 Nanjing 58.80 51 ⇑P **P** **09 54 33.3 +1.2**
NJ2 S **S** **10 02 38.6 +1.4**
NJ2 SS **SS** **10 06 35.0 +4.2**
NJ2 pmax pmax
comp=Z,49nm,0.9s
NJ2 pmax pmax
comp=Z,320nm,3.8s
NJ2 LR LR
comp=Z,1µm,22.3s
NJ2 LR LR
comp=Z,3µm,22.3s
NJ2 LR LR
comp=Z,3µm,18.9s

KKB Krupnik 58.97 322 *e*P **P** **09 54 35.8 +2.7**
ISR Istrita 58.99 327 ⇑P P 09 54 25.3 -8.0
ISR Istrita 58.99 327 ⇑P P 09 54 25.3 -8.0
MILM Milestii Mici 59.00 330 *e*P **P** **09 54 31.0 -2.2**
comp=Z,260nm,3.2s
MILM Milestii Mici 59.00 330 *e*PP PP 09 56 45.0 +1.3
MILM Milestii Mici 59.00 330 ⇓P P 09 54 25.5 -7.7
MILM Milestii Mici 59.00 330 *e*P **P** **09 54 31.0 -2.2**
MILM *e* 09 56 45.0
MILM *i* 10 02 38.0
MILM pmax pmax
comp=Z,260nm,3.2s
MILM MLR MLR
comp=Z,1µm,16.0s
KIS Kishinev 59.05 330 *e*P **P** **09 54 31.0 -2.5**
KIS *e* 10 02 40.0
KIS pmax pmax
comp=Z,130nm,4.1s
KIS MLR MLR
comp=Z,400nm,18.5s
LPSR Galich'ya Gora 59.05 340 *e*P P 09 54 28.1 -5.3
LPSR pmax pmax
comp=Z,40nm,1.0s
PLNA Plana 59.15 323 *e*P **P** **09 54 36.3 +1.8**
FITZ Fitzroy Crossi 59.22 110 P **P** **09 54 35.0 -0.3**
FITZ Fitzroy Crossi 59.22 110 P **P** **09 54 36.6 +1.3**
comp=Z,2.8nm,1.2s
FITZ Fitzroy Crossi 59.22 110 LR LR 10 19 22.5
comp=Z,3µm,18.3s,baz=284,slow=35
TIA Tai'an 59.34 46 P **P** **09 54 36.4 +0.6**
TIA S **S** **10 02 45.3 +1.2**
TIA pmax pmax
comp=Z,18nm,1.0s
TIA pmax pmax
comp=Z,250nm,4.1s
TIA LR LR
comp=Z,2µm,18.9s
TIA LR LR
comp=Z,2µm,19.6s
TIA LR LR
comp=Z,3µm,20.6s
VTS Vitosha 59.35 323 *e*P **P** **09 54 38.8 +2.9**
VRI Vrincioaia 59.37 328 ⇑P P 09 54 30.4 -5.5
VRI Vrincioaia 59.37 328 ⇑P P 09 54 30.4 -5.5
VRI Vrincioaia 59.37 328 P **P** **09 54 35.5 -0.4**
comp=Z,714nmcomp=Z,45nm,1.2s
PLOR Plostina 59.41 328 ⇑P P 09 54 21.9 -14
PLOR Plostina 59.41 328 ⇑P P 09 54 21.9 -14
MPEP Malo Peshtene 59.48 324 *e*P **P** **09 54 39.7 +3.0**
YOJ Yonaguni jima 59.54 60 IAMs_20 IAMs_20 10 19 27.5
comp=Z,3µm,21.0s
MLR Muntele Rosu 59.55 327 P **P** **09 54 36.4 -0.9**
MLR Muntele Rosu 59.55 327 LR LR 10 19 41.3
comp=Z,2µm,21.2s,baz=136,slow=36
MLR Muntele Rosu 59.55 327 ⇑P P 09 54 26.7 -11
MLR Muntele Rosu 59.55 327 P **P** **09 54 36.4 -0.9**
MLR Muntele Rosu 59.55 327 P **P** **09 54 36.7 -0.5**
comp=Z,559nmcomp=Z,69nm,0.7s
SONM Songino Array 59.60 29 P **P** **09 54 37.0 -0.5**
SONM IAmb IAmb 09 54 51.2
comp=Z,34nm,1.0s
SONM Songino Array 59.60 29 P **P** **09 54 36.3 -1.2**
comp=Z,10nm,0.9s,baz=223,slow=5.7,SNR=39
SONM LR LR 10 20 22.3
comp=Z,7µm,18.8s,baz=222,slow=36
comp=Z,10nm,0.9s
SONM Songino Array 59.60 29 P **P** **09 54 37.0 -0.5**
SONM pmax pmax
comp=Z,34nm,1.0s
TESR Tescani 59.84 328 ⇑P **P** **09 54 38.5 -0.5**
TESR Tescani 59.84 328 P **P** **09 54 38.7 -0.3**
comp=Z,671nmcomp=Z,24nm,1.2s
ONER Baraj Valea Uz 59.85 328 ⇑P **P** **09 54 37.5 -1.6**
KEK Kerkira 59.92 319 P **P** **09 54 38.5 -1.3**
ULN Ulaanbaatar 59.94 30 P **P** **09 54 40.1 +0.2**
ULN IAmb IAmb 09 54 53.2
comp=Z,22nm,1.1s
ULN Ulaanbaatar 59.94 30 P **P** **09 54 40.7 +0.8**
ULN P **P** **09 54 40.7 +0.8**
ULN Ulaanbaatar 59.94 30*ce*P **P** **09 54 40.8 +0.8**
ULN pmax pmax
comp=Z,25nm,1.7s
ZAK Zakamensk 59.99 26 *e*P **P** **09 54 40.0 -0.1**
ZAK pmax pmax
comp=Z,12nm,1.5s
MOY Mondy 60.02 23 *e*P **P** **09 54 39.6 -0.7**
MOY pmax pmax
comp=Z,39nm,2.7s
SORM Soroca 60.06 331 ⇑P **P** **09 54 38.5 -2.0**
SORM Soroca 60.06 331 ⇑P **P** **09 54 38.5 -2.0**
ARR Arges 60.19 326 ⇓P P 09 54 31.5 -10
SSE Sheshan 60.26 53 P **P** **09 54 42.1 -0.1**
SSE S **S** **10 02 57.4 +1.4**
SSE pmax pmax
comp=Z,24nm,0.9s
SSE pmax pmax
comp=Z,160nm,7.3s
SSE LR LR
comp=Z,540nm,16.8s
SSE LR LR
comp=Z,820nm,16.8s
BJI Beijing 60.56 41 P **P** **09 54 45.4 +1.3**
BJI PP **PP** **09 57 01.1 +3.4**
BJI S **S** **10 03 01.1 +1.5**
BJI SS **SS** **10 06 57.3 -0.8**
BJI pmax pmax
comp=Z,9.0nm,1.0s
BJI pmax pmax
comp=Z,120nm,5.4s
BJI LR LR
comp=Z,810nm,14.0s
BJI LR LR
comp=Z,610nm,15.9s
BJI LR LR
comp=Z,1µm,19.3s
BOVS Bovan 60.85 323 ⇑P **P** **09 54 43.4 -2.6**
KMPD K-Podol'skiy 61.28 330 P **P** **09 54 47.9 -0.9**
BURAR Bucovina Array 61.30 329 P **P** **09 54 48.4 -0.7**
BURAR Bucovina Array 61.30 329 ⇓P **P** **09 54 47.0 -2.1**
BURAR Bucovina Array 61.30 329 ⇓P **P** **09 54 47.0 -2.1**
BUR08 Bucovina Ar. S 61.32 329 P **P** **09 54 47.3 -2.0**
AK07 Malin Array Si 61.34 333 P **P** **09 54 48.2 -0.9**
AK06 Malin Array Si 61.36 333 P **P** **09 54 48.4 -0.9**
AK12 Malin Array Si 61.42 333 P **P** **09 54 49.0 -0.7**
AKASG Malin Array Be 61.43 333 P **P** **09 54 47.3 -2.5**
comp=Z,0.4nm,0.3s,baz=126,slow=5.9,SNR=10
AKASG PP **PP** **09 57 03.7 -1.5**
comp=Z,0.3nm,0.3s,baz=133,slow=6.8,SNR=4.3
AKASG LR LR 10 23 07.9
comp=Z,2µm,20.1s,baz=133,slow=38
comp=Z,0.4nm,0.3s
AKASG Malin Array Be 61.43 333 *i*P **P** **09 54 52.2 +2.4**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 61.43 333 P **P** **09 54 48.8 -1.0**
AKBB IAmb IAmb 09 55 05.4
comp=Z,38nm,1.4s
AKBB Malin Array Si 61.43 333*ce*P **P** **09 54 49.1 -0.7**
AKBB pmax pmax
comp=Z,22nm,1.5s
AKBB Malin Array Si 61.43 333 P **P** **09 54 49.0 -0.7**
KIEV Kiev 61.44 333 P **P** **09 54 48.6 -1.2**
KIEV IAmb IAmb 09 55 05.4
comp=Z,34nm,1.4s
KIEV Kiev 61.44 333 ⇑P **P** **09 54 49.0 -0.8**
KIEV Kiev 61.44 333 ⇑P **P** **09 54 49.0 -0.8**
MDVR Moldovita 61.50 324 ⇑P **P** **09 54 47.4 -3.1**
LUBAR Lubar, Ukraine 61.56 332 P **P** **09 54 49.8 -0.9**
KIRV Kirov 61.62 349 LR LR 10 23 37.6
comp=Z,907nm,18.0s,baz=162,slow=38
KIRV Kirov 61.62 349*ce*P **P** **09 54 51.0 +0.1**
PDG Podgorica 61.69 321 P **P** **09 54 50.2 -1.5**
PDG Podgorica 61.69 321 ⇓P **P** **09 54 51.2 -0.5**
TIP Timpagrande 61.70 317 P **P** **09 54 51.2 -0.8**
TIP IAmb IAmb 09 55 36.0
comp=Z,23nm,1.5s
IRK Irkutsk 61.78 25 *e*P **P** **09 54 54.2 +2.0**
IRK pmax pmax
comp=Z,80nm,2.4s
KSV Kosov 61.82 329 P **P** **09 54 51.5 -1.0**
MARR Marisel-Cluj 61.83 327 ⇓P **P** **09 54 50.1 -2.7**
SURR Surduc 61.83 325 ⇑P **P** **09 54 52.2 -0.4**
OBN Obninsk 61.91 340 LR LR 10 24 08.3
comp=Z,773nm,19.4s,baz=70,slow=39

OBN	**Obninsk**	**61.91**	**340**	*i*	P		**P**		09 54 51.6	-1.3	**WC1**	**Warramunga Arr**	**67.62**	**111**		P		**P**		09 55 32.0	+1.0	**DBIC**	**Dimbokro**	**72.79**	**277**		P		**P**		09 56 01.0	-1.7
OBN				*i*					09 55 27.4		**WRA**	**Warramunga Arr**	**67.63**	**111**		P		**P**		09 55 31.1	+0.2	DBIC					lAmb		lAmb		09 56 26.1	
OBN				*i*					09 57 12.8		**WRA**	**Warramunga Arr**	**67.63**	**111**		P		**P**		09 55 31.2	+0.2		comp=Z,56nm,1.4s									
OBN					pmax		pmax					comp=Z,2,2nm,0.8s,baz=289,slow=5.7,SNR=12										**DBIC**	**Dimbokro**	**72.79**	**277**		P		**P**		09 56 01.1	-1.7
	comp=Z,12nm,0.5s										WRA					LR		LR		10 20 50.6			comp=Z,5.6nm,0.8s,baz=79,slow=4.7,SNR=3.4									
MI30	**MI30,Zelenitsa**	**61.93**	**333**		P		**P**		**09 54 51.8**	**-1.4**		comp=Z,2µm,21.9s,baz=291,slow=32										DBIC					LR		LR		10 25 56.6	
	comp=Z,30nm,1.1s											comp=Z,2.2nm,0.8s											comp=Z,2µm,21.9s,baz=106,slow=34									
MOS	**Moscow**	**62.08**	**341**	*e*	P		**P**		**09 54 52.2**	**-1.8**	**WRAB**	**Tennant Creek**	**67.64**	**111**		P		**P**		**09 55 31.2**	**+0.2**		comp=Z,5.6nm,0.8s									
MOS				*e*	S		**S**		**10 03 19.7**	**+1.4**	WRAB					lAmb		lAmb		09 55 49.0		**DBIC**	**Dimbokro**	**72.79**	**277**		P		**P**		**09 56 01.0**	**-1.7**
MOS					pmax		pmax					comp=Z,25nm,0.9s										DBIC					pmax		pmax			
	comp=Z,33nm,0.6s										WRAB					IAMs_20		IAMs_20		10 20 52.0			comp=Z,1.5nm,0.7s									
MOS					MLR		MLR					comp=Z,3µm,20.0s										**APA**	**Apatity**	**72.94**	**347**	*i*	P		**P**		**09 56 01.2**	**-1.3**
	comp=Z,2µm,19.0s										**WRAB**	**Tennant Creek**	**67.64**	**111**	*i*	P		**P**		**09 55 30.4**	**-0.6**	APA				*i*					09 58 45.2	
SIRR	**Siria**	**62.40**	**326**	⇑	P		**P**		**09 54 56.0**	**-0.4**	WRAB					pmax		pmax				APA				*i*	S		**S**		**10 05 20.4**	**-8.0**
XLT	**XiLinHaoTe**	**62.52**	**38**	*e*	P		**P**		**09 54 58.8**	**+1.4**		comp=Z,45nm,1.4s										APA					SS		**SS**		**10 10 08.8**	**-0.3**
XLT					pP		sP		09 55 03.8	+1.1	**WB0**	**Warramunga Arr**	**67.66**	**111**		P		**P**		**09 55 30.5**	**-0.7**	APA					pmax		pmax			
XLT					S		**S**		**10 03 24.6**	**0.0**	**ASAR**	**Alice Springs**	**67.72**	**115**		P		**P**		**09 55 31.6**	**0.0**		comp=Z,5.0nm,1.0s									
XLT					ScS		**SKSac**		**10 04 47.5**	**-2.0**	**ASAR**	**Alice Springs**	**67.72**	**115**		P		**P**		**09 55 32.3**	**+0.8**	**USA0B**	**Ussuriysk Arra**	**72.95**	**43**		P		**P**		**09 56 03.2**	**+0.1**
XLT					pmax		pmax					comp=Z,2.4nm,0.7s,baz=280,slow=6.3,SNR=18										USA0B					lAmb		lAmb		09 56 21.3	
	comp=Z,12nm,0.9s										ASAR					LR		LR		10 20 42.5			comp=Z,26nm,1.5s									
XLT					pmax		pmax					comp=Z,2µm,21.9s,baz=282,slow=32										**USA0B**	**Ussuriysk Arra**	**72.95**	**43**	*i*	P		**P**		**09 56 02.8**	**-0.3**
	comp=Z,230nm,3.5s											comp=Z,2.4nm,0.7s										**USRK**	**Ussuriysk Ar.**	**72.95**	**43**				**P**		**09 56 01.9**	**-1.2**
XLT					LR		LR				**AS31**	**Alice Springs**	**67.72**	**115**		P		**P**		**09 55 30.8**	**-0.8**	**USRK**	**Ussuriysk Ar.**	**72.95**	**43**		P		**P**		**09 56 02.3**	**-0.7**
	comp=Z,190nm,19.6s										**KSAR**	**Wonju Array Be**	**67.72**	**48**		P		**P**		**09 55 30.5**	**-0.7**		comp=Z,2.8nm,0.8s,baz=290,slow=5.7,SNR=8.6									
XLT					LR		LR				**KSAR**	**Wonju Array Be**	**67.72**	**48**		P		**P**		**09 55 30.5**	**-0.7**	USRK					LR		LR		10 29 51.7	
	comp=Z,1µm,14.5s										**KS19**	**Wonju Array Si**	**67.73**	**48**		P		**P**		**09 55 30.1**	**-1.1**		comp=Z,960nm,20.6s,baz=245,slow=37									
XLT					LR		LR				KS19					lAmb		lAmb		09 56 00.8			comp=Z,2.8nm,0.8s									
	comp=Z,960nm,14.5s											comp=Z,16nm,1.2s										**JAY**	**Jayapura**	**73.03**	**92**		LR		LR		10 28 01.6	
WRKA	**Warakurna**	**62.93**	**117**		P		**P**		**09 55 02.4**	**+2.0**	**KSRS**	**Korea Array**	**67.75**	**48**		P		**P**		**09 55 31.1**	**-0.3**		comp=Z,1µm,21.4s,baz=250,slow=36									
	comp=Z,8.4nm,1.8s											comp=Z,12nm,1.0s,baz=251,slow=7.3,SNR=21										**BHOU**	**Houvegnez**	**73.47**	**324**	*d*	P		**P**		**09 56 06.2**	**+0.1**
HOLU	**Holmets**	**63.35**	**328**		P		**P**		**09 55 02.2**	**-0.5**		comp=Z,12nm,1.0s										**ZEA**	**Zeya**	**73.77**	**32**	*e*	P		**P**		**09 56 08.8**	**+1.1**
SGRT	**San Giovanni R**	**63.61**	**319**		P		**P**		**09 55 04.3**	**-0.3**	**WR8**	**Warramunga Arr**	**67.78**	**111**		P		**P**		**09 55 30.7**	**-1.2**	ZEA				*e*					09 56 20.0	
SGRT					lAmb		lAmb		09 55 15.4		WR8					lAmb		lAmb		09 55 44.1		ZEA				*e*					09 58 50.6	
	comp=Z,27nm,0.9s											comp=Z,19nm,0.8s										ZEA				*e*S		**S**		**10 05 44.5**	**+6.2**
DL2	**Dalian**	**63.75**	**45**		P		**P**		**09 55 06.6**	**+1.1**	**AS07**	**Alice Springs**	**67.78**	**115**		P		**P**		**09 55 33.8**	**+1.9**	ZEA					pmax		pmax			
DL2					S		**S**		**10 03 39.8**	**-0.1**		comp=Z,21nm,0.9s											comp=Z,10.0nm,1.0s									
DL2					pmax		pmax				**BIOA**	**Bad Ischl, Aus**	**67.79**	**324**	*e*pP		pP		09 55 36.1	+0.8	ZEA					pmax		pmax			
	comp=Z,25nm,1.0s											comp=Z,11nm,0.9s											comp=Z,100nm,4.3s									
DL2					pmax		pmax				**WR0**	**Warramunga Arr**	**67.82**	**111**		P		**P**		**09 55 31.5**	**-0.7**	ZEA					smax		smax			
	comp=Z,240nm,5.9s										WR0					lAmb		lAmb		09 55 44.3			comp=E,400nm,18.3s									
DL2					LR		LR					comp=Z,22nm,0.8s										ZEA					smax		smax			
	comp=Z,2µm,16.6s										**ZCCA**	**Zocca**	**67.90**	**320**		P		**P**		**09 55 31.0**	**-1.2**		comp=N,800nm,14.2s									
DL2					LR		LR				**ABTA**	**Abfaltersbach**	**68.02**	**323**	*i*	P		**P**		**09 55 32.9**	**-0.1**	ZEA					MLR		MLR			
	comp=Z,3µm,17.6s											comp=Z,4.2nm,0.8s											comp=E,1µm,16.0s									
DL2					LR		LR				**LESA**	**Schwarzleotal**	**68.23**	**323**	*i*	P		**P**		**09 55 33.5**	**-0.9**	ZEA					MLR		MLR			
	comp=Z,4µm,17.8s											comp=Z,3.0nm,0.9s											comp=N,700nm,20.0s									
MORH	**Mrgy, Hungar**	**64.09**	**324**	⇑	P		**P**		**09 55 07.7**	**+0.1**	**GEC2**	**GERESS Array S**	**68.32**	**325**		P		**P**		**09 55 32.6**	**-2.3**	ZEA					MLR		MLR			
MORH	**Mrgy, Hungar**	**64.09**	**324**		P		**P**		**09 55 07.2**	**-0.4**	GEC2					lAmb		lAmb		09 55 33.1			comp=Z,1µm,20.0s									
	comp=Z,267nmcomp=Z,10nm,1.2s											comp=Z,12nm,0.7s										**BCLA**	**Clavier**	**73.91**	**324**	*d*	P		**P**		**09 56 06.6**	**-2.0**
STHS	**Stebnicka Huta**	**64.49**	**328**	*e*	P		P		09 55 15.7	+5.5	**GERES**	**GERESS Array B**	**68.32**	**325**		P		**P**		**09 55 32.5**	**-2.3**	BCLA				*d*	PP		**PP**		**09 58 56.2**	**+2.5**
STHS	**Stebnicka Huta**	**64.49**	**328**	*e*	P		P		09 55 15.7	+5.5	**GERES**	**GERESS Array B**	**68.32**	**325**		P		**P**		**09 55 32.5**	**-2.3**	**BGES**	**Gesves**	**74.03**	**324**	*d*	P		**P**		**09 56 09.7**	**+0.4**
MNK	**Minsk**	**64.70**	**336**	*i*	P		**P**		**09 55 07.2**	**-4.3**	**JNU**	**Nakatsue**	**68.68**	**54**		IAMs_20		IAMs_20		10 26 02.2		BGES				*d*	PP		**PP**		**09 58 57.2**	**+2.6**
MNK				*i*					09 55 41.0			comp=Z,2µm,20.0s										**INU**	**Inuyama**	**74.17**	**53**		P		**P**		**09 56 09.5**	**-0.9**
MNK				*i*					09 57 29.1		**JNU**	**Nakatsue**	**68.68**	**54**		LR		LR		10 26 33.2		INU					lAmb		lAmb		09 56 12.7	
MNK				*i*	PPP		PPP		09 59 00.2			comp=Z,2µm,19.6s,baz=254,slow=37											comp=Z,31nm,1.1s									
MNK				*i*	S		**S**		**10 03 47.3**	**-3.9**	**WTTA**	**Wattenberg**	**68.79**	**323**	*i*	pP		pP		09 55 42.6	+0.8	**HFS**	**Hagfors**	**74.21**	**335**		P		**P**		**09 56 08.8**	**-1.3**
MNK				*i*					10 05 01.6			comp=Z,9.8nm,0.9s											comp=Z,3.9nm,0.8s,baz=214,slow=5.0,SNR=4.9									
MNK				*i*	SS		**SS**		**10 07 58.9**	**-3.5**	**WATA**	**Walderalm**	**68.86**	**323**	*e*pP		pP		09 55 40.7	-1.5	HFS					LR		LR		10 28 46.6	
MNK					pmax		pmax					comp=Z,2.4nm,0.6s											comp=Z,1µm,21.6s,baz=124,slow=36									
	comp=N,24nm,1.0s										**SQTA**	**Sankt Quirin**	**69.03**	**323**	*i*	P		**P**		**09 55 41.0**	**+1.7**		comp=Z,3.9nm,0.8s									
MNK					pmax		pmax					comp=Z,19nm,0.8s										**KLR**	**Kul'dur**	**74.54**	**38**		LR		LR		10 31 48.4	
	comp=E,15nm,0.8s										**MOTA**	**Moosalm**	**69.15**	**323**	*i*	P		**P**		**09 55 38.6**	**-1.5**		comp=Z,990nm,18.3s,baz=242,slow=38									
MNK					pmax		pmax					comp=Z,3.1nm,0.7s										**KLR**	**Kul'dur**	**74.54**	**38**	*i*	P		**P**		**09 56 10.4**	**-1.9**
	comp=Z,9.0nm,0.7s										**BRG**	**Berggiesshubel**	**69.20**	**327**	*e*P		P		**09 55 42.7**	**+2.5**	KLR					pmax		pmax			
MNK					MLR		MLR				BRG					Amp				09 55 46.3			comp=Z,16nm,1.1s									
	comp=E,1µm,20.0s											comp=Z,3.3nm,0.8s										**ECHE**	**Chera**	**74.61**	**312**		P		**P**		**09 56 10.6**	**-2.3**
MNK					MLR		MLR				**BRG**	**Berggiesshubel**	**69.20**	**327**		S		**S**		**10 04 43.0**	**-2.7**	**JSG**	**Sagara**	**74.95**	**54**		IAMs_20		IAMs_20		10 29 10.2	
	comp=N,1µm,20.0s										**BRG**	**Berggiesshubel**	**69.20**	**327**		SS		SS		10 09 09.0	-3.3		comp=Z,2µm,22.0s									
MNK					MLR		MLR				**FETA**	**Feichten**	**69.23**	**322**	*i*	P		**P**		**09 55 40.0**	**-0.7**	**MJB9**	**Matsu-Tunnel**	**75.38**	**52**		P		**P**		**09 56 17.7**	**+0.2**
	comp=Z,2µm,20.0s											comp=Z,5.6nm,1.4s										**MAJO**	**Matsushiro**	**75.38**	**52**		P		**P**		**09 56 16.7**	**-0.7**
JOW	**Kunigami**	**64.77**	**59**		IAMs_20		IAMs_20		10 24 49.8		**FUORN**	**Ofenpass-Fuorn**	**69.34**	**322**		P		**P**		**09 55 40.9**	**-0.6**	MAJO					lAmb		lAmb		09 56 31.9	
	comp=Z,3µm,20.0s										FUORN					lAmb		lAmb		09 55 53.2			comp=Z,18nm,1.1s									
JOW	**Kunigami**	**64.77**	**59**		LR		LR		10 22 39.9			comp=Z,24nm,0.9s										**MAJO**	**Matsushiro**	**75.38**	**52**	*i*	P		**P**		**09 56 14.3**	**-3.2**
	comp=Z,2µm,21.1s,baz=277,slow=35										**RETA**	**Reutte**	**69.42**	**323**	*i*	P		**P**		**09 55 43.0**	**+1.3**	MAJO					pmax		pmax			
TAM	**Tamanrasset**	**65.06**	**296**		IAMs_20		IAMs_20		10 21 54.7			comp=Z,2.3nm,0.6s											comp=Z,55nm,2.5s									
	comp=Z,2µm,18.0s										**DAVOX**	**Davos/Dischmat**	**69.65**	**322**		LR		LR		10 26 22.7		**MJAR**	**Matsushiro Arr**	**75.38**	**52**		P		**P**		**09 56 16.8**	**-0.7**
VYHS	**Vyhne**	**65.25**	**327**	*e*	P		**P**		**09 55 18.4**	**+3.2**		comp=Z,1µm,21.9s,baz=105,slow=36										**MJAR**	**Matsushiro Arr**	**75.38**	**52**		P		**P**		**09 56 18.4**	**+1.0**
VYHS	**Vyhne**	**65.25**	**327**	*e*	P		**P**		**09 55 18.4**	**+3.2**	**TUE**	**Stuetta**	**69.85**	**321**		P		**P**		**09 55 44.1**	**-0.4**		comp=Z,5.3nm,0.9s,baz=263,slow=7.6,SNR=12									
MPLH	**Magyarpolny**	**65.25**	**325**		P		**P**		**09 55 14.7**	**-0.5**	TUE					lAmb		lAmb		09 55 59.0		MJAR					LR		LR		10 30 21.9	
	comp=Z,36nm,1.3s											comp=Z,20nm,1.2s											comp=Z,1µm,19.8s,baz=235,slow=36									
LANS	**Liptovska Anna**	**65.27**	**327**	*e*	P		P		09 55 20.5	+5.1	**TUE**	**Stuetta**	**69.85**	**321**		P		**P**		**09 55 44.3**	**-0.2**		comp=Z,5.3nm,0.9s									
LANS	**Liptovska Anna**	**65.27**	**327**	*e*	P		P		09 55 20.5	+5.1		comp=Z,1µmcomp=Z,53nm,1.4s										**MJAR**	**Matsushiro Arr**	**75.38**	**52**		P		**P**		**09 56 16.8**	**-0.7**
AQU	**L'Aquila**	**65.43**	**319**		P		**P**		**09 55 17.8**	**+1.3**	**DAVA**	**Damuels**	**69.87**	**322**	*i*	P		**P**		**09 55 43.8**	**-0.8**	MJAR					pmax		pmax			
NACGM	**Naroch**	**65.44**	**335**	*e*	P		**P**		**09 55 14.5**	**-1.7**		comp=Z,9.2nm,0.9s											comp=Z,22nm,1.5s									
	comp=Z,39nm,0.9s,baz=134										**CLL**	**Collm**	**69.93**	**327**	*e*P		P		**09 55 46.0**	**+1.3**	**STKA**	**Stephens Creek**	**75.61**	**122**		P		**P**		**09 56 18.4**	**-0.5**
KEST	**Kesra**	**65.64**	**311**		LR		LR		10 21 05.2		CLL				*e*S		**S**		**10 04 51.0**	**-3.2**	**STKA**	**Stephens Creek**	**75.61**	**122**		P		**P**		**09 56 20.5**	**+1.6**
	comp=Z,2µm,21.6s,baz=89,slow=34										CLL					pmax		pmax					comp=Z,47nm,1.1s									
CIT	**Chita**	**65.83**	**29**	*e*	P		**P**		**09 55 19.0**	**+0.1**		comp=Z,22nm,1.5s										**STKA**	**Stephens Creek**	**75.61**	**122**		P		**P**		**09 56 20.3**	**+1.4**
CIT				*e*					09 55 49.4		**CLL**	**Collm**	**69.93**	**327**		P		**P**		**09 55 44.8**	**+0.1**		comp=Z,2.8nm,1.0s,baz=277,slow=7.0,SNR=5.8									
CIT					pmax		pmax					comp=Z,367nmcomp=Z,7.2nm,1.0s										STKA					LR		LR		10 26 27.9	
	comp=Z,100nm,2.6s										**SYO**	**Syowa Base**	**70.00**	**190**	⇓	P		**P**		**09 55 46.2**	**+1.5**		comp=Z,2µm,21.1s,baz=271,slow=33									
KLMR	**Klimovskoe**	**65.85**	**345**	*e*	P		**P**		**09 55 15.6**	**-3.2**	**FINES**	**FINESS Array B**	**70.32**	**340**		P		**P**		**09 55 44.4**	**-2.4**		comp=Z,2.8nm,1.0s									
KLMR					S		**S**		**10 04 01.2**	**-3.8**		comp=Z,2.6nm,0.8s,baz=116,slow=7.9,SNR=6.5										**STKA**	**Stephens Creek**	**75.61**	**122**	*i*	P		**P**		**09 56 20.5**	**+1.6**
KLMR					SS		**SS**		**10 08 13.7**	**-6.3**	FINES					LR		LR		10 29 33.4		**NOA**	**NORSAR Array B**	**75.73**	**335**		P		**P**		**09 56 16.1**	**-2.9**
KLMR					pmax		pmax					comp=Z,1µm,18.8s,baz=138,slow=39											comp=Z,1.1nm,1.0s,baz=112,slow=6.3,SNR=2.7									
	comp=Z,39nm,1.8s											comp=Z,2.6nm,0.8s										NOA					LR		LR		10 31 19.8	
KLMR					MLR		MLR				**BNX**	**BinXian**	**70.49**	**40**	⇑	P		**P**		**09 55 48.0**	**-0.2**		comp=Z,949nm,19.6s,baz=120,slow=37									
	comp=Z,2µm,17.0s										BNX					sP		**pwP**		**09 55 57.3**	**+1.2**		comp=Z,1.1nm,1.0s									
FDMO	**Fiordimonte**	**65.95**	**319**		P		**P**		**09 55 18.4**	**-1.4**	BNX					S		**S**		**10 05 00.5**	**-0.5**	**KONO**	**Kongsberg**	**75.73**	**334**		IAMs_20		IAMs_20		10 31 37.4	
FDMO					lAmb		lAmb		09 55 44.5		BNX					pmax		pmax					comp=Z,2µm,22.0s									
	comp=Z,16nm,1.0s											comp=Z,8.0nm,1.3s										**MDT**	**Midelt**	**75.94**	**304**		LR		LR		10 28 46.9	
MODS	**Modra-Piesok**	**66.05**	**326**	*e*	P		**P**		**09 55 22.4**	**+2.1**	BNX					pmax		pmax					comp=Z,2µm,21.2s,baz=103,slow=35									
MODS	**Modra-Piesok**	**66.05**	**326**	*e*	P		**P**		**09 55 22.4**	**+2.1**		comp=Z,170nm,3.3s										**KEV**	**Kevo**	**76.12**	**346**		IAMs_20		IAMs_20		10 31 55.7	
MAW	**Mawson**	**66.07**	**182**		P		**P**		**09 55 22.9**	**+2.9**	BNX					LR		LR					comp=Z,2µm,20.0s									
	comp=Z,3.8nm,0.8s,baz=40,slow=6.2,SNR=5.8											comp=Z,2µm,15.5s										**ARCES**	**ARCESS Array B**	**76.32**	**346**		P		**P**		**09 56 20.7**	**-1.4**
MAW					LR		LR		10 19 06.6		BNX					LR		LR					comp=Z,1.1nm,0.7s,baz=132,slow=3.6,SNR=6.6									
	comp=Z,1µm,18.2s,baz=3.0,slow=31											comp=Z,1µm,20.2s										ARCES					LR		LR		10 31 14.1	
	comp=Z,3.8nm,0.8s										BNX					LR		LR					comp=Z,2µm,20.6s,baz=128,slow=37									
MAW	**Mawson**	**66.07**	**182**		P		**P**		**09 55 23.0**	**+2.9**		comp=Z,1µm,21.3s											comp=Z,1.1nm,0.7s									
CESX	**Cesi**	**66.09**	**319**		P		**P**		**09 55 19.0**	**-1.7**	**BNI**	**Bardonecchia**	**70.99**	**319**		P		**P**		**09 55 50.0**	**-1.4**	**ESBB**	**Sonseca Array**	**76.87**	**311**		P		**P**		**09 56 23.6**	**-2.4**
RONA	**Rosalia, Austr**	**66.25**	**325**	*i*	P		**P**		**09 55 21.9**	**+0.2**	**BNI**	**Bardonecchia**	**70.99**	**319**		P		**P**		**09 55 50.0**	**-1.4**	**ESDC**	**Sonseca Array**	**76.87**	**311**		P		**P**		**09 56 24.9**	**-1.1**
	comp=Z,3.0nm,0.8s										BNI					pmax		pmax				**ESDC**	**Sonseca Array**	**76.87**	**311**		P		**P**		**09 56 23.6**	**-2.4**
SNY	**Shenyang**	**66.35**	**43**	⇓	P		**P**		**09 55 23.0**	**+0.6**		comp=Z,13nm,1.3s											comp=Z,1.6nm,0.8s,baz=88,slow=4.3,SNR=17									
SNY					S		**S**		**10 04 10.8**	**-1.0**	BNI					MLR		MLR				ESDC					LR		LR		10 26 53.3	
SNY					pmax		pmax					comp=Z,900nm,20.0s											comp=Z,584nm,21.5s,baz=100,slow=33									
	comp=Z,9.0nm,0.7s										**SENIN**	**Lac Senin/Sane**	**71.09**	**321**		P		**P**		**09 55 50.5**	**-1.6**		comp=Z,1.6nm,0.9s									
SNY					pmax		pmax				SENIN					lAmb		lAmb		09 56 01.6		**MTSU**	**Mount Surprise**	**76.89**	**108**		P		**P**		**09 56 28.0**	**+1.6**
	comp=Z,200nm,5.0s											comp=Z,19nm,0.8s											comp=Z,11nm,0.9s									
SNY					LR		LR				**BFO**	**Black Forest**	**71.26**	**323**		P		**P**		**09 55 51.5**	**-1.3**	**JMM**	**Marumori**	**77.68**	**51**		P		**P**		**09 56 29.3**	**-1.1**
	comp=Z,1µm,15.8s										**BFO**	**Black Forest**	**71.26**	**323**		P		**P**		**09 55 51.6**	**-1.3**	JMM					lAmb		lAmb		09 57 15.5	
SNY					LR		LR				BFO					pmax		pmax					comp=Z,40nm,1.4s									
	comp=Z,1µm,17.5s											comp=Z,15nm,1.1s										**GRNR**	**Gornyy**	**77.90**	**37**	*e*P		**P**		**09 56 34.5**	**+3.1**
SNY					LR		LR				BFO					MLR		MLR				GRNR					MLR		MLR			
	comp=Z,2µm,17.6s											comp=Z,500nm,20.0s											comp=E,850nm,19.0s									
MURB	**Monte Urbino**	**66.42**	**319**		P		**P**		**09 55 21.5**	**-1.3**	**MDJ**	**Mudanjiang**	**71.49**	**42**		P		**P**		**09 55 53.3**	**-1.0**	GRNR					MLR		MLR			
MURB					lAmb		lAmb		09 55 58.7		MDJ					lAmb		lAmb		09 56 09.0			comp=N,1µm,18.0s									
	comp=Z,20nm,1.1s											comp=Z,17nm,0.9s										GRNR					MLR		MLR			
ARSA	**Arzberg**	**66.46**	**324**		P		**P**		**09 55 21.9**	**-1.2**	**MDJ**	**Mudanjiang**	**71.49**	**42**		P		**P**		**09 55 56.4**	**+2.1**		comp=Z,890nm,14.0s									
ARSA	**Arzberg**	**66.46**	**324**	*i*	pP		pP		09 55 26.6	-0.3	MDJ					S		**S**		**10 05 15.9**	**+3.3**	**AVE**	**Averroes**	**78.35**	**304**		IAMs_20		IAMs_20		10 30 11.6	
	comp=Z,7.5nm,1.2s										MDJ					SS		**SS**		**10 09 53.5**	**+5.7**		comp=Z,2µm,20.0s									
SOKA	**Soboth**	**66.47**	**323**	*i*	P		**P**		**09 55 23.6**	**+0.4**	MDJ					pmax		pmax				**JTM**	**Tenmabayashi**	**78.49**	**48**		IAMs_20		IAMs_20		10 32 43.6	
	comp=Z,3.8nm,1.0s											comp=Z,12nm,1.9s											comp=Z,2µm,19.0s									
CONA	**Conrad Observa**	**66.61**	**325**	*i*	P		**P**		**09 55 23.1**	**-0.9**	MDJ					LR		LR				**YAK**	**Yakutsk**	**78.58**	**25**		IAMs_20		IAMs_20		10 33 46.5	
	comp=Z,5.8nm,1.4s											comp=Z,950nm,19.2s											comp=Z,2µm,21.0s									
MORC	**Moravsky Berou**	**66.67**	**327**		P		**P**		**09 55 23.4**	**-0.9**	MDJ					LR		LR				**YAK**	**Yakutsk**	**78.58**	**25**		LR		LR		10 32 10.5	
MORC					lAmb		lAmb		09 55 43.2			comp=Z,2µm,19.2s											comp=Z,2µm,21.9s,baz=238,slow=36									
	comp=Z,22nm,1.5s										MDJ					LR		LR				**YAK**	**Yakutsk**	**78.58**	**25**	*e*P		**P**		**09 56 38.5**	**+3.7**
MORC	**Moravsky Berou**	**66.67**	**327**	*e*P		**P**		**09 55 23.0**	**-1.3**		comp=Z,2µm,22.0s										YAK				*e**PP		**PcP**		**09 56 44.9**	**+1.1**
MORC	**Moravsky Berou**	**66.67**	**327**		P		**P**		**09 55 23.4**	**-0.9**	**ECH**	**Echery**	**71.92**	**322**		P		**P**		**09 55 55.0**	**-1.8**	YAK				*e*					09 56 46.4	
MORC					pmax		pmax				**ECH**	**Echery**	**71.92**	**322**		P		**P**		**09 55 55.1**	**-1.8**	YAK				*e*					09 59 36.5	
	comp=Z,22nm,1.5s										ECH					pmax		pmax				YAK				*e*PPP		PPP		10 01 24.8	
MORC					MLR		MLR					comp=Z,7.0nm,0.9s										YAK				*e*S		**S**		**10 06 35.8**	**+5.0**
	comp=Z,1µm,20.0s										**NRIK**	**Noril'sk**	**71.98**	**7**		P		**P**		**09 55 56.1**	**-0.6**	YAK				*e**SS		**SKSac**		**10 06 47.0**	**-2.2**
OBKA	**Obir**	**66.67**	**323**	*i*	pP		pP		09 55 27.4	-0.9	**NRIK**	**Noril'sk**	**71.98**	**7**		P		**P**		**09 55 54.9**	**-1.9**	YAK				*e*SS		**SS**		**10 11 41.0**	**+6.4**
	comp=Z,5.3nm,1.2s											comp=Z,1.7nm,0.7s,baz=206,slow=2.6,SNR=6.1										YAK					pmax		pmax

PVAQ eLQ LQ 10 15 38.7
PVAQ eLR LR 10 17 58.2
PVAQ i IAMs_20 IAMs_20 10 32 33.1
comp=E,718nm,20.0s
PMRV Marv??o 79.41 310 eLR LR 10 18 15.7
PMRV eLQ LQ 10 18 22.2
PMRV i IAMs_20 IAMs_20 10 37 30.8
comp=E,674nm,20.0s
MVO Moncorvo 79.47 312 eS **S** **10 06 44.2 +2.7**
MVO eLQ LQ 10 18 04.5
MVO eLR LR 10 20 22.8
MVO i IAMs_20 IAMs_20 10 40 52.9
comp=E,665nm,18.0s
MTE Manteigas 79.71 311 eS **S** **10 06 42.4 -1.6**
MTE eLR LR 10 18 24.8
MTE i IAMs_20 IAMs_20 10 40 20.2
comp=E,573nm,18.0s
PFVI Vila Bisbo 80.12 308 IAMs_20 IAMs_20 10 30 16.4
comp=Z,2µm,21.0s
ERM Erimo 80.27 47 i P **P** **09 56 43.7 -0.8**
ERM pmax pmax
comp=Z,28nm,1.1s
ASAJ Asahikawa 80.28 45 LR LR 10 34 53.8
comp=Z,609nm,19.6s,baz=270,slow=38
EKA Eskdalemuir Ar 80.40 327 P **P** **09 56 43.5 -1.5**
comp=Z,0.8nm,0.6s,baz=108,slow=6.6,SNR=6.5
comp=Z,0.8nm,0.6s
YSS Yuzhno-Sakhali 80.97 42 IAMs_20 IAMs_20 10 33 18.0
comp=Z,2µm,21.0s
YSS Yuzhno-Sakhali 80.97 42 eP **P** **09 56 48.1 -0.1**
YSS eS **S** **10 06 55.3 -1.4**
YSS eSS **SS** **10 12 14.6 +3.4**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS pmax pmax
comp=Z,200nm,3.4s
YSS smax smax
comp=N,300nm,6.4s
YSS smax smax
comp=E,200nm,6.3s
YSS MLR MLR
comp=Z,1µm,17.0s
YSS MLR MLR
comp=N,700nm,13.0s
YSS MLR MLR
comp=E,700nm,16.0s
TROLL Troll, Antarti 81.06 197 ⇑P **P** **09 56 50.2 +1.8**
comp=Z,468nm,0.8s
TYV Tymovskoe 81.74 38 eP P 09 56 59.3 +7.1
TYV pmax pmax
comp=Z,8.0nm,1.5s
TYV pmax pmax
comp=Z,200nm,3.3s
SNAA Sanae 82.51 198 ⇑P **P** **09 56 57.3 +1.4**
comp=Z,56nm,0.7s
SNAA Sanae 82.51 198 P **P** **09 56 55.9 -0.1**
SNAA Sanae 82.51 198 P **P** **09 56 57.0 +1.0**
comp=Z,1.7nm,1.0s,baz=74,slow=7.2,SNR=5.3
SNAA LR LR 10 26 10.2
comp=Z,699nm,20.2s,baz=73,slow=30
comp=Z,1.7nm,1.0s
SNAA Sanae 82.51 198 i P **P** **09 56 55.9 -0.1**
SNAA pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 82.66 16 LR LR 10 34 38.2
comp=Z,3µm,21.3s,baz=263,slow=36
TIXI Tiksi 82.66 16 i P **P** **09 56 54.2 -2.3**
TIXI pmax pmax
comp=Z,40nm,1.0s
VNA2 Neumayer--Watz 83.72 199 ⇑P **P** **09 57 04.0 +1.9**
comp=Z,6.0nm,0.7s,baz=72,slow=4.9
VNA1 Neumayer--Stat 83.94 199 ⇑P P 09 57 11.0 +7.8
comp=Z,6.9nm,0.8s
SPITS Spitsbergen Ar 84.05 351 LR LR 10 38 42.2
comp=Z,554nm,18.4s,baz=110,slow=39
VNA3 Neumayer Olymp 84.52 198 ⇑P **P** **09 57 07.9 +1.7**
comp=Z,8.9nm,0.8s
BBTS Babate 84.73 285 LR LR 10 35 17.0
comp=Z,2µm,19.3s,baz=331,slow=36
KBS Kingsbay 85.21 351 IAMs_20 IAMs_20 10 38 24.5
comp=Z,1µm,19.0s
PMOZ Porto Moniz, M 86.45 303 eLR LR 10 24 35.0
PMOZ i IAMs_20 IAMs_20 10 34 38.0
comp=Z,1µm,20.0s
JMIC Jan Mayen 86.90 341 LR LR 10 38 10.1
comp=Z,955nm,18.8s,baz=86,slow=37
MA2 Magadan 87.79 30 LR LR 10 37 45.9
comp=Z,2µm,18.9s,baz=270,slow=36
QSPA South Pole Qui 88.50 180 P **P** **09 57 28.6 +2.6**
comp=Z,4.7nm,0.9s,baz=246,slow=0.8,SNR=19
QSPA LR LR 10 31 09.0
comp=Z,892nm,21.9s,baz=288,slow=32
comp=Z,4.7nm,0.9s
SEY Seymchan 88.92 27 LR LR 10 39 15.1
comp=Z,2µm,19.3s,baz=269,slow=37
VNDA Vanda 89.47 167 P **P** **09 57 33.2 +3.1**
comp=Z,1.1nm,0.8s,baz=293,slow=6.3,SNR=5.7
VNDA LR LR 10 32 52.0
comp=Z,1µm,19.4s,baz=260,slow=32
comp=Z,1.1nm,0.8s
SBA Scott Base 90.47 168 P **P** **09 57 32.4 -2.4**
SBA Scott Base 90.47 168 P **P** **09 57 32.4 -2.4**
SBA pmax pmax
comp=Z,13nm,1.3s
BORG Borgarnes 90.89 335 IAMs_20 IAMs_20 10 39 18.2
comp=Z,1µm,21.0s
BORG Borgarnes 90.89 335 LR LR 10 39 39.8
comp=Z,1µm,21.5s,baz=100,slow=37
BELA Belgrano 2 91.12 192 P **P** **09 57 37.4 -0.4**
BELA IAMs_20 IAMs_20 10 35 10.1
comp=Z,1µm,18.0s
PETK Petropavlovsk- 91.22 37 P **P** **09 57 38.7 -0.1**
comp=Z,0.9nm,0.9s,baz=284,slow=5.8,SNR=2.1
PETK LR LR 10 40 31.4
comp=Z,1µm,19.9s,baz=273,slow=37
comp=Z,0.9nm,0.9s
SCO Scoresbysund 91.25 340 IAMs_20 IAMs_20 10 38 42.6
comp=Z,2µm,22.0s
PET Petropavlovsk 91.80 37 IAMs_20 IAMs_20 10 37 04.9
comp=Z,1µm,20.0s
PET Petropavlovsk 91.80 37 eP **P** **09 57 45.7 +4.3**
PET eS **S** **10 08 39.4 -2.5**
PET ePS PS 10 09 50.2 -3.0
PET eSS **SS** **10 14 59.3 +10**
PET pmax pmax
comp=Z,100nm,17.7s
PET MLR MLR
comp=Z,1µm,15.0s
PET MLR MLR
comp=Z,1µm,14.0s
HNR Honiara 92.04 99 LR LR 10 39 53.3
comp=Z,576nm,20.1s,baz=247,slow=36
BILL Bilibino 94.61 22 IAMs_20 IAMs_20 10 42 18.0
comp=Z,2µm,22.0s
DZM Mont Dzumac 97.61 112 eS S 10 09 22.0 -12
comp=Z,594nm,30.4s
DZM eSS **SS** **10 16 05.8 -8.3**
comp=Z,1µm,30.8s
DZM eLQ LQ 10 25 26.9
comp=Z,3µm,29.0s
DZM eLR LR 10 29 39.1
comp=Z,4µm,21.7s
DZM Mont Dzumac 97.61 112 LR LR 10 38 24.6
comp=Z,2µm,21.6s,baz=263,slow=33
SFJD Kangerlussuaq 102.11 339 IAMs_20 IAMs_20 10 46 15.5
comp=Z,1µm,20.0s
NRS Narsarsuaq 102.26 333 IAMs_20 IAMs_20 10 46 49.9
comp=Z,1µm,21.0s
RCBR Riachuelo 103.30 264 IAMs_20 IAMs_20 10 38 40.4
comp=Z,1µm,22.0s
IVI Ivigtut 103.49 333 IAMs_20 IAMs_20 10 45 41.4
comp=Z,1µm,22.0s
C16K Lisburne Hills 104.37 18 IAMs_20 IAMs_20 10 54 24.8
comp=Z,1µm,20.0s
GAMB Gambell 104.46 23 IAMs_20 IAMs_20 10 46 55.6
comp=Z,1µm,21.0s
C18K Utukok River 105.37 17 IAMs_20 IAMs_20 10 51 46.3
comp=Z,1µm,20.0s
B20K Meade River 105.56 15 IAMs_20 IAMs_20 10 45 32.2
comp=Z,1µm,22.0s
F15K North Star Dit 106.06 20 IAMs_20 IAMs_20 10 53 26.6
comp=Z,1µm,20.0s
D19K Kuna River 106.34 16 IAMs_20 IAMs_20 10 52 56.7
comp=Z,971nm,20.0s
B21K Ikpikpuk River 106.47 14 IAMs_20 IAMs_20 10 46 33.1
comp=Z,1µm,21.0s
D20K Etivluk River 106.59 15 IAMs_20 IAMs_20 10 44 57.5
comp=Z,1µm,21.0s
E19K Redstone River 107.28 17 IAMs_20 IAMs_20 10 48 42.7
comp=Z,1µm,22.0s
E21K Killik River 107.48 15 IAMs_20 IAMs_20 10 51 54.7
comp=Z,1µm,22.0s
F20K Avaraart Lake 107.99 16 IAMs_20 IAMs_20 10 53 07.5
comp=Z,1µm,18.0s
H17K Granite Mounta 108.11 19 IAMs_20 IAMs_20 10 51 05.8
comp=Z,1µm,20.0s
J14K Nanvaranak Lak 108.14 22 IAMs_20 IAMs_20 10 56 16.9
comp=Z,1µm,20.0s
G19K Purcell Mounta 108.21 18 IAMs_20 IAMs_20 10 51 54.4
comp=Z,1µm,20.0s
E22K Anaktuvuk Pass 108.25 15 IAMs_20 IAMs_20 10 49 44.2
comp=Z,1µm,20.0s
I17K Unalakleet 108.50 20 IAMs_20 IAMs_20 10 51 05.3
comp=Z,948nm,20.0s
D25K Kavik River 108.58 12 IAMs_20 IAMs_20 10 50 44.6
comp=Z,1µm,21.0s
C27K Jago River 108.86 11 IAMs_20 IAMs_20 10 56 59.1
comp=Z,987nm,19.0s
J16K Anvik River 108.91 21 IAMs_20 IAMs_20 10 53 39.0
comp=Z,1µm,20.0s
G21K Allakaket 108.99 16 IAMs_20 IAMs_20 10 53 57.9
comp=Z,1µm,20.0s
A36M Sachs Harbour 109.13 4 IAMs_20 IAMs_20 10 56 54.1
comp=Z,885nm,19.0s
J17K VABM Dome 109.37 20 IAMs_20 IAMs_20 10 53 35.3
comp=Z,935nm,18.0s
D27M Malcolm River 109.70 10 IAMs_20 IAMs_20 10 49 19.2
comp=Z,1µm,21.0s
K17K Iditarod 110.08 21 IAMs_20 IAMs_20 10 56 11.1
comp=Z,970nm,20.0s
J18K Innoko River 110.13 20 IAMs_20 IAMs_20 10 54 01.3
comp=Z,1µm,21.0s
J19K Poorman 110.13 19 IAMs_20 IAMs_20 10 56 19.3
comp=Z,1µm,20.0s
F25K Christian Rive 110.14 13 IAMs_20 IAMs_20 10 54 01.0
comp=Z,1µm,20.0s
L16K Owhat River 110.30 22 IAMs_20 IAMs_20 10 51 25.9
comp=Z,1µm,20.0s
F26K Sheenjek River 110.39 12 IAMs_20 IAMs_20 10 50 09.5
comp=Z,1µm,21.0s
J20K Nowinta River 110.47 18 IAMs_20 IAMs_20 10 52 47.2
comp=Z,1µm,21.0s
N14K Kuskokwak Cree 110.52 24 IAMs_20 IAMs_20 10 52 02.0
comp=Z,1µm,20.0s
H23K Yukon River 110.59 15 IAMs_20 IAMs_20 10 56 17.0
comp=Z,939nm,19.0s
MLY Manley 110.86 16 IAMs_20 IAMs_20 10 55 01.3
comp=Z,1µm,19.0s
L18K Granite Mounta 110.97 21 IAMs_20 IAMs_20 10 54 24.7
comp=Z,1µm,19.0s
E29M Blow River 110.99 10 IAMs_20 IAMs_20 10 52 51.3
comp=Z,1µm,22.0s
H24K Noodor Dome 111.01 15 IAMs_20 IAMs_20 10 55 31.2
comp=Z,1µm,18.0s
N15K Kwethluk River 111.02 23 IAMs_20 IAMs_20 10 54 10.0
comp=Z,1µm,20.0s
FYU Fort Yukon 111.07 13 IAMs_20 IAMs_20 10 52 24.7
comp=Z,1µm,19.0s
M17K Holitna River 111.25 21 IAMs_20 IAMs_20 10 56 52.9
comp=Z,1µm,19.0s
F28M Old Crow 111.32 11 IAMs_20 IAMs_20 10 49 34.1
comp=Z,929nm,21.0s
CAST Castle Rocks 111.66 18 IAMs_20 IAMs_20 10 48 50.5
comp=Z,1µm,21.0s
COLA College 111.77 15 IAMs_20 IAMs_20 10 53 16.3
comp=Z,1µm,21.0s
PRP Porcupine Dome 111.86 14 IAMs_20 IAMs_20 10 53 07.5
comp=Z,992nm,20.0s
BWN Bowman 111.87 17 IAMs_20 IAMs_20 10 55 33.3
comp=Z,1µm,20.0s
KTH Kantishna Hill 111.91 18 IAMs_20 IAMs_20 10 57 13.2
comp=Z,1µm,19.0s
CCB Clear Creek Bu 111.97 16 IAMs_20 IAMs_20 10 56 05.5
comp=Z,997nm,18.0s
PPLA Purkeypile 112.00 18 IAMs_20 IAMs_20 10 55 20.7
comp=Z,1µm,21.0s
WRH Wood River Hil 112.03 16 IAMs_20 IAMs_20 10 53 32.0
comp=Z,1µm,19.0s
F30M Barrier River 112.04 9 IAMs_20 IAMs_20 10 53 26.2
comp=Z,1µm,22.0s
O16K Kokwok River B 112.16 23 IAMs_20 IAMs_20 10 50 11.3
comp=Z,1µm,22.0s
TRF Thorofare Moun 112.18 17 IAMs_20 IAMs_20 10 54 38.2
comp=Z,1µm,21.0s
N18K Kilae Creek 112.29 21 IAMs_20 IAMs_20 10 53 28.5
comp=Z,1µm,22.0s
MCK McKinley 112.36 17 IAMs_20 IAMs_20 10 53 42.0
comp=Z,1µm,22.0s
HDA Harding Lake 112.38 15 IAMs_20 IAMs_20 10 54 16.5
comp=Z,1µm,22.0s
M20K Styx River 112.43 20 IAMs_20 IAMs_20 10 57 22.9
comp=Z,966nm,20.0s
G30M tAoh Zraii Nji 112.54 10 IAMs_20 IAMs_20 10 50 09.3
comp=Z,1µm,22.0s
RND Reindeer 112.64 17 IAMs_20 IAMs_20 10 55 02.2
comp=Z,1µm,19.0s
H29M Whitestone 112.83 11 IAMs_20 IAMs_20 10 59 22.0
comp=Z,836nm,19.0s
SKT Skwentna 112.88 19 IAMs_20 IAMs_20 10 56 09.9
comp=Z,821nm,19.0s
I28M Miner Creek 113.19 12 IAMs_20 IAMs_20 10 55 46.6
comp=Z,1µm,20.0s
SPU Mount Spurr 113.29 20 IAMs_20 IAMs_20 10 57 05.8
comp=Z,930nm,21.0s
SCRK Sand Creek 113.50 15 IAMs_20 IAMs_20 10 51 20.9
comp=Z,991nm,21.0s
M22K Willow 113.50 19 IAMs_20 IAMs_20 10 54 33.3
comp=Z,941nm,20.0s
SUA Susitna One 113.52 19 IAMs_20 IAMs_20 10 57 26.7
comp=Z,847nm,20.0s
RED Redoubt Volcan 113.59 21 IAMs_20 IAMs_20 10 52 31.7
comp=Z,1µm,20.0s
DOT Dot Lake 113.75 15 IAMs_20 IAMs_20 10 52 53.5
comp=Z,1µm,22.0s
KUQ Kuujjuaq 113.83 336 IAMs_20 IAMs_20 10 51 42.4
comp=Z,938nm,21.0s
GHO Glory Hole Cre 113.86 18 IAMs_20 IAMs_20 10 54 53.8
comp=Z,982nm,20.0s
FIS Fire Island 113.92 19 IAMs_20 IAMs_20 10 58 52.5
comp=Z,868nm,20.0s
K27K Chicken 113.92 14 IAMs_20 IAMs_20 10 56 20.1
comp=Z,1µm,19.0s
PAX Paxson 113.93 16 IAMs_20 IAMs_20 10 54 35.4
comp=Z,1µm,22.0s
CHGN Chignik 114.09 26 IAMs_20 IAMs_20 10 54 37.6
comp=Z,978nm,21.0s
RC01 Rabbit Creek A 114.12 19 IAMs_20 IAMs_20 10 56 16.7
comp=Z,1µm,21.0s
PLK4 Peulik 4 114.12 24 IAMs_20 IAMs_20 10 58 48.2
comp=Z,1µm,20.0s
SCM Sheep Creek Mo 114.30 17 IAMs_20 IAMs_20 10 54 53.4
comp=Z,1µm,22.0s
J29N Klondike Camp 114.42 12 IAMs_20 IAMs_20 10 57 59.1
comp=Z,1µm,20.0s
M24K Tolsona, Glenn 114.42 17 IAMs_20 IAMs_20 10 57 58.5
comp=Z,939nm,21.0s
L26K Log Cabin Wild 114.45 15 IAMs_20 IAMs_20 10 55 13.0
comp=Z,1µm,21.0s
CNBA Chernabura Isl 114.46 28 IAMs_20 IAMs_20 10 51 22.2
comp=Z,1µm,22.0s
O22K Cooper Landing 114.58 19 IAMs_20 IAMs_20 10 56 16.9
comp=Z,1µm,20.0s
J30M Hart River 114.69 11 IAMs_20 IAMs_20 10 55 13.2
comp=Z,870nm,20.0s
PWL Port Wells 114.75 18 IAMs_20 IAMs_20 10 58 15.2
comp=Z,1µm,20.0s
L27K Beaver Creek, 114.80 14 IAMs_20 IAMs_20 10 53 36.3
comp=Z,1µm,22.0s
KLU Klutina 114.98 17 IAMs_20 IAMs_20 10 54 49.4
comp=Z,1µm,22.0s
M26K Nabesna, AK 115.06 15 IAMs_20 IAMs_20 10 55 31.2
comp=Z,1µm,22.0s
GLI Glacier Island 115.12 18 IAMs_20 IAMs_20 11 00 01.9
comp=Z,960nm,20.0s
N25K Chitina, Valde 115.27 16 IAMs_20 IAMs_20 10 56 40.0
comp=Z,1µm,22.0s
DIV Divide 115.32 17 IAMs_20 IAMs_20 10 59 01.2
comp=Z,806nm,19.0s
M27K Edge Creek, AK 115.38 15 IAMs_20 IAMs_20 10 52 17.7
comp=Z,980nm,22.0s
FID Port Fidalgo 115.41 18 IAMs_20 IAMs_20 10 51 10.1
comp=Z,945nm,21.0s
L29M L29M 115.62 13 IAMs_20 IAMs_20 10 51 51.9
comp=Z,919nm,21.0s
GLB Gilahina Butte 115.63 16 IAMs_20 IAMs_20 10 58 01.3
comp=Z,928nm,20.0s
OHAK Old Harbor 115.63 23 IAMs_20 IAMs_20 10 59 50.0
comp=Z,1µm,20.0s
BMRM Bremner River 115.79 17 IAMs_20 IAMs_20 10 56 54.6
comp=Z,1µm,21.0s
MCARA McCarthy VSAT 115.89 16 IAMs_20 IAMs_20 10 55 43.3
comp=Z,1µm,22.0s
VRDI Verde Repeater 115.90 16 IAMs_20 IAMs_20 10 58 08.6
comp=Z,873nm,20.0s
CRQM Cirque 116.38 16 IAMs_20 IAMs_20 10 58 13.6
comp=Z,1µm,22.0s
M30M Minto, Yukon 116.38 12 IAMs_20 IAMs_20 10 52 26.0
comp=Z,996nm,22.0s
BERG Berg Lake 116.52 17 IAMs_20 IAMs_20 10 59 01.9
comp=Z,1µm,20.0s
KAIM Kayak Island 116.69 17 IAMs_20 IAMs_20 10 52 47.3
comp=Z,1µm,20.0s
CTGM Chitina Glacie 116.70 15 IAMs_20 IAMs_20 10 57 41.5
comp=Z,850nm,20.0s
WAX Waxell Ridge 116.71 16 IAMs_20 IAMs_20 11 00 51.0
comp=Z,1µm,20.0s
ISLE Juniper Island 116.73 16 IAMs_20 IAMs_20 10 57 28.4
comp=Z,1µm,20.0s
GRNC Granite Creek 116.78 16 IAMs_20 IAMs_20 10 56 50.7
comp=Z,968nm,21.0s
LOGN Logan Glacier 116.90 15 IAMs_20 IAMs_20 10 57 46.9
comp=Z,804nm,19.0s
O28M Mount Upton 117.16 15 IAMs_20 IAMs_20 11 03 53.7
comp=Z,836nm,18.0s
TABL Table Mountain 117.19 16 IAMs_20 IAMs_20 10 57 46.5
comp=Z,1µm,22.0s
N31M Braeburn, Yuko 117.58 12 IAMs_20 IAMs_20 10 55 45.5
comp=Z,1µm,22.0s
PCA Pinnacle 117.72 15 IAMs_20 IAMs_20 10 59 00.5
comp=Z,1µm,22.0s
BCPM Bancas Point 118.00 15 IAMs_20 IAMs_20 10 58 14.0
comp=Z,1µm,20.0s
N32M Quiet Lake 118.43 11 IAMs_20 IAMs_20 11 03 38.1
comp=Z,866nm,20.0s
P29M Windy Craggy 118.77 14 IAMs_20 IAMs_20 10 57 44.2
comp=Z,1µm,22.0s
SKAG Skagway 119.49 13 IAMs_20 IAMs_20 11 01 13.3
comp=Z,994nm,20.0s
P32M Atlin 119.73 12 IAMs_20 IAMs_20 11 01 03.5
comp=Z,907nm,20.0s
R33M Jennings River 120.47 11 IAMs_20 IAMs_20 11 01 05.8
comp=Z,900nm,22.0s
Q32M Nakina River 120.61 12 IAMs_20 IAMs_20 11 01 41.7
comp=Z,1µm,21.0s
S31K Pelican 120.61 15 IAMs_20 IAMs_20 11 00 17.9
comp=Z,990nm,22.0s
R32K Eaglecrest 120.75 13 IAMs_20 IAMs_20 11 01 41.4
comp=Z,737nm,19.0s
FCC Fort Churchill 121.11 349 IAMs_20 IAMs_20 10 59 51.7
comp=Z,881nm,21.0s
F64A Sherman 121.39 325 IAMs_20 IAMs_20 11 01 03.3
comp=Z,767nm,20.0s
S32K Killisnoo 121.46 14 IAMs_20 IAMs_20 11 00 36.2
comp=Z,1µm,21.0s
EMMW East Machias 121.53 324 IAMs_20 IAMs_20 11 00 40.2
comp=Z,931nm,20.0s
E62A Clayton Lake 121.60 327 IAMs_20 IAMs_20 10 57 20.7
comp=Z,1µm,22.0s
S34M Telegraph Cree 121.81 12 IAMs_20 IAMs_20 10 58 33.5
comp=Z,943nm,22.0s
PKME Peaks-Kenny Pk 122.28 325 IAMs_20 IAMs_20 11 03 18.8
comp=Z,779nm,20.0s
WRAK Wrangell Islan 122.93 13 IAMs_20 IAMs_20 11 04 43.1
comp=Z,752nm,19.0s
CRAG Craig 123.61 14 IAMs_20 IAMs_20 11 04 15.3
comp=Z,736nm,20.0s
I63A Otisfield 123.74 325 IAMs_20 IAMs_20 11 00 57.5
comp=Z,808nm,21.0s
H62A Milan 123.75 326 IAMs_20 IAMs_20 10 58 41.7
comp=Z,990nm,21.0s
I62A Tamworth 124.28 325 IAMs_20 IAMs_20 10 58 50.8
comp=Z,936nm,21.0s
TRQ Mont Tremblant 124.54 329 IAMs_20 IAMs_20 10 59 05.3
comp=Z,763nm,19.0s
VLDQ Val d'Or 124.65 332 IAMs_20 IAMs_20 10 59 17.2
comp=Z,767nm,20.0s
VT1 Waterbury 124.80 326 IAMs_20 IAMs_20 11 02 10.6
comp=Z,745nm,20.0s
K62A Royalston 125.53 324 IAMs_20 IAMs_20 11 00 57.1
comp=Z,897nm,20.0s
WBO Williamsburg 125.73 328 IAMs_20 IAMs_20 10 59 44.9
comp=Z,858nm,22.0s
DIB Dawson Inlet, 125.83 15 IAMs_20 IAMs_20 10 59 46.0
comp=Z,972nm,22.0s
FFC Flin Flon 126.26 353 IAMs_20 IAMs_20 11 01 44.7
comp=Z,953nm,21.0s
SIV San Ignacio 126.45 249 PKP **PKPdf** **10 03 37.9 +0.3**
comp=Z,0.3nm,0.4s,baz=280,slow=20,SNR=1.4
J57A Williamstown 127.18 327 IAMs_20 IAMs_20 11 03 04.3
comp=Z,703nm,20.0s
N62A Caumsett State 127.32 323 IAMs_20 IAMs_20 11 04 15.6
comp=Z,777nm,19.0s
L59A Walton 127.45 325 IAMs_20 IAMs_20 11 01 02.7
comp=Z,762nm,21.0s
MPOM Morne Pois Mar 127.53 287 IAMs_20 IAMs_20 10 58 07.2
comp=Z,763nm,20.0s
BIM Bigot 127.72 287 IAMs_20 IAMs_20 10 54 01.1
comp=Z,788nm,22.0s
BRNJ Basking Ridge 128.13 324 IAMs_20 IAMs_20 11 03 31.9
comp=Z,963nm,20.0s
J55A Hilton 128.25 328 IAMs_20 IAMs_20 10 59 49.6
comp=Z,1µm,22.0s
KSPA Keystone Colle 128.27 325 IAMs_20 IAMs_20 11 01 26.5
comp=Z,764nm,22.0s
LUPA Lehigh Univers 128.66 324 IAMs_20 IAMs_20 11 01 46.9
comp=Z,742nm,21.0s
L56A Greenwood 128.89 327 IAMs_20 IAMs_20 11 01 33.6
comp=Z,801nm,21.0s
SEUS St. Eustatius 128.96 291 IAMs_20 IAMs_20 10 54 04.8
comp=Z,1µm,22.0s
E46A Sault Ste Mari 129.01 335 IAMs_20 IAMs_20 11 02 31.3
comp=Z,943nm,20.0s
TBO Thunder Bay 129.04 341 IAMs_20 IAMs_20 11 02 43.5
comp=Z,745nm,20.0s
WVNY West Valley, N 129.26 328 IAMs_20 IAMs_20 10 59 31.5
comp=Z,1µm,22.0s
MVL Millersville 129.62 324 IAMs_20 IAMs_20 11 00 51.2
comp=Z,1µm,22.0s
R61A Willards 130.06 322 IAMs_20 IAMs_20 11 04 02.2
comp=Z,768nm,21.0s
I49A Point Hope 130.25 332 IAMs_20 IAMs_20 11 01 47.2
comp=Z,760nm,20.0s
EYMN Ely 130.32 342 IAMs_20 IAMs_20 11 04 14.5
comp=Z,821nm,21.0s
LLLB Lillooet 130.40 8 IAMs_20 IAMs_20 11 05 42.4
comp=Z,972nm,21.0s
ALLY Alegheny Colle 130.61 328 IAMs_20 IAMs_20 11 01 41.1
comp=Z,966nm,22.0s
S61A Accomac 130.67 321 IAMs_20 IAMs_20 11 02 04.3
comp=Z,872nm,21.0s
P57A Homestead Farm 130.92 325 IAMs_20 IAMs_20 11 04 12.7
comp=Z,742nm,20.0s
K50A Casco 131.04 331 IAMs_20 IAMs_20 11 08 34.2
comp=Z,636nm,19.0s
F42A Maple Grove Fa 131.04 338 IAMs_20 IAMs_20 11 03 12.8
comp=Z,708nm,21.0s
COWI Conover 131.13 339 IAMs_20 IAMs_20 11 04 35.0
comp=Z,921nm,20.0s
M52A Chesterland 131.32 329 IAMs_20 IAMs_20 11 04 11.8
comp=Z,766nm,20.0s
CBN Corbin Frederi 131.38 323 IAMs_20 IAMs_20 11 03 22.0
comp=Z,785nm,22.0s
N53A Lisbon 131.58 328 IAMs_20 IAMs_20 11 03 35.7
comp=Z,909nm,21.0s
I45A Fountain 131.70 335 IAMs_20 IAMs_20 11 04 02.3
comp=Z,923nm,20.0s
J47A Sunmer 131.71 333 IAMs_20 IAMs_20 11 01 45.8
comp=Z,844nm,22.0s
O54A Avella 131.77 327 IAMs_20 IAMs_20 11 05 34.0
comp=Z,773nm,21.0s
R58B Mineral 131.84 323 IAMs_20 IAMs_20 11 03 46.2
comp=Z,765nm,22.0s
MCWV Mont Chateau 131.85 326 IAMs_20 IAMs_20 11 06 08.0
comp=Z,845nm,20.0s
AAM Ann Arbor 131.90 331 IAMs_20 IAMs_20 11 08 53.8
comp=Z,804nm,20.0s
Q56A Snyder Ridge, 131.90 325 IAMs_20 IAMs_20 11 04 49.4
comp=Z,837nm,19.0s
H43A Windswept, Lux 131.98 336 IAMs_20 IAMs_20 11 09 58.6
comp=Z,697nm,20.0s
O53A New Philadelph 132.18 328 IAMs_20 IAMs_20 11 03 01.6
comp=Z,936nm,21.0s
G40A Rib Lake 132.23 339 IAMs_20 IAMs_20 11 04 23.0
comp=Z,786nm,22.0s

T59A	Double "B" Far	132.28	322	IAMs_20	IAMs_20	11 10 25.0			
	comp=Z,632nm,18.0s								
N51A	Ashland	132.30	329	IAMs_20	IAMs_20	11 02 39.7			
	comp=Z,886nm,22.0s								
MDND	Maddock	132.52	348	IAMs_20	IAMs_20	11 04 23.3			
	comp=Z,1µm,21.0s								
O52A	Adamsville	132.60	328	IAMs_20	IAMs_20	11 02 52.1			
	comp=Z,947nm,21.0s								
PRSN	Puerto Rico Se	132.63	293	IAMs_20	IAMs_20	10 59 30.0			
	comp=Z,951nm,22.0s								
DGMT	Dagmar	132.68	353	IAMs_20	IAMs_20	11 06 09.3			
	comp=Z,1µm,22.0s								
Q54A	Coxs Mills	132.87	326	IAMs_20	IAMs_20	11 05 08.9			
	comp=Z,703nm,20.0s								
B08A	Colville Reser	132.93	6	IAMs_20	IAMs_20	11 03 49.2			
	comp=Z,787nm,21.0s								
PB11	IPOC Station P	133.09	241	IAMs_20	IAMs_20	11 00 59.1			
	comp=Z,959nm,20.0s								
P52A	Corning	133.11	328	IAMs_20	IAMs_20	11 04 40.2			
	comp=Z,962nm,20.0s								
ACSO	Alum Creek Sta	133.12	329	IAMs_20	IAMs_20	11 06 12.3			
	comp=Z,738nm,22.0s								
N49A	Columbus Grove	133.20	331	IAMs_20	IAMs_20	11 09 58.4			
	comp=Z,786nm,19.0s								
GNW	Green Mountain	133.22	10	IAMs_20	IAMs_20	11 07 24.1			
	comp=Z,866nm,22.0s								
NEW	Newport	133.23	4	IAMs_20	IAMs_20	11 09 12.1			
	comp=Z,741nm,21.0s								
T57A	Hurt	133.30	323	IAMs_20	IAMs_20	11 03 48.8			
	comp=Z,712nm,22.0s								
L46A	Eue Claire	133.35	333	IAMs_20	IAMs_20	11 01 55.1			
	comp=Z,847nm,22.0s								
I40A	Norwalk	133.56	338	IAMs_20	IAMs_20	11 05 15.4			
	comp=Z,923nm,21.0s								
EGMT	Eagleton	133.59	358	IAMs_20	IAMs_20	11 06 28.6			
	comp=Z,807nm,20.0s								
Q52A	Bidwell	133.67	327	IAMs_20	IAMs_20	11 03 16.0			
	comp=Z,841nm,21.0s								
K43A	Burlington	133.67	335	IAMs_20	IAMs_20	11 05 32.4			
	comp=Z,780nm,21.0s								
P51A	Williamsport	133.71	328	IAMs_20	IAMs_20	11 03 24.1			
	comp=Z,892nm,21.0s								
O49A	Covington	133.84	330	IAMs_20	IAMs_20	11 07 15.3			
	comp=Z,746nm,21.0s								
L44A	Lake County Fo	133.92	335	IAMs_20	IAMs_20	11 05 59.2			
	comp=Z,739nm,20.0s								
E28A	Huff	133.95	349	IAMs_20	IAMs_20	11 05 58.2			
	comp=Z,790nm,22.0s								
S54A	Dingess, Beckl	133.96	325	IAMs_20	IAMs_20	11 07 15.0			
	comp=Z,648nm,20.0s								
N47A	Urbana	133.96	332	IAMs_20	IAMs_20	11 03 18.5			
	comp=Z,934nm,22.0s								
E03A	Lebam	134.07	11	IAMs_20	IAMs_20	11 07 13.7			
	comp=Z,709nm,21.0s								
LON	Longmire	134.18	9	IAMs_20	IAMs_20	11 08 05.4			
	comp=Z,657nm,20.0s								
O48B	Farmland	134.19	331	IAMs_20	IAMs_20	11 08 45.5			
	comp=Z,644nm,20.0s								
Q51A	Peebles	134.19	328	IAMs_20	IAMs_20	11 07 40.9			
	comp=Z,696nm,20.0s								
HQIL	Hanson Quary C	134.21	334	IAMs_20	IAMs_20	11 03 19.7			
	comp=Z,758nm,21.0s								
U56A	King	134.41	323	IAMs_20	IAMs_20	11 03 15.2			
	comp=Z,801nm,22.0s								
I37A	Lemond, Waseca	134.43	341	IAMs_20	IAMs_20	11 13 08.1			
	comp=Z,686nm,19.0s								
Y60A	Bolivia	134.56	319	IAMs_20	IAMs_20	11 02 28.5			
	comp=Z,850nm,22.0s								
MXC	Moxie City	134.57	8	IAMs_20	IAMs_20	11 07 42.6			
	comp=Z,726nm,22.0s								
M44A	Midewin, Midew	134.62	334	IAMs_20	IAMs_20	11 02 45.8			
	comp=Z,987nm,22.0s								
F03A	Seaside	134.67	11	IAMs_20	IAMs_20	11 06 33.4			
	comp=Z,730nm,22.0s								
LAO	LASA Array	134.67	354	IAMs_20	IAMs_20	11 15 47.0			
	comp=Z,797nm,21.0s								
L42A	Oliver, Polo	134.80	336	IAMs_20	IAMs_20	11 09 51.2			
	comp=Z,766nm,21.0s								
MSO	Missoula	134.82	2	IAMs_20	IAMs_20	11 06 55.2			
	comp=Z,1µm,22.0s								
HAWA	Hanford	134.84	7	IAMs_20	IAMs_20	11 10 21.9			
	comp=Z,685nm,19.0s								
P48A	Milroy	134.93	330	IAMs_20	IAMs_20	11 01 53.3			
	comp=Z,736nm,22.0s								
X58A	Rowland	134.94	321	IAMs_20	IAMs_20	11 05 19.4			
	comp=Z,741nm,21.0s								
SFIN	Lafayette	135.01	333	IAMs_20	IAMs_20	11 04 31.2			
	comp=Z,884nm,22.0s								
U54A	Nelsons Funny	135.14	325	IAMs_20	IAMs_20	11 04 11.3			
	comp=Z,815nm,22.0s								
V55A	Taylorsville	135.24	323	IAMs_20	IAMs_20	11 04 43.1			
	comp=Z,738nm,21.0s								
R50A	Paris	135.26	328	IAMs_20	IAMs_20	11 04 55.2			
	comp=Z,747nm,20.0s								
F07A	Phinny Hill Vi	135.28	8	IAMs_20	IAMs_20	11 07 49.6			
	comp=Z,698nm,20.0s								
LNOR	Lincton Mounta	135.50	6	IAMs_20	IAMs_20	11 08 09.2			
	comp=Z,818nm,22.0s								
BIRD	Birdtown, Kers	135.59	321	IAMs_20	IAMs_20	11 03 13.4			
	comp=Z,831nm,22.0s								
HOOD	Mount Hood Mea	135.59	9	IAMs_20	IAMs_20	11 07 57.8			
	comp=Z,853nm,22.0s								
SUSD	Miller	135.61	346	IAMs_20	IAMs_20	11 16 27.1			
	comp=Z,780nm,20.0s								
ECSD	EROS Data Cent	135.66	344	IAMs_20	IAMs_20	11 05 26.6			
	comp=Z,818nm,21.0s								
BLO	Bloomington	135.69	331	IAMs_20	IAMs_20	11 06 53.3			
	comp=Z,773nm,20.0s								
KMSC	Kings Mountain	135.79	323	IAMs_20	IAMs_20	11 04 32.8			
	comp=Z,925nm,21.0s								
HDIL	Hopedale	135.85	335	IAMs_20	IAMs_20	11 03 32.1			
	comp=Z,932nm,22.0s								
G08A	Pilot Rock	136.00	7	IAMs_20	IAMs_20	11 08 38.5			
	comp=Z,859nm,22.0s								
BOZ	Bozeman (W)	136.07	359	IAMs_20	IAMs_20	11 06 02.2			
	comp=Z,776nm,21.0s								
SDDR	Presa de Saban	136.17	296	IAMs_20	IAMs_20	11 03 30.6			
	comp=Z,743nm,20.0s								
SCIA	State Center	136.23	339	IAMs_20	IAMs_20	11 05 09.9			
	comp=Z,838nm,22.0s								
TBI	Tubuai	136.28	127	eSS	SS	10 24 39.9	+2.9		
	comp=Z,3µm,27.8s								
TBI	Tubuai	136.28	127	eLQ	LQ	10 40 03.9			
	comp=Z,9µm,45.2s								
TBI				eLR	LR	10 47 39.7			
	comp=Z,5µm,27.5s								
TBI				eLR	LR	10 47 40.8			
	comp=Z,1µm,27.5s								
PAULI	Pauline	136.30	323	IAMs_20	IAMs_20	11 05 06.2			
	comp=Z,794nm,20.0s								
WCI	Wyandotte Cave	136.31	330	IAMs_20	IAMs_20	11 06 47.8			
	comp=Z,963nm,22.0s								
DLMT	Dillon	136.31	0	IAMs_20	IAMs_20	11 08 05.6			
	comp=Z,854nm,20.0s								
JSC	Jenkinsville	136.32	322	IAMs_20	IAMs_20	11 03 42.9			
	comp=Z,667nm,20.0s								
I02E	Swisshome, OR	136.36	12	IAMs_20	IAMs_20	11 10 47.3			
	comp=Z,647nm,20.0s								
NHSC	New Hope	136.40	320	IAMs_20	IAMs_20	11 02 54.1			
	comp=Z,810nm,22.0s								
CSU	Charleston Sou	136.40	319	IAMs_20	IAMs_20	11 02 54.3			
	comp=Z,957nm,22.0s								
BUCK	Buck Mountain	136.44	11	IAMs_20	IAMs_20	11 05 22.5			
	comp=Z,828nm,22.0s								
P43A	Skaggs, Pawnee	136.70	334	IAMs_20	IAMs_20	11 07 18.7			
	comp=Z,829nm,20.0s								
OLIL	Olney	136.79	332	IAMs_20	IAMs_20	11 07 20.3			
	comp=Z,899nm,20.0s								
YMP	Mirror Lake Pl	136.89	358	IAMs_20	IAMs_20	11 09 26.8			
	comp=Z,895nm,21.0s								
YHB	Horse Butte	136.91	359	IAMs_20	IAMs_20	11 07 58.4			
	comp=Z,977nm,22.0s								
RSSD	Black Hills	136.91	351	IAMs_20	IAMs_20	11 05 04.5			
	comp=Z,698nm,22.0s								
YNM	Yellowstone No	136.92	358	IAMs_20	IAMs_20	11 10 57.7			
	comp=Z,858nm,20.0s								
YNR	Norris Junctio	136.93	358	IAMs_20	IAMs_20	11 10 58.0			
	comp=Z,896nm,20.0s								
HODGE	Hodges	136.97	322	IAMs_20	IAMs_20	11 07 59.9			
	comp=Z,733nm,20.0s								
I07A	Izee	137.12	8	IAMs_20	IAMs_20	11 09 28.2			
	comp=Z,765nm,22.0s								
L34A	Svendsen Farm,	137.21	342	IAMs_20	IAMs_20	11 05 56.8			
	comp=Z,782nm,22.0s								
N38A	Joes South For	137.21	339	IAMs_20	IAMs_20	11 07 35.0			
	comp=Z,859nm,20.0s								
J01E	Myrtle Point	137.25	12	IAMs_20	IAMs_20	11 05 24.8			
	comp=Z,760nm,22.0s								
W52A	Murphy	137.36	325	IAMs_20	IAMs_20	11 06 00.1			
	comp=Z,725nm,20.0s								
K30B	Basset	137.44	346	IAMs_20	IAMs_20	11 10 36.5			
	comp=Z,711nm,20.0s								
CPCT	Cooper Cave	137.44	326	IAMs_20	IAMs_20	11 17 19.2			
	comp=Z,681nm,19.0s								
J04A	Umpqua Nationa	137.53	11	IAMs_20	IAMs_20	11 06 33.3			
	comp=Z,750nm,22.0s								
P40A	Paris	137.85	336	IAMs_20	IAMs_20	11 07 51.0			
	comp=Z,848nm,22.0s								
N35A	Tabor	137.99	341	IAMs_20	IAMs_20	11 05 03.3			
	comp=Z,875nm,22.0s								
FXWY	Fox Creek	138.02	359	IAMs_20	IAMs_20	11 11 51.7			
	comp=Z,844nm,20.0s								
LOHW	Long Hollow	138.03	358	IAMs_20	IAMs_20	11 08 47.1			
	comp=Z,713nm,21.0s								
HLID	Hailey	138.07	2	IAMs_20	IAMs_20	11 11 40.2			
	comp=Z,769nm,20.0s								
MFID	Camas Ranch	138.15	4	IAMs_20	IAMs_20	11 08 28.2			
	comp=Z,701nm,22.0s								
TPAW	Teton Pass	138.17	358	IAMs_20	IAMs_20	11 10 43.6			
	comp=Z,878nm,20.0s								
SNOW	Snow King Moun	138.19	358	IAMs_20	IAMs_20	11 06 47.2			
	comp=Z,995nm,22.0s								
K04D	Chiloquin, OR	138.19	10	IAMs_20	IAMs_20	11 06 54.8			
	comp=Z,757nm,22.0s								
BGNE	Belgrade	138.24	344	IAMs_20	IAMs_20	11 09 30.9			
	comp=Z,835nm,22.0s								
GOGA	Godfrey	138.26	323	IAMs_20	IAMs_20	11 14 29.1			
	comp=Z,618nm,19.0s								
Y52A	Lilburn	138.31	324	IAMs_20	IAMs_20	11 08 29.2			
	comp=Z,731nm,20.0s								
V48A	Smith Brothers	138.49	328	IAMs_20	IAMs_20	11 10 11.5			
	comp=Z,687nm,22.0s								
CGM3	Cape Girardeau	138.68	332	IAMs_20	IAMs_20	11 16 50.2			
	comp=Z,722nm,19.0s								
K22A	Casper	138.69	353	IAMs_20	IAMs_20	11 10 53.5			
	comp=Z,784nm,21.0s								
PPT2	Papeete2	138.73	119	eSS	SS	10 25 04.2	-2.7		
	comp=Z,1µm,28.8s								
PPT2	Papeete2	138.73	119	eLQ	LQ	10 42 17.5			
	comp=Z,3µm,33.5s								
PPT2				eLR	LR	10 48 43.4			
	comp=Z,2µm,32.8s								
PPT2				eLR	LR	10 48 49.0			
	comp=Z,2µm,25.5s								
KRMB	Red Mountain	138.81	13	IAMs_20	IAMs_20	11 10 37.3			
	comp=Z,681nm,22.0s								
BW06	Boulder Array	138.83	357	IAMs_20	IAMs_20	11 13 44.1			
	comp=Z,943nm,21.0s								
PDAR	Pinedale Array	138.83	357	PKP	PKPdf	10 04 00.0	-0.5		
	comp=Z,0.9nm,0.7s,baz=90,slow=3.0,SNR=7.8								
AHID	Auburn Hatcher	138.89	359	IAMs_20	IAMs_20	11 11 22.8			
	comp=Z,990nm,21.0s								
R40A	Maddies Statio	139.00	336	IAMs_20	IAMs_20	11 15 53.4			
	comp=Z,773nm,20.0s								
456A	Hilliard	139.12	318	IAMs_20	IAMs_20	11 06 39.3			
	comp=Z,866nm,22.0s								
KRPM	Rodgers	139.13	13	IAMs_20	IAMs_20	11 06 35.8			
	comp=Z,771nm,21.0s								
JCC	Jacoby Creek,	139.46	14	IAMs_20	IAMs_20	11 08 31.4			
	comp=Z,772nm,20.0s								
152A	Waverly Hall	139.53	323	IAMs_20	IAMs_20	11 02 40.8			
	comp=Z,810nm,22.0s								
X48A	Hartselle	139.58	327	IAMs_20	IAMs_20	11 07 42.5			
	comp=Z,787nm,19.0s								
OGNE	Ogallala	139.63	348	IAMs_20	IAMs_20	11 10 42.4			
	comp=Z,944nm,22.0s								
HALT	Halls	139.64	331	IAMs_20	IAMs_20	11 08 15.8			
	comp=Z,929nm,22.0s								
TIGA	Tifton	139.67	321	IAMs_20	IAMs_20	11 06 48.7			
	comp=Z,864nm,22.0s								
PLAL	Pinewick Lake	139.72	328	IAMs_20	IAMs_20	11 09 18.3			
	comp=Z,766nm,19.0s								
HVU	Hansel Valley	139.89	0	IAMs_20	IAMs_20	11 10 55.3			
	comp=Z,815nm,22.0s								
HWUT	Hardware Ranch	140.06	359	PKPdf	PKPdf	10 04 00.3	-2.5		
HWUT				IAMs_20	IAMs_20	11 09 43.7			
	comp=Z,672nm,21.0s								
060A	Indiantown	140.16	312	IAMs_20	IAMs_20	11 02 43.5			
	comp=Z,891nm,22.0s								
DWPF	Disney Wildern	140.31	315	IAMs_20	IAMs_20	11 10 01.4			
	comp=Z,633nm,19.0s								
656A	Willston	140.31	317	PKPdf	PKPdf	10 04 01.2	-2.1		
O02D	Mt. Diablo Mer	140.35	13	IAMs_20	IAMs_20	11 13 03.9			
	comp=Z,616nm,19.0s								
352A	Blakely	140.48	322	IAMs_20	IAMs_20	11 06 16.5			
	comp=Z,922nm,22.0s								
TCUT	Toone Canyon	140.55	359	IAMs_20	IAMs_20	11 12 12.6			
	comp=Z,666nm,22.0s								
MET	Memphis--Engin	140.56	330	IAMs_20	IAMs_20	11 05 48.1			
	comp=Z,933nm,22.0s								
BGU	Big Grassy Mou	140.74	1	IAMs_20	IAMs_20	11 13 05.0			
	comp=Z,623nm,20.0s								
OXF	Oxford	140.78	329	IAMs_20	IAMs_20	11 08 48.1			
	comp=Z,813nm,21.0s								
ELK	Elko	140.84	3	IAMs_20	IAMs_20	11 13 32.5			
	comp=Z,750nm,21.0s								
CTU	Camp Tracy	140.98	359	IAMs_20	IAMs_20	11 10 19.0			
	comp=Z,695nm,20.0s								
553A	Crawfordville	141.04	320	IAMs_20	IAMs_20	11 17 17.1			
	comp=Z,640nm,20.0s								
Z47A	Carrollton	141.08	327	IAMs_20	IAMs_20	11 15 27.4			
	comp=Z,601nm,20.0s								
CBKS	Cedar Bluff	141.10	344	IAMs_20	IAMs_20	11 14 30.5			
	comp=Z,919nm,21.0s								
BSUT	Blindstream Ca	141.11	358	IAMs_20	IAMs_20	11 11 28.5			
	comp=Z,929nm,22.0s								
R32A	Long Quarter,	141.17	343	IAMs_20	IAMs_20	11 11 14.5			
	comp=Z,759nm,22.0s								
061Z	Ocoppi	141.21	311	IAMs_20	IAMs_20	11 04 51.6			
	comp=Z,654nm,21.0s								
O20A	White River Ci	141.35	355	IAMs_20	IAMs_20	11 15 37.0			
	comp=Z,677nm,21.0s								
ISCO	Idaho Springs	141.38	352	IAMs_20	IAMs_20	11 10 22.6			
	comp=Z,906nm,21.0s								
PAHR	Pah Rah Range	141.43	9	IAMs_20	IAMs_20	11 09 05.2			
	comp=Z,651nm,22.0s								
U38A	Gravette	141.45	336	IAMs_20	IAMs_20	11 10 17.2			
	comp=Z,846nm,20.0s								
DUG	Dugway, Tooele	141.47	1	IAMs_20	IAMs_20	11 11 53.2			
	comp=Z,834nm,21.0s								
WHAR	Wooly Hollow	141.53	333	IAMs_20	IAMs_20	11 17 59.7			
	comp=Z,825nm,20.0s								
MPU	Maple Canyon	141.65	359	IAMs_20	IAMs_20	11 12 28.8			
	comp=Z,743nm,21.0s								
GDXM	Geysers	141.66	13	IAMs_20	IAMs_20	11 05 37.6			
	comp=Z,807nm,22.0s								
MTDJ	Mount Denham	141.99	298	IAMs_20	IAMs_20	11 05 51.6			
	comp=Z,703nm,20.0s								
146A	Union	142.04	327	IAMs_20	IAMs_20	11 16 54.9			
	comp=Z,741nm,20.0s								
Q24A	Divide	142.13	351	IAMs_20	IAMs_20	11 10 52.5			
	comp=Z,733nm,22.0s								
TMUT	Trail Mountain	142.36	359	IAMs_20	IAMs_20	11 12 19.6			
	comp=Z,652nm,22.0s								
X40A	Basin Creek Fa	142.45	333	IAMs_20	IAMs_20	11 10 12.0			
	comp=Z,902nm,22.0s								
SRU	San Rafael Swe	142.52	358	IAMs_20	IAMs_20	11 10 14.9			
	comp=Z,788nm,22.0s								
WAKR	Walker	142.60	9	IAMs_20	IAMs_20	11 10 28.3			
	comp=Z,716nm,22.0s								
RYN	Ryan	142.61	8	IAMs_20	IAMs_20	11 12 05.6			
	comp=Z,734nm,21.0s								
SPR3	Spring Creek 3	142.63	3	IAMs_20	IAMs_20	11 15 24.8			
	comp=Z,706nm,20.0s								
Q16A	Castle Valley	142.74	358	IAMs_20	IAMs_20	11 11 41.5			
	comp=Z,784nm,21.0s								
NVAR	Mina Array Bea	142.84	8	PKP	PKPdf	10 04 05.3	-2.5		
	comp=Z,0.5nm,0.7s,baz=56,slow=3.9,SNR=4.6								
CMB	Columbia Colle	142.90	11	IAMs_20	IAMs_20	11 11 33.2			
	comp=Z,727nm,21.0s								
OK038	West end E0370	142.97	342	IAMs_20	IAMs_20	11 13 18.3			
	comp=Z,900nm,22.0s								
LHV	Little Huntoon	142.99	8	IAMs_20	IAMs_20	11 08 48.5			
	comp=Z,780nm,22.0s								
PSUT	Pine Spring	143.11	2	IAMs_20	IAMs_20	11 08 53.5			
	comp=Z,698nm,22.0s								
VBMS	Vicksburg	143.15	328	IAMs_20	IAMs_20	11 15 03.0			
	comp=Z,600nm,20.0s								
R11B	Troy Canyon, C	143.20	4	IAMs_20	IAMs_20	11 14 56.0			
	comp=Z,640nm,20.0s								
WLAR	White Oak Lake	143.24	333	IAMs_20	IAMs_20	11 09 35.9			
	comp=Z,918nm,22.0s								
SDCO	Great Sand Dun	143.37	351	IAMs_20	IAMs_20	11 15 47.4			
	comp=Z,834nm,21.0s								
FNO	Franklin	143.63	339	IAMs_20	IAMs_20	11 12 18.8			
	comp=Z,774nm,22.0s								
HMU	Henry Mountain	143.70	358	IAMs_20	IAMs_20	11 11 16.0			
	comp=Z,773nm,21.0s								
T25A	Trinidad	143.78	349	IAMs_20	IAMs_20	11 15 20.1			
	comp=Z,615nm,20.0s								
S11A	Rachel	143.89	5	IAMs_20	IAMs_20	11 13 05.2			
	comp=Z,860nm,22.0s								
DSP	Deep Springs	143.93	8	IAMs_20	IAMs_20	11 12 47.4			
	comp=Z,610nm,20.0s								
PRN	Pahroc Range	144.18	4	IAMs_20	IAMs_20	11 21 45.8			
	comp=Z,651nm,20.0s								
GRAC	Grapevine Rang	144.37	7	IAMs_20	IAMs_20	11 23 23.0			
	comp=Z,701nm,20.0s								
Z38A	Mt. Pleasant	144.44	335	IAMs_20	IAMs_20	11 16 17.4			
	comp=Z,818nm,20.0s								
TPNV	Topopah Spring	144.54	5	IAMs_20	IAMs_20	11 11 02.4			
	comp=Z,757nm,22.0s								
PMPB	Monarch Peak	144.58	12	IAMs_20	IAMs_20	11 11 15.8			
	comp=Z,698nm,22.0s								
KNB	Kanab	144.65	1	IAMs_20	IAMs_20	11 13 56.2			
	comp=Z,792nm,21.0s								
SHPR	Sheep Range	145.06	4		PKPbc	10 04 09.0	-2.0		
GWY	Greenwater Val	145.25	6	PKPbc	PKPbc	10 04 09.4	-2.2		
Z35A	Perchaven, San	145.30	337	PKPbc	PKPbc	10 04 08.4	-3.3		
Z35A				IAMs_20	IAMs_20	11 19 24.0			
	comp=Z,672nm,21.0s								
AMTX	Amarillo	145.32	344	PKPbc	PKPbc	10 04 09.6	-2.3		
QSM	Queen of Sheba	145.45	6		PKPbc	10 04 10.3	-1.8		
ISA	Isabella, Lake	145.53	9	PKPdf	PKPdf	10 04 11.3	-1.2		
ISA				IAMs_20	IAMs_20	11 12 18.9			
	comp=Z,589nm,20.0s								
ISA	Isabella, Lake	145.53	9	PKIKP	PKPdf	10 04 11.3	-1.2		
NATX	Nacogdoches	145.56	333	IAMs_20	IAMs_20	11 13 03.5			
	comp=Z,826nm,21.0s								
FW06	Azle	145.73	338	IAMs_20	IAMs_20	11 16 56.5			
	comp=Z,823nm,21.0s								
V12A	Nelson	145.86	4	PKPdf	PKPdf	10 04 12.0	-1.1		
V12A				IAMs_20	IAMs_20	11 12 21.3			
	comp=Z,752nm,22.0s								
FW03	Perrin-Whitt E	145.86	338	PKPdf	PKPdf	10 04 11.1	-1.9		
237A	Washetta, Mont	145.87	334	PKPdf	PKPdf	10 04 12.5	-0.5		
OTAV	Otavalo	146.06	268	PKPdf	PKPdf	10 04 10.8	-3.7		
OTAV	Otavalo	146.06	268	PKIKP	PKPdf	10 04 10.8	-3.7		
OTAV				MLR	MLR				
	comp=Z,1µm,21.0s								
FW14	Alvarado	146.10	337	IAMs_20	IAMs_20	11 10 56.2			
	comp=Z,831nm,21.0s								
WUAZ	Wupatki	146.13	359	PKPdf	PKPdf	10 04 11.6	-2.0		
PLPT	Palo Pinto	146.16	338	PKPdf	PKPdf	10 04 12.9	-0.7		
FW13	Cleburne	146.23	337	PKPdf	PKPdf	10 04 12.3	-1.3		
ANMO	Albuquerque	146.26	351	PKPdf	PKPdf	10 04 11.7	-2.2		
ANMO	Albuquerque	146.26	351	PKPdf	PKPdf	10 04 11.3	-2.6		
ANMO				IAMs_20	IAMs_20	11 14 31.9			
	comp=Z,706nm,21.0s								
ANMO	Albuquerque	146.26	351	IAMs_20	IAMs_20	11 16 12.9			
	comp=Z,639nm,20.0s								
ANMO	Albuquerque	146.26	351	*c i* PKP2	PKPab	10 04 17.0	+1.4		
ANMO				pmax	pmax				
	comp=Z,23nm,2.5s								
APMT	Aspermont	146.31	341	PKPdf	PKPdf	10 04 12.1	-1.7		
MSTX	Muleshoe	146.47	345	PKPdf	PKPdf	10 04 12.7	-1.4		
W13A	Hualapai Mount	146.53	2	PKPdf	PKPdf	10 04 11.6	-2.7		
W13A				IAMs_20	IAMs_20	11 14 40.2			
	comp=Z,701nm,20.0s								
WHTX	Lake Whitney,	146.56	337	IAMs_20	IAMs_20	11 13 52.5			
	comp=Z,678nm,20.0s								
COHC	Cochancay	146.66	263	PKPdf	PKPdf	10 04 12.1	-2.8		
HNVL	Huntsville, T

ML2.4/2, Error ellipse: s-maj=26.1km s-min=14.9km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.24**	**281**	I	I	10 06 20.0	
	baz=101,slow=333,SNR=14						
ZALV	**Zalesovo Beam**	**1.24**	**281**	Pg	Pn	10 00 20.4	+0.2
	0.8nm,0.3s,baz=99,slow=14,SNR=7.6						
ZALV				Lg	Lg	10 00 35.2	
	0.9nm,0.3s,baz=96,slow=30,SNR=5.6						
KURBB	**Kurchatov Arra**	**6.00**	**242**	Pn	Pn	10 01 26.2	+0.6
	baz=56,slow=13,SNR=1.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.53**	**205**	Pn	Pn	10 01 47.5	+0.9
	0.1nm,0.3s,baz=17,slow=12,SNR=6.3						
	0.1nm,0.3s						

STR 02 10:02:26.0±2.3, 44°N±15°×°±1°1, h0km, MLv1.9/5, LOCSAT earthModelID alpes_taup-2.11 preliminary, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUSF	**Rustrel**	**0.92**	**82**	Pg	Pb	10 02 44.3	-0.6
RUSF				Sg	Sg	10 02 56.3	+0.8
ARTF	**Artigues**	**1.17**	**101**	Pg	Pg	10 02 48.7	+0.2
ARTF				Sg	Sg	10 03 03.7	+0.1
TRIGF	**Trigance**	**1.58**	**92**	Pg	Pn	10 02 53.9	-1.5
TRIGF				Sg	Sn	10 03 11.4	-5.2
COLF	**Collangettes**	**1.73**	**348**	Pg	Pb	10 02 58.4	-0.4
COLF				Sg	Sn	10 03 19.0	-1.4

*VIE **02** 10:04:14.1±0.3, 45°.86N×11°.92E, h10km±1km, mb2.1/11, ml2.4/13, Error ellipse: s-maj=1.7km s-min=1.4km az=162.0 39 km SW of Belluno*

ROM 02 10:04:13.8±0.1, 45°.841N±0°.009×11°.928E±0°.008, h7km, ML2.2/63, 9C-6D, Error ellipse: s-maj=0.9km s-min=0.5km az=174.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASOL	**Asolo**	**0.04**	**204**	⇓P	Pg	10 04 15.8	+0.4
ASOL				S	Sg	10 04 17.8	+1.4
CGRP	**Cima Grappa**	**0.10**	**293**	⇓*e*Pg	Pg	10 04 16.6	+0.4
CGRP				*e*Sg	Sg	10 04 19.1	+1.2
CGRP	**Cima Grappa**	**0.10**	**293**	⇓P	Pg	10 04 16.6	+0.4
CGRP				S	Sg	10 04 19.2	+1.3
CGRP				AML	AML		
	comp=E,1625μm,0.3s						
CGRP				AML	AML		
	comp=E,1640μm,0.3s						
CGRP				AML	AML		
	comp=N,1300μm,1.5s						
CGRP				AML	AML		
	comp=N,1260μm,1.6s						
CGRP				AML	AML		
	comp=N,1300μm,0.5s						
CGRP				AML	AML		
	comp=N,1260μm,0.4s						
CGRP				AML	AML		
	comp=E,1630μm,0.3s						
CGRP				AML	AML		
	comp=E,1630μm,0.3s						
CGRP				AML	AML		
	comp=N,1183μm,0.3s						
CGRP				AML	AML		
	comp=N,1146μm,0.3s						
CGRP				AML	AML		
	comp=E,1640μm,0.3s						
CRND	**Cornuda**	**0.10**	**93**	⇓P	Pg	10 04 15.4	-0.8
CRND				S	Sg	10 04 17.0	-0.8
CRND				AML	AML		
	comp=E,7755μm,0.2s						
CRND				AML	AML		
	comp=E,7795μm,0.2s						
CRND				AML	AML		
	comp=N,17750μm,0.2s						
CRND				AML	AML		
	comp=N,17774μm,0.2s						
CRND				AML	AML		
	comp=E,6217μm,0.1s						
MTLO	**Montello**	**0.12**	**103**	⇑*e*Pg	Pg	10 04 16.1	-0.3
MTLO				*e*Sg	Sg	10 04 18.3	0.0
VARN	**Col Varnada, M**	**0.20**	**39**	⇑*e*Pg	Pg	10 04 17.7	-0.1
VARN				*e*Sg	Sg	10 04 21.0	+0.5
VARN	**Col Varnada, M**	**0.20**	**39**	⇑P	Pg	10 04 17.7	-0.1
VARN				S	Sg	10 04 21.0	+0.5
VARN				AML	AML		
	comp=E,1770μm,0.3s						
VARN				AML	AML		
	comp=E,1820μm,0.3s						
VARN				AML	AML		
	comp=N,1620μm,0.2s						
VARN				AML	AML		
	comp=N,1540μm,0.2s						
VARN				AML	AML		
	comp=E,1817μm,0.3s						
VARN				AML	AML		
	comp=E,1773μm,0.3s						
VARN				AML	AML		
	comp=N,1620μm,0.2s						
ED06	**Collalto TV**	**0.20**	**85**	⇑*e*Pg	Pg	10 04 17.2	-0.5
ED06				*e*Sg	Sg	10 04 20.3	-0.1
CEKR	**Cima Ekar Asia**	**0.25**	**272**	*e*Pg	Pg	10 04 19.5	+0.6
CEKR				*e*Sg	Sg	10 04 23.7	+1.5
CTI	**Castel Tesino**	**0.28**	**317**	P	Pg	10 04 19.6	+0.2
CTI				S	Sg	10 04 24.7	+1.4
CTI				AML	AML		
	comp=N,1165μm,0.3s						
CTI				AML	AML		
	comp=E,998μm,0.5s						
CTI				AML	AML		
	comp=E,952μm,0.2s						
CTI				AML	AML		
	comp=N,1162μm,0.3s						
CAE	**Caneva**	**0.39**	**65**	⇑*e*Pg	Pg	10 04 20.6	-0.9
CAE				*e*Sg	Sg	10 04 26.3	-0.4
APGO	**Alpago**	**0.43**	**44**	*e*Pg	Pg	10 04 21.6	-0.7
APGO				*e*Sg	Sg	10 04 28.2	+0.3
AGOR	**Agordo**	**0.45**	**11**	*e*Pg	Pg	10 04 22.1	-0.5
AGOR				*e*Sg	Sg	10 04 29.5	+1.0
PANI	**Panarotta**	**0.46**	**297**	⇑*e*Pg	Pg	10 04 23.3	+0.4
PANI				*e*Sg	Sg	10 04 30.3	+1.3
PANI	**Panarotta**	**0.46**	**297**	⇑P	Pg	10 04 23.2	+0.4
PANI				S	Sg	10 04 29.8	+0.8
PANI				AML	AML		
	comp=E,156μm,0.6s						
PANI				AML	AML		
	comp=N,190μm,1.5s						
PANI				AML	AML		
	comp=N,190μm,0.5s						
PANI				AML	AML		
	comp=N,158μm,0.2s						
PANI				AML	AML		
	comp=E,129μm,0.6s						
ZIAN	**Ziano**	**0.50**	**330**	*e*Pg	Pg	10 04 24.1	+0.5
ZIAN				*e*Sg	Sb	10 04 31.7	-1.0
ZIAN	**Ziano**	**0.50**	**330**	⇓P	Pg	10 04 24.1	+0.5
ZIAN				S	Sb	10 04 31.5	-1.2
ZIAN				AML	AML		
	comp=E,408μm,0.3s						
ZIAN				AML	AML		
	comp=N,462μm,0.4s						
ZIAN				AML	AML		
	comp=N,455μm,0.2s						
ZIAN				AML	AML		
	comp=E,458μm,0.2s						
ZIAN				AML	AML		
	comp=E,408μm,0.3s						
CSO	**Casso**	**0.51**	**32**	*e*Pg	Pg	10 04 22.9	-0.8
CSO				*e*Sg	Sg	10 04 30.6	+0.2
TEOL	**Teolo**	**0.51**	**201**	⇑*e*Pg	Pg	10 04 23.1	-0.6
TEOL				*e*Sg	Sg	10 04 31.1	+0.6
TEOL	**Teolo**	**0.51**	**201**	P	Pg	10 04 23.2	-0.6
TEOL				AML	AML		
	comp=N,550μm,0.3s						
TEOL				AML	AML		
	comp=E,462μm,0.6s						
TEOL				AML	AML		
	comp=N,550μm,0.3s						
TEOL				AML	AML		
	comp=E,461μm,0.6s						
TEOL				AML	AML		
	comp=N,550μm,0.3s						
DOSS	**Dosso del Somm**	**0.52**	**275**	*e*Pg	Pg	10 04 24.1	+0.2
DOSS	**Dosso del Somm**	**0.52**	**275**	P	Pg	10 04 24.1	+0.2
DOSS				S	Sg	10 04 31.5	+0.8
DOSS				AML	AML		
	comp=E,226μm,1.5s						
DOSS				AML	AML		
	comp=N,231μm,0.5s						
DOSS				AML	AML		
	comp=N,214μm,1.3s						
DOSS				AML	AML		
	comp=E,225μm,1.5s						
DOSS				AML	AML		
	comp=E,192μm,1.0s						
DOSS				AML	AML		
	comp=N,214μm,1.3s						
DOSS				AML	AML		
	comp=E,192μm,1.0s						
DOSS				AML	AML		
	comp=E,225μm,0.5s						
DOSS				AML	AML		
	comp=E,171μm,0.1s						
DOSS				AML	AML		
	comp=E,161μm,0.1s						
DOSS				AML	AML		
	comp=N,184μm,0.1s						
DOSS				AML	AML		
	comp=N,147μm,0.1s						
CIMO	**Cimolais**	**0.59**	**37**	*e*Pg	Pg	10 04 24.6	-0.6
CIMO	**Cimolais**	**0.59**	**37**	AML	AML		
	comp=N,71μm,0.9s						
CIMO				AML	AML		
	comp=E,73μm,1.2s						
CIMO				AML	AML		
	comp=E,63μm,1.2s						
CIMO				AML	AML		
	comp=E,63μm,0.8s						
CIMO				AML	AML		
	comp=E,73μm,0.8s						
CIMO				AML	AML		
	comp=N,71μm,1.1s						
CIMO				AML	AML		
	comp=N,54μm,0.3s						
STAL	**STALIGIAL**	**0.69**	**52**	AML	AML		
	comp=N,268μm,0.9s						
STAL				AML	AML		
	comp=E,218μm,0.4s						
STAL				AML	AML		
	comp=N,268μm,0.9s						
STAL				AML	AML		
	comp=E,218μm,0.4s						
STAL				AML	AML		
	comp=E,170μm,1.6s						
STAL				AML	AML		
	comp=E,170μm,0.4s						
STAL				AML	AML		
	comp=N,192μm,0.2s						
LUSI	**Trento, Gardas**	**0.70**	**280**	P	Pg	10 04 27.2	0.0
LUSI				S	Sb	10 04 38.4	+0.2
LUSI				AML	AML		
	comp=N,208μm,0.2s						
LUSI				AML	AML		
	comp=E,122μm,0.1s						
LUSI				AML	AML		
	comp=N,207μm,0.2s						
LUSI				AML	AML		
	comp=E,122μm,0.1s						
GAGG	**Gaggia**	**0.72**	**290**	*e*Pg	Pg	10 04 27.8	+0.2
GAGG	**Gaggia**	**0.72**	**290**	P	Pg	10 04 27.8	+0.1
GAGG				AML	AML		
	comp=N,155μm,0.2s						
GAGG				AML	AML		
	comp=E,178μm,0.2s						
GAGG				AML	AML		
	comp=N,176μm,0.2s						
GAGG				AML	AML		
	comp=E,166μm,0.2s						
VARA	**Varagna**	**0.72**	**269**	*e*Pg	Pg	10 04 27.9	+0.2
VARA	**Varagna**	**0.72**	**269**	⇓P	Pg	10 04 27.8	+0.1
VARA				S	Sg	10 04 37.7	+0.6
VARA				AML	AML		
	comp=E,408μm,1.0s						
VARA				AML	AML		
	comp=E,346μm,0.2s						
VARA				AML	AML		
	comp=N,334μm,0.3s						
VARA				AML	AML		
	comp=N,410μm,0.8s						
VARA				AML	AML		
	comp=N,367μm,0.1s						
VARA				AML	AML		
	comp=E,396μm,0.1s						
VARA				AML	AML		
	comp=E,347μm,0.2s						
VARA				AML	AML		
	comp=N,334μm,0.3s						
KOSI	**Kohlern**	**0.73**	**329**	⇑P	Pg	10 04 28.2	+0.3
KOSI				S	Sb	10 04 38.5	-0.7
KOSI				AML	AML		
	comp=E,124μm,1.3s						
KOSI				AML	AML		
	comp=N,90μm,0.5s						
KOSI				AML	AML		
	comp=N,70μm,0.4s						
KOSI				AML	AML		
	comp=E,123μm,0.6s						
MBAL	**Monte Baldo -**	**0.76**	**260**	P	Pg	10 04 28.4	0.0
MBAL				S	Sb	10 04 39.6	-0.5
MBAL				AML	AML		
	comp=E,252μm,0.3s						
MBAL				AML	AML		
	comp=E,252μm,0.3s						
MBAL				AML	AML		
	comp=N,222μm,0.3s						
MBAL				AML	AML		
	comp=E,218μm,0.1s						
APPI	**Appiano**	**0.80**	**323**	P	Pg	10 04 29.4	+0.1
APPI				S	Sb	10 04 40.9	-0.3
APPI				AML	AML		
	comp=E,141μm,1.0s						
APPI				AML	AML		
	comp=E,141μm,1.0s						
APPI				AML	AML		
	comp=N,177μm,0.4s						
APPI				AML	AML		
	comp=E,128μm,0.2s						
APPI				AML	AML		
	comp=N,169μm,0.3s						
OZOL	**Ozolo**	**0.83**	**313**	*e*Pg	Pb	10 04 30.2	-0.4
OZOL	**Ozolo**	**0.83**	**313**	P	Pg	10 04 30.1	+0.3
OZOL				S	Sb	10 04 42.1	0.0
OZOL				AML	AML		
	comp=N,286μm,1.4s						
OZOL				AML	AML		
	comp=E,368μm,0.4s						
OZOL				AML	AML		
	comp=N,241μm,0.5s						
OZOL				AML	AML		
	comp=N,286μm,1.4s						
OZOL				AML	AML		
	comp=N,242μm,0.5s						
OZOL				AML	AML		
	comp=N,286μm,0.6s						
OZOL				AML	AML		
	comp=E,376μm,0.4s						
OZOL				AML	AML		
	comp=E,368μm,0.4s						
OZOL				AML	AML		
	comp=E,377μm,0.4s						
OZOL				AML	AML		
	comp=E,368μm,0.4s						
CSMI	**Casera Mimoias**	**0.84**	**37**	*e*Pg	Pg	10 04 29.6	-0.4
MPRI	**Monte Prat**	**0.84**	**61**	P	Pg	10 04 29.8	-0.2
MPRI				S	Sb	10 04 42.9	+0.6
MPRI				AML	AML		
	comp=N,88μm,0.2s						
MPRI				AML	AML		
	comp=E,54μm,1.5s						
MPRI				AML	AML		
	comp=E,54μm,0.5s						
MPRI				AML	AML		
	comp=N,88μm,0.2s						
MPRI				AML	AML		
	comp=E,47μm,0.3s						
MAGA	**Magasa**	**0.91**	**266**	P	Pb	10 04 31.8	-0.2
MAGA				S	Sb	10 04 45.1	+0.7
MAGA				AML	AML		
	comp=E,176μm,0.2s						
MAGA				AML	AML		
	comp=N,140μm,0.3s						
MAGA				AML	AML		
	comp=N,134μm,0.2s						
MAGA				AML	AML		
	comp=E,176μm,0.2s						
RONC	**Roncone**	**0.92**	**279**	AML	AML		
	comp=N,236μm,0.2s						
RONC				AML	AML		
	comp=E,182μm,0.3s						
ABTA	**Abfaltersbach**	**0.99**	**24**	*e*Pg	Pb	10 04 33.3	-0.1
	comp=E,0.4nm,0.1s,SNR=6.4						
ABTA				*e*Sg	Sb	10 04 46.6	-0.1
	comp=E,3.1nm,0.2s						
CARE	**Lago del Cares**	**1.04**	**305**	P	Pg	10 04 33.9	+0.2
CARE				S	Sb	10 04 48.6	+0.4
CARE				AML	AML		
	comp=E,71μm,0.4s						
CARE				AML	AML		
	comp=N,84μm,0.4s						
CARE				AML	AML		
	comp=E,71μm,0.4s						
CARE				AML	AML		
	comp=E,70μm,0.3s						
CARE				AML	AML		
	comp=N,59μm,0.2s						
PTCC	**Patocco-Chiusa**	**1.14**	**60**	P	Pg	10 04 35.2	-0.5
PTCC				S	Sn	10 04 52.1	-0.1
PTCC				AML	AML		
	comp=E,101μm,0.4s						
PTCC				AML	AML		
	comp=N,82μm,0.4s						
PTCC				AML	AML		
	comp=N,82μm,0.4s						
PTCC				AML	AML		
	comp=E,101μm,0.4s						
ROSI	**Rosskopf**	**1.14**	**342**	P	Pb	10 04 36.2	+0.2
ROSI				S	Sn	10 04 52.0	-0.5
ROSI				AML	AML		
	comp=E,79μm,0.3s						
ROSI				AML	AML		
	comp=N,91μm,0.9s						
ROSI				AML	AML		
	comp=N,91μm,1.1s						
ROSI				AML	AML		
	comp=E,79μm,0.3s						
ROSI				AML	AML		
	comp=N,91μm,0.3s						
SABO	**M.te Sabotino**	**1.18**	**83**	P	Pg	10 04 36.1	-0.3
SABO				S	Sn	10 04 52.8	-0.2
SABO				AML	AML		
	comp=E,914μm,0.2s						
SABO				AML	AML		
	comp=N,949μm,0.4s						
SABO				AML	AML		
	comp=N,266μm,0.5s						
SABO				AML	AML		
	comp=E,223μm,0.3s						
SABO				AML	AML		
	comp=N,265μm,0.4s						
SABO				AML	AML		
	comp=E,914μm,0.2s						
SABO				AML	AML		
	comp=N,947μm,0.4s						
SABO				AML	AML		
	comp=E,223μm,0.3s						
BRMO	**Bormio**	**1.25**	**301**	P	Pb	10 04 37.8	-0.1
BRMO				S	Sb	10 04 54.6	+0.3
BRMO				AML	AML		
	comp=E,49μm,0.4s						
BRMO				AML	AML		
	comp=N,60μm,0.2s						
BRMO				AML	AML		
	comp=N,60μm,0.2s						
BRMO				AML	AML		
	comp=E,49μm,0.4s						
ACOM	**Acomizza, Ital**	**1.31**	**57**	P	Pn	10 04 38.5	-0.2
ACOM				S	Sn	10 04 57.6	+1.1
ACOM				AML	AML		
	comp=E,143μm,0.3s						
ACOM				AML	AML		
	comp=E,136μm,0.3s						
ACOM				AML	AML		
	comp=N,120μm,1.4s						
ACOM				AML	AML		
	comp=N,105μm,1.4s						
ACOM				AML	AML		
	comp=E,143μm,1.7s						
ACOM				AML	AML		
	comp=E,136μm,1.7s						
ACOM				AML	AML		
	comp=N,105μm,0.6s						
ACOM				AML	AML		
	comp=N,120μm,0.6s						
ACOM				AML	AML		
	comp=E,137μm,0.3s						
ACOM				AML	AML		
	comp=N,100μm,0.4s						
ACOM				AML	AML		
	comp=N,111μm,0.5s						
ACOM				AML	AML		
	comp=E,143μm,0.3s						
FUORN	**Ofenpass-Fuorn**	**1.39**	**305**	P	Pb	10 04 40.2	-0.1
FUORN				S	Sn	10 04 59.8	+1.1
FUORN				AML	AML		
	comp=E,27μm,0.3s						
FUORN				AML	AML		
	comp=N,32μm,1.1s						
FUORN				AML	AML		
	comp=N,30μm,0.4s						
FUORN				AML	AML		
	comp=E,27μm,0.3s						
MYKA	**Terra Mystica**	**1.43**	**56**	*e*Pn	Pb	10 04 40.6	-0.2
	comp=E,8.6nm,0.3s,SNR=14						
MYKA				*i* Sn	Sg	10 05 00.2	+0.5
	comp=E,6.2nm,0.2s						
WTTA	**Wattenberg**	**1.44**	**352**	*i* Pg	Pg	10 04 41.9	+0.5
	comp=E,1.3nm,0.2s,SNR=11						
WTTA				*e*Sg	Sg	10 05 01.4	+1.3
	comp=E,15nm,0.4s						
WTTA	**Wattenberg**	**1.44**	**352**	AML	AML		
	comp=E,86μm,0.4s						
WTTA				AML	AML		
	comp=N,79μm,0.4s						
WTTA				AML	AML		
	comp=N,79μm,1.6s						
FETA	**Feichten**	**1.44**	**325**	*e*Pg	Pb	10 04 41.2	+0.1
	comp=N,0.5nm,0.1s,SNR=5.1						
FETA				*e*Sn	Sg	10 05 00.5	+0.3
	comp=N,1.2nm,0.1s						
SQTA	**Sankt Quirin**	**1.47**	**340**	*e*Pg	Pg	10 04 41.8	-0.1
	comp=N,30nm,0.4s,SNR=6.3						
SQTA				*e*Sn	Sg	10 05 00.9	-0.1
	comp=N,11nm,0.4s						
WATA	**Walderalm**	**1.51**	**351**	*i* Pg	Pg	10 04 42.8	0.0
	comp=N,2.0nm,0.2s						
WATA				*i* Sg	Sg	10 05 03.8	+1.3
	comp=N,4.5nm,0.2s						
MOTA	**Moosalm**	**1.61**	**340**	*i* Pg	Pg	10 04 44.5	-0.2
	comp=N,1.2nm,0.2s						
MOTA				*e*Sg	Sg	10 05 05.9	+0.4
	comp=N,2.5nm,0.2s						
LESA	**Schwarzleotal**	**1.67**	**18**	*e*Pg	Pg	10 04 45.6	-0.2
	comp=N,1.2nm,0.2s,SNR=6.2						
LESA				*e*Sg	Sg	10 05 08.9	+1.5
	comp=N,5.7nm,0.3s,SNR=4.4						
OBKA	**Obir**	**1.94**	**69**	*i* Pn	Pn	10 04 47.5	+0.2
	comp=N,1.2nm,0.2s						
OBKA				*e*Sn	Sn	10 05 12.4	+0.5
	comp=N,2.4nm,0.3s						
SOKA	**Soboth**	**2.31**	**68**	*i* Sn	Sn	10 05 20.7	-0.4
	comp=N,0.7nm,0.3s						
NRCA	**Norcia**	**3.12**	**164**	AML	AML		
	comp=N,252μm,0.1s						
NRCA				AML	AML		
	comp=E,364μm,0.1s						
LIK	**San Giovanni I**	**4.49**	**164**	AML	AML		
	comp=N,135μm,0.5s						
LIK				AML	AML		
	comp=N,135μm,1.5s						
LIK				AML	AML		
	comp=E,150μm,0.9s						

*UPP **02** 10:10:22.3±0.1, 65°.58N×21°.95E, h0km, ML1.9, Unknown*
*HEL **02** 10:10:22.5±0.2, 65°.60N×21°.87E, h0km, ML1.5, Explosion*

Hypocentre not reviewed by the ISC

*IDC **02** 10:10:24.1±2.1,65.56N×22.49E,h0km,mbtmp2.5/2, ML1.7/2,Error ellipse: s-maj=41.4km s-min=8.0km az=85.0*

ISC 02 10:10:22.4±1.3,65.59N±0.04×21.93E±0.04,h1km±12km, n13,σ0960/18,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SJUU	**Sjulsmark**	**0.16**	**238**	P		**Pg**	**10 10 25.6**	**+0.2**
SJUU				S		**Sg**	**10 10 27.9**	**+0.5**
KALU	**Kalix**	**0.65**	**65**	P		**Pg**	**10 10 34.6**	**-0.3**
KALU				S		**Sg**	**10 10 43.4**	**+0.1**
KALU	**Kalix**	**0.65**	**65**	PG			10 10 34.7	
KALU				SG			10 10 43.2	
HARU	**Harads**	**0.69**	**326**	P		**Pg**	**10 10 35.8**	**0.0**
ERTU	**Ertsjaerv**	**0.97**	**6**	P		**Pg**	**10 10 40.7**	**-0.4**
ERTU	**Ertsjaerv** baz=185	**0.97**	**6**	PB			10 10 40.4	
ERTU				SG			10 10 48.8	
TOF	**Tornio**	**1.10**	**62**	PN			10 10 44.8	
TOF	comp=Z,4.1nm,0.2s			MSG			10 10 56.7	
TOF				SB			10 10 57.8	
OBF8	**Ulkokalla**	**1.42**	**152**	PG			10 10 48.0	
OBF8	comp=Z,5.4nm,0.2s			MSG			10 11 05.5	
OBF8				SN			10 11 10.5	
OBF0	**Syolatti, Pyha**	**1.47**	**137**	PG			10 10 48.1	
OBF0	comp=Z,4.0nm,0.2s			MSG			10 11 07.3	
OBF0				SN			10 11 11.7	
SVAU	**Svanoeiden**	**1.49**	**223**	P		**Pn**	**10 10 49.8**	**-0.6**
SVAU				S		**Sg**	**10 11 09.8**	**-0.4**
PAJU	**Pajala**	**1.52**	**18**	P		**Pn**	**10 10 50.2**	**-0.5**
PAJU	**Pajala**	**1.52**	**18**	PN			10 10 50.1	
PAJU				SN			10 11 12.0	
OBF4	**Vikkela, Lumij**	**1.55**	**119**	PG			10 10 50.7	
OBF4	comp=Z,4.7nm,0.2s			MSG			10 11 09.7	
OBF4				SN			10 11 13.4	
DUNU	**Dundret**	**1.63**	**341**	P		**Pn**	**10 10 52.3**	**-0.1**
OUF	**Merijarvi**	**1.71**	**135**	PG			10 10 53.3	
OUF	comp=Z,3.9nm,0.2s			MSG			10 11 14.1	
OUF				SN			10 11 17.1	
OUL	**Oulu**	**1.74**	**105**	PG			10 10 54.0	
OUL				SN			10 11 18.6	
UMAU	**Umeaa**	**1.80**	**198**	P		**Pn**	**10 10 54.6**	**+0.1**
UMAU	**Umeaa**	**1.80**	**198**	PG			10 10 54.9	
UMAU				SG			10 11 18.4	
KLF	**Kolari**	**1.84**	**25**	PG			10 10 55.8	
KLF	comp=Z,2.9nm,0.2s			MSG			10 11 17.4	
KLF				SN			10 11 20.8	
RNF	**Rovaniemi** baz=238	**1.95**	**57**	PG			10 10 57.9	
RNF				SG			10 11 24.0	
RANF	**Ranua** baz=259	**2.05**	**76**	PG			10 10 59.1	
RANF				SG			10 11 26.2	
KU2	**Taivalkoski**	**2.62**	**85**	PB			10 11 07.5	
KU2				SG			10 11 44.0	
HEF	**Hetta**	**2.91**	**13**	eP		**Pn**	**10 11 11.5**	**+1.6**
HEF	**Hetta**	**2.91**	**13**	PG			10 11 13.9	
HEF	comp=Z,0.9nm,0.2s			SN			10 11 44.6	
HEF				MSG			10 11 48.0	
MSF	**Maaselka**	**2.95**	**81**	SB			10 11 48.4	
OLKF	**Oulanka, Finla**	**3.15**	**73**	PB			10 11 14.5	
OLKF				SB			10 11 53.2	
KU1	**Kurvinen**	**3.17**	**87**	PN			10 11 14.3	
KU6	**Riekki**	**3.31**	**79**	PN			10 11 16.4	
NIF	**Nilsia** baz=314	**3.37**	**128**	PG			10 11 24.2	
KIF	**Kilpisjarvi**	**3.46**	**353**	eP		**Pn**	**10 11 17.4**	**0.0**
KIF	**Kilpisjarvi**	**3.46**	**353**	SG			10 12 11.6	
I37NO	**I37NO** baz=159,slow=337,SNR=1.7	**3.73**	**341**	I		I	10 32 07.4	
VRF	**Varrio** baz=239	**3.75**	**51**	PN			10 11 21.2	
VRF				SN			10 12 06.2	
RAJF	**Raja-Jooseppi**	**3.83**	**38**	PN			10 11 22.8	
RAJF				SN			10 12 08.0	
KAF	**Kangasniemi** baz=331	**3.99**	**149**	PN			10 11 26.2	
ARA0	**ARCESS Array S**	**4.19**	**17**	PG			10 11 38.0	
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=199,slow=14,SNR=6.4	**4.19**	**17**	Pn		**Pn**	**10 11 27.4**	**-0.1**
ARCES				Pg		**Pb**	**10 11 36.8**	**-0.1**
ARCES	comp=Z,0.1nm,0.3s,baz=189,slow=16,SNR=6.6			Sn		**Sn**	**10 12 17.4**	**+0.3**
ARCES	comp=Z,0.1nm,0.3s,baz=198,slow=23,SNR=2.2			Lg		Lg	10 12 32.2	
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=348,slow=14,SNR=1.8	**4.56**	**154**	Pn		**Pn**	**10 11 33.3**	**+0.9**
FINES	comp=Z,0.1nm,0.3s,baz=320,slow=30,SNR=1.7			Sn		**Sn**	**10 12 25.5**	**-0.6**
FINES	comp=Z,0.2nm,0.3s,baz=341,slow=25,SNR=2.4 comp=Z,3.0nm,1.0s			Lg		Lg	10 12 41.8	
RAF	**Rauma**	**4.59**	**181**	SG			10 12 45.2	

*NOU **02** 10:11:04.2, 11.59S×166.01E, h0km, MLv4.9/11, Santa Cruz Islands*

*IDC **02** 10:11:06.8±3.5, 11.59S×166.11E, h82km±29km, mb3.5/7, mbtmp3.9/9, Error ellipse: s-maj=28.4km s-min=21.1km az=51.0*

ISC 02 10:11:01.1±0.8,11.70S±0.07×166.37E±0.09,h35km,n19, σ1955/20,mb3.7/7,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LUES	**Luesalemba Tem**	**1.13**	**336**	P		**Pn**	**10 11 20.9**	**+0.5**
LUES	**Luesalemba Tem**	**1.13**	**336**	S		**Sn**	**10 11 34.6**	**-0.1**
VLAKA	**Lakatoro**	**4.50**	**167**	P		Pn	10 12 15.8	+9.1
HURO	**Huro Makira**	**4.56**	**285**	P		**Pn**	**10 12 08.8**	**+1.2**
HURO	**Huro Makira**	**4.56**	**285**	S		**Sn**	**10 12 58.4**	**-1.0**
NGOA	**Tingoa Renbel**	**6.18**	**271**	P		**Pn**	**10 12 31.2**	**+1.2**
ALEG	**Aligegeo Malai**	**6.31**	**297**	P		**Pn**	**10 12 33.7**	**+2.0**
HNR	**Honiara** 68nm,0.5s,baz=112,slow=5.1,SNR=4.4	**6.71**	**289**	P		**Pn**	**10 12 38.7**	**+1.5**
HNR	25nm,0.3s,baz=170,slow=23,SNR=1.5			S		**Sn**	**10 13 50.7**	**-1.7**
HNR	**Honiara**	**6.71**	**289**	P		**Pn**	**10 12 39.9**	**+2.7**
SAVO	**Savo Central**	**6.93**	**291**	P		**Pn**	**10 12 43.2**	**+2.9**
TATA	**Tatamba Isabel**	**7.26**	**296**	P		**Pn**	**10 12 46.7**	**+1.9**
DZM	**Mont Dzumac** 0.9nm,0.3s,baz=194,slow=14,SNR=6.2	**10.31**	**180**	P		Pn	10 13 34.1	+7.4
DZM	4.1nm,1.1s,baz=297,slow=23,SNR=1.2			S		**Sn**	**10 15 21.1**	**-0.1**
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=78,slow=9.4,SNR=2.5 0.5nm,0.7s	**31.85**	**251**	P		**P**	**10 17 22.4**	**-0.6**
ASAR	**Alice Springs** 0.5nm,0.7s,baz=70,slow=9.5,SNR=8.3	**33.06**	**244**	P		**P**	**10 17 33.6**	**0.0**
ASAR	0.3nm,0.6s,baz=83,slow=1.9,SNR=5.3 0.5nm,0.7s			PcP		**PcP**	**10 20 15.8**	**-1.0**
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=114,slow=7.3,SNR=4.6 0.7nm,0.3s	**72.94**	**294**	P		**P**	**10 22 27.4**	**-0.1**
QSPA	**South Pole Qui** 1.9nm,0.8s,baz=145,slow=2.6,SNR=12 1.9nm,0.8s	**78.31**	**180**	P		**P**	**10 22 58.0**	**+0.5**
ILAR	**Eielson Array** 0.3nm,0.7s,baz=213,slow=6.5,SNR=3.4 0.3nm,0.7s	**83.94**	**18**	P		**P**	**10 23 27.6**	**+0.5**
NVAR	**Mina Array Bea** 0.4nm,0.8s,baz=224,slow=7.4,SNR=3.8 0.4nm,0.8s	**85.97**	**50**	P		**P**	**10 23 39.2**	**+0.9**
MKAR	**Makanchi Array** 0.9nm,0.7s,baz=97,slow=4.9,SNR=2.0 0.9nm,0.7s	**94.42**	**317**	P		**P**	**10 24 15.2**	**-2.4**

*IDC **02** 10:17:22.6±1.2, 37.43N×95.53E, h0km, mb3.7/5, mbtmp3.8/9, ML3.9/3, Error ellipse: s-maj=36.8km s-min=18.6km az=52.0*

ISC 02 10:17:23.6±1.3,37.4N±0.2×95.4E±0.2,h10km,n9,σ1906/9, mb3.7/5,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SONM	**Songino Array** 1.8nm,0.3s,baz=218,slow=15,SNR=20 3.9nm,0.4s	**13.19**	**34**	Pn		**Pn**	**10 20 31.3**	**+0.2**
MKAR	**Makanchi Array** 0.9nm,0.3s,baz=130,slow=14,SNR=21	**13.49**	**318**	Pn		**Pn**	**10 20 34.0**	**-1.0**
MKAR	0.3nm,0.3s,baz=127,slow=24,SNR=5.2 1.8nm,0.4s			Sn		Sn	10 22 55.5	-9.4
KURBB	**Kurchatov Arra** 0.8nm,0.5s,baz=138,slow=12,SNR=1.1	**17.87**	**323**	P		**Pn**	**10 21 31.6**	**-0.5**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=154,slow=12,SNR=9.1 2.5nm,0.6s	**18.08**	**340**	P		**P**	**10 21 36.8**	**+1.7**
BVAR	**Borovoye Array** 1.1nm,0.5s,baz=118,slow=8.3,SNR=2.2 1.1nm,0.5s	**23.36**	**320**	P		**P**	**10 22 33.2**	**+1.1**
KSRS	**Korea Array** 1.0nm,0.5s,baz=278,slow=8.6,SNR=6.7 1.0nm,0.5s	**25.78**	**80**	P		**P**	**10 22 54.0**	**-0.6**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=306,slow=5.0,SNR=5.5 0.4nm,0.8s	**67.19**	**24**	P		**P**	**10 28 16.8**	**-0.7**
WRA	**Warramunga Arr** 0.7nm,0.9s,baz=332,slow=6.2,SNR=2.9 0.7nm,0.9s	**67.83**	**140**	P		**P**	**10 28 22.1**	**+0.1**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=329,slow=6.3,SNR=17 0.5nm,0.5s	**70.75**	**143**	P		**P**	**10 28 40.6**	**+0.5**

KRSC 02 10:23:45.8±2.0,49.53N×156.69E,h16km±25km,Ml3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**1.22**	**343**	*eP*		Pn	10 24 06.9	-1.3
SKR				*eS*		Sb	10 24 22.1	-1.8
PAU	**Pauzhetka**	**1.95**	**2**	*eP*		Pn	10 24 19.2	+1.0
PAU				*eS*		Sb	10 24 44.5	-0.5
MIPR	**Malaya Ipel'ka**	**2.75**	**1**	*eP*		Pn	10 24 30.5	+1.1
ASAK	**Asacha**	**2.96**	**14**	*eP*		Pb	10 24 35.7	-2.6
MTVR	**Mutnovka**	**3.11**	**17**	*eP*		Pn	10 24 37.5	+3.2
MTVR				*eS*		Sb	10 25 15.5	-3.0
GRL	**Gorelyy**	**3.15**	**16**	*eP*		Pn	10 24 37.9	+2.9
UGLR	**Uglovaya**	**3.92**	**19**	*eP*		Pn	10 24 49.7	+4.2
AVH	**Avacha**	**3.96**	**18**	*eP*		Pb	10 24 50.8	-4.5
KOK	**Koryaka**	**3.96**	**17**	*eP*		Pb	10 24 51.0	-4.3
SMAR	**Somma**	**3.97**	**19**	*eP*		Pn	10 24 50.2	+4.0
KRER	**Koryakskii**	**4.00**	**18**	*eP*		Pn	10 24 50.3	+3.7
SDLR	**Sedlovina**	**4.00**	**19**	*eP*		Pn	10 24 50.7	+4.1
KRX	**Arik**	**4.03**	**17**	*eP*		Pn	10 24 51.0	+4.0
GNL	**Ganaly**	**4.25**	**10**	*eP*		Pn	10 24 54.1	+4.1
MKZ	**Mys Kozlova**	**5.92**	**30**	*eP*		Pn	10 25 15.8	+3.1

*FUNV **02** 10:26:52.8, 10.68N×62.39W, h6km, MW3.2*

*TRN **02** 10:26:53.5, 10.91N×62.34W, h29km, MD3.6, North of the Paria peninsula.*

ISC 02 10:26:51.1±2.3,10.84N±0.08×62.30W±0.09, h101km±28km,n12,σ1945/22,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TRN	**Trinidad (W)**	**0.90**	**102**	*eP*		**Pn**	**10 27 11.5**	**+1.0**
TRN				*eS*		**Sn**	**10 27 23.8**	**-1.3**
GRFF	**Grenada Fort F**	**1.32**	**25**	*eP*		**Pn**	**10 27 15.6**	**+0.4**
GRFF				*eS*		**Sn**	**10 27 32.1**	**-1.3**
GRGR	**Grenville**	**1.43**	**26**	*eP*		**Pn**	**10 27 16.7**	**+0.1**
GRGR				*eS*		**Sn**	**10 27 34.9**	**-1.0**
GRW	**Mount Saint Ca**	**1.45**	**26**	*eP*		**Pn**	**10 27 18.2**	**+1.3**
GRW				*eS*		**Sn**	**10 27 35.7**	**-0.7**
GRSS	**Sisters**	**1.60**	**25**	*eP*		**Pn**	**10 27 19.4**	**+0.9**
GRSS				*eS*		**Sn**	**10 27 39.3**	**-0.1**
GCMP	**Grenada, Carri**	**1.84**	**28**	*eP*		**Pn**	**10 27 22.3**	**+0.6**
GCMP				*eS*		**Sn**	**10 27 44.6**	**-0.5**
PCRV	**Puerto La Cruz**	**2.39**	**254**	*eP*		**Pn**	**10 27 29.6**	**+0.8**
PCRV				*eS*		**Sn**	**10 27 57.0**	**-0.7**
PCRV	**Puerto La Cruz**	**2.39**	**254**	*eP*		**Pn**	**10 27 31.1**	**+2.3**
PCRV				*eS*		**Sn**	**10 27 58.2**	**+0.4**
SVB	**Belmont**	**2.62**	**23**	*eP*		**Pn**	**10 27 33.6**	**+1.7**
SVB				*eS*		**Sn**	**10 28 01.5**	**-1.8**
BENV	**Beln**	**5.28**	**261**	*eP*		**Pn**	**10 28 09.1**	**+1.4**
BENV				*eS*		**Sn**	**10 29 05.2**	**-2.3**
CACV	**CAICARA DEL OR**	**5.30**	**232**	*eP*		Pn	10 28 03.1	-4.8
CACV				*eS*		Sn	10 28 55.7	-12
BAUV	**El Baul**	**5.96**	**252**	*eP*		**Pn**	**10 28 17.3**	**+0.5**
BAUV				*eS*		**Sn**	**10 29 20.9**	**-2.9**

IDC 02 10:27:01.8±1.1,15.28S×173.42W,h0km,mb3.8/5, mbtmp3.8/5,Error ellipse: s-maj=44.7km s-min=28.4km az=138.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H11S2	**WAKE ISLAND Hy** baz=149,slow=76,SNR=11	**38.84**	**329**	T		T	11 16 07.9	
H11S3	**WAKE ISLAND Hy** baz=149,slow=76,SNR=14	**38.86**	**329**	T		T	11 16 07.9	
H11S1	**WAKE ISLAND Hy** baz=149,slow=76,SNR=11	**38.86**	**329**	T		T	11 16 07.9	
H11N3	**WAKE ISLAND Hy** baz=149,slow=76,SNR=4.4	**39.79**	**330**	T		T	11 17 14.4	
H11N1	**WAKE ISLAND Hy** baz=149,slow=76,SNR=6.1	**39.80**	**330**	T		T	11 17 18.3	
H11N2	**WAKE ISLAND Hy** baz=149,slow=76,SNR=6.0	**39.81**	**330**	T		T	11 17 15.7	
WRA	**Warramunga Arr** 0.6nm,0.5s,baz=91,slow=6.7,SNR=13	**49.85**	**257**	P		P	10 35 56.8	-0.4
WRA	0.5nm,0.8s,baz=97,slow=4.2,SNR=2.1 0.6nm,0.5s			PcP		PcP	10 37 16.5	-1.5
ASAR	**Alice Springs** 2.1nm,0.5s,baz=91,slow=7.7,SNR=30 2.1nm,0.5s	**50.13**	**252**	P		P	10 35 59.2	-0.1
QSPA	**South Pole Qui** 0.9nm,0.7s,baz=121,slow=1.7,SNR=7.0 0.9nm,0.7s	**74.77**	**180**	P		P	10 38 43.9	+0.3
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=261,slow=5.8,SNR=2.5 0.3nm,0.6s	**82.19**	**42**	P		P	10 39 24.6	-0.5
ILAR	**Eielson Array** 0.4nm,0.8s,baz=209,slow=5.4,SNR=4.4 0.4nm,0.8s	**82.33**	**11**	P		P	10 39 24.8	-0.3
BRTR	**Keskin Array B** 3.1nm,1.0s,baz=60,slow=2.3,SNR=8.4	**146.05**	**321**	PKPbc		PKPab	10 46 45.0	+0.3

*IDC **02** 10:55:05.2±0.8, 8.47N×126.19E, h0km, mb3.9/10, mbtmp3.9/10, Error ellipse: s-maj=31.5km s-min=15.6km az=88.0*

ISC 02 10:55:09.9±0.9,8.41N±0.09×126.2E±0.2,h34km,n12, σ0964/13,mb3.8/10,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DAV	**Davao City (W)** 132nm,0.3s,baz=57,slow=3.3,SNR=23	**1.46**	**204**	Pn		**Pn**	**10 55 33.5**	**-0.4**
DAV	108nm,0.3s,baz=291,slow=21,SNR=8.2			Sn		**Sn**	**10 55 51.4**	**-0.6**
DAV	comp=Z,1μm,20.0s,baz=118,slow=55			LR		LR	10 56 28.7	
DAV	**Davao City (W)**	**1.46**	**204**	*eP*		**Pn**	**10 55 34.0**	**+0.1**
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=105,slow=12,SNR=1.2 0.7nm,0.3s	**28.28**	**293**	P		**P**	**11 01 01.0**	**+0.6**
KSRS	**Korea Array** 0.5nm,0.5s,baz=178,slow=9.1,SNR=4.6 0.5nm,0.5s	**28.95**	**3**	P		**P**	**11 01 05.5**	**-0.6**
WRA	**Warramunga Arr** 0.7nm,0.4s,baz=347,slow=8.7,SNR=2.3 0.7nm,0.4s	**29.30**	**164**	P		**P**	**11 01 09.3**	**-0.1**
MJAR	**Matsushiro Arr** 1.1nm,0.7s,baz=196,slow=8.5,SNR=2.5 1.1nm,0.7s	**30.06**	**20**	P		**P**	**11 01 16.1**	**+0.1**
ASAR	**Alice Springs** 1.1nm,0.6s,baz=343,slow=8.2,SNR=36 1.1nm,0.6s	**32.76**	**167**	P		**P**	**11 01 41.2**	**+1.3**
USRK	**Ussuriysk Ar.** 4.9nm,0.7s,baz=184,slow=6.4,SNR=7.6 4.9nm,0.7s	**36.01**	**7**	P		**P**	**11 02 08.3**	**+0.6**
MKAR	**Makanchi Array** 1.2nm,0.7s,baz=122,slow=8.2,SNR=13 1.2nm,0.7s	**53.46**	**324**	P		**P**	**11 04 26.9**	**+0.2**
ZALV	**Zalesovo Beam** 0.8nm,0.3s,baz=142,slow=7.3,SNR=2.2 0.8nm,0.3s	**56.21**	**332**	P		**P**	**11 04 46.2**	**-0.3**
KURBB	**Kurchatov Arra** 0.7nm,0.7s,baz=126,slow=6.5,SNR=5.8 0.7nm,0.7s	**57.55**	**326**	P		**P**	**11 04 55.4**	**-0.7**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=270,slow=5.9,SNR=4.4 0.2nm,0.6s	**81.14**	**26**	P		**P**	**11 07 21.3**	**-0.4**

IDC 02 11:23:11.1±2.3,18.79S×168.28E,h0km,mb4.2/3, mbtmp4.1/4,ML4.5/1,Error ellipse: s-maj=125.0km s-min=32.4km az=171.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu** 0.2nm,0.3s,baz=288,slow=5.9,SNR=4.3 4.6nm,0.8s	**9.35**	**85**	Pn		Pn	11 25 27.3	+0.1
STKA	**Stephens Creek** 1.2nm,0.6s,baz=90,slow=5.1,SNR=3.4 1.2nm,0.6s	**27.32**	**236**	P		P	11 28 57.9	+0.2
WRA	**Warramunga Arr** 0.6nm,0.5s,baz=98,slow=8.2,SNR=13 0.6nm,0.5s	**32.01**	**262**	P		P	11 29 39.1	-0.3
ASAR	**Alice Springs** 5.4nm,0.4s,baz=82,slow=8.9,SNR=100 5.4nm,0.4s	**32.35**	**255**	P		P	11 29 42.6	+0.1

NOU 02 11:25:50.9,11.41S×163.13E,h6km,MLv4.1/10, Solomon Islands,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HURO	**Huro Makira**	**1.53**	**308**	P		Pn	11 26 17.8	-1.0
HURO	**Huro Makira**	**1.53**	**308**	S		Sn	11 26 36.9	-2.0
LUES	**Luesalemba Tem**	**2.83**	**75**	P		Pn	11 26 35.5	-1.2
NGOA	**Tingoa Renbel**	**3.01**	**267**	P		Pn	11 26 37.9	-1.3
ALEG	**Aligegeo Malai**	**3.57**	**318**	P		Pn	11 26 48.1	+1.3
ALEG	**Aligegeo Malai**	**3.57**	**318**	P		Sn	11 27 30.3	+1.0
SAVO	**Savo Central**	**3.96**	**304**	P		Pn	11 26 54.1	+1.8
TATA	**Tatamba Isabel**	**4.45**	**312**	P		Pn	11 26 59.8	+0.9
VLAKA	**Lakatoro**	**6.26**	**139**	P		Pn	11 27 24.5	+0.7

*DJA **02** 11:35:16.3±0.6, 8.5S×11.9E×, h230km±9km, M4.0/2, MLv3.9/10, MLv4.0/2*

*IDC **02** 11:35:16.1±2.0, 7.01S×120.35E, h288km±18km, mb3.0/2, mbtmp3.7/5, Error ellipse: s-maj=91.3km s-min=15.2km az=51.0*

ISC 02 11:35:13.4±1.0,7.65S±0.08×119.43E±0.05,h264km±9km, n16,σ1950/26,Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSSI	**Bau Bau, Buton**	**1.83**	**35**	P		**Pn**	**11 35 55.7**	**+0.1**
WBSI	**Waikabubak, Su**	**1.98**	**181**	P		**Pn**	**11 35 57.0**	**+0.1**
WBSI				S		**S**	**11 36 29.5**	**-1.9**
PLAI	**Plampang**	**2.02**	**234**	P		**Pn**	**11 35 57.5**	**+0.4**
PLAI				S		**S**	**11 36 31.3**	**-0.5**
WSI	**Waingapu**	**2.18**	**157**	P		**Pn**	**11 35 58.9**	**+0.3**
WSI				S		**S**	**11 36 32.8**	**-1.7**
EDFI	**Ende, Flores**	**2.49**	**116**	P		**Pn**	**11 36 02.3**	**+0.7**
TWSI	**Taliwang, Sumb**	**2.75**	**247**	P		**Pn**	**11 36 04.5**	**+0.4**
TWSI				S		**S**	**11 36 43.2**	**-1.2**
BASI	**Baing, Sumba**	**2.79**	**156**	P		**Pn**	**11 36 05.4**	**+0.8**
BASI				S		**S**	**11 36 44.3**	**-1.0**
SRBI	**Singaraja**	**4.21**	**264**	P		**Pn**	**11 36 21.3**	**+1.1**
BATI	**Baumata** 13nm,0.3s,baz=336,slow=20,SNR=2.0	**4.89**	**122**	P		**Pn**	**11 36 28.9**	**+0.6**
BATI	34nm,0.3s,baz=228,slow=22,SNR=7.6			S		**S**	**11 37 25.7**	**-2.5**
BATI	**Baumata**	**4.89**	**122**	P		**Pn**	**11 36 30.1**	**+1.8**
BATI				S		**S**	**11 37 29.2**	**+1.0**
SOEI	**Soe**	**5.22**	**114**	P		**Pn**	**11 36 34.0**	**+1.6**
SOEI				S		**S**	**11 37 36.6**	**+1.1**
GMJI	**Gumukmas**	**5.96**	**264**	P		**Pn**	**11 36 43.9**	**+2.5**
FITZ	**Fitzroy Crossi** 2.4nm,0.8s,baz=347,slow=14,SNR=1.9	**12.02**	**150**	P		**P**	**11 38 00.7**	**+1.3**
FITZ	1.8nm,0.7s,baz=234,slow=20,SNR=2.2			S		**S**	**11 40 12.0**	**+1.1**
WRA	**Warramunga Arr** 1.6nm,0.8s,baz=304,slow=12,SNR=14	**18.92**	**132**	P		**P**	**11 39 15.2**	**0.0**
WRA	1.0nm,1.1s,baz=315,slow=22,SNR=2.8			S		**S**	**11 42 32.4**	**-3.6**
ASAR	**Alice Springs** 0.7nm,0.4s,baz=314,slow=9.5,SNR=20 0.7nm,0.4s	**21.13**	**141**	P		**P**	**11 39 38.6**	**+0.3**
MKAR	**Makanchi Array** 0.7nm,0.6s,baz=136,slow=8.0,SNR=6.9 0.7nm,0.6s	**63.46**	**332**	P		**P**	**11 45 14.6**	**-0.8**

*IDC **02** 11:43:57.1±1.0, 8.45N×126.37E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=39.1km s-min=17.4km az=86.0*

ISC 02 11:44:02.0±0.9,8.4N±0.1×126.3E±0.2,h35km,n9, σ0981/10,mb3.9/7,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DAV	**Davao City (W)** 173nm,0.3s,baz=254,slow=7.3,SNR=14	**1.50**	**209**	Pn		**Pn**	**11 44 26.2**	**-0.3**
DAV	111nm,0.3s,baz=121,slow=7.3,SNR=6.8			Sn		**Sn**	**11 44 44.1**	**-0.8**
DAV	comp=Z,708nm,20.8s,baz=163,slow=53			LR		LR	11 45 21.2	
DAV	**Davao City (W)**	**1.50**	**209**	↑*iP*		**Pn**	**11 44 27.0**	**+0.5**
WRA	**Warramunga Arr** 0.4nm,0.6s,baz=342,slow=8.6,SNR=2.4 0.4nm,0.6s	**29.25**	**164**	P		**P**	**11 50 00.8**	**-0.2**
ASAR	**Alice Springs** 0.8nm,0.6s,baz=342,slow=7.3,SNR=23 0.8nm,0.6s	**32.72**	**167**	P		**P**	**11 50 32.7**	**+1.2**
USRK	**Ussuriysk Ar.** 3.6nm,0.7s,baz=198,slow=8.8,SNR=8.3 3.6nm,0.7s	**36.01**	**7**	P		**P**	**11 50 59.3**	**-0.4**
MKAR	**Makanchi Array** 1.1nm,0.8s,baz=111,slow=8.3,SNR=9.5 1.1nm,0.8s	**53.54**	**324**	P		**P**	**11 53 20.0**	**+0.6**
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=136,slow=6.8,SNR=1.5 0.3nm,0.3s	**57.63**	**326**	P		**P**	**11 53 48.6**	**0.0**
BVAR	**Borovoye Array** 0.6nm,0.5s,baz=114,slow=8.7,SNR=2.6 0.6nm,0.5s	**63.22**	**326**	P		**P**	**11 54 27.9**	**+1.1**
ILAR	**Eielson Array** 0.1nm,0.6s,baz=247,slow=5.1,SNR=1.8 0.1nm,0.6s	**81.10**	**26**	P		**P**	**11 56 12.8**	**-0.7**

*CATAC **02** 12:00:43.5±0.8, 8.7N×4.8×3.9W×, h6km±3km, M3.7/8, MLv3.7/8, Error ellipse: s-maj=9.8km s-min=9.0km az=102.0,confirmed*

*UPA **02** 12:00:45.0±1.7, 8.39N×82.82W, h20km±3km, ML3.8*

ISC 02 12:00:44.5±0.9,8.39N±0.04×82.84W±0.03,h31km±6km, n35,σ1906/51,1C-10D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LESP3	**La Esperanza,**	**0.05**	**71**	↓*iP*		**Pb**	**12 00 49.4**	**-0.4**
LESP3	comp=Z,14μm,0.1s			AMP			12 00 49.5	
LESP3				*eS*		**Sb**	**12 00 51.8**	**-1.6**
CDITO	**Canoas**	**0.19**	**350**	P		**Pb**	**12 00 50.6**	**-0.2**
CDITO	**Canoas**	**

PTAR3	**Potrerillos Ar**	**0.46**	**48**	⇓*iP*	**Pb**	**12 00 54.1**	**-0.3**
PTAR3				*eS*	**Sn**	**12 01 02.1**	**0.0**
BC3P	**Paso Ancho**	**0.48**	**28**	*eP*	**Pb**	**12 00 54.5**	**-0.4**
BC3P				AMP		12 00 54.7	
	comp=Z,6μm,0.1s						
BC3P				*eS*	**Sn**	**12 01 03.5**	**+0.6**
CHIR3	**Chiriqui UPA,**	**0.51**	**89**	⇓*iP*	**Pb**	**12 00 53.9**	**-1.1**
BQSF3	**Alto Boquete,**	**0.53**	**49**	⇓*iP*	**Pb**	**12 00 54.9**	**-0.7**
BQSF3				AMP		12 00 55.2	
	comp=Z,6μm,0.1s						
BQSF3				*eS*	**Sb**	**12 01 03.5**	**+0.2**
PSOM3	**Paja de Sombre**	**0.59**	**60**	⇓*iP*	**Pb**	**12 00 55.4**	**-1.1**
PSOM3				*eS*	**Sb**	**12 01 04.6**	**-0.1**
DRK0	**Durika**	**0.96**	**335**	*eP*	**Pn**	**12 01 01.9**	**0.0**
DRK0				*eS*	**Sn**	**12 01 15.9**	**+1.3**
DRK0	**Durika**	**0.96**	**335**	P	**Pn**	**12 01 02.0**	**0.0**
OCHAL	**Ojochal**	**1.06**	**312**	P	**Pn**	**12 01 03.2**	**0.0**
OCHAL	**Ojochal**	**1.06**	**312**	S	**Sn**	**12 01 18.9**	**+2.0**
MESA3	**La Mesa, Verag**	**1.66**	**98**	*eP*	**Pn**	**12 01 11.0**	**-0.4**
MESA3				*eS*	**Sn**	**12 01 32.7**	**+1.1**
GMAL	**Guarumal, Vera**	**1.71**	**111**	*eP*	**Pn**	**12 01 10.8**	**-1.4**
GMAL				*eS*	**Sn**	**12 01 34.6**	**+1.7**
RSUS3	**Rio de Jesus,**	**1.71**	**103**	*eP*	**Pn**	**12 01 12.0**	**-0.2**
RSUS3				*eS*	**Sn**	**12 01 34.0**	**+1.1**
LCR2	**La Lucha 2**	**1.77**	**320**	S	**Sb**	**12 01 37.8**	**-0.6**
LCR2	**La Lucha 2**	**1.77**	**320**	P	**Pb**	**12 01 15.3**	**-1.2**
CALO3	**Calobre, Verag**	**1.98**	**92**	*eP*	**Pn**	**12 01 16.0**	**+0.2**
CALO3				*eS*	**Sn**	**12 01 40.9**	**+1.2**
TCS1	**Tacares**	**2.19**	**319**	P	**Pb**	**12 01 21.6**	**-1.8**
TRT2	**Tortugero**	**2.33**	**338**	P	**Pb**	**12 01 24.2**	**-1.7**
TRT2	**Tortugero**	**2.33**	**338**	S	**Sb**	**12 01 53.1**	**-1.1**
AZU	**Azuero**	**2.61**	**103**	*eP*	**Pn**	**12 01 26.2**	**+1.7**
AZU				*eS*	**Sn**	**12 01 56.7**	**+1.5**
SOCE	**Pocosol**	**2.65**	**319**	S	**Sb**	**12 02 02.2**	**-1.2**
JTS	**Las Juntas de**	**2.81**	**312**	*eP*	**Pn**	**12 01 28.6**	**+1.2**
JTS				*eS*	**Sn**	**12 02 02.5**	**+2.3**
INDI	**Punta indio, G**	**3.01**	**299**	P	**Pn**	**12 01 30.7**	**+0.7**
INDI	**Punta indio, G**	**3.01**	**299**	S	**Sn**	**12 02 04.9**	**-0.1**
CMARA	**Lajas Hojancha**	**3.02**	**303**	P	**Pn**	**12 01 31.2**	**+0.9**
CMARA	**Lajas Hojancha**	**3.02**	**303**	S	**Sn**	**12 02 07.0**	**+1.6**

IDC 02 12:13:13.9±2.1, 5°88S×130°29E, h0km, mb3.6/2, mbtmp3.8/4, ML3.9/2, Error ellipse: s-maj=139.5km s-min=29.8km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.52**	**165**	Pn	Pn	12 16 39.4	-1.5
	0.5nm,0.3s,baz=347,slow=14,SNR=16						
WRA				Sn	Sn	12 19 13.3	-9.5
	0.3nm,0.3s,baz=342,slow=23,SNR=6.7 1.0nm,0.4s						
ASAR	**Alice Springs**	**18.02**	**169**	P	P	12 17 26.8	+0.2
	0.5nm,0.3s,baz=355,slow=11,SNR=70						
ASAR				S	Sn	12 20 38.6	-9.2
	0.5nm,0.6s,baz=353,slow=25,SNR=6.4 2.7nm,0.7s						
MKAR	**Makanchi Array**	**67.45**	**326**	P	P	12 24 12.4	+0.8
	0.2nm,0.5s,baz=126,slow=8.3,SNR=2.4 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**71.71**	**328**	P	P	12 24 37.0	-0.8
	0.3nm,0.3s,baz=129,slow=4.8,SNR=1.6 0.3nm,0.3s						

*IDC **02** 12:47:20.8±2.3, 31°.23S×177°.52W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=59.6km s-min=39.1km az=35.0*

ISC 02 12:47:23.5±1.7, 31°.6S±0°.1×177°.7W±0°.2, h10km, n6, σ1°.22/7, mb4.0/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.92**	**211**	Pn	**Pn**	**12 49 17.7**	**-1.0**
	0.2nm,0.3s,baz=103,slow=11,SNR=1.9						
URZ				Sn	**Sn**	**12 50 48.5**	**+0.1**
	1.2nm,0.3s,baz=268,slow=18,SNR=9.0						
STKA	**Stephens Creek**	**34.50**	**259**	P	**P**	**12 54 13.3**	**+1.4**
	1.4nm,0.7s,baz=103,slow=12,SNR=2.9 1.4nm,0.7s						
ASAR	**Alice Springs**	**43.34**	**268**	P	**P**	**12 55 26.1**	**+0.1**
	1.4nm,0.6s,baz=112,slow=7.8,SNR=33 1.4nm,0.6s						
WRA	**Warramunga Arr**	**44.43**	**273**	P	**P**	**12 55 33.7**	**-1.1**
	1.4nm,0.7s,baz=113,slow=8.3,SNR=9.7 1.4nm,0.7s						
QSPA	**South Pole Qui**	**58.54**	**180**	P	**P**	**12 57 20.8**	**+0.8**
	1.9nm,1.0s,baz=15,slow=1.9,SNR=3.6 1.9nm,1.0s						
FINES	**FINESS Array B**	**146.34**	**340**	PKPbc	**PKPdf**	**13 07 01.5**	**-1.0**
	0.9nm,0.7s,baz=29,slow=3.2,SNR=3.5						

*NEIC **02** 12:57:11.0±1.3, 41°.17N±0°.05×116°.68W±0°.05, h5km±2km, Error ellipse: s-maj=8.4km s-min=5.6km az=202.0*

REN 02 12:57:13.2±1.3, 41°.14N±0°.05×116°.61W±0°.05, h6km±6km, ML3.0/10, ML2.8/66(NEIC), Error ellipse: s-maj=7.1km s-min=5.6km az=199.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELK	**Elko**	**1.11**	**110**		Pg	12 57 34.3	-0.2
ELK				Sg	Sg	12 57 48.4	-0.5
ELK				IAML		12 57 51.1	
	288nm,0.3s						
ELK				IAML		12 57 51.3	
	333nm,0.4s						
Q09A	**Carvers**	**2.34**	**191**		Pn	12 57 51.5	-0.8
MFID	**Camas Ranch**	**2.35**	**14**	Pn	Pn	12 57 51.6	-0.8
PAHR	**Pah Rah Range**	**2.55**	**237**		Pn	12 57 54.6	-0.7
J08A	**Circle Bar Ran**	**2.62**	**329**		Pn	12 57 55.3	-0.8
J08A				IAML		12 58 39.1	
	comp=N,50nm,0.6s						
J08A				IAML		12 58 40.0	
	comp=E,48nm,0.9s						
BGU	**Big Grassy Mou**	**2.72**	**93**		Pn	12 57 57.1	-0.5
BGU				IAML		12 58 41.2	
	comp=N,17nm,0.5s						
BGU				IAML		12 58 43.8	
	comp=E,29nm,0.5s						
SPR3	**Spring Creek 3**	**2.76**	**140**	Pn	Pn	12 57 57.1	-1.1
SPR3				IAML		12 58 44.5	
	comp=E,27nm,0.6s						
SPR3				IAML		12 58 46.6	
	comp=N,34nm,0.4s						
R11B	**Troy Canyon, C**	**2.89**	**164**		Pn	12 58 00.1	+0.1
R11B				IAML		12 58 48.0	
	comp=N,23nm,0.3s						
R11B				IAML		12 58 50.2	
	comp=E,20nm,0.3s						
RYN	**Ryan**	**2.91**	**211**		Pn	12 57 59.3	-0.9
RYN				IAML		12 58 47.9	
	comp=N,44nm,0.3s						
RYN				IAML		12 58 48.6	
	comp=E,33nm,0.5s						
HLID	**Hailey**	**2.92**	**33**	Pn	Pn	12 57 59.6	-0.7
HLID				IAML		12 58 45.4	
	comp=E,22nm,0.3s						
HLID				IAML		12 58 50.6	
	comp=E,17nm,0.8s						
NV11	**Mina Array Sit**	**2.95**	**204**		Pn	12 58 00.3	-0.5
HVU	**Hansel Valley**	**2.95**	**76**	Pn	Pn	12 58 00.5	-0.3
HVU				IAML		12 58 47.0	
	comp=N,41nm,0.4s						
HVU				IAML		12 58 51.6	
	comp=E,36nm,0.7s						
NVAR	**Mina Array Bea**	**3.00**	**206**		Pn	12 58 01.4	-0.1
NV09	**Mina Array Sit**	**3.01**	**207**		Pn	12 58 01.3	-0.3
NV08	**Mina Array Sit**	**3.03**	**206**		Pn	12 58 01.6	-0.3
DUG	**Dugway, Tooele**	**3.04**	**107**	Pn	Pn	12 58 00.8	-1.1
DUG				IAML		12 58 49.7	
	comp=E,24nm,0.6s						
DUG				IAML		12 58 52.0	
	comp=E,20nm,0.6s						
TPH	**Tonopah**	**3.09**	**189**	Pn	Pn	12 58 02.5	-0.2
BEKR	**Beckworth**	**3.13**	**247**		Pn	12 58 02.9	-0.3
LHV	**Little Huntoon**	**3.23**	**207**		Pn	12 58 04.6	+0.2
LHV				IAML		12 59 01.7	
	comp=E,38nm,0.7s						
LHV				IAML		12 59 06.0	
	comp=N,27nm,0.4s						
PSUT	**Pine Spring**	**3.35**	**140**		Pn	12 58 07.6	+1.3
PSUT				IAML		12 59 00.6	
	comp=E,36nm,0.6s						

WAKR	**Walker**	**3.41**	**221**		Pn	12 58 06.4	-0.7
WAKR				IAML		12 59 04.1	
	comp=N,12nm,0.5s						
WAKR				IAML		12 59 06.3	
	comp=E,10nm,0.5s						
MZP	**Montezuma Peak**	**3.48**	**190**	Pn	Pn	12 58 07.1	-1.0
MZP				IAML		12 59 05.3	
	comp=E,25nm,0.4s						
MZP				IAML		12 59 08.8	
	comp=N,17nm,0.4s						
S11A	**Rachel**	**3.55**	**169**		Pn	12 58 08.7	-0.3
I07A	**Izee**	**3.64**	**325**	Pn	Pn	12 58 08.7	-1.4
HATC	**Hat Creek Radi**	**3.69**	**267**	Pn	Pn	12 58 08.9	-1.9
HATC				IAML		12 59 13.0	
	comp=N,19nm,3.0s						
HATC				IAML		12 59 24.2	
	comp=E,24nm,2.6s						
CTU	**Camp Tracy**	**3.71**	**95**	Pn	Pn	12 58 09.7	-1.5
BMO	**Blue Mountains**	**3.75**	**352**	Pn	Pn	12 58 10.1	-1.6
HWUT	**Hardware Ranch**	**3.83**	**81**	Pn	Pn	12 58 11.6	-1.2
GMN	**Gold Mountain**	**3.86**	**188**	Pn	Pn	12 58 12.4	-1.0
GMN				IAML		12 59 17.8	
	comp=E,12nm,0.5s						
PRN	**Pahroc Range**	**3.92**	**161**		Pn	12 58 13.2	-0.8
SGV	**South Grapevin**	**4.16**	**185**		Pn	12 58 18.3	+0.8
TPNV	**Topopah Spring**	**4.19**	**176**	Pn	Pn	12 58 16.7	-1.1
G08A	**Pilot Rock**	**4.49**	**338**	Pn	Pn	12 58 21.0	-0.9

*IDC **02** 13:10:28.7±1.2, 29°.99N×87°.36E, h0km, mb3.6/8, mbtmp3.6/10, ML3.6/2, MS3.1/1, Error ellipse: s-maj=37.1km s-min=21.6km az=59.0*

ISC 02 13:10:34.1±1.0, 30°.1N±0°.2×87°.4E±0°.2, h35km, n11, σ0967/10, mb3.6/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.62**	**135**	Pn	**Pn**	**13 14 12.0**	**+0.4**
	0.2nm,0.3s,baz=312,slow=33,SNR=6.9 0.3nm,0.4s						
MKAR	**Makanchi Array**	**17.17**	**348**	P	**P**	**13 14 32.2**	**-0.3**
	0.1nm,0.3s,baz=157,slow=12,SNR=6.1 0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**21.59**	**345**	P	**P**	**13 15 19.6**	**-1.0**
	0.7nm,0.2s,baz=157,slow=12,SNR=4.9 0.7nm,0.2s						
SONM	**Songino Array**	**22.98**	**34**	P	**P**	**13 15 35.7**	**0.0**
	0.6nm,0.7s,baz=232,slow=7.0,SNR=4.1 0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**23.94**	**356**	P	**P**	**13 15 45.0**	**+0.2**
	0.5nm,0.4s,baz=181,slow=10,SNR=3.6 0.5nm,0.4s						
BVAR	**Borovoye Array**	**26.11**	**336**	P	**P**	**13 16 04.2**	**-0.3**
	0.6nm,0.6s,baz=134,slow=8.3,SNR=4.7 0.6nm,0.6s						
ASAJ	**Asahikawa**	**45.40**	**56**	LR	LR	13 39 08.6	
	comp=Z,21nm,19.4s,baz=225,slow=38						
AKASG	**Malin Array Be**	**47.52**	**313**	P	**P**	**13 19 05.4**	**-0.3**
	0.4nm,0.5s,baz=71,slow=8.9,SNR=1.6 0.4nm,0.5s						
HFS	**Hagfors**	**56.41**	**325**	P	**P**	**13 20 12.9**	**+1.2**
	2.9nm,0.8s,baz=81,slow=8.9,SNR=1.8 2.9nm,0.8s						
ASAR	**Alice Springs**	**69.62**	**135**	P	**P**	**13 21 39.5**	**-0.5**
	0.6nm,0.8s,baz=321,slow=6.5,SNR=5.8 0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**79.87**	**279**	P	**P**	**13 22 39.5**	**-0.1**
	0.5nm,0.7s,baz=63,slow=4.6,SNR=2.6 0.5nm,0.7s						

*SOME **02** 13:13:59.5, 41°.10N×78°.37E*
*NNC **02** 13:14:00.2±1.2, 41°.02N±78°.41E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=8.8km s-min=5.6km az=170.0*
*KRNET **02** 13:14:01.3±0.1, 41°.02N±78°.39E, h25km, mb3.7*

ISC 02 13:14:00.9±1.6, 41°.02N±0°.07×78°.38E±0°.05, h0km, n51, σ092/69, 28C-25D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.82**	**329**	⇑*iP*	**Pg**	**13 14 17.0**	**+0.2**
TARG				⇑*iS*	**Sg**	**13 14 28.5**	**+1.0**
KDJ	**Kajisay**	**1.42**	**321**	⇑*iP*	**Pg**	**13 14 27.0**	**-1.2**
KDJ				⇑*iS*	**Sg**	**13 14 46.1**	**-0.6**
PRZ	**Przheval'sk**	**1.46**	**1**	⇑*eP*	**Pn**	**13 14 28.0**	**-0.8**
PRZ				⇑*eS*	**Sb**	**13 14 48.0**	**-0.3**
NRN	**Naryn**	**1.84**	**284**	⇓*iP*	**Pn**	**13 14 34.4**	**+0.3**
NRN				⇓*iS*	**Sn**	**13 14 58.4**	**+0.2**
ULHL	**Ulahol**	**2.01**	**308**	P	**Pb**	**13 14 38.1**	**-0.4**
	SNR=33						
ULHL	**Ulahol**	**2.01**	**308**	⇑*iP*	**Pn**	**13 14 36.8**	**+0.4**
ULHL				⇑*iS*	**Sn**	**13 15 02.5**	**+0.1**
JNKS	**Jany-Kuch**	**2.06**	**272**	⇑*iP*	**Pn**	**13 14 37.0**	**0.0**
JNKS				⇑*iS*	**Sn**	**13 15 02.9**	**-0.7**
TNSS	**Tian-Shan**	**2.28**	**333**	Pg	**Pb**	**13 14 43.1**	**0.0**
	11nm,0.3s						
TNSS				Lg	Lg	13 15 14.0	
	44nm,0.7s						
SHLS	**Shalkode**	**2.28**	**20**	Pg	**Pg**	**13 14 44.2**	**-0.5**
	23nm,0.4s						
SHLS				Lg	Lg	13 15 15.8	
	185nm,0.5s						
BOOM	**Boomskoye usch**	**2.34**	**310**	⇑*iP*	**Pn**	**13 14 41.2**	**+0.4**
BOOM				⇑*iS*	**Sn**	**13 15 10.4**	**+0.1**
KOTS	**Kotyrbulak**	**2.40**	**337**	Pg	**Pb**	**13 14 45.4**	**+0.3**
	67nm,0.3s						
KOTS				Lg	Lg	13 15 17.3	
	182nm,0.6s						
KNDC	**Almaty**	**2.43**	**335**	⇑Pg	**Pb**	**13 14 45.8**	**+0.2**
	90nm,0.5s						
KNDC				⇓Lg	Lg	13 15 19.4	
	283nm,0.5s						
AAA	**Alma-Ata**	**2.44**	**334**	Pg	**Pb**	**13 14 46.3**	**+0.6**
	114nm,0.2s						
AAA				Lg	Lg	13 15 20.9	
	17nm,0.3s						
PDGK	**Podgornoye**	**2.45**	**19**	⇑Pg	**Pn**	**13 14 43.2**	**+0.9**
	15nm,0.3s						
PDGK				⇓Lg	Lg	13 15 16.3	
	91nm,0.7s						
KPKS	**Kokpek**	**2.45**	**5**	Pg	**Pb**	**13 14 45.5**	**-0.5**
	3.0nm,0.6s						
KPKS				Lg	Lg	13 15 18.9	
	738nm,0.4s						
MTBS	**Maitube**	**2.56**	**326**	Pg	**Pb**	**13 14 47.8**	**0.0**
	24nm,0.4s						
MTBS				Lg	Lg	13 15 22.3	
	80nm,0.4s						
KST	**Kastek**	**2.70**	**319**	Pg	**Pb**	**13 14 50.4**	**+0.2**
	18nm,0.3s						
KST				Lg	Lg	13 15 27.4	
	131nm,0.6s						
TKM2	**Tokmak 2**	**2.81**	**313**	P	**Pb**	**13 14 50.8**	**-1.3**
	SNR=8.9						
TKM2	**Tokmak 2**	**2.81**	**313**	⇓Pg	**Pn**	**13 14 48.9**	**+1.6**
	18nm,0.3s						
TKM2				⇓Lg	Lg	13 15 29.2	
	85nm,0.7s						
TKM2	**Tokmak 2**	**2.81**	**313**	⇑*iP*	**Pn**	**13 14 47.9**	**+0.6**
TKM2				⇑*iS*	**Sn**	**13 15 21.9**	**-0.1**
KTBS	**Karatobe**	**2.96**	**336**	Pg	**Pb**	**13 14 54.9**	**+0.3**
	23nm,0.4s						
KTBS				Lg	Lg	13 15 35.9	
	152nm,0.5s						
CHKK	**Chushkaly**	**3.01**	**341**	Pg	**Pb**	**13 14 55.8**	**+0.4**
	27nm,0.5s						
CHKK				Lg	Lg	13 15 36.0	
	96nm,0.4s						
KBK	**Karagaybulak**	**3.04**	**304**	P	**Pb**	**13 14 57.2**	**+1.2**
	SNR=10.0						
KBK	**Karagaybulak**	**3.04**	**304**	⇓*iP*	**Pn**	**13 14 51.0**	**+0.6**
KBK				⇓*iS*	**Sn**	**13 15 27.2**	**-0.4**
BLB	**Baldybastay**	**3.07**	**1**	Pg	**Pb**	**13 14 57.2**	**+0.6**
	112nm,0.3s						
BLB				Lg	Lg	13 15 38.0	
	92nm,0.4s						
UCH	**Uchtor**	**3.13**	**294**	P	**Pb**	**13 14 58.5**	**+0.7**
	SNR=16						
UCH	**Uchtor**	**3.13**	**294**	⇓*iP*	**Pn**	**13 14 52.4**	**+0.4**
UCH				⇓*iS*	**Sn**	**13 15 29.7**	**-0.7**
ARXS	**Arharly**	**3.21**	**353**	Pg	**Pb**	**13 14 58.9**	**0.0**
	46nm,0.3s						
ARXS				Lg	Lg	13 15 42.2	
	61nm,0.4s						
AAK	**Ala-Archa**	**3.32**	**300**	P	**Pb**	**13 15 01.9**	**+1.2**
	SNR=8.6						

AAK	**Ala-Archa**	**3.32**	**300**	⇓Pg	**Pb**	**13 15 00.8**	**0.0**
	7.3nm,0.7s						
AAK				⇓Lg	Lg	13 15 45.3	
	8.7nm,0.7s						
AAK	**Ala-Archa**	**3.32**	**300**	⇑*iP*	**Pn**	**13 14 54.8**	**+0.5**
AAK				⇑*iS*	**Sn**	**13 15 33.9**	**-0.6**
KRBS	**Karabastau**	**3.34**	**324**	Pg	**Pb**	**13 15 01.0**	**0.0**
	8.2nm,0.3s						
KRBS				Lg	Lg	13 15 45.0	
	31nm,0.8s						
CHMS	**Chumysh**	**3.34**	**307**	P	**Pb**	**13 15 02.2**	**+1.1**
	SNR=5.2						
CHMS	**Chumysh**	**3.34**	**307**	⇑Pg	**Pb**	**13 15 01.8**	**+0.7**
	33nm,0.8s						
CHMS				⇑Lg	Lg	13 15 46.9	
	47nm,1.0s						
CHMS	**Chumysh**	**3.34**	**307**	⇑*eP*	**Pn**	**13 14 55.0**	**+0.5**
CHMS				⇑*eS*	**Sn**	**13 15 34.2**	**-0.8**
SALK	**Salom-Alik**	**3.45**	**269**	⇓*iP*	**Pn**	**13 14 56.4**	**+0.3**
SALK				⇓*iS*	**Sn**	**13 15 36.4**	**-1.4**
USP	**Ospenovka**	**3.65**	**309**	P	**Pb**	**13 15 06.9**	**+0.5**
	SNR=7.9						
USP	**Ospenovka**	**3.65**	**309**	⇓*iP*	**Pn**	**13 14 59.5**	**+0.8**
USP				⇓*iS*	**Sn**	**13 15 41.7**	**-0.8**
AML	**Almayashu**	**3.68**	**289**	P	**Pb**	**13 15 08.8**	**+1.7**
	SNR=9.1						
AML	**Almayashu**	**3.68**	**289**	⇓*iP*	**Pn**	**13 14 59.8**	**+0.3**
AML				⇓*iS*	**Sn**	**13 15 42.5**	**-1.3**
SGDS	**Sogindy**	**3.69**	**312**	Pg	**Pb**	**13 15 08.2**	**+1.1**
	6.9nm,0.5s						
SGDS				Lg	Lg	13 15 57.1	
	61nm,0.6s						
EKS2	**Erkin-Say**	**3.81**	**297**	P	**Pb**	**13 15 11.0**	**+2.0**
	SNR=26						
EKS2	**Erkin-Say**	**3.81**	**297**	⇓*iP*	**Pn**	**13 15 01.5**	**+0.6**
EKS2				⇓*iS*	**Sn**	**13 15 45.4**	**-1.0**
ARSB	**Arslanbob**	**4.08**	**276**	⇓*eP*	**Pn**	**13 15 05.2**	**+0.4**
ARSB				⇓*iS*	**Sn**	**13 15 51.7**	**-1.6**
KAPS	**Kapalarasan**	**4.32**	**9**	Pg	**Pb**	**13 15 18.6**	**+0.8**
	4.1nm,0.2s						
KAPS				Lg	Lg	13 16 14.8	
	20nm,0.2s						
MNAS	**Manas**	**4.63**	**290**	⇑*eP*	**Pn**	**13 15 12.9**	**+0.6**
MNAS				⇑*eS*	**Sn**	**13 16 04.9**	**-1.9**
ARK	**Arkit**	**4.88**	**281**	⇑*iP*	**Pn**	**13 15 16.2**	**+0.5**
ARK				⇑*iS*	**Sn**	**13 16 10.8**	**-2.2**
BTLS	**Baital**	**5.12**	**323**	Pg	**Pb**	**13 15 33.6**	**+2.3**
	1.8nm,0.3s						
BTLS				Lg	Lg	13 16 41.6	
	11nm,0.8s						
KK31	**Karatay Array**	**6.21**	**292**	Pg	Pb	13 15 54.7	+4.7
	3.3nm,0.7s,baz=112,slow=15,SNR=11						
KK31				⇓Lg	Lg	13 17 17.3	
	2.9nm,0.5s,baz=112,slow=26,SNR=11						
MAKZ	**Makanchi**	**6.34**	**23**	⇑Pn	**Pn**	**13 15 37.7**	**+2.1**
	0.5nm,0.5s						
MAKZ				⇓Lg	Lg	13 17 18.0	
	3.2nm,0.8s						
MK31	**Makanchi Array**	**6.42**	**25**	⇑Pn	**Pn**	**13 15 36.0**	**-0.8**
	0.4nm,0.4s,baz=202,slow=14,SNR=6.5						
MK31				⇓Lg	Lg	13 17 20.9	
	2.3nm,0.5s,baz=204,slow=24,SNR=3.6						

GCG 02 13:47:09.1±0.3, 14°.27N×91°.48W, h62km±6km, MD3.7, ML3.7, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**0.21**	**41**	*i*P	Pn	13 47 21.3	+2.2
STG0				*i*S	Sn	13 47 30.6	+4.4
STG0				IAML		13 47 33.2	
	comp=E,11μm,0.4s						
STG8	**El Palmar, Qui**	**0.22**	**36**	*i*P	Pn	13 47 21.8	+2.6
STG8				*i*S	Sn	13 47 31.3	+4.8
STG8				IAML		13 47 33.3	
	comp=E,5μm,0.2s						
SOKI	**Kika Raxquin**	**0.55**	**8**	*i*P	Pn	13 47 23.4	+1.2
SOKI				*i*S	Sn	13 47 34.7	+2.9
SOKI				IAML		13 47 41.3	
	comp=N,2μm,0.7s						
ESSG	**Sabana Grande**	**0.64**	**80**	*i*P	Pn	13 47 23.0	+0.1
ESSG				*i*S	Sn	13 47 33.4	+0.4
ESSG				IAML		13 47 35.0	
	comp=N,675nm,0.2s						
FG8	**Yepocapa, Chim**	**0.90**	**90**	*i*P	Pn	13 47 22.4	-3.6
FG8				*i*S	Sn	13 47 32.9	-5.6
FG16	**Alotenango, Sa**	**0.94**	**90**	*i*P	Pn	13 47 23.4	-3.3
FG16				*i*S	Sn	13 47 34.9	-4.8
FG16				IAML		13 47 37.9	
	comp=N,6μm,0.3s						

KRSC 02 13:47:17.7±1.4, 56°.24N×164°.43E, h46km±19km, MI3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.90**	**269**	*eP*	Pn	13 47 34.1	+0.2
KBTR				*eS*	Sn	13 47 45.2	-0.7
KBG	**Krutoberegovo**	**0.96**	**272**	*eP*	Pn	13 47 35.0	+0.2
KBG				*eS*	Sn	13 47 46.8	-0.5
BKI	**Bering**	**1.35**	**139**	*eP*	Pn	13 47 43.2	+3.1
BKI				*eS*	Sn	13 48 00.1	+3.2
SMKR	**Semkarok**	**1.68**	**283**	*eP*	Pn	13 47 47.4	+2.7
SMKR				*eS*	Sn	13 48 07.3	+2.2
BDR	**Baidarnaya**	**1.82**	**282**	*eS*	Sn	13 48 11.8	+3.3
SRKR	**Sorokina**	**1.86**	**284**	*eS*	Sn	13 48 12.0	+2.6
ZLN	**Zelenaya**	**2.04**	**265**	*eP*	Pn	13 47 53.1	+3.4
ZLN				*eS*	Sn	13 48 17.5	+3.5
CIRR	**Tsirk**	**2.06**	**268**	*eP*	Pn	13 47 53.5	+3.5
CIRR				*eS*	Sn	13 48 18.2	+3.7
LGNR	**Loginova**	**2.10**	**267**	*eP*	Pn	13 47 54.3	+3.7
LGNR				*eS*	Sn	13 48 18.9	+3.3
KLY	**Klyuchi**	**2.11**	**274**	*eP*	Pn	13 47 52.1	+1.6
KLY				*eS*	Sn	13 48 15.6	+0.2
BZGR	**Bezymyannyi-Gr**	**2.11**	**263**	*eP*	Pn	13 47 53.6	+2.9
BZWR	**Bezymyanny

*HLW **02** 14:21:45.9, 34˚.40N×24˚.66E, h18km±5km, Md3.6, Ml3.4*
*AFAD **02** 14:21:48.8, 34˚.98N×25˚.29E, h7km±2km, ML2.7*

ISC 02 14:21:40.4±1.3, **34˚.70N**±0˚.04×**24˚.20E**±0˚.04, **h57**km±7km, **n48**, σ2**s22**/68, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.16**	**327**	Pg	**Pn**	**14 21 49.1**	**-0.2**
GVD				Sg	**Sn**	**14 21 54.9**	**-0.8**
GVD	**Gavdhos**	**0.16**	**327**	P	**Pn**	**14 21 49.1**	**-0.2**
GVD				S	**Sn**	**14 21 54.9**	**-0.8**
GVD	**Gavdhos**	**0.16**	**327**	P	**Pn**	**14 21 49.2**	**-0.1**
GVD				S	**Sn**	**14 21 54.1**	**-1.5**
TMBK	**Timbaki Herakl**	**0.60**	**52**	P	**Pn**	**14 21 54.7**	**+1.5**
TMBK				S	**Sn**	**14 22 04.7**	**+2.2**
TMBK	**Timbaki Herakl**	**0.60**	**52**	P	**Pn**	**14 21 54.5**	**+1.4**
TMBK				S	**Sn**	**14 22 02.7**	**+0.2**
PRNS	**Prines Rethymn**	**0.71**	**21**	P	**Pn**	**14 21 54.2**	**-0.4**
PRNS	**Prines Rethymn**	**0.71**	**21**	P	**Pn**	**14 21 54.1**	**-0.5**
CHNB	**Souda**	**0.79**	**352**	P	**Pn**	**14 21 55.9**	**+0.3**
IDI	**Anoyia**	**0.82**	**44**	Pg	**Pn**	**14 21 57.1**	**+1.1**
IDI				Sg	**Sn**	**14 22 08.9**	**+1.5**
IDI	**Anoyia**	**0.82**	**44**	P	**Pn**	**14 21 57.5**	**+1.5**
IDI				S	**Sn**	**14 22 09.7**	**+2.3**
IDI	**Anoyia**	**0.82**	**44**	P	**Pn**	**14 21 57.3**	**+1.3**
IDI				S	**Sn**	**14 22 06.4**	**-1.0**
CHAN	**Chania**	**0.82**	**351**	P	**Pn**	**14 21 56.7**	**+0.6**
CHAN				S	**Sn**	**14 22 09.1**	**+1.6**
CHAN	**Chania**	**0.82**	**351**	P	**Pn**	**14 21 56.4**	**+0.3**
CHAN				S	**Sn**	**14 22 05.3**	**-2.2**
ANKY	**Antikythira Is**	**1.37**	**328**	P	**Pn**	**14 22 04.7**	**+1.4**
ANKY				S	**Sn**	**14 22 22.2**	**+1.8**
ANKY	**Antikythira Is**	**1.37**	**328**	P	**Pn**	**14 22 04.5**	**+1.2**
ANKY				S	**Sn**	**14 22 19.5**	**-1.0**
ZKR	**Zakros**	**1.71**	**76**	Pn	**Pn**	**14 22 08.7**	**+0.8**
ZKR	**Zakros**	**1.71**	**76**	P	**Pn**	**14 22 11.4**	**+3.5**
KTHA	**Kythira Island**	**1.81**	**329**	Pn	**Pn**	**14 22 11.6**	**+2.4**
THR5	**Thira Island,**	**1.95**	**28**	P	**Pn**	**14 22 11.4**	**+0.2**
SAP3	**Santorini-Thir**	**1.97**	**28**	P	**Pn**	**14 22 12.3**	**+0.9**
MHLO	**Agia Marina, M**	**1.99**	**5**	P	**Pn**	**14 22 11.9**	**+0.2**
VLI	**Veliai**	**2.26**	**333**	P	**Pn**	**14 22 16.9**	**+1.6**
VLI	**Veliai**	**2.26**	**333**	P	**Pn**	**14 22 16.3**	**+0.9**
KARP	**Karpathos**	**2.57**	**70**	Pn	**Pn**	**14 22 21.4**	**+1.7**
KARP				Sn	**Sn**	**14 22 50.9**	**+1.1**
KARP	**Karpathos**	**2.57**	**70**	P	**Pn**	**14 22 22.9**	**+3.2**
KARP	**Karpathos**	**2.57**	**70**	P	**Pn**	**14 22 22.9**	**+3.2**
APE	**Apeiranthos**	**2.60**	**24**	Pn	**Pn**	**14 22 19.9**	**-0.1**
APE	**Apeiranthos**	**2.60**	**24**	P	**Pn**	**14 22 20.0**	**-0.1**
MET4	**Agioi Theodoro**	**2.98**	**348**	P	**Pn**	**14 22 25.4**	**+0.1**
MET5	**Makryloggos,Me**	**2.99**	**347**	P	**Pn**	**14 22 25.5**	**+0.1**
ITM	**Ithomi**	**3.08**	**324**	P	**Pn**	**14 22 27.9**	**+1.2**
KARY	**Karystos**	**3.33**	**3**	P	**Pn**	**14 22 30.3**	**+0.3**
DAT	**Datca**	**3.41**	**53**	Pn	**Pn**	**14 22 33.7**	**+2.4**
ARG	**Arkhangelos**	**3.54**	**64**	Pn	**Pn**	**14 22 35.1**	**+2.2**
TURN	**Turunc**	**3.89**	**57**	Pn	**Pn**	**14 22 40.3**	**+2.7**
DALY	**Dalyan (Mula)**	**4.19**	**59**	Pn	**Pn**	**14 22 44.3**	**+2.5**
SABU	**Mula-Dalaman**	**4.42**	**60**	P	**Pn**	**14 22 47.2**	**+2.2**
SABU				S	**Sn**	**14 23 30.0**	**-5.1**
SABU				*i* IAML		14 23 48.0	
	comp=E,20nm,1.2s						
FETY	**Fethiye**	**4.42**	**63**	Pn	**Pn**	**14 22 47.7**	**+2.7**
IZZE	**Mula-Seydike**	**4.45**	**66**	P	**Pn**	**14 22 46.8**	**+1.5**
IZZE				S	**Sn**	**14 23 30.6**	**-5.2**
IZZE				*i* IAML		14 23 38.0	
	comp=E,51nm,0.4s						
AKAS	**Kas**	**4.67**	**69**	Pn	**Pn**	**14 22 50.7**	**+2.2**
AKAS	**Kas**	**4.67**	**69**	P	**Pn**	**14 22 50.2**	**+1.7**
AKAS				S	**Sn**	**14 23 35.3**	**-6.1**
AKAS				*i* IAML		14 23 46.0	
	comp=E,31nm,0.7s						
TAVA	**DENIZLI_Tavas**	**4.71**	**53**	P	**Pn**	**14 22 51.2**	**+2.2**
TAVA				S	**Sn**	**14 23 39.6**	**-2.8**
TAVA				*i* IAML		14 23 55.0	
	comp=N,6.2nm,0.7s						
CAME	**Cameli-Denizli**	**4.71**	**60**	Pn	**Pn**	**14 22 51.5**	**+2.4**
KNIK	**Mula-Seydike**	**4.87**	**62**	P	**Pn**	**14 22 52.7**	**+1.5**
KNIK				S	**Sn**	**14 23 42.2**	**-4.0**
KNIK				*i* IAML		14 24 23.0	
	comp=E,15nm,1.2s						
GOLH	**Golhisar**	**5.03**	**58**	P	**Pn**	**14 22 55.0**	**+1.6**
GOLH				S	**Sn**	**14 23 45.8**	**-4.5**
GOLH				*i* IAML		14 23 54.0	
	comp=N,11nm,0.2s						
SWA2		**5.55**	**169**	P	**Pn**	**14 23 02.8**	**+2.4**
SWA2				S	**Sn**	**14 23 58.5**	**-4.3**
RYAN	**Fayoum**	**7.62**	**136**	P	**Pn**	**14 23 30.1**	**+1.3**
HFRF	**Wahat Farafira**	**8.32**	**154**	P	**Pn**	**14 23 39.6**	**+1.2**

*IDC **02** 14:51:32.6±0.7, 3˚.00S×119˚.41E, h0km, mb3.9/12, mbtmp3.9/14, ML3.8/2, MS3.5/4, Error ellipse: s-maj=34.3km s-min=10.6km az=70.0*
*DJA **02** 14:51:33.6±0.2, 3˚S±2˚×11˚9E±˚, h10km, M4.3/2, MLv4.3/2, MLv4.3/19*
*NEIC **02** 14:51:36.9±1.1, 3˚.06S±0˚.05×119˚.35E±0˚.07, h29km±3km, mb4.5/19, Error ellipse: s-maj=9.9km s-min=7.0km az=72.0*

ISC 02 14:51:33.8±0.5, **3˚.03S**±0˚.04×**119˚.39E**±0˚.05, **h10**km, **n66,** σ0**s90**/64, **mb4.2**/23, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTSI	**Tana Toraja**	**0.43**	**92**	P	**Pg**	**14 51 41.2**	**-1.0**
TTSI				S	**Sg**	**14 51 47.5**	**-0.3**
SPSI	**Sidrap Palu**	**1.00**	**158**	P	**Pg**	**14 51 52.0**	**-1.1**
SPSI				S	**Sg**	**14 52 08.2**	**+2.0**
BNSI	**Bone**	**1.54**	**152**	P	**Pn**	**14 52 01.6**	**+0.3**
KAPI	**Kappang**	**2.00**	**170**	Pn	**Pn**	**14 52 07.9**	**+0.2**
	83nm,0.3s,baz=346,slow=11,SNR=144						
KAPI				Lg	Lg	14 52 35.6	
	84nm,0.3s,baz=30,slow=20,SNR=12						
KAPI				LR	LR	14 53 04.1	
	comp=Z,420nm,18.3s,baz=258,slow=45						
	478nm,0.5s						
PCI	**Palu**	**2.16**	**12**	P	**Pn**	**14 52 10.5**	**+0.7**
BKSI	**Bulukumba**	**2.39**	**162**	P	**Pn**	**14 52 14.2**	**+1.2**
BKB	**Balikpapan**	**3.05**	**305**	Pn	**Pn**	**14 52 23.1**	**+1.0**
BKB	**Balikpapan**	**3.05**	**305**	P	**Pn**	**14 52 22.6**	**+0.5**
BSSI	**Bau Bau, Buton**	**3.28**	**161**	P	**Pn**	**14 52 25.7**	**+0.4**
KDI	**Kendari**	**3.35**	**106**	P	**Pn**	**14 52 28.0**	**+1.7**
MPSI	**Mapaga**	**3.38**	**9**	P	**Pn**	**14 52 26.2**	**-0.5**
LUWI	**Luwuk**	**3.91**	**60**		**Pn**	**14 52 35.0**	**+1.0**
LUWI	**Luwuk**	**3.91**	**60**	P	Pn	14 52 31.7	-2.3
BBSI	**Bau Bau**	**4.00**	**128**	P	**Pn**	**14 52 37.2**	**+2.0**
MRSI	**Marisa**	**4.32**	**36**	P	**Pn**	**14 52 38.8**	**-0.7**
TOLI2	**Tolitoli**	**4.34**	**19**		**Pn**	**14 52 41.6**	**+1.7**
PLAI	**Plampang**	**5.98**	**196**	P	**Pn**	**14 53 02.3**	**-0.1**
EDFI	**Ende, Flores**	**6.12**	**158**	P	**Pn**	**14 53 05.1**	**+0.6**
TWSI	**Taliwang, Sumb**	**6.20**	**204**	P	**Pn**	**14 53 04.8**	**-0.6**
MMRI	**Maumere**	**6.25**	**153**		**Pn**	**14 53 07.1**	**+1.0**
WBSI	**Waikabubak, Su**	**6.57**	**180**	P	**Pn**	**14 53 10.6**	**0.0**
SANI	**Sanana**	**6.66**	**82**	P	**Pn**	**14 53 10.7**	**-1.1**
KMNI	**Kalianget**	**6.72**	**233**	P	**Pn**	**14 53 13.2**	**+0.6**
JAGI	**Jajag, Banyuwa**	**7.51**	**224**	Pn	**Pn**	**14 53 23.5**	**+0.1**
BATI	**Baumata**	**8.30**	**149**	LR	LR	14 57 15.9	
	comp=Z,287nm,18.7s,baz=328,slow=41						
TNTI	**Ternate**	**8.82**	**65**	Pn	**Pn**	**14 53 42.6**	**+1.2**
KKM	**Kota Kinabalu**	**9.55**	**341**	Pn	**Pn**	**14 53 53.1**	**+1.5**
MTN	**Manton Dam**	**15.16**	**131**	Pn	**Pn**	**14 55 09.3**	**+1.0**
KNRA	**Kununurra**	**15.59**	**144**	Pn	**Pn**	**14 55 13.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**16.18**	**158**	Pn	**Pn**	**14 55 21.4**	**0.0**
FITZ	**Fitzroy Crossi**	**16.18**	**158**	Pn	**Pn**	**14 55 22.0**	**+0.6**
	0.1nm,0.3s,baz=336,slow=9.8,SNR=6.2						
	5.1nm,1.2s						
RPSI	**Rantau Prapat**	**21.23**	**285**	P	**P**	**14 56 21.0**	**+0.8**
PSI	**Prapat**	**21.26**	**286**	P	**P**	**14 56 21.0**	**+0.3**
	9.8nm,0.9s,baz=131,slow=11,SNR=3.8						
	9.8nm,0.9s						
WB0	**Warramunga Arr**	**22.17**	**140**	P	**P**	**14 56 29.8**	**-0.4**
WRA	**Warramunga Arr**	**22.26**	**140**	P	**P**	**14 56 31.0**	**-0.2**
	2.2nm,0.7s,baz=316,slow=10,SNR=13						
	2.2nm,0.7s						
WRAB	**Tennant Creek**	**22.26**	**140**	P	**P**	**14 56 30.7**	**-0.5**
WRAB				IAmb	IAmb	14 57 07.5	
	comp=Z,52nm,1.0s						
WR8	**Warramunga Arr**	**22.37**	**140**		**P**	**14 56 32.1**	**-0.3**
AS31	**Alice Springs**	**24.86**	**147**		**P**	**14 56 56.5**	**-0.2**
AS31				IAmb	IAmb	14 57 41.7	
	comp=Z,5.0nm,0.7s						
ASAR	**Alice Springs**	**24.86**	**147**	P	**P**	**14 56 57.5**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=336,slow=10,SNR=38						
	comp=Z,2.3nm,0.8s						
FORT	**Forrest**	**28.79**	**164**	P	**P**	**14 57 32.5**	**+0.5**
FORT				IAmb	IAmb	14 57 33.2	
	comp=Z,4.3nm,0.9s						
CM31	**Chiang Mai Arr**	**29.35**	**317**	P	**P**	**14 57 37.3**	**+0.1**
CM31				IAmb	IAmb	14 57 42.5	
	comp=Z,9.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**29.35**	**317**	P	**P**	**14 57 37.4**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=132,slow=8.5,SNR=4.5						
	comp=Z,0.4nm,0.3s						
BBOO	**Buckleboo**	**33.49**	**154**	P	**P**	**14 58 13.0**	**-0.5**
STKA	**Stephens Creek**	**35.49**	**146**	P	**P**	**14 58 30.4**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=318,slow=14,SNR=4.9						
	comp=Z,1.0nm,0.4s						
KSRS	**Korea Array**	**41.05**	**10**	P	**P**	**14 59 17.8**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=188,slow=12,SNR=5.2						
	comp=Z,0.5nm,0.6s						
MAJO	**Matsushiro**	**43.10**	**22**	P	**P**	**14 59 34.3**	**-0.1**
MAJO				IAmb	IAmb	14 59 42.6	
	comp=Z,11nm,1.4s						
MJB9	**Matsu-Tunnel**	**43.10**	**22**	P	**P**	**14 59 34.3**	**-0.1**
MJB9				IAmb	IAmb	14 59 42.6	
	comp=Z,12nm,1.4s						
EVN	**Everest**	**43.95**	**317**	P	**P**	**14 59 41.3**	**-0.8**
EVN				IAmb	IAmb	14 59 55.9	
	comp=Z,5.4nm,0.8s						
GTA	**Gaotai**	**45.92**	**339**	*e*P	**P**	**14 59 55.7**	**-1.2**
GTA				pP	pP	14 59 59.6	-0.9
GTA				sP	sP	15 00 03.0	+1.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SONM	**Songino Array**	**51.92**	**349**	P	**P**	**15 00 42.3**	**-0.6**
SONM				IAmb	IAmb	15 00 43.9	
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**51.92**	**349**	P	**P**	**15 00 43.0**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=163,slow=10,SNR=8.7						
	comp=Z,2.0nm,0.7s						
HEH	**HeiHe**	**53.52**	**6**	*e*P	**P**	**15 00 53.6**	**-0.9**
HEH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**59.40**	**331**	P	**P**	**15 01 36.4**	**-0.1**
MKAR	**Makanchi Array**	**59.40**	**331**	P	**P**	**15 01 36.6**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=131,slow=8.1,SNR=8.5						
	comp=Z,0.8nm,0.6s						
CASY	**Casey**	**63.44**	**184**	P	**P**	**15 02 02.0**	**-1.4**
CASY				IAmb	IAmb	15 02 02.9	
	comp=Z,7.2nm,1.2s						
KURBB	**Kurchatov Arra**	**63.86**	**332**	P	**P**	**15 02 05.8**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=140,slow=6.3,SNR=4.9						
	comp=Z,0.3nm,0.5s						
BVAR	**Borovoye Array**	**69.28**	**331**	P	**P**	**15 02 41.0**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=114,slow=6.5,SNR=3.6						
	comp=Z,0.6nm,0.7s						
ABKAR	**Akbulak array**	**72.97**	**324**	P	**P**	**15 03 02.8**	**-0.7**
KIWB	**Kanaga Island**	**76.37**	**35**	P	**P**	**15 03 23.4**	**+0.1**
VNDA	**Vanda**	**77.79**	**171**	P	**P**	**15 03 30.9**	**+0.1**
VNDA	**Vanda**	**77.79**	**171**	P	**P**	**15 03 33.0**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=318,slow=11,SNR=7.7						
	comp=Z,0.5nm,0.6s						
BILL	**Bilibino**	**77.99**	**16**	P	**P**	**15 03 33.3**	**+1.3**
BILL				IAmb	IAmb	15 03 41.1	
	comp=Z,3.9nm,0.5s						
BELG	**Belogornoye**	**81.37**	**324**	LR	LR	15 44 44.4	
	comp=Z,18nm,20.1s,baz=34,slow=39						
QSPA	**South Pole Qui**	**86.93**	**180**	P	**P**	**15 04 18.4**	**-0.5**
QSPA				IAmb	IAmb	15 04 32.5	
	comp=Z,7.3nm,1.5s						
QSPA	**South Pole Qui**	**86.93**	**180**	P	**P**	**15 04 20.7**	**+1.8**
	comp=Z,1.8nm,1.0s,baz=351,slow=1.1,SNR=2.5						
	comp=Z,1.8nm,1.0s						
SPITS	**Spitsbergen Ar**	**95.61**	**348**	LR	LR	15 52 42.4	
	comp=Z,70nm,21.2s,baz=11,slow=38						

*BJI **02** 14:53:09.9, 6˚.74S×143˚.60E, h27km, mB5.1/25, mb4.7/64, Ms4.4/17, Ms7 4.2/23*
*MOS **02** 14:53:09.3±0.9, 6˚.57S×143˚.25E, h12km, mb5.1/25, Error ellipse: s-maj=11.8km s-min=6.5km az=106.3*
*IDC **02** 14:53:09.6±0.6, 6˚.56S×143˚.26E, h0km, mb4.6/19, mbtmp4.6/23, ML4.3/4, MS4.3/29, Error ellipse: s-maj=21.0km s-min=13.1km az=83.0*
*NEIC **02** 14:53:12.3±1.5, 6˚.58S±0˚.06×143˚.1E±0˚.1, h10km±1km, mb5.1/119, Error ellipse: s-maj=17.9km s-min=9.2km az=69.0*
*GCMT **02** 14:53:15.3±0.2, 6˚.69S±0˚.01×142˚.95E±0˚.02, h12km, MW5.0/111, Moment Tension Solution. s35,c39; s111,c159; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.25±.06; $M_{\theta\theta}$-1.91±.06; $M_{\phi\phi}$-1.34±.06; $M_{r\theta}$1.67±.23; $M_{\theta\phi}$1.41±.05; $M_{\phi r}$-1.97±.24; Best double couple: M_o4.07700×10^{16} NP1:ϕ_s304.00000°, δ26.00000°, λ79.00000°. NP2:ϕ_s136.00000°, δ65.00000°, λ95.00000°. Principal axes: T 4.1890, Plg70.0000°, Azm56.0000°; N -0.2240, Plg5.0000°, Azm313.0000°; P -3.9650, Plg20.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **02** 14:53:16.0±1.1, 7˚S±3˚×14˚3E±˚, h23km±8km, mb4.9/30*

ISC 02 14:53:11.3±0.3, **6˚.65S**±0˚.04×**143˚.15E**±0˚.05, **h10**km, **n471,** σ1**s20**/413, **mb5.0**/115, **MS4.1**/34, **11C-4D, New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**4.77**	**329**	Pn	**Pn**	**14 54 22.4**	**-1.0**
	7.3nm,0.3s,baz=151,slow=9.2,SNR=20						
JAY				Sn	**Sn**	**14 55 19.6**	**+0.8**
	6.1nm,0.3s,baz=124,slow=18,SNR=4.1						
JAY				Lg	Lg	14 55 38.4	
	8.8nm,0.3s,baz=191,slow=19,SNR=5.1						
JAY				LR	LR	14 56 30.7	
	comp=Z,2μm,20.3s,baz=118,slow=42						
	16nm,0.5s						
JAY	**Jayapura**	**4.77**	**329**	P	**Pn**	**14 54 24.2**	**+0.8**
GENI	**Genyem**	**5.00**	**323**	P	**Pn**	**14 54 27.7**	**+1.2**
SMPI	**Sarmi**	**6.40**	**316**	P	**Pn**	**14 54 44.7**	**-1.0**
	165nm,1.4s						
COEN	**Coen**	**7.26**	**180**		**Pn**	**14 54 59.2**	**+1.6**
RKPI	**Ransiki, Papua**	**10.30**	**299**	P	Pn	14 55 45.1	+5.9
	38nm,0.9s						
FAKI	**Fak Fak**	**11.47**	**288**		**Pn**	**14 55 54.8**	**-0.5**
FAKI	**Fak Fak**	**11.47**	**288**	P	**Pn**	**14 55 53.5**	**-1.8**
	79nm,1.0s						
SAUI	**Saumlaki**	**11.82**	**263**		**Pn**	**14 55 59.4**	**-0.8**
MTN	**Manton Dam**	**13.34**	**242**		**Pn**	**14 56 18.9**	**-2.0**
CTAO	**Charters Tower**	**13.70**	**168**	Pn	**Pn**	**14 56 27.3**	**+1.6**
CTAO	**Charters Tower**	**13.70**	**168**	P	**Pn**	**14 56 27.3**	**+1.6**
WB0	**Warramunga Arr**	**15.57**	**212**	Pn	**Pn**	**14 56 51.4**	**+0.3**
WR8	**Warramunga Arr**	**15.67**	**212**		**Pn**	**14 56 51.0**	**-1.3**
WRAB	**Tennant Creek**	**15.73**	**212**		**Pn**	**14 56 51.7**	**-1.4**
WRAB	**Tennant Creek**	**15.73**	**212**	P	**Pn**	**14 56 51.7**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,26nm,1.0s						
WRA	**Warramunga Arr**	**15.74**	**212**	Pn	**Pn**	**14 56 50.3**	**-3.1**
	comp=Z,1.2nm,0.3s,baz=34,slow=13,SNR=38						
WRA				Sn	Sn	14 59 38.2	-10
	comp=Z,0.9nm,0.3s,baz=25,slow=22,SNR=5.0						
WRA				Lg	Lg	15 01 27.0	
	comp=Z,1.5nm,0.3s,baz=27,slow=30,SNR=6.9						
WRA				LR	LR	15 03 37.3	
	comp=Z,5μm,18.5s,baz=19,slow=40						
HNR	**Honiara**	**16.86**	**101**	P	**P**	**14 57 11.3**	**+1.6**
HNR				IAmb	IAmb	14 57 15.5	
	comp=Z,207nm,1.2s						
HNR	**Honiara**	**16.86**	**101**	Pn	**Pn**	**14 57 06.0**	**-1.7**
	comp=Z,2.6nm,0.3s,baz=297,slow=9.0,SNR=6.7						
	comp=Z,24nm,0.8s						
SANI	**Sanana**	**17.70**	**284**	P	**P**	**14 57 20.6**	**+1.5**
	comp=Z,59nm,0.9s						
SOEI	**Soe**	**18.94**	**259**	P	**P**	**14 57 33.2**	**+0.4**
SOEI	**Soe**	**18.94**	**259**	P	**Pn**	**14 57 36.6**	**+3.2**
	comp=Z,148nm,1.0s						
AS31	**Alice Springs**	**19.11**	**207**	P	**P**	**14 57 35.8**	**+1.3**
ASAR	**Alice Springs**	**19.11**	**207**		**P**	**14 57 35.7**	**+1.1**
ASAR	**Alice Springs**	**19.11**	**207**	P	**P**	**14 57 35.9**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=27,slow=10,SNR=13						
ASAR				S	**Sn**	**15 01 01.2**	**-8.4**
	comp=Z,8.7nm,1.1s,baz=26,slow=26,SNR=3.9						
ASAR				Lg	Lg	15 03 15.5	
	comp=Z,0.4nm,0.3s,baz=19,slow=24,SNR=4.7						
ASAR				LR	LR	15 05 34.8	
	comp=Z,3μm,20.5s,baz=23,slow=39						
	comp=Z,8.5nm,0.7s						
BATI	**Baumata**	**19.59**	**258**	P	**Pn**	**14 57 42.7**	**+1.5**
	comp=Z,1.2nm,0.3s,baz=94,slow=14,SNR=4.7						
BATI				LR	LR	15 07 04.6	
	comp=Z,3μm,19.2s,baz=94,slow=42						
	comp=Z,52nm,0.9s						
EIDS	**Eidsvold**	**20.10**	**159**		**P**	**14 57 47.7**	**+2.3**
GUMO	**Guam**	**20.18**	**5**	LR	LR	15 05 11.0	
	comp=Z,340nm,19.0s,baz=196,slow=36						
FITZ	**Fitzroy Crossi**	**20.52**	**235**		**P**	**14 57 49.9**	**0.0**
FITZ					**S**	**15 01 37.0**	**-2.6**
FITZ	**Fitzroy Crossi**	**20.52**	**235**	P	**P**	**14 57 50.0**	**+0.1**
	comp=Z,42nm,0.9s,baz=57,slow=11,SNR=49						
FITZ				S	**S**	**15 01 37.0**	**-2.6**
	comp=Z,37nm,1.1s,baz=114,slow=10.0,SNR=4.2						
FITZ				Lg	Lg	15 04 01.4	
	comp=Z,0.7nm,0.3s,baz=125,slow=12,SNR=3.8						
FITZ				LR	LR	15 06 23.8	
	comp=Z,4μm,18.6s,baz=58,slow=38						
	comp=Z,42nm,0.9s						
MMRI	**Maumere**	**20.82**	**263**	P	**P**	**14 57 53.4**	**+0.2**
MMRI				IAmb	IAmb	14 58 03.4	
	comp=Z,56nm,0.9s						
MMRI	**Maumere**	**20.82**	**263**	P	Pn	14 57 58.8	+3.2
	comp=Z,71nm,0.9s						
LUWI	**Luwuk**	**21.07**	**284**	P	**P**	**14 57 55.0**	**-0.9**
LUWI				IAmb	IAmb	14 58 09.7	
	comp=Z,101nm,0.9s						
KAPI	**Kappang**	**23.33**	**273**	P	**P**	**14 58 20.3**	**+0.4**
KAPI				IAmb	IAmb	14 58 35.5	
	comp=Z,62nm,1.2s						
KAPI	**Kappang**	**23.33**	**273**	LR	LR	15 09 36.1	
	comp=Z,416nm,19.1s,baz=90,slow=42						
KAPI	**Kappang**	**23.33**	**273**	P	**P**	**14 58 20.3**	**+0.4**
KAPI				pmax	pmax		
	comp=Z,62nm,1.3s						
TOLI2	**Tolitoli**	**23.61**	**288**	P	**P**	**14 58 21.4**	**-1.3**
TOLI2				IAmb	IAmb	14 58 39.9	
	comp=Z,45nm,1.1s						
MPSI	**Mapaga**	**24.21**	**286**	P	**P**	**14 58 30.5**	**+2.0**
	comp=Z,27nm,0.9s						
STKA	**Stephens Creek**	**25.14**	**183**	P	**P**	**14 58 37.4**	**+0.7**
STKA	**Stephens Creek**	**25.14**	**183**	Lg	Lg	15 06 26.6	
	comp=Z,0.1nm,0.3s,baz=328,slow=19,SNR=1.5						
STKA				LR	LR	15 09 27.7	
	comp=Z,2μm,20.4s,baz=358,slow=39						
STKA	**Stephens Creek**	**25.14**	**183**	P	**P**	**14 58 37.4**	**+0.7**
STKA				pmax	pmax		
	comp=Z,99nm,1.4s						
BBOO	**Buckleboo**	**26.85**	**193**	P	**P**	**14 58 54.0**	**+1.8**
DZM	**Mont Dzumac**	**27.22**	**127**	*e*S	**S**	**15 03 33.6**	**-1.4**
	comp=Z,398nm,30.4s						
DZM				*e*LR	LR	15 05 45.9	
	comp=Z,884nm,24.2s						
TGY	**Tagaytay City**	**30.18**	**313**	LR	LR	15 11 45.6	
	comp=Z,70nm,19.5s,baz=138,slow=37						
SBUM	**Sibu**	**32.17**	**285**	P	**P**	**14 59 39.2**	**-0.4**
KSM	**Kuching**	**33.75**	**283**	IAmb	IAmb	14 59 58.0	
	comp=Z,18nm,1.0s						
NWAO	**Narrogin (SRO)**	**35.54**	**219**	LR	LR	15 16 01.8	
	comp=Z,843nm,18.2s,baz=52,slow=38						
MSVF	**Nonsavu**	**35.78**	**111**	LR	LR	15 14 48.9	
	comp=Z,236nm,18.0s,baz=292,slow=36						
MSVF	**Nonsavu**	**35.78**	**111**	*i* P	**P**	**15 00 09.3**	**-1.8**
MSVF				pmax	pmax		
	comp=Z,35nm,2.6s						
JOW	**Kunigami**	**36.27**	**337**	LR	LR	15 12 45.9	
	comp=Z,192nm,19.3s,baz=116,slow=32						
JNU	**Nakatsue**	**41.23**	**344**	LR	LR	15 17 21.7	
	comp=Z,136nm,19.2s,baz=158,slow=35						
PPI	**Padang Panjang**	**43.08**	**276**	P	**P**	**15 01 13.6**	**+1.6**
	comp=Z,35nm,1.0s						
MJAR	**Matsushiro Arr**	**43.21**	**354**	P	**P**	**15 01 11.4**	**-1.3**
MJAR	**Matsushiro Arr**	**43.21**	**354**	P	**P**	**15 01 11.1**	**-1.6**
	comp=Z,4.2nm,0.9s,baz=170,slow=8.4,SNR=9.0						
MJAR				LR	LR	15 17 42.2	
	comp=Z,188nm,21.2s,baz=154,slow=34						
	comp=Z,4

YSS pmax pmax
comp=Z,10.0nm,1.0s
TNCH TengChong 53.63 308 P **P** **15 02 33.4 -0.1**
TNCH PP **PP** **15 04 38.7 +4.3**
TNCH S **S** **15 10 04.2 -3.4**
TNCH pmax pmax
comp=Z,220nm,3.9s
TNCH LR LR
comp=Z,210nm,6.3s
TNCH LR LR
comp=Z,230nm,8.8s
TNCH LR LR
comp=Z,130nm,9.7s
BNX BinXian 54.02 346 ⇓P **P** **15 02 35.5 -0.2**
BNX pmax pmax
comp=Z,23nm,1.2s
BNX pmax pmax
comp=Z,120nm,4.5s
BNX LR LR
comp=Z,89nm,15.7s
BNX LR LR
comp=Z,110nm,16.8s
BNX LR LR
comp=Z,140nm,18.4s
HHC Hu-ho-hao-te 55.46 331 *e*P **P** **15 02 48.4 +2.0**
HHC pmax pmax
comp=Z,20nm,0.5s
HHC pmax pmax
comp=Z,76nm,4.5s
BTO Baotou 56.02 330 *e*P **P** **15 02 52.1 +1.6**
BTO pP sP 15 03 04.8 +10
BTO S **S** **15 10 37.2 -1.9**
BTO SS **SS** **15 14 25.4 -0.1**
BTO pmax pmax
comp=Z,24nm,1.3s
BTO pmax pmax
comp=Z,280nm,4.7s
BTO LR LR
comp=Z,330nm,19.2s
BTO LR LR
comp=Z,230nm,16.3s
BTO LR LR
comp=Z,400nm,20.6s
LZH Lanzhou 56.27 322 *e*P **P** **15 02 54.3 +1.9**
LZH sP sP 15 03 02.5 +5.4
LZH S **S** **15 10 45.3 +2.6**
LZH pmax pmax
comp=Z,31nm,1.4s
LZH LR LR
comp=Z,180nm,18.3s
LZH LR LR
comp=Z,170nm,20.3s
KLR Kul'dur 56.53 351 LR LR 15 22 38.4
comp=Z,115nm,21.7s,baz=168,slow=31
KLR Kul'dur 56.53 351 *i* P **P** **15 02 52.4 -1.4**
KLR pmax pmax
comp=Z,15nm,1.5s
TYV Tymovskoe 57.28 360 *e*P **P** **15 02 59.7 +0.7**
TYV pmax pmax
comp=Z,300nm,6.3s
TYV pmax pmax
comp=Z,12nm,0.8s
SKR Severo-Kuril's 58.19 10*ce*P **P** **15 03 04.1 -1.3**
HEH HeiHe 58.29 348 *e*P **P** **15 03 06.1 -0.1**
HEH pP **sP** **15 03 16.4 +5.6**
HEH pmax pmax
comp=Z,8.0nm,1.1s
HEH LR LR
comp=Z,170nm,19.8s
HEH LR LR
comp=Z,100nm,19.7s
HEH LR LR
comp=Z,310nm,18.7s
PEA0B Petropavlovsk- 60.80 10 *i* P **P** **15 03 22.2 -1.2**
PETK Petropavlovsk- 60.80 10 P **P** **15 03 23.7 +0.3**
PETK Petropavlovsk- 60.80 10 P **P** **15 03 23.3 -0.1**
comp=Z,6.3nm,0.9s,baz=194,slow=7.4,SNR=11
comp=Z,6.3nm,0.9s
PETK Petropavlovsk- 60.80 10 P **P** **15 03 23.7 +0.3**
GTA Gaotai 60.85 323 P **P** **15 03 26.0 +1.7**
GTA pP sP 15 03 31.1 +2.2
GTA pmax pmax
comp=Z,9.0nm,1.7s
GTA LR LR
comp=Z,140nm,17.5s
GTA LR LR
comp=Z,81nm,16.7s
GTA LR LR
comp=Z,120nm,18.5s
PET Petropavlovsk 60.88 11 P **P** **15 03 24.3 +0.3**
comp=Z,11nm,1.1s
LSA Lhasa 61.61 309 P **P** **15 03 31.5 +1.5**
LSA pmax pmax
comp=Z,8.0nm,1.3s
ZEA Zeya 61.64 349 *e*P **P** **15 03 29.7 +0.6**
ZEA pmax pmax
comp=N,10.0nm,1.3s
ZEA pmax pmax
comp=Z,20nm,1.2s
ULN Ulaanbaatar 62.90 334 P **P** **15 03 38.5 +0.5**
ULN Ulaanbaatar 62.90 334*ce*P **P** **15 03 38.1 +0.2**
ULN pmax pmax
comp=Z,13nm,1.3s
SONM Songino Array 63.17 333 P **P** **15 03 39.9 +0.2**
SONM Songino Array 63.17 333 P **P** **15 03 40.3 +0.6**
comp=Z,3.1nm,1.0s,baz=142,slow=4.4,SNR=13
SONM LR LR 15 30 21.0
comp=Z,114nm,21.2s,baz=66,slow=35
comp=Z,3.1nm,1.0s
CASY Casey 63.66 194 P **P** **15 03 42.5 +0.1**
CASY IAmb IAmb 15 04 06.6
comp=Z,9.8nm,1.1s
PALK Pallekele 63.80 281 LR LR 15 36 49.7
comp=Z,90nm,18.2s,baz=116,slow=41
EVN Everest 64.31 305 P **P** **15 03 48.0 -0.1**
PPT2 Papeete2 66.39 106 *e*S **S** **15 12 50.1 -1.7**
comp=Z,68nm,24.2s
PPT2 Papeete2 66.39 106 *e*LR LR 15 23 54.4
comp=Z,110nm,30.2s
PPT2 *e*LR LR 15 24 02.9
comp=Z,141nm,28.5s
ZAK Zakamensk 66.44 333 *e*P **P** **15 04 01.1 +0.2**
ZAK pmax pmax
comp=Z,13nm,1.3s
IRK Irkutsk 67.37 335 *e*P **P** **15 04 07.7 +1.0**
IRK pmax pmax
comp=Z,20nm,1.5s
MOY Mondy 68.37 333 *e*P **P** **15 04 13.8 +0.7**
MOY pmax pmax
comp=Z,28nm,1.8s
YAK Yakutsk 69.27 353 *e*P **P** **15 04 15.0 -3.3**
YAK pmax pmax
comp=Z,13nm,1.4s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,1.1s
SEY Seymchan 69.74 4 *i* P **P** **15 04 19.5 -1.7**
SEY pmax pmax
comp=Z,12nm,1.5s
WMQ Urumqi 70.83 321 *e*P **P** **15 04 30.7 +2.3**
WMQ LR LR
comp=Z,140nm,24.1s
VNDA Vanda 71.52 176 P **P** **15 04 32.8 +0.8**
VNDA Vanda 71.52 176 P **P** **15 04 32.5 +0.5**
comp=Z,2.6nm,0.9s,baz=335,slow=3.8,SNR=8.2
comp=Z,2.6nm,0.9s
VNDA Vanda 71.52 176 P **P** **15 04 32.8 +0.8**
VNDA pmax pmax
comp=Z,5.0nm,1.0s
NIKH Nikolski High 71.92 28 P **P** **15 04 34.2 -0.5**
baz=231
UNV Unalaska Valle 73.56 28 P **P** **15 04 45.0 +0.5**
baz=233
P08K Saint George I 73.94 25 P **P** **15 04 46.8 +0.3**
baz=230
SPIA Saint Paul Isl 74.03 24 P **P** **15 04 48.0 +1.0**
baz=229
MK31 Makanchi Array 75.59 322*ce*P **P** **15 04 57.2 +0.7**
MKAR Makanchi Array 75.59 322 P **P** **15 04 56.4 0.0**
MKAR Makanchi Array 75.59 322 P **P** **15 04 56.9 +0.5**
comp=Z,9.6nm,0.9s,baz=114,slow=6.6,SNR=38
comp=Z,9.6nm,0.9s
MKAR Makanchi Array 75.59 322*ce*P **P** **15 04 57.0 +0.5**
MKAR pmax pmax
comp=Z,10.0nm,0.9s

FALS False Pass 75.62 29 P **P** **15 04 56.3 -0.1**
baz=236
MAKZ Makanchi 75.79 322 P **P** **15 04 57.7 +0.1**
MAKZ IAmb IAmb 15 05 01.7
comp=Z,21nm,1.1s
MAKZ Makanchi 75.79 322 P **P** **15 04 57.7 +0.1**
MAKZ pmax pmax
comp=Z,21nm,1.1s
TAOE Nuku Hiva Isla 75.92 97 *e*LR LR 15 28 18.1
comp=Z,56nm,25.3s
BILL Bilibino 76.29 9*ce*P **P** **15 05 00.8 +0.9**
BILL pmax pmax
comp=Z,7.0nm,1.3s
S12K Black Hills 76.74 28 P **P** **15 05 02.8 +0.1**
baz=236
KSH Kashi 76.98 313 P **P** **15 05 06.3 +1.6**
KSH pmax pmax
comp=Z,11nm,0.5s
KDJ Kajisay 77.05 316 P **P** **15 05 03.7 -1.4**
KDJ Kajisay 77.05 316 P **P** **15 05 03.7 -1.4**
KDJ pmax pmax
comp=Z,9.0nm,1.0s
SDPT Sand Point 77.31 29 P **P** **15 05 06.2 +0.3**
baz=238
CHNA Chernabura Isl 77.47 30 P **P** **15 05 07.3 +0.4**
baz=239
ZALV Zalesovo Beam 77.55 329 P **P** **15 05 05.2 -2.1**
ZALV Zalesovo Beam 77.55 329 P **P** **15 05 05.7 -1.7**
comp=Z,2.2nm,0.6s,baz=122,slow=5.4,SNR=9.1
comp=Z,2.2nm,0.6s
M11K Mekoryuk 77.70 23 P **P** **15 05 08.8 +0.8**
baz=232
GAMB Gambell 77.98 19 P **P** **15 05 10.7 +1.2**
baz=226
BOOM Boomskoye usch 78.04 316 IAmb IAmb 15 05 14.8
comp=Z,15nm,1.3s
CHGN Chignik 78.80 29 P **P** **15 05 15.3 +1.1**
baz=240
M13K Dall Lake 78.85 24 P **P** **15 05 15.6 +1.2**
baz=234
O14K Tigyukauivet M 79.06 26 P **P** **15 05 16.7 +1.2**
baz=237
AAK Ala-Archa 79.09 316 P **P** **15 05 16.9 +0.6**
comp=Z,2.2nm,0.5s,baz=131,slow=11,SNR=5.3
comp=Z,2.2nm,0.5s
AAK Ala-Archa 79.09 316*ce*P **P** **15 05 15.3 -1.1**
AAK pmax pmax
comp=Z,11nm,1.7s
K13K Kusilvak Mount 79.24 22 P **P** **15 05 17.7 +1.2**
baz=233
N14K Kuskokwak Cree 79.26 25 P **P** **15 05 17.5 +1.0**
baz=236
KURK Kurchatov 79.46 324 P **P** **15 05 17.8 -0.1**
KURK IAmb IAmb 15 05 19.4
comp=Z,29nm,1.4s
KURK Kurchatov 79.46 324*ce*P **P** **15 05 18.4 +0.4**
KURK pmax pmax
comp=Z,27nm,1.7s
KURBB Kurchatov Arra 79.48 324 P **P** **15 05 18.0 -0.1**
comp=Z,7.6nm,1.0s,baz=116,slow=4.3,SNR=25
comp=Z,7.6nm,1.0s
M14K Bethel 79.61 24 P **P** **15 05 19.7 +1.2**
baz=236
O15K Ungalikthiuk R 79.64 26 P **P** **15 05 19.8 +1.0**
baz=238
L14K Kuka Creek 79.66 23 P **P** **15 05 19.6 +0.9**
baz=235
ARSB Arslanbob 79.73 314 IAmb IAmb 15 05 23.6
comp=Z,18nm,1.2s
CHIR Chirikof Islan 79.93 30 P **P** **15 05 21.5 +1.1**
baz=242
N15K Kwethluk River 80.06 25 P **P** **15 05 22.3 +1.3**
baz=238
M15K Kasigluk River 80.10 25 P **P** **15 05 22.3 +1.1**
baz=237
J14K Nanvaranak Lak 80.14 22 P **P** **15 05 22.3 +0.9**
baz=234
MAW Mawson 80.18 203 P **P** **15 05 23.1 +1.5**
comp=Z,4.3nm,1.0s,baz=72,slow=3.2,SNR=4.1
MAW LR LR 15 40 06.1
comp=Z,154nm,18.4s,baz=74,slow=35
comp=Z,4.3nm,1.0s
L15K Ungalak Mounta 80.32 23 P **P** **15 05 23.4 +1.0**
baz=236
P16K Nushagak River 80.38 27 P **P** **15 05 23.6 +0.9**
baz=240
TNA Tin City 80.39 19 P **P** **15 05 23.5 +0.8**
baz=230
R17L Mt. Peulik Vol 80.43 28 P **P** **15 05 23.2 +0.1**
baz=241
ANM Nome 80.59 20 P **P** **15 05 24.0 +0.2**
baz=232
O16K Kokwok River B 80.62 26 IAmb IAmb 15 05 26.1
comp=Z,34nm,1.4s
O16K Kokwok River B 80.62 26 P **P** **15 05 24.2 +0.2**
baz=239
K15K Wolf Creek Mou 80.65 23 P **P** **15 05 24.6 +0.5**
baz=236
N16K Nishlik Lake 80.78 25 P **P** **15 05 25.2 +0.2**
baz=239
Q16K King Salmon 80.80 27 P **P** **15 05 25.3 +0.3**
baz=241
F14K Arctic Creek 80.84 19 P **P** **15 05 25.7 +0.5**
baz=231
Q17K Contact Creek 80.96 28 P **P** **15 05 25.6 -0.4**
baz=242
SII Sitkinak Islan 80.98 30 P **P** **15 05 26.0 -0.1**
baz=243
M16K Timber Creek 80.99 25 P **P** **15 05 26.6 +0.6**
M16K Timber Creek 80.99 25 P **P** **15 05 26.6 +0.6**
baz=238
L16K Owhat River 81.14 24 P **P** **15 05 26.4 -0.4**
baz=238
O17K Koliganek Bris 81.15 26 P **P** **15 05 26.8 -0.1**
baz=240
P17K Kvichak River 81.15 27 P **P** **15 05 27.0 +0.2**
baz=241
R18K Karluk 81.31 29 P **P** **15 05 27.0 -0.8**
baz=243
G15K Niukluk 81.31 20 P **P** **15 05 27.7 +0.1**
baz=233
N17K Nushagak Hills 81.48 26 P **P** **15 05 29.3 +0.7**
N17K IAmb IAmb 15 05 31.5
comp=Z,21nm,1.3s
N17K Nushagak Hills 81.48 26 P **P** **15 05 28.7 +0.1**
baz=240
F15K North Star Dit 81.54 19 P **P** **15 05 29.2 +0.3**
baz=233
Q18K Katmai Hardscr 81.55 28 P **P** **15 05 28.3 -0.8**
baz=242
J16K Anvik River 81.56 22 P **P** **15 05 28.6 -0.4**
baz=237
OHAK Old Harbor 81.72 29 P **P** **15 05 29.5 -0.4**
baz=244
P18K Big Mountain, 81.79 27 P **P** **15 05 30.3 0.0**
baz=242
M17K Holitna River 81.81 25 P **P** **15 05 30.4 +0.1**
baz=240
L17K Donlin 81.84 24 P **P** **15 05 30.8 +0.3**
baz=239
I17K Unalakleet 81.86 22 P **P** **15 05 30.0 -0.5**
baz=236
KKAR Karatay Array 82.02 315 P **P** **15 05 31.4 -0.5**
KKAR Karatay Array 82.02 315 P **P** **15 05 31.4 -0.5**
O18K Koktuh Hills 82.02 27 P **P** **15 05 31.0 -0.5**
baz=242
N18K Kilae Creek 82.11 26 P **P** **15 05 31.7 -0.3**
baz=241
G16K Koyuk River 82.12 20 P **P** **15 05 32.1 +0.2**
baz=235
K17K Iditarod 82.14 23 P **P** **15 05 32.1 0.0**
baz=239
J17K VABM Dome 82.20 23 P **P** **15 05 32.6 +0.3**
baz=238
KDAK Kodiak Island 82.31 29 LR LR 15 38 33.6
comp=Z,200nm,20.0s,baz=235,slow=33
KDAK Kodiak Island 82.31 29 P **P** **15 05 32.5 -0.5**
baz=245
Q19K Cape Douglas, 82.31 28 P **P** **15 05 32.6 -0.4**
baz=244
L18K Granite Mounta 82.53 24 P **P** **15 05 34.4 +0.3**
baz=240
M18K Stony River 82.53 25 P **P** **15 05 34.1 0.0**
baz=241
O19K Port Alsworth 82.57 27 P **P** **15 05 34.3 0.0**
baz=243
H17K Granite Mounta 82.72 21 P **P** **15 05 35.5 +0.5**
baz=237

Q20K Shuyak Island 82.75 28 P **P** **15 05 35.5 +0.2**
baz=245
G17K Kiwalik Mounta 82.77 20 P **P** **15 05 35.4 +0.2**
baz=236
N19K Bonanza Creek 82.79 26 P **P** **15 05 35.7 +0.1**
baz=242
P19K Oil Pt 82.82 27 P **P** **15 05 35.6 -0.1**
baz=244
C16K Lisburne Hills 82.91 17 P **P** **15 05 35.8 -0.2**
baz=232
F17K Baldwin Pennin 83.09 20 P **P** **15 05 37.3 +0.4**
baz=236
J18K Innoko River 83.14 23 P **P** **15 05 37.4 +0.1**
baz=240
D17K Noatak River 83.24 18 P **P** **15 05 38.1 +0.4**
baz=234
L19K White Mountain 83.27 25 P **P** **15 05 37.9 -0.1**
baz=242
E17K Hotham Inlet 83.27 19 P **P** **15 05 38.4 +0.5**
baz=235
O20K Slope Mountain 83.28 27 P **P** **15 05 38.8 +0.6**
baz=244
QSPA South Pole Qui 83.32 180 P **P** **15 05 38.4 +0.1**
comp=Z,14nm,1.0s,baz=340,slow=2.5,SNR=22
QSPA LR LR 15 43 07.5
comp=Z,677nm,18.9s,baz=30,slow=36
comp=Z,14nm,1.0s
M19K Big River Lodg 83.33 25 P **P** **15 05 38.8 +0.5**
baz=242
H18K Honhosa River 83.39 21 P **P** **15 05 38.6 0.0**
baz=238
RDOG Red Dog Mine 83.50 18 P **P** **15 05 39.8 +0.7**
baz=234
C17K DeLong Mountai 83.67 17 P **P** **15 05 40.3 +0.4**
baz=234
G18K Tagagawik 83.68 21 P **P** **15 05 40.3 +0.3**
baz=238
F18K Selawik 83.72 20 P **P** **15 05 40.7 +0.7**
baz=237
GCSA Galena City Sc 83.72 22 P **P** **15 05 40.6 +0.4**
baz=240
L20K Farewell, AK 83.81 25 P **P** **15 05 41.1 +0.4**
baz=243
J19K Poorman 83.83 23 IAmb IAmb 15 06 06.5
comp=Z,12nm,1.1s
J19K Poorman 83.83 23 P **P** **15 05 41.0 +0.2**
baz=241
M20K Styx River 83.85 25 IAmb IAmb 15 05 52.7
comp=Z,13nm,1.1s
M20K Styx River 83.85 25 P **P** **15 05 40.7 -0.4**
baz=244
E18K Tukpahlearik C 83.86 19 P **P** **15 05 40.5 -0.4**
baz=236
K20K Telida 84.14 24 P **P** **15 05 42.0 -0.4**
baz=243
CAPN Captain Cook N 84.23 27 P **P** **15 05 43.1 +0.2**
baz=246
H19K Roundabout Mou 84.27 21 P **P** **15 05 43.4 +0.5**
baz=240
G19K Purcell Mounta 84.36 21 IAmb IAmb 15 05 45.8
comp=Z,15nm,1.2s
G19K Purcell Mounta 84.36 21 P **P** **15 05 43.3 -0.1**
baz=240
C18K Utukok River 84.36 18 P **P** **15 05 42.6 -0.8**
baz=236
F19K Shaleruckik Mo 84.47 20 P **P** **15 05 43.2 -0.8**
baz=239
J20K Nowinta River 84.48 23 P **P** **15 05 43.9 -0.2**
baz=242
SLKM Skilak Lake 84.55 27 IAmb IAmb 15 05 47.9
comp=Z,18nm,1.2s
SKT Skwentna 84.58 26 P **P** **15 05 44.7 0.0**
baz=245
B18K Kokolik River 84.59 17 P **P** **15 05 44.8 +0.2**
baz=235
I20K Naaghedeneel 84.65 22 P **P** **15 05 44.9 0.0**
baz=242
PPLA Purkeypile 84.69 25 P **P** **15 05 45.1 -0.3**
baz=244
NRIK Noril'sk 84.74 343 P **P** **15 05 45.2 0.0**
comp=Z,19nm,0.9s,baz=130,slow=5.7,SNR=13
NRIK LR LR 15 42 53.8
comp=Z,91nm,20.9s,baz=120,slow=35
comp=Z,19nm,0.9s
NRIK Noril'sk 84.74 343 *i* P **P** **15 05 43.6 -1.7**
NRIK pmax pmax
comp=Z,24nm,1.0s
SEW Seward 84.74 28 P **P** **15 05 44.6 -0.8**
baz=247
O22K Cooper Landing 84.76 27 P **P** **15 05 45.5 -0.1**
baz=247
H20K Anotleneega Mo 84.83 22 P **P** **15 05 45.5 -0.3**
baz=242
CAST Castle Rocks 84.96 24 IAmb IAmb 15 05 47.2
comp=Z,17nm,1.5s
CAST Castle Rocks 84.96 24 P **P** **15 05 46.3 -0.3**
baz=244
E19K Redstone River 84.98 20 P **P** **15 05 46.3 -0.2**
baz=239
RC01 Rabbit Creek A 85.00 27 IAmb IAmb 15 05 48.0
comp=Z,17nm,1.2s
RC01 Rabbit Creek A 85.00 27 P **P** **15 05 47.0 +0.2**
baz=247
BVAR Borovoye Array 85.05 325 P **P** **15 05 47.7 +0.5**
comp=Z,15nm,0.8s,baz=108,slow=7.0,SNR=44
comp=Z,15nm,0.8s
CHUM Lake Minchumin 85.07 24 P **P** **15 05 47.3 +0.3**
baz=244
M22K Willow 85.09 26 P **P** **15 05 47.1 -0.1**
baz=246
C19K Lookout Ridge 85.10 18 P **P** **15 05 47.1 -0.1**
baz=237
BRVK Borovoye 85.12 325 P **P** **15 05 47.5 -0.1**
BRVK IAmb IAmb 15 05 51.4
comp=Z,16nm,0.9s
BRVK Borovoye 85.12 325*ce*P **P** **15 05 46.9 -0.7**
BRVK pmax pmax
comp=Z,34nm,1.7s
D19K Kuna River 85.23 18 P **P** **15 05 47.1 -0.7**
baz=238
F20K Avaraart Lake 85.28 20 P **P** **15 05 47.6 -0.4**
baz=241
A19K Wainwright 85.29 16 P **P** **15 05 47.4 -0.6**
baz=236
PMR Palmer 85.46 26 P **P** **15 05 48.8 -0.2**
baz=247
KTH Kantishna Hill 85.49 24 IAmb IAmb 15 05 50.2
comp=Z,20nm,1.4s
PWL Port Wells 85.54 27 P **P** **15 05 49.2 -0.3**
baz=248
P23K Montague Islan 85.65 28 P **P** **15 05 49.3 -0.7**
baz=249
H21K Melozitna Rive 85.67 22 IAmb IAmb 15 05 51.6
comp=Z,16nm,1.6s
H21K Melozitna Rive 85.67 22 P **P** **15 05 49.8 -0.3**
baz=244
KNK Knik Glacier 85.69 27 P **P** **15 05 49.2 -1.1**
baz=248
BPAW Bear Paw Mtn. 85.70 24 IAmb IAmb 15 05 52.9
comp=Z,18nm,1.6s
BPAW Bear Paw Mtn. 85.70 24 P **P** **15 05 50.3 +0.1**
baz=245
TRF Thorofare Moun 85.71 24 P **P** **15 05 50.2 -0.3**
baz=246
E20K Nigu River 85.72 19 P **P** **15 05 49.8 -0.5**
baz=240
I21K Tanana 85.77 23 P **P** **15 05 49.7 -0.8**
baz=244
G21K Allakaket 85.80 21 P **P** **15 05 49.8 -0.8**
baz=243
D20K Etivluk River 85.81 19 P **P** **15 05 50.1 -0.6**
baz=240
Q23K Middleton Isla 85.95 29 P **P** **15 05 50.8 -0.7**
baz=250
GLI Glacier Island 86.11 27 IAmb IAmb 15 05 53.8
comp=Z,20nm,1.3s
GLI Glacier Island 86.11 27 P **P** **15 05 51.8 -0.5**
baz=249
F21K Alatna River 86.13 20 P **P** **15 05 51.7 -0.6**
baz=243
M23K Glacier View 86.16 26 P **P** **15 05 51.9 -0.6**
baz=248
MLY Manley 86.18 23 IAmb IAmb 15 05 53.8
comp=Z,17nm,1.3s
MLY Manley 86.18 23 P **P** **15 05 51.9 -0.8**
baz=246
WAT1 Susitna Watana 86.19 25 P **P** **15 05 52.0 -0.8**
baz=248

RND	**Reindeer** comp=Z,15nm,1.2s	86.29	25	IAmb	IAmb	15 05 53.3		
H22K	**Ishtalitna Cre** baz=245	86.30	22	P	**P**	**15 05 52.9**	**-0.2**	
B20K	**Meade River** baz=239	86.31	17	P	**P**	**15 05 52.8**	**-0.2**	
SCM	**Sheep Creek Mo** comp=Z,16nm,1.2s	86.35	26	IAmb	IAmb	15 05 55.4		
SCM	**Sheep Creek Mo** baz=249	86.35	26	P	**P**	**15 05 53.0**	**-0.6**	
MCK	**McKinley** baz=247	86.38	24	P	**P**	**15 05 52.8**	**-0.9**	
WAT6	**Susitna Watana** baz=248	86.44	26	P	**P**	**15 05 53.7**	**-0.5**	
E21K	**Killik River** baz=242	86.53	19	P	**P**	**15 05 53.8**	**-0.5**	
C21K	**Knifeblade Rid** baz=242	86.61	18	P	**P**	**15 05 54.2**	**-0.4**	
EYAK	**Cordova Ski Ar** baz=250	86.62	28	P	**P**	**15 05 54.6**	**-0.2**	
NEA2	**Nenana** comp=Z,15nm,1.4s	86.66	24	IAmb	IAmb	15 05 55.9		
NEA2	**Nenana** baz=247	86.66	24	P	**P**	**15 05 54.1**	**-0.8**	
G22K	**Bettles** baz=245	86.69	21	P	**P**	**15 05 55.0**	**-0.1**	
F22K	**John River** baz=244	86.71	20	P	**P**	**15 05 55.1**	**-0.1**	
I23K	**Minto, Yukon-K** comp=Z,16nm,1.6s	86.76	23	IAmb	IAmb	15 06 44.2		
I23K	**Minto, Yukon-K** baz=247	86.76	23	P	**P**	**15 05 55.2**	**-0.2**	
DHY	**Denali Highway** comp=Z,12nm,1.1s	86.78	25	IAmb	IAmb	15 06 16.1		
DHY	**Denali Highway** baz=249	86.78	25	P	**P**	**15 05 55.1**	**-0.7**	
KLU	**Klutina** comp=Z,16nm,1.2s	86.86	27	IAmb	IAmb	15 05 58.1		
KLU	**Klutina** baz=250	86.86	27	P	**P**	**15 05 55.7**	**-0.4**	
B21K	**Ikpikpuk River** baz=242	86.89	18	P	**P**	**15 05 55.8**	**-0.1**	
M24K	**Tolsona, Glenn** baz=250	86.96	26	P	**P**	**15 05 56.3**	**-0.3**	
H23K	**Yukon River** baz=247	86.96	22	P	**P**	**15 05 55.9**	**-0.5**	
WRH	**Wood River Hil** comp=Z,15nm,1.3s	87.00	24	IAmb	IAmb	15 05 57.4		
KAIM	**Kayak Island** baz=252	87.04	29	P	**P**	**15 05 56.4**	**-0.4**	
E22K	**Anaktuvuk Pass** comp=Z,17nm,1.4s	87.11	20	IAmb	IAmb	15 06 00.5		
E22K	**Anaktuvuk Pass** baz=244	87.11	20	P	**P**	**15 05 57.0**	**-0.2**	
A21K	**Barrow** baz=240	87.13	16	P	**P**	**15 05 57.4**	**+0.3**	
G23K	**Bananza Creek** baz=246	87.14	21	P	**P**	**15 05 57.2**	**-0.1**	
D22K	**Ayikyak River** baz=244,SNR=6.8	87.15	19	P	**P**	**15 05 57.7**	**+0.5**	
CCB	**Clear Creek Bu** comp=Z,20nm,1.4s	87.18	24	IAmb	IAmb	15 05 57.4		
COLA	**College**	87.25	24	*i* P	**P**	**15 05 56.2**	**-1.6**	
COLA	comp=Z,13nm,1.5s			pmax	pmax			
BMRM	**Bremner River** baz=251	87.29	28	P	**P**	**15 05 57.7**	**-0.4**	
COLD	**Coldfoot** comp=Z,11nm,1.3s	87.29	21	IAmb	IAmb	15 05 60.0		
COLD	**Coldfoot** baz=246	87.29	21	P	**P**	**15 05 57.9**	**0.0**	
A22K	**Sinclair Lake** baz=241	87.44	17	P	**P**	**15 05 58.9**	**+0.3**	
HDA	**Harding Lake** baz=249	87.44	24	P	**P**	**15 05 58.7**	**-0.1**	
N25K	**Chitina, Valde** comp=Z,13nm,1.3s	87.50	27	IAmb	IAmb	15 06 00.6		
N25K	**Chitina, Valde** baz=251	87.50	27	P	**P**	**15 05 59.0**	**-0.2**	
HARP	**HAARP** baz=251	87.50	26	P	**P**	**15 05 58.9**	**-0.2**	
PAX	**Paxson** comp=Z,12nm,1.5s	87.56	26	IAmb	IAmb	15 06 02.6		
PAX	**Paxson** baz=250	87.56	26	P	**P**	**15 05 59.0**	**-0.4**	
B22K	**Teshekpuk Lake** baz=243	87.58	18	P	**P**	**15 05 58.8**	**-0.4**	
IL31	comp=Z,12nm,1.4s	87.60	24	IAmb	IAmb	15 05 59.0		
ILAR	**Eielson Array** comp=Z,2.7nm,0.9s,baz=259,slow=5.4,SNR=21	87.60	24	P	**P**	**15 05 57.7**	**-1.8**	
ILAR	comp=Z,214nm,19.4s,baz=246,slow=35 comp=Z,2.7nm,0.9s			LR	LR	15 43 50.2		
H24K	**Noodor Dome** baz=248	87.60	23	P	**P**	**15 05 59.3**	**-0.2**	
BGLC	**Bering Glacier** baz=252	87.64	29	P	**P**	**15 05 59.1**	**-0.6**	
K24K	**Donnelly Dome** baz=250	87.71	25	P	**P**	**15 05 59.5**	**-0.6**	
GLB	**Gilahina Butte** comp=Z,10nm,1.1s	87.80	27	IAmb	IAmb	15 06 04.5		
E23K	**Chandalar** baz=246,SNR=7.8	87.83	20	P	**P**	**15 06 00.4**	**-0.3**	
D23K	**Nanushuk River** baz=246	87.84	19	P	**P**	**15 06 01.1**	**+0.5**	
CRQE	**Cirque** baz=253	87.92	28	P	**P**	**15 06 00.8**	**-0.5**	
G24K	**Hadweenzic Riv** comp=Z,17nm,1.4s	88.07	22	IAmb	IAmb	15 06 03.4		
G24K	**Hadweenzic Riv** baz=248,SNR=8.4	88.07	22	P	**P**	**15 06 01.4**	**-0.3**	
TOLK	**Toolik Lake Re** baz=246,SNR=6.6	88.08	20	P	**P**	**15 06 01.8**	**0.0**	
RIDG	**Independent Ri**	88.08	25	P	**P**	**15 06 01.3**	**-0.6**	
RIDG	**Independent Ri** baz=251,SNR=9.3	88.08	25	P	**P**	**15 06 00.6**	**-1.3**	
MCARA	**McCarthy VSAT** baz=253	88.14	28	P	**P**	**15 06 01.6**	**-0.6**	
J25K	**Salcha River,** baz=250,SNR=15	88.15	24	P	**P**	**15 06 01.3**	**-0.9**	
F24K	**Squaw Lake** baz=248,SNR=12	88.23	21	P	**P**	**15 06 02.4**	**-0.1**	
E24K	**Your Creek** comp=Z,12nm,1.4s	88.23	20	IAmb	IAmb	15 06 04.1		
E24K	**Your Creek** baz=248	88.23	20	P	**P**	**15 06 01.9**	**-0.6**	
C23K	**Itkillik River** baz=246,SNR=10	88.23	19	P	**P**	**15 06 02.4**	**0.0**	
MESA	**MESA** baz=254	88.30	29	P	**P**	**15 06 02.3**	**-0.9**	
PRP	**Porcupine Dome** baz=250	88.40	23	P	**P**	**15 06 01.2**	**-2.2**	
M26K	**Nabesna, AK** baz=253	88.46	27	P	**P**	**15 06 02.9**	**-0.8**	
SCRK	**Sand Creek** comp=Z,14nm,1.6s	88.52	25	IAmb	IAmb	15 06 05.0		
SCRK	**Sand Creek** baz=252	88.52	25	P	**P**	**15 06 03.0**	**-1.0**	
D24K	**Happy Valley** baz=247,SNR=7.5	88.53	19	P	**P**	**15 06 03.5**	**-0.4**	
H25L	**Birch Creek** baz=250	88.54	23	P	**P**	**15 06 03.6**	**-0.3**	
G25K	**Bearman Lake** baz=250	88.61	22	P	**P**	**15 06 03.7**	**-0.5**	
SYO	**Syowa Base**	88.66	201⇑	*e*P	**P**	**15 06 06.0**	**+1.5**	
BARN	**Barnard Glacie** comp=Z,10nm,0.8s	88.68	28	IAmb	IAmb	15 06 30.5		
C24K	**Franklin Bluff** baz=247	88.79	19	P	**P**	**15 06 05.1**	**+0.1**	
CTG	**Chitna Glacier** baz=254	88.81	28	P	**P**	**15 06 05.2**	**-0.3**	
CTGM	**Chitina Glacie** comp=Z,13nm,0.9s	88.81	28	IAmb	IAmb	15 06 27.3		
J26L	**Joseph Creek** comp=Z,14nm,1.4s	88.86	24	IAmb	IAmb	15 06 06.9		
J26L	**Joseph Creek** baz=252,SNR=7.9	88.86	24	P	**P**	**15 06 05.2**	**-0.4**	
M27K	**Edge Creek, AK** baz=254,SNR=7.9	88.95	27	P	**P**	**15 06 06.3**	**+0.2**	
F25K	**Christian Rive** baz=250,SNR=6.0	89.06	21	P	**P**	**15 06 07.1**	**+0.6**	
PINM	**Pinnacle** baz=255	89.09	29	P	**P**	**15 06 06.7**	**-0.1**	
L27K	**Beaver Creek,** comp=Z,13nm,1.4s	89.17	26	IAmb	IAmb	15 06 08.6		
L27K	**Beaver Creek,** baz=254,SNR=9.0	89.17	26	P	**P**	**15 06 07.2**	**+0.1**	
BCAR	**Beaver Creek A**	89.19	26	P	**P**	**15 06 07.0**	**-0.2**	
E25K	**Arctic Village** baz=250,SNR=7.1	89.26	21	P	**P**	**15 06 08.0**	**+0.7**	
I26K	**Coal Creek Min** baz=252	89.27	24	P	**P**	**15 06 06.8**	**-0.5**	
O28M	**Mount Upton** baz=255	89.30	29	P	**P**	**15 06 07.4**	**-0.6**	
K27K	**Chicken** baz=254	89.34	25	P	**P**	**15 06 07.7**	**0.0**	
BMAR	**Burnt Mountain**	89.39	22	P	**P**	**15 06 08.7**	**+0.7**	
D25K	**Kavik River** comp=Z,12nm,1.4s	89.40	20	IAmb	IAmb	15 06 09.6		
D25K	**Kavik River** baz=250,SNR=5.3	89.40	20	P	**P**	**15 06 08.0**	**0.0**	
PNL	**Peninsula** baz=256	89.40	30	P	**P**	**15 06 07.8**	**-0.3**	
BVCY	**Beaver Creek** baz=255	89.42	27	P	**P**	**15 06 08.1**	**-0.1**	
YUK3	**Moose Creek** baz=255	89.43	28	P	**P**	**15 06 08.4**	**-0.1**	
G26K	**Porcupine Rive** comp=Z,16nm,1.1s	89.53	22	IAmb	IAmb	15 06 13.6		
G26K	**Porcupine Rive** baz=252,SNR=18	89.53	22	P	**P**	**15 06 09.1**	**+0.5**	
YUK8	**Steele Glacier** baz=256	89.63	28	P	**P**	**15 06 09.3**	**-0.2**	
F26K	**Sheenjek River** comp=Z,20nm,1.3s	89.63	21	IAmb	IAmb	15 06 12.1		
F26K	**Sheenjek River** baz=252,SNR=16	89.63	21	P	**P**	**15 06 09.1**	**0.0**	
O29M	**Mount Kennedy** baz=257	89.96	29	P	**P**	**15 06 10.6**	**-0.3**	
I27K	**Kandik River** baz=254,SNR=11	89.97	24	P	**P**	**15 06 10.2**	**-0.6**	
C26K	**Camden Bay** baz=251	90.09	19	P	**P**	**15 06 10.9**	**-0.2**	
YUK4	**Tatot Arm** baz=257	90.17	28	P	**P**	**15 06 12.0**	**+0.1**	
H27K	**Steamboat Moun** comp=Z,23nm,1.4s	90.18	23	IAmb	IAmb	15 06 13.7		
H27K	**Steamboat Moun** baz=254,SNR=15	90.18	23	P	**P**	**15 06 11.9**	**+0.2**	
YUK6	**Outpost Mounta** baz=257	90.21	29	P	**P**	**15 06 12.0**	**-0.2**	
P29M	**Windy Craggy** baz=257	90.22	30	P	**P**	**15 06 12.1**	**+0.1**	
G27K	**Doyon Strip** baz=254	90.29	23	P	**P**	**15 06 12.3**	**+0.1**	
C27K	**Jago River** baz=252	90.39	20	P	**P**	**15 06 12.4**	**-0.2**	
DAWY	**Dawson** baz=256	90.48	25	P	**P**	**15 06 12.9**	**-0.2**	
M29M	**Somme Creek** comp=Z,14nm,1.6s	90.51	27	IAmb	IAmb	15 07 38.9		
M29M	**Somme Creek** baz=257	90.51	27	P	**P**	**15 06 13.1**	**-0.3**	
HYT	**Haines Junctio** comp=Z,7.8nm,1.0s	90.59	29	IAmb	IAmb	15 06 46.0		
HYT	**Haines Junctio** baz=258	90.59	29	P	**P**	**15 06 13.6**	**-0.3**	
I28M	**Miner Creek** comp=Z,13nm,1.5s	90.60	24	IAmb	IAmb	15 06 16.9		
I28M	**Miner Creek** baz=255	90.60	24	P	**P**	**15 06 13.7**	**0.0**	
S31K	**Pelican** baz=259	90.63	32	P	**P**	**15 06 13.8**	**-0.1**	
E27K	**Coleen River** baz=254	90.70	21	P	**P**	**15 06 13.6**	**-0.5**	
L29M	**L29M** comp=Z,9.1nm,1.1s	90.81	26	IAmb	IAmb	15 06 19.8		
L29M	**L29M** baz=257,SNR=11	90.81	26	P	**P**	**15 06 15.1**	**+0.4**	
PLBC	**Pleasant Camp** baz=258	90.86	30	P	**P**	**15 06 14.9**	**0.0**	
N30M	**Aishikik Lake** baz=258	90.92	28	P	**P**	**15 06 15.0**	**-0.3**	
SIT	**Sitka** baz=259	90.94	33	P	**P**	**15 06 14.9**	**-0.3**	
R31K	**City Hall, Gus** baz=259	90.97	31	P	**P**	**15 06 15.2**	**-0.2**	
J29N	**Klondike Camp** baz=257	91.08	25	P	**P**	**15 06 15.4**	**-0.5**	
F28M	**Old Crow** baz=256	91.18	22	P	**P**	**15 06 15.8**	**-0.5**	
D27M	**Malcolm River** baz=255	91.21	20	P	**P**	**15 06 16.3**	**-0.1**	
K29M	**Barlow Dome** comp=Z,22nm,1.9s	91.24	26	IAmb	IAmb	15 06 22.6		
K29M	**Barlow Dome** baz=258	91.24	26	P	**P**	**15 06 17.0**	**+0.2**	
I29M	**Ogilvie Camp,** comp=Z,12nm,1.5s	91.25	24	IAmb	IAmb	15 06 17.9		
I29M	**Ogilvie Camp,** baz=257	91.25	24	P	**P**	**15 06 17.2**	**+0.6**	
M30M	**Minto, Yukon** baz=258	91.29	27	P	**P**	**15 06 17.3**	**+0.4**	
SKAG	**Skagway** baz=259	91.38	30	P	**P**	**15 06 17.6**	**+0.3**	
S32K	**Killisnoo** baz=260	91.41	32	P	**P**	**15 06 17.3**	**-0.2**	
H29M	**Whitestone** baz=257	91.42	23	P	**P**	**15 06 17.4**	**0.0**	
E28M	**Babbage River** baz=256	91.55	21	P	**P**	**15 06 17.8**	**-0.2**	
R32K	**Eaglecrest** baz=260	91.58	32	P	**P**	**15 06 18.6**	**+0.3**	
G29M	**Pine Creek** comp=Z,14nm,1.4s	91.71	23	IAmb	IAmb	15 06 46.0		
G29M	**Pine Creek** baz=257	91.71	23	P	**P**	**15 06 19.1**	**+0.4**	
WHY	**Whitehorse** baz=260	91.82	29	P	**P**	**15 06 19.2**	**-0.3**	
CRAG	**Craig** baz=261	91.88	34	P	**P**	**15 06 20.2**	**+0.5**	
J30M	**Hart River** baz=259	91.90	25	P	**P**	**15 06 19.8**	**0.0**	
U33K	**Whale Pass** baz=261	91.98	34	P	**P**	**15 06 20.3**	**+0.1**	
D28M	**Stokes Point** baz=257	92.00	20	P	**P**	**15 06 19.9**	**-0.1**	
I30M	**Mount Dempster** comp=Z,20nm,2.0s	92.01	25	IAmb	IAmb	15 06 32.0		
I30M	**Mount Dempster** baz=259	92.01	25	P	**P**	**15 06 20.6**	**+0.3**	
E29M	**Blow River** baz=257	92.08	21	P	**P**	**15 06 20.5**	**+0.1**	
EPYK	**Eagle Plains** baz=258	92.10	23	P	**P**	**15 06 20.6**	**0.0**	
P32M	**Atlin** baz=261	92.22	30	P	**P**	**15 06 21.1**	**-0.2**	
M31M	**Drury Creek, Y** baz=260	92.32	28	P	**P**	**15 06 21.6**	**-0.1**	
G30M	**tAoh Zraii Nji** comp=Z,8.5nm,1.4s	92.42	23	IAmb	IAmb	15 06 22.7		
G30M	**tAoh Zraii Nji** baz=259	92.42	23	P	**P**	**15 06 21.8**	**-0.3**	
WRAK	**Wrangell Islan** baz=262	92.45	34	P	**P**	**15 06 22.0**	**-0.3**	
ARTI	**Arti** comp=Z,0.9nm,0.4s,baz=131,slow=19,SNR=4.3	92.59	326	P	**P**	**15 06 22.0**	**-0.9**	
ARTI	**Arti** comp=Z,0.9nm,0.4s	92.59	326	*d i* P	**P**	**15 06 19.7**	**-3.3**	
ARTI						15 09 59.8		
ARTI					S	**SKSac**	**15 16 52.6**	**-4.0**
ARTI	comp=Z,6.0nm,1.3s				pmax	pmax		
F30M	**Barrier River** baz=259	92.70	22	P	**P**	**15 06 23.5**	**+0.2**	
V35K	**Ketchikan** baz=262	92.71	35	P	**P**	**15 06 24.0**	**+0.5**	
P33M	**Teslin, Yukon** baz=262	92.76	30	P	**P**	**15 06 24.0**	**+0.2**	
FARO	**Faro, Yukon** baz=261	92.81	28	P	**P**	**15 06 24.1**	**+0.1**	
Q32M	**Nakina River** baz=262	92.85	31	P	**P**	**15 06 24.5**	**+0.1**	
H31M	**Peel River** baz=260	92.95	24	P	**P**	**15 06 23.8**	**-0.7**	
G31M	**Satah River** baz=261	93.16	23	P	**P**	**15 06 25.9**	**+0.5**	
S34M	**Telegraph Cree** baz=263	93.31	32	P	**P**	**15 06 26.4**	**+0.1**	
F31M	**Tsiigehtchic** baz=261	93.45	23	P	**P**	**15 06 27.1**	**+0.4**	
R33M	**Jennings River** baz=263	93.58	31	P	**P**	**15 06 27.8**	**+0.1**	
INK	**Inuvik** comp=Z,372nm,20.8s,baz=230,slow=34	93.66	22	LR	LR	15 45 27.2		
T35M	**Bob Quinn** baz=264	93.67	33	P	**P**	**15 06 28.2**	**+0.1**	
MMPY	**Sheldon Lake,** baz=263	93.82	28	P	**P**	**15 06 29.1**	**+0.4**	
DLBC	**Dease Lake** comp=Z,16nm,19.9s,baz=261,slow=32	93.95	32	LR	LR	15 43 48.9		
DLBC	**Dease Lake** baz=264	93.95	32	P	**P**	**15 06 29.2**	**-0.1**	
BBB	**Bella Bella** comp=Z,197nm,19.0s,baz=238,slow=32	94.43	38	LR	LR	15 44 15.4		
BELA	**Belgrano 2**	95.59	180	P	**P**	**15 06 36.0**	**-0.5**	
A36M	**Sachs Harbour** baz=270	96.78	18	P	**P**	**15 06 41.8**	**0.0**	
WRGLY	**Wrigley** baz=270	97.42	27	P	**P**	**15 06 44.7**	**-0.3**	
TROLL	**Troll, Antarti** comp=Z,30nm,0.8s	97.43	191	⇑P	**P**	**15 06 44.6**	**-0.5**	
YBH	**Yreka Blue Hor** comp=Z,28nm,21.9s,baz=297,slow=30	97.47	49	LR	LR	15 42 32.3		
BELG	**Belogornoye** comp=Z,7.6nm,0.7s,baz=127,slow=10,SNR=4.2	98.59	322	P	**P**	**15 06 49.7**	**-0.7**	
BELG	**Belogornoye**	98.59	322	*i* P	**P**	**15 06 48.7**	**-1.7**	
BELG	comp=Z,2.0nm,1.0s			pmax	pmax			
SNAA	**Sanae** comp=Z,213nm,19.0s,baz=103,slow=37	98.71	190	LR	LR	15 53 26.4		
KLMR	**Klimovskoe**	102.41	331	*e*P	**Pdif**	**15 07 05.3**	**-1.9**	
KLMR	comp=Z,16nm,1.5s			pmax	pmax			
MNK	**Minsk**	109.92	326	*i* P	**Pdif**	**15 07 33.9**	**-6.9**	
MNK				*i*		15 18 47.9		
MNK				*i* SS	SS	15 27 36.0	-3.8	
MNK				*i* SSS	SSS	15 31 42.4		
MNK	comp=N,12nm,0.9s			pmax	pmax			
MNK	comp=Z,12nm,0.7s			pmax	pmax			
MNK	comp=E,20nm,0.8s			pmax	pmax			
CLL	**Collm**	119.44	327	*e*PKIKP	**PKPdf**	**15 12 02.0**	**+0.8**	
CLL	comp=Z,4.0nm,0.6s			pmax	pmax			
CLL	**Collm** comp=Z,4.0nm,0.6s	119.44	327	*e*PKiKP	**PKPdf**	**15 12 02.0**	**+0.8**	
CLL				*ex*	x	15 33 42.0		
DBIC	**Dimbokro** comp=Z,16nm,0.8s,baz=91,slow=3.9,SNR=7.7	148.22	272	PKPbc	**PKPdf**	**15 12 57.3**	**+1.9**	

NEIC ***02*** *14:57:28.7±0.4,24°.09S±0°.09×66°.9W±0°.2,h244km±16km, ML4.1/34,ML4.3(GUC),Error ellipse: s-maj=30.0km s-min=13.1km az=96.0*

SJA ***02*** *14:57:29.7±0.7,24°.15S×66°.73W,h171km±9km,ML3.8, MW3.6*

GUC ***02*** *14:57:33.0±0.5,24°.07S×67°.25W,h230km±7km,ML4.2*

IDC ***02*** *14:57:37.9±7.8,23°.50S×66°.72W,h254km±59km,mb3.7/1, mbtmp4.1/3,Error ellipse: s-maj=83.4km s-min=30.0km az=20.0*

ISC 02 14:57:29.8±0.9,**24°.08S**±0°.04×**66°.86W**±0°.06,**h200**km±9km, **n53,σ1^{s}72**/81,**2D,Salta Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	1.65	313	Pn	**Pn**	**14 58 07.8**	**+2.5**
FSA	**Cafayete**	2.17	159	*e*P	**Pn**	**14 58 12.5**	**+2.1**
FSA				*e*S	**Sn**	**14 58 36.2**	**-5.9**
GO02	**Mina Guanaco**	2.71	246		**Pn**	**14 58 17.9**	**+1.5**
GO02	**Mina Guanaco**	2.71	246	i *e*P	**Pn**	**14 58 18.4**	**+2.0**
GO02				*e*S	**Sn**	**14 58 52.8**	**0.0**
GO02	comp=N,847nm,0.2s			IAML		14 58 55.8	
GO02	**Mina Guanaco**	2.71	246	*e*P	**Pn**	**14 58 18.4**	**+2.0**
GO02				*e*S	**Sn**	**14 58 54.1**	**+1.4**
PB06	**IPOC Station P**	2.84	298		**Pn**	**14 58 19.1**	**+1.3**
PB06	comp=E,408nm,0.2s			IAML		14 58 56.3	
PB06	**IPOC Station P**	2.84	298	*e*P	**Pn**	**14 58 19.4**	**+1.5**
PB06				*e*S	**Sn**	**14 58 54.6**	**-0.6**
PB06	comp=N,636nm,0.1s			IAML		14 58 56.5	
PB06	**IPOC Station P**	2.84	298	*e*P	**Pn**	**14 58 19.1**	**+1.3**
PB06				*e*S	**Sn**	**14 58 54.9**	**-0.4**
PB06	comp=Z,387nm,0.3s			IAML		14 58 56.2	
PB09	**IPOC Station P**	3.16	316		**Pn**	**14 58 23.1**	**+1.5**
PB09	**IPOC Station P**	3.16	316	i *e*P	**Pn**	**14 58 23.6**	**+2.0**
PB09				*e*S	**Sn**	**14 59 02.4**	**+0.3**
PB09	comp=N,187nm,0.2s			IAML		14 59 04.6	
PB09	**IPOC Station P**	3.16	316	*e*P	**Pn**	**14 58 22.9**	**+1.3**
PB09				*e*S	**Sn**	**14 59 02.9**	**+0.8**
PB09	comp=Z,142nm,0.3s			IAML		14 59 04.5	
PB14	**IPOC Station P**	3.27	260		**Pn**	**14 58 24.0**	**+0.9**
PB14	comp=E,391nm,0.5s			IAML		14 59 04.0	
PB14	comp=N,386nm,0.5s			IAML		14 59 09.2	
PB14	**IPOC Station P**	3.27	260	*e*P	**Pn**	**14 58 24.3**	**+1.3**
PB14				*e*S	**Sn**	**14 59 03.1**	**-1.6**
PB14	comp=E,169nm,0.3s			IAML		14 59 05.9	
PB14	**IPOC Station P**	3.27	260	*e*P	**Pn**	**14 58 23.9**	**+0.9**
PB14				*e*S	**Sn**	**14 59 03.8**	**-0.8**
PB14	comp=Z,204nm,0.2s			IAML		14 59 05.5	
PB05	**IPOC Station P**	3.30	291		**Pn**	**14 58 24.0**	**+0.7**
PB05	comp=E,229nm,0.2s			IAML		14 59 05.3	
PB05	comp=N,211nm,0.2s			IAML		14 59 06.6	
PB05	**IPOC Station P**	3.30	291	*e*P	**Pn**	**14 58 24.3**	**+1.1**
PB05				*e*S	**Sn**	**14 59 02.8**	**-2.2**
PB05	comp=E,270nm,0.2s			IAML		14 59 05.3	
PB05	**IPOC Station P**	3.30	291	*e*P	**Pn**	**14 58 24.4**	**+1.1**
PB05				*e*S	**Sn**	**14 59 03.2**	**-1.8**
PB05	comp=Z,142nm,0.1s			IAML		14 59 06.4	
PB10	**IPOC Station P**	3.43	279		**Pn**	**14 58 25.5**	**+0.9**
PB10	comp=N,215nm,0.5s			IAML		14 59 08.5	
PB10	comp=E,259nm,0.4s			IAML		14 59 11.2	
PB10	**IPOC Station P**	3.43	279	*e*P	**Pn**	**14 58 25.8**	**+1.2**
PB10				*e*S	**Sn**	**14 59 05.3**	**-2.2**
PB10	comp=N,230nm,0.2s			IAML		14 59 11.2	
PB10	**IPOC Station P**	3.43	279	*e*P	**Pn**	**14 58 25.9**	**+1.2**
PB10				*e*S	**Sn**	**14 59 07.0**	**-0.5**
PB10	comp=Z,185nm,0.6s			IAML		14 59 08.7	
PB01	**IPOC Station P**	3.88	321		**Pn**	**14 58 30.5**	**+0.2**
PB01	comp=N,144nm,0.4s			IAML		14 59 16.7	
PB01	comp=E,176nm,0.1s			IAML		14 59 19.1	
PB01	**IPOC Station P**	3.88	321	*e*P	**Pn**	**14 58 31.1**	**+0.8**
PB01				*e*S	**Sn**	**14 59 16.0**	**-1.6**
PB01	**IPOC Station P**	3.88	321	*e*P	**Pn**	**14 58 31.2**	**+1.0**
PB01				*e*S	**Sn**	**14 59 16.9**	**-0.7**
PB01	comp=Z,130nm,0.2s			IAML		14 59 17.6	
AC01	**Pan de Azucar**	3.96	238		**Pn**	**14 58 31.4**	**+0.2**
AC01					**Sn**	**14 59 17.2**	**-2.1**
AC01	comp=E,237nm,0.3s			IAML		14 59 19.0	
AC01	**Pan de Azucar**	3.96	238	*e*P	**Pn**	**14 58 31.4**	**+0.2**
AC01				*e*S	**Sn**	**14 59 17.3**	**-2.1**
AC01	**Pan de Azucar**	3.96	238	*e*P	**Pn**	**14 58 31.4**	**+0.2**
AC01				*e*S	**Sn**	**14 59 18.1**	**-1.3**
AC01	comp=Z,90nm,0.3s			IAML		14 59 19.4	
CYA	**Choya**	4.45	168	*e*P	**Pn**	**14 58 33.8**	**-3.4**
PATCX	**Punta Patache**	4.45	316		**Pn**	**14 58 37.6**	**+0.2**
PATCX					**Sn**	**14 59 26.5**	**-4.0**
PATCX	comp=E,148nm,0.3s			IAML		14 59 29.7	
PATCX	comp=N,106nm,0.5s			IAML		14 59 34.1	
PATCX	**Punta Patache**	4.45	316	*e*P	**Pn**	**14 58 37.8**	**+0.4**
PATCX				*e*S	**Sn**	**14 59 27.1**	**-3.4**
PATCX	**Punta Patache**	4.45	316	*e*P	**Pn**	**14 58 38.1**	**+0.7**
PATCX				*e*S	**Sn**	**14 59 29.6**	**-0.9**

PATCX				IAML		14 59 32.4	
	comp=E,51nm,0.2s						
PB08	**IPOC Station P**	**4.46 331**		**Pn**		**14 58 38.8**	**+1.0**
PB08				IAML		14 59 32.7	
	comp=E,103nm,0.3s						
PB08	**IPOC Station P**	**4.46 331**	*e*P	**Pn**		**14 58 39.2**	**+1.3**
PB08			*e*S	**Sn**		**14 59 31.2**	**0.0**
PB08				IAML		14 59 34.6	
	comp=E,55nm,0.2s						
AC06	**Mina Casimiro**	**4.54 223**		**Pn**		**14 58 38.4**	**+0.1**
AC06				**Sn**		**14 59 30.2**	**-2.1**
GO03	**Copiapo**	**4.63 220**		**Pn**		**14 58 39.4**	**-0.3**
GO03				**Sn**		**14 59 33.2**	**-1.4**
GO03				IAML		14 59 35.0	
	comp=E,70nm,0.3s						
GO03	**Copiapo**	**4.63 220**	*e*P	**Pn**		**14 58 40.1**	**+0.5**
GO03			*e*S	**Sn**		**14 59 33.9**	**-0.8**
TA01	**Diego Aracena**	**4.66 318**	Pn	**Pn**		**14 58 39.9**	**0.0**
TA01				**Sn**		**14 59 33.1**	**-2.0**
TA01				IAML		14 59 33.2	
	comp=E,96nm,0.2s						
TA01				IAML		14 59 34.0	
	comp=N,94nm,0.3s						
TA01	**Diego Aracena**	**4.66 318**	*e*P	**Pn**		**14 58 41.0**	**+1.1**
TA01			*e*S	**Sn**		**14 59 31.3**	**-3.8**
TA01				IAML		14 59 36.3	
	comp=E,31nm,0.4s						
HMBC	**Humberstone**	**4.71 323**		**Pn**		**14 58 40.2**	**-0.6**
HMBC				IAML		14 59 34.4	
	comp=E,136nm,0.4s						
HMBC	**Humberstone**	**4.71 323**	*e*P	**Pn**		**14 58 40.7**	**-0.1**
HMBC			*e*S	**Sn**		**14 59 34.0**	**-2.5**
HMBC				IAML		14 59 35.9	
	comp=E,112nm,0.3s						
VCA	**Vinchina**	**4.79 194**	*e*P	**Pn**		**14 58 44.8**	**+3.1**
GO01	**Chusmiza**	**4.89 333**	IAML			14 59 45.0	
	comp=E,139nm,0.1s						
GO01	**Chusmiza**	**4.89 333**	*e*P	**Pn**		**14 58 45.0**	**+1.6**
PB11	**IPOC Station P**	**5.02 328**		**Pn**		**14 58 44.0**	**-0.7**
PB11	**IPOC Station P**	**5.02 328**	*e*P	**Pn**		**14 58 44.5**	**-0.3**
PB11			*e*S	**Sn**		**14 59 41.4**	**-2.4**
PB11				IAML		14 59 43.4	
	comp=Z,42nm,0.2s						
ACLC	**CERRO LA CRUZ**	**5.32 181**	*e*P	**Pn**		**14 58 49.9**	**+1.4**
GO04	**Tololo Observa**	**7.01 209**	Pn	**Pn**		**14 59 09.3**	**-1.1**
LPAZ	**La Paz**	**7.84 351**	P	**Pn**		**14 59 22.9**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=186,slow=11,SNR=13						
LPAZ			S	**Sn**		**15 00 48.1**	**-2.5**
	comp=Z,1.6nm,0.8s,baz=168,slow=20,SNR=3.6						
MT02	**Curacav**	**9.88 201**	Pn	**Pn**		**14 59 45.6**	**-1.9**
BDFB	**Brasilia**	**19.60 68**	P	**P**		**15 01 44.5**	**+1.3**
	comp=Z,5.9nm,0.6s,baz=238,slow=12,SNR=7.6						
AY03	**Cochrane**	**23.57 190**		pP		15 03 02.2	+1.9
TORD	**Torodi Ar. Bea**	**76.48 69**	P	**P**		**15 08 57.3**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=250,slow=5.0,SNR=1.4						
	comp=Z,0.9nm,0.3s						
WRA	**Warramunga Arr**	**131.61 207**	PKP	**PKiKP**		**15 16 22.0**	**+1.5**
	comp=Z,0.6nm,1.0s,baz=143,slow=0.7,SNR=1.9						
MKAR	**Makanchi Array**	**146.51 40**	PKPbc	**PKPbc**		**15 16 47.5**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=316,slow=3.1,SNR=5.9						

NEIC ***02*** *15:14:37.9±0.6,29.6S×0.2×179.0W×0.2,h193km±7km, mb4.2/15, Error ellipse: s-maj=23.0km s-min=20.5km az=132.0*

IDC ***02*** *15:14:52.3±4.4,29.72S×179.42W,h328km±39km, mb3.4/6, mbtmp4.1/7, Error ellipse: s-maj=33.1km s-min=18.6km az=48.0*

ISC 02 15:14:37.3±0.6,29.43S±0.09×178.9W±0.1,h200km,n38, σ1s30/38,mb4.0/13,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.87**	**78**	Pn	**Pn**	**15 15 06.7**	**+0.5**
URZ	**Urewera**	**9.41**	**200**	P	Pn	15 16 58.4	+10
	27nm,1.0s,baz=16,slow=11,SNR=35						
URZ				S	**Sn**	**15 18 36.6**	**+2.5**
	26nm,0.6s,baz=336,slow=20,SNR=12						
MSVF	**Nonsavu**	**11.98**	**346**	P	P	15 17 41.9	+15
	4.3nm,0.4s,baz=170,slow=11,SNR=11						
DZM	**Mont Dzumac**	**15.10**	**296**	P	P	15 18 12.2	+11
	5.6nm,1.1s,baz=112,slow=19,SNR=2.8						
LTZ	**Lake Taylor**	**15.10**	**206**	P	**P**	**15 17 59.4**	**-1.8**
CTAO	**Charters Tower**	**32.89**	**278**	P	**P**	**15 20 53.5**	**+0.8**
CTAO				IAmb	IAmb	15 21 24.0	
	comp=Z,18nm,1.5s						
STKA	**Stephens Creek**	**33.95**	**256**	P	**P**	**15 21 02.2**	**+0.4**
STKA	**Stephens Creek**	**33.95**	**256**	P	**P**	**15 21 03.0**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=100,slow=11,SNR=4.1						
	comp=Z,1.5nm,0.6s						
AS31	**Alice Springs**	**42.39**	**266**	P	**P**	**15 22 11.8**	**-0.6**
ASAR	**Alice Springs**	**42.39**	**266**	P	**P**	**15 22 11.2**	**-1.1**
ASAR	**Alice Springs**	**42.39**	**266**	P	**P**	**15 22 11.5**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=108,slow=7.6,SNR=61						
ASAR				PcP	**PcP**	**15 23 59.5**	**-2.3**
	comp=Z,0.3nm,0.7s,baz=106,slow=3.8,SNR=5.2						
	comp=Z,0.9nm,0.5s						
WR8	**Warramunga Arr**	**43.15**	**272**	P	**P**	**15 22 18.1**	**-0.3**
WR8				IAmb	IAmb	15 22 19.2	
	comp=Z,4.2nm,0.8s						
WRA	**Warramunga Arr**	**43.29**	**272**	P	**P**	**15 22 19.4**	**-0.1**
WRA	**Warramunga Arr**	**43.29**	**272**	P	**P**	**15 22 19.1**	**-0.5**
	comp=Z,3.9nm,0.8s,baz=111,slow=8.0,SNR=23						
	comp=Z,3.9nm,0.8s						
WB0	**Warramunga Arr**	**43.31**	**272**	P	**P**	**15 22 19.5**	**-0.2**
WB0				IAmb	IAmb	15 22 20.4	
	comp=Z,3.8nm,0.6s						
MTN	**Manton Dam**	**49.07**	**279**	P	**P**	**15 23 04.3**	**-0.3**
MTN				IAmb	IAmb	15 23 48.1	
	comp=Z,22nm,1.4s						
KNRA	**Kununurra**	**49.86**	**274**	P	**P**	**15 23 10.2**	**-0.4**
KNRA				IAmb	IAmb	15 23 20.7	
	comp=Z,19nm,1.5s						
FITZ	**Fitzroy Crossi**	**51.59**	**270**	P	**P**	**15 23 22.2**	**-1.2**
FAKI	**Fak Fak**	**53.28**	**290**	P	**P**	**15 23 36.1**	**+0.2**
QSPA	**South Pole Qui**	**60.67**	**180**	P	**P**	**15 24 28.0**	**+0.8**
QSPA				IAmb	IAmb	15 24 48.8	
	comp=Z,8.7nm,1.5s						
QSPA	**South Pole Qui**	**60.67**	**180**	P	**P**	**15 24 28.3**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=21,slow=1.7,SNR=12						
	comp=Z,2.0nm,0.9s						
BELA	**Belgrano 2**	**70.84**	**172**	P	**P**	**15 25 32.3**	**+0.6**
BELA				IAmb	IAmb	15 25 40.4	
	comp=Z,5.2nm,1.5s						
KKM	**Kota Kinabalu**	**71.52**	**288**	P	**P**	**15 25 36.2**	**-0.7**
SNAA	**Sanae**	**79.14**	**179**	P	**P**	**15 26 17.9**	**-1.4**
SNAA				IAmb	IAmb	15 26 52.1	
	comp=Z,3.0nm,1.4s						
SNAA	**Sanae**	**79.14**	**179**	P	**P**	**15 26 19.7**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=197,slow=15,SNR=2.9						
	comp=Z,1.2nm,0.9s						
PEA0B	**Petropavlovsk-**	**84.69**	**346**	P	**P**	**15 26 50.1**	**+2.0**
PEA0B				IAmb	IAmb	15 26 56.1	
	comp=Z,12nm,1.2s						
PETK	**Petropavlovsk-**	**84.69**	**346**	P	**P**	**15 26 51.7**	**+3.6**
	comp=Z,1.4nm,0.7s,baz=160,slow=5.5,SNR=4.6						
	comp=Z,1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**119.86**	**314**	PKP	**PKPdf**	**15 33 01.7**	**-1.7**
	comp=Z,0.2nm,0.2s,baz=100,slow=1.6,SNR=4.4						
BVAR	**Borovoye Array**	**125.17**	**316**	PKP	**PKPdf**	**15 33 12.7**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=103,slow=1.9,SNR=4.3						
ARCES	**ARCESS Array B**	**137.48**	**348**	PKP	**PKPdf**	**15 33 36.3**	**0.0**
	comp=Z,0.7nm,0.7s,baz=19,slow=1.9,SNR=3.7						
FINES	**FINESS Array B**	**143.97**	**340**	PKP	**PKPab**	**15 33 47.0**	**+1.0**
	comp=Z,5.5nm,0.4s,baz=51,slow=4.1,SNR=72						
NB2	**NORSAR Subarra**	**147.68**	**351**	PKP	**PKPbc**	**15 33 58.3**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=14,slow=2.5						
NOA	**NORSAR Array B**	**147.68**	**351**	PKPbc	**PKPbc**	**15 33 58.1**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=15,slow=2.6,SNR=5.6						
HFS	**Hagfors**	**148.14**	**348**	PKPbc	**PKPbc**	**15 33 58.9**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=5.7,slow=1.4,SNR=6.8						
AKASG	**Malin Array Be**	**150.06**	**323**	PKPbc	**PKPbc**	**15 34 03.3**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=54,slow=2.5,SNR=6.8						
MMAI	**Mount Meron Ar**	**150.53**	**286**	PKPbc	**PKPbc**	**15 34 05.4**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=77,slow=6.2,SNR=2.1						
BRTR	**Keskin Array B**	**151.45**	**300**	PKPbc	**PKPbc**	**15 34 06.5**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=120,slow=5.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**163.79**	**182**	PKP	**PKPdf**	**15 34 14.1**	**-2.9**
	comp=Z,0.8nm,0.3s,baz=172,slow=2.8,SNR=1.9						
TORD				PKPab	**PKPab**	**15 35 09.5**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=157,slow=3.1,SNR=1.4						

GUC ***02*** *15:17:55.1±0.7,30.59S×71.34W,h42km±2km, ML4.2*

NEIC ***02*** *15:17:56.4±1.2,30.60S±0.02×71.43W±0.09,h35km±18km, ML4.0/48,ML4.2(GUC), Error ellipse: s-maj=10.8km s-min=1.7km az=100.0*

ISC 02 15:17:56.4±1.1,30.60S±0.04×71.42W±0.06,h43km±11km, n56,σ0s78/55,1C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.20**	**248**		**Pn**	**15 18 03.6**	**-0.3**
CO06	**Fray Jorge**	**0.20**	**248**	*i*P	**Pn**	**15 18 03.6**	**-0.3**
CO06				*e*S	**Sn**	**15 18 10.0**	**+0.7**
CO06				IAML		15 18 10.8	
	comp=N,8μm,0.3s						
CO03	**El Pedregal**	**0.68**	**111**		**Pn**	**15 18 08.8**	**-0.9**
CO03				IAML		15 18 19.0	
	comp=N,11μm,0.5s						
CO03				IAML		15 18 19.1	
	comp=E,11μm,0.2s						
CO03	**El Pedregal**	**0.68**	**111**	*i* P	**Pn**	**15 18 08.8**	**-0.9**
CO03				*e*S	**Sn**	**15 18 18.7**	**-0.5**
CO03				IAML		15 18 19.1	
	comp=E,11μm,0.2s						
GO04	**Tololo Observa**	**0.69**	**52**		**Pn**	**15 18 09.1**	**-0.9**
GO04				IAML		15 18 21.8	
	comp=E,5μm,0.3s						
GO04				IAML		15 18 27.8	
	comp=N,7μm,0.5s						
GO04	**Tololo Observa**	**0.69**	**52**	*e*P	**Pn**	**15 18 08.9**	**-1.1**
GO04				*e*S	**Sn**	**15 18 19.2**	**-0.5**
CO05	**La Serena**	**0.70**	**13**	Pn	**Pn**	**15 18 09.1**	**-0.7**
CO05	**La Serena**	**0.70**	**13**	⇓*i*P	**Pn**	**15 18 09.2**	**-0.7**
CO05				*e*S	**Sn**	**15 18 19.3**	**-0.2**
CO02	**Combarbal**	**0.70**	**149**		**Pn**	**15 18 09.2**	**-0.8**
CO02	**Combarbal**	**0.70**	**149**	⇓*i*P	**Pn**	**15 18 09.3**	**-0.8**
CO02				*e*S	**Sn**	**15 18 19.2**	**-0.7**
CO01	**Juntas del Tor**	**1.31**	**62**		**Pn**	**15 18 18.4**	**-0.1**
CO01	**Juntas del Tor**	**1.31**	**62**	*e*P	**Pn**	**15 18 18.4**	**-0.1**
LCO	**Las Campanas**	**1.70**	**22**		**Pn**	**15 18 23.3**	**-0.6**
LCO	**Las Campanas**	**1.70**	**22**	*e*P	**Pn**	**15 18 23.1**	**-0.8**
LCO				IAML		15 18 48.2	
	comp=N,4μm,0.5s						
VA06	**Catapilco**	**1.96**	**177**		**Pn**	**15 18 26.8**	**-0.3**
VA06	**Catapilco**	**1.96**	**177**	*e*P	**Pn**	**15 18 26.9**	**-0.2**
VA06				IAML		15 18 58.8	
	comp=E,3μm,0.4s						
VA03	**San Esteban**	**2.28**	**161**		**Pn**	**15 18 31.8**	**+0.1**
VA03	**San Esteban**	**2.28**	**161**	*e*P	**Pn**	**15 18 32.5**	**+0.8**
VA03				IAML		15 19 05.9	
	comp=E,2μm,0.2s						
ROCH	**El Roble**	**2.39**	**172**	*e*P	**Pn**	**15 18 33.4**	**+0.1**
ROCH				IAML		15 19 14.0	
	comp=N,2μm,0.4s						
AC04	**Llanos de Chal**	**2.41**	**7**		**Pn**	**15 18 33.1**	**-0.2**
AC04	**Llanos de Chal**	**2.41**	**7**	*e*P	**Pn**	**15 18 33.2**	**-0.1**
VA01	**Torpederas**	**2.42**	**184**		**Pn**	**15 18 32.4**	**-1.1**
VA01				IAML		15 19 09.9	
	comp=E,577nm,0.8s						
VA01				IAML		15 19 10.4	
	comp=N,529nm,0.7s						
ZON	**Zonda**	**2.54**	**113**		**Pn**	**15 18 35.6**	**+0.5**
ZON				IAML		15 19 18.3	
	comp=E,512nm,0.7s						
PEL	**Peldehue**	**2.61**	**166**		**Pn**	**15 18 36.3**	**+0.2**
PEL				IAML		15 19 15.8	
	comp=E,732nm,0.4s						
PEL				IAML		15 19 16.1	
	comp=N,768nm,0.3s						
PEL	**Peldehue**	**2.61**	**166**	*e*P	**Pn**	**15 18 36.6**	**+0.4**
PEL				IAML		15 19 15.9	
	comp=N,906nm,0.2s						
MT02	**Curacav**	**2.66**	**175**		**Pn**	**15 18 36.5**	**-0.3**
MT02				IAML		15 19 15.1	
	comp=E,490nm,0.3s						
MT02				IAML		15 19 19.5	
	comp=N,386nm,0.4s						
MT02	**Curacav**	**2.66**	**175**	*e*P	**Pn**	**15 18 36.5**	**-0.3**
MT02				IAML		15 19 15.1	
	comp=E,536nm,0.4s						
MT10	**Hacienda Santa**	**2.77**	**164**	*e*P	**Pn**	**15 18 39.1**	**+0.7**
MT10				IAML		15 19 19.6	
	comp=E,2μm,0.3s						
MT05	**Renca**	**2.84**	**168**		**Pn**	**15 18 39.6**	**+0.3**
MT05	**Renca**	**2.84**	**168**	*e*P	**Pn**	**15 18 40.7**	**+1.3**
FCH	**Farellones**	**2.88**	**161**	*e*P	**Pn**	**15 18 42.2**	**+2.0**
FCH				IAML		15 19 24.1	
	comp=E,662nm,0.2s						
MT14	**Cerro Calan**	**2.89**	**165**	IAML		15 19 26.8	
	comp=E,970nm,0.3s						
MT16	**CCHEN**	**2.92**	**165**	*e*P	**Pn**	**15 18 41.9**	**+1.5**
MT16				IAML		15 19 33.1	
	comp=N,341nm,0.6s						
MT03	**Universidad Ad**	**2.99**	**165**		**Pn**	**15 18 41.9**	**+0.5**
MT03	**Universidad Ad**	**2.99**	**165**	*e*P	**Pn**	**15 18 42.4**	**+1.0**
MT03				IAML		15 19 27.2	
	comp=E,1μm,0.2s						
MT04	**Ro Olivares**	**3.00**	**159**	*e*P	**Pn**	**15 18 43.3**	**+1.6**
MT04				IAML		15 19 26.3	
	comp=E,619nm,0.5s						
VA05	**Santo Domingo**	**3.05**	**183**		**Pn**	**15 18 41.0**	**-1.1**
VA05	**Santo Domingo**	**3.05**	**183**	*e*P	**Pn**	**15 18 40.8**	**-1.4**
VA05				IAML		15 19 39.0	
	comp=E,1μm,0.5s						
MT08	**Bocatoma Ro**	**3.08**	**158**	IAML		15 19 31.0	
	comp=N,415nm,0.4s						
MT15	**Las Vizcachas**	**3.09**	**166**	IAML		15 19 27.8	
	comp=E,1μm,0.5s						
GO03	**Copiapo**	**3.17**	**19**	*e*P	**Pn**	**15 18 44.2**	**+0.3**
GO03				IAML		15 19 33.7	
	comp=E,266nm,0.7s						
MT09	**Talagante**	**3.19**	**173**		**Pn**	**15 18 44.1**	**-0.1**
MT09				IAML		15 19 35.7	
	comp=N,704nm,0.7s						
MT09				IAML		15 19 36.2	
	comp=E,538nm,0.7s						
MT12	**Pirque**	**3.21**	**167**	IAML		15 19 32.2	
	comp=E,979nm,0.4s						
MT01	**Popeta**	**3.26**	**177**		**Pn**	**15 18 44.4**	**-0.6**
MT01				IAML		15 19 36.0	
	comp=N,475nm,0.4s						
MT01				IAML		15 19 36.2	
	comp=E,476nm,0.4s						
MT01	**Popeta**	**3.26**	**177**	*e*P	**Pn**	**15 18 44.5**	**-0.5**
MT01				IAML		15 19 36.4	
	comp=E,540nm,0.5s						
AC06	**Mina Casimiro**	**3.37**	**16**		**Pn**	**15 18 46.1**	**-0.4**
AC06				IAML		15 19 40.6	
	comp=E,231nm,1.0s						
AC06	**Mina Casimiro**	**3.37**	**16**	IAML		15 19 39.0	
	comp=E,165nm,0.4s						
LMEL	**Las Melosas**	**3.40**	**163**	*e*P	**Pn**	**15 18 48.6**	**+1.5**
LMEL				IAML		15 19 39.6	
	comp=N,669nm,0.2s						
BO04	**La Punta**	**3.45**	**169**		**Pn**	**15 18 47.8**	**+0.2**
BO04				IAML		15 19 41.7	
	comp=N,336nm,0.4s						
BO04				IAML		15 19 42.8	
	comp=E,374nm,0.7s						
BO04	**La Punta**	**3.45**	**169**	IAML		15 19 37.1	
	comp=E,321nm,0.4s						
BO01	**Tunca**	**3.79**	**176**		**Pn**	**15 18 52.4**	**+0.1**
BO01				IAML		15 19 47.9	
	comp=E,248nm,0.5s						
BO01				IAML		15 19 55.5	
	comp=N,160nm,0.4s						
AC02	**Maricunga**	**4.26**	**29**		**Pn**	**15 18 59.6**	**+0.4**
AC02				IAML		15 20 10.5	
	comp=E,157nm,0.7s						
AC02				IAML		15 20 11.9	
	comp=N,173nm,0.7s						
BI02	**San Fabin de**	**6.05**	**179**		**Pn**	**15 19 22.6**	**-0.8**
AF01	**San Pedro de A**	**8.15**	**22**	Pn	**Pn**	**15 19 52.1**	**-0.4**
TRQA	**Tornquist**	**10.78**	**136**	Pn	**Pn**	**15 20 28.2**	**+0.1**
OTAV	**Otavalo**	**31.39**	**346**	P	**P**	**15 24 14.4**	**+0.5**

JMA ***02*** *15:19:27.6±0.1,33.7N±0.3×140.7E±0.8,h47km, MV3.2/34, E OFF HACHIJOJIMA ISLAND*

IDC ***02*** *15:19:34.1±7.7,34.11N×140.18E,h138km±127km, mb3.3/2, mbtmp3.5/3, ML2.4/1, MS3.6/1, Error ellipse: s-maj=167.0km s-min=100.9km az=42.0*

ISC 02 15:19:27.6±1.4,33.71N±0.04×140.65E±0.08,h55km±15km, n24,σ0s98/27,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMKN	**Mikurajimanish**	**0.90**	**282**	P	**Pn**	**15 19 44.4**	**+0.2**
JMKN				S	**Sn**	**15 19 56.2**	**-0.2**
JHJ2	**Mitsune**	**0.92**	**230**	P	**Pn**	**15 19 44.6**	**+0.2**
JHJ2				*e*S	**Sn**	**15 19 56.0**	**-0.6**
JHCJ	**Hachijojimakas**	**0.95**	**229**	P	**Pn**	**15 19 45.0**	**+0.1**
JHCJ				S	**Sn**	**15 19 56.3**	**-1.3**
JMYK	**Miyake Tsubota**	**0.98**	**291**	P	**Pn**	**15 19 45.5**	**+0.3**
JMYK				*e*S	**Sn**	**15 19 58.1**	**-0.1**
BSO1	**Boso 1**	**0.98**	**16**	*e*P	**Pn**	**15 19 45.0**	**+0.3**
BSO3	**Boso 3**	**1.10**	**354**	P	**Pn**	**15 19 47.2**	**+0.7**
BSO4	**Boso 4**	**1.30**	**349**	*e*P	**Pn**	**15 19 50.2**	**+0.8**
JNIO	**Niijimaoohara**	**1.31**	**300**	*e*S	**Sn**	**15 20 06.2**	**+0.1**
JKO	**Kozu shima**	**1.34**	**291**	*e*P	**Pn**	**15 19 50.5**	**+0.4**
JKO				*e*S	**Sn**	**15 20 07.7**	**+0.8**
JTHY	**Toshimahigashi**	**1.39**	**306**	P	**Pn**	**15 19 51.3**	**+0.6**
JTHY				*e*S	**Sn**	**15 20 08.2**	**+0.2**
JIM2	**Oshima 3**	**1.43**	**315**	*e*P	**Pn**	**15 19 51.4**	**+0.1**
JIM2				*e*S	**Sn**	**15 20 09.2**	**+0.2**
JAOM	**Aogashimamukai**	**1.45**	**211**	*e*P	**Pn**	**15 19 52.1**	**+0.6**
JIZS	**Izushimoda**	**1.78**	**305**	P	**Pn**	**15 19 56.8**	**+0.8**
JIZS				S	**Sn**	**15 20 17.7**	**+0.2**
KTJ3	**Kamata3**	**1.79**	**314**	*e*P	**Pn**	**15 19 56.4**	**+0.3**
KTJ3				S	**Sn**	**15 20 16.1**	**-1.6**
MJAR	**Matsushiro Arr**	**3.46**	**325**	P	**Pn**	**15 20 19.5**	**+0.5**
	0.5nm,0.3s,baz=147,slow=11,SNR=20						
MJAR				S	**Sn**	**15 20 55.2**	**-3.6**
	3.1nm,0.5s,baz=19,slow=30,SNR=5.0						
	3.2nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**27.17**	**114**	T	T	15 53 53.4	
	baz=306,slow=75,SNR=5.4						
H11N1	**WAKE ISLAND Hy**	**27.18**	**114**	T	T	15 53 52.1	
	baz=306,slow=75,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**27.19**	**114**	T	T	15 53 56.6	
	baz=306,slow=75,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**27.75**	**117**	T	T	15 54 40.2	
	baz=308						
H11S1	**WAKE ISLAND Hy**	**27.76**	**117**	T	T	15 54 42.9	
	baz=308						
H11S2	**WAKE ISLAND Hy**	**27.77**	**117**	T	T	15 54 44.5	
	baz=308						
AAK	**Ala-Archa**	**51.58**	**301**	LR	LR	15 52 01.2	
	comp=Z,57nm,18.6s,baz=10,slow=38						
WRA	**Warramunga Arr**	**53.69**	**187**	P	**P**	**15 28 44.0**	**+0.1**
	0.8nm,0.5s,baz=6.2,slow=7.5,SNR=12						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**57.42**	**187**	P	**P**	**15 29 10.9**	**+0.3**
	0.4nm,0.7s,baz=4.5,slow=6.3,SNR=15						
	0.4nm,0.7s						

IDC ***02*** *16:00:32.0±0.9,30.61N×98.75E,h0km,mb3.7/11, mbtmp3.7/13, ML3.4/2, Error ellipse: s-maj=29.2km s-min=16.2km az=58.0*

ISC 02 16:00:37.2±0.8,30.6N±0.1×98.8E±0.2,h35km,n13, σ0s65/13,mb3.7/10,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.12**	**179**	Pn	**Pn**	**16 03 27.7**	**+0.2**
	0.1nm,0.3s,baz=356,slow=12,SNR=6.0						
	0.6nm,0.7s						
SONM	**Songino Array**	**18.15**	**17**	P	**P**	**16 04 47.7**	**+1.1**
	0.1nm,0.3s,baz=205,slow=9.9,SNR=2.0						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**20.58**	**326**	P	**P**	**16 05 13.7**	**+0.7**
	0.9nm,0.5s,baz=135,slow=8.9,SNR=12						
	0.9nm,0.5s						
KSRS	**Korea Array**	**25.03**	**66**	P	**P**	**16 05 58.9**	**+0.9**
	0.9nm,0.7s,baz=259,slow=11,SNR=7.2						
	0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**25.06**	**329**	P	**P**	**16 05 58.0**	**-0.1**
	0.7nm,0.2s,baz=146,slow=8.7,SNR=5.2						
	0.7nm,0.2s						
ZALV	**Zalesovo Beam**	**25.40**	**341**	P	**P**	**16 06 00.6**	**-0.6**
	1.0nm,0.5s,baz=163,slow=10,SNR=5.5						
	1.0nm,0.5s						
PETK	**Petropavlovsk-**	**47.72**	**44**	P	**P**	**16 09 09.4**	**-1.0**
	0.5nm,0.7s,baz=262,slow=11,SNR=1.8						
	0.5nm,0.7s						
AKASG	**Malin Array Be**	**54.36**	**313**	P	**P**	**16 10 00.4**	**+0.1**
	0.2nm,0.4s,baz=68,slow=8.1,SNR=1.6						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**60.80**	**141**	P	**P**	**16 10 45.7**	**-0.3**
	0.8nm,0.6s,baz=323,slow=6.8,SNR=9.0						
	0.8nm,0.6s						
HFS	**Hagfors**	**61.59**	**325**	P	**P**	**16 10 50.5**	**-0.3**
	2.3nm,0.8s,baz=68,slow=13,SNR=1.5						
	2.3nm,0.8s						
NOA	**NORSAR Array B**	**62.57**	**327**	P	**P**	**16 10 57.2**	**-0.3**
	0.5nm,0.7s,baz=76,slow=6.8,SNR=1.8						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**63.63**	**144**	P	**P**	**16 11 05.0**	**0.0**
	0.4nm,0.5s,baz=325,slow=6.8,SNR=9.3						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**72.20**	**24**	P	**P**	**16 11 58.0**	**-0.2**
	0.5nm,0.9s,baz=308,slow=5.6,SNR=4.6						
	0

	comp=Z,348nm,18.4s,baz=7.0,slow=38						
	35nm,0.3s						
DZM	**Mont Dzumac**	**4.25**	**188**	P	**Pn**	**16 03 11.6**	**+0.3**
DZM	**Mont Dzumac**	**4.25**	**188**	S	**Sn**	**16 03 59.9**	**-0.5**
OUENC	**Ouen Island, N**	**4.56**	**183**	P	**Pn**	**16 03 16.2**	**+0.8**
LUES	**Luesalemba Tem**	**7.22**	**351**	P	**Pn**	**16 03 52.6**	**+0.6**
HURO	**Huro Makira**	**8.88**	**325**	P	**Pn**	**16 04 14.8**	**0.0**
NGOA	**Tingoa Renbel**	**9.22**	**312**	P	**Pn**	**16 04 19.6**	**+0.1**
MSVF	**Nonsavu**	**10.46**	**91**	Pn	**Pn**	**16 04 39.8**	**+3.4**
MSVF	**Nonsavu**	**10.46**		Pn	**Pn**	**16 04 38.9**	**+2.4**
	0.2nm,0.3s,baz=271,slow=12,SNR=5.9						
MSVF				LR	LR	16 08 00.9	
	comp=Z,513nm,18.3s,baz=272,slow=34						
HNR	**Honiara**	**10.85**	**319**		**Pn**	**16 04 42.2**	**+0.4**
HNR	**Honiara**	**10.85**	**319**	Pn	**Pn**	**16 04 41.7**	**-0.1**
	22nm,0.3s,baz=136,slow=1.5,SNR=16						
HNR				Sn	**Sn**	**16 06 37.2**	**-5.6**
	8.5nm,0.3s,baz=186,slow=19,SNR=10						
HNR				LR	LR	16 07 59.5	
	comp=Z,184nm,21.4s,baz=146,slow=33						
	91nm,0.4s						
HNR	**Honiara**	**10.85**	**319**	P	**Pn**	**16 04 43.3**	**+1.5**
ALEG	**Aligegeo Malai**	**10.96**	**325**	P	**Pn**	**16 04 45.7**	**+2.5**
SAVO	**Savo Central**	**11.15**	**320**	P	**Pn**	**16 04 48.3**	**+2.3**
TATA	**Tatamba Isabel**	**11.76**	**322**	P	**Pn**	**16 04 56.2**	**+1.9**
FUNA	**Funafuti**	**14.99**	**53**	P	**P**	**16 05 45.8**	**+2.1**
CTAO	**Charters Tower**	**19.82**	**260**	P	**P**	**16 06 35.9**	**-1.1**
CTAO				IAmb	IAmb	16 06 39.9	
	comp=Z,8.0nm,0.8s						
RTZ	**Ruatahuna**	**22.43**	**159**	P	**P**	**16 07 05.9**	**+0.7**
RTZ				IAmb	IAmb	16 07 19.6	
	comp=Z,114nm,2.0s						
STKA	**Stephens Creek**	**26.93**	**234**	P	**P**	**16 07 48.1**	**+0.5**
STKA	**Stephens Creek**	**26.93**	**234**	P	**P**	**16 07 48.4**	**+0.8**
	comp=Z,8.5nm,0.6s,baz=70,slow=11,SNR=17						
STKA				LR	LR	16 16 48.6	
	comp=Z,88nm,20.2s,baz=289,slow=33						
	comp=Z,8.5nm,0.6s						
BOXOZ	**Borroloola**	**29.48**	**269**	P	**P**	**16 08 08.8**	**-1.7**
JAY	**Jayapura**	**30.02**	**298**	LR	LR	16 20 39.3	
	comp=Z,150nm,18.4s,baz=120,slow=37						
WR8	**Warramunga Arr**	**30.87**	**261**	P	**P**	**16 08 21.8**	**-1.0**
WR8				IAmb	IAmb	16 09 09.4	
	comp=Z,25nm,1.9s						
WB0	**Warramunga Arr**	**30.97**	**261**	P	**P**	**16 08 22.7**	**-1.0**
WB0				IAmb	IAmb	16 08 45.6	
	comp=Z,8.2nm,1.3s						
WRA	**Warramunga Arr**	**31.02**	**261**	P	**P**	**16 08 22.5**	**-1.6**
	comp=Z,1.5nm,0.8s,baz=87,slow=8.5,SNR=8.2						
WRA				LR	LR	16 20 30.9	
	comp=Z,154nm,18.0s,baz=58,slow=36						
	comp=Z,1.5nm,0.8s						
AS31	**Alice Springs**	**31.51**	**254**	P	**P**	**16 08 27.2**	**-1.2**
ASAR	**Alice Springs**	**31.51**	**254**	P	**P**	**16 08 27.1**	**-1.3**
ASAR	**Alice Springs**	**31.51**	**254**	P	**P**	**16 08 26.8**	**-1.6**
	comp=Z,3.2nm,0.7s,baz=88,slow=8.0,SNR=108						
ASAR				LR	LR	16 20 46.1	
	comp=Z,202nm,18.1s,baz=104,slow=36						
	comp=Z,3.2nm,0.7s						
BBOO	**Buckleboo**	**31.61**	**236**	P	**P**	**16 08 29.1**	**0.0**
KNRA	**Kununurra**	**36.71**	**268**	P	**P**	**16 09 12.6**	**-1.0**
KNRA				IAmb	IAmb	16 09 48.7	
	comp=Z,43nm,1.8s						
FAKI	**Fak Fak**	**37.22**	**289**	P	**P**	**16 09 17.2**	**-0.8**
FAKI				IAmb	IAmb	16 09 17.4	
	comp=Z,40nm,1.2s						
FORT	**Forrest**	**37.63**	**243**	P	**P**	**16 09 20.8**	**-0.4**
FORT				IAmb	IAmb	16 09 34.9	
	comp=Z,8.6nm,1.2s						
GUMO	**Guam**	**38.15**	**323**	P	**P**	**16 09 26.3**	**+0.7**
GUMO	**Guam**	**38.15**	**323**	LR	LR	16 24 03.8	
	comp=Z,30nm,21.6s,baz=142,slow=35						
FITZ	**Fitzroy Crossi**	**39.36**	**263**	P	**P**	**16 09 35.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**39.36**	**263**	LR	LR	16 24 38.0	
	comp=Z,155nm,20.7s,baz=96,slow=34						
PPT	**Papeete**	**41.23**	**96**	LR	LR	16 22 52.7	
	comp=Z,78nm,21.0s,baz=194,slow=30						
NWAO	**Narrogin (SRO)**	**47.05**	**241**	P	**P**	**16 10 37.6**	**-0.4**
PEA0B	**Petropavlovsk-**	**71.11**	**354**	P	**P**	**16 13 26.0**	**+1.7**
PEA0B				IAmb	IAmb	16 14 31.9	
	comp=Z,16nm,1.4s						
PETK	**Petropavlovsk-**	**71.11**	**354**	P	**P**	**16 13 25.9**	**+1.6**
PETK	**Petropavlovsk-**	**71.11**	**354**	P	**P**	**16 13 25.2**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=171,slow=6.4,SNR=4.1						
	comp=Z,1.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**76.06**	**295**	P	**P**	**16 13 54.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**76.06**	**295**	P	**P**	**16 13 54.5**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=115,slow=5.6,SNR=14						
	comp=Z,2.2nm,0.8s						
SDPT	**Sand Point**	**77.93**	**18**	P	**P**	**16 14 06.7**	**+3.0**
L19K	**White Mountain**	**85.25**	**17**	P	**P**	**16 14 43.2**	**+0.9**
L19K				IAmb	IAmb	16 17 36.2	
	comp=Z,14nm,1.4s						
SYO	**Syowa Base**	**85.69**	**197**	eP	**P**	**16 14 44.6**	**0.0**
SYO	**Syowa Base**	**85.69**	**197**	eP	**PcP**	**16 14 48.0**	**+0.5**
PMSA	**Palmer Station**	**88.92**	**161**	P	**P**	**16 15 01.0**	**+0.7**
NVAR	**Mina Array Bea**	**89.43**	**49**	P	**P**	**16 15 03.1**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=244,slow=7.0,SNR=6.1						
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**89.53**	**18**	P	**P**	**16 15 00.9**	**-2.0**
	comp=Z,0.4nm,0.8s,baz=231,slow=5.7,SNR=4.4						
	comp=Z,0.4nm,0.8s						
TXAR	**Lajitas Array**	**97.91**	**62**	P	**P**	**16 15 41.7**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=250,slow=4.7,SNR=2.5						
	comp=Z,0.2nm,0.6s						

CNRM ***02*** *16:03:05.9,35˚.13N×3˚.59W, h22km, ML2.9*
MDD ***02*** *16:03:07.0±1.0, 34˚.96N×3˚.53W, h40km, mb_Lg2.7/11, Error ellipse: s-maj=9.1km s-min=4.4km az=1.0*
SFS ***02*** *16:03:06.2, 35˚.02N×3˚.60W, h22km, ML2.9/6, ML2.7/10, MLv2.5/10*
INMG ***02*** *16:03:08.7±1.6, 35˚.17N×3˚.61W, h11km, ML2.2, Error ellipse: s-maj=7.8km s-min=4.1km az=178.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Al Hoceima (MARR)*

ISC 02 16:03:05.6±1.1, 35˚12N±0˚.02×3˚61W±0˚.02, h14±9km, n56, σ1°22/81, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.29**	**290**	P	**Pb**	**16 03 13.3**	**+0.8**
PALE	**Palemas**	**0.29**	**290**	S	**Sb**	**16 03 17.6**	**+0.4**
GOG	**Mont Gurugu**	**0.51**	**78**	P	**Pg**	**16 03 16.1**	**+0.4**
GOG	**Mont Gurugu**	**0.51**	**78**	S	**Sb**	**16 03 23.6**	**-0.2**
EMEL	**Melilla**	**0.56**	**71**	Pg	**Pb**	**16 03 17.4**	**+0.1**
EMEL				Sg	**Sb**	**16 03 26.3**	**+1.1**
EMLI	**Melilla**	**0.57**	**71**	Pg	**Pb**	**16 03 17.2**	**-0.1**
EMLI				Sg	**Sb**	**16 03 26.1**	**+0.8**
WMELI	**Melilla**	**0.57**	**70**	Sg	**Sb**	**16 03 25.7**	**+0.3**
WMELI				Pg	**Pb**	**16 03 17.4**	**0.0**
AKLM	**AKL**	**0.64**	**199**	P	**Pg**	**16 03 17.7**	**-0.4**
AKLM	**AKL**	**0.64**	**199**	S	**Sg**	**16 03 27.0**	**+0.3**
EALB	**Alboran**	**0.94**	**30**	Sg	**Sn**	**16 03 38.1**	**+0.4**
EALB				Pg	**Pn**	**16 03 24.6**	**+0.2**
EALB	**Alboran**	**0.94**	**30**	Pg	**Pn**	**16 03 24.6**	**+0.2**
EALB				Sg	**Sn**	**16 03 37.8**	**+0.1**
EALB				*i* lVmb_Lg		16 03 40.1	
TAF	**Taforalt**	**1.03**	**107**	P	**Pb**	**16 03 25.0**	**-0.2**
TAF	**Taforalt**	**1.03**	**107**	S	**Sb**	**16 03 38.2**	**-0.4**
JBK	**JBK**	**1.16**	**132**	P	**Pn**	**16 03 26.4**	**-1.2**
JBK	**JBK**	**1.16**	**132**	S	**Sb**	**16 03 42.0**	**-0.6**
CHEFC	**Chefchaouen**	**1.42**	**270**	P	**Pb**	**16 03 32.1**	**+0.2**
CHEFC	**Chefchaouen**	**1.42**	**270**	S	**Sn**	**16 03 49.2**	**-0.4**
SMIR	**Smir Dam**	**1.55**	**292**	P	**Pn**	**16 03 32.4**	**-0.3**
SMIR	**Smir Dam**	**1.55**	**292**	S	**Sb**	**16 03 53.0**	**-0.6**
ECEU	**Ceuta**	**1.64**	**299**	Pn	**Pn**	**16 03 33.6**	**-0.4**
ECEU				Sn	**Sn**	**16 03 53.3**	**-1.6**
ECEU	**Ceuta**	**1.64**	**299**	Pg	**Pn**	**16 03 33.5**	**-0.4**
ECEU				Sg	**Sn**	**16 03 53.9**	**-0.9**
ECEU				*i* lVmb_Lg		16 03 54.2	
EMIJ	**Mijas**	**1.72**	**327**	Pn	**Pn**	**16 03 34.9**	**-0.3**
EMIJ				Sn	**Sn**	**16 03 55.4**	**-1.6**
EMIJ	**Mijas**	**1.72**	**327**	Pn	**Pn**	**16 03 34.9**	**-0.3**
EMIJ				Sn	**Sn**	**16 03 56.6**	**-0.4**
EMIJ				*i* lVmb_Lg		16 04 06.7	
ELGU	**Los Guajares,**	**1.75**	**360**	Pn	**Pn**	**16 03 35.4**	**-0.1**
ELGU				Sn	**Sn**	**16 03 57.9**	**+0.3**
ELGU	**Los Guajares,**	**1.75**	**360**	Pn	**Pn**	**16 03 35.4**	**-0.1**
ELGU				Sn	**Sn**	**16 03 56.8**	**-0.9**
ELGU				*i* lVmb_Lg		16 04 00.9	
LCRM	**LCR**	**1.76**	**216**	P	**Pn**	**16 03 36.9**	**+1.0**
LCRM	**LCR**	**1.76**	**216**	S	**Sg**	**16 04 01.7**	**-0.6**
EMAL	**Malaga-Limoner**	**1.77**	**338**	Sn	**Sb**	**16 03 58.8**	**-1.0**
EGOR	**Sierra Gorda,**	**2.03**	**349**	Pn	**Pn**	**16 03 40.4**	**+0.9**
EGOR				Sg	**Sg**	**16 04 10.6**	**-0.2**
EGOR	**Sierra Gorda,**	**2.03**	**349**	Pn	**Pb**	**16 03 41.5**	**-0.8**
EGOR				Sn	**Sn**	**16 04 04.5**	**-0.2**
EGOR				*i* lVmb_Lg		16 04 22.0	
EQUE	**Quentar**	**2.09**	**4**	Pn	**Pb**	**16 03 42.0**	**-1.2**
EQUE				Sn	**Sn**	**16 04 06.8**	**+0.7**
EQTA	**Presa de Quent**	**2.09**	**4**	Pn	**Pn**	**16 03 40.6**	**+0.3**
ENIJ	**Nijar**	**2.17**	**31**	Sn	**Sn**	**16 04 07.8**	**-0.3**
CZD	**Col de Zad**	**2.40**	**210**	P	**Pn**	**16 03 43.8**	**-0.8**
CZD	**Col de Zad**	**2.40**	**210**	S	**Sn**	**16 04 14.1**	**+0.1**
MD31	**MD31**	**2.44**	**203**	P	**Pn**	**16 03 45.0**	**-0.1**
MD31	**MD31**	**2.44**	**203**	S	**Sn**	**16 04 15.3**	**+0.5**
MDT	**Midelt**	**2.44**	**200**	P	**Pn**	**16 03 45.6**	**+0.4**
MDT	**Midelt**	**2.44**	**200**	S	**Sn**	**16 04 15.9**	**+1.0**
EQES	**Quesada**	**2.71**	**9**	Pn	**Pb**	**16 03 51.8**	**-2.2**
EQES				Sn	**Sb**	**16 04 25.8**	**-1.4**
ECAB	**El Cabril**	**3.29**	**334**	Pn	**Pn**	**16 03 58.9**	**+2.2**
ECAB				Sn	**Sn**	**16 04 35.3**	**-0.4**
ECAB				*i* lVmb_Lg		16 04 41.7	
EMIN	**Mina Concepcio**	**3.62**	**318**	Pn	**Pn**	**16 04 02.2**	**+1.0**
EMIN				Sn	**Sn**	**16 04 42.7**	**-1.0**
EMIN				*i* lVmb_Lg		16 04 56.6	
EGRO	**El Granado**	**3.95**	**309**	Pn	**Pn**	**16 04 07.3**	**+1.5**
EGRO				Sn	**Sn**	**16 04 51.2**	**-0.7**
EGRO				*i* lVmb_Lg		16 05 02.8	
PBDV	**Barranco-do-Ve**	**4.09**	**302**	*e*P	**Pn**	**16 04 08.5**	**+0.8**
PBDV				*e*S	**Sn**	**16 04 53.6**	**-1.8**
PBDV				*i* IAML		16 04 56.6	
PBDV				*i* IAML		16 05 00.6	
PBDV				*i* IAML		16 05 05.6	
PBAR	**Barrancos**	**4.11**	**319**	*e*P	**Pn**	**16 04 10.9**	**+3.0**
PBAR				*e*S	**Sn**	**16 04 55.6**	**-0.2**
PBAR				*i* IAML		16 05 00.1	
PBAR				*i* IAML		16 05 00.5	
PBAR				*i* IAML		16 05 01.2	
PCVE	**Castro Verde**	**4.37**	**306**	*e*P	**Pn**	**16 04 14.2**	**+2.7**
PCVE				*e*S	**Sn**	**16 05 04.0**	**+1.8**
PCVE				*i* IAML		16 05 06.3	
PCVE				*i* IAML		16 05 07.3	
PCVE				*i* IAML		16 05 10.9	
PAB	**San Pablo**	**4.46**	**353**	Pn	**Pn**	**16 04 15.1**	**+2.3**
PAB				*i* lVmb_Lg		16 05 18.8	
EBAD	**Badajoz**	**4.54**	**324**	Pn	**Pn**	**16 04 15.8**	**+2.0**
EBAD				Sn	**Sn**	**16 05 03.9**	**-2.5**
EBAD				*i* lVmb_Lg		16 05 11.5	
MESJ	**Messejana**	**4.60**	**307**	*e*P	**Pn**	**16 04 17.2**	**+2.5**
MESJ				*e*S	**Sn**	**16 05 07.8**	**-0.2**
MESJ				*i* IAML		16 05 10.7	
MESJ				*i* IAML		16 05 11.6	
MESJ				*i* IAML		16 05 12.1	
EVO	**Evora**	**4.91**	**315**	*e*P	**Pn**	**16 04 21.0**	**+2.1**
EVO				*e*S	**Sn**	**16 05 14.7**	**-0.8**
PMRV	**Marv??o**	**5.25**	**326**	*e*P	**Pn**	**16 04 25.8**	**+2.1**
PMTG	**Montargil**	**5.40**	**318**	*e*P	**Pn**	**16 04 27.7**	**+2.1**
PMTG				*e*S	**Sn**	**16 05 27.0**	**-0.6**
PCBR	**Castelo Branco**	**5.63**	**328**	*e*P	**Pn**	**16 04 31.3**	**+2.5**
PARRA	**Arraiolos**	**5.70**	**312**	*e*P	Pn	16 04 23.7	-6.2
PARRA				*e*S	Sn	16 05 20.4	-15
PARRA				*i* IAML		16 05 21.4	
PARRA				*i* IAML		16 05 23.5	
PARRA				*i* IAML		16 05 27.9	
PSARD	**Sardoal**	**5.76**	**322**	*e*P	**Pn**	**16 04 33.1**	**+2.5**
PSARD				*e*S	**Sn**	**16 05 36.3**	**-0.2**
PSARD				*i* IAML		16 05 38.3	
PSARD				*i* IAML		16 05 39.9	
PSARD				*i* IAML		16 05 41.6	
MVO	**Moncorvo**	**6.61**	**337**	*e*P	**Pn**	**16 04 44.4**	**+2.1**

DJA 02 16:05:00.7±0.3, 3˚S±2˚×11˚9E±˚, h10km, MLv3.8/13, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTSI	**Tana Toraja**	**0.40**	**105**	P	Pg	16 05 08.5	-0.1
TTSI				S	Sg	16 05 14.6	+0.6
SPSI	**Sidrap Palu**	**1.07**	**162**	P	Pg	16 05 19.6	-1.8
BNSI	**Bone**	**1.60**	**155**	P	Pb	16 05 30.4	0.0
BNSI				S	Sg	16 05 53.6	+1.4
PCI	**Palu**	**2.06**	**11**	P	Pb	16 05 38.2	-0.1
APSI	**Ampana**	**3.00**	**48**	P	Pn	16 05 48.0	-0.3
MPSI	**Mapaga**	**3.29**	**8**	P	Pn	16 05 53.1	+0.8
BSSI	**Bau Bau, Buton**	**3.35**	**162**	P	Pn	16 05 53.4	+0.2
LUWI	**Luwuk**	**3.83**	**61**	P	Pn	16 05 57.9	-1.9
BBSI	**Bau Bau**	**4.03**	**129**	P	Pn	16 06 03.5	+1.0
PLAI	**Plampang**	**6.08**	**196**	P	Pn	16 06 27.0	-3.7

IDC ***02*** *16:10:37.5±2.0, 3˚.19S×101˚.51E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=104.6km s-min=18.8km az=54.0*
DJA ***02*** *16:10:59.9±0.4, 3˚S±5˚×10˚2E±˚, h188km±5km, M3.8/1, MLv4.1/13, MLv3.8/1*

ISC 02 16:10:59.3±0.8, 2˚43S±0˚.09×102˚39E±0˚.09, h150km, n22, σ2°39/21, mb3.5/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**1.23**	**171**	P	**Pn**	**16 11 29.2**	**+2.9**
KSI				S	**Sn**	**16 11 51.8**	**+4.9**
LHSI	**Lahat**	**1.79**	**141**	P	**Pn**	**16 11 35.0**	**+3.0**
MNAI	**Manna**	**2.00**	**164**	P	**Pn**	**16 11 36.0**	**+1.5**
MNAI				S	**Sn**	**16 12 03.6**	**+2.1**
MDSI	**Maura Dua**	**2.71**	**139**	P	**Pn**	**16 11 44.8**	**+1.7**
LWLI	**Liwa**	**3.06**	**147**	P	**Pn**	**16 11 48.2**	**+0.6**
SISI	**Saibi**	**3.48**	**288**	P	**Pn**	**16 11 54.5**	**+1.7**
SISI				S	**Sn**	**16 12 36.0**	**+1.8**
PBSI	**Pulau Batu**	**4.74**	**300**	P	**Pn**	**16 12 11.2**	**+1.9**
TPI	**Tanjungpandan**	**5.27**	**94**	P	**Pn**	**16 12 19.2**	**+2.9**
CGJI	**Cibinong**	**5.30**	**142**	P	**Pn**	**16 12 15.4**	**-1.3**
GSI	**Gunungsitoli**	**6.08**	**308**	P	**Pn**	**16 12 28.5**	**+1.4**
H08S2	**Diego Garcia H**	**30.22**	**259**	T	T	16 46 28.9	
	baz=81,slow=76,SNR=6.2						
H08S3	**Diego Garcia H**	**30.23**	**259**	T	T	16 46 47.3	
	baz=81,slow=76,SNR=5.4						
H08S1	**Diego Carcia H**	**30.24**	**259**	T	T	16 46 44.7	
	baz=81,slow=76,SNR=5.4						
WRA	**Warramunga Arr**	**35.73**	**122**	P	**P**	**16 17 41.4**	**-2.5**
	0.3nm,0.3s,baz=299,slow=8.5,SNR=12						
WRA				PcP	**PcP**	**16 20 06.1**	**-2.7**
	0.3nm,0.4s,baz=301,slow=2.8,SNR=5.3						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**37.08**	**127**	P	**P**	**16 17 52.5**	**-2.8**
	0.6nm,0.4s,baz=300,slow=8.6,SNR=30						
ASAR				PcP	**PcP**	**16 20 10.9**	**-2.0**
	0.5nm,0.6s,baz=299,slow=3.0,SNR=9.2						
	0.6nm,0.4s						
SONM	**Songino Array**	**50.18**	**4**	P	**P**	**16 19 40.6**	**+0.9**
	0.4nm,0.5s,baz=180,slow=8.1,SNR=1.8						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**52.12**	**343**	P	**P**	**16 19 54.1**	**0.0**
	0.3nm,0.3s,baz=153,slow=8.8,SNR=6.9						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**58.06**	**348**	P	**P**	**16 20 36.3**	**-0.2**
	0.5nm,0.3s,baz=164,slow=8.2,SNR=2.4						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**61.43**	**339**	P	**P**	**16 20 58.0**	**-1.6**
	0.5nm,0.7s,baz=142,slow=6.2,SNR=14						
	0.5nm,0.7s						
H04N2	**CROZET ISLANDS**	**61.89**	**218**	T	T	17 26 36.5	
	baz=58						
H04N1	**CROZET ISLANDS**	**61.91**	**218**	T	T	17 26 36.6	
	baz=58						
H04N3	**CROZET ISLANDS**	**61.91**	**217**	T	T	17 26 38.2	
	baz=58						

IDC ***02*** *16:21:19.9±1.8, 30˚.69S×177˚.52W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=40.9km s-min=23.1km az=90.0*
NEIC ***02*** *16:21:25.8±0.9, 30˚.54S±0˚.09×177˚.6W±0˚.2, h35km±2km, mb4.3/9, Error ellipse: s-maj=28.8km s-min=10.2km az=67.0*

ISC 02 16:21:24.3±1.5, 30˚62S±0˚.09×177˚6W±0˚.2, h33km, n16, σ0°87/17, mb4.3/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.40**	**347**	Pn	**Pn**	**16 21 47.4**	**-0.2**
RAO	**Raoul Island**	**1.40**	**347**	Pn	**Pn**	**16 21 48.0**	**+0.5**
	186nm,0.3s,baz=120,slow=20,SNR=2.4						
RAO				Sn	**Sb**	**16 22 08.1**	**+0.7**
	115nm,0.3s,baz=198,slow=19,SNR=3.5						
DZM	**Mont Dzumac**	**16.67**	**297**	Pn	**Pn**	**16 25 13.7**	**-1.9**
DZM				IAmb	IAmb	16 25 56.5	
	comp=Z,12nm,1.3s						
STKA	**Stephens Creek**	**34.81**	**257**	P	**P**	**16 28 14.2**	**+2.1**
	comp=Z,2.4nm,0.7s,baz=100,slow=16,SNR=4.7						
	comp=Z,2.4nm,0.7s						
ASAR	**Alice Springs**	**43.48**	**267**	P	**P**	**16 29 24.8**	**0.0**
	comp=Z,0.5nm,0.5s,baz=109,slow=8.1,SNR=20						
	comp=Z,0.5nm,0.5s						
PATS	**Pohnpei**	**43.84**	**324**	P	**P**	**16 29 27.4**	**-0.1**
WR8	**Warramunga Arr**	**44.35**	**272**	P	**P**	**16 29 31.8**	**0.0**
WR8				IAmb	IAmb	16 29 36.9	
	comp=Z,8.2nm,1.4s						
BOXOZ	**Borroloola**	**44.48**	**278**	P	**P**	**16 29 32.4**	**-0.3**
WRAB	**Tennant Creek**	**44.49**	**272**	P	**P**	**16 29 32.7**	**-0.2**
WRAB				IAmb	IAmb	16 29 40.7	
	comp=Z,7.5nm,1.3s						
WRA	**Warramunga Arr**	**44.49**	**272**	P	**P**	**16 29 32.5**	**-0.4**
WRA	**Warramunga Arr**	**44.49**	**272**	P	**P**	**16 29 32.4**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=113,slow=8.1,SNR=16						
	comp=Z,1.2nm,0.5s						
WB0	**Warramunga Arr**	**44.52**	**272**	P	**P**	**16 29 32.3**	**-0.7**
WB0				IAmb	IAmb	16 30 01.5	
	comp=Z,12nm,1.4s						
FORT	**Forrest**	**46.37**	**255**	P	**P**	**16 29 47.5**	**-0.1**
FORT				IAmb	IAmb	16 30 06.1	
	comp=Z,6.7nm,1.1s						
QSPA	**South Pole Qui**	**59.49**	**180**	P	**P**	**16 31 23.6**	**-0.4**
	comp=Z,1.4nm,1.1s,baz=30,slow=8.1,SNR=2.1						
	comp=Z,1.4nm,1.1s						
JHJ2	**Mitsune**	**75.12**	**324**	P	**P**	**16 33 02.4**	**-0.7**
FINES	**FINESS Array B**	**145.48**	**340**	PKPbc	**PKPab**	**16 40 59.0**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=34,slow=3.5,SNR=18						

IDC ***02*** *16:41:23.6±1.7, 3˚.39S×118˚.17E, h0km, mb3.4/6, mbtmp3.5/7, ML3.5/1, MS2.9/2, Error ellipse: s-maj=138.1km s-min=16.3km az=55.0*
DJA ***02*** *16:41:26.6±0.7, 3˚S±3˚×11˚9E±˚, h18km±6km, M3.9/1, MLv4.1/13, MLv3.9/1*

ISC 02 16:41:29.5±0.9, 2˚91S±0˚.05×118˚91E±0˚.07, h35km, n19, σ1°44/20, mb3.5/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTSI	**Tana Toraja**	**0.91**	**99**	P	**Pn**	**16 41 43.3**	**-2.5**
TTSI				S	**Sn**	**16 41 57.1**	**-0.7**
BNSI	**Bone**	**1.90**	**141**	P	**Pn**	**16 41 59.7**	**+0.3**
PCI	**Palu**	**2.19**	**25**	P	**Pn**	**16 42 01.7**	**-1.7**
KAPI	**Kappang**	**2.25**	**158**	Pn	**Pn**	**16 42 02.2**	**-2.1**
	12nm,0.3s,baz=325,slow=16,SNR=13						
KAPI				Sn	**Sn**	**16 42 30.4**	**-0.5**
	27nm,0.3s,baz=18,slow=19,SNR=7.7						
KAPI				LR	LR	16 43 10.8	
	comp=Z,142nm,19.0s,baz=131,slow=48						
	46nm,0.4s						
BKB	**Balikpapan**	**2.60**	**309**	P	**Pn**	**16 42 08.2**	**-0.8**
MPSI	**Mapaga**	**3.37**	**17**	P	**Pn**	**16 42 18.0**	**-1.6**
APSI	**Ampana**	**3.38**	**54**	P	**Pn**	**16 42 19.6**	**-0.1**
BSSI	**Bau Bau, Buton**	**3.58**	**154**	P	**Pn**	**16 42 22.6**	**+0.1**
LUWI	**Luwuk**	**4.28**	**64**	P	**Pn**	**16 42 32.9**	**+0.8**
BBSI	**Bau Bau**	**4.46**	**125**	P	**Pn**	**16 42 35.2**	**+0.6**
PLAI	**Plampang**	**5.99**	**191**	P	**Pn**	**16 42 53.0**	**-2.7**
KMSI	**Cibinong**	**6.13**	**56**	P	**Pn**	**16 42 56.7**	**-0.9**
BATI	**Baumata**	**8.65**	**147**	LR	LR	16 47 20.2	
	comp=Z,164nm,21.7s,baz=162,slow=41						
WRA	**Warramunga Arr**	**22.66**	**139**	P	**P**	**16 46 27.1**	**-0.8**
	0.9nm,0.8s,baz=316,slow=9.1,SNR=5.8						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**25.22**	**146**	P	**P**	**16 46 52.7**	**+0.5**
	0.5nm,0.8s,baz=320,slow=9.4,SNR=8.4						
	0.5nm,0.8s						
SONM	**Songino Array**	**51.71**	**349**	P	**P**	**16 50 35.6**

H11N3	**WAKE ISLAND Hy 36.47 176** baz=357,slow=76,SNR=310	T	T	17 29 41.3	
H11N1	**WAKE ISLAND Hy 36.47 176** baz=357,slow=76,SNR=439	T	T	17 29 46.3	
KURBB	**Kurchatov Arra 48.21 302** 0.2nm,0.5s,baz=53,slow=7.7,SNR=3.1 0.2nm,0.5s	P	**P**	**16 52 34.7 -1.0**	
MKAR	**Makanchi Array 48.93 296** 0.1nm,0.6s,baz=45,slow=8.4,SNR=3.7 0.1nm,0.6s	P	**P**	**16 52 41.1 -0.4**	
PDAR	**Pinedale Array 54.03 65** 0.3nm,0.5s,baz=313,slow=6.7,SNR=3.5 0.3nm,0.5s	P	**P**	**16 53 20.3 +0.4**	
AKASG	**Malin Array Be 67.12 331** 0.1nm,0.3s,baz=32,slow=5.5,SNR=1.3 0.1nm,0.3s	P	**P**	**16 54 49.6 +0.9**	
TXAR	**Lajitas Array 67.34 71** 0.3nm,0.5s,baz=318,slow=7.7,SNR=4.6 0.3nm,0.5s	P	**P**	**16 54 51.9 +1.3**	
WRA	**Warramunga Arr 79.90 208** 0.4nm,0.6s,baz=18,slow=5.8,SNR=2.0 0.4nm,0.6s	P	**P**	**16 56 04.2 0.0**	
ASAR	**Alice Springs 83.57 208** 0.6nm,0.7s,baz=22,slow=5.2,SNR=7.2 0.6nm,0.7s	P	**P**	**16 56 23.9 +0.4**	
QSPA	**South Pole Qui 145.93 180** 1.3nm,0.8s,baz=49,slow=0.4,SNR=10	PKPbc	**PKPbc**	**17 03 33.9 +0.3**	

WEL 02 16:50:33.8±1.4, 36.7°S±18.1′×18.0°W±1.6°, h12km, M3.2/7, ML3.6/7, MLv3.2/7, Error ellipse: s-maj=30.0km s-min=9.9km az=140.1, confirmed, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.95**	**233**	S	Sn	16 51 30.8	-0.1
WMGZ	**Waiomatatini S**	**2.04**	**226**	P	Pn	16 51 08.8	+0.9
WMGZ				S	Sn	16 51 32.7	-0.7
PUZ	**Puketiti**	**2.31**	**223**	P	Pn	16 51 12.0	+0.3
PUZ				S	Sn	16 51 40.1	+0.2
HAZ	**Te Kaha**	**2.40**	**235**	P	Pn	16 51 10.8	-2.0
HAZ				S	Sb	16 51 45.1	-1.2
TWGZ	**Tauwhareparae**	**2.54**	**225**	P	Pn	16 51 15.7	+0.9
TWGZ				S	Sn	16 51 47.6	+2.0
RUGZ	**Raukumara Rang**	**2.59**	**232**	P	Pn	16 51 13.7	-1.8
CNGZ	**Carnagh Statio**	**2.64**	**218**	P	Pn	16 51 16.9	+0.7
TKGZ	**Te Karaka**	**2.79**	**223**	P	Pn	16 51 19.0	+0.7
TKGZ				S	Sn	16 51 52.5	+0.6
MWZ	**Matawai**	**2.91**	**228**	P	Pn	16 51 20.2	+0.3
MWZ				S	Sn	16 51 55.6	+0.8
RIGZ	**Rimuhau**	**3.04**	**220**	S	Sn	16 51 58.7	+0.7
URZ	**Urewera**	**3.12**	**233**	P	Pn	16 51 17.4	-5.3
URZ				S	Sn	16 52 01.1	+1.1
MHGZ	**Mahia Peninsul**	**3.32**	**214**	P	Pn	16 51 25.0	-0.5
SNGZ	**Shannon Statio**	**3.32**	**223**	S	Sn	16 52 05.3	+0.4
KNZ	**Kokohu**	**3.32**	**217**	P	Pn	16 51 22.3	-3.2
CTZ	**Chatham Island**	**7.70**	**163**	P	Pn	16 52 22.6	-3.1

*NEIC **02** 17:01:06.2±2.6, 7.46°S±0.08°×128.74°E±0.08, h146km±8km, mb4.1/9, Error ellipse: s-maj=12.6km s-min=9.2km az=139.0*
*IDC **02** 17:01:07.3±4.3, 7.51°S×128.51°E, h156km±39km, mb3.5/9, mbtmp3.9/10, Error ellipse: s-maj=37.5km s-min=14.6km az=66.0*

ISC 02 17:01:05.9±0.5, 7.58°S±0.05°×128.68°E±0.05, h151km, n41, σ2ᵗ15/49, mb3.8/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.63**	**99**	P	**Pn**	**17 01 51.6**	**+3.0**
SOEI	**Soe**	**4.87**	**243**		**Pn**	**17 02 19.5**	**+1.8**
SOEI					**Sn**	**17 03 13.3**	**-0.4**
SOEI	**Soe**	**4.87**	**243**	P	**Pn**	**17 02 19.7**	**+2.0**
DRS	**Darwin Rock St**	**5.29**	**156**	P	**Pn**	**17 02 25.3**	**+2.1**
BATI	**Baumata** 246nm,0.4s,baz=96,slow=3.4,SNR=87	**5.60**	**242**	P	**Pn**	**17 02 28.5**	**+1.2**
BATI	81nm,0.5s,baz=73,slow=19,SNR=7.0			S	**Sn**	**17 03 29.1**	**-1.9**
MTN	**Manton Dam**	**5.76**	**155**		**Pn**	**17 02 31.3**	**+1.8**
MTN				Sn	**Sn**	**17 03 33.1**	**-1.7**
MTN	**Manton Dam**	**5.76**	**155**	P	**Pn**	**17 02 31.2**	**+1.8**
FAKI	**Fak Fak**	**5.83**	**38**	Pn	**Pn**	**17 02 28.9**	**-1.5**
FAKI				Sn	**Sn**	**17 03 31.0**	**-5.6**
KDU	**Kakadu**	**6.30**	**144**	P	**Pn**	**17 02 38.2**	**+1.6**
MMRI	**Maumere**	**6.46**	**260**		**Pn**	**17 02 38.6**	**-0.2**
MMRI				Sn	**Sn**	**17 03 50.8**	**-0.8**
MMRI	**Maumere**	**6.46**	**260**	P	**Pn**	**17 02 40.1**	**+1.3**
KNRA	**Kununurra**	**8.05**	**179**		**Pn**	**17 03 00.7**	**+0.7**
KNRA				Sn	**Sn**	**17 04 23.8**	**-5.9**
FITZ	**Fitzroy Crossi**	**10.87**	**196**	Pn	**Pn**	**17 03 35.7**	**-1.6**
FITZ	**Fitzroy Crossi** 2.7nm,0.4s,baz=18,slow=6.4,SNR=27	**10.87**	**196**	P	**Pn**	**17 03 35.9**	**-1.5**
FITZ	3.3nm,0.3s,baz=346,slow=17,SNR=6.7			S	**Sn**	**17 05 30.7**	**-6.9**
WB0	**Warramunga Arr 13.32 156**			Pn	**Pn**	**17 04 08.1**	**-1.1**
WRA	**Warramunga Arr 13.46 157** 2.9nm,0.6s,baz=337,slow=11,SNR=9.6			P	**Pn**	**17 04 10.0**	**-1.0**
WRA	2.3nm,0.6s,baz=338,slow=21,SNR=6.7			S	Sn	17 06 31.7	-8.4
WR8	**Warramunga Ar 13.54 156**			Pn	**Pn**	**17 04 10.5**	**-1.5**
COEN	**Coen**	**15.58**	**115**		**Pn**	**17 04 37.8**	**+0.2**
AS31	**Alice Springs**	**16.76**	**163**	P	**Pn**	**17 04 54.6**	**+2.7**
ASAR	**Alice Springs**	**16.76**	**163**		**Pn**	**17 04 54.4**	**+2.5**
ASAR	**Alice Springs** 3.1nm,0.6s,baz=341,slow=11,SNR=84	**16.76**	**163**	P	**Pn**	**17 04 53.7**	**+1.8**
ASAR	0.5nm,0.4s,baz=336,slow=22,SNR=4.3			S	**S**	**17 07 56.1**	**-2.3**
MORW	**Morawa**	**24.47**	**208**	P	**P**	**17 06 13.3**	**+2.4**
BBOO	**Buckleboo**	**26.02**	**166**	P	**P**	**17 06 27.2**	**+2.2**
BBOO	comp=Z,9.4nm,1.0s			IAmb	IAmb	17 06 27.4	
STKA	**Stephens Creek 27.01 155** comp=Z,2.0nm,0.6s,baz=336,slow=12,SNR=5.3 comp=Z,2.0nm,0.6s			P	**P**	**17 06 36.0**	**+2.2**
TOO	**Toolangi**	**33.53**	**155**	P	**P**	**17 07 32.2**	**+1.0**
TOO	comp=Z,9.5nm,1.4s			IAmb	IAmb	17 08 10.6	
CMAR	**Chiang Mai Arr 39.12 312** comp=Z,0.5nm,0.7s,baz=123,slow=7.9,SNR=5.0 comp=Z,0.5nm,0.7s			P	**P**	**17 08 19.2**	**+0.4**
KSAR	**Wonju Array Be 44.79 359**			P	**P**	**17 09 05.5**	**+1.0**
SONM	**Songino Array 58.59 343** comp=Z,0.4nm,0.3s,baz=163,slow=5.5,SNR=2.1 comp=Z,0.4nm,0.3s			P	**P**	**17 10 46.9**	**0.0**
PETK	**Petropavlovsk- 65.28 19**			P	**P**	**17 11 31.9**	**+0.6**
PETK	**Petropavlovsk- 65.28 19** comp=Z,0.7nm,0.5s,baz=216,slow=6.6,SNR=2.2 comp=Z,0.7nm,0.5s			P	**P**	**17 11 31.8**	**+0.4**
MKAR	**Makanchi Array 68.00 328**			P	**P**	**17 11 49.0**	**+0.2**
MKAR	**Makanchi Array 68.00 328** comp=Z,0.9nm,0.5s,baz=123,slow=8.0,SNR=16 comp=Z,0.9nm,0.5s			P	**P**	**17 11 48.8**	**+0.1**
MAKZ	**Makanchi**	**68.17**	**327**	P	**P**	**17 11 49.9**	**+0.1**
MAKZ	comp=Z,1.8nm,1.1s			IAmb	IAmb	17 11 51.3	
ZALV	**Zalesovo Beam 71.53 334** comp=Z,0.6nm,0.4s,baz=132,slow=45,SNR=3.6 comp=Z,0.6nm,0.4s			P	**P**	**17 12 08.9**	**-1.3**
VNDA	**Vanda**	**72.04**	**173**	P	**P**	**17 12 13.6**	**+0.8**
VNDA	**Vanda** comp=Z,0.7nm,0.9s,baz=325,slow=12,SNR=5.1 comp=Z,0.7nm,0.9s	**72.04**	**173**	P	**P**	**17 12 13.7**	**+0.8**
KURBB	**Kurchatov Arra 72.32 329** comp=Z,0.9nm,0.3s,baz=130,slow=5.4,SNR=3.6 comp=Z,0.9nm,0.3s			P	**P**	**17 12 14.8**	**-0.1**
KURK	**Kurchatov**	**72.33**	**329**	P	**P**	**17 12 14.9**	**-0.1**
KURK	comp=Z,3.6nm,1.2s			IAmb	IAmb	17 12 16.5	
ABKAR	**Akbulak array 82.15 322**			P	**P**	**17 13 09.1**	**-0.6**
QSPA	**South Pole Qui 82.40 180**			P	**P**	**17 13 12.6**	**+1.7**
QSPA				IAmb	IAmb	17 13 31.9	
QSPA	**South Pole Qui 82.40 180** comp=Z,0.6nm,0.5s,baz=345,slow=3.4,SNR=9.9 comp=Z,0.6nm,0.5s			P	**P**	**17 13 12.7**	**+1.7**

*NOU **02** 17:05:33.5, 38.37°S×175.92°E, h180km, ML4.1/11, North Island, New Zealand*
*WEL **02** 17:05:36.5±0.8, 38.2°S±6.7°×17.6°E±.°, h144km±8km, M3.7/24, ML3.7/1, MLv3.7/24, Error ellipse: s-maj=9.7km s-min=6.6km az=122.6, confirmed*
ISC 02 17:05:32.0±1.7, 38.30°S±0.04°×176.01°E±0.05, h187km±9km, n141, σ1ᵗ39/151, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRRZ	**Galatos Road**	**0.10**	**125**	P	**Pn**	**17 05 57.6**	**+0.9**
HSRZ	**Hossack Road**	**0.18**	**95**	P	**Pn**	**17 05 57.8**	**+0.9**
UTU	**Utuhina**	**0.19**	**51**	P	**Pn**	**17 05 57.9**	**+1.1**
HRRZ	**Handcock Road**	**0.23**	**114**	P	**Pn**	**17 05 57.8**	**+0.9**
KUTZ	**Kaahu Road**	**0.24**	**217**	P	**Pn**	**17 05 57.8**	**+0.9**
WPRZ	**Whakapapatarin**	**0.25**	**152**	P	**Pn**	**17 05 57.8**	**+0.8**
HLRZ	**Highlands Stat**	**0.27**	**81**	P	**Pn**	**17 05 58.3**	**+1.2**
KARZ	**Kaharoa**	**0.33**	**34**	P	**Pn**	**17 05 57.9**	**+0.7**
OMRZ	**Omania**	**0.34**	**57**	P	**Pn**	**17 05 57.8**	**+0.6**
PRRZ	**Plateau Road**	**0.36**	**124**	P	**Pn**	**17 05 57.9**	**+0.7**
ALRZ	**Allen Road**	**0.37**	**136**	P	**Pn**	**17 05 58.1**	**+0.9**
TLZ	**Tolley Road**	**0.37**	**265**	P	**Pn**	**17 05 58.6**	**+1.3**
WHTZ	**Whakaora**	**0.37**	**186**	P	**Pn**	**17 05 58.5**	**+1.2**
TARZ	**Mount Tarawera**	**0.40**	**82**	P	**Pn**	**17 05 58.3**	**+0.9**
RRRZ	**Republican Roa**	**0.40**	**96**	P	**Pn**	**17 05 58.1**	**+0.7**
KMRZ	**Kaimai**	**0.45**	**353**	P	**Pn**	**17 05 58.3**	**+0.7**
WATZ	**Wairara**	**0.47**	**208**	P	**Pn**	**17 05 58.7**	**+1.1**
TGRZ	**Tauranga**	**0.60**	**19**	P	**Pn**	**17 05 58.7**	**+0.5**
RATZ	**Rangitukua**	**0.60**	**198**	P	**Pn**	**17 05 59.2**	**+1.1**
MARZ	**Manawahe**	**0.61**	**60**	P	**Pn**	**17 05 59.1**	**+0.9**
OPRZ	**Ohinepanea**	**0.62**	**44**	P	**Pn**	**17 05 58.8**	**+0.6**
MUGZ	**Murupara**	**0.62**	**107**	P	**Pn**	**17 05 58.8**	**+0.6**
MRHZ	**Matea Rd**	**0.63**	**149**	P	**Pn**	**17 05 59.1**	**+0.8**
MRHZ				S	**Sn**	**17 06 16.1**	**-2.6**
RITZ	**Rihia Road**	**0.69**	**190**	P	**Pn**	**17 06 00.2**	**+1.6**
TOZ	**Tahuroa Road**	**0.69**	**324**	P	**Pn**	**17 05 59.4**	**+0.8**
TOZ				S	**Sn**	**17 06 17.8**	**-1.3**
KATZ	**Kakaramea**	**0.72**	**200**	P	**Pn**	**17 06 00.2**	**+1.3**
RTZ	**Ruatahuna**	**0.83**	**113**	P	**Pn**	**17 06 00.4**	**+1.0**
NTVZ	**North Tongarir**	**0.84**	**198**	P	**Pn**	**17 06 00.9**	**+1.3**
KRVZ	**Karewarewa**	**0.85**	**209**	P	**Pn**	**17 06 00.9**	**+1.3**
TMVZ	**Te Maari**	**0.85**	**196**	P	**Pn**	**17 06 00.9**	**+1.3**
MTHZ	**Maungataniwha**	**0.86**	**131**	P	**Pn**	**17 06 00.8**	**+1.2**
URZ	**Urewera**	**0.87**	**88**	P	**Pn**	**17 06 00.0**	**+0.4**
URZ	**Urewera**	**0.87**	**88**	P	**Pn**	**17 05 60.0**	**+0.4**
URZ				S	**Sn**	**17 06 18.4**	**-2.4**
ETVZ	**East Tongariro**	**0.87**	**196**	P	**Pn**	**17 06 01.3**	**+1.5**
WTVZ	**West Tongariro**	**0.88**	**202**	P	**Pn**	**17 06 01.3**	**+1.5**
NNVZ	**North Ngauruho**	**0.89**	**200**	P	**Pn**	**17 06 01.4**	**+1.5**
TWVZ	**Taurewa**	**0.90**	**210**	P	**Pn**	**17 06 01.3**	**+1.4**
OTVZ	**Oturere**	**0.91**	**197**	P	**Pn**	**17 06 01.7**	**+1.7**
HIZ	**Hauiti**	**0.93**	**256**	P	**Pn**	**17 06 01.2**	**+1.2**
HIZ	**Hauiti**	**0.93**	**256**	P	Pn	17 06 21.8	+22
HIZ	**Hauiti**	**0.93**	**256**	P	**Pn**	**17 06 01.3**	**+1.3**
NGZ	**Ngauruhoe**	**0.94**	**200**	P	**Pn**	**17 06 01.9**	**+1.6**
SNVZ	**South Ngauruho**	**0.94**	**198**	P	**Pn**	**17 06 01.7**	**+1.4**
BKZ	**Black Stump Fm**	**0.95**	**157**	P	**Pn**	**17 06 01.3**	**+1.1**
BKZ	**Black Stump Fm**	**0.95**	**157**	S	**Sn**	**17 06 21.7**	**-0.4**
BKZ	**Black Stump Fm**	**0.95**	**157**	P	**Pn**	**17 06 01.4**	**+1.2**
BKZ				S	**Sn**	**17 06 20.0**	**-2.1**
COVZ	**Chateau Observ**	**0.97**	**202**	P	**Pn**	**17 06 01.7**	**+1.3**
TUVZ	**Tukino**	**1.01**	**196**	P	**Pn**	**17 06 02.3**	**+1.5**
NMHZ	**Naumai**	**1.01**	**142**	P	**Pn**	**17 06 02.8**	**+2.1**
NMHZ				S	**Sn**	**17 06 23.3**	**+0.3**
FWVZ	**Far West T-bar**	**1.02**	**200**	P	**Pn**	**17 06 02.1**	**+1.2**
MAVZ	**Matarangi**	**1.03**	**200**	P	**Pn**	**17 06 02.5**	**+1.4**
WHVZ	**Whangaehu Hut**	**1.04**	**198**	P	**Pn**	**17 06 02.5**	**+1.5**
RAHZ	**Arahi**	**1.05**	**127**	P	**Pn**	**17 06 02.6**	**+1.7**
TRVZ	**Turoa**	**1.07**	**200**	P	**Pn**	**17 06 03.0**	**+1.8**
WNVZ	**Wahianoa**	**1.08**	**197**	P	**Pn**	**17 06 02.7**	**+1.4**
PKVZ	**Pokaka**	**1.12**	**207**	P	**Pn**	**17 06 03.0**	**+1.6**
RAGZ	**Rawiri**	**1.12**	**101**	P	**Pn**	**17 06 02.9**	**+1.4**
RAGZ				S	**Sn**	**17 06 23.1**	**-1.2**
MOVZ	**Moawhango**	**1.13**	**190**	P	**Pn**	**17 06 02.7**	**+1.2**
SNGZ	**Shannon Statio**	**1.15**	**115**	P	**Pn**	**17 06 03.4**	**+1.7**
MTVZ	**Mangateitei**	**1.17**	**201**	P	**Pn**	**17 06 03.4**	**+1.6**
KWHZ	**Kaweka Forest**	**1.17**	**164**	P	**Pn**	**17 06 03.5**	**+1.6**
MWZ	**Matawai**	**1.19**	**92**	P	**Pn**	**17 06 03.0**	**+1.0**
MWZ				S	**Sn**	**17 06 23.1**	**-2.1**
ARHZ	**Aropaoanui**	**1.24**	**142**	P	**Pn**	**17 06 04.3**	**+2.1**
ARHZ				S	**Sn**	**17 06 25.1**	**-0.8**
WHHZ	**Waihua**	**1.24**	**130**	P	**Pn**	**17 06 03.7**	**+1.4**
WHHZ				S	**Sn**	**17 06 25.1**	**-0.7**
MCHZ	**McNeill Hill**	**1.27**	**155**	P	**Pn**	**17 06 04.8**	**+2.3**
MCHZ				S	**Sn**	**17 06 26.5**	**+0.1**
VRZ	**Vera Road**	**1.28**	**229**	P	**Pn**	**17 06 04.6**	**+1.9**
RUGZ	**Raukumara Rang**	**1.35**	**76**	P	**Pn**	**17 06 03.7**	**+0.2**
KRERU	**Kereru**	**1.38**	**168**	P	**Pn**	**17 06 05.2**	**+1.7**
RIGZ	**Rimuhau**	**1.44**	**107**	P	**Pn**	**17 06 05.7**	**+1.6**
RIGZ				S	**Sn**	**17 06 27.8**	**-1.1**
TKGZ	**Te Karaka**	**1.45**	**96**	P	**Pn**	**17 06 05.8**	**+1.7**
KNZ	**Kokohu**	**1.49**	**120**	P	**Pn**	**17 06 06.1**	**+1.6**
HAZ	**Te Kaha**	**1.50**	**70**	P	**Pn**	**17 06 05.1**	**+0.5**
MHEZ	**Mangahewa**	**1.53**	**239**	P	**Pn**	**17 06 04.9**	**+2.6**
TWGZ	**Tauwhareparae**	**1.56**	**86**	P	**Pn**	**17 06 06.9**	**+1.7**
KUZ	**Kuaotunu**	**1.56**	**351**	P	**Pn**	**17 06 06.3**	**+1.0**
CKHZ	**Cape Kidnapper**	**1.59**	**149**	P	**Pn**	**17 06 07.7**	**+2.2**
PRGZ	**Paritu Road**	**1.60**	**114**	P	**Pn**	**17 06 07.3**	**+1.8**
PNHZ	**Pukenui**	**1.62**	**175**	P	**Pn**	**17 06 07.3**	**+1.5**
KAHZ	**Kahuranaki**	**1.64**	**156**	P	**Pn**	**17 06 08.1**	**+2.1**
WIAZ	**Waiheke Island**	**1.65**	**335**	P	**Pn**	**17 06 07.5**	**+1.3**
WAZ	**Wanganui**	**1.66**	**208**	P	**Pn**	**17 06 08.0**	**+1.8**
DREZ	**Durham Road**	**1.67**	**237**	P	**Pn**	**17 06 08.7**	**+2.4**
PKGZ	**Pakihiroa**	**1.69**	**76**	P	**Pn**	**17 06 08.2**	**+1.8**
LREZ	**Lake Rotokare**	**1.71**	**227**	P	**Pn**	**17 06 09.0**	**+2.4**
MHGZ	**Mahia Peninsul**	**1.71**	**121**	P	**Pn**	**17 06 08.7**	**+2.1**
CNGZ	**Carnagh Statio**	**1.74**	**97**	P	**Pn**	**17 06 09.0**	**+2.1**
MBAZ	**Motutapu North**	**1.76**	**330**	P	**Pn**	**17 06 08.4**	**+1.3**
TSZ	**Takapari Road**	**1.76**	**181**	P	**Pn**	**17 06 08.7**	**+1.5**
HBAZ	**Herne Bay Bore**	**1.77**	**324**	P	**Pn**	**17 06 08.4**	**+1.2**
NEZ	**North Egmont**	**1.79**	**236**	P	**Pn**	**17 06 10.0**	**+2.5**
PREZ	**Palmer Road**	**1.79**	**134**	P	**Pn**	**17 06 08.7**	**+1.3**
PUZ	**Puketiti**	**1.79**	**84**	P	**Pn**	**17 06 08.7**	**+1.3**
WPHZ	**Waipukurau**	**1.80**	**169**	P	**Pn**	**17 06 09.2**	**+1.7**
PKE	**Pukeiti**	**1.82**	**240**	P	**Pn**	**17 06 10.1**	**+2.3**
KHEZ	**Kahui Hut**	**1.85**	**237**	P	**Pn**	**17 06 10.5**	**+2.4**
PXZ	**Pawanui**	**1.86**	**159**	P	**Pn**	**17 06 09.9**	**+1.9**
RVAZ	**Riverhead Bore**	**1.90**	**323**	P	**Pn**	**17 06 10.0**	**+1.4**
NBEZ	**Newall Road No**	**1.94**	**239**	P	**Pn**	**17 06 11.3**	**+2.4**
WMGZ	**Waiomatatini S**	**1.96**	**77**	P	**Pn**	**17 06 10.7**	**+1.6**
OHWZ	**Ohakea**	**1.98**	**196**	P	**Pn**	**17 06 11.4**	**+2.0**
DVHZ	**Dannevirke**	**2.00**	**177**	P	**Pn**	**17 06 11.0**	**+1.3**
PRHZ	**Porangahau**	**2.03**	**166**	P	**Pn**	**17 06 11.7**	**+1.8**
GRZ	**Great Barrier**	**2.09**	**348**	P	**Pn**	**17 06 12.0**	**+1.4**
POWZ	**Post Office Ro**	**2.10**	**185**	P	**Pn**	**17 06 12.0**	**+1.3**
ANWZ	**Angora Road**	**2.19**	**171**	P	**Pn**	**17 06 13.4**	**+1.8**
PRWZ	**Pori Road**	**2.26**	**181**	P	**Pn**	**17 06 13.9**	**+1.5**
MRZ	**Mangatainoka R**	**2.39**	**188**	P	**Pn**	**17 06 14.9**	**+1.1**
BFZ	**Birch Farm**	**2.39**	**176**	P	**Pn**	**17 06 15.2**	**+1.3**
BFZ	**Birch Farm**	**2.39**	**176**	S	**Sn**	**17 06 45.9**	**-0.7**
BFZ	**Birch Farm**	**2.39**	**176**	P	**Pn**	**17 06 15.1**	**+1.3**
TIWZ	**Tintock**	**2.48**	**182**	P	**Pn**	**17 06 16.1**	**+1.1**
OGWZ	**Otaki Gorge**	**2.60**	**194**	P	**Pn**	**17 06 17.3**	**+1.1**
CPWZ	**Castlepoint**	**2.62**	**177**	P	**Pn**	**17 06 18.1**	**+1.7**
HOWZ	**Holdsworth Sta**	**2.63**	**188**	P	**Pn**	**17 06 17.4**	**+0.8**
KIW	**Kapiti Island**	**2.70**	**198**	P	**Pn**	**17 06 18.1**	**+0.6**
WCZ	**Waipu Caves**	**2.70**	**330**	P	**Pn**	**17 06 19.3**	**+1.7**
TMWZ	**Te Maipa**	**2.81**	**182**	P	**Pn**	**17 06 18.9**	**+0.2**
MTW	**Mount Morrison**	**2.89**	**188**	P	**Pn**	**17 06 20.1**	**+0.5**
CAW	**Cannon Point**	**2.90**	**194**	P	**Pn**	**17 06 20.4**	**+0.6**
DUWZ	**D'Urville Isla**	**2.98**	**212**	P	**Pn**	**17 06 21.2**	**+0.4**
TRWZ	**Traveller**	**3.11**	**184**	P	**Pn**	**17 06 22.8**	**+0.5**
PAWZ	**Paruwai Farm**	**3.12**	**188**	P	**Pn**	**17 06 22.8**	**+0.4**
WEL	**Wellington**	**3.13**	**197**	P	**Pn**	**17 06 23.0**	**+0.4**
MSWZ	**Moikau Station**	**3.17**	**190**	P	**Pn**	**17 06 23.4**	**+0.3**
TCW	**Tory Channel**	**3.20**	**204**	P	**Pn**	**17 06 23.8**	**+0.4**
BHW	**Baring Head**	**3.23**	**195**	P	**Pn**	**17 06 24.0**	**+0.2**
PLWZ	**Palliser**	**3.32**	**190**	P	**Pn**	**17 06 25.1**	**+0.2**
TUWZ	**Tuamarina**	**3.51**	**206**	P	**Pn**	**17 06 27.5**	**+0.3**
NNZ	**Nelson**	**3.55**	**214**	P	**Pn**	**17 06 27.8**	**+0.1**
TKNZ	**Takaka Hill**	**3.61**	**220**	P	**Pn**	**17 06 28.2**	**-0.2**
OUZ	**Omahuta**	**3.63**	**327**	P	**Pn**	**17 06 31.1**	**+2.4**
QRZ	**Quartz Range**	**3.69**	**226**	P	**Pn**	**17 06 29.3**	**-0.1**
QRZ	**Quartz Range**	**3.69**	**226**	P	**Pn**	**17 06 29.2**	**-0.3**
CMWZ	**Cape Campbell**	**3.71**	**201**	P	**Pn**	**17 06 30.6**	**+0.9**
BSWZ	**Blackbirch Sta**	**3.79**	**205**	P	**Pn**	**17 06 30.8**	**+0.2**
MRNZ	**Matariki Terra**	**3.98**	**218**	P	**Pn**	**17 06 32.9**	**-0.3**
THZ	**Tophouse**	**4.20**	**214**	P	**Pn**	**17 06 35.7**	**-0.3**
KHZ	**Kahutara**	**4.53**	**204**	P	**Pn**	**17 06 39.9**	**-0.1**
KHZ	**Kahutara**	**4.53**	**204**	P	**Pn**	**17 06 40.1**	**+0.1**
RPZ	**Rata Peaks**	**6.58**	**213**	P	**Pn**	**17 07 06.4**	**-0.3**
ODZ	**Otahua Downs**	**7.85**	**209**	P	**Pn**	**17 07 23.0**	**-0.2**

IDC 02 17:22:56.6±3.6, 47.60°N×92.77°W, h0km, mbtmp2.8/2, ML0.9/1, Error ellipse: s-maj=37.2km s-min=17.2km az=84.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet 3.35 324** 0.2nm,0.3s,baz=141,slow=17,SNR=1.2			Pn	Pn	17 23 48.9	-1.3
ULM	0.6nm,0.3s,baz=146,slow=17,SNR=2.7			Pg	Pb	17 23 56.0	-0.8
ULM	0.5nm,0.3s,baz=151,slow=11,SNR=2.0			Sn	Sn	17 24 28.0	-2.7
ULM	6.4nm,0.3s,baz=221,slow=16,SNR=31 0.8nm,0.4s			Lg	Lg	17 24 40.5	
I10CA	**LAC DU BONNET 3.38 322** 0.2nm,0.9s,baz=140,slow=312,SNR=11			I	I	17 43 20.0	
PDAR	**Pinedale Array 12.79 254** 0.2nm,0.4s,baz=74,slow=17,SNR=2.3			Pn	Pn	17 25 57.5	-2.3
PDAR	0.1nm,0.3s,baz=56,slow=32,SNR=3.8			Lg	Lg	17 29 31.8	
I56US	**NEWPORT INFRASI 6.32 281** baz=84,slow=311,SNR=1.5			I	I	18 58 40.0	

*IDC **02** 17:25:21.4±2.2, 29.50°N×80.59E, h0km, mb3.3/6, mbtmp3.4/7, ML3.6/1, Error ellipse: s-maj=89.1km s-min=21.2km az=65.0*

ISC 02 17:25:23.6±2.3, 29.6°N±0.3°×81.0°E±0.7, h10km, n7, σ0ᵗ86/7, mb3.4/5, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array 17.20 3** 0.2nm,0.3s,baz=184,slow=11,SNR=9.5			P	**P**	**17 29 26.2**	**+0.6**
MKAR	0.2nm,0.6s,baz=188,slow=2.9,SNR=2.7 0.5nm,0.5s			PcP	**PcP**	**17 34 08.0**	**+0.6**
CMAR	**Chiang Mai Arr 19.80 120** 0.3nm,0.4s,baz=314,slow=9.2,SNR=3.2 0.3nm,0.4s			P	Pn	17 29 57.9	+2.1
KURBB	**Kurchatov Arra 21.08 356** 1.3nm,0.8s,baz=182,slow=11,SNR=11 1.3nm,0.8s			P	**P**	**17 30 07.0**	**-0.9**
ZALV	**Zalesovo Beam 24.50 6** 0.5nm,0.4s,baz=187,slow=11,SNR=3.6 0.5nm,0.4s			P	**P**	**17 30 43.0**	**+0.1**
BVAR	**Borovoye Array 24.66 345** 0.6nm,0.5s,baz=153,slow=9.0,SNR=4.1 0.6nm,0.5s			P	**P**	**17 30 43.9**	**-0.5**
WRA	**Warramunga Arr 71.21 127** 0.2nm,0.6s,baz=318,slow=6.3,SNR=0.9 0.2nm,0.6s			P	**P**	**17 36 42.2**	**-0.9**
ASAR	**Alice Springs 73.44 130** 0.1nm,0.8s,baz=314,slow=6.1,SNR=4.1 0.1nm,0.8s			P	**P**	**17 36 56.9**	**+0.5**

IDC 02 17:30:43.2±1.6, 3.08°S×138.94E, h0km, mb2.9/2, mbtmp2.9/3, ML2.8/1, Error ellipse: s-maj=35.7km s-min=16.0km az=156.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura 1.85 72** 0.7nm,0.3s,baz=259,slow=5.2,SNR=10			Pn	Pn	17 31 15.4	-0.9
JAY	0.9nm,0.3s,baz=133,slow=19,SNR=12			Lg	Lg	17 31 42.3	
WRA	**Warramunga Arr 17.35 195** baz=15,slow=13,SNR=0.9 0.1nm,0.4s			P	Pn	17 34 46.6	-0.4
ASAR	**Alice Springs 21.04 193** 0.2nm,0.7s,baz=9.5,slow=8.4,SNR=4.5 0.2nm,0.7s			P	P	17 35 29.2	+0.3
MKAR	**Makanchi Array 70.22 322** 0.1nm,0.5s,baz=108,slow=4.7,SNR=2.0 0.1nm,0.5s			P	P	17 41 58.4	+0.3

*NEIC **02** 18:08:44.2±2.6, 31.3°S±0.1°×179.9W±0.2, h356km±8km, mb4.0/22, Error ellipse: s-maj=23.6km s-min=15.6km az=108.0*
*IDC **02** 18:08:48.3±1.6, 31.33°S×179.80E, h383km±15km, mb3.4/9, mbtmp4.2/12, Error ellipse: s-maj=15.6km s-min=15.1km az=35.0*
*WEL **02** 18:08:49.0±0.8, 32°S±7°×179°W±1°7, h364km±11km, mB5.3/36, ML5.7/37, MLv5.6/45, Mw(mB)4.7/36, Error ellipse: s-maj=22.6km s-min=6.3km az=106.7

KATZ	Kakaramea	8.33 204	P		P	18 10 47.8	+2.6
NTVZ	North Tongarir	8.45 204	P		P	18 10 47.2	+0.7
MCHZ	McNeill Hill	8.45 198	P		P	18 10 45.9	-0.5
TMVZ	Te Maari	8.45 204	P		P	18 10 47.4	+0.8
KRVZ	Karewarewa	8.45 204	P		P	18 10 47.6	+1.0
ETVZ	East Tongariro	8.47 204	P		P	18 10 47.6	+0.8
WTVZ	West Tongariro	8.49 204	P		P	18 10 47.7	+0.7
NNVZ	North Ngauruho	8.50 204	P		P	18 10 49.0	+1.9
KWHZ	Kaweka Forest	8.50 200	P		P	18 10 47.8	+0.7
TWVZ	Taurewa	8.51 205	P		P	18 10 49.0	+1.9
OTVZ	Oturere	8.51 204	P		P	18 10 48.2	+1.0
SNVZ	South Ngauruho	8.54 204	P		P	18 10 48.5	+0.9
CKHZ	Cape Kidnapper	8.55 196	P		P	18 10 48.3	+0.7
COVZ	Chateau Observ	8.58 204	P		P	18 10 49.1	+1.1
FWVZ	Far West T-bar	8.63 204	P		P	18 10 49.3	+0.6
MAVZ	Matarangi	8.64 204	P		P	18 10 50.8	+2.0
WHVZ	Whangaehu Hut	8.64 204	P		P	18 10 49.5	+0.7
TRVZ	Turoa	8.67 204	P		P	18 10 50.7	+1.5
MOVZ	Moawhango	8.70 203	P		P	18 10 49.3	0.0
KRHZ	Kereru	8.72 199	P		P	18 10 48.9	-0.6
KAHZ	Kahuranaki	8.73 197	P		P	18 10 49.4	-0.2
PXZ	Pawanui	8.96 196	P		Pn	18 10 51.5	-0.5
WPHZ	Waipukurau	9.10 198	P		Pn	18 10 54.4	+0.7
PRHZ	Porangahau	9.24 197	P		Pn	18 10 54.7	-0.6
ANWZ	Angora Road	9.46 197	P		Pn	18 10 59.7	+1.9
PRWZ	Pori Road	9.68 199	P		Pn	18 11 00.4	0.0
BFZ	Birch Farm	9.73 198	P		P	18 10 58.3	-2.3
BFZ	Birch Farm	9.73 198	P		Pn	18 11 00.7	-0.2
BFZ	Birch Farm	9.73 198	S		S	18 12 48.0	-3.3
MRZ	Mangatainoka R	9.89 200			P	18 11 00.3	-2.1
MRZ			Sn		S	18 12 48.2	-6.5
TIWZ	Tintock	9.91 199	P		Pn	18 11 03.3	+0.2
CPWZ	Castlepoint	9.95 197	P		Pn	18 11 04.6	+1.1
MSWZ	Moikau Station	10.69 200			P	18 11 08.8	-2.4
BHW	Baring Head	10.79 201	P		P	18 11 10.0	-2.4
TCW	Tory Channel	10.81 204			P	18 11 10.7	-1.9
PLWZ	Palliser	10.82 200			P	18 11 11.2	-1.6
TUWZ	Tuamarina	11.12 205	P		P	18 11 14.9	-1.2
NNZ	Nelson	11.15 207			P	18 11 14.6	-1.7
TKNZ	Takaka Hill	11.16 209	P		P	18 11 15.2	-1.4
QRZ	Quartz Range	11.18 211			P	18 11 14.4	-2.3
QRZ	Quartz Range	11.18 211	P		Pn	18 11 17.8	+0.1
QRZ	Quartz Range	11.18 211	S		S	18 13 19.1	-1.8
CMWZ	Cape Campbell	11.31 203			P	18 11 16.9	-1.3
BSWZ	Blackbirch Sta	11.40 204	P		P	18 11 17.7	-1.4
MRNZ	Matariki Terra	11.55 209			P	18 11 19.5	-1.3
THZ	Tophouse	11.80 207			P	18 11 22.5	-1.1
KHZ	Kahutara	12.13 204			P	18 11 26.4	-0.8
KHZ	Kahutara	12.13 204	P		Pn	18 11 27.9	-0.8
KHZ	Kahutara	12.13 204	S		S	18 13 37.9	-2.3
GVZ	Greta Valley S	12.80 204			P	18 11 33.7	-0.8
LTZ	Lake Taylor	12.91 207			P	18 11 32.5	-3.4
AMCZ	Amberley	13.11 205			P	18 11 36.8	-1.2
INZ	Inchbonnie	13.20 209			P	18 11 37.5	-1.4
OXZ	Oxford	13.47 206			P	18 11 41.7	-0.2
MQZ	McQueen's Vall	13.58 204			P	18 11 41.7	-1.3
MSVF	Nonsavu	13.78 352			P	18 11 42.5	-3.1
MSVF	Nonsavu	13.78 352	P		Pn	18 11 45.7	-2.5
	5.2nm,0.9s,baz=176,slow=16,SNR=4.2						
RPZ	Rata Peaks	14.18 208			P	18 11 48.2	-1.4
RPZ	Rata Peaks	14.18 208	P		P	18 11 51.0	+1.4
	22nm,0.8s,baz=162,slow=2.7,SNR=6.2						
RPZ			S		S	18 14 18.0	-3.4
	16nm,0.5s,baz=134,slow=20,SNR=14						
LBZ	Lake Benmore	15.08 208			P	18 11 58.6	-0.8
DZM	Mont Dzumac	15.35 304			P	18 12 02.3	-0.3
DZM			IAmb		IAmb	18 12 09.9	
	comp=Z,16nm,1.3s						
DZM	Mont Dzumac	15.35 304	P		P	18 12 04.2	+1.5
	comp=Z,4.3nm,0.8s,baz=209,slow=10,SNR=3.6						
ODZ	Otahua Downs	15.46 206			P	18 12 02.7	-0.7
ARMA	Armidale	24.41 265			P	18 13 32.1	+1.3
ARMA			IAmb		IAmb	18 13 36.2	
	comp=Z,4.0nm,0.6s						
EIDS	Eidsvold	26.18 276	P		P	18 13 47.4	+1.0
CTAO	Charters Tower	32.38 282	P		P	18 14 42.9	+2.2
CTAO			IAmb		IAmb	18 15 12.8	
	comp=Z,17nm,1.3s						
STKA	Stephens Creek	32.66 259	P		P	18 14 45.7	+2.7
STKA	Stephens Creek	32.66 259	P		P	18 14 45.6	+2.6
	comp=Z,4.4nm,0.7s,baz=113,slow=7.5,SNR=12						
	comp=Z,4.4nm,0.7s						
BBOO	Buckleboo	37.12 256	P		P	18 15 21.8	+1.2
BBOO			IAmb		IAmb	18 15 23.7	
	comp=Z,7.2nm,0.7s						
AS31	Alice Springs	41.44 269	P		P	18 15 56.7	+0.8
ASAR	Alice Springs	41.44 269	P		P	18 15 56.1	+0.1
ASAR	Alice Springs	41.44 269	P		P	18 15 57.5	+1.5
	comp=Z,0.4nm,0.3s,baz=106,slow=7.3,SNR=16						
ASAR			PcP		PcP	18 17 46.2	+1.1
	comp=Z,0.7nm,0.9s,baz=105,slow=3.9,SNR=2.9						
ASAR			ScP		ScP	18 21 00.1	+3.8
	comp=Z,2.1nm,0.8s,baz=121,slow=4.1,SNR=18						
ASAR			S		S	18 21 41.2	+0.3
	comp=Z,0.4nm,1.0s,baz=138,slow=11,SNR=1.9						
	comp=Z,0.4nm,0.3s						
WR8	Warramunga Arr	42.38 274	P		P	18 16 04.8	+1.2
WRA	Warramunga Arr	42.52 274	P		P	18 16 05.9	+1.2
	comp=Z,1.5nm,0.3s,baz=111,slow=8.0,SNR=39						
WRA			ScP		ScP	18 21 06.1	+5.4
	comp=Z,1.1nm,1.1s,baz=133,slow=4.4,SNR=6.0						
WRA			S		S	18 21 53.5	-3.2
	comp=Z,0.3nm,0.5s,baz=113,slow=13,SNR=1.4						
	comp=Z,1.5nm,0.3s						
WB0	Warramunga Arr	42.55 275	P		P	18 16 06.0	+1.2
FORT	Forrest	44.20 257	P		P	18 16 19.3	+1.6
FORT			IAmb		IAmb	18 16 20.1	
	comp=Z,3.9nm,0.6s						
MTN	Manton Dam	48.55 281	P		P	18 16 51.9	+0.6
MTN			IAmb		IAmb	18 17 12.2	
	comp=Z,24nm,1.4s						
KNRA	Kununurra	49.17 276	P		P	18 16 57.0	+1.1
KNRA			IAmb		IAmb	18 17 32.6	
	comp=Z,14nm,1.2s						
FITZ	Fitzroy Crossi	50.74 272	P		P	18 17 08.5	+1.0
CASY	Casey	53.45 208	P		P	18 17 27.0	+0.6
CASY			IAmb		IAmb	18 17 41.0	
	comp=Z,8.7nm,1.5s						
QSPA	South Pole Qui	58.66 180	P		P	18 18 07.7	+4.6
QSPA			IAmb		IAmb	18 18 23.3	
	comp=Z,5.7nm,1.4s						
QSPA	South Pole Qui	58.66 180	P		P	18 18 08.2	+5.1
	comp=Z,1.2nm,0.7s,baz=68,slow=0.6,SNR=12						
	comp=Z,1.2nm,0.7s						
PMSA	Palmer Station	71.98 156	P		P	18 19 32.4	+5.2
TROLL	Troll, Antarti	76.82 181	⇑P		P	18 19 59.2	+4.4
	comp=Z,34nm,0.5s						
SNAA	Sanae	77.15 179	⇑P		P	18 20 00.6	+4.0
	comp=Z,12nm,0.4s						
SNAA	Sanae	77.15 179	P		P	18 19 59.9	+3.3
SNAA			IAmb		IAmb	18 20 28.2	
	comp=Z,4.1nm,1.3s						
SNAA	Sanae	77.15 179	P		P	18 20 00.6	+4.1
	comp=Z,0.5nm,0.5s,baz=174,slow=16,SNR=6.5						
	comp=Z,0.5nm,0.5s						
VNA3	Neumayer Olymp	77.36 177	⇑P		P	18 20 01.7	+4.0
	comp=Z,3.9nm,0.6s						
VNA2	Neumayer--Watz	77.78 177	⇑P		P	18 20 04.2	+4.3
	comp=Z,1.2nm,0.4s,baz=179,slow=6.0						
ADK	Adak	83.02 2	P		P	18 20 28.2	+0.8
KSRS	Korea Array	84.10 321	P		P	18 20 34.2	+0.9
	comp=Z,0.4nm,0.5s,baz=153,slow=6.5,SNR=2.5						
	comp=Z,0.4nm,0.5s						
PEA0B	Petropavlovsk-	86.43 347	P		P	18 20 44.7	+0.4
PETK	Petropavlovsk-	86.43 347	P		P	18 20 45.5	+1.2
PETK	Petropavlovsk-	86.43 347	P		P	18 20 47.9	+3.6
	comp=Z,6.3nm,1.0s,baz=134,slow=6.2,SNR=12						
	comp=Z,6.3nm,1.0s						
NVAR	Mina Array Bea	90.12 44	P		P	18 21 06.8	+4.6
	comp=Z,1.1nm,0.7s,baz=217,slow=8.2,SNR=6.2						
	comp=Z,1.1nm,0.7s						
PINE	Pine Mountain	92.23 38	P		P	18 21 14.2	+2.4
PDAR	Pinedale Array	98.02 44	P		P	18 21 43.1	+4.9
	comp=Z,0.2nm,0.4s,baz=240,slow=4.8,SNR=1.9						
	comp=Z,0.2nm,0.4s						
MKAR	Makanchi Array	117.19 310	PKP		PKiKP	18 26 46.8	+2.4
	comp=Z,0.4nm,0.7s,baz=181,slow=1.1,SNR=5.8						
ARCES	ARCESS Array B	139.24 347	PKhKP		PKPpre	18 27 21.9	
	comp=Z,1.0nm,0.6s,baz=55,slow=1.8,SNR=8.7						
FINES	FINESS Array B	145.53 338	PKPbc		PKiKP	18 27 40.6	-0.3
	comp=Z,12nm,0.5s,baz=46,slow=3.7,SNR=73						
NB2	NORSAR Subarra	149.50 349	PKP		PKPab	18 27 51.3	-3.5
	comp=Z,1.4nm,0.5s,baz=17,slow=2.6						
NOA	NORSAR Array B	149.50 349	PKPbc		PKPab	18 27 51.3	-3.5
	comp=Z,2.8nm,0.6s,baz=16,slow=4.2,SNR=8.5						
HFS	Hagfors	149.91 346	PKPbc		PKPab	18 27 52.0	-4.5
	comp=Z,3.1nm,0.5s,baz=187,slow=1.2,SNR=20						
MMAI	Mount Meron Ar	150.17 282	PKPbc		PKPab	18 27 54.7	-3.9
	comp=Z,0.9nm,0.5s,baz=83,slow=9.3,SNR=3.6						
AKASG	Malin Array Be	151.10 320	PKPbc		PKPab	18 27 55.2	-6.5
	comp=Z,1.9nm,0.6s,baz=59,slow=2.1,SNR=7.8						
BRTR	Keskin Array B	151.62 296	PKPbc		PKiKP	18 27 56.5	+2.1
	comp=Z,0.9nm,0.5s,baz=143,slow=4.3,SNR=4.9						
TORD	Torodi Ar. Bea	161.73 185	PKP		PKPdf	18 28 04.1	+3.3
	comp=Z,2.0nm,0.3s,baz=193,slow=4.4,SNR=1.5						
TORD			PKPab		PKPab	18 28 52.6	+4.3
	comp=Z,1.7nm,0.4s,baz=185,slow=3.9,SNR=1.3						

MOS ***02*** *18:17:06.3±1.6,66.29N×157.13W,h10km,mb4.6/18, MS4.1/5,Error ellipse: s-maj=15.4km s-min=7.3km az=104.2*

AEIC ***02*** *18:17:07.7±2.1,66.27N±0.02×157.18W±0.06,h8km±4km, ML4.5,mb4.4/30(NEIC),ML4.7/172(NEIC), Mwr4.7/72(NEIC),Error ellipse: s-maj=3.5km s-min=2.6km az=100.0*

NEIC ***02*** *18:17:07.5±2.2,66.28N±0.02×157.15W±0.05,h7km±3km, Error ellipse: s-maj=2.8km s-min=2.2km az=96.0,Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr=0.12; Mθθ=0.40; Mϕϕ=0.29; Mrθ=0.08; Mrϕ=1.22; Mθϕ=0.04; Fault plane solution: M0 1.27000×10^16 NP1: ϕs352.17000°,δ86.87000°,λ1.99000°. NP2:ϕs262.06000°, δ88.01000°,λ176.87000°. Principal axes: T 1.3274, Plg4.0000°, Azm217.0000°; N -0.1207, Plg86.0000°, Azm50.0000°; P -1.2067, Plg1.0000°, Azm307.0000°;*

NEIC ***02*** *18:17:07.5,66.28N×157.22W,h6km*

IDC ***02*** *18:17:09.0±0.6,66.33N×157.50W,h0km,mb3.9/23, mbtmp3.9/26,ML3.8/4,MS3.9/59,Error ellipse: s-maj=18.7km s-min=9.5km az=17.0*

GCMT ***02*** *18:17:09.7±0.3,66.35N±0.01×157.26W±0.04,h12km±2km, MW4.8/79,Moment Tensor Solution. s17,c17; s79,c108; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.26±.08; Mθθ=0.68±.09; Mϕϕ-0.42±.08; Mrθ=0.43±.22; Mθϕ-1.90±.07; Mϕr=0.84±.27; Best double couple: M0=2.19900×10^16 NP1:ϕs265.00000°,δ70.00000°,λ-165.00000°. NP2: ϕs169.00000°,δ76.00000°,λ-21.00000°. Principal axes: T 2.1190, Plg4.0000°, Azm218.0000°; N 0.1590, Plg65.0000°, Azm317.0000°; P -2.2780, Plg25.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 18:17:07.8±0.7, 66.28N±0.02×157.13W±0.02, h7km±4km, n342,σ1ş45/325, mb4.3/57, MS3.9/66, 3D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	Purcell Mounta	0.14	172		Pg	18 17 10.3	-0.4
G19K				Sg	Sg	18 17 12.6	-0.1
G19K				IAML		18 17 13.9	
	comp=E,364μm,0.6s						
G19K				IAML		18 17 14.7	
	comp=N,277μm,0.3s						
F19K	Shaleruckik Mo	0.61	336		Pg	18 17 19.0	-0.6
F19K				Sg	Sg	18 17 28.1	+0.5
F19K				IAML		18 17 31.9	
	comp=E,31μm,0.8s						
F19K				IAML		18 17 32.9	
	comp=N,28μm,0.9s						
G18K	Tagagawik	0.73	239		Pg	18 17 20.9	-0.9
G18K				Sg	Sg	18 17 31.2	-0.1
H19K	Roundabout Mou	0.81	159		Pg	18 17 22.6	-0.6
H19K				Sg	Sg	18 17 34.0	+0.3
F20K	Avaraart Lake	0.95	35		Pg	18 17 25.5	-0.6
F20K				Sg	Sb	18 17 39.1	-0.3
F20K				IAML		18 17 43.5	
	comp=E,29μm,0.9s						
F20K				IAML		18 17 43.8	
	comp=N,22μm,0.4s						
F18K	Selawik	1.06	289		Pg	18 17 27.0	-1.2
F18K					Pb	18 17 27.3	-1.2
F18K					Sb	18 17 43.1	+0.6
E19K	Redstone River	1.18	358		Pg	18 17 29.7	-0.8
E19K	Redstone River	1.18	358		Sg	18 17 45.7	-0.1
H20K	Anotleneega Mo	1.22	129		Pg	18 17 30.1	-1.0
H20K					Pb	18 17 30.6	-0.5
H20K					Sg	18 17 46.6	-0.2
H20K					Sn	18 17 48.2	+0.3
H18K	Honhosa River	1.24	205		Pb	18 17 29.8	-1.7
H18K				IAML		18 17 51.5	
	comp=E,13μm,0.5s						
H18K				IAML		18 17 51.8	
	comp=N,14μm,0.5s						
H18K	Honhosa River	1.24	205		Sg	18 17 47.5	-0.2
IMAR	Indian Mountai	1.41	101		Pn	18 17 31.4	-0.5
G21K	Allakaket	1.48	79		Pb	18 17 35.3	-0.3
G21K					Sg	18 17 55.6	+0.3
G21K	Allakaket	1.48	79	IAML		18 17 58.1	
	comp=N,14μm,0.4s						
GCSA	Galena City Sc	1.54	176		Pn	18 17 35.3	-0.4
GCSA					Pb	18 17 35.7	-1.0
GCSA					Sb	18 17 56.2	-0.1
G17K	Kiwalik Mounta	1.64	243		Pn	18 17 36.1	-0.9
G17K					Pb	18 17 36.6	-1.8
G17K					Sb	18 17 59.0	-0.2
F17K	Baldwin Pennin	1.67	277		Pn	18 17 36.5	-0.9
F17K				IAML		18 18 05.1	
	comp=E,8μm,1.2s						
F17K				IAML		18 18 05.5	
	comp=N,9μm,1.1s						
F21K	Alatna River	1.73	55		Pn	18 17 38.2	-0.1
F21K				IAML		18 18 08.2	
	comp=E,6μm,0.5s						
F21K				IAML		18 18 11.5	
	comp=N,6μm,0.7s						
H17K	Granite Mounta	1.77	222		Pn	18 17 37.8	-1.1
H17K				IAML		18 18 06.0	
	comp=E,6μm,0.6s						
E18K	Tukpahlearik C	1.79	311		Pn	18 17 38.9	-0.1
E18K				IAML		18 18 05.5	
	comp=N,8μm,0.8s						
I20K	Naaghedeneel	1.85	142		Pn	18 17 40.1	+0.1
I20K				IAML		18 18 25.1	
	comp=N,10μm,1.0s						
H21K	Melozitna River	1.88	107		Pn	18 17 39.8	-0.5
H21K				IAML		18 18 11.3	
	comp=E,6μm,0.5s						
E20K	Nigu River	2.02	10		Pb	18 17 43.7	-1.2
E17K	Hotham Inlet	2.03	295		Pn	18 17 42.2	-0.2
E17K					Pb	18 17 42.7	-2.3
D19K	Kuna River	2.26	351		Pn	18 17 46.1	+0.5
F22K	John River	2.31	56		Pn	18 17 46.8	+0.5
F22K					Pb	18 17 47.3	-2.4
G16K	Koyuk River	2.33	250		Pn	18 17 44.6	-1.8
G16K				IAML		18 18 22.9	
	comp=N,4μm,1.0s						
G16K				IAML		18 18 25.9	
	comp=E,3μm,0.7s						
H22K	Ishtalitna Cre	2.38	97		Pn	18 17 47.2	0.0
H22K					Pb	18 17 48.4	-2.5
J19K	Poorman	2.38	164		Pn	18 17 46.9	-0.3
D20K	Etivluk River	2.45	4		Pn	18 17 49.3	+1.1
J20K	Nowinta River	2.46	148		Pn	18 17 48.5	+0.3
E21K	Killik River	2.49	28		Pn	18 17 49.1	+0.4
E21K				IAML		18 18 32.2	
	comp=E,4μm,0.9s						
H16K	Elim	2.69	235		Pn	18 17 50.3	-1.2
H16K					Pb	18 17 51.0	-5.3
D17K	Noatak River	2.74	304		Pn	18 17 52.1	+0.1
E22K	Anaktuvuk Pass	2.79	46		Pn	18 17 54.1	+1.3
E22K				IAML		18 18 48.4	
	comp=N,2μm,1.1s						
J18K	Innoko River	2.83	176		Pn	18 17 53.1	-0.3
I17K	Unalakleet	2.84	214		Pn	18 17 53.2	-0.3
I17K				IAML		18 18 42.6	
	comp=E,3μm,0.8s						
I17K				IAML		18 18 52.1	
	comp=N,3μm,0.9s						
C18K	Utukok River	2.85	329		Pn	18 17 53.6	-0.1
C18K				IAML		18 18 44.7	
	comp=E,2μm,1.1s						
C18K				IAML		18 18 50.2	
	comp=N,2μm,2.0s						
RDOG	Red Dog Mine	2.87	311		Pn	18 17 54.5	+0.6
RDOG				IAML		18 18 57.5	
	comp=N,2μm,1.4s						
G23K	Bananza Creek	2.88	78		Pn	18 17 53.5	-0.6
G23K				IAML		18 18 41.8	
	comp=E,2μm,0.6s						
COLD	Coldfoot	2.91	68		Pn	18 17 54.3	-0.1
COLD				IAML		18 18 46.6	
	comp=N,3μm,1.9s						
COLD				IAML		18 18 55.0	
	comp=E,2μm,1.4s						
MLY	Manley	2.93	112		Pn	18 17 54.3	-0.5
C19K	Lookout Ridge	2.99	343		Pn	18 17 56.3	+0.7
J17K	VABM Dome	3.01	197		Pn	18 17 55.6	-0.3
J17K				IAML		18 18 51.6	
	comp=E,2μm,1.1s						
D22K	Ayikyak River	3.12	31		Pn	18 17 58.1	+0.7
F15K	North Star Dit	3.13	263		Pn	18 17 56.9	-0.5
F15K	North Star Dit	3.13	263	IAML		18 19 00.8	
	comp=E,1μm,1.1s						
F15K				IAML		18 19 02.1	
	comp=N,2μm,2.0s						
H23K	Yukon River	3.13	95		Pn	18 17 58.0	+0.5
H23K	Yukon River	3.13	95	IAML		18 18 54.0	
	comp=E,2μm,1.0s						
G15K	Niukluk	3.14	249		Pn	18 17 56.7	-0.9
C17K	DeLong Mountai	3.21	316		Pn	18 17 59.0	+0.4
K20K	Telida	3.21	155		Pn	18 17 59.0	+0.4
J16K	Anvik River	3.35	208		Pn	18 18 00.5	-0.1
J16K				IAML		18 18 58.4	
	comp=E,2μm,0.9s						
J16K				IAML		18 19 06.2	
	comp=N,2μm,0.8s						
BPAW	Bear Paw Mtn.	3.39	127		Pn	18 18 01.3	+0.2
I23K	Minto, Yukon-K	3.41	106		Pn	18 18 01.5	+0.2
I23K				IAML		18 19 01.8	
	comp=E,2μm,1.2s						
I23K				IAML		18 19 03.0	
	comp=N,2μm,1.3s						
E23K	Chandalar	3.43	55		Pn	18 18 02.3	+0.6
E23K				IAML		18 19 07.7	
	comp=N,2μm,1.3s						
E23K				IAML		18 19 11.5	
	comp=E,2μm,0.9s						
B21K	Ikpikpuk River	3.49	15		Pn	18 18 01.7	-0.7
B18K	Kokolik River	3.57	332		Pn	18 18 04.0	+0.5
CAST	Castle Rocks	3.59	141		Pn	18 18 04.5	+0.6
K17K	Iditarod	3.61	189		Pn	18 18 03.3	-0.8
K17K				IAML		18 19 18.6	
	comp=N,1μm,1.4s						
D23K	Nanushuk River	3.66	40		Pn	18 18 05.5	+0.8
B20K	Meade River	3.75	360		Pn	18 18 06.2	+0.3
TOLK	Toolik Lake Re	3.75	47		Pn	18 18 06.8	+0.7
C16K	Lisburne Hills	3.76	306		Pn	18 18 06.2	+0.1
C16K				IAML		18 19 14.5	
	comp=N,1μm,1.2s						
C16K				IAML		18 19 15.0	
	comp=E,2μm,1.6s						
NEA2	Nenana	3.77	113		Pn	18 18 06.6	+0.3
NEA2				IAML		18 19 13.3	
	comp=E,727nm,1.8s						
H24K	Noodor Dome	3.80	92		Pn	18 18 06.6	-0.1
H24K				IAML		18 19 15.4	
	comp=N,2μm,1.6s						
H24K				IAML		18 19 16.2	
	comp=E,1μm,1.2s						
KTH	Kantishna Hill	3.81	133		Pn	18 18 07.3	+0.5
KTH				IAML		18 19 21.9	
	comp=N,791nm,1.7s						
E24K	Your Creek	3.82	58		Pn	18 18 07.6	+0.6
E24K				IAML		18 19 24.5	
	comp=N,1μm,1.4s						
E24K				IAML		18 19 25.0	
	comp=E,1μm,1.1s						
ANM	Nome	3.85	247		Pn	18 18 08.0	+0.6
ANM				IAML		18 19 16.7	
	comp=N,843nm,1.1s						
ANM				IAML		18 19 18.1	
	comp=E,842nm,0.9s						
ANM	Nome	3.85	247	P	Pn	18 18 08.0	+0.6
F24K	Squaw Lake	3.85	67		Pn	18 18 07.5	+0.1
F24K				IAML		18 19 17.7	
	comp=E,1μm,1.3s						
F24K				IAML		18 19 18.4	
	comp=N,2μm,1.8s						
BWN	Browne	3.86	120		Pn	18 18 08.4	+0.9
BWN				IAML		18 19 45.8	
	comp=N,1μm,1.1s						
G24K	Hadweenzic Riv	3.89	79		Pn	18 18 07.8	-0.1
PPLA	Purkeypile	4.01	146		Pn	18 18 10.5	+0.8
PPLA				IAML		18 19 31.5	
	comp=N,815nm,1.2s						
PPLA				IAML		18 19 33.9	
	comp=E,716nm,1.3s						
TRF	Thorofare Moun	4.07	131		Pn	18 18 11.6	+1.0
TRF				IAML		18 19 29.3	
	comp=N,759nm,1.4s						
TRF				IAML		18 19 31.7	
	comp=E,851nm,1.6s						
L18K	Granite Mounta	4.08	177		Pn	18 18 10.1	-0.5
L18K				IAML		18 19 41.2	
	comp=N,1μm,1.4s						
L18K				IAML		18 19 43.0	
	comp=E,577nm,3.0s						
COLA	College	4.11	106		Pn	18 18 11.6	+0.7
COLA	College	4.11	106	P	Pn	18 18 11.6	+0.7
L17K	Donlin	4.19	187		Pn	18 18 11.9	-0.2
L17K					Pb	18 18 12.5	-9.3
WRH	Wood River Hil	4.20	111		Pn	18 18 12.1	0.0
CCB	Clear Creek Bu	4.22	109		Pn	18 18 12.3	-0.1
CCB				IAML		18 19 29.9	
	comp=E,512nm,1.0s						
L19K	White Mountain	4.23	165	Pn	Pn	18 18 13.3	+0.7
L19K				IAML		18 19 26.5	
	comp=N,660nm,1.5s						
L19K				IAML		18 19 33.6	
	comp=E,790nm,1.5s						
D24K	Happy Valley	4.28	44		Pn	18 18 14.0	+0.8
B22K	Teshekpuk Lake	4.30	17		Pn	18 18 12.9	-0.7
MCK	McKinley	4.32	123		Pn	18 18 14.0	+0.2
MCK	McKinley	4.32	123	P	Pn	18 18 14.0	+0.2
C23K	Itkillik River	4.33	31		Pn	18 18 14.2	+0.3
K15K	Wolf Creek Mou	4.44	208		Pn	18 18 15.6	+0.1
K15K				IAML		18 19 38.3	
	comp=N,583nm,1.6s						
K15K				IAML		18 19 38.5

PRP IAML 18 19 44.5
comp=E,633nm,0.7s
M18K Stony River 4.84 173 Pn 18 18 21.4 +0.3
E25K Arctic Village 4.86 62 IAML 18 19 57.0
comp=E,719nm,1.4s
M17K Holitna River 4.90 182 Pn 18 18 22.3 +0.5
M17K IAML 18 20 06.0
comp=E,644nm,1.4s
M17K IAML 18 20 17.3
comp=N,555nm,1.6s
SKT Skwentna 4.96 148 Pn 18 18 23.8 +1.1
SKT IAML 18 19 54.6
comp=E,313nm,1.2s
WAT7 Susitna Watana 4.97 130 Pn 18 18 23.8 +0.9
A21K Barrow 5.07 2 Pn 18 18 23.9 -0.1
A21K Pn 18 18 24.3 +0.3
BMAR Burnt Mountain 5.08 71 Pn 18 18 24.2 -0.2
D25K Kavik River 5.09 48 Pn 18 18 24.2 -0.2
D25K Kavik River 5.09 48 IAML 18 20 02.4
comp=E,674nm,1.6s
D25K IAML 18 20 03.1
comp=N,630nm,1.4s
J25K Salcha River, 5.18 103 Pn 18 18 25.6 -0.2
J25K Salcha River, 5.18 103 IAML 18 20 05.9
comp=E,344nm,1.7s
J25K IAML 18 20 06.7
comp=N,436nm,1.6s
DHY Denali Highway 5.28 123 Pn 18 18 27.6 +0.5
F26K Sheenjek River 5.29 69 Pn 18 18 27.5 +0.3
F26K Sheenjek River 5.29 69 IAML 18 20 01.4
comp=N,609nm,1.5s
STLK Strandline Lak 5.34 152 Pn 18 18 28.0 +0.2
M16K Timber Creek 5.34 190 Pn 18 18 27.5 -0.4
M16K Timber Creek 5.34 190 IAML 18 20 13.8
comp=N,280nm,0.8s
G26K Porcupine Rive 5.36 77 Pn 18 18 28.7 +0.6
K24K Donnelly Dome 5.41 112 Pn 18 18 29.0 +0.1
SPWE Spurr West 5.42 156 Pn 18 18 30.1 +1.1
SPBG Spurr Blockage 5.46 155 Pn 18 18 30.9 +1.2
K13K Kusilvak Mount 5.47 221 Pn 18 18 28.6 -0.9
SPU Mount Spurr 5.59 154 Pn 18 18 32.5 +1.1
SUA Susitna One 5.60 147 Pn 18 18 32.4 +1.0
N19K Bonanza Creek 5.61 167 Pn 18 18 31.9 +0.2
GHO Glory Hole Cre 5.78 138 Pn 18 18 35.2 +1.2
RIDG Independent Ri 5.80 110 Pn 18 18 33.8 -0.3
M15K Kasigluk River 5.83 197 Pn 18 18 34.5 0.0
M15K Pn 18 18 34.9 +0.3
C26K Camden Bay 5.85 46 Pn 18 18 35.3 +0.6
N16K Nishlik Lake 5.88 188 Pn 18 18 35.0 -0.2
N16K Pn 18 18 35.7 +0.5
J26L Joseph Creek 5.94 101 Pn 18 18 36.6 +0.4
M14K Bethel 5.95 203 Pn 18 18 36.3 +0.1
SCRK Sand Creek 6.01 107 Pn 18 18 36.6 -0.5
PAX Paxson 6.01 118 Pn 18 18 38.1 +1.0
PAX Paxson 6.01 118 P **Pn 18 18 38.1 +1.0**
RDJH Redoubt Jeurge 6.03 159 Pn 18 18 38.5 +1.1
DFR Drift River 6.05 159 Pn 18 18 38.2 +0.6
DFR Pn 18 18 38.5 +0.9
RDT Redoubt 6.11 158 Pn 18 18 39.7 +1.3
RDT Pn 18 18 39.8 +1.4
RDWB Redoubt West 6.12 160 Pn 18 18 39.7 +1.0
RDSD Redoubt South 6.17 159 Pn 18 18 40.4 +1.0
SCM Sheep Creek Mo 6.20 132 Pn 18 18 40.5 +0.9
SCM Sheep Creek Mo 6.20 132 P **Pn 18 18 40.5 +0.9**
RED Redoubt Volcan 6.20 160 Pn 18 18 40.7 +1.0
G27K Doyon Strip 6.20 78 Pn 18 18 41.0 +1.3
KNK Knik Glacier 6.21 138 Pn 18 18 42.0 +2.2
N15K Kwethluk River 6.28 194 Pn 18 18 41.1 +0.4
H27K Steamboat Moun 6.30 83 Pn 18 18 42.7 +1.6
E27K Coleen River 6.32 65 Pn 18 18 41.4 0.0
M24K Tolsona, Glenn 6.35 126 Pn 18 18 43.3 +1.5
HARP HAARP 6.49 121 Pn 18 18 44.8 +1.1
O18K Koktuh Hills 6.51 171 Pn 18 18 43.9 0.0
M13K Dall Lake 6.52 208 Pn 18 18 45.3 +1.4
O20K Slope Mountain 6.55 160 Pn 18 18 45.7 +1.2
IVE Iliamna Volcan 6.56 162 Pn 18 18 45.9 +1.3
SLKM Skilak Lake 6.57 149 Pn 18 18 46.3 +1.5
ILSW Iliamna Southw 6.57 162 Pn 18 18 46.0 +1.1
ILS Iliamna Low So 6.61 162 Pn 18 18 45.5 +0.1
GAMB Gambell 6.66 255 Pn 18 18 46.5 +0.7
PWL Port Wells 6.70 140 Pn 18 18 47.6 +1.0
N14K Kuskokwak Cree 6.71 200 Pn 18 18 47.0 +0.5
O16K Kokwok River B 6.73 184 Pn 18 18 46.4 -0.4
K27K Chicken 6.73 103 Pn 18 18 47.1 +0.2
D27M Malcolm River 6.81 57 Pn 18 18 49.3 +1.3
P19K Oil Pt 6.88 163 Pn 18 18 49.5 +0.4
KLU Klutina 6.89 129 Pn 18 18 50.8 +1.6
F28M Old Crow 6.91 71 Pn 18 18 49.3 0.0
P18K Big Mountain, 6.97 172 Pn 18 18 50.6 +0.4
GLI Glacier Island 7.02 136 Pn 18 18 52.5 +1.6
WACK Wrangell Chich 7.06 122 Pn 18 18 53.1 +1.5
I28M Miner Creek 7.10 89 Pn 18 18 53.0 +0.9
E28M Babbage River 7.15 63 Pn 18 18 52.9 +0.3
N25K Chitina, Valde 7.24 125 Pn 18 18 55.0 +1.1
O15K Ungalikthiuk R 7.24 191 Pn 18 18 54.0 +0.1
O14K Tigyukauivet M 7.30 197 Pn 18 18 55.1 +0.4
FID Port Fidalgo 7.30 134 Pn 18 18 54.4 +1.4
L27K Beaver Creek, 7.31 109 Pn 18 18 54.9 +0.1
BCAR Beaver Creek A 7.32 109 Pn 18 18 53.6 -1.5
H29M Whitestone 7.57 82 Pn 18 18 59.3 +0.8
HIN Hinchinbrook I 7.59 136 Pn 18 19 00.2 +1.5
D28M Stokes Point 7.59 58 Pn 18 18 59.6 +1.0
GLB Gilahina Butte 7.62 123 Pn 18 19 00.2 +1.1
G29M Pine Creek 7.63 77 Pn 18 18 59.1 -0.1
P23K Montague Islan 7.68 141 Pn 18 19 01.1 +1.1
M27K Edge Creek, AK 7.70 114 Pn 18 19 00.8 +0.5
BMRM Bremner River 7.71 128 Pn 18 19 01.3 +0.9
E29M Blow River 7.71 65 Pn 18 19 01.0 +0.6
KAHC Katmai Hardscr 7.72 172 Pn 18 19 01.3 +0.6
DAWY Dawson 7.78 98 Pn 18 19 01.8 +0.4
SYI Shuyak Island 8.00 162 Pn 18 19 04.9 +0.6
CNTC Contact Creek 8.07 175 Pn 18 19 06.0 +0.6
EPYK Eagle Plains 8.21 80 Pn 18 19 06.8 -0.4
PTYK Patty Peak 8.26 121 Pn 18 19 09.2 +1.2
CAHL Cahill 8.30 173 Pn 18 19 08.7 +0.2
G30M tAoh Zraii Nji 8.33 76 Pn 18 19 09.4 +0.5
YUK2 White River 8.44 115 Pn 18 18 11.9 +1.5
F30M Barrier River 8.47 71 Pn 18 19 10.9 +0.2
L29M L29M 8.72 103 Pn 18 19 14.5 +0.2
KDAK Kodiak Island 8.79 164 Pn 18 19 16.1 +1.0
KDAK Kodiak Island 8.79 164 Pn **Pn 18 19 17.9 +2.8**
comp=N,1.6nm,0.3s,baz=5.5,slow=8.0,SNR=20
KDAK Lg Lg 18 21 46.3
comp=N,0.2nm,0.3s,baz=42,slow=19,SNR=1.6
KDAK LR LR 18 22 18.0
comp=N,1µm,19.3s,baz=100,slow=35
KDAK Kodiak Island 8.79 164 *i* P **Pn 18 19 15.2 +0.1**
J30M Hart River 8.82 92 Pn 18 19 16.7 +1.0
G31M Satah River 9.10 76 Pn 18 19 18.2 -1.1
INK Inuvik 9.33 67 Pn **Pn 18 19 24.1 +1.7**
comp=N,1.1nm,0.3s,baz=297,slow=14,SNR=4.6
INK Sn **Sn 18 21 07.6 +0.2**
comp=N,0.9nm,0.3s,baz=193,slow=8.7,SNR=3.3
INK Lg Lg 18 21 58.6
comp=N,0.5nm,0.3s,baz=187,slow=19,SNR=4.2
INK LR LR 18 23 19.6
comp=N,971nm,19.0s,baz=258,slow=39
comp=N,5.1nm,0.7s
N30M Aishikik Lake 10.05 109 Pn 18 19 32.6 +0.2
M31M Drury Creek, Y 10.67 102 Pn 18 19 40.2 -0.7
P29M Windy Craggy 11.02 118 Pn **Pn 18 19 44.4 -1.3**
MMPY Sheldon Lake, 11.71 96 Pn 18 19 54.3 -0.8
A36M Sachs Harbour 12.58 49 Pn **Pn 18 20 04.7 -2.1**
BILL Bilibino 14.18 294 Pn 18 20 27.3 -1.4
BILL Bilibino 14.18 294 *i* P **Pn 18 20 27.4 -1.4**
S34M Telegraph Cree 14.67 112 Pn 18 20 34.8 -0.7
DLBC Dease Lake 14.71 109 Pn **P 18 20 42.1 -0.3**
comp=N,0.1nm,0.3s,baz=290,slow=12,SNR=13
DLBC Lg Lg 18 24 53.0
baz=233,slow=24,SNR=6.8
DLBC LR LR 18 26 50.8
comp=N,55nm,18.3s,baz=298,slow=39
comp=N,0.4nm,0.7s
T35M Bob Quinn 15.67 114 P **P 18 20 51.8 -1.2**
T35M IAmb IAmb 18 21 01.0
comp=Z,40nm,1.5s
YKA Yellowknife Ar 18.49 82 P **Pn 18 21 27.3 +3.2**
comp=Z,0.3nm,0.3s,baz=304,slow=11,SNR=5.2
comp=Z,1.7nm,0.8s
YKAW1 Yellowknife Wh 18.54 82 P **P 18 21 20.4 -4.2**
YKAW1 IAmb IAmb 18 21 32.6
comp=Z,24nm,1.2s
BBB Bella Bella 20.21 120 P **P 18 21 39.2 -3.6**
BBB IAmb IAmb 18 21 51.2
comp=Z,18nm,1.2s
BBB Bella Bella 20.21 120 P Pn 18 21 46.3 +1.6
comp=Z,5.4nm,0.9s,baz=316,slow=14,SNR=8.0
BBB LR LR 18 29 58.8
comp=Z,386nm,19.5s,baz=328,slow=38
comp=Z,5.4nm,0.9s
RES Resolute Bay 21.30 40 P 18 21 50.9 -3.5
RES Resolute Bay 21.30 40 P **P 18 21 58.1 +3.6**
comp=Z,1.9nm,0.7s,baz=246,slow=14,SNR=5.1
RES S S 18 25 38.5 -12
comp=Z,0.9nm,0.5s,baz=59,slow=22,SNR=1.3
RES LR LR 18 32 42.3
comp=Z,321nm,19.5s,baz=229,slow=44
comp=Z,1.9nm,0.7s
SEY Seymchan 21.41 285 P **P 18 21 58.1 +2.3**
SEY LR LR 18 30 02.3
comp=Z,444nm,18.9s,baz=60,slow=36
comp=Z,5.4nm,0.8s
SEY Seymchan 21.41 285 *i* P **P 18 21 54.8 -1.0**
SEY pmax pmax
comp=Z,28nm,1.5s
EUNU Eureka 22.51 25 P **P 18 22 04.7 -2.8**
EUNU IAmb IAmb 18 22 32.9
comp=Z,20nm,1.2s
MA2 Magadan 23.98 279 P **P 18 22 18.6 -3.8**
MA2 Magadan 23.98 279 LR LR 18 32 01.6
comp=Z,210nm,21.4s,baz=60,slow=38
MA2 Magadan 23.98 279 *i* P **P 18 22 22.2 -0.2**
MA2 pmax pmax
comp=Z,41nm,1.1s
BLKN Baker Lake 24.74 66 P **P 18 22 27.1 -2.2**
BLKN IAmb IAmb 18 22 40.5
comp=Z,9.3nm,0.8s
TIXI Tiksi 25.48 315 LR LR 18 34 18.8
comp=Z,280nm,18.4s,baz=62,slow=41
PEA0B Petropavlovsk- 25.63 261 *i* P **P 18 22 38.3 +0.8**
PETK Petropavlovsk- 25.63 261 P **P 18 22 34.2 -3.4**
PETK Petropavlovsk- 25.63 261 P **P 18 22 37.9 +0.3**
comp=Z,1.5nm,0.7s,baz=74,slow=11,SNR=6.9
PETK LR LR 18 33 16.3
comp=Z,297nm,19.0s,baz=32,slow=38
comp=Z,1.5nm,0.7s
NLWA Neilton Lookou 25.73 121 P **P 18 22 35.4 -3.1**
NLWA IAmb IAmb 18 22 47.3
comp=Z,10nm,1.0s
B08A Colville Reser 26.54 114 P **P 18 22 43.1 -2.8**
ILON Igloolik, Nuna 26.93 49 P **P 18 22 47.5 -1.6**
ILON IAmb IAmb 18 22 57.0
comp=Z,14nm,1.2s
LON Longmire 27.01 119 P **P 18 22 47.4 -2.7**
LON Longmire 27.01 119 P **P 18 22 47.4 -2.7**
LON pmax pmax
comp=Z,6.0nm,1.2s
NEW Newport 27.45 111 LR LR 18 35 06.8
comp=Z,415nm,18.6s,baz=339,slow=39
D08A Wollman Farm, 27.79 115 P **P 18 22 53.8 -3.2**
YAK Yakutsk 30.49 297 LR LR 18 36 55.8
comp=Z,386nm,18.1s,baz=38,slow=39
YAK Yakutsk 30.49 297 *e*P **P 18 23 20.4 -0.4**
YAK pmax pmax
comp=Z,9.0nm,1.5s
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.6s
YAK MLR MLR
comp=Z,401nm,19.0s
YAK MLR MLR
comp=N,405nm,24.0s
YAK MLR MLR
comp=E,117nm,15.0s
YBH Yreka Blue Hor 31.10 125 LR LR 18 36 12.8
comp=E,18nm,18.0s,baz=308,slow=37
KMPM Mount Pierce 31.83 128 P **P 18 23 30.1 -2.8**
WVOR Wild Horse Val 31.88 119 P **P 18 23 30.8 -2.6**
WVOR Wild Horse Val 31.88 119 P **P 18 23 30.8 -2.6**
WVOR pmax pmax
comp=Z,4.0nm,1.2s
PAHR Pah Rah Range 34.04 122 P **P 18 23 50.4 -1.9**
PAHR IAmb IAmb 18 24 26.1
comp=Z,4.6nm,1.3s
ULM Lac du Bonnet 34.30 87 LR LR 18 38 07.0
comp=Z,432nm,19.6s,baz=335,slow=36
FRB Frobisher Bay 34.56 52 LR LR 18 39 14.2
comp=Z,426nm,18.2s,baz=308,slow=38
ELK Elko 34.58 117 LR LR 18 38 54.8
comp=Z,238nm,21.1s,baz=340,slow=38
PDAR Pinedale Array 34.95 108 P **P 18 23 57.9 -2.3**
PDAR Pinedale Array 34.95 108 P **P 18 24 03.5 +3.2**
comp=Z,0.5nm,0.8s,baz=319,slow=6.5,SNR=4.3
PDAR LR LR 18 39 05.7
comp=Z,206nm,18.2s,baz=330,slow=38
comp=Z,0.5nm,0.8s
NVAR Mina Array Bea 35.55 122 P **P 18 24 07.3 +1.8**
comp=Z,1.1nm,0.8s,baz=327,slow=8.3,SNR=7.6
NVAR LR LR 18 39 04.6
comp=Z,231nm,21.0s,baz=336,slow=37
comp=Z,1.1nm,0.8s
SPITS Spitsbergen Ar 35.71 2 P **P 18 24 04.4 -1.8**
SPITS pmax pmax
comp=Z,53nm,1.5s
AGMN Agassiz Nation 35.85 89 P **P 18 24 06.2 -1.4**
AGMN IAmb IAmb 18 24 21.1
comp=Z,3.2nm,0.8s
GRNR Gornyy 35.99 278 ⇓ *i*P **P 18 24 09.7 +0.8**
GRNR pmax pmax
comp=Z,2.0nm,0.9s
GRNR MLR MLR
comp=E,390nm,16.0s
GRNR MLR MLR
comp=N,250nm,15.0s
GRNR MLR MLR
comp=Z,190nm,13.0s
YSS Yuzhno-Sakhali 36.45 268 *e*P **P 18 24 12.5 -0.3**
YSS *e*S **S 18 29 54.6 +0.1**
YSS MLR MLR
comp=Z,400nm,13.0s
R11B Troy Canyon, C 36.57 119 P **P 18 24 11.7 -2.5**
R11B IAmb IAmb 18 24 20.1
comp=Z,7.7nm,1.3s
SFJD Kangerlussuaq 37.27 38 LR LR 18 41 41.3
comp=Z,223nm,20.9s,baz=324,slow=39
ZEA Zeya 37.31 288 *e*P **P 18 24 20.6 +0.5**
ZEA MLR MLR
comp=N,200nm,13.0s
ZEA MLR MLR
comp=Z,300nm,15.0s
TPNV Topopah Spring 37.59 121 P **P 18 24 20.0 -2.8**
TPNV IAmb IAmb 18 24 28.1
comp=Z,9.2nm,1.4s
TPNV Topopah Spring 37.59 121 P **P 18 24 20.0 -2.8**
TPNV pmax pmax
comp=Z,9.0nm,1.4s
EYMN Ely 37.89 86 P **P 18 24 22.4 -2.6**
EYMN IAmb IAmb 18 24 35.8
comp=Z,6.1nm,1.0s
ASAJ Asahikawa 38.84 266 LR LR 18 41 11.3
comp=Z,266nm,19.2s,baz=42,slow=37
KLR Kul'dur 39.06 280 LR LR 18 41 40.7
comp=Z,226nm,19.6s,baz=48,slow=38
KLR Kul'dur 39.06 280 *i* P **P 18 24 34.1 -0.8**
KLR pmax pmax
comp=Z,4.0nm,0.9s
HEH HeiHe 39.96 285 *e*P **P 18 24 45.7 +3.3**
HEH pP **sP 18 24 49.4 +3.7**
HEH S **S 18 30 51.9 +4.4**
HEH pmax pmax
comp=Z,4.0nm,1.6s
HEH LR LR
comp=N,1µm,15.0s
HEH LR LR
comp=E,2µm,15.0s
HEH LR LR
comp=Z,760nm,11.8s
SCHQ Schefferville 41.87 60 P **P 18 25 02.2 +4.2**
comp=Z,3.6nm,0.9s,baz=324,slow=14,SNR=2.1
SCHQ LR LR 18 44 00.1
comp=Z,136nm,19.7s,baz=322,slow=38
comp=Z,3.6nm,0.9s
ANMO Albuquerque 42.94 111 LR LR 18 43 43.6
comp=Z,211nm,18.1s,baz=71,slow=37
USA0B Ussuriysk Arra 43.06 276 *i* P **P 18 25 07.3 -0.5**
USRK Ussuriysk Ar. 43.06 276 LR LR 18 45 00.7
comp=Z,130nm,18.8s,baz=45,slow=39
ARCES ARCESS Array B 44.44 359 P **P 18 25 19.7 +1.0**
comp=Z,1.0nm,0.7s,baz=356,slow=13,SNR=1.7
ARCES LR LR 18 42 56.8
comp=Z,80nm,20.1s,baz=356,slow=35
comp=Z,1.0nm,0.7s
SADO Sadowa 45.43 78 LR LR 18 45 22.5
comp=Z,140nm,21.9s,baz=332,slow=37
BORG Borgarnes 45.44 25 LR LR 18 44 38.1
comp=Z,156nm,21.2s,baz=344,slow=36
APA Apatity 46.22 354 ⇓ *i*P **P 18 25 30.3 -2.4**
APA pmax pmax
comp=Z,4.0nm,1.1s
APA MLR MLR
comp=Z,379nm,4.4s
MJAR Matsushiro Arr 47.03 264 P **P 18 25 42.5 +3.0**
comp=Z,1.0nm,0.6s,baz=24,slow=9.0,SNR=4.3
MJAR LR LR 18 46 40.4
comp=Z,138nm,18.2s,baz=32,slow=38
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 49.00 112 P **P 18 25 58.9 +4.0**
comp=Z,1.3nm,1.0s,baz=337,slow=5.7,SNR=3.9
TXAR LR LR 18 47 08.1
comp=Z,170nm,18.1s,baz=328,slow=37
comp=Z,1.3nm,1.0s
ULN Ulaanbaatar 49.57 298 *i* P **P 18 25 58.0 -1.1**
ULN pmax pmax
comp=Z,1.0nm,0.4s
SONM Songino Array 49.83 299 P **P 18 26 02.9 +1.8**
comp=Z,1.3nm,0.7s,baz=26,slow=8.2,SNR=5.7
SONM LR LR 18 48 46.2
comp=Z,271nm,18.5s,baz=36,slow=38
comp=Z,1.3nm,0.7s
KSRS Korea Array 50.40 274 P **P 18 26 07.5 +2.2**
comp=Z,0.5nm,0.7s,baz=27,slow=7.3,SNR=6.9
comp=Z,0.5nm,0.7s
ZALV Zalesovo Beam 51.30 318 P 18 26 10.2 -1.7
ZALV Zalesovo Beam 51.30 318 P **P 18 26 12.4 +0.5**
comp=Z,1.9nm,0.5s,baz=19,slow=7.3,SNR=8.6
ZALV LR LR 18 50 37.2
comp=Z,174nm,18.4s,baz=15,slow=39
comp=Z,1.9nm,0.5s
TKL Tuckaleechee C 51.31 88 LR LR 18 48 18.0
comp=Z,245nm,18.1s,baz=336,slow=36
FINES FINESS Array B 52.56 358 P **P 18 26 23.7 +2.6**
comp=Z,2.6nm,1.0s,baz=22,slow=7.0,SNR=4.1
comp=Z,2.6nm,1.0s
JNU Nakatsue 52.96 269 LR LR 18 47 56.3
comp=Z,131nm,21.3s,baz=28,slow=35
KIRV Kirov 53.88 343 LR LR 18 53 29.9
comp=Z,95nm,18.2s,baz=7.9,slow=40
HHC Hu-ho-hao-te 53.92 290 *e*P **P 18 26 28.8 -2.8**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,91nm,4.8s
HHC LR LR
comp=N,500nm,18.5s
HHC LR LR
comp=E,700nm,19.3s
HHC LR LR
comp=Z,610nm,16.0s
ARTI Arti 54.77 337 P **P 18 26 34.9 -2.5**
ARTI Arti 54.77 337 LR LR 18 52 31.7
comp=Z,99nm,19.0s,baz=14,slow=39
ARTI Arti 54.77 337 *d i*P **P 18 26 36.0 -1.4**
ARTI S **S 18 34 16.8 -1.0**
ARTI pmax pmax
comp=Z,5.0nm,1.6s
BRVK Borovoye 55.67 327 P **P 18 26 42.2 -1.8**
BRVK IAmb IAmb 18 26 52.8
comp=Z,3.7nm,0.8s
BRVK Borovoye 55.67 327 *i* P **P 18 26 43.0 -1.0**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
BVAR Borovoye Array 55.68 327 P **P 18 26 44.6 +0.5**
comp=Z,2.3nm,0.6s,baz=30,slow=8.3,SNR=10
BVAR LR LR 18 53 40.4
comp=Z,161nm,20.8s,baz=28,slow=39
comp=Z,2.3nm,0.6s
KURK Kurchatov 55.86 321 P **P 18 26 43.5 -1.9**
KURK Kurchatov 55.86 321 *i* P **P 18 26 43.0 -2.4**
KURK pmax pmax
comp=Z,8.0nm,1.2s
KURBB Kurchatov Arra 55.97 321 P **P 18 26 46.9 +0.8**
comp=Z,1.4nm,0.9s,baz=26,slow=6.2,SNR=6.8
KURBB LR LR 18 53 13.1
comp=Z,224nm,19.9s,baz=183,slow=39
comp=Z,1.4nm,0.9s
EKA Eskdalemuir Ar 57.12 17 P **P 18 26 55.9 +1.6**
comp=Z,2.8nm,0.6s,baz=332,slow=4.7,SNR=12
comp=Z,2.8nm,0.6s
MK31 Makanchi Array 58.46 316 *i* P **P 18 27 03.9 0.0**
MKAR Makanchi Array 58.46 316 P **P 18 27 04.0 +0.2**
comp=Z,0.6nm,0.5s,baz=31,slow=6.5,SNR=9.7
MKAR LR LR 18 54 06.0
comp=Z,180nm,21.6s,baz=10.0,slow=38
comp=Z,0.6nm,0.5s
OBN Obninsk 58.48 351 *i* P **P 18 27 01.3 -2.5**
OBN pmax pmax
comp=Z,5.0nm,0.5s
GTA Gaotai 59.50 299 P **P 18 27 12.8 +1.5**
GTA pP sP 18 27 16.2 +1.5
GTA sP pP 18 27 20.0 +6.2
GTA pmax pmax
comp=Z,2.0nm,1.1s
GTA LR LR
comp=N,340nm,16.4s
GTA LR LR
comp=E,570nm,15.6s
GTA LR LR
comp=Z,330nm,17.1s
WMQ Urumqi 59.57 311 *e*P **P 18 27 14.5 +2.8**
WMQ PcP **PcP 18 27 59.9 +1.0**
WMQ ScP **ScP 18 32 05.0 +5.3**
WMQ pmax pmax
comp=Z,52nm,1.1s
WMQ pmax pmax
comp=Z,150nm,3.7s
WMQ LR LR
comp=N,270nm,5.5s
WMQ LR LR
comp=E,420nm,14.3s
WMQ LR LR
comp=Z,230nm,21.9s
BELG Belogornoye 60.16 343 LR LR 18 55 57.0
comp=Z,98nm,20.9s,baz=35,slow=39
AKTO Aktyubinsk 60.56 335 LR LR 18 56 52.9
comp=Z,61nm,18.1s,baz=212,slow=39
LZH Lanzhou 60.99 294 *e*P **P 18 27 18.4 -3.2**
LZH sP sP 18 27 26.4 +1.4
LZH pmax pmax
comp=Z,25nm,1.3s
LZH LR LR
comp=N,560nm,19.6s
LZH LR LR
comp=E,920nm,18.2s
LZH LR LR
comp=Z,420nm,15.1s
AB31 Akbulak array 61.35 333 P **P 18 27 21.9 -1.8**
AB31 IAmb IAmb 18 27 32.6
comp=Z,2.9nm,0.8s
ABKAR Akbulak array 61.35 333 P **P 18 27 21.3 -2.3**
ABKAR Akbulak array 61.35 333 P 18 27 21.4 -2.3
ABKAR IAmb IAmb 18 27 32.6
comp=Z,2.9nm,0.8s
AKASG Malin Array Be 63.25 355 P **P 18 27 37.3 +1.0**
comp=Z,0.6nm,0.4s,baz=7.1,slow=6.7,SNR=2.2
AKASG LR LR 18 57 43.2
comp=Z,51nm,18.9s,baz=7.0,slow=38
comp=Z,0.6nm,0.4s
AKBB Malin Array Si 63.25 355 *i* P **P 18 27 33.5 -2.8**
AKBB pmax pmax
comp=Z,19nm,3.0s
KIEV Kiev 63.26 355 P **P 18 27 35.7 -0.6**
KIEV Kiev 63.26 355 P **P 18 27 35.7 -0.6**
KIEV pmax pmax
comp=Z,4.0nm,0.7s
KDJ Kajisay 64.17 318 P **P 18 27 41.7 -1.1**
KDJ IAmb IAmb 18 27 52.7
comp=Z,3.8nm,1.1s
KDJ Kajisay 64.17 318 P **P 18 27 41.7 -1.1**
KDJ pmax pmax
comp=Z,4.0nm,1.1s
AAK Ala-Archa 64.41 320 LR LR 18 57 31.7
comp=Z,181nm,18.4s,baz=20,slow=38
AAK Ala-Archa 64.41 320 *i* P **P 18 27 43.1 -1.2**

AAK					pmax	pmax		
	comp=Z,3.0nm,0.8s							
KHC	**Kasperske Hory**	**64.70**	**7**	*i* P	**P**		**18 27 44.0**	**-2.0**
KHC					pmax	pmax		
	comp=Z,6.0nm,1.8s							
KKAR	**Karatay Array**	**64.97**	**323**	P	**P**		**18 27 46.9**	**-0.9**
KKAR	**Karatay Array**	**64.97**	**323**	P	**P**		**18 27 46.9**	**-0.9**
GEC2	**GERESS Array S**	**64.99**	**7**	P	**P**		**18 27 47.8**	**-0.1**
GEC2					IAmb	IAmb	18 28 00.7	
	comp=Z,4.3nm,1.3s							
GERES	**GERESS Array B**	**64.99**	**7**	P	**P**		**18 27 49.4**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=354,slow=8.9,SNR=4.3							
	comp=Z,0.7nm,0.7s							
GUMO	**Guam**	**65.04**	**245**	LR	LR		18 54 32.2	
	comp=Z,41nm,20.6s,baz=32,slow=34							
GAR	**Garm**	**68.90**	**322**	P	**P**		**18 28 12.0**	**-1.0**
KVAR	**Kislovodsk Arr**	**69.04**	**345**	LR	LR		19 00 25.4	
	comp=Z,47nm,19.0s,baz=273,slow=38							
KIV	**Kislovodsk**	**69.04**	**345**	*eP*	**P**		**18 28 14.3**	**+0.6**
KIV					pmax	pmax		
	comp=Z,5.0nm,1.1s							
KIV					MLR	MLR		
	comp=Z,56nm,17.0s							
KBZ	**Khabaz**	**69.24**	**345**	LR	LR		19 00 38.7	
	comp=Z,53nm,18.9s,baz=356,slow=38							
PZH	**PanZhiHua**	**70.37**	**291**	P	**P**		**18 28 22.5**	**+0.3**
PZH					pmax	pmax		
	comp=Z,10.0nm,1.8s							
ESDC	**Sonseca Array**	**72.37**	**21**	P	**P**		**18 28 38.4**	**+4.3**
	comp=Z,1.3nm,0.7s,baz=353,slow=6.5,SNR=10							
ESDC					LR	LR	19 00 33.0	
	comp=Z,54nm,20.7s,baz=335,slow=36							
	comp=Z,1.3nm,0.7s							
GNI	**Garni**	**72.57**	**343**	LR	LR		19 04 50.7	
	comp=Z,50nm,19.7s,baz=15,slow=40							
JTS	**Las Juntas de**	**73.49**	**102**	LR	LR		19 03 55.0	
	comp=Z,72nm,21.7s,baz=346,slow=38							
SJG	**San Juan**	**73.98**	**82**	LR	LR		19 02 14.7	
	comp=Z,86nm,21.6s,baz=144,slow=36							
BRTR	**Keskin Array B**	**74.00**	**351**	P	**P**		**18 28 45.5**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=2.7,slow=9.2,SNR=2.7							
	comp=Z,0.6nm,0.6s							
DAV	**Davao City (W)**	**78.45**	**261**	LR	LR		19 05 34.1	
	comp=Z,39nm,19.4s,baz=14,slow=37							
CMAR	**Chiang Mai Arr**	**78.73**	**290**	P	**P**		**18 29 10.7**	**0.0**
	comp=Z,0.4nm,0.8s,baz=25,slow=5.2,SNR=5.6							
CMAR					LR	LR	19 06 57.3	
	comp=Z,209nm,18.9s,baz=35,slow=38							
	comp=Z,0.4nm,0.8s							
MDT	**Midelt**	**78.99**	**23**	LR	LR		19 05 51.1	
	comp=Z,38nm,20.3s,baz=40,slow=37							
MMAI	**Mount Meron Ar**	**80.55**	**349**	LR	LR		19 12 22.2	
	comp=Z,23nm,18.2s,baz=24,slow=41							
JAY	**Jayapura**	**81.44**	**243**	LR	LR		19 00 06.6	
	comp=Z,63nm,21.8s,baz=284,slow=32							
HNR	**Honiara**	**81.75**	**223**	LR	LR		19 02 40.2	
	comp=Z,62nm,21.9s,baz=4.0,slow=33							
PCRV	**Puerto La Cruz**	**81.77**	**84**	LR	LR		19 08 28.8	
	comp=Z,56nm,19.2s,slow=38							
MSVF	**Nonsavu**	**85.81**	**204**	LR	LR		19 01 02.0	
	comp=Z,94nm,20.2s,baz=19,slow=31							
MDP	**Montagnes des**	**91.15**	**75**	LR	LR		19 11 02.3	
	comp=Z,56nm,20.0s,baz=320,slow=35							
ATAH	**Atahualpa**	**91.97**	**103**	LR	LR		19 17 47.1	
	comp=Z,46nm,18.4s,baz=356,slow=40							
BBTS	**Babate**	**94.16**	**38**	LR	LR		19 10 35.5	
	comp=Z,53nm,20.3s,baz=234,slow=34							
PALK	**Pallekele**	**95.66**	**302**	LR	LR		19 17 07.4	
	comp=Z,98nm,20.5s,baz=14,slow=38							

UPA 02 18:22:08.7±15.0, **8°.75N**×**83°.07W**, **h13**km±58km, **ML2.9, 2D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLIR3	**Monte Lirio, C**	**0.25**	**79**	*i* P	Pg	18 22 14.4	+0.4
BRU2	**Volcan**	**0.38**	**83**	⇓*i* P	Pg	18 22 12.2	-4.1
LESP3	**La Esperanza,**	**0.44**	**141**	*i* P	Pg	18 22 14.1	-3.3
BC3P	**Paso Ancho**	**0.46**	**81**	*i* P	Pg	18 22 12.9	-5.0
BC3P				eS	Sg	18 22 21.3	-2.8
DRK0	**Durika**	**0.54**	**341**	*eP*	Pg	18 22 19.6	+0.2
DRK0				eS	Sg	18 22 25.5	-1.1
PTAR3	**Potrerillos Ar**	**0.57**	**95**	*i* P	Pg	18 22 12.7	-7.2
PTAR3				eS	Sn	18 22 33.2	+1.2
BQSF3	**Alto Boquete,**	**0.63**	**90**	⇓*i* P	Pg	18 22 13.6	-7.5
BQSF3				eS	Sg	18 22 22.1	-7.4
LIMO3	**Limones**	**0.67**	**162**	*i* P	Pg	18 22 14.4	-7.4
LIMO3				eS	Sb	18 22 31.9	+0.3
PEDE3	**Pedregal, Chir**	**0.74**	**119**	*i* P	Pg	18 22 16.6	-6.4
PSOM3	**Paja de Sombre**	**0.74**	**95**	*i* P	Pg	18 22 14.1	-9.0

UCR ***02*** *18:22:17.9*±*1.2, 8°.34N*×*82°.80W, h21*km±*3km, MW3.7*
UPA ***02*** *18:22:18.3*±*1.2, 8°.39N*×*82°.80W, h19*km±*3km, MW3.7*
ISC 02 18:22:18.3±0.9, **8°.39N**±0°.02×**82°.80W**±0°.02, **h18**km±3km, **n63**, σ0**s96**/80, **4C-20D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.02**	**19**	⇓*i* P	**Pg**	**18 22 22.9**	**+1.3**
LESP3				eS	**Sg**	**18 22 24.3**	**+0.6**
LPPC	**Paso Canoas**	**0.15**	**344**	⇓*eP*	**Pg**	**18 22 23.6**	**+0.9**
LPPC				eS	**Sg**	**18 22 28.3**	**+2.7**
LIMO3	**Limones**	**0.29**	**193**	⇑*eP*	**Pb**	**18 22 25.0**	**0.0**
LIMO3				eS	**Sg**	**18 22 30.1**	**+1.0**
LIMO3	**Limones**	**0.29**	**193**	*eP*	**Pb**	**18 22 25.0**	**0.0**
LMNES	**Limones**	**0.29**	**192**	⇑*eP*	**Pb**	**18 22 24.9**	**-0.1**
LMNES	**Limones**	**0.29**	**192**	⇑*iP*	**Pb**	**18 22 24.9**	**-0.1**
NELY	**Ciudad Neily**	**0.30**	**331**	⇓*eP*	**Pb**	**18 22 25.1**	**-0.1**
NELY				eS	**Sb**	**18 22 31.2**	**+1.4**
DVD	**David**	**0.35**	**82**	⇓*iP*	**Pb**	**18 22 26.1**	**+0.1**
DVD				eS	**Sb**	**18 22 32.3**	**+1.1**
CSTBL	**De las Acacias**	**0.35**	**86**	⇓*eP*	**Pb**	**18 22 26.1**	**-0.1**
CSTBL	**De las Acacias**	**0.35**	**86**	⇓*iP*	**Pb**	**18 22 26.2**	**0.0**
PEDE3	**Pedregal, Chir**	**0.37**	**90**	eS	**Sb**	**18 22 32.9**	**+0.9**
PEDE3	**Pedregal, Chir**	**0.37**	**90**	⇓*iP*	**Pg**	**18 22 26.3**	**+0.1**
PEDE3				eS	**Sb**	**18 22 32.7**	**+0.8**
LOCO3	**Loma Colorada,**	**0.38**	**86**	⇓*iP*	**Pb**	**18 22 26.5**	**-0.1**
LOCO3				*i* S	**Sb**	**18 22 32.8**	**+0.7**
CLLRA	**Cordillera,**	**0.40**	**27**	⇓*eP*	**Pg**	**18 22 26.9**	**+0.2**
CLLRA	**Cordillera,**	**0.40**	**27**	⇓*iP*	**Pb**	**18 22 27.1**	**0.0**
LOMA3	**Las Lomas, Chi**	**0.41**	**83**	⇓*eP*	**Pg**	**18 22 26.7**	**0.0**
MLIR3	**Monte Lirio, C**	**0.41**	**356**	*eP*	**Pb**	**18 22 27.3**	**+0.2**
MLIR3				eS	**Sb**	**18 22 33.9**	**+0.8**
MLIR3	**Monte Lirio, C**	**0.41**	**356**	eS	**Sn**	**18 22 38.1**	**+1.5**
BRU2	**Volcan**	**0.42**	**15**	*eP*	**Pg**	**18 22 27.1**	**0.0**
BRU2				eS	**Sb**	**18 22 34.5**	**+1.0**
BRU2	**Volcan**	**0.42**	**15**	⇓*iP*	**Pg**	**18 22 27.2**	**+0.1**
BRU2				eS	**Sb**	**18 22 34.8**	**+1.2**
FITO	**Golfito**	**0.43**	**304**	*eP*	**Pg**	**18 22 25.7**	**-1.4**
FITO				eS	**Sg**	**18 22 32.2**	**-0.8**
PTAR3	**Potrerillos Ar**	**0.43**	**44**	⇓*iP*	**Pb**	**18 22 27.5**	**0.0**
PTAR3				eS	**Sn**	**18 22 35.4**	**-1.7**
RSRNO	**Rio Sereno**	**0.43**	**352**	*eP*	**Pb**	**18 22 27.8**	**+0.2**
SCLRA	**Santa Clara, W**	**0.45**	**2**	*eP*	**Pb**	**18 22 27.9**	**+0.1**
EDAD	**Golfito**	**0.45**	**306**	⇑*eP*	**Pg**	**18 22 26.1**	**-1.5**
EDAD				eS	**Sg**	**18 22 33.2**	**-0.6**
BC3P	**Paso Ancho**	**0.47**	**23**	⇓*iP*	**Pg**	**18 22 27.8**	**-0.2**
BC3P				eS	**Sn**	**18 22 37.6**	**-0.7**
BQTLY	**Boquete Panama**	**0.50**	**42**	⇓*eP*	**Pg**	**18 22 28.2**	**-0.2**
BQTLY	**Boquete Panama**	**0.50**	**42**	⇓*iP*	**Pg**	**18 22 28.3**	**-0.2**
BQSF3	**Alto Boquete,**	**0.51**	**45**	⇓*iP*	**Pb**	**18 22 28.3**	**-0.5**
BQSF3				eS	**Sb**	**18 22 36.6**	**+0.7**
PSOM3	**Paja de Sombre**	**0.56**	**58**	eS	**Sg**	**18 22 37.8**	**+0.7**
PSOM3	**Paja de Sombre**	**0.56**	**58**	⇓*eP*	**Pb**	**18 22 28.9**	**-0.7**
PSOM3				eS	**Sg**	**18 22 37.7**	**+0.6**
PSOM3	**Paja de Sombre**	**0.56**	**58**	*eP*	**Pb**	**18 22 28.9**	**-0.7**
ALCO	**Alturas Coton,**	**0.56**	**356**	*eP*	**Pb**	**18 22 29.1**	**-0.6**
EDP2	**Potrero Grande**	**0.73**	**329**	*eP*	**Pb**	**18 22 31.7**	**-0.8**
PBNVO	**Pueblo Nuevo,**	**0.78**	**50**	*eP*	**Pb**	**18 22 32.0**	**-1.4**
RBALA	**Bur**	**0.81**	**52**	⇓*eP*	**Pb**	**18 22 32.7**	**-1.1**
RBALA				eS	**Sb**	**18 22 44.1**	**-0.3**
RBALA	**Bur**	**0.81**	**52**	⇓*iP*	**Pb**	**18 22 32.8**	**-1.1**
RMDIO	**Remedios, Chir**	**0.97**	**99**	*eP*	**Pb**	**18 22 35.1**	**-1.5**
DRK0	**Durika**	**0.98**	**333**	*eP*	**Pb**	**18 22 35.6**	**-1.3**
DRK0	**Durika**	**0.98**	**333**	*eP*	**Pb**	**18 22 35.8**	**-1.1**
NDIMA	**Cerro Iglesias**	**1.00**	**94**	*eP*	**Pb**	**18 22 34.8**	**-2.3**
KKNTU	**Kakintº**	**1.08**	**65**	*eP*	**Pb**	**18 22 36.4**	**-2.1**
PDCAN	**Manzana , Fuen**	**1.09**	**95**	*eP*	**Pn**	**18 22 36.9**	**-1.9**
SAJE	**San Jernim**	**1.19**	**324**	*eP*	**Pn**	**18 22 38.9**	**-1.3**
MESA3	**La Mesa, Verag**	**1.61**	**98**	*eP*	**Pn**	**18 22 44.4**	**-1.5**
GMAL	**Guarumal, Vera**	**1.67**	**112**	*eP*	**Pn**	**18 22 45.9**	**-0.8**
GMAL	**Guarumal, Vera**	**1.67**	**112**	*eP*	**Pn**	**18 22 45.1**	**-1.5**
SAFE3	**Santa Fe, Vera**	**1.71**	**85**	*eP*	**Pn**	**18 22 47.8**	**+0.6**
RVSTA	**Santa Teresita**	**1.79**	**332**	*eP*	**Pn**	**18 22 48.3**	**-0.2**
LCR2	**La Lucha 2**	**1.80**	**319**	*eP*	**Pn**	**18 22 48.1**	**-0.6**
PISJ	**San Jernim**	**1.80**	**314**	*eP*	**Pn**	**18 22 48.3**	**-0.4**
PICV	**PH. Pirrs**	**1.85**	**312**	*eP*	**Pn**	**18 22 48.5**	**-0.7**
CVTV	**Tajo**	**1.86**	**330**	*eP*	**Pn**	**18 22 49.3**	**-0.4**
PAR1A	**Puntarenas Pro**	**1.88**	**310**	*eP*	**Pn**	**18 22 48.6**	**-0.9**
ACOS	**Acosta**	**1.95**	**316**	*eP*	**Pn**	**18 22 50.3**	**-0.4**
BELE	**Belen**	**2.09**	**319**	*eP*	**Pn**	**18 22 52.7**	**0.0**
VBV1	**V. Barva**	**2.15**	**323**	*eP*	**Pn**	**18 22 53.7**	**+0.2**
AZU	**Azuero**	**2.57**	**103**	*eP*	**Pn**	**18 23 00.5**	**+1.4**
SOCE	**Pocosol**	**2.68**	**318**	*eP*	**Pn**	**18 23 01.5**	**+0.8**
VACR	**Volcan Arenal**	**2.78**	**318**	*eP*	**Pn**	**18 23 02.6**	**+0.5**
JTS	**Las Juntas de**	**2.85**	**312**	*eP*	**Pn**	**18 23 02.6**	**-0.3**
BCIP	**Isla Barro Col**	**3.03**	**75**	*eP*	**Pn**	**18 23 06.2**	**+0.8**
LAPC	**Finca la Perla**	**3.52**	**313**	*eP*	**Pn**	**18 23 12.6**	**+0.4**

RSNC 02 18:27:01.9±0.0, **7°N**±1°×**7°3W**±°, **h152**km±2km, **M3.3, mb3.5, mB5.5, ML3.0, Mw(mB)5.0, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**191**	P	Pn	18 27 21.8	-1.0
BARC				S	Sn	18 27 36.9	-1.9
BRJC	**Barrancabermej**	**0.62**	**284**	P	Pn	18 27 23.5	-0.6
BRJC				S	Sn	18 27 40.5	-0.5
PAMC	**Pamplona, Colo**	**0.68**	**40**	P	Pn	18 27 24.6	-0.5
PAMC				S	Sn	18 27 41.7	-1.0
RUSC	**La Rusia**	**0.92**	**176**	P	Pn	18 27 25.8	-1.0
RUSC				S	Sn	18 27 44.6	-1.2
PTBC	**PUERTO BERRIO,**	**1.34**	**258**	P	Pn	18 27 28.2	-1.8
PTBC				S	Sn	18 27 49.4	-2.0
TAMC	**Tame, Arauca**	**1.39**	**106**	P	Pn	18 27 30.2	-0.4
TAMC				S	Sn	18 27 51.6	-0.9
OCAC	**Ocana**	**1.42**	**353**	P	Pn	18 27 29.8	-1.2
OCAC				S	Sn	18 27 52.0	-1.3
SPBC	**San Pablo de B**	**1.48**	**219**	P	Pn	18 27 30.4	-1.2
SPBC				S	Sn	18 27 53.0	-1.3
ZARC	**Zaragoza, Cauc**	**1.83**	**292**	P	Pn	18 27 34.2	-1.0
ZARC				S	Sn	18 27 59.8	-1.0
NORC	**Norcasia**	**2.12**	**234**	P	Pn	18 27 37.6	-1.1
NORC				S	Sn	18 28 05.6	-1.4
CHIC	**Chingaza**	**2.25**	**195**	P	Pn	18 27 40.0	-0.6
CHIC				S	Sn	18 28 09.3	-1.1
HELC	**Santa Helena**	**2.46**	**255**	P	Pn	18 27 42.4	-0.5
HELC				S	Sn	18 28 14.1	-0.4
CVER	**Cruz Verde, Cu**	**2.46**	**202**	P	Pn	18 27 43.4	+0.2
CVER				S	Sn	18 28 14.7	-0.3
UREC	**San Jos de Ur**	**2.55**	**291**	P	Pn	18 27 42.1	-1.6
UREC				S	Sn	18 28 12.8	-3.2
GUY2C	**Guyana, Caldas**	**2.72**	**234**	P	Pn	18 27 45.9	-0.4
GUY2C				S	Sn	18 28 22.2	+1.6
VILC	**Villavicencio,**	**2.75**	**192**	P	Pn	18 27 45.2	-1.1
VILC				S	Sn	18 28 19.2	-1.5
PTGC	**Puerto Gaitan,**	**2.79**	**159**	P	Pn	18 27 44.9	-1.9
PTGC				S	Sn	18 28 18.6	-2.8
CBOC	**Ciudad Bolivar**	**3.01**	**252**	P	Pn	18 27 49.3	-0.3
DBBC	**Dabeiba**	**3.05**	**274**	P	Pn	18 27 49.1	-1.0
DBBC				S	Sn	18 28 25.1	-2.3
ARGC	**Ariguani, Magd**	**3.21**	**340**	P	Pn	18 27 51.8	-0.3
ARGC				S	Sn	18 28 30.7	-0.3
ANIL	**Santa Ana**	**3.23**	**224**	P	Pn	18 27 53.1	+0.5
ANIL				S	Sn	18 28 33.0	+1.2
PRAC	**Prado**	**3.54**	**209**	P	Pn	18 27 55.7	-0.7
PRAC				S	Sn	18 28 37.6	-1.0
ORTC	**Ortega, Tolima**	**3.57**	**216**	P	Pn	18 27 56.1	-0.6
ORTC				S	Sn	18 28 38.7	-0.6
APAC	**Apartado, Choc**	**3.58**	**288**	P	Pn	18 27 55.6	-1.1
APAC				S	Sn	18 28 35.8	-3.5
PLMC	**San Jos del P**	**3.66**	**239**	P	Pn	18 27 57.4	-0.5
PLMC				S	Sn	18 28 40.7	-0.6
SJCC	**San Jacinto, C**	**3.66**	**327**	P	Pn	18 27 55.4	-2.5
SJCC				S	Sn	18 28 37.0	-4.4
URMC	**La Uribe, Meta**	**3.76**	**199**	P	Pn	18 27 58.7	-0.5
URMC				S	Sn	18 28 42.6	-1.1
LCBC	**Los crdobas,**	**3.79**	**303**	P	Pn	18 27 58.6	-0.8
LCBC				S	Sn	18 28 43.9	-0.2
CRJC	**Cerrejon, Guaj**	**4.18**	**3**	P	Pn	18 28 02.1	-2.6
CRJC				S	Sn	18 28 48.8	-4.8
YOTC	**Yotoco, Valle**	**4.26**	**229**	P	Pn	18 28 04.2	-1.5
YOTC				S	Sn	18 28 54.8	-0.6
SMRC	**Santa Marta, M**	**4.45**	**346**	P	Pn	18 28 07.2	-0.9
SMRC				S	Sn	18 28 55.9	-3.8
MACC	**Macarena, Meta**	**4.70**	**189**	P	Pn	18 28 08.9	-2.5
MACC				S	Sn	18 29 00.5	-5.1
URIC	**Uribia, Colomb**	**4.98**	**13**	P	Pn	18 28 12.5	-2.6
URIC				S	Sn	18 29 11.1	-1.2
JAMC	**Jamundi, Valle**	**5.02**	**225**	P	Pn	18 28 14.9	-1.0
	6.9nm,0.7s						
JAMC				S	Sn	18 29 12.3	-1.3
	6.9nm,0.7s						
MALC	**Bahia Malaga**	**5.02**	**236**	P	Pn	18 28 16.2	+0.5
MALC				S	Sn	18 29 13.6	+0.4
GARC	**Garzon, Huila**	**5.17**	**207**	P	Pn	18 28 15.6	-2.2
GARC				S	Sn	18 29 13.1	-4.0
FLOC	**Florencia**	**5.77**	**206**	P	Pn	18 28 25.0	-0.7
	4.9nm,1.0s						
FLOC				S	Sn	18 29 30.2	-1.1
	4.9nm,1.0s						
BBAC	**Balboa, Cauca**	**6.28**	**221**	P	Pn	18 28 32.7	0.0
BBAC				S	Sn	18 29 40.0	-3.7

IDC ***02*** *18:26:55.0*±*2.1, 2°.94N*×*95°.83E, h0km, mb3.5/4, mbtmp3.5/6, ML3.2/2, Error ellipse: s-maj=68.4km s-min=22.7km az=55.0*
ISC 02 18:27:01.6±1.8, **3°.4N**±0°.2×**96°.5E**±0°.2, **h31**km, **n15**, σ0**s64**/7, **mb3.4/4, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.52**	**103**	Pn	**Pb**	**18 27 45.4**	**-0.8**
	1.6nm,0.3s,baz=305,slow=11,SNR=2.6						
PSI				Sn	**Sn**	**18 28 11.1**	**+0.9**
	2.7nm,0.3s,baz=335,slow=20,SNR=18						
	4.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**15.21**	**9**	Pn	**P**	**18 30 38.9**	**0.0**
	0.1nm,0.3s,baz=193,slow=27,SNR=6.8						
	0.9nm,0.7s						
H08S2	**Diego Garcia H**	**26.30**	**245**	T	T	18 59 21.2	
	baz=66						
H08S3	**Diego Garcia H**	**26.30**	**245**	T	T	18 59 11.0	
	baz=66						
H08S1	**Diego Garcia H**	**26.31**	**245**	T	T	18 59 22.6	
	baz=66						
WRA	**Warramunga Arr**	**43.81**	**123**	P	**P**	**18 35 05.1**	**+0.1**
	0.5nm,0.8s,baz=301,slow=8.2,SNR=2.0						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**44.99**	**346**	P	**P**	**18 35 14.3**	**+0.3**
	0.2nm,0.3s,baz=163,slow=9.4,SNR=5.9						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**45.28**	**128**	P	**P**	**18 35 17.0**	**+0.2**
	0.2nm,0.4s,baz=300,slow=8.1,SNR=13						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**51.33**	**351**	P	**P**	**18 36 02.7**	**-0.2**
	0.6nm,0.4s,baz=147,slow=8.1,SNR=2.7						
	0.6nm,0.4s						
H04N2	**CROZET ISLANDS**	**63.15**	**213**	T	T	19 45 14.8	
	baz=50						
H04N1	**CROZET ISLANDS**	**63.16**	**213**	T	T	19 45 14.7	
	baz=50						
H04N3	**CROZET ISLANDS**	**63.16**	**213**	T	T	19 45 13.3	
	baz=50						
H04S1	**CROZET ISLANDS**	**63.51**	**213**	T	T	19 45 42.8	
	baz=51						
H04S3	**CROZET ISLANDS**	**63.52**	**213**	T	T	19 45 42.0	
	baz=51						
H04S2	**CROZET ISLANDS**	**63.52**	**213**	T	T	19 45 42.8	
	baz=51						

IDC ***02*** *18:30:32.0*±*2.4, 43°.27N*×*105°.37W, h0km, mbtmp3.3/2, ML2.0/1, Error ellipse: s-maj=48.1km s-min=10.3km az=155.0*
NEIC ***02*** *18:30:32.6*±*2.4, 43°.58N*±0°.06×*105°.52W*±0°.07, *h0km*±*1km, ML3.3/43, Error ellipse: s-maj=10.1km s-min=7.8km az=158.0*
ISC 02 18:30:33.3±1.4, **43°.69N**±0°.06×**105°.41W**±0°.06, **h0**km, **n46**, σ1**s02**/44, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.09**	**66**		**Pn**	**18 30 56.2**	**+0.2**
LAO	**LASA Array**	**3.06**	**349**		**Pn**	**18 31 23.7**	**+0.7**
LAO				IAML		18 32 34.1	
	84nm,0.8s						
LAO				IAML		18 32 36.0	
	92nm,0.8s						
RLMT	**Red Lodge**	**3.11**	**299**		**Pn**	**18 31 23.4**	**-0.5**
PD31	**Pinedale Array**	**3.17**	**255**		**Pn**	**18 31 25.1**	**+0.5**
PDAR	**Pinedale Array**	**3.17**	**255**		**Pn**	**18 31 26.8**	**+2.2**
PDAR	**Pinedale Array**	**3.17**	**255**	Pn	**Pn**	**18 31 25.8**	**+1.1**
	3.0nm,0.4s,baz=71,slow=14,SNR=39						
PDAR				Lg	Lg	18 32 09.1	
	7.9nm,0.3s,baz=84,slow=33,SNR=30						
YNE	**Yellowstone No**	**3.55**	**293**		**Pn**	**18 31 30.9**	**+0.9**
YNE				IAML		18 32 32.6	
	comp=N,47nm,0.8s						
YNE				IAML		18 32 41.5	
	comp=E,43nm,0.7s						
YMP	**Mirror Lake Pl**	**3.57**	**289**		**Pn**	**18 31 30.2**	**-0.1**
YMP				IAML		18 32 34.1	
	comp=E,88nm,0.7s						
GCMT	**Greycliff**	**3.69**	**306**		**Pn**	**18 31 31.3**	**-0.5**
OGNE	**Ogallala**	**3.71**	**136**		**Pn**	**18 31 32.6**	**+0.6**
OGNE				IAML		18 32 34.8	
	comp=E,71nm,0.6s						
OGNE				IAML		18 32 43.7	
	comp=E,69nm,0.6s						
ISCO	**Idaho Springs**	**3.89**	**182**		**Pn**	**18 31 34.9**	**+0.3**
YHH	**Holmes Hill**	**4.06**	**288**		**Pn**	**18 31 36.7**	**-0.3**
O20A	**White River Ci**	**4.13**	**212**		**Pn**	**18 31 38.4**	**+0.5**
O20A				IAML		18 33 19.5	
	comp=E,47nm,1.9s						
O20A				IAML		18 33 20.6	
	comp=E,30nm,2.2s						
AHID	**Auburn Hatcher**	**4.26**	**259**		**Pn**	**18 31 40.5**	**+0.9**
YHB	**Horse Butte**	**4.29**	**286**		**Pn**	**18 31 40.2**	**+0.2**
YHB				IAML		18 32 58.6	
	comp=N,18nm,2.2s						
YHL	**Hebgen Lake**	**4.30**	**288**		**Pn**	**18 31 39.7**	**-0.6**
YHL				IAML		18 32 57.6	
	comp=E,30nm,0.8s						
YHL				IAML		18 33 08.7	
	comp=N,28nm,1.2s						
E28A	**Huff**	**4.42**	**47**		**Pn**	**18 31 41.6**	**0.0**
BOZ	**Bozeman (W)**	**4.83**	**295**		**Pn**	**18 31 50.2**	**+2.8**
DGMT	**Dagmar**	**4.86**	**10**		**Pn**	**18 31 47.2**	**-0.5**
HWUT	**Hardware Ranch**	**4.99**	**248**		Pb	18 31 56.7	-5.0
HWUT				IAML		18 33 20.3	
	comp=N,18nm,0.7s						
HWUT				IAML		18 33 29.7	
	comp=N,20nm,1.0s						
BSUT	**Blindstream Ca**	**5.07**	**233**		**Pn**	**18 31 51.1**	**+0.2**
BSUT				IAML		18 33 55.5	
	comp=E,11nm,1.8s						
TCUT	**Toone Canyon**	**5.13**	**242**		**Pn**	**18 31 51.1**	**-0.5**
EGMT	**Eagleton**	**5.29**	**327**		**Pn**	**18 31 53.6**	**-0.1**
P18A	**Preston Nutter**	**5.43**	**223**		**Pn**	**18 31 56.0**	**+0.1**
P18A				IAML		18 33 29.5	
	comp=N,18nm,0.8s						
P18A				IAML		18 33 39.5	
	comp=E,19nm,0.8s						
MCMT	**McKenzie Canyo**	**5.46**	**285**		**Pn**	**18 31 56.0**	**-0.2**
PV22	**Blue Mesa, Par**	**5.74**	**207**		**Pn**	**18 31 59.9**	**-0.1**
HVU	**Hansel Valley**	**5.75**	**253**		**Pn**	**18 31 58.2**	**-1.9**
PV21	**Cone Mtn., Par**	**5.78**	**209**		**Pn**	**18 32 00.8**	**+0.3**
PV07	**Paradox Valley**	**5.78**	**206**		**Pn**	**18 32 01.8**	**+1.2**
PV15	**Paradox Valley**	**5.82**	**205**		**Pn**	**18 32 01.1**	**-0.1**
PV23	**Carpenter Ridg**	**5.89**	**209**		**Pn**	**18 32 02.1**	**-0.1**
PV04	**Paradox Valley**	**5.91**	**208**		**Pn**	**18

DGB	**zmir**	**1.56**	**6**	P		**Pn**	**18 55 41.0**	**+0.7**
DGB				S		**Sn**	**18 55 59.7**	**-3.3**
DALY	**Dalyan (Mula)**	**1.62**	**78**	Pn		**Pn**	**18 55 42.8**	**+1.8**
DALY				Sn		**Sn**	**18 56 04.9**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**1.74**	**33**	Pn		**Pn**	**18 55 43.6**	**+1.0**
ZEYE	**Izmir, Urla-Ze**	**1.75**	**356**	P		**Pn**	**18 55 42.7**	**+0.3**
IACM	**Heraklion**	**1.76**	**228**	P		**Pn**	**18 55 42.4**	**-0.3**
IACM				S		**Sn**	**18 56 05.5**	**-1.4**
IACM	**Heraklion**	**1.76**	**228**	P		**Pn**	**18 55 42.4**	**-0.3**
IACM				S		**Sn**	**18 56 05.3**	**-1.6**
URLA	**Izmir**	**1.86**	**358**	Pn		**Pn**	**18 55 43.4**	**-0.4**
ESEN	**Aydn-Nazilli**	**1.86**	**45**	P		**Pn**	**18 55 45.1**	**+1.4**
ESEN				S		**Sn**	**18 56 06.8**	**-2.2**
SABU	**Mula-Dalaman**	**1.87**	**79**	P		**Pn**	**18 55 45.1**	**+1.2**
SABU				S		**Sn**	**18 56 06.0**	**-3.3**
SABU				*i* IAML			18 56 13.0	
	comp=N,321nm,0.4s							
SABU				*i* IAML			18 56 13.0	
	comp=E,260nm,0.3s							
IDI	**Anoyia**	**1.89**	**231**	Pn		**Pn**	**18 55 43.6**	**-0.6**
IDI	**Anoyia**	**1.89**	**231**	P		**Pn**	**18 55 43.8**	**-0.3**
IDI				S		**Sn**	**18 56 07.6**	**-2.1**
IDI	**Anoyia**	**1.89**	**231**	P		**Pn**	**18 55 43.6**	**-0.6**
	61nm,0.3s,baz=70,slow=6.6,SNR=764							
IDI				S		**Sn**	**18 56 06.8**	**-2.9**
	128nm,0.3s,baz=324,slow=21,SNR=24							
IDI	**Anoyia**	**1.89**	**231**	P		**Pn**	**18 55 43.5**	**-0.6**
IDI				S		**Sn**	**18 56 06.8**	**-2.9**
IZMR	**zmir-demi**	**1.93**	**31**	P		**Pn**	**18 55 45.7**	**+1.2**
IZMR				S		**Sn**	**18 56 06.3**	**-4.2**
FETY	**Fethiye**	**1.94**	**85**	Pn		**Pn**	**18 55 45.8**	**+1.0**
FETY	**Fethiye**	**1.94**	**85**	P		**Pn**	**18 55 45.7**	**+0.9**
FETY				S		**Sn**	**18 56 09.8**	**-0.9**
FETY	**Fethiye**	**1.94**	**85**	P		**Pn**	**18 55 46.8**	**+2.0**
FETY				S		**Sn**	**18 56 09.0**	**-1.7**
CHOS	**Chios island**	**1.95**	**346**	Pn		**Pn**	**18 55 45.7**	**+0.8**
CHOS	**Chios island**	**1.95**	**346**	P		**Pn**	**18 55 45.3**	**+0.4**
NAZL	**Nazilli-Aydin**	**1.95**	**41**	Pn		**Pn**	**18 55 46.3**	**+1.4**
TAVA	**DENIZLI_Tavas**	**2.04**	**61**	P		**Pn**	**18 55 47.9**	**+2.0**
TAVA				S		**Sn**	**18 56 10.1**	**-2.7**
DNZT	**Denizli-Tavas-**	**2.04**	**67**	P		**Pn**	**18 55 47.1**	**+1.1**
DNZT				S		**Sn**	**18 56 08.5**	**-4.4**
IZZE	**Mula-Seydike**	**2.06**	**91**	P		**Pn**	**18 55 48.5**	**-4.6**
IZZE				S		**Sn**	**18 56 08.5**	**-4.6**
IZZE				*i* IAML			18 56 15.0	
	comp=N,337nm,0.3s							
PRNS	**Prines Rethymn**	**2.10**	**238**	P		**Pn**	**18 55 46.5**	**-0.1**
ODEM	**Odemis-Izmir**	**2.10**	**32**	Pn		**Pn**	**18 55 47.9**	**+1.3**
TMBK	**Timbaki Herakl**	**2.10**	**228**	P		**Pn**	**18 55 47.0**	**+0.4**
TMBK				S		**Sn**	**18 56 14.2**	**+0.1**
TMBK	**Timbaki Herakl**	**2.10**	**228**	P		**Pn**	**18 55 46.8**	**+0.2**
TMBK				S		**Sn**	**18 56 13.6**	**-0.5**
CAME	**Cameli-Denizli**	**2.16**	**77**	Pn		**Pn**	**18 55 48.4**	**+1.0**
KIRA	**zmir-Kiraz**	**2.19**	**38**	P		**Pn**	**18 55 49.0**	**+1.3**
KIRA				S		**Sn**	**18 56 10.4**	**-5.7**
DNIZ	**Denizli-Tavas-**	**2.20**	**58**	P		**Pn**	**18 55 49.3**	**+1.4**
DNIZ				S		**Sn**	**18 56 13.1**	**-3.3**
CAEL	**Denizli, Camel**	**2.21**	**73**	P		**Pn**	**18 55 49.3**	**+1.2**
CAEL				S		**Sn**	**18 56 12.9**	**-3.9**
APMY	**Acipayam-Deniz**	**2.32**	**64**	Pn		**Pn**	**18 55 50.5**	**+1.2**
APMY				Sn		**Sn**	**18 56 19.0**	**+0.1**
CHNB	**Souda**	**2.34**	**245**	P		**Pn**	**18 55 49.4**	**-0.1**
CHAN	**Chania**	**2.35**	**246**	P		**Pn**	**18 55 49.7**	**+0.1**
CHAN	**Chania**	**2.35**	**246**	P		**Pn**	**18 55 49.3**	**-0.3**
KARY	**Karystos**	**2.35**	**311**	P		**Pn**	**18 55 50.0**	**+0.3**
KNIK	**Mula-Seydike**	**2.35**	**81**	P		**Pn**	**18 55 50.9**	**+1.1**
KNIK				S		**Sn**	**18 56 14.0**	**-5.8**
KSL	**Kastellorizon**	**2.37**	**97**	P		**Pn**	**18 55 50.9**	**+1.0**
AKAS	**Kas**	**2.38**	**95**	Pn		**Pn**	**18 55 51.2**	**+1.1**
AKAS	**Kas**	**2.38**	**95**	P		**Pn**	**18 55 51.2**	**+1.1**
AKAS				S		**Sn**	**18 56 14.0**	**-6.4**
AKAS				*i* IAML			18 56 21.0	
	comp=N,273nm,0.4s							
AKAS				*i* IAML			18 56 22.0	
	comp=E,202nm,0.6s							
GOLH	**Golhisar**	**2.43**	**71**	P		**Pn**	**18 55 52.3**	**+1.6**
GOLH				S		**Sn**	**18 56 16.7**	**-4.7**
MANT	**Manisa**	**2.49**	**36**	P		**Pn**	**18 55 52.8**	**+1.2**
KULA	**Kula-Manisa**	**2.56**	**37**	Pn		**Pn**	**18 55 53.6**	**+1.3**
ELL	**Elmali**	**2.61**	**83**	Pn		**Pn**	**18 55 54.6**	**+1.6**
ELL	**Elmali**	**2.61**	**83**	P		**Pn**	**18 55 54.1**	**+1.0**
INCE	**Denizli-Bozkur**	**2.62**	**62**	P		**Pn**	**18 55 54.2**	**+1.2**
INCE				S		**Sn**	**18 56 21.1**	**-4.4**
DEMR	**Demre-Antalya**	**2.62**	**95**	Pn		**Pn**	**18 55 53.8**	**+0.8**
GVD	**Gavdhos**	**2.68**	**233**	Pn		**Pn**	**18 55 53.8**	**0.0**
GVD	**Gavdhos**	**2.68**	**233**	P		**Pn**	**18 55 53.7**	**0.0**
GVD				S		**Sn**	**18 56 26.1**	**-0.7**
DION	**Dionisos Attik**	**2.70**	**307**	P		**Pn**	**18 55 54.5**	**+0.5**
ANKY	**Antikythira Is**	**2.80**	**258**	P		**Pn**	**18 55 54.8**	**-0.5**
USAK	**Uak-Merkez**	**2.89**	**39**	P		**Pn**	**18 55 58.0**	**+1.4**
PASA	**Karahalli, USA**	**2.90**	**50**	P		**Pn**	**18 55 58.2**	**+1.5**
KTHA	**Kythira Island**	**2.93**	**266**	Pn		**Pn**	**18 55 56.7**	**-0.2**
AKUM	**Antalya-Kumluc**	**2.96**	**92**	P		**Pn**	**18 55 58.8**	**+1.5**
AKUM				S		**Sn**	**18 56 28.9**	**-4.3**
KORT	**Korkueli**	**2.99**	**79**	Pn		**Pn**	**18 55 59.5**	**+1.6**
KORT	**Korkueli**	**2.99**	**79**	P		**Pn**	**18 56 00.7**	**+2.8**
KORT				S		**Sn**	**18 56 33.8**	**-0.4**
DEMI	**Demirci**	**3.01**	**32**	P		**Pn**	**18 55 59.4**	**+1.3**
VLI	**Veliai**	**3.02**	**275**	P		**Pn**	**18 55 57.4**	**-0.6**
BUCA	**Burdur, Bucak-**	**3.22**	**74**	P		**Pn**	**18 56 01.7**	**+0.9**
KZIL	**AFYON_Kizioren**	**3.27**	**56**	P		**Pn**	**18 56 03.7**	**+2.2**
VLX	**Vlachokerasia**	**3.55**	**286**	P		**Pn**	**18 56 05.0**	**0.0**
GUR	**Goura**	**3.75**	**294**	P		**Pn**	**18 56 08.2**	**+0.6**
ITM	**Ithomi**	**3.87**	**282**	Pn		**Pn**	**18 56 09.8**	**+0.6**
ITM	**Ithomi**	**3.87**	**282**	P		**Pn**	**18 56 09.6**	**+0.5**
PYL2	**Kinigos**	**4.00**	**277**	P		**Pn**	**18 56 09.8**	**-1.0**
AMT	**Artemida-Makis**	**4.11**	**299**	P		**Pn**	**18 56 12.6**	**+0.2**
DRO	**Drossia**	**4.22**	**292**	P		**Pn**	**18 56 14.9**	**+1.1**
EFP	**Efpalio**	**4.26**	**298**	P		**Pn**	**18 56 15.4**	**+1.2**
VLS	**Valsamata**	**5.13**	**291**	P		**Pn**	**18 56 25.1**	**-0.8**
SLUM	**Salum**	**5.14**	**194**	P		**Pn**	**18 56 25.1**	**-0.8**
DMLN	**Damoulianata-K**	**5.31**	**291**	P		**Pn**	**18 56 26.6**	**-1.7**
TSLK	**Tsoukalades, L**	**5.31**	**298**	P		**Pn**	**18 56 28.4**	**+0.2**
BRTR	**Keskin Array B**	**6.37**	**57**	P		**Pn**	**18 56 44.4**	**+1.9**
	1.5nm,0.6s,baz=226,slow=14,SNR=10							
SWA2		**7.30**	**188**	P		**Pn**	**18 56 53.3**	**-1.7**
MMAI	**Mount Meron Ar**	**7.98**	**113**	P		**Pn**	**18 57 02.9**	**-1.2**
	0.4nm,0.3s,baz=299,slow=13,SNR=5.0							
MMAI				S		**Sn**	**18 58 25.2**	**-7.5**
	0.8nm,0.3s,baz=314,slow=23,SNR=6.0							
RYAN	**Fayoum**	**7.99**	**157**	P		**Pn**	**18 57 02.3**	**-1.9**
HFRF	**Wahat Farafira**	**9.42**	**171**	P		**Pn**	**18 57 22.3**	**-1.0**
AKASG	**Malin Array Be**	**14.32**	**7**	P		**Pn**	**18 58 30.0**	**+3.0**
	0.2nm,0.4s,baz=194,slow=11,SNR=2.0							
TORD	**Torodi Ar. Bea**	**32.29**	**230**	P		**P**	**19 01 26.6**	**+0.2**
	1.6nm,0.4s,baz=32,slow=9.3,SNR=1.2							
	1.6nm,0.4s							
MKAR	**Makanchi Array**	**42.02**	**58**	P		**P**	**19 02 48.9**	**+0.8**
	0.2nm,0.5s,baz=275,slow=9.4,SNR=4.9							
	0.2nm,0.5s							

*KRNET **02** 19:15:52.6±0.1, 43.°66N×74.°20E, h27km, mb3.4*
*NNC **02** 19:15:53.0±0.6, 43.°63N×74.°19E, h6km±3km, mb3.9, mpv3.8, Error ellipse: s-maj=4.2km s-min=2.9km az=164.0*
*SOME **02** 19:15:53.5, 43.°58N×74.°20E, h20km*
*KNET **02** 19:15:54.0±0.3, 43.°59N×74.°21E, h26km±2km, ml3.0, Error ellipse: s-maj=2.2km s-min=1.5km az=161.0*

ISC 02 19:15:53.4±1.1, 43.°63N±0.°03×74.°23E±0.°02, h12km±9km, n66, σ0s87/117, 43C-35D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGDS	**Sogindy**	**0.34**	**120**	P	**Pb**	**19 16 01.5**	**0.0**
	899nm,0.1s						
SGDS				S	**Sb**	**19 16 07.4**	**+0.4**
	3µm,0.1s						
USP	**Ospenovka**	**0.41**	**151**	⇓P	**Pb**	**19 16 02.4**	**-0.3**
	772nm,0.1s,SNR=512						
USP				⇓S	**Sb**	**19 16 09.2**	**+0.4**
	1µm,0.1s						
USP	**Ospenovka**	**0.41**	**151**	⇑*i*P	**Pb**	**19 16 02.2**	**-0.5**
USP				⇑*i*S	**Sb**	**19 16 08.7**	**-0.2**
CHMS	**Chumysh**	**0.74**	**148**	P	**Pb**	**19 16 08.1**	**-0.1**
	476nm,0.2s,SNR=769						
CHMS				⇑S	**Sb**	**19 16 18.6**	**+0.4**
	252nm,0.1s						
CHMS	**Chumysh**	**0.74**	**148**	⇓P	**Pb**	**19 16 08.0**	**-0.2**
	106nm,0.2s						
CHMS				⇓S	**Sb**	**19 16 18.6**	**+0.4**
	156nm,0.5s						
CHMS	**Chumysh**	**0.74**	**148**	⇑*i*P	**Pg**	**19 16 07.5**	**-0.2**
CHMS				⇑*i*S	**Sb**	**19 16 18.0**	**-0.2**
FRU1	**Bishkek**	**0.87**	**160**	⇑*i*P	**Pg**	**19 16 09.5**	**-0.7**
FRU1				⇑*i*S	**Sg**	**19 16 21.2**	**-0.3**
AAK	**Ala-Archa**	**1.01**	**169**	⇓P	**Pg**	**19 16 12.9**	**0.0**
	44nm,0.2s,SNR=28						
AAK				⇓S	**Sn**	**19 16 27.2**	**-0.5**
	344nm,0.3s						
AAK	**Ala-Archa**	**1.01**	**169**	⇑P	**Pb**	**19 16 12.6**	**-0.3**
	73nm,0.4s						
AAK				⇑S	**Sb**	**19 16 26.7**	**+0.6**
	333nm,0.5s						
AAK	**Ala-Archa**	**1.01**	**169**	⇓*i*P	**Pb**	**19 16 12.3**	**-0.6**
AAK				⇓*i*S	**Sg**	**19 16 26.2**	**+0.2**
EKS2	**Erkin-Say**	**1.02**	**199**	⇑P	**Pb**	**19 16 12.7**	**-0.3**
	25nm,0.1s,SNR=83						
EKS2				⇑S	**Sg**	**19 16 27.0**	**+0.7**
	129nm,0.1s						
EKS2	**Erkin-Say**	**1.02**	**199**	⇓*i*P	**Pb**	**19 16 12.4**	**-0.7**
EKS2				⇓*i*S	**Sb**	**19 16 26.5**	**+0.1**
KRBS	**Karabastau**	**1.05**	**86**	P	**Pg**	**19 16 13.5**	**-0.3**
	76nm,0.1s						
KRBS				S	**Sn**	**19 16 27.6**	**-1.1**
	278nm,0.1s						
KBK	**Karagaybulak**	**1.10**	**151**	P	**Pg**	**19 16 14.6**	**-0.1**
	80nm,0.1s,SNR=243						
KBK				⇑S	**Sn**	**19 16 30.6**	**+0.4**
	403nm,0.2s						
KBK	**Karagaybulak**	**1.10**	**151**	⇑*i*P	**Pb**	**19 16 13.7**	**-0.9**
KBK				⇑*i*S	**Sb**	**19 16 29.0**	**0.0**
MRKS	**Merke**	**1.15**	**220**	P	**Pb**	**19 16 14.3**	**-0.9**
	34nm,0.1s						
MRKS				S	**Sb**	**19 16 29.9**	**-0.1**
	122nm,0.2s						
MRKS	**Merke**	**1.15**	**220**	*e*P	**Pb**	**19 16 14.3**	**-0.9**
	34nm,0.1s						
MRKS				*e*S	**Sb**	**19 16 29.9**	**-0.1**
	122nm,0.2s						
TKM2	**Tokmak 2**	**1.23**	**125**	⇓P	**Pn**	**19 16 16.0**	**-0.6**
	38nm,0.1s,SNR=81						
TKM2				⇓S	**Sn**	**19 16 33.8**	**+0.7**
	284nm,0.1s						
TKM2	**Tokmak 2**	**1.23**	**125**	⇓P	**Pn**	**19 16 15.8**	**-0.8**
	16nm,0.2s						
TKM2				⇓S	**Sg**	**19 16 32.7**	**-0.3**
	52nm,0.2s						
TKM2	**Tokmak 2**	**1.23**	**125**	⇑*i*P	**Pn**	**19 16 15.7**	**-0.8**
TKM2				⇑*i*S	**Sb**	**19 16 32.4**	**-0.1**
KST	**Kastek**	**1.40**	**114**	P	**Pb**	**19 16 19.3**	**-0.2**
	102nm,0.2s						
KST				S	**Sg**	**19 16 38.6**	**+0.2**
	345nm,0.3s						
KST	**Kastek**	**1.40**	**114**	*e*P	**Pb**	**19 16 19.3**	**-0.2**
	72nm,0.2s						
KST				*e*S	**Sb**	**19 16 37.6**	**+0.2**
	345nm,0.3s						
UCH	**Uchtor**	**1.41**	**171**	⇓P	**Pb**	**19 16 19.7**	**-0.3**
	13nm,0.1s,SNR=94						
UCH				⇓S	**Sg**	**19 16 39.3**	**+0.2**
	139nm,0.2s						
UCH	**Uchtor**	**1.41**	**171**	⇑*i*P	**Pn**	**19 16 19.2**	**-0.2**
UCH				⇑*i*S	**Sb**	**19 16 38.3**	**+0.1**
AML	**Almayashu**	**1.54**	**195**	⇑P	**Pb**	**19 16 21.8**	**-0.4**
	27nm,0.1s,SNR=32						
AML				⇓S	**Sb**	**19 16 42.6**	**+0.8**
	133nm,0.2s						
AML	**Almayashu**	**1.54**	**195**	⇑*i*P	**Pn**	**19 16 21.1**	**0.0**
AML				⇑*i*S	**Sn**	**19 16 41.6**	**+0.3**
KUU	**Kurty**	**1.56**	**79**	P	**Pb**	**19 16 21.9**	**-0.2**
	28nm,0.3s						
KUU				S	**Sg**	**19 16 42.5**	**-1.0**
	348nm,0.2s						
KUU	**Kurty**	**1.56**	**79**	*e*P	**Pb**	**19 16 21.9**	**-0.2**
	28nm,0.3s						
KUU				*e*S	**Sg**	**19 16 42.5**	**-1.0**
	348nm,0.2s						
MTBS	**Maitube**	**1.68**	**106**	P	**Pb**	**19 16 24.2**	**-0.1**
	92nm,0.2s						
MTBS				S	**Sg**	**19 16 47.4**	**-0.2**
	172nm,0.3s						
MTBS	**Maitube**	**1.68**	**106**	*e*P	**Pb**	**19 16 24.2**	**-0.1**
	92nm,0.2s						
MTBS				*e*S	**Sb**	**19 16 46.0**	**+0.5**
	517nm,0.3s						
BOOM	**Boomskoye usch**	**1.69**	**132**	⇑*i*P	**Pn**	**19 16 23.1**	**+0.1**
BOOM				⇑*i*S	**Sn**	**19 16 45.1**	**+0.4**
MNAS	**Manas**	**1.70**	**229**	⇑*i*P	**Pn**	**19 16 22.8**	**-0.2**
MNAS				⇑*i*S	**Sn**	**19 16 44.5**	**-0.3**
KTBS	**Karatobe**	**1.79**	**86**	P	**Pb**	**19 16 25.7**	**-0.4**
	35nm,0.2s						
KTBS				S	**Sb**	**19 16 49.1**	**+0.6**
	398nm,0.3s						
CHKK	**Chushkaly**	**2.02**	**83**	P	**Pb**	**19 16 29.4**	**-0.6**
	17nm,0.2s						
CHKK				S	**Sb**	**19 16 54.6**	**-0.4**
	127nm,0.3s						
CHKK	**Chushkaly**	**2.02**	**83**	*e*P	**Pb**	**19 16 29.4**	**-0.6**
	17nm,0.2s						
CHKK				*e*S	**Sb**	**19 16 54.6**	**-0.4**
	127nm,0.3s						
ULHL	**Ulahol**	**2.02**	**132**	⇓P	**Pb**	**19 16 29.4**	**-0.9**
	40nm,0.2s,SNR=64						
ULHL				⇑S	**Sg**	**19 16 56.9**	**-1.6**
	68nm,0.2s						
ULHL	**Ulahol**	**2.02**	**132**	⇑*i*P	**Pn**	**19 16 27.7**	**+0.1**
ULHL				⇑*i*S	**Sn**	**19 16 53.0**	**+0.2**
KNDC	**Almaty**	**2.04**	**101**	⇑Pn	**Pb**	**19 16 30.0**	**-0.4**
	19nm,0.2s						
KNDC				⇑Lg	Lg	19 16 58.1	
	22nm,0.3s						
KOTS	**Kotyrbulak**	**2.14**	**100**	Pg	**Pb**	**19 16 32.7**	**+0.5**
	21nm,0.2s						
KOTS				Lg	Lg	19 17 00.8	
	139nm,0.3s						
KOTS	**Kotyrbulak**	**2.14**	**100**	*e*P	**Pb**	**19 16 32.7**	**+0.5**
	21nm,0.2s						
KOTS				*e*S	**Sg**	**19 17 00.8**	**-1.4**
	139nm,0.3s						
DZA	**Taraz**	**2.24**	**252**	Pg	**Pb**	**19 16 33.3**	**-0.5**
	9.1nm,0.1s						
DZA				Lg	Lg	19 17 01.2	
	142nm,0.2s						
DZA	**Taraz**	**2.24**	**252**	*e*P	**Pb**	**19 16 33.3**	**-0.5**
	9.1nm,0.1s						
DZA				*e*S	**Sb**	**19 17 01.2**	**-0.3**
	142nm,0.2s						
ARK	**Arkit**	**2.47**	**223**	⇓*i*P	**Pn**	**19 16 33.5**	**-0.1**
ARK				⇓*i*S	**Sn**	**19 17 03.1**	**-0.7**
ARSB	**Arslanbob**	**2.48**	**202**	⇓*i*P	**Pn**	**19 16 33.8**	**+0.1**
ARSB				⇓*i*S	**Sn**	**19 17 03.8**	**-0.2**
NRN	**Naryn**	**2.55**	**146**	⇑*i*P	**Pn**	**19 16 35.0**	**+0.1**
NRN				⇑*i*S	**Sn**	**19 17 05.7**	**-0.4**
KDJ	**Kajisay**	**2.64**	**124**	⇑*i*P	**Pn**	**19 16 36.3**	**+0.3**
KDJ				⇑*i*S	**Sn**	**19 17 07.9**	**-0.1**
ARXS	**Arharly**	**2.67**	**76**	Pg	**Pb**	**19 16 41.1**	**-0.1**
	3.6nm,0.4s						
ARXS				Lg	Lg	19 17 15.5	
	22nm,0.2s						
KK31	**Karatay Array**	**2.76**	**260**	Pn	**Pn**	**19 16 36.6**	**-0.9**
	0.2nm,0.2s,baz=82,slow=12,SNR=228						
KK31				⇑Pg	**Pb**	**19 16 44.0**	**+1.4**
	3.6nm,0.2s,baz=77,slow=18,SNR=86						
KK31				⇓Lg	Lg	19 17 18.6	
	14nm,0.3s,baz=77,slow=28,SNR=22						
KKAR	**Karatay Array**	**2.76**	**260**	⇓*i*P	**Pn**	**19 16 36.6**	**-0.9**
KKAR				⇓*i*S	**Sn**	**19 17 09.3**	**-1.4**
SALK	**Salom-Alik**	**2.76**	**186**	⇓*i*P	**Pn**	**19 16 37.6**	**0.0**
SALK				⇓*i*S	**Sn**	**19 17 10.4**	**-0.5**
JNKS	**Jany-Kuch**	**2.78**	**157**	⇑*i*P	**Pn**	**19 16 38.0**	**+0.1**
JNKS				⇑*i*S	**Sn**	**19 17 11.4**	**-0.1**
TRKS	**Terek-Say**	**3.10**	**228**	⇓*i*P	**Pn**	**19 16 42.6**	**+0.4**
TRKS				⇓*i*S	**Sn**	**19 17 19.0**	**-0.2**
BLB	**Baldybastay**	**3.11**	**80**	Pg	**Pb**	**19 16 48.4**	**-0.4**
	41nm,0.4s						
BLB				Lg	Lg	19 17 28.2	
	90nm,0.4s						
KPKS	**Kokpek**	**3.25**	**91**	Pg	**Pb**	**19 16 51.3**	**+0.3**
	0.3nm,0.1s						
KPKS				Lg	Lg	19 17 32.7	
	25nm,0.3s						
BRLS	**Borolday**	**3.26**	**261**	Pg	**Pg**	**19 16 55.6**	**-0.2**
	2.6nm,0.2s						
BRLS				Lg	Lg	19 17 39.7	
	36nm,0.2s						
BRLS	**Borolday**	**3.26**	**261**	*e*P	**Pg**	**19 16 55.6**	**-0.2**
	2.6nm,0.2s						
BRLS				*e*S	**Sg**	**19 17 39.8**	**+1.7**
	36nm,0.2s						
PRZ	**Przheval'sk**	**3.27**	**109**	⇑*i*P	**Pn**	**19 16 44.6**	**0.0**
PRZ				⇑*i*S	**Sn**	**19 17 22.4**	**-1.1**
IUG	**Iuzhnay**	**3.42**	**246**	Pg	**Pb**	**19 16 55.4**	**+1.4**
	12nm,0.2s						
IUG				Lg	Lg	19 17 39.0	
	25nm,0.5s						
KNOS	**Konyrlen**	**3.65**	**77**	Pg	**Pg**	**19 17 00.6**	**-2.7**
	5.1nm,0.3s						
KNOS				Lg	Lg	19 17 47.9	
	11nm,0.2s						
PDGK	**Podgornoye**	**3.84**	**93**	⇓Pg	**Pg**	**19 17 09.5**	**+2.5**
	7.0nm,0.5s						
PDGK				⇑Lg	Lg	19 17 53.1	
	36nm,0.7s						
SHLS	**Shalkode**	**3.85**	**95**	Pg	**Pg**	**19 17 08.7**	**+1.7**
	2.0nm,0.3s						
SHLS				Lg	Lg	19 18 02.5	
	33nm,0.4s						
SHLS	**Shalkode**	**3.85**	**95**	*e*P	**Pg**	**19 17 08.7**	**+1.7**
	2.0nm,0.3s						
SHLS				*e*S	**Sg**	**19 18 02.5**	**+5.6**
	33nm,0.4s						
MAKZ	**Makanchi**	**6.33**	**57**	⇓Pn	**Pn**	**19 17 26.5**	**0.0**
	1.4nm,0.8s						
MAKZ				⇑Sn	**Sn**	**19 18 39.0**	**+0.2**
	0.8nm,0.5s						
MAKZ				⇓Lg	Lg	19 19 13.5	
	4.4nm,0.9s						
MK31	**Makanchi Array**	**6.52**	**58**	⇓Pn	**Pn**	**19 17 28.8**	**-0.3**
	0.9nm,0.5s						
MK31				⇓Sn	**Sn**	**19 18 42.6**	**-0.8**
	0.9nm,0.4s						
MK31				⇑Lg	Lg	19 19 19.2	
	3.5nm,0.7s						
KURBB	**Kurchatov Arra**	**7.59**	**21**	⇑Lg	Lg	19 19 56.3	
	7.0nm,0.7s						
KURK	**Kurchatov**	**7.70**	**21**	⇓Lg	Lg	19 19 57.2	
	3.2nm,0.7s						

*MOS **02** 19:29:57.8±0.9, 59.°33N×152.°37W, h53km, mb5.1/55, Error ellipse: s-maj=9.9km s-min=4.2km az=91.5*
*BJI **02** 19:29:57.6, 59.°10N×152.°64W, h61km, mB4.9/10, mb4.8/36, Ms4.6/2, Ms7 4.6/5*
*IDC **02** 19:29:59.7±0.3, 59.°31N×152.°40W, h57km±2km, mb4.4/30, mbtmp4.6/34, MS3.5/28, Error ellipse: s-maj=8.7km s-min=5.8km az=88.0*
*ANF **02** 19:30:00.3±0.1, 59.°24N×152.°05W, h55km±3km, ML5.1/85, Error ellipse: s-maj=1.3km s-min=1.0km az=152.0*
*NEIC **02** 19:30:00.4±1.7, 59.°25N±0.°03×152.°08W±0.°05, h60km±4km, Error ellipse: s-maj=4.6km s-min=3.8km az=143.0, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr=0.68; Mθθ=0.22; Mφφ=0.46; Mrθ=0.67; Mθφ=0.33; Mφr=0.48; Fault plane solution: M0=1.07000×10^16^ NP1:ϕs=21.96000°, δ=21.64000°, λ=-115.82000°. NP2:ϕs=229.46000°, δ=70.61000°, λ=-80.19000°. Principal axes: T 1.0552, Plg=25.0000°, Azm=312.0000°; N 0.0377, Plg=9.0000°, Azm=46.0000°; P -1.0929, Plg=63.0000°, Azm=155.0000°;*
*AEIC **02** 19:30:01.4±2.0, 59.°23N±0.°03×152.°09W±0.°05, h52km±5km, ML4.6, mb5.0/434(NEIC), ML4.8/184(NEIC), Mwr4.6/99(NEIC), Mww4.6/31(NEIC) Error ellipse: s-maj=4.5km s-min=3.6km az=139.0*
*NEIC **02** 19:30:01.1, 59.°26N×152.°06W, h55km*
*NEIC **02** 19:30:01.1, 59.°26N×152.°06W, h55km*
*NEIC **02** 19:30:01.1, 59.°26N×152.°06W, h50km, Moment Tensor Solution. Duration: 1s1 Moment tensor: Scale 10^16^Nm; Mrr=0.62; Mθθ=0.23; Mφφ=0.39; Mrθ=0.69; Mθφ=0.32; Mφr=0.54; Fault plane solution: M0=1.08000×10^16^ NP1:ϕs=26.80000°, δ=18.78000°, λ=-111.23000°. NP2:ϕs=229.11000°, δ=72.54000°, λ=-82.98000°. Principal axes: T 1.0763, Plg=27.0000°, Azm=314.0000°; N 0.0049, Plg=7.0000°, Azm=47.0000°; P -1.0812, Plg=62.0000°, Azm=150.0000°;*
*BGR **02** 19:30:06.7, 60.°57N×153.°44W, h33km, mb5.1*

ISC 02 19:29:59.7±0.3, 59.°26N±0.°03×152.°11W±0.°03, h59km±2km, h59km:pP-P, n1141, σ1s06/1053, mb5.0/338, MS3.6/28, 37C-28D, Southern Alaska

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s | Res ISC |
|---|---

KDAK S Sn 19 30 43.4 +0.6
baz=10
SLKM Skilak Lake 1.58 36 Pn 19 30 25.7 +0.3
SLKM IAML 19 30 47.8
comp=N,10µm,0.9s
SLKM IAML 19 30 51.1
comp=E,11µm,0.3s
CAPN Captain Cook N 1.59 17 Pn 19 30 27.8 +2.3
CAPN Captain Cook N 1.59 17 P Pn 19 30 27.9 +2.4
baz=197,SNR=201
SEW Seward 1.59 57 Pn 19 30 25.3 -0.2
SEW Seward 1.59 57 P Pn 19 30 25.4 -0.2
baz=238,SNR=222
P18K Big Mountain, 1.60 276 Pn 19 30 25.8 +0.1
P18K Big Mountain, 1.60 276 P Pn 19 30 25.9 +0.1
baz=94,SNR=398
KAHC Katmai Hardscr 1.62 249 Pn 19 30 26.7 +0.6
Q18K Katmai Hardscr 1.62 249 P Pn 19 30 26.8 +0.7
baz=67,SNR=310
O18K Koktuh Hills 1.69 292 Pn 19 30 27.2 +0.3
O18K IAML 19 31 03.6
comp=E,10µm,1.0s
O18K IAML 19 31 03.7
comp=N,11µm,0.7s
O18K Koktuh Hills 1.69 292 P Pn 19 30 27.2 +0.3
baz=109,SNR=1000
O22K Cooper Landing 1.72 43 Pn 19 30 27.6 +0.4
O22K Cooper Landing 1.72 43 P Pn 19 30 28.0 +0.8
baz=225,SNR=172
SPU Mount Spurr 1.93 1 Pn 19 30 31.1 +0.9
SPU IAML 19 30 57.1
comp=E,5µm,0.8s
SPCR Spurr Chakacha 1.95 359 P Pn 19 30 31.6 +1.1
baz=178,SNR=479
N19K Bonanza Creek 1.96 324 Pn 19 30 31.4 +0.7
N19K IAML 19 31 01.0
comp=E,9µm,0.9s
N19K IAML 19 31 01.2
comp=N,6µm,0.6s
N19K Bonanza Creek 1.96 324 P Pn 19 30 31.4 +0.7
baz=141,SNR=1000
ACHA Angle Creek He 1.98 239 Pn 19 30 31.9 +1.1
FIS Fire Island 2.12 26 Pn 19 30 34.1 +1.4
OHAK Old Harbor 2.13 197 Pn 19 30 33.2 +0.3
OHAK IAML 19 30 58.0
comp=N,4µm,0.5s
OHAK Old Harbor 2.13 197 P Pn 19 30 33.2 +0.3
OHAK Old Harbor 2.13 197 P Pn 19 30 33.3 +0.3
baz=17,SNR=241
OHAK S Sn 19 30 56.8 -1.4
baz=17
RC01 Rabbit Creek A 2.19 32 Pn 19 30 34.1 +0.5
RC01 IAML 19 31 07.4
comp=E,5µm,0.7s
RC01 IAML 19 31 08.1
comp=N,4µm,0.4s
RC01 Rabbit Creek A 2.19 32 P Pn 19 30 34.2 +0.5
baz=213,SNR=276
Q17K Contact Creek 2.21 245 P Pn 19 30 34.8 +0.8
baz=62,SNR=109
P17K Kvichak River 2.23 270 P Pn 19 30 34.8 +0.6
baz=87,SNR=205
STLK Strandline Lak 2.25 3 IAML 19 31 08.8
comp=N,4µm,0.6s
STLK IAML 19 31 21.0
comp=E,5µm,0.7s
SUA Susitna One 2.32 16 Pn 19 30 36.1 +0.6
SUA IAML 19 31 21.7
comp=E,8µm,1.2s
SUA IAML 19 31 22.4
comp=N,6µm,1.2s
SUA Susitna One 2.32 16 P Pn 19 30 36.6 +1.1
baz=197
N18K Kilae Creek 2.38 309 Pn 19 30 36.4 +0.2
N18K IAML 19 31 21.1
comp=E,6µm,0.8s
N18K IAML 19 31 21.6
comp=N,4µm,0.9s
N18K Kilae Creek 2.38 309 P Pn 19 30 36.7 +0.4
baz=125,SNR=499
Q16K King Salmon 2.42 258 P Pn 19 30 37.8 +1.0
baz=74,SNR=46
PWL Port Wells 2.48 48 Pn 19 30 37.7 0.0
PWL IAML 19 31 18.1
comp=N,4µm,0.4s
PWL IAML 19 31 28.9
comp=E,4µm,0.6s
PWL Port Wells 2.48 48 P Pn 19 30 37.8 +0.2
baz=231,SNR=158
P23K Montague Islan 2.50 71 Pn 19 30 38.6 +0.7
P23K Montague Islan 2.50 71 IAML 19 31 26.2
comp=E,3µm,0.7s
P23K IAML 19 31 33.2
comp=N,3µm,1.1s
P23K Montague Islan 2.50 71 P Pn 19 30 38.3 +0.4
baz=254,SNR=152
O17K Koliganek Bris 2.59 284 Pn 19 30 39.7 +0.6
O17K Koliganek Bris 2.59 284 P Pn 19 30 39.7 +0.6
baz=99,SNR=512
M20K Styx River 2.68 350 Pn 19 30 41.6 +1.1
M20K Styx River 2.68 350 P Pn 19 30 41.9 +1.5
baz=168
M22K Willow 2.69 21 Pn 19 30 41.7 +1.2
M22K Willow 2.69 21 P Pn 19 30 41.5 +1.0
baz=202,SNR=149
SKT Skwentna 2.75 6 Pn 19 30 42.2 +0.9
SKT IAML 19 31 38.5
comp=N,3µm,0.5s
SKT Skwentna 2.75 6 P Pn 19 30 42.5 +1.2
baz=186,SNR=560
PLK4 Peulik 4 2.76 236 Pn 19 30 42.6 +1.0
PLK4 IAML 19 31 40.6
comp=E,4µm,0.9s
R17L Mt. Peulik Vol 2.77 236 P Pn 19 30 42.9 +1.3
baz=52,SNR=93
PMR Palmer 2.77 31 Pn 19 30 41.8 +0.3
PMR Palmer 2.77 31 P Pn 19 30 41.9 +0.3
PMR Palmer 2.77 31 P Pn 19 30 41.8 +0.3
PMR Palmer 2.77 31 P Pn 19 30 41.9 +0.3
baz=213,SNR=84
KNK Knik Glacier 2.82 38 Pn 19 30 42.3 0.0
KNK IAML 19 31 27.4
comp=E,4µm,0.8s
KNK IAML 19 31 33.7
comp=N,4µm,0.6s
KNK Knik Glacier 2.82 38 P Pn 19 30 42.6 +0.2
baz=221,SNR=72
N17K Nushagak Hills 2.86 299 Pn 19 30 42.9 +0.1
N17K IAML 19 31 40.8
comp=N,3µm,1.0s
N17K Nushagak Hills 2.86 299 P Pn 19 30 43.1 +0.3
baz=114,SNR=199
M19K Big River Lodg 2.88 338 Pn 19 30 44.0 +0.8
M19K IAML 19 31 34.2
comp=E,3µm,0.6s
M19K Big River Lodg 2.88 338 P Pn 19 30 44.2 +1.1
baz=156,SNR=615
M18K Stony River 2.90 322 P Pn 19 30 44.0 +0.7
baz=139,SNR=1000
SII Sitkinak Islan 2.92 203 Pn 19 30 44.0 +0.3
SII IAML 19 31 46.5
comp=E,5µm,0.6s
SII IAML 19 31 49.9
comp=N,5µm,0.8s
SII Sitkinak Islan 2.92 203 P Pn 19 30 44.1 +0.3
SII Sitkinak Islan 2.92 203 P Pn 19 30 43.9 +0.3
baz=22,SNR=35
Q23K Middleton Isla 2.96 84 Pn 19 30 44.0 0.0
Q23K Middleton Isla 2.96 84 P Pn 19 30 43.8 -0.3
baz=269,SNR=16
GHO Glory Hole Cre 2.98 31 Pn 19 30 44.7 +0.2
GHO IAML 19 31 47.6
comp=N,3µm,0.7s
GLI Glacier Island 2.99 55 Pn 19 30 43.6 -1.1
GLI IAML 19 31 42.4
comp=E,2µm,0.6s
GLI Glacier Island 2.99 55 P Pn 19 30 43.7 -0.9
baz=239,SNR=51
P16K Nushagak River 3.04 268 Pn 19 30 46.2 +1.1
P16K IAML 19 32 14.5
comp=E,4µm,0.8s
P16K Nushagak River 3.04 268 P Pn 19 30 46.3 +1.1
baz=83,SNR=48
HIN Hinchinbrook I 3.05 66 Pn 19 30 45.0 -0.5
HIN IAML 19 31 24.7
comp=N,3µm,0.7s
HIN IAML 19 31 48.4
comp=E,3µm,0.9s
O16K Kokwok River B 3.08 279 Pn 19 30 46.4 +0.7
O16K IAML 19 31 38.5
comp=N,2µm,0.6s
O16K IAML 19 31 43.2
comp=E,2µm,0.8s
O16K Kokwok River B 3.08 279 P Pn 19 30 46.6 +0.8
baz=94,SNR=219
FID Port Fidalgo 3.20 60 Pn 19 30 46.0 -1.4
FID IAML 19 31 36.8
comp=E,2µm,0.6s
L19K White Mountain 3.23 336 Pn 19 30 48.9 +1.0
L19K IAML 19 31 45.8
comp=E,3µm,0.9s
L19K IAML 19 31 51.9
comp=N,2µm,0.9s
L19K White Mountain 3.23 336 P Pn 19 30 49.0 +1.1
baz=154,SNR=1000
CUT Chulitna 3.29 15 Pn 19 30 49.5 +0.9
CUT Chulitna 3.29 15 P Pn 19 30 49.5 +0.9
baz=196,SNR=108
M23K Glacier View 3.34 39 P Pn 19 30 49.7 +0.3
baz=222,SNR=66
L20K Farewell, AK 3.35 346 P Pn 19 30 50.7 +1.2
baz=164,SNR=415
M17K Holitna River 3.41 311 Pn 19 30 51.2 +0.9
M17K Holitna River 3.41 311 P Pn 19 30 51.2 +0.9
baz=126,SNR=789
EYAK Cordova Ski Ar 3.46 65 Pn 19 30 50.6 -0.3
EYAK Cordova Ski Ar 3.46 65 P Pn 19 30 50.8 -0.1
EYAK Cordova Ski Ar 3.46 65 P Pn 19 30 50.1 -0.8
baz=250,SNR=21
SCM Sheep Creek Mo 3.50 40 Pn 19 30 51.9 +0.2
SCM IAML 19 31 54.2
comp=E,2µm,0.7s
SCM IAML 19 31 55.5
comp=N,2µm,1.0s
SCM Sheep Creek Mo 3.50 40 P Pn 19 30 51.9 +0.2
SCM Sheep Creek Mo 3.50 40 P Pn 19 30 52.1 +0.5
baz=224,SNR=184
N16K Nishlik Lake 3.57 293 P Pn 19 30 53.6 +1.0
baz=107,SNR=271
PPLA Purkeypile 3.65 359 Pn 19 30 54.9 +1.1
PPLA IAML 19 31 58.8
comp=N,1µm,0.9s
PPLA IAML 19 32 10.2
comp=E,2µm,0.8s
PPLA Purkeypile 3.65 359 P Pn 19 30 55.0 +1.2
baz=179,SNR=289
DIV Divide 3.68 57 Pn 19 30 53.6 -0.5
L18K Granite Mounta 3.73 325 Pn 19 30 55.0 +0.4
L18K IAML 19 31 56.9
comp=N,2µm,1.1s
L18K IAML 19 31 57.8
comp=E,2µm,1.1s
L18K Granite Mounta 3.73 325 P Pn 19 30 55.1 +0.5
baz=141,SNR=180
KLU Klutina 3.80 51 Pn 19 30 55.7 -0.1
KLU Klutina 3.80 51 P Pn 19 30 55.9 +0.1
baz=236,SNR=149
M16K Timber Creek 3.86 300 Pn 19 30 57.2 +0.8
M16K IAML 19 32 09.1
comp=N,2µm,0.8s
M16K IAML 19 32 12.2
comp=E,1µm,0.9s
M16K Timber Creek 3.86 300 P Pn 19 30 57.3 +0.9
baz=114,SNR=131
RAGM Ragged Mountai 3.92 70 Pn 19 30 57.4 0.0
RAGM IAML 19 32 24.4
comp=E,1µm,0.7s
CHIR Chirikof Islan 3.93 210 Pn 19 30 56.9 -0.5
CHIR IAML 19 32 28.2
comp=E,987nm,1.0s
CHIR Chirikof Islan 3.93 210 P Pn 19 30 57.2 -0.2
CHIR Chirikof Islan 3.93 210 P Pn 19 30 57.0 -0.4
baz=28
WAT6 Susitna Watana 3.96 31 P Pn 19 30 58.5 +0.5
baz=214,SNR=376
KAIM Kayak Island 3.97 77 Pn 19 30 58.3 +0.4
KAIM IAML 19 31 51.1
comp=N,1µm,0.5s
KAIM IAML 19 31 51.2
comp=E,916nm,0.6s
KAIM Kayak Island 3.97 77 P Pn 19 30 58.7 +0.7
baz=263,SNR=38
O15K Ungalikthiuk R 3.97 272 Pn 19 30 59.2 +1.3
O15K IAML 19 31 45.9
comp=E,1µm,0.8s
O15K IAML 19 32 13.6
comp=N,2µm,0.8s
O15K Ungalikthiuk R 3.97 272 P Pn 19 30 59.4 +1.5
baz=86,SNR=164
WAT1 Susitna Watana 3.98 24 Pn 19 30 59.2 +1.1
WAT1 Susitna Watana 3.98 24 P Pn 19 30 58.9 +0.8
baz=207
M24K Tolsona, Glenn 4.08 43 Pn 19 31 00.1 +0.5
M24K Tolsona, Glenn 4.08 43 P Pn 19 31 00.4 +0.8
baz=228,SNR=106
ANPB Aniakchak Plen 4.10 236 Pn 19 31 01.3 +1.5
HMT Hamilton 4.11 71 Pn 19 30 59.8 -0.1
HMT IAML 19 31 49.7
comp=N,1µm,0.6s
BMRM Bremner River 4.13 62 Pn 19 30 59.5 -0.7
BMRM Bremner River 4.13 62 P Pn 19 30 59.5 -0.7
baz=248,SNR=33
N15K Kwethluk River 4.15 286 Pn 19 31 01.8 +1.4
N15K Kwethluk River 4.15 286 P Pn 19 31 02.1 +1.7
baz=99,SNR=233
CAST Castle Rocks 4.18 0 Pn 19 31 01.4 +0.6
CAST Castle Rocks 4.18 0 IAML 19 32 24.8
comp=E,759nm,1.0s
CAST Castle Rocks 4.18 0 P Pn 19 31 01.4 +0.6
baz=180,SNR=844
L17K Donlin 4.19 316 P Pn 19 31 01.7 +0.7
baz=131,SNR=301
K20K Telida 4.22 348 Pn 19 31 02.3 +0.9
K20K IAML 19 32 22.9
comp=E,772nm,0.8s
K20K Telida 4.22 348 P Pn 19 31 02.7 +1.2
baz=166,SNR=430
TRF Thorofare Moun 4.30 11 Pn 19 31 03.5 +0.9
TRF Thorofare Moun 4.30 11 P Pn 19 31 03.8 +1.1
baz=192,SNR=666
SUCK Suckling Hills 4.30 75 Pn 19 31 02.7 +0.2
KTH Kantishna Hill 4.35 7 Pn 19 31 04.2 +1.0
KTH IAML 19 32 22.3
comp=E,1µm,1.2s
BERG Berg Lake 4.39 71 Pn 19 31 03.5 -0.3
BERG IAML 19 31 52.1
comp=E,998nm,0.4s
BERG IAML 19 31 53.2
comp=N,764nm,0.4s
L16K Owhat River 4.40 307 Pn 19 31 04.2 +0.4
L16K IAML 19 32 27.0
comp=N,1µm,0.9s
L16K IAML 19 32 28.8
comp=E,1µm,1.1s
L16K Owhat River 4.40 307 P Pn 19 31 04.5 +0.7
baz=121,SNR=396
N25K Chitina, Valde 4.41 54 Pn 19 31 03.7 -0.3
N25K Chitina, Valde 4.41 54 P Pn 19 31 03.8 -0.2
baz=241,SNR=49
RND Reindeer 4.45 19 Pn 19 31 05.0 +0.4
RND IAML 19 32 27.9
comp=N,1µm,1.2s
RND IAML 19 32 31.0
comp=E,994nm,1.1s
RND Reindeer 4.45 19 P Pn 19 31 05.0 +0.4
DHY Denali Highway 4.46 29 Pn 19 31 05.3 +0.4
DHY IAML 19 32 19.4
comp=N,834nm,0.7s
DHY IAML 19 32 27.7
comp=E,941nm,0.8s
DHY Denali Highway 4.46 29 P Pn 19 31 05.5 +0.6
baz=213,SNR=307
CHGN Chignik 4.49 231 Pn 19 31 05.9 +0.8
CHGN Chignik 4.49 231 P Pn 19 31 06.3 +1.2
baz=46,SNR=23
M15K Kasigluk River 4.54 292 P Pn 19 31 06.6 +0.8
baz=105,SNR=40
BGLC Bering Glacier 4.56 75 P Pn 19 31 06.8 +0.9
baz=283
GRIN Grindle Hills 4.56 73 Pn 19 31 06.5 +0.4
K17K Iditarod 4.60 322 Pn 19 31 07.0 +0.5
K17K Iditarod 4.60 322 P Pn 19 31 07.2 +0.7
baz=136,SNR=440
HARP HAARP 4.64 44 P Pn 19 31 06.7 -0.5
baz=230
CHUM Lake Minchumin 4.64 359 P Pn 19 31 08.7 +1.5
baz=178,SNR=47
GLB Gilahina Butte 4.67 58 Pn 19 31 07.0 -0.6
O14K Tigyukauivet M 4.70 274 Pn 19 31 09.3 +1.4
O14K IAML 19 32 41.9
comp=E,661nm,0.8s
O14K IAML 19 32 53.0
comp=N,852nm,0.9s
O14K Tigyukauivet M 4.70 274 P Pn 19 31 09.6 +1.7
baz=86,SNR=63
MCK McKinley 4.74 17 Pn 19 31 09.4 +0.9
MCK IAML 19 32 42.7
comp=E,661nm,0.9s
MCK McKinley 4.74 17 P Pn 19 31 09.4 +0.9
MCK McKinley 4.74 17 P Pn 19 31 09.6 +1.0
baz=200,SNR=381
VRDI Verde Repeater 4.75 62 Pn 19 31 08.0 -0.8
CRQM Cirque 4.75 68 Pn 19 31 08.0 -0.8
CRQM IAML 19 32 06.2
comp=N,601nm,1.1s
CRQE Cirque 4.77 68 P Pn 19 31 08.3 -0.8
baz=255,SNR=24
J18K Innoko River 4.77 334 Pn 19 31 09.3 +0.4
J18K IAML 19 32 28.7
comp=E,862nm,0.9s
J18K IAML 19 32 44.3
comp=N,592nm,1.0s
J18K Innoko River 4.77 334 P Pn 19 31 10.0 +1.1
baz=150,SNR=510
WAX Waxell Ridge 4.82 72 Pn 19 31 09.4 -0.3
WAX IAML 19 32 06.1
comp=N,836nm,0.4s
WAX IAML 19 32 07.6
comp=E,735nm,0.4s
VNHG Veniaminof 1 4.85 234 Pn 19 31 11.1 +0.9
BPAW Bear Paw Mtn. 4.89 6 Pn 19 31 10.4 -0.2
BPAW IAML 19 32 45.8
comp=N,483nm,1.2s
BPAW IAML 19 32 45.8
comp=E,533nm,1.2s
BPAW Bear Paw Mtn. 4.89 6 P Pn 19 31 11.2 +0.6
baz=186,SNR=313
TGL Tana Glacier 4.89 68 Pn 19 31 10.3 -0.4
N14K Kuskokwak Cree 4.91 282 Pn 19 31 12.4 +1.6
N14K Kuskokwak Cree 4.91 282 P Pn 19 31 12.6 +1.7
baz=94,SNR=67
PAX Paxson 4.92 38 Pn 19 31 11.7 +0.6
PAX Paxson 4.92 38 IAML 19 32 31.4
comp=E,521nm,0.6s
PAX IAML 19 32 34.1
comp=N,505nm,0.9s
PAX Paxson 4.92 38 P Pn 19 31 11.7 +0.6
PAX Paxson 4.92 38 P Pn 19 31 11.4 +0.3
baz=224,SNR=372
CYK Cape Yakataga 4.95 76 Pn 19 31 12.2 +0.9
MCARA McCarthy VSAT 4.99 61 IAML 19 32 55.8
comp=E,488nm,0.9s
MCARA IAML 19 33 09.7
comp=N,693nm,1.1s
MCARA McCarthy VSAT 4.99 61 P Pn 19 31 11.6 -0.4
baz=248,SNR=16
J20K Nowinta River 5.03 350 Pn 19 31 13.3 +0.8
J20K IAML 19 32 51.1
comp=N,591nm,1.0s
J20K IAML 19 32 54.8
comp=E,605nm,1.1s
J20K Nowinta River 5.03 350 P Pn 19 31 13.5 +1.0
baz=168,SNR=322
J19K Poorman 5.04 342 IAML 19 32 50.8
comp=E,428nm,1.0s
J19K IAML 19 32 52.3
comp=N,643nm,0.9s
J19K Poorman 5.04 342 P Pn 19 31 13.7 +1.1
baz=159,SNR=511
BWN Browne 5.09 13 Pn 19 31 14.2 +0.9
ISLE Juniper Island 5.10 70 Pn 19 31 14.0 +0.4
ISLE Juniper Island 5.10 70 IAML 19 32 12.1
comp=E,600nm,0.6s
ISLE IAML 19 32 13.1
comp=N,606nm,0.5s
KIAG Kiagna River 5.16 67 Pn 19 31 14.8 +0.4
M14K Bethel 5.17 291 Pn 19 31 14.9 +0.6
M14K Bethel 5.17 291 IAML 19 32 49.4
comp=E,789nm,1.1s
M14K IAML 19 33 04.3
comp=N,715nm,1.1s
M14K Bethel 5.17 291 P Pn 19 31 15.5 +1.2
baz=102,SNR=42
PTPK Patty Peak 5.18 64 Pn 19 31 14.7 -0.1
BALM Baldy 5.20 66 Pn 19 31 14.5 -0.3
MESA MESA 5.22 75 Pn 19 31 15.8 +0.5
MESA MESA 5.22 75 P Pn 19 31 15.9 +0.6
baz=264,SNR=17
L15K Ungalak Mounta 5.24 302 P Pn 19 31 16.0 +0.8
baz=113,SNR=51
J17K VABM Dome 5.34 324 P Pn 19 31 17.2 +0.5
baz=138,SNR=233
YAH Yahtse 5.35 74 IAML 19 32 21.0
comp=N,438nm,0.5s
GRNC Granite Creek 5.41 70 Pn 19 31 18.1 +0.2
M26K Nabesna, AK 5.46 51 Pn 19 31 18.8 +0.4
M26K Nabesna, AK 5.46 51 P Pn 19 31 18.8 +0.4
baz=239,SNR=74
K24K Donnelly Dome 5.47 31 Pn 19 31 18.1 -0.5
K24K Donnelly Dome 5.47 31 P Pn 19 31 20.5 +1.9
baz=216,SNR=163
BARN Barnard Glacie 5.52 66 Pn 19 31 19.7 +0.3
K15K Wolf Creek Mou 5.53 307 Pn 19 31 20.1 +0.8
K15K Wolf Creek Mou 5.53 307 P Pn 19 31 20.4 +1.1
baz=119,SNR=126
RKAV Rock Avalanche 5.54 75 Pn 19 31 19.6 0.0
NEA2 Nenana 5.54 14 Pn 19 31 19.1 -0.4
NEA2 Nenana 5.54 14 P Pn 19 31 19.5 0.0
baz=196,SNR=312
WRH Wood River Hil 5.57 18 Pn 19 31 19.8 0.0
CHX Chaix Hills 5.63 77 Pn 19 31 20.2 -0.6
CTG Chitna Glacier 5.65 68 P Pn 19 31 22.1 +1.0
baz=257,SNR=21
CTGM Chitina Glacie 5.66 68 Pn 19 31 21.6 +0.4
TABL Table Mountain 5.66 73 Pn 19 31 21.7 +0.5
L14K Kuka Creek 5.66 296 Pn 19 31 22.1 +1.0
L14K Kuka Creek 5.66 296 P Pn 19 31 22.4 +1.3
baz=107,SNR=97
I20K Naaghedeneel 5.67 350 Pn 19 31 21.9 +0.7
I20K Naaghedeneel 5.67 350 P Pn 19 31 22.2 +1.0
baz=167,SNR=113
L26K Log Cabin Wild 5.68 45 P Pn 19 31 22.5 +1.0
baz=232,SNR=25
RIDG Independent Ri 5.68 35 Pn 19 31 22.2 +0.7
RIDG Independent Ri 5.68 35 P Pn 19 31 22.1 +0.6
baz=221,SNR=204
HDA Harding Lake 5.72 23 Pn 19 31 22.5 +0.6
HDA Harding Lake 5.72 23 P Pn 19 31 22.4 +0.6
baz=207,SNR=220
J16K Anvik River 5.75 318 Pn 19 31 22.9 +0.6
J16K Anvik River 5.75 318 P Pn 19 31 23.0 +0.6
baz=131,SNR=182
CCB Clear Creek Bu 5.78 19 Pn 19 31 22.5 -0.2
LOGN Logan Glacier 5.78 69 Pn 19 31 23.1 +0.2
M13K Dall Lake 5.79 286 Pn 19 31 23.5 +0.7
M13K Dall Lake 5.79 286 P Pn 19 31 24.7 +1.9
baz=97,SNR=21
SAMH Samovar Hills 5.80 76 Pn 19 31 22.3 -0.9
MLY Manley 5.83 6 Pn 19 31 23.7 +0.2
MLY Manley 5.83 6 P Pn 19 31 23.8 +0.4
baz=187,SNR=296
DOT Dot Lake 5.85 38 Pn 19 31 24.1 +0.3
M27K Edge Creek, AK 5.89 54 Pn 19 31 25.0 +0.6
M27K Edge Creek, AK 5.89 54 P Pn 19 31 24.1 -0.3
baz=242,SNR=25
GCSA Galena City Sc 5.95 340 Pn 19 31 25.3 +0.3
GCSA Galena City Sc 5.95 340 P Pn 19 31 26.1 +1.1
baz=155,SNR=64
COLA College 5.98 18 P Pn 19 31 25.7 +0.3
COLA College 5.98 18 *i* P Pn 19 31 24.8 -0.6
COLA College 5.98 18 P Pn 19 31 25.6 +0.2
baz=201
SDPT Sand Point 5.99 233 P Pn 19 31 26.6 +1.0
SDPT Sand Point 5.99 233 P Pn 19 31 26.2 +0.6
baz=46
CHNA Chernabura Isl 6.03 226 P Pn 19 31 25.6 -0.5
CHNA Chernabura Isl 6.03 226 P Pn 19 31 25.7 -0.4
baz=40

CNBA Chernabura Isl 6.04 226 Pn 19 31 25.7 -0.6
I23K Minto, Yukon-K 6.05 11 Pn 19 31 26.7 +0.3
I23K Minto, Yukon-K 6.05 11 P Pn 19 31 26.5 +0.1
baz=193,SNR=291
IL31 6.05 22 Pn 19 31 26.1 -0.3
ILAR Eielson Array 6.05 22 P Pn 19 31 26.7 +0.2
comp=N,64nm,0.5s,baz=206,slow=14,SNR=618
ILAR S Sn 19 32 30.9 -3.4
comp=N,72nm,0.6s,baz=209,slow=23,SNR=7.0
ILAR LR LR 19 34 04.6
comp=N,590nm,21.4s,baz=173,slow=40
PINM Pinnacle 6.07 77 P Pn 19 31 27.2 +0.5
baz=267,SNR=29
YUK2 White River 6.11 61 Pn 19 31 27.5 +0.1
SCRK Sand Creek 6.12 36 P Pn 19 31 27.4 -0.1
baz=223,SNR=80
O28M Mount Upton 6.17 71 Pn 19 31 28.4 0.0
O28M Mount Upton 6.17 71 P Pn 19 31 29.3 +1.0
baz=261,SNR=121
I17K Unalakleet 6.19 322 Pn 19 31 29.0 +0.6
I17K Unalakleet 6.19 322 P Pn 19 31 29.4 +1.1
baz=134,SNR=51
J25K Salcha River, 6.24 28 Pn 19 31 28.9 -0.2
J25K Salcha River, 6.24 28 P Pn 19 31 29.2 +0.1
baz=213,SNR=388
L27K Beaver Creek, 6.27 48 Pn 19 31 29.8 +0.3
L27K Beaver Creek, 6.27 48 P Pn 19 31 29.7 +0.3
baz=237,SNR=77
YUK3 Moose Creek 6.28 61 P Pn 19 31 30.1 +0.3
baz=251,SNR=31
BVCY Beaver Creek 6.34 55 P Pn 19 31 30.6 +0.1
baz=245,SNR=20
H20K Anotleneega Mo 6.39 350 Pn 19 31 30.4 -0.7
H20K Anotleneega Mo 6.39 350 P Pn 19 31 32.2 +1.1
baz=167,SNR=164
H21K Melozitna River 6.43 357 Pn 19 31 32.0 +0.3
H21K Melozitna Rive 6.43 357 P Pn 19 31 31.9 +0.2
baz=177,SNR=427
S12K Black Hills 6.44 241 Pn 19 31 31.8 0.0
S12K Black Hills 6.44 241 P Pn 19 31 33.5 +1.7
baz=52,SNR=15
YUK8 Steele Glacier 6.47 66 Pn 19 31 32.8 +0.3
YUK8 Steele Glacier 6.47 66 P Pn 19 31 33.2 +0.8
baz=257,SNR=60
PNL Peninsula 6.49 81 P Pn 19 31 32.4 -0.1
PNL Peninsula 6.49 81 P Pn 19 31 32.6 0.0
baz=272,SNR=176
J14K Nanvaranak Lak 6.57 307 Pn 19 31 34.2 +0.7
J14K Nanvaranak Lak 6.57 307 P Pn 19 31 34.7 +1.1
baz=117,SNR=29
H18K Honhosa River 6.60 336 Pn 19 31 34.6 +0.6
H18K Honhosa River 6.60 336 P Pn 19 31 34.9 +1.0
baz=151,SNR=237
H19K Roundabout Mou 6.61 344 Pn 19 31 34.7 +0.7
H19K Roundabout Mou 6.61 344 P Pn 19 31 35.1 +1.1
baz=160,SNR=271
J26L Joseph Creek 6.63 34 Pn 19 31 34.5 +0.1
J26L Joseph Creek 6.63 34 P Pn 19 31 34.6 +0.2
baz=221,SNR=166
H22K Ishtalitna Cre 6.67 3 Pn 19 31 35.1 +0.2
H22K Ishtalitna Cre 6.67 3 P Pn 19 31 35.5 +0.5
baz=183,SNR=157
H23K Yukon River 6.70 9 Pn 19 31 35.4 +0.1
H23K Yukon River 6.70 9 P Pn 19 31 35.8 +0.5
baz=191,SNR=165
K13K Kusilvak Mount 6.74 299 Pn 19 31 36.6 +0.9
K13K Kusilvak Mount 6.74 299 P Pn 19 31 37.0 +1.2
baz=108,SNR=12
K27K Chicken 6.76 41 P Pn 19 31 37.1 +0.9
baz=229
H17K Granite Mounta 6.77 331 Pn 19 31 36.5 +0.2
H17K Granite Mounta 6.77 331 P Pn 19 31 37.3 +1.1
baz=144,SNR=251
H24K Noodor Dome 6.89 15 Pn 19 31 38.2 +0.3
H24K Noodor Dome 6.89 15 P Pn 19 31 38.2 +0.3
baz=198,SNR=131
O29M Mount Kennedy 6.91 75 Pn 19 31 37.6 -0.7
O29M Mount Kennedy 6.91 75 P Pn 19 31 38.9 +0.5
baz=267,SNR=41
PRP Porcupine Dome 6.99 23 Pn 19 31 38.5 -0.8
PRP Porcupine Dome 6.99 23 P Pn 19 31 39.4 0.0
baz=209,SNR=148
YUK4 Talbot Arm 7.01 67 P Pn 19 31 41.2 +1.4
baz=258,SNR=24
YUK6 Outpost Mounta 7.08 70 Pn 19 31 39.9 -0.8
YUK6 Outpost Mounta 7.08 70 P Pn 19 31 41.2 +0.5
baz=262,SNR=22
M11K Mekoryuk 7.20 285 Pn 19 31 41.0 -1.0
M11K Mekoryuk 7.20 285 P Pn 19 31 43.3 +1.2
baz=93,SNR=12
H16K Elim 7.20 323 Pn 19 31 42.3 +0.1
H16K Elim 7.20 323 P Pn 19 31 42.8 +0.7
baz=134,SNR=15
G19K Purcell Mounta 7.28 344 Pn Pn 19 31 43.7 +0.5
G19K Purcell Mounta 7.28 344 P Pn 19 31 44.0 +0.7
baz=159,SNR=5.4
G18K Tagagawik 7.31 338 Pn 19 31 42.8 -0.9
G18K Tagagawik 7.31 338 P Pn 19 31 44.4 +0.7
baz=152,SNR=201
G21K Allakaket 7.32 356 Pn 19 31 44.2 +0.5
G21K Allakaket 7.32 356 P Pn 19 31 43.9 +0.1
baz=174
P29M Windy Craggy 7.34 81 Pn 19 31 44.0 0.0
P29M Windy Craggy 7.34 81 P Pn 19 31 44.1 0.0
baz=273,SNR=158
YUK5 Granite Creek 7.35 69 Pn 19 31 44.2 -0.1
M29M Somme Creek 7.39 59 Pn 19 31 44.1 -0.7
M29M Somme Creek 7.39 59 P Pn 19 31 44.9 0.0
baz=250,SNR=231
G17K Kiwalik Mounta 7.41 331 Pn 19 31 45.3 +0.2
G17K Kiwalik Mounta 7.41 331 P Pn 19 31 45.5 +0.5
baz=144,SNR=39
HYT Haines Junctio 7.48 72 Pn 19 31 46.0 -0.1
HYT Haines Junctio 7.48 72 P Pn 19 31 46.3 +0.2
baz=264,SNR=20
G23K Bananza Creek 7.54 6 Pn 19 31 46.7 -0.2
G23K Bananza Creek 7.54 6 P Pn 19 31 47.1 +0.2
baz=188,SNR=391
H25L Birch Creek 7.60 20 P Pn 19 31 48.1 +0.5
baz=205,SNR=67
DAWY Dawson 7.73 46 P Pn 19 31 50.1 +0.7
baz=237,SNR=16
G24K Hadweenzic Riv 7.76 14 P Pn 19 31 49.4 -0.5
baz=198,SNR=93
N30M Aishikik Lake 7.77 67 Pn 19 31 49.9 -0.1
N30M Aishikik Lake 7.77 67 P Pn 19 31 50.1 +0.1
baz=260,SNR=72
L29M L29M 7.78 54 Pn 19 31 49.7 -0.4
L29M L29M 7.78 54 P Pn 19 31 50.3 +0.2
baz=246,SNR=13
G16K Koyuk River 7.78 327 Pn 19 31 50.2 +0.1
G16K Koyuk River 7.78 327 P Pn 19 31 50.6 +0.6
baz=137,SNR=9.6
F20K Avaraart Lake 7.99 350 Pn 19 31 51.8 -1.1
F20K Avaraart Lake 7.99 350 P Pn 19 31 53.7 +0.8
baz=166,SNR=154
I27K Kandik River 8.01 33 Pn 19 31 52.9 -0.3
I27K Kandik River 8.01 33 P Pn 19 31 53.9 +0.7
baz=222,SNR=54
G25K Bearman Lake 8.01 17 Pn 19 31 53.0 -0.2
G25K Bearman Lake 8.01 17 P Pn 19 31 53.2 -0.1
baz=202,SNR=116
G15K Niukluk 8.01 321 Pn 19 31 52.5 -0.8
G15K Niukluk 8.01 321 P Pn 19 31 54.2 +1.0
baz=130,SNR=12
F21K Alatna River 8.02 356 Pn 19 31 53.0 -0.4
F21K Alatna River 8.02 356 P Pn 19 31 54.2 +0.8
baz=175,SNR=136
F19K Shaleruckik Mo 8.03 344 Pn 19 31 52.7 -0.6
F19K Shaleruckik Mo 8.03 344 P Pn 19 31 54.5 +1.1
baz=159,SNR=141
COLD Coldfoot 8.05 5 Pn 19 31 52.8 -1.0
COLD Coldfoot 8.05 5 P Pn 19 31 53.7 0.0
baz=187,SNR=96
PLBC Pleasant Camp 8.05 82 Pn 19 31 53.5 -0.2
PLBC Pleasant Camp 8.05 82 P Pn 19 31 53.7 -0.1
baz=275,SNR=52
F18K Selawik 8.13 338 Pn 19 31 53.8 -1.0
F18K Selawik 8.13 338 P Pn 19 31 56.0 +1.2
baz=151,SNR=34
M30M Minto, Yukon 8.16 59 Pn 19 31 55.5 +0.1
M30M Minto, Yukon 8.16 59 P Pn 19 31 55.9 +0.5
baz=253,SNR=49
ANM Nome 8.21 316 P Pn 19 31 57.0 +1.2
baz=124,SNR=6.6
F22K John River 8.28 360 P Pn 19 31 57.9 +0.9
baz=180,SNR=19
F17K Baldwin Pennin 8.32 334 Pn 19 31 57.2 -0.3
F17K Baldwin Pennin 8.32 334 P Pn 19 31 58.4 +0.9
baz=146,SNR=50
K29M Barlow Dome 8.34 50 Pn 19 31 55.9 -1.9
K29M Barlow Dome 8.34 50 P Pn 19 31 58.2 +0.4
baz=243,SNR=16
J29N Klondike Camp 8.37 46 P Pn 19 31 58.0 -0.3
baz=238,SNR=6.4
I28M Miner Creek 8.39 37 Pn 19 31 58.4 -0.1
I28M Miner Creek 8.39 37 P Pn 19 31 58.7 +0.1
baz=228,SNR=71
S31K Pelican 8.39 92 Pn 19 31 57.2 -1.2
S31K Pelican 8.39 92 P Pn 19 31 57.8 -0.6
baz=286
N31M Braeburn, Yuko 8.39 68 P Pn 19 31 58.9 +0.4
baz=262,SNR=12
H27K Steamboat Moun 8.51 30 Pn 19 31 59.6 -0.4
H27K Steamboat Moun 8.51 30 P Pn 19 31 59.4 -0.6
baz=219,SNR=90
F24K Squaw Lake 8.51 11 Pn 19 31 59.6 -0.4
F24K Squaw Lake 8.51 11 P Pn 19 31 59.8 -0.2
baz=195,SNR=56
R31K City Hall, Gus 8.53 89 Pn 19 31 59.6 -0.7
R31K City Hall, Gus 8.53 89 P Pn 19 31 59.7 -0.7
baz=283
E19K Redstone River 8.54 347 Pn 19 31 59.6 -0.9
E19K Redstone River 8.54 347 P Pn 19 32 01.1 +0.6
baz=162,SNR=128
SKAG Skagway 8.57 81 Pn 19 32 01.2 +0.3
SKAG Skagway 8.57 81 P Pn 19 32 00.9 0.0
baz=276,SNR=14
G26K Porcupine Rive 8.59 22 Pn 19 32 00.6 -0.4
G26K Porcupine Rive 8.59 22 P Pn 19 32 01.2 +0.2
baz=210,SNR=101
F15K North Star Dit 8.68 323 Pn 19 32 02.7 +0.4
F15K North Star Dit 8.68 323 P Pn 19 32 02.7 +0.4
baz=132,SNR=9.4
WHY Whitehorse 8.76 73 P Pn 19 32 03.7 +0.1
baz=268,SNR=34
F25K Christian Rive 8.85 16 P Pn 19 32 04.1 -0.6
baz=202,SNR=78
I29M Ogilvie Camp, 8.86 40 Pn 19 32 04.9 0.0
I29M Ogilvie Camp, 8.86 40 P Pn 19 32 05.6 +0.7
baz=233
BMAR Burnt Mountain 8.87 19 Pn 19 32 03.8 -1.1
MAYO Mayo, Yukon 8.89 54 P Pn 19 32 05.1 -0.3
baz=248
E23K Chandalar 8.90 6 Pn 19 32 04.5 -1.0
E23K Chandalar 8.90 6 P Pn 19 32 05.8 +0.3
baz=188,SNR=67
E22K Anaktuvuk Pass 8.91 1 Pn 19 32 05.6 0.0
E22K Anaktuvuk Pass 8.91 1 P Pn 19 32 06.9 +1.3
baz=181,SNR=97
G27K Doyon Strip 8.93 28 Pn 19 32 05.1 -0.7
G27K Doyon Strip 8.93 28 P Pn 19 32 05.4 -0.4
baz=217,SNR=48
E17K Hotham Inlet 8.99 335 Pn 19 32 05.9 -0.6
E17K Hotham Inlet 8.99 335 P Pn 19 32 08.4 +1.9
baz=146,SNR=56
E24K Your Creek 9.00 9 Pn 19 32 06.0 -0.7
E24K Your Creek 9.00 9 P Pn 19 32 06.8 +0.1
baz=192,SNR=85
E18K Tukpahlearik C 9.03 339 Pn 19 32 07.6 +0.5
E18K Tukpahlearik C 9.03 339 P Pn 19 32 09.6 +2.5
baz=151,SNR=120
F14K Arctic Creek 9.07 319 Pn 19 32 07.8 +0.2
F14K Arctic Creek 9.07 319 P Pn 19 32 09.0 +1.3
baz=127,SNR=6.7
J30M Hart River 9.14 48 Pn 19 32 09.2 +0.5
J30M Hart River 9.14 48 P Pn 19 32 10.1 +1.3
baz=241,SNR=19
SIT Sitka 9.14 97 Pn 19 32 06.8 -1.9
SIT Sitka 9.14 97 P Pn 19 32 06.9 -1.7
baz=291,SNR=8.4
M31M Drury Creek, Y 9.16 64 P Pn 19 32 09.2 +0.2
baz=259,SNR=29
F26K Sheenjek River 9.18 19 Pn 19 32 08.3 -0.9
F26K Sheenjek River 9.18 19 P Pn 19 32 09.2 0.0
baz=206,SNR=74
R32K Eaglecrest 9.19 89 P Pn 19 32 09.8 +0.4
baz=284,SNR=6.1
E20K Nigu River 9.21 350 Pn 19 32 09.7 0.0
E20K Nigu River 9.21 350 P Pn 19 32 11.1 +1.4
baz=167,SNR=62
E21K Killik River 9.26 356 Pn 19 32 11.0 +0.7
E21K Killik River 9.26 356 P Pn 19 32 11.1 +0.8
baz=174,SNR=79
JIS Juneau Island 9.26 88 Pn 19 32 08.1 -2.2
JIS Juneau Island 9.26 88 P Pn 19 32 10.3 0.0
E25K Arctic Village 9.35 15 Pn 19 32 10.9 -0.7
E25K Arctic Village 9.35 15 P Pn 19 32 11.6 0.0
baz=201,SNR=36
P32M Atlin 9.38 80 Pn 19 32 10.9 -1.1
P32M Atlin 9.38 80 P Pn 19 32 11.4 -0.6
baz=276,SNR=6.8
S32K Killisnoo 9.38 93 Pn 19 32 11.0 -1.0
S32K Killisnoo 9.38 93 P Pn 19 32 11.3 -0.7
baz=288,SNR=15
H29M Whitestone 9.39 36 Pn 19 32 11.0 -1.0
H29M Whitestone 9.39 36 P Pn 19 32 12.2 +0.2
baz=228
I30M Mount Dempster 9.45 44 P Pn 19 32 14.1 +1.1
baz=238
TOLK Toolik Lake Re 9.49 6 Pn 19 32 14.4 +0.9
TOLK Toolik Lake Re 9.49 6 P Pn 19 32 14.3 +0.9
baz=188,SNR=37
UNV Unalaska Valle 9.61 242 P Pn 19 32 16.3 +1.2
baz=50
D19K Kuna River 9.64 347 Pn 19 32 16.5 +1.0
D19K Kuna River 9.64 347 P Pn 19 32 16.2 +0.7
baz=161
P08K Saint George I 9.65 262 P Pn 19 32 16.7 +1.2
baz=67
FARO Faro, Yukon 9.65 64 P Pn 19 32 15.9 +0.3
baz=260,SNR=28
TNA Tin City 9.66 318 Pn 19 32 14.5 -1.2
TNA Tin City 9.66 318 P Pn 19 32 17.5 +1.8
baz=123,SNR=9.7
D22K Ayikyak River 9.67 359 Pn 19 32 15.4 -0.5
D22K Ayikyak River 9.67 359 P Pn 19 32 16.8 +1.0
baz=178,SNR=66
D20K Etivluk River 9.70 350 P Pn 19 32 17.3 +1.1
baz=166
D23K Nanushuk River 9.77 3 Pn 19 32 16.0 -1.2
D23K Nanushuk River 9.77 3 P Pn 19 32 18.8 +1.6
baz=184,SNR=129
D17K Noatak River 9.77 335 Pn 19 32 16.3 -0.9
D17K Noatak River 9.77 335 P Pn 19 32 18.7 +1.4
baz=145,SNR=18
P33M Teslin, Yukon 9.78 76 Pn 19 32 17.2 -0.3
P33M Teslin, Yukon 9.78 76 P Pn 19 32 17.2 -0.3
baz=273,SNR=34
SPIA Saint Paul Isl 9.79 266 Pn Pn 19 32 17.7 +0.1
G29M Pine Creek 9.96 34 Pn 19 32 18.1 -1.8
G29M Pine Creek 9.96 34 P Pn 19 32 20.6 +0.8
baz=226
F28M Old Crow 9.99 28 Pn 19 32 18.5 -1.8
F28M Old Crow 9.99 28 P Pn 19 32 20.5 +0.1
baz=219,SNR=28
EPYK Eagle Plains 10.00 38 Pn 19 32 19.7 -0.7
EPYK Eagle Plains 10.00 38 P Pn 19 32 20.3 0.0
baz=232
C21K Knifeblade Rid 10.01 354 Pn 19 32 17.9 -2.5
C21K Knifeblade Rid 10.01 354 P Pn 19 32 21.2 +0.8
baz=172,SNR=51
RDOG Red Dog Mine 10.03 336 P Pn 19 32 22.4 +1.6
baz=146,SNR=14
D24K Happy Valley 10.04 7 P Pn 19 32 21.9 +1.0
baz=190,SNR=24
E27K Coleen River 10.08 23 P Pn 19 32 20.7 -0.8
baz=212,SNR=24
Q32M Nakina River 10.20 83 Pn 19 32 22.9 -0.4
Q32M Nakina River 10.20 83 P Pn 19 32 23.0 -0.4
baz=280,SNR=23
C18K Utukok River 10.22 341 P Pn 19 32 25.3 +1.8
baz=153,SNR=18
GAMB Gambell 10.38 304 P Pn 19 32 25.4 -0.1
baz=107
C19K Lookout Ridge 10.40 345 Pn 19 32 26.5 +0.6
C19K Lookout Ridge 10.40 345 P Pn 19 32 26.3 +0.5
baz=158,SNR=14
D25K Kavik River 10.40 11 P Pn 19 32 26.8 +0.9
baz=196,SNR=59
C17K DeLong Mountai 10.44 337 P Pn 19 32 28.3 +1.9
baz=147,SNR=7.8
B21K Ikpikpuk River 10.46 355 P Pn 19 32 27.4 +0.7
baz=173,SNR=10
H31M Peel River 10.48 44 P Pn 19 32 28.2 +1.3
baz=239,SNR=5.7
G30M tAoh Zraii Nji 10.54 36 P Pn 19 32 27.3 -0.4
baz=230,SNR=9.4
U33K Whale Pass 10.63 99 Pn 19 32 27.4 -1.7
U33K Whale Pass 10.63 99 P Pn 19 32 27.1 -1.9
baz=295,SNR=26
C23K Itkillik River 10.64 3 P Pn 19 32 29.1 0.0
baz=184,SNR=32
MMPY Sheldon Lake, 10.67 63 P Pn 19 32 29.7 +0.2
baz=261,SNR=11
C16K Lisburne Hills 10.75 333 Pn 19 32 32.6 +2.1
C16K Lisburne Hills 10.75 333 P Pn 19 32 32.8 +2.3
baz=141,SNR=7.1
R33M Jennings River 10.79 80 Pn 19 32 30.7 -0.7
R33M Jennings River 10.79 80 P Pn 19 32 31.3 -0.1
baz=278,SNR=15
E28M Babbage River 10.86 25 P Pn 19 32 32.6 +0.5
baz=216,SNR=13
WRAK Wrangell Islan 10.90 97 P Pn 19 32 32.1 -0.6
baz=293,SNR=12
CRAG Craig 10.92 102 Pn 19 32 30.9 -2.1
CRAG Craig 10.92 102 P Pn 19 32 31.1 -1.9
CRAG Craig 10.92 102 P Pn 19 32 31.1 -1.9
baz=298
B18K Kokolik River 10.96 342 P Pn 19 32 34.0 +0.6
baz=153,SNR=9.3
B20K Meade River 11.01 351 Pn 19 32 33.8 -0.3
B20K Meade River 11.01 351 P Pn 19 32 34.2 +0.1
baz=166,SNR=9.7
C27K Jago River 11.01 16 P Pn 19 32 34.5 +0.4
baz=203,SNR=29
S34M Telegraph Cree 11.02 88 P Pn 19 32 34.2 -0.2
baz=286,SNR=17
E29M Blow River 11.07 28 P Pn 19 32 34.8 -0.1
baz=221,SNR=25
F30M Barrier River 11.08 34 P Pn 19 32 34.7 -0.4
baz=229,SNR=9.1
D27M Malcolm River 11.11 21 P Pn 19 32 34.1 -1.5
baz=211,SNR=11
G31M Satah River 11.11 39 P Pn 19 32 35.3 -0.2
baz=235,SNR=9.5
C26K Camden Bay 11.13 13 P Pn 19 32 35.7 0.0
baz=199
B22K Teshekpuk Lake 11.14 358 Pn 19 32 35.0 -0.9
B22K Teshekpuk Lake 11.14 358 P Pn 19 32 35.1 -0.8
baz=176,SNR=16
DLBC Dease Lake 11.46 85 P Pn 19 32 40.6 +0.3
comp=N,1.5nm,0.4s,baz=227,slow=14,SNR=21
DLBC S Sn 19 34 43.3 -3.3
comp=N,0.8nm,0.6s,baz=138,slow=15,SNR=3.0
DLBC LR LR 19 36 59.7
comp=N,19nm,20.0s,baz=235,slow=36
DLBC Dease Lake 11.46 85 P Pn 19 32 40.1 -0.3
baz=284,SNR=26
F31M Tsiigehtchic 11.58 37 P Pn 19 32 41.9 -0.1
baz=234
D28M Stokes Point 11.62 24 P Pn 19 32 42.3 -0.1
baz=216
A19K Wainwright 11.62 345 P Pn 19 32 42.0 -0.4
baz=156
V35K Ketchikan 11.75 101 P Pn 19 32 43.8 -0.4
baz=298,SNR=9.4
T35M Bob Quinn 11.77 92 P Pn 19 32 44.6 0.0
baz=290
A22K Sinclair Lake 11.86 355 P Pn 19 32 44.5 -1.2
baz=173,SNR=6.2
TGTN Hyland Airport 11.98 69 P Pn 19 32 47.1 -0.4
baz=270
INK Inuvik 12.18 34 Pn 19 32 49.5 -0.6
INK Inuvik 12.18 34 P Pn 19 32 50.3 +0.2
comp=N,3.1nm,0.4s,baz=223,slow=14,SNR=5.4
INK S Sn 19 35 06.5 +2.6
comp=N,4.7nm,0.5s,baz=165,slow=20,SNR=1.5
INK LR LR 19 37 59.6
comp=N,335nm,20.8s,baz=208,slow=39
INK Inuvik 12.18 34 P Pn 19 32 50.2 +0.2
baz=231
HG4B Hotspring 13.64 112 Pn 19 33 08.6 -1.5
TOAD Toad River Com 13.80 80 P Pn 19 33 12.6 +0.4
baz=283
KOTAN Kotaneelee Air 14.15 74 P Pn 19 33 17.9 +1.2
baz=279,SNR=6.5
ATKA Atka Island 14.26 250 Pn Pn 19 33 20.5 +2.3
ATKA Atka Island 14.26 250 P Pn 19 33 19.6 +1.4
WRGLY Wrigley 14.28 62 P Pn 19 33 18.6 +0.2
baz=267
BBB Bella Bella 15.20 107 Pn 19 33 29.6 -0.8
BBB Bella Bella 15.20 107 P Pn 19 33 29.8 -0.6
comp=N,7.2nm,0.7s,baz=315,slow=13,SNR=5.8
BBB S Sn 19 36 10.8 -6.7
comp=N,6.3nm,0.8s,baz=261,slow=13,SNR=6.4
BBB LR LR 19 38 45.4
comp=N,117nm,20.0s,baz=358,slow=34
ADK Adak 15.67 253 Pn 19 33 37.1 +0.7
ADK IAmb IAmb 19 33 40.5
comp=Z,127nm,1.2s
ADK Adak 15.67 253 P P 19 33 39.1 -0.4
ADK Adak 15.67 253 P Pn 19 33 37.1 +0.7
ADK pmax pmax
comp=Z,127nm,1.3s
HOLB Holberg 16.17 112 Pn Pn 19 33 43.7 +0.9
HOLB IAmb IAmb 19 34 10.7
comp=Z,168nm,1.1s
A36M Sachs Harbour 16.67 29 P 19 33 49.9 -0.5
A36M IAmb IAmb 19 34 09.8
comp=Z,74nm,0.8s
CBB Campbell River 17.90 109 P P 19 34 03.7 -0.5
YKAW3 Yellowknife Wh 18.35 64 P Pn 19 34 10.2 +0.6
YKAW3 IAmb IAmb 19 34 11.2
comp=Z,23nm,0.9s
YKA Yellowknife Ar 18.36 64 P P 19 34 08.6 -0.5
YKA Yellowknife Ar 18.36 64 P Pn 19 34 10.0 +0.3
comp=Z,8.4nm,0.7s,baz=277,slow=16,SNR=24
YKA LR LR 19 41 41.9
comp=Z,137nm,20.9s,baz=324,slow=38
YKA Yellowknife Ar 18.36 64 i P 19 34 08.3 -0.8
YKA pmax pmax
comp=Z,5.0nm,0.5s
YKAW1 Yellowknife Wh 18.42 64 P Pn 19 34 10.8 +0.4
YKAW1 IAmb IAmb 19 34 37.2
comp=Z,15nm,0.8s
LLLB Lillooet 19.25 103 P Pn 19 34 20.3 -0.2
LLLB IAmb IAmb 19 34 46.1
comp=Z,69nm,1.3s
BILL Bilibino 20.05 313 P P 19 34 27.0 -0.5
BILL IAmb IAmb 19 34 28.6
comp=Z,30nm,0.7s
BILL Bilibino 20.05 313 i P P 19 34 26.2 -1.3
NLWA Neilton Lookou 20.45 113 P Pn 19 34 34.0 -0.6
NLWA IAmb IAmb 19 34 59.5
comp=Z,85nm,1.2s
GNW Green Mountain 20.82 111 P Pn 19 34 37.8 -1.2
GNW IAmb IAmb 19 35 04.0
comp=Z,53nm,1.1s
E03A Lebam 21.20 114 P P 19 34 41.6 +1.5
E03A IAmb IAmb 19 35 05.3
comp=Z,103nm,1.1s
F03A Seaside 21.66 115 IAmb IAmb 19 35 25.7
comp=Z,109nm,1.2s
B08A Colville Reser 21.98 105 IAmb IAmb 19 35 12.8
comp=Z,43nm,1.1s
G03D McMinnville, O 22.34 116 IAmb IAmb 19 35 17.4
comp=Z,121nm,1.2s
MXC Moxie City 22.74 110 IAmb IAmb 19 35 22.5
comp=Z,43nm,0.9s
I02E Swisshome, OR 22.92 119 P P 19 34 59.9 +1.5
I02E IAmb IAmb 19 35 24.6
comp=Z,67nm,1.1s
WAH2 Wahluke Slope 22.96 109 P P 19 34 60.0 +1.1
WAH2 IAmb IAmb 19 35 16.2
comp=Z,44nm,1.0s
D08A Wollman Farm, 23.07 107 IAmb IAmb 19 35 25.5
comp=Z,42nm,1.1s
NEW Newport 23.14 103 P P 19 35 01.4 +0.8
NEW Newport 23.14 103 LR LR 19 43 55.7
comp=Z,228nm,18.2s,baz=326,slow=36
NEW Newport 23.14 103 P P 19 35 01.4 +0.8
NEW pmax pmax
comp=Z,18nm,0.8s
G05A Wamic 23.22 113 IAmb IAmb 19 35 34.9
comp=Z,71nm,1.2s
H04A Detroit Lake 23.24 116 P P 19 35 02.6 +1.0
H04A IAmb IAmb 19 35 19.3
comp=Z,67nm,0.9s

HAWA Hanford 23.24 109 IAmb IAmb 19 35 27.4
comp=Z,41nm,1.2s
BUCK Buck Mountain 23.24 117 IAmb IAmb 19 35 28.6
comp=Z,95nm,1.3s
E08A Dider Farm, El 23.40 108 P **P** **19 35 04.8 +1.7**
E08A IAmb IAmb 19 35 28.8
comp=Z,56nm,1.1s
F07A Phinny Hill Vi 23.41 111 IAmb IAmb 19 35 29.3
comp=Z,65nm,1.2s
I03D Drain, OR 23.47 119 IAmb IAmb 19 35 22.5
comp=Z,45nm,1.3s
J01E Myrtle Point 23.63 120 IAmb IAmb 19 35 32.1
comp=Z,101nm,1.3s
KEBM Edson Butte 23.68 121 P **P** **19 35 07.2 +1.4**
I05D Terrebonne, OR 23.89 115 IAmb IAmb 19 35 35.0
comp=Z,27nm,0.9s
J04A Umpqua Nationa 24.39 118 P **P** **19 35 14.0 +1.7**
J04A IAmb IAmb 19 35 39.8
comp=Z,80nm,1.0s
BBOR Butler Butte 24.41 119 IAmb IAmb 19 35 31.6
comp=Z,28nm,1.0s
PINE Pine Mountain 24.50 115 IAmb IAmb 19 35 17.8
comp=Z,36nm,0.9s
KSXB Camp Six Broad 24.73 122 P **P** **19 35 17.1 +1.8**
KSXB IAmb IAmb 19 35 42.6
comp=Z,28nm,1.0s
J05D Fort Rock, OR 24.75 116 IAmb IAmb 19 35 42.7
comp=Z,58nm,1.1s
I07A Izee 24.95 113 IAmb IAmb 19 35 44.1
comp=Z,41nm,1.0s
KRMB Red Mountain 24.96 123 P **P** **19 35 19.8 +2.3**
KRMB IAmb IAmb 19 35 44.4
comp=Z,28nm,1.0s
K04D Chiloquin, OR 25.03 118 IAmb IAmb 19 35 45.4
comp=Z,69nm,1.1s
L04D Klamath Falls 25.11 120 IAmb IAmb 19 35 45.3
comp=Z,67nm,1.0s
YBH Yreka Blue Hor 25.32 121 P **P** **19 35 24.0 +3.4**
YBH IAmb IAmb 19 35 40.0
comp=Z,31nm,0.9s
YBH Yreka Blue Hor 25.32 121 LR LR 19 43 32.3
comp=Z,12nm,20.1s,baz=308,slow=32
YBH Yreka Blue Hor 25.32 121 P **P** **19 35 24.0 +3.4**
YBH pmax pmax
comp=Z,31nm,0.9s
K05A Summer Lake 25.34 117 IAmb IAmb 19 35 49.0
comp=Z,54nm,1.1s
BMO Blue Mountains 25.43 109 P **P** **19 35 22.6 +0.9**
BMO IAmb IAmb 19 35 48.7
comp=Z,32nm,1.2s
BMO Blue Mountains 25.43 109 P **P** **19 35 22.6 +0.9**
BMO pmax pmax
comp=Z,33nm,1.2s
MSO Missoula 25.70 102 P **P** **19 35 24.4 +0.3**
RES Resolute Bay 25.70 31 P **P** **19 35 25.4 +1.6**
RES Resolute Bay 25.70 31 LR LR 19 47 00.7
comp=Z,57nm,19.1s,baz=192,slow=40
RES Resolute Bay 25.70 31 P **P** **19 35 25.4 +1.6**
RES pmax pmax
comp=Z,10.0nm,0.8s
PLID Pearl Lake 25.90 107 P **P** **19 35 27.1 +1.1**
J08A Circle Bar Ran 25.98 113 IAmb IAmb 19 35 54.4
comp=Z,37nm,1.0s
BLKN Baker Lake 26.23 55 P **P** **19 35 29.7 +1.2**
SEY Seymchan 26.36 302 LR LR 19 46 58.9
comp=Z,187nm,18.1s,baz=54,slow=39
SEY Seymchan 26.36 302 *i* P **P** **19 35 27.7 -2.1**
SEY pmax pmax
comp=Z,19nm,1.0s
O02D Mt. Diablo Mer 26.55 123 P **P** **19 35 33.3 +1.5**
O02D IAmb IAmb 19 35 58.8
comp=Z,45nm,1.5s
EGMT Eagleton 27.03 96 IAmb IAmb 19 35 59.2
comp=Z,24nm,0.9s
MFID Camas Ranch 27.21 109 P **P** **19 35 39.1 +1.3**
PET Petropavlovsk 27.58 279 *i* P **P** **19 35 40.1 -0.7**
PET pmax pmax
comp=Z,29nm,1.6s
PET Petropavlovsk 27.58 279 P **P** **19 35 41.6 +0.8**
comp=Z,10nm,1.5s
PEA0B Petropavlovsk- 28.02 280 P **P** **19 35 44.4 -0.4**
PEA0B Petropavlovsk- 28.02 280 *i* P **P** **19 35 44.0 -0.8**
PETK Petropavlovsk- 28.02 280 P **P** **19 35 44.5 -0.3**
PETK Petropavlovsk- 28.02 280 P **P** **19 35 43.9 -0.9**
comp=Z,12nm,0.8s,baz=74,slow=11,SNR=32
comp=Z,12nm,0.8s
PETK Petropavlovsk- 28.02 280 P **P** **19 35 44.5 -0.3**
EUNU Eureka 28.16 20 P **P** **19 35 47.3 +1.5**
MA2 Magadan 28.30 296 P **P** **19 35 47.2 0.0**
MA2 IAmb IAmb 19 35 48.3
comp=Z,42nm,0.9s
MA2 Magadan 28.30 296 LR LR 19 47 32.9
comp=Z,89nm,21.1s,baz=90,slow=37
MA2 Magadan 28.30 296 *ce* P **P** **19 35 47.8 +0.6**
MA2 pmax pmax
comp=Z,32nm,1.0s
PAHR Pah Rah Range 28.44 119 IAmb IAmb 19 36 07.2
comp=Z,20nm,0.9s
YNE Yellowstone No 28.94 101 P **P** **19 35 54.3 +1.0**
WAKR Walker 29.40 120 P **P** **19 35 58.9 +1.6**
ELK Elko 29.53 112 LR LR 19 47 02.3
comp=Z,76nm,18.1s,baz=324,slow=34
LOHW Long Hollow 29.64 103 P **P** **19 36 00.1 +0.6**
NVAR Mina Array Bea 29.96 119 P **P** **19 36 04.9 +2.5**
comp=Z,3.1nm,0.3s,baz=308,slow=9.4,SNR=8.9
NVAR pP **pP** **19 36 19.0 +2.0**
comp=Z,12nm,0.7s,baz=311,slow=8.9,SNR=3.8
NVAR LR LR 19 47 21.6
comp=Z,126nm,18.4s,baz=328,slow=34
comp=Z,3.1nm,0.3s
SKR Severo-Kuril's 30.21 277 *ce* P **P** **19 36 03.9 -0.2**
ILON Igloolik, Nuna 30.27 41 P **P** **19 36 05.6 +1.2**
PDAR Pinedale Array 30.78 103 P **P** **19 36 10.3 +0.8**
PDAR Pinedale Array 30.78 103 P **P** **19 36 11.7 +2.1**
comp=Z,2.6nm,0.8s,baz=310,slow=5.6,SNR=24
PDAR pP **pP** **19 36 25.1 +0.8**
comp=Z,3.6nm,0.8s,baz=316,slow=6.2,SNR=7.0
PDAR PcP **PcP** **19 39 05.5 0.0**
comp=Z,0.5nm,0.5s,baz=312,slow=3.6,SNR=2.3
PDAR LR LR 19 48 12.5
comp=Z,41nm,18.9s,baz=304,slow=35
comp=Z,2.6nm,0.8s
DSP Deep Springs 30.99 120 P **P** **19 36 13.0 +1.9**
R11B Troy Canyon, C 31.27 116 IAmb IAmb 19 36 32.9
comp=Z,23nm,1.1s
SPR3 Spring Creek 3 31.34 113 IAmb IAmb 19 36 34.2
comp=Z,24nm,1.0s
S11A Rachel 31.77 117 IAmb IAmb 19 36 39.7
comp=Z,41nm,0.9s
BSUT Blindstream Ca 31.86 107 P **P** **19 36 20.8 +1.6**
PSUT Pine Spring 31.93 113 IAmb IAmb 19 36 39.0
comp=Z,18nm,1.1s
WCT Wildcat Mounta 32.07 119 IAmb IAmb 19 36 25.0
comp=Z,20nm,0.8s
TPNV Topopah Spring 32.11 118 IAmb IAmb 19 36 25.2
comp=Z,24nm,0.7s
ISA Isabella, Lake 32.19 122 P **P** **19 36 23.7 +1.9**
ISA IAmb IAmb 19 36 25.5
comp=Z,18nm,0.8s
ISA Isabella, Lake 32.19 122 P **P** **19 36 23.7 +1.9**
ISA pmax pmax
comp=Z,18nm,0.9s
TIXI Tiksi 32.35 324 LR LR 19 50 33.0
comp=Z,66nm,19.6s,baz=45,slow=38
TIXI Tiksi 32.35 324 *i* P **P** **19 36 20.6 -2.2**
TIXI pmax pmax
comp=Z,14nm,0.9s
GWY Greenwater Val 32.55 119 IAmb IAmb 19 36 29.2
comp=Z,18nm,0.8s
TMUT Trail Mountain 32.60 109 P **P** **19 36 26.6 +1.0**
RSSD Black Hills 32.60 96 P **P** **19 36 27.4 +1.8**
RSSD IAmb IAmb 19 36 28.8
comp=Z,26nm,0.8s
RSSD Black Hills 32.60 96 P **P** **19 36 27.4 +1.8**
RSSD pmax pmax
comp=Z,26nm,0.8s
E28A Huff 32.63 90 IAmb IAmb 19 36 28.7
comp=Z,29nm,0.8s
ULM Lac du Bonnet 32.74 81 P **P** **19 36 27.2 +0.8**
comp=Z,5.4nm,0.6s,baz=306,slow=8.7,SNR=6.1
ULM pP **pP** **19 36 42.9 +1.8**
comp=Z,3.7nm,0.5s,baz=320,slow=9.6,SNR=3.9
ULM PcP **PcP** **19 39 10.2 -0.2**
comp=Z,3.5nm,0.7s,baz=306,slow=3.3,SNR=3.2
ULM LR LR 19 49 23.9
comp=Z,98nm,18.5s,baz=276,slow=35
comp=Z,5.4nm,0.6s
P18A Preston Nutter 32.81 108 P **P** **19 36 28.8 +1.3**
P18A IAmb IAmb 19 36 54.3
comp=Z,21nm,1.5s
Q16A Castle Valley 32.91 110 IAmb IAmb 19 36 32.6
comp=Z,24nm,1.1s
SRU San Rafael Swe 33.07 109 IAmb IAmb 19 36 33.7
comp=Z,36nm,1.1s
O20A White River Ci 33.41 105 IAmb IAmb 19 36 35.9
comp=Z,18nm,0.7s
KNB Kanab 33.64 114 P **P** **19 36 36.0 +1.5**
KNB IAmb IAmb 19 36 39.0
comp=Z,18nm,1.1s
KNB Kanab 33.64 114 P **P** **19 36 36.0 +1.5**
KNB pmax pmax
comp=Z,18nm,1.1s
V12A Nelson 33.75 118 IAmb IAmb 19 36 40.0
comp=Z,30nm,0.8s
HMU Henry Mountain 33.89 110 IAmb IAmb 19 36 55.5
comp=Z,12nm,1.0s
AGMN Agassiz Nation 33.98 83 IAmb IAmb 19 36 39.2
comp=Z,11nm,0.8s
EPLO Experimental L 34.19 80 P **P** **19 36 39.0 0.0**
EPLO IAmb IAmb 19 36 41.0
comp=Z,10.0nm,0.9s
PV21 Cone Mtn., Par 34.26 108 IAmb IAmb 19 37 04.9
comp=Z,18nm,0.7s
ELS Elsinore Mount 34.35 123 IAmb IAmb 19 37 06.9
comp=Z,13nm,1.1s
PV22 Blue Mesa, Par 34.37 108 IAmb IAmb 19 36 44.4
comp=Z,27nm,1.0s
PV04 Paradox Valley 34.42 108 IAmb IAmb 19 36 44.9
comp=Z,28nm,1.0s
PV20 West Nyswonger 34.43 108 P **P** **19 36 42.5 +1.0**
PV20 IAmb IAmb 19 36 44.9
comp=Z,35nm,1.0s
PV19 Morning Glory 34.45 108 IAmb IAmb 19 37 06.7
comp=Z,26nm,0.8s
PV16 Nyswonger Mesa 34.48 108 IAmb IAmb 19 36 45.4
comp=Z,16nm,0.9s
PV17 East Wray Mesa 34.48 108 P **P** **19 36 42.4 +0.5**
PV17 IAmb IAmb 19 37 07.0
comp=Z,31nm,1.2s
PV07 Paradox Valley 34.51 108 IAmb IAmb 19 37 07.1
comp=Z,17nm,0.9s
PV03 Paradox Valley 34.56 108 P **P** **19 36 42.2 -0.3**
PV03 IAmb IAmb 19 36 45.9
comp=Z,18nm,1.0s
PV05 Paradox Valley 34.58 108 IAmb IAmb 19 37 07.8
comp=Z,18nm,0.9s
PV13 Radium Mtn., P 34.65 108 IAmb IAmb 19 36 46.9
comp=Z,35nm,1.0s
PV02 Paradox Valley 34.65 108 IAmb IAmb 19 36 46.9
comp=Z,30nm,0.9s
PV15 Paradox Valley 34.67 107 IAmb IAmb 19 36 46.9
comp=Z,23nm,0.9s
W13A Hualapai Mount 34.71 117 P **P** **19 36 45.4 +1.4**
W13A IAmb IAmb 19 36 48.1
comp=Z,17nm,0.8s
PV01 Paradox Valley 34.79 108 IAmb IAmb 19 37 09.7
comp=Z,17nm,0.8s
PFO Pinyon Flats O 34.81 122 LR LR 19 49 21.6
comp=Z,153nm,19.6s,baz=28,slow=33
NEEM North Greenlan 35.35 22 *i* P **P** **19 36 50.0 +1.0**
NEEM IAmb IAmb 19 36 51.0
comp=Z,119nm,0.7s
YUH Yuha Desert 35.86 122 P **P** **19 36 55.3 +1.7**
YUH IAmb IAmb 19 36 57.5
comp=Z,21nm,1.1s
Y14A Wickenburg 36.08 117 IAmb IAmb 19 36 59.6
comp=Z,23nm,0.7s
YAK Yakutsk 36.28 309 P **P** **19 36 55.7 -1.1**
YAK Yakutsk 36.28 309 LR LR 19 53 09.1
comp=Z,150nm,20.1s,baz=42,slow=38
YAK Yakutsk 36.28 309 *c* *i* P **P** **19 36 55.7 -1.1**
YAK *e** PP **pP** **19 37 11.6 0.0**
YAK *e* 19 38 23.0
YAK *eS* **S** **19 42 31.3 -1.5**
YAK *eSS* **SnSn** **19 45 03.9 -0.1**
YAK *e* 19 47 05.8
YAK pmax pmax
comp=Z,49nm,1.0s
YAK pmax pmax
comp=N,4.0nm,0.7s
YAK pmax pmax
comp=E,13nm,1.4s
YAK pmax pmax
comp=Z,68nm,3.3s
YAK pmax pmax
comp=N,15nm,2.5s
YAK pmax pmax
comp=E,28nm,2.7s
YAK smax smax
comp=E,37nm,3.3s
YAK smax smax
comp=N,30nm,2.8s
ESJX Sierra Juarez 36.40 122 IAmb IAmb 19 37 02.4
comp=Z,22nm,1.2s
X16A Lo Mia Camp, P 36.40 115 IAmb IAmb 19 37 03.0
comp=Z,21nm,1.3s
EYMN Ely 36.43 81 IAmb IAmb 19 37 00.4
comp=Z,20nm,0.7s
SDCO Great Sand Dun 36.60 105 P **P** **19 37 01.6 +1.4**
SDCO IAmb IAmb 19 37 04.0
comp=Z,11nm,0.8s
W18A Petrified Fore 36.63 112 IAmb IAmb 19 37 04.5
comp=Z,17nm,1.1s
113A Mohawk Valley, 36.71 119 IAmb IAmb 19 37 04.5
comp=Z,13nm,0.8s
TYV Tymovskoe 36.87 286 *e* P **P** **19 37 02.3 +0.4**
TYV pmax pmax
comp=Z,100nm,5.4s
TYV pmax pmax
comp=Z,11nm,1.1s
X18A Snowflake 37.01 113 P **P** **19 37 05.3 +1.7**
X18A IAmb IAmb 19 37 07.8
comp=Z,24nm,0.9s
E38A The Farm, Brul 37.29 82 IAmb IAmb 19 37 07.4
comp=Z,24nm,1.0s
NOR Nord 37.36 10 *i* P **P** **19 37 05.5 -0.3**
NOR IAmb IAmb 19 37 05.9
comp=Z,6.3nm,0.8s
FRB Frobisher Bay 37.43 47 LR LR 19 52 37.4
comp=Z,124nm,19.8s,baz=282,slow=36
BGNE Belgrade 37.56 94 P **P** **19 37 09.3 +1.3**
SPMN Marine on St. 37.60 85 IAmb IAmb 19 37 10.6
comp=Z,22nm,0.9s
T25A Trinidad 37.62 104 IAmb IAmb 19 37 12.5
comp=Z,20nm,1.4s
214A Organ Pipe Nat 37.83 119 IAmb IAmb 19 37 14.4
comp=Z,28nm,0.8s
ANMO Albuquerque 38.35 109 P **P** **19 37 16.1 +1.2**
ANMO Albuquerque 38.35 109 IAmb IAmb 19 37 18.0
comp=Z,4.7nm,1.1s
ANMO Albuquerque 38.35 109 LR LR 19 53 19.0
comp=Z,60nm,18.5s,baz=52,slow=36
ANMO Albuquerque 38.35 109 *ce* P **P** **19 37 17.6 +2.7**
ANMO pmax pmax
comp=Z,6.0nm,1.3s
TUC Tucson 38.46 116 P **P** **19 37 18.4 +2.7**
TUC IAmb IAmb 19 37 19.9
comp=Z,14nm,0.8s
TUC Tucson 38.46 116 P **P** **19 37 18.4 +2.7**
TUC pmax pmax
comp=Z,14nm,0.8s
CBKS Cedar Bluff 38.68 98 IAmb IAmb 19 37 20.6
comp=Z,33nm,0.9s
G40A Rib Lake 38.90 83 P **P** **19 37 19.7 +0.6**
G40A IAmb IAmb 19 37 21.1
comp=Z,17nm,0.9s
YSS Yuzhno-Sakhali 39.38 282 P **P** **19 37 24.6 +1.5**
YSS IAmb IAmb 19 37 25.9
comp=Z,14nm,0.9s
YSS Yuzhno-Sakhali 39.38 282 *eP* **P** **19 37 23.7 +0.7**
YSS *eS* **S** **19 43 18.8 -1.1**
YSS 19 46 47.0
YSS pmax pmax
comp=Z,20nm,1.0s
F42A Maple Grove Fa 39.61 81 P **P** **19 37 26.1 +1.1**
F42A IAmb IAmb 19 37 27.6
comp=Z,18nm,0.7s
I40A Norwalk 39.65 85 IAmb IAmb 19 37 27.6
comp=Z,20nm,0.8s
319A Douglas 39.94 115 IAmb IAmb 19 37 32.2
comp=Z,20nm,0.8s
GRNR Gornyy 39.96 290 ⇑ *i* P **P** **19 37 26.5 -1.4**
GRNR pmax pmax
comp=Z,8.0nm,1.1s
GRNR MLR MLR
comp=E,100nm,20.0s
GRNR MLR MLR
comp=N,350nm,22.0s
GRNR MLR MLR
comp=Z,100nm,16.0s
I42A Draeger Farm, 40.52 83 IAmb IAmb 19 37 34.8
comp=Z,24nm,0.8s
L40A Anamosa 40.64 87 P **P** **19 37 34.0 +0.3**
H43A Windswept, Lux 40.69 82 IAmb IAmb 19 37 36.0
comp=Z,25nm,1.0s
AMTX Amarillo 40.76 104 IAmb IAmb 19 38 00.1
comp=Z,22nm,1.2s
SUMG Summit 40.89 25 *i* P **P** **19 37 37.0 +1.2**
SUMG IAmb IAmb 19 37 38.5
comp=Z,16nm,0.6s
MSTX Muleshoe 40.94 106 IAmb IAmb 19 37 39.4
comp=Z,19nm,1.0s
KAN01 Argonia South 40.96 98 P **P** **19 37 36.3 0.0**
DAG Danmarks Havn 41.10 15 *i* P **P** **19 37 37.0 0.0**
DAG IAmb IAmb 19 37 37.5
comp=Z,72nm,0.6s
E46A Sault Ste Mari 41.12 77 P **P** **19 37 38.4 +0.9**
E46A IAmb IAmb 19 37 39.6
comp=Z,15nm,0.8s
HSIG 41.16 119 P **P** **19 37 38.8 +0.7**
HSIG IAmb IAmb 19 37 41.9
comp=Z,22nm,0.9s
P38A Dawn 41.25 92 IAmb IAmb 19 37 40.4
comp=Z,24nm,0.6s
ASAJ Asahikawa 41.42 279 LR LR 19 54 17.9
comp=Z,40nm,19.8s,baz=350,slow=35
L42A Oliver, Polo 41.48 86 P **P** **19 37 41.0 +0.5**
L42A IAmb IAmb 19 37 41.8
comp=Z,27nm,0.8s
MNTX Cornudas Mount 41.51 111 IAmb IAmb 19 37 44.9
comp=Z,13nm,0.8s
K43A Burlington 41.66 84 IAmb IAmb 19 37 43.6
comp=Z,35nm,0.7s
KBS Kingsbay 41.73 5 *eP* **P** **19 37 43.1 +1.0**
KBS IAmb IAmb 19 37 43.7
comp=Z,16nm,0.5s
T35A Sooner Cattle 41.78 97 IAmb IAmb 19 37 45.1
comp=Z,20nm,0.8s
N41A Harden Midland 41.82 88 P **P** **19 37 43.4 +0.1**
N41A IAmb IAmb 19 37 44.8
comp=Z,30nm,0.7s
P40A Paris 42.08 90 IAmb IAmb 19 37 47.0
comp=Z,23nm,0.7s
OK029 Liberty Lake 42.16 99 IAmb IAmb 19 37 48.4
comp=Z,28nm,0.9s
L44A Lake County Fo 42.26 84 IAmb IAmb 19 37 48.6
comp=Z,33nm,0.8s
ZEA Zeya 42.29 299 *eP* **P** **19 37 45.7 -1.2**
ZEA *e* 19 38 02.0
ZEA pmax pmax
comp=Z,10.0nm,1.4s
POST Post 42.30 105 P **P** **19 37 48.0 +0.7**
POST IAmb IAmb 19 37 50.1
comp=Z,24nm,0.7s
WMOK Wichita Mounta 42.32 101 IAmb IAmb 19 37 50.4
comp=Z,30nm,1.2s
VHRN Van Horn 42.46 111 IAmb IAmb 19 37 53.0
comp=Z,29nm,0.9s
SN07 Snyder 07 42.58 105 P **P** **19 37 50.5 +0.9**
SN07 IAmb IAmb 19 37 53.4
comp=Z,12nm,0.7s
SPA0 Spitsbergen Ar 42.63 3 *eP* **P** **19 37 49.0 -0.4**
SPA0 IAmb IAmb 19 37 49.4
comp=Z,38nm,0.9s
SPITS Spitsbergen Ar 42.63 3 P **P** **19 37 48.7 -0.8**
comp=Z,8.1nm,0.3s,baz=17,slow=6.1,SNR=53
SPITS LR LR 19 55 58.8
comp=Z,53nm,19.0s,baz=290,slow=37
comp=Z,8.1nm,0.3s
SPB2 Spitsbergen Ar 42.64 3 IAmb IAmb 19 37 49.7
comp=Z,34nm,0.8s
M44A Midewin, Midew 42.77 85 IAmb IAmb 19 37 52.6
comp=Z,26nm,0.8s
APMT Aspermont 42.77 104 P **P** **19 37 51.4 +0.2**
R40A Maddies Statio 42.90 92 IAmb IAmb 19 37 53.2
comp=Z,24nm,0.7s
TUL3 Leonard 42.92 97 IAmb IAmb 19 37 54.2
comp=Z,19nm,0.7s
ICESG Greenland Ices 43.09 29 *i* P **P** **19 37 51.7 -2.0**
ICESG IAmb IAmb 19 37 53.6
comp=Z,39nm,1.5s
RLO Rose Lookout 43.12 96 IAmb IAmb 19 37 55.6
comp=Z,20nm,0.7s
U38A Gravette 43.23 95 P **P** **19 37 55.1 +0.3**
KLR Kul'dur 43.23 292 LR LR 19 56 23.4
comp=Z,82nm,18.7s,baz=34,slow=37
KLR Kul'dur 43.23 292 *i* P **P** **19 37 52.0 -2.6**
KLR pmax pmax
comp=Z,13nm,0.9s
WTFS Witchita Falls 43.25 102 IAmb IAmb 19 37 57.1
comp=Z,14nm,0.6s
SGCY Sterling City 43.41 106 IAmb IAmb 19 37 59.0
comp=Z,17nm,0.7s
ABTX Abilene, Hawle 43.58 104 IAmb IAmb 19 38 00.4
comp=Z,12nm,0.4s
HHAR Hobbs 43.58 95 P **P** **19 37 57.4 -0.2**
HHAR IAmb IAmb 19 37 58.7
comp=Z,14nm,0.7s
SCHQ Schefferville 43.59 57 P **P** **19 37 59.8 +2.3**
comp=Z,1.9nm,0.5s,baz=287,slow=11,SNR=3.6
SCHQ pP **pP** **19 38 12.3 -0.4**
comp=Z,3.1nm,0.5s,baz=295,slow=7.3,SNR=2.8
SCHQ LR LR 19 58 08.8
comp=Z,57nm,19.8s,baz=290,slow=39
comp=Z,1.9nm,0.5s
CCM Cathedral Cave 43.60 91 P **P** **19 37 57.8 0.0**
CCM Cathedral Cave 43.60 91 P **P** **19 37 57.8 0.0**
CCM pmax pmax
comp=Z,9.0nm,0.9s
MGMO Mountain Grove 43.77 93 IAmb IAmb 19 37 59.9
comp=Z,21nm,1.0s
SFIN Lafayette 43.99 85 IAmb IAmb 19 38 02.8
comp=Z,47nm,1.3s
FVM French Village 44.08 91 IAmb IAmb 19 38 03.6
comp=Z,25nm,1.1s
PLPT Palo Pinto 44.09 102 IAmb IAmb 19 38 04.7
comp=Z,16nm,0.6s
Q44A Meyer Farm, Va 44.11 88 P **P** **19 38 02.4 +0.6**
Q44A IAmb IAmb 19 38 03.3
comp=Z,32nm,0.8s
BUKO Buck Lake 44.21 75 IAmb IAmb 19 38 04.4
comp=Z,20nm,0.9s
Z35A Perchaven, San 44.21 101 IAmb IAmb 19 38 05.2
comp=Z,30nm,1.0s
OZNA Ozona 44.22 107 IAmb IAmb 19 38 05.7
comp=Z,16nm,0.7s
TXAR Lajitas Array 44.30 111 P **P** **19 38 05.1 +1.6**
TXAR Lajitas Array 44.30 111 P **P** **19 38 05.9 +2.4**
comp=Z,10nm,0.9s,baz=329,slow=6.3,SNR=90
TXAR pP **pP** **19 38 20.8 +2.1**
comp=Z,2.7nm,0.7s,baz=331,slow=7.4,SNR=5.7
TXAR LR LR 19 55 14.6
comp=Z,51nm,21.8s,baz=306,slow=34
comp=Z,10nm,0.9s
HOPEN Hopen 44.48 1 *eP* **P** **19 38 04.6 +0.3**
P46A Rosedale 44.50 86 IAmb IAmb 19 38 06.3
comp=Z,22nm,0.6s
HEH HeiHe 44.57 296 *eP* **P** **19 38 03.5 -1.8**
HEH pP **pP** **19 38 18.9 -1.6**
HEH pmax pmax
comp=Z,17nm,0.8s
FCAR Ozark Folk Cen 44.81 94 IAmb IAmb 19 38 08.0
comp=Z,8.9nm,0.6s
SADO Sadowa 44.82 75 P **P** **19 38 07.7 +0.3**
SADO Sadowa 44.82 75 LR LR 19 58 49.0
comp=Z,68nm,18.2s,baz=338,slow=38
S44A Carbondale 44.90 90 IAmb IAmb 19 38 10.2
comp=Z,23nm,0.5s
FW13 Cleburne 44.90 102 IAmb IAmb 19 38 10.9
comp=Z,23nm,0.9s
SIUC Southern Illin 44.91 90 P **P** **19 38 08.4 +0.2**
SIUC IAmb IAmb 19 38 10.2
comp=Z,39nm,1.2s
CGM3 Cape Girardeau 45.00 91 IAmb IAmb 19 38 09.7
comp=Z,12nm,0.5s
N49A Columbus Grove 45.08 83 P **P** **19 38 09.5 0.0**
MIAR Mount Ida 45.12 96 IAmb IAmb 19 38 11.9
comp=Z,17nm,0.8s
WHTX Lake Whitney, 45.18 102 IAmb IAmb 19 38 13.7
comp=Z,29nm,1.2s

M50A Fremont 45.30 81 P P 19 38 11.4 +0.1
M50A IAmb IAmb 19 38 13.5
comp=Z,19nm,0.7s

HPIG 45.37 115 P P 19 38 13.9 +1.8
HPIG IAmb IAmb 19 38 15.8
comp=Z,15nm,1.0s

O49A Covington 45.55 83 IAmb IAmb 19 38 14.4
comp=Z,29nm,1.2s

DRIO Del Rio 45.70 107 IAmb IAmb 19 38 16.4
comp=Z,17nm,0.6s

LPIG La Paz 45.70 122 LR LR 19 55 03.5
comp=Z,86nm,19.6s,baz=238,slow=33

DELO Deloro Mine 45.75 74 P P 19 38 14.8 +0.1
DELO IAmb IAmb 19 38 16.8
comp=Z,12nm,0.9s

WCI Wyandotte Cave 46.02 87 P P 19 38 17.3 +0.4
WCI Wyandotte Cave 46.02 87 P P 19 38 17.3 +0.4
WCI pmax pmax
comp=Z,47nm,1.2s

TRQ Mont Tremblant 46.02 70 IAmb IAmb 19 38 19.3
comp=Z,33nm,1.4s

ACSO Alum Creek Sta 46.20 82 P P 19 38 18.6 +0.2
ACSO IAmb IAmb 19 38 20.0
comp=Z,26nm,0.8s

HNDO Hondo 46.27 106 IAmb IAmb 19 38 22.3
comp=Z,9.9nm,0.8s

ERPA Erie 46.32 78 IAmb IAmb 19 38 21.5
comp=Z,19nm,0.6s

PECO Prince Edward 46.49 74 P P 19 38 20.6 +0.1
PECO IAmb IAmb 19 38 22.5
comp=Z,12nm,0.8s

R49A Shelbyville 46.54 86 IAmb IAmb 19 38 22.4
comp=Z,33nm,1.2s

T47A Sharon Grove 46.55 89 IAmb IAmb 19 38 22.8
comp=Z,23nm,1.0s

J55A Hilton 46.57 76 IAmb IAmb 19 38 23.2
comp=Z,23nm,0.8s

USRK Ussuriysk Ar. 46.68 286 P P 19 38 21.0 -1.0
comp=Z,2.2nm,0.6s,baz=44,slow=10,SNR=5.0
USRK LR LR 20 00 10.4
comp=Z,68nm,18.5s,baz=28,slow=39
comp=Z,2.2nm,0.6s

P51A Williamsport 46.73 83 P P 19 38 22.8 +0.4
WVT Waverly 46.83 90 P P 19 38 24.0 +0.7
WVT IAmb IAmb 19 38 25.2
comp=Z,18nm,1.0s

WVT Waverly 46.83 90 P P 19 38 24.0 +0.7
WVT pmax pmax
comp=Z,18nm,1.0s

O52A Adamsville 46.87 82 IAmb IAmb 19 38 25.1
comp=Z,32nm,1.0s

MMNY Mt. Morris Dam 46.91 76 P P 19 38 24.3 +0.4
MMNY IAmb IAmb 19 38 25.7
comp=Z,19nm,0.7s

P52A Corning 47.08 82 IAmb IAmb 19 38 26.5
comp=Z,27nm,0.9s

O53A New Philadelph 47.09 81 IAmb IAmb 19 38 26.7
comp=Z,22nm,0.9s

J57A Williamstown 47.36 74 IAmb IAmb 19 38 29.1
comp=Z,13nm,0.9s

FRNY Flat Rock 47.50 71 IAmb IAmb 19 38 29.9
comp=Z,11nm,1.1s

O54A Avella 47.56 80 P P 19 38 29.1 +0.1
CLTN Cedars of Leba 47.63 89 IAmb IAmb 19 38 32.0
comp=Z,21nm,0.8s

HKT Hockley 47.65 102 P P 19 38 31.2 +1.6
HKT IAmb IAmb 19 38 33.1
comp=Z,39nm,1.4s

HKT Hockley 47.65 102 P P 19 38 31.2 +1.6
HKT pmax pmax
comp=Z,39nm,1.4s

V48A Smith Brothers 47.65 89 P P 19 38 30.3 +0.5
BNX BinXian 47.79 291 ⇓P P 19 38 31.0 +0.4
BNX pmax pmax
comp=Z,10.0nm,0.9s

D62A Allapoint, All 48.03 66 IAmb IAmb 19 38 60.0
comp=Z,10nm,0.9s

MCWV Mont Chateau 48.23 80 P P 19 38 34.2 +0.1
VT1 Waterbury 48.27 71 IAmb IAmb 19 38 36.0
comp=Z,14nm,1.1s

SSPA Standing Stone 48.48 78 P P 19 38 36.7 +0.6
G62A West of Eustis 48.69 69 IAmb IAmb 19 38 39.7
comp=Z,7.4nm,0.7s

TZTN Tazewell 48.71 86 P P 19 38 38.4 +0.5
W50A Signal Mountai 48.84 89 IAmb IAmb 19 38 41.0
comp=Z,18nm,0.7s

KSPA Keystone Colle 48.85 76 IAmb IAmb 19 38 41.1
comp=Z,22nm,1.0s

Q56A Snyder Ridge, 49.03 80 P P 19 38 40.5 +0.2
CPCT Cooper Cave 49.06 88 IAmb IAmb 19 38 42.1
comp=Z,18nm,0.7s

J61A Chester 49.10 72 IAmb IAmb 19 38 43.3
comp=Z,18nm,1.2s

TKL Tuckaleechee C 49.28 87 LR LR 19 59 10.6
comp=Z,71nm,21.0s,baz=6.0,slow=35

MAJO Matsushiro 49.29 275 P P 19 38 42.3 0.0
MAJO IAmb IAmb 19 38 43.5
comp=Z,8.6nm,0.8s

MAJO Matsushiro 49.29 275 P P 19 38 42.3 0.0
MJAR Matsushiro Arr 49.29 275 P P 19 38 41.3 -1.0
comp=Z,4.4nm,0.7s,baz=23,slow=7.4,SNR=6.5
comp=Z,2.4nm,0.7s

CIT Chita 49.42 306 *eP* P 19 38 42.8 -0.4
CIT *e* 19 38 59.0
CIT *e* 19 40 12.2
CIT *e* 19 40 37.2
CIT pmax pmax
comp=Z,35nm,2.7s

X51A Calhoun 49.57 89 P P 19 38 45.0 +0.6
LRAL Lakeview Retre 49.67 92 IAmb IAmb 19 38 46.5
comp=Z,13nm,0.8s

MVL Millersville 49.73 77 IAmb IAmb 19 38 47.6
comp=Z,13nm,0.6s

K62A Royalston 49.76 72 IAmb IAmb 19 38 47.9
comp=Z,12nm,0.8s

SDMD Soldier's Deli 49.93 78 IAmb IAmb 19 38 48.8
comp=Z,10nm,0.8s

S57A Dark Hollow, R 50.12 81 P P 19 38 49.3 +0.7
S57A IAmb IAmb 19 38 50.7
comp=Z,26nm,1.3s

WUPA West Chester U 50.15 77 IAmb IAmb 19 38 50.8
comp=Z,11nm,0.7s

PAL Palisades 50.19 75 IAmb IAmb 19 38 51.1
comp=Z,27nm,0.9s

HAMF Hammerfest 50.36 2 *eP* P 19 38 49.2 -0.8
HAMF IAmb IAmb 19 38 49.5
comp=Z,14nm,0.7s

ZAIG Zacatecas 50.37 114 IAmb IAmb 19 38 54.2
comp=Z,15nm,1.2s

V55A Taylorsville 50.44 85 P P 19 38 51.4 +0.3
T57A Hurt 50.55 82 IAmb IAmb 19 38 53.4
comp=Z,15nm,0.7s

BORG Borgarnes 50.87 25 LR LR 20 03 00.5
comp=Z,42nm,18.1s,baz=314,slow=39

VADS Vadso 50.91 359 *eP* P 19 38 53.9 -0.2
VADS IAmb IAmb 19 38 54.1
comp=Z,27nm,0.7s

KMSC Kings Mountain 50.93 85 P P 19 38 54.8 +0.1
KMSC IAmb IAmb 19 38 56.5
comp=Z,21nm,0.9s

HODGE Hodges 51.17 87 P P 19 38 56.6 +0.1
GOGA Godfrey 51.19 89 IAmb IAmb 19 38 58.1
comp=Z,24nm,1.1s

TRO Tromso 51.24 4 *eP* P 19 38 56.8 +0.2
TRO IAmb IAmb 19 38 57.0
comp=Z,22nm,1.0s

KEV Kevo 51.28 0 P P 19 38 56.1 -0.8
KEV Kevo 51.28 0 P P 19 38 56.1 -0.8
KEV pmax pmax
comp=Z,24nm,0.8s

JETT Jettan, Norway 51.37 3 *eP* P 19 38 57.6 0.0
JETT IAmb IAmb 19 39 06.1
comp=Z,24nm,1.1s

T59A Double "B" Far 51.44 81 P P 19 38 58.4 -0.1
T59A IAmb IAmb 19 39 00.4
comp=Z,18nm,0.7s

ARA0 ARCESS Array S 51.49 1 *eP* P 19 38 57.8 -0.7
ARA0 IAmb IAmb 19 38 58.3
comp=Z,15nm,0.6s

ARCES ARCESS Array B 51.49 1 P P 19 38 57.6 -0.9
ARCES IAmb IAmb 19 38 58.5
comp=Z,13nm,0.7s

ARCES ARCESS Array B 51.49 1 P P 19 38 57.9 -0.6
comp=Z,12nm,0.5s,baz=4.4,slow=6.9,SNR=88
comp=Z,12nm,0.5s

V58A Windy Hill, Pi 51.56 83 IAmb IAmb 19 39 01.3
comp=Z,22nm,1.0s

JSC Jenkinsville 51.64 86 P P 19 38 59.5 -0.5
JSC IAmb IAmb 19 39 01.7
comp=Z,21nm,0.8s

JSC Jenkinsville 51.64 86 P P 19 38 59.6 -0.5
JSC pmax pmax
comp=Z,21nm,0.8s

LOF Lofoten 52.48 7 *eP* P 19 39 06.1 +0.3
LOF IAmb IAmb 19 39 06.9
comp=Z,23nm,0.7s

STEI Steigen 52.78 6 *eP* P 19 39 07.8 -0.2
STEI IAmb IAmb 19 39 08.3
comp=Z,22nm,0.8s

LVZ Lovozero 53.05 357 *ceP* P 19 39 10.6 +0.5
LVZ pmax pmax
comp=Z,42nm,1.7s

FAUS Fauske 53.33 6 *eP* P 19 39 11.5 -0.5
FAUS IAmb IAmb 19 39 12.1
comp=Z,21nm,0.8s

APA Apatity 53.41 357 ⇓*iP* P 19 39 11.8 -0.9
APA pmax pmax
comp=Z,13nm,1.0s
APA MLR MLR
comp=Z,399nm,4.3s

KSRS Korea Array 53.79 284 P P 19 39 15.8 -0.1
comp=Z,4.6nm,0.6s,baz=44,slow=6.6,SNR=29
KSRS pP pP 19 39 30.0 -1.4
comp=Z,2.9nm,0.7s,baz=43,slow=7.2,SNR=4.7
comp=Z,4.6nm,0.6s

KSAR Wonju Array Be 53.82 284 P P 19 39 16.0 -0.1
KSAR Wonju Array Be 53.82 284 P P 19 39 16.0 -0.1
LEIR Leirfjorden 54.46 7 *eP* P 19 39 19.8 -0.5
LEIR IAmb IAmb 19 39 20.1
comp=Z,91nm,1.5s

MOR8 Moi Rana 54.48 7 *eP* P 19 39 18.8 -1.7
MOR8 IAmb IAmb 19 39 19.8
comp=Z,18nm,0.9s

ULN Ulaanbaatar 55.30 306 P P 19 39 26.7 -0.2
ULN PcP PcP 19 40 26.9 0.0
ULN Ulaanbaatar 55.30 306 *ceP* P 19 39 26.9 0.0
ULN pmax pmax
comp=Z,8.0nm,1.0s

SONM Songino Array 55.60 307 P P 19 39 28.8 -0.1
SONM IAmb IAmb 19 39 45.9
comp=Z,10nm,0.8s
SONM PcP PcP 19 40 28.7 +0.7
SONM Songino Array 55.60 307 P P 19 39 29.2 +0.2
comp=Z,11nm,0.9s,baz=43,slow=7.1,SNR=31
SONM pP pP 19 39 43.8 -0.8
comp=Z,10nm,0.8s,baz=42,slow=7.4,SNR=10
SONM PcP PcP 19 40 29.0 +1.0
comp=Z,7.7nm,0.7s,baz=60,slow=1.8,SNR=6.8
comp=Z,11nm,0.9s

NSS Namsos 55.95 8 *eP* P 19 39 31.2 +0.2
MOL Molde 57.50 11 *eP* P 19 39 42.5 +0.5
AKN Aaknes 57.83 11 *eP* P 19 39 44.4 0.0
DOMB Dombas 58.16 10 *eP* P 19 39 47.0 +0.2
ZAA0 Zalesovo Array 58.24 324 P P 19 39 46.6 -0.8
ZALV Zalesovo Beam 58.24 324 P P 19 39 46.2 -1.2
ZALV Zalesovo Beam 58.24 324 P P 19 39 47.0 -0.5
comp=Z,12nm,0.6s,baz=26,slow=7.2,SNR=53
ZALV pP pP 19 40 02.8 -0.3
comp=Z,32nm,0.6s,baz=28,slow=6.8,SNR=28
comp=Z,12nm,0.6s

KEF Keuruu 58.88 2 *eP* P 19 39 51.1 -0.6
HHC Hu-ho-hao-te 58.93 298 *eP* P 19 39 55.4 +2.9
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,50nm,5.4s

NBO00 NORSAR Array S 59.31 10 IAmb IAmb 19 39 56.0
comp=Z,18nm,1.1s

NB201 NORSAR Array S 59.34 9 P P 19 39 54.1 -0.9
NB2 NORSAR Subarra 59.34 9 P P 19 39 54.7 -0.3
comp=Z,22nm,1.0s,baz=353,slow=7.4
NB2 NORSAR Subarra 59.34 9 P P 19 39 54.7 -0.3
baz=353,slow=7.4
NOA NORSAR Array B 59.34 9 P P 19 39 55.0 +0.1
comp=Z,12nm,0.9s,baz=352,slow=6.9,SNR=22
NOA pP pP 19 40 11.7 +1.0
comp=Z,5.0nm,1.0s,baz=352,slow=6.9,SNR=3.0
comp=Z,12nm,0.9s

SKAR Skarslia 59.43 11 *eP* P 19 39 55.9 +0.3
FINES FINESS Array B 59.62 1 P P 19 39 56.4 -0.4
FINES FINESS Array B 59.62 1 P P 19 39 56.6 -0.2
comp=Z,23nm,0.8s,baz=2.1,slow=11,SNR=55
comp=Z,23nm,0.8s

NC602 NORSAR Array S 59.67 9 *eP* P 19 39 57.9 +0.7
BTO Baotou 59.82 299 *eP* P 19 39 57.9 -0.8
BTO pP pP 19 40 17.2 +2.7
BTO sP sP 19 40 26.0 +4.9
BTO pmax pmax
comp=Z,15nm,1.2s
BTO pmax pmax
comp=Z,270nm,6.0s

KLMR Klimovskoe 59.88 353 *eP* P 19 39 56.2 -2.4
KLMR *e**PP pP 19 40 11.1 -3.3
KLMR pmax pmax
comp=Z,23nm,1.2s

RAF Rauma 59.96 3 *eP* P 19 39 58.8 -0.3
HFS Hagfors 60.43 8 P P 19 40 02.3 -0.1
comp=Z,17nm,0.8s,baz=44,slow=4.5,SNR=44
HFS pP pP 19 40 17.8 -0.4
comp=Z,2.6nm,0.5s,baz=27,slow=6.8,SNR=2.3
comp=Z,17nm,0.8s

BLS5 Blasjo 60.47 12 *eP* P 19 40 04.2 +1.5
KONO Kongsberg 60.57 11 *ceP* P 19 40 04.5 +1.2
KONO pmax pmax
comp=Z,39nm,2.5s

MEF Metsahovi 60.83 2 *eP* P 19 40 05.2 +0.1
KIRV Kirov 61.28 347 *iP* P 19 40 07.2 -0.9
SVE Sverdlovsk 61.37 340 *eP* P 19 40 08.2 -0.6
SVE pmax pmax
comp=Z,10.0nm,1.0s

ARBE Arbavere 61.64 1 *eP* P 19 40 09.3 -1.2
HOMB Homborsund 61.82 11 *iP* P 19 40 12.9 +1.2
ARTI Arti 62.17 341 *ciP* P 19 40 12.9 -1.3
ARTI 19 40 50.7
ARTI S S 19 48 33.5 -1.2
ARTI pmax pmax
comp=Z,10.0nm,0.6s

MTSE Matsula 62.33 2 *eP* P 19 40 15.6 +0.4
NJ2 Nanjing 62.59 287 *eP* P 19 40 18.7 +1.4
NJ2 pmax pmax
comp=Z,10.0nm,0.5s

VSU Vasula 62.62 1 *ceP* P 19 40 16.8 -0.3
VSU pmax pmax
comp=Z,66nm,1.0s

VSU Vasula 62.62 1 *eP* P 19 40 16.0 -1.1
SEM Semipalatinsk 62.70 325 *eP* P 19 40 17.8 -0.3
SEM Semipalatinsk 62.70 325 *eP* P 19 40 17.9 -0.3
BORU Boraas 62.84 9 *iP* P 19 40 19.0 +0.4
KURK Kurchatov 62.90 326 P P 19 40 18.7 -0.4
KURK *PP pP 19 40 35.0 0.0
KURK 19 40 56.8
BRVK Borovoye 62.93 333 *ceP* P 19 40 19.1 -0.2
BRVK pmax pmax
comp=Z,9.0nm,0.7s

BVAR Borovoye Array 62.94 333 P P 19 40 18.7 -0.7
comp=Z,14nm,0.6s,baz=27,slow=6.9,SNR=45
BVAR pP pP 19 40 34.9 -0.4
comp=Z,22nm,0.7s,baz=29,slow=7.8,SNR=17
comp=Z,14nm,0.6s

ONAU Onsala 63.00 10 *iP* P 19 40 19.6 -0.1
KURBB Kurchatov Arra 63.01 326 P P 19 40 18.7 -1.1
comp=Z,6.5nm,0.7s,baz=29,slow=6.6,SNR=32
KURBB pP pP 19 40 35.0 -0.8
comp=Z,9.6nm,0.7s,baz=29,slow=6.4,SNR=14
KURBB PcP PcP 19 40 56.8 -0.5
comp=Z,4.0nm,0.5s,baz=27,slow=4.5,SNR=7.4
comp=Z,6.5nm,0.7s

EKA Eskdalemuir Ar 63.09 19 P P 19 40 20.7 +0.4
comp=Z,1.9nm,0.3s,baz=332,slow=5.4,SNR=40
EKA pP pP 19 40 35.8 -0.5
comp=Z,5.7nm,0.5s,baz=332,slow=5.1,SNR=9.9
comp=Z,1.9nm,0.3s

MUD Monsted U'grnd 63.67 11 *iP* P 19 40 24.8 +0.7
MUD IAmb IAmb 19 40 27.2
comp=Z,12nm,0.6s

ZSN Zaisan 63.89 321 *eP* P 19 40 25.6 -0.2
ZSN pmax pmax
comp=Z,6.0nm,0.5s
ZSN Zaisan 63.89 321 *eP* P 19 40 25.6 -0.2
comp=Z,6.0nm,0.5s

DEL Delary 64.08 9 *iP* P 19 40 27.1 +0.3
BLEU Blekinge 64.39 7 *iP* P 19 40 28.1 -0.7

MOS Moscow 65.09 354 *eP* P 19 40 32.3 -1.1
BRZS Berezniki 65.17 330 *eP* P 19 40 34.0 -0.1
BRZS Berezniki 65.17 330 *eP* P 19 40 34.1 -0.1
GTA Gaotai 65.23 306 P P 19 40 33.8 -1.0
GTA pP pP 19 40 50.1 -0.6
GTA sP sP 19 40 58.8 +1.4
GTA pmax pmax
comp=Z,12nm,1.2s

MK31 Makanchi Array 65.30 322 *ceP* P 19 40 34.3 -0.7
MKAR Makanchi Array 65.30 322 P P 19 40 34.0 -1.0
MKAR Makanchi Array 65.30 322 P P 19 40 34.1 -0.9
comp=Z,3.1nm,0.5s,baz=42,slow=6.9,SNR=45
MKAR pP pP 19 40 49.0 -2.0
comp=Z,4.2nm,0.7s,baz=43,slow=6.9,SNR=8.4
MKAR PP PP 19 42 53.4 -5.2
comp=Z,1.3nm,0.8s,baz=52,slow=8.1,SNR=4.2
comp=Z,3.1nm,0.5s

MKAR Makanchi Array 65.30 322 *ceP* P 19 40 34.4 -0.6
MKAR pmax pmax
comp=Z,3.0nm,0.5s

MAKZ Makanchi 65.38 322 P P 19 40 34.5 -1.0
MAKZ Makanchi 65.38 322 P P 19 40 34.6 -0.9
PABE Paberze 65.54 2 *eP* P 19 40 36.6 +0.3
XAN Xi'an 65.70 296 P P 19 40 36.5 -1.3
XAN pmax pmax
comp=Z,10.0nm,0.7s

OBN Obninsk 65.77 355 *eP* P 19 40 36.7 -1.1
OBN *i* 19 41 12.0
OBN pmax pmax
comp=Z,14nm,1.0s

WMQ Urumqi 66.11 317 *eP* P 19 40 45.5 +5.2
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ LR LR
comp=Z,69nm,15.5s

BSEG Bad Segeberg 66.28 11 *eP* P 19 40 42.5 +1.5
comp=Z,21nm,0.9s,baz=352,slow=6.2
LZH Lanzhou 66.29 301 *eP* P 19 40 43.0 +1.3
LZH pP pP 19 40 59.0 +1.3
LZH sP sP 19 41 03.8 -0.5
LZH pmax pmax
comp=Z,24nm,0.9s

MNK Minsk 66.59 0 *iP* P 19 40 41.8 -1.3
MNK *i* *PP pP 19 40 55.9 -3.2
MNK *i* 19 41 12.9
MNK *i* 19 43 09.1
MNK *i* PPP PPP 19 44 45.0
MNK *i* S S 19 49 30.5 +1.3
MNK *i* *SS sS 19 49 54.7 -1.6
MNK *i* 19 50 34.4
MNK *i* SS SS 19 53 49.9 +3.8
MNK pmax pmax
comp=E,17nm,1.1s
MNK pmax pmax
comp=Z,33nm,1.0s
MNK pmax pmax
comp=N,5.0nm,0.7s
MNK MLR MLR
comp=E,292nm,22.0s
MNK MLR MLR
comp=N,188nm,22.0s
MNK MLR MLR
comp=Z,77nm,17.0s

SUW Suwalki 67.02 3 *eP* P 19 40 45.5 -0.3
SUW Suwalki 67.02 3 P P 19 40 45.1 -0.7
SUW Suwalki 67.02 3 P P 19 40 45.1 -0.7
BELG Belogornoye 67.56 347 *iP* P 19 40 47.7 -1.5
BELG pmax pmax
comp=Z,7.0nm,0.8s

IBBN Ibbenburen 67.60 13 *eP* P 19 40 51.1 +1.6
comp=Z,15nm,0.9s,baz=352,slow=6.2
FLTG Flechtingen 67.95 11 *eP* P 19 40 52.6 +0.9
comp=Z,18nm,1.3s,baz=352,slow=6.2
TDK Taldyqorghan 68.11 324 *eP* P 19 40 52.5 -0.3
TDK pmax pmax
comp=Z,4.0nm,0.5s
TDK Taldyqorghan 68.11 324 *eP* P 19 40 52.5 -0.3
comp=Z,4.3nm,0.5s
LPSR Galich'ya Gora 68.14 353 *eP* P 19 40 50.2 -2.7
LPSR pmax pmax
comp=Z,10.0nm,1.0s

CLZ Clausthal 68.35 12 *eP* P 19 40 56.0 +1.7
comp=Z,28nm,1.1s,baz=352,slow=6.2
BUG Bochum--Univer 68.40 14 *eP* P 19 40 56.0 +1.5
comp=Z,14nm,0.8s,baz=352,slow=6.2
GTTG Gottingen 68.60 12 *eP* P 19 40 57.7 +1.9
comp=Z,24nm,0.8s,baz=352,slow=6.2
AB31 Akbulak array 68.72 338 IAmb IAmb 19 41 13.0
comp=Z,9.0nm,0.7s
ABKAR Akbulak array 68.72 338 P P 19 40 55.3 -1.3
ABKAR Akbulak array 68.72 338 IAmb IAmb 19 41 13.0
comp=Z,9.0nm,0.7s
BSTI Sart Tilman 69.02 15 *dP* P 19 40 59.1 +0.7
comp=Z,2.9nm,0.8s
BSTI *dp*P pP 19 41 14.8 +0.3
VORR Voronezh 69.05 352 *eP* P 19 40 55.7 -2.8
VORR pmax pmax
comp=Z,10.0nm,0.9s

MEM Membach 69.05 15 *dP* P 19 41 00.1 +1.5
comp=Z,7.2nm,1.0s
MEM *dp*P pP 19 41 13.3 -1.4
BTNL Ternell 69.09 15 *dP* P 19 41 00.8 +1.9
comp=Z,5.1nm,1.1s
CLL Collm 69.13 10 *iP* P 19 40 59.9 +0.8
CLL *e**PP pP 19 41 17.0 +1.8
CLL pmax pmax
comp=Z,13nm,1.1s
CLL Collm 69.13 10 P P 19 41 00.2 +1.1
comp=Z,12nm,1.2s
CLL Collm 69.13 10 *iP* P 19 40 59.9 +0.8
comp=Z,13nm,1.1s
CLL *ep*P pP 19 41 17.0 +1.8
CLL *ePP* PP 19 43 37.0 +5.4
CLL Collm 69.13 10 *eP* P 19 41 00.0 +0.9
comp=Z,11nm,1.1s,baz=352,slow=6.2
BCLA Clavier 69.14 15 *dP* P 19 40 59.9 +0.8
comp=Z,4.1nm,0.6s
BCLA *dp*P pP 19 41 15.4 +0.1
BGES Gesves 69.15 15 *dP* P 19 41 00.6 +1.3
BGES *dp*P pP 19 41 15.3 -0.1
BMRD Maredsous 69.19 16 *dP* P 19 41 01.5 +2.1
comp=Z,6.8nm,1.0s
BTLS Baital 69.34 327 *eP* P 19 41 00.0 -0.5
BTLS Baital 69.34 327 *eP* P 19 41 00.1 -0.5
DOU Dourbes 69.36 16 *dP* P 19 41 01.9 +1.4
comp=Z,4.4nm,1.0s
KPKS Kokpek 69.41 323 *eP* P 19 41 01.2 +0.1
KPKS Kokpek 69.41 323 *eP* P 19 41 01.2 +0.1
SHLS Shalkode 69.45 322 *eP* P 19 41 00.4 -1.0
SHLS Shalkode 69.45 322 *eP* P 19 41 00.4 -1.0
VSR Storozhevoye 69.50 352 *eP* P 19 40 58.5 -2.9
VSR pmax pmax
comp=Z,9.0nm,0.9s
BRG Berggiesshubel 69.64 9 *eP* P 19 41 03.3 +1.1
comp=Z,11nm,1.0s,baz=352,slow=6.2
BRG Berggiesshubel 69.64 9 *iP* P 19 41 02.8 +0.6
BRG Amp 19 41 04.4
comp=Z,11nm,1.0s

MOX Moxa 69.66 11 *eP* P 19 41 03.8 +1.4
comp=Z,13nm,0.7s,baz=352,slow=6.2
TNS Taunus Mts 69.73 13 *eP* P 19 41 04.3 +1.4
comp=Z,7.0nm,0.8s,baz=352,slow=6.2
KSP Ksiaz 69.85 8 *eP* P 19 41 04.6 +1.0
KSP Ksiaz 69.85 8 P P 19 41 04.6 +1.0
comp=Z,19nm,1.0s
RNPP5 Staryi Chortor 69.86 1 P P 19 41 03.7 +0.1
TANN Tannenbergstha 69.97 10 *eP* P 19 41 05.4 +1.1
comp=Z,14nm,1.3s,baz=352,slow=6.2
WLF Walferdange 70.00 15 *dP* P 19 41 06.3 +1.8
PVCC Panska Ves 70.04 9 *eP* P 19 41 06.4 +1.7
PVCC Panska Ves 70.04 9 *eP* P 19 41 06.4 +1.7
CHVC Chvalec 70.09 8 *eP* P 19 41 06.2 +1.1
CHVC Chvalec 70.09 8 *eP* P 19 41 06.2 +1.1
OSTC Ostas 70.13 8 *eP* P 19 41 07.0 +1.7
OSTC Ostas 70.13 8 *eP* P 19 41 07.0 +1.7
UPC Upice 70.17 8 *eP* P 19 41 06.8 +1.3
UPC Upice 70.17 8 *eP* P 19 41 06.8 +1.3
DPC Dobruska-Polom 70.35 8 *eP* P 19 41 07.8 +1.2
DPC *ep*P pP 19 41 22.1 -0.7
DPC Dobruska-Polom 70.35 8 *eP* P 19 41 07.8 +1.2
DPC *e**PP pP 19 41 22.1 -0.7
DPC Dobruska-Polom 70.35 8 P P 19 41 08.4 +1.8
comp=Z,29nm,1.0s
AKASG Malin Array Be 70.39 359 P P 19 41 06.2 -0.7
comp=Z,5.9nm,0.5s,baz=4.9,slow=6.0,SNR=37

AKASG					pP		**pP**	19 41 21.5	-1.5
	comp=Z,3.9nm,0.5s,baz=6.7,slow=6.3,SNR=4.3								
	comp=Z,5.9nm,0.5s								
AKBB	**Malin Array Si**	**70.39**	**359**		P		**P**	19 41 05.5	-1.3
AKBB					IAmb		IAmb	19 41 07.0	
	comp=Z,39nm,1.3s								
AKBB	**Malin Array Si**	**70.39**	**359**	*ce*	P		**P**	19 41 06.3	-0.5
KIEV	**Kiev**	**70.40**	**359**		P		**P**	19 41 05.9	-1.0
KIEV					IAmb		IAmb	19 41 07.0	
	comp=Z,35nm,1.3s								
KIEV	**Kiev**	**70.40**	**359**	⇑	P		**P**	19 41 06.2	-0.8
KIEV	**Kiev**	**70.40**	**359**		P		**P**	19 41 06.1	-0.8
GRF	**Grafenberg Arr**	**70.56**	**11**	*e*	P		**P**	19 41 09.5	+1.6
	comp=Z,14nm,1.1s,baz=352,slow=6.2								
ROTZ	**Rotzenmuhle**	**70.58**	**11**	*e*	P		**P**	19 41 09.6	+1.5
	comp=Z,3.3nm,1.1s,baz=352,slow=6.2								
SGDS	**Sogindy**	**70.64**	**326**	*e*	P		**P**	19 41 08.3	-0.2
KRLC	**Kraliky**	**70.65**	**8**	*e*	P		**P**	19 41 09.5	+1.0
KRLC				*e*	pP		**pP**	19 41 24.0	-0.7
KRLC	**Kraliky**	**70.65**	**8**	*e*	P		**P**	19 41 09.5	+1.0
KRLC				*e*	*PP		**pP**	19 41 24.0	-0.7
STEB	**Steborice**	**70.86**	**7**	*e*	P		**P**	19 41 10.7	+1.0
MORC	**Moravsky Berou**	**71.00**	**7**	*e*	P		**P**	19 41 10.9	+0.3
MORC	**Moravsky Berou**	**71.00**	**7**	⇓	P		**P**	19 41 11.7	+1.0
MORC	**Moravsky Berou**	**71.00**	**7**		P		**P**	19 41 11.6	+1.0
ZVC	**Zvikov**	**71.09**	**9**	*e*	P		**P**	19 41 12.5	+1.4
WET	**Wettzell**	**71.26**	**10**	*e*	P		**P**	19 41 13.9	+1.6
	comp=Z,8.2nm,1.1s,baz=352,slow=6.2								
TREC	**Trest**	**71.33**	**9**	*e*	P		**P**	19 41 13.4	+0.8
TREC	**Trest**	**71.33**	**9**	*e*	P		**P**	19 41 13.4	+0.8
KHC	**Kasperske Hory**	**71.34**	**10**	*e*	P		**P**	19 41 14.1	+1.4
KHC				*e*	pP		**PcP**	19 41 31.3	-0.8
KHC	**Kasperske Hory**	**71.34**	**10**	*e*	P		**P**	19 41 14.1	+1.4
KHC				*e*	*PP		**PcP**	19 41 31.3	-0.8
KHC	**Kasperske Hory**	**71.34**	**10**		P		**P**	19 41 14.1	+1.4
	comp=Z,15nm,1.0s								
KWP	**Kalwaria Pacla**	**71.39**	**4**	*e*	P		**P**	19 41 13.7	+0.7
KWP	**Kalwaria Pacla**	**71.39**	**4**		P		**P**	19 41 14.1	+1.2
	comp=Z,30nm,1.2s								
VRAC	**Vranov**	**71.40**	**8**	*e*	P		**P**	19 41 13.7	+0.7
VRAC	**Vranov**	**71.40**	**8**	⇓	P		**P**	19 41 14.1	+1.0
VRAC	**Vranov**	**71.40**	**8**		P		**P**	19 41 14.0	+1.0
AAK	**Ala-Archa**	**71.42**	**326**	*ce*	P		**P**	19 41 13.8	+0.3
AAK					pmax		pmax		
	comp=Z,3.0nm,0.7s								
MAUC	**Maruska**	**71.43**	**7**	*e*	P		**P**	19 41 14.5	+1.3
NIE	**Niedzica**	**71.51**	**5**	*e*	P		**P**	19 41 14.1	+0.4
STHS	**Stebnicka Huta**	**71.55**	**5**	*e*	P		**P**	19 41 14.9	+1.0
STHS					pmax		pmax		
	comp=Z,13nm,0.7s								
STHS	**Stebnicka Huta**	**71.55**	**5**	*e*	P		**P**	19 41 14.9	+1.0
BFO	**Black Forest**	**71.58**	**14**	*e*	P		**P**	19 41 15.5	+1.3
	comp=Z,5.9nm,0.9s,baz=352,slow=6.2								
KRUC	**Moravsky**	**71.63**	**8**	*e*	P		**P**	19 41 14.8	+0.4
GEC2	**GERESS Array S**	**71.64**	**10**	*e*	P		**P**	19 41 15.8	+1.2
	comp=Z,5.9nm,0.9s,baz=352,slow=6.2								
GERES	**GERESS Array B**	**71.64**	**10**		P		**P**	19 41 14.9	+0.4
	comp=Z,3.4nm,0.8s,baz=345,slow=4.6,SNR=26								
GERES					pP		**pP**	19 41 29.6	-1.2
	comp=Z,2.4nm,0.7s,baz=345,slow=4.7,SNR=6.0								
	comp=Z,3.4nm,0.8s								
CKRC	**Cesky Krumlov**	**71.71**	**9**	*e*	P		**P**	19 41 15.7	+0.8
CKRC				*e*	pP		**pP**	19 41 31.0	-0.1
CKRC	**Cesky Krumlov**	**71.71**	**9**	*e*	P		**P**	19 41 15.7	+0.8
CKRC				*e*	*PP		**pP**	19 41 31.0	-0.1
LANS	**Liptovska Anna**	**71.73**	**6**	*e*	P		**P**	19 41 17.0	+1.9
LANS					pmax		pmax		
	comp=Z,10.0nm,0.8s								
LANS	**Liptovska Anna**	**71.73**	**6**	*e*	P		**P**	19 41 17.0	+1.9
JAVC	**Velka Javorina**	**71.92**	**7**	*e*	P		**P**	19 41 17.3	+1.1
KOLS	**Kolonicke sedl**	**72.07**	**4**	*e*	P		**P**	19 41 18.4	+1.3
KOLS					pmax		pmax		
	comp=Z,10.0nm,1.2s								
KOLS	**Kolonicke sedl**	**72.07**	**4**	*e*	P		**P**	19 41 18.4	+1.3
KK31	**Karatay Array**	**72.11**	**329**		P		**P**	19 41 16.3	-1.1
KK31	**Karatay Array**	**72.11**	**329**		P		**P**	19 41 16.3	-1.1
KK31					pmax		pmax		
	comp=Z,5.0nm,0.7s								
KKAR	**Karatay Array**	**72.11**	**329**		P		**P**	19 41 16.3	-1.1
KKAR	**Karatay Array**	**72.11**	**329**		IAmb		IAmb	19 41 18.8	
	comp=Z,5.5nm,0.7s								
KKAR	**Karatay Array**	**72.11**	**329**		P		**P**	19 41 16.3	-1.1
VYHS	**Vyhne**	**72.35**	**6**	*e*	P		**P**	19 41 19.6	+0.9
VYHS					pmax		pmax		
	comp=Z,14nm,1.0s								
VYHS	**Vyhne**	**72.35**	**6**	*e*	P		**P**	19 41 19.6	+0.9
MODS	**Modra-Piesok**	**72.38**	**7**	*e*	P		**P**	19 41 19.6	+0.7
MODS					pmax		pmax		
	comp=Z,30nm,1.1s								
MODS	**Modra-Piesok**	**72.38**	**7**	*e*	P		**P**	19 41 19.6	+0.7
KECS	**Kecovo**	**72.45**	**5**	*e*	P		**P**	19 41 20.4	+1.1
KECS					pmax		pmax		
	comp=Z,19nm,0.9s								
KECS	**Kecovo**	**72.45**	**5**	*e*	P		**P**	19 41 20.4	+1.1
RJOB	**Jochberg**	**72.65**	**11**	*e*	P		**P**	19 41 21.9	+1.3
	comp=Z,12nm,0.9s,baz=352,slow=6.2								
MOA	**Molln**	**72.67**	**10**	*i*	P		**P**	19 41 21.8	+1.2
	comp=Z,5.9nm,1.2s								
CONA	**Conrad Observa**	**72.72**	**8**	*i*	P		**P**	19 41 22.2	+1.2
	comp=Z,13nm,0.9s,SNR=9.0								
BIOA	**Bad Ischl, Aus**	**72.77**	**10**	*e*	P		**P**	19 41 22.9	+1.6
	comp=Z,1.4nm,0.3s								
DAVA	**Damuels**	**72.79**	**13**	*i*	P		**P**	19 41 23.6	+2.0
	comp=Z,3.0nm,0.7s								
MOTA	**Moosalm**	**72.87**	**12**	*i*	P		**P**	19 41 23.4	+1.4
	comp=Z,5.4nm,1.1s								
WATA	**Walderalm**	**72.93**	**12**	*i*	P		**P**	19 41 23.9	+1.6
	comp=Z,16nm,1.0s,SNR=7.4								
TRSU	**Trosnyk**	**72.93**	**3**		P		**P**	19 41 23.5	+1.4
LESA	**Schwarzleotal**	**72.95**	**11**	*i*	P		**P**	19 41 23.8	+1.5
	comp=Z,6.9nm,0.8s,SNR=6.3								
SORM	**Soroca**	**72.97**	**360**	⇓	P		**P**	19 41 21.4	-0.9
SORM	**Soroca**	**72.97**	**360**		P		**P**	19 41 21.4	-0.9
RONA	**Rosalia, Austr**	**72.98**	**8**	*i*	P		**P**	19 41 24.1	+1.5
	comp=Z,5.7nm,0.7s								
PSZ	**Piszkesteto**	**72.98**	**6**		IAmb		IAmb	19 41 25.2	
	comp=Z,19nm,1.0s								
PSZ	**Piszkesteto**	**72.98**	**6**	⇓	P		**P**	19 41 23.4	+0.8
PSZ	**Piszkesteto**	**72.98**	**6**		P		**P**	19 41 23.3	+0.8
SQTA	**Sankt Quirin**	**73.00**	**12**	*i*	P		**P**	19 41 24.6	+1.8
	comp=Z,14nm,0.8s,SNR=9.2								
WTTA	**Wattenberg**	**73.00**	**11**	*i*	P		**P**	19 41 24.4	+1.5
	comp=Z,16nm,0.9s,SNR=8.4								
IUG	**Iuzhnay**	**73.12**	**329**	*e*	P		**P**	19 41 23.4	-0.1
IUG					pmax		pmax		
	comp=Z,6.0nm,0.6s								
IUG	**Iuzhnay**	**73.12**	**329**	*e*	P		**P**	19 41 23.4	-0.1
	comp=Z,5.7nm,0.6s								
FETA	**Feichten**	**73.15**	**12**	*i*	P		**P**	19 41 25.4	+1.7
	comp=Z,10nm,0.9s,SNR=5.9								
ARSA	**Arzberg**	**73.37**	**9**	*e*	P		**P**	19 41 26.2	+1.4
	comp=Z,4.9nm,0.8s								
BURAR	**Bucovina Array**	**73.47**	**2**		P		**P**	19 41 25.4	-0.1
BURAR	**Bucovina Array**	**73.47**	**2**	⇑	P		**P**	19 41 25.3	-0.1
BURAR	**Bucovina Array**	**73.47**	**2**		P		**P**	19 41 25.3	-0.1
FUORN	**Ofenpass-Fuorn**	**73.49**	**13**		P		**P**	19 41 26.0	+0.1
FUORN					IAmb		IAmb	19 41 28.5	
	comp=Z,13nm,1.1s								
TUE	**Stuetta**	**73.53**	**13**		P		**P**	19 41 27.7	+1.7
	comp=Z,44nm,0.8s								
MPLH	**Magyarpolny**	**73.59**	**7**		P		**P**	19 41 27.8	+1.7
	comp=Z,33nm,1.3s								
ABTA	**Abfaltersbach**	**73.60**	**11**	*e*	P		**P**	19 41 28.2	+2.0
	comp=Z,7.0nm,1.0s								
MYKA	**Terra Mystica**	**73.83**	**10**	*i*	P		**P**	19 41 28.8	+1.2
	comp=Z,5.1nm,0.9s								
KSH	**Kashi**	**73.84**	**323**		P		**P**	19 41 30.7	+2.9
KSH					PcP		**pP**	19 41 47.1	+3.0
KSH					pmax		pmax		
	comp=Z,6.0nm,0.8s								
KSH					LR		LR		
	comp=Z,250nm,10.3s								
SOKA	**Soboth**	**73.90**	**9**	*e*	P		**P**	19 41 29.6	+1.6
	comp=Z,12nm,1.2s,SNR=7.6								
OBKA	**Obir**	**74.03**	**10**	*i*	P		**P**	19 41 29.5	+0.7
	comp=Z,37nm,1.0s,SNR=15								
MARR	**Marisel-Cluj**	**74.36**	**3**	⇑	P		**P**	19 41 31.4	+0.8
MORH	**Mrgy, Hungar**	**74.61**	**7**	⇑	P		**P**	19 41 32.2	+0.2
SIRR	**Siria**	**74.71**	**4**	⇓	P		**P**	19 41 33.8	+1.2
OZUR		**75.00**	**2**	⇑	P		**P**	19 41 35.5	+1.2
DOPR	**Dopca**	**75.12**	**2**	⇓	P		**P**	19 41 35.7	+0.8
VRI	**Vrincioaia**	**75.23**	**1**	⇑	P		**P**	19 41 34.6	-1.1
VRI	**Vrincioaia**	**75.23**	**1**		P		**P**	19 41 34.5	-1.1
VRI	**Vrincioaia**	**75.23**	**1**		P		**P**	19 41 36.6	+1.0
	comp=Z,6.7nm,1.1s								
SURR	**Surduc**	**75.24**	**4**	⇑	P		**P**	19 41 36.1	+0.5
PLOR	**Plostina**	**75.25**	**1**	⇑	P		**P**	19 41 36.6	+0.8
PLOR	**Plostina**	**75.25**	**1**		P		**P**	19 41 36.5	+0.8
GOF	**Gofitskoye**	**75.30**	**349**	*ce*	P		**P**	19 41 35.3	-0.7
PZH	**PanZhiHua**	**75.36**	**297**		P		**P**	19 41 35.9	-0.9
PZH					pmax		pmax		
	comp=Z,10.0nm,0.9s								
BZS	**Buzias**	**75.36**	**5**	⇑	P		**P**	19 41 37.1	+0.8
BZS	**Buzias**	**75.36**	**5**		P		**P**	19 41 37.1	+0.8
MLR	**Muntele Rosu**	**75.60**	**1**		P		**P**	19 41 38.1	+0.2
MLR					IAmb		IAmb	19 41 40.5	
	comp=Z,24nm,1.5s								
MLR	**Muntele Rosu**	**75.60**	**1**	⇑	P		**P**	19 41 38.6	+0.6
MLR	**Muntele Rosu**	**75.60**	**1**		P		**P**	19 41 38.5	+0.6
MLR	**Muntele Rosu**	**75.60**	**1**		P		**P**	19 41 39.4	+1.5
GZR	**Gura Zlata**	**75.63**	**4**	⇑	P		**P**	19 41 38.7	+0.8
GZR	**Gura Zlata**	**75.63**	**4**		P		**P**	19 41 38.7	+0.8
VOIR		**75.64**	**2**	⇑	P		**P**	19 41 39.1	+1.1
VOIR		**75.64**	**2**		P		**P**	19 41 39.1	+1.1
CFR	**Carcaliu**	**75.93**	**360**	⇑	P		**P**	19 41 39.3	-0.3
CFR	**Carcaliu**	**75.93**	**360**		P		**P**	19 41 39.2	-0.3
GAR	**Garm**	**75.98**	**327**		IAmb		IAmb	19 41 57.8	
	comp=Z,13nm,0.9s								
HERR	**Herculane**	**76.13**	**4**	⇑	P		**P**	19 41 41.3	+0.6
MDVR	**Moldovita**	**76.20**	**5**	⇑	P		**P**	19 41 41.4	+0.2
KIV	**Kislovodsk**	**76.43**	**349**	⇓	P		**P**	19 41 42.2	-0.3
KIV	**Kislovodsk**	**76.43**	**349**	*e*	P		**P**	19 41 40.8	-1.8
KIV					pmax		pmax		
	comp=Z,15nm,1.1s								
KBZ	**Khabaz**	**76.63**	**349**		P		**P**	19 41 43.5	-0.1
	comp=Z,5.6nm,0.8s,baz=356,slow=6.2,SNR=10								
	comp=Z,5.6nm,0.8s								
KBZ	**Khabaz**	**76.63**	**349**	*i*	P		**P**	19 41 43.4	-0.1
KBZ					pmax		pmax		
	comp=Z,8.0nm,0.9s								
SHA1	**Shidzhatmaz**	**76.64**	**349**	*i*	P		**P**	19 41 43.7	-0.3
MURB	**Monte Urbino**	**77.05**	**11**		IAmb		IAmb	19 41 49.9	
	comp=Z,10nm,0.9s								
LSA	**Lhasa**	**77.19**	**307**		IAmb		IAmb	19 41 51.2	
	comp=Z,10nm,1.1s								
FDMO	**Fiordimonte**	**77.33**	**11**		IAmb		IAmb	19 41 49.8	
	comp=Z,11nm,1.2s								
BOVS	**Bovan**	**77.34**	**5**	⇑	P		**P**	19 41 48.5	+0.9
ESDC	**Sonseca Array**	**77.95**	**25**		P		**P**	19 41 52.2	+1.1
ESDC	**Sonseca Array**	**77.95**	**25**		P		**P**	19 41 51.8	+0.7
	comp=Z,3.5nm,0.9s,baz=337,slow=5.2,SNR=10								
ESDC					pP		**pP**	19 42 06.0	-1.6
	comp=Z,1.9nm,0.7s,baz=338,slow=5.1,SNR=5.3								
	comp=Z,3.5nm,0.9s								
AKT	**Akhty**	**78.29**	**345**	*e*	P		**P**	19 41 52.1	-0.9
AKT				*e*	*PP		**PcP**	19 42 03.9	+1.7
AKT				*e*	*SP		**pP**	19 42 09.6	+0.2
AKT				*e*	PPP		PPP	19 46 39.3	
AKT					pmax		pmax		
	comp=Z,15nm,0.8s								
PDG	**Podgorica**	**78.42**	**7**		IAmb		IAmb	19 41 55.2	
	comp=Z,14nm,0.9s								
PDG	**Podgorica**	**78.42**	**7**	⇓	P		**P**	19 41 53.8	+0.3
DIKM	**Dikmen**	**79.27**	**354**	⇑	P		**P**	19 41 59.1	+0.9
BAUV	**El Baul**	**79.34**	**90**		IAmb		IAmb	19 42 00.2	
	comp=Z,31nm,0.9s								
RDO	**Rodhopi**	**79.94**	**2**		IAmb		IAmb	19 42 04.1	
	comp=Z,13nm,1.0s								
GNI	**Garni**	**79.97**	**347**		P		**P**	19 42 03.0	+0.7
GNI					IAmb		IAmb	19 42 16.5	
	comp=Z,36nm,1.5s								
GNI	**Garni**	**79.97**	**347**		P		**P**	19 42 03.0	+0.7
GNI					pmax		pmax		
	comp=Z,36nm,1.5s								
HOMI	**Horasan**	**80.38**	**349**	⇑	P		**P**	19 42 04.7	+0.2
EVN	**Everest**	**80.47**	**310**		P		**P**	19 42 04.7	-1.1
JAY	**Jayapura**	**80.70**	**249**		P		**P**	19 42 07.0	+0.7
	comp=Z,5.1nm,0.9s,baz=332,slow=15,SNR=1.8								
	comp=Z,5.1nm,0.9s								
BRTR	**Keskin Array B**	**81.26**	**356**		P		**P**	19 42 08.8	-0.4
BRTR	**Keskin Array B**	**81.26**	**356**		P		**P**	19 42 09.0	-0.2
	comp=Z,2.6nm,0.7s,baz=8.5,slow=2.5,SNR=14								
BRTR					pP		**pP**	19 42 22.7	-3.0
	comp=Z,1.4nm,0.7s,baz=31,slow=5.0,SNR=3.5								
	comp=Z,2.6nm,0.7s								
BRTR	**Keskin Array B**	**81.26**	**356**	*ce*	P		**P**	19 42 09.3	+0.1
BRTR					pmax		pmax		
	comp=Z,3.0nm,0.6s								
OTAV	**Otavalo**	**81.48**	**104**		P		**P**	19 42 11.2	+0.2
OTAV	**Otavalo**	**81.48**	**104**		P		**P**	19 42 11.2	+0.2
OTAV					pmax		pmax		
	comp=Z,4.0nm,0.8s								
TIP	**Timpagrande**	**81.49**	**9**	⇑	P		**P**	19 42 10.6	+0.3
OZAP	**Van, Ozalp-Mer**	**81.53**	**347**	⇓	P		**P**	19 42 11.5	+0.8
CM31	**Chiang Mai Arr**	**83.59**	**295**		P		**P**	19 42 21.0	-0.5
CM31					IAmb		IAmb	19 42 23.6	
	comp=Z,11nm,1.2s								
CMAR	**Chiang Mai Arr**	**83.59**	**295**		P		**P**	19 42 20.4	-1.1
CMAR	**Chiang Mai Arr**	**83.59**	**295**		P		**P**	19 42 20.2	-1.2
	comp=Z,3.6nm,0.8s,baz=11,slow=5.4,SNR=15								
CMAR					pP		**pP**	19 42 37.0	-1.0
	comp=Z,1.6nm,0.6s,baz=2.7,slow=5.7,SNR=4.6								
	comp=Z,3.6nm,0.8s								
CMAR	**Chiang Mai Arr**	**83.59**	**295**	*ce*	P		**P**	19 42 20.8	-0.6
CMAR					pmax		pmax		
	comp=Z,4.0nm,0.8s								
KEST	**Kesra**	**84.11**	**15**		IAmb		IAmb	19 42 34.5	
	comp=Z,9.7nm,0.9s								
KEST	**Kesra**	**84.11**	**15**		P		**P**	19 42 22.9	-1.0
	comp=Z,3.0nm,0.7s,baz=307,slow=6.1,SNR=4.4								
	comp=Z,3.0nm,0.7s								
MMAI	**Mount Meron Ar**	**87.86**	**354**		P		**P**	19 42 43.3	+0.8
	comp=Z,1.9nm,0.7s,baz=336,slow=6.3,SNR=2.6								
	comp=Z,1.9nm,0.7s								
SBUM	**Sibu**	**90.82**	**276**		P		**P**	19 42 55.3	-1.2
WRA	**Warramunga Arr**	**98.86**	**246**		P		Pdif	19 43 31.4	-1.6
	comp=Z,0.5nm,0.9s,baz=31,slow=4.8,SNR=2.2								
	comp=Z,0.5nm,0.9s								
ASAR	**Alice Springs**	**102.27**	**244**		P		**Pdif**	19 43 48.0	-0.1
	comp=Z,0.3nm,0.8s,baz=35,slow=5.4,SNR=1.9								
ASAR	**Alice Springs**	**102.27**	**244**		P		**Pdif**	19 43 48.0	-0.1
KDWAN	**Kaudwane**	**144.08**	**5**		PKPdf		**PKPdf**	19 49 28.4	+0.1
LPHEP	**Lephephe**	**144.11**	**3**		PKPdf		**PKPdf**	19 49 28.9	+0.6
LKGWB	**Lokgwabe**	**144.57**	**11**		PKPdf		**PKPdf**	19 49 28.6	-0.6
LBTB	**Lobatse**	**145.74**	**4**				**PKPab**	19 49 32.1	0.0
LBTB	**Lobatse**	**145.74**	**4**		PKP2		**PKPab**	19 49 32.1	0.0
PHPEN	**Phepeng**	**146.06**	**8**				**PKPbc**	19 49 32.3	-0.3
QSPA	**South Pole Qui**	**149.05**	**180**				**PKPbc**	19 49 40.0	+0.6
QSPA	**South Pole Qui**	**149.05**	**180**		PKPbc		**PKPbc**	19 49 39.6	+0.1
	comp=Z,9.8nm,0.8s,baz=349,slow=0.0,SNR=47								
QSPA					pPKPbc		**pPKPdf**	19 49 52.3	-0.3
	comp=Z,5.2nm,0.7s,baz=174,slow=1.5,SNR=4.6								
BOSA	**Boshof**	**149.31**	**5**		PKPbc		**PKPbc**	19 49 40.9	-0.5
	comp=Z,6.4nm,0.6s,baz=9.0,slow=2.4,SNR=22								
BOSA					pPKPbc		**pPKPdf**	19 49 54.9	+0.5
	comp=Z,10nm,0.7s,baz=28,slow=4.4,SNR=3.8								
BELA	**Belgrano 2**	**152.71**	**156**				**PKPbc**	19 49 47.1	-0.6
VNA3	**Neumayer Olymp**	**160.66**	**143**	⇓	P		**PKPab**	19 50 32.9	-0.3
	comp=Z,8.1nm,0.9s								
VNA1	**Neumayer--Stat**	**161.29**	**142**	⇓	P		**PKPab**	19 50 36.3	+0.4
	comp=Z,5.1nm,0.7s								
VNA2	**Neumayer--Watz**	**161.47**	**143**	⇓	P		**PKPab**	19 50 36.8	0.0
	comp=Z,4.2nm,0.7s,baz=238,slow=5.3								
SNAA	**Sanae**	**162.48**	**148**	⇓	P		**PKPab**	19 50 40.6	-0.6
	comp=Z,34nm,0.6s								
SNAA	**Sanae**	**162.48**	**148**		PKPab		**PKPab**	19 50 40.7	-0.6
	comp=Z,1.1nm,0.6s,baz=208,slow=8.4,SNR=12								
MAW	**Mawson**	**162.51**	**227**		PKPab		**PKPab**	19 50 41.5	+0.1
	comp=Z,4.4nm,0.9s,baz=76,slow=5.0,SNR=4.3								
MAW					pPKPab		**pPKPab**	19 50 58.6	+0.4
	comp=Z,8.5nm,0.7s,baz=89,slow=4.2,SNR=9.0								
TROLL	**Troll, Antarti**	**163.69**	**152**	⇓	P		**PKPab**	19 50 46.9	+0.3
	comp=Z,431nm,0.7s								

CATAC ***02*** *19:41:12.7±0.4, 16°N±4°×9°2W±°, h230km±3km, M4.1/13, mb4.2/1, MLv4.0/13, Error ellipse: s-maj=8.7km s-min=4.6km az=29.5, confirmed*

MEX ***02*** *19:41:13.0±0.7, 15°.76N×92°.24W, h249km±5km, MD4.4*

GCG ***02*** *19:41:13.1±1.4, 15°.87N×92°.09W, h228km±11km, MD4.9, ML4.4*

NEIC ***02*** *19:41:13.4±1.7, 15°.81N±0°.08×92°.17W±0°.02, h234km±7km, mb4.3/26, Md4.4/73(MEX), Error ellipse: s-maj=11.7km s-min=1.2km az=194.0*

IDC ***02*** *19:41:18.3±8.7, 15°.87N×91°.99W, h300km±104km, mb3.2/4, mbtmp3.9/5, Error ellipse: s-maj=113.2km s-min=18.5km az=58.0*

ISC 02 19:41:12.9±0.7**, 15°.83N**±0°.05×**92°.28W**±0°.04**, h237**km±6km**,**

n140, σ2$19/203**, mb3.8/6, 1D, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time h m s	Res ISC
CCIG	**Comitan**	**0.47**	**17**			**Pn**	**19 41 44.5**	**0.0**
CCIG	**Comitan**	**0.47**	**17**	*e*	P	**Pn**	**19 41 44.8**	**+0.3**
CCIG				*e*	S	**S**	**19 42 08.2**	**-1.2**
CCIG	**Comitan**	**0.47**	**17**	*i*	P	**Pn**	**19 41 44.8**	**+0.3**
CCIG				*e*	S	**S**	**19 42 03.5**	**-5.9**
CCIG	**Comitan**	**0.47**	**17**		P	**Pn**	**19 41 44.4**	**0.0**
PAVE	**Pavencul**	**0.64**	**171**			**Pn**	**19 41 44.6**	**-0.6**
PAVE						**S**	**19 42 09.4**	**-1.0**
PAVE	**Pavencul**	**0.64**	**171**	*e*	P	**Pn**	**19 41 44.6**	**-0.6**
PAVE				*e*	S	**S**	**19 42 09.4**	**-1.0**
PATR	**El Naranjo**	**0.71**	**177**			**Pn**	**19 41 44.4**	**-1.1**
PATR						**S**	**19 42 09.7**	**-1.3**
PATR	**El Naranjo**	**0.71**	**177**	*e*	P	**Pn**	**19 41 44.4**	**-1.1**
PATR				*e*	S	**S**	**19 42 09.7**	**-1.3**
HUEH	**Huehuetenango**	**0.90**	**124**			**Pn**	**19 41 45.3**	**-1.1**
HUEH					Sn	**S**	**19 42 09.8**	**-2.7**
HUEH	**Huehuetenango**	**0.90**	**124**	*e*	P	**Pn**	**19 41 45.1**	**-1.3**
HUEH				*e*	S	**S**	**19 42 09.4**	**-3.1**
HUEH	**Huehuetenango**	**0.90**	**124**	*i*	P	**Pn**	**19 41 45.8**	**-0.5**
HUEH				*e*	S	**S**	**19 42 10.2**	**-2.3**
HUEH					IAML		19 42 16.8	
	comp=N,2μm,0.7s							
HUEH	**Huehuetenango**	**0.90**	**124**		P	**Pn**	**19 41 45.7**	**-0.6**
PCIG		**0.91**	**262**			**Pn**	**19 41 45.8**	**-0.2**
PCIG						**S**	**19 42 11.5**	**-0.5**
PCIG		**0.91**	**262**	*i*	P	**Pn**	**19 41 45.8**	**-0.2**
PCIG				*e*	S	**S**	**19 42 11.5**	**-0.5**
THIG		**0.92**	**179**			**Pn**	**19 41 45.8**	**-0.3**
THIG						**S**	**19 42 12.3**	**0.0**
THIG		**0.92**	**179**	*e*	P	**Pn**	**19 41 45.8**	**-0.3**
THIG				*e*	S	**S**	**19 42 12.3**	**0.0**
THIG		**0.92**	**179**	*i*	P	**Pn**	**19 41 46.0**	**-0.2**
THIG				*e*	S	**S**	**19 42 12.1**	**-0.1**
THIG					IAML		19 42 13.1	
	comp=N,7μm,0.4s							
TGIG

TLIG	Tlapa	6.27 287	S		S	19 43 56.8	-0.4	
CRIG	Cruz Grande	6.64 279			Pn	19 42 49.9	+1.0	
CRIG					S	19 43 59.4	-6.3	
CRIG	Cruz Grande	6.64 279	*e*P		Pn	19 42 49.9	+1.0	
CRIG			*e*S		S	19 43 59.4	-6.3	
CXUV	Coxquihui	6.65 311			Pn	19 42 42.1	-6.9	
CXUV	Coxquihui	6.65 311	*e*P		Pn	19 42 42.1	-6.9	
PPM	Popocatepetl	6.86 299	*e*P		Pn	19 42 55.5	+3.3	
PPM			*e*S		S	19 44 07.7	-3.8	
PPIG	Popocatepetl	6.86 299			Pn	19 42 55.5	+3.3	
PPIG					S	19 44 07.7	-3.8	
YAIG	Yautepec	7.15 296			Pn	19 42 58.5	+3.1	
YAIG					S	19 44 12.2	-5.4	
YAIG	Yautepec	7.15 296	*e*P		Pn	19 42 58.5	+3.1	
YAIG			*e*S		S	19 44 12.2	-5.4	
DAIG	Los Arroyos	7.17 281			Pn	19 42 57.5	+1.8	
DAIG					S	19 44 14.2	-3.8	
DAIG	Los Arroyos	7.17 281	*e*P		Pn	19 42 57.5	+1.8	
DAIG			*e*S		S	19 44 14.2	-3.8	
MEIG	Mezcala	7.33 288			Pn	19 43 01.2	+3.5	
MEIG					S	19 44 18.3	-3.5	
MEIG	Mezcala	7.33 288	*e*P		Pn	19 43 01.2	+3.5	
MEIG			*e*S		S	19 44 18.3	-3.5	
PLIG	Platanillo	7.36 291			Pn	19 43 00.5	+2.3	
PLIG					S	19 44 20.1	-2.4	
PLIG	Platanillo	7.36 291	*e*P		Pn	19 43 00.5	+2.3	
PLIG			*e*S		S	19 44 20.1	-2.4	
CAIG	El Cayaco	7.76 280			Pn	19 43 05.1	+2.0	
CAIG	El Cayaco	7.76 280	*e*P		Pn	19 43 05.1	+2.0	
ARIG	Puente Sto Nin	8.09 289			Pn	19 43 10.7	+3.3	
ARIG					S	19 44 36.1	-3.3	
ARIG	Puente Sto Nin	8.09 289	*e*P		Pn	19 43 10.7	+3.3	
ARIG			*e*S		S	19 44 36.1	-3.3	
LCR2	La Lucha 2	10.08 126			Pn	19 43 32.6	-0.4	
CAMR	Camarioca	12.55 53	Pn		Pn	19 44 02.5	-1.1	
BRDY	Brady	16.57 339	P		Pn	19 44 52.6	+0.4	
BRDY			IAmb		IAmb	19 44 54.3		
	comp=Z,5.6nm,0.8s							
HPIG		16.64 314	P		Pn	19 44 54.8	+1.4	
HPIG			IAmb		IAmb	19 44 58.2		
	comp=Z,8.0nm,1.1s							
SAND	Sanderson	16.72 329			Pn	19 44 55.4	+1.4	
TXAR	Lajitas Array	17.05 324	P		Pn	19 44 59.6	+1.6	
TXAR	Lajitas Array	17.05 324	P		Pn	19 44 59.3	+1.3	
	comp=Z,2.5nm,0.7s,baz=142,slow=11,SNR=33							
TX31	Lajitas Ar. Si	17.05 324			Pn	19 44 59.5	+1.5	
OZNA	Ozona	17.07 333			Pn	19 44 59.0	+0.9	
OZNA			IAmb		IAmb	19 45 00.1		
	comp=Z,8.7nm,0.6s							
PLPT	Palo Pinto	17.77 343	P		P	19 45 05.3	+1.5	
ALPN	Alpine	17.84 326			Pn	19 45 07.0	-0.2	
ALPN			IAmb		IAmb	19 45 09.8		
	comp=Z,6.8nm,0.8s							
FW03	Perrin-Whitt E	17.92 344	P		P	19 45 06.7	+1.3	
SGCY	Sterling City	17.93 335			P	19 45 06.6	+1.0	
SGCY			IAmb		IAmb	19 45 07.9		
	comp=Z,14nm,1.1s							
ABTX	Abilene, Hawle	18.01 340	P		P	19 45 08.0	+1.6	
MNHN	Monahans	18.17 330			Pn	19 45 10.9	-0.1	
SN05	Snyder 5	18.68 337	P		P	19 45 14.2	+0.5	
PECS	Pecos	18.74 328	P		P	19 45 16.2	+1.9	
PECS			IAmb		IAmb	19 45 18.5		
	comp=Z,7.7nm,0.7s							
APMT	Aspermont	18.81 339			P	19 45 16.2	+1.1	
VHRN	Van Horn	18.89 324			P	19 45 18.5	+2.5	
VHRN			IAmb		IAmb	19 45 19.5		
	comp=Z,8.9nm,0.9s							
DKNS	Dickens	19.40 338			P	19 45 21.7	+0.3	
DKNS			IAmb		IAmb	19 45 27.1		
	comp=Z,6.5nm,0.5s							
MNTX	Cornudas Mount	19.80 325			P	19 45 26.8	+1.2	
SMWD	Samnorwood	20.48 341	P		P	19 45 33.1	+0.2	
SMWD			IAmb		IAmb	19 45 35.1		
	comp=Z,14nm,0.8s							
AMTX	Amarillo	20.77 338			P	19 45 36.0	0.0	
AMTX			IAmb		IAmb	19 45 37.2		
	comp=Z,12nm,0.7s							
CGM3	Cape Girardeau	21.51 6	P		P	19 45 43.2	0.0	
CGM3			IAmb		IAmb	19 45 44.5		
	comp=Z,9.2nm,0.8s							
KAN09	Caldwell North	21.75 348	P		P	19 45 45.1	-0.4	
RTBA	Rita Blanca	22.54 338			P	19 45 53.0	0.0	
RTBA			IAmb		IAmb	19 45 55.2		
	comp=Z,8.6nm,0.6s							
PDAR	Pinedale Array	30.66 335	P		P	19 47 06.2	+0.7	
	comp=Z,0.2nm,0.4s,baz=143,slow=7.0,SNR=1.4							
	comp=Z,0.2nm,0.4s							
NVAR	Mina Array Bea	32.10 320	P		P	19 47 19.5	+1.3	
	comp=Z,1.8nm,0.6s,baz=127,slow=7.5,SNR=8.8							
	comp=Z,1.8nm,0.6s							
LPAZ	La Paz	39.83 142	P		P	19 48 22.9	-1.4	
	comp=Z,1.7nm,0.5s,baz=336,slow=7.3,SNR=7.0							
	comp=Z,1.7nm,0.5s							
YKA	Yellowknife Ar	49.19 347	P		P	19 49 36.6	-0.2	
	comp=Z,0.6nm,0.6s,baz=132,slow=9.4,SNR=4.4							
	comp=Z,0.6nm,0.6s							

IDC 02 19:41:16.2±2.0, 2°59.9N×123°03.8E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=282.3km s-min=27.4km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.00	154	P	P	19 46 41.5	-0.5
	0.2nm,0.3s,baz=335,slow=9.5,SNR=6.8						
	0.2nm,0.3s						
ASAR	Alice Springs	28.17	159	P	P	19 47 11.2	+0.6
	0.2nm,0.5s,baz=344,slow=15,SNR=4.4						
	0.2nm,0.5s						
MKAR	Makanchi Array	56.45	327	P	P	19 50 59.8	-0.1
	0.4nm,0.6s,baz=123,slow=8.2,SNR=4.7						
	0.4nm,0.6s						

*BJI **02** 19:51:45.6, 44°.03S×124°.12E, h23km, mB5.7/64, mb5.1/86, Ms5.2/82, Ms7 4.9/82*

*MOS **02** 19:51:46.8±1.3, 43°.53S×124°.14E, h10km, mb5.6/43, MS4.9/37, Error ellipse: s-maj=11.8km s-min=7.0km az=88.9*

*NEIC **02** 19:51:46.5, 43°.68S×123°.90E, h12km*

*NEIC **02** 19:51:46.5±1.7, 43°.68S±0°.08×123°.9E±0°.1, h10km±1km, mb5.6/140, Ms_20 5.1/473, Mww5.6/20, Error ellipse: s-maj=15.3km s-min=14.0km az=261.0*

*IDC **02** 19:51:46.4±0.4, 43°.67S×124°.05E, h0km, mb5.2/20, mbtmp5.2/21, ML5.1/1, MS4.8/40, Error ellipse: s-maj=25.2km s-min=10.7km az=102.0*

*NEIC **02** 19:51:46.5, 43°.68S×123°.90E, h12km, Moment Tensor Solution. Duration: 28.1.0 Moment tensor: Scale 10^17 Nm; Mrr2.31; Mθθ-0.98; Mϕϕ-1.33; Mrθ-1.13; Mrϕ-1.43; Mθϕ0.12; Fault plane solution: M0 2.71000×10^17 NP1: ϕs22.22000°, δ40.99000°, λ58.56000°. NP2: ϕs241.22000°, δ55.97000°, λ114.38000°. Principal axes: T 2.7394, Plg68.0000°, Azm204.0000°; N -0.0543, Plg20.0000°, Azm47.0000°; P -2.6851, Plg8.0000°, Azm314.0000°;*

*GCMT **02** 19:51:50.5±0.1, 43°.72S±0°.01×123°.91E±0°.01, h14km, MW5.6/151, Moment Tensor Solution. s142,c279; s151,c323; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr2.63±.04; Mθθ-0.89±.03; Mϕϕ-1.74±.03; Mrθ-1.16±.09; Mrϕ-2.54±.03; Mθr-0.64±.08; Best double couple: M0 3.55000×10^17 NP1: ϕs23.00000°, δ37.00000°, λ65.00000°. NP2: ϕs234.00000°, δ57.00000°, λ108.00000°. Principal axes: T 2.9820, Plg72.0000°, Azm187.0000°; N 1.1350, Plg15.0000°, Azm44.0000°; P -4.1180, Plg10.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 19:51:47.6±0.5, 43°.79S±0°.04×123°.98E±0°.04, h15km±2km, n1165, σ1°.78/941, mb5.5/145, MS5.1/331, 69C-34D, South of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKGY	Rocky Gully	10.65	327	P	Pn	19 54 14.7	-4.9
	comp=Z,665nm,0.9s						
H01W1	Cape Leeuwin H	11.68	316	T	T	20 06 22.2	
	baz=138,slow=74,SNR=32						
H01W2	Cape Leeuwin H	11.69	316	T	T	20 06 21.2	
	baz=138,slow=74,SNR=29						
H01W3	Cape Leeuwin H	11.70	316	T	T	20 06 23.7	
	baz=138,slow=74,SNR=38						
NWAO	Narrogin (SRO)	12.06	332		Pn	19 54 34.5	-4.4
NWAO	Narrogin (SRO)	12.06	332	P	Pn	19 54 34.6	-4.3
	comp=Z,700nm,0.5s						
NWAO	Narrogin (SRO)	12.06	332	Pn	Pn	19 54 35.1	-3.8
	comp=Z,80nm,0.3s,baz=142,slow=10.0,SNR=230						
NWAO				Sn	Sn	19 56 39.9	-13
	comp=Z,14nm,0.3s,baz=139,slow=19,SNR=2.4						
NWAO				LR	LR	19 58 29.6	
	comp=Z,12μm,19.8s,baz=148,slow=34						
NWAO	Narrogin (SRO)	12.06	332	P	Pn	19 54 36.0	-2.9
NWAO	Narrogin (SRO)	12.06	332	P	Pn	19 54 36.7	-2.2
NWAO	Narrogin (SRO)	12.06	332	P	Pn	19 54 34.5	-4.4
KMBL	Kambalda	12.51	352	P	Pn	19 54 40.2	-4.8
	comp=Z,0.0nmcomp=Z,39nm,1.0s						
KLBR	Kellerberrin	13.13	336	P	Pn	19 54 48.1	-5.4
	comp=Z,480nm,1.2s						
KLBR	Kellerberrin	13.13	336	P	Pn	19 54 49.9	-3.6
MUN	Mundaring	13.28	330	P	Pn	19 54 50.2	-5.4
	comp=Z,0.0nmcomp=Z,246nm,0.7s						
MUN	Mundaring	13.28	330	P	Pn	19 54 53.0	-2.6
MUN	Mundaring	13.28	330	S	Sn	19 57 20.2	-2.8
FORT	Forrest	13.38	15		Pn	19 54 53.4	-3.6
FORT	Forrest	13.38	15	P	Pn	19 54 54.9	-2.0
	comp=Z,53nm,0.7s						
MTKN	Mount Kenneth	13.48	329	P	Pn	19 54 55.0	-3.3
	comp=Z,1μm,0.5s						
MTKN	Mount Kenneth	13.48	329	P	Pn	19 54 57.2	-1.1
BLDU	Ballidu	14.36	334	P	Pn	19 55 04.9	-5.4
	comp=Z,694nm,1.2s						
BLDU	Ballidu	14.36	334	P	Pn	19 55 06.0	-4.3
BBOO	Buckleboo	14.48	45		Pn	19 55 09.3	-2.7
BBOO	Buckleboo	14.48	45	P	Pn	19 55 10.0	-2.0
	comp=Z,151nm,0.8s						
BBOO	Buckleboo	14.48	45	P	Pn	19 55 11.1	-0.9
WHYH	Whyalla	15.11	49	P	Pn	19 55 21.5	+1.0
HTT	Hallett	15.58	53	P	Pn	19 55 26.4	-0.3
	comp=Z,22nm,1.4s						
HTT	Hallett	15.58	53	P	Pn	19 55 27.0	+0.3
MORW	Morawa	16.00	334		Pn	19 55 26.4	-5.8
MORW	Morawa	16.00	334	P	Pn	19 55 26.6	-5.6
	comp=Z,0.0nmcomp=Z,345nm,1.0s						
MORW	Morawa	16.00	334	P	Pn	19 55 27.5	-4.7
GEXS	Deakin Univers	16.31	77	P	P	19 55 39.0	+0.1
BRAT	Ballarat	16.36	74	P	P	19 55 39.2	-0.3
TAU	Tasmania Unive	17.00	95		Pn	19 55 44.0	-0.7
TAU				IAmb	IAmb	19 55 53.2	
	comp=Z,640nm,1.8s						
TAU	Tasmania Unive	17.00	95	P	P	19 55 50.7	+4.2
TAU	Tasmania Unive	17.00	95	P	Pn	19 55 44.0	-0.7
TAU				pmax	pmax		
	comp=Z,640nm,1.8s						
MOO	Moorlands	17.00	94	P	P	19 55 48.2	+1.6
	comp=Z,380nm,2.1s						
MOO	Moorlands	17.00	94	P	P	19 55 49.3	+2.7
MOO	Moorlands	17.00	94	P	P	19 55 49.2	+2.6
TOO	Toolangi	17.44	76	P	Pn	19 55 49.9	-0.4
TOO	Toolangi	17.44	76	P	P	19 55 53.4	+1.8
	comp=Z,62nm,1.8s						
TOO	Toolangi	17.44	76	P	Pn	19 55 49.9	-0.4
TOO				pmax	pmax		
	comp=Z,62nm,1.2s						
MEEK	Meekatharra	17.65	344	P	Pn	19 55 47.7	-5.3
MEEK	Meekatharra	17.65	344	P	Pn	19 55 48.8	-4.3
GLAD	Gladstone	17.96	89	P	P	19 56 01.3	+4.1
STKA	Stephens Creek	18.26	55		Pn	19 55 59.5	-1.0
STKA	Stephens Creek	18.26	55	P	P	19 56 00.7	+0.1
	comp=Z,292nm,0.8s						
STKA	Stephens Creek	18.26	55	P	P	19 56 01.4	+0.8
	comp=Z,3.3nm,0.3s,baz=210,slow=7.8,SNR=57						
STKA				S	Sn	19 59 20.8	-3.3
	comp=Z,5.8nm,0.5s,baz=158,slow=21,SNR=1.8						
STKA				LR	LR	20 02 08.2	
	comp=Z,4μm,19.9s,baz=217,slow=34						
	comp=Z,18nm,0.5s						
STKA	Stephens Creek	18.26	55	P	P	19 56 01.8	+1.2
STKA	Stephens Creek	18.26	55	*i* P	P	19 56 00.8	+0.2
WRKA	Warakurna	19.04	12	P	P	19 56 08.3	-0.9
	comp=Z,57nm,0.8s						
CAN	Canberra	21.01	75	P	P	19 56 30.9	+0.3
CAN				IAmb	IAmb	19 56 39.5	
	comp=Z,223nm,1.1s						
CAN	Canberra	21.01	75	P	P	19 56 31.8	+1.2
	comp=Z,212nm,1.0s						
CAN	Canberra	21.01	75	P	P	19 56 32.7	+2.1
CAN	Canberra	21.01	75	P	P	19 56 30.9	+0.3
CAN				pmax	pmax		
	comp=Z,223nm,1.1s						
CAN				MLR	MLR		
	comp=Z,1μm,19.0s						
CMSA	Cobar Meteorol	21.02	62	P	P	19 56 31.6	+0.9
	comp=Z,135nm,1.1s						
CMSA	Cobar Meteorol	21.02	62	P	P	19 56 31.6	+0.9
YNG	Young	21.14	72	P	P	19 56 33.8	+1.9
	comp=Z,119nm,1.1s						
CNB	Canberra Magne	21.26	75	P	P	19 56 35.2	+1.8
	comp=Z,101nm,1.4s						
CNB	Canberra Magne	21.26	75	P	P	19 56 36.2	+2.8
ASAR	Alice Springs	21.67	25	P	P	19 56 36.6	-1.2
ASAR	Alice Springs	21.67	25	P	P	19 56 37.2	-0.5
	comp=Z,117nm,1.1s,baz=193,slow=10,SNR=73						
ASAR				S	S	20 00 31.1	-6.2
	comp=Z,5.9nm,0.8s,baz=203,slow=21,SNR=4.5						
ASAR				PcP	PcP	20 00 39.0	+0.2
	comp=Z,9.1nm,0.7s,baz=186,slow=1.1,SNR=12						
ASAR				LR	LR	20 04 48.8	
	comp=Z,8μm,18.6s,baz=200,slow=36						
	comp=Z,117nm,1.1s						
AS31	Alice Springs	21.67	25	P	P	19 56 36.5	-1.2
AS31	Alice Springs	21.67	25	P	P	19 56 38.6	+0.9
	comp=Z,49nm,1.3s						
AS01	Alice Springs	21.68	25	P	P	19 56 37.5	-0.4
GIRL	Giralia	22.57	336	P	P	19 56 45.4	-2.0
GIRL	Giralia	22.57	336	P	P	19 56 47.8	+0.4
GIRL	Giralia	22.57	336	P	P	19 56 47.8	+0.4
MBWA	Marble Bar	22.84	350	P	P	19 56 47.4	-2.8
MBWA	Marble Bar	22.84	350	P	P	19 56 48.5	-1.7
	comp=Z,0.0nmcomp=Z,256nm,1.6s						
MBWA	Marble Bar	22.84	350	P	P	19 56 49.2	-1.0
MGCD	Maragrove Creek	23.62	73	P	P	19 57 03.6	+5.6
CASY	Casey	23.71	194	P	P	19 56 58.9	+0.2
QLP	Quilpie	23.75	50	P	P	19 57 00.1	+0.8
	comp=Z,267nm,1.2s						
QLP	Quilpie	23.75	50	P	P	19 56 59.8	+0.5
WRA	Warramunga Arr	25.31	23	P	P	19 57 11.6	-2.1
WRA	Warramunga Arr	25.31	23	P	P	19 57 12.1	-1.6
	comp=Z,36nm,1.0s,baz=199,slow=12,SNR=48						
WRA				PcP	PcP	20 00 46.8	+0.3
	comp=Z,6.6nm,0.9s,baz=206,slow=2.0,SNR=5.8						
WRA				S	S	20 01 47.6	+8.4
	comp=Z,0.9nm,0.8s,baz=192,slow=19,SNR=1.3						
WRA				LR	LR	20 07 03.2	
	comp=Z,4μm,18.6s,baz=199,slow=36						
	comp=Z,36nm,1.0s						
WRAB	Tennant Creek	25.32	23	P	P	19 57 11.8	-2.0
WRAB				IAMs_20	IAMs_20	20 06 34.5	
	comp=Z,5μm,20.0s						
WRAB	Tennant Creek	25.32	23	*i* P	P	19 57 11.6	-2.2
WRAB				pmax	pmax		
	comp=Z,148nm,1.5s						
WR8	Warramunga Arr	25.34	24	P	P	19 57 12.4	-1.6
WR8				IAmb	IAmb	19 57 20.8	
	comp=Z,156nm,1.1s						
WB0	Warramunga Arr	25.49	23	P	P	19 57 13.2	-2.1
WB0				IAmb	IAmb	19 57 22.3	
	comp=Z,104nm,0.9s						
ARMA	Armidale	25.64	68	P	P	19 57 15.7	-1.1
ARMA	Armidale	25.64	68	P	P	19 57 17.6	+0.9
	comp=Z,65nm,1.1s						
ARMA	Armidale	25.64	68	P	P	19 57 18.6	+1.8
FITZ	Fitzroy Crossi	25.65	4	P	P	19 57 14.6	-2.1
FITZ	Fitzroy Crossi	25.65	4	P	P	19 57 16.6	-0.2
	comp=Z,11nm,1.8s						
FITZ	Fitzroy Crossi	25.65	4	P	P	19 57 16.3	-0.4
	comp=Z,4.4nm,0.6s,baz=203,slow=8.8,SNR=16						
FITZ				PcP	PcP	20 00 48.3	+1.1
	comp=Z,13nm,0.6s,baz=200,slow=2.4,SNR=5.3						
FITZ				S	S	20 01 51.1	+6.6
	comp=Z,4.1nm,0.8s,baz=258,slow=20,SNR=1.6						
FITZ				LR	LR	20 07 02.1	
	comp=Z,3μm,21.2s,baz=187,slow=36						
	comp=Z,4.4nm,0.6s						
FITZ	Fitzroy Crossi	25.65	4	P	P	19 57 16.9	+0.2
QIS	Mount Isa	26.58	34	P	P	19 57 23.9	-1.4
	comp=Z,82nm,1.3s						
QIS	Mount Isa	26.58	34	P	P	19 57 24.9	-0.3
KNRA	Kununurra	28.31	10	P	P	19 57 39.0	-1.7
KNRA	Kununurra	28.31	10	P	P	19 57 39.6	-1.1
	comp=Z,56nm,1.0s						
EIDS	Eidsvold	28.71	59	P	P	19 57 44.3	0.0
EIDS	Eidsvold	28.71	59	P	P	19 57 45.5	+1.2
	comp=Z,43nm,1.1s						
EIDS	Eidsvold	28.71	59	P	P	19 57 45.9	+1.6
BOXOZ	Borroloola	29.56	25	P	P	19 57 49.8	-2.0
PYZ	Huysegur Point	30.04	110	P	P	19 57 56.3	+0.4
CTAO	Charters Tower	30.08	45	P	P	19 57 55.0	-1.4
CTAO	Charters Tower	30.08	45	P	P	19 57 56.6	+0.2
CTAO	Charters Tower	30.08	45	P	P	19 57 55.0	-1.4
CTAO				pmax	pmax		
	comp=Z,26nm,1.2s						
CTAO				MLR	MLR		
	comp=Z,6μm,18.0s						
LHI	Lord Howe Isla	30.13	78	P	P	19 57 56.8	0.0
LHI				IAmb	IAmb	19 58 24.5	
	comp=Z,102nm,1.1s						
DCZ	Deep Cove	30.51	108	IAMs_20	IAMs_20	20 07 01.0	
	comp=Z,4μm,19.0s						
MTSU	Mount Surprise	30.79	40	P	P	19 58 03.0	+0.3
	comp=Z,6.3nm,0.9s						
MTSU	Mount Surprise	30.79	40	P	P	19 58 04.6	+1.9
MTN	Manton Dam	31.44	13	P	P	19 58 05.9	-2.5
MTN				IAmb	IAmb	19 58 14.1	
	comp=Z,62nm,0.8s						
MTN	Manton Dam	31.44	13	P	P	19 58 07.1	-1.4
	comp=Z,109nm,1.2s						
MTN	Manton Dam	31.44	13	P	P	19 58 08.5	0.0
DRS	Darwin Rock St	31.81	13	P	P	19 58 11.6	-0.1
KDU	Kakadu	31.84	16	P	P	19 58 11.3	-0.6
	comp=Z,115nm,1.2s						
KDU	Kakadu	31.84	16	P	P	19 58 11.6	-0.4
WKZ	Wanaka	31.94	108	P	P	19 58 19.2	+6.5
JCZ	Jackson Bay	31.97	106	P	P	19 58 18.3	+5.3
EAZ	Earnscleugh	32.04	109	P	P	19 58 17.9	+4.4
FOZ	Fox Glacier	32.84	106	P	P	19 58 21.2	+0.7
LBZ	Lake Benmore	32.86	107	P	P	19 58 26.6	+5.9
ODZ	Otahua Downs	33.00	109	P	P	19 58 22.0	0.0
ODZ	Otahua Downs	33.00	109	P	P	19 58 28.7	+6.8
TMZ	Timaru	33.42	108	P	P	19 58 31.8	+6.1
BATI	Baumata	33.45	359	P	P	19 58 26.6	+0.5
	comp=Z,64nm,0.8s,baz=208,slow=2.1,SNR=9.3						
BATI				PcP	PcP	20 01 10.0	+2.8
	comp=Z,32nm,0.9s,baz=278,slow=7.1,SNR=2.4						
BATI				LR	LR	20 12 46.4	
	comp=Z,6μm,18.2s,baz=196,slow=38						
	comp=Z,64nm,0.8s						
BATI	Baumata	33.45	359	P	P	19 58 28.6	+2.5
RPZ	Rata Peaks	33.65	107	P	P	19 58 28.0	+0.4
RPZ	Rata Peaks	33.65	107	LR	LR	20 08 60.0	
	comp=Z,2μm,20.2s,baz=232,slow=31						
RPZ	Rata Peaks	33.65	107	P	P	19 58 36.7	+9.1
SOEI	Soe	33.90	1	P	P	19 58 27.1	-3.1
SOEI				IAmb	IAmb	19 58 45.5	
	comp=Z,94nm,1.0s						
SOEI	Soe	33.90	1	P	P	19 58 30.8	+0.7
SOEI	Soe	33.90	1	P	P	19 58 31.6	+1.5
COEN	Coen	33.97	35	P	P	19 58 28.3	-2.3
COEN	Coen	33.97	35	P	P	19 58 30.5	-0.1
	comp=Z,27nm,1.3s						
COEN	Coen	33.97	35	P	P	19 58 30.9	+0.3
WSI	Waingapu	34.14	354	P	P	19 58 34.1	+2.1
WBSI	Waikabubak, Su	34.25	352	P	P	19 58 34.6	+1.5
OXZ	Oxford	34.45	106	P	P	19 58 34.4	-0.1
OXZ				IAmb	IAmb	19 59 15.2	
	comp=Z,198nm,1.9s						
MQZ	McQueen's Vall	34.76	107	P	P	19 58 37.3	+0.1
MQZ	McQueen's Vall	34.76	107	P	P	19 58 44.6	+7.4
LTZ	Lake Taylor	34.78	105	P	P	19 58 37.8	+0.4
LTZ	Lake Taylor	34.78	105	P	P	19 58 42.8	+5.3
DSZ	Denniston Nort	34.79	104	P	P	19 58 37.0	-0.6
EDFI	Ende, Flores	34.96	356	P	P	19 58 39.7	+0.4
MMRI	Maumere	35.05	357	P	P	19 58 37.6	-2.4
MMRI				IAmb	IAmb	19 58 51.4	
	comp=Z,258nm,1.7s						
MMRI	Maumere	35.05	357	P	P	19 58 46.2	+6.3
GVZ	Greta Valley S	35.25	106	P	P	19 58 47.9	+6.4
THZ	Tophouse	35.56	104	P	P	19 58 44.5	+0.3
THZ				IAmb	IAmb	19 58 52.2	
	comp=Z,53nm,0.8s						
THZ	Tophouse	35.56	104	P	P	19 58 47.8	+3.5
QRZ	Quartz Range	35.62	102	P	P	19 58 44.6	-0.1
QRZ				IAmb	IAmb	19 59 41.1	
	comp=Z,173nm,1.5s						
KHZ	Kahutara	35.78	105	P	P	19 58 46.3	+0.3
KHZ				IAmb	IAmb	19 58 53.8	
	comp=Z,226nm,1.8s						
JAGI	Jajag, Banyuwa	36.21	343	P	P	19 58 47.5	-2.4
JAGI				IAmb	IAmb	19 58 53.6	
	comp=Z,143nm,1.4s						
JAGI	Jajag, Banyuwa	36.21	343	P	P	19 58 50.3	+0.4
JAGI	Jajag, Banyuwa	36.21	343	P	P	19 58 53.0	+3.1
SAUI	Saumlaki	36.23	12	P	P	19 58 48.4	-1.8
BSWZ	Blackbirch Sta	36.26	104	P	P	19 58 50.5	+0.4
SRBI	Singaraja	36.38	345	P	P	19 58 52.7	+1.4
VNDA	Vanda	37.12	167	P	P	19 58 57.0	0.0
VNDA	Vanda	37.12	167	P	P	19 58 59.4	+2.3
	comp=Z,37nm,0.8s,baz=315,slow=8.8,SNR=69						
VNDA				PcP	PcP	20 01 17.8	+0.8
	comp=Z,4.2nm,0.7s,baz=354,slow=3.9,SNR=2.3						
VNDA				LR	LR	20 12 37.1	
	comp=Z,2μm,18.2s,baz=322,slow=34						
	comp=Z,37nm,0.8s						
UGM	Wanag

comp=Z,60nm,1.5s
DZM Mont Dzumac 41.13 72 *e*PP **PP** **20 01 06.3 0.0**
comp=Z,292nm,23.2s
DZM *e*S **S** **20 05 45.9 +1.8**
comp=Z,456nm,25.9s
DZM *e*SS **SS** **20 08 44.7 -2.0**
comp=Z,6µm,45.9s
DZM *e*LR LR 20 10 50.6
comp=Z,719nm,21.4s
DZM Mont Dzumac 41.13 72 LR LR 20 15 24.2
comp=Z,808nm,19.1s,baz=234,slow=34
DZM Mont Dzumac 41.13 72 P **P** **19 59 32.8 +1.5**
FAKI Fak Fak 41.35 13 P **P** **19 59 30.7 -2.3**
FAKI IAmb IAmb 19 59 52.0
comp=Z,93nm,1.0s
FAKI Fak Fak 41.35 13 P **P** **19 59 33.9 +0.9**
FAKI Fak Fak 41.35 13 P **P** **19 59 36.1 +3.1**
BLSI Bandar Lampung 41.67 331 P **P** **19 59 39.5 +3.9**
MDSI Maura Dua 42.87 330 P **P** **19 59 46.3 +0.9**
RKPI Ransiki, Papua 43.06 15 P P 19 59 52.8 +5.8
SWI Sorong 43.23 11 P **P** **19 59 51.9 +3.6**
MNAI Manna 43.43 329 IAMs_20 IAMs_20 20 15 35.4
comp=Z,2µm,18.0s
GENI Genyem 43.47 24 P **P** **19 59 51.2 +1.0**
GENI Genyem 43.47 24 P **P** **19 59 50.8 +0.6**
SMPI Sarmi 43.63 22 P **P** **19 59 52.4 +0.9**
JAY Jayapura 43.70 25 P **P** **19 59 51.7 -0.4**
comp=Z,35nm,1.1s,baz=182,slow=8.3,SNR=14
JAY LR LR 20 18 45.8
comp=Z,3µm,19.5s,baz=178,slow=37
comp=Z,35nm,1.1s
JAY Jayapura 43.70 25 P **P** **19 59 52.2 +0.1**
LHSI Lahat 43.71 330 P **P** **19 59 54.4 +2.2**
BAKI Biak 43.77 18 P **P** **19 59 55.4 +2.8**
MPSI Mapaga 44.08 354 P **P** **19 59 58.7 +3.6**
MRSI Marisa 44.10 357 P **P** **19 59 59.3 +4.0**
PMBI Palembang 44.11 332 IAMs_20 IAMs_20 20 17 33.6
comp=Z,2µm,18.0s
PMBI Palembang 44.11 332 P **P** **19 59 57.4 +2.0**
TNTI Ternate 44.46 5 P **P** **19 59 55.8 -2.4**
TNTI IAmb IAmb 20 00 06.0
comp=Z,115nm,1.5s
TOLI2 Tolitoli 44.79 355 P **P** **19 59 58.4 -2.4**
STKI Sintang 45.06 342 P **P** **20 00 05.1 +2.1**
VLAKA Lakatoro 45.93 67 P **P** **20 00 11.7 +1.8**
HNR Honiara 46.32 53 P **P** **20 00 11.1 -1.9**
HNR IAmb IAmb 20 00 41.4
comp=Z,54nm,0.9s
HNR Honiara 46.32 53 LR LR 20 19 23.0
comp=Z,783nm,18.7s,baz=210,slow=36
HNR Honiara 46.32 53 P **P** **20 00 11.1 -1.9**
HNR pmax pmax
comp=Z,54nm,0.9s
QSPA South Pole Qui 46.34 180 P **P** **20 00 13.4 +0.6**
QSPA South Pole Qui 46.34 180 P **P** **20 00 14.2 +1.4**
comp=Z,152nm,1.0s,baz=153,slow=1.8,SNR=88
QSPA PcP **PcP** **20 01 50.6 +3.0**
comp=Z,38nm,1.0s,baz=309,slow=2.2,SNR=3.8
QSPA LR LR 20 18 40.2
comp=Z,4µm,18.6s,baz=342,slow=35
comp=Z,152nm,1.0s
MANU Manus Island 46.47 33 P **P** **20 00 12.0 -2.1**
MANU IAmb IAmb 20 00 20.9
comp=Z,68nm,1.2s
MANU IAMs_20 IAMs_20 20 19 32.8
comp=Z,2µm,20.0s
HURO Huro Makira 46.66 56 P **P** **20 00 17.3 +1.7**
KSM Kuching 46.69 341 P **P** **20 00 14.1 -1.8**
KSM IAmb IAmb 20 00 21.3
comp=Z,153nm,1.8s
KSM Kuching 46.69 341 P **P** **20 00 17.1 +1.2**
TATA Tatamba Isabel 47.08 52 P **P** **20 00 20.8 +1.8**
SBUM Sibu 47.22 344 P **P** **20 00 19.2 -0.8**
SBUM Sibu 47.22 344 P **P** **20 00 21.3 +1.3**
ALEG Aligegeo Malai 47.30 54 P **P** **20 00 22.5 +1.8**
SISI Saibi 47.73 325 P P 20 00 28.7 +4.8
PPI Padang Panjang 47.99 327 P **P** **20 00 27.2 +1.2**
SYO Syowa Base 48.03 209↑ *e*P **P** **20 00 26.2 +0.5**
SYO Syowa Base 48.03 209↑ *e*pP pP 20 00 28.8 -0.1
SYO Syowa Base 48.03 209↑ *e*sP sP 20 00 30.2 +0.1
SYO Syowa Base 48.03 209↑ *e*PcP **PcP** **20 01 54.0 +0.7**
BKNI Bangkinang 48.47 329 P **P** **20 00 27.0 -2.7**
BKNI Bangkinang 48.47 329 P **P** **20 00 30.8 +1.1**
BKNI Bangkinang 48.47 329 P **P** **20 00 31.9 +2.2**
MYKOM Kota Tinggi 48.83 333 P **P** **20 00 30.4 -2.0**
MYKOM IAmb IAmb 20 00 36.7
comp=Z,138nm,1.5s
MYKOM Kota Tinggi 48.83 333 P **P** **20 00 33.8 +1.4**
LUES Luesalemba Tem 48.98 61 P **P** **20 00 37.3 +3.6**
MNSI Mandailing Nat 49.46 327 P **P** **20 00 37.7 +0.4**
DAV Davao City (W) 50.64 2 LR LR 20 22 28.9
comp=Z,434nm,21.5s,baz=146,slow=36
GSI Gunungsitoli 50.73 325 P **P** **20 00 45.2 -1.7**
GSI IAmb IAmb 20 00 52.5
comp=Z,141nm,1.3s
GSI Gunungsitoli 50.73 325 P **P** **20 00 48.7 +1.8**
GSI Gunungsitoli 50.73 325 P **P** **20 00 49.0 +2.1**
RPSI Rantau Prapat 51.45 327 P **P** **20 00 50.0 -2.3**
RPSI IAmb IAmb 20 00 55.6
comp=Z,68nm,1.3s
PSI Prapat 51.55 327 LR LR 20 21 08.5
comp=Z,1µm,20.0s,baz=150,slow=34
PSI Prapat 51.55 327 P **P** **20 00 52.5 -0.7**
PSI Prapat 51.55 327 P **P** **20 00 50.0 -3.2**
PSI pmax pmax
comp=Z,68nm,1.3s
PSI MLR MLR
comp=Z,2µm,20.0s
MSVF Nonsavu 52.14 78 P **P** **20 00 57.6 0.0**
MSVF IAmb IAmb 20 01 01.7
comp=Z,136nm,1.4s
MSVF Nonsavu 52.14 78 LR LR 20 20 28.1
comp=Z,585nm,19.6s,baz=220,slow=33
MSVF Nonsavu 52.14 78 P **P** **20 00 59.9 +2.3**
MSVF Nonsavu 52.14 78 *i* P **P** **20 00 57.4 -0.2**
MSVF pmax pmax
comp=Z,124nm,1.3s
IPM Ipoh 52.31 331 P **P** **20 00 56.8 -1.9**
IPM IAmb IAmb 20 01 03.9
comp=Z,106nm,1.7s
IPM Ipoh 52.31 331 P **P** **20 00 59.3 +0.6**
KULM Kulim 53.19 330 P **P** **20 01 03.6 -1.6**
KULM Kulim 53.19 330 P **P** **20 01 06.4 +1.1**
DGTI Dogotuki 54.29 78 P **P** **20 01 15.8 +2.4**
LHMI Lhok Sumawe 54.54 326 P **P** **20 01 13.5 -1.6**
LHMI IAMs_20 IAMs_20 20 22 42.9
comp=Z,2µm,18.0s
NVL N'lazarevskaya 55.94 202 *e*P **P** **20 01 21.7 -2.8**
NVL *e* 20 02 21.5
NVL *e*S **S** **20 09 06.4 -5.0**
NVL *e* 20 11 12.7
NVL pmax pmax
comp=Z,15nm,0.8s
NVL smax smax
comp=N,274nm,8.3s
NVL MLR MLR
comp=Z,113nm,16.0s
SRIT Nakonsritamara 56.63 331 P **P** **20 01 28.5 -1.6**
SRIT IAmb IAmb 20 01 36.0
comp=Z,54nm,0.9s
SRIT Nakonsritamara 56.63 331 P **P** **20 01 30.3 +0.2**
FUTU Fugatoga 57.15 78 P **P** **20 01 33.4 -0.5**
FUTU IAmb IAmb 20 01 39.2
comp=Z,59nm,0.8s
H08S2 Diego Garcia H 57.44 293 T T 21 03 29.1
baz=138,slow=76,SNR=14
H08S1 Diego Garcia H 57.45 293 T T 21 03 32.7
baz=138,slow=76,SNR=15
TROLL Troll, Antarti 57.45 198↑ P **P** **20 01 36.5 +1.0**
comp=Z,5µm,0.8s
H08S3 Diego Garcia H 57.46 293 T T 21 03 36.1
baz=138,slow=76,SNR=15
BELA Belgrano 2 57.90 185 P **P** **20 01 38.5 +0.1**
BELA IAMs_20 IAMs_20 20 24 56.2
comp=Z,2µm,19.0s
SNAA Sanae 58.88 197↑ P **P** **20 01 46.4 +1.0**
comp=Z,3µm,0.8s
SNAA Sanae 58.88 197 P **P** **20 01 45.5 0.0**
SNAA Sanae 58.88 197 P **P** **20 01 47.4 +2.0**
comp=Z,143nm,0.9s,baz=145,slow=8.0,SNR=112
SNAA LR LR 20 25 04.3
comp=Z,2µm,20.0s,baz=135,slow=34
SNAA PKPPKP P'P'df 20 31 19.6 -8.8
comp=Z,3.7nm,1.2s,baz=27,slow=2.3,SNR=3.9
comp=Z,143nm,0.9s
SNAA Sanae 58.88 197 *i* P **P** **20 01 45.4 0.0**
SNAA pmax pmax
comp=Z,252nm,1.0s
PATS Pohnpei 59.18 41 P **P** **20 01 46.3 -1.7**
NIUE Niue 59.90 88 P **P** **20 01 52.2 -0.8**
GUMO Guam 60.20 24 P **P** **20 01 53.4 -1.6**
GUMO Guam 60.20 24 P **P** **20 01 55.5 +0.5**
comp=Z,130nm,1.1s,baz=212,slow=4.7,SNR=5.4
GUMO LR LR 20 28 49.2
comp=Z,490nm,19.4s,baz=208,slow=37
comp=Z,130nm,1.1s
GUMO Guam 60.20 24 P **P** **20 01 55.7 +0.7**
VNA2 Neumayer--Watz 60.41 196↑ P **P** **20 01 57.2 +1.4**
comp=Z,169nm,0.7s,baz=140,slow=7.8
VNA3 Neumayer Olymp 60.61 196↑ P **P** **20 01 58.0 +0.7**
comp=Z,85nm,0.8s
VNA1 Neumayer--Stat 60.80 196↑ P **P** **20 02 00.1 +1.6**
comp=Z,118nm,0.8s
QIZ Qiongzhong 63.84 345 P **P** **20 02 18.8 -0.6**
QIZ S **S** **20 10 56.2 +2.1**
QIZ LR LR
comp=Z,870nm,16.7s
QIZ LR LR
comp=Z,1µm,21.3s
FOMA Nahampoana Res 64.06 260 P **P** **20 02 19.8 -1.2**
FOMA IAmb IAmb 20 02 25.0
comp=Z,32nm,0.8s
PALK Pallekele 64.12 311 LR LR 20 24 07.9
comp=Z,2µm,21.7s,baz=150,slow=30
RAR Rarotonga 65.88 97 LR LR 20 24 32.8
comp=Z,291nm,20.9s,baz=270,slow=30
CM31 Chiang Mai Arr 66.05 334 P **P** **20 02 34.3 +0.5**
CM31 IAmb IAmb 20 02 40.9
comp=Z,62nm,0.8s
CMAR Chiang Mai Arr 66.05 334 P **P** **20 02 33.8 0.0**
CMAR Chiang Mai Arr 66.05 334 P **P** **20 02 34.8 +1.0**
comp=Z,23nm,0.7s,baz=177,slow=5.5,SNR=176
CMAR LR LR 20 31 01.8
comp=Z,874nm,20.0s,baz=165,slow=36
CMAR PKP2ab 20 31 12.8
comp=Z,1.1nm,0.9s,baz=351,slow=4.2,SNR=5.8
comp=Z,23nm,0.7s
VOI Vohitsoka 66.11 262 P **P** **20 02 34.0 -0.5**
VOI IAmb IAmb 20 02 38.6
comp=Z,60nm,1.2s
CHTO Chiang Mai 66.39 334 P **P** **20 02 35.4 -0.6**
CHTO IAmb IAmb 20 02 43.6
comp=Z,90nm,1.4s
CHTO IAMs_20 IAMs_20 20 28 15.8
comp=Z,1µm,22.0s
CHTO Chiang Mai 66.39 334 P **P** **20 02 36.9 +0.9**
CHTO Chiang Mai 66.39 334 P **P** **20 02 35.4 -0.6**
CHTO pmax pmax
comp=Z,90nm,1.5s
CHTO MLR MLR
comp=Z,2µm,22.0s
YULB Yu-li 66.89 357 P **P** **20 02 38.8 -0.3**
YULB IAmb IAmb 20 02 50.0
comp=Z,78nm,1.5s
SSLB Suanglung 67.30 357 P **P** **20 02 41.2 -0.5**
SSLB IAmb IAmb 20 02 47.9
comp=Z,40nm,0.9s
SSLB Suanglung 67.30 357 P **P** **20 02 43.0 +1.3**
SLVN Son La 67.37 340 P **P** **20 02 41.5 -0.7**
SLVN IAmb IAmb 20 02 56.7
comp=Z,63nm,1.5s
SLVN Son La 67.37 340 P **P** **20 02 44.3 +2.1**
ABPO Ambohimpanom 67.64 265 P **P** **20 02 43.5 -0.8**
ABPO Ambohimpanom 67.64 265 P **P** **20 02 43.5 -0.8**
ABPO pmax pmax
comp=Z,18nm,0.9s
SMAI San Martin Ant 68.10 176 P **P** **20 02 47.1 +0.9**
SMAI IAMs_20 IAMs_20 20 33 16.8
comp=Z,1µm,19.0s
JOW Kunigami 70.38 4 LR LR 20 34 42.3
comp=Z,396nm,21.6s,baz=137,slow=37
KMI Kunming 71.29 340↑ P **P** **20 03 08.8 +2.2**
KMI pmax pmax
comp=Z,25nm,1.3s
KMI pmax pmax
comp=Z,470nm,5.8s
KMI LR LR
comp=Z,870nm,21.9s
KMI LR LR
comp=Z,390nm,19.6s
KMI LR LR
comp=Z,910nm,15.5s
MSEY Mahe Island 71.31 282 IAMs_20 IAMs_20 20 26 55.5
comp=Z,1µm,20.0s
PMSA Palmer Station 71.60 176 LR LR 20 33 11.4
comp=Z,1µm,20.1s,baz=188,slow=35
GYA Guiyang 71.68 344↓ P **P** **20 03 10.5 +1.6**
GYA S **S** **20 12 29.1 +1.0**
GYA pmax pmax
comp=Z,25nm,1.3s
GYA pmax pmax
comp=Z,470nm,6.4s
GYA LR LR
comp=Z,980nm,26.3s
GYA LR LR
comp=Z,380nm,15.9s
GYA LR LR
comp=Z,2µm,24.1s
TBI Tubuai 71.84 105 *e*PKP1 P 20 03 00.8 -9.2
comp=Z,1µm,31.5s
TBI *e*S **S** **20 12 29.8 -0.4**
comp=Z,5µm,28.5s
TBI *e*SS **SS** **20 17 12.7 +6.7**
comp=Z,2µm,26.5s
TBI *e*LQ LQ 20 21 27.7
comp=Z,6µm,29.2s
TBI *e*LR LR 20 24 56.0
comp=Z,730nm,36.5s
TBI *e*LR LR 20 25 01.9
comp=Z,5µm,36.0s
TNCH TengChong 72.36 336 P **P** **20 03 14.1 +1.1**
TNCH S **S** **20 12 37.9 +1.9**
TNCH SKS **SKSac** **20 13 17.0 -0.1**
TNCH SS **SS** **20 17 19.8 +4.8**
TNCH pmax pmax
comp=Z,69nm,1.3s
TNCH pmax pmax
comp=Z,470nm,3.1s
TNCH LR LR
comp=Z,700nm,17.5s
TNCH LR LR
comp=Z,500nm,20.0s
TNCH LR LR
comp=Z,3µm,30.6s
BRDH Bariadhala 72.49 329 LR LR 20 36 38.2
comp=Z,569nm,19.2s,baz=156,slow=37
PZH PanZhiHua 72.86 339 P **P** **20 03 17.0 +1.1**
PZH S **S** **20 12 42.6 +1.0**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,440nm,5.6s
PZH LR LR
comp=Z,660nm,22.4s
PZH LR LR
comp=Z,410nm,18.2s
PZH LR LR
comp=Z,920nm,22.6s
ESPZ Base Esperanza 73.16 180 P **P** **20 03 18.0 +0.8**
HYB Hyderabad 73.73 315 *e*P **P** **20 03 18.9 -2.3**
WHN Wuhan 74.49 351↑ P **P** **20 03 26.1 +0.9**
WHN S **S** **20 13 03.5 +3.9**
WHN LR LR
comp=Z,2µm,13.5s
SSE Sheshan 74.56 358 P **P** **20 03 26.7 +1.1**
SSE pmax pmax
comp=Z,24nm,1.5s
SSE pmax pmax
comp=Z,270nm,5.0s
SSE LR LR
comp=Z,110nm,18.5s
SSE LR LR
comp=Z,290nm,18.3s
ENH Enshi 74.88 347 P **P** **20 03 25.1 -2.5**
ENH IAmb IAmb 20 03 35.2
comp=Z,81nm,1.5s
ENH Enshi 74.88 347 P **P** **20 03 28.6 +1.0**
SHL Shillong 75.03 330 P **P** **20 03 25.4 -3.3**
SHL Shillong 75.03 330 P **P** **20 03 25.4 -3.3**
SHL pmax pmax
comp=Z,153nm,0.8s
SHL MLR MLR
comp=Z,500nm,20.0s
PPT2 Papeete2 75.53 101 *e*P P 20 03 24.9 -6.9
comp=Z,144nm,25.8s
PPT2 *e*S **S** **20 13 06.2 -5.9**
comp=Z,906nm,27.2s
PPT2 *e*SS **SS** **20 17 57.4 -5.2**
comp=Z,381nm,27.8s
PPT2 *e*LR LR 20 26 40.4
comp=Z,1µm,33.0s
PPT2 *e*LR LR 20 26 42.9
comp=Z,2µm,31.0s
PPT Papeete 75.54 101 LR LR 20 28 04.9
comp=Z,387nm,21.7s,baz=272,slow=29
NJ2 Nanjing 75.62 356↓ P **P** **20 03 32.9 +1.2**
NJ2 S **S** **20 13 16.1 +4.1**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,350nm,3.9s
NJ2 LR LR
comp=Z,490nm,18.0s
NJ2 LR LR
comp=Z,410nm,22.7s
NJ2 LR LR
comp=Z,590nm,19.9s
BOSA Boshof 76.59 243 P **P** **20 03 35.9 -1.9**
BOSA IAmb IAmb 20 03 41.8
comp=Z,52nm,1.1s
BOSA Boshof 76.59 243 P **P** **20 03 39.1 +1.4**
comp=Z,17nm,0.8s,baz=144,slow=6.0,SNR=19
BOSA LR LR 20 31 27.4
comp=Z,751nm,18.3s,baz=136,slow=31
comp=Z,17nm,0.8s
CD2 Chengdu 76.61 342 P **P** **20 03 38.6 +1.2**
CD2 S **S** **20 13 27.2 +4.1**
CD2 SS **SS** **20 18 22.2 +2.9**
CD2 pmax pmax
comp=Z,50nm,1.2s
CD2 pmax pmax
comp=Z,740nm,4.7s
CD2 LR LR
comp=Z,1µm,22.1s
CD2 LR LR
comp=Z,1µm,18.1s
CD2 LR LR
comp=Z,1µm,19.6s
JNU Nakatsue 76.80 6 LR LR 20 37 00.8
comp=Z,329nm,20.9s,baz=174,slow=35
JNU Nakatsue 76.80 6 P **P** **20 03 38.6 +0.2**
SUR Sutherland 76.82 238 P **P** **20 03 38.7 -0.5**
JMN Monobe 77.67 8 IAmb IAmb 20 03 45.2
comp=Z,80nm,1.4s
JMN Monobe 77.67 8 P **P** **20 03 44.4 +1.1**
JTU Tsushima 78.09 5 P **P** **20 03 47.2 +1.6**
XAN Xi'an 78.66 347↑ P **P** **20 03 49.6 +0.8**
XAN pP pwP 20 03 54.9 -3.4
XAN S **S** **20 13 46.3 +1.1**
XAN pmax pmax
comp=Z,40nm,1.1s
XAN pmax pmax
comp=Z,770nm,5.7s
XAN LR LR
comp=Z,860nm,19.2s
XAN LR LR
comp=Z,950nm,19.9s
XAN LR LR
comp=Z,590nm,17.9s
LYN LuoYang 78.67 350 P **P** **20 03 50.1 +1.3**
LYN pP pwP 20 03 55.6 -2.6
LYN S **S** **20 13 47.4 +2.3**
LYN pmax pmax
comp=Z,66nm,0.9s
LYN pmax pmax
comp=Z,640nm,4.1s
LYN LR LR
comp=Z,550nm,18.9s
LYN LR LR
comp=Z,420nm,19.2s
LYN LR LR
comp=Z,570nm,21.0s
LBTB Lobatse 78.80 246 IAmb IAmb 20 03 54.1
comp=Z,60nm,1.4s
LBTB Lobatse 78.80 246 LR LR 20 33 46.8
comp=Z,483nm,18.0s,baz=136,slow=32
LSA Lhasa 79.07 331 P **P** **20 03 52.3 +0.6**
LSA S **S** **20 13 49.9 -0.7**
LSA pmax pmax
comp=Z,63nm,0.9s
LSA LR LR
comp=Z,330nm,20.1s
LSA LR LR
comp=Z,350nm,21.2s
EVN Everest 79.10 327 P **P** **20 03 50.7 -1.4**
EVN IAmb IAmb 20 03 58.5
comp=Z,74nm,0.7s
INU Inuyama 79.65 11 P **P** **20 03 54.2 +0.1**
INU IAmb IAmb 20 04 01.5
comp=Z,73nm,1.6s
INU Inuyama 79.65 11 P **P** **20 03 55.0 +0.9**
LPHEP Lephephe 79.75 248 IAmb IAmb 20 04 00.9
comp=Z,221nm,1.9s
LPHEP IAMs_20 IAMs_20 20 34 17.6
comp=Z,809nm,20.0s
LPHEP Lephephe 79.75 248 *i* P **P** **20 03 56.2 +0.8**
TJN Taejon 79.85 3 P **P** **20 03 56.4 +1.3**
TJN Taejon 79.85 3 *i* P **P** **20 03 55.9 +0.8**
TIA Tai'an 79.86 354 P **P** **20 03 55.9 +0.6**
TIA S **S** **20 13 59.0 +1.2**
TIA sS **ScS** **20 14 16.8 -2.1**
TIA pmax pmax
comp=Z,20nm,0.9s
TIA pmax pmax
comp=Z,440nm,4.8s
TIA LR LR
comp=Z,140nm,13.7s
TIA LR LR
comp=Z,430nm,15.8s
TIA LR LR
comp=Z,590nm,17.2s
MATP Matopo 79.96 251 LR LR 20 33 53.4
comp=Z,379nm,18.2s,baz=135,slow=32
SKOMA Sekoma 80.24 246 *i* P **P** **20 03 57.9 -0.1**
PHPEN Phepeng 80.29 244 P **P** **20 03 58.0 -0.3**
PHPEN IAmb IAmb 20 04 03.1
comp=Z,76nm,1.1s
BROLN Tlhalogang 80.30 250 *i* P **P** **20 03 60.0 +1.7**
KDWAN Kaudwane 80.54 247 P **P** **20 03 59.0 -0.6**
KDWAN IAmb IAmb 20 04 04.5
comp=Z,94nm,1.1s
KDWAN Kaudwane 80.54 247 *i* P **P** **20 04 01.7 +2.1**
KSAR Wonju Array Be 80.93 3 P **P** **20 04 01.4 +0.5**
KSAR Wonju Array Be 80.93 3 P **P** **20 04 01.4 +0.5**
KSRS Korea Array 80.94 3 P **P** **20 04 02.1 +1.2**
comp=Z,19nm,1.0s,baz=181,slow=5.3,SNR=79
KSRS PKPPKP 20 30 43.3
comp=Z,0.4nm,0.3s,baz=29,slow=2.8,SNR=4.6
KSRS LR LR 20 41 51.5
comp=Z,136µm,20.7s,baz=170,slow=37
comp=Z,19nm,1.0s
KS19 Wonju Array Si 80.99 3 IAmb IAmb 20 04 08.4
comp=Z,54nm,1.1s
MAJO Matsushiro 80.99 12 P **P** **20 04 01.1 -0.3**
MAJO Matsushiro 80.99 12 P **P** **20 04 01.7 +0.4**
MAJO Matsushiro 80.99 12 *i* P **P** **20 04 00.3 -1.0**
MAJO pmax pmax
comp=Z,33nm,1.4s
MJAR Matsushiro Arr 80.99 12 P **P** **20 04 00.4 -1.0**
MJAR Matsushiro Arr 80.99 12 P **P** **20 04 01.2 -0.1**
comp=Z,14nm,1.1s,baz=193,slow=6.5,SNR=20
MJAR LR LR 20 39 55.1
comp=Z,266nm,19.1s,baz=188,slow=36
comp=Z,14nm,1.1s
USHA Ushuaia 81.19 173 LR LR 20 38 27.6
comp=Z,789nm,18.2s,baz=186,slow=34
HNS HongShan 81.24 353↑ P **P** **20 04 03.9 +1.3**
HNS S **S** **20 14 07.4 -4.7**
HNS SKS **SKSac** **20 14 15.2 -5.7**
HNS pmax pmax
comp=Z,40nm,1.3s
HNS pmax pmax
comp=Z,670nm,5.6s
HNS LR LR
comp=Z,340nm,18.6s
HNS LR LR
comp=Z,470nm,18.2s

HNS LR LR
comp=Z,470nm,20.6s
LZH Lanzhou 81.58 344 ⇑P **P** **20 04 06.2 +1.5**
LZH pP PcP 20 04 11.7 +1.2
LZH SS SS 20 19 37.3 +3.2
LZH pmax pmax
comp=Z,57nm,1.4s
LZH pmax pmax
comp=Z,670nm,5.2s
LZH LR LR
comp=Z,630nm,18.6s
LZH LR LR
comp=Z,580nm,19.2s
LZH LR LR
comp=Z,1μm,19.7s
TIY Taiyuan 81.79 351 *e*P **P** **20 04 07.1 +1.5**
TIY PP **PP** **20 07 14.8 +1.4**
TIY S **S** **20 14 19.9 +1.9**
TIY SKS **SKSac** **20 14 24.1 -0.7**
TIY SS **SS** **20 19 42.3 +5.2**
TIY pmax pmax
comp=Z,44nm,0.7s
TIY pmax pmax
comp=Z,410nm,4.9s
TIY LR LR
comp=Z,320nm,17.2s
TIY LR LR
comp=Z,190nm,15.1s
TIY LR LR
comp=Z,310nm,20.6s
LKGWB Lokgwabe 82.30 244 *i*P **P** **20 04 09.5 +0.6**
DL2 Dalian 82.34 358 P **P** **20 04 08.5 +0.2**
DL2 S **S** **20 14 23.2 -0.2**
DL2 pmax pmax
comp=Z,72nm,1.5s
DL2 pmax pmax
comp=Z,450nm,6.0s
DL2 LR LR
comp=Z,510nm,21.3s
DL2 LR LR
comp=Z,320nm,19.1s
DL2 LR LR
comp=Z,700nm,26.1s
JSD Sado 82.47 11 P **P** **20 04 12.2 +3.2**
KGCAE Kacgae 82.53 246 P **P** **20 04 09.4 -0.8**
KGCAE Kacgae 82.53 246 *i*P **P** **20 04 12.6 +2.4**
MG04 Isla Riesco 82.81 171 P **P** **20 04 11.5 +0.6**
PHDHD Phuduhudu 82.81 249 P **P** **20 04 10.8 -0.8**
PHDHD IAMs_20 IAMs_20 20 39 18.7
comp=Z,710nm,19.0s
PHDHD Phuduhudu 82.81 249 *i*P **P** **20 04 13.7 +2.1**
LSZ Lusaka 83.68 255 P **P** **20 04 15.7 -0.5**
LSZ IAmb IAmb 20 04 21.4
comp=Z,49nm,1.0s
LSZ Lusaka 83.68 255 IAMs_20 IAMs_20 20 37 22.6
comp=Z,803nm,19.0s
LSZ Lusaka 83.68 255 LR LR 20 35 40.5
comp=Z,560nm,19.5s,baz=134,slow=31
LSZ Lusaka 83.68 255 P **P** **20 04 15.7 -0.5**
LSZ pmax pmax
comp=Z,49nm,1.0s
LSZ MLR MLR
comp=Z,800nm,19.0s
BJT Baijiatuau 83.72 354 P **P** **20 04 15.1 -0.4**
BJT IAmb IAmb 20 04 23.8
comp=Z,57nm,1.4s
BJT Baijiatuau 83.72 354 P **P** **20 04 17.5 +2.0**
BJT Baijiatuau 83.72 354 P **P** **20 04 15.1 -0.4**
BJT pmax pmax
comp=Z,57nm,1.4s
BJT MLR MLR
comp=Z,400nm,21.0s
BJI Beijing 83.74 354 P **P** **20 04 16.8 +1.2**
BJI pP **PcP** **20 04 21.5 +1.9**
BJI PP **PP** **20 07 32.7 +3.5**
BJI SKS **S** **20 14 34.6 -3.0**
BJI SS **SS** **20 20 09.8 +4.1**
BJI pmax pmax
comp=Z,12nm,1.4s
BJI pmax pmax
comp=Z,240nm,4.6s
BJI LR LR
comp=Z,190nm,20.0s
BJI LR LR
comp=Z,130nm,16.5s
BJI LR LR
comp=Z,220nm,15.2s
KOOLE Kule 83.75 244 P **P** **20 04 16.1 -0.4**
KOOLE Kule 83.75 244 *i*P **P** **20 04 19.2 +2.7**
GOMU GeErMu 83.91 337 P **P** **20 04 17.9 +0.9**
GOMU pP PcP 20 04 21.8 +0.8
GOMU sP pwP 20 04 25.8 -0.7
GOMU S **SKSac** **20 14 39.0 -0.6**
GOMU pmax pmax
comp=Z,14nm,1.5s
GOMU LR LR
comp=Z,120nm,17.2s
GOMU LR LR
comp=Z,280nm,17.6s
GOMU LR LR
comp=Z,540nm,17.8s
KSANE Kasane 84.04 251 P **P** **20 04 17.8 -0.2**
KSANE IAmb IAmb 20 04 23.1
comp=Z,52nm,0.9s
KSANE IAMs_20 IAMs_20 20 36 50.3
comp=Z,957nm,19.0s
KSANE Kasane 84.04 251 *i*P **P** **20 04 20.5 +2.5**
GRTLG Ghanzi 84.23 246 P **P** **20 04 18.6 -0.3**
GRTLG IAmb IAmb 20 04 24.1
comp=Z,48nm,1.1s
GRTLG Ghanzi 84.23 246 *i*P **P** **20 04 21.3 +2.4**
GO09 Cerro Castillo 84.27 170 P **P** **20 04 18.7 +0.2**
EFI East Falkland 84.90 179 *ce*P **P** **20 04 24.3 +2.7**
EFI pmax pmax
comp=Z,254nm,2.5s
BTO Baotou 84.95 349 *e*P **P** **20 04 24.1 +2.3**
BTO pP **pwP** **20 04 28.8 -2.5**
BTO sP **sP** **20 04 31.2 +4.8**
BTO PP **PP** **20 07 43.9 +4.7**
BTO S **S** **20 14 53.5 +3.6**
BTO sS **ScS** **20 14 59.6 -1.0**
BTO pmax pmax
comp=Z,61nm,1.5s
BTO LR LR
comp=Z,880nm,20.7s
BTO LR LR
comp=Z,780nm,20.9s
BTO LR LR
comp=Z,1μm,22.2s
GMARE Gumare 84.97 248 IAMs_20 IAMs_20 20 37 07.0
comp=Z,863nm,18.0s
HHC Hu-ho-hao-te 84.99 351 ⇓*i*P **P** **20 04 23.8 +1.7**
HHC pP sP 20 04 28.0 +1.4
HHC PP **PP** **20 07 44.5 +4.9**
HHC SKS **SKSac** **20 14 46.7 +0.9**
HHC S **SKKSac** **20 14 53.4 +1.5**
HHC pmax pmax
comp=Z,24nm,1.2s
HHC pmax pmax
comp=Z,480nm,4.2s
HHC LR LR
comp=Z,340nm,20.2s
HHC LR LR
comp=Z,170nm,19.3s
HHC LR LR
comp=Z,410nm,24.4s
SNY Shenyang 85.23 360 ⇓P **P** **20 04 23.9 +0.8**
SNY S **SKSac** **20 14 48.3 +1.4**
SNY pmax pmax
comp=Z,23nm,1.2s
SNY pmax pmax
comp=Z,350nm,4.8s
SNY LR LR
comp=Z,270nm,19.9s
SNY LR LR
comp=Z,300nm,19.9s
SNY LR LR
comp=Z,390nm,21.8s
KIBK Kibwezi 85.45 271 P **P** **20 04 24.4 -0.7**
QNGWA Qangwa 85.54 247 IAMs_20 IAMs_20 20 36 32.0
comp=Z,899nm,19.0s
GTA Gaotai 85.65 341 P **P** **20 04 26.4 +1.0**
GTA pP sP 20 04 31.2 +1.2
GTA sP pwP 20 04 33.9 -1.0
GTA PP **PP** **20 07 49.7 +4.8**
GTA SKS **SKSac** **20 14 50.1 +0.1**
GTA S **SKKSac** **20 15 00.6 +3.6**
GTA SS **SS** **20 20 38.7 +4.5**
GTA pmax pmax
comp=Z,17nm,1.2s
GTA pmax pmax
comp=Z,410nm,6.0s
GTA LR LR
comp=Z,620nm,20.0s
GTA LR LR
comp=Z,530nm,20.7s
GTA LR LR
comp=Z,1μm,23.6s
VLA Vladivostok 86.81 6 *i*P **P** **20 04 30.0 -0.8**
VLA pmax pmax
comp=Z,120nm,2.1s
KMBO Kilima Mbogo 86.86 271 P **P** **20 04 30.3 -1.9**
KMBO Kilima Mbogo 86.86 271 P **P** **20 04 30.3 -1.9**
KMBO pmax pmax
comp=Z,7.0nm,0.9s
CN2 Changchun 87.21 1 ⇑P **P** **20 04 33.8 +1.0**
CN2 *e*S **S** **20 15 14.3 +2.6**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,600nm,6.0s
CN2 LR LR
comp=Z,100nm,13.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,200nm,14.0s
XLT XiLinHaoTe 87.59 354 *e*P **P** **20 04 34.9 +0.2**
XLT pP sP 20 04 39.2 -0.1
XLT SKS **SKSac** **20 15 01.6 -0.1**
XLT S **S** **20 15 16.1 +0.6**
XLT pmax pmax
comp=Z,33nm,1.3s
XLT pmax pmax
comp=Z,410nm,4.1s
XLT LR LR
comp=Z,39nm,23.3s
XLT LR LR
comp=Z,200nm,16.8s
XLT LR LR
comp=Z,430nm,22.6s
USA0B Ussuriysk Arra 87.89 6 IAmb IAmb 20 04 42.8
comp=Z,32nm,1.1s
USA0B Ussuriysk Arra 87.89 6 *i*P **P** **20 04 36.4 +0.3**
USRK Ussuriysk Ar. 87.89 6 P **P** **20 04 37.0 +1.0**
comp=Z,15nm,0.8s,baz=190,slow=3.5,SNR=23
USRK LR LR 20 43 43.8
comp=Z,234nm,21.2s,baz=190,slow=36
comp=Z,15nm,0.8s
TSUM Tsumeb 88.15 245 P **P** **20 04 38.4 +0.1**
TSUM IAmb IAmb 20 04 44.2
comp=Z,41nm,1.1s
TSUM Tsumeb 88.15 245 IAMs_20 IAMs_20 20 39 45.1
comp=Z,882nm,18.0s
TSUM Tsumeb 88.15 245 LR LR 20 39 48.4
comp=Z,503nm,18.1s,baz=150,slow=33
TAOE Nuku Hiva Isla 88.16 100 *e*P **P** **20 04 35.8 -2.5**
comp=Z,200nm,29.0s
TAOE Nuku Hiva Isla 88.16 100 *e*S **S** **20 15 20.3 -2.1**
comp=Z,397nm,25.4s
TAOE *e*SS **SS** **20 21 15.9 +5.1**
comp=Z,478nm,23.4s
TAOE Nuku Hiva Isla 88.16 100 *e*LR LR 20 32 33.7
comp=Z,1μm,32.6s
MDJ Mudanjiang 88.16 4 IAmb IAmb 20 04 45.0
comp=Z,58nm,1.2s
MDJ Mudanjiang 88.16 4 P **P** **20 04 38.3 +1.0**
MDJ pmax pmax
comp=Z,39nm,1.4s
MDJ pmax pmax
comp=Z,480nm,4.5s
MDJ LR LR
comp=Z,440nm,20.6s
MDJ LR LR
comp=Z,230nm,15.1s
MDJ LR LR
comp=Z,830nm,23.4s
MDJ Mudanjiang 88.16 4 P **P** **20 04 38.6 +1.3**
AY03 Cochrane 88.17 169 IAmb IAmb 20 04 43.3
comp=Z,52nm,1.1s
ASAJ Asahikawa 89.08 13 LR LR 20 43 24.0
comp=Z,230nm,21.9s,baz=190,slow=35
BNX BinXian 89.19 2 ⇓P **P** **20 04 42.2 0.0**
BNX SKS **SKSac** **20 15 11.3 +0.3**
BNX S **ScS** **20 15 33.6 -1.6**
BNX pmax pmax
comp=Z,13nm,0.9s
BNX pmax pmax
comp=Z,230nm,6.1s
BNX LR LR
comp=Z,250nm,20.4s
BNX LR LR
comp=Z,230nm,20.7s
BNX LR LR
comp=Z,350nm,20.4s
NIL Nilore 89.88 320 P **P** **20 04 45.0 -0.8**
NIL Nilore 89.88 320 P **P** **20 04 45.0 -0.8**
NIL pmax pmax
comp=Z,58nm,0.9s
NIL MLR MLR
comp=Z,600nm,21.0s
COYC Coyhaique 89.89 169 P **P** **20 04 46.6 +0.7**
COYC IAmb IAmb 20 04 51.3
comp=Z,74nm,1.3s
LODK Lodwar 91.34 273 P **P** **20 04 53.0 -0.2**
ATD Arta Tunnel 91.58 284 IAMs_20 IAMs_20 20 36 48.5
comp=Z,799nm,22.0s
ATD Arta Tunnel 91.58 284 LR LR 20 37 33.1
comp=Z,30nm,21.1s,baz=156,slow=30
YSS Yuzhno-Sakhali 91.87 13 *e*P **P** **20 04 52.9 -1.7**
YSS *e* 20 08 32.7
YSS *e* 20 15 25.0
YSS *e*S **S** **20 15 50.0 -4.9**
YSS *e*PS PS 20 17 07.0 +0.2
YSS *e*SS **SS** **20 22 03.5 -0.7**
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS pmax pmax
comp=Z,200nm,3.9s
YSS MLR MLR
comp=Z,300nm,17.0s
MBAR Mbarara 91.93 267 *i*P **P** **20 04 57.2 +1.1**
LL02 Futaleuf 92.26 168 P **P** **20 04 58.4 +1.5**
ULN Ulaanbaatar 92.48 349 P **P** **20 04 57.3 -0.3**
ULN IAmb IAmb 20 05 05.5
comp=Z,62nm,1.8s
ULN Ulaanbaatar 92.48 349 *ce*P **P** **20 04 58.7 +1.1**
ULN pmax pmax
comp=Z,32nm,1.7s
SONM Songino Array 92.54 348 P **P** **20 04 57.5 -0.4**
SONM IAmb IAmb 20 04 60.0
comp=Z,39nm,1.5s
SONM Songino Array 92.54 348 P **P** **20 04 58.4 +0.5**
comp=Z,7.9nm,1.0s,baz=170,slow=4.3,SNR=33
SONM PKKPbc **PKKPbc** **20 22 12.5 +0.8**
comp=Z,1.8nm,1.0s,baz=338,slow=1.6,SNR=6.5
SONM LR LR 20 50 18.3
comp=Z,310nm,19.2s,baz=163,slow=38
comp=Z,7.9nm,1.0s
KBL Kabul 92.62 317 P **P** **20 04 57.3 -1.4**
KBL IAmb IAmb 20 05 05.0
comp=Z,21nm,1.0s
KBL Kabul 92.62 317 P **P** **20 04 57.3 -1.4**
KBL pmax pmax
comp=Z,21nm,1.0s
HIA Hailar 92.74 357 IAmb IAmb 20 05 01.2
comp=Z,50nm,1.4s
KLR Kul'dur 92.88 5 P **P** **20 04 59.4 +0.1**
comp=Z,3.0nm,0.8s,baz=202,slow=4.4,SNR=8.1
comp=Z,3.0nm,0.8s
KLR Kul'dur 92.88 5 *i*P **P** **20 04 57.4 -1.8**
KLR pmax pmax
comp=Z,13nm,1.4s
LL01 San Ignacio de 92.97 168 P **P** **20 05 00.3 +0.2**
LL01 IAmb IAmb 20 05 04.5
comp=Z,45nm,1.1s
WMQ Urumqi 93.05 335 *e*P **P** **20 05 02.2 +1.9**
WMQ SKS **SKSac** **20 15 34.5 +1.1**
WMQ S **S** **20 16 05.0 -0.8**
WMQ SS **SS** **20 22 22.0 +0.5**
WMQ pmax pmax
comp=Z,38nm,1.1s
WMQ LR LR
comp=Z,380nm,20.1s
WMQ LR LR
comp=Z,810nm,24.3s
KSH Kashi 93.56 325 P **P** **20 05 02.0 -0.8**
KSH SKS **SKSac** **20 15 35.2 -1.3**
KSH S **S** **20 16 05.4 -5.3**
KSH pmax pmax
comp=Z,4.0nm,1.2s
KSH LR LR
comp=Z,340nm,16.5s
KSH LR LR
comp=Z,390nm,22.7s
KSH LR LR
comp=Z,370nm,19.2s
HEH HeiHe 93.71 2 *e*P **P** **20 05 02.5 -0.5**
HEH pP **sP** **20 05 07.1 -0.5**
HEH SKS **SKSac** **20 15 34.2 -2.2**
HEH S **S** **20 16 11.8 +0.7**
HEH SS **SS** **20 22 36.8 +6.3**
HEH pmax pmax
comp=Z,23nm,1.4s
HEH pmax pmax
comp=Z,210nm,4.3s
HEH LR LR
comp=Z,330nm,18.9s
HEH LR LR
comp=Z,250nm,20.1s
HEH LR LR
comp=Z,530nm,17.9s
TARG Taragay, Kyrgy 94.69 327 P **P** **20 05 06.8 -1.5**
TARG Taragay, Kyrgy 94.69 327 P **P** **20 05 06.9 -1.5**
TARG pmax pmax
comp=Z,12nm,1.2s
GRNR Gornyy 94.80 8 ⇑*i*P **P** **20 05 08.5 +0.5**
GRNR pmax pmax
comp=Z,6.0nm,1.3s
PLCA Paso Flores 94.85 169 P **P** **20 05 08.7 -0.3**
PLCA IAmb IAmb 20 05 13.9
comp=Z,26nm,1.1s
PLCA Paso Flores 94.85 169 P **P** **20 05 11.3 +2.3**
comp=Z,12nm,0.9s,baz=171,slow=4.6,SNR=10.0
PLCA LR LR 20 44 01.8
comp=Z,680nm,20.3s,baz=186,slow=33
comp=Z,12nm,0.9s
PLCA Paso Flores 94.85 169 P **P** **20 05 08.7 -0.3**
PLCA pmax pmax
comp=Z,26nm,1.1s
PLCA Paso Flores 94.85 169 *e*P **P** **20 05 10.8 +1.8**
SHLS Shalkode 95.28 329 *e*P **P** **20 05 10.3 -0.3**
SHLS Shalkode 95.28 329 *e*P **P** **20 05 10.3 -0.3**
ZAK Zakamensk 95.51 347 *e*P **P** **20 05 11.2 -0.2**
ZAK pmax pmax
comp=Z,9.0nm,1.5s
GAR Garm 95.61 321 P **P** **20 05 10.8 -1.4**
TYV Tymovskoe 95.66 12 *e*P **P** **20 05 12.8 +0.9**
TYV pmax pmax
comp=Z,6.0nm,1.3s
TYV pmax pmax
comp=Z,100nm,6.1s
KPKS Kokpek 95.84 329 *e*P **P** **20 05 13.3 +0.2**
KPKS Kokpek 95.84 329 *e*P **P** **20 05 13.3 +0.2**
CIT Chita 95.85 354 *e*P **P** **20 05 14.2 +1.3**
CIT *e* 20 05 17.8
CIT *e* 20 09 10.4
CIT pmax pmax
comp=Z,75nm,2.6s
TNSS Tian-Shan 96.14 327 *e*P **P** **20 05 14.8 -0.1**
TNSS Tian-Shan 96.14 327 *e*P **P** **20 05 14.8 -0.1**
BTK Batken 96.24 322 P **P** **20 05 13.0 -2.0**
BTK Batken 96.24 322 P **P** **20 05 13.0 -2.0**
BTK pmax pmax
comp=Z,6.0nm,0.9s
BTK MLR MLR
comp=Z,400nm,21.0s
AAA Alma-Ata 96.30 327 *e*P **P** **20 05 15.4 +0.3**
AAA pmax pmax
comp=Z,5.0nm,0.6s
AAA Alma-Ata 96.30 327 *e*P **P** **20 05 15.5 +0.3**
comp=Z,5.0nm,0.6s
AAK Ala-Archa 96.78 326 LR LR 20 51 10.1
comp=Z,118nm,19.0s,baz=154,slow=37
AAK Ala-Archa 96.78 326 *ce*P **P** **20 05 18.6 +1.1**
AAK pmax pmax
comp=Z,11nm,1.8s
CHKK Chushkaly 96.81 328 *e*P **P** **20 05 17.9 +0.5**
CHKK Chushkaly 96.81 328 *e*P **P** **20 05 17.9 +0.5**
IRK Irkutsk 97.15 348 *e*P Pdif 20 05 19.3 +0.5
IRK pmax pmax
comp=Z,36nm,2.2s
ZEA Zeya 97.19 2 *e*P Pdif 20 05 19.8 +0.9
ZEA *e* 20 15 58.0
ZEA *e* 20 17 58.5
ZEA pmax pmax
comp=N,10.0nm,1.2s
ZEA pmax pmax
comp=Z,10.0nm,1.5s
ZEA MLR MLR
comp=N,200nm,19.0s
ZEA MLR MLR
comp=Z,200nm,17.0s
MK31 Makanchi Array 97.44 333 *ce*P Pdif 20 05 20.5 +0.3
MKAR Makanchi Array 97.44 333 P **P** **20 05 17.8 -2.3**
MKAR Makanchi Array 97.44 333 P **P** **20 05 20.1 0.0**
comp=Z,3.3nm,0.8s,baz=143,slow=6.7,SNR=12
MKAR PP **PP** **20 09 18.5 +0.6**
comp=Z,1.7nm,1.0s,baz=153,slow=9.2,SNR=5.2
MKAR PKKPbc **PKKPbc** **20 21 59.7 +1.5**
comp=Z,0.7nm,0.6s,baz=337,slow=3.5,SNR=7.8
comp=Z,3.3nm,0.8s
MAKZ Makanchi 97.55 332 P **P** **20 05 18.9 -1.8**
MAKZ Makanchi 97.55 332 P **P** **20 05 18.9 -1.8**
MAKZ pmax pmax
comp=Z,13nm,1.5s
MAKZ MLR MLR
comp=Z,200nm,18.0s
RAYN Ar Rayn 98.09 295 P **P** **20 05 22.2 -1.6**
RAYN IAmb IAmb 20 05 30.3
comp=Z,11nm,0.8s
RAYN Ar Rayn 98.09 295 P **P** **20 05 22.2 -1.6**
RAYN pmax pmax
comp=Z,11nm,0.8s
RAYN MLR MLR
comp=Z,1μm,22.0s
IUG Iuzhnay 98.28 323 *e*P Pdif 20 05 24.5 +0.3
IUG Iuzhnay 98.28 323 *e*P Pdif 20 05 24.5 +0.3
DZA Taraz 98.32 324 *e*P Pdif 20 05 24.9 +0.5
DZA Taraz 98.32 324 *e*P Pdif 20 05 24.9 +0.6
CHM Chimkent 98.61 322 *e*P Pdif 20 05 26.2 +0.6
CHM Chimkent 98.61 322 *e*P Pdif 20 05 26.2 +0.6
BI02 San Fabin de 98.74 168 P **P** **20 05 25.8 -0.8**
BI02 IAmb IAmb 20 05 35.7
comp=Z,38nm,1.6s
BTLS Baital 98.96 327 *e*P Pdif 20 05 27.5 +0.5
BTLS Baital 98.96 327 *e*P Pdif 20 05 27.5 +0.5
BRLS Borolday 99.08 323 *e*P **Pdif** **20 05 27.6 0.0**
BRLS Borolday 99.08 323 *e*P **Pdif** **20 05 27.6 0.0**
SEM Semipalatinsk 101.25 333 *e*P **Pdif** **20 05 37.8 +0.5**
SEM Semipalatinsk 101.25 333 *e*P **Pdif** **20 05 37.8 +0.5**
KURBB Kurchatov Arra 102.00 332 P **Pdif** **20 05 40.1 -0.3**
comp=Z,1.2nm,0.7s,baz=148,slow=4.2,SNR=6.8
KURBB PP **PP** **20 09 50.9 -1.6**
comp=Z,1.0nm,0.9s,baz=162,slow=6.3,SNR=5.4
KURBB PKKPbc **PKKPbc** **20 21 46.9 +1.8**
comp=Z,0.9nm,0.8s,baz=316,slow=3.2,SNR=5.4
KURBB PKPPKP 20 30 02.9
comp=Z,0.3nm,0.7s,baz=343,slow=1.0,SNR=4.4
MT05 Renca 102.02 167 IAMs_20 IAMs_20 20 56 10.1
comp=Z,680nm,18.0s
KURK Kurchatov 102.05 332 P **Pdif** **20 05 40.1 -0.5**
ZALV Zalesovo Beam 102.96 337 P **Pdif** **20 05 45.5 +1.0**
comp=Z,0.7nm,0.6s,baz=135,slow=14,SNR=2.2
ZALV PP **PP** **20 09 56.5 -3.1**
comp=Z,1.2nm,0.7s,baz=156,slow=7.3,SNR=4.6
ZALV PKKPbc **PKKPbc** **20 21 44.6 +2.2**
comp=Z,1.2nm,0.5s,baz=333,slow=4.8,SNR=5.4
BRZS Berezniki 103.55 329 *e*PKiKP **PKiKP** **20 10 07.3 +1.5**
BVAR Borovoye Array 106.85 329 PP **PP** **20 10 31.6 +3.0**
comp=Z,0.7nm,0.7s,baz=123,slow=5.3,SNR=3.7
BVAR PKKPbc **PKKPbc** **20 21 33.0 +2.5**
comp=Z,1.6nm,0.9s,baz=349,slow=1.5,SNR=4.9
GURO Guroymak-BITLI 110.39 304 IAMs_20 IAMs_20 20 53 28.1
comp=Z,540nm,20.0s
KBZ Khabaz 113.17 309 PKiKP **PKiKP** **20 10 24.4 +0.5**

comp=Z,3.3nm,0.8s,baz=163,slow=3.6,SNR=5.1
KIV Kislovodsk 113.44 309 ⇓P **PKiKP 20 10 26.1 +1.5**
KIV Kislovodsk 113.44 309 *i* PKIKP **PKiKP 20 10 25.0 +0.4**
KIV *e* 20 11 14.9
KIV *e*PS PKKPbc 20 20 50.7 -18
KIV *e*SS SS 20 27 01.3 -1.3
KIV *e*SSS SSS 20 31 13.8
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,247nm,21.0s
ARTI Arti 113.99 326 IAMs_20 IAMs_20 20 57 51.7
comp=Z,523nm,20.0s
ARTI Arti 113.99 326 *i* PKIKP **PKiKP 20 10 24.7 -0.4**
ARTI 20 11 17.0
ARTI 20 17 36.9
ARTI SP SP 20 20 53.5 -0.9
ARTI SS **SS 20 27 04.1 -5.2**
P08K Saint George I 114.50 34 P PKPdf 20 10 26.1 +0.1
baz=227
SOC Sochi 114.90 307 *i* PKIKP **PKiKP 20 10 28.8 +1.6**
SOC *e* 20 11 28.2
SOC *e*PPP PPP 20 13 51.4
SOC *e*PS **PKKPbc 20 21 00.3 -3.3**
SOC *e*SS SS 20 27 35.7 +14
SOC *e*SSS SSS 20 31 40.4
LABN Labinsk 114.97 309 *i* PKIKP PKPdf 20 10 24.6 -2.7
LABN 20 11 24.4
LABN *e* 20 17 08.4
LABN *i* PS **PKKPbc 20 21 01.0 -2.4**
LABN *e*SS SS 20 27 25.2 +2.6
LABN pmax pmax
comp=Z,49nm,0.6s
LABN MLR MLR
comp=Z,278nm,18.0s
TIXI Tiksi 115.18 2 PKIKP **PKiKP 20 10 29.3 +2.4**
H10S2 ASCENSION HYDR 115.48 226 T T 22 17 13.9
baz=146,slow=74,SNR=13
H10S3 ASCENSION HYDR 115.50 226 T T 22 17 16.4
baz=74,slow=74,SNR=9.6
PB11 IPOC Station P 115.54 166 PKiKP 20 10 26.9 -2.7
KIRS Kirsehir-Merke 115.72 300 ⇑P **PKiKP 20 10 30.3 +1.1**
ERBR Yeremizino-Bor 115.75 309 *i* PKIKP **PKiKP 20 10 29.3 +0.5**
ERBR *e*PPP PPP 20 13 56.8
ERBR *e* 20 17 17.4
ERBR *e*SS SS 20 27 27.7 -5.2
ERBR SSS SSS 20 31 49.2
ERBR pmax pmax
comp=Z,6.0nm,0.7s
ERBR MLR MLR
comp=Z,276nm,20.0s
BILL Bilibino 115.94 16*c* *i* PKIKP **PKiKP 20 10 31.3 +2.8**
BILL pmax pmax
comp=Z,11nm,1.3s
AQDB Aquidauana 116.06 180 *e*P **PKPdf 20 10 31.9 +1.6**
BELG Belogornoye 116.11 318 *i* PKIKP **PKPdf 20 10 28.3 -0.9**
BRTR Keskin Array B 116.25 301 PKPdf 20 10 27.8 -2.4
BRTR Keskin Array B 116.25 301 PKP **PKiKP 20 10 30.6 +0.5**
comp=Z,3.3nm,0.7s,baz=158,slow=5.4,SNR=15
BRTR PKKPab **PKKPbc 20 20 58.7 -0.3**
comp=Z,1.3nm,0.8s,baz=228,slow=3.7,SNR=4.5
BRTR Keskin Array B 116.25 301*c* *i* PKIKP **PKPdf 20 10 30.2 0.0**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
ANTO Ankara 116.86 300 IAMs_20 IAMs_20 20 55 31.5
comp=Z,562nm,21.0s
ANN Anapa 116.94 307 *i* PKIKP **PKiKP 20 10 33.4 +2.3**
ANN *e* 20 17 23.3
ANN *e*PS **PS 20 21 17.1 -6.7**
ANN pmax pmax
comp=Z,40nm,1.2s
ANN MLR MLR
comp=Z,217nm,19.0s
S12K Black Hills 117.08 38 P **PKiKP 20 10 31.2 +0.2**
baz=232
CNBA Chernabura Isl 117.65 39 IAMs_20 IAMs_20 20 57 50.1
comp=Z,540nm,21.0s
TAVA DENIZLI_Tavas 117.94 296 ⇓P **PKiKP 20 10 35.0 +1.6**
M11K Mekoryuk 118.32 32 P **PKiKP 20 10 34.1 +0.8**
baz=231
VRH Novokhopyorsk 118.33 315 *e*PKIKP **PKPdf 20 10 33.0 -0.6**
VRH pmax pmax
comp=Z,10.0nm,0.9s
CHGN Chignik 119.07 39 IAMs_20 IAMs_20 21 01 24.4
comp=Z,501nm,20.0s
KIRV Kirov 119.10 325 *i* PKIKP **PKiKP 20 10 35.2 +0.4**
BBSD Serra de San D 119.18 175 *e*P **PKiKP 20 10 38.4 +1.9**
LPAZ La Paz 119.20 167 PKP **PKiKP 20 10 38.7 +1.4**
comp=Z,1.9nm,0.7s,baz=62,slow=3.5,SNR=4.9
M13K Dall Lake 119.45 33 P **PKiKP 20 10 36.3 +0.8**
baz=233
VORD Divnogorie 119.45 314 *e*PKIKP **PKPdf 20 10 34.7 -1.0**
VORD pmax pmax
comp=Z,9.0nm,0.8s
O14K Tigyukauivet M 119.59 35 P **PKiKP 20 10 36.6 +0.8**
baz=234
VSR Storozhevoye 119.66 314 *e*PKIKP **PKPdf 20 10 34.5 -1.6**
VSR pmax pmax
comp=Z,9.0nm,0.9s
N14K Kuskokwak Cree 119.82 34 IAMs_20 IAMs_20 20 58 35.8
comp=Z,583nm,21.0s
N14K Kuskokwak Cree 119.82 34 P **PKiKP 20 10 36.9 +0.7**
baz=234
K13K Kusilvak Mount 119.88 31 IAMs_20 IAMs_20 20 56 38.0
comp=Z,452nm,22.0s
K13K Kusilvak Mount 119.88 31 P **PKiKP 20 10 37.1 +0.8**
baz=232
VORR Voronezh 119.89 314 *e*PKIKP **PKPdf 20 10 36.3 -0.3**
VORR pmax pmax
comp=Z,10.0nm,1.0s
O15K Ungalikthiuk R 120.14 35 P **PKiKP 20 10 37.6 +0.7**
baz=234
M14K Bethel 120.20 33 P **PKiKP 20 10 37.8 +0.9**
baz=234
L14K Kuka Creek 120.27 32 IAMs_20 IAMs_20 20 58 47.5
comp=Z,524nm,21.0s
L14K Kuka Creek 120.27 32 P **PKiKP 20 10 38.0 +1.0**
baz=234
BDFB Brasilia 120.41 189 PKP **PKiKP 20 10 40.1 +1.1**
comp=Z,4.2nm,0.7s,baz=210,slow=4.2,SNR=7.2
LPSR Galich'ya Gora 120.55 315 *e*PKIKP **PKPdf 20 10 36.8 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
SALV Santo Antonio 120.61 180 *e*P **PKiKP 20 10 41.7 +2.4**
N15K Kwethluk River 120.61 34 P **PKiKP 20 10 38.6 +0.8**
baz=235
M15K Kasigluk River 120.67 34 P **PKiKP 20 10 38.8 +0.9**
baz=235
R17L Mt. Peulik Vol 120.75 38 P **PKiKP 20 10 39.2 +1.0**
baz=236
PLK4 Peulik 4 120.76 38 IAMs_20 IAMs_20 20 58 46.0
comp=Z,510nm,20.0s
J14K Nanvaranak Lak 120.78 31 P **PKiKP 20 10 38.9 +0.9**
baz=234
P16K Nushagak River 120.83 36 IAMs_20 IAMs_20 20 58 54.8
comp=Z,459nm,20.0s
P16K Nushagak River 120.83 36 P **PKiKP 20 10 38.7 +0.5**
baz=236
L15K Ungalak Mounta 120.93 32 P **PKiKP 20 10 39.2 +0.9**
baz=235
EZN Ezine 120.94 297 ⇑P **PKiKP 20 10 40.5 +1.4**
EZN Ezine 120.94 297 ⇑PKIKP **PKiKP 20 10 40.5 +1.4**
PTLB Pontes e Lacer 120.99 176 *e*P **PKiKP 20 10 41.6 +1.6**
O16K Kokwok River B 121.11 36 IAMs_20 IAMs_20 20 58 23.1
comp=Z,510nm,20.0s
O16K Kokwok River B 121.11 36 P **PKiKP 20 10 39.8 +1.0**
baz=236
K15K Wolf Creek Mou 121.27 32 IAMs_20 IAMs_20 20 57 44.0
comp=Z,572nm,21.0s
K15K Wolf Creek Mou 121.27 32 P **PKiKP 20 10 39.9 +0.8**
baz=235
Q17K Contact Creek 121.32 38 P **PKiKP 20 10 40.2 +0.8**
baz=237
N16K Nishlik Lake 121.32 34 P **PKiKP 20 10 40.1 +0.8**
baz=236
F14K Arctic Creek 121.45 27 P **PKiKP 20 10 40.2 +0.9**
baz=233
M16K Timber Creek 121.56 34 P **PKiKP 20 10 40.5 +0.9**
baz=236
P17K Kvichak River 121.59 36 P **PKiKP 20 10 40.4 +0.7**
baz=237
O17K Koliganek Bris 121.63 36 P **PKiKP 20 10 40.5 +0.7**
baz=237
L16K Owhat River 121.74 33 P **PKiKP 20 10 40.9 +0.9**
baz=236
Q18K Katmai Hardscr 121.91 37 P **PKiKP 20 10 41.1 +0.5**
baz=238
OHAK Old Harbor 121.92 39 IAMs_20 IAMs_20 21 02 10.0
comp=Z,481nm,19.0s
G15K Niukluk 121.94 28 P **PKiKP 20 10 41.3 +1.1**
baz=234
N17K Nushagak Hills 122.00 35 P **PKiKP 20 10 41.5 +1.0**
baz=237
DBIC Dimbokro 122.05 246 PKP **PKiKP 20 10 42.8 +0.7**
comp=Z,9.1nm,0.6s,baz=182,slow=3.0,SNR=12
F15K North Star Dit 122.15 28 IAMs_20 IAMs_20 20 58 36.7
comp=Z,591nm,21.0s
F15K North Star Dit 122.15 28 P **PKiKP 20 10 41.6 +0.9**
baz=234
TORD Torodi Ar. Bea 122.18 257 PKPdf 20 10 40.3 -1.8
TORD Torodi Ar. Bea 122.18 257 PKP **PKiKP 20 10 42.5 +0.1**
comp=Z,8.5nm,0.7s,baz=52,slow=2.4,SNR=6.1
J16K Anvik River 122.19 31 IAMs_20 IAMs_20 20 59 06.2
comp=Z,434nm,21.0s
J16K Anvik River 122.19 31 P **PKiKP 20 10 41.7 +0.9**
baz=236
TLCR 122.25 304 ⇓P **PKiKP 20 10 42.9 +1.4**
TLCR 122.25 304 ⇓PKIKP **PKiKP 20 10 42.9 +1.4**
PURM Purcari 122.32 305 ⇓P **PKiKP 20 10 42.9 +1.4**
H16K Elim 122.36 29 P **PKiKP 20 10 42.0 +0.9**
baz=236
M17K Holitna River 122.38 34 P **PKiKP 20 10 42.1 +0.8**
baz=237
L17K Donlin 122.44 33 P **PKiKP 20 10 42.1 +0.8**
baz=237
I17K Unalakleet 122.49 31 P **PKiKP 20 10 42.2 +0.8**
baz=236
HARR Harsova 122.53 303 ⇑P **PKiKP 20 10 43.1 +1.1**
HARR Harsova 122.53 303 ⇑PKIKP **PKiKP 20 10 43.1 +1.1**
KDAK Kodiak Island 122.54 39 IAMs_20 IAMs_20 20 56 53.4
comp=Z,488nm,22.0s
N18K Kilae Creek 122.63 35 IAMs_20 IAMs_20 21 00 03.2
comp=Z,578nm,20.0s
N18K Kilae Creek 122.63 35 P **PKiKP 20 10 42.6 +0.8**
baz=236
CFR Carcaliu 122.66 303 ⇑P **PKiKP 20 10 43.5 +1.2**
CFR Carcaliu 122.66 303 ⇑PKIKP **PKiKP 20 10 43.5 +1.2**
Q19K Cape Douglas, 122.67 38 IAMs_20 IAMs_20 21 03 04.4
comp=Z,542nm,19.0s
Q19K Cape Douglas, 122.67 38 P **PKiKP 20 10 42.8 +0.9**
baz=239
G16K Koyuk River 122.75 29 IAMs_20 IAMs_20 20 58 05.7
comp=Z,656nm,22.0s
G16K Koyuk River 122.75 29 P **PKiKP 20 10 43.0 +1.1**
baz=236
K17K Iditarod 122.75 32 IAMs_20 IAMs_20 21 00 25.2
comp=Z,464nm,21.0s
K17K Iditarod 122.75 32 P **PKiKP 20 10 42.8 +0.8**
baz=237
J17K VABM Dome 122.82 31 IAMs_20 IAMs_20 21 02 49.0
comp=Z,459nm,20.0s
J17K VABM Dome 122.82 31 P **PKiKP 20 10 42.6 +0.5**
baz=237
MOS Moscow 122.86 318 *i* PKIKP **PKPdf 20 10 41.9 -0.2**
MOS *e* 20 12 21.1
Q20K Shuyak Island 123.06 38 P **PKiKP 20 10 43.4 +0.8**
baz=239
OBN Obninsk 123.06 317 *e*PKIKP **PKiKP 20 10 43.4 +0.7**
OBN *i* 20 12 20.4
OBN pmax pmax
comp=Z,78nm,2.5s
OBN MLR MLR
comp=Z,475nm,22.0s
M18K Stony River 123.08 34 P **PKiKP 20 10 43.2 +0.6**
baz=238
L18K Granite Mounta 123.12 33 IAMs_20 IAMs_20 21 02 22.0
comp=Z,466nm,20.0s
L18K Granite Mounta 123.12 33 P **PKiKP 20 10 43.6 +0.9**
baz=238
MILM Milestii Mici 123.14 305 *i* PKP **PKPdf 20 10 43.0 0.0**
comp=Z,80nm,1.6s
MILM Milestii Mici 123.14 305 ⇑P **PKiKP 20 10 43.8 +0.6**
MILM Milestii Mici 123.14 305 ⇑PKIKP **PKiKP 20 10 43.8 +0.6**
N19K Bonanza Creek 123.28 35 IAMs_20 IAMs_20 20 59 50.6
comp=Z,605nm,22.0s
N19K Bonanza Creek 123.28 35 P **PKiKP 20 10 43.8 +0.6**
baz=239
H17K Granite Mounta 123.35 30 P **PKiKP 20 10 43.7 +0.6**
baz=237
G17K Kiwalik Mounta 123.40 29 P **PKiKP 20 10 44.2 +1.0**
baz=237
VILB Vilhena 123.41 175 *e*P **PKiKP 20 10 45.9 +1.0**
C16K Lisburne Hills 123.42 25 P **PKiKP 20 10 44.1 +1.0**
baz=235
ILSW Iliamna Southw 123.43 37 IAMs_20 IAMs_20 20 59 12.5
comp=Z,463nm,20.0s
O20K Slope Mountain 123.70 37 P **PKiKP 20 10 44.3 +0.3**
baz=240
F17K Baldwin Pennin 123.71 28 IAMs_20 IAMs_20 21 00 50.0
comp=Z,615nm,21.0s
F17K Baldwin Pennin 123.71 28 P **PKiKP 20 10 44.6 +0.9**
baz=237
J18K Innoko River 123.76 32 IAMs_20 IAMs_20 21 02 26.9
comp=Z,433nm,20.0s
J18K Innoko River 123.76 32 P **PKiKP 20 10 44.5 +0.5**
baz=239
D17K Noatak River 123.80 26 P **PKiKP 20 10 44.9 +1.0**
baz=236
L19K White Mountain 123.83 34 IAMs_20 IAMs_20 21 00 41.0
comp=Z,548nm,20.0s
L19K White Mountain 123.83 34 P **PKiKP 20 10 44.7 +0.5**
baz=240
VRI Vrincioaia 123.86 303 ⇑P **PKiKP 20 10 46.2 +1.5**
VRI Vrincioaia 123.86 303 ⇑PKIKP **PKiKP 20 10 46.2 +1.5**
E17K Hotham Inlet 123.86 27 P **PKiKP 20 10 45.0 +1.0**
baz=237
M19K Big River Lodg 123.88 34 P **PKiKP 20 10 45.1 +0.9**
baz=240
PLOR Plostina 123.90 303 ⇑P **PKiKP 20 10 46.3 +1.5**
PLOR Plostina 123.90 303 ⇑PKIKP **PKiKP 20 10 46.3 +1.5**
NEHR Nehoiu 123.90 303 ⇓P **PKiKP 20 10 45.5 +0.6**
SORM Soroca 124.02 306 ⇑P **PKiKP 20 10 45.5 +0.6**
SORM Soroca 124.02 306 ⇑PKIKP **PKiKP 20 10 45.5 +0.6**
SORM Soroca 124.02 306 PKP **PKPdf 20 10 43.3 -1.3**
H18K Honhosa River 124.03 30 P **PKiKP 20 10 44.9 +0.5**
baz=239
MLR Muntele Rosu 124.14 303 IAMs_20 IAMs_20 21 06 07.3
comp=Z,372nm,20.0s
MLR Muntele Rosu 124.14 303 ⇑P **PKiKP 20 10 46.3 +0.9**
MLR Muntele Rosu 124.14 303 ⇑PKIKP **PKiKP 20 10 46.3 +0.9**
C17K DeLong Mountai 124.20 25 P **PKiKP 20 10 45.5 +0.8**
baz=237
TESR Tescani 124.23 304 ⇑P **PKiKP 20 10 46.3 +0.9**
ONER Baraj Valea Uz 124.29 304 ⇓P **PKiKP 20 10 46.6 +1.1**
G18K Tagagawik 124.31 29 IAMs_20 IAMs_20 21 00 32.1
comp=Z,383nm,20.0s
G18K Tagagawik 124.31 29 P **PKiKP 20 10 45.8 +0.8**
baz=239
SNDB Serra Nova Dou 124.34 186 *e*P **PKiKP 20 10 47.5 +0.8**
L20K Farewell, AK 124.38 34 P **PKiKP 20 10 45.9 +0.6**
baz=240
M20K Styx River 124.39 35 P **PKiKP 20 10 46.1 +0.7**
baz=241
E18K Tukpahlearik C 124.45 27 IAMs_20 IAMs_20 20 59 48.5
comp=Z,535nm,21.0s
E18K Tukpahlearik C 124.45 27 P **PKiKP 20 10 46.1 +0.9**
baz=238
J19K Poorman 124.45 32 IAMs_20 IAMs_20 21 02 39.1
comp=Z,438nm,21.0s
J19K Poorman 124.45 32 P **PKiKP 20 10 46.3 +1.0**
baz=240
KLMR Klimovskoe 124.54 324 *e*PKIKP **PKPdf 20 10 45.3 +0.1**
KLMR *e* 20 12 30.0
KLMR SS SS 20 29 20.3 -4.9
KLMR pmax pmax
comp=Z,46nm,1.3s
KLMR MLR MLR
comp=Z,386nm,18.0s
VOIR 124.67 302 ⇑P **PKiKP 20 10 47.8 +1.4**
VOIR 124.67 302 ⇑PKIKP **PKiKP 20 10 47.8 +1.4**
DOPR Dopca 124.72 303 ⇑P **PKiKP 20 10 47.7 +1.3**
K20K Telida 124.73 33 IAMs_20 IAMs_20 21 03 11.7
comp=Z,442nm,20.0s
K20K Telida 124.73 33 P **PKiKP 20 10 46.8 +0.9**
baz=241
STLK Strandline Lak 124.74 36 IAMs_20 IAMs_20 21 00 49.1
comp=Z,423nm,22.0s
AKASG Malin Array Be 124.77 310 PKPdf 20 10 44.4 -1.5
AKASG Malin Array Be 124.77 310 PKP **PKiKP 20 10 46.5 +0.2**
comp=Z,6.6nm,0.6s,baz=84,slow=2.3,SNR=21
AKASG PKKP **PKKPdf 20 21 07.4 -1.6**
comp=Z,0.1nm,0.3s,baz=76,slow=0.4,SNR=4.4
AKBB Malin Array Si 124.77 310*ce* PKIKP **PKiKP 20 10 46.9 +0.6**
KIEV Kiev 124.78 309 PKPdf 20 10 44.2 -1.8
KIEV Kiev 124.78 309 IAMs_20 IAMs_20 21 00 17.5
comp=Z,488nm,22.0s
KIEV Kiev 124.78 309 ⇑P **PKiKP 20 10 47.2 +0.9**
KIEV Kiev 124.78 309 ⇑PKIKP **PKiKP 20 10 47.2 +0.9**
KIEV Kiev 124.78 309 PKP **PKPdf 20 10 44.8 -1.2**
PDRB Porto dos Gac 124.87 179 *e*P **PKiKP 20 10 48.7 +0.9**
AK22 Malin Array Si 124.89 310 PKP **PKPdf 20 10 45.0 -1.2**
ARR Arges 124.89 302 ⇓P **PKiKP 20 10 47.3 +0.5**
H19K Roundabout Mou 124.91 30 P **PKiKP 20 10 46.7 +0.6**
baz=240
AK20 Malin Array Si 124.91 309 PKP **PKPdf 20 10 45.0 -1.2**
SLKM Skilak Lake 124.96 37 IAMs_20 IAMs_20 21 02 07.0
comp=Z,430nm,20.0s
G19K Purcell Mounta 124.99 29 IAMs_20 IAMs_20 20 59 03.0
comp=Z,402nm,21.0s
G19K Purcell Mounta 124.99 29 P **PKiKP 20 10 47.1 +0.8**
baz=240
F19K Shaleruckik Mo 125.09 28 P **PKiKP 20 10 46.9 +0.5**
baz=240
B18K Kokolik River 125.10 25 P **PKiKP 20 10 47.2 +0.8**
baz=238
SKT Skwentna 125.10 35 IAMs_20 IAMs_20 21 01 31.5
comp=Z,532nm,21.0s
J20K Nowinta River 125.11 32 IAMs_20 IAMs_20 21 01 27.4
comp=Z,438nm,21.0s
J20K Nowinta River 125.11 32 P **PKiKP 20 10 47.5 +0.9**
baz=241
SEW Seward 125.11 38 IAMs_20 IAMs_20 21 04 09.0
comp=Z,521nm,20.0s
SUA Susitna One 125.18 36 IAMs_20 IAMs_20 21 00 51.9
comp=Z,458nm,22.0s
SUA Susitna One 125.18 36 P **PKiKP 20 10 47.4 +0.5**
baz=242
LUBAR Lubar, Ukraine 125.23 308 PKP **PKPdf 20 10 45.8 -1.1**
I20K Naaghedeneel 125.28 31 IAMs_20 IAMs_20 20 59 55.9
comp=Z,445nm,21.0s
I20K Naaghedeneel 125.28 31 P **PKiKP 20 10 47.6 +0.7**
baz=241
KMPD K-Podol'skiy 125.33 306 PKP **PKPdf 20 10 46.2 -0.9**
SRE Strehaia 125.42 301 ⇓P **PKiKP 20 10 49.0 +1.2**
SRE Strehaia 125.42 301 ⇓PKIKP **PKiKP 20 10 49.0 +1.2**
RC01 Rabbit Creek A 125.44 37 IAMs_20 IAMs_20 21 04 21.7
comp=Z,537nm,20.0s
LOT Lotru 125.46 302 ⇑P **PKiKP 20 10 49.5 +1.5**
H20K Anotleneega Mo 125.46 30 P **PKiKP 20 10 47.9 +0.7**
baz=242
CAST Castle Rocks 125.55 33 IAMs_20 IAMs_20 21 02 57.3
comp=Z,598nm,21.0s
M22K Willow 125.58 36 IAMs_20 IAMs_20 21 01 37.3
comp=Z,451nm,21.0s
M22K Willow 125.58 36 P **PKiKP 20 10 48.2 +0.7**
baz=243
E19K Redstone River 125.59 28 P **PKiKP 20 10 48.3 +0.8**
baz=241
CLDB Colider 125.60 180 *e*P **PKiKP 20 10 49.7 +0.5**
BURAR Bucovina Array 125.62 305 PKPdf 20 10 47.0 -0.9
BURAR Bucovina Array 125.62 305 ⇓P **PKiKP 20 10 49.7 +1.4**
BURAR Bucovina Array 125.62 305 ⇓PKIKP **PKiKP 20 10 49.7 +1.4**
C19K Lookout Ridge 125.64 25 P **PKiKP 20 10 48.3 +0.8**
baz=240
A19K Wainwright 125.75 24 P **PKiKP 20 10 48.4 +0.7**
baz=240
D19K Kuna River 125.80 26 IAMs_20 IAMs_20 21 00 35.3
comp=Z,533nm,22.0s
D19K Kuna River 125.80 26 P **PKiKP 20 10 48.7 +0.8**
baz=241
CUT Chulitna 125.82 35 IAMs_20 IAMs_20 21 03 26.7
comp=Z,514nm,21.0s
BOVS Bovan 125.87 299 ⇑P **PKiKP 20 10 49.4 +0.7**
F20K Avaraart Lake 125.91 29 IAMs_20 IAMs_20 21 00 29.2
comp=Z,424nm,22.0s
F20K Avaraart Lake 125.91 29 P **PKiKP 20 10 48.8 +0.7**
baz=242
PMR Palmer 125.93 36 IAMs_20 IAMs_20 21 04 58.6
comp=Z,420nm,20.0s
PWL Port Wells 125.94 37 IAMs_20 IAMs_20 21 05 04.1
comp=Z,413nm,20.0s
P23K Montague Islan 125.97 38 P **PKiKP 20 10 49.0 +0.6**
baz=244
HERR Herculane 126.02 301 ⇓P **PKiKP 20 10 49.4 +0.4**
GZR Gura Zlata 126.04 301 ⇑P **PKiKP 20 10 49.9 +0.8**
GZR Gura Zlata 126.04 301 ⇑PKIKP **PKiKP 20 10 49.9 +0.8**
KTH Kantishna Hill 126.08 34 IAMs_20 IAMs_20 21 03 23.2
comp=Z,544nm,20.0s
CJR Cluj-Napoca 126.17 303 ⇑P **PKiKP 20 10 50.4 +1.1**
CJR Cluj-Napoca 126.17 303 ⇑PKIKP **PKiKP 20 10 50.4 +1.1**
Q23K Middleton Isla 126.20 39 P **PKiKP 20 10 49.3 +0.5**
baz=244
BPAW Bear Paw Mtn. 126.30 33 IAMs_20 IAMs_20 21 03 27.9
comp=Z,462nm,20.0s
H21K Meloziina Rive 126.30 31 P **PKiKP 20 10 49.5 +0.6**
baz=243
E20K Nigu River 126.32 27 P **PKiKP 20 10 49.6 +0.7**
baz=242
D20K Etivluk River 126.39 26 IAMs_20 IAMs_20 21 00 53.9
comp=Z,559nm,21.0s
D20K Etivluk River 126.39 26 P **PKiKP 20 10 49.7 +0.6**
baz=242
MDVR Moldovita 126.41 300 ⇑P **PKiKP 20 10 50.7 +0.8**
G21K Allakaket 126.44 30 P **PKiKP 20 10 49.9 +0.7**
baz=243
MARR Marisel-Cluj 126.44 303 ⇑P **PKiKP 20 10 50.5 +0.6**
CZSB Cruzeiro do Su 126.54 159 *e*P **PKiKP 20 10 52.5 +1.4**
SURR Surduc 126.62 301 ⇑P **PKiKP 20 10 51.0 +0.9**
M23K Glacier View 126.62 36 P **PKiKP 20 10 50.1 +0.4**
baz=244
FID Port Fidalgo 126.71 38 IAMs_20 IAMs_20 21 05 19.9
comp=Z,556nm,20.0s
DRGR 126.74 303 ⇓P **PKiKP 20 10 50.9 +0.4**
DRGR 126.74 303 ⇓PKIKP **PKiKP 20 10 50.9 +0.4**
F21K Alatna River 126.76 29 IAMs_20 IAMs_20 21 00 42.9
comp=Z,431nm,22.0s
F21K Alatna River 126.76 29 P **PKiKP 20 10 50.2 +0.4**
baz=244
MLY Manley 126.80 32 PKPdf 20 10 48.6 -0.9
MLY IAMs_20 IAMs_20 21 07 37.2
comp=Z,362nm,20.0s
PDG Podgorica 126.85 297 ⇓P **PKiKP 20 10 52.1 +1.3**
BZS Buzias 126.87 301 ⇑P **PKiKP 20 10 51.4 +0.8**
BZS Buzias 126.87 301 ⇑PKIKP **PKiKP 20 10 51.4 +0.8**
RNPP5 Staryi Chortor 126.89 309 PKP **PKPdf 20 10 49.1 -0.9**
TIP Timpagrande 126.90 292 ⇑P **PKiKP 20 10 52.3 +1.2**
BWN Browne 126.93 33 IAMs_20 IAMs_20 21 07 18.4
comp=Z,515nm,20.0s
H22K Ishtalitna Cre 126.94 31 P **PKiKP 20 10 50.8 +0.6**
baz=245
RNPP8 Varash 126.95 309 PKP **PKPdf 20 10 49.2 -0.9**
SIRR Siria 127.14 302 ⇑P **PKiKP 20 10 52.2 +1.0**
C21K Knifeblade Rid 127.19 26 P **PKiKP 20 10 50.4 +0.3**
baz=244
DIV Divide 127.19 38 IAMs_20 IAMs_20 21 05 46.0
comp=Z,402nm,19.0s
MNK Minsk 127.22 313 *i* PKIKP **PKiKP 20 10 51.1 0.0**
MNK *i* 20 12 49.3
MNK *i* PPP PPP 20 15 32.1
MNK *i* 20 18 02.9
MNK *i* SS SS 20 29 58.4 -0.7
MNK *i* SSS SSS 20 34 39.7
MNK pmax pmax
comp=E,18nm,0.9s
MNK pmax pmax
comp=N,21nm,1.0s
MNK pmax pmax
comp=Z,25nm,0.8s
MNK MLR MLR
comp=Z,197nm,19.0s
MNK MLR MLR
comp=N,295nm,19.0s
MNK MLR MLR
comp=E,521nm,23.0s
NEA2 Nenana 127.26 33 IAMs_20 IAMs_20 21 04 18.5
comp=Z,394nm,20.0s
RAGM Ragged Mountai 127.37 39 IAMs_20 IAMs_20 21 05 21.9
comp=Z,514nm,19.0s
M24K Tolsona, Glenn 127.42 36 P **PKPdf 20 10 51.0 +0.2**
baz=246
B21K Ikpikpuk River 127.44 26 P **PKiKP 20 10 51.3 +0.2**
baz=244
HMT Hamilton 127.54 39 IAMs_20 IAMs_20 21 03 19.3
comp=Z,521nm,20.0s
A21K Barrow 127.58 24 P **PKiKP 20 10 52.0 +0.7**
baz=244
H23K Yukon River 127.59 31 IAMs_20 IAMs_20 21 00 06.1
comp=Z,404nm,22.0s

H23K Yukon River 127.59 31 P **PKiKP 20 10 52.0 +0.5**
baz=246,SNR=10
WRH Wood River Hil 127.60 33 **PKPdf 20 10 49.9 -1.0**
BMRM Bremner River 127.64 38 IAMs_20 IAMs_20 21 00 09.0
comp=Z,437nm,21.0s
VAE Valguarnera 127.64 289 PKP **PKiKP 20 10 54.1 +1.6**
comp=Z,13nm,1.0s,baz=81,slow=9.7,SNR=4.1
MATE Matera 127.67 293 ⇓P **PKiKP 20 10 53.3 +0.9**
E22K Anaktuvuk Pass 127.73 28 P **PKiKP 20 10 52.5 +0.8**
baz=246
D22K Ayikyak River 127.75 27 P **PKiKP 20 10 52.6 +0.8**
baz=246
G23K Bananza Creek 127.78 30 P **PKiKP 20 10 52.7 +0.8**
baz=246
CCB Clear Creek Bu 127.78 33 IAMs_20 IAMs_20 21 08 10.2
comp=Z,453nm,19.0s
COLA College 127.86 33 ⇑PKiKP **PKiKP 20 10 53.6 +1.6**
N25K Chitina, Valde 127.90 37 IAMs_20 IAMs_20 21 04 16.7
comp=Z,360nm,20.0s
N25K Chitina, Valde 127.90 37 P **PKiKP 20 10 52.6 +0.3**
baz=247
COLD Coldfoot 127.92 29 **PKPdf 20 10 50.9 -0.6**
A22K Sinclair Lake 127.92 24 P **PKiKP 20 10 52.6 +0.6**
baz=245
KOLS Kolonicke sedl 127.97 305 *e*PKiKP **PKiKP 20 10 57.1 +4.3**
KOLS Kolonicke sedl 127.97 305 *e*PKP **PKiKP 20 10 57.1 +4.3**
HARP HAARP 127.97 36 P **PKiKP 20 10 52.8 +0.5**
baz=247
KWP Kalwaria Pacla 128.02 306 *e*PKP **PKiKP 20 10 54.1 +1.3**
HDA Harding Lake 128.03 33 IAMs_20 IAMs_20 21 04 23.8
comp=Z,547nm,20.0s
PAX Paxson 128.07 35 IAMs_20 IAMs_20 21 05 08.0
comp=Z,467nm,20.0s
B22K Teshekpuk Lake 128.12 25 P **PKiKP 20 10 52.9 +0.6**
baz=246
GLB Gilahina Butte 128.18 38 IAMs_20 IAMs_20 21 01 00.3
comp=Z,405nm,22.0s
ILAR Eielson Array 128.19 33 **PKPdf 20 10 50.6 -1.5**
ILAR Eielson Array 128.19 33 PKP **PKPdf 20 10 52.0 -0.1**
comp=Z,3.1nm,0.6s,baz=282,slow=3.4,SNR=27
CRQM Cirque 128.21 39 IAMs_20 IAMs_20 21 03 52.8
comp=Z,400nm,21.0s
WAX Waxell Ridge 128.22 39 IAMs_20 IAMs_20 21 03 29.5
comp=Z,481nm,21.0s
H24K Noodor Dome 128.23 32 IAMs_20 IAMs_20 21 00 36.8
comp=Z,402nm,22.0s
H24K Noodor Dome 128.23 32 P **PKiKP 20 10 53.5 +0.7**
baz=247,SNR=9.4
K24K Donnelly Dome 128.26 34 P **PKiKP 20 10 53.5 +0.6**
baz=247
TGL Tana Glacier 128.35 39 IAMs_20 IAMs_20 21 03 43.9
comp=Z,397nm,20.0s
D23K Nanushuk River 128.45 27 P **PKiKP 20 10 54.0 +0.8**
baz=247
E23K Chandalar 128.46 29 IAMs_20 IAMs_20 21 01 48.6
comp=Z,549nm,22.0s
E23K Chandalar 128.46 29 P **PKiKP 20 10 54.0 +0.7**
baz=248
MCARA McCarthy VSAT 128.51 38 IAMs_20 IAMs_20 21 05 34.0
comp=Z,423nm,20.0s
ISLE Juniper Island 128.52 39 IAMs_20 IAMs_20 21 03 40.3
comp=Z,401nm,20.0s
MESA MESA 128.53 40 IAMs_20 IAMs_20 21 02 25.8
comp=Z,486nm,20.0s
YAH Yahtse 128.70 39 IAMs_20 IAMs_20 21 02 50.0
comp=Z,507nm,21.0s
G24K Hadweenzic Riv 128.71 31 IAMs_20 IAMs_20 21 01 41.5
comp=Z,407nm,22.0s
G24K Hadweenzic Riv 128.71 31 P **PKiKP 20 10 54.2 +0.5**
baz=248
J25K Salcha River, 128.74 34 IAMs_20 IAMs_20 21 07 14.6
comp=Z,370nm,20.0s
J25K Salcha River, 128.74 34 P **PKiKP 20 10 54.6 +0.6**
baz=248
C23K Itkillik River 128.81 26 IAMs_20 IAMs_20 21 05 31.6
comp=Z,540nm,21.0s
C23K Itkillik River 128.81 26 P **PKiKP 20 10 54.8 +1.0**
baz=248
E24K Your Creek 128.86 29 IAMs_20 IAMs_20 21 01 51.2
comp=Z,441nm,22.0s
E24K Your Creek 128.86 29 P **PKiKP 20 10 54.5 +0.5**
baz=248
F24K Squaw Lake 128.86 30 **PKPdf 20 10 52.8 -0.6**
F24K IAMs_20 IAMs_20 21 03 29.4
comp=Z,428nm,22.0s
F24K Squaw Lake 128.86 30 P **PKiKP 20 10 54.5 +0.4**
baz=248
M26K Nabesna, AK 128.90 37 IAMs_20 IAMs_20 21 03 15.3
comp=Z,474nm,21.0s
M26K Nabesna, AK 128.90 37 P **PKiKP 20 10 54.8 +0.5**
baz=248
PSZ Piszkesteto 128.96 303 ⇑P **PKiKP 20 10 55.8 +0.9**
PSZ Piszkesteto 128.96 303 ⇑PKiKP **PKiKP 20 10 55.8 +0.9**
L26K Log Cabin Wild 128.98 36 P **PKiKP 20 10 54.9 +0.5**
baz=249
MORH Mrgy, Hungar 128.99 301 ⇑P **PKiKP 20 10 54.9 +0.1**
PRP Porcupine Dome 129.01 32 IAMs_20 IAMs_20 21 07 33.6
comp=Z,413nm,20.0s
CTGM Chitina Glacie 129.11 39 IAMs_20 IAMs_20 21 03 19.9
comp=Z,376nm,21.0s
D24K Happy Valley 129.14 27 IAMs_20 IAMs_20 21 04 02.5
comp=Z,500nm,20.0s
D24K Happy Valley 129.14 27 P **PKiKP 20 10 55.3 +0.8**
baz=249
H25L Birch Creek 129.17 31 P **PKiKP 20 10 55.4 +0.8**
baz=249
G25K Bearman Lake 129.24 31 P **PKiKP 20 10 55.5 +0.8**
baz=249
PCA Pinnacle 129.29 40 IAMs_20 IAMs_20 21 04 01.8
comp=Z,397nm,20.0s
NIE Niedzica 129.35 305 *e*PKP **PKiKP 20 10 56.7 +1.1**
M27K Edge Creek, AK 129.37 37 P **PKiKP 20 10 55.8 +0.4**
baz=249
VSU Vasula 129.39 318 *ce*PKiKP **PKiKP 20 10 56.2 +1.0**
VSU pmax pmax
comp=Z,34nm,0.8s
NPGB Novo Progresso 129.40 181 *e*P **PKiKP 20 10 57.1 +0.2**
LVZ Lovozero 129.42 331 *ce*PKiKP **PKiKP 20 10 56.3 +1.2**
LVZ pmax pmax
comp=Z,38nm,1.7s
J26L Joseph Creek 129.42 34 P **PKiKP 20 10 55.8 +0.4**
baz=250
FYU Fort Yukon 129.49 31 **PKPdf 20 10 52.9 -1.6**
FYU IAMs_20 IAMs_20 21 08 53.2
comp=Z,320nm,18.0s
BCPM Bancas Point 129.53 40 IAMs_20 IAMs_20 21 03 56.1
comp=Z,441nm,21.0s
SUW Suwalki 129.55 311 *e*PKP **PKiKP 20 10 57.6 +1.8**
SUW Suwalki 129.55 311 **PKPdf 20 10 53.6 -1.3**
SUW IAMs_20 IAMs_20 21 04 44.8
comp=Z,509nm,21.0s
SUW Suwalki 129.55 311 PKiKP **PKPdf 20 10 53.7 -1.3**
SUW MLR MLR
comp=Z,500nm,21.0s
O28M Mount Upton 129.56 39 IAMs_20 IAMs_20 21 02 49.0
comp=Z,336nm,18.0s
O28M Mount Upton 129.56 39 P **PKiKP 20 10 56.1 +0.2**
baz=249
L27K Beaver Creek, 129.64 36 IAMs_20 IAMs_20 21 01 17.8
comp=Z,541nm,22.0s
L27K Beaver Creek, 129.64 36 P **PKiKP 20 10 56.3 +0.5**
baz=250
BCAR Beaver Creek A 129.66 36 **PKPdf 20 10 53.1 -1.9**
F25K Christian Rive 129.69 30 IAMs_20 IAMs_20 21 02 15.5
comp=Z,521nm,22.0s
F25K Christian Rive 129.69 30 P **PKiKP 20 10 56.4 +0.7**
baz=250
LANS Liptovska Anna 129.73 304 *e*PKiKP **PKiKP 20 10 57.8 +1.4**
LANS Liptovska Anna 129.73 304 *e*PKP **PKiKP 20 10 57.8 +1.4**
APA Apatity 129.75 330 ⇓*i*PKiKP **PKPdf 20 10 54.3 -0.7**
APA *i* 20 13 05.3
APA pmax pmax
comp=Z,8.0nm,1.1s
APA MLR MLR
comp=Z,663nm,27.0s
VYHS Vyhne 129.84 303 *e*PKiKP **PKiKP 20 10 57.1 +0.5**
VYHS Vyhne 129.84 303 *e*PKP **PKiKP 20 10 57.1 +0.5**
K27K Chicken 129.87 35 P **PKiKP 20 10 56.7 +0.6**
baz=250
E25K Arctic Village 129.90 29 IAMs_20 IAMs_20 21 01 23.8
comp=Z,466nm,22.0s
E25K Arctic Village 129.90 29 P **PKiKP 20 10 56.8 +0.7**
baz=251
OJC Ojcow 129.97 306 *e*PKP **PKiKP 20 10 57.9 +1.2**
D25K Kavik River 130.02 28 IAMs_20 IAMs_20 21 04 06.7
comp=Z,404nm,22.0s
D25K Kavik River 130.02 28 P **PKiKP 20 10 57.1 +0.8**
baz=251
BMAR Burnt Mountain 130.03 30 **PKPdf 20 10 54.5 -1.1**
O29M Mount Kennedy 130.15 40 IAMs_20 IAMs_20 21 04 35.5
comp=Z,392nm,20.0s
G26K Porcupine Rive 130.16 31 IAMs_20 IAMs_20 21 09 31.0
comp=Z,372nm,19.0s
G26K Porcupine Rive 130.16 31 P **PKiKP 20 10 57.3 +0.7**
baz=251,SNR=17
F26K Sheenjek River 130.27 30 IAMs_20 IAMs_20 21 04 08.7
comp=Z,481nm,21.0s
F26K Sheenjek River 130.27 30 P **PKiKP 20 10 57.5 +0.6**
baz=252
KEST Kesra 130.28 284 PKP **PKiKP 20 10 59.1 +1.2**
comp=Z,8.9nm,1.0s,baz=168,slow=3.1,SNR=7.0
P29M Windy Craggy 130.31 41 IAMs_20 IAMs_20 21 01 06.0
comp=Z,466nm,22.0s
P29M Windy Craggy 130.31 41 P **PKiKP 20 10 57.8 +0.7**
baz=250
I27K Kandik River 130.57 33 P **PKiKP 20 10 58.2 +0.6**
baz=252,SNR=6.8
C26K Camden Bay 130.69 27 P **PKiKP 20 10 58.2 +0.6**
baz=253
JAVC Velka Javorina 130.70 303 *e*PKP **PKiKP 20 11 00.0 +1.7**
JAVC *e* 20 14 25.2
FINES FINESS Array B 130.73 321 **PKPdf 20 10 55.9 -1.1**
FINES FINESS Array B 130.73 321 PKhKP PKPpre 20 10 48.1
comp=Z,1.4nm,0.7s,baz=95,slow=5.9,SNR=4.1
FINES PKP **PKiKP 20 10 58.7 +0.8**
comp=Z,11nm,0.6s,baz=100,slow=3.0,SNR=27
MODS Modra-Piesok 130.74 303 *e*PKiKP **PKiKP 20 10 58.2 -0.2**
MODS Modra-Piesok 130.74 303 *e*PKP **PKiKP 20 10 58.2 -0.2**
DIB Dawson Inlet, 130.76 51 IAMs_20 IAMs_20 21 04 07.9
comp=Z,449nm,20.0s
H27K Steamboat Moun 130.80 32 IAMs_20 IAMs_20 21 06 35.9
comp=Z,385nm,21.0s
H27K Steamboat Moun 130.80 32 P **PKiKP 20 10 58.5 +0.5**
baz=253,SNR=5.6
OKC Ostrava-Krasne 130.80 305 *e*SKP 20 10 23.8
OKC AMS AMS 21 06 30.0
comp=Z,300nm,18.5s
HYT Haines Junctio 130.82 40 IAMs_20 IAMs_20 21 02 53.2
comp=Z,443nm,21.0s
CVS Carmenet Viney 130.82 72 IAMs_20 IAMs_20 21 14 45.3
comp=Z,509nm,19.0s
M29M Somme Creek 130.90 38 IAMs_20 IAMs_20 21 02 12.2
comp=Z,375nm,22.0s
M29M Somme Creek 130.90 38 P **PKiKP 20 10 58.9 +0.5**
baz=252,SNR=12
G27K Doyon Strip 130.92 32 P **PKiKP 20 10 58.8 +0.6**
baz=253
C27K Jago River 131.00 28 IAMs_20 IAMs_20 21 03 34.8
comp=Z,418nm,22.0s
C27K Jago River 131.00 28 P **PKiKP 20 10 59.0 +0.8**
baz=254
STEB Steborice 131.06 305 *e*PKP **PKiKP 20 11 00.5 +1.6**
RONA Rosalia, Austr 131.07 301 *i* PKiKP **PKiKP 20 10 59.2 +0.1**
comp=Z,7.2nm,1.1s
RONA *i* SKP 20 14 23.4
comp=Z,9.1nm,1.6s
MORC Moravsky Berou 131.13 304 *e*PKP **PKiKP 20 10 59.3 +0.1**
MORC *e* 20 14 25.7
MORC Moravsky Berou 131.13 304 ⇑P **PKiKP 20 11 00.2 +1.0**
MORC Moravsky Berou 131.13 304 ⇑PKiKP **PKiKP 20 11 00.2 +1.0**
S32K Killisnoo 131.14 45 IAMs_20 IAMs_20 20 58 22.3
comp=Z,477nm,22.0s
S32K Killisnoo 131.14 45 P **PKiKP 20 10 59.2 +0.4**
baz=251
I28M Miner Creek 131.19 34 P **PKiKP 20 10 59.4 +0.5**
baz=253,SNR=11
N30M Aishikik Lake 131.21 39 P **PKiKP 20 10 59.4 +0.5**
baz=252
L29M L29M 131.25 37 IAMs_20 IAMs_20 21 02 45.4
comp=Z,444nm,21.0s
L29M L29M 131.25 37 P **PKiKP 20 10 59.5 +0.5**
baz=253,SNR=9.8
KRMB Red Mountain 131.31 68 IAMs_20 IAMs_20 21 05 03.3
comp=Z,494nm,20.0s
E27K Coleen River 131.34 30 P **PKiKP 20 10 59.8 +0.8**
baz=254
ARSA Arzberg 131.37 301 **PKPdf 20 10 55.9 -2.8**
ARSA Arzberg 131.37 301 *i* PKiKP **PKiKP 20 11 00.6 +0.9**
comp=Z,13nm,1.4s
ARSA *i* SKP 20 14 24.8
comp=Z,7.2nm,1.3s
KBO Bosley Butte 131.41 67 IAMs_20 IAMs_20 21 08 07.7
comp=Z,438nm,20.0s
SKAG Skagway 131.41 42 IAMs_20 IAMs_20 21 00 42.2
comp=Z,470nm,21.0s
CONA Conrad Observa 131.43 302 *i* PKP **PKPdf 20 10 57.3 -1.6**
comp=Z,7.8nm,1.6s
CONA *i* SKP 20 14 24.6
comp=Z,10nm,1.7s
R32K Eaglecrest 131.43 44 IAMs_20 IAMs_20 20 59 43.9
comp=Z,442nm,21.0s
R32K Eaglecrest 131.43 44 P **PKiKP 20 10 59.9 +0.4**
baz=251
U33K Whale Pass 131.44 47 P **PKiKP 20 10 59.8 +0.3**
baz=250
SOKA Soboth 131.45 300 *i* PKiKP **PKiKP 20 11 00.0 +0.1**
comp=Z,18nm,1.2s
SOKA *i* SKP 20 14 24.0
comp=Z,5.7nm,1.2s
VRAC Vranov 131.53 303 *e*PKP **PKiKP 20 10 59.7 -0.2**
VRAC *e* 20 14 26.7
VRAC Vranov 131.53 303 PKP **PKiKP 20 11 00.7 +0.8**
comp=Z,4.7nm,0.8s,baz=119,slow=2.5,SNR=5.7
VRAC Vranov 131.53 303 ⇑P **PKiKP 20 11 00.6 +0.8**
VRAC Vranov 131.53 303 ⇑PKiKP **PKiKP 20 11 00.6 +0.7**
KRUC Moravsky 131.55 303 *e*PKP **PKiKP 20 10 59.8 -0.2**
KRUC *e* 20 14 26.4
M30M Minto, Yukon 131.68 38 P **PKiKP 20 11 00.1 +0.2**
baz=253
OBKA Obir 131.69 299 *e*PKP **PKPdf 20 10 59.3 -0.2**
comp=Z,8.4nm,1.5s
OBKA *e*SKP 20 14 26.7
comp=Z,13nm,1.5s
KRLC Kraliky 131.70 304 *e*PKP **PKiKP 20 11 00.9 +0.6**
KRLC AMS AMS 21 06 40.0
comp=Z,300nm,21.7s
KRLC Kraliky 131.70 304 *e*PKiKP **PKiKP 20 11 00.9 +0.6**
KRLC MLR MLR
comp=Z,300nm,21.7s
K29M Barlow Dome 131.73 36 P **PKiKP 20 11 00.4 +0.3**
baz=254,SNR=13
F28M Old Crow 131.81 31 IAMs_20 IAMs_20 21 04 08.5
comp=Z,441nm,22.0s
F28M Old Crow 131.81 31 P **PKiKP 20 11 00.3 +0.4**
baz=255
N31M Braeburn, Yuko 131.82 39 IAMs_20 IAMs_20 21 03 16.6
comp=Z,426nm,21.0s
N31M Braeburn, Yuko 131.82 39 P **PKiKP 20 11 00.8 +0.6**
baz=253
I29M Ogilvie Camp, 131.82 34 **PKPdf 20 10 58.4 -0.6**
I29M IAMs_20 IAMs_20 21 03 28.0
comp=Z,474nm,22.0s
I29M Ogilvie Camp, 131.82 34 P **PKiKP 20 11 00.6 +0.6**
baz=254
D27M Malcolm River 131.84 28 P **PKiKP 20 11 00.7 +0.6**
baz=256
N02D Trinity Center 131.87 69 IAMs_20 IAMs_20 21 04 48.9
comp=Z,552nm,21.0s
WRAK Wrangell Islan 131.95 47 IAMs_20 IAMs_20 21 02 18.9
comp=Z,412nm,20.0s
V35K Ketchikan 131.98 48 IAMs_20 IAMs_20 21 02 11.8
comp=Z,360nm,20.0s
V35K Ketchikan 131.98 48 P **PKiKP 20 11 00.9 +0.4**
baz=251
H29M Whitestone 132.02 33 IAMs_20 IAMs_20 21 08 37.3
comp=Z,451nm,20.0s
H29M Whitestone 132.02 33 P **PKiKP 20 11 01.0 +0.6**
baz=255
DPC Dobruska-Polom 132.08 305 *e*PKP **PKiKP 20 11 02.4 +1.3**
DPC *e*SKP 20 14 29.9
DPC AMS AMS 21 05 40.0
comp=Z,300nm,21.3s
DPC Dobruska-Polom 132.08 305 *e*PKiKP **PKiKP 20 11 02.4 +1.3**
DPC MLR MLR
comp=Z,300nm,21.3s
E28M Babbage River 132.18 29 IAMs_20 IAMs_20 21 09 48.1
comp=Z,335nm,20.0s
E28M Babbage River 132.18 29 P **PKiKP 20 11 01.3 +0.7**
baz=256
TREC Trest 132.19 303 *e*SKP 20 14 27.9
OSTC Ostas 132.22 305 *e*PKP **PKiKP 20 11 01.6 +0.3**
OSTC *e*SKP 20 14 29.9
OSTC AMS AMS 21 05 50.0
comp=Z,300nm,20.5s
OSTC Ostas 132.22 305 *e*PKiKP **PKiKP 20 11 01.6 +0.3**
OSTC MLR MLR
comp=Z,300nm,20.5s
P32M Atlin 132.24 42 IAMs_20 IAMs_20 21 03 53.9
comp=Z,370nm,20.0s
P32M Atlin 132.24 42 P **PKiKP 20 11 01.3 +0.2**
baz=253
OTAV Otavalo 132.25 149 ⇓PKiKP **PKiKP 20 11 05.2 +2.1**
KSP Ksiaz 132.28 305 *e*PKP **PKiKP 20 11 02.3 +1.0**
MYKA Terra Mystica 132.31 299 *e*PKiKP **PKiKP 20 11 02.1 +0.5**
comp=Z,10nm,1.2s
MYKA *e*SKP 20 14 28.7
comp=Z,16nm,1.6s
UPC Upice 132.32 305 *e*SKP 20 14 29.1
UPC AMS AMS 21 07 00.0
comp=Z,300nm,23.0s
CHVC Chvalec 132.33 305 *e*PKP **PKiKP 20 11 05.5 +4.0**
CHVC AMS AMS 21 07 00.0
comp=Z,300nm,19.2s
CHVC Chvalec 132.33 305 *e*PKiKP **PKiKP 20 11 05.5 +4.0**
CHVC MLR MLR
comp=Z,300nm,19.2s
G29M Pine Creek 132.33 32 IAMs_20 IAMs_20 21 06 23.4
comp=Z,484nm,20.0s
G29M Pine Creek 132.33 32 P **PKiKP 20 11 01.6 +0.6**
baz=256
MAYO Mayo, Yukon 132.36 37 IAMs_20 IAMs_20 21 05 20.5
comp=Z,474nm,21.0s
MOA Molln 132.39 301 *i* PKP **PKiKP 20 11 01.5 -0.2**
comp=Z,5.8nm,1.2s
MOA *e*SKP 20 14 29.7
comp=Z,17nm,1.7s
J30M Hart River 132.43 35 P **PKiKP 20 11 01.7 +0.3**
baz=255
I30M Mount Dempster 132.57 34 IAMs_20 IAMs_20 21 08 37.9
comp=Z,459nm,20.0s
I30M Mount Dempster 132.57 34 P **PKiKP 20 11 02.0 +0.3**
baz=256
KEV Kevo 132.61 332 IAMs_20 IAMs_20 21 12 34.0
comp=Z,529nm,22.0s
D28M Stokes Point 132.63 29 P **PKiKP 20 11 01.9 +0.4**
baz=258
M31M Drury Creek, Y 132.65 39 P **PKiKP 20 11 02.2 +0.4**
baz=255
E29M Blow River 132.72 30 P **PKiKP 20 11 02.3 +0.5**
baz=258
BIOA Bad Ischl, Aus 132.72 300 *e*PKiKP **PKiKP 20 11 03.9 +1.5**
comp=Z,1.9nm,0.4s
BIOA *e*SKP 20 14 30.6
comp=Z,0.2nm,0.2s
BBOR Butler Butte 132.73 67 IAMs_20 IAMs_20 21 06 30.7
comp=Z,479nm,19.0s
CKRC Cesky Krumlov 132.73 302 *e*PKP **PKiKP 20 11 02.0 -0.4**
CKRC *e*SKP 20 14 31.5
CKRC AMS AMS 21 05 40.0
comp=Z,200nm,16.0s
CKRC Cesky Krumlov 132.73 302 *e*PKiKP **PKiKP 20 11 02.0 -0.4**
CKRC MLR MLR
comp=Z,200nm,16.0s
Q32M Nakina River 132.76 43 IAMs_20 IAMs_20 21 00 10.1
comp=Z,521nm,22.0s
Q32M Nakina River 132.76 43 P **PKiKP 20 11 02.6 +0.3**
baz=254
GOPC GO Pecny, Ondr 132.84 304 *e*SKP 20 14 31.6
GOPC AMS AMS 21 06 10.0
comp=Z,300nm,17.6s
P33M Teslin, Yukon 132.85 42 IAMs_20 IAMs_20 21 04 15.0
comp=Z,390nm,19.0s
P33M Teslin, Yukon 132.85 42 P **PKiKP 20 11 02.8 +0.5**
baz=254
N32M Quiet Lake 132.98 40 IAMs_20 IAMs_20 21 00 43.4
comp=Z,420nm,22.0s
N32M Quiet Lake 132.98 40 P **PKiKP 20 11 03.0 +0.4**
baz=255
PRU Pruhonice 133.02 304 *e*SKP 20 14 30.3
PRU AMS AMS 21 10 00.0
comp=Z,400nm,22.5s
COR Corvallis 133.02 64 IAMs_20 IAMs_20 21 07 34.2
comp=Z,435nm,20.0s
ZVC Zvikov 133.03 303 *e*SKP 20 14 30.8
S34M Telegraph Cree 133.03 45 IAMs_20 IAMs_20 21 04 32.4
comp=Z,402nm,19.0s
S34M Telegraph Cree 133.03 45 P **PKiKP 20 11 03.2 +0.5**
baz=253
G30M tAoh Zraii Nji 133.04 32 IAMs_20 IAMs_20 21 11 50.0
comp=Z,378nm,20.0s
G30M tAoh Zraii Nji 133.04 32 P **PKiKP 20 11 02.5 0.0**
baz=258
ABTA Abfaltersbach 133.07 299 *i* PKiKP **PKiKP 20 11 03.1 -0.1**
comp=Z,16nm,1.6s
ABTA *e*SKP 20 14 30.1
comp=Z,13nm,1.5s
ARCES ARCESS Array B 133.08 332 **PKPdf 20 10 59.7 -1.5**
ARCES ARCESS Array B 133.08 332 PKhKP PKPpre 20 10 49.9
comp=Z,3.2nm,0.8s,baz=91,slow=3.6,SNR=9.1
ARCES PKP **PKiKP 20 11 03.1 +0.6**
comp=Z,3.6nm,0.5s,baz=93,slow=2.7,SNR=9.4
ARCES ARCESS Array B 133.08 332 PKiKP **PKPdf 20 10 59.7 -1.5**
PRA Prague 133.11 304 *e*SKP 20 14 31.9
PRA AMS AMS 21 06 20.0
comp=Z,300nm,17.3s
GERES GERESS Array B 133.11 302 **PKPdf 20 10 59.1 -3.0**
GERES GERESS Array B 133.11 302 PKhKP PKPpre 20 10 50.5
comp=Z,1.9nm,0.9s,baz=128,slow=1.6,SNR=8.4
GERES PKP **PKiKP 20 11 03.0 -0.2**
comp=Z,5.3nm,0.8s,baz=132,slow=1.5,SNR=8.8
FARO Faro, Yukon 133.13 39 IAMs_20 IAMs_20 21 05 11.3
comp=Z,477nm,21.0s
PVCC Panska Ves 133.19 304 *e*PKP **PKiKP 20 11 07.3 +4.1**
PVCC *e*SKP 20 14 31.8
PVCC AMS AMS 20 59 10.0
comp=Z,300nm,20.2s
PVCC Panska Ves 133.19 304 *e*PKiKP **PKiKP 20 11 07.3 +4.1**
PVCC MLR MLR
comp=Z,300nm,20.2s
T35M Bob Quinn 133.22 46 IAMs_20 IAMs_20 21 03 38.5
comp=Z,496nm,20.0s
T35M Bob Quinn 133.22 46 P **PKiKP 20 11 03.6 +0.4**
baz=253
LESA Schwarzleotal 133.22 300 *i* pPKP **pPKPdf 20 11 05.3 -0.5**
comp=Z,8.7nm,0.9s
LESA *e*SKP 20 14 33.4
comp=Z,9.6nm,1.6s
KHC Kasperske Hory 133.29 302 *e*PKP **PKiKP 20 11 04.9 +1.4**
KHC *e*SKP 20 14 31.1
KHC AMS AMS 21 03 10.0
comp=Z,300nm,25.3s
KHC Kasperske Hory 133.29 302 *e*PKiKP **PKiKP 20 11 04.9 +1.4**
KHC MLR MLR
comp=Z,300nm,25.3s
G03D McMinnville, O 133.30 64 IAMs_20 IAMs_20 21 05 17.5
comp=Z,431nm,20.0s
F30M Barrier River 133.33 31 IAMs_20 IAMs_20 21 07 15.8
comp=Z,514nm,21.0s
F30M Barrier River 133.33 31 P **PKiKP 20 11 03.4 +0.4**
baz=259
H04D Lebanon 133.37 65 IAMs_20 IAMs_20 21 07 58.4
comp=Z,383nm,21.0s
RADR Rader Ridge 133.43 62 IAMs_20 IAMs_20 21 08 05.7
comp=Z,353nm,19.0s
H31M Peel River 133.53 34 IAMs_20 IAMs_20 21 10 26.2
comp=Z,396nm,20.0s
H31M Peel River 133.53 34 P **PKiKP 20 11 03.7 +0.2**
baz=258
R33M Jennings River 133.53 43 IAMs_20 IAMs_20 21 00 48.3
comp=Z,424nm,22.0s
R33M Jennings River 133.53 43 P **PKiKP 20 11 04.0 +0.2**
baz=255
QSM Queen of Sheba 133.58 78 **PKPdf 20 11 02.9 -0.4**
BRG Berggiesshubel 133.68 305 *e*PKP **PKPdf 20 11 02.5 -0.4**
BRG Amp 20 11 06.8
comp=Z,28nm,1.5s
BRG Berggiesshubel 133.68 305 P **PKiKP 20 11 08.9 +4.7**
BRG Amp 20 11 10.2
comp=Z,7.5nm,0.9s
BRG Berggiesshubel 133.68 305 PP PP 20 13 32.0 -0.7
BRG Berggiesshubel 133.68 305 SKP 20 14 33.0
BRG Berggiesshubel 133.68 305 SS SS 20 31 25.0 +6.4
NVAR Mina Array Bea 133.74 74 **PKPdf 20 11 02.2 -1.6**
NVAR Mina Array Bea 133.74 74 PKP **PKiKP 20 11 05.1 0.0**
comp=Z,7.6nm,1.0s,baz=214,slow=3.5,SNR=14
G31M Satah River 133.78 32 P **PKiKP 20 11 04.6 +0.8**
baz=259
F04D Rainier, OR 133.80 63 IAMs_20 IAMs_20 21 02 09.7
comp=Z,439nm,21.0s
WTTA Wattenberg 133.82 299 *i* PKiKP **PKiKP 20 11 05.9 +1.1**
comp=Z,29nm,1.4s

WTTA *i* SKP 20 14 34.0
comp=Z,6.1nm,1.2s
WATA Walderalm 133.88 299 *i* PKP **PKPdf 20 11 04.4 +0.7**
comp=Z,21nm,1.3s
WATA *i* SKP 20 14 36.5
comp=Z,11nm,1.3s
SQTA Sankt Quirin 134.07 299 *i* PKP **PKPdf 20 11 04.6 +0.7**
comp=Z,16nm,0.8s
SQTA *i* SKP 20 14 36.8
comp=Z,8.0nm,1.3s
F31M Tsiigehtchic 134.07 32 P **PKiKP 20 11 05.2 +0.8**
baz=260
CLRS Cowichan Lake 134.10 59 IAMs_20 IAMs_20 21 07 03.3
comp=Z,365nm,20.0s
MMPY Sheldon Lake, 134.17 39 IAMs_20 IAMs_20 21 06 25.6
comp=Z,453nm,21.0s
MOTA Moosalm 134.19 299 *i* PKiKP **PKiKP 20 11 05.7 +0.2**
comp=Z,21nm,0.9s
MOTA *i* SKP 20 14 36.8
comp=Z,9.5nm,1.3s
INK Inuvik 134.30 30 **PKPdf 20 11 03.4 -0.1**
INK IAMs_20 IAMs_20 21 06 44.1
comp=Z,365nm,20.0s
INK Inuvik 134.30 30 PKIKP **PKPdf 20 11 03.4 -0.1**
INK MLR MLR
comp=Z,400nm,20.0s
FETA Feichten 134.30 299 *i* PKiKP **PKiKP 20 11 05.9 +0.1**
comp=Z,11nm,1.4s
FETA *i* SKP 20 14 37.5
comp=Z,11nm,1.5s
CLL Collm 134.39 305 IAMs_20 IAMs_20 21 07 23.3
comp=Z,392nm,22.0s
CLL Collm 134.39 305 *i* PKIKP **PKiKP 20 11 06.4 +0.8**
CLL *i* 20 11 11.4
CLL pmax pmax
comp=Z,21nm,1.4s
HOOD Mount Hood Mea 134.39 64 IAMs_20 IAMs_20 21 16 06.4
comp=Z,337nm,20.0s
FUORN Ofenpass-Fuorn 134.45 298 IAMs_20 IAMs_20 21 19 11.6
comp=Z,356nm,21.0s
PGC Sidney 134.47 59 IAMs_20 IAMs_20 21 06 45.9
comp=Z,360nm,19.0s
G05A Wamic 134.58 64 IAMs_20 IAMs_20 21 14 47.4
comp=Z,354nm,18.0s
DAVOX Davos/Dischmat 134.76 298 PKhKP PKPpre 20 10 56.3
comp=Z,2.8nm,0.5s,baz=135,slow=12,SNR=6.5
DAVOX PKP **PKPdf 20 11 06.1 +0.7**
comp=Z,7.3nm,0.6s,baz=190,slow=3.7,SNR=9.3
WTLY Watson Lake, Y 134.77 42 IAMs_20 IAMs_20 21 03 17.0
comp=Z,404nm,21.0s
LON Longmire 134.82 62 IAMs_20 IAMs_20 21 07 36.7
comp=Z,314nm,19.0s
DAVA Damuels 134.94 299 *i* PKiKP **PKiKP 20 11 07.1 0.0**
comp=Z,21nm,1.4s
DAVA *e*SKP 20 14 36.3
comp=Z,2.2nm,0.6s
WVOR Wild Horse Val 135.25 69 IAMs_20 IAMs_20 21 08 32.1
comp=Z,449nm,19.0s
I07A Izee 135.32 67 **PKPdf 20 11 04.1 -2.3**
J08A Circle Bar Ran 135.73 68 IAMs_20 IAMs_20 21 08 51.2
comp=Z,444nm,20.0s
E07A Sunnyside 136.01 63 IAMs_20 IAMs_20 21 11 23.2
comp=Z,412nm,20.0s
SPITS Spitsbergen Ar 136.05 344 PKhKP PKPpre 20 10 58.6
comp=Z,8.1nm,1.0s,baz=34,slow=10,SNR=2.3
SPITS PKP **PKPdf 20 11 07.1 +0.5**
comp=Z,28nm,1.1s,baz=53,slow=9.6,SNR=4.5
SPITS Spitsbergen Ar 136.05 344 PKIKP **PKPdf 20 11 06.5 -0.1**
SPITS 20 11 07.1
TUC Tucson 136.11 86 IAMs_20 IAMs_20 20 57 59.9
comp=Z,322nm,20.0s
HFS Hagfors 136.27 317 PKhKP PKPpre 20 10 59.2
comp=Z,3.9nm,0.9s,baz=133,slow=6.3,SNR=2.3
HFS PKP **PKiKP 20 11 10.0 +0.8**
comp=Z,3.9nm,0.8s,baz=104,slow=4.7,SNR=6.6
HFS Hagfors 136.27 317 PKIKP **PKiKP 20 11 10.0 +0.8**
BFO Black Forest 136.28 299 PKPpre 20 10 57.1
BFO **PKPdf 20 11 06.7 -1.2**
BFO Black Forest 136.28 299 PKHKP PKPpre 20 10 57.1
BFO 20 11 06.7
BFO MLR MLR
comp=Z,200nm,20.0s
E08A Dider Farm, El 136.50 63 IAMs_20 IAMs_20 21 11 31.3
comp=Z,328nm,20.0s
D08A Wollman Farm, 136.78 63 IAMs_20 IAMs_20 21 07 05.7
comp=Z,342nm,19.0s
BMO Blue Mountains 137.07 66 IAMs_20 IAMs_20 21 06 54.6
comp=Z,405nm,20.0s
E09A Wood Farm, Sta 137.10 64 IAMs_20 IAMs_20 21 04 16.2
comp=Z,396nm,20.0s
MFID Camas Ranch 137.53 69 **PKPdf 20 11 06.2 -4.3**
NB2 NORSAR Subarra137.62 318 PKP **PKPdf 20 11 09.8 -0.2**
comp=Z,13nm,0.9s,baz=90,slow=3.6
NOA NORSAR Array B137.62 318 PKhKP PKPpre 20 11 03.4
comp=Z,2.5nm,1.1s,baz=133,slow=5.6,SNR=2.6
NOA PKP pPKPdf 20 11 12.4 -1.1
comp=Z,1.2nm,0.8s,baz=252,slow=2.6,SNR=9.6
WRGLY Wrigley 137.79 38 IAMs_20 IAMs_20 21 04 47.3
comp=Z,446nm,21.0s
ROSC El Rosal 137.99 152 PKP **PKiKP 20 11 14.9 +0.3**
comp=Z,25nm,1.0s,baz=46,slow=2.6,SNR=5.6
PLID Pearl Lake 138.02 66 **PKPdf 20 11 07.9 -3.7**
WLF Walferdange 138.06 301 *d*PKPdf **PKPdf 20 11 08.3 -2.8**
BTNL Ternell 138.32 302 *d*PKiKP **PKiKP 20 11 13.2 -0.5**
BHOU Houvegnez 138.34 302 *d*PKP **PKiKP 20 11 13.1 -0.7**
MEM Membach 138.41 302 *d*PKP **PKiKP 20 11 13.1 -0.7**
HLID Hailey 138.54 69 IAMs_20 IAMs_20 21 10 14.3
comp=Z,457nm,21.0s
BSTI Sart Tilman 138.67 302 *d*PKP **PKiKP 20 11 13.9 -0.4**
BCLA Clavier 138.79 302 *d*PKP **PKiKP 20 11 14.2 -0.4**
BGES Gesves 138.91 301 *d*PKP **PKiKP 20 11 14.5 -0.4**
EPT El Paso 138.92 89 IAMs_20 IAMs_20 21 11 40.6
comp=Z,437nm,20.0s
BMRD Maredsous 139.09 301 *d*PKP **PKiKP 20 11 17.9 +2.7**
DOU Dourbes 139.14 301 *d*PKP **PKPdf 20 11 13.8 +0.8**
RUSC La Rusia 139.38 153 PKPpre 20 11 06.1
UCC Uccle 139.47 302 *d*PKiKP **PKiKP 20 11 15.6 -0.3**
VHRN Van Horn 139.50 92 **PKPdf 20 11 10.9 -3.7**
TXAR Lajitas Array 139.66 95 **PKPdf 20 11 11.3 -3.5**
TXAR Lajitas Array 139.66 95 PKhKP PKPpre 20 11 11.2
comp=Z,6.7nm,0.9s,baz=238,slow=3.9,SNR=9.7
TXAR PKP **PKiKP 20 11 17.2 0.0**
comp=Z,3.7nm,0.9s,baz=236,slow=2.7,SNR=3.8
MNTX Cornudas Mount 139.70 90 IAMs_20 IAMs_20 21 18 36.2
comp=Z,382nm,18.0s
MSO Missoula 139.95 65 IAMs_20 IAMs_20 21 14 46.5
comp=Z,389nm,18.0s
AHID Auburn Hatcher 140.52 72 IAMs_20 IAMs_20 21 12 34.8
comp=Z,398nm,20.0s
ANMO Albuquerque 140.55 85 **PKPdf 20 11 13.6 -2.8**
ANMO Albuquerque 140.55 85 PKIKP **PKPdf 20 11 13.6 -2.8**
ANMO MLR MLR
comp=Z,300nm,20.0s
BOZ Bozeman (W) 141.10 67 **PKPdf 20 11 14.1 -2.9**
BOZ IAMs_20 IAMs_20 21 08 51.3
comp=Z,396nm,21.0s
BOZ Bozeman (W) 141.10 67 PKIKP **PKPdf 20 11 14.1 -2.9**
BOZ MLR MLR
comp=Z,400nm,21.0s
ESDC Sonseca Array 141.46 282 PKhKP PKPpre 20 11 13.7
comp=Z,2.6nm,0.8s,baz=93,slow=1.3,SNR=17
PDAR Pinedale Array 141.58 72 **PKPdf 20 11 14.2 -3.9**
PDAR Pinedale Array 141.58 72 PKhKP PKPpre 20 11 14.9
comp=Z,2.2nm,0.8s,baz=201,slow=2.1,SNR=7.2
PAB San Pablo 141.68 282 **PKPdf 20 11 14.2 -3.9**
PAB San Pablo 141.68 282 IAMs_20 IAMs_20 21 19 18.7
comp=Z,272nm,18.0s
PAB San Pablo 141.68 282 PKHKP PKPpre 20 11 14.2
PAB MLR MLR
comp=Z,300nm,18.0s
YKA Yellowknife Ar 141.81 40 PKP **PKPdf 20 11 15.8 -1.8**
comp=Z,6.5nm,0.7s,baz=279,slow=3.7,SNR=12
SDCO Great Sand Dun 142.50 82 **PKPdf 20 11 16.6 -3.3**
SDCO IAMs_20 IAMs_20 21 12 29.0
comp=Z,405nm,20.0s
RLMT Red Lodge 142.54 69 IAMs_20 IAMs_20 21 06 56.1
comp=Z,361nm,21.0s
PBAR Barrancos 143.03 279 *e*PKP **PKPdf 20 11 19.3 -1.2**
PVAQ Vaqueiros 143.20 277 *e*PKP **PKPdf 20 11 20.8 0.0**
PVAQ *e*SS SS 20 33 21.4 +10
PVAQ *e*LQ LQ 20 53 32.2
PVAQ *e*LR LR 21 00 49.0
PVAQ *i* IAMs_20 IAMs_20 21 15 39.5
comp=Z,259nm,20.0s
POST Post 143.21 91 PKPbc 20 11 19.1 +1.0
PBDV Barranco-do-Ve 143.28 277 *e*PKP **PKPdf 20 11 20.0 -1.0**
DAG Danmarks Havn 143.47 346 *i* P **PKPdf 20 11 21.2 +1.1**
PCVE Castro Verde 143.52 277 *e*PKP PKPbc 20 11 20.1 +1.4
PESTR Estremoz 143.71 279 *e*PKP PKPbc 20 11 20.6 +1.3
MESJ Messejana 143.74 277 *e*PKP **PKPdf 20 11 21.3 -0.4**
MESJ Messejana 143.74 277 *e*PKP **PKPdf 20 11 21.7 0.0**
PMRV Marv??o 143.79 280 *e*PKP **PKPdf 20 11 21.9 +0.1**
PMRV *e*SS SS 20 33 30.6 +12
PMRV *e*LQ LQ 20 49 42.8
PMRV *e*LR LR 21 00 21.2
PMRV *i* IAMs_20 IAMs_20 21 41 12.0
comp=Z,150nm,22.0s
MORF Marmelete 143.83 276 *e*PKP **PKPdf 20 11 21.5 -0.5**
MORF Marmelete 143.83 276 *e*PKP **PKPdf 20 11 23.0 +1.0**
PFVI Vila Bisbo 143.88 276 *e*PKP **PKiKP 20 11 25.1 -0.3**
EVO Evora 143.88 279 *e*PKP **PKPdf 20 11 21.1 -0.9**
PTEO Sao Teotonio 143.98 277 *e*PKP PKPbc 20 11 21.2 +1.1
PCBR Castelo Branco 144.01 281 *e*PKP PKPbc 20 11 20.9 +0.8
MVO Moncorvo 144.19 283 *e*PKP **PKPdf 20 11 21.9 -0.6**
MVO *e*SS SS 20 33 45.5 +22
MVO *e*LQ LQ 20 52 21.3
MVO *e*LR LR 21 00 48.8
MVO *i* IAMs_20 IAMs_20 21 21 12.1
comp=Z,222nm,18.0s
PBRG Braganca 144.21 284 *e*PKP **PKPdf 20 11 22.0 -0.5**
PMTG Montargil 144.25 279 *e*PKP **PKPdf 20 11 22.0 -0.6**
MTE Manteigas 144.27 282 IAMs_20 IAMs_20 21 25 41.4
comp=Z,385nm,18.0s
MTE Manteigas 144.27 282 *e*PKP PKPbc 20 11 21.9 +0.9
MTE *e*SS SS 20 33 53.8 +30
MTE *e*LQ LQ 20 53 57.9
MTE *e*LR LR 21 00 35.7
MTE *i* IAMs_20 IAMs_20 21 18 07.9
comp=Z,186nm,18.0s
TEIG Tepich 144.31 121 **PKPab 20 11 20.8 -0.5**
TEIG IAMs_20 IAMs_20 21 00 22.2
comp=Z,433nm,20.0s
ABTX Abilene, Hawle 144.33 93 IAMs_20 IAMs_20 21 03 42.0
comp=Z,339nm,20.0s
APMT Aspermont 144.34 92 **PKPab 20 11 21.1 0.0**
PSARD Sardoal 144.41 280 *e*PKP **PKPab 20 11 21.1 0.0**
PVIS Viseu 144.64 282 *e*PKP **PKPdf 20 11 22.9 -0.4**
EKA Eskdalemuir Ar 144.66 308 PKP PKPbc 20 11 22.0 +0.4
comp=Z,17nm,0.9s,baz=104,slow=3.5,SNR=25
ESK Eskdalemuir 144.68 308 **PKPab 20 11 21.4 -0.2**
ESK Eskdalemuir 144.68 308 PKIKP **PKPab 20 11 21.4 -0.2**
PVRL Vila Real 144.71 283 *e*PKP **PKPdf 20 11 23.9 +0.5**
LIS Lisbon 144.77 278 *e*PKP **PKPab 20 11 21.8 -0.6**
POLO Lamas de Olo 144.80 283 *e*PKP **PKPdf 20 11 23.7 +0.1**
COI Coimbra 144.82 281 *e*PKP **PKPdf 20 11 24.2 +0.6**
PCAS Casmilo, Conde 144.82 281 *e*PKP PKPbc 20 11 23.2 +0.5
PCAB Cabril 145.08 284 *e*PKP **PKPdf 20 11 24.4 +0.4**
PTO Porto 145.29 282 *e*PKP **PKPdf 20 11 25.2 +0.9**
PGAV Gavieira, Arco 145.34 284 *e*PKP **PKPab 20 11 25.2 +0.7**
PGAV *e*SS SS 20 33 42.4 +6.1
PGAV *e*LQ LQ 20 54 37.4
PGAV *e*LR LR 21 01 08.2
PGAV *i* IAMs_20 IAMs_20 21 11 27.7
comp=Z,168nm,20.0s
DBG Daneborg 145.42 344 *i* P **PKPab 20 11 24.5 +0.7**
RSSD Black Hills 145.82 72 **PKPdf 20 11 24.3 -1.2**
RSSD Black Hills 145.82 72 PKP2 **PKPdf 20 11 24.3 -1.2**
NEEM North Greenlan 146.17 358 *i* P **PKPab 20 11 26.9 0.0**
Z35A Perchaven, San 146.42 94 IAMs_20 IAMs_20 21 16 03.3
comp=Z,399nm,18.0s
PMPS Porto Santo 147.39 264 *e*PKP **PKiKP 20 11 33.2 +0.4**
PMPST Porto Santo, M 147.40 264 *e*PKP **PKPdf 20 11 27.3 -0.8**
PMAR Madeira 147.64 263 *e*PKP **PKPdf 20 11 27.0 -1.8**
R32A Long Quarter, 147.66 85 IAMs_20 IAMs_20 21 19 08.8
comp=Z,386nm,21.0s
KAN08 Anthony NE Sta 147.71 87 **PKPdf 20 11 28.9 +0.4**
PMOZ Porto Moniz, M 147.89 263 *e*PKP **PKiKP 20 11 33.7 -0.3**
PMOZ *e*SS SS 20 36 42.0
QUOK Quay 148.16 90 **PKPdf 20 11 31.1 +1.8**
SCO Scoresbysund 148.33 339 *i* P **PKiKP 20 11 33.5 0.0**
FFC Flin Flon 148.62 53 **PKPdf 20 11 29.0 -0.5**
FFC Flin Flon 148.62 53 IAMs_20 IAMs_20 21 14 20.5
comp=Z,421nm,20.0s
FFC Flin Flon 148.62 53 PKIKP **PKPdf 20 11 29.0 -0.5**
FFC MLR MLR
comp=Z,400nm,20.0s
E28A Huff 148.71 69 IAMs_20 IAMs_20 21 12 20.6
comp=Z,377nm,20.0s
KULLO Kullorsuaq 149.11 1 *i* P **PKPbc 20 11 33.8 0.0**
BGNE Belgrade 149.14 80 IAMs_20 IAMs_20 21 05 59.9
comp=Z,353nm,20.0s
POIN Pond Inlet 149.20 13 **PKPdf 20 11 29.5 -0.4**
POIN IAMs_20 IAMs_20 21 25 31.1
comp=Z,355nm,20.0s
BLKN Baker Lake 149.59 34 **PKPdf 20 11 29.1 -1.6**
BLKN IAMs_20 IAMs_20 21 21 57.7
comp=Z,387nm,21.0s
SUMG Summit 149.94 350 **PKPdf 20 11 29.8 -1.8**
SUMG Summit 149.94 350 PKIKP **PKPdf 20 11 29.8 -1.8**
SUMG Summit 149.94 350 *i* P **PKiKP 20 11 37.2 -0.2**
L34A Svendsen Farm, 150.57 79 IAMs_20 IAMs_20 21 07 16.9
comp=Z,298nm,19.0s
VBMS Vicksburg 150.67 101 IAMs_20 IAMs_20 21 17 52.0
comp=Z,286nm,20.0s
FDF Fort de France 150.72 170 **PKPdf 20 11 30.3 -3.8**
FDF Fort de France 150.72 170 PKIKP **PKPdf 20 11 30.3 -3.8**
ILAM Ilet Lapin Mar 150.79 170 IAMs_20 IAMs_20 20 58 42.9
comp=Z,363nm,22.0s
ECSD EROS Data Cent 150.89 76 IAMs_20 IAMs_20 21 05 32.0
comp=Z,411nm,21.0s
UPNV Upernavik 150.92 0 *i* P **PKiKP 20 11 39.5 +0.6**
WHAR Wooly Hollow 150.96 95 **PKPdf 20 11 31.3 -2.5**
WHAR **PKPbc 20 11 39.0 -0.6**
ILON Igloolik, Nuna 151.15 19 **PKPdf 20 11 31.2 -1.8**
ILON PKPbc **PKiKP 20 11 39.4 0.0**
ILON IAMs_20 IAMs_20 21 28 04.1
comp=Z,352nm,20.0s
S39A Bolivar 151.27 89 IAMs_20 IAMs_20 21 20 01.3
comp=Z,367nm,20.0s
F33A 5 Mile Ranch, 151.57 72 IAMs_20 IAMs_20 21 15 55.5
comp=Z,298nm,20.0s
MGMO Mountain Grove 151.81 91 **PKPdf 20 11 32.3 -2.7**
P38A Dawn 151.85 85 IAMs_20 IAMs_20 21 13 04.7
comp=Z,419nm,21.0s
NMDO Nuevo Mundo 151.96 140 IAMs_20 IAMs_20 21 21 41.9
comp=Z,307nm,19.0s
NUUG Nuugaatsiaq 152.14 358 *i* P **PKiKP 20 11 41.6 +0.2**
R40A Maddies Statio 152.27 89 IAMs_20 IAMs_20 21 30 42.9
comp=Z,379nm,21.0s
ULM Lac du Bonnet 152.33 62 PKPbc **PKPbc 20 11 42.0 -0.2**
comp=Z,286nm,0.8s,baz=265,slow=3.1,SNR=16
FCC Fort Churchill 152.33 44 **PKPdf 20 11 32.6 -2.5**
FCC Fort Churchill 152.33 44 PKIKP **PKPdf 20 11 32.6 -2.5**
FCC MLR MLR
comp=Z,600nm,20.0s
N38A Joes South For 152.46 83 IAMs_20 IAMs_20 21 30 37.1
comp=Z,412nm,20.0s
CRPR Cabo Rojo, PR 152.65 157 IAMs_20 IAMs_20 21 30 16.1
comp=Z,317nm,19.0s
CCM Cathedral Cave 152.92 90 **PKPdf 20 11 32.9 -3.8**
CCM Cathedral Cave 152.92 90 PKIKP **PKPdf 20 11 32.9 -3.8**
SJG San Juan 153.02 158 **PKPdf 20 11 33.4 -4.0**
SJG San Juan 153.02 158 PKIKP **PKPdf 20 11 33.4 -4.0**
PLAL Pickwick Lake 153.84 99 IAMs_20 IAMs_20 21 25 03.0
comp=Z,355nm,22.0s
SPMN Marine on St. 153.87 74 IAMs_20 IAMs_20 21 09 12.7
comp=Z,415nm,22.0s
N41A Harden Midland 154.15 85 IAMs_20 IAMs_20 21 14 46.4
comp=Z,333nm,18.0s
L40A Anamosa 154.28 82 IAMs_20 IAMs_20 21 34 00.2
comp=Z,345nm,20.0s
DWPF Disney Wildern 154.30 119 IAMs_20 IAMs_20 21 32 24.7
comp=Z,355nm,19.0s
T45A Paducah 154.37 94 IAMs_20 IAMs_20 21 24 22.7
comp=Z,361nm,19.0s
WVT Waverly 154.56 97 **PKPdf 20 11 36.8 -2.3**
WVT Waverly 154.56 97 PKIKP **PKPdf 20 11 36.8 -2.3**
WVT MLR MLR
comp=Z,400nm,19.0s
E38A The Farm, Brul 154.93 71 IAMs_20 IAMs_20 21 15 51.5
comp=Z,346nm,20.0s
V48A Smith Brothers 155.11 98 IAMs_20 IAMs_20 21 27 03.4
comp=Z,351nm,19.0s
154A Montrose 156.08 109 IAMs_20 IAMs_20 21 35 58.1
comp=Z,361nm,20.0s
GOGA Godfrey 156.28 107 IAMs_20 IAMs_20 21 27 57.6
comp=Z,396nm,22.0s
P46A Rosedale 156.43 89 IAMs_20 IAMs_20 21 21 29.9
comp=Z,370nm,20.0s
WCI Wyandotte Cave 156.57 93 IAMs_20 IAMs_20 21 32 07.0
comp=Z,418nm,22.0s
F42A Maple Grove Fa 157.20 74 IAMs_20 IAMs_20 21 38 48.7
comp=Z,357nm,20.0s
L46A Eue Claire 157.81 84 IAMs_20 IAMs_20 21 27 19.7
comp=Z,356nm,21.0s
N47A Urbana 157.93 87 IAMs_20 IAMs_20 21 20 25.6
comp=Z,367nm,21.0s
R50A Paris 158.01 95 IAMs_20 IAMs_20 21 33 24.2
comp=Z,296nm,20.0s
Q51A Peebles 159.01 94 IAMs_20 IAMs_20 21 30 11.5
comp=Z,392nm,22.0s
GLMI Grayling 159.55 77 IAMs_20 IAMs_20 21 13 26.3
comp=Z,404nm,22.0s
W57A Gilead 159.64 107 IAMs_20 IAMs_20 21 24 41.5
comp=Z,404nm,22.0s
ACSO Alum Creek Sta 159.69 91 IAMs_20 IAMs_20 21 25 14.5
comp=Z,351nm,19.0s
X58A Rowland 159.76 109 IAMs_20 IAMs_20 21 32 31.7
comp=Z,348nm,20.0s
S57A Dark Hollow, R 161.65 101 **PKPdf 20 11 46.4 -1.3**
S57A **PKPab 20 12 29.8 -3.0**
SCHQ Schefferville 166.91 29 PKPab **PKPab 20 12 55.4 0.0**
comp=Z,7.7nm,1.0s,baz=6.4,slow=8.7,SNR=4.3
FRNY Flat Rock 167.37 79 **PKPdf 20 11 51.1 -1.3**

NEIC ***02*** *19:56:03.7±1.8,5.62N±0.05×124.2E±0.1,h443km±10km, mb4.2/14, Error ellipse: s-maj=21.8km s-min=7.3km az=94.0*
IDC ***02*** *19:56:06.0±3.0,5.29N×124.23E,h501km±42km,mb3.2/10, mbtmp4.2/11, Error ellipse: s-maj=40.5km s-min=31.0km az=129.0*
ISC 02 19:56:03.8±0.7,5.48N±0.07×123.97E±0.10,h450km,n37, σ1°61/39,mb3.9/17,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.25**	**45**	P		**P**	**P**	**19 57 02.7**	**-3.1**
DAV				S		S	**S**	**19 57 59.2**	**+3.2**
DAV	**Davao City (W)**	**2.25**	**45**	S		S	**S**	**19 58 00.5**	**+4.5**
	166nm,0.4s,baz=312,slow=23,SNR=5.6								
TOLI2	**Tolitoli**	**5.38**	**216**	P		**P**	**P**	**19 57 32.0**	**0.0**
TOLI2				S		S	**S**	**19 58 42.1**	**-1.7**
TNTI	**Ternate**	**5.77**	**144**	P		**P**	**P**	**19 57 34.0**	**-1.9**
LUWI	**Luwuk**	**6.59**	**191**	P		**P**	**P**	**19 57 44.4**	**+0.1**
KKM	**Kota Kinabalu**	**7.74**	**275**	P		**P**	**P**	**19 57 58.1**	**+1.5**
KAPI	**Kappang**	**11.24**	**202**	P		**P**	**P**	**19 58 36.1**	**+1.5**
	13nm,0.4s,baz=7.2,slow=11,SNR=9.1								
SBUM	**Sibu**	**12.10**	**256**	P		**P**	**P**	**19 58 46.2**	**+2.3**
TPI	**Tanjungpandan**	**18.24**	**244**	P		**P**	**P**	**19 59 51.6**	**+2.5**
MLSI	**Meulaboh, Aceh**	**27.50**	**269**	P		**P**	**P**	**20 01 12.5**	**-0.1**
CM31	**Chiang Mai Arr**	**27.62**	**300**	P		**P**	**P**	**20 01 15.0**	**+1.4**
CM31				IAmb		IAmb	IAmb	20 01 15.4	
	comp=Z,21nm,1.5s								
CMAR	**Chiang Mai Arr**	**27.62**	**300**	P		**P**	**P**	**20 01 13.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**27.62**	**300**	P		**P**	**P**	**20 01 15.3**	**+1.7**
	comp=Z,0.9nm,0.5s,baz=122,slow=7.1,SNR=8.9								
	comp=Z,0.9nm,0.5s								
CHTO	**Chiang Mai**	**27.77**	**301**	P		**P**	**P**	**20 01 15.9**	**+1.0**
CHTO				IAmb		IAmb	IAmb	20 01 16.8	
	comp=Z,6.2nm,1.1s								
MJAR	**Matsushiro Arr**	**33.56**	**21**	P		**P**	**P**	**20 02 03.9**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=200,slow=10.0,SNR=2.5								
	comp=Z,1.0nm,0.7s								
BBOO	**Buckleboo**	**39.77**	**164**	P		**P**	**P**	**20 02 57.9**	**+1.6**
EVN	**Everest**	**41.75**	**307**	P		**P**	**P**	**20 03 13.8**	**+0.7**
SONM	**Songino Array**	**44.81**	**343**	P		**P**	**P**	**20 03 36.8**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=151,slow=6.8,SNR=5.2								
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**54.57**	**326**	P		**P**	**P**	**20 04 48.9**	**+0.5**
	comp=Z,1.9nm,0.4s,baz=121,slow=8.1,SNR=62								
	comp=Z,1.9nm,0.4s								
MAKZ	**Makanchi**	**54.75**	**326**			**P**	**P**	**20 04 49.9**	**+0.2**
MAKZ				IAmb		IAmb	IAmb	20 05 27.2	
	comp=Z,13nm,1.4s								
KDJ	**Kajisay**	**55.23**	**319**	P		**P**	**P**	**20 04 54.4**	**+1.1**
KDJ				IAmb		IAmb	IAmb	20 05 17.4	
	comp=Z,9.5nm,1.2s								
ARSB	**Arslanbob**	**57.70**	**316**	P		**P**	**P**	**20 05 11.2**	**+0.8**
ARSB				IAmb		IAmb	IAmb	20 05 21.9	
	comp=Z,21nm,1.4s								
ZALV	**Zalesovo Beam**	**57.81**	**334**	P		**P**	**P**	**20 05 09.8**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=126,slow=14,SNR=2.4								
	comp=Z,0.6nm,0.4s								
GAR	**Garm**	**58.73**	**313**	P		**P**	**P**	**20 05 16.9**	**-0.5**
GAR				IAmb		IAmb	IAmb	20 05 18.7	
	comp=Z,42nm,1.4s								
KURBB	**Kurchatov Arra**	**58.80**	**328**	P		**P**	**P**	**20 05 17.6**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=126,slow=6.1,SNR=16								
	comp=Z,2.2nm,0.8s								
KURK	**Kurchatov**	**58.81**	**328**	P		**P**	**P**	**20 05 17.5**	**0.0**
KURK				IAmb		IAmb	IAmb	20 05 18.4	
	comp=Z,4.7nm,0.8s								
KKAR	**Karatay Array**	**60.09**	**317**	P		**P**	**P**	**20 05 26.8**	**+0.4**
BVAR	**Borovoye Array**	**64.37**	**327**	P		**P**	**P**	**20 05 53.9**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=116,slow=6.8,SNR=11								
	comp=Z,0.9nm,0.4s								
BRVK	**Borovoye**	**64.44**	**327**			**P**	**P**	**20 05 54.2**	**-0.4**
AB31	**Akbulak array**	**69.07**	**321**	P		**P**	**P**	**20 06 23.1**	**-0.3**
ABKAR	**Akbulak array**	**69.07**	**321**	P		**P**	**P**	**20 06 22.8**	**-0.5**
ARTI	**Arti**	**72.08**	**328**	P		**P**	**P**	**20 06 39.7**	**-1.4**
VOI	**Vohitsoka**	**80.22**	**247**	P		**P**	**P**	**20 07 24.8**	**-2.4**
VOI				IAmb		IAmb	IAmb	20 07 53.0	
	comp=Z,16nm,1.2s								
BMAR	**Burnt Mountain**	**85.54**	**23**	P		**P**	**P**	**20 07 52.6**	**-0.4**
BRTR	**Keskin Array B**	**86.80**	**309**	P		**P**	**P**	**20 07 57.9**	**-1.9**
	comp=Z,1.0nm,0.8s,baz=154,slow=4.7,SNR=5.8								
	comp=Z,1.0nm,0.8s								
ARCES	**ARCESS Array B**	**87.87**	**340**	P		**P**	**P**	**20 08 04.4**	**+0.5**
	comp=Z,2.2nm,1.0s,baz=76,slow=5.8,SNR=4.1								
	comp=Z,2.2nm,1.0s								
FINES	**FINESS Array B**	**89.00**	**332**	P		**P**	**P**	**20 08 07.0**	**-2.3**
	comp=Z,2.2nm,1.0s,baz=90,slow=1.9,SNR=4.1								
	comp=Z,2.2nm,1.0s								

IDC ***02*** *20:24:02.3±1.3,6.81S×147.83E,h0km,mb3.9/8, mbtmp3.9/10, ML3.7/2, Error ellipse: s-maj=36.5km s-min=21.1km az=75.0*
NEIC ***02*** *20:24:10.2±2.1,6.85S±0.10×147.51E±0.08,h46km±8km, mb4.4/18, Error ellipse: s-maj=14.7km s-min=11.1km az=149.0*
ISC 02 20:24:11.7±0.7,6.94S±0.08×147.40E±0.09,h65km,n34, σ1°80/36,mb4.1/12,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**5.47**	**60**	Pn		**Pn**	**Pn**	**20 25 27.7**	**-3.0**
JAY	**Jayapura**	**7.99**	**303**	Pn		**Pn**	**Pn**	**20 26 04.5**	**-0.7**
	0.5nm,0.3s,baz=149,slow=18,SNR=4.1								
	2.1nm,0.7s								
COEN	**Coen**	**8.12**	**210**				**Pn**	**20 26 07.7**	**+0.8**
COEN				Sn		Sn	**Sn**	**20 27 37.0**	**-0.2**
CTAO	**Charters Tower**	**13.12**	**185**	Pn		Pn	Pn	20 27 09.7	-5.5
BOXOZ	**Borroloola**	**14.14**	**229**	Pn		**Pn**	**Pn**	**20 27 25.6**	**-3.2**
MTN	**Manton Dam**	**17.06**	**249**	Pn		**Pn**	**Pn**	**20 28 04.3**	**-1.7**
MTN				IAmb		IAmb	IAmb	20 28 06.5	
	comp=Z,24nm,1.5s								
WB0	**Warramunga Arr**	**17.94**	**223**	P		**P**	**P**	**20 28 17.1**	**+0.4**
WR8	**Warramunga Arr**	**18.00**	**223**	P		**P**	**P**	**20 28 17.0**	**-0.2**
WRA	**Warramunga Arr**	**18.10**	**223**	P		**Pn**	**Pn**	**20 28 20.0**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=49,slow=11,SNR=13								
WRA				S			**Sn**	**20 31 33.2**	**-7.0**
	comp=Z,1.7nm,0.9s,baz=48,slow=23,SNR=5.1								
	comp=Z,0.9nm,0.4s								
EIDS	**Eidsvold**	**18.66**	**170**	P		**P**	**P**	**20 28 25.1**	**+0.7**
EIDS				IAmb		IAmb	IAmb	20 28 38.8	
	comp=Z,27nm,1.4s								
KNRA	**Kununurra**	**20.21**	**243**	P		**P**	**P**	**20 28 42.0**	**+0.6**
KNRA				IAm

LUWI	**Luwuk**	**25.24**	**282**	P	**P**	**20 29 32.3**	**+0.4**
STKA	**Stephens Creek**	**25.39**	**192**	P	**P**	**20 29 33.1**	**0.0**
STKA				IAmb	IAmb	20 29 35.3	
	comp=Z,31nm,1.1s						
STKA	**Stephens Creek**	**25.39**	**192**	P	**P**	**20 29 32.5**	**-0.5**
	comp=Z,3.3nm,0.5s,baz=359,slow=8.2,SNR=18						
	comp=Z,3.3nm,0.5s						
BBOO	**Buckleboo**	**27.82**	**201**	P	**P**	**20 29 53.8**	**-1.0**
FORT	**Forrest**	**29.85**	**215**	P	**P**	**20 30 13.8**	**+0.9**
FORT				IAmb	IAmb	20 30 37.7	
	comp=Z,6.4nm,1.1s						
MORW	**Morawa**	**36.85**	**229**	P	**P**	**20 31 13.5**	**-0.4**
RTZ	**Ruatahuna**	**41.33**	**144**	P	**P**	**20 31 50.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**54.04**	**299**	P	**P**	**20 33 31.8**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=111,slow=7.2,SNR=2.7						
	comp=Z,0.4nm,0.6s						
CASY	**Casey**	**64.46**	**196**	P	**P**	**20 34 41.2**	**+0.2**
CASY				IAmb	IAmb	20 35 13.7	
	comp=Z,3.0nm,1.1s						
VNDA	**Vanda**	**70.96**	**177**	P	**P**	**20 35 22.8**	**+1.1**
VNDA				IAmb	IAmb	20 35 23.8	
	comp=Z,4.5nm,1.4s						
VNDA	**Vanda**	**70.96**	**177**	P	**P**	**20 35 22.2**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=336,slow=7.0,SNR=17						
	comp=Z,1.1nm,0.6s						
SBA	**Scott Base**	**71.60**	**176**	P	**P**	**20 35 28.0**	**+2.4**
SBA				IAmb	IAmb	20 35 34.8	
	comp=Z,5.6nm,1.4s						
MKAR	**Makanchi Array**	**78.47**	**321**	P	**P**	**20 36 06.1**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=95,slow=10,SNR=2.8						
	comp=Z,0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**80.01**	**328**	P	**P**	**20 36 13.4**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=111,slow=7.9,SNR=2.1						
	comp=Z,0.4nm,0.4s						
QSPA	**South Pole Qui**	**83.03**	**180**	P	**P**	**20 36 30.3**	**+0.4**
QSPA				IAmb	IAmb	20 36 31.8	
	comp=Z,8.1nm,1.5s						
QSPA	**South Pole Qui**	**83.03**	**180**	P	**P**	**20 36 30.4**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=287,slow=0.6,SNR=22						
	comp=Z,1.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**145.69**	**283**	PKPbc	**PKPab**	**20 43 44.9**	**+0.2**
	comp=Z,1.8nm,0.3s,baz=75,slow=2.3,SNR=1.2						

IDC ***02*** *20:28:38.1±1.6,4.43S×133.72E,h0km,mb3.6/1, mbtmp4.1/6,ML4.0/5,Error ellipse: s-maj=36.0km s-min=27.4km az=100.0*

DJA ***02*** *20:28:41.1±0.4,4°S±3'×13°4E±°,h10km,M4.3/7,mb4.7/3, MLv4.1/7*

ISC 02 20:28:39.1±0.8,4°35S±0.06×133°78E±0.06,h21km,n11, σ2s48/15,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**0.69**	**354**	P	**Pb**	**20 28 51.6**	**-0.8**
KMPI				S	**Sb**	**20 28 59.6**	**-1.9**
FAKI	**Fak Fak**	**2.09**	**313**	P	**Pn**	**20 29 13.3**	**+0.4**
FAKI				S	**Sn**	**20 29 37.1**	**-1.1**
RKPI	**Ransiki, Papua**	**2.85**	**8**	P	**Pn**	**20 29 23.5**	**+0.2**
BAKI	**Biak**	**3.90**	**37**	P	**Pn**	**20 29 39.9**	**+2.1**
SWI	**Sorong**	**4.28**	**324**	P	**Pn**	**20 29 45.9**	**+2.9**
JAY	**Jayapura**	**7.15**	**75**	Pn	**Pn**	**20 30 24.8**	**+2.3**
	0.3nm,0.3s,baz=326,slow=5.4,SNR=4.1						
JAY				Sn	**Sn**	**20 31 38.6**	**-4.5**
	0.2nm,0.3s,baz=11,slow=20,SNR=1.0						
	3.4nm,0.7s						
BATI	**Baumata**	**11.60**	**239**	Pn	**Pn**	**20 31 23.8**	**+0.3**
	1.3nm,0.3s,baz=72,slow=16,SNR=1.4						
BATI				Sn	**Sn**	**20 33 28.6**	**-3.9**
	1.1nm,0.3s,baz=345,slow=20,SNR=2.0						
	7.3nm,0.3s						
WRA	**Warramunga Arr**	**15.51**	**178**	Pn	**Pn**	**20 32 16.0**	**-0.7**
	0.5nm,0.3s,baz=356,slow=13,SNR=12						
WRA				Sn	Sn	20 34 54.5	-13
	0.6nm,0.3s,baz=2.2,slow=23,SNR=5.1						
	1.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.82**	**210**	Pn	**Pn**	**20 32 19.1**	**-1.6**
	2.3nm,0.3s,baz=39,slow=13,SNR=23						
FITZ				Sn	Sn	20 35 03.2	-12
	3.4nm,0.3s,baz=225,slow=12,SNR=11						
	5.3nm,0.3s						
ASAR	**Alice Springs**	**19.20**	**180**	P	**P**	**20 33 04.0**	**+2.3**
	0.6nm,0.3s,baz=5.1,slow=11,SNR=20						
ASAR				S	Sn	20 36 24.1	-14
	1.8nm,0.7s,baz=357,slow=26,SNR=6.9						
	3.5nm,0.7s						
MKAR	**Makanchi Array**	**68.17**	**325**	P	**P**	**20 39 40.5**	**+2.6**
	0.4nm,0.7s,baz=121,slow=6.5,SNR=7.1						
	0.4nm,0.7s						

NEIC ***02*** *20:39:02.5±1.0,59.07N±0.03×152.41W±0.06,h71km±6km, Error ellipse: s-maj=4.7km s-min=4.1km az=125.0*

NEIC ***02*** *20:39:03,59.10N×152.41W,h66km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.59; Mθθ-0.99; Mφφ0.40; Mrθ0.39; Mrφ1.04; Mθφ0.65; Fault plane solution: M₀1.55000×10¹⁵ NP1:φ₁80.00000°, δ65.00000°,λ30.00000°. NP2:φ₂336.00000°,δ63.00000°, λ152.00000°. Principal axes: T 1.5487, Plg38.0000°, Azm299.0000°; N -0.0007, Plg52.0000°, Azm116.0000°; P -1.5480, Plg1.0000°, Azm208.0000°;*

AEIC ***02*** *20:39:04.0±1.1,59.09N±0.03×152.41W±0.05,h61km±5km, ML4.0,mb3.9/1(NEIC),ML4.1/172(NEIC),Mwr4.1/7(SLM) Error ellipse: s-maj=4.4km s-min=3.8km az=138.0*

IDC ***02*** *20:39:03.0±1.7,59.13N×152.34W,h69km±24km,mb3.6/12, mbtmp3.9/16,MS4.4/1,Error ellipse: s-maj=29.0km s-min=16.8km az=145.0*

ISC 02 20:39:02.2±0.7,59°07N±0°03×152°30W±0°03,h68km±7km, n202,σ1s07/222,mb3.9/12,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SYI	**Shuyak Island**	**0.47**	**186**		**Pn**	**20 39 15.1**	**+0.7**
SYI				IAML		20 39 24.6	
	comp=E,13μm,0.5s						
SYI				Sn	**Sn**	**20 39 24.0**	**+0.6**
SYI				IAML		20 39 25.0	
	comp=N,11μm,0.9s						
AU22	**Augustine Moun**	**0.62**	**299**		**Pn**	**20 39 16.0**	**0.0**
AU22					**Sn**	**20 39 25.9**	**-0.2**
AUCH	**Augustine Cone**	**0.66**	**297**		**Pn**	**20 39 16.6**	**0.0**
AUCH					**Sn**	**20 39 26.5**	**-0.6**
AUL	**Augustine Lava**	**0.66**	**298**		**Pn**	**20 39 16.5**	**0.0**
HOM	**Homer**	**0.68**	**30**		**Pn**	**20 39 17.7**	**+1.1**
HOM				Sn	**Sn**	**20 39 27.8**	**+0.6**
CNPM	**China Poot**	**0.71**	**50**		**Pn**	**20 39 18.1**	**+1.1**
CNPM				Sn	**Sn**	**20 39 29.0**	**+1.0**
CNPM				IAML		20 39 30.1	
	comp=E,7μm,0.7s						
Q19K	**Cape Douglas,**	**0.71**	**259**		**Pn**	**20 39 16.8**	**-0.3**
Q19K				Sn	**Sn**	**20 39 27.1**	**-1.0**
ILS	**Iliamna Low So**	**0.97**	**336**		**Pn**	**20 39 20.2**	**-0.1**
ILS					**Sn**	**20 39 33.1**	**-0.6**
BRLK	**Bradley Lake**	**1.00**	**46**		**Pn**	**20 39 21.0**	**+0.5**
BRLK				Sn	**Sn**	**20 39 35.0**	**+0.7**
BRLK				IAML		20 39 37.5	
	comp=N,6μm,0.2s						
BRLK				IAML		20 39 37.9	
	comp=E,5μm,0.4s						
ILSW	**Iliamna Southw**	**1.01**	**335**		**Pn**	**20 39 20.2**	**-0.6**
ILSW				Sn	**Sn**	**20 39 33.0**	**-1.6**
ILSW				IAML		20 39 35.2	
	comp=E,5μm,0.4s						
ILSW				IAML		20 39 35.2	
	comp=N,5μm,0.5s						
IVE	**Iliamna Volcan**	**1.01**	**339**		**Pn**	**20 39 20.7**	**-0.1**
IVE					**Sn**	**20 39 34.1**	**-0.6**
O20K	**Slope Mountain**	**1.02**	**351**		**Pn**	**20 39 21.7**	**+0.8**
O20K					**Sn**	**20 39 35.9**	**+1.0**
KAPH	**Katmai Pasha**	**1.17**	**247**		**Pn**	**20 39 23.2**	**+0.4**
KAPH					**Sn**	**20 39 39.1**	**+1.0**
KDAK	**Kodiak Island**	**1.30**	**187**		**Pn**	**20 39 25.2**	**+0.7**
KDAK				Sn	**Sn**	**20 39 39.7**	**-1.4**
KDAK	**Kodiak Island**	**1.30**	**187**	P	**Pn**	**20 39 25.4**	**+0.9**
	comp=N,243nm,0.4s,baz=46,slow=4.9,SNR=460						
KDAK				S	**Sn**	**20 39 39.5**	**-1.6**
	comp=N,512nm,0.4s,baz=8.4,slow=13,SNR=13						
KAHG	**Katmai Hook Gl**	**1.31**	**245**		**Pn**	**20 39 25.2**	**+0.6**
KAHG					**Sn**	**20 39 41.8**	**+0.4**
RED	**Redoubt Volcan**	**1.37**	**350**		**Pn**	**20 39 25.7**	**+0.2**
RED				Sn	**Sn**	**20 39 42.7**	**-0.1**
RED				IAML		20 39 43.3	
	comp=N,3μm,0.7s						
RDSO	**Redoubt South**	**1.40**	**351**		**Pn**	**20 39 26.4**	**+0.5**
RDSO					**Sn**	**20 39 43.9**	**+0.2**
REF	**Redoubt East F**	**1.43**	**352**		**Pn**	**20 39 27.0**	**+0.7**
REF					**Sn**	**20 39 44.9**	**+0.3**
KAHC	**Katmai Hardscr**	**1.47**	**254**		**Pn**	**20 39 26.7**	**-0.1**
KAHC	**Katmai Hardscr**	**1.47**	**254**		**Pn**	**20 39 26.6**	**-0.1**
RDT	**Redoubt**	**1.51**	**358**		**Pn**	**20 39 27.7**	**+0.5**
NCT	**North Crescent**	**1.53**	**348**		**Pn**	**20 39 28.2**	**+0.7**
DFR	**Drift River**	**1.54**	**353**		**Pn**	**20 39 28.1**	**+0.5**
SEW	**Seward**	**1.78**	**53**		**Pn**	**20 39 31.2**	**+0.5**
SEW				IAML		20 40 03.0	
	comp=E,991nm,0.9s						
SLKM	**Skilak Lake**	**1.78**	**35**		**Pn**	**20 39 31.2**	**+0.4**
SLKM				IAML		20 39 58.2	
	comp=E,2μm,0.4s						
SLKM				IAML		20 40 00.2	
	comp=N,2μm,0.2s						
CAPN	**Captain Cook N**	**1.79**	**18**		**Pn**	**20 39 33.2**	**+2.2**
ACHA	**Angle Creek He**	**1.81**	**243**		**Pn**	**20 39 31.4**	**+0.2**
CAHL	**Cahill**	**1.88**	**238**		**Pn**	**20 39 32.6**	**+0.5**
ANCK	**Angle Creek**	**1.89**	**244**		**Pn**	**20 39 32.8**	**+0.5**
KELA	**Mount Kelaz**	**1.90**	**252**		**Pn**	**20 39 32.6**	**+0.1**
OHAK	**Old Harbor**	**1.93**	**196**		**Pn**	**20 39 33.2**	**+0.4**
N19K	**Bonanza Creek**	**2.06**	**329**		**Pn**	**20 39 34.5**	**-0.2**
N19K				IAML		20 40 12.0	
	comp=E,755nm,1.1s						
SPU	**Mount Spurr**	**2.12**	**3**		**Pn**	**20 39 36.4**	**+1.0**
SPCP	**Crater Peak Br**	**2.20**	**2**		**Pn**	**20 39 38.1**	**+1.5**
SPWE	**Spurr West**	**2.21**	**357**		**Pn**	**20 39 37.9**	**+1.2**
FIS	**Fire Island**	**2.32**	**26**		**Pn**	**20 39 40.0**	**+1.9**
FIS				IAML		20 40 26.9	
	comp=N,1μm,0.6s						
FIS				IAML		20 40 32.0	
	comp=E,1μm,0.7s						
RC01	**Rabbit Creek A**	**2.40**	**31**		**Pn**	**20 39 40.1**	**+1.0**
RC01				IAML		20 40 09.7	
	comp=E,685nm,0.5s						
RC01				IAML		20 40 10.6	
	comp=N,494nm,0.4s						
N18K	**Kilae Creek**	**2.42**	**313**		**Pn**	**20 39 38.6**	**-0.9**
STLK	**Strandline Lak**	**2.44**	**5**		**Pn**	**20 39 41.0**	**+1.2**
STLK				IAML		20 40 12.2	
	comp=N,574nm,0.6s						
PLK2	**Peulik 2**	**2.49**	**240**		**Pn**	**20 39 41.4**	**+1.0**
PLK3	**Peulik 3**	**2.51**	**238**		**Pn**	**20 39 41.5**	**+0.8**
SUA	**Susitna One**	**2.52**	**17**		**Pn**	**20 39 42.1**	**+1.3**
SUA				IAML		20 40 30.3	
	comp=E,1μm,0.9s						
SUA				IAML		20 40 30.8	
	comp=N,861nm,0.9s						
PLK4	**Peulik 4**	**2.58**	**238**		**Pn**	**20 39 42.2**	**+0.5**
PLK4				IAML		20 40 12.9	
	comp=E,434nm,0.8s						
PLK1	**Peulik 1**	**2.60**	**242**		**Pn**	**20 39 42.7**	**+0.9**
PLK5	**Peulik 5**	**2.63**	**248**		**Pn**	**20 39 43.0**	**+0.8**
P23K	**Montague Islan**	**2.66**	**68**		**Pn**	**20 39 44.0**	**+1.3**
P23K				IAML		20 40 14.9	
	comp=N,1μm,0.3s						
PWL	**Port Wells**	**2.68**	**46**		**Pn**	**20 39 43.5**	**+0.6**
SII	**Sitkinak Islan**	**2.72**	**203**		**Pn**	**20 39 43.8**	**+0.3**
SII				IAML		20 40 41.1	
	comp=N,469nm,0.7s						
SII				IAML		20 40 44.7	
	comp=E,492nm,0.7s						
PLBL	**Peulik Blue Cr**	**2.75**	**242**		**Pn**	**20 39 44.9**	**+1.0**
M20K	**Styx River**	**2.85**	**352**		**Pn**	**20 39 46.4**	**+1.0**
N17K	**Nushagak Hills**	**2.87**	**303**		**Pn**	**20 39 44.8**	**-0.7**
M22K	**Willow**	**2.90**	**21**		**Pn**	**20 39 46.8**	**+0.9**
SKT	**Skwentna**	**2.94**	**7**		**Pn**	**20 39 47.2**	**+0.7**
SKT				IAML		20 40 40.3	
	comp=E,390nm,0.8s						
SKT				IAML		20 40 40.8	
	comp=N,318nm,0.5s						
P16K	**Nushagak River**	**2.94**	**272**		**Pn**	**20 39 46.7**	**+0.2**
P16K				IAML		20 40 22.9	
	comp=E,431nm,0.8s						
P16K				IAML		20 40 44.0	
	comp=N,464nm,0.8s						
PMR	**Palmer**	**2.98**	**31**		**Pn**	**20 39 47.6**	**+0.7**
PMR				IAML		20 40 22.2	
	comp=E,360nm,0.5s						
PMR				IAML		20 40 22.2	
	comp=N,317nm,0.4s						
O16K	**Kokwok River B**	**3.02**	**282**		**Pn**	**20 39 47.1**	**-0.4**
M19K	**Big River Lodg**	**3.02**	**341**		**Pn**	**20 39 47.8**	**+0.2**
KNK	**Knik Glacier**	**3.03**	**38**		**Pn**	**20 39 48.4**	**+0.7**
KNK				IAML		20 40 24.0	
	comp=N,630nm,0.6s						
KNK				IAML		20 40 37.8	
	comp=E,419nm,0.9s						
Q23K	**Middleton Isla**	**3.08**	**81**	Pn	**Pn**	**20 39 49.4**	**+1.1**
Q23K				IAML		20 40 26.0	
	comp=E,616nm,0.4s						
GLI	**Glacier Island**	**3.18**	**53**		**Pn**	**20 39 49.6**	**-0.2**
GLI				IAML		20 40 27.3	
	comp=N,629nm,0.3s						
GHO	**Glory Hole Cre**	**3.18**	**30**		**Pn**	**20 39 50.4**	**+0.6**
GHO				IAML		20 40 27.9	
	comp=N,596nm,0.5s						
GHO				IAML		20 40 54.4	
	comp=E,375nm,0.9s						
HIN	**Hinchinbrook I**	**3.22**	**63**		**Pn**	**20 39 50.8**	**+0.5**
L19K	**White Mountain**	**3.36**	**339**		**Pn**	**20 39 52.6**	**+0.4**
L19K				IAML		20 40 47.6	
	comp=E,259nm,1.1s						
L19K				IAML		20 40 48.3	
	comp=N,233nm,0.8s						
FID	**Port Fidalgo**	**3.38**	**58**		**Pn**	**20 39 52.1**	**-0.3**
M17K	**Holitna River**	**3.47**	**315**		**Pn**	**20 39 53.5**	**-0.1**
M17K				IAML		20 40 52.3	
	comp=E,540nm,0.8s						
M17K				IAML		20 41 02.6	
	comp=N,507nm,0.8s						
CUT	**Chulitna**	**3.49**	**16**		**Pn**	**20 39 54.5**	**+0.6**
CUT				IAML		20 40 41.0	
	comp=N,496nm,0.7s						
CUT				IAML		20 41 01.4	
	comp=E,565nm,0.7s						
EYAK	**Cordova Ski Ar**	**3.62**	**63**		**Pn**	**20 39 56.4**	**+0.7**
EYAK				IAML		20 40 36.4	
	comp=N,262nm,0.4s						
EYAK				IAML		20 40 36.8	
	comp=E,220nm,0.6s						
EYAK	**Cordova Ski Ar**	**3.62**	**63**	P	**Pn**	**20 39 57.2**	**+1.5**
EYAK	**Cordova Ski Ar**	**3.62**	**63**	S	**Sn**	**20 40 36.0**	**-1.2**
SCM	**Sheep Creek Mo**	**3.70**	**40**		**Pn**	**20 39 58.1**	**+1.1**
SCM				IAML		20 40 42.7	
	comp=N,371nm,0.6s						
CHIR	**Chirikof Islan**	**3.72**	**210**	Pn	**Pn**	**20 39 56.4**	**-0.7**
L18K	**Granite Mounta**	**3.83**	**327**		**Pn**	**20 39 58.2**	**-0.3**
L18K				IAML		20 40 40.3	
	comp=N,156nm,0.9s						
PPLA	**Purkeypile**	**3.84**	**1**		**Pn**	**20 39 59.8**	**+1.0**
PPLA				IAML		20 41 07.5	
	comp=E,176nm,1.3s						
PPLA				IAML		20 41 19.7	
	comp=N,177nm,1.1s						
DIV	**Divide**	**3.86**	**55**		**Pn**	**20 39 59.6**	**+0.5**
DIV				IAML		20 40 44.3	
	comp=E,240nm,0.5s						
DIV				IAML		20 40 46.4	
	comp=N,399nm,0.4s						
M16K	**Timber Creek**	**3.87**	**303**		**Pn**	**20 39 59.0**	**-0.1**
O15K	**Ungalikthiuk R**	**3.88**	**275**		**Pn**	**20 39 59.5**	**+0.2**
KLU	**Klutina**	**3.99**	**50**		**Pn**	**20 40 01.7**	**+0.8**
KLU				IAML		20 40 48.9	
	comp=N,291nm,0.5s						
KLU				IAML		20 40 50.1	
	comp=E,365nm,0.4s						
RAGM	**Ragged Mountai**	**4.08**	**68**		**Pn**	**20 40 03.2**	**+1.2**
KAIM	**Kayak Island**	**4.11**	**75**		**Pn**	**20 40 04.0**	**+1.6**
N15K	**Kwethluk River**	**4.11**	**289**		**Pn**	**20 40 02.9**	**+0.4**
N15K				IAML		20 41 20.2	
	comp=N,155nm,0.8s						
N15K				IAML		20 41 27.2	
	comp=E,188nm,0.8s						
HMT	**Hamilton**	**4.26**	**69**		**Pn**	**20 40 05.7**	**+1.2**
M24K	**Tolsona, Glenn**	**4.29**	**42**		**Pn**	**20 40 05.8**	**+1.0**
M24K				IAML		20 41 02.6	
	comp=E,295nm,0.8s						
CHGN	**Chignik**	**4.30**	**232**	Pn	**Pn**	**20 40 05.5**	**+0.5**
BMRM	**Bremner River**	**4.30**	**61**		**Pn**	**20 40 05.7**	**+0.6**
BMRM				IAML		20 40 58.1	
	comp=N,220nm,0.4s						
BMRM				IAML		20 40 59.0	
	comp=E,266nm,0.4s						
CAST	**Castle Rocks**	**4.36**	**1**		**Pn**	**20 40 06.3**	**+0.4**
K20K	**Telida**	**4.38**	**349**		**Pn**	**20 40 06.8**	**+0.7**
L16K	**Owhat River**	**4.43**	**310**		**Pn**	**20 40 06.4**	**-0.5**
SUCK	**Suckling Hills**	**4.45**	**73**		**Pn**	**20 40 08.6**	**+1.6**
SUCK				IAML		20 41 02.3	
	comp=N,164nm,0.4s						
SUCK				IAML		20 41 06.0	
	comp=E,119nm,0.5s						
TRF	**Thorofare Moun**	**4.50**	**12**		**Pn**	**20 40 08.3**	**+0.4**
TRF				IAML		20 41 07.8	
	comp=E,213nm,0.9s						
TRF				IAML		20 41 09.3	
	comp=N,257nm,0.7s						
KTH	**Kantishna Hill**	**4.54**	**8**		**Pn**	**20 40 08.9**	**+0.5**
KTH				IAML		20 41 24.6	
	comp=N,204nm,1.0s						
KTH				IAML		20 41 36.0	
	comp=E,172nm,1.2s						
BERG	**Berg Lake**	**4.55**	**69**		**Pn**	**20 40 09.3**	**+0.9**
N25K	**Chitina, Valde**	**4.59**	**53**		**Pn**	**20 40 09.7**	**+0.6**
N25K				IAML		20 41 01.9	
	comp=N,190nm,0.5s						
N25K				IAML		20 41 03.3	
	comp=E,156nm,0.4s						
O14K	**Tigyukauivet M**	**4.62**	**276**		**Pn**	**20 40 09.5**	**+0.2**
O14K				IAML		20 41 02.5	
	comp=E,189nm,0.8s						
O14K				IAML		20 41 02.8	
	comp=N,88nm,0.9s						
RND	**Reindeer**	**4.65**	**19**		**Pn**	**20 40 10.7**	**+0.8**
RND				IAML		20 41 03.8	
	comp=E,199nm,0.4s						
RND				IAML		20 41 04.3	
	comp=N,159nm,0.6s						
VNHG	**Veniaminof 1**	**4.67**	**235**		**Pn**	**20 40 10.2**	**0.0**
DHY	**Denali Highway**	**4.67**	**29**		**Pn**	**20 40 10.8**	**+0.6**
DHY				IAML		20 41 06.1	
	comp=N,216nm,0.4s						
DHY				IAML		20 41 06.1	
	comp=E,157nm,0.5s						
K17K	**Iditarod**	**4.68**	**324**		**Pn**	**20 40 10.0**	**-0.2**
K17K				IAML		20 41 02.0	
	comp=E,160nm,0.9s						
K17K				IAML		20 41 32.8	
	comp=N,145nm,0.8s						
GRIN	**Grindle Hills**	**4.71**	**71**		**Pn**	**20 40 12.2**	**+1.6**
GLB	**Gilahina Butte**	**4.85**	**57**		**Pn**	**20 40 13.1**	**+0.5**
GLB				IAML		20 41 09.1	
	comp=E,144nm,0.4s						
N14K	**Kuskokwak Cree**	**4.86**	**284**		**Pn**	**20 40 12.8**	**+0.2**
N14K				IAML		20 41 48.0	
	comp=N,188nm,1.7s						
N14K				IAML		20 41 54.8	
	comp=E,189nm,1.4s						
J18K	**Innoko River**	**4.89**	**336**		**Pn**	**20 40 13.3**	**+0.2**
J18K				IAML		20 41 34.3	
	comp=E,79nm,1.9s						
WACK	**Wrangell Chich**	**4.90**	**50**		**Pn**	**20 40 14.8**	**+1.4**
CRQM	**Cirque**	**4.91**	**66**		**Pn**	**20 40 14.2**	**+0.7**
VRDI	**Verde Repeater**	**4.92**	**60**		**Pn**	**20 40 14.4**	**+0.8**
VRDI				IAML		20 41 10.4	
	comp=N,153nm,0.6s						
VRDI				IAML		20 41 12.9	
	comp=E,108nm,0.8s						
MCK	**McKinley**	**4.95**	**18**		**Pn**	**20 40 14.9**	**+1.1**
MCK				IAML		20 41 11.8	
	comp=E,212nm,0.5s						
WAX	**Waxell Ridge**	**4.97**	**70**		**Pn**	**20 40 15.1**	**+0.9**
TGL	**Tana Glacier**	**5.05**	**66**		**Pn**	**20 40 16.3**	**+0.9**
BPAW	**Bear Paw Mtn.**	**5.08**	**7**		**Pn**	**20 40 15.4**	**-0.3**
PAX	**Paxson**	**5.13**	**37**		**Pn**	**20 40 17.2**	**+0.8**
PAX				IAML		20 41 15.1	
	comp=E,82nm,0.6s						
PAX				IAML		20 41 15.9	
	comp=N,85nm,0.6s						
M14K	**Bethel**	**5.14**	**293**		**Pn**	**20 40 16.4**	**-0.1**
M14K				IAML		20 41 59.7	
	comp=E,89nm,1.1s						
M14K				IAML		20 42 10.9	
	comp=N,73nm,1.7s						
MCARA	**McCarthy VSAT**	**5.17**	**59**		**Pn**	**20 40 17.7**	**+0.8**
J19K	**Poorman**	**5.19**	**344**		**Pn**	**20 40 17.4**	**+0.3**
J20K	**Nowinta River**	**5.20**	**351**		**Pn**	**20 40 17.9**	**+0.6**
J20K				IAML		20 41 47.6	
	comp=N,73nm,0.7s						
J20K				IAML		20 41 52.4	
	comp=E,67nm,1.1s						
ISLE	**Juniper Island**	**5.25**	**69**		**Pn**	**20 40 19.1**	**+1.0**
BWN	**Browne**	**5.29**	**14**		**Pn**	**20 40 19.7**	**+1.2**
MESA	**MESA**	**5.37**	**74**		**Pn**	**20 40 21.0**	**+1.2**
J17K	**VABM Dome**	**5.43**	**326**	IAML		20 41 54.6	
	comp=E,61nm,0.8s						
YAH	**Yahtse**	**5.50**	**72**		**Pn**	**20 40 22.8**	**+1.2**
GRNC	**Granite Creek**	**5.56**	**68**		**Pn**	**20 40 23.7**	**+1.3**
L14K	**Kuka Creek**	**5.66**	**298**		**Pn**	**20 40 23.8**	**+0.3**
K24K	**Donnelly Dome**	**5.68**	**31**		**Pn**	**20 40 26.3**	**+2.4**
RKAV	**Rock Avalanche**	**5.68**	**73**		**Pn**	**20 40 25.4**	**+1.4**
BARN	**Barnard Glacie**	**5.69**	**65**		**Pn**	**20 40 24.4**	**+0.3**
MENT	**Mentasta**	**5.69**	**43**		**Pn**	**20 40 25.4**	**+1.4**
NEA2	**Nenana**	**5.75**	**14**		**Pn**	**20 40 24.6**	**-0.1**
CHX	**Chaix Hills**	**5.77**	**75**		**Pn**	**20 40 26.8**	**+1.6**
WRH	**Wood River Hil**	**5.77**	**18**		**Pn**	**20 40 25.0**	**-0.1**
SDPT	**Sand Point**	**5.80**	**233**	Pn	**Pn**	**20 40 24.9**	**-0.7**
TABL	**Table Mountain**	**5.80**	**72**		**Pn**	**20 40 27.6**	**+1.8**
CTGM	**Chitina Glacie**	**5.82**	**66**		**Pn**	**20 40 27.5**	**+1.7**
CNBA	**Chernabura Isl**	**5.84**	**226**	Pn	**Pn**	**20 40 27.2**	**+1.2**
RIDG	**Independent Ri**	**5.89**	**34**		**Pn**	**20 40 27.3**	**+0.5**
HDA	**Harding Lake**	**5.92**	**23**		**Pn**	**20 40 27.6**	**+0.4**
LOGN	**Logan Glacier**	**5.94**

DLBC				S		Sn	20 43 46.9	-4.8
	comp=E,0.3nm,0.4s,baz=28,slow=25,SNR=5.8							
INK	**Inuvik**	**12.39**	**34**			**Pn**	**20 41 53.1**	**-2.1**
INK	**Inuvik**	**12.39**	**34**	P		**Pn**	**20 41 55.0**	**-0.3**
	comp=E,4.1nm,0.6s,baz=232,slow=12,SNR=6.4							
DIB	**Dawson Inlet,**	**12.49**	**109**	Pn		**Pn**	**20 41 56.4**	**-0.4**
HG4B	**Hotspring**	**13.66**	**111**	Pn		**Pn**	**20 42 13.9**	**+1.3**
BBB	**Bella Bella**	**15.24**	**106**	P		**Pn**	**20 42 35.8**	**+2.7**
	comp=E,4.0nm,0.9s,baz=331,slow=10,SNR=2.1							
BBB				S		Sn	20 45 18.6	-2.1
	comp=E,2.9nm,0.7s,baz=274,slow=19,SNR=2.0							
YKAW3	**Yellowknife Wh**	**18.52**	**63**	P		**P**	**20 43 14.0**	**+1.2**
YKAW3				IAmb		IAmb	20 43 20.8	
	comp=Z,9.1nm,1.1s							
YKA	**Yellowknife Ar**	**18.53**	**63**	P		**Pn**	**20 43 15.3**	**+1.6**
	comp=Z,1.7nm,0.7s,baz=278,slow=14,SNR=8.3							
PETK	**Petropavlovsk-**	**27.95**	**280**	P		**P**	**20 44 46.2**	**+0.3**
	comp=E,2.3nm,0.8s,baz=75,slow=11,SNR=4.9							
	comp=E,2.3nm,0.8s							
ARCES	**ARCESS Array B**	**51.68**	**1**	P		**P**	**20 48 01.2**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=11,slow=7.1,SNR=6.3							
ARCES				LR		LR	21 11 40.1	
	comp=Z,364nm,19.8s,baz=98,slow=38							
	comp=Z,0.6nm,0.5s							
KSRS	**Korea Array**	**53.74**	**284**	P		**P**	**20 48 18.6**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=36,slow=7.2,SNR=2.8							
	comp=Z,0.5nm,0.5s							
SONM	**Songino Array**	**55.63**	**307**	P		**P**	**20 48 31.0**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=36,slow=8.0,SNR=4.4							
	comp=Z,0.9nm,0.7s							
ZALV	**Zalesovo Beam**	**58.34**	**324**	P		**P**	**20 48 50.7**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=35,slow=9.0,SNR=5.6							
	comp=Z,1.7nm,0.7s							
NOA	**NORSAR Array B**	**59.53**	**9**	P		**P**	**20 48 57.7**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=5.1,slow=4.4,SNR=1.7							
	comp=Z,0.7nm,0.8s							
FINES	**FINESS Array B**	**59.81**	**1**	P		**P**	**20 49 00.6**	**+1.0**
	comp=Z,1.5nm,1.0s,baz=10,slow=9.9,SNR=1.2							
	comp=Z,1.5nm,1.0s							
HFS	**Hagfors**	**60.62**	**8**	P		**P**	**20 49 05.3**	**+0.1**
	comp=Z,4.1nm,1.1s,baz=29,slow=3.4,SNR=4.5							
	comp=Z,4.1nm,1.1s							
BVAR	**Borovoye Array**	**63.06**	**333**	P		**P**	**20 49 22.6**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=42,slow=4.8,SNR=10							
	comp=Z,1.8nm,0.6s							
KURBB	**Kurchatov Arra**	**63.11**	**326**	P		**P**	**20 49 23.4**	**+1.3**
	comp=Z,0.4nm,0.2s,baz=31,slow=6.8,SNR=3.3							
	comp=Z,0.4nm,0.2s							
MKAR	**Makanchi Array**	**65.38**	**322**	P		**P**	**20 49 35.9**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=40,slow=7.9,SNR=3.0							
	comp=Z,0.2nm,0.5s							
AKASG	**Malin Array Be**	**70.58**	**359**	P		**P**	**20 50 08.1**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=5.5,slow=6.0,SNR=1.8							
	comp=Z,0.4nm,0.3s							

*IDC **02** 20:47:39.0±5.9, 37.73N×72.14E, h119km±55km, mb3.6/5, mbtmp3.8/10, Error ellipse: s-maj=61.1km s-min=44.4km az=112.0*
*NNC **02** 20:47:45.0±1.9, 38.24N×72.01E, h202km±25km, mb2.5, mpv3.6, Error ellipse: s-maj=18.8km s-min=11.5km az=18.0*
ISC 02 20:47:40.1±1.5, 37.9N±0.1×71.78E±0.10, h113km, n22, σ1s73/29, mb3.9/4, 8C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.46**	**19**	P		**Pn**	**20 48 47.6**	**+1.6**
	SNR=40							
UCH	**Uchtor**	**4.79**	**25**	P		**Pn**	**20 48 51.8**	**+1.3**
	SNR=10							
EKS2	**Erkin-Say**	**4.98**	**17**	P		**Pn**	**20 48 55.0**	**+2.3**
	SNR=37							
AAK	**Ala-Archa**	**5.15**	**23**	⇑P		**Pn**	**20 48 56.7**	**+1.5**
	0.8nm,0.5s							
AAK				⇑S		**Sn**	**20 49 54.3**	**+0.8**
	4.8nm,0.8s							
AAK	**Ala-Archa**	**5.15**	**23**	P		**Pn**	**20 48 56.6**	**+1.5**
	4.8nm,0.3s,baz=58,slow=21,SNR=6.4							
AAK				S		**Sn**	**20 49 54.0**	**+0.5**
	9.6nm,0.3s,baz=334,slow=21,SNR=9.4							
KK31	**Karatay Array**	**5.27**	**350**	⇑P		**Pn**	**20 48 59.5**	**+2.9**
	22nm,0.5s,baz=166,slow=11,SNR=430							
KK31				⇑S		**Sn**	**20 49 58.3**	**+2.1**
	16nm,0.5s,baz=176,slow=16,SNR=17							
CHMS	**Chumysh**	**5.56**	**23**	P		**Pn**	**20 49 02.0**	**+1.5**
	SNR=12							
CHMS	**Chumysh**	**5.56**	**23**	⇓P		**Pn**	**20 49 01.2**	**+0.7**
	10nm,0.8s							
CHMS				⇑S		**Sn**	**20 50 03.1**	**-0.1**
	10nm,0.7s							
USP	**Ospenovka**	**5.73**	**20**	P		**Pn**	**20 49 04.1**	**+1.2**
	SNR=5.1							
TKM2	**Tokmak 2**	**5.79**	**29**	P		**Pn**	**20 49 05.7**	**+2.0**
	SNR=5.5							
TKM2	**Tokmak 2**	**5.79**	**29**	⇑P		**Pn**	**20 49 04.2**	**+0.5**
	2.3nm,0.6s							
TKM2				⇑S		**Sn**	**20 50 08.3**	**-0.6**
	2.8nm,0.7s							
MKAR	**Makanchi Array**	**11.79**	**38**	P		**Pn**	**20 50 23.4**	**-1.1**
	0.7nm,0.7s,baz=229,slow=14,SNR=6.1							
KURBB	**Kurchatov Arra**	**13.59**	**19**	P		**Pn**	**20 50 45.8**	**-2.2**
	0.5nm,0.9s,baz=208,slow=11,SNR=9.2							
AB31	**Akbulak array**	**14.20**	**327**	⇑P		**Pn**	**20 50 56.5**	**+0.7**
	0.5nm,0.5s,baz=164,slow=9.1,SNR=15							
AB31				⇓S		**Sn**	**20 53 29.0**	**-3.3**
	1.7nm,0.5s,baz=129,slow=26,SNR=13							
BVAR	**Borovoye Array**	**15.14**	**357**	P		**Pn**	**20 51 07.6**	**-0.2**
	1.2nm,0.4s,baz=163,slow=13,SNR=3.6							
AKTO	**Aktyubinsk**	**15.91**	**326**	⇓P		**Pn**	**20 51 17.4**	**0.0**
	1.7nm,0.7s							
AKTO				⇓S		**Sn**	**20 54 09.9**	**-3.6**
	2.6nm,0.6s							
ZALV	**Zalesovo Beam**	**18.37**	**25**	P		**P**	**20 51 44.5**	**-1.4**
	0.7nm,0.4s,baz=209,slow=9.7,SNR=4.9							
FINES	**FINESS Array B**	**36.67**	**325**	P		**P**	**20 54 37.6**	**+2.1**
	0.6nm,0.3s,baz=119,slow=9.2,SNR=8.2							
	0.6nm,0.3s							
ARCES	**ARCESS Array B**	**40.09**	**337**	P		**P**	**20 55 05.3**	**+1.3**
	1.5nm,0.8s,baz=114,slow=8.4,SNR=6.9							
	1.5nm,0.8s							
HFS	**Hagfors**	**42.35**	**321**	P		**P**	**20 55 21.5**	**-1.1**
	2.1nm,0.6s,baz=82,slow=11,SNR=6.6							
	2.1nm,0.6s							
NOA	**NORSAR Array B**	**43.64**	**322**	P		**P**	**20 55 34.2**	**+1.2**
	0.4nm,0.6s,baz=95,slow=7.3,SNR=1.9							
	0.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**66.38**	**268**	P		**P**	**20 58 16.5**	**-0.7**
	1.5nm,0.3s,baz=42,slow=7.2,SNR=1.2							
	1.5nm,0.3s							

*GII **02** 20:54:51.9±0.0, 30.070N±0.004×32.669E±0.002, h1km, Mws2.5, confirmed*
*HLW **02** 20:54:54.8, 30.00N×32.75E, h22km±2km, Ml2.3*
ISC 02 20:54:53.3±1.0, 30.01N±0.04×32.73E±0.03, h10km, n39, σ0s80/43, Egypt

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HHAG	**Hagoal**	**0.55**	**264**	P		**Pn**	**20 55 06.0**	**-1.2**
HHAG				S		**Sb**	**20 55 14.2**	**+1.3**
ZNM	**Zenema**	**0.64**	**168**	P		**Pb**	**20 55 07.0**	**+0.4**
ZAF	**Zafarana**	**0.74**	**192**	P		**Pb**	**20 55 08.9**	**+0.6**
ZAF				S		**Sb**	**20 55 19.6**	**+1.2**
KOT	**Kottamia**	**0.78**	**264**	P		**Pn**	**20 55 10.0**	**-0.4**
KOT				S		**Sn**	**20 55 21.4**	**-0.8**
HRDS	**Abu Rudays**	**1.39**	**159**	P		**Pn**	**20 55 18.2**	**-0.5**
KZIT	**Kziot**	**1.70**	**58**	P		**Pn**	**20 55 23.3**	**+0.3**
KZIT				S		**Sb**	**20 55 45.7**	**-0.4**
KZIT	**Kziot**	**1.70**	**58**	S		**Sb**	**20 55 45.9**	**-0.2**
KZIT	**Kziot**	**1.70**	**58**	P		**Pn**	**20 55 23.4**	**+0.3**
KRMI	**Paran Flat**	**1.74**	**86**	P		**Pn**	**20 55 24.3**	**+0.7**
KRMI	**Paran Flat**	**1.74**	**86**	S		**Sb**	**20 55 47.9**	**+0.7**
KRMI	**Paran Flat**	**1.74**	**86**	P		**Pn**	**20 55 23.8**	**+0.2**
TR2	**Tor 2**	**1.84**	**151**	P		**Pn**	**20 55 24.0**	**-0.9**
HKAT	**Jabal Katrina**	**1.85**	**143**	P		**Pn**	**20 55 24.1**	**-1.1**
MBRI	**Mt Berech**	**1.91**	**96**	P		**Pb**	**20 55 27.3**	**-1.0**
MBRI	**Mt Berech**	**1.91**	**96**	S		**Sb**	**20 55 52.4**	**+0.1**
MBRI	**Mt Berech**	**1.91**	**96**	P		**Pn**	**20 55 26.1**	**+0.1**
HBST	**Basata**	**1.92**	**114**	P		**Pn**	**20 55 25.6**	**-0.4**
NUB	**Nuweibaa**	**1.94**	**120**	P		**Pn**	**20 55 25.6**	**-0.7**
EIL	**Elat**	**1.96**	**99**	P		**Pn**	**20 55 27.9**	**+1.2**
EIL	**Elat**	**1.96**	**99**	S		**Sb**	**20 55 53.6**	**-0.1**
EIL	**Elat**	**1.96**	**99**	P		**Pn**	**20 55 27.8**	**+1.2**
PRNI	**Paran**	**2.00**	**80**	P		**Pb**	**20 55 29.0**	**-0.8**
PRNI	**Paran**	**2.00**	**80**	S		**Sb**	**20 55 54.6**	**-0.2**
PRNI	**Paran**	**2.00**	**80**	P		**Pn**	**20 55 27.4**	**+0.1**
HRFI	**Mount Harif**	**2.00**	**89**	P		**Pb**	**20 55 28.9**	**-1.0**
HRFI	**Mount Harif**	**2.00**	**89**	S		**Sb**	**20 55 53.9**	**-1.0**
HRFI	**Mount Harif**	**2.00**	**89**	P		**Pn**	**20 55 27.0**	**-0.2**
ZFRI	**Zfri**	**2.19**	**75**	P		**Pn**	**20 55 29.1**	**-0.6**
ZFRI	**Zfri**	**2.19**	**75**	S		**Sn**	**20 55 57.6**	**+0.7**
ZFRI	**Zfri**	**2.19**	**75**	P		**Pn**	**20 55 28.9**	**-0.9**
TR1	**Tor 1**	**2.27**	**151**	P		**Pn**	**20 55 30.0**	**-0.8**
YTIR	**Yattir**	**2.46**	**56**	P		**Pn**	**20 55 33.5**	**-0.1**
YTIR	**Yattir**	**2.46**	**56**	S		**Sn**	**20 56 04.9**	**+1.1**
YTIR	**Yattir**	**2.46**	**56**	P		**Pn**	**20 55 34.1**	**+0.5**
DSI	**Dead Sea**	**2.76**	**55**	P		**Pn**	**20 55 38.0**	**+0.3**
DSI	**Dead Sea**	**2.76**	**55**	S		**Sn**	**20 56 12.9**	**+1.8**
DSI	**Dead Sea**	**2.76**	**55**	P		**Pn**	**20 55 37.9**	**+0.2**
GHAJ	**Ghor Haditha**	**2.77**	**61**	P		**Pn**	**20 55 36.6**	**-1.1**
HMDT	**Nahal Hemdat**	**3.28**	**46**	P		**Pn**	**20 55 44.8**	**0.0**

*SDD **02** 21:08:12.3±1.9, 18.61N×71.20W, h23km±18km, MD2.8, ML2.0, MW2.9*
*OSPL **02** 21:08:14.2±0.4, 18.44N×71.62W, h28km±9km, ML2.0*
ISC 02 21:08:10.3±1.2, 18.48N±0.04×71.21W±0.05, h13km±11km, n9, σ1s09/17, 8C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LONE3	**El Aguacate, B**	**0.27**	**298**	*i* P		**Pn**	**21 08 20.0**	**-0.1**
LONE3				*e*S		**Sn**	**21 08 24.6**	**-1.6**
LONE3				IAML			21 08 25.7	
	comp=Z,208nm,0.1s							
LODU1	**El Espartillar**	**0.28**	**244**	*i* P		**Pn**	**21 08 19.5**	**-0.7**
LODU1				*e*S		**Sb**	**21 08 23.1**	**+1.2**
LODU1				IAML			21 08 26.2	
	comp=Z,197nm,0.3s							
PODR	**Polo**	**0.32**	**192**	⇑*e*Pg		**Pn**	**21 08 20.3**	**-0.6**
PODR				⇑*e*Sg		**Sn**	**21 08 27.8**	**+0.3**
PODR				IAML			21 08 35.4	
	comp=N,59nm,0.2s							
PODR	**Polo**	**0.32**	**192**	*i* P		**Pn**	**21 08 20.3**	**-0.6**
PODR				*e*S		**Sn**	**21 08 26.6**	**-0.9**
SDDR	**Presa de Saban**	**0.51**	**352**	⇓*e*Pg		**Pg**	**21 08 19.6**	**-0.8**
SDDR				⇑*e*Sg		**Sg**	**21 08 25.4**	**-1.7**
SDDR				IAML			21 08 27.9	
	comp=N,70nm,0.2s							
JIDR	**Jimani**	**0.61**	**271**	⇑*e*Pg		**Pg**	**21 08 23.6**	**+1.4**
JIDR				⇑*e*Sg		**Sn**	**21 08 34.0**	**-0.4**
JIDR				IAML			21 08 35.9	
	comp=N,32nm,0.8s							
ABDR	**Alto Bandera**	**0.65**	**59**	⇓*e*Pg		**Pb**	**21 08 23.2**	**-0.5**
ABDR				⇑*e*Sg		**Sg**	**21 08 32.6**	**+1.0**
ABDR				IAML			21 08 33.1	
	comp=N,41nm,0.2s							
REDR	**Restauracion**	**0.71**	**346**	⇑*e*Pg		**Pn**	**21 08 27.5**	**+1.4**
REDR				⇑*e*Sg		**Sn**	**21 08 37.5**	**+0.7**
REDR				IAML			21 08 51.8	
	comp=N,255nm,0.3s							
BANI	**BANI**	**0.81**	**96**	*e*Pg		**Pb**	**21 08 26.5**	**+0.1**
BANI				IAML			21 08 41.9	
	comp=N,117nm,0.2s							

*OSPL **02** 21:13:01.7±1.0, 18.97N×70.69W, h30km±6km, ML1.3*
*SDD **02** 21:13:03.9±1.3, 19.08N×71.41W, h67km±11km, MD2.7, ML1.7, MW2.8*
ISC 02 21:13:03.9±2.0, 19.11N±0.05×71.36W±0.10, h59km±14km, n7, σ0s91/12, 5C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**0.15**	**151**	⇑*e*Pg		**Pn**	**21 13 12.6**	**-0.6**
SDDR				⇑*e*Sg		**Sn**	**21 13 20.6**	**+0.8**
SDDR				IAML			21 13 21.1	
	comp=N,27nm,0.2s							
SDDR	**Presa de Saban**	**0.15**	**151**	*i* P		**Pn**	**21 13 11.9**	**-1.2**
SDDR				*e*S		**Sn**	**21 13 20.3**	**+0.6**
SDDR				IAML			21 13 21.7	
	comp=Z,14nm,0.2s							
LONE3	**El Aguacate, B**	**0.51**	**190**	*i* P		**Pn**	**21 13 15.4**	**-0.7**
LONE3				*e*S		**Sn**	**21 13 26.4**	**+1.5**
LONE3				IAML			21 13 27.3	
	comp=Z,10.0nm,0.8s							
LOPP1	**Punta Rusia, P**	**0.76**	**12**	*i* P		**Pn**	**21 13 18.9**	**+0.1**
LOPP1				*e*S		**Sn**	**21 13 30.2**	**+0.5**
LOPP1				IAML			21 13 31.4	
	comp=Z,33nm,2.3s							
ABDR	**Alto Bandera**	**0.76**	**113**	⇑*e*Pg		**Pn**	**21 13 18.6**	**-0.6**
ABDR				⇑*e*Sg		**Sn**	**21 13 30.9**	**+0.5**
ABDR				IAML			21 13 55.3	
	comp=N,15nm,1.5s							
MCDR	**Montecristi**	**0.82**	**340**	⇑*e*Sg		**Sn**	**21 13 31.2**	**-0.1**
MCDR				IAML			21 14 16.9	
	comp=N,31nm,0.9s							
PODR	**Polo**	**0.94**	**175**	⇑*e*Pg		**Pn**	**21 13 21.0**	**-0.4**
PODR				IAML			21 13 55.2	
	comp=N,24nm,1.4s							

*IPEC **02** 21:14:51.8±0.2, 51.22N×19.11E, h1km, ML2.6/5, Error ellipse: s-maj=2.3km s-min=1.4km az=157.0*
*IDC **02** 21:14:52.8±1.1, 51.12N×19.17E, h0km, mbtmp3.2/3, ML2.5/3, Error ellipse: s-maj=22.6km s-min=9.2km az=134.0*
*PRU **02** 21:14:52.4, 51.28N×18.94E, h0km, Belchatow*
*VIE **02** 21:14:52.4±1.0, 51.17N×18.88E, h0km, mb2.4/4, ml2.5/4, Error ellipse: s-maj=6.4km s-min=4.0km az=18.0 83 km SSW of Lodz Suspected Mining induced.*
ISC 02 21:14:51.5±0.9, 51.24N±0.04×19.10E±0.03, h0km, n40, σ1s09/67, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**1.11**	**156**	*e*Pg		**Pg**	**21 15 13.2**	**+0.4**
OJC				*e*Sg		**Sg**	**21 15 27.9**	**+0.8**
RAC	**Raciborz**	**1.29**	**207**	*e*PG		**Pn**	**21 15 17.6**	**+0.9**
RAC				*e*SG		**Sn**	**21 15 35.0**	**+0.3**
OKC	**Ostrava-Krasne**	**1.52**	**204**	*e*PG		**Pb**	**21 15 20.4**	**-0.2**
OKC				*e*SG		**Sb**	**21 15 41.3**	**+0.8**
	comp=Z,16nm,0.5s							
STEB	**Steborice**	**1.55**	**213**	*e*PG		**Pn**	**21 15 20.6**	**+0.2**
STEB				*e*SG		**Sg**	**21 15 41.8**	**+0.5**
	comp=Z,111nm,0.5s							
ANAC	**Anensky vrch**	**1.59**	**224**	*e*Pn		**Pn**	**21 15 20.9**	**-0.1**
	baz=43							
ANAC				*e*Sg		**Sn**	**21 15 41.5**	**-0.8**
	63nm,0.4s,baz=43							
MORC	**Moravsky Berou**	**1.77**	**215**	*e*PN		**Pn**	**21 15 23.5**	**+0.1**
MORC				*e*SG		**Sn**	**21 15 46.9**	**+0.4**
MORC	**Moravsky Berou**	**1.77**	**215**	*e*Pn		**Pn**	**21 15 23.4**	**+0.1**
	baz=34							
MORC				*e*Sg		**Sn**	**21 15 46.8**	**+0.3**
	40nm,0.7s,baz=34							
KSP	**Ksiaz**	**1.81**	**259**	*e*Pn		**Pn**	**21 15 24.1**	**+0.1**
KSP				*e*Pg		**Pg**	**21 15 27.2**	**+1.0**
KSP				*e*Sg		**Sg**	**21 15 51.1**	**+1.4**
KRLC	**Kraliky**	**1.88**	**233**	*e*SG		**Sb**	**21 15 50.8**	**+0.2**
	comp=Z,44nm,0.5s							
OSTC	**Ostas**	**1.95**	**251**	*e*PG		**Pn**	**21 15 26.1**	**+0.3**
OSTC				*e*SG		**Sn**	**21 15 51.1**	**+0.2**
	comp=Z,45nm,0.8s							
DPC	**Dobruska-Polom**	**1.97**	**244**	*e*PG		**Pn**	**21 15 26.7**	**+0.5**
DPC				*e*SG		**Sn**	**21 15 51.1**	**-0.5**
	comp=Z,24nm,0.6s							
NIE	**Niedzica**	**1.98**	**157**	*e*Pg		**Pg**	**21 15 29.9**	**+0.6**
NIE				*e*Sg		**Sg**	**21 15 55.3**	**+0.3**
MAUC	**Maruska**	**2.04**	**204**	*e*SG		**Sg**	**21 15 57.8**	**+0.8**
LUKC	**Luka**	**2.08**	**221**	*e*Pn		**Pn**	**21 15 28.0**	**+0.3**
	baz=40							
LANS	**Liptovska Anna**	**2.10**	**173**	*e*PG		**Pb**	**21 15 30.2**	**-0.3**
LANS				*e*SG		**Sg**	**21 15 59.6**	**+0.6**
LANS				*e*LG		Lg	21 16 01.6	
STHS	**Stebnicka Huta**	**2.28**	**142**	*e*PN		**Pn**	**21 15 31.4**	**+1.0**
STHS				*e*LG		Lg	21 16 17.4	
VRAC	**Vranov**	**2.51**	**221**	*e*PN		**Pn**	**21 15 33.8**	**+0.2**
VRAC				*e*SG		**Sb**	**21 16 10.4**	**+1.5**
VRAC	**Vranov**	**2.51**	**221**	Pn		**Pn**	**21 15 32.9**	**-0.7**
	4.1nm,0.3s,baz=41,slow=13,SNR=12							
VRAC				Pg		**Pg**	**21 15 39.3**	**-0.2**
	1.6nm,0.3s,baz=37,slow=15,SNR=5.6							
VRAC				Sn		**Sn**	**21 16 03.1**	**-1.7**
	2.3nm,0.3s,baz=275,slow=22,SNR=5.7							
VRAC				Lg		Lg	21 16 10.7	
	3.0nm,0.3s,baz=319,slow=20,SNR=9.8							
	2.6nm,0.3s							
VRAC	**Vranov**	**2.51**	**221**	*e*Pn		**Pn**	**21 15 33.7**	**+0.2**
	baz=39							
VRAC				*e*Sg		**Sb**	**21 16 10.3**	**+1.5**
	26nm,0.5s,baz=39							
JAVC	**Velka Javorina**	**2.55**	**202**	*e*PN		**Pn**	**21 15 33.9**	**-0.2**
JAVC	**Velka Javorina**	**2.55**	**202**	*e*Pn		**Pn**	**21 15 33.8**	**-0.3**
	baz=21							
VYHS	**Vyhne**	**2.75**	**184**	*e*PN		**Pn**	**21 15 37.7**	**+0.9**
VYHS				*e*SN		**Sn**	**21 16 12.8**	**+2.0**
KRUC	**Moravsky**	**2.78**	**220**	*e*Pn		**Pn**	**21 15 37.1**	**-0.2**
	baz=38							
KRUC				*e*Sg		**Sg**	**21 16 19.1**	**-1.8**
	17nm,0.5s,baz=38							
KECS	**Kecovo**	**2.90**	**161**	*e*PN		**Pn**	**21 15 40.7**	**+1.8**
PVCC	**Panska Ves**	**2.95**	**258**	*e*SG		**Sb**	**21 16 22.1**	**+0.5**
	comp=Z,37nm,0.4s							
TREC	**Trest**	**3.02**	**231**	*e*SG		**Sg**	**21 16 27.4**	**-1.1**
	comp=Z,13nm,0.8s							
KOLS	**Kolonicke sedl**	**3.08**	**137**	*e*PN		**Pn**	**21 15 42.8**	**+1.4**
KOLS				*e*LG		Lg	21 16 46.3	
PRU	**Pruhonice**	**3.16**	**248**	*e*SG		**Sg**	**21 16 31.2**	**-1.7**
	comp=Z,7.4nm,0.5s							
BRG	**Berggiesshubel**	**3.27**	**266**	Pg		**Pg**	**21 15 55.7**	**+1.6**
BRG				Sg		**Sg**	**21 16 37.8**	**+1.3**
BRG				Amp			21 16 46.8	
	comp=Z,15nm,0.5s							
CLL	**Collm**	**3.83**	**273**	*e*Pg		**Pg**	**21 16 08.0**	**+3.2**
CLL				*e*Sg		**Sg**	**21 16 56.0**	**+1.6**
	comp=Z,8.0nm,0.6s							
CKRC	**Cesky Krumlov**	**3.92**	**234**	*e*SG		**Sg**	**21 16 55.5**	**-1.8**
	comp=Z,13nm,0.7s							
CONA	**Conrad Observa**	**3.92**	**214**	*i* Pn		**Pn**	**21 15 52.1**	**-0.9**
	comp=Z,0.7nm,0.4s							
CONA				*e*Sg		**Sg**	**21 16 56.6**	**-0.8**
	comp=Z,5.0nm,0.4s							
RONA	**Rosalia, Austr**	**3.98**	**208**	*i* Pn		**Pn**	**21 15 52.9**	**-0.9**
	comp=Z,0.7nm,0.3s							
RONA				*e*Sg		**Sg**	**21 16 59.7**	**+0.3**
	comp=Z,3.9nm,0.5s							
KHC	**Kasperske Hory**	**4.12**	**241**	*e*PN		**Pn**	**21 15 55.5**	**-0.2**
KHC				*e*SG		**Sg**	**21 17 02.0**	**-1.9**
	comp=Z,15nm,0.5s							
GERES	**GERESS Array B**	**4.22**	**238**	Pn		**Pn**	**21 15 57.4**	**+0.3**
	baz=55,slow=15,SNR=5.6							
GERES				Lg		Lg	21 17 03.6	
	comp=Z,0.2nm,0.3s,baz=51,slow=30,SNR=4.9							
	comp=Z,0.4nm,0.3s							
MOA	**Molln**	**4.62**	**225**	*e*Pn		**Pn**	**21 16 01.7**	**-0.9**
	comp=Z,1.1nm,0.4s							
MOA				*e*Sg		**Sg**	**21 17 18.4**	**-1.5**
	comp=Z,2.7nm,0.4s							
ARSA	**Arzberg**	**4.62**	**212**	*e*Pg		**Pg**	**21 16 20.3**	**+0.2**
	comp=Z,1.2nm,0.4s							
ARSA				*e*Sg		**Sg**	**21 17 21.3**	**+1.3**
	comp=Z,6.3nm,0.9s							
LESA	**Schwarzleotal**	**5.67**	**230**	*i* Pn		**Pn**	**21 16 16.0**	**-1.0**
	comp=Z,0.9nm,0.3s							
LESA				*e*Sg		**Sg**	**21 17 53.3**	**-0.2**
	comp=Z,4.6nm,0.4s							
AKASG	**Malin Array Be**	**6.42**	**91**	Pg		**Pb**	**21 16 42.0**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=277,slow=14,SNR=4.6							
AKASG				Lg		Lg	21 18 14.0	
	comp=Z,0.6nm,0.3s,baz=277,slow=26,SNR=4.3							
FINES	**FINESS Array B**	**10.93**	**18**	Pn		**Pn**	**21 17 27.2**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=198,slow=13,SNR=4.2							
FINES				Lg		Lg	21 20 40.5	
	comp=Z,0.1nm,0.3s,baz=200,slow=22,SNR=2.6							
	comp=Z,2.8nm,0.8s							

IDC 02 21:25:18.8±3.2, 30.54S×179.45W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=294.8km s-min=27.9km az=171.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**30.07**	**71**	P		P	21 31 30.3	+0.3
	65nm,0.4s,baz=220,slow=6.9,SNR=3.9							
ASAR	**Alice Springs**	**41.85**	**268**	P		P	21 33 10.6	-0.3
	0.3n

comp=E,33nm,0.4s,baz=186,slow=16,SNR=22
KK31 Karatay Array 6.54 357 PN **Pn** **21 36 19.5 +0.3**
KKAR Karatay Array 6.54 357 **Pn** **21 36 19.4 +0.2**
KKAR Karatay Array 6.54 357 PN **Pn** **21 36 19.4 +0.2**
AAK Ala-Archa 6.64 23 **Pn** **21 36 21.9 +1.1**
AAK Ala-Archa 6.64 23 ⇓P **Pn** **21 36 21.5 +0.8**
comp=E,0.9nm,0.4s
AAK ⇓S **Sn** **21 37 35.0 -1.2**
comp=E,3.1nm,0.5s
AAK Ala-Archa 6.64 23 P **Pn** **21 36 22.2 +1.5**
comp=E,10nm,0.4s,baz=197,slow=4.9,SNR=8.1
AAK S **Sn** **21 37 35.0 -1.2**
comp=E,14nm,0.5s,baz=139,slow=20,SNR=12
AAK Ala-Archa 6.64 23*ce*PN **Pn** **21 36 21.5 +0.8**
AAK pmax pmax
comp=Z,5.0nm,0.5s
BHK Bhakra 6.84 137 *ex* x 21 37 37.4
BHK IAML 21 37 39.9
comp=E,38nm,0.4s
BHK IAML 21 37 41.2
comp=N,19nm,0.4s
FRU1 Bishkek 6.84 23 Pn **Pn** **21 36 24.2 +1.0**
FRU1 Bishkek 6.84 23 PN **Pn** **21 36 24.2 +1.0**
BOOM Boomskoye usch 7.04 31 Pn **Pn** **21 36 26.8 +0.8**
BOOM Boomskoye usch 7.04 31 PN **Pn** **21 36 26.8 +0.8**
CHMS Chumysh 7.05 23 P **Pn** **21 36 27.1 +1.2**
SNR=6.5
CHMS Chumysh 7.05 23 ⇓P **Pn** **21 36 26.2 +0.3**
comp=N,4.1nm,0.5s
CHMS ⇑S **Sn** **21 37 43.3 -2.3**
comp=N,19nm,0.8s
CHMS Chumysh 7.05 23 PN **Pn** **21 36 26.2 +0.3**
USP Ospenovka 7.21 21 P **Pn** **21 36 28.2 +0.1**
SNR=9.7
TKM2 Tokmak 2 7.27 28 P **Pn** **21 36 29.8 +0.8**
SNR=13
TKM2 Tokmak 2 7.27 28 ⇑P **Pn** **21 36 29.2 +0.2**
comp=N,4.7nm,0.6s
TKM2 ⇓S **Sn** **21 37 49.0 -2.2**
comp=N,14nm,0.8s
TKM2 Tokmak 2 7.27 28 PN **Pn** **21 36 29.2 +0.2**
KDJ Kajisay 7.34 39 Pn **Pn** **21 36 30.9 +1.0**
KDJ Kajisay 7.34 39 PN **Pn** **21 36 30.9 +1.0**
TARG Taragay, Kyrgy 7.39 44 Pn **Pn** **21 36 31.4 +0.6**
TARG Taragay, Kyrgy 7.39 44 PN **Pn** **21 36 31.4 +0.6**
SMLA Simla 7.47 135 *eP* **Pn** **21 36 31.1 -0.4**
SMLA *eS* **Sn** **21 37 51.8 -4.1**
SMLA IAML 21 37 53.8
comp=N,74nm,0.3s
SMLA IAML 21 37 54.4
comp=E,76nm,0.2s
KLP Kalpa 7.84 128 *eP* **Pn** **21 36 36.5 -0.3**
KLP *eS* **Sn** **21 37 58.4 -6.8**
KLP IAML 21 38 03.8
comp=E,133nm,0.5s
KLP IAML 21 38 04.2
comp=N,73nm,0.4s
NDI New Delhi 9.45 144 *eS* Sn 21 38 34.8 -8.3
KUDL Kundal 9.60 149 *eP* **Pn** **21 36 57.7 -1.8**
KUDL *eS* Sn 21 38 37.2 -9.4
KUDL IAML 21 38 39.1
comp=E,62nm,0.4s
KUDL IAML 21 38 41.3
comp=N,55nm,0.5s
SONA Sohna 9.76 146 *eS* Sn 21 38 41.9 -8.6
UGON Onchagaon 10.10 143 *eS* **Sn** **21 38 51.7 -6.8**
UGON IAML 21 38 55.2
comp=E,64nm,0.4s
PTH Pithoragarh 10.44 129 *eP* **Pn** **21 37 10.0 -0.5**
PTH *eS* Sn 21 38 57.2 -10
PTH IAML 21 39 01.9
comp=N,26nm,0.4s
PTH IAML 21 39 02.5
comp=E,16nm,0.4s
LGTI Lohaghat 10.52 130 *eP* **Pn** **21 37 15.3 +3.9**
LGTI *eS* Sn 21 39 00.3 -8.3
JHNI Jhansi 12.82 148 *eS* Sn 21 39 51.9 -12
JHNI IAML 21 39 58.4
comp=E,17nm,0.3s
JHNI IAML 21 39 58.4
comp=N,10nm,0.4s
MAKZ Makanchi 13.11 35 **Pn** **21 37 45.5 +1.2**
MAKZ Makanchi 13.11 35 P **Pn** **21 37 45.5 +1.2**
MK31 Makanchi Array 13.24 36*ce*P **Pn** **21 37 47.7 +1.7**
MKAR Makanchi Array 13.24 36 Pn **Pn** **21 37 47.1 +1.1**
MKAR Makanchi Array 13.24 36 P **Pn** **21 37 46.3 +0.3**
comp=N,19nm,0.7s,baz=216,slow=11,SNR=10
BHPL Bhopal 14.40 155 *eP* **P** **21 38 03.6 +1.3**
BHPL *eS* Sn 21 40 30.8 -11
WMQ Urumqi 14.67 55 *eP* **P** **21 38 07.4 +2.3**
AB31 Akbulak array 15.02 331 **Pn** **21 38 06.9 -1.0**
AB31 Akbulak array 15.02 331 ⇓P **Pn** **21 38 06.9 -1.0**
comp=N,3.2nm,0.5s,baz=144,slow=12,SNR=60
AB31 ⇑S **Sn** **21 40 50.0 -5.6**
comp=N,2.9nm,0.5s,baz=159,slow=22,SNR=7.8
AB31 Akbulak array 15.02 331 P **Pn** **21 38 06.9 -1.0**
AB31 S **Sn** **21 40 50.5 -5.2**
ABKAR Akbulak array 15.02 331 **Pn** **21 38 06.9 -1.0**
KURBB Kurchatov Arra 15.06 19 P **Pn** **21 38 07.5 -0.9**
comp=N,1.7nm,0.5s,baz=214,slow=8.4,SNR=32
KURBB S **S** **21 40 56.9 +0.2**
comp=N,0.1nm,0.5s,baz=124,slow=28,SNR=2.7
KURK Kurchatov 15.17 19 **Pn** **21 38 10.2 +0.4**
KURK Kurchatov 15.17 19*ce*P **Pn** **21 38 10.7 +0.9**
KURK pmax pmax
comp=Z,2.0nm,0.7s
EVN Everest 15.89 118 P **P** **21 38 19.6 +0.2**
EVN IAmb IAmb 21 38 23.5
comp=Z,6.4nm,0.9s
BVAR Borovoye Array 16.46 359 P **P** **21 38 25.2 +0.4**
comp=Z,4.0nm,0.5s,baz=155,slow=8.8,SNR=33
BVAR S **S** **21 41 23.8 -3.1**
comp=Z,1.4nm,0.7s,baz=169,slow=24,SNR=5.1
BRVK Borovoye 16.50 359 **P** **21 38 25.9 +0.8**
BRVK IAmb IAmb 21 38 27.8
comp=Z,10.0nm,1.1s
BRVK Borovoye 16.50 359*ce*P **Pn** **21 38 27.2 +1.4**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
AKTO Aktyubinsk 16.71 330 ⇓P **P** **21 38 28.4 +0.8**
comp=Z,10nm,0.6s
AKTO ⇑S **S** **21 41 32.1 -0.1**
comp=Z,3.9nm,0.9s
AKTO Aktyubinsk 16.71 330 P **Pn** **21 38 28.8 +0.3**
comp=Z,20nm,0.6s,baz=139,slow=9.1,SNR=73
AKTO S **S** **21 41 27.2 -5.0**
comp=Z,1.2nm,0.6s,baz=230,slow=14,SNR=2.8
AKT Akhty 18.70 292 *eP* **Pn** **21 38 56.0 +3.9**
ZAA0 Zalesovo Array 19.86 25 P **P** **21 39 02.9 +1.3**
ZAA0 IAmb IAmb 21 39 03.7
comp=Z,6.9nm,0.6s
ZALV Zalesovo Beam 19.86 25 P **P** **21 39 02.8 +1.2**
ZALV Zalesovo Beam 19.86 25 P **P** **21 39 02.6 +1.0**
comp=Z,6.9nm,0.4s,baz=216,slow=10,SNR=33
ZALV Zalesovo Beam 19.86 25 *i* P **P** **21 39 03.2 +1.6**
ZALV pmax pmax
comp=Z,7.0nm,0.4s
ARTI Arti 21.57 341 P **P** **21 39 20.3 +0.5**
ARTI IAmb IAmb 21 39 23.4
comp=Z,7.1nm,0.5s
ARTI Arti 21.57 341 P **P** **21 39 20.8 +1.0**
comp=Z,3.6nm,0.6s,baz=139,slow=9.3,SNR=9.0
comp=Z,3.6nm,0.6s
ARTI Arti 21.57 341*d* iP **P** **21 39 21.6 +1.8**
ARTI S **S** **21 43 08.9 +2.7**
ARTI pmax pmax
comp=Z,5.0nm,0.8s
BELG Belogornoye 22.83 321 P **P** **21 39 32.4 +0.7**
comp=Z,8.4nm,0.6s,baz=202,slow=5.4,SNR=5.1
comp=Z,8.4nm,0.6s
BELG Belogornoye 22.83 321 *i* P **P** **21 39 32.1 +0.4**
BELG pmax pmax
comp=Z,1.0nm,0.7s
LZH Lanzhou 26.41 81 *eP* **P** **21 40 06.8 +2.2**
LZH pP pP 21 40 41.6 -2.5
LZH pmax pmax
comp=Z,23nm,1.1s
PZH PanZhiHua 27.97 102 P **P** **21 40 20.3 +1.9**
HHC Hu-ho-hao-te 31.75 70 *eP* P 21 40 58.2 +6.6
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,41nm,4.5s
AKASG Malin Array Be 32.89 309 P **P** **21 41 02.0 +0.7**
comp=Z,0.6nm,0.5s,baz=82,slow=6.7,SNR=6.0
comp=Z,0.6nm,0.5s
AKASG Malin Array Be 32.89 309*ce*P **P** **21 41 02.9 +1.6**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 32.89 309 P **P** **21 41 01.2 -0.1**
AKBB IAmb IAmb 21 41 03.1
comp=Z,2.8nm,0.6s
AKBB Malin Array Si 32.89 309 P **P** **21 41 01.2 -0.1**
AKBB pmax pmax
comp=Z,3.0nm,0.6s
BUR08 Bucovina Ar. S 35.25 303 P **P** **21 41 22.4 +0.7**
FIA1 FINESS Array S 37.42 326 P **P** **21 41 39.8 0.0**
FINES FINESS Array B 37.42 326 P **P** **21 41 40.0 +0.3**
FINES FINESS Array B 37.42 326 P **P** **21 41 40.9 +1.1**
comp=Z,2.4nm,0.7s,baz=117,slow=8.8,SNR=8.6
comp=Z,2.4nm,0.7s
FINES FINESS Array B 37.42 326 *i* P **P** **21 41 41.2 +1.4**
FINES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 41.08 338 P **P** **21 42 10.9 +0.9**
ARCES IAmb IAmb 21 42 26.3
comp=Z,11nm,1.4s
ARCES ARCESS Array B 41.08 338 P **P** **21 42 10.9 +0.9**
comp=Z,2.1nm,0.6s,baz=107,slow=8.7,SNR=15
comp=Z,2.1nm,0.6s
ZEA Zeya 42.03 48 *eP* P 21 42 27.5 +10
ZEA pmax pmax
comp=Z,10.0nm,0.4s
GSI Gunungsitoli 42.85 139 P **P** **21 42 26.4 +1.5**
GSI IAmb IAmb 21 42 27.9
comp=Z,6.2nm,0.7s
HFS Hagfors 43.01 322 P **P** **21 42 26.8 +1.2**
comp=Z,3.0nm,0.5s,baz=104,slow=12,SNR=14
comp=Z,3.0nm,0.5s
NC303 NORSAR Array S 44.26 323 P **P** **21 42 36.6 +1.0**
NB2 NORSAR Subarra 44.32 323 P **P** **21 42 36.9 +0.7**
comp=Z,3.0nm,0.6s,baz=95,slow=7.9
NOA NORSAR Array B 44.32 323 P **P** **21 42 36.9 +0.7**
comp=Z,2.4nm,0.6s,baz=96,slow=7.8,SNR=9.4
comp=Z,2.4nm,0.6s
MATP Matopo 69.45 223 P **P** **21 45 33.2 0.0**
comp=Z,0.4nm,0.4s,baz=29,slow=7.2,SNR=4.6
comp=Z,0.4nm,0.4s
ILAR Eielson Array 74.72 16 P **P** **21 46 03.0 -0.8**
comp=Z,0.1nm,0.4s,baz=284,slow=3.6,SNR=1.9
comp=Z,0.1nm,0.4s
WRA Warramunga Arr 82.04 122 P **P** **21 46 43.8 -0.8**
comp=Z,1.1nm,0.6s,baz=324,slow=5.0,SNR=13
comp=Z,1.1nm,0.6s
WRA Warramunga Arr 82.04 122 *i* P **P** **21 46 43.0 -1.5**
WRA pmax pmax
comp=Z,1.0nm,0.4s
ASAR Alice Springs 84.30 125 P **P** **21 46 55.8 -0.3**
comp=Z,1.4nm,0.6s,baz=314,slow=5.3,SNR=16
comp=Z,1.4nm,0.6s

*IDC **02** 21:39:54.5±0.7,30°.84S×177°.42W,h0km,mb4.3/11, mbtmp4.3/13,ML3.6/2,MS3.7/6,Error ellipse: s-maj=24.1km s-min=18.3km az=95.0*
*NEIC **02** 21:39:57.6±2.4,30°.70S±0°.08×177°.4W±0°.2,h10km±1km, mb4.6/14,Error ellipse: s-maj=29.2km s-min=11.0km az=75.0*
ISC 02 21:39:59.0±0.6,**30°.77S**±0°.05×**177°.5W**±0°.1,**h27**km,**n51,** σ1§**13**/54,**mb4.5**/18,**MS4.0**/4,**2C, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.55**	**347**	Pn	**Pn**		**21 40 23.3**	**-1.6**
RAO					**Sb**		**21 40 45.9**	**-0.5**
RAO	**Raoul Island**	**1.55**	**347**	Pn	**Pn**		**21 40 24.1**	**-0.8**
	462nm,0.3s,baz=176,slow=19,SNR=3.1							
RAO					**Sn**		**21 40 43.3**	**-0.9**
	447nm,0.3s,baz=108,slow=20,SNR=3.6							
URZ	**Urewera**	**8.68**	**209**	Pn	**Pn**		**21 42 01.3**	**-1.5**
	1.3nm,0.3s,baz=351,slow=22,SNR=1.0							
URZ					**Sn**		**21 43 37.6**	**-2.2**
	1.8nm,0.3s,baz=51,slow=11,SNR=7.8							
	18nm,1.0s							
CTZ	**Chatham Island**	**12.96**	**177**	Pn	**Pn**		**21 43 02.3**	**+1.0**
MSVF	**Nonsavu**	**13.59**	**342**	LR	LR		21 47 14.2	
	comp=Z,146nm,21.4s,baz=197,slow=32							
DZM	**Mont Dzumac**	**16.76**	**297**	P	**P**		**21 43 55.5**	**+1.4**
DZM				IAmb	IAmb		21 44 01.3	
	comp=Z,57nm,1.5s							
DZM	**Mont Dzumac**	**16.76**	**297**	Pn	**P**		**21 43 53.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=194,slow=11,SNR=6.2							
DZM				LR	LR		21 49 03.6	
	comp=Z,368nm,19.2s,baz=110,slow=33							
	comp=Z,7.5nm,1.0s							
ARMA	**Armidale**	**26.52**	**263**	P	**P**		**21 45 37.8**	**+3.2**
ARMA				IAmb	IAmb		21 45 39.8	
	comp=Z,8.2nm,1.0s							
EIDS	**Eidsvold**	**28.17**	**273**	P	**P**		**21 45 50.6**	**+1.3**
EIDS				IAmb	IAmb		21 46 15.7	
	comp=Z,20nm,1.4s							
CTAO	**Charters Tower**	**34.27**	**279**	P	**P**		**21 46 44.8**	**+1.8**
STKA	**Stephens Creek**	**34.80**	**257**	P	**P**		**21 46 49.4**	**+1.9**
STKA	**Stephens Creek**	**34.80**	**257**	P	**P**		**21 46 49.1**	**+1.5**
	comp=Z,16nm,1.0s,baz=90,slow=9.0,SNR=20							
	comp=Z,16nm,1.0s							
BBOO	**Buckleboo**	**39.27**	**255**	P	**P**		**21 47 26.2**	**+0.7**
BBOO				IAmb	IAmb		21 47 27.0	
	comp=Z,17nm,1.1s							
AS31	**Alice Springs**	**43.50**	**267**	P	**P**		**21 48 01.2**	**+0.8**
ASAR	**Alice Springs**	**43.50**	**267**	P	**P**		**21 48 00.9**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=105,slow=7.5,SNR=19							
ASAR				PcP	**PcP**		**21 49 48.7**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=119,slow=3.4,SNR=3.1							
ASAR				LR	LR		22 05 57.8	
	comp=Z,176nm,18.6s,baz=126,slow=36							
	comp=Z,1.6nm,0.6s							
WR8	**Warramunga Arr**	**44.38**	**272**		**P**		**21 48 07.9**	**+0.4**
WR8				IAmb	IAmb		21 48 09.6	
	comp=Z,11nm,1.1s							
WRA	**Warramunga Arr**	**44.52**	**272**	P	**P**		**21 48 08.6**	**-0.1**
WRA	**Warramunga Arr**	**44.52**	**272**	P	**P**		**21 48 07.8**	**-0.8**
	comp=Z,6.2nm,0.8s,baz=112,slow=8.0,SNR=22							
WRA				PcP	**PcP**		**21 49 51.8**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=83,slow=2.8,SNR=4.5							
	comp=Z,6.2nm,0.8s							
FORT	**Forrest**	**46.35**	**255**	P	**P**		**21 48 23.2**	**+0.2**
FORT				IAmb	IAmb		21 48 23.9	
	comp=Z,10nm,1.1s							
VNDA	**Vanda**	**47.77**	**186**	LR	LR		22 05 51.7	
	comp=Z,34nm,19.8s,baz=0.5,slow=33							
KNRA	**Kununurra**	**51.15**	**274**	P	**P**		**21 48 59.3**	**-0.6**
KNRA				IAmb	IAmb		21 49 03.3	
	comp=Z,16nm,1.3s							
FITZ	**Fitzroy Crossi**	**52.77**	**270**	P	**P**		**21 49 12.0**	**0.0**
FITZ	**Fitzroy Crossi**	**52.77**	**270**	LR	LR		22 10 21.0	
	comp=Z,162nm,19.0s,baz=102,slow=35							
CASY	**Casey**	**55.01**	**208**	P	**P**		**21 49 28.2**	**+0.5**
CASY				IAmb	IAmb		21 49 36.6	
	comp=Z,4.9nm,0.9s							
QSPA	**South Pole Qui**	**59.34**	**180**	P	**P**		**21 50 00.3**	**+1.8**
QSPA	**South Pole Qui**	**59.34**	**180**	P	**P**		**21 49 58.1**	**-0.4**
	comp=Z,3.4nm,1.0s,baz=24,slow=3.2,SNR=6.5							
	comp=Z,3.4nm,1.0s							
MAW	**Mawson**	**72.11**	**200**	P	**P**		**21 51 19.6**	**-1.0**
	comp=Z,4.6nm,1.1s,baz=60,slow=8.8,SNR=4.6							
	comp=Z,4.6nm,1.1s							
TROLL	**Troll, Antarti**	**77.50**	**180**	⇑P	**P**		**21 51 49.7**	**-2.3**
	comp=Z,179nm,0.9s							
SNAA	**Sanae**	**77.77**	**178**	⇑P	**P**		**21 51 52.7**	**-0.7**
	comp=Z,40nm,1.0s							
SNAA	**Sanae**	**77.77**	**178**	P	**P**		**21 51 52.5**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=166,slow=14,SNR=4.4							
	comp=Z,1.5nm,0.9s							
MJAR	**Matsushiro Arr**	**78.78**	**325**	P	**P**		**21 51 58.4**	**-0.8**
	comp=Z,2.1nm,1.0s,baz=162,slow=6.2,SNR=4.7							
	comp=Z,2.1nm,1.0s							
KSRS	**Korea Array**	**84.90**	**319**	P	**P**		**21 52 31.1**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=142,slow=5.7,SNR=5.8							
	comp=Z,1.3nm,0.9s							
KSAR	**Wonju Array Be**	**84.91**	**319**	P	**P**		**21 52 31.1**	**-0.4**
PETK	**Petropavlovsk-**	**86.28**	**345**	P	**P**		**21 52 38.9**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=170,slow=5.4,SNR=6.1							
	comp=Z,1.2nm,0.5s							
USRK	**Ussuriysk Ar.**	**87.70**	**326**	P	**P**		**21 52 46.1**	**+1.1**
	comp=Z,2.8nm,0.8s,baz=140,slow=15,SNR=4.6							
	comp=Z,2.8nm,0.8s							
NVAR	**Mina Array Bea**	**88.23**	**42**	P	**P**		**21 52 49.5**	**+1.5**
	comp=Z,1.1nm,0.8s,baz=231,slow=9.6,SNR=6.7							
	comp=Z,1.1nm,0.8s							
ELK	**Elko**	**91.54**	**42**	LR	LR		22 29 16.2	
	comp=Z,49nm,18.8s,baz=266,slow=32							
KURBB	**Kurchatov Arra**	**121.64**	**313**	PKP	**PKPdf**		**21 58 48.8**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=106,slow=1.9,SNR=5.5							
ARTI	**Arti**	**133.74**	**320**	PKP	**PKPdf**		**21 59 11.2**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=141,slow=6.5,SNR=2.0							
FINES	**FINESS Array B**	**145.63**	**340**	PKPbc	**PKPdf**		**21 59 34.0**	**-0.2**
	comp=Z,9.7nm,0.8s,baz=49,slow=3.8,SNR=48							
KBZ	**Khabaz**	**145.66**	**304**	PKPbc	**PKPab**		**21 59 35.2**	**-0.2**
	comp=Z,3.2nm,0.9s,baz=149,slow=3.3,SNR=5.2							
OBN	**Obninsk**	**145.71**	**325**	PKPdf	**PKPab**		**21 59 35.1**	**-0.1**
NB2	**NORSAR Subarra**	**149.18**	**352**	PKP	**PKPbc**		**21 59 44.7**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=14,slow=2.6							
NOA	**NORSAR Array B**	**149.18**	**352**	PKP	**PKPdf**		**21 59 38.1**	**-2.0**
	comp=Z,1.6nm,0.8s,baz=16,slow=4.3,SNR=4.1							
NOA				PKPbc	**PKPbc**		**21 59 44.5**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=20,slow=2.6,SNR=1.1							
ARPR	**Arapgir-MALATY**	**149.61**	**296**	PKPbc	**PKiKP**		**21 59 47.3**	**0.0**
HFS	**Hagfors**	**149.69**	**349**	PKP	**PKPdf**		**21 59 41.2**	**+0.3**
	comp=Z,9.1nm,1.1s,baz=107,slow=8.2,SNR=3.1							
HFS				PKPbc	**PKPbc**		**21 59 45.6**	**+0.1**
	comp=Z,4.9nm,1.0s,baz=71,slow=6.2,SNR=3.1							
GAZ	**Gaziantep**	**150.61**	**292**	PKPdf	**PKPdf**		**21 59 43.4**	**+0.2**
BNN	**Bunyan**	**151.56**	**296**	PKPbc	**PKPbc**		**21 59 50.6**	**-0.3**
AKASG	**Malin Array Be**	**151.84**	**323**	PKPbc	**PKPbc**		**21 59 50.3**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=53,slow=1.7,SNR=5.9							
MMAI	**Mount Meron Ar**	**152.02**	**283**	PKPbc	**PKiKP**		**21 59 52.7**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=110,slow=9.8,SNR=4.3							
BRTR	**Keskin Array B**	**153.14**	**298**	PKPbc	**PKPbc**		**21 59 53.0**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=116,slow=4.3,SNR=4.5							

*IDC **02** 22:12:32.6±1.0,0°.24N×124°.66E,h0km,mb3.6/6, mbtmp3.7/8,ML3.8/2,Error ellipse: s-maj=41.6km s-min=18.8km az=77.0*
*DJA **02** 22:12:40.5±0.7,0°.5±2°×12°.4E±°,h11km±5km,M4.4/1, MLv4.1/15,MLv4.4/1*
ISC 02 22:12:40.9±0.8,**0°.03N**±0°.06×**124°.57E**±0°.06,**h73**km,**n20,** σ1§**25**/23,**mb3.7/6,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.80**	**313**	P	**Pn**		**22 12 57.4**	**+0.2**
KMSI				S	**Sn**		**22 13 08.5**	**-0.7**
LUWI	**Luwuk**	**2.08**	**239**	P	**Pn**		**22 13 13.9**	**+0.1**
LUWI				S	**Sn**		**22 13 38.2**	**-0.7**
SANI	**Sanana**	**2.51**	**145**	P	**Pn**		**22 13 19.4**	**-0.1**
SANI				S	**Sn**		**22 13 45.8**	**-3.3**
MRSI	**Marisa**	**2.66**	**280**	P	**Pn**		**22 13 19.0**	**-2.6**
APSI	**Ampana**	**3.06**	**252**	P	**Pn**		**22 13 27.7**	**+0.7**
NLAI	**Namlea**	**4.12**	**142**	P	**Pn**		**22 13 42.3**	**+0.9**
MPSI	**Mapaga**	**4.68**	**274**	P	**Pn**		**22 13 49.7**	**+0.6**
PCI	**Palu**	**4.82**	**259**	P	**Pn**		**22 13 51.7**	**+0.7**
TTSI	**Tana Toraja**	**5.64**	**237**	P	**Pn**		**22 14 02.5**	**+0.2**
SPSI	**Sidrap Palu**	**6.22**	**230**	P	**Pn**		**22 14 09.7**	**-0.5**
BNSI	**Bone**	**6.26**	**225**	P	**Pn**		**22 14 09.3**	**-1.4**
BKSI	**Bulukumba**	**6.92**	**220**	P	**Pn**		**22 14 19.9**	**+0.1**
KAPI	**Kappang**	**6.94**	**224**	Pn	**Pn**		**22 14 20.0**	**-0.1**
	2.5nm,0.3s,baz=37,slow=5.1,SNR=7.4							
	6.2nm,0.3s							
FITZ	**Fitzroy Crossi**	**18.04**	**177**	P	**Pn**		**22 16 47.6**	**+0.8**
	0.1nm,0.3s,baz=2.3,slow=6.5,SNR=2.7							
	3.1nm,1.0s							
WRA	**Warramunga Arr**	**22.04**	**155**	P	**P**		**22 17 30.5**	**+0.8**
	0.9nm,0.7s,baz=338,slow=11,SNR=8.1							
	0.9nm,0.7s							
ASAR	**Alice Springs**	**25.24**	**160**	P	**P**		**22 18 01.9**	**+1.6**
	0.5nm,0.5s,baz=340,slow=9.0,SNR=7.7							
	0.5nm,0.5s							
MJAR	**Matsushiro Arr**	**38.47**	**18**	P	**P**		**22 19 55.3**	**-0.6**
	0.6nm,0.4s,baz=197,slow=8.0,SNR=4.2							
	0.6nm,0.4s							
MKAR	**Makanchi Array**	**59.42**	**328**	P	**P**		**22 22 37.2**	**+1.2**
	0.2nm,0.4s,baz=131,slow=7.8,SNR=5.0							
	0.2nm,0.4s							
ZALV	**Zalesovo Beam**	**62.94**	**335**	P	**P**		**22 22 58.2**	**-1.4**
	0.9nm,0.7s,baz=125,slow=7.6,SNR=2.5							
	0.9nm,0.7s							
BRTR	**Keskin Array B**	**90.70**	**310**	P	**P**		**22 25 36.8**	**+0.6**
	0.3nm,0.6s,baz=87,slow=5.7,SNR=3.6							
	0.3nm,0.6s							

*TEH **02** 22:20:47.1,27°.19N×54°.89E,h22km±19km*
*DSN **02** 22:20:47.6±1.2,27°.04N×54°.77E,h10km,ML2.4/7,Error ellipse: s-maj=13.4km s-min=9.0km az=5.0*
*OMAN **02** 22:20:49.6±0.3,27°.08N×54°.86E,h23km±4km,ml3.0/18, Error ellipse: s-maj=7.0km s-min=1.9km az=1.0*
ISC 02 22:20:46.8±0.9,**27°.16N**±0°.05×**54°.87E**±0°.03,**h10**km,**n54,** σ1§**12**/74,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.67**	**319**	Pg	**Pg**		**22 20 58.8**	**-1.0**
BNDS	**Bandar-Abbas**	**1.19**	**78**	Pg	**Pb**		**22 21 09.1**	**-0.3**
GENO	**Geno**	**1.19**	**78**	Pg	**Pb**		**22 21 08.9**	**-0.6**
IBND	**Bandar-abas**	**1.52**	**79**	Pg	**Pn**		**22 21 14.3**	**+0.4**
LMD1	**Lamerd**	**1.53**	**277**	Pg	**Pb**		**22 21 15.4**	**+0.2**
SHME	**Shamm**	**1.59**	**134**	P	**Pn**		**22 21 15.2**	**+0.3**
SHME				S	**Sn**		**22 21 34.8**	**-0.7**
SHME	**Shamm**	**1.59**	**134**	P	**Pn**		**22 21 14.6**	**-0.3**
JHRM	**Jahrom**	**1.76**	**320**	Pg	**Pb**		**22 21 18.6**	**-0.6**
QIR1	**Qir**	**2.08**	**309**	Pn	**Pb**		**22 21 23.6**	**-1.0**
MASF	**Masafi**	**2.13**	**147**	P	**Pn**		**22 21 22.8**	**+0.4**
MASF				S	**Sn**		**22 21 50.7**	**+1.7**
MSFE	**Esma-Masafi**	**2.14**	**147**	P	**Pn**		**22 21 22.6**	**0.0**
MDH	**Madha**	**2.26**	**145**	P	**Pn**		**22 21 24.9**	**+0.8**
MDH				P	**Pn**		**22 21 24.9**	**+0.8**
MDH				S	**Sn**		**22 21 53.8**	**+1.7**
NAZ	**Nazwa, Dubai**	**2.28**	**162**	P	**Pn**		**22 21 26.2**	**+1.7**
FAQ	**Al Faqa, Dubai**	**2.49**	**165**	P	**Pn**		**22 21 29.0**	**+1.6**
UOSS	**Minazif**	**2.51**	**151**	P	**Pn**		**22 21 28.6**	**+0.9**
ASUD	**Al Ashush, Dub**	**2.56**	**171**	P	**Pn**		**22 21 30.2**	**+1.9**
ASUD				S	**Sn**		**22 21 57.7**	**-1.8**
AJN	**Ajban**	**2.59**	**178**	P	**Pn**		**22 21 29.7**	**+1.0**
AJN				S	**Sn**		**22 22 02.4**	**+2.1**
HATD	**Hatta, Dubai**	**2.59**	**154**	P	**Pn**		**22 21 30.0**	**+1.3**
HATD				S	**Sn**		**22 22 02.8**	**+2.5**
HATD	**Hatta, Dubai**	**2.59**	**154**	P	**Pn**		**22 21 29.2**	**+0.4**
ASHO	**Ashiyiah**	**2.69**	**156**	P	**Pn**		**22 21 30.6**	**+0.4**
	SNR=5.2							
ASHO				S	**Sn**		**22 22 04.1**	**+1.3**
ASHO	**Ashiyiah**	**2.69**	**156**	P	**Pn**		**22 21 30.4**	**+0.2**
ASHO				S	**Sn**		**22 22 02.7**	**-0.1**
JRN	**Qarnain Island**	**2.86**	**220**	P	**Pn**		**22 21 33.7**	**+1.2**
NGRK	**Negar Kerman**	**2.97**	**33**	Pn	**Pn**		**22 21 35.8**	**+1.5**
JASK	**Jask - Hormozg**	**2.98**	**115**	Pn	**Pn**		**22 21 35.2**	**+1.1**
**JAS

TPRV	Parvadeh(Tabas	6.05	15	Pn	Pn	22 22 17.7	+1.2
SRVN	Saravan	6.71	86	Pn	Pn	22 22 26.8	+1.4
MHTO	MHTO	6.77	155	P	Pn	22 22 26.3	+0.1
	SNR=6.9						
DQM	DQM	7.61	161	P	Pn	22 22 37.1	-0.6
DOK	Doka	8.53	185	P	Pn	22 22 49.4	-1.0
WHFO	Wadi Hawf	9.25	187	P	Pn	22 23 00.2	-0.1
	SNR=25						
ABTO	Aybut	9.87	189	P	Pn	22 23 07.7	-1.1
	SNR=17						

NEIC ***02*** *22:21:07.8±2.0,35°.048N±0°.010×118°.95W±0°.01, h5km±3km, Error ellipse: s-maj=1.7km s-min=1.3km az=135.0*

PAS 02 22:21:08.6±1.8, 35°.051N±0°.008×118°.94W±0°.01, h8km±4km, ML3.4/188, ML2.9/54(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=80.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TJR	Tejon Ranch	0.16	98		Pg	22 21 12.0	0.0
THC	Tehachapi Micr	0.27	122		Pg	22 21 13.8	-0.2
THC					Sg	22 21 17.6	+0.1
TEJ	El Tejon	0.27	49		Pg	22 21 14.2	+0.2
MPI	Mount Pinos, F	0.29	216		Pg	22 21 14.3	-0.2
MPI					Sg	22 21 18.8	+0.3
MAGC	SCE Magundon P	0.31	2		Pg	22 21 15.2	+0.4
MAGC					Sb	22 21 20.5	-1.2
BAKC	Calstate	0.32	335		Sb	22 21 21.7	-0.4
BCW	Bitter Crk WRg	0.41	254	Pg	Pg	22 21 16.6	0.0
BCW				Sg	Sg	22 21 23.1	+1.2
OSI	Osito Audit: C	0.47	158		Sg	22 21 23.7	-0.2
BTPC	Burnt Peak	0.47	141		Pg	22 21 17.5	-0.3
BTPC					Sg	22 21 24.0	-0.1
TPO	Tropico Hills	0.61	106		Pg	22 21 20.1	-0.3
TPO					Sg	22 21 28.3	0.0
ALPC	Antelope	0.64	125		Pg	22 21 20.4	-0.6
ALPC					Sg	22 21 29.1	-0.2
LEOC	Leona Valley	0.67	129		Sg	22 21 29.9	-0.3
CRGC	Crocker Grade	0.67	287		Pg	22 21 21.6	0.0
PDE	Pardee, Santa	0.67	154		Sg	22 21 31.0	+0.6
ISA	Isabella, Lake	0.72	32		Pg	22 21 21.8	-0.7
ISA				Sg	Sg	22 21 31.0	-0.8
ISA				IAML		22 21 31.7	
	comp=N,339nm,0.4s						
ISA				IAML		22 21 32.2	
	comp=E,406nm,0.3s						
PKM	Mcpherson Peak	0.74	258		Pg	22 21 22.2	-0.6
WASM	Alta Sierra Ca	0.75	24		Pg	22 21 22.3	-0.8
OAT	Oat Mountain	0.75	159		Sg	22 21 33.8	+0.8
CCAC	Calif City Air	0.76	82		Pg	22 21 22.9	-0.4
CCAC	Calif City Air	0.76	82	IAML		22 21 37.2	
	comp=E,851nm,0.5s						
CCAC				IAML		22 21 37.8	
	comp=N,721nm,0.3s						
CARC	Carrizo Plain	0.79	289		Pg	22 21 23.3	-0.5
CARC					Sg	22 21 33.7	-0.4
EDW2	Edwards Air Fo	0.79	102		Pg	22 21 23.2	-0.7
EDW2					Sg	22 21 33.7	-0.5
VES	Vestal, Richgr	0.80	351		Pg	22 21 23.0	-0.9
WHFM	Hanning Flat	0.80	37		Pg	22 21 23.4	-0.7
WHFM					Sg	22 21 33.7	-0.8
WBSM	Bird Springs	0.81	53		Pg	22 21 23.8	-0.5
WBSM					Sg	22 21 34.5	-0.4
CJV	Casa Juvan	0.83	128		Pg	22 21 24.0	-0.7
CJV					Sg	22 21 34.7	-0.9
BLCC	Black Canyon	0.83	165		Pg	22 21 24.7	+0.1
BLCC					Sb	22 21 36.6	-0.2
WORM	Onyx Ranch	0.86	41		Pg	22 21 24.4	-0.7
WORM					Sg	22 21 35.5	-0.8
SBC	Santa Barbara	0.88	227		Pg	22 21 25.5	-0.1
SBC					Sg	22 21 37.3	+0.3
SMMC	Simmler	0.91	287		Pg	22 21 25.2	-0.8
SMMC					Sg	22 21 38.0	+0.2
LRRC	Littlerock Res	0.91	125		Pg	22 21 25.3	-0.9
LRRC					Sg	22 21 37.4	-0.7
DTP	Desert Tortois	0.92	76		Pg	22 21 25.5	-0.8
DTP					Sg	22 21 37.9	-0.4
FIGC	Figueroa Mtn.	0.92	250		Pg	22 21 25.8	-0.6
DECC	Green Verdugo	0.94	148		Pg	22 21 26.0	-0.7
DECC					Sb	22 21 39.5	-0.3
SBB	Saddle Back Bu	0.98	111		Pg	22 21 26.7	-0.8
SBB					Sg	22 21 39.2	-1.1
JNH	Juniper Hills	1.01	126		Pg	22 21 27.0	-1.0
JNH					Sg	22 21 40.0	-1.2
DJJ	Donna J Jenkin	1.02	157		Pg	22 21 27.1	-1.1
DJJ					Sg	22 21 41.1	-0.5
DJJ	Donna J Jenkin	1.02	157		Pg	22 21 27.2	-1.1
DJJ					Sg	22 21 41.0	-0.6
CHFC	Chilao Flat St	1.04	133		Pg	22 21 27.2	-1.3
CHFC					Sg	22 21 41.4	-0.7
GR2C	Griffith Obs.	1.07	150		Pg	22 21 28.0	-1.1
GR2C					Sg	22 21 42.3	-0.7
PASC	Pasadena Art C	1.07	145		Pg	22 21 28.0	-1.2
PASC					Sg	22 21 42.0	-1.2
PASC	Pasadena Art C	1.07	145	IAML		22 21 45.7	
	comp=N,423nm,0.3s						
HOLC	Holcomb Ridge	1.08	123		Pg	22 21 28.3	-1.0
HOLC					Sg	22 21 42.4	-0.8
MWC	Mount Wilson	1.10	138		Pg	22 21 28.5	-1.3
MWC					Sg	22 21 42.9	-1.1
LRMC	Laurel Mtn Rad	1.11	67		Pg	22 21 28.6	-1.4
LRMC					Sg	22 21 43.6	-0.9
CRPC	Caltech Rob'n	1.13	144		Sn	22 21 46.0	-0.5
WNMM	Nine Mile Cany	1.16	47		Pg	22 21 29.8	-1.0
TSCN	Private Proper	1.25	293		Pn	22 21 31.1	-1.4
VOG	Valley Oaks Go	1.32	344		Pn	22 21 31.7	-1.7
CGO	Cerro Gordo	1.76	31		Pb	22 21 40.7	-0.7
GSC	Goldstone, Bar	1.76	81		Pn	22 21 38.0	-1.6
GSC				IAML		22 22 14.8	
	comp=N,161nm,0.6s						
ELS	Elsinore Mount	1.88	138		Pn	22 21 39.5	-1.6
ELS				IAML		22 22 08.6	
	comp=N,105nm,0.7s						
PMPB	Monarch Peak	1.91	308		Pn	22 21 40.3	-1.4
QSM	Queen of Sheba	1.92	61		Pn	22 21 40.6	-1.0
QSM				IAML		22 22 13.8	
	comp=E,92nm,0.6s						
QSM				IAML		22 22 15.9	
	comp=N,142nm,0.8s						
BACC	Bachelor Mtn.	2.13	132		Pb	22 21 47.5	0.0
POB	Polly Butte	2.15	129		Pb	22 21 47.6	-0.3
GWY	Greenwater Val	2.17	58		Pn	22 21 43.8	-1.5
GWY				IAML		22 22 23.0	
	comp=N,63nm,0.4s						
GWY				IAML		22 22 30.6	
	comp=E,72nm,0.5s						
BBGB	Big Mountain B	2.29	312		Pn	22 21 45.7	-1.2
EW2	E Wide Canyon	2.36	117		Pn	22 21 46.6	-1.2
DSP	Deep Springs	2.44	18		Pn	22 21 48.8	0.0
DSP				IAML		22 22 25.8	
	comp=N,43nm,0.6s						
DSP				IAML		22 22 28.2	
	comp=E,38nm,0.4s						
PFO	Pinyon Flats O	2.50	124		Pn	22 21 48.1	-1.7
PFO				IAML		22 22 32.7	
	comp=E,36nm,1.2s						
WCT	Wildcat Mounta	2.56	47		Pn	22 21 51.0	+0.5
TPC	Twentynine Pal	2.56	111		Pn	22 21 49.7	-0.9
GMN	Gold Mountain	2.62	31		Pn	22 21 51.1	-0.4
SAO	San Andreas Ge	2.66	311	Pn	Pn	22 21 50.8	-1.1
TPNV	Topopah Spring	2.89	48		Pn	22 21 54.1	-1.0
TPNV				IAML		22 22 45.6	
	comp=E,51nm,1.1s						
TPNV				IAML		22 22 50.8	
	comp=E,47nm,1.0s						
MZP	Montezuma Peak	2.93	25		Pn	22 21 54.4	-1.3
CMB	Columbia Colle	3.20	339		Pn	22 21 58.9	-0.4
CMB				IAML		22 22 53.3	
	comp=E,39nm,0.7s						
CMB				IAML		22 22 56.3	
	comp=N,33nm,0.9s						
CBX	Cerro Bola	3.32	145		Pn	22 21 59.8	-1.3
SHPR	Sheep Range	3.40	64		Pn	22 22 00.4	-1.7
V12A	Nelson	3.41	77		Pn	22 22 00.7	-1.5
V12A				IAML		22 23 09.3	
	comp=N,16nm,0.5s						
NVAR	Mina Array Bea	3.41	8		Pn	22 22 02.3	-0.1
RYN	Ryan	3.58	5		Pn	22 22 04.0	-0.7
RYN				IAML		22 23 02.4	
	comp=E,27nm,0.7s						
RYN				IAML		22 23 04.2	
	comp=N,19nm,0.3s						
GLA	Glamis	3.95	119	Pn	Pn	22 22 08.8	-0.8
GLA				IAML		22 23 24.6	
	comp=N,26nm,1.0s						
W13A	Hualapai Mount	4.14	88		Pn	22 22 11.0	-1.5
W13A				IAML		22 23 21.5	
	comp=N,13nm,0.9s						
W13A				IAML		22 23 31.3	
	comp=E,12nm,0.7s						

NEIC ***02*** *22:21:12.3±0.3,36°.084N±0°.005×97°.46W±0°.01, h4km±2km, mb_Lg2.4/48, ML2.5/32, ML2.6/56, Error ellipse: s-maj=1.2km s-min=0.7km az=103.0*

NEIC 02 22:21:12.3±0.5, 36°.090N±0°.008×97°.46W±0°.01, h4km±2km, Error ellipse: s-maj=1.2km s-min=1.1km az=140.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.29	179		Pg	22 21 18.5	+0.5
OK029				Sg	Sg	22 21 22.7	+0.9
ADOK	Arcadia Dam	0.44	170		Pg	22 21 21.3	+0.5
BCOK	Bluff Creek, N	0.45	196		Pg	22 21 21.4	+0.4
BCOK					Sg	22 21 27.8	+1.0
OK048	Pawnee Station	0.53	52		Pg	22 21 23.0	+0.5
OK048				Sg	Sg	22 21 30.2	+0.8
OK048				IAML		22 21 30.6	
	295nm,0.4s						
OK048				IAML		22 21 32.4	
	369nm,0.3s						
OK052	Battle Ridge R	0.54	100		Pg	22 21 23.2	+0.5
OK052				Sg	Sg	22 21 30.6	+0.9
OK052				IAML		22 21 33.1	
	398nm,0.3s						
OK004	Okla Sci Mus	0.57	181		Pg	22 21 23.4	+0.3
CROK	Carrier	0.59	315		Pg	22 21 24.0	+0.3
CROK				Sg	Sg	22 21 32.2	+0.9
QUOK	Quay	0.61	82		Pg	22 21 24.6	+0.5
QUOK					Sg	22 21 33.2	+1.1
QUOK				IAML		22 21 36.2	
	comp=E,315nm,0.2s						
QUOK				IAML		22 21 37.6	
	comp=N,311nm,0.2s						
OK051	E0350 and S346	0.65	50		Pg	22 21 25.2	+0.3
OK051					Sg	22 21 34.0	+0.7
OK051				IAML		22 21 43.3	
	comp=N,340nm,0.2s						
OK051				IAML		22 21 45.4	
	comp=N,431nm,0.2s						
OKCSW	OKLAHOMA CITY	0.68	178		Pg	22 21 25.6	+0.1
OKCSW				IAML		22 21 41.2	
	comp=E,284nm,0.3s						
OKCSW				IAML		22 21 44.2	
	comp=N,268nm,0.3s						
BLOK	Blackwell	0.70	16		Pg	22 21 26.1	+0.4
BLOK					Sg	22 21 35.5	+0.8
DEOK	Depew	0.82	107		Pg	22 21 28.0	0.0
DEOK					Sg	22 21 39.5	+0.8
DEOK				IAML		22 21 50.1	
	comp=E,166nm,0.2s						
GC02	Grant County #	0.82	337		Pg	22 21 28.2	+0.1
GC02					Sg	22 21 39.4	+0.6
FNO	Franklin	0.83	177		Pg	22 21 28.2	0.0
FNO				IAmb_Lg		22 21 38.8	
	comp=Z,28nm,0.9s						
FNO					Sg	22 21 39.9	+0.9
FNO				IAML		22 21 43.6	
	comp=E,231nm,0.1s						
KAN13	South Haven SW	0.92	359		Pg	22 21 30.0	0.0
KAN13				IAML		22 21 54.7	
	comp=N,288nm,0.3s						
KAN14	Manchester OK	0.95	335		Pg	22 21 30.6	-0.1
KAN14					Sg	22 21 43.6	+0.6
KAN14				IAML		22 21 46.3	
	comp=N,256nm,0.2s						
KAN17	Caldwell West	0.98	346		Pg	22 21 30.9	-0.2
KAN17				IAML		22 21 54.1	
	comp=N,222nm,0.3s						
KAN09	Caldwell North	1.05	353		Pg	22 21 32.4	-0.1
CSTR	Hydro, Custer	1.09	246		Pg	22 21 32.8	-0.4
OK038	West end E0370	1.10	291		Pg	22 21 33.0	-0.5
T35A	Sooner Cattle	1.12	43		Pg	22 21 33.9	0.0
KAN10	Anthony SW Sta	1.15	334		Pg	22 21 34.2	-0.1
KAN10					Sb	22 21 50.0	-0.1
KAN08	Anthony NE Sta	1.21	340		Pg	22 21 35.1	-0.3
KAN08				IAML		22 21 53.9	
	comp=N,140nm,0.1s						
KAN08				IAML		22 21 55.4	
	comp=E,183nm,0.1s						
TUL3	Leonard	1.37	97		Pn	22 21 37.3	-0.8
X34A	Smith Ranch, M	1.52	192		Pb	22 21 40.8	-0.2
WMOK	Wichita Mounta	1.73	219		Pn	22 21 43.2	+0.1
RLO	Rose Lookout	1.98	87		Pn	22 21 47.2	+0.7
WTFS	Witchita Falls	2.46	200		Pn	22 21 54.2	+1.0
SMWD	Samnorwood	2.47	247		Pn	22 21 54.4	+1.0
U38A	Gravette	2.51	81		Pn	22 21 54.5	+0.5
HHAR	Hobbs	2.85	85		Pn	22 21 58.7	+0.1
PLPT	Palo Pinto	3.34	192	Pn	Pn	22 22 05.7	+0.3
MIAR	Mount Ida	3.53	115		Pn	22 22 09.4	+1.5
MIAR				IAmb_Lg		22 23 11.0	
	comp=Z,12nm,0.9s						
AMTX	Amarillo	3.65	252	IAmb_Lg		22 23 13.2	
	comp=Z,10.0nm,0.8s						
FW14	Alvarado	3.69	176	IAmb_Lg		22 23 13.6	
	comp=Z,12nm,0.7s						
DKNS	Dickens	3.73	231	IAmb_Lg		22 23 21.1	
	comp=Z,6.0nm,0.7s						
ABTX	Abilene, Hawle	3.90	208	IAmb_Lg		22 23 18.0	
	comp=Z,5.7nm,0.7s						
X40A	Basin Creek Fa	4.11	112		Pn	22 22 16.2	+0.4
SN07	Snyder 07	4.12	224	IAmb_Lg		22 23 28.7	
	comp=Z,7.7nm,0.9s						
SN05	Snyder 5	4.27	222	IAmb_Lg		22 23 29.1	
	comp=Z,8.5nm,0.7s						
RTBA	Rita Blanca	4.28	276	IAmb_Lg		22 23 38.0	
	comp=Z,8.3nm,1.0s						
WHAR	Wooly Hollow	4.29	99		Pn	22 22 18.7	+0.4
WHAR				IAmb_Lg		22 23 38.1	
	comp=Z,7.1nm,0.9s						
MGMO	Mountain Grove	4.31	74	IAmb_Lg		22 23 34.9	
	comp=Z,10nm,0.7s						
FCAR	Ozark Folk Cen	4.33	91		Pn	22 22 19.4	+0.5
FCAR				IAmb_Lg		22 23 38.3	
	comp=Z,5.2nm,0.8s						
POST	Post	4.50	229	IAmb_Lg		22 23 46.1	
	comp=Z,9.1nm,1.1s						
P38A	Dawn	4.70	40	IAmb_Lg		22 23 43.9	
	comp=Z,6.4nm,0.8s						
LCAR	Lake Charles	5.11	88	IAmb_Lg		22 23 52.5	
	comp=Z,4.6nm,1.1s						
SGCY	Sterling City	5.16	217	IAmb_Lg		22 24 06.1	
	comp=Z,11nm,0.9s						
CCM	Cathedral Cave	5.34	67	IAmb_Lg		22 24 05.6	
	comp=Z,7.5nm,0.8s						
T25A	Trinidad	5.69	283	IAmb_Lg		22 24 18.4	
	comp=Z,4.2nm,0.9s						
FVM	French Village	5.94	69	IAmb_Lg		22 24 23.4	
	comp=Z,9.9nm,0.7s						
OZNA	Ozona	5.99	212	IAmb_Lg		22 24 28.6	
	comp=Z,5.2nm,0.8s						
CGM3	Cape Girardeau	6.38	77	IAmb_Lg		22 24 37.5	
	comp=Z,7.8nm,0.8s						
MNHN	Monahans	6.47	224	IAmb_Lg		22 24 44.0	
	comp=Z,4.9nm,0.9s						
SAND	Sanderson	7.26	214	IAmb_Lg		22 25 02.7	
	comp=Z,3.7nm,0.8s						
ALPN	Alpine	7.70	224	IAmb_Lg		22 25 32.5	
	comp=Z,2.6nm,0.9s						

IDC 02 22:25:34.5±2.1, 30°.91S×177°.52W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=62.3km s-min=39.9km az=49.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.49	267	P	P	22 33 40.8	+0.9
	0.2nm,0.3s,baz=107,slow=7.4,SNR=1.5						
	0.2nm,0.3s						
WRA	Warramunga Arr	44.53	272	P	P	22 33 47.0	-1.1
	0.5nm,0.9s,baz=112,slow=8.3,SNR=2.3						
	0.5nm,0.9s						
QSPA	South Pole Qui	59.20	180	P	P	22 35 37.2	-0.1
	0.6nm,0.7s,baz=45,slow=1.4,SNR=6.3						
	0.6nm,0.7s						
FINES	FINESS Array B	145.76	340	PKPbc	PKPdf	22 45 13.9	-0.4
	5.6nm,1.1s,baz=66,slow=2.3,SNR=6.5						

IDC 02 22:30:39.1±1.2, 10°.54S×110°.69E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=81.5km s-min=25.8km az=60.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	25.68	124	P	P	22 36 11.1	0.0
	0.4nm,0.7s,baz=300,slow=8.9,SNR=4.7						
	0.4nm,0.7s						
MKAR	Makanchi Array	62.47	338	P	P	22 41 04.3	0.0
	0.3nm,0.6s,baz=131,slow=7.2,SNR=4.2						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	67.04	338	P	P	22 41 33.9	-0.1
	0.4nm,0.5s,baz=154,slow=5.3,SNR=4.8						
	0.4nm,0.5s						
VNDA	Vanda	71.85	170	P	P	22 42 03.4	0.0
	0.8nm,0.8s,baz=286,slow=5.5,SNR=5.4						
	0.8nm,0.8s						

NEIC ***02*** *22:40:55.7±1.3,35°.050N±0°.005×118°.93W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.6km az=283.0*

PAS 02 22:40:56.4±1.5, 35°.050N±0°.010×118°.94W±0°.01, h9km±7km, ML3.4/172, ML3.2/58(NEIC), Error ellipse: s-maj=1.5km s-min=1.5km az=82.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARVC	Arvin	0.12	49		Pg	22 40 59.6	+0.6
ARVC					Sg	22 41 02.1	+1.2
MAGC	SCE Magundon P	0.31	2		Pg	22 41 02.9	+0.4
BAKC	Calstate	0.32	335		Pg	22 41 03.4	+0.6
BAKC					Sb	22 41 09.0	-0.8
BCW	Bitter Crk WRg	0.41	254	Pg	Pg	22 41 04.5	+0.1
BCW				Sg	Sb	22 41 11.1	-1.1
OSI	Osito Audit: C	0.47	158		Pg	22 41 05.2	-0.3
OSI					Sg	22 41 11.4	-0.2
TPO	Tropico Hills	0.61	106		Pg	22 41 07.8	-0.3
TPO					Sg	22 41 16.2	+0.1
ALPC	Antelope	0.64	125		Pg	22 41 08.3	-0.3
LEOC	Leona Valley	0.67	129		Sg	22 41 17.8	-0.2
PDE	Pardee, Santa	0.67	154		Sg	22 41 18.7	+0.6
CRGC	Crocker Grade	0.67	287		Pg	22 41 09.4	0.0
CRGC					Sb	22 41 19.2	-0.7
ISA	Isabella, Lake	0.72	32		Pg	22 41 09.5	-0.8
ISA				Sg	Sg	22 41 19.2	-0.4
PKM	Mcpherson Peak	0.74	258		Pg	22 41 10.1	-0.6
PKM					Sb	22 41 21.2	-0.6
OAT	Oat Mountain	0.75	159		Pg	22 41 11.0	+0.1
OAT					Sg	22 41 21.4	+0.7
WASM	Alta Sierra Ca	0.75	24		Pg	22 41 10.1	-0.8
WASM					Sg	22 41 20.1	-0.7
CCAC	Calif City Air	0.76	82	Pg	Pg	22 41 10.4	-0.6
CCAC				Sg	Sg	22 41 21.1	+0.2
CCAC				IAML		22 41 24.9	
	comp=N,1μm,0.4s						
CCAC				IAML		22 41 24.9	
	comp=E,1μm,0.5s						
CARC	Carrizo Plain	0.79	289		Pg	22 41 11.2	-0.3
CARC					Sg	22 41 22.1	+0.2
EDW2	Edwards Air Fo	0.79	102		Pg	22 41 10.9	-0.7
EDW2					Sg	22 41 21.4	-0.5
VES	Vestal, Richgr	0.80	351		Pg	22 41 10.7	-1.0
VES					Sg	22 41 21.7	-0.5
WHFM	Hanning Flat	0.80	36		Pg	22 41 11.1	-0.8
WHFM					Sg	22 41 21.9	-0.4
WBSM	Bird Springs	0.81	53		Pg	22 41 11.5	-0.6
BLCC	Black Canyon	0.83	165		Pg	22 41 12.4	0.0
BLCC					Sb	22 41 24.2	-0.2
CJV	Casa Juvan	0.83	128		Pg	22 41 11.7	-0.7
CJV					Sg	22 41 22.4	-0.9
WORM	Onyx Ranch	0.86	41		Pg	22 41 12.1	-0.8
WORM					Sg	22 41 23.0	-1.1
SBC	Santa Barbara	0.88	227		Pg	22 41 13.0	-0.3
SMMC	Simmler	0.91	287		Pg	22 41 13.0	-0.8
LRRC	Littlerock Res	0.91	125		Pg	22 41 13.0	-0.9
DTP	Desert Tortois	0.92	76		Pg	22 41 13.3	-0.8
DTP					Sg	22 41 25.6	-0.5
FIGC	Figueroa Mtn.	0.92	250		Pg	22 41 13.7	-0.4
DECC	Green Verdugo	0.94	148		Pg	22 41 13.6	-0.8
DECC					Sg	22 41 25.7	-0.8
SBB	Saddle Back Bu	0.98	111		Pg	22 41 14.4	-0.8
SBB					Sg	22 41 26.7	-1.3
HLLC	North Hollywoo	0.99	151		Sb	22 41 28.9	0.0
JNH	Juniper Hills	1.01	126		Pg	22 41 14.7	-1.0
JNH					Sg	22 41 27.7	-1.2
DJJ	Donna J Jenkin	1.02	157		Pg	22 41 14.9	-1.1
DJJ					Sg	22 41 28.8	-0.5
PASC	Pasadena Art C	1.07	145	Pg	Pg	22 41 15.8	-1.2
PASC				Sg	Sg	22 41 29.9	-1.0
PASC				IAML		22 41 33.4	
	comp=N,509nm,0.3s						
HOLC	Holcomb Ridge	1.07	123		Pg	22 41 16.0	-1.0
MWC	Mount Wilson	1.10	138		Pg	22 41 16.3	-1.2
LRMC	Laurel Mtn Rad	1.11	67		Pg	22 41 16.8	-1.0
LRMC					Sg	22 41 31.0	-1.2
VOG	Valley Oaks Go	1.32	344		Pn	22 41 19.5	-1.5
CGO	Cerro Gordo	1.76	31		Pb	22 41 28.4	-0.6
GSC	Goldstone, Bar	1.76	81		Pn	22 41 26.1	-1.1
GSC				IAML		22 42 02.5	
	comp=N,254nm,0.6s						
ELS	Elsinore Mount	1.88	138		Pn	22 41 27.2	-1.5
ELS				IAML		22 41 56.3	
	comp=N,170nm,0.7s						
PMPB	Monarch Peak	1.91	308		Pn	22 41 27.4	-1.8
PMPB				IAML		22 41 58.0	
	comp=N,256nm,0.9s						
PMPB				IAML		22 42 02.6	
	comp=E,248nm,0.6s						
QSM	Queen of Sheba	1.92	61		Pn	22 41 28.2	-1.1
QSM				IAML		22 42 01.5	
	comp=E,196nm,0.6s						
QSM				IAML		22 42 03.6	
	comp=N,224nm,0.8s						
TIN	Tinemaha, Big	2.08	16		Pb	22 41 33.9	-0.4
PCCM	Crazy Canyon	2.09	300		Pn	22 41 30.4	-1.2
POB	Polly Butte	2.15	129		Pb	22 41 35.3	-0.2
GWY	Greenwater Val	2.17	58		Pn	22 41 31.5	-1.4
GWY				IAML		22 42 14.9	
	comp=N,86nm,0.4s						
GWY				IAML		22 42 16.6	
	comp=E,94nm,0.8s						
BHPR	Bishop	2.27	9		Pb	22 41 36.4	-1.4
BBGB	Big Mountain B	2.29	312		Pn	22 41 33.8	-0.7
BLAC	Blackrock camp	2.32	114		Pn	22 41 33.7	-1.2
PFO	Pinyon Flats O	2.50	124		Pn	22 41 36.3	-1.1
WCT	Wildcat Mounta	2.56	46		Pn	22 41 37.5	-0.6

comp=N,48nm,1.2s
WAKR IAML 22 42 49.4
comp=E,52nm,0.7s
BLYC Blythe 3.87 108 Pn 22 41 54.4 -1.7
BLYC IAML 22 43 02.8
comp=E,47nm,0.5s
ESJX Sierra Juarez 3.93 140 Pn Pn 22 41 55.4 -1.7
GLA Glamis 3.95 119 Pn Pn 22 41 56.1 -1.1
GLA IAML 22 43 10.9
comp=N,44nm,0.7s
GLA IAML 22 43 16.6
comp=E,48nm,0.9s
W13A Hualapai Mount 4.14 88 Pn 22 41 58.1 -1.9
W13A IAML 22 43 09.1
comp=N,19nm,0.8s
W13A IAML 22 43 19.0
comp=E,23nm,0.8s
BEKR Beckworth 4.94 347 Pn 22 42 11.4 +0.5
BEKR IAML 22 43 34.5
comp=N,15nm,0.8s
Y14A Wickenburg 5.02 101 Pn 22 42 10.9 -1.1
Y14A IAML 22 43 48.2
comp=E,14nm,0.8s
Y14A IAML 22 43 50.4
comp=N,18nm,1.5s

IDC 02 22:57:11.8±2.3, 55°29S×28°48W, h0km, mb3.6/4, mbtmp3.7/5, ML4.2/1, Error ellipse: s-maj=109.9km s-min=21.5km az=64.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.73 156**		P	P	23 01 41.9	-0.9
	0.7nm,0.3s,baz=308,slow=11,SNR=22 2.2nm,0.4s						
QSPA	**South Pole Qui**	**34.96 180**		P	P	23 04 05.1	-0.2
	1.9nm,1.2s,baz=208,slow=3.3,SNR=8.5 1.9nm,1.2s						
CPUP	**Villa Florida**	**35.76 312**		P	P	23 04 11.8	-0.5
	0.3nm,0.5s,baz=137,slow=3.1,SNR=2.0 0.3nm,0.5s						
VNDA	**Vanda**	**47.29 183**		P	P	23 05 46.7	+0.4
	0.4nm,0.6s,baz=182,slow=5.9,SNR=8.1 0.4nm,0.6s						
LPAZ	**La Paz**	**49.34 306**		P	P	23 06 03.1	-0.4
	1.1nm,0.7s,baz=153,slow=2.3,SNR=4.5 1.1nm,0.7s						
ILAR	**Eielson Array**	**149.06 313**		PKPbc	PKPbc	23 17 00.3	-0.1
	2.5nm,0.6s,baz=122,slow=1.7,SNR=22						

*IDC **02** 22:59:52.8±0.9, 55°48S×129°46W, h0km, mb3.7/6, mbtmp3.7/6, MS3.8/20, Error ellipse: s-maj=42.0km s-min=27.2km az=146.0*

ISC 02 22:59:54.5±0.9, 55°5S±0°2×129°5W±0°2, h10km, n36, σ1§19/8, mb3.8/6, MS3.9/20, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**32.04 202**		LR	LR	23 16 04.7	
	comp=Z,59nm,19.9s,baz=86,slow=30						
PMSA	**Palmer Station**	**32.38 133**		LR	LR	23 16 06.9	
	comp=Z,99nm,21.8s,baz=260,slow=30						
USHA	**Ushuaia**	**33.88 115**		LR	LR	23 16 14.8	
	comp=Z,193nm,21.9s,baz=159,slow=29						
QSPA	**South Pole Qui**	**34.67 180**		P	**P**	**23 06 43.8**	**-0.1**
	1.2nm,0.9s,baz=98,slow=4.4,SNR=6.3						
QSPA				LR	LR	23 19 31.2	
	comp=Z,191nm,18.1s,baz=76,slow=34 1.2nm,0.9s						
RPZ	**Rata Peaks**	**39.12 262**		LR	LR	23 20 35.0	
	comp=Z,275nm,20.7s,baz=146,slow=32						
URZ	**Urewera**	**39.29 273**		LR	LR	23 20 05.2	
	comp=Z,200nm,18.8s,baz=118,slow=31						
H03S2	**Juan Fernandez**	**40.81 79**		T	T	23 50 09.6	
	baz=220,slow=74,SNR=48						
H03S1	**Juan Fernandez**	**40.82 79**		T	T	23 50 10.9	
	baz=220,slow=74,SNR=38						
H03S3	**Juan Fernandez**	**40.83 79**		T	T	23 50 10.1	
	baz=220,slow=74,SNR=41						
H03N3	**Juan Fernandez**	**41.10 79**		T	T	23 50 28.5	
	baz=223,slow=72,SNR=73						
H03N2	**Juan Fernandez**	**41.11 79**		T	T	23 50 25.8	
	baz=223,slow=72,SNR=64						
H03N1	**Juan Fernandez**	**41.12 79**		T	T	23 50 27.7	
	baz=223,slow=72,SNR=105						
SNAA	**Sanae**	**47.72 160**		LR	LR	23 27 58.3	
	comp=Z,141nm,19.0s,baz=252,slow=35						
MAW	**Mawson**	**56.86 186**		LR	LR	23 33 31.2	
	comp=Z,53nm,18.2s,baz=146,slow=36						
CPUP	**Villa Florida**	**58.70 92**		LR	LR	23 31 38.4	
	comp=Z,21nm,18.6s,baz=87,slow=32						
LPAZ	**La Paz**	**75.57 75**		P	**P**	**23 10 06.3**	**+0.6**
	0.6nm,0.6s,baz=238,slow=9.5,SNR=3.6						
LPAZ				LR	LR	23 29 46.4	
	comp=Z,37nm,18.1s,baz=253,slow=30 0.6nm,0.6s						
ATAH	**Atahualpa**	**62.85 60**		LR	LR	23 30 34.7	
	comp=Z,77nm,19.6s,baz=217,slow=29						
STKA	**Stephens Creek**	**63.83 251**		P	**P**	**23 10 27.2**	**+0.5**
	0.7nm,0.4s,baz=85,slow=3.9,SNR=2.8						
STKA				LR	LR	23 34 41.0	
	comp=Z,53nm,18.2s,baz=201,slow=33 0.7nm,0.4s						
ASAR	**Alice Springs**	**74.46 251**		P	**P**	**23 11 33.6**	**+0.8**
	0.3nm,0.6s,baz=143,slow=6.4,SNR=4.6						
ASAR				LR	LR	23 39 28.4	
	comp=Z,39nm,19.7s,baz=142,slow=32 0.3nm,0.6s						
ROSC	**El Rosal**	**75.22 58**		LR	LR	23 38 02.0	
	comp=Z,82nm,19.2s,baz=75,slow=30						
WRA	**Warramunga Arr**	**77.23 254**		P	**P**	**23 11 48.4**	**-0.4**
	0.4nm,0.6s,baz=142,slow=5.4,SNR=5.1 0.4nm,0.6s						
PCRV	**Puerto La Cruz**	**84.61 63**		LR	LR	23 45 47.8	
	comp=Z,64nm,19.7s,slow=33						
MDP	**Montagnes des**	**86.75 76**		LR	LR	23 47 14.8	
	comp=Z,34nm,19.9s,baz=188,slow=33						
TXAR	**Lajitas Array**	**87.34 22**		P	**P**	**23 12 42.1**	**+0.8**
	0.3nm,0.7s,baz=186,slow=5.1,SNR=2.6 0.3nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**91.22 302**		T	T	00 54 53.1	
	baz=148,slow=76,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**91.23 302**		T	T	00 54 53.1	
	baz=148,slow=76,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	**91.23 302**		T	T	00 54 53.1	
	baz=148,slow=76,SNR=7.6						
H11N3	**WAKE ISLAND Hy**	**92.17 302**		T	T	00 56 00.9	
	baz=148,slow=76,SNR=6.0						
H11N1	**WAKE ISLAND Hy**	**92.17 302**		T	T	00 56 00.6	
	baz=148,slow=76,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**92.18 302**		T	T	00 55 56.0	
	baz=148,slow=76,SNR=5.3						
BOSA	**Boshof**	**93.47 158**		LR	LR	23 51 24.6	
	comp=Z,45nm,18.8s,baz=194,slow=33						
ELK	**Elko**	**96.64 11**		LR	LR	23 48 04.3	
	comp=Z,68nm,18.6s,baz=258,slow=30						
LBTB	**Lobatse**	**97.02 157**		LR	LR	23 53 09.8	
	comp=Z,51nm,18.6s,baz=180,slow=33						
PDAR	**Pinedale Array**	**99.35 15**		LR	LR	23 49 51.3	
	comp=Z,37nm,19.8s,baz=290,slow=30						
ILAR	**Eielson Array**	**120.69 351**		PKP	**PKPdf**	**23 18 43.3**	**-1.6**
	0.3nm,0.5s,baz=198,slow=2.6,SNR=2.1						
SCHQ	**Schefferville**	**121.30 37**		PKP	**PKPdf**	**23 18 44.9**	**-1.6**
	5.1nm,0.9s,baz=182,slow=5.7,SNR=3.8						

*IDC **02** 23:32:05.8±0.9, 13°21N×125°40E, h0km, mb4.0/9, mbtmp4.0/9, MS3.3/6, Error ellipse: s-maj=44.2km s-min=15.5km az=67.0*

ISC 02 23:32:09.8±0.9, 13°2N±0°2×125°4E±0°3, h28km, n14, σ0§99/9, mb3.9/9, MS3.4/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**23.34 184**		LR	LR	23 47 43.6	
	comp=Z,174nm,19.4s,baz=217,slow=40						
KSRS	**Korea Array**	**24.24 5**		P	**P**	**23 37 23.4**	**-1.0**
	1.2nm,0.7s,baz=192,slow=13,SNR=8.1 1.2nm,0.7s						
MJAR	**Matsushiro Arr**	**25.91 24**		LR	LR	23 47 58.2	
	comp=Z,19nm,18.6s,baz=182,slow=37						
CMAR	**Chiang Mai Arr**	**25.99 285**		P	**P**	**23 37 39.4**	**-1.2**
	1.1nm,0.3s,baz=99,slow=7.7,SNR=7.7						
CMAR				LR	LR	23 48 22.2	
	comp=Z,20nm,18.6s,baz=205,slow=38 1.1nm,0.3s						
PSI	**Prapat**	**28.17 251**		LR	LR	23 49 58.3	
	comp=Z,222nm,18.5s,baz=298,slow=38						
WRA	**Warramunga Arr**	**34.10 165**		P	**P**	**23 38 51.6**	**-0.7**
	0.8nm,0.8s,baz=339,slow=9.2,SNR=5.0 0.8nm,0.8s						
ASAR	**Alice Springs**	**37.58 167**		P	**P**	**23 39 22.2**	**+0.1**
	1.3nm,0.7s,baz=350,slow=6.8,SNR=17 1.3nm,0.7s						
SONM	**Songino Array**	**37.99 339**		P	**P**	**23 39 25.1**	**-0.4**
	1.0nm,0.5s,baz=142,slow=7.3,SNR=2.4 1.0nm,0.5s						
STKA	**Stephens Creek**	**47.44 161**		P	**P**	**23 40 42.5**	**+0.4**
	4.1nm,0.7s,baz=336,slow=8.5,SNR=9.4 4.1nm,0.7s						
MKAR	**Makanchi Array**	**49.21 322**		P	**P**	**23 40 55.9**	**+0.2**
	1.0nm,0.8s,baz=114,slow=9.1,SNR=10 1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**53.20 324**		P	**P**	**23 41 25.8**	**+0.2**
	2.7nm,0.8s,baz=121,slow=7.5,SNR=18 2.7nm,0.8s						
BVAR	**Borovoye Array**	**58.79 325**		P	**P**	**23 42 07.1**	**+1.6**
	1.3nm,0.7s,baz=107,slow=9.8,SNR=6.3 1.3nm,0.7s						
HFS	**Hagfors**	**89.07 332**		LR	LR	00 29 36.2	
	comp=Z,27nm,19.3s,baz=325,slow=39						
NOA	**NORSAR Array B**	**89.77 334**		LR	LR	00 30 39.8	
	comp=Z,8.7nm,18.9s,baz=320,slow=39						

*IDC **02** 23:42:46.0±5.8, 7°86S×128°46E, h216km±61km, mb3.2/2, mbtmp3.7/6, Error ellipse: s-maj=61.6km s-min=21.6km az=46.0*

ISC 02 23:42:44.9±1.4, 7°92S±0°10×128°6E±0°1, h200km, n6, σ2§32/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.39 245**		P	**Pn**	**23 44 05.8**	**+1.3**
	27nm,0.4s,baz=105,slow=20,SNR=2.1						
BATI				S	**Sn**	**23 45 06.2**	**-1.0**
	29nm,0.3s,baz=79,slow=22,SNR=5.8						
FITZ	**Fitzroy Crossi**	**10.53 196**		P	**Pn**	**23 45 11.8**	**+0.8**
	1.7nm,0.5s,baz=35,slow=12,SNR=7.4						
FITZ				S	**Sn**	**23 47 08.8**	**+0.3**
	4.6nm,0.3s,baz=0.0,slow=18,SNR=7.4						
WRA	**Warramunga Arr**	**13.18 156**		P	**Pn**	**23 45 46.8**	**+2.1**
	0.9nm,0.4s,baz=342,slow=13,SNR=15						
WRA				S	**S**	**23 48 09.3**	**-2.4**
	2.2nm,0.4s,baz=329,slow=22,SNR=11						
ASAR	**Alice Springs**	**16.46 163**		P	**P**	**23 46 26.0**	**+2.0**
	0.1nm,0.3s,baz=336,slow=10,SNR=25						
ASAR				S	**S**	**23 49 22.2**	**-4.0**
	0.4nm,0.7s,baz=338,slow=22,SNR=4.2						
MKAR	**Makanchi Array**	**68.25 328**		P	**P**	**23 53 22.6**	**-1.6**
	0.4nm,0.6s,baz=127,slow=7.8,SNR=4.7 0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**72.58 329**		P	**P**	**23 53 49.0**	**-1.2**
	0.6nm,0.7s,baz=129,slow=4.7,SNR=6.6 0.6nm,0.7s						

IDC 03 00:40:27.9±269.0, 19°62N×157°27W, h0km, Error ellipse: s-maj=98.5km s-min=29.3km az=91.0, Hawaiian Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I59US	**HAWAII INFRASO**	**1.30 91**		I	I	00 48 10.0	
	baz=272,slow=317,SNR=2.3						
I58US	**Midway Islands**	**20.26 299**		I	I	02 43 40.0	
	baz=105,slow=314,SNR=1.0						
I60US	**Wake Island**	**34.02 276**		I	I	04 07 30.0	
	baz=82,slow=309,SNR=1.1						

*IDC **03** 00:55:09.5±1.6, 15°75N×90°89W, h0km, mb4.0/11, mbtmp4.0/14, ML3.7/3, MS3.5/15, Error ellipse: s-maj=42.9km s-min=20.4km az=27.0*
*NEIC **03** 00:55:09.8±1.6, 15°57N±0°06×90°9W±0°2, h10km±2km, mb4.5/149, Error ellipse: s-maj=37.5km s-min=5.8km az=256.0*
*CATAC **03** 00:55:10.5±0.5, 16°N±3°×91°W±°, h1km, M4.5/12, MLv4.5/12, Error ellipse: s-maj=7.3km s-min=4.3km az=148.1, confirmed*
*SNET **03** 00:55:10.2±1.1, 15°86N×91°40W, h22km±23km, ML4.3*
*GCG **03** 00:55:11.5±1.9, 15°69N×91°07W, h16km±13km, MD4.9, ML4.4*

ISC 03 00:55:09.7±1.1, 15°72N±0°03×91°00W±0°03, h5km±8km, n180, σ1§10/145, mb4.5/52, MS3.5/16, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUEH	**Huehuetenango**	**0.63 231**			**Pg**	**00 55 21.0**	**-0.9**
HUEH	**Huehuetenango**	**0.63 231**		*eP*	**Pg**	**00 55 21.4**	**-0.5**
HUEH				IAML		00 55 42.2	
	comp=Z,19μm,0.8s						
HUEH	**Huehuetenango**	**0.63 231**		*eP*	**Pg**	**00 55 21.5**	**-0.4**
HUEH				*i* S	**Sg**	**00 55 30.2**	**+0.1**
HUEH				IAML		00 55 41.3	
	comp=E,60μm,1.0s						
HUEH	**Huehuetenango**	**0.63 231**		P	**Pg**	**00 55 21.6**	**-0.3**
HUEH				S	**Sg**	**00 55 30.3**	**+0.1**
SOKI	**Kika Raxquin**	**0.98 204**		*i* P	**Pg**	**00 55 28.5**	**0.0**
SOKI				*eS*	**Sn**	**00 55 44.3**	**-0.5**
SOKI				IAML		00 56 01.2	
	comp=N,12μm,1.2s						
CCIG	**Comitan**	**1.23 297**			**Pn**	**00 55 33.8**	**+0.1**
CCIG	**Comitan**	**1.23 297**		*eP*	**Pn**	**00 55 34.2**	**+0.5**
CCIG				IAML		00 55 56.2	
	comp=E,6μm,0.8s						
STG0	**El Palmar, Qui**	**1.33 195**		*eP*	**Pn**	**00 55 31.7**	**-3.4**
STG0				IAML		00 55 58.1	
	comp=N,4μm,0.4s						
ESSG	**Sabana Grande**	**1.34 173**		*eP*	**Pn**	**00 55 35.0**	**-0.2**
ESSG				*i* S	**Sn**	**00 55 53.8**	**+0.5**
ESSG				IAML		00 56 02.6	
	comp=N,3μm,1.1s						
SMCA	**Catarina**	**1.35 231**		*eP*	**Pn**	**00 55 34.6**	**-0.6**
SMCA				IAML		00 56 14.8	
	comp=Z,4μm,1.6s						
RTAL	**Retalhuleu**	**1.37 210**			**Pn**	**00 55 35.4**	**0.0**
RTAL	**Retalhuleu**	**1.37 210**		P	**Pg**	**00 55 36.0**	**+0.1**
RTAL	**Retalhuleu**	**1.37 210**		S	**Sn**	**00 55 54.7**	**+0.7**
THIG		**1.47 237**		*eP*	**Pb**	**00 55 37.2**	**-0.3**
THIG				IAML		00 56 06.5	
	comp=E,10μm,1.2s						
FG8	**Yepocapa, Chim**	**1.51 164**		*eP*	**Pn**	**00 55 33.6**	**-4.0**
FG16	**Alotenango, Sa**	**1.52 162**		*eP*	**Pn**	**00 55 33.6**	**-4.1**
PETF	**Flores**	**1.61 42**		Pn	**Pb**	**00 55 38.9**	**-1.0**
PETF	**Flores**	**1.61 42**		*eP*	**Pg**	**00 55 39.7**	**-0.9**
PETF				IAML		00 56 04.2	
	comp=Z,3μm,0.2s						
PETF	**Flores**	**1.61 42**		*eP*	**Pg**	**00 55 39.7**	**-0.9**
PETF				*i* S	**Sg**	**00 56 02.0**	**+0.6**
PETF				IAML		00 56 07.3	
	comp=E,10μm,0.5s						
PETF	**Flores**	**1.61 42**		P	**Pg**	**00 55 40.3**	**-0.3**
ESQI	**Esquipulas**	**1.97 126**			**Pn**	**00 55 42.0**	**-1.9**
ESQI	**Esquipulas**	**1.97 126**		*eS*	**Sg**	**00 56 17.5**	**+4.4**
ESQI	**Esquipulas**	**1.97 126**		P	**Pb**	**00 55 45.5**	**-0.7**
MTO3	**Montecristo**	**2.06 130**		Pn	**Pn**	**00 55 42.5**	**-2.6**
MTO3	**Montecristo**	**2.06 130**		P	**Pn**	**00 55 46.4**	**+1.3**
FAME	**Alcaldia de Sa**	**2.10 153**		P	**Pb**	**00 55 47.8**	**-0.4**
NUBE	**Las Nubes**	**2.16 147**		P	**Pb**	**00 55 48.3**	**-1.0**
TGIG		**2.30 298**		*eP*	**Pn**	**00 55 49.3**	**+1.0**
TGIG				IAML		00 56 25.5	
	comp=N,2μm,0.9s						
CEVE	**Cerro Verde**	**2.30 145**		*eP*	**Pb**	**00 55 52.2**	**+0.3**
CEVE	**Cerro Verde**	**2.30 145**		P	**Pb**	**00 55 51.2**	**-0.7**
IZABA	**Izabal, Puerto**	**2.32 89**		*eP*	**Pb**	**00 55 52.7**	**+0.7**
JAYA	**Jayaque - finc**	**2.54 144**		*eP*	**Pb**	**00 55 55.8**	**-0.1**
JAYA	**Jayaque - finc**	**2.54 144**		P	**Pn**	**00 55 53.5**	**+1.7**
PMON	**Piamonte**	**2.58 141**		P	**Pb**	**00 55 54.7**	**-1.8**
BOQS	**Boqueron**	**2.58 140**		*eP*	**Pb**	**00 55 57.3**	**+0.7**
COEG	**Centro de Oper**	**2.93 135**		*eP*	**Pb**	**00 56 00.6**	**-1.8**
SCIG	**Sabancuy**	**3.23 357**		*i* P	**Pn**	**00 56 01.3**	**+0.2**
SCIG				*i* S	**Sn**	**00 56 40.0**	**+0.1**
CAHU	**Cacacuatique**	**3.32 125**		*eP*	**Pb**	**00 56 07.6**	**-1.6**
TGUH	**Tegucigalpa,Un**	**3.96 114**		Pn	**Pn**	**00 56 12.0**	**+0.8**
CMIG	**Matias Romero**	**3.97 291**		Pn	**Pn**	**00 56 11.5**	**+0.2**
	comp=N,7.3nm,0.3s,baz=116,slow=7.5,SNR=42						
CMIG				Sn	**Sn**	**00 56 56.8**	**-1.5**
	comp=N,12nm,0.3s,baz=90,slow=20,SNR=7.5						
CMIG				Lg	Lg	00 57 09.6	
	comp=N,13nm,0.3s,baz=37,slow=20,SNR=8.3						
	comp=N,18nm,0.3s						
CRIN	**San Cristobal**	**4.87 128**		Pn	**Pn**	**00 56 23.9**	**+0.3**
HUIG	**Huatulco**	**4.92 271**		*eP*	**Pn**	**00 56 24.2**	**-0.1**
HUIG				*i* S	**Sn**	**00 57 19.7**	**-2.0**
TEIG	**Tepich**	**5.17 30**		Pn	**Pn**	**00 56 29.0**	**+1.2**
TLIG	**Tlapa**	**7.48 285**		Pn	**Pn**	**00 57 01.1**	**+1.4**
JTS	**Las Juntas de**	**7.99 132**		Pn	**Pn**	**00 57 07.5**	**+1.0**
	comp=N,0.3nm,0.3s,baz=13,slow=19,SNR=1.5 comp=N,2.1nm,0.5s						
061Z	**Ochoppi**	**13.81 41**		Pn	**Pn**	**00 58 27.0**	**+0.9**
833A	**Chaparral WMA,**	**14.75 330**		Pn	**Pn**	**00 58 39.6**	**+0.5**
553A	**Crawfordville**	**15.61 22**		Pn	**Pn**	**00 58 49.3**	**-1.1**
346A	**Big Creek Wild**	**15.66 5**		Pn	**Pn**	**00 58 52.3**	**+1.2**
656A	**Willston**	**15.66 28**		Pn	**Pn**	**00 58 50.2**	**-0.9**
HNDO	**Hondo**	**15.72 332**		P	**P**	**00 58 57.3**	**+1.4**
HNDO				IAmb	IAmb	00 59 01.1	
	comp=Z,38nm,1.2s						
DRIO	**Del Rio**	**16.26 329**		Pn	**Pn**	**00 58 59.8**	**+0.9**
VBMS	**Vicksburg**	**16.43 1**			**P**	**00 59 03.9**	**+0.1**
JCT	**Junction City**	**16.76 333**		Pn	**P**	**00 59 06.6**	**-1.0**
143A	**Socs Landing,**	**16.91 359**			**P**	**00 59 08.5**	**-0.6**
143A				IAmb	IAmb	00 59 13.2	
	comp=Z,59nm,1.2s						
TIGA	**Tifton**	**17.04 22**		Pn	**Pn**	**00 59 08.6**	**-0.2**
TIGA				IAmb	IAmb	00 59 20.6	
	comp=Z,66nm,1.1s						
BRDY	**Brady**	**17.13 336**		Pn	**P**	**00 59 10.4**	**-1.3**
WHTX	**Lake Whitney,**	**17.23 341**		Pn	**P**	**00 59 12.0**	**-0.7**
WHTX				IAmb	IAmb	00 59 18.3	
	comp=Z,28nm,0.7s						
Z47A	**Carrollton**	**17.60 8**		Pn	**Pn**	**00 59 15.1**	**-0.7**
LRAL	**Lakeview Retre**	**17.61 11**			**P**	**00 59 16.6**	**-0.3**
HPIG		**17.62 312**		Pn	**P**	**00 59 16.2**	**-1.1**
OZTA	**Ozona**	**17.74 330**			**P**	**00 59 19.4**	**+0.9**
152A	**Waverly Hall**	**17.81 18**			**Pn**	**00 59 17.9**	**-0.4**
TX31	**Lajitas Ar. Si**	**17.88 321**			**P**	**00 59 20.3**	**+0.2**
TXAR	**Lajitas Array**	**17.88 321**			**P**	**00 59 20.5**	**+0.4**
TXAR	**Lajitas Array**	**17.88 321**		P	**P**	**00 59 21.8**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=142,slow=9.9,SNR=20 comp=Z,3.5nm,0.8s						
WLAR	**White Oak Lake**	**17.99 354**		Pn	**Pn**	**00 59 20.0**	**-0.5**
WLAR				IAmb	IAmb	00 59 25.1	
	comp=Z,48nm,1.0s						
Z35A	**Perchaven, San**	**18.42 343**		P	**P**	**00 59 27.8**	**+1.9**
Z35A				IAmb	IAmb	00 59 30.8	
	comp=Z,26nm,1.1s						
Y49A	**Blount Mountai**	**18.53 12**		P	**Pn**	**00 59 27.8**	**+0.6**
ABTX	**Abilene, Hawle**	**18.57 337**		P	**Pn**	**00 59 28.2**	**+0.5**
ALPN	**Alpine**	**18.63 324**		P	**Pn**	**00 59 28.6**	**0.0**
X40A	**Basin Creek Fa**	**18.76 355**		P	**P**	**00 59 28.7**	**-0.8**
MIAR	**Mount Ida**	**18.89 353**		P	**Pn**	**00 59 30.8**	**-0.7**
MIAR				IAmb	IAmb	00 59 36.1	
	comp=Z,34nm,1.2s						
SN05	**Snyder 5**	**19.29 334**		P	**Pn**	**00 59 36.7**	**+0.3**
PLAL	**Pickwick Lake**	**19.36 7**		P	**Pn**	**00 59 36.2**	**-1.0**
APMT	**Aspermont**	**19.37 336**		P	**Pn**	**00 59 37.7**	**+0.3**
APMT				IAmb	IAmb	00 59 39.5	
	comp=Z,47nm,1.4s						
SC01	**Santiago de lo**	**19.67 76**		P	**Pn**	**00 59 40.5**	**-0.5**
POST	**Post**	**19.72 333**		IAmb	IAmb	00 59 42.8	
	comp=Z,19nm,1.0s						
VHRN	**Van Horn**	**19.72 322**		P	**Pn**	**00 59 41.1**	**-0.6**
OTAV	**Otavalo**	**19.75 140**			**Pn**	**00 59 42.0**	**-0.6**
HBAR	**Harrisburg**	**19.75 1**		P	**Pn**	**00 59 42.3**	**+0.4**
SWET	**Sewanee**	**19.94 12**		P	**P**	**00 59 41.6**	**-0.9**
SWET				IAmb	IAmb	01 00 01.8	
	comp=Z,26nm,1.4s						
DKNS	**Dickens**	**19.99 335**		P	**P**	**00 59 43.3**	**+0.1**
FCAR	**Ozark Folk Cen**	**20.11 357**		P	**P**	**00 59 44.5**	**+0.1**
GNAR	**Gosnell**	**20.18 2**		P	Pn	00 59 46.5	-0.5
WMOK	**Wichita Mounta**	**20.19 341**		P	**P**	**00 59 44.8**	**-0.5**
WMOK				IAmb	IAmb	00 59 47.3	
	comp=Z,27nm,1.4s						
LCAR	**Lake Charles**	**20.27 360**		P	**P**	**00 59 46.0**	**0.0**
LCAR				IAmb	IAmb	00 59 48.7	
	comp=Z,24nm,1.0s						
V48A	**Smith Brothers**	**20.28 10**		P	Pn	00 59 47.5	-0.6
V48A				IAmb	IAmb	00 59 51.7	
	comp=Z,31nm,1.4s						
FNO	**Franklin**	**20.28 345**		P	Pn	00 59 46.7	-1.5
W52A	**Murphy**	**20.31 17**		P	**P**	**00 59 46.8**	**+0.2**
WVT	**Waverly**	**20.52 7**		P	Pn	00 59 50.0	-1.0
HHAR	**Hobbs**	**20.64 353**		IAmb	IAmb	00 59 52.7	
	comp=Z,18nm,1.1s						
RLO	**Rose Lookout**	**20.67 351**		IAmb	IAmb	00 59 55.2	
	comp=Z,21nm,1.1s						
PAULI	**Pauline**	**20.73 22**		IAmb	IAmb	01 00 03.1	
	comp=Z,24nm,1.4s						
OK052	**Battle Ridge R**	**20.84 347**		P	**P**	**00 59 52.4**	**+0.1**
OK052				IAmb	IAmb	01 00 01.4	
	comp=Z,40nm,1.2s						
U38A	**Gravette**	**20.85 352**		P	**P**	**00 59 52.8**	**+0.3**
U38A				IAmb	IAmb	01 00 13.8	
	comp=Z,22nm,1.4s						
TKL	**Tuckaleechee C**	**20.88 17**		IAmb	IAmb	01 00 06.5	
	comp=Z,25nm,1.2s						
TKL	**Tuckaleechee C**	**20.88 17**		P	Pn	00 59 54.1	-1.1
	comp=Z,6.5nm,0.9s,baz=186,slow=13,SNR=9.0						
TKL				LR	LR	01 08 37.9	
	comp=Z,194nm,21.3s,baz=178,slow=39 comp=Z,6.5nm,0.9s						
SMWD	**Samnorwood**	**21.01 338**		P	**P**	**00 59 53.9**	**-0.2**
SMWD				IAmb	IAmb	01 00 01.2	
	comp=Z,30nm,1.0s						
MSTX	**Muleshoe**	**21.05 332**		IAmb	IAmb	01 00 00.1	
	comp=Z,22nm,1.2s						
V53A	**Saluda**	**21.17 19**		P	**P**	**00 59 57.2**	**+1.3**
V53A				IAmb	IAmb	01 00 03.3	
	comp=Z,20nm,1.1s						
U49A	**Red Boiling Sp**	**21.22 12**		P	**P**	**00 59 57.2**	**+0.8**
U49A				IAmb	IAmb	01 00 05.1	
	comp=Z,31nm,1.2s						
OK048	**Pawnee Station**	**21.28 347**		P	**P**	**00 59 57.0**	**0.0**
OK048				IAmb	IAmb	01 00 01.9	
	comp=Z,21nm,0.9s	

PV16	**Nyswonger Mesa**	**27.49**	**328**	IAmb	IAmb	01 00 59.4
	comp=Z,8.2nm,1.2s					
PV10	**Paradox Valley**	**27.60**	**328**	IAmb	IAmb	01 00 59.7
	comp=Z,9.3nm,1.0s					
PV23	**Carpenter Ridg**	**27.64**	**328**	IAmb	IAmb	01 01 03.1
	comp=Z,8.2nm,0.8s					
I42A	**Draeger Farm,**	**28.13**	**3**	IAmb	IAmb	01 01 04.5
	comp=Z,17nm,1.3s					
ECSD	**EROS Data Cent**	**28.33**	**351**	P	**P**	**01 01 04.4 0.0**
ECSD				IAmb	IAmb	01 01 46.7
	comp=Z,8.7nm,1.4s					
O20A	**White River Ci**	**28.59**	**332**	IAmb	IAmb	01 01 25.0
	comp=Z,15nm,1.4s					
V12A	**Nelson**	**29.16**	**318**	P	**P**	**01 01 13.0 +1.0**
V12A				IAmb	IAmb	01 01 17.4
	comp=Z,6.8nm,1.0s					
COWI	**Conover**	**30.33**	**3**	IAmb	IAmb	01 01 22.6
	comp=Z,8.6nm,1.2s					
SADO	**Sadowa**	**30.64**	**17**	LR	LR	01 14 48.7
	comp=Z,142nm,18.3s,baz=214,slow=38					
E38A	**The Farm, Brul**	**30.80**	**359**	IAmb	IAmb	01 01 30.0
	comp=Z,5.3nm,0.9s					
PDAR	**Pinedale Array**	**31.30**	**333**	P	**P**	**01 01 31.7 +0.7**
	comp=Z,0.4nm,0.6s,baz=126,slow=10.0,SNR=5.6					
PDAR				LR	LR	01 16 37.6
	comp=Z,31nm,20.5s,baz=299,slow=41					
	comp=Z,0.4nm,0.6s					
LONY	**Lake Ozonia**	**31.98**	**22**	IAmb	IAmb	01 01 40.3
	comp=Z,12nm,1.3s					
SNOW	**Snow King Moun**	**32.38**	**333**	P	**P**	**01 01 41.1 +0.6**
SNOW				IAmb	IAmb	01 01 43.6
	comp=Z,8.9nm,0.9s					
LOHW	**Long Hollow**	**32.43**	**333**	IAmb	IAmb	01 01 43.4
	comp=Z,15nm,1.5s					
NV11	**Mina Array Sit**	**32.90**	**319**	P	**P**	**01 01 46.0 +1.0**
NV11				IAmb	IAmb	01 01 52.6
	comp=Z,13nm,1.5s					
NVAR	**Mina Array Bea**	**32.99**	**319**	P	**P**	**01 01 45.7 -0.2**
NVAR	**Mina Array Bea**	**32.99**	**319**	P	**P**	**01 01 48.2 +2.3**
	comp=Z,1.9nm,0.7s,baz=127,slow=9.0,SNR=13					
	comp=Z,1.9nm,0.7s					
YFT	**Old Faithful**	**33.20**	**334**	P	**P**	**01 01 48.7 +1.0**
YHL	**Hebgen Lake**	**33.67**	**334**	P	**P**	**01 01 53.4 +1.5**
YHL				IAmb	IAmb	01 02 21.5
	comp=Z,5.8nm,1.1s					
MCMT	**McKenzie Canyo**	**34.38**	**332**	P	**P**	**01 01 59.5 +1.5**
ULM	**Lac du Bonnet**	**34.66**	**354**	LR	LR	01 16 48.3
	comp=Z,63nm,20.6s,baz=217,slow=38					
LRM	**Limekiln Ridge**	**34.99**	**334**	P	**P**	**01 02 03.4 +0.2**
LYMT	**Lyon Mountain**	**35.83**	**335**	P	**P**	**01 02 09.6 -0.8**
J08A	**Circle Bar Ran**	**36.16**	**325**	P	**P**	**01 02 13.8 +0.6**
J08A				IAmb	IAmb	01 02 21.4
	comp=Z,13nm,1.4s					
YBH	**Yreka Blue Hor**	**37.65**	**320**	LR	LR	01 18 54.8
	comp=Z,4.8nm,18.1s,baz=288,slow=38					
LPAZ	**La Paz**	**39.00**	**144**	LR	LR	01 19 38.0
	comp=Z,37nm,18.2s,baz=5.5,slow=38					
SCHQ	**Schefferville**	**43.28**	**20**	P	**P**	**01 03 11.7 -0.5**
	comp=Z,1.6nm,0.6s,baz=216,slow=6.3,SNR=1.3					
SCHQ				LR	LR	01 21 53.6
	comp=Z,130nm,20.1s,baz=240,slow=37					
	comp=Z,1.6nm,0.6s					
YKA	**Yellowknife Ar**	**49.59**	**346**	P	**P**	**01 04 01.6 0.0**
	comp=Z,1.0nm,0.7s,baz=146,slow=7.4,SNR=3.6					
	comp=Z,1.0nm,0.7s					
FRB	**Frobisher Bay**	**50.43**	**13**	LR	LR	01 26 19.9
	comp=Z,119nm,19.8s,baz=157,slow=37					
MMPY	**Sheldon Lake,**	**54.65**	**339**	P	**P**	**01 04 40.5 +1.2**
MMPY				IAmb	IAmb	01 04 43.4
	comp=Z,4.9nm,1.0s					
SFJD	**Kangerlussuaq**	**57.59**	**18**	LR	LR	01 30 24.1
	comp=Z,105nm,20.5s,baz=174,slow=37					
BCAR	**Beaver Creek A**	**58.87**	**336**	P	**P**	**01 05 10.5 +1.2**
RES	**Resolute Bay**	**59.01**	**359**	LR	LR	01 31 41.5
	comp=Z,88nm,18.5s,baz=170,slow=37					
INK	**Inuvik**	**59.08**	**343**	P	**P**	**01 05 11.8 +1.2**
INK				IAmb	IAmb	01 05 15.6
	comp=Z,8.6nm,1.4s					
PLCA	**Paso Flores**	**59.29**	**162**	LR	LR	01 24 24.4
	comp=Z,34nm,20.3s,baz=274,slow=30					
PAX	**Paxson**	**60.31**	**335**	P	**P**	**01 05 20.7 +1.4**
PAX				IAmb	IAmb	01 05 25.3
	comp=Z,4.1nm,1.2s					
ILAR	**Eielson Array**	**61.66**	**336**	P	**P**	**01 05 28.2 -0.1**
ILAR	**Eielson Array**	**61.66**	**336**	P	**P**	**01 05 27.8 -0.5**
	comp=Z,0.8nm,0.9s,baz=134,slow=4.7,SNR=8.3					
	comp=Z,0.8nm,0.9s					
RND	**Reindeer**	**61.90**	**334**	P	**P**	**01 05 30.2 +0.2**
BMAR	**Burnt Mountain**	**62.02**	**339**	P	**P**	**01 05 30.8 +0.1**
F25K	**Christian Rive**	**62.46**	**339**	P	**P**	**01 05 33.9 +0.2**
C27K	**Jago River**	**62.84**	**342**	P	**P**	**01 05 36.1 0.0**
C27K				IAmb	IAmb	01 05 37.9
	comp=Z,6.1nm,1.1s					
MLY	**Manley**	**63.27**	**336**	P	**P**	**01 05 39.2 0.0**
MLY				IAmb	IAmb	01 05 46.4
	comp=Z,6.5nm,1.3s					
D25K	**Kavik River**	**63.51**	**341**	P	**P**	**01 05 41.0 +0.3**
D25K				IAmb	IAmb	01 05 48.7
	comp=Z,4.8nm,0.9s					
F21K	**Alatna River**	**65.08**	**338**	P	**P**	**01 05 51.0 0.0**
F21K				IAmb	IAmb	01 05 55.5
	comp=Z,6.7nm,1.1s					
EKA	**Eskdalemuir Ar**	**76.01**	**36**	P	**P**	**01 06 56.6 -1.2**
	comp=Z,3.6nm,1.0s,baz=271,slow=5.8,SNR=4.8					
	comp=Z,3.6nm,1.0s					
ESDC	**Sonseca Array**	**77.89**	**52**	P	**P**	**01 07 09.8 +1.0**
	comp=Z,1.0nm,0.9s,baz=286,slow=4.7,SNR=5.3					
	comp=Z,1.0nm,0.9s					
NOA	**NORSAR Array B**	**82.18**	**29**	LR	LR	01 41 58.2
	comp=Z,14nm,21.5s,baz=190,slow=34					
ARCES	**ARCESS Array B**	**84.21**	**18**	P	**P**	**01 07 41.4 -0.4**
ARCES				IAmb	IAmb	01 07 46.9
	comp=Z,4.4nm,1.1s					
ARCES	**ARCESS Array B**	**84.21**	**18**	P	**P**	**01 07 42.1 +0.3**
	comp=Z,1.7nm,0.7s,baz=289,slow=4.9,SNR=13					
	comp=Z,1.7nm,0.7s					
SEY	**Seymchan**	**87.59**	**336**	LR	LR	01 50 36.8
	comp=Z,38nm,18.1s,baz=210,slow=38					
TORD	**Torodi Ar. Bea**	**89.04**	**77**	P	**P**	**01 08 07.0 +0.5**
	comp=Z,1.1nm,0.4s,baz=289,slow=5.3,SNR=1.6					
	comp=Z,1.1nm,0.4s					
MA2	**Magadan**	**90.00**	**333**	LR	LR	01 56 07.7
	comp=Z,26nm,19.5s,baz=333,slow=41					
CMAR	**Chiang Mai Arr**	**144.65**	**344**	PKPdf	**PKPab**	**01 14 46.2 -0.8**

GCG 03 01:01:44.1±0.6, 14°.60N×91°.35W, h107km±31km, MD3.6, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FG8	**Yepocapa, Chim**	**0.84**	**114**	⇓*e*P	Pn	01 02 00.8	-2.8
FG8				*e*S	Sn	01 02 13.6	-4.7
FG16	**Alotenango, Sa**	**0.88**	**112**	*e*P	Pn	01 02 00.9	-3.2
FG16				*e*S	Sn	01 02 15.4	-3.7

*IDC **03** 01:02:08.3±0.5, 35°.14N×27°.79E, h0km, mb4.3/28, mbtmp4.3/40, ML3.9/13, MS3.7/31, Error ellipse: s-maj=11.9km s-min=10.4km az=169.0*
*MOS **03** 01:02:08.3±1.2, 35°.01N×27°.81E, h14km, mb4.7/22, Error ellipse: s-maj=6.1km s-min=3.5km az=89.6*
*NEIC **03** 01:02:08.9±2.0, 35°.02N±0°.06×27°.89E±0°.06, h10km±1km, mb4.6/64, Error ellipse: s-maj=10.9km s-min=7.4km az=146.0*
*ISK **03** 01:02:09.4, 35°.08N×27°.83E, h7km, ML4.3/29*
*HLW **03** 01:02:10.8, 35°.17N×28°.12E, h23km±11km, Md4.2, Ml4.3*
*AFAD **03** 01:02:11.0, 35°.28N×27°.82E, h7km±2km, MW4.3*
*GII **03** 01:02:11.9±0.0, 35°.367N±0°.002×28°.170E±0°.001, h30km, Mws4.5, confirmed*
*ATH **03** 01:02:11.7, 35°.07N×27°.96E, h20km±4km, ML4.1/19, Manual Solution by A.Agalos First location: 2019/07/03 01:03:35, This location: 2019/07/03 01:18:44 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
*NIC **03** 01:02:11.7, 35°.05N×27°.89E, h42km±28km, Ml4.1/13*
*MED_RC **03** 01:02:13.0±0.4, 34°.98N×27°.80E, h42km±2km, MW4.6/30, Moment Tensor Solution. Body waves: s2,c2;Mantle waves: s30,c42; Duration: 1s0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.03±.12; Mθθ-0.38±.08; Mφφ0.40±.07; Mrθ-0.38±.07; Mrφ0.97±.06; Mθφ-0.35±.05; Best double couple: M₀1.16000×10¹⁶ NP1:ϕ₀s167.00000°, δ70.00000°, λ170.00000°. NP2:ϕ₀s260.00000°, δ80.00000°, λ21.00000°. Principal axes: T 1.2600, Plg21.0000°, Azm125.0000°; N -0.2100, Plg67.0000°, Azm284.0000°; P -1.0500, Plg7.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*THE **03** 01:02:14.2, 35°N±7°×2°8E±°, h34km±15km, M4.4/39, mb4.8/14, MLh4.0/39, MwMwp4.4/1, Mwp4.8/1*
*PDG **03** 01:02:15.0±0.6, 35°.01N×27°.93E, h22km±11km, ML4.5/10, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0*
*NAO **03** 01:03:00.9, 40°.45N×25°.58E, h10km, mb3.7*
ISC 03 01:02:11.9±0.6, 35°.06N±0°.03×27°.81E±0°.02, h29km±3km, h29km:pP-P, n648, σ1§83/699, mb4.6/87, MS3.8/29, 42C-28D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**1.18**	**13**	Pn	**Pn**	**01 02 31.8**	**-0.7**
ARG				Sn	**Sb**	**01 02 48.6**	**0.0**
ARG	**Arkhangelos**	**1.18**	**13**	Pn	**Pn**	**01 02 31.8**	**-0.7**
ARG	**Arkhangelos**	**1.18**	**13**	P	**Pn**	**01 02 32.0**	**-0.5**
ARG				S	**Sn**	**01 02 46.7**	**-0.8**
ARG	**Arkhangelos**	**1.18**	**13**	P	**Pn**	**01 02 31.8**	**-0.7**
ARG	**Arkhangelos**	**1.18**	**13**	P	**Pn**	**01 02 32.0**	**-0.5**
ARG				S	**Sb**	**01 02 47.6**	**-1.0**
ARG	**Arkhangelos**	**1.18**	**13**	⇑*e*P	**Pn**	**01 02 31.7**	**-0.8**
ARG				S	**Sn**	**01 02 47.2**	**-0.4**
ARG				AML	AML	01 02 57.5	
	21nm,1.0s						
ARG				AML	AML	01 02 59.1	
	15nm,0.9s						
ZKR	**Zakros**	**1.31**	**273**	Pn	**Pn**	**01 02 34.3**	**+0.1**
ZKR				Sn	**Sb**	**01 02 53.5**	**+1.3**
ZKR	**Zakros**	**1.31**	**273**	P	**Pb**	**01 02 36.9**	**+1.0**
ZKR	**Zakros**	**1.31**	**273**	P	**Pb**	**01 02 35.3**	**-0.5**
ZKR				S	**Sb**	**01 02 55.3**	**+3.1**
ZKR	**Zakros**	**1.31**	**273**	P	**Pn**	**01 02 36.6**	**+0.4**
RODB	**Rodos**	**1.42**	**14**	P	**Pn**	**01 02 36.0**	**+0.2**
YAZI	**Mula-Dat§a-**	**1.64**	**350**	P	**Pb**	**01 02 40.8**	**-0.7**
YAZI				S	**Sb**	**01 03 03.4**	**+1.6**
YAZI				*i* IAML		01 03 10.0	
	comp=E,751nm,0.5s						
YAZI				*i* IAML		01 03 15.0	
	comp=N,2μm,0.8s						
DAT	**Datca**	**1.67**	**354**	Pn	**Pn**	**01 02 39.9**	**+0.5**
DAT				Sn	**Sb**	**01 03 01.8**	**-1.1**
DATC	**Datca-Mugla**	**1.70**	**356**	Pn	**Pn**	**01 02 39.9**	**+0.3**
TURN	**Turunc**	**1.75**	**12**	Pn	**Pn**	**01 02 40.9**	**+0.7**
TURN				Sn	**Sb**	**01 03 03.3**	**-1.5**
TURN	**Turunc**	**1.75**	**12**	P	**Pb**	**01 02 42.5**	**-0.8**
TURN				S	**Sn**	**01 03 01.2**	**-0.3**
TURN				*i* IAML		01 03 10.0	
	comp=E,2μm,0.4s						
TURN				*i* IAML		01 03 10.0	
	comp=N,2μm,0.6s						
IZZE	**Mula-Seydike**	**1.79**	**40**	P	**Pn**	**01 02 41.1**	**+0.2**
KSL	**Kastellorizon**	**1.81**	**53**	P	**Pn**	**01 02 40.9**	**-0.2**
KSL				S	**Sn**	**01 03 02.0**	**-1.0**
KSL	**Kastellorizon**	**1.81**	**53**	P	**Pn**	**01 02 40.6**	**-0.5**
KSL				AML	AML	01 03 35.9	
	5.6nm,1.5s						
KSL				AML	AML	01 03 41.3	
	4.5nm,1.4s						
AKAS	**Kas**	**1.87**	**51**	Pn	**Pn**	**01 02 42.2**	**+0.1**
AKAS				Sn	**Sb**	**01 03 06.7**	**-1.9**
AKAS	**Kas**	**1.87**	**51**	Pn	**Pn**	**01 02 41.7**	**-0.4**
AKAS	**Kas**	**1.87**	**51**	P	**Pn**	**01 02 42.2**	**+0.1**
DALY	**Dalyan (Mula)**	**1.88**	**21**	Pn	**Pn**	**01 02 42.5**	**+0.4**
FETY	**Fethiye**	**1.88**	**33**	Pn	**Pn**	**01 02 41.9**	**-0.2**
FETY				Sn	**Sb**	**01 03 06.3**	**-2.4**
FETY	**Fethiye**	**1.88**	**33**	P	**Pn**	**01 02 41.9**	**-0.2**
FETY				S	**Sn**	**01 03 01.9**	**-3.0**
FETY	**Fethiye**	**1.88**	**33**	P	**Pb**	**01 02 45.2**	**-0.4**
FETY				S	**Sb**	**01 03 15.4**	**+6.7**
ASTA	**Astypalaia**	**1.89**	**322**	P	**Pn**	**01 02 44.0**	**+1.7**
SABU	**Mula-Dalaman**	**1.99**	**28**	P	**Pn**	**01 02 44.7**	**+1.0**
SABU				S	**Sb**	**01 03 11.0**	**-0.9**
SABU				*i* IAML		01 03 31.0	
	comp=E,745nm,1.0s						
SABU				*i* IAML		01 03 39.0	
	comp=N,1μm,0.7s						
KLNA	**Kalymnos**	**2.01**	**341**	P	**Pn**	**01 02 45.4**	**+1.5**
BDRM	**Kayabasi**	**2.02**	**352**	P	**Pn**	**01 02 44.9**	**+0.9**
BDRM				S	**Sn**	**01 03 09.4**	**+1.0**
BDRM				*i* IAML		01 03 24.0	
	comp=E,1μm,0.6s						
BDRM	**Kayabasi**	**2.02**	**352**	⇓P	**Pn**	**01 02 44.8**	**+0.7**
BODT	**Bodrum**	**2.04**	**349**	Pn	**Pn**	**01 02 45.3**	**+1.0**
BODT	**Bodrum**	**2.04**	**349**	P	**Pn**	**01 02 45.2**	**+0.9**
DEMR	**Demre-Antalya**	**2.07**	**55**	Pn	**Pn**	**01 02 45.6**	**+0.9**
THR3	**Yalikavak-Bodr**	**2.10**	**348**	Pn	**Pn**	**01 02 45.7**	**+0.5**
MULA	**Mugla, Merkez-**	**2.23**	**11**	P	**Pb**	**01 02 49.5**	**-2.0**
MULA				S	**Sb**	**01 03 19.4**	**+0.7**
MULA				*i* IAML		01 03 42.0	
	comp=N,1μm,1.1s						
MULA				*i* IAML		01 03 48.0	
	comp=E,937nm,1.6s						
MLSB	**Milas**	**2.23**	**359**	Pn	**Pn**	**01 02 47.4**	**+0.5**
CAME	**Cameli-Denizli**	**2.23**	**32**	Pn	**Pn**	**01 02 47.5**	**+0.4**
IACM	**Heraklion**	**2.26**	**277**	P	**Pn**	**01 02 49.6**	**+2.3**
KNIK	**Mula-Seydike**	**2.28**	**38**	P	**Pn**	**01 02 48.7**	**+1.0**
THR8	**Santorini-Mono**	**2.32**	**306**	P	**Pn**	**01 02 49.9**	**+1.8**
THR6	**Thira Island,**	**2.35**	**304**	P	**Pn**	**01 02 50.9**	**+2.4**
AMGA	**Amorgos Island**	**2.35**	**319**	P	**Pn**	**01 02 50.6**	**+2.0**
THRA	**Thira**	**2.36**	**306**	P	**Pn**	**01 02 50.1**	**+1.5**
THR3	**Thira Island,**	**2.38**	**305**	P	**Pn**	**01 02 50.8**	**+1.9**
THR9	**Santorini-Faro**	**2.38**	**304**	P	**Pn**	**01 02 50.8**	**+1.8**
CAEL	**Denizli, Camel**	**2.39**	**30**	P	**Pn**	**01 02 50.9**	**+1.6**
ELL	**Elmali**	**2.39**	**45**	Pn	**Pn**	**01 02 50.3**	**+1.0**
ELL	**Elmali**	**2.39**	**45**	Pn	**Pn**	**01 02 49.6**	**+0.3**
ELL	**Elmali**	**2.39**	**45**	P	**Pn**	**01 02 49.6**	**+0.3**
ELL	**Elmali**	**2.39**	**45**	P	**Pn**	**01 02 49.2**	**-0.1**
IDI	**Anoyia**	**2.40**	**276**	Pn	**Pn**	**01 02 50.5**	**+1.1**
IDI	**Anoyia**	**2.40**	**276**	P	**Pn**	**01 02 51.7**	**+2.4**
IDI	**Anoyia**	**2.40**	**276**	Pn	**Pn**	**01 02 51.6**	**+2.3**
	39nm,0.3s,baz=78,slow=15,SNR=355						
IDI				Lg	Lg	01 03 23.3	
	41nm,0.3s,baz=280,slow=16,SNR=4.2						
IDI				LR	LR	01 03 51.9	
	comp=Z,1μm,20.6s,baz=80,slow=44						
IDI	**Anoyia**	**2.40**	**276**	P	**Pn**	**01 02 51.9**	**+2.5**
CMBO	**Columbo, Santo**	**2.41**	**306**	P	**Pn**	**01 02 51.3**	**+1.9**
THR5	**Thira Island,**	**2.42**	**305**	P	**Pb**	**01 02 52.2**	**-2.5**
DNZT	**Denizli-Tavas-**	**2.42**	**24**	P	**Pn**	**01 02 51.7**	**+2.1**
DNZT				S	**Sn**	**01 03 20.0**	**+1.7**
DNZT				*i* IAML		01 03 53.0	
	comp=N,620nm,1.4s						
DNZT				*i* IAML		01 03 56.0	
	comp=E,430nm,1.2s						
SAP3	**Santorini-Thir**	**2.43**	**305**	P	**Pn**	**01 02 52.4**	**+2.7**
SAP3	**Santorini-Thir**	**2.43**	**305**	P	**Pn**	**01 02 51.9**	**+2.3**
DDIM	**Aydin, Didim**	**2.43**	**349**	P	**Pn**	**01 02 51.5**	**+1.7**
DDIM				S	**Sb**	**01 03 23.2**	**-1.3**
DDIM				*i* IAML		01 03 45.0	
	comp=N,2μm,1.0s						
DDIM				*i* IAML		01 03 50.0	
	comp=E,2μm,1.3s						
TMBK	**Timbaki Herakl**	**2.50**	**271**	P	**Pb**	**01 02 53.8**	**-2.2**
TMBK	**Timbaki Herakl**	**2.50**	**271**	P	**Pb**	**01 02 53.8**	**-2.2**
TAVA	**DENIZLI_Tavas**	**2.56**	**20**	P	**Pn**	**01 02 53.6**	**+2.1**
TAVA				S	**Sb**	**01 03 27.6**	**-0.7**
TAVA				*i* IAML		01 03 38.0	
	comp=N,508nm,1.4s						
TAVA				*i* IAML		01 03 44.0	
	comp=E,759nm,1.1s						
TAVA	**DENIZLI_Tavas**	**2.56**	**20**	⇑P	**Pn**	**01 02 53.2**	**+1.7**
GOLH	**Golhisar**	**2.59**	**33**	P	**Pn**	**01 02 54.2**	**+2.2**
GCAM	**G?zelcami?**	**2.67**	**350**	Pn	**Pn**	**01 02 54.4**	**+1.4**
GCAM	**G?zelcami?**	**2.67**	**350**	P	**Pn**	**01 02 54.7**	**+1.7**
GCAM				S	**Sn**	**01 03 21.6**	**-2.8**
GCAM				*i* IAML		01 03 53.0	
	comp=E,440nm,1.4s						
GCAM				*i* IAML		01 04 01.0	
	comp=N,621nm,1.1s						
APMY	**Acipayam-Deniz**	**2.69**	**26**	Pn	**Pn**	**01 02 53.9**	**+0.6**
APE	**Apeiranthos**	**2.72**	**318**	Pn	**Pn**	**01 02 54.6**	**+0.8**
APE	**Apeiranthos**	**2.72**	**318**	P	**Pn**	**01 02 54.7**	**+1.0**
APE	**Apeiranthos**	**2.72**	**318**	⇑P	**Pn**	**01 02 54.6**	**+0.8**
APE	**Apeiranthos**	**2.72**	**318**	*i* P	**Pn**	**01 02 54.2**	**+0.4**
APE	**Apeiranthos**	**2.72**	**318**	S	**Sn**	**01 03 25.7**	**0.0**
APE	**Apeiranthos**	**2.72**	**318**	P	**Pn**	**01 02 53.6**	**-0.1**
APE	**Apeiranthos**	**2.72**	**318**	P	**Pn**	**01 02 54.8**	**+1.0**
APE				S	**Sn**	**01 03 29.5**	**+3.7**
PRNS	**Prines Rethymn**	**2.73**	**277**	P	**Pb**	**01 02 57.2**	**-2.8**
PRNS	**Prines Rethymn**	**2.73**	**277**	P	**Pb**	**01 02 57.1**	**-2.8**
DNIZ	**Denizli-Tavas-**	**2.74**	**21**	P	**Pn**	**01 02 55.8**	**+1.7**
SMG	**Samos**	**2.75**	**344**	P	**Pn**	**01 02 54.7**	**+0.6**
SMG	**Samos**	**2.75**	**344**	P	**Pn**	**01 02 54.9**	**+0.8**
ESEN	**Aydn-Nazilli**	**2.76**	**9**	P	**Pn**	**01 02 55.5**	**+1.3**
ESEN				S	**Sn**	**01 03 29.2**	**+2.6**
ESEN				*i* IAML		01 03 48.0	
	comp=E,478nm,1.2s						
ESEN				*i* IAML		01 03 51.0	
	comp=N,555nm,1.0s						
KORT	**Korkueli**	**2.83**	**46**	Pn	**Pn**	**01 02 57.3**	**+2.1**
AYDB	**Zeytinkoy-Aydi**	**2.88**	**1**	Pn	**Pn**	**01 02 56.4**	**+0.4**
NAZL	**Nazilli-Aydin**	**2.92**	**8**	Pn	**Pn**	**01 02 57.6**	**+1.1**
ANTB	**Antalya**	**2.95**	**51**	Pn	**Pn**	**01 02 57.9**	**+1.1**
GVD	**Gavdhos**	**3.06**	**267**	Pn	**Pn**	**01 03 00.2**	**+1.8**
GVD	**Gavdhos**	**3.06**	**267**	P	**Pn**	**01 03 00.8**	**+2.4**
IZMR	**zmir-demi**	**3.07**	**2**	P	**Pn**	**01 02 59.3**	**+0.9**
IZMR				S	**Sn**	**01 03 35.5**	**+1.3**
IZMR				*i* IAML		01 04 02.0	
	comp=N,354nm,1.1s						
IZMR				*i* IAML		01 04 04.0	
	comp=E,348nm,1.5s						
DGB	**zmir**	**3.08**	**346**	P	**Pn**	**01 02 59.3**	**+0.8**
CHNB	**Souda**	**3.09**	**279**	P	**Pn**	**01 03 01.6**	**+2.8**
GMLD	**Gumuldur**	**3.09**	**347**	Pn	**Pn**	**01 02 59.9**	**+1.1**
CHAN	**Chania**	**3.11**	**279**	P	**Pn**	**01 03 01.6**	**+2.6**
CHAN	**Chania**	**3.11**	**279**	P	**Pn**	**01 03 01.4**	**+2.3**
KIRA	**zmir-Kiraz**	**3.16**	**8**	P	**Pn**	**01 03 01.2**	**+1.4**
MHLO	**Agia Marina, M**	**3.21**	**301**	P	**Pn**	**01 03 04.1**	**+3.8**
MHLO	**Agia Marina, M**	**3.21**	**301**	P	**Pn**	**01 03 02.6**	**+2.2**
ODEM	**Odemis-Izmir**	**3.21**	**4**	Pn	**Pn**	**01 03 01.7**	**+1.2**
ZEYE	**Izmir, Urla-Ze**	**3.34**	**342**	P	**Pn**	**01 03 03.4**	**+1.3**
BLCB	**Balcova**	**3.37**	**350**	Pn	**Pn**	**01 03 03.8**	**+1.2**
URLA	**Izmir**	**3.43**	**344**	Pn	**Pn**	**01 03 04.7**	**+1.2**
URLA	**Izmir**	**3.43**	**344**	P	**Pn**	**01 03 04.5**	**+1.0**
MANT	**Manisa**	**3.47**	**10**	Pn	**Pn**	**01 03 04.2**	**-0.1**
KULA	**Kula-Manisa**	**3.51**	**11**	Pn	**Pn**	**01 03 04.7**	**+0.1**
ISP	**Isparta**	**3.52**	**38**	Pn	**Pn**	**01 03 04.7**	**0.0**
ISP	**Isparta**	**3.52**	**38**	*e*P	**Pn**	**01 03 05.9**	**+1.2**
ISP				pmax	pmax		
	comp=Z,113nm,1.3s						
ISP	**Isparta**	**3.52**	**38**	P	**Pn**	**01 03 05.0**	**+0.3**
CHOS	**Chios island**	**3.60**	**338**	Pn	**Pn**	**01 03 07.3**	**+1.4**
CHOS	**Chios island**	**3.60**	**338**	P	**Pn**	**01 03 07.2**	**+1.3**
CHOS	**Chios island**	**3.60**	**338**	P	**Pn**	**01 03 06.9**	**+1.0**
GOMA	**Golmarmara-Man**	**3.64**	**1**	Pn	**Pn**	**01 03 08.1**	**+1.8**
AKMS	**Akamas**	**3.71**	**89**	P	**Pn**	**01 03 06.3**	**-1.0**
AKMS	**Akamas**	**3.71**	**89**	⇑*i*P	**Pn**	**01 03 06.3**	**-1.0**
AKMS				S	**Sn**	**01 03 48.4**	**-1.7**
AKMS				AML	AML	01 03 56.1	
	comp=Z,1.2nm,0.9s						
AKMS				AML	AML	01 04 07.1	
	comp=Z,1.1nm,0.5s						
EAG2	**Marmaro, Chios**	**3.73**	**339**	P	**Pn**	**01 03 09.1**	**+1.5**
MATC	**Matruh**	**3.74**	**188**	P	**Pn**	**01 03 08.9**	**+1.2**
ANKY	**Antikythira Is**	**3.77**	**284**	P	**Pn**	**01 03 09.9**	**+1.9**
ANKY	**Antikythira Is**	**3.77**	**284**	P	**Pn**	**01 03 09.4**	**+1.4**
NATA	**Nata**	**3.92**	**93**	P	**Pn**	**01 03 09.5**	**-0.7**
NATA				S	**Sn**	**01 03 54.1**	**-1.2**
NATA				AML	AML	01 04 01.3	
	comp=Z,3.7nm,0.5s						
NATA				AML	AML	01 04 06.3	
	comp=Z,2.8nm,1.0s						
ALFC	**Alefka**	**3.93**	**87**	⇑*i*P	**Pn**	**01 03 09.3**	**-1.1**
ALFC				S	**Sn**	**01 03 54.9**	**-0.6**
ALFC				AML	AML	01 04 05.5	
	comp=Z,1.2nm,0.8s						
ALFC				AML	AML	01 04 07.4	
	comp=Z,1.8nm,0.7s						
KARY	**Karystos**	**4.02**	**318**	P	**Pn**	**01 03 13.2**	**+1.6**
KARY	**Karystos**	**4.02**	**318**	P	**Pn**	**01 03 13.3**	**+1.8**
KTHA	**Kythira Island**	**4.04**	**288**	Pn	**Pn**	**01 03 13.5**	**+1.6**
KTHA	**Kythira Island**	**4.04**	**288**	P	**Pn**	**01 03 13.5**	**+1.6**
DB3	**El Dabaa**	**4.06**	**171**	P	**Pn**	**01 03 12.3**	**+0.2**
DKL	**Dikili**	**4.07**	**350**	Pn	**Pn**	**01 03 13.7**	**+1.6

NEO Neokhori 5.60 321 P Pn 01 03 35.4 +2.1
comp=Z,0.1nmcomp=Z,78nm,0.6s
KALE Kalithea 5.63 308 P Pn 01 03 37.6 +3.8
SMTH Samothraki Isl 5.69 342 P Pn 01 03 36.0 +1.4
DRO Drossia 5.70 302 P Pn 01 03 38.0 +3.4
comp=Z,0.4nmcomp=Z,164nm,1.1s
CAVK Edirne/Enez-Ca 5.77 347 ⇓P Pn 01 03 39.4 +3.8
EFP Efpalio 5.81 307 P Pn 01 03 39.5 +3.4
comp=Z,0.2nmcomp=Z,145nm,1.2s
ENEZ Enez 5.81 347 P Pn 01 03 39.0 +2.8
HMYD Mayadein 5.83 153 P Pn 01 03 35.9 -0.5
AGG Agios Georgios 5.90 314 P Pn 01 03 40.7 +3.4
comp=Z,0.1nmcomp=Z,103nm,0.7s
HNAT Natroun 5.91 156 P Pn 01 03 37.4 -0.2
RLS Riolos of Patr 5.91 302 P Pn 01 03 40.8 +3.3
comp=Z,0.2nmcomp=Z,126nm,1.0s
ALN Alexandroupoli 5.99 347 Pn Pn 01 03 40.2 +1.6
ALN Alexandroupoli 5.99 347 P Pn 01 03 40.6 +2.0
comp=Z,0.1nmcomp=Z,46nm,0.6s
ALN Alexandroupoli 5.99 347 P Pn 01 03 40.2 +1.6
MAKR Makrakomi, Fth 6.01 313 P Pn 01 03 43.0 +4.1
MDUB Mudurnu 6.03 25 Pn Pn 01 03 40.5 +1.3
SWA2 6.14 200 P Pn 01 03 42.0 +1.4
KOT Kottamia 6.14 145 P Pn 01 03 39.2 -1.6
ANTO Ankara 6.22 38 Pn Pn 01 03 42.6 +0.7
ANTO Ankara 6.22 38 P Pn 01 03 42.6 +0.7
HHAG Hagoal 6.25 143 P Pn 01 03 40.9 -1.4
RDO Rodhopi 6.33 344 Pn Pn 01 03 44.8 +1.6
RDO Rodhopi 6.33 344 P Pn 01 03 45.3 +2.0
comp=Z,0.0nmcomp=Z,46nm,0.9s
KIRS Kirsehir-Merke 6.35 48 ⇑P Pn 01 03 45.1 +1.4
CTYL Yalikoy Yolu 6.41 3 ⇑P Pn 01 03 44.2 -0.2
TYRN Tyrnavos 6.42 318 P Pn 01 03 48.5 +4.0
comp=Z,0.1nmcomp=Z,45nm,1.0s
HNTI Hanita 6.42 106 S Sn 01 04 52.1 -4.8
HNTI Hanita 6.42 106 P Pn 01 03 42.2 -2.4
OFRI `Ofer 6.45 110 S Sn 01 04 53.7 -3.9
OFRI `Ofer 6.45 110 P Pn 01 03 43.3 -1.6
DQRL Deir Qamar 6.56 100 eP Pn 01 03 45.5 -1.0
BR131 Keskin Array S 6.57 43 Pn Pn 01 03 46.5 -0.2
BR131 Keskin Array S 6.57 43 i P Pn 01 03 47.2 +0.5
BRTR Keskin Array B 6.57 43 Pn Pn 01 03 46.4 -0.3
BRTR Keskin Array B 6.57 43 Pn Pn 01 03 47.4 +0.7
comp=Z,1.0nm,0.3s,baz=220,slow=14,SNR=80
BRTR Sn **Sn 01 05 01.7 +1.0**
comp=Z,1.5nm,0.3s,baz=205,slow=27,SNR=6.9
comp=Z,11nm,0.7s
BHL Bhannes 6.58 98 eP Pn 01 03 46.4 -0.4
MMA0B Mount Meron ar 6.63 106 S Sn 01 04 57.2 -4.9
MMA0B Mount Meron ar 6.63 106 P Pn 01 03 44.8 -2.6
MMAI Mount Meron Ar 6.63 106 Pn Pn 01 03 46.1 -1.4
comp=Z,6.6nm,0.3s,baz=304,slow=12,SNR=26
MMAI Sn **Sn 01 05 01.4 -0.6**
comp=Z,20nm,0.3s,baz=312,slow=27,SNR=7.9
comp=Z,5.5nm,0.3s
SLTI Sal'it 6.65 113 S Sn 01 04 59.4 -3.2
SLTI Sal'it 6.65 113 P Pn 01 03 46.4 -1.4
QRWL Qaraoun 6.69 101 eP Pn 01 03 46.6 -1.7
HWQ Hawqa 6.75 94 eP Pn 01 03 47.3 -1.9
GEM Giv'at Ha'Em 6.77 104 S Sn 01 04 59.8 -5.6
GEM Giv'at Ha'Em 6.77 104 P Pn 01 03 46.6 -2.7
ZAHL Zahle 6.78 98 eP Pn 01 03 48.4 -1.2
SHBL Chebaa 6.79 102 eP Pn 01 03 48.4 -1.4
NATI Neve Ativ 6.81 103 S Sn 01 05 01.8 -4.7
NATI Neve Ativ 6.81 103 P Pn 01 03 47.7 -2.2
RCY Rachaya 6.83 101 eP Pn 01 03 49.0 -1.2
KDZ Kurdzhali 6.84 344 P Pn 01 03 52.6 +2.4
MMLI Mount Malkishu 6.86 110 S Sn 01 05 04.2 -3.5
MMLI Mount Malkishu 6.86 110 P Pn 01 03 48.9 -1.7
BEIL Beino 6.91 92 eP Pn 01 03 49.3 -2.0
AMAZ Amatzia 6.91 119 S Sn 01 05 06.8 -2.2
AMAZ Amatzia 6.91 119 P Pn 01 03 50.4 -0.9
KZIT Kziot 6.91 125 S Sn 01 05 07.9 -1.1
KZIT Kziot 6.91 125 P Pn 01 03 50.1 -1.2
HMDT Nahal Hemdat 7.02 111 S Sn 01 05 08.4 -3.2
HMDT Nahal Hemdat 7.02 111 P Pn 01 03 51.2 -1.5
ZAF Zafarana 7.03 144 P Pn 01 03 52.2 -0.6
NBNS Bani Suef 7.07 154 P Pn 01 03 53.4 -0.1
UJAP Al Uja 7.11 114 S Sn 01 05 10.8 -2.9
UJAP Al Uja 7.11 114 P Pn 01 03 52.7 -1.2
FKH Fakeheh 7.13 94 eP Pn 01 03 53.0 -1.5
YTIR Yattir 7.15 119 S Sn 01 05 13.2 -1.7
YTIR Yattir 7.15 119 P Pn 01 03 53.5 -1.1
DSI Dead Sea 7.23 117 S Sn 01 05 14.3 -2.5
DSI Dead Sea 7.23 117 P Pn 01 03 54.5 -1.1
MDBI Mazsada 7.35 118 P Pn 01 03 55.9 -1.4
MSBI Mazada 7.35 118 S Sn 01 05 17.6 -2.0
MSBI Mazada 7.35 118 P Pn 01 03 56.2 -1.1
BNN Bunyan 7.46 57 Pn Pn 01 04 00.1 +1.1
GHAJ Ghor Haditha 7.50 118 Pn Pn 01 03 58.4 -1.1
GHAJ Ghor Haditha 7.50 118 S Sn 01 05 21.1 -2.4
GHAJ Ghor Haditha 7.50 118 P Pn 01 03 58.1 -1.3
KRMI Paran Flat 7.64 128 S Sn 01 05 25.7 -1.2
KRMI Paran Flat 7.64 128 P Pn 01 04 00.1 -1.2
FNA Florina 7.64 320 Pn Pn 01 04 04.6 +3.2
FNA Florina 7.64 320 P Pn 01 04 04.6 +3.2
ZFRI Zfri 7.66 124 S Sn 01 05 25.2 -2.2
ZFRI Zfri 7.66 124 P Pn 01 03 59.7 -1.8
PRNI Paran 7.67 126 S Sn 01 05 26.4 -1.2
PRNI Paran 7.67 126 P Pn 01 04 00.5 -1.3
TAMRE El Minia 7.82 159 P Pn 01 04 03.9 +0.1
KEK Kerkira 7.88 308 Pn Pn 01 04 07.4 +2.8
GAZ Gaziantep 7.89 72 Pn Pn 01 04 02.2 -2.6
HRFI Mount Harif 7.89 127 S Sn 01 05 31.9 -1.3
HRFI Mount Harif 7.89 127 P Pn 01 04 04.0 -0.8
HFRF Wahat Farafira 7.90 177 P Pn 01 04 05.9 +1.0
MBRI Mt Berech 7.98 129 S Sn 01 05 35.2 -0.1
MBRI Mt Berech 7.98 129 P Pn 01 04 05.7 -0.3
GRB Gharib 7.99 147 P Pn 01 04 05.7 -0.5
EIL Elat 8.09 130 Pn Pn 01 04 06.4 -1.0
comp=Z,6.3nm,0.3s,baz=341,slow=11,SNR=55
EIL Sn **Sn 01 05 35.4 -2.5**
comp=Z,7.4nm,0.3s,baz=25,slow=18,SNR=4.8
comp=Z,42nm,0.6s
EIL Elat 8.09 130 S Sn 01 05 36.7 -1.1
EIL Elat 8.09 130 P Pn 01 04 07.0 -0.4
ASF Jabal al Asfar 8.11 108 Pn Pn 01 04 06.9 -0.9
comp=Z,1.2nm,0.3s,baz=288,slow=6.4,SNR=16
ASF Sn **Sn 01 05 40.8 +2.3**
comp=Z,0.7nm,0.3s,baz=329,slow=23,SNR=1.8
comp=Z,7.6nm,0.7s
HBST Basata 8.27 133 ⇓P Pn 01 04 09.1 -0.8
TR2 Tor 2 8.35 141 P Pn 01 04 09.4 -1.5
NUB Nuweibaa 8.36 134 ⇓P Pn 01 04 10.7 -0.4
HKAT Jabal Katrina 8.38 139 P Pn 01 04 10.4 -1.2
HDHB Dhahab 8.57 136 ⇑P Pn 01 04 13.5 -0.5
TIR Tirane 8.85 317 Pn Pn 01 04 18.9 +1.0
TIR Tirane 8.85 317 ⇓P Pn 01 04 21.3 +3.4
TIR Tirane 8.85 317 P Pn 01 04 18.9 +1.0
SCTE Santa Cesarea 8.94 307 Pn Pn 01 04 19.1 0.0
ULC Ulcinj 9.61 318 ePn Pn 01 04 29.4 +1.1
ULC *i* Sn **Sn 01 06 10.7 -4.6**
TIP Timpagrande 9.73 298 Pn Pn 01 04 28.4 -1.6
TIP Timpagrande 9.73 298 ⇓P Pn 01 04 29.4 -0.6
BOVS Bovan 9.78 333 ⇑P Pn 01 04 35.0 +4.5
DRME Dracevica, Mon 9.80 319 ePn Pn 01 04 32.0 +1.2
DRME Dracevica, Mon 9.80 319 ePn Pn 01 04 32.0 +1.2
DRME *i* Sn **Sn 01 06 15.2 -4.7**
PDG Podgorica 9.93 320 Pn Pn 01 04 32.3 -0.3
PDG Podgorica 9.93 320 ePn Pn 01 04 33.6 +1.0
PDG Podgorica 9.93 320 ⇑P Pn 01 04 34.3 +1.6
PDG Podgorica 9.93 320 ePn Pn 01 04 33.7 +1.1
PDG *i* Sn **Sn 01 06 19.0 -4.1**
IVA Berane 9.93 324 ePn Pn 01 04 33.7 +0.9
IVA *i* Sn **Sn 01 06 18.3 -5.0**
BUM Brajici-Budva 10.03 319 ePn Pn 01 04 35.2 +1.1
BUM *i* Sn **Sn 01 06 20.9 -4.8**
CEL Celeste 10.09 292 Pn Pn 01 04 32.6 -2.3
KOME Kolasin 10.10 323 ePn Pn 01 04 36.2 +1.1
KOME *i* Sn **Sn 01 06 22.5 -4.9**
CEME Cevo 10.19 320 ePn Pn 01 04 37.1 +0.8
CEME *i* Sn **Sn 01 06 24.5 -5.1**
SJES Sjenica 10.19 326 ePn Pn 01 04 39.2 +2.8
HCY Herceg Novi 10.35 318 ePn Pn 01 04 40.1 +1.7
HCY Herceg Novi 10.35 318 ePn Pn 01 04 39.6 +1.2
HCY *j* Sn **Sn 01 06 28.6 -4.8**
MATE Matera 10.40 306 ⇑P Pn 01 04 38.1 -0.9
NEHR Nehoiu 10.42 354 ⇑P Pn 01 04 45.7 +6.4
MLR Muntele Rosu 10.51 353 Pn Pn 01 04 43.3 +2.5
MLR Muntele Rosu 10.51 353 Pn Pn 01 04 42.3 +1.6
comp=Z,0.1nm,0.3s,baz=129,slow=7.5,SNR=8.3
MLR LR LR 01 09 33.7
comp=Z,506nm,18.6s,baz=175,slow=43
comp=Z,4.6nm,0.9s
MLR Muntele Rosu 10.51 353 ⇓P Pn 01 04 47.2 +6.4
VOIR 10.57 349 ⇑P Pn 01 04 44.1 +2.6
TREB Trebinje 10.61 319 ePn Pn 01 04 40.9 -1.1
BRY Bratogost 10.64 320 ePn Pn 01 04 43.4 +1.0
BRY Bratogost 10.64 320 ePn Pn 01 04 43.5 +1.0
BRY *j* Sn **Sn 01 06 35.4 -5.2**
HERR Herculane 10.64 339 ⇑P Pn 01 04 45.6 +3.3
UPM Unac-Piva 10.66 322 ePn Pn 01 04 44.2 +1.3
UPM Unac-Piva 10.66 322 ePn Pn 01 04 43.8 +0.9
UPM *i* Sn **Sn 01 06 35.9 -5.5**
CUC Castrocucco 10.72 301 Pn Pn 01 04 42.1 -1.3
RUDO Rudo 10.75 325 ePn Pn 01 04 45.8 +1.9
MDVR Moldovita 10.77 336 ⇓P Pn 01 04 48.2 +4.0
PLOR Plostina 10.81 356 ⇑P Pn 01 04 50.7 +6.0
LOT Lotru 10.82 345 ⇓P Pn 01 04 48.2 +3.3
VRI Vrincioaia 10.82 356 ⇓P Pn 01 04 51.2 +6.3
WDD Wied Dalam 10.87 278 Pn Pn 01 04 43.8 -1.7
BBLS Lazi&#263i 10.92 326 ePn Pn 01 04 47.3 +1.0
ACER Acerenza 10.97 305 Pn Pn 01 04 44.6 -2.3
SIM Simferopol' 10.99 24 eP Pn 01 04 49.0 +1.9
SIM *e* 01 06 51.7
SIM pmax pmax
comp=Z,17nm,1.1s
SIM smax smax
comp=E,270nm,17.0s
SIM MLR MLR
comp=Z,190nm,19.0s
GZR Gura Zlata 11.01 341 ⇑P Pn 01 04 49.9 +2.4
TURR Turia 11.06 353 ⇑P Pn 01 04 51.2 +3.0
STON Ston 11.07 318 ePn Pn 01 04 46.4 -1.8
VAE Valguarnera 11.08 286 Pn Pn 01 04 49.1 +0.6
comp=Z,13nm,0.3s,baz=145,slow=17,SNR=32
VAE Sn **Sn 01 06 45.3 -6.1**
comp=Z,2.3nm,0.3s,baz=148,slow=13,SNR=3.6
VAE LR LR 01 09 58.8
comp=Z,266nm,21.1s,baz=122,slow=42
comp=Z,30nm,0.4s
BOSR Bodos 11.12 352 ⇓P Pn 01 04 53.2 +4.3
TEKS Tekeris 11.41 329 ePn Pn 01 04 54.9 +2.0
TESR Tescani 11.47 356 ⇑P Pn 01 04 58.5 +4.8
SURR Surduc 11.52 340 ⇑P Pn 01 04 57.9 +3.6
BZS Buzias 11.55 338 ⇓P Pn 01 04 57.8 +3.0
SGRT San Giovanni R 11.58 309 Pn Pn 01 04 54.3 -0.9
FRGS Fruska Gora 11.79 331 ePn Pn 01 05 01.3 +3.2
MILM Milestii Mici 11.87 3 eP Pn 01 05 03.0 +3.9
MILM Milestii Mici 11.87 3 eP Pn 01 05 03.0 +3.9
MILM MLR MLR
comp=Z,500nm,13.5s
PAOL Paolisi 12.01 304 Pn Pn 01 05 00.2 -1.0
SIRR Siria 12.12 339 ⇑P Pn 01 05 06.0 +3.4
MARR Marisel-Cluj 12.13 344 ⇓P Pn 01 05 03.9 +1.1
ANN Anapa 12.20 34 eP Pn 01 05 04.4 +0.7
ANN *e*S **Sn 01 07 18.8 +0.2**
ANN pmax pmax
comp=Z,35nm,0.9s
ANN MLR MLR
comp=N,187nm,12.0s
ANN MLR MLR
comp=Z,93nm,10.0s
ANN MLR MLR
comp=E,125nm,11.0s
DRGR 12.33 343 ⇑P P 01 05 14.2 -3.2
SOC Sochi 12.54 44 eP Pn 01 05 07.7 -0.5
SOC *e* 01 07 24.9
SOC MLR MLR
comp=Z,174nm,17.0s
BLY Banja Luka 12.64 323 ePn Pn 01 05 10.3 +0.6
BURAR Bucovina Array 12.69 352 ⇑P Pn 01 05 15.5 +5.0
BUR08 Bucovina Ar. S 12.72 352 Pn Pn 01 05 11.9 +1.1
A050A Klekovaca 12.78 321 ePn Pn 01 05 11.1 -0.6
INTR Introdacqua 12.90 307 Pn Pn 01 05 13.1 -0.3
A051A Mrakovica 12.97 323 ePn Pn 01 05 13.5 -0.7
SORM Soroca 13.07 2 ⇑P Pn 01 05 19.1 +3.6
MORH Mrgy, Hungar 13.12 331 ⇑P Pn 01 05 18.1 +1.8
CAMP Campotosto 13.47 308 Pn Pn 01 05 19.9 -1.3
LABN Labinsk 13.77 42 eP P 01 05 31.0 -2.2
LABN *e*S Sn 01 08 05.6 +8.7
LABN pmax pmax
comp=Z,47nm,1.3s
LABN MLR MLR
comp=N,293nm,12.0s
LABN MLR MLR
comp=Z,178nm,11.0s
LABN MLR MLR
comp=E,340nm,11.0s
NRCA Norcia 13.81 309 Pn Pn 01 05 24.7 -1.0
FDMO Fiordimonte 13.92 309 Pn Pn 01 05 26.4 -0.9
PSZ Piszkesteto 14.13 338 Pn Pn 01 05 29.7 -0.5
PSZ Piszkesteto 14.13 338 ⇓P P 01 05 36.6 -0.8
PSZ Piszkesteto 14.13 338 P Pn 01 05 29.7 -0.5
BOJS Bojanci 14.14 321 ePn Pn 01 05 29.6 -0.6
GNI Garni 14.35 64 Pn Pn 01 05 35.8 +2.6
comp=E,0.2nm,0.3s,baz=228,slow=6.4,SNR=4.5
comp=E,14nm,1.1s
GNI Garni 14.35 64 ceP Pn 01 05 34.5 +1.3
GNI pmax pmax
comp=Z,33nm,1.7s
ERBR Yeremizino-Bor 14.35 38 eP P 01 05 39.3 -0.4
ERBR *e*S S 01 08 21.5 -9.2
ERBR pmax pmax
comp=Z,67nm,0.9s
ERBR MLR MLR
comp=Z,241nm,19.0s
SHA1 Shidzhatmaz 14.37 48 i P P 01 05 36.7 -3.5
MURB Monte Urbino 14.39 309 Pn Pn 01 05 33.1 -0.6
KOLS Kolonicke sedl 14.45 345 eP P 01 05 41.7 +0.8
KOLS Kolonicke sedl 14.45 345 eP P 01 05 41.7 +0.8
KIV Kislovodsk 14.50 48 eP P 01 05 41.7 +0.2
KIV *e*S **Sn 01 08 22.1 +7.2**
KIV pmax pmax
comp=Z,56nm,1.1s
KIV MLR MLR
comp=Z,73nm,13.0s
KVAR Kislovodsk Arr 14.51 48 Pn P 01 05 42.4 +0.8
baz=256,slow=19
KBZ Khabaz 14.51 49 Pn P 01 05 40.2 -1.3
comp=Z,0.5nm,0.3s,baz=229,slow=6.8,SNR=36
comp=Z,22nm,0.8s
KBZ Khabaz 14.51 49 i P P 01 05 42.9 +1.4
CEY Cerknica 14.73 320 ePn Pn 01 05 37.1 -1.1
NCK Nalchik 14.83 51 eP P 01 05 45.6 +0.5
VYHS Vyhne 14.98 336 eP P 01 05 44.8 -1.9
VYHS Vyhne 14.98 336 eP P 01 05 44.8 -1.9
KWP Kalwaria Pacla 15.03 347 eP P 01 05 50.9 +3.6
KEST Kesra 15.08 278 Pn Pn 01 05 43.2 +0.2
KEST IAmb IAmb 01 06 11.2
comp=Z,20nm,0.8s
KEST Kesra 15.08 278 Pn Pn 01 05 43.8 +0.8
comp=Z,0.4nm,0.3s,baz=115,slow=16,SNR=8.9
KEST Sn **Sn 01 08 24.9 -4.2**
comp=Z,0.2nm,0.3s,baz=110,slow=22,SNR=3.0
comp=Z,3.6nm,0.6s
SOKA Soboth 15.08 324 i Pn Pn 01 05 43.0 +0.1
comp=Z,6.9nm,0.9s
OBKA Obir 15.19 323 ePn Pn 01 05 44.3 -0.2
OBKA Obir 15.19 323 ePn Pn 01 05 45.8 +1.4
comp=Z,9.4nm,0.8s
CASP Castiglione de 15.26 305 Pn Pn 01 05 44.7 -0.6
ARSA Arzberg 15.27 327 Pn Pn 01 05 47.3 +1.9
ARSA Arzberg 15.27 327 ePn Pn 01 05 46.8 +1.4
comp=Z,7.5nm,1.5s
RONA Rosalia, Austr 15.28 329 ePn Pn 01 05 47.1 +1.6
comp=Z,9.1nm,1.1s,SNR=5.1
VSL Villasalto 15.32 292 Pn Pn 01 05 44.9 -1.2
VSL IAmb IAmb 01 05 57.1
comp=Z,38nm,1.5s
SABO M.te Sabotino 15.32 320 Pn Pn 01 05 45.2 -0.9
SABO IAmb IAmb 01 06 05.2
comp=Z,25nm,1.1s
GOF Gofitskoye 15.33 45 ceP P 01 05 52.0 +1.4
OSSC Osservatorio P 15.34 308 Pn Pn 01 05 45.4 -0.9
NIE Niedzica 15.37 341 eP P 01 05 52.5 +1.4
MODS Modra-Piesok 15.43 333 eP P 01 05 52.1 +0.4
MODS Modra-Piesok 15.43 333 eP P 01 05 52.1 +0.4
CONA Conrad Observa 15.64 329 ePn Pn 01 05 50.1 -0.1
comp=Z,4.1nm,1.1s
PRED Cave del Predi 15.65 321 Pn Pn 01 05 49.7 -0.6
AKASG Malin Array Be 15.66 3 Pn Pn 01 05 50.2 -0.3
comp=Z,2.1nm,0.3s,baz=196,slow=11,SNR=11
AKASG LR LR 01 13 02.4
comp=Z,154nm,18.1s,baz=188,slow=42
AKBB Malin Array Si 15.66 3 ceP Pn 01 05 52.1 +1.7
JAVC Velka Javorina 15.69 335 ePN Pn 01 05 52.7 +1.8
MYKA Terra Mystica 15.73 322 ePn Pn 01 05 51.7 +0.3
comp=Z,7.3nm,1.0s
ZCCA Zocca 15.91 311 Pn Pn 01 05 54.6 +1.0
TEOL Teolo 16.03 315 Pn Pn 01 05 55.9 +0.7
TEOL IAmb IAmb 01 06 08.6
comp=Z,42nm,1.3s
MAUC Maruska 16.07 336 eP P 01 06 00.1 +1.3
OJC Ojcow 16.24 341 eP P 01 06 01.3 +0.6
OJC Ojcow 16.24 341 P P 01 05 59.9 -0.7
OJC Ojcow 16.24 341 P P 01 05 59.9 -0.7
MOA Molln 16.29 326 ePn Pn 01 05 59.5 +1.1
comp=Z,4.5nm,0.8s
KRUC Moravsky 16.33 332 ePN Pn 01 05 58.8 -0.2
OKC Ostrava-Krasne 16.37 337 AMS AMS 01 13 40.0
comp=Z,1µm,10.5s
ABTA Abfaltersbach 16.40 320 ePn Pn 01 06 00.1 +0.1
comp=Z,4.8nm,0.7s
VRAC Vranov 16.45 333 ePN Pn 01 06 00.7 +0.1
VRAC Vranov 16.45 333 Pn Pn 01 06 01.4 +0.8
comp=Z,0.4nm,0.3s,baz=118,slow=15,SNR=7.0
VRAC LR LR 01 13 27.4
comp=Z,142nm,21.7s,baz=156,slow=42
comp=Z,3.0nm,0.6s
VRAC Vranov 16.45 333 ⇑P P 01 06 03.1 0.0
BIOA Bad Ischl, Aus 16.47 324 ePn Pn 01 06 01.9 +1.1
comp=Z,3.9nm,0.5s
MORC Moravsky Berou 16.52 336 Pn Pn 01 06 01.9 +0.5
MORC Moravsky Berou 16.52 336 ePN Pn 01 06 02.2 +0.8
MORC Moravsky Berou 16.52 336 ⇑P P 01 06 03.1 -0.7
MORC Moravsky Berou 16.52 336 P Pn 01 06 01.9 +0.5
MORC pmax pmax
comp=Z,38nm,1.5s
LESA Schwarzleotal 16.75 322 ePn P 01 06 05.7 -0.8
comp=Z,13nm,0.6s,SNR=12
TREC Trest 16.87 331 eP P 01 06 07.0 -0.7
TREC Trest 16.87 331 eP P 01 06 07.0 -0.7
AKT Akhty 16.89 62 eP Pn 01 06 06.4 +0.2
AKT pmax pmax
comp=Z,40nm,1.3s
CKRC Cesky Krumlov 16.99 328 eP Pn 01 06 07.4 +0.1
CKRC AMS AMS 01 13 30.0
comp=Z,600nm,11.1s
CKRC Cesky Krumlov 16.99 328 eP Pn 01 06 07.4 +0.1
CKRC MLR MLR
comp=Z,600nm,11.1s
KRLC Kraliky 17.03 335 eP P 01 06 09.0 -0.5
KRLC AMS AMS 01 14 00.0
comp=Z,500nm,13.0s
KRLC Kraliky 17.03 335 eP P 01 06 09.0 -0.5
KRLC MLR MLR
comp=Z,500nm,13.0s
WTTA Wattenberg 17.19 320 ePn P 01 06 11.7 +0.3
comp=Z,26nm,1.6s,SNR=7.8
WATA Walderalm 17.26 320 ePn Pn 01 06 11.7 +0.8
comp=Z,15nm,1.5s,SNR=6.5
GEC2 GERESS Array S 17.27 327 Pn 01 06 11.3 +0.4
GEC2 GERESS Array S 17.27 327 ePn Pn 01 06 10.9 0.0
GERES GERESS Array B 17.27 327 Pn 01 06 11.6 +0.6
GERES GERESS Array B 17.27 327 P Pn 01 06 11.4 +0.5
comp=Z,0.1nm,0.3s,baz=132,slow=11,SNR=29
comp=Z,4.0nm,0.7s
SQTA Sankt Quirin 17.39 319 ePn P 01 06 13.5 -0.1
comp=Z,11nm,0.7s,SNR=8.2
DPC Dobruska-Polom 17.42 335 eP P 01 06 14.2 +0.4
DPC AMS AMS 01 14 10.0
comp=Z,500nm,10.3s
DPC Dobruska-Polom 17.42 335 eP P 01 06 14.2 +0.4
DPC MLR MLR
comp=Z,500nm,10.3s
ZVC Zvikov 17.51 329 eP Pn 01 06 13.5 -0.3
ZVC AMS AMS 01 14 00.0
comp=Z,400nm,9.2s
FETA Feichten 17.52 318 ePn P 01 06 15.7 +0.6
comp=Z,20nm,0.9s,SNR=16
KHC Kasperske Hory 17.54 328 eP Pn 01 06 14.3 +0.1
KHC *e*S **S 01 09 34.2 -1.6**
KHC AMS AMS 01 14 20.0
comp=Z,700nm,10.8s
KHC Kasperske Hory 17.54 328 eP Pn 01 06 14.3 +0.1
KHC *e*S **S 01 09 34.2 -1.6**
KHC MLR MLR
comp=Z,700nm,10.8s
FUORN Ofenpass-Fuorn 17.55 316 Pn 01 06 14.1 -0.4
OSTC Ostas 17.63 335 eP Pn 01 06 15.4 +0.1
OSTC AMS AMS 01 14 20.0
comp=Z,500nm,12.7s
OSTC Ostas 17.63 335 eP Pn 01 06 15.4 +0.1
OSTC MLR MLR
comp=Z,500nm,12.7s
GOPC GO Pecny, Ondr 17.64 331 eP P 01 06 16.2 0.0
GOPC AMS AMS 01 14 40.0
comp=Z,500nm,10.2s
GOPC GO Pecny, Ondr 17.64 331 eP P 01 06 16.2 0.0
GOPC MLR MLR
comp=Z,500nm,10.2s
UPC Upice 17.66 335 eP P 01 06 16.9 +0.5
UPC AMS AMS 01 14 20.0
comp=Z,700nm,13.0s
UPC Upice 17.66 335 eP P 01 06 16.9 +0.5
UPC MLR MLR
comp=Z,700nm,13.0s
CHVC Chvalec 17.71 335 eP P 01 06 16.9 -0.1
CHVC AMS AMS 01 14 30.0
comp=Z,600nm,12.4s
CHVC Chvalec 17.71 335 eP P 01 06 16.9 -0.1
CHVC MLR MLR
comp=Z,600nm,12.4s
PRU Pruhonice 17.79 331 eP Pn 01 06 17.1 -0.2
PRU AMS AMS 01 14 40.0
comp=Z,400nm,8.4s
PRU Pruhonice 17.79 331 eP Pn 01 06 17.1 -0.2
PRU MLR MLR
comp=Z,400nm,8.4s
KSP Ksiaz 17.85 336 eP P 01 06 18.8 +0.3
DAVOX Davos/Dischmat 17.86 316 P P 01 06 19.1 +0.3
comp=Z,0.6nm,0.3s,baz=61,slow=9.4,SNR=8.2
DAVOX LR LR 01 14 34.7
comp=Z,211nm,21.1s,baz=114,slow=42
comp=Z,3.2nm,0.6s
WET Wettzell 17.86 327 ePn Pn 01 06 17.9 -0.3
PRA Prague 17.90 331 AMS AMS 01 14 50.0
comp=Z,400nm,10.1s
VORD Divnogorie 17.94 24 eP Pn 01 06 18.3 -0.8
VORD pmax pmax
comp=Z,9.0nm,0.8s
FUR Furstenfeldbru 17.95 322 ePn Pn 01 06 19.0 -0.4
TUE Stuetta 17.99 315 P Pn 01 06 20.1 +0.2
OBER Oberstdorf 17.99 319 ePn P 01 06 21.5 +1.3
VSR Storozhevoye 18.11 23 eP Pn 01 06 21.0 -0.2
VSR pmax pmax
comp=Z,10.0nm,1.0s
DAVA Damuels 18.15 318 ePn Pn 01 06 21.0 -0.8
comp=Z,7.0nm,0.7s
PVCC Panska Ves 18.21 332 eP P 01 06 24.3 +1.9
PVCC Panska Ves 18.21 332 eP P 01 06 24.3 +1.9
VORR Voronezh 18.52 23 eP P 01 06 24.9 -0.9
VORR pmax pmax
comp=Z,20nm,0.9s
ROTZ Rotzenmuhle 18.61 327 ePn P 01 06 26.5 -0.4
BRG Berggiesshubel 18.73 332 eP P 01 06 27.2 -1.0
BRG Amp 01 06 29.6
comp=Z,2.5nm,1.0s
BRG Berggiesshubel 18.73 332 P Pn 01 06 36.4 +7.7
BRG Amp 01 06 40.6
comp=Z,5.5nm,1.0s
BRG pP sP 01 06 42.4 +3.4
BRG Amp 01 06 42.4
comp=Z,5.3nm,0.9s
BRG Berggiesshubel 18.73 332 S Sn 01 09 58.0 +0.8
BNI Bardonecchia 18.95 308 P P 01 06 29.9 -1.0
BNI Bardonecchia 18.95 308 P P 01 06 29.9 -1.0
BNI pmax pmax
comp=Z,14nm,1.4s
VRH Novokhopyorsk 19.01 28 eP P 01 06 24.8 -6.4
VRH pmax pmax
comp=Z,18nm,0.5s
GRF Grafenberg Arr 19.01 325 ePn P 01 06 31.6 +0.3
GRFO Grafenberg 19.01 325 P P 01 06 31.7 +0.4
GRFO IAmb IAmb 01 07 10.8
comp=Z,32nm,1.2s
GRFO Grafenberg 19.01 325 P P 01 06 31.7 +0.4
GRFO pmax pmax
comp=Z,32nm,1.2s

SENIN Lac Senin/Sane 19.15 312 P **P** **01 06 32.3 -0.8**
SENIN IAmb IAmb 01 06 39.9
comp=Z,15nm,0.6s
SUW Suwalki 19.22 352 *e*P **P** **01 06 31.4 -2.1**
LPSR Galich'ya Gora 19.24 21 *e*P **P** **01 06 33.0 -0.7**
LPSR pmax pmax
comp=Z,20nm,0.9s
CLL Collm 19.44 331 P **P** **01 06 35.8 -0.1**
CLL Collm 19.44 331 *i* P **Pn** **01 06 36.9 -0.3**
CLL *e*S **Sn** **01 10 15.0 +0.7**
CLL pmax pmax
comp=Z,17nm,1.5s
CLL Collm 19.44 331 *i* P **Pn** **01 06 36.9 -0.3**
comp=Z,17nm,1.5s
CLL *i* sP **pP** **01 06 42.0 -1.2**
CLL *i* x x 01 06 46.7
CLL *i* PP **sP** **01 06 49.3 +2.5**
CLL *e*S **Sn** **01 10 15.0 +0.7**
CLL *ex* x 01 11 05.0
CLL AMS AMS 01 15 00.0
MNK Minsk 19.44 0 *i* P **P** **01 06 34.4 -1.4**
comp=E,4.0nm,0.8s
MNK *i* P **P** **01 06 34.4 -1.4**
comp=N,5.0nm,0.8s
MNK *i* P **P** **01 06 34.4 -1.4**
comp=Z,4.0nm,0.7s,baz=180
MNK *i* pP **sP** **01 06 46.3 -0.3**
MNK *i* sP pP 01 06 51.8 +8.5
MNK *i* S **S** **01 10 10.5 -3.4**
MNK *i* sS **sS** **01 10 25.8 +0.4**
MNK *i* LQ LQ 01 11 47.1
MNK *i* LR LR 01 13 22.7
MNK *i* LRM MLR 01 14 54.1
comp=Z,140nm,13.9s
MNK *i* LRM MLR 01 15 53.8
comp=N,109nm,16.9s
MNK *i* LRM MLR 01 16 24.4
comp=E,181nm,15.3s
MNK Minsk 19.44 0 *i* P **P** **01 06 34.4 -1.4**
MNK *i* S **S** **01 10 10.4 -3.4**
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK pmax pmax
comp=Z,4.0nm,0.7s
MNK pmax pmax
comp=N,5.0nm,0.8s
MNK MLR MLR
comp=Z,140nm,14.0s
MNK MLR MLR
comp=N,109nm,17.0s
MNK MLR MLR
comp=E,181nm,15.0s
MOX Moxa 19.51 328 *e*Pn **Pn** **01 06 38.1 0.0**
BFO Black Forest 19.61 318 *e*Pn **P** **01 06 37.7 -0.1**
GKP Gorka Klasztor 19.68 341 *e*P **P** **01 06 38.2 -0.3**
NACGM Naroch 19.85 358 *e*P **Pn** **01 06 41.5 -0.6**
comp=Z,19nm,0.9s,baz=178
ECH Echery 20.19 317 P **P** **01 06 44.2 0.0**
ECH Echery 20.19 317 P **P** **01 06 44.2 0.0**
ECH pmax pmax
comp=Z,11nm,1.3s
TNS Taunus Mts 20.70 323 *e*Pn Pn 01 06 52.2 0.0
OBN Obninsk 20.95 14 P **P** **01 06 52.9 +0.7**
comp=Z,18nm,0.4s,baz=101,slow=17,SNR=4.7
OBN S **S** **01 10 44.2 +0.2**
comp=Z,7.6nm,0.5s,baz=300,slow=21,SNR=1.6
comp=Z,18nm,0.4s
OBN Obninsk 20.95 14‖ *e*P Pn 01 06 54.0 -0.9
OBN *e* 01 07 00.6
OBN *e* 01 07 13.2
OBN *e*S **S** **01 10 44.8 +0.8**
OBN *e*SS **SnSn** **01 11 11.5 +5.9**
OBN pmax pmax
comp=Z,52nm,1.3s
OBN MLR MLR
comp=Z,159nm,16.0s
WLF Walferdange 21.55 319 *d*P **P** **01 06 59.0 +0.3**
MOS Moscow 21.75 15 *e*P **P** **01 07 03.2 +2.3**
MOS *e* 01 07 25.1
MOS *e*S **S** **01 11 03.5 +3.7**
MOS *e*SS **SnSn** **01 11 29.7 +4.4**
MOS pmax pmax
comp=Z,28nm,0.8s
MOS MLR MLR
comp=Z,300nm,14.0s
BSD Bornholm Skovb 21.95 340 *e*P **P** **01 07 00.6 -2.4**
CEST Esterri de Car 21.95 298 P **P** **01 07 02.1 -1.2**
CEST IAmb IAmb 01 07 21.2
comp=Z,18nm,1.1s
BHOU Houvegnez 22.02 321 *d*P **P** **01 07 05.4 +1.6**
MEM Membach 22.17 321 *d*P **P** **01 07 05.1 -0.3**
MEM *d*pP **pP** **01 07 12.0 -0.7**
MEM *d*PP **PnPn** **01 07 28.5 +0.5**
BELG Belogornoye 22.35 33 LR LR 01 17 45.9
comp=Z,116nm,21.8s,baz=266,slow=42
BELG Belogornoye 22.35 33 *i* P **P** **01 07 08.5 +1.2**
BELG pmax pmax
comp=Z,9.0nm,0.9s
BSTI Sart Tilman 22.38 321 *d*P **P** **01 07 10.2 +2.5**
BCLA Clavier 22.43 320 *d*P **P** **01 07 09.2 +1.1**
comp=Z,14nm,0.8s
BGES Gesves 22.52 320 *d*P **P** **01 07 11.0 +1.8**
DOU Dourbes 22.62 319 *d*P **P** **01 07 10.2 -0.1**
comp=Z,5.5nm,1.1s
BMRD Maredsous 22.64 319 *d*P **P** **01 07 12.1 +1.6**
BLEU Blekinge 22.77 343 *e*P **P** **01 07 08.4 -3.4**
CLF Chambon-Foret 22.97 312 P **P** **01 07 12.9 -1.0**
CLF IAmb IAmb 01 07 46.9
comp=Z,38nm,1.3s
UCC Uccle 23.14 320 *d*P **P** **01 07 14.9 -0.7**
COP Copenhagen 23.18 338 *e*P **P** **01 07 15.7 -0.2**
BJUU Bjuv 23.33 339 *e*P **P** **01 07 15.9 -1.5**
DEL Delary 23.42 340 *e*P **P** **01 07 15.8 -2.5**
FABU Falkenberg 24.21 340 *e*P **P** **01 07 20.9 -4.8**
BORU Boraas 24.74 341 *e*P **P** **01 07 28.8 -1.8**
ESBB Sonseca Array 25.59 290 P **P** **01 07 38.2 -0.4**
ESDC Sonseca Array 25.59 290 P **P** **01 07 38.8 +0.2**
ESDC Sonseca Array 25.59 290 P **P** **01 07 38.8 +0.2**
comp=Z,3.6nm,0.5s,baz=81,slow=9.5,SNR=74
ESDC PcP **PcP** **01 11 11.0 +1.9**
comp=Z,0.3nm,0.6s,baz=60,slow=2.2,SNR=2.2
ESDC LR LR 01 18 58.5
comp=Z,109nm,18.4s,baz=90,slow=40
comp=Z,3.6nm,0.5s
PAB San Pablo 25.89 290 P **P** **01 07 41.2 -0.1**
PAB IAmb IAmb 01 07 57.7
comp=Z,12nm,1.1s
PAB San Pablo 25.89 290 P **P** **01 07 41.3 -0.1**
PAB pmax pmax
comp=Z,12nm,1.1s
WACR West Acre 26.13 321 *e*P **P** **01 07 43.0 -0.2**
STRU Stroemstad 26.37 341 *e*P **P** **01 07 43.2 -2.1**
FINES FINESS Array B 26.42 358 P **P** **01 07 43.8 -2.0**
FINES FINESS Array B 26.42 358 P **P** **01 07 45.0 -0.8**
comp=Z,3.8nm,0.7s,baz=155,slow=11,SNR=18
FINES PcP **PcP** **01 11 11.6 +1.1**
comp=Z,2.4nm,0.6s,baz=158,slow=1.6,SNR=12
FINES LR LR 01 18 19.7
comp=Z,129nm,19.4s,baz=202,slow=37
comp=Z,3.8nm,0.7s
FINES FINESS Array B 26.42 358*ce*P **P** **01 07 45.7 -0.1**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FIA1 FINESS Array S 26.42 358 P **P** **01 07 45.2 -0.6**
FIA1 IAmb IAmb 01 07 45.4
comp=Z,17nm,1.1s
WOL Wolverton 26.44 317 *e*P **P** **01 07 44.7 -1.4**
WOL IAmb IAmb 01 07 45.5
comp=Z,17nm,0.6s
ROSF Rostrenen 26.52 310 *e*P **P** **01 07 45.8 -1.1**
HFS Hagfors 26.71 344 P **P** **01 07 47.2 -1.2**
comp=Z,4.3nm,0.5s,baz=154,slow=12,SNR=18
HFS LR LR 01 18 41.8
comp=Z,137nm,18.4s,baz=170,slow=37
comp=Z,4.3nm,0.5s
SWN1 Swindon 26.85 317 *e*P **P** **01 07 49.0 -0.8**
SWN1 IAmb IAmb 01 07 50.1
comp=Z,35nm,0.8s
KLMR Klimovskoe 26.89 13 *e*P **P** **01 07 49.0 -1.0**
KLMR pmax pmax
comp=Z,30nm,1.3s
CWF Charnwood Fore 27.15 320 *e*P **P** **01 07 50.6 -1.9**
CWF IAmb IAmb 01 07 52.6
comp=Z,5.3nm,0.8s
AB31 Akbulak array 27.48 49 P **P** **01 07 55.0 -0.4**
AB31 IAmb IAmb 01 08 00.1
comp=Z,8.0nm,0.8s
ABKAR Akbulak array 27.48 49 P **P** **01 07 54.8 -0.6**
ABKAR IAmb IAmb 01 08 00.1
comp=Z,8.0nm,0.8s
MONM Monmouth 27.56 317 *e*P **P** **01 07 55.6 -0.5**
MCH1 Michaelchurch 27.73 317 *e*P **P** **01 07 56.7 -1.0**
MCH1 IAmb IAmb 01 07 58.1
comp=Z,5.0nm,0.8s
PBRG Braganca 27.76 294 *e*P **P** **01 07 58.1 0.0**
PBRG *i* IAmb IAmb 01 08 05.3
comp=Z,22nm,1.9s
STNC Stoke 27.80 320 *e*P **P** **01 07 57.5 -0.8**
STNC IAmb IAmb 01 07 58.0
comp=Z,23nm,0.7s
HLM1 Long Mynd 27.90 318 *e*P **P** **01 07 57.8 -1.4**
HLM1 IAmb IAmb 01 07 58.7
comp=Z,6.1nm,0.7s
MVO Moncorvo 27.95 293 *e*P **P** **01 08 00.5 +0.6**
MVO *i* IAmb IAmb 01 08 16.4
comp=Z,24nm,1.8s
MVO *e*S **S** **01 12 48.6 +6.6**
NC405 NORSAR Array S 28.03 343 P **P** **01 07 57.9 -2.4**
PBAR Barrancos 28.04 287 *e*P **P** **01 08 01.1 +0.4**
NB2 NORSAR Subarra 28.09 343 P **P** **01 07 59.0 -1.8**
comp=Z,2.4nm,0.7s,baz=150,slow=11
NOA NORSAR Array B 28.09 343 P **P** **01 07 59.2 -1.6**
comp=Z,1.3nm,0.6s,baz=154,slow=8.4,SNR=8.4
NOA LR LR 01 21 13.0
comp=Z,112nm,21.5s,baz=155,slow=41
comp=Z,1.3nm,0.6s
FOEL Foel Wylfa 28.24 319 *e*P **P** **01 08 01.1 -1.1**
FOEL IAmb IAmb 01 08 02.1
comp=Z,14nm,0.6s
PMRV Marv??o 28.25 289 *e*S S 01 13 09.4 +23
MTE Manteigas 28.34 291 *e*S S 01 13 01.0 +13
PVRL Vila Real 28.47 293 *e*P **P** **01 08 05.0 +0.5**
POLO Lamas de Olo 28.53 293 *e*P **P** **01 08 04.9 -0.2**
POLO *i* IAmb IAmb 01 08 47.4
comp=Z,21nm,1.7s
PVIS Viseu 28.60 292 *e*P **P** **01 08 06.6 +1.0**
PVAQ Vaqueiros 28.65 285 *e*P **P** **01 08 06.6 +0.5**
PVAQ *e*S S 01 13 04.0 +11
PCAB Cabril 28.71 294 *e*P **P** **01 08 07.1 +0.5**
PCAB *i* IAmb IAmb 01 08 47.7
comp=Z,43nm,1.5s
PBDV Barranco-do-Ve 28.84 285 *e*P **P** **01 08 08.3 +0.6**
PBDV *i* IAmb IAmb 01 08 10.5
comp=Z,74nm,1.4s
PGAV Gavieira, Arco 28.90 295 *e*S S 01 13 08.5 +11
EKA Eskdalemuir Ar 29.39 323 P **P** **01 08 11.2 -1.3**
comp=Z,1.0nm,0.5s,baz=129,slow=11,SNR=12
EKA PcP **PcP** **01 11 19.2 +1.4**
comp=Z,1.3nm,0.7s,baz=142,slow=4.2,SNR=3.6
comp=Z,1.0nm,0.5s
EKB Eskdalemuir 29.41 323 P **P** **01 08 11.0 -1.6**
EKB IAmb IAmb 01 08 18.2
comp=Z,19nm,1.2s
PTEO Sao Teotonio 29.43 286 *e*P **P** **01 08 12.0 -0.9**
PTEO *i* IAmb IAmb 01 09 00.8
comp=Z,74nm,1.6s
ARTI Arti 29.76 35 LR LR 01 21 39.6
comp=Z,106nm,21.8s,baz=233,slow=39
ARTI Arti 29.76 35*d* *i*P **P** **01 08 17.0 +1.3**
ARTI 01 09 08.6
ARTI 01 11 19.7
ARTI S **S** **01 13 10.8 +0.8**
ARTI SS **SnSn** **01 14 39.7 -1.2**
ARTI pmax pmax
comp=Z,3.0nm,0.5s
SVE Sverdlovsk 31.05 35 *e*P **P** **01 08 29.2 +2.1**
TORD Torodi Ar. Bea 32.14 234 P **P** **01 08 37.4 +0.4**
TORD IAmb IAmb 01 08 44.9
comp=Z,9.0nm,1.2s
TORD Torodi Ar. Bea 32.14 234 P **P** **01 08 37.4 +0.4**
comp=Z,6.2nm,0.5s,baz=30,slow=11,SNR=8.3
comp=Z,6.2nm,0.5s
KK31 Karatay Array 33.81 63 P **P** **01 08 51.1 -0.3**
KK31 IAmb IAmb 01 08 53.7
comp=Z,9.3nm,0.8s
KK31 Karatay Array 33.81 63 P **P** **01 08 51.1 -0.3**
KK31 pmax pmax
comp=Z,9.0nm,0.9s
KKAR Karatay Array 33.81 63 P **P** **01 08 51.1 -0.3**
KKAR IAmb IAmb 01 08 53.7
comp=Z,9.7nm,0.8s
KKAR Karatay Array 33.81 63 P **P** **01 08 51.1 -0.3**
KKAR pmax pmax
comp=Z,10.0nm,0.9s
ARCES ARCESS Array B 34.55 359 P **P** **01 08 56.0 -1.5**
comp=Z,4.3nm,0.9s,baz=177,slow=4.9,SNR=12
ARCES PcP **PcP** **01 11 32.6 +0.9**
comp=Z,0.9nm,0.6s,baz=159,slow=3.6,SNR=4.6
ARCES LR LR 01 24 04.8
comp=Z,117nm,18.6s,baz=173,slow=38
comp=Z,4.3nm,0.9s
BVAR Bovoye Array 34.85 46 P **P** **01 09 00.2 -0.1**
comp=Z,1.2nm,0.7s,baz=246,slow=6.3,SNR=7.3
comp=Z,1.2nm,0.7s
MBAR Mbarara 35.59 175*ce*P **P** **01 09 11.3 +4.2**
MBAR pmax pmax
comp=Z,4.0nm,1.0s
ARSB Arslanbob 35.73 66 P **P** **01 09 08.5 +0.3**
ARSB IAmb IAmb 01 09 15.9
comp=Z,12nm,1.0s
ARSB Arslanbob 35.73 66 P **P** **01 09 08.5 +0.3**
ARSB pmax pmax
comp=Z,12nm,1.0s
PMPS Porto Santo 36.40 280 *e*P **P** **01 09 12.8 -1.1**
AAK Ala-Archa 36.75 64 LR LR 01 28 35.0
comp=Z,75nm,19.6s,baz=286,slow=43
AAK Ala-Archa 36.75 64*ce*P **P** **01 09 19.0 +2.1**
AAK pmax pmax
comp=Z,5.0nm,1.0s
NIL Nilore 37.30 79 P **P** **01 09 19.6 -1.9**
NIL Nilore 37.30 79 P **P** **01 09 19.6 -1.9**
NIL pmax pmax
comp=Z,40nm,1.2s
NRN Naryn 37.98 66 P **P** **01 09 27.4 -0.1**
NRN IAmb IAmb 01 09 30.9
comp=Z,15nm,1.0s
NRN Naryn 37.98 66 P **P** **01 09 27.4 -0.1**
NRN pmax pmax
comp=Z,15nm,1.0s
KSH Kashi 38.22 69 P **P** **01 09 28.0 -1.3**
KSH pmax pmax
comp=Z,6.0nm,0.8s
TARG Taragay, Kyrgy 39.29 65 P **P** **01 09 40.0 +1.4**
TARG Taragay, Kyrgy 39.29 65 P **P** **01 09 40.0 +1.4**
TARG pmax pmax
comp=Z,9.0nm,1.2s
KURBB Kurchatov Arra 39.50 51 P **P** **01 09 40.4 +0.7**
comp=Z,4.2nm,0.7s,baz=275,slow=8.8,SNR=47
KURBB PcP **PcP** **01 11 48.4 +1.4**
comp=Z,2.2nm,0.8s,baz=265,slow=4.1,SNR=5.9
comp=Z,4.2nm,0.7s
KURK Kurchatov 39.56 51*ce*P **P** **01 09 41.1 +0.9**
KURK pmax pmax
comp=Z,8.0nm,1.3s
DBIC Dimbokro 41.24 234 P **P** **01 09 55.1 +0.6**
comp=Z,6.1nm,0.8s,baz=60,slow=8.3,SNR=15
DBIC LR LR 01 30 32.0
comp=Z,137nm,20.6s,baz=68,slow=41
comp=Z,6.1nm,0.8s
BORG Borgarnes 41.68 331 LR LR 01 29 51.4
comp=Z,71nm,18.7s,baz=126,slow=40
MK31 Makanchi Array 42.01 57*ce*P **P** **01 10 01.9 +1.3**
MKAR Makanchi Array 42.01 57 P **P** **01 10 00.3 -0.3**
MKAR Makanchi Array 42.01 57 P **P** **01 10 00.8 +0.2**
comp=Z,1.7nm,0.5s,baz=273,slow=7.8,SNR=23
MKAR PcP **PcP** **01 11 56.3 +1.0**
comp=Z,1.8nm,0.8s,baz=267,slow=3.8,SNR=3.2
MKAR LR LR 01 32 17.1
comp=Z,56nm,19.0s,baz=309,slow=43
comp=Z,1.7nm,0.5s
MKAR Makanchi Array 42.01 57*ce*P **P** **01 10 01.6 +1.0**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
SPITS Spitsbergen Ar 43.50 357 P **P** **01 10 12.5 +0.3**
comp=Z,1.5nm,0.4s,baz=140,slow=11,SNR=14
comp=Z,1.5nm,0.4s
ZAA0 Zalesovo Array 43.51 46 P **P** **01 10 11.9 -0.6**
ZALV Zalesovo Beam 43.51 46 P **P** **01 10 10.9 -1.6**
ZALV Zalesovo Beam 43.51 46 P **P** **01 10 12.9 +0.3**
comp=Z,1.1nm,0.5s,baz=277,slow=12,SNR=8.4
comp=Z,1.1nm,0.5s
EVN Everest 50.18 81 P **P** **01 11 01.9 -4.0**
GOMU GeErMu 53.45 68 P **P** **01 11 32.6 +2.7**
GOMU pP pP 01 11 38.0 -0.4
GOMU sP sP 01 11 42.0 +0.3
GOMU PP **PP** **01 13 31.0 +0.7**
GOMU pmax pmax
comp=Z,6.0nm,0.8s
MOY Mondy 53.47 48 *e*P **P** **01 11 31.5 +2.1**
MOY pmax pmax
comp=Z,13nm,2.0s
ZAK Zakamensk 55.17 49 *e*P **P** **01 11 42.9 +1.0**
ZAK pmax pmax
comp=Z,8.0nm,1.2s
SHL Shillong 55.29 81 P **P** **01 11 39.1 -4.0**
SHL Shillong 55.29 81 P **P** **01 11 39.1 -4.0**
SHL pmax pmax
comp=Z,19nm,1.3s
PALK Pallekele 55.74 107 LR LR 01 39 50.0
comp=Z,128nm,18.0s,baz=304,slow=40
GTA Gaotai 56.09 63 P **P** **01 11 49.1 +0.5**
GTA pP pP 01 11 55.6 -1.5
GTA pmax pmax
comp=Z,11nm,1.0s
GTA LR LR
comp=N,170nm,17.8s
GTA LR LR
comp=E,150nm,17.4s
GTA LR LR
comp=Z,180nm,18.5s
SONM Songino Array 57.86 51 P **P** **01 12 00.8 -0.3**
SONM IAmb IAmb 01 12 10.7
comp=Z,5.7nm,1.0s
SONM Songino Array 57.86 51 P **P** **01 12 02.5 +1.4**
comp=Z,3.2nm,0.6s,baz=286,slow=8.2,SNR=11
comp=Z,3.2nm,0.6s
ULN Ulaanbaatar 58.27 51 P **P** **01 12 02.9 -1.0**
ULN IAmb IAmb 01 12 13.7
comp=Z,8.4nm,0.9s
ULN Ulaanbaatar 58.27 51*ce*P **P** **01 12 05.9 +2.0**
ULN pmax pmax
comp=Z,10.0nm,1.7s
LZH Lanzhou 60.28 65 *e*P **P** **01 12 17.7 -0.3**
LZH pP pP 01 12 26.8 +0.1
LZH pmax pmax
comp=Z,35nm,1.3s
LZH LR LR
comp=N,310nm,18.7s
LZH LR LR
comp=E,290nm,20.6s
LZH LR LR
comp=Z,250nm,17.2s
CD2 Chengdu 62.39 70 P **P** **01 12 32.1 -0.1**
CD2 pmax pmax
comp=Z,20nm,1.1s
BOSA Boshof 63.38 183 P **P** **01 12 40.6 +1.9**
comp=Z,3.1nm,0.7s,baz=355,slow=7.0,SNR=8.7
comp=Z,3.1nm,0.7s
HHC Hu-ho-hao-te 63.88 57 *e*P **P** **01 12 41.9 -0.1**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,75nm,4.5s
CMAR Chiang Mai Arr 64.42 85 P **P** **01 12 44.7 -1.1**
CMAR Chiang Mai Arr 64.42 85 P **P** **01 12 46.2 +0.4**
comp=Z,1.8nm,0.3s,baz=298,slow=8.7,SNR=12
comp=Z,1.8nm,0.3s
CMAR Chiang Mai Arr 64.42 85*ce*P **P** **01 12 46.7 +0.9**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
SCHQ Schefferville 64.66 320 P **P** **01 12 46.6 -0.2**
comp=Z,11nm,0.8s,baz=72,slow=4.9,SNR=18
comp=Z,11nm,0.8s
ZEA Zeya 67.66 39 *e*P P 01 12 55.0 -11
ZEA pmax pmax
comp=Z,10.0nm,0.3s
D62A Allapoint, All 69.48 314 P **P** **01 13 17.1 -0.3**
A36M Sachs Harbour 71.58 351 P **P** **01 13 29.6 -0.2**
A36M IAmb IAmb 01 13 31.1
comp=Z,6.2nm,0.8s
BLKN Baker Lake 71.59 338 P **P** **01 13 29.1 -1.0**
BLKN IAmb IAmb 01 13 30.1
comp=Z,3.5nm,0.8s
RCBR Riachuelo 72.31 249 LR LR 01 45 10.1
comp=Z,28nm,19.6s,baz=66,slow=36
BILL Bilibino 72.61 15*ce*P **P** **01 13 37.4 +1.3**
BILL pmax pmax
comp=Z,6.0nm,1.3s
SEY Seymchan 72.81 23 P **P** **01 13 38.5 +1.1**
comp=Z,1.6nm,0.5s,baz=315,slow=4.2,SNR=4.1
comp=Z,1.6nm,0.5s
VLDQ Val d'Or 73.75 318 P **P** **01 13 43.0 -0.2**
VLDQ IAmb IAmb 01 13 46.0
comp=Z,10nm,1.2s
USRK Ussuriysk Ar. 75.36 46 P **P** **01 13 53.4 +0.8**
comp=Z,3.6nm,0.6s,baz=287,slow=6.9,SNR=8.3
comp=Z,3.6nm,0.6s
INK Inuvik 76.00 353 LR LR 01 52 38.3
comp=Z,51nm,18.1s,baz=220,slow=40
KSAR Wonju Array Be 76.59 54 P **P** **01 13 59.0 -0.7**
KSAR Wonju Array Be 76.59 54 P **P** **01 13 59.0 -0.7**
KSRS Korea Array 76.61 54 P **P** **01 14 00.7 +0.9**
comp=Z,2.8nm,0.7s,baz=306,slow=4.6,SNR=12
comp=Z,2.8nm,0.7s
SADO Sadowa 76.64 316 LR LR 01 48 01.2
comp=Z,51nm,18.0s,baz=321,slow=36
F31M Tsiigehtchic 76.86 353 P **P** **01 14 00.6 -0.1**
F31M IAmb IAmb 01 14 01.7
comp=Z,6.7nm,1.1s
BMAR Burnt Mountain 77.66 357 P **P** **01 14 06.1 +0.8**
YKA Yellowknife Ar 78.19 343 P **P** **01 14 08.3 +0.1**
comp=Z,0.5nm,0.6s,baz=32,slow=6.2,SNR=3.9
YKA LR LR 01 51 31.8
comp=Z,41nm,19.5s,baz=318,slow=38
comp=Z,0.5nm,0.6s
MDP Montagnes des 79.28 269 LR LR 01 47 31.8
comp=Z,35nm,21.4s,baz=96,slow=34
I29M Ogilvie Camp, 79.32 354 P **P** **01 14 14.0 -0.4**
I29M IAmb IAmb 01 14 15.5
comp=Z,10nm,1.2s
GAMB Gambell 80.28 9 P **P** **01 14 17.7 -1.8**
ILAR Eielson Array 80.41 358 P **P** **01 14 20.1 -0.2**
comp=Z,1.0nm,0.8s,baz=344,slow=3.4,SNR=10
comp=Z,1.0nm,0.8s
CCB Clear Creek Bu 80.56 358 P **P** **01 14 21.1 0.0**
CCB IAmb IAmb 01 14 22.4
comp=Z,4.7nm,1.0s
WRH Wood River Hil 80.74 358 P **P** **01 14 21.7 -0.4**
WRH IAmb IAmb 01 14 23.4
comp=Z,6.5nm,0.8s
HDA Harding Lake 80.77 358 P **P** **01 14 22.1 -0.2**
HDA IAmb IAmb 01 14 23.4
comp=Z,5.9nm,0.8s
F42A Maple Grove Fa 80.96 320 P **P** **01 14 24.0 +0.4**
SCRK Sand Creek 81.08 356 P **P** **01 14 24.3 +0.2**
SCRK IAmb IAmb 01 14 31.2
comp=Z,9.8nm,1.4s
K24K Donnelly Dome 81.33 357 P **P** **01 14 24.8 -0.5**
K24K IAmb IAmb 01 14 26.7
comp=Z,9.9nm,0.9s
ULM Lac du Bonnet 81.58 327 P **P** **01 14 27.9 +1.1**
comp=Z,1.3nm,0.4s,baz=69,slow=5.4,SNR=2.3
ULM LR LR 01 51 11.7
comp=Z,39nm,18.3s,baz=5.5,slow=36
comp=Z,1.3nm,0.4s
BCAR Beaver Creek A 81.85 355 P **P** **01 14 28.3 +0.2**
PETK Petropavlovsk- 82.00 28 P **P** **01 14 29.3 +0.3**
comp=Z,1.4nm,0.9s,baz=336,slow=3.2,SNR=2.5
comp=Z,1.4nm,0.9s
DHY Denali Highway 82.12 358 P **P** **01 14 29.1 -0.6**
DHY IAmb IAmb 01 14 31.5
comp=Z,6.8nm,1.0s
SJG San Juan 82.94 287 LR LR 01 47 46.5
comp=Z,16nm,18.8s,baz=308,slow=33
SKT Skwentna 83.30 360 P **P** **01 14 35.0 -0.6**
MJAR Matsushiro Arr 83.76 49 P **P** **01 14 40.0 +1.6**
comp=Z,1.9nm,0.8s,baz=316,slow=3.5,SNR=6.4
comp=Z,1.9nm,0.8s
TGY Tagaytay City 84.55 77 LR LR 01 58 28.7
comp=Z,149nm,18.3s,baz=163,slow=40
TKL Tuckaleechee C 85.06 311 LR LR 01 55 55.0
comp=Z,41nm,18.1s,baz=354,slow=38
L40A Anamosa 85.11 319 P **P** **01 14 44.7 -0.5**
U49A Red Boiling Sp 85.74 312 P **P** **01 14 47.4 -1.0**
Y52A Lilburn 86.39 309 P **P** **01 14 49.3 -2.4**
SIUC Southern Illin 86.98 315 P **P** **01 14 53.9 -0.6**
BDFB Brasilia 87.69 249 P **P** **01 15 00.8 +2.5**
comp=Z,3.2nm,0.7s,baz=45,slow=5.5,SNR=5.9

BDFB				LR	LR	01 53 13.4	
	comp=Z,78nm,21.3s,baz=105,slow=35						
	comp=Z,3.2nm,0.7s						
CCM	**Cathedral Cave**	**87.90**	**316**	P	**P**	**01 14 56.7**	**-2.2**
CCM	**Cathedral Cave**	**87.90**	**316**	P	**P**	**01 14 56.7**	**-2.2**
CCM				pmax	pmax		
	comp=Z,10.0nm,1.3s						
R40A	**Maddies Statio**	**88.31**	**317**	P	**P**	**01 15 00.5**	**-0.4**
BPMT	**Black Pine Rid**	**91.68**	**334**	P	**P**	**01 15 16.5**	**-0.3**
BOZ	**Bozeman (W)**	**91.74**	**333**	P	**P**	**01 15 16.9**	**0.0**
BOZ				IAmb	IAmb	01 15 57.5	
	comp=Z,5.3nm,1.4s						
BOZ	**Bozeman (W)**	**91.74**	**333**	P	**P**	**01 15 16.9**	**0.0**
BOZ				pmax	pmax		
	comp=Z,5.0nm,1.5s						
LRM	**Limekiln Ridge**	**91.85**	**333**	P	**P**	**01 15 17.4**	**-0.1**
PDAR	**Pinedale Array**	**93.30**	**330**	P	**P**	**01 15 23.8**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=17,slow=7.7,SNR=2.2						
PDAR				LR	LR	02 00 51.6	
	comp=Z,31nm,18.4s,baz=343,slow=38						
	comp=Z,0.3nm,0.7s						
ELK	**Elko**	**97.25**	**333**	LR	LR	02 00 42.1	
	comp=Z,67nm,20.1s,baz=316,slow=36						
ANMO	**Albuquerque**	**98.30**	**324**	LR	LR	02 01 12.4	
	comp=Z,43nm,18.4s,baz=156,slow=36						
QSPA	**South Pole Qui**	**124.92**	**180**	PKP	**PKiKP**	**01 21 09.4**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=272,slow=1.4,SNR=15						

*AEIC **03** 01:13:19.5±2.5, 65°.82N±0°.02×166°.19W±0°.05, h23km±4km, ML4.1, mb4.5/15(NEIC), mb_Lg3.8/36(NEIC), ML4.2/54(NEIC), Mwr3.9/12(NEIC), Error ellipse: s-maj=3.3km s-min=2.4km az=144.0*

*NEIC **03** 01:13:19.8±1.7, 65°.83N±0°.03×166°.27W±0°.05, h17km±4km, Error ellipse: s-maj=4.0km s-min=2.8km az=160.0, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=5.24; Mθθ 6.10; Mϕϕ -0.86; Mrθ -5.95; Mθϕ -0.64; Mϕr 1.09; Fault plane solution: M0 8.35000×10^14^ NP1:ϕ99.32000°, δ68.40000°, λ-86.44000°. NP2:ϕ269.71000°, δ21.88000°, λ-98.92000°. Principal axes: T 8.7549, Plg23.0000°, Azm187.0000°; N -0.8888, Plg3.0000°, Azm278.0000°; P -7.8661, Plg66.0000°, Azm16.0000°;*

*MOS **03** 01:13:20.4±1.1, 66°.00N×165°.97W, h15km, mb4.6/14 Error ellipse: s-maj=18.8km s-min=9.5km az=104.8*

*NEIC **03** 01:13:20.1, 65°.84N×166°.37W, h32km*

*IDC **03** 01:13:21.1±0.7, 66°.10N×166°.53W, h0km, mb4.0/18, mbtmp3.9/22, ML3.6/4, MS3.2/6, Error ellipse: s-maj=20.0km s-min=10.3km az=23.0*

ISC 03 01:13:20.0±0.4, 65°.87N±0°.04×166°.13W±0°.03, h10km, n168, σ1ϟ49/163, mb4.3/36, MS3.4/4, 9C-1D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F14K	**Arctic Creek**	**0.40**	**192**		**Pg**	**01 13 27.5**	**-0.5**
F14K					**Sg**	**01 13 32.0**	**-1.3**
F15K	**North Star Dit**	**0.63**	**104**	Pn	**Pb**	**01 13 33.2**	**+0.1**
F15K	**North Star Dit**	**0.63**	**104**		**Sb**	**01 13 42.1**	**+0.1**
TNA	**Tin City**	**0.80**	**248**		**Pg**	**01 13 34.8**	**-0.7**
TNA				Sg	**Sg**	**01 13 44.2**	**-1.8**
TNA				IAML		01 13 48.1	
	comp=E,11μm,0.5s						
G15K	**Niukluk**	**1.24**	**134**		**Pn**	**01 13 43.1**	**-0.3**
G15K					**Sb**	**01 13 59.6**	**+0.2**
ANM	**Nome**	**1.35**	**166**		**Pn**	**01 13 44.4**	**-0.4**
ANM				Sn	**Sb**	**01 14 01.1**	**-1.4**
ANM				IAML		01 14 02.7	
	comp=E,5μm,0.6s						
ANM				IAML		01 14 05.9	
	comp=N,4μm,0.4s						
G16K	**Koyuk River**	**1.64**	**105**	Pn	**Pn**	**01 13 47.6**	**-1.2**
G16K				IAML		01 14 14.8	
	comp=E,3μm,0.3s						
G16K				IAML		01 14 16.3	
	comp=N,3μm,0.4s						
G16K	**Koyuk River**	**1.64**	**105**		**Sg**	**01 14 12.7**	**+0.1**
H16K	**Elim**	**2.05**	**125**		**Pn**	**01 13 54.5**	**0.0**
F17K	**Baldwin Pennin**	**2.07**	**72**	Pn	**Pn**	**01 13 53.7**	**-1.0**
F17K				IAML		01 14 34.7	
	comp=N,1μm,0.5s						
E17K	**Hotham Inlet**	**2.11**	**53**		**Pn**	**01 13 55.7**	**+0.3**
D17K	**Noatak River**	**2.20**	**32**		**Pn**	**01 13 56.8**	**+0.3**
G17K	**Kiwalik Mounta**	**2.30**	**97**		**Pn**	**01 13 57.7**	**-0.2**
C16K	**Lisburne Hills**	**2.44**	**7**		**Pn**	**01 14 00.9**	**+1.0**
C16K	**Lisburne Hills**	**2.44**	**7**	IAmb_Lg		01 14 42.7	
	comp=Z,403nm,0.8s						
C16K				IAML		01 14 44.0	
	comp=N,1μm,0.9s						
C16K				IAML		01 14 47.0	
	comp=E,1μm,0.6s						
RDOG	**Red Dog Mine**	**2.54**	**29**		**Pn**	**01 14 01.5**	**+0.3**
RDOG	**Red Dog Mine**	**2.54**	**29**	IAML		01 14 43.7	
	comp=E,1μm,0.4s						
RDOG				IAML		01 14 44.4	
	comp=N,1μm,0.4s						
RDOG				IAmb_Lg		01 14 47.0	
	comp=Z,445nm,0.7s						
E18K	**Tukpahlearik C**	**2.70**	**52**	Pn	**Pn**	**01 14 03.2**	**-0.2**
E18K				IAmb_Lg		01 14 47.4	
	comp=Z,416nm,0.9s						
E18K				IAML		01 14 49.7	
	comp=N,1μm,0.6s						
E18K				IAML		01 14 50.6	
	comp=E,887nm,0.5s						
H17K	**Granite Mounta**	**2.76**	**107**	Pn	**Pn**	**01 14 04.3**	**-0.1**
H17K				IAML		01 14 58.8	
	comp=N,719nm,0.7s						
C17K	**DeLong Mountai**	**2.86**	**22**		**Pn**	**01 14 07.1**	**+1.4**
I17K	**Unalakleet**	**3.06**	**128**	Pn	**Pn**	**01 14 07.8**	**-0.5**
I17K				IAML		01 15 03.4	
	comp=N,876nm,0.9s						
G18K	**Tagagawik**	**3.07**	**86**	Pn	**Pn**	**01 14 08.6**	**0.0**
GAMB	**Gambell**	**3.18**	**231**	Pn	**Pn**	**01 14 08.5**	**-1.5**
GAMB				IAML		01 15 05.7	
	comp=E,1μm,0.7s						
GAMB				IAmb_Lg		01 15 05.9	
	comp=Z,853nm,0.7s						
GAMB				IAML		01 15 06.2	
	comp=N,969nm,0.6s						
H18K	**Honhosa River**	**3.31**	**99**	Pn	**Pn**	**01 14 11.8**	**-0.1**
J14K	**Nanvaranak Lak**	**3.33**	**159**	Pn	**Pn**	**01 14 11.2**	**-0.8**
J14K				IAML		01 15 15.6	
	comp=N,544nm,0.6s						
J14K				IAML		01 15 16.6	
	comp=E,744nm,0.8s						
C18K	**Utukok River**	**3.39**	**32**			**01 14 14.1**	**+1.2**
C18K	**Utukok River**	**3.39**	**32**	IAML		01 15 16.2	
	comp=E,657nm,1.1s						
C18K				IAmb_Lg		01 15 17.9	
	comp=Z,433nm,0.9s						
F19K	**Shaleruckik Mo**	**3.50**	**70**	Pn	**Pn**	**01 14 14.7**	**+0.2**
J16K	**Anvik River**	**3.52**	**135**	Pn	**Pn**	**01 14 14.9**	**+0.2**
G19K	**Purcell Mounta**	**3.71**	**82**	Pn	**Pn**	**01 14 17.1**	**-0.2**
E19K	**Redstone River**	**3.88**	**62**	IAmb_Lg		01 15 30.3	
	comp=Z,204nm,0.7s						
J17K	**VABM Dome**	**3.92**	**126**	Pn	**Pn**	**01 14 21.6**	**+1.4**
J17K				IAML		01 15 31.4	
	comp=E,394nm,0.8s						
K13K	**Kusilvak Mount**	**4.00**	**170**	Pn	**Pn**	**01 14 21.0**	**-0.4**
H19K	**Roundabout Mou**	**4.02**	**90**	Pn	**Pn**	**01 14 22.0**	**+0.5**
H19K				IAmb_Lg		01 15 34.4	
	comp=Z,193nm,0.7s						
H19K				IAML		01 15 34.5	
	comp=E,355nm,0.6s						
H19K				IAML		01 15 37.8	
	comp=N,340nm,0.7s						
GCSA	**Galena City Sc**	**4.04**	**102**		**Pn**	**01 14 22.4**	**+0.6**
D19K	**Kuna River**	**4.09**	**46**	Pn	**Pn**	**01 14 24.0**	**+1.4**
D19K				IAmb_Lg		01 15 34.1	
	comp=Z,348nm,1.2s						
D19K				IAML		01 15 39.3	
	comp=N,264nm,0.8s						
D19K				IAML		01 15 47.3	
	comp=E,237nm,1.6s						
K15K	**Wolf Creek Mou**	**4.12**	**149**	Pn	**Pn**	**01 14 23.1**	**+0.2**
K15K				IAmb_Lg		01 15 36.2	
	comp=Z,245nm,0.8s						
F20K	**Avaraart Lake**	**4.34**	**69**	Pn	**Pn**	**01 14 25.8**	**-0.2**
F20K				IAML		01 15 39.3	
	comp=N,233nm,1.0s						
K17K	**Iditarod**	**4.65**	**129**	Pn	**Pn**	**01 14 30.4**	**+0.2**
K17K				IAML		01 15 57.0	
	comp=N,300nm,1.0s						
K17K				IAmb_Lg		01 15 59.0	
	comp=Z,228nm,0.8s						
K17K				IAML		01 16 00.5	
	comp=E,286nm,0.7s						
D20K	**Etivluk River**	**4.66**	**48**	Pn	**Pn**	**01 14 31.3**	**+0.9**
D20K				IAmb_Lg		01 15 59.0	
	comp=Z,189nm,1.0s						
J18K	**Innoko River**	**4.71**	**116**	Pn	**Pn**	**01 14 31.8**	**+0.7**
J18K				IAML		01 15 55.8	
	comp=N,180nm,1.0s						
J18K				IAML		01 15 57.2	
	comp=E,161nm,0.9s						
L14K	**Kuka Creek**	**4.80**	**160**	Pn	**Pn**	**01 14 32.0**	**-0.2**
L14K				IAmb_Lg		01 15 55.0	
	comp=Z,180nm,1.0s						
I20K	**Naaghedeneel**	**5.00**	**97**	Pn	**Pn**	**01 14 36.1**	**+1.2**
IMAR	**Indian Mountai**	**5.07**	**83**	Pn	**Pn**	**01 14 36.4**	**+0.4**
L16K	**Owhat River**	**5.11**	**142**	Pn	**Pn**	**01 14 36.1**	**-0.4**
J20K	**Nowinta River**	**5.35**	**103**	Pn	**Pn**	**01 14 41.4**	**+1.5**
B20K	**Meade River**	**5.36**	**35**	Pn	**Pn**	**01 14 41.1**	**+1.3**
M14K	**Bethel**	**5.47**	**158**	Pn	**Pn**	**01 14 41.6**	**+0.2**
M14K				IAmb_Lg		01 16 19.3	
	comp=Z,116nm,0.8s						
M11K	**Mekoryuk**	**5.50**	**180**	Pn	**Pn**	**01 14 41.0**	**-0.9**
L18K	**Granite Mounta**	**5.53**	**127**	IAmb_Lg		01 16 22.8	
	comp=Z,129nm,1.1s						
M13K	**Dall Lake**	**5.62**	**166**	Pn	**Pn**	**01 14 43.6**	**+0.1**
M13K				IAmb_Lg		01 16 22.6	
	comp=Z,138nm,0.7s						
M17K	**Holitna River**	**5.92**	**135**	Pn	**Pn**	**01 14 48.8**	**+1.1**
M17K				IAmb_Lg		01 16 40.6	
	comp=Z,241nm,1.1s						
CHUM	**Lake Minchumin**	**6.21**	**102**		**Pn**	**01 14 53.0**	**+1.4**
N14K	**Kuskokwak Cree**	**6.30**	**159**	IAmb_Lg		01 16 53.7	
	comp=Z,176nm,0.9s						
N15K	**Kwethluk River**	**6.34**	**152**	IAmb_Lg		01 16 57.1	
	comp=Z,139nm,1.2s						
MLY	**Manley**	**6.47**	**90**	Pn	**Pn**	**01 14 55.5**	**+0.2**
COLD	**Coldfoot**	**6.50**	**71**	Pn	**Pn**	**01 14 55.1**	**-0.5**
CAST	**Castle Rocks**	**6.51**	**106**	Pn	**Pn**	**01 14 56.4**	**+0.6**
BPAW	**Bear Paw Mtn.**	**6.66**	**98**	Pn	**Pn**	**01 14 58.5**	**+0.6**
PPLA	**Purkeypile**	**6.74**	**110**	Pn	**Pn**	**01 15 00.4**	**+1.4**
KTH	**Kantishna Hill**	**6.91**	**103**	Pn	**Pn**	**01 15 02.0**	**+0.7**
TOLK	**Toolik Lake Re**	**6.99**	**59**	Pn	**Pn**	**01 15 03.8**	**+1.5**
TRF	**Thorofare Moun**	**7.21**	**102**	Pn	**Pn**	**01 15 06.8**	**+1.3**
BWN	**Browne**	**7.25**	**96**	Pn	**Pn**	**01 15 06.8**	**+0.9**
NEA2	**Nenana**	**7.28**	**92**	Pn	**Pn**	**01 15 06.8**	**+0.5**
O15K	**Ungalikthiuk R**	**7.32**	**154**	IAmb_Lg		01 17 23.4	
	comp=Z,84nm,1.3s						
SKT	**Skwentna**	**7.51**	**114**	Pn	**Pn**	**01 15 11.2**	**+1.6**
MCK	**McKinley**	**7.64**	**98**	Pn	**Pn**	**01 15 12.0**	**+0.7**
MCK	**McKinley**	**7.64**	**98**	P	**Pn**	**01 15 12.0**	**+0.7**
SPBG	**Spurr Blockage**	**7.68**	**121**		**Pn**	**01 15 13.6**	**+1.7**
COLA	**College**	**7.70**	**89**	Pn	**Pn**	**01 15 12.6**	**+0.6**
COLA	**College**	**7.70**	**89**	*i* P	**Pn**	**01 15 12.1**	**+0.1**
STLK	**Strandline Lak**	**7.71**	**118**	Pn	**Pn**	**01 15 13.5**	**+1.3**
WRH	**Wood River Hil**	**7.72**	**92**	Pn	**Pn**	**01 15 12.3**	**0.0**
CCB	**Clear Creek Bu**	**7.78**	**91**	Pn	**Pn**	**01 15 13.3**	**+0.1**
RND	**Reindeer**	**7.81**	**100**	Pn	**Pn**	**01 15 14.7**	**+1.0**
RND	**Reindeer**	**7.81**	**100**	P	**Pn**	**01 15 14.7**	**+1.0**
WAT7	**Susitna Watana**	**8.08**	**104**		**Pn**	**01 15 16.5**	**+1.1**
IL31		**8.12**	**89**	Pn	**Pn**	**01 15 17.7**	**-0.1**
ILAR	**Eielson Array**	**8.12**	**89**	Pn	**Pn**	**01 15 17.8**	**0.0**
ILAR	**Eielson Array**	**8.12**	**89**	Pn	**Pn**	**01 15 18.6**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=282,slow=13,SNR=55						
ILAR				Sn	**Sn**	**01 16 48.0**	**-1.5**
	comp=Z,1.6nm,0.3s,baz=255,slow=7.3,SNR=6.5						
ILAR				Lg	Lg	01 17 39.5	
	baz=282,slow=28						
	comp=Z,5.1nm,0.5s						
RED	**Redoubt Volcan**	**8.14**	**126**	Pn	**Pn**	**01 15 19.6**	**+1.4**
RDT	**Redoubt**	**8.15**	**124**		**Pn**	**01 15 19.6**	**+1.3**
HDA	**Harding Lake**	**8.21**	**91**	Pn	**Pn**	**01 15 18.2**	**-0.8**
ILSW	**Iliamna Southw**	**8.35**	**129**	Pn	**Pn**	**01 15 23.2**	**+2.1**
FYU	**Fort Yukon**	**8.46**	**76**	Pn	**Pn**	**01 15 23.1**	**+0.6**
PRP	**Porcupine Dome**	**8.50**	**83**	Pn	**Pn**	**01 15 23.6**	**+0.5**
DHY	**Denali Highway**	**8.56**	**100**	Pn	**Pn**	**01 15 25.7**	**+1.8**
GHO	**Glory Hole Cre**	**8.63**	**110**	Pn	**Pn**	**01 15 28.4**	**+3.5**
BMAR	**Burnt Mountain**	**8.69**	**70**	Pn	**Pn**	**01 15 25.9**	**+0.3**
ANCK	**Angle Creek**	**9.16**	**142**		**Pn**	**01 15 32.6**	**+0.5**
ACHA	**Angle Creek He**	**9.19**	**142**	Pn	**Pn**	**01 15 33.2**	**+0.7**
SCM	**Sheep Creek Mo**	**9.22**	**107**	Pn	**Pn**	**01 15 37.1**	**+4.2**
SCM	**Sheep Creek Mo**	**9.22**	**107**	P	**Pn**	**01 15 37.1**	**+4.2**
RIDG	**Independent Ri**	**9.31**	**93**	Pn	**Pn**	**01 15 35.2**	**+1.0**
CNPM	**China Poot**	**9.32**	**126**	Pn	**Pn**	**01 15 36.4**	**+2.1**
PAX	**Paxson**	**9.38**	**98**	Pn	**Pn**	**01 15 37.4**	**+2.3**
PAX	**Paxson**	**9.38**	**98**	P	**Pn**	**01 15 37.4**	**+2.3**
PWL	**Port Wells**	**9.42**	**114**	Pn	**Pn**	**01 15 38.7**	**+3.1**
SCRK	**Sand Creek**	**9.57**	**91**	Pn	**Pn**	**01 15 37.4**	**-0.5**
DOT	**Dot Lake**	**9.67**	**93**	Pn	**Pn**	**01 15 39.0**	**0.0**
MENT	**Mentasta**	**10.11**	**96**	Pn	**Pn**	**01 15 46.4**	**+1.3**
KDAK	**Kodiak Island**	**10.31**	**135**	Pn	**Pn**	**01 15 50.6**	**+2.8**
	comp=Z,2.0nm,0.3s,baz=356,slow=2.7,SNR=26						
KDAK				Sn	**Sn**	**01 17 43.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=288,slow=21,SNR=2.3						
KDAK				LR	LR	01 20 25.4	
	comp=Z,65nm,19.0s,baz=54,slow=40						
	comp=Z,7.4nm,0.4s						
HIN	**Hinchinbrook I**	**10.41**	**113**	Pn	**Pn**	**01 15 49.2**	**0.0**
OHAK	**Old Harbor**	**10.59**	**139**	Pn	**Pn**	**01 15 55.2**	**+3.6**
BCAR	**Beaver Creek A**	**10.84**	**94**	Pn	**Pn**	**01 15 55.2**	**0.0**
DAWY	**Dawson**	**11.43**	**87**	Pn	**Pn**	**01 16 02.3**	**-0.8**
CNBA	**Chernabura Isl**	**11.54**	**161**	Pn	**Pn**	**01 16 04.3**	**-0.2**
INK	**Inuvik**	**12.84**	**64**	Pn	**Pn**	**01 16 22.5**	**+0.2**
INK	**Inuvik**	**12.84**	**64**	Pn	**Pn**	**01 16 23.2**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=305,slow=18,SNR=6.1						
INK				Sn	**Sn**	**01 18 43.5**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=192,slow=20,SNR=1.7						
INK				LR	LR	01 22 23.9	
	comp=Z,50nm,19.7s,baz=232,slow=42						
	comp=Z,1.5nm,0.5s						
F31M	**Tsiigehtchic**	**12.85**	**68**	Pn	**Pn**	**01 16 22.4**	**0.0**
MMPY	**Sheldon Lake,**	**15.37**	**86**	P	**Pn**	**01 16 58.0**	**+1.4**
A36M	**Sachs Harbour**	**15.63**	**49**		**Pn**	**01 16 56.6**	**-3.3**
A36M				IAmb	IAmb	01 17 05.6	
	comp=Z,30nm,0.8s						
SEY	**Seymchan**	**17.92**	**280**	LR	LR	01 24 49.4	
	comp=Z,41nm,18.4s,baz=152,slow=39						
DLBC	**Dease Lake**	**18.19**	**97**	P	**P**	**01 17 35.4**	**+2.7**
	baz=274,slow=10,SNR=6.0						
	comp=Z,0.3nm,0.8s						
YKAW3	**Yellowknife Wh**	**22.12**	**74**	P	**P**	**01 18 14.1**	**-1.1**
YKAW3				IAmb	IAmb	01 18 26.8	
	comp=Z,10nm,0.9s						
YKA	**Yellowknife Ar**	**22.16**	**74**	P	**P**	**01 18 17.6**	**+2.0**
	comp=Z,2.7nm,0.8s,baz=302,slow=10,SNR=7.2						
	comp=Z,2.7nm,0.8s						
YKAW1	**Yellowknife Wh**	**22.21**	**74**	P	**P**	**01 18 14.7**	**-1.5**
YKAW1				IAmb	IAmb	01 18 23.3	
	comp=Z,5.6nm,0.8s						
TIXI	**Tiksi**	**23.12**	**313**	*ce*P	**P**	**01 18 26.1**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,12nm,1.7s						
YAK	**Yakutsk**	**27.34**	**292**	LR	LR	01 32 03.2	
	comp=Z,35nm,18.0s,baz=336,slow=41						
LYMT	**Lyon Mountain**	**33.86**	**97**	P	**P**	**01 20 01.9**	**-0.7**
MCMT	**McKenzie Canyo**	**35.38**	**100**	P	**P**	**01 20 13.5**	**-2.2**
SUMG	**Summit**	**37.48**	**23**	P	**P**	**01 20 33.9**	**+0.3**
SUMG				IAmb	IAmb	01 21 12.7	
	comp=Z,16nm,1.4s						
SUMG	**Summit**	**37.48**	**23**	P	**P**	**01 20 33.9**	**+0.3**
SUMG				pmax	pmax		
	comp=Z,16nm,1.4s						
MJAR	**Matsushiro Arr**	**43.35**	**256**	P	**P**	**01 21 25.4**	**+3.3**
	comp=Z,1.4nm,0.5s,baz=21,slow=8.6,SNR=2.6						
	comp=Z,1.4nm,0.5s						
ARCES	**ARCESS Array B**	**44.63**	**354**	P	**P**	**01 21 32.1**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=13,slow=9.4,SNR=3.8						
	comp=Z,1.2nm,0.9s						
APA	**Apatity**	**46.13**	**350**	*i* P	P	01 21 35.7	-8.1
APA				*i*		01 23 15.2	
APA				*i*		01 23 28.2	
APA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
APA				MLR	MLR		
	comp=Z,394nm,3.9s						
SONM	**Songino Array**	**46.70**	**292**	P	**P**	**01 21 48.8**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=38,slow=7.7,SNR=2.0						
	comp=Z,0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**49.01**	**312**	P	**P**	**01 22 06.7**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=35,slow=7.0,SNR=7.9						
	comp=Z,1.7nm,0.5s						
FCAR	**Ozark Folk Cen**	**51.39**	**87**	P	**P**	**01 22 23.3**	**-1.3**
FCAR				IAmb	IAmb	01 22 25.4	
	comp=Z,3.2nm,0.7s						
KLMR	**Klimovskoe**	**52.16**	**344**	*e*P	**P**	**01 22 28.6**	**-1.4**
KLMR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TXAR	**Lajitas Array**	**52.39**	**102**	P	**P**	**01 22 36.2**	**+4.0**
	comp=Z,0.2nm,0.6s,baz=354,slow=5.9,SNR=2.4						
	comp=Z,0.2nm,0.6s						
BRDY	**Brady**	**52.56**	**97**	P	**P**	**01 22 31.6**	**-1.9**
FINES	**FINESS Array B**	**52.67**	**353**	P	**P**	**01 22 34.8**	**+1.0**
	comp=Z,2.0nm,0.9s,baz=36,slow=6.3,SNR=5.3						
FINES				LR	LR	01 46 57.9	
	comp=Z,26nm,18.6s,baz=210,slow=38						
	comp=Z,2.0nm,0.9s						
FINES	**FINESS Array B**	**52.67**	**353**	*ce*P	**P**	**01 22 35.4**	**+1.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ARTI	**Arti**	**53.52**	**331**	*c i*P	**P**	**01 22 40.8**	**+0.7**
ARTI						01 23 46.1	
ARTI						01 24 40.3	
ARTI				S	**S**	**01 30 12.6**	**+0.2**
ARTI				SS	**SS**	**01 33 50.3**	**-1.4**
ARTI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KURK	**Kurchatov**	**53.69**	**314**	*ce*P	**P**	**01 22 42.6**	**+1.2**
KURK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
KURBB	**Kurchatov Arra**	**53.80**	**314**	P	**P**	**01 22 42.8**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=30,slow=7.0,SNR=14						
	comp=Z,2.3nm,0.7s						
BRVK	**Borovoye**	**53.88**	**322**	*ce*P	**P**	**01 22 44.5**	**+1.7**
BRVK				pmax	pmax		
	comp=Z,6.0nm,2.5s						
BVAR	**Borovoye Array**	**53.88**	**321**	P	**P**	**01 22 43.6**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=36,slow=7.7,SNR=9.8						
	comp=Z,2.3nm,0.7s						
HFS	**Hagfors**	**54.31**	**0**	P	**P**	**01 22 47.2**	**+1.4**
	comp=Z,5.2nm,1.2s,baz=340,slow=6.9,SNR=5.7						
	comp=Z,5.2nm,1.2s						
MK31	**Makanchi Array**	**56.05**	**310**	*ce*P	**P**	**01 22 59.8**	**+1.2**
MKAR	**Makanchi Array**	**56.05**	**310**	P	P	01 22 53.5	-5.2
MKAR	**Makanchi Array**	**56.05**	**310**	P	**P**	**01 22 58.9**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=39,slow=6.5,SNR=7.5						
	comp=Z,0.9nm,0.7s						
MAKZ	**Makanchi**	**56.14**	**310**	P	**P**	**01 22 56.6**	**-2.6**
MAKZ				IAmb	IAmb	01 22 59.9	
	comp=Z,5.0nm,1.4s						
MAKZ	**Makanchi**	**56.14**	**310**	P	**P**	**01 22 56.6**	**-2.6**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.4s						
GTA	**Gaotai**	**56.37**	**292**	*e*P	**P**	**01 23 02.1**	**+1.0**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
V58A	**Windy Hill, Pi**	**56.76**	**76**	P	**P**	**01 23 01.1**	**-2.6**
V58A				IAmb	IAmb	01 23 10.9	
	comp=Z,12nm,1.4s						
LZH	**Lanzhou**	**57.70**	**287**	*e*P	P	01 23 05.8	-4.8
LZH				sP	sP	01 23 22.6	+7.5
LZH				pmax	pmax		
	comp=Z,40nm,1.3s						
EKA	**Eskdalemuir Ar**	**58.43**	**11**	P	**P**	**01 23 16.7**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=349,slow=4.5,SNR=6.2						
	comp=Z,1.5nm,0.7s						
AB31	**Akbulak array**	**59.88**	**327**	P	**P**	**01 23 24.9**	**-0.5**
ABKAR	**Akbulak array**	**59.88**	**327**	P	**P**	**01 23 25.2**	**-0.1**
AAK	**Ala-Archa**	**62.20**	**313**	*ce*P	**P**	**01 23 44.5**	**+3.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG	**Malin Array Be**	**63.17**	**349**	P	**P**	**01 23 47.8**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=10,slow=6.8,SNR=4.3						
	comp=Z,1.5nm,0.6s						
AKASG	**Malin Array Be**	**63.17**	**349**	*ce*P	**P**	**01 23 48.5**	**+1.0**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKBB	**Malin Array Si**	**63.17**	**349**	P	**P**	**01 23 43.4**	**-4.1**
AKBB				IAmb	IAmb	01 23 49.1	
	comp=Z,3.6nm,0.8s						
AKBB	**Malin Array Si**	**63.17**	**349**	*ce*P	**P**	**01 23 46.6**	**-0.9**
AKBB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIEV	**Kiev**	**63.17**	**349**	P	**P**	**01 23 43.5**	**-4.0**
KIEV				IAmb	IAmb	01 23 49.1	
	comp=Z,3.4nm,0.9s						
KIEV	**Kiev**	**63.17**	**349**	P	**P**	**01 23 43.6**	**-4.0**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GERES	**GERESS Array B**	**65.62**	**0**	P	**P**	**01 24 05.5**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=358,slow=6.7,SNR=3.5				

JNU	**Nakatsue**	**4.21**	**1**	Pn		**Pn**	**01 22 32.3**	**+0.6**
JNU	**Nakatsue**	**4.21**	**1**	Pn		**Pn**	**01 22 32.5**	**+0.7**
	2.7nm,0.3s,baz=186,slow=14,SNR=18							
JNU				Sn		**Sn**	**01 23 18.4**	**-2.6**
	5.7nm,0.3s,baz=200,slow=19,SNR=7.1							
	32nm,0.8s							
JKE	**Kume jima 2**	**4.41**	**235**	*e*P		**Pn**	**01 22 34.7**	**+0.2**
JMN	**Monobe**	**5.47**	**28**	Pn		**Pn**	**01 22 49.8**	**+0.6**
JGF	**Kuroka**	**8.67**	**38**	Pn		**Pn**	**01 23 34.5**	**+1.5**
KSRS	**Korea Array**	**8.87**	**345**	Pn		**Pn**	**01 23 35.4**	**-0.2**
	0.4nm,0.5s,baz=256,slow=24,SNR=1.8							
YHNB	**Yeheng**	**9.44**	**246**	Pn		**Pn**	**01 23 44.0**	**+0.4**
MJAR	**Matsushiro Arr**	**9.83**	**37**	Pn		**Pn**	**01 23 49.3**	**+0.4**
	0.1nm,0.3s,baz=198,slow=12,SNR=1.4							
	0.6nm,0.4s							
JCJ	**Chichijima**	**10.20**	**97**	Pn		**Pn**	**01 23 55.2**	**+1.2**
JCJ	**Chichijima**	**10.20**	**97**	Pn		**Pn**	**01 23 53.4**	**-0.7**
	16nm,0.4s							
ASAJ	**Asahikawa**	**17.86**	**29**	P		**Pn**	**01 25 34.2**	**-1.9**
	0.5nm,0.3s,baz=29,slow=31,SNR=1.9							
ASAJ				LR		LR	01 33 32.4	
	comp=Z,114nm,18.3s,baz=356,slow=41							
	1.7nm,0.3s							
GUMO	**Guam**	**20.05**	**137**	LR		LR	01 33 46.4	
	comp=Z,29nm,18.0s,baz=249,slow=37							
KLR	**Kul'dur**	**20.31**	**2**	P		**P**	**01 26 03.0**	**-0.6**
	1.5nm,0.6s,baz=170,slow=4.3,SNR=3.9							
	1.5nm,0.6s							
SONM	**Songino Array**	**26.73**	**322**	P		**P**	**01 27 07.7**	**+0.5**
	0.7nm,0.5s,baz=123,slow=10,SNR=5.7							
	0.7nm,0.5s							
CMAR	**Chiang Mai Arr**	**30.91**	**257**	P		**P**	**01 27 45.2**	**+0.7**
	0.7nm,0.3s,baz=51,slow=7.6,SNR=1.2							
CMAR				LR		LR	01 41 49.5	
	comp=Z,75nm,18.1s,baz=75,slow=40							
	0.7nm,0.3s							
PETK	**Petropavlovsk-**	**31.22**	**32**	P		**P**	**01 27 46.4**	**-0.6**
	1.0nm,0.6s,baz=243,slow=9.8,SNR=4.4							
	1.0nm,0.6s							
SHL	**Shillong**	**34.68**	**274**	P		**P**	**01 28 15.2**	**-2.5**
MKAR	**Makanchi Array**	**41.56**	**309**	P		**P**	**01 29 14.9**	**-0.3**
	0.6nm,0.7s,baz=102,slow=10.0,SNR=6.3							
	0.6nm,0.7s							
ZALV	**Zalesovo Beam**	**41.60**	**320**	P		**P**	**01 29 16.0**	**+0.5**
	0.3nm,0.4s,baz=90,slow=7.6,SNR=1.5							
ZALV				PcP		**PcP**	**01 31 13.4**	**+1.0**
	0.6nm,0.4s,baz=105,slow=4.9,SNR=2.5							
	0.3nm,0.4s							
KNRA	**Kununurra**	**44.36**	**183**	P		**P**	**01 29 39.5**	**+1.4**
KURBB	**Kurchatov Arra**	**44.58**	**314**	P		**P**	**01 29 39.4**	**-0.3**
	0.9nm,0.4s,baz=94,slow=8.6,SNR=8.2							
KURBB				LR		LR	01 50 04.2	
	comp=Z,78nm,21.4s,baz=185,slow=38							
	0.9nm,0.4s							
WB0	**Warramunga Arr**	**48.51**	**176**	P		**P**	**01 30 11.3**	**+0.6**
WB0				IAmb		IAmb	01 30 18.2	
	comp=Z,9.8nm,1.5s							
WRA	**Warramunga Arr**	**48.68**	**176**	P		**P**	**01 30 12.5**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=353,slow=8.4,SNR=8.1							
	comp=Z,1.6nm,0.8s							
WR8	**Warramunga Arr**	**48.70**	**175**	P		**P**	**01 30 12.9**	**+0.8**
WR8				IAmb		IAmb	01 30 22.6	
	comp=Z,5.7nm,1.1s							
KKAR	**Karatay Array**	**49.80**	**304**	P		**P**	**01 30 20.9**	**+0.4**
BVAR	**Borovoye Array**	**49.87**	**317**	P		**P**	**01 30 21.0**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=86,slow=8.9,SNR=6.3							
BVAR				PcP		**PcP**	**01 31 42.1**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=96,slow=4.3,SNR=1.9							
BVAR				LR		LR	01 52 58.1	
	comp=Z,40nm,19.6s,baz=24,slow=38							
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**52.35**	**176**	P		**P**	**01 30 40.5**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=9.3,slow=14,SNR=13							
	comp=Z,0.8nm,0.8s							
G18K	**Tagagawik**	**56.05**	**28**	P		**P**	**01 31 06.5**	**+0.3**
G18K				IAmb		IAmb	01 31 21.4	
	comp=Z,7.1nm,1.1s							
ABKAR	**Akbulak array**	**56.54**	**312**	P		**P**	**01 31 09.7**	**-0.3**
ABKAR				IAmb		IAmb	01 31 11.0	
	comp=Z,3.4nm,0.7s							
AKTO	**Aktyubinsk**	**57.63**	**314**	LR		LR	01 58 35.4	
	comp=Z,70nm,18.0s,baz=276,slow=39							
B21K	**Ikpikpuk River**	**57.85**	**24**	P		**P**	**01 31 19.5**	**+0.6**
E22K	**Anaktuvuk Pass**	**58.82**	**25**	P		**P**	**01 31 27.1**	**+1.3**
E22K				IAmb		IAmb	01 31 27.9	
	comp=Z,3.2nm,0.8s							
F24K	**Squaw Lake**	**60.34**	**26**	P		**P**	**01 31 36.8**	**+0.6**
ILAR	**Eielson Array**	**61.00**	**29**	P		**P**	**01 31 40.6**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=274,slow=6.3,SNR=8.7							
	comp=Z,0.7nm,0.7s							
F25K	**Christian Rive**	**61.19**	**26**	P		**P**	**01 31 43.9**	**+1.8**
BMAR	**Burnt Mountain**	**61.61**	**26**	P		**P**	**01 31 46.8**	**+1.8**
F26K	**Sheenjek River**	**61.74**	**26**	P		**P**	**01 31 47.1**	**+1.3**
F26K				IAmb		IAmb	01 31 48.3	
	comp=Z,2.8nm,0.8s							
J26L	**Joseph Creek**	**62.45**	**29**	P		**P**	**01 31 50.5**	**-0.2**
J26L				IAmb		IAmb	01 31 51.5	
	comp=Z,3.5nm,0.8s							
E27K	**Coleen River**	**62.62**	**25**	P		**P**	**01 31 53.3**	**+1.6**
BCAR	**Beaver Creek A**	**63.50**	**31**	P		**P**	**01 31 58.8**	**+1.2**
I28M	**Miner Creek**	**63.79**	**28**	P		**P**	**01 32 00.6**	**+1.1**
I28M				IAmb		IAmb	01 32 02.1	
	comp=Z,4.5nm,0.9s							
H29M	**Whitestone**	**64.25**	**27**	P		**P**	**01 32 02.8**	**+0.4**
G30M	**tAoh Zrali Nji**	**64.89**	**26**	P		**P**	**01 32 07.3**	**+0.6**
I30M	**Mount Dempster**	**65.29**	**28**	P		**P**	**01 32 10.3**	**+0.9**
I30M				IAmb		IAmb	01 32 11.0	
	comp=Z,2.1nm,0.7s							
G31M	**Satah River**	**65.65**	**26**	P		**P**	**01 32 11.3**	**-0.1**
G31M				IAmb		IAmb	01 32 12.2	
	comp=Z,3.1nm,0.9s							
FARO	**Faro, Yukon**	**67.47**	**30**	P		**P**	**01 32 24.4**	**+1.1**
MMPY	**Sheldon Lake,**	**68.25**	**30**	P		**P**	**01 32 29.6**	**+1.3**
ARCES	**ARCESS Array B**	**68.37**	**339**	LR		LR	02 07 10.4	
	comp=Z,37nm,18.1s,baz=345,slow=40							
FINES	**FINESS Array B**	**71.67**	**331**	P		**P**	**01 32 48.9**	**-0.3**
FINES	**FINESS Array B**	**71.67**	**331**	P		**P**	**01 32 49.1**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=57,slow=7.0,SNR=12							
FINES				LR		LR	02 09 17.7	
	comp=Z,36nm,18.5s,baz=62,slow=40							
	comp=Z,1.5nm,0.7s							
AKASG	**Malin Array Be**	**74.99**	**320**	P		**P**	**01 33 09.1**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=58,slow=6.3,SNR=12							
	comp=Z,2.1nm,0.5s							
AKBB	**Malin Array Si**	**74.99**	**320**	P		**P**	**01 33 09.2**	**+0.2**
AKBB				IAmb		IAmb	01 33 09.9	
	comp=Z,6.1nm,0.9s							
KIEV	**Kiev**	**75.00**	**320**	P		**P**	**01 33 08.6**	**-0.4**
KIEV				IAmb		IAmb	01 33 09.9	
	comp=Z,5.9nm,0.9s							
YKA	**Yellowknife Ar**	**75.13**	**26**	P		**P**	**01 33 09.6**	**0.0**
	comp=Z,1.4nm,0.8s,baz=302,slow=6.2,SNR=4.6							
	comp=Z,1.4nm,0.8s							
BRTR	**Keskin Array B**	**77.20**	**308**	P		**P**	**01 33 22.8**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=96,slow=4.4,SNR=8.0							
	comp=Z,1.7nm,0.8s							
HFS	**Hagfors**	**77.52**	**333**	P		**P**	**01 33 23.4**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=83,slow=3.5,SNR=2.1							
HFS				LR		LR	02 11 22.7	
	comp=Z,38nm,18.0s,baz=1.0,slow=39							
	comp=Z,2.9nm,0.9s							
NOA	**NORSAR Array B**	**77.92**	**334**	P		**P**	**01 33 25.8**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=50,slow=5.7,SNR=3.4							
NOA				LR		LR	02 12 55.7	
	comp=Z,8.8nm,18.2s,baz=340,slow=40							
	comp=Z,1.2nm,0.7s							
BURAR	**Bucovina Array**	**78.79**	**318**	P		**P**	**01 33 31.5**	**+0.9**
MMAI	**Mount Meron Ar**	**78.98**	**302**	P		**P**	**01 33 32.4**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=20,slow=5.1,SNR=2.2							
	comp=Z,2.4nm,0.9s							
ELL	**Elmali**	**81.19**	**307**	P		**P**	**01 33 44.0**	**+0.2**
NVAR	**Mina Array Bea**	**87.00**	**47**	P		**P**	**01 34 13.9**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=284,slow=6.0,SNR=4.7							
	comp=Z,0.8nm,0.7s							
PDAR	**Pinedale Array**	**89.64**	**40**	P		**P**	**01 34 26.4**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=132,slow=2.2,SNR=5.2							
	comp=Z,0.4nm,0.6s							
QSPA	**South Pole Qui**	**118.67**	**180**	PKPdf		**PKPdf**	**01 40 14.2**	**-0.9**
QSPA	**South Pole Qui**	**118.67**	**180**	PKP		**PKPdf**	**01 40 14.8**	**-0.3**
	comp=Z,2.3nm,1.1s,baz=279,slow=3.6,SNR=2.9							

IDC 03 01:26:47.5±2.0, 49°39S×106°36E, h0km, mb4.0/4, mbtmp4.0/4, MS3.7/1, Error ellipse: s-maj=82.9km s-min=23.4km az=117.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.57**	**24**	T	T	01 46 24.1	
	baz=195						
H01W1	**Cape Leeuwin H**	**15.58**	**25**	T	T	01 46 23.7	
	baz=195						
H01W3	**Cape Leeuwin H**	**15.59**	**24**	T	T	01 46 23.5	
	baz=195						
ASAR	**Alice Springs**	**33.55**	**50**	P	P	01 33 29.0	-0.1
	1.0nm,0.7s,baz=210,slow=8.2,SNR=8.8						
	1.0nm,0.7s						
VNDA	**Vanda**	**34.98**	**162**	P	P	01 33 41.0	+0.2
	2.3nm,0.8s,baz=293,slow=9.3,SNR=12						
	2.3nm,0.8s						
WRA	**Warramunga Arr**	**36.91**	**47**	P	P	01 33 58.0	0.0
	1.2nm,0.8s,baz=205,slow=10.0,SNR=5.5						
WRA				LR	LR	01 48 15.6	
	comp=Z,123nm,19.8s,baz=315,slow=35						
	1.2nm,0.8s						
SNAA	**Sanae**	**49.45**	**203**	P	P	01 35 38.7	-0.1
	3.8nm,1.2s,baz=144,slow=8.7,SNR=6.1						
	3.8nm,1.2s						
NVAR	**Mina Array Bea**	**146.47**	**92**	PKPbc	PKPbc	01 46 30.0	-0.4
	0.8nm,0.7s,baz=224,slow=5.0,SNR=6.4						
TXAR	**Lajitas Array**	**149.65**	**120**	PKPbc	PKPbc	01 46 37.6	-1.3
	1.4nm,1.1s,baz=202,slow=2.7,SNR=4.0						

IDC 03 01:27:59.2±2.4, 49°23S×106°00E, h0km, mb3.8/4, mbtmp3.8/4, MS3.7/5, Error ellipse: s-maj=91.5km s-min=25.8km az=117.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.53**	**26**	T	T	01 47 35.1	
	baz=200,slow=74						
H01W1	**Cape Leeuwin H**	**15.54**	**26**	T	T	01 47 35.0	
	baz=200,slow=74						
H01W3	**Cape Leeuwin H**	**15.54**	**26**	T	T	01 47 35.4	
	baz=200,slow=74						
NWAO	**Narrogin (SRO)**	**18.32**	**31**	LR	LR	01 36 17.7	
	comp=Z,177nm,21.1s,baz=282,slow=27						
STKA	**Stephens Creek**	**31.75**	**70**	LR	LR	01 44 28.9	
	comp=Z,100nm,19.9s,baz=209,slow=31						
ASAR	**Alice Springs**	**33.64**	**51**	P	P	01 34 41.1	-0.4
	0.8nm,0.8s,baz=212,slow=8.3,SNR=4.6						
ASAR				LR	LR	01 45 15.8	
	comp=Z,102nm,19.9s,baz=226,slow=31						
	0.8nm,0.8s						
VNDA	**Vanda**	**35.20**	**162**	P	P	01 34 54.4	-0.1
	1.7nm,0.8s,baz=296,slow=9.2,SNR=7.7						
VNDA				LR	LR	01 46 48.4	
	comp=Z,112nm,20.9s,baz=320,slow=32						
	1.7nm,0.8s						
WRA	**Warramunga Arr**	**36.98**	**48**	P	P	01 35 10.1	-0.3
	0.4nm,0.7s,baz=207,slow=8.0,SNR=2.0						
	0.4nm,0.7s						
SNAA	**Sanae**	**49.50**	**203**	P	P	01 36 50.5	-0.5
	2.8nm,1.1s,baz=120,slow=10,SNR=3.3						
	2.8nm,1.1s						
USHA	**Ushuaia**	**76.20**	**183**	LR	LR	02 14 03.6	
	comp=Z,73nm,18.3s,baz=152,slow=36						
NVAR	**Mina Array Bea**	**146.71**	**92**	PKPbc	PKPbc	01 47 42.8	0.0
	0.9nm,0.7s,baz=218,slow=5.6,SNR=4.5						

*AFAD **03** 01:28:54.4, 35°.02N×27°.86E, h5km±3km, MW3.8*
*ISK **03** 01:28:55.9, 35°.10N×27°.83E, h1km, ML3.2/21*
*IDC **03** 01:28:55.8±0.9, 35°.13N×27°.85E, h0km, mb3.9/11, mbtmp3.8/22, ML3.2/10, Error ellipse: s-maj=18.4km s-min=12.6km az=168.0*
*NIC **03** 01:28:56.7, 35°.09N×27°.87E, h10km±1km, Ml3.1/13*
*GII **03** 01:28:57.8±0.0, 34°.926N±0°.003×27°.933E±0°.001, h20km, Mws3.4, confirmed*
*ATH **03** 01:28:57.7±0.2, 35°.07N×27°.93E, h10km, ML3.3/14, Manual Solution by N.Liadopoulou First location: 2019/07/03 01:30:23, This location: 2020/07/03 06:35:50 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km*
*THE **03** 01:29:00.4, 35°.12°N×2°.8E±1°.4, h2km±20km, M3.7/16, mb4.2/4, MLh3.1/16, MwMwp5.4/1, Mwp5.6/1*
*HLW **03** 01:29:02.6, 34°.82N×28°.04E, h23km±9km, Ml3.4*

ISC 03 01:28:56.0±1.3, 35°.06N±0°.03×27°.91E±0°.02, h6km±8km, n186, σ1§49/221, mb3.7/10, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.79**	**309**	Pg	**Pg**	**01 29 10.3**	**-0.8**
KARP				Sg	**Sg**	**01 29 21.4**	**+0.1**
KARP	**Karpathos**	**0.79**	**309**	P	**Pg**	**01 29 10.7**	**-0.5**
KARP				S	**Sg**	**01 29 18.8**	**-2.5**
KARP	**Karpathos**	**0.79**	**309**	*i*P	**Pg**	**01 29 10.4**	**-0.8**
KARP				S	**Sg**	**01 29 22.1**	**+0.7**
KARP				AML	AML	01 29 32.5	
	5.5nm,0.5s						
KARP				AML	AML	01 29 35.3	
	4.7nm,0.9s						
ARG	**Arkhangelos**	**1.17**	**9**	Pn	**Pb**	**01 29 19.2**	**+0.5**
ARG				Sn	**Sn**	**01 29 35.1**	**-0.2**
ARG	**Arkhangelos**	**1.17**	**9**	P	**Pn**	**01 29 19.3**	**+0.4**
ARG				S	**Sg**	**01 29 33.7**	**0.0**
ARG	**Arkhangelos**	**1.17**	**9**	P	**Pn**	**01 29 19.6**	**+0.6**
ARG				S	**Sb**	**01 29 34.4**	**+0.2**
ARG	**Arkhangelos**	**1.17**	**9**	P	**Pg**	**01 29 18.7**	**+0.2**
ARG				S	**Sn**	**01 29 34.6**	**-0.7**
ARG				AML	AML	01 29 50.9	
	1.8nm,0.9s						
ARG				AML	AML	01 29 56.6	
	1.6nm,0.8s						
ZKR	**Zakros**	**1.39**	**273**	Pn	**Pn**	**01 29 22.1**	**+0.1**
ZKR				Sn	**Sn**	**01 29 42.2**	**+1.5**
ZKR	**Zakros**	**1.39**	**273**	P	**Pn**	**01 29 23.8**	**+1.8**
ZKR	**Zakros**	**1.39**	**273**	P	**Pn**	**01 29 22.3**	**+0.3**
ZKR	**Zakros**	**1.39**	**273**	P	**Pn**	**01 29 21.7**	**-0.3**
ZKR				AML	AML	01 29 49.1	
	1.7nm,0.5s						
ZKR				AML	AML	01 30 02.5	
	0.8nm,0.6s						
RODB	**Rodos**	**1.41**	**10**	P	**Pn**	**01 29 22.6**	**+0.3**
YAZI	**Mula-Dat§a-**	**1.66**	**347**	P	**Pb**	**01 29 27.5**	**+0.4**
YAZI				S	**Sb**	**01 29 48.7**	**+0.4**
YAZI				*i* IAML		01 29 59.0	
	comp=E,143nm,0.7s						
YAZI				*i* IAML		01 30 02.0	
	comp=N,134nm,0.6s						
DAT	**Datca**	**1.69**	**351**	Pn	**Pn**	**01 29 27.0**	**+0.8**
DAT				Sn	**Sb**	**01 29 49.3**	**+0.1**
DATC	**Datca-Mugla**	**1.71**	**353**	Pn	**Pn**	**01 29 27.0**	**+0.6**
TURN	**Turunc**	**1.74**	**9**	Pn	**Pn**	**01 29 27.8**	**+1.1**
TURN	**Turunc**	**1.74**	**9**	P	**Pb**	**01 29 28.8**	**+0.5**
TURN				S	**Sg**	**01 29 53.3**	**+1.4**
TURN				*i* IAML		01 29 57.0	
	comp=N,160nm,0.5s						
TURN				*i* IAML		01 30 00.0	
	comp=E,123nm,0.3s						
IZZE	**Mula-Seydike**	**1.74**	**37**	P	**Pb**	**01 29 28.0**	**-0.4**
KSL	**Kastellorizon**	**1.75**	**51**	P	**Pn**	**01 29 27.6**	**+0.8**
KSL	**Kastellorizon**	**1.75**	**51**	P	**Pb**	**01 29 28.2**	**-0.2**
KSL				S	**Sg**	**01 29 51.0**	**-1.1**
KSL				AML	AML	01 30 23.6	
	0.4nm,1.8s						
KSL				AML	AML	01 30 26.9	
	0.3nm,1.6s						
AKAS	**Kas**	**1.81**	**49**	Pn	**Pb**	**01 29 29.4**	**-0.3**
AKAS				Sn	**Sg**	**01 29 54.5**	**+0.2**
AKAS	**Kas**	**1.81**	**49**	P	**Pn**	**01 29 28.6**	**+0.7**
FETY	**Fethiye**	**1.84**	**31**	Pn	**Pn**	**01 29 29.1**	**+0.9**
FETY	**Fethiye**	**1.84**	**31**	P	**Pb**	**01 29 30.1**	**0.0**
FETY				S	**Sg**	**01 29 55.1**	**-0.1**
DALY	**Dalyan (Mula)**	**1.86**	**19**	Pn	**Pb**	**01 29 29.9**	**-0.5**
SABU	**Mula-Dalaman**	**1.96**	**26**	P	**Pn**	**01 29 31.0**	**+1.2**
BDRM	**Kayabasi**	**2.04**	**349**	P	**Pn**	**01 29 32.1**	**+1.2**
BDRM				S	**Sn**	**01 29 56.8**	**+0.1**
BDRM				*i* IAML		01 30 13.0	
	comp=E,129nm,0.5s						
KLNA	**Kalymnos**	**2.04**	**338**	P	**Pn**	**01 29 32.2**	**+1.2**
BODT	**Bodrum**	**2.06**	**347**	Pn	**Pn**	**01 29 32.1**	**+0.9**
BODT	**Bodrum**	**2.06**	**347**	P	**Pn**	**01 29 32.3**	**+1.1**
CAME	**Cameli-Denizli**	**2.20**	**31**	Pn	**Pn**	**01 29 34.8**	**+1.6**
MULA	**Mugla, Merkez-**	**2.22**	**8**	P	**Pn**	**01 29 35.4**	**+1.9**
KNIK	**Mula-Seydike**	**2.24**	**37**	P	**Pb**	**01 29 35.9**	**-1.0**
MLSB	**Milas**	**2.24**	**357**	Pn	**Pn**	**01 29 34.7**	**+1.0**
ELL	**Elmali**	**2.34**	**43**	Pn	**Pn**	**01 29 37.1**	**+1.9**
ELL	**Elmali**	**2.34**	**43**	P	**Pn**	**01 29 36.4**	**+1.2**
AKUM	**Antalya-Kumluc**	**2.35**	**57**	P	**Pn**	**01 29 36.7**	**+1.6**
AKUM				S	**Sn**	**01 29 59.5**	**-4.7**
CAEL	**Denizli, Camel**	**2.36**	**29**	P	**Pb**	**01 29 38.1**	**-0.9**
DNZT	**Denizli-Tavas-**	**2.39**	**22**	P	**Pb**	**01 29 38.3**	**-1.2**
THR6	**Thira Island,**	**2.42**	**303**	P	**Pn**	**01 29 37.6**	**+1.5**
THR9	**Santorini-Faro**	**2.45**	**303**	P	**Pn**	**01 29 38.4**	**+1.8**
DDIM	**Aydin, Didim**	**2.46**	**347**	P	**Pn**	**01 29 39.2**	**+2.5**
IDI	**Anoyia**	**2.49**	**276**	Pn	**Pn**	**01 29 38.0**	**+0.9**
IDI	**Anoyia**	**2.49**	**276**	P	**Pn**	**01 29 39.2**	**+2.1**
IDI	**Anoyia**	**2.49**	**276**	Pn	**Pn**	**01 29 38.2**	**+1.1**
	20nm,0.4s,baz=70,slow=15,SNR=65						
IDI				Sn	**Sn**	**01 30 08.3**	**+0.5**
	8.2nm,0.3s,baz=59,slow=7.0,SNR=3.6						
IDI	**Anoyia**	**2.49**	**276**	P	**Pn**	**01 29 38.7**	**+1.6**
SAP3	**Santorini-Thir**	**2.50**	**304**	P	**Pn**	**01 29 38.4**	**+1.2**
TAVA	**DENIZLI_Tavas**	**2.54**	**18**	P	**Pb**	**01 29 40.8**	**-1.2**
TAVA				S	**Sb**	**01 30 14.2**	**+0.7**
TAVA				*i* IAML		01 30 41.0	
	comp=E,73nm,0.7s						
TAVA				*i* IAML		01 30 49.0	
	comp=N,71nm,1.1s						
GOLH	**Golhisar**	**2.55**	**31**	P	**Pb**	**01 29 40.5**	**-1.8**
TMBK	**Timbaki Herakl**	**2.58**	**271**	P	**Pn**	**01 29 40.1**	**+1.8**
APMY	**Acipayam-Deniz**	**2.66**	**25**	Pn	**Pn**	**01 29 41.2**	**+1.7**
GCAM	**G?zelcaml?**	**2.69**	**348**	Pn	**Pn**	**01 29 41.1**	**+1.2**
GCAM	**G?zelcaml?**	**2.69**	**348**	P	**Pb**	**01 29 43.2**	**-1.4**
DNIZ	**Denizli-Tavas-**	**2.72**	**19**	P	**Pn**	**01 29 42.4**	**+2.1**
ESEN	**Aydn-Nazilli**	**2.76**	**7**	P	**Pn**	**01 29 43.0**	**+2.2**
KORT	**Korkueli**	**2.77**	**45**	P	**Pb**	**01 29 45.1**	**-0.9**
KORT				S	**Sn**	**01 30 15.3**	**+0.4**
KORT				*i* IAML		01 30 25.0	
	comp=E,46nm,0.5s						
KORT				*i* IAML		01 30 53.0	
	comp=N,52nm,1.1s						
APE	**Apeiranthos**	**2.79**	**317**	Pn	**Pn**	**01 29 42.1**	**+0.9**
APE	**Apeiranthos**	**2.79**	**317**	P	**Pn**	**01 29 41.5**	**+0.3**
APE	**Apeiranthos**	**2.79**	**317**	S	**Sn**	**01 30 16.8**	**+1.7**
APE	**Apeiranthos**	**2.79**	**317**	P	**Pn**	**01 29 41.9**	**+0.7**
APE	**Apeiranthos**	**2.79**	**317**	P	**Pn**	**01 29 41.6**	**+0.4**
SMG	**Samos**	**2.79**	**342**	P	**Pn**	**01 29 42.5**	**+1.3**
SMG	**Samos**	**2.79**	**342**	P	**Pn**	**01 29 41.9**	**+0.7**
PRNS	**Prines Rethymn**	**2.81**	**277**	P	**Pn**	**01 29 43.7**	**+2.2**
AYDB	**Zeytinkoy-Aydi**	**2.88**	**360**	Pn	**Pn**	**01 29 43.5**	**+0.8**
NAZL	**Nazilli-Aydin**	**2.92**	**6**	Pn	**Pn**	**01 29 44.8**	**+1.8**
INCE	**Denizli-Bozkur**	**2.97**	**26**	P	**Pn**	**01 29 46.0**	**+2.2**
INCE				S	**Sb**	**01 30 24.3**	**-1.7**
INCE				*i* IAML		01 30 59.0	
	comp=N,58nm,1.1s						
IZMR	**zmir-demi**	**3.08**	**1**	P	**Pn**	**01 29 46.8**	**+1.6**
IZMR				S	**Sn**	**01 30 23.2**	**+1.0**
IZMR				*i* IAML		01 30 58.0	
	comp=E,43nm,0.9s						
IZMR				*i* IAML		01 30 59.0	
	comp=N,36nm,1.3s						
DGB	**zmir**	**3.10**	**345**	P	**Pn**	**01 29 46.8**	**+1.3**
BUCA	**Burdur, Bucak-**	**3.12**	**43**	P	**Pb**	**01 29 50.3**	**-1.6**
GVD	**Gavdhos**	**3.15**	**267**	Pn	**Pn**	**01 29 47.4**	**+1.3**
GVD	**Gavdhos**	**3.15**	**267**	P	**Pn**	**01 29 47.6**	**+1.5**
GVD	**Gavdhos**	**3.15**	**267**	P	**Pn**	**01 29 47.4**	**+1.3**
KIRA	**zmir-Kiraz**	**3.16**	**7**	P	**Pn**	**01 29 47.9**	**+1.5**
CHNB	**Souda**	**3.17**	**279**	P	**Pn**	**01 29 47.9**	**+1.4**
CHAN	**Chania**	**3.20**	**279**	P	**Pn**	**01 29 48.9**	**+2.1**
CHAN	**Chania**	**3.20**	**279**	P	**Pn**	**01 29 48.4**	**+1.6**
ODEM	**Odemis-Izmir**	**3.22**	**2**	Pn	**Pn**	**01 29 48.6**	**+1.4**
ZEYE	**Izmir, Urla-Ze**	**3.37**	**341**	P	**Pn**	**01 29 50.8**	**+1.6**
BLCB	**Balcova**	**3.40**	**348**	Pn	**Pn**	**01 29 51.1**	**+1.6**
URLA	**Izmir**	**3.46**	**343**	Pn	**Pn**	**01 29 51.9**	**+1.4**
URLA	**Izmir**	**3.46**	**343**	P	**Pn**	**01 29 52.7**	**+2.0**
MANT	**Manisa**	**3.47**	**8**	P	**Pn**	**01 29 51.7**	**+0.9**
AKMS	**Akamas**	**3.63**	**89**	P

MMA0B **Mount Meron ar** 6.54 106 S **Sn** 01 31 46.4 -1.5
MMA0B **Mount Meron ar** 6.54 106 P **Pn** 01 30 33.3 +0.4
MMAI Mount Meron Ar 6.54 106 Pn **Pn** 01 30 33.4 +0.5
1.9nm,0.3s,baz=287,slow=11,SNR=10.0
MMAI Sn **Sn** 01 31 46.5 -1.4
3.7nm,0.3s,baz=258,slow=29,SNR=7.5
0.7nm,0.2s
GEM Giv'at Ha'Em 6.69 104 S **Sn** 01 31 49.9 -1.4
GEM Giv'at Ha'Em 6.69 104 P **Pn** 01 30 34.8 0.0
NATI Neve Ativ 6.73 103 S **Sn** 01 31 51.6 -0.7
NATI Neve Ativ 6.73 103 P **Pn** 01 30 35.8 +0.5
MMLI Mount Malkishu 6.78 111 S **Sn** 01 31 51.6 -2.0
MMLI Mount Malkishu 6.78 111 P **Pn** 01 30 36.0 -0.1
AMAZ Amatzia 6.84 119 S **Sn** 01 31 52.6 -2.4
AMAZ Amatzia 6.84 119 P **Pn** 01 30 36.5 -0.4
KZIT Kziot 6.84 125 S **Sn** 01 31 52.1 -3.0
KZIT Kziot 6.84 125 P **Pn** 01 30 36.6 -0.3
HMDT Nahal Hemdat 6.94 112 S **Sn** 01 31 55.4 -2.1
HMDT Nahal Hemdat 6.94 112 P **Pn** 01 30 37.9 -0.3
NBNS Bani Suef 7.03 155 P **Pn** 01 30 40.3 +0.8
YTIR Yattir 7.07 119 S **Sn** 01 31 57.9 -3.0
YTIR Yattir 7.07 119 P **Pn** 01 30 39.8 -0.3
DSI Dead Sea 7.15 117 S **Sn** 01 32 00.2 -2.6
DSI Dead Sea 7.15 117 P **Pn** 01 30 41.2 0.0
MSBI Mazada 7.27 119 S **Sn** 01 32 02.9 -2.7
MSBI Mazada 7.27 119 P **Pn** 01 30 42.7 0.0
GHAJ Ghor Haditha 7.43 118 S **Sn** 01 32 06.9 -2.6
GHAJ Ghor Haditha 7.43 118 P **Pn** 01 30 44.8 -0.1
KRMI Paran Flat 7.57 129 S **Sn** 01 32 10.4 -2.7
KRMI Paran Flat 7.57 129 P **Pn** 01 30 46.7 -0.3
ZFRI Zfri 7.59 124 S **Sn** 01 32 10.0 -3.4
ZFRI Zfri 7.59 124 P **Pn** 01 30 46.1 -1.0
PRNI Paran 7.60 126 S **Sn** 01 32 10.7 -3.1
PRNI Paran 7.60 126 P **Pn** 01 30 46.6 -0.7
HRFI Mount Harif 7.82 128 S **Sn** 01 32 15.9 -3.4
HRFI Mount Harif 7.82 128 P **Pn** 01 30 49.8 -0.7
HFRF Wahat Farafira 7.89 177 P **Pn** 01 30 52.4 +1.1
MBRI Mt Berech 7.91 130 S **Sn** 01 32 18.9 -2.6
MBRI Mt Berech 7.91 130 P **Pn** 01 30 51.7 +0.1
EIL Elat 8.02 130 Pn **Pn** 01 30 53.8 +0.7
0.9nm,0.3s,baz=309,slow=2.3,SNR=29
EIL Sn **Sn** 01 32 23.9 -0.2
1.6nm,0.3s,baz=35,slow=22,SNR=5.0
4.7nm,0.5s
EIL Elat 8.02 130 S **Sn** 01 32 21.7 -2.4
EIL Elat 8.02 130 P **Pn** 01 30 52.6 -0.5
ASF Jabal al Asfar 8.03 108 Pn **Pn** 01 30 54.5 +1.3
0.4nm,0.3s,baz=331,slow=19,SNR=2.3
ASF Sn **Sn** 01 32 25.0 +0.6
0.2nm,0.3s,baz=332,slow=24,SNR=1.3
1.1nm,0.4s
HBST Basata 8.21 133 P **Pn** 01 30 57.6 +2.0
NUB Nuweibaa 8.29 135 P **Pn** 01 30 59.2 +2.3
HKAT Jabal Katrina 8.32 140 P **Pn** 01 30 59.0 +1.6
MLR Muntele Rosu 10.53 352 Pn **Pn** 01 31 28.7 +1.1
baz=26,slow=19,SNR=1.7
1.1nm,0.8s
VAE Valguarnera 11.16 286 Pn **Pn** 01 31 37.2 +1.0
1.9nm,0.3s,baz=63,slow=15,SNR=11
VAE Sn **Sn** 01 33 40.6 -0.8
0.4nm,0.3s,baz=328,slow=12,SNR=1.8
5.1nm,0.5s
KVAR Kislovodsk Arr 14.45 48 Pn **P** 01 32 27.1 -1.0
baz=228,slow=12
2.3nm,0.7s
KBZ Khabaz 14.45 49 Pn **P** 01 32 27.3 -0.6
0.1nm,0.3s,baz=231,slow=14,SNR=5.9
2.8nm,0.8s
KEST Kesra 15.16 278 Pn **Pn** 01 32 31.9 +1.1
0.2nm,0.3s,baz=107,slow=17,SNR=4.9
2.9nm,1.0s
GERES **GERESS Array B** 17.32 327 P **Pn** 01 32 59.0 +0.5
baz=112,slow=11,SNR=2.7
0.4nm,0.6s
ESDC Sonseca Array 25.67 290 P **P** 01 34 26.0 -0.7
0.5nm,0.6s,baz=82,slow=9.3,SNR=8.3
0.5nm,0.6s
FINES FINESS Array B 26.43 358 P **P** 01 34 33.1 -0.2
1.3nm,0.7s,baz=184,slow=11,SNR=3.4
1.3nm,0.7s
HFS Hagfors 26.74 344 P **P** 01 34 34.8 -1.3
2.5nm,0.8s,baz=152,slow=9.5,SNR=2.0
2.5nm,0.8s
NOA NORSAR Array B 28.12 343 P **P** 01 34 46.6 -1.9
0.5nm,0.8s,baz=154,slow=9.1,SNR=1.6
0.5nm,0.8s
TORD Torodi Ar. Bea 32.20 234 P **P** 01 35 25.5 +0.5
1.6nm,0.5s,baz=37,slow=8.8,SNR=2.6
1.6nm,0.5s
ARCES **ARCESS Array B** 34.56 359 P **P** 01 35 44.1 -0.9
0.6nm,0.7s,baz=182,slow=8.6,SNR=3.7
0.6nm,0.7s
KURBB **Kurchatov Arra** 39.44 51 P **P** 01 36 27.7 +1.0
0.6nm,0.7s,baz=277,slow=8.8,SNR=6.9
0.6nm,0.7s
DBIC Dimbokro 41.30 235 P **P** 01 36 43.4 +0.9
6.4nm,0.9s,baz=63,slow=6.8,SNR=1.2
6.4nm,0.9s
MKAR Makanchi Array 41.95 57 P **P** 01 36 48.6 +1.1
0.3nm,0.5s,baz=267,slow=4.5,SNR=4.0
0.3nm,0.5s
SPITS Spitsbergen Ar 43.51 357 P **P** 01 37 00.5 +0.7
4.6nm,0.8s,baz=160,slow=11,SNR=1.7
4.6nm,0.8s
SONM Songino Array 57.80 51 P **P** 01 38 48.4 +0.2
1.0nm,0.6s,baz=265,slow=7.2,SNR=2.4
1.0nm,0.6s

*IDC **03** 01:44:12.4±0.8,33°.10S×178°.18W,h0km,mb4.0/7, mbtmp4.0/8,ML3.7/1,MS3.8/4, Error ellipse: s-maj=29.5km s-min=22.7km az=125.0*
*NEIC **03** 01:44:12.5±0.2,32°.67S±0°.06×177°.8W±0°.2,h10km±2km, mb4.3/9, Error ellipse: s-maj=31.7km s-min=10.4km az=92.0*
ISC 03 01:44:17.7±0.8,33°.17S±0°.10×178°.2W±0°.1,h34km,n32, σ0s92/32,mb4.1/11,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.91**	**3**	Pn		Pn	Pn	01 45 05.7	-10
URZ	**Urewera**	**6.36**	**216**	Pn		**Pn**	**Pn**	**01 45 49.2**	**+0.1**
URZ	1.6nm,0.3s,baz=24,slow=12,SNR=6.5			Sn		**Sn**	**Sn**	**01 47 01.5**	**+1.0**
	4.6nm,0.3s,baz=97,slow=16,SNR=11 6.9nm,0.6s								
RTZ	**Ruatahuna**	**6.71**	**214**	Pn		**Pn**	**Pn**	**01 45 52.8**	**-1.1**
MRZ	**Mangatainoka R**	**8.99**	**212**	Pn		**Pn**	**Pn**	**01 46 23.6**	**-1.5**
RPZ	**Rata Peaks**	**13.48**	**216**	LR		LR	LR	01 52 54.7	
	comp=Z,171nm,20.0s,baz=170,slow=39								
DZM	**Mont Dzumac**	**17.53**	**305**	P		**P**	**P**	**01 48 22.2**	**+1.8**
DZM	4.2nm,1.0s,baz=84,slow=17,SNR=3.9			LR		LR	LR	01 53 50.2	
	comp=Z,243nm,18.8s,baz=44,slow=33								
STKA	**Stephens Creek**	**33.80**	**261**	P			**P**	**01 50 56.5**	**-0.1**
STKA	0.9nm,0.5s,baz=178,slow=18,SNR=1.6			LR			LR	02 04 13.4	
	comp=Z,104nm,19.2s,baz=188,slow=36 0.9nm,0.5s								
CTAO	**Charters Tower**	**34.19**	**283**	P			**P**	**01 51 01.0**	**+0.9**
BBOO	**Buckleboo**	**38.15**	**258**	P			**P**	**01 51 33.1**	**-0.7**
AS31	**Alice Springs**	**42.88**	**270**	P			**P**	**01 52 12.9**	**-0.2**
AS31	comp=Z,0.9nm,0.8s			IAmb			IAmb	01 52 14.3	
ASAR	**Alice Springs**	**42.88**	**270**	P		**P**	**P**	**01 52 12.9**	**-0.2**
ASAR	**Alice Springs**	**42.88**	**270**	P		**P**	**P**	**01 52 13.1**	**0.0**
	comp=Z,2.6nm,0.7s,baz=110,slow=7.7,SNR=25 comp=Z,2.6nm,0.7s								
WR8	**Warramunga Arr**	**43.98**	**275**	P			**P**	**01 52 21.5**	**-0.4**
WR8	comp=Z,6.8nm,1.1s			IAmb			IAmb	01 52 50.4	
WRA	**Warramunga Arr**	**44.12**	**275**	P		**P**	**P**	**01 52 22.5**	**-0.6**
WRA	**Warramunga Arr**	**44.12**	**275**	P		**P**	**P**	**01 52 22.8**	**-0.3**
	comp=Z,3.4nm,0.5s,baz=115,slow=7.7,SNR=40 comp=Z,3.4nm,0.5s								
FORT	**Forrest**	**45.25**	**258**	P		P	**P**	**01 52 31.6**	**-0.4**
FORT	comp=Z,5.2nm,0.9s			IAmb		IAmb	IAmb	01 52 34.7	
KNRA	**Kununurra**	**50.82**	**277**	P		**P**	**P**	**01 53 15.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**52.26**	**272**	P		**P**	**P**	**01 53 25.3**	**-0.6**
FITZ	comp=Z,3.2nm,1.3s			IAmb		IAmb	IAmb	01 53 59.2	
QSPA	**South Pole Qui**	**56.95**	**180**	P		**P**	**P**	**01 54 01.3**	**+1.9**
QSPA	comp=Z,6.0nm,1.1s			IAmb		IAmb	IAmb	01 54 33.3	
QSPA	**South Pole Qui**	**56.95**	**180**	P		**P**	**P**	**01 54 00.1**	**+0.7**

comp=Z,1.4nm,1.1s,baz=333,slow=4.5,SNR=2.4
comp=Z,1.4nm,1.1s

SNAA	**Sanae**	**75.40**	**178**	P			**P**	**01 55 57.8**	**+0.2**
	comp=Z,1.2nm,1.0s,baz=233,slow=10,SNR=2.2 comp=Z,1.2nm,1.0s								
PSI	**Prapat**	**85.58**	**276**	LR		LR		02 36 15.0	
	comp=Z,204nm,18.2s,baz=156,slow=36								
PETK	**Petropavlovsk-**	**88.45**	**346**	P			**P**	**01 57 05.7**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=160,slow=5.6,SNR=2.3 comp=Z,0.4nm,0.4s								
NVAR	**Mina Array Bea**	**90.37**	**43**	P			**P**	**01 57 17.0**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=275,slow=6.4,SNR=3.1 comp=Z,0.3nm,0.3s								
MKAR	**Makanchi Array**	**119.41**	**309**	PKP		**PKPdf**		**02 03 02.0**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=96,slow=2.9,SNR=1.9								
KURBB	**Kurchatov Arra**	**122.86**	**312**	PKP		**PKPdf**		**02 03 09.2**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=110,slow=2.0,SNR=4.1								
BVAR	**Borovoye Array**	**128.25**	**314**	PKP		**PKPdf**		**02 03 18.9**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=116,slow=3.4,SNR=2.8								
FINES	**FINESS Array B**	**147.67**	**338**	PKPbc		**PKPbc**		**02 03 58.0**	**+0.1**
FINES	**FINESS Array B**	**147.67**	**338**	PKPbc		**PKPbc**		**02 03 58.2**	**+0.4**
	comp=Z,2.6nm,0.5s,baz=48,slow=4.8,SNR=12								
HFS	**Hagfors**	**151.91**	**347**	PKPbc		**PKPbc**		**02 04 08.3**	**0.0**
	comp=Z,1.7nm,0.8s,baz=40,slow=2.5,SNR=4.1								
HFS				PKPab		**pPKPbc**		**02 04 17.1**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=49,slow=2.7,SNR=5.2								
AKASG	**Malin Array Be**	**153.35**	**319**	PKPbc		**PKPbc**		**02 04 10.1**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=81,slow=1.3,SNR=1.8								
AKASG				PKPab		**PKPab**		**02 04 22.8**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=56,slow=2.9,SNR=4.3								
BRTR	**Keskin Array B**	**153.68**	**294**	PKPab		**PKPab**		**02 04 26.3**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=83,slow=3.6,SNR=1.5								

*IDC **03** 02:01:48.0±1.0,29°.51S×177°.97W,h100km±16km,mb3.7/4, mbtmp4.0/4,MS3.2/1,Error ellipse: s-maj=52.9km s-min=31.4km az=31.0*
ISC 03 02:01:48.2±1.2,29°.4S±0°.4×178°.0W±0°.2,h108km±11km,n7, σ0s60/9,mb4.2/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.14**	**10**	P			**Pn**	**02 02 02.6**	**-0.6**
RAO	1μm,0.4s,baz=294,slow=18,SNR=3.7			S			**Sn**	**02 02 15.2**	**+0.8**
	698nm,0.3s,baz=84,slow=22,SNR=2.3								
DZM	**Mont Dzumac**	**15.84**	**294**	LR		LR		02 10 38.9	
	comp=Z,82nm,18.7s,baz=222,slow=34								
STKA	**Stephens Creek**	**34.76**	**256**	P			**P**	**02 08 28.1**	**-0.1**
	3.0nm,0.6s,baz=93,slow=7.7,SNR=6.9 3.0nm,0.6s								
ASAR	**Alice Springs**	**43.22**	**266**	P			**P**	**02 09 38.8**	**0.0**
ASAR	0.2nm,0.3s,baz=106,slow=8.3,SNR=4.2			PcP			**PcP**	**02 11 26.0**	**-0.4**
	0.5nm,0.8s,baz=121,slow=3.6,SNR=3.1 0.2nm,0.3s								
WRA	**Warramunga Arr**	**44.12**	**271**	P			**P**	**02 09 46.8**	**+0.7**
	1.7nm,0.6s,baz=111,slow=8.0,SNR=13								
WRA				PcP			**PP**	**02 11 30.6**	**-0.3**
	0.3nm,0.6s,baz=124,slow=4.2,SNR=1.5 1.7nm,0.6s								
QSPA	**South Pole Qui**	**60.71**	**180**	P			**P**	**02 11 48.2**	**+0.2**
	3.5nm,1.0s,baz=21,slow=5.5,SNR=6.6 3.5nm,1.0s								
FINES	**FINESS Array B**	**144.22**	**340**	PKP			**PKPdf**	**02 21 10.7**	**+0.1**
	3.2nm,0.9s,baz=56,slow=3.5,SNR=8.4								

GCG 03 02:37:06.8±0.4,13°.78N×91°.07W,h102km±42km,MD3.8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.65**	**21**	*i* P		Pn		02 37 24.1	0.0
FG16	**Alotenango, Sa**	**0.73**	**48**	*i* P		Pn		02 37 25.4	+0.4
NUBE	**Las Nubes**	**1.26**	**84**	*i* P		Pn		02 37 31.1	+0.6

*TRN **03** 02:40:25.7, 11°.97N×61°.95W,h132km,MD3.3, Near West of Grenada.*
*FUNV **03** 02:40:28.6, 11°.80N×62°.00W,h4km,MW3.6*
ISC 03 02:40:25.9±1.5,11°.99N±0°.05×61°.94W±0°.06, h129km±11km,n18,σ1s21/36,Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GRFF	**Grenada Fort F**	**0.20**	**73**	*e*P			**Pn**	**02 40 43.8**	**+0.1**
GRFF				*e*S			**Sn**	**02 40 57.1**	**+0.1**
GRGR	**Grenville**	**0.31**	**63**	*e*P			**Pn**	**02 40 44.1**	**+0.1**
GRGR				*e*S			**Sn**	**02 40 57.7**	**+0.2**
GRW	**Mount Saint Ca**	**0.32**	**58**	*e*P			**Pn**	**02 40 44.7**	**+0.6**
GRW				*e*S			**Sn**	**02 40 59.1**	**+1.4**
GRSS	**Sisters**	**0.44**	**46**	*e*P			**Pn**	**02 40 44.2**	**-0.3**
GRSS				*e*S			**Sn**	**02 40 58.6**	**0.0**
GCMP	**Grenada, Carri**	**0.70**	**45**	*e*P			**Pn**	**02 40 46.3**	**+0.2**
GCMP				*e*S			**Sn**	**02 41 01.6**	**+0.2**
DMDM	**Guralp CMG5TDE**	**1.34**	**164**	*e*P			**Pn**	**02 40 52.3**	**+0.1**
DMDM				*e*S			**Sn**	**02 41 11.8**	**-0.4**
SVOC	**Richmond Hill,**	**1.35**	**31**	*e*P			**Pn**	**02 40 52.0**	**-0.2**
SVOC				*e*S			**Sn**	**02 41 11.8**	**-0.5**
TRN	**Trinidad (W)**	**1.43**	**159**	*e*P			**Pn**	**02 40 53.7**	**+0.4**
TRN				*e*S			**Sn**	**02 41 12.6**	**-1.4**
SVB	**Belmont**	**1.44**	**28**	*e*P			**Pn**	**02 40 53.6**	**+0.4**
SVB				*e*S			**Sn**	**02 41 13.6**	**-0.5**
SLBI	**Saint Lucia, B**	**2.23**	**25**	*e*P			**Pn**	**02 41 02.1**	**-0.5**
SLBI				*e*S			**Sn**	**02 41 31.4**	**+0.6**
BBGH	**Gun Hill**	**2.59**	**63**	*e*P			**Pn**	**02 41 07.7**	**+0.5**
BBGH				*e*S			**Sn**	**02 41 37.7**	**-1.2**
BIM	**Bigot**	**2.65**	**18**	*e*P			**Pn**	**02 41 08.6**	**+0.6**
BIM				*e*S			**Sn**	**02 41 40.4**	**0.0**
PCRV	**Puerto La Cruz**	**3.21**	**236**	*e*P			**Pn**	**02 41 16.6**	**+1.3**
PCRV				*e*S			**Sn**	**02 41 52.2**	**-1.1**
DSLB	**Salisbury**	**3.46**	**8**	*e*P			**Pn**	**02 41 18.2**	**-0.4**
DSLB				*e*S			**Sn**	**02 41 57.4**	**-1.9**
TACV	**Tcata**	**5.33**	**250**	*e*P			**Pn**	**02 41 45.5**	**+2.0**
TACV				*e*S			**Sn**	**02 42 43.3**	**-0.6**
BENV	**Beln**	**5.91**	**251**	*e*P			**Pn**	**02 41 53.3**	**+1.9**
BENV				*e*S			**Sn**	**02 42 56.2**	**-1.9**
BAUV	**El Baul**	**6.72**	**244**	*e*P			**Pn**	**02 42 01.4**	**-0.8**
BAUV				*e*S			**Sn**	**02 43 14.8**	**-2.8**
TEPV	**Terepaima**	**7.40**	**255**	*e*P			**Pn**	**02 42 13.8**	**+2.4**
TEPV				*e*S			**Sn**	**02 43 31.6**	**-2.4**

*IDC **03** 02:48:58.0±1.0,2°.60S×138°.64E,h0km,mb3.5/5, mbtmp3.6/8,ML3.7/3,Error ellipse: s-maj=25.6km s-min=21.7km az=129.0*
ISC 03 02:49:02.8±0.8,2°.95S±0°.10×138°.62E±0°.10,h35km,n9, σ2s63/13,mb3.5/5,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.13**	**78**	Pn			**Pn**	**02 49 34.7**	**-1.2**
JAY	14nm,0.3s,baz=246,slow=12,SNR=45			Sn			**Sn**	**02 50 02.3**	**+1.1**
	13nm,0.3s,baz=108,slow=20,SNR=3.8 38nm,0.3s								
WRA	**Warramunga Arr**	**17.40**	**194**	P			**P**	**02 53 04.9**	**+0.8**
WRA	0.3nm,0.3s,baz=17,slow=12,SNR=8.8			S			**Sn**	**02 56 09.5**	**-6.4**
	0.9nm,0.8s,baz=11,slow=21,SNR=3.6 0.8nm,0.5s								
FITZ	**Fitzroy Crossi**	**19.71**	**219**	P			**Pn**	**02 53 33.3**	**+2.2**
FITZ	0.1nm,0.3s,baz=35,slow=12,SNR=2.2			S			**S**	**02 57 09.0**	**-1.0**
	3.1nm,1.0s,baz=6.0,slow=18,SNR=2.3 3.5nm,1.1s								
ASAR	**Alice Springs**	**21.10**	**192**	P			**P**	**02 53 47.8**	**+3.3**
ASAR	1.0nm,0.6s,baz=20,slow=9.4,SNR=9.9			S			**S**	**02 57 38.8**	**+1.3**
	0.9nm,0.8s,baz=17,slow=22,SNR=5.4 1.0nm,0.6s								
MKAR	**Makanchi Array**	**69.92**	**322**	P			**P**	**03 00 10.4**	**-0.2**
	0.2nm,0.6s,baz=101,slow=8.1,SNR=1.9 0.2nm,0.6s								
BVAR	**Borovoye Array**	**79.45**	**325**	P			**P**	**03 01 04.6**	**-1.0**
	0.3nm,0.4s,baz=92,slow=4.9,SNR=1.8 0.3nm,0.4s								
ILAR	**Eielson Array**	**86.08**	**24**	P			**P**	**03 01 38.4**	**-1.4**
	0.2nm,0.6s,baz=262,slow=5.5,SNR=6.5 0.2nm,0.6s								
QSPA	**South Pole Qui**	**87.00**	**180**	P			**P**	**03 01 46.4**	**+1.9**
	0.6nm,0.9s,baz=45,slow=2.9,SNR=1.3 0.6nm,0.9s								
EKA	**Eskdalemuir Ar**	**119.35**	**336**	PKP			**PKiKP**	**03 07 48.7**	**+0.2**
	2.5nm,1.0s,baz=90,slow=0.7,SNR=3.5								

*NEIC **03** 02:53:57.8±0.7,35°.985N±0°.008×96°.82W±0°.01,h6km±1km, Error ellipse: s-maj=1.3km s-min=1.2km az=94.0*
NEIC 03 02:53:57.8±0.7,35°.976N±0°.008×96°.81W±0°.01,h6km±1km, mb_Lg2.8/96,ML2.7/39,ML2.9/46,Error ellipse: s-maj=1.2km s-min=1.1km az=183.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OK052	**Battle Ridge R**	**0.02**	**18**	Pg		Pg	Pg	02 53 59.0	+0.1
OK052				Sg		Sg	Sg	02 53 59.9	+0.2
QUOK	**Quay**	**0.21**	**23**	Pg		Pg	Pg	02 54 02.5	+0.5
QUOK				Sg		Sg	Sg	02 54 05.7	+0.8
DEOK	**Depew**	**0.29**	**118**	Pg		Pg	Pg	02 54 04.1	+0.7
DEOK				Sg		Sg	Sg	02 54 08.3	+1.2
DEOK				IAML				02 54 13.1	
	comp=E,1μm,0.7s								
OK048	**Pawnee Station**	**0.45**	**346**	Pg		Pg	Pg	02 54 06.7	+0.1
OK048				Sg		Sg	Sg	02 54 12.7	+0.2
OK048				IAML				02 54 16.4	
	comp=E,1μm,0.5s								
OK051	**E0350 and S346**	**0.53**	**358**	Pg		Pg	Pg	02 54 08.1	+0.1
OK051				Sg		Sg	Sg	02 54 15.1	+0.2
OK051				IAML				02 54 20.3	
	comp=E,910nm,0.2s								
OK029	**Liberty Lake**	**0.55**	**251**	Pg		Pg	Pg	02 54 08.6	+0.2
OK029				Sg		Sg	Sg	02 54 16.0	+0.4
OK029				IAML				02 54 22.5	
	comp=E,612nm,0.7s								
OK029				IAML				02 54 26.0	
	comp=E,1μm,0.9s								
ADOK	**Arcadia Dam**	**0.56**	**235**	Pg		Pg	Pg	02 54 08.9	+0.3
ADOK				Sg		Sg	Sg	02 54 16.6	+0.8
OK004	**Okla Sci Mus**	**0.70**	**230**			Pg	Pg	02 54 11.4	0.0
OK004						Sg	Sg	02 54 21.0	+0.8
BCOK	**Bluff Creek, N**	**0.72**	**244**			Pg	Pg	02 54 11.8	+0.1
BCOK						Sg	Sg	02 54 21.8	+0.7
OKCSW	**OKLAHOMA CITY**	**0.77**	**222**	Pg		Pg	Pg	02 54 12.1	-0.4
OKCSW				Sg		Sg	Sg	02 54 22.4	0.0
OKCSW				IAML				02 54 26.8	
	comp=E,661nm,0.2s								
OKCSW				IAML				02 54 27.1	
	comp=N,482nm,0.2s								
TUL3	**Leonard**	**0.83**	**94**	Pg		Pg	Pg	02 54 13.7	0.0
TUL3				Sg		Sg	Sg	02 54 24.9	+0.4
BLOK	**Blackwell**	**0.85**	**337**			Pg	Pg	02 54 14.1	0.0
BLOK						Sg	Sg	02 54 25.3	+0.1
FNO	**Franklin**	**0.86**	**214**	Pg		Pg	Pg	02 54 13.9	-0.4
FNO				Sg		Sg	Sg	02 54 26.1	+0.6
FNO				IAML				02 54 29.2	
	comp=N,313nm,0.4s								
FNO				IAML				02 54 29.3	
	comp=E,313nm,0.6s								
T35A	**Sooner Cattle**	**0.97**	**14**	Pg		Pg	Pg	02 54 16.2	-0.1
T35A				Sg		Sg	Sg	02 54 28.6	-0.4
T35A				IAML				02 54 30.0	
	comp=E,308nm,0.2s								
T35A				IAML				02 54 31.2	
	comp=E,233nm,0.2s								
CROK	**Carrier**	**1.09**	**299**	Pg		Pg	Pg	02 54 18.2	-0.4
CROK				Sg		Sg	Sg	02 54 32.5	-0.3
KAN13	**South Haven SW**	**1.17**	**333**	Pg		Pg	Pg	02 54 19.8	-0.3
KAN13				Sg		Sg	Sg	02 54 35.0	-0.3
GC02	**Grant County #**	**1.22**	**316**	Pg		Pg	Pg	02 54 20.4	-0.8
GC02				Sg		Sg	Sb	02 54 37.3	0.0
KAN17	**Caldwell West**	**1.31**	**324**			Pn	Pn	02 54 22.4	-0.4
KAN17				Sg		Sg	Sg	02 54 39.6	-0.5
KAN09	**Caldwell North**	**1.33**	**331**			Pn	Pn	02 54 22.6	-0.4
KAN14	**Manchester OK**	**1.35**	**317**			Pn	Pn	02 54 22.8	-0.5
KAN01	**Argonia South**	**1.40**	**327**			Pn	Pn	02 54 23.7	-0.2
RLO	**Rose Lookout**	**1.46**	**82**			Pn	Pn	02 54 24.5	-0.2
KAN10	**Anthony SW Sta**	**1.54**	**318**			Pb	Pb	02 54 26.6	-0.2
KAN10						Sg	Sg	02 54 47.5	+0.1
KAN08	**Anthony NE Sta**	**1.56**	**324**			Pn	Pn	02 54 25.4	-0.7
CSTR	**Hydro, Custer**	**1.56**	**258**			Pn	Pn	02 54 26.3	+0.2
X34A	**Smith Ranch, M**	**1.61**	**212**			Pn	Pn	02 54 27.2	+0.4
X34A				IAmb_Lg				02 54 52.5	
	comp=E,68nm,0.9s								
KAN12	**Harper NE Stat**	**1.63**	**324**			Pn	Pn	02 54 27.6	+0.5
OK038	**West end E0370**	**1.64**	**288**			Pn	Pn	02 54 26.9	-0.3
LOOK	**Love County**	**2.00**	**189**			Pb	Pb	02 54 34.0	-0.6
LOOK						LR	LR	02 55 01.4	
WMOK	**Wichita Mounta**	**2.03**	**233**			Pn	Pn	02 54 33.4	+0.8
WMOK				IAmb_Lg				02 55 05.8	
	comp=E,31nm,0.7s								
WMOK	**Wichita Mounta**	**2.03**	**233**	Pn		Pn	Pn	02 54 33.2	+0.6
ELIS	**Ellis County**	**2.12**	**273**	Pn		Pn	Pn	02 54 34.2	+0.4
HHAR	**Hobbs**	**2.34**	**82**	Pn		Pn	Pn	02 54 38.3	+1.4
WTFS	**Witchita Falls**	**2.59**	**212**	Pn		Pn	Pn	02 54 40.9	+0.6
Z35A	**Perchaven, San**	**2.66**	**188**	Pn		Pn	Pn	02 54 39.9	-1.4
R32A	**Long Quarter,**	**2.88**	**329**	IAmb_Lg				02 55 31.6	
	comp=Z,20nm,0.8s								
SMWD	**Samnorwood**	**2.93**	**254**	IAmb_Lg				02 55 34.5	
	comp=Z,20nm,0.8s								
MIAR	**Mount Ida**	**3.01**	**117**	Pn		Pn	Pn	02 54 47.0	+1.1
MIAR				IAmb_Lg				02 55 39.5	
	comp=Z,21nm,0.8s								
Z38A	**Mt. Pleasant**	**3.10**	**150**	Pn		Pn	Pn	02 54 46.9	-0.3
Z38A				IAmb_Lg				02 55 39.7

	comp=Z,15nm,0.8s							
SDCO	**Great Sand Dun**	**7.19**	**287**	IAmb_Lg		02 57 48.9		
	comp=Z,6.5nm,1.2s							
PLAL	**Pickwick Lake**	**7.20**	**95**	IAmb_Lg		02 57 46.2		
	comp=Z,14nm,1.2s							
Q24A	**Divide**	**7.27**	**297**	IAmb_Lg		02 57 58.9		
	comp=Z,7.7nm,0.9s							
WVT	**Waverly**	**7.28**	**86**	IAmb_Lg		02 57 51.1		
	comp=Z,10nm,0.9s							
L40A	**Anamosa**	**7.47**	**34**	IAmb_Lg		02 57 57.8		
	comp=Z,12nm,0.9s							
V48A	**Smith Brothers**	**8.11**	**89**	IAmb_Lg		02 58 19.0		
	comp=Z,12nm,1.2s							
X48A	**Hartselle**	**8.13**	**98**	IAmb_Lg		02 58 15.4		
	comp=Z,9.0nm,1.0s							
L42A	**Oliver, Polo**	**8.19**	**41**	IAmb_Lg		02 58 27.3		
	comp=Z,14nm,0.8s							
JFWS	**Jewell Farm**	**8.59**	**34**	IAmb_Lg		02 58 43.0		
	comp=Z,9.0nm,0.7s							
RSSD	**Black Hills**	**9.84**	**328**	IAmb_Lg		02 59 27.9		
	comp=Z,5.2nm,0.8s							
I42A	**Draeger Farm,**	**9.96**	**35**	IAmb_Lg		02 59 18.5		
	comp=Z,9.4nm,1.2s							

IDC 03 02:57:06.1±1.8, 28.50S×74.45E, h0km, mb3.6/5, mbtmp3.6/5, MS3.5/2, Error ellipse: s-maj=49.1km s-min=35.3km az=102.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**20.83**	**355**	T	T	03 22 59.2	
	baz=176,slow=76,SNR=30						
H08S1	**Diego Carcia H**	**20.83**	**354**	T	T	03 22 57.5	
	baz=176,slow=76,SNR=20						
H08S3	**Diego Garcia H**	**20.85**	**355**	T	T	03 22 54.8	
	baz=176,slow=76,SNR=52						
H04N2	**CROZET ISLANDS**	**25.06**	**219**	T	T	03 28 44.7	
	baz=53,slow=73,SNR=60						
H04N1	**CROZET ISLANDS**	**25.07**	**219**	T	T	03 28 41.4	
	baz=53,slow=73,SNR=70						
H04N3	**CROZET ISLANDS**	**25.08**	**219**	T	T	03 28 47.2	
	baz=53,slow=73,SNR=68						
H04S1	**CROZET ISLANDS**	**25.41**	**218**	T	T	03 29 12.0	
	baz=50,slow=78,SNR=8.6						
H04S3	**CROZET ISLANDS**	**25.42**	**218**	T	T	03 29 11.0	
	baz=50,slow=78,SNR=12						
H04S2	**CROZET ISLANDS**	**25.43**	**218**	T	T	03 29 08.0	
	baz=50,slow=78,SNR=9.6						
H01W2	**Cape Leeuwin H**	**34.20**	**111**	T	T	03 40 04.9	
	baz=270						
H01W3	**Cape Leeuwin H**	**34.20**	**111**	T	T	03 40 16.8	
	baz=270						
H01W1	**Cape Leeuwin H**	**34.22**	**111**	T	T	03 40 12.8	
	baz=270						
BOSA	**Boshof**	**42.95**	**258**	LR	LR	03 20 58.8	
	comp=Z,71nm,18.1s,baz=170,slow=33						
TSUM	**Tsumeb**	**52.42**	**267**	LR	LR	03 27 44.8	
	comp=Z,30nm,18.1s,baz=147,slow=35						
ASAR	**Alice Springs**	**53.16**	**99**	P	P	03 06 26.2	0.0
	0.5nm,0.5s,baz=247,slow=6.9,SNR=7.2						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**54.81**	**95**	P	P	03 06 38.0	-0.2
	0.9nm,0.6s,baz=251,slow=7.4,SNR=6.5						
	0.9nm,0.6s						
QSPA	**South Pole Qui**	**61.64**	**180**	P	P	03 07 25.4	-0.1
	0.6nm,0.7s,baz=271,slow=4.5,SNR=1.8						
	0.6nm,0.7s						
VNDA	**Vanda**	**61.84**	**166**	P	P	03 07 26.6	+0.1
	0.6nm,0.8s,baz=286,slow=6.9,SNR=2.4						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**75.28**	**6**	P	P	03 08 50.8	+0.1
	0.2nm,0.6s,baz=202,slow=7.2,SNR=2.0						
	0.2nm,0.6s						

GCG 03 03:03:21.3±1.2, 15.76N×91.00W, h0km±34km, MD4.0, ML2.6, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.21**	**296**	*e*P	Pg	03 03 44.2	-0.3
CCIG				*i* S	Sb	03 04 01.3	-0.1
CCIG				IAML		03 04 05.5	
	comp=N,76nm,0.7s						
PETF	**Flores**	**1.59**	**43**	*e*P	Pn	03 03 50.1	-0.6
PETF				*i* S	Sg	03 04 13.4	+1.1
PETF				IAML		03 04 15.4	
	comp=E,238nm,0.4s						
TGIG		**2.27**	**297**	*e*P	Pn	03 04 00.7	+0.5
TGIG				*e*S	Sg	03 04 33.6	-0.8
TGIG				IAML		03 04 35.8	
	comp=N,21nm,1.0s						

*IDC **03** 03:04:03.1±1.8, 38.54N×122.91W, h0km, mbtmp3.0/5, ML3.3/5, Error ellipse: s-maj=20.9km s-min=11.1km az=57.0*
*NEIC **03** 03:04:04.8±1.8, 38.85N±0.01×122.75W±0.02, h5km±3km, Error ellipse: s-maj=2.4km s-min=1.7km az=88.0*
*NCEDC **03** 03:04:05.3±1.4, 38.84N±0.01×122.82W±0.02, h2km±3km, ML3.2/65, ML2.9/74(NEIC), Error ellipse: s-maj=2.7km s-min=1.8km az=71.0*
ISC 03 03:04:05.2±0.9, 38.83N±0.02×122.80W±0.02, h6km±5km, n101, σ0.81/99, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.03**	**172**		**Pg**	**03 04 06.3**	**-0.2**
GDXM				Sg	**Sg**	**03 04 07.0**	**-0.4**
GGPM	**Geyser Peak**	**0.08**	**207**		**Pg**	**03 04 07.1**	**0.0**
GSGM	**Seigler Mounta**	**0.08**	**64**		**Pg**	**03 04 07.7**	**+0.6**
GBGM	**Boggs Mountain**	**0.10**	**101**		**Pg**	**03 04 08.0**	**+0.5**
GAXM	**Alexander Vall**	**0.13**	**164**		**Pg**	**03 04 08.2**	**+0.3**
GAXM					**Sg**	**03 04 10.3**	**+0.6**
GRTM	**Round Top Moun**	**0.15**	**44**		**Pg**	**03 04 08.6**	**+0.3**
GCVM	**Cloverdale**	**0.18**	**250**		**Pg**	**03 04 09.0**	**+0.2**
HOPS	**Hopland Field**	**0.27**	**307**		**Pg**	**03 04 10.4**	**-0.1**
HOPS				IAML		03 04 15.8	
	comp=N,4μm,0.7s						
HOPS				IAML		03 04 18.5	
	comp=E,4μm,0.6s						
NMTM	**Middletown**	**0.28**	**95**		**Pb**	**03 04 11.6**	**-1.0**
MNRC	**McLaughlin Min**	**0.28**	**80**		**Pb**	**03 04 11.8**	**-0.9**
MNRC	**McLaughlin Min**	**0.28**	**80**	IAML		03 04 18.7	
	comp=E,2μm,0.8s						
MNRC				IAML		03 04 21.8	
	comp=N,3μm,0.8s						
GHGM	**Hogback Ridge**	**0.30**	**356**		**Pg**	**03 04 11.2**	**+0.2**
GSNM	**Snow Mountain**	**0.33**	**290**		**Pg**	**03 04 11.7**	**+0.1**
GALB	**Galbreath Wild**	**0.36**	**275**		**Pg**	**03 04 12.3**	**+0.1**
GHCM	**House Creek**	**0.39**	**234**		**Pb**	**03 04 13.2**	**-1.2**
NTYM	**Taylor**	**0.46**	**166**		**Pb**	**03 04 14.8**	**-0.8**
OAKV	**Oakville Exper**	**0.50**	**143**		**Pg**	**03 04 15.6**	**+0.7**
GWRM	**Wonder Ranch**	**0.54**	**314**		**Pb**	**03 04 15.8**	**-1.3**
GGUM	**Gualala**	**0.55**	**273**		**Pb**	**03 04 16.1**	**-1.1**
CVS	**Carmenet Viney**	**0.56**	**151**		**Pg**	**03 04 16.5**	**+0.6**
CVS	**Carmenet Viney**	**0.56**	**151**	IAML		03 04 25.2	
	comp=E,2μm,0.4s						
CVS				IAML		03 04 27.5	
	comp=N,1μm,0.8s						
QRDG	**Quail Ridge Na**	**0.62**	**124**		**Pb**	**03 04 18.3**	**-0.2**
GFC	**Funks Creek**	**0.63**	**39**		**Pn**	**03 04 20.4**	**-0.3**
MCCM	**Marconi Confer**	**0.69**	**185**		**Pb**	**03 04 19.3**	**-0.3**
MCCM				IAML		03 04 38.9	
	comp=N,961nm,0.9s						
NGVM		**0.72**	**140**		**Pg**	**03 04 19.5**	**+0.5**
NADM	**Allendale**	**0.75**	**120**		**Pn**	**03 04 21.7**	**-0.6**
DCMP	**DeCamp, Califo**	**0.76**	**327**		**Pb**	**03 04 20.2**	**-0.7**
DCMP	**DeCamp, Califo**	**0.76**	**327**	IAML		03 04 23.2	
	comp=N,225nm,0.9s						
DCMP				IAML		03 04 23.7	
	comp=E,55nm,1.1s						
RUSS	**Russell Ranch**	**0.78**	**111**		**Pn**	**03 04 22.2**	**-0.5**
NOLM	**Olema**	**0.79**	**180**		**Pb**	**03 04 21.4**	**+0.1**
GTC	**Three Chop Rid**	**0.82**	**314**		**Pb**	**03 04 21.1**	**-0.7**
NLHM	**Lake Herman**	**0.88**	**144**		**Pb**	**03 04 22.4**	**-0.4**
MNDO	**Woodland Fire**	**0.88**	**304**		**Pb**	**03 04 22.7**	**-0.1**
PINL	**Point Pinole R**	**0.89**	**157**		**Pn**	**03 04 23.9**	**-0.4**
CPMM	**Point Molate**	**0.93**	**161**		**Pg**	**03 04 23.2**	**0.0**
GVV	**Valley View**	**0.95**	**6**		**Pn**	**03 04 25.0**	**-0.2**
JEPS	**Jepson Natural**	**0.95**	**127**		**Pn**	**03 04 25.1**	**0.0**
CPIM	**Pinole Ridge**	**0.96**	**151**		**Pb**	**03 04 24.0**	**-0.2**
CTAM	**Taylor**	**1.01**	**142**		**Pn**	**03 04 26.0**	**+0.1**
BRK	**Berkeley--Havi**	**1.05**	**156**		**Pb**	**03 04 25.4**	**-0.3**
KCPM	**Cahto Peak**	**1.05**	**325**		**Pb**	**03 04 25.8**	**0.0**
VAK	**Adit at Lawren**	**1.05**	**155**		**Pg**	**03 04 24.9**	**-0.4**
BL67	**Building 67, L**	**1.05**	**156**		**Pb**	**03 04 25.8**	**0.0**
BKS	**Berkeley--Byer**	**1.05**	**155**		**Pg**	**03 04 24.7**	**-0.7**
JPRM	**Presidio of Sa**	**1.07**	**166**		**Pb**	**03 04 26.0**	**-0.1**
CYBM	**Yerba Buena Is**	**1.08**	**161**		**Pb**	**03 04 26.1**	**-0.1**
OSTM	**Stimpson Lane**	**1.08**	**60**		**Pg**	**03 04 25.5**	**-0.4**
GROM	**Round Mountain**	**1.09**	**5**		**Pn**	**03 04 27.5**	**+0.4**
BDM	**Black Diamond**	**1.14**	**140**		**Pg**	**03 04 26.4**	**-0.8**
FARB	**Farallon Islan**	**1.14**	**188**		**Pb**	**03 04 27.3**	**-0.1**
FARB	**Farallon Islan**	**1.14**	**188**	IAML		03 04 31.3	
	comp=N,198nm,0.6s						
FARB				IAML		03 04 50.0	
	comp=E,379nm,1.6s						
BGC	**Bolinger Road**	**1.17**	**150**		**Pg**	**03 04 26.7**	**-0.9**
JSBM	**San Bruno Moun**	**1.19**	**164**		**Pg**	**03 04 27.9**	**-0.3**
SFRE	**Sierra Foothil**	**1.23**	**69**		**Pg**	**03 04 27.6**	**-1.1**
CSLM	**San Leandro Hi**	**1.23**	**154**		**Pg**	**03 04 28.5**	**-0.3**
ORV	**Oroville**	**1.24**	**54**		**Pg**	**03 04 27.3**	**-1.7**
CMOB	**Morgan Territo**	**1.29**	**142**		**Pg**	**03 04 29.1**	**-0.8**
O02D	**Mt. Diablo Mer**	**1.34**	**0**		**Pb**	**03 04 31.1**	**+0.3**
O02D				IAML		03 04 37.6	
	comp=N,153nm,0.7s						
O02D				IAML		03 04 58.0	
	comp=E,163nm,1.2s						
JCHM	**Cahill Ridge**	**1.35**	**166**		**Pn**	**03 04 29.6**	**-1.1**
KPK	**Kanaka Peak**	**1.38**	**57**		**Pn**	**03 04 30.4**	**-0.8**
AFDM	**Forest Hills D**	**1.43**	**85**		**Pn**	**03 04 30.5**	**-1.2**
JRSC	**Jasper Ridge**	**1.49**	**163**		**Pn**	**03 04 32.2**	**-0.4**
BRIC	**Briceland Vine**	**1.54**	**327**		**Pg**	**03 04 35.8**	**+1.1**
KMRM	**Mail Ridge**	**1.56**	**333**		**Pn**	**03 04 33.0**	**-0.5**
KMRM				IAML		03 05 07.5	
	comp=N,294nm,1.0s						
KMRM				IAML		03 05 07.9	
	comp=E,294nm,1.0s						
CSTL	**Corral Hollow**	**1.57**	**139**		**Pn**	**03 04 33.4**	**-0.2**
WELL	**Weller Preserv**	**1.67**	**103**		**Pn**	**03 04 34.3**	**-0.7**
WELL	**Weller Preserv**	**1.67**	**103**	IAML		03 04 44.1	
	comp=E,110nm,0.9s						
KMPM	**Mount Pierce**	**1.88**	**328**	Pn	**Pn**	**03 04 37.9**	**-0.1**
KMPM				IAML		03 05 07.1	
	comp=N,140nm,0.9s						
KMPM				IAML		03 05 32.5	
	comp=E,128nm,1.3s						
CMB	**Columbia Colle**	**2.06**	**112**		**Pn**	**03 04 40.2**	**-0.2**
CMB				IAML		03 05 10.5	
	comp=N,66nm,1.2s						
KHMM	**Horse Mountain**	**2.16**	**341**		**Pn**	**03 04 42.8**	**+0.8**
KHMM				IAML		03 05 44.8	
	comp=E,72nm,1.8s						
KHMM				IAML		03 05 46.1	
	comp=N,99nm,1.6s						
JCC	**Jacoby Creek,**	**2.20**	**335**	Pn	**Pn**	**03 04 42.3**	**+0.1**
JCC				IAML		03 05 42.5	
	comp=N,49nm,2.7s						
MPK	**Martis Peak**	**2.21**	**77**		**Pn**	**03 04 42.7**	**+0.1**
HATC	**Hat Creek Radi**	**2.23**	**27**		**Pn**	**03 04 43.2**	**+0.3**
HATC				IAML		03 05 51.9	
	comp=N,52nm,2.6s						
HATC				IAML		03 05 59.9	
	comp=E,87nm,2.6s						
HJGM	**San Juan Grade**	**2.25**	**154**		**Pb**	**03 04 47.1**	**+0.8**
SAO	**San Andreas Ge**	**2.33**	**152**		**Pn**	**03 04 43.0**	**-1.0**
KRPM	**Rodgers**	**2.51**	**338**		**Pn**	**03 04 46.6**	**+0.1**
KRPM				IAML		03 05 52.5	
	comp=N,84nm,1.8s						
KRPM				IAML		03 06 16.2	
	comp=E,56nm,2.1s						
BBGB	**Big Mountain B**	**2.65**	**148**		**Pn**	**03 04 48.9**	**+0.4**
WAKR	**Walker**	**2.65**	**96**		**Pn**	**03 04 49.6**	**+1.0**
WAKR				IAML		03 05 08.9	
	comp=E,74nm,0.8s						
WAKR				IAML		03 05 28.6	
	comp=N,57nm,0.8s						
PAHR	**Pah Rah Range**	**2.79**	**71**		**Pn**	**03 04 50.0**	**-0.5**
PAHR				IAML		03 05 47.0	
	comp=N,30nm,1.7s						
YBH	**Yreka Blue Hor**	**2.90**	**1**	Pn	**Pn**	**03 04 52.3**	**+0.4**
YBH	**Yreka Blue Hor**	**2.90**	**1**	Pn	**Pb**	**03 04 56.0**	**-1.4**
	comp=N,0.1nm,0.3s,baz=183,slow=11,SNR=17						
YBH				Lg	Lg	03 05 45.1	
	baz=172,slow=14,SNR=5.6						
PMPB	**Monarch Peak**	**3.06**	**148**		**Pn**	**03 04 53.6**	**-0.5**
PMPB				IAML		03 05 57.6	
	comp=N,56nm,3.4s						
KSXB	**Camp Six Broad**	**3.11**	**345**	Pn	**Pn**	**03 04 54.5**	**-0.4**
KSXB				IAML		03 05 57.1	
	comp=N,21nm,1.6s						
L02F	**Cave Junction**	**3.34**	**350**	Pn	**Pn**	**03 04 58.2**	**+0.2**
RYN	**Ryan**	**3.35**	**92**		**Pn**	**03 04 58.6**	**+0.4**
RYN				IAML		03 05 52.7	
	comp=N,23nm,0.7s						
RYN				IAML		03 06 00.7	
	comp=E,28nm,0.8s						
L04D	**Klamath Falls**	**3.40**	**6**	Pn	**Pn**	**03 04 59.1**	**+0.2**
L04D				IAML		03 06 16.1	
	comp=E,22nm,1.6s						
LHV	**Little Huntoon**	**3.42**	**98**		**Pn**	**03 04 59.5**	**+0.5**
NVAR	**Mina Array Bea**	**3.54**	**95**		**Pn**	**03 05 01.2**	**+0.3**
NVAR	**Mina Array Bea**	**3.54**	**95**	Pn	**Pn**	**03 05 01.7**	**+0.8**
	comp=E,0.8nm,0.3s,baz=279,slow=15,SNR=18						
NVAR				Lg	Lg	03 05 56.8	
	baz=264,slow=21						
	comp=E,2.2nm,0.5s						
NV11	**Mina Array Sit**	**3.66**	**95**		**Pn**	**03 05 03.6**	**+1.1**
NV11				IAML		03 06 06.8	
	comp=E,29nm,1.9s						
BBOR	**Butler Butte**	**4.05**	**1**	Pn	**Pn**	**03 05 07.9**	**0.0**
BBOR				IAML		03 06 27.8	
	comp=E,9.2nm,3.0s						
DSP	**Deep Springs**	**4.08**	**109**	Pn	**Pn**	**03 05 09.2**	**+1.1**
DSP				IAML		03 05 37.1	
	comp=E,13nm,0.9s						
DSP				IAML		03 06 26.8	
	comp=N,11nm,1.3s						
TPH	**Tonopah**	**4.44**	**98**	Pn	**Pn**	**03 05 14.1**	**+0.8**
WVOR	**Wild Horse Val**	**4.79**	**40**	Pn	**Pn**	**03 05 18.2**	**+0.2**
WVOR				IAML		03 06 55.3	
	comp=N,6.4nm,4.6s						
TPNV	**Topopah Spring**	**5.51**	**108**	Pn	**Pn**	**03 05 28.4**	**+0.4**
QSM	**Queen of Sheba**	**5.52**	**119**	Pn	**Pn**	**03 05 27.7**	**-0.2**
ELK	**Elko**	**6.13**	**69**	Pn	**Pn**	**03 05 36.7**	**+0.2**
	comp=N,0.1nm,0.3s,baz=251,slow=7.2,SNR=3.1						
ELK				Sn	**Sn**	**03 06 49.4**	**+2.4**
	baz=255,slow=20						
ELK				Lg	Lg	03 07 23.2	
	comp=N,0.1nm,0.3s,baz=151,slow=16,SNR=3.1						
	comp=N,0.5nm,0.5s						
PRN	**Pahroc Range**	**6.27**	**101**	Pn	**Pn**	**03 05 38.4**	**0.0**
PFO	**Pinyon Flats O**	**7.30**	**134**	Pn	**Pn**	**03 05 50.5**	**-2.1**
	comp=N,0.2nm,0.3s,baz=302,slow=9.9,SNR=2.3						
	comp=N,1.6nm,0.7s						
PDAR	**Pinedale Array**	**10.78**	**64**	Pn	**Pn**	**03 06 44.0**	**+3.7**
	baz=243,slow=14,SNR=6.1						
	comp=N,1.5nm,1.1s						
TXAR	**Lajitas Array**	**18.43**	**115**	P	**Pn**	**03 08 19.9**	**-1.5**
	baz=297,slow=6.6,SNR=7.8						
	comp=N,0.1nm,0.4s						

KRSC 03 03:05:55.7±1.7, 56.22N×164.41E, h50km±22km, MI3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.89**	**270**	*e*P	Pn	03 06 11.9	0.0
KBTR				*e*S	Sn	03 06 22.9	-0.9
KBG	**Krutoberegovo**	**0.95**	**273**	*e*P	Pn	03 06 12.9	+0.2
KBG				*e*S	Sn	03 06 25.3	0.0
BKI	**Bering**	**1.35**	**138**	*e*P	Pn	03 06 21.1	+3.0
BKI				*e*S	Sn	03 06 38.2	+3.4
SMKR	**Semkarok**	**1.67**	**284**	*e*P	Pn	03 06 25.1	+2.5
SMKR				*e*S	Sn	03 06 45.4	+2.5
BDR	**Baidarnaya**	**1.81**	**283**	*e*S	Sn	03 06 49.7	+3.3
ZLN	**Zelenaya**	**2.03**	**266**	*e*P	Pn	03 06 30.9	+3.4
ZLN				*e*S	Sn	03 06 55.6	+4.0
CIRR	**Tsirk**	**2.05**	**269**	*e*P	Pn	03 06 31.0	+3.2
LGNR	**Loginova**	**2.08**	**268**	*e*S	Sn	03 06 56.8	+3.5
KLY	**Klyuchi**	**2.10**	**274**	*e*P	Pn	03 06 29.9	+1.6
KLY				*e*S	Sn	03 06 53.7	+0.5
BZGR	**Bezymyannyi-Gr**	**2.10**	**264**	*e*P	Pn	03 06 31.7	+3.2
BZWR	**Bezymyannyi-We**	**2.21**	**265**	*e*P	Pn	03 06 33.3	+3.3
BZMR	**Bezymyannaya**	**2.21**	**264**	*e*P	Pn	03 06 33.4	+3.3
BZMR				*e*S	Sn	03 07 01.1	+4.8
MKZ	**Mys Kozlova**	**2.26**	**224**	*e*P	Pn	03 06 32.5	+2.0
MKZ				*e*S	Sn	03 06 58.1	+1.0
KIRR	**Kirishev**	**2.29**	**265**	*e*P	Pn	03 06 34.6	+3.5
KIRR				*e*S	Sn	03 07 01.9	+3.6
KPT	**Kopyto**	**2.36**	**266**	*e*P	Pn	03 06 35.7	+3.7
KMNR	**Kamenistaya**	**2.39**	**261**	*e*P	Pn	03 06 36.3	+3.9
TUMD	**Tumrok D**	**2.48**	**248**	*e*P	Pn	03 06 37.0	+3.3
TUMD				*e*S	Sn	03 07 05.9	+3.2
KOZ	**Kozyrevsk**	**2.54**	**268**	*e*P	Pn	03 06 38.7	+4.2
KOZ				*e*S	Sn	03 07 10.0	+5.8
SRDR	**Sredinnyy**	**2.62**	**274**	*e*P	Pn	03 06 39.4	+3.9
SRDR				*e*S	Sn	03 07 10.5	+4.4
OSSR	**Ossora**	**3.13**	**347**	*e*P	Pn	03 06 45.1	+2.7
OSSR				*e*S	Sn	03 07 18.7	+0.3
KII	**Karymskiy**	**3.59**	**235**	*e*P	Pn	03 06 52.6	+3.7
SPN	**Mys Shipunski**	**4.03**	**221**	*e*P	Pn	03 06 56.6	+1.8
SPN				*e*S	Sn	03 07 40.1	-0.6
NLC	**Nalytchevo**	**4.23**	**226**	*e*P	Pn	03 07 01.1	+3.4
NLC				*e*S	Sn	03 07 47.5	+1.8
SDLR	**Sedlovina**	**4.35**	**230**	*e*P	Pn	03 07 02.9	+3.6
KRER	**Koryakskii**	**4.39**	**231**	*e*P	Pn	03 07 04.1	+4.2
SMAR	**Somma**	**4.39**	**230**	*e*P	Pn	03 07 03.5	+3.5
AVH	**Avacha**	**4.42**	**230**	*e*P	Pn	03 07 04.2	+4.0
UGLR	**Uglovaya**	**4.42**	**229**	*e*P	Pn	03 07 04.0	+3.7
KOK	**Koryaka**	**4.45**	**231**	*e*P	Pn	03 07 04.4	+3.8
GNL	**Ganaly**	**4.50**	**239**	*e*P	Pn	03 07 05.8	+4.4
GRL	**Gorelyy**	**5.21**	**228**	*e*P	Pn	03 07 16.0	+4.8
MTVR	**Mutnovka**	**5.22**	**227**	*e*P	Pn	03 07 15.4	+4.2
ASAK	**Asacha**	**5.41**	**227**	*e*P	Pn	03 07 18.4	+4.6

*CATAC **03** 03:27:02.8±0.8, 14°N±4°×9°1W±°, h21km±6km, M3.5/10, MLv3.5/10, Error ellipse: s-maj=9.9km s-min=4.6km az=31.4, confirmed*
*GCG **03** 03:27:04.7±0.8, 13.91N×91.33W, h67km±13km, MD4.1, ML3.5*
*SNET **03** 03:27:05.1±1.9, 13.82N×91.30W, h25km, ML3.4*
ISC 03 03:27:01.6±1.8, 13.69N±0.08×91.33W±0.06, h5km±11km, n35, σ1.56/40, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**0.73**	**359**	*e*P	**Pn**	**03 27 21.3**	**+2.6**
STG0				*e*S	**Sn**	**03 27 34.3**	**+4.0**
STG0				IAML		03 27 35.6	
	comp=E,2μm,0.1s						
STG8	**El Palmar, Qui**	**0.75**	**358**	*e*P	**Pn**	**03 27 21.9**	**+2.8**
STG8				IAML		03 27 40.8	
	comp=N,2μm,0.2s						
ESSJ	**San Jos, E**	**0.81**	**99**	*e*P	**Pg**	**03 27 17.3**	**+0.1**
ESSG	**Sabana Grande**	**0.84**	**35**	*e*P	**Pn**	**03 27 19.3**	**-0.8**
ESSG				*e*S	**Sn**	**03 27 31.0**	**-1.9**
ESSG				IAML		03 27 31.7	
	comp=N,2μm,0.1s						
RTAL	**Retalhuleu**	**0.90**	**337**	P	**Pg**	**03 27 19.4**	**+0.6**
RTAL	**Retalhuleu**	**0.90**	**337**	S	**Sg**	**03 27 30.0**	**-0.5**
FG8	**Yepocapa, Chim**	**0.93**	**53**	*e*P	**Pg**	**03 27 19.3**	**-0.2**
FG16	**Alotenango, Sa**	**0.98**	**54**	*e*P	**Pg**	**03 27 20.3**	**-0.1**
FG16				IAML		03 27 43.7	
	comp=E,5μm,0.3s						
SOKI	**Kika Raxquin**	**1.12**	**356**	*e*P	**Pg**	**03 27 23.4**	**+0.3**
SOKI				IAML		03 27 42.1	
	comp=N,316nm,0.3s						
FAME	**Alcaldia de Sa**	**1.28**	**83**	P	**Pb**	**03 27 26.1**	**-0.1**
FAME	**Alcaldia de Sa**	**1.28**	**83**	S	**Sb**	**03 27 41.5**	**-1.5**
THIG		**1.51**	**323**	*e*P	**Pn**	**03 27 27.9**	**-1.4**
THIG				*e*S	**Sn**	**03 27 46.1**	**-3.2**
THIG				IAML		03 27 46.6	
	comp=E,446nm,0.5s						
NUBE	**Las Nubes**	**1.52**	**82**	*e*P	**Pn**	**03 27 29.6**	**+0.1**
NUBE	**Las Nubes**	**1.52**	**82**	S	**Sn**	**03 27 48.8**	**-0.9**
NUBE	**Las Nubes**	**1.52**	**82**	P	**Pn**	**03 27 29.7**	**+0.1**
LOAL	**Lomas de Alarc**	**1.53**	**78**	P	**Pn**	**03 27 30.4**	**+0.8**
LOAL	**Lomas de Alarc**	**1.53**	**78**	S	**Sn**	**03 27 49.0**	**-1.0**
SLOZ	**Alcaldia de Sa**	**1.53**	**77**	S	**Sn**	**03 27 49.0**	**-1.1**
SLOZ	**Alcaldia de Sa**	**1.53**	**77**	P	**Pn**	**03 27 29.2**	**-0.4**
HUEH	**Huehuetenango**	**1.62**	**354**	*e*P	**Pn**	**03 27 31.5**	**+0.4**
CEVE	**Cerro Verde**	**1.66**	**85**	*e*P	**Pn**	**03 27 32.2**	**+0.6**
CEVE				*e*S	**Sb**	**03 27 54.6**	**+0.5**
CEVE				IAML		03 27 57.2	
	comp=Z,838nm,0.1s						
UNIC	**Universidad Ca**	**1.75**	**80**	P	**Pn**	**03 27 30.4**	**-2.2**
UNIC	**Universidad Ca**	**1.75**	**80**	S	**Sb**	**03 27 55.6**	**-0.9**
JAYA	**Jayaque - finc**	**1.83**	**91**	*e*P	**Pn**	**03 27 34.5**	**+0.7**
JAYA	**Jayaque - finc**	**1.83**	**91**	S	**Sn**	**03 27 56.1**	**-1.2**
JAYA	**Jayaque - finc**	**1.83**	**91**	P	**Pn**	**03 27 34.7**	**+0.9**
CEDA	**San Andres**	**1.88**	**86**	*e*S	**Sb**	**03 27 60.0**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.98**	**9**	P	**P**	**03 46 55.3**	**+1.6**
LKBA	**Tubou, Lakemba**	**3.98**	**9**	S	**S**	**03 48 04.7**	**+1.8**
MSVF	**Nonsavu**	**5.02**	**332**		**P**	**03 47 01.4**	**-0.2**
MSVF				S	**S**	**03 48 15.3**	**-2.1**
MSVF	**Nonsavu**	**5.02**	**332**	P	**P**	**03 47 02.6**	**+1.0**
	4µm,0.5s,baz=180,slow=10,SNR=2423						
MSVF				S	**S**	**03 48 17.9**	**+0.5**
	3µm,1.2s,baz=139,slow=19,SNR=8.1						
MSVF	**Nonsavu**	**5.02**	**332**	P	**P**	**03 47 02.8**	**+1.2**
MSVF	**Nonsavu**	**5.02**	**332**	S	**S**	**03 48 19.1**	**+1.8**
TAVE	**Taveuni**	**5.47**	**355**	P	**P**	**03 47 06.2**	**+1.0**
DGTI	**Dogotuki**	**5.91**	**352**	P	**P**	**03 47 09.5**	**+0.6**
YSA	**Yasawairara**	**6.14**	**332**	P	**P**	**03 47 11.4**	**+0.5**
RIZ	**Raoul Island**	**7.16**	**169**	P	**P**	**03 47 21.1**	**+1.3**
RAO	**Raoul Island**	**7.17**	**169**	P	**P**	**03 47 19.2**	**-0.7**
RAO	**Raoul Island**	**7.17**	**169**	P	**P**	**03 47 21.4**	**+1.6**
	3µm,0.3s,baz=67,slow=10,SNR=14						
RAO				S	**S**	**03 48 46.4**	**-4.6**
	716nm,0.3s,baz=105,slow=22,SNR=1.8						
RAO	**Raoul Island**	**7.17**	**169**	P	**P**	**03 47 21.4**	**+1.6**
RAO	**Raoul Island**	**7.17**	**169**	P	**P**	**03 47 20.5**	**+0.7**
GLKZ	**Green Lake**	**7.17**	**169**	P	**P**	**03 47 20.0**	**+0.1**
FUTU	**Fugatoga**	**7.94**	**9**		**P**	**03 47 25.7**	**-1.7**
FUTU	**Fugatoga**	**7.94**	**9**	P	**P**	**03 47 28.1**	**+0.7**
NIUE	**Niue**	**9.43**	**73**		**P**	**03 47 41.4**	**-0.4**
NIUE	**Niue**	**9.43**	**73**	P	**P**	**03 47 41.9**	**+0.1**
	comp=Z,3µm,0.9s						
NIUE	**Niue**	**9.43**	**73**	P	**P**	**03 47 42.3**	**+0.5**
NIUE	**Niue**	**9.43**	**73**	P	**P**	**03 47 42.0**	**+0.1**
INH	**Isangel**	**10.87**	**282**	P	**P**	**03 47 57.1**	**+1.0**
AFI	**Afiamalu**	**10.99**	**43**	P	**P**	**03 47 55.7**	**-1.8**
AFI	**Afiamalu**	**10.99**	**43**	P	**P**	**03 47 56.3**	**-1.2**
AFI	**Afiamalu**	**10.99**	**43**	P	**P**	**03 47 55.7**	**-1.8**
AFI	**Afiamalu**	**10.99**	**43**	P	**P**	**03 47 55.5**	**-2.0**
DVP	**Devils Point**	**12.45**	**289**	P	**P**	**03 48 12.5**	**+0.5**
DVP	**Devils Point**	**12.45**	**289**	S	**S**	**03 50 27.7**	**+1.3**
OUENC	**Ouen Island, N**	**12.70**	**266**	P	**P**	**03 48 16.5**	**+2.0**
DZM	**Mont Dzumac**	**13.08**	**268**		**P**	**03 48 17.9**	**-0.7**
DZM	**Mont Dzumac**	**13.08**	**268**	*eP*	**P**	**03 48 17.2**	**-1.3**
	comp=Z,452nm,0.7s						
DZM				*e*S	**S**	**03 50 37.5**	**-0.7**
	comp=Z,719nm,1.5s						
DZM	**Mont Dzumac**	**13.08**	**268**	P	**P**	**03 48 18.3**	**-0.2**
	comp=Z,359nm,0.5s,baz=90,slow=15,SNR=106						
DZM				ScP	**ScP**	**03 55 40.1**	**+2.3**
	comp=Z,55nm,1.0s,baz=48,slow=17,SNR=13						
DZM	**Mont Dzumac**	**13.08**	**268**	P	**P**	**03 48 19.0**	**+0.5**
DZM	**Mont Dzumac**	**13.08**	**268**	S	**S**	**03 50 40.1**	**+1.9**
NFK	**Norfolk Island**	**13.27**	**236**	P	**P**	**03 48 21.9**	**+1.7**
	comp=Z,410nm,1.0s						
FUNA	**Funafuti**	**13.65**	**354**		**P**	**03 48 21.7**	**-2.6**
FUNA	**Funafuti**	**13.65**	**354**	P	**P**	**03 48 23.6**	**-0.7**
VLAKA	**Lakatoro**	**13.81**	**294**	P	**P**	**03 48 26.2**	**+0.4**
OUZ	**Omahuta**	**14.34**	**204**	P	**P**	**03 48 32.5**	**+1.8**
OUZ	**Omahuta**	**14.34**	**204**	P	**P**	**03 48 32.5**	**+1.8**
GRZ	**Great Barrier**	**14.70**	**196**	P	**P**	**03 48 35.0**	**+1.0**
WCZ	**Waipu Caves**	**14.73**	**200**	P	**P**	**03 48 36.8**	**+2.4**
KUZ	**Kuaotunu**	**15.10**	**195**	P	**P**	**03 48 39.2**	**+1.4**
KUZ	**Kuaotunu**	**15.10**	**195**	P	**P**	**03 48 39.4**	**+1.6**
KOUNC	**Koumac, New Ca**	**15.25**	**273**	P	**P**	**03 48 41.0**	**+1.6**
MXZ	**Matakaoa Point**	**15.44**	**187**		**P**	**03 48 40.9**	**0.0**
MXZ	**Matakaoa Point**	**15.44**	**187**	P	**P**	**03 48 40.6**	**-0.4**
WIZ	**White Island**	**15.56**	**190**	P	**P**	**03 48 43.9**	**+1.9**
WMGZ	**Waiomatatini S**	**15.62**	**191**	P	**P**	**03 48 42.4**	**-0.8**
HAZ	**Te Kaha**	**15.70**	**188**	P	**P**	**03 48 42.3**	**-0.9**
PKGZ	**Pakihiroa**	**15.77**	**187**	P	**P**	**03 48 42.9**	**-1.1**
RUGZ	**Raukumara Rang**	**15.92**	**188**	P	**P**	**03 48 44.2**	**-1.3**
TGRZ	**Tauranga**	**15.92**	**193**	P	**P**	**03 48 47.7**	**+2.4**
PUZ	**Puketiti**	**15.95**	**187**	P	**P**	**03 48 45.4**	**-0.3**
TWGZ	**Tauwhareparae**	**16.09**	**187**	P	**P**	**03 48 47.3**	**+0.4**
TOZ	**Tahuroa Road**	**16.09**	**195**		**P**	**03 48 48.2**	**+1.2**
TOZ	**Tahuroa Road**	**16.09**	**195**	P	**P**	**03 48 49.0**	**+2.1**
MARZ	**Manawahe**	**16.09**	**191**	P	**P**	**03 48 48.9**	**+1.9**
KMRZ	**Kaimai**	**16.10**	**193**	P	**P**	**03 48 50.3**	**+3.2**
EDRZ	**Edgecumbe**	**16.20**	**191**	P	**P**	**03 48 49.2**	**+1.2**
KARZ	**Kaharoa**	**16.21**	**192**	P	**P**	**03 48 50.7**	**+2.7**
OMRZ	**Omania**	**16.27**	**192**	P	**P**	**03 48 49.8**	**+1.2**
URZ	**Urewera**	**16.29**	**190**	P	**P**	**03 48 46.6**	**-2.1**
	comp=Z,583nm,0.6s,baz=357,slow=6.7,SNR=187						
URZ				S	**S**	**03 51 26.0**	**-5.6**
	comp=Z,248nm,0.5s,baz=62,slow=20,SNR=22						
URZ				ScP	**ScP**	**03 55 42.9**	**-0.2**
	comp=Z,18nm,0.5s,baz=150,slow=16,SNR=3.5						
URZ	**Urewera**	**16.29**	**190**	P	**P**	**03 48 48.3**	**-0.4**
URZ	**Urewera**	**16.29**	**190**	P	**P**	**03 48 46.4**	**-2.4**
MWZ	**Matawai**	**16.30**	**189**	P	**P**	**03 48 47.4**	**-1.5**
TKGZ	**Te Karaka**	**16.36**	**188**	P	**P**	**03 48 49.0**	**-0.4**
CNGZ	**Carnagh Statio**	**16.37**	**187**	P	**P**	**03 48 49.2**	**-0.2**
TLZ	**Tolley Road**	**16.66**	**194**	P	**P**	**03 48 54.3**	**+2.2**
RTZ	**Ruatahuna**	**16.66**	**190**		**P**	**03 48 50.9**	**-1.3**
RTZ	**Ruatahuna**	**16.66**	**190**	P	**P**	**03 48 52.0**	**-0.2**
HIZ	**Hauiti**	**16.99**	**195**		**P**	**03 48 58.6**	**+3.4**
HIZ	**Hauiti**	**16.99**	**195**	P	**P**	**03 48 56.9**	**+1.8**
HIZ	**Hauiti**	**16.99**	**195**	P	**P**	**03 48 58.3**	**+3.1**
WHHZ	**Waihua**	**17.07**	**189**	P	**P**	**03 48 55.5**	**-0.4**
RATZ	**Rangitukua**	**17.12**	**193**	P	**P**	**03 48 57.0**	**+0.7**
KATZ	**Kakaramea**	**17.24**	**193**	P	**P**	**03 48 58.6**	**+1.0**
BKZ	**Black Stump Fm**	**17.27**	**191**		**P**	**03 48 55.9**	**-1.9**
BKZ	**Black Stump Fm**	**17.27**	**191**	P	**P**	**03 48 56.8**	**-1.0**
BKZ	**Black Stump Fm**	**17.27**	**191**	P	**P**	**03 48 55.9**	**-1.9**
NTVZ	**North Tongarir**	**17.36**	**193**	P	**P**	**03 48 58.8**	**+0.1**
KRVZ	**Karewarewa**	**17.37**	**193**	P	**P**	**03 48 58.4**	**-0.3**
TMVZ	**Te Maari**	**17.38**	**193**	P	**P**	**03 48 58.4**	**-0.4**
TWVZ	**Taurewa**	**17.39**	**193**	P	**P**	**03 48 59.5**	**+0.6**
ETVZ	**East Tongariro**	**17.39**	**193**	P	**P**	**03 48 59.0**	**+0.1**
WTVZ	**West Tongariro**	**17.40**	**193**	P	**P**	**03 48 58.9**	**-0.1**
NNVZ	**North Ngauruho**	**17.41**	**193**	P	**P**	**03 48 58.3**	**-0.9**
OTVZ	**Oturere**	**17.43**	**193**	P	**P**	**03 48 58.5**	**-0.8**
SNVZ	**South Ngauruho**	**17.46**	**193**	P	**P**	**03 48 59.4**	**-0.2**
COVZ	**Chateau Observ**	**17.49**	**193**	P	**P**	**03 49 00.0**	**+0.2**
MCHZ	**McNeill Hill**	**17.51**	**190**	P	**P**	**03 48 58.6**	**-1.3**
TUVZ	**Tukino**	**17.53**	**193**	P	**P**	**03 49 00.1**	**+0.3**
KWHZ	**Kaweka Forest**	**17.54**	**191**	P	**P**	**03 48 58.5**	**-1.7**
FWVZ	**Far West T-bar**	**17.54**	**193**	P	**P**	**03 49 00.1**	**-0.3**
MAVZ	**Matarangi**	**17.55**	**193**	P	**P**	**03 49 00.9**	**+0.3**
WHVZ	**Whangaehu Hut**	**17.56**	**193**	P	**P**	**03 49 00.8**	**+0.2**
TRVZ	**Turoa**	**17.58**	**193**	P	**P**	**03 49 01.1**	**+0.3**
VRZ	**Vera Road**	**17.59**	**195**	P	**P**	**03 49 03.1**	**+2.4**
WNVZ	**Wahianoa**	**17.60**	**193**	P	**P**	**03 49 00.5**	**-0.4**
MOVZ	**Moawhango**	**17.65**	**192**	P	**P**	**03 49 00.4**	**-0.8**
CKHZ	**Cape Kidnapper**	**17.66**	**189**	P	**P**	**03 49 01.1**	**-0.1**
MTVZ	**Mangateitei**	**17.68**	**193**	P	**P**	**03 49 02.5**	**+0.9**
KRHZ	**Kereru**	**17.76**	**191**	P	**P**	**03 49 00.5**	**-1.7**
KAHZ	**Kahuranaki**	**17.83**	**189**	P	**P**	**03 49 02.2**	**-0.6**
PNHZ	**Pukenui**	**18.05**	**191**	P	**P**	**03 49 03.5**	**-1.3**
LUES	**Luesalemba Tem**	**18.11**	**307**	P	**P**	**03 49 05.6**	**-0.1**
LUES	**Luesalemba Tem**	**18.11**	**307**	S	**S**	**03 52 04.3**	**+2.4**
RAR	**Rarotonga**	**18.30**	**91**		**P**	**03 49 07.4**	**0.0**
RAR	**Rarotonga**	**18.30**	**91**	P	**P**	**03 49 08.3**	**+1.0**
	comp=Z,110nm,0.8s,baz=254,slow=6.0,SNR=8.5						
RAR	**Rarotonga**	**18.30**	**91**	P	**P**	**03 49 08.6**	**+1.2**
BFZ	**Birch Farm**	**18.79**	**190**	P	**P**	**03 49 10.2**	**-1.3**
BFZ	**Birch Farm**	**18.79**	**190**	P	**P**	**03 49 10.7**	**-0.8**
BFZ	**Birch Farm**	**18.79**	**190**	S	**S**	**03 52 13.6**	**+1.3**
MRZ	**Mangatainoka R**	**18.89**	**192**		**P**	**03 49 11.0**	**-1.4**
MSWZ	**Moikau Station**	**19.68**	**192**	P	**P**	**03 49 18.5**	**-1.2**
TCW	**Tory Channel**	**19.69**	**194**	P	**P**	**03 49 19.6**	**-0.1**
SNZO	**South Karori**	**19.69**	**193**	P	**P**	**03 49 19.2**	**-0.4**
SNZO	**South Karori**	**19.69**	**193**	P	**P**	**03 49 19.8**	**+0.2**
BHW	**Baring Head**	**19.75**	**193**	P	**P**	**03 49 19.6**	**-0.6**
QRZ	**Quartz Range**	**19.78**	**198**	P	**P**	**03 49 21.1**	**+0.6**
QRZ	**Quartz Range**	**19.78**	**198**	P	**P**	**03 49 22.0**	**+1.5**
PLWZ	**Palliser**	**19.83**	**192**	P	**P**	**03 49 20.4**	**-0.5**
TKNZ	**Takaka Hill**	**19.85**	**197**	P	**P**	**03 49 21.8**	**+0.6**
NNZ	**Nelson**	**19.91**	**196**	P	**P**	**03 49 21.4**	**-0.3**
TUWZ	**Tuamarina**	**19.98**	**195**	P	**P**	**03 49 22.1**	**-0.1**
CMWZ	**Cape Campbell**	**20.22**	**194**	P	**P**	**03 49 23.9**	**-0.5**
MRNZ	**Matariki Terra**	**20.25**	**197**	P	**P**	**03 49 24.1**	**-0.6**
BSWZ	**Blackbirch Sta**	**20.26**	**195**	P	**P**	**03 49 25.1**	**+0.3**
THZ	**Tophouse**	**20.55**	**196**	P	**P**	**03 49 27.1**	**-0.3**
DSZ	**Denniston Nort**	**20.84**	**199**	P	**P**	**03 49 30.4**	**+0.3**
KHZ	**Kahutara**	**21.01**	**195**	P	**P**	**03 49 31.1**	**-0.4**
KHZ	**Kahutara**	**21.01**	**195**	P	**P**	**03 49 31.4**	**-0.1**
LHI	**Lord Howe Isla**	**21.28**	**240**	P	**P**	**03 49 35.4**	**+1.3**
	comp=Z,128nm,1.3s						
HURO	**Huro Makira**	**21.34**	**300**	P	**P**	**03 49 35.2**	**+0.4**
GVZ	**Greta Valley S**	**21.65**	**195**	P	**P**	**03 49 36.0**	**-1.2**
LTZ	**Lake Taylor**	**21.67**	**197**	P	**P**	**03 49 36.8**	**-0.7**
INZ	**Inchbonnie**	**21.85**	**198**	P	**P**	**03 49 39.5**	**+0.5**
NGOA	**Tingoa Renbel**	**22.25**	**295**	P	**P**	**03 49 43.9**	**+0.9**
RPZ	**Rata Peaks**	**22.87**	**198**	P	**P**	**03 49 47.7**	**-0.4**
RPZ	**Rata Peaks**	**22.87**	**198**	P	**P**	**03 49 48.9**	**+0.8**
FOZ	**Fox Glacier**	**23.08**	**200**	P	**P**	**03 49 49.3**	**-0.6**
ALEG	**Aligegeo Malai**	**23.30**	**302**	P	**P**	**03 49 52.9**	**+0.6**
HNR	**Honiara**	**23.50**	**299**	P	**P**	**03 49 53.7**	**-0.4**
	comp=Z,92nnm,0.4s,baz=156,slow=7.0,SNR=3.6						
	comp=Z,92nnm,0.4s						
SAVO	**Savo Central**	**23.77**	**300**	P	**P**	**03 49 56.6**	**+0.1**
JCZ	**Jackson Bay**	**23.90**	**201**	P	**P**	**03 49 58.7**	**+1.4**
ODZ	**Otahua Downs**	**24.21**	**197**	P	**P**	**03 50 00.1**	**+0.2**
TATA	**Tatamba Isabel**	**24.23**	**301**	P	**P**	**03 49 59.5**	**-1.0**
GC1S	**Gold Coast 1 S**	**25.16**	**251**	P	**P**	**03 50 10.8**	**+2.2**
MLZ	**Mavora Lakes**	**25.26**	**201**	P	**P**	**03 50 09.5**	**+0.2**
WHZ	**Wether Hill Ro**	**25.79**	**201**	P	**P**	**03 50 14.4**	**+0.6**
GD1S	**Gladstone Soft**	**27.08**	**261**	P	**P**	**03 50 27.3**	**+1.8**
EIDS	**Eidsvold**	**27.14**	**257**	P	**P**	**03 50 26.5**	**+0.5**
EIDS					**S**	**03 54 23.0**	**-1.0**
EIDS	**Eidsvold**	**27.14**	**257**	P	**P**	**03 50 26.3**	**+0.4**
	comp=Z,314nm,1.1s						
EIDS	**Eidsvold**	**27.14**	**257**	P	**P**	**03 50 26.8**	**+0.8**
ARMA	**Armidale**	**27.14**	**246**	P	**P**	**03 50 27.2**	**+1.1**
ARMA	**Armidale**	**27.14**	**246**	P	**P**	**03 50 27.3**	**+1.1**
	comp=Z,248nm,0.6s						
ARMA	**Armidale**	**27.14**	**246**	P	**P**	**03 50 27.9**	**+1.8**
NTLH	**Newcastle Hard**	**27.64**	**241**	P	**P**	**03 50 31.4**	**+1.2**
TBI	**Tubuai**	**27.65**	**98**	*eP*	**P**	**03 50 32.0**	**+1.5**
	comp=Z,661nm,1.2s						
TBI				*ep*P	**PP**	**03 52 07.4**	**-1.5**
	comp=Z,4µm,29.8s						
TBI				*e*S	**S**	**03 54 32.2**	**+0.3**
	comp=Z,3µm,29.5s						
TBI				*es*S	**sS**	**03 57 29.4**	**+2.5**
	comp=Z,14µm,29.8s						
MGCD	**Mangrove Creek**	**28.20**	**241**	P	**P**	**03 50 36.4**	**+1.3**
	comp=Z,287nm,1.0s						
MGCD	**Mangrove Creek**	**28.20**	**241**	P	**P**	**03 50 37.1**	**+1.9**
RIV	**Riverview**	**28.33**	**239**	P	**P**	**03 50 37.8**	**+1.6**
	comp=Z,161nm,1.5s						
RIV	**Riverview**	**28.33**	**239**	P	**P**	**03 50 38.2**	**+2.0**
PAE	**Paea**	**28.41**	**86**	*eP*	**P**	**03 50 37.2**	**+0.1**
	comp=Z,109nm,1.3s						
PPT2	**Papeete2**	**28.43**	**86**	*eP*	**P**	**03 50 38.8**	**+1.4**
	comp=Z,501nm,1.6s						
PPT2				*ep*P	**pP**	**03 52 11.2**	**+1.4**
	comp=Z,805nm,27.0s						
PPT2				*es*S	**sS**	**03 57 39.8**	**-0.3**
	comp=Z,3µm,24.2s						
PPTF	**Pamatai, Papee**	**28.44**	**86**	P	**P**	**03 50 38.0**	**+0.5**
SYDH	**Sydney Hard Ro**	**28.64**	**240**	P	**P**	**03 50 39.9**	**+0.9**
TVO	**Taravao**	**28.68**	**87**	*eP*	**P**	**03 50 40.9**	**+1.3**
	comp=Z,97nm,0.7s						
WOLH	**Wollongong Har**	**28.72**	**238**	P	**P**	**03 50 41.4**	**+1.8**
RMQ	**Roma**	**29.25**	**255**	P	**P**	**03 50 45.3**	**+0.9**
	comp=Z,96nm,1.3s						
CNB	**Canberra Magne**	**30.18**	**237**	P	**P**	**03 50 53.3**	**+1.1**
	comp=Z,300nm,1.2s						
CNB	**Canberra Magne**	**30.18**	**237**	P	**P**	**03 50 53.5**	**+1.2**
CAN	**Canberra**	**30.46**	**238**	P	**P**	**03 50 54.5**	**-0.2**
CAN	**Canberra**	**30.46**	**238**	P	**P**	**03 50 56.0**	**+1.2**
	comp=Z,220nm,1.0s						
CAN	**Canberra**	**30.46**	**238**	P	**P**	**03 50 56.6**	**+1.9**
CAN	**Canberra**	**30.46**	**238**	P	**P**	**03 50 54.5**	**-0.2**
CAN				pmax	pmax		
	comp=Z,252nm,1.1s						
CAN	**Canberra**	**30.46**	**238**	P	**P**	**03 50 55.8**	**+1.1**
YNG	**Young**	**30.66**	**240**	P	**P**	**03 50 57.4**	**+1.0**
	comp=Z,67nm,1.1s						
PMOR	**Pomariorio Ree**	**30.70**	**82**	*eP*	**P**	**03 50 57.7**	**+0.8**
	comp=Z,1µm,1.3s						
VAH	**Vaihoa**	**30.87**	**83**	*eP*	**P**	**03 50 59.0**	**+0.7**
	comp=Z,307nm,0.9s						
CTAO	**Charters Tower**	**32.03**	**267**	P	**P**	**03 51 08.7**	**+0.5**
CTAO	**Charters Tower**	**32.03**	**267**	P	**P**	**03 51 08.9**	**+0.7**
CTAO	**Charters Tower**	**32.03**	**267**	P	**P**	**03 51 08.7**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,443nm,0.5s						
CTAO	**Charters Tower**	**32.03**	**267**	P	**P**	**03 51 08.6**	**+0.4**
CTAO				PcP	**PcP**	**03 53 40.1**	**+0.7**
CTAO				ScP	**ScP**	**03 56 29.6**	**+2.3**
XMAS	**Kiritimati**	**32.27**	**45**	P	**P**	**03 51 11.6**	**+1.3**
XMAS				IAmb	IAmb	03 51 13.5	
	comp=Z,109nm,0.8s						
XMAS	**Kiritimati**	**32.27**	**45**	P	**P**	**03 51 11.2**	**+0.9**
CMSA	**Cobar Meteorol**	**32.35**	**246**	P	**P**	**03 51 11.1**	**+0.4**
	comp=Z,291nm,1.3s						
CMSA	**Cobar Meteorol**	**32.35**	**246**	P	**P**	**03 51 11.5**	**+0.7**
GLAD	**Gladstone**	**33.20**	**228**	P	**P**	**03 51 19.1**	**+1.4**
QLP	**Quilpie**	**33.30**	**255**	P	**P**	**03 51 19.1**	**+0.3**
	comp=Z,746nm,0.4s						
QLP	**Quilpie**	**33.30**	**255**	P	**P**	**03 51 19.5**	**+0.7**
TOO	**Toolangi**	**33.83**	**235**	P	**P**	**03 51 23.5**	**+0.4**
TOO				IAmb	IAmb	03 51 25.2	
	comp=Z,72nm,0.9s						
TOO	**Toolangi**	**33.83**	**235**	P	**P**	**03 51 23.6**	**+0.4**
	comp=Z,85nm,0.9s						
TOO	**Toolangi**	**33.83**	**235**	P	**P**	**03 51 23.5**	**+0.4**
TOO				pmax	pmax		
	comp=Z,72nm,1.0s						
CORO	**Coronation Par**	**33.98**	**228**	P	**P**	**03 51 26.0**	**+1.7**
MTSU	**Mount Surprise**	**34.21**	**270**	P	**P**	**03 51 26.6**	**+0.1**
	comp=Z,233nm,0.7s						
MTSU	**Mount Surprise**	**34.21**	**270**	P	**P**	**03 51 27.3**	**+0.8**
MOO	**Moorlands**	**34.37**	**226**	P	**P**	**03 51 28.5**	**+1.0**
	comp=Z,62nm,2.0s						
TAU	**Tasmania Unive**	**34.49**	**225**	P	**P**	**03 51 29.1**	**+0.7**
TAU				IAmb	IAmb	03 51 30.8	
	comp=Z,76nm,0.7s						
TAU	**Tasmania Unive**	**34.49**	**225**	P	**P**	**03 51 29.3**	**+0.9**
TAU	**Tasmania Unive**	**34.49**	**225**	P	**P**	**03 51 29.1**	**+0.7**
TAU				pmax	pmax		
	comp=Z,76nm,0.7s						
GEXS	**Deakin Univers**	**34.92**	**235**	P	**P**	**03 51 33.9**	**+1.8**
BRAT	**Ballarat**	**35.01**	**236**	P	**P**	**03 51 34.1**	**+1.3**
STKA	**Stephens Creek**	**35.86**	**246**	P	**P**	**03 51 40.1**	**+0.1**
STKA	**Stephens Creek**	**35.86**	**246**	P	**P**	**03 51 40.3**	**+0.3**
	comp=Z,983nm,1.9s						
STKA	**Stephens Creek**	**35.86**	**246**	P	**P**	**03 51 40.4**	**+0.4**
	comp=Z,114nm,0.7s,baz=93,slow=11,SNR=227						
STKA				PcP	**PcP**	**03 53 51.4**	**+0.9**
	comp=Z,17nm,0.5s,baz=134,slow=9.7,SNR=2.9						
STKA				S	**S**	**03 56 34.6**	**-2.2**
	comp=Z,10nm,0.8s,baz=156,slow=20,SNR=3.1						
STKA				PKiKP	**PKiKP**	**04 01 07.5**	**-1.3**
	comp=Z,3.1nm,0.5s,baz=129,slow=1.8,SNR=4.2						
	comp=Z,114nm,0.7s						
STKA	**Stephens Creek**	**35.86**	**246**	P	**P**	**03 51 40.7**	**+0.7**
PATS	**Pohnpei**	**36.16**	**320**	P	**P**	**03 51 42.8**	**+0.2**
	comp=Z,294nm,1.4s						
PATS	**Pohnpei**	**36.16**	**320**	P	**P**	**03 51 43.6**	**+1.0**
COEN	**Coen**	**36.39**	**277**	P	**P**	**03 51 45.3**	**+0.7**
COEN	**Coen**	**36.39**	**277**	P	**P**	**03 51 44.9**	**+0.3**
	comp=Z,223nm,1.2s						
COEN	**Coen**	**36.39**	**277**	P	**P**	**03 51 45.1**	**+0.5**
MANU	**Manus Island**	**37.96**	**297**	P	**P**	**03 51 57.1**	**-0.3**
QIS	**Mount Isa**	**38.09**	**265**	P	**P**	**03 51 57.9**	**-0.5**
	comp=Z,129nm,1.2s						
QIS	**Mount Isa**	**38.09**	**265**	P	**P**	**03 51 58.2**	**-0.2**
HTT	**Hallett**	**38.27**	**244**	P	**P**	**03 51 59.7**	**+0.1**
	comp=Z,55nm,1.2s						
HTT	**Hallett**	**38.27**	**244**	P	**P**	**03 52 00.7**	**+1.0**
PTPS	**Port Pirie**	**39.01**	**244**	P	**P**	**03 52 06.4**	**+0.8**
WHYH	**Whyalla**	**39.35**	**245**	P	**P**	**03 52 09.1**	**+0.8**
JOHN	**Johnston Islan**	**39.88**	**15**	P	**P**	**03 52 12.9**	**+0.3**
JOHN				IAmb	IAmb	03 52 14.1	
	comp=Z,127nm,0.8s						
TAOE	**Nuku Hiva Isla**	**39.98**	**77**	P	**P**	**03 52 15.3**	**+1.6**
TAOE				IAmb	IAmb	03 52 17.5	
	comp=Z,194nm,0.9s						
TAOE	**Nuku Hiva Isla**	**39.98**	**77**	*iP*	**P**	**03 52 13.2**	**-0.5**
	comp=Z,473nm,0.9s						
TAOE				*e*S	**S**	**03 57 31.3**	**-6.6**
	comp=Z,920nm,25.8s						
TAOE	**Nuku Hiva Isla**	**39.98**	**77**	P	**P**	**03 52 15.1**	**+1.4**
BBOO	**Buckleboo**	**40.61**	**245**	P	**P**	**03 52 18.7**	**+0.3**
BBOO	**Buckleboo**	**40.61**	**245**	P	**P**	**03 52 17.8**	**-0.5**
	comp=Z,235nm,0.9s						
BBOO	**Buckleboo**	**40.61**	**245**	P	**P**	**03 52 18.3**	**0.0**
MMPI	**Merauke**	**40.93**	**283**	P	**P**	**03 52 22.0**	**+0.9**
AS17	**Alice Springs**	**42.77**	**259**	P	**P**	**03 52 35.2**	**-0.3**
	comp=Z,455nm,0.9s						
AS01	**Alice Springs**	**42.80**	**259**	P	**P**	**03 52 36.1**	**+0.3**
AS31	**Alice Springs**	**42.85**	**259**	P	**P**	**03 52 35.8**	**-0.3**
ASAR	**Alice Springs**	**42.85**	**259**	P	**P**	**03 52 36.2**	**+0.1**
ASAR	**Alice Springs**	**42.85**	**259**	P	**P**	**03 52 35.8**	**-0.4**
	comp=Z,188nm,0.6s,baz=94,slow=7.6,SNR=994						
ASAR				PcP	**PcP**	**03 54 13.7**	**+0.4**
	comp=Z,46nm,0.5s,baz=108,slow=3.8,SNR=12						
ASAR				ScP	**ScP**	**03 57 09.3**	**+0.9**
	comp=Z,7.2nm,0.8s,baz=98,slow=3.4,SNR=3.1						
ASAR				S	**S**	**03 58 15.4**	**-3.3**
	comp=Z,30nm,0.8s,baz=98,slow=16,SNR=23						
ASAR				PKiKP	**PKiKP**	**04 01 12.9**	**-2.1**
	comp=Z,1.7nm,0.5s,baz=129,slow=1.4,SNR=4.3						
ASAR				P4KPbc		04 30 23.8	
	comp=Z,0.7nm,0.8s,baz=100,slow=4.1,SNR=5.5						
	comp=Z,188nm,0.6s						
WR8	**Warramunga Arr**	**42.91**	**264**	P	**P**	**03 52 35.8**	**-0.8**
WB0	**Warramunga Arr**	**43.05**	**264**	P	**P**	**03 52 36.9**	**-0.8**
WRAB	**Tennant Creek**	**43.06**	**264**	P	**P**	**03 52 36.9**	**-0.8**
WRAB	**Tennant Creek**	**43.06**	**264**	P	**P**	**03 52 36.9**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,415nm,1.2s						
WRA	**Warramunga Arr**	**43.06**	**264**	P	**P**	**03 52 37.2**	**-0.6**
WRA	**Warramunga Arr**	**43.06**	**264**	P	**P**	**03 52 37.4**	**-0.4**
	comp=Z,172nm,0.5s,baz=101,slow=8.8,SNR=1380						
WRA				PcP	**PcP**	**03 54 14.7**	**+0.6**
	comp=Z,40nm,0.8s,baz=97,slow=4.0,SNR=10						
WRA				ScP	**ScP**	**03 57 09.6**	**+0.3**
	comp=Z,34nm,1.0s,baz=98,slow=3.8,SNR=12						
WRA				S	**S**	**03 58 18.4**	**-3.5**
	comp=Z,20nm,0.7s,baz=99,slow=14,SNR=18						
WRA				PKiKP	**PKiKP**	**04 01 14.1**	**-1.2**
	comp=Z,3.1nm,0.8s,baz=135,slow=0.3,SNR=4.6						
WRA				P3KPbc		04 21 36.5	
	comp=Z,0.3nm,0.5s,baz=294,slow=2.8,SNR=5.0						
WRA				P4KPbc		04 30 23.6	
	comp=Z,0.3nm,0.7s,baz=92,slow=4.5,SNR=5.9						
	comp

MUN **Mundaring** 57.40 245 P **P** 03 54 22.7 +0.9
MMRI **Maumere** 57.50 274 P **P** 03 54 21.1 -1.8
MMRI **Maumere** 57.50 274 P **P** 03 54 22.7 -0.1
MMRI **Maumere** 57.50 274 P **P** 03 54 22.2 -0.6
MTKN **Mount Kenneth** 57.77 245 P **P** 03 54 25.5 +1.2
MORW **Morawa** 57.96 249 P **P** 03 54 25.4 -0.3
MORW IAmb IAmb 03 54 26.7
comp=Z,347nm,1.2s
MORW **Morawa** 57.96 249 P **P** 03 54 25.1 -0.6
comp=Z,256nm,0.9s
MORW **Morawa** 57.96 249 P **P** 03 54 25.7 0.0
EDFI **Ende, Flores** 57.97 274 P **P** 03 54 25.5 -0.6
comp=Z,425nm,0.6s
BBSI **Bau Bau** 58.35 277 P **P** 03 54 28.1 -0.4
comp=Z,154nm,1.0s
BASI **Baing, Sumba** 58.49 271 P **P** 03 54 29.1 -0.4
comp=Z,828nm,1.0s
H01W1 **Cape Leeuwin H** 58.75 242 P **P** 03 54 32.3 +1.7
baz=118,slow=6.1,SNR=13
H01W2 **Cape Leeuwin H** 58.77 242 P **P** 03 54 32.4 +1.7
baz=118,slow=6.1,SNR=8.5
H01W3 **Cape Leeuwin H** 58.77 242 P **P** 03 54 32.3 +1.5
baz=118,slow=6.1,SNR=17
WSI **Waingapu** 58.94 272 P **P** 03 54 32.6 +0.1
KMSI **Cibinong** 59.55 285 P **P** 03 54 36.0 -0.6
comp=Z,385nm,1.2s
SGSI **Sangihe** 59.59 289 P **P** 03 54 35.8 -1.0
WBSI **Waikabubak, Su** 59.79 272 P **P** 03 54 37.6 -0.6
comp=Z,204nm,0.9s
LUWI **Luwuk** 59.95 282 P **P** 03 54 38.9 -0.2
LUWI **Luwuk** 59.95 282 P **P** 03 54 39.9 +0.7
LUWI **Luwuk** 59.95 282 P **P** 03 54 39.0 -0.2
comp=Z,412nm,1.4s
BSSI **Bau Bau, Buton** 60.02 276 P **P** 03 54 39.3 -0.4
comp=Z,193nm,1.2s
CCD **Concordia, Ant** 60.50 194 P **P** 03 54 43.4 +1.1
GIRL **Giralia** 60.82 256 P **P** 03 54 45.3 +0.5
GIRL **Giralia** 60.82 256 P **P** 03 54 45.7 +0.9
comp=Z,614nm,1.0s
GIRL **Giralia** 60.82 256 P **P** 03 54 45.7 +0.9
APSI **Ampana** 61.02 282 P **P** 03 54 46.6 +0.3
comp=Z,109nm,0.6s
BNSI **Bone** 61.03 277 P **P** 03 54 46.1 -0.2
comp=Z,308nm,1.5s
KAPI **Kappang** 61.12 277 P **P** 03 54 45.4 -1.5
KAPI IAmb IAmb 03 54 47.9
comp=Z,507nm,1.9s
KAPI **Kappang** 61.12 277 P **P** 03 54 46.7 -0.2
comp=Z,34nm,0.4s,baz=114,slow=3.6,SNR=20
comp=Z,34nm,0.4s
KAPI **Kappang** 61.12 277 P **P** 03 54 46.8 -0.1
KAPI **Kappang** 61.12 277 P **P** 03 54 47.8 +0.9
DAV **Davao City (W)** 61.19 292 P **P** 03 54 46.8 -0.5
comp=Z,314nm,0.4s,baz=100,slow=2.7,SNR=4.4
MRSI **Marisa** 61.35 283 P **P** 03 54 46.6 -1.8
comp=Z,83nm,0.6s
JCJ **Chichijima** 61.47 321 P **P** 03 54 48.0 -0.8
JCJ IAmb IAmb 03 54 53.8
comp=Z,105nm,0.8s
JCJ **Chichijima** 61.47 321 P **P** 03 54 49.4 +0.5
SPSI **Sidrap Palu** 61.51 278 P **P** 03 54 48.1 -1.3
comp=Z,138nm,1.1s
PLAI **Plampang** 61.56 272 P **P** 03 54 49.9 +0.1
PLAI **Plampang** 61.56 272 P **P** 03 54 49.9 +0.1
comp=Z,597nm,0.9s
TTSI **Tana Toraja** 61.82 279 P **P** 03 54 50.5 -1.0
CASY **Casey** 61.87 206 P **P** 03 54 50.6 -0.2
CASY IAmb IAmb 03 54 53.5
comp=Z,159nm,0.9s
CASY **Casey** 61.87 206 P **P** 03 54 51.2 +0.4
TWSI **Taliwang, Sumb** 62.42 272 P **P** 03 54 55.0 -0.3
comp=Z,472nm,1.0s
TOLI2 **Tolitoli** 62.66 283 P **P** 03 54 55.3 -1.6
TOLI2 IAmb IAmb 03 54 59.0
comp=Z,148nm,0.7s
TOLI2 **Tolitoli** 62.66 283 P **P** 03 54 57.7 +0.8
PCI **Palu** 62.67 281 P **P** 03 54 57.7 +0.7
comp=Z,542nm,1.3s
MPSI **Mapaga** 63.13 282 P **P** 03 54 58.9 -1.0
comp=Z,284nm,1.2s
SRBI **Singaraja** 64.20 272 P **P** 03 55 05.9 -0.8
comp=Z,450nm,1.2s
JAGI **Jajag, Banyuwa** 65.05 271 P **P** 03 55 10.6 -1.5
JAGI **Jajag, Banyuwa** 65.05 271 P **P** 03 55 11.7 -0.3
JAGI **Jajag, Banyuwa** 65.05 271 P **P** 03 55 09.9 -2.1
comp=Z,509nm,1.2s
KMMI **Kalianget** 65.72 272 P **P** 03 55 16.9 +0.7
comp=Z,377nm,1.1s
GMJI **Gumukmas** 65.77 271 P **P** 03 55 15.0 -1.5
comp=Z,287nm,1.1s
MYLDM **Lahad Datu** 66.49 286 P **P** 03 55 20.6 -0.4
MYLDM IAmb IAmb 03 55 24.3
comp=Z,286nm,1.6s
MYLDM **Lahad Datu** 66.49 286 P **P** 03 55 22.2 +1.2
GRJI **Gresik** 67.14 272 P **P** 03 55 25.7 +0.7
JHJ2 **Mitsune** 67.34 324 P **P** 03 55 25.9 +0.1
JHJ2 **Mitsune** 67.34 324 P **P** 03 55 26.5 +0.7
TBJI **Tambak Boyo** 67.76 272 P **P** 03 55 28.3 -0.5
comp=Z,655nm,1.4s
QSPA **South Pole Qui** 67.89 180 **P** 03 55 29.8 +1.1
QSPA **South Pole Qui** 67.89 180 P **P** 03 55 30.1 +1.4
comp=Z,271nm,0.8s,baz=350,slow=0.8,SNR=587
QSPA PKiKP **PKiKP** 04 01 42.5 -0.5
comp=Z,1.8nm,0.6s,baz=54,slow=4.3,SNR=1.4
comp=Z,271nm,0.8s
PCJI **Pacitan** 67.90 270 P **P** 03 55 30.1 +0.5
NGJI **Ngawi** 67.93 271 P **P** 03 55 31.4 +1.7
comp=Z,311nm,0.9s
WOJI **Wonogiri, Jawa** 68.26 270 P **P** 03 55 31.6 -0.2
comp=Z,675nm,1.1s
UGM **Wanagama** 68.60 270 P **P** 03 55 32.9 -1.0
UGM **Wanagama** 68.60 270 P **P** 03 55 33.9 0.0
UGM **Wanagama** 68.60 270 P **P** 03 55 33.9 0.0
comp=Z,427nm,0.7s
TGY **Tagaytay City** 68.67 296 P **P** 03 55 33.6 -0.6
comp=Z,258nm,0.4s,baz=31,slow=1.9,SNR=7.8
KKM **Kota Kinabalu** 68.91 286 P **P** 03 55 35.1 -0.7
KKM **Kota Kinabalu** 68.91 286 P **P** 03 55 36.4 +0.6
SMRI **Semarang** 68.98 271 P **P** 03 55 35.8 -0.4
SMRI **Semarang** 68.98 271 P **P** 03 55 37.2 +1.0
SMRI **Semarang** 68.98 271 P **P** 03 55 36.4 +0.2
comp=Z,331nm,0.5s
JSG **Sagara** 69.41 324 P **P** 03 55 38.4 +0.2
JSG **Sagara** 69.41 324 P **P** 03 55 39.0 +0.8
JOW **Kunigami** 70.24 311 P **P** 03 55 43.0 -0.3
JOW **Kunigami** 70.24 311 P **P** 03 55 44.6 +1.3
JMM **Marumori** 70.47 328 P **P** 03 55 44.2 -0.1
JMM IAmb IAmb 03 55 45.9
comp=Z,182nm,1.2s
JMM **Marumori** 70.47 328 P **P** 03 55 46.1 +1.7
JGF **Kuroka** 70.55 324 P **P** 03 55 44.2 -0.8
JGF IAmb IAmb 03 55 46.0
comp=Z,115nm,1.2s
JGF **Kuroka** 70.55 324 P **P** 03 55 45.5 +0.5
INU **Inuyama** 70.55 323 P **P** 03 55 43.7 -1.2
INU IAmb IAmb 03 55 46.3
comp=Z,94nm,1.1s
INU **Inuyama** 70.55 323 P **P** 03 55 45.5 +0.6
STKI **Sintang** 70.70 278 P **P** 03 55 46.2 -0.1
comp=Z,312nm,0.9s
MJAR **Matsushiro Arr** 70.79 325 P **P** 03 55 45.3 -1.1
MJAR IAmb IAmb 03 55 47.3
comp=Z,93nm,1.0s
MJAR **Matsushiro Arr** 70.79 325 P **P** 03 55 45.8 -0.6
comp=Z,52nm,0.6s,baz=158,slow=5.7,SNR=131
MJAR pP **pP** 03 57 46.2 +0.1
comp=Z,2.8nm,0.7s,baz=154,slow=5.5,SNR=1.8
MJAR PKPPKP **P'P'df** 04 23 35.0 -0.4
comp=Z,0.4nm,0.3s,baz=311,slow=4.8,SNR=4.6
comp=Z,52nm,0.6s
MAJO **Matsushiro** 70.79 325 P **P** 03 55 45.5 -0.9
MAJO IAmb IAmb 03 55 47.4
comp=Z,97nm,0.9s
MAJO **Matsushiro** 70.79 325 P **P** 03 55 46.3 -0.1
MAJO **Matsushiro** 70.79 325 *i* P **P** 03 55 45.5 -0.9
MAJO pmax pmax
comp=Z,113nm,1.0s
MAJO **Matsushiro** 70.79 325 P **P** 03 55 46.2 -0.1
MJB9 **Matsu-Tunnel** 70.80 325 P **P** 03 55 45.3 -1.1
MJB9 IAmb IAmb 03 55 47.4
comp=Z,98nm,1.0s
SBUM **Sibu** 70.98 281 P **P** 03 55 49.7 +1.7
JMN **Monobe** 71.19 320 P **P** 03 55 48.0 -0.7
JMN IAmb IAmb 03 55 50.9
comp=Z,255nm,1.2s

JMN **Monobe** 71.19 320 P **P** 03 55 50.2 +1.4
JCJI **Jatiwangi** 71.20 271 P **P** 03 55 48.6 -0.6
comp=Z,737nm,0.9s
BBJI **Bungbulang** 71.42 269 P **P** 03 55 50.6 0.0
JSD **Sado** 71.89 326 P **P** 03 55 54.6 +1.9
CNJI **Cibinong** 71.96 269 P **P** 03 55 52.1 -1.5
comp=Z,153nm,1.2s
KSM **Kuching** 72.33 279 P **P** 03 55 55.4 -0.4
KSM **Kuching** 72.33 279 P **P** 03 55 56.7 +0.9
DBJI **Dramaga** 72.58 270 P **P** 03 55 57.3 0.0
comp=Z,445nm,1.2s
JNU **Nakatsue** 72.60 318 P **P** 03 55 56.3 -0.6
JNU IAmb IAmb 03 55 58.2
comp=Z,175nm,1.1s
JNU **Nakatsue** 72.60 318 P **P** 03 55 57.7 +0.8
SKJI **Sukabumi** 72.60 269 P **P** 03 55 56.7 -0.6
comp=Z,298nm,0.5s
JTM **Tenmabayashi** 72.62 330 P **P** 03 55 56.9 +0.1
JTM **Tenmabayashi** 72.62 330 P **P** 03 55 58.3 +1.5
ERM **Erimo** 72.65 332 P **P** 03 55 56.6 -0.3
ERM IAmb IAmb 03 56 02.1
comp=Z,71nm,0.8s
ERM **Erimo** 72.65 332 P **P** 03 55 58.6 +1.7
ERM **Erimo** 72.65 332 *i* P **P** 03 55 57.5 +0.6
ERM pmax pmax
comp=Z,81nm,0.8s
JEM **Erimo** 72.65 332 P **P** 03 55 58.6 +1.7
TPI **Tanjungpandan** 73.14 274 P **P** 03 56 00.1 -0.3
comp=Z,134nm,1.2s
TWGBT **Beinan** 73.17 304 P **P** 03 55 59.5 -0.9
TWG **Pinlang** 73.18 304 P **P** 03 55 58.6 -1.8
AMKA **Amchitka** 73.25 359 P **P** 03 55 60.0 -0.2
SBJI **Serang** 73.31 270 P **P** 03 56 00.6 -0.8
comp=Z,491nm,1.4s
YULB **Yu-li** 73.32 304 P **P** 03 55 60.0 -1.2
YULB IAmb IAmb 03 56 00.9
comp=Z,129nm,1.1s
YULB **Yu-li** 73.32 304 P **P** 03 56 00.8 -0.4
NACB **Ninganchiao** 73.53 305 P **P** 03 56 01.6 -0.8
NACB **Ninganchiao** 73.53 305 P **P** 03 56 03.1 +0.7
CGJI **Cibinong** 73.54 269 P **P** 03 56 01.8 -0.9
comp=Z,474nm,0.5s
TPUB **Ta-pu** 73.78 304 P **P** 03 56 02.7 -1.1
TPUB **Ta-pu** 73.78 304 P **P** 03 56 03.4 -0.5
ADK **Adak** 73.79 2 P **P** 03 56 02.9 -0.3
ADK **Adak** 73.79 2 P **P** 03 56 03.1 -0.1
ADK **Adak** 73.79 2 P **P** 03 56 02.9 -0.3
ADK pmax pmax
comp=Z,304nm,1.0s
SSLB **Suanglung** 73.80 305 P **P** 03 56 02.4 -1.5
SSLB **Suanglung** 73.80 305 P **P** 03 56 03.7 -0.3
YHNB **Yeheng** 73.97 306 P **P** 03 56 05.5 +0.5
TATO **Taipei** 74.06 306 P **P** 03 56 05.1 -0.3
TATO **Taipei** 74.06 306 P **P** 03 56 05.6 +0.2
TATO **Taipei** 74.06 306 P **P** 03 56 05.6 +0.2
ATKA **Atka Island** 74.21 3 P **P** 03 56 05.4 -0.1
ATKA **Atka Island** 74.21 3 P **P** 03 56 05.4 -0.1
JTU **Tsushima** 74.45 318 P **P** 03 56 07.8 +0.5
JKA **Kamikawa-asahi** 74.58 333 P **P** 03 56 09.0 +1.1
JKA IAmb IAmb 03 56 11.9
comp=Z,140nm,0.9s
ASAJ **Asahikawa** 74.58 333 P **P** 03 56 09.0 +1.1
ASAJ pmax pmax
comp=Z,141nm,0.9s
SMY **Shemya** 74.81 356 P **P** 03 56 08.6 -0.3
SMY **Shemya** 74.81 356 P **P** 03 56 09.6 +0.7
SMY **Shemya** 74.81 356 P **P** 03 56 08.6 -0.3
SMY pmax pmax
comp=Z,234nm,0.9s
NIKH **Nikolski High** 75.41 7 P **P** 03 56 12.1 -0.1
NIKH **Nikolski High** 75.41 7 P **P** 03 56 12.4 +0.2
SKR **Severo-Kuril's** 75.70 344 *e*P **P** 03 56 13.7 -0.1
SKR pmax pmax
comp=Z,148nm,0.9s
MDSI **Maura Dua** 75.72 271 P **P** 03 56 13.6 -1.3
comp=Z,185nm,1.0s
KNMB **Chin-men Tao** 76.14 304 P **P** 03 56 16.0 -0.9
KNMB IAmb IAmb 03 56 18.6
comp=Z,277nm,1.3s
QZH **Quanzhou** 76.23 304 ⇓ *i* P **P** 03 56 17.7 +0.3
QZH S **S** 04 05 15.1 +0.4
QZH pmax pmax
comp=Z,310nm,1.0s
UNV **Unalaska Valle** 76.54 8 P **P** 03 56 17.5 -0.9
UNV IAmb IAmb 03 56 18.4
comp=Z,263nm,1.5s
LHSI **Lahat** 76.56 271 P **P** 03 56 18.2 -1.3
comp=Z,129nm,1.4s
YSS **Yuzhno-Sakhali** 76.82 334 P **P** 03 56 20.6 +0.5
YSS IAmb IAmb 03 56 22.7
comp=Z,382nm,1.5s
YSS **Yuzhno-Sakhali** 76.82 334 P **P** 03 56 21.1 +1.0
YSS **Yuzhno-Sakhali** 76.82 334 *de*P **P** 03 56 21.1 +1.0
YSS *e* 03 56 28.2
YSS *e**PP **pP** 03 58 23.7 +1.2
YSS *e* 03 59 22.4
YSS *i* S **S** 04 05 23.3 +3.4
YSS pmax pmax
comp=Z,800nm,3.9s
YSS pmax pmax
comp=Z,140nm,0.7s
YSS pmax pmax
comp=N,50nm,0.6s
YSS pmax pmax
comp=E,90nm,0.6s
YSS smax smax
comp=N,600nm,6.8s
YSS smax smax
comp=E,1μm,7.3s
TJN **Taejon** 76.92 318 P **P** 03 56 20.4 -0.5
TJN **Taejon** 76.92 318 P **P** 03 56 21.7 +0.8
TJN **Taejon** 76.92 318 *i* P **P** 03 56 20.1 -0.8
KSRS **Korea Array** 77.28 320 P **P** 03 56 23.4 +0.6
comp=E,20nm,0.8s,baz=141,slow=6.0,SNR=114
comp=E,20nm,0.8s
PET **Petropavlovsk** 77.28 347 P **P** 03 56 22.4 -0.1
PET IAmb IAmb 03 56 22.9
comp=Z,72nm,0.5s
PET **Petropavlovsk** 77.28 347 *e*P **P** 03 56 22.4 -0.1
PET *e**PP **pP** 03 58 26.5 +0.5
PET *e*PPP PPP 04 01 19.4
PET *e*S **S** 04 05 25.1 +0.6
PET *e*SP **SPn** 04 06 04.4 -4.9
PET pmax pmax
comp=Z,200nm,5.7s
PET pmax pmax
comp=Z,79nm,1.3s
PET pmax pmax
comp=Z,600nm,5.5s
PET pmax pmax
comp=Z,200nm,9.6s
KSAR **Wonju Array Be** 77.29 320 P **P** 03 56 22.9 0.0
KSAR **Wonju Array Be** 77.29 320 P **P** 03 56 22.9 0.0
KS19 **Wonju Array Si** 77.34 320 P **P** 03 56 22.2 -1.0
KSI **Kapahiang** 77.49 271 P **P** 03 56 24.1 -0.5
SMAI **San Martin Ant** 77.51 159 P **P** 03 56 25.0 +1.3
PEA0B **Petropavlovsk-** 77.57 346 P **P** 03 56 23.4 -0.7
PEA0B IAmb IAmb 03 56 25.4
comp=Z,190nm,0.8s
PEA0B **Petropavlovsk-** 77.57 346 *i* P **P** 03 56 23.6 -0.4
PETK **Petropavlovsk-** 77.57 346 P **P** 03 56 23.2 -0.8
PETK **Petropavlovsk-** 77.57 346 P **P** 03 56 23.7 -0.4
comp=Z,175nm,0.8s,baz=125,slow=6.1,SNR=226
PETK pP **pwP** 03 58 28.6 -1.2
comp=Z,30nm,1.1s,baz=115,slow=8.7,SNR=4.4
PETK PKiKP **PKiKP** 04 01 56.1 -1.0
comp=Z,2.7nm,0.6s,baz=118,slow=3.6,SNR=4.4
comp=Z,175nm,0.8s
SSE **Sheshan** 77.76 311 P **P** 03 56 25.9 +0.4
SSE S **S** 04 05 30.5 0.0
SSE pmax pmax
comp=Z,33nm,0.8s
SSE pmax pmax
comp=Z,340nm,3.2s
TEY **Ternei** 77.98 330 ⇓ *e*P P 03 56 20.5 -5.9
TEY *e* 04 05 25.9
TEY pmax pmax
comp=Z,20nm,2.3s
BELA **Belgrano 2** 78.06 173 P **P** 03 56 26.9 +0.4
BELA IAmb IAmb 03 56 28.9
comp=Z,182nm,0.8s
INCN **Inchon** 78.08 319 P **P** 03 56 27.6 +0.4
INCN IAmb IAmb 03 56 29.2
comp=Z,160nm,1.1s

INCN **Inchon** 78.08 319 P **P** 03 56 26.8 -0.4
INCN **Inchon** 78.08 319 P **P** 03 56 27.9 +0.7
INCN **Inchon** 78.08 319 P **P** 03 56 27.6 +0.4
INCN pmax pmax
comp=Z,161nm,1.1s
HKPS **Hong Kong Po S** 78.35 300 P **P** 03 56 30.0 +1.1
HKPS IAmb IAmb 03 56 31.6
comp=Z,257nm,1.0s
MYKOM **Kota Tinggi** 78.39 277 P **P** 03 56 29.3 0.0
MYKOM IAmb IAmb 03 56 30.9
comp=Z,140nm,1.1s
MYKOM **Kota Tinggi** 78.39 277 P **P** 03 56 30.6 +1.3
CNBA **Chernabura Isl** 78.56 12 P **P** 03 56 29.6 +0.3
CNBA IAmb IAmb 03 56 30.4
comp=Z,182nm,1.4s
CHNA **Chernabura Isl** 78.57 12 P **P** 03 56 29.5 +0.2
UGL **Uglegorsk** 78.81 335 *e*P P 03 56 23.5 -7.2
UGL pmax pmax
comp=Z,200nm,1.0s
SDPT **Sand Point** 78.91 11 P **P** 03 56 30.6 -0.5
SDPT IAmb IAmb 03 56 31.8
comp=Z,112nm,0.8s
SDPT **Sand Point** 78.91 11 P **P** 03 56 31.1 0.0
VLA **Vladivostok** 78.91 326 *i* P **P** 03 56 31.0 -0.4
VLA pmax pmax
comp=Z,166nm,1.6s
MSHR **Mys Shultsa** 78.91 325 *ce*P **P** 03 56 32.0 +0.6
MSHR pmax pmax
comp=Z,272nm,1.5s
P08K **Saint George I** 78.92 6 P **P** 03 56 30.5 -0.7
baz=188
S12K **Black Hills** 78.98 10 P **P** 03 56 31.1 -0.4
S12K IAmb IAmb 03 56 32.2
comp=Z,106nm,0.8s
S12K **Black Hills** 78.98 10 P **P** 03 56 31.1 -0.4
baz=195
PSTR **Posyet** 79.15 325 *i* P **P** 03 56 32.1 -0.6
MAW **Mawson** 79.52 200 P **P** 03 56 35.3 +1.0
comp=Z,77nm,0.7s,baz=132,slow=7.2,SNR=195
comp=Z,77nm,0.7s
USA0B **Ussuriysk Arra** 79.62 327 P **P** 03 56 35.3 +0.2
USA0B IAmb IAmb 03 56 37.5
comp=Z,206nm,1.1s
USA0B **Ussuriysk Arra** 79.62 327 *i* P **P** 03 56 35.5 +0.4
USRK **Ussuriysk Ar.** 79.62 327 P **P** 03 56 36.1 +1.0
USRK **Ussuriysk Ar.** 79.62 327 P **P** 03 56 35.9 +0.7
comp=Z,75nm,0.9s,baz=129,slow=3.9,SNR=120
USRK pP **pP** 03 58 40.7 +2.0
comp=Z,3.9nm,0.8s,baz=148,slow=5.1,SNR=2.8
comp=Z,75nm,0.9s
USRK **Ussuriysk Ar.** 79.62 327 P **P** 03 56 36.1 +1.0
NJ2 **Nanjing** 79.94 311 ⇓ P **P** 03 56 37.6 +0.5
NJ2 S **S** 04 05 52.4 -0.6
NJ2 SKS **SKSac** 04 05 59.4 +1.2
NJ2 SS **SS** 04 11 20.1 -0.9
NJ2 pmax pmax
comp=Z,100nm,1.0s
TYV **Tymovskoe** 80.04 337 *e*P **P** 03 56 37.8 +0.7
TYV *e*S **S** 04 05 46.5 -6.7
TYV pmax pmax
comp=Z,700nm,2.2s
TYV pmax pmax
comp=Z,162nm,1.0s
TYV smax smax
comp=N,700nm,4.9s
TYV smax smax
comp=E,500nm,4.9s
CHGN **Chignik** 80.19 12 P **P** 03 56 37.4 -0.3
CHGN IAmb IAmb 03 56 38.9
comp=Z,110nm,0.8s
PMSA **Palmer Station** 80.27 157 P **P** 03 56 40.1 +1.8
PMSA IAmb IAmb 03 56 41.5
comp=Z,181nm,1.0s
PMSA **Palmer Station** 80.27 157 *e*P **P** 03 56 39.5 +1.2
QIZ **Qiongzhong** 80.34 295 P **P** 03 56 40.9 +1.4
QIZ pP **pP** 03 58 41.6 -1.9
QIZ PP **PP** 03 59 54.7 +0.9
QIZ S **SKSac** 04 06 00.3 -1.2
QIZ sS **sS** 04 09 36.4 -2.9
QIZ SS **SS** 04 11 30.4 +3.1
QIZ pmax pmax
comp=Z,1μm,4.0s
BCW **Bitter Crk WRg** 80.43 46 P **P** 03 56 41.1 +1.4
BCW IAmb IAmb 03 56 42.9
comp=Z,152nm,1.6s
GDXM **Geysers** 80.58 41 P **P** 03 56 41.1 +0.8
KCPM **Cahto Peak** 80.64 40 P **P** 03 56 41.5 +0.7
KMPM **Mount Pierce** 80.79 39 IAmb IAmb 03 56 44.8
comp=Z,226nm,1.2s
KMRM **Mail Ridge** 80.91 40 IAmb IAmb 03 56 45.5
comp=Z,180nm,0.9s
JCC **Jacoby Creek,** 81.09 39 IAmb IAmb 03 56 46.1
comp=Z,118nm,1.3s
MDJ **Mudanjiang** 81.14 326 IAmb IAmb 03 56 45.3
comp=Z,113nm,0.9s
MDJ **Mudanjiang** 81.14 326 P **P** 03 56 43.8 +0.8
MDJ PP **PP** 03 59 53.8 -6.1
MDJ S **S** 04 06 04.7 +0.1
MDJ pmax pmax
comp=Z,150nm,1.0s
MDJ **Mudanjiang** 81.14 326 P **P** 03 56 43.8 +0.8
SII **Sitkinak Islan** 81.29 14 IAmb IAmb 03 56 45.2
comp=Z,163nm,1.0s
SII **Sitkinak Islan** 81.29 14 P **P** 03 56 44.0 +0.5
KHMM **Horse Mountain** 81.31 39 IAmb IAmb 03 56 47.5
comp=Z,80nm,1.0s
KRPM **Rodgers** 81.31 39 IAmb IAmb 03 56 47.6
comp=Z,108nm,1.0s
O02D **Mt. Diablo Mer** 81.43 40 IAmb IAmb 03 56 48.3
comp=Z,135nm,1.1s
SLBS **Sierra La Lagu** 81.51 60 P **P** 03 56 46.8 +1.3
YUH **Yuha Desert** 81.54 50 P **P** 03 56 46.3 +0.9
CMB **Columbia Colle** 81.61 43 P **P** 03 56 46.9 +1.2
CMB pP **pP** 03 58 51.8 +1.4
KRMB **Red Mountain** 81.61 39 IAmb IAmb 03 56 49.1
comp=Z,94nm,1.1s
PFO **Pinyon Flats O** 81.69 49 P **P** 03 56 47.2 +0.9
PFO pP **pP** 03 58 50.3 -0.6
PFO **Pinyon Flats O** 81.69 49 P **P** 03 56 47.7 +1.4
comp=Z,7.0nm,0.6s,baz=212,slow=2.2,SNR=17
PFO pP **pwP** 03 58 52.9 -1.9
comp=Z,17nm,1.2s,baz=238,slow=6.5,SNR=5.6
comp=Z,7.0nm,0.6s
AFDM **Forest Hills D** 81.79 42 P **P** 03 56 47.4 +0.9
AFDM pP **pP** 03 58 50.0 -1.2
R17L **Mt. Peulik Vol** 81.83 12 P **P** 03 56 46.8 +0.5
baz=201
R17L S **SKSac** 04 06 09.2 -0.5
baz=201
PLK4 **Peulik 4** 81.83 12 IAmb IAmb 03 56 47.8
comp=Z,148nm,0.8s
KBO **Bosley Butte** 81.87 38 IAmb IAmb 03 56 50.4
comp=Z,213nm,1.4s
IPM **Ipoh** 82.03 278 P **P** 03 56 48.8 +0.5
DL2 **Dalian** 82.05 318 P **P** 03 56 46.7 -1.1
DL2 S **SKSac** 04 06 10.8 -1.2
DL2 pmax pmax
comp=Z,100nm,1.5s
DL2 pmax pmax
comp=Z,990nm,5.2s
OHAK **Old Harbor** 82.10 14 P **P** 03 56 47.7 +0.2
OHAK IAmb IAmb 03 56 49.2
comp=Z,99nm,1.2s
OHAK pP **pP** 03 58 50.9 -1.8
OHAK **Old Harbor** 82.10 14 P **P** 03 56 48.5 +1.0
L02F **Cave Junction** 82.19 38 P **P** 03 56 49.7 +1.2
KEBM **Edson Butte** 82.23 37 IAmb IAmb 03 56 51.9
comp=Z,169nm,1.3s
CNSH **ChangSha** 82.24 305 P **P** 03 56 49.4 +0.4
CNSH pmax pmax
comp=Z,64nm,1.1s
WHN **Wuhan** 82.38 307 ⇓ P **P** 03 56 50.2 +0.6
WHN sP **sP** 03 59 53.0 -1.0
WHN S **S** 04 06 17.0 -0.5
WHN pmax pmax
comp=Z,210nm,0.9s
WHN pmax pmax
comp=Z,2μm,5.0s
GRNR **Gornyy** 82.40 334 ⇓ *i* P **P** 03 56 50.3 +1.0
GRNR pmax pmax
comp=Z,120nm,0.9s
YBH **Yreka Blue Hor** 82.44 39 P **P** 03 56 51.0 +1.2
YBH pP **pP** 03 58 53.8 -1.1
YBH **Yreka Blue Hor** 82.44 39 P **P** 03 56 51.5 +1.7
comp=Z,2.3nm,0.7s,baz=187,slow=1.7,SNR=96

YBH pP **pwP** **03 58 57.3 -1.0**
comp=Z,0.7nm,1.0s,baz=183,slow=8.0,SNR=6.3
WAKR Walker 82.49 43 P **P** **03 56 52.0 +1.7**
WAKR lAmb lAmb 03 56 53.0
comp=Z,227nm,1.7s
WAKR pP **pP** **03 58 53.6 -1.7**
K02D Willamette Mer 82.50 38 lAmb lAmb 03 56 53.2
comp=Z,128nm,1.4s
Q17K Contact Creek 82.51 12 P **P** **03 56 49.3 -0.5**
baz=201
Q17K S **S** **04 06 16.7 -1.3**
baz=201
O14K Tigyukauivet M 82.52 9 lAmb lAmb 03 56 51.0
comp=Z,231nm,1.8s
O14K Tigyukauivet M 82.52 9 P **P** **03 56 49.5 -0.1**
baz=196
GLA Glamis 82.54 50 P **P** **03 56 51.1 +0.7**
GLA pP **pwP** **03 58 58.4 -0.8**
GLA Glamis 82.54 50 P **P** **03 56 51.1 +0.7**
GLA *PP **pwP** **03 58 58.4 -0.8**
GLA pmax pmax
comp=Z,54nm,1.0s
MPK Martis Peak 82.58 42 lAmb lAmb 03 56 54.4
comp=Z,227nm,1.5s
HATC Hat Creek Radi 82.62 40 lAmb lAmb 03 56 53.6
comp=Z,104nm,0.9s
J01E Myrtle Point 82.64 37 lAmb lAmb 03 56 53.6
comp=Z,93nm,0.9s
SNY Shenyang 82.65 321 ⇓P **P** **03 56 50.7 0.0**
SNY pP **pP** **03 58 50.1 -5.5**
SNY S **S** **04 06 23.7 +4.0**
SNY pmax pmax
comp=Z,110nm,0.8s
SNY pmax pmax
comp=Z,400nm,3.5s
O15K Ungalikthiuk R 82.67 10 P **P** **03 56 50.1 -0.2**
baz=197
KULM Kulim 82.69 279 lAmb lAmb 03 56 53.3
comp=Z,122nm,1.0s
KULM Kulim 82.69 279 P **P** **03 56 53.0 +1.4**
BEKR Beckworth 82.72 42 P **P** **03 56 52.7 +1.3**
BEKR lAmb lAmb 03 56 53.8
comp=Z,160nm,1.8s
BEKR pP **pP** **03 58 55.0 -1.6**
Q16K King Salmon 82.75 12 P **P** **03 56 51.0 +0.3**
baz=200
Q16K S **S** **04 06 20.0 +0.1**
baz=200
MG04 Isla Riesco 82.75 144 lAmb lAmb 03 56 55.3
comp=Z,151nm,1.1s
KDAK Kodiak Island 82.77 14 P **P** **03 56 51.5 +0.6**
KDAK lAmb lAmb 03 56 52.6
comp=Z,147nm,1.4s
KDAK Kodiak Island 82.77 14 P **P** **03 56 51.2 +0.3**
comp=Z,59nm,1.1s,baz=241,slow=3.2,SNR=32
KDAK pP **pwP** **03 58 59.1 +0.4**
comp=Z,27nm,1.1s,baz=244,slow=2.2,SNR=4.3
comp=Z,59nm,1.1s
KDAK Kodiak Island 82.77 14 P **P** **03 56 51.5 +0.6**
KDAK pmax pmax
comp=Z,147nm,1.4s
MG05 Puerto Natales 82.78 143 lAmb lAmb 03 56 54.7
comp=Z,98nm,1.1s
CN2 Changchun 82.83 323 P **P** **03 56 51.9 +0.3**
CN2 pP pwP 03 59 00.2 -0.6
CN2 S **S** **04 06 22.1 +0.6**
CN2 pmax pmax
comp=Z,130nm,1.0s
P16K Nushagak River 82.84 11 P **P** **03 56 51.0 -0.2**
baz=199
P16K S **S** **04 06 21.0 +0.2**
baz=199
LHV Little Huntoon 82.94 44 P **P** **03 56 52.9 +0.6**
LHV pP **pP** **03 58 58.5 +1.0**
L04D Klamath Falls 82.98 39 P **P** **03 56 53.5 +0.9**
L04D lAmb lAmb 03 56 55.3
comp=Z,110nm,1.1s
L04D **pP** **03 58 57.0 -0.9**
M11K Mekoryuk 82.98 7 P **P** **03 56 53.7 +1.8**
baz=191
BNX BinXian 83.04 326 ⇓P **P** **03 56 52.3 -0.3**
BNX sP **sP** **03 59 58.7 +1.5**
BNX S **S** **04 06 26.2 +2.7**
BNX pmax pmax
comp=Z,180nm,0.9s
Q18K Katmai Hardscr 83.05 13 P **P** **03 56 52.1 -0.3**
baz=202
Q18K S **S** **04 06 23.3 +0.1**
baz=202
N14K Kuskokwak Cree 83.10 9 P **P** **03 56 53.1 +0.6**
baz=196
BLYC Blythe 83.12 49 P **P** **03 56 55.1 +1.8**
BLYC **pP** **03 58 59.3 +0.6**
113A Mohawk Valley, 83.14 51 P **P** **03 56 54.5 +1.1**
113A **pP** **03 58 58.9 +0.2**
NVAR Mina Array Bea 83.17 44 P **P** **03 56 54.1 +0.4**
NVAR pP **pP** **03 58 59.2 +0.1**
NVAR Mina Array Bea 83.17 44 P **P** **03 56 54.9 +1.2**
comp=Z,23nm,0.9s,baz=226,slow=8.5,SNR=94
NVAR pP **pwP** **03 59 01.8 -0.8**
comp=Z,18nm,1.0s,baz=225,slow=8.1,SNR=3.3
NVAR PKKP **PKKPdf** **04 15 02.5 +0.2**
comp=Z,0.4nm,0.7s,baz=25,slow=2.7,SNR=1.7
NVAR PKKPbc **PKKPbc** **04 15 11.7 +0.7**
comp=Z,2.3nm,0.7s,baz=88,slow=3.4,SNR=12
NVAR PKPPKP **P'P'df** **04 23 14.9 +0.7**
comp=Z,3.5nm,0.9s,baz=106,slow=2.1,SNR=9.3
comp=Z,23nm,0.9s
BBOR Butler Butte 83.18 38 P **P** **03 56 54.3 +0.8**
PAHR Pah Rah Range 83.23 42 P **P** **03 56 54.7 +0.9**
PAHR pP **pP** **03 59 00.2 +0.9**
NV11 Mina Array Sit 83.27 44 P **P** **03 56 54.8 +0.7**
NV11 pP **pP** **03 58 58.0 -1.5**
RPSI Rantau Prapat 83.27 276 P **P** **03 56 53.9 -0.6**
RPSI lAmb lAmb 03 56 55.2
comp=Z,113nm,0.9s
RPSI pP **pP** **03 58 58.2 -1.2**
P17K Kvichak River 83.28 12 P **P** **03 56 53.2 -0.2**
baz=201
P17K S **S** **04 06 25.5 +0.3**
baz=201
I02E Swisshome, OR 83.29 37 lAmb lAmb 03 56 57.0
comp=Z,119nm,1.3s
KLR Kul'dur 83.31 330 *i* P **P** **03 56 54.0 +0.2**
KLR pmax pmax
comp=Z,72nm,1.0s
I03D Drain, OR 83.31 37 P **P** **03 56 55.5 +1.5**
I03D lAmb lAmb 03 56 56.8
comp=Z,69nm,0.7s
I03D pP **pP** **03 58 58.3 -1.1**
PSI Prapat 83.31 276 P **P** **03 56 53.7 -1.2**
comp=Z,87nm,0.9s,baz=144,slow=2.5,SNR=80
PSI pP **pP** **03 59 00.4 +0.6**
comp=Z,12nm,0.8s,baz=93,slow=3.9,SNR=3.3
comp=Z,87nm,0.9s
PSI Prapat 83.31 276 P **P** **03 56 55.4 +0.5**
PSI Prapat 83.31 276 P **P** **03 56 53.9 -1.0**
PSI *PP **pP** **03 58 58.2 -1.6**
PSI pmax pmax
comp=Z,113nm,0.9s
HSIG 83.32 55 P **P** **03 56 55.6 +1.2**
HSIG pP **pP** **03 59 00.0 +0.1**
M13K Dall Lake 83.34 8 lAmb lAmb 03 56 56.1
comp=Z,131nm,0.9s
M13K Dall Lake 83.34 8 P **P** **03 56 55.0 +1.4**
baz=194
O16K Kokwok River B 83.35 11 lAmb lAmb 03 56 54.3
comp=Z,109nm,0.9s
O16K Kokwok River B 83.35 11 P **P** **03 56 53.1 -0.7**
baz=199
O16K S **S** **04 06 24.5 -1.4**
baz=199
214A Organ Pipe Nat 83.41 52 P **P** **03 56 55.5 +0.7**
214A pP **pP** **03 58 59.8 -0.7**
TIA Tai'an 83.44 313 P **P** **03 56 55.2 +0.4**
TIA sP **sP** **03 59 58.9 -0.6**
TIA S **S** **04 06 30.9 +3.1**
TIA pmax pmax
comp=Z,250nm,1.3s
TIA pmax pmax
comp=Z,940nm,3.9s
Q20K Shuyak Island 83.56 14 P **P** **03 56 55.1 +0.3**
baz=205
Q20K S **S** **04 06 28.5 +0.5**
baz=205
SYI Shuyak Island 83.56 14 lAmb lAmb 03 56 56.5
comp=Z,139nm,1.1s
N15K Kwethluk River 83.57 10 P **P** **03 56 55.8 +0.9**
baz=197
N15K S **S** **04 06 27.9 -0.1**
baz=197
Q19K Cape Douglas, 83.58 13 P **P** **03 56 55.1 +0.1**
baz=203
Q19K S **S** **04 06 28.8 +0.5**
baz=203
ESPZ Base Esperanza 83.60 158 lAmb lAmb 03 56 58.7
comp=Z,179nm,1.0s
P18K Big Mountain, 83.69 12 lAmb lAmb 03 56 57.5
comp=Z,80nm,0.8s
P18K Big Mountain, 83.69 12 P **P** **03 56 55.1 -0.5**
baz=202
P18K S **S** **04 06 28.8 -0.5**
baz=202
O17K Koliganek Bris 83.70 11 P **P** **03 56 54.9 -0.5**
baz=200
O17K S **S** **04 06 28.8 -0.4**
baz=200
BUCK Buck Mountain 83.83 37 lAmb lAmb 03 56 59.6
comp=Z,158nm,1.2s
M14K Bethel 83.86 9 P **P** **03 56 56.7 +0.5**
baz=195
M14K S **S** **04 06 32.3 +1.6**
baz=195
COR Corvallis 83.90 37 P **P** **03 56 57.3 +0.5**
COR Corvallis 83.90 37 P **P** **03 56 57.3 +0.5**
COR pmax pmax
comp=Z,41nm,0.8s
M15K Kasigluk River 83.98 9 P **P** **03 56 57.4 +0.5**
baz=196
M15K S **S** **04 06 33.4 +1.4**
baz=196
GSI Gununguitoli 83.99 274 P **P** **03 56 58.8 +0.7**
HEBO Mount Hebo 84.05 36 lAmb lAmb 03 57 00.7
comp=Z,81nm,0.9s
N16K Nishlik Lake 84.07 10 P **P** **03 56 58.1 +0.7**
baz=198
N16K S **S** **04 06 33.9 +0.9**
baz=198
K05A Summer Lake 84.12 39 P **P** **03 56 59.4 +1.1**
K05A lAmb lAmb 03 57 01.3
comp=Z,130nm,1.2s
K05A pP **pP** **03 59 04.5 +0.5**
O18K Koktuh Hills 84.12 12 P **P** **03 56 57.4 -0.2**
baz=202
O18K S **S** **04 06 33.1 -0.4**
baz=202
SHPR Sheep Range 84.17 47 P **P** **03 56 59.6 +1.0**
SHPR pP **pP** **03 59 04.2 -0.1**
H04D Lebanon 84.17 37 P **P** **03 56 59.5 +1.3**
H04D lAmb lAmb 03 57 01.1
comp=Z,195nm,1.5s
H04D pP **pP** **03 59 05.6 +1.7**
J05D Fort Rock, OR 84.26 39 P **P** **03 56 59.6 +0.7**
J05D lAmb lAmb 03 57 01.8
comp=Z,165nm,1.2s
J05D pP **pwP** **03 59 07.2 -1.0**
W13A Hualapai Mount 84.29 49 P **P** **03 57 00.5 +1.2**
W13A pP **pP** **03 59 02.9 -2.2**
Y14A Wickenburg 84.30 50 P **P** **03 57 00.1 +0.9**
Y14A pP **pP** **03 59 06.3 +1.4**
G03D McMinnville, O 84.31 36 P **P** **03 56 59.9 +1.0**
G03D lAmb lAmb 03 57 01.7
comp=Z,196nm,1.5s
G03D pP **pP** **03 59 04.3 -0.3**
L14K Kuka Creek 84.33 8 lAmb lAmb 03 57 00.6
comp=Z,210nm,1.6s
L14K Kuka Creek 84.33 8 P **P** **03 56 58.9 +0.3**
baz=194
L14K S **S** **04 06 37.0 +1.7**
baz=194
P19K Oil Pt 84.33 13 P **P** **03 56 58.6 -0.1**
baz=204
P19K S **S** **04 06 34.6 -0.9**
baz=204
N17K Nushagak Hills 84.39 11 P **P** **03 56 58.7 -0.2**
baz=200
N17K S **S** **04 06 35.2 -0.7**
baz=200
M16K Timber Creek 84.56 10 **P** **03 57 00.9 +1.2**
M16K lAmb lAmb 03 57 03.2
comp=Z,155nm,1.1s
M16K Timber Creek 84.56 10 P **P** **03 57 00.6 +0.9**
baz=198
M16K S **S** **04 06 39.7 +2.1**
baz=198
H04A Detroit Lake 84.58 37 P **P** **03 57 00.5 +0.2**
H04A lAmb lAmb 03 57 02.5
comp=Z,110nm,1.3s
H04A pP **pP** **03 59 07.0 +0.9**
O19K Port Alsworth 84.61 12 P **P** **03 56 59.5 -0.5**
O19K pP **pP** **03 59 07.3 +1.1**
O19K Port Alsworth 84.61 12 P **P** **03 56 59.4 -0.5**
baz=203
O19K S **S** **04 06 37.2 -0.9**
baz=203
F03A Seaside 84.61 35 lAmb lAmb 03 57 03.2
comp=Z,11nm,1.0s
ILSW Iliamna Southw 84.66 13 P **P** **03 56 59.7 -0.6**
ILSW pP **pP** **03 59 07.1 +0.4**
K13K Kusilvak Mount 84.67 7 lAmb lAmb 03 57 03.2
comp=Z,64nm,1.0s
K13K Kusilvak Mount 84.67 7 P **P** **03 57 00.6 +0.4**
baz=192
K13K S **S** **04 06 40.3 +1.8**
baz=192
PINE Pine Mountain 84.74 38 P **P** **03 57 02.5 +1.3**
PINE pP **pP** **03 59 05.8 -1.4**
G04A Mulino 84.74 37 lAmb lAmb 03 57 04.7
comp=Z,93nm,0.8s
N18K Kilae Creek 84.76 11 P **P** **03 57 00.4 -0.3**
baz=201
N18K S **S** **04 06 39.0 -0.6**
baz=201
SYO Syowa Base 84.79 193 ⇓*i* P **P** **03 57 00.6 -0.3**
SYO Syowa Base 84.79 193 ⇑*i* PcP **PcP** **03 57 02.0 -1.0**
SYO Syowa Base 84.79 193 ⇑*ce* pP pP 03 59 09.1 +2.3
RADR Rader Ridge 84.80 35 lAmb lAmb 03 57 04.2
comp=Z,245nm,1.7s
L15K Ungalak Mounta 84.81 8 P **P** **03 57 01.2 +0.4**
baz=196
L15K S **S** **04 06 41.1 +1.1**
baz=196
I05D Terrebonne, OR 84.84 38 lAmb lAmb 03 57 04.2
comp=Z,240nm,1.7s
O20K Slope Mountain 84.85 13 P **P** **03 57 00.6 -0.6**
baz=204
O20K S **S** **04 06 39.5 -1.1**
baz=204
R11B Troy Canyon, C 84.89 45 P **P** **03 57 02.3 +0.1**
R11B pP **pP** **03 59 07.1 -1.0**
SRIT Nakonsritamara 84.93 281 P **P** **03 57 03.3 +0.7**
BRLK Bradley Lake 84.94 14 lAmb lAmb 03 57 02.9
comp=Z,156nm,1.0s
E03A Lebam 85.00 35 P **P** **03 57 03.2 +1.0**
E03A lAmb lAmb 03 57 05.0
comp=Z,94nm,0.9s
E03A pP **pP** **03 59 09.9 +1.6**
F04D Rainier, OR 85.00 36 lAmb lAmb 03 57 06.6
comp=Z,159nm,1.2s
MA2 Magadan 85.06 345 P **P** **03 57 01.8 -0.4**
MA2 pP **pP** **03 59 08.3 +0.2**
MA2 Magadan 85.06 345 P **P** **03 57 02.3 +0.1**
MA2 Magadan 85.06 345 *ce* P **P** **03 57 02.3 +0.1**
MA2 pmax pmax
comp=Z,167nm,0.8s
TUC Tucson 85.07 52 P **P** **03 57 04.7 +1.7**
TUC pP **pP** **03 59 08.7 -0.7**
L16K Owhat River 85.13 9 P **P** **03 57 03.1 +0.6**
baz=198
L16K S **S** **04 06 45.5 +2.5**
baz=198
N19K Bonanza Creek 85.15 12 lAmb lAmb 03 57 03.2
comp=Z,86nm,0.9s
N19K Bonanza Creek 85.15 12 P **P** **03 57 02.0 -0.7**
baz=202
N19K S **S** **04 06 41.8 -1.7**
baz=202
M17K Holitna River 85.17 10 lAmb lAmb 03 57 05.0
comp=Z,101nm,0.9s
M17K Holitna River 85.17 10 P **P** **03 57 03.4 +0.8**
baz=200
M17K S **S** **04 06 46.8 +3.4**
baz=200
HG4B Hotspring 85.25 27 lAmb lAmb 03 57 05.8
comp=Z,56nm,0.8s
WISH Wishkah 85.26 34 lAmb lAmb 03 57 06.0
comp=Z,48nm,0.6s
C03A Quillayute Air 85.38 33 lAmb lAmb 03 57 07.4
comp=Z,167nm,1.2s
H02S1 DAWSON INLET T 85.38 26 P **P** **03 57 04.4 +0.6**
SNR=40
NLWA Neilton Lookou 85.38 34 P **P** **03 57 05.0 +0.9**
NLWA lAmb lAmb 03 57 07.0
comp=Z,82nm,1.2s
NLWA pP **pP** **03 59 10.7 +0.2**
K15K Wolf Creek Mou 85.40 8 P **P** **03 57 04.3 +0.6**
K15K lAmb lAmb 03 57 07.0
comp=Z,140nm,1.0s
K15K pP **pP** **03 59 09.9 -0.4**
K15K Wolf Creek Mou 85.40 8 P **P** **03 57 04.5 +0.8**
baz=196
K15K S **S** **04 06 47.2 +1.6**
baz=196
G05A Wamic 85.41 37 lAmb lAmb 03 59 22.5
comp=Z,86nm,1.4s
HOLB Holberg 85.45 30 lAmb lAmb 03 57 06.7
comp=Z,77nm,0.8s
M18K Stony River 85.53 11 P **P** **03 57 04.8 +0.4**
baz=201
M18K S **S** **04 06 47.4 +0.6**
baz=201
SEW Seward 85.58 15 lAmb lAmb 03 57 05.7
comp=Z,85nm,1.0s
J14K Nanvaranak Lak 85.58 7 P **P** **03 57 04.5 0.0**
baz=194
J14K S **S** **04 06 48.2 +1.0**
baz=194
X16A Lo Mia Camp, P 85.66 50 pP pP 03 59 12.0 -0.2
HNS HongShan 85.71 313 ⇓P **P** **03 57 06.5 +0.7**
HNS S **S** **04 06 52.0 +2.4**
HNS pmax pmax
comp=Z,110nm,1.1s
HNS pmax pmax
comp=Z,790nm,6.3s
L17K Donlin 85.72 10 P **P** **03 57 05.9 +0.7**
baz=199
L17K S **S** **04 06 50.9 +2.3**
baz=199
319A Douglas 85.73 54 lAmb lAmb 03 57 10.9
comp=Z,53nm,0.9s
I07A Izee 85.74 39 lAmb lAmb 03 57 08.8
comp=Z,85nm,1.2s
Q23K Middleton Isla 85.75 16 P **P** **03 57 05.6 +0.2**
baz=210
Q23K S **S** **04 06 49.7 +0.8**
baz=210
Q23K S **S** **04 06 49.7 +0.8**
baz=210
G06A Carlson Farm, 85.79 37 lAmb lAmb 03 57 08.6
comp=Z,97nm,1.3s
LYN LuoYang 85.79 310 ⇓P **P** **03 57 06.8 +0.6**
LYN sP sP 04 00 15.0 +3.4
LYN S **S** **04 06 54.7 +4.2**
LYN SS **SS** **04 12 43.4 -3.0**
LYN pmax pmax
comp=Z,160nm,1.3s
LYN pmax pmax
comp=Z,1μm,8.9s
COYC Coyhaique 85.81 138 P **P** **03 57 07.9 +1.6**
O22K Cooper Landing 85.85 14 P **P** **03 57 05.7 -0.2**
baz=207
O22K S **S** **04 06 48.8 -1.0**
baz=207
ENH Enshi 85.89 305 P **P** **03 57 07.5 +0.6**
GO07 Milladeo Hill, 85.92 135 lAmb lAmb 03 57 11.2
comp=Z,107nm,1.0s
J08A Circle Bar Ran 85.92 40 lAmb lAmb 03 57 09.5
comp=Z,130nm,1.4s
N20K Mount Spurr 85.96 13 P **P** **03 57 05.5 -1.0**
baz=204
N20K S **S** **04 06 48.4 -2.7**
baz=204
SPU Mount Spurr 85.97 13 lAmb lAmb 03 57 06.8
comp=Z,81nm,1.1s
P23K Montague Islan 85.97 16 lAmb lAmb 03 57 07.8
comp=Z,142nm,1.1s
P23K Montague Islan 85.97 16 P **P** **03 57 06.3 -0.2**
baz=209
P23K S **S** **04 06 51.4 +0.3**
baz=209
TROLL Troll, Antarti 86.04 181 ⇑P **P** **03 57 06.8 -0.2**
comp=Z,6μm,0.5s
HEH HeiHe 86.05 329 ⇓*i* P **P** **03 57 07.2 +0.1**
HEH pmax pmax
comp=Z,160nm,0.5s
HEH pmax pmax
comp=Z,940nm,3.8s
L18K Granite Mounta 86.06 10 lAmb lAmb 03 57 08.8
comp=Z,61nm,0.8s
L18K Granite Mounta 86.06 10 P **P** **03 57 07.3 +0.4**
baz=200
L18K S **S** **04 06 53.4 +1.5**
baz=200
LON Longmire 86.07 36 lAmb lAmb 03 57 09.4
comp=Z,166nm,1.9s
BJT Baijiatuau 86.15 316 lAmb lAmb 03 57 10.9
comp=Z,70nm,0.9s
BJT Baijiatuau 86.15 316 P **P** **03 57 08.4 +0.6**
BJI Beijing 86.16 316 P **P** **03 57 07.5 -0.3**
BJI SKS **SKSac** **04 06 38.0 +0.3**
BJI S **S** **04 06 55.0 +1.3**
BJI pmax pmax
comp=Z,38nm,0.8s
BJI pmax pmax
comp=Z,340nm,4.1s
CLRS Cowichan Lake 86.17 33 lAmb lAmb 03 57 10.2
comp=Z,56nm,1.0s
M19K Big River Lodg 86.17 12 lAmb lAmb 03 57 08.4
comp=Z,62nm,0.7s
M19K Big River Lodg 86.17 12 P **P** **03 57 07.3 -0.1**
baz=202
K17K Iditarod 86.27 10 lAmb lAmb 03 57 09.6
comp=Z,98nm,1.3s
K17K Iditarod 86.27 10 P **P** **03 57 08.1 +0.3**
baz=199
K17K S **S** **04 06 55.0 +1.2**
baz=199
STLK Strandline Lak 86.31 13 lAmb lAmb 03 57 08.2
comp=Z,68nm,0.7s
GYA Guiyang 86.33 300 ⇑P **P** **03 57 10.4 +1.2**
GYA pP pP 03 59 15.7 +0.2
GYA SKS **SKSac** **04 06 42.8 +3.1**
GYA S **S** **04 06 58.2 +2.0**
GYA sS sS 04 10 41.5 -0.4
GYA pmax pmax
comp=Z,70nm,1.3s
GYA pmax pmax
comp=Z,930nm,6.3s
L19K White Mountain 86.34 11 P **P** **03 57 08.3 +0.1**
baz=202
L19K S **S** **04 06 55.0 +0.3**
baz=202
CBB Campbell River 86.35 32 lAmb lAmb 03 57 11.2
comp=Z,139nm,1.3s
SLVN Son La 86.35 295 P **P** **03 57 10.7 +1.4**
SNAA Sanae 86.36 179 ⇑P **P** **03 57 07.8 -0.6**
comp=Z,586nm,0.6s
SNAA Sanae 86.36 179 P **P** **03 57 08.0 -0.5**
SNAA Sanae 86.36 179 P **P** **03 57 08.3 -0.1**
comp=Z,24nm,0.6s,baz=202,slow=6.9,SNR=143
SNAA pP **pP** **03 59 17.2 +1.7**
comp=Z,30nm,1.1s,baz=193,slow=5.4,SNR=6.8
SNAA PKKP **PKKPdf** **04 14 54.5 0.0**
comp=Z,2.7nm,0.8s,baz=236,slow=1.1,SNR=13
comp=Z,24nm,0.6s
M20K Styx River 86.39 12 P **P** **03 57 07.7 -0.9**
baz=204
M20K S **S** **04 06 53.7 -1.5**
baz=204
PGC Sidney 86.40 33 lAmb lAmb 03 57 11.2
comp=Z,140nm,1.3s
ELK Elko 86.43 43 P **P** **03 57 09.8 +0.3**
comp=Z,10nm,0.7s,baz=235,slow=4.6,SNR=36
ELK pP **pwP** **03 59 18.6 -1.2**
comp=Z,13nm,1.1s,baz=210,slow=4.8,SNR=11
comp=Z,10nm,0.7s
J16K Anvik River 86.47 8 lAmb lAmb 03 57 10.6
comp=Z,103nm,1.2s
J16K Anvik River 86.47 8 P **P** **03 57 08.8 +0.1**

baz=196
J16K S **S** **04 06 57.2 +1.5**
baz=196
SUA **Susitna One** **86.50 13** P **P** **03 57 08.5 -0.6**
baz=206
SUA S **S** **04 06 55.3 -1.0**
baz=206
BBB **Bella Bella** **86.52 29** IAmb IAmb 03 57 11.8
comp=Z,99nm,1.1s
BBB **Bella Bella** **86.52 29** P **P** **03 57 10.2 +1.0**
comp=Z,45nm,0.8s,baz=269,slow=3.7,SNR=36
BBB pP **pP** **03 59 18.8 +2.4**
comp=Z,13nm,1.1s,baz=208,slow=7.0,SNR=2.3
comp=Z,45nm,0.8s
VNA3 **Neumayer Olymp** **86.55 177** ⇑P **P** **03 57 08.7 -0.5**
comp=Z,151nm,0.6s
HIN **Hinchinbrook I** **86.55 16** IAmb IAmb 03 57 10.5
comp=Z,132nm,1.2s
F07A **Phinny Hill Vi** **86.58 37** IAmb IAmb 03 57 12.3
comp=Z,58nm,1.0s
KAIM **Kayak Island** **86.68 17** IAmb IAmb 03 57 11.9
comp=Z,114nm,1.0s
G08A **Pilot Rock** **86.77 38** IAmb IAmb 03 57 13.3
comp=Z,148nm,1.3s
MXC **Moxie City** **86.79 36** IAmb IAmb 03 57 13.2
comp=Z,63nm,0.9s
J17K **VABM Dome** **86.80 9** IAmb IAmb 03 57 12.0
comp=Z,62nm,1.1s
J17K **VABM Dome** **86.80 9** P **P** **03 57 10.4 +0.1**
baz=198
J17K S **S** **04 06 58.1 -0.6**
baz=198
L20K **Farewell, AK** **86.80 12** P **P** **03 57 09.9 -0.4**
baz=203
L20K S **S** **04 06 57.3 -1.6**
baz=203
CRAG **Craig** **86.80 24** IAmb IAmb 03 57 13.3
comp=Z,86nm,1.2s
CRAG **Craig** **86.80 24** P **P** **03 57 11.4 +0.9**
FID **Port Fidalgo** **86.86 16** IAmb IAmb 03 57 11.8
comp=Z,139nm,1.1s
EYAK **Cordova Ski Ar** **86.87 16** IAmb IAmb 03 57 12.1
comp=Z,99nm,1.0s
EYAK **Cordova Ski Ar** **86.87 16** P **P** **03 57 11.1 +0.4**
M22K **Willow** **86.90 13** P **P** **03 57 10.4 -0.4**
baz=206
PMR **Palmer** **86.97 14** P **P** **03 57 11.8 +0.7**
SUCK **Suckling Hills** **86.98 17** IAmb IAmb 03 57 13.6
comp=Z,134nm,1.6s
LTY **Liberty** **87.00 36** IAmb IAmb 03 57 13.9
comp=Z,83nm,1.1s
E07A **Sunnyside** **87.02 37** IAmb IAmb 03 57 14.5
comp=Z,100nm,0.9s
I17K **Unalakleet** **87.04 8** P **P** **03 57 11.3 -0.1**
baz=196
LL02 **Futaleuf** **87.06 136** IAmb IAmb 03 57 16.1
comp=Z,128nm,1.2s
HMT **Hamilton** **87.07 17** IAmb IAmb 03 57 13.3
comp=Z,97nm,0.8s
HAWA **Hanford** **87.10 37** IAmb IAmb 03 57 14.8
comp=Z,97nm,0.9s
SIT **Sitka** **87.19 22** IAmb IAmb 03 57 14.7
comp=Z,88nm,1.3s
SIT **Sitka** **87.19 22** P **P** **03 57 13.6 +1.4**
VNA1 **Neumayer--Stat** **87.20 177** ⇑P **P** **03 57 12.6 +0.3**
comp=Z,138nm,0.9s
J18K **Innoko River** **87.22 10** P **P** **03 57 12.3 0.0**
baz=200
J18K S **S** **04 07 03.3 +0.6**
baz=200
U33K **Whale Pass** **87.28 24** IAmb IAmb 03 57 15.4
comp=Z,121nm,1.1s
U33K **Whale Pass** **87.28 24** P **P** **03 57 13.0 +0.3**
baz=223
V35K **Ketchikan** **87.28 25** P **P** **03 57 14.0 +1.2**
baz=224
V35K S **S** **04 07 05.8 +2.3**
baz=224
WAH2 **Wahluke Slope** **87.30 37** IAmb IAmb 03 57 15.5
comp=Z,45nm,0.6s
TIY **Taiyuan** **87.41 313** P **P** **03 57 15.6 +1.7**
TIY sP **sP** **04 00 21.3 +1.6**
TIY pmax pmax
comp=Z,86nm,0.5s
BMO **Blue Mountains** **87.47 39** IAmb IAmb 03 57 16.2
comp=Z,161nm,1.8s
M23K **Glacier View** **87.47 14** P **P** **03 57 12.9 -0.6**
baz=209
PPLA **Purkeypile** **87.50 12** IAmb IAmb 03 57 13.5
comp=Z,57nm,1.2s
LR04 **Corral** **87.53 132** IAmb IAmb 03 57 15.9
comp=Z,124nm,1.2s
MFID **Camas Ranch** **87.54 41** IAmb IAmb 03 57 16.9
comp=Z,60nm,1.0s
H16K **Elim** **87.57 7** P **P** **03 57 14.1 +0.2**
baz=195
H16K S **S** **04 07 07.0 +1.2**
baz=195
S31K **Pelican** **87.57 21** IAmb IAmb 03 57 16.5
comp=Z,73nm,1.1s
S31K **Pelican** **87.57 21** P **P** **03 57 15.0 +1.0**
baz=220
S31K S **S** **04 07 08.6 +2.5**
baz=220
K20K **Telida** **87.57 11** IAmb IAmb 03 57 15.2
comp=Z,104nm,0.9s
K20K **Telida** **87.57 11** P **P** **03 57 13.9 0.0**
baz=203
K20K S **S** **04 07 06.3 +0.3**
baz=203
KLU **Klutina** **87.64 15** IAmb IAmb 03 57 15.8
comp=Z,67nm,0.8s
LL03 **Petrohue** **87.65 134** IAmb IAmb 03 57 18.8
comp=Z,77nm,0.9s
G15K **Niukluk** **87.71 6** P **P** **03 57 15.1 +0.6**
baz=193
SEY **Seymchan** **87.72 348** *i* P **P** **03 57 13.6 -1.0**
SEY pmax pmax
comp=Z,166nm,1.0s
S32K **Killisnoo** **87.77 22** IAmb IAmb 03 57 17.2
comp=Z,84nm,1.6s
S32K **Killisnoo** **87.77 22** P **P** **03 57 15.9 +1.0**
baz=221
WRAK **Wrangell Islan** **87.80 24** IAmb IAmb 03 57 17.7
comp=Z,78nm,0.9s
D08A **Wollman Farm,** **87.83 37** IAmb IAmb 03 57 18.1
comp=Z,88nm,1.0s
T33K **Petersburg** **87.86 24** P **P** **03 57 16.5 +1.1**
baz=223
J19K **Poorman** **87.89 10** IAmb IAmb 03 57 17.1
comp=Z,65nm,0.9s
J19K **Poorman** **87.89 10** P **P** **03 57 16.0 +0.6**
baz=201
J19K S **S** **04 07 10.6 +1.7**
baz=201
PNL **Peninsula** **87.91 19** P **P** **03 57 16.9 +1.3**
E09A **Wood Farm, Sta** **87.95 37** IAmb IAmb 03 57 18.3
comp=Z,71nm,1.1s
F14K **Arctic Creek** **87.96 5** P **P** **03 57 15.8 +0.1**
baz=191
F14K S **S** **04 07 11.4 +2.0**
baz=191
PCA **Pinnacle** **88.00 18** IAmb IAmb 03 57 17.7
comp=Z,69nm,0.8s
EPT **El Paso** **88.00 55** P **P** **03 57 16.9 0.0**
EPT IAmb IAmb 03 57 19.7
comp=Z,41nm,0.9s
EPT pP **pP** **03 59 22.7 -1.6**
VRDI **Verde Repeater** **88.04 17** P **P** **03 57 16.3 -0.1**
VRDI IAmb IAmb 03 57 18.0
comp=Z,100nm,1.0s
BCPM **Bancas Point** **88.06 19** IAmb IAmb 03 57 18.1
comp=Z,62nm,0.9s
N25K **Chitina, Valde** **88.06 16** P **P** **03 57 16.6 +0.2**
baz=212
N25K S **S** **04 07 11.1 +0.4**
baz=212
XAN **Xi'an** **88.10 308** ⇓P **P** **03 57 17.9 +0.7**
XAN S **S** **04 07 15.4 +3.2**
XAN pmax pmax
comp=Z,220nm,0.8s
XAN pmax pmax
comp=Z,190nm,3.6s
M24K **Tolsona, Glenn** **88.11 15** P **P** **03 57 17.0 +0.4**
baz=210
M24K S **S** **04 07 12.4 +1.3**
baz=210
Q16A **Castle Valley** **88.12 46** IAmb IAmb 03 57 21.5
comp=Z,146nm,1.7s
H17K **Granite Mounta** **88.15 8** IAmb IAmb 03 57 17.8
comp=Z,44nm,1.0s
H17K **Granite Mounta** **88.15 8** P **P** **03 57 16.5 -0.1**
baz=197
H17K S **S** **04 07 12.1 +0.9**
baz=197
F10A **Beach Ranch, E** **88.15 38** IAmb IAmb 03 57 19.1
comp=Z,68nm,0.8s
G16K **Koyuk River** **88.28 7** IAmb IAmb 03 57 18.8
comp=Z,51nm,1.1s
G16K **Koyuk River** **88.28 7** P **P** **03 57 17.1 -0.1**
baz=195
TMUT **Trail Mountain** **88.29 46** IAmb IAmb 03 57 21.2
comp=Z,142nm,1.5s
J20K **Nowinta River** **88.31 11** IAmb IAmb 03 57 18.7
comp=Z,71nm,0.9s
J20K **Nowinta River** **88.31 11** P **P** **03 57 17.3 -0.1**
baz=202
J20K S **S** **04 07 12.3 -0.4**
baz=202
XLT **XiLinHaoTe** **88.33 319** *e*P **P** **03 57 18.1 0.0**
XLT pP pwP 03 59 29.7 -0.2
XLT PP **PP** **04 00 55.0 -2.3**
XLT SKS **SKSac** **04 06 48.6 -2.1**
XLT S **S** **04 07 15.3 +1.4**
XLT pmax pmax
comp=Z,58nm,1.0s
XLT pmax pmax
comp=Z,370nm,7.1s
LR05 **Currie** **88.34 133** IAmb IAmb 03 57 21.8
comp=Z,76nm,1.1s
F15K **North Star Dit** **88.35 6** P **P** **03 57 17.6 +0.1**
baz=192
PLID **Pearl Lake** **88.36 39** IAmb IAmb 03 57 20.5
comp=Z,130nm,1.6s
B08A **Colville Reser** **88.38 35** IAmb IAmb 03 57 19.9
comp=Z,61nm,0.9s
LR03 **Panguipulli** **88.39 132** IAmb IAmb 03 57 22.2
comp=Z,92nm,1.1s
P29M **Windy Craggy** **88.39 20** IAmb IAmb 03 57 20.2
comp=Z,60nm,0.9s
P29M **Windy Craggy** **88.39 20** P **P** **03 57 18.8 +0.9**
baz=218
P29M S **S** **04 07 15.3 +1.7**
baz=218
R32K **Eaglecrest** **88.40 22** P **P** **03 57 18.6 +0.7**
baz=221
TLIG **Tlapa** **88.42 70** IAmb IAmb 03 57 22.7
comp=Z,64nm,1.6s
LLLB **Lillooet** **88.43 33** IAmb IAmb 03 57 20.5
comp=Z,55nm,1.0s
JIS **Juneau Island** **88.45 22** P **P** **03 57 19.0 +0.9**
ZEA **Zeya** **88.46 332** *e*P **P** **03 57 18.7 +0.4**
ZEA *e**PP **pwP** **03 59 29.0 -0.9**
ZEA *e**SP **sP** **04 00 27.3 +2.9**
ZEA *e* 04 06 49.9
ZEA *e*S **S** **04 07 15.9 +1.4**
ZEA *e* 04 17 07.8
ZEA pmax pmax
comp=Z,300nm,6.4s
ZEA pmax pmax
comp=N,30nm,1.1s
ZEA pmax pmax
comp=Z,50nm,1.0s
ZEA smax smax
comp=N,200nm,4.1s
ZEA smax smax
comp=E,600nm,8.7s
HVU **Hansel Valley** **88.55 43** IAmb IAmb 03 57 21.7
comp=Z,45nm,0.9s
O28M **Mount Upton** **88.56 18** P **P** **03 57 19.4 +0.4**
baz=216
O28M S **S** **04 07 16.1 +0.3**
baz=216
H18K **Honhosa River** **88.56 9** IAmb IAmb 03 57 19.5
comp=Z,102nm,1.5s
H18K **Honhosa River** **88.56 9** P **P** **03 57 17.9 -0.7**
baz=198
H18K S **S** **04 07 15.6 +0.6**
baz=198
G17K **Kiwalik Mounta** **88.59 8** P **P** **03 57 18.5 -0.2**
baz=196
HARP **HAARP** **88.60 15** P **P** **03 57 19.0 +0.2**
baz=211
HARP S **S** **04 07 16.2 +0.7**
baz=211
C09A **Chrisman Ranch** **88.62 36** IAmb IAmb 03 57 21.4
comp=Z,41nm,0.8s
CTU **Camp Tracy** **88.64 45** IAmb IAmb 03 57 22.0
comp=Z,44nm,1.1s
SRU **San Rafael Swe** **88.66 47** IAmb IAmb 03 57 22.2
comp=Z,46nm,0.8s
O29M **Mount Kennedy** **88.66 19** IAmb IAmb 03 57 21.4
comp=Z,54nm,1.1s
O29M **Mount Kennedy** **88.66 19** P **P** **03 57 19.8 +0.6**
baz=217
O29M S **S** **04 07 18.1 +1.8**
baz=217
DHY **Denali Highway** **88.67 14** IAmb IAmb 03 57 20.4
comp=Z,110nm,1.4s
VHRN **Van Horn** **88.71 56** IAmb IAmb 03 59 35.8
comp=Z,72nm,1.4s
JLU **Jordanelle** **88.80 45** IAmb IAmb 03 57 23.0
comp=Z,11nm,1.8s
MNTX **Cornudas Mount** **88.82 55** IAmb IAmb 03 57 23.3
comp=Z,31nm,0.7s
I20K **Naaghedeneel** **88.83 10** P **P** **03 57 19.9 +0.2**
baz=202
MCK **McKinley** **88.91 13** IAmb IAmb 03 57 21.0
comp=Z,71nm,0.9s
KMI **Kunming** **88.93 298** ⇓P **P** **03 57 22.7 +1.2**
KMI sP sP 04 00 25.0 -2.5
KMI S **S** **04 07 21.2 +0.7**
KMI pmax pmax
comp=Z,72nm,1.5s
KMI pmax pmax
comp=Z,690nm,4.1s
T35M **Bob Quinn** **89.00 24** P **P** **03 57 22.0 +1.2**
baz=225
T35M S **S** **04 07 22.4 +3.1**
baz=225
P30M **Million Dollar** **89.02 20** P **P** **03 57 21.8 +1.0**
baz=219
P30M S **S** **04 07 20.4 +1.0**
baz=219
PAX **Paxson** **89.02 15** IAmb IAmb 03 57 21.7
comp=Z,44nm,1.1s
SKAG **Skagway** **89.03 21** P **P** **03 57 22.2 +1.4**
PLCA **Paso Flores** **89.08 134** IAmb IAmb 03 57 25.4
comp=Z,56nm,1.1s
PLCA **Paso Flores** **89.08 134** P **P** **03 57 23.4 +1.6**
comp=Z,28nm,0.8s,baz=230,slow=5.8,SNR=47
PLCA pP **pwP** **03 59 32.6 +0.6**
comp=Z,10nm,1.1s,baz=210,slow=6.4,SNR=5.1
PLCA PKKPbc **PKKPbc** **04 14 56.5 0.0**
comp=Z,4.5nm,0.9s,baz=75,slow=4.6,SNR=7.4
comp=Z,28nm,0.8s
PLCA **Paso Flores** **89.08 134** *e*P **P** **03 57 23.4 +1.6**
TX31 **Lajitas Ar. Si** **89.09 58** IAmb IAmb 03 59 37.6
comp=Z,45nm,1.3s
TXAR **Lajitas Array** **89.09 58** P **P** **03 57 24.0 +2.0**
TXAR **Lajitas Array** **89.09 58** P **P** **03 57 24.1 +2.1**
comp=Z,12nm,0.7s,baz=214,slow=6.2,SNR=134
TXAR pP **pwP** **03 59 31.8 -1.0**
comp=Z,14nm,1.0s,baz=217,slow=5.8,SNR=5.2
TXAR PKiKP **PKiKP** **04 02 16.6 +0.1**
comp=Z,0.7nm,0.8s,baz=303,slow=2.7,SNR=3.5
TXAR PKKPbc **PKKPbc** **04 14 56.5 +0.2**
comp=Z,2.2nm,0.6s,baz=131,slow=2.3,SNR=26
TXAR PKPPKP **P'P'df** **04 23 04.5 +0.4**
comp=Z,0.4nm,0.8s,baz=116,slow=2.9,SNR=4.2
comp=Z,12nm,0.7s
M26K **Nabesna, AK** **89.14 16** IAmb IAmb 03 57 23.1
comp=Z,107nm,1.3s
M26K **Nabesna, AK** **89.14 16** P **P** **03 57 21.5 +0.1**
baz=213
M26K S **S** **04 07 20.2 -0.3**
baz=213
H19K **Roundabout Mou** **89.20 9** IAmb IAmb 03 57 23.0
comp=Z,81nm,0.9s
H19K **Roundabout Mou** **89.20 9** P **P** **03 57 21.7 +0.2**
baz=200
BSUT **Blindstream Ca** **89.21 45** IAmb IAmb 03 57 25.2
comp=Z,73nm,1.0s
G18K **Tagagawik** **89.23 8** IAmb IAmb 03 57 22.6
comp=Z,59nm,1.1s
G18K **Tagagawik** **89.23 8** P **P** **03 57 21.1 -0.5**
baz=198
G18K S **S** **04 07 21.0 0.0**
baz=198
HIA **Hailar** **89.30 325** P **P** **03 57 22.9 +0.5**
HIA **Hailar** **89.30 325** *i* P **P** **03 57 21.8 -0.6**
HIA pmax pmax
comp=Z,49nm,1.3s
S34M **Telegraph Cree** **89.34 23** IAmb IAmb 03 57 25.0
comp=Z,59nm,0.8s
S34M **Telegraph Cree** **89.34 23** P **P** **03 57 23.4 +1.1**
baz=224
S34M S **S** **04 07 25.5 +3.2**
baz=224
M27K **Edge Creek, AK** **89.40 17** P **P** **03 57 23.4 +0.7**
baz=214
M27K S **S** **04 07 23.2 +0.2**
baz=214
HYT **Haines Junctio** **89.40 19** IAmb IAmb 03 57 24.7
comp=Z,41nm,1.2s
H20K **Anotleneega Mo** **89.41 10** P **P** **03 57 22.7 +0.2**
baz=202
H20K S **S** **04 07 24.1 +1.4**
baz=202
MENT **Mentasta** **89.41 15** IAmb IAmb 03 57 24.2
comp=Z,50nm,0.9s
MENT **Mentasta** **89.41 15** P **P** **03 57 24.0 +1.4**
CM31 **Chiang Mai Arr** **89.42 290** P **P** **03 57 25.6 +2.0**
SNR=41
CMAR **Chiang Mai Arr** **89.42 290** P **P** **03 57 24.2 +0.5**
CMAR **Chiang Mai Arr** **89.42 290** P **P** **03 57 25.1 +1.5**
comp=Z,99nm,0.8s,baz=133,slow=3.3,SNR=352
CMAR pP **pP** **03 59 33.0 +2.1**
comp=Z,3.3nm,0.9s,baz=110,slow=4.7,SNR=2.7
CMAR PKKPbc **PKKPbc** **04 14 56.0 +1.1**
comp=Z,4.3nm,0.5s,baz=286,slow=4.5,SNR=11
comp=Z,99nm,0.8s
F17K **Baldwin Pennin** **89.42 7** IAmb IAmb 03 57 23.9
comp=Z,73nm,0.9s
F17K **Baldwin Pennin** **89.42 7** P **P** **03 57 22.4 -0.1**
baz=196
ANMO **Albuquerque** **89.50 52** P **P** **03 57 24.7 +0.8**
ANMO **Albuquerque** **89.50 52** P **P** **03 57 25.2 +1.4**
comp=Z,19nm,0.8s,baz=312,slow=4.9,SNR=41
ANMO pP **pP** **03 59 33.3 +1.7**
comp=Z,6.5nm,1.0s,baz=328,slow=4.7,SNR=5.8
comp=Z,19nm,0.8s
ANMO **Albuquerque** **89.50 52** *ce*P **P** **03 57 25.3 +1.4**
ANMO pmax pmax
comp=Z,42nm,1.7s
NEW **Newport** **89.52 36** P **P** **03 57 24.1 +0.6**
comp=Z,5.1nm,0.6s,baz=241,slow=3.7,SNR=14
NEW pP **pwP** **03 59 33.2 -1.6**
comp=Z,5.0nm,0.9s,baz=220,slow=4.8,SNR=1.5
comp=Z,5.1nm,0.6s
CHTO **Chiang Mai** **89.56 290** P **P** **03 57 24.9 +0.7**
CHTO **Chiang Mai** **89.56 290** P **P** **03 57 25.9 +1.6**
CHTO **Chiang Mai** **89.56 290** P **P** **03 57 26.3 +2.0**
CHTO **Chiang Mai** **89.56 290** P **P** **03 57 25.0 +0.7**
CHTO pmax pmax
comp=Z,197nm,0.9s
ALPN **Alpine** **89.57 57** IAmb IAmb 03 57 26.7
comp=Z,33nm,0.6s
HHC **Hu-ho-hao-te** **89.58 315** *e*P **P** **03 57 24.6 +0.6**
HHC sP sP 04 00 29.0 -1.2
HHC S **S** **04 07 26.9 +1.4**
HHC pmax pmax
comp=Z,97nm,0.9s
L26K **Log Cabin Wild** **89.58 16** IAmb IAmb 03 57 24.9
comp=Z,53nm,1.2s
L26K **Log Cabin Wild** **89.58 16** P **P** **03 57 23.6 +0.3**
baz=213
L26K S **S** **04 07 24.2 -0.2**
baz=213
K24K **Donnelly Dome** **89.66 14** P **P** **03 57 23.7 0.0**
baz=210
K24K S **S** **04 07 24.7 -0.3**
baz=210
P32M **Atlin** **89.67 21** P **P** **03 57 24.6 +0.8**
baz=222
P32M S **S** **04 07 27.8 +2.5**
baz=222
G19K **Purcell Mounta** **89.68 9** IAmb IAmb 03 57 25.1
comp=Z,71nm,1.0s
G19K **Purcell Mounta** **89.68 9** P **P** **03 57 23.7 0.0**
baz=200
Q32M **Nakina River** **89.69 22** IAmb IAmb 03 57 26.5
comp=Z,26nm,0.8s
Q32M **Nakina River** **89.69 22** P **P** **03 57 24.9 +0.7**
baz=223
Q32M S **S** **04 07 28.6 +2.7**
baz=223
MLY **Manley** **89.71 12** IAmb IAmb 03 57 24.2
comp=Z,31nm,0.8s
F18K **Selawik** **89.77 8** P **P** **03 57 23.5 -0.5**
baz=197
O30N **Mendenhall** **89.79 20** IAmb IAmb 03 57 26.5
comp=Z,47nm,1.1s
O30N **Mendenhall** **89.79 20** P **P** **03 57 24.9 +0.5**
baz=220
O30N S **S** **04 07 28.3 +1.9**
baz=220
RIDG **Independent Ri** **89.82 15** IAmb IAmb 03 57 25.8
comp=Z,82nm,1.1s
H21K **Melozitna Rive** **89.91 11** IAmb IAmb 03 57 27.3
comp=Z,42nm,0.8s
H21K **Melozitna Rive** **89.91 11** P **P** **03 57 24.8 0.0**
baz=204
H21K S **S** **04 07 27.5 +0.3**
baz=204
DOT **Dot Lake** **89.93 15** IAmb IAmb 03 57 26.2
comp=Z,72nm,1.1s
E17K **Hotham Inlet** **89.97 7** P **P** **03 57 24.9 -0.1**
baz=195
L27K **Beaver Creek,** **90.00 16** IAmb IAmb 03 57 26.8
comp=Z,39nm,1.1s
L27K **Beaver Creek,** **90.00 16** P **P** **03 57 25.3 0.0**
baz=214
L27K S **S** **04 07 28.5 +0.4**
baz=214
BCAR **Beaver Creek A** **90.01 16** P **P** **03 57 25.3 -0.1**
N30M **Aishikik Lake** **90.02 19** P **P** **03 57 25.7 +0.2**
baz=219
N30M S **S** **04 07 28.4 0.0**
baz=219
IMAR **Indian Mountai** **90.05 10** P **P** **03 57 25.7 +0.3**
WHY **Whitehorse** **90.09 20** IAmb IAmb 03 57 27.9
comp=Z,64nm,1.2s
DLBC **Dease Lake** **90.13 24** P **P** **03 57 26.8 +0.8**
comp=Z,1.4nm,0.8s,baz=198,slow=5.6,SNR=30
COLA **College** **90.14 13** P **P** **03 57 25.3 -0.5**
COLA **College** **90.14 13** P **P** **03 57 26.3 +0.5**
COLA **College** **90.14 13** P **P** **03 57 25.3 -0.5**
COLA pmax pmax
comp=Z,68nm,0.6s
SCRK **Sand Creek** **90.23 15** IAmb IAmb 03 57 27.9
comp=Z,45nm,1.2s
F19K **Shaleruckik Mo** **90.23 8** IAmb IAmb 03 57 27.4
comp=Z,56nm,0.9s
F19K **Shaleruckik Mo** **90.23 8** P **P** **03 57 26.1 -0.2**
baz=199
F19K S **S** **04 07 28.2 -1.7**
baz=199
IL31 **90.26 13** IAmb IAmb 03 57 27.0
comp=Z,50nm,1.1s
ILAR **Eielson Array** **90.26 13** P **P** **03 57 25.4 -1.0**
ILAR pP **pP** **03 59 35.7 +1.1**
ILAR **Eielson Array** **90.26 13** P **P** **03 57 25.4 -1.0**
comp=Z,23nm,1.0s,baz=223,slow=5.1,SNR=158
ILAR pP **pP** **03 59 36.5 +1.8**
comp=Z,6.9nm,1.0s,baz=228,slow=5.7,SNR=6.3
ILAR PKiKP **PKiKP** **04 02 16.2 -1.0**
comp=Z,0.9nm,0.4s,baz=275,slow=2.8,SNR=8.5
ILAR PKKP **PKKPdf** **04 14 51.2 +0.5**
comp=Z,0.7nm,0.5s,baz=341,slow=2.9,SNR=8.0
ILAR PKPPKP **P'P'df** **04 23 00.8 +1.7**
comp=Z,0.9nm,0.8s,baz=345,slow=2.6,SNR=7.5
comp=Z,23nm,1.0s
PZH **PanZhiHua** **90.32 298** P **P** **03 57 29.1 +1.3**
PZH pmax pmax
comp=Z,90nm,0.6s
PZH pmax pmax
comp=Z,500nm,6.3s
H22K **Ishtalitna Cre** **90.37 11** P **P** **03 57 26.7 -0.2**
baz=205
H22K S **S** **04 07 29.8 -1.4**
baz=205
M29M **Somme Creek** **90.40 18** IAmb IAmb 03 57 29.0
comp=Z,38nm,0.8s

M29M	**Somme Creek**	**90.40**	**18**	P	**P**	**03 57 27.7**	**+0.4**		
	baz=217								
M29M				S	**S**	**04 07 32.8**	**+0.9**		
	baz=217								
P33M	**Teslin, Yukon**	**90.43**	**21**	P	**P**	**03 57 28.1**	**+0.7**		
	baz=223								
P33M				S	**S**	**04 07 34.3**	**+2.2**		
	baz=223								
E18K	**Tukpahlearik C**	**90.44**	**7**	P	**P**	**03 57 27.3**	**+0.1**		
	baz=196								
D17K	**Noatak River**	**90.44**	**6**	P	**P**	**03 57 27.4**	**+0.2**		
	baz=194								
N31M	**Braeburn, Yuko**	**90.44**	**19**	IAmb	IAmb	03 57 29.3			
	comp=Z,42nm,1.1s								
N31M	**Braeburn, Yuko**	**90.44**	**19**	P	**P**	**03 57 27.8**	**+0.5**		
	baz=220								
N31M				S	**S**	**04 07 33.4**	**+1.3**		
	baz=220								
J25K	**Salcha River,**	**90.45**	**14**	IAmb	IAmb	03 57 28.4			
	comp=Z,29nm,0.8s								
J25K	**Salcha River,**	**90.45**	**14**	P	**P**	**03 57 27.1**	**-0.3**		
	baz=211								
J25K				S	**S**	**04 07 31.6**	**-0.6**		
	baz=211								
R33M	**Jennings River**	**90.47**	**23**	P	**P**	**03 57 28.2**	**+0.5**		
R33M				IAmb	IAmb	03 57 30.0			
	comp=Z,65nm,1.5s								
R33M					**pP**	**03 59 36.1**	**-0.2**		
R33M	**Jennings River**	**90.47**	**23**	P	**P**	**03 57 28.4**	**+0.7**		
	baz=224								
R33M				S	**S**	**04 07 34.8**	**+2.1**		
	baz=224								
BTO	**Baotou**	**90.48**	**314**	*e*P	**P**	**03 57 29.2**	**+1.1**		
BTO				pP	**pwP**	**03 59 39.9**	**-0.6**		
BTO				PP	**PP**	**04 01 18.6**	**+4.4**		
BTO				S	**S**	**04 07 29.9**	**-3.6**		
BTO				pmax	pmax				
	comp=Z,170nm,1.4s								
BTO				pmax	pmax				
	comp=Z,1µm,8.2s								
BI02	**San Fabin de**	**90.52**	**130**	IAmb	IAmb	03 57 31.4			
	comp=Z,45nm,1.1s								
DLMT	**Dillon**	**90.54**	**40**	IAmb	IAmb	03 59 45.8			
	comp=Z,66nm,1.3s								
G21K	**Allakaket**	**90.57**	**10**	IAmb	IAmb	03 57 29.2			
	comp=Z,57nm,0.8s								
G21K	**Allakaket**	**90.57**	**10**	P	**P**	**03 57 27.6**	**-0.2**		
	baz=203								
CD2	**Chengdu**	**90.58**	**303**	P	**P**	**03 57 30.0**	**+1.2**		
CD2				S	**S**	**04 07 38.4**	**+3.7**		
CD2				SS	**SS**	**04 14 01.5**	**+6.1**		
CD2				pmax	pmax				
	comp=Z,70nm,1.9s								
CD2				pmax	pmax				
	comp=Z,850nm,5.2s								
BILL	**Bilibino**	**90.58**	**355**	P	**P**	**03 57 28.4**	**+0.6**		
BILL	**Bilibino**	**90.58**	**355**	*e*P	**P**	**03 57 28.0**	**+0.2**		
BILL				pmax	pmax				
	comp=Z,85nm,0.8s								
FXWY	**Fox Creek**	**90.61**	**42**	IAmb	IAmb	03 57 31.4			
	comp=Z,67nm,1.8s								
H23K	**Yukon River**	**90.65**	**12**	P	**P**	**03 57 27.3**	**-0.9**		
	baz=207								
O20A	**White River Ci**	**90.69**	**47**	IAmb	IAmb	03 57 31.4			
	comp=Z,25nm,0.9s								
SNOW	**Snow King Moun**	**90.69**	**43**	IAmb	IAmb	03 57 31.8			
	comp=Z,55nm,1.2s								
F20K	**Avaraart Lake**	**90.72**	**9**	IAmb	IAmb	03 57 29.9			
	comp=Z,51nm,1.0s								
F20K	**Avaraart Lake**	**90.72**	**9**	P	**P**	**03 57 28.5**	**0.0**		
	baz=201								
F20K				S	**S**	**04 07 35.1**	**+0.8**		
	baz=201								
K27K	**Chicken**	**90.73**	**16**	IAmb	IAmb	03 57 30.5			
	comp=Z,38nm,0.8s								
J26L	**Joseph Creek**	**90.77**	**15**	P	**P**	**03 57 29.2**	**+0.3**		
	baz=212								
J26L				S	**S**	**04 07 36.1**	**+1.1**		
	baz=212								
C16K	**Lisburne Hills**	**90.79**	**5**	P	**P**	**03 57 28.9**	**+0.2**		
	baz=192								
RDOG	**Red Dog Mine**	**90.80**	**6**	IAmb	IAmb	03 57 30.4			
	comp=Z,47nm,0.9s								
E19K	**Redstone River**	**90.89**	**8**	P	**P**	**03 57 29.6**	**+0.3**		
	baz=199,SNR=45								
E19K				S	**S**	**04 07 35.6**	**-0.2**		
	baz=199								
H24K	**Noodor Dome**	**90.98**	**12**	P	**P**	**03 57 28.3**	**-1.5**		
	baz=208								
M30M	**Minto, Yukon**	**90.98**	**18**	P	**P**	**03 57 30.1**	**+0.2**		
M30M				IAmb	IAmb	03 57 31.4			
	comp=Z,96nm,1.5s								
M30M					**pP**	**03 59 38.1**	**-0.2**		
M30M	**Minto, Yukon**	**90.98**	**18**	P	**P**	**03 57 29.8**	**-0.1**		
	baz=219								
M30M				S	**S**	**04 07 37.4**	**+0.5**		
	baz=219								
L29M	**L29M**	**91.03**	**17**	P	**P**	**03 57 30.7**	**+0.6**		
L29M					**pP**	**03 59 39.2**	**+0.7**		
L29M	**L29M**	**91.03**	**17**	P	**P**	**03 57 30.5**	**+0.5**		
	baz=218								
L29M				S	**S**	**04 07 38.0**	**+0.8**		
	baz=218								
N32M	**Quiet Lake**	**91.04**	**21**	P	**P**	**03 57 30.4**	**+0.2**		
	baz=222								
YHB	**Horse Butte**	**91.07**	**41**	IAmb	IAmb	03 59 48.9			
	comp=Z,50nm,1.2s								
BW06	**Boulder Array**	**91.11**	**44**	IAmb	IAmb	03 57 32.9			
	comp=Z,34nm,1.3s								
PDAR	**Pinedale Array**	**91.11**	**44**	P	**P**	**03 57 31.4**	**+0.2**		
PDAR				pP	**pP**	**03 59 38.3**	**-0.8**		
PDAR	**Pinedale Array**	**91.11**	**44**	P	**P**	**03 57 31.9**	**+0.8**		
	comp=Z,8.8nm,0.8s,baz=204,slow=3.3,SNR=63								
PDAR				pP	**pwP**	**03 59 41.7**	**-1.0**		
	comp=Z,3.2nm,0.9s,baz=214,slow=5.0,SNR=6.1								
PDAR				PKKP	**PKKPdf**	**04 14 47.8**	**-0.9**		
	comp=Z,2.3nm,0.8s,baz=77,slow=4.7,SNR=16								
PDAR				PKPPKP	**P'P'df**	**04 23 00.3**	**+0.8**		
	comp=Z,0.7nm,0.8s,baz=38,slow=2.1,SNR=4.3								
	comp=Z,8.8nm,0.8s								
YFT	**Old Faithful**	**91.14**	**42**	IAmb	IAmb	03 59 50.0			
	comp=Z,37nm,1.4s								
C17K	**DeLong Mountai**	**91.18**	**6**	P	**P**	**03 57 30.7**	**0.0**		
	baz=194								
PRP	**Porcupine Dome**	**91.19**	**13**	IAmb	IAmb	03 57 32.5			
	comp=Z,55nm,1.3s								
F21K	**Alatna River**	**91.23**	**10**	IAmb	IAmb	03 57 32.0			
	comp=Z,70nm,1.6s								
F21K	**Alatna River**	**91.23**	**10**	P	**P**	**03 57 30.5**	**-0.3**		
	baz=203								
F21K				S	**S**	**04 07 40.2**	**+1.4**		
	baz=203								
BOZ	**Bozeman (W)**	**91.24**	**41**	IAmb	IAmb	03 59 49.1			
	comp=Z,67nm,1.3s								
H17A	**Grant Village**	**91.27**	**42**	IAmb	IAmb	03 59 49.6			
	comp=Z,56nm,1.6s								
G23K	**Bananza Creek**	**91.35**	**11**	IAmb	IAmb	03 57 33.9			
	comp=Z,95nm,1.8s								
G23K	**Bananza Creek**	**91.35**	**11**	P	**P**	**03 57 31.3**	**-0.2**		
	baz=206,SNR=20								
M31M	**Drury Creek, Y**	**91.42**	**19**	P	**P**	**03 57 31.5**	**-0.4**		
	baz=221								
M31M				S	**S**	**04 07 41.4**	**+0.7**		
	baz=221								
DAWY	**Dawson**	**91.45**	**16**	IAmb	IAmb	03 57 33.4			
	comp=Z,39nm,0.9s								
DRIO	**Del Rio**	**91.53**	**59**	IAmb	IAmb	03 57 35.3			
	comp=Z,42nm,0.7s								
I26K	**Coal Creek Min**	**91.54**	**14**	IAmb	IAmb	03 57 33.8			
	comp=Z,102nm,1.6s								
I26K	**Coal Creek Min**	**91.54**	**14**	P	**P**	**03 57 32.4**	**+0.1**		
	baz=213								
I26K				S	**S**	**04 07 43.3**	**+1.7**		
	baz=213								
C18K	**Utukok River**	**91.55**	**7**	IAmb	IAmb	03 57 33.5			
	comp=Z,65nm,1.2s								
C18K	**Utukok River**	**91.55**	**7**	P	**P**	**03 57 32.1**	**-0.2**		
	baz=196,SNR=7.3								
VA05	**Santo Domingo**	**91.69**	**127**	IAmb	IAmb	03 57 36.6			
	comp=Z,30nm,0.9s								
D19K	**Kuna River**	**91.76**	**8**	P	**P**	**03 57 33.1**	**-0.2**		
	baz=198								
BO02	**Sierra Bellavi**	**91.76**	**129**	IAmb	IAmb	03 57 36.8			
	comp=Z,53nm,1.2s								
K29M	**Barlow Dome**	**91.77**	**17**	IAmb	IAmb	03 57 35.3			
	comp=Z,39nm,1.0s								
K29M	**Barlow Dome**	**91.77**	**17**	P	**P**	**03 57 34.0**	**+0.4**		
	baz=218								
K29M				S	**S**	**04 07 45.5**	**+1.6**		
	baz=218								
H25L	**Birch Creek**	**91.78**	**13**	P	**P**	**03 57 32.0**	**-1.3**		
	baz=210								
COLD	**Coldfoot**	**91.78**	**11**	IAmb	IAmb	03 57 35.1			
	comp=Z,22nm,0.7s								
E20K	**Nigu River**	**91.79**	**8**	P	**P**	**03 57 33.5**	**0.0**		
	baz=200								
E20K				S	**S**	**04 07 44.0**	**+0.3**		
	baz=200								
MSTX	**Muleshoe**	**91.79**	**54**	IAmb	IAmb	03 59 50.3			
	comp=Z,99nm,1.7s								
G24K	**Hadweenzic Riv**	**91.82**	**12**	P	**P**	**03 57 32.9**	**-0.7**		
	baz=209,SNR=8.5								
YNE	**Yellowstone No**	**91.93**	**42**	IAmb	IAmb	03 59 52.8			
	comp=Z,52nm,1.2s								
J29N	**Klondike Camp**	**92.07**	**17**	IAmb	IAmb	03 57 36.7			
	comp=Z,44nm,0.7s								
J29N	**Klondike Camp**	**92.07**	**17**	P	**P**	**03 57 35.2**	**+0.4**		
	baz=217								
MT09	**Talagante**	**92.09**	**128**	IAmb	IAmb	03 57 38.9			
	comp=Z,43nm,1.1s								
G25K	**Bearman Lake**	**92.15**	**13**	P	**P**	**03 57 35.4**	**+0.4**		
	baz=210,SNR=6.4								
G25K				S	**S**	**04 07 47.7**	**+1.0**		
	baz=210								
I27K	**Kandik River**	**92.15**	**15**	P	**P**	**03 57 34.9**	**-0.3**		
	baz=214								
I27K				S	**S**	**04 07 46.5**	**-0.5**		
	baz=214								
D20K	**Etivluk River**	**92.16**	**8**	P	**P**	**03 57 35.1**	**0.0**		
	baz=200,SNR=22								
C19K	**Lookout Ridge**	**92.17**	**7**	P	**P**	**03 57 35.1**	**0.0**		
	baz=197,SNR=16								
B18K	**Kokolik River**	**92.18**	**6**	P	**P**	**03 57 35.4**	**+0.3**		
	baz=195								
E21K	**Killik River**	**92.27**	**9**	IAmb	IAmb	03 57 36.8			
	comp=Z,29nm,1.0s								
E22K	**Anaktuvuk Pass**	**92.33**	**10**	IAmb	IAmb	03 57 37.4			
	comp=Z,64nm,1.4s								
E22K	**Anaktuvuk Pass**	**92.33**	**10**	P	**P**	**03 57 35.9**	**0.0**		
	baz=205								
POST	**Post**	**92.37**	**55**	IAmb	IAmb	03 59 53.4			
	comp=Z,55nm,1.6s								
TNCH	**TengChong**	**92.38**	**296**	P	**P**	**03 57 38.1**	**+0.7**		
TNCH				S	**S**	**04 07 46.8**	**-4.2**		
TNCH				sS	sS	04 11 38.9	-1.9		
TNCH				pmax	pmax				
	comp=Z,73nm,1.3s								
TNCH				pmax	pmax				
	comp=Z,510nm,4.2s								
I28M	**Miner Creek**	**92.43**	**15**	IAmb	IAmb	03 57 38.7			
	comp=Z,30nm,0.9s								
I28M	**Miner Creek**	**92.43**	**15**	P	**P**	**03 57 36.3**	**-0.3**		
	baz=216								
I28M				S	**S**	**04 07 48.7**	**-0.9**		
	baz=216								
RLMT	**Red Lodge**	**92.44**	**42**	IAmb	IAmb	03 59 54.1			
	comp=Z,40nm,1.4s								
F24K	**Squaw Lake**	**92.46**	**12**	P	**P**	**03 57 36.6**	**+0.1**		
	baz=208								
F24K				S	**S**	**04 07 49.5**	**0.0**		
	baz=208								
MT03	**Universidad Ad**	**92.58**	**128**	IAmb	IAmb	03 57 40.8			
	comp=Z,26nm,1.0s								
MT16	**CCHEN**	**92.60**	**128**	IAmb	IAmb	03 57 40.8			
	comp=Z,37nm,0.9s								
PEL	**Peldehue**	**92.62**	**127**	IAmb	IAmb	03 57 41.5			
	comp=Z,47nm,0.9s								
E23K	**Chandalar**	**92.62**	**11**	P	**P**	**03 57 37.2**	**-0.1**		
	baz=207,SNR=12								
HNDO	**Hondo**	**92.64**	**59**	IAmb	IAmb	03 57 40.7			
	comp=Z,23nm,0.8s								
J30M	**Hart River**	**92.67**	**17**	P	**P**	**03 57 37.7**	**0.0**		
	baz=219								
J30M				S	**S**	**04 07 52.4**	**+0.7**		
	baz=219								
H27K	**Steamboat Moun**	**92.69**	**14**	P	**P**	**03 57 37.7**	**+0.1**		
	baz=214								
H27K				S	**S**	**04 07 50.2**	**-1.4**		
	baz=214								
MMPY	**Sheldon Lake,**	**92.71**	**20**	P	**P**	**03 57 38.4**	**+0.6**		
MMPY					**pP**	**03 59 45.5**	**-1.0**		
LZH	**Lanzhou**	**92.73**	**308**	P	**P**	**03 57 40.5**	**+1.8**		
LZH				pP	pP	03 59 46.3	-0.2		
LZH				*i*		04 09 14.0			
LZH				SS	SS	04 14 25.7	-0.3		
LZH				pmax	pmax				
	comp=Z,130nm,1.3s								
LZH				pmax	pmax				
	comp=Z,490nm,6.9s								
I29M	**Ogilvie Camp,**	**92.77**	**16**	IAmb	IAmb	03 57 38.9			
	comp=Z,37nm,1.2s								
I29M	**Ogilvie Camp,**	**92.77**	**16**	P	**P**	**03 57 37.7**	**-0.3**		
	baz=217								
G26K	**Porcupine Rive**	**92.79**	**13**	IAmb	IAmb	03 57 40.7			
	comp=Z,22nm,0.8s								
G26K	**Porcupine Rive**	**92.79**	**13**	P	**P**	**03 57 38.2**	**+0.2**		
	baz=212								
G26K				S	**S**	**04 07 52.8**	**+0.5**		
	baz=212								
C21K	**Knifeblade Rid**	**92.82**	**9**	P	**P**	**03 57 38.5**	**+0.4**		
	baz=202,SNR=17								
E24K	**Your Creek**	**92.84**	**11**	P	**P**	**03 57 38.4**	**+0.2**		
	baz=208								
E24K				S	**S**	**04 07 52.5**	**-0.4**		
	baz=208								
SN07	**Snyder 07**	**92.84**	**55**	P	**P**	**03 57 38.5**	**-0.6**		
SN07					**pP**	**03 59 44.5**	**-2.9**		
SN07				IAmb	IAmb	03 59 55.4			
	comp=Z,49nm,1.7s								
D22K	**Ayikyak River**	**92.87**	**9**	IAmb	IAmb	03 57 40.2			
	comp=Z,79nm,1.4s								
D22K	**Ayikyak River**	**92.87**	**9**	P	**P**	**03 57 38.6**	**+0.3**		
	baz=204,SNR=12								
RTBA	**Rita Blanca**	**92.88**	**52**	P	**P**	**03 57 38.6**	**-0.7**		
RTBA				IAmb	IAmb	03 59 56.5			
	comp=Z,75nm,1.9s								
VA03	**San Esteban**	**92.90**	**127**	IAmb	IAmb	03 57 55.4			
	comp=Z,26nm,0.8s								
F25K	**Christian Rive**	**92.95**	**12**	P	**P**	**03 57 39.2**	**+0.4**		
	baz=210,SNR=11								
F25K				S	**S**	**04 07 53.7**	**-0.2**		
	baz=210								
MT08	**Bocatoma Ro**	**92.96**	**128**	IAmb	IAmb	03 57 43.4			
	comp=Z,19nm,0.7s								
AMTX	**Amarillo**	**93.00**	**54**	IAmb	IAmb	03 59 55.5			
	comp=Z,38nm,1.4s								
K22A	**Casper**	**93.02**	**45**	IAmb	IAmb	03 59 56.8			
	comp=Z,50nm,1.3s								
BMAR	**Burnt Mountain**	**93.03**	**13**	P	**P**	**03 57 39.7**	**+0.6**		
A19K	**Wainwright**	**93.06**	**6**	P	**P**	**03 57 38.9**	**-0.3**		
	baz=196								
G27K	**Doyon Strip**	**93.14**	**14**	P	**P**	**03 57 39.6**	**0.0**		
	baz=214,SNR=11								
TOLK	**Toolik Lake Re**	**93.15**	**11**	IAmb	IAmb	03 57 41.2			
	comp=Z,116nm,2.0s								
TOLK	**Toolik Lake Re**	**93.15**	**11**	P	**P**	**03 57 39.6**	**-0.1**		
	baz=207								
TOLK				S	**S**	**04 07 54.9**	**-0.7**		
	baz=207								
I30M	**Mount Dempster**	**93.16**	**17**	P	**P**	**03 57 39.9**	**0.0**		
I30M				IAmb	IAmb	03 57 41.1			
	comp=Z,30nm,0.9s								
I30M					**pP**	**03 59 49.7**	**+1.2**		
I30M	**Mount Dempster**	**93.16**	**17**	P	**P**	**03 57 39.8**	**0.0**		
	baz=219								
I30M				S	**S**	**04 07 54.8**	**-1.2**		
	baz=219								
YAK	**Yakutsk**	**93.18**	**339**	P	**P**	**03 57 39.4**	**-0.5**		
YAK	**Yakutsk**	**93.18**	**339**	*e*P	**P**	**03 57 39.5**	**-0.3**		
YAK				*e*		04 01 34.3			
YAK				*e*S	**SKSac**	**04 07 15.7**	**-1.1**		
YAK				*e*		04 07 55.0			
YAK				*e*SS	**SS**	**04 14 30.4**	**-0.3**		
YAK				pmax	pmax				
	comp=Z,154nm,0.9s								
YAK				pmax	pmax				
	comp=N,14nm,1.1s								
YAK				pmax	pmax				
	comp=E,19nm,1.4s								
YAK				pmax	pmax				
	comp=Z,68nm,2.0s								
YAK				pmax	pmax				
	comp=E,44nm,2.5s								
YAK				pmax	pmax				
	comp=N,53nm,2.0s								
YAK				smax	smax				
	comp=E,110nm,2.0s								
YAK				smax	smax				
	comp=N,75nm,2.0s								
D23K	**Nanushuk River**	**93.26**	**10**	IAmb	IAmb	03 57 42.0			
	comp=Z,38nm,1.2s								
D23K	**Nanushuk River**	**93.26**	**10**	P	**P**	**03 57 40.1**	**0.0**		
	baz=206,SNR=8.5								
D23K				S	**S**	**04 07 55.3**	**-1.1**		
	baz=206								
B21K	**Ikpikpuk River**	**93.27**	**8**	IAmb	IAmb	03 57 43.5			
	comp=Z,41nm,1.4s								
B21K	**Ikpikpuk River**	**93.27**	**8**	P	**P**	**03 57 40.6**	**+0.4**		
	baz=202								
B20K	**Meade River**	**93.31**	**8**	IAmb	IAmb	03 57 41.8			
	comp=Z,51nm,1.0s								
B20K	**Meade River**	**93.31**	**8**	P	**P**	**03 57 40.4**	**+0.2**		
	baz=199								
F26K	**Sheenjek River**	**93.34**	**13**	P	**P**	**03 57 41.0**	**+0.5**		
	baz=212,SNR=10								
F26K				S	**S**	**04 07 58.1**	**+0.8**		
	baz=212								
E25K	**Arctic Village**	**93.42**	**12**	P	**P**	**03 57 41.1**	**+0.2**		
	baz=210								
H29M	**Whitestone**	**93.44**	**15**	IAmb	IAmb	03 57 42.2			
	comp=Z,35nm,0.8s								
H29M	**Whitestone**	**93.44**	**15**	P	**P**	**03 57 40.8**	**-0.2**		
	baz=217								
H29M				S	**S**	**04 07 57.6**	**-0.5**		
	baz=217								
APMT	**Aspermont**	**93.53**	**56**	pP	**pP**	**03 59 49.5**	**-1.0**		
APMT				IAmb	IAmb	03 59 58.9			
	comp=Z,38nm,1.3s								
EGMT	**Eagleton**	**93.57**	**39**	IAmb	IAmb	03 59 59.8			
	comp=Z,65nm,1.4s								
ABTX	**Abilene, Hawle**	**93.61**	**56**	P	**P**	**03 57 42.7**	**+0.1**		
ABTX					**pP**	**03 59 49.8**	**-1.0**		
ABTX				IAmb	IAmb	03 59 59.9			
	comp=Z,36nm,1.2s								
CO03	**El Pedregal**	**93.71**	**125**	IAmb	IAmb	03 57 46.4			
	comp=Z,27nm,0.9s								
D24K	**Happy Valley**	**93.73**	**11**	IAmb	IAmb	03 57 44.0			
	comp=Z,47nm,1.7s								
D24K	**Happy Valley**	**93.73**	**11**	P	**P**	**03 57 42.5**	**+0.2**		
	baz=207								
EPYK	**Eagle Plains**	**93.97**	**16**	IAmb	IAmb	03 57 44.5			
	comp=Z,30nm,0.8s								
EPYK	**Eagle Plains**	**93.97**	**16**	P	**P**	**03 57 43.2**	**-0.2**		
	baz=219								
EPYK				S	**S**	**04 08 01.5**	**-1.2**		
	baz=219								
C23K	**Itkillik River**	**94.05**	**10**	IAmb	IAmb	03 57 46.5			
	comp=Z,38nm,1.3s								
C23K	**Itkillik River**	**94.05**	**10**	P	**P**	**03 57 43.9**	**+0.3**		
	baz=206								
C23K				S	**S**	**04 08 02.8**	**-0.4**		
	baz=206								
G29M	**Pine Creek**	**94.07**	**15**	IAmb	IAmb	03 57 45.0			
	comp=Z,17nm,0.8s								
G29M	**Pine Creek**	**94.07**	**15**	P	**P**	**03 57 43.6**	**-0.3**		
	baz=218,SNR=17								
G29M				S	**S**	**04 08 03.0**	**-0.5**		
	baz=218								
B22K	**Teshekpuk Lake**	**94.10**	**9**	P	**P**	**03 57 42.3**	**-1.6**		
	baz=203								
B22K				S	**S**	**04 08 02.7**	**-0.9**		
	baz=203								
CIT	**Chita**	**94.10**	**325**	*e*P	**P**	**03 57 44.2**	**-0.2**		
CIT				pmax	pmax				
	comp=Z,79nm,2.0s								
H31M	**Peel River**	**94.16**	**17**	P	**P**	**03 57 43.9**	**-0.4**		
	baz=221								
H31M				S	**S**	**04 08 03.9**	**-0.5**		
	baz=221								
F28M	**Old Crow**	**94.20**	**14**	P	**P**	**03 57 44.2**	**-0.2**		
	baz=216								
F28M				S	**S**	**04 08 04.0**	**-0.7**		
	baz=216								
C24K	**Franklin Bluff**	**94.25**	**10**	P	**P**	**03 57 44.7**	**+0.1**		
	baz=208								
E27K	**Coleen River**	**94.29**	**13**	IAmb	IAmb	03 57 46.6			
	comp=Z,31nm,1.4s								
E27K	**Coleen River**	**94.29**	**13**	P	**P**	**03 57 45.1**	**+0.3**		
	baz=214,SNR=15								
E27K				S	**S**	**04 08 06.7**	**+1.3**		
	baz=214								
D25K	**Kavik River**	**94.31**	**11**	P	**P**	**03 57 44.5**	**-0.5**		
	baz=210								
D25K				S	**S**	**04 08 04.8**	**-0.8**		
	baz=210								
LCO	**Las Campanas**	**94.57**	**124**	P	**P**	**03 57 49.3**	**+1.8**		
LCO				IAmb	IAmb	03 57 50.4			
	comp=Z,24nm,0.9s								
LCO	**Las Campanas**	**94.57**	**124**	P	**P**	**03 57 49.3**	**+1.8**		
LCO				pmax	pmax				
	comp=Z,24nm,1.0s								
G30M	**tAoh Zraii Nji**	**94.57**	**16**	P	**P**	**03 57 45.7**	**-0.4**		
G30M					**pP**	**03 59 55.8**	**+0.9**		
G30M	**tAoh Zraii Nji**	**94.57**	**16**	P	**P**	**03 57 45.8**	**-0.4**		
	baz=219								
G30M				S	**S**	**04 08 07.1**	**-0.8**		
	baz=219								
PLPT	**Palo Pinto**	**94.71**	**57**	IAmb	IAmb	04 00 00.8			
	comp=Z,32nm,1.1s								
ZON	**Zonda**	**94.88**	**127**	IAmb	IAmb	03 57 51.3			
	comp=Z,20nm,1.0s								
G31M	**Satah River**	**95.02**	**16**	P	**P**	**03 57 47.7**	**-0.4**		
G31M					**pP**	**03 59 54.4**	**-2.5**		
G31M	**Satah River**	**95.02**	**16**	P	**P**	**03 57 48.1**	**0.0**		
	baz=221								
G31M				S	**S**	**04 08 10.7**	**-0.9**		
	baz=221								
C27K	**Jago River**	**95.06**	**12**	IAmb	IAmb	03 57 49.8			
	comp=Z,14nm,0.8s								
C27K	**Jago River**	**95.06**	**12**	P	**P**	**03 57 48.3**	**0.0**		
	baz=212								
C27K				S	**S**	**04 08 11.1**	**-0.9**		
	baz=212								
E28M	**Babbage River**	**95.07**	**14**	IAmb	IAmb	03 57 49.8			
	comp=Z,22nm,0.8s								
E28M	**Babbage River**	**95.07**	**14**	P	**P**	**03 57 48.4**	**0.0**		
	baz=216								
E28M				S	**S**	**04 08 10.7**	**-1.4**		
	baz=216								
F30M	**Barrier River**	**95.16**	**15**	P	**P**	**03 57 48.4**	**-0.4**		
	baz=220								
E29M	**Blow River**	**95.27**	**14**	IAmb	IAmb	03 57 50.0			
	comp=Z,45nm,1.9s								
E29M	**Blow River**	**95.27**	**14**	P	**P**	**03 57 48.4**	**-0.9**		
	baz=218				

comp=Z,1.9nm,0.5s,baz=272,slow=3.8,SNR=3.0
comp=Z,3.2nm,0.5s
SONM Songino Array 96.15 319 P **P** **03 57 54.4 +0.5**
SONM pmax pmax
comp=Z,31nm,1.7s
INK Inuvik 96.25 16 P **P** **03 57 53.4 -0.2**
INK IAmb IAmb 03 57 54.3
comp=Z,26nm,1.2s
INK **pP** **04 00 02.5 0.0**
INK Inuvik 96.25 16 P **P** **03 57 53.5 -0.2**
comp=Z,8.4nm,0.6s,baz=234,slow=3.8,SNR=20
INK pP **pP** **04 00 03.7 +1.2**
comp=Z,11nm,1.2s,baz=189,slow=3.4,SNR=6.3
comp=Z,8.4nm,0.6s
R32A Long Quarter, 96.61 51 IAmb IAmb 03 57 58.3
comp=Z,18nm,0.7s
GTA Gaotai 97.01 310 P Pdif 03 57 58.3 +0.4
GTA pP pwP 04 00 09.1 -1.9
GTA PP **PP** **04 02 04.6 +0.3**
GTA SKS **SKSac** **04 07 36.4 -1.9**
GTA pmax pmax
comp=Z,24nm,1.2s
GTA pmax pmax
comp=Z,210nm,5.6s
SHL Shillong 98.15 294 P **P** **03 58 05.4 +1.9**
YKA Yellowknife Ar 98.60 25 P Pdif 03 58 04.2 0.0
comp=Z,2.1nm,0.7s,baz=252,slow=4.7,SNR=12
YKA pP pP 04 00 15.6 +2.0
comp=Z,1.7nm,0.9s,baz=248,slow=4.4,SNR=5.1
YKA PKiKP **PKiKP** **04 02 31.7 -0.1**
comp=Z,0.4nm,0.4s,baz=246,slow=1.7,SNR=6.3
comp=Z,2.1nm,0.7s
YKAW1 Yellowknife Wh 98.65 25 IAmb IAmb 03 58 05.7
comp=Z,6.2nm,1.0s
ZAK Zakamensk 99.08 321 *e*P **Pdif** **03 58 06.0 -0.8**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
A36M Sachs Harbour 100.85 15 P **Pdif** **03 58 14.1 +0.1**
baz=230
LPAZ La Paz 102.64 114 Pdiff **Pdif** **03 58 26.6 +2.5**
comp=Z,1.5nm,0.8s,baz=172,slow=5.8,SNR=5.8
LPAZ PKiKP **PKiKP** **04 02 40.8 -0.5**
comp=Z,1.6nm,1.0s,baz=239,slow=6.9,SNR=2.4
LPAZ PKKPbc **PKKPbc** **04 14 19.6 -1.1**
comp=Z,4.1nm,0.7s,baz=246,slow=1.8,SNR=13
LPAZ La Paz 102.64 114 *e*P **Pdif** **03 58 23.8 -0.3**
ULM Lac du Bonnet 102.78 41 PKiKP **PKiKP** **04 02 38.5 -1.3**
comp=Z,1.9nm,0.5s,baz=301,slow=4.7,SNR=5.3
CPUP Villa Florida 106.05 128 PKiKP **PKiKP** **04 02 45.7 -0.9**
comp=Z,0.6nm,0.7s,baz=178,slow=1.5,SNR=4.3
WMQ Urumqi 107.02 311 Pdif **Pdif** **03 58 41.6 -0.6**
WMQ PP **PP** **04 03 18.3 +0.4**
WMQ AMB AMB
comp=Z,260nm,5.1s
HYB Hyderabad 107.20 282 *e*Pdif **Pdif** **03 58 43.6 0.0**
HYB *e*PKiKP **PKiKP** **04 02 47.9 -1.0**
HYB *e*PP **PP** **04 03 18.7 -1.0**
HYB *e*PKKPbc **PKKPbc** **04 14 04.9 -1.3**
HMDM Hanimaadhoo 108.60 270 P **PKiKP** **04 02 49.8 -1.9**
PTH Pithoragarh 109.22 295 *e*P **PKiKP** **04 02 52.0 -0.6**
ZSN Zaisan 109.77 314 *e*PKiKP **PKiKP** **04 02 52.1 -0.8**
BHPL Bhopal 109.94 288 *e*P **PKiKP** **04 02 52.1 -1.9**
ZALV Zalesovo Beam 110.96 321 Pdiff **Pdif** **03 58 59.9 +0.5**
comp=Z,0.4nm,0.4s,baz=93,slow=5.1,SNR=1.7
ZALV PKiKP **PKiKP** **04 02 53.8 -1.1**
comp=Z,14nm,0.6s,baz=163,slow=0.6,SNR=52
ZALV SKP 04 05 34.4
comp=Z,3.8nm,0.7s,baz=129,slow=2.1,SNR=5.8
HNLY HANLEY 111.05 298 *e*P **PKiKP** **04 02 56.5 0.0**
HNLY IAmb IAmb 04 02 58.3
comp=Z,13nm,0.9s
DDI Dehra Dun 111.23 295 *e*P **PKiKP** **04 02 55.8 -0.4**
KLP Kalpa 111.36 296 *e*P **PKiKP** **04 02 56.1 -0.7**
KLP IAmb IAmb 04 02 57.7
comp=Z,58nm,0.3s
MK31 Makanchi Array 111.37 313*c* *i*PKiKP **PKiKP** **04 02 55.2 -0.8**
MKAR Makanchi Array 111.37 313 Pdiff **Pdif** **03 59 01.3 -0.2**
comp=Z,1.4nm,0.5s,baz=86,slow=4.0,SNR=14
MKAR PKiKP **PKiKP** **04 02 55.1 -0.8**
comp=Z,8.8nm,0.5s,baz=163,slow=0.9,SNR=69
MKAR PKKPbc **PKKPbc** **04 13 53.8 +0.1**
comp=Z,3.9nm,0.6s,baz=271,slow=3.8,SNR=22
MKAR PKKPab **PKKPab** **04 14 04.9 +1.2**
comp=Z,4.4nm,0.8s,baz=278,slow=4.5,SNR=9.0
MKAR SKKPbc SKKPbc 04 16 38.5 -4.5
comp=Z,0.8nm,0.7s,baz=265,slow=3.8,SNR=4.8
MAKZ Makanchi 111.59 313 PKiKP **PKiKP** **04 02 54.1 -2.3**
KUDL Kundal 112.03 292 *e*P **PKiKP** **04 02 56.3 -1.5**
SMLA Simla 112.16 296 *e*P **PKiKP** **04 02 57.0 -0.9**
SMLA IAmb IAmb 04 02 59.7
comp=Z,31nm,0.7s
SHLS Shalkode 112.73 309 *i* PKiKP **PKiKP** **04 02 57.3 -1.5**
SHLS *e* 04 03 54.7
SHLS Shalkode 112.73 309 *e*PKiKP **PKiKP** **04 02 57.3 -1.5**
SHLS *e*PP **PP** **04 03 54.8 -3.7**
BHK Bhakra 112.85 296 *e*P **PKiKP** **04 02 59.3 0.0**
DHRM DHARAMSHALA 113.13 297 *e*P **PKiKP** **04 02 59.5 -0.6**
DHRM IAmb IAmb 04 03 00.3
comp=Z,37nm,0.5s
KPKS Kokpek 113.34 309 *i* PKiKP **PKiKP** **04 02 59.0 -0.9**
KPKS Kokpek 113.34 309 *e*PKiKP **PKiKP** **04 02 59.0 -0.9**
THN Thein Dam 113.65 297 *e*P **PKiKP** **04 03 00.2 -0.5**
TDK Taldyqorghan 113.77 311 *i* PKiKP **PKiKP** **04 02 59.6 -1.0**
TDK Taldyqorghan 113.77 311 *e*PKiKP **PKiKP** **04 02 59.7 -1.0**
ARXS Arharly 114.07 310 *i* PKiKP PKPdf 04 03 00.2 -1.1
KURK Kurchatov 114.31 317 P PKPdf 04 03 00.6 -0.8
KURK Kurchatov 114.31 317*c* *i*PKiKP PKPdf 04 03 00.7 -0.7
KURK pmax pmax
comp=Z,21nm,0.8s
KURBB Kurchatov Arra 114.36 317 Pdiff **Pdif** **03 59 15.8 +1.2**
comp=Z,0.4nm,0.5s,baz=103,slow=4.2,SNR=2.3
KURBB PKP PKPdf 04 03 00.5 -1.0
comp=Z,15nm,0.5s,baz=112,slow=1.7,SNR=97
KURBB SKP 04 05 41.0
comp=Z,2.1nm,0.3s,baz=101,slow=1.7,SNR=6.4
KURBB PKKPbc **PKKPbc** **04 13 44.1 +0.2**
comp=Z,3.0nm,0.8s,baz=276,slow=3.7,SNR=12
KURBB PKKPab **PKKPab** **04 13 50.9 +0.6**
comp=Z,5.5nm,0.9s,baz=279,slow=5.2,SNR=12
KURBB SKKPbc SKKPbc 04 16 30.4 -3.9
comp=Z,1.5nm,0.7s,baz=262,slow=3.9,SNR=6.8
KURBB Kurchatov Arra 114.36 317 PKiKP PKPdf 04 02 59.7 -1.8
AAA Alma-Ata 114.58 309 *e*PKiKP PKPdf 04 03 01.2 -1.1
AAA Alma-Ata 114.58 309 *e*PKP PKPdf 04 03 01.2 -1.1
CHKK Chushkaly 114.62 309 *e*PKiKP PKPdf 04 03 01.2 -1.1
CHKK Chushkaly 114.62 309 *e*PKP PKPdf 04 03 01.2 -1.0
KSH Kashi 114.74 304 PKP **PKiKP** **04 03 03.6 +0.8**
KSH PP **PP** **04 04 16.1 +3.5**
KUU Kurty 115.09 309 *e*PKiKP **PKPdf** **04 03 02.1 -1.1**
KUU Kurty 115.09 309 *e*PKP **PKPdf** **04 03 02.2 -1.1**
TKM2 Tokmak 2 115.50 308 P **PKPdf** **04 03 03.7 -0.5**
SNR=24
NIL Nilore 115.92 298 **PKPdf** **04 03 04.4 -0.7**
NIL Nilore 115.92 298 P **PKPdf** **04 03 04.4 -0.7**
NIL Nilore 115.92 298 PKiKP **PKPdf** **04 03 04.4 -0.7**
KBK Karagaybulak 115.94 308 P **PKPdf** **04 03 04.5 -0.6**
SNR=11
CHMS Chumysh 116.13 308 P **PKPdf** **04 03 04.7 -0.6**
SNR=7.6
UCH Uchtor 116.21 307 P **PKPdf** **04 03 05.2 -0.8**
SNR=25
SGDS Sogindy 116.27 309 *e*PKP **PKPdf** **04 03 04.6 -1.0**
SGDS *e*PP **PP** **04 04 21.4 -1.6**
AAK Ala-Archa 116.28 308 **PKPdf** **04 03 04.7 -1.0**
AAK Ala-Archa 116.28 308 P **PKPdf** **04 03 04.7 -1.0**
AAK Ala-Archa 116.28 308*c* *i*PKiKP **PKiKP** **04 03 05.8 +0.1**
AAK pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 116.28 308 PKPdf **PKPdf** **04 03 05.5 -0.2**
USP Ospenovka 116.34 308 P **PKPdf** **04 03 05.3 -0.4**
SNR=21
EKS2 Erkin-Say 116.80 308 P **PKPdf** **04 03 06.5 -0.2**
SNR=14
AML Almayashu 116.81 307 P **PKPdf** **04 03 06.7 -0.3**
SNR=29
BHUJ Bhuj 116.84 286 *e*P **PKPdf** **04 03 07.0 -0.1**
BTLS Baital 116.85 310 *e*PKiKP **PKPdf** **04 03 05.7 -0.8**
BTLS *e* 04 04 25.4
BTLS Baital 116.85 310 *e*PKP **PKPdf** **04 03 05.8 -0.8**
BTLS *e*PP **PP** **04 04 25.4 -1.3**
VOI Vohitsoka 117.13 229 P **PKPdf** **04 03 06.8 -1.2**
SJG San Juan 117.68 81 **PKPdf** **04 03 07.6 -1.2**
SJG San Juan 117.68 81 PKiKP **PKPdf** **04 03 07.6 -1.2**
DZA Taraz 118.62 308 *e*PKiKP **PKPdf** **04 03 09.0 -1.0**
DZA Taraz 118.62 308 *e*PKP **PKPdf** **04 03 09.1 -1.0**

ABPO Ambohimpanom 118.69 232 **PKPdf** **04 03 10.4 -0.7**
ABPO Ambohimpanom 118.69 232 PKiKP **PKPdf** **04 03 10.4 -0.7**
KK31 Karatay Array 119.23 308 *i* PKiKP **PKPdf** **04 03 10.1 -1.1**
KKAR Karatay Array 119.23 308 **PKPdf** **04 03 10.2 -0.9**
KKAR Karatay Array 119.23 308 PKiKP **PKPdf** **04 03 10.3 -0.9**
E62A Clayton Lake 119.32 48 **PKPdf** **04 03 10.7 -0.5**
BDFB Brasilia 119.35 124 **PKPdf** **04 03 11.2 -1.2**
BDFB Brasilia 119.35 124 PKP **PKPdf** **04 03 11.9 -0.5**
comp=Z,7.7nm,0.5s,baz=203,slow=4.7,SNR=16
BDFB PKKPbc **PKKPbc** **04 13 27.2 +0.5**
comp=Z,6.9nm,0.6s,baz=30,slow=0.6,SNR=14
NEEM North Greenlan 119.49 11 *i* P **PKPdf** **04 03 10.7 -0.4**
BVA0 Borovoye Array 119.49 319 *i* PKiKP **PKPdf** **04 03 10.6 -0.7**
BVAR Borovoye Array 119.49 319 PKP **PKPdf** **04 03 10.2 -1.1**
comp=Z,57nm,0.4s,baz=112,slow=1.5,SNR=228
BVAR SKP 04 05 50.9
comp=Z,6.1nm,0.7s,baz=90,slow=1.5,SNR=3.9
BVAR PKKPbc **PKKPbc** **04 13 26.5 +0.3**
comp=Z,2.2nm,0.6s,baz=286,slow=4.2,SNR=8.9
KBL Kabul 119.51 298 **PKPdf** **04 03 11.6 -0.6**
KBL Kabul 119.51 298 P **PKPdf** **04 03 11.7 -0.6**
SNR=24
KBL Kabul 119.51 298 PKiKP **PKPdf** **04 03 11.6 -0.6**
IUG Iuzhnay 119.52 307 *e*PKiKP **PKPdf** **04 03 10.7 -1.2**
IUG Iuzhnay 119.52 307 *e*PKP **PKPdf** **04 03 10.8 -1.2**
BRVK Borovoye 119.56 319 **PKPdf** **04 03 10.6 -0.8**
BRVK Borovoye 119.56 319 P **PKPdf** **04 03 10.6 -0.8**
BRVK Borovoye 119.56 319*c* *i*PKiKP **PKPdf** **04 03 11.0 -0.4**
BRVK pmax pmax
comp=Z,33nm,0.7s
KULLO Kullorsuaq 119.61 15 *i* P **PKPdf** **04 03 10.3 -0.7**
BRLS Borolday 119.72 308 *e*PKiKP **PKPdf** **04 03 11.3 -0.8**
BRLS Borolday 119.72 308 *e*PKP **PKPdf** **04 03 11.4 -0.8**
CHM Chimkent 119.85 307 *e*PKiKP **PKPdf** **04 03 11.5 -0.9**
CHM Chimkent 119.85 307 *e*PKP **PKPdf** **04 03 11.5 -0.9**
SBV Sambava 120.03 239 P **PKPdf** **04 03 12.5 -1.0**
MSEY Mahe Island 120.03 250 P **PKiKP** **04 03 13.8 0.0**
NOR Nord 120.11 3 *i* P **PKPdf** **04 03 10.9 -0.9**
UPNV Upernavik 120.67 17 *i* P **PKPdf** **04 03 12.8 -0.2**
SCHQ Schefferville 120.82 38 PKP **PKPdf** **04 03 13.1 -0.8**
comp=Z,6.6nm,0.6s,baz=268,slow=5.2,SNR=13
SCHQ PKKPbc **PKKPbc** **04 13 20.5 -0.9**
comp=Z,5.5nm,0.7s,baz=126,slow=6.7,SNR=6.3
DIAM Diamantina, MG 120.92 129 *e*P **PKPdf** **04 03 15.1 -0.3**
H05N1 Guadeloupe/Mar 121.86 84 PKP **PKPdf** **04 03 15.7 -1.2**
SNR=7.4
NUUG Nuugaatsiaq 122.04 18 *i* P **PKPdf** **04 03 15.1 -0.5**
SUR Sutherland 122.38 200 **PKiKP** **04 03 18.5 +0.3**
SUR Sutherland 122.38 200 P **PKiKP** **04 03 16.8 -1.2**
SJMB Sao Joao De Ma 122.40 132 *e*P **PKPdf** **04 03 17.3 -0.7**
UMMG Uummannaq 122.76 18 *i* P **PKPdf** **04 03 16.9 -0.2**
KBS Kingsbay 122.96 357 **PKiKP** **04 03 17.6 -0.1**
KBS Kingsbay 122.96 357*c* *i*PKiKP **PKiKP** **04 03 18.1 +0.5**
KBS pmax pmax
comp=Z,52nm,1.7s
KBS Kingsbay 122.96 357 *e*PKPdf **PKPdf** **04 03 17.4 +0.1**
KBS Kingsbay 122.96 357 *i* P **PKiKP** **04 03 17.5 -0.1**
SPA0 Spitsbergen Ar 123.46 356 *e*PKPdf **PKPdf** **04 03 18.1 -0.2**
SPITS Spitsbergen Ar 123.46 356 PKP **PKPdf** **04 03 18.2 -0.1**
comp=Z,84nm,0.7s,baz=70,slow=4.9,SNR=65
SPITS PKKPbc **PKKPab** **04 13 10.4 +0.5**
comp=Z,6.3nm,0.5s,baz=134,slow=6.0,SNR=10
ILULI Ilulissat 123.78 20 *i* P **PKPdf** **04 03 18.4 -0.7**
BOSA Boshof 124.16 206 PKP **PKiKP** **04 03 22.0 +0.3**
comp=Z,14nm,0.7s,baz=147,slow=1.9,SNR=30
BOSA PKKPbc **PKKPbc** **04 13 07.7 -1.8**
comp=Z,5.1nm,0.6s,baz=330,slow=3.9,SNR=21
HOPEN Hopen 124.27 353 *e*PKPdf **PKPdf** **04 03 19.6 -0.3**
DAG Danmarks Havn 124.54 5 *i* P **PKPdf** **04 03 19.2 -1.2**
SVE Sverdlovsk 124.60 325*c* *i*PKiKP **PKPdf** **04 03 21.0 0.0**
SVE pmax pmax
comp=Z,75nm,0.8s
GUA01 Guaratinga, BA 124.80 131 *e*P **PKPdf** **04 03 22.4 -0.2**
NGCH Negor - Chabah 124.88 286 P **PKPdf** **04 03 22.6 +0.1**
SFJD Kangerlussuaq 125.00 22 **PKPdf** **04 03 20.6 -0.9**
SFJD Kangerlussuaq 125.00 22 PKiKP **PKPdf** **04 03 20.6 -0.9**
SFJD Kangerlussuaq 125.00 22 *i* P **PKPdf** **04 03 21.6 +0.1**
SUMG Summit 125.10 13 *i* P **PKPdf** **04 03 21.0 -1.1**
JLN Jalan Bani Buh 125.82 282 P **PKPdf** **04 03 24.0 -0.4**
NUUK Nuuk 125.86 25 *i* P **PKiKP** **04 03 23.5 -0.2**
ARTI Arti 125.91 324 **PKPdf** **04 03 22.8 -0.7**
ARTI Arti 125.91 324 *i* PKiKP **PKPdf** **04 03 23.7 +0.2**
ARTI 04 05 27.4
ARTI 04 09 38.2
WBK Wadi Bani Khal 126.31 282 P **PKPdf** **04 03 24.5 -0.8**
AB31 Akbulak array 126.37 316 PKiKP **PKPdf** **04 03 24.6 0.0**
DBG Daneborg 126.67 7 *i* P **PKPdf** **04 03 23.9 -0.5**
WSAR Wadi Sarin 126.74 283 P **PKPdf** **04 03 26.0 -0.2**
MHTO MHTO 126.89 280 P **PKPdf** **04 03 26.1 -0.4**
SNR=5.7
DQM DQM 127.04 279 P **PKPdf** **04 03 25.9 -0.9**
JMDO Jabal Madar 127.05 282 P **PKPdf** **04 03 26.0 -0.8**
LBTB Lobatse 127.15 209 PKP **PiKiP** **04 03 27.4 -0.3**
comp=Z,8.4nm,0.6s,baz=179,slow=1.6,SNR=23
ICESG Greenland Ices 127.20 17 *i* P **PKPdf** **04 03 25.3 -0.8**
SMDO Samad 127.23 283 P **PKPdf** **04 03 26.3 -0.9**
SNR=6.6
BIDO Bidbid 127.25 283 P **PKPdf** **04 03 26.5 -0.6**
AKTO Aktyubinsk 127.41 317 PKiKP **PKPdf** **04 03 26.3 -0.3**
JASK Jask - Hormozg 127.88 286 P **PKPdf** **04 03 27.2 -1.0**
BSY Bisya 127.94 282 P **PKPdf** **04 03 27.7 -0.8**
HOQ Hoqain 128.00 283 P **PKPdf** **04 03 27.7 -0.8**
SNR=5.0
LPHEP Lephephe 128.46 210 *i* P **PKiKP** **04 03 30.1 -0.2**
IVI Ivigtut 128.65 28 *i* P **PKPdf** **04 03 27.4 -1.1**
ARQ Araqi 128.66 283 P **PKPdf** **04 03 29.1 -0.8**
SOHO SOHO 128.79 284 P **PKPdf** **04 03 29.8 -0.2**
SOHO SOHO 128.79 284 *i* PKPdf **PKPdf** **04 03 29.6 -0.4**
SNR=24
DMTO DMTO 128.90 275 P **PKPdf** **04 03 29.6 -0.8**
KDWAN Kaudwane 128.99 209 *i* P **PKiKP** **04 03 31.1 -0.3**
VADS Vadso 129.10 348 *e*PKPdf **PKiKP** **04 03 29.9 -0.2**
VADS eSS SS 04 22 22.4 +1.6
MDH Madha 129.19 285 P **PKPdf** **04 03 29.5 -1.2**
UOSS Minazif 129.22 285 **PKPdf** **04 03 29.8 -1.0**
UOSS Minazif 129.22 285 P **PKPdf** **04 03 30.1 -0.7**
UOSS Minazif 129.22 285 *i* PKPdf **PKPdf** **04 03 29.9 -1.0**
SNR=6.1
HATD Hatta, Dubai 129.26 285 P **PKPdf** **04 03 30.6 -0.4**
HATD Hatta, Dubai 129.26 285 *i* PKiKP **PKPdf** **04 03 31.1 +0.1**
SNR=11
ASHO Ashiyiah 129.31 284 P **PKPdf** **04 03 30.3 -0.8**
ASHO Ashiyiah 129.31 284 *i* PKiKP **PKPdf** **04 03 31.0 -0.1**
SNR=14
MSFE Esma-Masafi 129.32 285 *i* PKiKP **PKPdf** **04 03 31.0 0.0**
SNR=11
MASF Masafi 129.32 285 P **PKPdf** **04 03 30.6 -0.5**
SHME Shamm 129.44 286 P **PKPdf** **04 03 30.4 -0.7**
SHME Shamm 129.44 286 PKPdf **PKPdf** **04 03 30.8 -0.4**
ALNE Al Ain 129.48 283 P **PKPdf** **04 03 31.0 -0.3**
SNR=5.8
ALNE Al Ain 129.48 283 *i* PKPdf **PKPdf** **04 03 30.5 -0.8**
SNR=7.6
RBK Rabkut 129.53 275 P **PKPdf** **04 03 31.1 -0.6**
LVZ Lovozero 129.65 344 **PKPdf** **04 03 29.1 -1.3**
LVZ Lovozero 129.65 344*c* *i*PKiKP **PKiKP** **04 03 31.2 0.0**
LVZ pmax pmax
comp=Z,23nm,0.7s
HAMF Hammerfest 129.66 350 *e*PKPdf **PKPdf** **04 03 29.3 -1.0**
HAMF IAMs_20 IAMs_20 05 04 04.7
comp=Z,552nm,17.5s
BROLN Tlhalogang 129.66 213 *i* P **PKPdf** **04 03 32.4 +0.4**
NAZ Nazwa, Dubai 129.71 285 P **PKPdf** **04 03 31.4 -0.4**
SNR=5.2
NAZ Nazwa, Dubai 129.71 285 *i* PKPdf **PKPdf** **04 03 30.8 -0.9**
SNR=10
ISOG Isortoq, Green 129.71 20 *i* P **PKPdf** **04 03 29.5 -1.0**
FAQ Al Faqa, Dubai 129.74 284 P **PKPdf** **04 03 31.5 -0.3**
KIRV Kirov 129.74 329 *i* PKiKP **PKPdf** **04 03 30.1 -0.6**
UMZA Um Al Zommool 129.78 282 P **PKPdf** **04 03 30.7 -1.2**
UMQ Umm Al-Quwin 129.79 285 P **PKPdf** **04 03 31.7 -0.2**
KEV Kevo 129.86 348 **PKPdf** **04 03 30.3 -0.3**
KEV Kevo 129.86 348 PKiKP **PKPdf** **04 03 30.3 -0.3**
DOK Doka 129.87 276 P **PKPdf** **04 03 31.5 -0.7**
SCO Scoresbysund 129.90 10 *i* P **PKPdf** **04 03 30.6 -0.1**
SOEG Soedalen 129.95 15 *i* P **PKPdf** **04 03 30.9 0.0**
ASUD Al Ashush, Dub 129.96 284 P **PKPdf** **04 03 32.0 -0.2**
ASUD Al Ashush, Dub 129.96 284 *i* PKPdf **PKPdf** **04 03 31.6 -0.6**
SNR=7.2
WHFO Wadi Hawf 130.04 275 P **PKPdf** **04 03 32.0 -0.6**
APA Apatity 130.21 344 *e*PKiKP **PKPdf** **04 03 30.2 -1.2**
AJN Ajban 130.25 284 P **PKPdf** **04 03 32.5 -0.3**
ARA0 ARCESS Array S 130.32 349 *e*PKPdf **PKPdf** **04 03 31.4 -0.2**

ARA0 *e*SS SS 04 22 37.7 +2.2
ARA0 IAMs_20 IAMs_20 05 04 00.8
comp=Z,647nm,23.3s
ARCES ARCESS Array B 130.32 349 PKPdf **PKPdf** **04 03 31.0 -0.5**
ARCES ARCESS Array B 130.32 349 PKhKP **PKPpre** 04 03 16.3
comp=Z,2.1nm,0.5s,baz=6.2,slow=1.6,SNR=7.4
ARCES PKP **PKPdf** **04 03 31.2 -0.3**
comp=Z,33nm,0.5s,baz=14,slow=1.2,SNR=69
ARCES SKPbc **SKPbc** **04 05 59.6 -0.5**
comp=Z,18nm,0.8s,baz=46,slow=5.2,SNR=12
ARCES PKKP **PKKPdf** **04 13 32.9 -2.3**
comp=Z,1.1nm,0.6s,baz=159,slow=0.8,SNR=8.1
ARCES SKKPbc **SKKPbc** **04 15 38.2 -4.6**
comp=Z,1.5nm,0.9s,baz=176,slow=3.6,SNR=4.8
ARCES SKKP 04 16 15.4
comp=Z,2.1nm,0.9s,baz=242,slow=1.9,SNR=3.8
ABTO Aybut 130.34 274 P **PKPdf** **04 03 32.2 -1.0**
KGCAE Kacgae 130.51 207 *i* P **PKiKP** **04 03 34.6 +0.1**
SOOWA Sowa 130.67 212 *i* P **PKiKP** **04 03 35.0 +0.1**
JETT Jettan, Norway 131.14 351 *e*PKPdf **PKPdf** **04 03 33.7 +0.5**
KTK1 Kautokeino 131.18 349 *e*PKPdf **PKPdf** **04 03 32.7 -0.5**
KTK1 *e*PKSd 04 07 00.3
KTK1 *e*SS SS 04 22 49.3 +3.4
KTK1 IAMs_20 IAMs_20 05 04 24.8
comp=Z,626nm,23.6s
KOOLE Kule 131.19 204 PKPdf **PKPdf** **04 03 33.8 -1.1**
TRO Tromso 131.28 352 *e*PKPdf **PKPdf** **04 03 33.0 -0.3**
TRO *e*PKSd 04 07 01.2
TRO IAMs_20 IAMs_20 05 02 18.1
comp=Z,584nm,23.6s
MZR Muzera 131.36 282 P **PKPdf** **04 03 34.3 -0.6**
SNR=6.5
MZR Muzera 131.36 282 *i* PKPdf **PKPdf** **04 03 34.7 -0.2**
SNR=9.4
GHWR Ruwais 132.06 283 P **PKPdf** **04 03 35.3 -0.9**
JRN Qarnain Island 132.23 284 P **PKPdf** **04 03 36.1 -0.4**
GRTLG Ghanzi 132.25 206 *i* P **PKiKP** **04 03 37.6 -0.5**
KLMR Klimovskoe 132.86 335 *e*PKiKP **PKPdf** **04 03 35.3 -1.3**
KLMR *e* 04 06 08.0
KLMR pmax pmax
comp=Z,78nm,1.2s
BELG Belogornoye 133.13 322 *i* PKiKP **PKPdf** **04 03 36.6 -0.7**
SLWR Sila 133.15 283 P **PKPdf** **04 03 37.8 -0.4**
STEI Steigen 133.35 352 *e*PKPdf **PKiKP** **04 03 38.2 -0.4**
TRNA Turayna 133.68 284 P **PKPdf** **04 03 39.2 0.0**
FAUS Fauske 133.87 352 *e*PKPdf **PKiKP** **04 03 39.6 -0.1**
FAUS *e*PKSd 04 07 12.8
LSZ Lusaka 133.96 218 PKhKP PKPpre 04 03 28.0
comp=Z,2.3nm,0.5s,baz=216,slow=2.5,SNR=7.5
LSZ PKP **PKiKP** **04 03 41.4 -0.3**
comp=Z,27nm,0.6s,baz=178,slow=2.5,SNR=28
LSZ SKPbc **SKPbc** **04 06 14.1 -0.4**
comp=Z,7.8nm,0.9s,baz=162,slow=5.2,SNR=4.8
LSZ Lusaka 133.96 218 P **PKPdf** **04 03 38.8 -1.4**
SMRA Abu-Samra 134.03 283 P **PKPdf** **04 03 39.5 -0.3**
SHMA Al-Shehemyia 134.04 285 P **PKPdf** **04 03 40.3 +0.4**
SAKB Bahrain 134.43 285 P **PKPdf** **04 03 41.1 +0.5**
VAGH Vaagaholmen 134.73 353 *e*PKPdf **PKiKP** **04 03 41.5 0.0**
KONS Konsvik 134.97 353 *e*PKPdf **PKiKP** **04 03 41.5 -0.5**
STOK Stokkvaagen 135.14 353 *e*PKPdf **PKiKP** **04 03 42.1 -0.2**
LEIR Leirfjorden 135.35 353 *e*PKPdf **PKiKP** **04 03 42.6 -0.1**
LEIR *e*PKSd 04 07 20.0
LEIR *e*SS SS 04 23 37.6 +2.3
LEIR IAMs_20 IAMs_20 05 04 57.8
comp=Z,794nm,5.0s
TSUM Tsumeb 135.62 203 PKhKP PKPpre 04 03 32.6
comp=Z,3.9nm,0.6s,baz=201,slow=4.2,SNR=6.8
TSUM PKP **PKPdf** **04 03 43.4 +0.1**
comp=Z,20nm,0.8s,baz=137,slow=5.0,SNR=14
TSUM SKPbc **SKPbc** **04 06 19.2 -0.4**
comp=Z,12nm,0.9s,baz=151,slow=7.4,SNR=5.6
KIBK Kibwezi 136.02 241 P **PKPdf** **04 03 42.5 -1.6**
AKT Akhty 136.15 307 *e*PKiKP **PKPdf** **04 03 42.8 -0.7**
AKT *e* 04 06 32.3
AKT *e* 04 06 58.5
AKT pmax pmax
comp=Z,57nm,0.7s
MOS Moscow 136.71 330 *i* PKHKP PKPpre 04 03 33.6
MOS pmax pmax
comp=Z,66nm,0.9s
VRH Novokhopyorsk 136.96 323 *e*PKHKP PKPpre 04 03 35.5
VRH pmax pmax
comp=Z,8.0nm,0.4s
FINES FINESS Array B 136.99 342 PKhKP PKPpre 04 03 31.9
comp=Z,6.6nm,0.4s,baz=62,slow=4.0,SNR=26
FINES PKP **PKPdf** **04 03 43.5 -0.7**
comp=Z,40nm,0.7s,baz=79,slow=3.0,SNR=14
FINES SKPbc **SKPbc** **04 06 21.2 -0.8**
comp=Z,9.1nm,0.7s,baz=42,slow=3.1,SNR=6.0
FINES SKKPbc **SKKPbc** **04 15 14.3 -3.7**
comp=Z,1.0nm,0.6s,baz=222,slow=1.9,SNR=6.3
KBD Kabd 137.18 289 P **PKPdf** **04 03 44.6 -1.0**
KMBO Kilima Mbogo 137.37 242 P **PKPdf** **04 03 45.1 -1.6**
OBN Obninsk 137.57 330 **PKPdf** **04 03 46.4 +0.9**
OBN Obninsk 137.57 330⇑ *e*PKiKP **PKPdf** **04 03 43.1 -2.4**
OBN *e* 04 06 37.9
OBN *e*SS SS 04 23 56.4 -5.8
OBN pmax pmax
comp=Z,181nm,1.9s
LPSR Galich'ya Gora 137.80 326 *e*PKiKP **PKPdf** **04 03 46.2 +0.2**
LPSR pmax pmax
comp=Z,20nm,0.9s
VORR Voronezh 138.12 324 *e*PKiKP **PKPdf** **04 03 44.6 -2.0**
VORR pmax pmax
comp=Z,40nm,0.9s
ATD Arta Tunnel 138.29 262 PKhKP PKPpre 04 03 39.6
comp=Z,0.7nm,0.9s,baz=100,slow=23,SNR=1.9
ATD PKP **PKPdf** **04 03 48.9 +0.8**
comp=Z,0.6nm,0.7s,baz=207,slow=16,SNR=4.6
VSR Storozhevoye 138.37 324 *e*PKiKP **PKPdf** **04 03 46.6 -0.5**
VSR pmax pmax
comp=Z,30nm,0.9s
VORD Divnogorie 138.42 323 *e*PKiKP **PKPdf** **04 03 47.6 +0.4**
VORD pmax pmax
comp=Z,20nm,0.8s
GOF Gofitskoye 138.53 314*ce* PKiKP **PKPdf** **04 03 47.6 0.0**
GNI Garni 138.64 306 P **PKPdf** **04 03 46.9 -1.3**
GNI Garni 138.64 306 *i* PKiKP **PKPdf** **04 03 45.8 -2.4**
RAYN Ar Rayn 138.69 281 P **PKPdf** **04 03 47.4 -1.2**
KBZ Khabaz 139.05 312 PKhKP PKPpre 04 03 40.0
comp=Z,4.4nm,0.6s,baz=116,slow=4.1,SNR=12
KBZ PKP **PKiKP** **04 03 50.0 -1.0**
comp=Z,8.5nm,0.9s,baz=96,slow=3.5,SNR=4.6
KBZ SKPbc **SKPbc** **04 06 28.0 -0.4**
comp=Z,3.8nm,0.7s,baz=95,slow=7.6,SNR=2.7
KBZ PP **PP** **04 06 51.0 +1.2**
comp=Z,9.6nm,0.9s,baz=77,slow=3.9,SNR=5.5
KIV Kislovodsk 139.13 312 P **PKPdf** **04 03 46.8 -2.1**
KIV Kislovodsk 139.13 312 *i* PKiKP **PKPdf** **04 03 47.1 -1.8**
KIV *e* 04 06 45.7
KIV *e*SS SS 04 24 14.4 -7.3
KIV *e*SSS SSS 04 29 40.9
KIV pmax pmax
comp=Z,22nm,1.1s
KIV Kislovodsk 139.13 312 *i* PKPdf **PKPdf** **04 03 47.6 -1.2**
SNR=6.2
OZAP Van, Ozalp-Mer 139.51 304⇑ P PKPpre 04 03 43.7
DOMB Dombas 139.75 354 *e*PKPdf PKPpre 04 03 42.5
AKN Aaknes 139.79 355 *e*PKPdf PKPpre 04 03 43.1
ERBR Yeremizino-Bor 139.99 316 *i* PKiKP **PKPdf** **04 03 50.5 +0.3**
ERBR pmax pmax
comp=Z,62nm,0.6s
LABN Labinsk 140.23 314 *i* PKiKP **PKPdf** **04 03 50.7 0.0**
LABN pmax pmax
comp=Z,34nm,0.7s
NB2 NORSAR Subarra140.47 352 PKP PKPpre 04 03 44.2
comp=Z,11nm,0.5s,baz=15,slow=4.0
NB2 pPKP **SKPbc** **04 06 32.0 +0.3**
comp=Z,23nm,0.9s,baz=16,slow=4.3
NOA NORSAR Array B140.47 352 PKhKP PKPpre 04 03 43.

SUE Sulen 141.05 357 ePKPdf PKPpre 04 03 47.3
SKAR Skarslia 141.16 354 ePKPdf PKPpre 04 03 47.4
SOC Sochi 141.28 313c iPKHKP PKPpre 04 03 47.5
SOC eSSS SSS 04 30 10.1
SOC pmax pmax
comp=Z,55nm,0.8s
LODK Lodwar 141.44 246 PKPpre 04 03 50.6
SHEL Horse Pasture 141.59 170 PKPdf 04 03 51.5 -2.5
SHEL Horse Pasture 141.59 170 PKHKP PKPpre 04 03 51.5
ASK Askoy 141.60 356 ePKPdf PKPpre 04 03 49.1
OSL Oslo 141.60 352 ePKPdf PKPpre 04 03 48.4
BER Bergen 141.69 356 ePKPdf PKPpre 04 03 49.4
MNK Minsk 141.75 334 iPKHKP PKPpre 04 03 48.9
MNK i 04 03 52.2
MNK i 04 06 05.8
MNK i 04 07 04.2
MNK iPPP PPP 04 10 16.6
MNK iSS SS 04 24 48.6 -1.6
MNK pmax pmax
comp=Z,33nm,0.9s
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=E,26nm,0.9s
MNK pmax pmax
comp=Z,58nm,0.9s
KONO Kongsberg 142.03 353 ePKPdf PKPdf 04 03 49.9 -3.5
ODD1 Odda 142.07 355 ePKPdf PKPdf 04 03 49.9 -3.7
ANN Anapa 142.33 316 iPKHKP PKPpre 04 03 50.4
ANN e 04 07 04.5
ANN pmax pmax
comp=E,35nm,1.2s
ANN pmax pmax
comp=N,50nm,0.8s
ANN pmax pmax
comp=Z,271nm,1.3s
BLS5 Blasjo 142.56 355 ePKPdf PKPdf 04 03 51.3 -3.1
KMY Karmoy 142.86 356 ePKPdf PKPdf 04 03 52.3 -2.6
MBAR Mbarara 142.87 236 PKPdf 04 03 56.0 -0.6
MBAR Mbarara 142.87 236 P PKPdf 04 03 55.0 -1.6
MBAR Mbarara 142.87 236 PKIKP PKPdf 04 03 56.0 -0.6
BORU Boraas 143.50 349 iP PKPab 04 03 53.6 -1.2
HOMB Homborsund 143.50 353 ePKPbc PKPbc 04 03 54.9 0.0
HOMB Homborsund 143.50 353 iP PKPab 04 03 54.2 -0.6
SNART Snartemo 143.57 354 ePKPbc PKPab 04 03 54.9 -0.2
SNART Snartemo 143.57 354 iP PKPab 04 03 54.0 -1.1
BIGH Upper Bighouse 143.59 4 eP PKPab 04 03 54.7 -0.4
LEWI Lewis, Hebride 143.68 7 eP PKPbc 04 03 54.6 -0.8
AKASG Malin Array Be 143.80 329 PKPbc 04 03 55.3 -0.8
AKASG Malin Array Be 143.80 329 PKP PKPbc 04 03 55.5 -0.6
comp=Z,103nm,0.4s,baz=44,slow=4.0,SNR=650
AKASG pPKP pPKPdf 04 06 15.6 +2.1
comp=Z,6.2nm,0.7s,baz=43,slow=4.1,SNR=3.1
AKASG SKPbc SKPbc 04 06 39.4 -0.8
comp=Z,23nm,0.9s,baz=44,slow=3.2,SNR=9.5
AKBB Malin Array Si 143.80 329 iPKHKP PKPpre 04 03 54.2
KIEV Kiev 143.81 329 PKPbc 04 03 55.3 -0.8
KIEV Kiev 143.81 329 ⇓P PKPbc 04 03 54.9 -1.2
KIEV Kiev 143.81 329 PKIKP PKPbc 04 03 55.3 -0.8
KIEV Kiev 143.81 329 iPKPbc PKPbc 04 03 55.0 -1.1
SNR=258
LINV Loch Inver, As 143.84 5 eP PKPbc 04 03 54.3 -1.6
ONAU Onsala 143.87 350 iP PKPbc 04 03 54.6 -1.4
SUW Suwalki 143.91 337 ePKP PKPbc 04 03 55.9 -0.4
FABU Falkenberg 144.10 349 iP PKPbc 04 03 55.7 -1.1
BLEU Blekinge 144.11 346 iP PKPbc 04 03 56.0 -0.9
OVD Ostervraa, Den 144.21 351 iP PKPbc 04 03 56.4 -0.7
SIM Simferopol' 144.38 318k iPKIKP PKPab 04 03 58.9 +0.3
SIM pmax pmax
comp=Z,310nm,0.6s
SIM pmax pmax
comp=Z,56nm,1.2s
DEL Delary 144.38 347 iP PKPdf 04 03 57.0 -0.6
MCD Coleburn Disti 144.54 4 eP PKPdf 04 03 56.6 -1.3
KPL Plockton 144.60 6 eP PKPdf 04 03 56.6 -1.4
BJUU Bjuv 144.92 348 iP PKPdf 04 03 58.4 -0.2
DIKM Dikmen 145.05 312 ⇓P PKPbc 04 04 00.6 +0.3
MUD Monsted U'grnd 145.19 352 iP PKPbc 04 03 59.7 -0.4
DRUM Mains of Drumt 145.25 3 eP PKPdf 04 03 59.6 +0.5
COP Copenhagen 145.40 348 iP PKPbc 04 04 00.9 +0.1
BSD Bornholm Skovb 145.41 345 iP PKPbc 04 04 00.5 -0.3
INVG Invergeldie, C 145.64 5 eP PKPdf 04 04 00.5 +0.7
LAWE Loch Awe, Argy 145.69 6 eP PKPdf 04 04 00.3 +0.5
BZK Bozkurt 145.78 313 ⇓P PKPbc 04 04 02.1 -0.2
SORM Soroca 145.90 326 ⇑P PKPdf 04 04 00.8 +0.3
PURM Purcari 146.06 323 ⇑P PKPdf 04 04 01.8 +1.0
SSRD Sdr. Stenderup 146.07 351 iP PKPbc 04 04 02.6 -0.1
R9F13 Warsaw-Wawer 146.08 337 ePKPdf PKPdf 04 04 01.3 +0.7
R9F13 ePKPab PKPbc 04 04 03.2 +0.4
EDI Edinburgh 146.20 4 eP PKPbc 04 04 02.5 -0.5
ESY Stoneypath 146.23 3 eP PKPbc 04 04 02.6 -0.5
KIS Kishinev 146.36 324 ePKP PKPbc 04 04 02.6 -1.1
comp=Z,300nm,1.4s
KIS Kishinev 146.36 324 ePKIKP PKPbc 04 04 02.6 -1.1
KIS pmax pmax
comp=Z,300nm,1.4s
MILM Milestii Mici 146.41 324 ePKP PKPbc 04 04 03.0 -0.9
MILM Milestii Mici 146.41 324 PKPM2 04 04 04.0
comp=Z,1μm,2.1s
MILM Milestii Mici 146.41 324 PKPM3 04 04 05.0
comp=Z,1μm,7.6s
MILM Milestii Mici 146.41 324 ⇓P PKPbc 04 04 03.3 -0.6
MILM Milestii Mici 146.41 324 dePKIKP PKPbc 04 04 03.0 -0.9
MILM i 04 07 17.0
MILM pmax pmax
comp=Z,340nm,0.7s
GKP Gorka Klasztor 146.46 342 ePKP PKPbc 04 04 03.4 -0.4
BEL Belsk 146.52 337 ePKP PKPbc 04 04 04.6 +0.6
CIDE Kastamonu/Cide 146.53 314 ⇑P PKPbc 04 04 04.5 +0.1
IDGL Inch Island, C 146.61 8 PKPdf PKPdf 04 04 02.0 +0.6
IDGL Inch Island, C 146.61 8 eP PKPbc 04 04 04.0 -0.1
ASCN Ascension 146.68 152 PKiKP 04 04 07.8 +0.1
DRBR Darabani 146.73 328 ⇓P PKPbc 04 04 04.4 -0.3
HWQ Hawqa 146.74 299 eP PKPbc 04 04 04.6 -0.7
CLGH Cloghs, Cushen 146.78 7 eP PKPbc 04 04 03.7 -0.9
EKA Eskdalemuir Ar 146.79 4 PKPbc PKPbc 04 04 04.3 -0.3
comp=Z,62nm,0.7s,baz=283,slow=1.4,SNR=157
EKA pPKPbc pPKPbc 04 06 20.6 +1.2
comp=Z,8.9nm,0.9s,baz=332,slow=3.3,SNR=5.3
EKA SKKPbc SKKPbc 04 14 33.3 -5.4
comp=Z,1.2nm,0.8s,baz=152,slow=7.8,SNR=3.9
ESK Eskdalemuir 146.80 4 PKPdf 04 04 01.9 +0.1
ESK Eskdalemuir 146.80 4 PKIKP PKPdf 04 04 01.9 +0.1
NEWG New Galloway 146.92 5 eP PKPbc 04 04 04.0 -1.0
BR131 Keskin Array S 146.93 310 P PKPdf 04 04 02.2 -0.5
SNR=86
BRTR Keskin Array B 146.93 310 PKPdf 04 04 02.7 0.0
BRTR Keskin Array B 146.93 310 PKPbc PKPbc 04 04 05.7 -0.1
comp=Z,69nm,0.7s,baz=137,slow=4.1,SNR=159
BRTR pPKPbc pPKPab 04 06 21.5 +1.4
comp=Z,2.2nm,0.8s,baz=106,slow=3.1,SNR=1.8
BRTR SKKPbc SKKPbc 04 14 31.2 -6.2
comp=Z,2.5nm,1.1s,baz=222,slow=3.7,SNR=6.2
KIRS Kirsehir-Merke 146.94 308 ⇓P PKPdf 04 04 01.6 -1.0
BHL Bhannes 147.06 298 eP PKPbc 04 04 05.6 -0.5
GAL1 Galloway 147.13 6 eP PKPbc 04 04 04.5 -1.0
VASR Vaslui 147.13 324 ⇓P PKPbc 04 04 05.9 0.0
EDMD Edmundbyers 147.35 3 eP PKPdf 04 04 04.3 +1.6
MMAI Mount Meron Ar 147.43 297 PKPbc PKiKP 04 04 08.4 -0.3
comp=Z,173nm,0.6s,baz=59,slow=2.4,SNR=190
MMAI pPKPbc pPKPab 04 06 22.4 +0.5
comp=Z,17nm,1.0s,baz=60,slow=4.2,SNR=3.1
TLCR 147.44 322 ⇑P PKPbc 04 04 06.0 -0.6
VLDR Vladesti 147.47 323 ⇑P PKPbc 04 04 06.6 -0.1
ANTO Ankara 147.47 310 PKPdf 04 04 03.9 +0.4
ANTO Ankara 147.47 310 P PKPdf 04 04 02.9 -0.6
ANTO Ankara 147.47 310 ⇓P PKPbc 04 04 07.2 +0.1
ANTO Ankara 147.47 310 PKIKP PKPdf 04 04 03.9 +0.4
PRAR RASCA 147.49 327 ⇑P PKPbc 04 04 07.4 +0.6
KWP Kalwaria Pacla 147.51 333 ePKP PKPbc 04 04 06.6 -0.1
KESW Keswick, Cumbr 147.53 4 eP PKPbc 04 04 05.4 -1.2
VARL Varlezi 147.56 323 ⇑P PKPbc 04 04 05.8 -1.2
TATR Tatarca 147.63 323 ⇑P PKPbc 04 04 07.0 -0.1
JURR Jurilovca 147.65 321 ⇑P PKPbc 04 04 07.4 +0.3
IOMK Kirk Michael 147.74 6 eP PKPbc 04 04 05.3 -1.8
ILTH Belurgan, Co L 147.78 8 PKPdf PKPdf 04 04 03.2 -0.2
ILTH Belurgan, Co L 147.78 8 eP PKPbc 04 04 06.8 -0.3
GDLE Glaisdale, N Y 147.80 2 eP PKPbc 04 04 06.2 -1.0
BURAR Bucovina Array 147.82 328 PKPdf 04 04 04.5 +0.6
BURAR Bucovina Array 147.82 328 ⇓P PKiKP 04 04 08.5 -0.6
TESR Tescani 147.83 325 ⇑P PKPbc 04 04 06.9 -0.8
CFR Carcaliu 147.83 322 ⇓P PKPbc 04 04 07.3 -0.4

TUDR 147.85 323 ⇑P PKPbc 04 04 07.5 -0.2
TPGR Topolog 147.86 321 ⇑P PKPbc 04 04 07.7 -0.1
COSR Cosmesti PH 147.88 324 ⇓P PKiKP 04 04 08.7 -0.4
IGLA Glengowla, Co 147.91 11 PKPdf PKPdf 04 04 03.5 -0.1
PANC Panciu 147.96 324 ⇓P PKPbc 04 04 08.3 +0.3
H07S1 FLORES T-PHASE 148.00 50 PKPbc PKPbc 04 04 08.6 +0.2
SNR=48
ONER Baraj Valea Uz 148.08 325 ⇓P PKPbc 04 04 08.8 +0.5
ODBI Odobesti 148.08 324 ⇓P PKiKP 04 04 09.5 -0.1
TIRR Tirgusor 148.09 321 ⇑P PKPbc 04 04 07.9 -0.4
RUE Ruedersdorf 148.09 345 ePKPbc PKiKP 04 04 08.7 -0.5
baz=19,slow=2.3
TSCT Constanta Port 148.12 320 ⇑P PKPbc 04 04 08.8 +0.4
GORT1 Trebel 148.17 348 ePKPbc PKiKP 04 04 08.9 -0.5
baz=19,slow=2.3
EFOR EFORIE 148.18 320 ⇓P PKiKP 04 04 09.2 -0.5
VRI Vrincioaia 148.20 324 ⇓P PKPbc 04 04 07.7 -0.9
OJC Ojcow 148.20 336 ePKP PKPbc 04 04 08.2 -0.2
KOLS Kolonicke sedl 148.22 332 ePKHKP PKPpre 04 04 04.9
KOLS Kolonicke sedl 148.22 332 ePKP PKPdf 04 04 04.9 +0.6
KOLS e 04 04 09.7
KOLS e 04 06 29.9
HPK Haverah Park 148.24 2 eP PKPbc 04 04 06.7 -1.7
HARR Harsova 148.24 321 ⇓P PKPbc 04 04 09.2 +0.5
MFTR Murfatlar 148.25 320 ⇑P PKPdf 04 04 04.7 +0.3
PLOR Plostina 148.25 324 ⇑P PKPbc 04 04 08.3 -0.5
TLBR Topalu 148.26 321 ⇑P PKPbc 04 04 09.0 +0.3
MANR Mangalia 148.35 320 ⇑P PKiKP 04 04 09.7 -0.4
TSMN Mangalia Port- 148.36 320 ⇑P PKPbc 04 04 09.4 +0.4
CVDA Cernavoda 148.38 321 ⇑P PKiKP 04 04 10.0 -0.1
SAHE Sakarya_HENDEK 148.40 313 ⇑P PKPbc 04 04 09.0 -0.3
BISRR Bisoca 148.41 324 ⇑P PKiKP 04 04 10.0 -0.3
TURR Turia 148.46 325 ⇓P PKPbc 04 04 09.6 +0.4
DSB Dublin 148.54 8 PKPdf PKPdf 04 04 04.5 -0.2
OZUR 148.55 325 ⇑P PKPbc 04 04 09.8 +0.3
WPS Cemaes, Angles 148.60 6 eP PKPbc 04 04 08.0 -1.3
BMR Baia Mare 148.61 330 ⇑P PKPbc 04 04 09.8 +0.3
ARCR ARCALIA 148.61 328 ⇑P PKiKP 04 04 10.3 -0.3
BOSR Bodos 148.63 325 ⇑P PKiKP 04 04 10.5 -0.2
ICOR Ion Corvin 148.65 321 ⇑P PKPbc 04 04 10.2 +0.5
NIE Niedzica 148.66 335 ePKP PKPbc 04 04 10.1 +0.5
NEHR Nehoiu 148.71 324 ⇑P PKPbc 04 04 09.7 -0.2
PSN Preselentsi 148.72 320 iP PKPbc 04 04 10.0 +0.1
RETH Rethem/Aller, 148.76 350 ePKPbc PKiKP 04 04 10.3 -0.3
baz=19,slow=2.3
ISR Istrita 148.77 323 ⇓P PKPbc 04 04 10.3 +0.3
LMK Market Rasen 148.78 1 eP PKPdf 04 04 07.2 +2.2
FLTG Flechtingen 148.80 347 ePKPbc PKPbc 04 04 10.2 +0.4
baz=19,slow=2.3
DOPR Dopca 148.84 326 ⇑P PKiKP 04 04 11.0 -0.2
MLR Muntele Rosu 148.86 324 ⇓P PKPbc 04 04 10.4 0.0
NRDL Niedersach Rie 148.87 349 ePKPbc PKiKP 04 04 10.5 -0.3
baz=19,slow=2.3
KSP Ksiaz 148.87 341 ePKP PKiKP 04 04 10.5 -0.5
TGMR Targu Mures 148.91 327 ⇓P PKiKP 04 04 10.9 -0.3
LEHL Lehliu 149.01 322 ⇑P PKPbc 04 04 11.0 +0.4
CICN Ciocanesti 149.05 321 ⇑P PKiKP 04 04 11.6 0.0
SILT Sile 149.07 314 ⇑P PKPbc 04 04 09.2 -1.6
STNC Stoke 149.08 3 eP PKPbc 04 04 09.3 -1.1
ASSE Asse, Remlinge 149.11 348 ePKPbc PKiKP 04 04 11.2 -0.2
baz=19,slow=2.3
OKC Ostrava-Krasne 149.12 338⇑ ePKP PKiKP 04 04 11.3 -0.2
OKC Ostrava-Krasne 149.12 338 ePKHKP PKPpre 04 04 11.3
OSTC Ostas 149.14 340⇑ ePKP PKiKP 04 04 11.8 +0.2
OSTC epPKP pPKPab 04 06 32.2 +4.2
OSTC Ostas 149.14 340 ePKP2 PKiKP 04 04 11.8 +0.2
VAL Valentia 149.15 13 PKPdf PKPdf 04 04 05.7 +0.1
CHVC Chvalec 149.16 341⇑ ePKP PKiKP 04 04 11.5 -0.1
CHVC Chvalec 149.16 341 ePKP2 PKiKP 04 04 11.5 -0.1
STEB Steborice 149.17 338 ePKPDF PKPdf 04 04 06.4 +0.6
STEB ⇑ePKP PKiKP 04 04 11.5 -0.1
PLAR PLOIESTI 149.18 323 ⇓P PKiKP 04 04 11.7 -0.1
LANS Liptovska Anna 149.20 335 ePKHKP PKPpre 04 04 06.7
LANS Liptovska Anna 149.20 335 ePKP PKPdf 04 04 06.7 +0.8
LANS e 04 04 12.2
LANS e 04 06 32.9
SULR 149.20 323 ⇑P PKPbc 04 04 10.2 -0.9
FOEL Foel Wylfa 149.22 4 eP PKPbc 04 04 10.2 -0.6
CBBR Cluj-Babes-Bol 149.23 328 ⇑P PKiKP 04 04 11.7 -0.1
MESR Meseseni 149.24 329 ⇓P PKPdf 04 04 06.5 +0.5
CJR Cluj-Napoca 149.24 328 ⇑P PKiKP 04 04 11.6 -0.4
MDB Medias 149.25 327 ⇑P PKiKP 04 04 11.8 -0.1
UPC Upice 149.25 341⇑ ePKP PKiKP 04 04 11.4 -0.4
UPC Upice 149.25 341 ePKHKP PKPpre 04 04 11.4
DPC Dobruska-Polom 149.29 340 ePKPDF PKPdf 04 04 08.5 +2.5
DPC ⇑ePKHKP PKiKP 04 04 12.1 +0.2
DPC Dobruska-Polom 149.29 340 ePKHKP PKPpre 04 04 08.5
KECS Kecovo 149.32 334 ePKP2 PKiKP 04 04 12.4 +0.4
KECS Kecovo 149.32 334 ePKP PKiKP 04 04 12.4 +0.4
IWEX Carrickbyrne, 149.34 9 PKPdf PKPbc 04 04 10.6 -0.5
IWEX Carrickbyrne, 149.34 9 eP PKPbc 04 04 10.8 -0.3
CLL Collm 149.36 345 ePKIKP PKPdf 04 04 05.0 -1.0
CLL i 04 04 18.8
CLL pmax pmax
comp=Z,458nm,0.9s
CLL pmax pmax
comp=Z,184nm,0.8s
CLL Collm 149.36 345 ePx Px 04 04 02.0
CLL Collm 149.36 345 ePKPbc PKiKP 04 04 11.7 -0.2
baz=19,slow=2.3
VOIR 149.37 325 ⇓P PKPbc 04 04 10.9 -0.6
MORC Moravsky Berou 149.38 338 ePKP PKPdf 04 04 05.9 -0.3
MORC e 04 04 11.5
MORC Moravsky Berou 149.38 338 ⇓P PKPbc 04 04 11.3 0.0
KRLC Kraliky 149.38 339 ePKPDF PKPdf 04 04 06.6 +0.4
KRLC ⇑ePKP PKiKP 04 04 12.1 0.0
KRLC Kraliky 149.38 339 ePKHKP PKPpre 04 04 06.6
IBBN Ibbenburen 149.43 351 ePKPbc PKiKP 04 04 11.9 -0.1
baz=19,slow=2.3
PRD Provadia 149.43 319 iP PKPbc 04 04 11.6 0.0
CLZ Clausthal 149.44 348 ePKPbc PKiKP 04 04 12.3 +0.1
baz=19,slow=2.3
MARR Marisel-Cluj 149.50 329 ⇓P PKPbc 04 04 11.6 -0.3
MTUR Matau 149.50 325 ⇓P PKiKP 04 04 13.0 +0.4
WACR West Acre 149.52 360 eP PKPbc 04 04 09.6 -1.9
BRG Berggiesshubel 149.52 343 ePKPbc PKiKP 04 04 12.4 +0.1
baz=19,slow=2.3
BRG Berggiesshubel 149.52 343⇓ ePKPf 04 04 06.7
BRG Amp 04 04 07.2
comp=Z,44nm,1.4s
BRG ⇑PKPb 04 04 11.7
BRG Amp 04 04 12.9
comp=Z,297nm,0.7s
BRG PKPab PKPab 04 04 18.7 -0.5
BRG Amp 04 04 20.5
comp=Z,73nm,0.8s
BRG pPKP pPKPbc 04 06 27.3 +0.2
BRG Amp 04 06 38.3
comp=Z,63nm,1.2s
BRG Berggiesshubel 149.52 343 PP PP 04 07 48.0 -2.3
HLM1 Long Mynd 149.61 4 eP PKPdf 04 04 06.3 -0.1
DRGR 149.61 329 ⇑P PKPbc 04 04 11.5 -0.6
MAUC Maruska 149.63 337 ePKPDF PKPdf 04 04 07.6 +1.0
MAUC ⇑ePKP PKiKP 04 04 13.1 +0.5
TNR Turnu Rosu 149.64 326 ⇑P PKPbc 04 04 12.4 +0.3
ARR Arges 149.64 325 ⇓P PKiKP 04 04 13.1 +0.2
PVCC Panska Ves 149.66 342⇑ ePKP PKiKP 04 04 12.6 0.0
PVCC Panska Ves 149.66 342 ePKHKP PKPpre 04 04 12.6
NEUB Neuenburg 149.74 346 ePKPbc PKiKP 04 04 12.7 0.0
baz=19,slow=2.3
RICC Richard 149.78 343⇑ ePKP PKiKP 04 04 13.1 +0.3
GTTG Gottingen 149.80 348 ePKPbc PKiKP 04 04 12.9 +0.1
baz=19,slow=2.3
BORR Bors 149.83 331 ⇑P PKiKP 04 04 13.3 +0.2
VYHS Vyhne 149.97 335 ePKIKP PKPdf 04 04 07.0 -0.1
VYHS Vyhne 149.97 335 ePKP PKPdf 04 04 07.0 -0.1
VYHS e 04 04 13.1
VYHS e 04 04 22.2
VYHS e 04 06 33.0
HUMR Humele 150.00 324 ⇓P PKPbc 04 04 12.7 -0.2
RSBS Rosebush, Pemb 150.01 7 eP PKPbc 04 04 10.8 -1.9
PSZ Piszkesteto 150.01 334 ⇑P PKPbc 04 04 12.5 -0.5
LOT Lotru 150.03 326 ⇓P PKPbc 04 04 12.8 -0.4
PCED Cedros 150.08 50 ePKP PKiKP 04 04 14.0 +0.2
VRAC Vranov 150.10 339 ePKP PKPdf 04 04 06.9 -0.4
VRAC e 04 04 13.2
VRAC Vranov 150.10 339 ⇓P PKPbc 04 04 12.6 -0.4
CALA Caldeira 150.10 50 ePKP PKPbc 04 04 13.6 +0.1
JAVC Velka Javorina 150.11 337 ePKP PKPdf 04 04 08.0 +0.6
JAVC e 04 04 14.3
PRA Prague 150.11 342⇑ ePKP PKiKP 04 04 13.7 +0.2

PRA Prague 150.11 342 ePKHKP PKPpre 04 04 13.7
MCH1 Michaelchurch 150.12 4 eP PKPbc 04 04 11.8 -1.1
COPA Copaceanca 150.12 323 ⇑P PKPbc 04 04 13.1 -0.1
GOPC GO Pecny, Ondr 150.14 341⇑ ePKP PKPbc 04 04 13.3 +0.2
GOPC GO Pecny, Ondr 150.14 341 ePKHKP PKPpre 04 04 13.3
ELMS Elmsett, Ipswi 150.15 359 eP PKPbc 04 04 12.2 -0.8
PRU Pruhonice 150.15 342⇑ ePKP PKPbc 04 04 13.3 +0.2
PRU ePKPAB PKPab 04 04 22.9 +1.1
PRU epPKP pPKPab 04 06 34.2 +2.2
PRU Pruhonice 150.15 342 ePKHKP PKPpre 04 04 13.3
DEV Deva 150.17 328 ⇑P PKPbc 04 04 13.5 +0.3
HOR Horta 150.18 50 ePKP PKiKP 04 04 14.8 +0.7
PHSR Pinarhisar 150.20 317 ⇑P PKPbc 04 04 13.4 -0.1
SZH Strazhitsa 150.22 321 iP PKPbc 04 04 13.2 -0.3
MONM Monmouth 150.29 4 eP PKPbc 04 04 12.5 -0.8
MOX Moxa 150.31 346 ePKPbc PKiKP 04 04 13.9 0.0
baz=19,slow=2.3
PCAN Candelaria 150.31 50 ePKP PKiKP 04 04 15.0 +0.6
TANN Tannenbergstha 150.32 345 ePKPbc PKiKP 04 04 14.2 +0.1
baz=19,slow=2.3
PICO Pico 150.33 50 ePKP PKPbc 04 04 14.1 +0.1
BSZH Besenyszg 150.34 332 ⇑P PKiKP 04 04 14.7 +0.6
BUG Bochum--Univer 150.34 352 ePKPbc PKiKP 04 04 13.8 -0.2
baz=19,slow=2.3
ROSA Rosais 150.37 50 ePKP PKPdf 04 04 09.1 +1.1
SRBC Serra Branca 150.38 49 ePKP PKiKP 04 04 15.4 +0.9
KRUC Moravsky 150.38 339 ePKP PKPdf 04 04 07.0 -0.7
KRUC e 04 04 13.6
STRD Stroud 150.39 3 eP PKPbc 04 04 12.7 -0.9
KASTN Kahler Asten 150.40 350 ePKPbc PKiKP 04 04 14.2 0.0
baz=19,slow=2.3
PGRA Graciosa 150.42 49 ePKP PKPab 04 04 22.8 -0.6
PPNO Prainha do Nor 150.46 50 ePKP PKiKP 04 04 15.8 +1.0
TREC Trest 150.47 340⇑ ePKP PKPbc 04 04 13.9 0.0
TREC Trest 150.47 340 ePKIKP PKPbc 04 04 13.9 0.0
BAND Balkesir-Ban 150.48 314 ⇑P PKPbc 04 04 13.2 -1.0
OLDB Oldbury-Upon-S 150.48 4 eP PKPbc 04 04 11.2 -2.6
SMOL Smolenice 150.48 337 ePKIKP PKiKP 04 04 15.2 +0.8
UBBA Unterbreizbach 150.49 348 ePKPbc PKiKP 04 04 14.1 -0.1
baz=19,slow=2.3
SIRR Siria 150.49 330 ⇑P PKPbc 04 04 13.6 -0.5
PMAN Manadas 150.52 50 ePKP PKiKP 04 04 15.1 +0.3
PID Ribeirinha 150.58 50 ePKP PKPbc 04 04 14.1 -0.4
GZR Gura Zlata 150.58 327 ⇑P PKPbc 04 04 14.3 -0.1
SURR Surduc 150.65 328 ⇑P PKPbc 04 04 13.9 -0.4
MODS Modra-Piesok 150.66 337 ePKIKP PKPdf 04 04 07.5 -0.7
MODS e 04 04 24.5
MODS Modra-Piesok 150.66 337 ePKP PKPdf 04 04 07.5 -0.7
MODS e 04 04 14.1
MODS e 04 04 24.5
MODS e 04 06 33.7
VLAD Vladila 150.66 323 ⇓P PKPbc 04 04 14.3 -0.1
SRO Srobarova 150.73 335 ePKIKP PKiKP 04 04 15.2 +0.3
SRO Srobarova 150.73 335 ePKP PKiKP 04 04 15.1 +0.2
SRO e 04 06 36.3
ZVC Zvikov 150.74 342 ePKPDF PKPdf 04 04 09.2 +0.9
ZVC ⇑ePKP PKiKP 04 04 15.0 +0.1
MANZ Manzenberg 150.80 345 ePKPbc PKiKP 04 04 15.3 +0.3
baz=19,slow=2.3
SRE Strehaia 150.86 326 ⇑P PKPbc 04 04 14.5 -0.5
WOL Wolverton 150.90 2 eP PKPbc 04 04 13.8 -0.9
HTL Hartland 150.98 7 eP PKPbc 04 04 13.2 -1.7
ROTZ Rotzenmuhle 150.98 344 ePKPbc PKiKP 04 04 15.5 +0.1
baz=19,slow=2.3
BZS Buzias 150.99 329 ⇓P PKPbc 04 04 14.4 -0.7
PSBA Serra de Santa 151.00 49 ePKP PKPdf 04 04 10.8 +1.7
TIM Timisoara 151.09 329 ⇑P PKiKP 04 04 15.9 +0.2
PAGU Agualva, Azore 151.09 49 ePKP PKPdf 04 04 10.5 +1.4
ADH Angra Heroismo 151.11 49 ePKP PKPbc 04 04 12.7 -3.0
HERR Herculane 151.12 327 ⇑P PKPbc 04 04 15.4 -0.1
BEBN Eben Emael 151.17 353 dPKPdf PKPbc 04 04 15.5 +0.1
BEBN dPKPab PKPab 04 04 26.1 +0.1
PSCM Serra do Cume 151.17 49 ePKP PKPdf 04 04 10.9 +1.6
DIM Dimitrovgrad 151.18 319 iP PKiKP 04 04 16.2 +0.2
KHC Kasperske Hory 151.20 342 ePKPDF PKPdf 04 04 09.5 +0.5
KHC ⇑ePKP PKiKP 04 04 15.9 0.0
KHC ePKPAB PKPab 04 04 27.1 +0.8
KHC epPKP pPKPab 04 06 37.0 +0.7
KHC AMS AMS 05 14 50.0
comp=Z,500nm,25.7s
KHC Kasperske Hory 151.20 342 ePKIKP PKPdf 04 04 09.5 +0.5
KHC e 04 04 27.1
KHC MLR MLR
comp=Z,500nm,25.7s
TAVA DENIZLI_Tavas 151.22 308 ⇓P PKiKP 04 04 16.7 +0.3
DJES Djerdap 151.22 326 ⇓P PKPbc 04 04 14.4 -1.4
CKRC Cesky Krumlov 151.26 341 ePKPDF PKPdf 04 04 09.4 +0.3
CKRC ⇑ePKP PKiKP 04 04 16.0 0.0
CKRC ePKPAB PKPab 04 04 27.2 +0.6
CKRC ex x 04 06 33.8
CKRC AMS AMS 05 14 50.0
comp=Z,300nm,23.8s
CKRC Cesky Krumlov 151.26 341 ePKIKP PKPdf 04 04 09.4 +0.3
CKRC e 04 04 27.2
CKRC MLR MLR
comp=Z,300nm,23.8s
PUNG Punghina 151.27 325 ⇑P PKiKP 04 04 16.1 0.0
GRFO Grafenberg 151.29 346 PKPdf 04 04 09.7 +0.6
GRFO PKiKP 04 04 16.2 +0.2
GRFO Grafenberg 151.29 346 PKIKP PKiKP 04 04 09.7 +0.6
UCC Uccle 151.29 355 dPKPdf PKPdf 04 04 09.0 0.0
UCC dPKPbc PKPbc 04 04 15.2 -0.4
MEM Membach 151.32 353 dPKPdf PKPdf 04 04 08.9 -0.2
MEM dPKPbc PKPbc 04 04 15.9 +0.1
MEM dPKPab PKPab 04 04 26.4 -0.3
BTNL Ternell 151.32 353 dPKPdf PKPdf 04 04 09.3 +0.2
BTNL dPKPbc PKPbc 04 04 15.7 -0.1
BTNL dPKPab PKPab 04 04 26.6 -0.2
TNS Taunus Mts 151.34 349 ePKPbc PKiKP 04 04 16.3 +0.1
baz=19,slow=2.3
WET Wettzell 151.38 343 ePKPbc PKiKP 04 04 16.4 +0.1
baz=19,slow=2.3
BSTI Sart Tilman 151.39 353 dPKPdf PKPdf 04 04 09.0 -0.1
BSTI dPKPbc PKPbc 04 04 15.9 0.0
BSTI dPKP PKPab 04 04 27.1 +0.1
VALD Valchedram 151.39 324 iP PKiKP 04 04 16.7 +0.3
BANR Banloc 151.39 329 ⇓P PKiKP 04 04 16.6 +0.3
GEC2 GERESS Array S 151.42 342 ePKPbc PKiKP 04 04 16.4 0.0
baz=19,slow=2.3
GERES GERESS Array B 151.42 342 PKPdf 04 04 10.2 +0.7
GERES GERESS Array B 151.42 342 PKP PKPdf 04 04 09.8 +0.4
comp=Z,5.2nm,0.8s,baz=11,slow=1.4,SNR=37
GERES PKPbc PKPbc 04 04 15.7 -0.4
comp=Z,35nm,0.5s,baz=15,slow=2.0,SNR=197
GERES PKPab PKPab 04 04 27.8 +0.4
comp=Z,18nm,0.6s,baz=27,slow=5.3,SNR=9.1
GERES pPKPbc pPKPbc 04 06 33.8 +1.6
comp=Z,38nm,1.1s,baz=36,slow=2.5,SNR=7.7
MPEP Malo Peshtene 151.44 323 iP PKPbc 04 04 16.3 0.0
CONA Conrad Observa 151.54 338 ePKP PKPdf 04 04 09.7 +0.1
comp=Z,11nm,0.9s,SNR=14
CONA ePKP PKPab 04 04 28.3 +0.5
comp=Z,3.7nm,0.4s
CONA iPKP pPKPab 04 06 37.7 -0.1
SNR=7.2
MDVR Moldovita 151.54 327 ⇓P PKPbc 04 04 15.8 -0.7
BHOU Houvegnez 151.57 353 dPKPdf PKPdf 04 04 09.5 0.0
BHOU dPKPbc PKiKP 04 04 16.8 +0.2
BHOU dPKPab PKPab 04 04 27.7 0.0
RONA Rosalia, Austr 151.58 337 iPKP PKPdf 04 04 09.7 +0.1
comp=Z,14nm,1.1s,SNR=11
RONA ePKP PKPab 04 04 28.5 +0.5
comp=Z,3.3nm,0.4s
RONA iPKP pPKPab 04 06 36.8 -1.0
SNR=6.4
BCLA Clavier 151.58 354 dPKPdf PKPdf 04 04 09.9 +0.5
BCLA dPKPbc PKPbc 04 04 16.4 +0.1
BCLA dPKP PKPab 04 04 26.7 -1.1
BGES Gesves 151.64 354 dPKPbc PKPbc 04 04 16.3 -0.2
BGES dPKPab PKPab 04 04 27.9 -0.1
BMRD Maredsous 151.75 354 dPKPdf PKPdf 04 04 08.8 -0.9
BMRD dPKPbc PKiKP 04 04 17.0 +0.1
BMRD dPKP PKPab 04 04 28.6 +0.1
MORH Mrgy, Hungar 151.88 333 ⇓P PKPbc 04 04 16.3 -0.8
RZN Rozhen 151.89 319 iP PKPbc 04 04 17.0 -0.6
EZN Ezine 151.93 315 ⇓P PKPbc 04 04 17.2 -0.2
DOU Dourbes 151.97 354 dPKPdf PKPdf 04 04 10.2 +0.2
DOU dPKPbc PKiKP 04 04 17.3 -0.1
DOU dPKP PKPab 04 04 29.3 -0.1
MOA Molln 152.13 340 iPKP PKPdf 04 04 10.0 -0.4
comp=Z,15nm,1.5s,SNR=10
MOA iPKP PKPbc 04 04 17.6 -0.1

	comp=Z,17nm,0.5s,SNR=13								
MOA				*e*PKP	**PKPab**	04 04 30.8	+0.5		
	comp=Z,4.9nm,0.6s								
FRGS	**Fruska Gora**	**152.18**	**330**	⇓*i*P	**PKPdf**	04 04 09.5	-1.1		
WLF	**Walferdange**	**152.23**	**352**	*d*PKPdf	**PKPdf**	04 04 11.0	+0.6		
WLF				*d*PKPbc	**PKiKP**	04 04 18.3	+0.4		
WLF				*d*PKPab	**PKPab**	04 04 31.2	+0.6		
WLF	**Walferdange**	**152.23**	**352**	*e*PKPbc	**PKiKP**	04 04 18.7	+0.7		
	baz=19,slow=2.3								
ARSA	**Arzberg**	**152.24**	**338**	*i* PKP	**PKPdf**	04 04 10.1	-0.5		
	comp=Z,1.5nm,0.5s,SNR=5.7								
ARSA				*ep*PKP	**pPKPab**	04 06 39.3	-1.2		
	comp=Z,23nm,1.4s								
BOVS	**Bovan**	**152.35**	**326**	⇓P	**PKPbc**	04 04 18.1	-0.2		
BDRM	**Kayabasi**	**152.45**	**309**	⇑P	**PKPbc**	04 04 18.5	-0.2		
BIOA	**Bad Ischl, Aus**	**152.47**	**341**	*e*PKP	**PKPdf**	04 04 10.9	0.0		
BIOA				*i* PKP	**PKPdf**	04 04 11.0	+0.1		
	comp=Z,11nm,0.9s								
BIOA				*i* PKP	**PKPbc**	04 04 18.3	-0.2		
	comp=Z,12nm,0.5s,SNR=6.6								
BIOA				*e*PKP	**PKPbc**	04 04 18.4	0.0		
	comp=Z,2.0nm,0.4s,SNR=8.8								
BIOA				*e*PKP	**PKPab**	04 04 32.1	+0.3		
	comp=Z,8.2nm,0.4s								
BIOA				*e*PKP	**PKPab**	04 04 32.4	+0.7		
	comp=Z,2.2nm,0.4s								
BIOA	**Bad Ischl, Aus**	**152.47**	**341**	*e*P	**PKPbc**	04 04 18.4	0.0		
	comp=Z,2.0nm,0.4s,SNR=8.8								
PSET	**Sete Cidades**	**152.55**	**50**	*e*PKP	**PKPdf**	04 04 13.0	+1.7		
STU	**Stuttgart**	**152.60**	**348**	*e*PKPbc	**PKiKP**	04 04 19.1	+0.3		
	baz=19,slow=2.3								
KOGS	**Kog**	**152.65**	**336**	*i* PKPdf	**PKPdf**	04 04 10.2	-1.0		
KOGS				*i* PKPbc	**PKPbc**	04 04 17.9	-0.9		
KOGS				*i* PKPab	**PKPab**	04 04 32.4	-0.1		
KOGS				*i*		04 06 36.2			
KOGS				*i* pPKPbc	**pPKPab**	04 06 39.5	-2.7		
KOGS				*i* pPKPab	**SKPdf**	04 04 49.0	+0.3		
FUR	**Furstenfeldbru**	**152.70**	**344**	*e*PKPbc	**PKiKP**	04 04 19.1	+0.1		
	baz=19,slow=2.3								
CMLA	**Cha da Macela**	**152.71**	**49**	*e*PKP	**PKPdf**	04 04 13.2	+1.6		
TEKS	**Tekeris**	**152.78**	**329**	⇓*i*P	**PKPdf**	04 04 08.1	-3.4		
PGRON	**Lagoa das Cont**	**152.81**	**49**	*e*PKP	**PKPdf**	04 04 13.0	+1.2		
SOKA	**Soboth**	**152.90**	**338**	*i* PKP	**PKPdf**	04 04 11.1	-0.6		
	comp=Z,12nm,1.2s,SNR=23								
SOKA				*e*PKP	**PKPab**	04 04 33.5	-0.2		
	comp=Z,4.1nm,0.6s								
SOKA				*i* pPKP	**pPKPab**	04 06 40.2	-3.2		
	comp=Z,31nm,1.1s,SNR=6.1								
BART	**Pico Bartolome**	**152.96**	**49**	*e*PKP	**PKPdf**	04 04 12.6	+0.6		
LESA	**Schwarzleotal**	**153.00**	**342**	*i* PKP	**PKPdf**	04 04 11.3	-0.5		
	comp=Z,32nm,1.4s,SNR=21								
LESA				*e*PKP	**PKPab**	04 04 34.5	+0.4		
	comp=Z,6.7nm,0.5s								
KBA	**Koelnbreinsper**	**153.11**	**340**	*ep*PKP	pPKiKP	04 06 39.8	+3.5		
BFO	**Black Forest**	**153.19**	**348**		**PKPdf**	04 04 12.0	+0.1		
BFO					**PKPbc**	04 04 19.6	-0.4		
BFO	**Black Forest**	**153.19**	**348**	PKIKP	**PKPdf**	04 04 12.0	+0.1		
BFO						04 04 19.6			
BFO	**Black Forest**	**153.19**	**348**	*e*PKPbc	**PKiKP**	04 04 20.1	+0.1		
	baz=19,slow=2.3								
OBKA	**Obir**	**153.21**	**338**	⇓*i*P	**PKPdf**	04 04 10.4	-1.7		
OBKA	**Obir**	**153.21**	**338**	*i* PKP	**PKPdf**	04 04 11.6	-0.5		
	comp=Z,5.2nm,1.0s								
OBKA				*i* PKP	**PKPbc**	04 04 19.7	-0.5		
	comp=Z,8.7nm,0.6s,SNR=4.5								
OBKA				*e*PKP	**PKPab**	04 04 35.1	+0.1		
	comp=Z,1.0nm,0.3s								
OBKA	**Obir**	**153.21**	**338**	*e*P	**PKPbc**	04 04 19.7	-0.5		
	comp=Z,8.7nm,0.6s,SNR=4.5								
PSMA	**Santa Maria**	**153.34**	**51**	*e*PKP	**PKPdf**	04 04 11.6	-0.8		
BBLS	**Lazi&#263i**	**153.34**	**329**	⇓*i*P	**PKPdf**	04 04 11.3	-1.1		
PSMN	**Pico do Norte,**	**153.38**	**51**	*e*PKP	**PKPdf**	04 04 13.3	+0.8		
WATA	**Walderalm**	**153.38**	**343**	*i* PKP	**PKPdf**	04 04 12.1	-0.3		
	comp=Z,23nm,1.0s,SNR=6.9								
WATA				*i* PKP	**PKPab**	04 04 36.5	+0.8		
	comp=Z,6.7nm,0.4s,SNR=4.5								
WATA				*ep*PKiKP	**pPKPbc**	04 06 36.8	+0.2		
	comp=Z,12nm,1.0s								
MYKA	**Terra Mystica**	**153.41**	**340**	*i* PKP	**PKPdf**	04 04 11.6	-0.8		
	comp=Z,18nm,1.8s,SNR=8.2								
MYKA				*i* PKP	**PKPbc**	04 04 20.0	-0.6		
	comp=Z,17nm,0.5s,SNR=8.5								
MYKA				*e*PKP	**PKPab**	04 04 35.7	-0.1		
	comp=Z,7.4nm,0.5s								
MYKA	**Terra Mystica**	**153.41**	**340**	*e*P	**PKPbc**	04 04 20.0	-0.6		
	comp=Z,17nm,0.5s,SNR=8.5								
WTTA	**Wattenberg**	**153.44**	**343**	*i* PKP	**PKPdf**	04 04 12.4	-0.2		
	comp=Z,28nm,0.9s,SNR=14								
WTTA				*e*PKP	**PKPab**	04 04 36.4	+0.4		
	comp=Z,32nm,0.5s								
WTTA				*ep*PKiKP	**pPKiKP**	04 06 37.4	+0.1		
	comp=Z,26nm,1.2s								
MOTA	**Moosalm**	**153.50**	**344**	*i* PKP	**PKPdf**	04 04 12.2	-0.3		
	comp=Z,27nm,0.8s,SNR=14								
MOTA				*e*PKP	**PKPab**	04 04 36.3	0.0		
	comp=Z,6.8nm,0.5s								
MOTA				*ep*PKiKP	**pPKiKP**	04 06 37.3	-0.1		
	comp=Z,14nm,1.3s								
SJES	**Sjenica**	**153.51**	**327**	⇓*i*P	**PKPdf**	04 04 11.6	-1.1		
RUDO	**Rudo**	**153.55**	**328**	*e*P	**PKPdf**	04 04 11.3	-1.3		
A051A	**Mrakovica**	**153.58**	**333**	⇓*i*P	**PKPdf**	04 04 11.4	-1.2		
SQTA	**Sankt Quirin**	**153.59**	**344**	*i* PKP	**PKPdf**	04 04 12.0	-0.7		
	comp=Z,26nm,0.8s,SNR=11								
SQTA				*e*PKP	**PKPab**	04 04 36.6	0.0		
	comp=Z,10nm,1.0s								
SQTA				*ep*PKiKP	**pPKiKP**	04 06 37.8	+0.2		
	comp=Z,20nm,1.0s								
LJU	**Ljubljana**	**153.62**	**338**	*i* PKPdf	**PKPdf**	04 04 12.1	-0.5		
LJU				*e*PKPab	**PKPab**	04 04 36.7	0.0		
ABTA	**Abfaltersbach**	**153.66**	**341**	*i* PKP	**PKPdf**	04 04 12.0	-0.7		
	comp=Z,6.3nm,0.8s,SNR=22								
ABTA				*i* PKP	**PKPab**	04 04 37.2	+0.3		
	comp=Z,53nm,0.6s								
ABTA				*i* pPKiKP	**pPKiKP**	04 06 37.6	+0.3		
	SNR=8.8								
BLY	**Banja Luka**	**153.67**	**333**	⇓*i*P	**PKPdf**	04 04 11.5	-1.2		
PLE	**Pljevlja**	**153.75**	**328**	⇓*i*PKP	**PKPdf**	04 04 11.1	-1.9		
BOJS	**Bojanci**	**153.82**	**336**	⇓*i*P	**PKPdf**	04 04 11.9	-1.0		
IVA	**Berane**	**153.83**	**327**	⇓*i*PKP	**PKPdf**	04 04 11.8	-1.3		
DAVA	**Damuels**	**153.86**	**346**	*i* PKP	**PKPdf**	04 04 12.9	-0.2		
	comp=Z,20nm,0.9s,SNR=11								
DAVA				*e*PKP	**PKPab**	04 04 38.1	+0.3		
	comp=Z,10.0nm,0.5s								
FETA	**Feichten**	**153.90**	**344**	*i* PKP	**PKPdf**	04 04 13.2	+0.1		
	comp=Z,35nm,0.8s,SNR=27								
FETA				*e*PKP	**PKPab**	04 04 38.2	+0.2		
	comp=Z,3.2nm,0.4s								
FETA				*ep*PKiKP	**pPKiKP**	04 06 38.5	+0.2		
CEY	**Cerknica**	**153.92**	**338**	⇓*i*P	**PKPdf**	04 04 12.0	-1.1		
CEY	**Cerknica**	**153.92**	**338**	*i* PKPdf	**PKPdf**	04 04 12.2	-0.9		
CEY				*i* PKPbc	**PKPbc**	04 04 21.4	-0.2		
CEY				*i* PKPab	**PKPab**	04 04 37.9	-0.1		
CEY				*e*PP	**PP**	04 08 15.4	+0.3		
KOME	**Kolasin**	**154.04**	**327**	⇓*i*PKP	**PKPdf**	04 04 12.3	-1.1		
A050A	**Klekovaca**	**154.16**	**333**	⇓*i*P	**PKPdf**	04 04 12.0	-1.5		
PDG	**Podgorica**	**154.47**	**327**	⇓*i*P	**PKPdf**	04 04 12.2	-1.6		
PDG	**Podgorica**	**154.47**	**327**	⇑P	**PKiKP**	04 04 22.3	-0.5		
PDG	**Podgorica**	**154.47**	**327**	⇓*i*PKP	**PKPdf**	04 04 12.5	-1.3		
BRY	**Bratogost**	**154.49**	**328**	*e*P	**PKPdf**	04 04 12.7	-1.4		
BRY	**Bratogost**	**154.49**	**328**	⇓*i*PKP	**PKPdf**	04 04 12.4	-1.7		
CEME	**Cevo**	**154.56**	**327**	⇓*i*PKP	**PKPdf**	04 04 12.6	-1.5		
DRME	**Dracevica, Mon**	**154.69**	**326**	⇓*i*P	**PKPdf**	04 04 12.2	-2.0		
DRME	**Dracevica, Mon**	**154.69**	**326**	⇓*i*PKP	**PKPdf**	04 04 12.4	-1.8		
TREB	**Trebinje**	**154.72**	**328**	*e*P	**PKPdf**	04 04 17.9	+3.7		
BUM	**Brajici-Budva**	**154.75**	**327**	⇓*i*PKP	**PKPdf**	04 04 12.8	-1.5		
ULC	**Ulcinj**	**154.81**	**326**	⇓*i*PKP	**PKPdf**	04 04 12.4	-2.0		
HCY	**Herceg Novi**	**154.84**	**328**	⇓*i*PKP	**PKPdf**	04 04 12.7	-1.7		
STON	**Ston**	**154.91**	**329**	⇓*i*P	**PKPdf**	04 04 12.3	-2.1		
MATE	**Matera**	**157.08**	**327**	⇑P	**PKPdf**	04 04 17.3	0.0		
TIP	**Timpagrande**	**158.13**	**324**	⇑P	**PKPdf**	04 04 17.2	-1.6		
PGAV	**Gavieira, Arco**	**158.94**	**19**	*e*PKPdf	**PKPdf**	04 04 19.4	-0.2		
PGAV				*e*PKPab	**PKPab**	04 04 59.8	-0.1		
PCAB	**Cabril**	**159.24**	**18**	*e*PKPdf	**PKPdf**	04 04 20.9	+0.9		
PBRG	**Braganca**	**159.50**	**16**	*e*PKPdf	**PKPdf**	04 04 20.8	+0.5		
PBRG				*e*PKPab	**PKPab**	04 05 02.9	+0.6		
POLO	**Lamas de Olo**	**159.62**	**18**	*e*PKPdf	**PKPdf**	04 04 20.6	+0.1		
POLO				*e*PKPab	**PKPab**	04 05 03.2	+0.4		
PVRL	**Vila Real**	**159.73**	**18**	*e*PKPdf	**PKPdf**	04 04 20.9	+0.4		
PVRL				*e*PKPab	**PKPab**	04 05 03.8	+0.5		
MVO	**Moncorvo**	**160.03**	**17**	*e*PKPdf	**PKPdf**	04 04 21.2	+0.3		
MVO				*e*PKPab	**PKPab**	04 05 05.2	+0.5		
PVIS	**Viseu**	**160.19**	**19**	*e*PKPdf	**PKPdf**	04 04 21.2	+0.2		
PVIS				*e*PKPab	**PKPab**	04 05 06.0	+0.7		
COI	**Coimbra**	**160.49**	**21**	*e*PKPdf	**PKPdf**	04 04 21.6	+0.3		
COI				*e*PKPab	**PKPab**	04 05 06.8	+0.2		
MTE	**Manteigas**	**160.59**	**19**	*e*PKPdf	**PKPdf**	04 04 22.1	+0.6		
MTE				*e*PKPab	**PKPab**	04 05 07.7	+0.6		
PCAS	**Casmilo, Conde**	**160.60**	**21**	*e*PKPdf	**PKPdf**	04 04 21.4	0.0		
PCAS				*e*PKPab	**PKPab**	04 05 06.9	-0.2		
PSBE	**So Bento**	**160.98**	**23**	*e*PKPdf	**PKPdf**	04 04 22.2	+0.4		
PSBE				*e*PKPab	**PKPab**	04 05 09.6	+0.8		
PMOZ	**Porto Moniz, M**	**161.05**	**52**	*e*PKPab	**PKPab**	04 05 11.1	+1.6		
PSARD	**Sardoal**	**161.12**	**21**	*e*PKPdf	**PKPdf**	04 04 22.4	+0.4		
PSARD				*e*PKPab	**PKPab**	04 05 09.6	+0.2		
PCBR	**Castelo Branco**	**161.12**	**19**	*e*PKPdf	**PKPdf**	04 04 22.6	+0.7		
PCBR				*e*PKPab	**PKPab**	04 05 09.7	+0.3		
PMRV	**Marv??o**	**161.53**	**20**	*e*PKPdf	**PKPdf**	04 04 22.8	+0.3		
PMRV				*e*PKPab	**PKPab**	04 05 11.6	+0.4		
PMPST	**Porto Santo, M**	**161.54**	**50**	*e*PKPdf	**PKPdf**	04 04 23.2	+0.5		
LIS	**Lisbon**	**161.54**	**25**	*e*PKPdf	**PKPdf**	04 04 23.0	+0.6		
LIS				*ep*PKPdf	**pPKPdf**	04 06 37.5	-2.9		
PMTG	**Montargil**	**161.57**	**22**	*e*PKPdf	**PKPdf**	04 04 22.6	+0.2		
PMTG				*e*PKPab	**PKPab**	04 05 11.4	0.0		
PACT	**Alcochete**	**161.62**	**24**	*e*PKPdf	**PKPdf**	04 04 23.3	+0.8		
PACT				*e*PKPab	**PKPab**	04 05 12.3	+0.8		
PESTR	**Estremoz**	**161.97**	**21**	*e*PKPdf	**PKPdf**	04 04 23.0	+0.1		
PESTR				*e*PKPab	**PKPab**	04 05 13.2	+0.1		
EVO	**Evora**	**162.13**	**22**	*e*PKPdf	**PKPdf**	04 04 23.6	+0.5		
EVO				*e*PKPab	**PKPab**	04 05 14.4	+0.6		
ESDC	**Sonseca Array**	**162.15**	**11**		**PKPdf**	04 04 23.3	+0.2		
ESDC					**PKPab**	04 05 14.0	0.0		
ESDC	**Sonseca Array**	**162.15**	**11**	PKP	**PKPdf**	04 04 23.6	+0.5		
	comp=Z,3.5nm,1.1s,baz=346,slow=3.2,SNR=14								
ESDC				PKPab	**PKPab**	04 05 14.0	0.0		
	comp=Z,19nm,1.0s,baz=343,slow=4.4,SNR=35								
ESDC				pPKPab	**pPKPab**	04 07 25.7	+2.1		
	comp=Z,2.9nm,1.0s,baz=348,slow=4.6,SNR=6.1								
ESDC				PP	**PP**	04 08 59.6	+0.4		
	comp=Z,1.3nm,0.9s,baz=1.8,slow=4.4,SNR=4.8								
PAB	**San Pablo**	**162.20**	**12**		**PKPab**	04 05 14.5	+0.3		
PAB	**San Pablo**	**162.20**	**12**	PKP2	**PKPab**	04 05 14.5	+0.3		
PBEJ	**Beja**	**162.63**	**23**	*e*PKPdf	**PKPdf**	04 04 24.4	+0.9		
PBEJ				*e*PKPab	**PKPab**	04 05 16.4	+0.3		
MESJ	**Messejana**	**162.66**	**24**	*e*PKPdf	**PKPdf**	04 04 24.1	+0.6		
MESJ				*e*PKPab	**PKPab**	04 05 16.9	+0.7		
MESJ				*ep*PKPdf	**pPKPdf**	04 06 38.8	-3.0		
MESJ				*e*PP	**PP**	04 09 03.6	+1.5		
PTEO	**Sao Teotonio**	**162.72**	**26**	*e*PKPdf	**PKPdf**	04 04 24.4	+0.8		
PBAR	**Barrancos**	**162.78**	**21**	*e*PKPdf	**PKPdf**	04 04 24.2	+0.5		
PBAR				*e*PKPab	**PKPab**	04 05 17.2	+0.5		
PCVE	**Castro Verde**	**162.91**	**24**	*e*PKPdf	**PKPdf**	04 04 24.7	+0.8		
PCVE				*e*PKPab	**PKPab**	04 05 18.1	+0.7		
MORF	**Marmelete**	**162.96**	**26**	*e*PKPdf	**PKPdf**	04 04 24.4	+0.5		
MORF				*ep*PKPdf	**pPKPdf**	04 06 39.0	-3.1		
MORF	**Marmelete**	**162.96**	**26**	*e*PKPdf	**PKPdf**	04 04 24.4	+0.5		
MORF				*e*PKPab	**PKPab**	04 05 18.3	+0.7		
PFVI	**Vila Bisbo**	**163.04**	**27**	*e*PKPdf	**PKPdf**	04 04 24.6	+0.6		
PVAQ	**Vaqueiros**	**163.24**	**23**	*e*PKPdf	**PKPdf**	04 04 24.8	+0.7		
PVAQ				*e*PKPab	**PKPab**	04 05 19.3	+0.6		
PBDV	**Barranco-do-Ve**	**163.30**	**24**	*e*PKPdf	**PKPdf**	04 04 24.9	+0.7		
DBIC	**Dimbokro**	**163.71**	**160**	PKP	**PKPdf**	04 04 25.0	-0.2		
	comp=Z,29nm,0.6s,baz=186,slow=0.8,SNR=31								
DBIC				PKPab	**PKPab**	04 05 22.8	+1.5		
	comp=Z,47nm,0.8s,baz=228,slow=4.6,SNR=16								
DBIC				PP	**PP**	04 09 09.1	+1.9		
	comp=Z,5.9nm,0.8s,baz=198,slow=5.7,SNR=2.1								
CMAH	**Djebel Manchou**	**164.43**	**339**	P	**PKPdf**	04 04 25.1	-0.2		
KEST	**Kesra**	**164.48**	**332**	PKP	**PKPdf**	04 04 25.6	+0.2		
	comp=Z,6.8nm,0.8s,baz=99,slow=1.2,SNR=9.0								
KEST				PKPab	**PKPab**	04 05 25.0	+0.6		
	comp=Z,25nm,0.8s,baz=351,slow=0.9,SNR=16								
CKFL	**Kef-Lekhel**	**164.86**	**341**	P	**PKPdf**	04 04 25.9	+0.1		
TOA0	**Torodi Ar. Sit**	**170.94**	**187**	P	**PKPdf**	04 04 28.2	-2.1		
TORD	**Torodi Ar. Bea**	**170.94**	**187**		**PKPdf**	04 04 29.4	-0.9		
TORD	**Torodi Ar. Bea**	**170.94**	**187**	PKP	**PKPdf**	04 04 29.7	-0.6		
	comp=Z,16nm,0.8s,baz=135,slow=1.6,SNR=41								
TORD				PKPab	**PKPab**	04 05 53.7	+0.5		
	comp=Z,30nm,0.7s,baz=166,slow=2.4,SNR=29								
TORD				pPKPab	**pPKPab**	04 08 04.2	+2.0		
	comp=Z,8.4nm,1.1s,baz=159,slow=2.7,SNR=4.3								
TORD				PP	**PP**	04 09 43.6	+0.3		
	comp=Z,8.5nm,0.8s,baz=162,slow=3.7,SNR=7.8								

*IDC **03** 04:08:35.2±0.9, 11°.29S×165°.07E, h0km, mb4.1/10, mbtmp4.1/11, ML3.9/1, MS4.5/3, Error ellipse: s-maj=32.4km s-min=23.6km az=120.0*

ISC 03 04:08:40.6±0.8, 11°.43S±0°.10×165°.1E±0°.2, h34km, n19, σ0s86/13, mb4.1/10, MS4.7/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.66**	**173**	Pn	**Pn**	**04 11 11.5**	**+0.4**
	0.9nm,0.3s,baz=209,slow=12,SNR=15						
DZM				Sn	**Sn**	**04 13 07.6**	**-1.8**
	baz=58,slow=21,SNR=1.5						
DZM				LR	LR	04 15 01.4	
	comp=Z,132nm,19.0s,baz=240,slow=36						
	2.1nm,0.3s						
STKA	**Stephens Creek**	**29.75**	**223**	P	**P**	**04 14 44.3**	**+0.3**
	2.6nm,0.7s,baz=20,slow=10,SNR=6.9						
STKA				LR	LR	04 25 12.4	
	comp=Z,156nm,19.3s,baz=11,slow=33						
	2.6nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**29.77**	**3**	T	T	04 46 00.1	
	baz=183						
H11S3	**WAKE ISLAND Hy**	**29.77**	**3**	T	T	04 45 56.5	
	baz=183						
H11S1	**WAKE ISLAND Hy**	**29.79**	**3**	T	T	04 46 10.5	
	baz=183						
WRA	**Warramunga Arr**	**30.78**	**250**	P	**P**	**04 14 52.9**	**-0.5**
	3.8nm,0.9s,baz=81,slow=9.1,SNR=12						
	3.8nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**30.99**	**3**	T	T	04 47 18.9	
	baz=181						
H11N3	**WAKE ISLAND Hy**	**31.00**	**3**	T	T	04 47 21.2	
	baz=181						
H11N2	**WAKE ISLAND Hy**	**31.01**	**3**	T	T	04 47 14.6	
	baz=181						
ASAR	**Alice Springs**	**32.08**	**243**	P	**P**	**04 15 04.0**	**-0.7**
	2.1nm,0.8s,baz=74,slow=9.4,SNR=20						
ASAR				PcP	**PcP**	**04 17 54.2**	**+0.3**
	0.5nm,0.7s,baz=56,slow=2.3,SNR=2.6						
	2.1nm,0.8s						
VNDA	**Vanda**	**66.10**	**181**	P	**P**	**04 19 24.9**	**+1.0**
	1.1nm,0.9s,baz=336,slow=4.0,SNR=4.6						
	1.1nm,0.9s						
KDAK	**Kodiak Island**	**77.16**	**22**	LR	LR	04 46 22.5	
	comp=Z,2μm,21.8s,baz=18,slow=29						
QSPA	**South Pole Qui**	**78.58**	**180**	P	**P**	**04 20 39.1**	**+0.4**
	3.4nm,1.0s,baz=8.5,slow=2.1,SNR=4.7						
	3.4nm,1.0s						
ILAR	**Eielson Array**	**84.07**	**19**	P	**P**	**04 21 06.8**	**-0.7**
	0.6nm,0.8s,baz=228,slow=6.1,SNR=7.0						
	0.6nm,0.8s						
MAW	**Mawson**	**84.14**	**202**	P	**P**	**04 21 09.0**	**+1.1**
	1.6nm,0.9s,baz=46,slow=21,SNR=2.2						
	1.6nm,0.9s						
BBB	**Bella Bella**	**85.24**	**35**	LR	LR	04 53 53.2	
	comp=Z,258nm,18.1s,baz=342,slow=32						
MKAR	**Makanchi Array**	**93.38**	**317**	P	**P**	**04 21 51.9**	**-0.6**
	0.5nm,0.8s,baz=111,slow=6.6,SNR=3.8						
	0.5nm,0.8s						
PDAR	**Pinedale Array**	**94.26**	**47**	P	**P**	**04 21 56.8**	**-0.1**
	0.1nm,0.3s,baz=252,slow=6.9,SNR=1.7						
	0.1nm,0.3s						
SNAA	**Sanae**	**96.70**	**184**	P	**P**	**04 22 07.0**	**-0.2**
	0.9nm,0.9s,baz=359,slow=21,SNR=2.2						
	0.9nm,0.9s						

*KRSC **03** 04:13:29.3±1.1, 55°.93N×163°.63E, h16km±14km, Ml3.7*
*IDC **03** 04:13:29.3±2.4, 56°.39N×163°.61E, h0km, mb3.0/2, mbtmp3.0/3, ML2.2/1, Error ellipse: s-maj=218.0km s-min=26.4km az=141.0*

ISC 03 04:13:29.4±0.9, 55°.99N±0°.06×163°.63E±0°.04, h15km, n28, σ1s89/28, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.51**	**297**	*e*P	**Pg**	**04 13 38.5**	**-0.9**
KBTR				*e*S	**Sg**	**04 13 45.4**	**-0.8**
KBG	**Krutoberegovo**	**0.58**	**298**	*e*P	**Pg**	**04 13 39.9**	**-1.0**
SMKR	**Semkarok**	**1.34**	**297**	*e*P	**Pn**	**04 13 53.6**	**-0.1**
SMKR				*e*S	**Sn**	**04 14 12.3**	**+1.0**
BDR	**Baidarnaya**	**1.47**	**294**	*e*S	**Sg**	**04 14 16.9**	**+0.1**
BKI	**Bering**	**1.54**	**119**	*e*P	**Pn**	**04 13 55.9**	**-0.4**
BKI				*e*S	**Sn**	**04 14 16.4**	**+0.4**
CIRR	**Tsirk**	**1.62**	**276**	*e*P	**Pn**	**04 13 59.0**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**1.65**	**270**	*e*P	**Pn**	**04 13 59.4**	**+1.5**
LGNR	**Loginova**	**1.65**	**275**	*e*P	**Pb**	**04 13 59.8**	**+0.1**
KLY	**Klyuchi**	**1.70**	**282**	*e*P	**Pn**	**04 13 57.6**	**-0.8**
BZWR	**Bezymyannyi-We**	**1.76**	**271**	*e*P	**Pn**	**04 14 01.2**	**+1.7**
BZMR	**Bezymyannaya**	**1.77**	**270**	*e*P	**Pn**	**04 14 00.9**	**+1.4**
MKZ	**Mys Kozlova**	**1.80**	**218**	*e*P	**Pn**	**04 13 59.6**	**-0.2**
KIRR	**Kirishev**	**1.85**	**270**	*e*P	**Pn**	**04 14 02.3**	**+1.6**
KPT	**Kopyto**	**1.91**	**271**	*e*P	**Pn**	**04 14 03.5**	**+1.9**
KMNR	**Kamenistaya**	**1.92**	**265**	*e*P	**Pn**	**04 14 03.8**	**+2.1**
TUMD	**Tumrok D**	**1.99**	**248**	*e*P	**Pn**	**04 14 03.8**	**+1.2**
KOZ	**Kozyrevsk**	**2.11**	**274**	*e*P	**Pb**	**04 14 06.6**	**-0.7**
SRDR	**Sredinnyy**	**2.21**	**280**	*e*P	**Pn**	**04 14 07.7**	**+2.1**
SPN	**Mys Shipunski**	**3.57**	**217**	*e*S	**Sn**	**04 15 05.0**	**-1.2**
SDLR	**Sedlovina**	**3.87**	**227**	*e*P	**Pn**	**04 14 30.7**	**+2.3**
AVH	**Avacha**	**3.94**	**228**	*e*P	**Pn**	**04 14 33.2**	**+3.9**
PETK	**Petropavlovsk-**	**4.50**	**233**	Pn	Pn	04 14 42.6	+5.7
	0.5nm,0.3s,baz=55,slow=9.5,SNR=5.6						
PETK				Sn	**Sb**	**04 15 37.4**	**-4.5**
	baz=92,slow=21						
	1.2nm,0.7s						
ASAK	**Asacha**	**4.93**	**225**	*e*P	**Pn**	**04 14 46.6**	**+3.6**
ILAR	**Eielson Array**	**25.34**	**50**	P	**P**	**04 18 55.0**	**-0.3**
	0.3nm,0.9s,baz=

25nm,0.8s
CMAR Chiang Mai Arr 11.29 210 P Pn 04 29 39.1 +3.7
GOMU GeErMu 11.54 315 P Pn 04 29 40.9 +1.8
GOMU pP 04 29 45.5
GOMU sP 04 29 47.1
GOMU pmax pmax
comp=Z,6.0nm,1.5s
GOMU LR LR
comp=N,480nm,7.5s
GOMU LR LR
comp=E,200nm,8.2s
GOMU LR LR
comp=Z,350nm,7.5s
GTA Gaotai 11.77 340 P Pn 04 29 44.3 +2.2
GTA pP 04 29 51.1
GTA pmax pmax
comp=Z,17nm,1.2s
GTA LR LR
comp=N,2μm,12.4s
GTA LR LR
comp=E,3μm,12.0s
GTA LR LR
comp=Z,1μm,15.3s
LSA Lhasa 12.09 280 Pn 04 29 48.7 +1.9
LSA Lhasa 12.09 280 P Pn 04 29 48.3 +1.5
LSA pmax pmax
comp=Z,6.0nm,0.6s
LSA LR LR
comp=N,380nm,6.8s
LSA LR LR
comp=Z,490nm,12.2s
LSA Lhasa 12.09 280 P Pn 04 29 48.7 +1.9
HNS HongShan 12.20 40 ⇑P Pn 04 29 49.5 +1.8
HNS pmax pmax
comp=Z,16nm,1.1s
HNS LR LR
comp=N,1μm,12.8s
HNS LR LR
comp=E,1μm,11.6s
HNS LR LR
comp=Z,2μm,15.6s
NJ2 Nanjing 12.62 70 eP Pn 04 29 53.8 +0.3
NJ2 pmax pmax
comp=Z,15nm,0.6s
NJ2 LR LR
comp=N,3μm,5.2s
NJ2 LR LR
comp=E,2μm,6.7s
NJ2 LR LR
comp=Z,1μm,7.8s
KNMB Chin-men Tao 12.71 105 Pn Pn 04 29 52.6 -2.2
QZH Quanzhou 12.73 102 eP Pn 04 29 57.0 +2.0
QZH eS Sn 04 32 17.8 +1.4
QZH LR LR
comp=N,4μm,7.0s
QZH LR LR
comp=E,2μm,5.4s
BTO Baotou 12.90 18 eP Pn 04 29 59.0 +1.6
BTO pP P 04 30 02.5 -5.7
BTO sP 04 30 05.6
BTO PP PnPn 04 30 09.4 +4.0
BTO S Sn 04 32 23.1 +2.3
BTO sS 04 32 28.3
BTO pmax pmax
comp=Z,47nm,0.9s
BTO pmax pmax
comp=Z,330nm,10.0s
BTO LR LR
comp=N,4μm,12.7s
BTO LR LR
comp=E,3μm,10.8s
BTO LR LR
comp=Z,5μm,13.7s
TIA Tai'an 12.96 50 P Pn 04 29 59.6 +1.5
TIA pmax pmax
comp=Z,8.0nm,1.7s
TIA pmax pmax
comp=Z,280nm,4.3s
BRDH Bariadhala 13.23 248 LR LR 04 36 42.0
comp=Z,879nm,18.3s,baz=116,slow=44
HHC Hu-ho-hao-te 13.59 22 eP Pn 04 30 07.5 +0.7
HHC S Sn 04 32 37.8 +0.2
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,140nm,3.7s
HHC LR LR
comp=N,1μm,8.0s
HHC LR LR
comp=E,920nm,7.6s
HHC LR LR
comp=Z,1μm,8.8s
SSE Sheshan 14.42 75 P Pn 04 30 17.0 -1.1
SSE pmax pmax
comp=Z,11nm,0.7s
SSE pmax pmax
comp=Z,130nm,3.1s
SSE LR LR
comp=N,1μm,8.9s
SSE LR LR
comp=E,380nm,7.2s
BJT Baijiatuau 14.88 36 Pn 04 30 23.6 -0.7
BJT Baijiatuau 14.88 36 P Pn 04 30 23.6 -0.7
BJI Beijing 14.89 36 P Pn 04 30 25.3 +0.7
BJI pP P 04 30 29.3 -0.9
BJI sP 04 30 32.3
BJI S Sn 04 33 09.1 -0.1
BJI pmax pmax
comp=Z,10.0nm,0.8s
BJI LR LR
comp=N,550nm,13.0s
BJI LR LR
comp=E,580nm,12.2s
BJI LR LR
comp=Z,720nm,13.5s
SSLB Suanglung 15.14 104 Pn 04 30 26.7 -1.3
SSLB IAmb IAmb 04 30 36.8
comp=Z,125nm,1.5s
DL2 Dalian 17.42 49 P P 04 31 00.7 +2.5
DL2 pmax pmax
comp=Z,45nm,1.2s
DL2 pmax pmax
comp=Z,160nm,7.0s
DL2 LR LR
comp=Z,890nm,14.0s
DL2 LR LR
comp=Z,790nm,15.4s
DL2 LR LR
comp=Z,990nm,12.5s
XLT XiLinHaoTe 17.90 27 eP P 04 31 05.5 +1.9
XLT sP sP 04 31 13.7 +3.5
XLT pmax pmax
comp=Z,25nm,1.1s
XLT pmax pmax
comp=Z,120nm,3.6s
XLT LR LR
comp=Z,81nm,10.8s
XLT LR LR
comp=Z,570nm,11.6s
XLT LR LR
comp=Z,1μm,14.8s
SONM Songino Array 19.45 3 Pn 04 31 21.5 -0.4
SONM Songino Array 19.45 3 P Pn 04 31 22.1 +0.2
comp=Z,1.4nm,0.3s,baz=178,slow=11,SNR=14
SONM LR LR 04 39 36.4
comp=Z,809nm,19.4s,baz=158,slow=39
comp=Z,16nm,0.8s
ULN Ulaanbaatar 19.52 4 P P 04 31 21.4 0.0
ULN Ulaanbaatar 19.52 4 ceP Pn 04 31 23.0 +0.3
ULN pmax pmax
comp=Z,47nm,2.5s
TJN Taejon 20.56 61 P 04 31 32.7 +0.1
TJN Taejon 20.56 61 i P P 04 31 32.9 +0.3
TGY Tagaytay City 20.60 130 P Pn 04 31 34.8 -0.7
comp=Z,364nm,0.4s,baz=210,slow=20,SNR=4.2
WMQ Urumqi 20.68 323 eP Pn 04 31 37.9 +1.6
WMQ LR LR
comp=Z,570nm,10.9s
WMQ LR LR
comp=Z,230nm,10.9s
JOW Kunigami 20.78 89 P P 04 31 34.0 -1.1
JOW Kunigami 20.78 89 P P 04 31 35.9 +0.8
comp=Z,34nm,0.5s,baz=265,slow=9.4,SNR=10
JOW LR LR 04 40 13.0
comp=Z,362nm,18.6s,baz=210,slow=38
comp=Z,34nm,0.5s

KSAR Wonju Array Be 21.27 59 P P 04 31 40.2 -0.1
KSAR Wonju Array Be 21.27 59 P P 04 31 40.2 -0.1
KS19 Wonju Array Si 21.28 59 P P 04 31 39.9 -0.5
KSRS Korea Array 21.31 59 P P 04 31 40.5 -0.1
comp=Z,12nm,0.7s,baz=237,slow=11,SNR=63
comp=Z,12nm,0.7s
ZAK Zakamensk 22.00 357 eP P 04 31 48.8 +0.6
ZAK pmax pmax
comp=Z,32nm,1.4s
CN2 Changchun 22.55 42 P P 04 31 55.2 +1.2
CN2 pP pP 04 31 59.4 +0.8
CN2 S S 04 35 55.3 -5.4
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,600nm,14.0s
CN2 LR LR
comp=Z,500nm,15.0s
JNU Nakatsue 22.81 72 P 04 31 56.9 0.0
JNU Nakatsue 22.81 72 LR LR 04 42 05.7
comp=Z,449nm,18.1s,baz=265,slow=40
MOY Mondy 23.44 354 eP P 04 32 06.0 +2.8
MOY pmax pmax
comp=Z,39nm,3.4s
HIA Hailar 23.76 25 P 04 32 06.4 +0.1
HIA IAmb IAmb 04 32 08.7
comp=Z,62nm,1.6s
HIA Hailar 23.76 25 i P P 04 32 07.1 +0.8
HIA pmax pmax
comp=Z,36nm,1.4s
IRK Irkutsk 23.84 359 eP P 04 32 08.3 +1.3
IRK pmax pmax
comp=Z,152nm,2.2s
IPM Ipoh 24.06 189 P P 04 32 08.8 -0.5
CIT Chita 24.48 13 eP P 04 32 14.0 +1.0
CIT e 04 32 26.2
CIT e 04 32 41.6
CIT e 04 37 44.0
CIT pmax pmax
comp=Z,1μm,0.8s
ZSN Zaisan 24.61 326 eP P 04 32 14.5 +0.4
ZSN Zaisan 24.61 326 eP P 04 32 14.5 +0.4
KKM Kota Kinabalu 24.68 152 P 04 32 15.6 +0.5
KKM IAmb IAmb 04 32 19.8
comp=Z,34nm,1.0s
BNX BinXian 24.82 40 ⇑P P 04 32 16.5 +0.4
BNX S S 04 36 37.0 -1.1
BNX pmax pmax
comp=Z,9.0nm,1.0s
BNX LR LR
comp=Z,640nm,16.6s
BNX LR LR
comp=Z,580nm,14.6s
BNX LR LR
comp=Z,890nm,14.8s
SHLS Shalkode 25.23 313 eP P 04 32 17.6 -2.3
SHLS pmax pmax
comp=Z,21nm,1.0s
SHLS Shalkode 25.23 313 eP P 04 32 17.6 -2.3
comp=Z,21nm,1.0s
JMN Monobe 25.36 71 P P 04 32 20.8 -0.3
MDJ Mudanjiang 25.48 44 P P 04 32 21.5 -0.6
MDJ pmax pmax
comp=Z,7.0nm,1.7s
MK31 Makanchi Array 25.51 322 ceP P 04 32 22.9 +0.6
MKAR Makanchi Array 25.51 322 P 04 32 22.1 -0.2
MKAR Makanchi Array 25.51 322 P P 04 32 23.0 +0.7
comp=Z,7.0nm,0.6s,baz=127,slow=11,SNR=38
MKAR PcP PcP 04 35 53.8 +0.2
comp=Z,1.9nm,0.8s,baz=114,slow=3.5,SNR=4.1
MKAR ScP ScP 04 39 29.7 -2.7
comp=Z,1.1nm,0.9s,baz=121,slow=3.2,SNR=4.5
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 25.51 322 ceP P 04 32 23.0 +0.7
MKAR pmax pmax
comp=Z,11nm,0.8s
MAKZ Makanchi 25.69 322 P 04 32 23.1 -0.8
MAKZ IAmb IAmb 04 32 27.4
comp=Z,56nm,1.4s
MAKZ Makanchi 25.69 322 P P 04 32 23.1 -0.8
MAKZ pmax pmax
comp=Z,56nm,1.5s
TARG Taragay, Kyrgy 25.73 308 P 04 32 24.4 -0.5
TARG Taragay, Kyrgy 25.73 308 P P 04 32 24.4 -0.5
TARG pmax pmax
comp=Z,21nm,1.2s
KPKS Kokpek 25.87 313 eP P 04 32 25.7 0.0
KPKS Kokpek 25.87 313 eP P 04 32 25.8 0.0
PSI Prapat 26.07 194 P P 04 32 28.5 +0.8
PSI pmax pmax
comp=Z,13nm,0.9s
RPSI Rantau Prapat 26.17 194 P 04 32 28.5 0.0
KSH Kashi 26.32 302 P P 04 32 33.1 +3.2
KSH pmax pmax
comp=Z,15nm,1.8s
MYLDM Lahad Datu 26.45 148 P 04 32 30.3 -0.8
MYLDM IAmb IAmb 04 32 34.4
comp=Z,50nm,1.1s
TDK Taldyqorghan 26.77 315 eP P 04 32 33.8 +0.1
TDK pmax pmax
comp=Z,11nm,0.7s
TDK Taldyqorghan 26.77 315 eP P 04 32 33.8 +0.1
comp=Z,11nm,0.7s
USA0B Ussuriysk Arra 26.78 47 P 04 32 33.2 -0.7
USA0B Ussuriysk Arra 26.78 47 i P P 04 32 33.0 -0.8
USRK Ussuriysk Ar. 26.78 47 P 04 32 32.8 -1.0
USRK Ussuriysk Ar. 26.78 47 P P 04 32 34.1 +0.2
comp=Z,8.5nm,0.7s,baz=246,slow=7.6,SNR=18
USRK LR LR 04 44 30.6
comp=Z,267nm,18.5s,baz=234,slow=39
comp=Z,8.5nm,0.7s
TNSS Tian-Shan 26.83 310 eP P 04 32 34.6 -0.2
TNSS Tian-Shan 26.83 310 eP P 04 32 34.6 -0.2
NRN Naryn 26.89 307 P 04 32 35.7 +0.4
NRN Naryn 26.89 307 P P 04 32 35.7 +0.4
NRN pmax pmax
comp=Z,25nm,1.4s
AAA Alma-Ata 26.93 311 eP P 04 32 35.3 +0.1
AAA Alma-Ata 26.93 311 eP P 04 32 35.4 +0.1
KUU Kurty 27.59 312 eP P 04 32 41.2 +0.1
KUU Kurty 27.59 312 eP P 04 32 41.2 +0.1
HEH HeiHe 27.74 32 eP P 04 32 42.6 +0.3
HEH pP pP 04 32 46.2 -1.1
HEH S S 04 37 26.0 +1.9
HEH pmax pmax
comp=Z,11nm,0.9s
HEH LR LR
comp=Z,380nm,11.1s
HEH LR LR
comp=Z,510nm,11.2s
HEH LR LR
comp=Z,810nm,13.1s
AAK Ala-Archa 28.36 308 P P 04 32 49.2 +1.0
AAK Ala-Archa 28.36 308 i P P 04 32 46.9 -1.3
AAK pmax pmax
comp=Z,14nm,2.3s
JGF Kuroka 28.37 67 P P 04 32 45.8 -2.4
SGDS Sogindy 28.55 310 eP P 04 32 49.8 0.0
DAV Davao City (W) 28.85 133 LR LR 04 44 51.8
comp=Z,67nm,18.9s,baz=322,slow=37
MJAR Matsushiro Arr 29.16 65 P P 04 32 56.9 +1.7
comp=Z,0.6nm,0.3s,baz=274,slow=8.4,SNR=1.8
MJAR LR LR 04 45 50.4
comp=Z,343nm,18.5s,baz=254,slow=39
comp=Z,0.6nm,0.3s
KLR Kul'dur 29.26 37 LR LR 04 46 18.0
comp=Z,430nm,19.6s,baz=220,slow=40
KLR Kul'dur 29.26 37 i P P 04 32 53.8 -2.1
KLR pmax pmax
comp=Z,4.0nm,1.0s
ZAA0 Zalesovo Array 29.46 336 P P 04 32 57.6 0.0
ZALV Zalesovo Beam 29.46 336 P 04 32 57.4 -0.3
ZALV Zalesovo Beam 29.46 336 P P 04 32 58.1 +0.4
comp=Z,3.6nm,0.6s,baz=142,slow=9.6,SNR=11
ZALV LR LR 04 45 47.1
comp=Z,274nm,20.8s,baz=128,slow=38
comp=Z,3.6nm,0.6s
BTLS Baital 29.56 313 eP P 04 32 58.7 +0.1
BTLS Baital 29.56 313 eP P 04 32 58.8 +0.1
KURBB Kurchatov Arra 29.83 325 P P 04 33 01.2 +0.2
comp=Z,4.6nm,0.6s,baz=133,slow=9.3,SNR=44
KURBB PcP PcP 04 36 03.7 -0.2
comp=Z,2.9nm,0.9s,baz=117,slow=2.3,SNR=8.7

KURBB LR LR 04 45 38.6
comp=Z,173nm,18.6s,baz=158,slow=38
comp=Z,4.6nm,0.6s
KURK Kurchatov 29.85 326 P 04 33 00.7 -0.4
KURK Kurchatov 29.85 326 ceP P 04 33 01.7 +0.6
KURK pmax pmax
comp=Z,29nm,1.7s
ZEA Zeya 30.18 27 eP P 04 33 05.6 +1.7
ZEA e 04 43 37.0
ZEA pmax pmax
comp=Z,10.0nm,0.6s
ZEA MLR MLR
comp=N,200nm,17.0s
ZEA MLR MLR
comp=Z,300nm,16.0s
BTK Batken 30.30 302 P 04 33 05.4 0.0
BTK Batken 30.30 302 P P 04 33 05.4 0.0
BTK pmax pmax
comp=Z,13nm,1.4s
DZA Taraz 30.64 307 eP P 04 33 08.3 0.0
DZA pmax pmax
comp=Z,9.0nm,0.5s
DZA Taraz 30.64 307 eP P 04 33 08.3 0.0
comp=Z,8.5nm,0.5s
PALK Pallekele 31.03 232 LR LR 04 46 29.3
comp=Z,166nm,20.6s,baz=108,slow=38
KK31 Karatay Array 31.28 307 P 04 33 13.6 -0.3
KK31 Karatay Array 31.28 307 P P 04 33 13.6 -0.3
KK31 pmax pmax
comp=Z,13nm,1.4s
KKAR Karatay Array 31.28 307 P 04 33 13.4 -0.5
KKAR PcP PcP 04 36 08.0 0.0
KKAR Karatay Array 31.28 307 P P 04 33 14.1 +0.2
KKAR IAmb IAmb 04 33 16.7
comp=Z,14nm,1.4s
KKAR Karatay Array 31.28 307 P P 04 33 14.1 +0.2
KKAR pmax pmax
comp=Z,14nm,1.4s
IUG luzhnay 31.36 305 eP P 04 33 14.5 -0.2
IUG luzhnay 31.36 305 eP P 04 33 14.6 -0.2
CHM Chimkent 31.72 305 eP P 04 33 17.8 +0.1
CHM Chimkent 31.72 305 eP P 04 33 17.8 +0.1
BRLS Borolday 31.74 307 eP P 04 33 18.2 +0.3
BRLS Borolday 31.74 307 eP P 04 33 18.3 +0.3
TTSI Tana Toraja 34.39 153 P P 04 33 42.7 +1.5
comp=Z,18nm,1.6s
YSS Yuzhno-Sakhali 34.81 47 eP P 04 33 42.7 -1.9
YSS pmax pmax
comp=Z,10.0nm,0.6s
YSS MLR MLR
comp=Z,500nm,14.0s
BVAR Borovoye Array 35.36 324 P P 04 33 49.1 -0.2
comp=Z,2.0nm,0.5s,baz=127,slow=9.4,SNR=11
BVAR PcP PcP 04 36 18.3 -0.9
comp=Z,2.4nm,0.6s,baz=116,slow=3.4,SNR=4.5
comp=Z,2.0nm,0.5s
BRVK Borovoye 35.43 324 P 04 33 50.3 +0.4
BRVK Borovoye 35.43 324 ceP P 04 33 51.1 +1.2
BRVK pmax pmax
comp=Z,9.0nm,1.7s
TYV Tymovskoe 36.17 41 eP P 04 33 57.8 +1.5
TYV pmax pmax
comp=Z,12nm,1.1s
TYV pmax pmax
comp=Z,100nm,3.4s
YAK Yakutsk 37.42 19 eP P 04 34 06.8 +0.1
YAK e 04 36 25.7
YAK eS S 04 39 56.1 +1.9
YAK e 04 44 19.6
YAK pmax pmax
comp=Z,27nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK smax smax
comp=E,28nm,1.6s
AB31 Akbulak array 40.01 314 P 04 34 28.7 0.0
ABKAR Akbulak array 40.01 314 P P 04 34 29.0 +0.3
ABKAR Akbulak array 40.01 314 P P 04 34 28.9 +0.2
SVE Sverdlovsk 42.10 325 eP P 04 34 46.8 +1.1
ARTI Arti 43.09 324 P 04 34 53.4 -0.3
ARTI Arti 43.09 324 d iP P 04 34 53.6 -0.2
ARTI 04 36 29.7
ARTI S S 04 41 21.3 +2.3
ARTI SS SS 04 44 28.5 -2.8
ARTI pmax pmax
comp=Z,29nm,2.3s
TIXI Tiksi 45.29 10 P 04 35 10.8 -0.4
TIXI IAmb IAmb 04 35 14.0
comp=Z,27nm,1.1s
TIXI Tiksi 45.29 10 LR LR 04 57 30.8
comp=Z,665nm,18.5s,baz=54,slow=40
TIXI Tiksi 45.29 10 ceP P 04 35 11.6 +0.4
TIXI pmax pmax
comp=Z,24nm,1.0s
PEA0B Petropavlovsk- 45.70 42 i P P 04 35 13.0 -1.8
PETK Petropavlovsk- 45.70 42 P P 04 35 14.3 -0.5
PETK Petropavlovsk- 45.70 42 P P 04 35 15.0 +0.2
comp=Z,2.5nm,1.0s,baz=202,slow=6.2,SNR=5.2
PETK PcP PcP 04 36 52.5 0.0
comp=Z,0.8nm,0.6s,baz=302,slow=4.5,SNR=1.7
comp=Z,2.5nm,1.0s
SEY Seymchan 46.14 28 i P P 04 35 16.8 -1.3
SEY pmax pmax
comp=Z,15nm,2.0s
AKT Akhty 47.85 302 eP P 04 35 31.3 -0.6
AKT e 04 36 56.6
AKT e 04 37 20.6
AKT pmax pmax
comp=Z,10.0nm,0.7s
BELG Belogornoye 48.26 316 i P P 04 35 32.8 -1.9
BELG pmax pmax
comp=Z,6.0nm,1.6s
KIRV Kirov 48.36 325 i P P 04 35 33.3 -2.1
GNI Garni 50.21 300 i P P 04 35 50.8 +0.7
GNI pmax pmax
comp=Z,26nm,1.4s
GNI Garni 50.21 300 P P 04 35 51.7 +1.6
comp=Z,13nm,0.9s
KBZ Khabaz 51.26 305 P P 04 35 58.0 +0.3
comp=Z,3.8nm,0.9s,baz=96,slow=11,SNR=9.2
comp=Z,3.8nm,0.9s
KIV Kislovodsk 51.40 305 P 04 35 59.4 +0.5
KIV Kislovodsk 51.40 305 eP P 04 36 00.0 +1.1
KIV pmax pmax
comp=Z,20nm,1.0s
KIV Kislovodsk 51.40 305 P P 04 36 00.0 +1.1
comp=Z,422nmcomp=Z,19nm,1.0s
SHA1 Shidzhatmaz 51.44 305 i P P 04 35 57.8 -1.5
VRH Novokhopyorsk 51.84 314 eP P 04 35 55.5 -6.4
VRH pmax pmax
comp=Z,8.0nm,0.4s
LABN Labinsk 52.75 306 eP P 04 36 09.4 +0.6
LABN pmax pmax
comp=Z,16nm,0.5s
ERBR Yeremizino-Bor 52.83 308 eP P 04 36 09.5 +0.1
ERBR pmax pmax
comp=Z,33nm,1.3s
RAYN Ar Rayn 53.16 279 P 04 36 12.0 -0.2
RAYN IAmb IAmb 04 36 14.0
comp=Z,9.1nm,0.6s
RAYN Ar Rayn 53.16 279 P P 04 36 12.0 -0.2
RAYN pmax pmax
comp=Z,9.0nm,0.6s
BILL Bilibino 53.35 24 ceP P 04 36 13.4 +0.5
BILL pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 53.45 314 eP P 04 36 11.7 -2.1
VSR pmax pmax
comp=Z,7.0nm,0.9s
LPSR Galich'ya Gora 53.58 316 eP P 04 36 06.1 -8.7
LPSR pmax pmax
comp=Z,13nm,0.6s
KLMR Klimovskoe 53.69 326 eP P 04 36 13.5 -1.9
KLMR pmax pmax
comp=Z,33nm,1.3s
MOS Moscow 54.36 320 eP P 04 36 20.0 -0.4
MOS pmax pmax
comp=Z,30nm,0.7s
OBN Obninsk 54.96 319 ||eP P 04 36 25.6 +0.8
OBN e 04 38 28.6
OBN pmax pmax
comp=Z,36nm,1.5s
WB0 Warramunga Arr 55.72 146 P 04 36 29.9 -0.7

WB0 IAmb IAmb 04 36 31.8
comp=Z,16nm,1.1s
WRAB Tennant Creek 55.84 146 P **P** **04 36 31.1 -0.4**
WRAB IAmb IAmb 04 36 32.7
comp=Z,26nm,1.2s
WRAB Tennant Creek 55.84 146 *i* P **P** **04 36 31.2 -0.3**
WRAB pmax pmax
comp=Z,29nm,1.3s
WRA Warramunga Arr 55.84 146 **P** **04 36 30.4 -1.2**
WRA Warramunga Arr 55.84 146 P **P** **04 36 31.7 +0.2**
comp=Z,12nm,0.8s,baz=338,slow=8.3,SNR=110
WRA PcP **PcP** **04 37 30.7 +0.4**
comp=Z,1.7nm,0.5s,baz=339,slow=4.5,SNR=2.1
comp=Z,12nm,0.8s
WRA Warramunga Arr 55.84 146 *i* P **P** **04 36 31.7 +0.2**
WRA pmax pmax
comp=Z,8.0nm,0.4s
WR8 Warramunga Arr 55.94 146 **P** **04 36 31.4 -0.7**
WR8 IAmb IAmb 04 36 35.2
comp=Z,22nm,1.1s
BR131 Keskin Array S 58.70 301 **P** **04 36 51.5 -0.3**
BR131 Keskin Array S 58.70 301 P **P** **04 36 51.5 -0.3**
BR131 pmax pmax
comp=Z,5.0nm,0.7s
BRTR Keskin Array B 58.70 301 **P** **04 36 51.3 -0.5**
BRTR Keskin Array B 58.70 301 P **P** **04 36 52.0 +0.2**
comp=Z,2.6nm,0.6s,baz=106,slow=5.9,SNR=15
comp=Z,2.6nm,0.6s
BR104 Keskin Array S 58.70 301 P **P** **04 36 51.6 -0.2**
comp=Z,47nmcomp=Z,4.6nm,0.7s
BR106 Keskin Array S 58.72 301 P **P** **04 36 51.7 -0.2**
comp=Z,37nmcomp=Z,3.6nm,1.1s
BR105 Keskin Array S 58.72 301 P **P** **04 36 52.2 +0.3**
comp=Z,44nmcomp=Z,3.7nm,0.6s
AS31 Alice Springs 58.82 149 **P** **04 36 52.0 -0.6**
ASAR Alice Springs 58.82 149 **P** **04 36 52.0 -0.6**
ASAR Alice Springs 58.82 149 P **P** **04 36 53.1 +0.6**
comp=Z,7.5nm,0.6s,baz=331,slow=6.9,SNR=62
ASAR PcP **PcP** **04 37 42.6 +0.6**
comp=Z,2.6nm,0.5s,baz=341,slow=4.3,SNR=5.8
comp=Z,7.5nm,0.6s
MMAI Mount Meron Ar 58.94 293 P **P** **04 36 53.9 +0.4**
comp=Z,0.9nm,0.2s,baz=94,slow=8.7,SNR=4.2
comp=Z,0.9nm,0.2s
ANTO Ankara 59.30 302 P **P** **04 36 55.8 -0.1**
ANTO IAmb IAmb 04 36 56.9
comp=Z,9.6nm,0.7s
ANTO Ankara 59.30 302 P **P** **04 36 55.8 -0.1**
ANTO pmax pmax
comp=Z,10.0nm,0.7s
ANTO Ankara 59.30 302 P **P** **04 36 56.2 +0.3**
comp=Z,6.6nm,0.7s
AK09 Malin Array Si 59.73 314 P **P** **04 36 58.6 +0.1**
AK09 pP **pP** **04 37 03.9 +0.2**
AK08 Malin Array Si 59.74 314 P **P** **04 36 58.2 -0.4**
AK10 Malin Array Si 59.75 314 P **P** **04 36 58.7 0.0**
AK10 pP **pP** **04 37 04.0 +0.2**
AKASG Malin Array Be 59.75 315 P **P** **04 36 58.1 -0.6**
AKASG IAmb IAmb 04 37 00.0
comp=Z,11nm,1.4s
AKASG Malin Array Be 59.75 315 P **P** **04 36 58.5 -0.2**
comp=Z,2.0nm,0.5s,baz=74,slow=6.3,SNR=14
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 59.75 315 *ce*P **P** **04 36 58.5 -0.2**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 59.75 315 **P** **04 36 57.9 -0.8**
AKBB IAmb IAmb 04 37 00.6
comp=Z,18nm,1.4s
AKBB Malin Array Si 59.75 315 *ce*P **P** **04 36 57.9 -0.8**
AKBB pmax pmax
comp=Z,19nm,1.5s
AKBB Malin Array Si 59.75 315 P **P** **04 36 58.3 -0.4**
AK01 Malin Array Si 59.76 314 P **P** **04 36 58.3 -0.4**
AK01 pP **pP** **04 37 04.0 +0.1**
KIEV Kiev 59.76 314 **P** **04 36 57.6 -1.1**
KIEV IAmb IAmb 04 36 59.7
comp=Z,25nm,1.5s
KIEV Kiev 59.76 314 P **P** **04 36 57.6 -1.1**
KIEV pmax pmax
comp=Z,25nm,1.5s
KIEV Kiev 59.76 314 P **P** **04 36 58.3 -0.4**
comp=Z,43nm,1.4s
AK02 Malin Array Si 59.77 314 P **P** **04 36 58.6 -0.2**
AK02 pP **pP** **04 37 04.0 0.0**
AK05 Malin Array Si 59.78 314 P **P** **04 36 58.7 -0.2**
AK04 Malin Array Si 59.79 315 P **P** **04 36 58.6 -0.3**
AK06 Malin Array Si 59.79 314 P **P** **04 36 58.8 -0.1**
AK07 Malin Array Si 59.79 314 P **P** **04 36 59.1 +0.2**
AK07 pP **pP** **04 37 04.4 +0.3**
AK11 Malin Array Si 59.79 314 P **P** **04 36 58.5 -0.4**
AK12 Malin Array Si 59.80 314 P **P** **04 36 59.0 0.0**
AK16 Malin Array Si 59.83 314 P **P** **04 36 59.0 -0.2**
AK14 Malin Array Si 59.84 314 P **P** **04 36 59.1 -0.2**
AK14 pP **pP** **04 37 04.5 +0.1**
AK22 Malin Array Si 59.84 315 P **P** **04 36 59.0 -0.3**
AK18 Malin Array Si 59.85 315 P **P** **04 36 59.1 -0.2**
AK21 Malin Array Si 59.85 315 P **P** **04 36 59.0 -0.4**
AK17 Malin Array Si 59.86 315 P **P** **04 36 59.2 -0.2**
AK20 Malin Array Si 59.88 315 P **P** **04 36 59.4 -0.2**
AK19 Malin Array Si 59.88 315 P **P** **04 36 59.4 -0.2**
ARCES ARCESS Array B 60.01 336 P **P** **04 37 00.0 -0.2**
comp=Z,3.8nm,0.8s,baz=85,slow=6.3,SNR=13
ARCES PcP **PcP** **04 37 45.6 -0.5**
comp=Z,1.5nm,0.6s,baz=77,slow=4.0,SNR=4.5
ARCES LR LR 05 05 26.4
comp=Z,483nm,18.6s,baz=348,slow=38
comp=Z,3.8nm,0.8s
VSU Vasula 60.17 324 *ce*P **P** **04 37 01.4 0.0**
VSU pmax pmax
comp=Z,61nm,2.5s
FINES FINESS Array B 60.20 327 P **P** **04 37 01.9 +0.3**
comp=Z,2.8nm,0.6s,baz=70,slow=5.2,SNR=9.5
comp=Z,2.8nm,0.6s
FINES FINESS Array B 60.20 327 *i* P **P** **04 37 01.9 +0.3**
FINES pmax pmax
comp=Z,5.0nm,0.9s
MI28 MI28,Pidlybu 60.69 315 P **P** **04 37 05.3 +0.2**
LUBAR Lubar, Ukraine 60.81 314 P **P** **04 37 06.0 +0.1**
BORA Eskisehir 61.05 302 **P** **04 37 06.8 -1.1**
BORA IAmb IAmb 04 37 09.9
comp=Z,21nm,1.5s
TPGR Topolog 61.37 308 ⇓P **P** **04 37 10.0 +0.1**
ISP Isparta 61.52 300 *ce*P **P** **04 37 11.0 -0.1**
ISP pmax pmax
comp=Z,15nm,0.7s
HARR Harsova 61.75 308 ⇑P **P** **04 37 12.6 +0.2**
GAMB Gambell 62.06 30 P **P** **04 37 14.3 +0.2**
baz=278
SPITS Spitsbergen Ar 62.13 347 PcP **PcP** **04 37 54.5 0.0**
comp=Z,8.8nm,0.9s,baz=95,slow=5.2,SNR=4.7
VRI Vrincioaia 62.31 309 ⇑P **P** **04 37 17.4 +1.1**
PLOR Plostina 62.37 309 ⇓P **P** **04 37 18.1 +1.5**
ONER Baraj Valea Uz 62.43 310 ⇑P **P** **04 37 17.4 +0.4**
OZUR 62.90 310 ⇓P **P** **04 37 21.4 +1.3**
MLR Muntele Rosu 62.93 309 **P** **04 37 20.5 0.0**
MLR IAmb IAmb 04 37 22.6
comp=Z,11nm,0.9s
MLR Muntele Rosu 62.93 309 ⇓P **P** **04 37 21.6 +1.1**
MLR Muntele Rosu 62.93 309 P **P** **04 37 20.5 0.0**
MLR pmax pmax
comp=Z,11nm,0.9s
TNA Tin City 63.38 28 P **P** **04 37 23.0 +0.1**
baz=280
VOIR 63.56 309 ⇓P **P** **04 37 24.9 +0.4**
C16K Lisburne Hills 63.88 24 P **P** **04 37 25.4 -0.7**
baz=281
SPIA Saint Paul Isl 63.92 37 P **P** **04 37 25.6 -1.0**
baz=282
F14K Arctic Creek 64.05 28 P **P** **04 37 26.8 -0.6**
baz=282
KWP Kalwaria Pacla 64.07 314 *eP* **P** **04 37 28.7 +0.9**
P08K Saint George I 64.42 38 P **P** **04 37 29.3 -0.6**
baz=283
C17K DeLong Mountai 64.62 24 P **P** **04 37 31.0 -0.1**
baz=283
ANM Nome 64.64 29 P **P** **04 37 31.0 -0.3**
baz=283
F15K North Star Dit 64.69 27 P **P** **04 37 30.9 -0.6**
baz=283
DRGR 64.78 311 ⇑P **P** **04 37 33.7 +1.1**
RDOG Red Dog Mine 64.82 25 P **P** **04 37 32.4 0.0**
baz=283
D17K Noatak River 64.84 25 P **P** **04 37 32.4 -0.1**
baz=283

B18K Kokolik River 64.90 23 P **P** **04 37 32.9 +0.1**
baz=284
A19K Wainwright 64.95 22 P **P** **04 37 33.1 0.0**
baz=284
G15K Niukluk 65.10 28 P **P** **04 37 34.7 +0.5**
baz=284
M11K Mekoryuk 65.24 33 P **P** **04 37 35.1 -0.1**
baz=284
C18K Utukok River 65.29 24 P **P** **04 37 35.5 0.0**
baz=285
SURR Surduc 65.46 310 ⇑P **P** **04 37 37.6 +0.7**
E17K Hotham Inlet 65.46 25 P **P** **04 37 35.9 -0.6**
baz=285
HERR Herculane 65.50 309 ⇓P **P** **04 37 37.8 +0.6**
K13K Kusilvak Mount 65.58 31 P **P** **04 37 37.6 +0.2**
K13K Kusilvak Mount 65.58 31 P **P** **04 37 37.0 -0.4**
baz=285
SJRR Siria 65.62 311 ⇑P **P** **04 37 38.2 +0.2**
NIE Niedzica 65.64 314 *eP* **P** **04 37 39.5 +1.4**
G16K Koyuk River 65.69 27 P **P** **04 37 37.0 -1.0**
baz=285
NIKH Nikolski High 65.71 41 P **P** **04 37 38.0 -0.3**
baz=285
C19K Lookout Ridge 65.73 23 P **P** **04 37 39.3 +1.0**
C19K Lookout Ridge 65.73 23 P **P** **04 37 38.2 -0.2**
baz=286
OJC Ojcow 65.74 315 *eP* **P** **04 37 39.0 +0.3**
E18K Tukpahlearik C 65.83 25 P **P** **04 37 38.3 -0.6**
baz=286
F17K Baldwin Pennin 65.85 26 P **P** **04 37 38.8 -0.2**
baz=286
J14K Nanvaranak Lak 65.87 30 P **P** **04 37 39.4 +0.2**
baz=285
H16K Elim 65.93 28 P **P** **04 37 39.7 +0.1**
baz=285
MDVR Moldovita 66.01 309 ⇑P **P** **04 37 40.8 +0.3**
B20K Meade River 66.29 22 P **P** **04 37 42.6 +0.9**
B20K Meade River 66.29 22 P **P** **04 37 42.1 +0.3**
baz=288
G17K Kiwalik Mounta 66.34 27 P **P** **04 37 41.8 -0.4**
baz=286
BOVS Bovan 66.35 308 ⇓P **P** **04 37 43.1 +0.5**
HFS Hagfors 66.41 327 P **P** **04 37 42.4 -0.3**
comp=Z,3.2nm,0.6s,baz=77,slow=6.5,SNR=9.4
HFS LR LR 05 08 49.2
comp=Z,528nm,19.1s,baz=348,slow=38
comp=Z,3.2nm,0.6s
F18K Selawik 66.42 26 P **P** **04 37 42.3 -0.3**
baz=287
D19K Kuna River 66.42 24 P **P** **04 37 43.1 +0.4**
D19K Kuna River 66.42 24 P **P** **04 37 42.9 +0.2**
baz=287
M13K Dall Lake 66.60 33 P **P** **04 37 44.4 +0.5**
baz=286
L14K Kuka Creek 66.65 32 P **P** **04 37 44.8 +0.6**
L14K Kuka Creek 66.65 32 P **P** **04 37 43.9 -0.3**
baz=286
A22K Sinclair Lake 66.67 21 P **P** **04 37 44.3 +0.1**
baz=288
I17K Unalakleet 66.79 29 P **P** **04 37 44.8 -0.3**
baz=287
H17K Granite Mounta 66.81 27 P **P** **04 37 45.1 -0.1**
baz=287
UNV Unalaska Valle 66.82 40 P **P** **04 37 45.6 +0.2**
baz=287
VYHS Vyhne 66.83 314 *eP* **P** **04 37 46.4 +0.7**
VYHS Vyhne 66.83 314 *eP* **P** **04 37 46.4 +0.7**
D20K Etivluk River 66.88 23 P **P** **04 37 46.0 +0.4**
D20K Etivluk River 66.88 23 P **P** **04 37 45.6 0.0**
baz=289
K15K Wolf Creek Mou 66.90 30 P **P** **04 37 45.2 -0.7**
baz=287
J16K Anvik River 67.01 29 P **P** **04 37 46.0 -0.5**
baz=287
G18K Tagagawik 67.02 26 P **P** **04 37 46.1 -0.4**
baz=288
F19K Shaleruckik Mo 67.06 25 P **P** **04 37 46.9 +0.1**
F19K IAmb IAmb 04 37 47.9
comp=Z,14nm,1.1s
F19K Shaleruckik Mo 67.06 25 P **P** **04 37 45.6 -1.1**
baz=288
E19K Redstone River 67.06 25 P **P** **04 37 47.0 +0.2**
E19K IAmb IAmb 04 37 48.4
comp=Z,17nm,1.2s
E19K Redstone River 67.06 25 P **P** **04 37 46.1 -0.7**
baz=289
L15K Ungalak Mounta 67.10 31 P **P** **04 37 45.9 -1.2**
baz=287
M14K Bethel 67.16 32 P **P** **04 37 46.3 -1.2**
baz=287
E20K Nigu River 67.17 24 P **P** **04 37 46.6 -1.0**
baz=289
B21K Ikpikpuk River 67.25 22 P **P** **04 37 48.5 +0.6**
B21K Ikpikpuk River 67.25 22 P **P** **04 37 46.7 -1.2**
baz=290
MORC Moravsky Berou 67.26 315 **P** **04 37 49.1 +0.7**
MORC IAmb IAmb 04 37 49.7
comp=Z,6.7nm,1.0s
MORC Moravsky Berou 67.26 315 *eP* **P** **04 37 48.8 +0.4**
MORC Moravsky Berou 67.26 315 ⇑P **P** **04 37 48.9 +0.5**
MORC Moravsky Berou 67.26 315 P **P** **04 37 49.1 +0.7**
MORC pmax pmax
comp=Z,7.0nm,1.0s
NB2 NORSAR Subarra 67.31 328 P **P** **04 37 47.7 -0.9**
comp=Z,35nm,1.7s,baz=72,slow=6.9
NOA NORSAR Array B 67.31 328 P **P** **04 37 47.5 -1.0**
comp=Z,3.2nm,0.9s,baz=73,slow=6.8,SNR=7.9
NOA LR LR 05 08 48.5
comp=Z,114nm,19.0s,baz=330,slow=37
comp=Z,3.2nm,0.9s
C21K Knifeblade Rid 67.35 22 P **P** **04 37 48.4 -0.2**
baz=290
H18K Honhosa River 67.36 27 P **P** **04 37 47.9 -0.9**
baz=288
B22K Teshekpuk Lake 67.38 21 P **P** **04 37 48.1 -0.6**
baz=291
N14K Kuskokwak Cree 67.54 33 P **P** **04 37 49.1 -0.8**
baz=288
G19K Puma Mounta 67.54 26 P **P** **04 37 49.2 -0.6**
baz=289
J17K VABM Dome 67.63 29 P **P** **04 37 50.4 -0.1**
baz=289
KRLC Kraliky 67.64 316 *eP* **P** **04 37 51.6 +0.8**
KRLC Kraliky 67.64 316 *eP* **P** **04 37 51.6 +0.8**
MORH Mrgy, Hungar 67.64 311 ⇓P **P** **04 37 50.7 -0.1**
KSP Ksiaz 67.70 317 *eP* **P** **04 37 52.0 +0.9**
F20K Avaraart Lake 67.75 25 P **P** **04 37 51.3 +0.2**
F20K IAmb IAmb 04 37 55.1
comp=Z,12nm,1.2s
F20K Avaraart Lake 67.75 25 P **P** **04 37 51.0 -0.1**
baz=290
M15K Kasigluk River 67.77 32 P **P** **04 37 51.1 -0.2**
baz=288
MODS Modra-Piesok 67.85 314 *eP* **P** **04 37 52.6 +0.4**
MODS Modra-Piesok 67.85 314 *eP* **P** **04 37 52.6 +0.4**
E21K Killik River 67.88 23 P **P** **04 37 52.2 +0.2**
E21K Killik River 67.88 23 P **P** **04 37 51.6 -0.4**
baz=291
O14K Tigyukauivet M 67.95 34 P **P** **04 37 52.5 0.0**
baz=288
VRAC Vrancea 67.99 315 *eP* **P** **04 37 53.9 +0.9**
H19K Roundabout Mou 68.00 26 P **P** **04 37 53.1 +0.4**
H19K Roundabout Mou 68.00 26 P **P** **04 37 52.6 -0.1**
baz=290
L16K Owhat River 68.00 31 P **P** **04 37 53.3 +0.5**
baz=289
GCSA Galena City Sc 68.09 27 P **P** **04 37 53.3 0.0**
baz=290
D22K Ayikyak River 68.16 22 P **P** **04 37 54.0 +0.3**
baz=292
K17K Iditarod 68.19 30 P **P** **04 37 54.2 +0.2**
baz=290
KRUC Moravsky 68.19 315 *eP* **P** **04 37 54.9 +0.6**
N15K Kwethluk River 68.22 32 P **P** **04 37 54.9 +0.6**
baz=289
L17K Donlin 68.39 30 P **P** **04 37 55.8 +0.6**
baz=290
PDG Podgorica 68.43 307 P **P** **04 37 55.2 -0.6**
PDG IAmb IAmb 04 37 56.8
comp=Z,19nm,1.4s
C23K Itkillik River 68.46 21 P **P** **04 37 55.4 -0.2**
baz=294
M16K Timber Creek 68.47 31 P **P** **04 37 56.1 +0.3**
baz=290
F21K Alatna River 68.50 24 IAmb IAmb 04 38 01.9
comp=Z,20nm,1.4s
F21K Alatna River 68.50 24 P **P** **04 37 56.3 +0.4**
baz=292
J18K Innoko River 68.61 29 IAmb IAmb 04 38 01.6
comp=Z,12nm,0.8s
J18K Innoko River 68.61 29 P **P** **04 37 57.0 +0.3**
baz=291
H20K Anotleneega Mo 68.62 26 P **P** **04 37 57.2 +0.5**
baz=291
O15K Ungalikthiuk R 68.68 33 P **P** **04 37 57.2 +0.1**
baz=290
RONA Rosalia, Austr 68.69 314 *eP* **P** **04 37 57.5 +0.1**
comp=Z,4.5nm,1.2s
S12K Black Hills 68.70 37 P **P** **04 37 56.8 -0.4**
baz=289
N16K Nishlik Lake 68.74 32 P **P** **04 37 56.8 -0.7**
baz=290
E22K Anaktuvuk Pass 68.74 23 IAmb IAmb 04 37 59.2
comp=Z,16nm,1.0s
E22K Anaktuvuk Pass 68.74 23 P **P** **04 37 57.3 -0.1**
baz=293
G21K Allakaket 68.76 25 P **P** **04 37 56.9 -0.6**
baz=292
D23K Nanushuk River 68.79 22 P **P** **04 37 57.4 -0.2**
baz=294
F22K John River 68.86 24 P **P** **04 37 58.1 -0.1**
baz=293
IMAR Indian Mountai 68.87 25 P **P** **04 37 58.6 +0.4**
J19K Poorman 68.87 28 IAmb IAmb 04 38 00.3
comp=Z,15nm,1.1s
J19K Poorman 68.87 28 P **P** **04 37 58.4 +0.1**
baz=291
CONA Conrad Observa 68.89 314 *eP* **P** **04 37 59.4 +0.6**
comp=Z,2.1nm,0.6s
M17K Holitna River 69.03 31 P **P** **04 38 00.0 +0.8**
baz=291
I20K Naaghedeneel 69.04 27 P **P** **04 37 59.2 0.0**
baz=292
L18K Granite Mounta 69.06 30 P **P** **04 38 00.1 +0.7**
baz=291
C24K Franklin Bluff 69.12 21 P **P** **04 37 59.4 -0.2**
baz=295
TOLK Toolik Lake Re 69.29 22 IAmb IAmb 04 38 06.0
comp=Z,11nm,1.0s
TOLK Toolik Lake Re 69.29 22 P **P** **04 38 00.2 -0.6**
baz=295
D24K Happy Valley 69.32 22 IAmb IAmb 04 38 02.0
comp=Z,9.4nm,0.7s
D24K Happy Valley 69.32 22 P **P** **04 38 00.5 -0.5**
baz=295
H21K Melozitna Rive 69.36 26 IAmb IAmb 04 38 03.2
comp=Z,10nm,1.1s
H21K Melozitna Rive 69.36 26 P **P** **04 38 01.6 +0.4**
baz=293
STKA Stephens Creek 69.36 147 P **P** **04 38 00.9 -0.7**
STKA Stephens Creek 69.36 147 P **P** **04 38 01.1 -0.5**
comp=Z,3.9nm,0.7s,baz=331,slow=7.4,SNR=8.7
comp=Z,3.9nm,0.7s
O16K Kokwok River B 69.37 33 P **P** **04 38 01.8 +0.4**
baz=291
J20K Nowinta River 69.41 27 IAmb IAmb 04 38 06.8
comp=Z,8.7nm,0.8s
J20K Nowinta River 69.41 27 P **P** **04 38 01.7 +0.1**
baz=292
ZVC Zvikov 69.43 316 *eP* **P** **04 38 04.2 +2.2**
N17K Nushagak Hills 69.45 32 IAmb IAmb 04 38 04.7
comp=Z,19nm,1.2s
N17K Nushagak Hills 69.45 32 P **P** **04 38 02.2 +0.3**
baz=291
CLL Collm 69.52 318 *i* P **P** **04 38 03.2 +0.8**
CLL Collm 69.52 318 *i* P **P** **04 38 03.2 +0.8**
E23K Chandalar 69.53 23 P **P** **04 38 02.9 +0.5**
baz=295
CKRC Cesky Krumlov 69.57 315 *eP* **P** **04 38 04.3 +1.4**
CKRC Cesky Krumlov 69.57 315 *eP* **P** **04 38 04.3 +1.4**
P16K Nushagak River 69.62 33 P **P** **04 38 03.7 +0.8**
baz=291
SDPT Sand Point 69.67 37 P **P** **04 38 02.7 -0.5**
baz=290
COLD Coldfoot 69.67 24 IAmb IAmb 04 38 05.0
comp=Z,20nm,1.4s
COLD Coldfoot 69.67 24 P **P** **04 38 03.2 +0.1**
baz=295
M18K Stony River 69.71 30 P **P** **04 38 03.9 +0.5**
baz=292
K20K Telida 69.75 28 IAmb IAmb 04 38 06.2
comp=Z,12nm,1.2s
K20K Telida 69.75 28 P **P** **04 38 04.4 +0.7**
baz=293
O17K Koliganek Bris 69.77 32 P **P** **04 38 04.3 +0.4**
baz=292
H22K Ishtalitna Cre 69.80 25 P **P** **04 38 03.9 -0.1**
baz=294
SOKA Soboth 69.85 313 *eP* **P** **04 38 05.0 +0.3**
comp=Z,3.7nm,0.6s
L19K White Mountain 69.88 29 IAmb IAmb 04 38 07.0
comp=Z,28nm,1.3s
L19K White Mountain 69.88 29 P **P** **04 38 04.7 +0.2**
baz=293,SNR=5.4
E24K Your Creek 69.90 23 P **P** **04 38 04.9 +0.2**
baz=296
KHC Kasperske Hory 69.92 316 *eP* **P** **04 38 05.3 +0.3**
KHC Kasperske Hory 69.92 316 *eP* **P** **04 38 05.3 +0.3**
MOA Molln 69.93 314 *eP* **P** **04 38 06.0 +0.9**
comp=Z,7.4nm,1.4s
GEC2 GERESS Array S 69.94 315 P **P** **04 38 05.3 0.0**
GEC2 IAmb IAmb 04 38 07.0
comp=Z,9.4nm,1.2s
GERES GERESS Array B 69.94 315 P **P** **04 38 05.2 0.0**
GERES GERESS Array B 69.94 315 P **P** **04 38 05.8 +0.6**
comp=Z,1.9nm,0.6s,baz=72,slow=4.3,SNR=15
comp=Z,1.9nm,0.6s
G23K Bananza Creek 69.96 24 IAmb IAmb 04 38 06.8
comp=Z,12nm,1.2s
G23K Bananza Creek 69.96 24 P **P** **04 38 04.7 -0.2**
baz=295
N18K Kilae Creek 69.99 31 P **P** **04 38 05.2 -0.1**
baz=292
D25K Kavik River 70.03 21 P **P** **04 38 05.7 +0.3**
baz=297
L20K Farewell, AK 70.18 29 P **P** **04 38 07.1 +0.7**
baz=293
M19K Big River Lodg 70.19 30 P **P** **04 38 07.1 +0.6**
baz=293
CHUM Lake Minchumin 70.26 27 P **P** **04 38 07.5 +0.7**
baz=294
P17K Kvichak River 70.30 33 P **P** **04 38 07.5 +0.4**
baz=292
CHNA Chernabura Isl 70.33 38 P **P** **04 38 07.9 +0.6**
baz=291
F24K Squaw Lake 70.35 23 P **P** **04 38 07.6 +0.2**
baz=297
BIOA Bad Ischl, Aus 70.39 314 *eP* **P** **04 38 08.4 +0.5**
comp=Z,3.1nm,0.5s
MLY Manley 70.41 26 IAmb IAmb 04 38 09.8
comp=Z,19nm,1.2s
MLY Manley 70.41 26 P **P** **04 38 08.6 +0.8**
baz=295
H23K Yukon River 70.52 25 IAmb IAmb 04 38 10.8
comp=Z,14nm,1.1s
H23K Yukon River 70.52 25 P **P** **04 38 08.6 +0.2**
baz=296
CAST Castle Rocks 70.55 28 IAmb IAmb 04 38 10.8
comp=Z,26nm,1.6s
CAST Castle Rocks 70.55 28 P **P** **04 38 09.6 +1.0**
baz=294
N19K Bonanza Creek 70.58 31 IAmb IAmb 04 38 10.8
comp=Z,12nm,0.8s
N19K Bonanza Creek 70.58 31 P **P** **04 38 08.8 -0.2**
baz=293,SNR=5.9
O18K Koktuh Hills 70.62 32 P **P** **04 38 09.3 +0.2**
baz=293
BPAW Bear Paw Mtn. 70.70 27 IAmb IAmb 04 38 11.4
comp=Z,22nm,1.2s
BPAW Bear Paw Mtn. 70.70 27 P **P** **04 38 09.8 +0.2**
baz=295
C27K Jago River 70.71 20 P **P** **04 38 08.9 -0.6**
baz=300
PPLA Purkeypile 70.72 28 P **P** **04 38 09.5 -0.3**
baz=294
M20K Styx River 70.74 29 IAmb IAmb 04 38 14.5
comp=Z,24nm,1.2s
M20K Styx River 70.74 29 P **P** **04 38 09.5 -0.4**
baz=294
KBA Koelnbreinsper 70.79 314 *eP* **P** **04 38 10.3 -0.3**
comp=Z,0.4nm,0.6s
P18K Big Mountain, 70.80 32 IAmb IAmb 04 38 12.2
comp=Z,15nm,1.1s
P18K Big Mountain, 70.80 32 P **P** **04 38 10.0 -0.2**
baz=293

E25K	**Arctic Village**	70.86	22	P		**P**	04 38 10.4	0.0		
	baz=298									
G24K	**Hadweenzic Riv**	70.87	24	IAmb		IAmb	04 38 12.4			
	comp=Z,16nm,1.2s									
G24K	**Hadweenzic Riv**	70.87	24	P		**P**	04 38 10.7	+0.2		
	baz=297									
PRED	**Cave del Predi**	70.88	313	P		**P**	04 38 10.6	-0.4		
PRED				IAmb		IAmb	04 38 13.1			
	comp=Z,13nm,1.6s									
O19K	**Port Alsworth**	70.90	31	P		**P**	04 38 11.1	+0.3		
	baz=294									
Q17K	**Contact Creek**	70.93	34	P		**P**	04 38 10.4	-0.7		
	baz=293									
R17L	**Mt. Peulik Vol**	70.94	34	P		**P**	04 38 10.6	-0.4		
	baz=293									
KTH	**Kantishna Hill**	70.97	27	IAmb		IAmb	04 38 13.3			
	comp=Z,20nm,1.4s									
KMBO	**Kilima Mbogo**	70.98	258			**P**	04 38 12.4	+0.1		
KMBO				IAmb		IAmb	04 38 15.2			
	comp=Z,11nm,1.0s									
KMBO	**Kilima Mbogo**	70.98	258	P		**P**	04 38 12.4	+0.1		
KMBO				pmax		pmax				
	comp=Z,11nm,1.0s									
F25K	**Christian Rive**	71.08	22	P		**P**	04 38 11.3	-0.6		
	baz=299									
LESA	**Schwarzleotal**	71.09	314	*e*P		**P**	04 38 12.6	+0.4		
	comp=Z,9.7nm,1.1s									
H24K	**Noodor Dome**	71.12	25	IAmb		IAmb	04 38 14.2			
	comp=Z,16nm,1.3s									
H24K	**Noodor Dome**	71.12	25	P		**P**	04 38 12.0	-0.1		
	baz=297									
Q18K	**Katmai Hardscr**	71.20	33	P		**P**	04 38 11.7	-1.0		
	baz=294									
NEA2	**Nenana**	71.24	26	P		**P**	04 38 12.1	-0.7		
	baz=297									
TRF	**Thorofare Moun**	71.27	27	P		**P**	04 38 13.4	+0.2		
	baz=296									
G25K	**Bearman Lake**	71.32	23	P		**P**	04 38 13.9	+0.7		
	baz=298									
SKT	**Skwentna**	71.39	29	IAmb		IAmb	04 38 15.1			
	comp=Z,26nm,1.3s									
SKT	**Skwentna**	71.39	29	P		**P**	04 38 14.4	+0.7		
	baz=295									
N20K	**Mount Spurr**	71.43	30	P		**P**	04 38 15.2	+1.1		
	baz=295									
SPCR	**Spurr Chakacha**	71.43	30	P		**P**	04 38 15.1	+1.0		
	baz=295									
BMAR	**Burnt Mountain**	71.52	22			**P**	04 38 15.5	+1.1		
ILSW	**Iliamna Southw**	71.52	31	IAmb		IAmb	04 38 17.9			
	comp=Z,9.0nm,1.0s									
F26K	**Sheenjek River**	71.53	22	P		**P**	04 38 14.3	-0.2		
	baz=300									
COLA	**College**	71.58	25	P		**P**	04 38 15.4	+0.7		
COLA	**College**	71.58	25	*i* P		**P**	04 38 15.1	+0.4		
COLA				pmax		pmax				
	comp=Z,24nm,1.1s									
COLA	**College**	71.58	25	P		**P**	04 38 15.2	+0.5		
	baz=298									
P19K	**Oil Pt**	71.62	32	P		**P**	04 38 15.3	+0.1		
	baz=295									
H25L	**Birch Creek**	71.66	24	P		**P**	04 38 15.7	+0.4		
	baz=299									
MCK	**McKinley**	71.68	27	P		**P**	04 38 15.6	+0.1		
	baz=297									
O20K	**Slope Mountain**	71.72	31	P		**P**	04 38 15.4	-0.4		
	baz=295									
Q19K	**Cape Douglas,**	71.73	32	P		**P**	04 38 15.5	-0.3		
	baz=295									
CUT	**Chulitna**	71.74	28	P		**P**	04 38 15.9	+0.1		
	baz=296									
D27M	**Malcolm River**	71.74	20	P		**P**	04 38 15.6	-0.2		
	baz=302									
WTTA	**Wattenberg**	71.81	314	*e*P		**P**	04 38 16.8	+0.1		
	comp=Z,3.4nm,0.5s									
WATA	**Walderalm**	71.81	314	*e*P		**P**	04 38 16.9	+0.2		
	comp=Z,4.3nm,0.6s									
RND	**Reindeer**	71.86	27	IAmb		IAmb	04 38 17.6			
	comp=Z,14nm,1.1s									
SUA	**Susitna One**	71.95	29	IAmb		IAmb	04 38 18.5			
	comp=Z,21nm,1.0s									
SUA	**Susitna One**	71.95	29	P		**P**	04 38 16.8	-0.4		
	baz=296									
IL31		71.99	25	IAmb		IAmb	04 38 17.9			
	comp=Z,15nm,1.6s									
ILAR	**Eielson Array**	71.99	25	P		**P**	04 38 16.5	-0.8		
ILAR	**Eielson Array**	71.99	25	P		**P**	04 38 16.7	-0.6		
	comp=Z,1.3nm,0.5s,baz=283,slow=5.1,SNR=21									
	comp=Z,1.3nm,0.5s									
G26K	**Porcupine Rive**	72.03	23	P		**P**	04 38 17.4	0.0		
	baz=300									
CHIR	**Chirikof Islan**	72.04	36	P		**P**	04 38 17.9	+0.3		
	baz=294									
CAPN	**Captain Cook N**	72.08	30	P		**P**	04 38 17.8	0.0		
	baz=296									
M22K	**Willow**	72.09	29	P		**P**	04 38 18.0	+0.1		
	baz=297									
SQTA	**Sankt Quirin**	72.09	314	*e*P		**P**	04 38 18.3	-0.1		
	comp=Z,8.9nm,0.6s									
E27K	**Coleen River**	72.11	21	P		**P**	04 38 18.3	+0.3		
	baz=302									
MOTA	**Moosalm**	72.11	315	*e*P		**P**	04 38 17.3	-1.2		
	comp=Z,5.4nm,0.9s									
PRP	**Porcupine Dome**	72.13	24	P		**P**	04 38 17.6	-0.7		
	baz=299									
HDA	**Harding Lake**	72.14	26	P		**P**	04 38 18.0	-0.2		
	baz=298									
WAT1	**Susitna Watana**	72.25	28	P		**P**	04 38 19.0	0.0		
	baz=298									
CEL	**Celeste**	72.31	304	IAmb		IAmb	04 38 20.8			
	comp=Z,13nm,1.0s									
HOM	**Homer**	72.35	31	P		**P**	04 38 19.0	-0.5		
	baz=296									
D28M	**Stokes Point**	72.36	20	P		**P**	04 38 19.0	-0.4		
	baz=304									
Q20K	**Shuyak Island**	72.46	32	P		**P**	04 38 19.4	-0.7		
	baz=296									
SII	**Sitkinak Islan**	72.46	35	P		**P**	04 38 20.4	+0.1		
	baz=295									
FDMO	**Fiordimonte**	72.46	310	IAmb		IAmb	04 38 21.6			
	comp=Z,8.1nm,0.9s									
FETA	**Feichten**	72.47	314	*e*P		**P**	04 38 20.5	-0.2		
	comp=Z,10.0nm,1.2s									
E28M	**Babbage River**	72.52	20	P		**P**	04 38 20.1	-0.3		
	baz=304									
RC01	**Rabbit Creek A**	72.55	29	P		**P**	04 38 20.7	0.0		
	baz=297									
PMR	**Palmer**	72.58	29	IAmb		IAmb	04 38 21.9			
	comp=Z,17nm,1.0s									
PMR	**Palmer**	72.58	29	P		**P**	04 38 20.5	-0.3		
	baz=297									
GHO	**Glory Hole Cre**	72.59	29	IAmb		IAmb	04 38 22.5			
	comp=Z,29nm,1.6s									
DHY	**Denali Highway**	72.61	27	P		**P**	04 38 21.0	-0.2		
	baz=298									
OHAK	**Old Harbor**	72.62	34	P		**P**	04 38 21.0	-0.2		
	baz=295									
J25K	**Salcha River,**	72.64	25	P		**P**	04 38 20.1	-1.1		
	baz=300,SNR=5.7									
WAT6	**Susitna Watana**	72.70	28	P		**P**	04 38 22.0	+0.3		
	baz=298									
KDAK	**Kodiak Island**	72.73	33	P		**P**	04 38 21.8	0.0		
	comp=Z,9.9nm,0.6s,baz=342,slow=2.5,SNR=30									
	comp=Z,9.9nm,0.6s									
KDAK	**Kodiak Island**	72.73	33	P		**P**	04 38 21.2	-0.5		
	baz=296									
G27K	**Doyon Strip**	72.82	22	P		**P**	04 38 21.7	-0.6		
	baz=302									
K24K	**Donnelly Dome**	72.88	26	P		**P**	04 38 22.5	-0.1		
	baz=300									
DAVA	**Damuels**	72.90	315	*e*P		**P**	04 38 23.0	-0.2		
	comp=Z,9.6nm,1.4s									
FUORN	**Ofenpass-Fuorn**	72.92	314			**P**	04 38 23.3	-0.1		
FUORN				IAmb		IAmb	04 38 39.5			
	comp=Z,17nm,1.6s									
KNK	**Knik Glacier**	72.95	29	P		**P**	04 38 22.8	-0.3		
	baz=298									
F28M	**Old Crow**	72.97	21	P		**P**	04 38 23.1	0.0		
	baz=304									
M23K	**Glacier View**	73.08	28	P		**P**	04 38 23.9	+0.1		
	baz=298									
I26K	**Coal Creek Min**	73.10	24	IAmb		IAmb	04 38 25.3			
	comp=Z,10nm,1.1s									
I26K	**Coal Creek Min**	73.10	24	P		**P**	04 38 24.2	+0.4		
	baz=301									
SEW	**Seward**	73.13	30	P		**P**	04 38 24.7	+0.6		
	baz=298									
E29M	**Blow River**	73.14	20	P		**P**	04 38 23.7	-0.4		
	baz=305									
H27K	**Steamboat Moun**	73.18	23	IAmb		IAmb	04 38 26.6			
	comp=Z,19nm,1.1s									
H27K	**Steamboat Moun**	73.18	23	P		**P**	04 38 24.2	-0.1		
	baz=302,SNR=18									
SCM	**Sheep Creek Mo**	73.23	28	P		**P**	04 38 25.2	+0.4		
	baz=299									
PWL	**Port Wells**	73.27	29	P		**P**	04 38 25.3	+0.3		
	baz=298									
RIDG	**Independent Ri**	73.27	26	IAmb		IAmb	04 38 25.7			
	comp=Z,17nm,1.2s									
RIDG	**Independent Ri**	73.27	26	P		**P**	04 38 24.8	-0.2		
	baz=300									
J26L	**Joseph Creek**	73.37	25	IAmb		IAmb	04 38 26.4			
	comp=Z,14nm,0.9s									
J26L	**Joseph Creek**	73.37	25	P		**P**	04 38 25.6	0.0		
	baz=301,SNR=23									
NEEM	**North Greenlan**	73.42	355	*i* P		**P**	04 38 27.0	+1.1		
NEEM				IAmb		IAmb	04 38 28.6			
	comp=Z,21nm,0.9s									
PAX	**Paxson**	73.42	27	IAmb		IAmb	04 38 27.2			
	comp=Z,18nm,1.6s									
PAX	**Paxson**	73.42	27	P		**P**	04 38 25.8	-0.1		
	baz=300									
SCRK	**Sand Creek**	73.48	25	P		**P**	04 38 26.5	+0.2		
	baz=301									
I27K	**Kandik River**	73.48	23	P		**P**	04 38 26.3	+0.1		
	baz=302									
M24K	**Tolsona, Glenn**	73.57	28	P		**P**	04 38 27.0	+0.2		
	baz=300									
GLI	**Glacier Island**	73.79	29	P		**P**	04 38 27.6	-0.4		
	baz=299									
HARP	**HAARP**	73.83	27	P		**P**	04 38 28.2	-0.1		
	baz=300									
G29M	**Pine Creek**	73.96	21	IAmb		IAmb	04 38 30.6			
	comp=Z,19nm,1.4s									
G29M	**Pine Creek**	73.96	21	P		**P**	04 38 29.0	+0.1		
	baz=305									
KLU	**Klutina**	73.98	28	IAmb		IAmb	04 38 31.1			
	comp=Z,23nm,1.0s									
KLU	**Klutina**	73.98	28	P		**P**	04 38 29.1	-0.1		
	baz=300									
P23K	**Montague Islan**	74.09	30	P		**P**	04 38 29.8	+0.1		
	baz=299									
A36M	**Sachs Harbour**	74.11	14	IAmb		IAmb	04 38 31.3			
	comp=Z,24nm,1.1s									
A36M	**Sachs Harbour**	74.11	14	P		**P**	04 38 29.8	+0.1		
	baz=315									
I28M	**Miner Creek**	74.15	23	P		**P**	04 38 30.9	+0.7		
	baz=304,SNR=6.2									
K27K	**Chicken**	74.17	25	IAmb		IAmb	04 38 32.2			
	comp=Z,18nm,1.2s									
K27K	**Chicken**	74.17	25	P		**P**	04 38 29.8	-0.3		
	baz=303									
L26K	**Log Cabin Wild**	74.22	26	P		**P**	04 38 29.5	-1.1		
	baz=302									
F30M	**Barrier River**	74.25	20	IAmb		IAmb	04 38 35.7			
	comp=Z,8.3nm,0.7s									
F30M	**Barrier River**	74.25	20	P		**P**	04 38 30.7	+0.2		
	baz=307									
H29M	**Whitestone**	74.25	22	IAmb		IAmb	04 39 10.0			
	comp=Z,18nm,1.8s									
H29M	**Whitestone**	74.25	22	P		**P**	04 38 30.6	0.0		
	baz=305									
BCLA	**Clavier**	74.36	319	*d*P		**P**	04 38 32.2	+0.7		
N25K	**Chitina, Valde**	74.47	28	IAmb		IAmb	04 38 34.3			
	comp=Z,22nm,1.2s									
N25K	**Chitina, Valde**	74.47	28	P		**P**	04 38 31.9	-0.1		
	baz=301									
INK	**Inuvik**	74.49	19			**P**	04 38 32.1	+0.2		
INK				IAmb		IAmb	04 38 33.2			
	comp=Z,20nm,1.2s									
INK	**Inuvik**	74.49	19	P		**P**	04 38 32.0	+0.2		
	comp=Z,6.4nm,0.8s,baz=330,slow=6.0,SNR=13									
	comp=Z,6.4nm,0.8s									
INK	**Inuvik**	74.49	19	P		**P**	04 38 32.1	+0.2		
INK				pmax		pmax				
	comp=Z,20nm,1.3s									
INK	**Inuvik**	74.49	19	P		**P**	04 38 31.4	-0.6		
	baz=309									
G30M	**tAoh Zraii Nji**	74.49	21	IAmb		IAmb	04 38 33.0			
	comp=Z,32nm,1.3s									
G30M	**tAoh Zraii Nji**	74.49	21	P		**P**	04 38 31.5	-0.5		
	baz=307									
EYAK	**Cordova Ski Ar**	74.53	29	IAmb		IAmb	04 38 34.4			
	comp=Z,23nm,1.2s									
EYAK	**Cordova Ski Ar**	74.53	29	P		**P**	04 38 32.3	0.0		
	baz=300									
M26K	**Nabesna, AK**	74.69	27	IAmb		IAmb	04 38 35.4			
	comp=Z,13nm,1.1s									
M26K	**Nabesna, AK**	74.69	27	P		**P**	04 38 33.6	+0.2		
	baz=302,SNR=9.5									
EPYK	**Eagle Plains**	74.70	22	IAmb		IAmb	04 38 34.0			
	comp=Z,14nm,1.4s									
EPYK	**Eagle Plains**	74.70	22	P		**P**	04 38 32.9	-0.4		
	baz=306									
L27K	**Beaver Creek,**	74.79	26	IAmb		IAmb	04 38 36.2			
	comp=Z,19nm,1.4s									
L27K	**Beaver Creek,**	74.79	26	P		**P**	04 38 33.8	-0.1		
	baz=303,SNR=14									
BMRM	**Bremner River**	74.80	28	IAmb		IAmb	04 38 35.8			
	comp=Z,23nm,1.0s									
BMRM	**Bremner River**	74.80	28	P		**P**	04 38 33.9	0.0		
	baz=301									
BCAR	**Beaver Creek A**	74.80	26			**P**	04 38 34.2	+0.2		
Q23K	**Middleton Isla**	74.83	30	P		**P**	04 38 34.0	-0.1		
	baz=300									
GLB	**Gilahina Butte**	74.88	28	IAmb		IAmb	04 38 36.2			
	comp=Z,19nm,1.2s									
F31M	**Tsiigehtchic**	74.97	20	IAmb		IAmb	04 38 36.8			
	comp=Z,27nm,1.6s									
F31M	**Tsiigehtchic**	74.97	20	P		**P**	04 38 34.4	-0.3		
	baz=309									
VOI	**Vohitsoka**	75.11	235	P		**P**	04 38 35.6	-0.7		
VOI				IAmb		IAmb	04 38 37.6			
	comp=Z,10.0nm,0.7s									
DAWY	**Dawson**	75.13	24	IAmb		IAmb	04 38 37.0			
	comp=Z,13nm,1.3s									
DAWY	**Dawson**	75.13	24	P		**P**	04 38 35.9	0.0		
	baz=305									
G31M	**Satah River**	75.13	20	P		**P**	04 38 35.4	-0.3		
	baz=308									
VRDI	**Verde Repeater**	75.14	28	IAmb		IAmb	04 38 41.2			
	comp=Z,8.3nm,0.9s									
M27K	**Edge Creek, AK**	75.15	26	IAmb		IAmb	04 38 38.4			
	comp=Z,21nm,1.2s									
M27K	**Edge Creek, AK**	75.15	26	P		**P**	04 38 35.6	-0.6		
	baz=303									
MCARA	**McCarthy VSAT**	75.23	27	IAmb		IAmb	04 38 42.5			
	comp=Z,20nm,1.1s									
MCARA	**McCarthy VSAT**	75.23	27	P		**P**	04 38 36.4	+0.1		
	baz=302									
J29N	**Klondike Camp**	75.33	24	P		**P**	04 38 36.6	-0.3		
	baz=306									
KAIM	**Kayak Island**	75.42	29	P		**P**	04 38 38.0	+0.5		
	baz=302									
I30M	**Mount Dempster**	75.50	22	IAmb		IAmb	04 38 39.0			
	comp=Z,18nm,1.4s									
I30M	**Mount Dempster**	75.50	22	P		**P**	04 38 37.9	-0.1		
	baz=307,SNR=9.6									
BVCY	**Beaver Creek**	75.52	26	P		**P**	04 38 38.3	+0.3		
	baz=304									
CRQE	**Cirque**	75.54	28	P		**P**	04 38 38.3	0.0		
	baz=302									
H31M	**Peel River**	75.81	21	P		**P**	04 38 39.5	-0.2		
	baz=309,SNR=8.4									
J30M	**Hart River**	75.91	23	P		**P**	04 38 40.2	-0.2		
	baz=307,SNR=7.4									
K29M	**Barlow Dome**	75.93	24	IAmb		IAmb	04 38 42.2			
	comp=Z,12nm,1.0s									
K29M	**Barlow Dome**	75.93	24	P		**P**	04 38 40.7	+0.2		
	baz=306,SNR=14									
BARN	**Barnard Glacie**	75.96	27	IAmb		IAmb	04 38 44.9			
	comp=Z,7.8nm,0.6s									
YUK3	**Moose Creek**	76.03	26	P		**P**	04 38 41.2	-0.1		
	baz=304									
CTG	**Chitna Glacier**	76.14	27	P		**P**	04 38 41.8	0.0		
	baz=304									
CTGM	**Chitina Glacie**	76.14	27	IAmb		IAmb	04 38 44.1			
	comp=Z,22nm,1.3s									
L29M	**L29M**	76.15	25	IAmb		IAmb	04 38 43.8			
	comp=Z,23nm,1.1s									
L29M	**L29M**	76.15	25	P		**P**	04 38 41.8	+0.1		
	baz=306,SNR=16									
SUMG	**Summit**	76.23	349			**P**	04 38 42.6	+0.2		
SUMG				IAmb		IAmb	04 38 44.3			
	comp=Z,19nm,1.0s									
SUMG	**Summit**	76.23	349	P		**P**	04 38 42.6	+0.2		
SUMG				pmax		pmax				
	comp=Z,19nm,1.0s									
SUMG	**Summit**	76.23	349	*i* P		**P**	04 38 43.2	+0.9		
SUMG				IAmb		IAmb	04 38 43.3			
	comp=Z,40nm,1.3s									
MESA	**MESA**	76.33	28	P		**P**	04 38 42.9	0.0		
	baz=304									
MBAR	**Mbarara**	76.37	262	*ce*P		**P**	04 38 45.5	+1.6		
MBAR				pmax		pmax				
	comp=Z,15nm,1.7s									
RES	**Resolute Bay**	76.37	5	P		**P**	04 38 43.1	+0.5		
	comp=Z,4.1nm,0.9s,baz=359,slow=7.6,SNR=7.5									
	comp=Z,4.1nm,0.9s									
M29M	**Somme Creek**	76.42	25	P		**P**	04 38 43.6	+0.3		
	baz=306									
EKA	**Eskdalemuir Ar**	76.58	326	P		**P**	04 38 43.2	-0.9		
	comp=Z,1.5nm,0.7s,baz=57,slow=6.1,SNR=5.2									
	comp=Z,1.5nm,0.7s									
YUK8	**Steele Glacier**	76.59	27	P		**P**	04 38 44.7	+0.2		
	baz=305									
KULLO	**Kullorsuaq**	76.62	355	*i* P		**P**	04 38 45.8	+1.8		
KULLO				IAmb		IAmb	04 38 47.8			
	comp=Z,68nm,1.5s									
O28M	**Mount Upton**	76.71	27	P		**P**	04 38 44.7	-0.5		
	baz=305									
M30M	**Minto, Yukon**	76.96	25	IAmb		IAmb	04 38 48.0			
	comp=Z,15nm,1.4s									
M30M	**Minto, Yukon**	76.96	25	P		**P**	04 38 46.6	+0.4		
	baz=307									
YUK4	**Talbot Arm**	76.99	26	P		**P**	04 38 46.6	0.0		
	baz=306									
PINM	**Pinnacle**	77.08	28	P		**P**	04 38 46.8	-0.2		
	baz=305									
YUK6	**Outpost Mounta**	77.34	27	P		**P**	04 38 48.7	0.0		
	baz=306									
N30M	**Aishikik Lake**	77.53	26	IAmb		IAmb	04 38 51.6			
	comp=Z,14nm,1.4s									
N30M	**Aishikik Lake**	77.53	26	P		**P**	04 38 49.8	+0.3		
	baz=307									
O29M	**Mount Kennedy**	77.64	27	P		**P**	04 38 50.0	-0.2		
	baz=306									
PNL	**Peninsula**	77.67	28	P		**P**	04 38 50.3	0.0		
	baz=306									
HYT	**Haines Junctio**	77.75	26	IAmb		IAmb	04 38 52.9			
	comp=Z,14nm,1.3s									
HYT	**Haines Junctio**	77.75	26	P		**P**	04 38 50.9	+0.1		
	baz=307									
N31M	**Braeburn, Yuko**	78.01	25	IAmb		IAmb	04 38 54.0			
	comp=Z,8.5nm,0.8s									
N31M	**Braeburn, Yuko**	78.01	25	P		**P**	04 38 52.0	-0.1		
	baz=308									
M31M	**Drury Creek, Y**	78.07	24	P		**P**	04 38 53.0	+0.6		
	baz=309									
KEST	**Kesra**	78.13	304	P		**P**	04 38 53.0	-0.4		
	comp=Z,0.9nm,0.5s,baz=169,slow=16,SNR=2.0									
	comp=Z,0.9nm,0.5s									
O30N	**Mendenhall**	78.33	26	IAmb		IAmb	04 38 56.2			
	comp=Z,23nm,1.5s									
O30N	**Mendenhall**	78.33	26	P		**P**	04 38 54.7	+0.7		
	baz=308									
P29M	**Windy Craggy**	78.38	27	P		**P**	04 38 55.5	+1.3		
	baz=307									
P30M	**Million Dollar**	78.39	27	P		**P**	04 38 55.4	+1.1		
	baz=308									
SOEG	**Soedalen**	78.41	345	*i* P		**P**	04 38 54.3	+0.2		
SOEG				IAmb		IAmb	04 39 01.4			
	comp=Z,264nm,2.0s									
FARO	**Faro, Yukon**	78.43	24	P		**P**	04 38 54.6	+0.1		
	baz=310									
WHY	**Whitehorse**	78.87	26	P		**P**	04 38 57.4	+0.5		
	baz=309									
MMPY	**Sheldon Lake,**	78.91	23	P		**P**	04 38 57.6	+0.5		
	baz=312									
PLBC	**Pleasant Camp**	79.04	27	P		**P**	04 38 58.3	+0.6		
	baz=308									
POIN	**Pond Inlet**	79.17	1	IAmb		IAmb	04 39 00.4			
	comp=Z,15nm,1.2s									
N32M	**Quiet Lake**	79.23	25	P		**P**	04 38 59.5	+0.6		
	baz=310									
ICESG	**Greenland Ices**	79.41	348	*i* P		**P**	04 39 00.1	0.0		
ICESG				IAmb		IAmb	04 39 03.8			
	comp=Z,27nm,0.8s									
SKAG	**Skagway**	79.45	27	IAmb		IAmb	04 39 02.4			
	comp=Z,19nm,1.2s									
SKAG	**Skagway**	79.45	27	P		**P**	04 39 01.3	+1.3		
	baz=309									
P33M	**Teslin, Yukon**	79.94	25	P		**P**	04 39 03.6	+0.8		
	baz=311									
P32M	**Atlin**	80.00	26	P		**P**	04 39 03.3	+0.2		
	baz=310									
S31K	**Pelican**	80.02	28	P		**P**	04 39 03.9	+0.8		
	baz=308									
R32K	**Eaglecrest**	80.53	27	P		**P**	04 39 06.7	+0.8		
	baz=310									
TGTN	**Hyland Airport**	80.68	23	P		**P**	04 39 07.7	+0.9		
	baz=314									
SIT	**Sitka**	80.97	29	P		**P**	04 39 09.0	+0.7		
	baz=309									
Q32M	**Nakina River**	80.97	26	P		**P**	04 39 09.1	+0.6		
	baz=311									
S32K	**Killisnoo**	81.02	28	P		**P**	04 39 09.8	+1.3		
	baz=310

TROLL	**Troll, Antarti**	**120.54**	**201**	⇑P		**PKiKP**	**04 45 45.0**	**+0.1**
	comp=Z,132nm,0.4s							
SNAA	**Sanae**	**122.24**	**201**	⇑P		**PKPdf**	**04 45 47.5**	**-0.5**
	comp=Z,27nm,0.5s							
SNAA	**Sanae**	**122.24**	**201**	PKP		**PKPdf**	**04 45 47.6**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=186,slow=5.4,SNR=13							
VNA1	**Neumayer--Stat**	**124.15**	**202**	⇑P		**PKPdf**	**04 45 49.2**	**-2.3**
	comp=Z,5.5nm,0.8s							
VNA3	**Neumayer Olymp**	**124.47**	**201**	⇑P		**PKPdf**	**04 45 51.5**	**-0.7**
	comp=Z,2.3nm,0.4s							
ROSC	**El Rosal**	**146.96**	**359**	PKPbc		**PKPab**	**04 46 39.1**	**0.0**
	comp=Z,69nm,0.9s,baz=134,slow=6.6,SNR=26							
BDFB	**Brasilia**	**151.93**	**291**	PKPbc		**PKPbc**	**04 46 48.4**	**-1.4**
	comp=Z,1.9nm,0.5s,baz=23,slow=6.6,SNR=5.2							
CPUP	**Villa Florida**	**164.07**	**273**	PKP		**PKPdf**	**04 46 57.2**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=14,slow=7.5,SNR=3.1							
LPAZ	**La Paz**	**166.34**	**330**	PKP		**PKPdf**	**04 47 01.0**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=19,slow=3.6,SNR=6.2							
PLCA	**Paso Flores**	**167.12**	**196**	PKPab		**PKPab**	**04 48 03.4**	**-0.6**
	comp=Z,2.1nm,1.0s,baz=41,slow=5.1,SNR=3.1							

*IDC **03** 04:38:01.8±12.0, 36.˚21N×71.˚21E, h236km±150km, mb3.1/3, mbtmp3.5/6, Error ellipse: s-maj=106.9km s-min=57.5km az=110.0*

*NNC **03** 04:38:02.4±8.0, 37.˚05N×70.˚16E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=66.3km s-min=50.7km az=162.0*

ISC 03 04:38:03.1±1.8, 36.7N±0.2×70.7E±0.2, h200km, n11, σ1§92/13, 3C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**5.45**	**355**	Pg	**Pn**	**04 39 23.7**	**+0.4**
	90nm,0.5s						
IUG				Lg	Lg	04 40 25.4	
	114nm,0.7s						
MRKS	**Merke**	**6.34**	**17**	Pg	**Pn**	**04 39 33.9**	**-0.9**
	26nm,0.3s						
MRKS				Lg	Lg	04 40 44.1	
	21nm,0.3s						
KK31	**Karatay Array**	**6.38**	**359**	Pn	**Pn**	**04 39 34.0**	**-1.2**
	2.4nm,0.3s,baz=188,slow=13,SNR=55						
KK31				⇑Sn	**Sn**	**04 40 45.1**	**-3.2**
	22nm,0.6s,baz=185,slow=23						
AAK	**Ala-Archa**	**6.62**	**25**	⇑Pn	**Pn**	**04 39 38.5**	**0.0**
	0.5nm,0.4s						
AAK				⇑Sn	**Sn**	**04 40 54.4**	**+0.3**
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**13.29**	**37**	P	**Pn**	**04 41 04.8**	**+0.7**
	0.2nm,0.5s,baz=229,slow=13,SNR=2.1						
AB31	**Akbulak array**	**14.76**	**331**	P	**P**	**04 41 26.9**	**+3.7**
	0.5nm,0.5s,baz=142,slow=11,SNR=17						
KURBB	**Kurchatov Arra**	**15.02**	**20**	P	**P**	**04 41 25.9**	**0.0**
	0.2nm,0.3s,baz=212,slow=9.8,SNR=1.7						
BVAR	**Borovoye Array**	**16.31**	**359**	P	**Pn**	**04 41 40.8**	**-0.2**
	0.3nm,0.3s,baz=188,slow=8.7,SNR=2.0						
ZALV	**Zalesovo Beam**	**19.84**	**25**	P	**P**	**04 42 17.1**	**-1.4**
	0.7nm,0.3s,baz=219,slow=11,SNR=3.8						
	0.7nm,0.3s						
ARCES	**ARCESS Array B**	**40.84**	**338**	P	**P**	**04 45 26.0**	**+1.2**
	0.9nm,0.8s,baz=123,slow=8.0,SNR=3.6						
	0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**65.44**	**268**	P	**P**	**04 48 22.4**	**-2.4**
	0.4nm,0.5s,baz=48,slow=6.2,SNR=5.5						
	0.4nm,0.5s						

*MOS **03** 04:38:22.1±1.1, 69.˚14N×144.˚65W, h9km, mb5.1/63, MS4.6/10, Error ellipse: s-maj=15.0km s-min=4.2km az=94.0*

*NEIC **03** 04:38:22.7, 69.˚15N×144.˚58W, h12km*

*NEIC **03** 04:38:22.7, 69.˚15N×144.˚58W, h12km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^16 Nm; Mrr-1.41; Mθθ-0.64; Mϕϕ2.05; Mrθ3.05; Mθϕ-7.17; Mϕr-0.88; Fault plane solution: M0 8.04000×10^16 NP1: ϕs185.47000°, δ66.04000°, λ-2.76000°. NP2:ϕs276.59000°, δ87.47000°, λ-156.01000°. Principal axes: T 8.6920, Plg15.0000°, Azm49.0000°; N -1.5073, Plg66.0000°, Azm282.0000°; P -7.1847, Plg19.0000°, Azm144.0000°;*

*BJI **03** 04:38:22.0, 69.˚20N×144.˚80W, h10km, mB5.2/22, mb4.8/58, Ms5.5/51, Ms7 5.2/50*

*ANF **03** 04:38:22.9±0.1, 69.˚11N×144.˚66W, h0km, ML5.4/76, Error ellipse: s-maj=1.2km s-min=0.7km az=25.0*

*NEIC **03** 04:38:22.7, 69.˚15N×144.˚58W, h1km*

*AEIC **03** 04:38:22.6±1.7, 69.˚12N±0.˚03×144.˚7W±0.˚1, h14km±3km, mb5.0/471(NEIC), ML5.1/108(NEIC), Mwr5.1/51(NEIC), Mww5.2/56(NEIC), Error ellipse: s-maj=5.7km s-min=4.4km az=117.0*

*IDC **03** 04:38:23.3±0.4, 69.˚23N×144.˚72W, h0km, mb4.6/29, mbtmp4.6/34, ML4.6/4, MS4.5/57, Error ellipse: s-maj=11.8km s-min=8.8km az=42.0*

*NEIC **03** 04:38:23.3±1.7, 69.˚12N±0.˚02×144.˚60W±0.˚08, h7km±3km, Error ellipse: s-maj=4.1km s-min=2.7km az=101.0, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.89; Mθθ-1.04; Mϕϕ0.15; Mrθ1.21; Mθϕ-6.34; Mϕr0.96; Fault plane solution: M0 6.59000×10^16 NP1: ϕs182.12000°, δ81.39000°, λ-6.86000°. NP2:ϕs273.15000°, δ83.22000°, λ-171.33000°. Principal axes: T 5.9243, Plg1.0000°, Azm48.0000°; N 1.1814, Plg79.0000°, Azm311.0000°; P -7.1057, Plg11.0000°, Azm138.0000°;*

*GCMT **03** 04:38:25.6±0.1, 69.˚32N±0.˚01×144.˚67W±0.˚02, h21km±1km, MW5.3/139, Moment Tensor Solution. s77,c108; s139,c247; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.16±.02; Mθθ-0.01±.02; Mϕϕ0.16±.02; Mrθ0.52±.04; Mθϕ-0.94±.02; Mϕr0.07±.03; Best double couple: M0 1.08700×10^17 NP1:ϕs180.00000°, δ61.00000°, λ-9.00000°. NP2:ϕs275.00000°, δ82.00000°, λ-150.00000°. Principal axes: T 1.0950, Plg14.0000°, Azm44.0000°; N -0.0170, Plg59.0000°, Azm289.0000°; P -1.0780, Plg26.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **03** 04:38:46.4, 72.˚00N×143.˚65W, h16km, mb4.8, Ms4.4*

ISC 03 04:38:23.8±0.4, 69.˚11N±0.˚02×144.˚59W±0.˚02, h9km±2km, h9km:pP-P, n1078, σ1§33/908, mb5.0/360, MS4.6/81, 26C-16D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
C27K	**Jago River**	**0.60**	**31**		**Pg**	**04 38 34.5**	**-0.9**
C27K					**Sg**	**04 38 43.1**	**-0.2**
C27K	**Jago River**	**0.60**	**31**	IAML		04 38 43.7	
	comp=E,57μm,0.9s						
C27K				IAML		04 38 52.4	
	comp=N,57μm,0.9s						
C27K	**Jago River**	**0.60**	**31**	P	**Pg**	**04 38 34.5**	**-0.9**
	baz=220						
C27K				S	**Sg**	**04 38 42.5**	**-0.8**
	baz=220						
D25K	**Kavik River**	**0.67**	**289**		**Pg**	**04 38 35.2**	**-1.5**
D25K					**Sg**	**04 38 43.9**	**-1.7**
D25K	**Kavik River**	**0.67**	**289**	IAML		04 38 45.6	
	comp=N,154μm,0.7s						
D25K				IAML		04 38 45.6	
	comp=E,106μm,0.7s						
D25K	**Kavik River**	**0.67**	**289**	P	**Pg**	**04 38 34.7**	**-2.0**
	baz=102						
D25K				S	**Sg**	**04 38 44.0**	**-1.5**
	baz=102						
C26K	**Camden Bay**	**0.82**	**352**		**Pg**	**04 38 39.4**	**-0.1**
C26K					**Sg**	**04 38 50.2**	**0.0**
C26K	**Camden Bay**	**0.82**	**352**	P	**Pg**	**04 38 38.8**	**-0.8**
	baz=175						
C26K				S	**Sg**	**04 38 50.2**	**0.0**
	baz=175						
E25K	**Arctic Village**	**1.06**	**200**		**Pg**	**04 38 43.1**	**-1.0**
E25K					**Sg**	**04 38 58.0**	**+0.1**
E25K	**Arctic Village**	**1.06**	**200**	P	**Pg**	**04 38 42.6**	**-1.5**
	baz=15						
E25K				S	**Sg**	**04 38 56.7**	**-1.1**
	baz=15						
D27M	**Malcolm River**	**1.30**	**83**		**Pn**	**04 38 47.6**	**-0.6**
D27M					**Sn**	**04 39 06.6**	**+1.0**
D27M	**Malcolm River**	**1.30**	**83**	IAML		04 39 09.8	
	comp=N,53μm,0.8s						
D27M				IAML		04 39 11.2	
	comp=E,24μm,1.1s						
D27M	**Malcolm River**	**1.30**	**83**	P	**Pn**	**04 38 47.2**	**-1.0**
	baz=270						
D27M				S	**Sn**	**04 39 06.3**	**+0.6**
	baz=270						
F26K	**Sheenjek River**	**1.43**	**173**		**Pb**	**04 38 50.6**	**0.0**
F26K					**Sg**	**04 39 10.2**	**+0.3**
F26K	**Sheenjek River**	**1.43**	**173**	IAML		04 39 11.2	
	comp=E,27μm,1.4s						
F26K	**Sheenjek River**	**1.43**	**173**	P	**Pn**	**04 38 49.5**	**-0.4**
	baz=352						
F26K				S	**Sb**	**04 39 09.0**	**0.0**
	baz=352						
E27K	**Coleen River**	**1.44**	**129**		**Pn**	**04 38 50.0**	**0.0**
E27K	**Coleen River**	**1.44**	**129**	P	**Pn**	**04 38 49.8**	**-0.1**
	baz=313						
E27K				S	**Sg**	**04 39 09.8**	**-0.2**
	baz=313						
D24K	**Happy Valley**	**1.52**	**274**		**Pn**	**04 38 51.5**	**+0.4**
D24K					**Sb**	**04 39 11.8**	**+0.5**
D24K	**Happy Valley**	**1.52**	**274**	P	**Pn**	**04 38 50.9**	**-0.2**
	baz=87						
D24K				S	**Sb**	**04 39 11.4**	**+0.1**
	baz=87						
F25K	**Christian Rive**	**1.58**	**195**		**Pn**	**04 38 52.1**	**+0.2**
F25K					**Sb**	**04 39 12.9**	**-0.2**
F25K				IAML		04 39 18.3	
	comp=N,20μm,1.3s						
F25K				IAML		04 39 22.2	
	comp=E,12μm,1.1s						
F25K	**Christian Rive**	**1.58**	**195**	P	**Pn**	**04 38 51.9**	**0.0**
	baz=11						
F25K				S	**Sb**	**04 39 13.0**	**-0.1**
	baz=11						
C24K	**Franklin Bluff**	**1.58**	**295**		**Pn**	**04 38 52.2**	**+0.4**
C24K					**Sb**	**04 39 13.6**	**+0.5**
C24K	**Franklin Bluff**	**1.58**	**295**	IAML		04 39 16.9	
	comp=E,38μm,0.8s						
C24K	**Franklin Bluff**	**1.58**	**295**	P	**Pn**	**04 38 51.5**	**-0.3**
	baz=109						
C24K				S	**Sn**	**04 39 12.5**	**+0.2**
	baz=109						
BMAR	**Burnt Mountain**	**1.69**	**180**		**Pn**	**04 38 53.4**	**0.0**
E24K	**Your Creek**	**1.77**	**236**	P	**Pn**	**04 38 54.4**	**-0.1**
	baz=49						
E24K				Sg	**Sg**	**04 39 20.7**	**+0.1**
	baz=49						
TOLK	**Toolik Lake Re**	**1.87**	**258**	IAML		04 39 29.9	
	comp=E,23μm,0.8s						
TOLK				IAML		04 39 30.0	
	comp=N,26μm,1.3s						
TOLK	**Toolik Lake Re**	**1.87**	**258**		**Pn**	**04 38 55.9**	**0.0**
TOLK	**Toolik Lake Re**	**1.87**	**258**	P	**Pn**	**04 38 55.9**	**0.0**
	baz=70						
TOLK				Sb	**Sb**	**04 39 22.4**	**+0.9**
	baz=70						
E28M	**Babbage River**	**1.90**	**103**		**Pn**	**04 38 57.1**	**+0.8**
E28M	**Babbage River**	**1.90**	**103**	IAML		04 39 27.2	
	comp=N,12μm,0.8s						
E28M	**Babbage River**	**1.90**	**103**	P	**Pn**	**04 38 56.8**	**+0.5**
	baz=290						
E28M				S	**Sb**	**04 39 22.1**	**-0.3**
	baz=290						
F24K	**Squaw Lake**	**2.02**	**219**		**Pn**	**04 38 58.2**	**+0.3**
F24K	**Squaw Lake**	**2.02**	**219**	P	**Pn**	**04 38 58.0**	**0.0**
	baz=33,SNR=1000						
F24K				Sb	**Sg**	**04 39 27.2**	**-1.2**
	baz=33						
D28M	**Stokes Point**	**2.10**	**81**	P	**Pn**	**04 39 00.1**	**+1.1**
	baz=269,SNR=849						
D28M				Sb	**Sg**	**04 39 30.9**	**-0.3**
	baz=269						
E23K	**Chandalar**	**2.13**	**243**		**Pn**	**04 39 00.3**	**+0.8**
E23K	**Chandalar**	**2.13**	**243**	IAML		04 39 37.0	
	comp=N,11μm,1.3s						
E23K				IAML		04 39 39.6	
	comp=E,14μm,1.2s						
E23K	**Chandalar**	**2.13**	**243**	P	**Pn**	**04 39 00.3**	**+0.8**
	baz=55						
E23K				Sg	**Sg**	**04 39 32.1**	**0.0**
	baz=55						
G26K	**Porcupine Rive**	**2.19**	**172**		**Pn**	**04 39 01.8**	**+1.4**
G26K	**Porcupine Rive**	**2.19**	**172**	IAML		04 39 37.8	
	comp=E,13μm,0.9s						
G26K				IAML		04 39 41.3	
	comp=N,11μm,0.9s						
G26K	**Porcupine Rive**	**2.19**	**172**	P	**Pn**	**04 38 59.9**	**-0.4**
	baz=351						
G26K				Sb	**Sb**	**04 39 31.6**	**+0.9**
	baz=351						
D23K	**Nanushuk River**	**2.20**	**269**		**Pn**	**04 39 00.3**	**-0.1**
D23K				IAML		04 39 36.0	
	comp=E,18μm,1.0s						
D23K				IAML		04 39 42.7	
	comp=N,15μm,0.8s						
D23K	**Nanushuk River**	**2.20**	**269**	P	**Pn**	**04 39 00.7**	**+0.3**
	baz=81						
D23K				S	**Sn**	**04 39 28.5**	**+0.9**
	baz=81						
C23K	**Itkillik River**	**2.24**	**292**		**Pn**	**04 39 00.7**	**-0.3**
C23K	**Itkillik River**	**2.24**	**292**	P	**Pn**	**04 39 00.8**	**-0.3**
	baz=105						
C23K				Sb	**Sb**	**04 39 33.1**	**+0.9**
	baz=105						
F28M	**Old Crow**	**2.31**	**129**		**Pn**	**04 39 03.0**	**+1.1**
F28M	**Old Crow**	**2.31**	**129**	P	**Pn**	**04 39 02.1**	**+0.1**
	baz=314						
F28M				S	**Sb**	**04 39 32.8**	**-1.3**
	baz=314						
G25K	**Bearman Lake**	**2.43**	**194**		**Pn**	**04 39 04.3**	**+0.8**
G25K	**Bearman Lake**	**2.43**	**194**	P	**Pn**	**04 39 03.6**	**+0.1**
	baz=11,SNR=402						
E29M	**Blow River**	**2.54**	**103**	P	**Pn**	**04 39 05.8**	**+0.6**
	baz=291,SNR=550						
E29M				S	**Sn**	**04 39 37.1**	**+0.9**
	baz=291						
G27K	**Doyon Strip**	**2.56**	**153**	P	**Pn**	**04 39 05.1**	**-0.4**
	baz=336						
FYU	**Fort Yukon**	**2.57**	**186**		**Sn**	**04 39 38.0**	**+1.3**
FYU	**Fort Yukon**	**2.57**	**186**		**Pn**	**04 39 05.6**	**+0.1**
FYU				IAML		04 39 48.0	
	comp=E,8μm,0.9s						
FYU				IAML		04 39 50.9	
	comp=N,12μm,1.0s						
G24K	**Hadweenzic Riv**	**2.66**	**206**	P	**Pn**	**04 39 06.5**	**-0.2**
	baz=21						
E22K	**Anaktuvuk Pass**	**2.82**	**253**	P	**Pn**	**04 39 09.0**	**0.0**
	baz=64						
COLD	**Coldfoot**	**2.83**	**231**		**Pn**	**04 39 09.2**	**+0.3**
COLD	**Coldfoot**	**2.83**	**231**	P	**Pn**	**04 39 09.3**	**+0.3**
	baz=43						
H25L	**Birch Creek**	**2.90**	**190**	P	**Pn**	**04 39 09.8**	**-0.1**
	baz=7.4						
D22K	**Ayikyak River**	**2.92**	**269**		**Pn**	**04 39 10.1**	**-0.3**
D22K	**Ayikyak River**	**2.92**	**269**	P	**Pn**	**04 39 10.4**	**+0.1**
	baz=80						
H27K	**Steamboat Moun**	**3.12**	**157**	P	**Pn**	**04 39 13.2**	**+0.1**
	baz=339,SNR=83						
G23K	**Bananza Creek**	**3.17**	**223**		**Pn**	**04 39 13.1**	**-0.7**
G23K				IAML		04 40 19.5	
	comp=E,4μm,1.3s						
G23K	**Bananza Creek**	**3.17**	**223**	P	**Pn**	**04 39 13.2**	**-0.6**
	baz=36,SNR=73						
F22K	**John River**	**3.25**	**244**	P	**Pn**	**04 39 15.0**	**+0.2**
	baz=55						
B22K	**Teshekpuk Lake**	**3.31**	**296**		**Pn**	**04 39 15.4**	**-0.3**
B22K	**Teshekpuk Lake**	**3.31**	**296**	P	**Pn**	**04 39 15.4**	**-0.3**
	baz=107,SNR=72						
G29M	**Pine Creek**	**3.31**	**129**	P	**Pn**	**04 39 16.2**	**+0.5**
	baz=315						
G29M				S	**Sn**	**04 39 57.6**	**+2.4**
	baz=315						
E21K	**Killik River**	**3.48**	**263**		**Pn**	**04 39 16.9**	**-1.1**
E21K				IAML		04 40 24.4	
	comp=E,7μm,1.1s						
E21K				IAML		04 40 35.2	
	comp=N,8μm,1.3s						
E21K	**Killik River**	**3.48**	**263**	P	**Pn**	**04 39 17.3**	**-0.7**
	baz=73						
H24K	**Noodor Dome**	**3.52**	**203**	P	**Pn**	**04 39 18.5**	**-0.1**
	baz=18,SNR=206						
H24K				S	**Sn**	**04 40 01.9**	**+1.4**
	baz=18						
B21K	**Ikpikpuk River**	**3.58**	**283**	P	**Pn**	**04 39 19.4**	**0.0**
	baz=92						
F30M	**Barrier River**	**3.59**	**111**	P	**Pn**	**04 39 21.1**	**+1.6**
	baz=300,SNR=308						
F30M				S	**Sn**	**04 40 04.9**	**+2.9**
	baz=300						
PRP	**Porcupine Dome**	**3.63**	**186**		**Pn**	**04 39 20.6**	**+0.4**
PRP					**Sn**	**04 40 06.9**	**+3.8**
PRP	**Porcupine Dome**	**3.63**	**186**	IAML		04 40 23.9	
	comp=N,2μm,0.8s						
PRP				IAML		04 40 24.0	
	comp=E,2μm,1.6s						
PRP	**Porcupine Dome**	**3.63**	**186**	P	**Pn**	**04 39 20.0**	**-0.2**
	baz=4.3						
C21K	**Knifeblade Rid**	**3.65**	**275**	P	**Pn**	**04 39 20.4**	**+0.1**
	baz=85,SNR=282						
I27K	**Kandik River**	**3.71**	**161**	P	**Pn**	**04 39 21.2**	**0.0**
	baz=343						
H29M	**Whitestone**	**3.75**	**138**		**Pn**	**04 39 21.8**	**+0.1**
H29M				IAML		04 40 32.2	
	comp=N,3μm,1.4s						
H29M				IAML		04 40 36.7	
	comp=E,3μm,1.4s						
H29M	**Whitestone**	**3.75**	**138**	P	**Pn**	**04 39 22.3**	**+0.6**
	baz=324,SNR=421						
G30M	**tAoh Zraii Nji**	**3.80**	**120**	P	**Pn**	**04 39 22.6**	**+0.2**
	baz=309						
G30M				S	**Sn**	**04 40 07.7**	**+0.5**
	baz=309						
H23K	**Yukon River**	**3.81**	**212**		**Pn**	**04 39 21.8**	**-0.7**
H23K				IAML		04 40 32.4	
	comp=N,2μm,1.2s						
H23K				IAML		04 40 35.3	
	comp=E,3μm,1.6s						
H23K	**Yukon River**	**3.81**	**212**	P	**Pn**	**04 39 22.2**	**-0.4**
	baz=26						
F21K	**Alatna River**	**3.83**	**244**	IAML		04 40 29.1	
	comp=E,4μm,1.0s						
F21K				IAML		04 40 29.6	
	comp=N,4μm,0.9s						
F21K	**Alatna River**	**3.83**	**244**	P	**Pn**	**04 39 23.4**	**+0.6**
	baz=55						
I26K	**Coal Creek Min**	**3.86**	**171**	P	**Pn**	**04 39 23.4**	**+0.1**
	baz=352						
A22K	**Sinclair Lake**	**4.03**	**303**	P	**Pn**	**04 39 24.9**	**-0.6**
	baz=113						
EPYK	**Eagle Plains**	**4.07**	**129**		**Pn**	**04 39 25.6**	**-0.5**
EPYK				IAML		04 40 36.5	
	comp=E,3μm,0.6s						
EPYK				IAML		04 40 41.8	
	comp=N,3μm,0.9s						
EPYK	**Eagle Plains**	**4.07**	**129**	P	**Pn**	**04 39 26.4**	**+0.4**
	baz=317						
EPYK				S	**Sn**	**04 40 14.3**	**+0.5**
	baz=317						
I28M	**Miner Creek**	**4.10**	**152**	P	**Pn**	**04 39 27.1**	**+0.5**
	baz=336,SNR=454						
INK	**Inuvik**	**4.12**	**96**		**Sn**	**04 40 16.7**	**+1.9**
INK	**Inuvik**	**4.12**	**96**		**Pn**	**04 39 27.4**	**+0.7**
INK	**Inuvik**	**4.12**	**96**	Pn	**Pn**	**04 39 27.9**	**+1.3**
	comp=N,19nm,0.3s,baz=289,slow=19,SNR=289						
INK				Sn	**Sn**	**04 40 16.3**	**+1.5**
	comp=N,88nm,0.3s,baz=170,slow=20,SNR=6.6						
INK				Lg	Lg	04 40 35.1	
	comp=N,92nm,0.3s,baz=163,slow=17,SNR=7.2						
INK				LR	LR	04 41 05.7	
	comp=N,5μm,18.4s,baz=103,slow=39						
	comp=N,95nm,0.4s						
INK	**Inuvik**	**4.12**	**96**	P	**Pn**	**04 39 27.2**	**+0.6**
	baz=287						
H22K	**Ishtalitna Cre**	**4.15**	**222**	P	**Pn**	**04 39 26.6**	**-0.7**
	baz=34,SNR=164						
G21K	**Allakaket**	**4.27**	**237**	IAML		04 40 48.7	
	comp=N,3μm,1.1s						
G21K				IAML		04 40 52.8	
	comp=E,3μm,2.0s						
G21K	**Allakaket**	**4.27**	**237**	P	**Pn**	**04 39 28.3**	**-0.5**
	baz=47,SNR=45						
E20K	**Nigu River**	**4.32**	**264**	P	**Pn**	**04 39 29.1**	**-0.4**
	baz=72						
D20K	**Etivluk River**	**4.36**	**270**	IAML		04 41 14.8	
	comp=E,3μm,1.4s						
D20K	**Etivluk River**	**4.36**	**270**	P	**Pn**	**04 39 30.0**	**-0.2**
	baz=78						
F31M	**Tsiigehtchic**	**4.37**	**107**		**Pn**	**04 39 29.8**	**-0.3**
F31M				IAML		04 40 46.3	
	comp=E,2μm,1.2s						
F31M				IAML		04 40 48.7	
	comp=N,2μm,1.0s						
F31M	**Tsiigehtchic**	**4.37**	**107**	P	**Pn**	**04 39 30.3**	**+0.2**
	baz=298						
COLA	**College**	**4.45**	**198**		**Sn**	**04 40 25.4**	**+2.4**
COLA	**College**	**4.45**	**198**		**Pn**	**04 39 31.5**	**+0.3**
COLA				IAML		04 40 28.8	
	comp=N,3μm,0.6s						
COLA				IAML		04 41 01.2	
	comp=N,3μm,0.6s						
COLA	**College**	**4.45**	**198**	*i* P	**Pn**	**04 39 31.4**	**+0.2**
COLA	**College**	**4.45**	**198**	P	**Pn**	**04 39 30.8**	**-0.4**
	baz=14						
I53US	**FAIRBANKS INFR**	**4.45**	**198**	Lg	Lg	04 40 46.3	
	baz=13,slow=26						
I53US				I	I	05 03 50.0	
	baz=14,slow=324,SNR=1.2						
IL31		**4.45**	**193**		**Pn**	**04 39 31.6**	**+0.3**
ILAR	**Eielson Array**	**4.45**	**193**		**Pn**	**04 39 31.2**	**-0.2**
ILAR	**Eielson Array**	**4.45**	**193**	Pn	**Pn**	**04 39 32.5**	**+1.2**
	comp=N,27nm,0.3s,baz=3.2,slow=12,SNR=168						
ILAR				Sn	**Sn**	**04 40 24.6**	**+1.4**
	comp=N,48nm,0.3s,baz=13,slow=18,SNR=2.8						
ILAR				Lg	Lg	04 40 42.2	
	comp=N,52nm,0.3s,baz=14,slow=17,SNR=4.8						
	comp=N,67nm,0.4s						
G31M	**Satah River**	**4.46**	**115**	IAML		04 40 55.6	
	comp=N,3μm,1.9s						
G31M				IAML		04 41 00.2	
	comp=E,3μm,1.8s						
G31M	**Satah River**	**4.46**	**115**	P	**Pn**	**04 39 31.8**	**+0.5**
	baz=305						
I29M	**Ogilvie Camp,**	**4.49**	**144**	IAML		04 40 57.7	
	comp=E,2μm,1.1s						
I29M				IAML		04 40 57.9	
	comp=N,2μm,1.2s						
I29M	**Ogilvie Camp,**	**4.49**	**144**	P	**Pn**	**04 39 32.0**	**+0.2**
	baz=330						
B20K	**Meade River**	**4.50**	**287**	P	**Pn**	**04 39 31.9**	**0.0**
	baz=95						
J25K	**Salcha River,**	**4.53**	**184**	IAML		04 40 53.1	
	comp=N,1μm,0.9s						
J25K				IAML		04 41 02.4	
	comp=E,1μm,1.8s						
J25K	**Salcha River,**	**4.53**	**184**	P	**Pn**	**04 39 32.7**	**+0.2**
	baz=2.8,SNR=133						
A21K	**Barrow**	**4.65**	**304**	P	**Pn**	**04 39 33.4**	**-0.5**
	baz=112						
J26L	**Joseph Creek**	**4.65**	**175**	P	**Pn**	**04 39 34.4**	**+0.3**
	baz=355,SNR=106						
F20K	**Avaraart Lake**	**4.66**	**249**	IAML		04 41 02.4	
	comp=E,2μm,1.0s						
F20K				IAML		04 41 09.7	
	comp=N,2μm,1.5s						
F20K	**Avaraart Lake**	**4.66**	**249**	P	**Pn**	**04 39 34.1**	**0.0**
	baz=57						
CCB	**Clear Creek Bu**	**4.66**	**197**		**Pn**	**04 39 34.2**	**0.0**
CCB	**Clear Creek Bu**	**4.66**	**197**		**Sn**	**04 40 32.7**	**+4.4**
H21K	**Melozitna Rive**	**4.70**	**226**	IAML		04 41 02.9	
	comp=E,2μm,1.3s						
H21K				IAML		04 41 13.4	
	comp=N,1μm,1.9s						
H21K	**Melozitna Rive**	**4.70**	**226**	P	**Pn**	**04 39 34.4**	**-0.4**
	baz=38,SNR=133						
**IMA

comp=E,2µm,1.3s
E19K Redstone River 4.98 256 P Pn 04 39 38.0 -0.5
baz=64
I30M Mount Dempster 5.05 137 P Pn 04 39 39.8 +0.1
baz=325,SNR=706
H31M Peel River 5.15 125 P Pn 04 39 40.1 -0.8
baz=315,SNR=105
SCRK Sand Creek 5.17 177 Sn 04 40 43.1 +2.2
SCRK Sand Creek 5.17 177 IAML 04 41 12.1
comp=E,1µm,0.9s
SCRK Sand Creek 5.17 177 P Pn 04 39 41.9 +0.7
baz=357
K27K Chicken 5.20 168 IAML 04 41 23.8
comp=E,843nm,1.8s
K27K Chicken 5.20 168 P Pn 04 39 42.2 +0.5
baz=350
J29N Klondike Camp 5.31 149 P Pn 04 39 43.8 +0.5
baz=334
BWN Browne 5.33 204 Sn 04 40 45.6 +0.9
BWN Browne 5.33 204 Pn 04 39 43.2 -0.2
K24K Donnelly Dome 5.35 186 P Pn 04 39 44.3 +0.6
baz=3.9
C19K Lookout Ridge 5.37 277 P Pn 04 39 44.0 +0.1
baz=82
H20K Anotleneega Mo 5.39 233 P Pn 04 39 43.8 -0.4
baz=42
RIDG Independent Ri 5.40 181 Pn 04 39 45.2 +0.8
RIDG Independent Ri 5.40 181 P Pn 04 39 45.0 +0.6
baz=0.4
F19K Shaleruckik Mo 5.46 251 P Pn 04 39 46.1 +1.0
baz=58,SNR=440
DAWY Dawson 5.47 155 Pn 04 39 45.9 +0.4
DAWY Dawson 5.47 155 P Pn 04 39 45.8 +0.4
baz=340
DOT Dot Lake 5.49 178 Pn 04 39 46.0 +0.4
J30M Hart River 5.60 141 P Pn 04 39 47.4 +0.2
baz=328,SNR=249
G19K Purcell Mounta 5.62 244 P Pn 04 39 47.1 -0.3
baz=51
BPAW Bear Paw Mtn. 5.64 210 Pn 04 39 47.5 -0.1
BPAW Bear Paw Mtn. 5.64 210 P Pn 04 39 47.2 -0.5
baz=23
MCK McKinley 5.68 200 Sn 04 40 55.4 +2.0
MCK McKinley 5.68 200 Pn 04 39 48.5 +0.3
MCK McKinley 5.68 200 P Pn 04 39 48.5 +0.3
baz=15
I20K Naaghedeneel 5.81 227 P Pn 04 39 49.9 -0.1
baz=36,SNR=38
H19K Roundabout Mou 5.83 238 P Pn 04 39 49.5 -0.6
baz=46,SNR=20
A19K Wainwright 5.85 288 P Pn 04 39 50.4 0.0
baz=92
RND Reindeer 5.98 199 Sn 04 41 01.3 +0.3
K29M Barlow Dome 6.00 149 P Pn 04 39 53.3 +0.6
baz=335,SNR=196
C18K Utukok River 6.02 273 P Pn 04 39 52.3 -0.6
baz=77
CHUM Lake Minchumin 6.09 214 P Pn 04 39 54.2 +0.5
baz=26
B18K Kokolik River 6.12 280 P Pn 04 39 54.1 -0.1
baz=84
TRF Thorofare Moun 6.13 205 P Pn 04 39 54.9 +0.4
baz=19
L26K Log Cabin Wild 6.13 175 P Pn 04 39 55.0 +0.5
baz=355
DHY Denali Highway 6.17 192 Pn 04 39 56.4 +1.3
DHY Denali Highway 6.17 192 P Pn 04 39 55.2 +0.2
baz=8.7
BCAR Beaver Creek A 6.18 168 Pn 04 39 55.2 +0.1
L27K Beaver Creek, 6.18 168 P Pn 04 39 55.4 +0.3
baz=350,SNR=86
PAX Paxson 6.18 184 P Pn 04 39 55.9 +0.7
baz=2.4
E18K Tukpahlearik C 6.18 262 P Pn 04 39 55.5 +0.4
baz=66
F18K Selawik 6.22 253 P Pn 04 39 55.6 +0.1
baz=58
J20K Nowinta River 6.24 222 P Pn 04 39 55.2 -0.6
baz=32
G18K Tagagawik 6.28 246 P Pn 04 39 56.2 -0.2
baz=52,SNR=39
CAST Castle Rocks 6.46 211 Pn 04 39 59.0 +0.1
CAST Castle Rocks 6.46 211 P Pn 04 39 59.0 +0.1
baz=24
GCSA Galena City Sc 6.51 234 P Pn 04 39 58.9 -0.7
baz=41
WAT1 Susitna Watana 6.51 196 P Pn 04 40 00.2 +0.5
baz=12
MAYO Mayo, Yukon 6.54 144 P Pn 04 39 59.9 -0.2
baz=332
L29M L29M 6.57 153 P Pn 04 40 00.6 +0.1
baz=339,SNR=59
H18K Honhosa River 6.67 240 P Pn 04 40 00.7 -1.0
baz=46
WAT6 Susitna Watana 6.69 193 P Pn 04 40 01.2 -0.9
baz=9.1
HARP HAARP 6.75 182 P Pn 04 40 03.3 +0.4
baz=1.2
E17K Hotham Inlet 6.75 261 P Pn 04 40 02.4 -0.5
baz=64
J19K Poorman 6.76 226 P Pn 04 40 02.4 -0.5
baz=35
C17K DeLong Mountai 6.77 273 P Pn 04 40 02.0 -1.1
baz=75
M26K Nabesna, AK 6.77 174 P Pn 04 40 03.6 +0.4
baz=355,SNR=80
RDOG Red Dog Mine 6.79 270 Pn 04 40 02.2 -1.1
RDOG Red Dog Mine 6.79 270 P Pn 04 40 02.3 -1.1
baz=72
F17K Baldwin Pennin 6.86 255 P Pn 04 40 03.6 -0.7
baz=59,SNR=42
M27K Edge Creek, AK 6.88 169 P Pn 04 40 04.6 -0.1
baz=352
BVCY Beaver Creek 6.90 165 Pn 04 40 06.4 +1.4
BVCY Beaver Creek 6.90 165 P Pn 04 40 05.0 0.0
baz=348
K20K Telida 6.92 218 P Pn 04 40 04.3 -0.9
baz=28
D17K Noatak River 6.96 267 P Pn 04 40 04.5 -1.3
baz=69
PPLA Purkeypile 6.96 210 Pn 04 40 06.0 +0.1
PPLA Purkeypile 6.96 210 P Pn 04 40 05.6 -0.3
baz=22
A36M Sachs Harbour 7.05 57 Pn 04 40 05.8 -1.2
A36M Sachs Harbour 7.05 57 P Pn 04 40 06.2 -0.8
baz=256
M24K Tolsona, Glenn 7.07 186 P Pn 04 40 07.3 0.0
baz=4.1
CUT Chulitna 7.13 202 P Pn 04 40 07.1 -0.9
baz=16
M29M Somme Creek 7.15 157 P Pn 04 40 08.9 +0.4
baz=342
WACK Wrangell Chich 7.16 179 Pn 04 40 09.7 +1.0
G17K Kiwalik Mounta 7.18 247 P Pn 04 40 08.5 -0.2
baz=52,SNR=29
M30M Minto, Yukon 7.29 150 P Pn 04 40 10.0 -0.3
baz=337
H17K Granite Mounta 7.30 242 P Pn 04 40 09.5 -1.0
baz=47
SCM Sheep Creek Mo 7.40 190 Pn 04 40 13.5 +1.7
SCM Sheep Creek Mo 7.40 190 P Pn 04 40 13.5 +1.7
SCM Sheep Creek Mo 7.40 190 P Pn 04 40 10.9 -0.9
baz=7.1
M23K Glacier View 7.46 192 P Pn 04 40 13.6 +0.9
baz=8.1
J18K Innoko River 7.47 227 P Pn 04 40 11.5 -1.3
baz=35
N25K Chitina, Valde 7.54 180 P Pn 04 40 13.7 0.0
baz=360
YUK3 Moose Creek 7.56 165 P Pn 04 40 14.4 +0.1
baz=348
GHO Glory Hole Cre 7.59 196 Pn 04 40 15.3 +0.9
C16K Lisburne Hills 7.59 273 P Pn 04 40 13.7 -0.7
baz=74
L20K Farewell, AK 7.67 214 P Pn 04 40 15.4 -0.1
baz=25
KLU Klutina 7.67 185 Pn 04 40 15.9 +0.3
KLU Klutina 7.67 185 P Pn 04 40 16.1 +0.5
baz=3.1
GLB Gilahina Butte 7.71 177 Pn 04 40 17.5 +1.4
SKT Skwentna 7.71 205 P Pn 04 40 15.9 -0.2
baz=18
M22K Willow 7.74 200 P Pn 04 40 16.6 +0.3
baz=14
PMR Palmer 7.78 196 P Pn 04 40 17.5 +0.5
baz=12
MCARA McCarthy VSAT 7.79 174 Pn 04 40 19.0 +1.9
baz=30
MCARA McCarthy VSAT 7.79 174 P Pn 04 40 17.3 +0.2
baz=356
G16K Koyuk River 7.81 250 P Pn 04 40 17.1 -0.3
baz=53
KNK Knik Glacier 7.90 194 Pn 04 40 20.1 +1.4
KNK Knik Glacier 7.90 194 P Pn 04 40 19.3 +0.7
baz=9.6
VRDI Verde Repeater 7.93 176 Pn 04 40 21.4 +2.2
PTPK Patty Peak 8.01 173 Pn 04 40 21.9 +1.6
DIV Divide 8.03 184 Pn 04 40 21.4 +0.9
M20K Styx River 8.07 210 P Pn 04 40 21.8 +0.7
baz=22
SUA Susitna One 8.10 201 P Pn 04 40 21.1 -0.3
baz=15
M31M Drury Creek, Y 8.10 144 P Pn 04 40 20.4 -1.0
baz=333
YUK8 Steele Glacier 8.12 163 Pn 04 40 23.2 +1.4
YUK8 Steele Glacier 8.12 163 P Pn 04 40 22.2 +0.4
baz=348
L19K White Mountain 8.14 216 P Pn 04 40 21.3 -0.6
baz=26,SNR=35
J17K VABM Dome 8.17 232 P Pn 04 40 22.0 -0.3
baz=38
BARN Barnard Glacie 8.18 170 Pn 04 40 23.0 +0.3
BMRM Bremner River 8.18 180 P Pn 04 40 22.1 -0.4
baz=360
YUK4 Talbot Arm 8.18 159 P Pn 04 40 21.7 -1.0
baz=344
H16K Elim 8.25 246 P Pn 04 40 22.9 -0.4
baz=49
KIAG Kiagna River 8.28 172 Pn 04 40 25.4 +1.4
I17K Unalakleet 8.28 238 P Pn 04 40 23.4 -0.4
baz=43
M19K Big River Lodg 8.29 214 P Pn 04 40 24.3 +0.3
baz=24
N30M Aishikik Lake 8.29 154 P Pn 04 40 24.7 +0.6
baz=341,SNR=43
CTG Chitna Glacier 8.29 169 P Pn 04 40 24.8 +0.6
baz=352
FARO Faro, Yukon 8.31 141 Pn 04 40 25.1 +0.9
FARO Faro, Yukon 8.31 141 P Pn 04 40 24.8 +0.5
baz=331
GLI Glacier Island 8.34 188 Pn 04 40 24.9 +0.3
GLI Glacier Island 8.34 188 P Pn 04 40 24.9 +0.3
baz=5.8
RC01 Rabbit Creek A 8.34 197 Pn 04 40 26.5 +1.8
RC01 Rabbit Creek A 8.34 197 P Pn 04 40 24.6 -0.1
baz=12
CRQE Cirque 8.42 175 P Pn 04 40 26.3 +0.5
baz=356
F15K North Star Dit 8.42 256 P Pn 04 40 24.7 -1.0
baz=56
PWL Port Wells 8.44 193 Pn 04 40 27.8 +1.8
PWL Port Wells 8.44 193 P Pn 04 40 26.1 +0.1
baz=8.7
LOGN Logan Glacier 8.46 168 Pn 04 40 27.9 +1.5
MMPY Sheldon Lake, 8.48 134 Pn 04 40 27.3 +0.6
MMPY Sheldon Lake, 8.48 134 P Pn 04 40 26.9 +0.3
baz=326
N31M Braeburn, Yuko 8.49 150 P Pn 04 40 26.9 +0.2
baz=338
K17K Iditarod 8.50 228 P Pn 04 40 26.7 -0.2
baz=34
L18K Granite Mounta 8.52 222 P Pn 04 40 26.9 -0.2
baz=30
SPBG Spurr Blockage 8.53 206 Pn 04 40 28.6 +1.3
SPWE Spurr West 8.54 207 Pn 04 40 28.2 +0.7
SPCR Spurr Chakacha 8.56 206 P Pn 04 40 27.7 0.0
baz=18
N20K Mount Spurr 8.56 206 P Pn 04 40 27.6 -0.1
baz=18
O28M Mount Upton 8.58 165 P Pn 04 40 28.5 +0.3
baz=349,SNR=17
CKL Chakachamna La 8.58 206 Pn 04 40 28.9 +0.8
ISLE Juniper Island 8.60 173 Pn 04 40 31.1 +2.8
YUK6 Outpost Mounta 8.61 159 Pn 04 40 30.2 +1.6
YUK6 Outpost Mounta 8.61 159 P Pn 04 40 28.3 -0.3
baz=345
EYAK Cordova Ski Ar 8.61 184 P Pn 04 40 28.4 0.0
baz=2.4
G15K Niukluk 8.62 251 P Pn 04 40 28.1 -0.4
baz=52
J16K Anvik River 8.70 236 P Pn 04 40 28.3 -1.2
baz=40
KHIT Khitrov Hills 8.72 176 Pn 04 40 32.5 +2.5
BERG Berg Lake 8.77 177 Pn 04 40 33.4 +2.9
BARK Barkley Ridge 8.79 173 Pn 04 40 34.1 +3.2
HMT Hamilton 8.81 179 Pn 04 40 34.1 +2.9
CAPN Captain Cook N 8.82 201 P Pn 04 40 30.3 -0.9
baz=15
HYT Haines Junctio 8.84 157 Pn 04 40 33.0 +1.4
HYT Haines Junctio 8.84 157 P Pn 04 40 32.2 +0.6
baz=343
GRIN Grindle Hills 8.88 176 Pn 04 40 34.4 +2.3
NICHA Nichawak Mount 8.92 178 Pn 04 40 35.0 +2.5
O22K Cooper Landing 8.94 197 P Pn 04 40 32.8 0.0
baz=11
RKAV Rock Avalanche 8.96 170 Pn 04 40 36.2 +3.0
M18K Stony River 8.96 217 P Pn 04 40 32.9 -0.2
baz=26
L17K Donlin 8.98 225 P Pn 04 40 32.9 -0.6
baz=32
MESA MESA 9.04 172 Pn 04 40 37.3 +2.9
MESA MESA 9.04 172 P Pn 04 40 34.5 0.0
baz=354
BGLC Bering Glacier 9.05 176 P Pn 04 40 33.9 -0.3
baz=357
SUCK Suckling Hills 9.09 177 Pn 04 40 37.8 +2.9
O30N Mendenhall 9.11 153 P Pn 04 40 35.2 0.0
baz=340
F14K Arctic Creek 9.13 257 P Pn 04 40 35.7 +0.2
baz=56
SAMH Samovar Hills 9.16 168 Pn 04 40 38.7 +2.6
O29M Mount Kennedy 9.21 161 P Pn 04 40 37.4 +0.8
baz=346,SNR=9.5
CHX Chaix Hills 9.21 169 Pn 04 40 39.8 +3.2
DFR Drift River 9.21 206 Pn 04 40 38.1 +1.4
KAIM Kayak Island 9.22 179 P Pn 04 40 37.3 +0.5
baz=359
P23K Montague Islan 9.23 189 P Pn 04 40 37.3 +0.4
baz=5.9
PCA Pinnacle 9.24 166 Pn 04 40 39.7 +2.7
PINM Pinnacle 9.24 166 P Pn 04 40 36.8 -0.2
baz=350
NCT North Crescent 9.28 206 Pn 04 40 39.6 +2.0
SEW Seward 9.28 195 P Pn 04 40 37.0 -0.5
baz=10
N19K Bonanza Creek 9.31 211 P Pn 04 40 37.8 -0.3
baz=22,SNR=19
N32M Quiet Lake 9.33 143 P Pn 04 40 38.5 +0.3
baz=334
RDWB Redoubt West 9.33 206 Pn 04 40 40.7 +2.3
ANM Nome 9.34 251 P Pn 04 40 37.6 -0.7
baz=51
M17K Holitna River 9.40 221 P Pn 04 40 38.9 -0.3
baz=29
WHY Whitehorse 9.42 150 Pn 04 40 39.8 +0.3
WHY Whitehorse 9.42 150 P Pn 04 40 38.7 -0.8
baz=338
P30M Million Dollar 9.59 156 P Pn 04 40 41.5 -0.3
baz=343
L16K Owhat River 9.65 227 P Pn 04 40 42.5 0.0
baz=33
TNA Tin City 9.65 260 P Pn 04 40 41.6 -0.9
baz=57
O20K Slope Mountain 9.69 205 P Pn 04 40 42.3 -0.9
baz=17
N18K Kilae Creek 9.71 215 P Pn 04 40 42.5 -1.0
baz=24
K15K Wolf Creek Mou 9.74 234 P Pn 04 40 42.7 -1.1
baz=38
PNL Peninsula 9.74 164 P Pn 04 40 44.1 +0.2
baz=349
Q23K Middleton Isla 9.75 185 P Pn 04 40 43.7 -0.2
baz=3.3
O19K Port Alsworth 9.86 210 P Pn 04 40 44.7 -0.7
baz=20
HOM Homer 9.96 201 Pn 04 40 48.9 +2.1
HOM Homer 9.96 201 P Pn 04 40 46.6 -0.2
baz=14
P29M Windy Craggy 9.96 159 P Pn 04 40 47.2 +0.3
baz=346
J14K Nanvaranak Lak 9.99 240 P Pn 04 40 46.5 -0.7
baz=42
CNPM China Poot 10.04 200 Pn 04 40 49.6 +1.6
M16K Timber Creek 10.10 224 P Pn 04 40 48.3 -0.4
baz=30
N17K Nushagak Hills 10.12 218 P Pn 04 40 48.9 -0.1
baz=26
TGTN Hyland Airport 10.18 130 P Pn 04 40 50.6 +0.6
baz=325
P19K Oil Pt 10.19 206 P Pn 04 40 50.1 0.0
baz=17
L15K Ungalak Mounta 10.22 231 P Pn 04 40 50.2 -0.1
baz=35
P33M Teslin, Yukon 10.23 145 P Pn 04 40 50.1 -0.6
baz=336
PLBC Pleasant Camp 10.32 156 P Pn 04 40 52.2 +0.5
baz=343
O18K Koktuh Hills 10.34 211 P Pn 04 40 51.1 -0.9
baz=21
WRGLY Wrigley 10.34 115 Pn 04 40 49.9 -2.1
WRGLY Wrigley 10.34 115 P Pn 04 40 51.2 -0.8
baz=314
SKAG Skagway 10.47 153 P Pn 04 40 52.8 -1.0
baz=341
N16K Nishlik Lake 10.53 222 P Pn 04 40 53.4 -1.4
baz=28
P32M Atlin 10.63 149 P Pn 04 40 55.0 -1.0
baz=338
P18K Big Mountain, 10.78 210 P Pn 04 40 57.5 -0.5
baz=20
O17K Koliganek Bris 10.79 216 P Pn 04 40 57.5 -0.6
baz=24
M15K Kasigluk River 10.82 227 P Pn 04 40 58.6 0.0
baz=31
L14K Kuka Creek 10.83 233 P Pn 04 40 58.0 -0.6
baz=36
Q19K Cape Douglas, 10.95 205 P Pn 04 41 00.7 +0.3
baz=17
K13K Kusilvak Mount 10.95 239 P Pn 04 40 58.9 -1.5
baz=40
Q20K Shuyak Island 11.08 202 P Pn 04 41 01.8 -0.3
baz=14
M14K Bethel 11.11 230 P Pn 04 41 01.9 -0.6
baz=33
N15K Kwethluk River 11.12 224 P Pn 04 41 02.4 -0.4
baz=29
O16K Kokwok River B 11.16 218 P Pn 04 41 02.6 -0.6
baz=25
P17K Kvichak River 11.19 213 P Pn 04 41 03.1 -0.5
baz=22
R33M Jennings River 11.37 142 P Pn 04 41 05.6 -0.7
baz=335,SNR=11
Q18K Katmai Hardscr 11.44 208 P Pn 04 41 05.8 -1.4
baz=19
Q32M Nakina River 11.50 146 P Pn 04 41 07.9 -0.1
baz=337
P16K Nushagak River 11.65 216 P Pn 04 41 09.2 -0.8
baz=24
Q16K King Salmon 11.71 213 P Pn 04 41 10.0 -0.8
baz=21
R32K Eaglecrest 11.73 153 P Pn 04 41 10.7 -0.4
baz=342
N14K Kuskokwak Cree 11.74 227 P Pn 04 41 10.8 -0.3
baz=31
M13K Dall Lake 11.78 231 P Pn 04 41 10.8 -0.8
baz=34
S31K Pelican 11.78 158 P Pn 04 41 11.7 0.0
baz=345
KDAK Kodiak Island 11.90 201 Pn Pn 04 41 11.5 -1.9
comp=E,0.7nm,0.3s,baz=54,slow=7.2,SNR=8.9
KDAK Lg Lg 04 44 36.0
comp=E,0.2nm,0.3s,baz=299,slow=22,SNR=1.2
KDAK Kodiak Island 11.90 201 *i* P Pn 04 41 13.5 +0.1
KDAK Kodiak Island 11.90 201 P Pn 04 41 12.4 -1.0
baz=14
ACHA Angle Creek He 11.91 209 Pn 04 41 14.5 +1.0
O15K Ungalikthiuk R 11.93 221 P Pn 04 41 12.9 -0.9
baz=27
Q17K Contact Creek 11.96 210 P Pn 04 41 13.8 -0.4
baz=19
GAMB Gambell 12.01 257 P Pn 04 41 14.7 -0.1
baz=51
O14K Tigyukauivet M 12.21 224 P Pn 04 41 17.3 -0.4
baz=29
DLBC Dease Lake 12.45 142 Pn Pn 04 41 20.4 -0.6
comp=E,1.3nm,0.6s,baz=339,slow=13
DLBC Lg Lg 04 44 53.5
comp=E,0.1nm,0.3s,baz=70,slow=11,SNR=3.7
DLBC LR LR 04 46 45.8
comp=E,294nm,18.1s,baz=295,slow=40
DLBC Dease Lake 12.45 142 P Pn 04 41 20.8 -0.1
baz=335
S32K Killisnoo 12.50 154 P Pn 04 41 21.3 -0.2
baz=343
KOTAN Kotaneelee Air 12.52 126 P Pn 04 41 20.7 -1.1
baz=325
OHAK Old Harbor 12.54 202 P Pn 04 41 21.2 -0.9
baz=14
LIRD Liard River Hi 12.55 132 P Pn 04 41 22.5 +0.2
baz=329
M11K Mekoryuk 12.63 237 P Pn 04 41 22.8 -0.5
baz=37
S34M Telegraph Cree 12.70 146 P Pn 04 41 24.6 +0.3
baz=338
SIT Sitka 12.78 157 P Pn 04 41 25.7 +0.4
baz=345
TOAD Toad River Com 13.26 131 P Pn 04 41 31.7 -0.3
baz=329
SII Sitkinak Islan 13.31 204 P Pn 04 41 30.9 -1.8
baz=15
T33K Petersburg 13.39 151 P Pn 04 41 33.7 0.0
baz=342
T35M Bob Quinn 13.74 145 P Pn 04 41 39.1 +0.6
baz=338
YKAW3 Yellowknife Wh 13.79 104 Pn 04 41 35.9 -3.2
YKA Yellowknife Ar 13.84 104 Pn 04 41 37.0 -2.7
YKA Yellowknife Ar 13.84 104 Pn Pn 04 41 36.6 -3.0
comp=E,6.8nm,0.3s,baz=313,slow=14,SNR=57
YKA Sn Sn 04 44 02.6 -11
comp=E,4.7nm,0.3s,baz=311,slow=23,SNR=6.3
YKA Lg Lg 04 45 35.0
baz=311,slow=28
comp=E,30nm,0.6s
YKA Yellowknife Ar 13.84 104 P Pn 04 41 37.0 -2.7
WRAK Wrangell Islan 13.87 151 P Pn 04 41 40.3 +0.1
baz=342
YKAW1 Yellowknife Wh 13.88 104 Pn Pn 04 41 37.0 -3.4
U33K Whale Pass 14.03 153 P Pn 04 41 42.3 -0.1
baz=343
CHIR Chirikof Islan 14.24 206 P Pn 04 41 44.3 -1.0
baz=16
CHGN Chignik 14.28 213 P P 04 41 49.8 -3.2
CRAG Craig 14.65 153 Pn Pn 04 41 50.1 -0.8
CRAG Craig 14.65 153 P Pn 04 41 51.3 +0.4
baz=344
V35K Ketchikan 15.04 150 P Pn 04 41 55.6 -0.5
baz=342
SDPT Sand Point 15.58 216 P Pn 04 42 03.1 -0.2
baz=21
S12K Black Hills 15.60 219 P Pn 04 42 02.6 -0.9
baz=23
CHNA Chernabura Isl 15.89 213 P Pn 04 42 06.7 -0.6
baz=19
RES Resolute Bay 15.94 48 Pn Pn 04 42 03.7 -4.0
RES IAmb IAmb 04 42 14.4
comp=Z,68nm,0.7s
RES Resolute Bay 15.94 48 Pn Pn 04 42 05.4 -2.4
comp=Z,7.7nm,0.3s,baz=271,slow=8.4,SNR=52
RES Sn Sn 04 44 46.0 -18
comp=Z,16nm,0.3s,baz=143,slow=9.1,SNR=7.5
RES LR LR 04 50 53.8
comp=Z,1µm,19.9s,baz=270,slow=47
RES Resolute Bay 15.94 48 P Pn 04 42 03.7 -4.0
RES pmax pmax
comp=Z,68nm,0.7s
RUBB Prince Rupert 16.24 149 Pn Pn 04 42 09.1 -2.6
RUBB IAmb IAmb 04 42 19.4
comp=Z,122nm,1.1s
SPIA Saint Paul Isl 16.47 236 P Pn 04 42 14.0 -0.7
baz=33
P08K Saint George I 16.75 234 P Pn 04 42 17.2 -1.0
baz=31
DIB Dawson Inlet, 16.94 154 Pn Pn 04 42 18.6 -2.0
BILL Bilibino 17.60 290 P Pn 04 42 24.1 -4.8
BILL Bilibino 17.60 290 *ce* P Pn 04 42 27.5 -1.3
BILL pmax pmax
comp=Z,48nm,1.3s
EUNU Eureka 17.80 29 P Pn 04 42 29.5 -1.8
UNV Unalaska Valle 18.36 225 P Pn 04 42 37.7 -0.5
baz=25
BBB Bella Bella 18.68 147 P P 04 42 40.8 -1.0
BBB IAmb IAmb 04 42 47.9

comp=Z,103nm,1.1s
BBB Bella Bella 18.68 147 P **Pn 04 42 43.5 +1.4**
comp=Z,0.5nm,0.3s,baz=330,slow=10,SNR=27
BBB Lg Lg 04 48 09.3
comp=Z,0.1nm,0.3s,baz=71,slow=12,SNR=3.1
comp=Z,58nm,1.0s
BLKN Baker Lake 19.34 81 P **P 04 42 45.7 -3.2**
BLKN IAmb IAmb 04 42 59.5
comp=Z,79nm,1.2s
NIKH Nikolski High 19.75 227 P **P 04 42 53.1 -0.4**
baz=26
POIN Pond Inlet 21.05 50 P **P 04 43 06.2 -1.2**
POIN IAmb IAmb 04 43 12.2
comp=Z,74nm,0.9s
CBB Campbell River 21.28 144 IAmb IAmb 04 43 19.1
comp=Z,72nm,1.2s
ILON Igloolik, Nuna 21.40 60 P **P 04 43 09.7 -1.5**
LLLB Lillooet 21.52 138 P **P 04 43 14.6 +1.8**
LLLB IAmb IAmb 04 43 20.4
comp=Z,89nm,1.2s
TULEG Thule 21.85 38 IAmb IAmb 04 43 31.4
comp=Z,33nm,0.8s
CLRS Cowichan Lake 22.69 143 P **P 04 43 27.0 +1.8**
PGC Sidney 23.00 142 P **P 04 43 30.5 +2.1**
PGC IAmb IAmb 04 43 32.9
comp=Z,36nm,1.1s
FCC Fort Churchill 23.71 90 P **P 04 43 34.4 -1.1**
FCC Fort Churchill 23.71 90 P **P 04 43 34.4 -1.1**
FCC pmax pmax
comp=Z,60nm,0.9s
FFC Flin Flon 24.01 105 P **P 04 43 38.5 +0.2**
FFC IAmb IAmb 04 43 54.4
comp=Z,48nm,1.1s
FFC Flin Flon 24.01 105 P **P 04 43 38.6 +0.2**
FFC pmax pmax
comp=Z,48nm,1.2s
LTY Liberty 24.94 139 IAmb IAmb 04 44 11.1
comp=Z,25nm,1.0s
E03A Lebam 24.97 144 IAmb IAmb 04 43 55.5
comp=Z,28nm,0.9s
NEEM North Greenlan 25.04 31 *i* P **P 04 43 47.6 -0.2**
NEEM IAmb IAmb 04 43 50.0
comp=Z,93nm,0.8s
RADR Rader Ridge 25.04 145 IAmb IAmb 04 44 17.9
comp=Z,58nm,1.2s
LON Longmire 25.16 141 IAmb IAmb 04 43 53.9
comp=Z,26nm,1.0s
SEY Seymchan 25.25 287 *i* P **P 04 43 49.0 -0.5**
KULLO Kullorsuaq 25.33 39 *i* P **P 04 43 51.1 +0.9**
KULLO IAmb IAmb 04 43 55.4
comp=Z,84nm,1.2s
D08A Wollman Farm, 25.55 137 IAmb IAmb 04 44 17.0
comp=Z,68nm,2.0s
WAH2 Wahluke Slope 25.68 138 IAmb IAmb 04 43 58.7
comp=Z,64nm,1.6s
G04A Mulino 26.48 143 IAmb IAmb 04 44 08.8
comp=Z,31nm,1.0s
HOOD Mount Hood Mea 26.55 142 IAmb IAmb 04 44 06.5
comp=Z,52nm,1.0s
G05A Wamic 26.70 142 IAmb IAmb 04 44 41.2
comp=Z,26nm,1.0s
TIXI Tiksi 26.84 316 *i* P **P 04 44 02.1 -1.8**
TIXI pmax pmax
comp=Z,28nm,0.9s
G06A Carlson Farm, 26.86 141 IAmb IAmb 04 44 08.0
comp=Z,79nm,1.9s
NOR Nord 27.01 15 *i* P **P 04 44 06.1 +0.8**
NOR IAmb IAmb 04 44 14.4
comp=Z,15nm,0.9s
MSO Missoula 27.06 130 IAmb IAmb 04 44 11.9
comp=Z,25nm,1.0s
BUCK Buck Mountain 27.33 145 IAmb IAmb 04 44 35.5
comp=Z,26nm,1.2s
I05D Terrebonne, OR 27.55 142 IAmb IAmb 04 44 14.3
comp=Z,80nm,2.0s
I03D Drain, OR 27.74 146 IAmb IAmb 04 44 16.8
comp=Z,30nm,1.2s
NUUG Nuugaatsiaq 28.11 43 *i* P **P 04 44 15.9 +0.7**
NUUG IAmb IAmb 04 44 22.4
comp=Z,23nm,1.0s
J01E Myrtle Point 28.14 147 IAmb IAmb 04 44 20.7
comp=Z,40nm,1.0s
MA2 Magadan 28.15 283 LR LR 04 57 13.4
comp=Z,3µm,18.4s,baz=56,slow=40
MA2 Magadan 28.15 283 *i* P **P 04 44 15.0 -0.7**
MA2 pmax pmax
comp=Z,29nm,1.6s
J04A Umpqua Nationa 28.43 144 IAmb IAmb 04 44 22.9
comp=Z,18nm,0.7s
DGMT Dagmar 28.54 115 P **P 04 44 19.2 -0.1**
DGMT IAmb IAmb 04 45 19.9
comp=Z,29nm,0.9s
J05D Fort Rock, OR 28.58 143 IAmb IAmb 04 44 25.2
comp=Z,18nm,1.0s
K05A Summer Lake 29.19 143 IAmb IAmb 04 44 30.5
comp=Z,19nm,0.9s
KSXB Camp Six Broad 29.43 147 IAmb IAmb 04 44 33.0
comp=Z,30nm,0.9s
KRMB Red Mountain 29.72 148 IAmb IAmb 04 44 35.0
comp=Z,24nm,1.1s
YBH Yreka Blue Hor 29.76 146 LR LR 04 56 47.1
comp=Z,62nm,19.1s,baz=314,slow=37
ULM Lac du Bonnet 29.82 104 P **P 04 44 30.9 +0.3**
comp=Z,9.5nm,1.1s,baz=328,slow=11,SNR=7.2
ULM LR LR 04 57 18.0
comp=Z,869nm,21.4s,baz=326,slow=38
comp=Z,9.5nm,1.1s
WVOR Wild Horse Val 29.97 140 IAmb IAmb 04 44 36.7
comp=Z,59nm,1.9s
KHMM Horse Mountain 30.38 148 IAmb IAmb 04 44 42.3
comp=Z,32nm,1.1s
MDND Maddock 30.59 111 IAmb IAmb 04 45 28.5
comp=Z,35nm,1.0s
PEA0B Petropavlovsk- 30.66 268 P **P 04 44 38.5 +0.5**
PEA0B Petropavlovsk- 30.66 268 *i* P **P 04 44 38.5 +0.5**
PETK Petropavlovsk- 30.66 268 P **P 04 44 38.3 +0.3**
PETK Petropavlovsk- 30.66 268 P **P 04 44 38.2 +0.2**
comp=Z,11nm,1.0s,baz=62,slow=10,SNR=16
PETK LR LR 04 57 20.7
comp=Z,2µm,20.5s,baz=53,slow=37
comp=Z,11nm,1.0s
SUMG Summit 30.67 35 P **P 04 44 37.9 -0.5**
SUMG IAmb IAmb 04 45 43.0
comp=Z,42nm,1.3s
SUMG Summit 30.67 35 P **P 04 44 37.9 -0.5**
SUMG pmax pmax
comp=Z,42nm,1.3s
SUMG Summit 30.67 35 *i* P **P 04 44 38.3 -0.1**
SUMG IAmb IAmb 04 44 42.2
comp=Z,21nm,1.0s
DAG Danmarks Havn 30.69 21 *i* P **P 04 44 38.3 +0.3**
DAG IAmb IAmb 04 44 43.9
comp=Z,20nm,1.1s
KMPM Mount Pierce 30.75 149 IAmb IAmb 04 44 44.5
comp=Z,27nm,1.0s
TPAW Teton Pass 30.97 128 IAmb IAmb 04 45 00.3
comp=Z,17nm,1.1s
SNOW Snow King Moun 31.05 128 IAmb IAmb 04 44 59.1
comp=Z,17nm,1.0s
EPLO Experimental L 31.05 102 IAmb IAmb 04 45 12.3
comp=Z,14nm,0.8s
O02D Mt. Diablo Mer 31.24 147 IAmb IAmb 04 44 48.2
comp=Z,26nm,1.4s
AGMN Agassiz Nation 31.48 106 IAmb IAmb 04 45 54.6
comp=Z,22nm,1.1s
AHID Auburn Hatcher 31.59 129 IAmb IAmb 04 44 54.4
comp=Z,16nm,0.9s
SFJD Kangerlussuaq 31.94 48 LR LR 05 00 26.3
comp=Z,513nm,18.6s,baz=326,slow=42
BW06 Boulder Array 32.03 127 IAmb IAmb 04 45 06.7
comp=Z,14nm,0.8s
PD31 Pinedale Array 32.03 127 IAmb IAmb 04 45 06.7
comp=Z,14nm,0.8s
PDAR Pinedale Array 32.03 127 P **P 04 44 52.5 +2.1**
PDAR Pinedale Array 32.03 127 P **P 04 44 52.6 +2.2**
comp=Z,10nm,0.8s,baz=359,slow=5.9,SNR=38
PDAR LR LR 04 58 21.1
comp=Z,627nm,18.2s,baz=340,slow=37
comp=Z,10nm,0.8s
BEKR Beckworth 32.04 143 IAmb IAmb 04 45 39.6
comp=Z,10nm,0.8s
HVU Hansel Valley 32.05 132 IAmb IAmb 04 45 11.2
comp=Z,13nm,1.0s
ELK Elko 32.39 136 LR LR 04 58 18.3
comp=Z,1µm,19.3s,baz=338,slow=37
PAHR Pah Rah Range 32.40 142 IAmb IAmb 04 45 03.9
comp=Z,15nm,1.0s

RSSD Black Hills 32.45 119 P **P 04 44 55.1 +1.0**
RSSD IAmb IAmb 04 45 39.1
comp=Z,16nm,1.1s
RSSD Black Hills 32.45 119 P **P 04 44 55.1 +1.0**
RSSD pmax pmax
comp=Z,16nm,1.2s
SPA0 Spitsbergen Ar 32.49 7 *e*P **P 04 44 53.5 -0.3**
SPA0 IAmb IAmb 04 44 58.9
comp=Z,22nm,1.0s
SPITS Spitsbergen Ar 32.49 7 P **P 04 44 53.8 -0.1**
comp=Z,4.5nm,0.5s,baz=19,slow=5.4,SNR=21
comp=Z,4.5nm,0.5s
SPITS Spitsbergen Ar 32.49 7 P **P 04 44 53.9 0.0**
SPITS pmax pmax
comp=Z,116nm,1.9s
SPB2 Spitsbergen Ar 32.49 7 P **P 04 44 53.4 -0.5**
DBG Daneborg 32.53 25 *i* P **P 04 44 53.9 -0.3**
DBG IAmb IAmb 04 44 56.4
comp=Z,17nm,0.6s
HWUT Hardware Ranch 32.54 131 IAmb IAmb 04 45 16.0
comp=Z,16nm,0.8s
BGU Big Grassy Mou 32.78 133 IAmb IAmb 04 45 18.9
comp=Z,20nm,1.5s
K22A Casper 33.02 123 IAmb IAmb 04 45 47.5
comp=Z,12nm,0.8s
ICESG Greenland Ices 33.06 39 *i* P **P 04 44 59.7 +0.3**
ICESG IAmb IAmb 04 45 02.6
comp=Z,80nm,1.1s
KUQ Kuujjuuaa 33.22 70 P **P 04 45 00.2 -0.2**
KUQ IAmb IAmb 04 45 38.4
comp=Z,15nm,0.9s
YAK Yakutsk 33.30 301 LR LR 05 01 17.7
comp=Z,2µm,18.1s,baz=43,slow=41
YAK Yakutsk 33.30 301 *e*P **P 04 45 02.3 +1.2**
YAK *e**PP **sP 04 45 06.0 +0.3**
YAK *e* 04 46 13.3
YAK *e*PPP PPP 04 46 25.2
YAK *e* 04 47 45.0
YAK *e*S **S 04 50 23.6 +2.6**
YAK *e**SS **sS 04 50 29.1 +2.4**
YAK *e*SS **SnSn 04 52 26.0 +5.2**
YAK *e*SSS SSS 04 52 40.9
YAK *e* 04 55 29.7
YAK pmax pmax
comp=Z,32nm,1.4s
YAK pmax pmax
comp=N,16nm,1.3s
YAK pmax pmax
comp=E,19nm,1.5s
YAK pmax pmax
comp=Z,40nm,1.0s
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=E,13nm,1.5s
YAK smax smax
comp=N,55nm,2.3s
YAK smax smax
comp=E,42nm,2.5s
YAK MLR MLR
comp=Z,2µm,12.0s
YAK MLR MLR
comp=E,1µm,10.0s
YAK MLR MLR
comp=N,1µm,13.0s
TBO Thunder Bay 33.44 99 IAmb IAmb 04 45 07.7
comp=Z,22nm,1.0s
F33A 5 Mile Ranch, 33.46 109 IAmb IAmb 04 46 09.8
comp=Z,15nm,1.0s
DUG Dugway, Tooele 33.53 133 IAmb IAmb 04 45 08.5
comp=Z,21nm,0.8s
WAKR Walker 33.54 143 IAmb IAmb 04 45 08.9
comp=Z,18nm,0.9s
BSUT Blindstream Ca 33.76 130 IAmb IAmb 04 45 22.8
comp=Z,24nm,0.9s
NVAR Mina Array Bea 33.87 141 P **P 04 45 08.7 +2.2**
NVAR Mina Array Bea 33.87 141 P **P 04 45 09.4 +2.9**
comp=Z,12nm,0.8s,baz=330,slow=8.2,SNR=55
NVAR LR LR 05 00 22.5
comp=Z,1µm,18.7s,baz=342,slow=39
comp=Z,12nm,0.8s
NV11 Mina Array Sit 33.90 141 IAmb IAmb 04 45 38.0
comp=Z,16nm,1.1s
LHV Little Huntoon 33.99 142 IAmb IAmb 04 45 13.0
comp=Z,27nm,1.2s
MPU Maple Canyon 34.01 132 IAmb IAmb 04 45 31.9
comp=Z,14nm,1.0s
E38A The Farm, Brul 34.43 103 IAmb IAmb 04 45 16.1
comp=Z,23nm,1.0s
P18A Preston Nutter 34.75 130 IAmb IAmb 04 45 19.7
comp=Z,21nm,0.8s
PSUT Pine Spring 34.83 135 IAmb IAmb 04 46 03.8
comp=Z,16nm,1.0s
DSP Deep Springs 34.95 141 pP 04 45 19.3 +0.4
SRU San Rafael Swe 35.15 131 IAmb IAmb 04 45 32.9
comp=Z,16nm,0.8s
SPMN Marine on St. 35.19 106 IAmb IAmb 04 46 03.9
comp=Z,32nm,1.1s
ECSD EROS Data Cent 35.21 111 IAmb IAmb 04 45 23.5
comp=Z,17nm,0.8s
MVU Marysvale 35.27 133 pP 04 45 22.4 +0.4
GRAC Grapevine Rang 35.45 141 pP 04 45 23.6 +0.3
SOEG Soedalen 35.60 36 *i* P **P 04 45 21.3 +0.4**
SOEG IAmb IAmb 04 45 24.5
comp=Z,49nm,1.0s
TPNV Topopah Spring 35.75 139 IAmb IAmb 04 45 49.5
comp=Z,14nm,0.8s
WCT Wildcat Mounta 35.81 140 pP 04 45 26.6 +0.1
PV21 Cone Mtn., Par 36.09 129 IAmb IAmb 04 45 31.5
comp=Z,14nm,0.9s
PV23 Carpenter Ridg 36.19 129 IAmb IAmb 04 45 41.9
comp=Z,20nm,0.8s
ANGG Ammassalik, Gr 36.31 42 *i* P **P 04 45 23.3 -3.7**
ANGG IAmb IAmb 04 45 33.2
comp=Z,1µm,2.5s
PV19 Morning Glory 36.33 129 IAmb IAmb 04 45 34.6
comp=Z,38nm,1.1s
PV16 Nyswonger Mesa 36.34 129 IAmb IAmb 04 45 34.7
comp=Z,17nm,1.0s
SCHQ Schefferville 36.35 73 P **P 04 45 28.2 +0.7**
comp=Z,43nm,0.8s,baz=324,slow=8.2,SNR=25
SCHQ LR LR 05 02 02.6
comp=Z,554nm,20.3s,baz=322,slow=39
comp=Z,43nm,0.8s
PV17 East Wray Mesa 36.36 129 IAmb IAmb 04 45 43.9
comp=Z,22nm,1.0s
F42A Maple Grove Fa 36.36 100 IAmb IAmb 04 45 32.6
comp=Z,16nm,0.8s
PV11 David Mesa, Pa 36.37 129 IAmb IAmb 04 45 34.9
comp=Z,25nm,1.0s
PV12 Saucer Basin, 36.37 129 IAmb IAmb 04 46 13.4
comp=Z,21nm,1.0s
GWY Greenwater Val 36.38 140 pP 04 45 32.0 +0.6
PV18 Skein Mesa, Pa 36.41 129 IAmb IAmb 04 45 44.3
comp=Z,31nm,0.9s
PV02 Paradox Valley 36.49 129 IAmb IAmb 04 45 35.5
comp=Z,30nm,0.9s
PV05 Paradox Valley 36.51 130 IAmb IAmb 04 45 35.5
comp=Z,29nm,1.0s
PV13 Radium Mtn., P 36.51 129 IAmb IAmb 04 45 32.5
comp=Z,15nm,0.9s
KNB Kanab 36.52 135 pP 04 45 32.6 0.0
QSM Queen of Sheba 36.55 141 pP 04 45 32.8 +0.1
PV01 Paradox Valley 36.60 129 IAmb IAmb 04 45 36.6
comp=Z,16nm,0.8s
I40A Norwalk 37.12 104 IAmb IAmb 04 45 39.6
comp=Z,32nm,0.8s
IVI Ivigtut 37.12 53 *i* P **P 04 45 31.4 -2.6**
IVI IAmb IAmb 04 45 35.0
comp=Z,471nm,3.0s
E46A Sault Ste Mari 37.20 96 IAmb IAmb 04 45 39.0
comp=Z,23nm,0.8s
GSC Goldstone, Bar 37.20 141 pP 04 45 38.5 +0.2
V12A Nelson 37.25 138 pP 04 45 38.8 0.0
KSCO Kaye Shedlock' 37.54 121 IAmb IAmb 04 45 55.1
comp=Z,19nm,0.7s
I42A Draeger Farm, 37.71 103 IAmb IAmb 04 45 44.2
comp=Z,17nm,0.8s
TYV Tymovskoe 37.86 280 *e*P **P 04 45 40.2 -0.1**
TYV *e*S **S 04 51 33.8 +2.6**
TYV pmax pmax
comp=Z,200nm,4.8s
TYV pmax pmax
comp=Z,8.0nm,0.9s
TYV smax smax
comp=N,400nm,6.6s
TYV smax smax

comp=E,200nm,6.6s
TYV MLR MLR
comp=E,2µm,18.0s
TYV MLR MLR
comp=Z,900nm,18.0s
VLDQ Val d'Or 38.16 88 IAmb IAmb 04 45 49.4
comp=Z,34nm,1.5s
L40A Anamosa 38.52 106 IAmb IAmb 04 45 51.1
comp=Z,30nm,0.7s
CBKS Cedar Bluff 38.62 118 IAmb IAmb 04 45 52.1
comp=Z,30nm,0.8s
PFO Pinyon Flats O 38.90 141 LR LR 05 02 21.8
comp=Z,1µm,19.0s,baz=347,slow=37
PFO Pinyon Flats O 38.90 141 *i* P **P 04 45 48.6 -0.8**
PFO pmax pmax
comp=Z,41nm,3.0s
N38A Joes South For 38.96 109 IAmb IAmb 04 45 55.5
comp=Z,26nm,1.0s
L42A Oliver, Polo 39.11 105 IAmb IAmb 04 45 56.2
comp=Z,45nm,1.0s
W18A Petrified Fore 39.12 132 IAmb IAmb 04 45 59.4
comp=Z,25nm,1.0s
BLYC Blythe 39.21 139 pP 04 45 55.1 -0.1
R32A Long Quarter, 39.30 117 IAmb IAmb 04 45 59.6
comp=Z,21nm,0.9s
X16A Lo Mia Camp, P 39.34 135 pP 04 45 56.6 +0.2
Y14A Wickenburg 39.40 137 pP 04 45 56.7 -0.2
X18A Snowflake 39.62 133 pP 04 45 58.8 +0.1
BUKO Buck Lake 39.75 92 IAmb IAmb 04 46 00.0
comp=Z,19nm,0.8s
N41A Harden Midland 39.85 107 IAmb IAmb 04 46 02.0
comp=Z,33nm,1.0s
RTBA Rita Blanca 39.88 123 IAmb IAmb 04 46 08.9
comp=Z,68nm,2.0s
P38A Dawn 39.91 111 IAmb IAmb 04 46 07.9
comp=Z,24nm,0.7s
CBX Cerro Bola 40.10 142 IAmb IAmb 04 46 03.3
comp=Z,32nm,0.8s
GRNR Gornyy 40.13 285 ⇑ *i* P **P 04 46 00.3 +1.0**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR MLR MLR
comp=E,3µm,20.0s
GRNR MLR MLR
comp=N,2µm,13.0s
GRNR MLR MLR
comp=Z,2µm,13.0s
ANMO Albuquerque 40.18 128 P **P 04 46 01.8 +1.6**
ANMO Albuquerque 40.18 128 LR LR 05 04 22.9
comp=Z,2µm,18.5s,baz=66,slow=39
ANMO Albuquerque 40.18 128 *ce*P **P 04 45 59.5 -0.6**
ANMO pmax pmax
comp=Z,14nm,1.3s
HAMF Hammerfest 40.27 6 *e*P **P 04 45 59.6 -0.7**
HAMF IAmb IAmb 04 46 01.5
comp=Z,36nm,1.4s
SADO Sadowa 40.42 92 IAmb IAmb 04 46 05.8
comp=Z,34nm,0.9s
SADO Sadowa 40.42 92 LR LR 05 02 02.3
comp=Z,516nm,18.3s,baz=341,slow=35
ICQ Pointe Anglais 40.59 78 P **P 04 46 02.7 -0.4**
BORG Borgarnes 40.64 33 LR LR 05 05 06.4
comp=Z,282nm,19.1s,baz=335,slow=40
ZEA Zeya 40.73 295 *e*P **P 04 46 05.7 +1.4**
ZEA pmax pmax
comp=Z,10.0nm,0.5s
ZEA MLR MLR
comp=E,600nm,13.0s
ZEA MLR MLR
comp=N,2µm,12.0s
ZEA MLR MLR
comp=Z,2µm,13.0s
TRQ Mont Tremblant 40.81 87 IAmb IAmb 04 46 08.9
comp=Z,23nm,0.7s
VADS Vadso 40.96 3 *e*P **P 04 46 06.8 +0.8**
VADS IAmb IAmb 04 46 22.6
comp=Z,202nm,2.2s
TRO Tromso 41.06 9 *e*P **P 04 46 07.3 +0.6**
YSS Yuzhno-Sakhali 41.12 276 *e*P **P 04 46 07.1 -0.4**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,400nm,17.0s
DELO Deloro Mine 41.18 91 IAmb IAmb 04 46 12.0
comp=Z,29nm,1.0s
LMQ La Malbaie 41.19 82 IAmb IAmb 04 46 12.0
comp=Z,17nm,0.8s
JETT Jettan, Norway 41.22 8 *e*P **P 04 46 07.7 -0.4**
JETT IAmb IAmb 04 46 13.0
comp=Z,0.5nm,0.3s
P43A Skaggs, Pawnee 41.26 106 IAmb IAmb 04 46 13.1
comp=Z,16nm,0.8s
KEV Kevo 41.27 4 P **P 04 46 06.1 -2.4**
KEV Kevo 41.27 4 P **P 04 46 06.1 -2.4**
KEV pmax pmax
comp=Z,111nm,1.9s
CROK Carrier 41.29 117 IAmb IAmb 04 46 14.1
comp=Z,40nm,0.9s
T35A Sooner Cattle 41.38 116 IAmb IAmb 04 46 21.1
comp=Z,18nm,0.7s
SFIN Lafayette 41.44 103 IAmb IAmb 04 46 15.0
comp=Z,28nm,0.9s
ARA0 ARCESS Array 5 41.45 5 *e*P **P 04 46 07.7 -2.3**
ARA0 IAmb IAmb 04 46 12.6
comp=Z,286nm,2.5s
ARCES ARCESS Array B 41.45 5 P **P 04 46 08.0 -1.9**
ARCES IAmb IAmb 04 46 14.3
comp=Z,23nm,1.1s
ARCES ARCESS Array B 41.45 5 P **P 04 46 09.9 -0.1**
comp=Z,18nm,1.0s,baz=354,slow=7.4,SNR=29
ARCES PcP **PcP 04 48 07.6 +0.2**
comp=Z,1.8nm,0.6s,baz=347,slow=3.7,SNR=1.9
comp=Z,18nm,1.0s
TUC Tucson 41.51 135 P **P 04 46 13.4 +2.5**
TUC Tucson 41.51 135 P **P 04 46 13.4 +2.5**
TUC pmax pmax
comp=Z,7.0nm,1.0s
R40A Maddies Statio 41.54 110 IAmb IAmb 04 46 20.7
comp=Z,18nm,0.8s
WBO Williamsburg 41.61 88 IAmb IAmb 04 46 15.4
comp=Z,18nm,0.8s
AMTX Amarillo 41.63 123 IAmb IAmb 04 46 14.2
comp=Z,21nm,0.8s
OK051 E0350 and S346 41.65 116 IAmb IAmb 04 46 16.8
comp=Z,28nm,0.8s
MNTQ Montreal, Queb 41.77 86 IAmb IAmb 04 46 16.2
comp=Z,21nm,0.7s
KTK1 Kautokeino 41.88 7 *e*P **P 04 46 13.4 -0.2**
KTK1 IAmb IAmb 04 46 21.1
comp=Z,19nm,0.8s
N49A Columbus Grove 41.98 100 IAmb IAmb 04 46 18.9
comp=Z,27nm,0.7s
QUOK Quay 42.00 116 IAmb IAmb 04 46 16.4
comp=Z,17nm,0.8s
D62A Allapoint, All 42.04 81 IAmb IAmb 04 46 19.2
comp=Z,22nm,0.9s
CCM Cathedral Cave 42.09 109 P **P 04 46 15.1 -0.5**
CCM Cathedral Cave 42.09 109 P **P 04 46 15.1 -0.5**
CCM pmax pmax
comp=Z,8.0nm,0.7s
OK029 Liberty Lake 42.10 117 IAmb IAmb 04 46 17.5
comp=Z,23nm,0.8s
MSTX Muleshoe 42.16 124 IAmb IAmb 04 46 18.6
comp=Z,17nm,0.8s
LONY Lake Ozonia 42.18 88 IAmb IAmb 04 46 20.0
comp=Z,23nm,0.8s
LOF Lofoten 42.20 12 IAmb IAmb 04 46 14.7
comp=Z,243nm,2.0s
LOF *e*P **P 04 46 16.7 +0.6**
O48B Farmland 42.23 101 IAmb IAmb 04 46 20.4
comp=Z,28nm,0.7s
E62A Clayton Lake 42.27 82 IAmb IAmb 04 46 21.6
comp=Z,32nm,0.9s
DEOK Depew 42.37 116 IAmb IAmb 04 46 22.6
comp=Z,26nm,0.8s
ERPA Erie 42.42 95 IAmb IAmb 04 46 22.4
comp=Z,14nm,0.7s
STEI Steigen 42.52 11 *e*P **P 04 46 19.4 +0.6**
TUL3 Leonard 42.53 115 IAmb IAmb 04 46 23.9
comp=Z,28nm,0.8s
MGMO Mountain Grove 42.56 111 IAmb IAmb 04 46 24.5
comp=Z,33nm,0.9s
MMNY Mt. Morris Dam 42.63 93 IAmb IAmb 04 46 23.7
comp=Z,19nm,0.8s
WVNY West Valley, N 42.67 93 IAmb IAmb 04 46 24.2
comp=Z,22nm,0.8s
J57A Williamstown 42.73 90 IAmb IAmb 04 46 24.5

comp=Z,19nm,0.8s
P48A Milroy 42.84 102 IAmb IAmb 04 46 25.4
comp=Z,31nm,1.3s
BATG Bathurst New B 42.93 78 IAmb IAmb 04 46 26.7
comp=Z,20nm,0.9s
ACSO Alum Creek Sta 43.02 99 IAmb IAmb 04 46 27.1
comp=Z,27nm,0.8s
KLR Kul'dur 43.04 287 *i* P **P 04 46 21.1 -2.1**
KLR pmax pmax
comp=Z,10.0nm,1.0s
FAUS Fauske 43.06 11 *e*P **P 04 46 24.0 +0.9**
FAUS IAmb IAmb 04 46 27.6
comp=Z,29nm,1.1s
SIUC Southern Illin 43.09 107 IAmb IAmb 04 46 27.9
comp=Z,26nm,0.9s
S44A Carbondale 43.10 107 IAmb IAmb 04 46 27.9
comp=Z,21nm,0.8s
G62A West of Eustis 43.11 84 IAmb IAmb 04 46 44.7
comp=Z,23nm,0.9s
J59A Piesco 43.21 89 IAmb IAmb 04 46 28.5
comp=Z,28nm,0.8s
LVZ Lovozero 43.25 0 P **P 04 46 25.6 +0.9**
LVZ IAmb IAmb 04 46 30.1
comp=Z,24nm,1.0s
LVZ Lovozero 43.25 0*ce*P **P 04 46 24.7 0.0**
LVZ pmax pmax
comp=Z,35nm,1.3s
N53A Lisbon 43.27 97 IAmb IAmb 04 46 33.4
comp=Z,29nm,1.1s
L56A Greenwood 43.28 93 IAmb IAmb 04 46 29.8
comp=Z,34nm,0.9s
PKME Peaks-Kenny Pk 43.52 83 IAmb IAmb 04 46 31.0
comp=Z,24nm,0.8s
PBMO Poplar Bluff 43.52 109 IAmb IAmb 04 46 31.2
comp=Z,26nm,0.7s
O52A Adamsville 43.53 98 IAmb IAmb 04 46 30.9
comp=Z,23nm,0.8s
VAGH Vaagaholmen 43.56 13 *e*P **P 04 46 27.8 +0.6**
VAGH IAmb IAmb 04 46 30.8
comp=Z,48nm,1.3s
APA Apatity 43.58 1‖ *i*P **P 04 46 25.2 -2.1**
APA *e*S **S 04 52 51.2 -4.7**
APA *e*SS **SS 04 56 09.4 -0.5**
APA pmax pmax
comp=Z,10.0nm,1.1s
APA MLR MLR
comp=Z,838nm,20.0s
ASAJ Asahikawa 43.62 274 LR LR 05 06 03.0
comp=Z,994nm,18.1s,baz=46,slow=38
HEH HeiHe 43.63 292 *e*P **P 04 46 28.4 +0.5**
HEH S **S 04 52 56.1 -1.0**
HEH pmax pmax
comp=Z,27nm,1.5s
HEH LR LR
comp=Z,5μm,18.1s
HEH LR LR
comp=Z,6μm,17.9s
HEH LR LR
comp=Z,6μm,13.9s
O53A New Philadelph 43.63 97 IAmb IAmb 04 46 32.1
comp=Z,17nm,0.7s
WCI Wyandotte Cave 43.64 104 P **P 04 46 27.3 -0.8**
WCI IAmb IAmb 04 46 32.2
comp=Z,28nm,0.8s
WCI Wyandotte Cave 43.64 104 P **P 04 46 27.3 -0.8**
WCI pmax pmax
comp=Z,28nm,0.8s
FCAR Ozark Folk Cen 43.76 111 IAmb IAmb 04 46 30.3
comp=Z,23nm,1.0s
BINY Binghamton 43.79 91 IAmb IAmb 04 46 33.4
comp=Z,23nm,0.7s
HNH Hanover 43.80 87 IAmb IAmb 04 46 34.1
comp=Z,18nm,0.8s
P52A Corning 43.85 99 IAmb IAmb 04 46 33.3
comp=Z,14nm,0.8s
LCAR Lake Charles 43.92 110 IAmb IAmb 04 46 35.9
comp=Z,28nm,1.1s
STOK Stokkvaagen 43.93 13 *e*P **P 04 46 30.4 +0.3**
STOK IAmb IAmb 04 46 34.6
comp=Z,702nm,2.9s
O54A Avella 43.99 97 IAmb IAmb 04 46 34.9
comp=Z,18nm,0.7s
M57A Sunshine Farm, 44.13 93 IAmb IAmb 04 46 36.0
comp=Z,30nm,1.0s
LEIR Leirfjorden 44.16 13 *e*P **P 04 46 32.3 +0.4**
DRLN Deer Lake 44.18 70 P **P 04 46 31.8 -0.6**
MOR8 Moi Rana 44.20 12 *e*P **P 04 46 31.7 -0.7**
MOR8 IAmb IAmb 04 46 32.9
comp=Z,13nm,1.0s
WHAR Wooly Hollow 44.25 112 IAmb IAmb 04 46 56.9
comp=Z,15nm,0.9s
R50A Paris 44.28 102 IAmb IAmb 04 46 37.2
comp=Z,13nm,0.8s
SSPA Standing Stone 44.48 94 P **P 04 46 34.1 -0.7**
SSPA IAmb IAmb 04 46 38.6
comp=Z,22nm,0.9s
GGN Saint George 44.51 81 IAmb IAmb 04 46 38.9
comp=Z,18nm,0.8s
SGCY Sterling City 44.56 124 IAmb IAmb 04 46 52.9
comp=Z,14nm,0.9s
LMN Caledonia Moun 44.59 78 P **P 04 46 34.6 -1.1**
LMN IAmb IAmb 04 46 40.1
comp=Z,25nm,1.1s
UALR University of 44.70 112 IAmb IAmb 04 46 40.9
comp=Z,17nm,0.7s
X40A Basin Creek Fa 44.80 113 IAmb IAmb 04 46 41.0
comp=Z,16nm,0.8s
Q54A Coxs Mills 44.89 98 IAmb IAmb 04 46 46.2
comp=Z,19nm,0.7s
WVT Waverly 45.00 107 P **P 04 46 39.2 +0.2**
WVT Waverly 45.00 107 P **P 04 46 39.2 +0.2**
WVT pmax pmax
comp=Z,44nm,0.8s
HRV Adam Dziewonsk 45.10 87 P **P 04 46 41.0 +1.2**
HRV IAmb IAmb 04 46 44.1
comp=Z,20nm,1.0s
HRV Adam Dziewonsk 45.10 87 P **P 04 46 41.0 +1.2**
HRV pmax pmax
comp=Z,20nm,1.0s
S51A Beattyville 45.11 101 IAmb IAmb 04 46 48.6
comp=Z,13nm,1.0s
T50A Nancy 45.23 103 IAmb IAmb 04 46 45.2
comp=Z,18nm,0.9s
U49A Red Boiling Sp 45.36 104 IAmb IAmb 04 46 46.7
comp=Z,17nm,0.8s
Q56A Snyder Ridge, 45.42 96 IAmb IAmb 04 46 46.1
comp=Z,15nm,0.8s
P57A Homestead Farm 45.45 95 IAmb IAmb 04 46 46.3
comp=Z,12nm,0.9s
UCCT U. Connecticut 45.49 88 IAmb IAmb 04 46 46.8
comp=Z,18nm,0.9s
MVL Millersville 45.59 93 IAmb IAmb 04 46 48.0
comp=Z,14nm,0.9s
NSS Namsos 45.62 14 *e*P **P 04 46 44.6 +1.0**
TX31 Lajitas Ar. Si 46.24 128 IAmb IAmb 04 47 57.3
comp=Z,17nm,1.4s
TXAR Lajitas Array 46.24 128 P **P 04 46 50.7 +1.6**
TXAR Lajitas Array 46.24 128 P **P 04 46 51.0 +1.9**
comp=Z,2.3nm,0.6s,baz=351,slow=6.9,SNR=23
TXAR LR LR 05 07 48.3
comp=Z,805nm,18.4s,baz=332,slow=38
comp=Z,2.3nm,0.6s
TXAR Lajitas Array 46.24 128 P **P 04 46 51.0 +1.9**
JCT Junction City 46.30 123 IAmb IAmb 04 46 52.8
comp=Z,22nm,1.0s
CIT Chita 46.50 304 *e*P **P 04 46 52.9 +2.1**
CIT *e* 04 49 19.3
CIT pmax pmax
comp=Z,55nm,1.5s
S57A Dark Hollow, R 46.65 97 IAmb IAmb 04 46 57.6
comp=Z,9.9nm,0.9s
U54A Nelsons Funny 46.74 100 IAmb IAmb 04 46 56.8
comp=Z,15nm,0.7s
CPCT Cooper Cave 46.76 104 IAmb IAmb 04 46 57.8
comp=Z,18nm,1.1s
X48A Hartselle 46.79 107 P **P 04 46 52.9 -0.3**
X48A IAmb IAmb 04 46 57.4
comp=Z,18nm,0.9s
CBN Corbin Frederi 46.82 95 P **P 04 46 52.6 -0.7**
TKL Tuckaleechee C 46.83 103 P **P 04 46 53.2 -0.3**
TKL IAmb IAmb 04 46 57.1
comp=Z,8.5nm,0.8s
TKL Tuckaleechee C 46.83 103 LR LR 05 07 36.3
comp=Z,648nm,19.3s,baz=342,slow=37
TKL Tuckaleechee C 46.83 103 P **P 04 46 53.2 -0.3**
TKL pmax pmax
comp=Z,8.0nm,0.8s

R58B Mineral 46.85 96 P **P 04 46 52.8 -0.8**
R58B IAmb IAmb 04 46 57.3
comp=Z,11nm,1.0s
143A Socs Landing, 46.91 112 P **P 04 46 53.5 -0.7**
HIA Hailar 46.99 297 P **P 04 46 53.8 -0.9**
HIA Hailar 46.99 297 P **P 04 46 54.4 -0.2**
HIA pmax pmax
comp=Z,39nm,1.7s
V53A Saluda 47.16 102 P **P 04 46 55.7 -0.4**
V53A IAmb IAmb 04 47 00.3
comp=Z,12nm,0.7s
FPAL Fort Paine 47.20 105 P **P 04 46 56.4 -0.1**
T57A Hurt 47.22 98 P **P 04 46 56.6 +0.1**
T57A IAmb IAmb 04 46 59.9
comp=Z,10nm,0.7s
W52A Murphy 47.28 103 P **P 04 46 55.4 -1.7**
W52A IAmb IAmb 04 47 01.5
comp=Z,23nm,1.1s
USA0B Ussuriysk Arra 47.31 284 *i* P **P 04 46 55.6 -1.5**
USRK Ussuriysk Ar. 47.31 284 P **P 04 46 57.5 +0.4**
comp=Z,4.2nm,0.9s,baz=25,slow=5.0,SNR=6.6
USRK LR LR 05 08 51.6
comp=Z,1μm,18.3s,baz=31,slow=39
comp=Z,4.2nm,0.9s
HNDO Hondo 47.35 123 P **P 04 46 56.9 -0.7**
HNDO IAmb IAmb 04 46 59.2
comp=Z,17nm,1.1s
HNVL Huntsville, TX 47.39 118 P **P 04 46 57.0 -0.8**
U56A King 47.40 99 P **P 04 46 57.4 -0.6**
X51A Calhoun 47.44 105 P **P 04 46 57.1 -1.1**
X51A IAmb IAmb 04 47 02.4
comp=Z,16nm,0.9s
BNX BinXian 47.54 288 ⇑P **P 04 46 58.0 -0.9**
BNX pmax pmax
comp=Z,10.0nm,1.4s
BNX pmax pmax
comp=Z,140nm,8.0s
BNX LR LR
comp=Z,2μm,20.2s
BNX LR LR
comp=Z,3μm,20.4s
BNX LR LR
comp=Z,2μm,13.2s
Y49A Blount Mountai 47.54 107 P **P 04 46 58.2 -0.9**
V55A Taylorsville 47.55 100 P **P 04 46 58.4 -0.7**
V55A IAmb IAmb 04 47 03.1
comp=Z,10nm,0.8s
Z47A Carrollton 47.58 109 P **P 04 46 58.6 -0.7**
VBMS Vicksburg 47.65 112 P **P 04 46 59.2 -0.7**
146A Union 47.76 110 P **P 04 47 00.4 -0.3**
DOMB Dombas 47.79 16 *e*P **P 04 46 59.5 -1.2**
T59A Double "B" Far 47.85 96 P **P 04 47 01.1 -0.3**
HPIG 47.96 131 P **P 04 47 02.1 -0.5**
HPIG IAmb IAmb 04 47 09.0
comp=Z,12nm,0.8s
HKT Hockley 48.02 119 *i* P **P 04 47 03.0 +0.3**
HKT pmax pmax
comp=Z,14nm,1.6s
LRAL Lakeview Retre 48.09 108 P **P 04 47 02.2 -1.1**
KMSC Kings Mountain 48.15 101 P **P 04 47 03.5 -0.3**
KMSC IAmb IAmb 04 47 06.9
comp=Z,11nm,0.7s
PAULI Pauline 48.27 101 P **P 04 47 04.4 -0.3**
PAULI IAmb IAmb 04 47 08.4
comp=Z,18nm,0.9s
V58A Windy Hill, Pi 48.35 98 P **P 04 47 04.2 -1.1**
V58A IAmb IAmb 04 47 13.5
comp=Z,13nm,0.9s
Y52A Lilburn 48.35 104 P **P 04 47 04.5 -0.9**
W57A Gilead 48.62 99 P **P 04 47 06.5 -0.8**
W57A IAmb IAmb 04 47 10.8
comp=Z,13nm,1.0s
HODGE Hodges 48.65 102 P **P 04 47 06.8 -0.8**
HODGE IAmb IAmb 04 47 11.5
comp=Z,16nm,0.8s
NC204 NORSAR Array S 48.71 16 P **P 04 47 07.1 -0.7**
346A Big Creek Wild 48.76 111 P **P 04 47 08.5 0.0**
KEF Keuruu 48.79 7 *e*P **P 04 47 09.5 +1.1**
BIRD Birdtown, Kers 48.91 100 P **P 04 47 09.3 -0.2**
BIRD IAmb IAmb 04 47 17.5
comp=Z,13nm,1.0s
JSC Jenkinsville 48.95 101 P **P 04 47 09.4 -0.5**
JSC IAmb IAmb 04 47 13.6
comp=Z,16nm,0.7s
JSC Jenkinsville 48.95 101 P **P 04 47 09.4 -0.5**
JSC pmax pmax
comp=Z,16nm,0.7s
GOGA Godfrey 48.97 104 P **P 04 47 10.5 +0.4**
GOGA IAmb IAmb 04 47 14.5
comp=Z,17nm,0.8s
GOGA Godfrey 48.97 104 P **P 04 47 10.5 +0.4**
GOGA pmax pmax
comp=Z,17nm,0.9s
NB2 NORSAR Subarra 48.98 15 P **P 04 47 09.7 -0.2**
comp=Z,6.8nm,1.0s,baz=349,slow=7.9
NOA NORSAR Array B 48.98 15 P **P 04 47 09.9 -0.1**
comp=Z,4.8nm,1.0s,baz=348,slow=7.8,SNR=8.4
comp=Z,4.8nm,1.0s
SKAR Skarsla 49.05 17 *e*P **P 04 47 09.7 -0.7**
W59A Clinton 49.15 98 P **P 04 47 10.8 -0.6**
152A Waverly Hall 49.21 106 P **P 04 47 11.1 -0.8**
250A Grady 49.30 107 P **P 04 47 12.8 +0.2**
250A IAmb IAmb 04 47 14.4
comp=Z,19nm,0.8s
NC602 NORSAR Array S 49.32 15 *e*P **P 04 47 11.9 -0.5**
LPIG La Paz 49.47 137 LR LR 05 07 03.4
comp=Z,545nm,20.5s,baz=352,slow=35
FIA1 FINESS Array S 49.56 6 P **P 04 47 14.0 -0.3**
FINES FINESS Array B 49.56 6 P **P 04 47 14.1 -0.2**
FINES FINESS Array B 49.56 6 P **P 04 47 14.3 +0.1**
comp=Z,15nm,0.5s,baz=359,slow=7.9,SNR=74
FINES LR LR 05 09 20.1
comp=Z,330nm,19.5s,baz=2.0,slow=38
comp=Z,15nm,0.5s
RAF Rauma 49.79 9 *e*P **P 04 47 16.9 +1.0**
154A Montrose 49.82 104 P **P 04 47 16.4 -0.1**
CN2 Changchun 49.91 289 P **P 04 47 18.9 +1.8**
CN2 S **S 04 54 25.0 -1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,1μm,13.0s
CN2 LR LR
comp=Z,1μm,13.0s
CN2 LR LR
comp=Z,1μm,14.0s
HFS Hagfors 50.10 14 P **P 04 47 18.3 -0.1**
comp=Z,20nm,0.5s,baz=0.0,slow=5.2,SNR=53
comp=Z,20nm,0.5s
KONO Kongsberg 50.19 17 *i* P **P 04 47 17.1 -2.0**
KONO pmax pmax
comp=Z,59nm,1.5s
352A Blakely 50.22 106 P **P 04 47 19.2 -0.4**
KLMR Klimovskoe 50.29 357 *e*P **P 04 47 18.7 -1.1**
KLMR pmax pmax
comp=Z,52nm,1.2s
MOY Mondy 50.36 313 *e*P **P 04 47 21.2 +0.6**
MOY pmax pmax
comp=Z,55nm,1.7s
TIGA Tifton 50.72 105 P **P 04 47 23.7 +0.3**
ZAK Zakamensk 50.91 310 *e*P **P 04 47 24.8 +0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.6s
ARBE Arbavere 51.57 6 *e*P **P 04 47 28.5 -0.9**
MAJO Matsushiro 51.88 273 *i* P **P 04 47 29.9 -2.1**
MAJO pmax pmax
comp=Z,14nm,1.1s
MJAR Matsushiro Arr 51.88 273 P **P 04 47 32.6 +0.6**
comp=Z,1.2nm,0.3s,baz=8.0,slow=8.0,SNR=6.7
comp=Z,1.2nm,0.3s
ZAA0 Zalesovo Array 52.05 325 P **P 04 47 32.2 -0.8**
ZAA0 IAmb IAmb 04 48 10.8
comp=Z,16nm,1.1s
ZALV Zalesovo Beam 52.05 325 P **P 04 47 32.6 -0.5**
comp=Z,4.7nm,0.4s,baz=16,slow=7.8,SNR=16
ZALV LR LR 05 12 38.6
comp=Z,416nm,18.0s,baz=16,slow=40
comp=Z,4.7nm,0.4s
ZALV Zalesovo Beam 52.05 325 *i* P **P 04 47 32.9 -0.2**
ZALV pmax pmax
comp=Z,5.0nm,0.4s
ULN Ulaanbaatar 52.11 306 P **P 04 47 33.6 -0.3**
ULN IAmb IAmb 04 47 38.9
comp=Z,39nm,1.8s
ULN Ulaanbaatar 52.11 306*ce*P **P 04 47 33.8 -0.1**

ULN pmax pmax
comp=Z,21nm,1.7s
KIRV Kirov 52.20 351 *i* P **P 04 47 32.6 -1.5**
SONM Songino Array 52.33 306 P **P 04 47 36.3 +0.9**
SONM Songino Array 52.33 306 P **P 04 47 36.4 +1.0**
comp=Z,6.0nm,1.0s,baz=12,slow=7.6,SNR=12
SONM LR LR 05 13 58.8
comp=Z,2μm,18.7s,baz=30,slow=41
comp=Z,6.0nm,1.0s
VSU Vasula 52.57 6 *i* P **P 04 47 35.4 -1.5**
VSU pmax pmax
comp=Z,47nm,0.7s
VSU Vasula 52.57 6 *e*P **P 04 47 37.8 +0.9**
EKA Eskdalemuir Ar 52.71 27 P **P 04 47 38.3 +0.4**
comp=Z,8.4nm,0.6s,baz=342,slow=6.5,SNR=36
comp=Z,8.4nm,0.6s
ESK Eskdalemuir 52.72 27 P **P 04 47 39.3 +1.3**
ESK IAmb IAmb 04 47 45.0
comp=Z,15nm,0.8s
ESK Eskdalemuir 52.72 27 P **P 04 47 39.3 +1.3**
ESK pmax pmax
comp=Z,15nm,0.9s
XLT XiLinHaoTe 52.92 297 *e*P **P 04 47 41.9 +2.1**
XLT pmax pmax
comp=Z,12nm,1.0s
XLT LR LR
comp=Z,390nm,14.0s
XLT LR LR
comp=Z,2μm,14.4s
XLT LR LR
comp=Z,5μm,14.3s
656A Willston 52.97 105 P **P 04 47 40.0 -0.2**
SVE Sverdlovsk 53.03 343 *e*P **P 04 47 42.8 +2.5**
SVE pmax pmax
comp=Z,26nm,0.9s
ARTI Arti 53.69 344 P **P 04 47 45.3 +0.1**
ARTI Arti 53.69 344 LR LR 05 12 09.3
comp=Z,348nm,19.0s,baz=11,slow=38
ARTI Arti 53.69 344*c i*P **P 04 47 46.3 +1.1**
ARTI 04 48 50.5
ARTI 04 49 46.6
ARTI S **S 04 55 22.6 +4.0**
ARTI SS **SKiKP 04 59 01.1 +2.3**
ARTI pmax pmax
comp=Z,17nm,0.7s
KSRS Korea Array 54.71 283 P **P 04 47 53.0 +0.2**
comp=Z,2.7nm,0.8s,baz=18,slow=6.9,SNR=12
comp=Z,2.7nm,0.8s
KSRS Korea Array 54.71 283 P **P 04 47 53.0 +0.2**
KSAR Wonju Array Be 54.73 283 P **P 04 47 53.8 +0.8**
KSAR Wonju Array Be 54.73 283 P **P 04 47 53.8 +0.8**
PABE Paberze 55.41 8 P **P 04 47 57.5 -0.1**
PABE Paberze 55.41 8 *e*P **P 04 47 59.5 +1.9**
MOS Moscow 55.45 358 *e*P **P 04 47 58.1 +0.2**
MOS *e* 04 48 59.1
MOS pmax pmax
comp=Z,40nm,0.7s
BRVK Borovoye 55.48 335 P **P 04 47 58.1 -0.1**
BRVK Borovoye 55.48 335*ce*P **P 04 47 59.1 +0.9**
BRVK pmax pmax
comp=Z,36nm,1.7s
BVAR Borovoye Array 55.50 335 P **P 04 47 58.9 +0.5**
comp=Z,5.8nm,0.6s,baz=349,slow=6.2,SNR=16
BVAR LR LR 05 12 48.6
comp=Z,505nm,21.9s,baz=11,slow=37
comp=Z,5.8nm,0.6s
IDID Didziasalis 55.72 6 *e*P **P 04 48 00.9 +1.1**
BSEG Bad Segeberg 55.89 18 *e*P **P 04 48 02.1 +1.0**
comp=Z,14nm,0.9s,baz=351,slow=7.1
OBN Obninsk 56.08 359‖ *e*P **P 04 48 02.9 +0.5**
OBN *e* 04 50 07.7
OBN *e*S **S 04 55 52.2 +1.6**
OBN pmax pmax
comp=Z,50nm,1.3s
OBN MLR MLR
comp=Z,483nm,21.0s
SEM Semipalatinsk 56.31 327 *e*P **P 04 48 04.7 +0.2**
SEM pmax pmax
comp=Z,31nm,1.6s
SEM Semipalatinsk 56.31 327 *e*P **P 04 48 04.7 +0.2**
comp=Z,31nm,1.6s
KURK Kurchatov 56.33 328 P **P 04 48 03.1 -1.2**
KURK Kurchatov 56.33 328 P **P 04 48 04.8 +0.5**
BJI Beijing 56.36 294 P **P 04 48 06.5 +1.9**
BJI S **S 04 55 52.8 -1.9**
BJI pmax pmax
comp=Z,4.0nm,1.2s
BJI LR LR
comp=Z,850nm,18.4s
BJI LR LR
comp=Z,1μm,20.0s
BJI LR LR
comp=Z,770nm,14.3s
KURBB Kurchatov Arra 56.44 328 P **P 04 48 04.8 -0.2**
comp=Z,7.8nm,0.7s,baz=12,slow=7.2,SNR=42
KURBB LR LR 05 14 15.8
comp=Z,415nm,20.4s,baz=122,slow=38
comp=Z,7.8nm,0.7s
MNK Minsk 56.57 5 *i* P **P 04 48 07.6 +1.6**
MNK *i* 04 49 06.9
MNK *i* 04 50 20.0
MNK *i* S **S 04 56 03.4 +6.2**
MNK pmax pmax
comp=Z,46nm,0.9s
MNK pmax pmax
comp=E,28nm,0.8s
MNK pmax pmax
comp=N,18nm,0.8s
MNK MLR MLR
comp=Z,381nm,16.0s
MNK MLR MLR
comp=N,596nm,16.0s
MNK MLR MLR
comp=E,631nm,15.0s
SUW Suwalki 56.86 9 *e*P **P 04 48 08.4 +0.4**
SUW Suwalki 56.86 9 P **P 04 48 08.1 +0.1**
SUW Suwalki 56.86 9 P **P 04 48 08.1 +0.1**
SUW Suwalki 56.86 9 *e*P **P 04 48 09.4 +1.4**
HHC Hu-ho-hao-te 57.10 299 *e*P **P 04 48 09.2 -0.9**
HHC pmax pmax
comp=E,11nm,0.6s
HHC pmax pmax
comp=E,120nm,4.2s
HHC LR LR
comp=E,1μm,16.8s
HHC LR LR
comp=E,2μm,16.0s
HHC LR LR
comp=E,730nm,16.8s
IBBN Ibbenburen 57.20 20 *e*P **P 04 48 12.4 +2.0**
comp=E,28nm,0.8s,baz=351,slow=7.1
IBBN *e*pP **sP 04 48 16.7 +1.6**
NRDL Niedersach Rie 57.29 18 *e*P **P 04 48 12.6 +1.7**
comp=E,12nm,0.9s,baz=351,slow=7.1
JNU Nakatsue 57.56 278 LR LR 05 15 23.1
comp=E,377nm,18.4s,baz=63,slow=39
BTO Baotou 57.81 300 *e*P **P 04 48 16.5 +1.4**
BTO S **S 04 56 14.7 +0.6**
BTO SS **SS 05 00 02.6 -1.3**
BTO pmax pmax
comp=E,20nm,1.2s
BTO pmax pmax
comp=E,240nm,5.0s
BTO LR LR
comp=E,2μm,21.4s
BTO LR LR
comp=E,5μm,19.0s
BTO LR LR
comp=E,5μm,13.4s
CLZ Clausthal 57.96 18 *e*P **P 04 48 17.1 +1.2**
comp=E,20nm,0.9s,baz=351,slow=7.1
BRZS Berezniki 58.09 333 *e*P **P 04 48 17.4 +0.7**
BRZS Berezniki 58.09 333 *e*P **P 04 48 17.5 +0.7**
ZSN Zaisan 58.17 323 *e*P **P 04 48 17.8 +0.4**
ZSN Zaisan 58.17 323 *e*P **P 04 48 17.9 +0.4**
GTTG Gottingen 58.20 18 *e*P **P 04 48 20.1 +2.5**
comp=E,20nm,0.8s,baz=351,slow=7.1
BELG Belogornoye 58.48 351 LR LR 05 14 43.2
comp=E,263nm,19.3s,baz=6.4,slow=37
BELG Belogornoye 58.48 351 *e*P **P 04 48 20.2 +0.8**
BELG pmax pmax
comp=Z,18nm,0.9s
LPSR Galich'ya Gora 58.57 357 *e*P **P 04 48 21.1 +1.0**
LPSR pmax pmax
comp=Z,22nm,0.8s
BSTI Sart Tilman 58.61 22 *d*P **P 04 48 22.4 +2.1**

MEM Membach 58.64 21 *d*P **P 04 48 22.0 +1.4**
comp=Z,16nm,0.9s
BTNL Ternell 58.68 21 *d*P **P 04 48 21.6 +0.7**
BCLA Clavier 58.73 22 *d*P **P 04 48 22.1 +0.9**
BGES Gesves 58.74 22 *d*P **P 04 48 23.8 +2.5**
comp=Z,6.7nm,0.9s
CLL Collm 58.76 16 P **P 04 48 21.3 -0.1**
CLL IAmb IAmb 04 48 27.8
comp=Z,12nm,0.8s
CLL Collm 58.76 16 *i* P **P 04 48 22.0 +0.6**
CLL *i* 04 48 26.9
CLL *e*S **S 04 56 22.0 -4.0**
CLL Collm 58.76 16 *i* P **P 04 48 22.0 +0.6**
CLL *i* pP **pP 04 48 23.8 -1.0**
comp=Z,9.0nm,0.7s
CLL *i* sP **sP 04 48 26.9 +0.8**
comp=Z,14nm,0.9s
CLL *ex* x 04 55 38.0
CLL *e*S **S 04 56 22.0 -4.0**
CLL Collm 58.76 16 *e*P **P 04 48 22.6 +1.2**
comp=Z,11nm,0.8s,baz=351,slow=7.1
CLL *e*pP **sP 04 48 27.1 +1.0**
BMRD Maredsous 58.77 22 *d*P **P 04 48 24.0 +2.5**
DOU Dourbes 58.95 23 *d*P **P 04 48 23.4 +0.6**
DOU *d*PcP **PcP 04 49 09.0 -2.7**
HNS HongShan 59.23 294 ⇑P **P 04 48 26.9 +2.0**
HNS S **S 04 56 30.3 -2.2**
HNS pmax pmax
comp=Z,21nm,1.0s
HNS LR LR
comp=Z,2μm,16.2s
HNS LR LR
comp=Z,1μm,14.1s
HNS LR LR
comp=Z,2μm,16.7s
MOX Moxa 59.27 17 *e*P **P 04 48 26.6 +1.6**
comp=Z,7.5nm,0.8s,baz=351,slow=7.1
MOX *e*L L 05 16 55.1
comp=Z,268nm,20.2s
BRG Berggiesshubel 59.29 16 *e*P **P 04 48 26.8 +1.7**
comp=Z,9.7nm,0.9s,baz=351,slow=7.1
BRG *e*pP **sP 04 48 31.0 +1.2**
BRG Berggiesshubel 59.29 16 *e*P **P 04 48 26.5 +1.4**
BRG Amp 04 48 28.3
comp=Z,4.8nm,0.8s
BRG Berggiesshubel 59.29 16 P P 04 48 31.1 +6.0
BRG Amp 04 48 31.8
comp=Z,9.7nm,0.9s
TNS Taunus Mts 59.33 20 *e*P **P 04 48 27.1 +1.7**
comp=Z,7.4nm,0.9s,baz=351,slow=7.1
MK31 Makanchi Array 59.35 324 *ce*P **P 04 48 25.3 -0.3**
MKAR Makanchi Array 59.35 324 P **P 04 48 24.5 -1.1**
MKAR Makanchi Array 59.35 324 P **P 04 48 24.9 -0.6**
comp=Z,3.4nm,0.6s,baz=40,slow=7.4,SNR=21
MKAR LR LR 05 17 32.4
comp=Z,316nm,18.0s,baz=4.0,slow=40
comp=Z,3.4nm,0.6s
MKAR Makanchi Array 59.35 324 *i* P **P 04 48 25.0 -0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MAKZ Makanchi 59.40 325 P **P 04 48 24.7 -1.3**
MAKZ IAmb IAmb 04 49 03.8
comp=Z,13nm,0.8s
MAKZ Makanchi 59.40 325 P **P 04 48 24.7 -1.3**
MAKZ pmax pmax
comp=Z,13nm,0.8s
VORR Voronezh 59.50 357 *e*P **P 04 48 23.1 -3.4**
VORR pmax pmax
comp=Z,69nm,0.4s
KSP Ksiaz 59.53 14 *e*P **P 04 48 29.8 +3.0**
WLF Walferdange 59.59 22 *d*P **P 04 48 28.0 +0.8**
TANN Tannenbergstha 59.59 17 *e*P **P 04 48 29.1 +1.8**
comp=Z,9.1nm,0.9s,baz=351,slow=7.1
TANN *e*pP **sP 04 48 33.3 +1.3**
AKTO Aktyubinsk 59.61 343 LR LR 05 15 17.8
comp=Z,375nm,20.8s,baz=29,slow=37
VRH Novokhopyorsk 59.91 355 *e*P **P 04 48 29.1 -0.2**
VRH pmax pmax
comp=Z,9.0nm,0.9s
VSR Storozhevoye 59.96 357 *e*P **P 04 48 30.2 +0.5**
VSR pmax pmax
comp=Z,10.0nm,1.1s
DPC Dobruska-Polom 60.02 14 *e*P **P 04 48 32.5 +2.3**
DPC Dobruska-Polom 60.02 14 *e*P **P 04 48 32.5 +2.3**
DPC Dobruska-Polom 60.02 14 P **P 04 48 31.4 +1.2**
comp=Z,27nm,0.8s
GRF Grafenberg Arr 60.17 18 *e*L L 05 17 45.0
comp=Z,312nm,19.9s
VORD Divnogorie 60.20 357 *e*P **P 04 48 30.7 -0.6**
VORD pmax pmax
comp=Z,10.0nm,0.8s
ROTZ Rotzenmuhle 60.20 17 *e*P **P 04 48 33.2 +1.8**
comp=Z,1.0nm,0.8s,baz=351,slow=7.1
ROTZ *e*pP **sP 04 48 37.5 +1.4**
KRLC Kraliky 60.34 14 *e*P **P 04 48 34.5 +2.1**
KRLC *ex* x 04 48 38.8
KRLC Kraliky 60.34 14 *e*P **P 04 48 34.5 +2.1**
KRLC *e* 04 48 38.8
CMIG Matias Romero 60.37 123 LR LR 05 16 43.2
comp=Z,239nm,18.4s,baz=322,slow=38
AKASG Malin Array Be 60.42 5 P **P 04 48 32.6 -0.2**
AKASG IAmb IAmb 04 48 39.0
comp=Z,15nm,1.3s
AKASG Malin Array Be 60.42 5 P **P 04 48 32.4 -0.4**
comp=Z,16nm,0.7s,baz=359,slow=6.9,SNR=44
comp=Z,16nm,0.7s
AKASG Malin Array Be 60.42 5 *i* P **P 04 48 33.9 +1.1**
AKASG pmax pmax
comp=Z,14nm,0.7s
AKBB Malin Array Si 60.42 5 P **P 04 48 32.8 0.0**
AKBB Malin Array Si 60.42 5 P **P 04 48 32.8 0.0**
AKBB pmax pmax
comp=Z,27nm,0.9s
KIEV Kiev 60.42 5 P **P 04 48 33.7 +0.8**
KIEV Kiev 60.42 5 ⇑P **P 04 48 33.6 +0.8**
KIEV Kiev 60.42 5 P **P 04 48 33.7 +0.8**
KIEV pmax pmax
comp=Z,23nm,0.9s
KIEV Kiev 60.42 5 P **P 04 48 33.7 +0.8**
comp=Z,122nm,1.1s
OJC Ojcow 60.43 11 *e*P **P 04 48 35.2 +2.3**
STEB Steborice 60.56 13 *e*P **P 04 48 38.3 +4.5**
AB31 Akbulak array 60.56 342 P **P 04 48 33.9 0.0**
ABKAR Akbulak array 60.56 342 P **P 04 48 32.4 -1.4**
ABKAR Akbulak array 60.56 342 P **P 04 48 33.9 0.0**
MORC Moravsky Berou 60.70 13 P **P 04 48 34.5 -0.2**
MORC IAmb IAmb 04 48 45.5
comp=Z,7.9nm,0.9s
MORC Moravsky Berou 60.70 13 *e*P **P 04 48 36.8 +2.0**
MORC Moravsky Berou 60.70 13 P **P 04 48 34.6 -0.2**
MORC pmax pmax
comp=Z,8.0nm,0.9s
ZVC Zvikov 60.73 16 *e*P **P 04 48 35.7 +0.7**
WET Wettzell 60.89 17 *e*P **P 04 48 38.4 +2.3**
comp=Z,8.3nm,1.0s,baz=351,slow=7.1
WMQ Urumqi 60.97 319 *e*P **P 04 48 37.4 +0.6**
WMQ ScP **ScP 04 53 18.5 -2.7**
WMQ pmax pmax
comp=Z,43nm,1.1s
WMQ LR LR
comp=Z,1μm,17.7s
WMQ LR LR
comp=Z,830nm,17.7s
WMQ LR LR
comp=Z,490nm,22.5s
KHC Kasperske Hory 60.97 16 *e*P **P 04 48 38.5 +1.8**
KHC *ex* x 04 48 44.0
KHC Kasperske Hory 60.97 16 *e*P **P 04 48 38.5 +1.8**
KHC *e* 04 48 44.0
VRAC Vranov 61.08 14 *e*P **P 04 48 40.0 +2.6**
ECH Echery 61.14 21 P **P 04 48 38.8 +1.0**
ECH IAmb IAmb 04 48 48.7
comp=Z,18nm,1.5s
ECH Echery 61.14 21 P **P 04 48 38.8 +1.0**
ECH pmax pmax
comp=Z,19nm,1.5s
BFO Black Forest 61.17 20 P **P 04 48 38.5 +0.4**
BFO IAmb IAmb 04 48 50.2
comp=Z,8.5nm,0.9s
BFO Black Forest 61.17 20 P **P 04 48 38.5 +0.4**
BFO pmax pmax
comp=Z,8.0nm,0.9s
BFO Black Forest 61.17 20 *e*P **P 04 48 40.0 +1.9**
comp=Z,5.4nm,0.9s,baz=351,slow=7.1
BFO *e*pP **sP 04 48 44.4 +1.6**

KWP Kalwaria Pacla 61.20 9 *e*P **P 04 48 41.4 +3.2**
NIE Niedzica 61.26 11 *e*P **P 04 48 41.3 +2.7**
GEC2 GERESS Array S 61.27 16 P **P 04 48 38.5 -0.3**
GEC2 IAmb IAmb 04 48 46.2
comp=Z,9.2nm,0.9s
GEC2 GERESS Array S 61.27 16 *e*P **P 04 48 40.9 +2.1**
comp=Z,9.8nm,0.9s,baz=351,slow=7.1
GEC2 *e*pP **sP 04 48 45.1 +1.6**
GERES GERESS Array B 61.27 16 P **P 04 48 39.1 +0.3**
GERES GERESS Array B 61.27 16 P **P 04 48 39.6 +0.8**
comp=Z,4.0nm,0.7s,baz=343,slow=4.2,SNR=26
comp=Z,4.0nm,0.7s
KRUC Moravsky 61.31 14 *e*P **P 04 48 41.1 +2.2**
CKRC Cesky Krumlov 61.35 16 *e*P **P 04 48 41.5 +2.2**
CKRC Cesky Krumlov 61.35 16 *e*P **P 04 48 41.5 +2.2**
LANS Liptovska Anna 61.47 12 *e*P **P 04 48 42.1 +2.0**
LANS Liptovska Anna 61.47 12 *e*P **P 04 48 42.1 +2.0**
TDK Taldyqorghan 61.85 327 *e*P **P 04 48 43.2 +0.5**
TDK pmax pmax
comp=Z,22nm,1.1s
TDK Taldyqorghan 61.85 327 *e*P **P 04 48 43.3 +0.5**
comp=Z,22nm,1.1s
KOLS Kolonicke sedl 61.87 10 *e*P **P 04 48 46.6 +3.8**
KOLS Kolonicke sedl 61.87 10 *e*P **P 04 48 46.6 +3.8**
GTA Gaotai 61.95 308 P **P 04 48 44.0 +0.4**
GTA pmax pmax
comp=Z,27nm,1.5s
GTA pmax pmax
comp=Z,210nm,5.5s
GTA LR LR
comp=Z,1μm,17.5s
GTA LR LR
comp=Z,1μm,18.5s
GTA LR LR
comp=Z,1μm,17.1s
CCIG Comitan 61.97 120 P **P 04 48 44.3 +0.3**
CCIG IAmb IAmb 04 49 55.6
comp=Z,21nm,1.3s
MODS Modra-Piesok 62.07 14 *e*P **P 04 48 45.5 +1.4**
MODS Modra-Piesok 62.07 14 *e*P **P 04 48 45.4 +1.4**
VYHS Vyhne 62.07 12 *e*P **P 04 48 46.1 +2.0**
VYHS Vyhne 62.07 12 *e*P **P 04 48 46.1 +2.0**
PETF Flores 62.08 118 P **P 04 48 45.3 +0.8**
RJOB Jochberg 62.27 17 *e*P **P 04 48 47.4 +1.9**
comp=Z,14nm,0.8s,baz=351,slow=7.1
MOA Molln 62.31 16 *e*pP pP 04 48 48.3 -0.9
comp=Z,0.2nm,0.3s
CONA Conrad Observa 62.38 15 *e*pP pP 04 48 48.4 -1.3
comp=Z,8.5nm,1.5s
MOTA Moosalm 62.48 18 *e*pP pP 04 48 49.1 -1.3
comp=Z,3.8nm,1.0s
WATA Walderalm 62.54 18 *e*pP pP 04 48 49.7 -1.1
comp=Z,0.3nm,0.3s
LYN LuoYang 62.57 295 P **P 04 48 47.2 -0.4**
LYN pmax pmax
comp=Z,30nm,0.6s
LYN pmax pmax
comp=Z,260nm,6.5s
LYN LR LR
comp=Z,2μm,19.6s
LYN LR LR
comp=Z,3μm,19.2s
LYN LR LR
comp=Z,2μm,18.2s
LESA Schwarzleotal 62.57 17 *e*pP pP 04 48 49.7 -1.2
comp=Z,5.5nm,0.7s
SQTA Sankt Quirin 62.61 18 *e*pP pP 04 48 50.3 -0.9
WTTA Wattenberg 62.62 18 *e*pP pP 04 48 50.0 -1.4
comp=Z,5.9nm,0.7s
BTLS Baital 62.63 330 *e*P **P 04 48 48.5 +0.6**
BTLS Baital 62.63 330 *e*P **P 04 48 48.5 +0.6**
RONA Rosalia, Austr 62.65 14 *e*pP pP 04 48 50.0 -1.5
comp=Z,3.6nm,0.7s
PSZ Piszkesteto 62.72 12 P **P 04 48 48.3 -0.2**
PSZ Piszkesteto 62.72 12 ⇑P **P 04 48 50.3 +1.7**
PSZ Piszkesteto 62.72 12 P **P 04 48 48.3 -0.2**
PSZ pmax pmax
comp=Z,50nm,1.7s
PSZ Piszkesteto 62.72 12 *e*P **P 04 48 49.5 +0.9**
NJ2 Nanjing 62.73 288 *e*P **P 04 48 45.8 -2.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,890nm,9.2s
NJ2 LR LR
comp=Z,1μm,10.6s
NJ2 LR LR
comp=Z,750nm,16.3s
FETA Feichten 62.75 19 *e*pP pP 04 48 52.5 +0.2
SSE Sheshan 62.80 286 P **P 04 48 48.1 -1.1**
SSE pmax pmax
comp=Z,19nm,1.8s
SSE pmax pmax
comp=Z,290nm,3.5s
SSE LR LR
comp=Z,760nm,19.9s
SSE LR LR
comp=Z,910nm,21.3s
SORM Soroca 62.95 5 ⇑P **P 04 48 51.3 +1.3**
SENIN Lac Senin/Sane 62.98 21 P **P 04 48 50.5 0.0**
SENIN IAmb IAmb 04 48 59.3
comp=Z,8.0nm,0.8s
KBA Koelnbreinsper 62.98 17 *e*pP pP 04 48 52.8 -1.0
comp=Z,13nm,0.7s
FUORN Ofenpass-Fuorn 63.09 19 P **P 04 48 51.5 +0.2**
FUORN IAmb IAmb 04 49 14.0
comp=Z,9.7nm,0.9s
TUE Stuetta 63.13 20 P **P 04 48 51.1 -0.3**
TUE IAmb IAmb 04 49 07.1
comp=Z,10.0nm,0.7s
TUE Stuetta 63.13 20 P **P 04 48 52.9 +1.5**
comp=Z,63nm,0.8s
KPKS Kokpek 63.27 326 *e*P **P 04 48 52.9 +0.6**
KPKS Kokpek 63.27 326 *e*P **P 04 48 52.9 +0.6**
BUR08 Bucovina Ar. S 63.32 8 P **P 04 48 51.7 -0.9**
BURAR Bucovina Array 63.35 8 P **P 04 48 52.2 -0.6**
BURAR IAmb IAmb 04 48 59.5
comp=Z,7.0nm,0.9s
BURAR Bucovina Array 63.35 8 ⇑P **P 04 48 53.6 +0.8**
SHLS Shalkode 63.41 325 *e*P **P 04 48 53.1 -0.1**
SHLS pmax pmax
comp=Z,20nm,1.3s
SHLS Shalkode 63.41 325 *e*P **P 04 48 53.2 -0.1**
comp=Z,20nm,1.3s
MYKA Terra Mystica 63.45 17 *e*pP **P 04 48 55.1 +1.7**
comp=Z,2.4nm,0.4s
SOKA Soboth 63.55 16 *e*pP pP 04 48 58.2 +0.7
PRED Cave del Predi 63.63 17 P **P 04 48 54.3 -0.3**
PRED IAmb IAmb 04 49 08.8
comp=Z,9.6nm,0.7s
SSB Saint Sauveur 63.66 24 P **P 04 48 53.4 -1.3**
SSB Saint Sauveur 63.66 24 P **P 04 48 53.4 -1.3**
SSB pmax pmax
comp=Z,36nm,1.8s
OBKA Obir 63.67 16 *e*pP pP 04 48 56.9 -1.4
comp=Z,14nm,0.7s
NMDO Nuevo Mundo 63.70 102 P **P 04 48 55.0 -0.2**
NMDO IAmb IAmb 04 49 01.1
comp=Z,22nm,1.4s
CHIV Chivirico 63.74 103 P **P 04 48 55.4 -0.1**
CHIV IAmb IAmb 04 49 00.9
comp=Z,14nm,0.9s
LZH Lanzhou 63.86 303 *e*P **P 04 48 59.0 +2.7**
LZH SS SS 05 01 42.4 +3.6
LZH pmax pmax
comp=Z,42nm,1.2s
LZH LR LR
comp=Z,1μm,16.5s
LZH LR LR
comp=Z,2μm,16.8s
LZH LR LR
comp=Z,2μm,15.5s
AAA Alma-Ata 63.87 327 *e*P **P 04 48 56.6 +0.4**
AAA Alma-Ata 63.87 327 *e*P **P 04 48 56.6 +0.4**
SGDS Sogindy 64.06 329 *e*P **P 04 48 57.9 +0.4**
comp=Z,16nm,1.7s
XAN Xi'an 64.18 298 ⇑P **P 04 48 59.2 +0.9**
XAN pmax pmax
comp=Z,9.0nm,0.9s
BNI Bardonecchia 64.18 22 P **P 04 48 57.9 -0.4**
BNI IAmb IAmb 04 49 16.9
comp=Z,5.9nm,0.8s
BNI Bardonecchia 64.18 22 P **P 04 48 57.9 -0.4**
BNI pmax pmax
comp=Z,6.0nm,0.8s

JOW Kunigami 64.21 278 LR LR 05 18 48.3
comp=Z,417nm,19.2s,baz=114,slow=38
SIRR Siria 64.49 11 ⇓P **P 04 49 01.9 +1.7**
TESR Tescani 64.51 7 ⇓P **P 04 49 01.5 +1.2**
MTO3 Montecristo 64.61 118 P **P 04 49 01.4 -0.1**
MTO3 IAmb IAmb 04 49 11.2
comp=Z,12nm,0.9s
PGAV Gavieira, Arco 64.63 35 *e*P **P 04 49 03.5 +2.2**
PGAV *e*S S 04 57 51.5 +11
PGAV *e*LQ LQ 05 07 22.4
PGAV *e*LR LR 05 11 15.1
PGAV *i* IAMs_20 IAMs_20 05 15 08.6
comp=Z,378nm,22.0s
BOOM Boomskoye usch 64.75 328 P **P 04 49 01.8 -0.3**
BOOM IAmb IAmb 04 49 21.0
comp=Z,8.4nm,0.7s
BOOM Boomskoye usch 64.75 328 P **P 04 49 01.8 -0.3**
BOOM pmax pmax
comp=Z,8.0nm,0.7s
AAK Ala-Archa 64.88 329 P **P 04 49 02.9 -0.1**
AAK IAmb IAmb 04 49 19.9
comp=Z,11nm,1.0s
AAK Ala-Archa 64.88 329 LR LR 05 22 17.8
comp=Z,515nm,18.0s,baz=12,slow=41
AAK Ala-Archa 64.88 329 *ce*P **P 04 49 04.8 +1.9**
AAK pmax pmax
comp=Z,23nm,1.7s
DOPR Dopca 65.00 8 ⇑P **P 04 49 05.4 +1.9**
SURR Surduc 65.03 10 ⇑P **P 04 49 05.9 +2.3**
PBRG Braganca 65.09 34 *e*P **P 04 49 03.9 -0.3**
KK31 Karatay Array 65.12 332 P **P 04 49 03.0 -1.4**
KK31 IAmb IAmb 04 49 40.8
comp=Z,15nm,1.3s
KK31 Karatay Array 65.12 332 P **P 04 49 03.0 -1.4**
KK31 pmax pmax
comp=Z,15nm,1.3s
KKAR Karatay Array 65.12 332 P **P 04 49 03.9 -0.4**
KKAR Karatay Array 65.12 332 P **P 04 49 02.9 -1.4**
KKAR IAmb IAmb 04 49 40.8
comp=Z,16nm,1.3s
KKAR Karatay Array 65.12 332 P **P 04 49 03.9 -0.4**
PLOR Plostina 65.17 7 ⇓P **P 04 49 07.2 +2.6**
DZA Taraz 65.19 332 *e*P **P 04 49 05.4 +0.6**
DZA Taraz 65.19 332 *e*P **P 04 49 05.5 +0.6**
MSSA Maissana 65.27 20 P **P 04 49 05.1 -0.3**
MSSA IAmb IAmb 04 49 33.4
comp=Z,7.1nm,0.7s
POLO Lamas de Olo 65.30 35 *e*P **P 04 49 05.3 -0.2**
POLO *i* IAmb IAmb 04 49 41.4
comp=Z,18nm,1.6s
BRLS Borolday 65.31 333 *e*P **P 04 49 07.7 +2.2**
BRLS Borolday 65.31 333 *e*P **P 04 49 07.7 +2.2**
GZR Gura Zlata 65.43 10 ⇑P **P 04 49 08.5 +2.1**
MLR Muntele Rosu 65.50 7 P **P 04 49 06.0 -0.9**
MLR Muntele Rosu 65.50 7 ⇑P **P 04 49 08.4 +1.5**
MLR Muntele Rosu 65.50 7 P **P 04 49 06.0 -0.9**
MLR pmax pmax
comp=Z,49nm,1.8s
VOIR 65.51 8 ⇑P **P 04 49 09.0 +2.1**
WHN Wuhan 65.63 292 P **P 04 49 07.5 -0.2**
MVO Moncorvo 65.65 34 *e*P **P 04 49 10.4 +2.5**
MVO *e*S **S 04 57 59.2 +5.9**
MVO *e*LQ LQ 05 07 50.8
MVO *e*LR LR 05 13 08.7
MVO *i* IAMs_20 IAMs_20 05 19 01.4
comp=Z,277nm,22.0s
NRN Naryn 65.76 328 P **P 04 49 08.0 -0.8**
NRN IAmb IAmb 04 49 58.0
comp=Z,11nm,1.1s
NRN Naryn 65.76 328 P **P 04 49 08.0 -0.8**
NRN pmax pmax
comp=Z,11nm,1.1s
CFR Carcaliu 65.90 6 ⇑P **P 04 49 10.9 +1.6**
GOF Gofitskoye 66.01 354 *ce*P **P 04 49 08.5 -1.5**
CHM Chimkent 66.04 333 *e*P **P 04 49 10.7 +0.5**
CHM Chimkent 66.04 333 *e*P **P 04 49 10.8 +0.5**
IUG Iuzhnay 66.13 332 *e*P **P 04 49 11.5 +0.5**
IUG pmax pmax
comp=Z,37nm,2.4s
IUG Iuzhnay 66.13 332 *e*P **P 04 49 11.6 +0.5**
comp=Z,37nm,2.4s
TPGR Topolog 66.23 5 ⇓P **P 04 49 13.0 +1.5**
OSSC Osservatorio P 66.26 19 P **P 04 49 11.7 +0.1**
OSSC IAmb IAmb 04 49 24.6
comp=Z,10.0nm,0.8s
MTE Manteigas 66.28 35 *e*P **P 04 49 14.0 +2.1**
MTE *e*LQ LQ 05 05 26.1
MTE *e*LR LR 05 11 57.9
MTE *i* IAMs_20 IAMs_20 05 15 56.8
comp=Z,356nm,22.0s
PCAS Casmilo, Conde 66.42 36 *e*P **P 04 49 14.8 +2.1**
TIRR Tirgusor 66.63 5 ⇑P **P 04 49 15.7 +1.8**
FDMO Fiordimonte 66.95 18 P **P 04 49 14.8 -1.3**
FDMO IAmb IAmb 04 49 25.3
comp=Z,11nm,0.7s
BOVS Bovan 67.11 11 ⇑P **P 04 49 18.7 +1.6**
KIV Kislovodsk 67.12 354 P **P 04 49 18.2 +0.9**
KIV Kislovodsk 67.12 354 *e*P **P 04 49 18.8 +1.5**
KIV *e*S **S 04 58 13.8 +2.7**
KIV pmax pmax
comp=Z,27nm,1.0s
KIV MLR MLR
comp=Z,129nm,17.0s
PMRV Marv??o 67.25 35 *e*S **S 04 58 16.2 +3.6**
PMRV *e*LR LR 05 12 13.8
PMRV *i* IAMs_20 IAMs_20 05 21 42.6
comp=Z,290nm,20.0s
SHA1 Shidzhatmaz 67.34 354 *i* P **P 04 49 18.2 -0.6**
KBZ Khabaz 67.34 354 P **P 04 49 19.1 +0.6**
comp=Z,7.5nm,0.9s,baz=313,slow=7.7,SNR=12
comp=Z,7.5nm,0.9s
KBZ Khabaz 67.34 354 *i* P **P 04 49 19.4 +0.9**
KBZ pmax pmax
comp=Z,16nm,0.9s
PMTG Montargil 67.42 36 *e*P **P 04 49 21.1 +2.0**
PMTG *i* IAmb IAmb 04 49 51.1
comp=Z,29nm,1.6s
CAMP Campotosto 67.48 17 P **P 04 49 19.2 -0.4**
CAMP IAmb IAmb 04 49 35.2
comp=Z,8.7nm,0.9s
SOC Sochi 67.58 357 *e*P **P 04 49 18.1 -1.9**
SOC *e* 04 51 47.7
SOC *e*PPP PPP 04 53 31.0
SOC *e*S **S 04 58 15.5 -0.9**
SOC *e*SS **SS 05 02 40.0 +4.2**
SOC MLR MLR
comp=Z,252nm,21.0s
KSH Kashi 67.61 327 P **P 04 49 23.8 +3.3**
KSH pmax pmax
comp=Z,12nm,1.6s
KSH LR LR
comp=Z,640nm,15.8s
KSH LR LR
comp=Z,690nm,15.1s
KSH LR LR
comp=Z,660nm,17.2s
ESBB Sonseca Array 67.69 32 P **P 04 49 19.5 -1.4**
ESBB IAmb IAmb 04 49 44.1
comp=Z,8.4nm,0.8s
ESDC Sonseca Array 67.69 32 P **P 04 49 20.5 -0.4**
ESDC IAmb IAmb 04 49 53.8
comp=Z,15nm,1.4s
ESDC Sonseca Array 67.69 32 P **P 04 49 21.7 +0.9**
comp=Z,5.9nm,0.7s,baz=348,slow=6.8,SNR=45
comp=Z,5.9nm,0.7s
PAB San Pablo 67.74 32 P **P 04 49 21.6 +0.4**
PAB IAmb IAmb 04 49 48.2
comp=Z,11nm,0.9s
PAB San Pablo 67.74 32 P **P 04 49 21.6 +0.4**
PAB pmax pmax
comp=Z,11nm,0.9s
PESTR Estremoz 67.75 35 *e*P **P 04 49 23.4 +2.2**
PESTR *i* IAmb IAmb 04 49 34.0
comp=Z,27nm,1.5s
EVO Evora 67.99 36 *e*P **P 04 49 24.7 +2.0**
BTK Batken 68.03 331 P **P 04 49 22.7 -0.4**
BTK Batken 68.03 331 P **P 04 49 22.7 -0.4**
BTK pmax pmax
comp=Z,36nm,1.5s
PDG Podgorica 68.13 13 P **P 04 49 23.4 -0.1**
PDG IAmb IAmb 04 49 33.6
comp=Z,13nm,1.0s
PBAR Barrancos 68.53 35 *e*P **P 04 49 28.8 +2.7**
PBAR *i* IAmb IAmb 04 49 53.1

	comp=Z,21nm,2.0s						
CD2	**Chengdu**	**68.69**	**301**	P	**P**	**04 49 29.1**	**+1.9**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
CD2				LR	LR		
	comp=Z,2μm,12.4s						
CD2				LR	LR		
	comp=Z,2μm,17.3s						
CD2				LR	LR		
	comp=Z,2μm,17.3s						
MORF	**Marmelete**	**69.03**	**36**	*e*P	**P**	**04 49 31.4**	**+2.2**
SJG	**San Juan**	**69.10**	**94**	LR	LR	05 21 25.2	
	comp=Z,258nm,19.0s,baz=330,slow=37						
PVAQ	**Vaqueiros**	**69.13**	**36**	*e*P	**P**	**04 49 31.8**	**+2.0**
PVAQ				*i* IAmb	IAmb	04 50 05.1	
	comp=Z,47nm,1.5s						
PVAQ				*e*S	**S**	**04 58 37.9**	**+2.8**
PVAQ				*e*LQ	LQ	05 10 35.9	
PVAQ				*e*LR	LR	05 15 09.9	
PVAQ				*i* IAMs_20	IAMs_20	05 20 43.0	
	comp=Z,468nm,20.0s						
GAR	**Garm**	**69.15**	**332**	P	**P**	**04 49 29.2**	**-0.9**
PBDV	**Barranco-do-Ve**	**69.24**	**36**	*e*P	**P**	**04 49 33.4**	**+2.9**
PBDV				*i* IAmb	IAmb	04 49 45.3	
	comp=Z,104nm,1.6s						
AKT	**Akhty**	**69.35**	**350**	*e*P	**P**	**04 49 32.6**	**+1.3**
AKT				*e*		04 49 55.6	
AKT				pmax	pmax		
	comp=Z,20nm,0.9s						
JTS	**Las Juntas de**	**69.87**	**115**	LR	LR	05 22 56.8	
	comp=Z,319nm,20.2s,baz=354,slow=38						
GUMO	**Guam**	**70.48**	**257**	LR	LR	05 19 40.0	
	comp=Z,286nm,20.6s,baz=24,slow=35						
GNI	**Garni**	**70.84**	**352**	LR	LR	05 25 39.4	
	comp=Z,167nm,19.0s,baz=8.5,slow=40						
GNI	**Garni**	**70.84**	**352**	*i* P	**P**	**04 49 41.7**	**+1.2**
GNI				pmax	pmax		
	comp=Z,22nm,1.5s						
PMPST	**Porto Santo, M**	**71.30**	**44**	*e*P	**P**	**04 49 42.5**	**-0.6**
ANTO	**Ankara**	**71.32**	**2**	⇓P	**P**	**04 49 45.6**	**+2.3**
ANTO	**Ankara**	**71.32**	**2**	P	**P**	**04 49 45.8**	**+2.5**
PMOZ	**Porto Moniz, M**	**71.32**	**45**	*i* IAMs_20	IAMs_20	05 22 01.7	
	comp=Z,356nm,20.0s						
BR131	**Keskin Array S**	**71.47**	**1**	P	**P**	**04 49 43.4**	**-0.9**
BR131				IAmb	IAmb	04 49 54.5	
	comp=Z,10nm,0.9s						
BR131	**Keskin Array S**	**71.47**	**1**	P	**P**	**04 49 43.4**	**-0.9**
BR131				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRTR	**Keskin Array B**	**71.47**	**1**	P	**P**	**04 49 44.6**	**+0.3**
BRTR	**Keskin Array B**	**71.47**	**1**	P	**P**	**04 49 44.7**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=12,slow=2.9,SNR=14						
BRTR				LR	LR	05 23 52.3	
	comp=Z,190nm,19.5s,baz=358,slow=38						
	comp=Z,3.1nm,0.8s						
PZH	**PanZhiHua**	**73.42**	**301**	P	**P**	**04 49 58.2**	**+2.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KEST	**Kesra**	**73.70**	**22**	P	**P**	**04 49 56.7**	**-0.8**
KEST				IAmb	IAmb	04 50 38.9	
	comp=Z,19nm,1.0s						
KEST	**Kesra**	**73.70**	**22**	P	**P**	**04 49 59.0**	**+1.4**
	comp=Z,6.3nm,0.8s,baz=346,slow=5.7,SNR=11						
KEST				LR	LR	05 25 06.2	
	comp=Z,137nm,20.8s,baz=300,slow=38						
	comp=Z,6.3nm,0.8s						
NIL	**Nilore**	**73.82**	**328**	P	**P**	**04 49 57.4**	**-0.8**
NIL	**Nilore**	**73.82**	**328**	P	**P**	**04 49 57.4**	**-0.8**
NIL				pmax	pmax		
	comp=Z,20nm,0.9s						
EVN	**Everest**	**76.27**	**315**	P	**P**	**04 50 12.1**	**-1.0**
EVN				IAmb	IAmb	04 50 48.2	
	comp=Z,8.1nm,0.8s						
QIZ	**Qiongzhong**	**77.79**	**291**	P	**P**	**04 50 18.2**	**-2.8**
QIZ				S	**S**	**05 00 09.3**	**-4.1**
QIZ				LR	LR		
	comp=Z,2μm,17.7s						
QIZ				LR	LR		
	comp=Z,1μm,10.3s						
TAOE	**Nuku Hiva Isla**	**77.84**	**176**	*e*LR	LR	05 14 22.9	
	comp=Z,473nm,23.6s						
RUSC	**La Rusia**	**77.97**	**105**	P	**P**	**04 50 19.9**	**-2.8**
RUSC				IAmb	IAmb	04 50 29.1	
	comp=Z,11nm,1.0s						
MMAI	**Mount Meron Ar**	**78.18**	**0**	P	**P**	**04 50 24.5**	**+1.4**
	comp=Z,0.6nm,0.2s,baz=10.0,slow=11,SNR=1.4						
	comp=Z,0.6nm,0.2s						
ROSC	**El Rosal**	**78.53**	**107**	LR	LR	05 26 46.6	
	comp=Z,235nm,18.2s,baz=22,slow=37						
TGY	**Tagaytay City**	**78.53**	**279**	LR	LR	05 26 23.6	
	comp=Z,263nm,20.1s,baz=18,slow=37						
BRDH	**Bariadhala**	**80.00**	**309**	LR	LR	05 29 45.2	
	comp=Z,480nm,20.7s,baz=90,slow=39						
EIL	**Elat**	**81.51**	**0**	LR	LR	05 30 49.1	
	comp=Z,74nm,20.1s,baz=58,slow=39						
CMAR	**Chiang Mai Arr**	**81.83**	**301**	P	**P**	**04 50 42.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**81.83**	**301**	P	**P**	**04 50 43.4**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=3.1,slow=6.1,SNR=13						
CMAR				LR	LR	05 32 19.5	
	comp=Z,1μm,19.4s,baz=25,slow=40						
	comp=Z,1.3nm,0.3s						
DAV	**Davao City (W)**	**83.39**	**272**	LR	LR	05 30 22.0	
	comp=Z,190nm,19.9s,baz=36,slow=37						
MDP	**Montagnes des**	**85.97**	**86**	LR	LR	05 29 29.4	
	comp=Z,187nm,20.3s,baz=338,slow=36						
PPT2	**Papeete2**	**86.54**	**185**	*e*LR	LR	05 18 26.8	
	comp=Z,251nm,23.0s						
PPT2				*e*LR	LR	05 18 28.3	
	comp=Z,225nm,24.2s						
JAY	**Jayapura**	**86.92**	**255**	LR	LR	05 28 59.3	
	comp=Z,194nm,19.6s,baz=8.0,slow=35						
HNR	**Honiara**	**87.21**	**234**	LR	LR	05 24 23.5	
	comp=Z,201nm,21.7s,baz=6.5,slow=32						
RAYN	**Ar Rayn**	**87.34**	**351**	P	**P**	**04 51 11.0**	**+0.2**
RAYN				IAmb	IAmb	04 51 39.5	
	comp=Z,7.7nm,0.9s						
RAYN	**Ar Rayn**	**87.34**	**351**	P	**P**	**04 51 11.0**	**+0.2**
RAYN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ATAH	**Atahualpa**	**88.37**	**115**	LR	LR	05 33 13.2	
	comp=Z,257nm,19.3s,baz=357,slow=37						
BBTS	**Babate**	**88.81**	**50**	LR	LR	05 27 18.1	
	comp=Z,229nm,21.6s,baz=239,slow=33						
MSVF	**Nonsavu**	**90.63**	**215**	LR	LR	05 25 16.2	
	comp=Z,284nm,20.3s,baz=24,slow=31						
TBI	**Tubuai**	**92.26**	**184**	*e*LR	LR	05 21 04.0	
	comp=Z,955nm,32.5s						
NNA	**Nana**	**93.42**	**115**	LR	LR	05 36 11.1	
	comp=Z,104nm,20.6s,baz=348,slow=37						
TORD	**Torodi Ar. Bea**	**94.57**	**33**	P	**P**	**04 51 44.6**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=353,slow=5.0,SNR=2.3						
	comp=Z,0.5nm,0.9s						
PSI	**Prapat**	**96.57**	**296**	LR	LR	05 39 18.5	
	comp=Z,295nm,18.4s,baz=19,slow=38						
KAPI	**Kappang**	**96.68**	**273**	LR	LR	05 40 47.9	
	comp=Z,91nm,18.2s,baz=349,slow=39						
DZM	**Mont Dzumac**	**97.49**	**225**	*e*LR	LR	05 23 33.0	
	comp=Z,666nm,24.1s						
PALK	**Palikekei**	**97.64**	**315**	LR	LR	05 39 41.1	
	comp=Z,268nm,21.9s,baz=32,slow=38						
DBIC	**Dimbokro**	**99.45**	**41**	LR	LR	05 39 31.1	
	comp=Z,221nm,18.3s,baz=10.0,slow=37						
PLCA	**Paso Flores**	**122.13**	**120**	PKP	**PKiKP**	**04 57 19.9**	**+2.0**
	comp=Z,1.7nm,0.8s,baz=238,slow=17,SNR=3.8						
BOSA	**Boshof**	**139.03**	**14**	PKP	**PKPdf**	**04 57 50.9**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=78,slow=15,SNR=1.4						
ESPZ	**Base Esperanza**	**145.77**	**127**		**PKPab**	**04 58 01.7**	**0.0**
SBA	**Scott Base**	**149.56**	**198**		**PKPbc**	**04 58 09.1**	**-2.1**
SBA	**Scott Base**	**149.56**	**198**	PKHKP	**PKPbc**	**04 58 09.1**	**-2.1**
VNDA	**Vanda**	**149.86**	**200**		**PKPdf**	**04 58 09.3**	**+2.2**
VNDA	**Vanda**	**149.86**	**200**	PKPbc	**PKPbc**	**04 58 11.6**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=49,slow=1.5,SNR=6.5						
VNDA	**Vanda**	**149.86**	**200**	PKHKP	PKPpre	04 58 09.3	
QSPA	**South Pole Qui**	**158.96**	**180**	PKPab	**PKPab**	**04 58 57.5**	**+0.8**
	comp=Z,3.1nm,0.8s,baz=114,slow=0.4,SNR=6.8						
BELA	**Belgrano 2**	**159.76**	**145**		**PKPab**	**04 59 00.3**	**+0.4**
SNAA	**Sanae**	**167.07**	**119**	PKPab	**PKPab**	**04 59 33.4**	**+1.2**
	comp=Z,1.2nm,0.8s,baz=238,slow=8.2,SNR=3.7						
SYO	**Syowa Base**	**178.49**	**272**	*e*PKPdf	**PKPdf**	**04 58 32.0**	**-0.5**

*RSNC **03** 04:44:08.9±3.7, 10°N±11°×6°9W±2°9, h124km±30km, M2.8, mB4.5, mb3.3, ML2.8, MLv3.6, Mw(mB)3.6*
*FUNV **03** 04:44:12.7, 10°17N×69°27W, h5km, MW3.4*
ISC 03 04:44:10.7±1.3, 10°19N±0°04×69°30W±0°03, h2km±11km, n15, σ1°§26/25, 2D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEPV	**Terepaima**	**0.25**	**154**	*e*P	**Pg**	**04 44 15.3**	**-0.2**
TEPV				*e*S	**Sg**	**04 44 18.8**	**+0.1**
JACV	**Jacura**	**1.01**	**27**	*e*P	**Pg**	**04 44 30.2**	**+0.1**
JACV				*e*S	**Sg**	**04 44 45.1**	**+1.9**
BENV	**Beln**	**1.69**	**97**	*e*P	**Pn**	**04 44 42.5**	**+1.0**
BENV				*e*S	**Sn**	**04 45 04.0**	**+0.2**
BAUV	**El Baul**	**1.75**	**135**	*e*P	**Pn**	**04 44 42.9**	**+0.6**
BAUV				⇓*e*S	**Sn**	**04 45 05.2**	**0.0**
SDV	**Santo Domingo**	**1.84**	**226**	P	**Pb**	**04 44 46.3**	**+1.0**
SDV				S	**Sb**	**04 45 10.2**	**+1.3**
TACV	**Tcata**	**2.24**	**91**	*e*P	**Pn**	**04 44 49.9**	**+0.9**
TACV				⇓*e*S	**Sn**	**04 45 17.0**	**-0.3**
SOCV	**Socops**	**2.43**	**219**	*e*P	**Pn**	**04 44 52.9**	**+1.3**
SOCV				*e*S	**Sn**	**04 45 22.8**	**+0.7**
URIC	**Uribia, Colomb**	**3.04**	**300**	P	**Pn**	**04 44 59.0**	**-0.9**
CRJC	**Cerrejon, Guaj**	**3.62**	**284**	P	**Pn**	**04 45 08.0**	**+0.1**
CRJC				S	**Sn**	**04 45 49.4**	**-1.9**
CACV	**CAICARA DEL OR**	**3.77**	**133**	*e*P	**Pb**	**04 45 16.0**	**-2.1**
CACV				*e*S	**Sb**	**04 46 03.2**	**-1.2**
OCAC	**Ocana**	**4.41**	**244**	P	**Pn**	**04 45 20.3**	**+1.3**
OCAC				S	**Sg**	**04 46 30.5**	**-2.1**
ARGC	**Ariguani, Magd**	**4.88**	**267**	P	**Pn**	**04 45 25.6**	**+0.3**
	0.1nm8.7nm,1.9s						
RUSC	**La Rusia**	**5.68**	**222**	P	**Pn**	**04 45 38.1**	**+1.5**
	1μm6.8nm,1.2s						
ZARC	**Zaragoza, Cauc**	**6.11**	**244**	P	**Pn**	**04 45 43.9**	**+1.7**
	310nm6.0nm,1.0s						
PTBC	**PUERTO BERRIO,**	**6.25**	**235**	P	**Pn**	**04 45 43.7**	**-0.5**

*MOS **03** 04:58:54.9±1.6, 69°.06N×144°.33W, h9km, mb4.7/27, Error ellipse: s-maj=18.9km s-min=5.2km az=92.7*
*IDC **03** 04:58:55.8±0.5, 69°.42N×144°.41W, h0km, mb4.2/27, mbtmp4.2/33, ML4.1/5, MS3.4/5, Error ellipse: s-maj=12.2km s-min=9.3km az=42.0*
*AEIC **03** 04:58:55.0±2.1, 69°.11N±0°.03×144°.64W±0°.08, h13km±4km, ML4.6, mb4.5/79(NEIC), ML4.6/138(NEIC), Mwr4.3/50(NEIC), Error ellipse: s-maj=4.7km s-min=3.9km az=173.0*
*NEIC **03** 04:58:55.9±2.1, 69°.15N±0°.02×144°.66W±0°.08, h10km±1km, Error ellipse: s-maj=4.2km s-min=2.6km az=101.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.24; Mθθ-1.59; Mφφ1.35; Mrθ1.98; Mθφ-2.28; Mφr-0.43; Fault plane solution: M₀3.39000×10¹⁵ NP1: φs196.39000°, δ53.07000°, λ2.22000°. NP2:φs105.05000°, δ88.23000°, λ143.04000°. Principal axes: T 3.2593, Plg27.0000°, Azm54.0000°; N 0.2495, Plg53.0000°, Azm283.0000°; P -3.5088, Plg24.0000°, Azm157.0000°;*
*NEIC **03** 04:58:58, 69°.10N×144°.69W, h21km*
ISC 03 04:58:56.4±0.3, 69°13N±0°.03×144°60W±0°.02, h10km, n428, σ1°§54/429, mb4.5/95, MS4.4/3, 9C-3D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.59**	**32**		**Pg**	**04 59 07.4**	**-0.4**
C27K					**Sg**	**04 59 15.0**	**-0.6**
C27K	**Jago River**	**0.59**	**32**	IAML		04 59 15.5	
	comp=E,33μm,0.7s						
C27K				IAML		04 59 15.9	
	comp=N,24μm,0.5s						
D25K	**Kavik River**	**0.66**	**288**		**Pg**	**04 59 07.0**	**-2.1**
D25K					**Sg**	**04 59 15.8**	**-2.0**
D25K	**Kavik River**	**0.66**	**288**	IAML		04 59 19.1	
	comp=E,25μm,0.6s						
C26K	**Camden Bay**	**0.80**	**352**		**Pg**	**04 59 11.2**	**-0.6**
C26K					**Sb**	**04 59 22.3**	**-0.9**
C26K	**Camden Bay**	**0.80**	**352**	IAML		04 59 24.5	
	comp=N,29μm,0.4s						
C26K				IAML		04 59 28.5	
	comp=E,31μm,0.3s						
E25K	**Arctic Village**	**1.07**	**200**		**Pg**	**04 59 15.4**	**-1.5**
E25K					**Sb**	**04 59 31.1**	**+0.1**
D27M	**Malcolm River**	**1.31**	**83**		**Pn**	**04 59 20.2**	**-0.5**
D27M					**Sg**	**04 59 38.7**	**+0.4**
D27M	**Malcolm River**	**1.31**	**83**	IAML		04 59 42.3	
	comp=N,9μm,0.7s						
F26K	**Sheenjek River**	**1.45**	**173**		**Pn**	**04 59 22.3**	**-0.4**
F26K					**Sb**	**04 59 42.3**	**+0.4**
F26K	**Sheenjek River**	**1.45**	**173**	IAML		04 59 45.8	
	comp=E,7μm,0.9s						
E27K	**Coleen River**	**1.45**	**129**		**Pb**	**04 59 23.2**	**-0.2**
E27K					**Sg**	**04 59 43.5**	**+0.5**
E27K	**Coleen River**	**1.45**	**129**	IAML		04 59 45.7	
	comp=E,10μm,0.5s						
D24K	**Happy Valley**	**1.51**	**273**		**Pb**	**04 59 23.5**	**-1.0**
D24K					**Sg**	**04 59 44.8**	**-0.1**
C24K	**Franklin Bluff**	**1.57**	**294**		**Pb**	**04 59 23.9**	**-1.4**
C24K	**Franklin Bluff**	**1.57**	**294**	IAML		04 59 49.6	
	comp=N,10μm,1.0s						
C24K				IAML		04 59 49.9	
	comp=E,9μm,0.8s						
F25K	**Christian Rive**	**1.59**	**195**		**Pn**	**04 59 24.2**	**-0.4**
F25K				IAML		04 59 50.4	
	comp=N,10μm,1.1s						
F25K				IAML		04 59 50.5	
	comp=E,9μm,1.1s						
BMAR	**Burnt Mountain**	**1.71**	**180**		**Pn**	**04 59 26.3**	**+0.1**
E24K	**Your Creek**	**1.77**	**235**		**Pn**	**04 59 27.0**	**-0.1**
TOLK	**Toolik Lake Re**	**1.86**	**257**		**Pb**	**04 59 29.0**	**-1.5**
TOLK				IAML		04 59 57.6	
	comp=E,5μm,0.6s						
TOLK				IAML		05 00 02.4	
	comp=N,7μm,0.8s						
TOLK	**Toolik Lake Re**	**1.86**	**257**		**Sn**	**04 59 51.8**	**-0.2**
E28M	**Babbage River**	**1.91**	**104**		**Pb**	**04 59 30.1**	**-1.2**
E28M	**Babbage River**	**1.91**	**104**	IAML		05 00 01.9	
	comp=N,4μm,0.9s						
F24K	**Squaw Lake**	**2.02**	**219**		**Pn**	**04 59 30.7**	**+0.1**
E23K	**Chandalar**	**2.13**	**242**		**Pn**	**04 59 32.9**	**+0.9**
E23K	**Chandalar**	**2.13**	**242**	IAML		05 00 09.3	
	comp=N,4μm,0.8s						
D23K	**Nanushuk River**	**2.19**	**269**		**Pb**	**04 59 34.4**	**-1.6**
D23K	**Nanushuk River**	**2.19**	**269**	IAML		05 00 17.6	
	comp=E,3μm,1.1s						
G26K	**Porcupine Rive**	**2.21**	**172**		**Pn**	**04 59 33.8**	**+0.8**
G26K	**Porcupine Rive**	**2.21**	**172**	IAML		05 00 09.2	
	comp=N,5μm,0.7s						
G26K				IAML		05 00 10.3	
	comp=E,5μm,1.1s						
C23K	**Itkillik River**	**2.23**	**291**		**Pb**	**04 59 34.5**	**-2.3**
F28M	**Old Crow**	**2.32**	**129**		**Pn**	**04 59 35.2**	**+0.7**
G25K	**Bearman Lake**	**2.44**	**194**		**Pn**	**04 59 36.5**	**+0.3**
E29M	**Blow River**	**2.55**	**104**		**Pn**	**04 59 38.2**	**+0.4**
E29M				IAML		05 00 15.4	
	comp=N,3μm,0.9s						
E29M				IAML		05 00 18.1	
	comp=E,3μm,0.6s						
G27K	**Doyon Strip**	**2.58**	**153**		**Pn**	**04 59 37.4**	**-0.8**
FYU	**Fort Yukon**	**2.58**	**186**		**Pn**	**04 59 38.1**	**-0.1**
FYU				IAML		05 00 33.5	
	comp=E,3μm,1.7s						
FYU	**Fort Yukon**	**2.58**	**186**		**Sn**	**05 00 11.1**	**+1.5**
G24K	**Hadweenzic Riv**	**2.67**	**205**		**Pn**	**04 59 37.5**	**-1.9**
G24K				IAML		05 00 27.5	
	comp=E,3μm,1.3s						
G24K				IAML		05 00 30.0	
	comp=N,3μm,1.0s						
E22K	**Anaktuvuk Pass**	**2.82**	**253**		**Pn**	**04 59 40.3**	**-1.2**
E22K				IAML		05 00 25.7	
	comp=N,2μm,0.8s						
COLD	**Coldfoot**	**2.83**	**230**		**Pn**	**04 59 41.3**	**-0.3**
D22K	**Ayikyak River**	**2.92**	**269**		**Pn**	**04 59 42.1**	**-0.7**
H27K	**Steamboat Moun**	**3.14**	**157**		**Pn**	**04 59 44.7**	**-1.1**
G23K	**Bananza Creek**	**3.17**	**223**		**Pn**	**04 59 44.1**	**-2.2**
G23K				IAML		05 00 41.6	
	comp=N,2μm,1.6s						
G23K				IAML		05 00 48.6	
	comp=E,2μm,1.1s						
B22K	**Teshekpuk Lake**	**3.30**	**296**		**Pn**	**04 59 47.0**	**-0.9**
G29M	**Pine Creek**	**3.33**	**129**		**Pn**	**04 59 48.7**	**+0.2**
E21K	**Killik River**	**3.48**	**263**		**Pn**	**04 59 49.7**	**-0.7**
E21K				IAML		05 00 52.7	
	comp=E,1μm,1.0s						
E21K				IAML		05 00 59.8	
	comp=N,1μm,1.0s						
H24K	**Noodor Dome**	**3.54**	**202**		**Pn**	**04 59 50.6**	**-0.7**
H24K				IAML		05 00 54.0	
	comp=E,1μm,1.5s						
H24K				IAML		05 00 54.1	
	comp=N,1μm,0.9s						
B21K	**Ikpikpuk River**	**3.58**	**283**		**Pn**	**04 59 50.9**	**-0.9**
B21K				IAML		05 00 56.5	
	comp=E,1μm,0.8s						
B21K				IAML		05 01 00.5	
	comp=N,2μm,1.2s						
F30M	**Barrier River**	**3.60**	**111**		**Pn**	**04 59 52.9**	**+0.8**
F30M				IAML		05 00 40.1	
	comp=E,1μm,0.6s						
F30M				IAML		05 01 05.0	
	comp=N,1μm,1.3s						
PRP	**Porcupine Dome**	**3.64**	**186**		**Pn**	**04 59 52.9**	**+0.1**
PRP				IAML		05 00 59.1	
	comp=N,1μm,0.9s						
PRP	**Porcupine Dome**	**3.64**	**186**		**Sn**	**05 00 38.1**	**+2.2**
H29M	**Whitestone**	**3.77**	**138**		**Pn**	**04 59 54.6**	**+0.2**
H29M				IAML		05 01 00.1	
	comp=E,998nm,0.8s						
H29M				IAML		05 01 08.4	
	comp=N,1μm,1.2s						
G30M	**tAoh Zraii Nji**	**3.81**	**120**		**Pn**	**04 59 55.0**	**-0.1**
H23K	**Yukon River**	**3.82**	**212**		**Pn**	**04 59 54.8**	**-0.4**
H23K				IAML		05 01 00.9	
	comp=E,1μm,1.1s						
H23K				IAML		05 01 01.6	
	comp=N,1μm,1.2s						
F21K	**Alatna River**	**3.83**	**244**		**Pn**	**04 59 54.5**	**-0.8**
F21K				IAML		05 01 00.7	
	comp=E,974nm,1.2s						
F21K				IAML		05 01 01.1	
	comp=N,821nm,1.1s						
I26K	**Coal Creek Min**	**3.88**	**171**		**Pn**	**04 59 55.5**	**-0.4**
I26K				IAML		05 01 12.7	
	comp=E,1μm,1.1s						
EPYK	**Eagle Plains**	**4.08**	**129**		**Pn**	**04 59 58.6**	**-0.2**
I28M	**Miner Creek**	**4.11**	**152**		**Pn**	**04 59 59.6**	**+0.3**
I28M				IAML		05 01 19.1	
	comp=E,834nm,1.2s						
I28M				IAML		05 01 23.3	
	comp=N,692nm,1.1s						
INK	**Inuvik**	**4.12**	**96**		**Pn**	**05 00 00.4**	**+1.2**
INK	**Inuvik**	**4.12**	**96**	Pn	**Pn**	**04 59 58.9**	**-0.4**
	comp=N,7.2nm,0.3s,baz=276,slow=15,SNR=56						
INK				Sn	**Sn**	**05 00 47.6**	**+0.2**
	comp=N,15nm,0.3s,baz=271,slow=15,SNR=4.3						
INK				Lg	Lg	05 01 06.3	
	comp=N,25nm,0.3s,baz=224,slow=5.5,SNR=10						
INK				LR	LR	05 02 01.2	
	comp=N,402nm,19.1s,baz=103,slow=45						
	comp=N,17nm,0.3s						
INK	**Inuvik**	**4.12**	**96**	P	**Pn**	**05 00 00.4**	**+1.2**
G21K	**Allakaket**	**4.27**	**236**		**Pn**	**05 00 00.1**	**-1.3**
D20K	**Etivluk River**	**4.36**	**270**		**Pn**	**05 00 03.1**	**+0.5**
D20K				IAML		05 01 26.6	
	comp=E,678nm,0.8s						
D20K				IAML		05 01 41.7	
	comp=N,826nm,1.3s						
F31M	**Tsiigehtchic**	**4.38**	**108**		**Pn**	**05 00 01.8**	**-0.9**
F31M				IAML		05 01 21.6	
	comp=E,528nm,1.6s						
F31M				IAML		05 01 22.0	
	comp=N,648nm,1.0s						
COLA	**College**	**4.46**	**198**		**Pn**	**05 00 03.7**	**-0.2**
COLA	**College**	**4.46**	**198**	P	**Pn**	**05 00 03.7**	**-0.2**
COLA						05 00 56.6	
I53US	**FAIRBANKS INFR**	**4.46**	**198**	Lg	Lg	05 01 16.6	
	baz=23,slow=27						
I53US				I	I	05 25 50.0	
	baz=14,slow=324,SNR=0.8						
IL31		**4.47**	**193**		**Pn**	**05 00 04.8**	**+0.8**
ILAR	**Eielson Array**	**4.47**	**193**		**Pn**	**05 00 04.3**	**+0.3**
ILAR	**Eielson Array**	**4.47**	**193**	Pn	**Pn**	**05 00 04.0**	**0.0**
	comp=N,15nm,0.3s,baz=6.6,slow=15,SNR=244						
ILAR				Sn	**Sn**	**05 00 57.1**	**+1.2**
	comp=N,19nm,0.3s,baz=7.7,slow=21,SNR=6.6						
ILAR				Lg	Lg	05 01 15.7	
	comp=N,35nm,0.3s,baz=18,slow=20,SNR=7.7						
ILAR	**Eielson Array**	**4.47**	**193**	P	**Pn**	**05 00 04.3**	**+0.3**
G31M	**Satah River**	**4.47**	**115**		**Pn**	**05 00 03.3**	**-0.7**
G31M				IAML		05 01 20.2	
	comp=E,783nm,0.9s						
B20K	**Meade River**	**4.49**	**287**		**Pn**	**05 00 03.2**	**-1.1**
I29M	**Ogilvie Camp,**	**4.50**	**144**		**Pn**	**05 00 04.1**	**-0.5**
I29M				IAML		05 01 29.2	
	comp=E,475nm,1.4s						
J25K	**Salcha River,**	**4.54**	**184**		**Pn**	**05 00 04.9**	**-0.3**
J25K				IAML		05 01 24.1	
	comp=E,590nm,1.1s						
A21K	**Barrow**	**4.63**	**304**		**Pn**	**05 00 05.8**	**-0.5**
A21K					**Sn**	**05 00 59.8**	**-0.3**
F20K	**Avaraart Lake**	**4.66**	**249**		**Pn**	**05 00 06.9**	**+0.3**
F20K				IAML		05 01 32.4	
	comp=E,541nm,0.8s						
F20K				IAML		05 01 42.9	
	comp=N,557nm,1.2s						
J26L	**Joseph Creek**	**4.67**	**174**		**Pn**	**05 00 06.7**	**-0.1**
J26L				IAML		05 01 33.3	
	comp=E,469nm,1.1s						
CCB	**Clear Creek Bu**	**4.67**	**197**		**Pn**	**05 00 06.8**	**0.0**
CCB				IAML		05 01 30.4	
	comp=E,495nm,1.0s						
H21K	**Melozitna Rive**	**4.71**	**226**		**Pn**	**05 00 06.8**	**-0.5**
H21K				IAML		05 01 37.4	
	comp=E,671nm,1.2s						
H21K				IAML		05 01 38.2	
	comp=N,617nm,1.6s						
IMAR	**Indian Mountai**	**4.71**	**232**		**Pn**	**05 00 07.2**	**-0.2**
MLY	**Manley**	**4.76**	**213**		**Pn**	**05 00 08.1**	**0.0**
MLY				IAML		05 01 40.5	
	comp=N,428nm,1.1s

K29M Barlow Dome 6.01 149 Pn 05 00 25.9 +0.5
TRF Thorofare Moun 6.14 205 Pn 05 00 26.7 -0.5
KTH Kantishna Hill 6.14 207 Pn 05 00 27.2 0.0
L26K Log Cabin Wild 6.15 175 Pn 05 00 26.6 -0.6
E18K Tukpahlearik C 6.18 261 Pn 05 00 27.4 -0.1
DHY Denali Highway 6.18 192 Pn 05 00 29.0 +1.3
BCAR Beaver Creek A 6.20 168 Pn 05 00 27.5 -0.3
L27K Beaver Creek, 6.20 168 Pn 05 00 26.8 -1.0
PAX Paxson 6.20 184 Pn 05 00 27.2 -0.6
PAX Paxson 6.20 184 P Pn 05 00 27.2 -0.6
J20K Nowinta River 6.25 222 Pn 05 00 26.9 -1.5
G18K Tagagawik 6.28 246 Pn 05 00 29.2 +0.2
CAST Castle Rocks 6.47 211 Pn 05 00 31.4 -0.2
WAT1 Susitna Watana 6.53 196 Pn 05 00 33.1 +0.8
WAT7 Susitna Watana 6.55 197 Pn 05 00 33.7 +1.0
MAYO Mayo, Yukon 6.56 144 Pn 05 00 33.0 +0.2
L29M L29M 6.59 153 Pn 05 00 31.7 -1.5
H18K Honhosa River 6.67 240 Pn 05 00 32.8 -1.5
WAT6 Susitna Watana 6.70 193 Pn 05 00 34.6 -0.2
HARP HAARP 6.76 182 Pn 05 00 36.4 +0.9
J19K Poorman 6.76 226 Pn 05 00 34.8 -0.7
RDOG Red Dog Mine 6.78 269 Pn 05 00 35.6 -0.2
M26K Nabesna, AK 6.79 174 Pn 05 00 36.7 +0.7
F17K Baldwin Pennin 6.85 255 Pn 05 00 36.5 -0.2
M27K Edge Creek, AK 6.89 169 Pn 05 00 37.0 -0.4
BVCY Beaver Creek 6.91 165 Pn 05 00 37.8 +0.1
K20K Telida 6.93 218 Pn 05 00 36.9 -1.0
PPLA Purkeypile 6.97 210 Pn 05 00 37.7 -0.9
A36M Sachs Harbour 7.05 57 Pn 05 00 38.3 -1.1
M24K Tolsona, Glenn 7.08 186 Pn 05 00 41.0 +1.0
CUT Chulitna 7.14 202 Pn 05 00 40.5 -0.2
M29M Somme Creek 7.17 155 Pn 05 00 42.6 +1.2
WACK Wrangell Chich 7.17 179 Pn 05 00 42.6 +1.2
H17K Granite Mounta 7.30 242 Pn 05 00 41.3 -1.6
M30M Minto, Yukon 7.31 150 Pn 05 00 41.6 -1.4
SCM Sheep Creek Mo 7.41 190 Pn 05 00 45.6 +1.1
SCM Sheep Creek Mo 7.41 190 P Pn 05 00 45.6 +1.1
J18K Innoko River 7.48 226 Pn 05 00 44.4 -1.0
YUK2 White River 7.54 166 Pn 05 00 47.2 +1.0
N25K Chitina, Valde 7.55 180 Pn 05 00 47.2 +0.8
YUK3 Moose Creek 7.58 165 Pn 05 00 48.2 +1.2
C16K Lisburne Hills 7.59 273 Pn 05 00 45.2 -1.6
GHO Glory Hole Cre 7.60 196 Pn 05 00 47.5 +0.4
KLU Klutina 7.69 185 Pn 05 00 49.3 +1.0
SKT Skwentna 7.72 205 Pn 05 00 48.7 -0.1
GLB Gilahina Butte 7.73 177 Pn 05 00 50.1 +1.3
M22K Willow 7.75 200 Pn 05 00 50.7 +1.7
PMR Palmer 7.80 196 Pn 05 00 49.7 0.0
PMR Palmer 7.80 196 P Pn 05 00 49.7 0.0
MCARA McCarthy VSAT 7.80 174 Pn 05 00 51.5 +1.7
G16K Koyuk River 7.81 250 Pn 05 00 50.0 0.0
KNK Knik Glacier 7.91 194 Pn 05 00 53.5 +2.2
VRDI Verde Repeater 7.95 176 Pn 05 00 51.3 -0.7
PTPK Patty Peak 8.02 173 Pn 05 00 55.3 +2.3
DIV Divide 8.05 184 Pn 05 00 52.5 -0.7
M20K Styx River 8.08 210 Pn 05 00 52.9 -0.8
SUA Susitna One 8.11 201 Pn 05 00 55.3 +1.2
M31M Drury Creek, Y 8.12 144 Pn 05 00 53.0 -1.1
YUK8 Steele Glacier 8.13 163 Pn 05 00 56.3 +1.8
L19K White Mountain 8.14 216 Pn 05 00 52.1 -2.4
J17K VABM Dome 8.18 232 Pn 05 00 53.9 -1.0
BARN Barnard Glacie 8.20 170 Pn 05 00 55.9 +0.5
BMRM Bremner River 8.20 180 Pn 05 00 57.2 +2.0
STLK Strandline Lak 8.23 205 Pn 05 00 57.1 +1.4
I17K Unalakleet 8.28 238 Pn Pn 05 00 56.8 +0.5
KIAQ Kiagna River 8.29 172 Pn 05 00 58.0 +1.4
M19K Big River Lodg 8.30 214 Pn 05 00 55.4 -1.3
N30M Aishikik Lake 8.31 154 Pn 05 00 56.3 -0.5
CTGM Chitina Glacie 8.31 169 Pn 05 00 58.1 +1.2
FARO Faro, Yukon 8.32 141 Pn 05 00 55.0 -1.9
GLI Glacier Island 8.35 188 Pn 05 00 57.1 -0.1
RC01 Rabbit Creek A 8.35 197 Pn 05 00 56.6 -0.7
CRQM Cirque 8.43 175 Pn 05 00 59.3 +0.7
TGL Tana Glacier 8.44 174 Pn 05 00 57.9 -0.7
FID Port Fidalgo 8.45 186 Pn 05 01 00.3 +1.6
PWL Port Wells 8.45 193 Pn 05 01 00.1 +1.4
LOGN Logan Glacier 8.47 168 Pn 05 01 00.0 +0.9
MMPY Sheldon Lake, 8.50 134 Pn 05 00 58.8 -0.5
N31M Braeburn, Yuko 8.50 150 Pn 05 00 59.2 -0.2
K17K Iditarod 8.51 228 Pn 05 00 58.8 -0.7
YUK5 Granite Creek 8.51 157 Pn 05 01 00.7 +1.0
GRNC Granite Creek 8.52 171 Pn 05 01 00.9 +1.2
L18K Granite Mounta 8.52 221 Pn 05 00 59.0 -0.7
SPBG Spurr Blockage 8.54 206 Pn 05 01 01.5 +1.6
SPU Mount Spurr 8.57 205 Pn 05 01 01.2 -0.1
O28M Mount Upton 8.59 165 Pn 05 01 01.4 +0.5
ISLE Juniper Island 8.61 173 Pn 05 01 03.2 +2.2
YUK6 Outpost Mounta 8.62 159 Pn 05 01 02.6 +1.3
EYAK Cordova Ski Ar 8.63 184 Pn 05 01 02.2 +1.1
J16K Anvik River 8.70 235 Pn 05 01 02.1 0.0
BAGL Bagley Icefiel 8.74 172 Pn 05 01 05.8 +3.2
KHIT Khitrov Hills 8.74 176 Pn 05 01 05.4 +2.7
WAX Waxell Ridge 8.74 174 Pn 05 01 03.8 +1.0
RAGM Ragged Mountai 8.78 180 Pn 05 01 04.3 +1.1
BERG Berg Lake 8.78 177 Pn 05 01 02.6 -0.5
HMT Hamilton 8.83 179 Pn 05 01 05.0 +1.1
HYT Haines Junctio 8.85 157 Pn 05 01 04.7 +0.3
YAH Yahtse 8.88 171 Pn 05 01 07.0 +2.2
NICHA Nichawak Mount 8.93 178 Pn 05 01 08.1 +2.8
O22K Cooper Landing 8.95 197 Pn 05 01 04.0 -1.5
RKAV Rock Avalanche 8.97 170 Pn 05 01 07.4 +1.5
SLKM Skilak Lake 8.97 198 Pn 05 01 04.7 -1.2
MESA MESA 9.06 172 Pn 05 01 06.3 -0.8
O30N Mendenhall 9.12 153 Pn 05 01 07.3 -0.6
RDT Redoubt 9.20 205 Pn 05 01 10.1 +1.2
O29M Mount Kennedy 9.22 161 Pn 05 01 07.2 -2.2
PCA Pinnacle 9.26 166 Pn 05 01 09.8 +0.1
SEW Seward 9.29 195 Pn 05 01 09.5 -0.6
N19K Bonanza Creek 9.32 211 Pn 05 01 09.3 -1.3
N32M Quiet Lake 9.34 143 Pn 05 01 09.0 -1.9
RED Redoubt Volcan 9.40 206 Pn 05 01 11.1 -0.6
M17K Holitna River 9.41 221 Pn 05 01 11.1 -0.7
WHY Whitehorse 9.44 150 Pn 05 01 11.1 -1.2
L16K Owhat River 9.65 227 Pn 05 01 14.4 -0.7
N18K Kilae Creek 9.72 215 Pn 05 01 15.9 -0.2
BRLK Bradley Lake 9.78 199 Pn 05 01 15.0 -1.9
P29M Windy Craggy 9.98 159 Pn 05 01 23.1 +3.4
CNPM China Poot 10.05 200 Pn 05 01 18.6 -2.0
M16K Timber Creek 10.11 223 Pn 05 01 20.1 -1.2
N17K Nushagak Hills 10.13 218 Pn 05 01 21.3 -0.5
P33M Teslin, Yukon 10.25 145 Pn 05 01 23.5 +0.1
O18K Koktuh Hills 10.35 211 Pn 05 01 24.9 +0.2
WRGLY Wrigley 10.35 115 Pn 05 01 24.6 -0.1
SKAG Skagway 10.49 153 Pn 05 01 27.7 +1.2
P32M Atlin 10.65 149 Pn 05 01 30.1 +1.3
P18K Big Mountain, 10.79 210 Pn 05 01 30.4 -0.2
WTLY Watson Lake, Y 11.26 136 Pn 05 01 35.5 -1.6
R33M Jennings River 11.39 142 Pn 05 01 36.7 -2.2
Q32M Nakina River 11.51 146 Pn 05 01 40.0 -0.7
R32K Eaglecrest 11.75 153 Pn 05 01 42.7 -1.1
S31K Pelican 11.79 158 Pn 05 01 43.5 -0.9
ACHA Angle Creek He 11.92 208 Pn 05 01 46.4 +0.2
KDAK Kodiak Island 11.92 201 Pn Pn 05 01 45.6 -0.5
comp=E,0.5nm,0.3s,baz=348,slow=11,SNR=6.6
KDAK Sn Sn **05 03 52.8 -6.0**
comp=E,0.1nm,0.3s,baz=333,slow=23,SNR=1.1
KDAK LR LR 05 07 24.6
comp=E,271nm,18.3s,baz=34,slow=42
comp=E,5.1nm,0.7s
KDAK Kodiak Island 11.92 201 *i* P **Pn 05 01 47.9 +1.8**
DLBC Dease Lake 12.46 142 Pn **Pn 05 01 54.0 +0.4**
comp=E,0.5nm,0.6s,baz=324,slow=14
DLBC Lg Lg 05 05 27.4
baz=67,slow=26,SNR=4.1
DLBC LR LR 05 07 18.0
comp=E,31nm,18.4s,baz=330,slow=40
S34M Telegraph Cree 12.71 146 Pn 05 01 56.2 -0.7
YKAW3 Yellowknife Wh 13.80 104 Pn 05 02 08.9 -2.8
YKA Yellowknife Ar 13.84 104 Pn 05 02 08.8 -3.5
YKA Yellowknife Ar 13.84 104 Pn **Pn 05 02 09.8 -2.5**
comp=E,1.5nm,0.3s,baz=299,slow=18,SNR=37
YKA Sn Sn 05 04 33.6 -12
comp=E,2.1nm,0.3s,baz=314,slow=23,SNR=9.8
YKA Lg Lg 05 06 07.3
baz=314,slow=30
comp=E,8.1nm,0.7s
YKAW1 Yellowknife Wh 13.89 104 Pn 05 02 10.2 -2.8
RES Resolute Bay 15.93 48 Pn 05 02 36.0 -4.1
RES IAmb IAmb 05 02 46.8
comp=Z,17nm,0.6s

RES Resolute Bay 15.93 48 Pn **Pn 05 02 35.5 -4.6**
comp=Z,2.2nm,0.3s,baz=258,slow=9.4,SNR=27
RES Sn Sn 05 05 21.0 -15
comp=Z,2.1nm,0.3s,baz=285,slow=20,SNR=5.3
RES LR LR 05 09 39.6
comp=Z,213nm,21.5s,baz=262,slow=41
comp=Z,7.7nm,0.5s
RES Resolute Bay 15.93 48 P **Pn 05 02 36.0 -4.1**
RES pmax pmax
comp=Z,17nm,0.6s
BILL Bilibino 17.59 290*ce*P **P 05 03 02.5 +0.3**
BILL pmax pmax
comp=Z,12nm,1.3s
EUNU Eureka 17.79 29 P **Pn 05 03 01.5 -2.1**
EUNU IAmb IAmb 05 03 14.8
comp=Z,14nm,0.6s
BBB Bella Bella 18.70 147 P **Pn 05 03 15.9 +1.1**
comp=Z,0.2nm,0.3s,baz=338,slow=8.7,SNR=9.3
BBB Lg Lg 05 08 38.5
baz=116,slow=16,SNR=2.0
comp=Z,15nm,1.0s
BLKN Baker Lake 19.34 81 P 05 03 19.1 -2.3
HOLB Holberg 20.17 148 P **P 05 03 28.5 -2.0**
POIN Pond Inlet 21.04 50 P **P 05 03 38.2 -1.7**
POIN IAmb IAmb 05 03 44.3
comp=Z,22nm,1.0s
CBB Campbell River 21.30 144 P 05 03 40.8 -2.0
ILON Igloolik, Nuna 21.40 60 P **P 05 03 42.0 -1.7**
LLLB Lillooet 21.54 138 P 05 03 43.7 -1.7
LLLB IAmb IAmb 05 03 52.9
comp=Z,22nm,1.2s
FCC Fort Churchill 23.72 90 P **P 05 04 08.4 +0.4**
FCC IAmb IAmb 05 04 15.7
comp=Z,14nm,0.8s
FCC Fort Churchill 23.72 90 P **P 05 04 08.4 +0.4**
FCC pmax pmax
comp=Z,14nm,0.8s
B08A Colville Reser 24.25 136 P **P 05 04 11.0 -2.2**
D05A Enumclaw 24.72 141 P **P 05 04 15.3 -2.1**
D05A IAmb IAmb 05 04 23.7
comp=Z,8.4nm,0.8s
NEW Newport 24.90 133 P 05 04 17.5 -1.6
NEW Newport 24.90 133 P **P 05 04 17.5 -1.6**
NEW pmax pmax
comp=Z,9.0nm,1.5s
LTY Liberty 24.96 139 P **P 05 04 18.3 -1.3**
LTY IAmb IAmb 05 04 23.2
comp=Z,8.0nm,0.7s
NEEM North Greenlan 25.03 31 *i* P **P 05 04 20.2 -0.1**
NEEM IAmb IAmb 05 04 21.6
comp=Z,26nm,0.7s
LON Longmire 25.17 141 P **P 05 04 19.1 -2.5**
LON IAmb IAmb 05 04 27.2
comp=Z,8.7nm,0.9s
LON Longmire 25.17 141 P **P 05 04 19.1 -2.5**
LON pmax pmax
comp=Z,9.0nm,0.9s
SEY Seymchan 25.24 287 *i* P **P 05 04 23.2 +1.3**
SEY pmax pmax
comp=Z,20nm,1.0s
MXC Moxie City 25.68 139 P 05 04 24.9 -1.2
MXC IAmb IAmb 05 04 29.9
comp=Z,6.7nm,0.7s
HOOD Mount Hood Mea 26.56 142 P **P 05 04 31.4 -2.8**
NOR Nord 27.00 15 *i* P **P 05 04 33.9 -3.8**
NOR IAmb IAmb 05 04 40.9
comp=Z,2.8nm,0.7s
G08A Pilot Rock 27.21 138 P 05 04 39.0 -1.0
LYMT Lyon Mountain 27.41 127 P **P 05 04 38.2 -3.8**
BPMT Black Pine Rid 27.57 129 P 05 04 41.2 -2.3
HRY Holter Researc 27.78 127 P **P 05 04 43.6 -1.5**
BMO Blue Mountains 28.03 136 P 05 04 47.5 +0.2
BMO Blue Mountains 28.03 136 P **P 05 04 47.5 +0.2**
BMO pmax pmax
comp=Z,2.0nm,0.7s
PLID Pearl Lake 28.14 134 P 05 04 47.5 -1.0
J08A Circle Bar Ran 29.15 139 P **P 05 04 56.3 -1.0**
K05A Summer Lake 29.20 143 P **P 05 04 55.6 -2.3**
K05A IAmb IAmb 05 05 03.0
comp=Z,7.0nm,0.8s
MCMT McKenzie Canyo 29.22 130 P 05 04 57.3 -0.8
L04D Klamath Falls 29.39 145 P 05 04 59.0 -0.6
L04D IAmb IAmb 05 05 04.3
comp=Z,8.6nm,0.8s
ULM Lac du Bonnet 29.82 104 P **P 05 05 05.3 +2.2**
comp=Z,3.8nm,1.1s,baz=293,slow=3.9,SNR=3.7
comp=Z,3.8nm,1.1s
HLID Hay 29.97 133 P P 05 05 01.8 -2.9
WVOR Wild Horse Val 29.99 140 P P 05 05 03.9 -0.9
WVOR IAmb IAmb 05 05 09.3
comp=Z,4.0nm,0.8s
WVOR Wild Horse Val 29.99 140 P P 05 05 03.9 -0.9
WVOR pmax pmax
comp=Z,4.0nm,0.8s
PETK Petropavlovsk- 30.65 268 P **P 05 05 12.2 +1.8**
comp=Z,1.6nm,0.6s,baz=58,slow=14,SNR=6.0
comp=Z,1.6nm,0.6s
SUMG Summit 30.66 35 *i* P **P 05 05 10.8 0.0**
SUMG IAmb IAmb 05 05 11.5
comp=Z,3.1nm,0.5s
DAG Danmarks Havn 30.68 21 *i* P **P 05 05 07.7 -2.7**
LOHW Long Hollow 30.96 128 P **P 05 05 11.2 -2.4**
LOHW IAmb IAmb 05 05 19.1
comp=Z,4.0nm,0.7s
KBS Kingsbay 31.53 8 *i* P P 05 05 08.1 -10
SFJD Kangerlussuaq 31.93 48 *i* P **P 05 05 22.9 +1.4**
SFJD IAmb IAmb 05 05 24.6
comp=Z,9.3nm,0.8s
BW06 Boulder Array 32.04 127 P **P 05 05 20.4 -2.6**
BW06 IAmb IAmb 05 05 28.3
comp=Z,4.2nm,0.8s
PD31 Pinedale Array 32.04 127 P **P 05 05 22.4 -0.6**
PD31 IAmb IAmb 05 05 28.3
comp=Z,4.4nm,0.8s
PDAR Pinedale Array 32.04 127 P **P 05 05 23.7 +0.7**
PDAR Pinedale Array 32.04 127 P **P 05 05 25.5 +2.4**
comp=Z,3.4nm,0.7s,baz=6.7,slow=5.1,SNR=33
comp=Z,3.4nm,0.7s
ELK Elko 32.40 136 P 05 05 25.0 -1.2
ELK Elko 32.40 136 P **P 05 05 25.0 -1.2**
ELK pmax pmax
comp=Z,2.0nm,0.7s
SPITS Spitsbergen Ar 32.47 7 P **P 05 05 25.8 -0.4**
comp=Z,2.0nm,0.4s,baz=324,slow=7.1,SNR=11
comp=Z,2.0nm,0.4s
DBG Daneborg 32.52 25 *i* P **P 05 05 26.2 -0.4**
DBG IAmb IAmb 05 05 28.3
comp=Z,5.6nm,0.9s
HWUT Hardware Ranch 32.55 131 P 05 05 26.4 -1.1
HWUT IAmb IAmb 05 05 31.7
comp=Z,5.5nm,0.7s
TCUT Toone Canyon 33.05 131 P P 05 05 30.1 -1.8
ICESG Greenland Ices 33.06 39 *i* P **P 05 05 31.4 -0.4**
EYMN Ely 33.31 102 P **P 05 05 32.2 -1.6**
DUG Dugway, Tooele 33.54 133 P 05 05 34.4 -1.6
DUG Dugway, Tooele 33.54 133 P **P 05 05 34.4 -1.6**
DUG pmax pmax
comp=Z,8.0nm,0.8s
BSUT Blindstream Ca 33.77 130 P 05 05 37.5 -0.8
NVAR Mina Array Bea 33.88 141 P **P 05 05 41.1 +2.0**
NVAR Mina Array Bea 33.88 141 P **P 05 05 42.0 +2.9**
comp=Z,5.6nm,0.7s,baz=325,slow=7.9,SNR=32
comp=Z,5.6nm,0.7s
LHV Little Huntoon 34.01 142 P **P 05 05 39.4 -0.5**
LHV IAmb IAmb 05 05 48.2
comp=Z,5.5nm,0.9s
P18A Preston Nutter 34.76 130 P **P 05 05 45.6 -1.2**
PSUT Pine Spring 34.84 135 P **P 05 05 49.5 +2.1**
SRU San Rafael Swe 35.17 131 P **P 05 05 51.9 +1.7**
SRU IAmb IAmb 05 05 56.0
comp=Z,5.0nm,0.8s
SRU San Rafael Swe 35.17 131 P **P 05 05 51.9 +1.7**
SRU pmax pmax
comp=Z,5.0nm,0.8s
MVU Marysvale 35.29 133 P 05 05 51.0 -0.3
MVU IAmb IAmb 05 05 56.7
comp=Z,3.3nm,0.8s
TPNV Topopah Spring 35.77 139 P 05 05 53.8 -1.5
TPNV IAmb IAmb 05 06 18.1
comp=Z,3.9nm,0.7s
TPNV Topopah Spring 35.77 139 P **P 05 05 53.8 -1.5**
TPNV pmax pmax
comp=Z,4.0nm,0.7s
WCT Wildcat Mounta 35.83 140 P **P 05 05 54.0 -1.7**
G40A Rib Lake 36.07 103 P **P 05 05 56.1 -1.5**
G40A IAmb IAmb 05 06 14.0
comp=Z,7.9nm,1.0s
PV10 Paradox Valley 36.26 129 P **P 05 05 58.6 -1.0**
PV10 IAmb IAmb 05 06 12.3
comp=Z,6.7nm,0.8s
PV19 Morning Glory 36.34 129 P **P 05 05 58.6 -1.7**
PV19 IAmb IAmb 05 06 13.0
comp=Z,6.1nm,0.9s
SCHQ Schefferville 36.35 73 P **P 05 05 59.6 -0.4**
comp=Z,9.2nm,0.8s,baz=294,slow=4.9,SNR=9.4
comp=Z,9.2nm,0.8s
PV16 Nyswonger Mesa 36.36 129 P **P 05 06 00.1 -0.3**
PV18 Skein Mesa, Pa 36.42 129 P **P 05 05 58.9 -2.1**
PV18 IAmb IAmb 05 06 19.0
comp=Z,6.1nm,0.9s
LCMT Little Creek M 36.43 135 P **P 05 05 58.2 -2.8**
PV01 Paradox Valley 36.62 129 P **P 05 06 00.3 -2.4**
PV01 IAmb IAmb 05 06 20.7
comp=Z,8.0nm,1.3s
WUAZ Wupatki 38.33 134 P 05 06 15.3 -1.8
PFO Pinyon Flats O 38.91 141 LR LR 05 24 01.4
comp=Z,190nm,19.2s,baz=318,slow=38
ANMO Albuquerque 40.19 128 P **P 05 06 30.5 -2.2**
ANMO Albuquerque 40.19 128 P **P 05 06 30.5 -2.2**
ANMO Albuquerque 40.19 128*ce*P **P 05 06 36.6 +3.9**
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ZEA Zeya 40.72 294 *e*P **P 05 06 38.5 +1.8**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
ARCES ARCESS Array B 41.43 5 P **P 05 06 40.6 -1.7**
comp=Z,2.1nm,0.7s,baz=348,slow=6.3,SNR=11
ARCES PcP **PcP 05 08 39.8 -0.1**
comp=Z,1.2nm,0.7s,baz=356,slow=2.8,SNR=5.3
comp=Z,2.1nm,0.7s
E62A Clayton Lake 42.27 82 P **P 05 06 49.1 -0.4**
E62A IAmb IAmb 05 07 00.9
comp=Z,12nm,1.1s
MGMO Mountain Grove 42.58 111 P **P 05 06 50.8 -1.2**
MGMO IAmb IAmb 05 06 55.1
comp=Z,8.2nm,1.1s
K57A Scipio Center 43.14 91 P **P 05 06 56.4 -0.2**
K57A IAmb IAmb 05 07 09.1
comp=Z,8.8nm,0.7s
PBMO Poplar Bluff 43.53 109 P **P 05 06 58.9 -0.8**
PBMO IAmb IAmb 05 07 07.8
comp=Z,10nm,1.2s
FCAR Ozark Folk Cen 43.77 111 P **P 05 06 59.8 -1.9**
FCAR IAmb IAmb 05 07 08.4
comp=Z,6.4nm,1.2s
T47A Sharon Grove 44.48 105 P 05 07 06.1 -1.3
T47A IAmb IAmb 05 07 13.3
comp=Z,6.9nm,0.9s
MIAR Mount Ida 44.52 114 P **P 05 07 06.8 -0.8**
MIAR IAmb IAmb 05 07 15.6
comp=Z,6.6nm,0.9s
MIAR Mount Ida 44.52 114 P **P 05 07 06.9 -0.8**
MIAR pmax pmax
comp=Z,7.0nm,1.0s
N58A Sunbury 44.72 93 P 05 07 08.7 -0.6
N58A IAmb IAmb 05 07 15.3
comp=Z,7.8nm,0.9s
WVT Waverly 45.01 107 P **P 05 07 11.8 +0.2**
WVT IAmb IAmb 05 07 18.4
comp=Z,5.9nm,0.8s
WVT Waverly 45.01 107 P **P 05 07 11.8 +0.2**
WVT pmax pmax
comp=Z,6.0nm,0.8s
ALPN Alpine 45.28 127 P **P 05 07 14.7 +0.7**
ALPN IAmb IAmb 05 07 20.3
comp=Z,3.3nm,0.9s
CLTN Cedars of Leba 45.56 105 P **P 05 07 15.1 -0.9**
CLTN IAmb IAmb 05 07 34.1
comp=Z,3.4nm,0.8s
OXF Oxford 45.94 109 P 05 07 17.9 -1.0
OXF Oxford 45.94 109 P **P 05 07 17.9 -1.0**
OXF pmax pmax
comp=Z,59nm,1.5s
TXAR Lajitas Array 46.26 128 P **P 05 07 23.4 +1.7**
comp=Z,0.8nm,0.7s,baz=338,slow=6.6,SNR=11
comp=Z,0.8nm,0.7s
Y45A Yeager Farm, C 46.48 110 P 05 07 22.2 -1.0
SWET Sewanee 46.49 105 P **P 05 07 22.6 -0.7**
W50A Signal Mountai 46.72 105 P **P 05 07 23.7 -1.4**
FPAL Fort Paine 47.21 105 P **P 05 07 27.6 -1.4**
FPAL IAmb IAmb 05 07 37.4
comp=Z,3.9nm,0.9s
USA0B Ussuriysk Arra 47.30 284 *e*P **P 05 07 32.4 +2.9**
USRK Ussuriysk Ar. 47.30 284 P **P 05 07 31.5 +2.0**
comp=Z,4.1nm,0.7s,baz=44,slow=8.5,SNR=5.4
comp=Z,4.1nm,0.7s
LRAL Lakeview Retre 48.10 108 P **P 05 07 35.3 -0.6**
NOA NORSAR Array B 48.97 15 P **P 05 07 39.5 -2.8**
comp=Z,0.6nm,0.6s,baz=342,slow=5.6,SNR=2.8
comp=Z,0.6nm,0.6s
FINES FINESS Array B 49.55 6 P **P 05 07 45.7 -0.9**
comp=Z,5.6nm,0.7s,baz=0.8,slow=8.6,SNR=20
comp=Z,5.6nm,0.7s
HFS Hagfors 50.09 14 P **P 05 07 49.7 -1.0**
comp=Z,5.0nm,0.6s,baz=0.0,slow=5.9,SNR=15
comp=Z,5.0nm,0.6s
KLMR Klimovskoe 50.28 357 *e*P **P 05 07 53.2 +1.1**
KLMR pmax pmax
comp=Z,9.0nm,1.1s
MJAR Matsushiro Arr 51.87 273 P **P 05 08 06.5 +2.0**
comp=Z,0.7nm,0.3s,baz=14,slow=8.6,SNR=2.2
comp=Z,0.7nm,0.3s
ZAA0 Zalesovo Array 52.03 325 P **P 05 08 04.4 -1.0**
ZAA0 IAmb IAmb 05 08 10.4
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 52.03 325 P **P 05 08 04.7 -0.8**
comp=Z,2.3nm,0.7s,baz=17,slow=8.4,SNR=8.0
comp=Z,2.3nm,0.7s
ULN Ulaanbaatar 52.10 306*ce*P **P 05 08 08.1 +1.9**
ULN pmax pmax
comp=Z,7.0nm,2.5s
KIRV Kirov 52.18 351 *i* P **P 05 08 09.7 +3.3**
SONM Songino Array 52.32 306 P **P 05 08 07.9 0.0**
comp=Z,0.8nm,0.3s,baz=37,slow=5.8,SNR=1.8
comp=Z,0.8nm,0.3s
VSU Vasula 52.56 6*ce*P **P 05 08 11.9 +2.7**
VSU pmax pmax
comp=Z,19nm,0.7s
EKA Eskdalemuir Ar 52.70 27 P **P 05 08 09.0 -1.3**
comp=Z,1.8nm,0.5s,baz=334,slow=6.6,SNR=12
comp=Z,1.8nm,0.5s
ARTI Arti 53.67 344 P **P 05 08 17.4 -0.1**
ARTI Arti 53.67 344*c i*P **P 05 08 21.0 +3.5**
ARTI 05 09 23.2
ARTI 05 10 15.3
ARTI S **S 05 15 57.5 +6.7**
ARTI SS **SKiKP 05 19 35.8 +4.6**
ARTI pmax pmax
comp=Z,14nm,1.3s
KSRS Korea Array 54.70 283 P **P 05 08 27.0 +1.8**
comp=Z,0.5nm,0.3s,baz=21,slow=7.8,SNR=5.2
comp=Z,0.5nm,0.3s
KSRS Korea Array 54.70 283 P **P 05 08 27.0 +1.8**
BRVK Borovoye 55.47 335*ce*P **P 05 08 34.7 +4.1**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 55.48 335 P **P 05 08 29.9 -0.8**
comp=Z,1.8nm,0.6s,baz=3.4,slow=7.2,SNR=8.4
comp=Z,1.8nm,0.6s
OBN Obninsk 56.06 359*lj eP* **P 05 08 38.3 +3.5**
OBN pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 56.31 328 P **P 05 08 37.0 +0.4**
KURK Kurchatov 56.31 328*ce*P **P 05 08 40.1 +3.4**
KURK pmax pmax
comp=Z,8.0nm,1.0s
KURBB Kurchatov Arra 56.42 328 P **P 05 08 37.1 -0.3**
comp=Z,5.2nm,0.9s,baz=15,slow=7.1,SNR=18
comp=Z,5.2nm,0.9s
MNK Minsk 56.56 5 *i* P **P 05 08 39.7 +1.4**
MNK *i* 05 09 35.7
MNK *i* 05 10 46.3
MNK *i* PPP PPP 05 12 01.6
MNK *i* S **S 05 16 33.8 +4.4**
MNK pmax pmax
comp=N,12nm,0.7s
MNK pmax pmax
comp=E,18nm,0.8s
MNK pmax pmax
comp=Z,15nm,0.7s
MNK MLR MLR

comp=Z,145nm,16.0s
MNK MLR MLR
comp=N,546nm,17.0s
MNK MLR MLR
comp=E,739nm,16.0s
HHC Hu-ho-hao-te 57.09 299 *e*P **P** **05 08 42.3 -0.2**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,100nm,4.6s
BELG Belogornoye 58.46 351 *i* P **P** **05 08 53.5 +1.8**
BELG pmax pmax
comp=Z,4.0nm,1.0s
MEM Membach 58.63 21 *d*P **P** **05 08 53.2 +0.3**
BTNL Ternell 58.67 21 *d*P **P** **05 08 53.7 +0.4**
comp=Z,6.3nm,0.9s
CLL Collm 58.75 16 *e*P **P** **05 08 52.0 -1.8**
CLL epP **pP** **05 08 57.0 -0.4**
MK31 Makanchi Array 59.33 324 *c*eP **P** **05 09 01.8 +3.8**
MKAR Makanchi Array 59.33 324 P **P** **05 08 57.1 -0.9**
comp=Z,0.7nm,0.6s,baz=40,slow=6.5,SNR=8.3
comp=Z,0.7nm,0.6s
MAKZ Makanchi 59.38 325 P **P** **05 08 56.9 -1.4**
MAKZ IAmb IAmb 05 09 01.8
comp=Z,4.0nm,0.9s
MAKZ Makanchi 59.38 325 P **P** **05 08 56.9 -1.4**
MAKZ pmax pmax
comp=Z,4.0nm,1.0s
DPC Dobruska-Polom 60.01 14 *e*P **P** **05 09 02.6 0.0**
DPC Dobruska-Polom 60.01 14 *e*P **P** **05 09 02.6 0.0**
AKASG Malin Array Be 60.40 5 P **P** **05 09 04.5 -0.6**
comp=Z,5.4nm,0.6s,baz=359,slow=6.9,SNR=13
comp=Z,5.4nm,0.6s
AKASG Malin Array Be 60.40 5 *i* P **P** **05 09 08.3 +3.1**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 60.40 5 P **P** **05 09 04.5 -0.7**
AKBB Malin Array Si 60.40 5 *c*eP **P** **05 09 07.5 +2.3**
AKBB pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 60.41 5 P **P** **05 09 04.0 -1.2**
KIEV Kiev 60.41 5 P **P** **05 09 04.0 -1.2**
KIEV pmax pmax
comp=Z,7.0nm,0.8s
AB31 Akbulak array 60.55 342 P **P** **05 09 06.1 -0.1**
ABKAR Akbulak array 60.55 342 P **P** **05 09 05.4 -0.8**
KHC Kasperske Hory 60.96 16 *e*pP pP 05 09 14.3 +1.6
KHC Kasperske Hory 60.96 16 *e*P P 05 09 14.3 +5.2
GERES GERESS Array B 61.26 16 P **P** **05 09 09.3 -1.9**
comp=Z,0.4nm,0.3s,baz=352,slow=6.0,SNR=8.0
comp=Z,0.4nm,0.3s
GTA Gaotai 61.94 308 *e*P **P** **05 09 20.1 +4.2**
GTA pmax pmax
comp=Z,6.0nm,1.4s
GTA LR LR
comp=N,170nm,18.2s
GTA LR LR
comp=E,250nm,17.4s
GTA LR LR
comp=Z,220nm,18.9s
CONA Conrad Observa 62.37 15 *e*P **P** **05 09 16.8 -1.9**
comp=Z,1.5nm,0.7s
RONA Rosalia, Austr 62.64 14 *e*pP pP 05 09 21.7 -2.4
comp=Z,2.6nm,0.7s
NJ2 Nanjing 62.72 288 *e*P **P** **05 09 19.6 -1.5**
NJ2 pmax pmax
comp=Z,13nm,0.5s
KBA Koelnbreinsper 62.97 17 *e*pP **P** **05 09 21.9 -0.8**
MYKA Terra Mystica 63.44 17 *e*pP **P** **05 09 25.7 -0.1**
comp=Z,1.8nm,0.7s
OBKA Obir 63.65 16 *e*pP **P** **05 09 28.0 +0.7**
comp=Z,8.9nm,1.1s
LZH Lanzhou 63.84 303 *e*P **P** **05 09 30.0 +1.3**
LZH pP sP 05 09 37.7 +4.0
LZH sP pP 05 09 41.9 +10
LZH pmax pmax
comp=Z,26nm,1.2s
XAN Xi'an 64.17 298 P **P** **05 09 31.8 +1.1**
XAN pmax pmax
comp=Z,7.0nm,0.5s
AAK Ala-Archa 64.86 329 *i* P **P** **05 09 36.8 +1.5**
AAK pmax pmax
comp=Z,14nm,3.4s
KIV Kislovodsk 67.11 354 *e*P **P** **05 09 52.3 +2.7**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 67.33 354 P **P** **05 09 49.3 -1.5**
comp=Z,1.2nm,0.7s,baz=162,slow=3.8,SNR=5.7
comp=Z,1.2nm,0.7s
KBZ Khabaz 67.33 354 *i* P **P** **05 09 54.6 +3.8**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
ESDC Sonseca Array 67.68 32 P **P** **05 09 52.4 -0.9**
comp=Z,1.4nm,0.8s,baz=345,slow=6.2,SNR=9.5
comp=Z,1.4nm,0.8s
BRTR Keskin Array B 71.46 1 P **P** **05 10 16.7 0.0**
comp=Z,1.4nm,0.8s,baz=357,slow=4.9,SNR=6.2
comp=Z,1.4nm,0.8s
BRTR Keskin Array B 71.46 1 *i* P **P** **05 10 20.7 +4.0**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
PZH PanZhiHua 73.41 301 P **P** **05 10 29.2 +0.7**
KEST Kesra 73.69 22 P **P** **05 10 30.2 +0.3**
comp=Z,4.4nm,0.8s,baz=318,slow=5.0,SNR=4.7
comp=Z,4.4nm,0.8s
CMAR Chiang Mai Arr 81.82 301 P **P** **05 11 15.1 -0.3**
comp=Z,0.5nm,0.3s,baz=22,slow=4.8,SNR=4.6
comp=Z,0.5nm,0.3s
VNDA Vanda 149.87 200 PKPbc **PKPbc** **05 18 44.2 -0.3**
comp=Z,0.5nm,0.8s,baz=21,slow=3.6,SNR=2.5
QSPA South Pole Qui 158.27 180 PKPab **PKPab** **05 19 29.6 +0.3**
comp=Z,1.2nm,0.9s,baz=165,slow=0.4,SNR=6.0

*IDC **03** 04:59:33.8±5.2,20.°32S×175.°60W,h174km±41km, mb3.2/4, mbtmp3.8/6, Error ellipse: s-maj=43.7km s-min=31.3km az=128.0*
ISC 03 04:59:36.5±1.2,**20.°2S**±0.°2×**175.°8W**±0.°2,**h200**km,**n8,**
σ1°15/9,mb3.3/4,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.35**	**292**	P		**P**	**Pn**	**05 01 07.6**	**-0.8**
	7.5nm,0.8s,baz=135,slow=17,SNR=7.9								
DZM	**Mont Dzumac**	**16.70**	**261**	P		P	**Pn**	**05 03 20.0**	**+0.7**
	4.1nm,0.5s,baz=79,slow=17,SNR=14								
ASAR	**Alice Springs**	**46.62**	**256**	P		**P**		**05 07 46.8**	**+1.7**
	1.1nm,0.7s,baz=88,slow=8.2,SNR=14								
ASAR				PcP		**PcP**	**PcP**	**05 09 15.8**	**+0.2**
	0.4nm,0.8s,baz=103,slow=4.1,SNR=1.8								
	1.1nm,0.7s								
WRA	**Warramunga Arr**	**46.71**	**261**	P		**P**		**05 07 45.3**	**-0.5**
	0.3nm,0.3s,baz=96,slow=7.6,SNR=10.0								
	0.3nm,0.3s								
QSPA	**South Pole Qui**	**69.84**	**180**	P		**P**		**05 10 24.6**	**-0.7**
	0.7nm,0.9s,baz=12,slow=5.3,SNR=1.1								
	0.7nm,0.9s								
ILAR	**Eielson Array**	**87.60**	**12**	P		**P**		**05 12 02.6**	**+1.1**
	0.3nm,0.9s,baz=207,slow=9.9,SNR=2.4								
	0.3nm,0.9s								
BRTR	**Keskin Array B**	**148.18**	**314**	PKPbc		**PKiKP**	**PKiKP**	**05 18 59.4**	**-1.3**
	0.3nm,0.6s,baz=62,slow=3.5,SNR=1.9								
GERES	**GERESS Array B**	**150.45**	**347**	PKPbc		**PKiKP**	**PKiKP**	**05 19 04.5**	**-0.5**
	0.4nm,0.5s,baz=25,slow=3.5,SNR=3.8								

*SCB **03** 05:00:05.9±1.4,21.°26S×66.°59W,h238km±9km, ML3.6/3, MW2.5, Error ellipse: s-maj=5.3km s-min=4.7km az=1.0*
ISC 03 05:00:07.9±1.4,**21.°26S**±0.°06×**66.°64W**±0.°06,**h219**km,**n21,**
σ0°82/27,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**0.94**	**89**	Pg		**Pn**	**Pn**	**05 00 40.1**	**+0.2**
MOCB				Sg		**S**	**S**	**05 01 04.7**	**+0.1**
MOCB				IAML				05 01 06.2	
	254nm,0.5s								
YJA	**Yavi**	**1.39**	**131**	Pg			**Pn**	**05 00 43.3**	**+0.4**
PB09	**IPOC Station P**	**2.48**	**257**	Pg			**Pn**	**05 00 53.8**	**+0.8**
PB08	**IPOC Station P**	**2.60**	**295**	Pg			**Pn**	**05 00 55.3**	**+0.7**
PB01	**IPOC Station P**	**2.66**	**274**	*e*P			**Pn**	**05 00 55.2**	**+0.2**
PB01				*i* S			**S**	**05 01 33.2**	**+1.7**
PB01	**IPOC Station P**	**2.66**	**274**	Pg			**Pn**	**05 00 55.9**	**+1.0**
PB01				Sg			**S**	**05 01 32.9**	**+1.5**
PB01				IAML				05 01 35.1	
	59nm,0.2s								
GO01	**Chusmiza**	**2.87**	**303**	Pg			**Pn**	**05 00 58.0**	**+0.3**
SOEO	**Opoqueri**	**2.93**	**336**	Pg			**Pn**	**05 00 58.5**	**+0.1**
PB06	**IPOC Station P**	**3.07**	**242**	Pg			**Pn**	**05 01 00.1**	**+0.5**
PB11	**IPOC Station P**	**3.20**	**297**	*e*P			**Pn**	**05 01 00.7**	**-0.4**
PB11				*i* S			**S**	**05 01 41.9**	**-0.5**
PB11				IAML				05 01 45.0	
	comp=N,239nm,0.1s								
PB11	**IPOC Station P**	**3.20**	**297**	Pg			**Pn**	**05 01 00.8**	**-0.3**
PB11				Sg			**S**	**05 01 42.3**	**-0.1**
PB11				IAML				05 01 44.8	
	comp=N,261nm,0.4s								
SOET	**ToroToro**	**3.23**	**14**	Pg			**Pn**	**05 01 00.8**	**-0.9**
TA02	**Huaiquique**	**3.41**	**286**	*e*P			**Pn**	**05 01 02.4**	**-1.0**
TA02				*i* S			**S**	**05 01 45.1**	**-1.6**
PB05	**IPOC Station P**	**3.66**	**244**	Pg			**Pn**	**05 01 05.4**	**-1.1**
PB16	**IPOC Station P**	**3.97**	**317**	Pg			**Pn**	**05 01 11.1**	**+0.4**
PB10	**IPOC Station P**	**4.26**	**238**	Pg			**Pn**	**05 01 12.6**	**-1.0**
BBOJ	**La Paz, Jacaqu**	**4.51**	**341**	Pg			**Pn**	**05 01 17.8**	**+0.5**
PB14	**IPOC Station P**	**4.82**	**225**	Pg			**Pn**	**05 01 20.0**	**-0.8**
BBOD	**La Paz, Gloria**	**4.96**	**338**	Pg			**Pn**	**05 01 23.2**	**+0.3**
LPAZ	**La Paz**	**5.15**	**344**	Pg			**Pn**	**05 01 25.2**	**-0.1**
BBOB	**La Paz, Bander**	**5.29**	**344**	Pg			**Pn**	**05 01 26.4**	**-0.6**

*RSNC **03** 05:17:07.5±0.4,6.°N±2.°×8.°2W±.°, h0km, M4.0, mb4.3, mB5.2, ML3.1, MLv3.9, Mw(mB)4.5*
*UCR **03** 05:17:08.4±1.3,5.°62N×82.°55W, h35km±34km, MW3.5*
ISC 03 05:17:06.3±1.4,**5.°55N**±0.°07×**82.°66W**±0.°08,**h15**km,**n88,**
σ1°94/103,**2C-5D,South of Panama**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GMAL	**Guarumal, Vera**	**2.61**	**33**	*e*P			**Pn**	**05 17 47.1**	**-0.9**
GMAL	**Guarumal, Vera**	**2.61**	**33**	P			**Pn**	**05 17 46.2**	**-1.8**
GMAL				S			**Sn**	**05 18 16.3**	**-3.2**
CSTBL	**De las Acacias**	**2.85**	**4**	*e*P			**Pn**	**05 17 50.6**	**-0.7**
NELY	**Ciudad Neily**	**3.09**	**355**	*i*P			**Pn**	**05 17 53.9**	**-0.7**
NELY				*e*S			**Sn**	**05 18 29.7**	**-1.6**
CLLRA	**Cordillera,**	**3.17**	**1**	*e*P			**Pn**	**05 17 55.4**	**-0.4**
CLLRA				*e*S			**Sn**	**05 18 32.9**	**-0.6**
BQTLY	**Boquete Panama**	**3.19**	**3**	*e*P			**Pn**	**05 17 55.6**	**-0.5**
BRU2	**Volcan**	**3.22**	**359**	*e*P			**Pn**	**05 17 54.2**	**-2.3**
BRU2				*e*S			**Sn**	**05 18 32.9**	**-1.8**
AZU	**Azuero**	**3.25**	**47**	*i*P			**Pn**	**05 17 56.5**	**-0.3**
AZU				*e*S			**Sn**	**05 18 31.5**	**-3.7**
AZU	**Azuero**	**3.25**	**47**	P			**Pn**	**05 17 56.1**	**-0.6**
AZU				S			**Sn**	**05 18 32.1**	**-3.1**
RSRNO	**Rio Sereno**	**3.25**	**356**	*e*P			**Pn**	**05 17 57.1**	**+0.2**
RBALA	**Bur**	**3.34**	**9**	*e*P			**Pn**	**05 17 57.8**	**-0.2**
PBNVO	**Pueblo Nuevo,**	**3.35**	**8**	*e*P			**Pn**	**05 17 57.3**	**-0.9**
KKNTU	**Kakint²**	**3.37**	**14**	*e*P			**Pn**	**05 17 57.5**	**-1.0**
ALCO	**Alturas Coton,**	**3.38**	**357**	*e*P			**Pn**	**05 17 58.2**	**-0.5**
EDPE	**Pejibaye, P**	**3.70**	**346**	*e*P			**Pn**	**05 18 02.4**	**-0.6**
EDPE				*e*S			**Sn**	**05 18 45.3**	**-1.0**
DRK0	**Durika**	**3.73**	**351**	*e*P			**Pn**	**05 18 03.3**	**-0.3**
SAJE	**San Jernim**	**3.86**	**347**	*e*P			**Pn**	**05 18 04.9**	**-0.5**
LLNJ	**Naranjito**	**4.15**	**340**	*e*P			**Pn**	**05 18 08.8**	**-0.4**
PIEC	**Cerro El Cedra**	**4.24**	**342**	*e*P			**Pn**	**05 18 10.7**	**0.0**
PITB	**Pirrs, San**	**4.30**	**342**	*e*P			**Pn**	**05 18 11.7**	**+0.3**
PISJ	**San Jernim**	**4.30**	**340**	*e*P			**Pn**	**05 18 11.2**	**-0.2**
PAR1A	**Puntarenas Pro**	**4.32**	**339**	*e*P			**Pn**	**05 18 11.2**	**-0.3**
PAR1A				*e*S			**Sn**	**05 18 58.0**	**-3.6**
PICV	**PH. Pirrs**	**4.33**	**339**	*e*P			**Pn**	**05 18 11.1**	**-0.5**
ABE2	**San Pablo**	**4.35**	**342**	*e*P			**Pn**	**05 18 12.2**	**+0.1**
ZANG	**Zanguenga, Cho**	**4.37**	**39**	*e*P			**Pn**	**05 18 13.9**	**+1.7**
LCR2	**La Lucha 2**	**4.37**	**342**	*i*P			**Pn**	**05 18 12.2**	**-0.2**
VERH	**Veragua Rainfo**	**4.38**	**353**	*e*P			**Pn**	**05 18 13.0**	**+0.7**
REPA	**Paraso**	**4.41**	**344**	*e*P			**Pn**	**05 18 13.7**	**+0.8**
ACOS	**Acosta**	**4.47**	**341**	*e*P			**Pn**	**05 18 12.7**	**-1.0**
PCAYA	**Pacayas**	**4.48**	**345**	*e*P			**Pn**	**05 18 14.5**	**+0.5**
RVSTA	**Santa Teresita**	**4.50**	**347**	*e*P			**Pn**	**05 18 14.5**	**+0.4**
RAFA	**San Farael, Vo**	**4.52**	**345**	*e*P			**Pn**	**05 18 11.3**	**-3.3**
VTCV	**VTCV, Calle Va**	**4.53**	**347**	*e*P			**Pn**	**05 18 15.0**	**+0.4**
BCIP	**Isla Barro Col**	**4.55**	**38**	P			**Pn**	**05 18 16.0**	**+1.3**
BCIP				S			**Sn**	**05 19 06.8**	**-0.6**
CVTV	**Tajo**	**4.55**	**346**	*e*P			**Pn**	**05 18 15.4**	**+0.4**
RESJ	**San Isidro (Tu**	**4.55**	**348**	*e*P			**Pn**	**05 18 15.7**	**+0.9**
CVTQ	**Turrialba Volc**	**4.56**	**346**	*e*P			**Pn**	**05 18 15.9**	**+0.8**
VICA	**Volcano Irazu**	**4.56**	**345**	*e*P			**Pn**	**05 18 15.9**	**+0.8**
VTLA	**Turrialba Volc**	**4.56**	**346**	*e*P			**Pn**	**05 18 15.2**	**+0.1**
VTR0	**Volcan Turrial**	**4.57**	**346**	*e*P			**Pn**	**05 18 16.8**	**+1.5**
IRES	**Siquirres**	**4.59**	**350**	*e*P			**Pn**	**05 18 17.1**	**+1.8**
SANTA	**Santa Ana**	**4.61**	**341**	*e*P			**Pn**	**05 18 15.2**	**-0.4**
CVIMO	**Finca Echandi**	**4.62**	**344**	*e*P			**Pn**	**05 18 15.2**	**-0.7**
BELE	**Belen**	**4.65**	**341**	*e*P			**Pn**	**05 18 16.4**	**+0.3**
CBL1	**Cabuya**	**4.68**	**329**	*e*P			**Pn**	**05 18 16.0**	**-0.5**
VBV1	**V. Barva**	**4.75**	**343**	*e*P			**Pn**	**05 18 18.0**	**+0.3**
VPL2	**V. Platanar**	**5.02**	**340**	*e*P			**Pn**	**05 18 22.0**	**+0.7**
PTAC	**Punta Ardita,**	**5.07**	**72**	P			**Pn**	**05 18 24.1**	**+2.2**
PTAC				S			**Sn**	**05 19 17.8**	**-2.5**
GR1C	**Gorgona, Isla**	**5.14**	**119**	P			**Pn**	**05 18 23.8**	**+1.0**
GR1C				S			**Sn**	**05 19 18.0**	**-4.0**
SOCE	**Pocosol**	**5.18**	**338**	*e*P			**Pn**	**05 18 24.4**	**+1.0**
CMARA	**Lajas Hojancha**	**5.22**	**328**	*e*P			**Pn**	**05 18 23.3**	**-0.6**
JTS	**Las Juntas de**	**5.23**	**334**	*e*P			**Pn**	**05 18 24.1**	**+0.1**
JTS	**Las Juntas de**	**5.23**	**334**	P			**Pn**	**05 18 23.7**	**-0.3**
	0.1nm17nm,0.7s								
JTS				S			**Sn**	**05 19 21.9**	**-2.2**
	0.1nm17nm,0.7s								
SOLC	**Bahia Solano**	**5.26**	**82**	P			**Pn**	**05 18 25.7**	**+1.2**
SOLC				S			**Sn**	**05 19 19.7**	**-5.3**
FORC	**Fortuna**	**5.27**	**338**	*e*P			**Pn**	**05 18 25.6**	**+1.0**
VACR	**Volcan Arenal**	**5.28**	**338**	*e*P			**Pn**	**05 18 25.9**	**+1.1**
ARE1	**Arenal 1**	**5.29**	**337**	*e*P			**Pn**	**05 18 25.8**	**+1.0**
VARE2	**V. Arenal**	**5.29**	**337**	*e*P			**Pn**	**05 18 25.8**	**+0.9**
TABAC	**Tabacon**	**5.34**	**337**	*e*P			**Pn**	**05 18 25.9**	**+0.3**
INVE	**Universidad In**	**5.44**	**334**	*e*P			**Pn**	**05 18 28.6**	**+1.6**
PLVR	**Palo Verde**	**5.46**	**331**	*e*P			**Pn**	**05 18 26.3**	**-1.0**
TIMP	**Tierras Morena**	**5.52**	**335**	*e*P			**Pn**	**05 18 28.8**	**+0.7**
MALC	**Bahia Malaga**	**5.52**	**106**	P			**Pn**	**05 18 30.6**	**+2.6**
CUI	**Cuipilapa**	**5.65**	**334**	*e*P			**Pn**	**05 18 30.0**	**+0.2**
COLC	**Colonia**	**5.67**	**334**	*e*P			**Pn**	**05 18 31.4**	**+1.3**
MESS	**Mesas**	**5.73**	**334**	*e*P			**Pn**	**05 18 32.1**	**+1.1**
ALIBA	**Liberia Airpor**	**5.77**	**330**	*e*P			**Pn**	**05 18 32.8**	**+1.4**
GPS3	**Bodega del ICE**	**5.82**	**333**	*e*P			**Pn**	**05 18 35.1**	**+2.9**
VRLE	**La Escondida,**	**5.85**	**333**	*e*P			**Pn**	**05 18 33.9**	**+1.3**
LAPC	**Finca la Perla**	**5.86**	**332**	*e*P			**Pn**	**05 18 34.0**	**+1.2**
PG27	**Guanacaste Pro**	**5.91**	**333**	*e*P			**Pn**	**05 18 35.6**	**+2.2**
PLMC	**San Jos del P**	**6.38**	**95**	P			**Pn**	**05 18 42.5**	**+2.6**
PLMC				S			**Sn**	**05 19 52.2**	**-0.4**
JAMC	**Jamundi, Valle**	**6.40**	**111**	P			**Pn**	**05 18 42.4**	**+2.1**
JAMC				S			**Sn**	**05 19 50.9**	**-2.5**
BBAC	**Balboa, Cauca**	**6.44**	**123**	P			**Pn**	**05 18 41.8**	**+1.0**
	953nm22nm,0.5s								
YOTC	**Yotoco, Valle**	**6.48**	**104**	P			**Pn**	**05 18 43.4**	**+2.1**
	540nm12nm,0.5s								
POPC	**Popayan, Colom**	**6.67**	**116**	P			**Pn**	**05 18 46.1**	**+2.0**
	14nm,0.5s								
POPC				S			**Sn**	**05 19 57.0**	**-3.1**
	14nm,0.5s								
OTAV	**Otavalo**	**6.75**	**141**	P			**Pn**	**05 18 46.3**	**+1.0**
	2.5nm,0.6s								
GCUF	**Volcan Galeras**	**6.83**	**129**	P			**Pn**	**05 18 49.9**	**+3.5**
	15nm,0.4s								
ACON	**Acoyapa**	**6.84**	**339**	P			**Pn**	**05 18 45.9**	**-0.3**
	13nm,1.2s								
CRUC	**La Cruz**	**6.94**	**125**	P			**Pn**	**05 18 51.4**	**+3.6**
HELC	**Santa Helena**	**7.12**	**85**	P			**Pn**	**05 18 53.2**	**+2.9**
GUY2C	**Guyana, Caldas**	**7.27**	**92**	P			**Pn**	**05 18 56.7**	**+4.2**
ANIL	**Santa Ana**	**7.30**	**98**	P			**Pn**	**05 18 56.9**	**+4.1**
UREC	**San Jos de Ur**	**7.41**	**72**	P			Pn	05 18 59.0	+5.0
ORTC	**Ortega, Tolima**	**7.56**	**102**	P			**Pn**	**05 19 00.3**	**+4.1**
GARC	**Garzon, Huila**	**7.89**	**115**	P			**Pn**	**05 19 05.4**	**+4.6**
PRAC	**Prado**	**7.96**	**103**	P			**Pn**	**05 19 05.7**	**+4.1**
FLOC	**Florencia**	**8.03**	**119**	P			**Pn**	**05 19 06.9**	**+4.4**

WEL 03 05:20:09.6±1.4,**34.°S**±7.°×**18.°0E**±1.°4,**h12**km,**M4.4**/11,
mB4.9/2,ML4.5/15,**MLv4.4**/11,**Mw(mB)4.2/2,Error ellipse: s-maj=18.4km s-min=9.2km az=81.3,confirmed, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**4.05**	**193**	P			Pn	05 21 11.8	+0.4
WMGZ				S			Sn	05 22 01.8	+3.0
HAZ	**Te Kaha**	**4.14**	**200**	P			Pn	05 21 12.1	-0.5
PKGZ	**Pakihiroa**	**4.17**	**196**	P			Pn	05 21 12.2	-0.8
PKGZ				S			Sn	05 22 02.6	+0.9
PUZ	**Puketiti**	**4.33**	**194**	P			Pn	05 21 15.0	-0.2
PUZ				S			Sn	05 22 05.4	-0.2
RUGZ	**Raukumara Rang**	**4.37**	**200**	P			Pn	05 21 16.4	+0.6
TWGZ	**Tauwhareparae**	**4.49**	**196**	P			Pn	05 21 18.1	+0.7
TWGZ				S			Sn	05 22 11.0	+1.4
CNGZ	**Carnagh Statio**	**4.74**	**193**	P			Pn	05 21 19.4	-1.4
MWZ	**Matawai**	**4.75**	**200**	P			Pn	05 21 21.4	+0.3
WCZ	**Waipu Caves**	**4.75**	**243**	P			Pn	05 21 21.0	0.0
TKGZ	**Te Karaka**	**4.77**	**196**	P			Pn	05 21 21.0	-0.3
URZ	**Urewera**	**4.81**	**204**	P			Pn	05 21 21.6	-0.2
URZ				S			Sn	05 22 16.5	-0.9
RIGZ	**Rimuhau**	**5.04**	**196**	P			Pn	05 21 24.5	-0.6
TOZ	**Tahuroa Road**	**5.07**	**219**	P			Pn	05 21 24.9	-0.5
OUZ	**Omahuta**	**5.10**	**253**	P			Pn	05 21 24.9	-0.8
SNGZ	**Shannon Statio**	**5.22**	**199**	P			Pn	05 21 28.1	+0.6
KNZ	**Kokohu**	**5.37**	**196**	P			Pn	05 21 27.9	-1.5
BKZ	**Black Stump Fm**	**5.83**	**204**	P			Pn	05 21 35.6	-0.3
HIZ	**Hauiti**	**5.99**	**218**	P			Pn	05 21 39.8	+1.7
VRZ	**Vera Road**	**6.51**	**215**	P			Pn	05 21 47.4	+2.2

*IDC **03** 05:27:07.4±1.6,18.°25S×178.°24W,h504km±14km, mb3.1/6, mbtmp3.9/7, Error ellipse: s-maj=29.0km s-min=20.5km az=148.0*
ISC 03 05:27:06.9±0.9,**18.°2S**±0.°2×**178.°2W**±0.°1,**h500**km,**n9,**
σ0°69/12,mb3.4/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.63**	**277**	P		**P**	**P**	**05 28 22.1**	**-0.4**
	3.1nm,0.4s,baz=141,slow=21,SNR=6.2								
MSVF				S		**S**	**S**	**05 29 25.3**	**+1.2**
	2.1nm,0.4s,baz=107,slow=19,SNR=1.1								
STKA	**Stephens Creek**	**38.67**	**242**	P		**P**	**P**	**05 33 47.3**	**+0.2**
	1.8nm,0.5s,baz=90,slow=10,SNR=4.1								
	1.8nm,0.5s								
WRA	**Warramunga Arr**	**44.79**	**260**	P		**P**	**P**	**05 34 34.4**	**-1.4**
	0.6nm,0.6s,baz=97,slow=6.4,SNR=12								
WRA				PcP		**PcP**	**PcP**	**05 36 07.7**	**+0.3**
	0.3nm,0.6s,baz=86,slow=4.3,SNR=1.7								
	0.6nm,0.6s								
ASAR	**Alice Springs**	**44.92**	**255**	P		**P**	**P**	**05 34 36.4**	**-0.4**
	5.3nm,0.5s,baz=90,slow=8.3,SNR=86								
ASAR				PcP		**PcP**	**PcP**	**05 36 07.7**	**0.0**
	0.3nm,0.5s,baz=103,slow=3.2,SNR=2.7								
	5.3nm,0.5s								
QSPA	**South Pole Qui**	**71.82**	**180**	P		**P**	**P**	**05 37 38.5**	**+0.3**
	1.0nm,0.5s,baz=100,slow=12,SNR=12								
	1.0nm,0.5s								
TXAR	**Lajitas Array**	**85.98**	**58**	P		**P**	**P**	**05 38 54.0**	**-0.2**
	0.3nm,0.6s,baz=220,slow=6.9,SNR=6.4								
	0.3nm,0.6s								
PDAR	**Pinedale Array**	**87.44**	**43**	P		**P**	**P**	**05 39 01.1**	**+0.1**
	0.3nm,0.6s,baz=226,slow=4.7,SNR=2.6								
	0.3nm,0.6s								
BRTR	**Keskin Array B**	**145.17**	**315**	PKPbc		**PKPdf**	**PKPdf**	**05 45 47.9**	**+0.4**
	0.7nm,0.5s,baz=142,slow=2.8,SNR=3.6								
GERES	**GERESS Array B**	**147.99**	**345**	PKPbc		**PKPbc**	**PKPbc**	**05 45 55.8**	**+0.1**
	1.4nm,0.5s,baz=35,slow=3.3,SNR=8.4								

*CATAC **03** 05:40:24.8±0.3,10.°N±2.°×8.°5W±.°, h4km±1km, M3.6/16, MLv3.6/16, Error ellipse: s-maj=5.2km s-min=2.6km az=36.4, confirmed*
*UCR **03** 05:40:26.0±1.2,9.°65N×84.°93W, h22km±2km, MW3.6*
ISC 03 05:40:25.4±1.0,**9.°63N**±0.°03×**84.°92W**±0.°02,**h14**km±8km,
n142,σ0°64/187,**5C-49D,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBL1	**Cabuya**	**0.17**	**257**	*i*P			**Pb**	**05 40 30.7**	**+0.3**
CBL1				*e*S			**Sb**	**05 40 34.8**	**+1.0**
PAQE	**Paquera**	**0.19**	**356**	*e*P			**Pb**	**05 40 30.9**	**+0.2**
PAQE				*e*S			**Sb**	**05 40 34.9**	**+0.7**
ROBF	**Roble, Puntare**	**0.39**	**27**	*i*P			**Pb**	**05 40 34.1**	**0.0**
ROBF				*e*S			**Sb**	**05 40 40.5**	**+0.5**
ARZA	**Esparza**	**0.44**	**35**	*i*P			**Pg**	**05 40 34.6**	**+0.5**
ARZA				*e*S			**Sb**	**05 40 41.5**	**+0.1**
OROT	**Orotina**	**0.48**	**54**	*i*P			**Pg**	**05 40 35.3**	**+0.4**
OROT				*e*S			**Sb**	**05 40 42.4**	**-0.2**
INDI	**Punta indio, G**	**0.62**	**292**	P			**Pg**	**05 40 37.8**	**+0.2**
**SRA1

LCR2	La Lucha 2	0.91	83	P		Pg	05 40 42.5	-0.5	
SJS3	Mercedes San J	0.91	70	eP		Pg	05 40 42.0	-1.0	
LUPE	Guadalupe	0.91	70	⇓eP		Pg	05 40 42.7	-0.3	
LUPE				eS		Sb	05 40 55.8	+0.7	
SACU	Santa Cruz	0.91	314	eP		Pg	05 40 42.4	-0.6	
VBV1	V. Barva	0.94	59	⇓eP		Pg	05 40 43.4	-0.3	
PIEC	Cerro El Cedra	0.95	90	eP		Pg	05 40 43.4	-0.4	
TRIO	Tres Rios	0.95	73	eP		Pg	05 40 43.4	-0.5	
TIMP	Tierras Morena	0.95	354	⇓eP		Pb	05 40 43.1	-0.6	
BAGA	Bagaces	0.95	339	⇓eP		Pb	05 40 43.5	-0.2	
BAGA				eS		Sg	05 40 56.9	+0.5	
CORON	Coronado	0.97	69	eP		Pg	05 40 43.0	-1.1	
QUEB	Quebradon, Cot	0.99	1	eP		Pb	05 40 43.9	-0.5	
TAGO	Cartago	1.01	76	eP		Pb	05 40 44.4	-0.4	
CVIMO	Finca Echandi	1.04	68	⇓eP		Pb	05 40 45.0	-0.3	
CVIMO				eS		Sn	05 40 60.0	-0.2	
CUI	Cuipilapa	1.05	347	⇓eP		Pb	05 40 44.9	-0.5	
CUI				eS		Sb	05 40 59.0	-0.1	
REPA	Paraso	1.05	79	eP		Pb	05 40 45.1	-0.4	
MOTZ	Rio Naranjo	1.06	352	⇓iP		Pb	05 40 45.3	-0.3	
MOTZ				eS		Sg	05 41 00.2	+0.4	
COLC	Colonia	1.07	345	⇓eP		Pb	05 40 45.0	-0.7	
TENO	El Achiote	1.07	357	⇓eP		Pb	05 40 44.6	-1.2	
HORNC	Hornillas	1.11	347	⇓eP		Pb	05 40 45.7	-0.7	
HORNC				eS		Sb	05 41 00.2	-0.5	
VICA	Volcano Irazu	1.12	71	eP		Pb	05 40 46.5	-0.3	
PCAYA	Pacayas	1.13	75	⇓eP		Pb	05 40 46.5	-0.3	
ALIBA	Liberia Airpor	1.14	327	⇑iP		Pb	05 40 46.8	-0.1	
ALIBA				eS		Sn	05 41 04.2	+1.8	
RAFA	San Farael, Vo	1.14	73	eP		Pb	05 40 47.1	0.0	
VINA	Juan Vinas	1.19	77	⇑iP		Pn	05 40 47.6	-0.1	
VINA				eS		Sg	05 41 03.7	-0.1	
ELI1	Hacienda Flor	1.19	328	eP		Pn	05 40 47.3	-0.3	
ELI1				eS		Sg	05 41 04.5	+0.7	
VTLA	Turrialba Volc	1.19	72	eP		Pb	05 40 47.9	0.0	
VMAR	Armenia, Volca	1.19	351	⇓iP		Pn	05 40 47.3	-0.4	
VMAR				eS		Sb	05 41 03.1	0.0	
CVTQ	Turrialba Volc	1.20	72	eP		Pg	05 40 48.9	+0.4	
GPS2	Hotel Rincn d	1.20	339	⇓eP		Pn	05 40 47.2	-0.5	
COVE	Coope Vega, Sa	1.20	25	S		Sg	05 41 04.8	+0.7	
COVE	Coope Vega, Sa	1.20	25	P		Pn	05 40 47.0	-0.7	
GPS3	Bodega del ICE	1.20	339	⇑iP		Pg	05 40 48.8	+0.2	
GPS3				eS		Sg	05 41 06.3	+2.0	
SARA	Sarapiqu	1.21	47	eP		Pn	05 40 47.6	-0.3	
VTR0	Volcan Turrial	1.21	71	eP		Pg	05 40 48.6	-0.1	
CVTV	Tajo	1.21	72	eP		Pn	05 40 48.4	+0.1	
GPS1	Guardaparques	1.22	340	eP		Pn	05 40 47.5	-0.6	
VERA	Finca Concepci	1.22	2	⇓iP		Pn	05 40 47.8	-0.3	
VTCV	VTCV, Calle Va	1.23	73	eP		Pn	05 40 48.5	+0.1	
VRLE	La Escondida,	1.23	339	⇓eP		Pn	05 40 47.8	-0.6	
LAPC	Finca la Perla	1.24	336	⇓eP		Pn	05 40 47.7	-0.7	
LAPC				eS		Sb	05 41 04.9	+0.4	
TURIB	Turrialba	1.25	77	eP		Pn	05 40 47.5	-0.9	
VERB	Verbena	1.25	75	eP		Pn	05 40 47.0	-1.6	
VORI	VORI	1.25	340	eP		Pn	05 40 48.3	-0.4	
PILE	Guapiles	1.26	62	eP		Pn	05 40 48.9	+0.3	
PG27	Guanacaste Pro	1.29	339	eP		Pn	05 40 48.6	-0.5	
RVSTA	Santa Teresita	1.30	75	eP		Pb	05 40 49.7	+0.1	
PEJA	Penjamo Buenos	1.32	343	eP		Pn	05 40 49.4	0.0	
OCHAL	Ojochal	1.36	113	S		Sn	05 41 06.7	-1.2	
OCHAL	Ojochal	1.36	113	P		Pn	05 40 48.9	-1.1	
CARI	Cariari	1.38	58	⇓iP		Pg	05 40 52.0	+0.1	
RVLA	Villa Bonita	1.40	70	eP		Pb	05 40 51.5	+0.3	
EDPE	Pejibaye, P	1.41	109	eP		Pn	05 40 50.1	-0.6	
LCHIL	Los Chiles	1.41	8	eP		Pb	05 40 51.8	+0.2	
SAJE	San Jernim	1.42	101	eP		Pn	05 40 50.3	-0.6	
TRT2	Tortugero	1.49	52	eP		Pn	05 40 52.1	+0.4	
TRT2	Tortugero	1.49	52	P		Pn	05 40 52.1	+0.4	
LCRUZ	La Cruz	1.60	334	eP		Pn	05 40 53.5	+0.2	
BURE	Buenos Aires	1.62	106	eP		Pn	05 40 53.6	0.0	
CARN	Rivas	1.66	339	eP		Pb	05 40 55.4	-0.4	
CARN	Rivas	1.66	339	P		Pb	05 40 55.4	-0.4	
CARN				S		Sb	05 41 17.9	+1.4	
DRK0	Durika	1.69	102	⇓eP		Pn	05 40 54.2	-0.5	
DRK0	Durika	1.69	102	S		Sn	05 41 16.2	0.0	
DRK0	Durika	1.69	102	P		Pn	05 40 54.4	-0.3	
ALCO	Alturas Coton,	2.17	108	eP		Pn	05 41 00.7	-0.6	
CDITO	Canoas	2.28	117	P		Pn	05 41 02.9	+0.3	
ACON	Acoyapa	2.34	354	eP		Pn	05 41 03.5	+0.1	
ACON	Acoyapa	2.34	354	P		Pn	05 41 03.6	+0.1	
ACON	Acoyapa	2.34	354	S		Sb	05 41 34.7	-1.4	
BRU2	Volcan	2.35	110	P		Pn	05 41 04.7	+0.9	
BRU2	Volcan	2.35	110	S		Sn	05 41 32.9	+0.3	
NANN	Nandasmo	2.58	333	P		Pb	05 41 09.6	-1.9	
NANN	Nandasmo	2.58	333	S		Sb	05 41 42.0	-1.1	
BLUN	Bluefields	2.62	25	eP		Pn	05 41 08.1	+0.8	
BLUN	Bluefields	2.62	25	P		Pn	05 41 07.5	+0.2	
BLUN				S		Sn	05 41 41.3	+2.4	
ESPN	Las Esperanzas	2.62	13	P		Pn	05 41 08.3	+0.9	
ESPN	Las Esperanzas	2.62	13	S		Sb	05 41 42.7	-1.6	
RBALA	Bur	2.83	105	eP		Pn	05 41 09.7	-0.5	
BOAB	BOACO BROADBAN	2.90	345	S		Sb	05 41 49.8	-2.4	
BOAB	BOACO BROADBAN	2.90	345	P		Pn	05 41 11.1	-0.1	
KKNTU	Kakint²	3.17	104	eP		Pn	05 41 14.8	-0.1	

*NNC **03** 05:46:31.8±0.3, 43.20N×77.18E, h0km, mb2.4, mpv2.8, Error ellipse: s-maj=3.3km s-min=2.0km az=160.0*
*KRNET **03** 05:46:31.8±0.1, 43.17N×77.18E, h23km, mb2.5*
*SOME **03** 05:46:32.6, 43.17N×77.15E, h20km*

ISC 03 05:46:31.8±0.8, 43.17N±0.02×77.18E±0.02, h16km±5km, n33, σ0943/66, 18C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOTS	Kotyrbulak	0.08	322	eP	Pg	05 46 35.1	-0.1
KOTS				eS	Sg	05 46 37.2	-0.2
KOTS	Kotyrbulak 12nm,0.1s	0.08	322	eP	Pg	05 46 35.1	-0.1
KOTS	286nm,0.1s			eS	Sg	05 46 37.2	-0.2
TNSS	Tian-Shan 4.2nm,0.2s	0.22	231	P	Pg	05 46 37.1	0.0
TNSS	11nm,0.1s			S	Sg	05 46 40.6	0.0
TNSS	Tian-Shan	0.22	231	eP	Pg	05 46 37.1	0.0
TNSS				eS	Sg	05 46 40.6	0.0
TNSS	Tian-Shan 1.5nm,0.1s	0.22	231	eP	Pg	05 46 37.1	0.0
TNSS	11nm,0.1s			eS	Sg	05 46 40.6	0.0
MTBS	Maitube 3.1nm,0.1s	0.55	266	P	Pb	05 46 42.9	-0.2
MTBS	18nm,0.2s			S	Sb	05 46 50.6	-0.2
MTBS	Maitube	0.55	266	eP	Pb	05 46 42.9	-0.2
MTBS				eS	Sb	05 46 50.6	-0.2
MTBS	Maitube 2.0nm,0.1s	0.55	266	eP	Pb	05 46 42.9	-0.2
MTBS	18nm,0.1s			eS	Sb	05 46 50.6	-0.2
KTBS	Karatobe	0.65	326	P	Pb	05 46 44.6	-0.1
KTBS				S	Sg	05 46 53.4	+0.2
KTBS	Karatobe	0.65	326	eP	Pb	05 46 44.6	-0.1
KTBS				eS	Sg	05 46 53.3	+0.2
CHKK	Chushkaly 12nm,0.1s	0.69	349	P	Pg	05 46 45.3	-0.1
CHKK	26nm,0.2s			S	Sg	05 46 54.7	+0.1
CHKK	Chushkaly	0.69	349	eP	Pg	05 46 45.3	-0.1
CHKK				eS	Sg	05 46 54.7	+0.1
CHKK	Chushkaly 11nm,0.1s	0.69	349	eP	Pg	05 46 45.3	-0.1
CHKK	26nm,0.1s			eS	Sg	05 46 54.7	+0.1
KST	Kastek 2.8nm,0.2s	0.90	262	P	Pb	05 46 49.2	+0.2
KST	3.4nm,0.1s			S	Sb	05 47 01.5	+0.6
KST	Kastek 2.8nm,0.2s	0.90	262	eP	Pb	05 46 49.2	+0.2
KST	3.4nm,0.1s			eS	Sb	05 47 01.5	+0.6
KUU	Kurty	0.94	320	P	Pb	05 46 49.5	-0.3
KUU				S	Sg	05 47 01.7	-0.7
KUU	Kurty 1.9nm,0.0s	0.94	320	eP	Pb	05 46 49.5	-0.3
KUU	7.9nm,0.1s			eS	Sg	05 47 01.7	-0.7
KDJ	Kajisay	1.04	180	⇑iP	Pb	05 46 51.7	+0.2
KDJ				⇑iS	Sb	05 47 05.2	+0.2
PRZ	Przheval'sk	1.13	127	⇓eP	Pb	05 46 52.7	-0.4
PRZ				⇓eS	Sb	05 47 07.3	-0.4
BOOM	Boomskoye usch	1.14	234	⇑iP	Pb	05 46 53.2	0.0
BOOM				⇑iS	Sb	05 47 07.9	+0.1
KPKS	Kokpek	1.14	75	eP	Pb	05 46 53.0	-0.1
KPKS				eS	Sb	05 47 07.8	+0.1
ULHL	Ulahol	1.16	217	⇑iP	Pb	05 46 53.6	+0.1
ULHL				⇑iS	Sb	05 47 08.5	+0.2
TKM2	Tokmak 2 1.4nm,0.6s	1.19	258	⇑P	Pg	05 46 54.4	-0.3
TKM2	7.6nm,0.5s			⇓S	Sn	05 47 10.5	+0.7
TKM2	Tokmak 2 0.9nm,0.1s	1.19	258	⇑iP	Pb	05 46 53.9	-0.1
TKM2				⇑iS	Sb	05 47 09.5	+0.3
KRBS	Karabastau 0.9nm,0.1s	1.21	296	P	Pb	05 46 54.5	+0.1
KRBS	21nm,0.2s			S	Sn	05 47 10.5	+0.1
KRBS	Karabastau	1.21	296	eP	Pb	05 46 54.5	+0.1
KRBS				eS	Sn	05 47 10.4	+0.1
BLB	Baldybastay 6.9nm,0.1s	1.32	45	P	Pn	05 46 56.0	+0.3
BLB	9.9nm,0.1s			S	Sb	05 47 12.9	-0.1
TARG	Taragay, Kyrgy	1.52	162	⇑iP	Pb	05 46 59.8	0.0
TARG				⇑iS	Sb	05 47 19.4	+0.5
PDGK	Podgornoye 1.4nm,0.2s	1.70	84	⇑P	Pg	05 47 03.7	-0.6
PDGK	1.0nm,0.1s			⇓S	Sb	05 47 24.9	+1.0
CHMS	Chumysh 2.9nm,0.7s	1.79	265	⇑P	Pb	05 47 04.7	+0.6
CHMS	2.1nm,0.3s			⇑S	Sg	05 47 28.1	-1.2
CHMS	Chumysh	1.79	265	⇓iP	Pb	05 47 04.1	0.0
CHMS				⇓iS	Sb	05 47 27.4	+1.1
USP	Ospenovka	1.96	274	⇑iP	Pb	05 47 06.6	-0.5
USP				⇑iS	Sb	05 47 31.6	+0.3
UCH	Uchtor	2.18	245	⇑iP	Pb	05 47 09.8	-1.3
UCH				⇑iS	Sb	05 47 36.9	-1.1

CATAC 03 05:48:04.7±0.4, 10°N±3°×8°5W±°, h6km±2km, M3.1/13, MLv3.1/13, Error ellipse: s-maj=6.1km s-min=3.0km az=29.1, confirmed, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INDI	Punta indio, G	0.64	296	P	Pb	05 48 17.7	-0.6
INDI	Punta indio, G	0.64	296	S	Sb	05 48 27.7	+0.1
CMARA	Lajas Hojancha	0.66	311	S	Sg	05 48 26.8	+0.6
CMARA	Lajas Hojancha	0.66	311	P	Pg	05 48 17.5	0.0
TCS1	Tacares	0.76	53	P	Pb	05 48 20.1	-0.4
SOCE	Pocosol	0.85	20	P	Pg	05 48 20.8	-0.3
SOCE	Pocosol	0.85	20	S	Sg	05 48 32.4	+0.2
LCR2	La Lucha 2	0.91	80	S	Sg	05 48 34.7	+0.6
LCR2	La Lucha 2	0.91	80	P	Pg	05 48 22.3	0.0
COVE	Coope Vega, Sa	1.24	24	P	Pb	05 48 26.9	-1.6
OCHAL	Ojochal	1.34	111	S	Sb	05 48 46.9	-0.8
OCHAL	Ojochal	1.34	111	P	Pn	05 48 29.3	-0.7
TRT2	Tortugero	1.52	50	P	Pn	05 48 32.0	-0.4
TRT2	Tortugero	1.52	50	S	Sg	05 48 55.2	+1.7
DRK0	Durika	1.68	101	P	Pn	05 48 34.0	-0.7
DRK0	Durika	1.68	101	S	Sn	05 48 55.8	-0.9
ACON	Acoyapa	2.39	354	P	Pn	05 48 45.0	+0.6
ACON	Acoyapa	2.39	354	S	Sn	05 49 14.6	+0.7
BLUN	Bluefields	2.66	25	P	Pn	05 48 48.4	+0.3
BLUN				S	Sn	05 49 20.8	+0.2
ESPN	Las Esperanzas	2.67	13	S	Sn	05 49 22.3	+1.4
ESPN	Las Esperanzas	2.67	13	P	Pn	05 48 47.7	-0.5

*MOS **03** 05:50:17.0±1.2, 56.23N×163.87E, h7km, mb4.4/15, Error ellipse: s-maj=7.9km s-min=5.3km az=53.8*
*KRSC **03** 05:50:18.1±1.4, 56.01N×163.79E, h6km±20km, Mc4.9, Ml4.5*
*IDC **03** 05:50:18.4±0.7, 56.15N×163.33E, h0km, mb3.9/15, mbtmp3.9/16, ML4.2/1, MS3.2/3, Error ellipse: s-maj=20.4km s-min=16.4km az=140.0*
*NEIC **03** 05:50:21.6±2.3, 56.5N±0.1×163.4E±0.3, h10km±2km, mb4.4/13, Error ellipse: s-maj=29.5km s-min=15.8km az=135.0*

ISC 03 05:50:18.9±1.2, 56.19N±0.04×163.79E±0.03, h6km±7km, n137, σ1655/154, mb4.3/31, 5C-6D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.54	272	PN	Pg	05 50 29.2	0.0
KBTR	Krutoberegovo	0.54	272	eP	Pg	05 50 29.3	0.0
KBG	Krutoberegovo	0.61	276	PN	Pg	05 50 30.6	+0.1
KBG				S	Sg	05 50 39.0	+0.6
KBG	Krutoberegovo	0.61	276	eP	Pg	05 50 30.6	+0.1
KBG				eS	Sg	05 50 39.0	+0.6
SMKR	Semkarok	1.35	288	PN	Pg	05 50 44.3	-0.3
SMKR				S	Sn	05 51 04.4	+1.9
SMKR	Semkarok	1.35	288	eP	Pg	05 50 44.4	-0.3
SMKR				eS	Sn	05 51 04.5	+1.9
BDR	Baidarnaya	1.48	286	eS	Sg	05 51 07.5	+1.0
SRKR	Sorokina	1.53	289	eS	Sg	05 51 10.1	+2.2
BKI	Bering	1.58	128	PN	Pn	05 50 46.5	-0.9
BKI				S	Sn	05 51 07.3	-0.9
BKI	Bering	1.58	128	eP	Pn	05 50 46.5	-0.9
BKI				eS	Sn	05 51 07.3	-0.9
ZLN	Zelenaya	1.68	265	PN	Pb	05 50 49.5	-0.7
ZLN	Zelenaya	1.68	265	eP	Pb	05 50 49.5	-0.7
CIRR	Tsirk	1.70	269	PN	Pn	05 50 49.3	+0.1
CIRR	Tsirk	1.70	269	eP	Pn	05 50 49.4	+0.1
LGNR	Loginova	1.74	268	PN	Pb	05 50 50.1	-1.2
LGNR				S	Sb	05 51 13.4	0.0
LGNR	Loginova	1.74	268	eP	Pb	05 50 50.2	-1.2
LGNR				eS	Sb	05 51 13.5	0.0
BZGR	Bezymyannyi-Gr	1.75	263	PN	Pn	05 50 49.8	0.0
BZGR				S	Sn	05 51 12.5	0.0
BZGR	Bezymyannyi-Gr	1.75	263	eP	Pn	05 50 49.9	0.0
BZGR				eS	Sn	05 51 12.5	0.0
KLY	Klyuchi	1.75	275	PN	Pn	05 50 48.3	-1.4
KLY				S	Sn	05 51 10.9	-1.4
KLY	Klyuchi	1.75	275	eP	Pn	05 50 48.4	-1.4
KLY				eS	Sn	05 51 11.0	-1.4
BZWR	Bezymyannyi-We	1.86	264	PN	Pn	05 50 51.7	+0.3
BZWR				S	Sb	05 51 17.1	+0.3
BZWR	Bezymyannyi-We	1.86	264	eP	Pn	05 50 51.7	+0.3
BZWR				eS	Sb	05 51 17.1	+0.3
BZMR	Bezymyannaya	1.87	263	PN	Pn	05 50 51.6	+0.2
BZMR				S	Sb	05 51 16.3	-0.7
BZMR	Bezymyannaya	1.87	263	eP	Pn	05 50 51.6	+0.2
BZMR				eS	Sb	05 51 16.3	-0.7
KIRR	Kirishev	1.94	264	PN	Pn	05 50 52.9	+0.4
KIRR				S	Sn	05 51 17.8	+0.5
KIRR	Kirishev	1.94	264	eP	Pn	05 50 52.9	+0.4
KIRR				eS	Sn	05 51 17.9	+0.5
MKZ	Mys Kozlova	2.02	216	PN	Pn	05 50 50.4	-2.9
MKZ	Mys Kozlova	2.02	216	eP	Pn	05 50 50.5	-2.9
KMNR	Kamenistaya	2.04	259	PN	Pn	05 50 54.5	+0.7
KMNR	Kamenistaya	2.04	259	eP	Pn	05 50 54.6	+0.7
TUMD	Tumrok D	2.16	244	PN	Pn	05 50 54.7	-0.6
TUMD				S	Sn	05 51 20.9	-1.5
TUMD	Tumrok D	2.16	244	eP	Pn	05 50 54.8	-0.6
TUMD				eS	Sn	05 51 21.0	-1.5
KOZ	Kozyrevsk	2.19	268	PN	Pb	05 50 57.1	-1.8
KOZ	Kozyrevsk	2.19	268	eP	Pb	05 50 57.1	-1.8
SRDR	Sredinnyy	2.27	275	eS	Sb	05 51 27.9	-0.7
ESO	Esso	2.86	267	PN	Pn	05 51 06.0	+0.9
ESO	Esso	2.86	267	eP	Pn	05 51 06.0	+0.9
OSSR	Ossora	3.09	353	PN	Pb	05 51 10.4	-3.7
OSSR	Ossora	3.09	353	eP	Pb	05 51 10.5	-3.7
SDLR	Sedlovina	4.07	226	PN	Pn	05 51 20.8	-0.9
SDLR	Sedlovina	4.07	226	eP	Pn	05 51 20.9	-0.9
KRX	Arik	4.11	228	PN	Pn	05 51 23.1	+0.8
KRX	Arik	4.11	228	eP	Pn	05 51 23.1	+0.8
SMAR	Somma	4.12	227	PN	Pn	05 51 22.9	+0.5
SMAR	Somma	4.12	227	eP	Pn	05 51 22.9	+0.5
AVH	Avacha	4.14	227	PN	Pn	05 51 23.5	+0.9
AVH	Avacha	4.14	227	eP	Pn	05 51 23.6	+0.9
UGLR	Uglovaya	4.15	226	PN	Pn	05 51 23.2	+0.5
UGLR	Uglovaya	4.15	226	eP	Pn	05 51 23.3	+0.5
KOK	Koryaka	4.17	228	PN	Pn	05 51 23.8	+0.8
KOK	Koryaka	4.17	228	eP	Pn	05 51 23.8	+0.8
GNL	Ganaly	4.20	236	PN	Pn	05 51 24.0	+0.6
GNL	Ganaly	4.20	236	eP	Pn	05 51 24.1	+0.6
PET	Petropavlovsk	4.36	225		Pn	05 51 28.6	+3.1
PET	Petropavlovsk	4.36	225	ePN	Pn	05 51 27.3	+1.8
PEA0B	Petropavlovsk-	4.69	231		Pn	05 51 32.3	+2.1
PEA0B	Petropavlovsk-	4.69	231	PN	Pn	05 51 32.3	+2.1
PETK	Petropavlovsk-	4.69	231		Pn	05 51 32.2	+2.0
PETK	Petropavlovsk- 1.2nm,0.3s,baz=65,slow=19,SNR=12	4.69	231	Pn	Pn	05 51 28.3	-1.8
PETK	1.4nm,0.3s,baz=84,slow=20,SNR=4.2			Sn	Sn	05 52 21.9	-3.0
PETK	Petropavlovsk-	4.69	231	PN	Pn	05 51 32.2	+2.0
GRL	Gorelyy	4.94	225	PN	Pn	05 51 35.0	+1.3
GRL	Gorelyy	4.94	225	iP	Pn	05 51 35.0	+1.3
MTVR	Mutnovka	4.95	224	PN	Pn	05 51 33.9	+0.1
MTVR	Mutnovka	4.95	224	iP	Pn	05 51 34.0	+0.1
ASAK	Asacha	5.14	225	PN	Pn	05 51 36.7	+0.3
ASAK	Asacha	5.14	225	iP	Pn	05 51 36.8	+0.3
SKR	Severo-Kuril's	7.17	223	ePN	Pn	05 52 08.1	+4.0
SKR	comp=Z,600nm,16.0s			MLR	MLR		
MA2	Magadan comp=Z,188nm,20.1s,baz=47,slow=40	7.72	301	LR	LR	05 55 17.8	
SEY	Seymchan comp=Z,121nm,21.6s,baz=66,slow=37	8.89	324	LR	LR	05 55 44.8	
BILL	Bilibino	11.95	5	⇓ePN	Pn	05 53 08.9	-0.6
TYV	Tymovskoe	13.63	256	eP	P	05 53 41.8	+0.3
TYV	comp=Z,100nm,2.8s			pmax	pmax		
TYV	comp=Z,15nm,1.1s			pmax	pmax		
YSS	Yuzhno-Sakhali comp=Z,10.0nm,0.7s	15.95	243	eP	Pn	05 54 02.2	-1.5
YSS				pmax	pmax		
JKA	Kamikawa-asahi comp=Z,36nm,1.1s	18.08	237		Pn	05 54 29.8	-0.7
JKA				IAmb	IAmb	05 54 37.1	
ASAJ	Asahikawa comp=Z,1.4nm,0.3s,baz=24,slow=6.9,SNR=7.6	18.08	237	P	Pn	05 54 28.8	-1.7
ASAJ	comp=Z,4.0nm,0.5s	18.08	237	P	Pn	05 54 29.8	-0.7
ASAJ	comp=Z,37nm,1.1s			pmax	pmax		
YAK	Yakutsk	18.30	303	eP	Pn	05 54 31.2	-1.8
YAK				eS	Sn	05 57 53.5	-3.7
YAK	comp=Z,13nm,0.9s			pmax	pmax		
YAK	comp=N,2.0nm,1.4s			pmax	pmax		
YAK	comp=N,35nm,2.1s			smax	smax		
YAK	comp=E,16nm,2.0s			smax	smax		
KLR	Kul'dur KLR comp=Z,2.0nm,1.1s	20.48	264	⇓eP	P pmax	05 54 55.7	-1.4
J18K	Innoko River	20.84	53	P	Pn	05 55 05.1	+1.7
ZEA	Zeya	20.96	279	⇑eP	P	05 55 00.9	-1.4
TIXI	Tiksi comp=Z,103nm,19.9s,baz=198,slow=37	21.30	330	LR	LR	06 03 17.0	
M19K	Big River Lodg	21.94	58	P	P	05 55 16.8	+4.0
SUA	Susitna One	23.71	58	P	P	05 55 34.0	+2.7
SUA	comp=Z,11nm,1.2s			IAmb	IAmb	05 55 49.7	
CNPM	China Poot	23.80	63	P	P	05 55 34.8	+2.7
CNPM	comp=Z,19nm,1.2s			IAmb	IAmb	05 55 37.7	
COLA	College	24.72	50	iP	P	05 55 37.6	-2.8
PWL	Port Wells	24.96	59	P	P	05 55 44.4	+1.6
PWL	comp=Z,7.1nm,0.8s			IAmb	IAmb	05 55 54.6	
DHY	Denali Highway	25.07	54	P	P	05 55 46.2	+2.4
DHY	comp=Z,5.3nm,0.7s			IAmb	IAmb	05 56 08.4	
SCM	Sheep Creek Mo	25.27	57	P	P	05 55 49.3	+3.7
SCM	Sheep Creek Mo	25.27	57	P	P	05 55 49.3	+3.7
SCM	comp=Z,13nm,0.7s			pmax	pmax		
MJB9	Matsu-Tunnel	26.15	232	P	P	05 55 52.2	-1.5
MAJO	Matsushiro	26.15	232		P	05 55 52.0	-1.8
MAJO	Matsushiro	26.15	232	⇑eP	P	05 55 52.2	-1.5
MAJO	comp=Z,4.0nm,0.8s			pmax	pmax		
MJAR	Matsushiro Arr	26.15	232		P	05 55 54.1	+0.4
MJAR	Matsushiro Arr comp=Z,2.0nm,0.6s,baz=28,slow=8.4,SNR=7.1	26.15	232	P	P	05 55 51.9	-1.8
MJAR	comp=Z,2.0nm,0.6s	26.15	232	P	P	05 55 54.1	+0.4
MJAR	Matsushiro Arr			pmax	pmax		
ULN	comp=Z,5.0nm,1.1s Ulaanbaatar	34.97	281	⇑eP	P	05 57 12.2	+0.6
ULN	comp=Z,5.0nm,2.5s			pmax	pmax		
H11N2	WAKE ISLAND Hy baz=357,slow=76,SNR=2615	36.48	175	T	T	06 36 07.3	
H11N3	WAKE ISLAND Hy baz=357,slow=76,SNR=2545	36.49	175	T	T	06 36 13.0	
H11N1	WAKE ISLAND Hy baz=357,slow=76,SNR=2379	36.50	175	T	T	06 36 08.6	
ZALV	Zalesovo Beam comp=Z,1.3nm,0.7s,baz=64,slow=3.4,SNR=5.0	42.94	302	PcP	PcP	06 00 08.6	+0.1
GTA	Gaotai comp=Z,5.0nm,1.0s	44.41	276	eP	P pmax	05 58 29.7	-0.6
KURK	Kurchatov comp=Z,6.0nm,1.7s	47.93	301	deP	P pmax	05 58 56.5	-1.1
KURBB	Kurchatov Arra comp=Z,2.3nm,1.0s,baz=52,slow=7.7,SNR=

comp=Z,1.3nm,0.6s,baz=30,slow=6.4,SNR=7.5
comp=Z,1.3nm,0.6s
AKASG Malin Array Be 67.01 331 *eP* **P 06 01 13.5 +1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 67.52 71 P **P 06 01 18.0 +2.2**
comp=Z,0.9nm,0.9s,baz=294,slow=3.8,SNR=7.7
comp=Z,0.9nm,0.9s
EKA Eskdalemuir Ar 68.33 352 P **P 06 01 20.9 +0.6**
comp=Z,1.2nm,0.6s,baz=27,slow=5.8,SNR=4.5
comp=Z,1.2nm,0.6s
EKA Eskdalemuir Ar 68.33 352 P **P 06 01 21.0 +0.6**
KBZ Khabaz 68.71 318 P **P 06 01 23.2 +0.4**
comp=Z,2.5nm,0.9s,baz=316,slow=6.0,SNR=4.7
comp=Z,2.5nm,0.9s
KBZ Khabaz 68.71 318⇓ *eP* **P 06 01 24.5 +1.6**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 75.53 322 P 06 02 03.8 -0.2
BRTR Keskin Array B 75.53 322 P **P 06 02 03.4 -0.6**
comp=Z,1.1nm,0.8s,baz=54,slow=2.1,SNR=6.8
comp=Z,1.1nm,0.8s
BRTR Keskin Array B 75.53 322 *eP* **P 06 02 05.2 +1.2**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 79.82 208 P **P 06 02 27.8 0.0**
comp=Z,0.4nm,0.8s,baz=19,slow=5.2,SNR=3.6
comp=Z,0.4nm,0.8s
MMAI Mount Meron Ar 80.91 318 P **P 06 02 34.7 +0.9**
comp=Z,0.8nm,0.3s,baz=44,slow=6.4,SNR=2.2
comp=Z,0.8nm,0.3s
ASAR Alice Springs 83.49 207 P **P 06 02 47.1 -0.1**
comp=Z,0.3nm,0.8s,baz=17,slow=7.4,SNR=5.1
comp=Z,0.3nm,0.8s
PLCA Paso Flores 141.87 90 PKP **PKPdf 06 09 50.8 0.0**
comp=Z,1.6nm,0.9s,baz=232,slow=9.5,SNR=1.4
QSPA South Pole Qui 145.94 180 PKPbc **PKPdf 06 09 56.8 -0.2**
comp=Z,2.6nm,0.9s,baz=121,slow=0.2,SNR=6.1

*IDC **03** 05:57:39.7±3.1,24.86N×95.09E,h119km±29km, mb3.8/16, mbtmp4.2/17,MS3.3/1, Error ellipse: s-maj=37.4km s-min=12.5km az=58.0*
*NEIC **03** 05:57:40.1±2.6,24.93N±0.08×94.92E±0.09,h112km±7km, mb4.5/8, Error ellipse: s-maj=17.0km s-min=1.7km az=224.0*
*NDI **03** 05:57:52.0±2.0,24.89N×94.78E,h119km±54km, ML4.4, MW4.4*
ISC 03 05:57:38.5±0.6,24.87N±0.08×95.04E±0.08,h104km,n42, σ1ᵍ50/45,mb4.2/19,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHL	**Shillong**	**2.94**	**284**			**Pn**	**05 58 20.5**	**-3.2**
SHL				Sn		**Sn**	**05 58 53.9**	**-4.7**
SHL	**Shillong**	**2.94**	**284**	*eP*		Pn	05 58 34.2	+11
SHL				IAML			05 58 55.2	
	comp=E,2μm,0.1s							
SHL				IAML			05 58 55.6	
	comp=N,2μm,0.2s							
SHL				*eS*		**Sn**	**05 59 02.5**	**+4.0**
BRDH	**Bariadhala**	**3.80**	**236**	S		**Sn**	**05 59 19.1**	**+0.2**
	comp=N,121nm,0.2s,baz=231,slow=22,SNR=19							
LSA	**Lhasa**	**5.92**	**325**	Pn		**Pn**	**05 59 04.8**	**+0.7**
LSA	**Lhasa**	**5.92**	**325**	Pn		**Pn**	**05 59 04.3**	**+0.1**
LSA				Sn		Sn	05 59 55.5	-15
LSA				smax		smax		
	comp=N,34nm,0.7s							
JPG	**JALPAIGURI**	**5.94**	**288**	*eP*		Pn	05 59 12.9	+8.9
JPG				*eS*		**Sn**	**06 00 14.8**	**+4.1**
JPG				IAML			06 01 44.5	
	comp=N,582nm,0.2s							
JPG				IAML			06 01 47.5	
	comp=E,770nm,0.4s							
CAL	**Calcutta**	**6.57**	**251**	*eP*		Pn	05 59 22.8	+10
CAL				*eS*		**Sn**	**06 00 28.9**	**+2.8**
CAL				IAML			06 00 46.1	
	comp=E,754nm,0.6s							
CAL				IAML			06 00 46.2	
	comp=N,286nm,0.5s							
CHTO	**Chiang Mai**	**7.04**	**148**			**Pn**	**05 59 20.6**	**+1.7**
CMAR	**Chiang Mai Arr**	**7.34**	**150**	Pn		**Pn**	**05 59 25.1**	**+2.0**
CMAR	**Chiang Mai Arr**	**7.34**	**150**	P		**Pn**	**05 59 24.3**	**+1.2**
	comp=N,3.6nm,0.4s,baz=326,slow=13,SNR=30							
EVN	**Everest**	**7.99**	**294**			**Pn**	**05 59 32.3**	**0.0**
MKAR	**Makanchi Array**	**24.13**	**338**	P		**P**	**06 02 45.3**	**+0.7**
	comp=N,9.9nm,0.5s,baz=151,slow=9.0,SNR=118							
MKAR				PcP		**PcP**	**06 06 22.4**	**-0.6**
	comp=N,0.2nm,0.6s,baz=174,slow=1.4,SNR=2.2							
	comp=N,9.9nm,0.5s							
MAKZ	**Makanchi**	**24.25**	**338**			**P**	**06 02 46.3**	**+0.6**
KURBB	**Kurchatov Arra**	**28.70**	**338**	P		**P**	**06 03 25.6**	**0.0**
KURBB				PcP		**PcP**	**06 06 33.1**	**-0.3**
	comp=N,2.6nm,0.5s,baz=147,slow=9.6,SNR=18							
	comp=N,0.1nm,0.3s,baz=163,slow=2.8,SNR=5.0							
	comp=N,2.6nm,0.5s							
ZALV	**Zalesovo Beam**	**30.03**	**348**	P		**P**	**06 03 37.3**	**0.0**
	comp=N,1.0nm,0.4s,baz=189,slow=8.4,SNR=3.5							
	comp=N,1.0nm,0.4s							
BVAR	**Borovoye Array**	**33.69**	**333**	P		**P**	**06 04 09.6**	**+0.2**
	comp=N,2.0nm,0.4s,baz=145,slow=11,SNR=11							
BVAR				PcP		**PcP**	**06 06 46.4**	**-0.5**
	comp=N,1.4nm,0.6s,baz=145,slow=5.4,SNR=6.5							
BVAR				LR		LR	06 18 57.2	
	comp=N,56nm,21.9s,baz=7.2,slow=38							
	comp=N,2.0nm,0.4s							
AB31	**Akbulak array**	**36.59**	**321**	P		**P**	**06 04 35.3**	**+1.0**
AB31				IAmb		IAmb	06 04 35.9	
	comp=Z,4.0nm,1.0s							
ABKAR	**Akbulak array**	**36.59**	**321**	P		**P**	**06 04 35.2**	**+0.9**
KNRA	**Kununurra**	**52.02**	**137**	P		**P**	**06 06 37.7**	**+0.2**
ILGA	**Ilgaz**	**52.89**	**304**	P		**P**	**06 06 45.0**	**+0.9**
ILGA				IAmb		IAmb	06 07 23.1	
	comp=Z,7.5nm,1.4s							
BRTR	**Keskin Array B**	**53.02**	**302**	P		**P**	**06 06 45.5**	**+0.5**
BRTR	**Keskin Array B**	**53.02**	**302**	P		**P**	**06 06 44.8**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=126,slow=7.1,SNR=6.3							
	comp=Z,0.8nm,0.5s							
AKASG	**Malin Array Be**	**55.98**	**316**	P		**P**	**06 07 05.2**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=81,slow=6.6,SNR=4.6							
	comp=Z,0.7nm,0.5s							
FINES	**FINESS Array B**	**58.43**	**328**	P		**P**	**06 07 23.0**	**0.0**
FINES	**FINESS Array B**	**58.43**	**328**	P		**P**	**06 07 22.8**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=90,slow=7.6,SNR=6.9							
	comp=Z,1.2nm,0.6s							
WB0	**Warramunga Arr**	**58.61**	**136**	P		**P**	**06 07 24.1**	**-0.7**
WB0				IAmb		IAmb	06 07 25.2	
	comp=Z,3.6nm,0.8s							
WRA	**Warramunga Arr**	**58.70**	**136**	P		**P**	**06 07 25.4**	**-0.1**
WRA	**Warramunga Arr**	**58.70**	**136**	P		**P**	**06 07 24.6**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=324,slow=7.4,SNR=9.7							
	comp=Z,0.9nm,0.6s							
WR8	**Warramunga Arr**	**58.82**	**136**	P		**P**	**06 07 25.1**	**-1.1**
WR8				IAmb		IAmb	06 07 45.2	
	comp=Z,8.8nm,1.4s							
ARCES	**ARCESS Array B**	**59.78**	**338**	P		**P**	**06 07 31.8**	**-0.5**
ARCES	**ARCESS Array B**	**59.78**	**338**	P		**P**	**06 07 31.4**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=85,slow=7.4,SNR=6.0							
	comp=Z,0.8nm,0.6s							
ASAR	**Alice Springs**	**61.22**	**139**	P		**P**	**06 07 41.8**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=319,slow=6.8,SNR=6.4							
	comp=Z,0.7nm,0.7s							
HFS	**Hagfors**	**64.50**	**327**	P		**P**	**06 08 03.8**	**-0.1**
	comp=Z,4.2nm,0.5s,baz=104,slow=6.3,SNR=16							
	comp=Z,4.2nm,0.5s							
NC405	**NORSAR Array S**	**65.36**	**328**	P		**P**	**06 08 08.6**	**-0.8**
NB2	**NORSAR Subarra**	**65.61**	**328**	P		**P**	**06 08 10.4**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=82,slow=6.2							
NOA	**NORSAR Array B**	**65.61**	**328**	P		**P**	**06 08 10.7**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=83,slow=6.3,SNR=6.6							
	comp=Z,2.0nm,0.6s							
GERES	**GERESS Array B**	**66.15**	**314**	P		**P**	**06 08 13.9**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=68,slow=7.7,SNR=7.1							
	comp=Z,1.0nm,0.6s							
EKA	**Eskdalemuir Ar**	**74.38**	**324**	P		**P**	**06 09 04.8**	**0.0**
	comp=Z,0.9nm,0.4s,baz=71,slow=6.0,SNR=9.8							
	comp=Z,0.9nm,0.4s							
BOSA	**Boshof**	**85.60**	**236**	P		**P**	**06 10 05.5**	**-0.2**
	comp=Z,3.5nm,1.1s,baz=61,slow=20,SNR=1.5							
	comp=Z,3.5nm,1.1s							
TORD	**Torodi Ar. Bea**	**87.54**	**283**	P		**P**	**06 10 15.5**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=52,slow=4.9,SNR=11							
	comp=Z,0.9nm,0.6s							
BDFB	**Brasilia**	**144.24**	**278**	PKP		PKPbc	06 17 01.4	-0.1
	comp=Z,1.2nm,0.6s,baz=6.5,slow=11,SNR=4.0							
ROSC	**El Rosal**	**148.71**	**339**	PKPbc		**PKPbc**	**06 17 14.1**	**-0.9**
	comp=Z,5.4nm,0.5s,baz=298,slow=23,SNR=2.1							

*ASRS **03** 06:01:09.0±1.6,54.13N×86.45E,h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 03 06:01:12.6±3.0,54.15N×86.38E,h0km,mbtmp2.8/2, ML2.1/1,Error ellipse: s-maj=23.2km s-min=14.1km az=58.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**258**	I		I	06 06 30.0	
	baz=80,slow=313,SNR=0.8							
ZALV	**Zalesovo Beam**	**0.94**	**258**	Pg		Pg	06 01 29.5	-1.1
	0.8nm,0.3s,baz=78,slow=18,SNR=6.2							
ZALV				Lg		Lg	06 01 44.6	
	1.6nm,0.3s,baz=74,slow=29,SNR=7.3							
ZALV				Rg		Rg	06 01 49.0	
	1.7nm,0.3s,baz=74,slow=38,SNR=5.8							
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn		Pn	06 02 42.0	-0.1
	baz=53,slow=13,SNR=2.8							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**7.81**	**201**	Pn		Pn	06 03 09.4	+1.9
	0.3nm,0.3s,baz=25,slow=17,SNR=1.4							

WEL 03 06:05:33.2±0.9,33.3°S±14.1°×17.8°W±2.8°,h537km±11km, mB4.3/7,ML4.5/10,MLv4.3/7,Mw(mB)3.4/7,Error ellipse: s-maj=40.6km s-min=6.1km az=114.4,confirmed,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GLKZ	**Green Lake**	**3.54**	**2**	S		S	06 07 58.6	+4.7
WMGZ	**Waiomatatini S**	**5.78**	**209**	P		P	06 07 09.8	+0.8
WMGZ				S		S	06 08 30.4	+2.9
PKGZ	**Pakihiroa**	**5.96**	**211**	P		P	06 07 07.2	-3.5
PKGZ				S		S	06 08 28.7	-2.0
HAZ	**Te Kaha**	**6.01**	**214**	P		P	06 07 08.2	-2.8
HAZ				S		S	06 08 29.3	-2.0
RUGZ	**Raukumara Rang**	**6.23**	**213**	P		P	06 07 11.4	-1.8
RUGZ				S		S	06 08 31.9	-3.4
TWGZ	**Tauwhareparae**	**6.27**	**210**	P		P	06 07 13.9	+0.4
TWGZ				S		S	06 08 36.0	+0.2
CNGZ	**Carnagh Statio**	**6.44**	**207**	P		S	06 07 16.6	+1.5
CNGZ				S		S	06 08 40.1	+1.4
TKGZ	**Te Karaka**	**6.54**	**210**	P		P	06 07 15.4	-0.7
TKGZ				S		S	06 08 41.3	+0.8
MWZ	**Matawai**	**6.59**	**212**	P		P	06 07 16.0	-0.6
MWZ				S		S	06 08 41.5	0.0
URZ	**Urewera**	**6.73**	**215**	P		P	06 07 15.1	-2.8
URZ				S		S	06 08 40.3	-3.4
RIGZ	**Rimuhau**	**6.81**	**209**	P		P	06 07 17.5	-1.1
RIGZ				S		S	06 08 47.7	+2.5
SNGZ	**Shannon Statio**	**7.05**	**211**	P		P	06 07 20.7	-0.3
KNZ	**Kokohu**	**7.11**	**208**	P		P	06 07 22.6	+1.1
KNZ				S		S	06 08 50.8	+0.3
RAHZ	**Arahi**	**7.27**	**212**	P		P	06 07 23.2	+0.1
RAHZ				S		S	06 08 53.6	+0.2
MTHZ	**Maungataniwha**	**7.33**	**213**	P		P	06 07 23.5	-0.3
MTHZ				S		S	06 08 55.7	+1.2
WHHZ	**Waihua**	**7.34**	**210**	P		P	06 07 25.3	+1.5
WHHZ				S		S	06 08 57.3	+2.7
NMHZ	**Naumai**	**7.54**	**212**	P		P	06 07 26.1	+0.2
ARHZ	**Aropaoanui**	**7.60**	**211**	P		P	06 07 27.1	+0.8
ARHZ				S		S	06 09 00.8	+1.6
BKZ	**Black Stump Fm**	**7.74**	**213**	P		P	06 07 25.9	-2.0
BKZ				S		S	06 09 03.0	+1.0
PXZ	**Pawanui**	**8.30**	**208**	P		P	06 07 34.9	+1.6
PXZ				S		S	06 09 16.5	+4.5
VRZ	**Vera Road**	**8.59**	**221**	P		P	06 07 34.8	-1.5
TSZ	**Takapari Road**	**8.70**	**212**	P		P	06 07 37.8	+0.3
TSZ				S		S	06 09 21.9	+2.2
BFZ	**Birch Farm**	**9.10**	**209**	P		P	06 07 42.4	+0.9
BFZ				S		S	06 09 32.5	+5.5
MRZ	**Mangatainoka R**	**9.36**	**211**	P		P	06 07 44.4	+0.1
MRZ				S		S	06 09 35.0	+3.1
THZ	**Tophouse**	**11.48**	**216**	P		P	06 08 06.6	+0.4
THZ				S		S	06 10 12.9	+0.7

*IDC **03** 06:06:29.8±5.6,36.17N×70.26E,h171km±51km, mb3.3/8, mbtmp3.8/12, Error ellipse: s-maj=40.2km s-min=21.6km az=34.0*
*NNC **03** 06:06:34.6±4.0,36.81N×70.31E,h0km, mb4.5, mpv4.3, Error ellipse: s-maj=34.3km s-min=28.9km az=143.0*
ISC 03 06:06:33.9±1.1,36.5N±0.1×70.3E±0.1,h204km,n28, σ1ᵍ05/31,mb3.5/6,5C-7D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AML	**Almayashu**	**6.22**	**24**	P		**Pn**	**06 08 04.9**	**+0.5**
	SNR=173							
UCH	**Uchtor**	**6.60**	**28**	P		**Pn**	**06 08 10.1**	**+0.8**
	SNR=113							
KK31	**Karatay Array**	**6.62**	**1**	⇑P		**Pn**	**06 08 09.0**	**-0.2**
	3.2nm,0.3s,baz=175,slow=13,SNR=3.6							
KK31				⇓S		**S**	**06 09 22.0**	**-2.6**
	2.6nm,0.3s,baz=184,slow=20							
EKS2	**Erkin-Say**	**6.73**	**22**	P		**Pn**	**06 08 11.7**	**+1.0**
	SNR=16							
AAK	**Ala-Archa**	**6.95**	**26**	P		**Pn**	**06 08 14.7**	**+1.2**
	SNR=13							
AAK	**Ala-Archa**	**6.95**	**26**	⇑P		**Pn**	**06 08 14.0**	**+0.5**
	12nm,0.7s							
AAK				⇓S		**S**	**06 09 32.6**	**0.0**
	6.5nm,0.7s							
AAK	**Ala-Archa**	**6.95**	**26**	P		**Pn**	**06 08 13.7**	**+0.2**
	16nm,0.3s,baz=174,slow=4.2,SNR=19							
AAK				S		**S**	**06 09 30.8**	**-1.8**
	5.3nm,0.4s,baz=342,slow=20,SNR=4.8							
KBK	**Karagaybulak**	**7.13**	**29**	P		**Pn**	**06 08 17.4**	**+1.5**
	SNR=7.2							
CHMS	**Chumysh**	**7.36**	**26**	P		**Pn**	**06 08 19.6**	**+0.9**
	SNR=12							
CHMS	**Chumysh**	**7.36**	**26**	⇑P		**Pn**	**06 08 19.2**	**+0.5**
	18nm,0.8s							
CHMS				⇑S		**S**	**06 09 40.5**	**-1.5**
	7.7nm,0.9s							
ULHL	**Ulahol**	**7.37**	**37**	P		**Pn**	**06 08 19.8**	**+0.8**
	SNR=13							
USP	**Ospenovka**	**7.51**	**24**	P		**Pn**	**06 08 21.0**	**+0.3**
	SNR=30							
TKM2	**Tokmak 2**	**7.62**	**31**	P		**Pn**	**06 08 22.9**	**+0.7**
	SNR=27							
TKM2	**Tokmak 2**	**7.62**	**31**	⇑P		**Pn**	**06 08 22.6**	**+0.4**
	31nm,0.5s							
MAKZ	**Makanchi**	**13.50**	**37**	⇓Pn		**Pn**	**06 09 37.7**	**+0.4**
	5.1nm,1.0s							
MAKZ				⇓Lg		Lg	06 11 17.8	
	11nm,1.1s							
MKAR	**Makanchi Array**	**13.64**	**37**	P		**Pn**	**06 09 39.6**	**+0.5**
	0.4nm,0.4s,baz=205,slow=11,SNR=5.5							
MK31	**Makanchi Array**	**13.64**	**37**	⇓Pn		**Pn**	**06 09 39.2**	**+0.1**
	0.5nm,0.5s,baz=208,slow=15,SNR=3.5							
MK31				⇓Lg		Lg	06 11 18.4	
	7.5nm,0.9s,baz=200,slow=24							
AB31	**Akbulak array**	**14.85**	**333**	⇓P		P	06 10 01.2	+6.5
	0.6nm,0.4s,baz=156,slow=12,SNR=17							
KURBB	**Kurchatov Arra**	**15.33**	**20**	P		**Pn**	**06 09 59.3**	**-0.4**
	0.3nm,0.4s,baz=211,slow=11,SNR=3.7							
BVAR	**Borovoye Array**	**16.55**	**0**	P		**Pn**	**06 10 15.1**	**+0.7**
	0.4nm,0.3s,baz=172,slow=12,SNR=3.8							
ZALV	**Zalesovo Beam**	**20.17**	**25**	P		**P**	**06 10 53.8**	**+1.2**
	2.0nm,0.4s,baz=231,slow=9.4,SNR=7.4							
	2.0nm,0.4s							
FINES	**FINESS Array B**	**37.20**	**326**	P		**P**	**06 13 25.9**	**+0.8**
	1.4nm,0.7s,baz=146,slow=11,SNR=4.2							
	1.4nm,0.7s							
ARCES	**ARCESS Array B**	**40.96**	**338**	P		**P**	**06 13 57.7**	**+1.5**
	0.8nm,0.4s,baz=112,slow=8.1,SNR=11							
	0.8nm,0.4s							
HFS	**Hagfors**	**42.75**	**322**	P		**P**	**06 14 11.9**	**+1.2**
	2.2nm,0.8s,baz=116,slow=6.7,SNR=2.0							
	2.2nm,0.8s							
NOA	**NORSAR Array B**	**44.07**	**323**	P		**P**	**06 14 21.2**	**-0.1**
	0.8nm,0.8s,baz=98,slow=8.0,SNR=2.0							
	0.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**65.17**	**268**	P		**P**	**06 16 52.4**	**-1.0**
	0.3nm,0.5s,baz=37,slow=5.5,SNR=4.4							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**82.45**	**121**	P		**P**	**06 18 31.8**	**-1.7**
	0.2nm,0.5s,baz=316,slow=5.3,SNR=1.4							
	0.2nm,0.5s							
ASAR	**Alice Springs**	**84.69**	**124**	P		**P**	**06 18 45.0**	**0.0**
	0.3nm,0.3s,baz=254,slow=6.8,SNR=1.6							
	0.3nm,0.3s							

*MEX **03** 06:09:32.7±1.4,16.69N×99.87W,h12km±8km, MD4.7*
*NEIC **03** 06:09:34.9±3.0,16.83N±0.05×99.79W±0.04,h35km±2km, mb4.6/409,Md4.7/156(MEX),Error ellipse: s-maj=9.2km s-min=5.1km az=199.0*
*IDC **03** 06:09:37.7±3.3,16.93N×99.53W,h59km±27km, mb4.1/14, mbtmp4.3/18,ML3.7/4,MS3.8/32,Error ellipse: s-maj=26.5km s-min=11.9km az=47.0*
ISC 03 06:09:30.8±1.1,16.72N±0.03×99.82W±0.02,h13km±6km, n658,σ1ᵍ47/555,mb4.7/172,MS3.8/28,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ACP2	**Acapulco**	**0.17**	**339**	*i* P		**Pb**	**06 09 36.0**	**+0.1**
ACP2				*i* S		**Sb**	**06 09 38.6**	**-0.7**
VNTA	**La Mica**	**0.20**	**1**	*i* P		**Pb**	**06 09 35.8**	**-0.6**
VNTA				*i* S		**Sb**	**06 09 38.3**	**-1.7**
DAIG	**Los Arroyos**	**0.35**	**28**	*eP*		**Pg**	**06 09 37.6**	**-0.2**
DAIG				*eS*		**Sg**	**06 09 41.5**	**-1.1**
CAIG	**El Cayaco**	**0.54**	**308**			**Pg**	**06 09 41.7**	**+0.3**
CAIG	**El Cayaco**	**0.54**	**308**	*eP*		**Pg**	**06 09 41.7**	**+0.3**
CAIG				*eS*		**Sg**	**06 09 48.6**	**0.0**
CRIG	**Cruz Grande**	**0.66**	**88**			**Pg**	**06 09 44.0**	**+0.3**
CRIG						**Sg**	**06 09 52.7**	**+0.1**
CRIG	**Cruz Grande**	**0.66**	**88**	*eP*		**Pg**	**06 09 44.0**	**+0.3**
CRIG				*eS*		**Sg**	**06 09 52.7**	**+0.1**
ATYC	**Atoyac**	**0.77**	**310**			**Pb**	**06 09 45.2**	**-0.9**
ATYC						**Sb**	**06 09 54.9**	**-1.5**
ATYC	**Atoyac**	**0.77**	**310**	*eP*		**Pb**	**06 09 45.2**	**-0.9**
ATYC				*eS*		**Sb**	**06 09 54.9**	**-1.5**
MEIG	**Mezcala**	**1.22**	**9**			**Pn**	**06 09 52.0**	**-1.7**
MEIG						**Sb**	**06 10 07.1**	**-2.4**
MEIG	**Mezcala**	**1.22**	**9**	*eP*		**Pn**	**06 09 52.0**	**-1.7**
MEIG				*eS*		**Sb**	**06 10 07.1**	**-2.4**
MGIG	**Malinaltepec**	**1.25**	**65**			**Pn**	**06 09 53.0**	**-1.2**
MGIG						**Sb**	**06 10 08.9**	**-1.6**
MGIG	**Malinaltepec**	**1.25**	**65**	*eP*		**Pn**	**06 09 53.0**	**-1.2**
MGIG				*eS*		**Sb**	**06 10 08.9**	**-1.6**
TLIG	**Tlapa**	**1.47**	**55**			**Pn**	**06 09 56.5**	**-0.7**
TLIG	**Tlapa**	**1.47**	**55**	*eP*		**Pn**	**06 09 56.3**	**-0.8**
TLIG				*eS*		**Sn**	**06 10 14.8**	**-1.5**
PET2	**Petatlan**	**1.60**	**301**			**Pn**	**06 09 58.0**	**-0.8**
PET2						**Sn**	**06 10 16.4**	**-3.0**
PET2	**Petatlan**	**1.60**	**301**	*eP*		**Pn**	**06 09 58.0**	**-0.8**
PET2				*eS*		**Sn**	**06 10 16.4**	**-3.0**
HMTT	**Tlapaneco**	**1.62**	**48**			**Pn**	**06 09 58.7**	**-0.5**
HMTT						**Sn**	**06 10 17.9**	**-2.1**
HMTT	**Tlapaneco**	**1.62**	**48**	*eP*		**Pn**	**06 09 58.7**	**-0.5**
HMTT				*eS*		**Sn**	**06 10 17.9**	**-2.1**
ARIG	**Puente Sto Nin**	**1.63**	**342**			**Pn**	**06 09 58.6**	**-0.8**
ARIG						**Sn**	**06 10 18.0**	**-2.4**
ARIG	**Puente Sto Nin**	**1.63**	**342**	*eP*		**Pn**	**06 09 58.6**	**-0.8**
ARIG				*eS*		**Sn**	**06 10 18.0**	**-2.4**
PNIG	**Pinotepa**	**1.66**	**101**			**Pn**	**06 09 59.1**	**-0.6**
PNIG						**Sn**	**06 10 19.7**	**-1.2**
PNIG	**Pinotepa**	**1.66**	**101**	*eP*		**Pn**	**06 09 59.1**	**-0.6**
PNIG				*eS*		**Sn**	**06 10 19.7**	**-1.2**
PLIG	**Platanillo**	**1.69**	**10**			**Pn**	**06 09 59.4**	**-0.8**
PLIG						**Sn**	**06 10 20.3**	**-1.7**
PLIG	**Platanillo**	**1.69**	**10**	*eP*		**Pn**	**06 09 59.4**	**-0.8**
PLIG				*eS*		**Sn**	**06 10 20.3**	**-1.7**
ZIIG	**Zihuatanejo**	**1.80**	**300**			**Pn**	**06 10 01.4**	**-0.2**
ZIIG						**Sn**	**06 10 22.2**	**-2.2**
ZIIG	**Zihuatanejo**	**1.80**	**300**	*eP*		**Pn**	**06 10 01.4**	**-0.2**
ZIIG				*eS*		**Sn**	**06 10 22.2**	**-2.2**
FTIG	**Fresnillo de T**	**2.00**	**53**			**Pn**	**06 10 03.7**	**-0.8**
FTIG						**Sn**	**06 10 28.6**	**-0.9**
FTIG	**Fresnillo de T**	**2.00**	**53**	*eP*		**Pn**	**06 10 03.7**	**-0.8**
FTIG				*eS*		**Sn**	**06 10 28.6**	**-0.9**
TXIG	**Tlaxiaco**	**2.04**	**75**			**Pn**	**06 10 04.8**	**-0.3**
TXIG						**Sn**	**06 10 27.8**	**-2.8**
TXIG	**Tlaxiaco**	**2.04**	**75**	*eP*		**Pn**	**06 10 04.8**	**-0.3**
TXIG				*eS*		**Sn**	**06 10 27.8**	**-2.8**
YOIG	**Yosondua**	**2.19**	**86**			**Pn**	**06 10 06.2**	**-0.9**
YOIG						**Sn**	**06 10 33.9**	**-0.4**
YOIG	**Yosondua**	**2.19**	**86**	*eP*		**Pn**	**06 10 06.2**	**-0.9**
YOIG				*eS*		**Sn**	**06 10 33.9**	**-0.4**
TEJU	**Tejupilco**	**2.20**	**352**			**Pn**	**06 10 07.8**	**+0.5**
TEJU						**Sn**	**06 10 34.0**	**-0.4**
TEJU	**Tejupilco**	**2.20**	**352**	*eP*		**Pn**	**06 10 07.8**	**+0.5**
TEJU				*eS*		**Sn**	**06 10 34.0**	**-0.4**
**

MMIG Aquila 3.71 295 Pn 06 10 27.5 -0.3
MMIG Aquila 3.71 295 eP Pn 06 10 27.5 -0.3
MMIG eS Sn 06 11 06.8 -4.7
JAUV Jalcomulco 3.90 47 Pn 06 10 28.7 -1.9
JAUV Sn 06 11 13.4 -2.9
JAUV Jalcomulco 3.90 47 eP Pn 06 10 28.7 -1.9
JAUV eS Sn 06 11 13.4 -2.9
NEUV Arroyo Zacate 3.97 75 Pn 06 10 31.4 -0.1
NEUV Sn 06 11 19.8 +1.9
NEUV Arroyo Zacate 3.97 75 eP Pn 06 10 31.4 -0.1
NEUV eS Sn 06 11 19.8 +1.9
CXUV Coxquihui 4.04 31 Pn 06 10 30.6 -1.9
CXUV Sn 06 11 16.8 -3.0
CXUV Coxquihui 4.04 31 eP Pn 06 10 30.6 -1.9
CXUV eS Sn 06 11 16.8 -3.0
IGIG Irapuato, Guan 4.26 341 e Pb 06 10 41.7 -4.1
IGIG e 06 11 31.3
LVIG Laguna Verde 4.41 47 eP Pn 06 10 35.8 -1.6
LVIG eS Sn 06 11 31.0 +2.3
INCO Volcan de Coli 4.55 308 eP Pn 06 10 41.1 +1.3
INCO eS Sn 06 11 30.5 -2.4
CDAR Ciudad de Arme 4.56 300 eP Pn 06 10 39.9 +0.3
CDAR eS Sn 06 11 28.4 -4.1
SOMAC Volcano de Col 4.57 308 eP Pn 06 10 44.3 +4.2
SOMAC eS Sn 06 11 31.7 -1.6
CEGR Campo Tres 4.67 305 eP Pn 06 10 43.2 +2.0
CEGR eS Sn 06 11 30.8 -4.6
CMIG Matias Romero 4.74 85 Pn 06 10 42.9 +0.7
CMIG Sn 06 11 39.0 +1.9
CMIG Matias Romero 4.74 85 P Pn 06 10 41.8 -0.3
2.1nm,0.3s,baz=265,slow=11,SNR=44
CMIG S Sn 06 11 34.4 -2.6
270nm,0.7s,baz=294,slow=14,SNR=9.7
CMIG Lg Lg 06 11 54.7
66nm,0.3s,baz=298,slow=16,SNR=13
CMIG LR LR 06 12 55.4
comp=Z,803nm,21.1s,baz=250,slow=44
9.0nm,0.4s
CMIG Matias Romero 4.74 85 eP Pn 06 10 42.9 +0.7
CMIG eS Sn 06 11 39.0 +1.9
PMUV Sontecomapan 4.84 67 Pn 06 10 40.9 -2.6
PMUV Sn 06 11 36.1 -3.4
PMUV Sontecomapan 4.84 67 eP Pn 06 10 40.9 -2.6
PMUV eS Sn 06 11 36.1 -3.4
CTUV Llano Grande 4.93 16 Pn 06 10 47.6 +2.9
CTUV Llano Grande 4.93 16 eP Pn 06 10 47.6 +2.9
CTUV eS Sn 06 11 44.2 +2.6
RPIG Rio Verde 5.14 358 e Pb 06 11 02.0 +1.2
RPIG e 06 12 07.8
CIHU Emiliano Zapat 5.32 299 Pn 06 10 50.6 +0.6
CIHU Sn 06 11 48.1 -3.1
CIHU Emiliano Zapat 5.32 299 eP Pn 06 10 50.6 +0.6
CIHU eS Sn 06 11 48.1 -3.1
TUIG Tuzandepetl 5.32 75 eP Pn 06 10 48.8 -1.3
TUIG eS Sn 06 11 51.6 +0.4
CJM Chamela 5.68 300 eP Pn 06 10 56.8 +1.8
CJM eS Sn 06 12 01.5 +1.3
AAIG Aguscalientes 5.76 336 Pn 06 10 57.4 +1.2
AAIG Aguscalientes 5.76 336 eP Pn 06 10 57.4 +1.2
AAIG eS Sn 06 12 05.4 +3.0
ANIG Ahuacatlan 6.20 315 eP Pn 06 11 07.8 +5.6
ANIG eS Sn 06 12 18.0 +5.0
GTIG Gomez Farias 6.35 5 Pn 06 11 06.4 +2.2
GTIG Gomez Farias 6.35 5 eP Pn 06 11 06.4 +2.2
GTIG eS Sn 06 12 24.3 +7.7
TGIG 6.42 88 Pn 06 11 08.4 +3.1
TGIG 6.42 88 eP Pn 06 11 08.4 +3.1
TGIG eS Sn 06 12 23.5 +5.0
PCIG 6.42 98 Pn 06 11 06.5 +1.3
PCIG Sn 06 12 18.9 +0.4
PCIG 6.42 98 eP Pn 06 11 06.5 +1.3
PCIG eS Sn 06 12 18.9 +0.4
ZAIG Zacatecas 6.55 337 Pn 06 11 09.7 +2.5
ZAIG Zacatecas 6.55 337 eP Pn 06 11 09.0 +1.8
ZAIG eS Sn 06 12 25.6 +3.6
CCIG Comitan 7.39 92 Pn 06 11 20.5 +1.9
CCIG Comitan 7.39 92 eP Pn 06 11 20.4 +1.8
CCIG eS Sn 06 12 44.0 +1.6
PATR El Naranjo 7.47 101 Pn 06 11 19.4 -0.4
PATR Sn 06 12 43.5 -1.1
PATR El Naranjo 7.47 101 eP Pn 06 11 19.4 -0.4
PATR eS Sn 06 12 43.5 -1.1
PAVE Pavencul 7.51 101 Pn 06 11 21.6 +1.3
PAVE Sn 06 12 44.0 -1.6
PAVE Pavencul 7.51 101 eP Pn 06 11 21.6 +1.3
PAVE eS Sn 06 12 44.0 -1.6
HUEH Huehuetenango 8.12 99 eS Sn 06 13 05.3 +4.7
RTAL Retalhuleu 8.13 104 eS Sn 06 13 08.6 +8.1
LNIG Linares 8.15 2 e Pb 06 11 58.3 +6.4
LNIG e 06 13 23.5
PETF Flores 9.54 87 eS Sn 06 13 33.2 -1.9
PDIG Papasquiaro 9.78 329 eP Pn 06 11 56.0 +4.4
PDIG eS Sn 06 13 46.3 +4.9
H06E1 SOCORRO T-PHAS 10.78 283 T T 06 22 59.0
SNR=9.6
TEIG Tepich 11.50 71 Pn 06 12 15.5 +0.7
HPIG 11.52 333 Pn Pn 06 12 18.1 +2.7
833A Chaparral WMA, 11.56 2 Pn 06 12 17.0 +1.4
LPIG La Paz 12.27 308 LR LR 06 17 11.0
comp=Z,281nm,19.1s,baz=82,slow=37
DRIO Del Rio 12.67 357 Pn 06 12 31.7 +0.9
HNDO Hondo 12.76 2 Pn 06 12 32.9 +0.8
TXAR Lajitas Array 13.05 345 P Pn 06 12 38.4 +2.3
0.1nm,0.3s,baz=153,slow=11,SNR=9.1
TXAR Lg Lg 06 16 31.8
0.1nm,0.3s,baz=176,slow=25,SNR=6.8
TXAR LR LR 06 18 31.9
comp=Z,308nm,21.3s,baz=152,slow=41
1.0nm,0.9s
TX31 Lajitas Ar. Si 13.05 345 Pn 06 12 38.2 +2.1
SAND Sanderson 13.35 351 Pn 06 12 42.6 +2.5
JCT Junction City 13.70 0 Pn 06 12 47.2 +2.3
ALPN Alpine 14.04 346 Pn 06 12 50.9 +1.2
OZNA Ozona 14.19 355 P 06 12 56.6 -2.6
BRDY Brady 14.53 3 Pn 06 12 54.6 -1.6
VHRN Van Horn 14.78 342 Pn 06 13 00.5 +0.7
MNHN Monahans 14.80 350 Pn 06 13 00.9 +0.9
SGCY Sterling City 15.18 356 P 06 13 08.2 -2.0
SGCY IAmb IAmb 06 13 10.9
comp=Z,29nm,0.9s
FW13 Cleburne 15.72 7 IAmb IAmb 06 13 25.1
comp=Z,70nm,0.9s
FW14 Alvarado 15.80 8 IAmb IAmb 06 13 17.3
comp=Z,64nm,1.2s
JTS Las Juntas de 15.80 112 P P 06 13 18.1 +0.9
JTS IAmb IAmb 06 13 33.3
comp=Z,62nm,1.3s
JTS Las Juntas de 15.80 112 P Pn 06 13 15.0 +1.7
comp=Z,0.8nm,0.3s,baz=300,slow=19,SNR=6.2
JTS LR LR 06 18 39.7
comp=Z,193nm,19.6s,baz=306,slow=35
comp=Z,10nm,0.9s
ABTX Abilene, Hawle 15.84 1 Pn 06 13 13.8 +0.2
HSIG 15.96 322 Pn 06 13 16.9 +1.7
FW07 Weatherford 16.02 6 IAmb IAmb 06 13 28.6
comp=Z,74nm,1.1s
PLPT Palo Pinto 16.09 5 IAmb IAmb 06 13 21.8
comp=Z,63nm,0.8s
TREL Terrell 16.30 11 IAmb IAmb 06 13 30.9
comp=Z,89nm,1.4s
POST Post 16.35 355 IAmb IAmb 06 13 31.7
comp=Z,48nm,1.0s
APMT Aspermont 16.54 359 IAmb IAmb 06 13 33.7
comp=Z,44nm,0.8s
Z35A Perchaven, San 16.71 8 IAmb IAmb 06 13 35.8
comp=Z,56nm,1.0s
LCR2 La Lucha 2 16.88 112 Pn Pn 06 13 27.6 +0.3
WTFS Witchita Falls 17.02 4 IAmb IAmb 06 13 39.5
comp=Z,35nm,1.0s
Z38A Mt. Pleasant 17.04 14 IAmb IAmb 06 13 39.1
comp=Z,89nm,1.1s
143A Socs Landing, 17.65 24 IAmb IAmb 06 13 46.0
comp=Z,46nm,1.1s
X34A Smith Ranch, M 17.90 5 IAmb IAmb 06 13 53.0
comp=Z,57nm,1.3s
TUC Tucson 18.43 329 P Pn 06 13 47.8 +1.5
ANMO Albuquerque 19.10 343 P Pn 06 13 54.6 +0.2
ANMO Albuquerque 19.10 343 IAmb IAmb 06 14 05.0
comp=Z,13nm,1.3s
ANMO Albuquerque 19.10 343 P Pn 06 13 54.6 +0.2
comp=Z,0.4nm,0.3s,baz=237,slow=12,SNR=19
ANMO Lg Lg 06 19 27.6
comp=Z,0.1nm,0.3s,baz=135,slow=15,SNR=1.7

ANMO LR LR 06 22 22.1
comp=Z,507nm,20.5s,baz=254,slow=40
comp=Z,3.4nm,0.6s
UALR University of 19.19 19 IAmb IAmb 06 14 02.8
comp=Z,33nm,1.0s
DEOK Depew 19.28 8 IAmb IAmb 06 14 09.4
comp=Z,22nm,0.8s
Y45A Yeager Farm, C 19.42 27 IAmb IAmb 06 14 13.5
comp=Z,71nm,1.4s
TUL3 Leonard 19.45 10 IAmb IAmb 06 14 07.6
comp=Z,50nm,0.9s
Z47A Carrollton 19.54 31 IAmb IAmb 06 14 06.1
comp=Z,24nm,0.8s
QUOK Quay 19.57 8 IAmb IAmb 06 14 08.3
comp=Z,43nm,0.9s
OK038 West end E0370 19.71 3 IAmb IAmb 06 14 01.8
comp=Z,24nm,0.8s
CROK Carrier 19.78 4 IAmb IAmb 06 14 10.4
comp=Z,28nm,0.9s
OK048 Pawnee Station 19.79 7 IAmb IAmb 06 14 11.4
comp=Z,58nm,1.0s
RLO Rose Lookout 19.84 12 IAmb IAmb 06 14 10.5
comp=Z,32nm,1.1s
OK051 E0350 and S346 19.89 7 IAmb IAmb 06 14 12.6
comp=Z,64nm,1.2s
X18A Snowflake 19.93 335 IAmb IAmb 06 14 15.5
comp=Z,20nm,1.0s
352A Blakely 19.99 40 P P 06 14 02.5 -0.6
HHAR Hobbs 20.18 14 IAmb IAmb 06 14 14.5
comp=Z,31nm,1.1s
U38A Gravette 20.23 13 IAmb IAmb 06 14 15.0
comp=Z,23nm,1.0s
FCAR Ozark Folk Cen 20.29 18 IAmb IAmb 06 14 14.7
comp=Z,54nm,1.3s
T35A Sooner Cattle 20.33 8 IAmb IAmb 06 14 16.9
comp=Z,35nm,0.8s
X16A Lo Mia Camp, P 20.48 332 IAmb IAmb 06 14 15.3
comp=Z,21nm,0.9s
Y49A Blount Mountai 20.90 33 IAmb IAmb 06 14 14.6
comp=Z,32nm,1.2s
152A Waverly Hall 20.95 38 IAmb IAmb 06 14 17.5
comp=Z,24nm,0.9s
PLAL Pickwick Lake 21.01 28 IAmb IAmb 06 14 18.0
comp=Z,20nm,0.8s
X48A Hartselle 21.05 31 IAmb IAmb 06 14 16.5
comp=Z,25nm,0.9s
GLA Glamis 21.17 323 IAmb IAmb 06 14 21.9
comp=Z,27nm,0.9s
WUAZ Wupatki 21.37 333 IAmb IAmb 06 14 23.6
comp=Z,20nm,0.9s
456A Hilliard 21.41 46 P P 06 14 19.5 +1.0
MGMO Mountain Grove 21.43 17 IAmb IAmb 06 14 29.8
comp=Z,30nm,1.2s
BLYC Blythe 21.51 325 IAmb IAmb 06 14 22.6
comp=Z,21nm,0.9s
PBMO Poplar Bluff 21.65 21 IAmb IAmb 06 14 32.9
comp=Z,30nm,0.8s
MVCO Mesa Verde 21.81 341 P P 06 14 23.6 +0.5
FPAL Fort Paine 21.85 33 IAmb IAmb 06 14 27.1
comp=Z,22nm,1.0s
CBKS Cedar Bluff 22.02 0 P P 06 14 23.3 -1.8
CBKS IAmb IAmb 06 14 37.4
comp=Z,27nm,0.8s
WVT Waverly 22.08 27 P 06 14 23.7 -2.0
WVT IAmb IAmb 06 14 35.8
comp=Z,12nm,0.8s
SWET Sewanee 22.21 31 IAmb IAmb 06 14 26.1
comp=Z,14nm,0.8s
GOGA Godfrey 22.22 39 IAmb IAmb 06 14 28.7
comp=Z,29nm,0.8s
X51A Calhoun 22.27 34 IAmb IAmb 06 14 30.4
comp=Z,30nm,0.9s
KSCO Kaye Shedlock' 22.35 354 IAmb IAmb 06 14 36.5
comp=Z,32nm,0.9s
R40A Maddies Statio 22.50 16 IAmb IAmb 06 14 39.5
comp=Z,19nm,0.8s
T45A Paducah 22.51 24 P P 06 14 29.5 -0.8
W50A Signal Mountai 22.51 32 IAmb IAmb 06 14 37.0
comp=Z,17nm,0.9s
CCM Cathedral Cave 22.56 18 P 06 14 30.7 -0.1
CCM IAmb IAmb 06 15 07.6
comp=Z,29nm,1.4s
PV02 Paradox Valley 22.80 342 IAmb IAmb 06 15 10.6
comp=Z,14nm,0.9s
PV15 Paradox Valley 22.85 342 P P 06 14 33.8 -0.3
PV15 IAmb IAmb 06 15 01.9
comp=Z,24nm,1.4s
PV12 Saucer Basin, 22.92 342 IAmb IAmb 06 15 01.4
comp=Z,17nm,0.9s
PV19 Morning Glory 22.97 341 IAmb IAmb 06 15 03.2
comp=Z,21nm,1.3s
PV20 West Nyswonger 22.99 341 IAmb IAmb 06 15 14.9
comp=Z,18nm,1.2s
PV10 Paradox Valley 23.05 341 IAmb IAmb 06 15 04.3
comp=Z,22nm,1.4s
PV23 Carpenter Ridg 23.11 341 IAmb IAmb 06 14 51.1
comp=Z,14nm,0.8s
CPCT Cooper Cave 23.12 33 IAmb IAmb 06 14 38.0
comp=Z,28nm,0.9s
T47A Sharon Grove 23.12 27 IAmb IAmb 06 14 45.3
comp=Z,27nm,1.0s
V12A Nelson 23.19 328 IAmb IAmb 06 14 40.8
comp=Z,24nm,1.1s
HMU Henry Mountain 23.22 338 IAmb IAmb 06 14 41.3
comp=Z,29nm,0.9s
KNB Kanab 23.26 333 IAmb IAmb 06 14 41.3
comp=Z,33nm,1.5s
U49A Red Boiling Sp 23.32 30 IAmb IAmb 06 14 40.1
comp=Z,14nm,1.0s
P38A Dawn 23.48 12 P P 06 14 38.7 -1.5
HODGE Hodges 23.51 39 P P 06 14 40.2 -0.4
TKL Tuckaleechee C 23.67 34 IAmb IAmb 06 14 43.2
comp=Z,37nm,1.1s
USIN University of 23.72 24 IAmb IAmb 06 14 44.4
comp=Z,38nm,1.1s
P40A Paris 23.72 15 IAmb IAmb 06 14 50.6
comp=Z,27nm,1.2s
NHSC New Hope 24.09 44 P P 06 14 46.3 +0.1
JSC Jenkinsville 24.15 40 IAmb IAmb 06 14 47.7
comp=Z,24nm,1.0s
T50A Nancy 24.18 30 IAmb IAmb 06 14 47.1
comp=Z,17nm,1.0s
OGNE Ogallala 24.22 356 IAmb IAmb 06 14 48.7
comp=Z,18nm,0.9s
Q16A Castle Valley 24.25 338 IAmb IAmb 06 14 50.1
comp=Z,17nm,1.3s
O20A White River Ci 24.45 344 IAmb IAmb 06 14 59.6
comp=Z,18nm,1.0s
TZTN Tazewell 24.46 33 IAmb IAmb 06 14 50.0
comp=Z,23nm,1.0s
WCI Wyandotte Cave 24.51 26 P P 06 14 46.9 -3.1
WCI IAmb IAmb 06 14 58.5
comp=Z,20nm,1.1s
Y57A Sumter 24.52 42 P P 06 14 49.0 -1.1
P18A Preston Nutter 24.57 340 IAmb IAmb 06 14 53.0
comp=Z,11nm,0.8s
TPNV Topopah Spring 24.85 327 IAmb IAmb 06 14 58.1
comp=Z,15nm,1.1s
WCT Wildcat Mounta 24.93 327 IAmb IAmb 06 14 58.1
comp=Z,14nm,1.1s
S11A Rachel 25.13 329 IAmb IAmb 06 15 25.7
comp=Z,20nm,1.2s
N41A Hardin Midland 25.14 16 IAmb IAmb 06 15 03.7
comp=Z,24nm,1.2s
S51A Beattyville 25.28 31 IAmb IAmb 06 14 57.5
comp=Z,19nm,0.8s
U56A King 26.07 38 IAmb IAmb 06 15 04.5
comp=Z,19nm,0.8s
L40A Anamosa 26.32 15 IAmb IAmb 06 15 19.7
comp=Z,14nm,0.8s
K22A Casper 26.48 349 IAmb IAmb 06 15 42.9
comp=Z,20nm,1.5s
Q51A Peebles 26.49 30 IAmb IAmb 06 15 10.2
comp=Z,20nm,1.0s
L42A Oliver, Polo 26.67 17 IAmb IAmb 06 15 08.4
comp=Z,14nm,0.9s
O48B Farmland 26.69 26 IAmb IAmb 06 15 10.2
comp=Z,17nm,0.9s
NV11 Mina Array Sit 26.96 327 IAmb IAmb 06 15 15.8
comp=Z,20nm,1.1s
Q52A Bidwell 26.96 31 IAmb IAmb 06 15 28.9
comp=Z,23nm,0.8s
P51A Williamsport 26.98 29 IAmb IAmb 06 15 12.3
comp=Z,14nm,0.8s
N47A Urbana 27.00 24 IAmb IAmb 06 15 13.6
comp=Z,14nm,0.7s
LHV Little Huntoon 27.00 326 IAmb IAmb 06 15 24.4
comp=Z,14nm,1.1s

NVAR Mina Array Bea 27.03 327 P P 06 15 15.1 +1.9
comp=Z,12nm,0.9s,baz=151,slow=9.5,SNR=54
NVAR PcP PcP 06 18 35.7 +1.2
comp=Z,0.8nm,0.8s,baz=110,slow=0.9,SNR=3.8
NVAR LR LR 06 27 25.7
comp=Z,308nm,18.1s,baz=220,slow=40
comp=Z,12nm,0.9s
SDDR Presa de Saban 27.24 81 P 06 15 16.4 +1.4
SDDR IAmb IAmb 06 15 20.9
comp=Z,32nm,1.4s
PDAR Pinedale Array 27.26 344 P P 06 15 15.3 +0.1
PDAR Pinedale Array 27.26 344 P P 06 15 15.6 +0.4
comp=Z,6.4nm,0.9s,baz=150,slow=9.6,SNR=38
PDAR PcP PcP 06 18 34.7 -0.2
comp=Z,0.4nm,0.4s,baz=211,slow=1.0,SNR=3.8
PDAR LR LR 06 27 29.2
comp=Z,280nm,20.4s,baz=168,slow=40
comp=Z,6.4nm,0.9s
JFWS Jewell Farm 27.36 15 IAmb IAmb 06 15 30.6
comp=Z,10nm,0.7s
ELK Elko 27.41 334 LR LR 06 26 19.2
comp=Z,212nm,21.7s,baz=156,slow=37
P52A Corning 27.55 30 IAmb IAmb 06 15 37.1
comp=Z,16nm,1.1s
Q54A Coxs Mills 27.71 33 IAmb IAmb 06 15 31.2
comp=Z,7.7nm,0.8s
P53A Whipple 27.80 32 IAmb IAmb 06 15 21.3
comp=Z,11nm,1.1s
O52A Adamsville 28.06 30 IAmb IAmb 06 15 21.7
comp=Z,15nm,1.0s
T59A Double "B" Far 28.19 40 IAmb IAmb 06 15 24.2
comp=Z,21nm,1.1s
I42A Draeger Farm, 28.62 17 IAmb IAmb 06 15 26.3
comp=Z,11nm,1.2s
Q56A Snyder Ridge, 28.63 35 IAmb IAmb 06 15 28.1
comp=Z,24nm,1.1s
R58B Mineral 28.64 38 IAmb IAmb 06 15 28.0
comp=Z,20nm,1.0s
MCWV Mont Chateau 28.72 33 IAmb IAmb 06 15 28.3
comp=Z,16nm,0.8s
BEKR Beckworth 29.17 326 IAmb IAmb 06 15 35.4
comp=Z,10nm,1.0s
P57A Homestead Farm 29.59 36 IAmb IAmb 06 15 36.5
comp=Z,9.9nm,0.9s
MFID Camas Ranch 29.89 336 IAmb IAmb 06 15 46.5
comp=Z,7.9nm,1.0s
SDMD Soldier's Deli 30.21 37 IAmb IAmb 06 15 41.9
comp=Z,8.6nm,0.9s
WVOR Wild Horse Val 30.27 332 IAmb IAmb 06 15 46.2
comp=Z,8.8nm,1.1s
LAO LASA Array 30.36 351 IAmb IAmb 06 16 05.6
comp=Z,17nm,1.2s
SSPA Standing Stone 30.47 34 P P 06 15 42.4 -1.1
DLMT Dillon 30.50 342 IAmb IAmb 06 15 46.2
comp=Z,8.2nm,0.9s
COWI Conover 30.62 15 IAmb IAmb 06 15 55.5
comp=Z,16nm,1.4s
MVL Millersville 30.88 37 IAmb IAmb 06 15 48.1
comp=Z,10nm,1.0s
N58A Sunbury 31.25 35 IAmb IAmb 06 15 50.3
comp=Z,13nm,1.0s
M57A Sunshine Farm, 31.37 34 IAmb IAmb 06 15 51.6
comp=Z,13nm,0.8s
PLID Pearl Lake 31.38 338 IAmb IAmb 06 15 53.5
comp=Z,8.9nm,1.1s
K05A Summer Lake 31.55 330 IAmb IAmb 06 15 55.7
comp=Z,6.9nm,0.9s
AGMN Agassiz Nation 31.66 5 IAmb IAmb 06 15 54.5
comp=Z,11nm,1.1s
YBH Yreka Blue Hor 31.75 326 LR LR 06 30 21.3
comp=Z,9.3nm,19.1s,baz=94,slow=39
ATAH Atahualpa 31.80 137 LR LR 06 26 13.4
comp=Z,123nm,19.6s,baz=329,slow=31
L04D Klamath Falls 31.88 327 IAmb IAmb 06 15 58.2
comp=Z,17nm,1.2s
SJG San Juan 32.14 82 LR LR 06 28 04.2
comp=Z,107nm,21.5s,baz=274,slow=35
EGMT Eagleton 32.27 347 IAmb IAmb 06 16 01.6
comp=Z,16nm,1.2s
F10A Beach Ranch, E 32.59 337 P P 06 16 02.7 +0.6
F10A IAmb IAmb 06 16 05.0
comp=Z,12nm,0.8s
G08A Pilot Rock 32.70 335 IAmb IAmb 06 16 04.7
comp=Z,9.1nm,0.9s
I05D Terrebonne, OR 32.99 331 IAmb IAmb 06 16 10.7
comp=Z,5.9nm,0.9s
EPLO Experimental L 33.24 7 IAmb IAmb 06 16 07.3
comp=Z,7.3nm,0.7s
ULM Lac du Bonnet 33.60 5 IAmb IAmb 06 16 10.7
comp=Z,4.9nm,0.9s
ULM Lac du Bonnet 33.60 5 P P 06 16 09.5 -1.3
comp=Z,3.0nm,0.7s,baz=194,slow=8.1,SNR=8.0
ULM LR LR 06 30 56.1
comp=Z,88nm,18.4s,baz=188,slow=38
comp=Z,3.0nm,0.7s
G05A Wamic 33.67 332 IAmb IAmb 06 16 16.8
comp=Z,9.1nm,1.1s
H04D Lebanon 33.78 330 IAmb IAmb 06 16 25.5
comp=Z,9.1nm,0.8s
J59A Piesco 34.24 34 IAmb IAmb 06 16 15.8
comp=Z,6.0nm,0.8s
NEW Newport 34.51 339 LR LR 06 32 08.0
comp=Z,188nm,21.3s,baz=154,slow=39
C09A Chrisman Ranch 34.52 338 IAmb IAmb 06 16 20.8
comp=Z,5.4nm,0.8s
LTY Liberty 34.99 335 IAmb IAmb 06 16 24.5
comp=Z,6.1nm,0.9s
LON Longmire 35.06 333 IAmb IAmb 06 16 25.8
comp=Z,4.8nm,0.9s
B08A Colville Reser 35.37 337 IAmb IAmb 06 16 27.3
comp=Z,6.6nm,1.2s
D05A Enumclaw 35.48 334 IAmb IAmb 06 16 30.6
comp=Z,8.7nm,0.8s
GNW Green Mountain 36.13 333 IAmb IAmb 06 16 34.6
comp=Z,7.3nm,0.8s
TRQ Mont Tremblant 36.16 30 IAmb IAmb 06 16 42.1
comp=Z,19nm,1.4s
NLWA Neilton Lookou 36.45 332 IAmb IAmb 06 16 38.2
comp=Z,15nm,1.2s
WVL Waterville 37.62 36 IAmb IAmb 06 16 45.6
comp=Z,14nm,1.1s
FFC Flin Flon 37.97 358 P P 06 16 47.3 -1.0
LLLB Lillooet 38.17 337 IAmb IAmb 06 16 59.7
comp=Z,5.7nm,0.8s
LDAQ Lac Daran 38.99 31 IAmb IAmb 06 16 57.0
comp=Z,8.8nm,0.8s
F64A Sherman 39.14 35 IAmb IAmb 06 16 58.8
comp=Z,15nm,1.0s
G65A Princeton 39.19 37 IAmb IAmb 06 16 59.2
comp=Z,16nm,0.9s
BBB Bella Bella 41.86 334 LR LR 06 34 18.1
comp=Z,73nm,21.1s,baz=150,slow=35
FCC Fort Churchill 42.19 4 P P 06 17 22.8 -0.4
FCC IAmb IAmb 06 17 31.7
comp=Z,9.6nm,0.9s
LPAZ La Paz 45.30 135 P P 06 17 51.1 +1.7
comp=Z,0.9nm,0.8s,baz=340,slow=8.3,SNR=2.4
LPAZ LR LR 06 34 28.5
comp=Z,96nm,20.2s,baz=345,slow=33
comp=Z,0.9nm,0.8s
V35K Ketchikan 45.57 335 P P 06 17 52.0 +1.6
baz=135
SCHQ Schefferville 45.72 26 P P 06 17 50.2 -1.4
comp=Z,12nm,0.9s,baz=230,slow=5.9,SNR=8.1
SCHQ LR LR 06 40 33.8
comp=Z,56nm,19.0s,baz=229,slow=41
comp=Z,12nm,0.9s
TOAD Toad River Com 46.04 342 P P 06 17 54.7 +0.5
baz=145
T35M Bob Quinn 46.24 337 P P 06 17 57.2 +1.5
baz=138
CRAG Craig 46.28 334 P P 06 17 57.2 +1.2
baz=133
WRAK Wrangell Islan 46.63 336 P P 06 17 59.5 +0.8
baz=135
U33K Whale Pass 46.73 335 P P 06 18 00.2 +0.7
baz=134
LIRD Liard River Hi 46.76 342 P P 06 18 00.9 +1.1
baz=144
KOTAN Kotaneelee Air 46.77 344 P P 06 18 00.9 +1.1
baz=147
YKAW1 Yellowknife Wh 46.86 351 P P 06 18 00.3 -0.1
YKAW1 IAmb IAmb 06 18 00.9
comp=Z,13nm,0.9s
YKA Yellowknife Ar 46.89 351 P P 06 18 00.2 -0.5
comp=Z,7.4nm,0.9s,baz=164,slow=6.9,SNR=41
YKA LR LR 06 38 29.0
comp=Z,80nm,19.8s,baz=182,slow=37

comp=Z,7.4nm,0.9s
YKAW3 **Yellowknife Wh** 46.96 351 P P 06 18 01.0 -0.2
YKAW3 IAmb IAmb 06 18 01.6
comp=Z,12nm,0.9s
S34M **Telegraph Cree** 47.25 338 P P 06 18 05.0 +1.4
baz=137
DLBC **Dease Lake** 47.26 339 LR LR 06 39 53.5
comp=Z,26nm,18.7s,baz=120,slow=38
DLBC **Dease Lake** 47.26 339 P P 06 18 04.2 +0.5
baz=139
KUQ **Kuujjuuaa** 47.44 22 P P 06 18 05.0 0.0
MDP **Montagnes des** 47.62 98 LR LR 06 38 56.2
comp=Z,58nm,21.9s,baz=300,slow=37
BLKN **Baker Lake** 47.63 2 P P 06 18 06.0 -0.4
WTLY **Watson Lake, Y** 48.14 341 P P 06 18 12.1 +1.5
WTLY **Watson Lake, Y** 48.14 341 P P 06 18 12.0 +1.4
baz=141
S32K **Killisnoo** 48.24 336 P P 06 18 12.8 +1.6
baz=133
SIT **Sitka** 48.27 335 P P 06 18 12.7 +1.3
baz=132
R33M **Jennings River** 48.30 339 P P 06 18 13.2 +1.3
baz=138
Q32M **Nakina River** 48.43 338 P P 06 18 14.1 +1.1
baz=136
TGTN **Hyland Airport** 49.11 342 P P 06 18 20.1 +2.2
baz=143
S31K **Pelican** 49.23 335 P P 06 18 20.5 +1.7
baz=131
WRGLY **Wrigley** 49.28 346 P P 06 18 20.9 +1.8
baz=149
P32M **Atlin** 49.40 338 P P 06 18 21.3 +1.1
baz=135
P33M **Teslin, Yukon** 49.53 339 IAmb IAmb 06 18 32.9
comp=Z,7.4nm,1.1s
P33M **Teslin, Yukon** 49.53 339 P P 06 18 22.2 +0.9
baz=136
SKAG **Skagway** 49.90 337 P P 06 18 25.3 +1.4
baz=133
PLBC **Pleasant Camp** 50.28 337 P P 06 18 28.4 +1.5
baz=132
N32M **Quiet Lake** 50.31 340 P P 06 18 29.0 +1.9
baz=137
WHY **Whitehorse** 50.57 339 P P 06 18 30.7 +1.5
baz=134
MMPY **Sheldon Lake,** 50.84 342 P P 06 18 33.1 +2.0
baz=140
P29M **Windy Craggy** 50.92 336 P P 06 18 33.5 +1.7
baz=130
P30M **Million Dollar** 50.95 337 P P 06 18 34.0 +1.9
baz=132
O30N **Mendenhall** 51.08 338 IAmb IAmb 06 18 35.7
comp=Z,5.8nm,1.0s
O30N **Mendenhall** 51.08 338 P P 06 18 34.2 +1.3
baz=133
FARO **Faro, Yukon** 51.19 341 IAmb IAmb 06 18 45.6
comp=Z,5.5nm,0.9s
FARO **Faro, Yukon** 51.19 341 P P 06 18 35.2 +1.5
baz=137
N31M **Braeburn, Yuko** 51.46 339 P P 06 18 36.9 +1.2
baz=134
M31M **Drury Creek, Y** 51.51 340 IAmb IAmb 06 18 38.7
comp=Z,4.4nm,0.9s
M31M **Drury Creek, Y** 51.51 340 P P 06 18 36.6 +0.5
baz=136
PNL **Peninsula** 51.60 336 P P 06 18 38.0 +1.2
baz=129
HYT **Haines Junctio** 51.63 338 P P 06 18 38.0 +0.9
baz=131
FRB **Frobisher Bay** 51.66 17 LR LR 06 41 51.9
comp=Z,108nm,19.1s,baz=284,slow=38
O29M **Mount Kennedy** 51.68 337 P P 06 18 39.1 +1.5
baz=130
N30M **Aishikik Lake** 51.90 338 P P 06 18 40.9 +1.8
baz=132
YUK6 **Outpost Mounta** 52.02 337 P P 06 18 41.8 +1.6
baz=130
PINM **Pinnacle** 52.20 336 P P 06 18 42.5 +1.2
baz=128
YUK4 **Talbot Arm** 52.39 338 P P 06 18 44.6 +1.7
baz=131
M30M **Minto, Yukon** 52.57 339 IAmb IAmb 06 19 00.3
comp=Z,5.7nm,1.1s
M30M **Minto, Yukon** 52.57 339 P P 06 18 45.4 +1.4
baz=133
O28M **Mount Upton** 52.60 336 P P 06 18 46.3 +1.8
baz=128
YUK8 **Steele Glacier** 52.76 337 P P 06 18 47.3 +1.6
baz=129
MESA **MESA** 52.93 335 P P 06 18 47.9 +1.0
baz=126
MAYO **Mayo, Yukon** 52.99 341 P P 06 18 49.4 +2.4
baz=135
M29M **Somme Creek** 53.05 339 IAmb IAmb 06 18 50.5
comp=Z,7.4nm,0.9s
M29M **Somme Creek** 53.05 339 P P 06 18 49.3 +1.6
baz=131
CTG **Chitna Glacier** 53.16 336 P P 06 18 49.8 +1.3
baz=127
YUK3 **Moose Creek** 53.33 337 P P 06 18 51.3 +1.4
baz=129
L29M **L29M** 53.38 339 P P 06 18 51.9 +1.9
baz=132
K29M **Barlow Dome** 53.68 340 IAmb IAmb 06 18 55.1
comp=Z,5.9nm,0.9s
K29M **Barlow Dome** 53.68 340 P P 06 18 53.6 +1.4
baz=133
H03N2 **Juan Fernandez** 53.72 158 T T 07 16 43.0
baz=337,slow=77,SNR=134
H03N1 **Juan Fernandez** 53.72 158 T T 07 16 41.8
baz=337,slow=77,SNR=165
CRQE **Cirque** 53.72 335 P P 06 18 53.7 +1.1
baz=125
H03N3 **Juan Fernandez** 53.73 158 T T 07 16 40.7
baz=337,slow=77,SNR=169
KAIM **Kayak Island** 53.80 334 P P 06 18 54.3 +1.3
baz=123
J30M **Hart River** 53.82 341 P P 06 18 54.3 +1.0
baz=135
MCARA **McCarthy VSAT** 54.07 336 P P 06 18 56.8 +1.8
baz=126
H31M **Peel River** 54.14 343 P P 06 18 56.6 +1.2
baz=138
M27K **Edge Creek, AK** 54.22 337 IAmb IAmb 06 18 59.4
comp=Z,5.8nm,0.9s
M27K **Edge Creek, AK** 54.22 337 P P 06 18 57.5 +1.3
baz=128
I30M **Mount Dempster** 54.29 342 IAmb IAmb 06 18 58.4
comp=Z,4.2nm,0.9s
I30M **Mount Dempster** 54.29 342 P P 06 18 57.6 +0.9
baz=135
Q23K **Middleton Isla** 54.36 333 P P 06 18 58.2 +1.1
baz=121
GLB **Gilahina Butte** 54.41 336 IAmb IAmb 06 19 00.3
comp=Z,8.3nm,0.9s
DAWY **Dawson** 54.44 340 P P 06 18 58.7 +1.0
DAWY IAmb IAmb 06 19 00.3
comp=Z,4.7nm,1.1s
DAWY **Dawson** 54.44 340 P P 06 18 58.7 +1.0
baz=131
BMRM **Bremner River** 54.46 335 P P 06 18 59.5 +1.6
baz=124
BCAR **Beaver Creek A** 54.62 338 P P 06 18 59.7 +0.6
L27K **Beaver Creek,** 54.63 338 IAmb IAmb 06 19 01.6
comp=Z,5.0nm,0.9s
L27K **Beaver Creek,** 54.63 338 P P 06 19 00.5 +1.4
baz=128
M26K **Nabesna, AK** 54.66 337 IAmb IAmb 06 19 01.9
comp=Z,7.7nm,0.9s
M26K **Nabesna, AK** 54.66 337 P P 06 19 00.6 +1.2
baz=126
EYAK **Cordova Ski Ar** 54.70 334 P P 06 19 01.3 +1.7
baz=122
N25K **Chitina, Valde** 54.81 336 P P 06 19 02.2 +1.7
baz=124
G31M **Satah River** 54.95 344 IAmb IAmb 06 19 02.8
comp=Z,8.5nm,0.8s
G31M **Satah River** 54.95 344 P P 06 19 02.1 +0.9
baz=138
I29M **Ogilvie Camp,** 54.97 341 P P 06 19 02.0 +0.4
baz=133
P23K **Montague Islan** 55.11 333 P P 06 19 03.6 +1.0
baz=120
L26K **Log Cabin Wild** 55.16 338 IAmb IAmb 06 19 05.3
comp=Z,4.7nm,0.9s
L26K **Log Cabin Wild** 55.16 338 P P 06 19 04.3 +1.4
baz=126
F31M **Tsiigehtchic** 55.21 345 IAmb IAmb 06 19 04.4
comp=Z,7.3nm,1.1s
F31M **Tsiigehtchic** 55.21 345 P P 06 19 03.4 +0.2
baz=139
EPYK **Eagle Plains** 55.21 343 P P 06 19 03.6 +0.3
baz=135
KLU **Klutina** 55.28 335 P P 06 19 04.6 +0.8
baz=123
K27K **Chicken** 55.32 339 P P 06 19 05.1 +1.1
baz=128
GLI **Glacier Island** 55.43 334 P P 06 19 06.4 +1.5
baz=121
HARP **HAARP** 55.48 336 P P 06 19 06.8 +1.6
baz=124
G30M **tAoh Zraii Nji** 55.52 344 P P 06 19 06.0 +0.6
baz=136
I28M **Miner Creek** 55.53 341 P P 06 19 06.5 +0.9
baz=131
H29M **Whitestone** 55.58 342 IAmb IAmb 06 19 16.5
comp=Z,15nm,1.4s
H29M **Whitestone** 55.58 342 P P 06 19 07.3 +1.4
baz=133
M24K **Tolsona, Glenn** 55.71 336 P P 06 19 08.5 +1.6
baz=123
DOT **Dot Lake** 55.79 338 IAmb IAmb 06 19 10.4
comp=Z,7.3nm,1.0s
INK **Inuvik** 55.82 346 P P 06 19 08.2 +0.7
baz=140
F30M **Barrier River** 55.86 344 P P 06 19 08.8 +0.9
baz=137
PAX **Paxson** 55.92 337 IAmb IAmb 06 19 10.4
comp=Z,8.4nm,1.0s
PAX **Paxson** 55.92 337 P P 06 19 08.9 +0.4
baz=124
PWL **Port Wells** 55.95 334 P P 06 19 10.5 +1.9
baz=120
SCRK **Sand Creek** 55.96 338 IAmb IAmb 06 19 11.1
comp=Z,3.8nm,0.9s
SCRK **Sand Creek** 55.96 338 P P 06 19 09.6 +0.8
baz=126
G29M **Pine Creek** 55.97 343 IAmb IAmb 06 19 10.2
comp=Z,5.0nm,0.8s
G29M **Pine Creek** 55.97 343 P P 06 19 09.6 +0.9
baz=134
SCM **Sheep Creek Mo** 56.03 335 P P 06 19 10.9 +1.7
baz=121
SEW **Seward** 56.06 333 P P 06 19 10.9 +1.6
baz=118
J26L **Joseph Creek** 56.13 339 P P 06 19 11.5 +1.6
baz=127
RIDG **Independent Ri** 56.13 338 P P 06 19 11.0 +1.1
baz=125
I27K **Kandik River** 56.17 341 P P 06 19 11.0 +0.8
baz=130
I26K **Coal Creek Min** 56.48 340 P P 06 19 13.3 +1.0
baz=128
KDAK **Kodiak Island** 56.49 329 LR LR 06 44 08.0
comp=Z,162nm,19.1s,baz=134,slow=37
KDAK **Kodiak Island** 56.49 329 P P 06 19 14.5 +2.0
baz=114
K24K **Donnelly Dome** 56.51 338 IAmb IAmb 06 19 15.7
comp=Z,10nm,1.1s
K24K **Donnelly Dome** 56.51 338 P P 06 19 13.8 +1.2
baz=124
H27K **Steamboat Moun** 56.54 341 P P 06 19 13.6 +0.8
baz=130
WAT6 **Susitna Watana** 56.59 336 P P 06 19 14.7 +1.4
baz=121
OHAK **Old Harbor** 56.62 328 P P 06 19 14.9 +1.5
baz=112
PMR **Palmer** 56.64 334 IAmb IAmb 06 19 15.3
comp=Z,7.8nm,0.8s
PMR **Palmer** 56.64 334 P P 06 19 14.5 +1.0
baz=119
RC01 **Rabbit Creek A** 56.65 334 P P 06 19 15.0 +1.4
baz=118
DHY **Denali Highway** 56.70 336 P P 06 19 15.3 +1.1
baz=122
Q20K **Shuyak Island** 56.74 330 P P 06 19 16.4 +2.2
baz=114
J25K **Salcha River,** 56.82 338 P P 06 19 15.9 +1.1
baz=125
SII **Sitkinak Islan** 56.83 327 P P 06 19 16.7 +1.7
baz=111
HOM **Homer** 56.84 332 P P 06 19 15.7 +0.8
baz=116
G27K **Doyon Strip** 56.96 342 P P 06 19 16.6 +0.9
baz=130
F28M **Old Crow** 56.97 343 IAmb IAmb 06 19 17.6
comp=Z,9.1nm,1.1s
F28M **Old Crow** 56.97 343 P P 06 19 16.8 +1.0
baz=132
E29M **Blow River** 56.98 344 IAmb IAmb 06 19 17.6
comp=Z,7.4nm,1.0s
E29M **Blow River** 56.98 344 P P 06 19 16.6 +0.8
baz=135
WAT1 **Susitna Watana** 57.03 336 P P 06 19 17.3 +0.9
baz=121
M22K **Willow** 57.13 334 P P 06 19 18.1 +1.2
baz=118
A36M **Sachs Harbour** 57.25 351 P P 06 19 18.0 +0.4
baz=150
SUA **Susitna One** 57.26 334 P P 06 19 18.8 +0.7
baz=118
HDA **Harding Lake** 57.27 338 P P 06 19 18.9 +0.9
baz=123
CHIR **Chirikof Islan** 57.32 326 P P 06 19 19.9 +1.5
baz=109
R18K **Karluk** 57.34 329 P P 06 19 19.8 +1.3
baz=112
POIN **Pond Inlet** 57.40 8 IAmb IAmb 06 19 27.0
comp=Z,12nm,1.3s
PRP **Porcupine Dome** 57.40 339 IAmb IAmb 06 19 21.0
comp=Z,7.4nm,1.0s
PRP **Porcupine Dome** 57.40 339 P P 06 19 20.0 +1.0
baz=125
IL31 **** 57.45 338 IAmb IAmb 06 19 20.9
comp=Z,10nm,1.2s
ILAR **Eielson Array** 57.45 338 P P 06 19 19.3 +0.1
ILAR **Eielson Array** 57.45 338 P P 06 19 19.9 +0.6
comp=Z,4.0nm,1.0s,baz=145,slow=5.0,SNR=31
ILAR LR LR 06 46 57.8
comp=Z,266nm,18.2s,baz=104,slow=39
comp=Z,4.0nm,1.0s
Q19K **Cape Douglas,** 57.47 330 P P 06 19 20.4 +1.0
baz=113
O20K **Slope Mountain** 57.47 332 P P 06 19 20.3 +0.8
baz=115
CUT **Chulitna** 57.51 335 P P 06 19 20.8 +1.1
baz=119
E28M **Babbage River** 57.56 344 IAmb IAmb 06 19 21.1
comp=Z,6.3nm,0.9s
E28M **Babbage River** 57.56 344 P P 06 19 20.1 +0.2
baz=133
P19K **Oil Pt** 57.57 331 P P 06 19 20.9 +0.7
baz=114
MCK **Mckinley** 57.65 337 P P 06 19 21.3 +0.7
baz=121
G26K **Porcupine Rive** 57.70 341 IAmb IAmb 06 19 23.4
comp=Z,6.1nm,1.2s
G26K **Porcupine Rive** 57.70 341 P P 06 19 21.6 +0.7
baz=128
WRH **Wood River Hil** 57.72 338 IAmb IAmb 06 19 22.2
comp=Z,4.8nm,1.0s
STLK **Strandline Lak** 57.74 333 IAmb IAmb 06 19 23.5
comp=Z,5.7nm,0.7s
N20K **Mount Spurr** 57.77 333 P P 06 19 21.7 +0.1
baz=116
SPCR **Spurr Chakacha** 57.77 333 P P 06 19 21.8 +0.2
baz=116
SKT **Skwentna** 57.83 334 IAmb IAmb 06 19 23.7
comp=Z,8.5nm,0.8s
SKT **Skwentna** 57.83 334 P P 06 19 23.0 +1.1
baz=117
E27K **Coleen River** 57.84 343 IAmb IAmb 06 19 24.3
comp=Z,8.2nm,1.0s
E27K **Coleen River** 57.84 343 P P 06 19 22.3 +0.4
baz=131
COLA **College** 57.85 338 P P 06 19 22.3 +0.3
baz=122
H25L **Birch Creek** 57.94 340 P P 06 19 23.2 +0.6
baz=125
Q18K **Katmai Hardscr** 58.01 330 P P 06 19 24.2 +0.8
baz=112
TRF **Thorofare Moun** 58.03 336 P P 06 19 23.7 +0.2
baz=119
NEA2 **Nenana** 58.15 337 IAmb IAmb 06 19 26.9
comp=Z,6.9nm,1.2s
NEA2 **Nenana** 58.15 337 P P 06 19 24.6 +0.5
baz=121
BMAR **Burnt Mountain** 58.24 341 P P 06 19 25.0 +0.2
F26K **Sheenjek River** 58.27 342 P P 06 19 25.4 +0.4
baz=128
Q17K **Contact Creek** 58.30 329 P P 06 19 26.0 +0.5
baz=111
R17L **Mt. Peulik Vol** 58.32 328 P P 06 19 26.3 +0.9
baz=110
G25K **Bearman Lake** 58.32 340 P P 06 19 26.0 +0.7
baz=125
D27M **Malcolm River** 58.38 344 P P 06 19 26.3 +0.6
baz=132
H24K **Noodor Dome** 58.39 339 IAmb IAmb 06 19 27.1
comp=Z,7.0nm,1.1s
H24K **Noodor Dome** 58.39 339 P P 06 19 26.6 +0.7
baz=123
P18K **Big Mountain,** 58.40 330 P P 06 19 26.5 +0.5
baz=112
M20K **Styx River** 58.47 334 P P 06 19 27.1 +0.6
baz=115
PPLA **Purkeypile** 58.53 335 P P 06 19 27.3 +0.3
baz=117
I23K **Minto, Yukon-K** 58.54 338 IAmb IAmb 06 19 28.7
comp=Z,9.1nm,1.1s
I23K **Minto, Yukon-K** 58.54 338 P P 06 19 27.6 +0.8
baz=121
O18K **Koktuh Hills** 58.56 331 P P 06 19 27.9 +0.7
baz=112
N19K **Bonanza Creek** 58.61 332 P P 06 19 27.6 +0.1
baz=114
BPAW **Bear Paw Mtn.** 58.62 336 P P 06 19 27.5 +0.1
baz=119
F25K **Christian Rive** 58.66 341 P P 06 19 28.5 +0.8
baz=126
CAST **Castle Rocks** 58.72 335 IAmb IAmb 06 19 29.7
comp=Z,8.2nm,0.9s
CAST **Castle Rocks** 58.72 335 P P 06 19 28.4 +0.2
baz=117
G24K **Hadweenzic Riv** 58.73 340 IAmb IAmb 06 19 30.1
comp=Z,7.9nm,1.0s
G24K **Hadweenzic Riv** 58.73 340 P P 06 19 29.8 +1.7
baz=124
Q16K **King Salmon** 58.83 329 P P 06 19 30.2 +1.3
baz=110
P17K **Kvichak River** 58.91 330 P P 06 19 30.5 +1.1
baz=111
CHGN **Chignik** 58.96 326 P P 06 19 30.8 +1.0
baz=107
E25K **Arctic Village** 58.96 342 P P 06 19 29.9 +0.2
baz=126
H23K **Yukon River** 58.96 338 P P 06 19 30.1 +0.4
baz=121
MLY **Manley** 58.98 337 IAmb IAmb 06 19 31.7
comp=Z,5.7nm,0.9s
MLY **Manley** 58.98 337 P P 06 19 30.2 +0.2
baz=120
M19K **Big River Lodg** 59.02 333 P P 06 19 31.0 +0.8
baz=114
CHUM **Lake Minchumin** 59.03 336 P P 06 19 30.3 0.0
baz=117
L20K **Farewell, AK** 59.04 334 P P 06 19 30.6 +0.2
baz=115
CHNA **Chernabura Isl** 59.18 324 P P 06 19 32.0 +0.6
baz=105
N18K **Kilae Creek** 59.20 332 P P 06 19 32.5 +1.0
baz=112
F24K **Squaw Lake** 59.33 341 P P 06 19 32.4 0.0
baz=124
L19K **White Mountain** 59.33 333 IAmb IAmb 06 19 34.3
comp=Z,5.5nm,0.9s
L19K **White Mountain** 59.33 333 P P 06 19 33.7 +1.3
baz=114
C27K **Jago River** 59.36 344 P P 06 19 32.9 +0.4
baz=129
SFJD **Kangerlussuaq** 59.41 20 LR LR 06 47 08.4
comp=Z,88nm,18.2s,baz=249,slow=38
O17K **Koliganek Bris** 59.42 330 P P 06 19 33.7 +0.7
baz=110
CPUP **Villa Florida** 59.47 135 P P 06 19 34.2 +0.4
comp=Z,1.5nm,1.2s,baz=111,slow=7.0,SNR=3.2
comp=Z,1.5nm,1.2s
M18K **Stony River** 59.48 332 P P 06 19 34.0 +0.6
baz=112
K20K **Telida** 59.50 335 IAmb IAmb 06 19 34.7
comp=Z,6.0nm,0.9s
K20K **Telida** 59.50 335 P P 06 19 33.8 +0.2
baz=115
G23K **Bananza Creek** 59.59 339 IAmb IAmb 06 19 36.0
comp=Z,5.2nm,1.1s
G23K **Bananza Creek** 59.59 339 P P 06 19 34.5 +0.4
baz=121
P16K **Nushagak River** 59.60 329 P P 06 19 34.8 +0.6
baz=109
H22K **Ishtalitna Cre** 59.65 338 P P 06 19 35.4 +0.9
baz=119
N17K **Nushagak Hills** 59.73 331 P P 06 19 36.2 +1.0
baz=111
SDPT **Sand Point** 59.81 325 P P 06 19 36.9 +1.2
baz=105
E24K **Your Creek** 59.83 341 IAmb IAmb 06 19 37.8
comp=Z,7.5nm,1.2s
E24K **Your Creek** 59.83 341 P P 06 19 36.4 +0.6
baz=124
O16K **Kokwok River B** 59.84 330 P P 06 19 37.3 +1.5
baz=109
C26K **Camden Bay** 59.87 344 P P 06 19 36.8 +0.8
baz=128
J20K **Nowinta River** 59.88 336 P P 06 19 36.8 +0.7
baz=116
D25K **Kavik River** 59.91 343 IAmb IAmb 06 19 38.0
comp=Z,7.5nm,0.9s
D25K **Kavik River** 59.91 343 P P 06 19 37.2 +0.9
baz=126
COLD **Coldfoot** 59.92 340 IAmb IAmb 06 19 38.6
comp=Z,6.4nm,1.1s
COLD **Coldfoot** 59.92 340 P P 06 19 37.3 +1.0
baz=121
H21K **Melozitna Rive** 60.05 338 IAmb IAmb 06 19 38.3
comp=Z,8.3nm,1.1s
H21K **Melozitna Rive** 60.05 338 P P 06 19 37.7 +0.4
baz=118
L18K **Granite Mounta** 60.13 333 P P 06 19 38.7 +0.8
baz=112
M17K **Holitna River** 60.16 332 P P 06 19 39.1 +1.0
baz=111
E23K **Chandalar** 60.17 341 IAmb IAmb 06 19 40.9
comp=Z,6.8nm,1.1s
E23K **Chandalar** 60.17 341 P P 06 19 38.6 +0.4
baz=122
G22K **Bettles** 60.20 339 P P 06 19 38.7 +0.4
baz=120
I20K **Naaghedeneel** 60.28 336 P P 06 19 40.3 +1.4
baz=116
BDFB **Brasilia** 60.38 119 P 06 19 41.2 +0.8
BDFB **Brasilia** 60.38 119 P P 06 19 40.3 -0.1
comp=Z,6.7nm,0.9s,baz=291,slow=6.2,SNR=11
comp=Z,6.7nm,0.9s
J19K **Poorman** 60.39 335 P P 06 19 40.0 +0.4
J19K **Poorman** 60.39 335 P P 06 19 40.0 +0.4
baz=114
N16K **Nishlik Lake** 60.45 331 P P 06 19 40.9 +0.8
baz=109
TOLK **Toolik Lake Re** 60.47 341 P P 06 19 40.8 +0.6
baz=123
D24K **Happy Valley** 60.53 342 P P 06 19 41.5 +1.0
baz=124
O15K **Ungalikthiuk R** 60.54 329 P P 06 19 42.2 +1.4
baz=107
J18K **Innoko River** 60.63 334 P P 06 19 41.9 +0.7
baz=113
G21K **Allakaket** 60.70 338 P P 06 19 42.0 +0.3
baz=118
M16K **Timber Creek** 60.72 331 P P 06 19 43.0 +1.1
baz=109
F22K **John River** 60.72 340 P P 06 19 42.5 +0.6
baz=119
H20K **Anotleneega Mo** 60.74 337 P P 06 19 42.6 +0.6
baz=116
S12K **Black Hills** 60.77 325 P P 06 19 44.3 +1.9
baz=103
L17K **Donlin** 60.81 333 P P 06 19 43.4 +0.9
baz=110
C24K **Franklin Bluff** 60.81 342 P P 06 19 42.8 +0.4
baz=124
E22K **Anaktuvuk Pass** 60.92 340 P P 06 19 43.7 +0.5
baz=120
N15K **Kwethluk River** 60.98 330 P P 06 19 44.8 +1.1
baz=108
D23K **Nanushuk River** 60.99 341 P P 06 19 44.4 +0.7

baz=122
K17K Iditarod 61.02 333 P **P** 06 19 44.5 +0.6
baz=111
F21K Alatna River 61.03 339 IAmb IAmb 06 19 46.6
comp=Z,9.2nm,1.1s
F21K Alatna River 61.03 339 P **P** 06 19 45.0 +1.1
baz=118
L16K Owhat River 61.18 332 P **P** 06 19 45.7 +0.6
baz=109
GCSA Galena City Sc 61.20 336 P **P** 06 19 45.5 +0.4
baz=113
O14K Tigyukauivet M 61.27 329 P **P** 06 19 46.6 +0.9
baz=106
M15K Kasigluk River 61.42 331 P **P** 06 19 47.7 +1.1
baz=107
C23K Itkillik River 61.43 342 P **P** 06 19 47.2 +0.6
baz=122
D22K Ayikyak River 61.57 341 P **P** 06 19 48.7 +1.1
D22K Ayikyak River 61.57 341 P **P** 06 19 48.6 +1.0
baz=120
J17K VABM Dome 61.59 334 P **P** 06 19 48.2 +0.4
baz=110
F20K Avaraart Lake 61.73 338 P **P** 06 19 49.5 +0.9
baz=116
G19K Purcell Mounta 61.84 337 P **P** 06 19 50.3 +0.9
baz=114
H18K Honhosa River 61.94 336 P **P** 06 19 50.4 +0.3
baz=112
M14K Bethel 62.03 331 P **P** 06 19 51.6 +0.8
baz=106
L15K Ungalak Mounta 62.09 332 P **P** 06 19 52.0 +0.9
baz=107
J16K Anvik River 62.20 334 P **P** 06 19 52.3 +0.5
baz=109
K15K Wolf Creek Mou 62.29 332 P **P** 06 19 53.9 +1.3
baz=107
G18K Tagagawik 62.33 337 P **P** 06 19 54.3 +1.5
baz=112
C21K Knifeblade Rid 62.37 341 P **P** 06 19 54.2 +1.3
baz=118
F19K Shaleruckik Mo 62.37 338 P **P** 06 19 53.7 +0.7
baz=113
E20K Nigu River 62.42 340 P **P** 06 19 54.2 +0.8
baz=116
E19K Redstone River 62.43 339 P **P** 06 19 54.2 +0.8
baz=114
I17K Unalakleet 62.43 334 P **P** 06 19 54.6 +1.2
baz=109
H17K Granite Mounta 62.47 335 P **P** 06 19 54.9 +1.2
baz=110
B21K Ikpikpuk River 62.53 341 P **P** 06 19 54.6 +0.6
baz=118
L14K Kuka Creek 62.54 331 P **P** 06 19 55.5 +1.4
baz=106
M13K Dall Lake 62.60 330 P **P** 06 19 56.1 +1.5
baz=105
D20K Etivluk River 62.76 340 P **P** 06 19 56.4 +0.8
baz=115
UNV Unalaska Valle 62.93 322 P **P** 06 19 58.8 +1.9
baz=98
G17K Kiwalik Mounta 62.96 336 P **P** 06 19 57.2 +0.3
baz=110
F18K Selawik 62.97 337 P **P** 06 19 57.1 +0.1
baz=111
D19K Kuna River 63.16 339 P **P** 06 19 58.9 +0.6
baz=114
PLCA Paso Flores 63.29 155 LR LR 06 42 00.8
comp=Z,63nm,19.2s,baz=189,slow=31
J14K Nanvaranak Lak 63.32 332 P **P** 06 20 00.2 +0.9
baz=106
B20K Meade River 63.49 341 P **P** 06 20 00.7 +0.4
baz=115
F17K Baldwin Pennin 63.52 337 P **P** 06 20 01.2 +0.6
baz=110
G16K Koyuk River 63.60 335 P **P** 06 20 01.8 +0.7
baz=108
K13K Kusilvak Mount 63.60 331 P **P** 06 20 02.3 +1.1
baz=104
E18K Tukpahlearik C 63.62 338 P **P** 06 20 01.7 +0.4
baz=111
C19K Lookout Ridge 63.90 340 P **P** 06 20 03.2 +0.1
baz=113
M11K Mekoryuk 63.97 330 P **P** 06 20 04.4 +0.8
baz=102
ICESG Greenland Ices 64.03 20 *i* P **P** 06 20 03.4 -1.0
G15K Niukluk 64.16 335 P **P** 06 20 05.6 +0.8
baz=106
NIKH Nikolski High 64.21 321 P **P** 06 20 07.4 +2.0
baz=96
C18K Utukok River 64.27 339 P **P** 06 20 06.0 +0.4
baz=111
ANM Nome 64.59 334 P **P** 06 20 08.5 +0.8
baz=105
F15K North Star Dit 64.60 336 P **P** 06 20 08.0 +0.2
baz=106
D17K Noatak River 64.61 338 P **P** 06 20 08.2 +0.4
baz=108
B18K Kokolik River 64.73 340 P **P** 06 20 09.1 +0.6
baz=110
A19K Wainwright 64.80 341 P **P** 06 20 08.8 -0.1
baz=112
C17K DeLong Mountai 64.89 339 P **P** 06 20 09.4 -0.3
baz=109
P08K Saint George I 65.05 325 P **P** 06 20 11.5 +0.7
baz=97
F14K Arctic Creek 65.21 335 P **P** 06 20 11.7 0.0
baz=104
NEEM North Greenlan 65.35 10 *i* P **P** 06 20 12.1 -0.7
NEEM IAmb IAmb 06 20 12.9
comp=Z,11nm,0.8s
SPIA Saint Paul Isl 65.51 326 P **P** 06 20 14.8 +1.1
baz=97
C16K Lisburne Hills 65.60 338 P **P** 06 20 13.5 -0.6
baz=106
SUMG Summit 65.74 17 P **P** 06 20 16.0 +0.5
SUMG IAmb IAmb 06 20 16.4
comp=Z,8.4nm,0.9s
SUMG Summit 65.74 17 *i* P **P** 06 20 15.4 -0.1
SUMG IAmb IAmb 06 20 16.1
comp=Z,7.9nm,0.9s
TNA Tin City 65.88 335 P **P** 06 20 15.9 -0.1
baz=103
SOEG Soedalen 66.63 22 *i* P **P** 06 20 20.0 -0.8
SOEG IAmb IAmb 06 20 24.2
comp=Z,27nm,1.0s
GAMB Gambell 67.14 333 P **P** 06 20 23.5 -0.6
baz=98
BORG Borgarnes 70.11 27 LR LR 06 52 45.1
comp=Z,65nm,18.4s,baz=285,slow=37
DAG Danmarks Havn 71.82 14 *i* P **P** 06 20 52.2 -0.6
DAG IAmb IAmb 06 20 53.1
comp=Z,4.2nm,0.8s
SPITS Spitsbergen Ar 78.90 11 P **P** 06 21 33.7 +0.2
comp=Z,5.0nm,1.0s,baz=319,slow=5.7,SNR=1.6
SPITS LR LR 06 59 59.6
comp=Z,67nm,18.3s,baz=277,slow=38
comp=Z,5.0nm,1.0s
EKA Eskdalemuir Ar 80.15 35 P **P** 06 21 40.0 -0.7
comp=Z,2.8nm,0.9s,baz=306,slow=4.0,SNR=5.5
comp=Z,2.8nm,0.9s
SEY Seymchan 83.09 334 LR LR 07 01 43.7
comp=Z,34nm,18.5s,baz=72,slow=38
ESDC Sonseca Array 83.90 51 P **P** 06 22 00.5 -0.3
ESDC IAmb IAmb 06 22 01.5
comp=Z,4.1nm,1.1s
ESDC Sonseca Array 83.90 51 P **P** 06 21 59.9 -0.9
comp=Z,3.2nm,0.9s,baz=288,slow=5.8,SNR=14
comp=Z,3.2nm,0.9s
PETK Petropavlovsk- 84.07 324 P **P** 06 22 01.9 +0.5
PETK Petropavlovsk- 84.07 324 P **P** 06 22 02.5 +1.1
comp=Z,4.5nm,0.9s,baz=82,slow=11,SNR=8.1
comp=Z,4.5nm,0.9s
MA2 Magadan 85.18 331 LR LR 07 03 34.8
comp=Z,44nm,18.8s,baz=152,slow=38
NOA NORSAR Array B 85.28 27 LR LR 07 00 08.4
comp=Z,34nm,20.4s,baz=335,slow=36
MDT Midelt 85.36 57 LR LR 06 54 54.7
comp=Z,60nm,21.8s,baz=268,slow=32
ARCES ARCESS Array B 85.83 17 P **P** 06 22 08.1 -1.9
comp=Z,2.9nm,0.9s,baz=304,slow=2.8,SNR=5.6
ARCES LR LR 07 03 09.4
comp=Z,32nm,18.1s,baz=342,slow=38
comp=Z,2.9nm,0.9s
CEST Esterri de Car 86.74 47 P **P** 06 22 15.3 +0.2
HFS Hagfors 86.78 27 LR LR 07 01 10.1
comp=Z,42nm,20.9s,baz=310,slow=36
FINES FINESS Array B 91.11 23 LR LR 07 04 12.7
comp=Z,57nm,20.9s,baz=253,slow=36

MKAR Makanchi Array 116.76 358 PKP **PKPdf** 06 28 15.0 -0.3
comp=Z,0.3nm,0.8s,baz=23,slow=2.2,SNR=1.8
STKA Stephens Creek 122.70 243 PKP **PKiKP** 06 28 27.4 +0.2
comp=Z,2.1nm,0.8s,baz=6.7,slow=0.8,SNR=4.4
MAW Mawson 127.92 172 PKP **PKPdf** 06 28 35.5 -0.4
comp=Z,2.5nm,0.9s,baz=307,slow=7.2,SNR=4.7
BOSA Boshof 128.34 113 PKP **PKPdf** 06 28 37.8 -0.2
comp=Z,4.9nm,1.1s,baz=198,slow=2.4,SNR=3.9
WRA Warramunga Arr 128.66 258 PKP **PKiKP** 06 28 39.6 +0.2
comp=Z,2.1nm,0.8s,baz=86,slow=2.6,SNR=14
ASAR Alice Springs 129.34 253 PKP **PKPdf** 06 28 40.5 +0.5
comp=Z,1.1nm,0.9s,baz=110,slow=2.6,SNR=9.1
CMAR Chiang Mai Arr 140.47 331 PKP **PKPdf** 06 29 01.9 +1.0
comp=Z,0.3nm,0.3s,baz=347,slow=3.3,SNR=4.8

NOU 03 06:15:11.6, 15.07S×166.71E, h0km, MLv4.6/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	1.24	146	P		Pg	06 15 34.1	-1.2
VLAKA	Lakatoro	1.24	146	S		Sg	06 15 51.7	+0.3
DVP	Devils Point	3.00	152	P		Pn	06 16 00.5	+0.1
KOUNC	Koumac, New Ca	5.92	203	P		Pn	06 16 41.1	+0.5
DZM	Mont Dzumac	6.97	182	P		Pn	06 16 54.1	-1.0
OUENC	Ouen Island, N	7.31	179	P		Pn	06 16 59.6	-0.1
NGOA	Tingoa Renbel	7.35	298	P		Pn	06 17 00.7	+0.4

*IDC **03** 06:18:31.1±2.0,33.°91N×45.°86E, h0km, mb3.7/9, mbtmp3.6/11, ML3.1/2, MS3.3/2, Error ellipse: s-maj=34.4km s-min=23.7km az=13.0*
*TEH **03** 06:18:36.0,34.°36N×45.°88E, h8km±38km*
*ISN **03** 06:18:36.0±0.5,34.°39N×45.°88E, h14km±5km, ML3.4*
ISC 03 06:18:36.5±0.6, 34.°40N±0.°03×45.°87E±0.°03, h10km, n39, σ1°39/41, mb3.6/8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.26	294	Pg		Pg	06 18 41.7	-0.1
GLG1	Gilan-e-Gharb	0.29	174	Pg		Pg	06 18 41.6	-0.7
IDHR	Dehrash	0.52	55	Pg		Pg	06 18 45.9	-0.7
IGHG	Ghaleghazi	0.58	97	Pg		Pg	06 18 47.6	-0.2
ILBA	Ilam Banvizeh	0.82	160	Pg		Pg	06 18 50.8	-1.5
KCHF	Cheshme Sefid,	0.97	97	Pg		Pn	06 18 55.4	-1.0
ILIN	Lien	1.03	60	Pg		Pn	06 18 56.9	-0.4
IBDR	Badra	1.29	178	*e*Pn		Pg	06 19 01.5	+0.3
IBDR				*e*Sn		Sn	06 19 19.3	+1.5
IBDR				AML	AML		06 19 29.0	
	comp=N,333nm,0.4s							
IBDR				AML	AML		06 19 36.7	
	comp=E,248nm,0.6s							
SNQR	Sonqor, Kerman	1.52	72	Pg		Pg	06 19 05.4	-0.2
IKRK	Kirkuk	1.61	309	*e*Pn		Pb	06 19 06.0	-0.3
IKRK				*e*Sn		Sg	06 19 28.0	-0.2
IKRK				AML	AML		06 19 33.0	
	comp=N,1μm,0.4s							
IKRK				AML	AML		06 19 33.6	
	comp=E,2μm,0.5s							
IBZA	Bozab	1.64	87	Pg		Pg	06 19 07.5	-0.5
BHD	Baghdad	1.68	228	*e*Pn		Pb	06 19 06.5	-1.0
BHD				*e*Sn		Sg	06 19 29.0	-1.5
BHD				AML	AML		06 19 35.0	
	comp=E,836nm,0.6s							
IKFM	Kafar-mosalman	1.86	118	Pn		Pb	06 19 10.3	-0.2
IDOB	Doab	2.01	107	Pn		Pb	06 19 12.1	-1.1
MAHB	Mahabad	2.36	357	Pn		Pb	06 19 18.4	-0.9
RAFI	Al-Rafai	2.68	176	*e*Pn		Pn	06 19 20.3	+0.7
RAFI				*e*Sn		Sn	06 19 53.0	+0.9
IAZR	Azarshahr	3.27	1	Pn		Pn	06 19 30.4	+2.4
QABG	Abgarm-Qazvin	3.31	66	Pn		Pn	06 19 30.6	+2.0
ISHB	Shabestar	3.88	357	Pn		Pn	06 19 38.1	+1.7
IPIR	Pirpir	4.53	111	Pn		Pn	06 19 46.8	+1.4
JHBN	Jahan bin	4.56	117	Pn		Pn	06 19 47.0	+1.2
GRMI	Germi	4.69	20	Pn		Pn	06 19 50.0	+2.6
KLST	Kelardasht - M	4.73	62	Pn		Pn	06 19 50.7	+2.5
IKLH	Kolahrood	4.87	101	Pn		Pn	06 19 52.1	+2.1
KRSH	Karshahi	5.21	93	Pn		Pn	06 19 56.5	+1.9
GNI	Garni	5.81	351	Pn		Pn	06 20 08.5	+5.7
	comp=E,0.5nm,0.3s,baz=17,slow=20,SNR=1.5							
GNI				Pg		Pg	06 20 24.3	-3.4
	comp=E,1.6nm,0.3s,baz=356,slow=8.7,SNR=3.6							
GNI				Lg		Lg	06 21 51.4	
	comp=E,1.0nm,0.3s,baz=29,slow=23,SNR=1.6							
	comp=E,3.6nm,0.4s							
IRAM	Ramesheh	6.04	114	Pn		Pn	06 20 07.7	+1.6
EIL	Elat	10.40	246	LR		LR	06 25 09.7	
	comp=E,40nm,19.0s,baz=76,slow=39							
BRTR	Keskin Array B	11.12	302	Pn		Pn	06 21 18.1	+2.4
	comp=E,0.1nm,0.3s,baz=138,slow=15,SNR=1.9							
	comp=E,0.3nm,0.6s							
AKASG	Malin Array Be	20.31	328	P		P	06 23 12.4	-0.1
	comp=E,0.6nm,0.4s,baz=141,slow=10,SNR=6.8							
	comp=E,0.6nm,0.4s							
BVAR	Borovoye Array	25.49	36	P		P	06 24 04.9	+0.1
	comp=E,0.4nm,0.5s,baz=229,slow=11,SNR=1.4							
	comp=E,0.4nm,0.5s							
GERES	GERESS Array B	27.80	311	P		P	06 24 25.1	-0.6
	comp=E,0.5nm,0.7s,baz=119,slow=11,SNR=1.7							
	comp=E,0.5nm,0.7s							
KURBB	Kurchatov Arra	28.72	46	P		P	06 24 33.3	-0.4
	comp=E,0.3nm,0.3s,baz=252,slow=9.1,SNR=2.4							
	comp=E,0.3nm,0.3s							
FINES	FINESS Array B	29.88	341	P		P	06 24 43.9	0.0
	comp=E,2.4nm,0.8s,baz=141,slow=12,SNR=4.1							
	comp=E,2.4nm,0.8s							
MKAR	Makanchi Array	30.02	55	P		P	06 24 43.9	-1.6
	comp=E,0.2nm,0.6s,baz=254,slow=10,SNR=1.6							
	comp=E,0.2nm,0.6s							
HFS	Hagfors	33.16	331	P		P	06 25 12.4	-0.4
	comp=E,3.5nm,0.8s,baz=116,slow=6.9,SNR=7.8							
	comp=E,3.5nm,0.8s							
NOA	NORSAR Array B	34.68	331	P		P	06 25 25.5	-0.6
	comp=E,0.6nm,0.7s,baz=124,slow=8.0,SNR=1.5							
	comp=E,0.6nm,0.7s							
EKA	Eskdalemuir Ar	39.53	317	P		P	06 26 06.8	-0.5
	comp=E,0.9nm,0.5s,baz=101,slow=8.6,SNR=5.4							
	comp=E,0.9nm,0.5s							
NEW	Newport	96.31	349	LR		LR	07 16 55.7	
	comp=E,45nm,18.9s,baz=288,slow=36							

TRN 03 06:24:10.7, 14.98N×60.45W, h68km, MD3.7, North-east of Martinique., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SVN	Savane Anatole	0.70	259	*e*P		Pn	06 24 27.0	+1.5
SVN				*e*S		Sn	06 24 38.8	+2.4
BIM	Bigot	0.75	233	*e*P		Pn	06 24 26.3	+0.3
BIM				*e*S		Sn	06 24 38.9	+1.5
DLPL	La Plaine	0.84	295	*e*P		Pn	06 24 27.9	+0.8
DLPL				*e*S		Sn	06 24 41.8	+2.5
DLDT	Laudat, Domini	0.93	292	*e*P		Pn	06 24 29.0	+0.8
DLDT				*e*S		Sn	06 24 44.0	+2.7
DRTD	Roseau, Domini	0.95	290	*e*P		Pn	06 24 29.7	+1.3
DRTD				*e*S		Sn	06 24 42.5	+0.8
MDN	Morne-Daniel	0.97	291	*e*P		Pn	06 24 29.8	+1.2
MDN				*e*S		Sn	06 24 45.5	+3.5
DWS	Wesley	1.02	306	*e*P		Pn	06 24 29.2	-0.1
DWS				*e*S		Sn	06 24 43.8	+0.7
DSLB	Salisbury	1.04	296	*e*P		Pn	06 24 30.6	+1.0
DSLB				*e*S		Sn	06 24 46.2	+2.5
SLBI	Saint Lucia, B	1.07	208	*e*P		Pn	06 24 30.4	+0.4
SLBI				*e*S		Sn	06 24 45.7	+1.4
MAGL	Barre de l'ile	1.25	321	*e*P		Pn	06 24 33.1	+0.7
MAGL				*e*S		Sn	06 24 49.8	+1.2
TBG	Guadaloupe-3	1.44	307	*e*P		Pn	06 24 35.2	+0.4
TBG				*e*S		Sn	06 24 53.7	+0.8
DSDZ	La Diserade, G	1.45	336	*e*P		Pn	06 24 34.6	-0.3
DSDZ				*e*S		Sn	06 24 53.8	+0.5
MMLZ	Guadeloupe Bro	1.58	312	*e*P		Pn	06 24 38.4	+1.7
MMLZ				*e*S		Sn	06 25 00.1	+3.8
ATAZ	Broadband at L	1.66	312	*e*P		Pn	06 24 40.5	+2.8
ATGZ				*e*S		Sn	06 25 00.8	+2.8
DHSZ	Broadband at M	1.81	316	*e*P		Pn	06 24 40.3	+0.7
DHSZ				*e*S		Sn	06 25 04.7	+3.1
SVB	Belmont	1.86	205	*e*P		Pn	06 24 41.3	+0.8
SVB				*e*S		Sn	06 25 04.6	+1.6
SVOC	Richmond Hill,	1.96	202	*e*P		Pn	06 24 42.0	+0.3
SVOC				*e*S		Sn	06 25 05.9	+0.6
BBGH	Gun Hill	2.02	154	*e*P		Pn	06 24 49.8	+7.3
BBGH				*e*S		Sn	06 25 07.1	+0.3

MBFL Flemmings, Mon 2.44 316 *e*P Pn 06 24 50.6 +2.3
MBFL *e*S Sn 06 25 18.2 +1.1
ANWB Willy Bob 2.97 335 *e*P Pn 06 24 55.0 -0.4

*SJA **03** 06:24:46.2±2.2,32.°19S×71.°96W, h40km, ML3.2, MW3.5*
*GUC **03** 06:24:47.9±0.7,32.°03S×71.°64W, h31km±4km, ML3.2*
ISC 03 06:24:47.3±1.2, 32.°05S±0.°02×71.°70W±0.°06, h29km±13km, n24, σ1°08/47, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VA06	Catapilco	0.61	146	*i*P		Pb	06 24 59.7	+0.2
VA06				*i* S		Sb	06 25 08.4	+0.6
VA06				IAML			06 25 11.7	
	comp=N,2μm,0.4s							
VA01	Torpederas	0.97	177	*e*P		Pb	06 25 05.5	+0.1
VA01				*e*S		Sb	06 25 18.6	+0.7
CO02	Cambarbal	1.04	35	*i*P		Pn	06 25 05.6	-0.4
CO02				*i* S		Sn	06 25 18.4	-1.2
CO02				IAML			06 25 24.0	
	comp=N,2μm,0.3s							
CO02	Cambarbal	1.04	35	*e*P		Pb	06 25 08.8	+2.1
CO02				IAML			06 25 34.3	
	comp=Z,199nm,0.2s							
ROCH	El Roble	1.09	148	*e*P		Pb	06 25 07.3	-0.3
ROCH				*i* S		Sn	06 25 21.3	+0.4
ROCH				IAML			06 25 24.7	
	comp=N,510nm,0.2s							
VA03	San Esteban	1.20	126	*e*P		Pn	06 25 08.7	+0.5
VA03				*i* S		Sb	06 25 24.5	-0.3
VA03				IAML			06 25 25.7	
	comp=E,1μm,0.5s							
MT02	Curacav	1.29	159	*e*P		Pb	06 25 10.3	-0.7
MT02				*e*S		Sb	06 25 26.7	-0.5
CO06	Fray Jorge	1.38	2	*e*P		Pn	06 25 10.3	-0.3
CO06				*i* S		Sb	06 25 28.8	-0.8
PEL	Peldehue	1.39	142	*e*P		Pb	06 25 11.8	-0.7
PEL				*i* S		Sb	06 25 29.6	-0.3
PEL				IAML			06 25 31.7	
	comp=E,418nm,0.3s							
CO03	El Pedregal	1.49	36	*e*P		Pn	06 25 12.7	+0.5
CO03				*e*S		Sb	06 25 31.6	-1.3
CO03				IAML			06 25 35.0	
	comp=E,732nm,0.1s							
CO03	El Pedregal	1.49	36	*e*P		Pn	06 25 12.9	+0.8
CO03				*e*S		Sb	06 25 32.5	-0.4
CO03				IAML			06 25 33.7	
	comp=Z,366nm,0.4s							
MT05	Renca	1.56	149	*e*P		Pb	06 25 14.6	-1.0
MT05				*i* S		Sb	06 25 34.9	-0.1
MT05				IAML			06 25 38.2	
	comp=E,433nm,0.3s							
MT10	Hacienda Santa	1.56	141	*e*P		Pb	06 25 14.7	-1.0
MT10				*i* S		Sb	06 25 34.5	-0.7
MT10				IAML			06 25 37.1	
	comp=N,634nm,0.3s							
VA05	Santo Domingo	1.60	177	*e*P		Pn	06 25 14.2	+0.6
VA05				*i* S		Sn	06 25 34.7	+1.4
MT14	Cerro Cal¡n	1.66	144	*e*P		Pb	06 25 16.3	-1.0
MT14				*e*S		Sb	06 25 36.8	-1.0
MT14				IAML			06 25 40.1	
	comp=E,800nm,0.5s							
MT09	Talagante	1.82	161	*e*P		Pb	06 25 18.9	-1.1
MT09				*e*S		Sb	06 25 42.0	-0.4
MT09				IAML			06 25 49.4	
	comp=N,192nm,0.3s							
MT04	Ro Olivares	1.89	136	*e*P		Pb	06 25 19.9	-1.3
MT04				*e*S		Sb	06 25 43.8	-0.7
MT04				IAML			06 25 46.0	
	comp=E,197nm,0.3s							
MT12	Pirque	1.94	150	*e*P		Pb	06 25 20.1	-1.8
MT12				*i* S		Sn	06 25 43.5	+1.8
MT12				IAML			06 25 51.7	
	comp=E,320nm,0.4s							
MT08	Bocatoma Ro	1.99	135	*e*P		Pb	06 25 22.0	-0.9
MT08				*i* S		Sb	06 25 46.7	-0.6
GO04	Tololo Observa	2.03	23	*e*P		Pn	06 25 20.4	+0.7
GO04				*e*S		Sb	06 25 47.9	-0.7
RTLS	Leoncito	2.06	84	*e*P		Pb	06 25 23.6	-0.7
RTLS				*e*S		Sb	06 25 51.0	+1.4
RTLS				IAML			06 25 55.1	
	comp=Z,330nm,0.4s							
AROD	Rodeo	2.68	46	*e*P		Pb	06 25 33.5	-1.3
AROD				*e*S		Sb	06 26 08.5	+1.1
ACCO	Cerro Coronel	2.69	58	*e*P		Pb	06 25 33.4	-1.5
ACCO				*e*S		Sb	06 26 09.5	+1.9
ACDV	Cuesta del Vie	2.90	50	*e*P		Pb	06 25 36.4	-2.1
ACDV				*e*S		Sb	06 26 15.5	+1.9
ACDV				IAML			06 26 23.3	
	comp=Z,28nm,0.5s							

IDC 03 06:42:39.8±3.1, 3.°05S×135.°57E, h0km, mb3.3/2, mbtmp3.4/4, ML2.8/2, MS3.3/1, Error ellipse: s-maj=113.7km s-min=29.8km az=84.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.84	184	Pn		Pn	06 46 37.5	+0.4
	baz=4.3,slow=12,SNR=1.6							
	0.3nm,0.6s							
FITZ	Fitzroy Crossi	17.84	212	P		Pn	06 46 49.0	-0.7
	baz=25,slow=17,SNR=1.5							
	1.2nm,0.9s							
ASAR	Alice Springs	20.56	184	P		P	06 47 20.5	+0.2
	0.4nm,0.4s,baz=7.7,slow=11,SNR=5.6							
	0.4nm,0.4s							
ASAJ	Asahikawa	47.37	7	LR		LR	07 11 11.6	
	comp=Z,30nm,19.0s,baz=332,slow=36							
MKAR	Makanchi Array	68.17	324	P		P	06 53 42.0	0.0
	0.3nm,0.5s,baz=113,slow=6.9,SNR=4.6							
	0.3nm,0.5s							

*ASRS **03** 07:30:45.0±1.0,54.°21N×86.°41E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 03 07:30:48.9±2.5, 54.°20N×86.°33E, h0km, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=20.1km s-min=12.4km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.93	255	I		I	07 36 04.6	
	baz=75,slow=322,SNR=2.1							
ZALV	Zalesovo Beam	0.93	255	Pg		Pg	07 31 05.3	-1.3
	2.1nm,0.3s,baz=75,slow=18,SNR=20							
ZALV				Lg		Lg	07 31 20.1	
	15nm,0.3s,baz=73,slow=32,SNR=10.0							
KURBB	Kurchatov Arra	5.96	236	Pn		Pn	07 32 19.0	+0.6
	0.1nm,0.3s,baz=52,slow=13,SNR=6.6							
KURBB				Lg		Lg	07 33 60.0	
	0.1nm,0.3s,baz=52,slow=31,SNR=4.1							
	0.7nm,0.4s							
MKAR	Makanchi Array	7.85	201	Pn		Pn	07 32 45.5	+1.3
	0.2nm,0.3s,baz=24,slow=14,SNR=8.3							
	0.3nm,0.3s							

IDC 03 07:31:02.5±6.7, 18.°02S×121.°55E, h0km, mb3.4/1, mbtmp3.8/5, ML3.2/4, Error ellipse: s-maj=83.3km s-min=31.9km az=141.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	3.89	92	Pn		Pn	07 32 04.4	+0.9
	1.1nm,0.3s,baz=270,slow=11,SNR=35							
FITZ				Sn		Sn	07 32 50.3	+0.3
	3.7nm,0.3s,baz=7.8,slow=15,SNR=7.0							
FITZ				Lg		Lg	07 33 18.8	
	4.5nm,0.3s,baz=177,slow=22,SNR=3.4							
	4.2nm,0.5s							
WRA	Warramunga Arr	12.25	101	Pn		Pn	07 33 57.8	-0.5
	0.3nm,0.3s,baz=278,slow=14,SNR=11							
WRA				Sn		Sn	07 36 10.1	-5.5
	0.4nm,0.3s,baz=281,slow=24,SNR=4.9							
WRA				Lg		Lg	07 37 45.1	
	0.1nm,0.3s,baz=277,slow=31,SNR=1.6							
	2.2nm,0.8s							
ASAR	Alice Springs	12.84	118	Pn		Pn	07 34 08.1	+1.7
	0.3nm,0.3s,baz=293,slow=12,SNR=28							
ASAR				Sn		Sn	07 36 29.8	-0.3
	0.5nm,0.3s,baz=298,slow=24,SNR=7.7							

ASAR				Lg	Lg	07 38 03.0		
	baz=290,slow=29							
	0.9nm,0.4s							
NWAO	**Narrogin (SRO)**	**15.34**	**194**	Pn	Pn	07 34 40.1	-0.2	
	0.6nm,0.3s,baz=11,slow=16,SNR=1.6							
NWAO				Sn	Sn	07 37 20.6	-11	
	1.0nm,0.3s,baz=193,slow=5.3,SNR=2.1							
NWAO				Lg	Lg	07 39 09.7		
	0.3nm,0.3s,baz=50,slow=16,SNR=1.8							
	5.2nm,0.6s							
STKA	**Stephens Creek**	**22.76**	**131**	P	P	07 36 05.9	-0.6	
	0.5nm,0.3s,baz=323,slow=10,SNR=3.9							
	0.5nm,0.3s							

VAO ***03*** *07:40:07.6±0.6, 6°.82N×73°.11W, h156km±4km, mb4.4*
IDC ***03*** *07:40:08.6±0.6, 6°.78N×72°.99W, h160km±6km, mb3.9/15, mbtmp4.4/20, Error ellipse: s-maj=11.2km s-min=6.7km az=135.0*
NEIC ***03*** *07:40:08.8±2.4, 6°.82N±0°.07×73°.11W±0°.08, h154km±8km, mb4.5/249, Error ellipse: s-maj=11.8km s-min=10.1km az=91.0*
RSNC ***03*** *07:40:08.7±0.0, 7°.1N±1°×7°.3W±°, h154km±1km, M4.6, mB5.2, mb4.9, ML4.2, MLv4.9, Mw(mB)4.6*

ISC 03 07:40:07.4±0.5, **6°.86N**±0°.03×**73°.14W**±0°.04, **h150**km±4km, **n269**, σ**2s05**/217, **mb4.5**/126, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
BARC	**Barichara**	**0.27**	**190**	P			**Pn**	**07 40 29.6**	**+1.3**
BARC				S			**Sn**	**07 40 44.9**	**+0.8**
BRJC	**Barrancabermej**	**0.61**	**281**	P			**Pn**	**07 40 31.2**	**+1.8**
BRJC				S			**Sn**	**07 40 48.0**	**+1.8**
PAMC	**Pamplona, Colo**	**0.65**	**42**	P			**Pn**	**07 40 32.6**	**+2.4**
PAMC				S			**Sn**	**07 40 49.6**	**+2.0**
RUSC	**La Rusia**	**0.96**	**177**				**Pn**	**07 40 33.5**	**+0.9**
RUSC	**La Rusia**	**0.96**	**177**	P			**Pn**	**07 40 33.4**	**+0.9**
RUSC				S			**Sn**	**07 40 51.7**	**+0.1**
PTBC	**PUERTO BERRIO,**	**1.35**	**257**	P			**Pn**	**07 40 35.9**	**+0.4**
PTBC				S			**Sn**	**07 40 56.6**	**-0.3**
OCAC	**Ocana**	**1.38**	**353**	P			**Pn**	**07 40 37.8**	**+1.8**
OCAC				S			**Sn**	**07 40 59.7**	**+1.7**
TAMC	**Tame, Arauca**	**1.40**	**107**	P			**Pn**	**07 40 38.0**	**+1.9**
TAMC				S			**Sn**	**07 40 59.3**	**+1.4**
SPBC	**San Pablo de B**	**1.52**	**218**	P			**Pn**	**07 40 38.2**	**+0.9**
SPBC				S			**Sn**	**07 41 00.5**	**+0.3**
ZARC	**Zaragoza, Cauc**	**1.82**	**290**	P			**Pn**	**07 40 42.1**	**+1.6**
ZARC				S			**Sn**	**07 41 07.3**	**+1.4**
NORC	**Norcasia**	**2.15**	**233**	P			**Pn**	**07 40 45.2**	**+0.8**
NORC				S			**Sn**	**07 41 13.1**	**+0.3**
CHIC	**Chingaza**	**2.29**	**195**	P			**Pn**	**07 40 47.5**	**+1.0**
CHIC				S			**Sn**	**07 41 16.7**	**+0.2**
ROSC	**El Rosal**	**2.32**	**210**	P			**Pn**	**07 40 49.1**	**+2.3**
	1μm,0.4s,baz=234,slow=2.1,SNR=642								
ROSC				S			**Sn**	**07 41 19.9**	**+2.7**
	7μm,0.4s,baz=18,slow=23,SNR=32								
HELC	**Santa Helena**	**2.47**	**255**	P			**Pn**	**07 40 50.0**	**+1.5**
HELC				S			**Sn**	**07 41 21.3**	**+1.2**
CVER	**Cruz Verde, Cu**	**2.50**	**202**	P			**Pn**	**07 40 50.9**	**+1.8**
CVER				S			**Sn**	**07 41 22.8**	**+1.6**
MEDEC	**Medelln, Ant**	**2.50**	**257**	P			**Pn**	**07 40 50.1**	**+1.3**
MEDEC				S			**Sn**	**07 41 21.7**	**+1.0**
UREC	**San Jos de Ur**	**2.54**	**291**	P			**Pn**	**07 40 49.4**	**+0.3**
UREC				S			**Sn**	**07 41 18.9**	**-2.2**
GUY2C	**Guyana, Caldas**	**2.75**	**234**	P			**Pn**	**07 40 53.6**	**+1.5**
GUY2C				S			**Sn**	**07 41 28.6**	**+2.1**
VILC	**Villavicencio,**	**2.78**	**191**	P			**Pn**	**07 40 52.8**	**+0.5**
VILC				S			**Sn**	**07 41 26.8**	**-0.1**
CBOC	**Ciudad Bolivar**	**3.02**	**251**	P			**Pn**	**07 40 57.0**	**+1.7**
CBOC				S			**Sn**	**07 41 32.6**	**+0.3**
DBBC	**Dabeiba**	**3.05**	**273**	P			**Pn**	**07 40 57.0**	**+1.4**
DBBC				S			**Sn**	**07 41 31.6**	**-1.2**
ARGC	**Ariguani, Magd**	**3.18**	**340**	P			**Pn**	**07 40 59.5**	**+2.4**
ARGC				S			**Sn**	**07 41 38.4**	**+2.8**
SDV	**Santo Domingo**	**3.20**	**51**				**Pn**	**07 40 58.8**	**+1.3**
SDV	**Santo Domingo**	**3.20**	**51**	P			**Pn**	**07 40 59.2**	**+1.7**
	518nm,0.6s,baz=230,slow=11,SNR=102								
SDV				S			**Sn**	**07 41 37.0**	**+0.7**
	578nm,0.4s,baz=276,slow=22,SNR=23								
SDV	**Santo Domingo**	**3.20**	**51**	*eP*			**Pn**	**07 40 57.9**	**+0.4**
SDV				*eS*			**Sn**	**07 41 36.7**	**+0.4**
SDV	**Santo Domingo**	**3.20**	**51**	P			**Pn**	**07 40 59.1**	**+1.6**
SDV				S			**Sn**	**07 41 36.1**	**-0.2**
ANIL	**Santa Ana**	**3.26**	**224**	P			**Pn**	**07 40 59.6**	**+1.2**
ANIL				S			**Sn**	**07 41 38.3**	**+0.5**
APAC	**Apartado, Choc**	**3.57**	**287**	P			**Pn**	**07 41 03.3**	**+1.2**
APAC				S			**Sn**	**07 41 44.0**	**-0.5**
PRAC	**Prado**	**3.58**	**209**	P			**Pn**	**07 41 02.8**	**+0.5**
PRAC				S			**Sn**	**07 41 44.9**	**+0.1**
ORTC	**Ortega, Tolima**	**3.60**	**216**	P			**Pn**	**07 41 03.4**	**+0.8**
ORTC				S			**Sn**	**07 41 46.4**	**+0.9**
SJCC	**San Jacinto, C**	**3.63**	**326**	P			**Pn**	**07 41 03.2**	**+0.2**
PLMC	**San Jos del P**	**3.68**	**238**	P			**Pn**	**07 41 04.9**	**+1.2**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P			**Pn**	**07 41 09.8**	**+0.1**
SOLC	**Bahia Solano**	**4.29**	**262**	P			**Pn**	**07 41 13.2**	**+1.7**
GUVC	**San Jose del G**	**4.32**	**173**	P			**Pn**	**07 41 11.3**	**-0.6**
SMRC	**Santa Marta, M**	**4.41**	**346**				**Pn**	**07 41 14.1**	**+1.0**
SMRC	**Santa Marta, M**	**4.41**	**346**	P			**Pn**	**07 41 13.8**	**+0.7**
SMRC				S			**Sn**	**07 42 01.9**	**-2.4**
PTAC	**Punta Ardita,**	**4.64**	**274**	P			**Pn**	**07 41 16.4**	**+0.2**
MACC	**Macarena, Meta**	**4.74**	**189**	P			**Pn**	**07 41 16.7**	**-0.7**
BETC	**Betania**	**4.74**	**209**	P			**Pn**	**07 41 16.7**	**-0.8**
URIC	**Uribia, Colomb**	**4.94**	**13**	P			**Pn**	**07 41 19.8**	**-0.3**
URIC				S			**Sn**	**07 42 18.3**	**+1.4**
MALC	**Bahia Malaga**	**5.04**	**236**	P			**Pn**	**07 41 23.6**	**+2.1**
JAMC	**Jamundi, Valle**	**5.05**	**224**	P			**Pn**	**07 41 22.0**	**+0.2**
	0.7nm2μm116nm,0.5s								
GARC	**Garzon, Huila**	**5.20**	**207**	P			**Pn**	**07 41 23.1**	**-0.7**
GARC				S			**Sn**	**07 42 21.4**	**-2.0**
BAUV	**El Baul**	**5.46**	**67**	*e*			**Pn**	**07 41 25.7**	**-1.2**
POPC	**Popayan, Colom**	**5.55**	**220**	P			**Pn**	**07 41 28.6**	**+0.1**
	2μm145nm,0.7s								
POPC				S			**Sn**	**07 42 30.9**	**-0.8**
	2μm145nm,0.7s								
FLOC	**Florencia**	**5.81**	**206**				**Pn**	**07 41 31.7**	**0.0**
FLOC	**Florencia**	**5.81**	**206**	P			**Pn**	**07 41 31.7**	**0.0**
	3μm219nm,0.9s								
FLOC				S			**Sn**	**07 42 37.0**	**-0.6**
	3μm219nm,0.9s								
GR1C	**Gorgona, Isla**	**6.31**	**233**	P			**Pn**	**07 41 37.6**	**-0.7**
GR1C				S			**Sn**	**07 42 48.4**	**-1.0**
BBAC	**Balboa, Cauca**	**6.31**	**221**	P			**Pn**	**07 41 38.8**	**+0.2**
	3μm208nm,0.6s								
BBAC				S			**Sn**	**07 42 46.6**	**-3.3**
	3μm208nm,0.6s								
CRUC	**La Cruz**	**6.49**	**216**	P			**Pn**	**07 41 43.0**	**+2.0**
GCUF	**Volcan Galeras**	**6.99**	**217**	P			**Pn**	**07 41 49.3**	**+1.4**
	1μm115nm,0.7s								
BCIP	**Isla Barro Col**	**7.02**	**290**	Pn			**Pn**	**07 41 47.4**	**-0.4**
BCIP	**Isla Barro Col**	**7.02**	**290**	P			**Pn**	**07 41 47.1**	**-0.7**
	52nm,0.8s								
AZU	**Azuero**	**7.14**	**278**	P			**Pn**	**07 41 49.8**	**+0.4**
	30nm,0.8s								
AZU				S			**Sn**	**07 43 04.8**	**-4.6**
	30nm,0.8s								
OTAV	**Otavalo**	**8.45**	**219**				**Pn**	**07 42 07.3**	**0.0**
OTAV	**Otavalo**	**8.45**	**219**	*eP*			**Pn**	**07 42 06.9**	**-0.4**
OTAV				*eS*			**Sn**	**07 43 41.5**	**0.0**
OTAV	**Otavalo**	**8.45**	**219**	P			**Pn**	**07 42 06.9**	**-0.4**
	22nm,0.7s								
PCRV	**Puerto La Cruz**	**9.03**	**68**	P			**Pn**	**07 42 13.5**	**-1.2**
	16nm,0.6s,baz=357,slow=2.0,SNR=24								
PCRV				S			**Sn**	**07 43 53.7**	**-1.3**
	16nm,0.5s,baz=197,slow=22,SNR=3.1								
PCRV	**Puerto La Cruz**	**9.03**	**68**	*e*			**Pn**	**07 42 13.8**	**-0.9**
BRU2	**Volcan**	**9.66**	**282**				**Pn**	**07 42 23.8**	**+0.7**
PRVC	**Isla de Provid**	**10.37**	**309**	P			**Pn**	**07 42 30.8**	**-1.5**
PRVC				S			**Sn**	**07 44 19.7**	**-7.4**
LCR2	**La Lucha 2**	**11.13**	**286**				**Pn**	**07 42 44.2**	**+1.6**
TBTG	**Tabatinga, AM**	**11.44**	**164**	Pn			**Pn**	**07 42 45.4**	**-1.0**
STH	**Stony Hill**	**11.71**	**343**	*eP*			**Pn**	**07 42 52.8**	**+2.7**
STH				*eS*			**Sn**	**07 44 51.1**	**-8.5**
STH	**Stony Hill**	**11.71**	**343**	*i* P			**Pn**	**07 42 53.2**	**+3.1**
MTDJ	**Mount Denham**	**12.09**	**340**				**Pn**	**07 42 57.5**	**+2.5**
MTDJ	**Mount Denham**	**12.09**	**340**	*eP*			**Pn**	**07 42 58.5**	**+3.5**
MTDJ				*eS*			**Sn**	**07 45 02.5**	**-6.2**
MTDJ	**Mount Denham**	**12.09**	**340**	*i* P			**P**	**07 42 59.0**	**-2.4**
MTDJ	**Mount Denham**	**12.09**	**340**	P			**Pn**	**07 42 57.8**	**+2.8**
	2μm144nm,0.6s								
JTS	**Las Juntas de**	**12.17**	**287**	P			**Pn**	**07 42 59.1**	**+3.1**
	7.3nm,1.0s,baz=332,slow=3.7,SNR=3.9								
SDDR	**Presa de Saban**	**12.19**	**8**				**Pn**	**07 42 57.4**	**+1.2**

CELP	**Cerrillos**	**12.85**	**29**				**Pn**	**07 43 03.6**	**-1.1**
AOPR	**Arecibo Observ**	**13.00**	**28**				**Pn**	**07 43 06.8**	**0.0**
PDPR	**Patillas Dam,**	**13.08**	**31**	Pn			**Pn**	**07 43 07.7**	**0.0**
SJG	**San Juan**	**13.10**	**31**				**Pn**	**07 43 07.9**	**0.0**
SJG	**San Juan**	**13.10**	**31**	P			**Pn**	**07 43 05.8**	**-2.1**
	14nm,0.4s,baz=206,slow=13,SNR=12								
SJG				S			Sn	07 45 18.5	-14
	10nm,0.3s,baz=305,slow=20,SNR=7.3								
GTBY	**Guantanamo Bay**	**13.13**	**352**				**P**	**07 43 13.2**	**+0.4**
GTBY	**Guantanamo Bay**	**13.13**	**352**	*eP*			**P**	**07 43 11.9**	**-1.0**
GTBY				*eS*			**Sn**	**07 45 29.0**	**-4.7**
GTBY	**Guantanamo Bay**	**13.13**	**352**	P			**P**	**07 43 12.7**	**-0.2**
MASC	**Masc**	**13.28**	**356**	*eP*			**P**	**07 43 13.1**	**-1.4**
MASC				*eS*			**Sn**	**07 45 32.1**	**-5.1**
RCC	**Rio Carpintero**	**13.29**	**349**	*eP*			**P**	**07 43 14.4**	**-0.3**
RCC				*eS*			**Sn**	**07 45 32.7**	**-4.9**
BOAV	**Boa Vista**	**13.33**	**109**				**Pn**	**07 43 10.1**	**-0.9**
MARVS	**Santiago de Cu**	**13.34**	**349**	*eP*			**P**	**07 43 13.5**	**-1.7**
MARVS				*eS*			**Sn**	**07 45 32.9**	**-5.7**
QMBU	**Quimbuelo**	**13.36**	**353**	*eP*			**P**	**07 43 14.4**	**-1.1**
QMBU				*eS*			**Sn**	**07 45 33.2**	**-6.1**
PILO	**Pilon**	**13.62**	**343**	*eP*			**Pn**	**07 43 15.8**	**+1.2**
PILO				*eS*			Sn	07 45 35.4	-10
LMGC	**Las Mercedes**	**13.65**	**344**	*eP*			**P**	**07 43 17.6**	**-1.1**
LMGC				*e*				07 43 18.3	
LMGC				*eS*			Sn	07 45 37.0	-9.2
NMDO	**Nuevo Mundo**	**13.74**	**353**				**P**	**07 43 19.5**	**-0.1**
NMDO	**Nuevo Mundo**	**13.74**	**353**	*i* P			**P**	**07 43 20.0**	**+0.4**
NMDO					IAmb	IAmb		07 43 25.3	
	comp=Z,16nm,0.7s								
PINC	**Pinares de May**	**13.79**	**350**	*eP*			**P**	**07 43 20.3**	**+0.1**
PINC				*eS*			**Sn**	**07 45 42.7**	**-6.8**
YAR	**Yar**	**13.79**	**347**	*eP*			**P**	**07 43 20.3**	**+0.1**
YAR				*eS*			**Sn**	**07 45 41.3**	**-8.3**
MOAC	**Moa**	**13.83**	**353**	*eP*			**P**	**07 43 21.8**	**+1.1**
MOAC				*eS*			**Sn**	**07 45 51.1**	**+0.5**
NICP	**Nicaro**	**13.95**	**351**	*i* P			**P**	**07 43 23.9**	**+1.9**
NICP					IVmB_BB			07 43 25.2	
	comp=Z,2μm,1.0s								
NICP					IAmb	IAmb		07 43 25.7	
	comp=Z,120nm,0.7s								
FDF	**Fort de France**	**14.13**	**55**				**Pn**	**07 43 20.9**	**-0.3**
HLGC	**Holguin**	**14.23**	**349**	*eP*			**P**	**07 43 28.5**	**+3.3**
CBCY	**The Bluff, Cay**	**14.33**	**334**	*eP*			**P**	**07 43 26.7**	**+0.5**
CBCY				*eS*			**Sn**	**07 45 54.0**	**-8.4**
CZSB	**Cruzeiro do Su**	**14.50**	**178**				**Pn**	**07 43 26.4**	**+0.8**
LTUP	**Las Tunas**	**14.51**	**345**	*eP*			**P**	**07 43 30.7**	**+2.5**
LTUP				*eS*			**Sn**	**07 46 03.7**	**-3.1**
FSCY	**Frank Sound, G**	**14.64**	**328**	*eP*			Pn	07 43 22.3	-5.1
FSCY				*eS*			Sn	07 45 58.0	-12
ATAH	**Atahualpa**	**14.86**	**201**	P			**Pn**	**07 43 31.4**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=43,slow=8.2,SNR=8.5								
GDSD	**La Dsirade Is**	**15.10**	**50**				**Pn**	**07 43 33.7**	**+0.6**
TGUH	**Tegucigalpa,Un**	**15.63**	**298**				**P**	**07 43 41.0**	**+0.2**
TGUH					IAmb	IAmb		07 43 44.4	
	comp=Z,33nm,0.8s								
MTO3	**Montecristo**	**17.61**	**297**	P			**Pn**	**07 44 04.4**	**+0.5**
MTO3					IAmb	IAmb		07 44 08.0	
	comp=Z,20nm,0.8s								
ESQI	**Esquipulas**	**17.66**	**297**		IAmb	IAmb		07 44 08.8	
	comp=Z,32nm,0.7s								
CAMR	**Camarioca**	**17.95**	**335**		IAmb	IAmb		07 44 12.3	
	comp=Z,48nm,0.8s								
CAMR	**Camarioca**	**17.95**	**335**	*eP*			**Pn**	**07 44 08.1**	**+0.4**
PETF	**Flores**	**19.16**	**303**		IAmb	IAmb		07 44 27.8	
	comp=Z,36nm,1.3s								
TEIG	**Tepich**	**19.80**	**314**				**Pn**	**07 44 28.9**	**-0.6**
MDP	**Montagnes des**	**20.46**	**94**	P			**P**	**07 44 33.6**	**+0.2**
	comp=Z,12nm,0.7s,baz=265,slow=10,SNR=10								
	comp=Z,12nm,0.7s								
CCIG	**Comitan**	**20.82**	**298**		IAmb	IAmb		07 44 42.3	
	comp=Z,18nm,0.7s								
NPGB	**Novo Progresso**	**22.48**	**128**	*eP*			**P**	**07 44 53.6**	**-0.9**
VILB	**Vilhena**	**23.51**	**147**	P			**P**	**07 45 04.2**	**+0.2**
VILB	**Vilhena**	**23.51**	**147**	*eP*			**P**	**07 45 03.4**	**-0.6**
LPAZ	**La Paz**	**23.52**	**168**	P			**P**	**07 45 04.2**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=334,slow=8.1,SNR=5.8								
	comp=Z,0.8nm,0.3s								
CMIG	**Matias Romero**	**23.55**	**298**	P			**P**	**07 45 02.4**	**-1.9**
	comp=Z,1.2nm,0.5s,baz=289,slow=24,SNR=1.5								
CLDB	**Colider**	**24.66**	**135**	*eP*			**P**	**07 45 13.4**	**-1.1**
PTLB	**Pontes e Lacer**	**26.15**	**148**	*eP*			**P**	**07 45 27.2**	**-0.6**
PRPB	**Parauapebas**	**26.63**	**119**	*eP*			**P**	**07 45 31.8**	**-0.4**
BBSD	**Serra de San D**	**26.91**	**153**	*eP*			**P**	**07 45 33.6**	**-1.0**
BBSD				*ep*P			**pP**	**07 46 06.1**	**-1.2**
250A	**Grady**		**27.84 336**		IAmb	IAmb		07 45 46.4	
	comp=Z,12nm,0.7s								
152A	**Warly Hall**		**27.85 339**		IAmb	IAmb		07 45 48.6	
	comp=Z,12nm,0.7s								
GOGA	**Godfrey**		**28.11 341**		IAmb	IAmb		07 45 48.6	
	comp=Z,6.4nm,0.9s								
JSC	**Jenkinsville**		**28.30 346**		IAmb	IAmb		07 45 50.0	
	comp=Z,6.2nm,0.7s								
HODGE	**Hodges**		**28.52 344**		IAmb	IAmb		07 45 52.0	
	comp=Z,6.2nm,0.6s								
LRAL	**Lakeview Retre**		**29.06 336**		IAmb	IAmb		07 45 57.1	
	comp=Z,8.4nm,1.0s								
Y49A	**Blount Mountai**		**29.54 337**		IAmb	IAmb		07 46 01.2	
	comp=Z,11nm,0.7s								
V55A	**Taylorsville**		**29.79 347**		IAmb	IAmb		07 46 03.3	
	comp=Z,4.5nm,0.7s								
W52A	**Murphy**		**29.80 342**		IAmb	IAmb		07 46 03.9	
	comp=Z,11nm,0.8s								
X48A	**Hartselle**		**30.31 337**		IAmb	IAmb		07 46 07.9	
	comp=Z,13nm,0.7s								
CPCT	**Cooper Cave**		**30.32 341**		IAmb	IAmb		07 46 08.3	
	comp=Z,6.3nm,0.8s								
W50A	**Signal Mountai**		**30.35 340**		IAmb	IAmb		07 46 08.6	
	comp=Z,8.6nm,0.8s								
SWET	**Sewanee**		**30.58 339**		IAmb	IAmb		07 46 33.0	
	comp=Z,13nm,0.8s								
PLAL	**Pickwick Lake**		**31.19 336**		IAmb	IAmb		07 46 15.6	
	comp=Z,12nm,0.8s								
S57A	**Dark Hollow, R**		**31.21 351**		IAmb	IAmb		07 46 15.5	
	comp=Z,5.9nm,0.8s								
T50A	**Nancy**		**31.86 342**		IAmb	IAmb		07 46 21.8	
	comp=Z,8.5nm,1.1s								
WVT	**Waverly**		**32.09 337**				**P**	**07 46 22.0**	**+1.7**
R50A	**Paris**		**32.88 344**		IAmb	IAmb		07 46 30.8	
	comp=Z,9.8nm,0.8s								
X40A	**Basin Creek Fa**		**32.96 329**		IAmb	IAmb		07 46 29.1	
	comp=Z,7.9nm,0.7s								
Q52A	**Bidwell**		**33.01 347**		IAmb	IAmb		07 46 31.6	
	comp=Z,9.2nm,0.7s								
WHAR	**Wooly Hollow**		**33.33 331**		IAmb	IAmb		07 46 33.3	
	comp=Z,8.8nm,0.7s								
WCI	**Wyandotte Cave**		**33.43 341**				**P**	**07 46 33.9**	**+2.0**
LCAR	**Lake Charles**		**33.43 333**		IAmb	IAmb		07 46 34.5	
	comp=Z,7.9nm,0.7s								
BDFB	**Brasilia**		**33.45 132**	P			**P**	**07 46 31.8**	**-0.7**
	comp=Z,2.9nm,0.7s,baz=296,slow=8.4,SNR=5.3								
	comp=Z,2.9nm,0.7s								
LUPA	**Lehigh Univers**		**33.66 357**		IAmb	IAmb		07 46 37.9	
	comp=Z,12nm,0.8s								
P51A	**Williamsport**		**33.69 346**		IAmb	IAmb		07 46 37.4	
	comp=Z,9.3nm,0.6s								
O52A	**Adamsville**		**34.02 348**		IAmb	IAmb		07 46 40.4	
	comp=Z,10nm,0.8s								
BRDY	**Brady**		**34.28 318**		IAmb	IAmb		07 46 41.3	
	comp=Z,16nm,1.3s								
PLPT	**Palo Pinto**		**34.85 321**		IAmb	IAmb		07 46 46.6	
	comp=Z,11nm,0.8s								
HHAR	**Hobbs**		**34.93 330**		IAmb	IAmb		07 46 46.5	
	comp=Z,7.7nm,0.8s								
Q44A	**Meyer Farm, Va**		**34.98 338**		IAmb	IAmb		07 46 48.0	
	comp=Z,7.0nm,0.8s								
CCM	**Cathedral Cave**		**35.13 335**	P			**P**	**07 46 48.0**	**+1.4**
U38A	**Gravette**		**35.27 330**		IAmb	IAmb		07 46 49.2	
	comp=Z,6.3nm,0.8s								
L56A	**Greenwood**		**35.35 354**		IAmb	IAmb		07 46 52.2	
	comp=Z,8.6nm,0.9s								
RLO	**Rose Lookout**		**35.39 329**				**P**	**07 46 49.8**	**+1.0**
RLO					IAmb	IAmb		07 46 50.3	
	comp=Z,12nm,0.7s								
ABTX	**Abilene, Hawle**		**35.56 320**				**P**	**07 46 51.5**	**+1.1**
ABTX					IAmb	IAmb		07 46 52.5	
	comp=Z,11nm,0.8s								
TUL3	**Leonard**		**35.60 328**		IAmb	IAmb		07 46 52.1	
	comp=Z,9.4nm,0.7s								
SAND	**Sanderson**		**35.64 314**				**P**	**07 46 49.9**	**-1.2**
SAND					IAmb	IAmb		07 46 54.0	
	comp=Z,6.6nm,1.0s								
K57A	**Scipio Center**		**35.85 356**		IAmb	IAmb		07 46 55.7	
	comp=Z,11nm,1.1s								
FNO	**Franklin**		**36.00 325**		IAmb	IAmb		07 46 56.1	

	comp=Z,9.5nm,0.7s							
APMT	**Aspermont**	**36.32**	**320**		IAmb	IAmb		07 46 59.9
	comp=Z,4.4nm,0.6s							
OK029	**Liberty Lake**	**36.42**	**326**		IAmb	IAmb		07 46 59.0
	comp=Z,19nm,1.2s							
TXAR	**Lajitas Array**	**36.42**	**312**	P			**P**	**07 46 59.2**	**+1.3**
	comp=Z,4.5nm,0.7s,baz=127,slow=9.1,SNR=72								
TXAR				PcP			**PcP**	**07 49 20.4**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=124,slow=3.2,SNR=4.3								
	comp=Z,4.5nm,0.7s								
TX31	**Lajitas Ar. Si**	**36.43**	**312**		IAmb	IAmb		07 47 00.1	
	comp=Z,5.3nm,0.7s								
WMOK	**Wichita Mounta**	**36.44**	**323**		IAmb	IAmb		07 46 59.1	
	comp=Z,6.6nm,0.7s								
SN07	**Snyder 07**	**36.67**	**319**		IAmb	IAmb		07 47 01.7	
	comp=Z,8.0nm,0.6s								
MNHN	**Monahans**	**36.88**	**315**		IAmb	IAmb		07 47 03.0	
	comp=Z,6.1nm,0.5s								
DELO	**Deloro Mine**	**37.72**	**355**		IAmb	IAmb		07 47 11.5	
	comp=Z,6.9nm,0.5s								
L42A	**Oliver, Polo**	**37.95**	**340**		IAmb	IAmb		07 47 11.5	
	comp=Z,8.2nm,0.6s								
VHRN	**Van Horn**	**38.16**	**313**		IAmb	IAmb		07 47 14.7	
	comp=Z,10.0nm,1.1s								
G62A	**West of Eustis**	**38.28**	**3**	P			**P**	**07 47 15.4**	**+2.2**
G62A					IAmb	IAmb		07 47 16.5	
	comp=Z,8.8nm,0.6s								
MSTX	**Muleshoe**	**38.44**	**319**		IAmb	IAmb		07 47 17.2	
	comp=Z,7.8nm,0.8s								
L40A	**Anamosa**	**38.55**	**338**		IAmb	IAmb		07 47 16.6	
	comp=Z,8.3nm,0.7s								
BUKO	**Buck Lake**	**38.82**	**353**		IAmb	IAmb		07 47 20.9	
	comp=Z,4.1nm,0.5s								
MNTX	**Cornudas Mount**	**38.93**	**314**		IAmb	IAmb		07 47 21.9	
	comp=Z,11nm,0.8s								
I42A	**Draeger Farm,**	**39.40**	**342**		IAmb	IAmb		07 47 24.3	
	comp=Z,9.8nm,0.6s								
H43A	**Windswept, Lux**	**39.59**	**344**		IAmb	IAmb		07 47 26.0	
	comp=Z,10nm,0.7s								
I40A	**Norwalk**	**39.94**	**340**		IAmb	IAmb		07 47 28.6	
	comp=Z,9.3nm,0.9s								
D62A	**Allapoint, All**	**40.23**	**4**	P			**P**	**07 47 31.5**	**+2.3**
E46A	**Sault Ste Mari**	**40.52**	**348**		IAmb	IAmb		07 47 34.1	
	comp=Z,8.8nm,0.6s								
LMQ	**La Malbaie**	**40.62**	**3**	P			**P**	**07 47 34.9**	**+2.4**
LMQ					I

	comp=Z,5.1nm,0.7s								
YKAW3	**Yellowknife Wh**	**63.27**	**340**		IAmb	IAmb	07 50 21.4		
	comp=Z,7.4nm,0.7s								
ICESG	**Greenland Ices**	**65.92**	**13**	*i*	P	**P**	**07 50 38.2**	**+0.9**	
ICESG					IAmb	IAmb	07 50 39.4		
	comp=Z,19nm,1.1s								
SOEG	**Soedalen**	**67.25**	**16**	*i*	P	**P**	**07 50 40.9**	**-4.4**	
SOEG					IAmb	IAmb	07 50 41.3		
	comp=Z,198nm,0.4s								
WTLY	**Watson Lake, Y**	**67.47**	**333**		IAmb	IAmb	07 50 49.1		
	comp=Z,5.2nm,0.7s								
DBIC	**Dimbokro**	**67.75**	**86**		P	**P**	**07 50 48.0**	**-1.4**	
	comp=Z,8.0nm,0.8s,baz=259,slow=2.4,SNR=6.4								
	comp=Z,8.0nm,0.8s								
SUMG	**Summit**	**68.95**	**11**		P	**P**	**07 50 57.3**	**+0.9**	
SUMG	**Summit**	**68.95**	**11**	*i*	P	**P**	**07 50 57.3**	**+0.9**	
SUMG					IAmb	IAmb	07 50 58.1		
	comp=Z,8.7nm,0.6s								
NEEM	**North Greenlan**	**71.52**	**5**	*i*	P	**P**	**07 51 12.8**	**+1.0**	
NEEM					IAmb	IAmb	07 51 13.8		
	comp=Z,10nm,0.5s								
A36M	**Sachs Harbour**	**72.39**	**345**		IAmb	IAmb	07 51 18.1		
	comp=Z,11nm,0.8s								
F31M	**Tsiigehtchic**	**72.69**	**339**		IAmb	IAmb	07 51 20.0		
	comp=Z,4.1nm,0.6s								
INK	**Inuvik**	**72.99**	**340**		P	**P**	**07 51 21.4**	**+1.2**	
TORD	**Torodi Ar. Bea**	**73.75**	**78**		P	**P**	**07 51 24.2**	**-1.5**	
	comp=Z,0.3nm,0.3s,baz=289,slow=6.1,SNR=7.8								
	comp=Z,0.3nm,0.3s								
BCAR	**Beaver Creek A**	**74.32**	**334**		P	**P**	**07 51 29.8**	**+1.6**	
DAG	**Danmarks Havn**	**75.62**	**11**	*i*	P	**P**	**07 51 34.4**	**-1.0**	
DAG					IAmb	IAmb	07 51 36.2		
	comp=Z,3.1nm,0.8s								
ILAR	**Eielson Array**	**76.92**	**335**		P	**P**	**07 51 43.5**	**+0.6**	
	comp=Z,0.7nm,0.7s,baz=109,slow=4.2,SNR=8.1								
	comp=Z,0.7nm,0.7s								
GHO	**Glory Hole Cre**	**77.28**	**332**		IAmb	IAmb	07 51 47.5		
	comp=Z,6.6nm,0.8s								
RND	**Reindeer**	**77.52**	**333**		IAmb	IAmb	07 51 48.8		
	comp=Z,5.6nm,0.8s								
NOA	**NORSAR Array B**	**81.31**	**29**		P	**P**	**07 52 07.3**	**+0.5**	
	comp=Z,0.8nm,0.5s,baz=268,slow=5.3,SNR=3.5								
	comp=Z,0.8nm,0.5s								
HFS	**Hagfors**	**82.52**	**30**		P	**P**	**07 52 13.1**	**0.0**	
	comp=Z,1.7nm,0.7s,baz=260,slow=4.9,SNR=1.7								
	comp=Z,1.7nm,0.7s								
ARCES	**ARCESS Array B**	**86.64**	**20**		P	**P**	**07 52 34.0**	**+0.3**	
	comp=Z,1.0nm,0.6s,baz=260,slow=3.6,SNR=7.3								
	comp=Z,1.0nm,0.6s								
ZALV	**Zalesovo Beam**	**116.64**	**14**		PKP	**PKPdf**	**07 58 33.2**	**-0.5**	
	comp=Z,1.0nm,0.3s,baz=310,slow=3.0,SNR=4.3								
KURBB	**Kurchatov Arra**	**117.73**	**20**		PKP	**PKPdf**	**07 58 35.9**	**0.0**	
	comp=Z,0.3nm,0.5s,baz=323,slow=2.2,SNR=5.1								
MKAR	**Makanchi Array**	**122.29**	**20**		PKP	**PKPdf**	**07 58 44.6**	**-0.2**	
	comp=Z,0.6nm,0.3s,baz=317,slow=2.2,SNR=12								
WMQ	**Urumqi**	**126.66**	**17**	*e*	PKP	**PKPdf**	**07 58 53.6**	**+0.2**	
HHC	**Hu-ho-hao-te**	**132.33**	**355**	*e*	P	**PKPdf**	**07 59 02.7**	**-1.6**	
NJ2	**Nanjing**	**139.65**	**344**	*e*	P	**PKPdf**	**07 59 17.4**	**-0.5**	
NJ2					pmax	pmax			
	comp=Z,13nm,0.5s								
PZH	**PanZhiHua**	**146.47**	**8**		PKPbc	**PKPdf**	**07 59 29.7**	**-0.6**	
ASAR	**Alice Springs**	**149.12**	**234**		PKP	**PKPdf**	**07 59 33.8**	**-0.8**	
	comp=Z,0.8nm,0.5s,baz=108,slow=3.0,SNR=1.7								
ASAR					PKPbc	**PKPbc**	**07 59 38.4**	**-0.6**	
	comp=Z,1.7nm,0.6s,baz=118,slow=3.4,SNR=20								
WRA	**Warramunga Arr**	**150.34**	**241**		PKPbc	**PKPbc**	**07 59 41.5**	**-0.4**	
	comp=Z,1.0nm,0.3s,baz=108,slow=2.7,SNR=26								
CMAR	**Chiang Mai Arr**	**153.66**	**17**		PKPbc	**PKPbc**	**07 59 49.4**	**0.0**	
	comp=Z,1.2nm,0.3s,baz=353,slow=1.8,SNR=1.9								

IDC 03 07:45:47.7±2.2, 30.37S×177.83W, h0km, mb3.8/4, mbtmp3.8/4, MS3.0/2, Error ellipse: s-maj=61.1km s-min=36.9km az=41.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.62**	**257**	LR	LR	08 05 27.7	
	comp=Z,50nm,18.9s,baz=224,slow=34						
KRVT	**Keravat (AS076**	**38.48**	**306**	LR	LR	08 05 42.8	
	comp=Z,9.0nm,21.7s,baz=42,slow=31						
ASAR	**Alice Springs**	**43.26**	**267**	P	P	07 53 51.0	-0.2
	0.5nm,0.6s,baz=101,slow=7.4,SNR=7.1						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**44.24**	**272**	P	P	07 53 59.3	+0.2
	0.4nm,0.3s,baz=111,slow=8.0,SNR=5.7						
	0.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**52.51**	**270**	P	P	07 55 02.5	-0.4
	1.6nm,0.8s,baz=101,slow=5.2,SNR=1.5						
	1.6nm,0.8s						
QSPA	**South Pole Qui**	**59.74**	**180**	P	P	07 55 54.1	-0.1
	1.0nm,0.9s,baz=3.5,slow=8.3,SNR=6.0						
	1.0nm,0.9s						
FINES	**FINESS Array B**	**145.17**	**340**	PKPbc	PKPbc	08 05 25.4	-0.7
	1.7nm,0.7s,baz=58,slow=4.7,SNR=5.0						

KRSC 03 07:54:55.8±1.2, 55.87N×164.51E, h16km±21km, MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.01**	**290**	*eP*	Pb	07 55 13.8	-1.0
KBTR				*eS*	Sb	07 55 27.3	-0.5
BKI	**Bering**	**1.06**	**128**	*eP*	Pb	07 55 15.0	-0.7
BKI				*eS*	Sb	07 55 29.5	+0.1
KBG	**Krutoberegovo**	**1.08**	**292**	*eP*	Pb	07 55 14.8	-1.3
KBG				*eS*	Sb	07 55 30.1	+0.1
SMKR	**Semkarok**	**1.84**	**294**	*eP*	Pn	07 55 26.7	0.0
SMKR				*eS*	Sn	07 55 50.5	+0.7
BDR	**Baidarnaya**	**1.97**	**292**	*eS*	Sb	07 55 54.9	-0.8
SRKR	**Sorokina**	**2.02**	**294**	*eP*	Pn	07 55 29.8	+0.6
MKZ	**Mys Kozlova**	**2.07**	**232**	*eP*	Pb	07 55 31.9	-0.9
MKZ				*eS*	Sb	07 55 57.9	-0.3
ZLN	**Zelenaya**	**2.09**	**276**	*eP*	Pb	07 55 32.5	-0.8
BZGR	**Bezymyannyi-Gr**	**2.15**	**273**	*eP*	Pb	07 55 33.3	-1.0
BZWR	**Bezymyannyi-We**	**2.26**	**274**	*eP*	Pb	07 55 34.8	-1.4
BZMR	**Bezymyannaya**	**2.27**	**273**	*eP*	Pb	07 55 34.9	-1.4
KIRR	**Kirishev**	**2.35**	**274**	*eP*	Pb	07 55 36.3	-1.4
KMNR	**Kamenistaya**	**2.42**	**269**	*eP*	Pb	07 55 37.7	-1.1
KPT	**Kopyto**	**2.42**	**274**	*eP*	Pn	07 55 36.7	+2.1
TUMD	**Tumrok D**	**2.43**	**256**	*eP*	Pb	07 55 37.7	-1.4
SRDR	**Sredinnyy**	**2.72**	**281**	*eP*	Pn	07 55 41.0	+2.2
SRDR				*eS*	Sb	07 56 15.8	-1.4
SPN	**Mys Shipunski**	**3.82**	**225**	*eS*	Sn	07 56 38.2	0.0
NLC	**Nalytchevo**	**4.05**	**230**	*eS*	Sn	07 56 48.0	+4.2
SDLR	**Sedlovina**	**4.18**	**234**	*eP*	Pn	07 56 02.5	+3.7
SMAR	**Somma**	**4.23**	**234**	*eP*	Pn	07 56 03.5	+3.9
KRX	**Arik**	**4.24**	**236**	*eP*	Pn	07 56 03.5	+3.8
UGLR	**Uglovaya**	**4.25**	**234**	*eP*	Pn	07 56 03.7	+3.8
AVH	**Avacha**	**4.25**	**235**	*eP*	Pb	07 56 05.3	-4.9
KOK	**Koryaka**	**4.29**	**235**	*eP*	Pn	07 56 04.0	+3.7
GNL	**Ganaly**	**4.38**	**243**	*eP*	Pn	07 56 06.1	+4.4
GRL	**Gorelyy**	**5.03**	**231**	*eP*	Pn	07 56 15.7	+5.1
MTVR	**Mutnovka**	**5.03**	**230**	*eP*	Pn	07 56 15.1	+4.5

*NNC **03** 07:54:59.6±5.0, 54.53N×87.13E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=36.3km s-min=25.6km az=59.0, Suspected Mining explosion.*
*ASRS **03** 07:55:02.0±0.7, 54.39N×86.71E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **03** 07:55:05.9±3.2, 54.39N×86.61E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=26.0km s-min=17.0km az=46.0*

ISC 03 07:55:07.5±4.6, 54.7N±0.3×83.62E±0.07, h0km, n8, σ2.5 04/9, 3C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.04**	**137**	I	I	08 01 10.0	
	baz=67,slow=329,SNR=8.0						
ZAA0	**Zalesovo Array**	**1.04**	**137**	⇑Pn	**Pb**	**07 55 26.9**	**-1.4**
	0.2nm,0.3s,baz=59,slow=16						
ZAA0				⇓Sn	**Sn**	**07 55 48.4**	**+3.9**
	0.4nm,0.2s,baz=69,slow=26						
ZALV	**Zalesovo Beam**	**1.04**	**137**	Pg	**Pg**	**07 55 26.8**	**-0.5**
	0.7nm,0.3s,baz=62,slow=17,SNR=9.9						
ZALV				Lg	Lg	07 55 43.5	
	1.3nm,0.3s,baz=70,slow=25,SNR=6.2						
KURK	**Kurchatov**	**5.02**	**219**	⇓P	**Pb**	**07 56 36.4**	**+0.1**
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**5.13**	**219**	⇑P	**Pb**	**07 56 37.6**	**-0.4**
	1.0nm,0.6s,baz=245,slow=12						
KURBB	**Kurchatov Arra**	**5.13**	**219**	Pn	**Pb**	**07 56 39.5**	**+1.4**
	0.1nm,0.3s,baz=53,slow=14,SNR=6.4						
KURBB				Sn	**Sg**	**07 57 50.4**	**-1.8**
	baz=48,slow=21,SNR=2.6						
	0.5nm,0.6s						
MK31	**Makanchi Array**	**7.97**	**187**	⇑P	**Pn**	**07 57 03.4**	**-1.2**
	0.3nm,0.6s,baz=23,slow=13,SNR=6.6						
MKAR	**Makanchi Array**	**7.97**	**187**	Pn	**Pn**	**07 57 05.4**	**+0.9**
	0.1nm,0.3s,baz=22,slow=14,SNR=4.9						
	0.2nm,0.3s						

*IDC **03** 08:00:18.9±3.1, 53.58N×87.76E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=29.8km s-min=18.2km az=51.0*

ASRS 03 08:00:16.0±1.8, 53.59N×87.92E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**282**	I	I	08 11 45.0	
	baz=99,slow=310,SNR=18						
ZALV	**Zalesovo Beam**	**1.88**	**282**	Pn	Pb	08 00 50.6	-0.4
	0.9nm,0.3s,baz=104,slow=13,SNR=8.0						
ZALV				Lg	Lg	08 01 15.1	
	1.6nm,0.3s,baz=104,slow=23,SNR=10.0						
KURBB	**Kurchatov Arra**	**6.50**	**247**	Pn	Pn	08 01 55.2	+2.4
	baz=62,slow=14,SNR=4.3						
KURBB				Lg	Lg	08 03 42.7	
	baz=62,slow=32,SNR=6.2						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.70**	**210**	Pn	Pn	08 02 12.5	+3.2
	0.1nm,0.3s,baz=27,slow=13,SNR=4.8						
	0.2nm,0.3s						

*SLM **03** 08:01:33.4±0.6, 36.434N±0.010×90.97W±0.02, h2km±6km, Error ellipse: s-maj=2.9km s-min=0.5km az=118.0*

NEIC 03 08:01:33.3±0.5, 36.44N±0.02×90.97W±0.02, h3km±4km, mb_Lg2.0/4, ML1.9/14, Md2.5/11(SLM), Error ellipse: s-maj=3.3km s-min=1.6km az=146.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCAR	**Lake Charles**	**0.40**	**202**		Pg	08 01 40.4	-0.5
LCAR					Sg	08 01 45.4	-0.6
LCAR	**Lake Charles**	**0.40**	**202**	IAML		08 01 45.5	
	comp=E,62nm,0.1s						
LCAR				IAML		08 01 45.6	
	comp=N,89nm,0.1s						
PBMO	**Poplar Bluff**	**0.55**	**52**		Pg	08 01 43.6	-0.3
PBMO					Sg	08 01 50.9	-0.2
PBMO	**Poplar Bluff**	**0.55**	**52**	IAML		08 01 51.2	
	comp=N,105nm,0.3s						
PBMO				IAML		08 01 51.6	
	comp=E,87nm,0.2s						
BETM	**Bethany**	**0.75**	**76**		Pg	08 01 47.0	-0.7
BETM					Sg	08 01 56.9	-0.6
LVAR	**Leachville**	**0.80**	**131**		Pg	08 01 48.3	-0.3
LVAR					Sg	08 01 58.3	-0.6
BRNM	**Bernie**	**0.83**	**70**		Pg	08 01 48.4	-0.9
BRNM					Sg	08 01 59.5	-0.5
TOPM	**Tallapoosa**	**0.88**	**84**		Pg	08 01 49.1	-0.9
TOPM					Sg	08 02 01.0	-0.4
GNAR	**Gosnell**	**0.90**	**121**		Pg	08 01 50.5	-0.1
GNAR	**Gosnell**	**0.90**	**121**	Sg	Sg	08 02 01.6	-0.7
GNAR				IAML		08 02 03.1	
	comp=E,38nm,0.5s						
GNAR				IAML		08 02 16.1	
	comp=N,42nm,2.9s						
HBAR	**Harrisburg**	**0.92**	**164**		Pg	08 01 50.3	-0.5
HBAR	**Harrisburg**	**0.92**	**164**	IAML		08 02 06.2	
	comp=N,31nm,1.5s						
MSAR	**Manila South**	**0.93**	**134**		Pg	08 01 50.3	-0.8
PEBM	**Pemiscott Bayo**	**0.95**	**110**		Pg	08 01 50.5	-1.0
PEBM	**Pemiscott Bayo**	**0.95**	**110**	IAML		08 01 55.5	
	comp=E,49nm,2.9s						
PEBM				IAML		08 02 24.9	
	comp=N,42nm,0.9s						
PGVM	**Portageville**	**1.00**	**88**		Pg	08 01 51.2	-1.3
PARMO	**Parma**	**1.01**	**77**		Pg	08 01 51.2	-1.3
PARMO	**Parma**	**1.01**	**77**	IAML		08 02 23.2	
	comp=E,35nm,0.7s						
FCAR	**Ozark Folk Cen**	**1.08**	**240**		Pg	08 01 53.1	-0.9
FCAR	**Ozark Folk Cen**	**1.08**	**240**	Sg	Sg	08 02 07.2	-0.8
FCAR				IAML		08 02 10.1	
	comp=N,23nm,0.1s						
FCAR				IAML		08 02 10.3	
	comp=E,31nm,0.1s						
CGM3	**Cape Girardeau**	**1.36**	**50**		Pn	08 01 59.0	-0.1
CGM3					Sg	08 02 15.4	-1.5
HICK	**Hickman**	**1.41**	**85**		Pn	08 01 59.8	+0.1
U40A	**Yellville**	**1.52**	**268**		Pn	08 02 01.2	-0.2
FVM	**French Village**	**1.60**	**16**		Pn	08 01 59.3	-3.2
FVM	**French Village**	**1.60**	**16**		Pn	08 02 02.5	-0.1
FVM				IAmb_Lg		08 02 23.4	
	comp=Z,1.0nm,0.8s						
CCM	**Cathedral Cave**	**1.63**	**352**		Pn	08 02 01.9	-1.0
SIUC	**Southern Illin**	**1.90**	**47**	IAmb_Lg		08 02 35.7	
	comp=Z,4.9nm,0.8s						
152A	**Waverly Hall**	**6.38**	**124**	IAmb_Lg		08 04 52.6	
	comp=Z,2.7nm,1.3s						

*SNET **03** 08:06:54.3±1.4, 12.81N×90.28W, h17km, ML3.5*
*GCG **03** 08:06:54.4±0.7, 12.77N×90.35W, h50km±67km, MD4.4, ML3.5*
*CATAC **03** 08:06:57.1±0.2, 13°N±1°×9°0W±°, h30km, M4.5/47, mB5.5/5, mb4.8/7, MLv4.1/47, Mw(mB)5.0/5, Error ellipse: s-maj=3.8km s-min=2.3km az=63.1, confirmed*

ISC 03 08:06:54.9±1.8, 12.81N±0.04×90.11W±0.06, h12km±10km, n116, σ1.9 25/131, 11C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.02**	**48**	S	Sn	**08 07 29.8**	**+0.4**
LALI	**Alcalda de L**	**1.02**	**48**	⇑P	Pg	**08 07 14.9**	**+0.3**
FAME	**Alcaldia de Sa**	**1.03**	**5**	S	Sb	**08 07 26.8**	**-1.5**
FAME	**Alcaldia de Sa**	**1.03**	**5**	⇓P	Pb	**08 07 13.5**	**-1.2**
JAYA	**Jayaque - finc**	**1.06**	**37**	*eP*	Pg	**08 07 15.6**	**+0.3**
JAYA				*eS*	Sn	**08 07 31.6**	**+1.1**
JAYA	**Jayaque - finc**	**1.06**	**37**	*eP*	Pg	**08 07 15.5**	**+0.3**
JAYA				*i S*	Sn	**08 07 31.6**	**+1.1**
JAYA	**Jayaque - finc**	**1.06**	**37**	S	Sn	**08 07 30.3**	**-0.2**
JAYA	**Jayaque - finc**	**1.06**	**37**	⇑P	Pg	**08 07 15.5**	**+0.3**
CEVE	**Cerro Verde**	**1.12**	**25**	*eP*	Pg	**08 07 16.6**	**+0.1**
CEVE				*eS*	Sn	**08 07 34.0**	**+1.9**
CEVE	**Cerro Verde**	**1.12**	**25**	P	Pb	**08 07 16.2**	**-0.2**
CEVE	**Cerro Verde**	**1.12**	**25**	S	Sn	**08 07 32.6**	**+0.5**
NUBE	**Las Nubes**	**1.13**	**16**	*eP*	Pb	**08 07 15.7**	**-0.8**
NUBE	**Las Nubes**	**1.13**	**16**	P	Pb	**08 07 15.8**	**-0.8**
NUBE	**Las Nubes**	**1.13**	**16**	S	Sg	**08 07 30.5**	**-1.0**
ITCA	**Escuela Especi**	**1.18**	**43**	P	Pb	**08 07 17.1**	**-0.2**
ITCA	**Escuela Especi**	**1.18**	**43**	S	Sn	**08 07 33.7**	**+0.3**
PMON	**Piamonte**	**1.18**	**41**	⇑P	Pb	**08 07 17.3**	**-0.1**
PANCS	**Alcalda de**	**1.20**	**48**	S	Sg	**08 07 34.5**	**+0.7**
PANCS	**Alcalda de**	**1.20**	**48**	P	Pb	**08 07 16.8**	**-0.9**
CEDA	**San Andres**	**1.21**	**35**	*eP*	Pb	**08 07 17.8**	**0.0**
CEDA	**San Andres**	**1.21**	**35**	P	Pb	**08 07 17.7**	**0.0**
BOQS	**Boqueron**	**1.22**	**41**	*eP*	Pn	**08 07 18.2**	**+0.2**
LOAL	**Lomas de Alarc**	**1.22**	**15**	P	Pn	**08 07 17.3**	**-0.6**
LOAL	**Lomas de Alarc**	**1.22**	**15**	S	Sg	**08 07 34.1**	**-0.3**
LOMA	**Loma Larga**	**1.23**	**48**	S	Sg	**08 07 35.5**	**+0.8**
LOMA	**Loma Larga**	**1.23**	**48**	⇑P	Pb	**08 07 18.0**	**-0.2**
UEES	**Universidad Ev**	**1.23**	**43**	⇑P	Pb	**08 07 18.0**	**-0.3**
SLOZ	**Alcaldia de Sa**	**1.25**	**14**	S	Sg	**08 07 34.3**	**-1.0**
SLOZ	**Alcaldia de Sa**	**1.25**	**14**	⇑P	Pn	**08 07 17.7**	**-0.6**
UTEC	**Universidad Te**	**1.25**	**45**	P	Pn	**08 07 18.3**	**0.0**
IGN	**Direccin Gen**	**1.28**	**45**	S	Sg	**08 07 37.6**	**+1.4**
IGN	**Direccin Gen**	**1.28**	**45**	P	Pn	**08 07 18.2**	**-0.5**
UNIC	**Universidad Ca**	**1.29**	**25**	S	Sg	**08 07 36.5**	**+0.1**
UNIC	**Universidad Ca**	**1.29**	**25**	P	Pn	**08 07 18.4**	**-0.4**
UDBS	**Universidad Do**	**1.29**	**46**	S	Sg	**08 07 37.6**	**+1.0**
UDBS	**Universidad Do**	**1.29**	**46**	⇑P	Pn	**08 07 18.9**	**0.0**
LFRS	**El Faro**	**1.30**	**51**	*eP*	Pn	**08 07 19.2**	**+0.1**
LFU	**La Fuente**	**1.34**	**46**	*eS*	Sg	**08 07 39.0**	**+0.7**
LBRS	**Las Brisas**	**1.39**	**48**	*eP*	Pb	**08 07 20.9**	**0.0**
COEG	**Centro de Oper**	**1.44**	**56**	*eP*	Pn	**08 07 21.2**	**+0.3**
COEG				*eS*	Sg	**08 07 41.5**	**+0.2**
COEG	**Centro de Oper**	**1.44**	**56**	⇑P	Pn	**08 07 21.2**	**+0.3**
PAVA	**Las Pavas**	**1.45**	**52**	S	Sg	**08 07 42.6**	**+1.0**
PAVA	**Las Pavas**	**1.45**	**52**	⇑P	Pb	**08 07 21.9**	**-0.1**
TECO	**Alcaldia de Te**	**1.48**	**61**	S	Sg	**08 07 41.0**	**-1.6**
TECO	**Alcaldia de Te**	**1.48**	**61**	⇑P	Pn	**08 07 21.2**	**-0.2**
FG16	**Alotenango, Sa**	**1.51**	**345**	*i* P	Pn	**08 07 23.1**	**+1.1**
FG16				IAML		08 07 54.1	
	comp=N,2μm,0.2s						
FG8	**Yepocapa, Chim**	**1.51**	**343**	*i* P	Pn	**08 07 22.7**	**+0.8**
ALJI	**Alcalda de J**	**1.58**	**71**	P	Pn	**08 07 23.5**	**+0.7**
SCLA	**Alcaldia de Sa**	**1.61**	**56**	P	Pn	**08 07 24.0**	**+0.8**
SCLA	**Alcaldia de Sa**	**1.61**	**56**	S	Sg	**08 07 46.8**	**+0.1**
PQSS	**Presa 15 de Se**	**1.71**	**62**	S	Sg	**08 07 49.2**	**-0.7**
PQSS	**Presa 15 de Se**	**1.71**	**62**	P	Pn	**08 07 25.1**	**+0.6**
MTO3	**Montecristo**	**1.74**	**25**	*i* P	Pn	**08 07 25.2**	**0.0**
MTO3	**Montecristo**	**1.74**	**25**	S	Sb	**08 07 48.6**	**-0.2**
MTO3	**Montecristo**	**1.74**	**25**	⇑P	Pn	**08 07 25.2**	**0.0**
PACA	**Pacayal**	**1.86**	**69**	P	Pb	**08 07 28.2**	**-0.7**
ESQI	**Esquipulas**	**1.89**	**23**	*eP*	Pn	**08 07 27.6**	**+0.4**
ESQI	**Esquipulas**	**1.89**	**23**	P	Pn	**08 07 27.3**	**+0.1**
ESQI	**Esquipulas**	**1.89**	**23**	S	Sb	**08 07 53.0**	**-0.2**
BLLM	**Bellamira**	**1.93**	**71**	*eP*	Pn	**08 07 28.6**	**+1.0**
CNRM	**Centro Naciona**	**2.00**	**70**	S	Sg	**08 07 57.3**	**-1.9**
CNRM	**Centro Naciona**	**2.00**	**70**	P	Pn	**08 07 29.1**	**+0.6**
STG8	**El Palmar, Qui**	**2.03**	**324**	⇓*i* P	Pn	**08 07 31.0**	**+1.8**
STG8				IAML		08 08 06.8	
	comp=E,284nm,0.2s						
LCND	**La Caada**	**2.21**	**77**	*eP*	Pn	**08 07 32.5**	**+1.0**
LCND				*eP*	Pb	**08 07 32.7**	**-2.2**
LCND	**La Caada**	**2.21**	**77**	P	Pn	**08 07 32.3**	**+0.8**
CNCH	**Conchagua**	**2.26**	**78**	*eP*	Pn	**08 07 32.8**	**+0.5**
CNCH				*eP*	Pb	**08 07 33.2**	**-2.6**
CNCH	**Conchagua**	**2.26**	**78**	S	Sb	**08 08 02.4**	**-1.4**
CNCH	**Conchagua**	**2.26**	**78**	P	Pn	**08 07 32.7**	**+0.5**
RTAL	**Retalhuleu**	**2.30**	**318**	P	Pn	**08 07 33.7**	**+1.0**
SARH	**Santa Rosa de**	**2.35**	**34**	P	Pn	**08 07 34.2**	**+0.7**
MARCA	**Marcala la Paz**	**2.42**	**56**	*eP*	Pn	**08 07 35.0**	**+0.6**
MARCA	**Marcala la Paz**	**2.42**	**56**	P	Pn	**08 07 35.4**	**+0.9**
POTN	**Potosi Cosigui**	**2.54**	**85**	P	Pn	**08 07 36.3**	**+0.3**
POTN				S	Sn	**08 08 08.3**	**+1.4**
CHOHN	**Orocuina**	**2.95**	**77**	P	Pn	**08 07 42.3**	**+0.6**
CHOHN	**Orocuina**	**2.95**	**77**	S	Sn	**08 08 19.2**	**+2.1**
CRIN	**San Cristobal**	**2.98**	**92**	P	Pn	**08 07 43.0**	**+0.9**
CRIN	**San Cristobal**	**2.98**	**92**	S	Sn	**08 08 18.9**	**+0.9**
TGUH	**Tegucigalpa,Un**	**3.02**	**65**	P	Pn	**08 07 43.5**	**+0.8**
PKGN	**Cerro Pekin**	**3.06**	**92**	P	Pn	**08 07 43.7**	**+0.6**
PKGN				S	Sn	**08 08 20.0**	**+0.4**
POLN	**Al Sur del Vol**	**3.22**	**92**	P	Pn	**08 07 45.4**	**+0.1**
POLN				S	Sn	**08 08 23.6**	**0.0**
IZABA	**Izabal, Puerto**	**3.26**	**27**	P	Pn	**08 07 46.5**	**+0.7**
PLRN	**Geotermica Pol**	**3.26**	**94**	P	Pn	**08 07 45.6**	**-0.4**
PLRN				S	Sn	**08 08 23.9**	**-0.9**
CNGA	**Al SSO del Vol**	**3.34**	**95**	P	Pn	**08 07 47.4**	**+0.4**
CNGA				S	Sn	**08 08 26.1**	**-0.5**
CNGN	**Cerro Negro**	**3.34**	**95**	P	Pn	**08 07 47.5**	**+0.5**
CNGN	**Cerro Negro**	**3.34**	**95**	S	Sn	**08 08 28.8**	**+2.0**
YUSH	**Yuscaran**	**3.37**	**70**	P	Pn	**08 07 48.5**	**+0.9**
COPN	**Copaltepe**	**3.49**	**100**	P	Pn	**08 07 49.6**	**+0.5**
MOMN	**Momotombo**	**3.50**	**96**	P	Pn	**08 07 49.5**	**+0.2**
MOMN				S	Sn	**08 08 29.4**	**-1.4**
MOM2	**El Cardon**	**3.55**	**96**	P	Pn	**08 07 49.6**	**-0.4**
MOM2				S	Sn	**08 08 32.5**	**+0.6**
OCON	**Estacion meteo**	**3.63**	**77**	P	Pn	**08 07 51.9**	**+0.9**
SAPS	**Ciudad Sandino**	**3.67**	**100**	P	Pn	**08 07 51.9**	**+0.4**
SAPS	**Ciudad Sandino**	**3.67**	**100**	S	Sn	**08 08 35.1**	**+0.3**
APQ3	**Volcan Apoyequ**	**3.69**	**98**	P	Pn	**08 07 52.5**	**+0.7**
APQ2	**Apoyeque**	**3.74**	**99**	P	Pn	**08 07 53.1**	**+0.6**
APQ2				S	Sn	**08 08 37.0**	**+0.4**
TISN	**Laguna Tiscapa**	**3.81**	**100**	P	Pn	**08 07 54.0**	**+0.5**
MGAN	**Managua**	**3.83**	**99**	P	Pn	**08 07 54.1**	**+0.5**
MGAN	**Managua**	**3.83**	**99**	S	Sn	**08 08 37.5**	**-1.1**
WILN	**Americas 2**	**3.88**	**99**	P	Pn	**08 07 54.9**	**+0.4**

SRBI S Sn 08 13 10.7 -1.6
EDFI Ende, Flores 3.34 91 P Pn 08 12 35.8 -1.4
EDFI S Sn 08 13 14.0 -3.3
BKSI Bulukumba 3.81 28 P Pn 08 12 41.5 -1.6
BKSI S Sn 08 13 25.6 -2.4
MMRI Maumere 3.88 89 P Pn 08 12 43.9 -0.2
MMRI Maumere 3.88 89 S Sn 08 13 30.2 +0.5
MMRI Maumere 3.88 89 P Pn 08 12 42.8 -1.3
KAPI Kappang 3.93 21 P Pn 08 12 43.1 -1.6
17nm,0.4s,baz=190,slow=10,SNR=11
KAPI S Sn 08 13 41.2 +10
6.0nm,0.4s,baz=183,slow=20,SNR=1.8
JAGI Jajag, Banyuwa 4.12 273 P Pn 08 12 46.2 -1.0
JAGI Jajag, Banyuwa 4.12 273 S Sn 08 13 34.0 -1.4
JAGI Jajag, Banyuwa 4.12 273 P Pn 08 12 46.0 -1.2
JAGI S Sn 08 13 33.7 -1.7
GMJI Gumukmas 4.84 275 P Pn 08 12 55.4 -1.2
GMJI S Sn 08 13 51.2 -1.0
BATI Baumata 5.49 106 P Pn 08 13 04.5 -0.7
69nm,0.4s,baz=290,slow=4.3,SNR=9.4
BATI S Sn 08 14 04.4 -3.3
49nm,0.3s,baz=129,slow=23,SNR=5.8
BATI Baumata 5.49 106 P Pn 08 13 04.6 -0.7
SOEI Soe 5.97 101 P Pn 08 13 12.3 +0.5
SOEI Soe 5.97 101 P Pn 08 13 10.5 -1.3
FITZ Fitzroy Crossi 11.75 143 P Pn 08 14 27.7 -0.5
1.6nm,0.4s,baz=328,slow=11,SNR=6.4
FITZ S Sn 08 16 32.6 -5.6
5.9nm,0.5s,baz=181,slow=20,SNR=10
FITZ Fitzroy Crossi 11.75 143 P Pn 08 14 28.1 -0.2
MEEK Meekatharra 17.84 179 P Pn 08 15 46.1 +1.9
WRA Warramunga Arr 19.11 128 P P 08 15 57.6 +1.0
2.0nm,0.7s,baz=302,slow=12,SNR=14
WRA S S 08 19 23.9 -1.5
0.6nm,0.5s,baz=304,slow=20,SNR=6.0
ASAR Alice Springs 21.08 137 P P 08 16 19.6 +1.8
1.5nm,0.4s,baz=310,slow=9.0,SNR=38
ASAR S S 08 20 08.9 +5.0
0.9nm,0.7s,baz=312,slow=19,SNR=6.1
1.5nm,0.4s
COCO West Island 21.40 259 P P 08 16 22.4 +1.1
QIS Mount Isa 23.70 122 P P 08 16 45.6 +2.2
COEN Coen 24.92 104 P P 08 16 56.0 +1.4
MKAR Makanchi Array 63.88 333 P P 08 22 01.2 -0.6
0.2nm,0.4s,baz=148,slow=8.5,SNR=2.3
0.2nm,0.4s
VNDA Vanda 72.39 171 P P 08 22 57.7 +3.4
0.6nm,0.8s,baz=312,slow=8.4,SNR=5.2
0.6nm,0.8s

*NEIC **03** 08:21:28.4±1.2, 17°.19N±0°.05×68°.79W±0°.02, h10km±2km, ML2.4/20,Md3.5/9(RSPR), Error ellipse: s-maj=8.2km s-min=4.0km az=181.0*
*SDD **03** 08:21:32.5±2.8, 18°.34N×68°.79W, h168km±18km, MD3.4, ML2.4, MW3.1*
*RSPR **03** 08:21:32.5, 17°.77N×68°.62W, h147km±5km, MD3.5/9*
*OSPL **03** 08:21:32.9±1.1, 17°.88N×68°.69W, h156km±19km, ML2.6*
ISC 03 08:21:31.2±1.7, 18°.09N±0°.09×68°.76W±0°.03, h151km±13km, n56, σ1=97/71, 21C-8D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HIDR	**Higuey Centro**	**0.50**	**5**	*e*Pg		**Pn**	**08 21 54.6**	**+1.9**
HIDR				⇓*e*Sg		**Sn**	**08 22 08.3**	**-0.9**
HIDR				IAML			08 22 08.8	
	comp=N,103nm,0.2s							
PCDR	**Punta Cana, DR**	**0.55**	**41**	⇓*e*Pg		**Pn**	**08 21 53.0**	**0.0**
PCDR				⇑*e*Sg		**Sn**	**08 22 10.2**	**+0.6**
MIDR	**Miches**	**0.93**	**343**	⇓*e*Pg		**Pn**	**08 21 54.8**	**-0.7**
MIDR				⇓*e*Sg		**Sn**	**08 22 12.2**	**-1.9**
MIDR				IAML			08 22 15.2	
	comp=N,32nm,0.2s							
MIDR				IAML			08 22 15.3	
	comp=N,32nm,0.2s							
SDD	**Santo Domingo**	**1.15**	**289**	Pn		**Pn**	**08 21 57.4**	**0.0**
SDD				IAML			08 22 18.0	
	comp=E,53nm,1.6s							
SDD				IAML			08 22 25.7	
	comp=N,46nm,2.2s							
SMDR	**Samana, DR**	**1.26**	**341**	⇓*e*Pg		**Pn**	**08 21 59.0**	**+0.6**
SMDR				⇑*e*		**Sn**	**08 22 16.8**	**-2.5**
SMDR				⇑*e*Sg		**Sn**	**08 22 16.8**	**-2.5**
SMDR				IAML			08 22 23.1	
	comp=N,30nm,0.9s							
IDE	**Isla Desecheo**	**1.26**	**76**			**Pn**	**08 21 59.3**	**+0.8**
IDE						**Sn**	**08 22 20.2**	**+1.0**
IDE	**Isla Desecheo**	**1.26**	**76**	⇑*e*P		**Pn**	**08 21 59.3**	**+0.8**
IDE	**Isla Desecheo**	**1.26**	**76**	*e*S		**Sn**	**08 22 20.2**	**+1.0**
BANI	**BANI**	**1.54**	**281**	Pn		**Pn**	**08 22 02.1**	**+0.7**
BANI	**BANI**	**1.54**	**281**	⇑*e*Pg		**Pn**	**08 22 02.1**	**+0.7**
BANI				⇑*e*Sg		**Sn**	**08 22 24.6**	**0.0**
BANI				IAML			08 22 27.6	
	comp=N,78nm,0.1s							
CRPR	**Cabo Rojo, PR**	**1.57**	**93**			**Pn**	**08 22 01.8**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.57**	**93**			**Sn**	**08 22 23.8**	**-1.1**
CRPR	**Cabo Rojo, PR**	**1.57**	**93**	IAML			08 22 15.9	
	comp=N,14nm,1.7s							
CRPR	**Cabo Rojo, PR**	**1.57**	**93**	⇑*e*P		**Pn**	**08 22 01.8**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.57**	**93**	*e*S		**Sn**	**08 22 23.8**	**-1.1**
CRPR	**Cabo Rojo, PR**	**1.57**	**93**	⇓*e*Pg		**Pn**	**08 22 02.1**	**+0.4**
CRPR				IAML			08 22 49.0	
	comp=N,14nm,1.8s							
CRPR	**Cabo Rojo, PR**	**1.57**	**93**	*i* P		**Pn**	**08 22 01.9**	**+0.3**
CRPR				IAML			08 22 29.9	
	comp=Z,10nm,0.4s							
LSP	**Las Mesas**	**1.60**	**87**			**Pn**	**08 22 02.1**	**+0.2**
LSP						**Sn**	**08 22 24.4**	**-1.1**
LSP	**Las Mesas**	**1.60**	**87**	⇑*e*P		**Pn**	**08 22 02.1**	**+0.2**
LSP	**Las Mesas**	**1.60**	**87**	*e*S		**Sn**	**08 22 24.4**	**-1.1**
AGPR	**Aguadilla, PR**	**1.61**	**76**			**Pn**	**08 22 02.4**	**+0.4**
AGPR						**Sn**	**08 22 26.7**	**+1.0**
AGPR	**Aguadilla, PR**	**1.61**	**76**	IAML			08 22 33.3	
	comp=E,35nm,1.4s							
AGPR				IAML			08 22 34.7	
	comp=N,33nm,1.5s							
AGPR	**Aguadilla, PR**	**1.61**	**76**	⇑*e*P		**Pn**	**08 22 02.4**	**+0.4**
AGPR	**Aguadilla, PR**	**1.61**	**76**	*e*S		**Sn**	**08 22 26.7**	**+1.0**
AGPR	**Aguadilla, PR**	**1.61**	**76**	⇑*e*Pg		**Pn**	**08 22 02.7**	**+0.6**
AGPR				⇓*e*Sg		**Sn**	**08 22 27.2**	**+1.5**
AGPR				IAML			08 22 33.5	
	comp=N,54nm,2.4s							
AGPR	**Aguadilla, PR**	**1.61**	**76**	*i* P		**Pn**	**08 22 02.6**	**+0.6**
AGPR				IAML			08 22 27.5	
	comp=Z,24nm,1.1s							
MLPR	**Magueyes Islan**	**1.64**	**94**	⇑*e*P		**Pn**	**08 22 02.4**	**+0.1**
MLPR	**Magueyes Islan**	**1.64**	**94**	*e*S		**Sn**	**08 22 26.1**	**0.0**
MLPR	**Magueyes Islan**	**1.64**	**94**	⇑*e*Pg		**Pn**	**08 22 02.6**	**+0.3**
MLPR				⇑*e*Sg		**Sn**	**08 22 29.6**	**+3.4**
MLPR				IAML			08 22 33.9	
	comp=N,2.7nm,0.3s							
ABDR	**Alto Bandera**	**1.91**	**292**	⇑*e*Pg		**Pn**	**08 22 06.6**	**+0.9**
ABDR				IAML			08 22 32.8	
	comp=N,30nm,1.4s							
AOPR	**Arecibo Observ**	**1.93**	**82**			**Pn**	**08 22 05.9**	**+0.3**
AOPR						**Sn**	**08 22 32.2**	**+0.3**
AOPR	**Arecibo Observ**	**1.93**	**82**	IAML			08 22 36.8	
	comp=N,52nm,0.3s							
AOPR	**Arecibo Observ**	**1.93**	**82**	⇑*e*P		**Pn**	**08 22 05.9**	**+0.3**
AOPR	**Arecibo Observ**	**1.93**	**82**	*e*S		**Sn**	**08 22 32.2**	**+0.3**
AOPR	**Arecibo Observ**	**1.93**	**82**	⇑*e*Pg		**Pn**	**08 22 06.3**	**+0.7**
AOPR				⇓*e*Sg		**Sn**	**08 22 32.1**	**+0.1**
AOPR				IAML			08 22 40.0	
	comp=N,40nm,0.3s							
UUPR	**Utuado, UPR, P**	**1.95**	**85**			**Pn**	**08 22 06.4**	**+0.6**
UUPR						**Sn**	**08 22 31.6**	**-0.8**
UUPR	**Utuado, UPR, P**	**1.95**	**85**	⇑*e*P		**Pn**	**08 22 06.4**	**+0.6**
UUPR	**Utuado, UPR, P**	**1.95**	**85**	*e*S		**Sn**	**08 22 31.6**	**-0.8**
OBIP	**Obispado Ponce**	**2.05**	**91**			**Pn**	**08 22 06.1**	**-0.9**
OBIP						**Sn**	**08 22 33.1**	**-1.4**
OBIP	**Obispado Ponce**	**2.05**	**91**	⇑*e*P		**Pn**	**08 22 06.1**	**-0.9**
OBIP	**Obispado Ponce**	**2.05**	**91**	*e*S		**Sn**	**08 22 33.1**	**-1.4**
CELP	**Cerrillos**	**2.08**	**90**			**Pn**	**08 22 06.2**	**-1.1**
CELP						**Sn**	**08 22 34.8**	**-0.3**
CELP	**Cerrillos**	**2.08**	**90**	IAML			08 22 40.7	
	comp=N,13nm,0.5s							
CELP	**Cerrillos**	**2.08**	**90**	⇑*e*P		**Pn**	**08 22 06.2**	**-1.1**
CELP	**Cerrillos**	**2.08**	**90**	*e*S		**Sn**	**08 22 34.8**	**-0.3**
EMPR	**Esperanza - Ma**	**2.16**	**79**	Pn		**Pn**	**08 22 08.7**	**+0.5**
ECPR	**Experimental S**	**2.29**	**84**	⇑*e*P		**Pn**	**08 22 09.4**	**-0.4**
ECPR	**Experimental S**	**2.29**	**84**	*e*S		**Sn**	**08 22 38.4**	**-1.2**
PODR	**Polo**	**2.40**	**272**	*i* P		**Pn**	**08 22 12.2**	**+0.9**
PODR				*e*S		**Sn**	**08 22 40.7**	**-1.4**
LOVI	**El Cajuil, Ovi**	**2.50**	**264**	*i* P		**Pn**	**08 22 12.8**	**+0.5**
LOVI				*e*S		**Sn**	**08 22 42.6**	**-1.4**
LOVI				IAML			08 22 44.4	
	comp=Z,30nm,1.1s							
LODU1	**El Espartillar**	**2.59**	**276**	*i* P		**Pn**	**08 22 14.7**	**+1.3**
LODU1				IAML			08 22 53.8	
	comp=Z,17nm,0.6s							
PDPR	**Patillas Dam,**	**2.61**	**91**	Pn		**Pn**	**08 22 12.7**	**-1.0**
PDPR				IAML			08 22 48.1	
	comp=E,8.9nm,0.2s							
PDPR				IAML			08 22 51.4	
	comp=N,12nm,0.1s							
PDPR	**Patillas Dam,**	**2.61**	**91**	⇑*e*P		**Pn**	**08 22 13.6**	**-0.1**
LOBH	**Bahia de las A**	**2.75**	**266**	*i* P		**Pn**	**08 22 16.2**	**+0.8**
LOBH				*e*S		**Sn**	**08 22 49.0**	**-0.5**
LOBH				IAML			08 22 51.7	
	comp=Z,30nm,1.3s							
HUMP	**Col San Antoni**	**2.77**	**89**	Pn		**Pn**	**08 22 15.4**	**-0.3**
HUMP				IAML			08 22 50.7	
	comp=E,15nm,0.2s							
HUMP				IAML			08 22 54.6	
	comp=N,14nm,0.2s							
LOPP1	**Punta Rusia, P**	**2.90**	**308**	*i* P		**Pn**	**08 22 19.8**	**+2.6**
LOPP1				IAML			08 22 53.0	
	comp=Z,17nm,1.6s							

*IDC **03** 08:30:04.5±3.2, 53°.51N×87°.84E, h0km, mbtmp2.9/2, ML2.4/1, Error ellipse: s-maj=28.0km s-min=18.0km az=59.0*
ASRS 03 08:30:02.0±1.1, 53°.57N×87°.94E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**283**	I		I	08 41 40.0	
	0.2nm,1.0s,baz=101,slow=318,SNR=18							
ZALV	**Zalesovo Beam**	**1.89**	**283**	Pn		Pb	08 30 37.0	-0.4
	1.3nm,0.3s,baz=104,slow=14,SNR=12							
ZALV				Lg		Lg	08 31 03.5	
	2.9nm,0.3s,baz=104,slow=32,SNR=12							
KURBB	**Kurchatov Arra**	**6.50**	**247**	Pn		Pn	08 31 41.0	+2.1
	0.1nm,0.3s,baz=63,slow=14,SNR=3.1							
KURBB				Lg		Lg	08 33 27.8	
	0.1nm,0.3s,baz=65,slow=31,SNR=4.2							
	0.9nm,0.4s							
MKAR	**Makanchi Array**	**7.69**	**210**	Pn		Pn	08 31 57.9	+2.8
	0.3nm,0.4s,baz=27,slow=13,SNR=1.5							
MKAR				Lg		Lg	08 34 05.8	
	0.1nm,0.3s,baz=21,slow=28,SNR=2.6							

*IDC **03** 08:32:16.9±0.5, 56°.08S×26°.51W, h0km, mb4.7/13, mbtmp4.7/14, ML4.6/1, MS3.6/18, Error ellipse: s-maj=21.5km s-min=14.0km az=66.0*
*NEIC **03** 08:32:24.2±1.2, 56°.17S±0°.09×26°.7W±0°.2, h48km±5km, mb5.1/51, Error ellipse: s-maj=14.1km s-min=12.9km az=48.0*
ISC 03 08:32:24.3±0.8, 56°.15S±0°.07×26°.72W±0°.08, h56km±6km, n288, σ0=62/269, mb5.0/34, MS3.6/17, 5C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**5.90**	**284**			**Pn**	**08 33 48.5**	**-0.4**
VNA1	**Neumayer--Stat**	**16.60**	**158**	⇑P		**P**	**08 36 15.0**	**+0.4**
	comp=Z,18nm,0.5s							
ESPZ	**Base Esperanza**	**16.74**	**232**	P		**Pn**	**08 36 13.9**	**-0.7**
VNA3	**Neumayer Olymp**	**16.81**	**161**	⇑P		**P**	**08 36 16.2**	**-0.7**
	comp=Z,6.2nm,0.3s							
SNAA	**Sanae**	**18.54**	**156**	⇑P		**P**	**08 36 35.0**	**-1.0**
	comp=Z,179nm,0.5s							
SNAA	**Sanae**	**18.54**	**156**			**P**	**08 36 35.4**	**-0.6**
SNAA	**Sanae**	**18.54**	**156**	P		**P**	**08 36 35.5**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=294,slow=13,SNR=50							
SNAA				PcP		**PcP**	**08 41 03.2**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=234,slow=7.6,SNR=3.0							
SNAA				LR		LR	08 42 24.5	
	comp=Z,136nm,20.8s,baz=28,slow=33							
	comp=Z,6.3nm,0.5s							
EFI	**East Falkland**	**18.90**	**271**	P		**Pn**	**08 36 41.0**	**-0.1**
EFI				IAmb		IAmb	08 36 50.4	
	comp=Z,171nm,1.5s							
PMSA	**Palmer Station**	**20.03**	**229**			Pn	08 36 54.5	+0.2
PMSA	**Palmer Station**	**20.03**	**229**	P		Pn	08 36 54.3	0.0
	comp=Z,34nm,0.6s,baz=22,slow=3.7,SNR=12							
PMSA				LR		LR	08 43 40.1	
	comp=Z,250nm,18.0s,baz=73,slow=34							
	comp=Z,34nm,0.6s							
PMSA	**Palmer Station**	**20.03**	**229**	⇑P		Pn	08 36 54.5	+0.1
TROLL	**Troll, Antarti**	**20.04**	**154**	⇑P		**P**	**08 36 51.3**	**-1.1**
	comp=Z,380nm,0.5s							
SMAI	**San Martin Ant**	**21.86**	**221**			**P**	**08 37 13.5**	**+1.7**
BELA	**Belgrano 2**	**21.99**	**184**			**P**	**08 37 11.7**	**-1.5**
BELA				IAmb		IAmb	08 37 22.0	
	comp=Z,28nm,0.6s							
USHA	**Ushuaia**	**23.41**	**256**	LR		LR	08 44 33.9	
	comp=Z,241nm,19.0s,baz=86,slow=31							
TRQA	**Tornquist**	**29.61**	**293**	P		**P**	**08 38 23.6**	**-0.4**
TRQA				IAmb		IAmb	08 38 27.4	
	comp=Z,130nm,2.0s							
TRQA	**Tornquist**	**29.61**	**293**	*e*P		**P**	**08 38 25.1**	**+1.1**
COYC	**Coyhaique**	**29.99**	**271**	P		**P**	**08 38 27.0**	**-0.3**
COYC				IAmb		IAmb	08 39 22.4	
	comp=Z,50nm,1.6s							
PLTB	**Pedras Altas**	**30.76**	**311**	P		**P**	**08 38 35.2**	**+0.9**
PLTB				IAmb		IAmb	08 38 35.8	
	comp=Z,20nm,0.5s							
PLTB	**Pedras Altas**	**30.76**	**311**	*e*P		**P**	**08 38 34.8**	**+0.6**
SYO	**Syowa Base**	**31.34**	**141**	⇓*e*P		**P**	**08 38 35.4**	**-3.5**
CNLB	**Canela**	**31.82**	**317**	*e*P		**P**	**08 38 42.3**	**-1.3**
CPSB	**Cacapava Do Su**	**31.88**	**313**	*e*P		**P**	**08 38 43.1**	**-0.9**
PLCA	**Paso Flores**	**32.28**	**280**	P		**P**	**08 38 47.2**	**-0.4**
PLCA				IAmb		IAmb	08 39 57.3	
	comp=Z,44nm,1.9s							
PLCA	**Paso Flores**	**32.28**	**280**	P		**P**	**08 38 47.5**	**0.0**
	comp=Z,2.1nm,1.0s,baz=175,slow=7.2,SNR=3.5							
PLCA				PcP		**PcP**	**08 41 35.0**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=58,slow=2.1,SNR=7.2							
PLCA				LR		LR	08 51 35.1	
	comp=Z,116nm,20.0s,baz=136,slow=36							
	comp=Z,1.1nm,1.0s							
MAJ01	**Sao Joao Batis**	**32.90**	**322**	*e*P		**P**	**08 38 51.4**	**-1.6**
QSPA	**South Pole Qui**	**34.10**	**180**	P		**P**	**08 39 03.6**	**+0.3**
QSPA				IAmb		IAmb	08 39 11.7	
	comp=Z,16nm,0.7s							
QSPA	**South Pole Qui**	**34.10**	**180**	P		**P**	**08 39 03.4**	**+0.2**
	comp=Z,14nm,0.5s,baz=218,slow=1.0,SNR=196							
QSPA				PcP		**PcP**	**08 41 39.4**	**+0.2**
	comp=Z,2.7nm,0.5s,baz=29,slow=1.4,SNR=2.9							
QSPA				LR		LR	08 52 38.6	
	comp=Z,141nm,18.9s,baz=216,slow=36							
	comp=Z,14nm,0.5s							
QSPA	**South Pole Qui**	**34.10**	**180**	P		**P**	**08 39 03.5**	**+0.3**
QSPA				sP		**sP**	**08 39 24.1**	**+1.4**
ITAB	**Concordia**	**34.18**	**317**	P		**P**	**08 39 05.5**	**+1.4**
ITAB	**Concordia**	**34.18**	**317**	*e*P		**P**	**08 39 02.4**	**-1.7**
PTGB	**Pitanga**	**36.44**	**319**	*e*P		**P**	**08 39 24.4**	**+0.8**
BO02	**Sierra Bellavi**	**36.71**	**287**	P		**P**	**08 39 25.9**	**+0.1**
BO02				IAmb		IAmb	08 39 36.9	
	comp=Z,37nm,1.6s							
CPUP	**Villa Florida**	**37.08**	**311**			**P**	**08 39 29.3**	**+0.3**
CPUP	**Villa Florida**	**37.08**	**311**	P		**P**	**08 39 28.9**	**0.0**
	comp=Z,2.5nm,0.6s,baz=5.6,slow=7.0,SNR=17							
CPUP				PcP		**PcP**	**08 41 48.7**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=6.7,slow=1.7,SNR=5.6							
CPUP				LR		LR	08 54 01.9	
	comp=Z,15nm,18.4s,baz=7.5,slow=35							
	comp=Z,2.5nm,0.6s							
CPUP	**Villa Florida**	**37.08**	**311**	*e*P		**P**	**08 39 29.0**	**0.0**
CPUP	**Villa Florida**	**37.08**	**311**	P		**P**	**08 39 29.0**	**0.0**
CPUP				pP		**pP**	**08 39 42.5**	**-0.1**
BO04	**La Punta**	**37.23**	**288**	P		**P**	**08 39 29.7**	**-0.5**
BO04				IAmb		IAmb	08 40 42.1	
	comp=Z,45nm,1.8s							
LDASE	**Londrina, Braz**	**37.31**	**321**	*e*P		**P**	**08 39 30.2**	**-0.8**
MT09	**Talagante**	**37.59**	**288**	P		**P**	**08 39 32.1**	**-1.3**
MT09				IAmb		IAmb	08 39 32.9	
	comp=Z,52nm,1.6s							
SJPY	**San Joaquin**	**37.75**	**313**	*e*P		**P**	**08 39 34.3**	**-0.4**
ZON	**Zonda**	**38.12**	**292**			**P**	**08 39 36.9**	**-0.9**
TRCB	**Terra Rica**	**38.40**	**320**	IAmb		IAmb	08 39 41.9	
	comp=Z,29nm,0.6s							
TRCB	**Terra Rica**	**38.40**	**320**	*e*P		**P**	**08 39 39.9**	**-0.3**
MAW	**Mawson 39.91 143**			P		**P**	**08 39 52.4**	**+0.1**
	comp=Z,3.0nm,0.4s,baz=226,slow=6.6,SNR=28							
MAW				LR		LR	08 54 03.5	
	comp=Z,105nm,21.2s,baz=252,slow=33							
	comp=Z,3.0nm,0.4s							
RPRD	**Ribas do Rio P 40.91 319**			*e*P		**P**	**08 40 00.5**	**-0.5**
MURT	**Porto Murtinho 41.34 314**			*e*P		**P**	**08 40 03.9**	**-0.6**
AQDB	**Aquidauana 41.66 317**					**P**	**08 40 07.1**	**0.0**
AQDB	**Aquidauana 41.66 317**			*e*P		**P**	**08 40 06.8**	**-0.4**
CMC01	**Camacan, BA 41.88 341**			*e*P		**P**	**08 40 08.2**	**-0.8**
AC04	**Llanos de Chal 42.03 293**			P		**P**	**08 40 10.1**	**0.0**
AC04				IAmb		IAmb	08 40 11.1	
	comp=Z,28nm,0.7s							
BDQN	**Bodoquena, MS 42.09 316**			*e*P		**P**	**08 40 10.1**	**-0.6**
AC02	**Maricunga 42.16 296**					**P**	**08 40 12.3**	**+0.5**
AC02				IAmb		IAmb	08 40 13.5	
	comp=Z,20nm,0.8s							
AC06	**Mina Casimiro 42.35 294**			P		**P**	**08 40 11.0**	**-1.8**
AC06				IAmb		IAmb	08 40 13.5	
	comp=Z,12nm,0.5s							
BDFB	**Brasilia 43.59 330**			P		**P**	**08 40 24.1**	**+1.2**
	comp=Z,2.1nm,0.3s,baz=235,slow=1.7,SNR=5.0							
BDFB				LR		LR	08 55 08.0	
	comp=Z,101nm,19.9s,baz=157,slow=32							
	comp=Z,2.1nm,0.3s							
GO02	**Mina Guanaco 43.77 297**					**P**	**08 40 24.9**	**+0.3**
BOSA	**Boshof 45.74 75**			LR		LR	08 55 40.7	
	comp=Z,184nm,21.0s,baz=203,slow=31							
SALV	**Santo Antonio 45.84 319**			*e*P		**P**	**08 40 40.8**	**+0.1**
SDBA	**SAO DESIDERIO 45.87 335**			*e*P		**P**	**08 40 41.4**	**+0.4**
PB05	**IPOC Station P 46.01 298**					**P**	**08 40 41.7**	**-0.5**
PB05				IAmb		IAmb	08 40 43.1	
	comp=Z,17nm,0.9s							
PB09	**IPOC Station P 46.43 300**			IAmb		IAmb	08 40 47.6	
	comp=Z,25nm,0.8s							
VNDA	**Vanda 46.48 183**			P		**P**	**08 40 45.8**	**+0.7**
VNDA	**Vanda 46.48 183**			P		**P**	**08 40 45.8**	**+0.7**
	comp=Z,4.5nm,0.6s,baz=182,slow=7.3,SNR=38							
	comp=Z,4.5nm,0.6s							
VNDA	**Vanda 46.48 183**			P		**P**	**08 40 45.7**	**+0.6**
VNDA				ScP		**ScP**	**08 46 07.8**	**+0.9**
BBSD	**Serra de San D 46.57 313**			*e*P		**P**	**08 40 46.2**	**-0.3**
NBAN	**Anadia - AL 46.97 347**			*e*P		**P**	**08 40 50.4**	**+0.7**
H04S2	**CROZET ISLANDS 47.27 114**			T		T	09 32 59.3	
	baz=229,slow=76,SNR=8.9							
H04S3	**CROZET ISLANDS 47.27 114**			T		T	09 32 48.2	
	baz=229,slow=76,SNR=11							
H04S1	**CROZET ISLANDS 47.28 114**			T		T	09 32 59.2	
	baz=229,slow=76,SNR=12							
CCD	**Concordia, Ant 47.53 170**			⇑P		**P**	**08 40 53.5**	**-0.3**
PTLB	**Pontes e Lacer 47.55 316**			IAmb		IAmb	08 40 55.4	
	comp=Z,26nm,0.8s							
PTLB	**Pontes e Lacer 47.55 316**			*e*P		**P**	**08 40 54.4**	**+0.3**
PB08	**IPOC Station P 47.80 301**			IAmb		IAmb	08 41 00.5	
	comp=Z,13nm,0.7s							
SIV	**San Ignacio 47.84 313**			LR		LR	08 59 26.7	
	comp=Z,62nm,21.9s,baz=112,slow=34							
H10S2	**ASCENSION HYDR 48.03 16**			T		T	09 33 42.8	
	baz=188,slow=74							
SNDB	**Serra Nova Dou 48.03 327**			*e*P		**P**	**08 40 58.5**	**+0.7**
H10S3	**ASCENSION HYDR 48.03 16**			T		T	09 33 44.1	
	baz=32,slow=74							
GO01	**Chusmiza 48.22 301**			IAmb		IAmb	08 41 01.4	
	comp=Z,21nm,0.8s							
PB11	**IPOC Station P 48.37 301**			IAmb		IAmb	08 41 04.5	
	comp=Z,17nm,0.8s							
LBTB	**Lobatse 48.79 73**			LR		LR	08 58 02.0	
	comp=Z,63nm,19.4s,baz=198,slow=32							
H10N1	**ASCENSION HYDR 49.14 16**			T		T	09 35 03.7	
	baz=196							
H10N3	**ASCENSION HYDR 49.15 16**			T		T	09 35 06.2	
	baz=196							
H10N2	**ASCENSION HYDR 49.16 16**			T		T	09 35 06.0	
	baz=196							
PB16	**IPOC Station P 49.52 302**			IAmb		IAmb	08 41 11.3	
	comp=Z,8.7nm,0.5s							
SMTB	**Santa Maria do 49.95 333**			*e*P		**P**	**08 41 12.7**	**+0.2**
PB18	**Visviri 50.15 302**			IAmb		IAmb	08 42 00.5	
	comp=Z,42nm,1.4s							
PDRB	**Porto dos Gac 50.17 320**			*e*P		**P**	**08 41 13.9**	**-0.3**
VILB	**Vilhena 50.24 316**			IAmb		IAmb	08 41 15.7	
	comp=Z,21nm,0.6s							
VILB	**Vilhena 50.24 316**			*e*P		**P**	**08 41 14.9**	**+0.2**
CLDB	**Colider 50.53 322**			*e*P		**P**	**08 41 16.1**	**-0.8**
LPAZ	**La Paz 50.65 305

ILON	Igloolik, Nuna	131.42	337		PKiKP	08 51 29.2	-0.4
PZH	PanZhiHua	132.82	107	PKP	PKiKP	08 51 33.7	-0.3
BVAR	Borovoye Array	134.62	57	PKP	PKPdf	08 51 35.7	+0.5
	comp=Z,2.1nm,0.6s,baz=236,slow=2.6,SNR=7.0						
YKA	Yellowknife Ar	136.42	318	PKP	PKPdf	08 51 38.3	+0.1
	comp=Z,0.3nm,0.3s,baz=126,slow=1.9,SNR=6.6						
WMQ	Urumqi	137.67	78	ePKP	PKiKP	08 51 42.6	-0.6
RES	Resolute Bay	138.05	338		PKPdf	08 51 41.8	+0.9
LYN	LuoYang	144.83	111	PKP	PKiKP	08 52 00.0	+1.9
M30M	Minto, Yukon	145.44	310	P	PKPab	08 51 55.0	+0.1
	baz=112,SNR=34						
PNL	Peninsula	145.45	304	P	PKPab	08 51 55.0	0.0
	baz=114						
H31M	Peel River	145.58	316	P	PKPbc	08 51 55.1	+0.1
	baz=109,SNR=43						
F31M	Tsiigehtchic	145.88	319	P	PKPbc	08 51 55.8	0.0
	baz=108						
G31M	Satah River	145.91	318	P	PKPbc	08 51 56.2	+0.3
	baz=108						
J30M	Hart River	145.96	313	P	PKPab	08 51 56.8	-0.2
	baz=110						
PINM	Pinnacle	146.02	305	P	PKPab	08 51 57.0	-0.2
	baz=114						
INK	Inuvik	146.05	320		PKPab	08 51 56.6	-0.3
INK	Inuvik	146.05	320	P	PKPab	08 51 56.7	-0.3
	baz=106						
NJ2	Nanjing	146.06	121	eP	PKPab	08 51 57.8	-0.3
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
M29M	Somme Creek	146.11	309	P	PKPab	08 51 57.2	-0.3
	baz=111,SNR=29						
I30M	Mount Dempster	146.19	314	P	PKPbc	08 51 57.0	0.0
	baz=109						
K29M	Barlow Dome	146.20	312	P	PKPbc	08 51 57.2	+0.1
	baz=110						
L29M	L29M	146.21	310	P	PKPab	08 51 57.6	-0.2
	baz=111						
O28M	Mount Upton	146.25	306	P	PKPbc	08 51 57.8	+0.3
	baz=113						
G30M	tAoh Zraii Nji	146.67	318	P	PKPbc	08 51 58.3	+0.1
	baz=106						
F30M	Barrier River	146.68	319	P	PKPbc	08 51 58.4	+0.2
	baz=106						
EPYK	Eagle Plains	146.68	316	P	PKPbc	08 51 58.3	0.0
	baz=107,SNR=6.4						
YUK3	Moose Creek	146.75	307	P	PKPbc	08 51 58.7	-0.1
	baz=111						
MESA	MESA	146.83	304	P	PKPbc	08 51 58.9	-0.2
	baz=112						
CTG	Chitna Glacier	146.85	306	P	PKPbc	08 51 59.2	+0.1
	baz=112						
DAWY	Dawson	147.06	312		PKPbc	08 51 59.3	-0.1
DAWY	Dawson	147.06	312	P	PKPbc	08 51 59.2	-0.1
	baz=108						
BVCY	Beaver Creek	147.15	308	P	PKPbc	08 51 59.7	0.0
	baz=110						
H29M	Whitestone	147.28	316	P	PKPbc	08 51 59.9	0.0
	baz=106						
G29M	Pine Creek	147.33	317	P	PKPbc	08 52 00.2	+0.1
	baz=105,SNR=51						
CRQE	Cirque	147.57	305	P	PKPbc	08 52 00.8	-0.2
	baz=111						
M27K	Edge Creek, AK	147.57	308	P	PKPbc	08 52 00.8	-0.2
	baz=109						
E29M	Blow River	147.64	320	P	PKPbc	08 52 00.7	-0.1
	baz=103						
I28M	Miner Creek	147.69	314	P	PKPbc	08 52 01.0	-0.2
	baz=106						
BCAR	Beaver Creek A	147.76	309		PKPbc	08 52 01.5	+0.2
L27K	Beaver Creek,	147.78	309	P	PKPbc	08 52 01.5	+0.1
	baz=108,SNR=11						
KAIM	Kayak Island	147.89	303	P	PKPbc	08 52 02.1	+0.4
	baz=111						
BTO	Baotou	147.95	101	ePKPbc	PKPbc	08 52 02.7	+0.1
BTO				PP	PP	08 55 39.3	+8.1
BTO				pmax	pmax		
	comp=Z,39nm,1.0s						
BTO				pmax	pmax		
	comp=Z,180nm,4.3s						
M26K	Nabesna, AK	148.08	308	P	PKPbc	08 52 02.4	+0.2
	baz=108						
D28M	Stokes Point	148.13	321	P	PKPbc	08 52 02.7	+0.7
	baz=101						
K27K	Chicken	148.17	311	P	PKPbc	08 52 02.9	+0.6
	baz=107						
F28M	Old Crow	148.20	318	P	PKPbc	08 52 02.5	+0.1
	baz=103						
BMRM	Bremner River	148.34	305	P	PKPbc	08 52 03.1	+0.2
	baz=110						
I27K	Kandik River	148.40	314	P	PKPbc	08 52 03.2	+0.2
	baz=104						
L26K	Log Cabin Wild	148.43	309	P	PKPbc	08 52 03.4	+0.3
	baz=107						
H27K	Steamboat Moun	148.52	315	P	PKPbc	08 52 03.6	+0.3
	baz=104,SNR=23						
N25K	Chitina, Valde	148.54	306	P	PKPbc	08 52 04.0	+0.5
	baz=109						
G27K	Doyon Strip	148.70	316	P	PKPbc	08 52 03.8	+0.1
	baz=102						
EYAK	Cordova Ski Ar	148.73	304	P	PKPbc	08 52 04.4	+0.6
	baz=110						
D27M	Malcolm River	148.90	321		PKPbc	08 52 04.5	+0.3
D27M	Malcolm River	148.90	321	P	PKPbc	08 52 04.8	+0.6
	baz=99						
J26L	Joseph Creek	148.93	312	P	PKPbc	08 52 04.8	+0.4
	baz=105,SNR=9.0						
E27K	Coleen River	148.95	319	P	PKPbc	08 52 04.3	0.0
	baz=100						
I26K	Coal Creek Min	148.96	313	P	PKPbc	08 52 04.4	+0.1
	baz=104						
HHC	Hu-ho-hao-te	148.97	102	eP	PKPbc	08 52 03.6	-1.7
SCRK	Sand Creek	148.97	310	P	PKPbc	08 52 05.0	+0.5
	baz=105,SNR=14						
KLU	Klutina	149.11	305	P	PKPbc	08 52 05.5	+0.6
	baz=108						
RIDG	Independent Ri	149.27	310	P	PKPbc	08 52 05.8	+0.6
	baz=105						
P23K	Montague Islan	149.32	302	P	PKPbc	08 52 05.8	+0.4
	baz=110						
PAX	Paxson	149.34	308	P	PKPbc	08 52 05.8	+0.3
	baz=106						
M24K	Tolsona, Glenn	149.41	306	P	PKiKP	08 52 06.4	-0.3
	baz=107						
GLI	Glacier Island	149.46	304	P	PKPbc	08 52 06.0	+0.3
	baz=108						
G26K	Porcupine Rive	149.55	316	P	PKPbc	08 52 06.1	+0.4
	baz=101						
K24K	Donnelly Dome	149.69	310	P	PKPbc	08 52 06.6	+0.3
	baz=104						
J25K	Salcha River,	149.71	311	P	PKPbc	08 52 06.7	+0.4
	baz=103						
F26K	Sheenjek River	149.82	318	P	PKiKP	08 52 07.0	-0.3
	baz=99						
SCM	Sheep Creek Mo	149.85	306	P	PKPbc	08 52 07.1	+0.4
	baz=107						
BMAR	Burnt Mountain	149.94	317		PKiKP	08 52 07.4	-0.2
PRP	Porcupine Dome	149.97	313	P	PKPbc	08 52 07.2	+0.2
	baz=102						
M23K	Glacier View	150.02	305	P	PKPbc	08 52 07.5	+0.4
	baz=106						
PWL	Port Wells	150.03	303	P	PKPbc	08 52 07.4	+0.3
	baz=108						
DHY	Denali Highway	150.21	308	P	PKiKP	08 52 08.1	-0.3
	baz=104						
H25L	Birch Creek	150.23	315	P	PKiKP	08 52 08.1	-0.1
	baz=100						
WAT6	Susitna Watana	150.24	307	P	PKPbc	08 52 08.1	+0.3
	baz=105						
KNK	Knik Glacier	150.25	304	P	PKPbc	08 52 08.0	+0.3
	baz=106						
SEW	Seward	150.33	302	P	PKPbc	08 52 08.0	+0.2
	baz=108						
HDA	Harding Lake	150.33	311	P	PKPbc	08 52 07.6	-0.1
	baz=102						
F25K	Christian Rive	150.37	317	P	PKiKP	08 52 08.6	+0.1
	baz=98						
ILAR	Eielson Array	150.38	311		PKPbc	08 52 08.1	+0.3
ILAR	Eielson Array	150.38	311	PKPbc	PKPbc	08 52 07.7	-0.1
	comp=Z,8.7nm,0.6s,baz=90,slow=2.7,SNR=93						
E25K	Arctic Village	150.41	318	P	PKiKP	08 52 08.4	-0.2
	baz=97						
G25K	Bearman Lake	150.42	316	P	PKiKP	08 52 08.6	0.0
	baz=99						
SONM	Songino Array	150.47	86	PKPbc	PKPbc	08 52 08.4	-0.4
	comp=Z,3.1nm,0.7s,baz=220,slow=2.2,SNR=7.8						
PMR	Palmer	150.61	305	P	PKPbc	08 52 08.5	+0.1
	baz=106						
WAT1	Susitna Watana	150.67	307	P	PKPbc	08 52 08.7	+0.1
	baz=104						
RC01	Rabbit Creek A	150.75	303	P	PKiKP	08 52 09.2	-0.2
	baz=106						
D25K	Kavik River	150.82	321	P	PKPbc	08 52 08.9	+0.1
	baz=94						
G24K	Hadweenzic Riv	150.95	315	P	PKiKP	08 52 09.7	0.0
	baz=98						
H24K	Nodor Dome	150.99	313	P	PKPbc	08 52 09.2	-0.1
	baz=99						
MCK	McKinley	151.04	309	P	PKPbc	08 52 09.7	-0.2
	baz=102						
KDAK	Kodiak Island	151.10	296		PKiKP	08 52 10.0	-0.2
KDAK	Kodiak Island	151.10	296	P	PKPbc	08 52 09.9	+0.2
	baz=110						
M22K	Willow	151.11	305	P	PKiKP	08 52 10.1	0.0
	baz=105						
F24K	Squaw Lake	151.21	317	P	PKiKP	08 52 10.2	0.0
	baz=96						
HOM	Homer	151.24	300	P	PKiKP	08 52 10.3	-0.1
	baz=108						
OHAK	Old Harbor	151.26	295	P	PKPbc	08 52 10.3	+0.3
	baz=111						
NEA2	Nenana	151.27	311	P	PKPbc	08 52 09.6	-0.4
	baz=101						
Q20K	Shuyak Island	151.28	298	P	PKPbc	08 52 10.1	+0.1
	baz=109						
SUA	Susitna One	151.32	304	P	PKPbc	08 52 10.5	+0.2
	baz=105						
CAPN	Captain Cook N	151.33	302	P	PKPbc	08 52 10.3	+0.2
	baz=106						
CUT	Chulitna	151.34	306	P	PKiKP	08 52 10.4	-0.1
	baz=104						
SII	Sitkinak Islan	151.48	293	P	PKPbc	08 52 10.8	+0.2
	baz=112						
I23K	Minto, Yukon-K	151.49	312	P	PKPbc	08 52 10.0	-0.4
	baz=99						
E24K	Your Creek	151.49	318	P	PKPbc	08 52 10.8	-0.1
	baz=95						
TRF	Thorofare Moun	151.57	308	P	PKPbc	08 52 11.0	+0.1
	baz=102						
H23K	Yukon River	151.66	313	P	PKPbc	08 52 10.9	+0.1
	baz=98						
SKT	Skwentna	151.81	305	P	PKPbc	08 52 11.4	+0.2
	baz=104						
O20K	Slope Mountain	151.84	301	P	PKPbc	08 52 11.4	-0.1
	baz=106						
E23K	Chandalar	151.92	318	P	PKPbc	08 52 11.5	+0.1
	baz=94						
TOLK	Toolik Lake Re	151.93	319	P	PKiKP	08 52 11.7	0.0
	baz=93						
N20K	Mount Spurr	151.94	303	P	PKPbc	08 52 11.2	-0.4
	baz=104						
SPCR	Spurr Chakacha	151.94	303	P	PKPbc	08 52 11.3	-0.3
	baz=104						
CHIR	Chirikof Islan	151.95	291	P	PKPbc	08 52 11.8	+0.2
	baz=112						
G23K	Bananza Creek	151.96	315	P	PKiKP	08 52 12.3	+0.5
	baz=96						
BPAW	Bear Paw Mtn.	152.00	309		PKiKP	08 52 11.8	-0.2
BPAW	Bear Paw Mtn.	152.00	309	P	PKiKP	08 52 11.7	-0.2
	baz=100						
Q19K	Cape Douglas,	152.00	298	P	PKPbc	08 52 11.5	-0.2
	baz=108						
MLY	Maley	152.04	311	P	PKiKP	08 52 11.9	-0.1
	baz=98						
COLD	Coldfoot	152.08	316	P	PKiKP	08 52 12.2	+0.2
	baz=95						
PPLA	Purkeypile	152.31	307	P	PKPbc	08 52 12.5	-0.1
	baz=101						
C23K	Itkillik River	152.32	322		PKiKP	08 52 12.7	+0.3
C23K	Itkillik River	152.32	322	P	PKiKP	08 52 12.5	+0.1
	baz=89						
D23K	Nanushuk River	152.34	320	P	PKiKP	08 52 12.7	+0.2
	baz=91						
CAST	Castle Rocks	152.36	308		PKPbc	08 52 12.2	-0.3
CAST	Castle Rocks	152.36	308	P	PKPbc	08 52 11.9	-0.5
	baz=100						
H22K	Ishtalitna Cre	152.42	313	P	PKPbc	08 52 12.5	-0.1
	baz=96						
M20K	Styx River	152.53	304	P	PKPbc	08 52 12.6	-0.4
	baz=103						
CHUM	Lake Minchumin	152.54	309	P	PKPbc	08 52 12.6	-0.2
	baz=99						
G22K	Bettles	152.56	315	P	PKiKP	08 52 13.0	+0.1
	baz=94						
Q18K	Katmai Hardscr	152.59	297	P	PKPbc	08 52 12.7	-0.5
	baz=108						
E22K	Anaktuvuk Pass	152.74	318	P	PKiKP	08 52 13.6	+0.2
	baz=92						
P18K	Big Mountain,	152.92	298	P	PKPbc	08 52 13.0	-0.9
	baz=106						
Q17K	Contact Creek	152.92	296	P	PKPbc	08 52 13.3	-0.6
	baz=108						
N19K	Bonanza Creek	152.92	302	P	PKPbc	08 52 13.2	-0.7
	baz=104						
R17L	Mt. Peulik Vol	152.96	294	P	PKPbc	08 52 13.5	-0.5
	baz=109						
H21K	Melozitna Rive	152.98	312	P	PKPbc	08 52 13.6	-0.1
	baz=96						
L20K	Farewell, AK	152.99	305	P	PKPbc	08 52 13.9	0.0
	baz=101						
O18K	Koktuh Hills	153.03	299	P	PKPbc	08 52 13.7	-0.3
	baz=105						
D22K	Ayikyak River	153.07	320	P	PKiKP	08 52 14.4	+0.3
	baz=89						
M19K	Big River Lodg	153.12	304	P	PKPbc	08 52 14.0	-0.2
	baz=102						
K20K	Telida	153.23	307	P	PKPbc	08 52 14.3	-0.1
	baz=99						
G21K	Allakaket	153.33	314	P	PKiKP	08 52 14.6	0.0
	baz=93						
F21K	Alatna River	153.35	316	P	PKiKP	08 52 15.1	+0.4
	baz=92						
J20K	Nowinta River	153.38	309	P	PKPbc	08 52 14.7	0.0
	baz=97						
L19K	White Mountain	153.38	305	P	PKiKP	08 52 14.8	0.0
	baz=101						
IMAR	Indian Mountai	153.40	313		PKiKP	08 52 15.2	+0.5
Q16K	King Salmon	153.43	296	P	PKiKP	08 52 15.0	0.0
	baz=106						
H20K	Anotleneega Mo	153.83	312	P	PKiKP	08 52 16.3	+0.6
	baz=94						
O17K	Koliganek Bris	153.93	299	P	PKiKP	08 52 16.4	+0.4
	baz=104						
J19K	Poorman	154.00	308	P	PKiKP	08 52 16.6	+0.5
	baz=97						
L18K	Granite Mounta	154.24	304	P	PKiKP	08 52 17.9	+1.3
	baz=100						
KSRS	Korea Array	154.72	127	PKPab	PKPab	08 52 33.5	0.0
	comp=Z,0.3nm,0.4s,baz=205,slow=5.4,SNR=1.4						

*ASRS **03** 08:34:43.0±0.9,54°.00N×86°.49E,h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 03 08:34:47.7±2.6, 54°.08N×86°.51E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=20.9km s-min=12.4km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.00	263	I	I	08 40 20.0	
	baz=84,slow=333,SNR=14						
ZALV	Zalesovo Beam	1.00	263	Pg	Pg	08 35 05.4	-1.5
	0.8nm,0.3s,baz=79,slow=21,SNR=6.6						
ZALV				Lg	Lg	08 35 21.0	
	0.9nm,0.3s,baz=84,slow=30,SNR=17						
KURBB	Kurchatov Arra	5.99	238	Pn	Pn	08 36 18.4	+1.0
	0.1nm,0.3s,baz=56,slow=14,SNR=13						
KURBB				Lg	Lg	08 37 59.4	
	baz=54,slow=35,SNR=6.6						
	1.7nm,0.6s						
MKAR	Makanchi Array	7.77	202	Pn	Pn	08 36 42.5	+0.5
	0.2nm,0.3s,baz=24,slow=14,SNR=5.5						
MKAR				Sn	Sn	08 38 11.6	+0.9
	0.1nm,0.3s,baz=20,slow=26,SNR=3.0						
MKAR				Lg	Lg	08 38 50.7	
	0.1nm,0.3s,baz=20,slow=33,SNR=5.8						
	0.3nm,0.4s						

*UPA **03** 08:36:42.6±0.4,8°.37N×82°.87W, h36km±4km, ML2.7*
*CATAC **03** 08:36:42.7±1.4,8°.1N±8°.3W±°, h21km±4km, M2.4/4, MLv2.4/4, Error ellipse: s-maj=18.0km s-min=15.2km az=3.2, confirmed*

ISC 03 08:36:43.8±1.6, 8°.38N±0°.09×82°.79W±0°.07, h31km±9km, n12, σ0s68/14, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LESP3	La Esperanza,	0.02	5	eP		08 36 48.6	-0.5
CDITO	Canoas	0.20	337	P	Pn	08 36 49.7	-1.1
CDITO	Canoas	0.20	337	S	Sn	08 36 55.3	+0.1
DVD	David	0.34	81	eP	Pb	08 36 51.9	0.0
DVD				eS	Sn	08 36 58.6	+0.2
PEDE3	Pedregal, Chir	0.37	90	eP	Pb	08 36 52.1	-0.2
LOMA3	Las Lomas, Chi	0.40	83	eP	Pb	08 36 52.6	-0.2
BRU2	Volcan	0.42	14	eP	Pb	08 36 53.0	-0.3
BRU2				AMP		08 36 53.1	
	comp=Z,453nm,0.2s						
BRU2				eS	Sb	08 37 00.6	+1.0
BRU2	Volcan	0.42	14	P	Pb	08 36 52.7	-0.6
BC3P	Paso Ancho	0.47	23	eP	Pb	08 36 53.5	-0.4
BC3P				AMP		08 36 53.7	
	comp=Z,462nm,0.3s						
DRK0	Durika	0.98	333	P	Pn	08 37 01.0	-0.7
DRK0	Durika	0.98	333	S	Sn	08 37 15.3	+0.7
LCR2	La Lucha 2	1.81	318	P	Pn	08 37 13.9	+0.9

*NEIC **03** 08:38:47.7±1.1,19°.41N±0°.06×65°.50W±0°.06, h10km±2km, ML2.6/22, Md3.7/10(RSPR), Error ellipse: s-maj=13.3km s-min=4.9km az=44.0*
*OSPL **03** 08:38:47.1±0.6,19°.55N×65°.56W, h0km±999km, ML2.7*
*RSPR **03** 08:38:48.6,19°.57N×65°.41W, h34km±27km, MD3.7/10*
*SDD **03** 08:38:49.7±2.7,19°.37N×65°.47W, h15km±36km, MD3.1, ML2.5, MW3.4*

ISC 03 08:38:45.3±2.3, 19°.46N±0°.08×65°.49W±0°.05, h1km±11km, n70, σ0s61/78, 11C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GCPR	Guaynabo City	1.27	206		Pn	08 39 10.8	+0.6
GCPR					Sb	08 39 27.1	+0.1
GCPR	Guaynabo City	1.27	206	IAML		08 39 32.8	
	comp=N,100nm,0.9s						
GCPR	Guaynabo City	1.27	206	⇓eP	Pn	08 39 10.8	+0.6
GCPR	Guaynabo City	1.27	206	eS	Sb	08 39 27.1	+0.1
HUMP	Col San Antoni	1.35	195		Pg	08 39 11.2	0.0
HUMP					Sg	08 39 28.6	-0.2
HUMP	Col San Antoni	1.35	195	IAML		08 39 32.4	
	comp=E,116nm,0.2s						
HUMP				IAML		08 39 39.6	
	comp=N,90nm,0.3s						
HUMP	Col San Antoni	1.35	195	⇑eP	Pg	08 39 11.2	0.0
HUMP	Col San Antoni	1.35	195	eS	Sg	08 39 28.6	-0.2
EMPR	Esperanza - Ma	1.39	225		Pn	08 39 11.6	-0.2
EMPR					Sb	08 39 30.6	+0.3
EMPR	Esperanza - Ma	1.39	225	IAML		08 39 42.9	
	comp=E,244nm,0.8s						
EMPR	Esperanza - Ma	1.39	225	⇑eP	Pn	08 39 11.6	-0.2
EMPR	Esperanza - Ma	1.39	225	eS	Sb	08 39 30.6	+0.3
ECPR	Experimental S	1.40	216	⇑eP	Pn	08 39 12.2	+0.1
ECPR	Experimental S	1.40	216	eS	Sn	08 39 31.2	0.0
SJG	San Juan	1.48	205		Pb	08 39 13.8	+0.2
SJG	San Juan	1.48	205	IAML		08 39 35.5	
	comp=E,107nm,0.5s						
SJG				IAML		08 39 48.5	
	comp=E,82nm,0.7s						
SJG	San Juan	1.48	205	⇑eP	Pb	08 39 13.8	+0.2
SJG	San Juan	1.48	205	eS	Sn	08 39 33.3	+0.2
SJG	San Juan	1.48	205	i P	Pb	08 39 13.8	+0.2
SJG				⇑eSg	Sg	08 39 31.9	-0.9
SJG	San Juan	1.48	205	i P	Pb	08 39 13.8	+0.2
SJG				IAML		08 39 37.9	
	comp=Z,91nm,1.4s						
PDPR	Patillas Dam,	1.52	199		Pb	08 39 14.2	-0.1
PDPR				IAML		08 39 45.8	
	comp=E,84nm,0.7s						
PDPR	Patillas Dam,	1.52	199	⇓eP	Pn	08 39 13.7	+0.1
PDPR	Patillas Dam,	1.52	199	eS	Sn	08 39 33.8	-0.3
IGPR	InterUniversit	1.60	202		Pn	08 39 15.2	+0.5
IGPR					Sn	08 39 35.7	-0.3
IGPR	InterUniversit	1.60	202	⇑eP	Pn	08 39 15.2	+0.5
IGPR	InterUniversit	1.60	202	eS	Sn	08 39 35.7	-0.3
AOPR	Arecibo Observ	1.63	227		Pn	08 39 15.2	0.0
AOPR					Sn	08 39 35.9	-0.9
AOPR	Arecibo Observ	1.63	227	⇓eP	Pn	08 39 15.2	0.0
AOPR	Arecibo Observ	1.63	227	eS	Sn	08 39 35.9	-0.9
AOPR	Arecibo Observ	1.63	227	i P	Pn	08 39 15.2	0.0
AOPR				eSg	Sg	08 39 39.0	+1.3
AOPR				IAML		08 39 39.9	
	comp=N,270nm,0.5s						
UUPR	Utuado, UPR, P	1.67	224		Pn	08 39 15.9	+0.2
UUPR					Sn	08 39 37.1	-0.8
UUPR	Utuado, UPR, P	1.67	224	⇓eP	Pn	08 39 15.9	+0.2
UUPR	Utuado, UPR, P	1.67	224	eS	Sn	08 39 37.1	-0.8
CELP	Cerrillos	1.72	217		Pn	08 39 16.7	+0.3
CELP					Sn	08 39 39.0	-0.1
CELP	Cerrillos	1.72	217	IAML		08 39 56.2	
	comp=N,106nm,1.1s						
CELP	Cerrillos	1.72	217	⇑eP	Pn	08 39 16.7	+0.3
CELP	Cerrillos	1.72	217	eS	Sn	08 39 39.0	-0.1
CELP	Cerrillos	1.72	217	ePg	Pn	08 39 16.8	+0.4
CELP				i P	Pb	08 39 17.1	-0.6
CELP				IAML		08 39 39.1	
	comp=N,32nm,0.3s						
CELP				eSg	Sg	08 39 40.7	+0.1
OBIP	Obispado Ponce	1.76	217		Pn	08 39 17.3	+0.4
OBIP					Sn	08 39 40.5	+0.5
OBIP	Obispado Ponce	1.76	217	IAML		08 39 46.2	
	comp=E,68nm,0.9s						
OBIP				IAML		08 39 52.4	
	comp=N,63nm,0.8s						
OBIP	Obispado Ponce	1.76	217	⇑eP	Pn	08 39 17.3	+0.4
OBIP	Obispado Ponce	1.76	217	eS	Sn	08 39 40.5	+0.5
AGPR	Aguadilla, PR	1.82	238		Pn	08 39 18.8	+0.9
AGPR					Sn	08 39 41.2	-0.4
AGPR	Aguadilla, PR	1.82	238	IAML		08 39 57.2	
	comp=E,68nm,1.8s						
AGPR	Aguadilla, PR	1.82	238	⇑eP	Pn	08 39 18.8	+0.9
AGPR	Aguadilla, PR	1.82	238	eS	Sn	08 39 41.2	-0.4
AGPR	Aguadilla, PR	1.82	238	i P	Pn	08 39 17.8	-0.1
AGPR				IAML		08 39 48.6	
	comp=N,49nm,0.5s						
AGPR	Aguadilla, PR	1.82	238	i P	Pn	08 39 17.5	-0.3
AGPR				IAML		08 39 49.3	
	comp=Z,56nm,1.1s						
GBPR	Guanica, Bosqu	1.98	222		Pn	08 39 20.7	+0.8
GBPR	Guanica, Bosqu	1.98	222	⇓eP	Pn	08 39 20.7	+0.8
LSP	Las Mesas	1.98	230		Pn	08 39 20.6	+0.6
LSP					Sn	08 39 45.5	0.0
LSP	Las Mesas	1.98	230	⇓eP	Pn	08 39 20.6	+0.6
LSP	Las Mesas	1.98	230	eS	Sn	08 39 45.5	0.0
MLPR	Magueyes Islan	2.09	225	eP	Pn	08 39 22.0	+0.5
MLPR	Magueyes Islan	2.09	225	eS	Sn	08 39 48.4	+0.3
MLPR	Magueyes Islan	2.09	225	i P	Pn	08 39 22.1	+0.7
MLPR				eSg	Sn	08 39 49.2	+1.1
MLPR				IAML		08 39 58.1	

WRA Warramunga Arr 32.03 251 P P 08 50 42.1 0.0
1.4nm,0.8s,baz=82,slow=9.1,SNR=5.2
1.4nm,0.8s
ASAR Alice Springs 33.26 244 P P 08 50 52.8 -0.1
1.7nm,0.7s,baz=73,slow=9.5,SNR=19
1.7nm,0.7s
QSPA South Pole Qui 78.52 180 P P 08 56 16.8 +0.2
1.9nm,0.8s,baz=310,slow=2.5,SNR=6.3
1.9nm,0.8s
MKAR Makanchi Array 94.35 317 P P 08 57 35.0 -0.2
0.4nm,0.5s,baz=97,slow=6.5,SNR=5.0
0.4nm,0.5s

NOU 03 08:46:07.3, 33°35S×116°33E, h0km, mb3.8/9, Western Australia, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**0.87**	**61**	P	Pg	08 46 24.1	+0.2
NWAO	**Narrogin (SRO)**	**0.87**	**61**	S	Sg	08 46 35.9	+0.7
MUN	**Mundaring**	**1.37**	**356**	P	Pg	08 46 32.6	-1.0
MUN	**Mundaring**	**1.37**	**356**	S	Sg	08 46 51.2	-0.2
KLBR	**Kellerberrin**	**2.13**	**35**	P	Pn	08 46 44.0	-0.1
KLBR	**Kellerberrin**	**2.13**	**35**	S	Sn	08 47 10.7	-0.5
BLDU	**Ballidu**	**2.75**	**7**	P	Pn	08 46 52.9	+0.3
MORW	**Morawa**	**4.28**	**357**	P	Pn	08 47 13.2	-0.5
MEEK	**Meekatharra**	**6.98**	**17**	P	Pn	08 47 50.6	-0.2
	19nm,2.5s						

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*ASRS **03** 08:47:10.0±1.4, 53.78N×91.08E, h0km, M3.2, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **03** 08:47:16.3±3.1, 53.71N×90.76E, h0km, mbtmp3.5/3, ML3.0/3, Error ellipse: s-maj=26.7km s-min=22.7km az=49.0*
*NNC **03** 08:47:21.0±5.1, 53.25N×90.72E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=39.5km s-min=26.6km az=64.0, Suspected Mining explosion.*

ISC 03 08:47:15.3±3.6, 53.7N±0.1×90.9E±0.2, h0km, n8, σ2≤13/14, 5C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.59**	**277**	I	I	09 08 20.0	
	baz=91,slow=311,SNR=4.2						
ZAA0	**Zalesovo Array**	**3.59**	**277**	⇓Pn	**Pb**	**08 48 17.8**	**-1.8**
	1.9nm,0.8s						
ZAA0				⇓Sn	**Sb**	**08 49 02.3**	**-1.4**
	9.0nm,0.8s						
ZALV	**Zalesovo Beam**	**3.59**	**277**	Pn	**Pn**	**08 48 12.9**	**+0.8**
	2.3nm,0.3s,baz=91,slow=14,SNR=22						
ZALV				Pg	**Pb**	**08 48 18.2**	**-1.4**
	2.3nm,0.3s,baz=91,slow=18,SNR=20						
ZALV				Lg	Lg	08 49 07.8	
	4.0nm,0.3s,baz=92,slow=32,SNR=4.1						
	5.3nm,0.5s						
KURK	**Kurchatov**	**8.08**	**254**	⇑Pn	**Pn**	**08 49 16.0**	**+2.3**
	3.6nm,1.4s						
KURK				⇑Sn	**Sn**	**08 50 48.7**	**+3.0**
	12nm,1.1s						
KURK				⇑Lg	Lg	08 51 33.0	
	49nm,1.3s						
KURBB	**Kurchatov Arra**	**8.17**	**253**	⇓Pn	**Pn**	**08 49 18.0**	**+3.0**
	3.1nm,0.6s,baz=70,slow=15						
KURBB				⇑Sn	**Sn**	**08 50 50.8**	**+2.8**
	18nm,0.7s,baz=64,slow=20						
KURBB				⇓Lg	Lg	08 51 35.6	
	73nm,1.6s						
KURBB	**Kurchatov Arra**	**8.17**	**253**	Pn	**Pn**	**08 49 15.4**	**+0.4**
	0.2nm,0.3s,baz=65,slow=14,SNR=13						
KURBB				Sn	**Sn**	**08 50 46.6**	**-1.3**
	0.1nm,0.3s,baz=68,slow=24,SNR=6.4						
KURBB				Lg	Lg	08 51 34.4	
	0.1nm,0.3s,baz=59,slow=33,SNR=3.6						
	2.5nm,0.6s						
MK31	**Makanchi Array**	**8.79**	**222**	Pn	**Pn**	**08 49 23.9**	**+0.3**
	0.6nm,0.5s,baz=35,slow=12,SNR=21						
MK31				⇑Sn	**Sn**	**08 51 00.7**	**-2.6**
	0.8nm,0.4s,baz=27,slow=21						
MK31				⇓Lg	Lg	08 51 48.5	
	29nm,1.6s						
MKAR	**Makanchi Array**	**8.79**	**222**	Pn	**Pn**	**08 49 25.1**	**+1.5**
	0.5nm,0.3s,baz=31,slow=12,SNR=21						
MKAR				Sn	**Sn**	**08 51 03.8**	**+0.4**
	0.2nm,0.3s,baz=35,slow=25,SNR=4.8						
MKAR				Lg	Lg	08 51 54.6	
	0.1nm,0.3s,baz=33,slow=31,SNR=5.3						
	1.2nm,0.4s						

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*LDG **03** 08:51:04.4±0.1, 43.06N×0.10W, h15km, Md1.9/2, Error ellipse: s-maj=3.1km s-min=1.1km az=5.0*

STR 03 08:51:05.3±0.4, 43°N±4°×±°, h0km, MLv1.2/9, LOCSAT earthModelID pyrenees_taup-2.11 preliminary, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYLO	**Lourdes**	**0.08**	**40**	Pg	Pg	08 51 07.2	+0.3
LABF	**Labassere**	**0.14**	**86**	Pg	Pg	08 51 08.2	+0.2
LABF				Sg	Sg	08 51 10.6	+0.8
VIEF	**Viey**	**0.18**	**146**	Pg	Pg	08 51 09.4	+0.6
VIEF				Sg	Sg	08 51 12.6	+1.4
REYF	**Montagne du Re**	**0.20**	**279**	Pg	Pg	08 51 09.3	0.0
REYF				Sg	Sg	08 51 12.9	+1.1
EPF	**Esparros**	**0.34**	**91**	*e*Pg	Pg	08 51 11.2	-0.6
EPF				*e*Sg	Sg	08 51 15.7	-0.4
	23nm,0.3s						
ETSF	**Etsaut**	**0.35**	**247**	*e*Pg	Pg	08 51 12.1	0.0
ETSF				*e*Sg	Sg	08 51 16.8	+0.2
	7.1nm,0.2s						
CANF	**Canfranc**	**0.40**	**227**	Pg	Pg	08 51 13.2	+0.2
CANF				Sg	Sg	08 51 19.1	+0.9
ATE	**Arette**	**0.43**	**277**	Pg	Pg	08 51 13.3	-0.3
ATE				Sg	Sg	08 51 19.9	+0.8
ECHI	**Chisagues Biel**	**0.44**	**148**	Pg	Pg	08 51 13.8	+0.1
ECHI				Sg	Sg	08 51 19.9	+0.5
ORDF	**Ordiarp**	**0.62**	**287**	Pg	Pg	08 51 17.0	-0.3
ORDF				Sg	Sg	08 51 26.5	+1.1
MELF	**Melles**	**0.66**	**104**	Sg	Sg	08 51 27.2	+0.5
SJPF	**Ste Jean**	**0.81**	**276**	*e*Pg	Pg	08 51 19.9	-1.0
SJPF				*e*Sg	Sg	08 51 30.9	-0.6
	2.2nm,0.2s						
SALF	**Salau**	**1.00**	**106**	Pg	Pg	08 51 23.7	-0.7
SALF				Sg	Sg	08 51 38.0	+0.6

STR 03 08:51:12.7±1.7, 45°N±9°×±1°, h0km, MLv1.8/5, LOCSAT earthModelID auvergne_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRNF	**Fournols**	**0.85**	**88**	Pg	Pg	08 51 28.6	-0.4
FRNF				Sg	Sg	08 51 40.5	+0.4
VERF	**Verneugheol**	**0.88**	**64**	Pg	Pg	08 51 29.3	-0.3
VERF				Sg	Sg	08 51 41.3	+0.3
MONQ	**Montcuq**	**1.00**	**186**	Pg	Pg	08 51 31.0	-0.9
MONQ				Sg	Sg	08 51 45.6	+0.7
LBL	**Lubilhac**	**1.34**	**95**	Pn	Pg	08 51 35.4	-3.0
LBL				Pg	Pn	08 51 37.0	-1.7
LBL				Sg	Sg	08 51 53.5	-2.3
COLF	**Collangettes**	**1.66**	**84**	Pn	Pn	08 51 41.8	-1.2
COLF				Sn	Sn	08 52 03.3	-1.7

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*MOS **03** 08:57:50.9±1.1, 56.08N×163.77E, h8km, mb4.6/17, MS3.2/5, Error ellipse: s-maj=6.7km s-min=4.8km az=58.8*
*KRSC **03** 08:57:51.4±1.7, 55.97N×163.69E, h6km±28km, Mc5.2, Ml4.6*
*IDC **03** 08:57:51.4±0.6, 56.06N×163.40E, h0km, mb4.1/28, mbtmp4.1/30, ML3.2/2, MS3.5/25, Error ellipse: s-maj=16.4km s-min=11.3km az=150.0*
*NEIC **03** 08:57:53.2±2.2, 56.1N±0.1×163.4E±0.2, h10km±1km, mb4.5/57, Error ellipse: s-maj=24.4km s-min=15.1km az=145.0*

ISC 03 08:57:52.7±1.3, 56.07N±0.04×163.72E±0.03, h9km±7km, n217, σ1$43/204, mb4.5/66, MS3.7/26, 7C-8D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC

KBTR	**Krutoberegovo**	**0.52**	**286**	PN	**Pg**	**08 58 01.8**	**-0.9**
KBTR	**Krutoberegovo**	**0.52**	**286**	*e*P	**Pg**	**08 58 01.9**	**-0.9**
KBG	**Krutoberegovo**	**0.59**	**289**	PN	**Pg**	**08 58 03.1**	**-1.1**
KBG				S	Sg	08 58 11.8	-0.2
KBG	**Krutoberegovo**	**0.59**	**289**	*e*P	**Pg**	**08 58 03.2**	**-1.1**
KBG				*e*S	Sg	08 58 11.8	-0.2
SMKR	**Semkarok**	**1.35**	**293**	PN	**Pn**	**08 58 16.6**	**-1.1**
SMKR	**Semkarok**	**1.35**	**293**	*e*P	**Pn**	**08 58 16.7**	**-1.1**
BDR	**Baidarnaya**	**1.48**	**291**	PN	**Pn**	**08 58 19.9**	**+0.4**
BDR	**Baidarnaya**	**1.48**	**291**	*e*P	**Pn**	**08 58 20.0**	**+0.4**
SRKR	**Sorokina**	**1.53**	**294**	PN	**Pb**	**08 58 20.9**	**-0.3**
SRKR	**Sorokina**	**1.53**	**294**	*e*P	**Pb**	**08 58 21.0**	**-0.3**
BKI	**Bering**	**1.54**	**123**	PN	**Pn**	**08 58 19.1**	**-1.1**
BKI				S	Sn	**08 58 40.0**	**-0.4**
BKI	**Bering**	**1.54**	**123**	*e*P	**Pn**	**08 58 19.2**	**-1.1**
BKI				*e*S	Sn	**08 58 40.0**	**-0.4**
ZLN	**Zelenaya**	**1.63**	**269**	PN	**Pn**	**08 58 21.6**	**0.0**
ZLN	**Zelenaya**	**1.63**	**269**	*e*P	**Pn**	**08 58 21.7**	**0.0**
CIRR	**Tsirk**	**1.66**	**273**	PN	**Pn**	**08 58 22.0**	**-0.1**
CIRR	**Tsirk**	**1.66**	**273**	*e*P	**Pn**	**08 58 22.0**	**-0.1**
LGNR	**Loginova**	**1.70**	**272**	PN	**Pn**	**08 58 23.1**	**+0.5**
LGNR	**Loginova**	**1.70**	**272**	*e*P	**Pn**	**08 58 23.1**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**1.70**	**267**	PN	**Pn**	**08 58 22.6**	**+0.1**
BZGR				S	**Sb**	**08 58 45.3**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**1.70**	**267**	*e*P	**Pn**	**08 58 22.7**	**+0.1**
BZGR				*e*S	**Sb**	**08 58 45.3**	**-0.3**
BZWR	**Bezymyannyi-We**	**1.81**	**268**	PN	**Pn**	**08 58 24.5**	**+0.4**
BZWR	**Bezymyannyi-We**	**1.81**	**268**	*e*P	**Pn**	**08 58 24.5**	**+0.4**
BZMR	**Bezymyannaya**	**1.82**	**267**	PN	**Pn**	**08 58 24.3**	**+0.2**
BZMR	**Bezymyannaya**	**1.82**	**267**	*e*P	**Pn**	**08 58 24.3**	**+0.2**
MKZ	**Mys Kozlova**	**1.89**	**218**	PN	**Pn**	**08 58 23.1**	**-1.9**
MKZ	**Mys Kozlova**	**1.89**	**218**	*e*P	**Pn**	**08 58 23.1**	**-1.9**
KIRR	**Kirishev**	**1.90**	**268**	PN	**Pn**	**08 58 25.5**	**+0.2**
KIRR	**Kirishev**	**1.90**	**268**	*e*P	**Pn**	**08 58 25.5**	**+0.2**
KPT	**Kopyto**	**1.96**	**268**	PN	**Pn**	**08 58 26.5**	**+0.4**
KPT	**Kopyto**	**1.96**	**268**	*e*P	**Pn**	**08 58 26.6**	**+0.4**
KMNR	**Kamenistaya**	**1.98**	**262**	PN	**Pn**	**08 58 26.6**	**+0.2**
KMNR	**Kamenistaya**	**1.98**	**262**	*e*P	**Pn**	**08 58 26.6**	**+0.2**
TUMD	**Tumrok D**	**2.07**	**247**	PN	**Pn**	**08 58 27.1**	**-0.4**
TUMD	**Tumrok D**	**2.07**	**247**	*e*P	**Pn**	**08 58 27.2**	**-0.4**
KOZ	**Kozyrevsk**	**2.15**	**271**	PN	**Pn**	**08 58 29.8**	**+1.1**
KOZ				S	**Sb**	**08 58 59.4**	**+0.9**
KOZ	**Kozyrevsk**	**2.15**	**271**	*e*P	**Pn**	**08 58 29.9**	**+1.1**
KOZ				*e*S	**Sb**	**08 58 59.5**	**+0.9**
SRDR	**Sredinnyy**	**2.25**	**278**	PN	**Pn**	**08 58 30.8**	**+0.8**
SRDR				S	**Sb**	**08 59 00.8**	**-0.5**
SRDR	**Sredinnyy**	**2.25**	**278**	*e*P	**Pn**	**08 58 30.9**	**+0.8**
SRDR				*e*S	**Sb**	**08 59 00.9**	**-0.5**
ESO	**Esso**	**2.82**	**269**	PN	**Pn**	**08 58 38.1**	**+0.3**
ESO	**Esso**	**2.82**	**269**	*e*P	**Pn**	**08 58 38.1**	**+0.3**
KII	**Karymskiy**	**3.19**	**232**	PN	**Pn**	**08 58 43.6**	**+0.7**
KII	**Karymskiy**	**3.19**	**232**	*e*P	**Pn**	**08 58 43.7**	**+0.7**
OSSR	**Ossora**	**3.21**	**354**	PN	**Pn**	**08 58 43.6**	**+0.5**
OSSR	**Ossora**	**3.21**	**354**	*e*P	**Pn**	**08 58 43.6**	**+0.5**
PALN	**Palana**	**3.64**	**328**	PN	**Pb**	**08 58 55.2**	**-1.8**
PALN	**Palana**	**3.64**	**328**	*e*P	**Pb**	**08 58 55.3**	**-1.8**
SPN	**Mys Shipunski**	**3.67**	**217**	PN	**Pn**	**08 58 47.7**	**-1.8**
SPN	**Mys Shipunski**	**3.67**	**217**	*e*P	**Pn**	**08 58 47.7**	**-1.8**
SDLR	**Sedlovina**	**3.96**	**227**	PN	**Pn**	**08 58 54.5**	**+1.0**
SDLR	**Sedlovina**	**3.96**	**227**	*e*P	**Pn**	**08 58 54.6**	**+1.0**
KRER	**Koryakskii**	**4.00**	**228**	PN	**Pn**	**08 58 58.1**	**+3.9**
KRER	**Koryakskii**	**4.00**	**228**	*e*P	**Pn**	**08 58 58.1**	**+3.9**
KRX	**Arik**	**4.00**	**229**	PN	**Pn**	**08 58 56.9**	**+2.8**
KRX	**Arik**	**4.00**	**229**	*e*P	**Pn**	**08 58 56.9**	**+2.8**
SMAR	**Somma**	**4.00**	**227**	PN	**Pn**	**08 58 55.2**	**+1.0**
SMAR	**Somma**	**4.00**	**227**	*e*P	**Pn**	**08 58 55.3**	**+1.0**
AVH	**Avacha**	**4.03**	**228**	PN	**Pn**	**08 58 56.4**	**+1.9**
AVH	**Avacha**	**4.03**	**228**	*e*P	**Pn**	**08 58 56.4**	**+1.9**
UGLR	**Uglovaya**	**4.04**	**227**	PN	**Pn**	**08 58 55.1**	**+0.5**
UGLR	**Uglovaya**	**4.04**	**227**	*e*P	**Pn**	**08 58 55.1**	**+0.5**
KOK	**Koryaka**	**4.05**	**229**	PN	**Pn**	**08 58 57.0**	**+2.2**
KOK	**Koryaka**	**4.05**	**229**	*e*P	**Pn**	**08 58 57.0**	**+2.2**
GNL	**Ganaly**	**4.09**	**237**	PN	**Pn**	**08 58 56.9**	**+1.5**
GNL	**Ganaly**	**4.09**	**237**	*e*P	**Pn**	**08 58 56.9**	**+1.5**
DALK	**Dalny**	**4.20**	**226**	PN	**Pn**	**08 58 56.4**	**-0.3**
DALK	**Dalny**	**4.20**	**226**	*e*P	**Pn**	**08 58 56.4**	**-0.3**
DALK				*e*S	**Sn**	**08 59 45.3**	**-0.5**
INSR	**Institute**	**4.23**	**227**	PN	**Pb**	**08 59 08.0**	**+0.9**
INSR	**Institute**	**4.23**	**227**	*e*P	**Pb**	**08 59 08.0**	**+0.9**
PET	**Petropavlovsk**	**4.24**	**226**		**Pn**	**08 58 57.1**	**-0.2**
PET	**Petropavlovsk**	**4.24**	**226**	*e*PN	**Pn**	**08 58 58.1**	**+0.8**
PET				pmax	pmax		
	comp=Z,133nm,0.7s						
PET				MLR	MLR		
	comp=Z,900nm,10.0s						
PET				MLR	MLR		
	comp=Z,500nm,10.0s						
PET	**Petropavlovsk**	**4.24**	**226**	Pn	**Pn**	**08 58 57.9**	**+0.6**
PEA0B	**Petropavlovsk-**	**4.59**	**232**		**Pn**	**08 59 03.2**	**+1.1**
PEA0B	**Petropavlovsk-**	**4.59**	**232**	*i* PN	**Pn**	**08 59 03.5**	**+1.4**
PETK	**Petropavlovsk-**	**4.59**	**232**		**Pn**	**08 59 03.0**	**+0.9**
PETK	**Petropavlovsk-**	**4.59**	**232**	Pn	**Pn**	**08 59 02.0**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=47,slow=14,SNR=12						
PETK				Sn	**Sn**	**09 00 01.3**	**+5.9**
	comp=Z,1.6nm,0.3s,baz=47,slow=26,SNR=4.6						
	comp=Z,2.8nm,0.4s						
PETK	**Petropavlovsk-**	**4.59**	**232**	PN	**Pn**	**08 59 03.0**	**+0.9**
KRMR	**Karymshinskiy**	**4.60**	**227**	PN	**Pn**	**08 59 03.0**	**+0.8**
KRMR	**Karymshinskiy**	**4.60**	**227**	*e*P	**Pn**	**08 59 03.1**	**+0.8**
APC	**Apacha**	**4.95**	**233**	PN	**Pn**	**08 59 08.6**	**+1.6**
APC	**Apacha**	**4.95**	**233**	*e*P	**Pn**	**08 59 08.6**	**+1.6**
ASAK	**Asacha**	**5.03**	**225**	PN	**Pn**	**08 59 09.4**	**+1.2**
ASAK	**Asacha**	**5.03**	**225**	*e*P	**Pn**	**08 59 09.4**	**+1.2**
SKR	**Severo-Kuril's**	**7.05**	**223**	*e*PN	Pn	08 59 41.5	+5.6
SKR				pmax	pmax		
	comp=Z,26nm,0.5s						
SKR				MLR	MLR		
	comp=Z,500nm,17.0s						
MA2	**Magadan**	**7.75**	**302**	LR	LR	09 02 50.3	
	comp=Z,386nm,19.4s,baz=124,slow=39						
SEY	**Seymchan**	**8.96**	**325**	LR	LR	09 03 48.7	
	comp=Z,242nm,18.3s,baz=124,slow=40						
BILL	**Bilibino**	**12.07**	**5**	*ce*PN	**Pn**	**09 00 47.9**	**+3.3**
BILL				pmax	pmax		
	comp=Z,15nm,1.7s						
TYV	**Tymovskoe**	**13.56**	**256**	*e*P	**P**	**09 01 14.4**	**+0.3**
TYV				pmax	pmax		
	comp=Z,16nm,1.2s						
TYV				pmax	pmax		
	comp=Z,100nm,2.7s						
YSS	**Yuzhno-Sakhali**	**15.86**	**244**		**Pn**	**09 01 36.9**	**+1.0**
YSS				IAmb	IAmb	09 01 47.0	
	comp=Z,34nm,1.1s						
YSS	**Yuzhno-Sakhali**	**15.86**	**244**	*e*P	**Pn**	**09 01 36.7**	**+0.8**
YSS				*e*S	**Sn**	**09 04 30.2**	**-1.4**
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
YSS				MLR	MLR		
	comp=Z,100nm,15.0s						
GRNR	**Gornyy**	**17.05**	**263**	*e*P	**P**	**09 01 52.1**	**-0.7**
GRNR				MLR	MLR		
	comp=E,190nm,16.0s						
GRNR				MLR	MLR		
	comp=N,180nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,80nm,16.0s						
JKA	**Kamikawa-asahi**	**17.98**	**237**		**Pn**	**09 02 02.9**	**+0.2**
ASAJ	**Asahikawa**	**17.98**	**237**	P	**Pn**	**09 02 01.2**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=1.8,slow=5.1,SNR=21						
	comp=Z,13nm,0.8s						
ASAJ	**Asahikawa**	**17.98**	**237**	P	**P**	**09 02 02.9**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,77nm,1.1s						
YAK	**Yakutsk**	**18.33**	**303**	LR	LR	09 09 21.3	
	comp=Z,106nm,18.4s,baz=46,slow=38						
YAK	**Yakutsk**	**18.33**	**303**	*e*P	P	09 02 16.7	+10
YAK				pmax	pmax		
	comp=Z,20nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
KLR	**Kul'dur**	**20.43**	**264**	P	**P**	**09 02 28.4**	**-1.4**
	comp=E,5.4nm,1.1s,baz=64,slow=10,SNR=5.7						
KLR				LR	LR	09 10 39.1	
	comp=E,56nm,18.7s,baz=78,slow=38						
	comp=E,5.4nm,1.1s						
KLR	**Kul'dur**	**20.43**	**264**	⇑*e*P	**P**	**09 02 29.4**	**-0.4**
KLR				pmax	pmax		
	comp=Z,17nm,1.3s						
C19K	**Lookout Ridge**	**20.91**	**37**	P	Pn	09 02 37.6	+0.1
C19K				IAmb	IAmb	09 02 39.2	
	comp=Z,29nm,1.1s						

F19K	**Shaleruckik Mo**	**20.93**	**44**		Pn	09 02 36.8	-0.9
F19K				IAmb	IAmb	09 02 38.5	
	comp=Z,19nm,1.1s						
L18K	**Granite Mounta**	**20.95**	**57**	P	Pn	09 02 38.2	+0.3
TIXI	**Tiksi**	**21.39**	**330**	P	**P**	**09 02 40.8**	**+0.7**
TIXI				IAmb	IAmb	09 02 44.1	
	comp=Z,13nm,0.8s						
TIXI	**Tiksi**	**21.39**	**330**	P	**P**	**09 02 40.8**	**+0.7**
	comp=Z,9.2nm,0.7s,baz=116,slow=11,SNR=6.6						
TIXI				LR	LR	09 11 00.4	
	comp=Z,84nm,20.1s,baz=178,slow=37						
	comp=Z,9.2nm,0.7s						
TIXI	**Tiksi**	**21.39**	**330**	*ce*P	**P**	**09 02 43.0**	**+2.9**
TIXI				pmax	pmax		
	comp=Z,21nm,1.3s						
J20K	**Nowinta River**	**22.11**	**51**		**P**	**09 02 50.4**	**+2.5**
J20K				IAmb	IAmb	09 02 52.3	
	comp=Z,30nm,1.5s						
K20K	**Telida**	**22.14**	**54**	P	**P**	**09 02 50.1**	**+1.9**
HEH	**HeiHe**	**22.34**	**270**	*e*P	**P**	**09 02 47.6**	**-2.8**
HEH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HEH				LR	LR		
	comp=N,300nm,16.0s						
HEH				LR	LR		
	comp=E,200nm,14.1s						
HEH				LR	LR		
	comp=Z,120nm,12.9s						
B21K	**Ikpikpuk River**	**22.75**	**37**	P	**P**	**09 02 56.8**	**+2.2**
B21K				IAmb	IAmb	09 03 26.4	
	comp=Z,15nm,1.0s						
RED	**Redoubt Volcan**	**22.98**	**61**	P	**P**	**09 03 00.1**	**+2.9**
RED				IAmb	IAmb	09 03 00.7	
	comp=Z,15nm,0.9s						
CAST	**Castle Rocks**	**23.03**	**53**		**P**	**09 02 59.6**	**+2.0**
CAST				IAmb	IAmb	09 03 01.1	
	comp=Z,15nm,1.3s						
SKT	**Skwentna**	**23.38**	**57**	P	**P**	**09 03 02.8**	**+1.6**
SKT				IAmb	IAmb	09 03 03.9	
	comp=Z,16nm,1.2s						
BPAW	**Bear Paw Mtn.**	**23.50**	**52**	IAmb	IAmb	09 03 05.4	
	comp=Z,24nm,1.4s						
KTH	**Kantishna Hill**	**23.55**	**53**	P	**P**	**09 03 04.5**	**+1.6**
KTH				IAmb	IAmb	09 03 06.8	
	comp=Z,24nm,1.3s						
SUA	**Susitna One**	**23.81**	**58**	P	**P**	**09 03 06.2**	**+0.7**
SUA				IAmb	IAmb	09 03 08.2	
	comp=Z,15nm,1.0s						
TRF	**Thorofare Moun**	**23.83**	**53**	IAmb	IAmb	09 03 08.3	
	comp=Z,17nm,0.9s						
CNPM	**China Poot**	**23.90**	**63**	P	**P**	**09 03 06.3**	**+0.1**
H23K	**Yukon River**	**24.11**	**47**	P	**P**	**09 03 09.3**	**+1.1**
H23K				IAmb	IAmb	09 03 11.8	
	comp=Z,20nm,1.1s						
NEA2	**Nenana**	**24.32**	**50**	P	**P**	**09 03 10.8**	**+0.6**
RND	**Reindeer**	**24.48**	**53**	P	**P**	**09 03 12.1**	**+0.4**
RND				IAmb	IAmb	09 03 13.2	
	comp=Z,7.8nm,1.0s						
RND	**Reindeer**	**24.48**	**53**	P	**P**	**09 03 12.1**	**+0.4**
RND				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WRH	**Wood River Hil**	**24.75**	**51**	P	**P**	**09 03 15.3**	**+1.3**
COLA	**College**	**24.83**	**50**	*de*P	**P**	**09 03 15.7**	**+1.0**
COLA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BNX	**BinXian**	**24.84**	**261**	⇓P	**P**	**09 03 12.8**	**-2.2**
BNX				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CCB	**Clear Creek Bu**	**24.86**	**50**	P	**P**	**09 03 15.8**	**+0.8**
CCB				IAmb	IAmb	09 03 18.0	
	comp=Z,11nm,0.9s						
PWL	**Port Wells**	**25.06**	**59**	IAmb	IAmb	09 03 33.2	
	comp=Z,16nm,1.0s						
DHY	**Denali Highway**	**25.18**	**54**	P	**P**	**09 03 18.2**	**+0.1**
DHY				IAmb	IAmb	09 03 19.8	
	comp=Z,12nm,1.3s						
HDA	**Harding Lake**	**25.24**	**51**	P	**P**	**09 03 18.6**	**+0.1**
ILAR	**Eielson Array**	**25.25**	**50**		**P**	**09 03 18.3**	**-0.2**
ILAR	**Eielson Array**	**25.25**	**50**	P	**P**	**09 03 18.9**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=264,slow=8.0,SNR=14						
	comp=Z,2.4nm,0.9s						
ILAR	**Eielson Array**	**25.25**	**50**	P	**P**	**09 03 19.0**	**+0.5**
PRP	**Porcupine Dome**	**25.78**	**48**		**P**	**09 03 24.7**	**+1.2**
PRP				IAmb	IAmb	09 03 26.0	
	comp=Z,13nm,1.4s						
MJB9	**Matsu-Tunnel**	**26.05**	**232**	P	**P**	**09 03 24.9**	**-1.1**
MAJO	**Matsushiro**	**26.05**	**232**		**P**	**09 03 25.0**	**-1.0**
MAJO	**Matsushiro**	**26.05**	**232**	*ce*P	**P**	**09 03 24.5**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,12nm,1.0s						
MJAR	**Matsushiro Arr**	**26.05**	**232**		**P**	**09 03 23.9**	**-2.1**
MJAR				IAmb	IAmb	09 03 34.0	
	comp=Z,9.1nm,1.0s						
MJAR	**Matsushiro Arr**	**26.05**	**232**	P	**P**	**09 03 25.2**	**-0.9**
	comp=Z,5.8nm,0.7s,baz=25,slow=8.5,SNR=16						
MJAR				LR	LR	09 15 59.9	
	comp=Z,56nm,19.1s,baz=45,slow=42						
	comp=Z,5.8n

KURBB **Kurchatov Arra 48.07 301** P **P** **09 06 30.0 -1.9**
comp=Z,6.2nm,1.0s,baz=54,slow=7.9,SNR=24
KURBB PcP **PcP** **09 07 59.0 -0.5**
comp=Z,2.3nm,0.9s,baz=51,slow=3.8,SNR=8.6
comp=Z,6.2nm,1.0s
MK31 Makanchi Array 48.77 295*ce*P **P** **09 06 35.7 -1.8**
MKAR Makanchi Array 48.77 295 P **P** **09 06 34.8 -2.7**
MKAR Makanchi Array 48.77 295 P **P** **09 06 35.1 -2.4**
comp=Z,2.8nm,0.6s,baz=58,slow=6.8,SNR=26
MKAR LR LR 09 27 43.0
comp=Z,68nm,19.8s,baz=12,slow=37
comp=Z,2.8nm,0.6s
MAKZ Makanchi 48.92 296 **P** **09 06 34.2 -4.5**
MAKZ IAmb IAmb 09 06 38.4
comp=Z,6.4nm,1.1s
MAKZ Makanchi 48.92 296 P **P** **09 06 34.2 -4.5**
MAKZ pmax pmax
comp=Z,6.0nm,1.1s
BVAR Borovoye Array 50.19 308 P **P** **09 06 46.7 -1.5**
comp=Z,0.8nm,0.4s,baz=28,slow=6.7,SNR=5.1
BVAR PcP **PcP** **09 08 06.9 -0.3**
comp=Z,2.9nm,0.6s,baz=61,slow=3.4,SNR=8.4
BVAR LR LR 09 30 39.6
comp=Z,93nm,18.5s,baz=36,slow=39
comp=Z,0.8nm,0.4s
BRVK Borovoye 50.22 308*de*P **P** **09 06 47.0 -1.4**
BRVK pmax pmax
comp=Z,4.0nm,2.5s
ARCES ARCESS Array B 51.10 342 P **P** **09 06 54.6 -0.2**
comp=Z,3.2nm,1.0s,baz=41,slow=7.6,SNR=4.3
comp=Z,3.2nm,1.0s
ARTI Arti 52.72 318 LR LR 09 32 55.6
comp=Z,68nm,18.5s,baz=42,slow=40
NVAR Mina Array Bea 52.83 75 P **P** **09 07 10.2 +1.8**
comp=Z,0.6nm,0.8s,baz=316,slow=6.8,SNR=4.9
comp=Z,0.6nm,0.8s
PDAR Pinedale Array 54.29 65 P **P** **09 07 20.2 +1.2**
comp=Z,0.4nm,0.7s,baz=316,slow=4.1,SNR=5.4
comp=Z,0.4nm,0.7s
SPR3 Spring Creek 3 54.54 71 **P** **09 07 23.0 +1.9**
SPR3 IAmb IAmb 09 07 33.7
comp=Z,4.8nm,1.2s
KLMR Klimovskoe 55.41 331 *e*P **P** **09 07 24.4 -2.2**
KLMR pmax pmax
comp=Z,18nm,1.4s
AAK Ala-Archa 55.64 297 **P** **09 07 26.9 -1.8**
AAK Ala-Archa 55.64 297*ce*P **P** **09 07 27.1 -1.6**
AAK pmax pmax
comp=Z,11nm,1.3s
KSH Kashi 57.19 293 P **P** **09 07 42.3 +2.5**
KSH pmax pmax
comp=Z,5.0nm,1.1s
KK31 Karatay Array 57.26 300 IAmb IAmb 09 07 39.2
comp=Z,6.2nm,0.8s
KKAR Karatay Array 57.26 300 **P** **09 07 38.2 -1.9**
KKAR Karatay Array 57.26 300 IAmb IAmb 09 07 39.2
comp=Z,6.5nm,0.8s
KKAR Karatay Array 57.26 300 P **P** **09 07 38.2 -1.9**
AKTO Aktyubinsk 57.35 313 LR LR 09 34 56.9
comp=Z,73nm,18.7s,baz=319,slow=39
PV19 Morning Glory 57.87 68 P **P** **09 07 45.0 +0.3**
PV18 Skein Mesa, Pa 57.95 68 **P** **09 07 45.8 +0.5**
PV18 IAmb IAmb 09 07 55.8
comp=Z,8.9nm,1.4s
FINES FINESS Array B 58.20 338 P **P** **09 07 45.8 -0.5**
comp=Z,2.4nm,0.7s,baz=42,slow=5.5,SNR=4.8
FINES LR LR 09 35 44.4
comp=Z,29nm,19.8s,baz=44,slow=39
comp=Z,2.4nm,0.7s
FINES FINESS Array B 58.20 338 *i* P **P** **09 07 48.0 +1.6**
FINES pmax pmax
comp=Z,5.0nm,0.9s
BORG Borgarnes 59.45 3 LR LR 09 36 10.8
comp=Z,31nm,18.2s,baz=291,slow=39
BELG Belogornoye 59.79 320 LR LR 09 36 58.1
comp=Z,61nm,18.3s,baz=31,slow=39
BELG Belogornoye 59.79 320*d i* P **P** **09 07 57.7 +0.2**
BELG pmax pmax
comp=Z,4.0nm,1.1s
MOS Moscow 60.26 328 *e*P **P** **09 08 00.6 -0.1**
MOS *e* 09 08 07.0
CMAR Chiang Mai Arr 60.83 260 P **P** **09 08 03.9 -1.2**
comp=Z,1.2nm,0.3s,baz=42,slow=7.6,SNR=1.7
CMAR LR LR 09 37 32.8
comp=Z,20nm,18.1s,baz=265,slow=39
comp=Z,1.2nm,0.3s
OBN Obninsk 61.11 328 ⇓ *i* P **P** **09 08 07.1 +0.6**
OBN *i* 09 08 13.9
OBN *e* 09 10 21.5
OBN *e*S **S** **09 16 21.4 -3.8**
OBN pmax pmax
comp=Z,17nm,1.1s
OBN MLR MLR
comp=Z,246nm,22.0s
NB2 NORSAR Subarra 61.24 345 P **P** **09 08 07.4 0.0**
comp=Z,1.1nm,0.7s,baz=17,slow=6.9
NOA NORSAR Array B 61.24 345 P **P** **09 08 07.5 +0.2**
comp=Z,1.7nm,0.7s,baz=18,slow=6.8,SNR=4.8
NOA LR LR 09 39 21.6
comp=Z,12nm,18.3s,baz=65,slow=41
comp=Z,1.7nm,0.7s
HNR Honiara 65.33 184 LR LR 09 31 32.1
comp=Z,74nm,21.4s,baz=350,slow=31
AKASG Malin Array Be 67.10 330 P **P** **09 08 45.4 -0.6**
comp=Z,3.4nm,0.6s,baz=29,slow=6.3,SNR=14
AKASG LR LR 09 41 31.3
comp=Z,48nm,18.8s,baz=46,slow=39
comp=Z,3.4nm,0.6s
AKASG Malin Array Be 67.10 330 *i* P **P** **09 08 46.4 +0.5**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 67.10 330*de*P **P** **09 08 46.3 +0.4**
AK01 Malin Array Si 67.11 331 P **P** **09 08 45.7 -0.3**
AK20 Malin Array Si 67.12 331 P **P** **09 08 46.8 +0.7**
TXAR Lajitas Array 67.59 71 P **P** **09 08 50.8 +1.3**
TXAR Lajitas Array 67.59 71 P **P** **09 08 51.1 +1.6**
comp=Z,0.8nm,0.7s,baz=293,slow=4.8,SNR=10.0
comp=Z,0.8nm,0.7s
E62A Clayton Lake 68.38 36 **P** **09 08 54.7 +0.7**
EKA Eskdalemuir Ar 68.44 352 P **P** **09 08 54.9 +0.6**
comp=Z,3.5nm,0.8s,baz=16,slow=5.7,SNR=9.4
comp=Z,3.5nm,0.8s
KIV Kislovodsk 68.66 318 *e*P **P** **09 08 56.3 +0.3**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,30nm,17.0s
KBZ Khabaz 68.77 318 P **P** **09 08 57.5 +1.0**
comp=Z,7.0nm,0.9s,baz=178,slow=2.4,SNR=11
KBZ LR LR 09 43 11.5
comp=Z,79nm,19.6s,baz=30,slow=40
comp=Z,7.0nm,0.9s
KBZ Khabaz 68.77 318*d i* P **P** **09 08 57.2 +0.7**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
GNI Garni 71.12 315 LR LR 09 43 44.7
comp=Z,63nm,21.1s,baz=76,slow=39
VRAC Vranov 71.47 338 LR LR 09 43 48.8
comp=Z,25nm,20.5s,baz=346,slow=39
GERES GERESS Array B 72.50 340 P **P** **09 09 19.8 +0.5**
comp=Z,0.6nm,0.5s,baz=0.0,slow=1.9,SNR=3.7
GERES LR LR 09 45 37.4
comp=Z,32nm,19.3s,baz=14,slow=40
comp=Z,0.6nm,0.5s
MLR Muntele Rosu 72.76 330 LR LR 09 44 13.2
comp=Z,44nm,18.1s,baz=38,slow=38
BRTR Keskin Array B 75.61 322 P **P** **09 09 38.0 +0.3**
comp=Z,2.2nm,0.8s,baz=35,slow=5.9,SNR=14
comp=Z,2.2nm,0.8s
BRTR Keskin Array B 75.61 322 *i* P **P** **09 09 38.2 +0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 79.69 208 P **P** **09 09 59.8 -0.5**
comp=Z,0.6nm,1.0s,baz=11,slow=5.8,SNR=5.1
comp=Z,0.6nm,1.0s
MMAI Mount Meron Ar 80.97 318 P **P** **09 10 07.4 0.0**
comp=Z,8.0nm,0.9s,baz=46,slow=6.0,SNR=4.8
comp=Z,8.0nm,0.9s
ASAR Alice Springs 83.36 207 P **P** **09 10 19.8 0.0**
comp=Z,0.6nm,0.9s,baz=17,slow=5.2,SNR=5.2
comp=Z,0.6nm,0.9s
ESDC Sonseca Array 84.05 350 P **P** **09 10 23.9 +0.6**
comp=Z,0.9nm,0.7s,baz=356,slow=5.4,SNR=5.8
comp=Z,0.9nm,0.7s
EIL Elat 84.14 317 LR LR 09 52 41.5
comp=Z,56nm,18.3s,baz=247,slow=39
QSPA South Pole Qui 145.82 180 PKPbc **PKPdf** **09 17 29.4 -0.6**
comp=Z,4.3nm,0.9s,baz=337,slow=0.8,SNR=13

*NEIC **03** 09:07:06.3±1.0, 69.°18N±0.°03×144.°62W±0.°06, h5km±2km, Error ellipse: s-maj=5.2km s-min=3.0km az=38.0*
AEIC 03 09:07:05.0±1.3, **69.°17N**±0.°03×**144.°61W**±0.°08, **h7**km±7km, **ML2.7, ML3.1**/82(NEIC), **Error ellipse: s-maj=4.6km s-min=3.2km az=120.0, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
C27K	**Jago River**	**0.56**	**34**		Pb	09 07 17.0	-0.1
D25K	**Kavik River**	**0.65**	**285**		Pg	09 07 17.6	+0.2
D25K					Sg	09 07 26.2	+0.3
E25K	**Arctic Village**	**1.11**	**199**		Pb	09 07 26.6	+0.1
D27M	**Malcolm River**	**1.30**	**85**		Pg	09 07 30.8	+0.8
E27K	**Coleen River**	**1.48**	**130**		Pg	09 07 33.6	+0.3
F26K	**Sheenjek River**	**1.49**	**173**		Pg	09 07 34.5	+1.1
F26K				IAML		09 08 28.9	
	comp=E,314nm,0.9s						
D24K	**Happy Valley**	**1.51**	**271**		Pg	09 07 34.7	+0.8
C24K	**Franklin Bluff**	**1.55**	**293**		Pg	09 07 34.7	+0.1
F25K	**Christian Rive**	**1.63**	**194**		Pg	09 07 36.0	-0.1
F25K				IAML		09 08 33.1	
	comp=N,206nm,0.6s						
F25K				IAML		09 08 33.4	
	comp=E,222nm,1.1s						
BMAR	**Burnt Mountain**	**1.75**	**180**		Pg	09 07 38.4	0.0
E24K	**Your Creek**	**1.80**	**234**		Pb	09 07 37.7	-0.4
TOLK	**Toolik Lake Re**	**1.87**	**256**		Pb	09 07 40.0	+0.5
TOLK				IAML		09 08 42.6	
	comp=N,253nm,0.7s						
TOLK				IAML		09 08 43.0	
	comp=E,238nm,1.1s						
E28M	**Babbage River**	**1.92**	**105**		Pb	09 07 40.2	0.0
E28M				IAML		09 08 43.3	
	comp=N,181nm,0.6s						
E28M				IAML		09 08 47.4	
	comp=E,151nm,0.6s						
F24K	**Squaw Lake**	**2.06**	**218**		Pb	09 07 41.8	-0.8
F24K				IAML		09 08 46.4	
	comp=N,104nm,0.5s						
F24K				IAML		09 08 46.6	
	comp=E,93nm,0.4s						
E23K	**Chandalar**	**2.15**	**241**		Pb	09 07 44.0	-0.2
E23K				IAML		09 08 52.2	
	comp=E,104nm,0.7s						
D23K	**Nanushuk River**	**2.19**	**268**		Pb	09 07 44.3	-0.6
C23K	**Itkillik River**	**2.22**	**290**		Pn	09 07 43.6	+1.5
G26K	**Porcupine Rive**	**2.25**	**172**		Pb	09 07 45.2	-0.6
F28M	**Old Crow**	**2.35**	**129**		Pb	09 07 46.1	-1.4
E29M	**Blow River**	**2.56**	**105**		Pb	09 07 49.5	-1.7
G27K	**Doyon Strip**	**2.62**	**153**		Pb	09 07 51.2	-0.9
FYU	**Fort Yukon**	**2.62**	**185**		Pb	09 07 50.1	-2.1
G24K	**Hadweenzic Riv**	**2.70**	**205**		Pn	09 07 50.4	+1.6
G24K				IAML		09 09 08.7	
	comp=E,110nm,0.9s						
COLD	**Coldfoot**	**2.86**	**230**		Pn	09 07 53.3	+2.4
COLD				IAML		09 09 18.1	
	comp=N,48nm,0.9s						
COLD				IAML		09 09 21.8	
	comp=E,47nm,0.8s						
D22K	**Ayikyak River**	**2.92**	**268**	Pn	Pn	09 07 53.2	+1.5
G29M	**Pine Creek**	**3.35**	**129**		Pn	09 08 00.2	+2.5
H24K	**Noodor Dome**	**3.57**	**202**		Pn	09 08 01.7	+0.9
PRP	**Porcupine Dome**	**3.68**	**186**		Pn	09 08 05.1	+2.7
PRP				IAML		09 09 37.7	
	comp=N,42nm,0.8s						
PRP				IAML		09 09 42.4	
	comp=E,47nm,0.6s						
H29M	**Whitestone**	**3.80**	**138**		Pn	09 08 06.5	+2.8
G30M	**tAoh Zraii Nji**	**3.83**	**121**		Pn	09 08 06.5	+2.1
G30M				IAML		09 09 48.2	
	comp=E,23nm,0.6s						
H23K	**Yukon River**	**3.85**	**212**		Pn	09 08 06.9	+2.3
H23K				IAML		09 09 47.7	
	comp=N,40nm,0.8s						
H23K				IAML		09 09 53.4	
	comp=E,35nm,1.2s						
EPYK	**Eagle Plains**	**4.11**	**129**		Pn	09 08 10.3	+2.2
I28M	**Miner Creek**	**4.15**	**152**		Pn	09 08 10.9	+2.2
I28M				IAML		09 09 56.5	
	comp=E,21nm,0.8s						
I28M				IAML		09 10 03.5	
	comp=N,23nm,0.8s						
F31M	**Tsiigehtchic**	**4.39**	**108**	Pn	Pn	09 08 14.4	+2.5
G31M	**Satah River**	**4.49**	**115**	Pn	Pn	09 08 15.3	+2.1
I29M	**Ogilvie Camp,**	**4.54**	**144**		Pn	09 08 15.9	+1.9
I29M				IAML		09 10 10.7	
	comp=E,27nm,0.8s						
I29M				IAML		09 10 12.5	
	comp=N,24nm,0.6s						
CCB	**Clear Creek Bu**	**4.71**	**197**	Pn	Pn	09 08 18.7	+2.4
CCB				IAML		09 10 15.8	
	comp=N,12nm,1.0s						
H21K	**Melozitna Rive**	**4.73**	**226**	Pn	Pn	09 08 19.2	+2.5
MLY	**Manley**	**4.79**	**213**	Pn	Pn	09 08 20.9	+3.4
MLY				IAML		09 10 25.4	
	comp=N,11nm,0.9s						
NEA2	**Nenana**	**4.92**	**203**	Pn	Pn	09 08 19.0	-0.2
NEA2				IAML		09 09 53.6	
	comp=N,9.1nm,0.5s						
NEA2				IAML		09 10 33.8	
	comp=E,11nm,1.0s						
I30M	**Mount Dempster**	**5.09**	**137**		Pn	09 08 23.4	+1.7
H31M	**Peel River**	**5.19**	**126**	Pn	Pn	09 08 24.5	+1.6
F19K	**Shaleruckit Mo**	**5.47**	**251**	Pn	Pn	09 08 29.6	+2.9
DAWY	**Dawson**	**5.53**	**155**	Pn	Pn	09 08 29.9	+2.3
J30M	**Hart River**	**5.64**	**141**		Pn	09 08 31.5	+2.3
C18K	**Utukok River**	**6.01**	**273**	Pn	Pn	09 08 35.7	+1.5
K29M	**Barlow Dome**	**6.05**	**149**	Pn	Pn	09 08 36.6	+1.9
KTH	**Kantishna Hill**	**6.18**	**207**	Pn	Pn	09 08 38.6	+2.0
E18K	**Tukpahlearik C**	**6.18**	**261**	Pn	Pn	09 08 38.0	+1.6
L26K	**Log Cabin Wild**	**6.19**	**175**		Pn	09 08 39.0	+2.3
BCAR	**Beaver Creek A**	**6.23**	**168**	Pn	Pn	09 08 39.8	+2.6
L29M	**L29M**	**6.62**	**154**	Pn	Pn	09 08 44.7	+2.1
M27K	**Edge Creek, AK**	**6.93**	**169**	Pn	Pn	09 08 49.4	+2.5
A36M	**Sachs Harbour**	**7.03**	**57**	Pn	Pn	09 08 49.0	+1.0
M29M	**Somme Creek**	**7.20**	**157**	Pn	Pn	09 08 53.0	+2.4
M30M	**Minto, Yukon**	**7.34**	**151**	Pn	Pn	09 08 54.2	+1.7
J18K	**Innoko River**	**7.50**	**226**	Pn	Pn	09 08 55.5	+0.8
C16K	**Lisburne Hills**	**7.58**	**273**	Pn	Pn	09 08 57.0	+1.3
G16K	**Koyuk River**	**7.83**	**250**	Pn	Pn	09 09 01.1	+2.1

*NEIC **03** 09:07:40.2±1.9, 69.°18N±0.°01×144.°72W±0.°06, h10km±2km, Error ellipse: s-maj=3.5km s-min=3.2km az=266.0*
AEIC 03 09:07:39.8±2.8, **69.°16N**±0.°04×**144.°72W**±0.°07, **h13**km±7km, **ML3.1, ML3.2**/78(NEIC), **Error ellipse: s-maj=6.1km s-min=2.9km az=161.0, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
C27K	**Jago River**	**0.59**	**37**	Pg	Pg	09 07 51.0	-0.4
C27K					Sg	09 07 59.0	-0.3
D25K	**Kavik River**	**0.61**	**287**	Pg	Pg	09 07 51.5	-0.3
D25K				Sg	Sg	09 07 59.3	-0.6
D25K				IAML		09 08 02.8	
	comp=E,1μm,0.5s						
C26K	**Camden Bay**	**0.77**	**355**		Pb	09 07 55.3	+0.2
C26K				IAML		09 08 07.6	
	comp=N,1μm,0.6s						
C26K				IAML		09 08 12.3	
	comp=E,1μm,0.3s						
E25K	**Arctic Village**	**1.08**	**197**		Pn	09 08 01.9	+1.1
D27M	**Malcolm River**	**1.34**	**84**		Pb	09 08 05.2	+0.3
D27M				IAML		09 08 26.8	
	comp=N,447nm,0.4s						
D27M				IAML		09 08 27.9	
	comp=E,346nm,0.5s						
D24K	**Happy Valley**	**1.47**	**272**	Pn	Pg	09 08 08.6	+0.6
F26K	**Sheenjek River**	**1.48**	**172**	Pn	Pg	09 08 08.3	+0.1
F26K				IAML		09 08 29.9	
	comp=E,408nm,0.5s						
F26K				IAML		09 08 31.9	
	comp=N,290nm,0.8s						
E27K	**Coleen River**	**1.50**	**129**	Pn	Pb	09 08 07.9	+0.4
E27K				IAML		09 08 30.9	
	comp=E,371nm,0.5s						
F25K	**Christian Rive**	**1.61**	**193**	Pn	Pg	09 08 10.9	+0.3
BMAR	**Burnt Mountain**	**1.73**	**178**	Pn	Pg	09 08 12.8	-0.3
E23K	**Chandalar**	**2.11**	**241**	Pn	Pn	09 08 14.3	-0.6
E23K				IAML		09 08 54.6	
	comp=N,190nm,0.8s						
D28M	**Stokes Point**	**2.14**	**83**		Pn	09 08 15.0	-0.2
D23K	**Nanushuk River**	**2.15**	**268**		Pn	09 08 15.0	-0.4
D23K				IAML		09 08 53.6	
	comp=E,152nm,0.6s						
D23K				IAML		09 09 08.5	
	comp=N,128nm,1.0s						
G26K	**Porcupine Rive**	**2.24**	**171**	Pn	Pn	09 08 17.5	+0.9
F28M	**Old Crow**	**2.37**	**129**	Pn	Pb	09 08 20.4	-1.9
F28M				IAML		09 08 57.3	
	comp=E,108nm,0.6s						
F28M				IAML		09 09 01.4	
	comp=N,121nm,0.7s						
G29M	**Pine Creek**	**3.38**	**129**	Pn	Pn	09 08 34.7	+2.4
H24K	**Noodor Dome**	**3.55**	**202**	Pn	Pn	09 08 37.2	+2.6
H24K				IAML		09 09 34.5	
	comp=E,58nm,0.8s						
H24K				IAML		09 09 40.3	
	comp=N,37nm,0.7s						
H29M	**Whitestone**	**3.81**	**138**	Pn	Pn	09 08 40.7	+2.5
H29M				IAML		09 09 47.3	
	comp=E,45nm,0.7s						
H29M				IAML		09 09 53.3	
	comp=N,51nm,1.1s						
G30M	**tAoh Zraii Nji**	**3.86**	**120**	Pn	Pn	09 08 40.9	+2.0
G30M				IAML		09 09 53.8	
	comp=N,32nm,0.6s						
EPYK	**Eagle Plains**	**4.13**	**129**		Pn	09 08 44.5	+1.9
INK	**Inuvik**	**4.17**	**97**		Pn	09 08 45.0	+2.0
G21K	**Allakaket**	**4.25**	**236**		Pn	09 08 47.2	+2.9
G21K				IAML		09 10 00.5	
	comp=N,27nm,0.9s						
I23K	**Minto, Yukon-K**	**4.41**	**206**		Pn	09 08 48.9	+2.5
I23K				IAML		09 10 08.9	
	comp=E,27nm,0.9s						
I23K				IAML		09 10 09.0	
	comp=N,20nm,0.9s						
F31M	**Tsiigehtchic**	**4.42**	**108**	Pn	Pn	09 08 48.5	+1.9
F31M				IAML		09 10 06.0	
	comp=E,27nm,0.7s						
F31M				IAML		09 10 11.0	
	comp=N,30nm,0.7s						
COLA	**College**	**4.47**	**197**		Pn	09 08 49.8	+2.6
IL31		**4.49**	**192**		Pn	09 08 50.2	+2.8
G31M	**Satah River**	**4.52**	**115**		Pn	09 08 49.5	+1.7
J25K	**Salcha River,**	**4.57**	**184**		Pn	09 08 51.4	+2.8
J25K				IAML		09 10 04.9	
	comp=E,20nm,0.9s						
J25K				IAML		09 10 13.3	
	comp=N,18nm,0.6s						
CCB	**Clear Creek Bu**	**4.69**	**196**		Pn	09 08 51.4	+1.2
CCB				IAML		09 10 18.6	
	comp=E,16nm,0.7s						
H21K	**Melozitna Rive**	**4.70**	**225**		Pn	09 08 52.9	+2.5
H21K				IAML		09 10 20.1	
	comp=N,23nm,1.1s						
H21K				IAML		09 10 23.5	
	comp=E,17nm,0.9s						
J26L	**Joseph Creek**	**4.70**	**174**		Pn	09 08 52.8	+2.4
J26L				IAML		09 10 07.1	
	comp=E,18nm,0.8s						
MLY	**Manley**	**4.76**	**212**		Pn	09 08 54.2	+3.0
HDA	**Harding Lake**	**4.85**	**192**		Pn	09 08 54.9	+2.5
HDA				IAML		09 10 30.4	
	comp=N,22nm,0.7s						
WRH	**Wood River Hil**	**4.89**	**197**		Pn	09 08 54.8	+1.9
WRH				IAML		09 10 16.7	
	comp=E,19nm,0.7s						
NEA2	**Nenana**	**4.89**	**203**		Pn	09 08 54.8	+1.7
D19K	**Kuna River**	**4.90**	**269**		Pn	09 08 55.3	+2.1
D19K				IAML		09 10 38.7	
	comp=N,16nm,0.8s						
E19K	**Redstone River**	**4.95**	**256**		Pn	09 08 56.7	+3.0
E19K				IAML		09 10 25.3	
	comp=E,22nm,0.8s						
E19K				IAML		09 10 33.8	
	comp=N,22nm,0.8s						
I30M	**Mount Dempster**	**5.11**	**137**	Pn	Pn	09 08 57.9	+1.8
I30M				IAML		09 09 58.6	
	comp=N,17nm,0.6s						
SCRK	**Sand Creek**	**5.21**	**176**		Pn	09 08 59.7	+2.2
SCRK				IAML		09 10 24.8	
	comp=E,16nm,1.0s						
H31M	**Peel River**	**5.21**	**125**		Pn	09 08 58.1	+0.6
H31M				IAML		09 10 28.8	
	comp=N,15nm,1.0s						
H31M				IAML		09 10 28.9	
	comp=E,14nm,0.8s						
C19K	**Lookout Ridge**	**5.32**	**276**	Pn	Pn	09 09 00.9	+2.1
C19K				IAML		09 10 03.2	
	comp=E,10nm,0.5s						
C19K				IAML		09 10 43.9	
	comp=N,13nm,1.2s						
F19K	**Shaleruckit Mo**	**5.43**	**251**		Pn	09 09 03.5	+3.1
RIDG	**Independent Ri**	**5.44**	**181**		Pn	09 09 03.2	+2.6
DAWY	**Dawson**	**5.53**	**155**		Pn	09 09 04.0	+2.1
DOT	**Dot Lake**	**5.54**	**177**		Pn	09 09 04.7	+2.7
BPAW	**Bear Paw Mtn.**	**5.65**	**209**		Pn	09 09 06.5	+3.0
J30M	**Hart River**	**5.66**	**140**	Pn	Pn	09 09 05.5	+1.8
C18K	**Utukok River**	**5.97**	**273**		Pn	09 09 09.4	+1.6
K29M	**Barlow Dome**	**6.06**	**148**		Pn	09 09 11.3	+2.2
E18K	**Tukpahlearik C**	**6.14**	**261**	Pn	Pn	09 09 12.1	+2.0
TRF	**Thorofare Moun**	**6.15**	**204**	Pn	Pn	09 09 13.4	+3.0
L26K	**Log Cabin Wild**	**6.18**	**174**		Pn	09 09 13.2	+2.4
PAX	**Paxson**	**6.22**	**183**		Pn	09 09 13.8	+2.5
L27K	**Beaver Creek,**	**6.23**	**168**		Pn	09 09 14.0	+2.6
MENT	**Mentasta**	**6.26**	**176**		Pn	09 09 14.2	+2.5
CAST	**Castle Rocks**	**6.48**	**211**	Pn	Pn	09 09 16.3	+1.5
L29M	**L29M**	**6.63**	**153**		Pn	09 09 18.9	+2.0
YUK2	**White River**	**7.57**	**166**		Pn	09 09 32.6	+2.7

IDC 03 09:16:53.1±2.2, **6.°48S**×**129.°09E**, **h0**km, **mb3.6/1, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=87.9km s-min=26.8km az=79.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.03**	**196**	Pn	Pn	09 19 46.7	+0.8
	0.1nm,0.3s,baz=360,slow=19,SNR=2.1						
FITZ				Sn	Sn	09 22 01.4	+0.6
	0.2nm,0.3s,baz=188,slow=19,SNR=1.7						
	1.8nm,0.8s						
WRA	**Warramunga Arr**	**14.32**	**160**	Pn	Pn	09 20 16.7	-0.6
	0.3nm,0.3s,baz=335,slow=14,SNR=12						
WRA				Sn	Sn	09 22 45.5	-11
	0.4nm,0.3s,baz=335,slow=21,SNR=7.7						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**17.70**	**165**	P	Pn	09 21 01.1	-0.1
	0.2nm,0.3s,baz=343,slow=11,SNR=16						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**67.30**	**327**	P	P	09 27 49.8	0.0
	0.3nm,0.5s,baz=123,slow=7.1,SNR=4.2						
	0.3nm,0.5s						

*IDC **03** 09:39:25.8±0.6, 12.°75N×87.°47W, h72km±4km, mb4.0/15, mbtmp4.3/17, MS3.4/29, Error ellipse: s-maj=24.7km s-min=7.9km az=51.0*
*GCMT **03** 09:39:25.6±0.6, 12.°55N±0.°03×87.°76W±0.°03, h107km±7km, MW4.7/77, Moment Tension Solution. s5,c5; s77,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.55±.10; $M_{\theta\theta}$-0.18±.12; $M_{\phi\phi}$-0.36±.13; $M_{r\theta}$0.87±.05; $M_{r\phi}$0.12±.11; $M_{\theta\phi}$-0.97±.06; Best double couple: M_o1.38400×10^{16} NP1:ϕ_s337.00000°,δ11.00000°,λ107.00000°. NP2: ϕ_s139.00000°,δ80.00000°,λ87.00000°. Principal axes: T 1.4560, Plg55.0000°, Azm45.0000°; N -0.1440, Plg3.0000°, Azm140.0000°; P -1.3120, Plg35.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*CATAC **03** 09:39:26.6±0.1, 12.°N±1.°×87.°8W±1.°0, h43km±5km, M4.9/79, mb5.0/5, mB5.5/3, MLv4.9/79, Mw(mB)5.0/3 Error ellipse: s-maj=3.7km s-min=1.1km az=30.8, confirmed*
*NEIC **03** 09:39:26.6±1.4, 12.°53N±0.°07×87.°69W±0.°06, h82km±7km, mb4.7/417, Error ellipse: s-maj=11.3km s-min=6.4km az=209.0*
*SNET **03** 09:39:29.5±3.2, 12.°73N×87.°80W, h51km, ML4.6*
*GCG **03** 09:39:29.1±2.1, 12.°66N×87.°86W, h34km±253km, MD4.8, ML4.4*
ISC 03 09:39:25.5±0.4, **12.°54N**±0.°03×**87.°74W**±0.°03, **h74**km±3km, **n625**, **σ1**^{s}**1**/474, **mb4.7**/194, **1D, Near coast of Nicaragua**

| Code | Station Name | Δ° | AZ° | Phase | ID | Time | Res |
|---|---|---

POTN Potosi Cosigui 0.51 26 P **Pn** 09 39 38.9 0.0
POTN S **Sn** 09 39 49.2 +0.5
CRIN San Cristobal 0.69 76 **Pn** 09 39 41.5 +0.8
CRIN Sn **Sn** 09 39 53.8 +1.8
CRIN San Cristobal 0.69 76 S **Sn** 09 39 54.2 +2.2
CRIN San Cristobal 0.69 76 P **Pn** 09 39 41.6 +0.8
CRIN San Cristobal 0.69 76 P **Pn** 09 39 41.5 +0.8
CRIN S **Sn** 09 39 53.9 +1.8
CNCH Conchagua 0.74 353 *e*P **Pn** 09 39 41.4 0.0
CNCH Conchagua 0.74 353 S **Sn** 09 39 54.1 +1.0
CNCH Conchagua 0.74 353 P **Pn** 09 39 41.3 0.0
PKGN Cerro Pekin 0.76 80 P **Pn** 09 39 41.9 +0.5
PKGN S **Sn** 09 39 54.3 +1.2
LCND La Caada 0.78 349 S **Sn** 09 39 54.9 +1.2
LCND La Caada 0.78 349 P **Pn** 09 39 42.0 +0.3
ALEN Leon 0.85 95 S **Sn** 09 39 54.3 -0.8
ALEN Leon 0.85 95 P **Pn** 09 39 42.0 -0.5
HERN Volcan Telica 0.89 85 **Pn** 09 39 43.1 +0.1
HERN Sn **Sn** 09 39 56.5 +0.5
POLN Al Sur del Vol 0.91 83 P **Pn** 09 39 43.1 0.0
POLN S **Sn** 09 39 56.5 +0.1
PLRN Geotermica Pol 0.95 87 P **Pn** 09 39 43.7 +0.1
PLRN S **Sn** 09 39 57.3 +0.1
CNGA Al SSO del Vol 1.02 92 P **Pn** 09 39 44.9 +0.5
CNGA S **Sn** 09 39 58.6 0.0
CNGN Cerro Negro 1.02 92 **Pn** 09 39 44.6 +0.1
CNGN Sn **Sn** 09 39 59.5 +0.9
CNGN Cerro Negro 1.02 92 S **Sn** 09 39 59.6 +0.9
CNGN Cerro Negro 1.02 92 P **Pn** 09 39 44.6 +0.1
CNRM Centro Naciona 1.02 336 *e*P **Pn** 09 39 45.4 +0.9
CNRM *e*S **Sn** 09 40 00.1 +1.4
CNRM Centro Naciona 1.02 336 P **Pn** 09 39 45.2 +0.7
BLLM Bellamira 1.02 332 *i* P **Pn** 09 39 44.9 +0.4
PACA Pacayal 1.09 329 S **Sn** 09 40 01.9 +1.5
PACA Pacayal 1.09 329 P **Pn** 09 39 46.0 +0.6
CHOHN **Orocuina 1.09 31** P **Pn** 09 39 46.0 +0.5
CHOHN **Orocuina 1.09 31** S **Sn** 09 40 01.2 +0.7
ALJI Alcalda de J 1.13 314 S **Sn** 09 40 01.5 +0.5
ALJI Alcalda de J 1.13 314 P **Pn** 09 39 46.6 +0.8
COPN Copaltepe 1.18 107 P **Pn** 09 39 46.9 +0.5
MOMN Momotombo 1.18 96 P **Pn** 09 39 46.9 +0.4
BC84 Volcan Momotom 1.18 97 P **Pn** 09 39 47.0 +0.5
BC84 Volcan Momotom 1.18 97 S **Sn** 09 40 02.5 +0.2
BC86 Nagarote 1.18 103 P **Pn** 09 39 46.4 -0.1
BC86 Nagarote 1.18 103 S **Sn** 09 40 02.0 -0.2
AESN El Sauce Leon 1.22 73 P **Pn** 09 39 47.4 +0.4
AESN El Sauce Leon 1.22 73 S **Sn** 09 40 03.6 +0.4
MOM2 El Cardon 1.23 95 P **Pn** 09 39 47.8 +0.7
CAHU Cacacuatique 1.31 340 *e*P **Pn** 09 39 49.0 +0.7
AMTN Mateare 1.31 103 P **Pn** 09 39 48.9 +0.7
AMTN Mateare 1.31 103 S **Sn** 09 40 06.3 +1.1
PQSS Presa 15 de Se 1.34 324 P **Pn** 09 39 49.3 +0.8
PQSS Presa 15 de Se 1.34 324 S **Sn** 09 40 07.0 +1.1
SAPS Ciudad Sandino 1.36 106 P **Pn** 09 39 49.2 +0.5
SAPS Ciudad Sandino 1.36 106 S **Sn** 09 40 06.6 +0.4
APQ3 Volcan Apoyequ 1.37 101 P **Pn** 09 39 49.5 +0.6
BC87 San Francisco 1.42 91 S **Sn** 09 40 07.9 +0.2
BC87 San Francisco 1.42 91 P **Pn** 09 39 49.9 +0.4
TECO Alcaldia de Te 1.42 315 P **Pn** 09 39 49.9 +0.3
TECO Alcaldia de Te 1.42 315 S **Sn** 09 40 07.1 -0.6
APQ2 Apoyeque 1.42 104 P **Pn** 09 39 50.3 +0.7
APQ2 S **Sn** 09 40 08.4 +0.6
ABCN Banco Central 1.46 106 P **Pn** 09 39 50.8 +0.8
ABCN Banco Central 1.46 106 S **Sn** 09 40 09.3 +0.7
ALLN Telcor Managua 1.48 105 P **Pn** 09 39 51.0 +0.6
ALLN Telcor Managua 1.48 105 S **Sn** 09 40 09.6 +0.5
TISN Laguna Tiscapa 1.49 105 P **Pn** 09 39 51.1 +0.6
USIM UNAN 1.49 106 **Pn** 09 39 51.2 +0.7
USIM Sn **Sn** 09 40 09.8 +0.4
USIM UNAN 1.49 106 S **Sn** 09 40 09.9 +0.5
USIM UNAN 1.49 106 P **Pn** 09 39 51.2 +0.7
UESV Universidad de 1.49 317 P **Pn** 09 39 51.3 +0.7
UESV Universidad de 1.49 317 S **Sn** 09 40 09.9 +0.4
UNAN Cigeo UNAN 1.50 106 P **Pn** 09 39 51.1 +0.5
UNAN S **Sn** 09 40 09.8 +0.2
SCLA Alcaldia de Sa 1.50 320 S **Sn** 09 40 11.4 +1.6
SCLA Alcaldia de Sa 1.50 320 P **Pn** 09 39 51.5 +0.8
ENAN Enatrel Managu 1.51 106 P **Pn** 09 39 51.3 +0.6
ENAN Enatrel Managu 1.51 106 S **Sn** 09 40 10.0 +0.3
MGAN Managua 1.51 105 **Pn** 09 39 51.2 +0.4
MGAN Sn **Sn** 09 40 10.3 +0.5
MGAN Managua 1.51 105 P **Pn** 09 39 51.6 +0.8
MGAN Managua 1.51 105 P **Pn** 09 39 51.2 +0.4
MGAN Managua 1.51 105 S **Sn** 09 40 10.1 +0.3
MGAN S 09 40 10.3
MGAN Managua 1.51 105 P **Pn** 09 39 51.1 +0.4
MGAN S **Sn** 09 40 10.1 +0.3
CRUN El Crucero 1.51 111 P **Pn** 09 39 49.5 -1.3
MAFN Magfor 1.53 107 P **Pn** 09 39 51.6 +0.6
MAFN Magfor 1.53 107 S **Sn** 09 40 11.1 +0.7
COEG Centro de Oper 1.55 314 *e*S **Sn** 09 40 10.9 +0.2
COEG Centro de Oper 1.55 314 P **Pn** 09 39 52.0 +0.7
COEG Centro de Oper 1.55 314 S **Sn** 09 40 11.0 +0.2
WILN Americas 2 1.56 104 P **Pn** 09 39 52.0 +0.6
WILN S **Sn** 09 40 11.6 +0.6
TGUH Tegucigalpa,Un 1.58 17 **Pn** 09 39 53.0 +1.3
TGUH Tegucigalpa,Un 1.58 17 P **Pn** 09 39 53.1 +1.3
TGUH S **Sn** 09 40 12.8 +1.2
AERN Aeropuerto Man 1.59 104 P **Pn** 09 39 52.5 +0.8
AERN Aeropuerto Man 1.59 104 S **Sn** 09 40 12.2 +0.7
MARCA **Marcala la Paz 1.64 350** *e*P **Pn** 09 39 53.7 +1.1
MARCA **Marcala la Paz 1.64 350** S **Sn** 09 40 14.3 +1.3
MARCA **Marcala la Paz 1.64 350** P **Pn** 09 39 53.8 +1.2
OCON Estacion meteo 1.64 48 P **Pn** 09 39 53.5 +1.0
OCON S **Sn** 09 40 13.8 +0.8
SABN Sabanita 1.65 110 P **Pn** 09 39 53.3 +0.7
PAVA Las Pavas 1.65 315 P **Pn** 09 39 53.4 +0.7
PAVA Las Pavas 1.65 315 S **Sn** 09 40 14.9 +1.6
YUSH Yuscaran 1.66 32 P **Pn** 09 39 54.0 +1.2
YUSH Yuscaran 1.66 32 S **Sn** 09 40 15.0 +1.5
NANN Nandasmo 1.69 110 P **Pn** 09 39 54.7 +1.5
NANN Nandasmo 1.69 110 S **Sn** 09 40 15.5 +1.4
LOMA Loma Larga 1.78 308 P **Pn** 09 39 55.2 +0.8
LOMA Loma Larga 1.78 308 S **Sn** 09 40 16.7 +0.4
INTHN La Esperanza I 1.80 349 P **Pn** 09 39 56.1 +1.3
LALI Alcalda de L 1.81 302 *e*P **Pn** 09 39 54.8 +0.1
LALI IAML 09 40 21.0
comp=E,586nm,0.2s
LALI Alcalda de L 1.81 302 P **Pn** 09 39 54.8 +0.1
LALI Alcalda de L 1.81 302 S **Sn** 09 40 15.2 -1.6
UDBS Universidad Do 1.81 311 P **Pn** 09 39 55.9 +1.1
UDBS Universidad Do 1.81 311 S **Sn** 09 40 17.3 +0.3
MATN Matagalpa 1.81 77 P **Pn** 09 39 54.5 -0.3
MATN Matagalpa 1.81 77 S **Sn** 09 40 16.7 -0.4
IGN Direccin Gen 1.82 310 P **Pn** 09 39 55.8 +0.9
IGN Direccin Gen 1.82 310 S **Sn** 09 40 18.1 +0.9
RCVN Varillal2 1.83 55 S **Sn** 09 40 18.6 +1.0
RCVN Varillal2 1.83 55 P **Pn** 09 39 56.2 +1.1
UTEC Universidad Te 1.83 309 S **Sn** 09 40 17.8 +0.2
UTEC Universidad Te 1.83 309 P **Pn** 09 39 56.5 +1.4
NADN Granada 1.84 115 P **Pn** 09 39 55.9 +0.7
NADN S **Sn** 09 40 17.4 -0.3
SEMO Seminario San 1.85 309 S **Sn** 09 40 18.9 +0.8
SEMO Seminario San 1.85 309 P **Pn** 09 39 56.3 +1.0
UEES Universidad Ev 1.87 309 P **Pn** 09 39 56.7 +1.1
ITCA Escuela Especi 1.88 307 S **Sn** 09 40 19.4 +0.8
ITCA Escuela Especi 1.88 307 P **Pn** 09 39 56.8 +1.1
RCPN Sur Rio San Ju 1.88 58 P **Pn** 09 39 56.2 +0.5
BOQS Boqueron 1.91 309 *e*P **Pn** 09 39 57.5 +1.2
PMON Piamonte 1.93 307 P **Pn** 09 39 57.5 +1.1
PMON Piamonte 1.93 307 S **Sn** 09 40 19.9 0.0
JAYA Jayaque - finc 2.00 304 *e*P **Pn** 09 39 57.3 -0.1
JAYA Jayaque - finc 2.00 304 *e*P **Pn** 09 39 57.8 +0.4
JAYA Jayaque - finc 2.00 304 S **Sn** 09 40 21.9 +0.2
JAYA Jayaque - finc 2.00 304 P **Pn** 09 39 57.7 +0.3
BOAB BOACO BROADBAN 2.03 92 **Pn** 09 39 57.9 +0.3
BOAB BOACO BROADBAN 2.03 92 P **Pn** 09 39 57.9 +0.3
CEDA San Andres 2.04 308 *e*S **Sn** 09 40 23.7 +1.1
ARIN Rivas 2.15 120 P **Pn** 09 39 59.3 0.0
ARIN Rivas 2.15 120 S **Sn** 09 40 23.1 -2.0
CEVE Cerro Verde 2.24 305 *e*P **Pn** 09 40 00.7 0.0
CEVE Cerro Verde 2.24 305 P **Pn** 09 40 02.6 +1.9
JAPN Al SSO del Vol 2.25 116 P **Pn** 09 40 01.7 +1.1
UNIC Universidad Ca 2.27 309 P **Pn** 09 40 02.2 +1.2
MORN Al O del Volca 2.27 115 P **Pn** 09 40 01.7 +0.8
NUBE Las Nubes 2.41 305 *i* P **Pn** 09 40 03.7 +0.9
NUBE Las Nubes 2.41 305 P **Pn** 09 40 03.9 +1.1
NUBE Las Nubes 2.41 305 S **Sn** 09 40 32.0 +0.6
MTO3 Montecristo 2.43 320 **Pn** 09 40 04.4 +1.2
MTO3 Montecristo 2.43 320 *i* P **Pn** 09 40 04.1 +0.9
MTO3 Montecristo 2.43 320 P **Pn** 09 40 04.1 +0.9
SARH Santa Rosa de 2.44 336 *e*P **Pn** 09 40 04.9 +1.7
SARH Santa Rosa de 2.44 336 P **Pn** 09 40 05.2 +2.0
LOAL Lomas de Alarc 2.46 306 P **Pn** 09 40 04.9 +1.4
SLOZ Alcaldia de Sa 2.48 307 P **Pn** 09 40 05.1 +1.4
ESQI Esquipulas 2.54 322 **Pn** 09 40 06.3 +1.6
ESQI Esquipulas 2.54 322 P **Pn** 09 40 06.2 +1.5
CARN Rivas 2.55 121 P **Pn** 09 40 06.3 +1.6
FAME Alcaldia de Sa 2.57 301 P **Pn** 09 40 06.0 +1.1
FAME Alcaldia de Sa 2.57 301 S **Sn** 09 40 34.3 -0.8
ACON Acoyapa 2.57 102 **Pn** 09 40 05.0 0.0
ACON Acoyapa 2.57 102 P **Pn** 09 40 05.2 +0.3
ACON Acoyapa 2.57 102 P **Pn** 09 40 05.0 0.0
ACON S **Sn** 09 40 29.5 -5.8
FG16 Alotenango, Sa 3.20 303 ⇓ *i* P Pn 09 40 21.3 +7.6
FG16 IAML 09 41 12.8
comp=N,6µm,0.2s
FG8 Yepocapa, Chim 3.23 302 *i* P Pn 09 40 21.7 +7.6
FG8 *i* S Sn 09 41 01.7 +10
ESPN Las Esperanzas 3.38 95 **Pn** 09 40 17.3 +1.4
ESPN Las Esperanzas 3.38 95 P **Pn** 09 40 17.1 +1.2
CMARA **Lajas Hojancha 3.38 138** P **Pn** 09 40 16.9 +0.9
CMARA **Lajas Hojancha 3.38 138** S **Sn** 09 40 52.8 -2.3
INDI Punta indio, G 3.44 140 P **Pn** 09 40 18.0 +1.2
INDI Punta indio, G 3.44 140 S **Sn** 09 40 53.6 -2.9
ESSG Sabana Grande 3.52 302 *e*P **Pn** 09 40 19.7 +1.7
ESSG *i* S **Sn** 09 40 58.8 +0.3
ESSG IAML 09 41 07.8
comp=E,387nm,0.2s
JTS Las Juntas de 3.53 129 **Pn** 09 40 19.9 +1.9
JTS Las Juntas de 3.53 129 P **Pn** 09 40 18.8 +0.8
comp=E,29nm,0.3s,baz=112,slow=22,SNR=47
JTS S **Sn** 09 40 59.6 +0.9
comp=E,109nm,0.3s,baz=292,slow=20,SNR=5.8
SOCE Pocosol 3.74 125 **Pn** 09 40 21.3 +0.5
SOCE Pocosol 3.74 125 P **Pn** 09 40 23.5 +2.6
COVE Coope Vega, Sa 3.74 119 P **Pn** 09 40 21.4 +0.6
BLUN Bluefields 3.91 97 P **Pn** 09 40 24.5 +1.3
STG8 El Palmar, Qui 3.99 299 *i* P Pn 09 40 31.0 +6.5
STG8 IAML 09 41 23.5
comp=N,1µm,0.2s
TCS1 Tacares 4.19 126 P **Pn** 09 40 29.6 +2.5
RTAL Retalhuleu 4.32 298 **Pn** 09 40 30.8 +2.0
RTAL Retalhuleu 4.32 298 P **Pn** 09 40 29.6 +0.8
HDC Heredia 4.36 125 **Pn** 09 40 30.3 +0.9
TRT2 Tortugero 4.39 116 P **Pn** 09 40 30.9 +1.2
BILN Bilwi Airport 4.51 70 P **Pn** 09 40 33.7 +2.4
HUEH Huehuetenango 4.58 308 **Pn** 09 40 34.5 +1.9
HUEH Huehuetenango 4.58 308 P **Pn** 09 40 36.0 +3.5
LCR2 La Lucha 2 4.60 127 **Pn** 09 40 34.2 +1.4
LCR2 La Lucha 2 4.60 127 P **Pn** 09 40 34.8 +2.0
SMCA Catarina 4.80 299 *i* P **Pn** 09 40 36.9 +1.6
PETF Flores 4.81 335 **Pn** 09 40 38.1 +2.6
PETF Flores 4.81 335 P **Pn** 09 40 38.7 +3.2
OCHAL **Ojochal 5.28 130** P **Pn** 09 40 45.2 +3.3
DRK0 **Durika 5.49 126** P **Pn** 09 40 47.5 +2.6
CCIG **Comitan 5.66 312** **Pn** 09 40 49.4 +2.2
CCIG **Comitan 5.66 312** P **Pn** 09 40 48.5 +1.4
CDITO **Canoas 6.20 129** P **Pn** 09 40 56.3 +1.8
CDITO **Canoas 6.20 129** S **Sn** 09 42 04.4 +0.5
BRU2 Volcan 6.20 126 **Pn** 09 40 56.8 +2.2
BRU2 Volcan 6.20 126 P **Pn** 09 40 57.6 +3.0
BRU2 S **Sn** 09 42 02.6 -1.7
PRVC Isla de Provid 6.27 82 **Pn** 09 40 57.0 +1.5
PRVC Isla de Provid 6.27 82 P **Pn** 09 40 57.2 +1.8
TEIG Tepich 7.66 356 **Pn** 09 41 16.9 +2.5
CMIG Matias Romero 8.26 304 P **Pn** 09 41 24.2 +1.7
comp=N,3.9nm,0.3s,baz=153,slow=11,SNR=42
CMIG S **Sn** 09 42 50.1 -4.2
comp=N,5.7nm,0.5s,baz=191,slow=13,SNR=1.6
MTDJ Mount Denham 11.35 59 **Pn** 09 42 08.5 +3.6
TLIG Tlapa 11.59 297 **Pn** 09 42 10.1 +2.0
CAMR Camarioca 12.09 29 **Pn** 09 42 17.3 +2.4
GTBY Guantanamo Bay 14.17 57 P **Pn** 09 42 45.6 +2.9
NMDO Nuevo Mundo 14.60 55 Pn **Pn** 09 42 48.5 +0.3
061Z Ochoppi 14.74 25 Pn **Pn** 09 42 48.7 -1.3
BBAC Balboa, Cauca 14.74 134 P **P** 09 42 56.0 +1.5
comp=N,481nmcomp=N,36nm,1.0s
POPC Popayan, Colom 14.79 131 P **P** 09 42 57.3 +2.2
OTAV Otavalo 15.30 142 Pn **Pn** 09 42 55.8 -2.0
ROSC El Rosal 15.31 119 LR LR 09 50 55.4
comp=N,49nm,18.8s,baz=356,slow=45
RUSC La Rusia 15.90 113 Pn **Pn** 09 43 04.1 -1.2
060A Indiantown 16.00 25 **P** 09 43 07.4 -0.8
060A IAmb IAmb 09 43 13.6
comp=Z,40nm,0.8s
FLOC Florencia 16.18 131 Pn **Pn** 09 43 08.3 -0.2
DWPF Disney Wildern 16.58 20 **Pn** 09 43 12.6 -0.6
DWPF IAmb IAmb 09 43 16.9
comp=Z,57nm,1.2s
SDDR Presa de Saban 17.08 66 **Pn** 09 43 16.6 -2.9
SDV Santo Domingo 17.20 100 P **Pn** 09 43 20.4 -0.8
SDV Santo Domingo 17.20 100 LR LR 09 51 55.1
comp=Z,54nm,18.3s,baz=290,slow=44
ZAIG Zacatecas 17.39 308 P **Pn** 09 43 21.1 -2.6
KVTX Kingsville 17.70 329 P **Pn** 09 43 26.5 -0.5
SC01 Santiago de lo 17.72 65 P **P** 09 43 26.5 -0.9
SC01 IAmb IAmb 09 43 32.3
comp=Z,30nm,0.7s
BANI BANI 17.73 69 P **P** 09 43 25.2 -2.3
451A Vernon 18.09 6 P **Pn** 09 43 31.4 -0.3
451A IAmb IAmb 09 43 35.7
comp=Z,44nm,0.7s
456A Hilliard 18.86 15 IAmb IAmb 09 43 43.3
comp=Z,51nm,0.9s
352A Blakely 19.03 7 IAmb IAmb 09 43 46.8
comp=Z,58nm,1.0s
833A Chaparral WMA, 19.11 327 P **P** 09 43 43.0 +0.6
833A IAmb IAmb 09 43 44.6
comp=Z,26nm,0.9s
BAUV El Baul 19.68 99 P **P** 09 43 48.1 -0.7
BAUV IAmb IAmb 09 43 51.2
comp=Z,34nm,1.1s
HNDO Hondo 20.02 329 P **P** 09 43 52.7 +0.3
146A Union 20.04 357 P **P** 09 43 52.8 +0.2
146A IAmb IAmb 09 43 58.5
comp=Z,41nm,1.1s
NATX Nacogdoches 20.16 343 IAmb IAmb 09 44 27.9
comp=Z,34nm,1.0s
435B Jarrell 20.31 335 P **P** 09 43 55.8 +0.3
435B IAmb IAmb 09 44 05.9
comp=Z,21nm,0.8s
143A Socs Landing, 20.35 351 P **P** 09 43 56.1 +0.3
143A IAmb IAmb 09 44 23.0
comp=Z,30nm,0.9s
LRAL Lakeview Retre 20.41 2 IAmb IAmb 09 44 01.9
comp=Z,26nm,1.0s
Z47A Carrollton 20.57 359 P **P** 09 43 58.8 +0.6
Z47A IAmb IAmb 09 44 03.0
comp=Z,24nm,0.9s
DRIO Del Rio 20.63 327 IAmb IAmb 09 44 03.8
comp=Z,24nm,0.7s
237A Washetta, Mont 20.74 340 IAmb IAmb 09 44 35.1
comp=Z,45nm,0.9s
UUPR Utuado, UPR, P 21.04 72 P **P** 09 44 02.3 -1.2
UUPR IAmb IAmb 09 44 07.2
comp=Z,20nm,0.8s
JCT Junction City 21.06 330 P **P** 09 44 03.6 0.0
CELP Cerrillos 21.13 72 **P** 09 44 04.1 -0.4
Z41A Richland Creek 21.14 348 P **P** 09 44 04.5 +0.2
Z41A IAmb IAmb 09 44 05.7
comp=Z,28nm,0.7s
Y49A Blount Mountai 21.26 3 **P** 09 44 06.0 +0.4
Y49A IAmb IAmb 09 44 08.1
comp=Z,25nm,0.5s
Y45A Yeager Farm, C 21.30 356 IAmb IAmb 09 44 28.4
comp=Z,33nm,1.0s
BRDY Brady 21.35 333 P **P** 09 44 06.8 +0.1
TREL Terrell 21.51 340 IAmb IAmb 09 44 14.5
comp=Z,38nm,0.8s
SJG San Juan 21.54 72 P **P** 09 44 07.9 -0.9
SJG IAmb IAmb 09 44 10.7
comp=Z,22nm,0.8s
SJG San Juan 21.54 72 LR LR 09 52 52.7
comp=Z,126nm,19.7s,baz=266,slow=38
FW14 Alvarado 21.59 338 IAmb IAmb 09 44 12.7
comp=Z,41nm,0.9s
PDPR Patillas Dam, 21.64 73 P **P** 09 44 09.6 -0.2
ATAH Atahualpa 21.64 154 LR LR 09 51 41.3
comp=Z,121nm,21.4s,baz=341,slow=34
Z38A Mt. Pleasant 21.66 343 IAmb IAmb 09 44 14.7
comp=Z,50nm,1.3s
HUMP Col San Antoni 21.82 72 IAmb IAmb 09 44 15.1
comp=Z,20nm,0.9s
OXF Oxford 21.93 356 IAmb IAmb 09 44 35.5
comp=Z,40nm,1.1s
FW07 Weatherford 22.08 337 P **P** 09 44 15.2 +0.7
FW07 IAmb IAmb 09 44 17.2
comp=Z,22nm,0.6s
OZNA Ozona 22.08 328 IAmb IAmb 09 44 17.8
comp=Z,19nm,0.5s
HODGE **Hodges 22.16 12** IAmb IAmb 09 44 18.4
comp=Z,39nm,0.9s
TXAR Lajitas Array 22.33 321 **P** 09 44 17.4 +0.1
TXAR Lajitas Array 22.33 321 P **P** 09 44 17.9 +0.7
comp=Z,7.2nm,0.6s,baz=140,slow=9.4,SNR=104
TXAR PcP **PcP** 09 48 11.8 +1.4
comp=Z,0.6nm,0.6s,baz=152,slow=5.0,SNR=7.3
TXAR ScP **ScP** 09 51 42.8 +1.4
comp=Z,0.5nm,0.8s,baz=129,slow=5.2,SNR=5.3
comp=Z,7.2nm,0.6s
TX31 Lajitas Ar. Si 22.33 321 **P** 09 44 17.4 +0.1
FW03 Perrin-Whitt E 22.49 337 IAmb IAmb 09 44 37.6
comp=Z,19nm,0.5s
UALR University of 22.53 350 IAmb IAmb 09 44 20.8
comp=Z,30nm,1.1s
MIAR Mount Ida 22.54 347 **P** 09 44 19.7 +0.3
MIAR IAmb IAmb 09 44 42.2
comp=Z,26nm,0.9s
SWET Sewanee 22.64 4 P **P** 09 44 20.6 +0.2
W50A Signal Mountai 22.67 5 IAmb IAmb 09 44 23.0
comp=Z,19nm,0.4s
W52A Murphy 22.72 8 IAmb IAmb 09 44 23.6
comp=Z,21nm,1.0s
PCRV Puerto La Cruz 22.77 94 P **P** 09 44 22.0 -0.1
comp=Z,16nm,0.8s,baz=259,slow=2.6,SNR=4.9
PCRV LR LR 09 53 17.8
comp=Z,65nm,22.0s,slow=37
comp=Z,16nm,0.8s
ABTX Abilene, Hawle 22.78 333 IAmb IAmb 09 44 24.5
comp=Z,14nm,0.7s
PAULI Pauline 22.83 13 IAmb IAmb 09 44 24.7
comp=Z,26nm,0.7s
BIRD Birdtown, Kers 22.98 16 IAmb IAmb 09 44 25.7
comp=Z,24nm,0.8s
CPCT Cooper Cave 23.00 7 IAmb IAmb 09 44 26.4
comp=Z,31nm,1.2s
WHAR Wooly Hollow 23.02 350 IAmb IAmb 09 44 46.1
comp=Z,21nm,1.0s
X58A Rowland 23.21 18 IAmb IAmb 09 44 27.9
comp=Z,24nm,0.9s
KMSC Kings Mountain 23.24 13 IAmb IAmb 09 44 28.4
comp=Z,26nm,0.7s
WTFS Witchita Falls 23.29 337 IAmb IAmb 09 44 29.1
comp=Z,22nm,0.7s
TKL Tuckaleechee C 23.30 8 LR LR 09 54 52.0
comp=Z,49nm,18.5s,baz=181,slow=40
V53A Saluda 23.46 10 IAmb IAmb 09 44 35.6
comp=Z,20nm,0.9s
W57A Gilead 23.58 16 IAmb IAmb 09 44 31.0
comp=Z,21nm,0.6s
ODSA Odessa 23.77 327 IAmb IAmb 09 44 32.6
comp=Z,22nm,0.6s
SLBS Sierra La Lagu 23.80 301 **P** 09 44 33.2 +1.5
SLBS IAmb IAmb 09 44 55.6
comp=Z,42nm,1.4s
PECS Pecos 23.92 324 P **P** 09 44 33.6 +0.8
V55A Taylorsville 23.95 13 IAmb IAmb 09 44 34.8
comp=Z,23nm,1.0s
POST Post 24.00 331 IAmb IAmb 09 44 34.9
comp=Z,36nm,1.2s
TZTN Tazewell 24.20 8 IAmb IAmb 09 44 38.5
comp=Z,20nm,0.9s
DKNS Dickens 24.23 332 IAmb IAmb 09 44 39.2
comp=Z,23nm,0.7s
PBMO Poplar Bluff 24.26 355 IAmb IAmb 09 44 36.4
comp=Z,26nm,1.1s
RLO Rose Lookout 24.42 346 IAmb IAmb 09 44 39.8
comp=Z,17nm,0.7s
DEOK Depew 24.51 343 IAmb IAmb 09 44 38.2
comp=Z,14nm,0.7s
U56A King 24.62 14 IAmb IAmb 09 44 42.8
comp=Z,31nm,1.0s
QUOK Quay 24.88 343 IAmb IAmb 09 44 44.3
comp=Z,29nm,0.9s
CZSB Cruzeiro do Su 25.07 143 P **P** 09 44 45.5 +2.3
CZSB IAmb IAmb 09 44 48.6
comp=Z,34nm,1.0s
S44A Carbondale 25.09 357 IAmb IAmb 09 44 43.8
comp=Z,19nm,0.9s
SIUC Southern Illin 25.11 357 IAmb IAmb 09 44 43.9
comp=Z,19nm,0.8s
OK048 Pawnee Station 25.18 342 **P** 09 44 44.0 0.0
OK048 IAmb IAmb 09 44 46.9
comp=Z,31nm,0.8s
OK051 E0350 and S346 25.23 343 IAmb IAmb 09 44 47.4
comp=Z,36nm,0.9s
MSTX Muleshoe 25.35 330 **P** 09 44 45.5 -0.2
BLA Blacksburg 25.43 14 IAmb IAmb 09 44 48.2
comp=Z,22nm,1.1s
T57A Hurt 25.52 16 IAmb IAmb 09 44 48.8
comp=Z,15nm,0.8s
CROK Carrier 25.58 341 IAmb IAmb 09 44 49.8
comp=Z,17nm,0.5s
AMTX Amarillo 25.59 333 IAmb IAmb 09 45 11.8
comp=Z,14nm,0.8s
CCM Cathedral Cave 25.60 354 **P** 09 44 47.2 -0.6
CCM IAmb IAmb 09 44 48.5
comp=Z,16nm,0.8s
WCI Wyandotte Cave 25.62 3 **P** 09 44 47.5 -0.5
WCI IAmb IAmb 09 44 49.6
comp=Z,21nm,0.7s
ELIS Ellis County 25.68 338 IAmb IAmb 09 44 52.3
comp=Z,27nm,0.8s
R49A Shelbyville 25.75 5 IAmb IAmb 09 44 49.6
comp=Z,9.2nm,0.5s
OK038 West end E0370 25.81 339 IAmb IAmb 09 44 51.4
comp=Z,25nm,0.9s
R40A Maddies Statio 25.96 352 IAmb IAmb 09 44 51.2
comp=Z,11nm,0.6s
T59A Double "B" Far 25.99 19 IAmb IAmb 09 44 53.0
comp=Z,24nm,1.1s
OLIL Olney 26.09 359 IAmb IAmb 09 44 53.2
comp=Z,15nm,0.8s
Q44A Meyer Farm, Va 26.28 358 IAmb IAmb 09 44 54.6
comp=Z,24nm,0.9s
Q52A Bidwell 26.76 10 IAmb IAmb 09 44 59.6
comp=Z,18nm,0.7s
P46A Rosedale 26.98 1 IAmb IAmb 09 45 00.4
comp=Z,9.6nm,0.6s
P51A Williamsport 27.16 8 IAmb IAmb 09 45 02.6
comp=Z,12nm,0.5s
P52A Corning 27.44 9 IAmb IAmb 09 45 05.7
comp=Z,20nm,0.9s
P38A Dawn 27.46 350 IAmb IAmb 09 45 05.5
comp=Z,19nm,0.7s
Q56A Snyder Ridge, 27.47 15 IAmb IAmb 09 45 06.8
comp=Z,11nm,0.7s
O49A Covington 27.70 6 IAmb IAmb 09 45 07.1
comp=Z,13nm,0.9s
SFIN Lafayette 27.74 1 IAmb IAmb 09 45 07.2
comp=Z,9.3nm,0.6s
HDIL Hopedale 27.94 357 IAmb IAmb 09 45 09.3
comp=Z,12nm,0.5s
O52A Adamsville 27.96 10 IAmb IAmb 09 45 10.4
comp=Z,20nm,0.9s
ANMO Albuquerque 28.03 326 **P** 09 45 10.6 +0.7
ANMO Albuquerque 28.03 326 IAmb IAmb 09 45 13.0
comp=Z,4.6nm,1.0s
ANMO Albuquerque 28.03 326 LR LR 09 57 15.2
comp=Z,105nm,21.1s,baz=236,slow=38
N41A Harden Midland 28.19 355 IAmb IAmb 09 45 10.7
comp=Z,11nm,0.6s
CBKS Cedar Bluff 28.26 340 IAmb IAmb 09 45 13.7
comp=Z,9.7nm,0.8s
O54A Avella 28.29 12 IAmb IAmb 09 45 12.9
comp=Z,20nm,1.1s
N49A Columbus Grove 28.45 6 IAmb IAmb 09 45 14.5
comp=Z,17nm,1.0s
N53A Lisbon 28.80 11 IAmb IAmb 09 45 17.8
comp=Z,14nm,0.9s
TUC Tucson 28.88 317 P **P** 09 45 17.3 -0.1
MVL Millersville 29.14 18 P **P** 09 45 19.2 -0.2
MVL IAmb IAmb 09 45 21.4
comp=Z,14nm,1.2s
L42A Oliver, Polo 29.40 357 IAmb IAmb 09 45 21.4
comp=Z,16nm,1.1s
KSCO Kaye Shedlock' 29.49 336 IAmb IAmb 09 45 25.7
comp=Z,8.6nm,0.7s
L40A Anamosa 29.57 355 IAmb IAmb 09 45 23.5

comp=Z,15nm,1.0s
N58A Sunbury 29.81 17 IAmb IAmb 09 45 26.8
comp=Z,13nm,0.9s
M57A Sunshine Farm, 30.16 16 IAmb IAmb 09 45 30.0
comp=Z,14nm,0.8s
WVNY West Valley, N 30.80 13 IAmb IAmb 09 45 35.0
comp=Z,8.4nm,0.5s
MVCO Mesa Verde 30.81 326 IAmb IAmb 09 45 37.9
comp=Z,9.0nm,0.9s
I42A Draeger Farm, 31.26 358 IAmb IAmb 09 45 38.0
comp=Z,19nm,1.1s
BINY Binghamton 31.27 17 IAmb IAmb 09 45 39.3
comp=Z,13nm,1.0s
L59A Walton 31.54 18 IAmb IAmb 09 45 42.1
comp=Z,13nm,0.7s
I49A Point Hope 31.58 7 IAmb IAmb 09 46 01.6
comp=Z,14nm,0.9s
K57A Scipio Center 31.62 16 IAmb IAmb 09 46 01.0
comp=Z,14nm,1.2s
PV13 Radium Mtn., P 31.68 327 IAmb IAmb 09 45 45.2
comp=Z,15nm,1.0s
PV05 Paradox Valley 31.77 327 IAmb IAmb 09 45 45.5
comp=Z,11nm,0.7s
PV07 Paradox Valley 31.80 328 IAmb IAmb 09 45 45.7
comp=Z,13nm,1.1s
H43A Windswept, Lux 31.82 360 IAmb IAmb 09 45 42.6
comp=Z,9.4nm,0.6s
PV22 Blue Mesa, Par 31.95 328 IAmb IAmb 09 45 46.7
comp=Z,9.3nm,0.9s
PV14 Lion Creek, Pa 31.95 327 IAmb IAmb 09 45 47.0
comp=Z,9.0nm,0.7s
ECSD EROS Data Cent 32.01 348 IAmb IAmb 09 45 44.6
comp=Z,15nm,0.8s
GLA Glamis 32.09 314 IAmb IAmb 09 45 48.9
comp=Z,8.8nm,0.7s
J57A Williamstown 32.39 16 IAmb IAmb 09 45 48.6
comp=Z,12nm,0.9s
HMU Henry Mountain 32.57 325 IAmb IAmb 09 45 52.6
comp=Z,23nm,1.3s
G40A Rib Lake 32.69 357 IAmb IAmb 09 45 50.3
comp=Z,15nm,1.3s
SADO Sadowa 32.95 11 LR LR 09 58 41.5
comp=Z,62nm,20.8s,baz=190,slow=35
SRU San Rafael Swe 33.29 327 IAmb IAmb 09 45 58.3
comp=Z,17nm,1.1s
COWI Conover 33.47 358 IAmb IAmb 09 45 56.9
comp=Z,7.8nm,0.8s
Q16A Castle Valley 33.50 326 IAmb IAmb 09 46 01.3
comp=Z,5.8nm,0.7s
P18A Preston Nutter 33.52 328 IAmb IAmb 09 46 01.0
comp=Z,12nm,0.9s
BUKO Buck Lake 33.55 11 IAmb IAmb 09 45 59.3
comp=Z,9.9nm,0.7s
V12A Nelson 33.63 318 P 09 45 59.3 +0.2
TMUT Trail Mountain 33.79 326 IAmb IAmb 09 46 05.6
comp=Z,6.5nm,0.8s
E38A The Farm, Brul 34.11 355 IAmb IAmb 09 46 02.6
comp=Z,8.6nm,0.8s
FRNY Flat Rock 34.39 18 IAmb IAmb 09 46 06.2
comp=Z,17nm,1.4s
RSSD Black Hills 34.45 339 P 09 46 06.3 +0.1
RSSD IAmb IAmb 09 46 08.9
comp=Z,6.5nm,0.6s
BSUT Blindstream Ca 34.45 328 P 09 46 05.0 -1.6
BSUT IAmb IAmb 09 46 08.7
comp=Z,9.4nm,0.7s
LPAZ La Paz 34.59 145 P P 09 46 10.0 +1.8
comp=Z,1.9nm,0.6s,baz=330,slow=6.5,SNR=8.0
LPAZ LR LR 10 00 12.4
comp=Z,59nm,21.8s,baz=305,slow=36
comp=Z,1.9nm,0.6s
PSUT Pine Spring 34.77 323 IAmb IAmb 09 46 13.3
comp=Z,5.9nm,0.8s
JLU Jordanelle 34.86 328 IAmb IAmb 09 46 11.9
comp=Z,8.4nm,0.9s
TCUT Toone Canyon 35.21 328 IAmb IAmb 09 46 15.2
comp=Z,9.7nm,0.8s
TPNV Topopah Spring 35.27 319 P 09 46 16.1 +2.8
DUG Dugway, Tooele 35.30 326 IAmb IAmb 09 46 16.6
comp=Z,6.7nm,1.0s
SPR3 Spring Creek 3 35.35 323 IAmb IAmb 09 46 16.2
comp=Z,6.7nm,0.9s
S11A Rachel 35.36 320 IAmb IAmb 09 46 18.5
comp=Z,11nm,0.9s
MDP Montagnes des 35.43 99 LR LR 10 02 47.6
comp=Z,26nm,19.1s,baz=261,slow=40
EYMN Ely 35.44 356 IAmb IAmb 09 46 13.5
comp=Z,4.5nm,0.7s
WVL Waterville 35.48 22 IAmb IAmb 09 46 16.8
comp=Z,13nm,1.1s
BW06 Boulder Array 35.56 332 IAmb IAmb 09 46 17.2
comp=Z,6.6nm,1.0s
PB16 IPOC Station P 35.56 149 P P 09 46 20.1 +3.7
PB16 IAmb IAmb 09 46 22.1
comp=Z,6.4nm,0.6s
PD31 Pinedale Array 35.56 332 IAmb IAmb 09 46 17.2
comp=Z,6.4nm,1.0s
PDAR Pinedale Array 35.56 332 P P 09 46 16.1 +0.2
PDAR Pinedale Array 35.56 332 P P 09 46 16.3 +0.4
comp=Z,2.6nm,0.4s,baz=130,slow=10,SNR=38
PDAR PcP PcP 09 48 43.0 -0.5
comp=Z,0.4nm,0.3s,baz=106,slow=4.3,SNR=5.0
PDAR LR LR 10 04 29.6
comp=Z,37nm,18.9s,baz=124,slow=42
comp=Z,2.6nm,0.4s
HVU Hansel Valley 36.40 328 IAmb IAmb 09 46 25.8
comp=Z,11nm,0.9s
LOHW Long Hollow 36.70 332 IAmb IAmb 09 46 27.4
comp=Z,11nm,0.9s
FXWY Fox Creek 36.92 331 IAmb IAmb 09 46 29.1
comp=Z,7.5nm,1.0s
ELK Elko 37.03 324 IAmb IAmb 09 46 30.7
comp=Z,7.0nm,0.9s
RLMT Red Lodge 37.30 335 IAmb IAmb 09 46 32.0
comp=Z,12nm,1.1s
LAO LASA Array 37.44 339 IAmb IAmb 09 46 32.8
comp=Z,14nm,1.3s
NVAR Mina Array Bea 37.45 319 P P 09 46 34.0 +2.0
comp=Z,4.7nm,0.9s,baz=132,slow=7.6,SNR=25
NVAR PcP PcP 09 48 50.4 +1.2
comp=Z,1.3nm,0.7s,baz=156,slow=3.1,SNR=7.2
NVAR ScP ScP 09 52 29.2 -0.9
comp=Z,0.3nm,0.8s,baz=116,slow=2.0,SNR=4.0
NVAR LR LR 10 05 58.4
comp=Z,80nm,19.5s,baz=305,slow=43
comp=Z,4.7nm,0.9s
LHV Little Huntoon 37.48 319 IAmb IAmb 09 46 35.2
comp=Z,6.2nm,0.9s
YNE Yellowstone No 37.53 334 IAmb IAmb 09 46 33.8
comp=Z,7.4nm,0.9s
YHB Horse Butte 37.85 332 IAmb IAmb 09 46 38.5
comp=Z,11nm,0.9s
YHL Hebgen Lake 37.92 333 IAmb IAmb 09 46 39.4
comp=Z,9.8nm,0.8s
ULM Lac du Bonnet 38.19 352 P P 09 46 36.0 -1.8
comp=Z,15nm,0.7s,baz=171,slow=8.0,SNR=23
ULM LR LR 10 04 44.1
comp=Z,43nm,19.1s,baz=154,slow=40
comp=Z,15nm,0.7s
HLID Hailey 38.52 328 IAmb IAmb 09 46 43.8
comp=Z,6.9nm,1.0s
BOZ Bozeman (W) 38.70 333 IAmb IAmb 09 46 44.3
comp=Z,8.5nm,0.7s
SIV San Ignacio 38.72 136 P P 09 46 42.8 +0.1
comp=Z,6.8nm,0.8s,baz=302,slow=8.0,SNR=35
SIV pP pP 09 47 00.8 +0.1
comp=Z,2.5nm,0.7s,baz=295,slow=6.8,SNR=3.4
SIV PcP PcP 09 48 53.9 +0.7
comp=Z,2.7nm,0.4s,baz=316,slow=4.2,SNR=9.0
SIV LR LR 10 02 12.1
comp=Z,61nm,21.0s,baz=294,slow=35
comp=Z,6.8nm,0.8s
MPK Martis Peak 39.05 319 IAmb IAmb 09 46 48.2
comp=Z,12nm,1.0s
BATG Bathurst New B 39.12 23 P 09 46 45.8 +0.1
EGMT Eagleton 39.86 337 IAmb IAmb 09 46 53.4
comp=Z,11nm,0.9s
WVOR Wild Horse Val 40.06 324 IAmb IAmb 09 46 56.5
comp=Z,7.5nm,0.7s
PLID Pearl Lake 40.40 329 IAmb IAmb 09 46 58.1
comp=Z,16nm,1.1s
J08A Circle Bar Ran 40.56 325 P 09 46 57.3 -0.4
MSO Missoula 40.68 332 P 09 46 58.4 -0.3
MSO IAmb IAmb 09 47 00.0
comp=Z,15nm,1.1s
BMO Blue Mountains 40.91 328 P 09 47 00.0 -0.6
F10A Beach Ranch, E 41.64 329 IAmb IAmb 09 47 09.7
comp=Z,9.9nm,0.7s
L04D Klamath Falls 42.12 321 IAmb IAmb 09 47 11.5
comp=Z,15nm,1.1s
PINE Pine Mountain 42.23 324 IAmb IAmb 09 47 12.9
comp=Z,9.5nm,0.8s
JCC Jacoby Creek, 42.45 318 P P 09 47 13.8 +0.6
J04A Umpqua Nationa 42.59 322 IAmb IAmb 09 47 16.3
comp=Z,12nm,0.8s
HAWA Hanford 43.10 328 IAmb IAmb 09 47 19.8
comp=Z,8.4nm,0.8s
NEW Newport 43.20 331 LR LR 10 06 55.6
comp=Z,98nm,20.5s,baz=278,slow=38
D08A Wollman Farm, 43.23 329 IAmb IAmb 09 47 20.8
comp=Z,15nm,0.9s
G05A Wamic 43.33 325 IAmb IAmb 09 47 22.4
comp=Z,10nm,0.8s
C09A Chrisman Ranch 43.42 330 IAmb IAmb 09 47 22.9
comp=Z,10nm,0.6s
H04A Detroit Lake 43.48 324 IAmb IAmb 09 47 22.4
comp=Z,10nm,0.9s
FFC Flin Flon 43.55 348 P 09 47 21.7 -0.1
FFC IAmb IAmb 09 47 22.4
comp=Z,12nm,0.8s
LTY Liberty 44.26 328 IAmb IAmb 09 47 28.7
comp=Z,6.7nm,0.7s
B08A Colville Reser 44.32 330 IAmb IAmb 09 47 29.3
comp=Z,9.5nm,1.0s
D05A Enumclaw 44.91 327 IAmb IAmb 09 47 34.2
comp=Z,16nm,1.0s
SCHQ Schefferville 45.28 17 P P 09 47 34.5 -1.1
comp=Z,19nm,0.5s,baz=215,slow=5.4,SNR=45
SCHQ LR LR 10 06 03.7
comp=Z,122nm,21.5s,baz=260,slow=36
comp=Z,19nm,0.5s
AQDB Aquidauana 45.49 136 P P 09 47 37.2 -0.4
AQDB IAmb IAmb 09 47 38.0
comp=Z,15nm,1.1s
GNW Green Mountain 45.59 327 P P 09 47 37.3 -0.8
GNW IAmb IAmb 09 47 38.7
comp=Z,9.6nm,0.9s
NLWA Neilton Lookou 46.04 326 IAmb IAmb 09 47 43.2
comp=Z,7.6nm,0.8s
FCC Fort Churchill 46.38 355 IAmb IAmb 09 47 43.9
comp=Z,11nm,0.8s
LLLB Lillooet 47.06 331 IAmb IAmb 09 47 50.9
comp=Z,9.1nm,0.7s
KUQ Kuujjuuaa 47.78 14 P 09 47 53.9 -1.2
CPUP Villa Florida 48.66 143 P P 09 48 01.6 -0.7
comp=Z,1.5nm,0.9s,baz=206,slow=7.2,SNR=5.7
CPUP LR LR 10 12 05.5
comp=Z,11nm,18.5s,baz=173,slow=40
comp=Z,1.5nm,0.9s
BLKN Baker Lake 52.03 355 IAmb IAmb 09 48 27.3
comp=Z,10nm,1.0s
YKAW1 Yellowknife Wh 53.41 345 IAmb IAmb 09 48 59.2
comp=Z,4.8nm,0.9s
YKA Yellowknife Ar 53.45 345 P P 09 48 36.0 -1.6
comp=Z,3.1nm,0.9s,baz=140,slow=7.1,SNR=16
YKA pP pP 09 48 54.8 -1.7
comp=Z,6.1nm,1.1s,baz=141,slow=7.2,SNR=8.1
YKA PcP PcP 09 49 42.6 -1.2
comp=Z,0.2nm,0.3s,baz=144,slow=3.1,SNR=5.1
comp=Z,3.1nm,0.9s
YKAW3 Yellowknife Wh 53.51 345 IAmb IAmb 09 48 59.4
comp=Z,12nm,1.2s
TOAD Toad River Com 54.05 337 P P 09 48 41.6 -0.6
baz=133
RCBR Riachuelo 54.66 106 LR LR 10 14 00.9
comp=Z,12nm,18.4s,baz=246,slow=38
T35M Bob Quinn 54.93 333 P P 09 48 49.2 +0.6
baz=126
CRAG Craig 55.40 330 P P 09 48 52.6 +0.7
baz=122
WRAK Wrangell Islan 55.55 332 P P 09 48 53.4 +0.5
baz=124
DLBC Dease Lake 55.71 335 P P 09 48 55.0 +0.8
comp=Z,0.8nm,0.9s,baz=120,slow=6.9,SNR=23
DLBC pP pP 09 49 13.4 +0.3
comp=Z,0.7nm,0.8s,baz=135,slow=6.5,SNR=9.0
comp=Z,0.8nm,0.9s
DLBC Dease Lake 55.71 335 P P 09 48 54.9 +0.7
baz=127
S34M Telegraph Cree 55.86 334 P P 09 48 54.7 -0.5
baz=126
TAOE Nuku Hiva Isla 56.24 250 eLR LR 10 05 31.9
comp=Z,142nm,26.3s
WTLY Watson Lake, Y 56.26 337 P P 09 48 57.9 -0.1
baz=130
R33M Jennings River 56.68 335 P P 09 49 00.8 -0.4
baz=127
ILON Igloolik, Nuna 56.91 2 P 09 49 01.1 -1.3
Q32M Nakina River 56.96 334 IAmb IAmb 09 49 06.0
comp=Z,7.6nm,1.0s
Q32M Nakina River 56.96 334 P P 09 49 03.7 +0.5
baz=125
S32K Killisnoo 57.15 332 P P 09 49 04.8 +0.5
baz=122
SIT Sitka 57.28 331 P P 09 49 05.3 +0.1
baz=121
R32K Eaglecrest 57.56 333 P P 09 49 07.3 +0.1
baz=122
P33M Teslin, Yukon 57.91 335 P P 09 49 09.2 -0.6
baz=125
P32M Atlin 57.93 334 P P 09 49 09.5 -0.4
baz=124
S31K Pelican 58.17 332 P P 09 49 11.2 -0.3
baz=121
SKAG Skagway 58.55 334 P P 09 49 14.0 -0.1
baz=122
N32M Quiet Lake 58.57 336 IAmb IAmb 09 49 35.2
comp=Z,6.5nm,0.9s
N32M Quiet Lake 58.57 336 P P 09 49 14.4 +0.1
baz=126
MMPY Sheldon Lake, 58.76 338 IAmb IAmb 09 49 16.4
comp=Z,5.4nm,1.0s
MMPY Sheldon Lake, 58.76 338 P P 09 49 15.7 +0.1
baz=128
PLBC Pleasant Camp 59.00 333 P P 09 49 17.3 +0.1
baz=121
WHY Whitehorse 59.01 335 P P 09 49 17.6 +0.1
baz=123
FARO Faro, Yukon 59.30 337 P P 09 49 19.2 -0.1
baz=126
O30N Mendenhall 59.57 335 IAmb IAmb 09 49 42.3
comp=Z,6.0nm,1.1s
O30N Mendenhall 59.57 335 P P 09 49 21.2 -0.1
baz=122
P30M Million Dollar 59.60 334 P P 09 49 21.5 +0.1
baz=121
M31M Drury Creek, Y 59.68 337 P P 09 49 21.4 -0.5
baz=125
P29M Windy Craggy 59.69 333 IAmb IAmb 09 49 24.4
comp=Z,6.9nm,0.8s
P29M Windy Craggy 59.69 333 P P 09 49 22.4 +0.4
baz=120
SFJD Kangerlussuaq 59.71 16 LR LR 10 13 45.8
comp=Z,78nm,22.0s,baz=234,slow=35
N31M Braeburn, Yuko 59.83 336 P P 09 49 23.1 +0.1
baz=123
HYT Haines Junctio 60.19 334 P P 09 49 25.6 0.0
baz=121
N30M Aishikik Lake 60.35 335 P P 09 49 26.1 -0.5
baz=122
POIN Pond Inlet 60.41 3 P 09 49 26.7 -0.1
YUK6 Outpost Mounta 60.62 334 P P 09 49 27.7 -0.9
baz=120
M30M Minto, Yukon 60.83 336 P P 09 49 29.0 -0.8
baz=122
PINM Pinnacle 61.02 333 P P 09 49 31.2 0.0
baz=118
MAYO Mayo, Yukon 61.04 338 P P 09 49 31.0 -0.1
baz=124
O28M Mount Upton 61.31 334 P P 09 49 33.2 -0.2
baz=118
YUK8 Steele Glacier 61.38 334 P P 09 49 33.7 -0.1
baz=119
M29M Somme Creek 61.42 336 IAmb IAmb 09 49 55.9
comp=Z,5.9nm,0.9s
M29M Somme Creek 61.42 336 P P 09 49 33.8 0.0
baz=120,SNR=9.7
L29M L29M 61.63 337 P P 09 49 34.9 -0.3
baz=121
J30M Hart River 61.75 338 P P 09 49 35.8 -0.3
baz=124
H31M Peel River 61.77 340 P P 09 49 35.2 -0.9
baz=126
K29M Barlow Dome 61.78 337 P P 09 49 35.7 -0.6
baz=122
MESA MESA 61.82 333 P P 09 49 36.5 -0.2
baz=116
CTG Chitna Glacier 61.90 334 P P 09 49 37.3 +0.1
baz=117
YUK3 Moose Creek 61.90 335 P P 09 49 37.2 -0.1
baz=118
GRNC Granite Creek 61.98 333 P P 09 49 37.8 0.0
GRNC IAmb IAmb 09 49 38.7
comp=Z,5.8nm,0.8s
I30M Mount Dempster 62.12 339 IAmb IAmb 09 49 38.9
comp=Z,5.6nm,1.1s
I30M Mount Dempster 62.12 339 P P 09 49 38.1 -0.5
baz=124,SNR=5.2
RES Resolute Bay 62.26 358 IAmb IAmb 09 49 38.5
comp=Z,3.3nm,0.6s
BVCY Beaver Creek 62.37 335 P P 09 49 40.0 -0.2
baz=118
G31M Satah River 62.42 341 IAmb IAmb 09 49 41.2
comp=Z,4.9nm,0.8s
G31M Satah River 62.42 341 P P 09 49 39.8 -0.5
baz=127,SNR=7.2
F31M Tsiigehtchic 62.57 342 IAmb IAmb 09 49 41.4
comp=Z,5.7nm,1.1s
F31M Tsiigehtchic 62.57 342 P P 09 49 40.7 -0.6
baz=128,SNR=6.2
DAWY Dawson 62.60 337 P P 09 49 41.3 -0.4
baz=120
M27K Edge Creek, AK 62.77 335 P P 09 49 42.8 -0.1
baz=117
MCARA McCarthy VSAT 62.82 334 P P 09 49 43.1 0.0
baz=116
KAIM Kayak Island 62.84 332 P P 09 49 43.3 0.0
baz=114
I29M Ogilvie Camp, 62.88 339 P P 09 49 43.4 -0.1
baz=122
EPYK Eagle Plains 62.89 340 P P 09 49 43.2 -0.4
baz=124
INK Inuvik 63.04 343 IAmb IAmb 09 49 44.7
comp=Z,7.2nm,1.1s
INK Inuvik 63.04 343 P P 09 49 43.8 -0.6
comp=Z,5.3nm,1.0s,baz=139,slow=8.1,SNR=11
INK pP pP 09 50 02.7 -1.0
comp=Z,3.4nm,1.0s,baz=112,slow=9.1,SNR=3.4
comp=Z,5.3nm,1.0s
INK Inuvik 63.04 343 P P 09 49 44.0 -0.4
baz=128,SNR=7.3
BCAR Beaver Creek A 63.06 336 P 09 49 43.9 -0.8
L27K Beaver Creek, 63.07 336 P P 09 49 44.6 -0.2
baz=118,SNR=7.8
G30M tAoh Zraii Nji 63.07 341 P P 09 49 44.2 -0.6
baz=125
M26K Nabesna, AK 63.25 335 P P 09 49 45.7 -0.4
baz=116
F30M Barrier River 63.30 341 IAmb IAmb 09 49 46.7
comp=Z,12nm,1.1s
F30M Barrier River 63.30 341 P P 09 49 45.9 -0.3
baz=126,SNR=5.2
BMRM Bremner River 63.34 333 P P 09 49 46.5 -0.2
baz=114
H29M Whitestone 63.36 339 P P 09 49 46.4 -0.2
baz=122
I28M Miner Creek 63.51 338 P P 09 49 47.3 -0.5
baz=120
A36M Sachs Harbour 63.51 348 IAmb IAmb 09 49 46.5
comp=Z,7.6nm,1.1s
A36M Sachs Harbour 63.51 348 P P 09 49 46.2 -1.3
baz=138
Q23K Middleton Isla 63.55 331 P P 09 49 48.2 +0.3
baz=111
N25K Chitina, Valde 63.60 333 IAmb IAmb 09 50 30.2
comp=Z,7.4nm,1.2s
N25K Chitina, Valde 63.60 333 P P 09 49 48.2 -0.1
baz=114
K27K Chicken 63.62 336 P P 09 49 47.7 -0.6
baz=118
G29M Pine Creek 63.62 340 IAmb IAmb 09 50 09.8
comp=Z,10.0nm,1.1s
G29M Pine Creek 63.62 340 P P 09 49 47.8 -0.5
baz=123
L26K Log Cabin Wild 63.67 335 P P 09 49 48.7 0.0
baz=116
EYAK Cordova Ski Ar 63.69 332 P P 09 49 49.0 +0.1
baz=112
KLU Klutina 64.14 333 P P 09 49 52.0 +0.1
baz=113
HARP HAARP 64.16 334 P P 09 49 52.0 0.0
baz=114
I27K Kandik River 64.19 338 P P 09 49 51.9 -0.3
baz=119
P23K Montague Islan 64.26 331 P P 09 49 53.0 +0.4
baz=111
SCRK Sand Creek 64.35 336 P P 09 49 53.1 -0.2
baz=116
E29M Blow River 64.40 342 P P 09 49 53.0 -0.4
baz=124
J26L Joseph Creek 64.41 337 P P 09 49 53.7 0.0
baz=116,SNR=5.4
GLI Glacier Island 64.43 332 P P 09 49 53.8 0.0
baz=111
H27K Steamboat Moun 64.47 339 IAmb IAmb 09 49 55.1
comp=Z,9.5nm,1.1s
H27K Steamboat Moun 64.47 339 P P 09 49 53.9 0.0
baz=119,SNR=7.9
M24K Tolsona, Glenn 64.48 334 P P 09 49 54.0 -0.1
baz=113
PAX Paxson 64.53 335 P P 09 49 54.1 -0.3
baz=114
RIDG Independent Ri 64.59 336 IAmb IAmb 09 50 16.2
comp=Z,6.4nm,0.9s
RIDG Independent Ri 64.59 336 P P 09 49 54.6 -0.2
baz=115
F28M Old Crow 64.61 340 IAmb IAmb 09 50 17.0
comp=Z,8.8nm,0.9s
F28M Old Crow 64.61 340 P P 09 49 54.5 -0.3
baz=121,SNR=5.8
I26K Coal Creek Min 64.62 337 P P 09 49 54.5 -0.4
baz=117
G27K Doyon Strip 64.80 339 P P 09 49 55.5 -0.6
baz=119
SCM Sheep Creek Mo 64.89 333 P P 09 49 56.8 +0.1
baz=112
K24K Donnelly Dome 64.99 335 IAmb IAmb 09 50 18.6
comp=Z,9.3nm,0.9s
K24K Donnelly Dome 64.99 335 P P 09 49 57.3 -0.1
baz=114
E28M Babbage River 65.02 341 P P 09 49 56.9 -0.5
baz=122
M23K Glacier View 65.05 333 P P 09 49 57.7 0.0
baz=111
J25K Salcha River, 65.17 336 P P 09 49 58.4 -0.2
baz=115,SNR=6.8
D28M Stokes Point 65.17 342 P P 09 49 57.8 -0.6
baz=123
KNK Knik Glacier 65.24 332 P P 09 49 59.1 +0.1
baz=110
WAT6 Susitna Watana 65.34 334 P P 09 49 59.3 -0.5
baz=111
DHY Denali Highway 65.37 334 P P 09 49 59.4 -0.6
baz=112
E27K Coleen River 65.46 341 P P 09 49 59.7 -0.7
baz=120
G26K Porcupine Rive 65.60 339 P P 09 50 00.7 -0.5
baz=117
PRP Porcupine Dome 65.61 337 P P 09 50 01.0 -0.4
baz=115
HDA Harding Lake 65.71 336 P P 09 50 01.8 -0.1
baz=113
WAT1 Susitna Watana 65.78 334 P P 09 50 02.3 -0.2
baz=111
D27M Malcolm River 65.80 342 P P 09 50 02.0 -0.6
baz=121
IL31 65.83 336 IAmb IAmb 09 50 23.7
comp=Z,7.9nm,1.2s
ILAR Eielson Array 65.83 336 P 09 50 01.1 -1.6
ILAR Eielson Array 65.83 336 P P 09 50 01.4 -1.3
comp=Z,1.9nm,0.8s,baz=150,slow=5.4,SNR=25
ILAR pP pP 09 50 21.3 -0.9
comp=Z,3.5nm,1.0s,baz=108,slow=4.4,SNR=9.4
comp=Z,1.9nm,0.8s
H25L Birch Creek 66.03 338 P P 09 50 03.7 -0.3
baz=115
F26K Sheenjek River 66.07 340 P P 09 50 03.9 -0.4
baz=117
BMAR Burnt Mountain 66.10 339 P 09 50 03.7 -0.8
HOM Homer 66.18 330 P P 09 50 05.1 +0.1
baz=106
Q20K Shuyak Island 66.26 329 P P 09 50 05.9 +0.4
baz=105
G25K Bearman Lake 66.35 338 P P 09 50 05.7 -0.3

baz=115
OHAK Old Harbor 66.37 327 P P 09 50 06.7 +0.4
baz=104
F25K Christian Rive 66.54 339 P P 09 50 06.9 -0.4
baz=116
H24K Noodor Dome 66.63 337 P P 09 50 07.7 -0.2
baz=113
NEA2 Nenana 66.63 336 P P 09 50 07.7 -0.2
baz=111
E25K Arctic Village 66.74 340 P P 09 50 08.1 -0.5
baz=116
G24K Hadweenzic Riv 66.82 338 P P 09 50 08.6 -0.4
baz=113
C27K Jago River 66.83 342 P P 09 50 08.5 -0.5
baz=118
I23K Minto, Yukon-K 66.94 336 IAmb IAmb 09 50 46.7
comp=Z,15nm,1.1s
I23K Minto, Yukon-K 66.94 336 P P 09 50 09.3 -0.5
baz=111
BPAW Bear Paw Mtn. 67.24 335 IAmb IAmb 09 50 30.8
comp=Z,9.7nm,0.9s
BPAW Bear Paw Mtn. 67.24 335 P P 09 50 10.3 -1.5
baz=109
H23K Yukon River 67.26 337 P P 09 50 11.4 -0.5
baz=111
F24K Squaw Lake 67.29 339 P P 09 50 11.4 -0.7
baz=113
MLY Manley 67.45 336 IAmb IAmb 09 50 36.9
comp=Z,9.5nm,0.9s
MLY Manley 67.45 336 P P 09 50 12.2 -0.9
baz=110
D25K Kavik River 67.53 341 P P 09 50 12.2 -1.3
baz=116
G23K Bananza Creek 67.76 338 P P 09 50 14.5 -0.5
baz=111
H22K Ishtalitna Cre 67.99 337 P P 09 50 16.3 -0.1
baz=109
COLD Coldfoot 68.01 338 IAmb IAmb 09 50 38.8
comp=Z,8.2nm,1.1s
COLD Coldfoot 68.01 338 P P 09 50 16.2 -0.3
baz=111
E23K Chandalar 68.11 339 P P 09 50 16.9 -0.3
baz=112
D24K Happy Valley 68.26 340 P P 09 50 17.5 -0.5
baz=113
TOLK Toolik Lake Re 68.31 340 P P 09 50 17.8 -0.7
baz=112
Q16K King Salmon 68.44 328 P P 09 50 19.8 +0.4
baz=102
H21K Melozitna River 68.47 336 P P 09 50 19.2 -0.3
baz=108
D23K Nanushuk River 68.81 340 P P 09 50 21.3 -0.2
baz=111
O17K Koliganek Bris 68.89 330 P P 09 50 22.1 +0.1
baz=102
E22K Anaktuvuk Pass 68.91 339 P P 09 50 21.7 -0.5
baz=110
G21K Allakaket 69.01 337 P P 09 50 22.4 -0.4
baz=107
N17K Nushagak Hills 69.08 330 P P 09 50 23.3 0.0
baz=102
C23K Itkillik River 69.10 341 P P 09 50 22.9 -0.3
baz=112
P16K Nushagak River 69.19 329 P P 09 50 24.1 +0.1
baz=100
F21K Alatna River 69.21 338 P P 09 50 23.5 -0.6
baz=108
O16K Kokwok River B 69.35 329 P P 09 50 24.8 -0.1
baz=101
D22K Ayikyak River 69.46 339 P P 09 50 25.1 -0.5
baz=109
F20K Avaraart Lake 70.00 337 P P 09 50 28.1 -0.8
baz=106
O15K Ungalikthiuk R 70.15 329 P P 09 50 29.9 0.0
baz=99
B21K Ikpikpuk River 70.34 340 P P 09 50 30.1 -0.8
baz=108
L16K Owhat River 70.40 331 P P 09 50 31.1 -0.2
baz=100
E20K Nigu River 70.50 338 P P 09 50 31.2 -0.7
baz=106
H18K Honhosa River 70.59 335 P P 09 50 31.7 -0.8
baz=102
E19K Redstone River 70.67 337 P P 09 50 32.1 -0.8
baz=104
F19K Shaleruckik Mo 70.73 337 P P 09 50 32.5 -0.8
baz=104
D20K Etivluk River 70.77 339 P P 09 50 32.7 -0.9
baz=105
G18K Tagagawik 70.86 336 P P 09 50 32.5 -1.6
baz=102
H17K Granite Mounta 71.19 335 P P 09 50 35.1 -1.0
baz=101
D19K Kuna River 71.25 338 P P 09 50 35.8 -0.7
baz=104
B20K Meade River 71.30 340 P P 09 50 35.1 -1.6
baz=105
C19K Lookout Ridge 71.91 339 P P 09 50 39.5 -1.0
baz=102
G16K Koyuk River 72.28 335 P P 09 50 42.2 -0.4
baz=99
C18K Utukok River 72.39 338 P P 09 50 42.6 -0.7
baz=101
ESDC Sonseca Array 77.36 52 P P 09 51 09.8 -2.8
comp=Z,0.8nm,0.8s,baz=280,slow=5.4,SNR=4.4
ESDC pP **pP 09 51 31.1 -1.4**
comp=Z,1.8nm,1.0s,baz=278,slow=4.7,SNR=4.4
ESDC LR LR 10 19 02.1
comp=Z,33nm,19.9s,baz=281,slow=31
comp=Z,0.8nm,0.8s
MDT Midelt 77.61 59 LR LR 10 18 37.3
comp=Z,25nm,21.8s,baz=238,slow=30
DBIC Dimbokro 81.66 85 LR LR 10 23 44.3
comp=Z,32nm,21.3s,baz=330,slow=33
NOA NORSAR Array B 83.43 29 LR LR 10 26 36.1
comp=Z,15nm,21.4s,baz=325,slow=34
DAVOX Davos/Dischmat 86.12 43 LR LR 10 23 47.4
comp=Z,31nm,21.0s,baz=266,slow=31
ARCES ARCESS Array B 86.19 19 P **P 09 51 56.8 -1.6**
comp=Z,0.3nm,0.4s,baz=293,slow=4.5,SNR=8.8
comp=Z,0.3nm,0.4s
CLL Collm 86.92 38 *i* pP pP 09 52 24.2 +1.7
comp=Z,6.0nm,0.4s
VRAC Vranov 89.72 39 LR LR 10 26 39.5
comp=Z,22nm,20.3s,baz=323,slow=32
VAE Valgurnera 91.88 51 LR LR 10 27 38.3
comp=Z,41nm,19.9s,baz=299,slow=32
TIXI Tiksi 92.50 349 LR LR 10 38 10.0
comp=Z,15nm,19.7s,baz=49,slow=38
MA2 Magadan 94.24 334 LR LR 10 41 42.2
comp=Z,33nm,18.3s,baz=104,slow=40
YAK Yakutsk 100.10 343 LR LR 10 47 59.2
comp=Z,30nm,18.2s,baz=14,slow=41
KSRS Korea Array 120.05 328 PKP **PKPdf 09 58 09.1 +1.0**
comp=Z,0.6nm,0.6s,baz=355,slow=1.6,SNR=4.6
KSRS pPKP **pPKPdf 09 58 29.1 -0.1**
comp=Z,1.0nm,0.7s,baz=4.6,slow=2.3,SNR=2.6
HHC Hu-ho-hao-te 123.96 342 *e*P **PKPdf 09 58 13.4 -2.3**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,83nm,4.9s
NJ2 Nanjing 128.87 331 *e*P **PKPdf 09 58 24.9 -0.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
LZH Lanzhou 130.42 348 *e*P **PKiKP 09 58 33.1 +4.0**
LZH sP sPKPdf 09 59 12.0 +15
LZH pmax pmax
comp=Z,28nm,0.7s
LZH pmax pmax
comp=Z,19nm,1.3s
WRA Warramunga Arr 139.02 254 PKP **PKPdf 09 58 45.2 +0.7**
comp=Z,1.4nm,0.5s,baz=89,slow=1.4,SNR=9.7
WRA pPKP **pPKPdf 09 59 04.2 -1.4**
comp=Z,1.4nm,0.7s,baz=84,slow=2.2,SNR=4.3
ASAR Alice Springs 139.04 248 PKP **PKPdf 09 58 45.0 +0.6**
comp=Z,1.5nm,0.7s,baz=95,slow=1.7,SNR=12
ASAR pPKP **pPKPdf 09 59 04.4 -1.2**
comp=Z,0.8nm,0.8s,baz=105,slow=1.5,SNR=3.9
PZH PanZhiHua 140.11 347 PKP **PKPdf 09 58 45.6 -0.9**
FITZ Fitzroy Crossi 147.37 256 PKPbc **PKPab 09 59 05.1 +1.4**
comp=Z,1.2nm,0.4s,baz=185,slow=6.7,SNR=4.4
CMAR Chiang Mai Arr 148.50 348 PKPbc **PKPdf 09 59 03.5 +2.4**
comp=Z,0.6nm,0.4s,baz=22,slow=2.3,SNR=13
CMAR pPKPbc **pPKPdf 09 59 23.8 +1.5**
comp=Z,1.8nm,0.7s,baz=18,slow=2.0,SNR=3.1

*NEIC **03** 09:39:46.1±0.8, 19°.55N±0°.07×65°.30W±0°.08, h10km±2km, ML2.5/22, Md3.4/10(RSPR), Error ellipse: s-maj=14.9km s-min=8.8km az=56.0*
*RSPR **03** 09:39:50.1, 19°.60N×65°.39W, h54km±18km, MD3.4/10*
ISC 03 09:39:46.8±2.9, **19°.6N**±0°.1×**65°.4W**±0°.1, **h16km, n39, σ0s99/43, 5C-8D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.39**	**207**			**Pn**	**09 40 11.2**	**-0.3**
GCPR				IAML			09 40 33.3	
	comp=N,58nm,0.6s							
GCPR	**Guaynabo City**	**1.39**	**207**	||*i*P	**Pg**	**09 40 12.6**	**-1.0**
GCPR	**Guaynabo City**	**1.39**	**207**	*e*S		**Sn**	**09 40 30.3**	**+0.7**
HUMP	**Col San Antoni**	**1.46**	**196**			**Pb**	**09 40 12.8**	**-0.8**
HUMP	**Col San Antoni**	**1.46**	**196**	||*e*P	**Pg**	**09 40 14.6**	**-0.3**
HUMP	**Col San Antoni**	**1.46**	**196**	*e*S		**Sb**	**09 40 32.9**	**+0.9**
EMPR	**Esperanza - Ma**	**1.50**	**225**			**Pb**	**09 40 13.8**	**-0.5**
EMPR				IAML			09 40 40.2	
	comp=N,170nm,0.9s							
EMPR	**Esperanza - Ma**	**1.50**	**225**	||*e*P	**Pb**	**09 40 14.5**	**+0.2**
EMPR	**Esperanza - Ma**	**1.50**	**225**	*e*S		**Sn**	**09 40 33.2**	**+0.9**
ECPR	**Experimental S**	**1.52**	**216**	||*e*P	**Pb**	**09 40 14.2**	**-0.4**
ECPR	**Experimental S**	**1.52**	**216**	*e*S		**Sb**	**09 40 34.8**	**+1.1**
SJG	**San Juan**	**1.59**	**206**			**Pb**	**09 40 15.2**	**-0.6**
SJG				IAML			09 41 16.3	
	comp=N,62nm,0.2s							
SJG				IAML			09 41 17.1	
	comp=N,50nm,0.2s							
PDPR	**Patillas Dam,**	**1.63**	**201**			**Pb**	**09 40 16.0**	**-0.5**
PDPR				IAML			09 40 40.5	
	comp=E,41nm,0.8s							
PDPR				IAML			09 40 40.6	
	comp=N,40nm,0.6s							
PDPR	**Patillas Dam,**	**1.63**	**201**	||*e*P	**Pb**	**09 40 16.0**	**-0.5**
PDPR	**Patillas Dam,**	**1.63**	**201**	*e*S		**Sb**	**09 40 36.9**	**+0.1**
IGPR	**InterUniversit**	**1.71**	**203**			**Pb**	**09 40 17.2**	**-0.6**
IGPR						**Sn**	**09 40 38.2**	**+0.7**
IGPR	**InterUniversit**	**1.71**	**203**	||*e*P	**Pb**	**09 40 17.2**	**-0.6**
IGPR	**InterUniversit**	**1.71**	**203**	*e*S		**Sn**	**09 40 38.2**	**+0.7**
AOPR	**Arecibo Observ**	**1.74**	**227**			**Pb**	**09 40 17.8**	**-0.6**
AOPR						**Sn**	**09 40 39.1**	**+0.8**
AOPR	**Arecibo Observ**	**1.74**	**227**	||*e*P	**Pb**	**09 40 18.1**	**-0.4**
AOPR	**Arecibo Observ**	**1.74**	**227**	*e*S		**Sn**	**09 40 39.4**	**+1.0**
UUPR	**Utuado, UPR, P**	**1.79**	**224**			**Pb**	**09 40 18.5**	**-0.6**
UUPR	**Utuado, UPR, P**	**1.79**	**224**	||*e*P	**Pb**	**09 40 18.9**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.79**	**224**	*e*S		**Sb**	**09 40 41.4**	**0.0**
CELP	**Cerrillos**	**1.84**	**217**			**Pb**	**09 40 18.7**	**-1.3**
CELP						**Sb**	**09 40 42.5**	**-0.3**
CELP				IAML			09 40 54.4	
	comp=N,49nm,1.0s							
CELP	**Cerrillos**	**1.84**	**217**	||*e*P	**Pb**	**09 40 19.1**	**-1.0**
CELP	**Cerrillos**	**1.84**	**217**	*e*S		**Sb**	**09 40 42.5**	**-0.3**
OBIP	**Obispado Ponce**	**1.88**	**217**			**Pb**	**09 40 19.0**	**-1.7**
OBIP				IAML			09 40 49.1	
	comp=E,41nm,0.8s							
OBIP				IAML			09 40 56.4	
	comp=N,36nm,0.9s							
OBIP	**Obispado Ponce**	**1.88**	**217**	||*e*P	**Pb**	**09 40 20.1**	**-0.7**
OBIP	**Obispado Ponce**	**1.88**	**217**	*e*S		**Sn**	**09 40 43.2**	**+1.6**
AGPR	**Aguadilla, PR**	**1.93**	**236**	Pn		**Pb**	**09 40 20.0**	**-1.7**
AGPR				IAML			09 41 03.0	
	comp=N,37nm,1.8s							
AGPR				IAML			09 41 32.2	
	comp=E,34nm,0.8s							
LSP	**Las Mesas**	**2.09**	**229**			**Pb**	**09 40 22.5**	**-1.9**
LSP	**Las Mesas**	**2.09**	**229**	||*e*P	**Pb**	**09 40 22.5**	**-1.9**
MLPR	**Magueyes Islan**	**2.20**	**225**	||*e*P	**Pb**	**09 40 24.4**	**-1.9**
MLPR	**Magueyes Islan**	**2.20**	**225**	*e*S		**Sn**	**09 40 50.1**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.22**	**226**			**Pn**	**09 40 23.8**	**+0.8**
CRPR				Sn		**Sn**	**09 40 50.8**	**+0.7**
CRPR				IAML			09 41 04.4	
	comp=E,22nm,1.1s							
CRPR	**Cabo Rojo, PR**	**2.22**	**226**	||*e*P	**Pb**	**09 40 25.1**	**-1.5**
CRPR	**Cabo Rojo, PR**	**2.22**	**226**	*e*S		**Sn**	**09 40 50.5**	**+0.4**
SDDR	**Presa de Saban**	**5.57**	**265**			**Pn**	**09 41 10.6**	**+1.4**

*IDC **03** 09:47:35.4±0.8, 54°.34N×162°.78W, h0km, mb4.4/29, mbtmp4.4/32, ML3.7/3, MS3.5/17, Error ellipse: s-maj=21.8km s-min=11.5km az=172.0*
*MOS **03** 09:47:35.4±0.9, 54°.25N×162°.57W, h17km, mb4.8/26, Error ellipse: s-maj=10.8km s-min=6.3km az=91.1*
*NEIC **03** 09:47:39.9±2.3, 54°.12N±0°.05×162°.57W±0°.06, h35km±2km, mb4.5/83, ML4.3/24, ML4.2(AEIC), Error ellipse: s-maj=9.6km s-min=5.3km az=164.0*
*AEIC **03** 09:47:39.3±2.4, 54°.10N±0°.06×162°.57W±0°.06, h25km±5km, Error ellipse: s-maj=8.8km s-min=4.6km az=166.0*
ISC 03 09:47:39.8±0.8, **54°.07N**±0°.05×**162°.52W**±0°.03, **h40km**±7km, **n594, σ1s15/621, mb4.6/93, MS3.5/20, 17C-8D, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ISLZ	**Isanotski Laza**	**0.96**	**314**			**Pn**	**09 47 55.2**	**-1.6**
ISNN	**Isanotski Nort**	**1.06**	**317**			**Pn**	**09 47 57.5**	**-0.7**
ISNN						**Sn**	**09 48 12.3**	**+0.4**
SSBA	**Shishaldin**	**1.17**	**308**			**Pn**	**09 47 59.0**	**-0.8**
SSBA						**Sn**	**09 48 14.0**	**-0.7**
HAG	**Hague Volcano**	**1.30**	**16**			**Pn**	**09 48 01.0**	**-0.6**
HAG						**Sn**	**09 48 17.9**	**+0.1**
PS4A	**Pavlof South-4**	**1.34**	**17**			**Pn**	**09 48 01.5**	**-0.6**
PS4A						**Sn**	**09 48 18.6**	**-0.1**
PVV	**Pavlof Volcano**	**1.38**	**18**			**Pn**	**09 48 02.0**	**-0.5**
PVV						**Sn**	**09 48 19.4**	**-0.2**
PS1A	**Pavlof South-1**	**1.43**	**18**			**Pn**	**09 48 02.8**	**-0.5**
PS1A						**Sn**	**09 48 21.5**	**+0.6**
S12K	**Black Hills**	**1.66**	**9**			**Pn**	**09 48 06.8**	**+0.3**
S12K						**Sn**	**09 48 26.8**	**+0.2**
S12K				IAML			09 48 31.1	
	comp=N,5μm,0.3s							
S12K				IAML			09 48 31.8	
	comp=E,4μm,0.5s							
S12K	**Black Hills**	**1.66**	**9**	P		**Pn**	**09 48 07.0**	**+0.5**
	baz=189,SNR=58							
S12K				S		**Sn**	**09 48 27.5**	**+0.9**
	baz=189							
SDPT	**Sand Point**	**1.75**	**42**			**Pn**	**09 48 07.8**	**+0.1**
SDPT						**Sn**	**09 48 28.0**	**-0.7**
SDPT	**Sand Point**	**1.75**	**42**	P		**Pn**	**09 48 07.3**	**-0.4**
SDPT	**Sand Point**	**1.75**	**42**	S		**Sn**	**09 48 30.9**	**+2.2**
SDPT	**Sand Point**	**1.75**	**42**	P		**Pn**	**09 48 07.9**	**+0.3**
	baz=223,SNR=63							
SDPT				S		**Sn**	**09 48 29.8**	**+1.1**
	baz=223							
CNBA	**Chernabura Isl**	**1.87**	**65**			**Pn**	**09 48 08.8**	**-0.6**
CHNA	**Chernabura Isl**	**1.88**	**65**	P		**Pn**	**09 48 09.2**	**-0.2**
CHNA	**Chernabura Isl**	**1.88**	**65**	P		**Pn**	**09 48 08.9**	**-0.5**
	baz=247,SNR=9.7							
CHNA				S		**Sn**	**09 48 30.8**	**-1.1**
	baz=247							
AKUT	**Akutan**	**1.91**	**273**			**Pn**	**09 48 09.8**	**-0.1**
AKUT				IAML			09 48 39.5	
	comp=N,2μm,0.5s							
AKUT				IAML			09 48 39.8	
	comp=E,2μm,0.7s							
AKUT	**Akutan**	**1.91**	**273**	P		**Pn**	**09 48 10.1**	**+0.2**
AKUT	**Akutan**	**1.91**	**273**	S		**Sn**	**09 48 35.8**	**+3.1**
AHB	**Akutan Harbor**	**1.94**	**273**			**Pn**	**09 48 10.9**	**+0.6**
AKBBA	**Akutan Broad B**	**2.01**	**272**			**Pn**	**09 48 10.9**	**-0.3**
ZRO	**Akutan Zero**	**2.04**	**272**			**Pn**	**09 48 11.2**	**-0.4**
AKGG	**Akutan Green G**	**2.04**	**275**			**Pn**	**09 48 11.8**	**+0.1**
AKMO	**Akutan Morgan**	**2.06**	**272**			**Pn**	**09 48 12.1**	**+0.3**
UNV	**Unalaska Valle**	**2.36**	**266**			**Pn**	**09 48 16.4**	**+0.4**
UNV	**Unalaska Valle**	**2.36**	**266**	P		Pn	09 48 12.4	-3.7
	baz=83,SNR=20							
UNV				Sb		**Sn**	**09 48 45.3**	**+1.6**
	baz=83							
MTBL	**Makushin Table**	**2.45**	**269**			**Pn**	**09 48 18.3**	**+0.9**
MREP	**Makushin Rep't**	**2.51**	**266**			**Pn**	**09 48 18.6**	**+0.5**
MGOD	**Makushin Gods**	**2.59**	**266**			**Pn**	**09 48 19.9**	**+0.7**
MAPS	**Pakushin South**	**2.62**	**266**			**Pn**	**09 48 19.8**	**+0.1**
S14K	**Fog Glacier**	**2.80**	**36**	P		**Pn**	**09 48 23.5**	**+1.3**
	baz=218							
VNFG	**Fog Glacier, M**	**2.80**	**36**			**Pn**	**09 48 23.9**	**+1.7**
VNHG	**Veniaminof 1**	**2.90**	**40**			**Pn**	**09 48 24.8**	**+1.3**
CHGN	**Chignik**	**3.25**	**45**			**Pn**	**09 48 28.8**	**+0.6**
CHGN				IAML			09 49 25.4	
	comp=N,740nm,1.1s							
CHGN	**Chignik**	**3.25**	**45**	P		**Pn**	**09 48 29.4**	**+1.2**
	baz=228,SNR=13							
CHGN				S		**Sn**	**09 49 07.1**	**+1.5**
	baz=228							
ANPB	**Aniakchak Plen**	**3.66**	**40**			**Pn**	**09 48 34.5**	**+0.7**
ANPK	**Aniakchak Peak**	**3.74**	**40**			**Pn**	**09 48 35.9**	**+0.8**
NIKH	**Nikolski High**	**3.94**	**256**			**Pn**	**09 48 38.5**	**+0.9**
NIKH				IAML			09 49 42.7	
	comp=N,549nm,0.7s							
NIKH	**Nikolski High**	**3.94**	**256**	P		**Pn**	**09 48 39.4**	**+1.8**
NIKH	**Nikolski High**	**3.94**	**256**	S		**Sn**	**09 49 28.3**	**+5.8**
CHIR	**Chirikof Islan**	**4.35**	**63**	Pn		**Pn**	**09 48 43.7**	**+0.3**
CHIR				IAML			09 50 02.3	
	comp=N,371nm,0.9s							
CHIR				IAML			09 50 03.3	
	comp=E,321nm,1.3s							
CHIR	**Chirikof Islan**	**4.35**	**63**	P		**Pn**	**09 48 43.8**	**+0.4**
P08K	**Saint George I**	**4.75**	**305**	Pn		**Pn**	**09 48 49.5**	**+0.8**
P08K				IAML			09 49 31.4	
	comp=E,328nm,1.7s							
P08K				IAML			09 51 10.8	
	comp=N,308nm,1.4s							
PLBL	**Peulik Blue Cr**	**4.86**	**39**			**Pn**	**09 48 51.2**	**+0.9**
R17L	**Mt. Peulik Vol**	**4.98**	**42**	P		**Pn**	**09 48 53.3**	**+1.3**
	baz=227,SNR=8.3							
PLK4	**Peulik 4**	**4.98**	**42**			**Pn**	**09 48 53.4**	**+1.3**
PLK1	**Peulik 1**	**5.01**	**39**			**Pn**	**09 48 53.0**	**+0.7**
O14K	**Tigyukauivet M**	**5.25**	**7**			**Pn**	**09 48 56.1**	**+0.5**
O14K				IAML			09 50 55.2	
	comp=N,120nm,0.9s							
O14K	**Tigyukauivet M**	**5.25**	**7**	P		**Pn**	**09 48 56.2**	**+0.5**
	baz=188							
O15K	**Ungalikthiuk R**	**5.34**	**15**			**Pn**	**09 48 57.3**	**+0.4**
O15K				IAML			09 50 49.4	
	comp=E,126nm,1.2s							
O15K	**Ungalikthiuk R**	**5.34**	**15**	P		**Pn**	**09 48 57.6**	**+0.7**
	baz=197,SNR=11							
SPIA	**Saint Paul Isl**	**5.37**	**309**	P		**Pn**	**09 48 54.7**	**-2.6**
	baz=122							
SII	**Sitkinak Islan**	**5.38**	**59**	P		**Pn**	**09 48 57.0**	**-0.5**
SII	**Sitkinak Islan**	**5.38**	**59**	P		**Pn**	**09 48 59.7**	**+2.2**
	baz=246							
P16K	**Nushagak River**	**5.57**	**25**			**Pn**	**09 49 00.7**	**+0.7**
P16K	**Nushagak River**	**5.57**	**25**	P		**Pn**	**09 49 00.8**	**+0.7**
	baz=209							
Q17K	**Contact Creek**	**5.61**	**39**	P		**Pn**	**09 49 01.6**	**+0.9**
	baz=224							
CNTC	**Contact Creek**	**5.61**	**39**			**Pn**	**09 49 01.6**	**+0.8**
Q16K	**King Salmon**	**5.66**	**33**			**Pn**	**09 49 01.9**	**+0.7**
Q16K	**King Salmon**	**5.66**	**33**	P		**Pn**	**09 49 02.4**	**+1.2**
	baz=218,SNR=8.6							
ANCK	**Angle Creek**	**5.71**	**41**			**Pn**	**09 49 02.6**	**+0.6**
ACHA	**Angle Creek He**	**5.78**	**41**			**Pn**	**09 49 03.8**	**+0.8**
N14K	**Kuskokwak Cree**	**5.89**	**4**			**Pn**	**09 49 05.2**	**+0.8**
N14K	**Kuskokwak Cree**	**5.89**	**4**	P		**Pn**	**09 49 04.5**	**+0.1**
	baz=185,SNR=5.7							
O16K	**Kokwok River B**	**6.05**	**22**			**Pn**	**09 49 07.0**	**+0.3**
O16K	**Kokwok River B**	**6.05**	**22**	P		**Pn**	**09 49 07.2**	**+0.6**
	baz=206,SNR=9.3							
O16K				S		**Sn**	**09 50 16.2**	**+1.7**
	baz=206							
OHAK	**Old Harbor**	**6.11**	**55**			**Pn**	**09 49 06.2**	**-1.2**
OHAK	**Old Harbor**	**6.11**	**55**	P		**Pn**	**09 49 06.3**	**-1.2**
OHAK	**Old Harbor**	**6.11**	**55**	P		**Pn**	**09 49 06.2**	**-1.2**
	baz=243							
P17K	**Kvichak River**	**6.14**	**31**	P		**Pn**	**09 49 09.4**	**+1.6**
	baz=216							
KAHC	**Katmai Hardscr**	**6.21**	**39**			**Pn**	**09 49 09.7**	**+0.8**
Q18K	**Katmai Hardscr**	**6.21**	**39**	P		**Pn**	**09 49 10.0**	**+1.1**
	baz=225,SNR=11							
N15K	**Kwethluk River**	**6.26**	**11**			**Pn**	**09 49 10.3**	**+0.7**
N15K	**Kwethluk River**	**6.26**	**11**	P		**Pn**	**09 49 09.8**	**+0.2**
	baz=193,SNR=8.8							
N15K				S		**Sn**	**09 50 21.8**	**+2.0**
	baz=193							
M13K	**Dall Lake**	**6.38**	**356**			**Pn**	**09 49 12.7**	**+1.5**
M13K	**Dall Lake**	**6.38**	**356**	P		**Pn**	**09 49 11.2**	**0.0**
	baz=176,SNR=8.9							
O17K	**Koliganek Bris**	**6.45**	**25**	P		**Pn**	**09 49 13.2**	**+1.1**
	baz=210							
M11K	**Mekoryuk**	**6.64**	**344**			**Pn**	**09 49 14.6**	**-0.2**
M11K	**Mekoryuk**	**6.64**	**344**	P		**Pn**	**09 49 13.9**	**-0.8**
	baz=161							
M11K				S		**Sn**	**09 50 29.9**	**+0.9**
	baz=161							
P18K	**Big Mountain,**	**6.68**	**34**			**Pn**	**09 49 16.6**	**+1.2**
P18K	**Big Mountain,**	**6.68**	**34**	P		**Pn**	**09 49 16.5**	**+1.2**
	baz=220,SNR=11							
P18K				S		**Sn**	**09 50 32.1**	**+2.1**
	baz=220							
M14K	**Bethel**	**6.71**	**2**			**Pn**	**09 49 14.7**	**-1.0**
M14K	**Bethel**	**6.71**	**2**	P		**Pn**	**09 49 15.7**	**0.0**
	baz=183,SNR=12							
KDAK	**Kodiak Island**	**6.71**	**52**			**Pn**	**09 49 14.6**	**-1.1**
KDAK	**Kodiak Island**	**6.71**	**52**	Pn		**Pn**	**09 49 14.8**	**-1.0**
	comp=E,1.6nm,0.3s,baz=81,slow=1.3,SNR=139							
KDAK				Sn		**Sn**	**09 50 24.7**	**-6.1**
	comp=E,0.9nm,0.3s,baz=224,slow=3.4,SNR=1.2							
KDAK				Lg			09 50 52.0	
	comp=E,3.8nm,0.3s,baz=36,slow=20,SNR=12							
	comp=E,4.6nm,0.3s							
KDAK	**Kodiak Island**	**6.71**	**52**	P		**Pn**	**09 49 14.6**	**-1.1**
KDAK	**Kodiak Island**	**6.71**	**52**	P		**Pn**	**09 49 14.6**	**-1.1**
	baz=240							
M15K	**Kasigluk River**	**6.72**	**8**			**Pn**	**09 49 16.4**	**+0.6**
M15K	**Kasigluk River**	**6.72**	**8**	P		**Pn**	**09 49 16.2**	**+0.4**
	baz=189,SNR=16							
M15K				S		**Sn**	**09 50 32.3**	**+1.3**
	baz=189							
N16K	**Nishlik Lake**	**6.74**	**16**			**Pn**	**09 49 17.6**	**+1.5**
N16K	**Nishlik Lake**	**6.74**	**16**	P		**Pn**	**09 49 17.3**	**+1.1**
	baz=199,SNR=21							
N16K				S		**Sn**	**09 50 34.6**	**+3.1**
	baz=199							
Q19K	**Cape Douglas,**	**6.92**	**42**	Pn		**Pn**	**09 49 19.9**	**+1.3**
Q19K	**Cape Douglas,**	**6.92**	**42**	P		**Pn**	**09 49 20.1**	**+1.5**
	baz=229							
O18K	**Koktuh Hills**	**7.04**	**32**			**Pn**	**09 49 22.1**	**+1.8**
O18K	**Koktuh Hills**	**7.04**	**32**	P		**Pn**	**09 49 22.2**	**+1.8**
	baz=218,SNR=8.5							
O18K				S		**Sn**	**09 50 40.8**	**+1.7**
	baz=218							
N17K	**Nushagak Hills**	**7.09**	**22**			**Pn**	**09 49 21.5**	**+0.6**
N17K	**Nushagak Hills**	**7.09**	**22**	P		**Pn**	**09 49 21.7**	**+0.7**
	baz=206,SNR=12							
N17K				S		**Sn**	**09 50 42.1**	**+1.9**
	baz=206							
M16K	**Timber Creek**	**7.23**	**14**			**Pn**	**09 49 23.3**	**+0.4**
M16K	**Timber Creek**	**7.23**	**14**	P		**Pn**	**09 49 23.6**	**+0.7**
	baz=197,SNR=10							
Q20K	**Shuyak Island**	**7.24**	**47**	P		**Pn**	**09 49 23.7**	**+0.7**
	baz=235							
SYI	**Shuyak Island**	**7.24**	**47**	Pn		**Pn**	**09 49 22.7**	**-0.3**
ATKA	**Atka Island**	**7.27**	**260**	Pn		**Pn**	**09 49 24.8**	**+1.4**
ATKA	**Atka Island**	**7.27**	**260**	P		**Pn**	**09 49 24.9**	**+1.6**
L14K	**Kuka Creek**	**7.30**	**359**			**Pn**	**09 49 24.2**	**+0.5**
L14K	**Kuka Creek**	**7.30**	**359**	P		**Pn**	**09 49 23.9**	**+0.2**
	baz=179,SNR=15							
L14K				S		**Sn**	**09 50 44.5**	**-0.7**
	baz=179							
N18K	**Kilae Creek**

N19K S Sn 09 51 05.1 +1.8
baz=216
O20K Slope Mountain 8.08 38 P Pn 09 49 36.5 +1.9
baz=226
M18K Stony River 8.26 23 Pn 09 49 37.3 +0.4
M18K Stony River 8.26 23 P Pn 09 49 37.3 +0.4
baz=208
M18K S Sn 09 51 09.5 +0.7
baz=208
CNPM China Poot 8.26 44 Pn Pn 09 49 37.1 +0.2
K15K Wolf Creek Mou 8.27 3 Pn 09 49 37.9 +0.9
K15K Wolf Creek Mou 8.27 3 P Pn 09 49 37.6 +0.6
baz=184,SNR=13
K15K S Sn 09 51 10.4 +1.4
baz=184
L17K Donlin 8.39 14 Pn 09 49 38.9 +0.2
L17K Donlin 8.39 14 P Pn 09 49 38.8 0.0
baz=197
L17K S Sn 09 51 14.7 +2.6
baz=197
RDT Redoubt 8.51 36 Pn 09 49 40.9 +0.5
J14K Nanvaranak Lak 8.73 357 Pn 09 49 43.1 -0.2
J14K Nanvaranak Lak 8.73 357 P Pn 09 49 42.5 -0.8
baz=176
J14K S Sn 09 51 22.2 +2.0
baz=176
L18K Granite Mounta 8.74 18 Pn 09 49 43.9 +0.4
L18K Granite Mounta 8.74 18 P Pn 09 49 43.7 +0.3
baz=203,SNR=6.1
ADK Adak 8.82 261 Pn Pn 09 49 45.2 +0.6
ADK Adak 8.82 261 P Pn 09 49 45.6 +1.0
ADK Adak 8.82 261 P Pn 09 49 45.2 +0.6
K17K Iditarod 8.95 13 Pn 09 49 46.4 0.0
K17K Iditarod 8.95 13 P Pn 09 49 46.4 0.0
baz=196
M19K Big River Lodg 8.96 25 Pn 09 49 47.5 +0.9
M19K Big River Lodg 8.96 25 P Pn 09 49 47.6 +1.1
baz=212,SNR=12
M19K S Sn 09 51 27.8 +1.8
baz=212
SPCR Spurr Chakacha 9.03 34 P Pn 09 49 48.2 +0.6
baz=222
SPU Mount Spurr 9.07 34 Pn 09 49 48.7 +0.6
L19K White Mountain 9.09 23 Pn 09 49 48.3 0.0
L19K White Mountain 9.09 23 P Pn 09 49 48.8 +0.5
baz=210,SNR=17
SLKM Skilak Lake 9.27 41 Pn 09 49 50.4 -0.4
M20K Styx River 9.28 29 Pn 09 49 50.4 -0.6
M20K Styx River 9.28 29 P Pn 09 49 52.3 +1.3
baz=216
J16K Anvik River 9.30 5 Pn 09 49 52.0 +0.9
J16K Anvik River 9.30 5 P Pn 09 49 51.6 +0.4
baz=187,SNR=5.1
SEW Seward 9.33 44 Pn Pn 09 49 51.0 -0.5
SEW Seward 9.33 44 P Pn 09 49 51.1 -0.5
baz=235
STLK Strandline Lak 9.38 33 Pn 09 49 52.0 -0.3
O22K Cooper Landing 9.44 42 Pn Pn 09 49 52.4 -0.7
O22K Cooper Landing 9.44 42 P Pn 09 49 53.5 +0.4
baz=233
J17K VABM Dome 9.53 9 Pn 09 49 55.3 +1.0
J17K VABM Dome 9.53 9 P Pn 09 49 54.8 +0.6
baz=192
L20K Farewell, AK 9.58 25 P Pn 09 49 55.5 +0.5
baz=212,SNR=5.2
SUA Susitna One 9.71 36 Pn 09 49 56.6 -0.3
SUA Susitna One 9.71 36 P Pn 09 49 56.8 -0.1
baz=225
RC01 Rabbit Creek A 9.82 39 Pn 09 49 57.8 -0.5
RC01 Rabbit Creek A 9.82 39 P Pn 09 49 58.6 +0.3
baz=230
SKT Skwentna 9.83 32 Pn 09 49 58.2 -0.2
SKT Skwentna 9.83 32 P Pn 09 49 59.4 +0.9
baz=221
J18K Innoko River 9.89 15 Pn 09 49 59.8 +0.5
J18K Innoko River 9.89 15 P Pn 09 49 59.5 +0.2
baz=200
I17K Unalakleet 9.90 5 Pn Pn 09 49 58.6 -0.6
I17K Unalakleet 9.90 5 P Pn 09 49 58.8 -0.5
baz=186
M22K Willow 10.13 36 Pn 09 50 02.4 -0.1
M22K Willow 10.13 36 P Pn 09 50 02.5 +0.1
baz=226
P23K Montague Islan 10.15 48 Pn 09 50 01.7 -1.1
P23K Montague Islan 10.15 48 P Pn 09 50 01.8 -0.9
baz=241
PWL Port Wells 10.22 43 Pn 09 50 02.5 -1.3
PWL Port Wells 10.22 43 P Pn 09 50 02.4 -1.3
baz=234
K20K Telida 10.29 22 Pn 09 50 05.0 +0.3
K20K Telida 10.29 22 P Pn 09 50 05.1 +0.3
baz=209,SNR=15
PPLA Purkeypile 10.36 27 P Pn 09 50 05.4 -0.4
baz=216,SNR=6.2
PMR Palmer 10.37 38 Pn 09 50 06.1 +0.3
PMR Palmer 10.37 38 P Pn 09 50 06.1 +0.3
PMR Palmer 10.37 38 P Pn 09 50 06.0 +0.2
baz=229
KNK Knik Glacier 10.50 40 Pn Pn 09 50 07.2 -0.5
KNK Knik Glacier 10.50 40 P Pn 09 50 07.4 -0.3
baz=232
J19K Poorman 10.57 17 Pn 09 50 08.7 +0.3
J19K Poorman 10.57 17 P Pn 09 50 08.4 -0.1
baz=203
ANM Nome 10.63 353 P Pn 09 50 09.1 -0.2
baz=171
GLI Glacier Island 10.73 44 P Pn 09 50 09.4 -1.4
baz=237
HIN Hinchinbrook I 10.73 47 Pn 09 50 09.8 -1.1
CAST Castle Rocks 10.82 26 Pn 09 50 12.1 +0.2
CAST Castle Rocks 10.82 26 P Pn 09 50 11.7 -0.2
baz=215
GAMB Gambell 10.82 338 P Pn 09 50 09.7 -2.2
baz=150
H17K Granite Mounta 10.99 6 P Pn 09 50 13.8 -0.4
baz=188
G15K Niukluk 10.99 357 P Pn 09 50 13.2 -1.0
baz=175
J20K Nowinta River 11.00 20 Pn 09 50 15.2 +0.7
J20K Nowinta River 11.00 20 P Pn 09 50 14.3 -0.1
baz=207
M23K Glacier View 11.02 39 P Pn 09 50 14.9 +0.2
baz=232
GCSA Galena City Sc 11.09 13 P Pn 09 50 16.2 +0.7
baz=198
EYAK Cordova Ski Ar 11.13 48 Pn 09 50 14.6 -1.6
EYAK Cordova Ski Ar 11.13 48 P Pn 09 50 14.5 -1.8
baz=242
CHUM Lake Minchumin 11.15 24 P Pn 09 50 16.1 -0.3
baz=213
SCM Sheep Creek Mo 11.19 40 Pn 09 50 15.0 -2.1
SCM Sheep Creek Mo 11.19 40 P Pn 09 50 15.0 -2.1
SCM Sheep Creek Mo 11.19 40 P Pn 09 50 15.8 -1.2
baz=233
H18K Honhosa River 11.32 9 P Pn 09 50 16.2 -2.5
baz=193
AMKA Amchitka 11.34 264 Pn 09 50 18.8 -0.3
G16K Koyuk River 11.37 0 P Pn 09 50 18.3 -1.1
baz=180
WAT1 Susitna Watana 11.41 34 P Pn 09 50 18.0 -2.0
baz=226
DIV Divide 11.41 45 Pn Pn 09 50 18.9 -1.2
KAIM Kayak Island 11.46 52 Pn 09 50 20.3 -0.5
KAIM Kayak Island 11.46 52 P Pn 09 50 19.9 -0.8
baz=247
I20K Naaghedeneel 11.50 17 Pn Pn 09 50 19.8 -1.4
I20K Naaghedeneel 11.50 17 P Pn 09 50 19.9 -1.4
baz=204
WAT6 Susitna Watana 11.51 36 P Pn 09 50 18.9 -2.7
baz=229
KLU Klutina 11.54 43 Pn Pn 09 50 20.7 -1.2
KLU Klutina 11.54 43 P Pn 09 50 20.1 -1.8
baz=237
BPAW Bear Paw Mtn. 11.66 26 P Pn 09 50 23.4 0.0
baz=216
HMT Hamilton 11.70 50 Pn 09 50 23.3 -0.7
RND Reindeer 11.72 32 Pn 09 50 23.1 -1.2
RND Reindeer 11.72 32 P Pn 09 50 23.2 -1.2
F15K North Star Dit 11.73 356 P Pn 09 50 21.9 -2.5
baz=174
M24K Tolsona, Glenn 11.79 40 Pn 09 50 23.6 -1.6
M24K Tolsona, Glenn 11.79 40 P Pn 09 50 23.9 -1.4
baz=234
SUCK Suckling Hills 11.82 52 Pn Pn 09 50 25.5 -0.1
BMRM Bremner River 11.83 47 Pn 09 50 24.6 -1.2
baz=242
BMRM Bremner River 11.83 47 P Pn 09 50 25.2 -0.6
baz=242
TNA Tin City 11.84 349 P Pn 09 50 23.4 -2.5
baz=164
H19K Roundabout Mou 11.89 12 P Pn 09 50 25.5 -1.1
baz=198
MCK McKinley 11.94 30 P Pn 09 50 26.0 -1.2
baz=222
DHY Denali Highway 11.97 35 P Pn 09 50 25.3 -2.5
baz=228
BERG Berg Lake 11.98 51 Pn 09 50 26.5 -1.3
G18K Tagagawik 12.02 8 P Pn 09 50 27.2 -1.2
baz=191
H20K Anotleneega Mo 12.08 15 P Pn 09 50 28.7 -0.4
baz=202
N25K Chitina, Valde 12.14 44 Pn 09 50 28.8 -1.3
N25K Chitina, Valde 12.14 44 P Pn 09 50 29.1 -1.0
baz=240
HARP HAARP 12.35 41 P Pn 09 50 32.3 -0.6
baz=235
WAX Waxell Ridge 12.39 51 Pn Pn 09 50 32.3 -1.1
GLB Gilahina Butte 12.39 46 Pn 09 50 32.7 -0.8
MLY Manley 12.49 24 Pn Pn 09 50 33.2 -1.5
MLY Manley 12.49 24 P Pn 09 50 32.9 -1.8
baz=214
PAX Paxson 12.57 38 Pn 09 50 34.1 -1.8
PAX Paxson 12.57 38 P Pn 09 50 34.1 -1.8
PAX Paxson 12.57 38 P Pn 09 50 34.6 -1.4
baz=232
H21K Melozitna Rive 12.59 19 Pn 09 50 35.7 -0.4
H21K Melozitna Rive 12.59 19 P Pn 09 50 35.3 -0.8
baz=207
YAH Yahtse 12.87 52 Pn 09 50 39.2 -0.9
I23K Minto, Yukon-K 12.92 25 P Pn 09 50 40.1 -0.5
baz=217
K24K Donnelly Dome 12.99 35 Pn 09 50 40.4 -1.2
GRNC Granite Creek 13.00 51 Pn 09 50 40.6 -1.3
F19K Shaleruckik Mo 13.02 8 P Pn 09 50 41.9 0.0
baz=192
E17K Hotham Inlet 13.07 1 P Pn 09 50 41.8 -0.8
baz=182
H22K Ishtalitna Cre 13.08 21 P Pn 09 50 43.3 +0.5
baz=210
COLA College 13.11 28 *i* P Pn 09 50 44.8 +1.6
BARN Barnard Glacie 13.16 50 Pn Pn 09 50 42.3 -1.8
TABL Table Mountain 13.18 52 Pn 09 50 43.5 -0.9
M26K Nabesna, AK 13.20 43 Pn 09 50 43.2 -1.3
M26K Nabesna, AK 13.20 43 P Pn 09 50 43.6 -0.9
baz=240
MENT Mentasta 13.20 40 Pn 09 50 42.8 -1.8
G21K Allakaket 13.24 16 P Pn 09 50 43.4 -1.7
baz=204
RIDG Independent Ri 13.27 36 Pn 09 50 44.7 -0.7
RIDG Independent Ri 13.27 36 P Pn 09 50 43.7 -1.7
baz=231
CTG Chitna Glacier 13.27 50 P Pn 09 50 44.4 -1.2
baz=248
CTGM Chitina Glacie 13.28 50 Pn 09 50 44.6 -1.0
ILAR Eielson Array 13.31 30 Pn Pn 09 50 41.4 -4.6
comp=E,0.1nm,0.3s,baz=223,slow=13,SNR=6.9
ILAR LR LR 09 56 15.8
comp=E,271nm,19.9s,baz=220,slow=40
comp=E,0.3nm,0.5s
H23K Yukon River 13.43 23 Pn 09 50 46.9 -0.6
F20K Avaraart Lake 13.44 12 P Pn 09 50 47.5 -0.1
baz=197
DOT Dot Lake 13.49 37 Pn 09 50 46.6 -1.8
PCA Pinnacle 13.49 54 Pn 09 50 48.3 -0.2
PINM Pinnacle 13.49 54 P Pn 09 50 48.2 -0.3
baz=253
M27K Edge Creek, AK 13.63 44 Pn 09 50 49.5 -1.0
M27K Edge Creek, AK 13.63 44 P Pn 09 50 50.2 -0.2
baz=242
J25K Salcha River, 13.67 33 Pn 09 50 47.4 -3.4
J25K Salcha River, 13.67 33 P Pn 09 50 49.0 -1.8
baz=227
E19K Redstone River 13.68 9 P Pn 09 50 51.1 +0.2
baz=193
SCRK Sand Creek 13.71 36 Pn 09 50 48.5 -3.1
SCRK Sand Creek 13.71 36 P Pn 09 50 50.2 -1.4
baz=232
O28M Mount Upton 13.73 52 Pn 09 50 50.4 -1.6
O28M Mount Upton 13.73 52 P Pn 09 50 51.4 -0.6
baz=251
PNL Peninsula 13.79 57 P Pn 09 50 52.6 0.0
PNL Peninsula 13.79 57 P Pn 09 50 52.8 +0.2
baz=256,SNR=5.5
F21K Alatna River 13.90 15 P Pn 09 50 54.0 0.0
baz=203
YUK3 Moose Creek 13.98 48 P Pn 09 50 55.3 +0.1
baz=246
L27K Beaver Creek, 14.00 42 Pn 09 50 53.8 -1.6
L27K Beaver Creek, 14.00 42 P Pn 09 50 53.6 -1.8
baz=239
G23K Bananza Creek 14.06 21 Pn 09 50 57.0 +0.8
G23K Bananza Creek 14.06 21 P Pn 09 50 55.8 -0.5
baz=212
BVCY Beaver Creek 14.08 45 P Pn 09 50 55.4 -1.0
baz=243
J26L Joseph Creek 14.19 35 P Pn 09 50 56.7 -1.3
baz=231,SNR=6.2
PRP Porcupine Dome 14.25 30 P Pn 09 50 58.0 -0.9
baz=224
O29M Mount Kennedy 14.35 55 P Pn 09 51 01.0 +0.8
baz=255
COLD Coldfoot 14.47 19 Pn 09 51 02.4 +0.7
COLD Coldfoot 14.47 19 P Pn 09 51 01.7 0.0
baz=210
E20K Nigu River 14.55 9 P Pn 09 51 02.6 -0.2
baz=195
P29M Windy Craggy 14.61 58 P Pn 09 51 04.2 +0.6
baz=258
D19K Kuna River 14.63 6 P Pn 09 51 03.7 -0.1
baz=190
G24K Hadweenzic Riv 14.63 24 Pn 09 51 02.0 -1.8
G24K Hadweenzic Riv 14.63 24 P Pn 09 51 03.5 -0.3
baz=217
YUK6 Outpost Mounta 14.63 52 P Pn 09 51 05.5 +1.3
baz=253,SNR=6.1
C18K Utukok River 14.65 2 P Pn 09 51 03.1 -1.0
baz=183
H25L Birch Creek 14.72 27 P Pn 09 51 05.2 +0.3
baz=222
I26K Coal Creek Min 14.83 33 Pn 09 51 04.0 -2.5
I26K Coal Creek Min 14.83 33 P Pn 09 51 06.1 -0.4
baz=230
D20K Etivluk River 14.96 8 P Pn 09 51 07.9 -0.2
baz=194
E22K Anaktuvuk Pass 15.00 16 Pn 09 51 09.1 +0.4
E22K Anaktuvuk Pass 15.00 16 P Pn 09 51 09.1 +0.4
baz=205
HYT Haines Junctio 15.00 53 P Pn 09 51 10.0 +1.1
baz=254,SNR=17
G25K Bearman Lake 15.02 26 P Pn 09 51 09.8 +0.8
baz=220
P30M Million Dollar 15.10 56 P Pn 09 51 11.4 +1.4
baz=258
M29M Somme Creek 15.11 47 Pn 09 51 09.4 -0.8
M29M IAmb IAmb 09 51 19.0
comp=Z,36nm,1.0s
M29M Somme Creek 15.11 47 P Pn 09 51 09.2 -1.0
baz=247
S31K Pelican 15.17 64 P Pn 09 51 10.9 0.0
baz=266
F24K Squaw Lake 15.20 22 P Pn 09 51 10.9 -0.5
baz=215
PLBC Pleasant Camp 15.27 59 P Pn 09 51 13.1 +0.9
baz=261,SNR=6.5
E23K Chandalar 15.31 19 Pn 09 51 12.6 -0.2
E23K IAmb IAmb 09 51 18.8
comp=Z,19nm,1.0s
E23K Chandalar 15.31 19 P Pn 09 51 12.8 0.0
baz=210
B18K Kokolik River 15.36 1 P Pn 09 51 13.3 0.0
baz=182
N30M Aishikik Lake 15.38 51 P Pn 09 51 14.5 +0.7
baz=253,SNR=17
DAWY Dawson 15.45 40 Pn 09 51 12.8 -1.8
DAWY Dawson 15.45 40 P Pn 09 51 14.2 -0.4
baz=240,SNR=5.9
L29M L29M 15.51 45 Pn 09 51 14.5 -1.0
L29M IAmb IAmb 09 51 22.7
comp=Z,25nm,0.8s
L29M L29M 15.51 45 P P 09 51 17.1 -2.2
baz=246,SNR=16
I27K Kandik River 15.52 34 P Pn 09 51 15.7 +0.1
baz=232,SNR=6.7
E24K Your Creek 15.54 20 Pn 09 51 15.7 -0.1
E24K IAmb IAmb 09 51 20.1
comp=Z,18nm,0.7s
E24K Your Creek 15.54 20 P Pn 09 51 16.6 +0.8
baz=212
D22K Ayikyak River 15.55 13 P Pn 09 51 16.0 0.0
baz=202,SNR=6.9
C21K Knifeblade Rid 15.56 10 P Pn 09 51 16.7 +0.7
baz=197,SNR=7.7
SIT Sitka 15.63 68 P Pn 09 51 18.9 +2.0
baz=270
O30N Mendenhall 15.66 54 Pn 09 51 17.6 +0.1
O30N IAmb IAmb 09 51 24.7
comp=Z,15nm,0.9s
O30N Mendenhall 15.66 54 P Pn 09 51 18.8 +1.3
baz=256,SNR=14
G26K Porcupine Rive 15.77 28 P Pn 09 51 19.4 +0.6
baz=224
F25K Christian Rive 15.78 24 Pn 09 51 19.4 +0.6
F25K Christian Rive 15.78 24 P Pn 09 51 19.6 +0.7
baz=219
SKAG Skagway 15.79 59 P P 09 51 21.3 -1.0
baz=262
TOLK Toolik Lake Re 15.83 18 P P 09 51 20.4 -2.4
baz=209,SNR=24
M30M Minto, Yukon 15.88 47 P P 09 51 21.9 -1.5
baz=249,SNR=13
D23K Nanushuk River 15.93 16 P P 09 51 21.4 -2.4
baz=206
H27K Steamboat Moun 15.95 32 P P 09 51 22.1 -2.0
baz=230
N31M Braeburn, Yuko 15.99 52 Pn 09 51 21.6 0.0
N31M IAmb IAmb 09 51 28.4
comp=Z,26nm,0.8s
N31M Braeburn, Yuko 15.99 52 P Pn 09 51 22.5 +0.9
baz=254,SNR=15
I28M Miner Creek 15.99 36 Pn 09 51 20.9 -0.7
I28M Miner Creek 15.99 36 P Pn 09 51 22.2 +0.5
baz=235
B21K Ikpikpuk River 16.03 10 P Pn 09 51 22.2 +0.3
baz=197
K29M Barlow Dome 16.07 43 P P 09 51 23.9 -1.7
baz=244,SNR=16
J29N Klondike Camp 16.09 40 P P 09 51 24.3 -1.4
baz=241
JIS Juneau Island 16.16 64 P Pn 09 51 24.7 +1.0
B20K Meade River 16.19 7 P P 09 51 24.3 -2.4
baz=191
E25K Arctic Village 16.21 23 P P 09 51 25.3 -1.7
baz=218
WHY Whitehorse 16.22 55 Pn 09 51 25.1 +0.5
WHY IAmb IAmb 09 51 31.1
comp=Z,39nm,0.9s
WHY Whitehorse 16.22 55 P P 09 51 26.2 -1.0
baz=258,SNR=13
F26K Sheenjek River 16.23 26 P P 09 51 25.8 -1.3
baz=222
G27K Doyon Strip 16.28 30 Pn Pn 09 51 25.4 +0.2
G27K Doyon Strip 16.28 30 P Pn 09 51 25.5 +0.2
baz=228
D24K Happy Valley 16.41 17 Pn 09 51 26.8 0.0
D24K IAmb IAmb 09 51 31.2
comp=Z,12nm,0.7s
D24K Happy Valley 16.41 17 P P 09 51 27.1 -2.0
baz=210
I29M Ogilvie Camp, 16.51 37 Pn 09 51 27.7 -0.5
P32M Atlin 16.62 59 P Pn 09 51 30.1 +0.5
baz=263,SNR=9.6
MAYO Mayo, Yukon 16.63 44 P P 09 51 30.5 -1.2
baz=247,SNR=19
C23K Itkillik River 16.73 14 P 09 51 30.6 -2.0
C23K Itkillik River 16.73 14 P P 09 51 30.7 -2.0
baz=205,SNR=5.7
M31M Drury Creek, Y 16.82 50 P P 09 51 32.7 -1.1
baz=254,SNR=18
J30M Hart River 16.87 41 Pn 09 51 32.6 -0.1
J30M Hart River 16.87 41 P Pn 09 51 32.7 -0.1
baz=244,SNR=13
C24K Franklin Bluff 16.93 17 P P 09 51 33.2 -1.6
baz=209
H29M Whitestone 16.96 35 Pn 09 51 33.4 -0.3
H29M Whitestone 16.96 35 P P 09 51 34.2 -1.1
baz=236
D25K Kavik River 17.01 20 P P 09 51 34.9 -1.0
baz=214
I30M Mount Dempster 17.15 39 Pn 09 51 36.1 -0.1
I30M Mount Dempster 17.15 39 P P 09 51 36.4 -1.1
baz=242,SNR=13
P33M Teslin, Yukon 17.15 57 P P 09 51 37.7 +0.2
baz=262,SNR=16
N32M Quiet Lake 17.18 54 P P 09 51 38.1 +0.4
baz=259
E27K Coleen River 17.25 27 P P 09 51 38.0 -0.5
baz=225
FARO Faro, Yukon 17.30 50 P P 09 51 39.4 +0.3
baz=255,SNR=15
Q32M Nakina River 17.31 61 P P 09 51 39.1 -0.2
baz=267
F28M Old Crow 17.34 30 P P 09 51 38.2 -1.3
F28M Old Crow 17.34 30 P P 09 51 39.0 -0.5
baz=230
G29M Pine Creek 17.47 33 P P 09 51 39.8 -1.2
G29M Pine Creek 17.47 33 P P 09 51 40.2 -0.7
baz=234
EPYK Eagle Plains 17.60 35 P Pn 09 51 41.3 -0.4
EPYK Eagle Plains 17.60 35 P Pn 09 51 41.3 -0.4
baz=238,SNR=8.5
C26K Camden Bay 17.80 20 P P 09 51 44.1 -0.3
baz=216
C27K Jago River 17.82 22 P P 09 51 44.7 0.0
baz=218
V35K Ketchikan 17.84 73 P P 09 51 46.6 +1.6
baz=279
S34M Telegraph Cree 17.88 65 P P 09 51 46.3 +0.8
baz=271
R33M Jennings River 18.00 60 P Pn 09 51 46.9 +0.1
R33M Jennings River 18.00 60 P P 09 51 47.4 +0.4
baz=267,SNR=13
E28M Babbage River 18.09 27 P Pn 09 51 48.3 +0.7
baz=228
G30M tAoh Zraii Nji 18.10 34 P 09 51 46.7 -1.2
G30M tAoh Zraii Nji 18.10 34 P P 09 51 46.7 -1.2
baz=237,SNR=5.9
H31M Peel River 18.17 39 P 09 51 47.2 -1.4
H31M IAmb IAmb 09 51 51.4
comp=Z,34nm,0.7s
H31M Peel River 18.17 39 P Pn 09 51 49.1 +0.4
baz=243,SNR=40
MMPY Sheldon Lake, 18.33 50 Pn 09 51 51.5 +0.8
MMPY IAmb IAmb 09 51 56.7
comp=Z,18nm,0.9s
MMPY Sheldon Lake, 18.33 50 P Pn 09 51 52.2 +1.4
baz=256,SNR=39
T35M Bob Quinn 18.41 68 P P 09 51 51.6 +0.3
baz=275
E29M Blow River 18.41 29 P P 09 51 49.9 -1.3
E29M Blow River 18.41 29 P Pn 09 51 51.1 -0.4
baz=231
DLBC Dease Lake 18.46 63 LR LR 09 58 07.2
comp=Z,9.2nm,21.2s,baz=190,slow=34
DLBC Dease Lake 18.46 63 P Pn 09 51 52.4 0.0
baz=270
F30M Barrier River 18.59 33 P 09 51 52.2 -1.0
F30M Barrier River 18.59 33 P P 09 51 52.3 -0.9
baz=236
U35K Hyder 18.65 71 P P 09 51 53.3 -0.6
baz=278
G31M Satah River 18.73 36 P 09 51 53.0 -1.6
G31M Satah River 18.73 36 P Pn 09 51 54.3 -1.0
baz=240,SNR=12
WTLY Watson Lake, Y 19.14 58 P P 09 51 59.8 +0.5
baz=266,SNR=6.7
F31M Tsiigehtchic 19.16 34 P P 09 51 57.4 -2.0
F31M Tsiigehtchic 19.16 34 P P 09 51 58.8 -0.6
baz=240
TGTN Hyland Airport 19.52 54 P Pn 09 52 04.3 -0.8
baz=263,SNR=7.9
INK Inuvik 19.68 32 P P 09 52 02.7 -2.4
INK Inuvik 19.68 32 P P 09 52 03.5 -1.7
comp=Z,0.5nm,0.3s,baz=236,slow=9.6,SNR=13
INK LR LR 10 00 27.0
comp=Z,260nm,19.9s,baz=227,slow=40
comp=Z,5.4nm,0.8s
INK Inuvik 19.68 32 P P 09 52 02.7 -2.4
INK pmax pmax
comp=Z,7.0nm,1.0s

INK Inuvik 19.68 32 P **P** **09 52 03.4 -1.7**
baz=238,SNR=7.0
BILL Bilibino 20.26 326⇓*e*P **P** **09 52 09.8 -1.6**
TOAD Toad River Com 20.95 62 P **P** **09 52 19.6 +0.6**
baz=273
PET Petropavlovsk 22.90 283 P **P** **09 52 39.4 -0.4**
PET IAmb IAmb 09 52 40.7
comp=Z,23nm,0.9s
PET Petropavlovsk 22.90 283*ce*P **P** **09 52 38.9 -0.9**
PET pmax pmax
comp=Z,35nm,1.3s
PET Petropavlovsk 22.90 283 P **P** **09 52 38.8 -1.0**
comp=Z,26nm,1.3s
PEA0B Petropavlovsk- 23.42 284 P **P** **09 52 44.3 -0.7**
PEA0B Petropavlovsk- 23.42 284*ce*P **P** **09 52 43.7 -1.3**
PETK Petropavlovsk- 23.42 284 P **P** **09 52 43.9 -1.1**
PETK Petropavlovsk- 23.42 284 P **P** **09 52 43.8 -1.2**
comp=Z,16nm,0.5s,baz=80,slow=12,SNR=102
PETK LR LR 10 02 07.0
comp=Z,80nm,21.4s,baz=101,slow=38
comp=Z,16nm,0.5s
A36M Sachs Harbour 23.99 28 P **P** **09 52 49.2 -0.9**
A36M IAmb IAmb 09 52 52.2
comp=Z,24nm,0.9s
A36M Sachs Harbour 23.99 28 P **P** **09 52 48.9 -1.2**
baz=241,SNR=20
SEY Seymchan 24.68 309 LR LR 10 04 00.5
comp=Z,107nm,19.1s,baz=79,slow=40
SEY Seymchan 24.68 309⇑*e*P **P** **09 52 56.2 -0.3**
SKR Severo-Kuril's 25.21 279⇑*e*P **P** **09 52 59.1 -2.3**
YKA Yellowknife Ar 25.99 52 P **P** **09 53 08.5 +0.1**
YKA Yellowknife Ar 25.99 52 P **P** **09 53 11.2 +2.8**
comp=Z,2.1nm,0.8s,baz=278,slow=10.0,SNR=9.7
YKA Yellowknife Ar 25.99 52*ce*P **P** **09 53 11.1 +2.7**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YBH Yreka Blue Hor 29.00 99 LR LR 10 02 11.2
comp=Z,7.1nm,21.6s,baz=255,slow=30
RES Resolute Bay 33.03 27 P **P** **09 54 10.1 -0.6**
RES IAmb IAmb 09 54 10.7
comp=Z,3.0nm,0.9s
RES Resolute Bay 33.03 27 P **P** **09 54 10.1 -0.6**
RES pmax pmax
comp=Z,3.0nm,0.9s
TIXI Tiksi 33.46 328 LR LR 10 08 53.0
comp=Z,84nm,19.2s,baz=46,slow=38
NVAR Mina Array Bea 33.72 99 P **P** **09 54 20.9 +3.6**
comp=Z,0.7nm,0.8s,baz=298,slow=7.7,SNR=4.6
comp=Z,0.7nm,0.8s
YAK Yakutsk 35.17 311 LR LR 10 10 21.8
comp=Z,91nm,18.8s,baz=60,slow=39
YAK Yakutsk 35.17 311 *e*P **P** **09 54 30.5 +1.2**
YAK *e**PP **pP** **09 54 39.9 -0.6**
YAK *e* 09 55 49.1
YAK *e* 09 56 59.7
YAK *e*S **S** **10 00 02.2 +2.9**
YAK *e*SS **SnSn** **10 02 22.3 +4.0**
YAK *e* 10 04 48.1
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=Z,133nm,5.1s
YAK pmax pmax
comp=N,60nm,5.3s
YAK smax smax
comp=E,34nm,2.6s
YAK smax smax
comp=N,26nm,2.4s
PDAR Pinedale Array 36.10 86 P **P** **09 54 40.7 +2.8**
comp=N,0.1nm,0.4s,baz=297,slow=9.5,SNR=1.7
JKA Kamikawa-asahi 36.42 277 **P** **09 54 39.8 -0.5**
JKA IAmb IAmb 09 54 41.1
comp=Z,14nm,1.1s
ASAJ Asahikawa 36.43 277 P **P** **09 54 39.8 -0.5**
comp=Z,7.1nm,0.9s,baz=47,slow=9.5,SNR=8.1
ASAJ LR LR 10 10 14.0
comp=Z,39nm,19.6s,baz=75,slow=38
comp=Z,7.1nm,0.9s
FCC Fort Churchill 36.65 54 P **P** **09 54 41.9 -0.1**
FCC IAmb IAmb 09 54 44.1
comp=Z,5.0nm,1.0s
FCC Fort Churchill 36.65 54 P **P** **09 54 41.9 -0.1**
FCC pmax pmax
comp=Z,5.0nm,1.0s
ILON Igloolik, Nuna 37.90 35 **P** **09 54 52.8 +0.3**
TKX Tecate 38.83 105 P **P** **09 55 01.7 +1.0**
TKX IAmb IAmb 09 55 17.7
comp=Z,14nm,1.1s
ULM Lac du Bonnet 39.70 67 P **P** **09 55 08.2 +0.3**
ULM IAmb IAmb 09 55 09.4
comp=Z,7.4nm,0.9s
ULM Lac du Bonnet 39.70 67 P **P** **09 55 08.3 +0.5**
comp=Z,4.5nm,0.7s,baz=302,slow=8.8,SNR=10
comp=Z,4.5nm,0.7s
ULM Lac du Bonnet 39.70 67⇓*e*P **P** **09 55 08.0 +0.2**
KLR Kul'dur 39.75 291 P **P** **09 55 07.3 -0.9**
comp=Z,2.2nm,0.9s,baz=26,slow=6.1,SNR=4.1
comp=Z,2.2nm,0.9s
ZEA Zeya 39.80 299 *e*P **P** **09 55 07.5 -1.1**
ZEA pmax pmax
comp=Z,10.0nm,0.3s
EPLO Experimental L 41.18 67 P **P** **09 55 20.7 +0.6**
EPLO IAmb IAmb 09 55 21.6
comp=Z,4.9nm,0.9s
H11N2 WAKE ISLAND Hy 41.48 226 T T 10 39 43.2
baz=26,slow=76,SNR=1032
H11N3 WAKE ISLAND Hy 41.49 226 T T 10 39 43.7
baz=26,slow=76,SNR=240
H11N1 WAKE ISLAND Hy 41.50 226 T T 10 39 50.9
baz=26,slow=76,SNR=202
NEEM North Greenlan 42.18 18 *i*P **P** **09 55 27.6 -0.6**
NEEM IAmb IAmb 09 55 28.3
comp=Z,26nm,1.2s
H11S1 WAKE ISLAND Hy 42.65 226 T T 10 41 11.9
baz=26,slow=76,SNR=403
H11S2 WAKE ISLAND Hy 42.67 226 T T 10 41 13.7
baz=26,slow=76,SNR=449
H11S3 WAKE ISLAND Hy 42.67 226 T T 10 41 13.1
baz=26,slow=76,SNR=171
ANMO Albuquerque 43.03 93 LR LR 10 12 05.8
comp=Z,51nm,18.1s,baz=26,slow=34
EYMN Ely 43.38 68 **P** **09 55 38.6 +0.6**
EYMN IAmb IAmb 09 55 39.3
comp=Z,6.1nm,0.8s
MAJO Matsushiro 43.82 271 **P** **09 55 41.8 +0.1**
MAJO IAmb IAmb 09 55 43.4
comp=Z,10nm,0.8s
MAJO Matsushiro 43.82 271*de*P **P** **09 55 41.6 -0.1**
MAJO pmax pmax
comp=Z,10.0nm,0.9s
MJAR Matsushiro Arr 43.82 271 P **P** **09 55 41.3 -0.4**
MJAR Matsushiro Arr 43.82 271 P **P** **09 55 41.3 -0.4**
comp=Z,2.4nm,0.7s,baz=33,slow=6.9,SNR=8.6
MJAR LR LR 10 17 00.6
comp=Z,16nm,19.6s,baz=64,slow=40
comp=Z,2.4nm,0.7s
MJAR Matsushiro Arr 43.82 271 P **P** **09 55 41.3 -0.4**
MJAR pmax pmax
comp=Z,1.0nm,0.8s
MJB9 Matsu-Tunnel 43.82 271 P **P** **09 55 41.4 -0.3**
MJB9 IAmb IAmb 09 55 43.3
comp=Z,9.9nm,0.8s
E38A The Farm, Brul 44.14 69 **P** **09 55 44.2 +0.1**
E38A IAmb IAmb 09 55 45.2
comp=Z,9.8nm,0.9s
BNX BinXian 44.16 289 ⇓P **P** **09 55 43.0 -1.3**
BNX pmax pmax
comp=Z,5.0nm,1.1s
JGF Kuroka 44.97 271 **P** **09 55 49.7 -1.2**
JGF IAmb IAmb 09 55 58.5
comp=Z,6.0nm,0.8s
G40A Rib Lake 45.70 70 P **P** **09 55 57.0 +0.5**
G40A IAmb IAmb 09 55 57.6
comp=Z,3.5nm,0.8s
I40A Norwalk 46.33 72 P **P** **09 56 01.9 +0.4**
I40A IAmb IAmb 09 56 02.6
comp=Z,6.8nm,0.9s
F42A Maple Grove Fa 46.54 68 P **P** **09 56 03.7 +0.6**
F42A IAmb IAmb 09 56 04.5
comp=Z,7.3nm,0.7s
I42A Draeger Farm, 47.29 71 **P** **09 56 09.2 +0.2**
I42A IAmb IAmb 09 56 09.9
comp=Z,7.4nm,1.0s
DAG Danmarks Havn 47.43 11 *i*P **P** **09 56 08.6 -1.1**
DAG IAmb IAmb 09 56 09.5
comp=Z,14nm,0.8s
H43A Windswept, Lux 47.55 69 **P** **09 56 11.0 0.0**
H43A IAmb IAmb 09 56 11.9
comp=Z,9.4nm,1.0s
SUMG Summit 47.87 20 **P** **09 56 13.2 -0.4**
SUMG Summit 47.87 20 P **P** **09 56 13.2 -0.4**
SUMG pmax pmax
comp=Z,16nm,1.1s
SUMG Summit 47.87 20 *i*P **P** **09 56 13.4 -0.2**
SUMG IAmb IAmb 09 56 14.6
comp=Z,11nm,0.9s
SPITS Spitsbergen Ar 48.02 0 P **P** **09 56 13.6 -0.6**
comp=Z,1.4nm,0.5s,baz=5.0,slow=6.6,SNR=4.9
comp=Z,1.4nm,0.5s
TXAR Lajitas Array 48.71 96 P **P** **09 56 22.1 +1.9**
comp=Z,0.8nm,0.8s,baz=293,slow=5.1,SNR=10
TXAR LR LR 10 13 57.6
comp=Z,33nm,18.6s,baz=294,slow=32
comp=Z,0.8nm,0.8s
SFJD Kangerlussuaq 48.98 29 *i*P **P** **09 56 21.5 -0.1**
SFJD IAmb IAmb 09 56 23.1
comp=Z,12nm,0.6s
KS19 Wonju Array Si 49.23 280 P **P** **09 56 23.3 -0.7**
KSRS Korea Array 49.23 280 P **P** **09 56 24.4 +0.4**
comp=Z,8.8nm,0.8s,baz=50,slow=7.0,SNR=43
KSRS LR LR 10 16 05.8
comp=Z,7μm,22.0s,baz=215,slow=35
comp=Z,8.8nm,0.8s
HDIL Hopedale 49.25 74 P **P** **09 56 23.5 -0.6**
KSAR Wonju Array Be 49.26 280 P **P** **09 56 24.2 0.0**
KSAR Wonju Array Be 49.26 280 P **P** **09 56 24.2 0.0**
DBG Daneborg 49.43 13 *i*P **P** **09 56 24.5 -0.5**
DBG IAmb IAmb 09 56 25.4
comp=Z,9.7nm,0.8s
ICESG Greenland Ices 50.28 23 *i*P **P** **09 56 31.6 -0.4**
ICESG IAmb IAmb 09 56 33.0
comp=Z,21nm,1.2s
TJN Taejon 50.30 279 **P** **09 56 32.2 +0.1**
TJN Taejon 50.30 279*ce*P **P** **09 56 31.7 -0.4**
NUUK Nuuk 50.61 32 *i*P **P** **09 56 34.7 +0.6**
NUUK IAmb IAmb 09 56 36.4
comp=Z,39nm,1.3s
SADO Sadowa 52.02 64 LR LR 10 17 29.8
comp=Z,57nm,19.6s,baz=317,slow=34
SOEG Soedalen 52.81 21 *i*P **P** **09 56 49.8 -0.6**
SOEG IAmb IAmb 09 56 51.4
comp=Z,16nm,0.7s
WVT Waverly 53.12 77 P **P** **09 56 52.8 -0.4**
WVT IAmb IAmb 09 56 53.5
comp=Z,4.3nm,1.1s
WVT Waverly 53.12 77 P **P** **09 56 52.8 -0.4**
WVT pmax pmax
comp=Z,4.0nm,1.1s
OXF Oxford 53.35 80 P **P** **09 56 54.9 +0.1**
OXF Oxford 53.35 80 P **P** **09 56 54.9 +0.1**
OXF pmax pmax
comp=Z,18nm,1.2s
ULN Ulaanbaatar 53.54 303*ce*P **P** **09 56 57.2 +0.9**
ULN pmax pmax
comp=Z,2.0nm,0.7s
Q51A Peebles 53.64 72 P **P** **09 56 57.1 0.0**
Q51A IAmb IAmb 09 56 57.7
comp=Z,8.8nm,1.0s
SONM Songino Array 53.88 304 P **P** **09 56 58.2 -0.6**
SONM IAmb IAmb 09 56 59.8
comp=Z,3.6nm,1.2s
SONM Songino Array 53.88 304 P **P** **09 56 58.3 -0.6**
comp=Z,2.0nm,0.7s,baz=43,slow=8.9,SNR=6.8
SONM PcP **PcP** **09 58 04.7 +0.8**
comp=Z,2.6nm,0.9s,baz=56,slow=4.1,SNR=5.2
comp=Z,2.0nm,0.7s
SONM Songino Array 53.88 304 P **P** **09 56 58.2 -0.6**
SONM pmax pmax
comp=Z,4.0nm,1.2s
TKL Tuckaleechee C 55.77 75 LR LR 10 20 07.5
comp=Z,43nm,19.7s,baz=316,slow=35
HHC Hu-ho-hao-te 56.07 294 *e*P **P** **09 57 12.7 -2.0**
ARCES ARCESS Array B 56.57 357 P **P** **09 57 16.4 -1.2**
comp=Z,3.0nm,0.9s,baz=39,slow=7.9,SNR=5.6
ARCES PcP **PcP** **09 58 14.2 +0.5**
comp=Z,1.5nm,0.8s,baz=6.6,slow=3.9,SNR=3.6
comp=Z,3.0nm,0.9s
HNS HongShan 56.80 289 ⇓PKP **P** **09 57 20.4 +0.7**
ZALV Zalesovo Beam 58.84 320 P **P** **09 57 33.2 -0.6**
comp=Z,2.6nm,0.7s,baz=39,slow=7.6,SNR=6.4
comp=Z,2.6nm,0.7s
LZH Lanzhou 63.67 296 P **P** **09 58 06.9 -0.1**
LZH sP pP **09 58 21.4 +2.6**
KURK Kurchatov 63.72 322 **P** **09 58 06.6 -0.3**
KURK IAmb IAmb 09 58 08.3
comp=Z,5.8nm,1.0s
KURK Kurchatov 63.72 322⇑*e*P **P** **09 58 06.9 0.0**
KURK pmax pmax
comp=Z,8.0nm,1.2s
KURBB Kurchatov Arra 63.83 322 P **P** **09 58 07.1 -0.5**
comp=Z,3.4nm,0.8s,baz=30,slow=7.1,SNR=19
comp=Z,3.4nm,0.8s
KLMR Klimovskoe 64.09 348 *e*P **P** **09 58 06.6 -2.5**
KLMR *e* 10 00 27.3
KLMR pmax pmax
comp=Z,21nm,1.7s
BVAR Borovoye Array 64.59 328 P **P** **09 58 12.4 -0.1**
comp=Z,8.5nm,0.6s,baz=36,slow=6.4,SNR=32
comp=Z,8.5nm,0.6s
BRVK Borovoye 64.60 328 P **P** **09 58 12.8 +0.2**
BRVK IAmb IAmb 09 58 13.1
comp=Z,6.7nm,0.8s
BRVK Borovoye 64.60 328*ce*P **P** **09 58 12.4 -0.2**
BRVK pmax pmax
comp=Z,6.0nm,0.9s
FINES FINESS Array B 64.64 355 P **P** **09 58 11.6 -1.1**
comp=Z,5.6nm,0.8s,baz=18,slow=7.5,SNR=14
comp=Z,5.6nm,0.8s
KIRV Kirov 64.78 342 P **P** **09 58 12.8 -0.8**
comp=Z,14nm,0.5s,baz=329,slow=4.2,SNR=5.1
KIRV LR LR 10 31 38.6
comp=Z,40nm,19.0s,baz=3.9,slow=41
comp=Z,14nm,0.5s
KIRV Kirov 64.78 342⇑*e*P **P** **09 58 13.2 -0.4**
ARTI Arti 64.94 336 P **P** **09 58 13.9 -0.9**
ARTI Arti 64.94 336 P **P** **09 58 14.1 -0.7**
comp=Z,8.9nm,0.7s,baz=22,slow=3.9,SNR=13
comp=Z,8.9nm,0.7s
ARTI Arti 64.94 336*c* *i*P **P** **09 58 13.7 -1.0**
ARTI 09 58 46.4
ARTI S **S** **10 06 54.7 +1.7**
ARTI SS **SS** **10 11 02.1 -2.0**
ARTI pmax pmax
comp=Z,10.0nm,0.7s
ENH Enshi 64.97 287 P **P** **09 58 15.5 +0.1**
NB2 NORSAR Subarra 65.13 3 P **P** **09 58 15.1 -0.9**
comp=Z,2.9nm,0.7s,baz=358,slow=6.5
NOA NORSAR Array B 65.13 3 P **P** **09 58 15.2 -0.8**
comp=Z,3.2nm,0.8s,baz=357,slow=6.6,SNR=6.9
comp=Z,3.2nm,0.8s
MK31 Makanchi Array 65.51 317*de*P **P** **09 58 17.7 -0.9**
MKAR Makanchi Array 65.51 317 P **P** **09 58 17.8 -0.9**
MKAR Makanchi Array 65.51 317 P **P** **09 58 17.6 -1.0**
comp=Z,2.1nm,0.7s,baz=43,slow=5.8,SNR=16
comp=Z,2.1nm,0.7s
WMQ Urumqi 65.61 312 *e*PKP **P** **09 58 15.4 -4.0**
WMQ LR LR
comp=Z,200nm,24.2s
MAKZ Makanchi 65.62 317 P **P** **09 58 18.4 -1.0**
MAKZ IAmb IAmb 09 58 19.0
comp=Z,2.6nm,0.6s
MAKZ Makanchi 65.62 317 P **P** **09 58 18.4 -1.0**
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
HFS Hagfors 66.11 2 P **P** **09 58 21.4 -0.8**
comp=Z,4.7nm,0.5s,baz=20,slow=4.7,SNR=24
comp=Z,4.7nm,0.5s
EKA Eskdalemuir Ar 69.65 12 P **P** **09 58 44.9 +0.3**
comp=Z,3.4nm,0.6s,baz=341,slow=4.8,SNR=18
comp=Z,3.4nm,0.6s
OBN Obninsk 70.05 348*ce*P **P** **09 58 46.7 -0.3**
OBN pmax pmax
comp=Z,6.0nm,0.4s
AKTO Aktyubinsk 70.45 334 P **P** **09 58 49.1 -0.4**
comp=Z,7.7nm,0.8s,baz=11,slow=4.3,SNR=20
comp=Z,7.7nm,0.8s
BELG Belogornoye 70.97 341⇑*e*P **P** **09 58 51.5 -1.2**
BELG pmax pmax
comp=Z,3.0nm,1.0s
AB31 Akbulak array 71.01 332 **P** **09 58 53.0 0.0**
ABKAR Akbulak array 71.01 332 P **P** **09 58 53.0 0.0**
MNK Minsk 71.46 354 *i*P **P** **09 58 55.0 -0.6**
comp=E,10.0nm,0.8s
MNK *i*P **P** **09 58 55.0 -0.6**
comp=N,6.0nm,0.8s
MNK *i*P **P** **09 58 55.0 -0.6**
comp=Z,12nm,0.8s,baz=6.4
MNK *i*PcP **PcP** **09 59 13.9 -1.0**
MNK *i*PP **PP** **10 01 33.8 +0.2**
MNK *i*PPP PPP 10 03 17.6
MNK *i*S **S** **10 08 12.4 +1.7**
MNK *i*SS SS 10 11 16.7 -88
MNK *i*LR LR 10 29 35.2
MNK *i*LRM MLR 10 33 36.5
comp=E,597nm,17.6s
MNK *i*LRM MLR 10 34 12.5
comp=Z,115nm,17.8s
MNK Minsk 71.46 354 *i*P **P** **09 58 54.9 -0.6**
MNK *i* 09 59 13.8
MNK *i* 10 01 33.8
MNK *i*PPP PPP 10 03 17.5
MNK *i*S **S** **10 08 12.4 +1.7**
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=E,10.0nm,0.8s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK MLR MLR
comp=E,597nm,18.0s
MNK MLR MLR
comp=Z,115nm,18.0s
AAK Ala-Archa 72.04 319 P **P** **09 58 59.8 +0.3**
AAK IAmb IAmb 09 59 00.6
comp=Z,6.1nm,0.6s
AAK Ala-Archa 72.04 319 P **P** **09 58 59.9 +0.4**
comp=Z,4.3nm,0.5s,baz=68,slow=23,SNR=5.1
comp=Z,4.3nm,0.5s
AAK Ala-Archa 72.04 319*de*P **P** **09 59 00.1 +0.6**
AAK pmax pmax
comp=Z,6.0nm,1.0s
KK31 Karatay Array 73.12 322 P **P** **09 59 05.8 +0.1**
KK31 IAmb IAmb 09 59 06.7
comp=Z,5.6nm,1.1s
KK31 Karatay Array 73.12 322 P **P** **09 59 05.8 +0.1**
KK31 pmax pmax
comp=Z,6.0nm,1.1s
KKAR Karatay Array 73.12 322 P **P** **09 59 05.8 +0.1**
KKAR IAmb IAmb 09 59 06.7
comp=Z,5.8nm,1.1s
KKAR Karatay Array 73.12 322 P **P** **09 59 05.8 +0.1**
KKAR pmax pmax
comp=Z,6.0nm,1.1s
KSH Kashi 74.12 317 P **P** **09 59 15.2 +3.4**
KSH pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 74.93 3 *i*P **P** **09 59 14.1 -2.0**
AK18 Malin Array Si 75.13 352 P **P** **09 59 16.4 -0.9**
AKASG Malin Array Be 75.14 352 P **P** **09 59 16.3 -1.0**
comp=Z,3.9nm,0.5s,baz=11,slow=5.8,SNR=22
comp=Z,3.9nm,0.5s
AKBB Malin Array Si 75.14 352 **P** **09 59 16.3 -1.1**
AKBB Malin Array Si 75.14 352*ce*P **P** **09 59 16.4 -0.9**
AKBB Malin Array Si 75.14 352 P **P** **09 59 16.1 -1.2**
KIEV Kiev 75.15 352 P **P** **09 59 16.5 -0.9**
KIEV Kiev 75.15 352 P **P** **09 59 16.5 -0.9**
KIEV pmax pmax
comp=Z,15nm,1.1s
DRK Karamyk 75.79 320 P **P** **09 59 22.0 +0.3**
DRK Karamyk 75.79 320 P **P** **09 59 22.0 +0.3**
GAR Garm 76.77 320 P **P** **09 59 26.8 -0.2**
KHC Kasperske Hory 77.12 3*de*P **P** **09 59 29.4 +0.7**
KHC pmax pmax
comp=Z,5.0nm,1.0s
GEC2 GERESS Array S 77.41 3 P **P** **09 59 30.9 +0.5**
GEC2 IAmb IAmb 09 59 31.4
comp=Z,3.5nm,0.7s
GERES GERESS Array B 77.41 3 P **P** **09 59 30.5 +0.1**
GERES GERESS Array B 77.41 3 P **P** **09 59 30.4 0.0**
comp=Z,2.3nm,0.7s,baz=349,slow=4.1,SNR=12
comp=Z,2.3nm,0.7s
VYHS Vyhne 77.81 359 *e*P **P** **09 59 33.4 +0.9**
VYHS Vyhne 77.81 359 *e*P **P** **09 59 33.4 +0.9**
MODS Modra-Piesok 77.94 0 *e*P **P** **09 59 33.3 +0.1**
MODS Modra-Piesok 77.94 0 *e*P **P** **09 59 33.3 +0.1**
CONA Conrad Observa 78.37 1 *e*P **P** **09 59 35.6 -0.1**
comp=Z,4.6nm,0.8s
BUR08 Bucovina Ar. S 78.45 355 P **P** **09 59 36.2 0.0**
BUR08 IAmb IAmb 09 59 37.0
comp=Z,4.7nm,0.7s
BURAR Bucovina Array 78.48 355 P **P** **09 59 36.1 -0.3**
BURAR IAmb IAmb 09 59 37.0
comp=Z,3.6nm,0.7s
LESA Schwarzleotal 78.80 3 *e*P **P** **09 59 38.4 +0.3**
comp=Z,2.7nm,0.6s
MOTA Moosalm 78.82 4 *e*P **P** **09 59 38.3 0.0**
comp=Z,3.4nm,0.7s
WATA Walderalm 78.85 4 *e*P **P** **09 59 38.7 +0.2**
comp=Z,5.9nm,0.6s
WTTA Wattenberg 78.92 4 *e*P **P** **09 59 39.2 +0.3**
comp=Z,3.6nm,0.5s
SQTA Sankt Quirin 78.95 4 *e*P **P** **09 59 39.0 0.0**
ARSA Arzberg 79.05 1 *e*P **P** **09 59 39.4 0.0**
comp=Z,0.4nm,0.3s
FETA Feichten 79.13 5 *e*P **P** **09 59 40.4 +0.3**
comp=Z,0.2nm,0.3s
KBA Koelnbreinsper 79.17 3 *e*P **P** **09 59 40.6 +0.3**
comp=Z,7.8nm,0.6s
ABTA Abfaltersbach 79.47 3 *e*P **P** **09 59 42.2 +0.4**
comp=Z,2.7nm,0.6s
TUE Stuetta 79.60 6 P **P** **09 59 43.6 +1.0**
TUE IAmb IAmb 09 59 44.4
comp=Z,3.2nm,0.8s
SOKA Soboth 79.61 2 *e*P **P** **09 59 43.0 +0.5**
comp=Z,5.9nm,0.7s
MYKA Terra Mystica 79.63 3 *e*P **P** **09 59 42.8 +0.1**
comp=Z,3.3nm,0.9s
OBKA Obir 79.77 2 *e*P **P** **09 59 43.8 +0.4**
comp=Z,13nm,0.6s
GROS Grobnik 79.83 1 *i*P **P** **09 59 44.0 +0.3**
KIV Kislovodsk 80.00 342 P **P** **09 59 44.8 +0.1**
KIV Kislovodsk 80.00 342 *e*P **P** **09 59 44.4 -0.3**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,22nm,19.0s
CADS Cadrg 80.03 3 *i*P **P** **09 59 44.4 -0.4**
CMAR Chiang Mai Arr 80.14 288 P **P** **09 59 46.1 +0.4**
comp=Z,4.6nm,0.9s,baz=37,slow=5.6,SNR=12
comp=Z,4.6nm,0.9s
KBZ Khabaz 80.18 342 P **P** **09 59 46.3 +0.8**
comp=Z,6.2nm,0.9s,baz=313,slow=1.9,SNR=12
KBZ LR LR 10 40 30.0
comp=Z,33nm,18.2s,baz=20,slow=40
comp=Z,6.2nm,0.9s
SHA1 Shidzhatmaz 80.22 342⇑*e*P **P** **09 59 47.2 +1.1**
NIL Nilore 80.27 316 P **P** **09 59 46.9 +0.6**
NIL Nilore 80.27 316 P **P** **09 59 46.9 +0.6**
NIL pmax pmax
comp=Z,14nm,1.1s
MLR Muntele Rosu 80.56 354 LR LR 10 37 06.0
comp=Z,43nm,19.0s,baz=294,slow=37
TEOL Teolo 80.83 4 P **P** **09 59 49.5 +0.5**
AKT Akhty 81.35 337 *e*P **P** **09 59 52.1 +0.1**
AKT *e* 09 59 58.3
AKT pmax pmax
comp=Z,21nm,0.9s
GNI Garni 83.27 339 LR LR 10 42 36.6
comp=Z,37nm,19.8s,baz=251,slow=40
ESDC Sonseca Array 84.82 16 P **P** **10 00 10.8 +0.8**
comp=Z,1.3nm,0.7s,baz=337,slow=4.7,SNR=7.7
comp=Z,1.3nm,0.7s
BR131 Keskin Array S 85.55 348 **P** **10 00 13.5 -0.1**
BR131 IAmb IAmb 10 00 14.8
comp=Z,5.2nm,1.1s
BR131 Keskin Array S 85.55 348*ce*P **P** **10 00 14.1 +0.5**
BRTR Keskin Array B 85.55 348 **P** **10 00 13.4 -0.3**
BRTR Keskin Array B 85.55 348 P **P** **10 00 13.8 +0.2**
comp=Z,3.3nm,0.9s,baz=13,slow=6.1,SNR=13
comp=Z,3.3nm,0.9s
BRTR Keskin Array B 85.55 348*ce*P **P** **10 00 13.8 +0.2**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
ASF Jabal al Asfar 92.49 344 LR LR 10 47 05.2
comp=Z,34nm,18.2s,baz=163,slow=39

*IDC **03** 09:48:05.5±0.8, 32°.70N×141°.27E, h0km, mb3.8/8, mbtmp3.8/13, ML3.6/4, MS2.8/2, Error ellipse: s-maj=29.1km s-min=16.2km az=73.0*
*JMA **03** 09:48:10.9±0.4, 32°.8N±0'.9×14°.1E±°, h54km, MV3.7/32, E OFF HACHIJOJIMA ISLAND*
*NIED **03** 09:48:10.9, 32°.75N×141°.25E, h54km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.88; $M_{\theta\theta}$-0.91; $M_{\phi\phi}$-2.97; $M_{r\theta}$-1.48; $M_{\theta\phi}$-1.84; $M_{\phi r}$-4.62; Fault plane solution: $M_0$6.27000×10^{14} NP1: ϕ_s40.00000°, δ21.00000°, λ109.00000°. NP2: ϕ_s201.00000°, δ71.00000°, λ83.00000°.*

ISC 03 09:48:10.8±0.7, 32°.60N±0'.05×141°.24E±0'.09, h50km, n40, σ2°.94/37, mb3.8/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.25**	**264**	P			**Pn**	**09 48 32.9**	**+0.9**
JHCJ	**Hachijojimakas**	**1.30**	**292**	*i* P			**Pn**	**09 48 32.5**	**-0.2**
JHJ2	**Mitsune**	**1.30**	**294**	P			**Pn**	**09 48 32.5**	**-0.1**
JHJ2	**Mitsune**	**1.30**	**294**	*i* P			**Pn**	**09 48 32.5**	**-0.1**
JMKN	**Mikurajimanish**	**1.89**	**314**	P			**Pn**	**09 48 40.0**	**-0.7**
JMYK	**Miyake Tsubota**	**2.04**	**316**	P			**Pn**	**09 48 42.7**	**+0.1**
BSO1	**Boso 1**	**2.06**	**354**	P			**Pn**	**09 48 42.0**	**-1.5**
BSO1				eS			**Sn**	**09 49 06.0**	**-0.8**
BSO3	**Boso 3**	**2.28**	**345**	P			**Pn**	**09 48 45.4**	**-0.4**
BSO3				eS			**Sn**	**09 49 11.4**	**-1.1**
JIM2	**Oshima 3**	**2.60**	**325**	P			**Pn**	**09 48 49.6**	**-0.8**
JIZS	**Izushimoda**	**2.89**	**318**	P			**Pn**	**09 48 54.7**	**+0.3**
JOD2	**Odawara 2**	**3.21**	**327**	P			**Pn**	**09 48 58.3**	**-0.4**
JYN	**Shimob**	**3.66**	**323**	P			**Pn**	**09 49 05.9**	**+1.0**
JRY	**Ryogami san**	**3.92**	**331**	P			**Pn**	**09 49 08.7**	**+0.1**
JGF	**Kuroka**	**4.40**	**314**	P			**Pn**	**09 49 17.0**	**+1.9**
INU	**Inuyama**	**4.46**	**309**	P			**Pn**	**09 49 17.9**	**+2.1**
MJAR	**Matsushiro Arr**	**4.66**	**328**	Pn			**Pn**	**09 49 15.7**	**-3.0**
	0.6nm,0.3s,baz=160,slow=12,SNR=24								
MJAR				Sn			**Sn**	**09 50 04.0**	**-7.6**
	0.3nm,0.3s,baz=137,slow=27,SNR=1.1								
MJAR				LR			LR	09 50 20.9	
	comp=Z,12nm,21.2s,baz=167,slow=30 7.3nm,0.8s								
MAJO	**Matsushiro**	**4.67**	**328**	P			**Pn**	**09 49 20.0**	**+1.3**
JMM	**Marumori**	**5.27**	**356**	P			**Pn**	**09 49 25.9**	**-1.1**
JCJ	**Chichijima**	**5.54**	**171**	Pn			**Pn**	**09 49 31.0**	**+0.3**
	12nm,0.3s,baz=0.0,slow=0.0								
JCJ				Sn			**Sn**	**09 50 28.7**	**-4.5**
	baz=0.0,slow=0.0								
JTM	**Tenmabayashi**	**8.18**	**359**	P			**Pn**	**09 50 06.2**	**-0.6**
ERM	**Erimo**	**9.53**	**9**	P			**Pn**	**09 50 25.2**	**0.0**
ASAJ	**Asahikawa**	**11.55**	**5**	Pn			**Pn**	**09 50 49.9**	**-3.1**
	1.5nm,0.3s,baz=218,slow=9.4,SNR=19								
ASAJ				Sn			Sn	09 52 48.2	-12
	0.2nm,0.3s,baz=360,slow=19,SNR=1.3 4.7nm,0.4s								
KSRS	**Korea Array**	**11.94**	**298**	Pn			**Pn**	**09 50 57.2**	**-1.1**
	0.1nm,0.3s,baz=110,slow=14,SNR=1.4 0.3nm,0.5s								
KLR	**Kul'dur**	**18.07**	**340**	P			**P**	**09 52 16.9**	**-1.1**
	0.3nm,0.3s,baz=154,slow=10,SNR=4.3 1.2nm,0.5s								
H11N2	**WAKE ISLAND Hy**	**26.27**	**113**	T			T	10 21 36.4	
	baz=305,slow=74,SNR=8.4								
H11N1	**WAKE ISLAND Hy**	**26.28**	**113**	T			T	10 21 18.5	
	baz=305,slow=74,SNR=7.5								
H11N3	**WAKE ISLAND Hy**	**26.29**	**113**	T			T	10 21 19.2	
	baz=305,slow=74,SNR=7.2								
H11S3	**WAKE ISLAND Hy**	**26.82**	**115**	T			T	10 21 54.5	
	baz=306								
H11S1	**WAKE ISLAND Hy**	**26.82**	**115**	T			T	10 21 53.9	
	baz=306								
H11S2	**WAKE ISLAND Hy**	**26.84**	**115**	T			T	10 21 57.5	
	baz=306								
SONM	**Songino Array**	**30.35**	**310**	P			**P**	**09 54 19.2**	**+1.4**
	1.7nm,0.7s,baz=120,slow=8.5,SNR=4.9 1.7nm,0.7s								
MKAR	**Makanchi Array**	**46.47**	**306**	P			**P**	**09 56 34.1**	**+1.2**
	2.0nm,0.6s,baz=93,slow=10,SNR=19 2.0nm,0.6s								
KURBB	**Kurchatov Arra**	**48.71**	**311**	P			**P**	**09 56 50.3**	**+0.2**
	0.6nm,0.5s,baz=85,slow=7.3,SNR=9.9 0.6nm,0.5s								
WRA	**Warramunga Arr**	**52.66**	**188**	P			**P**	**09 57 21.9**	**+1.8**
	2.5nm,0.6s,baz=5.3,slow=7.6,SNR=26 2.5nm,0.6s								
ILAR	**Eielson Array**	**53.35**	**31**	P			**P**	**09 57 23.6**	**-1.1**
	0.2nm,0.6s,baz=269,slow=8.5,SNR=1.6 0.2nm,0.6s								
ASAR	**Alice Springs**	**56.38**	**188**	P			**P**	**09 57 49.1**	**+2.1**
	0.5nm,0.5s,baz=2.0,slow=6.3,SNR=7.7 0.5nm,0.5s								
FINES	**FINESS Array B**	**72.68**	**333**	P			**P**	**09 59 35.1**	**+2.1**
	0.7nm,0.6s,baz=51,slow=6.5,SNR=1.2 0.7nm,0.6s								
EIL	**Elat**	**86.68**	**303**	LR			LR	10 42 05.3	
	comp=Z,42nm,18.4s,baz=247,slow=37								
TXAR	**Lajitas Array**	**92.94**	**52**	P			**P**	**10 01 21.9**	**+2.9**
	0.2nm,0.6s,baz=288,slow=5.0,SNR=3.5 0.2nm,0.6s								
LPAZ	**La Paz**	**148.86**	**66**	PKPbc			**PKPab**	**10 07 56.8**	**-1.4**
	0.8nm,0.5s,baz=0.5,slow=4.6,SNR=5.0								

*IDC **03** 10:12:00.1±4.1, 23°.40N×145°.14E, h0km, mb3.6/8, mbtmp3.7/10, ML2.9/1, Error ellipse: s-maj=158.4km s-min=18.3km az=74.0*

ISC 03 10:12:00.5±2.0, 23°.5N±0'.2×145°.5E±0'.4, h10km, n10, σ1°.09/11, mb3.7/7, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.62**	**321**	Pn			**Pn**	**10 13 11.6**	**+1.2**
	64nm,0.3s								
JCJ				Sn			**Sn**	**10 14 03.0**	**-1.2**
MJAR	**Matsushiro Arr**	**14.39**	**336**	Pn			**Pn**	**10 15 23.3**	**-1.1**
	0.1nm,0.3s,baz=158,slow=10.0,SNR=5.7 0.8nm,0.6s								
KSRS	**Korea Array**	**20.46**	**317**	P			**P**	**10 16 38.5**	**+0.2**
	0.4nm,0.7s,baz=135,slow=9.2,SNR=7.0 0.4nm,0.7s								
SONM	**Songino Array**	**39.33**	**318**	P			**P**	**10 19 29.1**	**-0.9**
	0.5nm,0.6s,baz=80,slow=1.8,SNR=1.9 0.5nm,0.6s								
WRA	**Warramunga Arr**	**44.55**	**195**	P			**P**	**10 20 12.3**	**-0.4**
	0.9nm,0.7s,baz=17,slow=8.8,SNR=8.1 0.9nm,0.7s								
ASAR	**Alice Springs**	**48.24**	**194**	P			**P**	**10 20 40.7**	**-1.0**
	0.4nm,0.5s,baz=8.6,slow=7.1,SNR=8.0 0.4nm,0.5s								
ZALV	**Zalesovo Beam**	**54.11**	**321**	P			**P**	**10 21 25.9**	**+0.4**
	0.4nm,0.4s,baz=125,slow=7.6,SNR=1.9 0.4nm,0.4s								
MKAR	**Makanchi Array**	**55.03**	**312**	P			**P**	**10 21 33.6**	**+1.2**
	0.2nm,0.4s,baz=89,slow=8.3,SNR=2.8 0.2nm,0.4s								
KURBB	**Kurchatov Arra**	**57.64**	**316**	P			**P**	**10 21 50.9**	**0.0**
	0.5nm,0.7s,baz=91,slow=8.2,SNR=6.2 0.5nm,0.7s								
BVAR	**Borovoye Array**	**62.66**	**319**	P			**P**	**10 22 26.5**	**+1.3**
	0.7nm,0.4s,baz=90,slow=10,SNR=3.7 0.7nm,0.4s								

*UCR **03** 10:12:21.3±0.9, 9°.01N×84°.35W, h27km±1km, MW4.2*
*UPA **03** 10:12:21.3±0.8, 9°.13N×84°.26W, h10km±476km, MW3.9*
*CATAC **03** 10:12:21.8±0.6, 9°N±3°×8°4W±°, h13km±4km, M3.8/12, MLv3.8/12, Error ellipse: s-maj=8.6km s-min=4.3km az=34.6, confirmed*

ISC 03 10:12:20.6±1.3, 9°.03N±0'.03×84°.29W±0'.03, h13km±9km, n140, σ0°.65/180, 8C-49D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
QUEP	**Quepos**	**0.42**	**18**	*i* P			**Pb**	**10 12 30.7**	**+0.7**
QUEP				eS			**Sb**	**10 12 37.8**	**+1.5**
SVQ2	**Quepos**	**0.42**	**17**	*i* P			**Pb**	**10 12 30.6**	**+0.6**
SVQ2				eS			**Sb**	**10 12 37.5**	**+1.1**
LLNJ	**Naranjito**	**0.48**	**23**	*i* P			**Pb**	**10 12 31.8**	**+0.7**
LLNJ				eS			**Sn**	**10 12 39.8**	**-1.9**
PAR1A	**Puntarenas Pro**	**0.57**	**4**	*i* P			**Pb**	**10 12 33.1**	**+0.6**
PAR1A				eS			**Sb**	**10 12 42.1**	**+1.5**
PICV	**PH. Pirrs**	**0.60**	**9**	*i* P			**Pb**	**10 12 33.6**	**+0.4**
PICV				eS			**Sn**	**10 12 43.3**	**-1.5**
PISJ	**San Jernim**	**0.62**	**16**	*i* P			**Pb**	**10 12 34.1**	**+0.6**
PISJ				eS			**Sn**	**10 12 43.9**	**-1.5**
OCHAL	**Ojochal**	**0.64**	**84**	P			**Pb**	**10 12 34.1**	**+0.3**
OCHAL	**Ojochal**	**0.64**	**84**	S			**Sb**	**10 12 43.7**	**+1.0**
PIEC	**Cerro El Cedra**	**0.68**	**29**	*e*P			**Pb**	**10 12 34.9**	**+0.4**
PIEC				eS			**Sb**	**10 12 44.4**	**+0.4**
RAZU	**San Marcos de**	**0.68**	**23**	*i* P			**Pb**	**10 12 35.1**	**+0.6**
RAZU				eS			**Sn**	**10 12 45.5**	**-1.4**
PITB	**Pirrs, San**	**0.69**	**23**	*i* P			**Pb**	**10 12 35.2**	**+0.6**
PITB				eS			**Sn**	**10 12 45.7**	**-1.2**
ABE2	**San Pablo**	**0.71**	**19**	*e*P			**Pb**	**10 12 35.5**	**+0.3**
ABE2				eS			**Sn**	**10 12 46.2**	**-1.6**
EDPE	**Pejibaye, P**	**0.72**	**79**	*e*P			**Pb**	**10 12 35.7**	**+0.5**
EDPE				eS			**Sn**	**10 12 46.5**	**-1.2**
LCR2	**La Lucha 2**	**0.77**	**22**	*i* P			**Pb**	**10 12 36.1**	**+0.1**
LCR2				eS			**Sb**	**10 12 47.1**	**+0.7**
LCR2	**La Lucha 2**	**0.77**	**22**	P			**Pb**	**10 12 36.1**	**+0.1**
LCR2	**La Lucha 2**	**0.77**	**22**	S			**Sb**	**10 12 46.6**	**+0.2**
ACOS	**Acosta**	**0.78**	**9**	*i* P			**Pb**	**10 12 36.1**	**0.0**
ACOS				eS			**Sb**	**10 12 47.2**	**+0.6**
PANP	**Palmar Norte**	**0.83**	**94**	*e*P			**Pb**	**10 12 37.0**	**+0.1**
SAJE	**San Jernim**	**0.84**	**68**	*e*P			**Pb**	**10 12 37.3**	**+0.1**
AMPA	**Desamparados**	**0.89**	**15**	*i* P			**Pg**	**10 12 37.9**	**-0.1**
AMPA				eS			**Sg**	**10 12 49.5**	**-0.2**
REPA	**Paraso**	**0.90**	**28**	*i* P			**Pb**	**10 12 38.4**	**+0.1**
REPA				eS			**Sn**	**10 12 51.1**	**-1.1**
SANTA	**Santa Ana**	**0.91**	**7**	*i* P			**Pg**	**10 12 38.0**	**-0.2**
SANTA				eS			**Sg**	**10 12 50.0**	**-0.1**
OROT	**Orotina**	**0.91**	**345**	*e*P			**Pg**	**10 12 37.7**	**-0.5**
TAGO	**Cartago**	**0.91**	**24**	*e*P			**Pb**	**10 12 38.6**	**+0.2**
LUJA	**Lujan**	**0.92**	**14**	*i* P			**Pg**	**10 12 38.5**	**0.0**
LUJA				eS			**Sb**	**10 12 51.2**	**+0.4**
TRIO	**Tres Rios**	**0.92**	**19**	*i* P			**Pg**	**10 12 38.4**	**-0.1**
CENT	**San Jose**	**0.92**	**13**	*e*P			**Pn**	**10 12 39.6**	**+0.1**
CENT				eS			**Sn**	**10 12 52.6**	**-0.2**
MEXI	**Barrio Mexico**	**0.93**	**13**	*e*P			**Pg**	**10 12 38.8**	**+0.1**
MEXI				eS			**Sb**	**10 12 51.9**	**+0.7**
ECI	**Escuela Centro**	**0.94**	**15**	*i* P			**Pg**	**10 12 38.9**	**+0.1**
ECI				eS			**Sn**	**10 12 52.0**	**-1.1**
SJS3	**Mercedes San J**	**0.94**	**15**	*i* P			**Pb**	**10 12 39.1**	**+0.2**
SJS3				eS			**Sn**	**10 12 52.2**	**-0.9**
SJS	**Escuela Geolog**	**0.94**	**15**	*i* P			**Pg**	**10 12 38.9**	**+0.1**
LUPE	**Guadalupe**	**0.95**	**14**	*i* P			**Pg**	**10 12 39.1**	**+0.2**
LUPE				eS			**Sn**	**10 12 52.3**	**-1.0**
ATEO	**Atenas**	**0.95**	**355**	*e*P			**Pg**	**10 12 38.7**	**-0.3**
ATEO				eS			**Sb**	**10 12 51.6**	**0.0**
BELE	**Belen**	**0.95**	**6**	*e*P			**Pg**	**10 12 38.8**	**-0.2**
BURE	**Buenos Aires**	**0.95**	**81**	*e*P			**Pn**	**10 12 39.7**	**-0.1**
CBL1	**Cabuya**	**0.97**	**305**	*e*P			**Pb**	**10 12 38.1**	**-1.2**
DOMI	**Santo Domingo**	**0.97**	**12**	*e*P			**Pb**	**10 12 39.6**	**+0.2**
DOMI				eS			**Sn**	**10 12 53.0**	**-0.9**
HEME	**Heredia, Merce**	**0.98**	**9**	*i* P			**Pg**	**10 12 39.6**	**+0.1**
CORON	**Coronado**	**0.98**	**17**	*i* P			**Pb**	**10 12 40.0**	**+0.3**
CORON				eS			**Sn**	**10 12 53.9**	**-0.4**
PCAYA	**Pacayas**	**1.00**	**28**	*e*P			**Pb**	**10 12 40.1**	**0.0**
PCAYA				eS			**Sn**	**10 12 54.7**	**-0.2**
PAQE	**Paquera**	**1.01**	**321**	*e*P			**Pn**	**10 12 42.0**	**+1.4**
TCS1	**Tacares**	**1.01**	**360**	*i* P			**Pb**	**10 12 40.0**	**-0.1**
TCS1				eS			**Sn**	**10 12 54.5**	**-0.3**
TCS1	**Tacares**	**1.01**	**360**	P			**Pb**	**10 12 40.0**	**-0.1**
VINA	**Juan Vinas**	**1.02**	**32**	*e*P			**Pg**	**10 12 40.4**	**+0.1**
PALD	**Palmares**	**1.03**	**352**	*e*P			**Pn**	**10 12 41.9**	**+0.9**
RAFA	**San Farael, Vo**	**1.04**	**27**	*e*P			**Pg**	**10 12 40.9**	**+0.1**
GREC	**Grecia**	**1.04**	**359**	*e*P			**Pb**	**10 12 39.8**	**-0.8**
VICA	**Volcano Irazu**	**1.05**	**25**	*i* P			**Pg**	**10 12 40.9**	**-0.1**
CVIMO	**Finca Echandi**	**1.05**	**19**	*i* P			**Pg**	**10 12 41.0**	**+0.1**
CVIMO				eS			**Sn**	**10 12 55.6**	**-0.4**
SARCI	**Sarchi**	**1.06**	**357**	*i* P			**Pb**	**10 12 41.0**	**+0.1**
TURIB	**Turrialba**	**1.06**	**34**	*e*P			**Pb**	**10 12 40.8**	**-0.2**
DRK0	**Durika**	**1.06**	**77**	*e*P			**Pb**	**10 12 40.8**	**-0.3**
DRK0	**Durika**	**1.06**	**77**	P			**Pb**	**10 12 40.8**	**-0.2**
DRK0	**Durika**	**1.06**	**77**	S			**Sn**	**10 12 55.7**	**-0.6**
NARAN	**Naranjo de Ala**	**1.07**	**356**	*e*P			**Pb**	**10 12 41.0**	**-0.1**
RAMO	**San Ramon**	**1.07**	**351**	*e*P			**Pb**	**10 12 40.6**	**-0.5**
SRA1	**San Ramn**	**1.07**	**350**	*e*P			**Pb**	**10 12 40.7**	**-0.4**
VERB	**Verbena**	**1.09**	**33**	*i* P			**Pb**	**10 12 41.5**	**+0.1**
VBV1	**V. Barva**	**1.10**	**10**	*e*P			**Pb**	**10 12 41.6**	**-0.1**
VBV1				eS			**Sg**	**10 12 56.1**	**0.0**
VTLA	**Turrialba Volc**	**1.10**	**28**	*i* P			**Pb**	**10 12 41.8**	**+0.1**
CVTQ	**Turrialba Volc**	**1.10**	**28**	*e*P			**Pb**	**10 12 41.8**	**0.0**
VTCV	**VTCV, Calle Va**	**1.10**	**30**	*i* P			**Pb**	**10 12 41.7**	**0.0**
VTCV				eS			**Sn**	**10 12 57.1**	**-0.2**
EDP2	**Potrero Grande**	**1.10**	**90**	*e*P			**Pg**	**10 12 41.8**	**-0.1**
EDP2				eS			**Sn**	**10 12 57.6**	**+0.6**
CVTV	**Tajo**	**1.11**	**29**	*i* P			**Pg**	**10 12 42.1**	**0.0**
CVTV				eS			**Sn**	**10 12 57.3**	**-0.3**
VTR0	**Volcan Turrial**	**1.12**	**28**	*e*P			**Pb**	**10 12 42.1**	**0.0**
ABRB	**Las Abras (San**	**1.13**	**30**	*e*P			**Pg**	**10 12 42.6**	**+0.1**
RVSTA	**Santa Teresita**	**1.14**	**34**	*e*P			**Pg**	**10 12 42.6**	**0.0**
VPS8	**V Poas**	**1.15**	**3**	*e*P			**Pb**	**10 12 42.3**	**-0.3**
ZARE	**Zarcero**	**1.15**	**355**	*e*P			**Pb**	**10 12 42.8**	**+0.1**
VPS5	**V. Poas**	**1.16**	**3**	*e*P			**Pb**	**10 12 42.4**	**-0.3**
EDAD	**Golfito**	**1.18**	**108**	*e*P			**Pb**	**10 12 41.7**	**-1.1**
RESJ	**San Isidro (Tu**	**1.19**	**33**	*e*P			**Pn**	**10 12 43.1**	**+0.1**
VPL1	**V. Platanar**	**1.22**	**357**	*e*P			**Pn**	**10 12 42.9**	**-0.8**
VPL2	**V. Platanar**	**1.27**	**356**	*e*P			**Pn**	**10 12 44.0**	**-0.4**
RVLA	**Villa Bonita**	**1.28**	**33**	*e*P			**Pb**	**10 12 44.8**	**+0.1**
PILE	**Guapiles**	**1.28**	**23**	*e*P			**Pg**	**10 12 45.2**	**-0.2**
QUEU	**Ciudad Quesada**	**1.29**	**354**	*e*P			**Pn**	**10 12 44.8**	**+0.2**
IRES	**Siquirres**	**1.32**	**36**	*e*P			**Pn**	**10 12 45.0**	**+0.2**
VITO	**San Vito**	**1.32**	**99**	*e*P			**Pn**	**10 12 45.2**	**+0.3**
NELY	**Ciudad Neily**	**1.38**	**106**	*i* P			**Pn**	**10 12 45.5**	**-0.2**
NELY				eS			**Sn**	**10 13 03.5**	**-0.4**
SOCE	**Pocosol**	**1.39**	**347**	*e*P			**Pn**	**10 12 45.7**	**-0.1**
SOCE	**Pocosol**	**1.39**	**347**	P			**Pn**	**10 12 45.6**	**-0.2**
MTEVE	**Monteverde**	**1.39**	**338**	*e*P			**Pn**	**10 12 45.1**	**-0.8**
TAAN	**Batan**	**1.41**	**42**	*e*P			**Pb**	**10 12 46.8**	**0.0**
JUNT	**Juntas**	**1.41**	**332**	*e*P			**Pn**	**10 12 44.9**	**-1.2**
JTS	**Las Juntas de**	**1.42**	**333**	*e*P			**Pn**	**10 12 44.9**	**-1.3**
RSRNO	**Rio Sereno**	**1.43**	**98**	*e*P			**Pn**	**10 12 47.0**	**+0.5**
CARI	**Cariari**	**1.44**	**22**	*e*P			**Pn**	**10 12 46.6**	**+0.2**
ALCO	**Alturas Coton,**	**1.44**	**93**	*e*P			**Pn**	**10 12 46.5**	**-0.2**
INDI	**Punta indio, G**	**1.46**	**305**	P			**Pb**	**10 12 48.5**	**+0.9**
CASO	**Castillo**	**1.47**	**343**	*e*P			**Pn**	**10 12 46.8**	**-0.1**
CDITO	**Canoas**	**1.48**	**108**	P			**Pn**	**10 12 46.7**	**-0.2**
TUNA	**La Fortuna**	**1.48**	**346**	*e*P			**Pn**	**10 12 46.9**	**-0.1**
FORC	**Fortuna**	**1.48**	**346**	*e*P			**Pn**	**10 12 47.2**	**+0.2**
ARE1	**Arenal 1**	**1.49**	**344**	*e*P			**Pn**	**10 12 47.1**	**0.0**
VARE2	**V. Arenal**	**1.49**	**344**	*e*P			**Pn**	**10 12 47.1**	**-0.1**
VACR	**Volcan Arenal**	**1.49**	**345**	*i* P			**Pn**	**10 12 47.0**	**-0.2**
CMARA	**Lajas Hojancha**	**1.49**	**312**	*e*P			**Pb**	**10 12 48.9**	**+0.7**
CMARA	**Lajas Hojancha**	**1.49**	**312**	P			**Pb**	**10 12 48.6**	**+0.3**
SCLRA	**Santa Clara, W**	**1.51**	**97**	*e*P			**Pb**	**10 12 48.7**	**-0.4**
CEDE	**Laguna Cedeo**	**1.51**	**344**	*e*P			**Pn**	**10 12 47.9**	**+0.4**
LPPC	**Paso Canoas**	**1.52**	**109**	*i* P			**Pn**	**10 12 47.3**	**-0.3**
LPPC				eS			**Sn**	**10 13 06.1**	**-1.1**
TABAC	**Tabacon**	**1.54**	**342**	*e*P			**Pb**	**10 12 50.0**	**+1.0**
TILA	**Tilaran**	**1.58**	**335**	*e*P			**Pn**	**10 12 48.6**	**+0.2**
BRU2	**Volcan**	**1.60**	**98**	*i*P			**Pn**	**10 12 48.9**	**+0.1**
BRU2	**Volcan**	**1.60**	**98**	*e*P			**Pn**	**10 12 49.0**	**+0.2**
BRU2				eS			**Sb**	**10 13 10.5**	**+0.1**
BRU2	**Volcan**	**1.60**	**98**	P			**Pn**	**10 12 49.0**	**+0.1**
BRU2	**Volcan**	**1.60**	**98**	S			**Sn**	**10 13 09.2**	**-0.3**
LESP3	**La Esperanza,**	**1.61**	**112**	*e*P			**Pn**	**10 12 48.4**	**-0.4**
LESP3				eS			**Sn**	**10 13 09.9**	**+0.5**
TRT2	**Tortugero**	**1.62**	**20**	*i* P			**Pn**	**10 12 48.9**	**-0.1**
TRT2	**Tortugero**	**1.62**	**20**	P			**Pn**	**10 12 49.2**	**+0.2**
INVE	**Universidad In**	**1.63**	**332**	*e*P			**Pn**	**10 12 48.5**	**-0.6**
BC3P	**Paso Ancho**	**1.68**	**97**	*e*P			**Pn**	**10 12 49.9**	**0.0**
BC3P				eS			**Sn**	**10 13 10.8**	**-0.6**
CLLIA	**Cordillera,**	**1.68**	**99**	*i*P			**Pn**	**10 12 50.0**	**+0.1**
COVE	**Coope Vega, Sa**	**1.69**	**356**	P			**Pn**	**10 12 50.1**	**+0.2**
QUEB	**Quebradon, Cot**	**1.69**	**340**	*i*P			**Pn**	**10 12 50.1**	**0.0**
TIMP	**Tierras Morena**	**1.70**	**335**	*e*P			**Pn**	**10 12 49.7**	**-0.5**
TENO	**El Achiote**	**1.80**	**338**	*e*P			**Pn**	**10 12 51.3**	**-0.2**
PTAR3	**Potrerillos Ar**	**1.81**	**100**	*e*P			**Pn**	**10 12 51.9**	**+0.3**
MOTZ	**Rio Naranjo**	**1.82**	**335**	*e*P			**Pb**	**10 12 54.0**	**+0.2**
BQTLY	**Boquete Panama**	**1.83**	**98**	*e*P			**Pn**	**10 12 51.7**	**-0.3**
CUI	**Cuipilapa**	**1.83**	**332**	*i*P			**Pn**	**10 12 52.0**	**0.0**
COLC	**Colonia**	**1.86**	**331**	*e*P			**Pn**	**10 12 51.5**	**-0.8**
HORNC	**Hornillas**	**1.89**	**333**	*e*P			**Pn**	**10 12 52.5**	**-0.2**
DVD	**David**	**1.91**	**108**	*e*P			**Pn**	**10 12 53.5**	**+0.5**
DVD				eS			**Sn**	**10 13 17.8**	**+0.8**
MESS	**Mesas**	**1.92**	**333**	*e*P			**Pn**	**10 12 53.2**	**0.0**
CSTBL	**De las Acacias**	**1.93**	**108**	*i*P			**Pn**	**10 12 53.3**	**+0.1**
LOCO3	**Loma Colorada,**	**1.95**	**108**	*e*P			**Pn**	**10 12 53.5**	**0.0**
LOCO3				eS			**Sn**	**10 13 18.4**	**+0.4**
PEDE3	**Pedregal, Chir**	**1.96**	**109**	*e*P			**Pn**	**10 12 54.0**	**+0.4**
LOMA3	**Las Lomas, Chi**	**1.97**	**107**	*e*P			**Pn**	**10 12 54.2**	**+0.4**
LOMA3				eS			**Sn**	**10 13 18.2**	**-0.3**
PSOM3	**Paja de Sombre**	**1.98**	**100**	*e*P			**Pn**	**10 12 54.0**	**+0.1**
LCHIL	**Los Chiles**	**2.04**	**348**	*e*P			**Pb**	**10 12 58.2**	**+0.6**
LAPC	**Finca la Perla**	**2.06**	**327**	*e*P			**Pb**	**10 12 57.2**	**-0.8**
PBNVO	**Pueblo Nuevo,**	**2.08**	**94**	*e*P			**Pn**	**10 12 55.5**	**+0.2**
BUAI	**Buenos Aires**	**2.10**	**331**	*e*P			**Pb**	**10 12 59.2**	**+0.5**
RBALA	**Bur**	**2.12**	**94**	*e*P			**Pn**	**10 12 55.9**	**+0.1**
BLUN	**Bluefields**	**3.00**	**10**	*e*P			**Pb**	**10 13 11.3**	**-2.7**
ACON	**Acoyapa**	**3.05**	**344**	*e*P			**Pn**	**10 13 11.0**	**+2.4**
ACON	**Acoyapa**	**3.05**	**344**	P			**Pn**	**10 13 09.7**	**+1.1**
BOAB	**BOACO BROADBAN**	**3.66**	**338**	P			**Pn**	**10 13 18.8**	**+1.7**

*SNET **03** 10:13:25.3±0.9, 15°.75N×91°.14W, h2km±7km, ML3.8*
*GCG **03** 10:13:25.8±2.9, 15°.70N×91°.02W, h1km±8km, MD4.4, ML3.9*
*CATAC **03** 10:13:25.1±0.5, 16°N±3°×9°1W±°, h3km±3km, M3.9/8, MLv3.9/8, Error ellipse: s-maj=7.4km s-min=4.9km az=126.9, confirmed*
*NEIC **03** 10:13:26.8±1.3, 15°.66N±0°.07×90°.99W±0°.08, h10km±2km, mb4.2/39, Error ellipse: s-maj=12.4km s-min=11.9km az=237.0*

ISC 03 10:13:25.6±1.3, 15°.73N±0°.03×91°.00W±0°.03, h1km±10km, n85, σ0°.88/88, mb4.4/11, Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HUEH	**Huehuetenango**	**0.64**	**230**				**Pg**	**10 13 37.4**	**-0.5**
HUEH	**Huehuetenango**	**0.64**	**230**	*e*P			**Pg**	**10 13 37.4**	**-0.5**
HUEH				eS			**Sg**	**10 13 47.1**	**+1.0**
HUEH				IAML				10 13 53.0	
	comp=Z,3μm,0.6s								
HUEH	**Huehuetenango**	**0.64**	**230**	*i* P			**Pg**	**10 13 37.3**	**-0.5**

OLIL	**Olney**	**23.06**	**6**		**P**		**10 18 32.5**	**+0.1**
R50A	**Paris**	**23.22**	**13**	IAmb	IAmb	10 18 36.5		
	comp=Z,6.2nm,1.0s							
P40A	**Paris**	**23.73**	**358**	P	**P**		**10 18 38.7**	**-0.5**
P40A				IAmb	IAmb	10 18 40.0		
	comp=Z,9.6nm,1.2s							
P43A	**Skaggs, Pawnee**	**23.86**	**3**	P	**P**		**10 18 40.9**	**+0.4**
P46A	**Rosedale**	**24.03**	**7**	P	**P**		**10 18 43.0**	**+0.9**
T25A	**Trinidad**	**24.42**	**333**	IAmb	IAmb	10 18 49.7		
	comp=Z,7.4nm,0.9s							
O48B	**Farmland**	**24.96**	**11**		**P**		**10 18 50.1**	**-0.5**
O48B				IAmb	IAmb	10 18 53.1		
	comp=Z,13nm,1.1s							
O52A	**Adamsville**	**25.58**	**16**	IAmb	IAmb	10 19 01.0		
	comp=Z,8.7nm,0.9s							

SNET ***03*** *10:18:14.6±1.0, 12°.48N×87°.87W, h31km±6km, ML2.7*
CATAC ***03*** *10:18:14.3±0.3, 12°.N±2°×8°.8W±°, h40km±4km, M3.1/20, MLv3.1/20, Error ellipse: s-maj=6.0km s-min=2.4km az=35.4, confirmed*

ISC 03 10:18:13.3±1.0, 12°.51N±0°.06×87°.77W±0°.05, h72km±12km, n46, σ0§47/53, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POTN	**Potosi Cosigui**	**0.56**	**27**	P	**Pn**	**10 18 26.7**	**-0.1**
POTN				S	**Sn**	**10 18 36.4**	**-0.4**
CRIN	**San Cristobal**	**0.73**	**74**	P	**Pn**	**10 18 29.4**	**+0.6**
CRIN	**San Cristobal**	**0.73**	**74**	S	**Sn**	**10 18 41.2**	**+1.1**
CNCH	**Conchagua**	**0.77**	**355**	*eP*	**Pn**	**10 18 29.3**	**0.0**
CNCH				*eS*	**Sn**	**10 18 41.8**	**+0.7**
CNCH	**Conchagua**	**0.77**	**355**	P	**Pn**	**10 18 29.3**	**0.0**
PKGN	**Cerro Pekin**	**0.79**	**78**	S	**Sn**	**10 18 41.7**	**+0.4**
LCND	**La Caada**	**0.81**	**352**	*eP*	**Pn**	**10 18 29.7**	**+0.1**
LCND				*eS*	**Sn**	**10 18 42.1**	**+0.4**
LCND				IAML		10 18 43.5	
	comp=Z,250nm,0.3s						
LCND	**La Caada**	**0.81**	**352**	P	**Pn**	**10 18 29.5**	**-0.1**
LCND	**La Caada**	**0.81**	**352**	S	**Sn**	**10 18 41.4**	**-0.2**
POLN	**Al Sur del Vol**	**0.94**	**81**	P	**Pn**	**10 18 30.7**	**-0.5**
POLN				S	**Sn**	**10 18 44.3**	**-0.3**
PLRN	**Geotermica Pol**	**0.98**	**85**	P	**Pn**	**10 18 31.7**	**0.0**
PLRN				S	**Sn**	**10 18 45.0**	**-0.3**
CNRM	**Centro Naciona**	**1.04**	**338**	S	**Sn**	**10 18 47.9**	**+1.2**
CNRM	**Centro Naciona**	**1.04**	**338**	P	**Pn**	**10 18 32.3**	**-0.1**
CNGA	**Al SSO del Vol**	**1.04**	**90**	P	**Pn**	**10 18 32.5**	**+0.1**
CNGA				S	**Sn**	**10 18 46.9**	**+0.1**
CNGN	**Cerro Negro**	**1.05**	**90**	P	**Pn**	**10 18 32.2**	**-0.3**
CNGN	**Cerro Negro**	**1.05**	**90**	S	**Sn**	**10 18 46.8**	**0.0**
PACA	**Pacayal**	**1.10**	**331**	S	**Sn**	**10 18 48.5**	**+0.3**
PACA	**Pacayal**	**1.10**	**331**	P	**Pn**	**10 18 32.7**	**-0.6**
ALJI	**Alcalda de J**	**1.13**	**316**	P	**Pn**	**10 18 33.4**	**-0.2**
ALJI	**Alcalda de J**	**1.13**	**316**	S	**Sn**	**10 18 48.4**	**-0.3**
CHOHN	**Orocuina**	**1.14**	**31**	S	**Sn**	**10 18 49.1**	**+0.1**
CHOHN	**Orocuina**	**1.14**	**31**	P	**Pn**	**10 18 34.0**	**+0.2**
COPN	**Copaltepe**	**1.20**	**106**	P	**Pn**	**10 18 34.5**	**+0.1**
BC86	**Nagarote**	**1.20**	**101**	P	**Pn**	**10 18 34.1**	**-0.4**
MOMN	**Momotombo**	**1.20**	**94**	P	**Pn**	**10 18 34.7**	**+0.2**
MOMN				S	**Sn**	**10 18 50.3**	**-0.1**
MOM2	**El Cardon**	**1.26**	**93**	P	**Pn**	**10 18 35.5**	**+0.4**
MOM2				S	**Sn**	**10 18 52.1**	**+0.6**
PQSS	**Presa 15 de Se**	**1.35**	**325**	P	**Pn**	**10 18 36.7**	**+0.3**
PQSS	**Presa 15 de Se**	**1.35**	**325**	S	**Sn**	**10 18 54.2**	**+0.4**
APQ3	**Volcan Apoyequ**	**1.39**	**99**	P	**Pn**	**10 18 37.3**	**+0.4**
APQ3				S	**Sn**	**10 18 54.2**	**-0.3**
COEG	**Centro de Oper**	**1.55**	**316**	*eP*	Pn	10 18 40.2	+1.1
COEG				*eS*	**Sn**	**10 18 58.7**	**+0.2**
WILN	**Americas 2**	**1.58**	**102**	P	Pn	10 18 39.9	+0.5
WILN				S	**Sn**	**10 18 59.4**	**+0.2**
TGUH	**Tegucigalpa,Un**	**1.62**	**17**	P	Pn	10 18 40.1	+0.1
TGUH				S	**Sn**	**10 19 00.1**	**-0.1**
MARCA	**Marcala la Paz**	**1.66**	**351**	P	Pn	10 18 42.0	+1.4
MARCA	**Marcala la Paz**	**1.66**	**351**	S	**Sn**	**10 19 01.1**	**-0.2**
OCON	**Estacion meteo**	**1.68**	**48**	P	**Pn**	**10 18 41.3**	**+0.5**
YUSH	**Yuscaran**	**1.70**	**32**	P	**Pn**	**10 18 41.6**	**+0.5**
YUSH	**Yuscaran**	**1.70**	**32**	S	**Sn**	**10 19 02.3**	**+0.2**
NANN	**Nandasmo**	**1.71**	**109**	P	**Pn**	**10 18 41.4**	**+0.4**
NANN	**Nandasmo**	**1.71**	**109**	S	**Sn**	**10 19 03.4**	**+1.3**
MATN	**Matagalpa**	**1.85**	**77**	S	**Sn**	**10 19 04.4**	**-1.3**
MATN	**Matagalpa**	**1.85**	**77**	P	**Pn**	**10 18 42.8**	**-0.2**
RCVN	**Varillal2**	**1.87**	**55**	P	Pn	10 18 44.4	+1.0
RCVN	**Varillal2**	**1.87**	**55**	S	**Sn**	**10 19 06.5**	**+0.2**
RCPN	**Sur Rio San Ju**	**1.92**	**58**	P	**Pn**	**10 18 44.3**	**+0.2**
BOAB	**BOACO BROADBAN**	**2.06**	**91**	P	Pn	10 18 46.3	+0.6
BOAB	**BOACO BROADBAN**	**2.06**	**91**	S	**Sn**	**10 19 09.9**	**-0.5**

IDC 03 10:29:46.2±3.3, 20°.31S×171°.89W, h0km, mb3.5/4, mbtmp3.5/4, MS3.6/1, Error ellipse: s-maj=223.8km s-min=36.1km az=150.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.05**	**245**	P	P	10 37 47.6	-0.3
	1.2nm,0.9s,baz=68,slow=11,SNR=1.6						
	1.2nm,0.9s						
JAY	**Jayapura**	**49.48**	**285**	LR	LR	10 59 22.4	
	comp=Z,58nm,19.0s,baz=354,slow=36						
ASAR	**Alice Springs**	**50.13**	**256**	P	P	10 38 43.6	-0.1
	0.4nm,0.7s,baz=102,slow=7.8,SNR=6.4						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**50.30**	**261**	P	P	10 38 45.0	+0.1
	0.2nm,0.3s,baz=98,slow=8.0,SNR=5.4						
	0.2nm,0.3s						
PDAR	**Pinedale Array**	**84.98**	**41**	P	P	10 42 23.7	0.0
	0.1nm,0.3s,baz=220,slow=3.9,SNR=1.3						
	0.1nm,0.3s						

NEIC ***03*** *10:36:01.5±1.4, 55°.23N±0°.04×134°.82W±0°.07, h10km±1km, Error ellipse: s-maj=7.0km s-min=5.6km az=236.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr1.43; Mθθ-8.21; Mφφ6.78; Mrθ-1.41; Mθφ3.70; Mφr-0.56; Fault plane solution: M0 8.58000×10¹⁴ NP1: ϕs148.17000°, δ79.64000°, λ179.10000°. NP2: ϕs238.33000°, δ89.11000°, λ10.36000°. Principal axes: T 7.7620, Plg8.0000°, Azm104.0000°; N 1.4567, Plg80.0000°, Azm243.0000°; P -9.2186, Plg7.0000°, Azm13.0000°;*
PGC ***03*** *10:36:02.2±0.1, 55°.20N×134°.83W, h10km, ML4.2/20, Mw4.2, ML3.9(AEIC), 201km west of Ketchikan, Ak Southeastern Alaska*
IDC ***03*** *10:36:02.5±1.0, 55°.23N×134°.52W, h0km, mb3.2/5, mbtmp3.3/10, ML3.0/5, MS3.0/4, Error ellipse: s-maj=16.3km s-min=9.7km az=61.0*
NEIC ***03*** *10:36:03.9, 55°.23N×134°.54W, h10km*
ANF ***03*** *10:36:04.1±0.8, 55°.37N×134°.73W, h5km±7km, ML4.2/21, Error ellipse: s-maj=7.7km s-min=3.3km az=171.0*
AEIC ***03*** *10:36:04.5±1.1, 55°.22N±0°.03×134°.82W±0°.10, h28km±8km, ML3.8, mb3.9/3(NEIC), ML4.0/44(NEIC), Mwr3.9/34(NEIC), Error ellipse: s-maj=8.9km s-min=1.0km az=66.0*

ISC 03 10:36:02.8±1.9, 55°.24N±0°.03×134°.74W±0°.04, h13km±13km, n314, σ1§41/353, mb3.6/3, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRAG	**Craig**	**0.95**	**76**		**Pb**	**10 36 20.7**	**-0.5**
CRAG					**Sb**	**10 36 33.2**	**-0.4**
CRAG				IAML		10 36 34.2	
	comp=N,5μm,0.4s						
CRAG				IAML		10 36 35.7	
	comp=E,4μm,0.5s						
CRAG	**Craig**	**0.95**	**76**	P	**Pb**	**10 36 20.6**	**-0.5**
	baz=254,SNR=163						
CRAG				S	**Sb**	**10 36 33.4**	**-0.3**
	baz=254						
U33K	**Whale Pass**	**1.27**	**46**		**Pn**	**10 36 25.5**	**-0.7**
U33K					**Sn**	**10 36 42.4**	**-0.7**
U33K				IAML		10 36 47.2	
	comp=N,2μm,0.6s						
U33K				IAML		10 36 49.2	
	comp=E,2μm,0.6s						
U33K	**Whale Pass**	**1.27**	**46**	P	**Pn**	**10 36 25.3**	**-0.9**
U33K				S	**Sn**	**10 36 39.7**	**-3.4**
U33K	**Whale Pass**	**1.27**	**46**	P	**Pn**	**10 36 25.3**	**-0.9**
	baz=223,SNR=152						
U33K				S	**Sn**	**10 36 41.6**	**-1.4**
	baz=223						

NDB	**Naden**	**1.66**	**140**			**Pn**	**10 36 31.6**	**-0.1**
NDB						**Sn**	**10 36 51.5**	**-1.4**
NDB	**Naden**	**1.66**	**140**	Pn	**Pn**	**Pn**	**10 36 31.6**	**-0.1**
NDB				Sn	**Sn**	**Sn**	**10 36 53.0**	**0.0**
V35K	**Ketchikan**	**1.79**	**86**			**Pn**	**10 36 33.0**	**-0.4**
V35K				IAML			10 37 02.5	
	comp=N,2μm,0.6s							
V35K				IAML			10 37 04.3	
	comp=E,1μm,0.7s							
V35K	**Ketchikan**	**1.79**	**86**	Pn	**Pn**	**Pn**	**10 36 32.9**	**-0.4**
V35K				Sn	**Sn**	**Sn**	**10 36 54.2**	**-1.7**
V35K	**Ketchikan**	**1.79**	**86**	P	**Pn**	**Pn**	**10 36 33.0**	**-0.4**
	baz=268,SNR=118							
WRAK	**Wrangell Islan**	**1.79**	**48**			**Pn**	**10 36 33.7**	**+0.3**
WRAK	**Wrangell Islan**	**1.79**	**48**	IAML			10 37 04.6	
	comp=E,2μm,0.4s							
WRAK	**Wrangell Islan**	**1.79**	**48**	Pn	**Pn**	**Pn**	**10 36 33.6**	**+0.2**
WRAK	**Wrangell Islan**	**1.79**	**48**	P	**Pn**	**Pn**	**10 36 33.5**	**0.0**
	baz=227,SNR=46							
SIT	**Sitka**	**1.85**	**350**			**Pn**	**10 36 33.0**	**-1.1**
SIT				IAML			10 37 11.2	
	comp=E,921nm,0.8s							
SIT	**Sitka**	**1.85**	**350**	P	**Pn**	**Pn**	**10 36 32.8**	**-1.4**
	baz=166,SNR=20							
SIT				S	**Sn**	**Sn**	**10 36 55.4**	**-2.0**
	baz=166							
T33K	**Petersburg**	**1.87**	**32**			**Pn**	**10 36 34.8**	**+0.3**
T33K	**Petersburg**	**1.87**	**32**	Pn	**Pn**	**Pn**	**10 36 34.8**	**+0.3**
T33K				Sn	**Sn**	**Sn**	**10 36 56.9**	**-1.0**
T33K	**Petersburg**	**1.87**	**32**	P	**Pn**	**Pn**	**10 36 34.7**	**+0.2**
	baz=210,SNR=25							
MASB	**Masset**	**2.00**	**127**	P	**Pn**	**Pn**	**10 36 37.0**	**+0.6**
PCLB	**Port Clements**	**2.00**	**139**	Pn	**Pn**	**Pn**	**10 36 35.9**	**-0.5**
PCLB				Sn	**Sn**	**Sn**	**10 37 00.9**	**-0.4**
S32K	**Killisnoo**	**2.23**	**2**		**Pn**	**Pn**	**10 36 39.4**	**-0.1**
S32K					**Sn**	**Sn**	**10 37 05.7**	**-1.2**
S32K	**Killisnoo**	**2.23**	**2**	Pn	**Pn**	**Pn**	**10 36 39.0**	**-0.6**
S32K				Sn	**Sn**	**Sn**	**10 37 05.2**	**-1.7**
S32K	**Killisnoo**	**2.23**	**2**	P	**Pn**	**Pn**	**10 36 38.9**	**-0.6**
	baz=180,SNR=32							
S32K				S	**Sn**	**Sn**	**10 37 05.9**	**-1.0**
	baz=180							
DI2B	**Dawson Inlet**	**2.44**	**146**	Pn	**Pn**	**Pn**	**10 36 41.7**	**-0.6**
DI2B				Sn	**Sn**	**Sn**	**10 37 09.8**	**-2.1**
DIB	**Dawson Inlet,**	**2.44**	**146**			**Pn**	**10 36 42.1**	**-0.2**
DIB				IAML			10 37 23.6	
	comp=E,898nm,0.5s							
DIB	**Dawson Inlet,**	**2.44**	**146**	Pn	**Pn**	**Pn**	**10 36 41.7**	**-0.6**
DIB				Sn	**Sn**	**Sn**	**10 37 09.5**	**-2.5**
MOBC	**Moresby Island**	**2.66**	**141**			**Pn**	**10 36 45.2**	**-0.2**
MOBC	**Moresby Island**	**2.66**	**141**	Pn	**Pn**	**Pn**	**10 36 44.9**	**-0.5**
MOBC				Sn	**Sn**	**Sn**	**10 37 16.9**	**-0.6**
MOBC				Sg	**Sb**	**Sb**	**10 37 24.5**	**+1.7**
RUBB	**Prince Rupert**	**2.76**	**108**			**Pn**	**10 36 46.5**	**-0.1**
RUBB				IAML			10 37 30.4	
	comp=N,521nm,0.5s							
RUBB				IAML			10 37 39.7	
	comp=E,631nm,0.4s							
RUBB	**Prince Rupert**	**2.76**	**108**	Pn	**Pn**	**Pn**	**10 36 46.1**	**-0.6**
RUBB				Sn	**Sn**	**Sn**	**10 37 18.8**	**-1.0**
RUBB				Sg	**Sg**	**Sg**	**10 37 29.4**	**-1.9**
U35K	**Hyder**	**2.76**	**74**	Pn	**Pb**	**Pb**	**10 36 50.5**	**-1.4**
U35K				Sn	**Sn**	**Sn**	**10 37 19.2**	**-0.7**
HG1B	**Mitchell Dam**	**2.78**	**145**	Pn	**Pn**	**Pn**	**10 36 46.2**	**-0.8**
HG1B				Sg	**Sb**	**Sb**	**10 37 28.0**	**+1.8**
S31K	**Pelican**	**2.85**	**344**			**Pn**	**10 36 47.1**	**-0.8**
S31K	**Pelican**	**2.85**	**344**	Pn	**Pn**	**Pn**	**10 36 46.6**	**-1.3**
S31K	**Pelican**	**2.85**	**344**	P	**Pn**	**Pn**	**10 36 47.1**	**-0.8**
	baz=160,SNR=10.0							
BNAB	**Bonilla**	**2.97**	**124**			**Pn**	**10 36 48.7**	**-1.0**
BNAB						Pb	10 36 48.8	-6.8
BNAB	**Bonilla**	**2.97**	**124**	Pn	**Pn**	**Pn**	**10 36 48.7**	**-1.0**
BNAB				Sn	**Sn**	**Sn**	**10 37 22.5**	**-2.6**
R32K	**Eaglecrest**	**3.04**	**2**			**Pn**	**10 36 50.9**	**+0.3**
R32K	**Eaglecrest**	**3.04**	**2**	Pn	**Pn**	**Pn**	**10 36 50.4**	**-0.2**
R32K	**Eaglecrest**	**3.04**	**2**	P	**Pn**	**Pn**	**10 36 50.4**	**-0.2**
	baz=180,SNR=9.4							
JIS	**Juneau Island**	**3.05**	**4**			**Pn**	**10 36 50.5**	**-0.2**
JIS						Pb	10 36 50.6	-6.3
T35M	**Bob Quinn**	**3.06**	**53**			**Pn**	**10 36 52.4**	**+1.5**
T35M	**Bob Quinn**	**3.06**	**53**	Pn	**Pn**	**Pn**	**10 36 52.1**	**+1.2**
T35M				Sn	**Sn**	**Sn**	**10 37 26.2**	**-1.2**
T35M	**Bob Quinn**	**3.06**	**53**	P	**Pn**	**Pn**	**10 36 52.0**	**+1.2**
	baz=236,SNR=31							
GRNB	**Grenville Isla**	**3.12**	**115**	Pn	**Pn**	**Pn**	**10 36 51.0**	**-0.7**
GRNB				Sn	**Sn**	**Sn**	**10 37 26.9**	**-1.9**
BAIB	**Barry Inlet**	**3.20**	**145**	Pn	**Pn**	**Pn**	**10 36 51.8**	**-1.1**
BAIB				Sg	**Sb**	**Sb**	**10 37 40.5**	**+1.9**
R31K	**City Hall, Gus**	**3.23**	**351**			**Pn**	**10 36 53.4**	**+0.3**
R31K	**City Hall, Gus**	**3.23**	**351**	Pn	**Pn**	**Pn**	**10 36 53.5**	**+0.3**
R31K	**City Hall, Gus**	**3.23**	**351**	P	**Pn**	**Pn**	**10 36 53.8**	**+0.7**
	baz=168							
S34M	**Telegraph Cree**	**3.34**	**35**			**Pn**	**10 36 55.9**	**+1.2**
S34M				IAML			10 38 00.2	
	comp=N,254nm,0.6s							
S34M	**Telegraph Cree**	**3.34**	**35**	Pn	**Pn**	**Pn**	**10 36 55.3**	**+0.6**
S34M				Sn	**Sn**	**Sn**	**10 37 35.6**	**+1.4**
S34M	**Telegraph Cree**	**3.34**	**35**	P	**Pn**	**Pn**	**10 36 55.4**	**+0.6**
	baz=216,SNR=15							
HG4B	**Hotspring**	**3.63**	**143**			**Pn**	**10 36 58.4**	**-0.3**
JEDB	**Jedway, Haida**	**3.63**	**143**	Pn	**Pn**	**Pn**	**10 36 57.9**	**-0.8**
JEDB				Sg	**Sb**	**Sb**	**10 37 53.9**	**+3.2**
KITB	**Kitimat**	**3.73**	**106**	Pn	**Pn**	**Pn**	**10 37 00.6**	**+0.5**
KITB				Sn	**Sn**	**Sn**	**10 37 42.9**	**-1.0**
GRIB	**Gribbell Islan**	**3.80**	**118**	Pn	**Pn**	**Pn**	**10 37 00.7**	**-0.3**
Q32M	**Nakina River**	**3.96**	**19**			**Pn**	**10 37 04.5**	**+1.0**
Q32M				IAML			10 38 16.6	
	comp=E,155nm,1.2s							
Q32M				IAML			10 38 23.1	
	comp=N,150nm,1.0s							
Q32M	**Nakina River**	**3.96**	**19**	Pn	**Pn**	**Pn**	**10 37 04.3**	**+0.9**
Q32M				Sg	**Sg**	**Sg**	**10 38 10.3**	**+0.4**
Q32M	**Nakina River**	**3.96**	**19**	P	**Pn**	**Pn**	**10 37 04.3**	**+0.9**
	baz=199,SNR=13							
DLBC	**Dease Lake**	**4.12**	**37**	Pn	**Pn**	**Pn**	**10 37 06.5**	**+1.0**
	baz=205,slow=16,SNR=4.8							
DLBC				Sn	**Sn**	**Sn**	**10 37 53.0**	**-0.5**
	comp=N,0.4nm,0.3s,baz=191,slow=16,SNR=8.1							
DLBC				Lg	Lg		10 38 12.4	
	comp=N,0.7nm,0.3s,baz=299,slow=19,SNR=4.9							
	comp=N,0.4nm,0.3s							
DLBC	**Dease Lake**	**4.12**	**37**	P	**Pn**	**Pn**	**10 37 06.2**	**+0.7**
	baz=220,SNR=12							
SKAG	**Skagway**	**4.24**	**356**			**Pn**	**10 37 08.3**	**+1.3**
SKAG				IAML			10 38 24.9	
	comp=E,105nm,1.2s							
SKAG	**Skagway**	**4.24**	**356**	P	**Pn**	**Pn**	**10 37 07.5**	**+0.4**
	baz=174							
BUTB	**Butedale**	**4.29**	**118**	P	**Pn**	**Pn**	**10 37 07.6**	**-0.2**
BUTB				Sn	**Sn**	**Sn**	**10 37 56.5**	**-1.3**
PLBC	**Pleasant Camp**	**4.32**	**349**	P	**Pn**	**Pn**	**10 37 08.7**	**+0.6**
PLBC				Sn	**Sn**	**Sn**	**10 37 57.3**	**-0.9**
PLBC	**Pleasant Camp**	**4.32**	**349**	P	**Pn**	**Pn**	**10 37 08.9**	**+0.7**
	baz=166							
P32M	**Atlin**	**4.39**	**7**			**Pn**	**10 37 10.1**	**+0.8**
P32M				IAML			10 38 34.2	
	comp=E,126nm,1.1s							
P32M	**Atlin**	**4.39**	**7**	P	**Pn**	**Pn**	**10 37 09.8**	**+0.6**
P32M				Sn	**Sn**	**Sn**	**10 37 58.7**	**-1.6**
P32M	**Atlin**	**4.39**	**7**	P	**Pn**	**Pn**	**10 37 09.8**	**+0.6**
	baz=186,SNR=23							
P32M				S	**Sn**	**Sn**	**10 37 58.6**	**-1.7**
	baz=186							
R33M	**Jennings River**	**4.64**	**25**			**Pn**	**10 37 13.9**	**+1.2**
R33M				IAML			10 38 45.8	
	comp=E,112nm,0.7s							
R33M				IAML			10 38 46.7	
	comp=N,114nm,1.1s							
R33M	**Jennings River**	**4.64**	**25**	P	**Pn**	**Pn**	**10 37 13.2**	**+0.6**
R33M	**Jennings River**	**4.64**	**25**	P	**Pn**	**Pn**	**10 37 13.5**	**+0.8**
	baz=206,SNR=17							
P29M	**Windy Craggy**	**4.69**	**341**			**Pn**	**10 37 14.2**	**+1.0**
P29M				IAML			10 38 49.7	
	comp=N,100nm,1.0s							
P29M				IAML			10 38 50.0	
	comp=E,79nm,0.8s							
P29M	**Windy Craggy**	**4.69**	**341**	P	**Pn**	**Pn**	**10 37 13.4**	**+0.1**
P29M	**Windy Craggy**	**4.69**	**341**	P	**Pn**	**Pn**	**10 37 14.0**	**+0.8**
	baz=157							
BBB	**Bella Bella**	**4.99**	**125**			**Pn**	**10 37 17.2**	**-0.1**
BBB				IAML			10 38 15.4	
	comp=E,84nm,0.3s							
BBB				IAML			10 39 01.3	
	comp=N,93nm,1.1s							

BBB	**Bella Bella**	**4.99**	**125**	Pn		**Pn**	**10 37 16.7**	**-0.6**
	comp=N,2.9nm,0.3s,baz=276,slow=5.7,SNR=74							
BBB				Sn		**Sn**	**10 38 13.1**	**-1.7**
	comp=N,16nm,0.3s,baz=283,slow=19,SNR=17							
BBB				Lg	Lg		10 38 36.2	
	comp=N,14nm,0.3s,baz=308,slow=7.7,SNR=8.5							
BBB				LR	LR		10 39 07.6	
	comp=N,190nm,21.5s,baz=12,slow=38							
	comp=N,5.7nm,0.3s							
BBB	**Bella Bella**	**4.99**	**125**	P		**Pn**	**10 37 16.9**	**-0.4**
BBB				Sn		**Sn**	**10 38 11.9**	**-2.9**
P30M	**Million Dollar**	**5.04**	**347**	P		**Pn**	**10 37 19.3**	**+1.3**
P30M	**Million Dollar**	**5.04**	**347**	P		**Pn**	**10 37 18.6**	**+0.6**
	baz=164							
P33M	**Teslin, Yukon**	**5.09**	**11**			**Pn**	**10 37 20.1**	**+1.3**
P33M	**Teslin, Yukon**	**5.09**	**11**	P		**Pn**	**10 37 20.1**	**+1.3**
P33M				Sg		**Sg**	**10 38 43.7**	**-2.3**
P33M	**Teslin, Yukon**	**5.09**	**11**	P		**Pn**	**10 37 20.1**	**+1.3**
	baz=191,SNR=39							
PNL	**Peninsula**	**5.10**	**332**			**Pn**	**10 37 19.3**	**+0.4**
PNL	**Peninsula**	**5.10**	**332**	P		**Pn**	**10 37 19.0**	**+0.1**
PNL	**Peninsula**	**5.10**	**332**	P		**Pn**	**10 37 19.0**	**+0.1**
	baz=147,SNR=12							
WHY	**Whitehorse**	**5.43**	**359**			**Pn**	**10 37 24.5**	**+0.9**
WHY	**Whitehorse**	**5.43**	**359**	P		**Pn**	**10 37 24.4**	**+0.9**
WHY				Sn		**Sn**	**10 38 25.1**	**-0.9**
WHY	**Whitehorse**	**5.43**	**359**	P		**Pn**	**10 37 24.4**	**+0.9**
	baz=178,SNR=12							
WHY				S		**Sn**	**10 38 24.8**	**-1.2**
	baz=178							
O29M	**Mount Kennedy**	**5.47**	**340**	P		**Pn**	**10 37 25.4**	**+1.3**
	baz=155							
O29M				S		**Sn**	**10 38 26.4**	**-0.5**
	baz=155							
O30N	**Mendenhall**	**5.59**	**353**	Pn		**Pn**	**10 37 27.2**	**+1.6**
O30N	**Mendenhall**	**5.59**	**353**	P		**Pn**	**10 37 26.9**	**+1.2**
O30N	**Mendenhall**	**5.59**	**353**	P		**Pn**	**10 37 26.7**	**+1.0**
	baz=171,SNR=7.2							
PINM	**Pinnacle**	**5.69**	**331**	P		**Pn**	**10 37 28.6**	**+1.5**
	baz=145,SNR=20							
PINM				S		**Sn**	**10 38 31.4**	**-0.9**
	baz=145							
PCA	**Pinnacle**	**5.70**	**331**			**Pn**	**10 37 28.6**	**+1.5**
PCA	**Pinnacle**	**5.70**	**331**	P		**Pn**	**10 37 28.4**	**+1.3**
HYT	**Haines Junctio**	**5.79**	**346**			**Pn**	**10 37 28.1**	**-0.3**
HYT	**Haines Junctio**	**5.79**	**346**	P		**Pn**	**10 37 27.6**	**-0.8**
HYT	**Haines Junctio**	**5.79**	**346**	P		**Pn**	**10 37 28.1**	**-0.3**
	baz=163							
SAMH	**Samovar Hills**	**5.87**	**329**	P		**Pn**	**10 37 31.0**	**+1.4**
N32M	**Quiet Lake**	**5.99**	**8**			**Pn**	**10 37 32.7**	**+1.5**
N32M	**Quiet Lake**	**5.99**	**8**	P		**Pn**	**10 37 32.6**	**+1.5**
N32M	**Quiet Lake**	**5.99**	**8**	P		**Pn**	**10 37 32.7**	**+1.5**
	baz=188							
N32M				S		**Sn**	**10 38 38.8**	**-0.8**
	baz=188							
FSJB	**Fort St James**	**6.08**	**93**	P		**Pn**	**10 37 34.1**	**+1.6**
HOLB	**Holberg**	**6.10**	**136**			**Pn**	**10 37 31.9**	**-0.7**
HOLB	**Holberg**	**6.10**	**136**	P		**Pn**	**10 37 31.8**	**-0.8**
YUK5	**Granite Creek**	**6.13**	**346**	P		**Pn**	**10 37 34.9**	**+1.7**
RKAV	**Rock Avalanche**	**6.18**	**328**	P		**Pn**	**10 37 35.9**	**+2.1**
TABL	**Table Mountain**	**6.23**	**329**			**Pn**	**10 37 36.3**	**+1.7**
TABL	**Table Mountain**	**6.23**	**329**	P		**Pn**	**10 37 36.3**	**+1.7**
O28M	**Mount Upton**	**6.25**	**335**	P		**Pn**	**10 37 36.1**	**+1.2**
O28M	**Mount Upton**	**6.25**	**335**	P		**Pn**	**10 37 36.4**	**+1.4**
	baz=149,SNR=8.2							
O28M				S		**Sn**	**10 38 45.0**	**-1.4**
	baz=149							
LIRD	**Liard River Hi**	**6.27**	**45**	P		**Pn**	**10 37 36.6**	**+1.6**
	baz=231							

N25K	Chitina, Valde	8.21 325			Pn	10 38 03.5 +1.9
N25K	Chitina, Valde	8.21 325	P		Pn	10 38 03.1 +1.5
N25K	Chitina, Valde baz=136	8.21 325	P		Pn	10 38 03.1 +1.5
P23K	Montague Islan	8.29 310			Pn	10 38 00.9 -1.8
P23K	Montague Islan baz=119	8.29 310	P		Pn	10 38 00.9 -1.8
M26K	Nabesna, AK baz=145	8.35 333	P		Pn	10 38 05.4 +1.9
KLU	Klutina	8.58 321	Pn		Pn	10 38 08.6 +1.9
KLU	Klutina baz=131	8.58 321	P		Pn	10 38 06.8 +0.1
K29M	Barlow Dome	8.74 352			Pn	10 38 10.5 +1.6
K29M	Barlow Dome	8.74 352	P		Pn	10 38 10.2 +1.3
K29M	Barlow Dome baz=169,SNR=9.4	8.74 352	P		Pn	10 38 10.1 +1.3
MGRB	Mount Grey	8.78 131	P		Pn	10 38 12.1 +2.5
L26K	Log Cabin Wild	8.96 334			Pn	10 38 13.8 +1.9
L26K	Log Cabin Wild baz=146	8.96 334	P		Pn	10 38 12.3 +0.4
M24K	Tolsona, Glenn baz=134	9.09 324	P		Pn	10 38 16.8 +3.2
BDMTA	Bald Mountain	9.10 86	P		Pn	10 38 16.4 +2.5
PWL	Port Wells baz=122	9.13 314	P		Pn	10 38 13.2 -1.0
DAWY	Dawson	9.15 347			Pn	10 38 16.1 +1.6
DAWY	Dawson	9.15 347	P		Pn	10 38 16.4 +1.8
DAWY	Dawson baz=162	9.15 347	P		Pn	10 38 15.3 +0.8
SEW	Seward baz=115	9.26 308	P		Pn	10 38 15.2 -0.6
SCM	Sheep Creek Mo	9.31 320	Pn		Pn	10 38 18.3 +1.6
SCM	Sheep Creek Mo baz=129	9.31 320	P		Pn	10 38 18.2 +1.4
J30M	Hart River baz=174	9.40 356	P		Pn	10 38 19.3 +1.4
KNK	Knik Glacier baz=124	9.49 316	P		Pn	10 38 20.7 +1.6
PAX	Paxson	9.50 329			Pn	10 38 21.1 +1.8
PAX	Paxson baz=139	9.50 329	P		Pn	10 38 20.6 +1.3
RC01	Rabbit Creek A baz=120	9.84 313	P		Pn	10 38 25.5 +1.6
PMR	Palmer baz=123	9.86 316	P		Pn	10 38 25.3 +1.2
CNPM	China Poot	9.88 302			Pn	10 38 23.6 -0.8
GHO	Glory Hole Cre	9.88 317			Pn	10 38 25.6 +1.1
SCRK	Sand Creek baz=147	9.92 336	P		Pn	10 38 23.7 -1.4
WAT6	Susitna Watana baz=131	9.95 323	P		Pn	10 38 26.7 +1.2
I30M	Mount Dempster baz=174,SNR=17	10.04 356	P		Pn	10 38 28.0 +1.2
KDAK	Kodiak Island	10.18 292	Pn		Pn	10 38 27.8 -0.7
KDAK	Kodiak Island comp=N,0.9nm,0.3s,baz=33,slow=3.5,SNR=21	10.18 292	Pn		Pn	10 38 25.2 -3.3
KDAK	comp=N,0.2nm,0.3s,baz=51,slow=6.5,SNR=1.2		Sn		Sn	10 40 16.8 -5.6
KDAK	comp=N,49nm,21.9s,baz=84,slow=31		LR		LR	10 41 23.1
K24K	Donnelly Dome baz=141,SNR=6.1	10.24 331	P		Pn	10 38 31.3 +2.0
J26L	Joseph Creek	10.28 338	Pn		Pn	10 38 30.5 +0.6
I29M	Ogilvie Camp,	10.30 352			Pn	10 38 33.0 +2.8
I29M	Ogilvie Camp, baz=168	10.30 352	P		Pn	10 38 31.9 +1.7
M22K	Willow	10.34 315	Pn		Pn	10 38 32.8 +2.1
WAT1	Susitna Watana baz=130	10.39 323	P		Pn	10 38 32.0 +0.5
OHAK	Old Harbor	10.51 288	Pn		Pn	10 38 33.2 +0.2
OHAK	Old Harbor baz=93	10.51 288	P		Pn	10 38 33.5 +0.5
I28M	Miner Creek baz=163	10.55 348	P		Pn	10 38 34.4 +0.7
H31M	Peel River	10.60 1	Pn		Pn	10 38 36.0 +1.7
O20K	Slope Mountain baz=109	10.72 304	P		Pn	10 38 36.0 0.0
CUT	Chulitna baz=124	10.76 318	P		Pn	10 38 38.1 +1.7
RND	Reindeer	10.88 324			Pn	10 38 40.7 +2.5
Q19K	Cape Douglas,	10.92 297	Pn		Pn	10 38 38.6 -0.1
Q19K	Cape Douglas, baz=101	10.92 297	P		Pn	10 38 39.1 +0.5
HDA	Harding Lake baz=140	11.03 331	P		Pn	10 38 39.4 -0.8
SKT	Skwentna	11.03 315			Pn	10 38 41.3 +1.1
SKT	Skwentna baz=120	11.03 315	P		Pn	10 38 40.1 0.0
MCK	McKinley baz=133	11.13 326	P		Pn	10 38 42.2 +0.7
H29M	Whitestone	11.15 352	Pn		Pn	10 38 43.5 +1.7
EPYK	Eagle Plains baz=174	11.21 356	P		Pn	10 38 41.9 -0.6
IL31		11.30 333			Pn	10 38 46.0 +2.2
ILAR	Eielson Array comp=N,0.3nm,0.3s,baz=155,slow=13,SNR=32 comp=N,1.2nm,0.6s	11.30 333	Pn		Pn	10 38 45.0 +1.3
TRF	Thorofare Moun	11.40 322			Pn	10 38 47.2 +1.9
TRF	Thorofare Moun baz=129	11.40 322	P		Pn	10 38 47.0 +1.7
WRH	Wood River Hil	11.40 330			Pn	10 38 47.6 +2.4
CCB	Clear Creek Bu	11.45 331	Pn		Pn	10 38 47.8 +1.9
ACHA	Angle Creek He	11.68 293	Pn		Pn	10 38 50.6 +1.5
KTH	Kantishna Hill	11.69 322			Pn	10 38 50.6 +1.5
G31M	Satah River	11.72 1	Pn		Pn	10 38 51.0 +1.4
PPLA	Purkeypile baz=122	11.77 318	P		Pn	10 38 51.9 +1.5
NEA2	Nenana	11.78 328			Pn	10 38 51.5 +1.2
NEA2	Nenana baz=136	11.78 328	P		Pn	10 38 50.5 +0.1
G29M	Pine Creek	11.81 354	Pn		Pn	10 38 52.2 +1.4
N19K	Bonanza Creek	11.83 306	Pn		Pn	10 38 50.9 -0.3
Q17K	Contact Creek baz=95	11.98 293	P		Pn	10 38 54.9 +1.7
CAST	Castle Rocks	12.03 320			Pn	10 38 55.0 +1.3
CAST	Castle Rocks baz=125	12.03 320	P		Pn	10 38 54.9 +1.1
BPAW	Bear Paw Mtn.	12.05 324			Pn	10 38 55.8 +1.6
BPAW	Bear Paw Mtn. baz=130	12.05 324	P		Pn	10 38 55.1 +1.0
R17L	Mt. Peulik Vol baz=92	12.19 290	P		Pn	10 38 58.1 +2.1
I23K	Minto, Yukon-K	12.27 330	Pn		Pn	10 38 58.7 +1.7
I23K	Minto, Yukon-K baz=137	12.27 330	P		Pn	10 38 58.8 +1.7
CHUM	Lake Minchumin baz=126	12.38 321	P		Pn	10 39 00.6 +2.0
P17K	Kvichak River baz=99	12.39 297	P		Pn	10 38 59.3 +0.6
L19K	White Mountain	12.51 312	Pn		Pn	10 39 00.8 +0.3
L19K	White Mountain baz=114	12.51 312	P		Pn	10 39 02.4 +1.9
MLY	Manley	12.60 328	Pn		Pn	10 39 03.8 +2.3
MLY	Manley baz=133	12.60 328	P		Pn	10 39 02.6 +1.1
YKA	Yellowknife Ar comp=N,0.1nm,0.3s,baz=257,slow=12,SNR=4.4 comp=N,0.3nm,0.7s	12.65 47	Pn		Pn	10 39 01.3 -1.0
M18K	Stony River baz=110	12.68 308	P		Pn	10 39 03.3 +0.7
K20K	Telida baz=120	12.74 317	P		Pn	10 39 03.7 +0.2
H23K	Yukon River	12.83 332	Pn		Pn	10 39 06.6 +1.9
NEW	Newport comp=N,153nm,18.7s,baz=290,slow=38	12.94 115	LR		LR	10 44 08.6
N17K	Nushagak Hills	13.03 303	Pn		Pn	10 39 07.9 +0.5
BMAR	Burnt Mountain	13.08 343	Pn		Pn	10 39 09.1 +1.0
INK	Inuvik comp=N,0.1nm,0.3s,baz=204,slow=2.9,SNR=3.6 comp=N,0.7nm,0.6s	13.12 2	Pn		Pn	10 39 09.7 +1.1
J20K	Nowinta River	13.21 320			Pn	10 39 10.8 +1.0
J20K	Nowinta River baz=123	13.21 320	P		Pn	10 39 10.2 +0.3
O16K	Kokwok River B	13.29 299	Pn		Pn	10 39 10.1 -0.8
L18K	Granite Mounta	13.32 311	Pn		Pn	10 39 12.3 +1.0
CHQN	Chignik	13.35 284	Pn		Pn	10 39 13.3 +1.4
M17K	Holitna River	13.38 307	Pn		Pn	10 39 12.0 -0.2
E28M	Babbage River	13.59 352	Pn		Pn	10 39 16.6 +1.5
G23K	Bananza Creek baz=140	13.63 334	P		Pn	10 39 18.1 +2.5
H21K	Melozitna Rive	13.66 327	Pn		Pn	10 39 18.2 +2.2
H21K	Melozitna Rive baz=131	13.66 327	P		Pn	10 39 18.3 +2.3
J19K	Poorman	13.66 318	Pn		Pn	10 39 16.6 +0.6
J19K	Poorman baz=120	13.66 318	P		Pn	10 39 16.8 +0.8
J18K	Innoko River baz=116	13.84 315	P		Pn	10 39 19.0 +0.6
L17K	Donlin baz=109	14.00 309	P		Pn	10 39 21.9 +1.3
COLD	Coldfoot baz=141	14.07 335	P		Pn	10 39 22.7 +1.0
IMAR	Indian Mountai	14.17 327	Pn		Pn	10 39 24.7 +1.7
K17K	Iditarod	14.20 311	Pn		Pn	10 39 23.8 +0.5
N15K	Kwethluk River	14.37 300	Pn		Pn	10 39 26.5 +0.8
G21K	Aiakaket	14.45 329	Pn		Pn	10 39 28.5 +1.8
J17K	VABM Dome	14.78 313	Pn		Pn	10 39 32.4 +1.1
H19K	Roundabout Mou	14.78 323	Pn		Pn	10 39 33.3 +2.0
K15K	Wolf Creek Mou	15.49 308	Pn		Pn	10 39 41.6 +0.9
K15K	comp=Z,9.9nm,1.1s		IAmb		IAmb	10 39 49.0
D23K	Nanushuk River	15.57 338	Pn		Pn	10 39 43.0 +1.3
D23K	comp=Z,11nm,1.1s		IAmb		IAmb	10 39 51.9
BPMT	Black Pine Rid	16.02 115	Pn		Pn	10 39 47.6 -0.4
HLID	Hailey	17.57 123	P		Pn	10 40 06.2 -1.3
HLID	comp=Z,3.4nm,1.0s		IAmb		IAmb	10 40 12.6
ELK	Elko comp=Z,45nm,20.8s,baz=326,slow=40	19.41 130	LR		LR	10 48 44.6
NVAR	Mina Array Bea comp=Z,0.2nm,0.6s,baz=314,slow=7.6,SNR=1.6 comp=Z,0.2nm,0.6s	20.14 140	P		P	10 40 35.7 -1.1
PDAR	Pinedale Array comp=Z,0.7nm,0.8s,baz=319,slow=7.4,SNR=12 comp=Z,0.7nm,0.8s	20.57 117	P		P	10 40 41.5 +0.2
TXAR	Lajitas Array comp=Z,0.2nm,0.6s,baz=349,slow=12,SNR=2.8 comp=Z,0.2nm,0.6s	34.12 127	P		P	10 42 48.7 +1.3
H11N2	WAKE ISLAND Hy baz=36,slow=76,SNR=640	56.08 255	T		T	11 47 02.8
H11N3	WAKE ISLAND Hy baz=36,slow=76,SNR=681	56.08 255	T		T	11 47 03.0
H11N1	WAKE ISLAND Hy baz=36,slow=76,SNR=515	56.09 255	T		T	11 46 54.4
H11S1	WAKE ISLAND Hy baz=28	57.17 254	T		T	11 48 17.0
H11S2	WAKE ISLAND Hy baz=28,slow=74,SNR=256	57.18 254	T		T	11 48 22.2
H11S3	WAKE ISLAND Hy baz=28,slow=74,SNR=159	57.19 254	T		T	11 48 24.5
KURBB	Kurchatov Arra comp=Z,0.3nm,0.4s,baz=19,slow=6.2,SNR=1.9 comp=Z,0.3nm,0.4s	70.92 338	P		P	10 47 21.0 +1.8
MKAR	Makanchi Array comp=Z,0.3nm,0.5s,baz=31,slow=7.0,SNR=2.9 comp=Z,0.3nm,0.5s	73.65 334	P		P	10 47 37.7 +2.0
QSPA	South Pole Qui comp=Z,0.7nm,0.8s,baz=50,slow=2.2,SNR=1.5	145.05 180	PKPbc		PKiKP	10 55 40.4 -1.8

IDC ***03*** *10:46:47.2±0.7,2°.35N×126°.57E,h0km,mb3.9/11, mbtmp3.9/11,Error ellipse: s-maj=44.7km s-min=14.4km az=72.0*
DJA ***03*** *10:46:51.2±0.4,3°.N±4°×12°.7E±°,h10km,M3.5/1,MLv3.8/6, MLv3.5/1*
NEIC ***03*** *10:46:53.6±0.7,2°.21N±0°.09×126°.15E±0°.04,h47km±11km, mb4.1/18,Error ellipse: s-maj=13.3km s-min=4.7km az=188.0*
ISC 03 10:46:53.8±0.5,2°.18N±0°.06×126°.19E±0°.10,h50km,n42,
σ1s03/40,mb4.0/19,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	Sangihe	1.63	336	P	Pn	10 47 20.5	+0.3
TNTI	Ternate	1.83	140		Pn	10 47 23.0	+0.1
TNTI	Ternate	1.83	140	P	Pn	10 47 23.6	+0.7
KMSI	Cibinong	2.72	234	P	Pn	10 47 43.9	+8.8
SANI	Sanana	4.21	183	P	Pn	10 48 00.4	+4.9
LUWI	Luwuk	4.68	227	Pn	Pn	10 48 00.9	-1.1
APSI	Ampana	5.48	236	P	Pn	10 48 25.8	+13
MYLDM	Lahad Datu	8.23	291	Pn	Pn	10 48 50.1	-0.6
JAY	Jayapura 0.3nm,0.3s,baz=308,slow=2.7,SNR=3.7	15.25	108	Pn	Pn	10 50 26.5	+0.4
MTN	Manton Dam	15.71	162	Pn	Pn	10 50 31.5	-0.5
KNRA	Kununurra	17.93	172	P	Pn	10 50 59.3	-0.3
KNRA	comp=Z,12nm,1.1s			IAmb	IAmb	10 51 17.8	
FITZ	Fitzroy Crossi	20.16	182	P	P	10 51 23.7	-0.5
FITZ	Fitzroy Crossi comp=Z,2.7nm,0.6s,baz=11,slow=7.5,SNR=9.2	20.16	182	P	Pn	10 51 28.1	+1.7
YULB	Yu-li	21.61	348	P	P	10 51 38.4	-1.4
YULB	comp=Z,14nm,1.0s			IAmb	IAmb	10 51 39.9	
WB0	Warramunga Arr	23.25	160	P	P	10 51 56.8	-0.3
WB0	comp=Z,4.6nm,0.6s			IAmb	IAmb	10 52 00.1	
WRAB	Tennant Creek comp=Z,5.2nm,0.8s	23.39	160	P	P	10 51 58.5	+0.1
WRAB				IAmb	IAmb	10 52 07.8	
WRA	Warramunga Arr	23.40	160	P	P	10 51 58.0	-0.5
WRA	Warramunga Arr comp=Z,2.4nm,0.5s,baz=338,slow=10,SNR=32	23.40	160	P	P	10 51 57.4	-1.1
WRA	comp=Z,0.2nm,0.6s,baz=320,slow=3.1,SNR=1.9 comp=Z,2.4nm,0.5s			PcP	PcP	10 55 44.4	+0.4
WB2	Warramunga Arr	23.40	160	P	P	10 51 58.4	-0.1
WB2	comp=Z,6.5nm,0.9s			IAmb	IAmb	10 52 07.9	
WR8	Warramunga Arr	23.46	160	P	P	10 51 58.9	-0.3
WR8	comp=Z,4.9nm,0.8s			IAmb	IAmb	10 52 04.4	
WR0	Warramunga Arr	23.48	160	P	P	10 51 59.0	-0.3
WR0	comp=Z,13nm,1.4s			IAmb	IAmb	10 52 11.3	
AS31	Alice Springs	26.77	164	P	P	10 52 28.7	-0.5
ASAR	Alice Springs	26.77	164	P	P	10 52 28.5	-0.7
ASAR	Alice Springs comp=Z,0.7nm,0.5s,baz=345,slow=7.0,SNR=19	26.77	164	P	P	10 52 29.1	-0.1
ASAR	comp=Z,0.8nm,0.7s,baz=345,slow=1.9,SNR=9.1 comp=Z,0.7nm,0.5s			PcP	PcP	10 55 52.9	+1.4
CMAR	Chiang Mai Arr comp=Z,0.8nm,0.3s,baz=97,slow=10,SNR=2.8 comp=Z,0.8nm,0.3s	31.22	303	P	P	10 53 09.9	+1.1
FORT	Forrest	32.83	177	P	P	10 53 21.9	-0.9
KSRS	Korea Array comp=Z,1.8nm,0.9s,baz=180,slow=9.9,SNR=10.0 comp=Z,1.8nm,0.9s	35.14	2	P	P	10 53 41.4	-1.3
BBOO	Buckleboo	36.03	166	P	P	10 53 50.5	+0.1
EIDS	Eidsvold	36.49	140	P	P	10 53 53.0	-1.5
STKA	Stephens Creek	36.90	158	P	P	10 53 57.4	-0.4
STKA	comp=Z,5.1nm,0.9s			IAmb	IAmb	10 54 15.7	
STKA	Stephens Creek comp=Z,1.1nm,0.4s,baz=332,slow=9.8,SNR=5.9 comp=Z,1.1nm,0.4s	36.90	158	P	P	10 53 56.9	-0.9
ARMA	Armidale	40.50	145	P	P	10 54 27.9	-0.3
USRK	Ussuriysk Ar. comp=Z,1.6nm,0.8s,baz=200,slow=12,SNR=2.5 comp=Z,1.6nm,0.8s	42.16	6	P	P	10 54 39.8	-1.6
CAN	Canberra	42.99	152	P	P	10 54 48.4	0.0
CAN	comp=Z,2.3nm,0.8s			IAmb	IAmb	10 54 57.6	
SONM	Songino Array comp=Z,0.5nm,0.5s,baz=203,slow=1.1,SNR=2.4 comp=Z,0.5nm,0.5s	48.59	342	P	P	10 55 32.3	-0.2
MKAR	Makanchi Array	58.52	326	P	P	10 56 44.0	-1.2
MKAR	Makanchi Array comp=Z,0.2nm,0.3s,baz=120,slow=8.0,SNR=4.8 comp=Z,0.2nm,0.3s	58.52	326	P	P	10 56 44.5	-0.6
KURBB	Kurchatov Arra comp=Z,0.7nm,0.5s,baz=128,slow=6.6,SNR=8.2 comp=Z,0.7nm,0.5s	62.75	328	P	P	10 57 14.7	+0.9
BVAR	Borovoye Array comp=Z,0.8nm,0.6s,baz=118,slow=8.3,SNR=3.5 comp=Z,0.8nm,0.6s	68.32	327	P	P	10 57 50.9	+1.1
MAW	Mawson comp=Z,0.6nm,0.3s,baz=66,slow=3.7,SNR=6.2 comp=Z,0.6nm,0.3s	82.12	200	P	P	10 59 12.8	+4.0
I28M	Miner Creek	89.65	25	P	P	10 59 46.1	-0.2
I28M	comp=Z,1.8nm,1.1s			IAmb	IAmb	11 00 12.3	
TXAR	Lajitas Array comp=Z,0.3nm,1.0s,baz=195,slow=1.4,SNR=2.3	122.97	53	PKP	PKiKP	11 05 45.5	-0.3

PRE ***03*** *10:51:39.0±1.0,23°.70S×27°.40E,h0km,ML2.1,Suspected explosion*
BGSI ***03*** *10:51:41.1±1.5,23°.67S×27°.54E,h0km±9km,ML2.5*
ISC 03 10:51:39.3±0.8,23.73S±0.04×27.38E±0.04,h0km,n18,
σ2s21/36,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEPH	Lephalale, Lim	0.41	108	eP	Pg	10 51 47.0	-0.2
LEPH				eS	Sg	10 51 52.5	+0.1
LEPH	comp=Z,163nm,0.5s			IAML		10 51 55.8	
MREMI	Moremi	1.16	3	iP	Pg	10 52 00.1	-1.4
MREMI				iS	Sg	10 52 14.8	-1.8
MREMI	comp=E,341nm,0.2s			IAML		10 52 18.5	
LPHEP	Lephephe	1.44	284	iP	Pb	10 52 08.7	+1.6
LPHEP				iS	Sn	10 52 29.0	+2.5
LPHEP	comp=E,37nm,0.6s			IAML		10 52 32.2	
LBTB	Lobatse	2.06	231	eP	Pn	10 52 16.5	+1.1
LBTB				eS	Sn	10 52 43.5	+1.6
LBTB	comp=Z,17nm,0.7s			IAML		10 52 50.2	
HRAO	HartRAO	2.17	173	iP	Pn	10 52 18.4	+1.5
HRAO				eS	Sn	10 52 45.5	+0.9
HRAO	comp=Z,20nm,0.3s			IAML		10 52 54.4	
KDWAN	Kaudwane	2.52	277	iP	Pn	10 52 23.8	+2.1
KDWAN				iS	Sn	10 52 54.1	+1.1
KDWAN	comp=E,38nm,0.6s			IAML		10 53 12.9	
BROLN	Tlhalogang	2.62	359	iP	Pn	10 52 21.9	-1.2
BROLN				iS	Sn	10 52 53.5	-2.1
BROLN	comp=N,21nm,1.5s			IAML		10 53 19.8	
MUSN	Musina, Limpop	2.70	58	eP	Pn	10 52 24.3	+0.2
MUSN				eS	Sn	10 52 55.9	-1.6
MUSN	comp=Z,11nm,0.6s			IAML		10 53 10.4	
MAKGR	Makgori	3.13	228	iP	Pn	10 52 32.2	+2.2
MAKGR				iS	Sn	10 53 09.2	+1.0
MAKGR	comp=N,60nm,0.4s			IAML		10 53 25.4	
PRYS	Parys	3.18	180	eP	Pn	10 52 32.5	+1.6
PRYS				eS	Sn	10 53 10.3	+0.8
PRYS	comp=Z,5.9nm,0.3s			IAML		10 53 31.7	
PILG	Pilgrimsrest,	3.27	112	eP	Pn	10 52 32.1	0.0
PILG				eS	Sn	10 53 10.8	-1.0
PILG	comp=Z,7.1nm,0.2s			IAML		10 53 25.8	
CRLN	Carolina, Mapu	3.30	134	eP	Pn	10 52 33.6	+1.2
CRLN				eS	Sn	10 53 11.7	-0.7
CRLN	comp=Z,8.5nm,0.8s			IAML		10 53 26.7	
MOPA	Mopani	3.69	88	eP	Pn	10 52 38.1	+0.3
MOPA				eS	Sn	10 53 20.6	-1.4
MOPA	comp=Z,26nm,0.3s			IAML		10 53 35.0	
BOSA	Boshof	5.22	201	eP	Pn	10 52 59.9	+1.0
BOSA				eS	Sn	10 53 59.0	-0.9
BOSA	comp=Z,5.6nm,0.8s			IAML		10 54 28.1	
ALKP	Alkanpan, Nort	7.70	215	eP	Pn	10 53 33.6	+0.8
ALKP				eS	Sn	10 54 57.5	-3.3
ALKP	comp=Z,2.6nm,0.7s			IAML		10 55 50.6	
ALKP	Alkanpan, Nort	7.70	215	eP	Pn	10 53 34.5	+1.7
ALKP				eS	Sn	10 54 55.1	-5.7
ALKP	comp=Z,2.8nm,0.7s			IAML		10 55 49.5	
BRAK	Brakfontein	8.95	205	eP	Pn	10 53 51.5	+1.6
BRAK				eS	Sn	10 55 27.6	-3.9
BRAK	comp=Z,1.2nm,0.7s			IAML		10 55 32.2	
FRAZ	Fraserburg	9.72	212	eP	Pn	10 54 01.5	+0.9
FRAZ				eS	Sn	10 55 44.0	-6.7
FRAZ	comp=Z,1.1nm,0.6s			IAML		10 56 41.5	

IDC 03 10:59:55.0±7.5,27°.03N×104°.61E,h0km,mb3.4/4, mbtmp3.5/4,Error ellipse: s-maj=141.1km s-min=37.5km az=4.0,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	Songino Array 0.7nm,0.4s,baz=171,slow=10,SNR=2.3 0.7nm,0.4s	20.82	3	P	P	11 04 38.2	0.0
KSRS	Korea Array 0.6nm,0.7s,baz=245,slow=11,SNR=4.8 0.6nm,0.7s	22.23	56	P	P	11 04 53.0	-0.3
MKAR	Makanchi Array 0.6nm,0.6s,baz=123,slow=10,SNR=5.4 0.6nm,0.6s	26.45	324	P	P	11 05 34.1	+0.5
KURBB	Kurchatov Arra 0.4nm,0.5s,baz=133,slow=9.1,SNR=4.3 0.4nm,0.5s	30.82	327	P	P	11 06 11.9	-0.6

VKMS ***03*** *11:00:05.0,51°.24N×37°.63E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDG ***03*** *11:00:11.0,51°.27N×37°.65E,h0km,M2.8,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 03 11:00:31.2±6.1,51°.15N×37°.70E,h0km,mbtmp3.2/2, ML3.0/2,Error ellipse: s-maj=69.1km s-min=25.9km az=137.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKASG	Malin Array Be 1.1nm,0.3s,baz=87,slow=11,SNR=1.8	5.38	269	Pn	Pn	11 01 50.9	-1.7
AKASG	1.3nm,0.3s,baz=80,slow=28,SNR=1.2 0.2nm,0.3s			Sn	Sn	11 02 52.1	-3.1
FINES	FINESS Array B 0.2nm,0.3s,baz=147,slow=14,SNR=3.7 0.9nm,0.5s	12.15	333	Pn	Pn	11 03 19.8	-5.4
I26DE	FREYUNG INFRAS baz=71,slow=318,SNR=8.0	15.58	271	I	I	12 30 45.1	

NEIC ***03*** *11:16:42.9±0.4,18°.2N±0°.1×67°.23W±0°.08,h129km±4km, ML2.6/22,Md2.7/11(RSPR),Error ellipse: s-maj=18.9km s-min=9.4km az=197.0*
SDD ***03*** *11:16:43.8±1.7,18°.12N×67°.11W,h136km±12km,MD2.7, ML2.4,MW2.7*
RSPR ***03*** *11:16:43.6,18°.18N×67°.22W,h126km,MD2.6/11*
OSPL ***03*** *11:16:43.2±0.5,18°.09N×67°.31W,h133km±4km,ML2.2*
ISC 03 11:16:45.5±2.3,18°.19N±0°.09×67°.18W±0°.05, h114km±12km,n52,σ0s76/71,6C-14D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRSN	Puerto Rico Se	0.04	45	Pn	Pn	11 17 00.2	-0.9
PRSN	comp=E,208nm,0.2s			IAML		11 17 14.3	
LSP	Las Mesas	0.09	97		Pn	11 17 00.4	-0.7
LSP					Sn	11 17 13.6	+0.7
LSP	Las Mesas	0.09	97	⇓eP	Pn	11 17 00.4	-0.7
LSP	Las Mesas	0.09	97	eS	Sn	11 17 13.6	+0.7
CRPR	Cabo Rojo, PR	0.19	160		Pn	11 17 00.4	-0.8
CRPR					Sn	11 17 13.6	+0.5
CRPR	Cabo Rojo, PR	0.19	160	⇓eP	Pn	11 17 00.6	-0.8
CRPR	Cabo Rojo, PR	0.19	160	eS	Sn	11 17 13.7	+0.5
CRPR	Cabo Rojo, PR	0.19	160	⇓ePg	Pn	11 17 00.6	-0.8
CRPR				eSg	Sn	11 17 13.9	+0.8
CRPR	comp=N,40nm,0.6s			IAML		11 17 14.5	
CRPR	comp=E,39nm,0.2s			IAML		11 17 15.9	
CRPR	Cabo Rojo, PR	0.19	160	iP	Pn	11 17 00.5	-0.8
CRPR				eS	Sn	11 17 12.9	-0.2
CRPR	comp=Z,52nm,0.2s			IAML		11 17 14.4	
MLPR	Magueyes Islan	0.25	150	⇑eP	Pn	11 17 00.5	-1.0
MLPR	Magueyes Islan	0.25	150	eS	Sn	11 17 14.0	+0.6
MLPR	Magueyes Islan	0.25	150	ePg	Pn	11 17 00.7	-0.8
MLPR				⇓eSg	Sn	11 17 14.1	+0.6
MLPR	comp=E,13nm,0.3s			IAML		11 17 14.5	
MLPR	comp=N,13nm,0.3s			IAML		11 17 15.4	
AGPR	Aguadilla, PR	0.29	13		Pn	11 17 00.8	-0.7

AGPR						Sn	11 17 14.6	+0.8
AGPR				IAML			11 17 15.3	
	comp=N,85nm,0.3s							
AGPR				IAML			11 17 15.4	
	comp=E,106nm,0.4s							
AGPR	**Aguadilla, PR**	**0.29**	**13**⇓	*e*P		**Pn**	**11 17 00.9**	**-0.7**
AGPR	**Aguadilla, PR**	**0.29**	**13**⇑	*e*Pg		**Pn**	**11 17 00.9**	**-0.7**
AGPR				*e*Sg		**Sn**	**11 17 14.5**	**+0.8**
AGPR				IAML			11 17 15.2	
	comp=E,130nm,0.3s							
AGPR				IAML			11 17 15.2	
	comp=N,112nm,0.3s							
AGPR	**Aguadilla, PR**	**0.29**	**13**	*i* P		**Pn**	**11 17 00.9**	**-0.7**
AGPR				*e*S		**Sn**	**11 17 14.5**	**+0.8**
AGPR				IAML			11 17 15.0	
	comp=Z,54nm,0.2s							
IDE	**Isla Desecheo**	**0.35**	**305**			**Pn**	**11 17 00.9**	**-0.9**
IDE						**Sn**	**11 17 14.5**	**+0.3**
IDE	**Isla Desecheo**	**0.35**	**305**⇓	*e*P		**Pn**	**11 17 00.9**	**-0.9**
IDE	**Isla Desecheo**	**0.35**	**305**	*e*S		**Sn**	**11 17 14.5**	**+0.3**
AOPR	**Arecibo Observ**	**0.43**	**68**			**Pn**	**11 17 01.5**	**-0.8**
AOPR						**Sn**	**11 17 16.2**	**+1.2**
AOPR	**Arecibo Observ**	**0.43**	**68**⇑	*i* P		**Pn**	**11 17 01.6**	**-0.7**
AOPR	**Arecibo Observ**	**0.43**	**68**	*e*S		**Pn**	**11 17 15.7**	**+0.7**
AOPR	**Arecibo Observ**	**0.43**	**68**⇑	*e*Pg		**Pn**	**11 17 01.7**	**-0.7**
AOPR				⇓*e*Sg		**Sn**	**11 17 15.7**	**+0.7**
AOPR				IAML			11 17 17.0	
	comp=E,532nm,0.2s							
AOPR				IAML			11 17 17.8	
	comp=N,351nm,0.2s							
UUPR	**Utuado, UPR, P**	**0.44**	**81**			**Pn**	**11 17 01.6**	**-0.7**
UUPR						**Sn**	**11 17 15.8**	**+0.7**
UUPR	**Utuado, UPR, P**	**0.44**	**81**⇓	*e*P		**Pn**	**11 17 01.8**	**-0.5**
UUPR	**Utuado, UPR, P**	**0.44**	**81**	*e*S		**Sn**	**11 17 15.9**	**+0.8**
OBIP	**Obispado Ponce**	**0.56**	**105**			**Pn**	**11 17 02.6**	**-0.5**
OBIP						**Sn**	**11 17 17.3**	**+1.0**
OBIP	**Obispado Ponce**	**0.56**	**105**⇓	*e*P		**Pn**	**11 17 02.8**	**-0.3**
OBIP	**Obispado Ponce**	**0.56**	**105**	*e*S		**Sn**	**11 17 17.4**	**+1.0**
CELP	**Cerrillos**	**0.58**	**101**			**Pn**	**11 17 02.8**	**-0.5**
CELP						**Sn**	**11 17 17.9**	**+1.2**
CELP				IAML			11 17 19.1	
	comp=E,75nm,0.4s							
CELP				IAML			11 17 20.8	
	comp=N,61nm,0.2s							
CELP	**Cerrillos**	**0.58**	**101**⇓	*e*P		**Pn**	**11 17 02.9**	**-0.4**
CELP	**Cerrillos**	**0.58**	**101**	*e*S		**Sn**	**11 17 17.6**	**+1.0**
CELP	**Cerrillos**	**0.58**	**101**	*e*Pg		**Pn**	**11 17 02.5**	**-0.8**
CELP				⇓*e*Sg		**Sn**	**11 17 17.6**	**+1.0**
CELP				IAML			11 17 19.0	
	comp=E,75nm,0.5s							
CELP				IAML			11 17 20.8	
	comp=N,63nm,0.2s							
EMPR	**Esperanza - Ma**	**0.68**	**65**			**Pn**	**11 17 03.2**	**-0.8**
EMPR						**Sn**	**11 17 18.7**	**+0.7**
EMPR				IAML			11 17 19.5	
	comp=N,183nm,0.2s							
EMPR				IAML			11 17 19.6	
	comp=E,213nm,0.2s							
EMPR	**Esperanza - Ma**	**0.68**	**65**⇓	*e*P		**Pn**	**11 17 03.1**	**-0.8**
EMPR	**Esperanza - Ma**	**0.68**	**65**	*e*S		**Sn**	**11 17 18.7**	**+0.7**
ECPR	**Experimental S**	**0.79**	**80**	*i* P		**Pn**	**11 17 04.3**	**-0.6**
ECPR	**Experimental S**	**0.79**	**80**	*e*S		**Sn**	**11 17 20.3**	**+0.8**
SJG	**San Juan**	**0.98**	**94**	*i* P		**Pn**	**11 17 06.2**	**-0.5**
SJG				IAML			11 17 26.8	
	comp=Z,29nm,0.2s							
IGPR	**InterUniversit**	**1.04**	**102**			**Pn**	**11 17 06.8**	**-0.6**
IGPR						**Sn**	**11 17 24.9**	**+1.0**
IGPR	**InterUniversit**	**1.04**	**102**⇑	*e*P		**Pn**	**11 17 06.8**	**-0.6**
IGPR	**InterUniversit**	**1.04**	**102**	*e*S		**Sn**	**11 17 24.9**	**+1.0**
GCPR	**Guaynabo City**	**1.05**	**83**			**Pn**	**11 17 06.1**	**-1.3**
GCPR						**Sn**	**11 17 24.3**	**+0.3**
GCPR				IAML			11 17 25.0	
	comp=N,47nm,0.4s							
GCPR	**Guaynabo City**	**1.05**	**83**⇑	*e*P		**Pn**	**11 17 06.5**	**-0.9**
GCPR	**Guaynabo City**	**1.05**	**83**	*e*S		**Sn**	**11 17 24.2**	**+0.3**
PDPR	**Patillas Dam,**	**1.11**	**98**	Pn		**Pn**	**11 17 07.3**	**-0.8**
PDPR				IAML			11 17 27.6	
	comp=E,59nm,0.3s							
PDPR				IAML			11 17 29.5	
	comp=N,64nm,0.2s							
PDPR	**Patillas Dam,**	**1.11**	**98**⇓	*e*P		**Pn**	**11 17 07.3**	**-0.8**
PDPR	**Patillas Dam,**	**1.11**	**98**	*e*S		**Sn**	**11 17 25.9**	**+0.7**
HUMP	**Col San Antoni**	**1.26**	**92**			**Pn**	**11 17 08.8**	**-1.0**
HUMP						**Sn**	**11 17 28.5**	**+0.3**
HUMP				IAML			11 17 30.1	
	comp=N,96nm,0.3s							
HUMP				IAML			11 17 31.6	
	comp=E,78nm,0.2s							
HUMP	**Col San Antoni**	**1.26**	**92**⇓	*e*P		**Pn**	**11 17 09.4**	**-0.3**
HUMP	**Col San Antoni**	**1.26**	**92**	*e*S		**Sn**	**11 17 28.7**	**+0.5**
MIDR	**Miches**	**1.94**	**294**	*e*Pg		**Pn**	**11 17 18.1**	**+0.2**
MIDR				IAML			11 17 45.3	
	comp=N,9.4nm,1.1s							

*IDC **03** 11:46:33.6±4.0, 17°.53S×176°.35W, h288km±34km, mb3.2/4, mbtmp3.9/6, Error ellipse: s-maj=61.1km s-min=28.0km az=151.0*

ISC 03 11:46:29.4±1.3, 17°.8S±0°.4×176°.0W±0°.2, h250km, n6, σ1§50/7, mb3.1/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.67**	**270**	P	**Pn**	**11 47 54.9**	**+1.3**
	6.6nm,0.8s,baz=105,slow=12,SNR=4.5						
DZM	**Mont Dzumac**	**17.05**	**253**	P	**P**	**11 50 12.1**	**+0.3**
	4.3nm,0.5s,baz=86,slow=19,SNR=16						
WRA	**Warramunga Arr**	**46.91**	**259**	P	**P**	**11 54 33.7**	**-1.7**
	0.4nm,0.4s,baz=96,slow=8.2,SNR=11						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**47.03**	**254**	P	**P**	**11 54 34.8**	**-1.6**
	0.6nm,0.5s,baz=98,slow=8.4,SNR=22						
ASAR				PcP	**PcP**	**11 56 03.4**	**-0.9**
	0.4nm,0.9s,baz=98,slow=3.4,SNR=2.4						
	0.6nm,0.5s						
NVAR	**Mina Array Bea**	**77.76**	**43**	P	**P**	**11 57 59.6**	**+0.3**
	0.1nm,0.3s,baz=228,slow=4.8,SNR=1.8						
	0.1nm,0.3s						
MAW	**Mawson**	**84.73**	**199**	P	**P**	**11 58 36.1**	**+1.0**
	1.0nm,0.3s,baz=81,slow=5.4,SNR=9.9						
	1.0nm,0.3s						

*NEIC **03** 11:49:37.2±0.8, 19°.15N±0°.07×145°.5E±0°.2, h171km±8km, mb4.3/24, Error ellipse: s-maj=23.4km s-min=9.3km az=98.0*

*IDC **03** 11:49:39.0±1.7, 19°.17N×145°.39E, h199km±16km, mb3.3/9, mbtmp3.9/12, Error ellipse: s-maj=27.2km s-min=10.0km az=82.0*

ISC 03 11:49:40.3±0.5, 19°.16N±0°.05×145°.3E±0°.1, h214km, n38, σ1§31/40, mb4.0/21, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.55**	**184**	Pn	**Pn**	**11 50 58.1**	**-4.0**
GUMO	**Guam**	**5.55**	**184**	P	**Pn**	**11 51 01.3**	**-0.8**
	15nm,0.3s,baz=63,slow=5.7,SNR=6.3						
GUMO				S	**S**	**11 52 06.6**	**-0.2**
	36nm,0.3s,baz=24,slow=20,SNR=5.0						
JCJ	**Chichijima**	**8.41**	**341**	Pn	**Pn**	**11 51 35.6**	**-3.2**
JCJ	**Chichijima**	**8.41**	**341**	P	**Pn**	**11 51 37.2**	**-1.6**
	6.4nm,0.3s						
JCJ				S	**S**	**11 53 11.2**	**-2.4**
MJAR	**Matsushiro Arr**	**18.41**	**342**	P	**P**	**11 53 40.5**	**+0.9**
	0.5nm,0.5s,baz=200,slow=10,SNR=2.6						
MANU	**Manus Island**	**21.17**	**174**	P	**P**	**11 54 08.1**	**-1.2**
MANU				IAmb	IAmb	11 54 10.1	
	comp=Z,16nm,0.7s						
ERM	**Erimo**	**22.86**	**356**	P	**P**	**11 54 25.1**	**0.0**
RABL	**Rabaul**	**24.16**	**163**	P	**P**	**11 54 35.8**	**-1.4**
INCN	**Inchon**	**24.49**	**322**	P	**P**	**11 54 41.4**	**+1.4**
COEN	**Coen**	**32.97**	**184**	P	**P**	**11 55 54.5**	**-0.7**
COEN				IAmb	IAmb	11 55 55.7	
	comp=Z,8.6nm,1.1s						
MTN	**Manton Dam**	**34.73**	**205**	P	**P**	**11 56 10.3**	**0.0**
MTN				IAmb	IAmb	11 56 14.3	
	comp=Z,6.8nm,0.5s						
PET	**Petropavlovsk**	**35.36**	**14**	P	**P**	**11 56 15.9**	**+0.7**
PET				IAmb	IAmb	11 56 41.3	
	comp=Z,6.9nm,1.0s						
KNRA	**Kununurra**	**38.25**	**206**	P	**P**	**11 56 41.0**	**+1.0**
KNRA				IAmb	IAmb	11 56 43.1	
	comp=Z,6.8nm,0.5s						
WB0	**Warramunga Arr**	**40.14**	**196**	P	**P**	**11 56 56.1**	**+0.5**
WB0				IAmb	IAmb	11 56 59.8	
	comp=Z,3.2nm,0.7s						
WR0	**Warramunga Arr**	**40.28**	**196**	P	**P**	**11 56 57.5**	**+0.7**
WR8	**Warramunga Arr**	**40.29**	**196**	P	**P**	**11 56 57.6**	**+0.7**
WR8				IAmb	IAmb	11 56 59.3	
	comp=Z,6.0nm,1.1s						
WRAB	**Tennant Creek**	**40.31**	**196**	P	**P**	**11 56 56.0**	**-1.0**
WRAB				IAmb	IAmb	11 57 01.1	
	comp=Z,5.4nm,0.6s						
WB2	**Warramunga Arr**	**40.32**	**196**	P	**P**	**11 56 57.9**	**+0.8**
WB2				IAmb	IAmb	11 56 58.1	
	comp=Z,4.9nm,0.6s						
WRA	**Warramunga Arr**	**40.32**	**196**	P	**P**	**11 56 57.5**	**+0.4**
WRA	**Warramunga Arr**	**40.32**	**196**	P	**P**	**11 56 57.6**	**+0.4**
	comp=Z,2.3nm,0.4s,baz=6.1,slow=9.0,SNR=31						
	comp=Z,2.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**41.76**	**209**	P	**P**	**11 57 10.4**	**+1.6**
AS31	**Alice Springs**	**43.99**	**195**	P	**P**	**11 57 27.1**	**+0.3**
ASAR	**Alice Springs**	**43.99**	**195**	P	**P**	**11 57 26.8**	**0.0**
	comp=Z,1.4nm,0.5s,baz=13,slow=7.1,SNR=36						
	comp=Z,1.4nm,0.5s						
ATKA	**Atka Island**	**45.61**	**34**	P	**P**	**11 57 39.4**	**+0.3**
DZM	**Mont Dzumac**	**45.89**	**152**	P	**P**	**11 57 41.2**	**-0.6**
DZM	**Mont Dzumac**	**45.89**	**152**	P	**P**	**11 57 40.9**	**-0.9**
	comp=Z,2.3nm,0.5s,baz=245,slow=4.0,SNR=14						
	comp=Z,2.3nm,0.5s						
MBWA	**Marble Bar**	**47.25**	**213**	P	**P**	**11 57 54.0**	**+1.8**
MBWA				IAmb	IAmb	11 58 19.6	
	comp=Z,8.2nm,1.1s						
STKA	**Stephens Creek**	**50.87**	**184**	P	**P**	**11 58 19.8**	**+0.4**
STKA				IAmb	IAmb	11 58 47.8	
	comp=Z,1.4nm,0.3s						
FORT	**Forrest**	**52.35**	**199**	P	**P**	**11 58 31.5**	**+1.1**
FORT				IAmb	IAmb	11 58 59.0	
	comp=Z,12nm,1.1s						
ZALV	**Zalesovo Beam**	**57.43**	**322**	P	**P**	**11 59 06.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=83,slow=12,SNR=1.8						
	comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**57.88**	**314**	P	**P**	**11 59 09.3**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=134,slow=6.2,SNR=2.0						
	comp=Z,0.3nm,0.8s						
NWAO	**Narrogin (SRO)**	**58.33**	**208**	P	**P**	**11 59 14.4**	**+1.3**
CNPM	**China Poot**	**60.27**	**32**	P	**P**	**11 59 27.0**	**+1.0**
KURBB	**Kurchatov Arra**	**60.73**	**318**	P	**P**	**11 59 31.2**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=91,slow=7.6,SNR=3.0						
	comp=Z,0.3nm,0.6s						
IL31		**63.40**	**26**	P	**P**	**11 59 46.8**	**+0.1**
ILAR	**Eielson Array**	**63.40**	**26**	P	**P**	**11 59 46.8**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=252,slow=15,SNR=2.3						
	comp=Z,0.1nm,0.4s						
NVAR	**Mina Array Bea**	**83.15**	**52**	P	**P**	**12 01 43.6**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=283,slow=6.5,SNR=5.2						
	comp=Z,0.6nm,0.7s						
FINES	**FINESS Array B**	**86.31**	**335**	P	**P**	**12 01 58.6**	**+0.8**
	comp=Z,2.4nm,0.9s,baz=70,slow=6.3,SNR=6.1						
	comp=Z,2.4nm,0.9s						

*NEIC **03** 11:51:12.7±1.3, 54°.1N±0°.1×151°.7W±0°.1, h10km±8km, ML3.5/24, ML3.4(AEIC), Error ellipse: s-maj=15.0km s-min=11.8km az=168.0*

*AEIC **03** 11:51:18.2±1.0, 54°.1N±0°.1×151°.7W±0°.1, h12km±8km, Error ellipse: s-maj=17.1km s-min=11.4km az=165.0*

ISC 03 11:51:11.4±1.8, 54°.1N±0°.1×151°.70W±0°.08, h10km, n92, σ1§45/96, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHIR	**Chirikof Islan**	**2.86**	**309**		**Pn**	**11 51 57.6**	**+0.7**
CHIR	**Chirikof Islan**	**2.86**	**309**	P	**Pn**	**11 51 57.7**	**+0.7**
SII	**Sitkinak Islan**	**2.86**	**331**		**Pn**	**11 51 57.9**	**+0.8**
SII					**Sn**	**11 52 30.4**	**-1.2**
SII				IAML		11 52 31.9	
	comp=N,116nm,0.8s						
SII				IAML		11 52 32.2	
	comp=E,100nm,0.7s						
SII	**Sitkinak Islan**	**2.86**	**331**	P	**Pn**	**11 51 58.3**	**+1.2**
SII	**Sitkinak Islan**	**2.86**	**331**	S	**Sn**	**11 52 31.0**	**-0.6**
OHAK	**Old Harbor**	**3.27**	**345**		**Pn**	**11 52 03.9**	**+1.2**
OHAK					**Sn**	**11 52 40.2**	**-1.5**
OHAK	**Old Harbor**	**3.27**	**345**	P	**Pn**	**11 52 03.8**	**+1.1**
OHAK	**Old Harbor**	**3.27**	**345**	S	**Sn**	**11 52 40.3**	**-1.4**
KDAK	**Kodiak Island**	**3.74**	**353**		**Pn**	**11 52 10.6**	**+1.4**
KDAK					**Sn**	**11 52 50.9**	**-2.4**
KDAK				IAML		11 52 52.0	
	comp=E,67nm,0.8s						
KDAK				IAML		11 52 52.6	
	comp=E,68nm,0.2s						
R18K	**Karluk**	**3.82**	**337**		**Pn**	**11 52 11.9**	**+1.7**
R18K					**Sn**	**11 52 54.7**	**-0.5**
PLK4	**Peulik 4**	**4.42**	**325**		**Pn**	**11 52 20.5**	**+1.9**
PLK4				IAML		11 53 14.2	
	comp=E,42nm,1.1s						
PLK4				IAML		11 53 15.8	
	comp=N,39nm,0.6s						
PLK3	**Peulik 3**	**4.44**	**326**		**Pn**	**11 52 21.0**	**+2.2**
CHGN	**Chignik**	**4.45**	**303**		**Pn**	**11 52 20.1**	**+1.3**
CHGN				IAML		11 53 12.5	
	comp=N,52nm,0.1s						
CHGN				IAML		11 53 12.6	
	comp=E,72nm,0.1s						
CAHL	**Cahill**	**4.46**	**335**		**Pn**	**11 52 20.9**	**+1.8**
PLK2	**Peulik 2**	**4.52**	**327**		**Pn**	**11 52 22.2**	**+2.4**
SYI	**Shuyak Island**	**4.56**	**355**		**Pn**	**11 52 22.0**	**+1.7**
ANPK	**Aniakchak Peak**	**4.59**	**310**		**Pn**	**11 52 22.8**	**+2.0**
ACHA	**Angle Creek He**	**4.61**	**335**		**Pn**	**11 52 23.0**	**+1.9**
ANPB	**Aniakchak Plen**	**4.63**	**309**		**Pn**	**11 52 23.1**	**+1.6**
CNBA	**Chernabura Isl**	**4.66**	**282**	Pn	**Pn**	**11 52 21.4**	**-0.4**
CNBA				IAML		11 53 16.8	
	comp=N,25nm,0.3s						
CNBA				IAML		11 53 17.7	
	comp=E,34nm,0.7s						
CHNA	**Chernabura Isl**	**4.67**	**282**	P	**Pn**	**11 52 21.4**	**-0.4**
KAHG	**Katmai Hook Gl**	**4.70**	**341**		**Pn**	**11 52 24.9**	**+2.5**
Q19K	**Cape Douglas,**	**4.98**	**348**	Pn	**Pn**	**11 52 28.7**	**+2.5**
SDPT	**Sand Point**	**5.25**	**288**	Pn	**Pn**	**11 52 29.9**	**+0.1**
SDPT				IAML		11 53 32.3	
	comp=E,35nm,1.1s						
SDPT				IAML		11 53 38.7	
	comp=N,30nm,1.2s						
SDPT	**Sand Point**	**5.25**	**288**	P	**Pn**	**11 52 30.1**	**+0.3**
SDPT	**Sand Point**	**5.25**	**288**	S	**Sn**	**11 53 28.0**	**-2.2**
Q16K	**King Salmon**	**5.37**	**331**		**Pn**	**11 52 33.0**	**+1.6**
CNPM	**China Poot**	**5.46**	**2**		**Pn**	**11 52 33.9**	**+1.1**
P18K	**Big Mountain,**	**5.67**	**341**		**Pn**	**11 52 37.0**	**+1.4**
P16K	**Nushagak River**	**6.06**	**328**	Pn	**Pn**	**11 52 42.0**	**+1.1**
Q18K	**Koktuh Hills**	**6.10**	**343**		**Pn**	**11 52 43.2**	**+1.7**
Q23K	**Middleton Isla**	**6.11**	**27**	Pn	**Pn**	**11 52 41.9**	**+0.2**
SEW	**Seward**	**6.16**	**11**	Pn	**Pn**	**11 52 42.7**	**+0.3**
S12K	**Black Hills**	**6.20**	**289**	Pn	**Pn**	**11 52 43.5**	**+0.6**
O19K	**Port Alsworth**	**6.29**	**348**	Pn	**Pn**	**11 52 46.1**	**+1.9**
P23K	**Montague Islan**	**6.38**	**20**	Pn	**Pn**	**11 52 45.5**	**+0.2**
RED	**Redoubt Volcan**	**6.38**	**355**	Pn	**Pn**	**11 52 47.2**	**+1.8**
SLKM	**Skilak Lake**	**6.49**	**6**	Pn	**Pn**	**11 52 48.1**	**+1.2**
O16K	**Kokwok River B**	**6.54**	**330**		**Pn**	**11 52 48.5**	**+0.9**
O15K	**Ungalikthiuk R**	**6.79**	**322**		**Pn**	**11 52 52.4**	**+1.4**
N19K	**Bonanza Creek**	**6.92**	**349**		**Pn**	**11 52 54.5**	**+1.7**
HIN	**Hinchinbrook I**	**6.93**	**22**	Pn	**Pn**	**11 52 53.6**	**+0.6**
N18K	**Kilae Creek**	**6.99**	**343**	Pn	**Pn**	**11 52 55.2**	**+1.5**
KAIM	**Kayak Island**	**7.08**	**31**	Pn	**Pn**	**11 52 55.3**	**+0.4**
RC01	**Rabbit Creek A**	**7.11**	**8**	Pn	**Pn**	**11 52 56.7**	**+1.3**
N17K	**Nushagak Hills**	**7.11**	**338**	Pn	**Pn**	**11 52 57.0**	**+1.6**
EYAK	**Cordova Ski Ar**	**7.24**	**24**	Pn	**Pn**	**11 52 57.8**	**+0.7**
EYAK	**Cordova Ski Ar**	**7.24**	**24**	P	**Pn**	**11 52 57.8**	**+0.7**
O14K	**Tigyukauivet M**	**7.39**	**318**	Pn	**Pn**	**11 53 00.7**	**+1.6**
SUCK	**Suckling Hills**	**7.39**	**32**		**Pn**	**11 53 00.3**	**+1.0**
HMT	**Hamilton**	**7.46**	**30**		**Pn**	**11 53 01.5**	**+1.3**
PMR	**Palmer**	**7.66**	**9**		**Pn**	**11 53 04.2**	**+1.4**
PMR	**Palmer**	**7.66**	**9**	S	**Sn**	**11 54 26.8**	**-2.7**
BERG	**Berg Lake**	**7.67**	**31**		**Pn**	**11 53 03.9**	**+0.9**
GRIN	**Grindle Hills**	**7.70**	**33**		**Pn**	**11 53 05.0**	**+1.5**
DIV	**Divide**	**7.75**	**22**		**Pn**	**11 53 04.8**	**+0.6**
M18K	**Stony River**	**7.75**	**345**		**Pn**	**11 53 06.0**	**+1.9**
BMRM	**Bremner River**	**7.88**	**26**		**Pn**	**11 53 07.0**	**+1.0**
M17K	**Holitna River**	**7.95**	**340**		**Pn**	**11 53 08.9**	**+2.0**
M16K	**Timber Creek**	**7.97**	**334**		**Pn**	**11 53 09.0**	**+1.7**
WAX	**Waxell Ridge**	**7.98**	**33**		**Pn**	**11 53 08.8**	**+1.4**
N14K	**Kuskokwak Cree**	**8.00**	**321**	Pn	**Pn**	**11 53 08.9**	**+1.4**
KLU	**Klutina**	**8.04**	**20**		**Pn**	**11 53 09.4**	**+1.1**
SCM	**Sheep Creek Mo**	**8.11**	**15**		**Pn**	**11 53 11.1**	**+1.9**
ISLE	**Juniper Island**	**8.26**	**34**		**Pn**	**11 53 12.8**	**+1.5**
YAH	**Yahtse**	**8.29**	**37**		**Pn**	**11 53 13.2**	**+1.4**
N25K	**Chitina, Valde**	**8.44**	**24**		**Pn**	**11 53 14.7**	**+1.1**
GRNC	**Granite Creek**	**8.55**	**35**		**Pn**	**11 53 16.7**	**+1.3**
MCARA	**McCarthy VSAT**	**8.66**	**29**		**Pn**	**11 53 18.5**	**+1.8**
PCA	**Pinnacle**	**8.66**	**41**		**Pn**	**11 53 18.0**	**+1.3**
PNL	**Peninsula**	**8.75**	**45**	P	**Pn**	**11 53 18.8**	**+0.9**
WAT6	**Susitna Watana**	**8.77**	**12**		**Pn**	**11 53 19.3**	**+1.0**
BCPM	**Bancas Point**	**8.82**	**43**		**Pn**	**11 53 20.2**	**+1.4**
CTGM	**Chitina Glacie**	**8.86**	**35**		**Pn**	**11 53 20.8**	**+1.3**
LOGN	**Logan Glacier**	**8.88**	**36**		**Pn**	**11 53 21.0**	**+1.3**
O28M	**Mount Upton**	**9.13**	**38**		**Pn**	**11 53 24.8**	**+1.5**
DHY	**Denali Highway**	**9.30**	**12**		**Pn**	**11 53 27.3**	**+1.9**
P29M	**Windy Craggy**	**9.44**	**48**	Pn	**Pn**	**11 53 28.3**	**+0.9**
O29M	**Mount Kennedy**	**9.45**	**43**		**Pn**	**11 53 29.1**	**+1.5**
PAX	**Paxson**	**9.48**	**18**		**Pn**	**11 53 29.7**	**+1.7**
YUK8	**Steele Glacier**	**9.63**	**37**		**Pn**	**11 53 32.5**	**+2.4**
HYT	**Haines Junctio**	**10.19**	**43**	Pn	**Pn**	**11 53 38.9**	**+1.2**
L27K	**Beaver Creek,**	**10.36**	**26**	Pn	**Pn**	**11 53 41.1**	**+1.2**
SKAG	**Skagway**	**10.46**	**52**	P	**Pn**	**11 53 42.3**	**+1.0**
JIS	**Juneau Island**	**10.52**	**59**	P	**Pn**	**11 53 42.3**	**+0.3**
M29M	**Somme Creek**	**10.88**	**34**	Pn	**Pn**	**11 53 48.4**	**+1.3**
P32M	**Atlin**	**11.27**	**53**	Pn	**Pn**	**11 53 52.8**	**+0.4**
L29M	**L29M**	**11.46**	**32**	Pn	**Pn**	**11 53 56.7**	**+1.7**
P33M	**Teslin, Yukon**	**11.93**	**51**	Pn	**Pn**	**11 54 02.1**	**+0.7**
K29M	**Barlow Dome**	**12.18**	**31**	Pn	**Pn**	**11 54 07.0**	**+2.0**
N32M	**Quiet Lake**	**12.20**	**47**	Pn	**Pn**	**11 54 06.5**	**+1.3**
R33M	**Jennings River**	**12.54**	**57**	Pn	**Pn**	**11 54 09.9**	**+0.2**

*OSPL **03** 11:51:54.7±0.6, 19°.10N×70°.03W, h0km±7km, ML2.1*
*SDD **03** 11:51:55.6±1.4, 19°.19N×70°.01W, h11km±38km, MD3.1, ML2.5, MW3.1*

ISC 03 11:51:54.7±1.2, 19°.18N±0°.04×70°.03W±0°.05, h10km±13km, n7, σ0§51/14, 1C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LONA1	**Toro Cenizo, N**	**0.25**	**39**	*i* P	**Pg**	**11 51 59.4**	**-0.4**
LONA1				*e*S	**Sg**	**11 52 03.6**	**+0.4**
LONA1				IAML		11 52 05.3	
	comp=Z,1μm,1.3s						
CADR	**Cabrera**	**0.49**	**10**	*e*Pg	**Pg**	**11 52 03.9**	**-0.3**
CADR				*e*Sg	**Sg**	**11 52 11.3**	**+0.6**
CADR				IAML		11 52 12.0	
	comp=N,576nm,0.5s						
ABDR	**Alto Bandera**	**0.68**	**237**	*e*Pg	**Pg**	**11 52 07.3**	**-0.6**
ABDR				*e*Sg	**Sg**	**11 52 17.4**	**+0.6**
ABDR				IAML		11 52 18.0	
	comp=N,129nm,0.2s						
SC01	**Santiago de lo**	**0.70**	**290**	*i* P	**Pg**	**11 52 08.2**	**-0.1**
SC01				*e*S	**Sg**	**11 52 17.5**	**0.0**
SC01				IAML		11 52 23.4	
	comp=Z,59nm,0.3s						
BANI	**BANI**	**0.85**	**202**⇑	*e*Pg	**Pg**	**11 52 11.0**	**-0.1**
BANI				*e*Sg	**Sb**	**11 52 23.4**	**+0.4**
BANI				IAML		11 52 24.6	
	comp=N,133nm,0.2s						
LUDR	**Luperon**	**1.12**	**309**	*e*Pg	**Pg**	**11 52 15.9**	**-0.3**
LUDR				*e*Sg	**Sb**	**11 52 31.6**	**+0.8**
LOPP1	**Punta Rusia, P**	**1.29**	**301**	*i* P	**Pn**	**11 52 18.2**	**-0.5**
LOPP1				*e*S	**Sg**	**11 52 36.4**	**+0.2**
LOPP1				IAML		11 52 42.0	
	comp=Z,32nm,0.6s						

*IDC **03** 11:56:44.1±2.2, 18°.09S×178°.45W, h555km±19km, mb3.0/7, mbtmp4.0/8, Error ellipse: s-maj=47.8km s-min=19.0km az=146.0*

ISC 03 11:56:45.8±1.4, 18°.1S±0°.3×178°.6W±0°.2, h579km, n8, σ1§37/10, mb3.6/7, Fiji Islands region

| Code | Station Name | Δ° | AZ° | Phase ID | | Time | Res |

0.4nm,0.3s
H11S3 WAKE ISLAND Hy 19.82 91 T T 13 04 01.8
baz=276,slow=75,SNR=42
H11S1 WAKE ISLAND Hy 19.83 91 T T 13 04 01.8
baz=276,slow=75,SNR=25
H11S2 WAKE ISLAND Hy 19.84 91 T T 13 04 01.8
baz=276,slow=75,SNR=28
H11N1 WAKE ISLAND Hy 19.88 88 T T 13 03 31.3
baz=275,slow=75,SNR=8.5
H11N2 WAKE ISLAND Hy 19.88 88 T T 13 03 31.8
baz=275,slow=75,SNR=9.8
H11N3 WAKE ISLAND Hy 19.89 88 T T 13 03 28.7
baz=275,slow=75,SNR=24
KSRS Korea Array 23.21 322 P **P** **12 43 59.7 -0.8**
0.5nm,0.7s,baz=145,slow=9.0,SNR=12
0.5nm,0.7s
ASAJ Asahikawa 24.06 354 LR LR 12 52 04.0
comp=Z,28nm,21.3s,baz=184,slow=33
WRA Warramunga Arr 41.37 196 P **P** **12 46 40.1 +0.9**
3.1nm,0.9s,baz=15,slow=8.8,SNR=13
3.1nm,0.9s
SONM Songino Array 42.07 320 P **P** **12 46 46.2 +1.4**
0.2nm,0.3s,baz=149,slow=12,SNR=1.4
0.2nm,0.3s
CMAR Chiang Mai Arr 44.10 276 LR LR 13 06 23.0
comp=Z,12nm,18.4s,baz=160,slow=37
ASAR Alice Springs 45.05 195 P **P** **12 47 09.6 +0.7**
0.4nm,0.8s,baz=15,slow=6.2,SNR=8.0
0.4nm,0.8s
ZALV Zalesovo Beam 56.92 322 P **P** **12 48 37.8 +0.2**
0.3nm,0.2s,baz=101,slow=7.5,SNR=1.3
0.3nm,0.2s
MKAR Makanchi Array 57.52 313 P **P** **12 48 41.2 -0.8**
0.1nm,0.4s,baz=105,slow=7.6,SNR=3.6
0.1nm,0.4s
KURBB Kurchatov Arra 60.30 317 P **P** **12 49 02.8 +1.7**
3.6nm,0.2s,baz=94,slow=7.4,SNR=4.3
ILAR Eielson Array 62.34 27 P **P** **12 49 14.4 -0.3**
0.5nm,0.9s,baz=250,slow=5.9,SNR=5.8
0.5nm,0.9s
BVAR Borovoye Array 65.41 320 P **P** **12 49 37.6 +2.5**
1.7nm,0.6s,baz=80,slow=7.9,SNR=8.3
1.7nm,0.6s
YKA Yellowknife Ar 76.70 28 P **P** **12 50 42.8 -0.5**
0.8nm,0.7s,baz=289,slow=5.7,SNR=3.7
0.8nm,0.7s
NVAR Mina Array Bea 82.21 52 P **P** **12 51 15.4 +1.4**
1.4nm,0.7s,baz=266,slow=5.8,SNR=15
1.4nm,0.7s
FINES FINESS Array B 85.61 335 P **P** **12 51 31.5 +1.0**
0.5nm,0.3s,baz=46,slow=4.0,SNR=3.7
0.5nm,0.3s
PDAR Pinedale Array 86.78 46 P **P** **12 51 35.7 -1.3**
0.1nm,0.3s,baz=317,slow=8.0,SNR=1.6
0.1nm,0.3s

IDC 03 12:54:59.3±356.0, 54°36N×99°55E, h0km, Error ellipse: s-maj=154.5km s-min=129.0km az=41.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I34MN	**SONGINO INFRAS**	**7.85**	**144**	I	I	13 42 30.0	
	baz=331,slow=326,SNR=0.5						
I46RU	**ZALESOVO INFRA**	**8.66**	**273**	I	I	13 49 20.0	
	baz=83,slow=321,SNR=3.3						
I31KZ	**AKTYUBINSK INF**	**25.37**	**278**	I	I	15 28 10.0	
	baz=63,slow=319,SNR=1.3						

BGSI 03 13:01:30.3±1.3, 16°19S×29°43E, h14km±84km, ML4.0, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSANE	**Kasane**	**4.38**	**248**	*i* P	Pn	13 02 33.9	-2.8
KSANE				*i* S	Sn	13 03 23.0	-4.6
KSANE				IAML		13 03 36.6	
	comp=N,481nm,0.8s						
BROLN	**Tlhalogang**	**5.27**	**202**	*i* P	Pn	13 02 47.1	-1.7
BROLN				*i* S	Sn	13 03 43.9	-5.6
BROLN				IAML		13 04 00.4	
	comp=N,191nm,0.6s						
SOOWA	**Sowa**	**5.31**	**215**	*i* P	Pn	13 02 46.7	-2.7
SOOWA				IAML		13 04 05.7	
	comp=E,1μm,0.7s						
MREMI	**Moremi**	**6.62**	**196**	*i* P	Pn	13 03 05.3	-2.0
MREMI				IAML		13 04 48.4	
	comp=N,1μm,0.2s						
LPHEP	**Lephephe**	**7.89**	**205**	*i* P	Pn	13 03 21.6	-3.2
LPHEP				*i* S	Sn	13 04 42.9	-11
LPHEP				IAML		13 05 28.9	
	comp=N,81nm,1.3s						
KDWAN	**Kaudwane**	**8.44**	**211**	*i* P	Pn	13 03 28.8	-3.6
KDWAN				*i* S	Sn	13 04 55.7	-12
KDWAN				IAML		13 05 44.5	
	comp=E,181nm,1.0s						
QNGWA	**Qangwa**	**8.53**	**246**	*i* P	Pn	13 03 29.9	-3.8
QNGWA				IAML		13 06 00.3	
	comp=E,40nm,0.8s						
GRTLG	**Ghanzi**	**9.32**	**235**	*i* P	Pn	13 03 40.3	-4.2
GRTLG				IAML		13 06 19.1	
	comp=E,50nm,1.1s						
KGCAE	**Kacgae**	**9.50**	**225**	*i* P	Pn	13 03 42.6	-4.3
KGCAE				*i* S	Sn	13 05 21.4	-12
KGCAE				IAML		13 06 30.2	
	comp=E,148nm,1.0s						
SKOMA	**Sekoma**	**9.75**	**211**	*i* P	Pn	13 03 46.0	-4.4
SKOMA				*i* S	Sn	13 05 26.1	-14
SKOMA				IAML		13 06 37.2	
	comp=N,54nm,0.9s						
KOOLE	**Kule**	**11.02**	**231**	*i* P	Pn	13 04 02.9	-4.8
KOOLE				*i* S	Sn	13 05 54.8	-16
KOOLE				IAML		13 07 10.4	
	comp=N,114nm,1.2s						

IDC 03 13:05:51.0±7.3, 6°28S×153°30E, h0km, mb3.4/3, mbtmp3.5/3, MS2.8/2, Error ellipse: s-maj=222.1km s-min=41.3km az=110.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.29**	**116**	LR	LR	13 09 55.9	
	comp=Z,115nm,18.1s,baz=198,slow=34						
GUMO	**Guam**	**21.44**	**337**	LR	LR	13 19 29.2	
	comp=Z,17nm,18.2s,baz=93,slow=38						
WRA	**Warramunga Arr**	**22.89**	**232**	P	P	13 10 57.0	+0.5
	0.7nm,0.6s,baz=61,slow=10,SNR=8.0						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**25.43**	**225**	P	P	13 11 20.4	-0.4
	0.3nm,0.4s,baz=56,slow=9.3,SNR=21						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**81.76**	**319**	P	P	13 18 12.0	+0.1
	0.2nm,0.4s,baz=107,slow=4.8,SNR=1.7						
	0.2nm,0.4s						

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*IDC **03** 13:26:31.9±1.6, 44°39N×129°66W, h0km, mb3.4/6, mbtmp3.5/11, ML3.2/4, MS3.4/15, Error ellipse: s-maj=32.7km s-min=15.2km az=47.0*
*NEIC **03** 13:26:39.2±1.6, 44°43N±0°09×129°0W±0°1, h10km±2km, mb3.8/19, ML3.0/52, Error ellipse: s-maj=19.0km s-min=12.8km az=239.0*

ISC 03 13:26:37.2±1.2, 44°36N±0°09×129°2W±0°1, h13km, n91, σ1°37/73, mb3.7/6, MS3.5/9, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I02E	**Swisshome, OR**	**3.88**	**92**	Pn	**Pn**	**13 27 36.0**	**-0.6**
HEBO	**Mount Hebo**	**4.00**	**76**	Pn	**Pn**	**13 27 37.0**	**-1.2**
HEBO				IAML		13 28 26.5	
	comp=E,36nm,1.8s						
HEBO				IAML		13 29 15.6	
	comp=N,33nm,1.6s						
J01E	**Myrtle Point**	**4.03**	**105**		**Pn**	**13 27 36.8**	**-1.8**
J01E				IAML		13 28 32.0	
	comp=E,19nm,2.0s						
COR	**Corvallis**	**4.25**	**85**		**Pn**	**13 27 40.2**	**-1.4**
I03D	**Drain, OR**	**4.30**	**97**		**Pn**	**13 27 41.8**	**-0.4**
G03D	**McMinnville, O**	**4.34**	**77**		**Pn**	**13 27 41.0**	**-1.8**
G03D				IAML		13 28 40.9	
	comp=E,23nm,0.6s						
RADR	**Rader Ridge**	**4.35**	**60**		**Pn**	**13 27 42.2**	**-0.9**
RADR				IAML		13 28 56.9	
	comp=E,23nm,1.6s						
RADR				IAML		13 29 54.2	
	comp=N,22nm,2.0s						
K02D	**Willamette Mer**	**4.38**	**110**		**Pn**	**13 27 41.0**	**-2.5**
BUCK	**Buck Mountain**	**4.49**	**90**		**Pn**	**13 27 44.7**	**-0.3**
BUCK				IAML		13 28 42.5	
	comp=N,14nm,0.9s						
BUCK				IAML		13 28 53.8	
	comp=E,18nm,2.2s						
E03A	**Lebam**	**4.55**	**59**		**Pn**	**13 27 44.5**	**-1.2**
E03A				IAML		13 28 45.9	
	comp=N,18nm,0.8s						
E03A				IAML		13 28 46.5	
	comp=E,20nm,0.6s						
H04D	**Lebanon**	**4.66**	**86**		**Pn**	**13 27 47.3**	**+0.1**
H04D				IAML		13 28 46.1	
	comp=N,22nm,0.5s						
WISH	**Wishkah**	**4.72**	**52**		**Pn**	**13 27 48.1**	**+0.1**
WISH				IAML		13 28 22.9	
	comp=N,23nm,2.0s						
WISH				IAML		13 30 19.2	
	comp=E,18nm,3.0s						
NLWA	**Neilton Lookou**	**4.82**	**49**		**Pn**	**13 27 49.1**	**-0.5**
NLWA				IAML		13 28 48.5	
	comp=E,10nm,2.1s						
C03A	**Quillayute Air**	**4.84**	**40**		**Pn**	**13 27 48.8**	**-0.9**
G04A	**Mulino**	**4.89**	**78**	Pn	**Pn**	**13 27 49.7**	**-0.7**
BBOR	**Butler Butte**	**4.98**	**105**		**Pn**	**13 27 51.1**	**-0.7**
BBOR				IAML		13 28 53.7	
	comp=E,10nm,0.7s						
BBOR				IAML		13 29 09.7	
	comp=N,11nm,2.0s						
H04A	**Detroit Lake**	**5.05**	**84**		**Pn**	**13 27 51.6**	**-1.1**
H04A				IAML		13 28 54.1	
	comp=N,16nm,0.5s						
H04A				IAML		13 28 59.1	
	comp=E,11nm,0.8s						
J04A	**Umpqua Nationa**	**5.28**	**100**		**Pn**	**13 27 54.0**	**-2.0**
YBH	**Yreka Blue Hor**	**5.46**	**116**	Pn	**Pn**	**13 28 01.0**	**+2.7**
	baz=241,slow=3.2,SNR=13						
YBH				Sn	**Sn**	**13 29 03.4**	**+2.4**
	baz=353,slow=8.2						
L04D	**Klamath Falls**	**5.50**	**110**		**Pn**	**13 27 59.2**	**+0.3**
GNW	**Green Mountain**	**5.50**	**52**		**Pn**	**13 27 58.6**	**-0.2**
GNW				IAML		13 29 08.2	
	comp=E,7.4nm,0.6s						
CLRS	**Cowichan Lake**	**5.68**	**36**		**Pn**	**13 28 00.4**	**-0.9**
G05A	**Wamic**	**5.71**	**78**		**Pn**	**13 28 01.4**	**-0.2**
LON	**Longmire**	**5.74**	**63**		**Pn**	**13 28 01.7**	**-0.4**
D05A	**Enumclaw**	**5.81**	**58**		**Pn**	**13 28 03.5**	**+0.5**
PGC	**Sidney**	**5.86**	**41**		**Pn**	**13 28 03.2**	**-0.5**
G06A	**Carlson Farm,**	**6.19**	**79**		**Pn**	**13 28 08.0**	**-0.2**
CBB	**Campbell River**	**6.26**	**24**		**Pn**	**13 28 09.3**	**0.0**
HOLB	**Holberg**	**6.33**	**6**		**Pn**	**13 28 11.2**	**+1.0**
LTY	**Liberty**	**6.65**	**61**		**Pn**	**13 28 14.6**	**-0.1**
MXC	**Moxie City**	**6.67**	**67**		**Pn**	**13 28 13.9**	**-1.0**
I07A	**Izee**	**7.00**	**89**		**Pn**	**13 28 20.4**	**+0.9**
G08A	**Pilot Rock**	**7.37**	**79**		**Pn**	**13 28 24.3**	**-0.3**
D08A	**Wollman Farm,**	**7.71**	**66**	Pn	**Pn**	**13 28 29.0**	**-0.1**
BBB	**Bella Bella**	**7.87**	**5**	Pn	**Pn**	**13 28 28.6**	**-2.7**
	comp=E,0.3nm,0.3s,baz=223,slow=13,SNR=4.5						
	comp=E,1.5nm,0.5s						
B08A	**Colville Reser**	**7.93**	**56**		**Pn**	**13 28 31.7**	**-0.6**
LLLB	**Lillooet**	**7.99**	**36**		**Pn**	**13 28 33.1**	**0.0**
C09A	**Chrisman Ranch**	**8.36**	**62**		**Pn**	**13 28 38.9**	**+0.7**
BMO	**Blue Mountains**	**8.53**	**83**		**Pn**	**13 28 41.3**	**+0.8**
F10A	**Beach Ranch, E**	**8.64**	**75**	Pn	**Pn**	**13 28 44.3**	**+2.3**
PAHR	**Pah Rah Range**	**8.68**	**119**	Pn	**Pn**	**13 28 43.8**	**+1.2**
CMB	**Columbia Colle**	**9.19**	**130**	Pn	**Pn**	**13 28 50.4**	**+0.9**
NEW	**Newport**	**9.25**	**61**	Pn	**Pn**	**13 28 50.7**	**+0.5**
NEW	**Newport**	**9.25**	**61**	Pn	**Pn**	**13 28 50.6**	**+0.3**
	comp=E,0.2nm,0.3s,baz=258,slow=12,SNR=4.5						
NEW				LR	LR	13 32 20.9	
	comp=E,310nm,20.4s,baz=285,slow=37						
	comp=E,2.1nm,0.7s						
WAKR	**Walker**	**9.40**	**125**	Pn	**Pn**	**13 28 54.3**	**+1.8**
NVAR	**Mina Array Bea**	**10.12**	**122**	Pn	**Pn**	**13 29 04.1**	**+1.6**
	comp=E,0.1nm,0.3s,baz=284,slow=12,SNR=14						
	comp=E,1.5nm,0.8s						
NV11	**Mina Array Sit**	**10.21**	**122**	Pn	**Pn**	**13 29 03.5**	**-0.1**
HLID	**Hailey**	**10.72**	**89**	Pn	**Pn**	**13 29 12.2**	**+1.7**
ELK	**Elko**	**10.94**	**104**	Pn	**Pn**	**13 29 17.6**	**+4.0**
	comp=E,0.1nm,0.3s,baz=307,slow=10,SNR=5.7						
ELK				LR	LR	13 33 49.6	
	comp=E,150nm,19.3s,baz=290,slow=39						
	comp=E,1.8nm,1.0s						
PDAR	**Pinedale Array**	**14.36**	**89**	Pn	**P**	**13 30 04.2**	**-3.2**
	comp=E,0.2nm,0.3s,baz=282,slow=8.8,SNR=5.3						
PDAR				LR		13 36 07.4	
	comp=E,101nm,18.1s,baz=283,slow=39						
PFO	**Pinyon Flats O**	**14.61**	**133**	LR	LR	13 34 32.2	
	comp=E,94nm,18.4s,baz=316,slow=32						
R33M	**Jennings River**	**15.10**	**357**	Pn	**Pn**	**13 30 11.4**	**+1.2**
P32M	**Atlin**	**15.50**	**351**	Pn	**Pn**	**13 30 15.8**	**+0.5**
P32M				IAmb	IAmb	13 30 25.8	
	comp=Z,6.4nm,1.3s						
BLYC	**Blythe**	**15.56**	**128**	Pn	**Pn**	**13 30 16.8**	**+0.6**
YUH	**Yuha Desert**	**15.64**	**134**	Pn	**Pn**	**13 30 18.0**	**+0.7**
YUH				IAmb	IAmb	13 30 22.8	
	comp=Z,11nm,1.2s						
O20A	**White River Ci**	**16.10**	**98**	Pn	**Pn**	**13 30 23.4**	**0.0**
O20A				IAmb	IAmb	13 30 30.8	
	comp=Z,12nm,1.0s						
ESJX	**Sierra Juarez**	**16.14**	**135**	Pn	**Pn**	**13 30 24.9**	**+1.0**
ESJX				IAmb	IAmb	13 30 29.9	
	comp=Z,9.9nm,1.1s						
PV21	**Cone Mtn., Par**	**16.24**	**104**	Pn	**Pn**	**13 30 25.6**	**+0.3**
PV21				IAmb	IAmb	13 30 37.4	
	comp=Z,10nm,1.0s						
PV10	**Paradox Valley**	**16.28**	**105**		**P**	**13 30 28.3**	**-0.6**
O30N	**Mendenhall**	**16.94**	**348**		**P**	**13 30 36.2**	**+0.5**
O30N				IAmb	IAmb	13 30 41.7	
	comp=Z,8.2nm,1.4s						
MVCO	**Mesa Verde**	**17.23**	**107**		**Pn**	**13 30 38.5**	**+0.8**
YAH	**Yahtse**	**17.70**	**339**	P	**Pn**	**13 30 45.4**	**+2.0**
YAH				IAmb	IAmb	13 31 14.9	
	comp=Z,4.5nm,0.9s						
RSSD	**Black Hills**	**18.05**	**82**	P	**Pn**	**13 30 47.5**	**-0.3**
ISCO	**Idaho Springs**	**18.10**	**96**	P	**Pn**	**13 30 48.5**	**-0.1**
Q24A	**Divide**	**18.76**	**98**	P	**P**	**13 30 56.4**	**+0.1**
Q24A				IAmb	IAmb	13 31 05.8	
	comp=Z,12nm,1.4s						
KDAK	**Kodiak Island**	**19.75**	**321**	LR	LR	13 36 36.3	
	comp=Z,111nm,19.5s,baz=151,slow=31						
M26K	**Nabesna, AK**	**19.77**	**341**	P	**Pn**	**13 31 09.2**	**+0.9**
M26K				IAmb	IAmb	13 31 16.1	
	comp=Z,4.4nm,1.3s						
ANMO	**Albuquerque**	**19.85**	**110**	P	**P**	**13 31 08.8**	**+0.7**
ANMO	**Albuquerque**	**19.85**	**110**	LR	LR	13 38 49.2	
	comp=Z,76nm,19.2s,baz=20,slow=37						
YKA	**Yellowknife Ar**	**20.06**	**20**	P	**P**	**13 31 08.9**	**-0.9**
	comp=Z,1.5nm,1.1s,baz=215,slow=11,SNR=2.2						
	comp=Z,1.5nm,1.1s						
K27K	**Chicken**	**21.01**	**344**	P	**P**	**13 31 23.5**	**+3.3**
K27K				IAmb	IAmb	13 31 35.4	
	comp=Z,3.5nm,1.1s						
I30M	**Mount Dempster**	**21.28**	**352**	P	**P**	**13 31 24.3**	**+1.1**
ILAR	**Eielson Array**	**22.71**	**340**	P	P	13 31 32.3	-6.1
	comp=Z,0.2nm,0.6s,baz=152,slow=6.0,SNR=9.3						
	comp=Z,0.2nm,0.6s						
ULM	**Lac du Bonnet**	**23.25**	**63**	P	**P**	**13 31 41.6**	**-2.4**
	comp=Z,2.2nm,0.8s,baz=260,slow=6.6,SNR=3.9						
ULM				LR	LR	13 40 10.0	
	comp=Z,97nm,20.3s,baz=280,slow=35						
	comp=Z,2.2nm,0.8s						
TXAR	**Lajitas Array**	**25.23**	**118**	P	**P**	**13 32 01.7**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=300,slow=9.9,SNR=4.9						
	comp=Z,0.3nm,0.7s						
SADO	**Sadowa**	**35.24**	**71**	LR	LR	13 48 28.9	
	comp=Z,173nm,18.4s,baz=311,slow=37						
TKL	**Tuckaleechee C**	**35.51**	**88**	LR	LR	13 48 39.2	
	comp=Z,168nm,19.4s,baz=306,slow=37						
FRB	**Frobisher Bay**	**38.72**	**38**	LR	LR	13 50 26.9	
	comp=Z,53nm,21.9s,baz=292,slow=37						
SCHQ	**Schefferville**	**40.49**	**52**	LR	LR	13 51 02.0	
	comp=Z,99nm,21.2s,baz=270,slow=36						
SFJD	**Kangerlussuaq**	**45.87**	**32**	LR	LR	13 54 05.1	
	comp=Z,52nm,18.8s,baz=284,slow=36						
BORG	**Borgarnes**	**57.67**	**29**	LR	LR	14 00 05.4	
	comp=Z,32nm,18.5s,baz=315,slow=35						
H11N3	**WAKE ISLAND Hy**	**57.89**	**267**	T	T	14 38 36.6	
	baz=49,slow=75,SNR=2146						
H11N2	**WAKE ISLAND Hy**	**57.89**	**267**	T	T	14 38 39.1	
	baz=49,slow=75,SNR=692						
H11N1	**WAKE ISLAND Hy**	**57.91**	**267**	T	T	14 38 40.3	
	baz=49,slow=75,SNR=628						
SJG	**San Juan**	**58.40**	**95**	LR	LR	14 02 34.0	
	comp=Z,23nm,20.4s,baz=142,slow=37						
H11S1	**WAKE ISLAND Hy**	**58.83**	**266**	T	T	14 39 49.0	
	baz=48,slow=75,SNR=184						
H11S2	**WAKE ISLAND Hy**	**58.84**	**266**	T	T	14 39 53.4	
	baz=48,slow=75,SNR=102						
H11S3	**WAKE ISLAND Hy**	**58.85**	**266**	T	T	14 39 50.3	
	baz=48,slow=75,SNR=78						
ARCES	**ARCESS Array B**	**64.91**	**10**	LR	LR	14 07 31.5	
	comp=Z,18nm,18.8s,baz=332,slow=38						
LPAZ	**La Paz**	**82.03**	**122**	P	**P**	**13 38 55.6**	**-2.3**
	comp=Z,0.7nm,0.6s,baz=342,slow=6.4,SNR=4.0						
	comp=Z,0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**82.37**	**343**	P	P	13 38 55.3	-3.2
	comp=Z,0.5nm,0.7s,baz=20,slow=5.1,SNR=4.6						
	comp=Z,0.5nm,0.7s						

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*IDC **03** 13:31:26.8±2.1, 19°04S×169°29E, h204km±20km, mb3.7/8, mbtmp4.2/10, Error ellipse: s-maj=27.9km s-min=14.4km az=152.0*
*NOU **03** 13:31:26.3, 19°11S×169°43E, h197km, mb4.7/20, Vanuatu Islands*
*NEIC **03** 13:31:27.2±1.6, 19°1S±0°1×169°30E±0°05, h198km±7km, mb4.6/35, Error ellipse: s-maj=14.9km s-min=6.9km az=186.0*

ISC 03 13:31:26.6±0.5, 19°09S±0°06×169°35E±0°07, h200km, n65, σ0°80/65, mb4.5/26, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INH	**Isangel**	**0.46**	**189**	P	**Pn**	**13 31 53.4**	**-0.1**
DVP	**Devils Point**	**1.75**	**321**	P	**Pn**	**13 32 03.0**	**+0.4**
DVP	**Devils Point**	**1.75**	**321**	S	**Sn**	**13 32 31.6**	**+1.1**
VLAKA	**Lakatoro**	**3.49**	**328**	P	**Pn**	**13 32 21.9**	**-0.2**
DZM	**Mont Dzumac**	**4.03**	**222**		**Pn**	**13 32 28.0**	**-0.8**
DZM	**Mont Dzumac**	**4.03**	**222**	P	**Pn**	**13 32 28.6**	**-0.2**
	55nm,0.4s,baz=61,slow=19,SNR=271						
DZM	**Mont Dzumac**	**4.03**	**222**	P	**Pn**	**13 32 28.6**	**-0.2**
OUENC	**Ouen Island, N**	**4.06**	**215**	P	**Pn**	**13 32 29.2**	**+0.1**
KOUNC	**Koumac, New Ca**	**4.98**	**252**	P	**Pn**	**13 32 41.7**	**+1.0**
MSVF	**Nonsavu**	**8.37**	**82**	P	**Pn**	**13 33 25.9**	**+1.1**
	5.5nm,1.0s,baz=239,slow=18,SNR=4.2						
RAO	**Raoul Island**	**15.40**	**133**	P	**Pn**	**13 34 52.6**	**-1.0**
ARMA	**Armidale**	**19.62**	**232**	P	**P**	**13 35 41.1**	**+1.0**
ARMA				IAmb	IAmb	13 36 12.2	
	comp=Z,23nm,1.3s						
BKZ	**Black Stump Fm**	**20.94**	**164**	P	**P**	**13 35 54.0**	**0.0**
BKZ				IAmb	IAmb	13 36 32.4	
	comp=Z,28nm,1.3s						
CTAO	**Charters Tower**	**21.78**	**264**	P	**P**	**13 36 03.3**	**+0.5**
CTAO				IAmb	IAmb	13 36 43.8	
	comp=Z,14nm,1.1s						
SNZO	**South Karori**	**22.62**	**169**	P	**P**	**13 36 11.3**	**+0.9**
MTSU	**Mount Surprise**	**23.73**	**268**	P	**P**	**13 36 22.0**	**+1.2**
CAN	**Canberra**	**24.19**	**224**	P	**P**	**13 36 25.7**	**+0.9**
CAN				IAmb	IAmb	13 36 26.9	
	comp=Z,14nm,1.2s						
QLP	**Quilpie**	**24.29**	**248**	P	**P**	**13 36 26.9**	**+1.2**
CMSA	**Cobar Meteorol**	**24.65**	**235**	P	**P**	**13 36 29.6**	**+0.6**
COEN	**Coen**	**25.59**	**278**	P	**P**	**13 36 38.2**	**+0.6**
COEN				IAmb	IAmb	13 36 44.5	
	comp=Z,16nm,1.2s						
TOO	**Toolangi**	**27.80**	**224**	P	**P**	**13 36 56.9**	**-0.2**
STKA	**Stephens Creek**	**28.01**	**238**		**P**	**13 36 59.1**	**+0.1**
STKA	**Stephens Creek**	**28.01**	**238**	P	**P**	**13 36 59.8**	**+0.7**
	comp=Z,7.9nm,0.6s,baz=61,slow=8.7,SNR=20						
	comp=Z,7.9nm,0.6s						
STKA	**Stephens Creek**	**28.01**	**238**	P	**P**	**13 37 00.0**	**+1.0**
WR8	**Warramunga Arr**	**32.82**	**263**		**P**	**13 37 40.2**	**-1.3**
WR8				IAmb	IAmb	13 37 40.9	
	comp=Z,6.8nm,0.5s						
WRA	**Warramunga Ar**	**32.97**	**263**	P	**P**	**13 37 41.5**	**-1.3**
	comp=Z,4.7nm,0.5s,baz=89,slow=8.4,SNR=78						
	comp=Z,4.7nm,0.5s						
AS01	**Alice Springs**	**33.22**	**256**	P	**P**	**13 37 44.6**	**-0.3**
AS31	**Alice Springs**	**33.26**	**256**		**P**	**13 37 44.8**	**-0.5**
ASAR	**Alice Springs**	**33.26**	**256**	P	**P**	**13 37 44.7**	**-0.6**
	comp=Z,45nm,0.5s,baz=83,slow=8.8,SNR=880						
MTN	**Manton Dam**	**37.20**	**274**		**P**	**13 38 18.6**	**-0.3**
MTN	**Manton Dam**	**37.20**	**274**	P	**P**	**13 38 19.1**	**+0.2**
KNRA	**Kununurra**	**38.82**	**269**	P	**P**	**13 38 31.4**	**-1.0**
KNRA				IAmb	IAmb	13 38 32.6	
	comp=Z,11nm,0.5s						
FAKI	**Fak Fak**	**39.67**	**289**	P	**P**	**13 38 38.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**41.36**	**264**		**P**	**13 38 53.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**41.36**	**264**	P	**P**	**13 38 53.7**	**+0.4**
MBWA	**Marble Bar**	**46.48**	**259**	P	**P**	**13 39 34.1**	**+0.1**
MEEK	**Meekatharra**	**47.10**	**251**	P	**P**	**13 39 38.9**	**+0.1**
GIRL	**Giralia**	**51.38**	**256**	P	**P**	**13 40 11.8**	**+0.6**
SBA	**Scott Base**	**58.82**	**181**	P	**P**	**13 41 05.5**	**+2.0**
CASY	**Casey**	**60.30**	**203**	P	**P**	**13 41 12.9**	**-0.9**
QSPA	**South Pole Qui**	**70.97**	**180**	P	**P**	**13 42 22.1**	**-0.1**
QSPA	**South Pole Qui**	**70.97**	**180**	P	**P**	**13 42 22.2**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=356,slow=2.5,SNR=2.4						
	comp=Z,1.1nm,0.9s						
IPM	**Ipoh**	**71.15**	**282**	P	**P**	**13 42 23.6**	**-0.4**
IPM				IAmb	IAmb	13 42 24.3	
	comp=Z,19nm,1.4s						
PET	**Petropavlovsk**	**72.41**	**353**	P	**P**	**13 42 30.4**	**-0.1**
PET				IAmb	IAmb	13 42 32.3	
	comp=Z,21nm,1.5s						
PEA0B	**Petropavlovsk-**	**72.60**	**353**	P	**P**	**13 42 32.0**	**+0.2**
PEA0B				IAmb	IAmb	13 42 33.5	
	comp=Z,11nm,1.2s						
PETK	**Petropavlovsk-**	**72.60**	**353**	P	**P**	**13 42 31.9**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=178,slow=6.3,SNR=6.9						
	comp=Z,1.8nm,0.6s						
NIKH	**Nikolski High**	**74.21**	**13**	P	**P**	**13 42 40.9**	**-0.2**
XAN	**Xi'an**	**78.08**	**312**	P	**P**	**13 43 02.3**	**-1.2**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
O16K	**Kokwok River B**	**82.79**	**16**	P	**P**

	6.8nm,0.4s,baz=189,slow=27								
AAK	**Ala-Archa**	**7.11**	**31**	⇑P		Pn	13 43 19.3	+0.1	
	3.6nm,0.7s,baz=187,slow=15								
AAK				⇓S		Sn	13 44 40.3	-0.4	
	2.2nm,0.5s,baz=187,slow=15								
TKM2	**Tokmak 2**	**7.82**	**35**	⇑P		Pn	13 43 28.1	-0.7	
	7.5nm,0.9s,baz=187,slow=15								

*NOU **03** 13:55:03.9, 11°.54S×166°.13E, h0km, MLv4.8/10, Santa Cruz Islands*
*IDC **03** 13:55:05.1±2.9, 11°.44S×166°.34E, h64km±25km, mb3.9/8, mbtmp4.2/11, ML4.4/3, MS3.3/2, Error ellipse: s-maj=24.0km s-min=22.3km az=41.0*
*NEIC **03** 13:55:05.0±1.5, 11°.5S±0°.1×166°.5E±0°.1, h62km±9km, mb4.4/13, Error ellipse: s-maj=20.1km s-min=15.1km az=58.0*

ISC 03 13:55:04.7±0.7, 11°.49S±0°.07×166°.32E±0°.08, h59km, n35, σ1§28/39, mb4.3/14, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LUES	**Luesalemba Tem**	**0.91**	**334**	P		**Pn**	**13 55 21.0**	**-0.6**
HURO	**Huro Makira**	**4.45**	**283**	P		**Pn**	**13 56 09.6**	**-0.1**
NGOA	**Tingoa Renbel**	**6.13**	**269**	P		**Pn**	**13 56 32.2**	**-0.5**
ALEG	**Aligegeo Malai**	**6.17**	**296**	P		**Pn**	**13 56 33.8**	**+0.6**
HNR	**Honiara**	**6.59**	**288**			**Pn**	**13 56 40.3**	**+1.3**
HNR	**Honiara**	**6.59**	**288**	P		**Pn**	**13 56 39.7**	**+0.7**
	14nm,0.3s,baz=139,slow=3.8,SNR=6.3							
HNR				S		**Sn**	**13 57 49.5**	**-3.3**
	21nm,0.4s,baz=163,slow=18,SNR=1.3							
HNR				LR		LR	13 59 24.5	
	comp=Z,158nm,21.8s,baz=135,slow=39							
	109nm,0.7s							
HNR	**Honiara**	**6.59**	**288**	P		**Pn**	**13 56 40.8**	**+1.8**
SAVO	**Savo Central**	**6.81**	**289**	P		**Pn**	**13 56 43.9**	**+1.9**
TATA	**Tatamba Isabel**	**7.12**	**295**	P		**Pn**	**13 56 47.5**	**+1.3**
KOUNC	**Koumac, New Ca**	**9.22**	**192**	P		**Pn**	**13 57 16.9**	**+1.9**
DZM	**Mont Dzumac**	**10.52**	**179**	Pn		**Pn**	**13 57 32.9**	**0.0**
DZM	**Mont Dzumac**	**10.52**	**179**	P		**Pn**	**13 57 34.4**	**+1.5**
	0.3nm,0.3s,baz=3.8,slow=13,SNR=10							
DZM				S		**Sn**	**13 59 25.9**	**-3.4**
	1.4nm,0.6s,baz=98,slow=17,SNR=3.4							
	1.4nm,0.4s							
DZM	**Mont Dzumac**	**10.52**	**179**	P		**Pn**	**13 57 35.7**	**+2.8**
MSVF	**Nonsavu**	**12.94**	**120**	P		**Pn**	**13 58 06.2**	**+0.3**
	0.2nm,0.3s,baz=18,slow=20,SNR=6.8							
	2.0nm,0.6s							
CTAO	**Charters Tower**	**21.09**	**244**	P		**P**	**13 59 46.1**	**+1.7**
CTAO				IAmb		IAmb	13 59 49.8	
	comp=Z,11nm,0.9s							
ARMA	**Armidale**	**23.25**	**214**	P		**P**	**14 00 07.2**	**0.0**
ARMA				IAmb		IAmb	14 00 11.1	
	comp=Z,32nm,1.4s							
BKZ	**Black Stump Fm**	**29.01**	**164**	P		**P**	**14 00 57.6**	**-1.4**
STKA	**Stephens Creek**	**30.51**	**224**	P		**P**	**14 01 13.1**	**+0.7**
STKA	**Stephens Creek**	**30.51**	**224**	P		**P**	**14 01 13.8**	**+1.4**
	comp=Z,3.3nm,0.7s,baz=44,slow=9.5,SNR=4.8							
	comp=Z,3.3nm,0.7s							
WB0	**Warramunga Arr**	**31.78**	**251**	P		**P**	**14 01 23.4**	**-0.3**
WB0				IAmb		IAmb	14 01 25.3	
	comp=Z,7.9nm,0.8s							
WRA	**Warramunga Arr**	**31.86**	**251**	P		**P**	**14 01 24.6**	**+0.1**
	comp=Z,3.5nm,0.9s,baz=82,slow=9.2,SNR=14							
WRA				PcP		**PcP**	**14 04 14.6**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=83,slow=3.7,SNR=2.9							
	comp=Z,3.5nm,0.9s							
TOO	**Toolangi**	**31.99**	**212**	P		**P**	**14 01 26.4**	**+1.0**
AS31	**Alice Springs**	**33.10**	**244**	P		**P**	**14 01 34.7**	**-0.6**
ASAR	**Alice Springs**	**33.10**	**244**	P		**P**	**14 01 34.6**	**-0.6**
	comp=Z,4.0nm,0.7s,baz=67,slow=10.0,SNR=55							
ASAR				PcP		**PcP**	**14 04 17.8**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=78,slow=2.7,SNR=3.6							
ASAR				LR		LR	14 15 15.8	
	comp=Z,68nm,19.4s,baz=96,slow=36							
	comp=Z,4.0nm,0.7s							
FITZ	**Fitzroy Crossi**	**39.81**	**256**	P		**P**	**14 02 32.6**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=81,slow=14,SNR=3.9							
	comp=Z,3.0nm,0.7s							
MBWA	**Marble Bar**	**45.59**	**252**	P		**P**	**14 03 19.6**	**+0.3**
MBWA				IAmb		IAmb	14 03 32.8	
	comp=Z,9.0nm,1.1s							
KKM	**Kota Kinabalu**	**52.80**	**287**	P		**P**	**14 04 14.9**	**+0.3**
KSRS	**Korea Array**	**60.56**	**325**	P		**P**	**14 05 08.5**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=139,slow=9.4,SNR=2.4							
	comp=Z,0.3nm,0.5s							
VNDA	**Vanda**	**66.06**	**181**	P		**P**	**14 05 45.2**	**+0.3**
CASY	**Casey**	**66.17**	**201**	P		**P**	**14 05 45.4**	**-0.4**
CASY				IAmb		IAmb	14 06 12.8	
	comp=Z,7.6nm,1.4s							
QSPA	**South Pole Qui**	**78.52**	**180**	P		**P**	**14 06 59.2**	**-0.3**
QSPA				IAmb		IAmb	14 07 02.5	
	comp=Z,3.1nm,1.0s							
QSPA	**South Pole Qui**	**78.52**	**180**	P		**P**	**14 06 59.2**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=20,slow=4.4,SNR=12							
	comp=Z,2.2nm,0.7s							
L18K	**Granite Mounta**	**78.93**	**17**	P		**P**	**14 07 02.1**	**+0.5**
L18K				IAmb		IAmb	14 07 15.2	
	comp=Z,7.2nm,1.4s							
ILAR	**Eielson Array**	**83.76**	**18**	P		**P**	**14 07 26.6**	**-0.4**
	comp=Z,0.5nm,1.0s,baz=230,slow=5.9,SNR=4.7							
	comp=Z,0.5nm,1.0s							
MKAR	**Makanchi Array**	**94.23**	**317**	P		**P**	**14 08 17.2**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=91,slow=5.8,SNR=11							
	comp=Z,1.2nm,0.6s							

*IDC **03** 14:02:09.1±0.8, 1°.85N×127°.16E, h0km, mb3.9/10, mbtmp3.9/11, ML3.9/1, Error ellipse: s-maj=53.3km s-min=14.1km az=75.0*
*DJA **03** 14:02:22.6±0.4, 2°.N±3°×12°.7E±°, h108km±5km, M3.5/2, MLv4.1/14, MLv3.5/2*
*NEIC **03** 14:02:23.1±1.3, 1°.82N±0°.08×127°.3E±0°.1, h119km±6km, mb4.0/10, Error ellipse: s-maj=20.2km s-min=9.8km az=69.0*

ISC 03 14:02:21.0±0.6, 1°.94N±0°.06×127°.23E±0°.09, h100km, n38, σ1§64/40, mb3.9/13, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**1.17**	**173**			**Pn**	**14 02 45.6**	**+2.3**
TNTI	**Ternate**	**1.17**	**173**	P		**Pn**	**14 02 45.5**	**+2.2**
TNTI				S		**Sn**	**14 03 05.1**	**+4.9**
SGSI	**Sangihe**	**2.42**	**316**	P		**Pn**	**14 03 00.7**	**+1.6**
SGSI				S		**Sn**	**14 03 30.1**	**+1.7**
KMSI	**Cibinong**	**3.52**	**247**	P		**Pn**	**14 03 13.8**	**+0.1**
SANI	**Sanana**	**4.15**	**197**	P		**Pn**	**14 03 21.9**	**-0.4**
NLAI	**Namlea**	**5.15**	**181**	P		**Pn**	**14 03 36.2**	**+0.5**
LUWI	**Luwuk**	**5.35**	**236**	Pn		**Pn**	**14 03 40.2**	**+1.7**
LUWI	**Luwuk**	**5.35**	**236**	P		**Pn**	**14 03 40.8**	**+2.3**
APSI	**Ampana**	**6.26**	**243**	P		**Pn**	**14 03 51.8**	**+1.0**
BNDI	**Bandanaira**	**6.96**	**157**	P		**Pn**	**14 04 00.0**	**-0.3**
FAKI	**Fak Fak**	**6.96**	**134**	P		**Pn**	**14 04 02.6**	**+2.1**
KDI	**Kendari**	**7.45**	**218**	P		**Pn**	**14 04 07.9**	**+0.8**
SPSI	**Sidrap Palu**	**9.49**	**232**	P		**Pn**	**14 04 35.8**	**+1.0**
EDFI	**Ende, Flores**	**11.97**	**207**	P		**Pn**	**14 05 09.9**	**+1.5**
SOEI	**Soe**	**11.99**	**194**	Pn		**Pn**	**14 05 07.6**	**-1.1**
MTN	**Manton Dam**	**15.19**	**165**	Pn		**Pn**	**14 05 48.5**	**-1.8**
MTN				IAmb		IAmb	14 06 30.4	
	comp=Z,13nm,1.2s							
KNRA	**Kununurra**	**17.57**	**175**	P		**P**	**14 06 18.6**	**-0.7**
KNRA				IAmb		IAmb	14 06 24.8	
	comp=Z,11nm,1.1s							
FITZ	**Fitzroy Crossi**	**19.98**	**184**	P		**P**	**14 06 44.0**	**-1.5**
FITZ	**Fitzroy Crossi**	**19.98**	**184**	P		**P**	**14 06 43.1**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=18,slow=9.2,SNR=10							
	comp=Z,1.2nm,0.4s							
YULB	**Yu-li**	**22.09**	**345**	P		**P**	**14 07 08.0**	**-0.1**
YULB				IAmb		IAmb	14 07 47.0	
	comp=Z,18nm,1.0s							
WRA	**Warramunga Arr**	**22.84**	**163**	P		**P**	**14 07 13.3**	**-2.6**
WRA	**Warramunga Arr**	**22.84**	**163**	P		**P**	**14 07 14.3**	**-1.6**
	comp=Z,3.2nm,0.5s,baz=341,slow=11,SNR=31							
	comp=Z,3.2nm,0.5s							
MBWA	**Marble Bar**	**24.10**	**197**	P		**P**	**14 07 26.2**	**-1.3**
MBWA				IAmb		IAmb	14 07 30.9	
	comp=Z,19nm,1.5s							
AS31	**Alice Springs**	**26.27**	**166**	P		**P**	**14 07 46.2**	**-1.0**
AS31				IAmb		IAmb	14 08 06.3	
	comp=Z,0.7nm,0.7s							
ASAR	**Alice Springs**	**26.27**	**166**	P		**P**	**14 07 45.3**	**-1.8**
ASAR	**Alice Springs**	**26.27**	**166**	P		**P**	**14 07 45.7**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=345,slow=12,SNR=21							
	comp=Z,0.3nm,0.4s							

KSRS	**Korea Array**	**35.34**	**1**	P		**P**	**14 09 07.9**	**+1.2**	
	comp=Z,0.5nm,0.5s,baz=172,slow=9.7,SNR=4.7								
	comp=Z,0.5nm,0.5s								
MJAR	**Matsushiro Arr**	**35.90**	**15**	P		**P**	**14 09 11.2**	**-0.4**	
	comp=Z,0.6nm,0.4s,baz=195,slow=8.6,SNR=1.8								
	comp=Z,0.6nm,0.4s								
STKA	**Stephens Creek**	**36.29**	**159**	P		**P**	**14 09 13.8**	**-1.2**	
STKA	**Stephens Creek**	**36.29**	**159**	P		**P**	**14 09 14.0**	**-1.0**	
	comp=Z,2.3nm,0.7s,baz=342,slow=7.9,SNR=5.6								
	comp=Z,2.3nm,0.7s								
PETK	**Petropavlovsk-**	**56.90**	**21**	P		**P**	**14 11 55.1**	**-0.3**	
MKAR	**Makanchi Array**	**59.30**	**326**	P		**P**	**14 12 13.0**	**+0.7**	
	comp=Z,1.4nm,0.5s,baz=117,slow=7.9,SNR=20								
	comp=Z,1.4nm,0.5s								
ZALV	**Zalesovo Beam**	**62.40**	**333**	P		**P**	**14 12 35.6**	**+2.5**	
	comp=Z,0.3nm,0.3s,baz=118,slow=8.0,SNR=1.7								
	comp=Z,0.3nm,0.3s								
KURBB	**Kurchatov Arra**	**63.50**	**328**	P		**P**	**14 12 40.9**	**+0.4**	
	comp=Z,2.4nm,0.5s,baz=130,slow=6.2,SNR=32								
	comp=Z,2.4nm,0.5s								
KURK	**Kurchatov**	**63.51**	**328**	P		**P**	**14 12 40.6**	**+0.1**	
BVAR	**Borovoye Array**	**69.08**	**327**	P		**P**	**14 13 16.5**	**+0.4**	
	comp=Z,0.7nm,0.5s,baz=126,slow=9.7,SNR=2.6								
	comp=Z,0.7nm,0.5s								
VNDA	**Vanda**	**81.60**	**173**	P		**P**	**14 14 26.8**	**-0.6**	
VNDA				IAmb		IAmb	14 14 50.5		
	comp=Z,2.6nm,1.2s								
VNDA	**Vanda**	**81.60**	**173**	P		**P**	**14 14 26.6**	**-0.7**	
	comp=Z,0.5nm,0.7s,baz=296,slow=6.2,SNR=2.3								
	comp=Z,0.5nm,0.7s								

*IDC **03** 14:13:45.4±2.1, 40°.32N×19°.91E, h0km, mb3.6/7, mbtmp3.6/11, ML3.1/3, MS2.6/3, Error ellipse: s-maj=36.2km s-min=20.0km az=33.0*
*TIR **03** 14:13:47.7, 40°.39N×19°.82E, h25km, Md3.3/12, Ml3.7/10*
*ATH **03** 14:13:48.5, 40°.48N×19°.83E, h6km±2km, ML3.5/13, Manual Solution by A.Fokaefs First location: 2019/07/03 14:03:21, This location: 2020/10/02 09:17:25 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*SKO **03** 14:13:49.7, 40°.42N×19°.74E, h26km, ML3.3*
*THE **03** 14:13:49.7, 40°N±4°.2°E±°, h0km±5km, M3.2/9, MLh3.2/9*
*PDG **03** 14:13:49.1±0.5, 40°.42N×19°.75E, h7km±1km, ML3.5/12, Error ellipse: s-maj=0.5km s-min=1.2km az=0.0*
*BEO **03** 14:13:50.9±0.5, 40°.42N×19°.73E, h17km±4km, ML3.3/22*

ISC 03 14:13:49.0±0.8, 40°.39N±0°.02×19°.80E±0°.02, h17km±6km, n151, σ1§69/190, mb3.6/6, 11C-12D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
VLO	**Vlora**	**0.25**	**288**	Pg		**Pg**	**14 13 53.3**	**-1.3**
VLO				Sg		**Sg**	**14 13 57.2**	**-1.2**
VLO				AML		AML	14 14 01.3	
	230nm,0.5s							
VLO				AMd			14 14 46.3	
VLO	**Vlora**	**0.25**	**288**	P		**Pg**	**14 13 54.9**	**+0.4**
VLO				S		**Sg**	**14 13 59.5**	**+1.2**
SRN	**Sarande**	**0.53**	**163**	Pg		**Pg**	**14 13 59.0**	**-0.7**
SRN				Sg		**Sb**	**14 14 07.4**	**+0.2**
SRN				AML		AML	14 14 09.1	
	7.1nm,0.7s							
SRN				AMd			14 15 17.8	
SRN	**Sarande**	**0.53**	**163**	P		**Pg**	**14 13 59.5**	**-0.1**
SRN				S		**Sb**	**14 14 07.7**	**+0.4**
KEK	**Kerkira**	**0.68**	**180**	P		**Pb**	**14 14 03.6**	**+1.2**
KEK				S		**Sb**	**14 14 13.2**	**+1.8**
KBN	**Korca**	**0.79**	**73**	Pn		**Pg**	**14 14 03.3**	**-1.8**
KBN				Sn		**Sg**	**14 14 13.6**	**-1.2**
KBN				AML		AML	14 14 22.2	
	7.7nm,0.5s							
KBN	**Korca**	**0.79**	**73**	P		**Pg**	**14 14 03.4**	**-1.0**
KBN				S		**Sb**	**14 14 15.7**	**+1.0**
IGT	**Igoumenitsa**	**0.95**	**154**	Pg		**Pg**	**14 14 06.0**	**-1.5**
IGT				Sg		**Sg**	**14 14 19.6**	**-0.3**
IGT				AMd			14 15 30.6	
IGT	**Igoumenitsa**	**0.95**	**154**	P		**Pb**	**14 14 07.9**	**+0.9**
IGT				S		**Sn**	**14 14 23.4**	**+2.7**
IGT	**Igoumenitsa**	**0.95**	**154**	*i* Pg		**Pb**	**14 14 08.2**	**+1.2**
IGT	**Igoumenitsa**	**0.95**	**154**	*e*Pg		**Pn**	**14 14 09.0**	**+1.4**
IGT				*e*Sg		**Sn**	**14 14 23.6**	**+2.9**
IGT	**Igoumenitsa**	**0.95**	**154**	P		**Pb**	**14 14 07.7**	**+0.7**
IGT				S		**Sb**	**14 14 21.9**	**+2.6**
NEST	**Nestorio**	**0.95**	**88**	Pg		**Pg**	**14 14 05.8**	**-1.7**
NEST				Sg		**Sg**	**14 14 19.5**	**-0.5**
NEST				AML		AML	14 14 36.0	
	2.5nm,0.5s							
NEST				AMd			14 15 31.4	
NEST	**Nestorio**	**0.95**	**88**	P		**Pb**	**14 14 07.4**	**+0.3**
NEST				S		**Sb**	**14 14 21.2**	**+1.7**
NEST	**Nestorio**	**0.95**	**88**	P		**Pg**	**14 14 06.8**	**-0.7**
NEST				S		**Sg**	**14 14 19.0**	**-1.1**
TIR	**Tirane**	**0.96**	**3**	Pg		**Pg**	**14 14 06.3**	**-1.2**
TIR				Sg		**Sb**	**14 14 20.2**	**+0.7**
TIR				AML		AML	14 14 27.0	
	7.5nm,0.4s							
TIR				AMd			14 15 15.3	
TIR	**Tirane**	**0.96**	**3**	*i* Pg		**Pb**	**14 14 07.2**	**+0.1**
TIR	**Tirane**	**0.96**	**3**	*e*Pg		**Pb**	**14 14 08.1**	**+1.0**
TIR				*e*Sg		**Sn**	**14 14 22.5**	**+1.6**
LFKM	**Lefkimmi**	**0.96**	**168**	P		**Pb**	**14 14 08.4**	**+1.1**
LFKM				S		**Sn**	**14 14 23.7**	**+2.7**
PENT	**Pentalofos**	**1.04**	**100**	P		**Pg**	**14 14 08.4**	**-0.8**
OHR	**Ohrid**	**1.04**	**46**	*i* Pg		**Pg**	**14 14 08.7**	**-0.6**
OHR				*i* Sg		**Sb**	**14 14 23.5**	**+1.4**
OHR				*e*Lg		Lg	14 14 28.9	
	comp=E,600nm,0.5s							
OHR				*e*Lg		Lg	14 14 29.8	
	comp=N,572nm,0.6s							
SCTE	**Santa Cesarea**	**1.07**	**253**	Pg		**Pg**	**14 14 08.4**	**-1.3**
SCTE				Sg		**Sb**	**14 14 23.9**	**+1.1**
SCTE				AML		AML	14 14 28.6	
	comp=N,13nm,0.7s							
SCTE				AMd			14 15 25.1	
SCTE	**Santa Cesarea**	**1.07**	**253**	P		**Pb**	**14 14 09.9**	**+0.8**
SCTE				S		**Sb**	**14 14 24.6**	**+1.9**
JAN	**Janina**	**1.09**	**132**	P		**Pb**	**14 14 10.4**	**+1.0**
JAN				S		**Sn**	**14 14 27.7**	**+3.5**
JAN	**Janina**	**1.09**	**132**	P		**Pb**	**14 14 10.3**	**+0.9**
JAN				S		**Sb**	**14 14 25.3**	**+1.9**
FNA	**Florina**	**1.26**	**71**	Pn		**Pg**	**14 14 11.4**	**-1.9**
FNA				Sn		**Sb**	**14 14 29.4**	**+1.1**
FNA				AML		AML	14 14 36.5	
	comp=N,5.9nm,0.7s							
FNA				AMd			14 15 35.8	
FNA	**Florina**	**1.26**	**71**	*i* Pg		**Pg**	**14 14 12.1**	**-1.3**
FNA	**Florina**	**1.26**	**71**	*e*Pg		**Pg**	**14 14 12.5**	**-0.9**
FNA				*e*Sg		**Sn**	**14 14 32.8**	**+4.3**
FNA	**Florina**	**1.26**	**71**	P		**Pg**	**14 14 11.4**	**-1.9**
KPRO	**Kipourio**	**1.27**	**110**	P		**Pn**	**14 14 13.9**	**+1.8**
KPRO	**Kipourio**	**1.27**	**110**	P		**Pg**	**14 14 12.8**	**-0.8**
MESG	**Mesagne**	**1.50**	**278**	P		**Pn**	**14 14 16.5**	**+1.3**
MESG				S		**Sb**	**14 14 35.8**	**+0.7**
KZN	**Kozani**	**1.51**	**93**	P		**Pb**	**14 14 17.1**	**+0.6**
TETR	**Tetrakomo, Epi**	**1.54**	**132**	P		**Pg**	**14 14 18.5**	**-0.2**
TETR	**Tetrakomo, Epi**	**1.54**	**132**	P		**Pb**	**14 14 17.7**	**+0.6**
ULC	**Ulcinj**	**1.63**	**345**	Pg		**Pn**	**14 14 17.9**	**+1.1**
ULC				AMd			14 15 57.9	
ULC	**Ulcinj**	**1.63**	**345**	*i* Pg		**Pn**	**14 14 18.1**	**+1.3**
ULC	**Ulcinj**	**1.63**	**345**	*e*Pn		**Pn**	**14 14 18.0**	**+1.1**
ULC				*i* Sn		**Sg**	**14 14 41.9**	**+0.4**
PUK	**Puka**	**1.65**	**2**	Pn		**Pn**	**14 14 18.2**	**+0.9**
PUK				Sn		**Sb**	**14 14 41.4**	**+1.5**
PUK				AML		AML	14 14 46.6	
	comp=N,2.7nm,0.4s							
PUK				AMd			14 15 41.7	
TSLK	**Tsoukalades, L**	**1.70**	**157**	P		**Pb**	**14 14 19.9**	**+0.2**
TSLK	**Tsoukalades, L**	**1.70**	**157**	P		**Pn**	**14 14 19.8**	**+2.0**
LKD2	**Lefkada island**	**1.73**	**157**	Pn		**Pn**	**14 14 19.6**	**+1.3**
LKD2				Sn		**Sb**	**14 14 43.1**	**+1.3**
LKD2				AML		AML	14 14 50.6	
	comp=N,3.0nm,0.4s							
LKD2				AMd			14 15 59.1	
LKD2	**Lefkada island**	**1.73**	**157**	P		**Pn**	**14 14 20.2**	**+1.8**
LKD2	**Lefkada island**	**1.73**	**157**	P		**Pn**	**14 14 19.9**	**+1.5**
KTI	**Kastanea**	**1.77**	**89**	P		**Pb**	**14 14 21.7**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.81**	**157**	P		**Pn**	**14 14 21.1**	**+1.7**
AMPL	**Ampelaki**	**1.83**	**143**	P		**Pb**	**14 14 22.3**	**+0.4**
DRME	**Dracevica, Mon**	**1.85**	**346**	*e*Pn		**Pn**	**14 14 21.5**	**+1.5**
DRME	**Dracevica, Mon**	**1.85**	**346**	⇓*i*Pn		**Pn**	**14 14 21.7**	**+1.7**

DRME				*i* Sn		**Sg**	**14 14 48.1**	**-0.6**	
EVGI	**Lefkada island**	**1.89**	**159**	P		**Pb**	**14 14 23.1**	**+0.1**	
THL	**Klokotos Trika**	**1.89**	**115**	P		**Pn**	**14 14 21.9**	**+1.5**	
SKO	**Skopje**	**2.00**	**38**	*i* Pn		**Pb**	**14 14 25.2**	**+0.2**	
FSK	**Fiskardo**	**2.02**	**163**	P		**Pn**	**14 14 23.9**	**+1.7**	
BUM	**Brajici-Budva**	**2.03**	**341**	⇓*i*Pn		**Pn**	**14 14 23.6**	**+1.2**	
BUM				*e*Sn		**Sb**	**14 14 51.7**	**+1.3**	
PDG	**Podgorica**	**2.08**	**349**	*e*Pn		**Pn**	**14 14 23.9**	**+0.8**	
PDG	**Podgorica**	**2.08**	**349**	⇓P		**Pg**	**14 14 29.7**	**+0.8**	
PDG	**Podgorica**	**2.08**	**349**	*e*Pn		**Pn**	**14 14 25.4**	**+2.4**	
PDG				*e*Sg		**Sg**	**14 14 55.4**	**-0.5**	
PDG	**Podgorica**	**2.08**	**349**	*e*Pn		**Pn**	**14 14 24.7**	**+1.6**	
PDG				*i* Sn		**Sb**	**14 14 53.3**	**+1.6**	
NOCI	**Noci**	**2.12**	**282**	Pn		**Pn**	**14 14 25.6**	**+1.9**	
NOCI				AML		AML	14 15 04.7		
	comp=N,4.6nm,0.5s								
NOCI				AMd			14 16 10.2		
DMLN	**Damoulianata-K**	**2.19**	**168**	P		**Pn**	**14 14 25.9**	**+1.2**	
PVO	**Paravola**	**2.22**	**142**	P		**Pn**	**14 14 27.7**	**+2.7**	
CEME	**Cevo**	**2.25**	**343**	⇓*i*Pn		**Pn**	**14 14 26.6**	**+1.1**	
CEME				*i* Sn		**Sb**	**14 14 57.3**	**+0.4**	
MAKR	**Makrakomi, Fth**	**2.26**	**127**	P		**Pb**	**14 14 29.5**	**+0.1**	
HCY	**Herceg Novi**	**2.28**	**335**	*e*Pn		**Pn**	**14 14 26.0**	**+0.2**	
HCY	**Herceg Novi**	**2.28**	**335**	⇓*i*Pn		**Pn**	**14 14 26.5**	**+0.7**	
HCY				*e*Sn		**Sb**	**14 14 57.8**	**+0.3**	
VLS	**Valsamata**	**2.29**	**164**	P		**Pn**	**14 14 27.2**	**+1.2**	
VAY	**Valandovo**	**2.30**	**65**	*i* Pn		**Pn**	**14 14 28.6**	**+2.5**	
PSDA	**Pessada-Kefalo**	**2.35**	**165**	P		**Pn**	**14 14 28.4**	**+1.6**	
MATE	**Matera**	**2.38**	**277**	⇑P		**Pb**	**14 14 32.5**	**+1.3**	
AGG	**Agios Georgios**	**2.38**	**124**	P		**Pn**	**14 14 30.0**	**+2.7**	
THE	**Thessaloniki**	**2.42**	**83**	Pn		**Pn**	**14 14 30.0**	**+2.2**	
THE				AMd			14 15 55.4		
NKME	**Niksic**	**2.46**	**345**	⇓*i*Pn		**Pn**	**14 14 29.7**	**+1.4**	
NKME				*i* Sn		**Sb**	**14 15 02.3**	**-0.4**	
KOME	**Kolasin**	**2.47**	**355**	*e*Pn		**Pn**	**14 14 31.1**	**+2.6**	
KOME				*i* Sn		**Sb**	**14 15 02.6**	**-0.4**	
KNT	**Kendrikon**	**2.47**	**71**	*i* Pn		**Pn**	**14 14 31.2**	**+2.7**	
KNT	**Kendrikon**	**2.47**	**71**	P		**Pn**	**14 14 30.2**	**+1.7**	
IVA	**Berane**	**2.48**	**2**	⇑*i*Pn		**Pn**	**14 14 31.7**	**+3.0**	
IVA				*i* Sn		**Sb**	**14 15 03.0**	**-0.4**	
TREB	**Trebinje**	**2.57**	**335**	*e*Pn		**Pn**	**14 14 30.1**	**+0.3**	
TIP	**Timpagrande**	**2.64**	**244**	⇑P		**Pn**	**14 14 29.7**	**-1.2**	
BRY	**Bratogost**	**2.68**	**340**	*e*Pn		**Pn**	**14 14 32.3**	**+0.8**	
BRY	**Bratogost**	**2.68**	**340**	⇑*i*Pn		**Pn**	**14 14 33.5**	**+2.0**	
BRY				*i* Sn		**Sn**	**14 15 07.5**	**+3.9**	
PEHC	**Pehcevo**	**2.72**	**58**	*i* Pn		Pn	14 14 25.1	-6.9	
BARS	**Barje**	**2.85**	**31**	*e*Pn		**Pn**	**14 14 36.7**	**+2.9**	
SJES	**Sjenica**	**2.87**	**3**	*e*Pn		**Pn**	**14 14 36.3**	**+2.2**	
SJES	**Sjenica**	**2.87**	**3**	*e*Pn		**Pn**	**14 14 36.2**	**+2.2**	
UPM	**Unac-Piva**	**2.89**	**347**	*e*Pn		**Pn**	**14 14 37.9**	**+3.5**	
UPM	**Unac-Piva**	**2.89**	**347**	*e*Pn		**Pn**	**14 14 36.8**	**+2.4**	
UPM				*i* Sn		**Sn**	**14 15 12.8**	**+4.0**	
KKB	**Krupnik**	**2.90**	**59**	*i* Pn		**Pn**	**14 14 37.2**	**+2.8**	
BOSS	**Bosilegrad**	**2.91**

comp=N,0.4nm,0.3s,baz=218,slow=9.1,SNR=1.7
comp=N,0.4nm,0.3s

*IDC **03** 14:18:53.0±0.7,0.7°78N×123.°18E,h50km±6km, mb3.9/11, mbtmp4.3/15, MS3.3/6, Error ellipse: s-maj=19.0km s-min=10.1km az=84.0*
*DJA **03** 14:18:54.0±0.2,1.°1N±2.°×12.°3E±.°, h62km±3km, mb4.9/34*
*NEIC **03** 14:18:54.9±1.4,0.°85N±0.°07×123.°13E±0.°04, h62km±8km, mb4.6/29, Error ellipse: s-maj=10.4km s-min=6.0km az=170.0*

ISC 03 14:18:53.6±0.4,0.°86N±0.°04×123.°14E±0.°04,h50km,n121, σ1ᵍ45/132,mb4.6/29,MS3.3/5,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.88**	**108**	P	**Pn**	**14 19 11.5**	**+1.7**
KMSI				S	**Sn**	**14 19 24.9**	**+3.3**
MRSI	**Marisa**	**1.26**	**253**	P	**Pn**	**14 19 15.6**	**+0.8**
MRSI				S	**Sn**	**14 19 31.8**	**+1.1**
LUWI	**Luwuk**	**1.92**	**191**		**Pn**	**14 19 24.8**	**+0.9**
LUWI	**Luwuk**	**1.92**	**191**	P	**Pn**	**14 19 25.8**	**+1.9**
LUWI	**Luwuk**	**1.92**	**191**	P	**Pn**	**14 19 26.9**	**+3.0**
LUWI				S	**Sn**	**14 19 51.6**	**+4.7**
APSI	**Ampana**	**2.30**	**220**	P	**Pn**	**14 19 32.4**	**+3.3**
TOLI2	**Tolitoli**	**2.37**	**276**		**Pn**	**14 19 30.5**	**+0.4**
TOLI2	**Tolitoli**	**2.37**	**276**	P	**Pn**	**14 19 32.3**	**+2.2**
MPSI	**Mapaga**	**3.28**	**261**	P	**Pn**	**14 19 44.0**	**+1.4**
SGSI	**Sangihe**	**3.69**	**40**	P	**Pn**	**14 19 49.1**	**+1.0**
SGSI				S	**Sn**	**14 20 28.2**	**-2.2**
PCI	**Palu**	**3.74**	**242**	P	**Pn**	**14 19 47.7**	**-1.2**
PCI				S	**Sn**	**14 20 27.9**	**-3.8**
SANI	**Sanana**	**4.05**	**135**	P	**Pn**	**14 19 53.5**	**+0.3**
SANI	**Sanana**	**4.05**	**135**	S	**Sn**	**14 20 39.7**	**+0.3**
SANI	**Sanana**	**4.05**	**135**	P	**Pn**	**14 19 52.9**	**-0.3**
SANI				S	**Sn**	**14 20 38.6**	**-0.8**
TNTI	**Ternate**	**4.23**	**91**		**Pn**	**14 19 56.5**	**+1.0**
TNTI	**Ternate**	**4.23**	**91**	P	**Pn**	**14 19 58.1**	**+2.6**
TNTI	**Ternate**	**4.23**	**91**	S	**Sn**	**14 20 45.3**	**+1.7**
TNTI	**Ternate**	**4.23**	**91**	P	**Pn**	**14 19 57.4**	**+1.9**
KDI	**Kendari**	**4.81**	**186**	P	**Pn**	**14 20 05.3**	**+1.8**
KDI				S	**Sn**	**14 20 57.6**	**-0.4**
TTSI	**Tana Toraja**	**5.10**	**221**	P	**Pn**	**14 20 08.7**	**+1.1**
NLAI	**Namlea**	**5.67**	**136**	P	**Pn**	**14 20 15.7**	**+0.3**
SPSI	**Sidrap Palu** 103nm,0.7s	**5.86**	**215**	P	**Pn**	**14 20 19.8**	**+1.9**
BNSI	**Bone** 177nm,1.0s	**6.04**	**210**	P	**Pn**	**14 20 23.4**	**+3.0**
BBSI	**Bau Bau** 147nm,0.6s	**6.33**	**185**	P	**Pn**	**14 20 26.2**	**+1.8**
DAV	**Davao City (W)** 131nm,0.3s,baz=183,slow=3.9,SNR=6.4	**6.63**	**21**	P	**Pn**	**14 20 27.8**	**-0.8**
DAV	149nm,0.4s,baz=279,slow=19,SNR=1.4			S	**Sn**	**14 21 46.8**	**+3.9**
DAV	comp=Z,106nm,19.5s,baz=252,slow=46			LR	LR	14 23 58.3	
KAPI	**Kappang**	**6.74**	**210**		**Pn**	**14 20 30.9**	**+0.9**
KAPI	**Kappang** 20nm,0.4s,baz=28,slow=7.3,SNR=9.3	**6.74**	**210**	P	**Pn**	**14 20 29.7**	**-0.4**
KAPI	72nm,0.7s,baz=36,slow=23,SNR=14			S	**Sn**	**14 21 45.0**	**-0.6**
KAPI	**Kappang**	**6.74**	**210**	P	**Pn**	**14 20 32.1**	**+2.0**
KAPI	**Kappang**	**6.74**	**210**	S	**Sn**	**14 21 47.4**	**+1.8**
AAI	**Ambon** 99nm,0.5s	**6.77**	**132**	P	**Pn**	**14 20 33.6**	**+3.1**
BKSI	**Bulukumba** 41nm,0.8s	**6.84**	**206**	P	**Pn**	**14 20 33.6**	**+2.2**
MSAI	**Masohi** 158nm,1.0s	**7.13**	**126**	P	**Pn**	**14 20 37.5**	**+2.1**
BSSI	**Bau Bau, Buton** 129nm,0.7s	**7.44**	**201**	P	**Pn**	**14 20 39.3**	**-0.3**
SWI	**Sorong**	**8.29**	**102**	P	**Pn**	**14 20 52.6**	**+1.2**
KKM	**Kota Kinabalu**	**8.62**	**307**		**Pn**	**14 20 56.7**	**+0.7**
KKM	**Kota Kinabalu**	**8.62**	**307**	P	**Pn**	**14 20 57.9**	**+2.0**
KKM	**Kota Kinabalu**	**8.62**	**307**	S	**Sn**	**14 22 34.7**	**+2.8**
MMRI	**Maumere** 36nm,1.0s	**9.47**	**185**	P	**Pn**	**14 21 07.7**	**+0.2**
EDFI	**Ende, Flores** 22nm,0.6s	**9.65**	**189**	P	**Pn**	**14 21 11.1**	**+1.1**
FAKI	**Fak Fak**	**9.85**	**112**	P	**Pn**	**14 21 13.7**	**+1.1**
FAKI	**Fak Fak** 28nm,1.1s	**9.85**	**112**	P	**Pn**	**14 21 14.8**	**+2.2**
SOEI	**Soe**	**10.60**	**174**	Pn	**Pn**	**14 21 25.2**	**+2.1**
SBUM	**Sibu**	**11.03**	**278**		**Pn**	**14 21 29.4**	**+0.5**
MTN	**Manton Dam**	**15.75**	**150**		**Pn**	**14 22 30.6**	**-1.7**
MTN	comp=Z,18nm,0.6s			IAmb	IAmb	14 22 36.6	
MTN	**Manton Dam**	**15.75**	**150**	P	**Pn**	**14 22 33.3**	**+1.0**
KDU	**Kakadu**	**16.33**	**146**	P	**Pn**	**14 22 39.7**	**0.0**
KNRA	**Kununurra**	**17.34**	**162**		**Pn**	**14 22 52.6**	**+0.4**
BBJI	**Bungbulang**	**17.52**	**242**	P	**Pn**	**14 22 55.3**	**+0.7**
JAY	**Jayapura** comp=Z,3.9nm,0.6s,baz=305,slow=13,SNR=2.3	**17.88**	**101**	P	**Pn**	**14 22 57.4**	**-1.6**
CGJI	**Cibinong**	**18.93**	**247**	P	**P**	**14 23 09.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**19.00**	**173**	P	**P**	**14 23 10.6**	**-0.6**
FITZ	**Fitzroy Crossi** comp=Z,11nm,0.8s,baz=357,slow=7.4,SNR=28	**19.00**	**173**	P	**P**	**14 23 10.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**19.00**	**173**	P	**P**	**14 23 11.3**	**+0.1**
MYKOM	**Kota Tinggi**	**19.31**	**273**	P	**P**	**14 23 14.4**	**-0.4**
MYKOM	comp=Z,39nm,1.5s			IAmb	IAmb	14 23 16.1	
MDSI	**Maura Dua** comp=Z,21nm,0.9s	**19.68**	**254**	P	**P**	**14 23 19.0**	**+0.3**
IPM	**Ipoh**	**22.38**	**280**		**P**	**14 23 47.8**	**-0.2**
IPM	comp=Z,50nm,1.3s			IAmb	IAmb	14 23 50.4	
PPI	**Padang Panjang** comp=Z,34nm,0.7s	**22.78**	**267**	P	**P**	**14 23 52.0**	**-0.2**
KULM	**Kulim**	**22.88**	**282**		**P**	**14 23 52.3**	**-0.9**
KULM	comp=Z,20nm,0.9s			IAmb	IAmb	14 23 55.0	
KULM	**Kulim**	**22.88**	**282**	P	**P**	**14 23 54.8**	**+1.6**
WB0	**Warramunga Arr**	**23.28**	**152**		**P**	**14 23 54.8**	**-2.3**
WB0	comp=Z,20nm,0.8s			IAmb	IAmb	14 23 57.6	
WRA	**Warramunga Arr**	**23.40**	**153**	P	**P**	**14 23 55.8**	**-2.5**
WRA	**Warramunga Arr** comp=Z,13nm,0.6s,baz=332,slow=10,SNR=87	**23.40**	**153**	P	**P**	**14 23 56.5**	**-1.9**
YOJ	**Yonaguni jima**	**23.47**	**360**	P	**P**	**14 23 59.8**	**+1.0**
SISI	**Saibi** comp=Z,54nm,0.9s	**24.15**	**265**	P	**P**	**14 24 04.6**	**-0.7**
RPSI	**Rantau Prapat**	**24.27**	**275**		**P**	**14 24 06.0**	**-0.5**
RPSI	comp=Z,18nm,0.9s			IAmb	IAmb	14 24 07.6	
TSI	**Tuntungan** comp=Z,64nm,0.8s	**24.70**	**276**	P	**P**	**14 24 11.2**	**+0.9**
COEN	**Coen**	**24.71**	**127**	P	**P**	**14 24 08.8**	**-1.6**
COEN	**Coen**	**24.71**	**127**	P	**P**	**14 24 10.3**	**-0.1**
GSI	**Gunungsitoli**	**25.57**	**271**		**P**	**14 24 17.1**	**-1.1**
GSI	**Gunungsitoli**	**25.57**	**271**	P	**P**	**14 24 19.0**	**+0.8**
GSI	**Gunungsitoli**	**25.57**	**271**	P	**P**	**14 24 16.3**	**-1.9**
AS31	**Alice Springs**	**26.52**	**157**		**P**	**14 24 25.4**	**-1.4**
ASAR	**Alice Springs**	**26.52**	**157**	P	**P**	**14 24 26.1**	**-0.7**
ASAR	**Alice Springs** comp=Z,2.8nm,0.7s,baz=341,slow=7.0,SNR=33	**26.52**	**157**	P PcP	**P PcP**	**14 24 25.5**	**-1.3**
ASAR	comp=Z,0.4nm,0.5s,baz=1.8,slow=1.9,SNR=3.2			PcP	**PcP**	**14 27 49.6**	**-1.1**
ASAR	comp=Z,0.5nm,1.0s,baz=25,slow=9.5,SNR=2.8			ScP	**ScP**	**14 31 24.3**	**-2.4**
ASAR	comp=Z,80nm,20.0s,baz=336,slow=37			LR	LR	14 35 09.3	
AS01	comp=Z,2.8nm,0.7s **Alice Springs**	**26.54**	**157**	P	**P**	**14 24 26.8**	**-0.1**
QIS	**Mount Isa**	**26.70**	**144**	P	**P**	**14 24 28.2**	**-0.2**
MLSI	**Meulaboh, Aceh**	**26.92**	**278**	P	**P**	**14 24 29.9**	**-0.5**
MEEK	**Meekatharra**	**27.68**	**189**	P	**P**	**14 24 36.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**29.50**	**308**	P	**P**	**14 24 53.7**	**+0.3**
CMAR	**Chiang Mai Arr** comp=Z,1.1nm,0.6s,baz=137,slow=6.8,SNR=8.8	**29.50**	**308**	P	**P**	**14 24 54.2**	**+0.8**
CHTO	comp=Z,1.1nm,0.6s **Chiang Mai**	**29.70**	**308**	P	**P**	**14 24 55.7**	**+0.6**
CHTO	comp=Z,13nm,1.3s			IAmb	IAmb	14 25 01.0	
BLDU	**Ballidu**	**31.89**	**191**	P	**P**	**14 25 14.2**	**-0.1**
JNU	**Nakatsue** comp=Z,40nm,18.9s,baz=178,slow=38	**32.91**	**12**	LR	LR	14 39 48.0	
STKA	**Stephens Creek**	**36.95**	**153**		**P**	**14 25 57.0**	**-1.0**
STKA	**Stephens Creek** comp=Z,9.9nm,0.8s,baz=324,slow=8.5,SNR=18	**36.95**	**153**	P	**P**	**14 25 57.2**	**-0.8**
STKA	comp=Z,9.9nm,0.8s **Stephens Creek**	**36.95**	**153**	P	**P**	**14 25 57.7**	**-0.4**
HTT	**Hallett**	**37.20**	**158**	P	**P**	**14 25 59.9**	**-0.3**
CMSA	**Cobar Meteorol**	**38.67**	**148**	P	**P**	**14 26 12.8**	**+0.2**
JMM	**Marumori**	**40.26**	**22**	P	**P**	**14 26 26.0**	**+0.3**
ARMA	**Armidale**	**41.26**	**141**	P	**P**	**14 26 34.2**	**-0.1**
ARMA	comp=Z,28nm,1.4s			IAmb	IAmb	14 27 08.5	
LSA	**Lhasa**	**41.83**	**316**	P	**P**	**14 26 39.7**	**+0.4**
LSA	comp=Z,7.3nm,0.9s			IAmb	IAmb	14 26 41.9	
CAN	**Canberra**	**43.34**	**149**	P	**P**	**14 26 50.7**	**-0.4**
GTA	**Gaotai**	**43.89**	**334**	P	**P**	**14 26 57.6**	**+2.1**
GTA				pP	sP	14 27 13.3	-1.1
GTA				sP	pP	14 27 20.2	+12
GTA	comp=Z,11nm,0.9s			pmax	pmax		
EVN	**Everest**	**43.98**	**311**		**P**	**14 26 56.9**	**-0.1**
EVN	comp=Z,14nm,1.1s			IAmb	IAmb	14 27 18.4	
DZM	**Mont Dzumac**	**47.98**	**121**	P	**P**	**14 27 28.0**	**+0.1**
DZM	comp=Z,5.0nm,1.0s			IAmb	IAmb	14 27 29.1	
KLR	**Kul'dur** comp=Z,31nm,18.5s,baz=190,slow=38	**48.76**	**7**	LR	LR	14 50 12.1	
SONM	**Songino Array**	**49.00**	**345**	P	**P**	**14 27 35.1**	**-0.3**
SONM	**Songino Array** comp=Z,1.1nm,0.6s,baz=170,slow=7.8,SNR=4.8	**49.00**	**345**	P	**P**	**14 27 35.3**	**-0.1**
SONM	comp=Z,1.1nm,0.8s,baz=176,slow=8.5,SNR=2.3			pP	**pP**	**14 27 49.1**	**+0.4**
KSH	**Kashi** comp=Z,1.1nm,0.6s	**57.64**	**318**	P	**P**	**14 28 40.8**	**+1.7**
KSH	comp=Z,7.0nm,0.8s			pmax	pmax		
MKAR	**Makanchi Array**	**57.97**	**328**		**P**	**14 28 41.1**	**0.0**
MKAR	**Makanchi Array** comp=Z,4.2nm,0.6s,baz=125,slow=8.7,SNR=48	**57.97**	**328**	P	**P**	**14 28 41.2**	**+0.2**
MAKZ	comp=Z,4.2nm,0.6s **Makanchi**	**58.14**	**328**	P	**P**	**14 28 42.3**	**0.0**
MAKZ	comp=Z,10nm,1.3s			IAmb	IAmb	14 28 43.3	
KDJ	**Kajisay**	**58.20**	**321**	P	**P**	**14 28 42.9**	**-0.1**
PETK	**Petropavlovsk-** comp=Z,0.4nm,0.6s,baz=201,slow=14,SNR=1.1	**59.45**	**23**	P	**P**	**14 28 50.4**	**-0.8**
KBL	comp=Z,0.4nm,0.6s **Kabul**	**60.50**	**310**		**P**	**14 28 58.5**	**-0.6**
GAR	**Garm**	**61.31**	**315**		**P**	**14 29 04.0**	**-0.4**
ZALV	**Zalesovo Beam**	**61.60**	**335**	P	**P**	**14 29 05.0**	**-0.9**
ZALV	**Zalesovo Beam** comp=Z,1.3nm,0.4s,baz=123,slow=11,SNR=7.5	**61.60**	**335**	P	**P**	**14 29 04.7**	**-1.2**
ZALV	comp=Z,1.0nm,0.5s,baz=108,slow=4.8,SNR=3.4			pP	**pP**	**14 29 19.4**	**-0.4**
KURBB	comp=Z,1.3nm,0.4s **Kurchatov Arra**	**62.30**	**330**	P	**P**	**14 29 10.2**	**-0.4**
KURBB	comp=Z,6.2nm,0.8s,baz=129,slow=6.0,SNR=40			pP	**pP**	**14 29 24.5**	**-0.1**
KURK	comp=Z,3.7nm,0.8s,baz=128,slow=6.2,SNR=8.8 **Kurchatov**	**62.31**	**330**		**P**	**14 29 10.5**	**-0.1**
BKZ	**Black Stump Fm**	**62.96**	**136**	P	**P**	**14 29 13.7**	**-1.6**
BKZ	comp=Z,19nm,1.3s			IAmb	IAmb	14 29 18.1	
KKAR	**Karatay Array**	**62.96**	**319**	P	**P**	**14 29 14.7**	**-0.5**
RTZ	**Ruatahuna**	**63.06**	**135**	P	**P**	**14 29 14.7**	**-1.3**
BVAR	**Borovoye Array** comp=Z,0.4nm,0.4s,baz=134,slow=6.4,SNR=4.4	**67.83**	**329**	P	**P**	**14 29 46.8**	**+0.3**
BVAR	comp=Z,2.8nm,0.9s,baz=140,slow=7.7,SNR=6.5			pP	**pP**	**14 30 00.2**	**-0.4**
BRVK	comp=Z,0.4nm,0.4s **Borovoye**	**67.90**	**329**	P	**P**	**14 29 46.6**	**-0.3**
BRVK	comp=Z,6.4nm,1.0s			IAmb	IAmb	14 30 07.6	
AB31	**Akbulak array**	**72.14**	**322**	P	**P**	**14 30 12.2**	**-0.9**
ABKAR	**Akbulak array**	**72.14**	**322**	P	**P**	**14 30 12.5**	**-0.6**
ABKAR	comp=Z,7.1nm,1.5s			IAmb	IAmb	14 30 33.8	
ABKAR	**Akbulak array**	**72.14**	**322**	P	**P**	**14 30 11.9**	**-1.2**
ARTI	**Arti** comp=Z,32nm,19.2s,baz=117,slow=38	**75.55**	**329**	LR	LR	15 06 07.8	
VNDA	**Vanda** comp=Z,0.8nm,0.6s,baz=315,slow=6.8,SNR=3.8	**81.07**	**172**	P	**P**	**14 31 01.0**	**-1.9**
NOA	comp=Z,0.8nm,0.6s **NORSAR Array B** comp=Z,16nm,19.3s,baz=340,slow=37	**99.72**	**333**	LR	LR	15 20 21.8	

IDC 03 14:22:32.8±17.0,29.°99S×178.°37W,h520km±194km, mb3.1/4,mbtmp4.0/4,Error ellipse: s-maj=74.6km s-min=29.7km az=58.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 1.0nm,0.4s,baz=106,slow=7.4,SNR=20	**42.81**	**267**	P	P	14 29 44.3	-0.5
WRA	**Warramunga Arr** 1.0nm,0.4s	**43.76**	**272**	P	P	14 29 52.4	+0.2
QSPA	**South Pole Qui** 1.1nm,0.4s,baz=111,slow=8.1,SNR=14	**60.12**	**180**	P	P	14 31 49.5	+0.1
NVAR	**Mina Array Bea** 1.7nm,0.9s,baz=55,slow=2.2,SNR=5.7	**88.16**	**43**	P	P	14 34 28.1	-0.2
NOA	**NORSAR Array B** 1.7nm,0.9s,baz=210,slow=5.8,SNR=1.9	**148.30**	**351**	PKPbc	PKPbc	14 41 19.0	-0.6
	1.2nm,0.8s,baz=18,slow=2.7,SNR=3.3						

*IDC **03** 14:30:17.0±1.2,2.°91S×138.°68E,h0km,mb3.5/4, mbtmp3.6/7,ML3.6/3, Error ellipse: s-maj=28.2km s-min=22.3km az=137.0*
*DJA **03** 14:30:19.6±0.7,3.°5±3.°×13.°9E±.°, h10km±7km, M2.8/1, MLv3.5/7, MLv2.8/1*

ISC 03 14:30:21.9±0.8,2.°9S±0.°1×138.°66E±0.°05,h35km,n13, σ1ᵍ04/14,mb3.5/4,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.89**	**3**	P	Pn	14 30 32.3	-5.6
GENI	**Genyem**	**1.53**	**79**	P	**Pn**	**14 30 45.7**	**-1.0**
JAY	**Jayapura** 8.0nm,0.3s,baz=266,slow=13,SNR=36	**2.08**	**80**	Pn	**Pn**	**14 30 53.5**	**-0.7**
JAY	5.2nm,0.3s,baz=270,slow=20,SNR=4.1 14nm,0.3s			Sn	**Sn**	**14 31 18.8**	**-0.1**
JAY	**Jayapura**	**2.08**	**80**	P	**Pn**	**14 30 54.0**	**-0.2**
SRPI	**Serui, Papua**	**2.62**	**293**	P	**Pn**	**14 30 59.6**	**-2.1**
BAKI	**Biak**	**3.06**	**303**	P	**Pn**	**14 31 07.9**	**+0.2**
BAKI				S	**Sn**	**14 31 42.1**	**-1.0**
FAKI	**Fak Fak**	**6.40**	**270**	P	**Pn**	**14 31 54.5**	**+0.7**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=17,slow=12,SNR=13 0.6nm,0.4s	**17.47**	**194**	P	**Pn**	**14 34 22.8**	**-0.1**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=54,slow=14,SNR=1.7 2.0nm,1.1s	**19.79**	**219**	P	**P**	**14 34 48.1**	**-1.2**
ASAR	**Alice Springs** 0.7nm,0.6s,baz=7.6,slow=10,SNR=17 0.7nm,0.6s	**21.16**	**192**	P	**P**	**14 35 03.7**	**-0.5**
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=108,slow=4.7,SNR=2.2 0.2nm,0.7s	**69.90**	**322**	P	**P**	**14 41 30.1**	**+0.7**
BVAR	**Borovoye Array** 0.3nm,0.4s,baz=101,slow=7.6,SNR=1.9 0.3nm,0.4s	**79.43**	**325**	P	**P**	**14 42 25.7**	**+1.2**
QSPA	**South Pole Qui** 1.0nm,0.9s,baz=12,slow=2.3,SNR=3.5 1.0nm,0.9s	**87.06**	**180**	P	**P**	**14 43 04.4**	**+0.7**

IDC 03 14:45:49.3±325.0,38.°68N×14.°56E,h0km,Error ellipse: s-maj=149.4km s-min=105.2km az=72.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I48TN	**KESRA INFRASON** 0.7nm,0.7s,baz=53,slow=311,SNR=16	**5.07**	**237**	I	I	15 17 00.0	
I26DE	**FREYUNG INFRAS** 0.1nm,0.9s,baz=176,slow=316,SNR=14	**10.18**	**357**	I	I	15 44 20.0	
I37NO	**I37NO** baz=183,slow=328,SNR=0.6	**30.53**	**3**	I	I	17 54 50.0	
I42PT	**GRACIOSA ISLAN** 0.1nm,1.0s,baz=75,slow=302,SNR=3.4	**32.93**	**284**	I	I	17 42 07.4	

*IDC **03** 14:46:52.5±1.9,19.°21N×95.°62E,h0km,mb3.6/4, mbtmp3.5/5,ML3.1/1,MS3.2/1, Error ellipse: s-maj=37.7km s-min=16.2km az=32.0*

*BKK **03** 14:46:56.6±1.1,19.°N±9.°×9.°6E±.°, h10km,M3.8/7, Mjma3.6/6,ML4.1/7,MLv3.8/4*

ISC 03 14:46:55.1±1.7,19.4N±0.2×95.9E±0.1,h10km,n8,σ0ᵍ71/8, mb3.6/4,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM15	**Chiang Mai Arr**	**3.05**	**107**	Pg	**Pg**	**14 47 53.5**	**-0.2**
CMAI	**Chiengmai2**	**3.06**	**79**	Pg	**Pg**	**14 47 53.8**	**-0.1**
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=282,slow=14,SNR=7.4	**3.07**	**107**	Pn	**Pn**	**14 47 44.3**	**+0.5**
CMAR	4.3nm,0.3s,baz=284,slow=18,SNR=34			Pg	**Pg**	**14 47 53.5**	**-0.5**
CMAR	4.4nm,0.3s,baz=283,slow=16,SNR=2.4 1.6nm,0.4s			Lg	Lg	14 48 33.6	
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=162,slow=9.1,SNR=1.7 0.4nm,0.5s	**29.52**	**341**	P	**P**	**14 52 59.7**	**0.0**
SONM	**Songino Array** comp=Z,40nm,19.0s,baz=238,slow=38	**29.65**	**14**	LR	LR	15 05 34.3	
KURBB	**Kurchatov Arra** 0.5nm,0.5s,baz=149,slow=8.8,SNR=6.3 0.5nm,0.5s	**34.07**	**340**	P	**P**	**14 53 38.3**	**-1.4**
ZALV	**Zalesovo Beam** 0.8nm,0.5s,baz=170,slow=12,SNR=2.6 0.8nm,0.5s	**35.54**	**349**	P	**P**	**14 53 51.8**	**-0.4**
BVAR	**Borovoye Array** 0.3nm,0.5s,baz=142,slow=10,SNR=1.6 0.3nm,0.5s	**38.95**	**336**	P	**P**	**14 54 21.2**	**0.0**

*IDC **03** 15:15:14.1±1.5,44.°24N×129.°61W,h0km,mb3.5/7, mbtmp3.5/12,ML3.5/5,MS3.5/14, Error ellipse: s-maj=31.6km s-min=15.6km az=45.0*
*NEIC **03** 15:15:20.1±1.5,44.°40N±0.°09×129.°1W±0.°2, h10km±2km, mb4.1/18,ML3.2/50, Error ellipse: s-maj=19.9km s-min=13.7km az=239.0*

ISC 03 15:15:17.7±0.9,44.°33N±0.°09×129.°4W±0.°1,h13km,n111, σ1ᵍ24/93,mb3.7/8,MS3.5/11,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.92**	**110**	Pn	**Pn**	**15 16 16.5**	**-1.1**
KEBM	comp=E,30nm,1.2s			IAML		15 17 13.7	
KEBM	comp=N,31nm,1.8s			IAML		15 17 39.5	
I02E	**Swisshome, OR**	**3.96**	**91**	Pn	**Pn**	**15 16 17.2**	**-0.9**
HEBO	**Mount Hebo**	**4.08**	**75**	Pn	**Pn**	**15 16 19.1**	**-0.8**
HEBO	comp=N,26nm,2.0s			IAML		15 17 14.2	
HEBO	comp=E,37nm,1.7s			IAML		15 17 43.4	
COR	**Corvallis**	**4.34**	**84**	Pn	**Pn**	**15 16 22.4**	**-0.9**
COR	comp=E,50nm,0.6s			IAML		15 17 16.5	
I03D	**Drain, OR**	**4.37**	**96**	Pn	**Pn**	**15 16 23.2**	**-0.6**
F03A	**Seaside**	**4.40**	**67**	Pn	**Pn**	**15 16 23.7**	**-0.5**
G03D	**McMinnville, O**	**4.42**	**76**	Pn	**Pn**	**15 16 24.5**	**0.0**
G03D	comp=N,33nm,0.6s			IAML		15 17 20.9	
G03D	comp=E,29nm,1.4s			IAML		15 17 27.8	
RADR	**Rader Ridge**	**4.44**	**60**	Pn	**Pn**	**15 16 23.8**	**-0.9**
RADR	comp=E,20nm,0.8s			IAML		15 17 28.4	
RADR	comp=N,22nm,1.7s			IAML		15 17 36.9	
K02D	**Willamette Mer**	**4.44**	**110**	Pn	**Pn**	**15 16 24.6**	**-0.3**
BUCK	**Buck Mountain**	**4.57**	**89**	Pn	**Pn**	**15 16 26.2**	**-0.4**
BUCK	comp=N,22nm,1.4s			IAML		15 17 24.3	
BUCK	comp=E,18nm,2.1s			IAML		15 17 53.0	
E03A	**Lebam**	**4.64**	**59**	Pn	**Pn**	**15 16 26.6**	**-0.8**
E03A	comp=E,22nm,0.7s			IAML		15 17 28.0	
E03A	comp=N,20nm,1.2s			IAML		15 17 30.0	
H04D	**Lebanon**	**4.74**	**85**	Pn	**Pn**	**15 16 29.2**	**+0.3**
WISH	**Wishkah**	**4.80**	**52**	Pn	**Pn**	**15 16 29.9**	**+0.2**
WISH	comp=E,21nm,1.6s			IAML		15 17 17.7	
WISH	comp=N,24nm,2.8s			IAML		15 17 21.3	
F04D	**Rainier, OR**	**4.81**	**66**	Pn	**Pn**	**15 16 29.4**	**-0.4**
NLWA	**Neilton Lookou**	**4.90**	**49**	Pn	**Pn**	**15 16 30.6**	**-0.6**
NLWA	comp=N,14nm,0.6s			IAML		15 17 32.0	
BBOR	**Butler Butte**	**5.05**	**104**	Pn	**Pn**	**15 16 33.4**	**+0.1**
BBOR	comp=N,12nm,1.9s			IAML		15 17 51.3	
H04A	**Detroit Lake**	**5.13**	**83**	Pn	**Pn**	**15 16 34.1**	**-0.2**
H04A	comp=E,13nm,0.4s			IAML		15 17 36.6	
H04A	comp=N,24nm,0.5s			IAML		15 17 41.1	
J04A	**Umpqua Nationa**	**5.35**	**99**	Pn	**Pn**	**15 16 38.1**	**+0.6**
YBH	**Yreka Blue Hor** baz=186,slow=24,SNR=3.8	**5.51**	**116**	Pn	**Pn**	**15 16 39.1**	**-0.4**
L04D	**Klamath Falls**	**5.56**	**110**	Pn	**Pn**	**15 16 40.7**	**+0.5**
HOOD	**Mount Hood Mea**	**5.56**	**77**	Pn	**Pn**	**15 16 40.6**	**+0.3**
GNW	**Green Mountain**	**5.58**	**52**	Pn	**Pn**	**15 16 39.7**	**-0.8**
I05D	**Terrebonne, OR**	**5.75**	**87**	Pn	**Pn**	**15 16 42.4**	**-0.3**
CLRS	**Cowichan Lake**	**5.76**	**37**	Pn	**Pn**	**15 16 41.9**	**-0.9**
G05A	**Wamic**	**5.79**	**78**	Pn	**Pn**	**15 16 43.5**	**+0.2**
LON	**Longmire**	**5.82**	**63**	Pn	**Pn**	**15 16 43.4**	**-0.4**
D05A	**Enumclaw**	**5.89**	**58**	Pn	**Pn**	**15 16 45.1**	**+0.5**
PGC	**Sidney**	**5.94**	**41**	Pn	**Pn**	**15 16 44.2**	**-1.1**
PINE	**Pine Mountain**	**6.08**	**92**	Pn	**Pn**	**15 16 47.8**	**+0.3**
G06A	**Carlson Farm,**	**6.27**	**79**	Pn	**Pn**	**15 16 49.5**	**-0.4**
CBB	**Campbell River**	**6.32**	**24**	Pn	**Pn**	**15 16 49.9**	**-0.7**
O02D	**Mt. Diablo Mer**	**6.39**	**128**	Pn	**Pn**	**15 16 52.2**	**+0.5**
LTY	**Liberty**	**6.74**	**61**	Pn	**Pn**	**15 16 55.9**	**-0.5**
MXC	**Moxie City**	**6.75**	**67**	Pn	**Pn**	**15 16 57.5**	**+0.9**
I07A	**Izee**	**7.08**	**89**	Pn	**Pn**	**15 17 02.5**	**+1.4**
HAWA	**Hanford**	**7.22**	**70**	Pn	**Pn**	**15 17 03.0**	**+0.2**
WAH2	**Wahluke Slope**	**7.29**	**67**	Pn	**Pn**	**15 17 04.4**	**+0.6**
G08A	**Pilot Rock**	**7.45**	**79**	Pn	**Pn**	**15 17 06.5**	**+0.2**
E08A	**Dider Farm, El**	**7.56**	**70**	Pn	**Pn**	**15 17 07.5**	**-0.

comp=N,130nm,18.1s,baz=280,slow=38
comp=N,0.3nm,0.6s

KNB	Kanab	14.50	115	Pn	Pn	15 18 44.7	+2.0
SRU	San Rafael Swe	14.98	104	P	P	15 18 52.9	-1.9
R33M	Jennings River	15.12	357	Pn	Pn	15 18 53.1	+2.0
R33M				IAmb	IAmb	15 19 07.9	

comp=Z,6.6nm,1.1s

BLYC	Blythe	15.60	128	Pn	Pn	15 18 58.3	+1.0
BLYC				IAmb	IAmb	15 19 04.8	

comp=Z,14nm,1.1s

ESJX	Sierra Juarez	16.17	135	Pn	Pn	15 19 06.4	+1.6
PV21	Cone Mtn., Par	16.31	104	Pn	Pn	15 19 07.2	+0.5
PV21				IAmb	IAmb	15 19 13.5	

comp=Z,17nm,1.3s

PV12	Saucer Basin,	16.54	104	P	P	15 19 11.9	-0.3
PV12				IAmb	IAmb	15 19 27.4	

comp=Z,28nm,1.5s

VTX	Valle De La Tr	16.75	136		Pn	15 19 11.6	-0.5
VTX				IAmb	IAmb	15 19 16.9	

comp=Z,14nm,0.6s

MVCO	Mesa Verde	17.29	107	P	P	15 19 20.9	+0.4
RSSD	Black Hills	18.13	82	P	Pn	15 19 28.4	-0.9
SDCO	Great Sand Dun	19.12	102	P	Pn	15 19 42.5	+1.0
KDAK	Kodiak Island	19.73	321	LR	LR	15 25 27.5	

comp=Z,95nm,18.2s,baz=135,slow=31

SBM	South Baldy	20.00	114	P	Pn	15 19 51.6	-0.5
YKA	Yellowknife Ar	20.12	20	P	P	15 19 51.8	+0.8

comp=Z,0.7nm,0.8s,baz=220,slow=12,SNR=3.8

YKA				LR	LR	15 26 45.5	

comp=Z,92nm,19.2s,baz=228,slow=34
comp=Z,0.7nm,0.8s

T25A	Trinidad	20.17	102	P	P	15 19 52.5	+0.5
T25A				IAmb	IAmb	15 20 04.9	

comp=Z,6.9nm,0.8s

E28A	Huff	20.18	73	P	Pn	15 19 53.2	-0.6
BNM	Barren Site	20.26	112	P	Pn	15 19 54.8	-0.3
FFC	Flin Flon	20.46	50	P	P	15 19 55.9	+1.1
FFC				IAmb	IAmb	15 19 58.1	

comp=Z,14nm,1.2s

ILAR	Eielson Array	22.72	340	P	P	15 20 18.8	-0.2

comp=Z,0.6nm,1.0s,baz=158,slow=7.8,SNR=7.3
comp=Z,0.6nm,1.0s

F33A	5 Mile Ranch,	23.30	75	P	P	15 20 25.2	0.0
ULM	Lac du Bonnet	23.33	63	P	P	15 20 26.0	+0.6

comp=Z,0.6nm,0.4s,baz=272,slow=7.4,SNR=5.0

ULM				LR	LR	15 29 27.9	

comp=Z,121nm,18.0s,baz=285,slow=36
comp=Z,0.6nm,0.4s

SMWD	Samnorwood	24.10	102	P	P	15 20 33.9	+0.8
SMWD				IAmb	IAmb	15 20 41.1	

comp=Z,10nm,1.2s

TXAR	Lajitas Array	25.29	118	P	P	15 20 45.0	+1.1

comp=Z,0.8nm,0.9s,baz=316,slow=8.7,SNR=3.9
comp=Z,0.8nm,0.9s

WMOK	Wichita Mounta	25.32	102	P	P	15 20 45.3	+1.2
OXF	Oxford	32.10	94	P	P	15 21 44.7	+0.2
RES	Resolute Bay	34.05	16	LR	LR	15 35 43.0	

comp=Z,54nm,20.4s,baz=28,slow=36

SADO	Sadowa	35.32	71	LR	LR	15 36 52.7	

comp=Z,102nm,21.4s,baz=319,slow=37

FRB	Frobisher Bay	38.80	38	LR	LR	15 39 07.4	

comp=Z,54nm,18.3s,baz=263,slow=37

SCHQ	Schefferville	40.57	52	LR	LR	15 39 43.5	

comp=Z,90nm,20.8s,baz=276,slow=36

SFJD	Kangerlussuaq	45.94	32	LR	LR	15 43 15.3	

comp=Z,104nm,18.3s,baz=294,slow=36

BORG	Borgarnes	57.74	29	LR	LR	15 49 33.7	

comp=Z,36nm,19.3s,baz=261,slow=36

H11N3	WAKE ISLAND Hy	57.81	267	T	T	16 27 24.9	

baz=49,slow=75,SNR=1346

H11N2	WAKE ISLAND Hy	57.81	267	T	T	16 27 24.9	

baz=49,slow=75,SNR=801

H11N1	WAKE ISLAND Hy	57.83	267	T	T	16 27 25.1	

baz=49,slow=75,SNR=564

H11S1	WAKE ISLAND Hy	58.75	266	T	T	16 28 33.4	

baz=48,slow=75,SNR=135

H11S2	WAKE ISLAND Hy	58.76	266	T	T	16 28 33.3	

baz=48,slow=75,SNR=78

H11S3	WAKE ISLAND Hy	58.77	266	T	T	16 28 37.0	

baz=48,slow=75,SNR=80

SONM	Songino Array	75.97	325	LR	LR	15 59 44.5	

comp=Z,49nm,18.0s,baz=274,slow=35

MDP	Montagnes des	76.94	96	LR	LR	16 02 01.3	

comp=Z,22nm,20.0s,baz=246,slow=36

GUMO	Guam	77.65	277	LR	LR	15 57 14.1	

comp=Z,12nm,18.9s,baz=86,slow=32

HHC	Hu-ho-hao-te	79.11	318	*eP*	P	15 27 22.7	+0.8
HHC				pmax	pmax		

comp=Z,28nm,0.7s

HHC				pmax	pmax		

comp=Z,110nm,4.6s

BVAR	Borovoye Array	81.56	348	P	P	15 27 33.1	-1.7

comp=Z,0.4nm,0.5s,baz=28,slow=6.5,SNR=1.2
comp=Z,0.4nm,0.5s

LPAZ	La Paz	82.08	122	P	P	15 27 37.0	-1.7

comp=Z,1.3nm,0.7s,baz=355,slow=7.1,SNR=5.5
comp=Z,1.3nm,0.7s

KURBB	Kurchatov Arra	82.38	343	P	P	15 27 37.0	-2.1

comp=Z,0.5nm,0.8s,baz=6.6,slow=5.7,SNR=4.1
comp=Z,0.5nm,0.8s

LZH	Lanzhou	86.56	319	*eP*	P	15 28 01.7	+0.9
PZH	PanZhiHua	95.45	316	P	P	15 28 43.4	+1.0

IDC 03 15:21:12.6±1.2, 18°49N×121°06E, h0km, mb3.3/4, mbtmp3.3/5, ML3.6/1, Error ellipse: s-maj=62.7km s-min=21.3km az=71.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	19.83	16	P	P	15 25 44.8	-0.1

0.2nm,0.3s,baz=198,slow=12,SNR=8.3
0.5nm,0.3s

WRA	Warramunga Arr	40.36	161	P	P	15 28 52.1	-0.2

0.4nm,0.6s,baz=341,slow=8.5,SNR=4.6
0.4nm,0.6s

MKAR	Makanchi Array	42.49	320	P	P	15 29 09.4	-0.1

0.1nm,0.4s,baz=106,slow=9.1,SNR=2.2
0.1nm,0.4s

ASAR	Alice Springs	43.74	163	P	P	15 29 19.8	-0.1

0.2nm,0.3s,baz=340,slow=7.0,SNR=19
0.2nm,0.3s

KURBB	Kurchatov Arra	46.49	324	P	P	15 29 41.3	-0.2

0.3nm,0.8s,baz=129,slow=8.4,SNR=1.9
0.3nm,0.8s

*IDC **03** 15:35:44.3±1.8, 13°.19S×167°.12E, h218km±15km, mb3.9/17, mbtmp4.4/20, Error ellipse: s-maj=15.7km s-min=10.3km az=81.0*
*NEIC **03** 15:35:45.7±1.3, 13°.19S±0°.09×167°.2E±0°.1, h232km±5km, mb4.5/41, Error ellipse: s-maj=18.4km s-min=13.0km az=71.0*
*NOU **03** 15:35:46.0, 13°.21S×166°.86E, h203km, mb4.3/32, Vanuatu Islands*
ISC 03 15:35:43.0±0.4, 13°13S±0°.05×167°10E±0°.06, h200km, n114, σ1§52/120, mb4.4/36, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	Luesalemba Tem	2.71	335	P	Pn	15 36 32.2	+2.8
LUES	Luesalemba Tem	2.71	335	P	Sn	15 37 06.7	+1.1
VLAKA	Lakatoro	2.98	174	P	Pn	15 36 34.9	+2.5
VLAKA	Lakatoro	2.98	174	P	Sn	15 37 13.5	+2.3
HURO	Huro Makira	5.73	297	P	Pn	15 37 09.7	+2.8
NGOA	Tingoa Renbel	7.05	282	P	Pn	15 37 23.9	-0.1
ALEG	Aligegeo Malai	7.64	304	P	Pn	15 37 34.0	+2.3
HNR	Honiara	7.92	297	Pn	Pn	15 37 38.1	+2.8
HNR	Honiara	7.92	297	P	Pn	15 37 37.9	+2.6

22nm,0.5s,baz=156,slow=12,SNR=4.1

HNR				S	Sn	15 39 07.6	+3.0

42nm,0.9s,baz=276,slow=7.2,SNR=1.7

TATA	Tatamba Isabel	8.57	303	P	Pn	15 37 46.3	+2.4
DZM	Mont Dzumac	8.92	184	Pn	Pn	15 37 51.0	+2.6
DZM	Mont Dzumac	8.92	184	P	Pn	15 37 49.4	+1.0

1.1nm,0.4s,baz=98,slow=9.5,SNR=1.1

DZM				S	Sn	15 39 28.4	-0.1

1.6nm,0.7s,baz=222,slow=23,SNR=1.1

DZM	Mont Dzumac	8.92	184	P	Pn	15 37 51.4	+3.0
MSVF	Nonsavu	11.51	115		P	15 38 30.3	+2.9
MSVF	Nonsavu	11.51	115	P	Pn	15 38 21.8	0.0

8.0nm,0.9s,baz=297,slow=3.9,SNR=3.7

MSVF	Nonsavu	11.51	115	P	P	15 38 29.6	+2.3
EIDS	Eidsvold	19.39	229	P	P	15 39 55.4	+1.4
EIDS				IAmb	IAmb	15 39 56.1	

comp=Z,14nm,0.8s

EIDS	Eidsvold	19.39	229	P	P	15 39 55.3	+1.3
CTAO	Charters Tower	21.13	248	P	P	15 40 12.8	+0.3
CTAO				IAmb	IAmb	15 40 15.3	

comp=Z,12nm,1.0s

CTAO	Charters Tower	21.13	248	P	P	15 40 13.9	+1.3
ARMA	Armidale	22.37	217	P	P	15 40 24.4	-0.5
ARMA				IAmb	IAmb	15 40 26.4	

comp=Z,15nm,0.9s

ARMA	Armidale	22.37	217	P	P	15 40 25.7	+0.8
MTSU	Mount Surprise	22.49	254	P	P	15 40 27.1	+1.1
COEN	Coen	23.27	265	P	P	15 40 33.1	0.0
COEN				IAmb	IAmb	15 41 15.4	

comp=Z,19nm,1.4s

COEN	Coen	23.27	265	P	P	15 40 33.4	+0.3
CMSA	Cobar Meteorol	26.89	224	P	P	15 41 05.6	+0.1
BKZ	Black Stump Fm	27.24	164	P	P	15 41 07.2	-1.4
BKZ	Black Stump Fm	27.24	164	P	P	15 41 10.0	+1.4
CNB	Canberra Magne	27.29	213	P	P	15 41 09.3	+0.2
CAN	Canberra	27.49	213	P	P	15 41 10.1	-0.8
CAN	Canberra	27.49	213	P	P	15 41 10.9	0.0
MRZ	Mangatainoka R	28.42	166	P	P	15 41 17.7	-1.3
KHZ	Kahutara	29.71	170	P	P	15 41 32.7	+2.3
LTZ	Lake Taylor	29.89	172	P	P	15 41 30.2	-1.8
STKA	Stephens Creek	29.93	227	P	P	15 41 32.0	-0.5
STKA	Stephens Creek	29.93	227	P	P	15 41 32.5	0.0

comp=Z,11nm,0.7s,baz=46,slow=9.1,SNR=20

STKA				PcP	PcP	15 44 29.2	-1.0

comp=Z,3.0nm,0.6s,baz=67,slow=2.0,SNR=5.1
comp=Z,11nm,0.7s

STKA	Stephens Creek	29.93	227	P	P	15 41 32.9	+0.4
MQZ	McQueen's Vall	30.85	172	P	P	15 41 37.3	-3.1
TOO	Toolangi	31.05	215	P	P	15 41 41.0	-1.4
WR8	Warramunga Arr	31.94	253	P	P	15 41 48.9	-1.4
WR8				IAmb	IAmb	15 41 53.0	

comp=Z,11nm,1.4s

WB0	Warramunga Arr	32.02	254	P	P	15 41 50.1	-0.8
WB0				IAmb	IAmb	15 41 50.6	

comp=Z,12nm,1.1s

WRA	Warramunga Arr	32.09	253	P	P	15 41 50.0	-1.6
WRA	Warramunga Arr	32.09	253	P	P	15 41 50.2	-1.4

comp=Z,2.9nm,0.6s,baz=83,slow=8.9,SNR=14

WRA				pP	pP	15 42 33.0	+1.0

comp=Z,0.6nm,0.6s,baz=83,slow=8.2,SNR=1.7

WRA				PcP	PcP	15 44 34.9	-1.2

comp=Z,0.5nm,0.6s,baz=77,slow=3.2,SNR=3.2

WRA				S	S	15 46 41.3	-7.8

comp=Z,0.3nm,0.8s,baz=91,slow=14,SNR=1.7
comp=Z,2.9nm,0.6s

HTT	Hallett	32.66	227	P	P	15 41 56.6	+0.1
AS01	Alice Springs	33.08	247	P	P	15 41 59.3	-0.9
ASAR	Alice Springs	33.12	247	P	P	15 41 59.4	-1.2
ASAR	Alice Springs	33.12	247	P	P	15 41 59.3	-1.3

comp=Z,7.9nm,0.6s,baz=76,slow=9.7,SNR=264

ASAR				PcP	PcP	15 44 37.5	-1.5

comp=Z,1.2nm,0.7s,baz=64,slow=2.0,SNR=7.5

ASAR				ScP	ScP	15 48 01.2	-3.2

comp=Z,0.5nm,0.8s,baz=54,slow=4.7,SNR=3.5
comp=Z,7.9nm,0.6s

KDU	Kakadu	33.74	267	P	P	15 42 06.3	+0.4
BBOO	Buckleboo	34.45	230	P	P	15 42 10.9	-0.9
BBOO				IAmb	IAmb	15 42 39.2	

comp=Z,32nm,1.5s

BBOO	Buckleboo	34.45	230	P	P	15 42 11.8	-0.1
MTN	Manton Dam	35.03	266	P	P	15 42 15.8	-1.2
MTN				IAmb	IAmb	15 42 30.8	

comp=Z,16nm,1.3s

KNRA	Kununurra	37.19	261	P	P	15 42 35.0	-0.3
KNRA				IAmb	IAmb	15 42 36.2	

comp=Z,12nm,0.9s

FORT	Forrest	39.99	238	P	P	15 42 57.5	-1.0
FORT				IAmb	IAmb	15 42 58.5	

comp=Z,11nm,0.7s

FITZ	Fitzroy Crossi	40.17	257	P	P	15 42 59.6	-0.5
FITZ	Fitzroy Crossi	40.17	257	P	P	15 43 00.4	+0.3
MEEK	Meekatharra	47.27	246	P	P	15 43 56.6	0.0
KLBR	Kellerberrin	48.76	239	P	P	15 44 06.6	-1.3
NWAO	Narrogin (SRO)	49.44	238	P	P	15 44 13.4	+0.3
BLDU	Ballidu	49.47	241	P	P	15 44 13.7	+0.4
MORW	Morawa	49.83	243	P	P	15 44 14.7	-1.3
GIRL	Giralia	50.97	251	P	P	15 44 25.4	+0.7
JGF	Kuroka	56.04	331	P	P	15 45 00.1	-1.2
JGF				IAmb	IAmb	15 45 09.8	

comp=Z,20nm,1.4s

MJAR	Matsushiro Arr	56.42	332	P	P	15 45 02.5	-1.4

comp=Z,1.9nm,0.7s,baz=180,slow=8.7,SNR=5.5
comp=Z,1.9nm,0.7s

JNU	Nakatsue	57.53	324	P	P	15 45 11.5	-0.3
JNU	Nakatsue	57.53	324	P	P	15 45 11.1	-0.7

comp=Z,6.4nm,0.9s,baz=99,slow=1.7,SNR=5.4
comp=Z,6.4nm,0.9s

JKA	Kamikawa-asahi	61.19	340	P	P	15 45 37.2	+0.7
JKA				IAmb	IAmb	15 45 38.1	

comp=Z,4.3nm,0.6s

KSRS	Korea Array	62.33	325	P	P	15 45 44.4	+0.1

comp=Z,1.1nm,0.9s,baz=139,slow=6.2,SNR=7.2
comp=Z,1.1nm,0.9s

VNDA	Vanda	64.45	181	P	P	15 45 56.6	-1.0
VNDA	Vanda	64.45	181	P	P	15 45 56.7	-1.0

comp=Z,0.8nm,0.6s,baz=2.7,slow=6.4,SNR=10
comp=Z,0.8nm,0.6s

SBA	Scott Base	64.73	180	P	P	15 45 59.2	-0.2
CASY	Casey	64.94	202	P	P	15 45 59.2	-1.7
CASY				IAmb	IAmb	15 45 59.9	

comp=Z,17nm,1.4s

KIWB	Kanaga Island	66.14	11	P	P	15 46 08.4	-0.3
PETK	Petropavlovsk-	66.46	354	P	P	15 46 10.7	0.0
PETK	Petropavlovsk-	66.46	354	P	P	15 46 11.1	+0.4

comp=Z,2.5nm,0.6s,baz=142,slow=7.5,SNR=7.6
comp=Z,2.5nm,0.6s

IPM	Ipoh	67.89	280	P	P	15 46 18.8	-1.8
IPM				IAmb	IAmb	15 46 21.0	

comp=Z,11nm,0.9s

GSI	Gunungsitoli	70.39	276	P	P	15 46 35.0	-1.0
CMAR	Chiang Mai Arr	74.15	294	P	P	15 46 58.3	+0.1
CMAR	Chiang Mai Arr	74.15	294	P	P	15 46 58.7	+0.6

comp=Z,2.6nm,0.7s,baz=128,slow=4.3,SNR=18
comp=Z,2.6nm,0.7s

PLK4	Peulik 4	76.66	19	P	P	15 47 10.4	-1.2
SEY	Seymchan	76.68	353	P	P	15 47 11.1	-0.4

comp=Z,3.0nm,0.8s,baz=236,slow=6.9,SNR=5.4
comp=Z,3.0nm,0.8s

QSPA	South Pole Qui	76.89	180	P	P	15 47 11.8	-1.2
QSPA				IAmb	IAmb	15 47 12.9	

comp=Z,11nm,1.1s

QSPA	South Pole Qui	76.89	180	P	P	15 47 11.9	-1.2

comp=Z,5.8nm,0.6s,baz=228,slow=0.9,SNR=44
comp=Z,5.8nm,0.6s

M16K	Timber Creek	78.67	16	P	P	15 47 22.4	-0.2
M16K				IAmb	IAmb	15 47 56.3	

comp=Z,16nm,1.4s

YAK	Yakutsk	80.46	343	P	P	15 47 31.6	-0.6

comp=Z,6.7nm,0.6s,baz=24,slow=4.8,SNR=4.4
comp=Z,6.7nm,0.6s

SONM	Songino Array	81.12	324	P	P	15 47 36.3	+0.1

comp=Z,1.0nm,0.5s,baz=156,slow=8.0,SNR=4.4
comp=Z,1.0nm,0.5s

J18K	Innoko River	81.28	16	P	P	15 47 35.4	-1.1
J18K				IAmb	IAmb	15 47 43.9	

comp=Z,9.0nm,1.5s

CAST	Castle Rocks	82.52	17	P	P	15 47 41.2	-1.8
SCM	Sheep Creek Mo	82.82	20	P	P	15 47 43.0	-1.7
SCM				IAmb	IAmb	15 47 44.8	

comp=Z,5.0nm,0.7s

MAW	Mawson	83.30	202	P	P	15 47 45.7	-1.3

comp=Z,2.1nm,0.6s,baz=147,slow=5.5,SNR=7.2
comp=Z,2.1nm,0.6s

RND	Reindeer	83.47	18	P	P	15 47 46.7	-1.3
RND				IAmb	IAmb	15 47 47.3	

comp=Z,5.2nm,0.8s

I21K	Tanana	83.91	16	P	P	15 47 49.4	-0.6
I21K				IAmb	IAmb	15 47 50.6	

comp=Z,4.1nm,0.8s

E19K	Redstone River	84.44	13	P	P	15 47 52.9	+0.2
WRH	Wood River Hil	84.48	18	P	P	15 47 51.3	-1.6
IL31		85.06	18	P	P	15 47 54.3	-1.5
ILAR	Eielson Array	85.06	18	P	P	15 47 54.4	-1.4

comp=Z,2.5nm,0.6s,baz=241,slow=5.1,SNR=43

ILAR				pP	pP	15 48 45.9	+1.6

comp=Z,2.2nm,1.0s,baz=210,slow=4.9,SNR=5.5
comp=Z,2.5nm,0.6s

J25K	Salcha River,	85.41	19	P	P	15 47 56.7	-1.0
J25K				IAmb	IAmb	15 47 57.6	

comp=Z,3.8nm,0.6s

MKAR	Makanchi Array	95.93	317	P	P	15 48 46.6	-0.6

comp=Z,1.7nm,0.6s,baz=89,slow=6.4,SNR=19
comp=Z,1.7nm,0.6s

ZALV	Zalesovo Beam	96.01	324	P	P	15 48 45.7	-1.6

comp=Z,1.3nm,0.7s,baz=107,slow=5.0,SNR=4.6
comp=Z,1.3nm,0.7s

ARCES	ARCESS Array B	118.67	346	PKPdf	PKPdf	15 54 05.0	-1.7
ARCES	ARCESS Array B	118.67	346	PKP	PKPdf	15 54 05.2	-1.4

comp=Z,1.9nm,0.3s,baz=80,slow=2.0,SNR=39

FINES	FINESS Array B	124.18	339	PKPdf	PKPdf	15 54 15.5	-1.9
FINES	FINESS Array B	124.18	339	PKP	PKPdf	15 54 15.8	-1.6

comp=Z,2.8nm,0.7s,baz=63,slow=2.2,SNR=15

NOA	NORSAR Array B	129.04	345	PKP	PKPdf	15 54 25.6	-1.2

comp=Z,0.6nm,0.5s,baz=31,slow=2.1,SNR=3.4

HFS	Hagfors	129.15	343	PKP	PKPdf	15 54 25.7	-1.3

comp=Z,1.1nm,0.6s,baz=128,slow=2.4,SNR=5.0

AKASG	Malin Array Be	129.32	327	PKP	PKPdf	15 54 26.2	-1.4

comp=Z,0.5nm,0.4s,baz=47,slow=2.9,SNR=4.3

BRTR	Keskin Array B	131.33	312	PKP	PKPdf	15 54 30.9	-1.1

comp=Z,0.8nm,0.5s,baz=107,slow=5.0,SNR=2.6

BURAR	Bucovina Array	133.21	325	PKPdf	PKPdf	15 54 37.4	+2.2
GERES	GERESS Array B	138.15	334	PKP	PKPdf	15 54 43.6	-0.8

comp=Z,0.6nm,0.7s,baz=64,slow=3.1,SNR=6.1

BNI	Bardonecchia	144.07	336	PKPdf	PKPab	15 54 53.0	-0.1
KEST	Kesra	149.86	322	PKPbc	PKPdf	15 55 09.6	+4.6

comp=Z,7.9nm,0.7s,baz=163,slow=0.3,SNR=9.7

ESDC	Sonseca Array	152.40	345	PKPbc	PKPdf	15 55 14.3	+5.5
ESDC	Sonseca Array	152.40	345	PKPbc	PKPbc	15 55 15.1	-0.7

comp=Z,1.7nm,0.6s,baz=10,slow=3.1,SNR=14

PAB	San Pablo	152.62	346	PKPbc	PKPbc	15 55 15.9	-0.4
TORD	Torodi Ar. Bea	165.78	272	PKPab	PKPab	15 56 23.6	-1.8

comp=Z,1.1nm,1.0s,baz=67,slow=6.7,SNR=1.9

*IDC **03** 15:52:27.4±3.5, 7°.57S×128°.45E, h138km±35km, mb3.5/9, mbtmp4.0/13, Error ellipse: s-maj=30.5km s-min=16.9km az=56.0*
ISC 03 15:52:28.2±0.7, 7°76S±0°.07×128°53E±0°.10, h150km, n13, σ1§82/17, mb3.8/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.39	243	P	Pn	15 53 47.7	+0.9

30nm,0.3s,baz=85,slow=3.9,SNR=17

BATI				S	Sn	15 54 47.9	-0.2

56nm,0.6s,baz=92,slow=22,SNR=6.4

FITZ	Fitzroy Crossi	10.66	195	P	Pn	15 54 57.4	+0.4

3.5nm,0.3s,baz=15,slow=10,SNR=64

FITZ				S	Sn	15 56 51.2	-3.7

3.6nm,0.3s,baz=91,slow=23,SNR=4.2

WRA	Warramunga Arr	13.36	156	P	Pn	15 55 32.3	+0.3

2.3nm,0.4s,baz=334,slow=13,SNR=46

WRA				S	Sn	15 57 57.0	-3.0

1.6nm,0.5s,baz=332,slow=22,SNR=5.3

AS

σ2$83/30, **Zambia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**1.62**	**337**	*e*P	**Pn**	**16 31 06.8**	**-2.7**
LSZ				*e*S	**Sn**	**16 31 26.2**	**-4.3**
LSZ				IAML		16 31 28.9	
	comp=Z,334nm,0.7s						
SOOWA	**Sowa**	**4.52**	**213**	*i* P	**Pn**	**16 31 52.3**	**+3.0**
SOOWA				IAML		16 33 10.5	
	comp=N,140nm,0.3s						
BROLN	**Tlhalogang**	**4.54**	**198**	*i* P	**Pn**	**16 31 52.5**	**+3.0**
BROLN				IAML		16 33 09.4	
	comp=E,64nm,0.5s						
MUSN	**Musina, Limpop**	**5.57**	**170**	*e*P	**Pn**	**16 32 05.8**	**+2.2**
MUSN				*e*S	**Sn**	**16 33 08.6**	**+0.8**
MUSN				IAML		16 33 37.3	
	comp=Z,26nm,0.4s						
MREMI	**Moremi**	**5.92**	**193**	*i* P	**Pn**	**16 32 11.5**	**+3.0**
MREMI				*i* S	**Sn**	**16 33 19.3**	**+2.9**
MREMI				IAML		16 33 57.4	
	comp=N,221nm,0.3s						
LEPH	**Lephalale, Lim**	**7.12**	**188**	*e*P	**Pn**	**16 32 25.2**	**+0.2**
LEPH				*e*S	**Sn**	**16 33 43.3**	**-2.8**
LEPH				IAML		16 34 36.8	
	comp=Z,18nm,0.4s						
MOPA	**Mopani**	**7.12**	**161**	*e*P	**Pn**	**16 32 26.9**	**+1.9**
MOPA				*e*S	**Sn**	**16 33 46.0**	**0.0**
MOPA				IAML		16 34 26.9	
	comp=Z,34nm,0.5s						
LPHEP	**Lephephe**	**7.13**	**203**	*i* P	**Pn**	**16 32 27.7**	**+2.5**
LPHEP				*i* S	**Sn**	**16 33 47.8**	**+1.4**
LPHEP				IAML		16 34 35.3	
	comp=E,17nm,0.7s						
KDWAN	**Kaudwane**	**7.66**	**210**	*i* P	**Pn**	**16 32 35.0**	**+2.5**
KDWAN				*i* S	**Sn**	**16 33 59.9**	**+0.5**
KDWAN				IAML		16 34 50.3	
	comp=E,21nm,1.0s						
QNGWA	**Qangwa**	**7.79**	**248**	*i* P	**Pn**	**16 32 35.3**	**+0.9**
QNGWA				*i* S	**Sn**	**16 34 00.2**	**-2.5**
QNGWA				IAML		16 35 03.5	
	comp=N,15nm,1.3s						
PILG	**Pilgrimsrest,**	**8.30**	**168**	*e*P	**Pn**	**16 32 42.7**	**+1.3**
PILG				*e*S	**Sn**	**16 34 13.3**	**-2.1**
PILG				IAML		16 34 16.7	
	comp=Z,4.0nm,0.5s						
LBTB	**Lobatse**	**8.74**	**200**	*e*P	**Pn**	**16 32 46.9**	**-0.5**
LBTB				IAML		16 34 48.7	
	comp=N,1.8nm,0.3s						
SKOMA	**Sekoma**	**8.97**	**210**	*i* P	**Pn**	**16 32 51.7**	**+1.2**
SKOMA				*i* S	**Sn**	**16 34 30.0**	**-1.7**
SKOMA				IAML		16 35 37.7	
	comp=N,16nm,1.1s						
SNKL	**Senekal, Frees**	**11.49**	**185**	*e*P	**Pn**	**16 33 26.7**	**+1.7**
SNKL				*e*S	**Sn**	**16 35 27.2**	**-6.4**
SNKL				IAML		16 35 32.1	
	comp=Z,3.3nm,0.3s						
SNKL				IAML		16 35 39.7	
	comp=N,6.4nm,0.6s						
BOSA	**Boshof**	**12.24**	**195**	*e*P	**Pn**	**16 33 36.2**	**+0.9**
BOSA				*e*S	**Sn**	**16 35 44.2**	**-7.6**
BOSA				IAML		16 35 54.4	
	comp=N,1.0nm,0.5s						
ALKP	**Alkanpan, Nort**	**14.44**	**204**	*e*P	**Pn**	**16 34 05.5**	**+0.2**
ALKP				*e*S	Sn	16 36 35.4	-10
ALKP				IAML		16 36 51.6	
	comp=Z,0.9nm,0.5s						
BRAK	**Brakfontein**	**15.89**	**199**	*e*P	**Pn**	**16 34 26.1**	**+1.6**
FRAZ	**Fraserburg**	**16.53**	**203**	*e*P	**Pn**	**16 34 34.0**	**+1.2**

IDC ***03*** *16:36:19.1±0.8,56˚.29N×164˚.05E,h0km,mb3.6/12, mbtmp3.6/13,ML2.6/1,MS3.3/3,Error ellipse: s-maj=26.9km s-min=16.6km az=151.0*

KRSC ***03*** *16:36:19.6±1.5,56˚.20N×164˚.28E,h48km±19km,Ml4.0*

ISC 03 16:36:19.1±1.8,56˚.20N±0˚.04×164˚.27E±0˚.06,h4km±11km, n54,σ1$48/57,mb3.8/12,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.81**	**271**	*e*P	**Pg**	**16 36 34.5**	**-0.2**
KBTR				*e*S	**Sg**	**16 36 45.2**	**+0.1**
KBG	**Krutoberegovo**	**0.88**	**275**	*e*P	**Pg**	**16 36 35.5**	**-0.4**
KBG				*e*S	**Sg**	**16 36 47.5**	**+0.2**
BKI	**Bering**	**1.39**	**135**	*e*P	Pn	16 36 44.9	-0.2
BKI				*e*S	**Sb**	**16 37 02.9**	**-0.6**
SMKR	**Semkarok**	**1.60**	**285**	*e*P	**Pn**	**16 36 47.8**	**-0.5**
SMKR				*e*S	**Sn**	**16 37 09.3**	**-0.2**
SRKR	**Sorokina**	**1.78**	**286**	*e*P	**Pn**	**16 36 51.2**	**+0.5**
ZLN	**Zelenaya**	**1.95**	**266**	*e*P	**Pn**	**16 36 53.7**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**2.02**	**264**	*e*P	**Pn**	**16 36 54.7**	**+0.6**
BZWR	**Bezymyannyi-We**	**2.13**	**265**	*e*P	**Pn**	**16 36 56.3**	**+0.7**
BZMR	**Bezymyannaya**	**2.13**	**265**	*e*P	**Pn**	**16 36 56.3**	**+0.7**
MKZ	**Mys Kozlova**	**2.19**	**222**	*e*P	**Pn**	**16 36 55.7**	**-0.5**
MKZ				*e*S	**Sn**	**16 37 21.8**	**-2.0**
KIRR	**Kirishev**	**2.21**	**265**	*e*P	**Pn**	**16 36 57.9**	**+1.2**
KPT	**Kopyto**	**2.28**	**266**	*e*P	**Pn**	**16 36 58.6**	**+1.0**
KMNR	**Kamenistaya**	**2.31**	**261**	*e*P	**Pn**	**16 36 58.7**	**+0.8**
TUMD	**Tumrok D**	**2.41**	**247**	*e*P	**Pn**	**16 36 59.7**	**+0.5**
TUMD				*e*S	**Sn**	**16 37 29.2**	**+0.1**
KOZ	**Kozyrevsk**	**2.46**	**269**	*e*P	**Pn**	**16 37 01.4**	**+1.3**
SRDR	**Sredinnyy**	**2.54**	**275**	*e*P	**Pn**	**16 37 02.2**	**+1.0**
OSSR	**Ossora**	**3.13**	**349**	*e*P	**Pn**	**16 37 09.0**	**-0.2**
OSSR				*e*S	**Sn**	**16 37 44.4**	**-2.5**
ESO	**Esso**	**3.13**	**267**	*e*P	**Pn**	**16 37 11.3**	**+2.0**
KII	**Karymskiy**	**3.51**	**234**	*e*P	**Pn**	**16 37 16.0**	**+1.5**
SPN	**Mys Shipunski**	**3.96**	**220**	*e*P	**Pn**	**16 37 19.7**	**-0.9**
SPN				*e*S	**Sn**	**16 38 02.5**	**-5.0**
SDLR	**Sedlovina**	**4.28**	**229**	*e*P	**Pn**	**16 37 26.1**	**+1.0**
KRER	**Koryakskii**	**4.32**	**230**	*e*P	**Pn**	**16 37 27.5**	**+1.8**
KRX	**Arik**	**4.32**	**231**	*e*P	**Pn**	**16 37 27.0**	**+1.3**
SMAR	**Somma**	**4.32**	**229**	*e*P	**Pn**	**16 37 26.7**	**+1.0**
AVH	**Avacha**	**4.35**	**230**	*e*P	**Pn**	**16 37 27.3**	**+1.4**
UGLR	**Uglovaya**	**4.35**	**229**	*e*P	**Pn**	**16 37 27.0**	**+0.9**
KOK	**Koryaka**	**4.37**	**231**	*e*P	**Pn**	**16 37 27.6**	**+1.2**
GNL	**Ganaly**	**4.42**	**238**	*e*P	**Pn**	**16 37 28.6**	**+1.5**
DALK	**Dalny**	**4.51**	**228**	*e*P	**Pn**	**16 37 28.8**	**+0.7**
PETK	**Petropavlovsk-** 1.2nm,0.3s,baz=75,slow=18,SNR=41	**4.91**	**234**	Pn	**Pn**	**16 37 34.5**	**+0.9**
PETK				Sn	**Sn**	**16 38 31.8**	**+0.9**
	baz=77,slow=40						
PETK				LR	LR	16 39 49.9	
	comp=Z,58nm,19.9s,baz=348,slow=43 2.3nm,0.5s						
KRMR	**Karymshinskiy**	**4.92**	**229**	*e*P	**Pn**	**16 37 35.8**	**+2.1**
GRL	**Gorelyy**	**5.14**	**227**	*e*P	**Pn**	**16 37 38.8**	**+1.9**
MTVR	**Mutnovka**	**5.15**	**226**	*e*P	**Pn**	**16 37 38.6**	**+1.5**
APC	**Apacha**	**5.28**	**235**	*e*P	**Pn**	**16 37 42.1**	**+3.4**
ASAK	**Asacha**	**5.34**	**227**	*e*P	**Pn**	**16 37 41.3**	**+1.7**
ASAJ	**Asahikawa** 3.7nm,0.8s,baz=26,slow=7.4,SNR=6.2	**18.31**	**238**	P	**Pn**	**16 40 30.9**	**-3.0**
USRK	**Ussuriysk Ar.** comp=Z,50nm,18.4s,baz=306,slow=39	**23.65**	**253**	LR	LR	16 51 47.3	
ILAR	**Eielson Array** 0.4nm,0.8s,baz=272,slow=7.6,SNR=2.4 0.4nm,0.8s	**24.93**	**50**	P	**P**	**16 41 44.2**	**+1.3**
MJAR	**Matsushiro Arr** 1.0nm,0.6s,baz=18,slow=7.1,SNR=2.6 1.0nm,0.6s	**26.37**	**233**	P	**P**	**16 41 56.6**	**+0.3**
H11N2	**WAKE ISLAND Hy** baz=357,slow=76,SNR=275	**36.46**	**176**	T	T	17 22 07.5	
H11N3	**WAKE ISLAND Hy** baz=357,slow=76,SNR=124	**36.48**	**176**	T	T	17 22 10.1	
H11N1	**WAKE ISLAND Hy** baz=357,slow=76,SNR=188	**36.48**	**176**	T	T	17 22 06.9	
KURBB	**Kurchatov Arra** 0.2nm,0.5s,baz=55,slow=8.2,SNR=2.1 0.2nm,0.5s	**48.27**	**302**	P	**P**	**16 44 59.5**	**-1.3**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=52,slow=7.2,SNR=4.5 0.1nm,0.4s	**49.00**	**296**	P	**P**	**16 45 05.0**	**-1.5**
BVAR	**Borovoye Array** 0.4nm,0.5s,baz=49,slow=12,SNR=2.6 0.4nm,0.5s	**50.36**	**308**	P	**P**	**16 45 17.6**	**+0.8**
PDAR	**Pinedale Array** 0.6nm,0.3s,baz=258,slow=5.1,SNR=2.1 0.6nm,0.3s	**53.95**	**65**	P	**P**	**16 45 44.7**	**+0.8**
ULM	**Lac du Bonnet** 1.1nm,0.3s,baz=315,slow=5.7,SNR=2.9 1.1nm,0.3s	**54.95**	**51**	P	**P**	**16 45 49.8**	**-1.0**
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=29,slow=9.1,SNR=1.8 0.3nm,0.3s	**61.16**	**260**	P	**P**	**16 46 34.1**	**-0.5**
AKASG	**Malin Array Be** 0.4nm,0.4s,baz=29,slow=6.3,SNR=1.8 0.4nm,0.4s	**67.14**	**331**	P	**P**	**16 47 13.1**	**-0.4**
TXAR	**Lajitas Array** 0.4nm,0.5s,baz=309,slow=5.2,SNR=6.2 0.4nm,0.5s	**67.26**	**71**	P	**P**	**16 47 16.9**	**+2.1**
EKA	**Eskdalemuir Ar** 0.8nm,0.7s,baz=6.9,slow=4.8,SNR=1.8 0.8nm,0.7s	**68.36**	**352**	P	**P**	**16 47 21.8**	**+0.7**
BATI	**Baumata** comp=Z,156nm,18.4s,baz=204,slow=41	**74.23**	**222**	LR	LR	17 26 38.6	
ASAR	**Alice Springs** 0.5nm,0.9s,baz=20,slow=5.0,SNR=9.0 0.5nm,0.9s	**83.61**	**208**	P	**P**	**16 48 49.0**	**+0.6**
QSPA	**South Pole Qui** 0.6nm,0.5s,baz=268,slow=1.4,SNR=9.8	**145.95**	**180**	PKPbc	**PKPdf**	**16 55 58.2**	**+0.6**

WEL 03 17:12:20.6±0.5,37˚S±4˚×17˚7E±˚,h180km,M2.9/21, ML3.0/7,MLv2.9/21,Error ellipse: s-maj=6.0km s-min=4.9km az=57.4,confirmed,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**0.91**	**151**	P	Pn	17 12 47.7	+0.1
HAZ				S	Sn	17 13 08.1	-0.5
RUGZ	**Raukumara Rang**	**1.06**	**160**	P	Pn	17 12 48.5	-0.4
RUGZ				S	Sn	17 13 10.0	-0.9
PKGZ	**Pakihiroa**	**1.13**	**143**	P	Pn	17 12 49.6	+0.3
PKGZ				S	Sn	17 13 12.3	+0.7
KUZ	**Kuaotunu**	**1.23**	**280**	P	Pn	17 12 49.7	-0.4
WMGZ	**Waiomatatini S**	**1.27**	**132**	P	Pn	17 12 50.3	-0.2
WMGZ				S	Sn	17 13 14.3	+0.6
URZ	**Urewera**	**1.29**	**184**	P	Pn	17 12 51.4	+0.8
URZ	**Urewera**	**1.29**	**184**	P	Pn	17 12 50.7	0.0
URZ				S	Sn	17 13 14.6	+0.6
TWGZ	**Tauwhareparae**	**1.35**	**154**	P	Pn	17 12 52.0	+0.8
TWGZ				S	Sn	17 13 17.0	+1.9
PUZ	**Puketiti**	**1.38**	**144**	P	Pn	17 12 51.6	+0.2
PUZ				S	Sn	17 13 15.4	0.0
MWZ	**Matawai**	**1.39**	**170**	P	Pn	17 12 51.7	+0.1
MWZ				S	Sn	17 13 16.5	+0.9
MUGZ	**Murupara**	**1.55**	**193**	P	Pn	17 12 53.3	+0.2
TKGZ	**Te Karaka**	**1.55**	**162**	P	Pn	17 12 53.3	+0.3
TKGZ				S	Sn	17 13 18.6	+0.4
TOZ	**Tahuroa Road**	**1.57**	**240**	P	Pn	17 12 53.8	+0.6
CNGZ	**Carnagh Statio**	**1.70**	**153**	P	Pn	17 12 55.4	+0.8
RIGZ	**Rimuhau**	**1.79**	**166**	P	Pn	17 12 55.8	+0.3
RIGZ				S	Sn	17 13 23.4	+0.8
SNGZ	**Shannon Statio**	**1.81**	**177**	P	Pn	17 12 55.9	+0.2
SNGZ				S	Sn	17 13 23.6	+0.5
ETAZ	**East Tamaki Re**	**1.84**	**270**	P	Pn	17 12 56.5	+0.5
MBAZ	**Motutapu North**	**1.88**	**275**	P	Pn	17 12 56.1	-0.2
MTHZ	**Maungataniwha**	**1.91**	**189**	P	Pn	17 12 56.8	+0.1
MTHZ				S	Sn	17 13 25.6	+0.7
TLZ	**Tolley Road**	**1.91**	**224**	P	Pn	17 12 57.9	+1.2
RAHZ	**Arahi**	**1.95**	**183**	P	Pn	17 12 57.5	+0.4
RAHZ				S	Sn	17 13 26.3	+0.7
MRHZ	**Matea Rd**	**1.97**	**199**	P	Pn	17 12 57.4	0.0
MRHZ				S	Sn	17 13 26.5	+0.4
AWAZ	**Awhitu Peninsu**	**2.07**	**267**	P	Pn	17 12 58.8	+0.4
KNZ	**Kokohu**	**2.08**	**170**	P	Pn	17 12 58.3	-0.2
KNZ				S	Sn	17 13 27.9	-0.2
WHHZ	**Waihua**	**2.11**	**180**	P	Pn	17 12 58.9	+0.1
WHHZ				S	Sn	17 13 29.1	+0.4
NMHZ	**Naumai**	**2.15**	**189**	P	Pn	17 12 59.9	+0.5
NMHZ				S	Sn	17 13 31.3	+1.6
RATZ	**Rangitukua**	**2.22**	**211**	P	Pn	17 13 00.8	+0.7
MHGZ	**Mahia Peninsul**	**2.25**	**166**	P	Pn	17 13 00.4	0.0
BKZ	**Black Stump Fm**	**2.27**	**195**	P	Pn	17 13 01.3	+0.6
BKZ	**Black Stump Fm**	**2.27**	**195**	P	Pn	17 12 60.0	-0.7
BKZ				S	Sn	17 13 31.6	-0.4
ARHZ	**Aropaoanui**	**2.30**	**184**	P	Pn	17 13 01.0	0.0
HIZ	**Hauiti** 65nm,1.4s	**2.43**	**230**	P	Pn	17 13 03.1	+0.6
HIZ	**Hauiti**	**2.43**	**230**	P	Pn	17 13 03.7	+1.2
NTVZ	**North Tongarir**	**2.45**	**209**	P	Pn	17 13 03.1	+0.2
ETVZ	**East Tongariro**	**2.47**	**208**	P	Pn	17 13 03.3	+0.2
MCHZ	**McNeill Hill**	**2.51**	**189**	P	Pn	17 13 03.2	-0.1
MCHZ				S	Sn	17 13 39.2	+2.5
TWVZ	**Taurewa**	**2.53**	**213**	P	Pn	17 13 04.0	+0.3
KWHZ	**Kaweka Forest**	**2.53**	**194**	P	Pn	17 13 03.2	-0.5
KWHZ				S	Sn	17 13 38.0	+0.6
SNVZ	**South Ngauruho**	**2.54**	**209**	P	Pn	17 13 04.2	+0.2
MAVZ	**Matarangi**	**2.65**	**209**	P	Pn	17 13 05.2	-0.1
WNVZ	**Wahianoa**	**2.68**	**208**	P	Pn	17 13 05.0	-0.6
CKHZ	**Cape Kidnapper**	**2.69**	**182**	P	Pn	17 13 04.9	-0.5
CKHZ				S	Sn	17 13 39.9	-0.7
MOVZ	**Moawhango**	**2.70**	**205**	P	Pn	17 13 04.6	-1.1
KRHZ	**Kereru**	**2.75**	**194**	P	Pn	17 13 05.3	-1.0
KRHZ				S	Sn	17 13 40.8	-1.2
MTVZ	**Mangateitei**	**2.78**	**209**	P	Pn	17 13 06.2	-0.4
KAHZ	**Kahuranaki**	**2.84**	**185**	P	Pn	17 13 06.7	-0.6
KAHZ				S	Sn	17 13 44.5	+0.7
PNHZ	**Pukenui**	**3.05**	**195**	P	Pn	17 13 08.4	-1.5
PNHZ				S	Sn	17 13 46.4	-2.0
PXZ	**Pawanui**	**3.07**	**185**	P	Pn	17 13 08.7	-1.3
PXZ				S	Sn	17 13 46.8	-2.0
WPHZ	**Waipukurau**	**3.15**	**191**	P	Pn	17 13 09.6	-1.5
WPHZ				S	Sn	17 13 49.9	-0.7
TSZ	**Takapari Road**	**3.24**	**197**	P	Pn	17 13 10.4	-1.9
TSZ				S	Sn	17 13 51.7	-0.9
WAZ	**Wanganui**	**3.29**	**212**	P	Pn	17 13 12.2	-0.6
PRHZ	**Porangahau**	**3.33**	**188**	P	Pn	17 13 11.6	-1.6
PRHZ				S	Sn	17 13 54.0	-0.5
DVHZ	**Dannevirke** 68nm,2.4s	**3.43**	**194**	P	Pn	17 13 12.3	-2.2
DVHZ				S	Sn	17 13 54.5	-2.2
ANWZ	**Angora Road**	**3.54**	**189**	P	Pn	17 13 14.1	-1.7
ANWZ				S	Sn	17 13 58.0	-1.1
POWZ	**Post Office Ro**	**3.60**	**198**	P	Pn	17 13 14.7	-2.0
POWZ				S	Sn	17 13 59.5	-1.1
PRWZ	**Pori Road**	**3.71**	**195**	P	Pn	17 13 16.2	-1.8
BFZ	**Birch Farm** 68nm,2.4s	**3.79**	**191**	P	Pn	17 13 16.0	-3.0
BFZ	**Birch Farm**	**3.79**	**191**	P	Pn	17 13 16.5	-2.5
MRZ	**Mangatainoka R**	**3.91**	**199**	P	Pn	17 13 17.8	-2.7
TIWZ	**Tintock**	**3.94**	**195**	P	Pn	17 13 18.7	-2.3
CPWZ	**Castlepoint**	**4.02**	**191**	P	Pn	17 13 20.0	-1.9
HOWZ	**Holdsworth Sta**	**4.14**	**198**	P	Pn	17 13 20.4	-3.2
OGWZ	**Otaki Gorge**	**4.17**	**202**	P	Pn	17 13 20.9	-2.9
KIW	**Kapiti Island**	**4.29**	**204**	P	Pn	17 13 22.4	-3.0
MTW	**Mount Morrison**	**4.39**	**197**	P	Pn	17 13 23.1	-3.6
CAW	**Cannon Point**	**4.46**	**201**	P	Pn	17 13 24.0	-3.5
TRWZ	**Traveller**	**4.58**	**195**	P	Pn	17 13 25.7	-3.4
MSWZ	**Moikau Station**	**4.70**	**198**	P	Pn	17 13 26.8	-3.8
WEL	**Wellington**	**4.71**	**203**	P	Pn	17 13 27.2	-3.6
SNZO	**South Karori** 43nm,1.2s	**4.76**	**204**	P	Pn	17 13 27.5	-3.9
BHW	**Baring Head**	**4.80**	**202**	P	Pn	17 13 27.9	-3.9
TCW	**Tory Channel**	**4.82**	**208**	P	Pn	17 13 28.4	-3.8
PLWZ	**Palliser**	**4.84**	**198**	P	Pn	17 13 28.4	-4.1
TUWZ	**Tuamarina**	**5.13**	**209**	P	Pn	17 13 33.0	-3.2
BSWZ	**Blackbirch Sta**	**5.41**	**208**	P	Pn	17 13 36.0	-3.8
KHZ	**Kahutara**	**6.14**	**206**	P	Pn	17 13 44.6	-4.7
KHZ	**Kahutara**	**6.14**	**206**	P	Pn	17 13 45.1	-4.2

PRE ***03*** *17:14:08.6±1.1,26˚.34S×27˚.47E,h2km,ML2.2*

BGSI ***03*** *17:14:10.4±1.9,26˚.43S×28˚.06E,h51km±999km,ML2.6*

ISC 03 17:14:08.4±0.8,26˚.37S±0˚.04×27˚.44E±0˚.03,h5km,n21, σ1$60/41,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HRAO	**HartRAO**	**0.52**	**25**	*e*P	**Pg**	**17 14 18.6**	**+0.1**
HRAO				*e*S	**Sg**	**17 14 24.2**	**-1.1**
HRAO				IAML		17 14 31.4	
	comp=Z,66nm,0.5s						
LBTB	**Lobatse**	**2.14**	**309**	*e*P	**Pb**	**17 14 46.8**	**-1.0**
LBTB				*e*S	**Sb**	**17 15 14.3**	**-0.4**
LBTB				IAML		17 15 19.7	
	comp=Z,44nm,0.3s						
CRLN	**Carolina, Mapu**	**2.35**	**82**	*e*P	**Pn**	**17 14 48.9**	**+1.1**
CRLN				*e*S	**Sn**	**17 15 17.8**	**+0.6**
CRLN				IAML		17 15 23.6	
	comp=Z,9.3nm,0.3s						
MAKGR	**Makgori**	**2.44**	**283**	*i* P	**Pg**	**17 14 54.4**	**-0.8**
MAKGR				*i* S	**Sg**	**17 15 26.3**	**-0.5**
MAKGR				IAML		17 15 36.0	
	comp=N,186nm,0.5s						
LEPH	**Lephalale, Lim**	**2.52**	**7**	*e*P	**Pn**	**17 14 51.7**	**+1.5**
LEPH				*e*S	**Sn**	**17 15 21.9**	**+0.6**
LEPH				IAML		17 15 30.5	
	comp=Z,11nm,0.4s						
NWCL	**Newcastle**	**2.58**	**123**	*e*P	**Pn**	**17 14 52.4**	**+1.5**
NWCL				*e*S	**Sn**	**17 15 23.8**	**+1.1**
NWCL				IAML		17 15 28.9	
	comp=Z,13nm,0.5s						
BOSA	**Boshof**	**2.96**	**220**	*e*P	**Pn**	**17 14 57.3**	**+1.0**
BOSA				*e*S	**Sn**	**17 15 34.6**	**+2.3**
BOSA				IAML		17 15 42.9	
	comp=Z,14nm,0.3s						
PILG	**Pilgrimsrest,**	**3.28**	**65**	*e*P	**Pn**	**17 15 01.5**	**+0.8**
PILG				*e*S	**Sn**	**17 15 39.8**	**-0.4**
PILG				IAML		17 15 52.3	
	comp=Z,16nm,0.5s						
LPHEP	**Lephephe**	**3.32**	**334**	*i* P	**Pn**	**17 15 04.0**	**+2.8**
LPHEP				*i* S	**Sn**	**17 15 42.4**	**+1.4**
LPHEP				IAML		17 15 58.0	
	comp=N,12nm,0.4s						
SKOMA	**Sekoma**	**3.67**	**299**	*i* P	**Pb**	**17 15 11.2**	**-2.6**
SKOMA				IAML		17 16 10.3	
	comp=N,18nm,0.2s						
KDWAN	**Kaudwane**	**3.90**	**319**	*i* P	**Pn**	**17 15 11.4**	**+2.2**
KDWAN				*i* S	**Sn**	**17 15 56.9**	**+1.5**
KDWAN				IAML		17 16 15.6	
	comp=E,24nm,0.4s						
PMBG	**Pietermaritzbu**	**4.15**	**140**	*e*P	**Pn**	**17 15 14.1**	**+1.6**
PMBG				*e*S	**Sn**	**17 16 01.4**	**+0.1**
PMBG				IAML		17 16 15.7	
	comp=Z,10nm,0.5s						
KSTD	**Kokstad**	**4.54**	**159**	*e*P	**Pn**	**17 15 20.5**	**+2.5**
KSTD				*e*S	**Sn**	**17 16 12.4**	**+1.1**
KSTD				IAML		17 16 29.8	
	comp=Z,4.6nm,0.4s						
MOPA	**Mopani**	**4.58**	**53**	*e*P	**Pn**	**17 15 18.9**	**+0.6**
MOPA				*e*S	**Sn**	**17 16 09.8**	**-2.2**
MOPA				IAML		17 16 32.4	
	comp=Z,11nm,0.5s						
MUSN	**Musina, Limpop**	**4.62**	**29**	*e*P	**Pn**	**17 15 19.0**	**0.0**
MUSN				*e*S	**Sn**	**17 16 12.7**	**-0.4**
MUSN				IAML		17 16 35.7	
	comp=Z,4.6nm,0.7s						
ALKP	**Alkanpan, Nort**	**5.80**	**231**	*e*P	**Pn**	**17 15 37.3**	**+1.9**
ALKP				*e*S	**Sn**	**17 16 42.1**	**-0.2**
ALKP				IAML		17 17 13.9	
	comp=Z,5.7nm,0.4s						
GRAF	**Camdeboo Natio**	**6.43**	**203**	*e*P	**Pn**	**17 15 47.0**	**+3.1**
GRAF				*e*S	**Sn**	**17 16 56.9**	**-0.8**
GRAF				IAML		17 17 34.6	
	comp=Z,3.5nm,0.6s						
BRAK	**Brakfontein**	**6.70**	**215**	*e*P	**Pn**	**17 15 49.4**	**+1.7**
BRAK				*e*S	**Sn**	**17 17 03.4**	**-1.0**
BRAK				IAML		17 17 39.4	
	comp=Z,3.0nm,0.7s						
GRAN	**Grantham**	**7.49**	**217**	*e*P	**Pn**	**17 16 00.7**	**+2.2**
GRAN				*e*S	**Sn**	**17 17 22.6**	**-1.3**
GRAN				IAML		17 18 16.7	
	comp=Z,2.1nm,0.6s						
FRAZ	**Fraserburg**	**7.65**	**222**	*e*P	**Pn**	**17 16 02.3**	**+1.6**
FRAZ				*e*S	**Sn**	**17 17 25.6**	**-2.2**
FRAZ				IAML		17 18 17.5	
	comp=N,1.8nm,0.7s						
MERW	**Merweville**	**8.13**	**218**	*e*P	**Pn**	**17 16 09.2**	**+2.0**
MERW				*e*S	**Sn**	**17 17 37.5**	**-2.0**
MERW				IAML		17 17 53.1	
	comp=Z,2.3nm,0.7s						

MOS ***03*** *18:06:29.6±0.9,43˚.28N×146˚.32E,h54km,mb4.6/19, MS3.3/4,Error ellipse: s-maj=8.5km s-min=6.0km az=105.5*

MOS Felt (IV) at Goryachiy Plyazh, (III-IV) at Yuzhno-Kuril'sk, Golovnino, (III) at Malokuril'skoye, Lagunnoye.

NIED ***03*** *18:06:31.9,43˚.35N×146˚.16E,h49km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.13; Mθθ-0.52; Mφφ-1.61; Mrθ1.54; Mrφ-1.18; Mθφ1.72; Fault plane solution: M☉3.23000×10¹⁵ NP1: ϕs204.00000°,δ23.00000°,λ76.00000°. NP2:ϕs40.00000°, δ68.00000°,λ96.00000°.*

JMA ***03*** *18:06:31.9±0.2,43˚.4N±0˚.5×146˚.2E±0˚.9,h49km,MD4.3/40, MV4.7/40,OFF NEMURO PENINSULA*

JMA Felt III J1 at OFF NEMURO PENINSULA .

IDC ***03*** *18:06:32.6±1.9,43˚.46N×146˚.21E,h63km±15km,mb3.9/27, mbtmp4.1/34,MS3.3/22,Error ellipse: s-maj=13.5km s-min=11.4km az=123.0*

SKHL ***03*** *18:06:32.3±0.7,43˚.40N×146˚.20E,h66km±3km,mb5.7/2*

NEIC ***03*** *18:06:33.9±1.4,43˚.42N±0˚.02×146˚.1E±0˚.1,h71km±9km, mb4.5/75,Error ellipse: s-maj=15.8km s-min=2.1km az=97.0*

**ISC 03 18:06:

JRA S Sn 18 07 01.7 +0.2
JRA Rausu 0.95 306 A A 18 06 49.1
comp=N,10.0nm,0.4s,comp=E,11nm,1.0s
RUSJ Misakicho 0.99 317 ⇩i PN Pn **18 06 49.6 +0.2**
RUSJ *i* S Sn **18 07 03.1 +0.7**
AKK Akkeshi 1.05 250 *e*P Pn **18 06 49.7 -0.5**
AKK *e*S Sn **18 07 01.8 -2.0**
JNK Nakash 1.09 281 *i* P Pn **18 06 50.3 -0.4**
JNK *e*S Sn **18 07 04.3 -0.5**
JAK Akkeshi 1.16 251 *i* P Pn **18 06 51.1 -0.5**
JAK S Sn **18 07 05.4 -1.0**
JAK Akkeshi 1.16 251 A A 18 06 51.1
comp=N,10.0nm,1.9s,comp=E,12nm,0.2s
JTKR Abashiri--Toko 1.76 290 *i* P Pn **18 07 00.6 +0.9**
JTKR *e*S Sn **18 07 22.1 +1.1**
JAR Ashorobuto 1.77 268 *i* P Pn **18 07 00.3 +0.4**
JAR S Sn **18 07 22.0 +0.7**
JAR Ashorobuto 1.77 268 A A 18 07 00.3
comp=N,5.0nm,0.7s,comp=E,6.0nm,1.2s
JOB Onbets 1.79 255 *i* P Pn **18 07 00.2 0.0**
JOB *e*S Sn **18 07 21.2 -0.5**
JMP Maruseppu 2.15 288 A A 18 07 06.0
comp=N,2.0nm,1.0s,comp=E,2.0nm,4.3s
KUR Kuril'sk 2.21 32 *e*PN Pn **18 07 05.9 +0.1**
KUR *i* S Sn **18 07 31.8 -0.1**
KUR Kuril'sk 2.21 32 *e*P Pn **18 07 06.6 +0.8**
KUR AMB AMB 18 07 09.1
comp=E,230nm,0.4s
KUR *e*S Sn **18 07 31.3 -0.6**
KUR A A 18 07 35.5
comp=E,2µm,0.4s
KUR A A 18 07 35.5
comp=E,3µm,0.4s
JCH Churui 2.21 251 A A 18 07 06.6
comp=N,3.0nm,0.4s,comp=E,2.0nm,0.6s
ERM Erimo 2.62 240 P Pn **18 07 12.5 +0.9**
ERM Erimo 2.62 240 *ce*PN Pn **18 07 14.9 +3.3**
JKA Kamikawa-asahi 2.71 287 LR LR **18 07 14.1 +1.4**
ASAJ Asahikawa 2.71 287 P Pn **18 07 14.4 +1.7**
comp=E,313nm,0.4s,baz=105,slow=12,SNR=207
ASAJ S Sn **18 07 46.0 +1.8**
comp=E,214nm,0.5s,baz=211,slow=30,SNR=5.8
ASAJ LR LR 18 08 33.1
comp=E,601nm,20.4s,baz=102,slow=45
JNBK Urakawa-nobuka 2.76 248 A A 18 07 14.4
comp=N,4.0nm,0.6s,comp=E,6.0nm,0.6s
JIAM Iburiatsuma 3.23 258 A A 18 07 20.9
comp=N,7.0nm,1.0s,comp=E,8.0nm,1.0s
YSS Yuzhno-Sakhali 4.32 327 Pn **18 07 35.7 +0.9**
YSS Yuzhno-Sakhali 4.32 327 *ce*PN Pn **18 07 35.7 +0.9**
YSS pmax pmax
comp=Z,60nm,0.7s
YSS pmax pmax
comp=Z,100nm,3.4s
YSS MLR MLR
comp=N,200nm,15.0s
YSS MLR MLR
comp=Z,300nm,15.0s
YSS MLR MLR
comp=E,100nm,14.0s
YSS Yuzhno-Sakhali 4.32 327 *e*P Pn **18 07 35.7 +0.9**
JTM Tenmabayashi 4.61 238 Pn **18 07 40.0 +1.2**
JMM Marumori 6.87 219 Pn **18 08 08.1 -1.7**
TEY Ternei 7.09 287 *e*PN Pn 18 08 08.0 -4.7
TYV Tymovskoe 7.86 343 *e*PN Pn **18 08 27.6 +4.3**
TYV pmax pmax
comp=Z,100nm,2.0s
TYV pmax pmax
comp=Z,13nm,0.9s
TYV Tymovskoe 7.86 343 *e*P Pn **18 08 23.6 +0.3**
MJB9 Matsu-Tunnel 9.18 225 Pn **18 08 40.0 -1.4**
MAJO Matsushiro 9.18 225 Pn **18 08 39.8 -1.6**
MAJO Matsushiro 9.18 225 *de*PN Pn **18 08 41.4 0.0**
MJAR Matsushiro Arr 9.18 225 Pn Pn **18 08 40.7 -0.7**
MJAR Matsushiro Arr 9.18 225 P Pn **18 08 41.1 -0.3**
comp=Z,2.5nm,0.5s,baz=26,slow=14,SNR=11
MJAR S Sn **18 10 25.9 +2.7**
comp=Z,1.0nm,0.5s,baz=78,slow=30,SNR=1.4
MJAR LR LR 18 12 54.7
comp=Z,40nm,19.9s,baz=70,slow=41
GRNR Gornyy 9.94 321 ⇩*i* PN Pn **18 08 54.2 +2.4**
GRNR pmax pmax
comp=Z,10.0nm,0.5s
GRNR MLR MLR
comp=E,120nm,17.0s
GRNR MLR MLR
comp=N,50nm,18.0s
GRNR MLR MLR
comp=Z,130nm,16.0s
GRNR Gornyy 9.94 321 *e*P Pn **18 08 54.2 +2.4**
SKR Severo-Kuril's 9.95 39 *e*PN Pn **18 08 55.3 +3.4**
SKR pmax pmax
comp=Z,51nm,1.0s
SKR MLR MLR
comp=Z,900nm,16.0s
SKR Severo-Kuril's 9.95 39 *e*P Pn **18 08 53.2 +1.3**
SKR AMB AMB 18 08 58.7
comp=Z,20nm,0.5s
SKR *e*S Sn **18 10 38.3 -3.7**
USRK Ussuriysk Ar. 10.31 279 P Pn **18 09 00.2 +3.4**
comp=Z,5.9nm,0.8s,baz=96,slow=14,SNR=7.0
USRK LR LR 18 12 45.9
comp=Z,164nm,21.6s,baz=84,slow=36
USA0B Ussuriysk Arra 10.31 279 ⇧*e*PN Pn **18 09 00.1 +3.3**
NKL Nikolayevsk 10.44 341 *e*P Pn **18 08 59.9 +1.4**
NKL AMB AMB 18 09 06.6
comp=Z,30nm,0.7s
PAU Pauzhetka 10.81 38 *e*P Pn **18 09 05.6 +1.9**
PAU AMB AMB 18 09 09.6
comp=Z,20nm,0.5s
PSTR Posyet 11.29 272 ⇧*e*PN Pn **18 09 14.3 +4.0**
PSTR Posyet 11.29 272 *e*P Pn **18 09 11.5 +1.2**
KLR Kul'dur 11.57 305 P Pn **18 09 16.1 +2.1**
comp=Z,5.8nm,0.8s,baz=112,slow=16,SNR=13
KLR LR LR 18 13 51.0
comp=Z,111nm,18.2s,baz=114,slow=38
KLR Kul'dur 11.57 305 ⇧*e*PN Pn **18 09 18.2 +4.2**
KLR Kul'dur 11.57 305 *e*P Pn **18 09 15.3 +1.3**
PETK Petropavlovsk- 12.37 34 P Pn **18 09 25.7 +0.7**
comp=Z,2.0nm,0.8s,baz=172,slow=12,SNR=5.6
PET Petropavlovsk 12.71 36 ⇧*e*PN Pn **18 09 29.9 +0.3**
PET Petropavlovsk 12.71 36 *e*P Pn **18 09 29.9 +0.3**
BNX BinXian 13.60 286 ⇩P Pn **18 09 42.6 +0.8**
BNX pmax pmax
comp=Z,13nm,1.0s
HEH HeiHe 14.56 305 *e*P Pn **18 09 54.0 -0.5**
HEH pmax pmax
comp=Z,6.0nm,1.3s
KSRS Korea Array 15.11 253 P Pn **18 10 01.7 -0.1**
comp=Z,0.7nm,0.4s,baz=65,slow=10,SNR=5.4
JNU Nakatsue 15.78 235 P Pn **18 10 12.1 +1.6**
comp=Z,5.2nm,0.8s,baz=206,slow=17,SNR=2.1
JNU LR LR 18 15 04.1
comp=Z,43nm,21.6s,baz=68,slow=32
ZEA Zeya 16.21 316 *e*P Pn **18 10 10.5 -5.3**
ZEA *e* 18 13 05.8
ZEA MLR MLR
comp=Z,100nm,14.0s
MA2 Magadan 16.46 8 LR LR 18 16 41.9
comp=Z,32nm,18.8s,baz=173,slow=37
SEY Seymchan 19.91 8 P P **18 10 56.0 -2.7**
comp=Z,2.1nm,0.9s,baz=196,slow=16,SNR=4.2
SEY LR LR 18 19 01.2
comp=Z,59nm,18.4s,baz=131,slow=38
YAK Yakutsk 21.07 338 P P **18 11 11.1 -0.1**
comp=Z,4.0nm,0.5s,baz=241,slow=1.7,SNR=1.4
YAK LR LR 18 19 04.3
comp=Z,69nm,20.1s,baz=142,slow=36
comp=Z,4.0nm,0.5s
YAK Yakutsk 21.07 338 *e*P P **18 11 11.9 +0.7**
YAK *e* 18 11 31.7
YAK *e*S S **18 15 04.5 +1.9**
YAK *e* 18 15 18.8
YAK *e*'SS sS **18 15 22.1 +0.4**
YAK *e*SS SnSn **18 15 32.2 +5.4**
YAK *e* 18 22 34.1
YAK pmax pmax
comp=Z,9.0nm,1.4s
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=Z,11nm,0.8s
YAK smax smax
comp=N,37nm,2.8s
YAK smax smax
comp=E,22nm,2.9s
YAK Yakutsk 21.07 338 *e*P P **18 11 11.9 +0.7**
XLT XiLinHaoTe 21.75 282 *e*P P **18 11 18.9 +0.1**
XLT pmax pmax
comp=Z,9.0nm,0.8s
JOW Kunigami 22.00 227 P P **18 11 22.7 +1.1**
comp=Z,11nm,0.5s,baz=1.7,slow=16,SNR=1.9
comp=Z,11nm,0.5s
BJT Baijiatuau 22.61 272 P **18 11 26.9 -1.1**
BJT IAmb IAmb 18 11 29.5
comp=Z,12nm,0.6s
BJT Baijiatuau 22.61 272 P P **18 11 26.9 -1.1**
BJT pmax pmax
comp=Z,12nm,0.6s
BTO Baotou 26.90 277 *e*P P **18 12 10.9 +3.0**
BTO pmax pmax
comp=Z,200nm,7.1s
BTO LR LR
comp=Z,22nm,0.9s
ULN Ulaanbaatar 27.53 293 P P **18 12 12.7 -0.8**
ULN IAmb IAmb 18 12 14.0
comp=Z,4.6nm,0.5s
ULN Ulaanbaatar 27.53 293 *ce*P P **18 12 14.2 +0.7**
ULN pmax pmax
comp=Z,7.0nm,1.3s
ULN Ulaanbaatar 27.53 293 *e*P P **18 12 14.2 +0.7**
SONM Songino Array 27.97 293 P P **18 12 17.7 +0.2**
SONM Songino Array 27.97 293 P P **18 12 17.8 +0.4**
comp=Z,3.3nm,0.7s,baz=86,slow=8.5,SNR=19
SONM LR LR 18 24 33.7
comp=Z,137nm,18.6s,baz=72,slow=39
comp=Z,3.3nm,0.7s
H11N2 WAKE ISLAND Hy 29.29 137 T T 18 43 25.6
baz=328,slow=75,SNR=6968
H11N1 WAKE ISLAND Hy 29.30 137 T T 18 43 24.3
baz=328,slow=75,SNR=5707
H11N3 WAKE ISLAND Hy 29.31 137 T T 18 43 24.6
baz=328,slow=75,SNR=6970
TIXI Tiksi 29.58 349 LR LR 18 24 30.3
comp=Z,67nm,18.8s,baz=186,slow=36
H11S1 WAKE ISLAND Hy 30.24 139 T T 18 44 28.4
baz=330,slow=76
H11S3 WAKE ISLAND Hy 30.24 139 T T 18 44 34.2
baz=330,slow=76,SNR=9169
H11S2 WAKE ISLAND Hy 30.25 139 T T 18 44 29.7
baz=330,slow=76,SNR=6101
SPIA Saint Paul Isl 30.48 48 P P **18 12 41.6 +2.2**
baz=272
P08K Saint George I 30.79 49 P P **18 12 45.0 +2.8**
baz=264
NIKH Nikolski High 31.00 56 P P 18 12 50.0 +5.9
baz=270
GAMB Gambell 31.41 35 P P **18 12 47.7 +0.2**
baz=250
UNV Unalaska Valle 32.40 54 P P 18 13 01.8 +5.5
baz=271
M11K Mekoryuk 33.05 42 P P **18 13 03.0 +1.1**
baz=261
TNA Tin City 33.53 33 P P **18 13 06.6 +0.6**
baz=252
K13K Kusilvak Mount 34.05 40 P P **18 13 11.2 +0.7**
baz=260
F14K Arctic Creek 34.14 33 P P **18 13 11.5 +0.2**
baz=253
ANM Nome 34.29 35 P P **18 13 12.9 +0.2**
baz=256
M13K Dall Lake 34.46 43 P P **18 13 15.7 +1.7**
baz=264
GTA Gaotai 34.67 280 *e*P P 18 13 24.8 +8.4
GTA pP pP 18 13 34.5 +4.8
GTA pmax pmax
comp=Z,2.0nm,1.1s
L14K Kuka Creek 34.89 41 P P **18 13 18.6 +0.8**
baz=263
S12K Black Hills 34.94 51 P P **18 13 21.4 +3.0**
baz=272
M14K Bethel 35.17 42 P P **18 13 21.6 +1.4**
baz=265
C16K Lisburne Hills 35.39 29 P P **18 13 22.5 +0.4**
baz=251
O14K Tigyukauivet M 35.41 45 P P **18 13 23.9 +1.6**
baz=267
L15K Ungalak Mounta 35.50 41 P P **18 13 24.3 +1.3**
baz=264
K15K Wolf Creek Mou 35.55 39 P P **18 13 24.2 +0.7**
baz=263
G16K Koyuk River 35.73 34 P P **18 13 25.0 0.0**
baz=258
M15K Kasigluk River 35.79 42 P P **18 13 26.8 +1.2**
baz=266
SDPT Sand Point 35.85 51 P P **18 13 29.3 +3.2**
baz=273
D17K Noatak River 36.02 30 P P **18 13 27.9 +0.5**
baz=254
N15K Kwethluk River 36.05 43 P P **18 13 29.1 +1.2**
baz=267
J16K Anvik River 36.11 38 P P **18 13 28.9 +0.6**
baz=262
O15K Ungalikthiuk R 36.15 45 P P **18 13 30.1 +1.5**
baz=269
I17K Unalakleet 36.15 37 P P **18 13 29.1 +0.5**
baz=261
C17K DeLong Mountai 36.22 29 P P **18 13 29.9 +0.8**
baz=253
E17K Hotham Inlet 36.33 31 P P **18 13 30.9 +0.8**
baz=256
G17K Kiwalik Mounta 36.45 34 P P **18 13 31.7 +0.6**
baz=259
L16K Owhat River 36.46 41 P P **18 13 31.7 +0.5**
baz=266
H17K Granite Mounta 36.66 35 P P **18 13 33.4 +0.5**
baz=261
M16K Tiner Creek 36.66 42 P P **18 13 33.8 +0.8**
baz=267
J17K VABM Dome 36.80 38 P P **18 13 35.0 +0.8**
baz=264
B18K Kokolik River 36.96 28 P P **18 13 36.5 +1.1**
baz=253
C18K Utukok River 36.96 29 P P **18 13 35.7 +0.1**
baz=255
O16K Kokwok River B 37.04 44 P P **18 13 37.8 +1.5**
baz=270
L17K Donlin 37.05 40 P P **18 13 37.1 +0.8**
baz=266
F18K Selawik 37.06 32 P P **18 13 36.8 +0.5**
baz=259
K17K Iditarod 37.09 39 P P **18 13 37.9 +1.3**
baz=265
G18K Tagagawik 37.33 34 P P **18 13 38.9 +0.2**
G18K IAmb IAmb 18 14 07.1
comp=Z,11nm,1.3s
G18K Tagagawik 37.33 34 P P **18 13 39.3 +0.6**
baz=261
H18K Honhosa River 37.34 35 P P **18 13 39.2 +0.4**
baz=262
M17K Holitna River 37.41 41 P P **18 13 40.5 +1.1**
baz=268
A19K Wainwright 37.45 26 P P **18 13 39.9 +0.4**
baz=253
N17K Nushagak Hills 37.51 43 P P **18 13 41.3 +1.1**
baz=269
O17K Koliganek Bris 37.55 44 P P **18 13 41.8 +1.2**
baz=270
C19K Lookout Ridge 37.65 28 P P **18 13 41.9 +0.6**
baz=256
L18K Granite Mounta 37.80 40 P P **18 13 44.1 +1.4**
baz=267
F19K Shaleruckik Mo 37.84 32 P P **18 13 43.5 +0.6**
baz=260
J18K Innoko River 37.87 38 P P **18 13 44.0 +0.8**
baz=266
P17K Kvichak River 37.89 45 P P **18 13 45.1 +1.7**
baz=272
G19K Purcell Mounta 38.00 34 P P **18 13 45.2 +0.9**
baz=262
N18K Kilae Creek 38.15 42 P P **18 13 47.0 +1.3**
N18K Kilae Creek 38.15 42 P P **18 13 46.4 +0.8**
baz=270
H19K Roundabout Mou 38.18 35 P P **18 13 46.1 +0.3**
H19K IAmb IAmb 18 13 47.4
comp=Z,5.8nm,0.8s
H19K Roundabout Mou 38.18 35 P P **18 13 46.1 +0.3**
baz=263
M18K Stony River 38.19 41 P P **18 13 46.4 +0.5**
baz=269
J19K Poorman 38.39 37 P P **18 13 48.5 +0.8**
J19K IAmb IAmb 18 13 49.0
comp=Z,6.8nm,1.0s
J19K Poorman 38.39 37 P P **18 13 48.6 +0.9**
baz=266
P18K Big Mountain, 38.51 45 P P **18 13 50.1 +1.4**
baz=272
Q18K Katmai Hardscr 38.66 46 P P **18 13 51.7 +1.7**
baz=273
L19K White Mountain 38.66 40 P P **18 13 50.6 +0.6**
baz=269
E20K Nigu River 38.68 30 P P **18 13 50.2 +0.1**
baz=260
H20K Anotleneega Mo 38.83 35 P P **18 13 52.3 +1.0**
baz=265
M19K Big River Lodg 38.88 40 P P **18 13 53.0 +1.3**
baz=270
I20K Naaghedeneel 38.94 36 P P **18 13 53.1 +0.9**
baz=266
J20K Nowinta River 39.05 37 P **18 13 53.8 +0.6**
J20K IAmb IAmb 18 13 54.8
comp=Z,8.2nm,1.0s
J20K Nowinta River 39.05 37 P P **18 13 53.7 +0.6**
baz=267
K20K Telida 39.05 38 P P **18 13 53.9 +0.7**
baz=268
L20K Farewell, AK 39.12 40 P P **18 13 54.9 +1.1**
baz=270
A21K Barrow 39.17 25 P P **18 13 54.9 +0.9**
baz=256
IMAR Indian Mountai 39.34 34 P P **18 13 55.7 +0.2**
C21K Knifeblade Rid 39.34 29 P P **18 13 55.7 +0.2**
baz=261
Q19K Cape Douglas, 39.35 45 P P **18 13 57.1 +1.4**
baz=274
M20K Styx River 39.47 41 P P **18 13 57.6 +0.8**
baz=271
B21K Ikpikpuk River 39.48 28 P P **18 13 57.2 +0.6**
baz=260
G21K Allaket 39.48 33 P P **18 13 56.8 +0.1**
baz=265
P19K Oil Pt 39.51 44 P P **18 13 58.4 +1.4**
baz=274
E21K Killik River 39.52 30 P P **18 13 57.2 +0.2**
baz=262
F21K Alatna River 39.56 32 P P **18 13 57.9 +0.5**
baz=264
GOMU GeErMu 39.60 277 P P **18 13 58.9 +0.4**
GOMU pP pP 18 14 02.8 -9.1
GOMU sP sP 18 14 10.9 -7.0
GOMU pmax pmax
comp=Z,12nm,0.8s
PZH PanZhiHua 39.63 260 P P **18 13 58.7 +0.1**
OHAK Old Harbor 39.69 48 P P **18 14 01.1 +2.6**
baz=277
H21K Melozitna Rive 39.70 35 P P **18 13 58.9 +0.3**
baz=267
O20K Slope Mountain 39.79 43 P P **18 14 00.4 +1.0**
baz=274
PPLA Purkypile 39.90 39 P P **18 14 01.4 +1.0**
baz=271
CAST Castle Rocks 39.95 38 P **18 14 01.3 +0.7**
CAST IAmb IAmb 18 14 02.7
comp=Z,5.3nm,0.9s
CAST Castle Rocks 39.95 38 P P **18 14 01.3 +0.7**
baz=270,SNR=5.7
KDAK Kodiak Island 40.01 47 P P **18 14 03.0 +1.9**
baz=276
I21K Tanana 40.02 35 P P **18 14 01.8 +0.7**
baz=268
D22K Ayikyak River 40.05 30 P P **18 14 02.4 +1.0**
baz=263
SKT Skwentna 40.23 40 P P **18 14 03.3 +0.3**
baz=272
E22K Anaktuvuk Pass 40.28 31 P P **18 14 03.7 +0.3**
baz=265
H22K Ishtalitna Cre 40.30 34 P P **18 14 03.7 +0.2**
baz=268
G22K Bettles 40.30 33 P P **18 14 03.7 +0.2**
baz=266
BPAW Bear Paw Mtn. 40.43 37 P P **18 14 05.4 +0.8**
BPAW IAmb IAmb 18 14 14.7
comp=Z,7.3nm,0.9s
BPAW Bear Paw Mtn. 40.43 37 P P **18 14 05.1 +0.4**
baz=270
KTH Kantishna Hill 40.47 38 P P **18 14 05.7 +0.7**
KTH IAmb IAmb 18 14 07.0
comp=Z,8.9nm,0.9s
CAPN Captain Cook N 40.47 42 P P **18 14 05.6 +0.7**
baz=274
SUA Susitna One 40.63 41 P P **18 14 07.0 +0.7**
baz=274
ZAA0 Zalesovo Array 40.67 307 P P **18 14 04.2 -2.4**
ZALV Zalesovo Beam 40.67 307 P P **18 14 05.6 -1.0**
comp=Z,0.5nm,0.4s,baz=81,slow=9.2,SNR=2.2
ZALV PcP PcP **18 16 07.5 0.0**
comp=Z,2.2nm,0.5s,baz=90,slow=3.6,SNR=10
ZALV LR LR 18 32 31.9
comp=Z,48nm,18.3s,baz=72,slow=38
comp=Z,0.5nm,0.4s
TRF Thorofare Moun 40.75 38 P P **18 14 08.0 +0.5**
baz=272
D23K Nanushuk River 40.78 30 P P **18 14 08.2 +0.8**
baz=265
COLD Coldfoot 40.83 32 P P **18 14 08.5 +0.7**
baz=267
G23K Bananza Creek 40.88 33 P P **18 14 08.1 -0.2**
G23K Bananza Creek 40.88 33 P P **18 14 09.2 +0.8**
baz=268
C23K Itkillik River 40.89 28 P P **18 14 09.0 +0.8**
baz=264
H23K Yukon River 41.05 34 P P **18 14 10.5 +0.8**
baz=270
E23K Chandalar 41.10 31 P P **18 14 10.8 +0.6**
baz=267
I23K Minto, Yukon-K 41.13 35 P P **18 14 10.9 +0.6**
baz=270
TOLK Toolik Lake Re 41.15 30 P P **18 14 11.1 +0.5**
baz=266
NEA2 Nenana 41.26 36 IAmb IAmb 18 14 12.9
comp=Z,5.6nm,0.8s
NEA2 Nenana 41.26 36 P P **18 14 12.4 +1.0**
baz=271,SNR=6.1
MCK McKinley 41.35 38 P P **18 14 12.5 +0.3**
MCK IAmb IAmb 18 14 26.2
comp=Z,6.6nm,1.2s
MCK McKinley 41.35 38 P P **18 14 12.5 +0.3**
MCK pmax pmax
comp=Z,7.0nm,1.2s
MCK McKinley 41.35 38 P P **18 14 12.7 +0.5**
baz=272
RND Reindeer 41.40 38 P P **18 14 12.3 -0.3**
RND IAmb IAmb 18 14 13.5
comp=Z,4.9nm,0.8s
RND Reindeer 41.40 38 P P **18 14 12.3 -0.3**
RND pmax pmax
comp=Z,5.0nm,0.8s
D24K Happy Valley 41.46 29 P P **18 14 13.5 +0.5**
baz=266
E24K Your Creek 41.52 31 P P **18 14 15.0 +1.4**
E24K Your Creek 41.52 31 P P **18 14 13.8 +0.2**
baz=268
C24K Franklin Bluff 41.54 28 P P **18 14 14.0 +0.4**
baz=266
WAT1 Susitna Watana 41.57 39 P P **18 14 14.3 +0.3**
baz=274
F24K Squaw Lake 41.74 32 P P **18 14 16.1 +0.8**
baz=269
H24K Noodor Dome 41.74 34 P P **18 14 13.8 -1.6**
H24K Noodor Dome 41.74 34 P P **18 14 16.3 +0.9**
baz=271
COLA College 41.78 36 P P **18 14 13.8 -1.8**
COLA College 41.78 36 P P **18 14 13.8 -1.8**
COLA pmax pmax
comp=Z,18nm,0.3s
COLA College 41.78 36 P P **18 14 16.2 +0.6**
baz=272
PWL Port Wells 41.84 42 P P **18 14 17.2 +0.9**
baz=276
G24K Hadweenzic Riv 41.89 33 P P **18 14 17.0 +0.4**
G24K IAmb IAmb 18 14 18.7
comp=Z,11nm,1.3s
G24K Hadweenzic Riv 41.89 33 P P **18 14 17.7 +1.1**
baz=270
WAT6 Susitna Watana 41.96 39 P P **18 14 17.4 0.0**
baz=275
DHY Denali Highway 42.09 39 P P **18 14 18.7 +0.3**
baz=275
HDA Harding Lake 42.19 36 P P **18 14 18.2 -0.8**
HDA Harding Lake 42.19 36 P P **18 14 18.9 0.0**

baz=274
IL31 42.19 36 IAmb IAmb 18 14 20.6
comp=Z,8.7nm,1.2s
ILAR Eielson Array 42.19 36 P P 18 14 18.2 -0.8
ILAR Eielson Array 42.19 36 P P 18 14 18.4 -0.7
comp=Z,4.2nm,1.1s,baz=274,slow=7.9,SNR=24
comp=Z,4.2nm,1.1s
SCM Sheep Creek Mo 42.22 40 P P 18 14 19.8 +0.4
baz=276
D25K Kavik River 42.34 29 P P 18 14 20.2 0.0
baz=269
P23K Montague Islan 42.41 43 P P 18 14 21.4 +0.6
baz=278
GLI Glacier Island 42.44 42 P P 18 14 22.0 +0.9
baz=277
H25L Birch Creek 42.57 34 P P 18 14 23.4 +1.4
baz=272
F25K Christian Rive 42.60 32 P P 18 14 23.6 +1.2
baz=271
PRP Porcupine Dome 42.73 35 P P 18 14 23.9 +0.4
PRP IAmb IAmb 18 14 25.6
comp=Z,5.7nm,0.8s
PRP Porcupine Dome 42.73 35 P P 18 14 23.9 +0.4
baz=274,SNR=7.1
K24K Donnelly Dome 42.74 37 IAmb IAmb 18 14 24.2
comp=Z,6.3nm,0.8s
K24K Donnelly Dome 42.74 37 P P 18 14 23.6 0.0
baz=275
J25K Salcha River, 42.85 36 P P 18 14 24.6 +0.1
baz=275
KLU Klutina 42.93 41 IAmb IAmb 18 14 27.2
comp=Z,9.9nm,1.2s
KLU Klutina 42.93 41 P P 18 14 26.1 +1.0
baz=278
PAX Paxson 42.96 39 P P 18 14 26.1 +0.7
baz=276
BMAR Burnt Mountain 43.01 32 P P 18 14 25.7 0.0
Q23K Middleton Isla 43.02 44 P P 18 14 27.4 +1.7
baz=279
EYAK Cordova Ski Ar 43.14 42 P P 18 14 28.1 +1.4
baz=279
RIDG Independent Ri 43.16 37 P P 18 14 27.5 +0.6
baz=276
F26K Sheenjek River 43.17 32 P P 18 14 27.5 +0.6
baz=272
HARP HAARP 43.17 39 P P 18 14 27.7 +0.6
baz=277
C27K Jago River 43.28 29 P P 18 14 27.9 +0.2
baz=271
G26K Porcupine Rive 43.34 33 IAmb IAmb 18 14 37.1
comp=Z,11nm,1.3s
G26K Porcupine Rive 43.34 33 P P 18 14 28.9 +0.6
baz=274,SNR=5.3
SCRK Sand Creek 43.52 37 P P 18 14 30.0 +0.1
baz=276,SNR=7.2
N25K Chitina, Valde 43.54 40 P P 18 14 30.5 +0.4
baz=278
BMRM Bremner River 43.63 41 P P 18 14 30.9 +0.1
BMRM Bremner River 43.63 41 P P 18 14 31.4 +0.7
baz=279
J26L Joseph Creek 43.64 36 P P 18 14 31.0 +0.2
baz=276
I26K Coal Creek Min 43.73 35 P P 18 14 32.4 +0.9
baz=276
L26K Log Cabin Wild 43.92 38 P P 18 14 33.4 +0.3
E27K Coleen River 44.10 31 P P 18 14 35.6 +1.1
baz=274
MK31 Makanchi Array 44.14 298 *ce*P P 18 14 35.1 +0.1
MKAR Makanchi Array 44.14 298 P P 18 14 34.2 -0.9
comp=Z,1.4nm,0.6s,baz=79,slow=9.9,SNR=15
MKAR PcP PP 18 16 18.8 +0.4
comp=Z,0.8nm,0.7s,baz=49,slow=2.7,SNR=3.1
MKAR LR LR 18 33 43.9
comp=Z,59nm,19.8s,baz=93,slow=37
comp=Z,1.4nm,0.6s
M26K Nabesna, AK 44.17 39 P P 18 14 35.7 +0.7
baz=279,SNR=5.9
G27K Doyon Strip 44.20 33 P P 18 14 35.8 +0.6
baz=276
D27M Malcolm River 44.26 29 P P 18 14 36.8 +1.0
baz=274
H27K Steamboat Moun 44.30 34 IAmb IAmb 18 14 39.2
comp=Z,9.3nm,1.2s
H27K Steamboat Moun 44.30 34 P P 18 14 36.8 +0.7
baz=276,SNR=7.8
MCARA McCarthy VSAT 44.32 41 P P 18 14 36.9 +0.7
baz=280
I27K Kandik River 44.34 34 P P 18 14 36.9 +0.5
baz=277
K27K Chicken 44.34 37 IAmb IAmb 18 14 38.2
comp=Z,12nm,1.3s
K27K Chicken 44.34 37 P P 18 14 37.0 +0.7
baz=278
CRQE Cirque 44.40 41 P P 18 14 38.6 +1.6
baz=281
BGLC Bering Glacier 44.42 42 P P 18 14 38.9 +1.9
baz=281
L27K Beaver Creek, 44.60 38 IAmb IAmb 18 14 52.2
comp=Z,4.7nm,0.8s
L27K Beaver Creek, 44.60 38 P P 18 14 39.3 +0.8
baz=279,SNR=13
BCAR Beaver Creek A 44.62 38 P P 18 14 39.3 +0.7
M27K Edge Creek, AK 44.69 39 P P 18 14 40.4 +1.0
baz=280,SNR=6.4
F28M Old Crow 44.80 31 P P 18 14 40.9 +0.9
baz=276
E28M Babbage River 44.83 30 P P 18 14 41.2 +1.1
baz=276
I28M Miner Creek 45.05 35 IAmb IAmb 18 14 44.0
comp=Z,7.5nm,0.9s
I28M Miner Creek 45.05 35 P P 18 14 43.0 +0.8
baz=278,SNR=9.3
BVCY Beaver Creek 45.15 39 P P 18 14 44.3 +1.4
baz=281
KURK Kurchatov 45.16 304 P P 18 14 43.1 +0.1
KURK Kurchatov 45.16 304 P P 18 14 43.1 +0.1
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURK Kurchatov 45.16 304 *e*P P 18 14 43.1 +0.1
CTG Chitna Glacier 45.20 41 P P 18 14 44.9 +1.5
baz=282
KURBB Kurchatov Arra 45.24 304 P P 18 14 42.7 -1.0
comp=Z,1.7nm,0.4s,baz=72,slow=8.5,SNR=34
KURBB PcP PcP 18 16 22.6 -0.2
comp=Z,1.6nm,0.7s,baz=72,slow=3.7,SNR=7.1
comp=Z,1.7nm,0.4s
E29M Blow River 45.45 30 P P 18 14 46.3 +1.2
baz=277
YUK3 Moose Creek 45.45 40 P P 18 14 46.6 +1.1
baz=282
DAWY Dawson 45.51 36 P P 18 14 46.3 +0.7
baz=280
H29M Whitestone 45.58 33 IAmb IAmb 18 14 48.2
comp=Z,5.1nm,0.9s
H29M Whitestone 45.58 33 P P 18 14 47.1 +1.0
baz=279
G29M Pine Creek 45.61 32 IAmb IAmb 18 14 49.2
comp=Z,8.8nm,0.9s
G29M Pine Creek 45.61 32 P P 18 14 46.8 +0.4
baz=279,SNR=8.5
I29M Ogilvie Camp, 45.74 35 P P 18 14 47.8 +0.3
baz=280,SNR=15
O28M Mount Upton 45.79 41 P P 18 14 49.2 +1.0
baz=283
PINM Pinnacle 45.91 42 P P 18 14 49.8 +0.9
baz=283
EPYK Eagle Plains 46.21 33 P P 18 14 52.2 +1.0
baz=280,SNR=9.0
M29M Somme Creek 46.23 39 P P 18 14 52.8 +1.3
baz=283
L29M L29M 46.24 38 IAmb IAmb 18 14 54.0
comp=Z,5.8nm,1.1s
L29M L29M 46.24 38 P P 18 14 52.7 +1.2
baz=282
G30M tAoh Zrail Nji 46.30 32 IAmb IAmb 18 14 53.4
comp=Z,5.9nm,0.9s
G30M tAoh Zrail Nji 46.30 32 P P 18 14 52.7 +0.8
baz=280,SNR=6.2
F30M Barrier River 46.35 31 P P 18 14 53.7 +1.4
baz=280,SNR=7.2
K29M Barlow Dome 46.36 37 P P 18 14 53.2 +0.7
baz=282
I30M Mount Dempster 46.56 35 P P 18 14 54.8 +0.8
baz=282,SNR=18
O29M Mount Kennedy 46.68 41 P P 18 14 56.3 +1.3
baz=284
J30M Hart River 46.72 35 IAmb IAmb 18 14 57.2
comp=Z,11nm,1.4s

J30M Hart River 46.72 35 P P 18 14 56.0 +0.7
baz=282,SNR=6.9
CMAR Chiang Mai Arr 46.75 253 P P 18 14 55.6 -0.4
comp=Z,1.0nm,0.6s,baz=41,slow=7.4,SNR=7.4
CMAR LR LR 18 35 28.1
comp=Z,23nm,18.1s,baz=115,slow=37
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 46.75 253 *i*P P 18 14 56.5 +0.5
CMAR pmax pmax
comp=Z,1.0nm,0.6s
HYT Haines Junctio 47.06 41 P 18 14 59.7 +1.7
HYT Haines Junctio 47.06 41 P P 18 14 59.4 +1.5
baz=285,SNR=15
G31M Satah River 47.06 32 P P 18 14 58.6 +0.9
baz=282,SNR=6.9
N30M Aishikik Lake 47.09 40 P P 18 14 59.4 +1.2
baz=284
F31M Tsiigehtchic 47.16 31 P P 18 14 59.8 +1.3
baz=282
P29M Windy Craggy 47.26 42 P 18 15 00.7 +1.2
P29M Windy Craggy 47.26 42 P P 18 15 01.4 +1.9
baz=286,SNR=6.1
H31M Peel River 47.27 33 P P 18 15 00.3 +0.8
baz=283,SNR=9.9
P30M Million Dollar 47.50 41 P P 18 15 02.9 +1.5
baz=286
N31M Braeburn, Yuko 47.70 39 IAmb IAmb 18 15 05.5
comp=Z,5.0nm,0.9s
N31M Braeburn, Yuko 47.70 39 P P 18 15 04.3 +1.5
baz=286
O30N Mendenhall 47.74 40 P P 18 15 04.4 +1.2
baz=286
PLBC Pleasant Camp 47.98 42 P P 18 15 06.7 +1.8
baz=287
M31M Drury Creek, Y 48.14 38 P P 18 15 07.4 +1.2
baz=286
WHY Whitehorse 48.34 40 P P 18 15 09.6 +1.6
baz=287
S31K Pelican 48.49 44 P P 18 15 11.1 +2.2
baz=288
FARO Faro, Yukon 48.60 38 P P 18 15 10.7 +0.9
baz=287
A36M Sachs Harbour 48.99 24 P P 18 15 14.4 +1.8
baz=285
BVAR Borovoye Array 49.20 309 P P 18 15 13.5 -1.0
comp=Z,0.8nm,0.4s,baz=82,slow=9.2,SNR=9.5
BVAR PcP PcP 18 16 36.9 0.0
comp=Z,2.0nm,0.5s,baz=72,slow=4.5,SNR=7.2
comp=Z,0.8nm,0.4s
P32M Atlin 49.23 41 P P 18 15 15.9 +1.3
baz=289
BRVK Borovoye 49.24 309 *ce*P P 18 15 16.0 +1.2
BRVK pmax pmax
comp=Z,5.0nm,1.7s
BRVK Borovoye 49.24 309 *e*P P 18 15 16.0 +1.2
SIT Sitka 49.25 45 P P 18 15 16.6 +1.9
baz=290
R32K Eaglecrest 49.26 43 P P 18 15 16.5 +1.7
baz=289
MMPY Sheldon Lake, 49.41 37 P P 18 15 17.4 +1.4
baz=288
P33M Teslin, Yukon 49.46 40 P 18 15 17.4 +1.0
P33M IAmb IAmb 18 15 19.3
comp=Z,4.8nm,1.1s
P33M Teslin, Yukon 49.46 40 P P 18 15 17.4 +1.0
baz=289,SNR=5.2
EVN Everest 49.63 272 P P 18 15 18.0 -0.9
Q32M Nakina River 50.13 42 P P 18 15 22.9 +1.2
baz=290
R33M Jennings River 50.61 41 P P 18 15 27.2 +2.0
baz=291
S34M Telegraph Cree 51.07 43 P P 18 15 30.4 +1.9
baz=292
DLBC Dease Lake 51.42 42 LR LR 18 39 52.8
comp=Z,2.4nm,19.0s,baz=223,slow=39
DLBC Dease Lake 51.42 42 P P 18 15 33.4 +2.2
baz=292
T35M Bob Quinn 51.86 44 P P 18 15 37.0 +2.5
baz=293
KKAR Karatay Array 53.27 298 IAmb IAmb 18 15 45.4
comp=Z,2.8nm,0.8s
HNR Honiara 54.03 163 LR LR 18 36 07.6
comp=Z,22nm,20.4s,baz=36,slow=33
ARTI Arti 54.24 317 P 18 15 49.8 -2.2
ARTI Arti 54.24 317 LR LR 18 40 45.1
comp=Z,36nm,18.8s,baz=59,slow=38
ARTI Arti 54.24 317 *c i*P P 18 15 51.6 -0.4
ARTI 18 16 52.3
ARTI S S 18 23 27.7 +2.3
ARTI pmax pmax
comp=Z,5.0nm,0.7s
RES Resolute Bay 55.52 16 IAmb IAmb 18 16 01.0
comp=Z,4.9nm,0.8s
YKA Yellowknife Ar 56.49 33 P P 18 16 06.0 -2.0
comp=Z,2.0nm,0.9s,baz=302,slow=7.8,SNR=6.1
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 56.49 33 *i*P P 18 16 06.8 -1.2
YKA pmax pmax
comp=Z,2.0nm,0.9s
AB31 Akbulak array 56.75 309 IAmb IAmb 18 16 12.7
comp=Z,6.7nm,1.1s
ABKAR Akbulak array 56.75 309 P 18 16 08.9 -1.2
ABKAR Akbulak array 56.75 309 IAmb IAmb 18 16 12.8
comp=Z,6.7nm,1.1s
AKTO Aktyubinsk 57.25 311 LR LR 18 42 49.5
comp=Z,30nm,19.2s,baz=68,slow=38
KBL Kabul 58.66 290 P P 18 16 21.6 -2.4
KBL Kabul 58.66 290 P P 18 16 21.6 -2.4
KBL pmax pmax
comp=Z,7.0nm,0.9s
ARCES ARCESS Array B 59.35 339 P P 18 16 25.6 -2.3
comp=Z,1.1nm,0.8s,baz=49,slow=6.8,SNR=3.9
comp=Z,1.1nm,0.8s
BLKN Baker Lake 62.10 26 P P 18 16 46.1 -0.6
WRA Warramunga Arr 63.95 192 P P 18 16 58.9 -0.5
comp=Z,1.1nm,0.7s,baz=10,slow=6.6,SNR=6.3
comp=Z,1.1nm,0.7s
FINES FINESS Array B 64.88 333 P P 18 17 03.9 -1.2
comp=Z,2.8nm,0.5s,baz=43,slow=7.5,SNR=16
comp=Z,2.8nm,0.5s
FINES FINESS Array B 64.88 333 *i*P P 18 17 06.5 +1.4
FINES pmax pmax
comp=Z,3.0nm,0.5s
ASAR Alice Springs 67.67 192 P P 18 17 23.7 +0.3
comp=Z,1.3nm,0.6s,baz=9.8,slow=5.6,SNR=30
comp=Z,1.3nm,0.6s
NVAR Mina Array Bea 68.36 57 P P 18 17 28.6 +0.6
comp=Z,0.5nm,0.6s,baz=267,slow=3.5,SNR=3.9
comp=Z,0.5nm,0.6s
KIV Kislovodsk 69.49 311 P 18 17 33.7 -1.0
KIV Kislovodsk 69.49 311 *e*P P 18 17 35.0 +0.3
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR 18 17 35.0 +0.3
comp=Z,30nm,17.0s
KIV Kislovodsk 69.49 311 *e*P P 18 17 35.0 +0.3
KBZ Khabaz 69.52 311 P P 18 17 34.7 -0.1
comp=Z,6.3nm,0.8s,baz=58,slow=5.0,SNR=11
KBZ LR LR 18 52 14.9
comp=Z,43nm,19.1s,baz=22,slow=40
comp=Z,6.3nm,0.8s
NB2 NORSAR Subarra 69.69 338 P P 18 17 35.2 -0.4
comp=Z,1.1nm,0.5s,baz=31,slow=6.5
NOA NORSAR Array B 69.69 338 P P 18 17 34.6 -0.9
comp=Z,1.3nm,0.7s,baz=33,slow=6.1,SNR=5.4
NOA LR LR 18 53 07.6
comp=Z,31nm,18.5s,baz=320,slow=40
comp=Z,1.3nm,0.7s
HFS Hagfors 69.76 337 P P 18 17 34.2 -1.8
comp=Z,2.5nm,0.6s,baz=22,slow=5.4,SNR=13
comp=Z,2.5nm,0.6s
PDAR Pinedale Array 70.67 49 P P 18 17 41.0 -1.2
comp=Z,0.3nm,0.5s,baz=343,slow=3.1,SNR=3.9
comp=Z,0.3nm,0.5s
GNI Garni 70.81 307 LR LR 18 51 52.6
comp=Z,24nm,20.1s,baz=86,slow=38
AKASG Malin Array Be 71.46 323 P P 18 17 45.6 -0.8
comp=Z,4.4nm,0.6s,baz=41,slow=6.0,SNR=18
comp=Z,4.4nm,0.6s
AKBB Malin Array Si 71.46 323 IAmb IAmb 18 17 49.0
comp=Z,6.7nm,0.8s
AKBB Malin Array Si 71.46 323 *ce*P P 18 17 46.3 -0.2
KIEV Kiev 71.47 323 P 18 17 45.3 -1.2
KIEV IAmb IAmb 18 17 49.0
comp=Z,6.0nm,0.8s
KIEV Kiev 71.47 323 P P 18 17 45.3 -1.2
KIEV pmax pmax
comp=Z,6.0nm,0.8s

BUR08 Bucovina Ar. S 75.50 323 IAmb IAmb 18 18 11.2
comp=Z,5.7nm,0.7s
BURAR Bucovina Array 75.52 323 P 18 18 10.2 -0.3
KOLS Kolonicke sedl 75.75 326 *e*P P 18 18 12.4 +0.7
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 75.75 326 *e*P P 18 18 12.4 +0.7
STHS Stebnicka Huta 75.78 326 *e*P P 18 18 11.9 0.0
STHS Stebnicka Huta 75.78 326 *e*P P 18 18 11.9 0.0
LANS Liptovska Anna 76.70 327 *e*P P 18 18 18.4 +1.2
LANS pmax pmax
comp=Z,4.0nm,0.9s
LANS Liptovska Anna 76.70 327 *e*P P 18 18 18.4 +1.2
STEB Steborice 76.73 329 *e*P P 18 18 17.6 +0.4
DPC Dobruska-Polom 76.93 330 *e*P P 18 18 18.9 +0.5
DPC Dobruska-Polom 76.93 330 *e*P P 18 18 18.9 +0.5
BRTR Keskin Array B 77.29 313 P P 18 18 20.8 0.0
comp=Z,1.1nm,0.6s,baz=82,slow=3.0,SNR=6.6
comp=Z,1.1nm,0.6s
CLL Collm 77.31 332 IAmb IAmb 18 18 20.7
comp=Z,7.0nm,0.9s
CLL Collm 77.31 332 *i*P P 18 18 19.7 -0.8
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 77.31 332 *i*P P 18 18 19.7 -0.8
comp=Z,7.0nm,0.9s
VYHS Vyhne 77.48 327 *e*P P 18 18 21.6 +0.1
VYHS pmax pmax
comp=Z,2.0nm,0.7s
VYHS Vyhne 77.48 327 *e*P P 18 18 21.6 +0.1
VRAC Vranov 77.68 329 LR LR 18 55 05.8
comp=Z,45nm,19.9s,baz=20,slow=38
PRU Pruhonice 77.88 330 *e*P P 18 18 23.9 +0.2
PRU Pruhonice 77.88 330 *e*P P 18 18 23.9 +0.2
MODS Modra-Piesok 78.19 328 *e*P P 18 18 25.0 -0.4
MODS pmax pmax
comp=Z,14nm,1.2s
MODS Modra-Piesok 78.19 328 *e*P P 18 18 25.0 -0.4
SCHQ Schefferville 78.19 19 P P 18 18 24.1 -1.2
comp=Z,2.4nm,0.5s,baz=319,slow=3.8,SNR=4.3
comp=Z,2.4nm,0.5s
EKA Eskdalemuir Ar 78.27 343 P P 18 18 25.2 -0.5
comp=Z,2.2nm,0.6s,baz=26,slow=5.0,SNR=12
comp=Z,2.2nm,0.6s
KHC Kasperske Hory 78.94 330 *e*P P 18 18 29.6 0.0
KHC Kasperske Hory 78.94 330 *e*P P 18 18 29.6 0.0
CONA Conrad Observa 79.09 329 *e*P P 18 18 31.1 +0.5
comp=Z,3.4nm,0.9s
RONA Rosalia, Austr 79.12 328 *i*P P 18 18 30.9 +0.3
comp=Z,3.7nm,0.8s
GERES GERESS Array B 79.14 330 P P 18 18 29.9 -0.8
comp=Z,0.9nm,0.6s,baz=12,slow=6.8,SNR=6.3
comp=Z,0.9nm,0.6s
GERES GERESS Array B 79.14 330 P P 18 18 30.0 -0.8
BIOA Bad Ischl, Aus 80.12 330 *e*P P 18 18 36.3 +0.3
comp=Z,4.4nm,0.8s
LESA Schwarzleotal 80.70 330 *i*P P 18 18 39.5 +0.2
comp=Z,3.1nm,0.8s
KBA Koelnbreinsper 80.75 329 *i*P P 18 18 39.9 +0.4
comp=Z,5.2nm,0.8s
MMAI Mount Meron Ar 81.16 307 P P 18 18 41.2 -0.6
comp=Z,3.6nm,0.6s,baz=53,slow=8.5,SNR=7.4
MMAI LR LR 19 00 10.3
comp=Z,43nm,18.2s,baz=312,slow=40
comp=Z,3.6nm,0.6s
WATA Walderalm 81.17 331 *i*P P 18 18 41.7 -0.1
comp=Z,2.2nm,0.5s
MOTA Moosalm 81.33 331 *i*P P 18 18 42.0 -0.6
comp=Z,6.8nm,1.0s
FUORN Fenpass-Fuorn 82.25 331 IAmb IAmb 18 18 48.5
comp=Z,3.4nm,0.8s
TXAR Lajitas Array 83.43 56 P P 18 18 54.4 +0.6
comp=Z,0.8nm,0.7s,baz=284,slow=3.6,SNR=9.0
comp=Z,0.8nm,0.7s
ESDC Sonseca Array 93.03 337 P P 18 19 38.4 -1.2
comp=Z,0.6nm,0.5s,baz=37,slow=3.8,SNR=6.2
comp=Z,0.6nm,0.5s
H03N2 Juan Fernandez 143.66 90 T T 21 05 40.2
baz=304,slow=77,SNR=6.0
H03N3 Juan Fernandez 143.67 90 T T 21 05 41.5
baz=304,slow=77,SNR=6.6
H03N1 Juan Fernandez 143.68 90 T T 21 05 41.5
baz=304,slow=77,SNR=6.9
SNAA Sanae 147.89 198 PKPbc PKPdf 18 26 08.2 +1.4
comp=Z,1.8nm,0.7s,baz=180,slow=7.0,SNR=11

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*IDC **03** 18:10:08.5±0.8, 52°.82S×27°.63E, h0km, mb4.2/9, mbtmp4.2/9, MS3.8/14, Error ellipse: s-maj=29.2km s-min=19.3km az=79.0*
*NEIC **03** 18:10:10.3±1.1, 52°.87S±0°.04×27°.6E±0°.3, h10km±1km, mb4.6/18, Error ellipse: s-maj=32.0km s-min=6.5km az=95.0*
ISC 03 18:10:09.9±0.6, 52°.86S±0°.09×27°.8E±0°.1, h10km, n51,
σ1§19/36, mb4.5/16, MS3.7/14, 4C, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H04S2	**CROZET ISLANDS**	**16.61**	**78**	T	T	18 31 17.3	
	baz=241,slow=75,SNR=37						
H04S3	**CROZET ISLANDS**	**16.62**	**78**	T	T	18 31 21.5	
	baz=241,slow=75,SNR=30						
H04S1	**CROZET ISLANDS**	**16.63**	**78**	T	T	18 31 14.4	
	baz=241,slow=75,SNR=74						
GRHM	**Grahamstown, E**	**19.60**	**356**	P	P	18 14 36.8	-1.4
GRHM				IAmb	IAmb	18 15 21.1	
	comp=Z,40nm,1.3s						
SUR	**Sutherland**	**21.09**	**343**	P	P	18 14 54.0	-0.5
SUR				IAmb	IAmb	18 15 09.4	
	comp=Z,85nm,1.5s						
TROLL	**Troll, Antarti**	**22.14**	**201**	⇑P	P	18 15 06.6	+1.1
	comp=Z,251nm,0.6s						
MAW	**Mawson**	**22.38**	**145**	P	P	18 15 08.6	+0.7
	comp=Z,3.0nm,0.6s,baz=293,slow=13,SNR=7.1						
MAW				S	S	18 19 09.2	-4.3
	comp=Z,2.6nm,0.9s,baz=305,slow=11,SNR=1.9						
MAW				LR	LR	18 22 11.7	
	comp=Z,177nm,20.9s,baz=294,slow=32						
	comp=Z,3.0nm,0.6s						
SNAA	**Sanae**	**23.16**	**204**	⇑P	P	18 15 17.8	+1.6
	comp=Z,266nm,0.8s						
SNAA	**Sanae**	**23.16**	**204**	P	P	18 15 17.4	+1.3
SNAA				IAmb	IAmb	18 15 26.9	
	comp=Z,12nm,0.8s						
SNAA	**Sanae**	**23.16**	**204**	P	P	18 15 17.1	+0.9
	comp=Z,9.7nm,0.9s,baz=54,slow=8.2,SNR=30						
SNAA				S	S	18 19 26.6	-0.8
	comp=Z,1.0nm,0.8s,baz=142,slow=3.8,SNR=2.6						
SNAA				LR	LR	18 22 06.4	
	comp=Z,126nm,21.3s,baz=30,slow=31						
	comp=Z,9.7nm,0.9s						
VNA1	**Neumayer--Stat**	**24.06**	**209**	⇑P	P	18 15 27.4	+2.6
	comp=Z,16nm,0.9s						
BOSA	**Boshof**	**24.30**	**355**	P	P	18 15 28.1	+0.6
BOSA				IAmb	IAmb	18 15 34.7	
	comp=Z,15nm,1.3s						
BOSA	**Boshof**	**24.30**	**355**	P	P	18 15 28.1	+0.6
	comp=Z,2.9nm,0.8s,baz=181,slow=11,SNR=4.9						
BOSA				LR	LR	18 22 57.6	
	comp=Z,244nm,21.6s,baz=185,slow=32						
	comp=Z,2.9nm,0.8s						
VNA3	**Neumayer Olymp**	**24.75**	**208**	⇑P	P	18 15 31.7	+0.5
	comp=Z,4.1nm,0.8s						
MAKGR	**Makgori**	**27.11**	**354**	P	P	18 15 52.6	-0.4
LBTB	**Lobatse**	**27.86**	**356**	LR	LR	18 25 25.6	
	comp=Z,187nm,19.7s,baz=180,slow=33						
LPHEP	**Lephephe**	**29.49**	**356**	P	P	18 16 13.8	-0.4
LPHEP				IAmb	IAmb	18 16 43.4	
	comp=Z,16nm,1.4s						
MREMI	**Moremi**	**30.24**	**359**	P	P	18 16 21.6	+0.8
MREMI				IAmb	IAmb	18 17 03.2	
	comp=Z,10nm,1.2s						
GRTLG	**Ghanzi**	**31.85**	**348**	P	P	18 16 35.7	+0.6
GRTLG				IAmb	IAmb	18 16 39.1	
	comp=Z,6.3nm,1.0s						
PHDHD	**Phuduhudu**	**32.70**	**354**	P	P	18 16 42.7	+0.2
BELA	**Belgrano 2**	**33.22**	**200**	P	P	18 16 46.4	0.0
TSUM	**Tsumeb**	**34.52**	**343**	LR	LR	18 29 05.7	
	comp=Z,266nm,21.9s,baz=181,slow=33						
QSPA	**South Pole Qui**	**37.36**	**180**	P	P	18 17 21.8	-0.5
QSPA				IAmb	IAmb	18 17 26.7	
	comp=Z,20nm,1.1s						
QSPA	**South Pole Qui**	**37.36**	**180**	P	P	18 17 22.7	+0.3
	comp=Z,12nm,0.6s,baz=65,slow=2.8,SNR=120						
QSPA				LR	LR	18 32 16.6	
	comp=Z,110nm,20.0s,baz=227,slow=36						

	comp=Z,12nm,0.6s							
LSZ	**Lusaka**	**37.50**	**1**	LR	LR	18 30 48.4		
	comp=Z,105nm,21.2s,baz=166,slow=33							
CASY	**Casey**	**40.69**	**142**	P	**P**	**18 17 50.9**	**+0.9**	
VNDA	**Vanda**	**46.81**	**168**	P	**P**	**18 18 38.5**	**-0.6**	
VNDA	**Vanda**	**46.81**	**168**	P	**P**	**18 18 39.5**	**+0.4**	
	comp=Z,1.8nm,0.9s,baz=238,slow=8.8,SNR=9.3							
VNDA				LR	LR	18 37 30.7		
	comp=Z,96nm,22.0s,baz=208,slow=35							
	comp=Z,1.8nm,0.9s							
SBA	**Scott Base**	**47.13**	**169**	P	**P**	**18 18 42.2**	**+0.6**	
SBA				IAmb	IAmb	18 18 56.5		
	comp=Z,5.1nm,0.8s							
H10S2	**ASCENSION HYDR**	**55.59**	**306**	T	T	19 19 39.6		
	baz=71,slow=74,SNR=9.1							
H10S3	**ASCENSION HYDR**	**55.61**	**306**	T	T	19 19 46.0		
	baz=149,slow=74,SNR=15							
TRQA	**Tornquist**	**60.66**	**245**	P	**P**	**18 20 20.0**	**-1.0**	
H01W2	**Cape Leeuwin H**	**61.00**	**110**	T	T	19 27 17.8		
	baz=223,slow=75,SNR=5.9							
H01W3	**Cape Leeuwin H**	**61.01**	**110**	T	T	19 27 18.8		
	baz=223,slow=75,SNR=5.9							
H01W1	**Cape Leeuwin H**	**61.02**	**110**	T	T	19 27 19.0		
	baz=223,slow=75,SNR=6.7							
PLCA	**Paso Flores**	**63.26**	**237**	P	**P**	**18 20 37.6**	**-0.9**	
	comp=Z,5.3nm,1.1s,baz=70,slow=12,SNR=2.9							
	comp=Z,5.3nm,1.1s							
DBIC	**Dimbokro**	**65.46**	**324**	LR	LR	18 43 25.1		
	comp=Z,50nm,18.2s,baz=152,slow=30							
TORD	**Torodi Ar. Bea**	**69.47**	**333**	P	**P**	**18 21 17.9**	**-0.4**	
TORD				IAmb	IAmb	18 21 48.4		
	comp=Z,4.2nm,1.4s							
TORD	**Torodi Ar. Bea**	**69.47**	**333**	P	**P**	**18 21 17.9**	**-0.4**	
	comp=Z,1.1nm,0.6s,baz=170,slow=6.9,SNR=2.4							
	comp=Z,1.1nm,0.6s							
VA01	**Torpederas**	**69.65**	**242**	P	**P**	**18 21 20.1**	**+0.7**	
CO01	**Juntas del Tor**	**71.15**	**245**	P	**P**	**18 21 28.2**	**-0.7**	
PALK	**Pallekele**	**74.76**	**55**	LR	LR	18 47 54.8		
	comp=Z,59nm,19.0s,baz=96,slow=30							
ASAR	**Alice Springs**	**80.61**	**117**	P	**P**	**18 22 23.6**	**+0.8**	
	comp=Z,1.5nm,0.9s,baz=213,slow=4.7,SNR=9.9							
	comp=Z,1.5nm,0.9s							
WRA	**Warramunga Arr**	**83.84**	**115**	P	**P**	**18 22 41.2**	**+1.5**	
	comp=Z,1.6nm,1.1s,baz=218,slow=4.7,SNR=5.0							
	comp=Z,1.6nm,1.1s							
URZ	**Urewera**	**85.42**	**156**	LR	LR	18 59 45.8		
	comp=Z,102nm,19.4s,baz=150,slow=35							
KAPI	**Kappang**	**87.22**	**95**	LR	LR	18 55 52.9		
	comp=Z,57nm,18.4s,baz=274,slow=31							
MDT	**Midelt**	**89.88**	**333**	LR	LR	18 57 22.4		
	comp=Z,21nm,20.5s,baz=217,slow=32							
MLR	**Muntele Rosu**	**97.99**	**359**	LR	LR	19 09 47.4		
	comp=Z,44nm,20.7s,baz=291,slow=36							
PDAR	**Pinedale Array**	**150.05**	**268**	PKPbc	**PKPbc**	**18 30 00.2**	**0.0**	
	comp=Z,0.8nm,0.8s,baz=149,slow=2.5,SNR=6.1							
PETK	**Petropavlovsk-**	**150.33**	**69**	PKPbc	**PKPbc**	**18 29 59.4**	**-0.9**	
	comp=Z,1.4nm,0.7s,baz=218,slow=1.7,SNR=5.2							
NVAR	**Mina Array Bea**	**152.56**	**252**	PKPbc	**PKPbc**	**18 30 05.3**	**-0.9**	
	comp=Z,0.4nm,0.4s,baz=49,slow=1.2,SNR=4.9							

*IDC **03** 18:15:31.8±6.9, 35.°615×179.°65E, h88km±53km, mb3.5/3, mbtmp3.9/4, ML4.8/1, MS2.8/1, Error ellipse: s-maj=54.0km s-min=28.1km az=52.0*

*WEL **03** 18:15:32.9±1.0, 36.°5S×179.°18'0E±1.°0, h140km±19km, M4.5/42, ML4.6/43, ML4.5/42, Error ellipse: s-maj=14.3km s-min=9.5km az=54.3, confirmed*

ISC 03 18:15:42.8±1.4, 36.°30S±0.°09×179.°2E±0.°1, h176km±8km, n149, σ2°90/152, mb3.4/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.44**	**209**	P	**Pn**	**18 16 10.3**	**-3.5**
MXZ	**Matakaoa Point**	**1.44**	**209**	P	**Pn**	**18 16 09.7**	**-4.1**
MXZ				S	**Sn**	**18 16 36.7**	**-1.2**
WMGZ	**Waiomatatini S**	**1.64**	**202**	P	**Pn**	**18 16 12.3**	**-3.4**
WMGZ				S	**Sn**	**18 16 42.9**	**+1.6**
PKGZ	**Pakihiroa**	**1.80**	**209**	P	**Pn**	**18 16 14.2**	**-3.2**
PKGZ				S	**Sn**	**18 16 45.7**	**+1.4**
HAZ	**Te Kaha**	**1.84**	**217**	P	**Pn**	**18 16 14.0**	**-3.7**
HAZ				S	**Sn**	**18 16 48.3**	**+3.4**
PUZ	**Puketiti**	**1.92**	**203**	P	**Pn**	**18 16 15.4**	**-3.3**
PUZ				S	**Sn**	**18 16 48.0**	**+1.4**
WIZ	**White Island**	**2.02**	**232**	P	**Pn**	**18 16 15.8**	**-3.9**
RUGZ	**Raukumara Rang**	**2.05**	**216**	P	**Pn**	**18 16 17.3**	**-2.9**
RUGZ				S	**Sn**	**18 16 52.4**	**+3.0**
TWGZ	**Tauwhareparae**	**2.11**	**207**	P	**Pn**	**18 16 18.2**	**-2.6**
CNGZ	**Carnagh Statio**	**2.31**	**199**	P	**Pn**	**18 16 20.6**	**-2.5**
WHRZ	**Whale Island**	**2.35**	**228**	P	**Pn**	**18 16 21.7**	**-1.9**
TKGZ	**Te Karaka**	**2.39**	**206**	P	**Pn**	**18 16 20.9**	**-2.9**
TKGZ				S	**Sn**	**18 16 59.2**	**+3.3**
MWZ	**Matawai**	**2.42**	**213**	P	**Pn**	**18 16 21.6**	**-2.7**
URZ	**Urewera**	**2.56**	**220**	P	**Pn**	**18 16 23.0**	**-2.9**
	90nm,0.3s,baz=53,slow=5.1,SNR=369						
URZ				S	**Sn**	**18 17 00.3**	**+0.8**
	131nm,0.5s,baz=300,slow=23,SNR=9.6						
URZ				LR	LR	18 17 31.1	
	comp=Z,142nm,18.1s,baz=353,slow=36						
	177nm,0.3s						
URZ	**Urewera**	**2.56**	**220**	P	**Pn**	**18 16 23.4**	**-2.5**
URZ	**Urewera**	**2.56**	**220**	P	**Pn**	**18 16 23.0**	**-2.9**
URZ				S	**Sn**	**18 17 02.4**	**+2.9**
RAGZ	**Rawiri**	**2.61**	**212**	P	**Pn**	**18 16 24.4**	**-2.1**
RAGZ				S	**Sn**	**18 17 04.1**	**+3.5**
OPRZ	**Ohinepanea**	**2.61**	**233**	P	**Pn**	**18 16 23.6**	**-2.9**
MARZ	**Manawahe**	**2.62**	**229**	P	**Pn**	**18 16 24.6**	**-2.0**
RIGZ	**Rimuhau**	**2.66**	**205**	P	**Pn**	**18 16 24.4**	**-2.7**
TGRZ	**Tauranga**	**2.74**	**238**	P	**Pn**	**18 16 25.4**	**-2.7**
PRGZ	**Paritu Road**	**2.81**	**201**	P	**Pn**	**18 16 26.8**	**-2.2**
PRGZ				S	**Sn**	**18 17 08.6**	**+3.6**
KUZ	**Kuaotunu**	**2.83**	**260**	P	Pn	18 16 23.5	-5.6
SNGZ	**Shannon Statio**	**2.88**	**210**	P	**Pn**	**18 16 27.4**	**-2.4**
OMRZ	**Omania**	**2.88**	**230**	P	**Pn**	**18 16 27.9**	**-1.9**
TARZ	**Mount Tarawera**	**2.88**	**227**	P	**Pn**	**18 16 28.5**	**-1.4**
RTZ	**Ruatahuna**	**2.90**	**217**	P	**Pn**	**18 16 27.5**	**-2.5**
MUGZ	**Murupara**	**2.90**	**221**	P	**Pn**	**18 16 27.4**	**-2.6**
MUGZ				S	**Sn**	**18 17 11.0**	**+4.2**
KARZ	**Kaharoa**	**2.91**	**233**	P	**Pn**	**18 16 28.0**	**-2.1**
RRRZ	**Republican Roa**	**2.95**	**226**	P	**Pn**	**18 16 28.7**	**-1.9**
KNZ	**Kokohu**	**2.97**	**203**	P	**Pn**	**18 16 27.4**	**-3.4**
HLRZ	**Highlands Stat**	**2.98**	**228**	P	**Pn**	**18 16 29.3**	**-1.8**
GRZ	**Great Barrier**	**3.02**	**270**	P	Pn	18 16 24.1	-7.3
KMRZ	**Kaimai**	**3.02**	**238**	P	**Pn**	**18 16 29.6**	**-1.9**
MHGZ	**Mahia Peninsul**	**3.02**	**199**	P	**Pn**	**18 16 29.0**	**-2.5**
HSRZ	**Hossack Road**	**3.09**	**229**	P	**Pn**	**18 16 31.6**	**-0.7**
RAHZ	**Arahi**	**3.10**	**212**	P	**Pn**	**18 16 30.3**	**-2.1**
HRRZ	**Handcock Road**	**3.12**	**227**	P	**Pn**	**18 16 31.4**	**-1.3**
PRRZ	**Plateau Road**	**3.12**	**225**	P	**Pn**	**18 16 30.7**	**-2.1**
MTHZ	**Maungataniwha**	**3.16**	**216**	P	**Pn**	**18 16 31.2**	**-2.0**
WHHZ	**Waihua**	**3.17**	**209**	P	**Pn**	**18 16 31.6**	**-1.8**
ALRZ	**Allen Road**	**3.20**	**224**	P	**Pn**	**18 16 31.8**	**-1.8**
WPRZ	**Whakapapatarin**	**3.27**	**227**	P	**Pn**	**18 16 32.5**	**-2.0**
TOZ	**Tahuroa Road**	**3.28**	**243**	P	**Pn**	**18 16 32.1**	**-2.5**
MRHZ	**Matea Rd**	**3.35**	**220**	P	**Pn**	**18 16 33.3**	**-2.3**
NMHZ	**Naumai**	**3.37**	**213**	P	**Pn**	**18 16 33.7**	**-2.1**
ARHZ	**Aropaoanui**	**3.43**	**210**	P	**Pn**	**18 16 34.4**	**-2.1**
KUTZ	**Kaahu Road**	**3.46**	**230**	P	**Pn**	**18 16 35.3**	**-1.6**
MBAZ	**Motutapu North**	**3.49**	**261**	P	**Pn**	**18 16 33.6**	**-3.6**
ETAZ	**East Tamaki Re**	**3.49**	**258**	P	**Pn**	**18 16 33.8**	**-3.4**
WHTZ	**Whakaora**	**3.49**	**226**	P	**Pn**	**18 16 36.3**	**-1.1**
TLZ	**Tolley Road**	**3.54**	**234**	P	**Pn**	**18 16 36.6**	**-1.4**
BKZ	**Black Stump Fm**	**3.57**	**216**	P	**Pn**	**18 16 36.7**	**-1.6**
BKZ	**Black Stump Fm**	**3.57**	**216**	P	**Pn**	**18 16 35.5**	**-2.8**
EPAZ	**Eden Park BICE**	**3.62**	**260**	P	**Pn**	**18 16 34.8**	**-4.2**
HBAZ	**Herne Bay Bore**	**3.63**	**260**	P	**Pn**	**18 16 35.5**	**-3.5**
WATZ	**Wairara**	**3.65**	**228**	P	**Pn**	**18 16 37.8**	**-1.5**
MCHZ	**McNeill Hill**	**3.71**	**211**	P	**Pn**	**18 16 38.3**	**-1.7**
RATZ	**Rangitukua**	**3.73**	**226**	P	**Pn**	**18 16 38.8**	**-1.6**
AWAZ	**Awhitu Peninsu**	**3.73**	**257**	P	**Pn**	**18 16 37.1**	**-3.2**
CKHZ	**Cape Kidnapper**	**3.74**	**206**	P	**Pn**	**18 16 38.3**	**-2.1**
RITZ	**Rihia Road**	**3.76**	**224**	P	**Pn**	**18 16 39.1**	**-1.6**
KWHZ	**Kaweka Forest**	**3.81**	**214**	P	**Pn**	**18 16 39.1**	**-2.2**
KATZ	**Kakaramea**	**3.85**	**225**	P	**Pn**	**18 16 41.2**	**-0.8**
KAHZ	**Kahuranaki**	**3.94**	**207**	P	**Pn**	**18 16 40.4**	**-2.6**
WCZ	**Waipu Caves**	**3.94**	**274**	P	Pn	18 16 35.9	-7.0
TMVZ	**Te Maari**	**3.94**	**223**	P	**Pn**	**18 16 41.1**	**-2.0**
NTVZ	**North Tongarir**	**3.94**	**224**	P	**Pn**	**18 16 41.6**	**-1.5**
ETVZ	**East Tongariro**	**3.95**	**223**	P	**Pn**	**18 16 41.4**	**-1.8**
KRVZ	**Karewarewa**	**3.96**	**224**	P	**Pn**	**18 16 41.7**	**-1.7**
OTVZ	**Oturere**	**4.00**	**223**	P	**Pn**	**18 16 42.5**	**-1.4**
NNVZ	**North Ngauruho**	**4.00**	**224**	P	**Pn**	**18 16 42.6**	**-1.3**
WTVZ	**West Tongariro**	**4.00**	**224**	P	**Pn**	**18 16 42.1**	**-1.8**
KRHZ	**Kereru**	**4.01**	**213**	P	**Pn**	**18 16 40.7**	**-3.2**
SNVZ	**South Ngauruho**	**4.03**	**223**	P	**Pn**	**18 16 42.6**	**-1.6**
NGZ	**Ngauruhoe**	**4.04**	**224**	P	**Pn**	**18 16 42.8**	**-1.6**
TWVZ	**Taurewa**	**4.06**	**226**	P	**Pn**	**18 16 43.3**	**-1.3**
COVZ	**Chateau Observ**	**4.09**	**224**	P	**Pn**	**18 16 44.4**	**-0.6**
HIZ	**Hauiti**	**4.09**	**236**	P	**Pn**	**18 16 43.3**	**-1.6**
HIZ	**Hauiti**	**4.09**	**236**	P	**Pn**	**18 16 43.8**	**-1.1**
FWVZ	**Far West T-bar**	**4.12**	**223**	P	**Pn**	**18 16 44.5**	**-1.0**
WHVZ	**Whangaehu Hut**	**4.12**	**223**	P	**Pn**	**18 16 43.4**	**-2.1**
MOVZ	**Moawhango**	**4.12**	**220**	P	**Pn**	**18 16 42.7**	**-2.7**
MAVZ	**Matarangi**	**4.13**	**223**	P	**Pn**	**18 16 44.0**	**-1.6**
WNVZ	**Wahianoa**	**4.15**	**222**	P	**Pn**	**18 16 43.6**	**-2.1**
PXZ	**Pawanui**	**4.15**	**206**	P	**Pn**	**18 16 42.4**	**-3.2**
TRVZ	**Turoa**	**4.16**	**223**	P	**Pn**	**18 16 44.8**	**-1.1**
MTVZ	**Mangateitei**	**4.26**	**223**	P	**Pn**	**18 16 44.7**	**-2.4**
PNHZ	**Pukenui**	**4.31**	**212**	P	**Pn**	**18 16 44.2**	**-3.6**
WPHZ	**Waipukurau**	**4.34**	**209**	P	**Pn**	**18 16 45.7**	**-2.3**
PRHZ	**Porangahau**	**4.44**	**206**	P	**Pn**	**18 16 46.0**	**-3.4**
VRZ	**Vera Road**	**4.50**	**230**	P	**Pn**	**18 16 49.1**	**-1.1**
TSZ	**Takapari Road**	**4.53**	**213**	P	**Pn**	**18 16 47.3**	**-3.3**
DVHZ	**Dannevirke**	**4.64**	**210**	P	**Pn**	**18 16 48.7**	**-3.3**
ANWZ	**Angora Road**	**4.67**	**206**	P	**Pn**	**18 16 49.6**	**-2.7**
OUZ	**Omahuta**	**4.67**	**282**	P	Pn	18 16 43.8	-8.6
WAZ	**Wanganui**	**4.78**	**223**	P	**Pn**	**18 16 51.7**	**-2.1**
POWZ	**Post Office Ro**	**4.89**	**212**	P	**Pn**	**18 16 52.6**	**-2.6**
PRWZ	**Pori Road**	**4.94**	**210**	P	**Pn**	**18 16 53.4**	**-2.4**
BFZ	**Birch Farm**	**4.95**	**207**	P	**Pn**	**18 16 52.4**	**-3.5**
BFZ	**Birch Farm**	**4.95**	**207**	P	**Pn**	**18 16 52.6**	**-3.2**
OHWZ	**Ohakea**	**4.95**	**217**	P	**Pn**	**18 16 53.7**	**-2.2**
PKE	**Pukeiti**	**5.03**	**233**	P	**Pn**	**18 16 57.2**	**+0.1**
CPWZ	**Castlepoint**	**5.16**	**206**	P	**Pn**	**18 16 56.5**	**-2.2**
TIWZ	**Tintock**	**5.16**	**209**	P	**Pn**	**18 16 56.3**	**-2.5**
MRZ	**Mangatainoka R**	**5.19**	**212**	P	**Pn**	**18 16 55.1**	**-4.0**
HOWZ	**Holdsworth Sta**	**5.42**	**211**	P	**Pn**	**18 16 58.0**	**-4.1**
TMWZ	**Te Maipa**	**5.45**	**207**	P	**Pn**	**18 16 59.2**	**-3.3**
OGWZ	**Otaki Gorge**	**5.50**	**214**	P	**Pn**	**18 16 59.4**	**-3.8**
MTW	**Mount Morrison**	**5.64**	**210**	P	**Pn**	**18 17 00.9**	**-4.1**
KIW	**Kapiti Island**	**5.65**	**215**	P	**Pn**	**18 17 01.0**	**-4.1**
TRWZ	**Traveller**	**5.78**	**207**	P	**Pn**	**18 17 03.1**	**-3.7**
CAW	**Cannon Point**	**5.78**	**213**	P	**Pn**	**18 17 02.6**	**-4.2**
PAWZ	**Paruwai Farm**	**5.86**	**209**	P	**Pn**	**18 17 03.4**	**-4.4**
MSWZ	**Moikau Station**	**5.96**	**210**	P	**Pn**	**18 17 04.7**	**-4.4**
WEL	**Wellington**	**6.05**	**213**	P	**Pn**	**18 17 06.7**	**-3.7**
PLWZ	**Palliser**	**6.09**	**209**	P	**Pn**	**18 17 06.8**	**-4.1**
DUWZ	**D'Urville Isla**	**6.10**	**221**	P	**Pn**	**18 17 06.8**	**-4.3**
SNZO	**South Karori**	**6.10**	**214**	P	**Pn**	**18 17 07.3**	**-3.7**
BHW	**Baring Head**	**6.11**	**212**	P	**Pn**	**18 17 07.0**	**-4.1**
TUWZ	**Tuamarina**	**6.55**	**217**	P	**Pn**	**18 17 12.8**	**-4.2**
NNZ	**Nelson**	**6.68**	**221**	P	**Pn**	**18 17 14.2**	**-4.5**
TKNZ	**Takaka Hill**	**6.79**	**224**	P	**Pn**	**18 17 15.8**	**-4.3**
BSWZ	**Blackbirch Sta**	**6.80**	**216**	P	**Pn**	**18 17 16.1**	**-4.2**
QRZ	**Quartz Range**	**6.90**	**227**	P	**Pn**	**18 17 16.8**	**-4.7**
THZ	**Tophouse**	**7.32**	**220**	P	**Pn**	**18 17 22.6**	**-4.6**
KHZ	**Kahutara**	**7.51**	**214**	P	**Pn**	**18 17 25.4**	**-4.1**
KHZ	**Kahutara**	**7.51**	**214**	P	**Pn**	**18 17 25.3**	**-4.3**
CTZ	**Chatham Island**	**8.09**	**158**	P	**Pn**	**18 17 35.8**	**-1.4**
GVZ	**Greta Valley S**	**8.17**	**214**	P	**Pn**	**18 17 34.4**	**-3.9**
AMCZ	**Amberley**	**8.51**	**214**	P	**Pn**	**18 17 39.4**	**-3.3**
INZ	**Inchbonnie**	**8.77**	**221**	P	**Pn**	**18 17 43.1**	**-3.1**
OKCZ	**Okains Bay**	**8.78**	**210**	P	**Pn**	**18 17 42.0**	**-4.2**
AKCZ	**Akaroa Harbour**	**8.96**	**211**	P	**Pn**	**18 17 44.3**	**-4.3**
RPZ	**Rata Peaks**	**9.68**	**218**	P	**Pn**	**18 17 53.5**	**-4.6**
	18nm,1.0s,baz=236,slow=3.4,SNR=8.1						
RPZ				S	**Sn**	**18 19 43.1**	**-2.6**
	5.2nm,0.4s,baz=113,slow=16,SNR=5.9						
RPZ	**Rata Peaks**	**9.68**	**218**	P	**Pn**	**18 17 54.4**	**-3.8**
ARCZ	**Arundel**	**9.79**	**216**	P	**Pn**	**18 17 55.2**	**-4.4**
LBZ	**Lake Benmore**	**10.60**	**218**	P	**Pn**	**18 18 06.0**	**-4.1**
DZM	**Mont Dzumac**	**18.00**	**319**	P	**Pn**	**18 19 41.5**	**-0.8**
	4.9nm,1.1s,baz=121,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**40.85**	**275**	P	**P**	**18 23 08.1**	**+0.5**
	0.5nm,0.5s,baz=115,slow=7.5,SNR=12						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**42.38**	**280**	P	**P**	**18 23 19.4**	**-0.7**
	0.5nm,0.5s,baz=119,slow=7.7,SNR=6.0						
	0.5nm,0.5s						
QSPA	**South Pole Qui**	**53.82**	**180**	P	**P**	**18 24 50.4**	**+3.2**
	2.0nm,0.7s,baz=306,slow=0.6,SNR=12						
	2.0nm,0.7s						
H03S2	**Juan Fernandez**	**79.15**	**124**	T	T	19 55 42.8	
	baz=235						
H03S1	**Juan Fernandez**	**79.16**	**124**	T	T	19 55 44.4	
	baz=235,SNR=3.6						
H03S3	**Juan Fernandez**	**79.17**	**124**	T	T	19 55 40.5	
	baz=235						
H03N3	**Juan Fernandez**	**79.38**	**124**	T	T	19 55 55.4	
	baz=237,slow=72						
H03N2	**Juan Fernandez**	**79.38**	**124**	T	T	19 55 54.5	
	baz=237,slow=72						
H03N1	**Juan Fernandez**	**79.39**	**124**	T	T	19 55 54.5	
	baz=237,slow=72						
FINES	**FINESS Array B**	**149.67**	**335**	PKPbc	**PKPdf**	**18 35 08.0**	**+2.1**
	1.3nm,0.6s,baz=58,slow=3.4,SNR=9.1						

*NEIC **03** 18:23:19.7±1.8, 22.°2S±0.°1×179.°4W±0.°1, h547km±7km, mb4.5/80, Error ellipse: s-maj=18.4km s-min=15.2km az=108.0*

*NOU **03** 18:23:22.7, 22.°07S×179.°25W, h608km, mb4.6/38, South of Fiji Islands*

*IDC **03** 18:23:25.2±1.1, 22.°06S×179.°70W, h610km±11km, mb3.5/13, mbtmp4.5/15, Error ellipse: s-maj=14.6km s-min=11.4km az=140.0*

ISC 03 18:23:23.5±0.4, 22.°25S±0.°06×179.°51W±0.°07, h600km, n191, σ1°49/181, mb4.4/56, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**4.05**	**9**	P	**P**	**18 24 48.4**	**-1.0**
MSVF	**Nonsavu**	**5.04**	**333**		**P**	**18 24 55.8**	**-1.1**
MSVF	**Nonsavu**	**5.04**	**333**	P	**P**	**18 24 56.2**	**-0.8**
	129nm,0.4s,baz=184,slow=5.7,SNR=290						
MSVF				S	**S**	**18 26 12.7**	**-0.3**
	17nm,0.8s,baz=116,slow=24,SNR=1.5						
MSVF	**Nonsavu**	**5.04**	**333**	P	**P**	**18 24 56.1**	**-0.8**
DGTI	**Dogotuki**	**5.96**	**353**	P	**P**	**18 25 03.1**	**-1.3**
YSA	**Yasawairara**	**6.17**	**333**	P	**P**	**18 25 05.1**	**-1.1**
DZM	**Mont Dzumac**	**13.01**	**268**	P	**P**	**18 26 14.8**	**+2.3**
DZM	**Mont Dzumac**	**13.01**	**268**	P	**P**	**18 26 10.8**	**-1.7**
	18nm,0.6s,baz=98,slow=20,SNR=47						
DZM	**Mont Dzumac**	**13.01**	**268**	P	**P**	**18 26 15.6**	**+3.0**
OUZ	**Omahuta**	**14.26**	**204**	P	**P**	**18 26 26.6**	**+2.0**
OUZ	**Omahuta**	**14.26**	**204**	P	**P**	**18 26 26.6**	**+2.0**
KOUNC	**Koumac, New Ca**	**15.18**	**273**	P	**P**	**18 26 34.4**	**+1.0**
HAZ	**Te Kaha**	**15.63**	**188**	P	**P**	**18 26 37.1**	**0.0**
PUZ	**Puketiti**	**15.89**	**186**	P	**P**	**18 26 39.7**	**+0.1**
TOZ	**Tahuroa Road**	**16.02**	**194**	P	**P**	**18 26 42.0**	**+1.2**
TOZ				IAmb	IAmb	18 26 44.6	
	comp=Z,13nm,0.7s						
TOZ	**Tahuroa Road**	**16.02**	**194**	P	**P**	**18 26 43.0**	**+2.2**
TWGZ	**Tauwhareparae**	**16.02**	**187**	P	**P**	**18 26 40.4**	**-0.5**
URZ	**Urewera**	**16.22**	**190**	P	**P**	**18 26 40.7**	**-1.9**
	comp=Z,8.1nm,0.3s,baz=269,slow=3.2,SNR=13						
URZ				S	**S**	**18 29 19.5**	**-5.3**
	comp=Z,7.1nm,0.6s,baz=150,slow=20,SNR=8.9						
URZ	**Urewera**	**16.22**	**190**	P	**P**	**18 26 40.9**	**-1.7**
URZ				S	**S**	**18 29 16.9**	**-8.0**
MWZ	**Matawai**	**16.23**	**188**	P	**P**	**18 26 42.8**	**0.0**
TKGZ	**Te Karaka**	**16.30**	**187**	P	**P**	**18 26 42.4**	**-0.9**
TKGZ				S	**S**	**18 29 24.1**	**-2.0**
CNGZ	**Carnagh Statio**	**16.30**	**186**	P	**P**	**18 26 43.9**	**+0.6**
RIGZ	**Rimuhau**	**16.57**	**187**	P	**P**	**18 26 45.5**	**-0.4**
TLZ	**Tolley Road**	**16.58**	**194**	P	**P**	**18 26 48.4**	**+2.4**
RAHZ	**Arahi**	**16.87**	**189**	P	**P**	**18 26 47.4**	**-1.2**
RAHZ				S	**S**	**18 29 32.9**	**-2.6**
HIZ	**Hauiti**	**16.92**	**195**	P	**P**	**18 26 48.7**	**-0.3**
HIZ	**Hauiti**	**16.92**	**195**	P	**P**	**18 26 49.9**	**+0.9**
HIZ	**Hauiti**	**16.92**	**195**	P	**P**	**18 26 54.3**	**+5.3**
RATZ	**Rangitukua**	**17.05**	**193**	P	**P**	**18 26 49.6**	**-0.7**
NMHZ	**Naumai**	**17.09**	**190**	P	**P**	**18 26 51.6**	**+0.9**
NMHZ				S	**S**	**18 29 38.7**	**-0.5**
BKZ	**Black Stump Fm**	**17.20**	**191**	P	**P**	**18 26 50.1**	**-1.6**
BKZ				IAmb	IAmb	18 27 32.3	
	comp=Z,30nm,1.4s						
BKZ	**Black Stump Fm**	**17.20**	**191**	P	**P**	**18 26 50.1**	**-1.6**
OTVZ	**Oturere**	**17.36**	**193**	P	**P**	**18 26 52.9**	**-0.3**
KWHZ	**Kaweka Forest**	**17.47**	**191**	P	**P**	**18 26 52.9**	**-1.2**
KRHZ	**Kereru**	**17.69**	**191**	P	**P**	**18 26 55.2**	**-0.9**
KAHZ	**Kahuranaki**	**17.76**	**189**	P	**P**	**18 26 55.8**	**-1.0**
PNHZ	**Pukenui**	**17.98**	**191**	P	**P**	**18 26 56.3**	**-2.5**
PXZ	**Pawanui**	**17.99**	**189**	P	**P**	**18 26 58.2**	**-0.6**
PXZ				S	**S**	**18 29 47.3**	**-6.3**
TSZ	**Takapari Road**	**18.17**	**191**	P	**P**	**18 26 59.9**	**-0.6**
PRHZ	**Porangahau**	**18.26**	**189**	P	**P**	**18 27 01.1**	**-0.1**
BFZ	**Birch Farm**	**18.72**	**190**	P	**P**	**18 27 03.5**	**-1.9**
BFZ	**Birch Farm**	**18.72**	**190**	P	**P**	**18 27 06.4**	**+0.9**
BFZ	**Birch Farm**	**18.72**	**190**	P	**P**	**18 27 03.9**	**-1.5**
MRZ	**Mangatainoka R**	**18.82**	**192**	P	**P**	**18 27 05.2**	**-1.1**
MRZ	**Mangatainoka R**	**18.82**	**192**	P	**P**	**18 27 05.7**	**-0.6**
OGWZ	**Otaki Gorge**	**19.05**	**192**	P	**P**	**18 27 08.5**	**+0.1**
MSWZ	**Moikau Station**	**19.61**	**192**	P	**P**	**18 27 12.6**	**-0.9**
TCW	**Tory Channel**	**19.62**	**194**	P	**P**	**18 27 13.3**	**-0.2**
QRZ	**Quartz Range**	**19.70**	**198**	P	**P**	**18 27 16.0**	**+1.7**
PLWZ	**Palliser**	**19.76**	**192**	P	**P**	**18 27 14.0**	**-0.9**
TKNZ	**Takaka Hill**	**19.78**	**197**	P	**P**	**18 27 13.3**	**-1.7**
NNZ	**Nelson**	**19.84**	**196**	P	**P**	**18 27 14.1**	**-1.4**
THZ	**Tophouse**	**20.47**	**196**	P	**P**	**18 27 20.8**	**-0.5**
KHZ	**Kahutara**	**20.93**	**195**	P	**P**	**18 27 24.8**	**-0.5**
GVZ	**Greta Valley S**	**21.57**	**195**	P	**P**	**18 27 29.9**	**-1.2**
LTZ	**Lake Taylor**	**21.59**	**197**	P	**P**	**18 27 30.1**	**-1.3**
ALEG	**Aligegeo Malai**	**23.28**	**302**	P	**P**	**18 27 45.7**	**-0.9**
TATA	**Tatamba Isabel**	**24.20**	**302**	P	**P**	**18 27 53.5**	**-1.3**
WKZ	**Wanaka**	**24.41**	**200**	P	**P**	**18 27 55.8**	**-0.5**
WHZ	**Wether Hill Ro**	**25.71**	**200**	P	**P**	**18 28 08.3**	**+0.7**
WHZ				IAmb	IAmb	18 28 27.1	
	comp=Z,29nm,1.3s						
ARMA	**Armidale**	**27.06**	**246**	P	**P**	**18 28 21.1**

NVAR	**Mina Array Bea**	**83.26**	**44**	P		**P**	**18 34 49.5**	**+1.0**
	comp=Z,2.7nm,0.9s,baz=224,slow=8.5,SNR=9.6							
	comp=Z,2.7nm,0.9s							
BBOR	**Butler Butte**	**83.27**	**38**	P		**P**	**18 34 48.3**	**0.0**
GMN	**Gold Mountain**	**83.29**	**45**	P		**P**	**18 34 49.2**	**+0.6**
NV11	**Mina Array Sit**	**83.36**	**44**	P		**P**	**18 34 48.4**	**-0.5**
HSIG		**83.41**	**55**	P		**P**	**18 34 48.8**	**-0.3**
HSIG				IAmb		IAmb	18 34 51.1	
	comp=Z,7.1nm,0.7s							
TPH	**Tonopah**	**83.75**	**45**	IAmb		IAmb	18 34 52.6	
	comp=Z,16nm,1.0s							
J04A	**Umpqua Nationa**	**83.81**	**38**	IAmb		IAmb	18 34 53.8	
	comp=Z,15nm,0.8s							
J05D	**Fort Rock, OR**	**84.35**	**39**			**P**	**18 34 55.0**	**+1.4**
J05D				IAmb		IAmb	18 34 55.9	
	comp=Z,11nm,1.1s							
LYN	**LuoYang**	**85.77**	**310**	P		P	18 35 05.5	+5.0
LYN				pmax		pmax		
	comp=Z,20nm,0.7s							
VNA3	**Neumayer Olymp**	**86.49**	**177**	⇑P		**P**	**18 35 03.7**	**+0.4**
	comp=Z,1.6nm,0.6s							
G08A	**Pilot Rock**	**86.86**	**38**	IAmb		IAmb	18 35 07.3	
	comp=Z,6.0nm,1.1s							
LTY	**Liberty**	**87.08**	**36**	IAmb		IAmb	18 35 07.5	
	comp=Z,4.8nm,0.8s							
HAWA	**Hanford**	**87.19**	**37**	IAmb		IAmb	18 35 08.8	
	comp=Z,4.7nm,0.8s							
GHO	**Glory Hole Cre**	**87.25**	**14**	IAmb		IAmb	18 35 07.5	
	comp=Z,6.4nm,0.7s							
XAN	**Xi'an**	**88.08**	**308**	P		**P**	**18 35 12.8**	**+1.4**
XAN				pmax		pmax		
	comp=Z,5.0nm,0.5s							
TMUT	**Trail Mountain**	**88.38**	**46**	IAmb		IAmb	18 35 15.3	
	comp=Z,4.8nm,1.0s							
TRF	**Thorofare Moun**	**88.45**	**13**	IAmb		IAmb	18 35 12.9	
	comp=Z,4.5nm,0.8s							
PLID	**Pearl Lake**	**88.45**	**39**			**P**	**18 35 13.2**	**+0.1**
RND	**Reindeer**	**88.71**	**13**	IAmb		IAmb	18 35 14.1	
	comp=Z,4.7nm,0.9s							
SRU	**San Rafael Swe**	**88.75**	**47**	IAmb		IAmb	18 35 16.2	
	comp=Z,3.9nm,0.8s							
VHRN	**Van Horn**	**88.80**	**56**	IAmb		IAmb	18 35 16.8	
	comp=Z,2.6nm,0.7s							
MNTX	**Cornudas Mount**	**88.91**	**55**	IAmb		IAmb	18 35 17.3	
	comp=Z,3.9nm,0.8s							
TXAR	**Lajitas Array**	**89.18**	**58**			**P**	**18 35 17.9**	**+1.2**
TXAR	**Lajitas Array**	**89.18**	**58**	P		**P**	**18 35 18.3**	**+1.6**
	comp=Z,2.1nm,0.9s,baz=205,slow=5.5,SNR=13							
	comp=Z,2.1nm,0.9s							
BSUT	**Blindstream Ca**	**89.30**	**45**			**P**	**18 35 17.9**	**+0.5**
BSUT				IAmb		IAmb	18 35 19.3	
	comp=Z,6.7nm,0.9s							
CMAR	**Chiang Mai Arr**	**89.38**	**290**			**P**	**18 35 19.1**	**+1.4**
CMAR	**Chiang Mai Arr**	**89.38**	**290**	P		**P**	**18 35 19.4**	**+1.6**
	comp=Z,4.0nm,0.9s,baz=131,slow=3.1,SNR=19							
	comp=Z,4.0nm,0.9s							
CHTO	**Chiang Mai**	**89.52**	**290**			**P**	**18 35 20.1**	**+1.7**
CHTO				IAmb		IAmb	18 35 20.8	
	comp=Z,6.2nm,0.8s							
HHC	**Hu-ho-hao-te**	**89.57**	**315**	*e*P		**P**	**18 35 18.3**	**+0.1**
HHC				pmax		pmax		
	comp=Z,15nm,0.6s							
HHC				pmax		pmax		
	comp=Z,79nm,4.4s							
ALPN	**Alpine**	**89.66**	**57**	IAmb		IAmb	18 35 20.8	
	comp=Z,3.1nm,0.6s							
PZH	**PanZhiHua**	**90.29**	**298**	P		**P**	**18 35 24.5**	**+2.6**
ILAR	**Eielson Array**	**90.33**	**13**	P		**P**	**18 35 20.4**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=225,slow=3.7,SNR=4.2							
	comp=Z,0.4nm,0.8s							
PDAR	**Pinedale Array**	**91.20**	**44**	P		**P**	**18 35 25.5**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=195,slow=4.0,SNR=8.2							
	comp=Z,1.0nm,0.8s							
DRIO	**Del Rio**	**91.62**	**59**	IAmb		IAmb	18 35 29.4	
	comp=Z,6.2nm,0.8s							
MKAR	**Makanchi Array**	**111.36**	**313**	PKiKP		**PKiKP**	**18 40 49.2**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=214,slow=3.1,SNR=1.3							
KURBB	**Kurchatov Arra**	**114.36**	**317**	PKP		PKPdf	18 40 54.6	-1.2
	comp=Z,0.2nm,0.6s,baz=84,slow=1.8,SNR=4.5							
BVAR	**Borovoye Array**	**119.49**	**319**	PKP		**PKPdf**	**18 41 04.9**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=98,slow=1.3,SNR=8.8							
FINES	**FINESS Array B**	**137.02**	**342**	SKPbc		**SKPbc**	**18 44 14.9**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=119,slow=2.4,SNR=4.0							
HFS	**Hagfors**	**141.02**	**350**	PKhKP		PKPpre	18 41 39.9	
	comp=Z,2.0nm,0.7s,baz=54,slow=4.4,SNR=8.1							
MBAR	**Mbarara**	**142.78**	**236**			**PKPdf**	**18 41 49.2**	**-1.5**
AKASG	**Malin Array Be**	**143.81**	**329**			PKPbc	18 41 49.6	-0.8
AKASG	**Malin Array Be**	**143.81**	**329**	PKP		PKPbc	18 41 49.4	-1.0
	comp=Z,1.3nm,0.4s,baz=42,slow=4.3,SNR=12							
AKASG				SKPbc		**SKPbc**	**18 44 32.4**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=51,slow=2.0,SNR=4.3							
AKBB	**Malin Array Si**	**143.81**	**329**			PKPbc	18 41 49.4	-1.0
KIEV	**Kiev**	**143.83**	**329**			PKPbc	18 41 49.4	-1.0
BNN	**Bunyan**	**145.60**	**307**			**PKPbc**	**18 41 55.5**	**-0.8**
EKA	**Eskdalemuir Ar**	**146.85**	**4**	PKPbc		**PKPbc**	**18 41 58.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=15,slow=3.5,SNR=4.1							
BR131	**Keskin Array S**	**146.91**	**309**			**PKPdf**	**18 41 56.4**	**-0.5**
BRTR	**Keskin Array B**	**146.91**	**309**	PKPdf		**PKPbc**	**18 41 58.2**	**-1.7**
BRTR	**Keskin Array B**	**146.91**	**309**	PKPbc		**PKPbc**	**18 41 59.5**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=142,slow=4.6,SNR=8.6							
MMAI	**Mount Meron Ar**	**147.40**	**297**	PKPbc		**PKiKP**	**18 42 02.2**	**-0.7**
	comp=Z,1.5nm,0.4s,baz=78,slow=7.8,SNR=7.1							
BURAR	**Bucovina Array**	**147.84**	**328**	PKPdf		**PKPdf**	**18 41 58.8**	**+0.7**
GERES	**GERESS Array B**	**151.45**	**342**	PKPbc		**PKiKP**	**18 42 10.3**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=46,slow=3.9,SNR=3.8							
TORD	**Torodi Ar. Bea**	**170.88**	**187**	PKPab		**PKPab**	**18 43 48.0**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=187,slow=5.3,SNR=3.4							

BER 03 18:34:57.6±1.4, 74°11N×9°13E, h10km, mb(Pn)3.5,
Confirmed Earthquake, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRBA	**Barentsburg A**	**4.16**	**15**	*e*P	Pn	18 36 00.0	-1.0
BRBB	**Barentsburg B**	**4.19**	**15**	*e*P	Pn	18 36 00.1	-1.3
BRBB				*e*S	Sn	18 36 45.5	-4.8
SPA0	**Spitsbergen Ar**	**4.44**	**20**	*e*P	Pn	18 36 04.0	-0.9
SPA0				*e*S	Sn	18 36 51.9	-4.8
SPA0				IAML		18 37 05.1	
	comp=Z,1.9nm,0.8s						
HOPEN	**Hopen**	**4.70**	**52**	*e*P	Pn	18 36 06.8	-1.5
HOPEN				*e*S	Sn	18 36 56.1	-6.6
HOPEN				IAML		18 36 59.8	
	comp=Z,5.8nm,0.8s						
KBS	**Kingsbay**	**4.89**	**6**	*e*P	Pn	18 36 09.1	-1.9
KBS				*e*S	Sn	18 37 01.1	-6.5
KBS				IAML		18 37 02.6	
	comp=Z,1.6nm,0.7s						
JNE	**Jan Mayen East**	**6.09**	**248**	*e*P	Pn	18 36 24.8	-2.7
JNW	**Jan Mayen West**	**6.10**	**248**	*e*P	Pn	18 36 25.2	-2.3
DAG	**Danmarks Havn**	**7.44**	**304**	*e*S	Sn	18 37 59.7	-10

*BUT **03** 18:40:29.7±1.0, 46°87N±0°03×112°53W±0°04, h13km±5km,*
Error ellipse: s-maj=4.7km s-min=3.2km az=218.0
NEIC 03 18:40:29.5±1.0, 46°86N±0°02×112°53W±0°02, h10km±7km,
ML2.7/19, ML2.9/26(BUT), Error ellipse: s-maj=3.3km
s-min=1.8km az=149.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEMT	**Mount Belmont**	**0.17**	**130**		Pg	18 40 33.9	+0.5
BEMT					Sg	18 40 36.8	+0.6
LYMT	**Lyon Mountain**	**0.20**	**56**		Pg	18 40 34.1	+0.4
LYMT					Sg	18 40 37.2	+0.5
OVMT	**Ovando**	**0.38**	**302**		Pg	18 40 37.1	0.0
HRY	**Holter Researc**	**0.50**	**107**		Pg	18 40 39.4	+0.1
CHMT	**Chamberlain Mo**	**0.50**	**276**		Pg	18 40 39.5	+0.2
BPMT	**Black Pine Rid**	**0.76**	**237**		Pg	18 40 44.1	-0.2
SLMT	**Seeley Lake**	**0.76**	**300**		Pg	18 40 44.0	-0.3
BUT	**Butte**	**0.85**	**182**		Pg	18 40 46.0	+0.2
MSO	**Missoula**	**0.97**	**269**		Pg	18 40 47.9	-0.3
MSO	**Missoula**	**0.97**	**269**	IAML		18 41 01.3	
	202nm,0.3s						
MSO				IAML		18 41 05.1	
	215nm,0.6s						
LRM	**Limekiln Ridge**	**1.04**	**177**		Pg	18 40 49.5	0.0
HBMT	**Mount Humbug**	**1.07**	**183**		Pg	18 40 50.0	-0.1
SXM	**Sixmile**	**1.16**	**128**		Pg	18 40 51.7	0.0
VCMT	**Victor**	**1.22**	**251**		Pb	18 40 52.3	-0.4
ALMT	**Alberton, Mont**	**1.33**	**278**		Pn	18 40 53.9	-0.3
BOZ	**Bozeman (W)**	**1.41**	**154**		Pn	18 40 55.2	-0.2
BOZ	**Bozeman (W)**	**1.41**	**154**	IAML		18 41 15.3	
	142nm,0.2s						
BOZ				IAML		18 41 16.5	
	152nm,0.3s						
DLMT	**Dillon**	**1.50**	**182**		Pb	18 40 57.6	+0.1
DLMT	**Dillon**	**1.50**	**182**	IAML		18 41 18.5	
	81nm,0.7s						
DLMT				IAML		18 41 19.3	
	68nm,0.4s						
NDMT	**Ninemile Divid**	**1.61**	**286**		Pn	18 40 58.6	+0.4
BGMT	**Barton Gulch**	**1.66**	**168**		Pn	18 40 59.1	+0.2
BZMT	**Bozeman Pass**	**1.71**	**135**		Pn	18 40 59.8	+0.3
MKMT	**Mink Peak**	**1.79**	**279**		Pn	18 41 01.5	+0.9
BHMT	**Big Hole Peak**	**1.86**	**294**		Pb	18 41 03.1	-0.5
MSMT	**Mission Creek**	**1.95**	**128**		Pn	18 41 03.9	+1.1
MCMT	**McKenzie Canyo**	**2.05**	**186**		Pn	18 41 03.9	-0.3
CRMT	**Chrome Mountai**	**2.17**	**129**		Pb	18 41 09.3	+0.2
EGMT	**Eagleton**	**2.21**	**57**		Pb	18 41 08.1	-1.6
YHL	**Hebgen Lake**	**2.22**	**155**		Pb	18 41 10.9	+1.0
YHL	**Hebgen Lake**	**2.22**	**155**	IAML		18 41 41.9	
	comp=N,57nm,0.3s						
YHL				IAML		18 41 44.7	
	comp=E,72nm,0.8s						
GCMT	**Greycliff**	**2.25**	**117**		Pg	18 41 11.9	-0.7
YHB	**Horse Butte**	**2.31**	**156**	Pn	Pn	18 41 05.1	-2.7
YHB				IAML		18 41 41.6	
	comp=N,41nm,0.3s						
YHB				IAML		18 41 42.5	
	comp=E,50nm,0.5s						
MKRVA	**Milk River, Al**	**2.34**	**12**		Pb	18 41 10.5	-1.3
YHH	**Holmes Hill**	**2.38**	**150**		Pn	18 41 05.8	-3.1
PLID	**Pearl Lake**	**3.00**	**235**		Pn	18 41 17.3	0.0
F10A	**Beach Ranch, E**	**3.37**	**256**		Pn	18 41 21.5	-0.8
NEW	**Newport**	**3.42**	**296**	Pn	Pn	18 41 21.5	-1.4
LNOR	**Lincton Mounta**	**4.11**	**258**	Pn	Pn	18 41 31.1	-1.3
LNOR				IAML		18 42 49.1	
	comp=E,6.2nm,2.4s						

*FCIAR **03** 18:42:00.0, 75°64N×8°47E, h10km, station SPA0 has*
station magnitude of 3.10
*BER **03** 18:43:00.4±2.6, 76°09N×6°94E, h10km, mb(Pn)4.2,*
ML3.1(NAO), Confirmed Earthquake
*NAO **03** 18:43:02.0±0.7, 76°19N×7°47E, h15km, ML3.1*
*DNK **03** 18:43:04.5±1.4, 76°29N×6°88E, h30km±27km, ML2.0*
*IDC **03** 18:43:04.2±1.1, 76°19N×8°73E, h0km, mb3.6/5,*
mbtmp3.5/8, ML3.1/3, MS3.1/9, Error ellipse: s-maj=19.1km
s-min=11.9km az=87.0
ISC 03 18:43:05.5±1.0, 76°39N±0°06×8°85E±0°07, h10km, n34,
σ1s57/27, mb3.6/5, MS3.1/6, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRBA	**Barentsburg A**	**2.06**	**33**	*e*P	**Pb**	**18 43 42.3**	**-0.6**
BRBA				*e*S	**Sg**	**18 44 09.9**	**-1.6**
BRBB	**Barentsburg B**	**2.08**	**32**	*e*P	**Pn**	**18 43 41.1**	**+0.7**
SPA0	**Spitsbergen Ar**	**2.45**	**39**	*e*P	**Pn**	**18 43 44.7**	**-0.8**
SPA0				*e*S	**Sb**	**18 44 19.4**	**-0.3**
SPA0	**Spitsbergen Ar**	**2.45**	**39**	Pn	**Pn**	**18 43 45.6**	**+0.2**
	baz=226,slow=14						
SPA0				Sn	**Sb**	**18 44 18.5**	**-1.1**
	baz=225,slow=37						
SPITS	**Spitsbergen Ar**	**2.45**	**39**	Pn	**Pn**	**18 43 45.6**	**+0.2**
	baz=221,slow=15						
SPITS				Sn	**Sb**	**18 44 18.1**	**-1.5**
	baz=227,slow=16						
	24nm,0.5s						
KBS	**Kingsbay**	**2.63**	**13**	*e*P	**Pn**	**18 43 47.4**	**-0.6**
KBS	**Kingsbay**	**2.63**	**13**	*i* P	**Pn**	**18 43 47.8**	**-0.2**
HOPEN	**Hopen**	**3.80**	**80**	Pn	**Pn**	**18 44 05.1**	**+1.1**
HOPEN				Sn	**Sn**	**18 44 48.9**	**+0.3**
HOPEN	**Hopen**	**3.80**	**80**	*e*P	**Pn**	**18 44 04.8**	**+0.8**
HOPEN				*e*S	**Sn**	**18 44 49.6**	**+1.0**
HOPEN	**Hopen**	**3.80**	**80**	*e*P	**Pn**	**18 44 04.9**	**+1.0**
HOPEN				*e*S	**Sn**	**18 44 50.1**	**+1.5**
HOPEN				IAML		18 44 53.0	
	comp=Z,28nm,0.2s						
DAG	**Danmarks Havn**	**6.38**	**287**	*e*P	Pn	18 44 30.9	-8.4
DAG				*e*S	Sn	18 45 32.6	-19
DAG	**Danmarks Havn**	**6.38**	**287**	*e*P	Pn	18 44 30.4	-8.9
NOR	**Nord**	**7.06**	**329**	Pn	Pn	18 44 42.6	-6.1
NOR	**Nord**	**7.06**	**329**	Pn	Pn	18 44 42.6	-6.1
NOR	**Nord**	**7.06**	**329**	*i* P	Pn	18 44 42.0	-6.7
DBG	**Daneborg**	**7.60**	**269**	*e*P	Pn	18 44 44.1	-12
DBG				*e*S	Sn	18 45 59.5	-23
DBG				IAML		18 46 04.4	
	comp=Z,4.9nm,0.2s						
ARA0	**ARCESS Array S**	**8.40**	**136**	Pn	Pn	18 45 03.2	-3.8
	baz=328,slow=12						
ARA0				Sn	Sn	18 46 31.0	-11
	baz=332,slow=22						
ARA0	**ARCESS Array S**	**8.40**	**136**	Pn	Pn	18 45 03.2	-3.8
	baz=328,slow=12						
ARA0				Sn	Sn	18 46 31.0	-11
	baz=332,slow=22						
ARCES	**ARCESS Array B**	**8.40**	**136**	Pn	Pn	18 45 02.9	-4.1
	comp=Z,0.3nm,0.3s,baz=325,slow=10,SNR=18						
ARCES				Sn	Sn	18 46 30.7	-11
	comp=Z,0.4nm,0.3s,baz=332,slow=18,SNR=9.0						
ARCES				LR	LR	18 48 24.3	
	comp=Z,54nm,19.8s,baz=272,slow=39						
	comp=Z,0.3nm,0.3s						
ZFI2	**Zemlya Franca-**	**8.66**	**42**	*e*P	**Pn**	**18 45 12.0**	**+1.4**
ZFI2				S	**Sn**	**18 46 48.9**	**+0.7**
OMEGA	**Omega**	**8.67**	**42**	*e*P	**Pn**	**18 45 12.0**	**+1.3**
OMEGA				*e*S	**Sn**	**18 46 48.3**	**0.0**
SCO	**Scoresbysund**	**10.45**	**252**	*e*P	Pn	18 45 22.7	-12
FINES	**FINESS Array B**	**16.11**	**149**	Pn	**Pn**	**18 46 47.0**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=356,slow=12,SNR=4.1						
FINES				LR	LR	18 53 13.6	
	comp=Z,54nm,19.9s,baz=56,slow=38						
	comp=Z,1.2nm,0.8s						
SFJD	**Kangerlussuaq**	**19.84**	**274**	LR	LR	18 53 47.1	
	comp=Z,76nm,20.6s,baz=334,slow=32						
KIRV	**Kirov**	**22.80**	**118**	LR	LR	18 57 35.2	
	comp=Z,28nm,18.8s,baz=16,slow=38						
FRB	**Frobisher Bay**	**26.73**	**285**	LR	LR	18 58 04.8	
	comp=Z,64nm,19.6s,baz=5.0,slow=34						
AKASG	**Malin Array Be**	**27.00**	**151**	LR	LR	18 59 56.1	
	comp=Z,30nm,19.1s,baz=352,slow=38						
GERES	**GERESS Array B**	**27.72**	**173**	P	**P**	**18 48 51.3**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=332,slow=7.8,SNR=6.0						
	comp=Z,0.1nm,0.3s						
AKTO	**Aktyubinsk**	**32.23**	**115**	LR	LR	19 02 56.1	
	comp=Z,52nm,20.3s,baz=40,slow=37						
BVAR	**Borovoye Array**	**32.60**	**100**	LR	LR	19 05 49.7	
	comp=Z,38nm,19.1s,baz=351,slow=42						
KURBB	**Kurchatov Arra**	**36.74**	**93**	P	**P**	**18 50 14.5**	**+2.1**
	comp=Z,1.2nm,0.9s,baz=333,slow=7.7,SNR=7.3						
	comp=Z,1.2nm,0.9s						
ILAR	**Eielson Array**	**38.25**	**343**	P	**P**	**18 50 25.2**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=2.1,slow=7.0,SNR=13						
	comp=Z,1.2nm,0.8s						
MKAR	**Makanchi Array**	**41.21**	**92**	P	**P**	**18 50 51.6**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=343,slow=7.8,SNR=3.6						
MKAR				LR	LR	19 11 52.4	
	comp=Z,42nm,18.6s,baz=92,slow=42						
	comp=Z,0.5nm,0.8s						
PDAR	**Pinedale Array**	**54.95**	**308**	P	**P**	**18 52 38.9**	**+2.5**
	comp=Z,0.6nm,1.0s,baz=351,slow=3.3,SNR=5.5						
	comp=Z,0.6nm,1.0s						

*CATAC **03** 18:43:31.3±1.1, 13°N±6°×8°9W±°, h23km±12km, M2.9/7,*
MLv2.9/7, Error ellipse: s-maj=13.1km s-min=8.7km az=8.2,
confirmed
SNET 03 18:43:32.9±0.5, 13°08N×88°73W, h62km±9km, ML2.5, 1D,
El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.46**	**354**	*e*P	Pn	18 43 44.8	+0.1
TECO				*e*S	Sn	18 43 54.0	+0.8
TECO	**Alcaldia de Te**	**0.46**	**354**	P	Pn	18 43 45.1	+0.5
TECA	**Tecapa**	**0.47**	**28**	*e*P	Pn	18 43 45.2	+0.3
TECA				⇓*e*P		18 43 45.3	
TECA				*e*S	Sn	18 43 55.3	+1.6
LCY	**Lacayo**	**0.55**	**51**	*e*P	Pn	18 43 45.7	+0.1
PACA	**Pacayal**	**0.55**	**46**	*e*P	Pn	18 43 46.3	+0.5
PACA	**Pacayal**	**0.55**	**46**	P	Pn	18 43 46.4	+0.6
PACA	**Pacayal**	**0.55**	**46**	S	Sn	18 43 56.9	+1.8
COEG	**Centro de Oper**	**0.56**	**345**	S	Sn	18 43 56.0	+0.9
COEG	**Centro de Oper**	**0.56**	**345**	P	Pn	18 43 45.8	+0.1
UESV	**Universidad de**	**0.56**	**354**	S	Sn	18 43 57.2	+2.3
UESV	**Universidad de**	**0.56**	**354**	P	Pn	18 43 45.8	+0.1
PQSS	**Presa 15 de Se**	**0.57**	**17**	S	Sn	18 43 58.5	+3.4
PQSS	**Presa 15 de Se**	**0.57**	**17**	P	Pn	18 43 46.1	+0.3
BLLM	**Bellamira**	**0.60**	**53**	*e*P	Pn	18 43 46.4	+0.3
SCLA	**Alcaldia de Sa**	**0.62**	**0**	*e*P	Pn	18 43 47.2	+0.8
SCLA				*e*S	Sn	18 43 57.6	+1.4
SCLA	**Alcaldia de Sa**	**0.62**	**0**	P	Pn	18 43 47.6	+1.2
LFRS	**El Faro**	**0.63**	**329**	*e*P	Pn	18 43 46.9	+0.4
LFRS				*e*S	Sn	18 43 57.6	+1.0
PAVA	**Las Pavas**	**0.66**	**342**	*e*P	Pn	18 43 47.6	+0.6
PAVA	**Las Pavas**	**0.66**	**342**	S	Sn	18 44 00.0	+2.8
PAVA	**Las Pavas**	**0.66**	**342**	P	Pn	18 43 47.1	+0.1
LOMA	**Loma Larga**	**0.71**	**323**	*e*P	Pn	18 43 47.7	+0.2
LOMA				IAML		18 44 02.0	
	comp=Z,196nm,0.2s						
LCND	**La Caada**	**0.85**	**74**	S	Sn	18 44 03.0	+2.0
LCND	**La Caada**	**0.85**	**74**	P	Pn	18 43 49.1	0.0
CNCH	**Conchagua**	**0.90**	**77**	*e*P	Pn	18 43 49.9	+0.2
JAYA	**Jayaque - finc**	**0.90**	**309**	*e*P	Pn	18 43 49.7	-0.3
JAYA				IAML		18 44 04.2	
	comp=Z,111nm,0.2s						

*NNC **03** 18:43:39.6±1.3, 41°94N×78°79E, h0km, mb2.9, mpv3.0,*
Error ellipse: s-maj=9.5km s-min=5.9km az=178.0
*SOME **03** 18:43:40.1, 41°95N×78°72E, h10km*
*KRNET **03** 18:43:41.3±0.1, 41°72N×78°63E, h30km, mb2.4*
ISC 03 18:43:39.4±2.1, 41°90N±0°09×78°74E±0°08, h2km±13km,
n12, σ0s79/20, 6C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.64**	**337**	⇑*e*P	**Pn**	**18 43 56.3**	**+0.6**
PRZ				⇑*e*S	**Sn**	**18 44 07.9**	**+1.4**
TARG	**Taragay, Kyrgy**	**0.72**	**257**	⇑*i*P	**Pg**	**18 43 53.6**	**+0.4**
TARG				⇑*i*S	**Sg**	**18 44 02.9**	**+0.4**
KDJ	**Kajisay**	**1.18**	**282**	⇓*i*P	**Pb**	**18 44 02.4**	**-0.3**
KDJ				⇓*i*S	**Sb**	**18 44 17.6**	**-0.9**
PDGK	**Podgornoye**	**1.53**	**21**	⇓Pn	**Pn**	**18 44 07.3**	**-0.6**
	14nm,2.1s						
PDGK				⇓Sn	**Sg**	**18 44 28.8**	**+0.1**
	6.5nm,0.7s						
ULHL	**Ulahol**	**1.89**	**281**	⇓*i*P	**Pb**	**18 44 13.4**	**-1.4**
ULHL				⇓*i*S	**Sn**	**18 44 37.0**	**-0.4**
BOOM	**Boomskoye usch**	**2.16**	**287**	⇓*e*P	**Pn**	**18 44 17.3**	**+0.7**
BOOM				⇓*e*S	**Sn**	**18 44 43.5**	**-0.5**
BLB	**Baldybastay**	**2.21**	**355**	Pg	**Pb**	**18 44 19.9**	**-0.2**
	12nm,0.3s						
BLB				Lg	Lg	18 44 48.9	
	11nm,0.2s						
CHKK	**Chushkaly**	**2.34**	**327**	Pg	**Pb**	**18 44 22.4**	**+0.1**
CHKK				Lg	Lg	18 44 53.3	
CHKK	**Chushkaly**	**2.34**	**327**	*e*P	**Pb**	**18 44 22.4**	**+0.1**
	2.9nm,0.0s						
CHKK				*e*S	**Sg**	**18 44 53.3**	**-1.3**
	8.7nm,0.1s						
KTBS	**Karatobe**	**2.36**	**321**	Pg	**Pb**	**18 44 22.6**	**0.0**
	2.3nm,0.2s						
KTBS				Lg	Lg	18 44 53.9	
	11nm,0.4s						
ARXS	**Arharly**	**2.41**	**344**	Pg	**Pb**	**18 44 23.3**	**-0.2**
	2.0nm,0.4s						
ARXS				Lg	Lg	18 44 54.7	
	6.1nm,0.5s						
TKM2	**Tokmak 2**	**2.54**	**295**	⇑*i*P	**Pn**	**18 44 23.0**	**+1.2**
TKM2				⇑*i*S	**Sn**	**18 44 53.4**	**0.0**

*BER **03** 18:56:02.7±3.4, 76°17N×7°24E, h10km, mb(Pn)3.8,*
ML3.1(NAO), Confirmed Earthquake
*IDC **03** 18:56:02.7±1.2, 76°07N×7°75E, h0km, mb3.5/4,*
mbtmp3.5/7, ML3.0/3, MS3.7/3, Error ellipse: s-maj=21.6km
s-min=14.3km az=71.0
*NAO **03** 18:56:04.2±0.8, 76°18N×7°75E, h16km±10km, ML3.1*
*FCIAR **03** 18:56:06.0, 75°99N×8°22E, h10km, station SPA0 has*
station magnitude of 3.07
*DNK **03** 18:56:12.1±2.0, 80°18N×2°22E, h0km±21km, ML1.5*
ISC 03 18:56:01.8±0.7, 76°13N±0°06×7°81E±0°06, h10km, n33,
σ3s07/44, mb3.5/4, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC

IDC ***03*** *19:06:02.9±0.4,56˚.18N×163˚.89E,h0km,mb4.6/32, mbtmp4.6/36,ML4.5/4,MS3.7/30,Error ellipse: s-maj=12.3km s-min=9.8km az=153.0*
BJI ***03*** *19:06:03.2,56˚.12N×163˚.43E,h11km,mB4.8/13,mb4.6/44, Ms4.3/17,Ms7 4.2/19*
KRSC ***03*** *19:06:03.1±1.4,56˚.12N×164˚.18E,h52km±20km,Mc5.4, Ml4.9*
NEIC ***03*** *19:06:03.9±1.6,56˚.2N±0˚.1×163˚.9E±0˚.1,h10km±1km, mb4.9/444, Error ellipse: s-maj=19.0km s-min=11.4km az=161.0*
MOS ***03*** *19:06:07.1±1.1,56˚.07N×163˚.93E,h51km,mb5.1/39, MS3.6/7,Error ellipse: s-maj=5.4km s-min=3.8km az=74.7*
ISC 03 19:06:05.2±0.5,56˚.15N±0˚.04×164˚.01E±0˚.03,h19km±1km, h19km:pP-P,n871,σ1§18/696,mb4.9/287,MS3.9/41, 22C-21D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.67**	**276**	PN		**Pg**	**19 06 16.5**	**-1.9**
KBTR	**Krutoberegovo**	**0.67**	**276**	*e*P		**Pg**	**19 06 16.5**	**-1.9**
KBG	**Krutoberegovo**	**0.74**	**279**	PN		**Pb**	**19 06 17.9**	**-1.4**
KBG				S		**Sn**	**19 06 29.5**	**-1.7**
KBG	**Krutoberegovo**	**0.74**	**279**	*e*P		**Pb**	**19 06 18.0**	**-1.4**
KBG				*e*S		**Sn**	**19 06 29.6**	**-1.7**
BKI	**Bering**	**1.46**	**130**	PN		**Pn**	**19 06 28.5**	**-1.9**
BKI				S		**Sn**	**19 06 46.3**	**-2.6**
BKI	**Bering**	**1.46**	**130**	*e*P		**Pn**	**19 06 28.5**	**-1.9**
BKI				*e*S		**Sn**	**19 06 46.4**	**-2.6**
SMKR	**Semkarok**	**1.48**	**288**	PN		**Pb**	**19 06 31.0**	**-1.1**
SMKR	**Semkarok**	**1.48**	**288**	*e*P		**Pb**	**19 06 31.1**	**-1.1**
SRKR	**Sorokina**	**1.66**	**289**	PN		**Pg**	**19 06 34.5**	**-2.6**
SRKR	**Sorokina**	**1.66**	**289**	*e*P		**Pg**	**19 06 34.5**	**-2.6**
ZLN	**Zelenaya**	**1.80**	**267**	PN		**Pb**	**19 06 36.9**	**-0.7**
ZLN	**Zelenaya**	**1.80**	**267**	*e*P		**Pb**	**19 06 37.0**	**-0.7**
CIRR	**Tsirk**	**1.83**	**270**	PN		**Pb**	**19 06 37.0**	**-1.0**
CIRR	**Tsirk**	**1.83**	**270**	*e*P		**Pb**	**19 06 37.1**	**-1.0**
LGNR	**Loginova**	**1.86**	**269**	PN		**Pb**	**19 06 37.3**	**-1.4**
LGNR	**Loginova**	**1.86**	**269**	*e*P		**Pb**	**19 06 37.3**	**-1.4**
BZGR	**Bezymyannyi-Gr**	**1.87**	**265**	PN		**Pb**	**19 06 36.8**	**-1.9**
BZGR	**Bezymyannyi-Gr**	**1.87**	**265**	*e*P		**Pb**	**19 06 36.9**	**-1.9**
KLY	**Klyuchi**	**1.88**	**277**	PN		**Pn**	**19 06 35.4**	**-0.9**
KLY	**Klyuchi**	**1.88**	**277**	*e*P		**Pn**	**19 06 35.5**	**-0.9**
BZWR	**Bezymyannyi-We**	**1.98**	**266**	PN		**Pb**	**19 06 39.0**	**-1.7**
BZWR	**Bezymyannyi-We**	**1.98**	**266**	*e*P		**Pb**	**19 06 39.0**	**-1.7**
BZMR	**Bezymyannaya**	**1.99**	**265**	PN		**Pb**	**19 06 38.9**	**-1.9**
BZMR	**Bezymyannaya**	**1.99**	**265**	*e*P		**Pb**	**19 06 38.9**	**-1.9**
MKZ	**Mys Kozlova**	**2.06**	**220**	PN		**Pn**	**19 06 37.5**	**-1.1**
MKZ				S		**Sn**	**19 07 03.3**	**-0.5**
MKZ	**Mys Kozlova**	**2.06**	**220**	*e*P		**Pn**	**19 06 37.6**	**-1.1**
MKZ				*e*S		**Sn**	**19 07 03.3**	**-0.5**
KIRR	**Kirishev**	**2.07**	**266**	PN		**Pb**	**19 06 40.0**	**-2.1**
KIRR				S		**Sb**	**19 07 07.3**	**-0.2**
KIRR	**Kirishev**	**2.07**	**266**	*e*P		**Pb**	**19 06 40.1**	**-2.1**
KIRR				*e*S		**Sb**	**19 07 07.4**	**-0.2**
KPT	**Kopyto**	**2.13**	**267**	PN		**Pb**	**19 06 40.9**	**-2.3**
KPT	**Kopyto**	**2.13**	**267**	*e*P		**Pb**	**19 06 41.0**	**-2.3**
KMNR	**Kamenistaya**	**2.16**	**261**	PN		**Pb**	**19 06 41.2**	**-2.4**
KMNR	**Kamenistaya**	**2.16**	**261**	*e*P		**Pb**	**19 06 41.2**	**-2.4**
TUMD	**Tumrok D**	**2.25**	**247**	PN		**Pn**	**19 06 41.8**	**+0.4**
TUMD	**Tumrok D**	**2.25**	**247**	*e*P		**Pn**	**19 06 41.9**	**+0.4**
KOZ	**Kozyrevsk**	**2.32**	**270**	PN		**Pb**	**19 06 44.0**	**-2.3**
KOZ	**Kozyrevsk**	**2.32**	**270**	*e*P		**Pb**	**19 06 44.0**	**-2.3**
SRDR	**Sredinnyy**	**2.40**	**276**	PN		**Pb**	**19 06 45.1**	**-2.7**
SRDR	**Sredinnyy**	**2.40**	**276**	*e*P		**Pb**	**19 06 45.1**	**-2.7**
ESO	**Esso**	**2.99**	**268**	PN		**Pn**	**19 06 52.9**	**+1.4**
ESO	**Esso**	**2.99**	**268**	*e*P		**Pn**	**19 06 52.9**	**+1.4**
OSSR	**Ossora**	**3.16**	**351**	PN		**Pn**	**19 06 53.1**	**-0.6**
OSSR	**Ossora**	**3.16**	**351**	*e*P		**Pn**	**19 06 53.2**	**-0.6**
OSSR				*e*S		**Sn**	**19 07 28.6**	**-2.3**
KII	**Karymskiy**	**3.37**	**233**	PN		**Pn**	**19 06 57.3**	**+0.5**
KII	**Karymskiy**	**3.37**	**233**	*e*P		**Pn**	**19 06 57.3**	**+0.5**
SPN	**Mys Shipunski**	**3.83**	**219**	PN		**Pn**	**19 07 01.6**	**-1.5**
SPN				S		**Sn**	**19 07 43.7**	**-3.9**
SPN	**Mys Shipunski**	**3.83**	**219**	*e*P		**Pn**	**19 07 01.6**	**-1.5**
SPN				*e*S		**Sn**	**19 07 43.7**	**-3.9**
NLC	**Nalytchevo**	**4.03**	**224**	PN		**Pn**	**19 07 06.0**	**+0.3**
NLC				S		**Sn**	**19 07 51.9**	**-0.4**
NLC	**Nalytchevo**	**4.03**	**224**	*e*P		**Pn**	**19 07 06.0**	**+0.3**
NLC				*e*S		**Sn**	**19 07 51.9**	**-0.4**
SDLR	**Sedlovina**	**4.13**	**228**	PN		**Pn**	**19 07 08.0**	**+0.6**
SDLR	**Sedlovina**	**4.13**	**228**	*e*P		**Pn**	**19 07 08.0**	**+0.6**
KRER	**Koryakskii**	**4.17**	**229**	PN		**Pn**	**19 07 08.9**	**+1.0**
KRER	**Koryakskii**	**4.17**	**229**	*e*P		**Pn**	**19 07 08.9**	**+1.0**
KRX	**Arik**	**4.18**	**230**	PN		**Pn**	**19 07 09.1**	**+1.1**
KRX	**Arik**	**4.18**	**230**	*e*P		**Pn**	**19 07 09.1**	**+1.1**
SMAR	**Somma**	**4.18**	**228**	PN		**Pn**	**19 07 08.7**	**+0.7**
SMAR	**Somma**	**4.18**	**228**	*e*P		**Pn**	**19 07 08.8**	**+0.7**
AVH	**Avacha**	**4.20**	**229**	PN		**Pn**	**19 07 09.3**	**+1.0**
AVH	**Avacha**	**4.20**	**229**	*e*P		**Pn**	**19 07 09.3**	**+1.0**
UGLR	**Uglovaya**	**4.21**	**228**	PN		**Pn**	**19 07 09.2**	**+0.8**
UGLR	**Uglovaya**	**4.21**	**228**	*e*P		**Pn**	**19 07 09.2**	**+0.8**
KOK	**Koryaka**	**4.23**	**230**	PN		**Pn**	**19 07 09.7**	**+1.1**
KOK	**Koryaka**	**4.23**	**230**	*e*P		**Pn**	**19 07 09.7**	**+1.1**
GNL	**Ganaly**	**4.28**	**237**	PN		**Pn**	**19 07 10.5**	**+1.2**
GNL	**Ganaly**	**4.28**	**237**	*e*P		**Pn**	**19 07 10.6**	**+1.2**
DALK	**Dalny**	**4.37**	**227**	PN		**Pn**	**19 07 10.9**	**+0.5**
DALK				S		**Sn**	**19 08 00.6**	**-0.1**
DALK	**Dalny**	**4.37**	**227**	*e*P		**Pn**	**19 07 10.9**	**+0.5**
DALK				*e*S		**Sn**	**19 08 00.6**	**-0.1**
INSR	**Institute**	**4.40**	**228**	*e*S		**Sn**	**19 08 04.7**	**+3.1**
PET	**Petropavlovsk**	**4.41**	**227**			**Pn**	**19 07 11.1**	**0.0**
PET	**Petropavlovsk**	**4.41**	**227**	*e*PN		**Pn**	**19 07 11.8**	**+0.7**
PET				*e*S		**Sn**	**19 08 03.1**	**+1.2**
PET				pmax	pmax			
	comp=Z,204nm,0.5s							
PET				smax	smax			
	comp=N,553nm,0.7s							
PET				smax	smax			
	comp=E,315nm,0.8s							
PET				MLR	MLR			
	comp=Z,300nm,11.0s							
PET				MLR	MLR			
	comp=Z,500nm,10.0s							
PET	**Petropavlovsk**	**4.41**	**227**	*e*P		**Pn**	**19 07 11.5**	**+0.5**
PET				*e*S		**Sn**	**19 08 02.8**	**+0.9**
PET	**Petropavlovsk**	**4.41**	**227**	Pn		**Pn**	**19 07 11.6**	**+0.5**
PEA0B	**Petropavlovsk-**	**4.76**	**233**			**Pn**	**19 07 16.4**	**+0.5**
PEA0B	**Petropavlovsk-**	**4.76**	**233**	PN		**Pn**	**19 07 16.9**	**+1.0**
PETK	**Petropavlovsk-**	**4.76**	**233**			**Pn**	**19 07 15.1**	**-0.8**
PETK	**Petropavlovsk-**	**4.76**	**233**	Pn		**Pn**	**19 07 16.9**	**+1.0**
	comp=Z,15nm,0.3s,baz=71,slow=15,SNR=60							
PETK				Sn		**Sn**	**19 08 11.3**	**+0.7**
	baz=288,slow=7.2							
	comp=Z,43nm,0.6s							
PETK	**Petropavlovsk-**	**4.76**	**233**	PN		**Pn**	**19 07 15.1**	**-0.8**
KRMR	**Karymshinskiy**	**4.77**	**228**	PN		**Pn**	**19 07 17.2**	**+1.2**
KRMR	**Karymshinskiy**	**4.77**	**228**	*e*P		**Pn**	**19 07 17.2**	**+1.2**
GRL	**Gorelyy**	**5.00**	**226**	PN		**Pn**	**19 07 21.2**	**+2.0**
GRL	**Gorelyy**	**5.00**	**226**	*e*P		**Pn**	**19 07 21.3**	**+2.0**
MTVR	**Mutnovka**	**5.01**	**225**	PN		**Pn**	**19 07 20.1**	**+0.7**
MTVR	**Mutnovka**	**5.01**	**225**	*e*P		**Pn**	**19 07 20.1**	**+0.7**
APC	**Apacha**	**5.13**	**234**	PN		**Pn**	**19 07 22.7**	**+1.8**
APC	**Apacha**	**5.13**	**234**	*e*P		**Pn**	**19 07 22.8**	**+1.8**
ASAK	**Asacha**	**5.20**	**226**	PN		**Pn**	**19 07 23.2**	**+1.3**
ASAK	**Asacha**	**5.20**	**226**	*e*P		**Pn**	**19 07 23.3**	**+1.3**
MIPR	**Malaya Ipel'ka**	**5.75**	**231**	PN		**Pn**	**19 07 31.6**	**+2.1**
MIPR	**Malaya Ipel'ka**	**5.75**	**231**	*e*P		**Pn**	**19 07 31.6**	**+2.1**
PAU	**Pauzhetka**	**6.33**	**225**	PN		**Pn**	**19 07 38.9**	**+1.5**
PAU	**Pauzhetka**	**6.33**	**225**	*e*P		**Pn**	**19 07 38.9**	**+1.5**
KMSK	**Kamenskaya**	**6.44**	**9**	PN		**Pn**	**19 07 39.3**	**+0.5**
KMSK	**Kamenskaya**	**6.44**	**9**	*e*P		**Pn**	**19 07 39.4**	**+0.5**
SKR	**Severo-Kuril's**	**7.22**	**224**	*e*PN		**Pn**	**19 07 50.5**	**+0.9**
SKR				pmax	pmax			
	comp=Z,104nm,0.8s							
SKR				MLR	MLR			
	comp=Z,800nm,15.0s							
SKR	**Severo-Kuril's**	**7.22**	**224**	*e*P		**Pn**	**19 07 49.8**	**+0.2**
MA2	**Magadan**	**7.85**	**301**	Pn		**Pn**	**19 07 58.3**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=351,slow=22,SNR=1.9							
MA2				LR		LR	19 11 05.5	
	comp=Z,559nm,20.9s,baz=115,slow=39							
	comp=Z,10nm,0.9s							
SEY	**Seymchan**	**9.00**	**324**	Pn		**Pn**	**19 08 13.8**	**-0.2**
	baz=307,slow=17,SNR=1.7							
SEY				LR		LR	19 12 03.7	
	comp=Z,692nm,18.5s,baz=116,slow=40							
BILL	**Bilibino**	**11.98**	**4**	*e*PN		**Pn**	**19 08 57.6**	**+2.9**
TYV	**Tymovskoe**	**13.74**	**256**	*e*P		**Pn**	**19 09 22.4**	**+3.7**
TYV				*e*S		**Sn**	**19 11 58.7**	**+8.0**
TYV				pmax	pmax			
	comp=Z,24nm,1.3s							
TYV				pmax	pmax			
	comp=Z,100nm,2.2s							
TYV				smax	smax			
	comp=N,200nm,5.6s							
TYV				smax	smax			
	comp=E,300nm,5.6s							
SPIA	**Saint Paul Isl**	**14.17**	**75**	P		**Pn**	**19 09 23.4**	**-1.1**
	baz=277							
GAMB	**Gambell**	**14.29**	**48**	P		**Pn**	**19 09 25.1**	**-1.0**
	baz=249							
P08K	**Saint George I**	**14.63**	**77**	P		**Pn**	**19 09 30.0**	**-0.8**
	baz=279							
NIKH	**Nikolski High**	**16.01**	**90**	P		**Pn**	**19 09 49.0**	**-0.1**
	baz=292							
YSS	**Yuzhno-Sakhali**	**16.05**	**244**			**Pn**	**19 09 49.8**	**+0.2**
YSS	**Yuzhno-Sakhali**	**16.05**	**244**	*e*P		**Pn**	**19 09 50.6**	**+1.0**
YSS				*e*S		**Sn**	**19 12 44.8**	**-2.0**
YSS				pmax	pmax			
	comp=Z,20nm,1.1s							
YSS				pmax	pmax			
	comp=N,20nm,0.7s							
YSS				pmax	pmax			
	comp=E,20nm,1.0s							
YSS				pmax	pmax			
	comp=Z,200nm,3.3s							
YSS				MLR	MLR			
	comp=N,100nm,14.0s							
YSS				MLR	MLR			
	comp=E,200nm,14.0s							
YSS				MLR	MLR			
	comp=Z,300nm,14.0s							
M11K	**Mekoryuk**	**16.15**	**62**	P		**Pn**	**19 09 50.7**	**-0.1**
	baz=268							
TNA	**Tin City**	**16.45**	**44**	P		**Pn**	**19 09 53.9**	**-0.7**
	baz=248							
YUK	**Yuzh-Kuril'sk**	**16.74**	**231**	*i* P		**Pn**	**19 09 55.2**	**-3.2**
K13K	**Kusilvak Mount**	**17.01**	**57**	P		**P**	**19 10 03.7**	**+0.3**
K13K	**Kusilvak Mount**	**17.01**	**57**	P		**Pn**	**19 10 01.3**	**-0.4**
	baz=264							
UNV	**Unalaska Valle**	**17.01**	**85**	P		**P**	**19 10 05.0**	**+1.5**
UNV				IAmb		IAmb	19 10 10.6	
	comp=Z,108nm,1.3s							
UNV	**Unalaska Valle**	**17.01**	**85**	P		**Pn**	**19 10 01.6**	**-0.1**
	baz=290							
F14K	**Arctic Creek**	**17.05**	**45**	P		**Pn**	**19 10 01.6**	**-0.5**
	baz=251							
ANM	**Nome**	**17.17**	**48**	P		**Pn**	**19 10 02.9**	**-0.7**
	baz=255							
LVA	**Lava Point**	**17.17**	**84**	Pn		**Pn**	**19 10 03.8**	**0.0**
LVA				IAmb		IAmb	19 10 05.8	
	comp=Z,120nm,1.0s							
GRNR	**Gornyy**	**17.22**	**263**	*i* P		**P**	**19 10 05.6**	**-0.3**
GRNR				pmax	pmax			
	comp=Z,5.0nm,0.7s							
GRNR				MLR	MLR			
	comp=E,210nm,20.0s							
GRNR				MLR	MLR			
	comp=N,190nm,13.0s							
GRNR				MLR	MLR			
	comp=Z,140nm,16.0s							
M13K	**Dall Lake**	**17.57**	**62**	P		**Pn**	**19 10 08.7**	**0.0**
	baz=270							
J14K	**Nanvaranak Lak**	**17.61**	**55**	P		**Pn**	**19 10 08.7**	**-0.4**
	baz=263							
F15K	**North Star Dit**	**17.78**	**45**	P		**Pn**	**19 10 11.0**	**-0.2**
F15K	**North Star Dit**	**17.78**	**45**	P		**Pn**	**19 10 10.8**	**-0.5**
	baz=252							
G15K	**Niukluk**	**17.83**	**47**	P		**Pn**	**19 10 11.0**	**-0.8**
	baz=255							
L14K	**Kuka Creek**	**17.91**	**59**	P		**P**	**19 10 13.4**	**+0.1**
L14K	**Kuka Creek**	**17.91**	**59**	P		**Pn**	**19 10 12.1**	**-0.8**
	baz=268							
JKA	**Kamikawa-asahi**	**18.16**	**238**	P		**Pn**	**19 10 14.8**	**-1.3**
JKA				IAmb		IAmb	19 10 18.7	
	comp=Z,70nm,0.8s							
ASAJ	**Asahikawa**	**18.16**	**238**	P		**Pn**	**19 10 15.7**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=46,slow=8.3,SNR=59							
ASAJ				S		**Sn**	**19 13 36.7**	**-1.5**
	comp=Z,1.7nm,0.9s,baz=91,slow=28,SNR=1.0							
	comp=Z,84nm,0.9s							
ASAJ	**Asahikawa**	**18.16**	**238**	P		**Pn**	**19 10 14.8**	**-1.3**
ASAJ				pmax	pmax			
	comp=Z,70nm,0.8s							
M14K	**Bethel**	**18.25**	**61**	P		**P**	**19 10 17.6**	**+0.5**
M14K				IAmb		IAmb	19 10 21.5	
	comp=Z,179nm,1.9s							
M14K	**Bethel**	**18.25**	**61**	P		**Pn**	**19 10 16.7**	**-0.4**
	baz=271							
N14K	**Kuskokwak Cree**	**18.42**	**64**	P		**P**	**19 10 18.4**	**-0.5**
	baz=273							
YAK	**Yakutsk**	**18.43**	**303**			**Pn**	**19 10 18.2**	**-0.9**
YAK				IAmb		IAmb	19 10 19.7	
	comp=Z,42nm,0.6s							
YAK	**Yakutsk**	**18.43**	**303**	P		**Pn**	**19 10 18.2**	**-0.9**
	comp=Z,4.9nm,0.3s,baz=48,slow=0.9,SNR=20							
YAK				S		**Sn**	**19 13 41.5**	**-2.7**
	comp=Z,4.5nm,0.3s,baz=129,slow=2.7,SNR=1.7							
YAK				LR		LR	19 17 35.8	
	comp=Z,125nm,20.4s,baz=88,slow=38							
	comp=Z,38nm,0.7s							
YAK	**Yakutsk**	**18.43**	**303**	*c i* P		**P**	**19 10 18.7**	**-0.4**
YAK				*e*S		**Sn**	**19 13 44.6**	**+0.3**
YAK				pmax	pmax			
	comp=Z,27nm,0.9s							
YAK				pmax	pmax			
	comp=E,11nm,1.2s							
YAK				pmax	pmax			
	comp=N,3.0nm,1.0s							
YAK				pmax	pmax			
	comp=Z,57nm,1.1s							
YAK				pmax	pmax			
	comp=E,51nm,1.9s							
YAK				pmax	pmax			
	comp=N,21nm,2.0s							
YAK				smax	smax			
	comp=N,54nm,2.6s							
YAK				smax	smax			
	comp=E,28nm,3.0s							
YAK				MLR	MLR			
	comp=Z,247nm,12.0s							
YAK				MLR	MLR			
	comp=E,173nm,12.0s							
YAK				MLR	MLR			
	comp=N,171nm,12.0s							
C16K	**Lisburne Hills**	**18.48**	**37**	P		**P**	**19 10 19.0**	**-0.7**
	baz=244							
L15K	**Ungalak Mounta**	**18.49**	**58**	P		**P**	**19 10 19.1**	**-0.7**
	baz=268							
K15K	**Wolf Creek Mou**	**18.50**	**56**	P		**P**	**19 10 19.1**	**-0.8**
K15K	**Wolf Creek Mou**	**18.50**	**56**	P		**P**	**19 10 19.0**	**-0.9**
	baz=266							
G16K	**Koyuk River**	**18.62**	**47**	P		**P**	**19 10 20.5**	**-0.6**
	baz=256							
O14K	**Tigyukauivet M**	**18.68**	**66**	P		**P**	**19 10 20.7**	**-1.2**
	baz=276							
M15K	**Kasigluk River**	**18.88**	**61**	P		**P**	**19 10 23.3**	**-0.8**
	baz=272							
S12K	**Black Hills**	**18.91**	**77**	P		**P**	**19 10 25.1**	**+0.6**
S12K	**Black Hills**	**18.91**	**77**	P		**P**	**19 10 23.5**	**-0.9**
	baz=286							
J16K	**Anvik River**	**19.01**	**53**	P		**P**	**19 10 25.9**	**+0.4**
J16K	**Anvik River**	**19.01**	**53**	P		**P**	**19 10 24.7**	**-0.8**
	baz=264							
D17K	**Noatak River**	**19.04**	**39**	P		**P**	**19 10 25.0**	**-0.7**
	baz=249							
I17K	**Unalakleet**	**19.04**	**52**	P		**P**	**19 10 25.1**	**-0.7**
	baz=262							
N15K	**Kwethluk River**	**19.20**	**63**			**Pn**	**19 10 30.6**	**+2.0**
N15K	**Kwethluk River**	**19.20**	**63**	P		**P**	**19 10 26.8**	**-0.8**
	baz=274,SNR=7.0							
RDOG	**Red Dog Mine**	**19.23**	**39**	P		**P**	**19 10 27.2**	**-0.7**
RDOG	**Red Dog Mine**	**19.23**	**39**	P		**P**	**19 10 26.6**	**-1.2**
	baz=248							
E17K	**Hotham Inlet**	**19.29**	**42**	P		**P**	**19 10 28.2**	**-0.3**
	baz=252							
C17K	**DeLong Mountai**	**19.30**	**37**	P		**P**	**19 10 28.3**	**-0.3**
	baz=247							
F17K	**Baldwin Pennin**	**19.32**	**44**	P		**P**	**19 10 27.7**	**-1.2**
	baz=255							
G17K	**Kiwalik Mounta**	**19.33**	**47**	P		**P**	**19 10 28.5**	**-0.5**
	baz=258							
O15K	**Ungalikthiuk R**	**19.43**	**66**			**Pn**	**19 10 31.5**	**+0.2**
O15K	**Ungalikthiuk R**	**19.43**	**66**	P		**P**	**19 10 30.4**	**+0.3**
	baz=277,SNR=7.2							
L16K	**Owhat River**	**19.45**	**58**	P		**P**	**19 10 30.1**	**-0.2**
	baz=270							
H17K	**Granite Mounta**	**19.53**	**49**			**Pn**	**19 10 33.2**	**+0.6**
H17K	**Granite Mounta**	**19.53**	**49**	P		**P**	**19 10 30.1**	**-1.1**
	baz=260							
ERM	**Erimo**	**19.55**	**232**			**P**	**19 10 30.2**	**-1.3**
ERM				IAmb		IAmb	19 10 39.3	
	comp=Z,27nm,0.6s							
ERM	**Erimo**	**19.55**	**232**	*e*P		**P**	**19 10 29.6**	**-1.9**
J17K	**VABM Dome**	**19.70**	**53**	P		**P**	**19 10 32.6**	**-0.5**
	baz=266							
M16K	**Timber Creek**	**19.71**	**60**	P		**P**	**19 10 33.1**	**-0.1**
	baz=272							
N16K	**Nishlik Lake**	**19.84**	**62**	P		**P**	**19 10 34.8**	**+0.2**
	baz=274,SNR=8.9							
E18K	**Tukpahlearik C**	**19.84**	**41**	P		**P**	**19 10 35.0**	**+0.5**
	baz=253,SNR=6.2							
SDPT	**Sand Point**	**19.87**	**77**	P		**P**	**19 10 35.4**	**+0.4**
	baz=287							
F18K	**Selawik**	**19.98**	**44**	P		**P**	**19 10 36.0**	**0.0**
	baz=256							
L17K	**Donlin**	**20.01**	**57**	P		**P**	**19 10 36.3**	**-0.2**
	baz=270,SNR=6.0							
K17K	**Iditarod**	**20.02**	**55**	IAmb		IAmb	19 10 46.6	
	comp=Z,46nm,1.1s							
K17K	**Iditarod**	**20.02**	**55**	P		**P**	**19 10 36.8**	**+0.3**
	baz=268,SNR=9.3							
C18K	**Utukok River**	**20.04**	**38**	P		**P**	**19 10 37.4**	**+0.7**
C18K				IAmb		IAmb	19 10 49.2	
	comp=Z,38nm,0.9s							
C18K	**Utukok River**	**20.04**	**38**	P		**P**	**19 10 36.1**	**-0.6**
	baz=249							
B18K	**Kokolik River**	**20.11**	**35**	P		**P**	**19 10 37.6**	**+0.1**
	baz=246							
S14K	**Fog Glacier**	**20.12**	**74**	P		**P**	**19 10 37.7**	**-0.1**
	baz=285							
H18K	**Honhosa River**	**20.22**	**48**	P		**P**	**19 10 38.3**	**-0.4**
	baz=262,SNR=5.8							
G18K	**Tagagawik**	**20.22**	**46**	P		Pn	19 10 43.6	+2.9
G18K	**Tagagawik**	**20.22**	**46**	P		**P**	**19 10 38.8**	**+0.1**
	baz=259,SNR=9.5							
O16K	**Kokwok River B**	**20.26**	**64**	P		**P**	**19 10 39.7**	**+0.6**
	baz=277							
P16K	**Nushagak River**	**20.39**	**66**	P		**P**	**19 10 41.1**	**+0.6**
	baz=278							
M17K	**Holitna River**	**20.43**	**59**	IAmb		IAmb	19 10 48.0	
	comp=Z,54nm,0.8s							
M17K	**Holitna River**	**20.43**	**59**	P		**P**	**19 10 41.6**	**+0.6**
	baz=273,SNR=21							
CHNA	**Chernabura Isl**	**20.52**	**78**	P		**P**	**19 10 42.7**	**+0.8**
	baz=289							
KLR	**Kul'dur**	**20.60**	**264**	P		**P**	**19 10 42.6**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=59,slow=10,SNR=9.4							
KLR				LR		LR	19 19 08.6	
	comp=Z,94nm,18.2s,baz=80,slow=38							
	comp=Z,4.2nm,0.8s							
N17K	**Nushagak Hills**	**20.61**	**62**	P		**P**	**19 10 43.3**	**+0.3**
	baz=275							
A19K	**Wainwright**	**20.69**	**33**	P		**P**	**19 10 44.0**	**+0.2**
	baz=245							
CHGN	**Chignik**	**20.73**	**74**	P		**P**	**19 10 45.5**	**+1.3**
CHGN				IAmb		IAmb	19 10 52.8	
	comp=Z,65nm,1.0s							
CHGN	**Chignik**	**20.73**	**74**	P		**P**	**19 10 44.8**	**+0.6**
	baz=285							
O17K	**Koliganek Bris**	**20.74**	**64**	P		**P**	**19 10 44.3**	**0.0**
	baz=277,SNR=8.3							
C19K	**Lookout Ridge**	**20.75**	**37**	P		**P**	**19 10 44.5**	**+0.1**
	baz=250,SNR=6.8							
F19K	**Shaleruckik Mo**	**20.76**	**44**	IAmb		IAmb	19 10 49.8	
	comp=Z,43nm,0.7s							
F19K	**Shaleruckik Mo**	**20.76**	**44**	P		**P**	**19 10 44.5**	**0.0**
	baz=258,SNR=30							
L18K	**Granite Mounta**	**20.77**	**57**	P		**P**	**19 10 45.1**	**+0.5**
	baz=271,SNR=10.0							
J18K	**Innoko River**	**20.77**	**53**	P		**P**	**19 10 44.5**	**-0.1**
	baz=268,SNR=11							
GCSA	**Galena City Sc**	**20.79**	**50**	P		**P**	**19 10 45.3**	**+0.5**
	baz=264							
G19K	**Purcell Mounta**	**20.90**	**46**	P		**P**	**19 10 46.6**	**+0.6**
	baz=260,SNR=10							
D19K	**Kuna River**	**21.06**	**39**	IAmb		IAmb	19 10 59.0	
	comp=Z,49nm,1.1s							
D19K	**Kuna River**	**21.06**	**39**	P		**P**	**19 10 47.8**	**0.0**
	baz=253				

G21K **Allakaket** 22.38 45 P P 19 11 03.1 +1.2
baz=263
C21K **Knifeblade Rid** 22.40 38 P P 19 11 02.2 0.0
baz=255,SNR=8.6
M20K **Styx River** 22.45 58 P P 19 11 02.7 -0.2
baz=275
F21K **Alatna River** 22.49 43 P P 19 11 03.4 +0.3
baz=262,SNR=11
A21K **Barrow** 22.50 32 P P 19 11 03.8 +0.8
baz=248
HEH **HeiHe** 22.50 270 *e*P P 19 11 01.0 -2.3
HEH PcP PcP 19 14 57.7 +1.1
HEH pmax pmax
comp=Z,12nm,0.7s
HEH LR LR
comp=Z,180nm,13.6s
HEH LR LR
comp=Z,240nm,13.1s
HEH LR LR
comp=Z,410nm,12.5s
E21K **Killik River** 22.52 40 P P 19 11 03.9 +0.4
baz=258,SNR=7.6
H21K **Melozitna Rive** 22.58 48 IAmb IAmb 19 11 14.7
comp=Z,38nm,1.1s
H21K **Melozitna River** 22.58 48 P P 19 11 04.8 +0.7
baz=266,SNR=21
B21K **Ikpikpuk River** 22.58 37 P P 19 11 04.7 +0.6
baz=254,SNR=13
Q19K **Cape Douglas,** 22.62 65 P P 19 11 05.2 +0.7
baz=282
P19K **Oil Pt** 22.69 63 P P 19 11 05.1 -0.2
baz=280
CHUM **Lake Minchumin** 22.74 52 P P 19 11 05.7 0.0
baz=271
RED **Redoubt Volcan** 22.80 61 IAmb IAmb 19 11 16.5
comp=Z,43nm,1.2s
PPLA **Purkeypile** 22.82 55 P P 19 11 06.9 +0.1
baz=273,SNR=8.5
CAST **Castle Rocks** 22.85 53 IAmb IAmb 19 11 16.2
comp=Z,46nm,1.5s
CAST **Castle Rocks** 22.85 53 P P 19 11 07.1 +0.1
baz=272,SNR=12
A22K **Sinclair Lake** 22.88 34 P P 19 11 06.9 -0.2
baz=251
I21K **Tanana** 22.90 49 P P 19 11 07.2 -0.2
baz=268
SII **Sitkinak Islan** 22.91 71 P P 19 11 08.1 +0.5
baz=287
O20K **Slope Mountain** 22.92 62 P P 19 11 08.1 +0.3
baz=280
SPCR **Spurr Chakacha** 22.96 59 P P 19 11 08.7 +0.5
baz=277
F22K **John River** 23.03 43 P P 19 11 08.6 -0.2
baz=262
D22K **Ayikyak River** 23.08 39 IAmb IAmb 19 11 11.6
comp=Z,25nm,0.9s
D22K **Ayikyak River** 23.08 39 P P 19 11 09.3 +0.1
baz=258,SNR=8.2
STLK **Strandline Lak** 23.11 58 IAmb IAmb 19 11 13.7
comp=Z,16nm,0.6s
B22K **Teshekpuk Lake** 23.18 36 P P 19 11 10.4 +0.3
baz=254
H22K **Ishtalitna Cre** 23.19 47 P P 19 11 10.6 +0.3
baz=267,SNR=9.3
SKT **Skwentna** 23.20 57 P P 19 11 11.3 +0.7
baz=276,SNR=11
OHAK **Old Harbor** 23.20 69 IAmb IAmb 19 11 17.9
comp=Z,52nm,1.5s
OHAK **Old Harbor** 23.20 69 P P 19 11 10.7 +0.1
baz=286
G22K **Bettles** 23.22 44 P P 19 11 10.9 +0.3
baz=264
E22K **Anaktuvuk Pass** 23.26 41 IAmb IAmb 19 11 19.6
comp=Z,67nm,1.2s
E22K **Anaktuvuk Pass** 23.26 41 P P 19 11 11.8 +0.6
baz=261,SNR=21
BPAW **Bear Paw Mtn.** 23.32 52 IAmb IAmb 19 11 20.4
comp=Z,49nm,1.4s
BPAW **Bear Paw Mtn.** 23.32 52 P P 19 11 12.3 +0.6
baz=271,SNR=8.8
Q20K **Shuyak Island** 23.32 66 P P 19 11 11.9 +0.2
baz=283
KTH **Kantishna Hill** 23.37 53 IAmb IAmb 19 11 20.4
comp=Z,49nm,1.3s
MLY **Manley** 23.42 49 P P 19 11 13.4 +0.6
baz=269,SNR=19
KDAK **Kodiak Island** 23.42 68 P P 19 11 12.3 -0.5
KDAK **Kodiak Island** 23.42 68 P P 19 11 12.3 -0.5
KDAK pmax pmax
comp=Z,99nm,1.6s
KDAK **Kodiak Island** 23.42 68 P P 19 11 12.4 -0.3
baz=285
HOM **Homer** 23.48 63 P P 19 11 13.9 +0.6
baz=281
USRK **Ussuriysk Ar.** 23.50 253 P P 19 11 10.4 -3.3
comp=Z,0.9nm,0.5s,baz=52,slow=12,SNR=2.6
SUA **Susitna One** 23.63 58 P P 19 11 15.5 +0.6
baz=278
TRF **Thorofare Moun** 23.66 53 IAmb IAmb 19 11 18.1
comp=Z,39nm,1.0s
TRF **Thorofare Moun** 23.66 53 P P 19 11 15.9 +0.7
baz=273,SNR=24
CNPM **China Poot** 23.71 63 IAmb IAmb 19 11 17.7
comp=Z,28nm,0.8s
CUT **Chulitna** 23.75 56 P P 19 11 16.3 +0.5
baz=276,SNR=5.4
COLD **Coldfoot** 23.76 44 P P 19 11 16.2 +0.3
baz=265,SNR=15
G23K **Bananza Creek** 23.79 45 P P 19 11 16.6 +0.4
baz=266,SNR=16
D23K **Nanushuk River** 23.80 39 IAmb IAmb 19 11 24.9
comp=Z,23nm,0.9s
D23K **Nanushuk River** 23.80 39 P P 19 11 17.1 +0.7
baz=260,SNR=7.3
M22K **Willow** 23.89 57 P P 19 11 17.6 +0.4
baz=277
H23K **Yukon River** 23.94 47 P P 19 11 18.2 +0.5
baz=269,SNR=17
BWN **Browne** 23.98 51 IAmb IAmb 19 11 43.3
comp=Z,44nm,1.0s
JMM **Marumori** 23.99 230 IAmb IAmb 19 11 22.5
comp=Z,28nm,0.9s
C23K **Itkillik River** 23.99 37 IAmb IAmb 19 11 21.2
comp=Z,50nm,1.1s
C23K **Itkillik River** 23.99 37 P P 19 11 18.7 +0.6
baz=258,SNR=11
I23K **Minto, Yukon-K** 24.01 49 IAmb IAmb 19 11 21.6
comp=Z,59nm,1.5s
I23K **Minto, Yukon-K** 24.01 49 P P 19 11 18.9 +0.6
baz=270,SNR=23
SLKM **Skilak Lake** 24.03 61 IAmb IAmb 19 11 45.9
comp=Z,66nm,1.9s
E23K **Chandalar** 24.07 42 IAmb IAmb 19 11 21.9
comp=Z,35nm,0.9s
E23K **Chandalar** 24.07 42 P P 19 11 19.1 +0.2
baz=264,SNR=28
NEA2 **Nenana** 24.14 50 P P 19 11 20.0 +0.4
baz=272,SNR=22
TOLK **Toolik Lake Re** 24.15 40 IAmb IAmb 19 11 22.0
comp=Z,39nm,0.9s
TOLK **Toolik Lake Re** 24.15 40 P P 19 11 20.2 +0.4
baz=262,SNR=16
RC01 **Rabbit Creek A** 24.17 59 P P 19 11 19.4 -0.5
baz=279
MCK **McKinley** 24.24 52 IAmb IAmb 19 11 22.8
comp=Z,44nm,1.2s
MCK **McKinley** 24.24 52 P P 19 11 20.8 +0.3
baz=274,SNR=13
RND **Reindeer** 24.30 53 IAmb IAmb 19 11 21.9
comp=Z,20nm,0.6s
PMR **Palmer** 24.38 58 P P 19 11 22.2 +0.5
baz=278
SEW **Seward** 24.48 61 IAmb IAmb 19 11 31.6
comp=Z,18nm,0.8s
SEW **Seward** 24.48 61 P P 19 11 22.8 +0.1
baz=282
E24K **Your Creek** 24.49 42 P P 19 11 23.3 +0.5
baz=265,SNR=46
WAT1 **Susitna Watana** 24.49 55 P P 19 11 22.7 -0.2
baz=276
D24K **Happy Valley** 24.49 39 P P 19 11 23.7 +0.9
baz=262,SNR=16
MDJ **Mudanjiang** 24.52 257 P P 19 11 20.3 -2.9
MDJ pmax pmax
comp=Z,5.0nm,1.0s
C24K **Franklin Bluff** 24.62 38 P P 19 11 24.5 +0.6
baz=261
H24K **Noodor Dome** 24.62 47 P P 19 11 24.6 +0.6
baz=270,SNR=18
COLA **College** 24.65 50 P P 19 11 24.7 +0.5
COLA IAmb IAmb 19 11 25.7
comp=Z,27nm,0.7s
COLA **College** 24.65 50 P P 19 11 24.7 +0.5
COLA pmax pmax
comp=Z,27nm,0.7s
COLA **College** 24.65 50 P P 19 11 24.7 +0.5
baz=272
F24K **Squaw Lake** 24.67 43 P P 19 11 24.4 0.0
baz=266,SNR=11
CCB **Clear Creek Bu** 24.68 50 IAmb IAmb 19 11 32.9
comp=Z,43nm,1.1s
KNK **Knik Glacier** 24.73 58 P P 19 11 25.2 +0.3
baz=279,SNR=9.6
G24K **Hadweenzic Riv** 24.80 45 P P 19 11 26.3 +0.7
baz=269,SNR=70
PWL **Port Wells** 24.88 59 P P 19 11 26.5 +0.1
baz=281,SNR=25
WAT6 **Susitna Watana** 24.89 55 P P 19 11 26.5 -0.1
baz=277,SNR=18
DHY **Denali Highway** 25.00 54 IAmb IAmb 19 11 29.1
comp=Z,18nm,0.6s
DHY **Denali Highway** 25.00 54 P P 19 11 27.7 +0.1
baz=277,SNR=27
M23K **Glacier View** 25.01 57 P P 19 11 27.7 +0.2
baz=279,SNR=19
HDA **Harding Lake** 25.07 51 IAmb IAmb 19 11 29.7
comp=Z,20nm,0.6s
HDA **Harding Lake** 25.07 51 P P 19 11 28.2 +0.2
baz=274,SNR=24
IL31 25.07 50 IAmb IAmb 19 11 29.1
comp=Z,20nm,0.8s
ILAR **Eielson Array** 25.07 50 P P 19 11 27.4 -0.5
ILAR **Eielson Array** 25.07 50 P P 19 11 28.1 +0.1
comp=Z,15nm,0.8s,baz=265,slow=8.3,SNR=175
ILAR LR LR 19 22 34.6
comp=Z,54nm,18.3s,baz=254,slow=40
comp=Z,15nm,0.8s
ILAR **Eielson Array** 25.07 50 P P 19 11 27.5 -0.5
SCM **Sheep Creek Mo** 25.19 57 P P 19 11 29.8 +0.6
baz=279,SNR=40
G25K **Bearman Lake** 25.34 45 P P 19 11 31.9 +1.4
baz=270,SNR=13
D25K **Kavik River** 25.38 39 P P 19 11 31.2 +0.4
baz=264,SNR=31
H25L **Birch Creek** 25.46 46 P P 19 11 32.4 +0.9
baz=271,SNR=7.9
GLI **Glacier Island** 25.47 59 P P 19 11 31.9 +0.2
baz=281,SNR=9.5
P23K **Montague Islan** 25.51 61 P P 19 11 33.0 +1.0
baz=283
F25K **Christian Rive** 25.54 43 IAmb IAmb 19 11 40.2
comp=Z,21nm,0.9s
F25K **Christian Rive** 25.54 43 P P 19 11 32.9 +0.6
baz=268,SNR=26
E25K **Arctic Village** 25.58 42 IAmb IAmb 19 11 40.6
comp=Z,23nm,0.8s
E25K **Arctic Village** 25.58 42 P P 19 11 33.4 +0.7
baz=267,SNR=16
PRP **Porcupine Dome** 25.61 48 IAmb IAmb 19 11 34.8
comp=Z,35nm,0.9s
PRP **Porcupine Dome** 25.61 48 P P 19 11 33.7 +0.7
baz=268,SNR=22
K24K **Donnelly Dome** 25.63 52 IAmb IAmb 19 11 33.7
comp=Z,19nm,0.9s
K24K **Donnelly Dome** 25.63 52 P P 19 11 32.9 -0.2
baz=276,SNR=7.2
M24K **Tolsona, Glenn** 25.68 56 P P 19 11 34.4 +0.7
baz=280,SNR=16
J25K **Salcha River,** 25.73 50 P P 19 11 33.0 -1.1
baz=275,SNR=19
HIN **Hinchinbrook I** 25.86 60 IAmb IAmb 19 11 42.5
comp=Z,19nm,1.0s
PAX **Paxson** 25.88 54 P P 19 11 35.9 +0.5
baz=278,SNR=12
KLU **Klutina** 25.91 57 IAmb IAmb 19 11 41.7
comp=Z,21nm,0.6s
KLU **Klutina** 25.91 57 P P 19 11 36.6 +0.8
baz=281,SNR=18
BMAR **Burnt Mountain** 25.94 44 P P 19 11 36.3 +0.4
C26K **Camden Bay** 25.95 38 P P 19 11 36.3 +0.4
baz=264
RIDG **Independent Ri** 26.05 52 IAmb IAmb 19 11 43.1
comp=Z,29nm,1.0s
RIDG **Independent Ri** 26.05 52 P P 19 11 36.5 -0.5
baz=277,SNR=22
DIV **Divide** 26.05 58 IAmb IAmb 19 11 38.8
comp=Z,32nm,1.3s
HARP **HAARP** 26.11 55 P P 19 11 38.2 +0.7
baz=280
F26K **Sheenjek River** 26.11 43 P P 19 11 38.2 +0.8
baz=270,SNR=20
EYAK **Cordova Ski Ar** 26.19 59 IAmb IAmb 19 11 41.6
comp=Z,34nm,1.5s
EYAK **Cordova Ski Ar** 26.19 59 P P 19 11 38.5 +0.3
baz=283
MAJO **Matsushiro** 26.22 232 P P 19 11 38.8 +0.1
MAJO **Matsushiro** 26.22 232 *de*P P 19 11 39.3 +0.6
MJAR **Matsushiro Arr** 26.22 232 P P 19 11 38.7 0.0
MJAR IAmb IAmb 19 11 40.7
comp=Z,37nm,1.0s
MJAR **Matsushiro Arr** 26.22 232 P P 19 11 39.4 +0.7
comp=Z,31nm,0.9s,baz=22,slow=8.6,SNR=63
MJAR LR LR 19 23 09.1
comp=Z,108nm,21.3s,baz=67,slow=39
comp=Z,31nm,0.9s
MJAR **Matsushiro Arr** 26.22 232 P P 19 11 38.7 0.0
MJAR pmax pmax
comp=Z,37nm,1.0s
G26K **Porcupine Rive** 26.26 45 IAmb IAmb 19 11 40.8
comp=Z,27nm,0.8s
G26K **Porcupine Rive** 26.26 45 P P 19 11 39.8 +1.1
baz=272,SNR=27
C27K **Jago River** 26.34 39 IAmb IAmb 19 11 41.4
comp=Z,24nm,0.9s
C27K **Jago River** 26.34 39 P P 19 11 40.1 +0.6
baz=266,SNR=8.8
SCRK **Sand Creek** 26.40 51 P P 19 11 39.6 -0.6
baz=277,SNR=63
N25K **Chitina, Valde** 26.51 57 IAmb IAmb 19 11 48.6
comp=Z,16nm,0.8s
N25K **Chitina, Valde** 26.51 57 P P 19 11 42.0 +0.8
baz=282,SNR=14
J26L **Joseph Creek** 26.52 50 P P 19 11 41.6 +0.4
baz=277,SNR=7.3
I26K **Coal Creek Min** 26.61 48 P P 19 11 42.3 +0.4
baz=275
BMRM **Bremner River** 26.64 58 IAmb IAmb 19 11 44.3
comp=Z,28nm,1.0s
BMRM **Bremner River** 26.64 58 P P 19 11 43.1 +0.8
baz=283,SNR=12
RAGM **Ragged Mountai** 26.75 59 IAmb IAmb 19 11 47.1
comp=Z,20nm,0.9s
BOD **Bodaibo** 26.80 295 *e*P P 19 11 43.7 0.0
BOD pmax pmax
comp=Z,17nm,1.5s
L26K **Log Cabin Wild** 26.82 53 P P 19 11 44.2 +0.3
baz=280
GLB **Gilahina Butte** 26.92 57 IAmb IAmb 19 11 47.1
comp=Z,34nm,1.3s
KAIM **Kayak Island** 26.98 60 IAmb IAmb 19 11 47.9
comp=Z,28nm,0.9s
KAIM **Kayak Island** 26.98 60 P P 19 11 46.1 +0.7
baz=285,SNR=5.5
E27K **Coleen River** 27.07 42 P P 19 11 46.6 +0.5
baz=271,SNR=6.4
M26K **Nabesna, AK** 27.10 55 IAmb IAmb 19 11 57.3
comp=Z,28nm,1.1s
M26K **Nabesna, AK** 27.10 55 P P 19 11 47.4 +1.0
baz=281,SNR=17
G27K **Doyon Strip** 27.10 45 P P 19 11 47.3 +0.9
baz=274,SNR=14
H27K **Steamboat Moun** 27.20 46 IAmb IAmb 19 11 55.4
comp=Z,34nm,0.9s
H27K **Steamboat Moun** 27.20 46 P P 19 11 47.9 +0.6
baz=275,SNR=38
I27K **Kandik River** 27.22 48 P P 19 11 47.6 +0.1
baz=276,SNR=7.7
K27K **Chicken** 27.23 51 P P 19 11 48.3 +0.8
baz=279
MCARA **McCarthy VSAT** 27.30 57 IAmb IAmb 19 11 52.1
comp=Z,19nm,0.9s
MCARA **McCarthy VSAT** 27.30 57 P P 19 11 48.8 +0.7
baz=283
D27M **Malcolm River** 27.30 40 IAmb IAmb 19 11 55.8
comp=Z,27nm,0.9s
D27M **Malcolm River** 27.30 40 P P 19 11 48.5 +0.4
baz=270,SNR=7.8
JGF **Kuroka** 27.39 233 P P 19 11 48.8 -0.4
CRQE **Cirque** 27.41 58 P P 19 11 50.1 +0.7
baz=284,SNR=7.8
BGLC **Bering Glacier** 27.48 60 P P 19 11 50.7 +0.9
baz=285
L27K **Beaver Creek,** 27.50 53 IAmb IAmb 19 11 58.4
comp=Z,34nm,1.0s
L27K **Beaver Creek,** 27.50 53 P P 19 11 51.0 +1.0
baz=281,SNR=46
BCAR **Beaver Creek A** 27.52 53 P P 19 11 50.3 +0.1
WAX **Waxell Ridge** 27.61 59 IAmb IAmb 19 11 53.0
comp=Z,32nm,1.3s
M27K **Edge Creek, AK** 27.62 55 IAmb IAmb 19 11 53.5
comp=Z,22nm,0.7s
M27K **Edge Creek, AK** 27.62 55 P P 19 11 52.5 +1.4
baz=282,SNR=28
F28M **Old Crow** 27.75 43 IAmb IAmb 19 12 00.1
comp=Z,18nm,0.9s
F28M **Old Crow** 27.75 43 P P 19 11 53.2 +1.0
baz=274,SNR=17
ISLE **Juniper Island** 27.81 58 IAmb IAmb 19 11 57.9
comp=Z,24nm,1.3s
E28M **Babbage River** 27.82 41 P P 19 11 53.2 +0.4
baz=272,SNR=6.4
I28M **Miner Creek** 27.93 48 IAmb IAmb 19 11 55.5
comp=Z,13nm,0.8s
I28M **Miner Creek** 27.93 48 P P 19 11 54.5 +0.6
baz=278,SNR=28
BARN **Barnard Glacie** 28.02 57 IAmb IAmb 19 12 01.6
comp=Z,14nm,0.8s
BVCY **Beaver Creek** 28.07 54 P P 19 11 55.9 +0.8
baz=283,SNR=18
D28M **Stokes Point** 28.09 39 P P 19 11 56.2 +1.1
baz=271
MESA **MESA** 28.11 59 IAmb IAmb 19 12 06.5
comp=Z,26nm,1.1s
MESA **MESA** 28.11 59 P P 19 11 56.8 +1.2
baz=286
CTG **Chitna Glacier** 28.19 57 P P 19 11 57.0 +0.7
baz=285
CTGM **Chitina Glacie** 28.19 57 IAmb IAmb 19 12 04.1
comp=Z,13nm,0.8s
DAWY **Dawson** 28.39 51 P P 19 11 58.0 +0.1
baz=281,SNR=16
YUK3 **Moose Creek** 28.40 55 P P 19 11 58.4 +0.2
baz=284
TABL **Table Mountain** 28.43 58 IAmb IAmb 19 12 06.0
comp=Z,17nm,1.0s
E29M **Blow River** 28.44 41 IAmb IAmb 19 12 00.4
comp=Z,24nm,1.2s
E29M **Blow River** 28.44 41 P P 19 11 59.5 +1.2
baz=274,SNR=10
H29M **Whitestone** 28.47 46 P P 19 11 59.6 +1.0
baz=276,SNR=26
G29M **Pine Creek** 28.52 44 P P 19 12 00.3 +1.2
baz=277,SNR=28
I29M **Ogilvie Camp,** 28.62 48 IAmb IAmb 19 12 07.3
comp=Z,26nm,1.1s
I29M **Ogilvie Camp,** 28.62 48 P P 19 12 00.4 +0.5
baz=279,SNR=37
O28M **Mount Upton** 28.78 57 IAmb IAmb 19 12 03.5
comp=Z,16nm,0.7s
O28M **Mount Upton** 28.78 57 P P 19 12 02.4 +0.6
baz=286,SNR=10
YUK8 **Steele Glacier** 28.84 56 P P 19 12 03.1 +0.9
baz=285
PINM **Pinnacle** 28.95 59 P P 19 12 04.5 +1.5
baz=287,SNR=7.1
EPYK **Eagle Plains** 29.11 45 P P 19 12 04.9 +0.6
baz=279,SNR=9.2
L29M **L29M** 29.14 52 P P 19 12 06.0 +1.4
baz=293,SNR=56
M29M **Somme Creek** 29.14 54 IAmb IAmb 19 12 07.0
comp=Z,17nm,0.7s
M29M **Somme Creek** 29.14 54 P P 19 12 05.8 +1.1
baz=284,SNR=24
G30M **tAoh Zraii Nji** 29.22 44 IAmb IAmb 19 12 12.7
comp=Z,21nm,0.8s
G30M **tAoh Zraii Nji** 29.22 44 P P 19 12 05.5 +0.2
baz=278,SNR=17
K29M **Barlow Dome** 29.24 51 P P 19 12 05.9 +0.4
baz=282,SNR=8.0
F30M **Barrier River** 29.30 43 IAmb IAmb 19 12 14.4
comp=Z,28nm,0.9s
F30M **Barrier River** 29.30 43 P P 19 12 06.9 +0.9
baz=277,SNR=13
YUK4 **Talbot Arm** 29.35 56 P P 19 12 07.5 +0.9
baz=286
I30M **Mount Dempster** 29.44 48 IAmb IAmb 19 12 08.8
comp=Z,21nm,0.7s
I30M **Mount Dempster** 29.44 48 P P 19 12 07.8 +0.5
baz=281,SNR=43
PNL **Peninsula** 29.49 59 P P 19 12 08.1 +0.4
baz=288,SNR=6.8
J30M **Hart River** 29.59 49 P P 19 12 09.1 +0.4
baz=282,SNR=5.6
YUK6 **Outpost Mounta** 29.59 57 P P 19 12 09.2 +0.4
baz=287,SNR=7.3
O29M **Mount Kennedy** 29.68 58 P P 19 12 10.2 +0.6
baz=288
M30M **Minto, Yukon** 29.86 53 P P 19 12 11.9 +0.9
baz=285
G31M **Satah River** 29.99 44 IAmb IAmb 19 12 19.9
comp=Z,12nm,0.8s
G31M **Satah River** 29.99 44 P P 19 12 12.1 +0.2
baz=280,SNR=12
MAYO **Mayo, Yukon** 30.00 51 P P 19 12 13.0 +0.9
baz=284
HYT **Haines Junctio** 30.03 57 IAmb IAmb 19 12 15.3
comp=Z,16nm,0.8s
HYT **Haines Junctio** 30.03 57 P P 19 12 13.6 +1.0
baz=288,SNR=20
N30M **Aishikik Lake** 30.04 55 P P 19 12 12.8 +0.2
baz=287
INK **Inuvik** 30.06 41 IAmb IAmb 19 12 20.4
comp=Z,18nm,0.8s
INK **Inuvik** 30.06 41 P P 19 12 13.8 +1.3
baz=278,SNR=9.1
F31M **Tsiigehtchic** 30.11 43 IAmb IAmb 19 12 20.4
comp=Z,22nm,0.8s
F31M **Tsiigehtchic** 30.11 43 P P 19 12 13.7 +0.7
baz=279,SNR=9.1
H31M **Peel River** 30.16 46 IAmb IAmb 19 12 17.2
comp=Z,12nm,0.8s
H31M **Peel River** 30.16 46 P P 19 12 13.7 +0.1
baz=282,SNR=13
P29M **Windy Craggy** 30.30 59 P P 19 12 15.5 +0.7
baz=290
KS19 **Wonju Array Si** 30.48 248 P P 19 12 15.8 -0.9
KSRS **Korea Array** 30.49 248 P P 19 12 15.9 -0.7
comp=Z,2.6nm,0.5s,baz=34,slow=9.1,SNR=19
KSRS PcP PcP 19 15 16.6 +1.2
comp=Z,1.6nm,0.9s,baz=12,slow=3.0,SNR=8.3
comp=Z,2.6nm,0.5s
P30M **Million Dollar** 30.51 58 P P 19 12 17.8 +1.1
baz=289
N31M **Braeburn, Yuko** 30.63 55 P P 19 12 18.3 +0.5
baz=288
O30N **Mendenhall** 30.71 56 P P 19 12 19.2 +0.7
baz=289
PLBC **Pleasant Camp** 31.02 59 P P 19 12 22.3 +1.1
baz=290
M31M **Drury Creek, Y** 31.04 53 P P 19 12 22.6 +1.2
baz=287,SNR=40
WHY **Whitehorse** 31.30 56 P P 19 12 25.3 +1.4
baz=290,SNR=14
FARO **Faro, Yukon** 31.50 53 IAmb IAmb 19 12 27.8
comp=Z,11nm,0.7s
FARO **Faro, Yukon** 31.50 53 P P 19 12 26.8 +1.4
baz=288,SNR=19
SKAG **Skagway** 31.51 58 P P 19 12 26.7 +1.2
baz=291
S31K **Pelican** 31.63 61 P P 19 12 27.4 +0.9
baz=293
N32M **Quiet Lake** 31.97 55 P P 19 12 30.2 +0.6
baz=290
P32M **Atlin** 32.23 58 P P 19 12 32.7 +0.9
baz=292
MMPY **Sheldon Lake,** 32.30 51 IAmb IAmb 19 12 35.1
comp=Z,16nm,0.8s
MMPY **Sheldon Lake,** 32.30 51 P P 19 12 33.9 +1.4
baz=289,SNR=34
A36M **Sachs Harbour** 32.33 33 P P 19 12 33.5 +1.0
A36M **Sachs Harbour** 32.33 33 P P 19 12 33.8 +1.3
baz=279,SNR=6.4
R32K **Eaglecrest** 32.35 60 IAmb IAmb 19 12 42.0
comp=Z,11nm,0.9s

R32K Eaglecrest 32.35 60 P **P** **19 12 33.4 +0.5**
baz=293

P33M Teslin, Yukon 32.42 56 IAmb IAmb 19 12 36.0
comp=Z,22nm,1.4s

P33M Teslin, Yukon 32.42 56 P **P** **19 12 34.5 +0.9**
baz=291,SNR=9.5

SIT Sitka 32.45 63 P **P** **19 12 35.2 +1.5**
baz=295

S32K Killisnoo 32.65 62 IAmb IAmb 19 12 44.8
comp=Z,20nm,1.1s

S32K Killisnoo 32.65 62 P **P** **19 12 36.6 +1.2**
baz=294

Q32M Nakina River 33.16 58 IAmb IAmb 19 12 43.4
comp=Z,10nm,0.8s

Q32M Nakina River 33.16 58 P **P** **19 12 42.0 +1.8**
baz=294,SNR=8.7

R33M Jennings River 33.60 57 IAmb IAmb 19 12 53.0
comp=Z,13nm,0.8s

R33M Jennings River 33.60 57 P **P** **19 12 45.5 +1.5**
baz=294,SNR=21

U33K Whale Pass 33.95 63 P **P** **19 12 48.2 +1.3**
baz=297

TGTN Hyland Airport 34.00 52 P **P** **19 12 49.2 +1.9**
baz=292,SNR=5.7

S34M Telegraph Cree 34.14 59 IAmb IAmb 19 12 58.1
comp=Z,10nm,0.9s

S34M Telegraph Cree 34.14 59 P **P** **19 12 50.6 +2.1**
baz=296

WRAK Wrangell Islan 34.20 62 IAmb IAmb 19 12 59.6
comp=Z,33nm,1.6s

WRAK Wrangell Islan 34.20 62 P **P** **19 12 50.8 +1.7**
baz=297

CRAG Craig 34.25 64 P **P** **19 12 51.7 +2.2**
baz=298

WTLY Watson Lake, Y 34.31 55 IAmb IAmb 19 12 52.4
comp=Z,15nm,0.7s

WTLY Watson Lake, Y 34.31 55 P **P** **19 12 52.0 +2.0**
baz=294,SNR=9.9

DLBC Dease Lake 34.44 58 LR LR 19 27 03.2
comp=Z,8.6nm,18.7s,baz=247,slow=37

DLBC Dease Lake 34.44 58 P **P** **19 12 53.3 +2.1**
baz=295,SNR=15

T35M Bob Quinn 34.98 61 IAmb IAmb 19 13 06.2
comp=Z,15nm,0.8s

T35M Bob Quinn 34.98 61 P **P** **19 12 57.8 +2.0**
baz=297,SNR=6.1

ULN Ulaanbaatar 35.10 281 P **P** **19 12 56.1 -1.0**
ULN Ulaanbaatar 35.10 281‖ *eP* **P** **19 12 57.2 +0.1**
ULN pmax pmax
comp=Z,10.0nm,1.2s

SONM Songino Array 35.48 281 P **P** **19 12 59.7 -0.6**
SONM Songino Array 35.48 281 P **P** **19 12 59.8 -0.5**
comp=Z,4.0nm,0.8s,baz=64,slow=9.3,SNR=12
SONM PcP **PcP** **19 15 29.9 +0.5**
comp=Z,2.2nm,0.6s,baz=133,slow=2.0,SNR=5.4
SONM LR LR 19 29 08.6
comp=Z,115nm,20.0s,baz=265,slow=39
comp=Z,4.0nm,0.8s

SONM Songino Array 35.48 281 P **P** **19 12 59.7 -0.6**
SONM pmax pmax
comp=Z,4.0nm,0.9s

ZAK Zakamensk 35.73 287 *eP* **P** **19 13 01.2 -1.2**
ZAK pmax pmax
comp=Z,3.0nm,1.3s

LIRD Liard River Hi 35.85 55 P **P** **19 13 04.9 +1.6**
baz=296

H11N2 WAKE ISLAND Hy 36.42 175 T T 19 51 50.3
baz=357,slow=76,SNR=3971

H11N3 WAKE ISLAND Hy 36.44 175 T T 19 51 50.3
baz=357,slow=76,SNR=845

H11N1 WAKE ISLAND Hy 36.44 175 T T 19 51 48.5
baz=357,slow=76,SNR=3204

KOTAN Kotaneelee Air 36.46 53 P **P** **19 13 09.9 +1.5**
baz=296

TOAD Toad River Com 36.50 56 P **P** **19 13 11.1 +2.3**
baz=297,SNR=33

HHC Hu-ho-hao-te 36.99 268 *eP* **P** **19 13 12.5 -0.8**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.2s
HHC LR LR
comp=Z,160nm,13.8s
HHC LR LR
comp=Z,220nm,13.4s
HHC LR LR
comp=Z,150nm,13.7s

BTO Baotou 38.02 269 *eP* **P** **19 13 23.0 +1.0**
BTO pP **pwP** **19 13 27.6 -3.2**
BTO sP **sP** **19 13 30.0 +1.7**
BTO PP **PnPn** **19 14 53.4 +3.2**
BTO sS **sS** **19 19 22.2 +1.4**
BTO pmax pmax
comp=Z,36nm,0.9s
BTO pmax pmax
comp=Z,160nm,5.8s
BTO LR LR
comp=Z,470nm,15.9s
BTO LR LR
comp=Z,430nm,17.2s
BTO LR LR
comp=Z,280nm,9.7s

YKAW3 Yellowknife Wh 39.35 46 IAmb IAmb 19 13 34.6
comp=Z,14nm,0.6s

YKA Yellowknife Ar 39.38 46 P **P** **19 13 32.8 -0.2**
YKA Yellowknife Ar 39.38 46 P **P** **19 13 33.9 +0.9**
comp=Z,8.3nm,0.7s,baz=301,slow=8.8,SNR=31
comp=Z,8.3nm,0.7s

YKA Yellowknife Ar 39.38 46 P **P** **19 13 32.8 -0.2**
NJ2 Nanjing 39.39 252 *eP* **P** **19 13 33.6 +0.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s

YKAW1 Yellowknife Wh 39.44 46 IAmb IAmb 19 13 35.3
comp=Z,12nm,0.8s

RES Resolute Bay 39.62 24 LR LR 19 31 15.6
comp=Z,45nm,19.1s,baz=261,slow=38

NOR Nord 42.49 0 *i* P **P** **19 13 57.0 -1.4**
ZALV Zalesovo Beam 43.07 302 P **P** **19 14 02.9 -0.5**
comp=Z,0.3nm,0.4s,baz=35,slow=5.3,SNR=1.9
ZALV PcP **PcP** **19 15 54.0 +0.9**
comp=Z,2.4nm,0.7s,baz=0.0,slow=4.4,SNR=6.8

SPITS Spitsbergen Ar 44.49 351 P **P** **19 14 15.2 +0.6**
comp=Z,26nm,1.0s,baz=78,slow=8.9,SNR=8.9
comp=Z,26nm,1.0s

SPB2 Spitsbergen Ar 44.49 351 P **P** **19 14 15.2 +0.6**
GTA Gaotai 44.54 276 P **P** **19 14 15.4 -0.2**
GTA pP pwP 19 14 20.4 -4.1
GTA PcP **PP** **19 15 59.6 +0.2**
GTA pmax pmax
comp=Z,14nm,0.7s
GTA LR LR
comp=Z,930nm,14.5s

LZH Lanzhou 44.64 270 *eP* **P** **19 14 16.3 -0.2**
LZH sP pwP 19 14 23.3 -2.0
LZH pmax pmax
comp=Z,20nm,1.0s
LZH LR LR
comp=Z,220nm,16.5s
LZH LR LR
comp=Z,250nm,13.4s

NEEM North Greenlan 44.89 10 *i* P **P** **19 14 18.4 +0.3**
NEEM IAmb IAmb 19 14 25.4
comp=Z,26nm,1.0s

GUMO Guam 44.96 207 LR LR 19 30 54.1
comp=Z,32nm,20.9s,baz=45,slow=33

B08A Colville Reser 45.28 66 IAmb IAmb 19 14 23.2
comp=Z,13nm,0.9s

BLKN Baker Lake 45.28 37 P **P** **19 14 20.4 -0.6**
ILON Igloolik, Nuna 46.07 27 P **P** **19 14 26.5 -0.7**
ILON IAmb IAmb 19 14 28.8
comp=Z,12nm,0.8s

BUCK Buck Mountain 46.10 73 IAmb IAmb 19 14 36.4
comp=Z,17nm,1.2s

E07A Sunnyside 46.18 68 IAmb IAmb 19 14 36.3
comp=Z,13nm,1.0s

H04A Detroit Lake 46.20 72 IAmb IAmb 19 14 36.5
comp=Z,11nm,1.2s

G05A Wamic 46.29 70 IAmb IAmb 19 14 43.9
comp=Z,12nm,0.9s

NEW Newport 46.47 65 IAmb IAmb 19 14 38.1
comp=Z,9.1nm,0.9s

ZSN Zaisan 47.14 295 *eP* **P** **19 14 35.0 -0.9**
ZSN Zaisan 47.14 295 *eP* **P** **19 14 35.0 -0.9**
BBOR Butler Butte 47.15 74 IAmb IAmb 19 14 44.7
comp=Z,9.4nm,1.0s

DAG Danmarks Havn 47.34 1 *i* P **P** **19 14 37.0 0.0**
DAG IAmb IAmb 19 14 38.4
comp=Z,11nm,0.9s

LNOR Lincton Mounta 47.45 68 IAmb IAmb 19 14 46.2
comp=Z,9.2nm,1.2s

PINE Pine Mountain 47.46 72 IAmb IAmb 19 14 41.1
comp=Z,13nm,0.9s

SEM Semipalatinsk 47.49 300 *eP* **P** **19 14 37.7 -1.1**
SEM Semipalatinsk 47.49 300 *eP* **P** **19 14 37.7 -1.1**
YBH Yreka Blue Hor 47.93 75 IAmb IAmb 19 14 44.9
comp=Z,6.6nm,0.8s

YBH Yreka Blue Hor 47.93 75 LR LR 19 33 42.5
comp=Z,6.6nm,18.9s,baz=277,slow=35

F10A Beach Ranch, E 47.93 67 IAmb IAmb 19 14 43.8
comp=Z,8.5nm,0.8s

KURK Kurchatov 48.06 302 P **P** **19 14 41.8 -1.1**
KURK IAmb IAmb 19 15 08.3
comp=Z,7.3nm,0.9s

KURK Kurchatov 48.06 302‖ *eP* **P** **19 14 42.8 -0.1**
KURK pmax pmax
comp=Z,7.0nm,0.9s

WMQ Urumqi 48.12 289 *eP* **P** **19 14 45.8 +2.2**
WMQ LR LR
comp=Z,310nm,21.5s
WMQ LR LR
comp=Z,300nm,18.7s

KURBB Kurchatov Arra 48.17 302 P **P** **19 14 42.8 -1.0**
comp=Z,4.3nm,0.8s,baz=55,slow=8.0,SNR=35
KURBB PcP **PcP** **19 16 10.8 0.0**
comp=Z,1.5nm,0.8s,baz=50,slow=2.7,SNR=5.5
KURBB PP **PP** **19 16 37.3 +1.5**
comp=Z,2.5nm,0.8s,baz=48,slow=9.4,SNR=4.5
comp=Z,4.3nm,0.8s

K05A Summer Lake 48.22 73 IAmb IAmb 19 14 47.2
comp=Z,12nm,1.1s

BMO Blue Mountains 48.65 68 IAmb IAmb 19 14 49.5
comp=Z,7.7nm,0.8s

MK31 Makanchi Array 48.89 296‖ *eP* **P** **19 14 48.7 -0.7**
MKAR Makanchi Array 48.89 296 P **P** **19 14 47.8 -1.6**
MKAR Makanchi Array 48.89 296 P **P** **19 14 48.2 -1.2**
comp=Z,1.6nm,0.5s,baz=57,slow=6.3,SNR=23
comp=Z,1.6nm,0.5s

O02D Mt. Diablo Mer 48.97 76 IAmb IAmb 19 14 58.9
comp=Z,12nm,1.0s

MSO Missoula 49.03 64 IAmb IAmb 19 14 58.1
comp=Z,13nm,1.0s

J08A Circle Bar Ran 49.07 70 IAmb IAmb 19 14 53.1
comp=Z,10nm,1.1s

PLID Pearl Lake 49.17 67 IAmb IAmb 19 14 53.6
comp=Z,7.6nm,0.7s

FFC Flin Flon 49.28 50 P **P** **19 14 52.3 0.0**
FFC IAmb IAmb 19 14 59.6
comp=Z,9.7nm,0.9s

FFC Flin Flon 49.28 50 P **P** **19 14 52.3 0.0**
FFC pmax pmax
comp=Z,10.0nm,0.9s

GOMU GeErMu 49.60 277 P **P** **19 14 54.9 -0.5**
GOMU pP sP 19 14 59.6 -2.5
GOMU sP pwP 19 15 01.4 -2.9
GOMU pmax pmax
comp=Z,8.0nm,1.0s

WVOR Wild Horse Val 49.62 71 IAmb IAmb 19 15 03.2
comp=Z,12nm,1.1s

DBG Daneborg 49.80 2 *i* P **P** **19 14 55.8 -0.1**
DBG IAmb IAmb 19 15 03.2
comp=Z,8.8nm,0.8s

BVAR Borovoye Array 50.28 308 P **P** **19 14 59.5 -0.3**
comp=Z,5.2nm,0.7s,baz=56,slow=7.9,SNR=29
BVAR PcP **PcP** **19 16 18.5 0.0**
comp=Z,2.1nm,0.5s,baz=58,slow=3.6,SNR=4.9
comp=Z,5.2nm,0.7s

EGMT Eagleton 50.29 61 IAmb IAmb 19 15 01.4
comp=Z,14nm,0.8s

BRVK Borovoye 50.30 308 P **P** **19 15 00.2 +0.2**
BRVK Borovoye 50.30 308‖ *eP* **P** **19 15 00.8 +0.8**
BRVK pmax pmax
comp=Z,7.0nm,0.7s

MFID Camas Ranch 50.41 69 IAmb IAmb 19 15 08.9
comp=Z,12nm,1.1s

SUMG Summit 50.63 9 P **P** **19 15 03.1 +0.4**
SUMG IAmb IAmb 19 15 11.8
comp=Z,22nm,1.0s

SUMG Summit 50.63 9 P **P** **19 15 03.1 +0.4**
SUMG pmax pmax
comp=Z,22nm,1.0s

SUMG Summit 50.63 9 *i* P **P** **19 15 03.0 +0.4**
SUMG IAmb IAmb 19 15 10.2
comp=Z,44nm,1.4s

DLMT Dillon 50.72 65 IAmb IAmb 19 15 05.3
comp=Z,29nm,1.6s

ARCES ARCESS Array B 51.07 343 P **P** **19 15 06.3 +0.6**
comp=Z,2.7nm,0.7s,baz=27,slow=8.2,SNR=7.6
ARCES PcP **PcP** **19 16 21.1 0.0**
comp=Z,2.6nm,0.8s,baz=39,slow=2.2,SNR=3.5
ARCES LR LR 19 38 19.1
comp=Z,54nm,21.6s,baz=359,slow=38
comp=Z,2.7nm,0.7s

APA Apatity 51.28 338 *eP* **P** **19 15 03.4 -3.8**
APA pmax pmax
comp=Z,8.0nm,0.6s
APA MLR MLR
comp=Z,427nm,4.8s

SVE Sverdlovsk 51.60 317 *eP* **P** **19 15 10.8 +1.0**
SVE pmax pmax
comp=Z,22nm,0.8s
SVE MLR MLR
comp=Z,168nm,15.0s

YHL Hebgen Lake 51.79 64 IAmb IAmb 19 15 13.8
comp=Z,11nm,0.9s

WAKR Walker 51.98 76 IAmb IAmb 19 15 15.7
comp=Z,7.6nm,0.7s

TDK Taldyqorghan 52.09 296 *eP* **P** **19 15 12.6 -1.0**
TDK pmax pmax
comp=Z,9.0nm,1.0s

TDK Taldyqorghan 52.09 296 *eP* **P** **19 15 12.6 -1.0**
comp=Z,9.4nm,1.0s

ILULI Ilulissat 52.36 15 *i* P **P** **19 15 13.8 -1.4**
NVAR Mina Array Bea 52.65 75 P **P** **19 15 18.6 +0.6**
NVAR Mina Array Bea 52.65 75 P **P** **19 15 19.9 +1.8**
comp=Z,3.9nm,0.7s,baz=302,slow=7.4,SNR=19
comp=Z,3.9nm,0.7s

LHV Little Huntoon 52.67 75 IAmb IAmb 19 15 21.1
comp=Z,13nm,1.2s

FXWY Fox Creek 52.73 65 IAmb IAmb 19 15 20.9
comp=Z,10nm,0.8s

ARTI Arti 52.78 318 P **P** **19 15 18.9 +0.3**
ARTI Arti 52.78 318 LR LR 19 40 59.9
comp=Z,133nm,18.3s,baz=111,slow=40

ARTI Arti 52.78 318 *e i*P **P** **19 15 19.2 +0.7**
ARTI *PP **pwP** **19 15 28.8 +1.7**
ARTI 19 16 28.3
ARTI 19 17 16.5
ARTI S **S** **19 22 44.8 -0.6**
ARTI SS **SS** **19 26 17.6 -5.8**
ARTI pmax pmax
comp=Z,27nm,0.8s

SHLS Shalkode 52.86 294 *eP* **P** **19 15 16.7 -2.8**
SHLS pmax pmax
comp=Z,8.0nm,0.6s

SHLS Shalkode 52.86 294 *eP* **P** **19 15 16.7 -2.8**
comp=Z,7.9nm,0.6s

TPAW Teton Pass 52.88 65 IAmb IAmb 19 15 22.3
comp=Z,12nm,0.8s

LOHW Long Hollow 52.96 65 IAmb IAmb 19 15 22.8
comp=Z,11nm,0.8s

KPKS Kokpek 53.04 295 *eP* **P** **19 15 19.7 -1.0**
KPKS Kokpek 53.04 295 *eP* **P** **19 15 19.7 -1.0**
PZH PanZhiHua 53.04 263 P **P** **19 15 21.7 +0.7**
FRB Frobisher Bay 53.78 26 LR LR 19 39 25.3
comp=Z,82nm,19.8s,baz=282,slow=37

HWUT Hardware Ranch 53.91 67 IAmb IAmb 19 15 29.7
comp=Z,10.0nm,0.8s

PD31 Pinedale Array 54.10 65 IAmb IAmb 19 15 37.1
comp=Z,11nm,0.8s

PDAR Pinedale Array 54.10 65 P **P** **19 15 28.9 +0.2**
PDAR Pinedale Array 54.10 65 P **P** **19 15 29.6 +0.9**
comp=Z,8.1nm,0.7s,baz=327,slow=2.9,SNR=36
comp=Z,8.1nm,0.7s

BTLS Baital 54.22 299 *eP* **P** **19 15 28.3 -0.9**
BTLS Baital 54.22 299 *eP* **P** **19 15 28.4 -0.9**
KIRV Kirov 54.27 324 LR LR 19 42 56.6
comp=Z,108nm,18.2s,baz=112,slow=41

KIRV Kirov 54.27 324 *de*P **P** **19 15 30.8 +1.4**
DUG Dugway, Tooele 54.29 70 IAmb IAmb 19 15 38.3
comp=Z,9.0nm,1.0s

SPR3 Spring Creek 3 54.36 72 IAmb IAmb 19 15 34.1
comp=Z,13nm,0.9s

SFJD Kangerlussuaq 54.48 16 LR LR 19 39 02.6
comp=Z,54nm,20.9s,baz=358,slow=36

TPNV Topopah Spring 54.84 75 IAmb IAmb 19 15 42.6
comp=Z,14nm,1.1s

PSUT Pine Spring 54.96 72 IAmb IAmb 19 15 43.3
comp=Z,9.2nm,0.9s

SGDS Sogindy 55.09 297 *eP* **P** **19 15 34.9 -0.8**
ULM Lac du Bonnet 55.09 50 IAmb IAmb 19 15 37.1
comp=Z,16nm,0.9s

ULM Lac du Bonnet 55.09 50 P **P** **19 15 36.3 +0.8**
comp=Z,12nm,0.8s,baz=313,slow=7.7,SNR=16
comp=Z,12nm,0.8s

BSUT Blindstream Ca 55.11 68 IAmb IAmb 19 15 44.8
comp=Z,15nm,1.1s

PRN Pahroc Range 55.15 73 IAmb IAmb 19 15 44.9
comp=Z,15nm,1.0s

GWY Greenwater Val 55.18 76 IAmb IAmb 19 15 38.9
comp=Z,9.8nm,0.9s

KLMR Klimovskoe 55.43 331 *eP* **P** **19 15 36.4 -1.3**
KLMR *e*PP **pwP** **19 15 46.6 +0.3**
KLMR pmax pmax
comp=Z,19nm,1.1s

K22A Casper 55.72 63 IAmb IAmb 19 15 47.9
comp=Z,18nm,1.2s

AAK Ala-Archa 55.75 297 P **P** **19 15 40.1 -0.5**
AAK IAmb IAmb 19 15 42.4
comp=Z,8.6nm,0.9s

AAK Ala-Archa 55.75 297‖ *eP* **P** **19 15 40.6 0.0**
AAK pmax pmax
comp=Z,10.0nm,0.9s

GSC Goldstone, Bar 55.76 76 IAmb IAmb 19 15 49.0
comp=Z,17nm,1.2s

TMUT Trail Mountain 55.79 69 IAmb IAmb 19 15 49.6
comp=Z,12nm,0.8s

MVU Marysvale 55.85 70 IAmb IAmb 19 15 50.3
comp=Z,9.9nm,1.1s

RSSD Black Hills 55.86 60 P **P** **19 15 41.6 +0.2**
RSSD IAmb IAmb 19 15 43.1
comp=Z,11nm,0.8s

RSSD Black Hills 55.86 60 P **P** **19 15 41.6 +0.2**
RSSD pmax pmax
comp=Z,11nm,0.8s

TNCH TengChong 55.99 265 P **P** **19 15 43.6 +1.1**
TNCH PcP **PcP** **19 16 41.7 +0.9**
TNCH pmax pmax
comp=Z,10.0nm,2.8s

P18A Preston Nutter 56.05 68 IAmb IAmb 19 15 51.5
comp=Z,12nm,0.9s

Q16A Castle Valley 56.09 69 IAmb IAmb 19 15 45.8
comp=Z,9.3nm,0.9s

EPLO Experimental L 56.44 50 IAmb IAmb 19 15 52.5
comp=Z,17nm,1.0s

LSA Lhasa 56.49 274 P **P** **19 15 46.9 +0.5**
LSA Lhasa 56.49 274 P **P** **19 15 46.2 -0.2**
LSA pmax pmax
comp=Z,17nm,0.7s

LSA Lhasa 56.49 274 P **P** **19 15 46.9 +0.5**
LSA pmax pmax
comp=Z,12nm,0.6s

AGMN Agassiz Nation 56.55 52 IAmb IAmb 19 15 53.9
comp=Z,11nm,0.8s

KNB Kanab 56.63 72 IAmb IAmb 19 16 03.0
comp=Z,12nm,1.2s

KSH Kashi 57.31 293 P **P** **19 15 55.2 +3.5**
KSH SS SKiKP 19 27 41.1 +58
KSH LR LR
comp=Z,900nm,13.7s
KSH LR LR
comp=Z,500nm,13.1s
KSH LR LR
comp=Z,420nm,16.5s

KK31 Karatay Array 57.37 300 IAmb IAmb 19 15 52.3
comp=Z,6.4nm,0.7s

KKAR Karatay Array 57.37 300 P **P** **19 15 51.0 -0.9**
KKAR Karatay Array 57.37 300 IAmb IAmb 19 15 52.3
comp=Z,6.7nm,0.7s

KKAR Karatay Array 57.37 300 P **P** **19 15 51.0 -0.9**
ABKAR Akbulak array 57.53 311 P **P** **19 15 52.5 -0.4**
ABKAR Akbulak array 57.53 311 IAmb IAmb 19 15 54.3
comp=Z,13nm,0.6s

PV22 Blue Mesa, Par 57.62 68 IAmb IAmb 19 16 02.7
comp=Z,25nm,1.4s

PV16 Nyswonger Mesa 57.72 68 IAmb IAmb 19 16 02.8
comp=Z,15nm,0.9s

BRLS Borolday 57.75 300 *eP* **P** **19 15 55.3 +0.7**
BRLS Borolday 57.75 300 *eP* **P** **19 15 55.4 +0.8**
PV07 Paradox Valley 57.76 68 IAmb IAmb 19 16 03.0
comp=Z,23nm,1.3s

PV03 Paradox Valley 57.80 68 IAmb IAmb 19 16 03.3
comp=Z,18nm,1.0s

PV13 Radium Mtn., P 57.88 68 IAmb IAmb 19 16 04.1
comp=Z,17nm,1.1s

PV15 Paradox Valley 57.92 68 IAmb IAmb 19 16 04.7
comp=Z,15nm,0.9s

FINES FINESS Array B 58.19 338 P **P** **19 15 58.0 +0.7**
comp=Z,5.9nm,0.8s,baz=37,slow=9.8,SNR=15
comp=Z,5.9nm,0.8s

FINES FINESS Array B 58.19 338 *i* P **P** **19 15 58.0 +0.7**
FINES pmax pmax
comp=Z,6.0nm,0.8s

F33A 5 Mile Ranch, 58.22 54 IAmb IAmb 19 16 05.9
comp=Z,18nm,1.2s

ISCO Idaho Springs 58.30 65 IAmb IAmb 19 16 07.5
comp=Z,12nm,1.1s

IUG luzhnay 58.32 299 *eP* **P** **19 15 57.7 -1.0**
IUG luzhnay 58.32 299 *eP* **P** **19 15 57.7 -1.0**
CHM Chimkent 58.40 300 *eP* **P** **19 15 58.0 -1.1**
CHM Chimkent 58.40 300 *eP* **P** **19 15 58.1 -1.1**
EYMN Ely 58.72 50 IAmb IAmb 19 16 08.5
comp=Z,16nm,1.1s

TBO Thunder Bay 59.05 48 IAmb IAmb 19 16 10.4
comp=Z,9.2nm,0.9s

SHL Shillong 59.28 271 P **P** **19 16 03.3 -2.4**
SHL IAmb IAmb 19 16 08.0
comp=Z,7.1nm,0.9s

SHL Shillong 59.28 271 P **P** **19 16 03.3 -2.4**
SHL pmax pmax
comp=Z,7.0nm,0.9s

BORG Borgarnes 59.37 3 LR LR 19 42 49.8
comp=Z,51nm,18.9s,baz=337,slow=37

BTK Batken 59.52 297 IAmb IAmb 19 16 15.0
comp=Z,5.2nm,0.8s

BELG Belogornoye 59.84 321 LR LR 19 45 02.7
comp=Z,88nm,18.5s,baz=82,slow=39

BELG Belogornoye 59.84 321 *ce*P **P** **19 16 09.6 +0.8**
BELG pmax pmax
comp=Z,9.0nm,1.3s

MOS Moscow 60.29 328 *eP* **P** **19 16 10.2 -1.7**
MOS *e* 19 16 28.2
GAR Garm 60.57 297 P **P** **19 16 13.1 -1.2**
GAR IAmb IAmb 19 16 25.7
comp=Z,10nm,1.0s

CHTO Chiang Mai 60.72 260 P **P** **19 16 15.2 -0.2**
CHTO Chiang Mai 60.72 260 P **P** **19 16 15.2 -0.2**
CHTO pmax pmax
comp=Z,46nm,1.8s

VSU Vasula 60.73 336‖ *eP* **P** **19 16 15.0 +0.1**
CM31 Chiang Mai Arr 61.01 260 IAmb IAmb 19 16 20.5
comp=Z,11nm,0.8s

CMAR Chiang Mai Arr 61.01 260 P **P** **19 16 17.4 +0.1**
CMAR Chiang Mai Arr 61.01 260 P **P** **19 16 17.9 +0.6**
comp=Z,6.1nm,0.7s,baz=22,slow=6.2,SNR=45
CMAR PcP **PcP** **19 17 01.8 +1.3**
comp=Z,3.9nm,0.7s,baz=12,slow=3.6,SNR=9.9
comp=Z,6.1nm,0.7s

CMAR Chiang Mai Arr 61.01 260 *i* P **P** **19 16 17.8 +0.5**
CMAR pmax pmax
comp=Z,7.0nm,0.7s

OBN Obninsk 61.13 329‖ *eP* **P** **19 16 18.8 +1.2**
OBN *e* 19 16 28.4
OBN pmax pmax
comp=Z,24nm,1.3s
OBN MLR MLR
comp=Z,93nm,18.0s

COWI Conover 61.16 49 IAmb IAmb 19 16 25.0
comp=Z,7.4nm,0.9s

NB2 NORSAR Subarra 61.20 345 P **P** **19 16 18.8 +0.6**
comp=Z,3.1nm,0.7s,baz=17,slow=6.9

NOA NORSAR Array B 61.20 345 P **P** **19 16 18.4 +0.2**
comp=Z,4.7nm,0.7s,baz=17,slow=6.8,SNR=17
NOA LR LR 19 43 53.1
comp=Z,27nm,19.6s,baz=315,slow=37
comp=Z,4.7nm,0.7s

HFS Hagfors 61.70 344 P **P** **19 16 21.6 +0.2**
comp=Z,5.9nm,0.6s,baz=72,slow=5.0,SNR=14
HFS LR LR 19 44 29.2
comp=Z,40nm,19.5s,baz=73,slow=37
comp=Z,5.9nm,0.6s

SCHQ Schefferville 61.87 31 P **P** **19 16 22.5 -0.2**

comp=Z,8.5nm,0.6s,baz=342,slow=6.3,SNR=16
SCHQ LR LR 19 44 16.2
comp=Z,49nm,20.4s,baz=296,slow=37
comp=Z,8.5nm,0.6s
RTBA Rita Blanca 62.32 65 IAmb IAmb 19 16 27.6
comp=Z,9.5nm,0.9s
LPSR Galich'ya Gora 62.58 326 *e*P **P 19 16 27.0 -0.4**
LPSR pmax pmax
comp=Z,20nm,0.8s
VRH Novokhopyorsk 62.87 323 *e*P **P 19 16 28.1 -1.3**
VRH pmax pmax
comp=Z,10.0nm,0.8s
H43A Windswept, Lux 63.05 50 P **P 19 16 30.9 +0.2**
JFWS Jewell Farm 63.21 52 P **P 19 16 30.4 -1.4**
JFWS Jewell Farm 63.21 52 P **P 19 16 30.4 -1.4**
JFWS pmax pmax
comp=Z,13nm,0.7s
VORR Voronezh 63.29 325 *e*P **P 19 16 31.6 -0.6**
VORR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 63.69 325 *e*P **P 19 16 34.1 -0.8**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 63.87 325 *e*P **P 19 16 35.2 -0.8**
VORD pmax pmax
comp=Z,10.0nm,0.8s
PABE Paberze 64.06 336 P **P 19 16 36.6 -0.5**
MNTX Cornudas Mount 64.64 71 IAmb IAmb 19 16 43.9
comp=Z,8.7nm,0.9s
DKNS Dickens 65.41 66 IAmb IAmb 19 16 53.6
comp=Z,9.0nm,1.0s
HNR Honiara 65.42 184 LR LR 19 40 18.9
comp=Z,131nm,21.7s,baz=352,slow=31
VHRN Van Horn 65.57 71 IAmb IAmb 19 16 49.8
comp=Z,5.6nm,0.8s
WMOK Wichita Mounta 65.65 64 P **P 19 16 47.9 -0.1**
WMOK Wichita Mounta 65.65 64 P **P 19 16 47.9 -0.1**
WMOK pmax pmax
comp=Z,14nm,0.9s
SADO Sadowa 66.32 44 LR LR 19 46 18.8
comp=Z,62nm,18.4s,baz=316,slow=36
HHAR Hobbs 66.81 59 IAmb IAmb 19 17 01.6
comp=Z,10.0nm,0.9s
TRQ Mont Tremblant 66.81 40 P **P 19 16 54.0 -1.2**
TRQ IAmb IAmb 19 17 01.5
comp=Z,12nm,1.1s
AKASG Malin Array Be 67.12 331 P **P 19 16 57.3 +0.3**
comp=Z,6.0nm,0.6s,baz=28,slow=6.2,SNR=16
AKASG LR LR 19 49 59.8
comp=Z,149nm,18.0s,baz=68,slow=39
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 67.12 331 IAmb IAmb 19 16 58.2
comp=Z,8.2nm,0.8s
AKBB Malin Array Si 67.12 331⇑ *e*P **P 19 16 57.0 0.0**
KIEV Kiev 67.13 331 P **P 19 16 56.8 -0.3**
KIEV IAmb IAmb 19 16 58.2
comp=Z,7.4nm,0.8s
KIEV Kiev 67.13 331 ⇑P **P 19 16 56.9 -0.3**
KIEV Kiev 67.13 331 P **P 19 16 56.8 -0.3**
LMQ La Malbaie 67.14 37 P **P 19 16 57.0 -0.3**
TX31 Lajitas Ar. Si 67.41 71 IAmb IAmb 19 17 01.5
comp=Z,12nm,1.1s
TXAR Lajitas Array 67.41 71 P **P 19 17 00.2 +0.9**
comp=Z,7.2nm,0.7s,baz=304,slow=4.3,SNR=16
TXAR LR LR 19 45 10.8
comp=Z,47nm,18.2s,baz=264,slow=35
comp=Z,7.2nm,0.7s
PLPT Palo Pinto 67.42 65 IAmb IAmb 19 17 06.2
comp=Z,12nm,1.0s
SBUM Sibu 67.60 238 IAmb IAmb 19 17 03.4
comp=Z,13nm,1.0s
GOF Gofitskoye 67.64 319 *ce*P **P 19 17 01.5 +1.1**
SAND Sanderson 67.73 69 IAmb IAmb 19 17 09.0
comp=Z,7.6nm,1.1s
E62A Clayton Lake 68.22 37 P **P 19 17 03.4 -0.6**
MIAR Mount Ida 68.38 60 P **P 19 17 05.3 +0.1**
MIAR IAmb IAmb 19 17 06.6
comp=Z,11nm,0.9s
MIAR Mount Ida 68.38 60 P **P 19 17 05.3 +0.1**
MIAR pmax pmax
comp=Z,11nm,1.0s
EKA Eskdalemuir Ar 68.39 352 P **P 19 17 05.3 +0.4**
comp=Z,3.8nm,0.7s,baz=23,slow=5.5,SNR=9.9
comp=Z,3.8nm,0.7s
KIV Kislovodsk 68.71 319 *e*P **P 19 17 08.8 +1.5**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,58nm,17.0s
X40A Basin Creek Fa 68.78 60 IAmb IAmb 19 17 08.0
comp=Z,6.0nm,0.9s
KBZ Khabaz 68.83 318 P **P 19 17 09.4 +1.6**
comp=Z,5.1nm,0.7s,baz=77,slow=4.0,SNR=13
KBZ LR LR 19 51 04.9
comp=Z,128nm,20.2s,baz=66,slow=39
comp=Z,5.1nm,0.7s
KBZ Khabaz 68.83 318 *ce*P **P 19 17 09.0 +1.1**
AKT Akhty 68.86 314 *e*P **P 19 17 08.1 -0.2**
AKT *e* 19 17 30.3
AKT *e* 19 19 46.6
AKT pmax pmax
comp=Z,44nm,1.4s
SHA1 Shidzhatmaz 68.91 318⇓ *e*P **P 19 17 10.2 +1.5**
DRIO Del Rio 68.94 69 IAmb IAmb 19 17 10.0
comp=Z,8.6nm,0.9s
SORM Soroca 69.69 330 ⇑P **P 19 17 13.0 -0.1**
SORM Soroca 69.69 330 P **P 19 17 13.0 -0.1**
KWP Kalwaria Pacla 69.78 334 *e*P **P 19 17 15.6 +1.8**
OJC Ojcow 69.91 336 *e*P **P 19 17 16.2 +1.7**
KSP Ksiaz 70.07 339 *e*P **P 19 17 16.9 +1.5**
CLL Collm 70.25 341 *i* P **P 19 17 17.1 +0.5**
CLL pmax pmax
comp=Z,20nm,1.7s
CLL Collm 70.25 341 *i* P **P 19 17 17.1 +0.5**
comp=Z,20nm,1.7s
CLL *i* x x 19 17 27.6
CLL AMS AMS 19 47 00.0
comp=Z,100nm,19.9s
STHS Stebnicka Huta 70.33 335 *e*P **P 19 17 17.8 +0.7**
STHS Stebnicka Huta 70.33 335 *e*P **P 19 17 17.8 +0.7**
UPC Upice 70.44 339 *e*P **P 19 17 19.8 +2.0**
UPC Upice 70.44 339 *e*P **P 19 17 19.8 +2.0**
BRG Berggiesshubel 70.50 340 *e*P **P 19 17 19.0 +1.0**
BRG Amp 19 17 19.5
comp=Z,3.5nm,1.1s
BRG Berggiesshubel 70.50 340 P P 19 17 24.9 +6.8
BRG Amp 19 17 25.4
comp=Z,3.4nm,0.8s
DPC Dobruska-Polom 70.53 339 *e*P **P 19 17 19.8 +1.4**
DPC *epP* **pwP 19 17 25.6 -1.4**
DPC Dobruska-Polom 70.53 339 *e*P **P 19 17 19.8 +1.4**
KOLS Kolonicke sedl 70.54 334 *e*P **P 19 17 19.6 +1.2**
KOLS Kolonicke sedl 70.54 334 *e*P **P 19 17 19.6 +1.2**
KOLS *e* 19 17 25.1
NIE Niedzica 70.55 336 *e*P **P 19 17 20.2 +1.8**
STEB Steborice 70.62 338 *e*P **P 19 17 20.0 +1.1**
STEB *epP* **pwP 19 17 26.3 -1.2**
KRLC Kraliky 70.70 338 *e*P **P 19 17 20.9 +1.5**
KRLC *epP* **pwP 19 17 26.9 -1.1**
KRLC Kraliky 70.70 338 *e*P **P 19 17 20.9 +1.5**
MORC Moravsky Berou 70.82 338 IAmb IAmb 19 17 28.4
comp=Z,8.2nm,0.9s
MORC Moravsky Berou 70.82 338 *e*P **P 19 17 21.2 +1.1**
LANS Liptovska Anna 70.99 336 *e*P **P 19 17 23.8 +2.6**
LANS Liptovska Anna 70.99 336 *e*P **P 19 17 23.8 +2.6**
LANS *e* 19 17 29.6
BURAR Bucovina Array 71.01 332 P **P 19 17 21.5 +0.1**
BURAR IAmb IAmb 19 17 23.1
comp=Z,6.6nm,0.6s
BURAR Bucovina Array 71.01 332 ⇓P **P 19 17 22.5 +1.1**
BURAR Bucovina Array 71.01 332 P **P 19 17 22.5 +1.1**
MAUC Maruska 71.15 337 *e*P **P 19 17 24.0 +1.9**
GNI Garni 71.19 315 P **P 19 17 22.0 -0.7**
GNI Garni 71.19 315 LR LR 19 53 13.8
comp=Z,115nm,19.5s,baz=58,slow=40
GNI Garni 71.19 315 P **P 19 17 22.0 -0.7**
GNI pmax pmax
comp=Z,41nm,1.3s
PRU Pruhonice 71.23 340 *e*P **P 19 17 24.1 +1.6**
PRU Pruhonice 71.23 340 *e*P **P 19 17 24.1 +1.6**
SWET Sewanee 71.42 54 IAmb IAmb 19 17 24.6
comp=Z,8.7nm,0.7s
VRAC Vranov 71.47 338 *e*P **P 19 17 25.5 +1.5**
VRAC Vranov 71.47 338 ⇑P **P 19 17 25.0 +1.0**
VRAC Vranov 71.47 338 P **P 19 17 25.0 +1.0**

X48A Hartselle 71.55 55 IAmb IAmb 19 18 49.5
comp=Z,12nm,1.1s
TESR Tescani 71.64 330 ⇑P **P 19 17 25.8 +0.7**
JAVC Velka Javorina 71.66 337 *e*P **P 19 17 27.7 +2.5**
KRUC Moravsky 71.74 338 *e*P **P 19 17 27.2 +1.6**
VYHS Vyhne 71.75 336 *e*P **P 19 17 27.3 +1.6**
VYHS Vyhne 71.75 336 *e*P **P 19 17 27.3 +1.6**
VYHS *e* 19 17 33.5
ZVC Zvikov 71.82 340 *e*P **P 19 17 27.7 +1.6**
ZVC *epP* **pwP 19 17 33.4 -1.4**
CPCT Cooper Cave 71.86 53 IAmb IAmb 19 17 27.5
comp=Z,7.4nm,1.0s
ONER Baraj Valea Uz 71.87 331 ⇓P **P 19 17 27.9 +1.4**
MEM Membach 72.06 345 *k*P **P 19 17 26.1 -1.4**
comp=Z,12nm,0.9s
FPAL Fort Paine 72.13 54 IAmb IAmb 19 17 29.2
comp=Z,8.6nm,1.0s
MODS Modra-Piesok 72.21 337 *e*P **P 19 17 29.4 +0.9**
MODS Modra-Piesok 72.21 337 *e*P **P 19 17 29.4 +0.9**
TURR Turia 72.23 331 ⇓P **P 19 17 29.2 +0.5**
KHC Kasperske Hory 72.23 340 *e*P **P 19 17 30.0 +1.4**
KHC *ex* x 19 19 35.0
KHC Kasperske Hory 72.23 340 *e*P **P 19 17 30.0 +1.4**
TLCR 72.24 328 ⇓P **P 19 17 29.5 +0.8**
TLCR 72.24 328 P **P 19 17 29.4 +0.8**
S57A Dark Hollow, R 72.32 48 IAmb IAmb 19 17 36.8
comp=Z,9.2nm,0.9s
Y49A Blount Mountai 72.33 55 IAmb IAmb 19 17 30.2
comp=Z,9.1nm,0.8s
HOMI Horasan 72.38 317 ⇑P **P 19 17 31.4 +1.5**
CKRC Cesky Krumlov 72.39 340 *e*P **P 19 17 30.6 +1.0**
CKRC *epP* **pwP 19 17 37.3 -0.9**
CKRC Cesky Krumlov 72.39 340 *e*P **P 19 17 30.6 +1.0**
DRGR 72.42 333 ⇓P **P 19 17 30.7 +0.9**
DRGR 72.42 333 P **P 19 17 30.7 +0.9**
CFR Carcaliu 72.44 329 ⇑P **P 19 17 30.7 +0.9**
CFR Carcaliu 72.44 329 P **P 19 17 30.7 +0.9**
GERES GERESS Array B 72.48 340 P **P 19 17 31.3 +1.1**
comp=Z,2.6nm,0.8s,baz=20,slow=4.3,SNR=18
GERES LR LR 19 54 08.1
comp=Z,92nm,18.1s,baz=69,slow=40
comp=Z,2.6nm,0.8s
TPGR Topolog 72.65 329 ⇓P **P 19 17 32.3 +1.1**
NEHR Nehoiu 72.73 330 ⇓P **P 19 17 32.7 +1.0**
OZAP Van, Ozalp-Mer 72.76 315 ⇑P **P 19 17 32.5 +0.4**
MLR Muntele Rosu 72.77 331 LR LR 19 52 05.6
comp=Z,107nm,20.5s,baz=57,slow=38
MLR Muntele Rosu 72.77 331 ⇑P **P 19 17 33.5 +1.4**
MLR Muntele Rosu 72.77 331 P **P 19 17 33.4 +1.4**
CONA Conrad Observa 72.93 338 *i* pP pP 19 17 34.2 -3.9
comp=Z,6.1nm,0.9s
KOPT Kop Dagi 72.94 318 IAmb IAmb 19 17 45.3
comp=Z,9.4nm,0.8s
HARR Harsova 72.95 329 ⇓P **P 19 17 33.6 +0.7**
HARR Harsova 72.95 329 P **P 19 17 33.5 +0.7**
BG3 Lake Jocassee 72.95 52 IAmb IAmb 19 17 40.2
comp=Z,14nm,1.2s
RONA Rosalia, Austr 73.06 338 *i* pP pP 19 17 35.7 -3.1
comp=Z,11nm,1.7s
VOIR 73.07 331 ⇑P **P 19 17 34.8 +1.0**
VOIR 73.07 331 P **P 19 17 34.7 +1.0**
SIRR Siria 73.17 334 ⇑P **P 19 17 34.0 -0.2**
GURO Guroymak-BITLI 73.62 316 IAmb IAmb 19 17 40.6
comp=Z,18nm,1.6s
ARSA Arzberg 73.64 338 *e*P **P 19 17 36.9 -0.1**
comp=Z,3.0nm,0.6s
BZS Buzias 73.79 334 ⇑P **P 19 17 38.6 +0.7**
BZS Buzias 73.79 334 P **P 19 17 38.6 +0.7**
HODGE Hodges 73.89 52 IAmb IAmb 19 17 39.6
comp=Z,8.6nm,0.8s
V58A Windy Hill, Pi 73.93 49 IAmb IAmb 19 17 40.0
comp=Z,11nm,0.8s
LESA Schwarzleotal 74.04 340 pP pP 19 17 42.2 -2.5
comp=Z,2.0nm,0.7s
W57A Gilead 74.10 50 IAmb IAmb 19 17 40.7
comp=Z,8.7nm,0.7s
152A Waverly Hall 74.10 55 IAmb IAmb 19 17 40.6
comp=Z,14nm,1.1s
KBA Koelnbreinsper 74.25 340 *i* pP pP 19 17 42.4 -3.6
comp=Z,13nm,1.1s
SOKA Soboth 74.29 338 *i* pP pP 19 17 42.5 -3.7
comp=Z,4.1nm,0.8s
RETA Reutte 74.33 342 *ep*P **P 19 17 42.2 +1.1**
comp=Z,3.8nm,1.0s
WTTA Wattenberg 74.39 341 *ep*P pP 19 17 43.3 -3.6
comp=Z,5.1nm,0.7s
MOTA Moosalm 74.41 341 *ep*P **P 19 17 42.8 +1.1**
comp=Z,4.7nm,0.8s
ILGA Ilgaz 74.43 323 IAmb IAmb 19 17 51.9
comp=Z,13nm,0.9s
SQTA Sankt Quirin 74.51 341 *ep*P pP 19 17 43.6 -3.9
comp=Z,8.7nm,0.7s
OBKA Obir 74.55 339 *ep*P pP 19 17 44.2 -3.5
comp=Z,11nm,0.8s
MYKA Terra Mystica 74.62 339 *i* pP pP 19 17 45.0 -3.1
comp=Z,6.2nm,0.9s
DAVA Damuels 74.68 342 *ep*P pP 19 17 45.0 -3.6
comp=Z,3.9nm,0.9s
ABTA Absrsbach 74.72 340 *ep*P pP 19 17 44.9 -3.8
comp=Z,12nm,1.2s
FETA Feichten 74.79 341 *ep*P pP 19 17 45.4 -3.8
comp=Z,7.6nm,1.1s
PRED Cave del Predi 74.81 339 IAmb IAmb 19 17 45.7
comp=Z,8.1nm,0.8s
FUORN Ofenpass-Fuorn 75.26 342 IAmb IAmb 19 17 55.1
comp=Z,18nm,1.6s
BRTR Keskin Array B 75.64 323 P **P 19 17 48.6 -0.3**
BRTR Keskin Array B 75.64 323 P **P 19 17 49.8 +0.9**
comp=Z,2.1nm,0.8s,baz=73,slow=3.7,SNR=12
comp=Z,2.1nm,0.8s
KIRS Kirsehir-Merke 76.08 322 ⇓P **P 19 17 52.7 +1.4**
RDO Rodhopi 76.89 329 IAmb IAmb 19 18 03.8
comp=Z,8.8nm,1.0s
PDG Podgorica 77.37 334 ⇓P **P 19 17 59.3 +1.0**
BNI Bardonecchia 77.38 344 IAmb IAmb 19 18 13.2
comp=Z,22nm,1.8s
DZM Mont Dzumac 77.93 178 *e*LR LR 19 42 07.0
comp=Z,84nm,25.1s
OSSC Osservatorio P 78.07 340 IAmb IAmb 19 18 04.3
comp=Z,8.2nm,0.9s
CAMP Campotosto 78.59 338 IAmb IAmb 19 18 08.1
comp=Z,11nm,1.1s
UOSS Minazif 78.92 298 P **P 19 18 05.7 -1.6**
TAOE Nuku Hiva Isla 79.41 124 *e*LR LR 19 42 47.6
comp=Z,105nm,24.6s
WB0 Warramunga Arr 79.65 208 IAmb IAmb 19 18 12.6
comp=Z,12nm,0.8s
WR8 Warramunga Arr 79.80 208 IAmb IAmb 19 18 13.4
comp=Z,9.1nm,0.9s
WRAB Tennant Creek 79.82 208 P **P 19 18 10.9 -1.1**
WRAB IAmb IAmb 19 18 13.5
comp=Z,13nm,0.9s
WRAB Tennant Creek 79.82 208 P **P 19 18 10.9 -1.1**
WRAB pmax pmax
comp=Z,13nm,1.0s
WRA Warramunga Arr 79.83 208 P **P 19 18 11.4 -0.7**
WRA Warramunga Arr 79.83 208 P **P 19 18 12.5 +0.4**
comp=Z,8.4nm,0.8s,baz=16,slow=5.7,SNR=32
comp=Z,8.4nm,0.8s
MMAI Mount Meron Ar 81.03 318 P **P 19 18 19.4 +0.8**
comp=Z,6.0nm,0.8s,baz=9.9,slow=5.3,SNR=9.0
comp=Z,6.0nm,0.8s
PPT2 Papeete2 83.16 136 *e*LR LR 19 44 33.4
comp=Z,112nm,21.0s
VAE Valguarnera 83.22 336 LR LR 20 03 45.1
comp=Z,37nm,19.2s,baz=324,slow=42
ASAR Alice Springs 83.50 208 P **P 19 18 31.9 +0.5**
ASAR Alice Springs 83.50 208 P **P 19 18 32.5 +1.0**
comp=Z,11nm,0.9s,baz=14,slow=5.8,SNR=81
comp=Z,11nm,0.9s
ASAR Alice Springs 83.50 208 P **P 19 18 31.9 +0.5**
ESDC Sonseca Array 84.00 351 P **P 19 18 34.0 -0.1**
ESDC IAmb IAmb 19 18 36.5
comp=Z,17nm,1.9s
ESDC Sonseca Array 84.00 351 P **P 19 18 34.7 +0.6**
comp=Z,1.6nm,0.8s,baz=4.0,slow=5.5,SNR=12
comp=Z,1.6nm,0.8s
PCBR Castelo Branco 84.11 353 *e*P **P 19 18 35.6 +1.1**
PCBR *i* IAmb IAmb 19 18 39.2
comp=Z,34nm,1.7s
PMTG Montargil 84.92 354 *e*P **P 19 18 39.6 +1.0**
RAYN Ar Rayn 85.20 306 P **P 19 18 39.7 -0.6**
RAYN IAmb IAmb 19 18 47.0
comp=Z,12nm,1.1s
RAYN Ar Rayn 85.20 306 P **P 19 18 39.7 -0.6**
RAYN pmax pmax
comp=Z,12nm,1.1s
EVO Evora 85.44 354 *e*P **P 19 18 42.7 +1.4**
EVO *i* IAmb IAmb 19 19 00.1
comp=Z,26nm,1.9s
MBWA Marble Bar 85.61 221 P **P 19 18 42.2 +0.1**
PBAR Barrancos 85.74 353 *e*P **P 19 18 44.3 +1.6**
PBAR *i* IAmb IAmb 19 18 57.1
comp=Z,23nm,1.5s
KEST Kesra 85.97 340 P **P 19 18 43.8 -0.3**
comp=Z,1.2nm,0.5s,baz=352,slow=4.8,SNR=4.3
KEST LR LR 20 02 23.0
comp=Z,33nm,18.5s,baz=343,slow=39
comp=Z,1.2nm,0.5s
STKA Stephens Creek 89.73 199 P **P 19 19 02.0 +0.4**
STKA Stephens Creek 89.73 199 P **P 19 19 03.0 +1.4**
comp=Z,7.3nm,0.9s,baz=345,slow=7.6,SNR=9.2
comp=Z,7.3nm,0.9s
STKA Stephens Creek 89.73 199 P **P 19 19 02.0 +0.4**
STKA pmax pmax
comp=Z,59nm,1.1s
HERN Volcan Telica 89.97 67 IAmb IAmb 19 20 41.2
comp=Z,127nm,0.8s
PMPST Porto Santo, M 91.13 0 *e*P **P 19 19 12.6 +4.1**
PMPST *i* IAmb IAmb 19 19 15.3
comp=Z,334nm,1.5s
PMAR Madeira 91.48 1 *e*P **P 19 19 11.2 +0.9**
PMAR *i* IAmb IAmb 19 19 13.0
comp=Z,159nm,1.8s
VNDA Vanda 133.41 181 PKP **PKPdf 19 25 18.8 +0.7**
comp=Z,0.5nm,0.7s,baz=344,slow=3.1,SNR=4.4
MAW Mawson 143.79 220 PKP **PKPdf 19 25 36.4 -0.9**
comp=Z,4.4nm,0.9s,baz=2.1,slow=3.4,SNR=7.7
QSPA South Pole Qui 145.90 180 PKPbc **PKPdf 19 25 41.4 +0.3**
comp=Z,13nm,0.8s,baz=342,slow=0.8,SNR=109

TIR ***03*** *19:15:26.2,41°.85N×19°.39E,h25km±1km,Md3.1/16, Ml2.6/6*
RHSSO ***03*** *19:15:27.8±0.8,41°.86N×19°.50E,h4km±2km,ML2.5/7*
BEO ***03*** *19:15:28.8±0.4,41°.90N×19°.43E,h0km±2km,ML2.2/19*
PDG ***03*** *19:15:28.2±0.1,41°.91N×19°.44E,h12km,MD2.5/2, ML2.5/11,Error ellipse: s-maj=0.5km s-min=0.5km az=90.0*

ISC 03 19:15:26.5±1.0,41°.87N±0°.02×19°.44E±0°.02,h13km±9km, n74,σ1°.49/132,12C-4D,Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.17**	**303**	Pg	**Pb**			**19 15 30.5**	**-1.0**
ULC				AMd				19 16 17.0	
ULC	**Ulcinj**	**0.17**	**303**	⇑*i*Pg	**Pb**			**19 15 31.8**	**+0.3**
ULC				*i* Sg	**Sb**			**19 15 34.7**	**-0.2**
DRME	**Dracevica, Mon**	**0.37**	**329**	Pg	**Pb**			**19 15 34.3**	**-0.6**
DRME				AMd				19 16 23.3	
DRME	**Dracevica, Mon**	**0.37**	**329**	⇓*i*Pg	**Pb**			**19 15 34.8**	**-0.1**
DRME				*e*Sg	**Sb**			**19 15 40.4**	**-0.1**
DRME	**Dracevica, Mon**	**0.37**	**329**	⇓*i*Pg	**Pb**			**19 15 35.0**	**+0.1**
DRME				*i* Sg	**Sb**			**19 15 40.6**	**+0.1**
PUK	**Puka**	**0.38**	**63**	Pg	**Pb**			**19 15 35.2**	**0.0**
PUK				Sg	**Sb**			**19 15 41.3**	**+0.3**
PUK				AML	AML			19 15 45.1	
	1.9nm,0.1s								
PUK				AMd				19 16 33.6	
PUK	**Puka**	**0.38**	**63**	P	**Pb**			**19 15 35.6**	**+0.4**
PUK				S	**Sb**			**19 15 41.4**	**+0.3**
PDG	**Podgorica**	**0.57**	**347**	⇑*i*Pg	**Pb**			**19 15 38.6**	**+0.2**
PDG				*e*Sg	**Sb**			**19 15 47.1**	**+0.6**
PDG	**Podgorica**	**0.57**	**347**	*e*Pg	**Pb**			**19 15 38.6**	**+0.2**
PDG				*e*Sg	**Sn**			**19 15 47.3**	**-2.3**
PDG	**Podgorica**	**0.57**	**347**	⇑*i*Pg	**Pb**			**19 15 38.3**	**-0.1**
PDG				*i* Sg	**Sn**			**19 15 47.3**	**-2.3**
BUM	**Brajici-Budva**	**0.59**	**317**	Pg	**Pb**			**19 15 38.1**	**-0.6**
BUM				AMd				19 16 41.4	
BUM	**Brajici-Budva**	**0.59**	**317**	⇑*i*Pg	**Pn**			**19 15 39.0**	**-1.6**
BUM				*i* Sg	**Sn**			**19 15 47.9**	**-2.2**
BCI	**Bajram Curri**	**0.68**	**43**	Pg	**Pb**			**19 15 40.5**	**+0.3**
BCI				Sg	**Sn**			**19 15 50.7**	**-1.7**
BCI				AML	AML			19 15 52.6	
	1.1nm,0.4s								
CEME	**Cevo**	**0.78**	**331**	Pg	**Pb**			**19 15 41.5**	**-0.4**
CEME				AMd				19 16 47.2	
CEME	**Cevo**	**0.78**	**331**	⇓*i*Pg	**Pn**			**19 15 42.0**	**-1.2**
CEME				*i* Sg	**Sn**			**19 15 53.9**	**-0.9**
HCY	**Herceg Novi**	**0.91**	**310**	Pg	**Pg**			**19 15 43.6**	**-0.4**
HCY				AMd				19 16 49.5	
HCY	**Herceg Novi**	**0.91**	**310**	⇑*i*Pg	**Pn**			**19 15 44.6**	**-0.3**
HCY				*e*Sg	**Sn**			**19 15 58.3**	**+0.4**
HCY	**Herceg Novi**	**0.91**	**310**	⇑*i*Pg	**Pn**			**19 15 44.6**	**-0.3**
HCY				*i* Sg	**Sn**			**19 15 58.6**	**+0.7**
NKME	**Niksic**	**0.96**	**338**	⇑*i*Pg	**Pn**			**19 15 45.3**	**-0.5**
NKME				*i* Sg	**Sn**			**19 16 00.0**	**+0.6**
KOME	**Kolasin**	**0.98**	**3**	Pg	**Pn**			**19 15 45.0**	**-0.4**
KOME				AMd				19 17 00.2	
KOME	**Kolasin**	**0.98**	**3**	⇑*i*Pg	**Pn**			**19 15 45.6**	**-0.4**
KOME				*i* Sg	**Sn**			**19 16 00.6**	**+0.8**
BEY	**Berane**	**1.06**	**19**	Pg	**Pn**			**19 15 46.8**	**-0.3**
BEY				AMd				19 16 45.8	
IVA	**Berane**	**1.06**	**19**	⇑*i*Pg	**Pn**			**19 15 47.0**	**-0.1**
IVA				*i* Sg	**Sn**			**19 16 02.7**	**+1.0**
TREB	**Trebinje**	**1.17**	**317**	*e*Pg	**Pg**			**19 15 48.9**	**0.0**
TREB				*e*Sg	**Sn**			**19 16 06.8**	**+2.5**
TREB	**Trebinje**	**1.17**	**317**	*e*Pg	**Pg**			**19 15 49.2**	**+0.3**
TREB				*e*Sg	**Sn**			**19 16 06.2**	**+1.9**
BRY	**Bratogost**	**1.23**	**327**	Pg	**Pg**			**19 15 49.5**	**-0.5**
BRY				AMd				19 17 03.2	
BRY	**Bratogost**	**1.23**	**327**	⇑*i*Pg	**Pg**			**19 15 50.3**	**+0.2**
BRY				*e*Sg	**Sg**			**19 16 08.5**	**+2.5**
BRY	**Bratogost**	**1.23**	**327**	⇓*i*Pg	**Pg**			**19 15 50.0**	**-0.1**
BRY				*i* Sg	**Sg**			**19 16 09.3**	**+3.3**
DBRK	**Dubrovnik**	**1.25**	**310**	*e*Pg	**Pg**			**19 15 50.7**	**+0.3**
DBRK				Sg	**Sg**			**19 16 09.7**	**+2.5**
UPM	**Unac-Piva**	**1.39**	**344**	⇑*i*Pg	**Pg**			**19 15 52.7**	**-0.5**
UPM				*e*Sg	**Sg**			**19 16 13.1**	**+1.9**
SJES	**Sjenica**	**1.45**	**16**	*e*Pg	**Pg**			**19 15 54.3**	**0.0**
SJES				*e*Sg	**Sg**			**19 16 13.2**	**+0.2**
SJES	**Sjenica**	**1.45**	**16**	*e*Pg	**Pg**			**19 15 54.3**	**0.0**
SJES				*e*Sg	**Sg**			**19 16 14.3**	**+1.3**
PLE	**Pljevlja**	**1.46**	**359**	Pg	**Pg**			**19 15 54.2**	**-0.4**
PLE				AMd				19 17 00.4	
PLE	**Pljevlja**	**1.46**	**359**	*e*Pg	**Pg**			**19 15 54.6**	**+0.1**
PLE				*i* Sg	**Sg**			**19 16 16.2**	**+2.7**
STON	**Ston**	**1.63**	**308**	*e*Pn	**Pg**			**19 15 56.9**	**-0.8**
STON				*e*Sn	**Sg**			**19 16 19.5**	**+0.6**
STON	**Ston**	**1.63**	**308**	*e*Pg	**Pg**			**19 15 56.8**	**-0.9**
STON				*e*Sg	**Sg**			**19 16 19.7**	**+0.8**
STON	**Ston**	**1.63**	**308**	*e*Pn	**Pg**			**19 15 57.2**	**-0.5**
STON				Sg	**Sg**			**19 16 19.9**	**+1.0**
RUDO	**Rudo**	**1.75**	**358**	⇑*i*Pn	**Pg**			**19 15 59.0**	**-1.0**
RUDO				*e*Sn	**Sg**			**19 16 21.9**	**-0.8**
RUDO	**Rudo**	**1.75**	**358**	*e*Pg	**Pg**			**19 15 59.0**	**-1.0**
RUDO				*e*Sg	**Sg**			**19 16 24.5**	**+1.8**
IVAS	**Ivanjica**	**1.79**	**17**	*e*Pg	**Pg**			**19 16 00.3**	**-0.4**
IVAS				*e*Sg	**Sg**			**19 16 24.6**	**+0.7**
FNA	**Florina**	**1.82**	**126**	Pn	**Pb**			**19 15 59.8**	**+0.1**
FNA				Sn	**Sg**			**19 16 24.8**	**-0.2**
FNA				AML	AML			19 16 29.6	
	0.2nm,0.7s								
FNA				AMd				19 17 14.7	
FNA	**Florina**	**1.82**	**126**	P	**Pg**			**19 16 02.1**	**+0.7**
FNA				S	**Sg**			**19 16 27.3**	**+2.2**
FNA	**Florina**	**1.82**	**126**	*e*Pn	**Pg**			**19 16 02.1**	**+0.7**
SELS	**Selova**	**1.83**	**42**	*e*Pg	**Pg**			**19 16 01.2**	**-0.5**
SELS				*e*Sg	**Sg**			**19 16 25.3**	**-0.2**
NEST	**Nestorio**	**1.90**	**140**	Pn	**Pb**			**19 16 00.7**	**-0.3**
NEST				Sn	**Sg**			**19 16 26.4**	**-1.1**
NEST				AML	AML			19 16 35.0	
	0.1nm,0.3s								
NEST				AMd				19 17 19.1	
SCTE	**Santa Cesarea**	**1.94**	**203**	Pn	**Pb**			**19 16 00.5**	**-1.1**
SCTE				Sn	**Sb**			**19 16 26.3**	**+0.5**
SCTE				AML	AML			19 16 41.3	
	0.2nm,1.2s								
SCTE				AMd				19 17 22.5	
BBLS	**Lazi&#263i**	**1.99**	**359**	*e*Pn	**Pb**			**19 16 02.8**	**+0.2**
BBLS				*e*Sn	**Sb**			**19 16 27.8**	**+0.4**
BBLS	**Lazi&#263i**	**1.99**	**359**	*e*Pg	**Pg**			**19 16 04.3**	**-0.4**
BBLS				*e*Sg	**Sg**			**19 16 30.3**	**-0.3**
GOCS	**Kraljevo Serbi**	**2.00**	**32**	*e*Pn	**Pg**			**19 16 03.4**	**-1.3**
GOCS				*e*Sn	**Sg**			**19 16 29.2**	**-1.4**
BARS	**Barje**	**2.00**	**61**	*e*Pn	**Pb**			**19 16 03.2**	**+0.5**
BARS				*e*Sn	**Sg**			**19 16 29.7**	**-1.1**

SRN	**Sarande**	**2.04**	**168**	Pn	**Pb**	**19 16 02.6**	**-0.6**
SRN				Sn	**Sg**	**19 16 30.1**	**-1.8**
SRN				AMd		19 17 24.4	
NOCI	**Noci**	**2.09**	**240**	Pn	**Pb**	**19 16 02.8**	**-1.4**
NOCI				Sn	**Sb**	**19 16 30.0**	**0.0**
NOCI				AML	AML	19 16 41.6	
	0.1nm,0.3s						
NOCI				AMd		19 17 34.2	
LSTV	**Lastovo**	**2.09**	**296**	*e*Pn	**Pb**	**19 16 03.5**	**-0.7**
LSTV				Sn	**Sb**	**19 16 29.6**	**-0.4**
GRUS	**Gruza**	**2.23**	**25**	*e*Pn	**Pb**	**19 16 05.8**	**-0.7**
GRUS				*e*Sn	**Sb**	**19 16 35.0**	**+1.0**
DIVS	**Divibare**	**2.26**	**10**	*e*Pn	**Pb**	**19 16 06.1**	**-1.1**
DIVS				*e*Sn	**Sb**	**19 16 36.0**	**+0.8**
MAKA	**Makarska**	**2.28**	**309**	*e*Pn	**Pb**	**19 16 06.5**	**-0.9**
MAKA				Sn	**Sb**	**19 16 35.0**	**-0.5**
RICI	**Ricice**	**2.35**	**314**	Sn	**Sb**	**19 16 37.2**	**-0.3**
BOVS	**Bovan**	**2.43**	**43**	*e*Sn	**Sb**	**19 16 40.3**	**+0.4**
IGT	**Igoumenitsa**	**2.43**	**163**	Pn	**Pb**	**19 16 09.3**	**-0.8**
IGT				AMd		19 17 42.6	
TRUS	**Trudelj**	**2.46**	**17**	*e*Pn	**Pb**	**19 16 09.7**	**-0.8**
TRUS				*e*Sn	**Sb**	**19 16 39.7**	**-0.9**
TEKS	**Tekeris**	**2.68**	**1**	*e*Pn	**Pb**	**19 16 12.2**	**-2.0**
TEKS				*e*Sn	**Sb**	**19 16 44.4**	**-2.6**
TEKS	**Tekeris**	**2.68**	**1**	*e*Pn	**Pb**	**19 16 12.3**	**-2.0**
TEKS				*e*Sn	**Sb**	**19 16 45.8**	**-1.2**
ZAPS	**Zavoj**	**2.75**	**58**	*e*Pn	**Pb**	**19 16 14.7**	**-0.7**
ZAPS				*e*Sn	**Sb**	**19 16 48.3**	**-0.7**
ZAGS	**Zajecar**	**2.83**	**46**	*e*Pn	**Pb**	**19 16 15.6**	**-1.2**
ZAGS				*e*Sn	**Sb**	**19 16 50.1**	**-1.2**
BORS2	**Bor- Borsko je**	**2.92**	**40**	*e*Sn	**Sn**	**19 16 50.3**	**+2.8**
VTS	**Vitosha**	**2.92**	**74**	*e*Pn	**Pb**	**19 16 16.3**	**-2.1**
VTS				*e*Sn	**Sb**	**19 16 51.8**	**-2.3**
AVAS	**Avala Beograd**	**2.93**	**15**	*e*Sn	**Sb**	**19 16 51.6**	**-2.7**
KIJV	**Kijevo**	**3.08**	**315**	*i* Pn	**Pb**	**19 16 18.2**	**-3.0**
KIJV				Sn	**Sb**	**19 16 55.4**	**-3.3**
ZIRJ	**Zirje**	**3.31**	**304**	*i* Pn	**Pn**	**19 16 20.2**	**+2.3**
ZIRJ				Sn	**Sb**	**19 17 00.8**	**-4.4**
MDVR	**Moldovita**	**3.35**	**29**	*e*Pn	**Pb**	**19 16 21.8**	**-3.9**
A050A	**Klekovaca**	**3.37**	**322**	*e*Pn	**Pb**	**19 16 22.0**	**-4.0**
A050A				*e*Sn	**Sn**	**19 17 01.3**	**+2.7**
A051A	**Mrakovica**	**3.64**	**330**	*e*Pn	**Pn**	**19 16 25.8**	**+3.2**
A051A				*e*Sn	**Sn**	**19 17 08.0**	**+2.6**
VIRC	**Vir**	**4.02**	**308**	*e*Pn	**Pn**	**19 16 29.9**	**+2.2**
VIRC				Sn	**Sn**	**19 17 17.2**	**+2.6**
BZS	**Buzias**	**4.06**	**22**	*e*Pn	**Pn**	**19 16 30.8**	**+2.5**
BZS				*e*Sn	**Sn**	**19 17 18.3**	**+2.6**

*TAP **03** 19:19:31.6,23°.88N×122°.63E,h22km,ML3.4,D*
*JMA **03** 19:19:33.0±0.1,24°.0N±1°.0×122°.6E±0°.6,h36km,MV2.9/13, NW OFF ISHIGAKIJIMA IS*

ISC 03 19:19:31.4±1.1,**23°.94N**±0°.03×**122°.64E**±0°.02,**h19**km±3km, **n107**,σ0**69**/154,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.34**	**302**	P	**Pn**	**19 19 40.6**	**-0.4**
EOS4				*i* S	**Sn**	**19 19 46.2**	**-1.0**
EOS3	**EOS3**	**0.45**	**320**	*i* P	**Pn**	**19 19 42.2**	**-0.5**
JYNG	**Yonagunijimaku**	**0.58**	**29**	P	**Pn**	**19 19 43.8**	**-0.9**
JYNG				S	**Sb**	**19 19 50.8**	**+0.1**
EOS2	**EOS2**	**0.60**	**322**	*i* P	**Pn**	**19 19 44.7**	**-0.1**
EOS2				*i* S	**Sn**	**19 19 54.5**	**+0.5**
YOJ	**Yonaguni jima**	**0.62**	**33**	P	**Pn**	**19 19 44.7**	**-0.5**
YOJ	**Yonaguni jima**	**0.62**	**33**	P	**Pn**	**19 19 44.6**	**-0.6**
YOJ				S	**Sg**	**19 19 52.1**	**0.0**
YOJ	**Yonaguni jima**	**0.62**	**33**	*i* P	**Pn**	**19 19 44.6**	**-0.6**
EAHA	**Aohua**	**0.91**	**296**	P	**Pg**	**19 19 49.1**	**+0.1**
EAHA				*e*S	**Sn**	**19 20 02.3**	**+0.7**
EWUT	**Wuta**	**0.93**	**303**	P	**Pg**	**19 19 49.3**	**-0.2**
EWUT				S	**Sn**	**19 20 02.3**	**0.0**
ENA	**Nanau**	**0.95**	**301**	*i* P	**Pg**	**19 19 49.9**	**0.0**
ENA				*i* S	**Sn**	**19 20 03.6**	**+0.8**
ETL	**Fush Village**	**0.95**	**283**	P	**Pg**	**19 19 50.4**	**+0.5**
ETL				*e*S	**Sg**	**19 20 02.6**	**+0.1**
TEYL	**Yanliau Villag**	**0.95**	**266**	*e*P	**Pb**	**19 19 48.3**	**-1.0**
TEYL				*e*S	**Sn**	**19 20 03.2**	**+0.4**
ESAO	**Su ao**	**0.96**	**311**	P	**Pn**	**19 19 49.7**	**-0.2**
ESAO				Sn	**Sn**	**19 20 03.2**	**+0.2**
TWD	**Chiawan**	**0.96**	**279**	*i* P	**Pb**	**19 19 49.5**	**+0.1**
TWD				*i* S	**Sb**	**19 20 02.0**	**+0.2**
TWC	**Suao**	**0.98**	**313**	*i* P	**Pg**	**19 19 50.3**	**-0.1**
TWC				*i* S	**Sg**	**19 20 03.0**	**-0.4**
NACB	**Ninganchiao**	**0.98**	**284**	P	**Pb**	**19 19 49.8**	**+0.1**
NACB	**Ninganchiao**	**0.98**	**284**	P	**Pb**	**19 19 50.1**	**+0.4**
NACB				S	**Sb**	**19 20 02.2**	**-0.1**
SHUL	**Shoufeng**	**0.99**	**261**	*e*P	**Pb**	**19 19 49.9**	**-0.1**
SHUL				*e*S	**Sg**	**19 20 05.0**	**+1.2**
TEGC	**Jichi Village**	**1.03**	**257**	*e*P	**Pb**	**19 19 50.0**	**-0.5**
ETM	**Tongmen**	**1.05**	**272**	P	**Pb**	**19 19 50.6**	**-0.3**
ETM				*e*S	**Sb**	**19 20 04.3**	**+0.1**
IRIF	**Iriomote-Funau**	**1.07**	**68**	P	**Pg**	**19 19 52.1**	**-0.2**
IRIF				S	**Sn**	**19 20 05.8**	**0.0**
HATJ	**Hateruma jima**	**1.08**	**84**	*e*P	**Pg**	**19 19 52.4**	**+0.1**
NDS	**Dongshan**	**1.09**	**310**	P	**Pn**	**19 19 51.7**	**+0.1**
NDS				S	**Sg**	**19 20 07.9**	**+1.2**
ETLH	**Xiulin Townshi**	**1.09**	**284**	P	**Pb**	**19 19 51.6**	**0.0**
ETLH				S	**Sn**	**19 20 06.4**	**+0.1**
EGS		**1.11**	**325**	P	**Pb**	**19 19 51.5**	**-0.4**
ESL	**Shilin**	**1.11**	**264**	P	**Pn**	**19 19 51.3**	**-0.6**
ESL				S	**Sb**	**19 20 06.5**	**+0.5**
LXIB	**Xiulin Townshi**	**1.12**	**274**	P	**Pn**	**19 19 52.0**	**-0.2**
LXIB				*e*S	**Sb**	**19 20 06.4**	**-0.2**
EGFH	**Guangfu**	**1.14**	**257**	*e*P	**Pn**	**19 19 52.5**	**+0.2**
EGFH				*e*S	**Sb**	**19 20 07.6**	**+0.7**
ILA	**Ilan**	**1.15**	**316**	P	**Pg**	**19 19 54.3**	**+0.5**
WARBT	**Fenglin Townsh**	**1.17**	**259**	P	**Pn**	**19 19 52.1**	**-0.6**
WARBT				*e*S	**Sb**	**19 20 07.1**	**-0.6**
LATG	**Datong**	**1.17**	**301**	*i* P	**Pb**	**19 19 53.2**	**+0.1**
LATG				S	**Sg**	**19 20 11.2**	**+1.6**
TWE	**Neicheng**	**1.18**	**312**	*i* P	**Pb**	**19 19 53.5**	**+0.3**
TWE				*i* S	**Sg**	**19 20 10.6**	**+1.0**
HGSD	**Ruisui**	**1.20**	**248**	P	**Pn**	**19 19 52.8**	**-0.3**
HGSD				S	**Sb**	**19 20 08.3**	**-0.2**
ENTT	**Nioudou**	**1.20**	**306**	*i* P	**Pb**	**19 19 53.8**	**+0.3**
ENTT				S	**Sg**	**19 20 10.2**	**-0.1**
TWB1	**Santiao Chiao**	**1.22**	**331**	P	**Pg**	**19 19 54.2**	**-0.7**
NNSB	**Datong**	**1.24**	**293**	*i* P	**Pb**	**19 19 54.3**	**0.0**
NNSB				S	**Sg**	**19 20 11.6**	**-0.2**
ECBN	**Changbin**	**1.25**	**240**	*e*P	**Pn**	**19 19 54.4**	**+0.5**
ECBN				*e*S	**Sn**	**19 20 08.9**	**-1.3**
NNS	**Nan Shan**	**1.26**	**294**	*i* P	**Pb**	**19 19 54.5**	**-0.1**
NNS				S	**Sg**	**19 20 11.5**	**-0.7**
FUSB	**Fushanzhiwuyua**	**1.26**	**311**	P	**Pb**	**19 19 54.9**	**+0.4**
FUSB				S	**Sg**	**19 20 12.6**	**+0.4**
EHYH	**Wanrong**	**1.26**	**250**	*e*P	**Pn**	**19 19 54.3**	**+0.3**
EHYH				*e*S	**Sn**	**19 20 11.2**	**+0.7**
TIPB	**Shuangxi**	**1.27**	**324**	P	**Pg**	**19 19 55.1**	**-0.7**
TIPB				*e*S	**Sg**	**19 20 12.3**	**-0.2**
WHF	**Hehuan Shan**	**1.27**	**280**	*i* P	**Pn**	**19 19 54.9**	**+0.3**
WHF				S	**Sb**	**19 20 10.0**	**-1.1**
JKRS	**Kuro-shima**	**1.29**	**76**	P	**Pb**	**19 19 55.6**	**+0.5**
FUSS	**Fushou**	**1.31**	**284**	P	**Pb**	**19 19 55.7**	**+0.2**
FUSS				*e*S	**Sb**	**19 20 12.9**	**+0.9**
NWLT	**Wulai**	**1.33**	**309**	*e*P	**Pb**	**19 19 55.5**	**-0.2**
NWLT				*e*S	**Sg**	**19 20 14.0**	**-0.4**
OWD	**Renai**	**1.34**	**271**	P	**Pn**	**19 19 54.9**	**-0.3**
OWD				*e*S	**Sn**	**19 20 10.9**	**-1.6**
SXI1	**Grass Mountain**	**1.34**	**329**	P	**Pn**	**19 19 54.9**	**-0.2**
SXI1				S	**Sg**	**19 20 14.3**	**-0.6**
YULB	**Yu-li**	**1.34**	**246**	P	**Pn**	**19 19 55.0**	**-0.1**
YULB	**Yu-li**	**1.34**	**246**	P	**Pn**	**19 19 55.2**	**+0.1**
YULB				*e*S	**Sn**	**19 20 12.1**	**-0.4**
TWF1	**Yuli**	**1.36**	**245**	P	**Pn**	**19 19 54.9**	**-0.5**
TWF1				*e*S	**Sn**	**19 20 12.9**	**0.0**
YHNB	**Yeheng**	**1.36**	**303**	P	**Pb**	**19 19 56.2**	**-0.1**
YHNB	**Yeheng**	**1.36**	**303**	*i* P	**Pb**	**19 19 56.0**	**-0.3**
YHNB				S	**Sg**	**19 20 14.2**	**-1.3**
NWF	**Wu-fen Shan**	**1.37**	**326**	P	**Pg**	**19 19 57.2**	**-0.6**
WFSB	**Wu-fen Shan**	**1.37**	**326**	*e*P	**Pb**	**19 19 56.3**	**-0.1**
TWT	**Tachien**	**1.37**	**283**	P	**Pb**	**19 19 56.7**	**+0.2**
NSK	**Sanguang**	**1.38**	**302**	*i* P	**Pb**	**19 19 56.5**	**-0.1**
NSK				S	**Sb**	**19 20 14.1**	**+0.3**
VWDT	**VWDT**	**1.38**	**263**	P	**Pb**	**19 19 56.8**	**+0.2**
VWDT				S	**Sn**	**19 20 12.8**	**-0.6**
TDCB	**Techi**	**1.39**	**283**	P	**Pn**	**19 19 56.2**	**+0.4**
WUSB	**Renai**	**1.39**	**272**	*e*P	**Pn**	**19 19 56.1**	**+0.3**
WUSB				*e*S	**Sn**	**19 20 13.9**	**+0.1**
TWA	**Mucha**	**1.41**	**317**	*e*P	**Pg**	**19 19 57.8**	**-0.8**
TWA				*e*S	**Sb**	**19 20 14.9**	**+0.1**
CHKT	**Chengkung**	**1.44**	**235**	*e*S	**Sn**	**19 20 12.5**	**-2.3**
FULB	**Fuli**	**1.44**	**239**	*e*P	**Pn**	**19 19 56.5**	**+0.1**
TNOU	**National Taiwa**	**1.44**	**327**	P	**Pb**	**19 19 57.2**	**-0.3**
JIJ	**Ishigaki jima**	**1.44**	**73**	P	**Pn**	**19 19 57.0**	**+0.5**
JIJ				*e*S	**Sb**	**19 20 15.2**	**-0.3**
TATO	**Taipei**	**1.47**	**315**	P	**Pg**	**19 19 58.9**	**-0.8**
EHD	**Haiduan**	**1.53**	**239**	*e*P	**Pn**	**19 19 56.6**	**-1.1**
EHD				*e*S	**Sn**	**19 20 16.1**	**-1.1**
NFF	**Wufeng Townshi**	**1.55**	**297**	P	**Pb**	**19 19 59.9**	**+0.4**
SSLB	**Suanglung**	**1.55**	**265**	P	**Pn**	**19 19 58.6**	**+0.6**
ECS	**Chishang**	**1.55**	**237**	*e*P	**Pn**	**19 19 57.1**	**-0.8**
YM08	**YM08**	**1.56**	**323**	*e*P	**Pb**	**19 20 00.0**	**+0.2**
KSHI	**Guanxi Townshi**	**1.57**	**302**	P	**Pb**	**19 20 00.6**	**+0.7**
ZUZH	**Zhuzihu**	**1.57**	**321**	*e*P	**Pb**	**19 19 59.5**	**-0.3**
WHP	**Taichung City**	**1.58**	**283**	P	**Pb**	**19 20 00.8**	**+0.7**
WCS	**Beigang Elemen**	**1.58**	**275**	*e*P	**Pn**	**19 19 59.2**	**+0.8**
SMLT	**Sun Moon Lake**	**1.59**	**268**	*e*P	**Pn**	**19 19 59.3**	**+0.6**
TWS1	**Kuangyinshan**	**1.60**	**316**	*e*P	**Pg**	**19 20 01.4**	**-0.9**
ANP	**Anpu**	**1.60**	**321**	*e*P	**Pn**	**19 19 59.1**	**+0.3**
TWY	**Chenhua**	**1.63**	**325**	*e*P	**Pb**	**19 20 01.2**	**+0.4**
LIOB	**Emei**	**1.64**	**296**	P	**Pb**	**19 20 01.3**	**+0.3**
NSTT	**Nanjuang**	**1.64**	**295**	P	**Pb**	**19 20 00.6**	**-0.5**
WHYT	**Xinyi Township**	**1.65**	**262**	*e*P	**Pn**	**19 20 00.3**	**+0.9**
LDUT	**Ludao**	**1.66**	**221**	*e*P	**Pn**	**19 19 58.3**	**-1.1**
JISG	**Ishigakijimahi**	**1.66**	**67**	*e*P	**Pn**	**19 19 60.0**	**+0.5**
JISG				*e*S	**Sn**	**19 20 20.5**	**+0.3**
ELDTW	**Lidau**	**1.66**	**244**	*e*P	**Pn**	**19 19 59.4**	**-0.3**
LONT	**Longtian**	**1.72**	**234**	*e*P	**Pn**	**19 20 00.2**	**-0.2**
ALS	**Alishan**	**1.73**	**256**	*e*P	**Pn**	**19 20 01.9**	**+1.1**
TWQ1	**Liyutan**	**1.75**	**284**	*e*P	**Pb**	**19 20 02.9**	**0.0**
NMLH	**Miaoli**	**1.79**	**290**	*e*P	**Pb**	**19 20 02.8**	**-0.7**
TCU	**Taichung**	**1.80**	**277**	*e*P	**Pb**	**19 20 03.4**	**-0.4**
TWGBT	**Beinan**	**1.81**	**232**	*e*P	**Pn**	**19 20 01.0**	**-0.6**
TWG	**Pinlang**	**1.82**	**233**	*e*P	**Pn**	**19 20 02.8**	**+1.1**
CHN5	**Tsauling**	**1.83**	**260**	*e*P	**Pb**	**19 20 03.8**	**-0.4**
STYH	**Taoyuan**	**1.87**	**246**	*e*P	**Pn**	**19 20 03.0**	**+0.7**
WCH1	**Changhua City**	**1.92**	**274**	*e*P	**Pb**	**19 20 05.5**	**-0.2**
WDLH	**Douliu**	**1.94**	**263**	*e*P	**Pn**	**19 20 05.2**	**+1.9**
TPUB	**Ta-pu**	**1.95**	**251**	P	**Pn**	**19 20 05.5**	**+2.0**
TPUB	**Ta-pu**	**1.95**	**251**	S	**Sb**	**19 20 30.3**	**+0.1**
TPUB	**Ta-pu**	**1.95**	**251**	*e*P	**Pn**	**19 20 05.3**	**+1.8**
ECL	**Taimali**	**2.04**	**229**	*e*P	**Pn**	**19 20 05.1**	**+0.3**
WTK	**Tuku**	**2.07**	**263**	*e*P	**Pb**	**19 20 07.4**	**-1.0**
CHY	**Chiayi**	**2.07**	**258**	*e*P	**Pn**	**19 20 06.9**	**+1.7**
TSMG	**Majia**	**2.20**	**237**	*e*P	**Pn**	**19 20 07.1**	**+0.1**
EAST	**Anshuo**	**2.26**	**227**	*e*P	**Pn**	**19 20 08.5**	**+0.7**
TAWH	**Dawu Township**	**2.26**	**226**	*e*P	**Pn**	**19 20 07.8**	**+0.1**
MASBT	**Mashibuluo**	**2.27**	**235**	*e*P	**Pn**	**19 20 09.9**	**+2.0**
TSCK	**Chigu Township**	**2.47**	**252**	*e*P	**Pn**	**19 20 11.8**	**+1.2**
PNG	**Penghu**	**2.85**	**263**	*e*P	**Pn**	**19 20 16.7**	**+0.9**

*THE **03** 19:20:31.4,37°N×2°×2°E±°,h13km±4km,M3.6/10, MLh3.6/10*
*ATH **03** 19:20:31.1,37°.37N×20°.48E,h13km±3km,ML3.5/19, Manual Solution by A.Andreou First location: 2019/07/03 19:21:31, This location: 2020/11/16 13:16:14 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
*IDC **03** 19:20:33.4±1.7,37°.86N×21°.09E,h0km,mb3.6/6, mbtmp3.6/6,Error ellipse: s-maj=41.0km s-min=27.9km az=109.0*

ISC 03 19:20:31.0±1.9,**37°.37N**±0°.06×**20°.49E**±0°.06,**h10**km±9km, **n41**,σ0**89**/**53**,**mb3.6**/5,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.44**	**39**	P	**Pg**	**19 20 40.0**	**+0.4**
LTHK				S	**Sg**	**19 20 46.5**	**+1.1**
LTHK	**Lithakia**	**0.44**	**39**	P	**Pg**	**19 20 40.0**	**+0.4**
LTHK				S	**Sg**	**19 20 45.6**	**+0.1**
ORTH	**Orthonies,Zaky**	**0.51**	**19**	P	**Pg**	**19 20 41.2**	**+0.3**
ORTH				S	**Sg**	**19 20 48.1**	**+0.5**
KTLO	**Katakolo**	**0.72**	**67**	P	**Pg**	**19 20 45.1**	**+0.3**
KTLO				S	**Sb**	**19 20 55.8**	**+0.3**
CLEM	**Kyllini,Ilia,G**	**0.73**	**44**	P	**Pg**	**19 20 45.3**	**+0.2**
CLEM				S	**Sg**	**19 20 54.3**	**-0.4**
RTZL	**Ratzakli, Kefa**	**0.74**	**18**	P	**Pg**	**19 20 45.2**	**-0.1**
RTZL				S	**Sb**	**19 20 57.0**	**+0.8**
PSDA	**Pessada-Kefalo**	**0.75**	**6**	P	**Pg**	**19 20 45.7**	**+0.2**
PSDA				S	**Sb**	**19 20 56.2**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.75**	**6**	P	**Pg**	**19 20 45.2**	**-0.3**
VLS	**Valsamata**	**0.81**	**6**	P	**Pg**	**19 20 46.3**	**-0.3**
VLS				S	**Sb**	**19 20 58.6**	**+0.3**
VLS	**Valsamata**	**0.81**	**6**	P	**Pg**	**19 20 46.1**	**-0.5**
DMLN	**Damoulianata-K**	**0.87**	**354**	P	**Pg**	**19 20 47.8**	**0.0**
DMLN				S	**Sn**	**19 21 02.3**	**+0.1**
DMLN	**Damoulianata-K**	**0.87**	**354**	P	**Pg**	**19 20 47.5**	**-0.3**
ANDM	**Andravida**	**0.88**	**45**	P	**Pg**	**19 20 46.9**	**-0.9**
ANDM				S	**Sn**	**19 21 01.1**	**-1.0**
KRES	**Krestena**	**0.93**	**76**	P	**Pb**	**19 20 49.0**	**-0.2**
KRES				S	**Sn**	**19 21 04.4**	**+0.9**
KRES	**Krestena**	**0.93**	**76**	P	**Pb**	**19 20 49.1**	**-0.2**
ZARO	**Zacharo**	**0.93**	**82**	P	**Pb**	**19 20 49.2**	**-0.1**
AMT	**Artemida-Makis**	**0.99**	**80**	P	**Pb**	**19 20 49.5**	**-0.7**
RLS	**Riolos of Patr**	**1.04**	**48**	P	**Pb**	**19 20 50.2**	**-0.8**
RLS				S	**Sg**	**19 21 04.8**	**+0.3**
RLS	**Riolos of Patr**	**1.04**	**48**	P	**Pb**	**19 20 50.1**	**-1.0**
FSK	**Fiskardo**	**1.09**	**3**	P	**Pb**	**19 20 51.1**	**-0.9**
DRO	**Drossia**	**1.13**	**59**	P	**Pb**	**19 20 52.2**	**-0.5**
DRO				S	**Sn**	**19 21 09.7**	**+1.1**
DRO	**Drossia**	**1.13**	**59**	P	**Pb**	**19 20 51.9**	**-0.8**
ITM	**Ithomi**	**1.16**	**99**	P	**Pb**	**19 20 52.0**	**-1.2**
EVGI	**Lefkada island**	**1.26**	**6**	P	**Pn**	**19 20 54.2**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.35**	**7**	P	**Pn**	**19 20 56.1**	**+0.2**
TSLK	**Tsoukalades, L**	**1.46**	**5**	P	**Pn**	**19 20 57.1**	**-0.3**
KLV	**Kalavryta, Ach**	**1.48**	**62**	P	**Pn**	**19 20 57.6**	**-0.2**
PVO	**Paravola**	**1.49**	**33**	P	**Pn**	**19 20 57.2**	**-0.7**
VLX	**Vlachokerasia**	**1.51**	**89**	P	**Pn**	**19 20 57.3**	**-0.9**
EFP	**Efpalio**	**1.54**	**46**	P	**Pn**	**19 20 58.8**	**+0.3**
GUR	**Goura**	**1.58**	**28**	P	**Pn**	**19 20 59.3**	**+0.1**
SERG	**Sergoula**	**1.62**	**49**	P	**Pn**	**19 21 00.0**	**+0.3**
KALE	**Kalithea**	**1.66**	**51**	P	**Pn**	**19 20 59.9**	**-0.4**
ANX	**Ano Chora**	**1.67**	**42**	P	**Pn**	**19 20 59.9**	**-0.4**
VLI	**Veliai**	**2.06**	**108**	P	**Pn**	**19 21 05.6**	**-0.1**
HFS	**Hagfors**	**23.20**	**351**	P	**P**	**19 25 36.3**	**-1.4**
	1.6nm,0.8s,baz=165,slow=12,SNR=4.3 1.6nm,0.8s						
EKA	**Eskdalemuir Ar**	**24.08**	**326**	P	**P**	**19 25 50.7**	**+4.3**
	1.4nm,0.8s,baz=123,slow=9.2,SNR=3.9 1.4nm,0.8s						
FINES	**FINESS Array B**	**24.35**	**7**	P	**P**	**19 25 47.6**	**-1.2**
	3.0nm,0.9s,baz=187,slow=9.7,SNR=5.1 3.0nm,0.9s						
NOA	**NORSAR Array B**	**24.41**	**349**	P	**P**	**19 25 49.6**	**+0.3**
	1.0nm,1.0s,baz=176,slow=12,SNR=0.9 1.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**29.39**	**220**	P	P	19 26 44.2	+10
	0.9nm,0.4s,baz=28,slow=9.0,SNR=3.0 0.9nm,0.4s						
MKAR	**Makanchi Array**	**45.75**	**58**	P	**P**	**19 28 51.0**	**-1.4**
	0.4nm,0.8s,baz=297,slow=4.8,SNR=2.2 0.4nm,0.8s						

*IDC **03** 19:26:32.4±1.9,56°.35N×163°.79E,h0km,mb3.3/2, mbtmp3.2/3,ML2.4/1,Error ellipse: s-maj=125.6km s-min=26.0km az=142.0*
*KRSC **03** 19:26:33.5±1.2,55°.93N×164°.02E,h14km±23km,Ml3.8*

ISC 03 19:26:32.2±1.8,**56°.07N**±0°.07×**164°.16E**±0°.05,**h1**km±13km, **n39**,σ1**9**40/43,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.76**	**281**	*e*P	**Pg**	**19 26 46.2**	**-0.5**
KBTR				*e*S	**Sg**	**19 26 57.9**	**+1.3**
KBG	**Krutoberegovo**	**0.83**	**284**	*e*P	**Pg**	**19 26 47.3**	**-0.9**
KBG				*e*S	**Sg**	**19 26 59.6**	**+0.7**
BKI	**Bering**	**1.34**	**129**	*e*P	**Pn**	**19 26 57.8**	**-0.2**
BKI				*e*S	**Sn**	**19 27 16.4**	**-0.1**
SMKR	**Semkarok**	**1.58**	**290**	*e*P	**Pn**	**19 27 00.6**	**-0.9**
SRKR	**Sorokina**	**1.77**	**291**	*e*P	**Pn**	**19 27 03.7**	**-0.3**
ZLN	**Zelenaya**	**1.88**	**270**	*e*P	**Pb**	**19 27 06.5**	**-0.9**
LGNR	**Loginova**	**1.94**	**272**	*e*P	**Pn**	**19 27 07.4**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**1.95**	**268**	*e*P	**Pn**	**19 27 06.9**	**+0.5**
KLY	**Klyuchi**	**1.98**	**279**	*e*P	**Pn**	**19 27 05.3**	**-1.4**
MKZ	**Mys Kozlova**	**2.05**	**224**	*e*P	**Pn**	**19 27 07.2**	**-0.5**
MKZ				*e*S	**Sn**	**19 27 32.9**	**-1.1**
BZWR	**Bezymyannyi-We**	**2.06**	**269**	*e*P	**Pn**	**19 27 08.7**	**+0.7**
BZMR	**Bezymyannaya**	**2.06**	**268**	*e*P	**Pn**	**19 27 08.8**	**+0.7**
KIRR	**Kirishev**	**2.15**	**269**	*e*P	**Pn**	**19 27 09.8**	**+0.6**
KPT	**Kopyto**	**2.21**	**269**	*e*P	**Pn**	**19 27 10.8**	**+0.7**
KMNR	**Kamenistaya**	**2.23**	**264**	*e*P	**Pn**	**19 27 11.4**	**+1.0**
TUMD	**Tumrok D**	**2.30**	**249**	*e*P	**Pn**	**19 27 11.4**	**+0.2**
TUMD				*e*S	**Sn**	**19 27 39.6**	**-0.6**
KOZ	**Kozyrevsk**	**2.40**	**272**	*e*P	**Pn**	**19 27 14.0**	**+1.4**
SRDR	**Sredinnyy**	**2.50**	**278**	*e*P	**Pn**	**19 27 14.7**	**+0.7**
ESO	**Esso**	**3.07**	**270**	*e*P	**Pn**	**19 27 23.4**	**+1.6**
KII	**Karymskiy**	**3.39**	**235**	*e*P	**Pn**	**19 27 26.9**	**+0.7**
SPN	**Mys Shipunski**	**3.83**	**221**	*e*P	**Pn**	**19 27 31.9**	**-0.2**
SPN				*e*S	**Sn**	**19 28 12.7**	**-5.0**
SDLR	**Sedlovina**	**4.14**	**230**	*e*P	**Pn**	**19 27 37.8**	**+1.2**
KRER	**Koryakskii**	**4.18**	**231**	*e*P	**Pn**	**19 27 38.1**	**+0.9**
KRX	**Arik**	**4.19**	**232**	*e*P	**Pn**	**19 27 38.7**	**+1.3**
SMAR	**Somma**	**4.19**	**230**	*e*P	**Pn**	**19 27 38.3**	**+0.9**
AVH	**Avacha**	**4.22**	**231**	*e*P	**Pn**	**19 27 38.8**	**+1.2**
UGLR	**Uglovaya**	**4.22**	**229**	*e*P	**Pn**	**19 27 38.9**	**+1.3**
KOK	**Koryaka**	**4.24**	**231**	*e*P	**Pn**	**19 27 39.3**	**+1.4**
GNL	**Ganaly**	**4.30**	**239**	*e*P	**Pn**	**19 27 40.6**	**+1.7**
KRMR	**Karymshinskiy**	**4.78**	**230**	*e*P	**Pn**	**19 27 47.8**	**+2.5**
PETK	**Petropavlovsk-**	**4.78**	**234**	Pn	**Pn**	**19 27 46.1**	**+0.8**
	0.7nm,0.3s,baz=52,slow=8.9,SNR=7.0						
PETK				Sn	**Sn**	**19 28 42.5**	**+1.1**
	0.3nm,0.3s,baz=44,slow=35,SNR=1.4 1.3nm,0.4s						
GRL	**Gorelyy**	**5.01**	**228**	*e*P	**Pn**	**19 27 50.8**	**+2.2**
MTVR	**Mutnovka**	**5.01**	**227**	*e*P	**Pn**	**19 27 50.4**	**+1.8**
ASAK	**Asacha**	**5.20**	**227**	*e*P	**Pn**	**19 27 53.1**	**+1.9**
ILAR	**Eielson Array**	**25.06**	**50**	P	**P**	**19 31 57.7**	**+0.1**
	0.5nm,0.8s,baz=259,slow=7.7,SNR=6.0 0.5nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**36.34**

comp=E,630nm,11.7s
SMLA Simla 12.57 266 *eS* **Sn 19 37 43.2 -1.0**
DHRM DHARAMSHALA 13.12 272 *eP* **P 19 35 39.6 -2.7**
NRN Naryn 15.24 309 Pn 19 35 60.0 -1.1
NRN IAmb IAmb 19 36 12.8
comp=Z,13nm,1.0s
ENH Enshi 15.27 95 Pn 19 35 58.8 -2.3
CHTO Chiang Mai 15.36 154 Pn **Pn 19 36 00.5 -1.9**
NIL Nilore 15.57 278 Pn 19 36 01.9 -3.2
NIL IAmb IAmb 19 36 07.9
comp=Z,13nm,0.8s
CM31 Chiang Mai Arr 15.69 154 Pn **Pn 19 36 03.4 -3.2**
CM31 IAmb IAmb 19 36 11.3
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 15.69 154 Pn 19 36 05.0 -1.6
CMAR Chiang Mai Arr 15.69 154 Pn **Pn 19 36 04.6 -2.0**
comp=Z,0.1nm,0.3s,baz=333,slow=13,SNR=13
comp=Z,2.7nm,0.9s
MKAR Makanchi Array 15.72 335 Pn 19 36 04.7 -2.2
MKAR Makanchi Array 15.72 335 Pn **Pn 19 36 05.5 -1.5**
comp=Z,0.2nm,0.3s,baz=138,slow=15,SNR=8.5
MKAR LR LR 19 42 48.6
comp=Z,186nm,20.1s,baz=146,slow=40
comp=Z,0.9nm,0.8s
MAKZ Makanchi 15.85 334 Pn 19 36 06.2 -2.4
AAK Ala-Archa 16.81 310 Pn 19 36 20.4 -0.6
AAK Ala-Archa 16.81 310 Pn **Pn 19 36 20.2 -0.8**
comp=Z,0.5nm,0.3s,baz=125,slow=7.2,SNR=5.2
AAK LR LR 19 43 19.1
comp=Z,189nm,18.1s,baz=120,slow=39
comp=Z,1.4nm,0.3s
LYN LuoYang 17.25 79 P **Pn 19 36 25.0 -1.4**
LYN pmax pmax
comp=Z,16nm,0.9s
LYN LR LR
comp=Z,1μm,10.0s
LYN LR LR
comp=Z,1μm,18.4s
HHC Hu-ho-hao-te 17.67 58 *eP* **P 19 36 32.8 +0.2**
HHC S **Sn 19 39 45.9 -2.4**
HHC sS S 19 39 58.9 +3.2
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,59nm,4.0s
HHC LR LR
comp=Z,280nm,10.7s
HHC LR LR
comp=Z,550nm,11.5s
HHC LR LR
comp=Z,460nm,10.7s
BTK Batken 18.35 299 P 19 36 40.8 +0.7
BTK IAmb IAmb 19 36 49.9
comp=Z,26nm,1.2s
GAR Garm 18.46 295 Pn 19 36 41.7 +0.3
GAR IAmb IAmb 19 36 46.7
comp=Z,30nm,1.3s
SONM Songino Array 18.59 32 P **P 19 36 41.6 -1.0**
SONM Songino Array 18.59 32 P **P 19 36 40.1 -2.5**
comp=Z,0.3nm,0.3s,baz=233,slow=15,SNR=7.8
SONM LR LR 19 44 49.4
comp=Z,183nm,20.7s,baz=219,slow=40
comp=Z,3.9nm,1.0s
ULN Ulaanbaatar 18.91 33 P 19 36 46.1 -0.1
ULN IAmb IAmb 19 36 49.2
comp=Z,15nm,1.3s
KBL Kabul 19.04 281 P 19 36 47.9 +0.1
KK31 Karatay Array 19.63 308 Pn 19 36 55.6 +0.2
KK31 IAmb IAmb 19 36 58.2
comp=Z,12nm,1.2s
KKAR Karatay Array 19.63 308 Pn 19 36 57.0 +1.5
KKAR IAmb IAmb 19 36 58.2
comp=Z,13nm,1.2s
KKAR Karatay Array 19.63 308 Pn 19 36 55.6 +0.2
KURBB Kurchatov Arra 20.29 335 P **P 19 37 00.6 -0.5**
comp=Z,3.6nm,0.8s,baz=142,slow=12,SNR=19
KURBB LR LR 19 44 51.4
comp=Z,188nm,21.7s,baz=168,slow=37
comp=Z,3.6nm,0.8s
KURK Kurchatov 20.34 335 P **P 19 37 01.8 +0.2**
KURK IAmb IAmb 19 37 08.8
comp=Z,8.2nm,0.9s
TIA Tai'an 21.08 74 P **P 19 37 09.0 -0.8**
TIA pmax pmax
comp=Z,29nm,0.8s
TIA LR LR
comp=Z,330nm,6.9s
TIA LR LR
comp=Z,370nm,5.2s
TIA LR LR
comp=Z,500nm,5.6s
QIZ Qiongzhong 21.20 126 P **P 19 37 09.3 -1.9**
QIZ S **S 19 41 07.6 +0.9**
QIZ pmax pmax
comp=Z,81nm,1.8s
QIZ LR LR
comp=Z,1μm,11.1s
QIZ LR LR
comp=Z,830nm,12.4s
ZAA0 Zalesovo Array 21.68 349 P 19 37 15.8 -0.2
ZAA0 IAmb IAmb 19 37 23.3
comp=Z,16nm,1.1s
ZALV Zalesovo Beam 21.68 349 P 19 37 15.4 -0.6
ZALV Zalesovo Beam 21.68 349 P **P 19 37 15.2 -0.8**
comp=Z,2.1nm,0.6s,baz=153,slow=13,SNR=9.2
ZALV LR LR 19 46 23.9
comp=Z,170nm,21.8s,baz=164,slow=39
comp=Z,2.1nm,0.6s
BVAR Borovoye Array 25.38 329 P **P 19 37 53.2 +0.6**
comp=Z,5.2nm,0.7s,baz=134,slow=10.0,SNR=29
BVAR LR LR 19 48 12.5
comp=Z,241nm,20.6s,baz=132,slow=37
comp=Z,5.2nm,0.7s
BRVK Borovoye 25.45 329 P 19 37 53.5 +0.4
AB31 Akbulak array 28.83 314 P 19 38 24.2 +0.7
ABKAR Akbulak array 28.83 314 P 19 38 23.8 +0.2
KSRS Korea Array 29.74 71 P **P 19 38 30.0 -1.8**
comp=Z,1.2nm,0.6s,baz=276,slow=8.9,SNR=6.5
comp=Z,1.2nm,0.6s
HEH HeiHe 31.41 46 *eP* **P 19 38 46.0 -0.4**
HEH pmax pmax
comp=Z,3.0nm,0.8s
HEH LR LR
comp=Z,260nm,12.1s
HEH LR LR
comp=Z,280nm,14.6s
JOW Kunigami 32.06 91 LR LR 19 52 27.7
comp=Z,186nm,19.8s,baz=328,slow=38
TGY Tagaytay City 32.40 118 LR LR 19 51 52.2
comp=Z,187nm,20.5s,baz=313,slow=36
JNU Nakatsue 32.62 79 LR LR 19 54 15.3
comp=Z,59nm,19.7s,baz=292,slow=40
ARTI Arti 32.94 326 P 19 38 59.5 -0.3
ARTI Arti 32.94 326 LR LR 19 53 39.6
comp=Z,133nm,19.0s,baz=121,slow=39
USRK Ussuriysk Ar. 33.09 58 LR LR 19 53 53.8
comp=Z,213nm,18.6s,baz=30,slow=39
KLR Kul'dur 33.81 49 LR LR 19 52 34.7
comp=Z,93nm,19.6s,baz=258,slow=36
BELG Belogorsnoye 37.22 315 LR LR 19 56 20.2
comp=Z,140nm,18.7s,baz=96,slow=38
YAK Yakutsk 37.86 28 LR LR 19 56 17.3
comp=Z,183nm,18.6s,baz=234,slow=38
MJAR Matsushiro Arr 38.02 71 LR LR 19 56 46.6
comp=Z,137nm,18.8s,baz=284,slow=39
KIRV Kirov 38.25 325 LR LR 19 56 56.1
comp=Z,163nm,18.0s,baz=115,slow=38
ASAJ Asahikawa 40.71 59 LR LR 19 56 08.2
comp=Z,128nm,19.6s,baz=276,slow=35
TIXI Tiksi 43.54 16 LR LR 20 01 12.7
comp=Z,40nm,19.9s,baz=252,slow=40
ASF Jabal al Asfar 45.88 285 LR LR 20 02 32.2
comp=Z,83nm,21.9s,baz=77,slow=39
KAPI Kappang 46.04 140 LR LR 20 03 16.2
comp=Z,98nm,19.3s,baz=304,slow=40
MA2 Magadan 46.70 37 LR LR 20 01 41.4
comp=Z,142nm,19.0s,baz=269,slow=38
BR131 Keskin Array S 46.70 296 P **P 19 40 53.8 -0.8**
BR131 IAmb IAmb 19 41 07.2
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 46.70 296 P **P 19 40 53.8 -0.8**
BRTR Keskin Array B 46.70 296 P **P 19 40 54.8 +0.3**
comp=Z,1.0nm,0.7s,baz=96,slow=8.8,SNR=6.7
comp=Z,1.0nm,0.7s
MMAI Mount Meron Ar 46.86 286 LR LR 20 05 57.4
comp=Z,56nm,18.6s,baz=59,slow=43
SEY Seymchan 47.98 32 LR LR 20 02 58.6
comp=Z,128nm,18.9s,baz=310,slow=38
EIL Elat 48.23 282 LR LR 20 02 27.3
comp=Z,116nm,21.2s,baz=64,slow=37
AKASG Malin Array Be 48.48 311 P **P 19 41 07.5 -0.5**
comp=Z,0.1nm,0.2s,baz=78,slow=7.0,SNR=4.2
comp=Z,0.1nm,0.2s
FINES FINESS Array B 50.24 325 P **P 19 41 22.0 +0.8**
comp=Z,1.9nm,0.7s,baz=111,slow=4.3,SNR=10.0
FINES LR LR 20 04 06.2
comp=Z,60nm,18.3s,baz=91,slow=38
comp=Z,1.9nm,0.7s
PETK Petropavlovsk- 50.34 46 P **P 19 41 19.7 -2.5**
comp=Z,0.9nm,0.9s,baz=264,slow=5.8,SNR=1.9
comp=Z,0.9nm,0.9s
ARCES ARCESS Array B 51.38 336 P **P 19 41 29.9 +0.2**
comp=Z,2.3nm,0.9s,baz=99,slow=6.7,SNR=5.7
ARCES LR LR 20 06 26.6
comp=Z,70nm,18.0s,baz=81,slow=40
comp=Z,2.3nm,0.9s
GUMO Guam 51.81 99 LR LR 20 05 40.7
comp=Z,26nm,18.2s,baz=289,slow=39
SPITS Spitsbergen Ar 55.12 346 LR LR 20 09 06.0
comp=Z,61nm,20.4s,baz=68,slow=40
HFS Hagfors 56.36 324 P **P 19 42 07.6 +1.4**
comp=Z,2.3nm,0.7s,baz=69,slow=8.4,SNR=5.6
comp=Z,2.3nm,0.7s
DPC Dobruska-Polom 56.67 312 AMS AMS 20 08 00.0
comp=Z,100nm,12.7s
OSTC Ostas 56.70 312 AMS AMS 20 07 50.0
comp=Z,100nm,16.5s
UPC Upice 56.83 312 AMS AMS 20 07 50.0
comp=Z,100nm,14.2s
NB2 NORSAR Subarra 57.43 325 P **P 19 42 15.0 +1.1**
comp=Z,5.2nm,1.1s,baz=80,slow=7.4
NOA NORSAR Array B 57.43 325 P **P 19 42 15.2 +1.3**
comp=Z,1.1nm,0.7s,baz=80,slow=7.0,SNR=3.9
NOA LR LR 20 07 23.9
comp=Z,57nm,21.9s,baz=85,slow=36
comp=Z,1.1nm,0.7s
GOPC GO Pecny, Ondr 57.74 312 AMS AMS 20 08 30.0
comp=Z,200nm,13.5s
PRU Pruhonice 57.87 312 AMS AMS 20 08 40.0
comp=Z,200nm,13.7s
PRA Prague 57.92 312 AMS AMS 20 08 50.0
comp=Z,100nm,12.2s
CKRC Cesky Krumlov 58.31 311 AMS AMS 20 11 20.0
comp=Z,100nm,12.2s
CLL Collm 58.49 314 *i* P **P 19 42 25.3 +3.8**
GERES GERESS Array B 58.69 311 P **P 19 42 25.5 +2.4**
comp=Z,0.7nm,0.7s,baz=59,slow=5.1,SNR=5.4
GERES LR LR 20 12 08.1
comp=Z,79nm,18.3s,baz=81,slow=40
comp=Z,0.7nm,0.7s
KHC Kasperske Hory 58.70 311 AMS AMS 20 11 30.0
comp=Z,100nm,13.2s
DAVOX Davos/Dischmat 61.76 309 LR LR 20 11 39.3
comp=Z,105nm,18.6s,baz=70,slow=38
EKA Eskdalemuir Ar 66.35 322 P **P 19 43 15.7 +1.8**
comp=Z,3.2nm,1.2s,baz=124,slow=28,SNR=3.7
comp=Z,3.2nm,1.2s
WRA Warramunga Arr 66.37 136 P **P 19 43 14.0 -0.5**
comp=Z,2.3nm,1.0s,baz=324,slow=6.3,SNR=12
comp=Z,2.3nm,1.0s
ASAR Alice Springs 69.06 139 P **P 19 43 31.6 +0.2**
comp=Z,1.8nm,0.6s,baz=326,slow=6.1,SNR=26
comp=Z,1.8nm,0.6s
NWAO Narrogin (SRO) 69.67 157 LR LR 20 13 59.2
comp=Z,32nm,21.6s,baz=76,slow=36
ILAR Eielson Array 72.52 23 P **P 19 43 52.8 +0.9**
comp=Z,1.0nm,0.9s,baz=293,slow=5.8,SNR=9.6
comp=Z,1.0nm,0.9s
RES Resolute Bay 72.65 2 LR LR 20 16 05.7
comp=Z,78nm,19.4s,baz=340,slow=36
ESDC Sonseca Array 73.88 307 P **P 19 44 01.4 +0.9**
comp=Z,0.5nm,0.8s,baz=68,slow=5.8,SNR=4.4
comp=Z,0.5nm,0.8s
KDAK Kodiak Island 74.86 30 LR LR 20 20 20.5
comp=Z,88nm,18.5s,baz=220,slow=38
SFJD Kangerlussuaq 76.46 346 LR LR 20 23 21.8
comp=Z,51nm,18.3s,baz=14,slow=40
LSZ Lusaka 77.33 242 LR LR 20 17 39.0
comp=Z,38nm,19.6s,baz=140,slow=35
STKA Stephens Creek 79.69 139 P **P 19 44 32.8 -0.3**
comp=Z,3.5nm,0.8s,baz=334,slow=6.4,SNR=6.6
comp=Z,3.5nm,0.8s
FRB Frobisher Bay 82.48 351 LR LR 20 26 19.7
comp=Z,46nm,18.3s,baz=336,slow=39
TORD Torodi Ar. Bea 83.11 281 P **P 19 44 51.7 0.0**
comp=Z,1.0nm,0.3s,baz=52,slow=4.5,SNR=3.6
comp=Z,1.0nm,0.3s
LBTB Lobatse 85.37 236 LR LR 20 19 08.6
comp=Z,36nm,21.6s,baz=66,slow=33
SCHQ Schefferville 90.76 348 LR LR 20 30 47.8
comp=Z,58nm,18.4s,baz=332,slow=39
ULM Lac du Bonnet 96.98 5 LR LR 20 34 51.6
comp=Z,42nm,18.5s,baz=251,slow=39

GCG ***03*** *20:02:12.7±1.0, 14.°04N×92.°92W, h1km±13km, MD3.9*
MEX ***03*** *20:02:16.8±0.5, 14.°37N×93.°20W, h16km±613km, MD3.9*
ISC 03 20:02:06.1±2.2, 13.°92N±0.°10×93.°31W±0.°06, h32km±14km, n15, σ2.°08/28, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.41**	**46**	*eP*	**Pb**	**20 02 33.2**	**+1.3**
THIG				*eS*	**Sb**	**20 02 49.7**	**+0.2**
PATR	**El Naranjo**	**1.58**	**41**	*eP*	**Pb**	**20 02 35.4**	**+0.4**
PATR				*eS*	**Sn**	**20 02 49.5**	**-2.0**
PAVE	**Pavencul**	**1.67**	**41**	*eP*	**Pb**	**20 02 36.6**	**+0.1**
PAVE				*eS*	**Sn**	**20 02 52.8**	**-1.1**
RTAL	**Retalhuleu**	**1.67**	**69**	*eP*	**Pb**	**20 02 36.7**	**+0.4**
RTAL				*eS*	**Sb**	**20 02 55.8**	**-1.3**
PCIG		**1.78**	**3**	*eP*	**Pb**	**20 02 37.3**	**-0.8**
PCIG				*eS*	**Sn**	**20 02 52.8**	**-3.3**
STG8	**El Palmar, Qui**	**1.97**	**74**	*eP*	**Pn**	**20 02 39.9**	**+2.5**
STG8				*eS*	**Sn**	**20 03 02.0**	**+0.8**
STG0	**El Palmar, Qui**	**1.97**	**75**	*eP*	**Pn**	**20 02 40.1**	**+2.6**
STG0				*eS*	**Sn**	**20 03 02.4**	**+1.3**
HUEH	**Huehuetenango**	**2.23**	**51**	*eP*	Pb	20 02 51.6	+5.6
HUEH				*eS*	**Sb**	**20 03 11.2**	**-2.2**
CCIG	**Comitan**	**2.61**	**26**	*eP*	**Pn**	**20 02 48.2**	**+2.0**
CCIG				*eS*	**Sn**	**20 03 17.5**	**+0.6**
CCIG	**Comitan**	**2.61**	**26**	*eP*	**Pb**	**20 02 53.1**	**+0.7**
CCIG				*eS*	**Sb**	**20 03 24.5**	**+0.5**
FG8	**Yepocapa, Chim**	**2.68**	**82**	*eP*	**Pn**	**20 02 47.0**	**-0.2**
FG8				*eS*	**Sn**	**20 03 12.6**	**-6.1**
FG16	**Alotenango, Sa**	**2.73**	**82**	*eP*	**Pn**	**20 02 48.4**	**+0.4**
TGIG		**2.85**	**4**	*eP*	**Pn**	**20 02 51.5**	**+2.0**
TGIG				*eS*	**Sn**	**20 03 22.2**	**-0.5**
CMIG	**Matias Romero**	**3.50**	**334**	*eP*	**Pn**	**20 02 57.1**	**-1.3**
CMIG				*eS*	**Sb**	**20 03 47.2**	**-2.4**
NEUV	**Arroyo Zacate**	**4.47**	**328**	*eP*	**Pn**	**20 03 14.3**	**+2.6**
NEUV				*eS*	**Sn**	**20 04 04.0**	**+1.3**

AEIC ***03*** *20:11:13.5±2.2, 69.°14N±0.°02×144.°66W±0.°05, h14km±1km, Error ellipse: s-maj=3.2km s-min=2.4km az=197.0*
NEIC 03 20:11:15.0±1.6, 69.°16N±0.°01×144.°66W±0.°06, h10km±1km, ML3.6/140, ML3.4(AEIC), Error ellipse: s-maj=3.6km s-min=2.9km az=271.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
C27K	**Jago River**	**0.58**	**35**		Pg	20 11 25.1	-1.1
C27K					Sg	20 11 33.2	-0.6
D25K	**Kavik River**	**0.63**	**286**		Pg	20 11 24.9	-2.3
D25K				IAML		20 11 36.7	
	comp=E,3μm,0.4s						
D25K	**Kavik River**	**0.63**	**286**		Sg	20 11 34.0	-1.5
C26K	**Camden Bay**	**0.77**	**354**		Pg	20 11 29.4	-0.4
C26K					Sg	20 11 39.9	0.0
E25K	**Arctic Village**	**1.09**	**198**		Pg	20 11 34.7	-1.2
E25K					Sg	20 11 49.6	-0.4
E25K					Sn	20 11 51.0	-0.5
D27M	**Malcolm River**	**1.32**	**84**		Pn	20 11 38.3	-1.2
D27M				IAML		20 11 59.4	
	comp=N,842nm,1.1s						
D27M	**Malcolm River**	**1.32**	**84**		Sb	20 11 57.0	+0.1
F26K	**Sheenjek River**	**1.48**	**172**		Pn	20 11 41.5	-0.1
F26K	**Sheenjek River**	**1.48**	**172**	IAML		20 12 03.1	
	comp=E,701nm,1.0s						
E27K	**Coleen River**	**1.49**	**129**		Pn	20 11 41.2	-0.5
E27K				IAML		20 12 04.0	
	comp=N,578nm,0.7s						
E27K				IAML		20 12 04.0	
	comp=E,758nm,0.5s						
E27K	**Coleen River**	**1.49**	**129**		Sb	20 12 01.5	0.0
E27K					Sn	20 12 01.9	+0.7
D24K	**Happy Valley**	**1.49**	**272**		Pb	20 11 42.2	-0.4
D24K					Sg	20 12 02.9	+0.2
D24K	**Happy Valley**	**1.49**	**272**	IAML		20 12 05.4	
	comp=N,998nm,0.8s						
C24K	**Franklin Bluff**	**1.54**	**294**		Pn	20 11 42.5	+0.1
C24K					Sg	20 12 04.4	+0.2
C24K	**Franklin Bluff**	**1.54**	**294**	IAML		20 12 09.7	
	comp=N,666nm,1.1s						
C24K				IAML		20 12 17.2	
	comp=E,577nm,0.7s						
F25K	**Christian Rive**	**1.61**	**193**		Pn	20 11 43.4	0.0
F25K				IAML		20 12 10.8	
	comp=E,665nm,0.6s						
F25K	**Christian Rive**	**1.61**	**193**		Sg	20 12 06.8	+0.2
BMAR	**Burnt Mountain**	**1.73**	**179**		Pn	20 11 44.6	-0.6
E24K	**Your Creek**	**1.77**	**234**		Pn	20 11 45.4	-0.3
E24K	**Your Creek**	**1.77**	**234**		Sb	20 12 09.0	-0.8
TOLK	**Toolik Lake Re**	**1.85**	**256**		Pn	20 11 47.5	+0.8
TOLK	**Toolik Lake Re**	**1.85**	**256**	IAML		20 12 18.4	
	comp=E,496nm,0.7s						
TOLK				IAML		20 12 24.6	
	comp=N,372nm,0.8s						
E28M	**Babbage River**	**1.94**	**104**		Pn	20 11 46.0	-2.0
E28M				IAML		20 12 16.5	
	comp=N,314nm,0.9s						
F24K	**Squaw Lake**	**2.03**	**218**		Pn	20 11 49.8	+0.5
F24K				IAML		20 12 27.5	
	comp=N,325nm,0.6s						
D28M	**Stokes Point**	**2.12**	**83**		Pn	20 11 51.5	+1.2
E23K	**Chandalar**	**2.12**	**241**		Pn	20 11 51.6	+1.0
D23K	**Nanushuk River**	**2.17**	**268**		Pn	20 11 51.9	+0.8
D23K	**Nanushuk River**	**2.17**	**268**	IAML		20 12 37.7	
	comp=E,315nm,1.1s						
D23K				IAML		20 12 43.8	
	comp=N,275nm,1.1s						
C23K	**Itkillik River**	**2.20**	**291**		Pn	20 11 51.8	+0.2
G26K	**Porcupine Rive**	**2.24**	**171**		Pn	20 11 52.0	-0.1
G26K	**Porcupine Rive**	**2.24**	**171**	IAML		20 12 34.3	
	comp=N,435nm,0.9s						
F28M	**Old Crow**	**2.35**	**129**		Pn	20 11 53.7	+0.1
F28M	**Old Crow**	**2.35**	**129**	IAML		20 12 32.4	
	comp=N,214nm,0.7s						
G25K	**Bearman Lake**	**2.46**	**193**		Pn	20 11 55.4	+0.4
E29M	**Blow River**	**2.58**	**104**		Pn	20 11 57.1	+0.4
E29M	**Blow River**	**2.58**	**104**	IAML		20 12 43.9	
	comp=N,301nm,0.7s						
FYU	**Fort Yukon**	**2.61**	**185**		Pn	20 11 55.0	-2.1
E22K	**Anaktuvuk Pass**	**2.81**	**252**	IAML		20 12 53.8	
	comp=N,152nm,0.6s						
COLD	**Coldfoot**	**2.83**	**229**		Pn	20 11 56.8	-3.4
D22K	**Ayikyak River**	**2.90**	**268**		Pn	20 12 01.5	+0.4
H27K	**Steamboat Moun**	**3.17**	**156**		Pn	20 12 05.4	+0.5
G23K	**Bananza Creek**	**3.18**	**222**		Pn	20 12 05.2	+0.2
G23K	**Bananza Creek**	**3.18**	**222**	IAML		20 13 00.1	
	comp=E,172nm,0.7s						
G23K				IAML		20 13 00.2	
	comp=N,118nm,0.9s						
B22K	**Teshekpuk Lake**	**3.27**	**295**		Pn	20 12 06.8	+0.7
G29M	**Pine Creek**	**3.36**	**129**		Pn	20 12 08.0	+0.5
B21K	**Ikpikpuk River**	**3.55**	**282**		Pn	20 12 09.7	-0.3
B21K	**Ikpikpuk River**	**3.55**	**282**	IAML		20 13 25.8	
	comp=E,114nm,0.9s						
B21K				IAML		20 13 26.1	
	comp=N,114nm,1.4s						
H24K	**Noodor Dome**	**3.55**	**202**		Pn	20 12 08.2	-2.0
H24K				IAML		20 13 13.7	
	comp=E,125nm,1.5s						
H24K				IAML		20 13 15.5	
	comp=N,98nm,0.9s						
C21K	**Knifeblade Rid**	**3.62**	**275**		Pn	20 12 10.6	-0.4
C21K					Pb	20 12 11.4	-7.5
F30M	**Barrier River**	**3.63**	**111**		Pn	20 12 13.0	+1.8
F30M	**Barrier River**	**3.63**	**111**	IAML		20 13 14.9	
	comp=E,103nm,0.9s						
F30M				IAML		20 13 23.0	
	comp=N,122nm,0.9s						
PRP	**Porcupine Dome**	**3.67**	**186**		Pn	20 12 12.8	+1.0
PRP	**Porcupine Dome**	**3.67**	**186**	IAML		20 13 15.2	
	comp=E,70nm,0.9s						
PRP				IAML		20 13 15.2	
	comp=N,78nm,1.0s						
I27K	**Kandik River**	**3.76**	**160**		Pn	20 12 13.6	+0.7
H29M	**Whitestone**	**3.80**	**138**		Pn	20 12 14.2	+0.8
H29M	**Whitestone**	**3.80**	**138**	IAML		20 13 25.4	
	comp=E,95nm,0.7s						
H29M				IAML		20 13 37.6	
	comp=N,91nm,0.8s						
F21K	**Alatna River**	**3.82**	**244**	IAML		20 13 23.1	
	comp=N,74nm,1.3s						
F21K				IAML		20 13 25.6	
	comp=E,90nm,0.8s						
H23K	**Yukon River**	**3.83**	**212**		Pn	20 12 14.8	+0.8
H23K	**Yukon River**	**3.83**	**212**	IAML		20 13 20.8	
	comp=E,89nm,1.1s						
H23K				IAML		20 13 30.5	
	comp=N,86nm,0.9s						
G30M	**tAoh Zraii Nji**	**3.85**	**121**		Pn	20 12 15.0	+0.9
G30M				IAML		20 13 36.1	
	comp=N,60nm,1.4s						
I26K	**Coal Creek Min**	**3.91**	**171**	IAML		20 13 34.4	
	comp=N,96nm,0.8s						
A22K	**Sinclair Lake**	**3.99**	**303**		Pn	20 12 16.2	+0.2
EPYK	**Eagle Plains**	**4.11**	**129**		Pn	20 12 18.4	+0.6
INK	**Inuvik**	**4.15**	**97**		Pn	20 12 16.4	-1.8
I28M	**Miner Creek**	**4.15**	**152**	IAML		20 13 36.3	
	comp=E,72nm,1.3s						
H22K	**Ishtalitna Cre**	**4.17**	**221**		Pn	20 12 19.0	+0.5
H22K					Pb	20 12 19.5	-8.8
G21K	**Allakaket**	**4.27**	**236**		Pn	20 12 20.7	+0.8
G21K	**Allakaket**	**4.27**	**236**	IAML		20 13 41.8	
	comp=N,78nm,1.0s						
G21K				IAML		20 13 48.1	
	comp=E,72nm,1.0s						
E20K	**Nigu River**	**4.30**	**263**		Pn	20 12 20.6	+0.2
E20K					Pb	20 12 21.2	-9.4
D20K	**Etivluk River**	**4.34**	**270**		Pn	20 12 20.7	-0.1
D20K				IAML		20 14 01.1	
	comp=N,61nm,1.6s						
D20K				IAML		20 14 07.7	
	comp=E,47nm,1.8s						
F31M	**Tsiigehtchic**	**4.41**	**108**	IAML		20 13 36.3	
	comp=N,60nm,1.0s						
F31M				IAML		20 13 39.5	
	comp=E,56nm,0.8s						
I23K	**Minto, Yukon-K**	**4.42**	**207**	IAML		20 13 47.1	
	comp=E,58nm,1.8s						
I23K				IAML		20 13 48.7	
	comp=N,50nm,1.7s						
B20K	**Meade River**	**4.46**	**287**		Pn	20 12 22.7	+0.2
COLA	**College**	**4.48**	**198**		Pn	20 12 21.6	-1.2
ILAR	**Eielson Array**	**4.49**	**192**		Pn	20 12 22.3	-0.6
G31M	**Satah River**	**4.50**	**115**	IAML		20 13 39.3	
	comp=E,55nm,0.8s						
G31M				IAML		20 13 53.1	
	comp=N,62nm,0.8s						
I29M	**Ogilvie Camp,**	**4.54**	**144**	IAML		20 13 22.4	
	comp=N,38nm,0.4s						
I29M				IAML		20 13 46.9	
	comp=E,38nm,1.7s						
J25K	**Salcha River,**	**4.57**	**184**		Pn	20 12 25.3	+1.1
J25K	**Salcha River,**	**4.57**	**184**	IAML		20 13 43.2	
	comp=E,46nm,1.2s						
A21K	**Barrow**	**4.60**	**304**		Pn	20 12 25.1	+0.7
F20K	**Avaraart Lake**	**4.65**	**248**		Pn	20 12 25.8	+0.7
F20K	**Avaraart Lake**	**4.65**	**248**	IAML		20 13 50.5	
	comp=E,41nm,1.1s						
F20K				IAML		20 13 52.9	
	comp=N,48nm,1.1s						
CCB	**Clear Creek Bu**	**4.69**	**197**		Pn	20 12 26.2	+0.5
CCB	**Clear Creek Bu**	**4.69**	**197**	IAML		20 13 50.0	
	comp=E,35nm,0.9s						
J26L	**Joseph Creek**	**4.70**	**174**		Pn	20 12 26.6	+0.7
J26L	**Joseph Creek**	**4.70**	**174**	IAML		20 13 47.1	
	comp=E,43nm,0.8s						
H21K	**Melozitna Rive**	**4.71**	**226**		Pn	20 12 26.8	+0.9
H21K	**Melozitna Rive**	**4.71**	**226**	IAML		20 13 48.6	
	comp=E,53nm,0.7s						
H21K				IAML		20 13 55.5	
	comp=N,50nm,1.1s						
IMAR	**Indian Mountai**	**4.71**	**232**		Pn	20 12 25.3	-0.7
MLY	**Manley**	**4.77**	**213**		Pn	20 12 27.6	+0.8
MLY	**Manley**	**4.77**	**213**	IAML		20 13 55.8	

comp=N,33nm,1.4s
HDA Harding Lake 4.85 192 Pn 20 12 27.2 -0.7
HDA IAML 20 13 56.1
comp=N,47nm,1.0s
WRH Wood River Hil 4.89 198 Pn 20 12 29.0 +0.5
WRH Wood River Hil 4.89 198 IAML 20 13 57.0
comp=N,35nm,0.9s
WRH IAML 20 13 58.6
comp=E,39nm,0.7s
I21K Tanana 4.90 219 Pn 20 12 27.3 -1.2
D19K Kuna River 4.92 269 Pn 20 12 29.5 +0.6
D19K Kuna River 4.92 269 IAML 20 14 13.7
comp=E,44nm,0.8s
E19K Redstone River 4.96 256 Pn 20 12 30.1 +0.7
E19K Redstone River 4.96 256 IAML 20 14 00.9
comp=N,44nm,0.8s
E19K IAML 20 14 13.6
comp=E,42nm,1.1s
I30M Mount Dempster 5.09 137 Pn 20 12 31.6 +0.3
I30M Mount Dempster 5.09 137 IAML 20 13 33.1
comp=N,26nm,0.7s
I30M IAML 20 14 12.2
comp=E,40nm,0.7s
H31M Peel River 5.20 125 Pn 20 12 31.9 -0.8
H31M Peel River 5.20 125 IAML 20 14 07.7
comp=E,39nm,1.4s
H31M IAML 20 14 13.4
comp=N,34nm,0.9s
SCRK Sand Creek 5.21 177 Pn 20 12 34.0 +1.0
SCRK Sand Creek 5.21 177 IAML 20 14 02.7
comp=E,39nm,0.8s
K27K Chicken 5.25 167 Pn 20 12 34.3 +1.0
C19K Lookout Ridge 5.33 276 Pn 20 12 34.4 -0.2
C19K Lookout Ridge 5.33 276 IAML 20 14 19.1
comp=E,23nm,1.7s
H20K Anotleneega Mo 5.39 232 Pn 20 12 36.0 +0.6
K24K Donnelly Dome 5.39 185 Pn 20 12 35.9 +0.6
DAWY Dawson 5.52 155 Pn 20 12 37.9 +0.8
A19K Wainwright 5.81 288 Pn 20 12 41.1 +0.1
H19K Roundabout Mou 5.83 237 Pb 20 12 57.3 +0.8
C18K Utukok River 5.99 273 Pn 20 12 43.5 0.0
K29M Barlow Dome 6.05 148 Pn 20 12 45.1 +0.7
B18K Kokolik River 6.09 280 Pn 20 12 44.9 0.0
DHY Denali Highway 6.20 191 Pn 20 12 47.8 +1.2
F18K Selawik 6.21 253 Pn 20 12 47.8 +1.3
PAX Paxson 6.22 183 Pn 20 12 48.1 +1.3
BCAR Beaver Creek A 6.23 168 Pn 20 12 47.4 +0.5
L27K Beaver Creek, 6.23 168 Pn 20 12 47.5 +0.7
J20K Nowinta River 6.25 221 Pn 20 12 47.8 +0.7
G18K Tagagawik 6.28 245 Pn 20 12 50.3 +2.9
WAT7 Susitna Watana 6.57 197 Pn 20 12 53.0 +1.3
E17K Hotham Inlet 6.74 260 Pn 20 12 54.1 +0.3
C17K DeLong Mountai 6.74 273 Pn 20 12 53.0 -0.8
M27K Edge Creek, AK 6.92 169 Pn 20 12 57.7 +1.3
D17K Noatak River 6.94 267 Pn 20 12 55.8 -0.7
A36M Sachs Harbour 7.05 57 Pn 20 12 56.6 -1.5
G17K Kiwalik Mounta 7.17 247 Pn 20 13 00.4 +0.7
SCM Sheep Creek Mo 7.43 190 Pn Pn 20 13 03.1 -0.3
C16K Lisburne Hills 7.57 273 Pn 20 13 04.7 -0.4
YUK2 White River 7.57 166 Pn 20 13 06.8 +1.6
J17K VABM Dome 8.18 232 Pn Pn 20 13 13.7 +0.3

IDC 03 20:37:10.9±2.9, 30°01′S×177°21′W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=57.7km s-min=46.0km az=85.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.97**	**321**	Pn	Pn	20 37 31.9	+0.1
	194nm,0.3s,baz=59,slow=22,SNR=1.7						
RAO				Sn	Sb	20 37 43.8	-0.2
	627nm,0.3s,baz=51,slow=20,SNR=11						
ASAR	**Alice Springs**	**43.81**	**266**	P	P	20 45 18.8	-0.2
	0.2nm,0.5s,baz=102,slow=7.9,SNR=4.8						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**44.77**	**271**	P	P	20 45 26.4	-0.1
	0.4nm,0.3s,baz=110,slow=8.2,SNR=4.9						
	0.4nm,0.3s						
H03S2	**Juan Fernandez**	**80.11**	**123**	T	T	22 19 00.0	
	baz=240						
H03S1	**Juan Fernandez**	**80.12**	**123**	T	T	22 18 54.4	
	baz=240						
H03S3	**Juan Fernandez**	**80.13**	**123**	T	T	22 18 52.3	
	baz=240						
FINES	**FINESS Array B**	**145.00**	**341**	PKPbc	PKPbc	20 56 47.9	-0.9
	1.0nm,0.6s,baz=42,slow=3.2,SNR=10						

*INMG **03** 20:48:34.8±1.5, 36°58′N×2°93′W, h14km±4km, ML3.0, Error ellipse: s-maj=3.0km s-min=2.1km az=90.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Granada (ESP)*
*CNRM **03** 20:48:34.1, 36°56′N×2°83′W, h30km, ML3.0*
*SFS **03** 20:48:34.2, 36°56′N×2°97′W, h10km, ML3.6/15, ML4.0/17, MLv3.6/17*
*IGIL **03** 20:48:34.2, 36°59′N×2°96′W, h4km±2km, ML2.7*
*MDD **03** 20:48:34.2±0.3, 36°59′N×2°96′W, h4km±2km, mb_Lg3.4/24, Error ellipse: s-maj=2.0km s-min=1.7km az=153.0*

ISC 03 20:48:33.1±1.1, 36°58′N±0°02′×2°95′W±0°02, h18km±5km, n98, σ1§56/172, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELGU	**Los Guajares,**	**0.62**	**298**	Pg	**Pg**	**20 48 45.4**	**0.0**
ELGU				Sg	**Sg**	**20 48 53.7**	**+0.1**
ELGU	**Los Guajares,**	**0.62**	**298**	Pg	**Pg**	**20 48 45.8**	**+0.4**
ELGU				Sg	**Sg**	**20 48 53.8**	**+0.1**
EALB	**Alboran**	**0.64**	**186**	Pg	**Pb**	**20 48 46.5**	**+0.9**
EALB				Sg	**Sb**	**20 48 55.8**	**+1.6**
EALB	**Alboran**	**0.64**	**186**	Pg	**Pb**	**20 48 46.5**	**+0.9**
EALB				Sg	**Sb**	**20 48 55.6**	**+1.4**
ENIJ	**Nijar**	**0.71**	**56**	Pg	**Pb**	**20 48 46.9**	**-0.1**
ENIJ				Sg	**Sb**	**20 48 57.5**	**+1.0**
ENIJ	**Nijar**	**0.71**	**56**	Pg	**Pb**	**20 48 47.0**	**0.0**
ENIJ				Sg	**Sb**	**20 48 56.8**	**+0.3**
EQUE	**Quentar**	**0.74**	**328**	Pg	**Pb**	**20 48 48.1**	**+0.5**
EQUE				Sg	**Sg**	**20 48 57.2**	**-0.4**
EQUE				*i* IVmb_Lg		20 48 60.0	
EQTA	**Presa de Quent**	**0.75**	**328**	Pg	**Pb**	**20 48 48.1**	**+0.5**
EQTA				Sg	**Sg**	**20 48 57.3**	**-0.3**
EGOR	**Sierra Gorda,**	**1.07**	**300**	Pn	**Pg**	**20 48 53.7**	**-0.2**
EGOR	**Sierra Gorda,**	**1.07**	**300**	Pg	**Pg**	**20 48 53.8**	**-0.2**
EGOR				Sg	**Sg**	**20 49 07.8**	**-0.3**
EGOR				*i* IVmb_Lg		20 49 16.3	
EMAL	**Malaga-Limoner**	**1.21**	**279**	Pn	**Pn**	**20 48 53.5**	**-1.6**
EQES	**Quesada**	**1.23**	**355**	Pg	**Pg**	**20 48 57.6**	**+0.8**
EQES				Sg	**Sn**	**20 49 13.5**	**+1.8**
EQES				*i* IVmb_Lg		20 49 23.6	
WMELI	**Melilla**	**1.25**	**180**	Pn	**Pn**	**20 48 55.4**	**-0.3**
EMEL	**Melilla**	**1.27**	**180**	Pg	**Pn**	**20 48 55.9**	**0.0**
EMEL				Sg	**Sg**	**20 49 14.9**	**+0.7**
EMLI	**Melilla**	**1.27**	**180**	Pn	**Pn**	**20 48 55.5**	**-0.4**
E0803	**Jimena (Jaen)**	**1.33**	**342**	Pg	**Pg**	**20 49 00.2**	**+1.5**
E0803				Sg	**Sg**	**20 49 18.4**	**+2.4**
GOG	**Mont Gurugu**	**1.35**	**182**	P	**Pn**	**20 48 57.0**	**-0.1**
GOG	**Mont Gurugu**	**1.35**	**182**	S	**Sb**	**20 49 14.7**	**-0.2**
EMIJ	**Mijas**	**1.47**	**270**	Pn	**Pn**	**20 48 56.7**	**-2.0**
EMIJ				Sn	**Sn**	**20 49 15.8**	**-1.6**
EMIJ	**Mijas**	**1.47**	**270**	Pn	**Pn**	**20 48 57.6**	**-1.1**
EMIJ				Sn	**Sn**	**20 49 13.5**	**-4.0**
TLOR	**Lorca, Murcia**	**1.48**	**43**	Pn	**Pb**	**20 48 59.9**	**-0.1**
E0802	**Ubeda,Jaen**	**1.49**	**347**	Pg	**Pg**	**20 49 02.4**	**+0.7**
E0802				Sg	**Sg**	**20 49 21.4**	**+0.2**
PALE	**Palemas**	**1.58**	**211**	P	**Pn**	**20 49 00.5**	**+0.3**
PALE	**Palemas**	**1.58**	**211**	S	**Sn**	**20 49 20.8**	**+0.7**
EZAR	**Zarzadilla de**	**1.64**	**37**	Pn	**Pn**	**20 49 01.7**	**+0.6**
EZAR				Pg	**Pg**	**20 49 04.6**	**0.0**
EZAR				Sg	**Sg**	**20 49 26.5**	**+0.5**
EZAR				*i* IVmb_Lg		20 49 27.7	
TAF	**Taforalt**	**1.81**	**166**	P	**Pn**	**20 49 03.4**	**0.0**
TAF	**Taforalt**	**1.81**	**166**	S	**Sn**	**20 49 25.1**	**-0.8**
CART	**Cartagena**	**1.85**	**56**	Pn	**Pn**	**20 49 03.2**	**-0.8**
CART	**Cartagena**	**1.85**	**56**	P	**Pn**	**20 49 03.2**	**-0.8**
CART	**Cartagena**	**1.85**	**56**	S	**Sn**	**20 49 25.7**	**-1.2**
EADA	**Adamuz**	**2.05**	**321**	Pn	**Pn**	**20 49 08.2**	**+1.5**
EADA				Sn	**Sn**	**20 49 34.9**	**+3.0**
EADA	**Adamuz**	**2.05**	**321**	Pg	**Pg**	**20 49 11.8**	**-0.7**
EADA				Sg	**Sg**	**20 49 38.2**	**-1.0**
EADA				*i* IVmb_Lg		20 49 43.4	
SMIR	**Smir Dam**	**2.16**	**246**	P	**Pn**	**20 49 09.7**	**+1.5**
SMIR	**Smir Dam**	**2.16**	**246**	S	**Sn**	**20 49 38.1**	**+3.6**
AKLM	**AKL**	**2.19**	**200**	P	**Pn**	**20 49 08.6**	**-0.1**
AKLM	**AKL**	**2.19**	**200**	S	**Sn**	**20 49 35.2**	**-0.2**
JBK	**JBK**	**2.26**	**172**	P	**Pn**	**20 49 10.0**	**+0.3**
JBK				P	**Pn**	**20 49 10.0**	**+0.3**
JBK	**JBK**	**2.26**	**172**	S	**Sn**	**20 49 37.5**	**+0.4**
PSIM	**Granatula de C**	**2.33**	**344**	Pg	**Pb**	**20 49 15.1**	**+0.5**
PSIM				Sg	**Sg**	**20 49 47.9**	**-0.2**
CHEFC	**Chefchaouen**	**2.43**	**234**	P	**Pn**	**20 49 13.9**	**+1.9**
CHEFC	**Chefchaouen**	**2.43**	**234**	S	**Sn**	**20 49 42.9**	**+1.5**
ECAB	**El Cabril**	**2.48**	**308**	Pn	**Pn**	**20 49 13.5**	**+0.9**
ECAB	**El Cabril**	**2.48**	**308**	Pg	**Pb**	**20 49 16.4**	**-0.6**
ECAB				Sg	**Sg**	**20 49 52.6**	**0.0**
CNIL	**Conil**	**2.51**	**266**	Pn	**Pn**	**20 49 16.1**	**+3.1**
RSA	**Sarsar**	**2.88**	**235**	P	**Pn**	**20 49 19.5**	**+1.4**
RSA	**Sarsar**	**2.88**	**235**	S	**Sn**	**20 49 54.9**	**+2.5**
EVIV	**Cofrentes, Val**	**3.05**	**28**	Pn	**Pn**	**20 49 23.5**	**+3.0**
EVIV				Pg	**Pg**	**20 49 29.2**	**-2.4**
EVIV				Sg	**Sg**	**20 50 12.6**	**+1.4**
EVIV				*i* IVmb_Lg		20 50 19.8	
PAB	**San Pablo**	**3.17**	**340**	Pn	**Pn**	**20 49 25.1**	**+3.0**
PAB				Pg	**Pg**	**20 49 32.3**	**-1.4**
PAB				Sg	**Sg**	**20 50 15.7**	**+0.9**
PAB				*i* IVmb_Lg		20 50 19.2	
EMIN	**Mina Concepcio**	**3.21**	**293**	Pn	**Pn**	**20 49 23.5**	**+1.0**
EMIN				Pg	**Pb**	**20 49 29.6**	**+0.2**
EMIN				Sn	**Sn**	**20 50 00.7**	**+0.5**
EMIN				Sg	**Sg**	**20 50 16.2**	**+0.2**
ECHE	**Chera**	**3.39**	**27**	Pn	**Pn**	**20 49 27.7**	**+2.5**
PBAR	**Barrancos**	**3.63**	**297**	*e*Pn	**Pn**	**20 49 29.7**	**+1.3**
PBAR				*e*Pg	**Pg**	**20 49 40.4**	**-2.2**
PBAR				*e*Sg	**Sg**	**20 50 28.9**	**-0.7**
PBAR				*i* IAML		20 50 35.6	
PBAR				*i* IAML		20 50 37.3	
PBAR				*i* IAML		20 50 38.2	
UCM	**Universidad Co**	**3.73**	**357**	Pn	**Pn**	**20 49 33.1**	**+3.2**
EGRO	**El Granado**	**3.75**	**286**	Pn	**Pn**	**20 49 30.8**	**+0.8**
EGRO				Sn	**Sn**	**20 50 13.6**	**-0.2**
EGRO	**El Granado**	**3.75**	**286**	Pn	**Pn**	**20 49 31.5**	**+1.5**
EGRO				Sn	**Sn**	**20 50 13.3**	**-0.4**
EGRO				*i* IVmb_Lg		20 50 22.8	
EBAD	**Badajoz**	**3.89**	**305**	Pn	**Pn**	**20 49 32.3**	**+0.4**
EBAD				Sn	**Sn**	**20 50 15.8**	**-1.4**
EBAD				*i* IVmb_Lg		20 50 45.6	
PVAQ	**Vaqueiros**	**3.91**	**284**	Pn	**Pn**	**20 49 32.5**	**+0.3**
PVAQ	**Vaqueiros**	**3.91**	**284**	*e*Pn	**Pn**	**20 49 33.2**	**+1.0**
PVAQ				*e*Sn	**Sn**	**20 50 17.5**	**-0.1**
PVAQ				*i* IAML		20 50 18.7	
PVAQ				*i* IAML		20 50 24.9	
PVAQ				*i* IAML		20 50 32.0	
PVAQ	**Vaqueiros**	**3.91**	**284**	P	**Pn**	**20 49 32.3**	**+0.1**
PVAQ	**Vaqueiros**	**3.91**	**284**	S	**Sn**	**20 50 19.8**	**+2.2**
MD31	**MD31**	**3.99**	**202**	P	**Pn**	**20 49 34.6**	**+1.2**
MD31	**MD31**	**3.99**	**202**	S	**Sn**	**20 50 20.8**	**+1.0**
MDT	**Midelt**	**3.99**	**201**	P	**Pn**	**20 49 33.6**	**+0.1**
MDT	**Midelt**	**3.99**	**201**	S	**Sn**	**20 50 20.8**	**+0.9**
PBDV	**Barranco-do-Ve**	**4.05**	**281**	*e*Pn	**Pn**	**20 49 35.5**	**+1.3**
PBDV				*e*Sn	**Sn**	**20 50 21.5**	**+0.4**
PBDV				*i* IAML		20 51 01.7	
PBDV				*i* IAML		20 51 04.1	
PBDV				*i* IAML		20 51 16.1	
GUD	**Guadarrama**	**4.17**	**347**	Pn	**Pn**	**20 49 39.1**	**+3.2**
GUD				Pg	**Pg**	**20 49 52.3**	**-0.7**
GUD				Sg	**Sg**	**20 50 45.0**	**-2.0**
PBEJ	**Beja**	**4.18**	**292**	*e*Pn	**Pn**	**20 49 37.3**	**+1.3**
PBEJ				*e*Sn	**Sn**	**20 50 24.4**	**0.0**
PBEJ				*i* IAML		20 50 50.3	
PBEJ				*i* IAML		20 50 57.8	
PBEJ				*i* IAML		20 51 07.8	
EIBI	**Ibiza**	**4.19**	**53**	Pn	**Pn**	**20 49 36.8**	**+0.7**
EIBI				Sn	**Sn**	**20 50 22.2**	**-2.3**
EIBI	**Ibiza**	**4.19**	**53**	Pn	**Pn**	**20 49 36.9**	**+0.9**
EIBI				Sn	**Sn**	**20 50 23.2**	**-1.3**
EIBI				*i* IVmb_Lg		20 50 31.0	
PCVE	**Castro Verde**	**4.21**	**286**	*e*Pn	**Pn**	**20 49 37.5**	**+1.2**
PCVE				*e*Sn	**Sn**	**20 50 24.5**	**-0.4**
PCVE				*i* IAML		20 50 57.3	
PCVE				*i* IAML		20 51 04.3	
PCVE				*i* IAML		20 51 04.8	
EPLA	**Plasencia**	**4.27**	**326**	Pn	**Pn**	**20 49 39.5**	**+2.3**
EPLA				Sn	**Sn**	**20 50 26.7**	**+0.1**
EPLA				Sg	**Sg**	**20 50 50.5**	**+0.5**
EPLA				*i* IVmb_Lg		20 51 01.0	
ETOR	**Torete**	**4.29**	**9**	Pn	**Pn**	**20 49 40.4**	**+2.8**
ETOR				Pg	**Pg**	**20 49 55.3**	**0.0**
ETOR				Sg	**Sg**	**20 50 50.2**	**-0.8**
ETOR				*i* IVmb_Lg		20 50 59.6	
PESTR	**Estremoz**	**4.33**	**303**	*e*Pn	**Pn**	**20 49 39.5**	**+1.5**
PESTR				*e*Sn	**Sn**	**20 50 28.8**	**+0.7**
PESTR				*e*Sg	**Sg**	**20 50 50.9**	**-1.3**
PESTR				*i* IAML		20 51 01.4	
PESTR				*i* IAML		20 51 02.5	
PESTR				*i* IAML		20 51 08.1	
ZHG	**ZHG**	**4.35**	**225**	P	**Pn**	**20 49 41.0**	**+2.7**
MESJ	**Messejana**	**4.39**	**288**	*e*P	**Pn**	**20 49 39.8**	**+0.9**
MESJ				*e*S	**Sn**	**20 50 27.2**	**-2.4**
MESJ				IAML		20 50 37.4	
	comp=N,9.9nm,0.5s						
EVO	**Evora**	**4.47**	**297**	Pn	**Pn**	**20 49 41.0**	**+1.0**
EVO	**Evora**	**4.47**	**297**	*e*Pn	**Pn**	**20 49 41.6**	**+1.6**
EVO				*e*Sn	**Sn**	**20 50 31.4**	**-0.1**
EVO				*i* IAML		20 51 03.3	
EVO				*i* IAML		20 51 07.2	
EVO				*i* IAML		20 51 13.1	
PMRV	**Marv??o**	**4.52**	**310**	*e*Pn	**Pn**	**20 49 42.4**	**+1.7**
PMRV				*e*Sg	**Sg**	**20 50 54.9**	**-3.2**
PMRV				*i* IAML		20 51 01.6	
PMRV				*i* IAML		20 51 02.4	
PMRV				*i* IAML		20 51 10.1	
MORF	**Marmelete**	**4.63**	**281**	*e*P	**Pn**	**20 49 42.9**	**+0.7**
MORF				*e*S	**Sn**	**20 50 32.9**	**-2.5**
MORF				IAML		20 50 41.7	
	comp=N,20nm,0.2s						
MORF	**Marmelete**	**4.63**	**281**	*e*Pn	**Pn**	**20 49 43.7**	**+1.6**
MORF				*e*Sn	**Sn**	**20 50 35.0**	**-0.5**
MORF				*i* IAML		20 50 39.7	
MORF				*i* IAML		20 50 41.8	
MORF				*i* IAML		20 50 45.8	
PTEO	**Sao Teotonio**	**4.72**	**284**	*e*Pn	**Pn**	**20 49 45.0**	**+1.6**
PTEO				*e*Sn	**Sn**	**20 50 37.2**	**-0.4**
PTEO				*i* IAML		20 51 17.4	
PTEO				*i* IAML		20 51 20.4	
PTEO				*i* IAML		20 51 25.1	
PCBR	**Castelo Branco**	**4.83**	**314**	*e*Pn	**Pn**	**20 49 47.0**	**+2.1**
PCBR				*e*Sn	**Sn**	**20 50 40.2**	**-0.2**
PCBR				*e*Sg	**Sg**	**20 51 06.3**	**-1.8**
PCBR				*i* IAML		20 51 10.7	
PCBR				*i* IAML		20 51 13.9	
PCBR				*i* IAML		20 51 18.7	
PMTG	**Montargil**	**4.86**	**302**	*e*Pn	**Pn**	**20 49 46.6**	**+1.3**
PMTG				*e*Sn	**Sn**	**20 50 41.0**	**-0.2**
PMTG				*e*Sg	**Sg**	**20 51 09.8**	**+0.7**
PMTG				*i* IAML		20 51 17.1	
PMTG				*i* IAML		20 51 18.3	
PMTG				*i* IAML		20 51 20.9	
ERTA	**Horta de San J**	**5.07**	**29**	Pn	**Pn**	**20 49 51.1**	**+2.9**
PSARD	**Sardoal**	**5.10**	**308**	*e*Pn	**Pn**	**20 49 50.3**	**+1.6**
PSARD				*e*Sn	**Sn**	**20 50 47.1**	**0.0**
PSARD				*e*Sg	**Sg**	**20 51 14.6**	**-2.3**
PSARD				*i* IAML		20 51 26.1	
PSARD				*i* IAML		20 51 26.3	
PSARD				*i* IAML		20 51 26.8	
PACT	**Alcochete**	**5.16**	**297**	*e*Pn	**Pn**	**20 49 51.0**	**+1.6**
MTE	**Manteigas**	**5.25**	**318**	*e*Pn	**Pn**	**20 49 52.7**	**+2.0**
MTE				*e*Sg	**Sg**	**20 51 18.9**	**-2.7**
MTE				*i* IAML		20 51 24.4	
MTE				*i* IAML		20 51 26.6	
MTE				*i* IAML		20 51 37.3	
PARRA	**Arraiolos**	**5.32**	**297**	*e*Pn	Pn	20 49 43.1	-8.5
PARRA				*e*Sn	Sn	20 50 34.7	-18
PARRA				*e*Sg	Sb	20 50 58.5	-11
PARRA				*i* IAML		20 51 07.2	
PARRA				*i* IAML		20 51 07.5	
PARRA				*i* IAML		20 51 14.2	
PSBE	**So Bento**	**5.47**	**304**	*e*Pn	**Pn**	**20 49 55.4**	**+1.7**
PSBE				*e*Sn	**Sn**	**20 50 56.0**	**-0.2**
PSBE				*e*Sg	**Sg**	**20 51 29.3**	**+0.8**
PSBE				*i* IAML		20 51 36.6	
PSBE				*i* IAML		20 51 40.9	
PSBE				*i* IAML		20 51 47.3	
ETOS	**Mallorca**	**5.55**	**53**	Pn	**Pn**	**20 49 56.1**	**+1.4**
ETOS				Sn	**Sn**	**20 50 57.5**	**-0.6**
ETOS	**Mallorca**	**5.55**	**53**	Pn	**Pn**	**20 49 55.9**	**+1.2**
ETOS				Sn	**Sn**	**20 50 55.8**	**-2.2**
PMAFR	**Mafra**	**5.55**	**297**	*e*Pn	**Pn**	**20 49 56.3**	**+1.5**
PCAS	**Casmilo, Conde**	**5.58**	**310**	*e*Pn	**Pn**	**20 49 56.5**	**+1.4**
PCAS				*e*Sn	**Sn**	**20 50 59.0**	**+0.2**
PCAS				*e*Sg	**Sg**	**20 51 30.1**	**-1.9**
PCAS				*i* IAML		20 51 36.3	
PCAS				*i* IAML		20 51 40.8	
PCAS				*i* IAML		20 51 41.3	
MVO	**Moncorvo**	**5.58**	**326**	*e*Pn	**Pn**	**20 49 57.7**	**+2.5**
MVO				*e*Sn	**Sn**	**20 50 58.7**	**-0.2**
MVO				*e*Sg	**Sg**	**20 51 29.4**	**-2.7**
MVO				*i* IAML		20 51 42.7	
MVO				*i* IAML		20 51 43.8	
MVO				*i* IAML		20 51 45.3	
PVIS	**Viseu**	**5.66**	**318**	*e*Pn	**Pn**	**20 49 58.7**	**+2.3**
PVIS				*e*Sg	**Sg**	**20 51 34.9**	**0.0**
PBRG	**Braganca**	**6.00**	**332**	*e*Pn	**Pn**	**20 50 03.8**	**+2.9**
PBRG				*e*Sg	**Sg**	**20 51 43.7**	**-1.7**
PBRG				*i* IAML		20 51 53.6	
PBRG				*i* IAML		20 51 55.3	
PBRG				*i* IAML		20 51 56.2	
POLO	**Lamas de Olo**	**6.10**	**323**	*e*Pn	**Pn**	**20 50 04.6**	**+2.2**
POLO				*e*Sn	**Sn**	**20 51 12.5**	**+0.7**
POLO				*e*Sg	**Sg**	**20 51 44.2**	**-4.5**
POLO				*i* IAML		20 51 53.1	
POLO				*i* IAML		20 51 56.2	
POLO				*i* IAML		20 52 06.2	
PCAB	**Cabril**	**6.47**	**324**	*e*Pn	**Pn**	**20 50 08.4**	**+1.0**
PCAB				*e*Sg	**Sg**	**20 51 57.8**	**-2.9**
PCAB				*i* IAML		20 52 05.8	
PCAB				*i* IAML		20 52 14.1	
PCAB				*i* IAML		20 52 22.0	
PGAV	**Gavieira, Arco**	**6.78**	**324**	*e*Pn	**Pn**	**20 50 14.5**	**+2.8**
PGAV				*e*Sg	**Sg**	**20 52 06.8**	**-3.9**
PGAV				*i* IAML		20 52 18.4	
PGAV				*i* IAML		20 52 18.4	
PGAV				*i* IAML		20 52 22.8	

*IDC **03** 20:50:20.7±5.8, 36°67′N×71°47′E, h85km±49km, mb3.5/7, mbtmp3.8/13, ML3.2/6, MS3.4/2, Error ellipse: s-maj=57.7km s-min=34.7km az=138.0*
*NNC **03** 20:50:22.4±5.4, 37°28′N×70°65′E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=44.5km s-min=37.1km az=157.0*

ISC 03 20:50:23.3±1.5, 36°9′N±0°1′×71°1′E±0°1, h88km, n29, σ1§27/31, mb3.9/6, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.31**	**351**	Pg	**Pn**	**20 51 41.6**	**+1.5**
	13nm,0.3s						
IUG				Lg	Lg	20 52 40.8	
	52nm,0.7s						
AML	**Almayashu**	**5.59**	**20**	P	**Pn**	**20 51 45.2**	**+1.0**
	SNR=15						
UCH	**Uchtor**	**5.93**	**25**	P	**Pn**	**20 51 50.2**	**+1.3**
	SNR=7.7						
MRKS	**Merke**	**6.06**	**15**	Pg	**Pn**	**20 51 51.3**	**+1.0**
	21nm,0.3s						
MRKS				Lg	Lg	20 52 57.8	
	25nm,0.6s						
EKS2	**Erkin-Say**	**6.10**	**19**	P	**Pn**	**20 51 52.3**	**+1.3**
	SNR=7.4						
KK31	**Karatay Array**	**6.21**	**356**	Pn	**Pn**	**20 51 50.8**	**-1.6**
	8.1nm,0.5s,baz=181,slow=13,SNR=26						
KK31				⇑Sn	**Sn**	**20 52 59.7**	**-2.2**
	11nm,0.5s,baz=185,slow=23						
AAK	**Ala-Archa**	**6.29**	**23**	P	**Pn**	**20 51 54.8**	**+1.3**
	SNR=7.6						
AAK	**Ala-Archa**	**6.29**	**23**	⇑Pn	**Pn**	**20 51 54.4**	**+0.8**
	4.8nm,0.5s						
AAK				⇓Sn	**Sn**	**20 53 05.2**	**+1.2**
	9.1nm,0.8s						
AAK	**Ala-Archa**	**6.29**	**23**	P	**Pn**	**20 51 53.9**	**+0.4**
	3.8nm,0.3s,baz=206,slow=9.0,SNR=11						
AAK				S	**Sn**	**20 53 04.8**	**+0.8**
	9.2nm,0.7s,baz=139,slow=20,SNR=4.6						
	12nm,0.4s						
CHMS	**Chumysh**	**6.70**	**23**	P	**Pn**	**20 51 59.9**	**+1.0**
	SNR=7.9						
CHMS	**Chumysh**	**6.70**	**23**	⇑Pn	**Pn**	**20 51 59.1**	**+0.1**
	28nm,0.8s						
CHMS				⇓Sn	**Sn**	**20 53 14.3**	**+0.5**
	6.9nm,0.6s						
USP	**Ospenovka**	**6.86**	**21**	P	**Pn**	**20 52 02.9**	**+1.6**
	SNR=11						
TKM2	**Tokmak 2**	**6.92**	**28**	P	**Pn**	**20 52 02.9**	**+0.6**
	SNR=5.4						
TKM2	**Tokmak 2**	**6.92**	**28**	⇓P	**Pn**	**20 52 02.8**	**+0.6**
	14nm,0.9s						
MKAR	**Makanchi Array**	**12.91**	**37**	P	**Pn**	**20 53 21.4**	**-1.9**
	baz=222,slow=12,SNR=11						
	1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**14.71**	**19**	P	**Pn**	**20 53 44.3**	**-2.4**
	baz=205,slow=10,SNR=1.8						
	0.2nm,0.5s						
AB31	**Akbulak array**	**14.78**	**330**	P	**Pn**	**20 53 46.3**	**-1.3**
	0.7nm,0.4s,baz=138,slow=13,SNR=49						
BVAR	**Borovoye Array**	**16.13**	**358**	P	**Pn**	**20 54 03.5**	**-1.0**
	baz=160,slow=10,SNR=7.6						
	0.7nm,0.4s						
AKTO	**Aktyubinsk**	**16.48**	**329**	P	**Pn**	**20 54 09.1**	**0.0**
	0.5nm,0.3s,baz=150,slow=7.6,SNR=6.7						
	2.4nm,0.5s						
ZALV	**

SPN				*e*S		Sn	20 57 14.2	+1.8
GNL	**Ganaly**	**3.42**	**9**	*e*P		Pn	20 56 38.9	+3.8
MKZ	**Mys Kozlova**	**5.12**	**32**	*e*P		Pn	20 57 00.7	+2.4

NEIC ***03*** *20:56:43.8±1.3,8.°91S±0.°07×123.°67E±0.°07, h97km±10km, mb4.4/7, Error ellipse: s-maj=12.9km s-min=6.3km az=47.0*

DJA ***03*** *20:56:44.2±0.2,9.°S±2.°×12.°4E±.°, h95km±3km, M4.5/1, MLv4.3/13, MLv4.5/1*

IDC ***03*** *20:56:44.0±1.0, 8.°86S×123.°70E, h95km±10km, mb3.6/14, mbtmp4.0/17, Error ellipse: s-maj=25.4km s-min=11.6km az=79.0*

ISC 03 20:56:43.2±0.4,**8.°93S**±0.°04×**123.°70E**±0.°04,**h86**km,**n89,** σ1§**84**/95,**mb3.8**/17,**2C, Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.00**	**146**			**Pn**	**20 57 04.3**	**+1.6**
SOEI	**Soe**	**1.00**	**146**	P		**Pn**	**20 57 04.7**	**+1.9**
BATI	**Baumata**	**1.27**	**182**	P		**Pn**	**20 57 07.8**	**+1.9**
	750nm,0.3s,baz=23,slow=2.1,SNR=96							
BATI				S		**Sn**	**20 57 26.2**	**+3.2**
	848nm,0.5s,baz=309,slow=23,SNR=9.2							
BATI	**Baumata**	**1.27**	**182**	P		**Pn**	**20 57 07.9**	**+1.9**
BATI				S		**Sn**	**20 57 26.3**	**+3.2**
MMRI	**Maumere**	**1.47**	**281**			**Pn**	**20 57 09.3**	**+0.8**
MMRI				Sn		**Sn**	**20 57 27.2**	**-0.3**
MMRI	**Maumere**	**1.47**	**281**	P		**Pn**	**20 57 10.3**	**+1.8**
MMRI	**Maumere**	**1.47**	**281**	S		**Sn**	**20 57 30.6**	**+3.0**
MMRI	**Maumere**	**1.47**	**281**	P		**Pn**	**20 57 09.8**	**+1.3**
MMRI				S		**Sn**	**20 57 29.5**	**+1.9**
EDFI	**Ende, Flores**	**1.99**	**275**	P		**Pn**	**20 57 17.1**	**+1.8**
EDFI				S		**Sn**	**20 57 40.4**	**+0.6**
BASI	**Baing, Sumba**	**3.34**	**247**	P		**Pn**	**20 57 34.8**	**+1.6**
WSI	**Waingapu**	**3.44**	**257**	P		**Pn**	**20 57 36.0**	**+1.4**
WSI				S		**Sn**	**20 58 15.9**	**+1.6**
BBSI	**Bau Bau**	**3.60**	**342**	P		**Pn**	**20 57 36.9**	**+0.1**
BSSI	**Bau Bau, Buton**	**4.22**	**311**	P		**Pn**	**20 57 47.2**	**+2.0**
WBSI	**Waikabubak, Su**	**4.31**	**260**	P		**Pn**	**20 57 46.4**	**-0.1**
WBSI				S		**Sn**	**20 58 34.8**	**-0.9**
KDI	**Kendari**	**5.05**	**348**	P		**Pn**	**20 57 58.5**	**+1.9**
KAPI	**Kappang**	**5.52**	**315**	P		**Pn**	**20 58 02.3**	**-0.6**
	3.2nm,0.3s,baz=151,slow=18,SNR=2.1							
BNSI	**Bone**	**5.74**	**321**	P		**Pn**	**20 58 09.3**	**+3.3**
PLAI	**Plampang**	**5.85**	**271**	P		**Pn**	**20 58 10.0**	**+2.5**
PLAI	**Plampang**	**5.85**	**271**	S		**Sn**	**20 59 15.2**	**+1.9**
PLAI	**Plampang**	**5.85**	**271**	P		**Pn**	**20 58 09.2**	**+1.7**
NLAI	**Namlea**	**6.58**	**31**	P		Pn	20 58 25.4	+7.9
TTSI	**Tana Toraja**	**7.00**	**326**	P		**Pn**	**20 58 27.3**	**+4.1**
SANI	**Sanana**	**7.20**	**19**	P		**Pn**	**20 58 30.1**	**+4.2**
SANI	**Sanana**	**7.20**	**19**	P		**Pn**	**20 58 29.4**	**+3.5**
DRS	**Darwin Rock St**	**7.89**	**117**	P		**Pn**	**20 58 35.5**	**+0.3**
MTN	**Manton Dam**	**8.27**	**119**			**Pn**	**20 58 40.1**	**-0.4**
MTN				Sn		**Sn**	**21 00 05.8**	**-6.5**
MTN	**Manton Dam**	**8.27**	**119**	P		**Pn**	**20 58 40.2**	**-0.3**
KNRA	**Kununurra**	**8.34**	**144**			**Pn**	**20 58 39.5**	**-1.8**
FITZ	**Fitzroy Crossi**	**9.31**	**169**	Pn		**Pn**	**20 58 52.6**	**-2.0**
FITZ	**Fitzroy Crossi**	**9.31**	**169**	P		**Pn**	**20 58 52.3**	**-2.4**
	19nm,0.5s,baz=357,slow=8.5,SNR=152							
FITZ				S		Sn	21 00 27.8	-10
	53nm,0.3s,baz=215,slow=12,SNR=23							
JAGI	**Jajag, Banyuwa**	**9.45**	**272**	Pn		**Pn**	**20 58 55.0**	**-1.6**
JAGI	**Jajag, Banyuwa**	**9.45**	**272**	P		**Pn**	**20 58 54.8**	**-1.8**
FAKI	**Fak Fak**	**10.39**	**55**	Pn		**Pn**	**20 59 10.0**	**+0.7**
FAKI	**Fak Fak**	**10.39**	**55**	P		**Pn**	**20 59 13.9**	**+4.5**
WOJI	**Wonogiri, Jawa**	**12.69**	**274**	P		**Pn**	**20 59 39.4**	**-1.1**
MBWA	**Marble Bar**	**12.75**	**197**	Pn		**Pn**	**20 59 38.7**	**-2.6**
MBWA	**Marble Bar**	**12.75**	**197**	P		**Pn**	**20 59 40.8**	**-0.5**
UGM	**Wanagama**	**13.07**	**273**	P		**Pn**	**20 59 47.0**	**+1.3**
WB0	**Warramunga Arr**	**14.94**	**137**			**Pn**	**21 00 07.2**	**-2.8**
WRA	**Warramunga Arr**	**15.03**	**138**	Pn		**Pn**	**21 00 07.6**	**-3.4**
WRA	**Warramunga Arr**	**15.03**	**138**	P		**Pn**	**21 00 08.0**	**-3.1**
	1.8nm,0.5s,baz=316,slow=14,SNR=31							
WRA				S		Sn	21 02 43.3	-13
	6.5nm,0.6s,baz=309,slow=23,SNR=9.9							
WR8	**Warramunga Arr**	**15.14**	**138**			**Pn**	**21 00 08.9**	**-3.6**
WR8				IAmb		IAmb	21 00 16.9	
	comp=Z,19nm,0.5s							
BBJI	**Bungbulang**	**15.95**	**274**	P		**P**	**21 00 26.7**	**+1.9**
GIRL	**Giralia**	**16.39**	**213**	P		**P**	**21 00 28.7**	**-0.7**
SMPI	**Sarmi**	**16.45**	**66**	P		**P**	**21 00 31.0**	**+0.9**
CNJI	**Cibinong**	**16.48**	**274**	P		**P**	**21 00 30.0**	**-0.5**
AS31	**Alice Springs**	**17.61**	**148**	P		**P**	**21 00 41.8**	**-1.3**
ASAR	**Alice Springs**	**17.61**	**148**	P		**P**	**21 00 43.0**	**-0.1**
ASAR	**Alice Springs**	**17.61**	**148**	P		**P**	**21 00 42.4**	**-0.6**
	comp=Z,5.7nm,0.9s,baz=316,slow=11,SNR=39							
ASAR				S		Sn	21 03 47.8	-11
	comp=Z,3.6nm,0.6s,baz=317,slow=19,SNR=8.3							
AS01	**Alice Springs**	**17.64**	**147**	P		**Pn**	**21 00 43.8**	**+0.3**
CGJI	**Cibinong**	**17.99**	**276**	P		**P**	**21 00 46.1**	**-1.1**
JAY	**Jayapura**	**18.07**	**70**	P		**P**	**21 00 47.2**	**-1.0**
	comp=Z,5.5nm,0.8s,baz=344,slow=14,SNR=2.1							
MEEK	**Meekatharra**	**18.26**	**195**	P		**Pn**	**21 00 51.1**	**+0.1**
QIS	**Mount Isa**	**19.22**	**129**	P		**P**	**21 01 01.7**	**+1.0**
COEN	**Coen**	**19.73**	**106**	P		**P**	**21 01 06.2**	**0.0**
COEN				IAmb		IAmb	21 01 09.9	
	comp=Z,36nm,1.5s							
MORW	**Morawa**	**21.29**	**199**	P		**P**	**21 01 21.5**	**-1.4**
MORW				IAmb		IAmb	21 01 26.5	
	comp=Z,10nm,0.9s							
MORW	**Morawa**	**21.29**	**199**	P		**P**	**21 01 23.2**	**+0.3**
FORT	**Forrest**	**22.12**	**170**	P		**P**	**21 01 31.0**	**-0.7**
FORT				IAmb		IAmb	21 01 36.4	
	comp=Z,8.3nm,0.9s							
BLDU	**Ballidu**	**22.55**	**196**	P		**P**	**21 01 35.9**	**-0.4**
KLBR	**Kellerberrin**	**23.22**	**193**	P		**P**	**21 01 42.9**	**-0.1**
MUN	**Mundaring**	**23.97**	**196**	P		**P**	**21 01 50.0**	**+0.3**
NWAO	**Narrogin (SRO)**	**24.62**	**193**	P		**P**	**21 01 55.2**	**-0.4**
	comp=Z,4.0nm,0.4s,baz=36,slow=4.7,SNR=8.3							
	comp=Z,4.0nm,0.4s							
NWAO	**Narrogin (SRO)**	**24.62**	**193**	P		**P**	**21 01 55.4**	**-0.2**
BBOO	**Buckleboo**	**26.38**	**156**	P		**P**	**21 02 11.7**	**+0.2**
BBOO				IAmb		IAmb	21 02 42.6	
	comp=Z,34nm,1.4s							
BBOO	**Buckleboo**	**26.38**	**156**	P		**P**	**21 02 12.1**	**+0.6**
HTT	**Hallett**	**28.14**	**152**	P		**P**	**21 02 28.8**	**+1.4**
STKA	**Stephens Creek**	**28.24**	**146**	P		**P**	**21 02 28.1**	**-0.2**
STKA	**Stephens Creek**	**28.24**	**146**	P		**P**	**21 02 27.9**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=316,slow=5.5,SNR=6.3							
	comp=Z,0.9nm,0.5s							
STKA	**Stephens Creek**	**28.24**	**146**	P		**P**	**21 02 29.3**	**+1.0**
EIDS	**Eidsvold**	**30.75**	**126**	P		**P**	**21 02 51.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**36.57**	**318**	P		**P**	**21 03 40.9**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=118,slow=6.8,SNR=1.7							
	comp=Z,0.4nm,0.3s							
KSRS	**Korea Array**	**46.30**	**5**	P		**P**	**21 04 59.3**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=134,slow=10.0,SNR=1.8							
	comp=Z,0.3nm,0.3s							
MJAR	**Matsushiro Arr**	**47.24**	**16**	P		**P**	**21 05 06.7**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=187,slow=9.1,SNR=6.2							
	comp=Z,1.4nm,0.5s							
USRK	**Ussuriysk Ar.**	**53.41**	**7**	P		**P**	**21 05 55.1**	**+1.0**
	comp=Z,2.4nm,0.7s,baz=202,slow=6.9,SNR=3.6							
	comp=Z,2.4nm,0.7s							
MKAR	**Makanchi Array**	**66.60**	**330**	P		**P**	**21 07 22.8**	**-1.7**
MKAR	**Makanchi Array**	**66.60**	**330**	P		**P**	**21 07 24.2**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=138,slow=6.0,SNR=9.2							
	comp=Z,0.6nm,0.6s							
PETK	**Petropavlovsk-**	**68.23**	**21**	P		**P**	**21 07 34.5**	**0.0**
	comp=Z,0.8nm,0.6s,baz=177,slow=5.4,SNR=2.7							
	comp=Z,0.8nm,0.6s							
ZALV	**Zalesovo Beam**	**70.71**	**337**	P		**P**	**21 07 48.6**	**-1.2**
ZALV	**Zalesovo Beam**	**70.71**	**337**	P		**P**	**21 07 49.5**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=154,slow=2.1,SNR=3.6							
	comp=Z,0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**71.04**	**331**	P		**P**	**21 07 49.8**	**-2.0**
	comp=Z,0.5nm,0.5s,baz=140,slow=5.7,SNR=6.5							
	comp=Z,0.5nm,0.5s							
VNDA	**Vanda**	**71.37**	**172**	P		**P**	**21 07 53.6**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=274,slow=11,SNR=2.0							
	comp=Z,0.3nm,0.6s							
BVAR	**Borovoye Array**	**76.48**	**330**	P		**P**	**21 08 22.9**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=142,slow=7.3,SNR=1.7							
	comp=Z,0.4nm,0.4s							
QSPA	**South Pole Qui**	**81.06**	**180**	P		**P**	**21 08 49.1**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=294,slow=1.3,SNR=6.3							
	comp=Z,0.7nm,0.6s							
TROLL	**Troll, Antarti**	**90.71**	**195**	⇑P		**P**	**21 09 37.4**	**+1.1**
	comp=Z,77nm,0.3s							
SNAA	**Sanae**	**92.28**	**195**	⇑P		**P**	**21 09 44.5**	**+1.0**
	comp=Z,22nm,0.7s							
SNAA	**Sanae**	**92.28**	**195**	P		**P**	**21 09 44.4**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=118,slow=7.8,SNR=3.8							
	comp=Z,1.5nm,0.9s							
TORD	**Torodi Ar. Bea**	**123.02**	**280**	PKP		**PKPdf**	**21 15 30.2**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=71,slow=2.5,SNR=3.9							
CPUP	**Villa Florida**	**144.94**	**178**	PKPbc	PKPbc		21 16 10.7	+0.1
	comp=Z,0.5nm,0.6s,baz=160,slow=3.6,SNR=4.3							
LPAZ	**La Paz**	**152.35**	**155**	PKPab		**PKPab**	**21 16 41.5**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=178,slow=4.7,SNR=3.7							

IDC ***03*** *21:54:55.0±1.4, 4.°05N×122.°89E, h550km±17km, mb3.2/9, mbtmp4.2/11, Error ellipse: s-maj=39.2km s-min=10.5km az=64.0*

ISC 03 21:54:56.3±0.8,**4.°2N**±0.°1×**123.°2E**±0.°2,**h573**km,**n12,** σ1§**56**/18,**mb3.8**/9,**Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.76**	**40**	P		**P**	**21 56 17.3**	**-0.8**
	141nm,0.3s,baz=136,slow=2.3,SNR=8.9							
DAV				S		**S**	**21 57 23.7**	**-1.1**
	62nm,0.3s,baz=270,slow=20,SNR=1.0							
JAY	**Jayapura**	**18.74**	**110**	P		**P**	**21 58 42.7**	**+2.7**
	8.6nm,0.4s,baz=287,slow=18,SNR=13							
WRA	**Warramunga Arr**	**26.35**	**156**	P		**P**	**21 59 47.1**	**-0.7**
	1.9nm,0.4s,baz=336,slow=9.6,SNR=56							
WRA				S		**S**	**22 03 38.7**	**-2.8**
	0.5nm,0.9s,baz=333,slow=14,SNR=2.2							
WRA				ScP		**ScP**	**22 05 42.8**	**+2.3**
	0.5nm,0.5s,baz=337,slow=2.8,SNR=6.1							
	1.9nm,0.4s							
ASAR	**Alice Springs**	**29.57**	**160**	P		**P**	**22 00 16.0**	**+0.1**
	1.0nm,0.4s,baz=341,slow=7.1,SNR=20							
ASAR				S		**S**	**22 04 29.6**	**-2.0**
	1.4nm,0.9s,baz=353,slow=22,SNR=6.3							
ASAR				ScP		**ScP**	**22 05 53.1**	**+2.5**
	0.5nm,0.6s,baz=345,slow=2.9,SNR=8.2							
	1.0nm,0.4s							
STKA	**Stephens Creek**	**39.90**	**155**	P		**P**	**22 01 42.2**	**+0.6**
	1.7nm,0.5s,baz=312,slow=7.1,SNR=4.9							
	1.7nm,0.5s							
MKAR	**Makanchi Array**	**55.22**	**327**	P		**P**	**22 03 36.7**	**+0.8**
	0.9nm,0.5s,baz=124,slow=7.1,SNR=27							
MKAR				PcP		**PcP**	**22 04 28.7**	**+0.6**
	0.9nm,0.5s,baz=118,slow=4.1,SNR=10.0							
	0.9nm,0.5s							
ZALV	**Zalesovo Beam**	**58.64**	**335**	P		**P**	**22 03 58.4**	**-0.6**
	0.6nm,0.4s,baz=139,slow=11,SNR=2.7							
	0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**59.49**	**329**	P		**P**	**22 04 05.2**	**+0.4**
	0.7nm,0.6s,baz=138,slow=6.3,SNR=14							
	0.7nm,0.6s							
BVAR	**Borovoye Array**	**65.05**	**328**	P		**P**	**22 04 40.8**	**+0.1**
	0.4nm,0.6s,baz=141,slow=11,SNR=3.9							
	0.4nm,0.6s							
FINES	**FINESS Array B**	**89.77**	**332**	P		**P**	**22 06 53.5**	**-0.4**
	4.1nm,1.0s,baz=103,slow=4.1,SNR=6.5							
	4.1nm,1.0s							
HFS	**Hagfors**	**95.97**	**332**	P		**P**	**22 07 21.1**	**-1.3**
	2.9nm,0.9s,baz=64,slow=3.4,SNR=2.4							
	2.9nm,0.9s							
TORD	**Torodi Ar. Bea**	**119.40**	**288**	PKP		**PKPdf**	**22 12 42.1**	**-0.1**
	0.6nm,0.3s,baz=35,slow=2.1,SNR=2.1							

INMG ***03*** *21:55:42.4±1.3,36.°53N×2.°95W, h5km±2km, ML2.6, Error ellipse: s-maj=2.4km s-min=1.6km az=170.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Granada (ESP)*

SFS ***03*** *21:55:42.2,36.°53N×3.°03W, h0km, ML3.1/11, ML3.0/12, MLv2.9/12*

MDD ***03*** *21:55:42.1±0.4,36.°51N×2.°95W, h1km±2km, mb_Lg2.9/38, Error ellipse: s-maj=2.4km s-min=1.8km az=159.0*

CNRM ***03*** *21:55:43.3,36.°60N×2.°88W, h53km, ML2.3*

IGIL ***03*** *21:55:43.0,36.°51N×2.°95W, h1km*

ISC 03 21:55:41.6±1.0,**36.°53N**±0.°02×**2.°97W**±0.°02,**h15**km±7km, **n86,**σ1§**54**/155,**1D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EXEJI	**El Ejido**	**0.27**	**27**	Pg		**Pg**	**21 55 47.3**	**-0.1**
EXEJI				Sg		**Sg**	**21 55 50.6**	**-0.7**
EALB	**Alboran**	**0.59**	**185**	Pg		**Pn**	**21 55 55.5**	**0.0**
EALB				Sg		**Sn**	**21 56 04.5**	**-0.4**
EALB	**Alboran**	**0.59**	**185**	⇓Pg		**Pn**	**21 55 55.4**	**0.0**
EALB				Sg		**Sn**	**21 56 04.1**	**-0.8**
EALB				*i* IVmb_Lg			21 56 04.9	
ELGU	**Los Guajares,**	**0.63**	**302**	Pg		**Pb**	**21 55 54.4**	**+0.2**
ELGU				Sg		**Sg**	**21 56 02.6**	**+0.4**
ELGU	**Los Guajares,**	**0.63**	**302**	Pg		**Pb**	**21 55 54.5**	**+0.2**
ELGU				Sg		**Sg**	**21 56 02.4**	**+0.2**
ELGU				*i* IVmb_Lg			21 56 05.1	
ENIJ	**Nijar**	**0.75**	**54**	Pg		**Pg**	**21 55 55.7**	**-0.5**
ENIJ				Sg		**Sg**	**21 56 05.6**	**-0.5**
ENIJ	**Nijar**	**0.75**	**54**	Pg		**Pg**	**21 55 55.7**	**-0.5**
ENIJ				Sg		**Sb**	**21 56 06.0**	**-0.4**
ENIJ				*i* IVmb_Lg			21 56 08.7	
EQUE	**Quentar**	**0.77**	**331**	Pg		**Pb**	**21 55 57.0**	**+0.2**
EQUE				Sg		**Sg**	**21 56 06.2**	**-0.6**
EQUE				*i* IVmb_Lg			21 56 07.8	
EQTA	**Presa de Quent**	**0.77**	**331**	Pg		**Pb**	**21 55 56.8**	**0.0**
EQTA				Sg		**Sg**	**21 56 06.2**	**-0.6**
EGOR	**Sierra Gorda,**	**1.08**	**302**	Pg		**Pg**	**21 56 02.4**	**-0.1**
EGOR				Sg		**Sb**	**21 56 16.3**	**+0.2**
EGOR	**Sierra Gorda,**	**1.08**	**302**	Pg		**Pg**	**21 56 02.5**	**-0.1**
EGOR				Sg		**Sn**	**21 56 17.6**	**+0.4**
EGOR				*i* IVmb_Lg			21 56 23.9	
EMAL	**Malaga-Limoner**	**1.20**	**281**	Pg		**Pn**	**21 56 02.0**	**-1.8**
WMELI	**Melilla**	**1.21**	**179**	Pg		**Pn**	**21 56 03.3**	**-0.7**
WMELI				Sg		**Sb**	**21 56 18.6**	**-1.1**
EMLI	**Melilla**	**1.23**	**179**	Pg		**Pn**	**21 56 03.8**	**-0.5**
EQES	**Quesada**	**1.27**	**356**	Pg		**Pg**	**21 56 06.6**	**+0.5**
EQES				Sg		**Sg**	**21 56 23.3**	**+0.7**
EQES				*i* IVmb_Lg			21 56 33.0	
GOG	**Mont Gurugu**	**1.31**	**181**	P		**Pn**	**21 56 05.9**	**+0.5**
GOG	**Mont Gurugu**	**1.31**	**181**	S		**Sg**	**21 56 23.8**	**0.0**
E0803	**Jimena (Jaen)**	**1.36**	**343**	Pg		**Pg**	**21 56 08.9**	**+1.1**
E0803				Sg		**Sg**	**21 56 26.5**	**+1.0**
EMIJ	**Mijas**	**1.46**	**272**	Pg		**Pn**	**21 56 06.3**	**-1.0**
EMIJ				Sg		**Sn**	**21 56 22.1**	**-4.1**
EMIJ	**Mijas**	**1.46**	**272**	Pn		**Pn**	**21 56 05.9**	**-1.5**
EMIJ				Sn		**Sn**	**21 56 22.7**	**-3.5**
EMIJ				*i* IVmb_Lg			21 56 25.8	
ELOR	**Lorca, Murcia**	**1.47**	**41**	Pn		**Pb**	**21 56 08.1**	**-0.6**
ELOR				Sn		**Sb**	**21 56 27.1**	**-0.2**
ELOR				*i* IVmb_Lg			21 56 33.8	
TLOR	**Lorca, Murcia**	**1.52**	**42**	Pn		**Pb**	**21 56 09.1**	**-0.3**
TLOR				Sn		**Sb**	**21 56 28.2**	**-0.3**
E0802	**Ubeda,Jaen**	**1.52**	**348**	Pg		**Pg**	**21 56 11.5**	**+0.6**
E0802				Sg		**Sg**	**21 56 31.9**	**+1.2**
PALE	**Palemas**	**1.53**	**211**	P		**Pn**	**21 56 09.1**	**+0.6**
PALE	**Palemas**	**1.53**	**211**	S		**Sb**	**21 56 30.0**	**+1.1**
TAF	**Taforalt**	**1.77**	**165**	P		**Pn**	**21 56 12.0**	**+0.2**
TAF	**Taforalt**	**1.77**	**165**	S		**Sb**	**21 56 36.2**	**+0.3**
CART	**Cartagena**	**1.89**	**56**	P		**Pn**	**21 56 11.7**	**-1.6**
CART	**Cartagena**	**1.89**	**56**	S		**Sn**	**21 56 35.0**	**-1.9**
ECEU	**Ceuta**	**2.05**	**253**	Pn		**Pn**	**21 56 15.9**	**+0.4**
ECEU	**Ceuta**	**2.05**	**253**	Pn		**Pn**	**21 56 16.0**	**+0.5**
ECEU				Sn		**Sn**	**21 56 39.6**	**-1.2**
ECEU				*i* IVmb_Lg			21 56 45.2	
EADA	**Adamuz**	**2.08**	**322**	Pn		**Pb**	**21 56 17.7**	**-1.3**
EADA	**Adamuz**	**2.08**	**322**	Pn		**Pb**	**21 56 17.7**	**-1.3**
EADA				Pg		**Pg**	**21 56 20.3**	**-1.1**
EADA				Sn		**Sb**	**21 56 43.4**	**-1.2**
EADA				Sg		**Sg**	**21 56 49.9**	**+1.6**
EADA				*i* IVmb_Lg			21 56 52.6	
SMIR	**Smir Dam**	**2.13**	**247**	P		**Pn**	**21 56 17.8**	**+1.2**
SMIR	**Smir Dam**	**2.13**	**247**	S		**Sb**	**21 56 45.2**	**-1.0**
AKLM	**AKL**	**2.15**	**200**	P		**Pn**	**21 56 17.9**	**+1.0**
AKLM	**AKL**	**2.15**	**200**	S		**Sn**	**21 56 44.9**	**+1.6**
JBK	**JBK**	**2.22**	**171**	P		**Pn**	**21 56 18.7**	**+0.7**
JBK	**JBK**	**2.22**	**171**	S		**Sn**	**21 56 46.9**	**+1.7**
PSIM	**Granatula de C**	**2.37**	**345**	Pn		**Pn**	**21 56 21.7**	**+1.7**
PSIM				Pg		**Pg**	**21 56 25.5**	**-1.4**
PSIM				Sn		**Sn**	**21 56 50.3**	**+1.6**
CHEFC	**Chefchaouen**	**2.40**	**234**	P		**Pn**	**21 56 21.9**	**+1.5**
CHEFC	**Chefchaouen**	**2.40**	**234**	S		**Sn**	**21 56 51.2**	**+1.7**
ECAB	**El Cabril**	**2.49**	**309**	Pn		**Pn**	**21 56 22.6**	**+1.0**
ECAB	**El Cabril**	**2.49**	**309**	Pn		**Pn**	**21 56 23.2**	**+1.6**
ECAB				Pg		**Pb**	**21 56 27.7**	**+1.7**
ECAB				Sn		**Sn**	**21 56 52.6**	**+0.9**
ECAB				Sg		**Sg**	**21 57 02.0**	**+0.4**
ECAB				*i* IVmb_Lg			21 57 05.3	
EVIV	**Cofrentes, Val**	**3.10**	**28**	Pn		**Pn**	**21 56 31.2**	**+1.2**
EVIV				Pg		**Pb**	**21 56 38.0**	**+1.6**
EVIV				Sn		**Sn**	**21 57 08.0**	**+1.3**
EVIV				Sg		**Sg**	**21 57 21.4**	**+0.4**
EVIV				*i* IVmb_Lg			21 57 28.3	
PAB	**San Pablo**	**3.20**	**340**	Pn		**Pn**	**21 56 33.9**	**+2.5**
PAB				Sn		**Sn**	**21 57 10.6**	**+1.3**
PAB				Sg		**Sg**	**21 57 25.9**	**+1.6**
PAB				*i* IVmb_Lg			21 57 28.4	
EMIN	**Mina Concepcio**	**3.21**	**294**	Pn		**Pn**	**21 56 32.7**	**+1.3**
EMIN				Sn		**Sn**	**21 57 10.6**	**+1.2**
EMIN				*i* IVmb_Lg			21 57 32.0	
ESDC	**Sonseca Array**	**3.23**	**346**	Pn		**Pn**	**21 56 33.5**	**+1.7**
ESDC				Sn		**Sn**	**21 57 10.7**	**+0.6**
ESDC				Sg		**Sg**	**21 57 25.7**	**+0.3**
ESDC				*i* IVmb_Lg			21 57 27.2	
ECHE	**Chera**	**3.44**	**27**	Pn		**Pn**	**21 56 35.7**	**+1.1**
ECHE				Sn		**Sn**	**21 57 15.8**	**+0.7**
ECHE				*i* IVmb_Lg			21 57 33.3	
PBAR	**Barrancos**	**3.64**	**298**	Pn		**Pn**	**21 56 39.3**	**+2.0**
PBAR				Sn		**Sn**	**21 57 19.3**	**-0.6**
PBAR	**Barrancos**	**3.64**	**298**	*e*Pn		**Pn**	**21 56 39.1**	**+1.7**
PBAR				*e*Sn		**Sn**	**21 57 20.3**	**+0.3**
PBAR				*e*Sg		**Sg**	**21 57 37.9**	**-0.4**
PBAR				*i* IAML			21 57 45.2	
PBAR				*i* IAML			21 57 46.5	
PBAR				*i* IAML			21 57 47.1	
EGRO	**El Granado**	**3.75**	**287**	Pn		**Pn**	**21 56 40.0**	**+1.1**
EGRO				Sn		**Sn**	**21 57 22.7**	**0.0**
EGRO				*i* IVmb_Lg			21 57 55.1	
PVAQ	**Vaqueiros**	**3.90**	**284**	Pn		**Pn**	**21 56 40.8**	**-0.2**
PVAQ				Sn		**Sn**	**21 57 23.8**	**-2.8**
PVAQ	**Vaqueiros**	**3.90**	**284**	*e*Pn		**Pn**	**21 56 41.8**	**+0.8**
PVAQ				*e*Sn		**Sn**	**21 57 26.4**	**-0.2**
PVAQ				*i* IAML			21 57 27.7	
PVAQ				*i* IAML			21 57 28.4	
PVAQ				*i* IAML			21 57 31.0	
PVAQ	**Vaqueiros**	**3.90**	**284**	P		**Pn**	**21 56 41.1**	**+0.1**
PVAQ	**Vaqueiros**	**3.90**	**284**	S		**Sn**	**21 57 26.6**	**0.0**
EBAD	**Badajoz**	**3.90**	**306**	Pn		**Pn**	**21 56 42.1**	**+1.1**
EBAD				Sn		**Sn**	**21 57 27.0**	**+0.4**
EBAD				*i* IVmb_Lg			21 57 54.7	
MD31	**MD31**	**3.94**	**203**	P		**Pn**	**21 56 43.4**	**+1.8**
MD31	**MD31**	**3.94**	**203**	S		**Sn**	**21 57 28.9**	**+1.2**
PBDV	**Barranco-do-Ve**	**4.04**	**282**	*e*Sn		**Sn**	**21 57 31.7**	**+

mb4.2/10,Error ellipse: s-maj=11.3km s-min=9.1km az=218.0

ISC 03 22:12:52.9±0.5,**9°70S**±0.05×**113°97E**±0.05,**h31**km,**n72,** σ1§**52**/73,**mb4.1**/18,**MS3.8**/4,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.23**	**8**		**Pn**	**22 13 14.8**	**+0.8**
JAGI				Sn	**Sn**	**22 13 29.7**	**0.0**
JAGI	**Jajag, Banyuwa**	**1.23**	**8**	P	**Pn**	**22 13 15.2**	**+1.1**
JAGI	**Jajag, Banyuwa**	**1.23**	**8**	P	**Pn**	**22 13 15.0**	**+0.9**
JAGI				S	**Sn**	**22 13 30.5**	**+0.8**
GMJI	**Gumukmas**	**1.51**	**340**	P	**Pn**	**22 13 18.2**	**+0.3**
GMJI				S	**Sn**	**22 13 37.1**	**+0.6**
SRBI	**Singaraja**	**2.02**	**37**	P	**Pn**	**22 13 27.0**	**+2.2**
KMMI	**Kalianget**	**2.63**	**360**	P	**Pn**	**22 13 36.2**	**+2.9**
GRJI	**Gresik**	**3.14**	**332**	P	**Pn**	**22 13 41.5**	**+1.2**
GRJI				S	**Sn**	**22 14 18.9**	**+2.2**
PCJI	**Pacitan**	**3.14**	**298**	P	**Pn**	**22 13 42.2**	**+1.9**
PCJI				S	**Sn**	**22 14 17.7**	**+0.9**
NGJI	**Ngawi**	**3.40**	**313**	P	**Pn**	**22 13 43.6**	**-0.2**
WOJI	**Wonogiri, Jawa**	**3.54**	**301**	P	**Pn**	**22 13 47.3**	**+1.5**
UGM	**Wanagama**	**3.84**	**297**		**Pn**	**22 13 51.9**	**+1.9**
UGM				Sn	**Sn**	**22 14 36.5**	**+2.3**
UGM	**Wanagama**	**3.84**	**297**	P	**Pn**	**22 13 52.8**	**+2.8**
UGM	**Wanagama**	**3.84**	**297**	P	**Pn**	**22 13 51.4**	**+1.4**
PLAI	**Plampang**	**3.85**	**77**	P	**Pn**	**22 13 52.0**	**+1.9**
PLAI				S	**Sn**	**22 14 37.9**	**+3.5**
BWJI	**Bawean**	**4.04**	**341**	P	**Pn**	**22 13 54.2**	**+1.5**
SMRI	**Semarang**	**4.38**	**307**	Pn	**Pn**	**22 14 00.4**	**+3.1**
WBSI	**Waikabubak, Su**	**5.34**	**90**	P	**Pn**	**22 14 12.9**	**+2.3**
WSI	**Waingapu**	**6.23**	**90**	P	**Pn**	**22 14 23.1**	**+0.2**
BASI	**Baing, Sumba**	**6.53**	**95**	P	**Pn**	**22 14 31.0**	**+4.1**
BBJI	**Bungbulang**	**6.64**	**289**	P	**Pn**	**22 14 31.7**	**+3.2**
CNJI	**Cibinong**	**7.17**	**289**	P	**Pn**	**22 14 37.6**	**+1.8**
BSSI	**Bau Bau, Buton**	**7.36**	**62**	P	**Pn**	**22 14 40.5**	**+2.2**
KAPI	**Kappang**	**7.38**	**51**	Pn	**Pn**	**22 14 37.0**	**-1.6**
KAPI	**Kappang**	**7.38**	**51**	Pn	**Pn**	**22 14 39.8**	**+1.1**
	1.5nm,0.3s,baz=190,slow=3.4,SNR=2.8						
KAPI				Sn	**Sn**		
	3.6nm,0.3s,baz=242,slow=23,SNR=7.8						
KAPI				LR	LR	22 17 54.1	
	comp=Z,132nm,20.6s,baz=266,slow=41						
	4.5nm,0.3s						
EDFI	**Ende, Flores**	**7.67**	**84**	P	**Pn**	**22 14 44.9**	**+2.1**
CGJI	**Cibinong**	**8.75**	**290**	P	**Pn**	**22 14 58.7**	**+1.2**
BATI	**Baumata**	**9.56**	**94**	Pn	**Pn**	**22 15 07.8**	**-0.7**
	2.6nm,0.3s,baz=327,slow=15,SNR=1.5						
BATI				Sn	**Sn**	**22 16 51.5**	**-3.5**
	4.2nm,0.3s,baz=70,slow=18,SNR=1.7						
	9.7nm,0.4s						
MBWA	**Marble Bar**	**12.67**	**155**	Pn	Pn	22 15 45.5	-5.7
GIRL	**Giralia**	**12.88**	**179**	P	**Pn**	**22 15 52.7**	**-1.2**
FITZ	**Fitzroy Crossi**	**14.06**	**128**	Pn	Pn	22 16 06.1	-4.1
FITZ	**Fitzroy Crossi**	**14.06**	**128**	Pn	Pn	22 16 06.8	-3.4
	0.3nm,0.3s,baz=307,slow=10,SNR=12						
FITZ				Sn	Sn	22 18 31.6	-14
	0.4nm,0.3s,baz=180,slow=23,SNR=7.7						
FITZ	**Fitzroy Crossi**	**14.06**	**128**	P	Pn	22 16 07.3	-2.9
KNRA	**Kununurra**	**15.60**	**114**	Pn	**Pn**	**22 16 30.2**	**-0.5**
KNRA				IAmb	IAmb	22 16 37.4	
	comp=Z,40nm,1.4s						
MEEK	**Meekatharra**	**17.41**	**166**	P	**Pn**	**22 16 53.2**	**-0.5**
FAKI	**Fak Fak**	**19.36**	**71**	P	**P**	**22 17 14.8**	**-1.5**
FAKI	**Fak Fak**	**19.36**	**71**	P	**P**	**22 17 16.9**	**+0.6**
MORW	**Morawa**	**19.37**	**175**	P	**P**	**22 17 16.6**	**+0.4**
MORW				IAmb	IAmb	22 17 43.5	
	comp=Z,22nm,1.4s						
PSI	**Prapat**	**19.47**	**309**	LR	LR	22 26 06.5	
	comp=Z,260nm,18.3s,baz=108,slow=41						
DAV	**Davao City (W)**	**20.28**	**35**	LR	LR	22 27 10.0	
	comp=Z,28nm,19.4s,baz=330,slow=42						
WB0	**Warramunga Arr**	**22.11**	**119**	P	**P**	**22 17 45.6**	**-0.4**
WRA	**Warramunga Arr**	**22.14**	**120**	P	**P**	**22 17 46.3**	**0.0**
WRA	**Warramunga Arr**	**22.14**	**120**	P	**P**	**22 17 46.0**	**-0.4**
	comp=Z,2.6nm,0.5s,baz=295,slow=12,SNR=24						
WRA				PcP	**PcP**	**22 21 44.0**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=309,slow=2.0,SNR=1.2						
WRA				S	**S**	**22 21 50.8**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=295,slow=22,SNR=3.4						
	comp=Z,2.6nm,0.5s						
AS31	**Alice Springs**	**23.56**	**129**	P	**P**	**22 18 01.1**	**+0.1**
AS31				IAmb	IAmb	22 18 02.8	
	comp=Z,2.7nm,0.5s						
ASAR	**Alice Springs**	**23.56**	**129**	P	**P**	**22 18 01.1**	**0.0**
ASAR	**Alice Springs**	**23.56**	**129**	P	**P**	**22 18 01.5**	**+0.5**
	comp=Z,5.1nm,0.7s,baz=304,slow=9.0,SNR=73						
ASAR				PcP	**PcP**	**22 21 45.9**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=295,slow=2.0,SNR=4.1						
ASAR				S	**S**	**22 22 15.5**	**+2.1**
	comp=Z,0.2nm,0.7s,baz=301,slow=22,SNR=1.8						
	comp=Z,5.1nm,0.7s						
AS01	**Alice Springs**	**23.60**	**129**	P	**P**	**22 18 01.3**	**-0.1**
BBOO	**Buckleboo**	**30.73**	**142**	P	**P**	**22 19 04.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**31.67**	**332**	P	**P**	**22 19 14.2**	**+0.4**
	comp=Z,1.8nm,0.3s,baz=147,slow=8.6,SNR=1.3						
	comp=Z,1.8nm,0.3s						
STKA	**Stephens Creek**	**33.78**	**135**	P	**P**	**22 19 32.3**	**+0.1**
	comp=Z,5.6nm,0.7s,baz=296,slow=7.2,SNR=10						
	comp=Z,5.6nm,0.7s						
BRDH	**Bariadhala**	**38.91**	**326**	LR	LR	22 39 05.5	
	comp=Z,97nm,19.2s,baz=150,slow=41						
H08S2	**Diego Garcia H**	**41.04**	**269**	T	T	23 04 13.7	
	baz=95						
H08S3	**Diego Garcia H**	**41.05**	**269**	T	T	23 04 11.9	
	baz=95						
H08S1	**Diego Garcia H**	**41.06**	**269**	T	T	23 04 15.3	
	baz=95						
KSRS	**Korea Array**	**48.69**	**15**	P	**P**	**22 21 33.9**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=198,slow=7.4,SNR=1.8						
	comp=Z,0.5nm,0.5s						
USRK	**Ussuriysk Ar.**	**56.08**	**16**	P	**P**	**22 22 28.1**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=181,slow=7.5,SNR=4.5						
	comp=Z,2.1nm,0.8s						
SONM	**Songino Array**	**57.67**	**354**	P	**P**	**22 22 39.6**	**-0.9**
SONM				IAmb	IAmb	22 22 41.1	
	comp=Z,1.7nm,0.8s						
SONM	**Songino Array**	**57.67**	**354**	P	**P**	**22 22 39.9**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=174,slow=9.6,SNR=9.7						
	comp=Z,1.4nm,0.4s						
MKAR	**Makanchi Array**	**62.95**	**336**	P	**P**	**22 23 15.3**	**-1.2**
MKAR	**Makanchi Array**	**62.95**	**336**	P	**P**	**22 23 16.1**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=153,slow=7.7,SNR=9.9						
	comp=Z,0.9nm,0.5s						
MAW	**Mawson**	**66.93**	**199**	P	**P**	**22 23 41.9**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=33,slow=17,SNR=11						
	comp=Z,1.4nm,0.5s						
KURBB	**Kurchatov Arra**	**67.50**	**336**	P	**P**	**22 23 45.2**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=147,slow=6.9,SNR=3.5						
	comp=Z,0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**68.04**	**342**	P	**P**	**22 23 48.9**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=167,slow=6.8,SNR=2.3						
	comp=Z,0.6nm,0.5s						
VNDA	**Vanda**	**72.11**	**170**	P	**P**	**22 24 14.3**	**+0.4**
VNDA				IAmb	IAmb	22 24 15.0	
	comp=Z,3.9nm,1.4s						
VNDA	**Vanda**	**72.11**	**170**	P	**P**	**22 24 14.1**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=0.1,slow=6.8,SNR=5.5						
	comp=Z,0.6nm,0.7s						
BVAR	**Borovoye Array**	**72.66**	**334**	P	**P**	**22 24 17.2**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=145,slow=8.9,SNR=11						
	comp=Z,1.3nm,0.7s						
PETK	**Petropavlovsk-**	**72.78**	**26**	P	**P**	**22 24 18.1**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=216,slow=6.9,SNR=3.5						
	comp=Z,1.4nm,0.8s						
AB31	**Akbulak array**	**75.35**	**327**	P	**P**	**22 24 33.1**	**-0.2**
AB31				IAmb	IAmb	22 24 34.4	
	comp=Z,2.6nm,0.8s						
ABKAR	**Akbulak array**	**75.35**	**327**		**P**	**22 24 32.8**	**-0.5**
QSPA	**South Pole Qui**	**80.30**	**180**	P	**P**	**22 25 00.8**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=344,slow=4.6,SNR=2.7						
	comp=Z,1.4nm,0.8s						
BRTR	**Keskin Array B**	**88.79**	**310**	P	**P**	**22 25 43.6**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=132,slow=5.2,SNR=6.1						
	comp=Z,0.9nm,0.8s						
FINES	**FINESS Array B**	**97.43**	**331**	LR	LR	23 15 00.8	
	comp=Z,53nm,19.6s,baz=342,slow=38						
ARCES	**ARCESS Array B**	**98.48**	**339**	LR	LR	23 17 29.4	
	comp=Z,41nm,18.2s,baz=339,slow=39						

*UCR **03** 22:20:07.2±1.0, 11°.43N×85°.85W,h201km±13km, MW4.2*
*IDC **03** 22:20:07.9±0.8, 11°.49N×85°.24W,h205km±33km, mb3.5/2, mbtmp3.9/2,Error ellipse: s-maj=64.4km s-min=42.9km az=0.0*

*NEIC **03** 22:20:08.5±1.2, 11°.48N±0°.08×85°.71W±0°.07, h200km±6km, mb4.3/21,Error ellipse: s-maj=13.3km s-min=7.4km az=219.0*
*CATAC **03** 22:20:08.1±0.6, 11°N±5°×8°6W±°, h200km±3km, M3.3/18, MLv3.3/18,Error ellipse: s-maj=12.7km s-min=5.4km az=35.9,confirmed*

ISC 03 22:20:07.6±0.7,**11°46N**±0°.06×**85°77W**±0°.05,**h205**km±5km, **n104,** σ1§**08**/118,**mb4.2**/11,**Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARIN	**Rivas**	**0.07**	**263**	*eP*	**Pn**	**22 20 34.4**	**0.0**
JAPN	**AI SSO del Vol**	**0.10**	**54**	*eP*	**Pn**	**22 20 35.5**	**+1.1**
JAPN	**AI SSO del Vol**	**0.10**	**54**	P	**Pn**	**22 20 35.3**	**+0.9**
MORN	**AI O del Volca**	**0.14**	**54**	P	**Pn**	**22 20 35.3**	**+0.8**
CARN	**Rivas**	**0.36**	**139**	*eP*	**Pn**	**22 20 35.1**	**+0.2**
CARN				*eS*	**S**	**22 20 56.6**	**+0.5**
CARN	**Rivas**	**0.36**	**139**	P	**Pn**	**22 20 35.1**	**+0.2**
CARN				S	**S**	**22 20 56.8**	**+0.6**
NADN	**Granada**	**0.39**	**317**	*eP*	**Pn**	**22 20 35.1**	**+0.2**
NADN	**Granada**	**0.39**	**317**	P	**Pn**	**22 20 35.2**	**+0.2**
NADN				S	**S**	**22 20 57.3**	**+1.0**
LCRUZ	**La Cruz**	**0.40**	**161**	*eP*	**Pn**	**22 20 34.9**	**-0.2**
LCRUZ				*eS*	**S**	**22 20 55.9**	**-0.6**
NANN	**Nandasmo**	**0.59**	**324**	P	**Pn**	**22 20 37.2**	**+1.5**
NANN	**Nandasmo**	**0.59**	**324**	S	**S**	**22 20 59.5**	**+1.9**
SABN	**Sabanita**	**0.63**	**322**	P	**Pn**	**22 20 35.9**	**0.0**
PEJA	**Penjamo Buenos**	**0.72**	**142**	*eP*	**Pn**	**22 20 36.7**	**+0.3**
BUAI	**Buenos Aires**	**0.72**	**144**	*eP*	**Pn**	**22 20 36.8**	**+0.4**
LAPC	**Finca la Perla**	**0.76**	**155**	*eP*	**Pn**	**22 20 36.4**	**-0.2**
ACON	**Acoyapa**	**0.77**	**49**		**Pn**	**22 20 36.5**	**0.0**
ACON				Sn	**S**	**22 20 56.5**	**-2.5**
ACON	**Acoyapa**	**0.77**	**49**	*eP*	**Pn**	**22 20 36.5**	**0.0**
ACON	**Acoyapa**	**0.77**	**49**	P	**Pn**	**22 20 36.5**	**0.0**
ACON	**Acoyapa**	**0.77**	**49**	S	**S**	**22 20 58.9**	**-0.1**
VRLE	**La Escondida,**	**0.78**	**150**	*eP*	**Pn**	**22 20 36.8**	**+0.1**
GPS1	**Guardaparques**	**0.80**	**149**	*eP*	**Pn**	**22 20 37.0**	**+0.1**
UNAN	**Cigeo UNAN**	**0.81**	**323**	P	**Pn**	**22 20 37.4**	**+0.6**
UNAN				S	**S**	**22 21 00.0**	**+0.6**
USIM	**UNAN**	**0.82**	**323**	Pn	**Pn**	**22 20 36.9**	**+0.1**
MGAN	**Managua**	**0.83**	**325**		**Pn**	**22 20 36.9**	**0.0**
MGAN				Sn	**S**	**22 21 00.6**	**+1.0**
MGAN	**Managua**	**0.83**	**325**	*eP*	**Pn**	**22 20 37.1**	**+0.2**
TISN	**Laguna Tiscapa**	**0.84**	**324**	P	**Pn**	**22 20 37.1**	**+0.2**
ELI1	**Hacienda Flor**	**0.84**	**166**	*eP*	**Pn**	**22 20 37.3**	**+0.3**
ALIBA	**Liberia Airpor**	**0.89**	**166**	*eP*	**Pn**	**22 20 37.5**	**+0.2**
VMAR	**Armenia, Volca**	**0.91**	**135**	*eP*	**Pn**	**22 20 37.5**	**+0.1**
MESS	**Mesas**	**0.91**	**142**	*eP*	**Pn**	**22 20 37.6**	**+0.2**
SAPS	**Ciudad Sandino**	**0.94**	**318**	S	**S**	**22 21 01.3**	**+0.6**
SAPS	**Ciudad Sandino**	**0.94**	**318**	P	**Pn**	**22 20 37.8**	**+0.3**
COLC	**Colonia**	**0.96**	**145**	*eP*	**Pn**	**22 20 38.0**	**+0.2**
BOAB	**BOACO BROADBAN**	**0.98**	**6**		**Pn**	**22 20 38.2**	**+0.4**
BOAB	**BOACO BROADBAN**	**0.98**	**6**	P	**Pn**	**22 20 38.2**	**+0.4**
BOAB	**BOACO BROADBAN**	**0.98**	**6**	S	**S**	**22 21 01.2**	**-0.1**
CUI	**Cuipilapa**	**0.99**	**144**	*eP*	**Pn**	**22 20 38.4**	**+0.4**
MOTZ	**Rio Naranjo**	**1.03**	**139**	*eP*	**Pn**	**22 20 38.5**	**+0.3**
BAGA	**Bagaces**	**1.05**	**152**	*eP*	**Pn**	**22 20 38.4**	**+0.1**
COPN	**Copaltepe**	**1.08**	**311**	*eP*	**Pn**	**22 20 37.9**	**-0.5**
COPN	**Copaltepe**	**1.08**	**311**	P	**Pn**	**22 20 38.1**	**-0.3**
TIMP	**Tierras Morena**	**1.14**	**140**	*eP*	**Pn**	**22 20 39.1**	**+0.1**
MOM2	**El Cardon**	**1.20**	**324**	P	**Pn**	**22 20 39.5**	**+0.2**
MOM2				S	**S**	**22 21 05.1**	**+1.3**
INVE	**Universidad In**	**1.20**	**145**	*eP*	**Pn**	**22 20 39.4**	**0.0**
MOMN	**Momotombo**	**1.21**	**321**	P	**Pn**	**22 20 39.4**	**-0.1**
MOMN				S	**S**	**22 21 04.3**	**+0.3**
TILA	**Tilaran**	**1.26**	**142**	*eP*	**Pn**	**22 20 40.2**	**+0.2**
NICO	**Nicoya**	**1.36**	**167**	*eP*	**Pn**	**22 20 40.8**	**+0.2**
TABAC	**Tabacon**	**1.37**	**134**	*eP*	**Pn**	**22 20 41.4**	**+0.6**
CNGA	**AI SSO del Vol**	**1.38**	**318**	P	**Pn**	**22 20 40.9**	**+0.1**
CNGA				S	**S**	**22 21 06.4**	**+0.1**
CNGN	**Cerro Negro**	**1.38**	**319**		**Pn**	**22 20 40.4**	**-0.5**
CNGN	**Cerro Negro**	**1.38**	**319**	*eP*	**Pn**	**22 20 40.1**	**-0.7**
CNGN	**Cerro Negro**	**1.38**	**319**	P	**Pn**	**22 20 41.0**	**+0.2**
CNGN	**Cerro Negro**	**1.38**	**319**	S	**S**	**22 21 07.8**	**+1.4**
JTS	**Las Juntas de**	**1.41**	**146**	P	**Pn**	**22 20 41.0**	**-0.1**
	117nm,0.3s,baz=291,slow=15,SNR=84						
JTS				S	**S**	**22 21 04.7**	**-2.1**
	376nm,0.3s,baz=266,slow=15,SNR=33						
JTS	**Las Juntas de**	**1.41**	**146**	*eP*	**Pn**	**22 20 41.0**	**-0.1**
CEDE	**Laguna Cedeo**	**1.42**	**133**	*eP*	**Pn**	**22 20 41.8**	**+0.6**
ARE1	**Arenal 1**	**1.43**	**134**	*eP*	**Pn**	**22 20 41.9**	**+0.6**
VARE2	**V. Arenal**	**1.43**	**134**	*eP*	**Pn**	**22 20 41.9**	**+0.6**
VACR	**Volcan Arenal**	**1.45**	**133**	*eP*	**Pn**	**22 20 42.0**	**+0.6**
CMARA	**Lajas Hojancha**	**1.47**	**167**	*eP*	**Pn**	**22 20 41.7**	**0.0**
HERN	**Volcan Telica**	**1.54**	**318**		**Pn**	**22 20 42.0**	**-0.3**
SOCE	**Pocosol**	**1.56**	**134**	Pn	**Pn**	**22 20 42.7**	**+0.4**
SOCE				Sn	**S**	**22 21 09.2**	**+0.2**
SOCE	**Pocosol**	**1.56**	**134**	*eP*	**Pn**	**22 20 42.7**	**+0.4**
SOCE	**Pocosol**	**1.56**	**134**	S	**S**	**22 21 09.3**	**+0.3**
SOCE	**Pocosol**	**1.56**	**134**	P	**Pn**	**22 20 43.1**	**+0.7**
ESPN	**Las Esperanzas**	**1.61**	**63**		**Pn**	**22 20 43.0**	**+0.2**
ESPN	**Las Esperanzas**	**1.61**	**63**	S	**S**	**22 21 10.2**	**+0.6**
ESPN	**Las Esperanzas**	**1.61**	**63**	P	**Pn**	**22 20 42.9**	**+0.2**
PKGN	**Cerro Pekin**	**1.69**	**315**	P	**Pn**	**22 20 43.7**	**+0.2**
PKGN				S	**S**	**22 21 12.3**	**+1.3**
CRIN	**San Cristobal**	**1.76**	**314**		**Pn**	**22 20 44.4**	**+0.2**
CRIN	**San Cristobal**	**1.76**	**314**	*eP*	**Pn**	**22 20 44.0**	**-0.2**
ABE2	**San Pablo**	**2.42**	**136**	*eP*	**Pn**	**22 20 51.9**	**+0.5**
LCR2	**La Lucha 2**	**2.43**	**135**		**Pn**	**22 20 51.6**	**+0.2**
LCR2	**La Lucha 2**	**2.43**	**135**	*eP*	**Pn**	**22 20 52.0**	**+0.6**
TGUH	**Tegucigalpa,Un**	**2.97**	**330**	Pn	**Pn**	**22 20 57.5**	**+0.2**
MTO3	**Montecristo**	**4.56**	**310**		**Pn**	**22 21 18.1**	**+1.3**
PRVC	**Isla de Provid**	**4.70**	**66**	Pn	**Pn**	**22 21 18.3**	**-0.1**
CMIG	**Matias Romero**	**10.46**	**303**	P	**Pn**	**22 22 33.3**	**+0.5**
	0.8nm,0.4s,baz=107,slow=11,SNR=2.0						
CMIG				S	**S**	**22 24 22.4**	**-7.6**
	0.6nm,0.4s,baz=232,slow=13,SNR=1.4						
BAUV	**El Baul**	**17.62**	**97**	P	**P**	**22 23 58.8**	**-0.4**
BAUV				IAmb	IAmb	22 24 17.4	
	comp=Z,15nm,1.4s						
656A	**Willston**	**18.07**	**9**	P	**P**	**22 24 04.9**	**+1.0**
656A				IAmb	IAmb	22 24 20.5	
	comp=Z,12nm,0.8s						
LRAL	**Lakeview Retre**	**21.50**	**357**	P	**P**	**22 24 41.7**	**+1.2**
Y49A	**Blount Mountai**	**22.30**	**359**	P	**P**	**22 24 48.3**	**+0.1**
Y49A				IAmb	IAmb	22 24 50.0	
	comp=Z,5.2nm,0.6s						
HODGE	**Hodges**	**22.89**	**7**	P	**P**	**22 24 54.2**	**+0.7**
HODGE				IAmb	IAmb	22 24 55.4	
	comp=Z,6.0nm,0.8s						
BRDY	**Brady**	**23.22**	**330**	P	**P**	**22 24 57.3**	**+0.8**
W50A	**Signal Mountai**	**23.64**	**1**	P	**P**	**22 25 01.3**	**+0.9**
W50A				IAmb	IAmb	22 25 03.7	
	comp=Z,8.4nm,1.2s						
SWET	**Sewanee**	**23.65**	**360**	P	**P**	**22 25 01.0**	**+0.5**
SWET				IAmb	IAmb	22 25 01.8	
	comp=Z,4.6nm,0.6s						
CPCT	**Cooper Cave**	**23.91**	**3**	P	**P**	**22 25 03.5**	**+0.8**
MIAR	**Mount Ida**	**24.06**	**344**	P	**P**	**22 25 05.4**	**+1.3**
MIAR				IAmb	IAmb	22 25 06.6	
	comp=Z,3.6nm,0.7s						
TKL	**Tuckaleechee C**	**24.16**	**4**	P	**P**	**22 25 07.6**	**+2.6**
TKL				IAmb	IAmb	22 25 09.0	
	comp=Z,5.0nm,1.1s						
V53A	**Saluda**	**24.25**	**6**	P	**P**	**22 25 07.6**	**+1.6**
TXAR	**Lajitas Array**	**24.39**	**319**	P	**P**	**22 25 09.1**	**+1.8**
TXAR	**Lajitas Array**	**24.39**	**319**	P	**P**	**22 25 10.5**	**+3.2**
	comp=Z,0.6nm,0.5s,baz=138,slow=10,SNR=8.7						
	comp=Z,0.6nm,0.5s						
TX31	**Lajitas Ar. Si**	**24.39**	**319**	P	**P**	**22 25 09.5**	**+2.2**
V58A	**Windy Hill, Pi**	**24.96**	**13**	P	**P**	**22 25 12.4**	**+0.1**
V58A				IAmb	IAmb	22 25 18.2	
	comp=Z,13nm,1.5s						
S51A	**Beattyville**	**26.14**	**4**	P	**P**	**22 25 23.4**	**+0.5**
Q51A	**Peebles**	**27.53**	**4**	P	**P**	**22 25 35.6**	**+0.3**
P52A	**Corning**	**28.24**	**6**	P	**P**	**22 25 41.2**	**-0.4**
SSPA	**Standing Stone**	**29.88**	**12**	P	**P**	**22 25 56.5**	**+0.4**
SSPA				IAmb	IAmb	22 26 07.0	
	comp=Z,11nm,1.4s						
SADO	**Sadowa**	**33.67**	**9**	P	**P**	**22 26 28.6**	**-0.5**
LMN	**Caledonia Moun**	**38.64**	**24**	P	**P**	**22 27 11.3**	**+0.1**
EPLO	**Experimental L**	**38.66**	**352**	P	**P**	**22 27 09.9**	**-1.4**
EPLO				IAmb	IAmb	22 27 21.3	
	comp=Z,6.9nm,1.3s						
SCHQ	**Schefferville**	**45.77**	**15**	P	**P**	**22 28 07.4**	**-1.2**
	comp=Z,2.4nm,0.5s,baz=217,slow=11,SNR=9.2						
	comp=Z,2.4nm,0.5s						
ASAR	**Alice Springs**	**140.42**	**247**	PKP	**PKPdf**	**22 39 13.7**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=85,slow=2.0,SNR=8.0						
WRA	**Warramunga Arr**	**140.57**	**253**	PKhKP	PKPpre	22 39 07.5	
	comp=Z,0.3nm,0.7s,baz=95,slow=2.9,SNR=2.0						
WRA				PKP	**PKPdf**	**22 39 14.2**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=97,slow=2.3,SNR=12						

*BJI **03** 22:29:21.9,60°.48N×151°.76W,h52km, mB5.1/11, mb5.0/41,Ms4.4/4,Ms7 4.1/4*
*MOS **03** 22:29:22.9±0.9,60°.33N×151°.45W,h65km,mb4.9/30, Error ellipse: s-maj=11.1km s-min=4.9km az=90.8*
*NEIC **03** 22:29:25,60°.34N×151°.36W,h69km*
*NEIC **03** 22:29:25.2±1.3,60°.33N±0°.03×151°.33W±0°.05,h65km±3km, Error ellipse: s-maj=4.0km s-min=3.3km az=180.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.07; $M_{\theta\theta}$-0.89; $M_{\phi\phi}$0.82; $M_{r\theta}$0.01; $M_{\theta\phi}$0.57; $M_{r\phi}$0.48; Fault plane solution: $M_0$1.14000×10^{16} NP1:↑$_0$64.24000°, δ68.95000°,λ11.52000°. NP2:↑$_0$330.05000°,δ79.26000°, λ158.56000°. Principal axes: T 1.1861, Plg23.0000°, Azm286.0000°; N -0.1055, Plg66.0000°, Azm125.0000°; P -1.0806, Plg7.0000°, Azm19.0000°;*
*ANF **03** 22:29:25.3±0.1,60°.30N×151°.26W,h68km±2km, ML5.1/103 Error ellipse: s-maj=1.1km s-min=0.8km az=164.0*
*IDC **03** 22:29:25.6±0.5,60°.47N×151°.50W,h69km±3km, mb4.1/28, mbtmp4.4/31,MS3.5/15,Error ellipse: s-maj=10.9km s-min=9.0km az=12.0*
*NEIC **03** 22:29:26.1,60°.23N×151°.31W,h50km,Moment Tensor Solution. Duration:1§1 Moment tensor: Scale 10^{16}Nm; M_{rr}0.21; $M_{\theta\theta}$-1.01; $M_{\phi\phi}$0.80; $M_{r\theta}$-0.05; $M_{\theta\phi}$0.60; $M_{r\phi}$0.51; Fault plane solution: $M_0$1.21000×10^{16} NP1:↑$_0$64.47000°, δ65.77000°,λ12.76000°. NP2:↑$_0$329.16000°,δ78.38000°, λ155.23000°. Principal axes: T 1.2064, Plg26.0000°, Azm285.0000°; N 0.0103, Plg63.0000°, Azm126.0000°; P -1.2167, Plg9.0000°, Azm19.0000°;*
*AEIC **03** 22:29:26.1±1.4,60°.33N±0°.03×151°.31W±0°.05,h61km±4km, ML4.7,mb4.7/66(NEIC),ML4.9/240(NEIC), Mwr4.6/107(NEIC),Mww4.7/37(NEIC) Error ellipse: s-maj=3.7km s-min=3.6km az=190.0*
*NEIC **03** 22:29:26.1,60°.33N×151°.31W,h50km*

ISC 03 22:29:24.8±0.3,**60°32N**±0°.02×**151°31W**±0°.02,**h67**km±2km, **h66**km:**pP-P,n819,**σ0§**97**/907,**mb4.7**/104,**25C-23D,Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPN	**Captain Cook N**	**0.46**	**10**		**Pn**	**22 29 38.5**	**+1.7**
CAPN					**Sn**	**22 29 47.0**	**+1.3**
CAPN				IAML		22 29 49.8	
	comp=E,81μm,0.7s						
CAPN	**Captain Cook N**	**0.46**	**10**	P	**Pn**	**22 29 38.6**	**+1.7**
	baz=190,SNR=307						
CAPN				S	**Sn**	**22 29 45.5**	**-0.2**
	baz=190						
SLKM	**Skilak Lake**	**0.57**	**70**		**Pn**	**22 29 38.2**	**+

M22K **Willow** 1.55 21 Pn 22 29 51.2 +0.9
M22K IAML 22 30 12.2
comp=E,19µm,0.4s
M22K IAML 22 30 16.2
comp=N,21µm,0.7s
M22K Willow 1.55 21 P Pn 22 29 51.2 +0.9
baz=203,SNR=1000
M22K S Sn 22 30 10.4 +0.9
baz=203
PWL Port Wells 1.57 68 Pn 22 29 50.8 +0.3
PWL Sn Sn 22 30 09.2 -0.7
PWL IAML 22 30 12.9
comp=E,14µm,0.4s
PWL Port Wells 1.57 68 P Pn 22 29 50.9 +0.4
baz=251,SNR=1000
PWL S Sn 22 30 09.7 -0.3
baz=251
N19K Bonanza Creek 1.64 289 Pn 22 29 51.7 +0.1
N19K Sn 22 30 11.7 -0.2
N19K IAML 22 30 12.9
comp=E,7µm,0.4s
N19K Bonanza Creek 1.64 289 P Pn 22 29 51.7 +0.1
baz=106,SNR=1000
N19K S Sn 22 30 12.0 +0.1
baz=106
PMR Palmer 1.66 39 Pn 22 29 52.1 +0.4
PMR IAML 22 30 12.4
comp=E,8µm,0.5s
PMR IAML 22 30 13.5
comp=N,7µm,0.3s
PMR Palmer 1.66 39 P Pn 22 29 52.3 +0.5
PMR Palmer 1.66 39 S Sn 22 30 11.9 -0.3
PMR Palmer 1.66 39 P Pn 22 29 52.1 +0.4
PMR Palmer 1.66 39 P Pn 22 29 52.2 +0.4
baz=221,SNR=584
PMR S Sn 22 30 11.5 -0.7
baz=221
SKT Skwentna 1.67 356 Pn 22 29 52.6 +0.7
SKT IAML 22 30 15.3
comp=E,12µm,0.7s
SKT IAML 22 30 15.9
comp=N,8µm,0.5s
SKT Skwentna 1.67 356 P Pn 22 29 53.0 +1.0
baz=176,SNR=1000
SKT S Sn 22 30 13.8 +1.4
baz=176
KNK Knik Glacier 1.78 51 Pn 22 29 53.9 +0.6
KNK Knik Glacier 1.78 51 P Pn 22 29 53.9 +0.6
baz=233,SNR=430
KNK S Sn 22 30 14.8 -0.2
baz=233
M20K Styx River 1.80 331 Pn 22 29 54.8 +1.1
M20K Styx River 1.80 331 P Pn 22 29 54.9 +1.1
baz=150,SNR=897
M20K S Sn 22 30 16.7 +1.0
baz=150
Q20K Shuyak Island 1.80 198 P Pn 22 29 54.8 +1.2
baz=17,SNR=444
Q20K S Sn 22 30 17.2 +1.7
baz=17
SYI Shuyak Island 1.80 198 Pn 22 29 54.7 +1.1
Q19K Cape Douglas, 1.83 221 Pn 22 29 55.0 +1.0
Q19K IAML 22 30 21.0
comp=N,14µm,0.9s
Q19K Cape Douglas, 1.83 221 P Pn 22 29 55.1 +1.0
baz=39,SNR=698
Q19K S Sn 22 30 17.9 +1.6
baz=39
GHO Glory Hole Cre 1.86 38 Pn 22 29 55.0 +0.5
GHO IAML 22 30 18.4
comp=N,14µm,0.4s
P23K Montague Islan 1.98 98 Pn 22 29 55.8 -0.2
P23K IAML 22 30 20.6
comp=E,7µm,0.6s
P23K IAML 22 30 21.0
comp=N,13µm,0.6s
P23K Montague Islan 1.98 98 P Pn 22 29 55.9 -0.2
baz=281,SNR=1000
P23K S Sn 22 30 19.9 0.0
baz=281
O18K Koktuh Hills 2.01 258 Pn 22 29 56.3 -0.1
O18K IAML 22 30 27.0
comp=E,6µm,0.6s
O18K IAML 22 30 29.2
comp=N,6µm,0.9s
O18K Koktuh Hills 2.01 258 P Pn 22 29 56.5 0.0
baz=75,SNR=250
O18K S Sn 22 30 20.1 -0.5
baz=75
CUT Chulitna 2.15 13 Pn 22 29 58.8 +0.4
CUT IAML 22 30 32.4
comp=N,7µm,0.5s
CUT IAML 22 30 57.4
comp=E,9µm,1.2s
CUT Chulitna 2.15 13 P Pn 22 29 58.8 +0.4
baz=194,SNR=326
GLI Glacier Island 2.15 73 Pn 22 29 57.5 -0.9
GLI Glacier Island 2.15 73 P Pn 22 29 57.6 -0.9
baz=257,SNR=343
GLI S Sn 22 30 22.8 -1.3
baz=257
M19K Big River Lodg 2.18 318 Pn 22 29 59.3 +0.6
M19K IAML 22 30 26.2
comp=E,4µm,0.5s
M19K Big River Lodg 2.18 318 P Pn 22 29 59.4 +0.6
baz=135,SNR=637
M19K S Sn 22 30 25.1 +0.3
baz=135
P18K Big Mountain, 2.18 247 Pn 22 29 59.0 +0.2
P18K Big Mountain, 2.18 247 P Pn 22 29 59.1 +0.3
baz=63,SNR=169
P18K S Sn 22 30 24.2 -0.7
baz=63
M23K Glacier View 2.29 48 P Pn 22 30 00.6 +0.4
baz=231,SNR=488
M23K S Sn 22 30 26.8 -0.5
baz=231
N18K Kilae Creek 2.29 281 Pn 22 30 00.3 0.0
N18K Kilae Creek 2.29 281 P Pn 22 30 00.3 0.0
baz=97,SNR=1000
N18K S Sn 22 30 26.6 -0.9
baz=97
HIN Hinchinbrook I 2.39 86 Pn 22 30 00.8 -0.8
HIN IAML 22 30 30.1
comp=N,7µm,0.7s
FID Port Fidalgo 2.43 78 Pn 22 30 00.8 -1.3
SCM Sheep Creek Mo 2.46 50 Pn 22 30 03.0 +0.4
SCM IAML 22 30 33.8
comp=E,8µm,0.6s
SCM IAML 22 30 37.3
comp=N,8µm,0.6s
SCM Sheep Creek Mo 2.46 50 P Pn 22 30 03.0 +0.4
SCM Sheep Creek Mo 2.46 50 P Pn 22 30 03.1 +0.4
baz=234,SNR=417
SCM S Sn 22 30 31.2 -0.5
baz=234
L20K Farewell, AK 2.50 331 P Pn 22 30 03.9 +0.8
baz=149,SNR=345
M18K Stony River 2.50 300 Pn 22 30 02.9 -0.1
M18K Stony River 2.50 300 P Pn 22 30 03.0 0.0
baz=116,SNR=1000
Q18K Katmai Hardscr 2.52 230 P Pn 22 30 04.0 +0.4
baz=47,SNR=155
L19K White Mountain 2.54 319 Pn 22 30 04.3 +0.7
L19K IAML 22 30 51.1
comp=N,3µm,1.2s
L19K IAML 22 30 51.6
comp=E,4µm,1.5s
L19K White Mountain 2.54 319 P Pn 22 30 04.3 +0.7
baz=136,SNR=866
PPLA Purkeypile 2.62 351 Pn 22 30 05.5 +0.7
PPLA IAML 22 30 51.2
comp=N,3µm,1.2s
PPLA IAML 22 30 52.7
comp=E,4µm,0.9s
PPLA Purkeypile 2.62 351 P Pn 22 30 05.6 +0.7
baz=170,SNR=392
KDAK Kodiak Island 2.63 195 Pn 22 30 04.6 -0.2
KDAK Kodiak Island 2.63 195 P Pn 22 30 04.6 -0.2
comp=E,468nm,0.3s,baz=30,slow=6.1,SNR=3978
KDAK S Sn 22 30 34.4 -1.1
comp=E,491nm,0.5s,baz=349,slow=4.3,SNR=8.1
KDAK Kodiak Island 2.63 195 P Pn 22 30 04.7 -0.2
baz=14
Q23K Middleton Isla 2.66 107 Pn 22 30 04.7 -0.5
Q23K Middleton Isla 2.66 107 P Pn 22 30 03.6 -1.5
baz=292,SNR=65

EYAK Cordova Ski Ar 2.77 83 IAML Pn 22 30 05.7 -1.0
EYAK 22 30 39.9
comp=N,3µm,0.6s
EYAK IAML 22 30 40.3
comp=E,3µm,0.5s
EYAK Cordova Ski Ar 2.77 83 P Pn 22 30 05.9 -0.8
EYAK Cordova Ski Ar 2.77 83 S Sn 22 30 38.2 -0.7
EYAK Cordova Ski Ar 2.77 83 P Pn 22 30 05.7 -1.0
baz=268,SNR=97
P17K Kvichak River 2.83 249 P Pn 22 30 08.4 +0.9
baz=64,SNR=440
DIV Divide 2.84 71 Pn 22 30 07.4 -0.4
DIV IAML 22 30 41.8
comp=E,5µm,0.4s
WAT1 Susitna Watana 2.84 26 P Pn 22 30 08.1 +0.3
baz=209
WAT6 Susitna Watana 2.84 36 P Pn 22 30 08.2 +0.2
baz=219,SNR=1000
KLU Klutina 2.88 64 Pn 22 30 08.6 +0.2
KLU Klutina 2.88 64 P Pn 22 30 08.6 +0.2
baz=248,SNR=656
N17K Nushagak Hills 2.92 277 Pn 22 30 08.7 -0.2
N17K Nushagak Hills 2.92 277 P Pn 22 30 08.8 0.0
baz=91,SNR=481
O17K Koliganek Bris 2.95 262 P Pn 22 30 09.3 +0.1
baz=77,SNR=104
ACHA Angle Creek He 2.95 226 Pn 22 30 10.1 +0.7
M24K Tolsona, Glenn 3.06 52 Pn 22 30 11.7 +0.9
M24K Tolsona, Glenn 3.06 52 P Pn 22 30 11.8 +0.9
baz=237,SNR=505
Q17K Contact Creek 3.12 231 P Pn 22 30 12.1 +0.4
baz=47,SNR=179
CAST Castle Rocks 3.13 354 Pn 22 30 11.8 +0.1
CAST Castle Rocks 3.13 354 P Pn 22 30 12.0 +0.3
baz=173,SNR=1000
KJL Kejulik 3.16 226 Pn 22 30 13.3 +1.2
TRF Thorofare Moun 3.18 8 Pn 22 30 12.8 +0.3
TRF IAML 22 31 04.7
comp=N,2µm,0.7s
TRF IAML 22 31 12.3
comp=E,2µm,1.2s
TRF Thorofare Moun 3.18 8 P Pn 22 30 12.7 +0.3
baz=189,SNR=1000
Q16K King Salmon 3.18 241 P Pn 22 30 13.4 +1.0
baz=56,SNR=74
M17K Holitna River 3.19 293 Pn 22 30 12.5 +0.1
M17K IAML 22 31 08.1
comp=E,4µm,0.7s
M17K IAML 22 31 14.3
comp=N,3µm,0.9s
M17K Holitna River 3.19 293 P Pn 22 30 12.7 +0.2
baz=107,SNR=898
R18K Karluk 3.20 212 Pn 22 30 13.1 +0.4
R18K Karluk 3.20 212 IAML 22 30 58.0
comp=E,3µm,0.6s
R18K Karluk 3.20 212 P Pn 22 30 13.0 +0.4
baz=29
L18K Granite Mounta 3.22 309 Pn 22 30 13.1 +0.2
L18K IAML 22 30 50.4
comp=N,2µm,0.8s
L18K Granite Mounta 3.22 309 P Pn 22 30 13.2 +0.3
baz=124,SNR=697
KTH Kantishna Hill 3.25 3 Pn 22 30 13.9 +0.5
KTH IAML 22 31 19.9
comp=E,3µm,1.3s
KTH IAML 22 31 20.7
comp=N,3µm,1.0s
OHAK Old Harbor 3.27 199 Pn 22 30 13.0 -0.6
OHAK Old Harbor 3.27 199 P Pn 22 30 12.8 -0.8
OHAK Old Harbor 3.27 199 S Sn 22 30 50.0 -1.2
OHAK Old Harbor 3.27 199 P Pn 22 30 13.0 -0.6
baz=17,SNR=112
GOAT Goat Mountain 3.27 83 Pn 22 30 12.8 -0.9
RAGM Ragged Mountai 3.30 86 Pn 22 30 12.7 -1.3
RND Reindeer 3.31 20 Pn 22 30 14.3 +0.1
RND Reindeer 3.31 20 P Pn 22 30 14.3 +0.1
K20K Telida 3.32 338 Pn 22 30 14.9 +0.6
K20K Telida 3.32 338 P Pn 22 30 15.0 +0.7
baz=156,SNR=538
DHY Denali Highway 3.34 32 Pn 22 30 15.0 +0.3
DHY IAML 22 30 56.0
comp=N,2µm,0.4s
DHY IAML 22 30 56.6
comp=E,2µm,0.4s
DHY Denali Highway 3.34 32 P Pn 22 30 15.3 +0.6
baz=216,SNR=1000
BMRM Bremner River 3.37 76 Pn 22 30 14.1 -0.8
BMRM Bremner River 3.37 76 P Pn 22 30 14.1 -0.8
baz=262,SNR=108
KAIM Kayak Island 3.47 94 Pn 22 30 15.2 -1.1
KAIM IAML 22 31 00.1
comp=N,4µm,0.4s
KAIM IAML 22 31 00.6
comp=E,3µm,0.5s
KAIM Kayak Island 3.47 94 P Pn 22 30 15.3 -1.1
baz=280,SNR=143
O16K Kokwok River B 3.49 261 Pn 22 30 16.4 -0.1
O16K IAML 22 31 15.0
comp=N,3µm,1.3s
O16K Kokwok River B 3.49 261 P Pn 22 30 16.7 +0.2
baz=75,SNR=111
HMT Hamilton 3.51 87 Pn 22 30 15.3 -1.6
N25K Chitina, Valde 3.52 66 Pn 22 30 17.2 +0.1
N25K Chitina, Valde 3.52 66 P Pn 22 30 17.2 +0.1
baz=252,SNR=155
MCK McKinley 3.60 17 Pn 22 30 18.6 +0.5
MCK IAML 22 31 23.5
comp=N,1µm,1.1s
MCK McKinley 3.60 17 P Pn 22 30 18.6 +0.5
MCK McKinley 3.60 17 P Pn 22 30 19.0 +0.8
baz=199,SNR=772
CHUM Lake Minchumin 3.61 353 Pn 22 30 18.2 +0.1
CHUM Lake Minchumin 3.61 353 P Pn 22 30 18.7 +0.5
baz=172,SNR=181
HARP HAARP 3.62 52 P Pn 22 30 19.1 +0.7
baz=238,SNR=82
P16K Nushagak River 3.62 252 Pn 22 30 19.4 +1.0
P16K Nushagak River 3.62 252 P Pn 22 30 19.4 +1.0
baz=66,SNR=65
PLK2 Peulik 2 3.64 227 Pn 22 30 20.0 +1.3
N16K Nishlik Lake 3.70 276 P Pn 22 30 19.9 +0.4
baz=89,SNR=729
PLK4 Peulik 4 3.75 226 Pn 22 30 21.5 +1.3
PLK4 IAML 22 31 06.9
comp=N,1µm,0.7s
PLK4 IAML 22 31 09.7
comp=E,2µm,1.1s
R17L Mt. Peulik Vol 3.75 226 P Pn 22 30 21.5 +1.3
baz=42,SNR=69
SUCK Suckling Hills 3.77 90 Pn 22 30 18.8 -1.6
SUCK IAML 22 31 04.9
comp=E,1µm,0.5s
BERG Berg Lake 3.78 86 Pn 22 30 18.8 -1.8
BPAW Bear Paw Mtn. 3.80 2 Pn 22 30 20.6 -0.2
BPAW Bear Paw Mtn. 3.80 2 P Pn 22 30 20.6 -0.2
baz=182,SNR=591
M16K Timber Creek 3.83 284 Pn 22 30 21.6 +0.4
M16K Timber Creek 3.83 284 P Pn 22 30 21.7 +0.4
baz=97,SNR=411
GLB Gilahina Butte 3.84 70 Pn 22 30 21.1 -0.2
GLB IAML 22 31 15.2
comp=N,2µm,0.7s
GLB IAML 22 31 15.4
comp=E,1µm,0.5s
L17K Donlin 3.84 301 P Pn 22 30 21.4 +0.1
baz=115,SNR=485
PAX Paxson 3.85 44 Pn 22 30 22.7 +1.1
PAX IAML 22 31 21.6
comp=N,1µm,0.7s
PAX IAML 22 31 26.4
comp=E,1µm,0.8s
PAX Paxson 3.85 44 P Pn 22 30 22.7 +1.1
PAX Paxson 3.85 44 P Pn 22 30 22.6 +1.0
baz=229,SNR=1000
VRDI Verde Repeater 3.96 73 Pn 22 30 22.5 -0.7
VRDI IAML 22 31 08.0
comp=E,1µm,0.5s
VRDI IAML 22 31 17.3
comp=N,2µm,0.6s
BWN Browne 3.96 12 Pn 22 30 24.1 +1.1
BWN IAML 22 31 34.3
comp=E,2µm,1.0s
BWN IAML 22 31 44.7
comp=N,2µm,0.8s
BGLC Bering Glacier 4.01 89 P Pn 22 30 24.1 +0.4
baz=276

CRQM Cirque 4.06 80 Pn 22 30 23.7 -0.9
SII Sitkinak Islan 4.06 203 Pn 22 30 24.2 -0.2
SII IAML 22 31 35.4
comp=N,2µm,0.7s
SII Sitkinak Islan 4.06 203 P Pn 22 30 24.2 -0.2
SII Sitkinak Islan 4.06 203 P Pn 22 30 23.9 -0.5
baz=20,SNR=17
J18K Innoko River 4.06 323 Pn 22 30 25.3 +0.9
J18K Innoko River 4.06 323 P Pn 22 30 25.3 +0.9
baz=138,SNR=439
CRQE Cirque 4.08 80 P Pn 22 30 23.5 -1.3
baz=268,SNR=50
J20K Nowinta River 4.09 342 Pn 22 30 24.9 +0.1
J20K IAML 22 31 13.1
comp=E,838nm,1.0s
J20K IAML 22 31 39.4
comp=N,828nm,0.9s
J20K Nowinta River 4.09 342 P Pn 22 30 24.9 +0.1
baz=160,SNR=366
K17K Iditarod 4.12 309 Pn 22 30 25.7 +0.5
K17K IAML 22 31 12.3
comp=E,2µm,0.8s
K17K IAML 22 31 44.7
comp=N,2µm,1.0s
K17K Iditarod 4.12 309 P Pn 22 30 25.7 +0.5
baz=122,SNR=447
MCARA McCarthy VSAT 4.19 72 Pn 22 30 26.0 -0.2
MCARA McCarthy VSAT 4.19 72 P Pn 22 30 25.6 -0.5
baz=259,SNR=42
WAX Waxell Ridge 4.20 85 Pn 22 30 24.9 -1.4
J19K Poorman 4.21 333 Pn 22 30 26.8 +0.5
J19K Poorman 4.21 333 P Pn 22 30 26.7 +0.4
baz=149,SNR=332
L16K Owhat River 4.21 293 Pn 22 30 26.4 0.0
L16K Owhat River 4.21 293 P Pn 22 30 26.5 +0.2
baz=106,SNR=381
TGL Tana Glacier 4.21 80 Pn 22 30 25.2 -1.3
TGL IAML 22 31 15.1
comp=N,2µm,0.4s
K24K Donnelly Dome 4.36 34 Pn 22 30 30.8 +2.4
K24K Donnelly Dome 4.36 34 P Pn 22 30 30.9 +2.4
baz=219,SNR=1000
N15K Kwethluk River 4.38 272 Pn 22 30 29.6 +0.8
N15K IAML 22 31 44.1
comp=N,2µm,1.1s
N15K IAML 22 31 52.4
comp=E,1µm,0.8s
N15K Kwethluk River 4.38 272 P Pn 22 30 29.5 +0.8
baz=84,SNR=499
CYK Cape Yakataga 4.41 89 Pn 22 30 29.1 0.0
NEA2 Nenana 4.41 13 Pn 22 30 29.2 0.0
NEA2 Nenana 4.41 13 P Pn 22 30 28.9 -0.2
baz=195,SNR=538
WRH Wood River Hil 4.43 18 Pn 22 30 30.1 +0.8
ISLE Juniper Island 4.45 82 Pn 22 30 28.5 -1.3
ISLE IAML 22 31 18.7
comp=E,2µm,0.5s
ISLE IAML 22 31 51.0
comp=N,1µm,0.8s
O15K Ungalikthiuk R 4.46 259 Pn 22 30 30.6 +0.8
O15K IAML 22 31 49.9
comp=E,1µm,1.2s
O15K Ungalikthiuk R 4.46 259 P Pn 22 30 30.4 +0.7
baz=71,SNR=132
BALM Baldy 4.47 77 Pn 22 30 29.3 -0.8
MENT Mentasta 4.47 51 Pn 22 30 30.5 +0.4
MENT IAML 22 31 38.6
comp=E,2µm,0.5s
M26K Nabesna, AK 4.51 59 Pn 22 30 31.2 +0.6
M26K IAML 22 31 23.6
comp=N,1µm,0.6s
M26K IAML 22 31 25.3
comp=E,1µm,0.5s
M26K Nabesna, AK 4.51 59 P Pn 22 30 30.9 +0.3
baz=246,SNR=235
HDA Harding Lake 4.58 24 Pn 22 30 32.3 +0.9
HDA IAML 22 31 25.2
comp=N,930nm,0.6s
HDA IAML 22 31 26.2
comp=E,810nm,0.2s
HDA Harding Lake 4.58 24 P Pn 22 30 31.9 +0.5
baz=208,SNR=1000
RIDG Independent Ri 4.59 39 Pn 22 30 33.0 +1.4
RIDG IAML 22 31 28.2
comp=E,1µm,0.5s
RIDG IAML 22 31 53.0
comp=N,1µm,0.8s
RIDG Independent Ri 4.59 39 P Pn 22 30 32.8 +1.3
baz=224,SNR=1000
CCB Clear Creek Bu 4.64 19 Pn 22 30 33.0 +0.8
M15K Kasigluk River 4.65 279 P Pn 22 30 32.8 +0.4
baz=90,SNR=166
L26K Log Cabin Wild 4.67 51 Pn 22 30 33.4 +0.7
L26K IAML 22 31 44.0
comp=N,927nm,0.5s
L26K IAML 22 31 45.0
comp=E,822nm,0.5s
L26K Log Cabin Wild 4.67 51 P Pn 22 30 33.1 +0.5
baz=238,SNR=401
MESA MESA 4.67 88 Pn 22 30 32.1 -0.7
MESA IAML 22 31 33.4
comp=E,1µm,0.5s
MESA MESA 4.67 88 P Pn 22 30 32.2 -0.7
baz=276,SNR=80
I20K Naaghedeneel 4.73 343 Pn 22 30 33.7 +0.3
I20K Naaghedeneel 4.73 343 P Pn 22 30 33.5 +0.1
baz=160,SNR=39
MLY Manley 4.74 3 Pn 22 30 33.6 0.0
MLY Manley 4.74 3 P Pn 22 30 33.4 -0.2
baz=183,SNR=547
GRNC Granite Creek 4.74 81 Pn 22 30 33.0 -0.9
GRNC IAML 22 31 26.6
comp=E,979nm,0.5s
YAH Yahtse 4.75 85 Pn 22 30 33.1 -0.9
YAH IAML 22 31 27.9
comp=N,1µm,0.5s
YAH IAML 22 31 29.1
comp=E,740nm,0.5s
DOT Dot Lake 4.78 43 Pn 22 30 34.7 +0.5
DOT IAML 22 31 44.1
comp=N,902nm,0.7s
DOT IAML 22 31 46.9
comp=E,1µm,0.7s
J17K VABM Dome 4.80 313 Pn 22 30 35.0 +0.5
J17K IAML 22 32 07.5
comp=N,597nm,1.2s
J17K IAML 22 32 08.1
comp=E,596nm,1.6s
J17K VABM Dome 4.80 313 P Pn 22 30 34.9 +0.4
baz=126,SNR=176
BARN Barnard Glacie 4.80 77 Pn 22 30 34.6 0.0
BARN IAML 22 31 29.6
comp=N,891nm,0.5s
BARN IAML 22 31 29.6
comp=E,846nm,0.5s
COLA College 4.84 18 Pn 22 30 35.6 +0.7
COLA IAML 22 31 33.0
comp=E,1µm,0.5s
COLA IAML 22 32 14.5
comp=E,1µm,0.6s
COLA College 4.84 18 P Pn 22 30 36.1 +1.1
COLA College 4.84 18 S Sn 22 31 32.4 +2.8
COLA College 4.84 18*d* P Pn 22 30 34.9 -0.1
COLA pmax pmax
comp=Z,1µm,0.9s
COLA College 4.84 18 P Pn 22 30 35.4 +0.4
baz=201
I21K Tanana 4.89 357 Pn 22 30 35.8 +0.2
I21K IAML 22 32 11.1
comp=E,480nm,1.2s
I21K Tanana 4.89 357 P Pn 22 30 35.6 0.0
baz=176
IL31 4.92 23 Pn 22 30 36.1 +0.2
ILAR Eielson Array 4.92 23 Pn 22 30 36.2 +0.2
ILAR Eielson Array 4.92 23 P Pn 22 30 36.5 +0.5
comp=E,908nm,0.3s,baz=204,slow=14,SNR=4855
ILAR S Sn 22 31 31.1 -0.3
comp=E,99nm,0.5s,baz=202,slow=24,SNR=5.3
I23K Minto, Yukon-K 4.93 10 Pn 22 30 36.6 +0.4
I23K Minto, Yukon-K 4.93 10 P Pn 22 30 36.2 0.0
baz=191,SNR=1000
CTG Chitna Glacier 4.95 78 P Pn 22 30 35.9 -0.7
baz=267,SNR=54
CTGM Chitina Glacie 4.96 78 Pn 22 30 36.5 -0.2
CTGM IAML 22 31 32.4
comp=E,621nm,0.7s

CTGM					IAML		22 31 34.1																								
	comp=N,635nm,0.4s																														
RKAV	**Rock Avalanche**	**4.96**	**86**			**Pn**	**22 30 36.2 -0.5**																								
M27K	**Edge Creek, AK**	**4.98**	**62**			**Pn**	**22 30 37.8 +0.7**																								
M27K					IAML		22 32 14.6																								
	comp=E,477nm,0.9s																														
M27K	**Edge Creek, AK**	**4.98**	**62**	P		**Pn**	**22 30 37.7 +0.7**																								
	baz=250,SNR=64																														
SCRK	**Sand Creek**	**5.03**	**40**			**Pn**	**22 30 38.0 +0.3**																								
SCRK					IAML		22 32 07.6																								
	comp=N,436nm,0.8s																														
SCRK	**Sand Creek**	**5.03**	**40**	P		**Pn**	**22 30 37.9 +0.3**																								
	baz=226,SNR=737																														
TABL	**Table Mountain**	**5.05**	**84**			**Pn**	**22 30 38.6 +0.5**																								
TABL					IAML		22 31 33.2																								
	comp=E,859nm,0.9s																														
TABL					IAML		22 31 33.8																								
	comp=N,834nm,0.8s																														
CHIR	**Chirikof Islan**	**5.06**	**209**			**Pn**	**22 30 37.1 -0.9**																								
CHIR					IAML		22 31 53.3																								
	comp=N,564nm,0.7s																														
CHIR					IAML		22 32 01.5																								
	comp=E,537nm,1.0s																														
CHIR	**Chirikof Islan**	**5.06**	**209**	P		**Pn**	**22 30 37.1 -0.9**																								
	comp=E,346nm,0.6s																														
CHIR	**Chirikof Islan**	**5.06**	**209**	P		**Pn**	**22 30 37.4 -0.5**																								
	baz=25																														
ANPB	**Aniakchak Plen**	**5.07**	**229**			**Pn**	**22 30 39.0 +0.7**																								
CHX	**Chaix Hills**	**5.09**	**88**			**Pn**	**22 30 38.0 -0.6**																								
LOGN	**Logan Glacier**	**5.11**	**80**			**Pn**	**22 30 38.6 -0.2**																								
LOGN					IAML		22 31 35.7																								
	comp=N,884nm,0.5s																														
LOGN					IAML		22 31 38.2																								
	comp=E,617nm,0.6s																														
J25K	**Salcha River,**	**5.12**	**30**			**Pn**	**22 30 40.1 +1.3**																								
J25K					IAML		22 31 50.1																								
	comp=E,496nm,0.6s																														
J25K					IAML		22 32 11.5																								
	comp=N,469nm,0.8s																														
J25K	**Salcha River,**	**5.12**	**30**	P		**Pn**	**22 30 40.0 +1.3**																								
	baz=215,SNR=1000																														
GCSA	**Galena City Sc**	**5.13**	**332**			**Pn**	**22 30 39.2 +0.2**																								
GCSA	**Galena City Sc**	**5.13**	**332**	P		**Pn**	**22 30 39.6 +0.7**																								
	baz=147,SNR=18																														
L15K	**Ungalak Mounta**	**5.14**	**290**	P		**Pn**	**22 30 39.2 +0.2**																								
	baz=101,SNR=177																														
O14K	**Tigyukauivet M**	**5.14**	**262**			**Pn**	**22 30 39.9 +0.8**																								
O14K					IAML		22 32 09.1																								
	comp=N,819nm,1.4s																														
O14K					IAML		22 32 15.4																								
	comp=E,570nm,1.7s																														
O14K	**Tigyukauivet M**	**5.14**	**262**	P		**Pn**	**22 30 39.8 +0.8**																								
	baz=74,SNR=26																														
N14K	**Kuskokwak Cree**	**5.20**	**270**			**Pn**	**22 30 40.9 +1.0**																								
N14K	**Kuskokwak Cree**	**5.20**	**270**	P		**Pn**	**22 30 40.7 +0.8**																								
	baz=81,SNR=66																														
SAMH	**Samovar Hills**	**5.25**	**87**			**Pn**	**22 30 40.1 -0.7**																								
M14K	**Bethel**	**5.28**	**279**			**Pn**	**22 30 41.6 +0.7**																								
M14K					IAML		22 32 15.3																								
	comp=E,702nm,1.9s																														
M14K					IAML		22 32 16.2																								
	comp=N,777nm,1.6s																														
M14K	**Bethel**	**5.28**	**279**	P		**Pn**	**22 30 41.5 +0.7**																								
	baz=90,SNR=91																														
L27K	**Beaver Creek,**	**5.29**	**55**			**Pn**	**22 30 41.7 +0.6**																								
L27K	**Beaver Creek,**	**5.29**	**55**	P		**Pn**	**22 30 41.4 +0.3**																								
	baz=243,SNR=113																														
BCAR	**Beaver Creek A**	**5.30**	**55**			**Pn**	**22 30 41.9 +0.5**																								
K15K	**Wolf Creek Mou**	**5.31**	**296**			**Pn**	**22 30 42.0 +0.7**																								
K15K	**Wolf Creek Mou**	**5.31**	**296**	P		**Pn**	**22 30 42.0 +0.7**																								
	baz=107,SNR=235																														
J16K	**Anvik River**	**5.32**	**308**			**Pn**	**22 30 41.8 +0.3**																								
J16K					IAML		22 32 21.0																								
	comp=N,702nm,1.3s																														
J16K					IAML		22 32 25.6																								
	comp=E,409nm,1.2s																														
J16K	**Anvik River**	**5.32**	**308**	P		**Pn**	**22 30 41.8 +0.3**																								
	baz=120,SNR=152																														
H21K	**Melozitna Rive**	**5.40**	**353**			**Pn**	**22 30 42.2 -0.4**																								
H21K					IAML		22 32 24.1																								
	comp=E,332nm,1.6s																														
H21K	**Melozitna Rive**	**5.40**	**353**	P		**Pn**	**22 30 42.5 -0.2**																								
	baz=172,SNR=476																														
H20K	**Anotleneega Mo**	**5.44**	**344**			**Pn**	**22 30 43.3 0.0**																								
H20K	**Anotleneega Mo**	**5.44**	**344**	P		**Pn**	**22 30 43.3 0.0**																								
	baz=161,SNR=93																														
BVCY	**Beaver Creek**	**5.45**	**63**	P		**Pn**	**22 30 43.9 +0.6**																								
	baz=252,SNR=43																														
YUK3	**Moose Creek**	**5.47**	**70**	P		**Pn**	**22 30 44.0 +0.2**																								
	baz=259,SNR=26																														
CHGN	**Chignik**	**5.50**	**226**			**Pn**	**22 30 44.5 +0.6**																								
CHGN	**Chignik**	**5.50**	**226**	P		**Pn**	**22 30 44.4 +0.4**																								
	baz=40,SNR=15																														
O28M	**Mount Upton**	**5.51**	**80**			**Pn**	**22 30 44.2 -0.2**																								
O28M	**Mount Upton**	**5.51**	**80**	P		**Pn**	**22 30 44.5 +0.1**																								
	baz=270,SNR=252																														
PCA	**Pinnacle**	**5.52**	**88**			**Pn**	**22 30 43.7 -0.7**																								
PINM	**Pinnacle**	**5.52**	**88**	P		**Pn**	**22 30 44.5 +0.1**																								
	baz=277,SNR=125																														
J26L	**Joseph Creek**	**5.53**	**37**			**Pn**	**22 30 45.3 +0.9**																								
J26L	**Joseph Creek**	**5.53**	**37**	P		**Pn**	**22 30 45.1 +0.6**																								
	baz=224,SNR=1000																														
H23K	**Yukon River**	**5.59**	**8**			**Pn**	**22 30 45.7 +0.5**																								
H23K	**Yukon River**	**5.59**	**8**	P		**Pn**	**22 30 46.0 +0.8**																								
	baz=189,SNR=444																														
H22K	**Ishtalitna Cre**	**5.60**	**360**			**Pn**	**22 30 45.8 +0.4**																								
H22K	**Ishtalitna Cre**	**5.60**	**360**	P		**Pn**	**22 30 46.1 +0.8**																								
	baz=180,SNR=252																														
L14K	**Kuka Creek**	**5.66**	**285**			**Pn**	**22 30 47.0 +0.9**																								
L14K	**Kuka Creek**	**5.66**	**285**	P		**Pn**	**22 30 47.0 +0.9**																								
	baz=95,SNR=280																														
I17K	**Unalakleet**	**5.67**	**313**			**Pn**	**22 30 47.2 +0.9**																								
I17K	**Unalakleet**	**5.67**	**313**	P		**Pn**	**22 30 47.3 +0.9**																								
	baz=125,SNR=45																														
K27K	**Chicken**	**5.71**	**45**			**Pn**	**22 30 47.0 +0.2**																								
K27K	**Chicken**	**5.71**	**45**	P		**Pn**	**22 30 46.9 +0.2**																								
	baz=234																														
H19K	**Roundabout Mou**	**5.73**	**338**			**Pn**	**22 30 47.0 -0.1**																								
H19K	**Roundabout Mou**	**5.73**	**338**	P		**Pn**	**22 30 47.0 -0.1**																								
	baz=154,SNR=69																														
YUK8	**Steele Glacier**	**5.74**	**75**	P		**Pn**	**22 30 47.8 +0.3**																								
	baz=266,SNR=43																														
H24K	**Noodor Dome**	**5.75**	**14**			**Pn**	**22 30 48.2 +0.7**																								
H24K	**Noodor Dome**	**5.75**	**14**	P		**Pn**	**22 30 48.3 +0.7**																								
	baz=197,SNR=482																														
IMAR	**Indian Mountai**	**5.79**	**350**			**Pn**	**22 30 47.3 -0.7**																								
H18K	**Honhosa River**	**5.83**	**329**			**Pn**	**22 30 49.5 +1.0**																								
H18K	**Honhosa River**	**5.83**	**329**	P		**Pn**	**22 30 49.3 +0.7**																								
	baz=143,SNR=68																														
PRP	**Porcupine Dome**	**5.85**	**24**			**Pn**	**22 30 49.9 +1.0**																								
PRP	**Porcupine Dome**	**5.85**	**24**	P		**Pn**	**22 30 49.8 +1.0**																								
	baz=210,SNR=476																														
BCPM	**Bancas Point**	**5.85**	**89**			**Pn**	**22 30 49.1 +0.3**																								
YKU2	**Yakutat**	**5.91**	**93**			**Pn**	**22 30 50.3 +0.7**																								
YKU2	**Yakutat**	**5.91**	**93**	P		**Pn**	**22 30 50.5 +0.9**																								
S14K	**Fog Glacier**	**5.93**	**231**	P		**Pn**	**22 30 51.1 +1.0**																								
	baz=44																														
M13K	**Dall Lake**	**5.97**	**276**			**Pn**	**22 30 51.5 +1.0**																								
M13K	**Dall Lake**	**5.97**	**276**	P		**Pn**	**22 30 51.7 +1.3**																								
	baz=86,SNR=30																														
PNL	**Peninsula**	**6.02**	**91**	P		**Pn**	**22 30 50.8 -0.3**																								
PNL	**Peninsula**	**6.02**	**91**	P		**Pn**	**22 30 50.7 -0.3**																								
	baz=282,SNR=207																														
H17K	**Granite Mounta**	**6.10**	**323**			**Pn**	**22 30 53.7 +1.5**																								
H17K	**Granite Mounta**	**6.10**	**323**	P		**Pn**	**22 30 53.3 +1.2**																								
	baz=136,SNR=135																														
I26K	**Coal Creek Min**	**6.24**	**33**			**Pn**	**22 30 54.8 +0.6**																								
I26K	**Coal Creek Min**	**6.24**	**33**	P		**Pn**	**22 30 54.8 +0.6**																								
	baz=220																														
YUK4	**Talbot Arm**	**6.28**	**75**	P		**Pn**	**22 30 55.5 +0.6**																								
	baz=266																														
G21K	**Allakaket**	**6.30**	**352**			**Pn**	**22 30 54.6 -0.3**																								
G21K	**Allakaket**	**6.30**	**352**	P		**Pn**	**22 30 54.6 -0.3**																								
	baz=170,SNR=95																														
O29M	**Mount Kennedy**	**6.33**	**85**			**Pn**	**22 30 55.9 +0.4**																								
O29M	**Mount Kennedy**	**6.33**	**85**	P		**Pn**	**22 30 56.1 +0.7**																								
	baz=276,SNR=25																														
J14K	**Nanvaranak Lak**	**6.34**	**298**			**Pn**	**22 30 56.1 +0.7**																								
J14K	**Nanvaranak Lak**	**6.34**	**298**	P		**Pn**	**22 30 56.1 +0.7**																								
	baz=107,SNR=68																														
G19K	**Purcell Mounta**	**6.40**	**338**			**Pn**	**22 30 56.4 +0.1**																								
G19K	**Purcell Mounta**	**6.40**	**338**	P		**Pn**	**22 30 56.3 +0.1**																								
	baz=153,SNR=32																														
YUK6	**Outpost Mounta**	**6.40**	**79**			**Pn**	**22 30 56.4 -0.2**																								
YUK6	**Outpost Mounta**	**6.40**	**79**	P		**Pn**	**22 30 56.4 -0.2**																								
	baz=270,SNR=24																														
G23K	**Bananza Creek**	**6.44**	**5**			**Pn**	**22 30 57.6 +0.7**																								
G23K	**Bananza Creek**	**6.44**	**5**	P		**Pn**	**22 30 56.9 0.0**																								
	baz=186,SNR=1000																														
H25L	**Birch Creek**	**6.46**	**20**			**Pn**	**22 30 58.2 +1.1**																								
H25L	**Birch Creek**	**6.46**	**20**	P		**Pn**	**22 30 58.0 +0.9**																								
	baz=205,SNR=487																														
G18K	**Tagagawik**	**6.51**	**332**			**Pn**	**22 30 58.7 +0.9**																								
G18K	**Tagagawik**	**6.51**	**332**	P		**Pn**	**22 30 58.6 +0.9**																								
	baz=146,SNR=29																														
M29M	**Somme Creek**	**6.53**	**65**			**Pn**	**22 30 58.4 +0.2**																								
M29M	**Somme Creek**	**6.53**	**65**	P		**Pn**	**22 30 58.4 +0.2**																								
	baz=257,SNR=75																														
G22K	**Bettles**	**6.63**	**359**			**Pn**	**22 31 00.4 +1.0**																								
G22K	**Bettles**	**6.63**	**359**	P		**Pn**	**22 31 00.4 +1.0**																								
	baz=179																														
G24K	**Hadweenzic Riv**	**6.63**	**13**			**Pn**	**22 30 59.7 +0.2**																								
G24K	**Hadweenzic Riv**	**6.63**	**13**	P		**Pn**	**22 31 00.0 +0.6**																								
	baz=197,SNR=83																														
YUK5	**Granite Creek**	**6.65**	**77**			**Pn**	**22 30 59.7 -0.1**																								
K13K	**Kusilvak Mount**	**6.66**	**290**			**Pn**	**22 31 00.4 +0.5**																								
K13K	**Kusilvak Mount**	**6.66**	**290**	P		**Pn**	**22 31 00.2 +0.4**																								
	baz=98,SNR=45																														
G17K	**Kiwalik Mounta**	**6.72**	**325**			**Pn**	**22 31 01.6 +1.0**																								
G17K	**Kiwalik Mounta**	**6.72**	**325**	P		**Pn**	**22 31 01.4 +0.7**																								
	baz=136,SNR=37																														
DAWY	**Dawson**	**6.72**	**51**			**Pn**	**22 31 01.4 +0.7**																								
DAWY	**Dawson**	**6.72**	**51**	P		**Pn**	**22 31 01.2 +0.4**																								
	baz=242,SNR=63																														
HYT	**Haines Junctio**	**6.83**	**80**			**Pn**	**22 31 02.7 +0.5**																								
HYT	**Haines Junctio**	**6.83**	**80**	P		**Pn**	**22 31 02.1 -0.1**																								
	baz=272,SNR=26																														
FYU	**Fort Yukon**	**6.83**	**21**			**Pn**	**22 31 03.2 +1.1**																								
P29M	**Windy Craggy**	**6.85**	**90**			**Pn**	**22 31 02.4 -0.1**																								
P29M	**Windy Craggy**	**6.85**	**90**	P		**Pn**	**22 31 02.0 -0.5**																								
	baz=282,SNR=375																														
L29M	**L29M**	**6.86**	**60**			**Pn**	**22 31 03.4 +0.7**																								
L29M	**L29M**	**6.86**	**60**	P		**Pn**	**22 31 03.2 +0.6**																								
	baz=252,SNR=52																														
G25K	**Bearman Lake**	**6.88**	**18**	P		**Pn**	**22 31 03.6 +0.9**																								
	baz=202,SNR=275																														
I27K	**Kandik River**	**6.90**	**36**	P		**Pn**	**22 31 03.6 +0.4**																								
	baz=224,SNR=782																														
COLD	**Coldfoot**	**6.95**	**4**			**Pn**	**22 31 04.9 +1.0**																								
COLD	**Coldfoot**	**6.95**	**4**	P		**Pn**	**22 31 04.6 +0.7**																								
	baz=185,SNR=362																														
SDPT	**Sand Point**	**6.98**	**228**			**Pn**	**22 31 04.3 +0.1**																								
SDPT	**Sand Point**	**6.98**	**228**	P		**Pn**	**22 31 04.8 +0.6**																								
SDPT	**Sand Point**	**6.98**	**228**	P		**Pn**	**22 31 04.3 +0.1**																								
	baz=41																														
F21K	**Alatna River**	**7.00**	**353**			**Pn**	**22 31 05.1 +0.6**																								
F21K	**Alatna River**	**7.00**	**353**	P		**Pn**	**22 31 05.3 +0.9**																								
	baz=171,SNR=112																														
F20K	**Avaraart Lake**	**7.03**	**346**			**Pn**	**22 31 05.2 +0.3**																								
F20K	**Avaraart Lake**	**7.03**	**346**	P		**Pn**	**22 31 05.2 +0.3**																								
	baz=192,SNR=96																														
N30M	**Aishikik Lake**	**7.03**	**74**			**Pn**	**22 31 03.9 -1.2**																								
N30M	**Aishikik Lake**	**7.03**	**74**	P		**Pn**	**22 31 03.8 -1.2**																								
	baz=267,SNR=20																														
CHNA	**Chernabura Isl**	**7.07**	**223**	P		**Pn**	**22 31 05.4 -0.1**																								
CHNA	**Chernabura Isl**	**7.07**	**223**	P		**Pn**	**22 31 05.0 -0.5**																								
	baz=36																														
CNBA	**Chernabura Isl**	**7.08**	**223**			**Pn**	**22 31 04.8 -0.8**																								
F19K	**Shaleruckik Mo**	**7.14**	**339**			**Pn**	**22 31 07.0 +0.6**																								
F19K	**Shaleruckik Mo**	**7.14**	**339**	P		**Pn**	**22 31 06.8 +0.4**																								
	baz=153,SNR=56																														
P30M	**Million Dollar**	**7.15**	**85**			**Pn**	**22 31 07.0 +0.4**																								
P30M	**Million Dollar**	**7.15**	**85**	P		**Pn**	**22 31 06.9 +0.2**																								
	baz=278																														
G16K	**Koyuk River**	**7.17**	**320**			**Pn**	**22 31 07.3 +0.6**																								
G16K	**Koyuk River**	**7.17**	**320**	P		**Pn**	**22 31 07.3 +0.6**																								
	baz=130,SNR=17																														
F22K	**John River**	**7.23**	**357**	P		**Pn**	**22 31 08.8 +1.2**																								
	baz=177																														
I28M	**Miner Creek**	**7.31**	**40**			**Pn**	**22 31 09.3 +0.5**																								
I28M	**Miner Creek**	**7.31**	**40**	P		**Pn**	**22 31 09.4 +0.6**																								
	baz=230,SNR=674																														
M30M	**Minto, Yukon**	**7.32**	**66**			**Pn**	**22 31 08.5 -0.3**																								
M30M	**Minto, Yukon**	**7.32**	**66**	P		**Pn**	**22 31 08.8 -0.1**																								
	baz=258																														
F18K	**Selawik**	**7.32**	**333**			**Pn**	**22 31 09.5 +0.7**																								
F18K	**Selawik**	**7.32**	**333**	P		**Pn**	**22 31 10.0 +1.2**																								
	baz=146																														
S12K	**Black Hills**	**7.34**	**236**	Pn		**Pn**	**22 31 11.0 +1.7**																								
S12K	**Black Hills**	**7.34**	**236**	P		**Pn**	**22 31 10.4 +1.2**																								
	baz=46																														
J29N	**Klondike Camp**	**7.36**	**50**			**Pn**	**22 31 09.8 +0.4**																								
J29N

F31M Tsiigehtchic 10.50 40 Pn 22 31 50.9 -1.2
F31M Tsiigehtchic 10.50 40 P **Pn 22 31 51.1 -1.0**
baz=236,SNR=91
S34M Telegraph Cree 10.64 94 P **Pn 22 31 53.9 -0.3**
baz=292,SNR=29
WRAK Wrangell Islan 10.69 103 P **Pn 22 31 55.0 +0.2**
baz=299,SNR=11
CRAG Craig 10.81 109 P **Pn 22 31 54.6 -2.0**
CRAG Craig 10.81 109 P **Pn 22 31 55.2 -1.4**
baz=304,SNR=24
A22K Sinclair Lake 10.83 354 P **Pn 22 31 55.5 -1.2**
baz=170,SNR=6.9
DLBC Dease Lake 11.01 91 P **Pn 22 31 59.7 +0.4**
comp=E,1.0nm,0.3s,baz=251,slow=9.3,SNR=32
DLBC S **Sn 22 33 52.9 -7.7**
comp=E,0.6nm,0.4s,baz=294,slow=25,SNR=1.6
DLBC Dease Lake 11.01 91 P **Pn 22 31 58.8 -0.5**
baz=289,SNR=25
INK Inuvik 11.08 36 P **Pn 22 31 59.9 -0.2**
comp=E,58nm,0.6s,baz=239,slow=15,SNR=82
INK LR LR 22 36 36.9
comp=E,148nm,18.8s,baz=230,slow=39
INK Inuvik 11.08 36 P **Pn 22 31 59.3 -0.7**
baz=232,SNR=53
A21K Barrow 11.26 351 P **Pn 22 32 01.6 -0.8**
baz=166
T35M Bob Quinn 11.45 98 P **Pn 22 32 06.0 +0.7**
baz=296,SNR=14
V35K Ketchikan 11.61 107 P **Pn 22 32 07.9 +0.5**
baz=304,SNR=25
U35K Hyder 12.06 102 P **Pn 22 32 13.8 +0.2**
baz=300
NIKH Nikolski High 12.11 240 P **Pn 22 32 15.7 +1.5**
DIB Dawson Inlet, 12.52 116 Pn 22 32 18.2 -1.6
MOBC Moresby Island 12.79 116 Pn 22 32 22.6 -0.9
RUBB Prince Rupert 12.83 109 Pn 22 32 23.9 -0.1
TOAD Toad River Com 13.26 85 P **Pn 22 32 31.4 +1.5**
baz=288,SNR=9.7
KOTAN Kotaneelee Air 13.51 79 P **Pn 22 32 34.7 +1.5**
baz=283,SNR=5.4
HG4B Hotspring 13.71 117 Pn 22 32 35.0 -0.8
ATKA Atka Island 15.02 247 Pn 22 32 53.5 +0.5
ATKA IAmb IAmb 22 32 56.9
comp=Z,86nm,0.7s
ATKA Atka Island 15.02 247 P **Pn 22 32 53.9 +1.0**
BBB Bella Bella 15.18 112 Pn 22 32 55.2 +0.3
BBB Bella Bella 15.18 112 P **Pn 22 32 55.9 +0.9**
comp=Z,18nm,0.9s,baz=246,slow=6.7,SNR=11
BBB S **Sn 22 35 39.2 -2.7**
comp=Z,7.7nm,0.9s,baz=198,slow=12,SNR=1.3
A36M Sachs Harbour 15.55 31 Pn 22 32 58.4 -1.1
A36M Sachs Harbour 15.55 31 P **Pn 22 32 57.9 -1.6**
baz=235,SNR=49
GSTR Great Sitkin T 15.96 250 Pn **Pn 22 33 05.9 +0.9**
GSTR IAmb IAmb 22 33 11.9
comp=Z,102nm,1.0s
HOLB Holberg 16.24 116 P 22 33 10.8 +0.4
ADK Adak 16.39 250 Pn 22 33 11.0 +0.8
ADK IAmb IAmb 22 33 14.3
comp=Z,118nm,1.1s
ADK Adak 16.39 250 P **P 22 33 11.2 -0.8**
ADK Adak 16.39 250 P **Pn 22 33 11.0 +0.8**
ADK pmax pmax
comp=Z,118nm,1.1s
YKA Yellowknife Ar 17.55 67 P **Pn 22 33 24.3 -0.2**
comp=Z,23nm,1.0s,baz=283,slow=13,SNR=34
YKA pP **pP 22 33 36.6 -2.0**
comp=Z,6.4nm,0.7s,baz=278,slow=14,SNR=9.3
YKA ScP **ScP 22 41 29.5 +0.2**
comp=Z,1.3nm,0.7s,baz=288,slow=2.3,SNR=4.1
CBB Campbell River 17.92 113 P **Pn 22 33 29.6 +0.5**
AMKA Amchitka 18.62 254 P **P 22 33 36.5 0.0**
LLLB Lillooet 19.15 107 P **Pn 22 33 43.8 -0.1**
CLRS Cowichan Lake 19.35 114 P **Pn 22 33 47.0 +0.7**
CLRS IAmb IAmb 22 34 03.0
comp=Z,52nm,0.9s
BILL Bilibino 19.63 311 P **P 22 33 47.1 -0.4**
BILL Bilibino 19.63 311⇑ *eP* **P 22 33 48.3 +0.8**
BILL pmax pmax
comp=Z,13nm,1.1s
SEY Seymchan 26.16 300 LR LR 22 46 10.9
comp=Z,96nm,19.2s,baz=86,slow=39
SEY Seymchan 26.16 300⇓ *eP* **P 22 34 52.1 -0.2**
SEY pmax pmax
comp=Z,12nm,1.4s
FFC Flin Flon 26.54 80 P 22 34 56.8 +1.0
FFC Flin Flon 26.54 80 P **P 22 34 56.8 +1.0**
FFC pmax pmax
comp=Z,11nm,1.2s
EGMT Eagleton 26.76 99 P **P 22 35 00.9 +2.8**
EGMT IAmb IAmb 22 35 20.0
comp=Z,23nm,1.1s
EUNU Eureka 27.02 20 P 22 35 01.3 +1.2
EUNU IAmb IAmb 22 35 43.3
comp=Z,14nm,1.1s
HLID Hailey 27.75 110 P 22 35 06.5 -0.6
MA2 Magadan 28.22 294 LR LR 22 48 05.2
comp=Z,47nm,18.5s,baz=93,slow=40
PEA0B Petropavlovsk- 28.25 278 P 22 35 10.9 -0.3
PEA0B Petropavlovsk- 28.25 278⇑ *eP* **P 22 35 10.1 -1.1**
PETK Petropavlovsk- 28.25 278 P **P 22 35 10.5 -0.7**
PETK Petropavlovsk- 28.25 278 P **P 22 35 09.9 -1.3**
comp=Z,3.4nm,0.5s,baz=68,slow=16,SNR=21
PETK ScP **ScP 22 41 57.0 -0.5**
comp=Z,2.8nm,0.9s,baz=70,slow=9.6,SNR=6.4
PETK LR LR 22 45 49.8
comp=Z,99nm,21.3s,baz=88,slow=35
comp=Z,3.4nm,0.5s
PETK Petropavlovsk- 28.25 278 P P 22 35 10.5 -0.7
FCC Fort Churchill 28.28 68 P 22 35 12.0 +0.7
FCC IAmb IAmb 22 35 13.5
comp=Z,21nm,1.3s
FCC Fort Churchill 28.28 68 P P 22 35 12.0 +0.7
FCC pmax pmax
comp=Z,21nm,1.3s
POIN Pond Inlet 29.51 36 P **P 22 35 22.8 +0.7**
POIN IAmb IAmb 22 35 51.0
comp=Z,9.1nm,1.0s
NVAR Mina Array Bea 30.15 122 P **P 22 35 31.1 +2.6**
comp=Z,0.8nm,0.6s,baz=313,slow=7.7,SNR=2.6
NVAR pP **pP 22 35 47.0 +2.5**
comp=Z,8.5nm,0.7s,baz=313,slow=9.1,SNR=19
comp=Z,0.8nm,0.6s
SKR Severo-Kuril's 30.50 276⇓ *eP* **P 22 35 30.1 -1.0**
PDAR Pinedale Array 30.66 106 P **P 22 35 34.8 +1.9**
PDAR Pinedale Array 30.66 106 P **P 22 35 35.5 +2.6**
comp=Z,0.5nm,0.7s,baz=308,slow=5.5,SNR=5.1
PDAR pP **pP 22 35 50.9 +1.7**
comp=Z,1.7nm,0.7s,baz=311,slow=7.7,SNR=8.4
comp=Z,0.5nm,0.7s
TIXI Tiksi 31.73 324 P 22 35 40.7 -0.9
TIXI Tiksi 31.73 324⇓ *eP* **P 22 35 40.8 -0.9**
TIXI pmax pmax
comp=Z,7.0nm,1.4s
ULM Lac du Bonnet 32.19 83 P **P 22 35 46.8 +0.8**
comp=Z,2.9nm,0.6s,baz=298,slow=8.9,SNR=5.6
comp=Z,2.9nm,0.6s
NEEM North Greenlan 34.21 23 *i* P **P 22 36 02.4 -1.2**
NEEM IAmb IAmb 22 36 04.6
comp=Z,47nm,1.2s
KULLO Kullorsuaq 34.29 28 *i* P **P 22 36 02.9 -1.1**
KULLO IAmb IAmb 22 36 07.8
comp=Z,99nm,1.7s
EYMN Ely 35.87 83 P 22 36 19.0 +1.1
EYMN IAmb IAmb 22 36 38.5
comp=Z,5.8nm,0.7s
YAK Yakutsk 35.94 308 P 22 36 17.6 -0.6
YAK Yakutsk 35.94 308 LR LR 22 52 24.6
comp=Z,98nm,18.3s,baz=56,slow=38
YAK Yakutsk 35.94 308 *eP* **P 22 36 17.9 -0.3**
YAK *e**PP **pP 22 36 33.0 -1.5**
YAK *e* 22 37 40.4
YAK *e* 22 38 43.6
YAK *eS* **S 22 41 52.4 +1.1**
YAK *e**SS **sS 22 42 18.4 -0.7**
YAK *e* 22 46 30.4
YAK pmax pmax
comp=Z,57nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,15nm,1.0s
YAK pmax pmax
comp=Z,59nm,3.3s
YAK pmax pmax
comp=N,44nm,3.2s
YAK pmax pmax
comp=E,33nm,3.3s
YAK smax smax
comp=E,46nm,3.9s
YAK smax smax
comp=N,14nm,1.9s
FRB Frobisher Bay 36.41 48 LR LR 22 50 11.1
comp=N,92nm,21.7s,baz=278,slow=34
YSS Yuzhno-Sakhali 39.56 281 P **P 22 36 49.1 +0.1**
YSS IAmb IAmb 22 36 50.6
comp=Z,12nm,0.8s
SUMG Summit 39.75 26 P 22 36 51.2 +0.5
SUMG Summit 39.75 26 P **P 22 36 51.2 +0.5**
SUMG pmax pmax
comp=Z,26nm,0.6s
SUMG Summit 39.75 26 *i* P **P 22 36 51.0 +0.3**
SUMG IAmb IAmb 22 36 51.7
comp=Z,25nm,0.6s
DAG Danmarks Havn 39.97 15 *i* P **P 22 36 51.0 -1.0**
DAG IAmb IAmb 22 37 11.6
comp=Z,20nm,0.9s
YUK Yuzh-Kuril'sk 40.12 275⇑ *eP* **P 22 36 51.4 -2.2**
SPITS Spitsbergen Ar 41.54 4 P **P 22 37 04.2 -0.8**
comp=Z,1.2nm,0.3s,baz=34,slow=6.1,SNR=12
comp=Z,1.2nm,0.3s
JKA Kamikawa-asahi 41.67 278 P **P 22 37 06.9 +0.5**
ASAJ Asahikawa 41.67 278 LR LR 22 55 05.2
comp=Z,36nm,18.9s,baz=1.5,slow=37
ASAJ Asahikawa 41.67 278 P **P 22 37 06.9 +0.5**
ASAJ pmax pmax
comp=Z,7.0nm,1.0s
ZEA Zeya 42.12 299 *eP* **P 22 37 09.7 -0.2**
ZEA pmax pmax
comp=Z,20nm,0.9s
WMOK Wichita Mounta 42.16 103 P **P 22 37 11.5 +1.0**
WMOK Wichita Mounta 42.16 103 P **P 22 37 11.5 +1.0**
WMOK pmax pmax
comp=Z,5.0nm,1.0s
VLDQ Val d'Or 42.57 72 P 22 37 12.6 -0.9
VLDQ IAmb IAmb 22 37 13.3
comp=Z,8.5nm,0.6s
SCHQ Schefferville 42.68 58 P **P 22 37 14.5 0.0**
comp=Z,6.7nm,0.7s,baz=314,slow=5.7,SNR=12
SCHQ pP **pP 22 37 29.9 -1.3**
comp=Z,3.7nm,0.7s,baz=343,slow=1.6,SNR=2.8
SCHQ LR LR 22 55 05.5
comp=Z,82nm,20.9s,baz=291,slow=36
comp=Z,6.7nm,0.7s
KLR Kul'dur 43.22 291 LR LR 22 57 45.6
comp=Z,57nm,18.5s,baz=76,slow=40
KLR Kul'dur 43.22 291 *d iP* **P 22 37 18.7 -0.2**
KLR pmax pmax
comp=Z,10.0nm,1.0s
TXAR Lajitas Array 44.31 113 P **P 22 37 30.2 +2.2**
TXAR Lajitas Array 44.31 113 P **P 22 37 30.6 +2.6**
comp=Z,0.5nm,0.7s,baz=320,slow=6.9,SNR=6.5
TXAR pP **pP 22 37 46.1 +1.3**
comp=Z,1.8nm,0.8s,baz=329,slow=6.4,SNR=8.0
TXAR ScP **ScP 22 42 57.8 +0.9**
comp=Z,0.5nm,0.8s,baz=222,slow=1.7,SNR=4.6
comp=Z,0.5nm,0.7s
HEH HeiHe 44.48 295⇓ *iP* **P 22 37 28.0 -0.9**
HEH pmax pmax
comp=Z,62nm,0.6s
SOEG Soedalen 44.62 27 *i* P **P 22 37 28.9 -0.9**
BOD Bodaibo 44.69 311 *eP* **P 22 37 29.1 -1.4**
BOD pmax pmax
comp=Z,26nm,0.8s
SCO Scoresbysund 44.70 22 P **P 22 37 31.2 +0.8**
SCO IAmb IAmb 22 37 39.3
comp=Z,14nm,1.1s
SCO Scoresbysund 44.70 22 P **P 22 37 31.2 +0.8**
SCO pmax pmax
comp=Z,14nm,1.1s
SCO Scoresbysund 44.70 22 *i* P **P 22 37 29.8 -0.6**
SCO IAmb IAmb 22 37 39.1
comp=Z,15nm,1.1s
JTM Tenmabayashi 44.90 276 P **P 22 37 32.1 -0.3**
TRQ Mont Tremblant 45.30 72 P 22 37 36.1 +0.5
TRQ IAmb IAmb 22 38 05.1
comp=Z,6.9nm,0.7s
LDAQ Lac Daran 45.58 68 P **P 22 37 38.4 +0.6**
LDAQ IAmb IAmb 22 37 39.6
comp=Z,6.1nm,0.8s
NRS Narsarsuaq 46.17 40 *i* P **P 22 37 40.5 -1.7**
NRS IAmb IAmb 22 37 42.1
comp=Z,20nm,0.8s
USA0B Ussuriysk Arra 46.77 286 P 22 37 46.1 -0.9
USA0B IAmb IAmb 22 37 46.5
comp=Z,5.1nm,0.8s
USA0B Ussuriysk Arra 46.77 286 *de* P **P 22 37 45.9 -1.2**
USRK Ussuriysk Ar. 46.77 286 P 22 37 45.8 -1.2
USRK Ussuriysk Ar. 46.77 286 P **P 22 37 46.0 -1.1**
comp=Z,6.6nm,0.7s,baz=48,slow=8.5,SNR=31
USRK PcP **PcP 22 39 19.2 0.0**
comp=Z,1.2nm,0.5s,baz=13,slow=1.8,SNR=4.2
comp=Z,6.6nm,0.7s
D62A Allapoint, All 47.23 67 P **P 22 37 51.4 +0.7**
D62A IAmb IAmb 22 37 52.2
comp=Z,7.5nm,0.8s
JMM Marumori 47.28 274 P **P 22 37 50.8 -0.3**
BNX BinXian 47.78 291⇓ P **P 22 37 54.8 -0.1**
BNX pmax pmax
comp=Z,22nm,0.9s
HIA Hailar 48.60 299 P **P 22 38 00.8 -0.4**
HIA Hailar 48.60 299 P **P 22 38 00.8 -0.4**
HIA pmax pmax
comp=Z,26nm,0.8s
FPAL Fort Paine 48.81 91 P **P 22 38 03.5 +0.5**
FPAL IAmb IAmb 22 38 05.4
comp=Z,6.1nm,1.2s
MJB9 Matsu-Tunnel 49.60 275 P **P 22 38 08.9 -0.1**
MAJO Matsushiro 49.60 275 P **P 22 38 09.1 0.0**
MAJO Matsushiro 49.60 275 *ceP* **P 22 38 08.6 -0.4**
MAJO pmax pmax
comp=Z,17nm,0.9s
MJAR Matsushiro Arr 49.60 275 P **P 22 38 08.6 -0.4**
MJAR IAmb IAmb 22 38 09.7
comp=Z,15nm,1.4s
MJAR Matsushiro Arr 49.60 275 P **P 22 38 09.1 +0.1**
comp=Z,7.3nm,0.7s,baz=14,slow=6.9,SNR=20
MJAR PcP **PcP 22 39 29.2 -0.4**
comp=Z,4.1nm,0.8s,baz=42,slow=3.7,SNR=6.3
MJAR ScP **ScP 22 43 16.2 -2.6**
comp=Z,0.8nm,0.4s,baz=15,slow=5.2,SNR=4.1
comp=Z,7.3nm,0.7s
CN2 Changchun 50.16 291 P **P 22 38 12.7 -0.4**
CN2 sP sP 22 38 35.9 -1.8
CN2 pmax pmax
comp=Z,50nm,0.6s
ARCES ARCESS Array B 50.42 1 P **P 22 38 13.7 -1.0**
comp=Z,3.7nm,0.7s,baz=5.8,slow=6.7,SNR=16
ARCES pP **pP 22 38 32.1 +0.3**
comp=Z,2.3nm,0.6s,baz=10,slow=7.5,SNR=3.3
comp=Z,3.7nm,0.7s
JGF Kuroka 50.77 275 P **P 22 38 18.2 +0.4**
KS19 Wonju Array Si 53.92 284 P **P 22 38 41.9 +0.8**
KSRS Korea Array 53.93 284 P **P 22 38 42.0 +0.9**
comp=Z,13nm,0.6s,baz=33,slow=6.8,SNR=75
KSRS pP **pP 22 39 01.2 +2.9**
comp=Z,2.6nm,0.8s,baz=37,slow=6.6,SNR=2.8
KSRS PcP **PcP 22 39 45.9 +0.2**
comp=Z,2.1nm,0.5s,baz=41,slow=3.9,SNR=4.3
comp=Z,13nm,0.6s
KSAR Wonju Array Be 53.96 284 P 22 38 41.4 0.0
KSAR Wonju Array Be 53.96 284 P **P 22 38 41.4 0.0**
MOY Mondy 54.24 313 *eP* **P 22 38 43.7 +0.3**
MOY pmax pmax
comp=Z,17nm,1.8s
XLT XiLinHaoTe 54.34 297 *eP* **P 22 38 44.1 -0.1**
XLT pmax pmax
comp=Z,22nm,0.7s
ULN Ulaanbaatar 54.99 306 P **P 22 38 49.4 +0.4**
ULN IAmb IAmb 22 38 50.1
comp=Z,8.7nm,0.6s
ULN Ulaanbaatar 54.99 306 *ceP* **P 22 38 49.1 +0.1**
ULN pmax pmax
comp=Z,7.0nm,0.9s
TJN Taejon 55.06 283 P **P 22 38 49.7 +0.4**
TJN Taejon 55.06 283 *ceP* **P 22 38 49.3 0.0**
JCJ Chichijima 55.26 264 P **P 22 38 50.8 -0.1**
SONM Songino Array 55.28 307 P **P 22 38 51.9 +0.9**
SONM Songino Array 55.28 307 P **P 22 38 51.8 +0.8**
comp=Z,14nm,0.7s,baz=38,slow=7.6,SNR=58
SONM pP **pP 22 39 11.3 +3.1**
comp=Z,5.3nm,0.7s,baz=39,slow=7.4,SNR=4.3
SONM LR LR 23 04 12.6
comp=Z,62nm,19.7s,baz=52,slow=38
comp=Z,14nm,0.7s
SONM Songino Array 55.28 307 P **P 22 38 51.9 +0.9**
SONM pmax pmax
comp=Z,14nm,0.7s
BJI Beijing 57.38 294 P **P 22 39 06.0 +0.2**
BJI pP **pP 22 39 21.3 -1.9**
BJI sP **sP 22 39 28.5 -2.2**
BJI pmax pmax
comp=Z,9.0nm,0.9s
BJT Baijiatuau 57.40 294 P **P 22 39 06.0 0.0**
BJT Baijiatuau 57.40 294 P **P 22 39 06.0 0.0**
BJT pmax pmax
comp=Z,13nm,0.6s
ZAA0 Zalesovo Array 57.61 324 P 22 39 06.4 -0.8
ZAA0 IAmb IAmb 22 39 29.6
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 57.61 324 P 22 39 06.4 -0.9
ZALV Zalesovo Beam 57.61 324 P **P 22 39 06.2 -1.1**
comp=Z,2.3nm,0.4s,baz=26,slow=7.1,SNR=13
ZALV pP **pP 22 39 25.4 +0.8**
comp=Z,2.8nm,0.6s,baz=36,slow=7.7,SNR=3.7
comp=Z,2.3nm,0.4s
ZALV Zalesovo Beam 57.61 324 P **P 22 39 06.4 -0.9**
NB2 NORSAR Subarra 58.22 10 P **P 22 39 10.6 -0.9**
comp=Z,6.5nm,1.1s,baz=351,slow=6.9
NOA NORSAR Array B 58.22 10 P **P 22 39 10.3 -1.1**
comp=Z,1.9nm,0.8s,baz=351,slow=6.9,SNR=5.2
NOA pP **pP 22 39 29.8 +0.9**
comp=Z,1.7nm,0.8s,baz=351,slow=7.0,SNR=3.6
comp=Z,1.9nm,0.8s
FINES FINESS Array B 58.55 1 P **P 22 39 13.1 -0.6**
comp=Z,3.2nm,0.5s,baz=359,slow=8.2,SNR=48
FINES pP **pP 22 39 31.7 +0.7**
comp=Z,3.1nm,0.7s,baz=352,slow=8.1,SNR=2.8
comp=Z,3.2nm,0.5s
HHC Hu-ho-hao-te 58.78 298 *eP* **P 22 39 16.0 +0.2**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,57nm,4.0s
HHC LR LR
comp=Z,200nm,13.8s
HHC LR LR
comp=Z,130nm,13.8s
HHC LR LR
comp=Z,230nm,13.0s
KLMR Klimovskoe 58.87 354 *eP* **P 22 39 13.2 -2.7**
KLMR *e**PP **pP 22 39 29.2 -4.1**
KLMR pmax pmax
comp=Z,28nm,2.0s
HFS Hagfors 59.32 9 P **P 22 39 18.4 -0.6**
comp=Z,1.6nm,0.4s,baz=29,slow=3.4,SNR=18
HFS pP **pP 22 39 35.3 -1.2**
comp=Z,2.6nm,0.7s,baz=25,slow=3.9,SNR=2.8
comp=Z,1.6nm,0.4s
BTO Baotou 59.65 299 *eP* **P 22 39 21.8 0.0**
BTO pP **pP 22 39 37.8 -1.4**
BTO sP **sP 22 39 45.0 -1.7**
BTO pmax pmax
comp=Z,20nm,0.8s
BTO pmax pmax
comp=Z,300nm,4.7s
HNS HongShan 60.20 294⇓ P **P 22 39 25.7 +0.3**
HNS pmax pmax
comp=Z,25nm,0.7s
KIRV Kirov 60.33 348 *ceP* **P 22 39 25.4 -0.5**
SVE Sverdlovsk 60.50 340 *eP* **P 22 39 26.3 -0.9**
SVE pmax pmax
comp=Z,9.0nm,0.9s
ARTI Arti 61.29 342 *c iP* **P 22 39 31.3 -1.2**
ARTI *PP **pP 22 39 49.2 -0.8**
ARTI 22 40 12.6
ARTI 22 41 44.7
ARTI S **S 22 47 48.1 +0.9**
ARTI pmax pmax
comp=Z,9.0nm,0.8s
EKA Eskdalemuir Ar 61.95 20 P **P 22 39 36.9 -0.1**
comp=Z,1.1nm,0.4s,baz=328,slow=5.8,SNR=22
EKA pP **pP 22 39 52.0 -2.5**
comp=Z,1.1nm,0.6s,baz=334,slow=5.2,SNR=4.0
comp=Z,1.1nm,0.4s
BRVK Borovoye 62.17 333 P 22 39 37.3 -1.2
BRVK IAmb IAmb 22 39 59.7
comp=Z,4.8nm,0.8s
BRVK Borovoye 62.17 333 P **P 22 39 37.3 -1.2**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BVAR Borovoye Array 62.17 333 P **P 22 39 37.4 -1.2**
comp=Z,3.2nm,0.6s,baz=33,slow=6.0,SNR=21
BVAR pP **pP 22 39 54.9 -1.2**
comp=Z,5.9nm,0.7s,baz=34,slow=5.6,SNR=5.3
BVAR ScP **ScP 22 44 13.3 -0.3**
comp=Z,0.9nm,0.8s,baz=17,slow=1.5,SNR=3.6
comp=Z,3.2nm,0.6s
KURK Kurchatov 62.23 327 P 22 39 38.0 -1.0
KURK IAmb IAmb 22 40 02.5
comp=Z,4.1nm,0.8s
KURK Kurchatov 62.23 327 *de* P **P 22 39 37.9 -1.0**
KURK pmax pmax
comp=Z,3.0nm,1.1s
KURBB Kurchatov Arra 62.34 327 P **P 22 39 38.3 -1.4**
comp=Z,2.3nm,0.4s,baz=28,slow=6.6,SNR=15
KURBB pP **pP 22 39 57.7 +0.4**
comp=Z,3.4nm,0.5s,baz=27,slow=6.4,SNR=6.5
comp=Z,2.3nm,0.4s
NJ2 Nanjing 62.66 287 *eP* **P 22 39 44.2 +2.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
LYN LuoYang 63.57 294⇓ P **P 22 39 48.5 +0.4**
LYN pmax pmax
comp=Z,74nm,0.7s
MK31 Makanchi Array 64.70 322 *de* P **P 22 39 53.9 -1.5**
MKAR Makanchi Array 64.70 322 P **P 22 39 53.9 -1.5**
comp=Z,1.9nm,0.5s,baz=33,slow=6.2,SNR=33
MKAR pP **pP 22 40 13.5 +0.5**
comp=Z,0.9nm,0.5s,baz=46,slow=6.9,SNR=4.4
comp=Z,1.9nm,0.5s
OBN Obninsk 64.74 355⇑ *eP* **P 22 39 57.1 +1.7**
OBN *eS* **S 22 48 31.8 +1.6**
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN MLR MLR
comp=Z,25nm,14.0s
MAKZ Makanchi 64.78 323 P 22 39 54.4 -1.5
MAKZ Makanchi 64.78 323 P **P 22 39 54.4 -1.5**
MAKZ pmax pmax
comp=Z,2.0nm,0.8s
GTA Gaotai 64.93 306 P **P 22 39 56.6 -0.5**
GTA sP sP 22 40 20.0 -2.2
GTA pmax pmax
comp=Z,20nm,0.7s
MNK Minsk 65.53 1 *i* P **P 22 40 00.5 0.0**
MNK *i* *PP **pP 22 40 16.7 -1.5**
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=Z,9.0nm,0.8s
MNK pmax pmax
comp=N,5.0nm,0.9s
MNK MLR MLR
comp=N,84nm,17.0s
MNK MLR MLR
comp=E,55nm,15.0s
MNK MLR MLR
comp=Z,30nm,16.0s
XAN Xi'an 65.60 296 P **P 22 40 00.8 -0.6**
XAN pmax pmax
comp=Z,10.0nm,0.5s
LZH Lanzhou 66.09 301 *eP* **P 22 40 04.8 +0.2**
LZH sP sP 22 40 25.9 -3.8
LZH pmax pmax
comp=Z,43nm,0.7s
BELG Belogornoye 66.61 347 *d iP* **P 22 40 06.1 -1.4**
BELG pmax pmax
comp=Z,3.0nm,0.9s
AB31 Akbulak array 67.88 338 P 22 40 14.7 -0.9
AB31 IAmb IAmb 22 40 36.9
comp=Z,8.6nm,0.6s
ABKAR Akbulak array 67.88 338 P 22 40 14.8 -0.8
CLL Collm 68.01 11 *eP* **P 22 40 18.0 +1.6**
CLL *e**PP **pP 22 40 35.0 +0.9**
CLL Collm 68.01 11 *eP* **P 22 40 18.0 +1.6**
CLL *epP* **pP 22 40 35.0 +0.9**
CLL *i* x x 22 40 37.8

CLL esP PcP 22 40 42.0 -0.1
CLL ePcP sP 22 40 45.0 +3.5
CLL i PP PP 22 42 51.1 +4.8
BRG Berggiesshuhel 68.52 10 eP P 22 40 20.1 +0.5
BRG Amp 22 40 26.4
comp=Z,2.4nm,0.8s
CHVC Chvalec 68.98 9 eP P 22 40 22.8 +0.3
CHVC Chvalec 68.98 9 eP P 22 40 22.8 +0.3
DPC Dobruska-Polom 69.23 8 eP P 22 40 24.8 +0.7
DPC Dobruska-Polom 69.23 8 eP P 22 40 24.8 +0.7
AKASG Malin Array Be 69.33 360 P P 22 40 24.2 -0.4
comp=Z,2.5nm,0.3s,baz=5.0,slow=6.3,SNR=17
AKASG pP pP 22 40 41.6 -0.8
comp=Z,3.0nm,0.6s,baz=0.1,slow=5.9,SNR=3.6
comp=Z,2.5nm,0.3s
AKBB Malin Array Si 69.33 360 P P 22 40 24.1 -0.5
AKBB IAmb IAmb 22 40 46.0
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 69.33 360⇓ eP P 22 40 23.8 -0.8
KIEV Kiev 69.34 360 P P 22 40 24.1 -0.5
KIEV IAmb IAmb 22 40 46.0
comp=Z,6.4nm,0.8s
KIEV Kiev 69.34 360 ⇑P P 22 40 24.5 -0.1
KIEV Kiev 69.34 360 ⇑P P 22 40 24.5 -0.1
KRLC Kraliky 69.54 8 eP P 22 40 26.3 +0.3
KRLC Kraliky 69.54 8 eP P 22 40 26.3 +0.3
STEB Steborice 69.75 7 eP P 22 40 31.7 +4.5
MORC Moravsky Berou 69.89 8 eP P 22 40 27.8 -0.3
ZVC Zvikov 69.97 10 eP P 22 40 28.8 +0.2
KHC Kasperske Hory 70.22 10 eP P 22 40 30.7 +0.6
KHC ex x 22 40 34.7
KHC epP pP 22 40 47.1 -0.9
KHC Kasperske Hory 70.22 10 eP P 22 40 30.7 +0.6
KHC e 22 40 47.1
VRAC Vranov 70.29 8 eP P 22 40 30.3 -0.2
GERES GERESS Array B 70.51 10 P P 22 40 32.3 +0.3
comp=Z,0.9nm,0.8s,baz=353,slow=3.1,SNR=5.5
GERES pP pP 22 40 49.1 -0.8
comp=Z,0.6nm,0.6s,baz=350,slow=4.1,SNR=3.1
comp=Z,0.9nm,0.8s
KRUC Moravsky 70.52 9 eP P 22 40 32.4 +0.5
CD2 Chengdu 70.54 298 P P 22 40 32.7 +0.3
CD2 pmax pmax
comp=Z,20nm,0.4s
LANS Liptovska Anna 70.63 6 eP P 22 40 33.2 +0.6
LANS Liptovska Anna 70.63 6 eP P 22 40 33.2 +0.6
AAK Ala-Archa 70.77 326⇓ eP P 22 40 33.1 -0.7
AAK pmax pmax
comp=Z,4.0nm,0.6s
KOLS Kolonicke sedl 70.98 4 eP P 22 40 39.4 +4.7
KOLS Kolonicke sedl 70.98 4 eP P 22 40 39.4 +4.7
MODS Modra-Piesok 71.27 8 eP P 22 40 37.3 +0.8
MODS Modra-Piesok 71.27 8 eP P 22 40 37.3 +0.8
KK31 Karatay Array 71.40 329 P 22 40 36.6 -0.8
KK31 Karatay Array 71.40 329 P P 22 40 36.6 -0.8
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 71.40 329 P 22 40 36.3 -1.1
KKAR Karatay Array 71.40 329 P P 22 40 36.3 -1.1
CONA Conrad Observa 71.61 9 eP P 22 40 38.6 0.0
comp=Z,1.5nm,0.6s
MOTA Moosalm 71.74 12 eP P 22 40 39.9 +0.4
comp=Z,5.7nm,1.2s
WATA Walderalm 71.80 12 iP P 22 40 40.8 +0.9
comp=Z,4.6nm,1.0s
SQTA Sankt Quirin 71.88 12 iP P 22 40 41.1 +0.8
comp=Z,4.4nm,0.6s
WTTA Wattenberg 71.88 12 P P 22 40 41.2 +0.8
comp=Z,7.3nm,1.2s
SORM Soroca 71.90 0 ⇑P P 22 40 39.6 -0.7
SORM Soroca 71.90 0 ⇑P P 22 40 39.6 -0.7
FETA Feichten 72.02 13 iP P 22 40 42.1 +0.9
comp=Z,4.9nm,1.3s
SJG San Juan 72.07 85 LR LR 23 13 02.8
comp=Z,32nm,21.2s,baz=4.0,slow=36
KBA Koelnbreinsper 72.23 11 eP P 22 40 42.8 +0.3
comp=Z,9.2nm,0.8s
ARSA Arzberg 72.25 9 eP P 22 40 42.6 +0.2
comp=Z,3.3nm,1.1s
BUR08 Bucovina Ar. S 72.36 2 P 22 40 43.5 +0.4
FUORN Ofenpass-Fuorn 72.36 13 P P 22 40 44.1 +0.8
FUORN IAmb IAmb 22 40 51.2
comp=Z,3.5nm,0.7s
BURAR Bucovina Array 72.39 2 P P 22 40 43.7 +0.4
BURAR Bucovina Array 72.39 2 ⇓P P 22 40 43.6 +0.4
BURAR Bucovina Array 72.39 2 ⇓P P 22 40 43.6 +0.3
TUE Stuetta 72.40 14 P P 22 40 44.3 +0.7
TUE IAmb IAmb 22 41 11.3
comp=Z,3.9nm,0.8s
SOKA Soboth 72.78 10 eP P 22 40 46.6 +1.0
comp=Z,1.6nm,0.4s
OBKA Obir 72.91 10 eP P 22 40 46.5 +0.1
comp=Z,7.8nm,0.8s
DRGR 73.14 4 ⇑P P 22 40 46.7 -1.0
DRGR 73.14 4 ⇑P P 22 40 46.7 -1.0
KSH Kashi 73.23 324 P P 22 40 51.8 +3.3
KSH pmax pmax
comp=Z,3.0nm,0.9s
BOSR Bodos 73.94 2 ⇓P P 22 40 52.6 +0.2
SURR Surduc 74.15 5 ⇓P P 22 40 53.8 +0.2
BTK Batken 74.17 328 P 22 40 53.6 -0.4
BTK IAmb IAmb 22 41 15.6
comp=Z,4.6nm,0.8s
BTK Batken 74.17 328 P P 22 40 53.6 -0.4
BTK pmax pmax
comp=Z,5.0nm,0.9s
PLOR Plostina 74.17 1 ⇓P P 22 40 52.3 -1.5
PLOR Plostina 74.17 1 ⇓P P 22 40 52.3 -1.5
LOT Lotru 74.52 4 ⇓P P 22 40 56.1 +0.3
GZR Gura Zlata 74.53 4 ⇑P P 22 40 56.5 +0.6
GZR Gura Zlata 74.53 4 ⇑P P 22 40 56.5 +0.6
CFR Carcaliu 74.86 0 ⇑P P 22 40 54.2 -3.5
CFR Carcaliu 74.86 0 ⇑P P 22 40 54.2 -3.5
PZH PanZhiHua 75.23 298 P P 22 40 59.3 -1.0
PZH pmax pmax
comp=Z,10.0nm,0.7s
KIV Kislovodsk 75.45 350 P 22 41 01.2 -0.1
KIV IAmb IAmb 22 41 22.5
comp=Z,16nm,0.6s
KIV Kislovodsk 75.45 350 ⇑P P 22 41 00.9 -0.4
KIV Kislovodsk 75.45 350 eP P 22 41 00.7 -0.6
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,22nm,18.0s
KBZ Khabaz 75.66 349 P P 22 41 02.7 +0.4
comp=Z,4.4nm,0.8s,baz=3.8,slow=4.4,SNR=9.2
KBZ pP pP 22 41 21.6 +1.3
comp=Z,8.7nm,1.0s,baz=70,slow=3.4,SNR=8.1
comp=Z,4.4nm,0.8s
KBZ Khabaz 75.66 349 deP P 22 41 02.5 +0.2
KBZ pmax pmax
comp=Z,5.0nm,0.8s
SHA1 Shidzhatmaz 75.67 350 ceP P 22 41 03.2 +0.5
ESDC Sonseca Array 76.81 25 P P 22 41 09.4 +0.4
ESDC Sonseca Array 76.81 25 P P 22 41 09.6 +0.6
comp=Z,1.9nm,0.8s,baz=338,slow=5.4,SNR=14
ESDC pP pP 22 41 27.7 +0.6
comp=Z,2.5nm,1.1s,baz=344,slow=5.8,SNR=3.6
comp=Z,1.9nm,0.8s
LSA Lhasa 76.86 308 P P 22 41 10.9 +1.1
LSA IAmb IAmb 22 41 13.3
comp=Z,5.2nm,0.7s
LSA Lhasa 76.86 308 P P 22 41 11.0 +1.1
LSA pmax pmax
comp=Z,5.0nm,0.7s
AKT Akhty 77.36 345 ⇑ iP P 22 41 11.8 -0.3
AKT e 22 41 20.1
AKT e*SP pP 22 41 32.4 +2.2
AKT pmax pmax
comp=Z,10.0nm,0.6s
SDV Santo Domingo 77.72 94 LR LR 23 17 22.8
comp=Z,74nm,21.8s,baz=44,slow=37
HOMI Horasan 79.40 350 ⇑P P 22 41 24.2 +0.6
HNR Honiara 79.48 229 LR LR 23 13 51.7
comp=Z,49nm,18.8s,baz=171,slow=34
BR131 Keskin Array S 80.23 356 P P 22 41 28.2 +0.3
BR131 IAmb IAmb 22 41 49.8
comp=Z,5.3nm,0.8s
BR131 Keskin Array S 80.23 356⇓ eP P 22 41 27.8 -0.1
BRTR Keskin Array B 80.23 356 P P 22 41 27.9 0.0
comp=Z,1.7nm,0.8s,baz=344,slow=4.1,SNR=9.1
BRTR pP pP 22 41 46.1 +0.1
comp=Z,3.3nm,0.7s,baz=0.6,slow=2.8,SNR=10
comp=Z,1.7nm,0.8s
OZAP Van, Ozalp-Mer 80.57 348 ⇑P P 22 41 31.1 +1.3
BNN Bunyan 81.01 354 P 22 41 32.4 +0.4
KEST Kesra 82.98 16 P 22 41 43.3 +0.9
KEST IAmb IAmb 22 42 04.6
comp=Z,8.9nm,0.9s
KEST Kesra 82.98 16 P P 22 41 43.0 +0.7
comp=Z,4.7nm,0.5s,baz=334,slow=4.2,SNR=22
comp=Z,4.7nm,0.5s
CMAR Chiang Mai Arr 83.49 296 P P 22 41 44.5 -0.7
comp=Z,1.9nm,0.3s,baz=18,slow=5.7,SNR=12
CMAR LR LR 23 20 42.3
comp=Z,30nm,20.0s,baz=210,slow=37
comp=Z,1.9nm,0.3s
FAKI Fak Fak 85.83 257 P P 22 41 56.4 -0.5
MDP Montagnes des 89.89 80 LR LR 23 23 33.3
comp=Z,31nm,20.6s,baz=338,slow=36
RAYN Ar Rayn 95.34 345 P 22 42 40.9 -0.6
RAYN IAmb IAmb 22 43 03.1
comp=Z,3.4nm,0.8s
RAYN Ar Rayn 95.34 345 P P 22 42 40.9 -0.6
RAYN pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 99.66 247 P Pdif 22 43 01.8 +1.1
comp=Z,0.5nm,0.8s,baz=55,slow=3.1,SNR=4.6
comp=Z,0.5nm,0.8s
WRA Warramunga Arr 99.66 247 iP Pdif 22 43 03.5 +2.8
ASAR Alice Springs 103.09 245 Pdiff Pdif 22 43 15.7 -0.2
comp=Z,0.1nm,0.4s,baz=24,slow=4.6,SNR=1.9
BOSA Boshof 148.21 6 PKPbc PKPbc 22 49 02.1 -0.7
comp=Z,4.0nm,0.5s,baz=358,slow=3.1,SNR=17
QSPA South Pole Qui 150.12 180 PKPbc PKPbc 22 49 06.5 +0.3
comp=Z,5.4nm,0.8s,baz=97,slow=0.3,SNR=36
MAW Mawson 163.52 229 PKPab PKPab 22 50 10.1 +0.1
comp=Z,4.7nm,0.6s,baz=103,slow=4.5,SNR=16

NEIC 03 22:32:31.6±1.5, 44°.48N±0°.08×128°.9W±0°.2, h10km±2km, mb4.1/10, ML3.2/44, Error ellipse: s-maj=20.5km s-min=10.1km az=243.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I02E	**Swisshome, OR**	**3.67**	**94**	Pn	Pn	22 33 27.2	-1.2
I02E				IAML		22 34 54.9	
comp=E,29nm,2.0s							
KEBM	**Edson Butte**	**3.71**	**114**	Pn	Pn	22 33 26.1	-2.9
KEBM				IAML		22 35 45.2	
comp=N,45nm,4.5s							
COR	**Corvallis**	**4.03**	**87**		Pn	22 33 32.5	-0.8
COR				IAML		22 34 31.7	
comp=N,32nm,1.6s							
COR				IAML		22 36 04.5	
comp=N,26nm,2.0s							
F03A	**Seaside**	**4.07**	**67**		Pn	22 33 33.9	+0.1
I03D	**Drain, OR**	**4.10**	**99**	Pn	Pn	22 33 32.9	-1.4
RADR	**Rader Ridge**	**4.10**	**60**	Pn	Pn	22 33 32.7	-1.6
RADR				IAML		22 34 49.2	
comp=N,38nm,1.9s							
RADR				IAML		22 35 55.8	
comp=E,37nm,1.9s							
BUCK	**Buck Mountain**	**4.28**	**92**	Pn	Pn	22 33 36.9	+0.1
BUCK				IAML		22 34 46.3	
comp=E,22nm,2.2s							
E03A	**Lebam**	**4.30**	**59**		Pn	22 33 36.9	-0.1
E03A				IAML		22 34 40.6	
comp=E,31nm,1.7s							
E03A				IAML		22 35 31.5	
comp=N,19nm,2.4s							
H04D	**Lebanon**	**4.43**	**87**		Pn	22 33 38.3	-0.6
H04D				IAML		22 35 02.5	
comp=E,24nm,1.5s							
H04D				IAML		22 35 07.5	
comp=N,19nm,1.7s							
WISH	**Wishkah**	**4.47**	**52**		Pn	22 33 39.2	-0.1
WISH				IAML		22 35 34.9	
comp=E,30nm,2.1s							
NLWA	**Neilton Lookou**	**4.58**	**49**		Pn	22 33 41.2	+0.4
C03A	**Quillayute Air**	**4.60**	**40**		Pn	22 33 41.2	0.0
BBOR	**Butler Butte**	**4.81**	**107**		Pn	22 33 44.0	-0.2
BBOR				IAML		22 35 08.4	
comp=E,14nm,1.9s							
BBOR				IAML		22 35 31.2	
comp=N,15nm,2.2s							
H04A	**Detroit Lake**	**4.83**	**85**		Pn	22 33 43.8	-0.6
H04A				IAML		22 34 46.3	
comp=N,17nm,1.5s							
H04A				IAML		22 34 49.2	
comp=E,21nm,1.2s							
HOOD	**Mount Hood Mea**	**5.24**	**78**		Pn	22 33 50.2	+0.1
GNW	**Green Mountain**	**5.25**	**52**		Pn	22 33 50.4	+0.3
YBH	**Yreka Blue Hor**	**5.32**	**119**		Pn	22 33 51.7	+0.5
L04D	**Klamath Falls**	**5.34**	**113**		Pn	22 33 51.1	-0.3
L04D				IAML		22 35 08.2	
comp=N,16nm,2.3s							
I05D	**Terrebonne, OR**	**5.44**	**89**	Pn	Pn	22 33 51.7	-1.2
G05A	**Wamic**	**5.47**	**79**		Pn	22 33 54.0	+0.8
LON	**Longmire**	**5.49**	**63**		Pn	22 33 53.3	-0.2
PGC	**Sidney**	**5.63**	**40**	Pn	Pn	22 33 55.3	0.0
PINE	**Pine Mountain**	**5.79**	**94**	Pn	Pn	22 33 57.9	+0.1
G06A	**Carlson Farm,**	**5.95**	**80**		Pn	22 33 59.9	+0.1
MXC	**Moxie City**	**6.42**	**68**	Pn	Pn	22 34 07.4	+1.2
F07A	**Phinny Hill Vi**	**6.52**	**74**	Pn	Pn	22 34 08.9	+1.4
E07A	**Sunnyside**	**6.71**	**69**	Pn	Pn	22 34 11.4	+1.2
I07A	**Izee**	**6.78**	**90**		Pn	22 34 12.3	+1.0
HAWA	**Hanford**	**6.88**	**71**		Pn	22 34 11.6	-1.0
WAH2	**Wahluke Slope**	**6.95**	**68**	Pn	Pn	22 34 12.5	-1.0
G08A	**Pilot Rock**	**7.13**	**80**		Pn	22 34 15.6	-0.5
BBB	**Bella Bella**	**7.73**	**4**		Pn	22 34 23.9	-0.1
C09A	**Chrisman Ranch**	**8.11**	**62**		Pn	22 34 28.7	-0.7
PAHR	**Pah Rah Range**	**8.55**	**121**	Pn	Pn	22 34 36.1	+0.5
MOBC	**Moresby Island**	**8.89**	**348**		Pn	22 34 38.3	-1.8
CMB	**Columbia Colle**	**9.10**	**132**	Pn	Pn	22 34 41.3	-1.7
RUBB	**Prince Rupert**	**9.89**	**356**	Pn	Pn	22 34 54.0	+0.3
NVAR	**Mina Array Bea**	**10.01**	**124**	Pn	Pn	22 34 55.8	+0.2
V35K	**Ketchikan**	**10.99**	**352**	Pn	Pn	22 35 07.3	-1.5
WCT	**Wildcat Mounta**	**12.09**	**125**	Pn	Pn	22 35 24.0	0.0
SPR3	**Spring Creek 3**	**12.20**	**112**	Pn	Pn	22 35 24.9	-0.9
GWY	**Greenwater Val**	**12.49**	**127**	Pn	Pn	22 35 29.2	-0.3
PRN	**Pahroc Range**	**12.65**	**119**	Pn	Pn	22 35 32.0	+0.4
SHPR	**Sheep Range**	**13.16**	**123**	Pn	Pn	22 35 39.2	+0.5
V12A	**Nelson**	**13.87**	**124**	Pn	Pn	22 35 46.9	-1.4
PD31	**Pinedale Array**	**14.14**	**90**		Pn	22 35 50.1	-2.0
PDAR	**Pinedale Array**	**14.14**	**90**		Pn	22 35 49.7	-2.4
KNB	**Kanab**	**14.30**	**116**	Pn	Pn	22 35 54.1	-0.1
ESJX	**Sierra Juarez**	**16.08**	**136**	Pn	Pn	22 36 17.4	-0.4
ESJX				IAmb	IAmb	22 36 24.8	
comp=Z,19nm,1.3s							
K22A	**Casper**	**16.34**	**89**		Pn	22 36 22.1	+0.9
MVCO	**Mesa Verde**	**17.06**	**108**		Pn	22 36 30.9	+0.5
MVCO				IAmb	IAmb	22 36 53.7	
comp=Z,28nm,1.4s							
W18A	**Petrified Fore**	**17.43**	**116**		P	22 36 36.4	+0.1
ISCO	**Idaho Springs**	**17.90**	**97**		Pn	22 36 40.6	-0.3
Q24A	**Divide**	**18.56**	**99**	P	Pn	22 36 49.3	+0.2
Q24A				IAmb	IAmb	22 36 58.8	
comp=Z,16nm,1.5s							
YKAW1	**Yellowknife Wh**	**19.89**	**20**	P	P	22 37 02.3	-0.5
YKAW1				IAmb	IAmb	22 37 19.9	
comp=Z,5.8nm,0.9s							
T25A	**Trinidad**	**19.91**	**103**	P	P	22 37 04.3	+0.7
T25A				IAmb	IAmb	22 37 15.5	
comp=Z,16nm,1.2s							
FFC	**Flin Flon**	**20.13**	**50**	P	P	22 37 05.3	-0.2
FFC				IAmb	IAmb	22 37 14.0	
comp=Z,12nm,1.3s							

IDC 03 22:42:26.5±2.1, 44°.30N×129°.70W, h0km, mb3.3/5, mbtmp3.3/7, ML3.3/2, MS3.2/4, Error ellipse: s-maj=58.9km s-min=20.4km az=43.0
NEIC 03 22:42:34.4±1.9, 44°.52N±0°.09×128°.9W±0°.1, h10km±2km, mb3.7/8, ML3.0/50, Error ellipse: s-maj=19.1km s-min=11.4km az=231.0
ISC 03 22:42:32.5±1.4, 44°.51N±0°.10×129°.1W±0°.1, h10km, n83, σ1°12/73, mb3.3/4, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I02E	**Swisshome, OR**	**3.77**	**94**	Pn	**Pn**	**22 43 30.6**	**0.0**
I02E				IAML		22 44 15.9	
comp=E,20nm,4.1s							
KEBM	**Edson Butte**	**3.80**	**114**	Pn	**Pn**	**22 43 28.6**	**-2.5**
KEBM				IAML		22 45 47.0	
comp=N,35nm,2.0s							
J01E	**Myrtle Point**	**3.95**	**108**		Pn	**Pn**	**22 43 32.5**	**-0.6**
COR	**Corvallis**	**4.12**	**87**		Pn	**Pn**	**22 43 35.4**	**0.0**
COR				IAML		22 44 07.3	
comp=N,16nm,1.4s							
COR				IAML		22 44 29.1	
comp=N,16nm,0.6s							
F03A	**Seaside**	**4.14**	**68**			**Pn**	**22 43 36.3**	**+0.6**
RADR	**Rader Ridge**	**4.17**	**61**			**Pn**	**22 43 36.4**	**+0.2**
RADR				IAML			22 45 20.2	
comp=E,24nm,4.5s							
RADR				IAML			22 45 43.3	
comp=N,18nm,3.1s							
G03D	**McMinnville, O**	**4.18**	**78**	Pn		**Pn**	**22 43 36.0**	**-0.3**
G03D				IAML			22 44 05.6	
comp=E,20nm,0.9s							
G03D				IAML			22 44 35.3	
comp=N,18nm,0.6s							
I03D	**Drain, OR**	**4.20**	**99**			**Pn**	**22 43 35.8**	**-0.7**
E03A	**Lebam**	**4.37**	**60**			**Pn**	**22 43 38.2**	**-0.7**
E03A				IAML			22 44 38.9	
comp=E,18nm,0.6s							
E03A				IAML			22 44 39.7	
comp=N,19nm,0.7s							
BUCK	**Buck Mountain**	**4.37**	**92**			**Pn**	**22 43 39.1**	**+0.1**
BUCK				IAML			22 46 11.0	
comp=N,15nm,4.2s							
BUCK				IAML			22 46 12.1	
comp=E,18nm,4.8s							
H04D	**Lebanon**	**4.53**	**88**			**Pn**	**22 43 42.1**	**+1.1**
H04D				IAML			22 44 19.8	
comp=N,15nm,1.0s							
H04D				IAML			22 44 52.2	
comp=E,14nm,2.6s							
WISH	**Wishkah**	**4.53**	**53**			**Pn**	**22 43 42.0**	**+0.9**
WISH				IAML			22 44 30.7	
comp=E,23nm,4.1s							
NLWA	**Neilton Lookou**	**4.63**	**50**			**Pn**	**22 43 42.9**	**+0.4**
NLWA				IAML			22 44 33.3	
comp=E,9.6nm,4.8s							
NLWA				IAML			22 44 49.3	
comp=E,11nm,0.8s							
C03A	**Quillayute Air**	**4.64**	**41**			**Pn**	**22 43 43.1**	**+0.5**
G04A	**Mulino**	**4.73**	**79**	Pn		**Pn**	**22 43 44.5**	**+0.6**
KRMB	**Red Mountain**	**4.81**	**126**	Pn		**Pn**	**22 43 45.5**	**+0.4**
KRMB				IAML			22 45 18.7	
comp=E,18nm,2.3s							
KRMB				IAML			22 45 22.4	
comp=N,14nm,2.7s							
BBOR	**Butler Butte**	**4.90**	**107**			**Pn**	**22 43 47.5**	**+1.1**
H04A	**Detroit Lake**	**4.92**	**86**			**Pn**	**22 43 47.5**	**+1.1**
H04A				IAML			22 44 53.0	
comp=N,10nm,0.4s							
J04A	**Umpqua Nationa**	**5.18**	**102**	Pn		**Pn**	**22 43 49.9**	**-0.4**
GNW	**Green Mountain**	**5.31**	**53**			**Pn**	**22 43 52.7**	**+0.9**
GNW				IAML			22 46 11.2	
comp=E,6.6nm,4.1s							
YBH	**Yreka Blue Hor**	**5.41**	**119**			**Pn**	**22 43 55.1**	**+1.7**
CLRS	**Cowichan Lake**	**5.49**	**36**			**Pn**	**22 43 55.0**	**+0.7**
LON	**Longmire**	**5.56**	**64**			**Pn**	**22 43 56.5**	**+1.2**
D05A	**Enumclaw**	**5.62**	**59**			**Pn**	**22 43 57.8**	**+1.8**
PGC	**Sidney**	**5.67**	**41**			**Pn**	**22 43 57.4**	**+0.7**
J05D	**Fort Rock, OR**	**5.79**	**99**			**Pn**	**22 43 57.0**	**-1.5**
PINE	**Pine Mountain**	**5.89**	**94**			**Pn**	**22 43 59.5**	**-0.4**
G06A	**Carlson Farm,**	**6.03**	**80**			**Pn**	**22 44 01.2**	**-0.6**
LTY	**Liberty**	**6.47**	**62**			**Pn**	**22 44 07.1**	**-0.7**
I07A	**Izee**	**6.87**	**90**			**Pn**	**22 44 13.2**	**-0.2**
HOPS	**Hopland Field**	**7.10**	**139**	Pn		**Pn**	**22 44 17.9**	**+1.5**
G08A	**Pilot Rock**	**7.22**	**80**			**Pn**	**22 44 17.8**	**-0.3**
ORV	**Oroville**	**7.49**	**129**	Pn		**Pn**	**22 44 23.3**	**+1.5**
D08A	**Wollman Farm,**	**7.54**	**67**			**Pn**	**22 44 22.4**	**+0.1**
BBB	**Bella Bella**	**7.71**	**4**	LR		LR	22 47 01.3	
comp=E,224nm,20.4s,baz=181,slow=34								
LLLB	**Lillooet**	**7.80**	**36**	Pn		**Pn**	**22 44 27.3**	**+1.3**
WVOR	**Wild Horse Val**	**7.86**	**102**	Pn		**Pn**	**22 44 27.6**	**+0.6**
BMO	**Blue Mountains**	**8.39**	**84**	Pn		**Pn**	**22 44 34.2**	**0.0**
CMB	**Columbia Colle**	**9.19**	**132**	Pn		**Pn**	**22 44 47.4**	**+2.3**
PLID	**Pearl Lake**	**9.31**	**82**	Pn		**Pn**	**22 44 46.9**	**0.0**
NVAR	**Mina Array Bea**	**10.10**	**123**	Pn		**Pn**	**22 44 58.8**	**+1.1**
comp=E,0.1nm,0.3s,baz=307,slow=16,SNR=1.0								
comp=E,0.6nm,0.6s								
HLID	**Hailey**	**10.59**	**90**	Pn		**Pn**	**22 45 05.2**	**+0.7**
ELK	**Elko**	**10.86**	**105**	Pn		**Pn**	**22 45 09.3**	**+1.2**
BPMT	**Black Pine Rid**	**11.14**	**75**	Pn		**Pn**	**22 45 12.2**	**+0.2**
OVMT	**Ovando**	**11.51**	**72**	Pn		**Pn**	**22 45 18.2**	**+1.3**
MCMT	**McKenzie Canyo**	**11.55**	**83**	Pn		**Pn**	**22 45 18.7**	**+1.0**
DLMT	**Dillon**	**11.71**	**80**	Pn		**Pn**	**22 45 20.2**	**+0.6**
LRM	**Limekiln Ridge**	**11.80**	**78**	Pn		**Pn**	**22 45 20.8**	**-0.3**
WCT	**Wildcat Mounta**	**12.18**	**125**	Pn		**Pn**	**22 45 26.9**	**+0.8**
BGU	**Big Grassy Mou**	**12.32**	**101**	Pn		**Pn**	**22 45 28.4**	**+0.3**
BOZ	**Bozeman (W)**	**12.38**	**79**	Pn		**Pn**	**22 45 28.9**	**+0.1**
T35M	**Bob Quinn**	**12.51**	**357**	Pn		**Pn**	**22 45 33.8**	**+3.3**
YHL	**Hebgen Lake**	**12.73**	**82**	Pn		**Pn**	**22 45 34.5**	**+0.7**
HWUT	**Hardware Ranch**	**13.12**	**97**	Pn		**Pn**	**22 45 38.3**	**-0.7**
PDAR	**Pinedale Array**	**14.23**	**90**	Pn		**Pn**	**22 45 55.3**	**+1.1**
PDAR	**Pinedale Array**	**14.23**	**90**	Pn		**P**	**22 45 59.5**	**-2.2**
PDAR	baz=287,slow=12,SNR=2.9							
				LR		LR	22 51 47.2	
comp=E,48nm,21.7s,baz=298,slow=38								
comp=E,0.5nm,0.8s								
KNB	**Kanab**	**14.39**	**116**	Pn		**Pn**	**22 45 57.0**	**+0.7**
Q16A	**Castle Valley**	**14.47**	**106**	Pn		**Pn**	**22 45 57.2**	**-0.3**
SRU	**San Rafael Swe**	**14.83**	**105**	Pn		**Pn**	**22 46 03.3**	**+1.0**
R33M	**Jennings River**	**14.96**	**356**	Pn		**Pn**	**22 46 05.6**	**+1.8**
O20A	**White River Ci**	**16.00**	**99**	Pn		**Pn**	**22 46 18.2**	**+0.5**
O20A				IAmb	IAmb		22 46 25.8	
comp=Z,4.8nm,0.9s								
PV23	**Carpenter Ridg**	**16.18**	**105**	Pn		**Pn**	**22 46 19.1**	**-1.1**
WUAZ	**Wupatki**	**16.23**	**118**	Pn		**Pn**	**22 46 19.0**	**-1.7**
WUAZ				IAmb	IAmb		22 46 26.4	
comp=Z,6.2nm,1.2s								
O30N	**Mendenhall**	**16.82**	**348**	Pn		**Pn**	**22 46 27.5**	**-0.4**
MVCO	**Mesa Verde**	**17.15**	**108**	Pn		**Pn**	**22 46 30.5**	**-1.9**
MVCO				IAmb	IAmb		22 46 39.0	
comp=Z,10nm,1.4s								
ISCO	**Idaho Springs**	**17.99**	**97**	Pn		**Pn**	**22 46 41.9**	**-1.1**
MMPY	**Sheldon Lake,**	**18.19**	**357**	Pn		**Pn**	**22 46 44.4**	**-0.5**
MMPY				IAmb	IAmb		22 46 49.2	
comp=Z,12nm,1.5s								
YKA	**Yellowknife Ar**	**19.88**	**20**	P		**P**	**22 47 03.6**	**+0.1**
comp=Z,0.5nm,0.6s,baz=218,slow=11,SNR=2.7								
YKA				LR		LR	22 54 55.4	
comp=Z,67nm,20.1s,baz=209,slow=37								
comp=Z,0.5nm,0.6s								
BCAR	**Beaver Creek A**	**19.98**	**343**	P		**P**	**22 47 04.6**	**-0.2**
T25A	**Trinidad**	**20.01**	**103**	P		**P**	**22 47 05.7**	**+0.2**
BNM	**Barren Site**	**20.14**	**113**	P		**P**	**22 47 07.5**	**+0.6**
ILAR	**Eielson Array**	**22.61**	**340**	P		**P**	**22 47 30.0**	**-3.0**
comp=Z,0.5nm,0.9s,baz=127,slow=8.8,SNR=4.8								
comp=Z,0.5nm,0.9s								
INK	**Inuvik**	**23.97**	**356**	LR		LR	22 55 30.3	
comp=Z,94nm,20.1s,baz=218,slow=32								
TXAR	**Lajitas Array**	**25.19**	**118**	P		**P**	**22 47 58.7**	**+0.4**
TXAR	**Lajitas Array**	**25.19**	**118**	P		**P**	**22 47 57.3**	**-0.9**

σ0ᵍ97/54, **mb4.0**/25, **Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.66**	**340**	Pn	**Pn**	**22 46 04.3**	**+1.1**
CD2				Pg	**Pg**	**22 46 11.0**	**-1.3**
CD2				Sn	**Sb**	**22 46 39.8**	**-0.9**
CD2				Sg	**Sg**	**22 46 47.9**	**+1.0**
CD2	comp=N,1μm,0.6s			smax	smax		
CD2	comp=E,2μm,0.8s			smax	smax		
ENH	**Enshi**	**4.47**	**64**		**Pn**	**22 46 29.2**	**+1.2**
TNCH	**TengChong**	**6.57**	**241**	Pn	**Pn**	**22 46 57.8**	**+0.8**
TNCH				Pg	**Pg**	**22 47 26.4**	**-0.6**
TNCH				Sn	**Sn**	**22 48 12.1**	**+0.6**
TNCH				Sg	**Sg**	**22 48 51.1**	**-1.0**
TNCH	comp=N,110nm,1.5s			smax	smax		
TNCH	comp=E,95nm,1.1s			smax	smax		
TNCH	comp=N,510nm,2.5s			LR	LR		
TNCH	comp=E,380nm,2.7s			LR	LR		
TNCH	comp=Z,140nm,6.0s			LR	LR		
SLVN	**Son La**	**7.09**	**187**	Pn	**Pn**	**22 47 04.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**11.28**	**210**	Pn	**Pn**	**22 48 03.3**	**+1.8**
CMAR	**Chiang Mai Arr**	**11.28**	**210**	P	Pn	22 48 04.4	+3.0
CMAR	comp=Z,4.3nm,0.8s,baz=28,slow=12,SNR=20 comp=Z,125nm,19.2s,baz=30,slow=39			LR	LR	22 52 48.5	
SHL	**Shillong**	**11.89**	**259**	Pn	**Pn**	**22 48 09.6**	**-0.3**
SONM	**Songino Array**	**19.43**	**3**	P	**Pn**	**22 49 47.7**	**-0.1**
SONM	**Songino Array**	**19.43**	**3**	P	**Pn**	**22 49 47.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=184,slow=11,SNR=7.9 comp=Z,1.6nm,0.6s						
ULN	**Ulaanbaatar**	**19.50**	**4**	P	**Pn**	**22 49 48.4**	**-0.2**
KSAR	**Wonju Array Be**	**21.30**	**59**	P	**P**	**22 50 06.8**	**+0.1**
KS19	**Wonju Array Si**	**21.31**	**59**	P	**P**	**22 50 06.4**	**-0.4**
KS19	comp=Z,5.9nm,1.1s			IAmb	IAmb	22 50 12.4	
KSRS	**Korea Array**	**21.34**	**59**	P	**P**	**22 50 07.0**	**-0.1**
KSRS	**Korea Array**	**21.34**	**59**	P	**P**	**22 50 07.0**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=246,slow=10,SNR=15 comp=Z,1.9nm,0.6s						
MKAR	**Makanchi Array**	**25.46**	**322**	P	**P**	**22 50 47.9**	**0.0**
MKAR	**Makanchi Array**	**25.46**	**322**	P	**P**	**22 50 48.4**	**+0.5**
MKAR	comp=Z,1.3nm,0.7s,baz=131,slow=12,SNR=10 comp=Z,0.5nm,0.8s,baz=106,slow=4.7,SNR=3.3 comp=Z,1.3nm,0.7s			PcP	**PcP**	**22 54 20.5**	**+0.9**
MAKZ	**Makanchi**	**25.64**	**322**	P	**P**	**22 50 51.0**	**+1.4**
MAKZ	comp=Z,3.1nm,1.1s			IAmb	IAmb	22 50 57.9	
TARG	**Taragay, Kyrgy**	**25.68**	**308**	P	**P**	**22 50 51.6**	**+1.2**
TARG	comp=Z,5.9nm,1.4s			IAmb	IAmb	22 51 17.8	
USRK	**Ussuriysk Ar.**	**26.80**	**47**	P	**P**	**22 50 59.7**	**-0.4**
USRK	**Ussuriysk Ar.**	**26.80**	**47**	P	**P**	**22 51 00.1**	**0.0**
	comp=Z,2.9nm,0.6s,baz=251,slow=9.7,SNR=7.4 comp=Z,2.9nm,0.6s						
ZALV	**Zalesovo Beam**	**29.43**	**336**	P	**P**	**22 51 24.7**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=134,slow=8.5,SNR=4.9 comp=Z,1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**29.79**	**325**	P	**P**	**22 51 27.8**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=129,slow=10,SNR=7.7 comp=Z,0.8nm,0.6s						
KURK	**Kurchatov**	**29.80**	**326**	P	**P**	**22 51 29.1**	**+2.3**
KURK	comp=Z,1.7nm,0.8s			IAmb	IAmb	22 51 32.0	
PALK	**Pallekele**	**31.01**	**232**	P	**P**	**22 51 38.3**	**+0.5**
BVAR	**Borovoye Array**	**35.31**	**324**	P	**P**	**22 52 17.1**	**+2.1**
	comp=Z,0.4nm,0.5s,baz=169,slow=8.4,SNR=3.3 comp=Z,0.4nm,0.5s						
ABKAR	**Akbulak array**	**39.96**	**314**	P	**P**	**22 52 54.9**	**+0.6**
ABKAR	**Akbulak array**	**39.96**	**314**	P	**P**	**22 52 54.4**	**0.0**
TIXI	**Tiksi**	**45.27**	**10**	P	**P**	**22 53 36.6**	**-0.5**
TIXI	comp=Z,2.4nm,0.6s			IAmb	IAmb	22 53 37.1	
RAYN	**Ar Rayn**	**53.11**	**279**	P	**P**	**22 54 38.1**	**+0.2**
RAYN	comp=Z,2.5nm,0.8s			IAmb	IAmb	22 54 39.8	
WB0	**Warramunga Arr**	**55.77**	**146**	P	**P**	**22 54 56.1**	**-0.9**
WB0	comp=Z,4.5nm,1.1s			IAmb	IAmb	22 54 57.8	
WRA	**Warramunga Arr**	**55.89**	**146**	P	**P**	**22 54 57.1**	**-0.8**
WRA	comp=Z,2.3nm,0.8s,baz=336,slow=8.4,SNR=24 comp=Z,0.3nm,0.4s,baz=336,slow=4.5,SNR=1.2 comp=Z,2.3nm,0.8s			PcP	**PcP**	**22 55 55.9**	**-0.6**
COEN	**Coen**	**56.13**	**133**	P	**P**	**22 54 58.7**	**-1.0**
BRTR	**Keskin Array B**	**58.65**	**301**	P	**P**	**22 55 18.2**	**+0.7**
BRTR	**Keskin Array B**	**58.65**	**301**	P	**P**	**22 55 18.3**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=99,slow=5.1,SNR=3.0 comp=Z,0.6nm,0.7s						
ASAR	**Alice Springs**	**58.87**	**149**	P	**P**	**22 55 18.0**	**-0.9**
ASAR	comp=Z,1.2nm,0.7s,baz=328,slow=7.0,SNR=12 comp=Z,0.4nm,0.4s,baz=334,slow=3.3,SNR=1.4 comp=Z,1.2nm,0.7s			PcP	**PcP**	**22 56 08.2**	**-0.1**
AKASG	**Malin Array Be**	**59.70**	**314**	P	**P**	**22 55 22.7**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=67,slow=7.4,SNR=2.1 comp=Z,0.8nm,0.6s						
ARCES	**ARCESS Array B**	**59.97**	**336**	P	**P**	**22 55 25.2**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=96,slow=8.3,SNR=1.7 comp=Z,1.5nm,0.8s						
FINES	**FINESS Array B**	**60.16**	**327**	P	**P**	**22 55 26.9**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=97,slow=7.1,SNR=1.0 comp=Z,0.8nm,0.8s						
ELL	**Elmali**	**62.23**	**299**	P	**P**	**22 55 41.1**	**-0.9**
ELL	comp=Z,12nm,1.4s			IAmb	IAmb	22 55 47.8	
B20K	**Meade River**	**66.28**	**22**	P	**P**	**22 56 09.0**	**+1.2**
HFS	**Hagfors**	**66.36**	**327**	P	**P**	**22 56 08.2**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=81,slow=10,SNR=1.4 comp=Z,1.7nm,0.9s						
NOA	**NORSAR Array B**	**67.27**	**328**	P	**P**	**22 56 14.2**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=64,slow=5.4,SNR=1.7 comp=Z,0.8nm,0.8s						
GERES	**GERESS Array B**	**69.89**	**315**	P	**P**	**22 56 31.0**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=77,slow=5.9,SNR=4.5 comp=Z,0.3nm,0.5s						
ILAR	**Eielson Array**	**71.99**	**25**	P	**P**	**22 56 41.7**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=291,slow=4.7,SNR=4.5 comp=Z,0.2nm,0.4s						
KDAK	**Kodiak Island**	**72.73**	**33**	P	**P**	**22 56 48.7**	**+0.8**
	comp=Z,3.5nm,0.7s,baz=318,slow=3.9,SNR=6.0 comp=Z,3.5nm,0.7s						
BCAR	**Beaver Creek A**	**74.80**	**26**	P	**P**	**22 57 01.3**	**+1.3**

*NEIC **03** 22:46:48.7±1.1, 60.31N×151.33W±0.05, h68km±8km, Error ellipse: s-maj=4.2km s-min=3.6km az=142.0*

AEIC 03 22:46:49.7±0.9, **60.33N**±0.03×**151.34W**±0.05, **h60**km±6km, **ML2.3, ML2.6**/110(NEIC), **Error ellipse: s-maj=4.2km s-min=3.4km az=148.0, Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPN	**Captain Cook N**	**0.45**	**12**	Pn	Pn	22 47 02.3	+1.2
CAPN				Sn	Sn	22 47 10.3	+0.8
RDT	**Redoubt**	**0.58**	**295**		Pn	22 47 01.8	-0.9
RDT					Sn	22 47 11.8	-0.4
SLKM	**Skilak Lake**	**0.58**	**72**		Pn	22 47 02.0	-0.7
SLKM				Sn	Sn	22 47 11.8	-0.2
BRLK	**Bradley Lake**	**0.61**	**158**		Pn	22 47 02.3	-0.7
BRLK				Sn	Sn	22 47 12.4	-0.2
O20K	**Slope Mountain**	**0.69**	**249**		Pn	22 47 03.6	-0.3
O20K					Sn	22 47 14.7	+0.4
HOM	**Homer**	**0.69**	**193**	Pn	Pn	22 47 03.4	-0.4
REF	**Redoubt East F**	**0.69**	**284**		Pn	22 47 03.2	-0.9
REF					Sn	22 47 14.2	-0.4
RDSO	**Redoubt South**	**0.71**	**281**		Pn	22 47 03.4	-0.8
RDSO					Sn	22 47 14.6	-0.2
DFR	**Drift River**	**0.72**	**292**		Pn	22 47 03.5	-0.8
RED	**Redoubt Volcan**	**0.72**	**278**		Pn	22 47 03.6	-0.7
RED	comp=N,237nm,0.4s			IAML		22 47 15.0	
RED	comp=E,190nm,0.3s			IAML		22 47 15.2	
RDWB	**Redoubt West**	**0.76**	**283**		Sn	22 47 15.7	-0.3
CNPM	**China Poot**	**0.81**	**176**		Pn	22 47 05.0	-0.4
CNPM	comp=N,310nm,0.2s			IAML		22 47 17.9	
O22K	**Cooper Landing**	**0.82**	**79**		Pn	22 47 05.1	-0.3
IVE	**Iliamna Volcan**	**0.90**	**250**		Sn	22 47 18.7	-0.1
SPU	**Mount Spurr**	**0.93**	**338**		Pn	22 47 06.2	-0.7
SPU	comp=N,104nm,0.2s			IAML		22 47 20.1	
SPU	comp=E,100nm,0.2s			IAML		22 47 20.3	
ILSW	**Iliamna Southw**	**0.97**	**250**		Pn	22 47 06.8	-0.6
ILSW	comp=E,101nm,0.3s			IAML		22 47 20.9	
ILSW	comp=N,119nm,0.3s			IAML		22 47 21.3	
SEW	**Seward**	**0.97**	**103**	Pn	Pn	22 47 06.4	-0.9
SEW	comp=N,67nm,0.5s			IAML		22 47 23.4	
FIS	**Fire Island**	**0.99**	**33**		Pn	22 47 07.1	-0.4
FIS	comp=N,168nm,0.5s			IAML		22 47 25.1	
FIS	comp=E,166nm,0.3s			IAML		22 47 27.2	
RC01	**Rabbit Creek A**	**1.10**	**45**		Pn	22 47 08.3	-0.7
RC01	comp=N,170nm,0.3s			IAML		22 47 23.8	
RC01	comp=E,166nm,0.3s			IAML		22 47 25.3	
P19K	**Oil Pt**	**1.17**	**235**		Pn	22 47 09.1	-0.9
P19K	comp=N,175nm,0.2s			IAML		22 47 27.0	
P19K	comp=E,188nm,0.6s			IAML		22 47 32.0	
SUA	**Susitna One**	**1.18**	**14**		Pn	22 47 09.7	-0.5
STLK	**Strandline Lak**	**1.20**	**349**		Pn	22 47 10.2	-0.3
STLK	comp=E,50nm,0.7s			IAML		22 47 26.5	
STLK	comp=N,57nm,0.3s			IAML		22 47 27.4	
O19K	**Port Alsworth**	**1.49**	**266**		Pn	22 47 13.6	-0.7
M22K	**Willow**	**1.55**	**22**	Pn	Pn	22 47 14.7	-0.3
M22K	comp=E,84nm,0.3s			IAML		22 47 35.7	
M22K	comp=N,81nm,0.6s			IAML		22 47 40.4	
PWL	**Port Wells**	**1.57**	**69**	Pn	Pn	22 47 14.3	-1.1
PWL	comp=E,114nm,0.2s			IAML		22 47 34.4	
N19K	**Bonanza Creek**	**1.63**	**289**		Pn	22 47 15.2	-1.0
N19K	comp=E,42nm,0.3s			IAML		22 47 36.3	
N19K	comp=N,30nm,0.3s			IAML		22 47 36.7	
SKT	**Skwentna**	**1.66**	**357**		Pn	22 47 16.5	0.0
SKT	comp=N,38nm,0.3s			IAML		22 47 38.6	
SKT	comp=E,41nm,0.6s			IAML		22 47 38.7	
PMR	**Palmer**	**1.66**	**39**		Pn	22 47 15.2	-1.3
PMR	comp=E,40nm,0.1s			IAML		22 47 37.3	
PMR	comp=N,42nm,0.2s			IAML		22 47 37.5	
KNK	**Knik Glacier**	**1.78**	**51**	Pn	Pn	22 47 18.5	+0.3
M20K	**Styx River**	**1.79**	**332**		Pn	22 47 18.3	0.0
SYI	**Shuyak Island**	**1.81**	**198**	Pn	Pn	22 47 18.1	-0.4
SYI	comp=E,28nm,0.8s			IAML		22 47 46.2	
Q19K	**Cape Douglas,**	**1.83**	**221**	Pn	Pn	22 47 18.6	-0.2
GHO	**Glory Hole Cre**	**1.86**	**38**		Pn	22 47 18.7	-0.7
GHO	comp=N,75nm,0.3s			IAML		22 47 42.1	
O18K	**Koktuh Hills**	**2.00**	**258**	Pn	Pn	22 47 19.9	-1.2
O18K	comp=E,23nm,0.6s			IAML		22 47 50.3	
O18K	comp=N,21nm,0.9s			IAML		22 47 50.7	
P23K	**Montague Islan**	**2.00**	**98**		Pn	22 47 19.8	-1.3
P23K	comp=N,45nm,1.1s			IAML		22 47 44.2	
P23K	comp=E,26nm,0.5s			IAML		22 47 45.0	
GLI	**Glacier Island**	**2.16**	**73**		Pn	22 47 22.0	-1.4
GLI	comp=N,65nm,0.3s			IAML		22 47 47.8	
M19K	**Big River Lodg**	**2.17**	**318**		Pn	22 47 22.9	-0.5
P18K	**Big Mountain,**	**2.18**	**246**	Pn	Pn	22 47 22.1	-1.4
N18K	**Kilae Creek**	**2.28**	**281**		Pn	22 47 23.6	-1.4
HIN	**Hinchinbrook I**	**2.40**	**86**	Pn	Pn	22 47 24.6	-2.1
HIN	comp=E,23nm,0.4s			IAML		22 47 53.4	
HIN	comp=N,21nm,0.8s			IAML		22 47 53.8	
FID	**Port Fidalgo**	**2.44**	**78**	Pn	Pn	22 47 24.3	-2.8
FID	comp=E,55nm,0.4s			IAML		22 47 52.7	
SCM	**Sheep Creek Mo**	**2.46**	**51**	Pn	Pn	22 47 26.9	-0.6
SCM	comp=E,30nm,0.5s			IAML		22 47 59.8	
SCM	comp=N,25nm,0.5s			IAML		22 48 00.7	
L19K	**White Mountain**	**2.52**	**319**		Pn	22 47 27.8	-0.4
L19K	comp=E,15nm,0.9s			IAML		22 48 14.2	
PPLA	**Purkeypile**	**2.61**	**351**	Pn	Pn	22 47 28.9	-0.6
KDAK	**Kodiak Island**	**2.63**	**195**	Pn	Pn	22 47 28.1	-1.7
WAT7	**Susitna Watana**	**2.78**	**24**		Pn	22 47 31.5	-0.4
WAT1	**Susitna Watana**	**2.84**	**27**		Pn	22 47 32.3	-0.4
KLU	**Klutina**	**2.89**	**64**	Pn	Pn	22 47 32.1	-1.3
N17K	**Nushagak Hills**	**2.91**	**276**	Pn	Pn	22 47 32.1	-1.4
N17K	comp=N,10.0nm,0.4s			IAML		22 48 06.1	
CAST	**Castle Rocks**	**3.12**	**354**		Pn	22 47 36.9	+0.4
M17K	**Holitna River**	**3.17**	**292**		Pn	22 47 36.3	-0.8
M17K	comp=E,17nm,0.6s			IAML		22 48 13.5	
M17K	comp=N,28nm,0.3s			IAML		22 48 13.8	
TRF	**Thorofare Moun**	**3.17**	**9**		Pn	22 47 36.8	-0.5
TRF	comp=E,8.2nm,1.1s			IAML		22 48 37.9	
TRF	comp=N,7.5nm,0.7s			IAML		22 48 41.8	
L18K	**Granite Mounta**	**3.20**	**309**	IAML		22 48 14.7	
	comp=N,10nm,0.9s						
K20K	**Telida**	**3.30**	**338**	Pn	Pn	22 47 38.7	-0.2
RND	**Reindeer**	**3.31**	**20**		Pn	22 47 39.6	+0.6
DHY	**Denali Highway**	**3.34**	**33**		Pn	22 47 39.5	-0.1
DHY	comp=E,11nm,0.4s			IAML		22 48 20.0	
N16K	**Nishlik Lake**	**3.69**	**275**		Pn	22 47 43.8	-0.4
PAX	**Paxson**	**3.85**	**44**		Pn	22 47 46.2	-0.3
PAX	comp=N,5.2nm,0.8s			IAML		22 48 44.6	
K24K	**Donnelly Dome**	**4.36**	**34**		Pn	22 47 55.0	+1.6
WRH	**Wood River Hil**	**4.42**	**19**		Pn	22 47 54.2	0.0
HDA	**Harding Lake**	**4.58**	**25**		Pn	22 47 56.5	+0.2
HDA	comp=N,7.5nm,0.6s			IAML		22 48 49.3	
RIDG	**Independent Ri**	**4.59**	**39**		Pn	22 47 56.6	+0.1
RIDG	comp=E,6.0nm,1.0s			IAML		22 48 49.2	
RIDG	comp=N,6.3nm,1.0s			IAML		22 49 56.6	
CCB	**Clear Creek Bu**	**4.63**	**19**		Pn	22 47 56.8	-0.3
CCB	comp=N,4.4nm,0.5s			IAML		22 49 36.3	
CCB	comp=E,5.0nm,1.0s			IAML		22 49 38.0	
IL31		**4.91**	**23**		Pn	22 48 00.8	0.0
ILAR	**Eielson Array**	**4.91**	**23**		Pn	22 48 00.5	-0.3
SCRK	**Sand Creek**	**5.03**	**40**	IAML		22 49 46.4	
SCRK	comp=N,3.4nm,0.7s			IAML		22 49 50.9	
J25K	comp=E,6.8nm,0.9s **Salcha River,**	**5.11**	**30**		Pn	22 48 03.8	+0.1
J25K	comp=N,5.5nm,1.0s			IAML		22 49 40.7	
J26L	**Joseph Creek**	**5.53**	**37**		Pn	22 48 08.8	-0.7

*IDC **03** 22:52:53.1±1.1, 30.04N×143.12E, h0km, mb3.9/13, mbtmp3.8/16, ML3.3/2, Error ellipse: s-maj=33.5km s-min=21.4km az=75.0*

*NEIC **03** 22:52:55.8±1.5, 30.10N±0.05×143.0E±0.1, h10km±1km, mb4.2/7, Error ellipse: s-maj=19.5km s-min=7.8km az=280.0*

ISC 03 22:52:57.7±0.7, **29.98N**±0.07×**143.0E**±0.1, **h30**km, **n37**,

σ1ᵍ28/35, **mb4.1**/18, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.95**	**193**	Pn	**Pn**	**22 53 43.4**	**+0.9**
JCJ	**Chichijima**	**2.95**	**193**	Pn	**Pn**	**22 53 41.4**	**-1.1**
JCJ	13nm,0.3s,baz=0.0,slow=0.0 baz=0.0,slow=0.0			Sn	**Sn**	**22 54 14.8**	**-2.1**
JHJ2	**Mitsune**	**4.11**	**320**	Pn	**Pn**	**22 53 56.1**	**-2.5**
JGF	**Kuroka**	**7.32**	**321**	Pn	**Pn**	**22 54 42.1**	**-0.5**
MJAR	**Matsushiro Arr**	**7.66**	**330**		**Pn**	**22 54 45.3**	**-1.9**
MJAR	**Matsushiro Arr**	**7.66**	**330**	Pn	**Pn**	**22 54 45.2**	**-2.0**
	0.3nm,0.3s,baz=157,slow=11,SNR=14 2.6nm,0.4s						
MAJO	**Matsushiro**	**7.66**	**330**	Pn	**Pn**	**22 54 45.7**	**-1.5**
MJB9	**Matsu-Tunnel**	**7.66**	**330**	Pn	**Pn**	**22 54 45.8**	**-1.5**
JMM	**Marumori**	**8.07**	**348**	Pn	**Pn**	**22 54 50.4**	**-2.5**
KSRS	**Korea Array**	**14.55**	**305**	Pn	**Pn**	**22 56 20.1**	**-1.4**
	0.2nm,0.3s,baz=104,slow=14,SNR=5.0 0.7nm,0.5s						
KLR	**Kul'dur**	**21.03**	**339**	P	**P**	**22 57 38.5**	**-0.5**
	1.6nm,0.7s,baz=155,slow=14,SNR=5.2 1.6nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**24.43**	**113**	T	T	23 23 45.8	
	baz=303						
H11S1	**WAKE ISLAND Hy**	**24.43**	**112**	T	T	23 23 39.7	
	baz=303						
H11S2	**WAKE ISLAND Hy**	**24.44**	**112**	T	T	23 23 42.7	
	baz=303						
SONM	**Songino Array**	**33.18**	**313**	P	**P**	**22 59 32.5**	**+0.7**
	0.6nm,0.7s,baz=147,slow=8.2,SNR=2.7 0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**47.80**	**317**	P	**P**	**23 01 33.6**	**+1.5**
	0.5nm,0.3s,baz=110,slow=13,SNR=2.5 0.5nm,0.3s						
MKAR	**Makanchi Array**	**49.21**	**308**	P	**P**	**23 01 42.9**	**-0.3**
MKAR	**Makanchi Array**	**49.21**	**308**	P	**P**	**23 01 43.3**	**+0.1**
	0.6nm,0.6s,baz=92,slow=9.8,SNR=6.0 0.6nm,0.6s						
MAKZ	**Makanchi**	**49.42**	**308**	P	**P**	**23 01 44.3**	**-0.6**
MAKZ	comp=Z,1.5nm,0.8s			IAmb	IAmb	23 01 47.8	
WB0	**Warramunga Arr**	**50.14**	**191**	P	**P**	**23 01 51.6**	**+1.2**
WB0	comp=Z,4.5nm,1.1s			IAmb	IAmb	23 02 11.3	
WR8	**Warramunga Arr**	**50.31**	**190**	P	**P**	**23 01 53.4**	**+1.7**
WR8	comp=Z,4.0nm,1.1s			IAmb	IAmb	23 02 19.6	
WRA	**Warramunga AR**	**50.32**	**191**	P	**P**	**23 01 52.8**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=9.3,slow=8.3,SNR=2.2 comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**51.55**	**313**	P	**P**	**23 02 00.2**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=90,slow=7.0,SNR=4.8 comp=Z,0.8nm,0.3s						
BVAR	**Borovoye Array**	**56.41**	**316**	P	**P**	**23 02 36.9**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=96,slow=5.9,SNR=5.3 comp=Z,1.8nm,0.5s						
BRVK	**Borovoye**	**56.47**	**316**		**P**	**23 02 36.5**	**-0.1**
BRVK	comp=Z,1.4nm,0.7s			IAmb	IAmb	23 02 42.9	
KKAR	**Karatay Array**	**57.98**	**305**	P	**P**	**23 02 48.4**	**+0.8**
KKAR	**Karatay Array**	**57.98**	**305**	P	**P**	**23 02 48.4**	**+0.8**
G31M	**Satah River**	**60.01**	**27**	P	**P**	**23 03 02.1**	**+1.0**
G31M	comp=Z,2.8nm,1.1s			IAmb	IAmb	23 03 02.4	
AB31	**Akbulak array**	**63.59**	**313**	P	**P**	**23 03 26.1**	**+0.6**
ABKAR	**Akbulak array**	**63.59**	**313**	P	**P**	**23 03 26.4**	**+0.9**
FINES	**FINESS Array B**	**75.67**	**334**	P	**P**	**23 04 40.4**	**+0.7**
	comp=Z,4.7nm,1.1s,baz=71,slow=6.4,SNR=4.3 comp=Z,4.7nm,1.1s						
HFS	**Hagfors**	**81.05**	**337**	P	**P**	**23 05 09.0**	**-0.5**
	comp=Z,3.6nm,1.1s,baz=45,slow=2.9,SNR=1.7 comp=Z,3.6nm,1.1s						
NOA	**NORSAR Array B**	**81.19**	**338**	P	**P**	**23 05 10.7**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=55,slow=6.5,SNR=1.0 comp=Z,0.5nm,0.8s						
PDAR	**Pinedale Array**	**81.70**	**45**	P	**P**	**23 05 11.8**	**-1.9**
	comp=Z,0.1nm,0.4s,baz=8.7,slow=7.5,SNR=1.3 comp=Z,0.1nm,0.4s						
BRTR	**Keskin Array B**	**84.54**	**313**	P	**P**	**23 05 28.5**	**+0.2**
BRTR	**Keskin Array B**	**84.54**	**313**	P	**P**	**23 05 29.6**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=119,slow=4.4,SNR=3.7 comp=Z,0.4nm,0.6s						
ULM	**Lac du Bonnet**	**84.67**	**33**	P	**P**	**23 05 29.1**	**+0.5**
	comp=Z,2.6nm,1.0s,baz=31,slow=4.6,SNR=3.1 comp=Z,2.6nm,1.0s						

*NOU **03** 22:57:46.5, 22.73S×178.45W, h605km, mB4.8/7, South of Fiji Islands*

*IDC **03** 22:57:55.3±1.4, 23.59S×179.97W, h538km±13km, mb3.7/18, mbtmp4.6/20, Error ellipse: s-maj=13.9km s-min=11.5km az=96.0*

*NEIC **03** 22:57:57.0±1.9, 23.8S±0.1×180.0W±0.1, h555km±8km, mb4.5/43, Error ellipse: s-maj=18.7km s-min=16.6km az=82.0*

ISC 03 22:57:54.7±0.4, **23.70S**±0.05×**179.94W**±0.08, **h532**km, **n134**, σ1ᵍ57/146, **mb4.4**/43, **5C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.83**	**162**	P	**P**	**22 59 32.7**	**+2.0**
GLKZ				S	**S**	**23 00 55.0**	**+5.7**
MSVF	**Nonsavu**	**6.23**	**342**	P	**P**	**22 59 35.5**	**+0.7**
	3.8nm,0.4s,baz=214,slow=22,SNR=5.6						
DZM	**Mont Dzumac**	**12.66**	**275**		**P**	**23 00 42.0**	**+1.8**
DZM	**Mont Dzumac**	**12.66**	**275**	P	**P**	**23 00 41.6**	**+1.4**
	5.1nm,0.5s,baz=70,slow=14,SNR=12						
DZM	**Mont Dzumac**	**12.66**	**275**	P	P	23 00 45.3	+5.1
OUZ	**Omahuta**	**12.78**	**205**	P	**P**	**23 00 44.0**	**+2.8**
WCZ	**Waipu Caves**	**13.16**	**201**	P	P	23 00 50.1	+5.0
HAZ	**Te Kaha**	**14.15**	**187**	P	**P**	**23 00 54.4**	**-0.9**
HAZ				S	**S**	**23 03 21.3**	**-3.0**
TOZ	**Tahuroa Road**	**14.52**	**195**		**P**	**23 01 00.1**	**+0.9**
TWGZ	**Tauwhareparae**	**14.54**	**187**	P	**P**	**23 01 01.9**	**+2.4**
TWGZ				S	**S**	**23 03 28.9**	**-3.1**
URZ	**Urewera**	**14.73**	**189**	P	**P**	**23 00 58.8**	**-2.6**
	25nm,0.5s,baz=303,slow=2.0,SNR=20						
URZ				S	**S**	**23 03 34.3**	**-1.2**
	14nm,0.5s,baz=231,slow=22,SNR=9.7						
URZ	**Urewera**	**14.73**	**189**	P	**P**	**23 01 02.7**	**+1.3**
URZ	**Urewera**	**14.73**	**189**	P	**P**	**23 00 59.9**	**-1.5**
URZ				S	**S**	**23 03 30.6**	**-4.8**
MWZ	**Matawai**	**14.75**	**188**	P	**P**	**23 01 00.4**	**-1.2**
MWZ				S	**S**	**23 03 30.9**	**-4.9**
HRRZ	**Handcock Road**	**14.99**	**192**	P	**P**	**23 01 05.6**	**+1.3**
MTHZ	**Maungataniwha**	**15.35**	**190**	P	**P**	**23 01 08.2**	**+0.2**
MTHZ				S	**S**	**23 03 42.9**	**-4.0**
NMHZ	**Naumai**	**15.60**	**189**	P	**P**	**23 01 10.1**	**-0.4**
OTVZ	**Oturere**	**15.86**	**193**	P	**P**	**23 01 11.4**	**-1.9**
OTVZ				S	**S**	**23 03 53.4**	**-2.8**
SNVZ	**South Ngauruho**	**15.89**	**193**	P	**P**	**23 01 13.6**	**0.0**
KRHZ	**Kereru**	**16.20**	**190**	P	**P**	**23 01 15.3**	**-1.2**
KRHZ				S	**S**	**23 03 57.2**	**-4.6**
KAHZ	**Kahuranaki**	**16.27**	**189**	P	**P**	**23 01 16.3**	**-0.8**
TSZ	**Takapari Road**	**16.67**	**191**	P	**P**	**23 01 20.5

CAN **Canberra** **29.29 240** P **P** **23 03 15.1 +1.0**
CAN IAmb IAmb 23 03 16.6
comp=Z,17nm,0.9s
CMSA **Cobar Meteorol** **31.34 248** P **P** **23 03 32.6 +0.9**
CTAO **Charters Tower** **31.53 270** **P** **23 03 34.3 +0.8**
QLP **Quilpie** **32.50 257** P **P** **23 03 42.6 +1.0**
TOO **Toolangi** **32.60 237** **P** **23 03 43.2 +0.8**
TOO IAmb IAmb 23 03 44.5
comp=Z,6.1nm,0.6s
TAU **Tasmania Unive** **33.11 227** P **P** **23 03 47.2 +0.6**
BRAT **Ballarat** **33.80 237** P **P** **23 03 54.0 +1.6**
STKA **Stephens Creek** **34.85 248** **P** **23 04 01.4 +0.1**
STKA **Stephens Creek** **34.85 248** P **P** **23 04 02.0 +0.7**
comp=Z,13nm,0.6s,baz=95,slow=10,SNR=42
comp=Z,13nm,0.6s
COEN **Coen** **36.14 279** P **P** **23 04 12.0 -0.2**
COEN IAmb IAmb 23 04 14.0
comp=Z,24nm,1.3s
BBOO **Buckleboo** **39.58 247** **P** **23 04 39.6 -0.4**
AS31 **Alice Springs** **42.12 260** **P** **23 05 00.5 0.0**
AS31 IAmb IAmb 23 05 01.9
comp=Z,7.5nm,0.6s
ASAR **Alice Springs** **42.12 260** **P** **23 05 00.2 -0.4**
ASAR **Alice Springs** **42.12 260** P **P** **23 05 00.5 -0.1**
comp=Z,16nm,0.5s,baz=99,slow=7.2,SNR=156
ASAR ScP **ScP** **23 09 43.3 +0.6**
comp=Z,2.5nm,0.8s,baz=108,slow=3.9,SNR=12
comp=Z,16nm,0.5s
WB0 **Warramunga Arr** **42.47 266** **P** **23 05 02.5 -0.7**
WRA **Warramunga Arr** **42.48 266** P **P** **23 05 01.8 -1.5**
WRA **Warramunga Arr** **42.48 266** P **P** **23 05 02.6 -0.7**
comp=Z,18nm,0.4s,baz=103,slow=8.5,SNR=418
WRA ScP **ScP** **23 09 44.7 +0.5**
comp=Z,1.9nm,0.9s,baz=105,slow=3.9,SNR=7.8
comp=Z,18nm,0.4s
JAY **Jayapura** **43.49 293** P **P** **23 05 10.7 -0.6**
comp=Z,8.1nm,0.4s,baz=139,slow=4.1,SNR=15
comp=Z,8.1nm,0.4s
FORT **Forrest** **46.43 249** **P** **23 05 33.0 -0.6**
MTN **Manton Dam** **47.50 274** P **P** **23 05 40.8 -1.0**
MTN IAmb IAmb 23 05 42.0
comp=Z,8.2nm,0.7s
KNRA **Kununurra** **48.74 270** P **P** **23 05 50.7 -0.4**
KNRA IAmb IAmb 23 05 58.3
comp=Z,44nm,1.3s
FITZ **Fitzroy Crossi** **50.90 265** P **P** **23 06 06.9 -0.1**
FITZ **Fitzroy Crossi** **50.90 265** P **P** **23 06 07.1 +0.1**
comp=Z,13nm,0.6s,baz=101,slow=7.6,SNR=12
comp=Z,13nm,0.6s
VNDA **Vanda** **54.58 185** P **P** **23 06 33.9 +1.6**
VNDA **Vanda** **54.58 185** P **P** **23 06 33.7 +1.4**
comp=Z,2.0nm,0.7s,baz=2.1,slow=6.4,SNR=20
comp=Z,2.0nm,0.7s
MBWA **Marble Bar** **55.46 260** P **P** **23 06 38.6 -0.8**
MBWA IAmb IAmb 23 06 39.8
comp=Z,19nm,0.9s
CASY **Casey** **60.31 206** P **P** **23 07 11.1 -0.4**
TOLI2 **Tolitoli** **62.58 284** P **P** **23 07 27.3 0.0**
TOLI2 IAmb IAmb 23 08 08.1
comp=Z,13nm,0.9s
JAGI **Jajag, Banyuwa** **64.62 272** P **P** **23 07 38.8 -1.5**
JAGI IAmb IAmb 23 07 41.1
comp=Z,32nm,1.0s
QSPA **South Pole Qui** **66.38 180** P **P** **23 07 51.5 +0.9**
QSPA IAmb IAmb 23 07 53.0
comp=Z,13nm,0.7s
QSPA **South Pole Qui** **66.38 180** P **P** **23 07 51.7 +1.1**
comp=Z,14nm,0.7s,baz=44,slow=2.7,SNR=118
comp=Z,14nm,0.7s
UGM **Wanagama** **68.16 271** P **P** **23 08 01.4 -0.9**
KKM **Kota Kinabalu** **68.90 287** P **P** **23 08 06.4 -0.4**
KKM IAmb IAmb 23 08 19.1
comp=Z,16nm,1.0s
MJAR **Matsushiro Arr** **71.77 326** P **P** **23 08 22.0 -1.2**
comp=Z,1.9nm,0.8s,baz=158,slow=6.7,SNR=2.6
comp=Z,1.9nm,0.8s
ATKA **Atka Island** **75.74 4** P **P** **23 08 44.5 -0.8**
SMAI **San Martin Ant** **76.27 159** P **P** **23 08 49.0 +0.8**
BELA **Belgrano 2** **76.62 173** **P** **23 08 49.7 -0.4**
MAW **Mawson** **77.96 200** P **P** **23 08 57.8 +0.5**
comp=Z,5.3nm,0.6s,baz=147,slow=4.9,SNR=18
comp=Z,5.3nm,0.6s
UNV **Unalaska Valle** **78.09 8** P **P** **23 08 57.3 -0.8**
UNV IAmb IAmb 23 09 27.8
comp=Z,60nm,1.2s
KSRS **Korea Array** **78.13 320** P **P** **23 08 59.2 +0.4**
comp=Z,0.5nm,0.4s,baz=179,slow=1.3,SNR=1.8
comp=Z,0.5nm,0.4s
PETK **Petropavlovsk-** **78.92 346** P **P** **23 09 02.3 -0.3**
PETK **Petropavlovsk-** **78.92 346** P **P** **23 09 01.6 -1.1**
comp=Z,2.9nm,0.5s,baz=120,slow=5.3,SNR=7.7
comp=Z,2.9nm,0.5s
NJ2 **Nanjing** **80.57 311** *e*P **P** **23 09 12.6 +0.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
O02D **Mt. Diablo Mer** **82.87 40** P **P** **23 09 24.6 +1.1**
O02D IAmb IAmb 23 09 26.0
comp=Z,11nm,1.1s
TROLL **Troll, Antarti** **84.53 181** ⇑P **P** **23 09 31.0 -0.4**
comp=Z,437nm,0.4s
NVAR **Mina Array Bea** **84.57 44** P **P** **23 09 32.5 +0.4**
comp=Z,1.2nm,0.8s,baz=216,slow=6.8,SNR=4.5
comp=Z,1.2nm,0.8s
SNAA **Sanae** **84.86 179** ⇑P **P** **23 09 32.1 -0.8**
comp=Z,70nm,0.5s
SNAA **Sanae** **84.86 179** P **P** **23 09 32.1 -0.8**
SNAA **Sanae** **84.86 179** P **P** **23 09 31.7 -1.1**
comp=Z,2.3nm,0.5s,baz=204,slow=8.5,SNR=17
comp=Z,2.3nm,0.5s
J05D **Fort Rock, OR** **85.72 39** P **P** **23 09 38.5 +1.0**
J05D IAmb IAmb 23 09 39.4
comp=Z,5.1nm,0.8s
WVOR **Wild Horse Val** **86.72 41** P **P** **23 09 42.8 +0.6**
I07A **Izee** **87.20 39** **P** **23 09 45.1 +0.7**
I07A IAmb IAmb 23 09 46.3
comp=Z,5.4nm,0.9s
M19K **Big River Lodg** **87.74 12** P **P** **23 09 46.0 -0.4**
M19K IAmb IAmb 23 10 06.1
comp=Z,9.7nm,1.4s
L19K **White Mountain** **87.91 11** P **P** **23 09 47.5 +0.3**
L19K IAmb IAmb 23 09 48.0
comp=Z,5.2nm,0.8s
SUA **Susitna One** **88.07 14** P **P** **23 09 48.0 -0.1**
SUA IAmb IAmb 23 09 48.3
comp=Z,5.5nm,0.7s
G08A **Pilot Rock** **88.23 38** P **P** **23 09 49.8 +0.6**
G08A IAmb IAmb 23 09 50.9
comp=Z,5.6nm,1.0s
SEY **Seymchan** **89.09 348** P **P** **23 09 52.3 -0.3**
comp=Z,3.3nm,0.2s,baz=152,slow=7.5,SNR=5.1
comp=Z,3.3nm,0.2s
CMAR **Chiang Mai Arr** **89.51 290** P **P** **23 09 56.5 +0.8**
comp=Z,0.6nm,0.3s,baz=86,slow=2.7,SNR=5.4
comp=Z,0.6nm,0.3s
CAST **Castle Rocks** **89.56 12** P **P** **23 09 53.7 -1.1**
CAST IAmb IAmb 23 09 54.5
comp=Z,3.6nm,0.8s
HVU **Hansel Valley** **89.95 44** P **P** **23 09 58.0 +0.6**
HVU IAmb IAmb 23 09 58.8
comp=Z,3.7nm,0.7s
MNTX **Cornudas Mount** **90.05 55** P **P** **23 09 58.3 +0.5**
TX31 **Lajitas Ar. Si** **90.28 58** P **P** **23 09 59.5 +0.5**
TXAR **Lajitas Array** **90.28 58** P **P** **23 10 00.4 +1.3**
comp=Z,1.3nm,0.7s,baz=209,slow=6.6,SNR=15
comp=Z,1.3nm,0.7s
HHC **Hu-ho-hao-te** **90.32 315** *e*P **P** **23 10 02.3 +3.3**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,30nm,4.9s
BSUT **Blindstream Ca** **90.60 45** **P** **23 10 00.4 -0.2**
BSUT IAmb IAmb 23 10 02.2
comp=Z,6.3nm,0.8s
PZH **PanZhiHua** **90.64 299** P **P** **23 10 01.8 +1.0**
ILAR **Eielson Array** **91.82 14** P **P** **23 10 04.2 -1.0**
comp=Z,0.4nm,0.7s,baz=223,slow=6.2,SNR=5.7
comp=Z,0.4nm,0.7s
PDAR **Pinedale Array** **92.51 44** P **P** **23 10 09.1 -0.2**
comp=Z,0.6nm,0.7s,baz=194,slow=3.1,SNR=7.0
comp=Z,0.6nm,0.7s
MKAR **Makanchi Array** **112.06 313** PKiKP **PKiKP** **23 15 27.8 -1.6**
comp=Z,0.3nm,0.6s,baz=126,slow=2.0,SNR=2.8
BVAR **Borovoye Array** **120.33 319** PKP **PKPdf** **23 15 43.4 -1.7**
comp=Z,0.7nm,0.4s,baz=85,slow=3.0,SNR=4.8
ARCESS **ARCESS Array B** **131.70 348** PKP **PKPdf** **23 16 05.0 -1.3**
comp=Z,2.3nm,0.9s,baz=40,slow=2.1,SNR=4.9
FINES **FINESS Array B** **138.28 342** PKhKP PKPpre 23 16 06.9
comp=Z,1.5nm,0.9s,baz=48,slow=2.1,SNR=1.4
FINES PKP **PKPdf** **23 16 18.2 -0.6**
comp=Z,1.7nm,0.8s,baz=85,slow=2.0,SNR=4.3
FINES SKPbc **SKPbc** **23 19 01.5 -1.6**
comp=Z,0.8nm,0.5s,baz=64,slow=4.4,SNR=11
NOA **NORSAR Array B** **141.89 351** PKhKP PKPpre 23 16 20.3
comp=Z,0.4nm,0.9s,baz=32,slow=4.5,SNR=1.7
HFS **Hagfors** **142.36 349** PKhKP PKPpre 23 16 21.8
comp=Z,1.8nm,0.3s,baz=58,slow=3.9,SNR=44
AKASG **Malin Array Be** **144.83 327** PKP **PKPdf** **23 16 29.6 -1.2**
comp=Z,0.6nm,0.3s,baz=43,slow=4.2,SNR=11
BRTR **Keskin Array B** **147.50 307** PKPbc **PKPbc** **23 16 38.0 -1.3**
comp=Z,1.1nm,0.5s,baz=95,slow=3.7,SNR=6.5
MMAI **Mount Meron Ar** **147.67 295** PKPbc **PKPbc** **23 16 40.1 +0.3**
comp=Z,3.0nm,0.4s,baz=80,slow=5.2,SNR=28
EKA **Eskdalemuir Ar** **148.31 4** PKPbc **PKPbc** **23 16 39.5 -1.1**
comp=Z,0.3nm,0.3s,baz=333,slow=2.8,SNR=4.9
BUR08 **Bucovina Ar. S** **148.82 326** PKPbc **PKPbc** **23 16 42.5 +0.2**
BURAR **Bucovina Array** **148.84 326** PKPbc **PKPbc** **23 16 42.5 +0.2**
CSS **Mathiatis** **149.04 299** PKPbc **PKPbc** **23 16 42.6 -0.5**
BORA **Eskisehir** **149.74 309** PKPbc **PKPbc** **23 16 43.7 -1.0**
OSTC **Ostas** **150.39 339**⇑*e*PKP **PKPbc** **23 16 45.5 -0.3**
DPC **Dobruska-Polom** **150.53 339**⇑*e*PKP **PKPbc** **23 16 45.7 -0.5**
CLL **Collm** **150.68 343** **PKPbc** **23 16 45.6 -0.8**
ELL **Elmali** **151.25 304** PKPbc **PKPbc** **23 16 47.6 -0.8**
CKRC **Cesky Krumlov** **152.52 339**⇑*e*PKP **PKPbc** **23 16 50.0 -0.6**
GERES **GERESS Array B** **152.69 340** PKPbc **PKPbc** **23 16 50.0 -1.1**
comp=Z,0.3nm,0.4s,baz=21,slow=5.2,SNR=2.7
ESDC **Sonseca Array** **163.71 11** PKPab **PKPab** **23 17 51.1 -1.4**
comp=Z,0.8nm,0.9s,baz=338,slow=5.2,SNR=4.7
TORD **Torodi Ar. Bea** **169.39 189** PKP **PKPdf** **23 17 00.8 -0.9**
comp=Z,0.8nm,0.4s,baz=198,slow=4.1,SNR=2.9
TORD PKPab **PKPab** **23 18 17.8 -0.2**
comp=Z,0.6nm,0.5s,baz=166,slow=3.2,SNR=1.9

CFUSG ***03*** *23:08:19.8, 40.50N×34.20E, h10km, mb2.5/3, Central Turkey Magtype MSH 3.2 from 3 stations*
ISK ***03*** *23:08:19.5, 40.50N×34.15E, h9km, ML3.5/39*
AFAD ***03*** *23:08:20.0, 40.45N×34.16E, h7km±3km, MW3.3*
ISC 03 23:08:19.9±1.1, 40.47N±0.02×34.16E±0.02, h4km±10km, n65, σ0.91 s/87, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SUNG	**orum-Sungurl**	**0.29**	**167**	P		**Pg**	**23 08 26.6**	**+1.0**
YENC	**ankr-Yen**	**0.32**	**311**	P		**Pb**	**23 08 27.3**	**-1.0**
CANT	**Cankiri**	**0.43**	**288**	Pg		**Pg**	**23 08 28.2**	**-0.1**
CORM	**Corum**	**0.46**	**129**	Pg		**Pg**	**23 08 29.3**	**+0.4**
CORM				Sg		**Sb**	**23 08 37.0**	**-1.0**
DELI	**KIRIKKALE**	**0.51**	**201**	P		**Pg**	**23 08 30.0**	**+0.3**
DELI				S		**Sg**	**23 08 36.4**	**+0.1**
ELDT	**Eldivan**	**0.56**	**272**	P		**Pb**	**23 08 31.4**	**-1.0**
ELDT				S		**Sb**	**23 08 39.2**	**-1.5**
AYAZ	**Ayas K¶y, M**	**0.57**	**69**	P		**Pg**	**23 08 30.8**	**-0.1**
AYAZ				S		**Sg**	**23 08 38.2**	**-0.1**
TOS	**Tosya**	**0.57**	**350**	Pg		**Pg**	**23 08 30.5**	**-0.4**
GOKD	**Ankara-Kalecik**	**0.66**	**233**	P		**Pg**	**23 08 32.9**	**+0.3**
GOKD				S		**Sb**	**23 08 42.5**	**-1.1**
COAL	**Corum-Alaca**	**0.67**	**109**	P		**Pg**	**23 08 32.8**	**+0.1**
COAL				S		**Sb**	**23 08 43.1**	**-0.7**
ILGA	**Ilgaz**	**0.67**	**330**	P		**Pb**	**23 08 33.4**	**-0.9**
BR131	**Keskin Array S**	**0.85**	**208**	Pg		**Pg**	**23 08 35.6**	**-0.6**
YOZG	**Bozok Univ. Me**	**0.85**	**145**	P		**Pg**	**23 08 35.8**	**-0.4**
YOZG				S		**Sg**	**23 08 48.2**	**+1.0**
CDAG	**Cicekdag**	**0.86**	**169**	P		**Pg**	**23 08 36.5**	**0.0**
CDAG				S		**Sb**	**23 08 49.0**	**-0.4**
KMON	**Kastamonu**	**0.94**	**343**	Pg		**Pb**	**23 08 38.3**	**-0.6**
KESK	**Krkkale-Ke**	**0.95**	**208**	P		**Pg**	**23 08 37.3**	**-0.8**
AKPI	**Kirsehir/Akpin**	**0.98**	**187**	P		**Pg**	**23 08 37.7**	**-1.0**
CKRK	**Yozgat, Cekere**	**1.10**	**111**	P		**Pg**	**23 08 40.9**	**-0.1**
CKRK				S		**Sn**	**23 08 58.3**	**+0.5**
BOYA	**Sinop/Boyabat-**	**1.13**	**20**	P		**Pg**	**23 08 40.7**	**-0.9**
BOYA				S		**Sg**	**23 08 55.6**	**-0.7**
KAMT	**Kaman**	**1.16**	**197**	Pn		**Pb**	**23 08 41.0**	**-1.5**
ANTO	**Ankara**	**1.21**	**240**	Pn		**Pb**	**23 08 42.8**	**-0.6**
ANTO				Sn		**Sn**	**23 09 00.5**	**0.0**
LOD	**Lodumlu**	**1.22**	**242**	Pn		**Pb**	**23 08 42.9**	**-0.7**
LOD				Sn		**Sn**	**23 09 00.8**	**+0.1**
YOZ	**Yozgat**	**1.22**	**133**	Pn		**Pb**	**23 08 42.9**	**-0.7**
YOZ				Sn		**Sn**	**23 09 01.1**	**+0.3**
BBAL	**Bala**	**1.22**	**221**	P		**Pn**	**23 08 42.7**	**-1.2**
BBAL				S		**Sn**	**23 09 00.4**	**-0.5**
DERS	**Karabk-Eskip**	**1.28**	**288**	P		**Pg**	**23 08 45.0**	**+0.5**
DERS				S		**Sn**	**23 09 03.7**	**+1.3**
AFSR	**Afar-Bala (An**	**1.32**	**220**	Pn		**Pn**	**23 08 44.4**	**-0.8**
MCUR	**KIREHR**	**1.34**	**168**	P		**Pn**	**23 08 44.5**	**-1.0**
MCUR				S		**Sb**	**23 09 02.4**	**-0.7**
YARM	**Yarimca-Ladik(**	**1.34**	**70**	Pn		**Pn**	**23 08 44.7**	**-0.8**
KIRS	**Kirsehir-Merke**	**1.35**	**188**	P		**Pn**	**23 08 44.3**	**-1.4**
KIRS				S		**Sg**	**23 09 06.2**	**+2.8**
SAFT	**Safranbolu**	**1.35**	**305**	Pn		**Pn**	**23 08 44.8**	**-0.8**
SIRC	**Yozgat**	**1.37**	**146**	P		**Pn**	**23 08 44.7**	**-1.1**
SIRC				S		**Sn**	**23 09 03.9**	**-0.5**
KOZK	**Kozakli-Nevseh**	**1.37**	**156**	Pn		**Pb**	**23 08 45.9**	**-0.3**
KIZO	**Buyukkizoglu-L**	**1.41**	**72**	Pn		**Pn**	**23 08 46.0**	**-0.5**
DIKM	**Dikmen**	**1.44**	**35**	Pn		**Pn**	**23 08 46.0**	**-0.7**
BZK	**Bozkurt**	**1.49**	**355**	Pn		**Pb**	**23 08 46.9**	**-1.2**
KVT	**Kavak**	**1.56**	**66**	Pn		**Pb**	**23 08 48.4**	**-0.9**
SERE	**Sereflikochisa**	**1.59**	**197**	Pn		**Pn**	**23 08 48.9**	**-0.1**
KKUL	**Konya-Kulu**	**1.61**	**217**	P		**Pb**	**23 08 49.9**	**-0.4**
KKUL				S		**Sg**	**23 09 13.0**	**+1.2**
SINP	**Sinop**	**1.66**	**25**	Pn		**Pn**	**23 08 49.3**	**-0.5**
KULU	**Kulu**	**1.69**	**212**	Pn		**Pn**	**23 08 50.4**	**+0.2**
POLA	**Polatl-ANKAR**	**1.71**	**244**	Pn		**Pb**	**23 08 51.1**	**-0.9**
SNOP	**Sinop**	**1.73**	**27**	Pn		**Pn**	**23 08 50.4**	**-0.4**
KURC	**Kurucasile-Bar**	**1.74**	**322**	Pn		**Pn**	**23 08 50.2**	**-0.7**
TOKT	**Tokat**	**1.83**	**94**	Pn		**Pn**	**23 08 52.2**	**+0.1**
YUVA	**Yuva-Kibriscik**	**1.89**	**268**	Pn		**Pn**	**23 08 52.8**	**-0.2**
GULA	**Gulagac**	**2.13**	**178**	Pn		**Pn**	**23 08 56.7**	**+0.4**
CHBY	**Cihanbeyli**	**2.13**	**208**	Pn		**Pn**	**23 08 56.1**	**-0.2**
SVSK	**Karacayir**	**2.24**	**103**	Pn		**Pn**	**23 08 56.3**	**+0.5**
MDUB	**Mudurnu**	**2.26**	**271**	Pn		**Pn**	**23 08 58.1**	**0.0**
SVRH	**Sivrihisar-ESK**	**2.27**	**244**	Pn		**Pn**	**23 08 58.5**	**+0.2**
SULT	**Sultanhani-AKS**	**2.33**	**193**	Pn		**Pn**	**23 08 59.4**	**+0.4**
RSDY	**Resadiye-TOKAT**	**2.42**	**91**	Pn		**Pn**	**23 09 00.4**	**+0.2**
CIFT	**Cifteler, Eski**	**2.63**	**246**	Pn		**Pn**	**23 09 03.5**	**+0.3**
LADK	**Ladik-KONYA**	**2.66**	**212**	Pn		**Pn**	**23 09 04.1**	**+0.4**
SARI	**SarD1z-Kayseri**	**2.70**	**139**	Pn		**Pn**	**23 09 05.1**	**+0.8**
YESY	**Yesilyurt**	**2.71**	**187**	Pn		**Pn**	**23 09 04.9**	**+0.6**
GULT	**Gulveren**	**2.78**	**270**	Pn		**Pn**	**23 09 05.3**	**0.0**
CMRD	**Camardi-Nigde**	**2.88**	**167**	Pn		**Pn**	**23 09 07.4**	**+0.7**
KONT	**Konya--Tatoy**	**2.89**	**210**	Pn		**Pn**	**23 09 07.2**	**+0.5**
SAUV	**Serdivan-Sakar**	**2.93**	**276**	Pn		**Pn**	**23 09 07.4**	**+0.2**
ADVT	**Abdulvahap**	**3.37**	**271**	Pn		**Pn**	**23 09 13.9**	**+0.6**
SHUT	**Suhut-Afyon**	**3.39**	**237**	Pn		**Pn**	**23 09 14.3**	**+0.7**
YAL	**Yalta**	**4.01**	**360**	*e*P		**Pn**	**23 09 23.1**	**+1.0**
YAL				Pm			23 09 29.4	
	comp=Z,8.0nm,0.7s							
YAL				*e*S		**Sn**	**23 10 12.0**	**+2.5**
YAL				Sm			23 10 16.8	
	comp=N,4.0nm,0.5s							
YAL				Sm			23 10 16.8	
	comp=E,2.0nm,0.2s							
SEV	**Sevastopol'**	**4.08**	**355**	*e*P		**Pn**	**23 09 24.3**	**+1.2**
SEV				Pm			23 09 35.3	
	comp=Z,3.0nm,0.4s							
SEV				*e*S		**Sn**	**23 10 14.0**	**+2.7**
SEV				Sm			23 10 26.9	
	comp=E,3.0nm,0.5s							
SUDU	**Sudak**	**4.46**	**8**	*e*P		**Pn**	**23 09 30.2**	**+2.0**
SUDU				Pm			23 09 39.3	
	comp=Z,5.0nm,0.4s							
SUDU				*e*S		**Sn**	**23 10 21.9**	**+1.4**
SUDU				Sm			23 10 24.7	
	comp=N,11nm,0.4s							
SUDU				Sm			23 10 24.7	
	comp=E,6.0nm,0.6s							

IDC 03 23:09:53.7±3.7, 4.32S×152.53E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=134.0km s-min=51.1km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.57**	**227**	P		P	23 15 06.2	+0.1
	2.8nm,0.6s,baz=52,slow=9.6,SNR=13							
	2.8nm,0.6s							
ASAR	**Alice Springs**	**26.33**	**221**	P		P	23 15 31.4	-0.2
	0.3nm,0.5s,baz=43,slow=10,SNR=10							
	0.3nm,0.5s							

FITZ **Fitzroy Crossi** **29.66 240** P **P** 23 16 01.9 +0.6
1.4nm,0.5s,baz=60,slow=5.7,SNR=1.8
1.4nm,0.5s
TORD **Torodi Ar. Bea** **149.90 289** PKPbc PKPbc 23 29 46.3 -0.8
0.4nm,0.3s,baz=84,slow=2.6,SNR=1.7

IDC ***03*** *23:15:53.8±1.1, 0.34S×132.21E, h0km, mb3.7/6, mbtmp3.7/8, ML4.0/2, MS3.7/3, Error ellipse: s-maj=60.7km s-min=18.5km az=79.0*
DJA ***03*** *23:15:55.4±1.5, 0.5S±6×13.3E±°, h22km±16km, M4.1/1, MLv4.2/8, MLv4.1/1*
ISC 03 23:15:58.6±0.9, 0.19S±0.08×132.79E±0.05, h35km, n17, σ2.916/17, mb3.7/6, MS3.7/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.67**	**247**	P		**Pn**	**23 16 22.3**	**-3.0**
SWI				S		**Sn**	**23 16 47.5**	**+1.9**
RKPI	**Ransiki, Papua**	**1.91**	**133**	P		**Pn**	**23 16 27.3**	**-1.3**
FAKI	**Fak Fak**	**2.76**	**191**	P		**Pn**	**23 16 39.6**	**-0.8**
FAKI				S		**Sn**	**23 17 16.3**	**+3.7**
BAKI	**Biak**	**3.46**	**107**	P		**Pn**	**23 16 51.8**	**+1.8**
BAKI				S		**Sn**	**23 17 27.2**	**-2.6**
KMPI	**Kaimana, Papua**	**3.56**	**165**	P		**Pn**	**23 16 50.5**	**-0.9**
MSAI	**Masohi**	**4.97**	**231**	P		**Pn**	**23 17 12.0**	**+1.2**
FITZ	**Fitzroy Crossi**	**19.13**	**201**	P		**P**	**23 20 16.6**	**-2.2**
	0.5nm,0.3s,baz=31,slow=11,SNR=8.9							
FITZ				S		Sn	23 23 41.5	-12
	3.1nm,0.9s,baz=71,slow=16,SNR=2.4							
	1.6nm,0.6s							
WRA	**Warramunga Arr**	**19.69**	**176**	P		**P**	**23 20 23.1**	**-1.8**
	0.3nm,0.3s,baz=353,slow=12,SNR=12							
WRA				S		S	23 23 52.2	-13
	1.6nm,1.0s,baz=350,slow=23,SNR=2.1							
	1.4nm,0.5s							
ASAR	**Alice Springs**	**23.36**	**177**	P		**P**	**23 21 02.4**	**-1.7**
	2.7nm,0.6s,baz=0.3,slow=10,SNR=24							
	2.7nm,0.6s							
STKA	**Stephens Creek**	**32.59**	**166**	P		**P**	**23 22 27.6**	**+0.7**
	1.0nm,0.3s,baz=332,slow=8.6,SNR=3.2							
	1.0nm,0.3s							
NWAO	**Narrogin (SRO)**	**35.71**	**203**	LR		LR	23 39 32.1	
	comp=Z,145nm,18.3s,baz=94,slow=40							
PALK	**Pallekele**	**52.47**	**279**	LR		LR	23 49 06.7	
	comp=Z,60nm,19.0s,baz=14,slow=38							
MKAR	**Makanchi Array**	**64.24**	**324**	P		**P**	**23 26 29.5**	**-0.7**
	0.3nm,0.5s,baz=114,slow=7.4,SNR=3.6							
	0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**68.32**	**326**	P		**P**	**23 26 55.5**	**-0.7**
	0.4nm,0.7s,baz=126,slow=6.4,SNR=4.5							
	0.4nm,0.7s							
BVAR	**Borovoye Array**	**73.91**	**326**	P		**P**	**23 27 29.1**	**-1.0**
	0.4nm,0.7s,baz=120,slow=8.8,SNR=4.5							
	0.4nm,0.7s							
AKTO	**Aktyubinsk**	**80.48**	**321**	LR		LR	00 06 38.3	
	comp=Z,28nm,18.0s,baz=134,slow=38							
ILAR	**Eielson Array**	**86.04**	**25**	P		**P**	**23 28 38.5**	**+3.1**
	0.4nm,0.8s,baz=263,slow=5.3,SNR=4.3							
	0.4nm,0.8s							

UPP ***03*** *23:18:57.3±0.1, 67.85N×20.20E, h0km, ML2.0, Unknown*
IDC ***03*** *23:18:58.4±1.2, 67.83N×20.85E, h0km, mbtmp3.0/4, ML2.0/4, Error ellipse: s-maj=19.2km s-min=7.5km az=117.0*
HEL ***03*** *23:18:58.3±0.2, 67.86N×20.27E, h0km, ML1.7, Explosion Hypocentre not reviewed by the ISC*
ISC 03 23:18:56.7±1.0, 67.83N±0.03×20.33E±0.04, h7km±10km, n14, σ1.920/22, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**2**	P		**Pg**	**23 18 59.8**	**+0.4**
KUA				S		**Sg**	**23 19 01.5**	**+0.3**
RATU	**Laukkuluspa**	**0.28**	**268**	P		**Pg**	**23 19 01.9**	**-0.3**
RATU				S		**Sg**	**23 19 05.3**	**-0.6**
KOVU	**Salmi**	**0.40**	**351**	P		**Pg**	**23 19 04.5**	**+0.1**
KOVU				S		**Sg**	**23 19 09.8**	**+0.2**
MASU	**Masugnsbyn**	**0.74**	**120**	P		**Pn**	**23 19 12.1**	**-1.4**
MASU				S		**Sn**	**23 19 22.9**	**-2.2**
SALU	**Saltoluokta**	**0.83**	**238**	P		**Pg**	**23 19 12.3**	**-0.3**
SALU				S		**Sg**	**23 19 23.1**	**-0.3**
KIF	**Kilpisjarvi**	**1.19**	**8**	*e*P		**Pg**	**23 19 19.8**	**+0.3**
KIF	**Kilpisjarvi**	**1.19**	**8**	PB			23 19 20.3	
KIF				MSG			23 19 34.9	
	comp=Z,10nm,0.2s							
KIF				SB			23 19 35.7	
PAJU	**Pajala**	**1.35**	**126**	P		**Pg**	**23 19 22.8**	**+0.3**
PAJU				S		**Sn**	**23 19 41.4**	**+1.4**
PAJU	**Pajala**	**1.35**	**126**	PG			23 19 22.8	
	baz=304							
PAJU				SG			23 19 41.2	
HEF	**Hetta**	**1.38**	**64**	*e*P		**Pg**	**23 19 23.5**	**+0.5**
HEF	**Hetta**	**1.38**	**64**	PG			23 19 22.1	
HEF				MSG			23 19 40.0	
	comp=Z,5.5nm,0.2s							
HEF				SB			23 19 42.3	
ERTU	**Ertsjaerv**	**1.48**	**150**	P		**Pg**	**23 19 24.8**	**-0.1**
ERTU	**Ertsjaerv**	**1.48**	**150**	PG			23 19 25.2	
ERTU				SG			23 19 45.7	
KLF	**Kolari**	**1.52**	**112**	PG			23 19 26.1	
KLF				MSG			23 19 44.7	
	comp=Z,6.3nm,0.2s							
KLF				SG			23 19 47.1	
KTK1	**Kautokeino**	**1.60**	**41**	PG			23 19 27.2	
KTK1				SN			23 19 49.6	
HARU	**Harads**	**1.70**	**171**	P		**Pg**	**23 19 28.5**	**-0.7**
HARU				S		**Sg**	**23 19 51.9**	**+0.8**
TRO	**Tromso**	**1.88**	**345**	PG			23 19 31.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.41**	**210**	Pn	**Pn**	**23 36 50.5**	**+1.0**
	0.4nm,0.3s,baz=23,slow=12,SNR=8.3						
CMAR				LR	LR	23 41 31.6	
	comp=Z,34nm,18.4s,baz=195,slow=40						
SONM	**Songino Array**	**19.36**	**3**	P	**Pn**	**23 38 33.2**	**+0.1**
	0.1nm,0.3s,baz=199,slow=13,SNR=2.7						
	0.6nm,0.6s						
KSRS	**Korea Array**	**21.18**	**59**	P	**P**	**23 38 53.1**	**+1.4**
	1.6nm,0.6s,baz=247,slow=9.7,SNR=9.0						
	1.6nm,0.6s						
MKAR	**Makanchi Array**	**25.49**	**322**	P	**P**	**23 39 35.8**	**+1.4**
	0.5nm,0.7s,baz=120,slow=12,SNR=4.6						
	0.5nm,0.7s						
USRK	**Ussuriysk Ar.**	**26.66**	**47**	P	**P**	**23 39 45.9**	**+0.9**
	2.2nm,0.6s,baz=239,slow=7.0,SNR=3.7						
	2.2nm,0.6s						
ZALV	**Zalesovo Beam**	**29.41**	**335**	P	**P**	**23 40 09.0**	**-0.5**
	0.4nm,0.4s,baz=133,slow=10,SNR=2.2						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**29.81**	**325**	P	**P**	**23 40 13.1**	**+0.1**
	0.2nm,0.4s,baz=131,slow=9.9,SNR=2.0						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**35.34**	**324**	P	**P**	**23 40 59.6**	**-1.8**
	0.2nm,0.4s,baz=128,slow=9.3,SNR=1.3						
	0.2nm,0.4s						
GNI	**Garni**	**50.24**	**300**	LR	LR	00 07 52.5	
	comp=Z,34nm,18.0s,baz=342,slow=40						
WRA	**Warramunga Arr**	**55.87**	**146**	P	**P**	**23 43 43.2**	**-0.9**
	0.8nm,0.7s,baz=317,slow=12,SNR=11						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**58.86**	**149**	P	**P**	**23 44 03.6**	**-1.4**
	0.4nm,0.5s,baz=341,slow=6.7,SNR=6.5						
	0.4nm,0.5s						
GERES	**GERESS Array B**	**69.93**	**315**	P	**P**	**23 45 17.3**	**-0.2**
	0.2nm,0.4s,baz=65,slow=5.8,SNR=2.0						
	0.2nm,0.4s						

*DJA **03** 23:44:49.7±0.3,5°S×4°×13°0E±°, h215km±4km, M3.8/10, mB4.7/1, mb3.7/5, MLv3.9/10, Mw(mB)3.9/1*
*IDC **03** 23:45:03.6±9.1,5.80S×129.45E, h373km±113km, mb3.2/2, mbtmp3.6/5, Error ellipse: s-maj=69.0km s-min=42.6km az=79.0*
ISC 03 23:44:48.3±0.9,**5°28S**±0°07×**129°80E**±0°08,**h250**km,**n12,** σ3s**71/16, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.76**	**8**	P	**Pn**	**23 45 20.4**	**-1.8**
BNDI				S	**S**	**23 45 45.2**	**-3.6**
MSAI	**Masohi**	**2.10**	**336**	P	**Pn**	**23 45 30.0**	**-1.8**
MSAI				S	**S**	**23 45 58.5**	**-7.6**
NLAI	**Namlea**	**3.37**	**307**	P	**Pn**	**23 45 46.4**	**+1.6**
FAKI	**Fak Fak**	**3.39**	**46**	P	**Pn**	**23 45 44.5**	**-0.6**
KMPI	**Kaimana, Papua**	**4.21**	**68**	P	**Pn**	**23 45 54.6**	**-0.1**
SWI	**Sorong**	**4.62**	**18**	P	**Pn**	**23 45 58.2**	**-1.3**
SANI	**Sanana**	**4.97**	**310**	P	**Pn**	**23 46 03.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**13.38**	**197**	P	**P**	**23 47 51.7**	**+1.5**
	1.0nm,0.6s,baz=6.2,slow=8.8,SNR=1.5						
FITZ				S	**S**	**23 50 11.6**	**-5.8**
	2.2nm,0.6s,baz=201,slow=18,SNR=5.7						
WRA	**Warramunga Arr**	**15.23**	**164**	P	**Pn**	**23 48 14.3**	**+2.8**
	0.2nm,0.5s,baz=343,slow=13,SNR=6.1						
WRA				S	**S**	**23 50 55.6**	**-3.5**
	0.4nm,0.3s,baz=353,slow=17,SNR=5.6						
ASAR	**Alice Springs**	**18.71**	**168**	P	**Pn**	**23 48 53.4**	**+1.0**
	0.5nm,0.4s,baz=345,slow=11,SNR=6.1						
MKAR	**Makanchi Array**	**66.68**	**327**	P	**P**	**23 55 17.2**	**+4.8**
	0.6nm,0.5s,baz=116,slow=7.8,SNR=9.5						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**70.94**	**328**	P	**P**	**23 55 42.7**	**+4.2**
	0.7nm,0.5s,baz=122,slow=5.1,SNR=6.0						
	0.7nm,0.5s						

*IDC **03** 23:46:22.8±1.1,67°86N×20°55E, h0km, mbtmp3.0/4, ML2.0/4, Error ellipse: s-maj=18.2km s-min=6.5km az=121.0*
*UPP **03** 23:46:23.0±0.1,67°85N×20°21E, h0km, ML1.9, Unknown*
*HEL **03** 23:46:23.0±0.2,67°83N×20°16E, h0km, ML1.6, Suspected explosion Hypocentre not reviewed by the ISC*
ISC 03 23:46:22.7±1.1,**67°83N**±0°04×**20°26E**±0°04,**h4**km±12km, **n14,** σ1s**03**/24**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**13**	P	**Pg**	**23 46 25.4**	**+0.1**
KUA				S	**Sg**	**23 46 27.1**	**+0.1**
RATU	**Laukkuluspa**	**0.25**	**270**	P	**Pg**	**23 46 27.6**	**0.0**
RATU				S	**Sg**	**23 46 31.0**	**+0.1**
KOVU	**Salmi**	**0.40**	**355**	P	**Pg**	**23 46 30.2**	**-0.2**
KOVU				S	**Sg**	**23 46 35.4**	**-0.2**
MASU	**Masugnsbyn**	**0.76**	**118**	P	**Pb**	**23 46 37.8**	**-0.7**
MASU				S	**Sb**	**23 46 48.5**	**-0.7**
SALU	**Saltoluokta**	**0.81**	**237**	P	**Pg**	**23 46 38.0**	**-0.1**
SALU				S	**Sg**	**23 46 48.8**	**+0.2**
KIF	**Kilpisjarvi**	**1.20**	**9**	*eP*	**Pg**	**23 46 45.4**	**-0.2**
KIF	**Kilpisjarvi**	**1.20**	**9**	PG		23 46 45.3	
KIF				MSG		23 47 00.6	
	comp=Z,10nm,0.2s						
KIF				SG		23 47 01.0	
PAJU	**Pajala**	**1.36**	**125**	P	**Pg**	**23 46 48.4**	**-0.4**
PAJU				S	**Sb**	**23 47 06.8**	**+0.2**
PAJU	**Pajala**	**1.36**	**125**	PG		23 46 47.9	
PAJU				SB		23 47 06.9	
HEF	**Hetta**	**1.40**	**64**	*eP*	**Pn**	**23 46 48.9**	**-0.1**
HEF	**Hetta**	**1.40**	**64**	PG		23 46 48.7	
	baz=252						
HEF				MSG		23 47 06.0	
	comp=Z,3.9nm,0.2s						
HEF				SG		23 47 07.2	
ERTU	**Ertsjaerv**	**1.48**	**149**	P	**Pn**	**23 46 50.5**	**+0.4**
ERTU				S	**Sn**	**23 47 10.8**	**+0.9**
ERTU	**Ertsjaerv**	**1.48**	**149**	PG		23 46 50.3	
ERTU				SN		23 47 11.3	
KLF	**Kolari**	**1.54**	**111**	PG		23 46 51.3	
	baz=297						
KLF				MSG		23 47 10.4	
	comp=Z,4.1nm,0.2s						
KLF				SN		23 47 12.9	
KTK1	**Kautokeino**	**1.62**	**41**	PG		23 46 52.9	
KTK1				SN		23 47 14.6	
HARU	**Harads**	**1.69**	**170**	P	**Pn**	**23 46 54.2**	**+1.2**
HARU				S	**Sb**	**23 47 17.4**	**+1.4**
TRO	**Tromso**	**1.88**	**346**	PG		23 46 56.3	
TRO				SG		23 47 20.6	
KALU	**Kalix**	**2.33**	**147**	PB		23 47 03.6	
	baz=329						
KALU				SG		23 47 34.6	
TOF	**Tornio**	**2.37**	**136**	PG		23 47 04.9	
TOF				MSG		23 47 34.3	
	comp=Z,1.8nm,0.2s						
TOF				SG		23 47 37.1	
RNF	**Rovaniemi**	**2.55**	**116**	PB		23 47 07.4	
	baz=305						
RNF				SG		23 47 41.5	
ARA0	**ARCESS Array S**	**2.57**	**46**	PB		23 47 07.7	
ARA0				SB		23 47 40.5	
ARCES	**ARCESS Array B**	**2.57**	**46**	Pn	**Pn**	**23 47 05.2**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=225,slow=14,SNR=36						
ARCES				Lg	Lg	23 47 39.7	
	comp=Z,2.0nm,0.3s,baz=227,slow=27,SNR=23						
	comp=Z,1.0nm,0.3s						
RAJF	**Raja-Jooseppi**	**3.08**	**74**	PN		23 47 13.2	
RAJF				SB		23 47 52.9	
KEV	**Kevo**	**3.12**	**49**	SN		23 47 52.2	
RANF	**Ranua**	**3.15**	**122**	PB		23 47 15.4	
RANF				SG		23 47 59.8	
VRF	**Varrio**	**3.55**	**87**	PG		23 47 26.8	
	baz=280						
VRF				SG		23 48 13.6	
OUL	**Oulu**	**3.56**	**138**	PG		23 47 28.2	
OUL				SG		23 48 12.7	
KU2	**Taivalkoski**	**3.81**	**120**	PN		23 47 24.7	
OLKF	**Oulanka, Finla**	**3.88**	**109**	PN		23 47 26.0	
OLKF				SG		23 48 23.8	
OUF	**Merijarvi**	**3.92**	**150**	PG		23 47 35.0	
KU6	**Riekki**	**4.20**	**111**	PN		23 47 29.6	
FINES	**FINESS Array B**	**6.88**	**156**	Pn	**Pn**	**23 48 05.9**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=342,slow=13,SNR=4.1						
FINES				Sn	**Sn**	**23 49 23.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=344,slow=25,SNR=3.1						
FINES				Lg	Lg	23 49 55.5	
	comp=Z,0.5nm,0.3s,baz=340,slow=28,SNR=9.7						
	comp=Z,3.0nm,1.1s						
NOA	**NORSAR Array B**	**7.85**	**214**	Pn	**Pn**	**23 48 18.3**	**+0.8**
	baz=23,slow=12,SNR=2.5						
NOA				Lg	Lg	23 50 30.4	
	baz=39,slow=12,SNR=5.5						
	comp=Z,0.3nm,0.6s						
HFS	**Hagfors**	**8.24**	**204**	Pn	**Pn**	**23 48 21.3**	**-1.5**
	baz=22,slow=12,SNR=1.6						
HFS				Sn	**Sn**	**23 49 53.2**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=23,slow=22,SNR=2.2						
HFS				Lg	Lg	23 50 42.5	
	comp=Z,0.2nm,0.3s,baz=22,slow=31,SNR=3.3						
	comp=Z,3.1nm,1.1s						

*FUNV **03** 23:49:50.9, 10°18N×62°25W, h5km, MW2.9*
ISC 03 23:49:52.0±1.6,**10°2N**±0°2×**62°28W**±0°07,**h38**km,**n8,** σ1s**00/12, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**0.89**	**53**	*eP*	**Pn**	**23 50 06.9**	**-1.0**
DMDM				*eS*	**Sn**	**23 50 21.5**	**+1.8**
TRN	**Trinidad (W)**	**0.99**	**60**	*eP*	**Pn**	**23 50 09.3**	**0.0**
TRN				*eS*	**Sn**	**23 50 21.8**	**-0.2**
TRN				*eS*		23 50 24.3	
GRGR	**Grenville**	**2.05**	**17**	*eS*	**Sn**	**23 50 47.9**	**-0.4**
PCRV	**Puerto La Cruz**	**2.32**	**271**	*eP*	**Pn**	**23 50 27.8**	**+0.1**
TACV	**Tcata**	**4.68**	**270**	*eP*	**Pn**	**23 51 01.1**	**+1.0**
TACV				*eS*	**Sn**	**23 51 53.1**	**0.0**
CACV	**CAICARA DEL OR**	**4.94**	**239**	*eP*	Pn	23 50 58.7	-4.9
CACV				*eS*	Sn	23 51 49.7	-10
BENV	**Beln**	**5.25**	**268**	*eP*	**Pn**	**23 51 08.4**	**+0.5**
BENV				*eS*	**Sn**	**23 52 06.7**	**-0.5**
BAUV	**El Baul**	**5.81**	**258**	*eP*	**Pn**	**23 51 16.1**	**+0.4**
BAUV				*eS*	**Sn**	**23 52 19.4**	**-1.7**

*SOME **04** 00:01:48.3, 39°05N×73°08E, h30km*
*KRNET **04** 00:01:49.8±0.1, 39°03N×73°17E, h19km, mb3.7*
*NNC **04** 00:01:52.5±4.5, 38°83N×73°09E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=41.8km s-min=25.1km az=143.0*
ISC 04 00:01:51.9±1.4,**39°10N**±0°06×**73°19E**±0°03,**h19**km±3km, **n29,** σ3s**12**/54**, 27C-18D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.94**	**15**	⇓*eP*	**Pn**	**00 02 09.2**	**-1.2**
SFK				⇓*eS*	**Sn**	**00 02 23.4**	**0.0**
DRK	**Karamyk**	**1.14**	**290**	⇓*eP*	**Pg**	**00 02 11.9**	**-2.3**
DRK				⇓*eS*	**Sg**	**00 02 28.1**	**-1.1**
OHH	**Osh**	**1.46**	**348**	⇑*eP*	**Pb**	**00 02 18.2**	**-0.2**
OHH				⇑*eS*	**Sg**	**00 02 39.0**	**-0.1**
SALK	**Salom-Alik**	**1.84**	**15**	⇓*eP*	**Pb**	**00 02 25.3**	**+0.2**
SALK				⇓*eS*	**Sg**	**00 02 51.1**	**-0.4**
BTK	**Batken**	**2.07**	**298**	⇑*eP*	**Pb**	**00 02 27.9**	**-1.0**
BTK				⇑*eS*	**Sg**	**00 02 55.7**	**-2.9**
GAR	**Garm**	**2.24**	**268**	⇑*eP*	**Pb**	**00 02 29.7**	**-2.1**
GAR				⇑*eS*	**Sb**	**00 02 59.0**	**-0.2**
JNKS	**Jany-Kuch**	**2.72**	**43**	⇓*eP*	**Pb**	**00 02 37.5**	**-2.6**
JNKS				⇓*eS*	**Sb**	**00 03 12.4**	**-0.7**
ARK	**Arkit**	**2.85**	**341**	⇑*eP*	**Pb**	**00 02 39.3**	**-3.0**
ARK				⇑*eS*	**Sb**	**00 03 15.6**	**-1.2**
TRKS	**Terek-Say**	**2.89**	**328**	⇑*eP*	**Pb**	**00 02 38.8**	**-4.1**
TRKS				⇑*eS*	**Sb**	**00 03 14.5**	**-3.4**
AML	**Almayashu**	**3.05**	**7**	⇑*eP*	**Pb**	**00 02 42.5**	**-3.3**
AML				⇑*eS*	**Sb**	**00 03 20.9**	**-1.9**
NRN	**Naryn**	**3.17**	**42**	⇓*eP*	**Pb**	**00 02 43.4**	**-4.4**
NRN				⇓*eS*	**Sb**	**00 03 22.7**	**-3.5**
UCH	**Uchtor**	**3.28**	**17**	⇓*eP*	**Pb**	**00 02 45.7**	**-4.1**
UCH				⇓*eS*	**Sb**	**00 03 26.4**	**-3.1**
MNAS	**Manas**	**3.42**	**351**	⇓*eP*	**Pb**	**00 02 47.3**	**-4.7**
MNAS				⇓*eS*	**Sb**	**00 03 29.5**	**-3.8**
EKS2	**Erkin-Say**	**3.58**	**7**	⇓*eP*	Pb	00 02 49.7	-5.1
EKS2				⇓*eS*	**Sb**	**00 03 33.3**	**-4.6**
MRKS	**Merke**	**3.64**	**0**	*eP*	**Pb**	**00 02 54.1**	**-1.6**
	9.0nm,0.4s						
MRKS				*eS*	**Sb**	**00 03 41.5**	**+2.0**
	16nm,0.5s						
AAK	**Ala-Archa**	**3.67**	**15**	⇑Pn	**Pb**	**00 02 54.2**	**-2.0**
	5.0nm,0.6s						
AAK				⇑Sn	**Sb**	**00 03 42.9**	**+2.5**
	9.3nm,0.8s						
AAK	**Ala-Archa**	**3.67**	**15**	⇑*eP*	**Pn**	**00 02 50.8**	**+3.0**
AAK				⇑*eS*	**Sb**	**00 03 35.4**	**-5.0**
KBK	**Karagaybulak**	**3.79**	**20**	⇑*eP*	**Pn**	**00 02 52.5**	**+3.0**
KBK				⇑*eS*	**Sn**	**00 03 38.3**	**+4.6**
CHMS	**Chumysh**	**4.07**	**16**	⇓*eP*	**Pn**	**00 02 56.3**	**+3.2**
CHMS				⇓*eS*	**Sn**	**00 03 44.7**	**+4.5**
TKM2	**Tokmak 2**	**4.23**	**25**	⇓*eP*	**Pn**	**00 02 58.6**	**+3.1**
TKM2				⇓*eS*	**Sn**	**00 03 48.8**	**+4.4**
USP	**Ospenovka**	**4.28**	**13**	⇑*eP*	**Pn**	**00 02 59.2**	**+3.2**
USP				⇑*eS*	**Sn**	**00 03 49.8**	**+4.4**
KST	**Kastek**	**4.46**	**27**	*eP*	**Pg**	**00 03 13.9**	**-3.4**
	3.6nm,0.5s						
KST				*eS*	**Sg**	**00 04 15.8**	**+0.6**
	18nm,0.8s						
KK31	**Karatay Array**	**4.48**	**334**	Pn	Pb	00 03 04.7	-5.3
	1.9nm,0.3s,baz=144,slow=12,SNR=15						
KK31				⇑Sn	**Sb**	**00 04 00.7**	**-2.9**
	18nm,0.7s,baz=157,slow=23,SNR=7.5						
KKAR	**Karatay Array**	**4.48**	**334**	⇑*eP*	**Pn**	**00 03 01.9**	**+3.1**
KKAR				⇑*eS*	**Sn**	**00 03 54.4**	**+4.0**
BRLS	**Borolday**	**4.67**	**328**	*eP*	**Pb**	**00 03 09.2**	**-4.0**
	2.3nm,0.2s						
BRLS				*eS*	**Sb**	**00 04 07.5**	**-1.6**
	6.3nm,0.6s						
KOTS	**Kotyrbulak**	**5.08**	**34**	*eP*	**Pg**	**00 03 25.1**	**-4.1**
	3.0nm,0.4s						
KOTS				*eS*	**Sg**	**00 04 34.3**	**-0.6**
	28nm,0.7s						
CHKK	**Chushkaly**	**5.54**	**30**	*eP*	**Pg**	**00 03 34.8**	**-3.1**
	2.3nm,0.1s						
CHKK				*eS*	**Sg**	**00 04 51.0**	**+1.4**
	4.2nm,0.3s						
AB31	**Akbulak array**	**13.89**	**321**	⇑P	**Pn**	**00 05 10.0**	**+2.4**
	0.5nm,0.5s,baz=129,slow=14,SNR=9.3						
AKTO	**Aktyubinsk**	**15.60**	**322**	⇑P	**P**	**00 05 39.2**	**+4.5**
	2.2nm,1.4s						

*SJA **04** 00:01:53.1±0.9, 31°85S×69°48W, h126km±3km, ML3.8, MW3.8*
*NEIC **04** 00:01:54.5±1.5, 31°84S±0°04×69°52W±0°07, h116km±6km, mb4.5/13, Error ellipse: s-maj=9.0km s-min=5.9km az=114.0*
ISC 04 00:01:54.3±0.6,**31°85S**±0°03×**69°49W**±0°03,**h119**km±5km, **n93,** σ1s**47**/124**, mb4.5/7, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.17**	**72**	*eP*	**Pn**	**00 02 10.8**	**-0.4**
RTLS				*eS*	**Sn**	**00 02 23.3**	**-0.4**
RTLS				IAML		00 02 24.4	
	comp=Z,8μm,0.3s						
ZON	**Zonda**	**0.75**	**66**		**Pn**	**00 02 14.1**	**0.0**
ZON				Sn	**Sn**	**00 02 28.9**	**-0.1**
ZON	**Zonda**	**0.75**	**66**	*eP*	**Pn**	**00 02 14.1**	**0.0**
ZON				*eS*	**Sn**	**00 02 29.1**	**+0.1**
ZON				IAML		00 02 31.6	
	comp=Z,1μm,0.5s						
SJA	**San Juan**	**0.85**	**68**	*eP*	**Pn**	**00 02 10.9**	**-4.0**
SJA				*eS*	**Sn**	**00 02 31.6**	**+1.1**
SJA				IAML		00 02 31.6	
	comp=Z,1μm,0.3s						
ASAL	**Salagasta**	**0.92**	**143**	*eP*	**Pn**	**00 02 11.8**	**-3.8**
DOCA	**Reserva Natura**	**0.96**	**21**	*eP*	**Pn**	**00 02 16.4**	**0.0**
DOCA				*i S*	**Sn**	**00 02 32.8**	**-0.1**
RTLL	**Cerro Villicun**	**1.01**	**59**	*eP*	**Pn**	**00 02 16.5**	**+0.1**
RTLL				*eS*	**Sn**	**00 02 33.5**	**+0.4**
CFA	**Coronel Fontan**	**1.09**	**77**	*eP*	**Pn**	**00 02 17.4**	**+0.1**
CFA				*eS*	**Sn**	**00 02 35.0**	**+0.4**
VA03	**San Esteban**	**1.28**	**224**		**Pn**	**00 02 19.3**	**0.0**
VA03				Sn	**Sn**	**00 02 38.1**	**-0.1**
VA03	**San Esteban**	**1.28**	**224**	*eP*	**Pn**	**00 02 19.3**	**0.0**
VA03				*eS*	**Sn**	**00 02 39.6**	**+1.4**
VA03				IAML		00 02 40.9	
	comp=Z,902nm,0.2s						
ACCO	**Cerro Coronel**	**1.31**	**16**	*eP*	**Pn**	**00 02 20.5**	**+0.6**
CO03	**El Pedregal**	**1.44**	**314**		**Pn**	**00 02 21.2**	**+0.1**
CO03				*eP*	**Pn**	**00 02 21.2**	**+0.1**
CO03				*eS*	**Sn**	**00 02 42.6**	**+1.1**
CO03				IAML		00 02 45.4	
	comp=Z,2μm,0.5s						
CO02	**Combarbal**	**1.45**	**296**		**Pn**	**00 02 20.8**	**-0.4**
CO02	**Combarbal**	**1.45**	**296**	*eP*	**Pn**	**00 02 20.1**	**-1.1**
CO02				IAML		00 02 44.1	
	comp=Z,3μm,0.3s						
PEL	**Peldehue**	**1.64**	**218**		**Pn**	**00 02 23.0**	**-0.3**
PEL	**Peldehue**	**1.64**	**218**	*eP*	**Pn**	**00 02 23.1**	**-0.3**
PEL				*eS*	**Sn**	**00 02 45.5**	**0.0**
MT04	**Ro Olivares**	**1.64**	**199**	*eP*	**Pn**	**00 02 24.6**	**+1.0**
MT04				*eS*	**Sn**	**00 02 43.9**	**-2.1**
MT04				IAML		00 02 50.0	
	comp=Z,514nm,0.3s						
MT08	**Bocatoma Ro**	**1.65**	**196**		**Pn**	**00 02 24.4**	**+0.7**
MT08	**Bocatoma Ro**	**1.65**	**196**	*eP*	**Pn**	**00 02 19.3**	**-4.4**
MT08				*eP*		00 02 24.5	
MT08				*eS*	**Sn**	**00 02 49.6**	**+3.5**
MT08				IAML		00 03 03.6	
	comp=Z,256nm,0.6s						
AROD	**Rodeo**	**1.68**	**0**	*eP*	**Pn**	**00 02 25.2**	**+1.0**
ACDV	**Cuesta del Vie**	**1.70**	**11**	*eP*	**Pn**	**00 02 25.1**	**+0.8**
ACDV				*eS*	**Sn**	**00 02 47.6**	**+0.5**
ACDV				IAML		00 02 49.2	
	comp=Z,824nm,0.5s						
ROC1	**El Roble**	**1.71**	**229**	*eP*	**Pn**	**00 02 23.1**	**-1.3**
ROC1				*eS*	**Sn**	**00 02 47.9**	**+0.5**
MT16	**CCHEN**	**1.80**	**209**		**Pn**	**00 02 25.7**	**+0.4**
MT03	**Universidad Ad**	**1.85**	**208**		**Pn**	**00 02 26.3**	**+0.3**
MT03	**Universidad Ad**	**1.85**	**208**	*eP*	**Pn**	**00 02 26.4**	**+0.4**
MT03				*eS*	**Sn**	**00 02 51.4**	**+1.2**
MT03				IAML		00 02 52.0	
	comp=Z,2μm,0.4s						
MT05	**Renca**	**1.86**	**214**		**Pn**	**00 02 25.9**	**-0.2**
MT05	**Renca**	**1.86**	**214**	*eP*	**Pn**	**00 02 26.2**	**+0.1**
MT05				*eS*	**Sn**	**00 02 51.3**	**+0.9**
MT05				IAML		00 02 53.6	
	comp=Z,1μm,0.2s						
CO01	**Juntas del Tor**	**1.94**	**344**		**Pn**	**00 02 28.8**	**+1.5**
CO01	**Juntas del Tor**	**1.94**	**344**	*eP*	**Pn**	**00 02 23.4**	**-3.8**
CO01				*eS*	**Sn**	**00 02 55.4**	**+3.1**
CO01				IAML		00 02 57.1	
	comp=Z,344nm,0.5s						
MT02	**Curacav**	**1.98**	**224**		**Pn**	**00 02 26.2**	**-1.2**
MT02	**Curacav**	**1.98**	**224**	*eP*	**Pn**	**00 02 26.4**	**-1.1**
MT02				*eS*	**Sn**	**00 02 52.2**	**-0.6**
MT02				IAML		00 02 57.9	
	comp=Z,406nm,0.2s						
ACAN	**Cantantal**	**2.00**	**103**	*eP*	**Pn**	**00 02 27.6**	**-0.1**
GO04	**Tololo Observa**	**2.02**	**326**		**Pn**	**00 02 27.9**	**-0.3**
GO04	**Tololo Observa**	**2.02**	**326**	*eP*	**Pn**	**00 02 27.9**	**-0.3**
GO04				*eS*	**Sn**	**00 02 54.4**	**+0.4**
LMEL	**Las Melosas**	**2.08**	**197**		**Pn**	**00 02 29.3**	**+0.4**
LMEL	**Las Melosas**	**2.08**	**197**	*eP*	**Pn**	**00 02 29.4**	**+0.5**
LMEL				*eS*	**Sn**	**00 02 58.6**	**+3.3**
AVFE	**Valle Fertil**	**2.11**	**56**	*eP*	**Pn**	**00 02 29.3**	**+0.2**
AVFE				*eS*	**Sn**	**00 02 57.9**	**+2.1**
AVFE				IAML		00 02 58.6	
	comp=Z,288nm,0.3s						
VA01	**Torpederas**	**2.17**	**237**		**Pn**	**00 02 28.3**	**-1.5**
VA01	**Torpederas**	**2.17**	**237**	*eP*	**Pn**	**00 02 28.5**	**-1.3**
VA01				IAML		00 03 00.3	
	comp=Z,195nm,0.3s						
CO06	**Fray Jorge**	**2.18**	**302**		**Pn**	**00 02 28.7**	**-1.3**
MT09	**Talagante**	**2.30**	**213**		**Pn**	**00 02 30.6**	**-1.0**
BO04	**La Punta**	**2.33**	**204**		**Pn**	**00 02 32.0**	**0.0**
CO05	**La Serena**	**2.44**	**322**		**Pn**	**00 02 32.5**	**-0.8**
MT01	**Popeta**	**2.50**	**216**		**Pn**	**00 02 32.5**	**-1.4**
MT01	**Popeta**	**2.50**	**216**	*eP*	**Pn**	**00 02 32.6**	**-1.4**
MT01				*eS*	**Sn**	**00 03 02.4**	**-2.1**
MT01				IAML		00 03 03.8	
	comp=Z,350nm,0.1s						
ACHE	**Chepes**	**2.51**	**75**	*eP*	**Pn**	**00 02 34.7**	**+0.4**
ACHE				*eS*	**Sn**	**00 03 00.1**	**-4.9**
AGUA	**GUANDACOL**	**2.51**	**20**	*eP*	**Pn**	**00 02 35.5**	**+1.2**
AGUA				*eS*	**Sn**	**00 03 07.5**	**+2.5**
AGUA				IAML		00 03 08.6	
	comp=Z,798nm,0.2s						
VA05	**Santo Domingo**	**2.54**	**224**		**Pn**	**00 02 33.0**	**-1.6**
BO01	**Tunca**	**2.87**	**207**		**Pn**	**00 02 37.5**	**-1.3**
BO01	**Tunca**	**2.87**	**207**	*eP*	**Pn**	**00 02 37.6**	**-1.3**
BO01				*eS*	**Sn**	**00 03 12.0**	**-1.1**
BO01				IAML		00 03 13.9	
	comp=Z,203nm,0.3s						
APLL	**PUNTA DE LOS L**	**2.92**	**61**	*eP*	**Pn**	**00 02 39.9**	**+0.2**
APLL				*eS*	Sn	00 03 30.6	+16
LCO	**Las Campanas**	**3.02**	**339**		**Pn**	**00 02 40.8**	**-0.3**
LCO	**Las Campanas**	**3.02**	**339**	*eP*	**Pn**	**00 02 40.8**	**-0.3**
LCO				*eS*	**Sn**	**00 03 17.1**	**0.0**
RFA	**San Rafael**	**3.04**	**164**	*eP*	**Pn**	**00 02 40.8**	**-0.3**
RFA				*eS*	Sn	00 03 05.7	-11
RFA				IAML		00 03 16.2	
	comp=Z,173nm,0.3s	

QSPA				IAmb	IAmb	00 11 43.6
	comp=Z,4.9nm,1.5s					
WVT	**Waverly**	**69.78**	**344**	P	**P**	**00 12 52.0 +0.5**
WVT				IAmb	IAmb	00 12 53.3
	comp=Z,5.8nm,0.7s					
R40A	**Maddies Statio**	**72.94**	**341**	P	**P**	**00 13 11.4 +0.9**
R40A				IAmb	IAmb	00 13 12.2
	comp=Z,6.1nm,0.6s					
ECSD	**EROS Data Cent**	**79.21**	**340**	P	**P**	**00 13 46.9 +1.0**
TORD	**Torodi Ar. Bea**	**81.45**	**69**	P	**P**	**00 13 58.2 -0.3**

*IDC **04** 00:04:34.4±2.1, 35°.87N×141°.22E, h0km, mb3.8/6, mbtmp3.7/8, ML3.2/2, MS2.7/2, Error ellipse: s-maj=63.9km s-min=25.0km az=60.0*

*NEIC **04** 00:04:47.9±1.0, 35°.54N±0°.06×140°.09E±0°.09, h76km±6km, mb4.4/4, Error ellipse: s-maj=11.0km s-min=8.5km az=67.0*

*NIED **04** 00:04:48.0, 35°.63N×140°.04E, h67km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr7.89; Mθθ-0.86; Mφφ-7.03; Mrθ-0.36; Mθφ0.91; Mφr6.24; Fault plane solution: M₀9.78000×10¹⁴ NP1: φs169.00000°, δs25.00000°, λs85.00000°. NP2: φs355.00000°, δs65.00000°, λs92.00000°.*

*JMA **04** 00:04:48.0±0.2, 35°.6N±0°.5×140°.0E±0°.7, h67km±1km, MD3.8/39, MV3.2/39, CENTRAL CHIBA PREF*

JMA Felt I J1 at CENTRAL CHIBA PREF .

ISC 04 00:04:47.8±0.9, 35°.56N±0°.04×140°.03E±0°.05, h74km±8km, n45, σ0°.83/44, mb3.9/8, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.26**	**300**	A	A		00 04 58.5	
	comp=N,20nm,0.7s,comp=E,57nm,0.7s							
JSMT	**Sammumatsuo**	**0.35**	**76**	*i* P		**Pn**	**00 04 59.7**	**0.0**
JYO	**Yokosk**	**0.45**	**222**	A	A		00 05 00.6	
	comp=N,25nm,0.9s,comp=E,20nm,0.8s							
JOD2	**Odawara 2**	**0.83**	**249**	⇓*i* P		**Pn**	**00 05 04.3**	**-0.1**
JOD2				⇓S		**Sn**	**00 05 16.0**	**-0.7**
BSO3	**Boso 3**	**0.85**	**152**	*i* P		**Pn**	**00 05 04.4**	**0.0**
BSO3				S		**Sn**	**00 05 17.9**	**+1.2**
JIM2	**Oshima 3**	**0.97**	**211**	P		**Pn**	**00 05 05.8**	**-0.3**
JIM2				S		**Sn**	**00 05 19.2**	**-0.7**
JAG	**Ashikaga**	**0.98**	**332**	*i* P		**Pn**	**00 05 05.8**	**-0.5**
JAG				S		**Sn**	**00 05 18.9**	**-1.2**
JRY	**Ryogami san**	**1.03**	**297**	⇓*i* P		**Pn**	**00 05 07.1**	**+0.3**
JHTM	**Izuhatsuma**	**1.03**	**235**	A	A		00 05 07.5	
	comp=N,8.0nm,0.9s,comp=E,5.0nm,2.4s							
BSO1	**Boso 1**	**1.19**	**139**	P		**Pn**	**00 05 08.1**	**-0.2**
BSO1				*e*S		**Sn**	**00 05 24.6**	**+0.8**
JYN	**Shimob**	**1.22**	**268**	⇓*i* P		**Pn**	**00 05 09.4**	**+0.1**
JYN				⇓S		**Sn**	**00 05 25.4**	**+0.1**
JIZS	**Izushimoda**	**1.26**	**229**	⇓P		**Pn**	**00 05 09.9**	**+0.2**
JIZS				⇓S		**Sn**	**00 05 26.2**	**-0.1**
JKT	**Katashina**	**1.36**	**332**	*e*P		**Pn**	**00 05 11.0**	**-0.1**
MJAR	**Matsushiro Arr**	**1.77**	**304**			**Pn**	**00 05 17.2**	**+0.7**
MJAR	**Matsushiro Arr**	**1.77**	**304**	Pn		**Pn**	**00 05 16.7**	**+0.2**
	comp=E,3.8nm,0.3s,baz=123,slow=9.9,SNR=64							
MJAR				LR		LR	00 05 56.9	
	comp=E,108nm,19.7s,baz=96,slow=33							
	comp=E,18nm,0.3s							
MAJO	**Matsushiro**	**1.78**	**304**			**Pn**	**00 05 17.0**	**+0.5**
MAJO				Sn		**Sn**	**00 05 38.7**	**+0.3**
MJB9	**Matsu-Tunnel**	**1.78**	**304**			**Pn**	**00 05 17.1**	**+0.5**
MJB9				Sn		**Sn**	**00 05 38.8**	**+0.3**
JGF	**Kuroka**	**2.18**	**272**			**Pn**	**00 05 23.5**	**+1.5**
JMM	**Marumori**	**2.38**	**15**			**Pn**	**00 05 25.2**	**+0.5**
JHJ2	**Mitsune**	**2.45**	**184**	Pn		**Pn**	**00 05 25.4**	**-0.1**
INU	**Inuyama**	**2.47**	**266**			**Pn**	**00 05 25.9**	**+0.1**
JTM	**Tenmabayashi**	**5.28**	**9**	Pn		**Pn**	**00 06 04.0**	**-0.2**
JMN	**Monobe**	**5.39**	**252**	Pn		**Pn**	**00 06 07.0**	**+1.3**
ERM	**Erimo**	**6.89**	**20**	Pn		**Pn**	**00 06 26.2**	**+0.1**
JNU	**Nakatsue**	**7.95**	**255**	LR		LR	00 10 09.9	
	comp=E,52nm,18.5s,baz=58,slow=37							
KSRS	**Korea Array**	**9.93**	**285**	Pn		**Pn**	**00 07 10.8**	**+3.2**
	comp=E,0.2nm,0.3s,baz=96,slow=14,SNR=7.7							
	comp=E,1.5nm,0.8s							
SONM	**Songino Array**	**27.73**	**307**	P		**P**	**00 10 28.5**	**-0.7**
	comp=E,0.3nm,0.5s,baz=115,slow=13,SNR=1.7							
	comp=E,0.3nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**28.42**	**117**	T		T	00 40 01.2	
	baz=308,slow=75,SNR=8.4							
H11N1	**WAKE ISLAND Hy**	**28.43**	**117**	T		T	00 40 17.8	
	baz=308,slow=75,SNR=21							
H11N3	**WAKE ISLAND Hy**	**28.44**	**117**	T		T	00 40 22.7	
	baz=308,slow=75,SNR=4.9							
H11S3	**WAKE ISLAND Hy**	**29.06**	**119**	T		T	00 40 51.4	
	baz=311,slow=75,SNR=6.8							
H11S1	**WAKE ISLAND Hy**	**29.06**	**119**	T		T	00 40 49.3	
	baz=311,slow=75,SNR=7.1							
H11S2	**WAKE ISLAND Hy**	**29.08**	**119**	T		T	00 40 55.4	
	baz=311,slow=75,SNR=7.1							
ZALV	**Zalesovo Beam**	**42.10**	**314**	P		**P**	**00 12 31.5**	**-0.8**
ZALV	**Zalesovo Beam**	**42.10**	**314**	P		**P**	**00 12 32.4**	**0.0**
	comp=E,1.0nm,0.6s,baz=90,slow=7.4,SNR=5.3							
	comp=E,1.0nm,0.6s							
MKAR	**Makanchi Array**	**43.97**	**303**	P		**P**	**00 12 47.3**	**-0.3**
MKAR	**Makanchi Array**	**43.97**	**303**	P		**P**	**00 12 48.5**	**+1.0**
	comp=E,1.4nm,0.8s,baz=92,slow=9.4,SNR=10							
	comp=E,1.4nm,0.8s							
KURK	**Kurchatov**	**45.98**	**309**	P		**P**	**00 13 03.9**	**+0.5**
KURK				IAmb	IAmb		00 13 04.8	
	comp=Z,4.6nm,0.9s							
KURBB	**Kurchatov Arra**	**46.05**	**309**	P		**P**	**00 13 03.2**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=84,slow=7.9,SNR=19							
	comp=Z,2.3nm,0.8s							
BVAR	**Borovoye Array**	**50.75**	**313**	P		**P**	**00 13 40.7**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=64,slow=9.8,SNR=2.0							
	comp=Z,0.2nm,0.3s							
WB0	**Warramunga Arr**	**55.28**	**186**	P		**P**	**00 14 12.5**	**-1.1**
WB0				IAmb	IAmb		00 14 41.5	
	comp=Z,5.3nm,1.2s							
WRA	**Warramunga Arr**	**55.46**	**187**	P		**P**	**00 14 13.8**	**-1.1**
WRA	**Warramunga Arr**	**55.46**	**187**	P		**P**	**00 14 13.9**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=0.9,slow=7.6,SNR=11							
	comp=Z,1.2nm,0.8s							
ARTI	**Arti**	**56.84**	**319**	P		**P**	**00 14 24.4**	**+0.1**
ABKAR	**Akbulak array**	**58.04**	**310**	P		**P**	**00 14 33.1**	**+0.2**

*SJA **04** 00:12:11.9±0.6, 19°.33S×69°.40W, h101km±3km, ML4.5, MW4.3*

*GUC **04** 00:12:12.8±0.8, 19°.31S×69°.41W, h94km±3km, ML4.2*

*NEIC **04** 00:12:12.2±1.5, 19°.33S±0°.02×69°.39W±0°.08, h105km±6km, mb4.2/19, ML4.2(GUC), Error ellipse: s-maj=11.6km s-min=2.3km az=84.0*

*VAO **04** 00:12:15.1±0.9, 19°.12S×68°.99W, h105km±10km, mb4.3*

*IDC **04** 00:12:15.6±1.6, 19°.30S×68°.95W, h127km±18km, mb3.7/6, mbtmp4.1/11, MS2.9/2, Error ellipse: s-maj=20.0km s-min=15.7km az=92.0*

ISC 04 00:12:11.7±0.6, 19°.30S±0°.03×69°.30W±0°.05, h99km±6km, n103, σ1°.76/123, mb4.1/9, 7C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.38**	**165**			**Pn**	**00 12 28.4**	**+1.2**
GO01				Sn		**Sn**	**00 12 40.2**	**+1.5**
GO01	**Chusmiza**	**0.38**	**165**	⇑*i* P		**Pn**	**00 12 28.4**	**+1.2**
GO01				*e*S		**Sn**	**00 12 40.3**	**+1.5**
GO01	**Chusmiza**	**0.38**	**165**	*e*P		**Pn**	**00 12 28.4**	**+1.2**
GO01				*e*S		**Sn**	**00 12 40.5**	**+1.8**
PB11	**IPOC Station P**	**0.57**	**217**			**Pn**	**00 12 28.6**	**+0.5**
PB11				Sn		**Sn**	**00 12 39.6**	**-0.8**
PB11	**IPOC Station P**	**0.57**	**217**	⇑P		**Pn**	**00 12 28.7**	**+0.5**
PB11				*e*S		**Sn**	**00 12 40.8**	**+0.4**
PB11				IAML			00 12 43.6	
	14μm,0.2s							
PB11	**IPOC Station P**	**0.57**	**217**	*e*P		**Pn**	**00 12 28.6**	**+0.5**
PB11				*e*S		**Sn**	**00 12 41.1**	**+0.7**
PB11				IAML			00 12 44.5	
	comp=Z,5μm,0.3s							
PB08	**IPOC Station P**	**0.84**	**171**			**Pn**	**00 12 32.1**	**+1.2**
PB08				Sn		**Sn**	**00 12 46.9**	**+1.7**
PB08	**IPOC Station P**	**0.84**	**171**	*i* P		**Pn**	**00 12 32.4**	**+1.5**
PB08				*e*S		**Sn**	**00 12 47.1**	**+1.9**
PB08				IAML			00 12 48.8	
	comp=E,10μm,0.2s							
PB08	**IPOC Station P**	**0.84**	**171**	*e*P		**Pn**	**00 12 31.7**	**+0.8**
PB08				IAML			00 12 48.7	
	comp=Z,5μm,0.3s							
PX02	**IPOC Station P**	**0.92**	**292**	*e*P		**Pn**	**00 12 30.5**	**-0.8**
PB16	**IPOC Station P**	**0.98**	**348**			**Pn**	**00 12 34.0**	**+1.5**
PB16				Sn		**Sn**	**00 12 49.1**	**+1.0**
PB16	**IPOC Station P**	**0.98**	**348**	⇑*i* P		**Pn**	**00 12 34.0**	**+1.5**
PB16				*e*S		**Sn**	**00 12 49.9**	**+1.8**
PB16				IAML			00 12 50.8	
	comp=E,11μm,0.4s							
PB16	**IPOC Station P**	**0.98**	**348**	*e*P		**Pn**	**00 12 33.9**	**+1.5**
PB16				*e*S		**Sn**	**00 12 50.1**	**+2.0**
PB16				IAML			00 12 51.7	
	comp=Z,5μm,0.3s							
HMBC	**Humberstone**	**1.12**	**210**			**Pn**	**00 12 33.6**	**+0.1**
HMBC	**Humberstone**	**1.12**	**210**	⇑*i* P		**Pn**	**00 12 33.8**	**+0.3**
HMBC				*e*S		**Sn**	**00 12 50.4**	**+0.4**
HMBC				IAML			00 12 55.2	
	comp=N,12μm,0.3s							
HMBC	**Humberstone**	**1.12**	**210**	*e*P		**Pn**	**00 12 33.6**	**+0.1**
HMBC				*e*S		**Sn**	**00 12 50.2**	**+0.2**
HMBC				IAML			00 12 55.1	
	comp=Z,6μm,0.4s							
PX03	**IPOC Station P**	**1.14**	**196**	⇑*i* P		**Pn**	**00 12 33.7**	**0.0**
TA02	**Huaiquique**	**1.24**	**219**			**Pn**	**00 12 35.0**	**+0.2**
TA02	**Huaiquique**	**1.24**	**219**	*e*P		**Pn**	**00 12 35.5**	**+0.7**
TA02	**Huaiquique**	**1.24**	**219**	*e*P		**Pn**	**00 12 35.2**	**+0.4**
TA02				*e*S		Sn	00 12 35.2	-17
TA02				*e*S			00 12 54.2	
TA02				IAML			00 12 57.2	
	comp=Z,6μm,0.1s							
AP01	**Chacalluta**	**1.36**	**313**			**Pn**	**00 12 36.5**	**+0.4**
AP01	**Chacalluta**	**1.36**	**313**	⇑*i* P		**Pn**	**00 12 36.6**	**+0.4**
AP01				*e*S		**Sn**	**00 12 54.8**	**+0.1**
AP01	**Chacalluta**	**1.36**	**313**	*e*P		**Pn**	**00 12 36.8**	**+0.6**
AP01				*e*S		**Sn**	**00 12 55.9**	**+1.2**
AP01				IAML			00 12 60.0	
	comp=Z,8μm,0.1s							
TA01	**Diego Aracena**	**1.51**	**213**			**Pn**	**00 12 38.0**	**+0.1**
TA01	**Diego Aracena**	**1.51**	**213**	*e*P		**Pn**	**00 12 37.9**	**-0.1**
TA01				IAML			00 13 03.0	
	comp=N,7μm,0.3s							
TA01	**Diego Aracena**	**1.51**	**213**	*e*P		**Pn**	**00 12 37.9**	**-0.1**
TA01				*e*S		**Sn**	**00 12 58.0**	**+0.1**
TA01				IAML			00 13 03.1	
	comp=Z,2μm,0.3s							
PATCX	**Punta Patache**	**1.71**	**208**			**Pn**	**00 12 40.3**	**-0.3**
PB18	**Visviri**	**1.71**	**354**			**Pn**	**00 12 43.1**	**+2.0**
PB18	**Visviri**	**1.71**	**354**	*e*P		**Pn**	**00 12 45.0**	**+3.9**
PB18				IAML			00 13 26.3	
	comp=E,2μm,0.7s							
PB01	**IPOC Station P**	**1.74**	**186**			**Pn**	**00 12 41.9**	**+0.9**
PB01	**IPOC Station P**	**1.74**	**186**	⇑*i* P		**Pn**	**00 12 42.2**	**+1.2**
PB01	**IPOC Station P**	**1.74**	**186**	*e*P		**Pn**	**00 12 42.2**	**+1.2**
PB01				*e*S		**Sn**	**00 13 05.3**	**+2.0**
PB01				IAML			00 13 08.4	
	comp=Z,3μm,0.3s							
PB09	**IPOC Station P**	**2.48**	**179**			**Pn**	**00 12 52.2**	**+1.5**
PB09	**IPOC Station P**	**2.48**	**179**	*e*P		**Pn**	**00 12 52.8**	**+2.0**
PB09	**IPOC Station P**	**2.48**	**179**	*e*P		**Pn**	**00 12 52.6**	**+1.8**
PB09				*e*S		**Sn**	**00 13 12.9**	**-7.7**
PB09				IAML			00 13 33.9	
	comp=Z,2μm,0.5s							
PB03	**IPOC Station P**	**2.76**	**189**			**Pn**	**00 12 55.0**	**+0.5**
LPAZ	**La Paz**	**3.20**	**21**	Pn		**Pn**	**00 13 04.3**	**+3.6**
LPAZ	**La Paz**	**3.20**	**21**	P		**Pn**	**00 13 04.6**	**+3.9**
	comp=Z,30nm,0.4s,baz=198,slow=5.8,SNR=156							
LPAZ				S		**Sn**	**00 13 41.9**	**+3.5**
	comp=Z,42nm,0.6s,baz=358,slow=21,SNR=3.9							
LPAZ				LR		LR	00 14 39.8	
	comp=Z,88nm,20.3s,baz=258,slow=47							
LPAZ	**La Paz**	**3.20**	**21**	*e*P		**Pn**	**00 12 59.3**	**-1.4**
PB06	**IPOC Station P**	**3.40**	**184**			**Pn**	**00 13 04.7**	**+1.8**
PB06	**IPOC Station P**	**3.40**	**184**	*e*P		**Pn**	**00 13 04.2**	**+1.3**
PB06				*e*S		**Sn**	**00 13 43.5**	**+1.1**
PB06				IAML			00 13 56.3	
	comp=Z,2μm,0.3s							
PB05	**IPOC Station P**	**3.63**	**193**			**Pn**	**00 13 06.5**	**+0.5**
PB05	**IPOC Station P**	**3.63**	**193**	*e*P		**Pn**	**00 13 06.1**	**+0.1**
PB05	**IPOC Station P**	**3.63**	**193**	*e*P		**Pn**	**00 13 06.1**	**+0.1**
PB05				*e*S		**Sn**	**00 13 54.2**	**+6.2**
PB05				IAML			00 14 05.5	
	comp=Z,1μm,0.4s							
AF01	**San Pedro de A**	**3.78**	**164**			**Pn**	**00 13 09.6**	**+1.4**
AF01	**San Pedro de A**	**3.78**	**164**	*e*P		**Pn**	**00 13 12.8**	**+4.6**
PB10	**IPOC Station P**	**4.35**	**195**			**Pn**	**00 13 15.3**	**-0.3**
PB10	**IPOC Station P**	**4.35**	**195**	*e*S		Sn	00 14 14.7	+9.4
PB10				IAML			00 14 27.4	
	comp=Z,482nm,0.6s							
YJA	**Yavi**	**4.55**	**130**	*e*P		**Pn**	**00 13 23.1**	**+4.4**
PB14	**IPOC Station P**	**5.39**	**191**			**Pn**	**00 13 30.0**	**-0.1**
PB14	**IPOC Station P**	**5.39**	**191**	*e*P		**Pn**	**00 13 28.4**	**-1.7**
PB14				*e*S		Sn	00 14 41.6	+11
PB14				IAML			00 14 52.3	
	comp=Z,456nm,0.9s							
GO02	**Mina Guanaco**	**5.84**	**183**			**Pn**	**00 13 36.1**	**+0.1**
AC01	**Pan de Azucar**	**6.92**	**190**			**Pn**	**00 13 49.4**	**-1.1**
AC02	**Maricunga**	**7.50**	**179**			**Pn**	**00 13 58.5**	**-0.3**
SIV	**San Ignacio**	**8.51**	**68**	P		**Pn**	**00 14 11.5**	**-0.6**
	comp=Z,15nm,0.5s,baz=257,slow=9.8,SNR=111							
SIV				S		**Sn**	**00 15 42.9**	**-3.6**
	comp=Z,5.3nm,0.7s,baz=334,slow=21,SNR=1.8							
BBSD	**Serra de San D**	**8.52**	**77**	*e*P		**Pn**	**00 14 10.9**	**-1.4**
NNA	**Nana**	**10.28**	**314**	Pn		**Pn**	**00 14 35.8**	**-0.6**
NNA	**Nana**	**10.28**	**314**	P		Pn	00 14 42.5	+6.2
	comp=Z,8.5nm,0.4s,baz=170,slow=8.7,SNR=12							
PTLB	**Pontes e Lacer**	**10.43**	**70**	Pn		**Pn**	**00 14 37.5**	**-0.8**
PTLB	**Pontes e Lacer**	**10.43**	**70**	*e*P		**Pn**	**00 14 37.7**	**-0.6**
VILB	**Vilhena**	**10.78**	**55**	Pn		**Pn**	**00 14 43.4**	**+0.3**
VILB	**Vilhena**	**10.78**	**55**	*e*P		**Pn**	**00 14 42.7**	**-0.5**
VILB				*e*S		**Sn**	**00 16 37.2**	**-4.7**
CFA	**Coronel Fontan**	**12.29**	**176**	P		**Pn**	**00 15 05.3**	**+2.1**
	comp=Z,1.8nm,0.5s,baz=346,slow=12,SNR=7.9							
CPUP	**Villa Florida**	**13.06**	**125**	Pn		**Pn**	**00 15 13.3**	**-0.1**
CPUP	**Villa Florida**	**13.06**	**125**	P		**Pn**	**00 15 12.4**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=165,slow=12,SNR=11							
SJPY	**San Joaquin**	**13.47**	**117**	*e*P		**Pn**	**00 15 18.9**	**0.0**
MT02	**Curacav**	**14.00**	**186**	Pn		**Pn**	**00 15 25.2**	**-0.4**
MT08	**Bocatoma Ro**	**14.10**	**182**			**Pn**	**00 15 25.7**	**-1.5**
PDRB	**Porto dos Gac**	**14.32**	**60**	*e*P		**Pn**	**00 15 27.0**	**-2.9**
RPRD	**Ribas do Rio P**	**14.72**	**97**	*e*P		**Pn**	**00 15 34.6**	**-0.4**
TBTG	**Tabatinga, AM**	**15.04**	**358**	Pn		**Pn**	**00 15 38.8**	**-0.3**
TBTG	**Tabatinga, AM**	**15.04**	**358**	*e*P		**Pn**	**00 15 40.2**	**+1.2**
BO02	**Sierra Bellavi**	**15.48**	**185**	P		**Pn**	**00 15 45.0**	**+0.3**
BO02				IAmb	IAmb		00 15 54.3	
	comp=Z,11nm,0.8s							
CLDB	**Colider**	**15.49**	**59**	*e*P		**Pn**	**00 15 44.1**	**-0.6**
TRCB	**Terra Rica**	**15.94**	**105**			**Pn**	**00 15 50.8**	**+0.4**
TRCB				IAmb	IAmb		00 15 55.2	
	comp=Z,32nm,1.0s							
TRCB	**Terra Rica**	**15.94**	**105**	*e*P		**Pn**	**00 15 50.9**	**+0.6**
BI02	**San Fabin de**	**17.38**	**185**	P		**P**	**00 16 07.1**	**-0.8**
BI02				IAmb	IAmb		00 16 12.2	
	comp=Z,16nm,1.4s							
ITAB	**Concordia**	**17.62**	**120**	P		**P**	**00 16 10.9**	**+0.4**
CPSB	**Cacapava Do Su**	**18.12**	**131**	*e*P		**Pn**	**00 16 18.2**	**+1.3**
PLTB	**Pedras Altas**	**18.80**	**134**	P		**P**	**00 16 22.2**	**-1.2**
PLTB				IAmb	IAmb		00 16 27.3	
	comp=Z,14nm,1.1s							
TRQA	**Tornquist**	**19.74**	**163**	P		**P**	**00 16 34.0**	**+0.4**
TRQA				IAmb	IAmb		00 16 35.6	
	comp=Z,17nm,0.8s							
ITTB	**Itaituba**	**19.89**	**43**	*e*P		**P**	**00 16 35.0**	**-0.3**
BDFB	**Brasilia**	**20.62**	**83**	P		**P**	**00 16 45.2**	**+1.7**
BDFB	**Brasilia**	**20.62**	**83**	P		**P**	**00 16 43.5**	**+0.1**
	comp=Z,2.4nm,0.5s,baz=262,slow=11,SNR=4.4							
	comp=Z,2.4nm,0.5s							
VAO	**Valinhos**	**21.15**	**104**	P		**P**	**00 16 48.1**	**-0.8**
VAO				IAmb	IAmb		00 17 10.2	
	comp=Z,17nm,1.3s							
PLCA	**Paso Flores**	**21.39**	**183**	P		**P**	**00 16 50.8**	**-0.5**
PLCA				IAmb	IAmb		00 16 55.9	
	comp=Z,7.7nm,1.1s							
PLCA	**Paso Flores**	**21.39**	**183**	P		**P**	**00 16 52.4**	**+1.1**
	comp=Z,4.6nm,0.9s,baz=2.7,slow=9.1,SNR=6.8							
	comp=Z,4.6nm,0.9s							
OTAV	**Otavalo**	**21.40**	**334**	P		**P**	**00 16 52.1**	**+0.1**
OTAV	**Otavalo**	**21.40**	**334**	*e*P		**P**	**00 16 54.8**	**+2.7**
MAL2	**Monte Alegre,**	**22.67**	**43**	P		**P**	**00 17 03.7**	**-1.3**
MAL2				IAmb	IAmb		00 17 25.0	
	comp=Z,10nm,0.8s							
BOAV	**Boa Vista**	**23.22**	**23**	P		**P**	**00 17 10.1**	**-0.3**
RUSC	**La Rusia**	**25.31**	**351**	P		**P**	**00 17 28.8**	**-1.0**
RUSC				IAmb	IAmb		00 17 33.4	
	comp=Z,8.1nm,1.1s							
CELP	**Cerrillos**	**37.24**	**4**	P		**P**	**00 19 14.0**	**+0.2**
TKL	**Tuckaleechee C**	**56.36**	**346**	LR		LR	00 49 40.6	
	comp=Z,24nm,18.5s,baz=334,slow=40							
SNAA	**Sanae**	**64.47**	**161**	P		**P**	**00 22 38.1**	**+0.8**
SNAA				IAmb	IAmb		00 22 53.7	
	comp=Z,4.6nm,1.5s							
SNAA	**Sanae**	**64.47**	**161**	P		**P**	**00 22 37.6**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=276,slow=5.9,SNR=5.6							
	comp=Z,1.2nm,0.9s							
DBIC	**Dimbokro**	**68.48**	**74**	P		**P**	**00 23 01.9**	**-1.8**
DBIC	**Dimbokro**	**68.48**	**74**	P		**P**	**00 23 01.1**	**-2.6**
	comp=Z,12nm,1.0s,baz=267,slow=9.2,SNR=3.9							
	comp=Z,12nm,1.0s							
QSPA	**South Pole Qui**	**70.88**	**180**	P		**P**	**00 23 19.2**	**+1.4**
QSPA	**South Pole Qui**	**70.88**	**180**	P		**P**	**00 23 19.6**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=304,slow=3.1,SNR=6.5							
	comp=Z,0.4nm,0.5s							
TORD	**Torodi Ar. Bea**	**76.97**	**71**	P		**P**	**00 23 53.2**	**-0.9**
TORD				IAmb	IAmb		00 24 22.1	
	comp=Z,2.6nm,1.1s							
YKA	**Yellowknife Ar**	**89.00**	**341**	P		**P**	**00 24 55.6**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=138,slow=4.6,SNR=4.0							
	comp=Z,1.2nm,0.7s							
WRA	**Warramunga Arr**	**134.63**	**212**	PKP		**PKiKP**	**00 31 20.9**	**0.0**
	comp=Z,0.4nm,0.6s,baz=145,slow=1.7,SNR=2.6							

*SOME **04** 00:13:32.0, 39°.08N×71°.23E, h10km*

*NNC **04** 00:13:37.1±3.9, 39°.09N×70°.01E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=29.4km s-min=23.4km az=41.0*

ISC 04 00:13:37.6±2.9, 39°.1N±0°.2×70°.1E±0°.1, h10km, n8, σ2°.68/12, 2C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.09**	**360**	Pg		**Pb**	**00 14 31.0**	**-1.7**
	17nm,0.4s							
IUG				Lg		Lg	00 15 13.5	
	27nm,0.7s							
BRLS	**Borolday**	**3.98**	**358**	Pg		**Pb**	**00 14 43.7**	**-4.1**
	1.4nm,0.2s							
BRLS				Lg		Lg	00 15 35.2	
	4.2nm,0.4s							
BRLS	**Borolday**	**3.98**	**358**	*e*P		**Pb**	**00 14 43.7**	**-4.1**
	1.4nm,0.2s							
BRLS				*e*S		**Sb**	**00 15 35.2**	**-0.8**
	4.2nm,0.4s							
KK31	**Karatay Array**	**4.06**	**5**	Pn		**Pn**	**00 14 42.4**	**+2.6**
	0.7nm,0.2s,baz=185,slow=14,SNR=22							
KK31				⇓Sn		**Sn**	**00 15 28.9**	**+1.5**
	1.0nm,0.4s							
KK31				⇑Lg		Lg	00 15 49.1	
	3.1nm,0.5s,baz=176,slow=29,SNR=5.5							
MRKS	**Merke**	**4.40**	**32**	Pg		**Pn**	**00 14 45.0**	**+0.4**
	4.3nm,0.3s							
MRKS				Lg		Lg	00 15 37.8	
	5.2nm,0.4s							
MRKS	**Merke**	**4.40**	**32**	*e*P		**Pn**	**00 14 45.0**	**+0.4**
	4.3nm,0.3s							
MRKS				*e*S		**Sn**	**00 15 37.8**	**+1.8**
	5.2nm,0.4s							
TKM2	**Tokmak 2**	**5.70**	**46**	⇓Pn		**Pn**	**00 15 01.4**	**-1.1**
	1.7nm,0.6s							
TKM2				⇑Sn		**Sn**	**00 16 11.5**	**+3.3**
	1.7nm,0.5s							
AB31	**Akbulak array**	**12.51**	**328**	⇓P		**Pn**	**00 16 37.1**	**+1.6**
	0.3nm,0.4s,baz=142,slow=12,SNR=17							

*NEIC **04** 00:21:25.9±1.8, 12°.37N±0°.06×144°.7E±0°.1, h10km±1km, mb4.6/13, Error ellipse: s-maj=23.2km s-min=10.8km az=93

*UCR **04** 00:53:21.5±1.4, 11°.31N×85°.70W, h182km±7km, MW3.6*
*CATAC **04** 00:53:22.3±0.6, 11°.N×3°.8'6W±°, h177km±4km, M2.7/16, MLv2.7/16, Error ellipse: s-maj=11.6km s-min=4.6km az=58.4, confirmed*

ISC 04 00:53:22.3±2.2, 11°.25N±0°.06×85°.66W±0°.08, h183km±13km, n52, σ0.62/63, 7C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARN	**Rivas**	**0.14**	**116**	*eP*	**Pn**	**00 53 46.4**	**-0.1**
CARN	**Rivas**	**0.14**	**116**	P	**Pn**	**00 53 46.5**	**-0.1**
CARN				S	**Sn**	**00 54 05.0**	**-0.1**
LCRUZ	**La Cruz**	**0.17**	**172**	*eP*	**Pn**	**00 53 46.0**	**-0.6**
LCRUZ				*eS*	**Sn**	**00 54 05.2**	**-0.2**
ARIN	**Rivas**	**0.27**	**319**	P	**Pn**	**00 53 46.2**	**-0.5**
JAPN	**Al SSO del Vol**	**0.28**	**355**	P	**Pn**	**00 53 47.4**	**+0.6**
MORN	**Al O del Volca**	**0.29**	**1**	P	**Pn**	**00 53 47.1**	**+0.2**
BUAI	**Buenos Aires**	**0.49**	**139**	⇑*iP*	**Pn**	**00 53 47.6**	**+0.1**
LAPC	**Finca la Perla**	**0.53**	**155**	⇑*eP*	**Pn**	**00 53 47.1**	**-0.5**
VRLE	**La Escondida,**	**0.54**	**148**	*eP*	**Pn**	**00 53 48.1**	**+0.3**
ELI1	**Hacienda Flor**	**0.61**	**170**	*eP*	**Pn**	**00 53 47.8**	**-0.2**
ELI1				*eS*	**Sn**	**00 54 09.2**	**+1.3**
ALIBA	**Liberia Airpor**	**0.66**	**171**	*eP*	**Pn**	**00 53 48.1**	**-0.1**
MESS	**Mesas**	**0.68**	**138**	⇑*iP*	**Pn**	**00 53 48.4**	**0.0**
MESS				*eS*	**Sn**	**00 54 08.6**	**0.0**
VMAR	**Armenia, Volca**	**0.69**	**129**	*eP*	**Pn**	**00 53 48.5**	**+0.1**
VMAR				*eS*	**Sn**	**00 54 08.9**	**+0.3**
COLC	**Colonia**	**0.73**	**143**	*eP*	**Pn**	**00 53 49.1**	**+0.4**
CUI	**Cuipilapa**	**0.76**	**141**	⇑*eP*	**Pn**	**00 53 49.0**	**+0.1**
NANN	**Nandasmo**	**0.82**	**326**	S	**Sn**	**00 54 10.7**	**+0.6**
NANN	**Nandasmo**	**0.82**	**326**	P	**Pn**	**00 53 49.7**	**+0.5**
TIMP	**Tierras Morena**	**0.91**	**137**	*eP*	**Pn**	**00 53 49.6**	**-0.3**
PLVR	**Palo Verde**	**0.94**	**162**	*eP*	**Pn**	**00 53 50.5**	**+0.3**
INVE	**Universidad In**	**0.96**	**143**	*eP*	**Pn**	**00 53 51.3**	**+1.2**
QUEB	**Quebradon, Cot**	**0.97**	**130**	*eP*	**Pn**	**00 53 50.0**	**-0.2**
UNAN	**Cigeo UNAN**	**1.05**	**325**	P	**Pn**	**00 53 50.2**	**-0.5**
SAPS	**Ciudad Sandino**	**1.17**	**321**	P	**Pn**	**00 53 51.1**	**-0.6**
SAPS	**Ciudad Sandino**	**1.17**	**321**	S	**Sn**	**00 54 16.1**	**+1.6**
JTS	**Las Juntas de**	**1.18**	**144**	⇑*iP*	**Pn**	**00 53 51.6**	**-0.2**
JTS				*eS*	**Sn**	**00 54 13.4**	**-1.2**
BOAB	**BOACO BROADBAN**	**1.19**	**359**	P	**Pn**	**00 53 51.0**	**-0.8**
CEDE	**Laguna Cedeo**	**1.20**	**129**	*eP*	**Pn**	**00 53 52.7**	**+0.6**
ARE1	**Arenal 1**	**1.21**	**130**	⇑*iP*	**Pn**	**00 53 52.5**	**+0.5**
ARE1				*eS*	**Sn**	**00 54 15.9**	**+0.9**
VARE2	**V. Arenal**	**1.21**	**130**	*eP*	**Pn**	**00 53 52.1**	**0.0**
APQ3	**Volcan Apoyequ**	**1.23**	**326**	P	**Pn**	**00 53 51.7**	**-0.4**
VACR	**Volcan Arenal**	**1.23**	**129**	*eP*	**Pn**	**00 53 53.0**	**+0.7**
FORC	**Fortuna**	**1.24**	**129**	*eP*	**Pn**	**00 53 52.5**	**+0.2**
CMARA	**Lajas Hojancha**	**1.24**	**169**	*eP*	**Pn**	**00 53 52.4**	**0.0**
CMARA				*eS*	**Sn**	**00 54 15.0**	**-0.7**
CMARA	**Lajas Hojancha**	**1.24**	**169**	P	**Pn**	**00 53 52.4**	**0.0**
COPN	**Copaltepe**	**1.30**	**315**	*eP*	**Pn**	**00 53 52.3**	**-0.5**
COPN	**Copaltepe**	**1.30**	**315**	P	**Pn**	**00 53 52.1**	**-0.7**
SOCE	**Pocosol**	**1.33**	**130**	*eP*	**Pn**	**00 53 53.5**	**+0.4**
SOCE	**Pocosol**	**1.33**	**130**	S	**Sn**	**00 54 16.4**	**-0.5**
SOCE	**Pocosol**	**1.33**	**130**	P	**Pn**	**00 53 53.1**	**0.0**
INDI	**Punta indio, G**	**1.38**	**174**	S	**Sn**	**00 54 16.5**	**-1.3**
INDI	**Punta indio, G**	**1.38**	**174**	P	**Pn**	**00 53 53.4**	**-0.1**
MOM2	**El Cardon**	**1.43**	**326**	P	**Pn**	**00 53 53.9**	**0.0**
MOM2				S	**Sn**	**00 54 18.8**	**+0.3**
MOMN	**Momotombo**	**1.44**	**323**	P	**Pn**	**00 53 53.7**	**-0.4**
MOMN				S	**Sn**	**00 54 18.4**	**-0.4**
CNGN	**Cerro Negro**	**1.61**	**321**	*eP*	**Pn**	**00 53 55.3**	**-0.3**
CNGN	**Cerro Negro**	**1.61**	**321**	S	**Sn**	**00 54 22.2**	**+0.7**
CNGN	**Cerro Negro**	**1.61**	**321**	P	**Pn**	**00 53 55.2**	**-0.4**
ESPN	**Las Esperanzas**	**1.63**	**55**	P	**Pn**	**00 53 54.7**	**-1.1**
CBL1	**Cabuya**	**1.74**	**161**	*eP*	**Pn**	**00 53 56.9**	**-0.1**
LIMN	**Finca el Limon**	**1.93**	**339**	P	**Pn**	**00 53 59.6**	**+0.6**
PAR1A	**Puntarenas Pro**	**2.15**	**140**	*eP*	**Pn**	**00 54 02.5**	**+1.3**
LCR2	**La Lucha 2**	**2.21**	**133**	*eP*	**Pn**	**00 54 02.9**	**+0.8**
LCR2				*eS*	**Sn**	**00 54 32.0**	**-1.1**
PIEC	**Cerro El Cedra**	**2.33**	**134**	*eP*	**Pn**	**00 54 03.9**	**+0.4**

*IDC **04** 00:55:18.3±12.0, 7°.93S×113°.35E, h148km±123km, mb3.3/4, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=155.3km s-min=29.2km az=49.0*
*DJA **04** 00:55:20.5±0.4, 8°.S±6°×11°.3E±°, h152km±4km, M2.8/1, MLv3.8/16, MLv2.8/1*

ISC 04 00:55:19.0±0.9, 8°.44S±0°.09×113°.09E±0°.05, h166km±8km, n19, σ1.974/26, mb3.6/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**0.39**	**64**	P	**Pn**	**00 55 42.4**	**+0.7**
GMJI				S	**Sn**	**00 55 58.9**	**-0.1**
JAGI	**Jajag, Banyuwa**	**1.05**	**92**	P	**Pn**	**00 55 46.5**	**+0.8**
JAGI				S	**Sn**	**00 56 05.8**	**-0.4**
KMMI	**Kalianget**	**1.63**	**32**	P	**Pn**	**00 55 52.0**	**+0.8**
GRJI	**Gresik**	**1.64**	**338**	P	**Pn**	**00 55 50.9**	**-0.3**
GRJI				S	**Sn**	**00 56 16.0**	**-0.1**
PCJI	**Pacitan**	**1.91**	**277**	P	**Pn**	**00 55 55.1**	**+1.0**
PCJI				S	**Sn**	**00 56 20.6**	**-0.6**
NGJI	**Ngawi**	**1.94**	**303**	P	**Pn**	**00 55 55.8**	**+1.4**
TBJI	**Tambak Boyo**	**2.03**	**323**	P	**Pn**	**00 55 56.2**	**+0.7**
SRBI	**Singaraja**	**2.13**	**81**	P	**Pn**	**00 55 58.0**	**+1.4**
WOJI	**Wonogiri, Jawa**	**2.23**	**286**	P	**Pn**	**00 55 58.7**	**+1.0**
WOJI				S	**Sn**	**00 56 27.9**	**+0.3**
UGM	**Wanagama**	**2.60**	**282**	P	**Pn**	**00 56 03.0**	**+0.9**
UGM				S	**Sn**	**00 56 34.2**	**-1.3**
SMRI	**Semarang**	**2.97**	**298**	P	**Pn**	**00 56 07.1**	**+0.5**
TWSI	**Taliwang, Sumb**	**3.76**	**95**	P	**Pn**	**00 56 16.8**	**+0.2**
PLAI	**Plampang**	**4.65**	**95**	P	**Pn**	**00 56 29.4**	**+1.3**
CNJI	**Cibinong**	**6.01**	**280**	P	**Pn**	**00 56 46.7**	**+0.7**
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=292,slow=6.3,SNR=11	**15.52**	**129**	P	**Pn**	**00 58 50.9**	**+1.7**
FITZ	1.8nm,0.6s,baz=178,slow=23,SNR=8.7 8.5nm,1.1s			S	**Sn**	**01 01 36.2**	**-6.2**
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=298,slow=12,SNR=13 0.5nm,0.4s	**23.52**	**121**	P	**P**	**01 00 15.7**	**+1.4**
ASAR	**Alice Springs** 1.4nm,0.6s,baz=304,slow=8.9,SNR=16 1.4nm,0.6s	**25.03**	**130**	P	**P**	**01 00 30.3**	**+2.4**
MKAR	**Makanchi Array** 0.5nm,0.3s,baz=162,slow=6.9,SNR=8.9 0.5nm,0.3s	**61.45**	**336**	P	**P**	**01 05 17.0**	**-0.8**
KURBB	**Kurchatov Arra** 0.3nm,0.4s,baz=148,slow=6.9,SNR=2.4 0.3nm,0.4s	**66.02**	**337**	P	**P**	**01 05 45.9**	**-1.6**

IDC 04 00:59:07.1±3.3, 49°.66S×108°.00E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=225.3km s-min=29.0km az=124.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H** baz=199,slow=74,SNR=61	**15.42**	**19**	T	T	01 18 06.2	
H01W1	**Cape Leeuwin H** baz=199,slow=74,SNR=69	**15.43**	**19**	T	T	01 18 14.1	
H01W3	**Cape Leeuwin H** baz=199,slow=74,SNR=59	**15.44**	**19**	T	T	01 18 11.8	
ASAR	**Alice Springs** 0.9nm,0.6s,baz=210,slow=8.8,SNR=8.5 0.9nm,0.6s	**32.93**	**47**	P	P	01 05 42.8	-0.4
WRA	**Warramunga Arr** 1.4nm,0.8s,baz=210,slow=8.1,SNR=5.0 1.4nm,0.8s	**36.33**	**45**	P	P	01 06 12.9	+0.3
SNAA	**Sanae** 0.6nm,0.9s,baz=150,slow=14,SNR=1.2 0.6nm,0.9s	**49.62**	**203**	P	P	01 07 59.6	-0.1
TXAR	**Lajitas Array** 0.3nm,0.9s,baz=239,slow=3.9,SNR=2.2	**148.59**	**118**	PKPbc	PKPbc	01 18 55.2	-0.6

*SDD **04** 01:01:22.2±2.6, 18°.88N×69°.74W, h108km±13km, MD3.4, ML3.5, MW3.5*
*SSNC **04** 01:01:24.8±7.2, 19°.09N×70°.02W, h25km±57km, MD3.7, ML3.3*
*OSPL **04** 01:01:24.3±3.6, 18°.93N×69°.75W, h80km±21km, ML3.1*

ISC 04 01:01:20.0±1.4, 18°.98N±0°.04×69°.79W±0°.03, h116km±8km, n34, σ2.54/57, 21C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADR	**Nagua**	**0.38**	**350**	⇓*ePg*	**Pn**	**01 01 36.5**	**-0.3**
NADR				⇓*eSg*	**Sn**	**01 01 48.6**	**-0.9**
NADR				IAML		01 01 51.2	
	comp=N,5μm,0.3s						
SDD	**Santo Domingo**	**0.53**	**193**	⇑*ePg*	**Pn**	**01 01 35.6**	**-2.1**
SDD				IAML		01 01 45.9	
	comp=N,129nm,0.3s						
SDD	**Santo Domingo**	**0.53**	**193**	*iP*	**Pn**	**01 01 35.7**	**-2.0**
SDD				*eS*	**Sn**	**01 01 45.5**	**-5.4**
LOSC1	**San Cristbal**	**0.64**	**208**	*iP*	Pn	01 01 48.0	+10
LOSC1				*eS*	**Sn**	**01 01 59.0**	**+6.6**
SMDR	**Samana, DR**	**0.65**	**61**	⇑*ePg*	**Pn**	**01 01 37.8**	**-0.7**
SMDR				⇑*eSg*	**Sn**	**01 01 52.1**	**-0.3**
SMDR				IAML		01 01 52.6	
	comp=N,464nm,0.4s						
MIDR	**Miches**	**0.70**	**89**	⇑*ePg*	**Pn**	**01 01 39.0**	**+0.1**
MIDR				⇑*eSg*	**Sn**	**01 01 52.4**	**-0.7**
MIDR				IAML		01 01 53.4	
	comp=N,365nm,0.2s						
CADR	**Cabrera**	**0.70**	**348**	⇑*eSg*	**Sn**	**01 01 53.3**	**0.0**
CADR				IAML		01 01 53.4	
	comp=N,859nm,0.3s						
BANI	**BANI**	**0.79**	**223**	⇑*ePg*	**Pn**	**01 01 39.1**	**-0.8**
BANI				IAML		01 01 55.2	
	comp=N,2μm,0.2s						
ABDR	**Alto Bandera**	**0.81**	**259**	⇑*ePg*	**Pn**	**01 01 39.3**	**-1.0**
ABDR				⇑*eSg*	**Sn**	**01 01 53.9**	**-1.7**
ABDR				IAML		01 01 54.7	
	comp=N,1μm,0.2s						
SC01	**Santiago de lo**	**1.00**	**297**	⇑*ePg*	**Pn**	**01 01 43.0**	**+1.4**
SC01				⇑*eSg*	**Sn**	**01 01 59.5**	**+1.4**
SC01				IAML		01 02 02.6	
	comp=N,861nm,0.4s						
SC01	**Santiago de lo**	**1.00**	**297**	*iP*	**Pn**	**01 01 43.1**	**+1.4**
SC01				*eS*	**Sn**	**01 01 59.2**	**+1.2**
SC01				IAML		01 02 06.1	
	comp=Z,433nm,0.7s						
HIDR	**Higuey Centro**	**1.08**	**110**	⇑*ePg*	**Pn**	**01 01 42.7**	**+0.2**
HIDR				⇑*eSg*	**Sn**	**01 01 58.4**	**-1.1**
HIDR				IAML		01 02 00.4	
	comp=N,2μm,0.2s						
SDDR	**Presa de Saban**	**1.42**	**271**	*eP*	**Pn**	**01 01 47.1**	**+0.8**
SDDR				*eS*	**Sn**	**01 02 05.4**	**-0.9**
SDDR	**Presa de Saban**	**1.42**	**271**	⇓*ePg*	**Pn**	**01 01 47.8**	**+1.5**
SDDR				⇓*eSg*	**Sn**	**01 02 08.0**	**+1.7**
SDDR				IAML		01 02 11.7	
	comp=N,317nm,0.3s						
SDDR	**Presa de Saban**	**1.42**	**271**	*iP*	**Pn**	**01 01 47.9**	**+1.5**
SDDR				*eS*	**Sn**	**01 02 06.5**	**+0.2**
SDDR				IAML		01 02 12.3	
	comp=Z,219nm,0.3s						
REDR	**Restauracion**	**1.53**	**277**	⇑*ePg*	**Pn**	**01 01 51.8**	**+4.3**
REDR				⇑*eSg*	**Sn**	**01 02 15.1**	**+6.6**
REDR				IAML		01 02 19.6	
	comp=N,438nm,0.1s						
LOPP1	**Punta Rusia, P**	**1.59**	**303**	*iP*	**Pn**	**01 01 49.4**	**+1.1**
LOPP1				*eS*	**Sn**	**01 02 11.9**	**+2.1**
LOPP1				IAML		01 02 21.2	
	comp=Z,404nm,0.3s						
LONE3	**El Aguacate, B**	**1.63**	**257**	*iP*	Pn	01 01 56.4	+7.6
LONE3				*eS*	**Sn**	**01 02 18.6**	**+7.8**
LONE3				IAML		01 02 23.9	
	comp=Z,118nm,0.6s						
PODR	**Polo**	**1.63**	**241**	⇑*ePg*	**Pn**	**01 01 49.4**	**+0.4**
PODR				⇑*eSg*	**Sn**	**01 02 10.5**	**-0.4**
PODR				IAML		01 02 12.6	
	comp=N,512nm,0.7s						
PODR	**Polo**	**1.63**	**241**	*iP*	**Pn**	**01 01 49.6**	**+0.7**
PODR				*eS*	**Sn**	**01 02 09.7**	**-1.3**
LODU1	**El Espartillar**	**1.72**	**249**	*iP*	**Pn**	**01 01 50.7**	**+0.9**
LODU1				*eS*	**Sn**	**01 02 13.0**	**+0.6**
LODU1				IAML		01 02 13.9	
	comp=Z,320nm,0.6s						
JIDR	**Jimani**	**2.02**	**257**	⇑*ePg*	**Pn**	**01 01 54.7**	**+1.3**
JIDR				IAML		01 02 21.3	
	comp=N,174nm,0.9s						
LOBH	**Bahia de las A**	**2.08**	**238**	*iP*	**Pn**	**01 01 54.8**	**+0.6**
LOBH				*eS*	**Sn**	**01 02 20.0**	**-0.4**
LOBH				IAML		01 02 24.9	
	comp=Z,131nm,0.5s						
AGPR	**Aguadilla, PR**	**2.58**	**101**	*iP*	**Pn**	**01 02 03.1**	**+2.4**
AGPR				*eS*	**Sn**	**01 02 31.7**	**-0.3**
AGPR				IAML		01 02 51.2	
	comp=Z,64nm,0.2s						
CRPR	**Cabo Rojo, PR**	**2.72**	**110**	*iP*	**Pn**	**01 02 05.2**	**+2.8**
CRPR				IAML		01 02 51.0	
	comp=Z,56nm,1.1s						
GRTK	**Grand Turk**	**2.82**	**334**	*eP*	**Pn**	**01 02 04.6**	**+0.8**
GRTK				*eS*	**Sn**	**01 02 36.3**	**-1.3**
GRTK				IAML		01 02 38.7	
	comp=Z,116nm,0.1s						
GRTK				IAML		01 02 38.8	
	comp=Z,83nm,0.1s						
GRTK	**Grand Turk**	**2.82**	**334**	⇑*ePg*	**Pn**	**01 02 05.5**	**+1.7**
GRTK				⇑*eSg*	**Sn**	**01 02 37.6**	**0.0**
GRTK				IAML		01 02 41.3	
	comp=N,87nm,0.1s						
GRTK	**Grand Turk**	**2.82**	**334**	*iP*	**Pn**	**01 02 05.3**	**+1.5**
GRTK				*eS*	**Sn**	**01 02 36.2**	**-1.4**
GRTK				IAML		01 02 40.4	
	comp=Z,50nm,1.0s						
MASC	**Masc**	**4.36**	**287**	*eP*	**Pn**	**01 02 23.7**	**-0.5**
MASC				*eS*	**Sn**	**01 03 10.5**	**-3.7**
QMBU	**Quimbuelo**	**4.89**	**285**	*eP*	**Pn**	**01 02 31.0**	**-0.5**
QMBU				*eS*	Sn	01 03 18.2	-8.9
QMBU				*eSg*		01 03 24.1	
QMBU				IAML		01 03 25.2	
	comp=N,12nm,0.2s						
QMBU				IAML		01 03 25.5	
	comp=E,16nm,0.2s						
GTBY	**Guantanamo Bay**	**5.11**	**282**	*eP*	**Pn**	**01 02 33.3**	**-1.1**
NMDO	**Nuevo Mundo**	**5.14**	**289**	*eS*	**Sn**	**01 03 27.6**	**-5.5**
NMDO				IAML		01 03 32.0	
	comp=E,4.3nm,0.1s						
NMDO				IAML		01 03 32.3	
	comp=N,3.2nm,0.1s						
RCC	**Rio Carpintero**	**5.67**	**281**	*eP*	**Pn**	**01 02 41.1**	**-0.8**
PINC	**Pinares de May**	**5.85**	**286**	*eP*	**Pn**	**01 02 44.4**	**-0.1**
PINC				*eS*	**Sn**	**01 03 44.7**	**-5.6**
PINC				IAML		01 03 47.1	
	comp=E,3.1nm,0.1s						
PINC				IAML		01 03 47.7	
	comp=N,3.9nm,0.1s						

*MDD **04** 01:14:09.6±0.3, 42°.19N×7°.94W, h0km±2km, mb_Lg2.8/29, Error ellipse: s-maj=1.9km s-min=1.7km az=110.0*
*INMG **04** 01:14:10.7±1.5, 42°.23N×8°.00W, h17km±2km, ML2.4, Error ellipse: s-maj=2.3km s-min=1.5km az=86.0, #DIST_RANGE: LOCAL #IPMA_REGION: SW Ourense (ESP)*
*IGIL **04** 01:14:11.1, 42°.23N×7°.99W, h15km*

ISC 04 01:14:09.4±1.0, 42°.20N±0°.02×7°.96W±0°.02, h16km±9km, n45, σ1.923/105, 3C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGAV	**Gavieira, Arco**	**0.33**	**225**	⇑*ePg*	**Pb**	**01 14 17.2**	**+0.2**
PGAV				*eSg*	**Sb**	**01 14 22.2**	**0.0**
PGAV				*i* IAML		01 14 22.4	
PGAV				*i* IAML		01 14 22.8	
PGAV				*i* IAML		01 14 23.4	
ELOB	**Lobios**	**0.34**	**193**	⇑*iPg*	**Pb**	**01 14 17.6**	**+0.4**
ELOB				Sg	**Sb**	**01 14 22.6**	**+0.1**
ELOB				*i* IVmb_Lg		01 14 23.1	
PCAB	**Cabril**	**0.49**	**186**	⇑*iPg*	**Pb**	**01 14 20.4**	**+0.6**
PCAB				*eSg*	**Sb**	**01 14 27.2**	**+0.4**
PCAB				*i* IAML		01 14 27.8	
PCAB				*i* IAML		01 14 27.8	
PCAB				*i* IAML		01 14 30.2	
EZAM	**Zamans**	**0.55**	**265**	Pg	**Pb**	**01 14 20.7**	**0.0**
EZAM				Sg	**Sg**	**01 14 27.9**	**+0.2**
EZAM				*i* IVmb_Lg		01 14 30.7	
EAGO	**Agolada(Pontev**	**0.61**	**351**	Pg	**Pb**	**01 14 21.4**	**-0.4**
EAGO				Sg	**Sg**	**01 14 28.9**	**-0.7**
EAGO				*i* IVmb_Lg		01 14 30.8	
POLO	**Lamas de Olo**	**0.84**	**172**	*eP*	**Pn**	**01 14 26.5**	**-0.1**
POLO				*eS*	**Sb**	**01 14 38.0**	**+1.3**
POLO				*i* IAML		01 14 39.5	
POLO				*i* IAML		01 14 39.6	
POLO				*i* IAML		01 14 39.6	
PVRL	**Vila Real**	**0.94**	**169**	*eP*	**Pn**	**01 14 28.6**	**+0.5**
PVRL				*eS*	**Sn**	**01 14 41.4**	**+0.1**
PVRL				*i* IAML		01 14 42.2	
PVRL				*i* IAML		01 14 42.5	
PVRL				*i* IAML		01 14 42.8	
ECAL	**Calabor**	**0.94**	**106**	Pg	**Pn**	**01 14 28.2**	**+0.1**
ECAL				Sg	**Sg**	**01 14 40.6**	**+0.5**
ECAL				*i* IVmb_Lg		01 14 43.1	
PBRG	**Braganca**	**0.99**	**113**	*eP*	**Pg**	**01 14 28.7**	**+0.1**
PBRG				*eS*	**Sn**	**01 14 42.6**	**+0.3**
PBRG				*i* IAML		01 14 43.9	
PBRG				*i* IAML		01 14 44.2	
PBRG				*i* IAML		01 14 46.1	
EMAZ	**Mazaricos**	**1.06**	**315**	Pg	**Pb**	**01 14 29.4**	**-0.1**
EMAZ				Sg	**Sg**	**01 14 43.4**	**-0.4**
EMAZ				*i* IVmb_Lg		01 14 44.6	
MVO	**Moncorvo**	**1.25**	**146**	⇓*iP*	**Pn**	**01 14 32.5**	**+0.2**
MVO				*eS*	**Sg**	**01 14 50.1**	**+0.3**
MVO				*i* IAML		01 14 51.6	
MVO				*i* IAML		01 14 52.0	
MVO				*i* IAML		01 14 52.8	
EPON	**Pontenova**	**1.27**	**28**	Pg	**Pg**	**01 14 33.4**	**-0.5**
EPON				Sg	**Sg**	**01 14 49.7**	**-0.8**
EPON				*i* IVmb_Lg		01 14 51.9	
PVIS	**Viseu**	**1.49**	**178**	*ePn*	**Pn**	**01 14 35.9**	**+0.3**
PVIS				*eSg*	**Sg**	**01 14 57.6**	**+0.3**
MTE	**Manteigas**	**1.83**	**170**	*ePn*	**Pn**	**01 14 40.5**	**+0.2**
MTE				*eSg*	**Sg**	**01 15 07.6**	**-0.7**
MTE				*i* IAML		01 15 08.2	
MTE				*i* IAML		01 15 08.7	
MTE				*i* IAML		01 15 09.0	
EJUZ	**Juzbado, Salam**	**1.91**	**125**	Pn	**Pn**	**01 14 42.1**	**+0.7**
EJUZ				Sn	**Sn**	**01 15 05.0**	**-0.1**
EJUZ				Sg	**Sg**	**01 15 10.4**	**-0.5**
COI	**Coimbra**	**2.02**	**190**	*eSg*	**Sg**	**01 15 13.8**	**-0.7**
COI				*i* IAML		01 15 18.4	
COI				*i* IAML		01 15 20.2	
COI				*i* IAML		01 15 20.3	
PCAS	**Casmilo, Conde**	**2.19**	**191**	*ePg*	**Pb**	**01 14 50.1**	**+1.5**
PCAS				*eSg*	**Sg**	**01 15 19.1**	**-0.6**
PCAS				*i* IAML		01 15 20.1	
PCAS				*i* IAML		01 15 22.6	
PCAS				*i* IAML		01 15 24.2	
EARI	**Arriondas**	**2.30**	**61**	Pn	**Pn**	**01 14 47.3**	**+0.6**
EARI				Sn	**Sn**	**01 15 14.7**	**-0.1**
EARI				Sg	**Sg**	**01 15 22.7**	**-0.7**
EARI				*i* IVmb_Lg		01 15 30.3	
PCBR	**Castelo Branco**	**2.39**	**171**	*ePn*	**Pn**	**01 14 48.3**	**+0.4**
PCBR				*eSg*	**Sg**	**01 15 25.1**	**-1.1**
PCBR				*i* IAML		01 15 29.4	
PCBR				*i* IAML		01 15 29.9	
PCBR				*i* IAML		01 15 30.5	
EPLA	**Plasencia**	**2.56**	**146**	Pn	**Pn**	**01 14 51.2**	**+0.8**
EPLA				Sn	**Sn**	**01 15 21.3**	**+0.1**
EPLA				Sg	**Sg**	**01 15 31.6**	**-0.2**
EPLA				*i* IVmb_Lg		01 15 33.9	
PSARD	**Sardoal**	**2.60**	**183**	*ePn*	**Pn**	**01 14 51.5**	**+0.6**
PSARD				*eSn*	**Sn**	**01 15 23.0**	**+0.8**
PSARD				*eSg*	**Sg**	**01 15 31.7**	**-1.4**
PSARD				*i* IAML		01 15 35.7	
PSARD				*i* IAML		01 15 37.1	
PSARD				*i* IAML		01 15 37.5	
PSBE	**So Bento**	**2.76**	**194**	*ePn*	**Pn**	**01 14 54.7**	**+1.7**
PSBE				*eSg*	**Sg**	**01 15 37.6**	**-0.4**
PMRV	**Marv??o**	**2.80**	**171**	*ePn*	**Pn**	**01 14 54.1**	**+0.5**
PMRV				*erx*	rx	01 15 25.7	
PMRV				*eSn*	**Sn**	**01 15 26.5**	**-0.6**
PMRV				*eSg*	**Sg**	**01 15 39.0**	**-0.6**
PMRV				*i* IAML		01 15 41.7	
PMRV				*i* IAML		01 15 41.9	
PMRV				*i* IAML		01 15 41.9	
PMTG	**Montargil**	**3.14**	**184**	*ePn*	**Pn**	**01 14 59.0**	**+0.8**
PMTG				*eSn*	**Sn**	**01 15 34.6**	**-0.7**
PMTG				*eSg*	**Sb**	**01 15 46.9**	**+4.2**
PMTG				*i* IAML		01 15 52.7	
PMTG				*i* IAML		01 15 52.8	
PMTG				*i* IAML		01 15 53.2	
GUD	**Guadarrama**	**3.26**	**117**	Pn	**Pn**	**01 15 01.4**	**+1.4**
GUD				Sn	**Sn**	**01 15 38.9**	**+0.4**
GUD				Sg	**Sg**	**01 15 52.4**	**-1.6**
GUD				*i* IVmb_Lg		01 15 55.5	
PESTR	**Estremoz**	**3.34**	**175**	*ePn*	**Pn**	**01 15 01.3**	**+0.3**
PESTR				*eSn*	**Sn**	**01 15 39.3**	**-1.1**
PESTR				*eSg*	**Sg**	**01 15 55.0**	**-1.8**
PESTR				*i* IAML		01 15 57.3	
PESTR				*i* IAML		01 15 58.5	
PESTR				*i* IAML		01 16 01.5	
PARRA	**Arraiolos**	**3.48**	**194**	*ePn*	**Pn**	**01 15 02.1**	**-0.8**
PARRA				*eSn*	**Sn**	**01 15 41.0**	**-2.8**
PARRA				*eSg*	**Sb**	**01 15 55.7**	**+3.0**
PARRA				*i* IAML		01 15 58.8	
PARRA				*i* IAML		01 15 60.0	
PARRA				*i* IAML		01 16 01.3	
ELAN	**Lanestosa**	**3.49**	**71**	Pn	**Pn**	**01 15 04.8**	**+1.7**
ELAN				Sn	**Sn**	**01 15 44.3**	**+0.3**
ELAN				Sg	**Sg**	**01 16 00.6**	**-0.8**
ELAN				*i* IVmb_Lg		01 16 06.0	
PACT	**Alcochete**	**3.50**

TAP 04 01:17:03.7, 25°.01N×122°.10E, h132km±1km, ML2.5, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.10**	**271**	*eP*	Pn	01 17 21.5	0.0
EGS		**0.22**	**224**	*eP*	Pn	01 17 22.0	+0.2
TIPB	**Shuangxi**	**0.25**	**262**	*i P*	Pn	01 17 21.9	0.0
TIPB				*i S*	Sn	01 17 35.1	-0.5
FUSB	**Fushanzhiwuyua**	**0.53**	**242**	*i P*	Pn	01 17 23.2	0.0
FUSB				*eS*	Sn	01 17 38.1	+0.2
NWLT	**Wulai**	**0.59**	**247**	S	Sn	01 17 38.3	-0.2
EOS2	**EOS2**	**0.60**	**169**	S	Sn	01 17 38.4	+0.1
ENTT	**Nioudou**	**0.61**	**233**	*i P*	Pn	01 17 24.1	+0.5
ENTT				*eS*	Sn	01 17 39.1	+0.4
EWUT	**Wuta**	**0.63**	**208**	*eP*	Pn	01 17 23.6	-0.1
ENA	**Nanau**	**0.66**	**210**	*eP*	Pn	01 17 23.9	-0.1
ENA				S	Sn	01 17 38.9	-0.5
LATG	**Datong**	**0.70**	**228**	P	Pn	01 17 24.8	+0.3
LATG				*eS*	Sn	01 17 40.2	+0.2
YHNB	**Yeheng**	**0.74**	**243**	*i P*	Pn	01 17 24.6	0.0
YHNB				S	Sn	01 17 39.9	-0.6
EOS3	**EOS3**	**0.74**	**165**	*i S*	Sn	01 17 40.1	+0.1
NSK	**Sanguang**	**0.75**	**244**	P	Pn	01 17 24.6	-0.1
NNSB	**Datong**	**0.87**	**229**	*i P*	Pn	01 17 25.8	+0.1
EOS4	**EOS4**	**0.90**	**167**	*eS*	Sn	01 17 40.0	-2.0
NACB	**Ninganchiao**	**0.95**	**209**	*eP*	Pn	01 17 25.4	-0.9
NACB				*eS*	Sn	01 17 41.7	-1.8
NFF	**Wufeng Townshi**	**0.97**	**248**	*eP*	Pn	01 17 26.5	0.0
ETLH	**Xiulin Townshi**	**0.98**	**216**	*eP*	Pn	01 17 25.9	-0.7
ETLH				S	Sn	01 17 43.1	-0.9
LIOB	**Emei**	**1.05**	**250**	*eP*	Pn	01 17 27.4	+0.2
FUSS	**Fushou**	**1.09**	**226**	*eS*	Sn	01 17 46.2	+0.1
TDCB	**Techi**	**1.14**	**229**	*eP*	Pn	01 17 28.9	+0.6
TDCB				*eS*	Sn	01 17 46.8	-0.1
WHF	**Hehuan Shan**	**1.15**	**222**	*eP*	Pn	01 17 28.7	+0.1
WHF				S	Sn	01 17 46.8	-0.8
LXIB	**Xiulin Townshi**	**1.17**	**213**	*eP*	Pn	01 17 27.6	-0.9
LXIB				*eS*	Sn	01 17 46.0	-1.3
WHP	**Taichung City**	**1.28**	**236**	*eP*	Pn	01 17 29.9	+0.3
SHUL	**Shoufeng**	**1.31**	**202**	*eP*	Pn	01 17 29.3	-0.5
OWD	**Renai**	**1.34**	**219**	*eP*	Pn	01 17 30.1	-0.3
WUSB	**Renai**	**1.35**	**222**	*eP*	Pn	01 17 30.8	+0.3
WUSB				*eS*	Sn	01 17 50.5	-0.3
WARBT	**Fenglin Townsh**	**1.44**	**207**	*eP*	Pn	01 17 29.6	-1.7
WCS	**Beigang Elemen**	**1.44**	**229**	*eP*	Pn	01 17 31.5	+0.3
VWDT	**VWDT**	**1.52**	**215**	*eP*	Pn	01 17 32.4	+0.2
TYC	**Yuchr**	**1.58**	**226**	*eP*	Pn	01 17 33.1	+0.3
SSLB	**Suanglung**	**1.60**	**221**	*eP*	Pn	01 17 33.4	+0.3

JMA 04 01:17:28.6±0.2, 24°.3N±0°.3×123°.8E±0°.5, h17km±1km, MV0.9/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.08**	**333**	P	Pg	01 17 32.0	-0.1
IRIF				S	Sg	01 17 34.6	+0.3
HATJ	**Hateruma jima**	**0.20**	**171**	P	Pg	01 17 33.4	-0.2
HATJ				*eS*	Sg	01 17 36.9	0.0
JKRS	**Kuro-shima**	**0.22**	**96**	*eP*	Pg	01 17 33.7	-0.1
JKRS				*eS*	Sb	01 17 37.6	-0.3
JIJ	**Ishigaki jima**	**0.35**	**73**	*eP*	Pg	01 17 36.0	-0.1
JIJ				*i S*	Sg	01 17 40.3	-0.8
JISG	**Ishigakijimahi**	**0.59**	**56**	*eP*	Pg	01 17 40.0	-0.3
JISG				*eS*	Sg	01 17 48.2	-0.1
JTJ	**Tarama**	**0.93**	**66**	*eS*	Sg	01 17 59.0	+0.1

IDC 04 01:25:23.5±1.3, 6°.23N×126°.93E, h0km, mb3.5/4, mbtmp3.5/4, MS3.4/1, Error ellipse: s-maj=77.5km s-min=25.3km az=75.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.58**	**302**	Sn	Sg	01 26 21.3	+7.1
	144nm,0.3s,baz=172,slow=23,SNR=3.9						
WRA	**Warramunga Arr**	**27.01**	**165**	P	P	01 31 07.3	-0.1
	0.5nm,0.8s,baz=346,slow=10.0,SNR=4.8 0.5nm,0.8s						
ASAR	**Alice Springs**	**30.49**	**167**	P	P	01 31 38.5	+0.1
	0.4nm,0.5s,baz=342,slow=7.2,SNR=5.8 0.4nm,0.5s						
MKAR	**Makanchi Array**	**55.64**	**324**	P	P	01 35 01.2	-0.1
	0.5nm,0.6s,baz=115,slow=6.8,SNR=4.9 0.5nm,0.6s						
MA2	**Magadan**	**56.24**	**14**	LR	LR	02 03 27.8	
	comp=Z,29nm,18.2s,baz=78,slow=41						
ILAR	**Eielson Array**	**82.77**	**26**	P	P	01 37 49.3	0.0
	0.2nm,0.7s,baz=247,slow=5.2,SNR=4.7 0.2nm,0.7s						

TRN 04 01:26:31.5, 15°.39N×61°.03W, h137km, MD3.5, East of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLPL	**La Plaine**	**0.22**	**254**	*eP*	Pn	01 26 51.9	+1.6
DLPL				*eS*	Sn	01 27 05.5	+1.2
DLDT	**Laudat, Domini**	**0.31**	**259**	*eP*	Pn	01 26 52.4	+1.8
DLDT				*eS*	Sn	01 27 07.0	+2.0
DWS	**Wesley**	**0.32**	**303**	*eP*	Pn	01 26 52.0	+1.5
DWS				*eS*	Sn	01 27 05.8	+0.9
MDN	**Morne-Daniel**	**0.36**	**258**	*eP*	Pn	01 26 52.3	+1.6
MDN				*eS*	Sn	01 27 07.3	+2.2
DSLB	**Salisbury**	**0.38**	**277**	*eP*	Pn	01 26 52.5	+1.7
DSLB				*eS*	Sn	01 27 07.0	+1.7
SVN	**Savane Anatole**	**0.56**	**194**	*eP*	Pn	01 26 53.2	+1.4
SVN				*eS*	Sn	01 27 08.2	+1.1
ILAM	**Ilet Lapin Mar**	**0.63**	**166**	*eP*	Pn	01 26 53.7	+1.5
ILAM				*eS*	Sn	01 27 08.7	+1.0
BIM	**Bigot**	**0.87**	**183**	*eP*	Pn	01 26 55.6	+1.6
BIM				*eS*	Sn	01 27 12.3	+1.3
MMLZ	**Guadeloupe Bro**	**0.89**	**317**	*eP*	Pn	01 26 55.1	+1.0
MMLZ				*eS*	Sn	01 27 12.0	+0.8
DSDZ	**La Diserade, G**	**0.92**	**358**	*eP*	Pn	01 26 55.7	+1.4
DSDZ				*eS*	Sn	01 27 12.2	+0.6
ATGZ	**Broadband at L**	**0.97**	**316**	*eP*	Pn	01 26 56.5	+1.8
ATGZ				*eS*	Sn	01 27 13.6	+1.2
DHSZ	**Broadband at M**	**1.12**	**321**	*eP*	Pn	01 26 57.9	+1.7
DHSZ				*eS*	Sn	01 27 16.1	+1.1
SLBI	**Saint Lucia, B**	**1.36**	**178**	*eP*	Pn	01 26 59.8	+1.1
SLBI				*eS*	Sn	01 27 19.5	+0.2
SLAC	**Saint Lucia, A**	**1.49**	**175**	*eP*	Pn	01 27 01.7	+1.6
SLAC				*eS*	Sn	01 27 21.9	+0.1
MLYT	**Lee's Yard**	**1.73**	**320**	*eP*	Pn	01 27 04.6	+1.9
MLYT				*eS*	Sn	01 27 28.2	+1.6
MBFL	**Flemmings, Mon**	**1.76**	**320**	*eP*	Pn	01 27 04.1	+1.0
MBFL				*eS*	Sn	01 27 27.6	+0.3
ANBD	**Bethesda, Anti**	**1.79**	**337**	*eP*	Pn	01 27 04.5	+1.1
ANBD				*eS*	Sn	01 27 27.6	-0.2
SVB	**Belmont**	**2.12**	**186**	*eP*	Pn	01 27 09.0	+1.6
SVB				*eS*	Sn	01 27 34.8	0.0
SVOC	**Richmond Hill,**	**2.23**	**185**	*eP*	Pn	01 27 09.9	+1.2
SVOC				*eS*	Sn	01 27 37.5	+0.2
ANWB	**Willy Bob**	**2.38**	**342**	*eP*	Pn	01 27 11.0	+0.5
ANWB				*eS*	Sn	01 27 40.3	-0.2
SKI	**Saint Kitts**	**2.53**	**320**	*eP*	Pn	01 27 13.9	+1.5
SKI				*eS*	Sn	01 27 45.5	+1.5
BBGH	**Gun Hill**	**2.65**	**147**	*eP*	Pn	01 27 16.0	+2.1
BBGH				*eS*	Sn	01 27 47.2	+0.6
GCMP	**Grenada, Carri**	**2.91**	**188**	*eP*	Pn	01 27 17.7	+0.4
GCMP				*eS*	Sn	01 27 53.2	+0.6
GRGR	**Grenville**	**3.30**	**191**	*eP*	Pn	01 27 22.9	+0.6
GRGR				*eS*	Sn	01 28 01.3	-0.2

*IDC **04** 01:52:11.7±1.4, 30°.88S×179°.92W, h358km±14km, mb2.8/3, mbtmp3.7/4, Error ellipse: s-maj=30.1km s-min=18.3km az=116.0*
*WEL **04** 01:52:15.3±0.9, 31°.5±9°×17°.9W±2°.3, h312km±11km, M4.7/12, mB4.6/5, MLv5.2/12, Mw(mB)3.8/5, Error ellipse: s-maj=31.7km s-min=5.0km az=110.1, confirmed*
ISC 04 01:52:12.8±0.7, 31°.22S±0°.10×179°.2W±0°.2, h350km, n30, σ1°65/46, mb3.0/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.26**	**31**	P	**Pn**	**01 53 04.6**	**-1.5**
GLKZ				S	**S**	**01 53 48.9**	**+0.1**
RAO	**Raoul Island**	**2.27**	**30**	P	**Pn**	**01 53 07.2**	**+1.0**
	1µm,0.5s,baz=74,slow=14,SNR=4.7						
RIZ	**Raoul Island**	**2.27**	**30**	P	**Pn**	**01 53 05.7**	**-0.5**
RIZ				S	**S**	**01 53 47.5**	**-1.5**
WMGZ	**Waiomatatini S**	**6.86**	**196**	P	**Pn**	**01 53 54.7**	**+1.3**
WMGZ				S	**S**	**01 55 13.9**	**-1.3**
HAZ	**Te Kaha**	**6.96**	**200**	P	**Pn**	**01 53 55.0**	**+0.4**
HAZ				S	**S**	**01 55 17.0**	**-0.4**
PKGZ	**Pakihiroa**	**6.99**	**198**	P	**Pn**	**01 53 58.1**	**+3.2**
PKGZ				S	**S**	**01 55 15.8**	**-2.1**
WCZ	**Waipu Caves**	**7.13**	**227**	P	**Pn**	**01 53 57.9**	**+1.3**
RUGZ	**Raukumara Rang**	**7.19**	**200**	P	**Pn**	**01 53 57.6**	**+0.2**
RUGZ				S	**S**	**01 55 19.3**	**-3.2**
TWGZ	**Tauwhareparae**	**7.30**	**198**	P	**Pn**	**01 54 00.3**	**+1.7**
TWGZ				S	**S**	**01 55 23.0**	**-1.8**
CNGZ	**Carnagh Statio**	**7.54**	**195**	P	**Pn**	**01 54 03.8**	**+2.5**
MWZ	**Matawai**	**7.58**	**200**	P	**Pn**	**01 53 59.9**	**-2.0**
MWZ				S	**S**	**01 55 28.8**	**-1.8**
TKGZ	**Te Karaka**	**7.59**	**198**	P	**Pn**	**01 54 00.4**	**-1.5**
TKGZ				S	**S**	**01 55 29.0**	**-1.8**
URZ	**Urewera**	**7.63**	**202**	P	**Pn**	**01 54 02.7**	**+0.2**
	7.8nm,0.4s,baz=259,slow=5.2,SNR=19						
URZ				S	**S**	**01 55 30.9**	**-1.0**
	34nm,0.3s,baz=266,slow=22,SNR=23						
RAGZ	**Rawiri**	**7.76**	**200**	P	**Pn**	**01 54 03.9**	**-0.1**
RAGZ				S	**S**	**01 55 33.8**	**-0.9**
RIGZ	**Rimuhau**	**7.86**	**197**	P	**Pn**	**01 54 07.0**	**+1.8**
RIGZ				S	**S**	**01 55 37.8**	**+0.9**
MUGZ	**Murupara**	**7.95**	**203**	P	**Pn**	**01 54 06.8**	**+0.6**
MUGZ				S	**S**	**01 55 37.6**	**-1.1**
PRGZ	**Paritu Road**	**8.04**	**196**	P	**P**	**01 54 10.6**	**+0.3**
SNGZ	**Shannon Statio**	**8.04**	**199**	P	**Pn**	**01 54 07.2**	**-0.2**
SNGZ				S	**S**	**01 55 38.9**	**-2.0**
RAHZ	**Arahi**	**8.24**	**200**	P	**Pn**	**01 54 09.2**	**-0.5**
RAHZ				S	**S**	**01 55 43.6**	**-1.6**
MHGZ	**Mahia Peninsul**	**8.25**	**196**	P	**Pn**	**01 54 10.0**	**+0.2**
MHGZ				S	**S**	**01 55 43.6**	**-1.6**
MTHZ	**Maungataniwha**	**8.26**	**202**	P	**Pn**	**01 54 10.7**	**+0.7**
WAZ	**Wanganui**	**9.73**	**207**	S	**S**	**01 56 18.2**	**+0.5**
ASAR	**Alice Springs**	**42.01**	**268**	P	P	01 59 25.3	-6.0
	0.4nm,0.7s,baz=114,slow=7.6,SNR=2.9 0.4nm,0.7s						
WRA	**Warramunga Arr**	**43.08**	**274**	P	P	01 59 33.5	-6.3
	0.5nm,0.5s,baz=112,slow=8.0,SNR=6.7 0.5nm,0.5s						
QSPA	**South Pole Qui**	**58.89**	**180**	P	**P**	**02 01 37.9**	**+2.1**
	0.4nm,0.5s,baz=145,slow=3.2,SNR=1.4 0.4nm,0.5s						
BVAR	**Borovoye Array**	**126.25**	**315**	PKP	**PKPdf**	**02 10 29.9**	**-3.7**
	0.5nm,0.5s,baz=129,slow=2.6,SNR=2.7						
FINES	**FINESS Array B**	**145.54**	**339**	PKPbc	**PKPdf**	**02 11 05.6**	**-3.2**
	8.0nm,0.9s,baz=62,slow=4.1,SNR=23						
NOA	**NORSAR Array B**	**149.39**	**350**	PKPbc	**PKPdf**	**02 11 16.3**	**+1.0**
	0.7nm,1.0s,baz=24,slow=4.2,SNR=3.4						
NOA				PKPab	**PKiKP**	**02 11 21.4**	**+0.4**
	1.0nm,0.7s,baz=25,slow=2.5,SNR=3.0						
HFS	**Hagfors**	**149.82**	**347**	PKPbc	**PKPdf**	**02 11 16.8**	**+0.8**
	1.4nm,0.4s,baz=74,slow=5.1,SNR=13						
HFS				PKPab	**PKiKP**	**02 11 23.0**	**+1.1**
	1.4nm,0.4s,baz=88,slow=3.3,SNR=2.1						
BRTR	**Keskin Array B**	**152.04**	**297**	PKPbc	**PKPdf**	**02 11 22.6**	**+2.4**
	0.4nm,0.5s,baz=158,slow=3.7,SNR=4.4						

IDC 04 01:55:07.6±2.1, 1°.49S×150°.33E, h0km, mb3.6/5, mbtmp3.6/5, MS2.7/1, Error ellipse: s-maj=85.8km s-min=26.3km az=111.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**15.93**	**340**	LR	LR	02 03 42.9	
	comp=Z,27nm,20.5s,baz=65,slow=32						
WRA	**Warramunga Arr**	**24.10**	**219**	P	P	02 00 24.1	-1.2
	2.0nm,0.7s,baz=39,slow=10.0,SNR=9.3 2.0nm,0.7s						
ASAR	**Alice Springs**	**27.19**	**215**	P	P	02 00 54.1	+0.9
	1.1nm,0.7s,baz=34,slow=9.9,SNR=11 1.1nm,0.7s						
MKAR	**Makanchi Array**	**76.23**	**319**	P	P	02 06 59.0	+0.9
	0.2nm,0.5s,baz=97,slow=4.8,SNR=2.0 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**79.69**	**322**	P	P	02 07 17.2	0.0
	0.1nm,0.4s,baz=116,slow=4.7,SNR=1.8 0.1nm,0.4s						
ILAR	**Eielson Array**	**80.06**	**23**	P	P	02 07 18.4	-0.6
	0.3nm,0.8s,baz=260,slow=5.1,SNR=3.1 0.3nm,0.8s						

*AEIC **04** 02:13:52.4±1.5, 56°.02N±0°.09×149°.76W±0°.08, h12km±7km, Error ellipse: s-maj=13.3km s-min=4.8km az=159.0*
NEIC 04 02:13:46.9±1.5, 55°.97N±0°.08×149°.8W±0°.1, h9km±7km, ML3.6/64, ML3.4(AEIC), Error ellipse: s-maj=11.9km s-min=7.7km az=157.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.32**	**304**		Pn	02 14 24.7	-0.5
OHAK	**Old Harbor**	**2.32**	**304**		Sn	02 14 50.2	-3.6
KDAK	**Kodiak Island**	**2.39**	**321**		Pn	02 14 25.8	-0.3
KDAK	**Kodiak Island**	**2.39**	**321**		Sn	02 14 52.1	-3.5
SII	**Sitkinak Islan**	**2.54**	**285**		Pn	02 14 27.8	-0.5
SII					Sn	02 14 56.6	-2.7
SII	**Sitkinak Islan**	**2.54**	**285**	IAML		02 15 01.0	
	comp=N,283nm,0.7s						
SYI	**Shuyak Island**	**3.00**	**333**		Pn	02 14 34.2	-0.4
SYI					Sn	02 15 08.1	-2.7
R18K	**Karluk**	**3.04**	**304**		Pn	02 14 35.4	+0.3
R18K	**Karluk**	**3.04**	**304**	IAML		02 15 12.3	
	comp=N,151nm,0.4s						
R18K				IAML		02 15 12.8	
	comp=E,153nm,0.7s						
CHIR	**Chirikof Islan**	**3.31**	**270**		Pn	02 14 38.6	-0.2
CHIR					Sn	02 15 14.7	-3.5
CHIR	**Chirikof Islan**	**3.31**	**270**	IAML		02 15 15.6	
	comp=N,160nm,0.4s						
KAHG	**Katmai Hook Gl**	**3.63**	**316**		Pn	02 14 44.4	+1.1
Q19K	**Cape Douglas,**	**3.63**	**326**		Pn	02 14 43.7	+0.4
CNPM	**China Poot**	**3.65**	**348**		Pn	02 14 42.7	-0.8
CNPM				IAML		02 15 24.6	
	comp=E,81nm,0.8s						
CNPM				IAML		02 15 25.7	
	comp=N,87nm,0.5s						
CNPM	**China Poot**	**3.65**	**348**		Sn	02 15 23.4	-3.3
CAHL	**Cahill**	**3.68**	**307**		Pn	02 14 44.3	+0.3
ACHA	**Angle Creek He**	**3.78**	**309**		Pn	02 14 46.0	+0.7
ANCK	**Angle Creek**	**3.84**	**308**		Pn	02 14 47.0	+0.8
BRLK	**Bradley Lake**	**3.85**	**351**		Pn	02 14 45.5	-0.8
BRLK				IAML		02 15 31.9	
	comp=N,76nm,0.8s						
KAHC	**Katmai Hardscr**	**3.91**	**315**		Pn	02 14 48.2	+0.9
KAHC	**Katmai Hardscr**	**3.91**	**315**		Pn	02 14 47.9	+0.7
Q23K	**Middleton Isla**	**3.92**	**26**		Pn	02 14 46.4	-0.8
Q23K					Sn	02 15 29.8	-3.5
Q23K	**Middleton Isla**	**3.92**	**26**	IAML		02 15 37.9	
	comp=E,78nm,0.9s						
PLK3	**Peulik 3**	**3.97**	**298**		Pn	02 14 48.9	+1.0
PLK4	**Peulik 4**	**3.99**	**297**		Pn	02 14 49.3	+1.0
PLK4					Sn	02 15 31.8	-3.4
PLK4	**Peulik 4**	**3.99**	**297**	IAML		02 15 37.0	
	comp=E,116nm,0.7s						
PLK4				IAML		02 15 38.5	
	comp=N,72nm,0.6s						
PLK2	**Peulik 2**	**4.03**	**299**		Pn	02 14 49.9	+1.2
CNTC	**Contact Creek**	**4.05**	**307**		Pn	02 14 49.6	+0.5
CNTC					Sn	02 15 33.1	-3.6
P19K	**Oil Pt**	**4.13**	**335**		Pn	02 14 50.6	+0.4
SEW	**Seward**	**4.15**	**2**	Pn	Pn	02 14 48.5	-1.8
PLK1	**Peulik 1**	**4.18**	**299**		Pn	02 14 51.7	+0.9
P23K	**Montague Islan**	**4.23**	**16**		Pn	02 14 51.2	-0.2
P23K					Sn	02 15 36.0	-4.9
P23K	**Montague Islan**	**4.23**	**16**	IAML		02 15 37.1	
	comp=N,90nm,0.5s						
P23K				IAML		02 15 39.0	
	comp=E,72nm,0.4s						
PLBL	**Peulik Blue Cr**	**4.25**	**297**		Pn	02 14 52.3	+0.6
ILS	**Iliamna Low So**	**4.37**	**338**		Pn	02 14 53.3	-0.2
PLK5	**Peulik 5**	**4.39**	**300**		Pn	02 14 54.5	+0.8
O20K	**Slope Mountain**	**4.39**	**341**		Pn	02 14 53.9	+0.1
ILSW	**Iliamna Southw**	**4.41**	**337**		Pn	02 14 53.8	-0.3
ILSW	**Iliamna Southw**	**4.41**	**337**	IAML		02 15 44.8	
	comp=E,44nm,0.8s						
IVE	**Iliamna Volcan**	**4.41**	**338**		Pn	02 14 54.0	-0.1
P18K	**Big Mountain,**	**4.51**	**322**		Pn	02 14 54.6	-0.8
O22K	**Cooper Landing**	**4.52**	**0**		Sn	02 15 42.5	-5.6
SLKM	**Skilak Lake**	**4.55**	**357**		Pn	02 14 55.5	-0.5
SLKM				IAML		02 15 49.4	
	comp=N,62nm,0.3s						
RED	**Redoubt Volcan**	**4.74**	**342**	Pn	Pn	02 14 57.8	-0.7
RED				IAML		02 15 54.0	
	comp=N,45nm,0.9s						
RED				IAML		02 15 54.7	
	comp=E,56nm,0.6s						
HIN	**Hinchinbrook I**	**4.76**	**20**		Pn	02 14 58.5	-0.3
HIN				IAML		02 15 51.6	
	comp=N,62nm,0.6s						
HIN				IAML		02 16 00.0	
	comp=E,59nm,1.1s						
P17K	**Kvichak River**	**4.83**	**315**		Pn	02 15 00.4	+0.7
CHGN	**Chignik**	**4.85**	**277**	Pn	Pn	02 15 01.0	+1.0
O18K	**Koktuh Hills**	**4.86**	**326**		Pn	02 14 59.8	-0.3
O18K				IAML		02 15 56.1	
	comp=N,46nm,0.9s						
O18K				IAML		02 16 08.7	
	comp=E,38nm,0.8s						
O19K	**Port Alsworth**	**4.88**	**332**		Pn	02 14 59.4	-0.9
KAIM	**Kayak Island**	**4.88**	**33**		Pn	02 15 00.3	-0.1
KAIM	**Kayak Island**	**4.88**	**33**	IAML		02 15 59.7	
	comp=E,50nm,1.0s						
KAIM				IAML		02 16 03.2	
	comp=N,58nm,0.5s						
PWL	**Port Wells**	**4.96**	**8**		Pn	02 15 00.6	-0.9
PWL	**Port Wells**	**4.96**	**8**	IAML		02 15 55.1	
	comp=N,53nm,0.5s						
PWL				IAML		02 15 55.2	
	comp=E,50nm,0.4s						
EYAK	**Cordova Ski Ar**	**5.05**	**23**		Pn	02 15 02.8	0.0
EYAK				IAML		02 16 03.9	
	comp=N,44nm,0.8s						
FID	**Port Fidalgo**	**5.09**	**18**		Pn	02 15 02.7	-0.6
FID				IAML		02 15 57.4	
	comp=E,48nm,0.6s						
FID				IAML		02 16 00.4	
	comp=N,40nm,0.4s						
GLI	**Glacier Island**	**5.12**	**15**		Pn	02 15 03.4	-0.3
GLI				IAML		02 16 01.6	
	comp=N,34nm,0.6s						
GLI				IAML		02 16 03.1	
	comp=E,45nm,0.5s						
RAGM	**Ragged Mountai**	**5.18**	**29**		Pn	02 15 04.4	-0.1
SUCK	**Suckling Hills**	**5.20**	**35**		Pn	02 15 05.0	+0.2
SUCK				IAML		02 16 02.0	
	comp=N,47nm,0.4s						
SUCK				IAML		02 16 04.8	
	comp=E,44nm,1.0s						
HMT	**Hamilton**	**5.25**	**31**		Pn	02 15 05.9	+0.3
NICHA	**Nichawak Mount**	**5.26**	**33**		Pn	02 15 05.7	0.0
GOAT	**Goat Mountain**	**5.33**	**28**		Pn	02 15 06.9	+0.3
BGLC	**Bering Glacier**	**5.39**	**37**		Pn	02 15 08.1	+0.6
P16K	**Nushagak River**	**5.39**	**308**		Pn	02 15 08.3	+0.8
P16K	**Nushagak River**	**5.39**	**308**	IAML		02 16 55.1	
	comp=E,33nm,1.0s						
N19K	**Bonanza Creek**	**5.45**	**335**		Pn	02 15 07.4	-0.9
O17K	**Koliganek Bris**	**5.46**	**317**		Pn	02 15 08.7	+0.3
BERG	**Berg Lake**	**5.47**	**33**		Pn	02 15 07.8	-0.6
GRIN	**Grindle Hills**	**5.50**	**36**		Pn	02 15 09.5	+0.5
DIV	**Divide**	**5.58**	**20**	Pn	Pn	02 15 08.3	-1.7
STLK	**Strandline Lak**	**5.65**	**350**	Pn	Pn	02 15 10.9	-0.1
KHIT	**Khitrov Hills**	**5.65**	**35**		Pn	02 15 10.3	-0.8
BMRM	**Bremner River**	**5.69**	**26**		Pn	02 15 11.3	-0.3
N19K	**Kilae Creek**	**5.72**	**328**		Pn	02 15 11.4	-0.5
O16K	**Kokwok River B**	**5.75**	**313**		Pn	02 15 12.4	+0.1
WAX	**Waxell Ridge**	**5.78**	**36**		Pn	02 15 12.5	-0.4
M22K	**Willow**	**5.80**	**358**	Pn	Pn	02 15 13.1	+0.1
GHO	**Glory Hole Cre**	**5.83**	**4**		Pn	02 15 13.9	+0.3
BARK	**Barkley Ridge**	**5.87**	**38**		Pn	02 15 14.3	+0.2
KLU	**Klutina**	**5.88**	**18**		Pn	02 15 14.1	-0.2
MESA	**MESA**	**5.91**	**41**		Pn	02 15 15.2	+0.5
CRQM	**Cirque**	**5.93**	**33**		Pn	02 15 14.9	0.0
SCM	**Sheep Creek Mo**	**6.01**	**11**		Pn	02 15 15.5	-0.5
N17K	**Nushagak Hills**	**6.02**	**322**		Pn	02 15 15.8	-0.2
TGL	**Tana Glacier**	**6.02**	**34**		Pn	02 15 16.0	-0.2
ISLE	**Juniper Island**	**6.07**	**37**		Pn	02 15 14.8	-2.0
BAGL	**Bagley Icefiel**	**6.07**	**39**		Pn	02 15 16.4	-0.4
SKT	**Skwentna**	**6.09**	**352**		Pn	02 15 16.1	-1.0
YAH	**Yahtse**	**6.11**	**41**		Pn	02 15 16.4	-1.1
VRDI	**Verde Repeater**	**6.21**	**29**		Pn	02 15 18.6	-0.2
RKAV	**Rock Avalanche**	**6.21**	**42**		Pn	02 15 19.0	+0.2
N25K	**Chitina, Valde**	**6.25**	**23**		Pn	02 15 18.7	-0.6
O15K	**Ungaliktiuk R**	**6.29**	**305**		Pn	02 15 20.7	+0.9
GLB	**Gilahina

Solution. Duration: 1ˢ9 Moment tensor: Scale 10^{16}Nm; M_{rr}7.03; $M_{\theta\theta}$-3.04; $M_{\phi\phi}$-3.98; $M_{r\theta}$1.37; $M_{\theta\phi}$-0.65; $M_{\phi r}$0.78; Fault plane solution: $M_0$6.34000×10^{16} NP1: ϕ_s205.20000°, δ38.44000°, λ82.73000°. NP2:ϕ_s34.45000°, δ51.92000°, λ95.74000°. Principal axes: T 7.2512, Plg82.0000°, Azm334.0000°; N -2.7781, Plg5.0000°, Azm211.0000°; P -4.4731, Plg7.0000°, Azm120.0000°;

NEIC **04** *02:17:58.1,28.49N×104.84E, h14km*

GCMT **04** *02:17:59.1±0.1,28.42N±0.01×104.86E±0.01, h12km, MW5.1/152, Moment Tensor Solution. s108,c144; s152,c243; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}7.04±.13; $M_{\theta\theta}$-2.56±.09; $M_{\phi\phi}$-4.48±.10; $M_{r\theta}$-2.01±.27; $M_{\theta\phi}$-0.66±.07; $M_{\phi r}$-0.70±.28; Best double couple: $M_0$6.15300×10^{16} NP1:ϕ_s11.00000°, δ39.00000°, λ75.00000°. NP2:ϕ_s210.00000°, δ52.00000°, λ102.00000°. Principal axes: T 7.4700, Plg79.0000°, Azm166.0000°; N -2.6340, Plg9.0000°, Azm23.0000°; P -4.8360, Plg7.0000°, Azm292.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC **04** *02:17:59.1±2.1,28.43N×104.78E, h19km±12km, mb5.0/35, mbtmp5.1/37, ML5.2/2, MS4.1/57 Error ellipse: s-maj=12.8km s-min=8.7km az=52.0*

BGR **04** *02:18:02.1,28.09N×104.52E, h33km, mb5.6, Ms4.5*

ISC 04 02:17:58.6±0.6,**28.45N**±0.02×**104.81E**±0.03,**h14**km±3km, **n1568**,σ1ˢ**17**/1505,**mb5.5**/476,**MS4.2**/85,**125C-42D, Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GYA	**Guiyang**	**2.58**	**140**	Pn	Pn	02 18 31.6	-8.5
CD2	**Chengdu**	**2.62**	**340**	Pn	**Pn**	**02 18 42.5**	**+2.0**
CD2				Pg	**Pg**	**02 18 48.8**	**0.0**
CD2				Sn	**Sb**	**02 19 15.3**	**-2.0**
CD2				Sg	**Sg**	**02 19 22.2**	**-0.5**
CD2				smax	smax		
	comp=N,89μm,0.7s						
CD2				smax	smax		
	comp=E,87μm,1.0s						
PZH	**PanZhiHua**	**3.34**	**235**	Pn	**Pn**	**02 18 52.8**	**+2.3**
PZH				Sn	**Sn**	**02 19 32.6**	**+2.5**
PZH				Sg	**Sg**	**02 19 44.8**	**-1.2**
PZH				smax	smax		
	comp=N,5μm,1.2s						
PZH				smax	smax		
	comp=E,5μm,1.3s						
PZH				LR	LR		
	comp=N,27μm,10.0s						
PZH				LR	LR		
	comp=E,33μm,8.1s						
PZH				LR	LR		
	comp=Z,49μm,8.2s						
KMI	**Kunming**	**3.79**	**210**	⇑Pn	**Pn**	**02 18 58.6**	**+1.7**
KMI				Sn	**Sn**	**02 19 42.8**	**+1.4**
KMI				LR	LR		
	comp=N,28μm,6.6s						
KMI				LR	LR		
	comp=E,52μm,5.8s						
KMI				LR	LR		
	comp=Z,40μm,7.1s						
ENH	**Enshi**	**4.47**	**65**		**Pn**	**02 19 06.6**	**+0.6**
ENH	**Enshi**	**4.47**	**65**	P	**Pn**	**02 19 09.7**	**+3.7**
TNCH	**TengChong**	**6.57**	**240**	Pn	**Pn**	**02 19 37.1**	**+2.1**
TNCH				Sn	**Sn**	**02 20 51.1**	**+1.2**
TNCH				Sg	**Sg**	**02 21 28.6**	**-1.0**
TNCH				smax	smax		
	comp=N,4μm,1.6s						
TNCH				smax	smax		
	comp=E,4μm,1.6s						
TNCH				LR	LR		
	comp=N,14μm,5.2s						
TNCH				LR	LR		
	comp=E,14μm,4.6s						
TNCH				LR	LR		
	comp=Z,13μm,7.1s						
XAN	**Xi'an**	**6.59**	**31**	Pn	**Pn**	**02 19 35.4**	**+0.3**
XAN				Sn	**Sn**	**02 20 51.6**	**+1.5**
XAN				Sg	**Sg**	**02 21 29.7**	**-0.5**
XAN				smax	smax		
	comp=N,25μm,0.9s						
XAN				smax	smax		
	comp=E,28μm,0.8s						
XAN				LR	LR		
	comp=N,44μm,5.1s						
XAN				LR	LR		
	comp=E,33μm,5.3s						
XAN				LR	LR		
	comp=Z,43μm,6.3s						
SLVN	**Son La**	**7.13**	**187**		**Pn**	**02 19 43.3**	**+0.7**
SLVN	**Son La**	**7.13**	**187**	P	**Pn**	**02 19 43.7**	**+1.1**
CNSH	**ChangSha**	**7.17**	**90**	Pn	**Pn**	**02 19 44.4**	**+1.4**
CNSH				Sn	**Sn**	**02 21 01.0**	**-3.2**
CNSH				smax	smax		
	comp=N,4μm,0.7s						
CNSH				smax	smax		
	comp=E,4μm,0.7s						
CNSH				LR	LR		
	comp=Z,20μm,7.8s						
LZH	**Lanzhou**	**7.66**	**354**	Pn	**Pn**	**02 19 51.7**	**+1.8**
LZH				Sn	**Sn**	**02 21 19.9**	**+3.4**
LZH				Sg	**Sg**	**02 22 02.3**	**-2.0**
LZH				LR	LR		
	comp=N,24μm,6.9s						
LZH				LR	LR		
	comp=E,13μm,6.5s						
LZH				LR	LR		
	comp=Z,20μm,9.6s						
WHN	**Wuhan**	**8.57**	**74**	P	**Pn**	**02 20 04.3**	**+2.0**
WHN				S	**Sn**	**02 21 34.6**	**-4.2**
WHN				LR	LR		
	comp=N,53μm,8.4s						
WHN				LR	LR		
	comp=E,53μm,6.8s						
WHN				LR	LR		
	comp=Z,53μm,8.4s						
LYN	**LuoYang**	**8.93**	**45**	⇓P	**Pn**	**02 20 07.4**	**+0.2**
LYN				S	**Sn**	**02 21 48.1**	**+0.6**
LYN				smax	smax		
	comp=N,1μm,0.9s						
LYN				smax	smax		
	comp=E,640nm,0.7s						
LYN				LR	LR		
	comp=N,38μm,5.9s						
LYN				LR	LR		
	comp=E,26μm,5.8s						
LYN				LR	LR		
	comp=Z,35μm,6.2s						
GZH	**Guangzhou**	**9.37**	**123**	P	**Pn**	**02 20 12.1**	**-1.1**
GZH				S	**Sn**	**02 21 58.0**	**-0.3**
GZH				LR	LR		
	comp=N,32μm,5.3s						
GZH				LR	LR		
	comp=E,13μm,5.8s						
GZH				LR	LR		
	comp=Z,20μm,7.4s						
HKPS	**Hong Kong Po S**	**10.44**	**124**		**Pn**	**02 20 27.1**	**-0.8**
QIZ	**Qiongzhong**	**10.45**	**153**	P	**Pn**	**02 20 28.2**	**+0.1**
QIZ				S	**Sn**	**02 22 29.5**	**+4.5**
QIZ				pmax	pmax		
	comp=Z,65nm,0.8s						
QIZ				LR	LR		
	comp=E,10μm,5.8s						
QIZ				LR	LR		
	comp=Z,9μm,8.9s						
CHTO	**Chiang Mai**	**10.99**	**210**		**Pn**	**02 20 38.9**	**+3.4**
CHTO	**Chiang Mai**	**10.99**	**210**	P	**Pn**	**02 20 37.3**	**+1.8**
CHTO	**Chiang Mai**	**10.99**	**210**	P	**Pn**	**02 20 38.1**	**+2.6**
CHTO	**Chiang Mai**	**10.99**	**210**	P	**Pn**	**02 20 38.9**	**+3.4**
TIY	**Taiyuan**	**11.23**	**33**	P	**Pn**	**02 20 38.4**	**-0.4**
TIY				S	**Sn**	**02 22 41.1**	**-3.0**
TIY				pmax	pmax		
	comp=Z,120nm,0.7s						
TIY				LR	LR		
	comp=N,11μm,5.9s						
TIY				LR	LR		
	comp=E,4μm,7.4s						
TIY				LR	LR		
	comp=Z,3μm,6.5s						
CM31	**Chiang Mai Arr**	**11.31**	**210**		**Pn**	**02 20 42.9**	**+3.1**
CM31	**Chiang Mai Arr**	**11.31**	**210**	P	**Pn**	**02 20 43.1**	**+3.3**
	SNR=21						
CMAR	**Chiang Mai Arr**	**11.31**	**210**		**Pn**	**02 20 42.9**	**+3.1**
	0.7nm,0.3s,baz=16,slow=12,SNR=153						
CMAR				LR	LR	02 25 13.2	
	comp=Z,3μm,19.4s,baz=30,slow=38						
CMAR				PcP	**PcP**	**02 26 33.5**	**-0.9**
	5.0nm,0.6s,baz=270,slow=1.1,SNR=4.3						
CMAR				ScP	**ScP**	**02 30 06.0**	**-0.7**
	2.0nm,0.4s,baz=300,slow=2.1,SNR=5.5						
CMAR				PKiKP	**PKiKP**	**02 34 32.0**	**-1.0**
	1.1nm,0.3s,baz=275,slow=2.7,SNR=4.4						
CMAR	**Chiang Mai Arr**	**11.31**	**210**	*i*P	**Pn**	**02 20 43.2**	**+3.4**
CMAR				pmax	pmax		
	comp=Z,58nm,1.0s						
GOMU	**GeErMu**	**11.44**	**315**	P	**Pn**	**02 20 44.1**	**+2.1**
GOMU				pP		02 20 48.8	
GOMU				sP		02 20 51.1	
GOMU				S	Sn	02 23 03.3	+14
GOMU				pmax	pmax		
	comp=Z,11nm,1.1s						
GOMU				LR	LR		
	comp=Z,8μm,9.3s						
GOMU				LR	LR		
	comp=Z,8μm,9.6s						
GOMU				LR	LR		
	comp=Z,13μm,8.7s						
GTA	**Gaotai**	**11.69**	**341**	P	**Pn**	**02 20 47.4**	**+2.3**
GTA				pP		02 20 53.3	
GTA				S	**Sn**	**02 22 59.1**	**+3.7**
GTA				SS		02 23 15.8	
GTA				pmax	pmax		
	comp=Z,65nm,1.2s						
GTA				pmax	pmax		
	comp=Z,540nm,5.5s						
GTA				LR	LR		
	comp=Z,8μm,12.7s						
GTA				LR	LR		
	comp=Z,8μm,14.2s						
GTA				LR	LR		
	comp=Z,8μm,12.4s						
SHL	**Shillong**	**11.88**	**259**		**Pn**	**02 20 43.7**	**-4.0**
SHL	**Shillong**	**11.88**	**259**	P	**Pn**	**02 20 47.5**	**-0.2**
	SNR=16						
SHL	**Shillong**	**11.88**	**259**	P	**Pn**	**02 20 43.7**	**-4.0**
LSA	**Lhasa**	**12.01**	**279**		**Pn**	**02 20 50.6**	**+0.8**
LSA	**Lhasa**	**12.01**	**279**	P	**Pn**	**02 20 51.6**	**+1.7**
LSA				pmax	pmax		
	comp=Z,78nm,0.8s						
LSA				LR	LR		
	comp=Z,4μm,7.5s						
LSA				LR	LR		
	comp=Z,8μm,10.1s						
LSA	**Lhasa**	**12.01**	**279**	P	**Pn**	**02 20 50.6**	**+0.8**
LSA	**Lhasa**	**12.01**	**279**	P	**Pn**	**02 20 51.5**	**+1.7**
HNS	**HongShan**	**12.19**	**40**	⇓P	**Pn**	**02 20 53.7**	**+1.9**
HNS				S	**Sn**	**02 23 11.3**	**+3.8**
HNS				pmax	pmax		
	comp=Z,51nm,1.0s						
HNS				LR	LR		
	comp=Z,5μm,6.3s						
HNS				LR	LR		
	comp=Z,7μm,6.8s						
HNS				LR	LR		
	comp=Z,6μm,8.4s						
NJ2	**Nanjing**	**12.66**	**70**	⇑P	**Pn**	**02 21 00.6**	**+2.3**
NJ2				S	**Sn**	**02 23 17.8**	**-1.3**
NJ2				pmax	pmax		
	comp=Z,160nm,0.9s						
NJ2				LR	LR		
	comp=Z,15μm,7.2s						
NJ2				LR	LR		
	comp=Z,18μm,7.7s						
NJ2				LR	LR		
	comp=Z,17μm,8.8s						
QZH	**Quanzhou**	**12.81**	**103**	P	**Pn**	**02 21 01.8**	**+1.5**
QZH				LR	LR		
	comp=Z,12μm,4.4s						
QZH				LR	LR		
	comp=Z,7μm,3.9s						
QZH				LR	LR		
	comp=Z,9μm,6.9s						
BTO	**Baotou**	**12.86**	**18**	*e*P	**Pn**	**02 21 01.6**	**+0.5**
BTO				pP	P	02 21 05.0	-6.9
BTO				sP		02 21 07.4	
BTO				PP	**PnPn**	**02 21 13.2**	**+4.2**
BTO				S	**Sn**	**02 23 26.8**	**+2.8**
BTO				sS		02 23 32.6	
BTO				SS	**SnSn**	**02 23 42.6**	**+6.1**
BTO				pmax	pmax		
	comp=Z,210nm,1.2s						
BTO				pmax	pmax		
	comp=Z,1μm,4.5s						
BTO				LR	LR		
	comp=Z,13μm,10.8s						
BTO				LR	LR		
	comp=Z,10μm,6.6s						
BTO				LR	LR		
	comp=Z,8μm,11.1s						
TIA	**Tai'an**	**12.97**	**50**	P	Pn	02 20 49.8	-13
TIA				PP	**PnPn**	**02 21 03.1**	**-7.2**
TIA				S	Sn	02 23 05.5	-21
TIA				SS	**SnSn**	**02 23 29.3**	**-10**
TIA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TIA				LR	LR		
	comp=N,6μm,7.0s						
TIA				LR	LR		
	comp=E,8μm,10.1s						
TIA				LR	LR		
	comp=Z,10μm,8.5s						
BRDH	**Bariadhala**	**13.20**	**247**		**Pn**	**02 21 06.6**	**+1.0**
BRDH	**Bariadhala**	**13.20**	**247**	Pn	**Pn**	**02 21 06.6**	**+1.0**
	comp=Z,36nm,0.3s,baz=65,slow=13,SNR=3.8						
	comp=Z,104nm,0.3s						
HHC	**Hu-ho-hao-te**	**13.55**	**22**	⇓*i*P	**Pn**	**02 21 10.7**	**+0.2**
HHC				PP	**P**	**02 21 21.5**	**+1.9**
HHC				S	**Sn**	**02 23 43.3**	**+2.3**
HHC				pmax	pmax		
	comp=Z,74nm,0.8s						
HHC				pmax	pmax		
	comp=Z,260nm,3.6s						
HHC				LR	LR		
	comp=Z,11μm,4.6s						
HHC				LR	LR		
	comp=Z,14μm,5.3s						
HHC				LR	LR		
	comp=Z,5μm,5.3s						
SSE	**Sheshan**	**14.47**	**76**	P	**Pn**	**02 21 23.2**	**+0.2**
SSE				S	**Sn**	**02 24 02.0**	**-1.2**
SSE				pmax	pmax		
	comp=Z,20nm,0.8s						
SSE				pmax	pmax		
	comp=Z,300nm,5.6s						
SSE				LR	LR		
	comp=Z,3μm,7.7s						
SSE				LR	LR		
	comp=Z,7μm,7.7s						
BJT	**Baijiatuan**	**14.87**	**36**	Pn	**Pn**	**02 21 26.9**	**-1.4**
BJT	**Baijiatuan**	**14.87**	**36**	P	**Pn**	**02 21 30.4**	**+2.1**
BJT	**Baijiatuan**	**14.87**	**36**	P	**Pn**	**02 21 26.9**	**-1.4**
BJI	**Beijing**	**14.88**	**36**	P	**Pn**	**02 21 29.0**	**+0.4**
BJI				sP	**P**	**02 21 38.4**	**+4.2**
BJI				PP	**PnPn**	**02 21 43.1**	**+6.5**
BJI				S	**Sn**	**02 24 15.7**	**+2.5**
BJI				SS	**S**	**02 24 33.3**	**+2.0**
BJI				pmax	pmax		
	comp=Z,61nm,1.0s						
BJI				pmax	pmax		
	comp=Z,370nm,6.3s						
BJI				LR	LR		
	comp=Z,3μm,4.8s						
BJI				LR	LR		
	comp=Z,2μm,4.0s						
BJI				LR	LR		
	comp=Z,3μm,9.9s						
TPUB	**Ta-pu**	**15.13**	**106**		**Pn**	**02 21 32.7**	**+0.7**
TPUB	**Ta-pu**	**15.13**	**106**	P	**P**	**02 21 36.8**	**-0.4**
SSLB	**Suanglung**	**15.23**	**104**		**Pn**	**02 21 34.8**	**+1.5**
SSLB	**Suanglung**	**15.23**	**104**	P	**P**	**02 21 38.5**	**+0.3**
YHNB	**Yeheng**	**15.30**	**100**	P	**P**	**02 21 41.6**	**+2.6**
TATO	**Taipei**	**15.30**	**99**	P	**Pn**	**02 21 35.1**	**+0.8**
TATO	**Taipei**	**15.30**	**99**	P	**P**	**02 21 40.1**	**+1.1**
NACB	**Ninganchiao**	**15.64**	**102**	P	**Pn**	**02 21 39.3**	**+0.6**
NACB	**Ninganchiao**	**15.64**	**102**	P	**P**	**02 21 44.4**	**+1.6**
YULB	**Yu-li**	**15.66**	**105**		**Pn**	**02 21 38.5**	**-0.5**
YULB	**Yu-li**	**15.66**	**105**	P	**P**	**02 21 44.0**	**+0.9**
TWG	**Pinlang**	**15.70**	**107**	P	**Pn**	**02 21 39.0**	**-0.4**
TWGBT	**Beinan**	**15.71**	**107**	P	**P**	**02 21 47.1**	**+3.6**
DL2	**Dalian**	**17.43**	**49**	P	**P**	**02 22 03.7**	**+1.2**
DL2				S	**S**	**02 25 23.7**	**+0.4**
DL2				pmax	pmax		
	comp=Z,230nm,1.1s						
DL2				pmax	pmax		
	comp=Z,930nm,5.8s						
DL2				LR	LR		
	comp=Z,5μm,7.5s						
DL2				LR	LR		
	comp=Z,3μm,6.7s						
DL2				LR	LR		
	comp=Z,4μm,8.4s						
XLT	**XiLinHaoTe**	**17.88**	**27**	*e*P	**P**	**02 22 07.6**	**+0.1**
XLT				S	**Sn**	**02 25 25.0**	**-1.0**
XLT				sS	sS	02 25 36.2	-2.9
XLT				PcP	**PcP**	**02 26 41.4**	**-1.6**
XLT				pmax	pmax		
	comp=Z,76nm,1.1s						
XLT				pmax	pmax		
	comp=Z,770nm,4.0s						
XLT				LR	LR		
	comp=Z,420nm,9.5s						
XLT				LR	LR		
	comp=Z,3μm,8.9s						
XLT				LR	LR		
	comp=Z,4μm,9.0s						
SONM	**Songino Array**	**19.39**	**3**	P	**P**	**02 22 22.2**	**-2.0**
SONM	**Songino Array**	**19.39**	**3**	P	**Pn**	**02 22 25.4**	**0.0**
	comp=Z,3.1nm,0.3s,baz=185,slow=11,SNR=70						
SONM				P3KPbc		02 56 46.2	
	comp=Z,2.6nm,0.9s,baz=11,slow=3.6,SNR=8.6						
	comp=Z,28nm,0.6s						
ULN	**Ulaanbaatar**	**19.46**	**5**	P	**P**	**02 22 23.2**	**-1.8**
ULN	**Ulaanbaatar**	**19.46**	**5**	P	**Pn**	**02 22 26.1**	**-0.1**
ULN				P	**Pn**	**02 22 26.1**	**-0.1**
ULN				S	**S**	**02 26 06.9**	**+2.2**
ULN				S	**S**	**02 26 06.9**	**+2.2**
ULN	**Ulaanbaatar**	**19.46**	**5**	*c i*P	**Pn**	**02 22 26.3**	**+0.1**
ULN				pmax	pmax		
	comp=Z,56nm,1.0s						
SNY	**Shenyang**	**20.29**	**44**	⇓P	Pn	02 22 35.0	-0.8
SNY				S	**S**	**02 26 19.8**	**-1.1**
SNY				pmax	pmax		
	comp=Z,320nm,2.4s						
SNY				LR	LR		
	comp=Z,1μm,8.2s						
SNY				LR	LR		
	comp=Z,1μm,8.2s						
SNY				LR	LR		
	comp=Z,2μm,11.1s						
SRIT	**Nakonsritamara**	**20.35**	**195**	IAmb	IAmb	02 22 41.2	
	comp=Z,295nm,1.5s						
SRIT	**Nakonsritamara**	**20.35**	**195**	P	Pn	02 22 36.8	0.0
INCN	**Inchon**	**20.37**	**58**	P	**P**	**02 22 33.4**	**-1.5**
INCN				IAmb	IAmb	02 22 40.6	
	comp=Z,140nm,0.8s						
INCN	**Inchon**	**20.37**	**58**	P	Pn	02 22 36.0	-1.0
INCN				P	Pn	02 22 36.0	-1.0
INCN				S	**S**	**02 26 22.1**	**-0.6**
INCN				S	**S**	**02 26 22.1**	**-0.6**
INCN	**Inchon**	**20.37**	**58**	P	Pn	02 22 36.6	-0.3
INCN	**Inchon**	**20.37**	**58**	P	**P**	**02 22 33.4**	**-1.5**
INCN				pmax	pmax		
	comp=Z,140nm,0.8s						
WMQ	**Urumqi**	**20.58**	**323**	*e*P	Pn	02 22 40.4	+1.0
WMQ				S	**S**	**02 26 25.0**	**-1.9**
WMQ				pmax	pmax		
	comp=Z,50nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,360nm,3.6s						
WMQ				LR	LR		
	comp=Z,4μm,7.3s						
WMQ				LR	LR		
	comp=Z,4μm,6.5s						
WMQ				LR	LR		
	comp=Z,880nm,9.5s						
TJN	**Taejon**	**20.59**	**62**	P	**P**	**02 22 38.1**	**+0.9**
TJN	**Taejon**	**20.59**	**62**	P	Pn	02 22 38.6	-0.8
TJN	**Taejon**	**20.59**	**62**	*c i*P	**P**	**02 22 38.2**	**+1.0**
TGY	**Tagaytay City**	**20.70**	**130**	P	**P**	**02 22 39.1**	**+0.6**
	comp=Z,244nm,0.3s,baz=132,slow=0.7,SNR=4.2						
JOW	**Kunigami**	**20.85**	**89**	P	**P**	**02 22 40.9**	**+0.8**
	comp=Z,158nm,0.5s,baz=268,slow=6.0,SNR=24						
JOW				LR	LR	02 30 20.6	
	comp=Z,906nm,21.2s,baz=281,slow=36						
	comp=Z,158nm,0.5s						
JOW	**Kunigami**	**20.85**	**89**	P	Pn	02 22 42.9	+0.3
KSAR	**Wonju Array Be**	**21.30**	**59**	P	**P**	**02 22 45.3**	**+0.4**
KSAR	**Wonju Array Be**	**21.30**	**59**	P	**P**	**02 22 45.3**	**+0.4**
KS19	**Wonju Array Si**	**21.31**	**59**	P	**P**	**02 22 44.2**	**-0.8**
KS19				IAmb	IAmb	02 22 49.0	
	comp=Z,151nm,1.0s						
KSRS	**Korea Array**	**21.33**	**59**	P	**P**	**02 22 45.6**	**+0.4**
	comp=Z,143nm,0.9s,baz=241,slow=10,SNR=262						
KSRS				LR	LR	02 30 47.4	
	comp=Z,299μm,20.1s,baz=250,slow=36						
	comp=Z,143nm,0.9s						
JTU	**Tsushima**	**21.80**	**68**	P	**P**	**02 22 51.4**	**+1.1**
ZAK	**Zakamensk**	**21.93**	**357**	*e*P	**P**	**02 22 52.2**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,160nm,1.1s						
CN2	**Changchun**	**22.55**	**42**	*e*P	**P**	**02 22 58.8**	**+0.6**
CN2				*e*S	**S**	**02 27 04.8**	**-0.2**
CN2				ScP	**ScP**	**02 30 30.2**	**+1.4**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2				pmax	pmax		
	comp=Z,600nm,3.0s						
CN2				LR	LR		
	comp=Z,2μm,10.0s						
CN2				LR	LR		
	comp=Z,1μm,10.0s						
CN2				LR	LR		
	comp=Z,1μm,10.0s						
JNU	**Nakatsue**	**22.85**	**72**	P	**P**	**02 23 00.7**	**-0.8**
JNU				IAmb	IAmb	02 23 03.6	
	comp=Z,116nm,0.9s						
JNU	**Nakatsue**	**22.85**	**72**	P	**P**	**02 23 02.8**	**+1.2**
MOY	**Mondy**	**23.37**	**354**	*e*P	**P**	**02 23 07.7**	**+1.0**
MOY				pmax	pmax		
	comp=Z,143nm,2.5s						
KULM	**Kulim**	**23.37**	**190**	P	**P**	**02 23 06.7**	**-0.2**
KULM				IAmb	IAmb	02 23 08.4	
	comp=Z,184nm,1.1s						
KULM	**Kulim**	**23.37**	**190**	P	**P**	**02 23 07.3**	**+0.4**
HIA	**Hailar**	**23.73**	**25**	P	**P**	**02 23 09.5**	**-0.7**
HIA				IAmb	IAmb	02 23 16.8	
	comp=Z,210nm,1.4s						
HIA	**Hailar**	**23.73**	**25**	P	**P**	**02 23 11.8**	**+1.6**
HIA	**Hailar**	**23.73**	**25**	*c i*P	**P**	**02 23 10.9**	**+0.7**
HIA				pmax	pmax		
	comp=Z,50nm,1.2s						
IRK	**Irkutsk**	**23.77**	**359**	*e*P	**P**	**02 23 11.8**	**+1.3**
IRK				*e*S	**S**	**02 27 28.2**	**+2.7**
IRK				pmax	pmax		
	comp=Z,472nm,1.8s						
IPM	**Ipoh**	**24.11**	**189**	P	**P**	**02 23 12.4**	**-1.6**
IPM				IAmb	IAmb	02 23 15.2	
	comp=Z,178nm,1.0s						
IPM	**Ipoh**	**24.11**	**189**	P	**P**	**02 23 13.4**	**-0.6**
LHMI	**Lhok Sumawe**	**24.27**	**199**	P	**P**	**02 23 14.5**	**-1.0**
LHMI	**Lhok Sumawe**	**24.27**	**199**	P	**P**	**02 23 16.1**	**+0.6**
LHMI	**Lhok Sumawe**	**24.27**	**199**	P	**P**	**02 23 16.3**	**+0.8**
LHMI	**Lhok Sumawe**	**24.27**	**199**	P	**P**	**02 23 17.8**	**+2.3**
	comp=Z,237nm,0.9s						
CIT	**Chita**	**24.44**	**13**	*e*P	**P**	**02 23 17.7**	**+0.9**
CIT				*e*		02 23 51.1	
CIT				*e*		02 24 03.0	
CIT				*e*		02 26 53.4	
CIT				*e*		02 28 24.1	
CIT				pmax	pmax		
	comp=Z,287nm,3.1s						
ZSN	**Zaisan**	**24.51**	**326**	*e*P	**P**	**02 23 17.9**	**+0.4**
ZSN				*e*S	**S**	**02 27 39.3**	**+1.8**
ZSN	**Zaisan**	**24.51**	**326**	*e*P	**P**	**02 23 18.0**	**+0.4**
ZSN				*e*S	**S**	**02 27 39.4**	**+1.8**
KKM	**Kota Kinabalu**	**24.77**	**152**	P	**P**	**02 23 19.0**	**-1.1**
KKM	**Kota Kinabalu**	**24.77**	**152**	P	**P**	**02 23 20.7**	**+0.6**
BNX	**BinXian**	**24.82**	**40**	⇓P	**P**	**02 23 21.2**	**+0.9**
BNX				S	**S**	**02 27 47.3**	**+4.9**
BNX				pmax	pmax		
	comp=Z,52nm,0.7s						
BNX				pmax	pmax		

comp=Z,850nm,6.2s
BNX LR LR
comp=Z,900nm,10.2s
BNX LR LR
comp=Z,2µm,12.2s
BNX LR LR
comp=Z,2µm,11.9s
SHLS Shalkode 25.13 312 eP P 02 23 21.2 -2.0
SHLS pmax pmax
comp=Z,111nm,1.4s
SHLS Shalkode 25.13 312 eP P 02 23 21.3 -2.0
comp=Z,111nm,1.4s
PDGK Podgornoye 25.19 313 P P 02 23 23.8 0.0
PSTR Posyet 25.33 49‖ eP P 02 23 23.7 -1.2
MLSI Meulaboh, Aceh 25.34 200 P P 02 23 26.9 +1.7
MLSI Meulaboh, Aceh 25.34 200 P P 02 23 27.8 +2.6
comp=Z,119nm,0.8s
JMN Monobe 25.40 71 P P 02 23 23.5 -2.2
JMN IAmb IAmb 02 23 26.9
comp=Z,86nm,1.2s
JMN Monobe 25.40 71 P P 02 23 27.4 +1.7
MK31 Makanchi Array 25.41 322 *c i* P **P 02 23 25.7 0.0**
MK31 pmax pmax
comp=Z,89nm,0.7s
MKAR Makanchi Array 25.41 322 P P 02 23 25.6 0.0
MKAR Makanchi Array 25.41 322 P P 02 23 25.8 0.0
comp=Z,73nm,0.7s,baz=122,slow=7.9,SNR=195
MKAR ScP **ScP 02 30 34.9 -1.7**
comp=Z,5.4nm,0.8s,baz=104,slow=5.1,SNR=6.8
MKAR P3KPbc 02 56 23.2
comp=Z,1.4nm,0.8s,baz=328,slow=4.3,SNR=8.8
comp=Z,73nm,0.7s
MKAR Makanchi Array 25.41 322 *i* P **P 02 23 25.7 0.0**
MKAR pmax pmax
comp=Z,70nm,0.7s
MDJ Mudanjiang 25.49 44 P P 02 23 25.4 -0.9
MDJ Mudanjiang 25.49 44 P P 02 23 26.6 +0.3
MDJ pmax pmax
comp=Z,16nm,1.7s
MDJ pmax pmax
comp=Z,520nm,4.6s
MDJ LR LR
comp=Z,2µm,8.5s
MDJ LR LR
comp=Z,3µm,9.1s
MDJ LR LR
comp=Z,3µm,10.0s
MDJ Mudanjiang 25.49 44 P P 02 23 28.7 +2.4
TSI Tuntungan 25.51 195 P P 02 23 27.6 +0.9
MSHR Mys Shultsa 25.54 50 *de* **P P 02 23 26.2 -0.6**
MSHR pmax pmax
comp=Z,67nm,1.1s
MAKZ Makanchi 25.59 322 P P 02 23 26.4 -0.8
MAKZ IAmb IAmb 02 23 30.8
comp=Z,108nm,0.8s
MAKZ Makanchi 25.59 322 P P 02 23 26.7 -0.6
TARG Taragay, Kyrgy 25.64 308 P P 02 23 27.0 -1.2
TARG IAmb IAmb 02 23 32.5
comp=Z,150nm,1.2s
TARG Taragay, Kyrgy 25.64 308 P P 02 23 27.0 -1.2
TARG pmax pmax
comp=Z,150nm,1.2s
KPKS Kokpek 25.77 313 *c i* P **P 02 23 29.5 +0.4**
KPKS *e* S **S 02 27 59.5 +1.6**
KPKS Kokpek 25.77 313‖ *i* P **P 02 23 29.5 +0.4**
KPKS *e* S **S 02 27 59.5 +1.6**
PSI Prapat 26.12 193 P P 02 23 32.8 +0.4
RPSI Rantau Prapat 26.22 193 P P 02 23 32.3 -0.9
RPSI IAmb IAmb 02 23 33.8
comp=Z,159nm,1.1s
RPSI **PcP 02 26 59.3 -0.6**
KDJ Kajisay 26.22 309 P P 02 23 32.9 -0.4
KDJ IAmb IAmb 02 23 40.3
comp=Z,87nm,1.1s
KDJ Kajisay 26.22 309 P P 02 23 32.9 -0.4
KDJ pmax pmax
comp=Z,87nm,1.1s
KSH Kashi 26.23 302 P P 02 23 36.0 +2.8
KSH S **S 02 28 10.4 +5.2**
KSH pmax pmax
comp=Z,63nm,1.3s
KSH pmax pmax
comp=Z,660nm,4.1s
KSH LR LR
comp=Z,1µm,9.3s
KSH LR LR
comp=Z,920nm,10.0s
KSH LR LR
comp=Z,1µm,11.0s
VLA Vladivostok 26.25 49‖ *e* P **P 02 23 33.9 +0.7**
VLA pmax pmax
comp=Z,119nm,1.1s
HYB Hyderabad 26.50 251 *e* P P **02 23 35.7 0.0**
HYB IVmB_BB 02 23 38.7
comp=Z,1µm,1.9s
MYKOM Kota Tinggi 26.53 182 P P 02 23 35.8 -0.2
MYKOM Kota Tinggi 26.53 182 P P 02 23 36.6 +0.7
MYLDM Lahad Datu 26.54 148 P P 02 23 37.5 +1.4
MYLDM Lahad Datu 26.54 148 P P 02 23 38.3 +2.2
ARXS Arharly 26.67 313 eP P 02 23 36.7 -0.4
TDK Taldyqorghan 26.68 315 eP P 02 23 37.5 +0.4
TDK pmax pmax
comp=Z,127nm,1.1s
TDK Taldyqorghan 26.68 315 eP P 02 23 37.5 +0.4
comp=Z,127nm,1.1s
TNSS Tian-Shan 26.74 310 eP P 02 23 38.2 +0.1
TNSS Tian-Shan 26.74 310 eP P 02 23 38.2 +0.1
USA0B Ussuriysk Arra 26.79 47 P P 02 23 37.2 -0.9
USA0B IAmb IAmb 02 23 41.7
comp=Z,90nm,0.9s
USA0B Ussuriysk Arra 26.79 47 *c i* P **P 02 23 37.8 -0.3**
USRK Ussuriysk Ar. 26.79 47 P P 02 23 37.0 -1.1
USRK Ussuriysk Ar. 26.79 47 P P 02 23 37.8 -0.3
comp=Z,72nm,0.8s,baz=248,slow=8.9,SNR=69
USRK ScP **ScP 02 30 40.3 -0.3**
comp=Z,1.8nm,0.8s,baz=190,slow=2.4,SNR=4.4
comp=Z,72nm,0.8s
NRN Naryn 26.80 307 P P 02 23 38.6 0.0
NRN IAmb IAmb 02 23 44.5
comp=Z,113nm,1.0s
NRN Naryn 26.80 307 P P 02 23 38.6 0.0
NRN pmax pmax
comp=Z,113nm,1.0s
SBUM Sibu 26.81 163 P P 02 23 38.5 0.0
SBUM IAmb IAmb 02 23 40.8
comp=Z,80nm,1.0s
SBUM Sibu 26.81 163 P P 02 23 39.8 +1.3
AAA Alma-Ata 26.83 311 *e* P **P 02 23 39.0 +0.4**
AAA pmax pmax
comp=Z,63nm,1.2s
AAA Alma-Ata 26.83 311 *e* P **P 02 23 39.1 +0.4**
comp=Z,63nm,1.2s
ULHL Ulahol 26.91 308 P P 02 23 42.8 +3.3
SNR=6.0
KSM Kuching 27.34 168 P P 02 23 42.5 -0.7
KSM Kuching 27.34 168 P P 02 23 44.4 +1.2
SBSI Sibolga 27.34 193 P P 02 23 45.7 +2.4
NIL Nilore 27.46 289 P P 02 23 44.0 -0.3
NIL IAmb IAmb 02 24 07.9
comp=Z,79nm,0.8s
NIL Nilore 27.46 289 P P 02 23 44.0 -0.3
NIL pmax pmax
comp=Z,79nm,0.8s
TKM2 Tokmak 2 27.61 309 P P 02 23 47.0 +1.3
SNR=7.9
TKM2 Tokmak 2 27.61 309 *i* P **P 02 23 46.3 +0.6**
TKM2 pmax pmax
comp=Z,21nm,1.4s
HEH HeiHe 27.72 32 *e* P **P 02 23 46.8 +0.4**
HEH pP **pP 02 23 50.5 -0.3**
HEH PcP **PcP 02 27 03.1 +0.2**
HEH S **S 02 28 26.6 -1.6**
HEH ScP **ScP 02 30 41.9 -1.4**
HEH pmax pmax
comp=Z,52nm,1.1s
HEH pmax pmax
comp=Z,430nm,6.2s
HEH LR LR
comp=Z,2µm,9.6s
HEH LR LR
comp=Z,2µm,11.8s
HEH LR LR
comp=Z,3µm,10.1s
GSI Gunungsitoli 27.86 196 P P 02 23 45.3 -2.7
GSI IAmb IAmb 02 23 47.6
comp=Z,127nm,1.3s
GSI Gunungsitoli 27.86 196 P P 02 23 48.3 +0.3
GSI Gunungsitoli 27.86 196 P P 02 23 47.2 -0.8
GSI Gunungsitoli 27.86 196 P P 02 23 46.8 -1.2
comp=Z,58nm,1.0s
KBK Karagaybulak 27.95 308 P P 02 23 50.2 +1.4
SNR=20
UCH Uchtor 28.11 307 P P 02 23 51.8 +1.3
SNR=28
INU Inuyama 28.11 68 P P 02 23 48.5 -1.6
INU IAmb IAmb 02 23 58.7
comp=Z,68nm,1.2s
INU Inuyama 28.11 68 P P 02 23 53.8 +3.7
AAK Ala-Archa 28.26 308 P P 02 23 52.6 +1.1
SNR=5.7
AAK Ala-Archa 28.26 308 P P 02 23 50.9 -0.7
AAK Ala-Archa 28.26 308 LR LR 02 36 40.8
comp=Z,512nm,21.6s,baz=50,slow=40
AAK Ala-Archa 28.26 308 P P 02 23 51.8 +0.2
AAK P **P 02 23 51.8 +0.2**
AAK S **S 02 28 39.0 +1.7**
AAK S **S 02 28 39.0 +1.7**
AAK Ala-Archa 28.26 308 *c i* P **P 02 23 52.0 +0.5**
AAK pmax pmax
comp=Z,22nm,1.2s
AAK Ala-Archa 28.26 308 *i* P **P 02 23 53.4 +1.9**
SNR=7.9
JGF Kuroka 28.41 67 P P 02 23 55.9 +3.1
SGDS Sogindy 28.46 310 *eP* **P 02 23 53.4 +0.2**
USP Ospenovka 28.48 309 P P 02 23 54.3 +1.0
SNR=17
AML Almayashu 28.65 307 P P 02 23 56.3 +1.0
SNR=25
EKS2 Erkin-Say 28.77 308 P P 02 23 56.5 +0.5
SNR=20
ARSB Arslanbob 28.92 305 P P 02 23 56.4 -1.0
ARSB Arslanbob 28.92 305 P P 02 23 56.4 -1.0
ARSB pmax pmax
comp=Z,61nm,1.4s
STKI Sintang 28.94 166 P P 02 23 59.1 +1.6
comp=Z,139nm,1.2s
PPI Padang Panjang 29.05 189 P P 02 23 59.5 +1.0
PPI Padang Panjang 29.05 189 P P 02 23 59.7 +1.2
MJAR Matsushiro Arr 29.20 65 P P 02 23 59.4 -0.3
comp=Z,3.8nm,1.0s,baz=271,slow=9.2,SNR=5.7
MJAR PcP **PcP 02 27 07.2 +0.3**
comp=Z,6.6nm,0.8s,baz=269,slow=1.4,SNR=4.8
MJAR LR LR 02 36 46.4
comp=Z,360nm,19.1s,baz=263,slow=39
comp=Z,3.8nm,1.0s
KLR Kul'dur 29.25 37 LR LR 02 37 18.9
comp=Z,534nm,19.8s,baz=226,slow=40
KLR Kul'dur 29.25 37 *c i* P **P 02 24 00.0 -0.1**
KLR pmax pmax
comp=Z,18nm,1.0s
ZAA0 Zalesovo Array 29.38 336 P P 02 23 59.1 -2.0
ZALV Zalesovo Beam 29.38 336 P P 02 24 00.6 -0.5
ZALV Zalesovo Beam 29.38 336 P P 02 24 00.4 -0.7
comp=Z,26nm,0.7s,baz=137,slow=8.1,SNR=69
ZALV S **S 02 28 53.8 -0.3**
comp=Z,13nm,0.8s,baz=131,slow=16,SNR=6.6
ZALV ScP **ScP 02 30 46.6 -1.8**
comp=Z,7.8nm,0.9s,baz=96,slow=3.0,SNR=6.1
ZALV LR LR 02 37 04.5
comp=Z,535nm,19.6s,baz=134,slow=39
ZALV P3KPbc 02 56 05.9
comp=Z,2.9nm,0.9s,baz=347,slow=6.1,SNR=6.3
comp=Z,26nm,0.7s
ZALV Zalesovo Beam 29.38 336 P P 02 24 00.6 -0.5
BTLS Baital 29.46 313 *c i* P **P 02 24 01.7 -0.3**
BTLS Baital 29.46 313‖ *i* P **P 02 24 01.7 -0.3**
KURBB Kurchatov Arra 29.74 325 P P 02 24 04.3 0.0
comp=Z,48nm,0.7s,baz=132,slow=9.3,SNR=348
KURBB PcP **PcP 02 27 07.3 -0.7**
comp=Z,7.8nm,0.7s,baz=105,slow=1.3,SNR=8.1
KURBB PKiKP **PKiKP 02 34 39.3 -1.2**
comp=Z,0.4nm,0.6s,baz=184,slow=0.4,SNR=6.6
KURBB LR LR 02 36 54.7
comp=Z,960nm,19.7s,baz=153,slow=38
KURBB P3KPbc 02 56 06.5
comp=Z,1.3nm,0.2s,baz=310,slow=4.9,SNR=9.3
comp=Z,48nm,0.7s
KURBB Kurchatov Arra 29.74 325 P P 02 24 04.7 +0.4
KURK Kurchatov 29.75 326 P P 02 24 04.8 +0.3
KURK IAmb IAmb 02 24 06.7
comp=Z,94nm,0.9s
KURK Kurchatov 29.75 326 P P 02 24 04.9 +0.5
KURK S **S 02 28 60.0 -0.2**
KURK Kurchatov 29.75 326 *c i* P **P 02 24 04.2 -0.3**
KURK pmax pmax
comp=Z,103nm,1.0s
BOD Bodaibo 30.06 10 *eP* **P 02 24 08.0 +0.9**
BOD pmax pmax
comp=Z,63nm,1.4s
TEY Ternei 30.14 48‖ *eP* P 02 24 00.3 -7.6
TEY pmax pmax
comp=N,10.0nm,1.8s
TEY pmax pmax
comp=Z,10.0nm,1.8s
TEY pmax pmax
comp=Z,100nm,3.8s
TEY MLR MLR
comp=E,100nm,9.0s
TEY MLR MLR
comp=Z,100nm,9.0s
ZEA Zeya 30.15 27 *eP* **P 02 24 08.8 +0.9**
ZEA *eS* **S 02 29 02.9 -3.4**
ZEA pmax pmax
comp=N,100nm,3.6s
ZEA pmax pmax
comp=Z,200nm,3.8s
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=N,30nm,0.8s
ZEA pmax pmax
comp=Z,40nm,1.0s
ZEA smax smax
comp=N,100nm,7.4s
ZEA MLR MLR
comp=E,2µm,5.0s
ZEA MLR MLR
comp=N,1µm,4.0s
ZEA MLR MLR
comp=Z,2µm,5.0s
BTK Batken 30.21 301 P P 02 24 08.2 -0.6
BTK IAmb IAmb 02 24 10.8
comp=Z,114nm,1.6s
BTK Batken 30.21 301 P P 02 24 08.2 -0.6
BTK pmax pmax
comp=Z,114nm,1.7s
GAR Garm 30.39 299 P P 02 24 09.6 -0.9
DZA Taraz 30.55 307 *eP* **P 02 24 12.1 +0.4**
DZA pmax pmax
comp=Z,35nm,1.3s
DZA Taraz 30.55 307 *eP* **P 02 24 12.1 +0.4**
comp=Z,35nm,1.3s
KBL Kabul 30.98 290 P P 02 24 15.4 -0.4
KBL IAmb IAmb 02 24 17.4
comp=Z,61nm,1.4s
KBL Kabul 30.98 290 P P 02 24 15.2 -0.6
SNR=16
KBL S **S 02 29 19.0 -1.2**
KBL Kabul 30.98 290 P P 02 24 15.4 -0.4
KBL pmax pmax
comp=Z,61nm,1.4s
PALK Pallekele 31.02 232 P P 02 24 15.1 -1.0
PALK IAmb IAmb 02 24 18.0
comp=Z,95nm,0.9s
PALK Pallekele 31.02 232 P P 02 24 16.7 +0.7
PALK P **P 02 24 16.7 +0.7**
PALK Pallekele 31.02 232 *de* **P P 02 24 17.2 +1.2**
PALK pmax pmax
comp=Z,103nm,0.9s
TPI Tanjungpandan 31.15 174 P P 02 24 17.9 +0.8
TPI Tanjungpandan 31.15 174 P P 02 24 18.5 +1.4
comp=Z,880nmcomp=Z,80nm,1.1s
TOLI2 Tolitoli 31.18 148 P P 02 24 16.6 -0.8
TOLI2 IAmb IAmb 02 24 18.7
comp=Z,47nm,0.9s
TOLI2 Tolitoli 31.18 148 P P 02 24 18.1 +0.7
KK31 Karatay Array 31.19 307 P P 02 24 17.1 -0.2
KK31 IAmb IAmb 02 24 19.7
comp=Z,53nm,1.1s
KK31 Karatay Array 31.19 307 *i* P **P 02 24 17.4 +0.1**
KKAR Karatay Array 31.19 307 P P 02 24 16.5 -0.8
KKAR IAmb IAmb 02 24 19.7
comp=Z,55nm,1.1s
KKAR Karatay Array 31.19 307 P P 02 24 16.7 -0.6
KKAR Karatay Array 31.19 307 P P 02 24 16.7 -0.6
IUG Iuzhnay 31.27 305 *eP* **P 02 24 18.3 +0.2**
IUG pmax pmax
comp=Z,57nm,1.4s
IUG Iuzhnay 31.27 305 *eP* **P 02 24 18.4 +0.2**
comp=Z,57nm,1.4s
MPSI Mapaga 31.47 150 P P 02 24 21.0 +1.1
MPSI Mapaga 31.47 150 P P 02 24 21.7 +1.8
CHM Chimkent 31.62 305 *eP* **P 02 24 21.4 +0.3**
CHM pmax pmax
comp=Z,26nm,0.9s
CHM Chimkent 31.62 305 *eP* **P 02 24 21.5 +0.3**
comp=Z,26nm,0.9s
BRLS Boroldoy 31.64 307 *c i* P **P 02 24 21.2 -0.1**
BRLS Boroldoy 31.64 307‖ *i* P **P 02 24 21.2 -0.1**
BKB Balikpapan 31.74 157 P P 02 24 23.3 +1.0
comp=Z,194nm,1.0s
LHSI Lahat 32.11 182 P P 02 24 26.9 +1.3
MRSI Marisa 32.29 147 P P 02 24 28.3 +1.2
comp=Z,1µmcomp=Z,88nm,0.9s
BRZS Berezniki 32.51 320 *eP* **P 02 24 29.0 +0.3**
BRZS Berezniki 32.51 320 *eP* **P 02 24 29.1 +0.3**
PCI Palu 32.55 151 P P 02 24 30.6 +1.1
GRNR Gornyy 32.62 38 *eP* **P 02 24 29.6 -0.1**
GRNR MLR MLR
comp=E,2µm,10.0s
GRNR MLR MLR
comp=N,620nm,12.0s
GRNR MLR MLR
comp=Z,2µm,10.0s
MDSI Maura Dua 32.75 181 P P 02 24 31.2 +0.1
comp=Z,2µmcomp=Z,71nm,1.4s
KLI Kotabumi 33.12 180 P P 02 24 35.7 +1.3
KMSI Cibinong 33.24 143 P P 02 24 37.0 +1.5
APSI Ampana 33.36 148 P P 02 24 37.9 +1.4
comp=Z,2µmcomp=Z,172nm,1.2s
ERM Erimo 33.84 56 P P 02 24 39.4 -1.1
ERM IAmb IAmb 02 24 50.6
comp=Z,33nm,0.7s
ERM Erimo 33.84 56 P P 02 24 42.8 +2.4
ERM Erimo 33.84 56 P P 02 24 39.4 -1.1
ERM pmax pmax
comp=Z,33nm,0.7s
JEM Erimo 33.84 56 P P 02 24 42.8 +2.4
ASAJ Asahikawa 33.90 52 LR LR 02 38 00.1
comp=Z,201nm,19.4s,baz=222,slow=35
ASAJ Asahikawa 33.90 52 P P 02 24 39.4 -1.6
ASAJ pmax pmax
comp=Z,25nm,0.9s
JKA Kamikawa-asahi 33.91 52 P P 02 24 39.4 -1.6
LUWI Luwuk 34.01 147 P P 02 24 40.7 -1.5
LUWI Luwuk 34.01 147 P P 02 24 42.8 +0.6
LUWI Luwuk 34.01 147 P P 02 24 42.6 +0.4
LUWI Luwuk 34.01 147 P P 02 24 42.2 0.0
comp=Z,3µmcomp=Z,232nm,1.2s
TTSI Tana Toraja 34.48 153 P P 02 24 47.1 +0.9
comp=Z,2µmcomp=Z,90nm,1.2s
YSS Yuzhno-Sakhali 34.82 48 P P 02 24 47.2 -1.7
YSS IAmb IAmb 02 24 52.8
comp=Z,190nm,1.8s
YSS Yuzhno-Sakhali 34.82 48 P P 02 24 50.4 +1.5
YSS Yuzhno-Sakhali 34.82 48 *de* **P P 02 24 49.2 +0.3**
YSS *e* 02 26 12.2
YSS *e* 02 27 22.4
YSS *eS* **S 02 30 18.3 -0.9**
YSS *eSS* **SnSn 02 32 29.7 -3.4**
YSS *e* 02 35 08.0
YSS pmax pmax
comp=Z,30nm,1.3s
YSS pmax pmax
comp=Z,200nm,4.7s
YSS MLR MLR
comp=Z,2µm,14.0s
YSS MLR MLR
comp=N,900nm,15.0s
YSS MLR MLR
comp=E,1µm,12.0s
DBJI Dramaga 34.85 177 P P 02 24 51.2 +1.8
comp=E,192nm,1.3s
TNTI Ternate 34.97 138 P P 02 24 48.5 -2.0
TNTI IAmb IAmb 02 24 50.9
comp=Z,73nm,0.9s
TNTI Ternate 34.97 138 P P 02 24 52.1 +1.6
TNTI Ternate 34.97 138 P P 02 24 50.4 -0.1
TNTI Ternate 34.97 138 P P 02 24 50.6 +0.1
comp=Z,2µmcomp=Z,90nm,1.0s
UGL Uglegorsk 35.12 44 *eP* P 02 24 43.7 -7.8
UGL *eS* **S 02 30 17.4 -6.4**
UGL pmax pmax
comp=Z,200nm,0.8s
UGL MLR MLR
comp=E,2µm,9.0s
UGL MLR MLR
comp=N,3µm,7.0s
UGL MLR MLR
comp=Z,2µm,13.0s
BVA0 Borovoye Array 35.27 324 *i* P **P 02 24 53.1 +0.4**
BVAR Borovoye Array 35.27 324 P P 02 24 52.5 -0.2
comp=Z,15nm,0.5s,baz=122,slow=9.0,SNR=87
BVAR PcP **PcP 02 27 22.9 -0.3**
comp=Z,4.6nm,0.4s,baz=124,slow=2.4,SNR=8.9
BVAR ScP **ScP 02 31 07.4 -1.2**
comp=Z,5.7nm,0.8s,baz=126,slow=2.6,SNR=5.3
BVAR LR LR 02 39 55.2
comp=Z,525nm,21.3s,baz=113,slow=37
comp=Z,15nm,0.5s
SPSI Sidrap Palu 35.30 154 P P 02 24 53.8 +0.5
comp=Z,84nm,1.4s
BRVK Borovoye 35.34 324 P P 02 24 52.3 -0.9
BRVK IAmb IAmb 02 24 55.6
comp=Z,49nm,0.9s
BRVK Borovoye 35.34 324 P P 02 24 53.6 +0.3
BRVK Borovoye 35.34 324 *de* **P P 02 24 52.4 -0.9**
BRVK pmax pmax
comp=Z,59nm,1.1s
SMRI Semarang 35.71 170 P P 02 24 56.5 -0.4
SMRI Semarang 35.71 170 P P 02 24 58.8 +2.0
SMRI Semarang 35.71 170 P P 02 24 59.0 +2.2
BBJI Bungbulang 35.81 175 P P 02 24 58.7 +1.0
BNSI Bone 35.83 153 P P 02 24 58.4 +0.5
TYV Tymovskoe 36.17 41 *eP* **P 02 25 02.2 +1.7**
TYV *eS* **S 02 30 41.9 +2.1**
TYV pmax pmax
comp=Z,200nm,2.1s
TYV pmax pmax
comp=Z,60nm,1.2s
TYV smax smax
comp=N,400nm,7.4s
TYV smax smax
comp=E,500nm,7.4s
YUK Yuzh-Kuril'sk 36.18 53‖ *eP* **P 02 25 00.8 +0.2**
KAPI Kappang 36.25 154 P P 02 25 00.7 -0.8
KAPI IAmb IAmb 02 25 02.7
comp=Z,67nm,0.9s
KAPI Kappang 36.25 154 P P 02 25 01.5 0.0
KAPI P **P 02 25 01.5 0.0**
KAPI Kappang 36.25 154 P P 02 25 01.9 +0.4
KAPI Kappang 36.25 154 *ce* **P P 02 25 01.4 0.0**
KAPI pmax pmax
comp=Z,75nm,1.0s
KMMI Kalianget 36.38 165 P P 02 25 08.0 +5.4
comp=Z,97nm,1.2s
SANI Sanana 36.51 143 P P 02 25 01.8 -1.9
SANI Sanana 36.51 143 P P 02 25 02.1 -1.6
SANI Sanana 36.51 143 P P 02 25 03.0 -0.7
UGM Wanagama 36.57 170 P P 02 25 03.0 -1.2
UGM Wanagama 36.57 170 P P 02 25 05.7 +1.5
YAK Yakutsk 37.38 19 P P 02 25 10.4 -0.2
YAK IAmb IAmb 02 25 46.8
comp=Z,66nm,0.7s
YAK Yakutsk 37.38 19 LR LR 02 42 09.9
comp=Z,574nm,18.1s,baz=246,slow=39
YAK Yakutsk 37.38 19 *eP* **P 02 25 10.0 -0.6**
YAK *e* 02 26 35.5
YAK *e* PPP PPP 02 26 52.8
YAK *e* 02 27 28.6
YAK *eS* **S 02 30 56.1 -1.9**
YAK *eSS* **SnSn 02 33 34.9 +0.2**
YAK *e* 02 35 19.8
YAK pmax pmax
comp=Z,44nm,1.1s
YAK pmax pmax

comp=N,24nm,1.4s
YAK pmax pmax
comp=E,20nm,1.3s
YAK pmax pmax
comp=Z,95nm,2.3s
YAK pmax pmax
comp=N,87nm,3.2s
YAK pmax pmax
comp=E,110nm,3.5s
YAK smax smax
comp=N,327nm,3.0s
YAK smax smax
comp=E,197nm,2.6s
YAK MLR MLR
comp=Z,564nm,17.0s
YAK MLR MLR
comp=N,419nm,17.0s
YAK MLR MLR
comp=E,310nm,17.0s
JAGI Jajag, Banyuwa 37.80 165 P **P** **02 25 13.0 -1.6**
JAGI lAmb lAmb 02 25 15.9
comp=Z,98nm,1.0s
JAGI Jajag, Banyuwa 37.80 165 P **P** **02 25 15.8 +1.2**
NLAI Namlea 38.11 142 P **P** **02 25 19.2 +1.9**
NLAI Namlea 38.11 142 P **P** **02 25 19.0 +1.7**
comp=Z,1µmcomp=Z,129nm,0.9s
SWI Sorong 38.63 134 P **P** **02 25 21.4 -0.3**
SWI Sorong 38.63 134 P **P** **02 25 21.6 -0.1**
comp=Z,1µmcomp=Z,64nm,1.0s
AAI Ambon 39.08 141 P **P** **02 25 27.4 +2.0**
MSAI Masohi 39.21 140 P **P** **02 25 28.4 +1.9**
AB31 Akbulak array 39.92 314 P **P** **02 25 32.2 +0.1**
AB31 lAmb lAmb 02 25 34.1
comp=Z,129nm,1.4s
AB31 Akbulak array 39.92 314 *i* P **P** **02 25 32.8 +0.7**
ABKAR Akbulak array 39.92 314 P **P** **02 25 32.2 +0.1**
ABKAR lAmb lAmb 02 25 34.1
comp=Z,130nm,1.4s
ABKAR Akbulak array 39.92 314 P **P** **02 25 32.5 +0.4**
GUMO Guam 40.01 103 P **P** **02 25 32.0 -1.2**
GUMO lAmb lAmb 02 25 35.0
comp=Z,132nm,0.8s
GUMO Guam 40.01 103 LR LR 02 41 05.4
comp=Z,142nm,20.8s,baz=287,slow=35
GUMO Guam 40.01 103 P **P** **02 25 34.5 +1.3**
GUMO Guam 40.01 103 P **P** **02 25 32.0 -1.2**
GUMO pmax pmax
comp=Z,132nm,0.9s
WBSI Waikabubak, Su 40.41 157 P **P** **02 25 34.9 -1.6**
EDFI Ende, Flores 40.42 154 P **P** **02 25 36.5 -0.2**
MMRI Maumere 40.53 153 P **P** **02 25 36.9 -0.6**
MMRI Maumere 40.53 153 P **P** **02 25 37.7 +0.2**
MMRI Maumere 40.53 153 P **P** **02 25 36.9 -0.6**
FAKI Fak Fak 40.84 135 P **P** **02 25 39.2 -1.0**
RKPI Ransiki, Papua 41.00 132 P **P** **02 25 40.8 -0.6**
RKPI Ransiki, Papua 41.00 132 P P 02 25 50.8 +9.4
KAAM Kaadhehdhoo 41.21 233 P **P** **02 25 44.3 +1.1**
KAAM Kaadhehdhoo 41.21 233 P **P** **02 25 44.3 +1.1**
JLN Jalan Bani Buh 41.33 272 P **P** **02 25 44.3 +0.2**
SNR=6.8
JLN P **P** **02 25 44.3 +0.2**
SNR=6.8
AKTO Aktyubinsk 41.42 315 P **P** **02 25 44.2 -0.3**
WSAR Wadi Sarin 41.69 274 P **P** **02 25 46.8 -0.3**
SNR=5.2
SVE Sverdlovsk 42.00 325*de*P **P** **02 25 50.0 +0.8**
SVE *e*S **S** **02 32 06.4 -1.0**
SVE pmax pmax
comp=Z,115nm,1.4s
BIDO Bidbid 42.05 274 P **P** **02 25 50.3 +0.3**
SNR=6.9
BAKI Biak 42.06 129 P **P** **02 25 50.9 +0.8**
BAKI Biak 42.06 129 P **P** **02 25 52.2 +2.1**
comp=Z,83nm,1.3s
SMDO Samad 42.25 274 P **P** **02 25 52.1 +0.3**
SNR=9.6
SOEI Soe 42.39 151 P **P** **02 25 53.2 +0.4**
SOEI lAmb lAmb 02 26 21.7
comp=Z,100nm,1.0s
SOEI Soe 42.39 151 P **P** **02 25 54.1 +1.3**
JMDO Jabal Madar 42.41 273 P **P** **02 25 52.5 -0.5**
BATI Baumata 42.54 152 P **P** **02 25 52.5 -1.5**
comp=Z,58nm,0.4s,baz=148,slow=4.0,SNR=7.7
BATI LR LR 02 47 51.5
comp=Z,148nm,19.0s,baz=100,slow=42
comp=Z,58nm,0.4s
HOQ Hoqain 42.74 275 P **P** **02 25 56.1 +0.4**
SNR=9.6
MHTO MHTO 42.98 271 P **P** **02 25 57.6 0.0**
SNR=6.5
MHTO P **P** **02 25 57.6 0.0**
SNR=6.5
ARTI Arti 42.99 324 P **P** **02 25 57.2 0.0**
ARTI lAmb lAmb 02 26 00.3
comp=Z,52nm,0.7s
ARTI Arti 42.99 324 LR LR 02 45 51.5
comp=Z,385nm,18.8s,baz=100,slow=39
ARTI Arti 42.99 324*c i*P **P** **02 25 57.9 +0.7**
ARTI 02 27 37.5
ARTI 02 27 49.7
ARTI PPP PPP 02 28 12.9
ARTI S **S** **02 32 24.5 +2.5**
ARTI pmax pmax
comp=Z,137nm,1.6s
BSY Bisya 43.09 274 P **P** **02 25 58.7 +0.1**
SNR=11
BSY P **P** **02 25 58.7 +0.1**
SNR=11
SHME Shamm 43.10 279 P **P** **02 25 59.8 +1.3**
MDH Madha 43.16 278 P **P** **02 25 59.5 +0.6**
MASF Masafi 43.26 278 P **P** **02 26 00.4 +0.6**
MSFE Esma-Masafi 43.26 278 P **P** **02 25 59.9 0.0**
SOHO SOHO 43.27 276 P **P** **02 25 59.7 -0.2**
SOHO P **P** **02 25 59.7 -0.2**
SOHO SOHO 43.27 276 *i* P **P** **02 25 59.6 -0.2**
SNR=11
UOSS Minazif 43.33 277 P **P** **02 26 00.8 +0.3**
UOSS Minazif 43.33 277 P **P** **02 26 00.5 0.0**
UOSS P **P** **02 26 00.5 0.0**
UOSS Minazif 43.33 277 P **P** **02 26 00.1 -0.3**
HATD Hatta, Dubai 43.43 277 P **P** **02 26 01.7 +0.5**
HATD Hatta, Dubai 43.43 277 P **P** **02 26 01.9 +0.7**
ARQ Araqi 43.51 275 P **P** **02 26 03.0 +1.1**
SNR=6.4
ASHO Ashiyiah 43.53 277 P **P** **02 26 02.7 +0.6**
SNR=6.1
ASHO Ashiyiah 43.53 277 *i* P **P** **02 26 02.5 +0.4**
SNR=14
DQM DQM 43.72 270 P **P** **02 26 02.5 -1.1**
DQM P **P** **02 26 02.5 -1.1**
ALNE Al Ain 43.98 276 P **P** **02 26 05.5 -0.1**
SNR=8.4
ALNE Al Ain 43.98 276 *i* P **P** **02 26 05.8 +0.2**
SNR=8.2
MA2 Magadan 43.99 32 LR LR 02 44 51.9
comp=Z,98nm,20.4s,baz=254,slow=37
MA2 Magadan 43.99 32*ce*P **P** **02 26 05.3 +0.1**
MA2 pmax pmax
comp=Z,34nm,1.2s
ASUD Al Ashush, Dub 44.18 277 P **P** **02 26 08.3 +1.0**
ASUD P **P** **02 26 08.3 +1.0**
ASUD Al Ashush, Dub 44.18 277 P **P** **02 26 07.4 +0.2**
SKIR Severo-Kuril's 44.29 45 *e*P P 02 25 44.9 -23
SKIR *e* 02 27 40.0
SKIR *e*S S 02 32 08.6 -32
SKIR *e*SS SS 02 34 01.1 -118
SKIR pmax pmax
comp=Z,200nm,3.9s
SKR MLR MLR
comp=Z,300nm,15.0s
SMPI Sarmi 44.43 127 P **P** **02 26 10.8 +1.5**
SMPI Sarmi 44.43 127 P **P** **02 26 10.4 +1.1**
AJN Ajban 44.50 277 P **P** **02 26 10.1 +0.3**
TIXI Tiksi 45.23 10 P **P** **02 26 14.3 -0.7**
TIXI lAmb lAmb 02 26 16.0
comp=Z,45nm,0.7s
TIXI Tiksi 45.23 10 P **P** **02 26 14.3 -0.7**
TIXI pmax pmax
comp=Z,45nm,0.7s
PEA0B Petropavlovsk- 45.70 42 P **P** **02 26 17.8 -1.1**
PEA0B Petropavlovsk- 45.70 42*ce*P **P** **02 26 18.7 -0.3**
PETK Petropavlovsk- 45.70 42 P **P** **02 26 18.9 -0.1**
PETK Petropavlovsk- 45.70 42 P **P** **02 26 18.5 -0.5**
comp=Z,6.9nm,0.8s,baz=250,slow=21,SNR=8.9
PETK LR LR 02 45 17.1
comp=Z,207nm,21.4s,baz=255,slow=36
comp=Z,6.9nm,0.8s
PETK Petropavlovsk- 45.70 42 P **P** **02 26 18.9 -0.1**
GENI Genyem 45.89 126 P **P** **02 26 23.5 +2.6**
GENI Genyem 45.89 126 P **P** **02 26 22.3 +1.4**
SEY Seymchan 46.12 28 LR LR 02 45 29.6
comp=Z,282nm,21.9s,baz=232,slow=36
SEY Seymchan 46.12 28*ce*P **P** **02 26 21.7 -0.4**
SEY pmax pmax
comp=Z,7.0nm,0.9s
JAY Jayapura 46.21 126 LR LR 02 43 35.7
comp=Z,65nm,21.2s,baz=349,slow=33
JAY Jayapura 46.21 126 P **P** **02 26 24.1 +0.6**
PET Petropavlovsk 46.25 42 P **P** **02 26 23.1 -0.2**
PET lAmb lAmb 02 26 27.4
comp=Z,39nm,0.9s
PET Petropavlovsk 46.25 42 P **P** **02 26 26.7 +3.4**
comp=Z,189nm,0.9s
PET Petropavlovsk 46.25 42*ce*P **P** **02 26 22.1 -1.2**
PET pmax pmax
comp=Z,36nm,1.7s
JRN Qarnain Island 46.26 278 P **P** **02 26 23.1 -0.6**
MZR Muzera 46.28 276 P **P** **02 26 23.8 -0.1**
SNR=6.7
DMTO DMTO 46.81 268 P **P** **02 26 28.8 +0.6**
LKRN Lenkeran, Azer 47.15 298 P **P** **02 26 31.3 +0.8**
DOK Doka 47.19 270 P **P** **02 26 29.9 -1.2**
SLWR Sila 47.52 278 P **P** **02 26 32.9 -0.7**
SLWR P **P** **02 26 32.9 -0.7**
RBK Rabkut 47.55 268 P **P** **02 26 33.3 -0.6**
SHMA Al-Shehemyia 47.65 280 P **P** **02 26 33.1 -1.4**
TRNA Turayna 47.74 279 P **P** **02 26 33.0 -2.3**
AKT Akhty 47.75 302 *e*P **P** **02 26 33.7 -1.7**
AKT *e* 02 28 02.8
AKT *e*PPP PPP 02 29 11.0
AKT *e*S **S** **02 33 31.6 +0.2**
AKT pmax pmax
comp=Z,126nm,1.1s
AKT MLR MLR
comp=Z,165nm,10.0s
WHFO Wadi Hawf 47.77 269 P **P** **02 26 35.0 -0.7**
DRS Darwin Rock St 47.84 145 P **P** **02 26 35.7 -0.4**
comp=Z,57nm,0.9s
SAKB Bahrain 47.98 280 P **P** **02 26 36.6 -0.6**
SMRA Abu-Samra 48.08 279 P **P** **02 26 38.0 0.0**
SNR=5.7
BELG Belogornoye 48.17 316 LR LR 02 47 39.1
comp=Z,279nm,18.9s,baz=91,slow=37
BELG Belogornoye 48.17 316*c i*P **P** **02 26 37.7 -0.5**
BELG pmax pmax
comp=Z,19nm,1.2s
SEKA Sheki 48.17 301 P **P** **02 26 39.2 +0.7**
KIRV Kirov 48.27 325 LR LR 02 49 15.0
comp=Z,204nm,21.4s,baz=107,slow=39
KIRV Kirov 48.27 325*c i*P **P** **02 26 38.8 -0.1**
MNGR Mingechevir, A 48.28 301 P **P** **02 26 40.6 +1.3**
MTN Manton Dam 48.31 145 P **P** **02 26 37.9 -1.8**
MTN lAmb lAmb 02 28 07.4
comp=Z,28nm,0.9s
MTN Manton Dam 48.31 145 P **P** **02 26 37.9 -1.8**
comp=Z,22nm,1.3s
MTN Manton Dam 48.31 145 P **P** **02 26 39.3 -0.4**
ABTO Aybut 48.40 268 P **P** **02 26 39.7 -0.9**
GANJ Ganja 48.87 301 P **P** **02 26 44.9 +1.0**
KDU Kakadu 48.88 143 P **P** **02 26 42.6 -1.4**
comp=Z,77nm,1.0s
KDU Kakadu 48.88 143 P **P** **02 26 43.4 -0.7**
KBD Kabd 49.61 285 P **P** **02 26 49.4 -0.2**
KNRA Kununurra 49.62 149 P **P** **02 26 48.8 -0.9**
KNRA Kununurra 49.62 149 P **P** **02 26 49.1 -0.6**
comp=Z,102nm,1.0s
NAX Nakhchivan 49.65 299 P **P** **02 26 50.5 +0.6**
GNI Garni 50.12 300 P **P** **02 26 54.1 +0.5**
GNI Garni 50.12 300 P **P** **02 26 54.5 +0.9**
GNI P **P** **02 26 54.5 +0.9**
GNI Garni 50.12 300*c i*P **P** **02 26 54.7 +1.1**
GNI pmax pmax
comp=Z,113nm,1.4s
GNI Garni 50.12 300 P **P** **02 26 54.8 +1.2**
GNI Garni 50.12 300 P **P** **02 26 54.8 +1.2**
comp=Z,1µmcomp=Z,83nm,1.2s
GNI pP sP 02 27 08.9 +8.9
comp=Z,1µmcomp=Z,83nm,1.2s
FITZ Fitzroy Crossi 50.47 154 P **P** **02 26 55.1 -1.0**
FITZ Fitzroy Crossi 50.47 154 P **P** **02 26 55.4 -0.8**
comp=Z,32nm,0.9s,baz=335,slow=5.9,SNR=23
FITZ LR LR 02 49 39.6
comp=Z,62nm,19.1s,baz=334,slow=38
comp=Z,32nm,0.9s
GOF Gofitskoye 50.98 307*ce*P **P** **02 27 00.7 +0.9**
KBZ Khabaz 51.17 305 P **P** **02 27 00.4 -0.8**
comp=Z,18nm,1.0s,baz=97,slow=6.4,SNR=39
KBZ LR LR 02 53 34.1
comp=Z,139nm,18.3s,baz=76,slow=42
comp=Z,18nm,1.0s
KBZ Khabaz 51.17 305*c i*P **P** **02 27 01.3 +0.1**
KBZ pmax pmax
comp=Z,31nm,1.0s
KIV Kislovodsk 51.30 305 P **P** **02 27 03.0 +0.7**
KIV Kislovodsk 51.30 305 P **P** **02 27 03.3 +0.9**
KIV P **P** **02 27 03.3 +0.9**
KIV Kislovodsk 51.30 305 *e*P **P** **02 27 02.4 0.0**
KIV *e*S **S** **02 34 22.1 +1.0**
KIV *e*SS **SS** **02 37 59.3 +2.9**
KIV pmax pmax
comp=Z,224nm,1.0s
KIV pmax pmax
comp=Z,102nm,3.7s
KIV MLR MLR
comp=Z,134nm,16.0s
KIV Kislovodsk 51.30 305 *i* P **P** **02 27 03.2 +0.8**
SNR=96
KIV Kislovodsk 51.30 305 P **P** **02 27 03.1 +0.7**
comp=Z,3µmcomp=Z,241nm,1.3s
KARS Kars 51.33 301 P **P** **02 27 03.4 +0.7**
KARS Kars 51.33 301 P **P** **02 27 03.4 +0.7**
KARS pmax pmax
comp=Z,257nm,1.2s
SHA1 Shidzhatmaz 51.34 305*c i*P **P** **02 27 03.0 +0.2**
MBWA Marble Bar 51.38 162 P **P** **02 27 02.9 0.0**
MBWA Marble Bar 51.38 162 P **P** **02 27 02.4 -0.5**
comp=Z,130nm,1.2s
MBWA Marble Bar 51.38 162 P **P** **02 27 03.1 +0.1**
MBWA Marble Bar 51.38 162 P **P** **02 27 03.4 +0.4**
GIRL Giralia 51.60 169 P **P** **02 27 04.5 -0.1**
comp=Z,189nm,1.4s
GEVA Gevas 51.65 298 P **P** **02 27 04.8 -0.3**
GEVA lAmb lAmb 02 27 07.2
comp=Z,61nm,1.2s
VRH Novokhopyorsk 51.74 314 *e*P **P** **02 27 05.1 -0.3**
VRH *e*S **S** **02 34 24.9 -1.8**
VRH pmax pmax
comp=Z,65nm,0.7s
VRH smax smax
comp=E,300nm,3.4s
HOMI Horasan 52.29 300 ⇑P **P** **02 27 10.1 +0.1**
GURO Guroymak-BITLI 52.41 298 P **P** **02 27 10.6 -0.1**
GURO lAmb lAmb 02 27 13.3
comp=Z,101nm,1.1s
LABN Labinsk 52.65 306 *e*P **P** **02 27 12.9 +0.6**
LABN *e*S **S** **02 34 40.4 +1.0**
LABN pmax pmax
comp=Z,59nm,1.1s
ERBR Yeremizino-Bor 52.74 307 *e*P **P** **02 27 12.3 -0.6**
ERBR *e*S **S** **02 34 40.8 +0.3**
ERBR pmax pmax
comp=Z,149nm,1.1s
RAYN Ar Rayn 53.08 279 P **P** **02 27 15.6 -0.3**
RAYN Ar Rayn 53.08 279 P **P** **02 27 15.3 -0.5**
RAYN Ar Rayn 53.08 279 P **P** **02 27 15.6 -0.3**
RAYN pmax pmax
comp=Z,83nm,0.9s
RAYN Ar Rayn 53.08 279 *i* P **P** **02 27 15.5 -0.3**
SNR=98
VSLR Vesyoloye 53.27 305*c i*P **P** **02 27 17.1 +0.2**
VSLR pmax pmax
comp=Z,160nm,1.1s
VORD Divnogorie 53.28 314 *e*P **P** **02 27 15.3 -1.5**
VORD pmax pmax
comp=Z,20nm,1.1s
VORR Voronezh 53.32 315 *e*P **P** **02 27 16.6 -0.5**
VORR pmax pmax
comp=Z,54nm,0.5s
BILL Bilibino 53.32 24 P **P** **02 27 17.0 +0.1**
BILL lAmb lAmb 02 27 20.2
comp=Z,93nm,1.5s
BILL Bilibino 53.32 24*ce*P **P** **02 27 16.4 -0.5**
BILL pmax pmax
comp=Z,47nm,1.3s
BILL MLR MLR
comp=Z,712nm,14.0s
VSR Storozhevoye 53.35 314 *e*P **P** **02 27 15.0 -2.3**
VSR pmax pmax
comp=Z,40nm,1.0s
KOPT Kop Dagi 53.37 300 P **P** **02 27 17.8 -0.2**
SOC Sochi 53.48 305 *e*P **P** **02 27 16.0 -2.4**
SOC *e* 02 29 16.6
SOC *e*PPP PPP 02 30 22.9
SOC *e*S **S** **02 34 48.6 -2.1**
SOC *e*SS **SS** **02 38 32.0 +1.4**
SOC *e*SSS SSS 02 40 20.6
SOC pmax pmax
comp=Z,76nm,1.0s
SOC MLR MLR
comp=Z,140nm,19.0s
LPSR Galich'ya Gora 53.48 316 *e*P **P** **02 27 18.0 -0.3**
LPSR *e*S **S** **02 34 48.7 -1.7**
LPSR pmax pmax
comp=Z,96nm,1.2s
LPSR smax smax
comp=E,400nm,4.7s
KLMR Klimovskoe 53.60 326 *e*P **P** **02 27 16.4 -2.6**
KLMR *e* 02 28 23.5
KLMR *e* 02 29 17.4
KLMR SS **SKiKP** **02 38 31.5 -2.2**
KLMR pmax pmax
comp=Z,192nm,1.4s
KLMR MLR MLR
comp=Z,330nm,12.0s
MOS Moscow 54.27 320 *e*P **P** **02 27 22.2 -1.8**
MOS *e* 02 28 24.3
MOS *e* 02 29 25.5
MOS *e*S **S** **02 34 59.2 -1.7**
MOS *e* 02 37 06.6
MOS pmax pmax
comp=Z,400nm,1.6s
MOS pmax pmax
comp=Z,246nm,1.3s
PATS Pohnpei 54.83 102 P **P** **02 27 29.1 +0.5**
PATS Pohnpei 54.83 102 P **P** **02 27 29.1 +0.5**
comp=Z,321nm,1.0s
PATS Pohnpei 54.83 102 P **P** **02 27 29.9 +1.3**
OBN Obninsk 54.87 319 P **P** **02 27 27.7 -0.6**
OBN Obninsk 54.87 319 LR LR 02 52 11.5
comp=Z,520nm,19.9s,baz=30,slow=37
OBN Obninsk 54.87 319*c i*P **P** **02 27 28.1 -0.2**
OBN *e**PP **pP** **02 27 31.5 -1.5**
OBN *e* 02 28 30.0
OBN *e* 02 29 29.0
OBN *e*PPP PPP 02 30 44.7
OBN *e*S **S** **02 35 09.1 +0.1**
OBN *e*SS **SS** **02 38 54.6 +2.6**
OBN *e*SSS SSS 02 40 57.9
OBN pmax pmax
comp=Z,95nm,1.2s
OBN MLR MLR
comp=Z,390nm,18.0s
OBN Obninsk 54.87 319 P **P** **02 27 28.3 0.0**
comp=Z,1µmcomp=Z,105nm,1.4s
ANN Anapa 54.97 307 *e*P **P** **02 27 28.1 -1.1**
ANN *e*S **S** **02 35 10.1 -0.6**
ANN pmax pmax
comp=Z,101nm,1.2s
ARPR Arapgir-MALATY 55.17 300 P **P** **02 27 30.5 -0.4**
ARPR lAmb lAmb 02 27 33.2
comp=Z,44nm,1.0s
SMY Shemya 55.56 44 P **P** **02 27 33.0 -0.4**
SMY Shemya 55.56 44 P **P** **02 27 34.9 +1.6**
SMY Shemya 55.56 44 P **P** **02 27 33.0 -0.4**
SMY pmax pmax
comp=Z,224nm,1.5s
WB0 Warramunga Arr 55.82 146 P **P** **02 27 34.0 -1.6**
WB0 PcP **PcP** **02 28 34.0 -0.6**
RABL Rabaul 55.91 118 P **P** **02 27 37.9 +1.5**
WRAB Tennant Creek 55.94 146 P **P** **02 27 36.2 -0.2**
WRAB Tennant Creek 55.94 146*ce*P **P** **02 27 36.0 -0.4**
WRAB pmax pmax
comp=Z,114nm,0.9s
WRA Warramunga Arr 55.94 146 P **P** **02 27 34.5 -2.0**
WRA PcP **PcP** **02 28 34.4 -0.6**
WRA Warramunga Arr 55.94 146 P **P** **02 27 36.1 -0.3**
comp=Z,78nm,0.8s,baz=334,slow=7.9,SNR=230
WRA S **S** **02 35 20.9 -3.2**
comp=Z,2.1nm,0.8s,baz=327,slow=14,SNR=5.1
WRA PKPPKP 02 57 42.9
comp=Z,3.3nm,1.2s,baz=136,slow=1.8,SNR=5.5
comp=Z,78nm,0.8s
WRA Warramunga Arr 55.94 146 *i* P **P** **02 27 36.2 -0.3**
WRA pmax pmax
comp=Z,77nm,0.8s
WR8 Warramunga Arr 56.03 146 P **P** **02 27 36.3 -0.8**
COEN Coen 56.17 133 P **P** **02 27 37.6 -0.6**
COEN Coen 56.17 133 P **P** **02 27 37.8 -0.4**
comp=Z,99nm,1.0s
COEN Coen 56.17 133 P **P** **02 27 38.7 +0.5**
TOKA Tokat 56.35 301 P **P** **02 27 39.0 -0.3**
TOKA lAmb lAmb 02 27 41.1
comp=Z,46nm,1.2s
MEEK Meekatharra 56.36 165 P **P** **02 27 38.5 -0.8**
comp=Z,21nm,1.8s
GAZ Gaziantep 56.41 298 P **P** **02 27 39.8 -0.1**
LVZ Lovozero 56.51 335 P **P** **02 27 39.9 -0.1**
LVZ Lovozero 56.51 335⇓ *e*P **P** **02 27 38.8 -1.2**
LVZ pmax pmax
comp=Z,10.0nm,0.8s
WAKE Wake Island 56.77 85 P **P** **02 27 44.3 +1.8**
APA Apatity 56.95 334⇓ *i*P **P** **02 27 41.2 -1.8**
APA *e* 02 28 36.4
APA pmax pmax
comp=Z,15nm,1.3s
APA MLR MLR
comp=Z,1µm,12.0s
DIKM Dikmen 57.02 303 ⇑P **P** **02 27 44.0 0.0**
DIKM Dikmen 57.02 303 P **P** **02 27 44.0 0.0**
comp=Z,741nmcomp=Z,48nm,1.3s
BNN Bunyan 57.12 300 P **P** **02 27 44.6 -0.3**
SIM Simferopol' 57.28 307 *e*P **P** **02 27 45.8 0.0**
SIM S **S** **02 35 40.0 -1.5**
SIM pmax pmax
comp=Z,61nm,0.9s
SIM MLR MLR
comp=Z,90nm,18.0s
MSEY Mahe Island 57.75 243 P **P** **02 27 49.4 -0.1**
MSEY P **P** **02 27 49.4 -0.1**
MSEY Mahe Island 57.75 243 P **P** **02 27 48.7 -0.8**
WRKA Warakurna 57.78 155 P **P** **02 27 49.4 -0.1**
comp=Z,49nm,1.3s
BEIL Beino 57.83 295 *e*P **P** **02 27 50.2 +0.4**
ASF Jabal al Asfar 57.86 292 LR LR 02 56 02.8
comp=Z,182nm,21.1s,baz=74,slow=40
BZK Bozkurt 57.88 304 P **P** **02 27 50.0 -0.1**
BZK Bozkurt 57.88 304 ⇑P **P** **02 27 49.9 -0.1**
BZK Bozkurt 57.88 304 P **P** **02 27 49.8 -0.2**
comp=Z,1µmcomp=Z,97nm,1.2s
HWQ Hawqa 58.08 295 *e*P **P** **02 27 52.1 +0.4**
MORW Morawa 58.20 168 P **P** **02 27 52.5 +0.3**
MORW Morawa 58.20 168 P **P** **02 27 52.5 +0.3**
comp=Z,92nm,1.4s
MORW Morawa 58.20 168 P **P** **02 27 52.8 +0.6**
BHL Bhannes 58.41 294 *e*P **P** **02 27 54.2 +0.1**
SHBL Chebaa 58.49 294 *e*P **P** **02 27 54.8 +0.2**
KIRS Kirsehir-Merke 58.53 300 ⇓P **P** **02 27 54.3 -0.4**
BR131 Keskin Array S 58.61 301 P **P** **02 27 54.5 -0.9**
BR131 Keskin Array S 58.61 301 P **P** **02 27 55.1 -0.2**
SNR=16
BR131 P **P** **02 27 55.1 -0.2**
SNR=16
BR131 Keskin Array S 58.61 301*c i*P **P** **02 27 54.8 -0.5**
BRTR Keskin Array B 58.61 301 P **P** **02 27 54.9 -0.5**
BRTR Keskin Array B 58.61 301 P **P** **02 27 55.0 -0.5**
comp=Z,14nm,0.9s,baz=101,slow=5.3,SNR=64
comp=Z,14nm,0.9s
BRTR Keskin Array B 58.61 301 *i* P **P** **02 27 55.0 -0.4**
BRTR pmax pmax
comp=Z,14nm,0.9s
BR104 Keskin Array S 58.61 301 P **P** **02 27 54.9 -0.5**
comp=Z,160nmcomp=Z,17nm,1.0s
BR106 Keskin Array S 58.62 301 P **P** **02 27 55.3 -0.2**
comp=Z,178nmcomp=Z,18nm,1.0s

BR105 Keskin Array S 58.62 301 P P 02 27 55.3 -0.2
comp=Z,175nmcomp=Z,19nm,1.1s
MMAI Mount Meron Ar 58.85 293 P P 02 27 56.9 -0.2
comp=Z,37nm,1.0s,baz=93,slow=6.7,SNR=26
MMAI PcP PcP 02 28 46.9 +0.4
comp=Z,2.2nm,0.5s,baz=33,slow=3.4,SNR=4.2
MMAI LR LR 02 56 24.7
comp=Z,180nm,21.5s,baz=70,slow=39
comp=Z,37nm,1.0s
AS15 Alice Springs 58.89 149 P P 02 27 57.3 0.0
comp=Z,78nm,0.8s
AS13 Alice Springs 58.90 149 P P 02 27 57.0 -0.3
comp=Z,75nm,0.9s
AS31 Alice Springs 58.91 149 P P 02 27 56.9 -0.5
ASAR Alice Springs 58.91 149 P P 02 27 57.1 -0.3
ASAR Alice Springs 58.91 149 P P 02 27 57.5 +0.1
comp=Z,53nm,0.8s,baz=327,slow=6.5,SNR=307
ASAR S S 02 36 03.8 +0.6
comp=Z,1.4nm,1.0s,baz=349,slow=30,SNR=5.3
ASAR PKPPKP P'P'df 02 57 30.9 +4.2
comp=Z,1.5nm,1.0s,baz=148,slow=2.1,SNR=5.4
ASAR P4KPbc 03 05 05.7
comp=Z,1.1nm,0.8s,baz=314,slow=4.6,SNR=7.6
comp=Z,53nm,0.8s
AS01 Alice Springs 58.94 149 P P 02 27 57.5 -0.1
comp=Z,79nm,0.9s
GHAJ Ghor Haditha 59.19 291 P P 02 27 59.3 -0.1
QIS Mount Isa 59.19 141 P P 02 27 58.9 -0.5
comp=Z,60nm,1.4s
QIS Mount Isa 59.19 141 P P 02 27 59.2 -0.2
ANTO Ankara 59.21 302 P P 02 27 59.5 0.0
ANTO Ankara 59.21 302 P P 02 27 59.5 0.0
ANTO P P 02 27 59.5 0.0
ANTO P P 02 27 59.5 0.0
ANTO Ankara 59.21 302 ⇓P P 02 27 59.5 0.0
ANTO Ankara 59.21 302 P P 02 27 59.5 0.0
ANTO Ankara 59.21 302 P P 02 27 59.7 +0.2
comp=Z,535nmcomp=Z,39nm,1.3s
KEV Kevo 59.40 337 P P 02 27 59.3 -0.9
KEV IAmb IAmb 02 28 08.4
comp=Z,41nm,1.1s
KEV Kevo 59.40 337 P P 02 27 59.3 -0.9
KEV pmax pmax
comp=Z,41nm,1.1s
AK09 Malin Array Si 59.63 314 P P 02 28 01.9 -0.2
AK08 Malin Array Si 59.65 314 P P 02 28 01.8 -0.4
AK03 Malin Array Si 59.65 314 P P 02 28 01.7 -0.5
AK10 Malin Array Si 59.66 314 P P 02 28 02.0 -0.2
AKASG Malin Array Be 59.66 314 P P 02 28 01.8 -0.4
AKASG Malin Array Be 59.66 314 P P 02 28 01.9 -0.4
comp=Z,14nm,0.7s,baz=74,slow=6.3,SNR=83
AKASG LR LR 02 55 11.3
comp=Z,254nm,20.0s,baz=93,slow=37
comp=Z,14nm,0.7s
AKASG Malin Array Be 59.66 314 *i* P P 02 28 01.9 -0.3
AKASG pmax pmax
comp=Z,16nm,0.6s
AKBB Malin Array Si 59.66 314 P P 02 28 01.3 -0.9
AKBB IAmb IAmb 02 28 03.2
comp=Z,45nm,0.9s
AKBB Malin Array Si 59.66 314*c i* P P 02 28 01.8 -0.4
AKBB Malin Array Si 59.66 314 P P 02 28 01.8 -0.4
AK01 Malin Array Si 59.66 314 P P 02 28 01.9 -0.4
KIEV Kiev 59.67 314 P P 02 28 01.7 -0.6
KIEV IAmb IAmb 02 28 03.1
comp=Z,41nm,0.9s
KIEV Kiev 59.67 314 P P 02 28 01.7 -0.6
KIEV pmax pmax
comp=Z,41nm,0.9s
KIEV Kiev 59.67 314 *i* P P 02 28 01.8 -0.5
SNR=26
KIEV Kiev 59.67 314 P P 02 28 01.8 -0.5
comp=Z,3µmcomp=Z,205nm,1.3s
AK02 Malin Array Si 59.67 314 P P 02 28 02.2 -0.2
AK05 Malin Array Si 59.68 314 P P 02 28 02.1 -0.3
AK07 Malin Array Si 59.69 314 P P 02 28 02.4 -0.1
AK11 Malin Array Si 59.70 314 P P 02 28 02.0 -0.5
AK16 Malin Array Si 59.73 314 P P 02 28 02.4 -0.4
AK22 Malin Array Si 59.74 315 P P 02 28 02.4 -0.4
AK18 Malin Array Si 59.75 315 P P 02 28 02.5 -0.4
AK21 Malin Array Si 59.76 315 P P 02 28 02.5 -0.4
AK17 Malin Array Si 59.76 314 P P 02 28 02.5 -0.5
AK20 Malin Array Si 59.78 315 P P 02 28 02.6 -0.5
BLDU Ballidu 59.82 168 P P 02 28 03.5 0.0
comp=Z,78nm,1.0s
BLDU Ballidu 59.82 168 P P 02 28 04.0 +0.5
BAL3X Bal3x, Balta 59.87 311 P P 02 28 03.2 -0.6
MNK Minsk 59.92 319*c i* P P 02 28 04.0 0.0
ARCES ARCESS Array B 59.92 336 P P 02 28 04.0 +0.2
ARCES ARCESS Array B 59.92 336 P P 02 28 03.4 -0.4
comp=Z,4.8nm,0.6s,baz=89,slow=8.1,SNR=22
ARCES ScP ScP 02 32 49.2 -1.4
comp=Z,4.7nm,0.8s,baz=65,slow=5.8,SNR=5.0
ARCES LR LR 02 55 52.0
comp=Z,341nm,18.4s,baz=96,slow=38
comp=Z,4.8nm,0.6s
ARCES ARCESS Array B 59.92 336 P P 02 28 04.0 +0.2
PURM Purcari 59.94 310 ⇑P P 02 28 03.7 -0.5
PURM Purcari 59.94 310 P P 02 28 04.3 0.0
comp=Z,3µmcomp=Z,109nm,0.8s
CSS Mathiatis 59.99 296 P P 02 28 03.7 -1.2
CSS Mathiatis 59.99 296 P P 02 28 04.6 -0.3
comp=Z,898nmcomp=Z,63nm,1.6s
ATD Arta Tunnel 60.01 267 P P 02 28 04.6 -0.7
ATD Arta Tunnel 60.01 267 LR LR 02 53 17.6
comp=Z,5.1nm,19.5s,baz=204,slow=35
ATD Arta Tunnel 60.01 267 P P 02 28 06.5 +1.2
SNR=6.7
MTSU Mount Surprise 60.04 136 P P 02 28 05.7 +0.4
MTSU Mount Surprise 60.04 136 P P 02 28 05.9 +0.6
VSU Vasula 60.08 324*c i* P P 02 28 04.0 -1.0
VSU pmax pmax
comp=Z,83nm,1.1s
VSU Vasula 60.08 324 *e* P P 02 28 02.9 -2.1
FIA1 FINESS Array S 60.11 327 P P 02 28 04.8 -0.4
FINES FINESS Array B 60.11 327 P P 02 28 05.1 -0.1
FINES FINESS Array B 60.11 327 P P 02 28 05.1 -0.1
comp=Z,17nm,0.8s,baz=81,slow=6.4,SNR=56
FINES LR LR 02 55 26.8
comp=Z,176nm,18.5s,baz=94,slow=37
comp=Z,17nm,0.8s
EIL Elat 60.18 290 LR LR 02 58 33.8
comp=Z,171nm,18.8s,baz=69,slow=40
MDUB Mudurnu 60.27 303 P P 02 28 06.2 -0.5
ARBE Arbavere 60.36 325 *e* P P 02 28 03.8 -3.1
IDID Didziasalis 60.47 320 *e* P P 02 28 06.4 -1.4
NACGM Naroch 60.50 320 *i* P P 02 28 07.6 -0.3
comp=Z,62nm,1.0s,baz=82
HAMF Hammerfest 60.52 338 *e* P P 02 28 07.3 -0.5
KIS Kishinev 60.56 310 *e* P P 02 28 07.0 -1.5
KIS Kishinev 60.56 310 PM1 02 28 08.0
comp=Z,80nm,1.1s
KIS Kishinev 60.56 310 PM2 02 28 09.0
comp=Z,150nm,5.3s
KIS Kishinev 60.56 310 *e* P P 02 28 07.0 -1.5
KIS pmax pmax
comp=Z,80nm,1.1s
MILM Milestii Mici 60.58 310 *e* P P 02 28 06.0 -2.7
MILM Milestii Mici 60.58 310 PM1 02 28 08.0
comp=Z,160nm,1.6s
MILM Milestii Mici 60.58 310 PM2 02 28 09.0
comp=Z,380nm,5.3s
MILM *e* L L 02 55 22.0
MILM LRM MLR 02 56 22.0
comp=Z,300nm,12.5s
MILM Milestii Mici 60.58 310 ⇑P P 02 28 07.8 -0.9
MILM Milestii Mici 60.58 310 P P 02 28 07.7 -0.9
MI28 Mi28,Pidlybu 60.59 315 P P 02 28 08.4 -0.3
KEF Keuruu 60.61 328 *e* P P 02 28 06.1 -2.5
SORM Soroca 60.66 312 ⇑P P 02 28 08.5 -0.7
SORM Soroca 60.66 312 P P 02 28 08.4 -0.7
SORM Soroca 60.66 312 P P 02 28 08.3 -0.8
comp=Z,52nm,1.2s
LUBAR Lubar, Ukraine 60.71 314 P P 02 28 09.4 -0.1
KTK1 Kautokeino 60.75 336 *e* P P 02 28 09.7 +0.2
ISAL Salakas 60.77 320 *e* P P 02 28 09.2 -0.7
TLCR 60.93 308 ⇓P P 02 28 10.9 -0.2
TLCR 60.93 308 P P 02 28 10.8 -0.2
BORA Eskisehir 60.96 302 P P 02 28 10.4 -1.1
BORA IAmb IAmb 02 28 28.1
comp=Z,28nm,1.0s
KLBR Kellerberrin 60.97 167 P P 02 28 11.1 -0.3
comp=Z,130nm,0.9s
KLBR Kellerberrin 60.97 167 P P 02 28 11.8 +0.5
JURR Jurilovca 60.98 308 ⇓P P 02 28 10.9 -0.5

MEF Metsahovi 61.06 326 *e* P P 02 28 10.1 -1.6
MUN Mundaring 61.07 169 P P 02 28 11.7 -0.2
comp=Z,73nm,2.1s
NDNU Novodnistrovsk 61.21 312 P P 02 28 12.2 -0.7
TPGR Topolog 61.28 308 ⇑P P 02 28 13.1 -0.4
VLDR Vladesti 61.30 309 ⇑P P 02 28 13.6 0.0
VASR Vaslui 61.33 310 ⇓P P 02 28 13.9 +0.1
TIRR Tirgusor 61.37 308 P P 02 28 13.3 -0.7
TIRR Tirgusor 61.37 308 ⇑P P 02 28 14.0 -0.1
TIRR Tirgusor 61.37 308 P P 02 28 13.9 -0.1
TIRR Tirgusor 61.37 308 P P 02 28 13.8 -0.2
comp=Z,803nmcomp=Z,67nm,1.1s
CFR Carcaliu 61.40 308 ⇓P P 02 28 13.9 -0.4
CFR Carcaliu 61.40 308 P P 02 28 13.8 -0.4
ISP Isparta 61.43 300 P P 02 28 13.1 -1.6
ISP Isparta 61.43 300⇑ *e*P P 02 28 13.8 -0.9
ISP pmax pmax
comp=Z,87nm,1.1s
ISP Isparta 61.43 300 *e* P P 02 28 12.2 -2.5
RNPP9 Sopachiv 61.61 316 P P 02 28 15.4 -0.1
RNPP8 Varash 61.64 316 P P 02 28 15.6 -0.2
RNPP5 Staryi Chortor 61.65 315 P P 02 28 15.6 -0.2
HARR Harsova 61.65 308 ⇑P P 02 28 14.7 -1.3
HARR Harsova 61.65 308 P P 02 28 14.6 -1.3
KMBL Kambalda 61.67 163 P P 02 28 14.9 -1.2
comp=Z,23nm,1.8s
HORU Horodok 61.70 313 P P 02 28 16.0 -0.2
JETT Jettan, Norway 61.71 337 *e*P P 02 28 16.2 +0.2
KMPD K-Podol'skiy 61.81 312 P P 02 28 15.6 -1.3
ICOR Ion Corvin 61.88 307 ⇑P P 02 28 18.1 +0.6
PANC Panciu 61.93 309 ⇑P P 02 28 18.2 +0.4
VSVD Vaisvydziai 61.94 321 *e*P P 02 28 17.3 -0.3
PABE Paberze 62.00 320 P P 02 28 18.1 +0.1
PABE Paberze 62.00 320 *e*P P 02 28 16.4 -1.7
ODBI Odobesti 62.02 309 ⇑P P 02 28 18.9 +0.5
GAMB Gambell 62.03 30 P P 02 28 18.0 -0.2
baz=278
SPB2 Spitsbergen Ar 62.05 347 P P 02 28 18.2 +0.1
SPB2 IAmb IAmb 02 28 19.7
comp=Z,73nm,1.4s
SPITS Spitsbergen Ar 62.05 347 P P 02 28 17.8 -0.4
comp=Z,8.6nm,0.7s,baz=122,slow=11,SNR=8.5
SPITS LR LR 02 58 51.4
comp=Z,216nm,18.3s,baz=44,slow=40
comp=Z,8.6nm,0.7s
SPITS Spitsbergen Ar 62.05 347 P P 02 28 18.1 -0.1
SPITS pmax pmax
comp=Z,76nm,1.3s
TESR Tescani 62.12 310 ⇑P P 02 28 18.5 -0.7
TESR Tescani 62.12 310 P P 02 28 19.0 -0.1
comp=Z,671nmcomp=Z,41nm,1.9s
NWAO Narrogin (SRO) 62.17 168 P P 02 28 19.6 +0.2
NWAO Narrogin (SRO) 62.17 168 P P 02 28 19.4 0.0
NWAO Narrogin (SRO) 62.17 168 P P 02 28 19.1 -0.3
comp=Z,48nm,0.8s,baz=340,slow=10,SNR=11
NWAO LR LR 02 55 40.5
comp=Z,125nm,21.9s,baz=342,slow=36
comp=Z,48nm,0.8s
NWAO Narrogin (SRO) 62.17 168 P P 02 28 19.9 +0.5
NWAO Narrogin (SRO) 62.17 168 P P 02 28 20.1 +0.7
NWAO Narrogin (SRO) 62.17 168 P P 02 28 19.6 +0.2
NWAO pmax pmax
comp=Z,93nm,1.0s
VRI Vrincioaia 62.22 309 ⇑P P 02 28 18.9 -0.9
VRI Vrincioaia 62.22 309 P P 02 28 18.9 -0.9
VRI Vrincioaia 62.22 309 P P 02 28 20.4 +0.6
TRO Tromso 62.22 337 *e*P P 02 28 18.9 -0.4
RAF Rauma 62.23 327 *e*P P 02 28 17.3 -2.2
PLOR Plostina 62.27 309 ⇓P P 02 28 20.5 +0.3
PLOR Plostina 62.27 309 P P 02 28 20.5 +0.3
BISRR Bisoca 62.30 309 ⇑P P 02 28 20.3 -0.1
ONER Baraj Valea Uz 62.34 310 ⇑P P 02 28 21.1 +0.6
NEF NEVSHA 62.45 306 *i* P P 02 28 21.9 +0.5
ISR Istrita 62.52 309 ⇑P P 02 28 22.3 +0.4
ISR Istrita 62.52 309 P P 02 28 22.2 +0.4
AKAS Kas 62.56 298 P P 02 28 21.0 -1.4
NEHR Nehoiu 62.61 309 ⇑P P 02 28 22.5 0.0
TURR Turia 62.66 310 ⇑P P 02 28 23.5 +0.8
CTAO Charters Tower 62.71 136 P P 02 28 23.1 -0.2
CTAO Charters Tower 62.71 136 P P 02 28 23.8 +0.5
CTAO Charters Tower 62.71 136 P P 02 28 23.1 -0.2
CTAO pmax pmax
comp=Z,101nm,1.2s
SUW Suwalki 62.72 319 *e*P P 02 28 22.8 -0.2
SUW Suwalki 62.72 319 P P 02 28 21.8 -1.2
SUW Suwalki 62.72 319 P P 02 28 21.8 -1.2
SUW Suwalki 62.72 319 *e*P P 02 28 22.0 -1.0
MANT Manisa 62.74 301 P P 02 28 22.7 -1.0
MANT IAmb IAmb 02 28 24.1
comp=Z,46nm,1.4s
KSV Kosov 62.77 312 P P 02 28 23.1 -0.3
OZUR 62.80 310 ⇑P P 02 28 22.6 -1.1
BURAR Bucovina Array 62.83 312 ⇑P P 02 28 23.8 -0.1
BURAR Bucovina Array 62.83 312 P P 02 28 23.8 -0.1
BUR08 Bucovina Ar. S 62.83 312 P P 02 28 23.5 -0.5
BUR08 IAmb IAmb 02 28 25.5
comp=Z,27nm,1.1s
MLR Muntele Rosu 62.84 309 P P 02 28 23.7 -0.4
MLR Muntele Rosu 62.84 309 LR LR 02 58 29.9
comp=Z,412nm,21.6s,baz=78,slow=39
MLR Muntele Rosu 62.84 309 ⇑P P 02 28 24.8 +0.7
MLR Muntele Rosu 62.84 309 P P 02 28 24.7 +0.7
BOSR Bodos 62.89 310 ⇓P P 02 28 25.0 +0.7
FORT Forrest 62.94 158 P P 02 28 24.2 -0.3
comp=Z,16nm,1.4s
DOPR Dopca 63.10 310 ⇓P P 02 28 25.5 -0.1
JMB Yambol 63.17 306 *i* P P 02 28 26.8 +0.6
TNA Tin City 63.36 28 P P 02 28 26.2 -0.8
baz=280
SZH Strazhitsa 63.37 307 *i* P P 02 28 27.8 +0.3
VOIR 63.46 309 ⇑P P 02 28 27.3 -0.9
VOIR 63.46 309 P P 02 28 27.2 -0.9
ARCR ARCALIA 63.52 311 ⇑P P 02 28 29.0 +0.5
ARG Arkhangelos 63.71 299 P P 02 28 29.4 -0.5
ARG Arkhangelos 63.71 299 P P 02 28 29.4 -0.5
ARG pmax pmax
comp=Z,139nm,1.5s
HUMR Humele 63.74 308 ⇓P P 02 28 29.6 -0.3
ARR Arges 63.76 309 ⇑P P 02 28 30.8 +0.7
RKGY Rocky Gully 63.77 169 P P 02 28 30.2 +0.2
comp=Z,47nm,1.6s
STEI Steigen 63.81 335 *e*P P 02 28 29.4 -0.6
C16K Lisburne Hills 63.85 25 P P 02 28 30.2 0.0
C16K Lisburne Hills 63.85 25 P P 02 28 29.3 -0.8
baz=281
FAUS Fauske 63.90 334 *e*P P 02 28 29.9 -0.6
SPIA Saint Paul Isl 63.91 37 P P 02 28 30.4 -0.4
baz=282
TNR Turnu Rosu 63.94 310 ⇓P P 02 28 32.1 +0.9
TNR Turnu Rosu 63.94 310 P P 02 28 32.1 +0.9
BMR Baia Mare 63.95 312 ⇑P P 02 28 31.3 +0.1
BMR Baia Mare 63.95 312 P P 02 28 31.3 +0.1
ALN Alexandroupoli 63.95 304 P P 02 28 30.8 -0.5
ALN Alexandroupoli 63.95 304 P P 02 28 30.8 -0.5
ALN pmax pmax
comp=Z,110nm,1.5s
KWP Kalwaria Pacla 63.97 314 *e*P P 02 28 31.8 +0.5
BDRM Kayabasi 63.99 300 ⇑P P 02 28 30.9 -0.8
F14K Arctic Creek 64.03 28 P P 02 28 31.5 +0.1
baz=282
EZN Ezine 64.04 303 ⇑P P 02 28 31.5 -0.4
EZN Ezine 64.04 303 P P 02 28 31.5 -0.4
CJR Cluj-Napoca 64.12 311 ⇑P P 02 28 33.3 +0.8
CJR Cluj-Napoca 64.12 311 P P 02 28 33.2 +0.8
RDO Rodhopi 64.25 305 P P 02 28 32.9 -0.4
KDZ Kurdzhali 64.26 305 *i* P P 02 28 33.4 0.0
LOT Lotru 64.33 310 ⇓P P 02 28 34.0 +0.1
LOF Lofoten 64.40 335 *e*P P 02 28 31.9 -1.9
P08K Saint George I 64.42 38 P P 02 28 33.9 -0.2
baz=283
KOLS Kolonicke sedl 64.42 314 *e*P P 02 28 34.2 -0.1
KOLS pmax pmax
comp=Z,20nm,1.4s
KOLS Kolonicke sedl 64.42 314 *e*P P 02 28 34.2 -0.1
TATA Tatamba Isabel 64.46 116 P P 02 28 36.3 +1.3
MOR8 Moi Rana 64.48 333 *e*P P 02 28 32.9 -1.5
PLD Plovdiv 64.54 306 *i* P P 02 28 35.6 +0.4
C17K DeLong Mountai 64.59 24 P P 02 28 35.0 -0.1
baz=283
ANM Nome 64.62 29 P P 02 28 35.3 0.0
baz=283
F15K North Star Dit 64.66 27 P P 02 28 34.5 -1.1
F15K IAmb IAmb 02 28 39.1
comp=Z,70nm,1.4s
F15K North Star Dit 64.66 27 P P 02 28 35.6 0.0
baz=283
KARP Karpathos 64.66 298 P P 02 28 35.1 -1.1
KARP Karpathos 64.66 298 *e*P P 02 28 34.3 -1.8
DRGR 64.69 311 ⇓P P 02 28 36.1 -0.1
DRGR 64.69 311 P P 02 28 36.1 -0.1
RDOG Red Dog Mine 64.79 25 P P 02 28 35.9 -0.5
baz=284
DEV Deva 64.80 310 ⇑P P 02 28 37.7 +0.9
DEV Deva 64.80 310 P P 02 28 37.7 +0.9
D17K Noatak River 64.81 25 P P 02 28 37.0 +0.5
baz=284,SNR=11
VAGH Vaagaholmen 64.81 334 *e*P P 02 28 35.8 -0.7
PGB Panagyurishte 64.84 306 *i* P P 02 28 37.6 +0.4
FURI Furi 64.85 267 P P 02 28 37.2 -0.8
B18K Kokolik River 64.87 23 P P 02 28 36.5 -0.4
baz=284
A19K Wainwright 64.91 22 P P 02 28 36.5 -0.6
baz=284
MPEP Malo Peshtene 64.92 307 *i* P P 02 28 38.1 +0.5
KONS Konsvik 64.93 334 *e*P P 02 28 35.9 -1.4
STOK Stokkvaagen 65.01 334 *e*P P 02 28 37.9 +0.1
GZR Gura Zlata 65.02 310 ⇑P P 02 28 37.3 -1.0
GZR Gura Zlata 65.02 310 P P 02 28 37.3 -1.0
LEIR Leirfjorden 65.02 333 *e*P P 02 28 36.9 -1.0
VALD Valchedram 65.03 308 *i* P P 02 28 39.1 +0.7
G15K Niukluk 65.08 28 P P 02 28 38.4 +0.1
baz=284
HNR Honiara 65.20 117 LR LR 02 57 08.3
comp=Z,43nm,18.5s,baz=337,slow=36
M11K Mekoryuk 65.23 33 P P 02 28 40.6 +1.3
baz=284
C18K Utukok River 65.26 24 P P 02 28 38.9 -0.6
C18K Utukok River 65.26 24 P P 02 28 39.3 -0.2
baz=285
SURR Surduc 65.36 310 ⇑P P 02 28 39.9 -0.6
PLNA Plana 65.39 306 *i* P P 02 28 41.5 +0.6
ALEG Aligegeo Malai 65.39 116 P P 02 28 42.7 +1.7
HERR Herculane 65.41 309 ⇑P P 02 28 40.8 0.0
E17K Hotham Inlet 65.43 25 P P 02 28 40.7 +0.1
baz=285,SNR=12
VTS Vitosha 65.48 307 *i* P P 02 28 42.0 +0.5
SIRR Siria 65.53 311 ⇑P P 02 28 41.1 -0.5
NIE Niedzica 65.55 314 *e*P P 02 28 42.5 +0.8
K13K Kusilvak Mount 65.56 31 P P 02 28 41.7 +0.2
K13K Kusilvak Mount 65.56 31 P P 02 28 41.9 +0.4
baz=285,SNR=14
OJC Ojcow 65.64 315 *e*P P 02 28 42.4 +0.2
OJC Ojcow 65.64 315 P P 02 28 41.8 -0.4
OJC Ojcow 65.64 315 P P 02 28 41.8 -0.4
G16K Koyuk River 65.66 27 P P 02 28 41.4 -0.7
G16K IAmb IAmb 02 28 46.2
comp=Z,32nm,1.0s
G16K Koyuk River 65.66 27 P P 02 28 42.2 +0.1
baz=285,SNR=5.9
C19K Lookout Ridge 65.70 23 P P 02 28 42.4 +0.1
C19K IAmb IAmb 02 28 55.6
comp=Z,41nm,0.9s
C19K Lookout Ridge 65.70 23 P P 02 28 42.5 +0.1
baz=286
NIKH Nikolski High 65.70 41 P P 02 28 41.7 -0.8
baz=285
BZS Buzias 65.74 310 ⇑P P 02 28 42.1 -0.8
BZS Buzias 65.74 310 P P 02 28 42.1 -0.8
KKB Krupnik 65.78 306 *i* P P 02 28 43.1 -0.2
E18K Tukpahlearik C 65.80 25 P P 02 28 42.1 -0.8
E18K IAmb IAmb 02 28 46.8
comp=Z,27nm,0.9s
E18K Tukpahlearik C 65.80 25 P P 02 28 42.7 -0.2
baz=286,SNR=7.9
F17K Baldwin Pennin 65.82 26 P P 02 28 43.2 +0.2
F17K IAmb IAmb 02 28 47.3
comp=Z,43nm,1.0s
F17K Baldwin Pennin 65.82 26 P P 02 28 43.3 +0.3
baz=286
TRAN Tran 65.83 307 *i* P P 02 28 43.7 +0.1
J14K Nanvaranak Lak 65.85 30 P P 02 28 43.0 -0.3
J14K IAmb IAmb 02 28 45.4
comp=Z,76nm,1.5s
J14K Nanvaranak Lak 65.85 30 P P 02 28 43.4 +0.1
baz=285
NSS Namsos 65.89 332 *e*P P 02 28 42.5 -1.0
MDVR Moldovita 65.91 309 ⇑P P 02 28 44.0 -0.2
PEHC Pehcevo 65.96 306 *i* P P 02 28 50.5 +6.0
A21K Barrow 66.02 20 P P 02 28 44.6 +0.3
baz=288
LANS Liptovska Anna 66.14 314 *e*P P 02 28 46.5 +1.0
LANS pmax pmax
comp=Z,7.0nm,1.3s
LANS Liptovska Anna 66.14 314 *e*P P 02 28 46.5 +1.0
PSZ Piszkesteto 66.22 313 P P 02 28 45.8 -0.3
PSZ IAmb IAmb 02 28 47.8
comp=Z,43nm,1.2s
PSZ Piszkesteto 66.22 313 ⇑P P 02 28 47.0 +0.8
PSZ Piszkesteto 66.22 313 P P 02 28 46.9 +0.8
PSZ Piszkesteto 66.22 313 *e*P P 02 28 44.4 -1.7
BOVS Bovan 66.25 308 ⇑P P 02 28 46.5 +0.2
B20K Meade River 66.25 22 P P 02 28 45.6 -0.2
B20K Meade River 66.25 22 P P 02 28 45.6 -0.2
baz=288,SNR=6.7
BLEU Blekinge 66.29 323 *i* P P 02 28 46.0 -0.3
HFS Hagfors 66.31 327 P P 02 28 46.0 -0.4
comp=Z,20nm,0.8s,baz=85,slow=4.8,SNR=46
comp=Z,20nm,0.8s
HFS Hagfors 66.31 327 P P 02 28 46.0 -0.4
G17K Kiwalik Mounta 66.32 27 P P 02 28 46.6 +0.3
baz=287
GKP Gorka Klasztor 66.34 319 *e*P P 02 28 46.1 -0.5
VAY Valandovo 66.34 305 *i* P P 02 28 46.2 -0.6
NOR Nord 66.35 352 *i* P P 02 28 46.2 -0.1
NOR IAmb IAmb 02 28 47.6
comp=Z,70nm,1.6s
D19K Kuna River 66.39 24 P P 02 28 46.5 -0.3
D19K Kuna River 66.39 24 P P 02 28 46.8 +0.1
baz=288,SNR=18
F18K Selawik 66.39 26 P P 02 28 46.7 0.0
baz=287,SNR=14
IDI Anoyia 66.50 299 P P 02 28 46.6 -1.5
QLP Quilpie 66.54 142 P P 02 28 48.7 +0.5
comp=Z,177nm,0.9s
QLP Quilpie 66.54 142 P P 02 28 49.4 +1.2
M13K Dall Lake 66.58 33 P P 02 28 47.5 -0.5
baz=286
A22K Sinclair Lake 66.63 21 P P 02 28 48.6 +0.4
baz=289
L14K Kuka Creek 66.63 32 P P 02 28 48.3 -0.1
L14K Kuka Creek 66.63 32 P P 02 28 49.4 +1.1
baz=287,SNR=18
VYHS Vyhne 66.73 314 *e*P P 02 28 49.8 +0.5
VYHS pmax pmax
comp=Z,38nm,1.1s
VYHS Vyhne 66.73 314 *e*P P 02 28 49.8 +0.5
I17K Unalakleet 66.77 29 P P 02 28 48.5 -0.7
I17K IAmb IAmb 02 28 50.7
comp=Z,22nm,0.9s
I17K Unalakleet 66.77 29 P P 02 28 49.6 +0.4
baz=287
H17K Granite Mounta 66.78 27 P P 02 28 49.1 -0.2
H17K Granite Mounta 66.78 27 P P 02 28 49.4 +0.2
baz=287,SNR=9.9
UNV Unalaska Valle 66.81 40 P P 02 28 49.2 -0.5
baz=287
D20K Etivluk River 66.84 23 P P 02 28 49.8 +0.1
D20K Etivluk River 66.84 23 P P 02 28 50.3 +0.6
baz=289
K15K Wolf Creek Mou 66.88 30 P P 02 28 50.4 +0.4
K15K IAmb IAmb 02 28 52.6
comp=Z,58nm,1.3s
K15K Wolf Creek Mou 66.88 30 P P 02 28 51.3 +1.4
baz=287,SNR=6.0
SKO Skopje 66.94 306 *i* P P 02 28 50.4 -0.3
STEB Steborice 66.97 315 *e*P P 02 28 51.1 +0.3
G18K Tagagawik 66.99 26 P P 02 28 49.5 -1.1
baz=288
J16K Anvik River 66.99 29 IAmb IAmb 02 28 55.1
comp=Z,26nm,1.0s
J16K Anvik River 66.99 29 P P 02 28 51.2 +0.6
baz=288,SNR=7.5
F19K Shaleruckik Mo 67.03 25 IAmb IAmb 02 28 54.2
comp=Z,32nm,1.0s
F19K Shaleruckik Mo 67.03 25 P P 02 28 50.6 -0.2
baz=288,SNR=18
E19K Redstone River 67.03 25 IAmb IAmb 02 28 54.6
comp=Z,28nm,0.9s

E19K **Redstone River** 67.03 25 P P 02 28 50.9 +0.1
baz=289,SNR=16
L15K **Ungalak Mounta** 67.08 31 P P 02 28 51.3 0.0
baz=287,SNR=6.2
FRGS **Fruska Gora** 67.09 310⇑ *i*P P 02 28 51.4 -0.2
MAUC **Maruska** 67.11 315 *e*P P 02 28 52.0 +0.3
E20K **Nigu River** 67.14 24 P P 02 28 51.7 +0.1
baz=289,SNR=16
M14K **Bethel** 67.14 32 P P 02 28 52.3 +0.7
baz=287,SNR=8.8
NC602 **NORSAR Array S** 67.16 328 IAmb IAmb 02 28 56.9
comp=Z,68nm,1.5s
NC602 **NORSAR Array S** 67.16 328 *e*P P 02 28 51.2 -0.6
MORC **Moravsky Berou** 67.16 315 IAmb IAmb 02 28 53.8
comp=Z,49nm,1.2s
MORC **Moravsky Berou** 67.16 315 *e*P P 02 28 52.1 +0.1
MORC **Moravsky Berou** 67.16 315 ⇑P P 02 28 52.2 +0.2
MORC **Moravsky Berou** 67.16 315 P P 02 28 52.2 +0.2
B21K **Ikpikpuk River** 67.22 22 P P 02 28 51.4 -0.5
baz=290
NB2 **NORSAR Subarra** 67.22 328 P P 02 28 51.1 -1.1
comp=Z,96nm,1.4s,baz=72,slow=6.5
NB2 **NORSAR Subarra** 67.22 328 P P 02 28 51.1 -1.1
baz=72,slow=6.5
NOA **NORSAR Array B** 67.22 328 P P 02 28 51.2 -1.0
comp=Z,14nm,0.9s,baz=74,slow=6.4,SNR=26
comp=Z,14nm,0.9s
SRO **Srobarova** 67.27 313 *e*P P 02 28 53.7 +1.0
SRO pmax pmax
comp=Z,46nm,1.4s
SRO **Srobarova** 67.27 313 *e*P P 02 28 53.7 +1.0
DEL **Delary** 67.28 323 *i*P P 02 28 49.8 -2.8
C21K **Knifeblade Rid** 67.32 22 P P 02 28 52.0 -0.7
baz=290,SNR=8.5
H18K **Honhosa River** 67.34 27 P P 02 28 53.1 +0.3
baz=289,SNR=6.3
B22K **Teshekpuk Lake** 67.35 21 P P 02 28 53.0 +0.3
baz=291
JAVC **Velka Javorina** 67.36 314 *e*P P 02 28 54.6 +1.3
NAO01 **NORSAR Array S** 67.43 328 IAmb IAmb 02 28 54.5
comp=Z,80nm,1.8s
TEKS **Tekeris** 67.47 310⇑ *i*P P 02 28 53.6 -0.4
BORU **Boraas** 67.50 324 *i*P P 02 28 52.5 -1.4
G19K **Purcell Mounta** 67.51 26 P P 02 28 54.2 +0.3
baz=289
N14K **Kuskokwak Cree** 67.53 33 P P 02 28 54.5 +0.5
baz=288
KRLC **Kraliky** 67.54 316 *e*P P 02 28 54.8 +0.4
KRLC AMS AMS 02 59 30.0
comp=Z,600nm,15.5s
KRLC **Kraliky** 67.54 316 *e*P P 02 28 54.8 +0.4
KRLC MLR MLR
comp=Z,600nm,15.5s
MORH **Mrgy, Hungar** 67.54 311 ⇑P P 02 28 54.0 -0.4
SJES **Sjenica** 67.57 308⇑ *i*P P 02 28 55.2 +0.4
KSP **Ksiaz** 67.61 317 *e*P P 02 28 55.2 +0.5
J17K **VABM Dome** 67.61 29 IAmb IAmb 02 28 56.8
comp=Z,77nm,1.8s
J17K **VABM Dome** 67.61 29 P P 02 28 54.9 +0.4
baz=289,SNR=8.4
SMOL **Smolenice** 67.62 314 *e*P P 02 28 55.5 +0.6
SMOL pmax pmax
comp=Z,27nm,1.5s
OHR **Ohrid** 67.67 306 *i*P P 02 28 54.1 -1.3
F20K **Avaraart Lake** 67.72 25 IAmb IAmb 02 28 56.7
comp=Z,72nm,1.7s
F20K **Avaraart Lake** 67.72 25 P P 02 28 55.2 +0.1
baz=290,SNR=12
DPC **Dobruska-Polom** 67.74 316 *e*P P 02 28 56.5 +0.8
DPC AMS AMS 02 59 30.0
comp=Z,600nm,17.5s
DPC **Dobruska-Polom** 67.74 316 *e*P P 02 28 56.5 +0.8
DPC MLR MLR
comp=Z,600nm,17.5s
OSTC **Ostas** 67.74 316 *e*P P 02 28 56.0 +0.4
OSTC AMS AMS 02 59 30.0
comp=Z,600nm,14.7s
OSTC **Ostas** 67.74 316 *e*P P 02 28 56.0 +0.4
OSTC MLR MLR
comp=Z,600nm,14.7s
IVA **Berane** 67.75 308⇑ *i*P P 02 28 55.4 -0.5
M15K **Kasigluk River** 67.75 32 P P 02 28 56.4 +0.9
baz=288,SNR=5.7
MODS **Modra-Piesok** 67.76 314 *e*P P 02 28 55.2 -0.6
MODS pmax pmax
comp=Z,76nm,1.3s
MODS **Modra-Piesok** 67.76 314 *e*P P 02 28 55.2 -0.6
BBOO **Buckleboo** 67.77 152 P P 02 28 55.2 -0.7
BBOO **Buckleboo** 67.77 152 P P 02 28 54.9 -1.0
comp=Z,57nm,1.4s
BBOO **Buckleboo** 67.77 152 P P 02 28 55.9 0.0
BBLS **Lazi&#263i** 67.77 309⇑ *i*P P 02 28 56.0 0.0
OSL **Oslo** 67.80 327 *e*P P 02 28 56.5 +0.7
CHVC **Chvalec** 67.83 317 *e*P P 02 28 56.8 +0.6
CHVC AMS AMS 02 59 40.0
comp=Z,500nm,17.4s
CHVC **Chvalec** 67.83 317 *e*P P 02 28 56.8 +0.6
CHVC MLR MLR
comp=Z,500nm,17.4s
BJUU **Bjuv** 67.85 323 *i*P P 02 28 52.8 -3.4
E21K **Killik River** 67.85 23 P P 02 28 56.0 -0.1
baz=291
STRU **Stroemstad** 67.86 326 *i*P P 02 28 54.1 -2.1
RUDO **Rudo** 67.87 309⇑ *i*P P 02 28 55.6 -1.0
UPC **Upice** 67.88 316 *e*P P 02 28 57.2 +0.7
UPC AMS AMS 02 59 30.0
comp=Z,500nm,19.3s
UPC **Upice** 67.88 316 *e*P P 02 28 57.2 +0.7
UPC MLR MLR
comp=Z,500nm,19.3s
DOMB **Dombas** 67.88 330 *e*P P 02 28 55.5 -0.9
VRAC **Vranov** 67.90 315 *e*P P 02 28 57.0 +0.4
VRAC **Vranov** 67.90 315 LR LR 03 00 09.2
comp=Z,390nm,19.7s,baz=68,slow=37
VRAC **Vranov** 67.90 315 ⇑P P 02 28 55.5 -1.2
VRAC **Vranov** 67.90 315 P P 02 28 55.4 -1.2
O14K **Tigyukauivet M** 67.94 34 P P 02 28 56.9 +0.2
baz=289
PLE **Pljevlja** 67.95 308⇑ *i*P P 02 28 57.3 +0.1
H19K **Roundabout Mou** 67.97 26 P P 02 28 57.3 +0.5
baz=290,SNR=36
L16K **Owhat River** 67.98 31 P P 02 28 57.3 +0.4
baz=289,SNR=7.3
ONAU **Onsala** 68.01 324 *i*P P 02 28 54.2 -2.9
KOME **Kolasin** 68.02 308⇑ *i*P P 02 28 56.9 -0.7
GCSA **Galena City Sc** 68.07 27 P P 02 28 57.3 -0.1
baz=290
KRUC **Moravsky** 68.10 315 *e*P P 02 28 58.3 +0.4
D22K **Ayikyak River** 68.13 22 P P 02 28 58.3 +0.5
baz=292
ITM **Ithomi** 68.14 301 IAmb IAmb 02 28 57.6
comp=Z,55nm,1.2s
K17K **Iditarod** 68.17 30 P P 02 28 58.8 +0.7
baz=290,SNR=23
N15K **Kwethluk River** 68.20 32 IAmb IAmb 02 29 03.3
comp=Z,50nm,1.0s
N15K **Kwethluk River** 68.20 32 P P 02 28 59.4 +1.0
baz=289,SNR=9.2
UPM **Unac-Piva** 68.33 308⇑ *i*P P 02 28 59.6 -0.1
UPM **Unac-Piva** 68.33 308⇑ *i*P P 02 28 58.5 -1.2
PDG **Podgorica** 68.34 307 IAmb IAmb 02 29 00.3
comp=Z,51nm,1.1s
PDG **Podgorica** 68.34 307⇑ *i*P P 02 28 59.0 -0.5
PDG **Podgorica** 68.34 307 ⇑P P 02 28 58.8 -0.6
PDG **Podgorica** 68.34 307⇑ *i*P P 02 28 59.0 -0.5
L17K **Donlin** 68.37 30 P P 02 29 00.4 +1.0
baz=290,SNR=13
MOL **Molde** 68.38 330 *e*P P 02 28 59.5 +0.1
RER **Riviere de l'E** 68.38 229 P P 02 28 58.9 -1.2
KONO **Kongsberg** 68.43 327⇓ *e*P P 02 28 59.6 -0.1
KONO pmax pmax
comp=Z,30nm,1.4s
C23K **Itkillik River** 68.43 21 P P 02 28 60.0 +0.4
baz=294,SNR=15
NKME **Niksic** 68.44 308⇑ *i*P P 02 28 59.9 -0.3
M16K **Timber Creek** 68.45 31 IAmb IAmb 02 29 04.7
comp=Z,40nm,0.9s
M16K **Timber Creek** 68.45 31 P P 02 29 00.4 +0.6
baz=290,SNR=11
DRME **Dracevica, Mon** 68.47 307⇑ *i*P P 02 29 00.0 -0.3
DRME **Dracevica, Mon** 68.47 307⇑ *i*P P 02 28 59.8 -0.5
F21K **Alatna River** 68.47 24 IAmb IAmb 02 29 01.6
comp=Z,57nm,1.5s
F21K **Alatna River** 68.47 24 P P 02 28 59.9 -0.1
baz=292
ULC **Ulcinj** 68.50 307⇑ *i*P P 02 28 59.8 -0.8
CEME **Cevo** 68.53 308⇑ *i*P P 02 29 00.1 -0.7
GD1S **Gladstone Soft** 68.54 135 P P 02 29 03.4 +2.6
comp=Z,1µm,0.5s
RUE **Ruedersdorf** 68.57 319 *e*P P 02 28 59.0 -1.7
RUE **Ruedersdorf** 68.57 319 *e*P P 02 29 01.0 +0.3
comp=Z,172nm,1.5s,baz=69,slow=6.1
J18K **Innoko River** 68.58 29 IAmb IAmb 02 29 04.6
comp=Z,34nm,0.9s
J18K **Innoko River** 68.58 29 P P 02 29 01.2 +0.5
baz=291,SNR=30
H20K **Anotleneega Mo** 68.59 26 P P 02 29 01.1 +0.4
baz=292,SNR=15
RONA **Rosalia, Austr** 68.60 314 *i*P P 02 29 01.3 +0.2
comp=Z,71nm,1.4s,SNR=15
BUM **Brajici-Budva** 68.63 307⇑ *i*P P 02 29 00.7 -0.7
O15K **Ungalikthiuk R** 68.66 33 IAmb IAmb 02 29 05.9
comp=Z,45nm,0.9s
O15K **Ungalikthiuk R** 68.66 33 P P 02 29 02.0 +0.8
baz=290,SNR=12
BRY **Bratogost** 68.68 308⇑ *i*P P 02 29 01.5 -0.4
BRY **Bratogost** 68.68 308⇑ *i*P P 02 29 01.4 -0.4
SKAR **Skarslia** 68.69 328 *e*P P 02 29 01.5 0.0
S12K **Black Hills** 68.69 37 P P 02 29 01.7 +0.3
baz=289
E22K **Anaktuvuk Pass** 68.71 23 P P 02 29 02.0 +0.6
baz=293,SNR=23
N16K **Nishlik Lake** 68.72 32 P P 02 29 02.6 +1.0
baz=290
G21K **Allakaket** 68.73 25 P P 02 29 01.6 +0.1
baz=292,SNR=24
D23K **Nanushuk River** 68.76 22 P P 02 29 02.4 +0.7
baz=294,SNR=30
CONA **Conrad Observa** 68.80 314 *i*P P 02 29 02.6 +0.2
comp=Z,97nm,1.4s,SNR=30
GOPC **GO Pecny, Ondr** 68.81 316 AMS AMS 03 00 20.0
comp=Z,600nm,17.3s
F22K **John River** 68.83 24 P P 02 29 02.5 +0.3
baz=293
IMAR **Indian Mountai** 68.84 25 P P 02 29 02.7 +0.4
J19K **Poorman** 68.85 28 IAmb IAmb 02 29 06.6
comp=Z,27nm,0.8s
J19K **Poorman** 68.85 28 P P 02 29 03.1 +0.8
baz=291,SNR=34
HCY **Herceg Novi** 68.86 308⇑ *i*P P 02 29 02.6 -0.2
HCY **Herceg Novi** 68.86 308⇑ *i*P P 02 29 02.0 -0.8
TREB **Trebinje** 68.87 308⇑ *i*P P 02 29 01.9 -1.0
PRU **Pruhonice** 68.94 316 *e*P P 02 29 03.7 +0.6
PRU AMS AMS 03 00 20.0
comp=Z,600nm,14.5s
PRU **Pruhonice** 68.94 316 *e*P P 02 29 03.7 +0.6
PRU MLR MLR
comp=Z,600nm,14.5s
PRA **Prague** 68.98 316 *e*P P 02 29 04.2 +0.8
PRA AMS AMS 03 00 20.0
comp=Z,600nm,13.6s
PRA **Prague** 68.98 316 *e*P P 02 29 04.2 +0.8
PRA MLR MLR
comp=Z,600nm,13.6s
BLY **Banja Luka** 68.99 310⇑ *i*P P 02 29 03.6 +0.1
M17K **Holitna River** 69.01 31 P P 02 29 04.9 +1.6
baz=291,SNR=29
BRG **Berggiesshubel** 69.01 317 *e*P P 02 29 03.6 0.0
comp=Z,30nm,1.0s,baz=69,slow=6.1
BRG **Berggiesshubel** 69.01 317 *e*P P 02 29 03.9 +0.4
BRG Amp 02 29 05.2
comp=Z,30nm,1.0s
BRG **Berggiesshubel** 69.01 317 P P 02 29 09.5 +6.0
BRG Amp 02 29 10.5
comp=Z,13nm,1.0s
I20K **Naaghedeneel** 69.01 27 IAmb IAmb 02 29 48.5
comp=Z,39nm,1.1s
I20K **Naaghedeneel** 69.01 27 P P 02 29 03.9 +0.7
baz=292
L18K **Granite Mounta** 69.04 30 IAmb IAmb 02 29 06.0
comp=Z,43nm,1.4s
L18K **Granite Mounta** 69.04 30 P P 02 29 04.3 +0.8
baz=291,SNR=10
C24K **Franklin Bluff** 69.08 21 P P 02 29 04.0 +0.4
baz=295
A051A **Mrakovica** 69.09 311⇑ *i*P P 02 29 01.6 -2.6
ARSA **Arzberg** 69.24 313 P P 02 29 04.6 -0.5
ARSA IAmb IAmb 02 29 06.4
comp=Z,26nm,1.1s
ARSA **Arzberg** 69.24 313 *i*P P 02 29 05.1 0.0
comp=Z,57nm,1.5s,SNR=8.4
TOLK **Toolik Lake Re** 69.26 22 IAmb IAmb 02 29 08.8
comp=Z,29nm,0.9s
TOLK **Toolik Lake Re** 69.26 22 P P 02 29 04.8 -0.1
baz=295,SNR=13
STON **Ston** 69.27 308⇑ *i*P P 02 29 04.4 -0.9
D24K **Happy Valley** 69.29 22 IAmb IAmb 02 29 10.0
comp=Z,32nm,0.8s
D24K **Happy Valley** 69.29 22 P P 02 29 05.3 +0.3
baz=295,SNR=15
G22K **Betties** 69.30 24 P P 02 29 05.3 +0.2
baz=294
H21K **Melozitna River** 69.33 26 IAmb IAmb 02 29 09.5
comp=Z,51nm,1.2s
H21K **Melozitna River** 69.33 26 P P 02 29 05.8 +0.5
baz=293,SNR=32
ZVC **Zvikov** 69.34 316 *e*P P 02 29 06.3 +0.7
O16K **Kokwok River B** 69.35 33 IAmb IAmb 02 29 10.3
comp=Z,53nm,1.0s
O16K **Kokwok River B** 69.35 33 P P 02 29 06.7 +1.3
baz=291,SNR=20
J20K **Nowinta River** 69.38 27 P P 02 29 06.5 +0.9
baz=293,SNR=25
CLL **Collm** 69.42 318 IAmb IAmb 02 29 07.3
comp=Z,50nm,1.2s
CLL **Collm** 69.42 318⇑ *i*P P 02 29 06.0 -0.1
CLL *e*S S 02 38 14.0 +1.3
CLL pmax pmax
comp=Z,59nm,1.3s
CLL **Collm** 69.42 318 *e*P P 02 29 05.9 -0.2
comp=Z,50nm,1.2s,baz=69,slow=6.1
N17K **Nushagak Hills** 69.44 32 IAmb IAmb 02 29 08.8
comp=Z,63nm,1.4s
N17K **Nushagak Hills** 69.44 32 P P 02 29 07.4 +1.4
baz=291,SNR=11
STKA **Stephens Creek** 69.46 147 P P 02 29 06.0 -0.4
comp=Z,264nm,1.2s
STKA **Stephens Creek** 69.46 147 P P 02 29 06.3 -0.2
comp=Z,32nm,0.8s,baz=334,slow=6.1,SNR=51
comp=Z,32nm,0.8s
STKA **Stephens Creek** 69.46 147 P P 02 29 06.4 0.0
STKA **Stephens Creek** 69.46 147 *c* *i*P P 02 29 06.0 -0.4
CKRC **Cesky Krumlov** 69.47 315 *e*P P 02 29 07.4 +0.9
CKRC AMS AMS 03 00 30.0
comp=Z,400nm,16.1s
CKRC **Cesky Krumlov** 69.47 315 *e*P P 02 29 07.4 +0.9
CKRC MLR MLR
comp=Z,400nm,16.1s
E23K **Chandalar** 69.49 23 P P 02 29 06.8 +0.4
baz=295,SNR=25
A050A **Klekovaca** 69.52 310⇑ *i*P P 02 29 06.3 -0.6
GROS **Grobnik** 69.52 312 *e*P P 02 29 06.5 -0.5
HTT **Hallett** 69.53 150 P P 02 29 06.6 -0.2
comp=Z,12nm,1.3s
HTT **Hallett** 69.53 150 P P 02 29 06.7 -0.2
DAG **Danmarks Havn** 69.55 348 *i*P P 02 29 05.6 -0.9
DAG IAmb IAmb 02 29 06.8
comp=Z,65nm,1.6s
EIDS **Eidsvold** 69.59 136 P P 02 29 07.5 0.0
comp=Z,88nm,1.3s
EIDS **Eidsvold** 69.59 136 P P 02 29 08.0 +0.6
P16K **Nushagak River** 69.60 33 P P 02 29 07.7 +0.7
baz=291
COLD **Coldfoot** 69.64 24 IAmb IAmb 02 29 09.0
comp=Z,57nm,1.4s
COLD **Coldfoot** 69.64 24 P P 02 29 07.8 +0.6
baz=295,SNR=17
SDPT **Sand Point** 69.66 37 P P 02 29 07.9 +0.4
baz=291
SCTE **Santa Cesarea** 69.69 305 P P 02 29 07.1 -0.9
M18K **Stony River** 69.69 30 P P 02 29 08.5 +0.9
baz=292,SNR=18
PERS **Pernice** 69.71 313 *e*P P 02 29 07.8 -0.3
K20K **Telida** 69.73 28 IAmb IAmb 02 29 10.3
comp=Z,62nm,1.5s
K20K **Telida** 69.73 28 P P 02 29 08.5 +0.7
baz=293,SNR=14
MUD **Monsted U'grnd** 69.75 324 *i*P P 02 29 04.0 -3.9
MUD IAmb IAmb 02 29 09.4
comp=Z,108nm,1.3s
SOKA **Soboth** 69.75 313 *i*P P 02 29 08.2 -0.1
comp=Z,77nm,1.5s,SNR=17
O17K **Koliganek Bris** 69.76 32 P P 02 29 09.0 +1.0
baz=292,SNR=6.9
H22K **Ishtalitna Cre** 69.77 25 P P 02 29 08.8 +0.8
baz=294,SNR=18
S14K **Fog Glacier** 69.81 36 P P 02 29 08.5 -0.1
baz=291
GORT1 **Trebel** 69.82 320 *e*P P 02 29 09.1 +0.7
comp=Z,130nm,1.3s,baz=69,slow=6.1
KHC **Kasperske Hory** 69.82 316 *e*P P 02 29 09.0 +0.3
KHC *e*S S 02 38 15.2 -2.5
KHC AMS AMS 03 00 40.0
comp=Z,600nm,16.7s
KHC **Kasperske Hory** 69.82 316 *e*P P 02 29 09.0 +0.3
KHC *e*S S 02 38 15.2 -2.5
KHC MLR MLR
comp=Z,600nm,16.7s
MOA **Molln** 69.84 314 *i*P P 02 29 09.1 +0.4
comp=Z,77nm,1.4s,SNR=22
I21K **Tanana** 69.84 26 IAmb IAmb 02 29 12.4
comp=Z,36nm,0.9s
I21K **Tanana** 69.84 26 P P 02 29 09.1 +0.7
baz=294
GEC2 **GERESS Array S** 69.84 315 IAmb IAmb 02 29 10.4
comp=Z,40nm,1.1s
GEC2 **GERESS Array S** 69.84 315 *e*P P 02 29 09.0 +0.1
comp=Z,36nm,1.1s,baz=69,slow=6.1
GERES **GERESS Array B** 69.84 315 P P 02 29 08.5 -0.4
GERES **GERESS Array B** 69.84 315 P P 02 29 09.1 +0.2
comp=Z,13nm,0.8s,baz=74,slow=4.7,SNR=88
GERES LR LR 03 01 18.3
comp=Z,453nm,20.6s,baz=72,slow=37
comp=Z,13nm,0.8s
L19K **White Mountain** 69.86 29 IAmb IAmb 02 29 13.4
comp=Z,49nm,1.1s
L19K **White Mountain** 69.86 29 P P 02 29 09.6 +1.0
baz=293,SNR=23
E24K **Your Creek** 69.87 23 IAmb IAmb 02 29 12.7
comp=Z,31nm,0.8s
E24K **Your Creek** 69.87 23 P P 02 29 09.2 +0.5
baz=296,SNR=40
G23K **Bananza Creek** 69.93 24 IAmb IAmb 02 29 10.8
comp=Z,58nm,1.4s
G23K **Bananza Creek** 69.93 24 P P 02 29 09.1 +0.1
baz=295,SNR=23
N18K **Kilae Creek** 69.97 31 P P 02 29 10.6 +1.2
baz=292,SNR=9.0
D25K **Kavik River** 69.99 21 IAmb IAmb 02 29 11.1
comp=Z,46nm,1.2s
D25K **Kavik River** 69.99 21 P P 02 29 09.7 +0.3
baz=298,SNR=16
BOJS **Bojanci** 70.02 312 *e*P P 02 29 10.3 +0.4
BSEG **Bad Segeberg** 70.03 321 *e*P P 02 29 10.5 +0.7
comp=Z,107nm,1.2s,baz=69,slow=6.1
TANN **Tannenbergstha** 70.05 317 *e*P P 02 29 10.1 0.0
comp=Z,35nm,1.2s,baz=69,slow=6.1
FLTG **Flechtingen** 70.09 319 *e*P P 02 29 09.8 -0.4
comp=Z,58nm,1.2s,baz=69,slow=6.1
OBKA **Obir** 70.12 313⇑ *i*P P 02 29 10.1 -0.5
OBKA **Obir** 70.12 313 *i*P P 02 29 10.5 -0.1
comp=Z,54nm,1.5s
L20K **Farewell, AK** 70.16 29 P P 02 29 11.5 +1.0
baz=293,SNR=16
C26K **Camden Bay** 70.16 20 P P 02 29 10.5 +0.1
baz=299
M19K **Big River Lodg** 70.17 30 IAmb IAmb 02 29 16.6
comp=Z,30nm,1.1s
M19K **Big River Lodg** 70.17 30 P P 02 29 11.8 +1.3
baz=293,SNR=14
NEUB **Neuenburg** 70.18 318 *e*P P 02 29 10.8 0.0
comp=Z,88nm,1.2s,baz=69,slow=6.1
CHUM **Lake Minchumin** 70.24 27 P P 02 29 11.6 +0.7
baz=294
WET **Wettzell** 70.25 316 *e*P P 02 29 11.6 +0.3
comp=Z,47nm,1.3s,baz=69,slow=6.1
P17K **Kvichak River** 70.28 33 P P 02 29 12.0 +0.8
baz=292,SNR=5.6
BIOA **Bad Ischl, Aus** 70.29 314 *i*P P 02 29 11.7 +0.1
comp=Z,86nm,1.3s,SNR=15
LJU **Ljubljana** 70.30 312 *i*P P 02 29 11.3 -0.3
CHNA **Chernabura Isl** 70.32 38 P P 02 29 10.9 -0.6
baz=292
F24K **Squaw Lake** 70.32 23 P P 02 29 11.5 +0.1
baz=297,SNR=12
LODK **Lodwar** 70.32 263 P P 02 29 12.3 0.0
LODK IAmb IAmb 02 29 13.5
comp=Z,50nm,1.1s
LODK **Lodwar** 70.32 263 P P 02 29 12.6 +0.3
SNR=10
CNBA **Chernabura Isl** 70.32 38 IAmb IAmb 02 29 13.9
comp=Z,26nm,0.7s
MLY **Manley** 70.38 26 IAmb IAmb 02 29 16.1
comp=Z,24nm,0.8s
MLY **Manley** 70.38 26 P P 02 29 12.1 +0.3
baz=295,SNR=14
Q16K **King Salmon** 70.38 33 P P 02 29 12.4 +0.6
baz=292
CHGN **Chignik** 70.39 36 P P 02 29 11.6 -0.3
baz=292
MANZ **Manzenberg** 70.41 317 *e*P P 02 29 12.7 +0.4
comp=Z,11nm,1.3s,baz=69,slow=6.1
ROTZ **Rotzenmuhle** 70.43 317 *e*P P 02 29 12.9 +0.5
comp=Z,15nm,1.1s,baz=69,slow=6.1
MOX **Moxa** 70.47 318 *e*P P 02 29 12.7 +0.1
comp=Z,42nm,1.3s,baz=69,slow=6.1
MOX *e*L L 03 01 42.9
comp=Z,222nm,18.1s
ASSE **Asse, Remlinge** 70.48 319 *e*P P 02 29 12.6 0.0
comp=Z,32nm,1.2s,baz=69,slow=6.1
H23K **Yukon River** 70.48 25 IAmb IAmb 02 29 14.8
comp=Z,63nm,1.2s
H23K **Yukon River** 70.48 25 P P 02 29 13.3 +0.9
baz=296,SNR=25
CAST **Castle Rocks** 70.52 28 IAmb IAmb 02 29 17.3
comp=Z,96nm,1.7s
CAST **Castle Rocks** 70.52 28 P P 02 29 13.5 +0.8
baz=295,SNR=25
N19K **Bonanza Creek** 70.56 31 IAmb IAmb 02 29 17.7
comp=Z,29nm,0.8s
N19K **Bonanza Creek** 70.56 31 P P 02 29 13.7 +0.7
baz=293,SNR=18
O18K **Koktuh Hills** 70.61 32 IAmb IAmb 02 29 18.0
comp=Z,32nm,0.9s
O18K **Koktuh Hills** 70.61 32 P P 02 29 14.2 +1.0
baz=293,SNR=9.4
LUES **Luesalemba Tem** 70.67 114 P P 02 29 15.7 +1.5
MYKA **Terra Mystica** 70.67 313 *i*P P 02 29 13.6 -0.3
comp=Z,51nm,2.0s
C27K **Jago River** 70.67 20 IAmb IAmb 02 29 17.9
comp=Z,49nm,0.8s
C27K **Jago River** 70.67 20 P P 02 29 13.9 +0.4
baz=300,SNR=20
NRDL **Niedersach Rie** 70.67 320 *e*P P 02 29 14.5 +0.8
comp=Z,93nm,1.2s,baz=69,slow=6.1
BPAW **Bear Paw Mtn.** 70.68 27 IAmb IAmb 02 29 15.4
comp=Z,51nm,1.2s
BPAW **Bear Paw Mtn.** 70.68 27 P P 02 29 13.8 +0.2
baz=295,SNR=30
KBA **Koelnbreinsper** 70.69 314 *i*P P 02 29 13.7 -0.5
comp=Z,72nm,1.7s
PPLA **Purkeypile** 70.70 28 P P 02 29 14.3 +0.4
baz=295,SNR=19
M20K **Styx River** 70.72 29 IAmb IAmb 02 29 23.9
comp=Z,25nm,0.8s
M20K **Styx River** 70.72 29 P P 02 29 14.8 +0.8
baz=294,SNR=20
MATE **Matera** 70.75 306 ⇓P P 02 29 13.7 -0.7
MATE **Matera** 70.75 306 *e*P P 02 29 12.1 -2.3
CLZ **Clausthal** 70.76 319 *e*P P 02 29 14.8 +0.4
comp=Z,58nm,1.1s,baz=69,slow=6.1
P18K **Big Mountain,** 70.78 32 IAmb IAmb 02 29 16.4
comp=Z,57nm,1.2s
P18K **Big Mountain,** 70.78 32 P P 02 29 14.6 +0.3
baz=293,SNR=7.0
RJOB **Jochberg** 70.80 314 *e*P P 02 29 14.9 +0.2
comp=Z,27nm,1.1s,baz=69,slow=6.1
E25K **Arctic Village** 70.82 22 P P 02 29 14.1 -0.3
baz=299
G24K **Hadweenzic Riv** 70.84 24 IAmb IAmb 02 29 16.5
comp=Z,49nm,1.1s
G24K **Hadweenzic Riv** 70.84 24 P P 02 29 15.0 +0.5
baz=297,SNR=13
I23K **Minto, Yukon-K** 70.85 25 P P 02 29 15.3 +0.7
baz=296,SNR=16
KIBK **Kibwezi** 70.86 256 P P 02 29 15.5 0.0
KIBK IAmb IAmb 02 29 16.8
comp=Z,55nm,1.2s
KIBK **Kibwezi** 70.86 256 P P 02 29 15.6 +0.1

SNR=6.1
O19K Port Alsworth 70.88 31 IAmb IAmb 02 29 18.2
comp=Z,37nm,1.4s
O19K Port Alsworth 70.88 31 P **P** **02 29 15.3 +0.5**
baz=294
Q17K Contact Creek 70.91 34 P **P** **02 29 15.3 +0.1**
baz=293
KMBO Kilima Mbogo 70.92 258 P **P** **02 29 16.2 +0.1**
KMBO Kilima Mbogo 70.92 258 P **P** **02 29 16.6 +0.4**
KMBO Kilima Mbogo 70.92 258 P **P** **02 29 16.2 +0.1**
KMBO pmax pmax
comp=Z,72nm,1.0s
KMBO Kilima Mbogo 70.92 258 *i* P **P** **02 29 16.3 +0.1**
SNR=44
SABO M.te Sabotino 70.93 312 IAmb IAmb 02 29 16.2
comp=Z,65nm,1.2s
LESA Schwarzleotal 70.99 314 *i* P **P** **02 29 15.8 -0.1**
comp=Z,123nm,1.4s,SNR=33
RETH Rethem/Aller, 71.01 320 *eP* **P** **02 29 16.2 +0.5**
comp=Z,57nm,1.4s,baz=69,slow=6.1
F25K Christian Rive 71.05 22 IAmb IAmb 02 29 18.1
comp=Z,30nm,1.1s
F25K Christian Rive 71.05 22 P **P** **02 29 16.9 +1.0**
baz=299,SNR=16
GRF Grafenberg Arr 71.06 317 *eP* **P** **02 29 16.7 +0.5**
comp=Z,77nm,1.1s,baz=69,slow=6.1
GRF *eL* L 03 01 52.1
comp=Z,363nm,20.4s
GRFO Grafenberg 71.06 317 P **P** **02 29 16.3 +0.1**
GRFO Grafenberg 71.06 317 P **P** **02 29 16.3 +0.1**
GRFO pmax pmax
comp=Z,77nm,1.2s
H24K Noodor Dome 71.09 25 P **P** **02 29 16.8 +0.7**
baz=297,SNR=20
GTTG Gottingen 71.11 319 *eP* **P** **02 29 16.7 +0.3**
comp=Z,51nm,1.0s,baz=69,slow=6.1
Q18K Katmai Hardscr 71.18 33 P **P** **02 29 16.7 -0.2**
baz=294
NEA2 Nenana 71.21 26 P **P** **02 29 17.0 +0.1**
baz=297,SNR=9.4
CMSA Cobar Meteorol 71.23 144 P **P** **02 29 17.7 +0.4**
comp=Z,147nm,1.3s
CMSA Cobar Meteorol 71.23 144 P **P** **02 29 18.2 +0.9**
TRF Thorofare Moun 71.24 27 P **P** **02 29 17.0 -0.2**
baz=296,SNR=12
TIP Timpagrande 71.25 305 IAmb IAmb 02 29 18.4
comp=Z,53nm,1.2s
TIP Timpagrande 71.25 305 ⇑P **P** **02 29 17.2 -0.4**
G25K Bearman Lake 71.29 23 P **P** **02 29 18.0 +0.8**
baz=298,SNR=13
ABTA Abfaltersbach 71.35 314 *i* P **P** **02 29 17.1 -1.0**
comp=Z,44nm,1.5s,SNR=6.8
UBBA Unterbreizbach 71.36 318 *eP* **P** **02 29 18.1 +0.2**
comp=Z,52nm,1.5s,baz=69,slow=6.1
SKT Skwentna 71.36 29 IAmb IAmb 02 29 19.1
comp=Z,42nm,1.2s
SKT Skwentna 71.36 29 P **P** **02 29 17.9 +0.1**
baz=296,SNR=18
STAL STALIGIAL 71.40 313 IAmb IAmb 02 29 18.6
comp=Z,57nm,1.1s
N20K Mount Spurr 71.41 30 P **P** **02 29 18.3 +0.1**
baz=295
SPCR Spurr Chakacha 71.41 30 P **P** **02 29 18.5 +0.3**
baz=295
DBG Daneborg 71.43 346 *i* P **P** **02 29 17.5 -0.5**
DBG IAmb IAmb 02 29 18.8
comp=Z,61nm,1.3s
STLK Strandline Lak 71.44 29 IAmb IAmb 02 29 19.6
comp=Z,48nm,1.7s
BMAR Burnt Mountain 71.49 22 P **P** **02 29 19.4 +0.9**
RED Redoubt Volcan 71.49 31 IAmb IAmb 02 29 22.4
comp=Z,26nm,1.0s
F26K Sheenjek River 71.50 22 P **P** **02 29 19.2 +0.7**
baz=300,SNR=12
ILSW Iliamna Southw 71.50 31 IAmb IAmb 02 29 23.8
comp=Z,36nm,1.2s
EUNU Eureka 71.55 2 IAmb IAmb 02 29 21.2
comp=Z,110nm,1.9s
COLA College 71.55 25 P **P** **02 29 18.8 0.0**
COLA College 71.55 25 P **P** **02 29 20.0 +1.2**
COLA College 71.55 25 *c i* P **P** **02 29 18.4 -0.4**
COLA pmax pmax
comp=Z,39nm,0.9s
COLA College 71.55 25 P **P** **02 29 19.0 +0.2**
baz=298
FUR Furstenfeldbru 71.59 315 *eP* **P** **02 29 20.0 +0.5**
comp=Z,147nm,1.1s,baz=69,slow=6.1
P19K Oil Pt 71.60 32 P **P** **02 29 19.1 -0.2**
baz=295
H25L Birch Creek 71.63 24 P **P** **02 29 20.2 +0.9**
baz=299
MCK McKinley 71.66 27 P **P** **02 29 19.4 -0.1**
baz=297
FYU Fort Yukon 71.69 23 IAmb IAmb 02 29 21.9
comp=Z,79nm,1.4s
O20K Slope Mountain 71.70 31 P **P** **02 29 19.8 -0.1**
baz=295
D27M Malcolm River 71.70 20 P **P** **02 29 20.1 +0.3**
baz=302,SNR=8.2
WTTA Wattenberg 71.71 314 *eP* **P** **02 29 19.2 -1.2**
comp=Z,129nm,1.5s,SNR=17
Q19K Cape Douglas, 71.71 32 P **P** **02 29 19.2 -0.8**
baz=295
WATA Walderalm 71.72 314 *i* P **P** **02 29 20.0 -0.4**
comp=Z,114nm,1.7s,SNR=18
RND Reindeer 71.84 27 IAmb IAmb 02 29 21.7
comp=Z,68nm,1.4s
R18K Karluk 71.89 34 P **P** **02 29 20.3 -0.7**
baz=294
SUA Susitna One 71.93 29 IAmb IAmb 02 29 22.5
comp=Z,46nm,0.9s
SUA Susitna One 71.93 29 P **P** **02 29 21.3 -0.1**
baz=296
ILAR Eielson Array 71.96 25 P **P** **02 29 20.3 -1.0**
ILAR Eielson Array 71.96 25 P **P** **02 29 20.4 -0.9**
comp=Z,4.6nm,0.9s,baz=278,slow=5.3,SNR=47
ILAR LR LR 03 02 40.3
comp=Z,150nm,18.8s,baz=288,slow=37
comp=Z,4.6nm,0.9s
SQTA Sankt Quirin 71.99 314 *i* P **P** **02 29 21.6 -0.4**
comp=Z,111nm,1.4s,SNR=20
G26K Porcupine Rive 72.00 23 IAmb IAmb 02 29 26.0
comp=Z,26nm,0.8s
G26K Porcupine Rive 72.00 23 P **P** **02 29 22.2 +0.8**
baz=300,SNR=24
MOTA Moosalm 72.01 314 *i* P **P** **02 29 21.7 -0.4**
comp=Z,112nm,1.4s,SNR=22
CHIR Chirikof Islan 72.02 36 P **P** **02 29 21.9 +0.1**
baz=294
CAPN Captain Cook N 72.06 30 P **P** **02 29 22.1 +0.1**
baz=296
M22K Willow 72.07 29 P **P** **02 29 22.2 +0.2**
baz=297,SNR=5.2
E27K Coleen River 72.07 21 P **P** **02 29 22.6 +0.6**
baz=302,SNR=8.8
IBBN Ibbenburen 72.08 320 *eP* **P** **02 29 22.5 +0.3**
comp=Z,78nm,1.3s,baz=69,slow=6.1
PRP Porcupine Dome 72.10 24 IAmb IAmb 02 29 26.4
comp=Z,51nm,0.9s
PRP Porcupine Dome 72.10 24 P **P** **02 29 22.4 +0.1**
baz=299,SNR=12
HDA Harding Lake 72.11 26 P **P** **02 29 22.2 0.0**
baz=296,SNR=7.6
KASTN Kahler Asten 72.14 319 *eP* **P** **02 29 22.9 +0.2**
comp=Z,27nm,1.4s,baz=69,slow=6.1
RETA Reutte 72.17 315 *i* P **P** **02 29 22.8 -0.3**
comp=Z,69nm,1.8s,SNR=11
WAT1 Susitna Watana 72.23 28 P **P** **02 29 22.4 -0.6**
baz=298
D28M Stokes Point 72.32 19 P **P** **02 29 23.7 +0.4**
baz=304
HOM Homer 72.33 31 P **P** **02 29 23.8 +0.2**
baz=296
CAMP Campotosto 72.34 309 IAmb IAmb 02 29 25.3
comp=Z,50nm,1.3s
FETA Feichten 72.37 314 *i* P **P** **02 29 23.9 -0.4**
comp=Z,86nm,1.2s,SNR=26
TEOL Teolo 72.41 312 IAmb IAmb 02 29 25.5
comp=Z,76nm,1.1s
NRCA Norcia 72.43 310 IAmb IAmb 02 29 26.2
comp=Z,60nm,1.3s
Q20K Shuyak Island 72.44 32 P **P** **02 29 24.8 +0.6**
baz=296
SII Sitkinak Islan 72.45 35 P **P** **02 29 24.4 0.0**
baz=295
E28M Babbage River 72.48 20 IAmb IAmb 02 29 26.3
comp=Z,78nm,1.5s
E28M Babbage River 72.48 20 P **P** **02 29 24.7 +0.3**
baz=304,SNR=16
TNS Taunus Mts 72.51 318 *eP* **P** **02 29 25.0 +0.1**
comp=Z,44nm,1.1s,baz=69,slow=6.1
RC01 Rabbit Creek A 72.53 29 IAmb IAmb 02 29 27.6
comp=Z,34nm,1.1s
RC01 Rabbit Creek A 72.53 29 P **P** **02 29 24.6 -0.3**
baz=297,SNR=10
PMR Palmer 72.56 29 IAmb IAmb 02 29 28.3
comp=Z,44nm,1.0s
PMR Palmer 72.56 29 P **P** **02 29 25.9 +1.0**
PMR Palmer 72.56 29 P **P** **02 29 25.0 +0.1**
baz=298,SNR=15
GHO Glory Hole Cre 72.56 29 IAmb IAmb 02 29 28.9
comp=Z,63nm,1.3s
DHY Denali Highway 72.58 27 IAmb IAmb 02 29 28.6
comp=Z,93nm,1.9s
DHY Denali Highway 72.58 27 P **P** **02 29 24.8 -0.4**
baz=298,SNR=13
J25K Salcha River, 72.61 25 P **P** **02 29 24.3 -1.0**
baz=300,SNR=14
OHAK Old Harbor 72.61 34 IAmb IAmb 02 29 28.6
comp=Z,27nm,0.9s
OHAK Old Harbor 72.61 34 P **P** **02 29 26.7 +1.4**
OHAK Old Harbor 72.61 34 P **P** **02 29 25.2 -0.1**
baz=296
STU Stuttgart 72.64 316 IAmb IAmb 02 29 27.2
comp=Z,71nm,1.2s
STU Stuttgart 72.64 316 *eP* **P** **02 29 25.2 -0.5**
STU Stuttgart 72.64 316 *eP* **P** **02 29 25.7 0.0**
comp=Z,146nm,1.1s,baz=69,slow=6.1
WAT6 Susitna Watana 72.67 28 P **P** **02 29 25.7 -0.2**
baz=298,SNR=11
BUG Bochum--Univer 72.70 319 *eP* **P** **02 29 26.2 +0.2**
comp=Z,54nm,1.1s,baz=69,slow=6.1
OPO Ambohidratompo 72.70 237 LR LR 02 59 28.6
comp=Z,49nm,21.7s,baz=184,slow=34
KDAK Kodiak Island 72.71 33 P **P** **02 29 26.3 +0.4**
KDAK Kodiak Island 72.71 33 P **P** **02 29 25.7 -0.2**
comp=Z,13nm,0.6s,baz=281,slow=2.3,SNR=25
KDAK LR LR 03 06 07.1
comp=Z,105nm,18.2s,baz=262,slow=40
comp=Z,13nm,0.6s
KDAK Kodiak Island 72.71 33 *deP* **P** **02 29 26.1 +0.2**
KDAK pmax pmax
comp=Z,56nm,1.4s
KDAK Kodiak Island 72.71 33 P **P** **02 29 26.0 +0.1**
baz=296
G27K Doyon Strip 72.79 22 IAmb IAmb 02 29 30.5
comp=Z,25nm,0.9s
G27K Doyon Strip 72.79 22 P **P** **02 29 26.9 +0.6**
baz=302,SNR=32
DAVA Damuels 72.80 315 *i* P **P** **02 29 26.4 -0.5**
comp=Z,53nm,1.3s,SNR=8.8
O22K Cooper Landing 72.82 30 P **P** **02 29 25.8 -0.7**
baz=297
FUORN Ofenpass-Fuorn 72.83 314 IAmb IAmb 02 29 28.3
comp=Z,53nm,1.2s
K24K Donnelly Dome 72.86 26 P **P** **02 29 26.4 -0.4**
baz=300,SNR=27
CESX Cesi 72.88 309 IAmb IAmb 02 29 28.1
comp=Z,59nm,1.6s
KNK Knik Glacier 72.93 29 IAmb IAmb 02 29 47.3
comp=Z,26nm,0.8s
KNK Knik Glacier 72.93 29 P **P** **02 29 27.2 +0.1**
baz=298
F28M Old Crow 72.93 21 P **P** **02 29 27.3 +0.2**
baz=304,SNR=15
ABPO Ambohimpanom 72.95 237 P **P** **02 29 26.9 -1.2**
ABPO IAmb IAmb 02 29 28.2
comp=Z,45nm,1.1s
ABPO Ambohimpanom 72.95 237 P **P** **02 29 26.9 -1.2**
ABPO pmax pmax
comp=Z,45nm,1.1s
DAVOX Davos/Dischmat 73.00 314 LR LR 03 03 26.8
comp=Z,387nm,19.3s,baz=48,slow=37
M23K Glacier View 73.06 28 P **P** **02 29 27.9 -0.1**
baz=299,SNR=8.7
I26K Coal Creek Min 73.07 24 P **P** **02 29 28.0 +0.1**
baz=301
E29M Blow River 73.11 20 IAmb IAmb 02 29 32.2
comp=Z,40nm,1.1s
E29M Blow River 73.11 20 P **P** **02 29 28.5 +0.4**
baz=305,SNR=15
SEW Seward 73.11 30 P **P** **02 29 28.0 -0.2**
baz=298
H27K Steamboat Moun 73.14 23 IAmb IAmb 02 29 32.9
comp=Z,47nm,1.0s
H27K Steamboat Moun 73.14 23 P **P** **02 29 29.3 +0.9**
baz=303,SNR=52
SCM Sheep Creek Mo 73.20 28 IAmb IAmb 02 29 41.1
comp=Z,60nm,1.2s
SCM Sheep Creek Mo 73.20 28 P **P** **02 29 28.9 0.0**
baz=299,SNR=13
PWL Port Wells 73.25 29 P **P** **02 29 28.9 -0.2**
baz=298
RIDG Independent Ri 73.25 26 IAmb IAmb 02 29 42.6
comp=Z,40nm,1.1s
RIDG Independent Ri 73.25 26 P **P** **02 29 28.4 -0.7**
baz=300,SNR=17
J26L Joseph Creek 73.34 25 IAmb IAmb 02 29 30.5
comp=Z,46nm,1.0s
J26L Joseph Creek 73.34 25 P **P** **02 29 29.3 -0.3**
baz=301,SNR=53
BFO Black Forest 73.34 316 P **P** **02 29 29.3 -0.6**
BFO IAmb IAmb 02 29 30.9
comp=Z,48nm,1.1s
BFO Black Forest 73.34 316 P **P** **02 29 29.3 -0.6**
BFO pmax pmax
comp=Z,48nm,1.1s
BFO Black Forest 73.34 316 *eP* **P** **02 29 29.7 -0.2**
comp=Z,54nm,1.1s,baz=69,slow=6.1
NEEM North Greenlan 73.34 355 *i* P **P** **02 29 30.6 +0.8**
NEEM IAmb IAmb 02 29 31.9
comp=Z,150nm,1.2s
PAX Paxson 73.39 27 P **P** **02 29 30.0 0.0**
baz=300,SNR=10
OSSC Osservatorio P 73.42 311 IAmb IAmb 02 29 31.3
comp=Z,50nm,1.2s
I27K Kandik River 73.45 23 P **P** **02 29 31.2 +0.9**
baz=303,SNR=29
SCRK Sand Creek 73.45 25 IAmb IAmb 02 29 31.4
comp=Z,113nm,1.8s
SCRK Sand Creek 73.45 25 P **P** **02 29 29.9 -0.5**
baz=301,SNR=33
TUE Stuetta 73.46 314 IAmb IAmb 02 29 32.0
comp=Z,112nm,1.9s
M24K Tolsona, Glenn 73.54 28 P **P** **02 29 31.8 +0.9**
baz=300,SNR=14
ARMA Armidale 73.64 139 IAmb IAmb 02 29 34.3
comp=Z,54nm,1.0s
ARMA Armidale 73.64 139 P **P** **02 29 32.7 +0.9**
comp=Z,66nm,1.4s
ARMA Armidale 73.64 139 P **P** **02 29 33.4 +1.6**
BTNL Ternell 73.71 319 *dP* **P** **02 29 31.9 -0.1**
comp=Z,14nm,1.2s
GLI Glacier Island 73.77 29 P **P** **02 29 32.0 -0.2**
baz=299
MEM Membach 73.77 319 *dP* **P** **02 29 32.6 +0.3**
comp=Z,13nm,1.2s
HARP HAARP 73.81 27 P **P** **02 29 33.0 +0.6**
baz=300
BHOU Houvegnez 73.88 319 *dP* **P** **02 29 33.3 +0.3**
comp=Z,12nm,1.2s
BEBN Eben Emael 73.88 319 *dP* **P** **02 29 33.0 +0.1**
comp=Z,22nm,0.5s
BEBN *dP*cP **PcP** **02 29 48.3 -0.1**
G29M Pine Creek 73.92 21 P **P** **02 29 32.6 -0.3**
baz=305,SNR=12
KLU Klutina 73.95 28 IAmb IAmb 02 29 37.5
comp=Z,47nm,0.9s
KLU Klutina 73.95 28 P **P** **02 29 33.7 +0.4**
baz=300,SNR=18
BSTI Sart Tilman 74.04 319 *dP* **P** **02 29 34.1 +0.2**
comp=Z,4.2nm,1.2s
BSTI *dP*cP **PcP** **02 29 49.2 +0.2**
A36M Sachs Harbour 74.07 14 IAmb IAmb 02 29 39.2
comp=Z,62nm,0.8s
A36M Sachs Harbour 74.07 14 P **P** **02 29 33.7 0.0**
baz=315,SNR=8.5
P23K Montague Islan 74.07 30 IAmb IAmb 02 29 35.4
comp=Z,36nm,1.1s
P23K Montague Islan 74.07 30 P **P** **02 29 33.8 0.0**
baz=299
WLF Walferdange 74.09 318 *dP* **P** **02 29 34.8 +0.6**
comp=Z,55nm,1.1s
WLF Walferdange 74.09 318 *eP* **P** **02 29 34.9 +0.7**
comp=Z,118nm,1.1s,baz=69,slow=6.1
FID Port Fidalgo 74.09 29 IAmb IAmb 02 29 35.7
comp=Z,72nm,1.5s
MENT Mentasta 74.10 26 P **P** **02 29 34.8 +0.7**
I28M Miner Creek 74.12 23 P **P** **02 29 34.6 +0.3**
baz=304,SNR=29
K27K Chicken 74.14 25 IAmb IAmb 02 29 38.6
comp=Z,43nm,1.1s
K27K Chicken 74.14 25 P **P** **02 29 34.5 +0.2**
baz=303
L26K Log Cabin Wild 74.19 26 P **P** **02 29 34.7 +0.1**
baz=302
DIV Divide 74.20 28 IAmb IAmb 02 29 36.5
comp=Z,46nm,1.3s
F30M Barrier River 74.21 20 IAmb IAmb 02 29 39.9
comp=Z,43nm,1.0s
F30M Barrier River 74.21 20 P **P** **02 29 34.7 +0.1**
baz=307,SNR=23
H29M Whitestone 74.21 22 P **P** **02 29 34.7 +0.1**
baz=305,SNR=14
BCLA Clavier 74.26 319 *dP* **P** **02 29 35.3 +0.1**
comp=Z,20nm,1.1s
HIN Hinchinbrook I 74.26 29 IAmb IAmb 02 29 39.2
comp=Z,80nm,1.5s
BGES Gesves 74.40 319 *dP* **P** **02 29 36.3 +0.3**
comp=Z,12nm,1.2s
N25K Chitina, Valde 74.44 28 IAmb IAmb 02 29 40.7
comp=Z,28nm,0.8s
N25K Chitina, Valde 74.44 28 P **P** **02 29 37.1 +1.0**
baz=301,SNR=22
INK Inuvik 74.45 19 IAmb IAmb 02 29 37.1
comp=Z,44nm,1.1s
INK Inuvik 74.45 19 LR LR 03 05 28.6
comp=Z,88nm,22.0s,baz=263,slow=38
INK Inuvik 74.45 19 P **P** **02 29 35.8 -0.1**
baz=309,SNR=27
G30M tAoh Zraii Nji 74.45 21 IAmb IAmb 02 29 36.9
comp=Z,61nm,1.1s
G30M tAoh Zraii Nji 74.45 21 P **P** **02 29 35.7 -0.4**
baz=307,SNR=28
EYAK Cordova Ski Ar 74.50 29 IAmb IAmb 02 29 38.5
comp=Z,51nm,1.1s
EYAK Cordova Ski Ar 74.50 29 P **P** **02 29 37.5 +1.1**
EYAK Cordova Ski Ar 74.50 29 P **P** **02 29 37.0 +0.6**
baz=300,SNR=6.1
BMRD Maredsous 74.62 319 *dP* **P** **02 29 37.4 +0.1**
comp=Z,14nm,1.2s
UCC Uccle 74.64 320 *dP* **P** **02 29 37.5 +0.2**
comp=Z,9.4nm,1.3s
EPYK Eagle Plains 74.66 22 P **P** **02 29 36.9 -0.4**
baz=307,SNR=15
M26K Nabesna, AK 74.67 27 P **P** **02 29 38.0 +0.6**
baz=302,SNR=26
I29M Ogilvie Camp, 74.73 23 P **P** **02 29 37.2 -0.5**
baz=306,SNR=13
L27K Beaver Creek, 74.76 26 IAmb IAmb 02 29 40.2
comp=Z,67nm,1.5s
L27K Beaver Creek, 74.76 26 P **P** **02 29 38.9 +1.0**
baz=303,SNR=34
BMRM Bremner River 74.77 28 IAmb IAmb 02 29 42.1
comp=Z,63nm,1.0s
BMRM Bremner River 74.77 28 P **P** **02 29 38.6 +0.5**
baz=301,SNR=20
BCAR Beaver Creek A 74.77 26 P **P** **02 29 38.8 +0.7**
YNG Young 74.80 144 P **P** **02 29 38.1 -0.3**
comp=Z,31nm,1.2s
DOU Dourbes 74.81 319 *dP* **P** **02 29 38.6 +0.2**
comp=Z,12nm,1.3s
Q23K Middleton Isla 74.81 30 P **P** **02 29 39.0 +0.8**
baz=300
F31M Tsiigehtchic 74.93 20 IAmb IAmb 02 29 43.2
comp=Z,34nm,0.9s
F31M Tsiigehtchic 74.93 20 P **P** **02 29 38.1 -0.6**
baz=309,SNR=22
VLAKA Lakatoro 75.01 118 P **P** **02 29 41.6 +1.7**
RAGM Ragged Mountai 75.05 29 IAmb IAmb 02 29 44.1
comp=Z,57nm,1.5s
VOI Vohitsoka 75.08 235 P **P** **02 29 39.2 -1.3**
G31M Satah River 75.10 20 P **P** **02 29 38.8 -0.9**
baz=309,SNR=18
DAWY Dawson 75.10 24 P **P** **02 29 39.8 -0.1**
baz=305,SNR=27
M27K Edge Creek, AK 75.13 26 IAmb IAmb 02 29 44.8
comp=Z,36nm,1.1s
M27K Edge Creek, AK 75.13 26 P **P** **02 29 40.9 +0.7**
baz=303,SNR=37
MCARA McCarthy VSAT 75.20 27 IAmb IAmb 02 29 42.5
comp=Z,32nm,0.9s
MCARA McCarthy VSAT 75.20 27 P **P** **02 29 41.2 +0.8**
baz=302,SNR=7.3
BRAT Ballarat 75.21 149 P **P** **02 29 41.7 +1.1**
comp=Z,30nm,1.5s
J29N Klondike Camp 75.30 24 P **P** **02 29 41.5 +0.5**
baz=306
KOUNC Koumac, New Ca 75.31 123 P **P** **02 29 43.1 +1.5**
KAIM Kayak Island 75.40 29 IAmb IAmb 02 29 46.0
comp=Z,45nm,1.0s
KAIM Kayak Island 75.40 29 P **P** **02 29 42.4 +0.9**
baz=302
BERG Berg Lake 75.45 29 IAmb IAmb 02 29 46.1
comp=Z,60nm,0.9s
I30M Mount Dempster 75.47 22 P **P** **02 29 41.7 -0.4**
baz=307,SNR=37
BVCY Beaver Creek 75.49 26 P **P** **02 29 43.0 +0.8**
baz=304,SNR=23
CRQE Cirque 75.51 28 P **P** **02 29 43.0 +0.6**
baz=303
TGL Tana Glacier 75.62 28 IAmb IAmb 02 29 44.7
comp=Z,36nm,1.0s
SYDH Sydney Hard Ro 75.64 142 P **P** **02 29 45.0 +1.8**
comp=Z,78nm,0.9s
BGLC Bering Glacier 75.78 29 P **P** **02 29 44.5 +0.8**
baz=303
H31M Peel River 75.78 21 P **P** **02 29 43.3 -0.4**
baz=309,SNR=17
J30M Hart River 75.88 23 P **P** **02 29 44.6 +0.2**
baz=307,SNR=24
K29M Barlow Dome 75.90 24 IAmb IAmb 02 29 49.8
comp=Z,38nm,0.8s
K29M Barlow Dome 75.90 24 P **P** **02 29 45.0 +0.5**
baz=306,SNR=74
CAN Canberra 75.91 144 P **P** **02 29 45.3 +0.5**
comp=Z,81nm,1.5s
CAN Canberra 75.91 144 P **P** **02 29 45.9 +1.1**
RIV Riverview 75.92 142 P **P** **02 29 44.8 0.0**
comp=Z,115nm,0.9s
BARN Barnard Glacie 75.93 27 IAmb IAmb 02 30 09.3
comp=Z,17nm,0.6s
TOO Toolangi 75.95 148 P **P** **02 29 45.6 +0.6**
TOO Toolangi 75.95 148 P **P** **02 29 45.2 +0.3**
comp=Z,27nm,1.3s
TOO Toolangi 75.95 148 P **P** **02 29 45.6 +0.6**
TOO pmax pmax
comp=Z,20nm,1.0s
YUK3 Moose Creek 76.01 26 P **P** **02 29 45.7 +0.4**
baz=304,SNR=21
GRNC Granite Creek 76.08 28 IAmb IAmb 02 29 47.8
comp=Z,48nm,1.4s
CNB Canberra Magne 76.09 144 P **P** **02 29 46.2 +0.3**
comp=Z,109nm,1.1s
CNB Canberra Magne 76.09 144 P **P** **02 29 46.6 +0.7**
CTG Chitna Glacier 76.11 27 P **P** **02 29 46.8 +0.9**
baz=304,SNR=6.8
CTGM Chitina Glacie 76.12 27 IAmb IAmb 02 30 12.2
comp=Z,20nm,0.7s
L29M L29M 76.12 25 IAmb IAmb 02 29 47.8
comp=Z,58nm,1.1s
L29M L29M 76.12 25 P **P** **02 29 46.6 +0.9**
baz=306,SNR=39
EDMD Edmundbyers 76.14 325 *eP* **P** **02 29 45.4 -0.5**
EDMD IAmb IAmb 02 29 46.9
comp=Z,16nm,0.8s
SUMG Summit 76.15 349 *i* P **P** **02 29 46.6 +0.4**
SUMG IAmb IAmb 02 29 47.6
comp=Z,100nm,1.2s
EDI Edinburgh 76.20 327 *eP* **P** **02 29 46.0 -0.2**
EDI IAmb IAmb 02 29 47.4
comp=Z,14nm,1.0s
YAH Yahtse 76.28 28 IAmb IAmb 02 29 52.8
comp=Z,37nm,1.0s
MESA MESA 76.30 28 IAmb IAmb 02 29 57.3
comp=Z,26nm,0.7s
MESA MESA 76.30 28 P **P** **02 29 47.7 +0.7**
baz=304
MBAR Mbarara 76.31 262 P **P** **02 29 47.9 +0.1**
MBAR IAmb IAmb 02 29 49.3
comp=Z,80nm,1.2s
MBAR Mbarara 76.31 262 P **P** **02 29 48.2 +0.4**
MBAR Mbarara 76.31 262 *c i* P **P** **02 29 47.9 +0.1**
MBAR pmax pmax

comp=Z,50nm,1.1s
RES Resolute Bay 76.31 5 lAmb lAmb 02 29 48.5
comp=Z,46nm,1.4s
RES Resolute Bay 76.31 5 LR LR 03 05 26.3
comp=Z,46nm,18.4s,baz=3.5,slow=37
VSL Villasalto 76.36 308 lAmb lAmb 02 29 48.6
comp=Z,43nm,1.2s
M29M Somme Creek 76.39 25 P **P 02 29 48.2 +0.9**
baz=306,SNR=17
HPK Haverah Park 76.40 324 *e*P **P 02 29 46.8 -0.6**
HPK lAmb lAmb 02 29 48.7
comp=Z,14nm,0.8s
EKA Eskdalemuir Ar 76.48 326 P **P 02 29 47.3 -0.5**
comp=Z,14nm,0.9s,baz=58,slow=6.2,SNR=20
comp=Z,14nm,0.9s
TABL Table Mountain 76.49 28 lAmb lAmb 02 29 53.5
comp=Z,39nm,1.2s
ESK Eskdalemuir 76.51 326 P **P 02 29 47.9 -0.1**
ESK lAmb lAmb 02 29 48.9
comp=Z,39nm,1.1s
ESK Eskdalemuir 76.51 326 *e*P **P 02 29 47.6 -0.4**
ESK lAmb lAmb 02 29 49.2
comp=Z,10nm,0.9s
ESK Eskdalemuir 76.51 326 P **P 02 29 47.9 -0.1**
ESK pmax pmax
comp=Z,39nm,1.2s
KULLO Kullorsuaq 76.55 355 *i* P **P 02 29 49.0 +1.1**
KULLO lAmb lAmb 02 29 49.6
comp=Z,100nm,1.3s
YUK8 Steele Glacier 76.56 27 P **P 02 29 49.1 +0.5**
baz=305,SNR=6.1
MAYO Mayo, Yukon 76.63 24 P **P 02 29 48.9 +0.3**
baz=308
O28M Mount Upton 76.69 27 P **P 02 29 49.8 +0.5**
baz=305
LBWR Ladybower, Pea 76.73 324 *e*P **P 02 29 49.0 -0.2**
LBWR lAmb lAmb 02 29 51.0
comp=Z,37nm,0.9s
KESW Keswick, Cumbr 76.83 325 *e*P **P 02 29 49.7 -0.2**
KESW lAmb lAmb 02 29 51.2
comp=Z,16nm,1.0s
PGBU Glenifferbraes 76.88 327 *e*P **P 02 29 50.2 +0.1**
PGBU lAmb lAmb 02 29 51.6
comp=Z,30nm,0.9s
FOMA Nahampoana Res 76.91 232 lAmb lAmb 02 29 50.4
comp=Z,48nm,1.0s
M30M Minto, Yukon 76.93 25 P **P 02 29 50.6 +0.3**
baz=307,SNR=23
YUK4 Talbot Arm 76.97 26 P **P 02 29 51.0 +0.3**
baz=306,SNR=7.0
PCA Pinnacle 77.05 28 lAmb lAmb 02 29 53.3
comp=Z,36nm,1.2s
PINM Pinnacle 77.05 28 P **P 02 29 52.0 +0.9**
baz=305
NEWG New Galloway 77.12 326 *e*P **P 02 29 51.8 +0.3**
NEWG lAmb lAmb 02 29 52.9
comp=Z,11nm,0.9s
CLF Chambon-Foret 77.12 318 lAmb lAmb 02 29 53.1
comp=Z,63nm,1.1s
YUK6 Outpost Mounta 77.31 27 P **P 02 29 53.3 +0.6**
baz=306,SNR=6.8
N30M Aishikik Lake 77.50 26 lAmb lAmb 02 29 55.7
comp=Z,101nm,1.9s
N30M Aishikik Lake 77.50 26 P **P 02 29 54.5 +0.9**
baz=307,SNR=17
O29M Mount Kennedy 77.61 27 P **P 02 29 54.9 +0.6**
baz=306
PNL Peninsula 77.65 28 P **P 02 29 55.2 +0.8**
PNL Peninsula 77.65 28 P **P 02 29 55.4 +1.0**
baz=306,SNR=7.4
HYT Haines Junctio 77.72 26 P **P 02 29 55.6 +0.7**
baz=307,SNR=18
IOMK Kirk Michael 77.73 326 *e*P **P 02 29 55.0 +0.1**
IOMK lAmb lAmb 02 29 56.5
comp=Z,7.1nm,0.8s
FOEL Foel Wyfa 77.76 324 *e*P **P 02 29 55.0 -0.1**
FOEL lAmb lAmb 02 29 56.9
comp=Z,15nm,0.8s
HLM1 Long Mynd 77.78 323 *e*P **P 02 29 55.0 -0.2**
HLM1 lAmb lAmb 02 29 57.3
comp=Z,8.0nm,0.7s
DZM Mont Dzumac 77.82 123 *e*SS SS 02 44 51.6 +2.0
DZM *e*LR LR 02 54 07.2
comp=Z,108nm,25.7s
comp=Z,166nm,23.1s
DZM Mont Dzumac 77.82 123 P **P 02 29 57.2 +1.3**
N31M Braeburn, Yuko 77.98 25 lAmb lAmb 02 30 08.1
comp=Z,30nm,0.9s
N31M Braeburn, Yuko 77.98 25 P **P 02 29 56.8 +0.6**
baz=308,SNR=14
KEST Kesra 78.03 304 P **P 02 29 56.8 -0.2**
comp=Z,9.3nm,1.0s,baz=343,slow=0.5,SNR=12
KEST LR LR 03 10 34.8
comp=Z,39nm,18.1s,baz=281,slow=40
comp=Z,9.3nm,1.0s
M31M Drury Creek, Y 78.04 24 P **P 02 29 56.6 0.0**
baz=309,SNR=8.7
MCH1 Michaelchurch 78.11 323 *e*P **P 02 29 56.8 -0.2**
MCH1 lAmb lAmb 02 29 58.2
comp=Z,11nm,0.8s
YLL Llanberis 78.12 324 *e*P **P 02 29 57.3 +0.2**
BORG Borgarnes 78.15 339 LR LR 03 10 37.1
comp=Z,51nm,18.3s,baz=46,slow=40
WLF1 Llynfaes 78.16 325 *e*P **P 02 29 57.1 -0.1**
WLF1 lAmb lAmb 02 29 59.1
comp=Z,42nm,0.9s
UPNV Upernavik 78.20 354 *i* P **P 02 29 58.3 +1.2**
UPNV lAmb lAmb 02 29 58.7
comp=Z,79nm,1.2s
O30N Mendenhall 78.31 26 lAmb lAmb 02 30 00.1
comp=Z,64nm,1.6s
O30N Mendenhall 78.31 26 P **P 02 29 58.7 +0.7**
baz=308,SNR=19
OUENC Ouen Island, N 78.32 123 P **P 02 30 00.7 +2.1**
SOEG Soedalen 78.33 345 *i* P **P 02 29 57.8 -0.1**
SOEG lAmb lAmb 02 29 59.1
comp=Z,138nm,1.4s
P29M Windy Craggy 78.35 27 lAmb lAmb 02 30 00.4
comp=Z,87nm,2.0s
P29M Windy Craggy 78.35 27 P **P 02 29 59.0 +0.7**
baz=307
P30M Million Dollar 78.36 27 P **P 02 29 58.9 +0.5**
baz=308
FARO Faro, Yukon 78.40 24 P **P 02 29 58.6 +0.1**
baz=310,SNR=9.6
IDGL Inch Island, C 78.73 327 *e*P **P 02 30 00.5 +0.1**
WHY Whitehorse 78.84 26 lAmb lAmb 02 30 02.8
comp=Z,118nm,2.0s
WHY Whitehorse 78.84 26 P **P 02 30 01.3 +0.2**
baz=309,SNR=8.2
MMPY Sheldon Lake, 78.87 23 P **P 02 30 01.8 +0.7**
baz=312,SNR=23
PLBC Pleasant Camp 79.01 27 P **P 02 30 01.9 +0.1**
baz=308
POIN Pond Inlet 79.10 1 lAmb lAmb 02 30 04.2
comp=Z,69nm,1.4s
N32M Quiet Lake 79.20 25 P **P 02 30 02.9 0.0**
baz=311
SKAG Skagway 79.42 27 lAmb lAmb 02 30 06.4
comp=Z,58nm,1.3s
SKAG Skagway 79.42 27 P **P 02 30 05.7 +1.6**
SKAG Skagway 79.42 27 P **P 02 30 05.5 +1.4**
baz=309,SNR=9.9
MAHO Mahon 79.70 310 lAmb lAmb 02 30 07.7
comp=Z,60nm,1.2s
UMMG Ummannaq 79.79 352 *i* P **P 02 30 03.9 -2.0**
UMMG lAmb lAmb 02 30 07.2
comp=Z,52nm,1.4s
CORO Coronation Par 79.82 149 P **P 02 30 09.0 +2.7**
comp=Z,14nm,0.6s
GLAD Gladstone 79.84 148 P **P 02 30 09.1 +2.6**
comp=Z,19nm,0.9s
P33M Teslin, Yukon 79.91 25 P **P 02 30 07.3 +0.4**
baz=311,SNR=10
R31K City Hall, Gus 79.92 28 P **P 02 30 07.0 +0.2**
baz=309
P32M Atlin 79.97 26 P **P 02 30 07.9 +0.7**
baz=310,SNR=7.8
S31K Pelican 80.00 28 P **P 02 30 08.3 +1.1**
baz=309
CEST Esterri de Car 80.37 313 lAmb lAmb 02 30 11.0
comp=Z,48nm,1.2s
R32K Eaglecrest 80.50 27 P **P 02 30 10.9 +0.9**
baz=310,SNR=5.2
JIS Juneau Island 80.56 27 P **P 02 30 11.2 +1.0**
TGTN Hyland Airport 80.65 23 P **P 02 30 11.7 +0.8**
baz=314,SNR=8.5

Q32M Nakina River 80.95 26 P **P 02 30 13.5 +0.9**
baz=312,SNR=7.7
SIT Sitka 80.95 29 lAmb lAmb 02 30 15.1
comp=Z,104nm,1.5s
SIT Sitka 80.95 29 P **P 02 30 13.4 +1.1**
SIT Sitka 80.95 29 P **P 02 30 13.9 +1.5**
baz=309,SNR=6.8
WRGLY Wrigley 80.96 20 P **P 02 30 12.5 +0.2**
baz=318
S32K Killisnoo 81.00 28 P **P 02 30 12.0 -0.6**
baz=310
ILULI Ilulissat 81.04 352 lAmb lAmb 02 30 14.1
comp=Z,75nm,1.2s
ILULI Ilulissat 81.04 352 *i* P **P 02 30 13.2 +0.6**
ILULI lAmb lAmb 02 30 13.8
comp=Z,74nm,1.2s
R33M Jennings River 81.15 25 lAmb lAmb 02 30 16.2
comp=Z,108nm,1.9s
R33M Jennings River 81.15 25 P **P 02 30 14.6 +1.0**
baz=313,SNR=19
WTLY Watson Lake, Y 81.46 24 lAmb lAmb 02 30 16.6
comp=Z,62nm,1.6s
WTLY Watson Lake, Y 81.46 24 P **P 02 30 15.1 0.0**
baz=314
S34M Telegraph Cree 82.10 27 lAmb lAmb 02 30 21.0
comp=Z,55nm,1.6s
S34M Telegraph Cree 82.10 27 P **P 02 30 19.4 +0.9**
baz=313,SNR=9.1
DLBC Dease Lake 82.17 26 P **P 02 30 18.6 -0.3**
comp=Z,0.8nm,1.1s,baz=302,slow=5.9,SNR=12
DLBC Dease Lake 82.17 26 P **P 02 30 19.9 +1.0**
baz=313,SNR=16
ILON Igloolik, Nuna 82.35 2 lAmb lAmb 02 30 21.0
comp=Z,78nm,1.4s
U33K Whale Pass 82.49 29 P **P 02 30 21.1 +0.6**
baz=311
WRAK Wrangell Islan 82.61 28 lAmb lAmb 02 30 26.9
comp=Z,24nm,0.8s
WRAK Wrangell Islan 82.61 28 P **P 02 30 22.1 +0.9**
baz=312,SNR=9.8
CRAG Craig 82.92 29 P **P 02 30 22.6 -0.1**
baz=311
LIRD Liard River Hi 82.92 24 P **P 02 30 23.3 +0.6**
baz=316
SFJD Kangerlussuaq 83.05 351 P **P 02 30 23.5 +0.3**
SFJD Kangerlussuaq 83.05 351 LR LR 03 12 01.1
comp=Z,159nm,18.4s,baz=22,slow=39
SFJD Kangerlussuaq 83.05 351 P **P 02 30 23.5 +0.3**
SFJD pmax pmax
comp=Z,129nm,1.3s
SFJD Kangerlussuaq 83.05 351 *i* P **P 02 30 23.5 +0.3**
SFJD lAmb lAmb 02 30 24.2
comp=Z,130nm,1.2s
T35M Bob Quinn 83.08 27 lAmb lAmb 02 30 26.5
comp=Z,74nm,1.6s
T35M Bob Quinn 83.08 27 P **P 02 30 24.7 +1.1**
baz=313,SNR=7.8
KOTAN Kotaneelee Air 83.09 22 P **P 02 30 24.4 +0.8**
baz=318
TOAD Toad River Com 83.63 24 P **P 02 30 27.0 +0.5**
baz=317,SNR=20
V35K Ketchikan 83.65 29 P **P 02 30 26.5 0.0**
baz=312
U35K Hyder 83.91 28 P **P 02 30 28.2 +0.4**
baz=314
YKAW3 Yellowknife Wh 83.98 17 lAmb lAmb 02 30 29.9
comp=Z,80nm,1.7s
YKA Yellowknife Ar 84.04 17 P **P 02 30 27.9 -0.5**
YKA Yellowknife Ar 84.04 17 P **P 02 30 28.5 +0.1**
comp=Z,7.6nm,0.8s,baz=328,slow=5.5,SNR=22
YKA LR LR 03 11 56.4
comp=Z,52nm,18.9s,baz=224,slow=38
comp=Z,7.6nm,0.8s
YKAW1 Yellowknife Wh 84.08 17 lAmb lAmb 02 30 30.2
comp=Z,51nm,1.5s
MSVF Nonsavu 84.35 113 P **P 02 30 32.9 +2.1**
MSVF lAmb lAmb 02 30 33.9
comp=Z,50nm,1.1s
MSVF Nonsavu 84.35 113 LR LR 03 06 50.7
comp=Z,49nm,19.0s,baz=355,slow=35
MSVF Nonsavu 84.35 113 P **P 02 30 33.8 +3.0**
MSVF Nonsavu 84.35 113 *ce*P **P 02 30 32.7 +1.9**
MSVF pmax pmax
comp=Z,42nm,1.1s
DIB Dawson Inlet, 84.71 31 lAmb lAmb 02 30 34.4
comp=Z,31nm,1.3s
RUBB Prince Rupert 84.91 29 lAmb lAmb 02 30 35.1
comp=Z,48nm,1.6s
DGTI Dogotuki 84.97 111 P **P 02 30 35.0 +1.1**
MOBC Moresby Island 84.97 30 lAmb lAmb 02 30 35.3
comp=Z,64nm,1.5s
ESDC Sonseca Array 85.26 313 P **P 02 30 34.2 -0.9**
ESDC Sonseca Array 85.26 313 P **P 02 30 35.0 -0.1**
comp=Z,6.9nm,1.0s,baz=38,slow=5.4,SNR=33
ESDC PP **PP 02 33 53.5 +1.2**
comp=Z,3.6nm,1.0s,baz=48,slow=8.7,SNR=7.6
ESDC LR LR 03 11 28.0
comp=Z,89nm,19.0s,baz=39,slow=38
comp=Z,6.9nm,1.0s
PAB San Pablo 85.58 313 P **P 02 30 34.9 -1.8**
PAB San Pablo 85.58 313 P **P 02 30 34.9 -1.8**
PAB pmax pmax
comp=Z,9.0nm,1.1s
PBRG Braganca 85.82 316 *e*P **P 02 30 37.7 -0.1**
LSZ Lusaka 85.84 250 P **P 02 30 38.1 -0.2**
LSZ Lusaka 85.84 250 LR LR 03 08 36.4
comp=Z,68nm,18.7s,baz=70,slow=35
LSZ Lusaka 85.84 250 P **P 02 30 38.4 +0.1**
LSZ Lusaka 85.84 250 P **P 02 30 38.1 -0.2**
LSZ pmax pmax
comp=Z,117nm,1.0s
NUUK Nuuk 85.85 350 *i* P **P 02 30 37.5 0.0**
NUUK lAmb lAmb 02 30 38.8
comp=Z,103nm,1.3s
BLKN Baker Lake 86.11 9 lAmb lAmb 02 30 39.7
comp=Z,55nm,1.6s
MVO Moncorvo 86.36 315 *e*P **P 02 30 41.0 +0.4**
MVO *i* lAmb lAmb 02 30 42.3
comp=Z,32nm,1.2s
PGAV Gavieira, Arco 86.66 317 *e*P **P 02 30 42.4 +0.3**
PGAV *i* lAmb lAmb 02 30 44.1
comp=Z,64nm,1.5s
PGAV *e*PP **PP 02 34 04.6 +1.0**
PGAV *e*LR LR 03 10 40.1
PCAB Cabril 86.66 316 *e*P **P 02 30 42.4 +0.4**
PCAB *i* lAmb lAmb 02 30 45.7
comp=Z,61nm,1.5s
POLO Lamas de Olo 86.71 316 *e*P **P 02 30 43.0 +0.6**
POLO *i* lAmb lAmb 02 31 04.9
comp=Z,15nm,1.5s
PVRL Vila Real 86.72 316 *e*P **P 02 30 41.7 -0.6**
PVRL *i* lAmb lAmb 02 30 45.7
comp=Z,37nm,1.5s
MTE Manteigas 87.12 315 *e*P **P 02 30 45.0 +0.7**
MTE *i* lAmb lAmb 02 30 46.4
comp=Z,42nm,1.5s
MTE *e*PP **PP 02 34 10.8 +3.4**
MTE *e*S **S 02 41 27.4 +3.9**
MTE *e*LR LR 03 12 18.5
MTE *i* lAMs_20 lAMs_20 03 15 26.1
comp=Z,70nm,18.0s
PVIS Viseu 87.15 315 *e*P **P 02 30 45.3 +0.8**
BBB Bella Bella 87.33 29 LR LR 03 10 54.7
comp=Z,52nm,18.3s,baz=288,slow=36
PCBR Castelo Branco 87.40 315 *e*P **P 02 30 46.0 +0.4**
PCBR *i* lAmb lAmb 02 30 47.2
comp=Z,36nm,1.4s
PMRV Marv??o 87.59 314 *e*P **P 02 30 46.6 +0.1**
PMRV *i* lAmb lAmb 02 30 48.2
comp=Z,44nm,1.4s
PMRV *e*LR LR 03 10 31.0
PMRV *i* lAMs_20 lAMs_20 03 13 19.0
comp=Z,96nm,18.0s
COI Coimbra 87.77 315 *e*P **P 02 30 48.1 +0.8**
PCAS Casmilo, Conde 87.92 315 *e*P **P 02 30 50.2 +2.2**
FRB Frobisher Bay 87.97 357 LR LR 03 13 58.6
comp=Z,74nm,18.1s,baz=318,slow=38
PSARD Sardoal 87.97 315 *e*P **P 02 30 48.6 +0.3**
PSARD *i* lAmb lAmb 02 30 50.2
comp=Z,44nm,1.3s
IVI Ivigtut 88.00 347 *i* P **P 02 30 47.5 -0.5**
IVI lAmb lAmb 02 30 48.5
comp=Z,136nm,1.5s
PESTR Estremoz 88.04 314 *e*P **P 02 30 48.7 0.0**
PBAR Barrancos 88.08 313 *e*P **P 02 30 49.1 +0.2**
PBAR *i* lAmb lAmb 02 30 51.2

comp=Z,40nm,1.7s
PMTG Montargil 88.32 314 *e*P **P 02 30 50.4 +0.4**
PSBE So Bento 88.42 315 *e*P **P 02 30 50.9 +0.4**
PSBE *i* lAmb lAmb 02 30 53.1
comp=Z,71nm,2.0s
EVO Evora 88.50 314 *e*P **P 02 30 51.4 +0.5**
EVO *i* lAmb lAmb 02 31 13.1
comp=Z,32nm,1.7s
PBEJ Beja 88.70 313 *e*P **P 02 30 52.3 +0.5**
PBEJ *i* lAmb lAmb 02 30 53.4
comp=Z,30nm,1.3s
PVAQ Vaqueiros 88.97 313 *e*P **P 02 30 53.3 +0.3**
PVAQ *e*PP **PP 02 34 24.6 +2.4**
PVAQ *e*S S 02 41 30.4 -11
PVAQ *e*LR LR 03 12 25.4
PVAQ *i* lAMs_20 lAMs_20 03 13 16.2
comp=Z,118nm,22.0s
MESJ Messejana 89.04 313 *e*P **P 02 30 53.8 +0.5**
MESJ lAmb lAmb 02 30 55.4
comp=Z,50nm,1.3s
PCVE Castro Verde 89.04 313 *e*P **P 02 30 53.8 +0.3**
POGA Pongola 89.36 238 lAmb lAmb 02 30 56.4
comp=Z,29nm,0.9s
MDT Midelt 89.48 307 LR LR 03 15 29.3
comp=Z,27nm,21.5s,baz=44,slow=39
PTEO Sao Teotonio 89.53 313 *e*P **P 02 30 56.0 +0.3**
PTEO *i* lAmb lAmb 02 30 59.1
comp=Z,45nm,1.4s
MORF Marmelete 89.63 313 *e*P **P 02 30 56.7 +0.5**
MORF lAmb lAmb 02 31 00.6
comp=Z,16nm,1.1s
MORF Marmelete 89.63 313 *e*P **P 02 30 57.4 +1.1**
MORF Marmelete 89.63 313 *e*P **P 02 30 56.7 +0.5**
LLLB Lillooet 91.12 28 lAmb lAmb 02 31 05.5
comp=Z,51nm,1.4s
CLRS Cowichan Lake 91.53 30 lAmb lAmb 02 31 09.9
comp=Z,38nm,1.4s
NLWA Neilton Lookou 92.71 31 lAmb lAmb 02 31 13.5
comp=Z,42nm,1.6s
LBTB Lobatse 92.85 243 lAmb lAmb 02 31 11.2
comp=Z,22nm,0.9s
RPZ Rata Peaks 93.97 138 LR LR 03 17 50.2
comp=Z,42nm,18.0s,baz=309,slow=38
FFC Flin Flon 94.01 15 P **P 02 31 16.1 0.0**
FFC lAmb lAmb 02 31 17.4
comp=Z,33nm,1.6s
FFC Flin Flon 94.01 15 P **P 02 31 16.1 0.0**
FFC pmax pmax
comp=Z,33nm,1.6s
KGCAE Kacgae 94.50 247 lAmb lAmb 02 31 19.1
comp=Z,29nm,1.2s
CASY Casey 94.53 178 P **P 02 31 17.6 -0.3**
CASY lAmb lAmb 02 31 18.6
comp=Z,24nm,1.0s
GRTLG Ghanzi 94.59 248 lAmb lAmb 02 31 20.1
comp=Z,42nm,1.8s
URZ Urewera 94.68 131 LR LR 03 19 49.7
comp=Z,64nm,18.2s,baz=304,slow=39
NEW Newport 94.88 27 LR LR 03 17 09.9
comp=Z,110nm,20.2s,baz=312,slow=37
BOSA Boshof 94.90 240 lAmb lAmb 02 31 20.1
comp=Z,11nm,0.8s
BOSA Boshof 94.90 240 P **P 02 31 19.1 -1.6**
comp=Z,7.6nm,0.7s,baz=54,slow=4.0,SNR=18
BOSA LR LR 03 12 31.0
comp=Z,50nm,21.7s,baz=34,slow=34
comp=Z,7.6nm,0.7s
TORD Torodi Ar. Bea 95.02 288 P **P 02 31 19.8 -1.7**
TORD Torodi Ar. Bea 95.02 288 P **P 02 31 19.9 -1.5**
comp=Z,5.5nm,0.9s,baz=38,slow=5.0,SNR=22
TORD PP **PP 02 35 08.0 -2.6**
comp=Z,4.5nm,1.0s,baz=48,slow=8.3,SNR=8.6
TORD PKKPbc **PKKPbc 02 48 17.1 +1.6**
comp=Z,0.8nm,0.8s,baz=299,slow=5.2,SNR=3.6
comp=Z,5.5nm,0.9s
KOOLE Kule 96.19 247 lAmb lAmb 02 31 26.9
comp=Z,15nm,0.9s
TSUM Tsumeb 96.58 252 LR LR 03 15 26.8
comp=Z,43nm,18.0s,baz=40,slow=36
SCHQ Schefferville 96.75 355 P **P 02 31 28.5 -0.1**
comp=Z,5.3nm,0.8s,baz=6.9,slow=3.6,SNR=6.3
SCHQ LR LR 03 17 36.3
comp=Z,58nm,19.4s,baz=356,slow=37
comp=Z,5.3nm,0.8s
EGMT Eagleton 97.79 23 lAmb lAmb 02 31 35.1
comp=Z,13nm,1.2s
WIN Windhoek 98.53 249 lAmb lAmb 02 31 38.1
comp=Z,10nm,1.0s
ULM Lac du Bonnet 99.53 13 P **Pdif 02 31 40.6 -0.6**
comp=Z,1.1nm,0.6s,baz=172,slow=22,SNR=3.3
ULM PKKPbc **PKKPbc 02 48 00.8 -3.3**
comp=Z,2.9nm,0.8s,baz=117,slow=2.5,SNR=4.1
ULM LR LR 03 22 18.3
comp=Z,62nm,18.1s,baz=344,slow=39
comp=Z,1.1nm,0.6s
NVAR Mina Array Bea 102.21 33 PP **PP 02 36 07.5 +2.8**
comp=Z,1.0nm,0.8s,baz=296,slow=6.5,SNR=5.3
NVAR PKKPbc **PKKPbc 02 47 56.0 -0.4**
comp=Z,1.6nm,0.7s,baz=141,slow=3.6,SNR=8.5
PDAR Pinedale Array 102.39 25 PKKPbc PKKPbc 02 47 52.1 -3.9
comp=Z,0.5nm,0.3s,baz=127,slow=3.9,SNR=6.8
SYO Syowa Base 108.00 200 ⇑*e*Pdiff **Pdif 02 32 19.2 +1.1**
SYO Syowa Base 108.00 200 ⇑*es*Pdiff **Pdif 02 32 27.6 +9.5**
M65A Busby, Falmout 110.21 356 P **PKiKP 02 36 30.2 +0.1**
baz=4.2
VNDA Vanda 111.00 169 PKiKP **PKiKP 02 36 28.9 -1.5**
comp=Z,0.9nm,0.9s,baz=299,slow=4.6,SNR=5.0
PPT2 Papeete2 111.62 99 *e*LR LR 03 09 36.2
comp=Z,772nm,40.8s
PPT2 *e*LR LR 03 09 41.7
comp=Z,217nm,37.2s
ALPN Alpine 115.51 27 PKiKP 02 36 40.4 -0.3
TAOE Nuku Hiva Isla 116.16 86 *e*LR LR 03 11 51.0
comp=Z,116nm,23.2s
BRDY Brady 116.41 23 PKiKP 02 36 40.5 -1.9
TX31 Lajitas Ar. Si 116.42 28 PKPdf 02 36 40.9 -1.6
TXAR Lajitas Array 116.42 28 PKPdf 02 36 40.7 -1.8
TXAR Lajitas Array 116.42 28 PKP **PKPdf 02 36 41.8 -0.7**
comp=Z,3.8nm,0.8s,baz=229,slow=1.2,SNR=30
TXAR PKKPbc **PKKPbc 02 47 10.3 -0.4**
comp=Z,3.0nm,0.8s,baz=150,slow=6.7,SNR=34
QSPA South Pole Qui 118.23 180 PKPdf 02 36 43.3 -1.3
QSPA South Pole Qui 118.23 180 PKP **PKPdf 02 36 43.6 -1.0**
comp=Z,23nm,0.9s,baz=306,slow=1.3,SNR=60
QSPA PKKPbc **PKKPab 02 47 03.9 -0.2**
comp=Z,5.0nm,1.0s,baz=149,slow=2.0,SNR=7.0
TROLL Troll, Antarti 120.57 201 ⇑P **PKPdf 02 36 48.9 -0.2**
comp=Z,1µm,0.7s
SNAA Sanae 122.28 201 ⇑P **PKPdf 02 36 51.4 -0.9**
comp=Z,262nm,0.7s
SNAA Sanae 122.28 201 PKPdf 02 36 51.6 -0.7
SNAA Sanae 122.28 201 PKP **PKPdf 02 36 51.5 -0.8**
comp=Z,9.1nm,0.7s,baz=187,slow=2.5,SNR=89
SNAA PKKPbc **PKKPbc 02 46 49.1 -0.7**
comp=Z,0.9nm,0.9s,baz=256,slow=7.1,SNR=6.5
VNA2 Neumayer--Watz 123.85 202 ⇑P **PKPdf 02 36 54.6 -0.7**
comp=Z,72nm,0.8s,baz=95,slow=1.8
VNA1 Neumayer--Stat 124.18 202 ⇑P **PKPdf 02 36 55.6 -0.2**
comp=Z,44nm,0.9s
VNA3 Neumayer Olymp 124.50 201 ⇑P **PKPdf 02 36 55.7 -0.8**
comp=Z,41nm,0.8s
BELA Belgrano 2 127.20 190 PKPdf 02 37 00.8 -0.7
SDV Santo Domingo 142.62 353 PKPdf 02 37 28.7 -3.7
ROSC El Rosal 146.89 358 PKPbc **PKPbc 02 37 41.5 -0.3**
comp=Z,233nm,1.0s,baz=41,slow=2.6,SNR=64
MAL2 Monte Alegre, 146.94 319 PKPdf **PKPdf 02 37 37.3 -2.3**
OTAV Otavalo 151.30 7 PKPdf **PKPdf 02 37 45.7 -1.5**
OTAV Otavalo 151.30 7 PKiKP **PKPdf 02 37 45.7 -1.5**
BDFB Brasilia 151.84 291 PKP **PKPdf 02 37 46.5 -0.9**
comp=Z,7.8nm,1.1s,baz=19,slow=9.4,SNR=5.4
BDFB PKPbc **sPKPdf 02 37 53.1 -1.0**
comp=Z,21nm,1.0s,baz=42,slow=2.9,SNR=14
BDFB PKPab **PKPab 02 38 01.9 -1.0**
comp=Z,6.2nm,0.6s,baz=80,slow=5.4,SNR=4.2
ATAH Atahualpa 158.58 9 PKPdf 02 37 56.5 -0.6
ATAH Atahualpa 158.58 9 PKP **PKPdf 02 37 56.5 -0.6**
comp=Z,4.7nm,0.9s,baz=41,slow=3.9,SNR=5.6
ATAH PKPab **PKPab 02 38 30.6 -1.2**
comp=Z,11nm,1.0s,baz=2.6,slow=4.8,SNR=3.7
PTLB Pontes e Lacer 160.30 308 PKPab 02 38 38.0 -0.8
SIV San Ignacio 162.00 311 PKP **PKPdf 02 38 00.1 -0.1**
comp=Z,8.2nm,1.0s,baz=102,slow=1.8,SNR=23
SIV PKPab **PKPab 02 38 45.7 -0.7**
comp=Z,7.0nm,1.0s,baz=56,slow=3.9,SNR=8.5
NNA Nana 163.55 6 PKP **PKPdf 02 38 01.5 -0.3**
comp=Z,13nm,0.7s,baz=8.8,slow=1.4,SNR=5.0
CPUP Villa Florida 163.99 273 PKPdf 02 38 01.0 -0.9

CPUP					PKPab	**PKPab**	**02 38 53.4**	**-1.6**
CPUP	**Villa Florida**	**163.99**	**273**	PKP	**PKPdf**	**02 38 01.2**	**-0.7**
	comp=Z,3.7nm,1.0s,baz=244,slow=2.3,SNR=10							
CPUP					PKPab	**PKPab**	**02 38 54.2**	**-0.8**
	comp=Z,2.6nm,1.1s,baz=288,slow=4.5,SNR=4.2							
TRQA	**Tornquist**	**165.39**	**226**		**PKPdf**	**02 38 02.2**	**-0.6**
TRQA	**Tornquist**	**165.39**	**226**	PKIKP	**PKPdf**	**02 38 02.2**	**-0.6**
LPAZ	**La Paz**	**166.25**	**330**	PKP	**PKPdf**	**02 38 05.0**	**+0.2**
	comp=Z,14nm,1.0s,baz=84,slow=2.4,SNR=30							
PLCA	**Paso Flores**	**167.17**	**196**		**PKPdf**	**02 38 04.0**	**-0.2**
PLCA	**Paso Flores**	**167.17**	**196**	PKP	**PKPdf**	**02 38 04.5**	**+0.3**
	comp=Z,9.8nm,1.0s,baz=175,slow=2.6,SNR=9.7							
PLCA					PKPab	**PKPab**	**02 39 06.8**	**-1.6**
	comp=Z,3.6nm,0.7s,baz=172,slow=7.7,SNR=4.4							

*AEIC **04** 02:18:47.1±1.1,56.0ºN±0.1º×149.8ºW±0.1º,1,h8km±7km, Error ellipse: s-maj=15.3km s-min=7.4km az=163.0*

NEIC 04 02:18:43.6±1.4,**56.00N**±0.09×**149.8W**±0.1,**h21**km±10km, **ML3.6**/58,**ML3.5**(AEIC), **Error ellipse: s-maj=13.8km s-min=8.4km az=156.0, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.29**	**304**		Pn	02 19 19.7	-0.3
OHAK					Sn	02 19 45.3	-2.1
KDAK	**Kodiak Island**	**2.35**	**321**		Pn	02 19 20.7	-0.2
KDAK					Sn	02 19 46.9	-2.2
SII	**Sitkinak Islan**	**2.51**	**285**		Sn	02 19 51.6	-1.5
SII	**Sitkinak Islan**	**2.51**	**285**	Pn	Pn	02 19 22.6	-0.5
SII				IAML		02 19 52.4	
	comp=E,188nm,0.7s						
SYI	**Shuyak Island**	**2.97**	**333**		Pn	02 19 29.2	-0.2
SYI					Sn	02 20 01.2	-3.1
R18K	**Karluk**	**3.01**	**303**		Pn	02 19 30.3	+0.4
R18K	**Karluk**	**3.01**	**303**	IAML		02 20 50.0	
	comp=E,166nm,0.5s						
R18K				IAML		02 21 29.7	
	comp=N,120nm,0.6s						
CHIR	**Chirikof Islan**	**3.29**	**269**		Sn	02 20 09.6	-2.6
CHIR	**Chirikof Islan**	**3.29**	**269**	Pn	Pn	02 19 32.9	-0.9
KAHG	**Katmai Hook Gl**	**3.59**	**316**		Pn	02 19 38.7	+0.7
Q19K	**Cape Douglas,**	**3.60**	**326**		Pn	02 19 38.6	+0.5
CNPM	**China Poot**	**3.62**	**348**		Pn	02 19 37.8	-0.6
CNPM					Sn	02 20 18.6	-1.7
CNPM	**China Poot**	**3.62**	**348**	IAML		02 21 38.2	
	comp=E,81nm,0.9s						
CNPM				IAML		02 21 39.6	
	comp=N,68nm,0.4s						
CAHL	**Cahill**	**3.65**	**307**		Pn	02 19 39.3	+0.6
ACHA	**Angle Creek He**	**3.74**	**309**		Pn	02 19 41.1	+1.0
ANCK	**Angle Creek**	**3.81**	**308**		Pn	02 19 41.5	+0.5
BRLK	**Bradley Lake**	**3.82**	**352**	Pn	Pn	02 19 40.4	-0.7
BRLK				IAML		02 21 45.6	
	comp=E,70nm,0.6s						
KAHC	**Katmai Hardscr**	**3.88**	**315**		Pn	02 19 42.5	+0.5
Q23K	**Middleton Isla**	**3.90**	**27**		Pn	02 19 41.3	-0.9
Q23K	**Middleton Isla**	**3.90**	**27**	IAML		02 21 49.3	
	comp=N,65nm,0.9s						
Q23K				IAML		02 21 51.6	
	comp=E,68nm,1.1s						
PLK4	**Peulik 4**	**3.96**	**297**		Pn	02 19 43.8	+0.7
CNTC	**Contact Creek**	**4.02**	**307**		Pn	02 19 44.8	+0.8
P19K	**Oil Pt**	**4.10**	**335**		Pn	02 19 45.0	+0.1
SEW	**Seward**	**4.12**	**2**	Pn	Pn	02 19 44.3	-0.8
PLK1	**Peulik 1**	**4.15**	**299**		Pn	02 19 46.5	+0.9
P23K	**Montague Islan**	**4.21**	**17**		Pn	02 19 45.8	-0.6
O20K	**Slope Mountain**	**4.36**	**341**		Pn	02 19 49.0	+0.4
ILSW	**Iliamna Southw**	**4.37**	**337**		Pn	02 19 48.1	-0.7
ILSW	**Iliamna Southw**	**4.37**	**337**	IAML		02 21 58.0	
	comp=E,48nm,0.9s						
ILSW				IAML		02 22 03.7	
	comp=N,43nm,0.8s						
P18K	**Big Mountain,**	**4.48**	**322**		Pn	02 19 50.1	-0.1
SLKM	**Skilak Lake**	**4.53**	**357**	Pn	Pn	02 19 50.5	-0.3
SLKM				IAML		02 22 01.7	
	comp=E,78nm,0.4s						
HIN	**Hinchinbrook I**	**4.74**	**20**		Pn	02 19 53.2	-0.5
P17K	**Kvichak River**	**4.80**	**315**		Pn	02 19 54.8	+0.3
O18K	**Koktuh Hills**	**4.82**	**325**		Pn	02 19 54.5	-0.4
CHGN	**Chignik**	**4.83**	**277**	Pn	Pn	02 19 55.0	+0.1
CHGN				IAML		02 22 12.3	
	comp=E,66nm,0.5s						
CHGN				IAML		02 22 13.9	
	comp=N,61nm,0.7s						
KAIM	**Kayak Island**	**4.87**	**34**		Pn	02 19 55.2	-0.2
PWL	**Port Wells**	**4.93**	**8**	Pn	Pn	02 19 56.1	-0.3
PWL				IAML		02 22 08.8	
	comp=E,51nm,0.4s						
PWL				IAML		02 22 10.7	
	comp=N,58nm,0.5s						
EYAK	**Cordova Ski Ar**	**5.04**	**23**	Pn	Pn	02 19 56.8	-0.9
EYAK				IAML		02 22 12.3	
	comp=E,25nm,0.6s						
EYAK				IAML		02 22 17.6	
	comp=N,47nm,0.9s						
FID	**Port Fidalgo**	**5.07**	**19**	Pn	Pn	02 19 56.6	-1.7
FID				IAML		02 22 12.5	
	comp=E,42nm,0.4s						
FID				IAML		02 22 14.0	
	comp=N,51nm,0.4s						
GLI	**Glacier Island**	**5.09**	**15**		Pn	02 19 58.4	-0.2
RAGM	**Ragged Mountai**	**5.16**	**29**		Pn	02 19 59.4	-0.2
SUCK	**Suckling Hills**	**5.18**	**36**		Pn	02 19 59.6	-0.2
SUCK	**Suckling Hills**	**5.18**	**36**	IAML		02 22 18.9	
	comp=E,51nm,1.2s						
HMT	**Hamilton**	**5.24**	**32**		Pn	02 20 00.6	0.0
NICHA	**Nichawak Mount**	**5.25**	**34**		Pn	02 20 00.7	-0.1
BERG	**Berg Lake**	**5.46**	**34**		Pn	02 20 03.2	-0.3
GRIN	**Grindle Hills**	**5.49**	**36**		Pn	02 20 04.3	+0.3
STLK	**Strandline Lak**	**5.62**	**350**	Pn	Pn	02 20 05.7	-0.1
KHIT	**Khitrov Hills**	**5.64**	**35**		Pn	02 20 06.4	+0.3
BMRM	**Bremner River**	**5.67**	**26**		Pn	02 20 06.2	-0.4
O16K	**Kokwok River B**	**5.71**	**312**		Pn	02 20 07.7	+0.6
BARK	**Barkley Ridge**	**5.86**	**38**		Pn	02 20 09.3	+0.1
YAH	**Yahtse**	**6.10**	**41**		Pn	02 20 13.0	+0.4
RKAV	**Rock Avalanche**	**6.21**	**43**		Pn	02 20 14.0	0.0
GLB	**Gilahina Butte**	**6.28**	**27**		Pn	02 20 14.9	0.0
KIAG	**Kiagna River**	**6.29**	**35**		Pn	02 20 15.1	0.0
GRNC	**Granite Creek**	**6.35**	**38**		Pn	02 20 16.3	+0.2
TABL	**Table Mountain**	**6.38**	**42**		Pn	02 20 16.0	-0.4
BALM	**Baldy**	**6.38**	**35**		Pn	02 20 16.2	-0.1
PTPK	**Patty Peak**	**6.46**	**33**		Pn	02 20 17.0	-0.4
PCA	**Pinnacle**	**6.52**	**47**		Pn	02 20 18.1	0.0
PNL	**Peninsula**	**6.66**	**52**		Pn	02 20 20.5	+0.5
M17K	**Holitna River**	**6.72**	**327**		Pn	02 20 21.1	+0.3
M16K	**Timber Creek**	**6.95**	**320**		Pn	02 20 24.7	+0.6
P29M	**Windy Craggy**	**7.39**	**56**		Pn	02 20 30.4	+0.3
S31K	**Pelican**	**7.67**	**70**		Pn	02 20 32.6	-1.2
M29M	**Somme Creek**	**8.68**	**37**		Pn	02 20 49.1	+1.3
L29M	**L29M**	**9.25**	**35**		Pn	02 20 56.0	+0.4

*AEIC **04** 02:20:05.7±1.2,56.0ºN±0.0º×149.7ºW±0.1º,1,h12km±7km, Error ellipse: s-maj=11.0km s-min=7.9km az=159.0*

NEIC 04 02:20:02.8±1.1,**56.01N**±0.0º×**149.8W**±0.1,**h25**km±10km, **ML3.6**/62,**ML3.4**(AEIC), **Error ellipse: s-maj=11.1km s-min=7.9km az=159.0, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.29**	**304**		Pn	02 20 38.6	-0.4
OHAK					Sn	02 21 03.8	-2.5
KDAK	**Kodiak Island**	**2.35**	**320**		Pn	02 20 39.5	-0.3
KDAK					Sn	02 21 04.8	-3.1
KDAK				IAML		02 21 06.0	
	57nm,0.4s						
KDAK				IAML		02 21 07.0	
	54nm,0.7s						
SII	**Sitkinak Islan**	**2.52**	**285**	Pn	Pn	02 20 41.5	-0.6
SII				Sn	Sn	02 21 09.6	-2.5
SII				IAML		02 21 18.9	
	comp=N,288nm,0.9s						
SYI	**Shuyak Island**	**2.97**	**333**	Pn	Pn	02 20 47.9	-0.4
SYI	**Shuyak Island**	**2.97**	**333**		Sn	02 21 21.8	-1.3
R18K	**Karluk**	**3.01**	**303**		Pn	02 20 48.8	0.0
R18K	**Karluk**	**3.01**	**303**	IAML		02 21 37.1	
	comp=E,127nm,0.6s						
CHIR	**Chirikof Islan**	**3.30**	**269**	Pn	Pn	02 20 52.2	-0.6
CHIR	**Chirikof Islan**	**3.30**	**269**		Sn	02 21 28.4	-2.7
KAHG	**Katmai Hook Gl**	**3.60**	**316**		Pn	02 20 57.9	+0.9
Q19K	**Cape Douglas,**	**3.60**	**326**	Pn	Pn	02 20 57.4	+0.4
CNPM	**China Poot**	**3.62**	**348**		Pn	02 20 56.1	-1.1
CNPM	**China Poot**	**3.62**	**348**		Sn	02 21 36.8	-2.3
CAHL	**Cahill**	**3.65**	**306**		Pn	02 20 58.2	+0.5
ACHA	**Angle Creek He**	**3.75**	**308**		Pn	02 20 59.5	+0.4
ACHA				IAML		02 21 46.3	
	comp=E,11nm,1.1s						
ACHA				IAML		02 21 48.5	
	comp=N,10nm,0.9s						
ANCK	**Angle Creek**	**3.81**	**308**		Pn	02 21 00.7	+0.7
BRLK	**Bradley Lake**	**3.81**	**352**		Pn	02 20 58.4	-1.5
KAHC	**Katmai Hardscr**	**3.88**	**315**		Pn	02 21 01.6	+0.7
KAHC	**Katmai Hardscr**	**3.88**	**315**		Pn	02 21 01.3	+0.4
Q23K	**Middleton Isla**	**3.89**	**27**	Pn	Pn	02 20 59.7	-1.2
PLK4	**Peulik 4**	**3.97**	**297**	Pn	Pn	02 21 02.6	+0.6
PLK4				IAML		02 21 50.8	
	comp=E,116nm,0.7s						
PLK4				IAML		02 21 51.5	
	comp=N,87nm,0.7s						
PLK2	**Peulik 2**	**4.00**	**299**		Pn	02 21 02.6	+0.2
CNTC	**Contact Creek**	**4.03**	**307**		Pn	02 21 03.1	+0.2
P19K	**Oil Pt**	**4.10**	**335**	Pn	Pn	02 21 03.7	-0.1
SEW	**Seward**	**4.11**	**2**	Pn	Pn	02 21 02.2	-1.7
PLK1	**Peulik 1**	**4.16**	**298**		Pn	02 21 05.2	+0.6
P23K	**Montague Islan**	**4.20**	**17**		Pn	02 21 04.5	-0.6
P23K					Sn	02 21 49.6	-3.7
P23K	**Montague Islan**	**4.20**	**17**	IAML		02 21 51.0	
	comp=N,90nm,0.4s						
P23K				IAML		02 21 52.8	
	comp=E,66nm,0.5s						
P18K	**Big Mountain,**	**4.48**	**321**	Pn	Pn	02 21 08.8	-0.3
O22K	**Cooper Landing**	**4.49**	**0**	Pn	Pn	02 21 09.0	-0.1
SLKM	**Skilak Lake**	**4.52**	**357**	Pn	Pn	02 21 08.8	-0.9
HIN	**Hinchinbrook I**	**4.73**	**20**	Pn	Pn	02 21 12.0	-0.5
HIN				IAML		02 22 05.2	
	comp=N,64nm,0.5s						
HIN				IAML		02 22 09.9	
	comp=E,70nm,0.9s						
P17K	**Kvichak River**	**4.80**	**314**		Pn	02 21 13.8	+0.4
O18K	**Koktuh Hills**	**4.82**	**325**		Pn	02 21 13.3	-0.4
O18K				IAML		02 22 09.3	
	comp=N,44nm,0.9s						
O18K				IAML		02 22 10.2	
	comp=E,29nm,0.7s						
CHGN	**Chignik**	**4.84**	**277**	Pn	Pn	02 21 13.8	-0.1
KAIM	**Kayak Island**	**4.86**	**34**		Pn	02 21 14.2	0.0
KAIM				IAML		02 22 15.8	
	comp=E,64nm,1.1s						
KAIM				IAML		02 22 16.8	
	comp=N,65nm,0.8s						
PWL	**Port Wells**	**4.92**	**8**	Pn	Pn	02 21 15.2	0.0
EYAK	**Cordova Ski Ar**	**5.03**	**23**	Pn	Pn	02 21 16.0	-0.5
FID	**Port Fidalgo**	**5.06**	**19**	Pn	Pn	02 21 16.1	-0.9
GLI	**Glacier Island**	**5.08**	**15**	Pn	Pn	02 21 16.7	-0.6
GLI				IAML		02 22 14.7	
	comp=E,41nm,0.4s						
GLI				IAML		02 22 15.0	
	comp=N,26nm,0.4s						
RC01	**Rabbit Creek A**	**5.10**	**0**	Pn	Pn	02 21 16.3	-1.2
RC01				IAML		02 22 15.4	
	comp=E,45nm,0.5s						
RC01				IAML		02 22 15.9	
	comp=N,30nm,0.4s						
RAGM	**Ragged Mountai**	**5.15**	**29**		Pn	02 21 17.6	-0.7
SUCK	**Suckling Hills**	**5.17**	**36**		Pn	02 21 18.4	-0.2
SUCK				IAML		02 22 15.7	
	comp=N,56nm,0.5s						
HMT	**Hamilton**	**5.23**	**32**	Pn	Pn	02 21 19.3	0.0
NICHA	**Nichawak Mount**	**5.24**	**34**		Pn	02 21 19.6	+0.1
P16K	**Nushagak River**	**5.37**	**308**	Pn	Pn	02 21 21.6	+0.5
P16K				IAML		02 22 24.0	
	comp=E,48nm,1.0s						
BGLC	**Bering Glacier**	**5.37**	**37**		Pn	02 21 21.0	-0.2
N19K	**Bonanza Creek**	**5.42**	**335**		Pn	02 21 21.5	-0.5
O17K	**Koliganek Bris**	**5.43**	**317**		Pn	02 21 22.2	+0.2
BERG	**Berg Lake**	**5.44**	**34**	Pn	Pn	02 21 21.9	-0.4
GRIN	**Grindle Hills**	**5.48**	**36**		Pn	02 21 22.6	-0.2
SUA	**Susitna One**	**5.50**	**355**	Pn	Pn	02 21 22.1	-1.0
STLK	**Strandline Lak**	**5.61**	**350**	Pn	Pn	02 21 23.6	-1.0
KHIT	**Khitrov Hills**	**5.63**	**35**		Pn	02 21 24.9	+0.1
BMRM	**Bremner River**	**5.66**	**26**		Pn	02 21 25.2	-0.1
N18K	**Kilae Creek**	**5.68**	**328**		Pn	02 21 24.5	-1.1
CNBA	**Chernabura Isl**	**5.72**	**262**	Pn	Pn	02 21 25.7	-0.3
O16K	**Kokwok River B**	**5.72**	**312**		Pn	02 21 25.8	-0.2
WAX	**Waxell Ridge**	**5.76**	**37**		Pn	02 21 26.6	-0.1
BARK	**Barkley Ridge**	**5.85**	**38**		Pn	02 21 27.9	-0.1
KLU	**Klutina**	**5.86**	**18**	Pn	Pn	02 21 28.1	+0.1
MESA	**MESA**	**5.89**	**42**		Pn	02 21 28.9	+0.4
CRQM	**Cirque**	**5.90**	**33**		Pn	02 21 28.5	-0.2
N17K	**Nushagak Hills**	**5.98**	**322**		Pn	02 21 29.3	-0.4
TGL	**Tana Glacier**	**6.00**	**35**		Pn	02 21 29.7	-0.3
ISLE	**Juniper Island**	**6.05**	**37**		Pn	02 21 30.2	-0.5
BAGL	**Bagley Icefiel**	**6.05**	**39**		Pn	02 21 30.8	+0.2
YAH	**Yahtse**	**6.09**	**41**		Pn	02 21 31.6	+0.3
SDPT	**Sand Point**	**6.09**	**268**	Pn	Pn	02 21 31.0	-0.1
VRDI	**Verde Repeater**	**6.19**	**30**		Pn	02 21 31.7	-1.0
RKAV	**Rock Avalanche**	**6.20**	**43**		Pn	02 21 32.3	-0.5
N25K	**Chitina, Valde**	**6.22**	**23**		Pn	02 21 33.1	+0.1
O15K	**Ungalikthiuk R**	**6.27**	**305**		Pn	02 21 33.7	+0.2
GLB	**Gilahina Butte**	**6.27**	**27**		Pn	02 21 33.4	-0.2
KIAG	**Kiagna River**	**6.28**	**35**		Pn	02 21 33.7	-0.2
GRNC	**Granite Creek**	**6.34**	**38**		Pn	02 21 34.2	-0.6
TABL	**Table Mountain**	**6.37**	**42**		Pn	02 21 35.1	0.0
BALM	**Baldy**	**6.37**	**35**		Pn	02 21 35.0	0.0
MCARA	**McCarthy VSAT**	**6.44**	**30**		Pn	02 21 35.8	-0.1
PTPK	**Patty Peak**	**6.45**	**33**		Pn	02 21 36.4	+0.2
PCA	**Pinnacle**	**6.50**	**47**		Pn	02 21 37.0	+0.2
BARN	**Barnard Glacie**	**6.51**	**37**		Pn	02 21 38.5	+0.1
PNL	**Peninsula**	**6.64**	**52**		Pn	02 21 39.1	+0.4
CTGM	**Chitina Glacie**	**6.65**	**38**	Pn	Pn	02 21 38.5	-0.5
LOGN	**Logan Glacier**	**6.67**	**40**		Pn	02 21 39.6	+0.3
BCPM	**Bancas Point**	**6.69**	**50**	Pn	Pn	02 21 39.9	+0.6
M17K	**Holitna River**	**6.72**	**327**		Pn	02 21 39.5	-0.2
HARP	**HAARP**	**6.83**	**18**		Pn	02 21 41.4	0.0
N15K	**Kwethluk River**	**6.88**	**312**		Pn	02 21 42.4	+0.5
S12K	**Black Hills**	**6.93**	**273**	Pn	Pn	02 21 41.1	-1.5
O28M	**Mount Upton**	**6.94**	**43**		Pn	02 21 44.0	+0.9
M16K	**Timber Creek**	**6.96**	**320**	Pn	Pn	02 21 42.6	-0.4
O14K	**Tigyukauivet M**	**6.97**	**303**	Pn	Pn	02 21 42.5	-0.7
DHY	**Denali Highway**	**7.20**	**9**	Pn	Pn	02 21 46.5	+0.1
O29M	**Mount Kennedy**	**7.32**	**49**	Pn	Pn	02 21 48.1	0.0
P29M	**Windy Craggy**	**7.38**	**56**		Pn	02 21 48.0	-0.8
N14K	**Kuskokwak Cree**	**7.45**	**307**	Pn	Pn	02 21 50.0	+0.3
TRF	**Thorofare Moun**	**7.47**	**358**	Pn	Pn	02 21 49.0	-0.6
CAST	**Castle Rocks**	**7.53**	**352**	Pn	Pn	02 21 51.2	+0.4
M27K	**Edge Creek, AK**	**7.55**	**29**		Pn	02 21 51.3	+0.1
L16K	**Owhat River**	**7.61**	**323**		Pn	02 21 51.8	-0.1
S31K	**Pelican**	**7.65**	**70**	Pn	Pn	02 21 51.1	-1.4
M14K	**Bethel**	**7.97**	**312**	Pn	Pn	02 21 56.8	0.0
SIT	**Sitka**	**8.06**	**77**	Pn	Pn	02 21 56.3	-1.8
RIDG	**Independent Ri**	**8.14**	**16**	Pn	Pn	02 21 59.7	+0.4
BCAR	**Beaver Creek A**	**8.15**	**27**	Pn	Pn	02 21 59.6	+0.1
HDA	**Harding Lake**	**8.55**	**8**	Pn	Pn	02 22 04.7	0.0
L14K	**Kuka Creek**	**8.58**	**314**		Pn	02 22 05.7	+0.5
M29M	**Somme Creek**	**8.67**	**37**		Pn	02 22 06.6	+0.1
J26L	**Joseph Creek**	**9.06**	**17**		Pn	02 22 12.0	+0.2
L29M	**L29M**	**9.24**	**35**		Pn	02 22 15.0	+0.6
H21K	**Melozitna Rive**	**9.79**	**353**		Pn	02 22 20.1	-1.7
P33M	**Teslin, Yukon**	**9.90**	**58**		Pn	02 22 23.5	+0.1
IMAR	**Indian Mountai**	**10.19**	**351**	Pn	Pn	02 22 27.7	+0.4
R33M	**Jennings River**	**10.61**	**64**	Pn	Pn	02 22 33.1	-0.1
MMPY	**Sheldon Lake,**	**11.52**	**47**	Pn	Pn	02 22 46.3	+0.8

*IDC **04** 02:41:42.3±3.3,32.84N×139.32E,h0km,mb3.5/3, mbtmp3.4/4,ML2.2/1, Error ellipse: s-maj=74.8km s-min=46.2km az=19.0*

*JMA **04** 02:41:45.9±0.1,33.3N±0.5×140E±º,h23km±3km, MV3.1/23,NEAR HACHIJOJIMA ISLAND*

ISC 04 02:41:47.1±0.9,**33.27N**±0.06×**139.54E**±0.08,**h22**km,**n19**, σ1§**43**/16,**mb3.6/3**,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.28**	**124**	P	**Pb**	**02 41 52.6**	**-1.0**
JHJ2				S	**Sb**	**02 41 57.7**	**-0.3**
JHCJ	**Hachijojimakas**	**0.29**	**132**	*i* P	**Pb**	**02 41 52.7**	**-1.1**
JHCJ				S	**Sb**	**02 41 57.4**	**-0.9**
JMKN	**Mikurajimanish**	**0.62**	**4**	P	**Pb**	**02 41 58.0**	**-1.4**
JMKN				eS	**Sb**	**02 42 06.9**	**-0.9**
JKO	**Kozu shima**	**0.98**	**340**	*e*P	**Pb**	**02 42 04.5**	**-0.9**
JTHY	**Toshimahigashi**	**1.27**	**351**	*e*P	**Pn**	**02 42 08.1**	**-1.4**
JIM2	**Oshima 3**	**1.45**	**356**	*e*P	**Pn**	**02 42 11.4**	**-0.6**
JIZS	**Izushimoda**	**1.55**	**339**	*e*P	**Pn**	**02 42 12.4**	**-0.9**
TK02	**Tokai 2**	**1.64**	**295**	*e*P	**Pn**	**02 42 13.6**	**-0.7**
BSO3	**Boso 3**	**1.73**	**27**	*e*P	**Pn**	**02 42 15.3**	**-0.3**
MJAR	**Matsushiro Arr**	**3.45**	**342**	Pn	**Pn**	**02 42 42.9**	**+3.4**
	0.2nm,0.3s,baz=156,slow=14,SNR=6.9						
	2.9nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**27.85**	**112**	T	T	03 16 14.7	
	baz=305,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**27.85**	**112**	T	T	03 16 14.2	
	baz=305,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**27.87**	**112**	T	T	03 16 13.9	
	baz=305,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**28.40**	**114**	T	T	03 16 57.7	
	baz=307,slow=76,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**28.40**	**114**	T	T	03 17 00.4	
	baz=307,slow=76,SNR=3.5						
H11S2	**WAKE ISLAND Hy**	**28.42**	**114**	T	T	03 16 59.6	
	baz=307,slow=76,SNR=3.3						
KURBB	**Kurchatov Arra**	**47.19**	**311**	P	**P**	**02 50 17.3**	**-0.6**
	0.2nm,0.6s,baz=90,slow=9.4,SNR=1.9						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**53.50**	**31**	P	**P**	**02 51 06.8**	**+1.4**
	0.5nm,0.8s,baz=261,slow=6.5,SNR=5.9						
	0.5nm,0.8s						
TXAR	**Lajitas Array**	**93.65**	**51**	P	**P**	**02 55 03.7**	**+1.5**
	0.3nm,0.7s,baz=313,slow=3.3,SNR=4.6						
	0.3nm,0.7s						

*NEIC **04** 02:46:38.9±1.3,31.1ºS±0.1º×179.9ºE±0.2,h401km±7km, mb4.4/22, Error ellipse: s-maj=23.2km s-min=14.3km az=70.0*

*NOU **04** 02:46:42.6,31.38S×179.75W,h477km,mb4.5/18, Kermadec Islands Region*

*IDC **04** 02:46:42.0±1.9,31.04S×179.84E,h442km±17km,mb3.8/6, mbtmp4.6/9, Error ellipse: s-maj=20.3km s-min=13.9km az=72.0*

*WEL **04** 02:46:47.1±1.0,32ºS±5º×18ºW±1º,3,h386km±14km, mB4.9/15,ML5.3/13,MLv5.3/24,Mw(mB)4.2/15, Error ellipse: s-maj=17.1km s-min=6.1km az=103.0, confirmed*

ISC 04 02:46:41.6±0.5,**31.22S**±0.06×**179.93W**±0.09,**h450**km, **n144**,σ1§**75**/159,**mb4.5**/19,**4C**,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.62**	**42**	P	**P**	**02 47 46.9**	**+0.9**
GLKZ				S	**S**	**02 48 36.4**	**-1.8**
GRZ	**Great Barrier**	**6.32**	**216**	P	**P**	**02 48 21.6**	**+2.5**
MXZ	**Matakaoa Point**	**6.49**	**193**		**P**	**02 48 19.2**	**-1.6**
MXZ	**Matakaoa Point**	**6.49**	**193**	P	**P**	**02 48 22.2**	**+1.4**
MXZ	**Matakaoa Point**	**6.49**	**193**	P	**S**	**02 48 41.4**	**-0.7**
MXZ	**Matakaoa Point**	**6.49**	**193**	P	**P**	**02 48 23.0**	**+2.1**
KUZ	**Kuaotunu**	**6.59**	**212**	P	**P**	**02 48 24.8**	**+2.9**
KUZ	**Kuaotunu**	**6.59**	**212**	P	**P**	**02 48 24.9**	**+3.0**
WCZ	**Waipu Caves**	**6.70**	**224**	P	**P**	**02 48 25.4**	**+2.2**
WMGZ	**Waiomatatini S**	**6.72**	**191**	P	**P**	**02 48 23.3**	**+0.1**
WMGZ				S	**S**	**02 49 45.3**	**-1.1**
OUZ	**Omahuta**	**6.73**	**232**	P	**P**	**02 48 25.4**	**+1.9**
OUZ	**Omahuta**	**6.73**	**232**	P	**P**	**02 48 25.3**	**+1.9**
HAZ	**Te Kaha**	**6.78**	**196**	P	**P**	**02 48 25.0**	**+1.0**
HAZ				S	**S**	**02 49 45.4**	**-2.3**
PKGZ	**Pakihiroa**	**6.83**	**193**	P	**P**	**02 48 27.5**	**+3.0**
PKGZ				S	**S**	**02 49 44.2**	**-4.4**
WIAZ	**Waiheke Island**	**6.90**	**215**	P	**P**	**02 48 27.7**	**+2.5**
ABAZ	**Army Bay**	**6.91**	**218**	P	**P**	**02 48 27.7**	**+2.5**
PUZ	**Puketiti**	**6.99**	**192**	P	**P**	**02 48 27.8**	**+1.7**
PUZ				S	**S**	**02 49 48.1**	**-3.8**
MBAZ	**Motutapu North**	**7.00**	**216**	P	**P**	**02 48 28.4**	**+2.1**
RUGZ	**Raukumara R

BBOO	**Buckleboo**	**37.15 256**	P	**P**	**02 53 12.2**	**-0.6**
BBOO			IAmb	IAmb	02 53 12.7	
	comp=Z,15nm,0.7s					
COEN	**Coen**	**37.93 289**	P	**P**	**02 53 19.0**	**-0.3**
COEN			IAmb	IAmb	02 54 00.9	
	comp=Z,24nm,1.4s					
AS31	**Alice Springs**	**41.42 269**		**P**	**02 53 46.3**	**-1.3**
ASAR	**Alice Springs**	**41.42 269**	P	**P**	**02 53 46.0**	**-1.6**
ASAR	**Alice Springs**	**41.42 269**	P	**P**	**02 53 46.4**	**-1.2**
	comp=Z,11nm,0.4s,baz=105,slow=7.5,SNR=140					
ASAR			PcP	**PcP**	**02 55 35.1**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=111,slow=5.1,SNR=4.1					
ASAR			ScP	**ScP**	**02 58 42.0**	**0.0**
	comp=Z,0.8nm,0.6s,baz=117,slow=3.7,SNR=5.0					
	comp=Z,11nm,0.4s					
WR0	**Warramunga Arr**	**42.31 274**	P	**P**	**02 53 53.3**	**-1.3**
WR8	**Warramunga Arr**	**42.34 274**		**P**	**02 53 53.6**	**-1.3**
WR8			IAmb	IAmb	02 53 54.3	
	comp=Z,17nm,0.8s					
WB2	**Warramunga Arr**	**42.48 274**	P	**P**	**02 53 54.7**	**-1.2**
WRAB	**Tennant Creek**	**42.48 274**	P	**P**	**02 53 54.7**	**-1.3**
WRAB			IAmb	IAmb	02 53 55.3	
	comp=Z,19nm,0.8s					
WRA	**Warramunga Arr**	**42.49 274**		**P**	**02 53 53.1**	**-3.0**
WRA	**Warramunga Arr**	**42.49 274**	P	**P**	**02 53 54.8**	**-1.3**
	comp=Z,24nm,0.3s,baz=112,slow=8.0,SNR=311					
WRA			PcP	**PcP**	**02 55 38.6**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=123,slow=3.3,SNR=5.0					
WRA			ScP	**ScP**	**02 58 47.3**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=108,slow=3.8,SNR=9.3					
WB0	**Warramunga Arr**	**42.51 274**	P	**P**	**02 53 55.1**	**-1.2**
FORT	**Forrest**	**44.24 256**	P	**P**	**02 54 08.2**	**-1.4**
FORT			IAmb	IAmb	02 54 09.3	
	comp=Z,12nm,0.7s					
VNDA	**Vanda**	**47.12 185**	ScP	**ScP**	**02 59 07.0**	**+2.6**
	comp=Z,0.8nm,0.5s,baz=358,slow=5.5,SNR=11					
MTN	**Manton Dam**	**48.49 281**	P	**P**	**02 54 41.0**	**-1.3**
MTN			IAmb	IAmb	02 54 41.4	
	comp=Z,13nm,0.8s					
KNRA	**Kununurra**	**49.13 276**	P	**P**	**02 54 46.1**	**-0.9**
KNRA			IAmb	IAmb	02 55 12.1	
	comp=Z,32nm,1.4s					
FITZ	**Fitzroy Crossi**	**50.71 272**	P	**P**	**02 54 58.0**	**-0.7**
QSPA	**South Pole Qui**	**58.89 180**	P	**P**	**02 55 58.6**	**+2.8**
QSPA			IAmb	IAmb	02 56 00.0	
	comp=Z,4.7nm,1.0s					
QSPA	**South Pole Qui**	**58.89 180**	P	**P**	**02 55 59.0**	**+3.3**
	comp=Z,2.5nm,0.7s,baz=6.5,slow=0.8,SNR=15					
	comp=Z,2.5nm,0.7s					
TROLL	**Troll, Antarti**	**77.04 181** ⇑P		**P**	**02 57 48.4**	**+1.6**
	comp=Z,130nm,0.6s					
SNAA	**Sanae**	**77.37 179** ⇑P		**P**	**02 57 49.8**	**+1.2**
	comp=Z,28nm,0.4s					
SNAA	**Sanae**	**77.37 179**	P	**P**	**02 57 50.5**	**+2.0**
SNAA	**Sanae**	**77.37 179**	P	**P**	**02 57 50.0**	**+1.5**
	comp=Z,1.0nm,0.4s,baz=213,slow=6.0,SNR=28					
	comp=Z,1.0nm,0.4s					
VNA3	**Neumayer Olymp**	**77.59 177** ⇑P		**P**	**02 57 51.1**	**+1.4**
	comp=Z,12nm,0.8s					
JGF	**Kuroka**	**77.64 326**	P	**P**	**02 57 51.1**	**+0.6**
VNA1	**Neumayer--Stat**	**78.24 177** ⇑P		**P**	**02 57 55.1**	**+2.0**
	comp=Z,6.6nm,0.8s					
KSRS	**Korea Array**	**83.92 321**	P	**P**	**02 58 22.5**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=140,slow=6.2,SNR=4.5					
	comp=Z,1.3nm,0.6s					
PETK	**Petropavlovsk-**	**86.21 347**	P	**P**	**02 58 35.4**	**+1.5**
	comp=Z,4.3nm,0.9s,baz=156,slow=5.7,SNR=9.3					
	comp=Z,4.3nm,0.9s					
MZP	**Montezuma Peak**	**90.05 45**	P	**P**	**02 58 51.2**	**-1.4**
MZP			IAmb	IAmb	02 59 25.9	
	comp=Z,3.6nm,0.6s					
MKAR	**Makanchi Array**	**117.03 310**	PKP	**PKiKP**	**03 04 34.2**	**0.0**
	comp=Z,0.6nm,0.7s,baz=93,slow=1.3,SNR=5.2					
KURBB	**Kurchatov Arra**	**120.45 314**	PKP	**PKPdf**	**03 04 40.4**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=102,slow=1.8,SNR=15					
BVAR	**Borovoye Array**	**125.83 315**	PKP	**PKiKP**	**03 04 51.4**	**0.0**
	comp=Z,1.6nm,0.4s,baz=122,slow=1.9,SNR=10					
KBZ	**Khabaz**	**144.18 303**	PKP	**PKPdf**	**03 05 25.1**	**+0.1**
	comp=Z,5.2nm,0.7s,baz=105,slow=3.3,SNR=11					
GEVA	**Gevas**	**144.24 293**	PKPbc	**PKPdf**	**03 05 26.0**	**+0.4**
FIA1	**FINESS Array S**	**145.32 338**	PKPdf	**PKPab**	**03 05 27.7**	**-0.7**
FINES	**FINESS Array B**	**145.32 338**	PKPbc	**PKPab**	**03 05 27.8**	**-0.5**
	comp=Z,8.7nm,0.5s,baz=44,slow=4.1,SNR=97					
NC303	**NORSAR Array S**	**149.08 349**	PKPbc	**PKiKP**	**03 05 38.5**	**+0.1**
NB2	**NORSAR Subarra**	**149.28 349**	PKP	**PKPbc**	**03 05 38.2**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=17,slow=2.6					
NOA	**NORSAR Array B**	**149.28 349**	PKPbc	**PKPbc**	**03 05 36.8**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=17,slow=4.2,SNR=7.7					
NC602	**NORSAR Array S**	**149.52 349**	PKPbc	**PKiKP**	**03 05 39.2**	**-0.1**
NAO01	**NORSAR Array S**	**149.52 350**	PKPbc	**PKPab**	**03 05 46.2**	**+0.8**
HFS	**Hagfors**	**149.69 346**	PKPbc	**PKPbc**	**03 05 39.1**	**+0.2**
	comp=Z,2.5nm,0.6s,baz=122,slow=1.9,SNR=11					
HFS			PKPab	**PKPab**	**03 05 45.9**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=74,slow=5.4,SNR=6.1					
MMAI	**Mount Meron Ar**	**150.11 283**	PKPbc	**PKiKP**	**03 05 42.3**	**+0.8**
	comp=Z,7.2nm,0.4s,baz=72,slow=4.7,SNR=14					
PABE	**Paberze**	**150.44 332**	PKPbc	**PKiKP**	**03 05 42.0**	**+0.6**
AKASG	**Malin Array Be**	**150.91 320**	PKPbc	**PKiKP**	**03 05 43.4**	**+0.9**
AKASG	**Malin Array Be**	**150.91 320**	PKPbc	**PKiKP**	**03 05 42.8**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=63,slow=2.4,SNR=13					
AKASG			PKPab	**PKPab**	**03 05 50.3**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=49,slow=5.1,SNR=7.0					
BRTR	**Keskin Array B**	**151.51 297**		**PKPbc**	**03 05 43.9**	**-0.2**
BRTR	**Keskin Array B**	**151.51 297**	PKPbc	**PKiKP**	**03 05 44.2**	**-0.1**
	comp=Z,2.8nm,0.5s,baz=141,slow=3.5,SNR=22					
BRTR			PKPab	**PKPab**	**03 05 53.5**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=85,slow=3.0,SNR=7.6					
CLL	**Collm**	**157.77 338**	*e*PKPab	**PKPab**	**03 06 21.0**	**+0.3**
GERES	**GERESS Array B**	**159.59 333**	PKPab	**PKPab**	**03 06 28.1**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=32,slow=3.8,SNR=6.1					
TORD	**Torodi Ar. Bea**	**161.95 185**	PKPab	**PKPab**	**03 06 41.0**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=157,slow=5.4,SNR=7.0					

*IDC **04** 03:00:55.8±52.0, 13.98N×121.57E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=999.0km s-min=170.4km az=137.0*
*NEIC **04** 03:00:56.9±1.8, 13.9N±0.1×121.5E±0.1, h10km±1km, mb4.5/14, Error ellipse: s-maj=25.2km s-min=14.1km az=40.0*

ISC 04 03:00:59.7±0.7, **13.9N**±0.1×**121.5E**±0.2, **h35**km, **n19, σ0.87/19, mb4.3/11, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**22.22**	**249**	P	**P**	**03 05 53.6**	**+0.2**
KULM				IAmb	IAmb	03 05 54.9	
	comp=Z,15nm,1.1s						
MTN	**Manton Dam**	**28.20**	**160**	P	**P**	**03 06 49.2**	**-0.1**
MTN				IAmb	IAmb	03 06 55.8	
	comp=Z,26nm,1.5s						
MANU	**Manus Island**	**30.14**	**120**	P	**P**	**03 07 06.9**	**+0.3**
MANU				IAmb	IAmb	03 07 13.7	
	comp=Z,9.8nm,1.3s						
USRK	**Ussuriysk Ar.**	**31.55**	**15**	P	**P**	**03 07 18.8**	**+0.2**
WB0	**Warramunga Arr**	**35.75**	**159**	P	**P**	**03 07 55.4**	**-0.1**
WB0				IAmb	IAmb	03 07 56.5	
	comp=Z,4.3nm,1.1s						
WRA	**Warramunga Arr**	**35.89**	**159**	P	**P**	**03 07 54.4**	**-2.3**
SONM	**Songino Array**	**36.13**	**343**	P	**P**	**03 07 57.2**	**-1.3**
SONM	**Songino Array**	**36.13**	**343**	P	**P**	**03 07 58.9**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=157,slow=7.8,SNR=2.3						
	comp=Z,0.6nm,0.5s						
MKAR	**Makanchi Array**	**46.36**	**323**	P	**P**	**03 09 23.4**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=133,slow=8.5,SNR=6.3						
	comp=Z,0.7nm,0.6s						
PRZ	**Przheval'sk**	**46.77**	**316**	P	**P**	**03 09 26.4**	**+0.4**
ZAA0	**Zalesovo Array**	**49.27**	**332**	P	**P**	**03 09 45.4**	**+0.5**
ZAA0				IAmb	IAmb	03 09 45.7	
	comp=Z,1.9nm,0.3s						
ZALV	**Zalesovo Beam**	**49.27**	**332**	P	**P**	**03 09 45.5**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=120,slow=8.4,SNR=5.1						
	comp=Z,1.0nm,0.3s						
KURBB	**Kurchatov Arra**	**50.48**	**326**	P	**P**	**03 09 55.0**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=133,slow=7.7,SNR=15						
	comp=Z,1.4nm,0.6s						
AB31	**Akbulak array**	**61.11**	**319**	P	**P**	**03 11 10.4**	**0.0**
ABKAR	**Akbulak array**	**61.11**	**319**	P	**P**	**03 11 10.1**	**-0.3**
ABKAR	**Akbulak array**	**61.11**	**319**	P	**P**	**03 11 10.4**	**0.0**
ABKAR				IAmb	IAmb	03 11 10.6	
	comp=Z,1.2nm,0.7s						
K13K	**Kusilvak Mount**	**70.28**	**29**	P	**P**	**03 12 08.6**	**-0.7**
GEVA	**Gevas**	**72.52**	**306**	P	**P**	**03 12 22.9**	**-0.6**
GEVA				IAmb	IAmb	03 12 25.0	
	comp=Z,7.2nm,0.8s						
OXZ	**Oxford**	**73.29**	**144**	P	**P**	**03 12 28.8**	**+1.2**

*SSNC **04** 03:01:29.0±1.3, 18.16N×70.41W, h15km±14km, MD3.1, ML2.3*
*SDD **04** 03:01:31.7±1.4, 18.49N×70.34W, h26km±7km, MD3.2, ML2.6, MW2.9*
*OSPL **04** 03:01:31.1±2.6, 18.51N×70.39W, h1km±20km, ML2.2*

ISC 04 03:01:30.5±1.0, **18.48N**±0.05×**70.28W**±0.03, **h26**km±7km, **n18, σ2.68/33, 7C-4D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BANI	**BANI**	**0.12**	**221**	⇑*e*Pg	**Pb**	**03 01 36.0**	**+0.5**
BANI				⇑*e*Sg	**Sb**	**03 01 39.4**	**+0.4**
BANI				IAML		03 01 40.9	
	comp=N,7μm,0.1s						
SDD	**Santo Domingo**	**0.35**	**94**	⇑*e*Pg	**Pb**	**03 01 39.2**	**+1.0**
SDD				⇓*e*Sg	**Sn**	**03 01 46.1**	**+0.2**
SDD				IAML		03 01 46.6	
	comp=N,87nm,0.1s						
SDD	**Santo Domingo**	**0.35**	**94**	*i* P	**Pb**	**03 01 39.1**	**+0.8**
SDD				*e*S	**Sn**	**03 01 45.6**	**-0.4**
ABDR	**Alto Bandera**	**0.47**	**315**	⇑*e*Pg	**Pb**	**03 01 39.5**	**-1.0**
ABDR				⇓*e*Sg	**Sb**	**03 01 46.5**	**-0.8**
ABDR				IAML		03 01 48.3	
	comp=N,366nm,0.2s						
PODR	**Polo**	**1.00**	**252**	*i* P	**Pn**	**03 01 47.4**	**-1.6**
PODR				*e*S	**Sb**	**03 02 00.7**	**-1.5**
SDDR	**Presa de Saban**	**1.08**	**298**	*e*P	**Pn**	**03 01 48.6**	**-1.3**
SDDR				*e*S	**Sn**	**03 02 02.2**	**-1.9**
SDDR				*e*Sg	**Sb**	**03 02 03.5**	**-0.8**
SDDR				IAML		03 02 04.5	
	comp=N,119nm,0.2s						
SDDR				IAML		03 02 06.0	
	comp=N,38nm,0.3s						
SDDR	**Presa de Saban**	**1.08**	**298**	*e*Pg	**Pn**	**03 01 49.5**	**-0.5**
SDDR				⇑*e*Sg	**Sn**	**03 02 02.8**	**-1.3**
SDDR				IAML		03 02 04.5	
	comp=N,102nm,0.2s						
SDDR	**Presa de Saban**	**1.08**	**298**	*e*S	**Sn**	**03 02 01.3**	**-2.8**
SDDR				IAML		03 02 07.6	
	comp=Z,68nm,0.3s						
NEDR	**Neiba UASD**	**1.08**	**270**	⇑*e*Pg	**Pn**	**03 01 49.2**	**-0.8**
NEDR				⇑*e*Sg	**Sn**	**03 02 04.3**	**+0.2**
NEDR				IAML		03 02 05.5	
	comp=N,40nm,0.5s						
LONE3	**El Aguacate, B**	**1.13**	**276**	*i* P	**Pb**	**03 01 55.9**	**+4.5**
LONE3				*e*S	**Sb**	**03 02 11.7**	**+6.0**
LONE3				IAML		03 02 14.6	
	comp=Z,36nm,0.4s						
LODU1	**El Espartillar**	**1.14**	**264**	*i* P	**Pn**	**03 01 50.1**	**-0.7**
LOVI	**El Cajuil, Ovi**	**1.24**	**237**	*i* P	**Pn**	**03 01 51.4**	**-0.7**
LOVI				IAML		03 02 07.1	
	comp=Z,59nm,1.2s						
LOVI				*e*S	**Sn**	**03 02 07.5**	**-0.5**
REDR	**Restauracion**	**1.26**	**303**	⇑*e*Pg	**Pb**	**03 01 56.8**	**+3.3**
REDR				⇓*e*Sg	**Sb**	**03 02 16.4**	**+7.1**
REDR				IAML		03 02 17.5	
	comp=N,319nm,0.2s						
LOBH	**Bahia de las A**	**1.43**	**245**	*i* P	**Pn**	**03 01 54.6**	**-0.2**
LOPP1	**Punta Rusia, P**	**1.62**	**328**	*i* P	**Pn**	**03 01 58.4**	**+1.0**
LOPP1				IAML		03 02 23.9	
	comp=Z,42nm,1.1s						
MASC	**Masc**	**4.09**	**295**	*e*P	**Pn**	**03 02 30.7**	**-0.7**
MASC				*e*S	**Sn**	**03 03 16.4**	**-2.1**
QMBU	**Quimbuelo**	**4.61**	**292**	*e*P	**Pn**	**03 02 36.4**	**-2.2**
QMBU				*e*S	**Sn**	**03 03 26.6**	**-4.6**
RCC	**Rio Carpintero**	**5.33**	**287**	*e*P	**Pn**	**03 02 45.5**	**-3.0**
RCC				*e*S	**Sn**	**03 03 44.1**	**-5.0**

IDC 04 03:17:58.4±8.4, **21.64S**×**147.98E, h0km, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=96.5km s-min=63.7km az=176.0, Queensland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**11.68**	**208**	Sn	Sn	03 22 56.9	-0.6
	0.3nm,0.3s,baz=313,slow=18,SNR=3.3						
STKA				Lg	Lg	03 24 10.1	
	0.2nm,0.3s,baz=114,slow=21,SNR=3.0						
WRA	**Warramunga Arr**	**12.87**	**275**	Pn	Pn	03 21 01.9	-0.8
	0.1nm,0.3s,baz=94,slow=12,SNR=2.6						
WRA				Lg	Lg	03 24 48.9	
	0.1nm,0.3s,baz=101,slow=29,SNR=5.1						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**13.15**	**259**	Pn	Pn	03 21 07.0	+0.4
	0.1nm,0.3s,baz=88,slow=14,SNR=5.0						
ASAR				Lg	Lg	03 24 55.9	
	0.1nm,0.3s,baz=81,slow=28,SNR=5.2						
	0.3nm,0.3s						
I22FR	**PORTLAGUERRE I**	**17.52**	**95**	I	I	05 06 40.0	
	baz=264,slow=310,SNR=1.3						

RSNC 04 03:23:02.8±0.0, **5°N**±1°×**74°W**±°, **h146**km±2km, **M2.8, mb3.9, ML2.5, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPBC	**San Pablo de B**	**0.50**	**319**	P	Pn	03 23 23.5	-0.3
SPBC				S	Sn	03 23 39.6	-0.2
CHIC	**Chingaza**	**0.64**	**179**	P	Pn	03 23 24.8	-0.2
CHIC				S	Sn	03 23 41.2	-0.7
CVER	**Cruz Verde, Cu**	**0.81**	**204**	P	Pn	03 23 26.6	+0.3
CVER				S	Sn	03 23 44.4	+0.3
RUSC	**La Rusia**	**0.90**	**47**	P	Pn	03 23 26.9	0.0
RUSC				S	Sn	03 23 45.7	+0.4
VILC	**Villavicencio,**	**1.15**	**178**	P	Pn	03 23 28.0	-0.8
VILC				S	Sn	03 23 47.4	-1.1
NORC	**Norcasia**	**1.16**	**285**	P	Pn	03 23 28.3	-0.4
NORC				S	Sn	03 23 47.7	-0.8
BARC	**Barichara**	**1.43**	**23**	P	Pn	03 23 30.8	-0.8
BARC				S	Sn	03 23 52.8	-0.8
PTBC	**PUERTO BERRIO,**	**1.45**	**331**	P	Pn	03 23 30.2	-1.4
PTBC				S	Sn	03 23 53.0	-0.6
GUY2C	**Guyana, Caldas**	**1.62**	**268**	P	Pn	03 23 34.6	+0.8
GUY2C				S	Sn	03 23 57.0	-0.5
BRJC	**Barrancabermej**	**1.69**	**360**	P	Pn	03 23 33.9	-0.3
BRJC				S	Sn	03 23 58.5	+0.2
ANIL	**Santa Ana**	**1.83**	**245**	P	Pn	03 23 36.2	+0.2
ANIL				S	Sn	03 24 01.0	-0.4
PRAC	**Prado**	**1.92**	**217**	P	Pn	03 23 36.4	-0.5
PRAC				S	Sn	03 24 02.5	-0.5
HELC	**Santa Helena**	**2.00**	**297**	P	Pn	03 23 37.9	-0.2
HELC				S	Sn	03 24 04.3	-0.8
ORTC	**Ortega, Tolima**	**2.02**	**228**	P	Pn	03 23 37.3	-0.7
ORTC				S	Sn	03 24 04.0	-1.0
URMC	**La Uribe, Meta**	**2.11**	**198**	P	Pn	03 23 38.8	-0.3
URMC				S	Sn	03 24 07.1	+0.1
TAMC	**Tame, Arauca**	**2.26**	**59**	P	Pn	03 23 40.5	-0.3
TAMC				S	Sn	03 24 09.4	-0.7
PAMC	**Pamplona, Colo**	**2.30**	**27**	P	Pn	03 23 41.9	+0.1
PAMC				S	Sn	03 24 11.4	-0.3
CBOC	**Ciudad Bolivar**	**2.34**	**285**	P	Pn	03 23 41.8	-0.1
CBOC				S	Sn	03 24 11.9	-0.1
ZARC	**Zaragoza, Cauc**	**2.47**	**333**	P	Pn	03 23 41.4	-2.0
ZARC				S	Sn	03 24 12.5	-2.2
PLMC	**San Jos del P**	**2.56**	**262**	P	Pn	03 23 45.9	+1.4
OCAC	**Ocana**	**2.98**	**8**	P	Pn	03 23 49.6	-0.3
OCAC				S	Sn	03 24 25.7	-0.6
DBBC	**Dabeiba**	**3.01**	**305**	P	Pn	03 23 49.8	-0.4
DBBC				S	Sn	03 24 27.2	+0.4
UREC	**San Jos de Ur**	**3.04**	**324**	P	Pn	03 23 47.9	-2.7
UREC				S	Sn	03 24 24.2	-3.3
MACC	**Macarena, Meta**	**3.11**	**182**	P	Pn	03 23 49.5	-1.9
MACC				S	Sn	03 24 26.1	-3.0
APAC	**Apartado, Choc**	**3.84**	**313**	P	Pn	03 24 01.0	0.0
APAC				S	Sn	03 24 45.0	-1.1
FLOC	**Florencia**	**4.13**	**208**	P	Pn	03 24 04.1	-0.6
LCBC	**Los crdobas,**	**4.42**	**324**	P	Pn	03 24 06.7	-1.8
LCBC				S	Sn	03 24 57.8	-1.7
SJCC	**San Jacinto, C**	**4.81**	**343**	P	Pn	03 24 10.1	-3.7
SJCC				S	Sn	03 25 03.5	-5.6
CRJC	**Cerrejon, Guaj**	**5.78**	**8**	P	Pn	03 24 27.6	+1.0
CRJC				S	Sn	03 25 26.0	-6.1

IDC 04 03:24:10.1±1.4, **12.31N**×**145.00E, h0km, mb3.6/4, mbtmp3.6/4, MS2.8/1, Error ellipse: s-maj=43.3km s-min=20.3km az=94.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC

GUMO	**Guam**	**1.28**	**354**	Pn	Pn	03 24 36.1	+0.9
	41nm,0.3s,baz=174,slow=21,SNR=27						
GUMO				Sn	Sn	03 24 52.3	+0.3
	107nm,0.3s,baz=27,slow=24,SNR=8.8						
WRA	**Warramunga Arr**	**33.73**	**198**	P	P	03 30 53.4	-0.1
	1.2nm,0.6s,baz=21,slow=9.5,SNR=6.9						
	1.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**44.74**	**284**	LR	LR	03 50 42.0	
	comp=Z,12nm,19.4s,baz=240,slow=36						
MKAR	**Makanchi Array**	**62.50**	**316**	P	P	03 34 36.0	+0.4
	0.3nm,0.7s,baz=96,slow=8.3,SNR=2.6						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**65.68**	**320**	P	P	03 34 55.6	-0.7
	0.2nm,0.3s,baz=96,slow=7.9,SNR=2.0						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**69.66**	**25**	P	P	03 35 21.1	-0.1
	0.3nm,0.6s,baz=252,slow=6.0,SNR=5.7						
	0.3nm,0.6s						

*MEX **04** 03:39:54.8±1.0, 14.12N×92.75W, h5km±36km, MD3.9*
*GCG **04** 03:39:55.7±0.6, 14.18N×92.50W, h80km±28km, MD3.6*

ISC 04 03:39:50.5±3.1, **14.0N**±0.1×**92.73W**±0.09, **h7**km±15km, **n12, σ2.08/20, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMCA	**Catarina**	**1.04**	**38**	*e*P	**Pg**	**03 40 11.8**	**+1.4**
SMCA				*e*S	**Sg**	**03 40 24.6**	**+0.6**
RTAL	**Retalhuleu**	**1.12**	**64**	*e*P	**Pg**	**03 40 13.4**	**+1.4**
RTAL				*e*S	**Sg**	**03 40 27.8**	**+1.3**
PATR	**El Naranjo**	**1.18**	**24**	*e*P	**Pg**	**03 40 13.0**	**-0.3**
PATR				*e*S	**Sg**	**03 40 28.0**	**-0.6**
PAVE	**Pavencul**	**1.27**	**25**	*e*P	**Pg**	**03 40 14.3**	**-0.7**
PAVE				*e*S	**Sg**	**03 40 30.3**	**-1.2**
STG8	**El Palmar, Qui**	**1.40**	**73**	*e*P	Pn	03 40 16.0	-0.7
STG8				*e*S	**Sg**	**03 40 32.3**	**-3.4**
STG0	**El Palmar, Qui**	**1.40**	**74**	*e*P	Pn	03 40 15.7	-1.0
STG0				*e*S	**Sg**	**03 40 31.3**	**-4.4**
SOKI	**Kika Raxquin**	**1.51**	**58**	*e*P	**Pn**	**03 40 19.3**	**+0.9**
PCIG		**1.73**	**344**	*e*P	**Pn**	**03 40 21.2**	**+0.3**
PCIG				*e*S	**Sn**	**03 40 40.3**	**-2.9**
CCIG	**Comitan**	**2.31**	**14**	*e*P	**Pn**	**03 40 31.9**	**+2.8**
TGIG		**2.76**	**352**	*e*P	**Pn**	**03 40 36.8**	**+1.6**
TGIG				*e*S	**Sn**	**03 41 07.8**	**-1.0**
TGIG		**2.76**	**352**	*e*P	**Pn**	**03 40 37.1**	**+1.9**
TGIG				*e*S	**Sn**	**03 41 09.7**	**+0.9**
CMIG	**Matias Romero**	**3.68**	**326**	*e*P	**Pn**	**03 40 49.1**	**+1.3**
CMIG				*e*S	**Sn**	**03 41 29.6**	**-1.9**

*ISK **04** 03:42:13.8, 34.33N×26.56E, h7km, ML3.0/11*
*IDC **04** 03:42:15.7±5.2, 34.56N×26.71E, h0km, mb3.6/3, mbtmp3.4/6, ML3.0/3, MS3.3/1, Error ellipse: s-maj=93.0km s-min=33.7km az=30.0*
*AFAD **04** 03:42:18.1, 34.63N×26.82E, h6km±5km, ML2.9*
*ATH **04** 03:42:18.2, 34.51N×26.42E, h11km±3km, ML3.0/5, Manual Solution by K.Orfanogiannaki First location: 2019/07/04 03:43:47, This location: 2019/07/04 07:03:25 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*

ISC 04 03:42:14.3±2.2, **34.35N**±0.09×**26.54E**±0.04, **h3**km±12km, **n44, σ1.36/57, mb3.5/3, Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.81**	**341**	Pg	**Pg**	**03 42 30.5**	**+0.7**
ZKR				Sg	**Sb**	**03 42 42.3**	**0.0**
ZKR	**Zakros**	**0.81**	**341**	P	**Pg**	**03 42 30.6**	**+0.8**
ZKR	**Zakros**	**0.81**	**341**	P	**Pg**	**03 42 30.4**	**+0.6**
ZKR				S	**Sg**	**03 42 38.7**	**-1.5**
KARP	**Karpathos**	**1.30**	**23**	Pn	Pn	03 42 39.3	0.0
KARP				Sn	**Sn**	**03 42 57.7**	**+0.5**
KARP	**Karpathos**	**1.30**	**23**	P	**Pn**	**03 42 40.9**	**+1.6**
KARP	**Karpathos**	**1.30**	**23**	P	**Pn**	**03 42 41.1**	**+1.8**
KARP				S	**Sn**	**03 42 55.8**	**-1.4**
IDI	**Anoyia**	**1.65**	**305**	Pn	**Pn**	**03 42 44.5**	**+0.3**
IDI				Sn	**Sn**	**03 43 06.7**	**+0.8**
IDI	**Anoyia**	**1.65**	**305**	P	**Pn**	**03 42 46.4**	**+2.2**
IDI	**Anoyia**	**1.65**	**305**	P	**Pn**	**03 42 44.9**	**+0.7**
IDI				S	**Sn**	**03 43 04.4**	**-1.5**
PRNS

*IDC **04** 03:43:32.9±8.7, 43˚.16N×147˚.08E, h64km±57km, mb3.6/5, mbtmp3.8/6, ML3.2/1, Error ellipse: s-maj=122.5km s-min=54.0km az=4.0*

ISC 04 03:43:31.9±1.8, 43˚.16N±0˚.09×147˚.03E±0˚.08, h49km±13km, n40, σ0°83/53, mb3.9/5, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.72**	**348**	*d* iPN	**Pn**	**03 43 46.8**	**+0.8**
SHO				*i* S	**Sn**	**03 43 56.1**	**0.0**
SHO				pmax	pmax		
	comp=Z,480nm,0.2s						
SHO				pmax	pmax		
	comp=N,191nm,0.3s						
SHO				pmax	pmax		
	comp=E,106nm,0.1s						
SHO				smax	smax		
	comp=N,3µm,0.3s						
SHO				smax	smax		
	comp=E,1µm,0.2s						
SHO	**Shikotan**	**0.72**	**348**	*i* P	**Pn**	**03 43 46.7**	**+0.8**
SHO				AMB	AMB	03 43 47.2	
	comp=E,310nm,0.3s						
SHO				*i* S	**Sn**	**03 43 55.8**	**-0.3**
SHO				A	A	03 43 56.5	
	comp=E,2µm,0.3s						
SHO				A	A	03 43 56.5	
	comp=E,3µm,0.3s						
NEM2	**Nemuro 2**	**0.96**	**283**	P	**Pn**	**03 43 48.9**	**-0.1**
NEM2				*e*S	**Sn**	**03 44 01.3**	**-0.4**
NMR	**Nemuro--Hokkai**	**0.97**	**283**	⇓*i*PN	**Pn**	**03 43 48.9**	**-0.3**
NMR				*i* S	**Sn**	**03 44 01.6**	**-0.4**
NMR	**Nemuro--Hokkai**	**0.97**	**283**	*i* P	**Pn**	**03 43 49.0**	**-0.3**
NMR				*i* S	**Sn**	**03 44 01.6**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**1.22**	**316**	*e*PN	**Pn**	**03 43 51.9**	**-0.7**
YUK				*i* S	**Sn**	**03 44 07.0**	**-0.9**
YUK				pmax	pmax		
	comp=N,190nm,0.2s						
YUK				pmax	pmax		
	comp=E,194nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2µm,0.2s						
YUK				smax	smax		
	comp=N,6µm,0.3s						
YUK				smax	smax		
	comp=E,4µm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.22**	**316**	*e*P	**Pn**	**03 43 52.1**	**-0.5**
YUK				AMB	AMB	03 43 52.6	
	comp=E,1µm,0.3s						
YUK				*i* S	**Sn**	**03 44 06.8**	**-1.1**
YUK				A	A	03 44 08.5	
	comp=E,3µm,0.4s						
YUK				A	A	03 44 08.5	
	comp=E,4µm,0.4s						
JKHN	**Kushirohamanak**	**1.37**	**267**	P	**Pn**	**03 43 55.2**	**+0.5**
JKHN				*e*S	**Sn**	**03 44 12.0**	**+0.4**
JRA	**Rausu**	**1.59**	**300**	P	**Pn**	**03 43 57.7**	**+0.1**
JRA				*e*S	**Sn**	**03 44 16.6**	**-0.4**
JNSB	**Nemuroshibetsu**	**1.60**	**293**	*e*P	**Pn**	**03 43 57.5**	**-0.2**
JNSB				*e*S	**Sn**	**03 44 17.2**	**0.0**
RUSJ	**Misakicho**	**1.60**	**307**	*e*PN	**Pn**	**03 43 57.8**	**0.0**
RUSJ				*i* S	**Sn**	**03 44 18.8**	**+1.5**
AKK	**Akkeshi**	**1.61**	**266**	*e*P	**Pn**	**03 43 58.3**	**+0.4**
JAK	**Akkeshi**	**1.72**	**265**	P	**Pn**	**03 43 59.5**	**+0.1**
JAK				*e*S	**Sn**	**03 44 19.6**	**-0.6**
JNK	**Nakash**	**1.74**	**285**	P	**Pn**	**03 43 59.3**	**-0.4**
JNK				*e*S	**Sn**	**03 44 20.0**	**-0.7**
KUR	**Kuril'sk**	**2.16**	**16**	*e*PN	**Pn**	**03 44 07.5**	**+2.1**
KUR				*e*S	**Sn**	**03 44 30.1**	**-0.8**
KUR				smax	smax		
	comp=N,98nm,0.2s						
KUR				smax	smax		
	comp=E,69nm,0.2s						
KUR	**Kuril'sk**	**2.16**	**16**	*e*P	**Pn**	**03 44 05.2**	**-0.2**
KUR				AMB	AMB	03 44 09.9	
	comp=E,30nm,0.4s						
KUR				*i* S	**Sn**	**03 44 29.8**	**-1.1**
KUR				A	A	03 44 31.3	
	comp=E,110nm,0.2s						
KUR				A	A	03 44 31.3	
	comp=E,90nm,0.2s						
JOB	**Onbets**	**2.36**	**265**	*e*P	**Pn**	**03 44 08.4**	**+0.3**
JOB				*e*S	**Sn**	**03 44 35.6**	**-0.2**
JAR	**Ashorobuto**	**2.39**	**274**	*e*P	**Pn**	**03 44 09.0**	**+0.5**
JAR				*e*S	**Sn**	**03 44 36.7**	**+0.1**
JTKR	**Abashiri--Toko**	**2.41**	**291**	*e*P	**Pn**	**03 44 09.6**	**+0.8**
JCH	**Churui**	**2.75**	**260**	*e*P	**Pn**	**03 44 13.7**	**+0.2**
JCH				*e*S	**Sn**	**03 44 44.7**	**-0.8**
JMP	**Maruseppu**	**2.80**	**289**	*e*P	**Pn**	**03 44 15.2**	**+1.0**
JFR	**Furan**	**3.25**	**272**	*e*P	**Pn**	**03 44 21.7**	**+1.3**
JNBK	**Urakawa-nobuka**	**3.27**	**256**	*e*P	**Pn**	**03 44 21.3**	**+0.7**
JKA	**Kamikawa-asahi**	**3.35**	**288**	*e*P	**Pn**	**03 44 23.4**	**+1.6**
ASAJ	**Asahikawa**	**3.36**	**288**	P	**Pn**	**03 44 23.4**	**+1.5**
	comp=E,1.7nm,0.3s,baz=106,slow=13,SNR=13						
ASAJ				S	**Sn**	**03 45 02.9**	**+2.5**
	comp=E,12nm,0.6s,baz=125,slow=30,SNR=4.8						
	comp=E,6.5nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.72**	**138**	T	T	04 20 19.3	
	baz=329,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**28.73**	**138**	T	T	04 20 15.6	
	baz=329,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**28.73**	**138**	T	T	04 20 13.4	
	baz=329,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hy**	**29.67**	**140**	T	T	04 21 27.9	
	baz=330,slow=76,SNR=89						
H11S3	**WAKE ISLAND Hy**	**29.68**	**140**	T	T	04 21 20.0	
	baz=330,slow=76,SNR=78						
H11S2	**WAKE ISLAND Hy**	**29.69**	**140**	T	T	04 21 27.5	
	baz=330,slow=76,SNR=33						
MKAR	**Makanchi Array**	**44.78**	**298**	P	**P**	**03 51 40.5**	**-0.1**
	comp=E,0.5nm,0.5s,baz=79,slow=9.6,SNR=4.1						
	comp=E,0.5nm,0.5s						
KURK	**Kurchatov**	**45.79**	**304**	P	**P**	**03 51 48.9**	**+0.5**
KURK	**Kurchatov**	**45.79**	**304**	*e*P	**P**	**03 51 48.9**	**+0.5**
KURBB	**Kurchatov Arra**	**45.87**	**304**	P	**P**	**03 51 48.9**	**-0.2**
	comp=E,0.2nm,0.3s,baz=72,slow=7.9,SNR=1.7						
	comp=E,0.2nm,0.3s						
FINES	**FINESS Array B**	**65.36**	**333**	P	**P**	**03 54 08.0**	**-0.6**
	comp=E,2.2nm,0.7s,baz=35,slow=7.0,SNR=8.0						
	comp=E,2.2nm,0.7s						
FINES	**FINESS Array B**	**65.36**	**333**	P	**P**	**03 54 08.0**	**-0.6**
NB2	**NORSAR Subarra**	**70.12**	**339**	P	**P**	**03 54 38.6**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**70.12**	**339**	P	**P**	**03 54 37.9**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=37,slow=5.9,SNR=7.8						
	comp=Z,0.4nm,0.4s						
HFS	**Hagfors**	**70.20**	**337**	P	**P**	**03 54 38.4**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=45,slow=6.5,SNR=18						
	comp=Z,1.6nm,0.5s						

*IDC **04** 04:01:29.7±3.3, 14˚.11N×53˚.58E, h0km, mb4.0/8, mbtmp4.0/8, MS3.3/9, Error ellipse: s-maj=75.8km s-min=28.0km az=6.0*

*NEIC **04** 04:01:31.6±1.5, 14˚.1N±0˚.2×53˚.84E±0˚.08, h10km±2km, mb4.4/20, Error ellipse: s-maj=25.9km s-min=13.4km az=175.0*

ISC 04 04:01:31.2±1.1, 14˚.1N±0˚.2×53˚.8E±0˚.1, h10km, n42, σ0°86/30, mb4.3/16, MS3.4/8, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**10.94**	**258**	LR	LR	04 07 17.8	
	comp=Z,21nm,18.8s,baz=92,slow=32						
KMBO	**Kilima Mbogo**	**22.26**	**229**	P	**P**	**04 06 28.3**	**-0.6**
MMAI	**Mount Meron Ar**	**25.19**	**322**	LR	LR	04 17 20.7	
	comp=Z,61nm,21.2s,baz=176,slow=38						
GNI	**Garni**	**27.15**	**345**	LR	LR	04 19 35.4	
	comp=Z,54nm,20.9s,baz=178,slow=40						
KOPT	**Kop Dagi**	**28.34**	**338**		**P**	**04 07 25.7**	**0.0**
KOPT					IAmb	IAmb	04 07 30.1
	comp=Z,9.4nm,1.1s						
GAR	**Garm**	**28.81**	**27**	P	**P**	**04 07 28.6**	**-1.1**
GAR					IAmb	IAmb	04 07 40.4
	comp=Z,11nm,1.2s						
KBZ	**Khabaz**	**30.98**	**345**	LR	LR	04 23 15.7	
	comp=Z,51nm,21.5s,baz=151,slow=42						
ELL	**Elmali**	**31.03**	**321**	P	**P**	**04 07 50.6**	**+1.2**
BR131	**Keskin Array S**	**31.06**	**329**	P	**P**	**04 07 48.6**	**-1.1**
BR131					IAmb	IAmb	04 07 51.7
	comp=Z,5.9nm,1.3s						
BRTR	**Keskin Array B**	**31.06**	**329**	P	**P**	**04 07 47.5**	**-2.2**
	comp=Z,2.5nm,1.2s,baz=124,slow=7.7,SNR=5.4						
	comp=Z,2.5nm,1.2s						
ANTO	**Ankara**	**31.60**	**328**	P	**P**	**04 07 54.4**	**+0.1**
ABKAR	**Akbulak array**	**35.44**	**7**	P	**P**	**04 08 27.8**	**+0.3**
ABKAR	**Akbulak array**	**35.44**	**7**	P	**P**	**04 08 27.9**	**+0.3**
ABKAR				IAmb	IAmb	04 08 28.6	
	comp=Z,5.0nm,1.1s						
LSZ	**Lusaka**	**38.60**	**222**	LR	LR	04 23 54.0	
	comp=Z,74nm,18.8s,baz=358,slow=35						
FNA	**Florina**	**38.78**	**320**	P	**P**	**04 08 56.5**	**+0.4**
FNA					IAmb	IAmb	04 08 57.4
	comp=Z,7.7nm,1.3s						
MLR	**Muntele Rosu**	**39.14**	**329**	LR	LR	04 25 38.1	
	comp=Z,72nm,19.6s,baz=118,slow=37						
MKAR	**Makanchi Array**	**40.42**	**30**	P	**P**	**04 09 10.9**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=224,slow=5.1,SNR=5.5						
	comp=Z,0.8nm,0.8s						
BVAR	**Borovoye Array**	**41.04**	**15**	P	**P**	**04 09 15.5**	**+0.8**
	comp=Z,3.0nm,0.9s,baz=191,slow=4.5,SNR=7.6						
	comp=Z,3.0nm,0.9s						
BRVK	**Borovoye**	**41.04**	**15**	P	**P**	**04 09 15.4**	**+0.8**
CEL	**Celeste**	**41.22**	**313**	P	**P**	**04 09 16.1**	**-0.3**
AKASG	**Malin Array Be**	**41.59**	**337**	P	**P**	**04 09 18.4**	**-0.8**
	comp=Z,2.3nm,0.9s,baz=141,slow=7.7,SNR=8.9						
	comp=Z,2.3nm,0.9s						
AKBB	**Malin Array Si**	**41.59**	**337**	P	**P**	**04 09 18.2**	**-0.9**
AKBB					IAmb	IAmb	04 09 21.1
	comp=Z,14nm,1.4s						
CUC	**Castrocucco**	**42.04**	**315**	P	**P**	**04 09 24.0**	**+0.9**
ACER	**Acerenza**	**42.32**	**316**	P	**P**	**04 09 26.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**43.52**	**78**	P	**P**	**04 09 34.3**	**-1.0**
PSZ	**Piszkesteto**	**43.87**	**327**	P	**P**	**04 09 37.5**	**-0.3**
KEST	**Kesra**	**45.21**	**307**	P	**P**	**04 09 49.0**	**+0.3**
KEST					IAmb	IAmb	04 10 13.4
	comp=Z,8.5nm,1.2s						
MORC	**Moravsky Berou**	**46.24**	**328**	P	**P**	**04 09 56.4**	**-0.3**
MORC					IAmb	IAmb	04 09 59.6
	comp=Z,4.0nm,1.0s						
TAM	**Tamanrasset**	**46.40**	**288**	P	**P**	**04 09 59.4**	**+0.9**
LBTB	**Lobatse**	**47.58**	**215**	LR	LR	04 30 25.3	
	comp=Z,33nm,18.3s,baz=35,slow=36						
TSUM	**Tsumeb**	**48.60**	**228**	LR	LR	04 31 56.1	
	comp=Z,145nm,19.2s,baz=345,slow=38						
BOSA	**Boshof**	**50.61**	**213**	LR	LR	04 32 35.3	
	comp=Z,53nm,18.1s,baz=20,slow=37						
FINES	**FINESS Array B**	**51.32**	**343**	P	**P**	**04 10 34.7**	**-0.7**
	comp=Z,4.0nm,1.0s,baz=158,slow=8.5,SNR=3.3						
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**54.88**	**41**	P	**P**	**04 11 01.3**	**-0.8**
SONM					IAmb	IAmb	04 11 06.6
	comp=Z,3.8nm,1.2s						
SONM	**Songino Array**	**54.88**	**41**	P	**P**	**04 11 02.0**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=246,slow=7.4,SNR=5.9						
	comp=Z,0.5nm,0.4s						
ESDC	**Sonseca Array**	**56.38**	**308**	P	**P**	**04 11 13.0**	**+0.1**
ESDC					IAmb	IAmb	04 11 15.2
	comp=Z,3.3nm,1.1s						
ESDC	**Sonseca Array**	**56.38**	**308**	P	**P**	**04 11 12.5**	**-0.4**
	comp=Z,2.1nm,1.0s,baz=86,slow=7.2,SNR=9.8						
	comp=Z,2.1nm,1.0s						
HEH	**HeiHe**	**68.86**	**41**	*e*P	**P**	**04 12 37.1**	**+1.1**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSRS	**Korea Array**	**69.08**	**55**	P	**P**	**04 12 38.3**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=270,slow=6.1,SNR=7.4						
	comp=Z,1.6nm,0.8s						
H01W3	**Cape Leeuwin H**	**75.13**	**132**	T	T	05 35 35.5	
	baz=299,slow=75,SNR=8.0						
H01W2	**Cape Leeuwin H**	**75.14**	**132**	T	T	05 35 41.3	
	baz=299,slow=75,SNR=6.8						
H01W1	**Cape Leeuwin H**	**75.15**	**132**	T	T	05 35 37.5	
	baz=299,slow=75,SNR=8.8						

*IDC **04** 04:01:30.2±0.6, 35˚.40N×25˚.41E, h0km, mb4.1/20, mbtmp4.1/32, ML3.8/10, MS2.9/5, Error ellipse: s-maj=13.1km s-min=5.9km az=157.0*

*AFAD **04** 04:01:31.3, 35˚.28N×25˚.55E, h6km±3km, MW4.1*

*MCSM **04** 04:01:31.8±0.6, 35˚.N±7˚×2˚.5E±˚, h8km, mb4.3, mB4.2, MLv4.5, Mw(mB)3.3*

*THE **04** 04:01:32.7, 35˚.N±2˚×2˚.5E±˚, h12km±1km, M4.1/19, MLh4.1/19*

*NEIC **04** 04:01:32.6±1.9, 35˚.38N±0˚.07×25˚.32E±0˚.02, h10km±1km, mb4.4/35, Error ellipse: s-maj=12.1km s-min=3.2km az=172.0*

*ATH **04** 04:01:32.6, 35˚.42N×25˚.31E, h12km±1km, ML4.2/13, Manual Solution by F.Xalaris First location: 2019/07/04 04:02:31, This location: 2021/06/06 09:37:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*

*ISK **04** 04:01:32.1, 35˚.37N×25˚.30E, h20km, ML4.1/30*

*GII **04** 04:01:37.2±0.0, 34˚.98N±0˚.04×25˚.76E±0˚.01, h10km, Mws4.1, confirmed*

*HLW **04** 04:01:43.0, 35˚.55N×27˚.16E, h7km±31km, Ml3.8*

*NAO **04** 04:02:11.4, 38˚.57N×21˚.32E, h10km, mb3.6*

ISC 04 04:01:32.2±0.8, 35˚.35N±0˚.03×25˚.35E±0˚.02, h15km±5km, n313, σ1°75/338, mb4.2/34, 8C-14D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IACM	**Heraklion**	**0.23**	**259**	P	**Pb**	**04 01 38.0**	**-0.2**
IACM				S	**Sg**	**04 01 40.8**	**-0.1**
IDI	**Anoyia**	**0.38**	**261**	Pg	**Pg**	**04 01 40.0**	**0.0**
IDI	**Anoyia**	**0.38**	**261**		**Pg**	**04 01 39.8**	**-0.2**
IDI					Sg	**Sg**	**04 01 44.6**	**-0.8**
IDI	**Anoyia**	**0.38**	**261**	P	**Pg**	**04 01 39.9**	**-0.2**
IDI				S	**Sg**	**04 01 44.9**	**-0.5**
IDI	**Anoyia**	**0.38**	**261**	Pg	**Pg**	**04 01 39.8**	**-0.2**
	2µm,0.3s,baz=47,slow=7.5,SNR=5041						
IDI					Lg	Lg	04 01 44.3	
	9µm,0.3s,baz=71,slow=16,SNR=172						
IDI	**Anoyia**	**0.38**	**261**	P	**Pg**	**04 01 40.1**	**0.0**
IDI				S	**Sg**	**04 01 45.0**	**-0.4**
TMBK	**Timbaki Herakl**	**0.56**	**240**	P	**Pb**	**04 01 43.8**	**+0.2**
TMBK				S	**Sb**	**04 01 51.6**	**+0.3**
TMBK	**Timbaki Herakl**	**0.56**	**240**	P	**Pb**	**04 01 43.9**	**+0.2**
TMBK				S	**Sb**	**04 01 51.6**	**+0.3**
PRNS	**Prines Rethymn**	**0.70**	**271**	P	**Pb**	**04 01 46.6**	**+0.6**
PRNS	**Prines Rethymn**	**0.70**	**271**	P	**Pb**	**04 01 46.7**	**+0.7**
ZKR	**Zakros**	**0.75**	**108**	Pg	**Pb**	**04 01 47.9**	**+1.0**
ZKR	**Zakros**	**0.75**	**108**	P	**Pb**	**04 01 47.8**	**+1.0**
ZKR	**Zakros**	**0.75**	**108**	P	**Pn**	**04 01 48.1**	**-0.1**
ZKR				S	**Sn**	**04 01 59.2**	**0.0**
THR6	**Thira Island,**	**1.00**	**2**	P	**Pb**	**04 01 50.5**	**-0.8**
THR9	**Santorini-Faro**	**1.00**	**0**	P	**Pb**	**04 01 50.6**	**-0.7**
THR3	**Thira Island,**	**1.06**	**2**	P	**Pb**	**04 01 51.0**	**-1.2**
CHNB	**Souda**	**1.06**	**278**	P	**Pn**	**04 01 52.3**	**-0.2**
CHNB				S	**Sg**	**04 02 06.0**	**-0.6**
THR8	**Santorini-Mono**	**1.06**	**6**	P	**Pb**	**04 01 51.0**	**-1.3**
THR5	**Thira Island,**	**1.06**	**360**	P	**Pb**	**04 01 51.3**	**-1.0**
SAP3	**Santorini-Thir**	**1.08**	**360**	P	**Pb**	**04 01 51.6**	**-1.1**
SAP3				S	**Sb**	**04 02 05.6**	**-1.0**
CHAN	**Chania**	**1.08**	**279**	P	**Pb**	**04 01 51.9**	**-0.8**
CHAN	**Chania**	**1.08**	**279**	P	**Pb**	**04 01 52.5**	**-0.1**
CHAN				S	**Sb**	**04 02 05.6**	**-0.9**
THR2	**Thira island,**	**1.10**	**3**	P	**Pb**	**04 01 51.9**	**-1.0**
CMBO	**Columbo, Santo**	**1.12**	**2**	P	**Pb**	**04 01 52.6**	**-0.6**
CMBO	**Columbo, Santo**	**1.12**	**2**	P	**Pb**	**04 01 53.1**	**-0.1**
CMBO				S	**Sb**	**04 02 07.1**	**-0.5**
GVD	**Gavdhos**	**1.16**	**244**	Pn	**Pn**	**04 01 53.6**	**-0.2**
GVD				Sn	**Sb**	**04 02 08.7**	**0.0**
GVD	**Gavdhos**	**1.16**	**244**	P	**Pb**	**04 01 54.3**	**+0.4**
GVD				S	**Sg**	**04 02 10.4**	**+0.8**
GVD	**Gavdhos**	**1.16**	**244**	P	**Pg**	**04 01 54.5**	**0.0**
GVD				S	**Sg**	**04 02 09.8**	**+0.2**
KARP	**Karpathos**	**1.49**	**82**	Pn	**Pn**	**04 01 59.1**	**+0.6**
KARP				Sn	**Sb**	**04 02 18.9**	**+0.6**
KARP	**Karpathos**	**1.49**	**82**		**Pn**	**04 01 58.7**	**+0.3**
KARP	**Karpathos**	**1.49**	**82**	P	**Pn**	**04 01 58.7**	**+0.3**
KARP	**Karpathos**	**1.49**	**82**	Pn	**Pg**	**04 02 01.0**	**+0.1**
KARP				Sn	**Sg**	**04 02 22.8**	**+2.5**
KARP	**Karpathos**	**1.49**	**82**	P	**Pb**	**04 01 59.5**	**-0.1**
KARP				S	**Sb**	**04 02 19.4**	**+1.0**
AMGA	**Amorgos Island**	**1.54**	**16**	P	**Pb**	**04 02 00.0**	**-0.4**
MHLO	**Agia Marina, M**	**1.54**	**330**	P	**Pn**	**04 01 58.4**	**-0.8**
MHLO				S	**Sn**	**04 02 17.6**	**-1.2**
MHLO	**Agia Marina, M**	**1.54**	**330**	P	**Pn**	**04 01 59.4**	**+0.2**
APE	**Apeiranthos**	**1.72**	**5**	Pn	**Pn**	**04 02 01.7**	**+0.1**
APE				Sn	**Sn**	**04 02 23.5**	**+0.1**
APE	**Apeiranthos**	**1.72**	**5**	P	**Pn**	**04 02 00.5**	**-1.1**
APE	**Apeiranthos**	**1.72**	**5**	P	**Pn**	**04 02 01.6**	**-0.1**
ANKY	**Antikythira Is**	**1.75**	**288**	P	**Pn**	**04 02 00.8**	**-1.1**
ANKY	**Antikythira Is**	**1.75**	**288**	P	**Pn**	**04 02 02.0**	**+0.1**
NISR	**Nisiros**	**1.91**	**48**	P	**Pn**	**04 02 04.4**	**+0.2**
KTHA	**Kythira Island**	**2.07**	**297**	Pn	**Pn**	**04 02 05.3**	**-1.1**
KTHA	**Kythira Island**	**2.07**	**297**	P	**Pn**	**04 02 04.9**	**-1.5**
TNSA	**Tinos**	**2.19**	**356**	P	**Pn**	**04 02 07.9**	**-0.1**
DAT	**Datca**	**2.27**	**52**	Pn	**Pn**	**04 02 10.1**	**+0.9**
BODT	**Bodrum**	**2.33**	**42**	Pn	**Pn**	**04 02 10.7**	**+0.7**
YKAV	**Yalikavak-Bodr**	**2.36**	**41**	Pn	**Pn**	**04 02 11.2**	**+0.9**
VLI	**Veliai**	**2.39**	**306**	P	**Pn**	**04 02 09.5**	**-1.3**
VLI	**Veliai**	**2.39**	**306**	P	**Pn**	**04 02 09.8**	**-0.9**
BDRM	**Kayabasi**	**2.41**	**44**	⇓P	**Pb**	**04 02 14.6**	**-0.6**
ARG	**Arkhangelos**	**2.42**	**68**	Pn	**Pn**	**04 02 12.1**	**+1.0**
ARG	**Arkhangelos**	**2.42**	**68**	Pn	**Pn**	**04 02 11.4**	**+0.2**
ARG	**Arkhangelos**	**2.42**	**68**	P	**Pn**	**04 02 11.8**	**+0.6**
ARG	**Arkhangelos**	**2.42**	**68**	P	**Pn**	**04 02 12.1**	**+1.0**
SMG	**Samos**	**2.64**	**26**	P	**Pn**	**04 02 14.0**	**-0.3**
SMG	**Samos**	**2.64**	**26**	P	**Pn**	**04 02 14.3**	**+0.1**
TURN	**Turunc**	**2.74**	**58**	Pn	**Pn**	**04 02 16.1**	**+0.5**
TURN	**Turunc**	**2.74**	**58**	P	**Pn**	**04 02 16.7**	**+1.1**
MET6	**Megalochori,Me**	**2.75**	**325**	P	**Pn**	**04 02 15.9**	**+0.1**
MLSB	**Milas**	**2.76**	**45**	Pn	**Pn**	**04 02 17.0**	**+1.1**
MET4	**Agioi Theodoro**	**2.76**	**326**	P	**Pn**	**04 02 16.1**	**+0.3**
KARY	**Karystos**	**2.77**	**345**	P	**Pn**	**04 02 15.7**	**-0.4**
KARY	**Karystos**	**2.77**	**345**	P	**Pn**	**04 02 15.9**	**-0.2**
MET5	**Makryloggos,Me**	**2.78**	**325**	P	**Pn**	**04 02 16.6**	**+0.4**
GCAM	**G?zelcaml?**	**2.79**	**32**	Pn	**Pn**	**04 02 17.3**	**+1.0**
ATHU	**Athens Univers**	**2.90**	**335**	P	**Pn**	**04 02 17.2**	**-0.6**
ATHU	**Athens Univers**	**2.90**	**335**	P	**Pn**	**04 02 17.4**	**-0.4**
DION	**Dionisos Attik**	**2.95**	**338**	P	**Pn**	**04 02 18.3**	**-0.2**
GMLD	**Gumuldur**	**3.00**	**24**	Pn	**Pn**	**04 02 19.7**	**+0.6**
DALY	**Dalyan (Mula)**	**3.05**	**60**	Pn	**Pn**	**04 02 21.1**	**+1.3**
MULA	**Mugla, Merkez-**	**3.06**	**51**	P	**Pn**	**04 02 22.7**	**+2.6**
MULA					S	**Sb**	**04 01 31.3**	**-2.3**
CHOS	**Chios island**	**3.08**	**10**	Pn	**Pn**	**04 02 20.8**	**+0.4**
CHOS	**Chios island**	**3.08**	**10**	P	**Pn**	**04 02 19.4**	**-1.0**
CHOS	**Chios island**	**3.08**	**10**	P	**Pn**	**04 02 20.3**	**-0.1**
URLA	**Izmir**	**3.17**	**18**	Pn	**Pn**	**04 02 22.4**	**+0.9**
VILL	**Villia**	**3.25**	**330**	P	**Pn**	**04 02 22.7**	**0.0**
SABU	**Mula-Dalaman**	**3.28**	**62**	P	**Pn**	**04 02 24.9**	**+1.9**
SABU					S	**Sn**	**04 03 04.7**	**+3.0**
LTK	**Loutraki**	**3.28**	**325**	P	**Pn**	**04 02 23.2**	**0.0**
FETY	**Fethiye**	**3.29**	**66**	Pn	**Pn**	**04 02 24.4**	**+1.3**
FETY	**Fethiye**	**3.29**	**66**	P	**Pn**	**04 02 24.9**	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**3.30**	**37**	Pn	**Pn**	**04 02 24.7**	**+1.3**
ITM	**Ithomi**	**3.32**	**304**	Pn	**Pn**	**04 02 24.1**	**+0.6**
ITM	**Ithomi**	**3.32**	**304**	Pn	**Pn**	**04 02 23.9**	**+0.3**
BLCB	**Balcova**	**3.32**	**24**	Pn	**Pn**	**04 02 24.6**	**+1.1**
IZZE	**Mula-Seydike**	**3.33**	**70**	P	**Pn**	**04 02 24.5**	**+0.9**
ESEN	**Aydn-Nazilli**	**3.43**	**44**	P	**Pn**	**04 02 26.8**	**+1.7**
IZMR	**zmir-demi**	**3.48**	**36**	P	**Pn**	**04 02 28.2**	**+2.5**
NAZL	**Nazilli-Aydin**	**3.52**	**41**	Pn	**Pn**	**04 02 27.7**	**+1.3**
DNZT	**Denizli-Tavas-**	**3.54**	**56**	P	**Pn**	**04 02 28.9**	**+2.3**
DNZT					S	**Sn**	**04 03 11.1**	**+2.9**
TAVA	**DENIZLI_Tavas**	**3.56**	**53**	P	**Pn**	**04 02 30.6**	**+3.6**
TAVA	**DENIZLI_Tavas**	**3.56**	**53**	⇑P	**Pn**	**04 02 30.8**	**+3.7**
AKAS	**Kas**	**3.57**	**74**	Pn	**Pn**	**04 02 28.9**	**+1.8**
AKAS	**Kas**	**3.57**	**74**	Pn	**Pn**	**04 02 28.5**	**+1.4**
AKAS	**Kas**	**3.57**	**74**	P	**Pn**	**04 02 29.6**	**+2.5**
CAME	**Cameli-Denizli**	**3.57**	**62**	Pn	**Pn**	**04 02 28.6**	**+1.4**
ODEM	**Odemis-Izmir**	**3.65**	**36**	Pn	**Pn**	**04 02 29.5**	**+1.4**
CAEL	**Denizli, Camel**	**3.66**	**60**	P	**Pb**	**04 02 34.1**	**-2.6**
KNIK	**Mula-Seydike**	**3.73**	**65**	P	**Pn**	**04 02 31.1**	**+1.8**
KNIK					S	**Sn**	**04 03 11.0**	**-2.1**
DNIZ	**Denizli-Tavas-**	**3.74**	**52**	P	**Pn**	**04 02 31.4**	**+2.0**
KIRA	**zmir-Kiraz**	**3.75**	**40**	P	**Pn**	**04 02 31.6**	**+2.0**
APMY	**Acipayam-Deniz**	**3.82**	**55**	Pn	**Pn**	**04 02 32

MBRI	Mt Berech	9.78	122		P		Pn	04 03 52.4	-0.1
MDVR	Moldovita	9.82	345	⇑	P		Pn	04 03 54.0	+1.1
SGRT	San Giovanni R	9.87	313		Pn		Pn	04 03 52.8	-0.7
EIL	Elat	9.88	122		Pn		Pn	04 03 54.7	+0.9
	2.6nm,0.3s,baz=191,slow=6.0,SNR=13								
EIL					Sn		Sn	04 05 40.8	-3.6
	0.9nm,0.3s,baz=333,slow=24,SNR=4.8								
	14nm,0.5s								
EIL	Elat	9.88	122		S		Sn	04 05 39.8	-4.6
EIL	Elat	9.88	122		P		Pn	04 03 53.5	-0.3
ASF	Jabal al Asfar	10.12	105		Pn		Pn	04 03 57.1	+0.1
	0.5nm,0.3s,baz=147,slow=21,SNR=4.6								
	1.6nm,0.5s								
MLR	Muntele Rosu	10.14	2		Pn		Pn	04 03 57.5	+0.2
MLR	Muntele Rosu	10.14	2		Pn		Pn	04 03 58.9	+1.6
	0.2nm,0.3s,baz=242,slow=7.3,SNR=4.6								
MLR					LR		LR	04 07 48.5	
	comp=Z,46nm,19.0s,baz=186,slow=38								
	3.8nm,1.0s								
MLR	Muntele Rosu	10.14	2	⇓	P		Pn	04 03 59.3	+2.0
MLR	Muntele Rosu	10.14	2		Pn		Pn	04 04 00.3	+3.0
LOT	Lotru	10.16	354	⇑	P		Pn	04 03 59.0	+1.5
PAOL	Paolisi	10.21	307		Pn		Pn	04 03 58.7	+0.5
TEKS	Tekeris	10.21	336	*e*	Pn		Pn	04 03 58.7	+0.5
GZR	Gura Zlata	10.22	350	⇑	P		Pn	04 03 58.5	+0.1
PLOR	Plostina	10.54	5	⇓	P		Pn	04 04 03.8	+1.2
VRI	Vrincioaia	10.55	5	⇓	P		Pn	04 04 04.8	+1.9
BZS	Buzias	10.64	346	⇑	P		Pn	04 04 04.3	+0.2
INTR	Introdacqua	11.14	310		Pn		Pn	04 04 10.7	-0.3
BLY	Banja Luka	11.28	329	*e*	Pn		Pn	04 04 13.1	+0.4
A050A	Klekovaca	11.35	326	*e*	Pn		Pn	04 04 12.9	-0.9
A051A	Mrakovica	11.60	329	*e*	Pn		Pn	04 04 13.8	-3.5
CAMP	Campotosto	11.74	311				Pn	04 04 17.7	-1.5
NRCA	Norcia	12.08	312		Pn		Pn	04 04 22.7	-1.1
FDMO	Fiordimonte	12.21	313		Pn		Pn	04 04 25.1	-0.6
KEST	Kesra	13.04	276		Pn		Pn	04 04 36.8	-0.2
	0.1nm,0.3s,baz=61,slow=11,SNR=4.7								
	2.8nm,0.9s								
KOLS	Kolonicke sedl	13.76	351	*e*	PN		P	04 04 56.6	+1.4
SABO	M.te Sabotino	13.85	324		Pn		Pn	04 04 46.6	-1.3
VYHS	Vyhne	13.99	342	*e*	PN		P	04 04 58.8	+1.0
PRED	Cave del Predi	14.20	325		Pn		Pn	04 04 51.5	-1.2
MODS	Modra-Piesok	14.32	338	*e*	PN		Pn	04 04 56.9	+2.5
STAL	STALIGIAL	14.48	323		Pn		Pn	04 04 53.8	-2.9
LUBAR	Lubar, Ukraine	14.67	6		Pn		P	04 05 03.3	-1.9
ABTA	Abfaltersbach	14.93	324	*e*	Pn		P	04 05 07.7	-0.5
	4.1nm,0.6s								
MAUC	Maruska	15.06	341	*e*	P		P	04 05 10.0	+0.4
KRUC	Moravsky	15.21	337	*e*	PN		P	04 05 09.9	-1.3
LESA	Schwarzleotal	15.34	326	*e*	Pn		Pn	04 05 09.6	+1.5
	0.7nm,0.3s								
VRAC	Vranov	15.36	338	*e*	PN		P	04 05 10.5	-2.5
VRAC	Vranov	15.36	338		Pn		Pn	04 05 09.3	+1.0
	0.5nm,0.3s,baz=136,slow=10,SNR=14								
VRAC					LR		LR	04 11 28.7	
	comp=Z,32nm,19.3s,baz=162,slow=39								
	2.8nm,0.6s								
VRAC	Vranov	15.36	338	⇑	P		Pn	04 05 08.5	+0.2
MORC	Moravsky Berou	15.51	341		Pn		Pn	04 05 11.7	+1.4
MORC	Moravsky Berou	15.51	341	*e*	PN		P	04 05 13.2	-1.4
KIEV	Kiev	15.59	9		PN		Pn	04 05 12.7	+1.4
KIEV					IAmb		IAmb	04 05 20.9	
	comp=Z,16nm,0.6s								
KIEV	Kiev	15.59	9	⇓	P		P	04 05 13.9	-1.6
AKASG	Malin Array Be	15.60	9		Pn		Pn	04 05 12.9	+1.6
AKASG					IAmb		IAmb	04 05 22.0	
	comp=Z,19nm,0.7s								
AKASG	Malin Array Be	15.60	9		Pn		Pn	04 05 11.3	0.0
	comp=Z,1.5nm,0.4s,baz=203,slow=11,SNR=16								
AKASG					Sn		Sn	04 08 08.6	+4.8
	baz=199,slow=21								
AKBB	Malin Array Si	15.60	9		Pn		P	04 05 13.6	-2.0
AKBB					IAmb		IAmb	04 05 20.9	
	comp=Z,19nm,0.6s								
WTTA	Wattenberg	15.71	323	*i*	Pn		P	04 05 16.3	-0.8
	comp=Z,1.7nm,0.4s								
CKRC	Cesky Krumlov	15.73	332	*e*	P		P	04 05 23.3	+6.2
CKRC					AMS		AMS	04 13 00.0	
	comp=Z,200nm,11.8s								
WATA	Walderalm	15.79	323	*e*	Pn		P	04 05 16.9	-1.0
	comp=Z,3.6nm,0.5s								
KBZ	Khabaz	15.89	53		Pn		P	04 05 18.8	-0.1
	comp=Z,0.2nm,0.3s,baz=238,slow=8.8,SNR=15								
	comp=Z,8.2nm,0.9s								
FUORN	Ofenpass-Fuorn	15.99	319		Pn		Pn	04 05 15.4	-1.3
FUORN					IAmb		IAmb	04 05 31.3	
	comp=Z,18nm,0.8s								
KRLC	Kraliky	15.99	340	*e*	P		P	04 05 19.4	-0.6
GEC2	GERESS Array S	15.99	331		Pn		Pn	04 05 17.4	+0.8
GERES	GERESS Array B	15.99	331		Pn		Pn	04 05 15.6	-1.0
GERES	GERESS Array B	15.99	331		Pn		Pn	04 05 16.6	0.0
	comp=Z,0.1nm,0.3s,baz=148,slow=11,SNR=17								
	comp=Z,2.5nm,0.8s								
FETA	Feichten	16.00	321	*e*	Pn		P	04 05 19.2	-1.1
	comp=Z,2.6nm,0.6s								
KHC	Kasperske Hory	16.27	331	*e*	P		P	04 05 23.3	+0.2
KHC					AMS		AMS	04 13 10.0	
	comp=Z,100nm,10.8s								
ZVC	Zvikov	16.29	333	*e*	P		P	04 05 26.6	+3.4
ZVC					AMS		AMS	04 13 20.0	
	comp=Z,200nm,9.7s								
DAVOX	Davos/Dischmat	16.29	319		Pn		Pn	04 05 21.2	+0.6
	comp=Z,0.5nm,0.3s,baz=150,slow=18,SNR=7.8								
DAVOX					LR		LR	04 13 47.9	
	comp=Z,18nm,21.9s,baz=88,slow=45								
	comp=Z,1.0nm,0.4s								
DPC	Dobruska-Polom	16.37	339	*e*	P		P	04 05 23.1	-1.1
DPC					AMS		AMS	04 12 50.0	
	comp=Z,100nm,13.9s								
GOPC	GO Pecny, Ondr	16.47	335	*e*	P		P	04 05 28.0	+2.7
UPC	Upice	16.60	339		AMS		AMS	04 13 10.0	
	comp=Z,100nm,11.1s								
DAVA	Damuels	16.61	321	*e*	Pn		P	04 05 27.3	+0.2
	comp=Z,4.0nm,0.7s								
PRU	Pruhonice	16.62	335		AMS		AMS	04 13 40.0	
	comp=Z,100nm,9.0s								
CHVC	Chvalec	16.66	339	*e*	P		P	04 05 30.3	+3.0
SENIN	Lac Senin/Sane	17.49	314		Pn		Pn	04 05 35.8	+0.1
BRG	Berggiesshubel	17.57	335	*e*	P		P	04 05 39.2	+1.8
BRG					Amp			04 05 43.0	
	comp=Z,4.1nm,0.9s								
CLL	Collm	18.26	335	*e*	P		P	04 05 46.0	+1.0
CLL				*es*	P		pP	04 05 49.0	-0.3
CLL				*e*	PP		PnPn	04 05 55.0	-1.3
CLL				*e*	PPP		PPP	04 06 05.0	
CLL				*es*	PPP			04 06 08.0	
SUW	Suwalki	18.72	356				Pn	04 05 51.2	+0.7
NACGM	Naroch	19.58	2	*e*	P		P	04 05 59.7	+0.3
	comp=Z,13nm,0.8s,baz=184								
CEST	Esterri de Car	20.04	298		P		P	04 06 04.5	-0.3
CEST					IAmb		IAmb	04 06 14.4	
	comp=Z,23nm,1.2s								
BHOU	Houvegnez	20.55	323	*d*	P		Pn	04 06 12.3	0.0
	comp=Z,9.6nm,1.0s								
BTNL	Ternell	20.64	323	*d*	P		Pn	04 06 13.8	+0.5
	comp=Z,6.2nm,1.0s								
MEM	Membach	20.71	323	*d*	P		P	04 06 12.1	+0.4
	comp=Z,11nm,0.9s								
BSTI	Sart Tilman	20.91	323	*d*	P		Pn	04 06 16.3	-0.2
	comp=Z,2.4nm,0.9s								
BCLA	Clavier	20.94	322	*d*	P		Pn	04 06 17.3	+0.5
	comp=Z,6.1nm,1.0s								
BGES	Gesves	21.03	322	*d*	P		P	04 06 18.8	+3.6
	comp=Z,5.4nm,1.0s								
RAYN	Ar Rayn	21.09	119		P		P	04 06 17.9	+1.7
DOU	Dourbes	21.10	321	*d*	P		P	04 06 16.0	-0.1
	comp=Z,7.4nm,1.0s								
TAM	Tamanrasset	21.33	239		P		P	04 06 19.3	+0.4
TAM					IAmb		IAmb	04 06 25.1	
	comp=Z,14nm,0.6s								
ESBB	Sonseca Array	23.60	289		P		P	04 06 42.9	+0.5
ESDC	Sonseca Array	23.60	289		P		P	04 06 41.6	-0.9
ESDC	Sonseca Array	23.60	289		P		P	04 06 42.4	-0.1
	comp=Z,2.5nm,0.6s,baz=82,slow=9.9,SNR=23								
	comp=Z,2.5nm,0.6s								
PAB	San Pablo	23.89	289		P		P	04 06 44.7	-0.6
PAB					IAmb		IAmb	04 06 52.6	
	comp=Z,8.9nm,1.1s								
HFS	Hagfors	25.93	347		P		P	04 07 04.4	+0.8
	comp=Z,2.2nm,0.6s,baz=144,slow=13,SNR=8.3								
HFS					LR		LR	04 18 10.8	
	comp=Z,57nm,18.9s,baz=52,slow=39								
	comp=Z,2.2nm,0.6s								
FINES	FINESS Array B	26.12	1		P		P	04 07 05.1	-0.1
FINES	FINESS Array B	26.12	1		P		P	04 07 07.0	+1.8
	comp=Z,6.2nm,0.8s,baz=178,slow=9.8,SNR=6.3								
FINES					LR		LR	04 17 57.5	
	comp=Z,69nm,18.3s,baz=221,slow=38								
	comp=Z,2.6nm,0.8s								
FIA1	FINESS Array S	26.12	1		P		P	04 07 06.0	+0.8
PVAQ	Vaqueiros	26.63	284		P		P	04 07 10.4	+0.2
NC602	NORSAR Array S	26.91	345		P		P	04 07 12.3	-0.1
NC602					IAmb		IAmb	04 07 13.6	
	comp=Z,21nm,1.4s								
NB2	NORSAR Subarra	27.25	345		P		P	04 07 18.7	+3.1
	comp=Z,1.3nm,0.6s,baz=160,slow=10								
NOA	NORSAR Array B	27.25	345		P		P	04 07 16.6	+1.1
	comp=Z,0.6nm,0.8s,baz=150,slow=9.3,SNR=5.7								
	comp=Z,0.6nm,0.8s								
EKA	Eskdalemuir Ar	27.98	324		P		P	04 07 20.6	-1.4
	comp=Z,1.5nm,0.4s,baz=126,slow=9.6,SNR=23								
	comp=Z,1.5nm,0.4s								
ESK	Eskdalemuir	27.99	324		P		P	04 07 21.6	-0.5
ESK					IAmb		IAmb	04 07 28.6	
	comp=Z,7.4nm,0.7s								
TORD	Torodi Ar. Bea	30.73	230		P		P	04 07 46.9	+0.1
TORD					IAmb		IAmb	04 07 48.5	
	comp=Z,3.5nm,0.9s								
TORD	Torodi Ar. Bea	30.73	230		P		P	04 07 48.1	+1.3
	comp=Z,6.9nm,0.5s,baz=31,slow=9.8,SNR=10.0								
	comp=Z,6.9nm,0.5s								
ARCES	ARCESS Array B	34.24	0		P		P	04 08 17.2	+0.2
	comp=Z,0.6nm,0.4s,baz=163,slow=8.9,SNR=6.4								
	comp=Z,0.6nm,0.4s								
KK31	Karatay Array	35.48	63		P		P	04 08 27.4	-0.6
KK31					IAmb		IAmb	04 08 29.2	
	comp=Z,3.8nm,1.1s								
KKAR	Karatay Array	35.48	63		P		P	04 08 27.4	-0.6
KKAR					IAmb		IAmb	04 08 29.2	
	comp=Z,4.0nm,1.1s								
KKAR	Karatay Array	35.48	63		P		P	04 08 28.5	+0.4
BVAR	Borovoye Array	36.10	46		P		P	04 08 33.0	-0.3
	comp=Z,0.4nm,0.3s,baz=245,slow=9.7,SNR=4.7								
	comp=Z,0.4nm,0.3s								
ARSB	Arslanbob	37.46	66		P		P	04 08 45.9	+0.8
ARSB					IAmb		IAmb	04 08 57.4	
	comp=Z,8.7nm,1.3s								
DBIC	Dimbokro	39.81	231		P		P	04 09 05.0	+0.1
DBIC	Dimbokro	39.81	231		P		P	04 09 04.9	0.0
	comp=Z,3.3nm,0.7s,baz=58,slow=6.3,SNR=3.5								
	comp=Z,3.3nm,0.7s								
KURBB	Kurtov Array	40.88	51		P		P	04 09 13.0	-0.4
	comp=Z,2.0nm,0.4s,baz=274,slow=8.6,SNR=16								
	comp=Z,2.0nm,0.4s								
KURK	Kurchatov	40.94	51		P		P	04 09 15.8	+1.9
TARG	Taragay, Kyrgy	40.99	65		P		P	04 09 15.4	+0.4
TARG					IAmb		IAmb	04 09 32.1	
	comp=Z,21nm,1.5s								
SPITS	Spitsbergen Ar	43.10	357		P		P	04 09 30.2	-1.1
	comp=Z,3.5nm,0.9s,baz=157,slow=15,SNR=7.0								
	comp=Z,3.5nm,0.9s								
MAKZ	Makanchi	43.32	57		P		P	04 09 35.1	+1.6
MK31	Makanchi Array	43.54	57		P		P	04 09 35.4	+0.1
MK31					IAmb		IAmb	04 09 48.2	
	comp=Z,2.8nm,0.6s								
MKAR	Makanchi Array	43.54	57		P		P	04 09 35.4	+0.2
MKAR	Makanchi Array	43.54	57		P		P	04 09 34.5	-0.8
	comp=Z,0.9nm,0.5s,baz=266,slow=8.4,SNR=10								
	comp=Z,0.9nm,0.5s								
KBS	Kingsbay	44.04	356		P		P	04 09 40.1	+1.3
ZAA0	Zalesovo Array	44.76	46		P		P	04 09 44.9	0.0
ZAA0					IAmb		IAmb	04 10 00.6	
	comp=Z,3.8nm,0.7s								
ZALV	Zalesovo Beam	44.76	46		P		P	04 09 44.5	-0.4
ZALV	Zalesovo Beam	44.76	46		P		P	04 09 43.6	-1.2
	comp=Z,2.0nm,0.4s,baz=272,slow=8.3,SNR=11								
	comp=Z,2.0nm,0.4s								
QNGWA	Qangwa	54.72	185		P		P	04 11 02.4	+1.3
QNGWA					IAmb		IAmb	04 11 03.2	
	comp=Z,2.5nm,0.7s								
MREMI	Moremi	57.64	178		P		P	04 11 23.6	+1.8
KOOLE	Kule	58.23	186		P		P	04 11 27.4	+1.3
LPHEP	Lephephe	58.40	179		P		P	04 11 29.3	+2.2
LPHEP					IAmb		IAmb	04 11 30.2	
	comp=Z,4.8nm,0.8s								
KDWAN	Kaudwane	58.41	181		P		P	04 11 28.4	+1.1
LBTB	Lobatse	60.04	180		P		P	04 11 40.1	+1.6
SCHQ	Schefferville	63.14	320		P		P	04 11 57.5	-1.6
	comp=Z,4.6nm,0.7s,baz=83,slow=7.3,SNR=5.5								
	comp=Z,4.6nm,0.7s								
BOSA	Boshof	63.62	180		P		P	04 12 03.2	+0.7
	comp=Z,6.3nm,0.7s,baz=351,slow=7.2,SNR=15								
	comp=Z,6.3nm,0.7s								
INK	Inuvik	75.45	352		P		P	04 13 15.8	+0.8
	comp=Z,1.0nm,0.6s,baz=45,slow=4.2,SNR=2.2								
	comp=Z,1.0nm,0.6s								
YKA	Yellowknife Ar	77.31	342		P		P	04 13 25.5	-0.2
	comp=Z,0.5nm,0.8s,baz=19,slow=5.5,SNR=4.1								
	comp=Z,0.5nm,0.8s								
KSRS	Korea Array	78.04	53		P		P	04 13 29.6	-0.6
	comp=Z,0.6nm,0.4s,baz=306,slow=5.2,SNR=4.4								
	comp=Z,0.6nm,0.4s								
ILAR	Eielson Array	80.02	357		P		P	04 13 39.8	-0.9
	comp=Z,0.4nm,0.6s,baz=338,slow=3.4,SNR=4.2								
	comp=Z,0.4nm,0.6s								
NEW	Newport	90.27	336		P		P	04 14 31.5	-0.8
	comp=Z,1.6nm,0.6s,baz=23,slow=5.6,SNR=4.2								
	comp=Z,1.6nm,0.6s								
QSPA	South Pole Qui	125.20	180		PKP		PKiKP	04 20 31.7	+0.1
	comp=Z,1.2nm,0.9s,baz=308,slow=2.0,SNR=5.1								

*HLW **04** 04:11:46.8,29˚.35N×34˚.95E,h10km, Ml2.4*
*GII **04** 04:11:46.8±0.0,29˚.320N±0˚.002×34˚.829E±0˚.001,*
h4km, Mws2.3,confirmed
*SGS **04** 04:11:48.6,29˚.35N×34˚.83E, h5km, Ml1.8*
*JSO **04** 04:11:49.1±0.0,29˚N-3˚×3˚5E±˚, h3km±5km, M2.4/6,*
Md2.8/6, ML2.1/6, MLv2.3/6, MLv2.3/6
ISC 04 04:11:47.3±1.0, 29˚36N±0˚02×34˚82E±0˚03, h17km±8km, n46, σ0˚90/61, Egypt

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
HBST	Basata	0.17	209	P	Pb	04 11 51.7	-0.2
HBST				S	Sb	04 11 55.1	+0.2
HQLS		0.22	106	S	Sg	04 11 55.7	-0.3
HQLS				P	Pb	04 11 52.8	-0.1
ELOT	Eilot	0.25	29	P	Pb	04 11 53.6	+0.2
ELOT				S	Sb	04 11 58.7	+1.2
JMOS	Jabal al Moall	0.32	127	S	Sb	04 11 59.3	+0.1
JMOS	Jabal al Moall	0.32	127	P	Pb	04 11 54.5	0.0
HAQS	Haql	0.32	165	S	Sb	04 11 59.2	-0.3
HAQS				P	Pb	04 11 54.4	-0.1
EIL	Elat	0.33	20	P	Pb	04 11 55.2	+0.5
EIL	Elat	0.33	20	S	Sb	04 12 00.3	+0.6
EIL	Elat	0.33	20	P	Pb	04 11 55.0	+0.4
NUB	Nuweibaa	0.37	205	⇑P	Pb	04 11 55.7	+0.4
BEOR	Beer Ora	0.38	22	P	Pb	04 11 55.8	+0.3
BEOR				S	Sb	04 12 02.2	+1.1
MBRI	Mt Berech	0.44	10	P	Pb	04 11 57.4	-1.5
MBRI	Mt Berech	0.44	10	S	Sn	04 12 04.3	-2.2
MBRI	Mt Berech	0.44	10	P	Pb	04 11 57.2	+0.6
ELFZ	Elifaz	0.47	21	P	Pb	04 11 57.5	+0.5
ELFZ				S	Sn	04 12 05.1	-1.9
SAMR	Samar	0.50	20	P	Pn	04 11 58.2	-1.5
SAMR				S	Sn	04 12 05.9	-1.9
YTVT	Yotvata	0.57	21	P	Pn	04 11 59.2	-1.4
YTVT				S	Sn	04 12 08.9	-0.6
HDHB	Dhahab	0.66	196	P	Pb	04 12 00.3	-0.1
LOTA	Lotan	0.67	20	P	Pn	04 12 01.0	-0.9
LOTA				S	Sn	04 12 11.7	-0.3
HRFI	Mount Harif	0.70	15	P	Pn	04 12 02.0	-0.4
HRFI	Mount Harif	0.70	15	S	Sn	04 12 12.2	-0.6
HRFI	Mount Harif	0.70	15	P	Pn	04 12 01.7	-0.7
KRMI	Paran Flat	0.76	354	P	Pn	04 12 02.9	-0.4
KRMI	Paran Flat	0.76	354	S	Sn	04 12 14.5	+0.2
KRMI	Paran Flat	0.76	354	P	Pn	04 12 02.8	-0.4
TAYS	Tayyib Ism	0.81	177	S	Sg	04 12 14.4	+0.7
TAYS				P	Pn	04 12 03.3	-0.6
JLOS		0.86	137	P	Pg	04 12 03.9	-0.1
BDAS	Al Bad`	0.96	165	P	Pn	04 12 06.0	0.0
BDAS	Al Bad`	0.96	165	S	Sg	04 12 18.9	+0.3
PRNI	Paran	1.00	9	P	Pn	04 12 07.7	+1.2
PRNI				S	Sn	04 12 21.5	+1.3
PRNI	Paran	1.00	9	S	Sn	04 12 22.2	+2.0
PRNI	Paran	1.00	9	P	Pn	04 12 06.3	-0.2
HKAT	Jabal Katrina	1.11	221	P	Pg	04 12 08.4	-0.4
HKAT				S	Sn	04 12 24.5	+1.4
ZUKM	Zukim	1.17	15	P	Pg	04 12 09.6	-0.3
ZUKM				S	Sg	04 12 26.6	+1.5
ZFRI	Zfri	1.23	14	S	Sg	04 12 28.9	+1.8
ZFRI	Zfri	1.23	14	P	Pg	04 12 10.7	-0.4
AYUS	`Aynunah	1.23	161	P	Pg	04 12 10.6	-0.5
MSPR	Moshav SAPIR	1.29	14	P	Pg	04 12 11.5	-0.7
MSPR				S	Sg	04 12 30.4	+1.4
KRABS	KRABS	1.31	163	P	Pg	04 12 12.1	-0.6
TR2	Tor 2	1.37	225	P	Pg	04 12 13.3	-0.4
IDAN	Idan	1.52	15	P	Pb	04 12 13.8	-1.2
IDAN				S	Sg	04 12 36.3	-0.1
KZIT	Kziot	1.58	347	S	Sg	04 12 38.4	0.0
KZIT	Kziot	1.58	347	P	Pb	04 12 15.6	-0.5
WTBKS	WTBKS	1.59	143	P	Pb	04 12 16.8	+0.5
URD10	Hayder	2.32	120	P	Pb	04 12 29.7	+0.9
URD11	Tayma	2.72	121	P	Pg	04 12 39.4	0.0

*IDC **04** 04:19:56.6±0.7,36˚.30N×71˚.14E,h0km,mb4.3/26,*
mbtmp4.4/30,ML4.2/4,MS3.3/5,Error ellipse:
s-maj=15.7km s-min=13.5km az=10.0
*MOS **04** 04:20:06.6±1.1,36˚.65N×70˚.99E,h86km,mb4.4/20,Error*
ellipse: s-maj=6.7km s-min=3.5km az=82.2
*NEIC **04** 04:20:07.8±1.5,36˚.63N±0˚.05×70˚.92E±0˚.05,h76km±7km,*
mb4.6/61,Error ellipse: s-maj=8.7km s-min=4.7km
az=145.0
*NNC **04** 04:20:09.0±4.0,36˚.72N×70˚.86E,h120km±66km,mb4.4,*
mpv5.0,Error ellipse: s-maj=32.8km s-min=27.7km
az=25.0
ISC 04 04:20:08.7±0.4, 36˚56N±0˚.04×71˚01E±0˚.04, h100km, n418, σ2s04/443, mb4.4/78, 17C-12D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
GAR	Garm	2.50	347		Pn	04 20 46.2	-1.7
KBL	Kabul	2.58	219		Pn	04 20 49.5	+0.5
KBL	Kabul	2.58	219	PN	Pn	04 20 49.5	+0.5
DRK	Karamyk	2.98	12		Pn	04 20 54.5	0.0
DRK	Karamyk	2.98	12	PN	Pn	04 20 54.5	0.0
NIL	Nilore	3.43	147		Pn	04 21 01.0	+0.7
NIL	Nilore	3.43	147	PN	Pn	04 21 01.0	+0.7
BTK	Batken	3.50	358		Pn	04 21 01.0	-0.2
BTK	Batken	3.50	358	PN	Pn	04 21 01.0	-0.2
KSH	Kashi	4.90	51	Pn	Pn	04 21 15.8	-4.4
KSH				Sn	Sn	04 22 06.8	-9.0
KSH				smax	smax		
	comp=N,1μm,0.9s						
KSH				smax	smax		
	comp=E,790nm,0.8s						
JMU	Jammu	4.99	139	*e*P	Pn	04 21 19.9	-1.4
JMU				*e*S	Sn	04 22 12.8	-4.9
JMU				IAML		04 22 20.8	
	comp=E,1μm,0.3s						
ARSB	Arslanbob	5.00	17		Pn	04 21 20.2	-1.3
ARSB	Arslanbob	5.00	17	PN	Pn	04 21 20.2	-1.3
IUG	Iuzhnay	5.63	353	*e*PN	Pn	04 21 28.1	-1.9
IUG	Iuzhnay	5.63	353	*e*P	Pn	04 21 28.1	-1.9
THN	Thein Dam	5.66	135	*e*P	Pn	04 21 30.6	+0.3
THN				*e*S	Sn	04 22 31.3	-2.6
THN				IAML		04 22 37.1	
	comp=E,1μm,0.4s						
CHM	Chimkent	5.86	350	*e*PN	Pn	04 21 31.2	-1.8
CHM				*e*S	Sn	04 22 37.1	-1.6
CHM	Chimkent	5.86	350	*e*P	Pn	04 21 31.3	-1.8
CHM				*e*S	Sn	04 22 37.1	-1.6
AML	Almayashu	5.94	20	P	Pn	04 21 33.8	-0.7
	SNR=200						
DHRM	DHARAMSHALA	6.13	133	*e*P	Pn	04 21 36.4	-0.5
DHRM				*e*S	Sn	04 22 44.7	-1.0
DHRM				IAML		04 22 48.7	
	comp=E,1μm,0.4s						
DHRM				IAML		04 22 49.1	
	comp=E,1μm,0.3s						
NRN	Naryn	6.23	37		Pn	04 21 37.2	-1.1
NRN	Naryn	6.23	37	PN	Pn	04 21 37.2	-1.1
UCH	Uchtor	6.28	24	P	Pn	04 21 38.6	-0

CHKK Chushkaly 8.60 30 *e*P **Pn** **04 22 08.9 -1.4**
BKNR BIKANER 8.72 167 *e*P **Pn** **04 22 09.4 -2.6**
BTLS Baital 8.78 14 *e*PN **Pn** **04 22 10.6 -2.1**
BTLS pmax pmax
comp=Z,5.0nm,0.4s
BTLS Baital 8.78 14 *e*P **Pn** **04 22 10.6 -2.1**
comp=Z,5.2nm,0.4s
KPKS Kokpek 9.06 38 *e*P **Pn** **04 22 14.9 -1.7**
KPKS Kokpek 9.06 38 *e*P **Pn** **04 22 15.0 -1.7**
ARXS Arharly 9.24 32 *e*P **Pn** **04 22 16.5 -2.6**
SHLS Shalkode 9.25 42 *e*P **Pn** **04 22 20.8 +1.6**
SHLS Shalkode 9.25 42 *e*P **Pn** **04 22 20.9 +1.6**
JOSI Joshimath 9.31 128 *e*P **Pn** **04 22 19.2 -0.9**
JOSI eS Sn 04 23 55.4 -7.7
JOSI IAML 04 24 03.4
comp=E,289nm,0.4s
PDGK Podgornoye 9.38 41 ⇓P **Pn** **04 22 19.7 -1.3**
comp=E,78nm,0.9s
PDGK Podgornoye 9.38 41 P **Pn** **04 22 19.7 -1.3**
NDI New Delhi 9.43 145 *e*P **Pn** **04 22 21.1 -0.5**
NDI eS **Sn** **04 23 58.6 -7.2**
NDI IAML 04 24 03.8
comp=E,84nm,0.3s
NDI IAML 04 24 10.2
comp=E,65nm,0.2s
NPLP NPLP New Delhi 9.45 145 *e*P **Pn** **04 22 21.4 -0.5**
NPLP eS **Sn** **04 23 59.0 -7.3**
AYAN Aya Nagar 9.56 146 *e*P **Pn** **04 22 22.9 -0.5**
AYAN eS **Sn** **04 24 01.8 -7.2**
KUDL Kundal 9.58 150 *e*P **Pn** **04 22 23.1 -0.5**
KUDL eS **Sn** **04 24 02.2 -7.2**
KUDL IAML 04 24 16.8
comp=E,59nm,0.3s
KUDL IAML 04 24 19.7
comp=E,60nm,0.3s
SONA Sohna 9.74 147 *e*P **Pn** **04 22 25.2 -0.6**
SONA eS **Sn** **04 24 08.3 -5.0**
SONA IAML 04 24 10.7
comp=E,162nm,0.3s
SONA IAML 04 24 18.9
comp=E,118nm,0.3s
TKRD Thakurdwara 9.90 136 *e*S Sn 04 24 09.0 -8.3
TDK Taldyqorghan 10.12 31 *e*P **Pn** **04 22 29.4 -1.5**
TDK Taldyqorghan 10.12 31 *e*P **Pn** **04 22 29.5 -1.5**
PTH Pithoragarh 10.41 130 *e*P **Pn** **04 22 33.5 -1.6**
PTH eS Sn 04 24 20.2 -10
PTH IAML 04 24 28.6
comp=E,76nm,0.4s
PTH IAML 04 24 38.3
comp=E,68nm,0.3s
LGTI Lohaghat 10.50 130 *e*P **Pn** **04 22 34.2 -1.9**
LGTI eS **Sn** **04 24 25.3 -6.4**
AJM Ajmer 10.51 162 *e*P **Pn** **04 22 36.4 0.0**
AJM eS **Sn** **04 24 28.2 -4.1**
JHNI Jhansi 12.79 148 *e*P **Pn** **04 23 06.8 -0.1**
JHNI eS Sn 04 25 17.5 -10
MAKZ Makanchi 13.10 35 **Pn** **04 23 08.3 -2.5**
MAKZ Makanchi 13.10 35 P **Pn** **04 23 08.3 -2.5**
MK31 Makanchi Array 13.24 36 Pn **Pn** **04 23 09.4 -3.2**
MK31 Makanchi Array 13.24 36*d i*P **Pn** **04 23 10.7 -1.9**
MK31 pmax pmax
comp=Z,30nm,0.8s
MKAR Makanchi Array 13.24 36 **Pn** **04 23 10.1 -2.5**
MKAR Makanchi Array 13.24 36 Pn **Pn** **04 23 08.8 -3.7**
comp=Z,2.3nm,0.3s,baz=222,slow=13,SNR=134
comp=Z,23nm,0.7s
BHPL Bhopal 14.38 156 IAmb IAmb 04 23 25.4
comp=Z,11nm,0.5s
BHPL *e*P **Pn** **04 23 27.5 0.0**
BHPL eS Sn 04 25 53.4 -13
ALBI Allahabad 14.53 137 eS Sn 04 25 56.7 -13
WMQ Urumqi 14.65 55 *e*P **Pn** **04 23 31.7 +0.7**
WMQ pmax pmax
comp=Z,22nm,0.9s
ZSN Zaisan 14.96 39 *e*P **Pn** **04 23 34.4 -0.3**
ZSN Zaisan 14.96 39 *e*P **Pn** **04 23 34.5 -0.3**
AB31 Akbulak array 15.04 331 Pn **Pn** **04 23 31.9 -3.8**
AB31 Akbulak array 15.04 331 ⇑P **Pn** **04 23 31.8 -3.9**
comp=Z,1.6nm,0.2s,baz=168,slow=11,SNR=200
AB31 Akbulak array 15.04 331 P **Pn** **04 23 31.9 -3.8**
ABKAR Akbulak array 15.04 331 **Pn** **04 23 32.4 -3.3**
ABKAR Akbulak array 15.04 331 Pn **Pn** **04 23 32.0 -3.7**
KURBB Kurchatov Arra 15.06 19 ⇑P **Pn** **04 23 32.3 -3.7**
comp=Z,36nm,0.7s
KURBB Kurchatov Arra 15.06 19 Pn **Pn** **04 23 31.2 -4.8**
comp=Z,0.2nm,0.3s,baz=209,slow=12,SNR=16
KURBB Lg Lg 04 28 02.6
comp=Z,0.1nm,0.3s,baz=212,slow=26,SNR=7.1
comp=Z,2.4nm,0.7s
KURK Kurchatov 15.17 19 **Pn** **04 23 35.9 -1.5**
KURK IAmb IAmb 04 23 43.1
comp=Z,34nm,0.8s
KURK Kurchatov 15.17 19 *i* P **Pn** **04 23 33.2 -4.2**
BVA0 Borovoye Array 16.47 359 *i* P **Pn** **04 23 50.5 -3.1**
BVAR Borovoye Array 16.47 359 Pn **Pn** **04 23 49.7 -3.9**
comp=Z,0.5nm,0.3s,baz=173,slow=13,SNR=46
BVAR LR LR 04 30 38.6
comp=Z,154nm,19.9s,baz=186,slow=38
comp=Z,9.8nm,0.5s
BRVK Borovoye 16.51 358 **Pn** **04 23 52.0 -2.0**
BRVK IAmb IAmb 04 23 56.5
comp=Z,24nm,0.7s
BRVK Borovoye 16.51 358*c i*P **Pn** **04 23 51.0 -3.0**
BRVK pmax pmax
comp=Z,47nm,1.3s
AKTO Aktyubinsk 16.74 330 ⇓P **P** **04 23 56.0 -1.4**
comp=Z,20nm,0.7s
AKTO Aktyubinsk 16.74 330 Pn **Pn** **04 23 54.6 -2.2**
comp=Z,3.6nm,0.3s,baz=135,slow=8.7,SNR=28
AKTO Sn Sn 04 26 50.6 -12
comp=Z,2.6nm,0.3s,baz=234,slow=22,SNR=6.1
comp=Z,34nm,0.6s
AKT Akhty 18.73 292 *e*P **Pn** **04 24 21.4 +0.3**
AKT eS **Sn** **04 27 48.2 -2.5**
AKT pmax pmax
comp=Z,6.0nm,0.3s
AKT smax smax
comp=E,7.0nm,0.2s
AKT smax smax
comp=N,11nm,0.4s
GOMU GeErMu 19.16 84 P **Pn** **04 24 27.5 +1.0**
GOMU pP P 04 24 32.4 +7.8
GOMU sP pP 04 24 35.5 -9.1
GOMU pmax pmax
comp=Z,4.0nm,0.8s
ZAA0 Zalesovo Array 19.86 25 P **P** **04 24 31.5 -0.1**
ZALV Zalesovo Beam 19.86 25 P **Pn** **04 24 31.9 -2.2**
ZALV Zalesovo Beam 19.86 25 P **P** **04 24 31.1 -0.4**
comp=Z,49nm,0.5s,baz=218,slow=11,SNR=178
comp=Z,49nm,0.5s
GNI Garni 20.89 288 P Pn 04 24 43.0 -3.4
comp=Z,4.6nm,0.4s,baz=150,slow=17,SNR=3.1
GNI LR LR 04 34 49.9
comp=Z,39nm,18.2s,baz=91,slow=42
comp=Z,4.6nm,0.4s
GNI Garni 20.89 288⇑ *e*P **P** **04 24 41.4 -1.6**
GNI pmax pmax
comp=Z,14nm,1.0s
SHL Shillong 20.92 116 P **P** **04 24 41.1 -2.4**
SHL IAmb IAmb 04 25 15.8
comp=Z,15nm,0.6s
SHL Shillong 20.92 116 P **P** **04 24 41.1 -2.4**
SHL pmax pmax
comp=Z,15nm,0.6s
SVE Sverdlovsk 21.44 344 *e*P **P** **04 24 49.0 +0.5**
SVE pmax pmax
comp=Z,25nm,0.9s
ARTI Arti 21.59 341 P **P** **04 24 49.8 -0.4**
ARTI IAmb IAmb 04 25 15.6
comp=Z,22nm,0.5s
ARTI Arti 21.59 341 P **P** **04 24 50.8 +0.6**
comp=Z,18nm,0.9s,baz=155,slow=6.2,SNR=10.0
ARTI LR LR 04 34 00.4
comp=Z,117nm,18.0s,baz=253,slow=39
comp=Z,18nm,0.9s
ARTI Arti 21.59 341*d i*P **P** **04 24 50.7 +0.6**
ARTI 04 25 14.9
ARTI S **S** **04 28 45.8 +2.4**
ARTI pmax pmax
comp=Z,23nm,1.0s
KARS Kars 22.17 289 P **P** **04 24 56.6 0.0**
KARS Kars 22.17 289 P **P** **04 24 56.6 0.0**
KARS pmax pmax
comp=Z,25nm,0.6s
KBZ Khabaz 22.59 297 P **P** **04 25 01.5 +0.9**
comp=Z,1.7nm,0.6s,baz=118,slow=10.0,SNR=5.6
KBZ LR LR 04 36 23.7
comp=Z,30nm,19.6s,baz=97,slow=43
comp=Z,1.7nm,0.6s
KBZ Khabaz 22.59 297*de*P **P** **04 25 01.7 +1.0**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 22.77 298 P **P** **04 25 00.1 -2.6**
KIV Kislovodsk 22.77 298 *e*P **P** **04 24 59.6 -3.1**
KIV *e*S **S** **04 29 03.0 -1.0**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,30nm,14.0s
GTA Gaotai 22.84 74 P **P** **04 25 04.7 +1.2**
GTA sP sP 04 25 33.2 -4.5
GTA pmax pmax
comp=Z,22nm,1.0s
BELG Belogornoye 22.85 321*de*P **P** **04 25 03.1 -0.1**
BELG pmax pmax
comp=Z,5.0nm,1.4s
VRH Novokhopyorsk 25.48 314 *e*P **P** **04 25 27.2 -0.1**
VRH pmax pmax
comp=Z,4.0nm,1.0s
KIRV Kirov 26.19 334*ce*P **P** **04 25 34.9 +1.3**
LZH Lanzhou 26.39 81 *e*P **P** **04 25 41.1 +5.2**
LZH sP sP 04 26 10.0 -1.8
LZH pmax pmax
comp=Z,23nm,0.8s
ZAK Zakamensk 26.94 49 *e*P **P** **04 25 41.6 +1.0**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
VSR Storozhevoye 26.97 313 *e*P **P** **04 25 40.4 -0.3**
VSR pmax pmax
comp=Z,4.0nm,1.0s
GAZ Gaziantep 26.97 282 P **P** **04 25 42.3 +1.3**
SONM Songino Array 28.29 55 P **P** **04 25 53.2 +0.4**
SONM Songino Array 28.29 55 P **P** **04 25 52.5 -0.2**
comp=Z,2.6nm,0.5s,baz=260,slow=10,SNR=10
comp=Z,2.6nm,0.5s
ULN Ulaanbaatar 28.73 55 P **P** **04 25 56.2 -0.5**
ULN Ulaanbaatar 28.73 55*de*P **P** **04 25 58.3 +1.6**
ULN pmax pmax
comp=Z,2.0nm,0.8s
BR131 Keskin Array S 29.43 288 P **P** **04 26 01.8 -1.1**
BR131 Keskin Array S 29.43 288 P **P** **04 26 01.8 -1.1**
BR131 pmax pmax
comp=Z,3.0nm,1.1s
BRTR Keskin Array B 29.43 288 P **P** **04 26 03.2 +0.3**
BRTR Keskin Array B 29.43 288 P **P** **04 26 04.0 +1.1**
comp=Z,0.6nm,0.6s,baz=112,slow=8.5,SNR=3.9
comp=Z,0.6nm,0.6s
BRTR Keskin Array B 29.43 288 P **P** **04 26 03.2 +0.3**
OBN Obninsk 29.90 319*de*P **P** **04 26 08.3 +1.6**
OBN *e**SP **pP** **04 26 31.8 +2.1**
OBN *e* 04 27 03.6
OBN pmax pmax
comp=Z,5.0nm,0.5s
PALK Pallekele 30.46 161 LR LR 04 37 28.7
comp=Z,79nm,20.0s,baz=326,slow=35
CMAR Chiang Mai Arr 30.47 119 P **P** **04 26 12.3 +0.2**
CMAR Chiang Mai Arr 30.47 119 P **P** **04 26 12.3 +0.2**
XAN Xi'an 30.91 83 P **P** **04 26 17.6 +1.7**
XAN pmax pmax
comp=Z,8.0nm,0.7s
KLMR Klimovskoe 31.44 331 *e*P **P** **04 26 18.2 -1.9**
KLMR pmax pmax
comp=Z,16nm,1.1s
HHC Hu-ho-hao-te 31.73 70 *e*P **P** **04 26 25.7 +2.5**
HHC pmax pmax
comp=Z,14nm,0.6s
AKASG Malin Array Be 32.92 309 P **P** **04 26 34.3 +1.1**
comp=Z,2.7nm,0.6s,baz=83,slow=7.1,SNR=15
comp=Z,2.7nm,0.6s
AKASG Malin Array Be 32.92 309*ce*P **P** **04 26 34.2 +1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKBB Malin Array Si 32.92 309*de*P **P** **04 26 34.7 +1.5**
MNK Minsk 34.47 315 *i* P **P** **04 26 44.9 -1.8**
comp=Z,70nm,0.8s,baz=103
MNK *i* pP **pP** **04 27 03.4 -6.4**
MNK *i* sP sP 04 27 13.3 -8.3
MNK *i* PP **PnPn** **04 28 02.4 -2.5**
MNK *i* S **S** **04 32 08.0 +0.5**
MNK *i* sS **sS** **04 32 41.0 -7.6**
MNK *i* SS **SnSn** **04 34 26.4 -2.3**
MNK *i* LR LR 04 40 57.3
MNK Minsk 34.47 315 *i* P **P** **04 26 44.8 -1.8**
MNK *i* *PP **pP** **04 27 03.3 -6.4**
MNK *i* *SP sP 04 27 13.2 -8.3
MNK *i* 04 28 02.4
MNK *i* S **S** **04 32 08.0 +0.5**
MNK *i* *SS **sS** **04 32 41.0 -7.6**
MNK *i* SS **SnSn** **04 34 26.3 -2.3**
MNK pmax pmax
comp=Z,7.0nm,0.8s
VSU Vasula 36.15 322*de*P **P** **04 27 00.3 -0.6**
VSU pmax pmax
comp=Z,24nm,0.9s
KOLS Kolonicke sedl 37.25 305 *e*P P 04 27 14.0 +3.5
KOLS Kolonicke sedl 37.25 305 *e*P P 04 27 14.0 +3.5
KOLS *e* 04 42 49.7
FIA1 FINESS Array S 37.44 326 P **P** **04 27 12.9 +1.0**
FINES FINESS Array B 37.44 326 P **P** **04 27 12.9 +1.0**
FINES FINESS Array B 37.44 326 P **P** **04 27 13.6 +1.7**
comp=Z,3.9nm,0.6s,baz=112,slow=9.6,SNR=22
comp=Z,3.9nm,0.6s
NJ2 Nanjing 39.45 82 *e*P **P** **04 27 29.7 +0.6**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
MODS Modra-Piesok 40.58 304 *e*P **P** **04 27 40.2 +1.9**
MODS Modra-Piesok 40.58 304 *e*P **P** **04 27 40.2 +1.9**
KEV Kevo 40.75 338 P **P** **04 27 39.3 -0.1**
KEV Kevo 40.75 338 P **P** **04 27 39.3 -0.1**
KEV pmax pmax
comp=Z,44nm,1.5s
ARA0 ARCESS Array S 41.10 338 *e*P **P** **04 27 44.2 +2.0**
ARCES ARCESS Array B 41.10 338 P **P** **04 27 42.7 +0.5**
ARCES IAmb IAmb 04 27 45.0
comp=Z,13nm,1.0s
ARCES ARCESS Array B 41.10 338 P **P** **04 27 44.1 +1.9**
comp=Z,8.4nm,0.5s,baz=113,slow=8.3,SNR=64
comp=Z,8.4nm,0.5s
ARCES ARCESS Array B 41.10 338 P **P** **04 27 42.7 +0.5**
ARCES pmax pmax
comp=Z,13nm,1.0s
BLEU Blekinge 41.54 316 *e*P **P** **04 27 47.3 +1.3**
KTK1 Kautokeino 41.57 336 *e*P **P** **04 27 47.6 +1.5**
ZEA Zeya 42.02 48 *e*P **P** **04 27 52.2 +2.3**
HAMF Hammerfest 42.18 339 *e*P **P** **04 27 53.0 +2.0**
HEH HeiHe 42.20 53 ⇑P **P** **04 27 52.7 +1.2**
HEH pmax pmax
comp=Z,23nm,0.6s
DEL Delary 42.63 317 *e*P **P** **04 27 56.6 +1.8**
JETT Jettan, Norway 42.71 336 *e*P **P** **04 27 57.0 +1.6**
CUC Castrocucco 42.89 292 P **P** **04 27 59.8 +2.6**
CUC IAmb IAmb 04 28 00.8
comp=Z,4.5nm,0.7s
GERES GERESS Array B 42.91 305 P **P** **04 27 56.9 -0.4**
GERES GERESS Array B 42.91 305 P **P** **04 27 59.3 +2.0**
comp=Z,0.2nm,0.5s,baz=83,slow=11,SNR=3.4
comp=Z,0.2nm,0.5s
GERES GERESS Array B 42.91 305 P **P** **04 27 56.9 -0.4**
HFS Hagfors 43.03 322 P **P** **04 27 59.5 +1.5**
comp=Z,7.7nm,0.5s,baz=98,slow=11,SNR=33
comp=Z,7.7nm,0.5s
TRO Tromso 43.22 336 *e*P **P** **04 28 01.3 +1.9**
FAUS Fauske 43.76 332 *e*P **P** **04 28 05.6 +1.9**
MOR8 Moi Rana 43.77 331 *e*P **P** **04 28 05.0 +1.1**
YAK Yakutsk 43.91 35*ce*P **P** **04 28 05.2 +0.2**
YAK pmax pmax
comp=Z,17nm,0.5s
STEI Steigen 43.93 333 *e*P **P** **04 28 06.7 +1.6**
LEIR Leirfjorden 44.28 330 *e*P **P** **04 28 08.6 +0.7**
NC303 NORSAR Array S 44.28 323 P **P** **04 28 09.6 +1.6**
NB2 NORSAR Subarra 44.34 323 P **P** **04 28 09.8 +1.2**
comp=Z,3.4nm,0.6s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.34 323 P **P** **04 28 09.8 +1.2**
baz=96,slow=7.9
NOA NORSAR Array B 44.34 323 P **P** **04 28 09.8 +1.2**
comp=Z,6.7nm,0.8s,baz=97,slow=7.8,SNR=27
comp=Z,6.7nm,0.8s
VAGH Vaagaholmen 44.36 331 *e*P **P** **04 28 10.6 +2.1**
KONS Konsvik 44.37 331 *e*P **P** **04 28 09.9 +1.4**
STOK Stokkvaagen 44.37 331 *e*P **P** **04 28 09.6 +1.0**
NBO00 NORSAR Array S 44.55 323 P **P** **04 28 10.4 +0.2**
NBO00 IAmb IAmb 04 28 53.3
comp=Z,11nm,0.9s
NC204 NORSAR Array S 44.58 323 P **P** **04 28 10.7 +0.2**
KSRS Korea Array 44.85 71 P **P** **04 28 13.1 +0.2**
comp=Z,0.9nm,0.5s,baz=282,slow=6.1,SNR=5.0
comp=Z,0.9nm,0.5s
USA0B Usuriysk Arra 46.13 61⇑ *e*P **P** **04 28 23.0 +0.1**
SPITS Spitsbergen Ar 47.44 347 P **P** **04 28 34.5 +1.8**
comp=Z,1.6nm,0.5s,baz=120,slow=14,SNR=5.8
comp=Z,1.6nm,0.5s
EKA Eskdalemuir Ar 52.25 316 P **P** **04 29 10.8 +1.4**
comp=Z,1.7nm,0.6s,baz=72,slow=6.7,SNR=11
comp=Z,1.7nm,0.6s
NOR Nord 53.75 350 *i* P P 04 29 25.1 +5.2
NOR IAmb IAmb 04 29 26.6
comp=Z,2.6nm,0.9s
SEY Seymchan 54.36 34⇑ *e*P **P** **04 29 26.2 +1.5**
SEY pmax pmax
comp=Z,3.0nm,1.0s
DAG Danmarks Havn 54.68 344 *i* P **P** **04 29 28.7 +2.0**
DAG IAmb IAmb 04 29 29.4
comp=Z,5.4nm,0.8s
DBG Daneborg 55.53 341 *i* P **P** **04 29 35.5 +2.6**
DBG IAmb IAmb 04 29 36.1
comp=Z,2.5nm,0.6s
ESDC Sonseca Array 57.44 298 P **P** **04 29 47.5 +0.4**
comp=Z,0.8nm,0.6s,baz=60,slow=7.3,SNR=8.5
comp=Z,0.8nm,0.6s
BILL Bilibino 58.55 26⇑ *e*P **P** **04 29 56.2 +1.9**
BILL pmax pmax
comp=Z,4.0nm,1.1s
NEEM North Greenlan 60.98 348 *i* P **P** **04 30 13.1 +1.9**
NEEM IAmb IAmb 04 30 14.3
comp=Z,3.3nm,0.7s
SUMG Summit 61.01 341 P **P** **04 30 13.3 +1.8**
SUMG Summit 61.01 341 P **P** **04 30 13.3 +1.8**
SUMG pmax pmax
comp=Z,10.0nm,0.9s
SUMG Summit 61.01 341 *i* P **P** **04 30 13.0 +1.4**
SUMG IAmb IAmb 04 30 15.3
comp=Z,9.3nm,0.8s
A19K Wainwright 67.11 17 P **P** **04 30 51.6 +0.7**
baz=316
A21K Barrow 67.26 15 P **P** **04 30 52.1 +0.2**
baz=320
C16K Lisburne Hills 67.40 20 P **P** **04 30 53.7 +0.9**
baz=314
B18K Kokolik River 67.54 18 P **P** **04 30 54.6 +0.9**
baz=316
C17K DeLong Mountai 67.83 19 P **P** **04 30 56.3 +0.7**
baz=315
A22K Sinclair Lake 67.84 15 P **P** **04 30 56.0 +0.5**
baz=321
B20K Meade River 68.15 16 P **P** **04 30 57.8 +0.3**
baz=320
RDOG Red Dog Mine 68.20 19 P **P** **04 30 58.4 +0.5**
baz=316
C18K Utukok River 68.21 18 P **P** **04 30 58.5 +0.5**
baz=317
C19K Lookout Ridge 68.27 17 P **P** **04 30 59.3 +0.9**
baz=318
D17K Noatak River 68.41 19 P **P** **04 31 00.2 +1.0**
baz=316
GAMB Gambell 68.45 25 P **P** **04 30 59.5 +0.1**
baz=310
TNA Tin City 68.50 23 P **P** **04 31 00.0 +0.3**
baz=312
RES Resolute Bay 68.64 356 P **P** **04 31 02.0 +1.5**
comp=Z,2.6nm,0.9s,baz=24,slow=7.5,SNR=5.3
comp=Z,2.6nm,0.9s
B22K Teshekpuk Lake 68.69 15 P **P** **04 31 00.5 -0.3**
baz=323
F14K Arctic Creek 69.05 22 P **P** **04 31 03.8 +0.6**
baz=314
D19K Kuna River 69.08 17 P **P** **04 31 04.0 +0.6**
baz=319
E17K Hotham Inlet 69.19 20 P **P** **04 31 04.5 +0.4**
baz=317
E18K Tukpahlearik C 69.27 19 P **P** **04 31 04.5 0.0**
baz=318
D20K Etivluk River 69.27 17 P **P** **04 31 05.7 +1.2**
baz=321
C21K Knifeblade Rid 69.34 16 P **P** **04 31 05.1 +0.2**
baz=322
F15K North Star Dit 69.39 21 P **P** **04 31 05.3 0.0**
baz=315
C23K Itkillik River 69.66 14 P **P** **04 31 07.3 +0.4**
baz=325
E20K Nigu River 69.72 17 P **P** **04 31 07.6 +0.2**
baz=321
F17K Baldwin Pennin 69.82 20 P **P** **04 31 08.1 +0.2**
baz=317
ANM Nome 69.98 23 P **P** **04 31 09.2 +0.3**
baz=315
D22K Ayikyak River 70.02 15 P **P** **04 31 09.0 -0.1**
baz=324
G15K Niukluk 70.08 22 P **P** **04 31 10.1 +0.6**
baz=316
E21K Killik River 70.09 16 P **P** **04 31 09.6 0.0**
baz=323
E19K Redstone River 70.10 18 P **P** **04 31 09.7 +0.1**
baz=320
C24K Franklin Bluff 70.13 14 P **P** **04 31 09.6 -0.1**
baz=327
F18K Selawik 70.13 19 P **P** **04 31 10.5 +0.7**
baz=319
G16K Koyuk River 70.28 21 P **P** **04 31 11.8 +1.0**
baz=317
D23K Nanushuk River 70.37 15 P **P** **04 31 11.9 +0.6**
baz=325
F19K Shaleruckik Mo 70.44 18 P **P** **04 31 12.6 +0.9**
F19K Shaleruckik Mo 70.44 18 P **P** **04 31 12.1 +0.4**
baz=320
D24K Happy Valley 70.58 14 P **P** **04 31 12.7 +0.2**
baz=327
C26K Camden Bay 70.65 12 P **P** **04 31 13.5 +0.6**
baz=330
G17K Kiwalik Mounta 70.68 20 P **P** **04 31 14.4 +1.2**
baz=318
F20K Avaraart Lake 70.78 18 P **P** **04 31 15.0 +1.2**
baz=322
E22K Anaktuvuk Pass 70.81 16 P **P** **04 31 13.3 -0.7**
baz=325
TOLK Toolik Lake Re 70.86 15 **P** **04 31 15.7 +1.3**
TOLK IAmb IAmb 04 31 17.4
comp=Z,6.3nm,0.7s
TOLK Toolik Lake Re 70.86 15 P **P** **04 31 14.1 -0.2**
baz=326
D25K Kavik River 70.91 13 P **P** **04 31 13.8 -0.7**
baz=329
G18K Tagagawik 70.93 19 P **P** **04 31 14.3 -0.4**
baz=320
C27K Jago River 71.11 12 P **P** **04 31 17.9 +2.1**
C27K Jago River 71.11 12 P **P** **04 31 15.8 +0.1**
baz=331
A36M Sachs Harbour 71.15 5 P **P** **04 31 17.5 +1.6**
baz=346,SNR=9.2
G19K Purcell Mounta 71.15 19 P **P** **04 31 17.6 +1.5**
G19K IAmb IAmb 04 31 18.7
comp=Z,5.7nm,1.0s
F21K Alatna River 71.18 17 P **P** **04 31 17.7 +1.5**
F21K IAmb IAmb 04 31 31.8
comp=Z,9.3nm,1.4s
F21K Alatna River 71.18 17 P **P** **04 31 16.5 +0.3**
baz=324
F22K John River 71.25 16 P **P** **04 31 16.9 +0.3**
baz=324
E23K Chandalar 71.34 15 P **P** **04 31 19.2 +1.9**
baz=326
E24K Your Creek 71.56 15 P **P** **04 31 20.8 +2.2**
baz=327
H18K Honhosa River 71.58 20 P **P** **04 31 18.7 +0.1**
baz=320
H19K Roundabout Mou 71.80 19 P **P** **04 31 21.5 +1.6**
baz=322
J14K Nanvaranak Lak 71.84 23 P **P** **04 31 21.6 +1.4**
baz=316
G22K Bettles 71.88 16 P **P** **04 31 22.2 +1.9**
baz=325
I17K Unalakleet 71.88 21 P **P** **04 31 21.3 +0.9**
baz=318
D27M Malcolm River 71.91 11 P **P** **04 31 21.6 +1.0**
baz=333
COLD Coldfoot 71.91 16 P **P** **04 31 22.4 +1.8**
baz=326
E25K Arctic Village 72.09 14 P **P** **04 31 23.9 +2.3**

	baz=330						
IMAR	Indian Mountai	72.11	18	P	P	04 31 23.2	+1.4
F24K	Squaw Lake	72.16	15	P	P	04 31 23.3	+1.3
	baz=328						
H20K	Anotleneega Mo	72.23	18	P	P	04 31 24.6	+2.1
	baz=323						
J16K	Anvik River	72.36	22	P	P	04 31 25.2	+1.9
	baz=319						
G23K	Bananza Creek	72.38	16	P	P	04 31 24.7	+1.3
	baz=326						
ILON	Igloolik, Nuna	72.50	350	P	P	04 31 25.8	+1.8
ILON				IAmb	IAmb	04 31 41.0	
	comp=Z,6.3nm,1.3s						
F25K	Christian Rive	72.54	14	P	P	04 31 26.8	+2.5
	baz=330						
H21K	Melozitna Rive	72.61	18	P	P	04 31 26.8	+2.1
	baz=324						
E28M	Babbage River	72.71	11	P	P	04 31 27.3	+2.0
	baz=335						
J17K	VABM Dome	72.72	21	P	P	04 31 26.8	+1.4
	baz=320						
F26K	Sheenjek River	72.73	13	P	P	04 31 26.7	+1.3
	baz=331						
E27K	Coleen River	72.75	12	P	P	04 31 27.3	+1.8
	baz=333						
H22K	Ishtalitna Cre	72.75	17	P	P	04 31 27.7	+2.0
	baz=326						
BMAR	Burnt Mountain	72.88	14	P	P	04 31 28.8	+2.4
G24K	Hadweenzic Riv	72.94	15	P	P	04 31 28.0	+1.3
	baz=328						
E29M	Blow River	73.16	11	P	P	04 31 29.2	+1.3
	baz=336						
J19K	Poorman	73.23	20		P	04 31 30.1	+1.7
J19K	Poorman	73.23	20	P	P	04 31 30.5	+2.1
	baz=322						
H23K	Yukon River	73.23	16	P	P	04 31 30.0	+1.5
H23K	Yukon River	73.23	16	P	P	04 31 29.5	+1.0
	baz=327						
L15K	Ungalak Mounta	73.29	23	P	P	04 31 31.2	+2.4
	baz=318						
J18K	Innoko River	73.34	20	P	P	04 31 31.5	+2.3
	baz=322						
G26K	Porcupine Rive	73.45	14	P	P	04 31 32.3	+2.6
	baz=332						
J20K	Nowinta River	73.47	19	P	P	04 31 31.9	+2.1
	baz=324						
K17K	Iditarod	73.47	21	P	P	04 31 31.2	+1.3
K17K				IAmb	IAmb	04 31 55.2	
	comp=Z,4.9nm,1.0s						
K17K	Iditarod	73.47	21	P	P	04 31 31.7	+1.9
	baz=321						
F28M	Old Crow	73.55	12	P	P	04 31 31.8	+1.5
	baz=335						
H24K	Noodor Dome	73.59	16	P	P	04 31 33.1	+2.5
	baz=328						
H25L	Birch Creek	73.65	15	P	P	04 31 32.9	+2.1
	baz=330						
I23K	Minto, Yukon-K	73.84	17	P	P	04 31 33.9	+1.9
I23K	Minto, Yukon-K	73.84	17	P	P	04 31 33.3	+1.4
	baz=327						
INK	Inuvik	73.85	9		P	04 31 34.3	+2.3
INK	Inuvik	73.85	9	P	P	04 31 34.0	+2.1
	comp=Z,6.1nm,0.5s,baz=352,slow=5.7,SNR=32						
	comp=Z,6.1nm,0.5s						
INK	Inuvik	73.85	9	P	P	04 31 34.0	+2.1
INK	Inuvik	73.85	9	P	P	04 31 34.0	+2.1
	baz=340,SNR=15						
L16K	Owhat River	73.90	22	P	P	04 31 34.0	+1.6
	baz=320						
G27K	Doyon Strip	73.97	13		P	04 31 35.2	+2.4
G27K	Doyon Strip	73.97	13	P	P	04 31 34.1	+1.3
	baz=333,SNR=7.7						
K20K	Telida	74.16	19	P	P	04 31 35.2	+1.3
K20K				IAmb	IAmb	04 31 37.9	
	comp=Z,11nm,1.4s						
K20K	Telida	74.16	19	P	P	04 31 34.7	+0.8
	baz=324						
CHUM	Lake Minchumin	74.18	18	P	P	04 31 35.8	+1.9
	baz=325						
F30M	Barrier River	74.19	10		P	04 31 35.9	+1.9
F30M				IAmb	IAmb	04 31 37.2	
	comp=Z,6.8nm,0.7s						
F30M	Barrier River	74.19	10	P	P	04 31 35.3	+1.3
	baz=338						
BPAW	Bear Paw Mtn.	74.34	18	P	P	04 31 36.5	+1.5
	baz=326						
NEA2	Nenana	74.38	17	P	P	04 31 35.2	+0.1
	baz=328						
COLA	College	74.42	16	*e*P	P	04 31 36.8	+1.5
COLA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
G29M	Pine Creek	74.49	11	P	P	04 31 36.8	+1.0
	baz=336						
H27K	Steamboat Moun	74.51	13		P	04 31 37.8	+1.9
H27K	Steamboat Moun	74.51	13	P	P	04 31 37.7	+1.7
	baz=333						
CAST	Castle Rocks	74.62	19		P	04 31 37.5	+0.9
CAST				IAmb	IAmb	04 31 45.0	
	comp=Z,5.8nm,0.9s						
CAST	Castle Rocks	74.62	19	P	P	04 31 38.0	+1.4
	baz=325,SNR=5.3						
F31M	Tsiigehtchic	74.63	10		P	04 31 38.3	+1.8
F31M				IAmb	IAmb	04 31 39.5	
	comp=Z,8.8nm,0.8s						
F31M	Tsiigehtchic	74.63	10	P	P	04 31 37.8	+1.3
	baz=340,SNR=6.5						
G30M	tAoh Zrail Nji	74.71	11	P	P	04 31 38.9	+1.8
G30M				IAmb	IAmb	04 31 40.5	
	comp=Z,13nm,1.4s						
G30M	tAoh Zrail Nji	74.71	11	P	P	04 31 39.0	+2.0
	baz=338						
DBIC	Dimbokro	74.71	267	P	P	04 31 38.6	+0.7
	comp=Z,4.2nm,0.7s,baz=38,slow=7.7,SNR=4.9						
	comp=Z,4.2nm,0.7s						
ILAR	Eielson Array	74.72	16		P	04 31 37.9	+0.8
ILAR	Eielson Array	74.72	16	P	P	04 31 37.8	+0.6
	comp=Z,1.9nm,1.0s,baz=321,slow=4.8,SNR=12						
	comp=Z,1.9nm,1.0s						
M17K	Holitna River	74.76	22	P	P	04 31 39.2	+1.9
	baz=322						
L20K	Farewell, AK	74.92	20	P	P	04 31 39.9	+1.5
	baz=324						
PPLA	Purkeypile	75.03	19	P	P	04 31 40.5	+1.4
	baz=325						
I26K	Coal Creek Min	75.03	14	P	P	04 31 40.2	+1.3
	baz=332						
G31M	Satah River	75.05	10		P	04 31 40.7	+1.8
G31M				IAmb	IAmb	04 31 41.7	
	comp=Z,6.4nm,0.7s						
G31M	Satah River	75.05	10	P	P	04 31 40.1	+1.2
	baz=339,SNR=7.0						
I27K	Kandik River	75.06	13	P	P	04 31 40.1	+1.0
	baz=333,SNR=5.2						
H29M	Whitestone	75.07	12	P	P	04 31 41.1	+2.0
H29M				IAmb	IAmb	04 31 42.4	
	comp=Z,6.6nm,0.6s						
H29M	Whitestone	75.07	12	P	P	04 31 41.1	+2.0
	baz=336,SNR=7.2						
J25K	Salcha River,	75.19	15	P	P	04 31 41.1	+1.2
	baz=330						
EPYK	Eagle Plains	75.20	11	P	P	04 31 41.1	+1.2
	baz=337						
I28M	Miner Creek	75.51	13		P	04 31 43.3	+1.6
I28M				IAmb	IAmb	04 31 44.5	
	comp=Z,4.9nm,0.8s						
I28M	Miner Creek	75.51	13	P	P	04 31 42.7	+0.9
	baz=335,SNR=5.8						
J26L	Joseph Creek	75.66	15		P	04 31 43.9	+1.3
J26L				IAmb	IAmb	04 31 45.9	
	comp=Z,9.0nm,1.5s						
J26L	Joseph Creek	75.66	15	P	P	04 31 44.8	+2.2
	baz=332						
K24K	Donnelly Dome	75.80	16	P	P	04 31 44.2	+0.8
K24K				IAmb	IAmb	04 31 45.6	
	comp=Z,7.5nm,0.7s						
K24K	Donnelly Dome	75.80	16	P	P	04 31 44.4	+1.0
	baz=330						
I29M	Ogilvie Camp,	75.87	12	P	P	04 31 45.2	+1.5
I29M				IAmb	IAmb	04 31 46.2	
	comp=Z,5.7nm,1.1s						
I29M	Ogilvie Camp,	75.87	12	P	P	04 31 45.2	+1.5
	baz=336,SNR=6.6						
SKT	Skwentna	75.96	19	P	P	04 31 45.5	+1.2
SKT				IAmb	IAmb	04 31 47.0	
	comp=Z,5.6nm,1.1s						
SKT	Skwentna	75.96	19	P	P	04 31 45.1	+0.8
	baz=326						
SCRK	Sand Creek	76.04	15	P	P	04 31 46.0	+1.1
	baz=332						
RIDG	Independent Ri	76.06	16	P	P	04 31 46.1	+1.2
	baz=331						
DHY	Denali Highway	76.07	17	P	P	04 31 46.4	+1.3
DHY	Denali Highway	76.07	17	P	P	04 31 45.9	+0.9
	baz=329						
H31M	Peel River	76.09	10		P	04 31 46.6	+1.6
H31M				IAmb	IAmb	04 31 47.6	
	comp=Z,6.8nm,0.6s						
H31M	Peel River	76.09	10	P	P	04 31 45.9	+1.0
	baz=339,SNR=7.9						
I30M	Mount Dempster	76.32	12		P	04 31 47.9	+1.5
I30M				IAmb	IAmb	04 31 49.7	
	comp=Z,5.4nm,0.9s						
I30M	Mount Dempster	76.32	12	P	P	04 31 47.6	+1.2
	baz=338,SNR=9.7						
K27K	Chicken	76.38	14	P	P	04 31 49.1	+2.5
	baz=333						
WAT6	Susitna Watana	76.41	17	P	P	04 31 48.6	+1.6
	baz=329						
PAX	Paxson	76.60	16	P	P	04 31 49.3	+1.3
PAX				IAmb	IAmb	04 31 51.1	
	comp=Z,7.1nm,1.4s						
PAX	Paxson	76.60	16	P	P	04 31 49.3	+1.3
PAX				pmax	pmax		
	comp=Z,7.0nm,1.4s						
PAX	Paxson	76.60	16	P	P	04 31 49.2	+1.2
	baz=331						
DAWY	Dawson	76.86	13	P	P	04 31 51.0	+1.6
DAWY	Dawson	76.86	13	P	P	04 31 50.8	+1.4
	baz=335,SNR=5.5						
J30M	Hart River	76.93	12		P	04 31 51.4	+1.5
J30M	Hart River	76.93	12	P	P	04 31 51.1	+1.3
	baz=338,SNR=5.2						
L27K	Beaver Creek,	77.30	15	P	P	04 31 54.0	+2.2
L27K	Beaver Creek,	77.30	15	P	P	04 31 53.8	+2.0
	baz=334						
K29M	Barlow Dome	77.40	13		P	04 31 54.1	+1.6
K29M				IAmb	IAmb	04 31 55.8	
	comp=Z,4.3nm,0.8s						
K29M	Barlow Dome	77.40	13	P	P	04 31 53.5	+1.0
	baz=337,SNR=6.5						
S12K	Black Hills	77.58	28	P	P	04 31 54.9	+1.4
	baz=319						
KLU	Klutina	77.78	17	P	P	04 31 56.3	+1.7
	baz=330						
BOSA	Boshof	77.80	220	P	P	04 31 56.2	+1.2
	comp=Z,2.7nm,0.8s,baz=74,slow=9.1,SNR=4.0						
	comp=Z,2.7nm,0.8s						
M27K	Edge Creek, AK	77.92	15	P	P	04 31 57.0	+1.6
M27K				IAmb	IAmb	04 31 59.6	
	comp=Z,6.4nm,1.1s						
M27K	Edge Creek, AK	77.92	15	P	P	04 31 56.5	+1.1
	baz=334,SNR=5.8						
L29M	L29M	77.97	13	P	P	04 31 57.6	+2.0
L29M				IAmb	IAmb	04 31 59.6	
	comp=Z,6.3nm,1.2s						
L29M	L29M	77.97	13	P	P	04 31 58.0	+2.5
	baz=336						
N25K	Chitina, Valde	78.00	17	P	P	04 31 57.7	+1.9
	baz=332						
M29M	Somme Creek	78.52	14	P	P	04 32 00.4	+1.7
M29M	Somme Creek	78.52	14	P	P	04 32 00.1	+1.4
	baz=336						
YUK3	Moose Creek	78.74	15	P	P	04 31 59.1	-1.0
	baz=335						
BLKN	Baker Lake	78.94	354		P	04 32 02.8	+2.1
M31M	Drury Creek, Y	79.46	12	P	P	04 32 05.4	+1.7
	baz=340						
MMPY	Sheldon Lake,	79.55	10	P	P	04 32 05.4	+1.2
	baz=342						
FARO	Faro, Yukon	79.61	11	P	P	04 32 06.3	+1.8
	baz=340						
SII	Sitkinak Islan	79.65	24	P	P	04 32 04.9	+0.1
	baz=325						
WRGLY	Wrigley	79.88	7	P	P	04 32 08.2	+2.3
	baz=348						
YUK6	Outpost Mounta	79.92	14	P	P	04 32 06.8	+0.3
	baz=336						
HYT	Haines Junctio	80.19	14	P	P	04 32 08.0	+0.2
	baz=337						
WHY	Whitehorse	80.83	13	P	P	04 32 12.2	+1.0
	baz=339						
YKAW3	Yellowknife Wh	81.12	3		P	04 32 14.3	+1.8
YKAW3				IAmb	IAmb	04 32 15.5	
	comp=Z,12nm,1.0s						
YKA	Yellowknife Ar	81.19	3	P	P	04 32 14.6	+1.7
YKA	Yellowknife Ar	81.19	3	P	P	04 32 15.0	+2.1
	comp=Z,6.1nm,0.7s,baz=351,slow=5.7,SNR=39						
	comp=Z,6.1nm,0.7s						
YKA	Yellowknife Ar	81.19	3	P	P	04 32 14.6	+1.7
YKAW1	Yellowknife Wh	81.20	3		P	04 32 14.6	+1.6
YKAW1				IAmb	IAmb	04 32 16.0	
	comp=Z,14nm,0.9s						
P33M	Teslin, Yukon	81.60	12		P	04 32 16.8	+1.6
P33M	Teslin, Yukon	81.60	12	P	P	04 32 17.1	+1.8
	baz=341						
PLBC	Pleasant Camp	81.68	14	P	P	04 32 16.5	+0.9
	baz=338						
SKAG	Skagway	81.87	13	P	P	04 32 17.3	+0.7
	baz=339						
WRA	Warramunga Arr	82.01	122	P	P	04 32 17.9	+0.1
	comp=Z,0.5nm,0.3s,baz=325,slow=5.0,SNR=22						
	comp=Z,0.5nm,0.3s						
WRA	Warramunga Arr	82.01	122	*i* P	P	04 32 17.2	-0.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SCHQ	Schefferville	82.05	337	P	P	04 32 19.8	+2.2
	comp=Z,2.3nm,0.7s,baz=9.7,slow=4.9,SNR=3.7						
	comp=Z,2.3nm,0.7s						
R33M	Jennings River	82.67	11	P	P	04 32 23.0	+2.1
	baz=342						
ASAR	Alice Springs	84.28	125	P	P	04 32 29.4	-0.1
	comp=Z,1.1nm,0.7s,baz=313,slow=5.1,SNR=8.5						
	comp=Z,1.1nm,0.7s						
ULM	Lac du Bonnet	92.79	352	P	P	04 33 10.8	+1.1
	comp=Z,2.2nm,0.7s,baz=52,slow=3.7,SNR=4.1						
	comp=Z,2.2nm,0.7s						
ULM	Lac du Bonnet	92.79	352	*e*P	P	04 33 08.4	-1.3
BELA	Belgrano 2	128.72	195		PKiKP	04 39 05.2	+1.6

CATAC 04 04:25:04.9±0.7, 12°N±3°×8°8W±°, h12km±5km, M3.4/25, MLv3.4/25, Error ellipse: s-maj=6.9km s-min=3.3km az=31.3, confirmed, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POTN	Potosi Cosigui	1.24	43	P	Pn	04 25 27.8	-0.3
POTN				S	Sb	04 25 44.5	+0.2
ALJI	Alcalda de J	1.25	351	S	Sb	04 25 44.1	-0.6
ALJI	Alcalda de J	1.25	351	P	Pn	04 25 28.3	0.0
CNCH	Conchagua	1.30	24	P	Pn	04 25 28.5	-0.6
CNCH	Conchagua	1.30	24	S	Sb	04 25 46.1	0.0
LCND	La Caada	1.31	21	P	Pn	04 25 28.1	-1.0
RANC	El Ranchito	1.35	3	P	Pn	04 25 29.3	-0.5
PACA	Pacayal	1.38	2	S	Sb	04 25 48.7	+0.2
PACA	Pacayal	1.38	2	P	Pn	04 25 30.0	-0.2
CNRM	Centro Naciona	1.40	8	P	Pn	04 25 30.0	-0.3
CRIN	San Cristobal	1.43	64	P	Pn	04 25 30.7	0.0
CRIN	San Cristobal	1.43	64	S	Sb	04 25 50.3	+0.6
TECO	Alcaldia de Te	1.50	344	P	Pn	04 25 31.1	-0.7
TECO	Alcaldia de Te	1.50	344	S	Sn	04 25 51.3	0.0
PQSS	Presa 15 de Se	1.55	353	P	Pn	04 25 32.1	-0.2
HERN	Volcan Telica	1.59	71	P	Pn	04 25 33.0	0.0
UESV	Universidad de	1.60	345	P	Pn	04 25 32.7	-0.4
COEG	Centro de Oper	1.61	342	P	Pn	04 25 32.7	-0.6
PLRN	Geotermica Pol	1.64	72	P	Pn	04 25 32.5	-1.1
SCLA	Alcaldia de Sa	1.65	348	P	Pn	04 25 33.5	-0.3
SCLA	Alcaldia de Sa	1.65	348	S	Sn	04 25 55.0	0.0
CNGN	Cerro Negro	1.68	75	S	Sn	04 25 56.4	+0.6
CNGN	Cerro Negro	1.68	75	P	Pn	04 25 34.5	+0.2
PAVA	Las Pavas	1.72	341	P	Pn	04 25 34.7	-0.1
PAVA	Las Pavas	1.72	341	S	Sn	04 25 56.9	+0.2
COPN	Copaltepe	1.74	87	P	Pn	04 25 34.3	-0.7
LOMA	Loma Larga	1.74	333	P	Pn	04 25 35.0	-0.2
MOMN	Momotombo	1.82	79	P	Pn	04 25 35.3	-0.8
CHOHN	Orocuina	1.82	40	P	Pn	04 25 35.6	-0.7
PMON	Piamonte	1.87	330	P	Pn	04 25 36.3	-0.6
JAYA	Jayaque - finc	1.89	326	P	Pn	04 25 36.7	-0.5
MGAN	Managua	2.08	88	P	Pn	04 25 39.5	-0.1
MARCA	Marcala la Paz	2.09	9	P	Pn	04 25 40.2	+0.2
NANN	Nandasmo	2.20	93	P	Pn	04 25 41.5	+0.1
NANN	Nandasmo	2.20	93	S	Sn	04 26 09.4	+0.8
TGUH	Tegucigalpa,Un	2.24	28	P	Pn	04 25 41.9	0.0
SLOZ	Alcaldia de Sa	2.38	325	P	Pn	04 25 43.7	-0.1
FAME	Alcaldia de Sa	2.38	318	P	Pn	04 25 44.3	+0.5
YUSH	Yuscaran	2.38	38	P	Pn	04 25 43.7	-0.2
MTO3	Montecristo	2.50	337	P	Pn	04 25 46.3	+0.6
RCVN	Varillal2	2.59	55	P	Pn	04 25 46.8	-0.1
BOAB	BOACO BROADBAN	2.67	82	P	Pn	04 25 47.7	-0.1

NEIC **04** *04:30:41.3, 51.15°N×130.74W, h7km, Moment Tension Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.47; Mθθ=0.81; Mϕϕ 1.07; Mrθ=-0.22; Mϕθ 3.43; Mϕr=-1.60; Fault plane solution: M₀ 3.90000×10¹⁸ NP1:ϕs 264.00000°, δ 67.00000°, λ 7.00000°. NP2:ϕs 171.00000°, δ 84.00000°, λ 156.00000°. Principal axes: T 3.9861, Plg21.0000°, Azm125.0000°; N -0.1479, Plg66.0000°, Azm337.0000°; P -3.8381, Plg12.0000°, Azm220.0000°;*

PGC **04** *04:30:41.4±4.7, 51.08N×130.76W, h10km, MLSn5.7/38, Mw6.3/7, Mw6.2(NEIC), 217km southwest of Bella Bella, Bc Haida Gwaii Region*

MOS **04** *04:30:42.8±1.2, 51.07N×130.61W, h10km, mb5.9/65, MS6.3/58, Error ellipse: s-maj=8.9km s-min=4.1km az=103.9*

BJI **04** *04:30:42.0, 51.28N×130.44W, h10km, mB5.9/72, mb5.3/80, Ms6.5/91, Ms7 6.5/92*

IDC **04** *04:30:42.9±0.4, 51.23N×130.45W, h0km, mb4.8/32, mbtmp4.8/40, ML3.9/9, MS6.1/88, Error ellipse: s-maj=11.3km s-min=7.5km az=46.0*

OSUNB **04** *04:30:44.4±0.6, 51.02N×130.42W, h6km±3km, mb5.5/20, Error ellipse: s-maj=6.6km s-min=8.4km az=0.0*

ISC-PP **04** *04:30:44, 51.24N×130.50W, h5km, Mwppsm6.3, Moment Tension Solution. s48 Moment tensor: Scale 10¹⁸Nm; Mrr 0.78±.19; Mθθ-0.33±.13; Mϕϕ 0.50±.10; Mrθ-0.11±.12; Mθϕ-0.06±.11; Mϕr-0.01±.20; Fault plane solution: M₀ 3.63000×10¹⁸ NP1:ϕs 101.10000°, δ 40.30000°, λ 106.80000°. NP2:ϕs 259.50000°, δ 51.70000°, λ 76.30000°.*

IPGP **04** *04:30:44.0, 51.22N×130.52W, h5km, Mw6.2, Fault plane solution: NP1:ϕs 254.00000°, δ 82.00000°, λ -4.00000°. NP2:ϕs 345.00000°, δ 86.00000°, λ -172.00000°.*

NEIC **04** *04:30:44.3, 51.22N×130.52W, h12km*

NEIC **04** *04:30:44.3, 51.12N×130.68W, h12km, Moment Tensor Solution. Duration: 67 Moment tensor: Scale 10¹⁸Nm; Mrr-0.30; Mθθ-1.10; Mϕϕ 1.40; Mrθ 0.22; Mϕθ 2.17; Mϕr-1.08; Fault plane solution: Mo 2.75000×10¹⁸ NP1: ϕs 254.88000°, δ 65.91000°, λ -2.66000°. NP2:ϕs 345.97000°, δ 87.57000°, λ -155.89000°. Principal axes: T 2.8800, Plg15.0000°, Azm118.0000°; N -0.2743, Plg66.0000°, Azm351.0000°; P -2.6057, Plg19.0000°, Azm213.0000°;*

NEIC **04** *04:30:44.4±2.0, 51.24N±0.06×130.5W±0.1, h10km±1km, mb5.7/705, Ms_20 6.3/836, Mwb6.1/75, Mww6.2/143, Mwr6.3(OTT) Error ellipse: s-maj=12.6km s-min=8.1km az=227.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr-0.23; Mθθ-0.59; Mϕϕ 0.81; Mrθ 0.10; Mθϕ 1.36; Mϕr-0.42; Fault plane solution: Mo 1.60000×10¹⁸ NP1:ϕs 256.14000°, δ 73.72000°, λ -3.17000°. NP2: ϕs 347.03000°, δ 86.95000°, λ -163.70000°. Principal axes: T 1.6944, Plg9.0000°, Azm120.0000°; N -0.2029, Plg73.0000°, Azm357.0000°; P -1.4914, Plg14.0000°, Azm213.0000°;*

NEIC **04** *04:30:44.5, 51.22N×130.53W, h10km*

GCMT **04** *04:30:47.4±0.0, 51.16N×130.64W, h12km, MW6.2/177, Moment Tensor Solution. s171,c389; s177,c703; Duration: 32 Moment tensor: Scale 10¹⁸Nm; Mrr-0.08±.01; Mθθ-1.18±.01; Mϕϕ 1.26±.01; Mrθ 0.26±.03; Mθϕ 2.35±.01; Mϕr-0.66±.03; Best double couple: Mo 2.74100×10¹⁸ NP1:ϕs 256.00000°, δ 75.00000°, λ -2.00000°. NP2:ϕs 347.00000°, δ 88.00000°, λ -165.00000°. Principal axes: T 2.7540, Plg9.0000°, Azm120.0000°; N -0.0220, Plg75.0000°, Azm355.0000°; P -2.7280, Plg12.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

BGR **04** *04:30:53.7, 51.56N×131.12W, h17km±1km, mb5.7, mB_BB6.4, Ms6.3*

CATAC **04** *04:30:54.6±2.5, 51°N±37°×12°9W±2°9, h42km±20km, M5.8/6, mb5.4/6, mB6.2/6, Mw(mB)5.9/6, MwMwp5.9/6, Mwp6.0/6, Error ellipse: s-maj=97.9km s-min=26.6km az=142.7, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr-0.61; Mθθ-0.58; Mϕϕ 1.19; Mrθ-1.25; Mθϕ 1.82; Mϕr-1.02; Fault plane solution: Mo 2.63897×10¹⁸ NP1:ϕs 164.63264°, δ 50.65975°, λ -174.60533°. NP2: ϕs 71.20678°, δ 85.83027°, λ -39.46500°. Principal axes: T 2.9851, Plg23.3806°, Azm124.7134°; N -0.9624, Plg50.3511°, Azm246.1598°; P -2.0227, Plg29.9780°, Azm20.2721°; confirmed*

ISC 04 04:30:44.4±0.4, 51°10N±0'02×130°54W±0'02, h10km±2km, h10km:pP-P, n2252, σ2s30/2047, mb5.7/475, MS6.3/581, 151C-69D, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HG4B	Hotspring	1.27	341		Pn	04 31 02.1	-6.1
JEDB	Jedway, Haida	1.27	341	P	Pn	04 31 01.9	-6.3
JEDB				S	Sb	04 31 17.9	-6.8
HOLB	Holberg	1.59	106		Pn	04 31 10.0	-2.6
HOLB	Holberg	1.59	106	Pn	Pn	04 31 09.2	-3.4
BAIB	Barry Inlet	1.66	333	Pn	Pn	04 31 07.5	-6.1
BAIB				Sn	Sn	04 31 27.3	-7.8
BBB	Bella Bella	1.86	53		Pn	04 31 12.8	-3.6
BBB	Bella Bella	1.86	53	Pn	Pn	04 31 12.4	-3.9
	232nm,0.3s,baz=242,slow=14,SNR=1346						
BBB				Sn	Sn	04 31 37.6	-2.3
	5µm,0.3s,baz=227,slow=19,SNR=9.8						
BBB				LR	LR	04 32 05.8	
	comp=Z,451µm,19.8s,baz=229,slow=48						
BBB	Bella Bella	1.86	53	Pn	Pn	04 31 12.4	-3.9
BBB	Bella Bella	1.86	53	∥P	Pn	04 31 12.3	-4.0
PHC	Port Hardy	2.00	100	Pn	Pn	04 31 14.6	-3.7
PACB	Port Alice, BC	2.04	108	Pn	Pn	04 31 15.4	-3.4
PACB				Sn	Sn	04 31 41.9	-2.4
HG1B	Mitchell Dam	2.09	332	Pn	Pn	04 31 13.2	-6.2
HG1B				Sn	Sn	04 31 39.3	-6.2
MOBC	Moresby Island	2.23	337		Pn	04 31 15.9	-5.6
MOBC	Moresby Island	2.23	337	Pn	Pn	04 31 15.9	-5.6
MAYB	Maynard	2.25	107	Pn	Pn	04 31 18.8	-3.0
BUTB	Butedale	2.35	32	Pn	Pn	04 31 18.8	-4.3
BNAB	Bonilla	2.40	359	Pn	Pn	04 31 18.9	-4.8
GRIB	Gribbell Islan	2.40	20	Pn	Pn	04 31 19.1	-4.8
DIB	Dawson Inlet,	2.42	331	Pn	Pn	04 31 18.1	-6.0
DIB				Sn	Sn	04 31 46.2	-7.6
EDB	Eliza Dome	2.50	118	Pn	Pn	04 31 22.1	-3.0
EDB				Sn	Sn	04 31 53.0	-2.7
WOSB	Woss	2.69	109	Pn	Pn	04 31 25.2	-2.6
GRNB	Grenville Isla	2.78	7	Pn	Pn	04 31 24.2	-4.8
GRNB				Sn	Sn	04 31 57.2	-5.4
PCLB	Port Clements	2.89	336	Pn	Pn	04 31 25.1	-5.4
PCLB				Sn	Sn	04

B928	Bamfield	4.16	121	Pn	Pn	04 31 45.4	-2.5	
V35K	Ketchikan	4.29	352		Pn	04 31 45.7	-3.9	
V35K	Ketchikan	4.29	352	Pn	Pn	04 31 44.5	-5.2	
V35K	Ketchikan	4.29	352	P	Pn	04 31 45.9	-3.8	
	baz=170,SNR=72							
V35K				S	Sn	04 32 33.2	-6.5	
	baz=170							
MGRB	Mount Grey	4.31	117	Pn	Pn	04 31 47.9	-2.2	
SHB	Sechelt	4.52	107	⇑P	Pn	04 31 51.2	-1.8	
NLLB	Nanaimo Lost L	4.61	111	Pn	Pn	04 31 52.3	-1.8	
NLLB				Sn	Sn	04 32 46.0	-1.6	
CRAG	Craig	4.65	341		Pn	04 31 50.1	-4.5	
CRAG	Craig	4.65	341	P	Pn	04 31 51.7	-2.9	
CRAG	Craig	4.65	341	⇑P	Pn	04 31 50.2	-4.5	
CRAG	Craig	4.65	341	P	Pn	04 31 51.5	-3.0	
	baz=159,SNR=111							
CRAG				S	Sn	04 32 42.4	-6.2	
	baz=159							
PTRF	Port Renfrew	4.71	120	Pn	Pn	04 31 53.3	-2.2	
B926	Mesachie Lake	4.72	116	Pn	Pn	04 31 54.3	-1.3	
CLRS	Cowichan Lake	4.72	116		Pn	04 31 53.5	-2.1	
CLRS	Cowichan Lake	4.72	116	Pn	Pn	04 31 53.8	-1.9	
U35K	Hyder	4.84	3		Pn	04 31 55.0	-2.2	
U35K	Hyder	4.84	3	Pn	Pn	04 31 53.7	-3.5	
U35K	Hyder	4.84	3	P	Pn	04 31 53.8	-3.4	
	baz=184,SNR=23							
U35K				S	Sn	04 32 48.4	-4.8	
	baz=184							
WSLR	Whistler	4.95	98	Pn	Pn	04 31 57.2	-1.6	
C03A	Quillayute Air	5.00	127		Pn	04 31 59.5	0.0	
SYMB	Survey Mountai	5.04	118	Pn	Pn	04 31 58.3	-1.9	
FSJB	Fort St James	5.07	46	Pn	Pn	04 31 57.8	-2.7	
B010	North Saanich	5.19	115	Pn	Pn	04 32 01.1	-1.0	
B009	North Saanich	5.19	115	Pn	Pn	04 32 01.3	-0.8	
PGC	Sidney	5.19	115		Pn	04 32 00.5	-1.6	
PGC	Sidney	5.19	115	Pn	Pn	04 32 00.5	-1.6	
B011	North Saanich	5.20	115	Pn	Pn	04 32 01.3	-0.8	
U33K	Whale Pass	5.26	344		Pn	04 31 58.3	-4.0	
U33K	Whale Pass	5.26	344	Pn	Sn	04 31 58.5	-4.5	
U33K				Sn	Sn	04 32 56.4	-7.2	
U33K	Whale Pass	5.26	344	P	Pn	04 31 59.5	-3.4	
	baz=161,SNR=95							
U33K				S	Sn	04 32 57.1	-6.5	
	baz=161							
SNB	Saturna Island	5.29	113	Pn	Pn	04 32 02.0	-1.5	
VGZ	Gonzales	5.39	117	Pn	Pn	04 32 02.9	-1.9	
WRAK	Wrangell Islan	5.44	349		Pn	04 32 02.3	-3.2	
WRAK	Wrangell Islan	5.44	349	Pn	Pn	04 32 02.2	-3.2	
WRAK	Wrangell Islan	5.44	349	⇓P	Pn	04 32 02.1	-3.4	
WRAK	Wrangell Islan	5.44	349	P	Pn	04 32 02.6	-2.9	
	baz=168,SNR=96							
WRAK				S	Sn	04 33 00.9	-7.1	
	baz=168							
LLLB	Lillooet	5.50	92		Pn	04 32 05.2	-1.3	
LLLB	Lillooet	5.50	92	Pn	Pn	04 32 04.6	-1.8	
LLLB				Sn	Sn	04 33 06.5	-3.3	
OSD	Olympics--Snow	5.53	124	Pn	Pn	04 32 04.7	-2.3	
A04D	Lummi Island	5.59	112		Pn	04 32 06.6	-0.9	
NLWA	Neilton Lookou	5.73	128		Pn	04 32 08.1	-1.4	
NLWA	Neilton Lookou	5.73	128	⇑P	Pn	04 32 07.8	-1.7	
SVOH	Skagit Valley	5.85	116	Pn	Pn	04 32 10.3	-0.7	
T35M	Bob Quinn	5.90	2		Pn	04 32 09.9	-1.9	
T35M	Bob Quinn	5.90	2	Pn	Pn	04 32 09.9	-1.9	
T35M	Bob Quinn	5.90	2	P	Pn	04 32 09.7	-2.1	
	baz=182,SNR=84							
T35M				S	Sn	04 33 10.7	-8.8	
	baz=182							
T33K	Petersburg	5.90	347	P	Pn	04 32 09.1	-2.8	
	baz=165							
T33K				S	Sn	04 33 13.6	-5.8	
	baz=165							
WISH	Wishkah	5.96	129		Pn	04 32 12.8	+0.2	
WISH	Wishkah	5.96	129	Pn	Pn	04 32 12.9	+0.2	
HDW	Hoodsport	5.98	122	Pn	Pn	04 32 11.8	-1.2	
GNW	Green Mountain	6.16	122		Pn	04 32 14.4	-0.9	
GNW	Green Mountain	6.16	122	Pn	Pn	04 32 14.0	-1.4	
JCW	Jim Creek	6.30	114	Pn	Pn	04 32 16.9	-0.4	
CPW	Capitol Peak	6.38	127	Pn	Pn	04 32 18.9	+0.5	
RADR	Rader Ridge	6.46	134		Pn	04 32 19.4	-0.1	
E03A	Lebam	6.47	132		Pn	04 32 18.8	-0.9	
E03A	Lebam	6.47	132	Pn	Pn	04 32 18.2	-1.5	
SIT	Sitka	6.60	337		Pn	04 32 17.4	-3.9	
SIT	Sitka	6.60	337	P	Pn	04 32 19.6	-1.8	
SIT	Sitka	6.60	337	P	Pn	04 32 17.5	-3.9	
SIT	Sitka	6.60	337	P	Pn	04 32 17.5	-3.9	
	baz=152,SNR=16							
SIT				S	Sn	04 33 31.7	-4.9	
	baz=152							
S32K	Killisnoo	6.81	341		Pn	04 32 21.7	-2.5	
S32K	Killisnoo	6.81	341	Pn	Pn	04 32 19.5	-4.7	
S32K	Killisnoo	6.81	341	P	Pn	04 32 19.9	-4.3	
	baz=158,SNR=12							
S32K				S	Sn	04 33 33.8	-7.9	
	baz=158							
D05A	Enumclaw	6.83	122		Pn	04 32 25.4	+0.8	
D05A	Enumclaw	6.83	122	Pn	Pn	04 32 24.5	-0.2	
S34M	Telegraph Cree	6.84	357		Pn	04 32 22.8	-1.9	
S34M	Telegraph Cree	6.84	357	Pn	Pn	04 32 22.5	-2.2	
S34M	Telegraph Cree	6.84	357	P	Pn	04 32 22.4	-2.3	
	baz=177,SNR=41							
S34M				S	Sn	04 33 40.4	-2.1	
	baz=177							
F03A	Seaside	6.94	135		Pn	04 32 26.8	+0.7	
BMTB	Bullhead Mount	7.04	42	Pn	Pn	04 32 25.8	-1.7	
F04D	Rainier, OR	7.07	132		Pn	04 32 28.5	+0.6	
FMW	Mount Fremont	7.16	122	Pn	Pn	04 32 28.9	-0.5	
LON	Longmire	7.21	124		Pn	04 32 30.2	+0.3	
LON	Longmire	7.21	124	Pn	Pn	04 32 29.3	-0.5	
LON	Longmire	7.21	124	P	Pn	04 32 30.2	+0.3	
DLBC	Dease Lake	7.36	2	Pn	Pn	04 32 30.5	-1.5	
	0.4nm,0.3s,baz=182,slow=15,SNR=54							
DLBC				LR	LR	04 35 16.8		
	comp=Z,27µm,20.2s,baz=166,slow=38							
DLBC	Dease Lake	7.36	2	P	Pn	04 32 31.0	-0.9	
	baz=182,SNR=50							
DLBC				S	Sn	04 33 46.9	-8.6	
	baz=182							
HEBO	Mount Hebo	7.43	140		Pn	04 32 34.0	+1.1	
LTY	Liberty	7.52	117		Pn	04 32 34.6	+0.5	
LTY	Liberty	7.52	117	Pn	Pn	04 32 33.8	-0.4	
JIS	Juneau Island	7.53	344	P	Pn	04 32 32.5	-1.6	
R32K	Eaglecrest	7.55	344		Pn	04 32 32.2	-2.3	
R32K	Eaglecrest	7.55	344	Pn	Pn	04 32 30.8	-3.7	
R32K	Eaglecrest	7.55	344	P	Pn	04 32 31.0	-3.5	
	baz=160,SNR=18							
R32K				S	Sn	04 33 52.4	-7.7	
	baz=160							
S31K	Pelican	7.63	337		Pn	04 32 34.5	-1.1	
S31K	Pelican	7.63	337	Pn	Pn	04 32 31.3	-4.3	
S31K	Pelican	7.63	337	P	Pn	04 32 31.4	-4.2	
	baz=152,SNR=8.8							
S31K				S	Sn	04 33 56.4	-5.6	
	baz=152							
G03D	McMinnville, O	7.63	138		Pn	04 32 37.3	+1.7	
B08A	Colville Reser	7.76	106		Pn	04 32 37.5	+0.1	
B08A	Colville Reser	7.76	106	Pn	Pn	04 32 36.6	-0.8	
R31K	City Hall, Gus	7.92	340	P	Pn	04 32 36.0	-3.5	
	baz=155							
R31K				S	Sn	04 34 05.3	-3.9	
	baz=155							
BDMTA	Bald Mountain	7.94	58	Pn	Pn	04 32 39.5	-0.4	
Q32M	Nakina River	7.94	353		Pn	04 32 38.1	-1.9	
Q32M	Nakina River	7.94	353	Pn	Pn	04 32 37.3	-2.7	
Q32M	Nakina River	7.94	353	P	Pn	04 32 37.3	-2.7	
	baz=172,SNR=21							
Q32M				S	Sn	04 34 02.6	-7.4	
	baz=172							
G04A	Mulino	7.98	134		Pn	04 32 42.5	+2.1	
COR	Corvallis	8.13	140		Pn	04 32 44.0	+1.6	
COR	Corvallis	8.13	140	P	Pn	04 32 44.0	+1.6	
COR	Corvallis	8.13	140	⇑P	Pn	04 32 44.0	+1.6	
MXC	Moxie City	8.13	120		Pn	04 32 42.7	+0.3	
WTMTA	White Mountain	8.17	51	Pn	Pn	04 32 41.3	-1.7	
HOOD	Mount Hood Mea	8.28	131		Pn	04 32 45.9	+1.3	
R33M	Jennings River	8.32	358		Pn	04 32 42.9	-2.2	
R33M	Jennings River	8.32	358	Pn	Pn	04 32 43.6	-1.6	
R33M	Jennings River	8.32	358	P	Pn	04 32 43.5	-1.7	
	baz=178,SNR=42							
R33M				S	Sn	04 34 17.6	-1.6	
	baz=178							
I02E	Swisshome, OR	8.32	145		Pn	04 32 46.0	+0.9	
TOAD	Toad River Com	8.34	19	P	Pn	04 32 44.6	-0.8	
	baz=204,SNR=50							
TOAD				S	Sn	04 34 17.2	-2.4	
	baz=204							
E07A	Sunnyside	8.38	119		Pn	04 32 45.2	-0.7	
H04D	Lebanon	8.41	138		Pn	04 32 47.8	+1.5	
WAH2	Wahluke Slope	8.43	117		Pn	04 32 45.9	-0.6	
G05A	Wamic	8.50	130		Pn	04 32 49.2	+1.7	
H04A	Detroit Lake	8.52	136		Pn	04 32 48.4	+0.6	
BRLDA	Berland Lookou	8.54	64	Pn	Pn	04 32 47.9	-0.2	
BUCK	Buck Mountain	8.58	141		Pn	04 32 50.6	+1.9	
D08A	Wollman Farm,	8.63	113		Pn	04 32 48.1	-1.2	
C09A	Chrisman Ranch	8.64	108		Pn	04 32 49.2	-0.3	
C09A	Chrisman Ranch	8.64	108	Pn	Pn	04 32 50.0	+0.5	
HAWA	Hanford	8.66	119		Pn	04 32 49.5	-0.2	
HAWA	Hanford	8.66	119	⇑P	Pn	04 32 49.5	-0.2	
P32M	Atlin	8.70	349		Pn	04 32 47.6	-2.7	
P32M	Atlin	8.70	349	Pn	Pn	04 32 47.4	-2.9	
P32M	Atlin	8.70	349	P	Pn	04 32 46.3	-4.0	
	baz=166,SNR=48							
P32M				S	Sn	04 34 21.4	-6.9	
	baz=166							
LIRD	Liard River Hi	8.71	15	P	Pn	04 32 49.7	-0.6	
	baz=199							
F07A	Phinny Hill Vi	8.75	122		Pn	04 32 51.6	+0.6	
SKAG	Skagway	8.81	344		Pn	04 32 50.3	-1.5	
SKAG	Skagway	8.81	344	P	Pn	04 32 51.0	-0.7	
SKAG	Skagway	8.81	344	⇑P	Pn	04 32 50.8	-0.9	
SKAG	Skagway	8.81	344	P	Pn	04 32 49.6	-2.1	
	baz=160,SNR=28							
SKAG				S	Sn	04 34 25.1	-5.9	
	baz=160							
G06A	Carlson Farm,	8.84	128		Pn	04 32 52.9	+0.7	
I03D	Drain, OR	8.86	144		Pn	04 32 53.3	+0.9	
E08A	Dider Farm, El	8.86	117		Pn	04 32 51.0	-1.5	
FNSB	Fort Nelson	8.93	27	Pn	Pn	04 32 51.8	-1.6	
PLBC	Pleasant Camp	9.01	341	Pn	Pn	04 32 51.8	-2.6	
PLBC	Pleasant Camp	9.01	341	P	Pn	04 32 51.5	-2.9	
	baz=156,SNR=18							
PLBC				S	Sn	04 34 32.8	-3.1	
	baz=156							
WTLY	Watson Lake, Y	9.09	6	P	Pn	04 32 54.1	-1.5	
	baz=187							
WTLY				S	Sn	04 34 35.6	-2.3	
	baz=187							
J01E	Myrtle Point	9.12	148		Pn	04 32 56.8	+0.8	
NEW	Newport	9.15	103		Pn	04 32 56.3	-0.1	
NEW	Newport	9.15	103	Pn	Pn	04 32 55.9	-0.5	
	1.4nm,0.3s,baz=297,slow=11,SNR=20							
	7.4nm,0.5s							
NEW	Newport	9.15	103	P	Pn	04 32 56.3	-0.1	
NEW	Newport	9.15	103	⇑P	Pn	04 32 55.1	-1.3	
I05D	Terrebonne, OR	9.17	134		Pn	04 32 57.9	+1.2	
YPT	Yellepit	9.18	119		Pn	04 32 57.0	+0.1	
P33M	Teslin, Yukon	9.23	353	Pn	Pn	04 32 55.4	-2.1	
P33M	Teslin, Yukon	9.23	353	P	Pn	04 32 54.5	-3.0	
	baz=171,SNR=28							
P33M				S	Sn	04 34 38.0	-3.4	
	baz=171							
KEBM	Edson Butte	9.25	150		Pn	04 32 58.7	+0.8	
E09A	Wood Farm, Sta	9.37	114		Pn	04 32 58.7	-0.7	
P29M	Windy Craggy	9.48	337		Pn	04 32 59.8	-1.1	
P29M	Windy Craggy	9.48	337	Pn	Pn	04 32 57.8	-3.1	
P29M	Windy Craggy	9.48	337	P	Pn	04 32 58.4	-2.5	
	baz=151							
P29M				S	Sn	04 34 49.2	+1.8	
	baz=151							
K02D	Willamette Mer	9.62	148		Pn	04 33 04.0	+1.0	
LNOR	Lincton Mounta	9.66	118		Pn	04 33 03.5	0.0	
J04A	Umpqua Nationa	9.72	141		Pn	04 33 05.8	+1.3	
P30M	Million Dollar	9.74	341	Pn	Pn	04 33 01.5	-3.0	
P30M	Million Dollar	9.74	341	P	Pn	04 33 02.5	-2.0	
	baz=155							
P30M				S	Sn	04 34 53.6	-0.3	
	baz=155							
KOTAN	Kotaneelee Air	9.76	19	P	Pn	04 33 03.5	-1.3	
	baz=205,SNR=31							
KOTAN				S	Sn	04 34 50.2	-4.2	
	baz=205							
PINE	Pine Mountain	9.77	135		Pn	04 33 06.0	+0.9	
BBOR	Butler Butte	9.80	144		Pn	04 33 08.5	+2.9	
WHY	Whitehorse	9.89	347		Pn	04 33 04.5	-2.1	
WHY	Whitehorse	9.89	347	Pn	Pn	04 33 03.7	-2.9	
WHY	Whitehorse	9.89	347	P	Pn	04 33 04.8	-1.8	
	baz=164,SNR=87							
WHY				S	Sn	04 34 53.7	-3.9	
	baz=164							
STPRA	Salt Prairie L	9.90	57	Pn	Pn	04 33 04.6	-2.1	
PNL	Peninsula	9.95	333	P	Pn	04 33 07.0	-0.4	
PNL	Peninsula	9.95	333	Pn	Pn	04 33 03.3	-4.0	
PNL	Peninsula	9.95	333	P	Pn	04 33 04.3	-3.0	
	baz=145							
PNL				S	Sn	04 34 54.7	-4.3	
	baz=145							
J05D	Fort Rock, OR	10.05	137		Pn	04 33 10.6	+1.7	
L02F	Cave Junction	10.17	149		Pn	04 33 13.7	+3.2	
N32M	Quiet Lake	10.18	353		Pn	04 33 08.9	-1.6	
N32M	Quiet Lake	10.18	353	Pn	Pn	04 33 08.0	-2.5	
N32M	Quiet Lake	10.18	353	P	Pn	04 33 07.5	-3.0	
	baz=171							
N32M				S	Sn	04 35 06.6	+2.0	
	baz=171							
O30N	Mendenhall	10.18	344		Pn	04 33 09.1	-1.4	
O30N	Mendenhall	10.18	344	Pn	Pn	04 33 08.8	-1.7	
O30N	Mendenhall	10.18	344	P	Pn	04 33 08.6	-1.9	
	baz=160,SNR=26							
O30N				S	Sn	04 35 04.9	+0.3	
	baz=160							
F10A	Beach Ranch, E	10.20	115		Pn	04 33 10.3	-0.6	
BCPM	Bancas Point	10.26	333		Pn	04 33 09.7	-1.8	
O29M	Mount Kennedy	10.27	337	Pn	Pn	04 33 09.4	-2.4	
O29M	Mount Kennedy	10.27	337	P	Pn	04 33 09.7	-2.2	
	baz=150							
O29M				S	Sn	04 34 59.1	-8.0	
	baz=150							
YUK7	Dusty Glacier	10.37	339	Pn	Pn	04 33 10.5	-2.7	
HYT	Haines Junctio	10.50	341		Pn	04 33 12.6	-2.3	
HYT	Haines Junctio	10.50	341	Pn	Pn	04 33 12.8	-2.1	
HYT	Haines Junctio	10.50	341	P	Pn	04 33 12.8	-2.1	
	baz=155,SNR=12							
HYT				S	Sn	04 35 07.5	-5.0	
	baz=155							
TGTN	Hyland Airport	10.53	6	Pn	Pn	04 33 14.9	-0.4	
TGTN	Hyland Airport	10.53	6	P	Pn	04 33 15.8	+0.5	
	baz=188,SNR=18							
TGTN				S	Sn	04 35 15.8	+2.5	
	baz=188							
PINM	Pinnacle	10.55	332	P	Pn	04 33 13.9	-1.7	
	baz=144							
PINM				S	Sn	04 35 15.4	+1.7	
	baz=144							
PCA	Pinnacle	10.55	332	Pn	Pn	04 33 12.9	-2.7	
SAMH	Samovar Hills	10.73	331	Pn	Pn	04 33 15.2	-2.9	
YUK6	Outpost Mounta	10.79	339	Pn	Pn	04 33 16.6	-2.4	
YUK6	Outpost Mounta	10.79	339	P	Pn	04 33 16.6	-2.4	
	baz=152,SNR=17							
YUK6				S	Sn	04 35 18.3	-1.5	
	baz=152							
YBH	Yreka Blue Hor	10.80	147	Pn	Pn	04 33 20.8	+1.6	
	0.1nm,0.3s,baz=348,slow=13,SNR=89							
YBH				LR	LR	04 36 59.3		
	comp=Z,13µm,20.0s,baz=311,slow=35							
	6.1nm,1.0s							
N31M	Braeburn, Yuko	10.81	346	Pn	Pn	04 33 18.2	-0.9	
N31M	Braeburn, Yuko	10.81	346	P	Pn	04 33 17.0	-2.1	
	baz=162,SNR=22							
N31M				S	Sn	04 35 17.0	-3.0	
	baz=162							
BMO	Blue Mountains	10.84	120		Pn	04 33 18.9	-0.7	
BMO	Blue Mountains	10.84	120	P	Pn	04 33 19.0	-0.7	
BMO	Blue Mountains	10.84	120	⇑P	Pn	04 33 19.8	+0.2	
YUK5	Granite Creek	10.85	341	Pn	Pn	04 33 17.3	-2.5	
HSPGA	Hill Springs,	10.96	93	Pn	Pn	04 33 22.2	+1.0	
N30M	Aishikik Lake	11.00	343	Pn	Pn	04 33 19.2	-2.5	
N30M	Aishikik Lake	11.00	343	P	Pn	04 33 19.9	-1.8	
	baz=158							
N30M				S	Sn	04 35 21.5	-3.3	
	baz=158							
RKAV	Rock Avalanche	11.04	331	Pn	Pn	04 33 19.2	-3.1	
TABL	Table Mountain	11.09	332	Pn	Pn	04 33 19.9	-3.3	
O28M	Mount Upton	11.09	335	Pn	Pn	04 33 20.3	-2.9	
O28M	Mount Upton	11.09	335	P	Pn	04 33 21.2	-2.0	
	baz=146,SNR=26							
O28M				S	Sn	04 35 26.4	-0.9	
	baz=146							
MESA	MESA	11.14	329	Pn	Pn	04 33 19.9	-3.8	
	baz=139,SNR=18							
MESA				S	Sn	04 35 28.9	+0.6	
	baz=139							
YUK4	Talbot Arm	11.21	340	Pn	Pn	04 33 24.4	-0.3	
YUK4	Talbot Arm	11.21	340	P	Pn	04 33 24.4	-0.3	
	baz=153							
YUK4				S	Sn	04 35 25.2	-4.9	
	baz=153							
FARO	Faro, Yukon	11.27	353	P	Pn	04 33 23.8	-1.5	
	baz=171,SNR=12							
FARO				S	Sn	04 35 30.4	-0.8	
	baz=171							
BRWY	Burwash Landin	11.32	339	Pn	Pn	04 33 24.6	-1.5	
M31M	Drury Creek, Y	11.33	351	Pn	Pn	04 33 25.3	-1.0	
M31M	Drury Creek, Y	11.33	351	P	Pn	04 33 24.5	-1.7	
	baz=167,SNR=35							
M31M				S	Sn	04 35 29.5	-3.3	
	baz=167							
LOGN	Logan Glacier	11.36	333	Pn	Pn	04 33 22.6	-4.2	
YUK8	Steele Glacier	11.42	337	Pn	Pn	04 33 25.3	-2.3	
YUK8	Steele Glacier	11.42	337	P	Pn	04 33 25.9	-1.7	
	baz=149,SNR=25							
YUK8				S	Sn	04 35 34.4	-0.8	
	baz=149							
GRNC	Granite Creek	11.51	331	Pn	Pn	04 33 26.1	-2.7	
BGLC	Bering Glacier	11.54	326	P	Pn	04 33 26.9	-2.1	
	baz=136							
BGLC				S	Sn	04 35 32.6	-5.2	
	baz=136							
MMPY	Sheldon Lake,	11.56	358	Pn	Pn	04 33 29.2	-0.2	
MMPY	Sheldon Lake,	11.56	358	P	Pn	04 33 29.6	+0.2	
	baz=178,SNR=42							
MMPY				S	Sn	04 35 38.0	-0.4	
	baz=178							
CTGM	Chitina Glacie	11.57	333	Pn	Pn	04 33 26.8	-2.8	
CTG	Chitna Glacier	11.57	333	P	Pn	04 33 27.1	-2.5	
	baz=144,SNR=37							
CTG				S	Sn	04 35 36.0	-2.8	
	baz=144							
MSO	Missoula	11.71	105	⇑P	Pn	04 33 31.0	-0.6	
KAIM	Kayak Island	11.81	324	P	Pn	04 33 30.3	-2.5	
	baz=132,SNR=24							
KAIM				S	Sn	04 35 32.8	-12	
	baz=132							
KIAG	Kiagna River	11.84	331	Pn	Pn	04 33 30.1	-3.2	
KMRM	Mail Ridge	11.87	154	Pn	Pn	04 33 36.3	+2.5	
WVOR	Wild Horse Val	11.89	132	⇑P	Pn	04 33 36.0	+2.0	
BALM	Baldy	11.93	331	Pn	Pn	04 33 31.4	-3.0	
CRQE	Cirque	11.94	329	P	Pn	04 33 32.2	-2.5	
	baz=138,SNR=32							
CRQE				S	Sn	04 35 46.4	-1.5	
	baz=138							
M30M	Minto, Yukon	12.00	346	Pn	Pn	04 33 33.1	-2.3	
M30M	Minto, Yukon	12.00	346	P	Pn	04 33 34.0	-1.4	
	baz=160,SNR=17							
M30M				S	Sn	04 35 44.0	-5.1	
	baz=160							
YUK3	Moose Creek	12.01	337	Pn	Pn	04 33 33.3	-2.4	
YUK3	Moose Creek	12.01	337	P	Pn	04 33 33.3	-2.4	
	baz=148,SNR=52							
YUK3				S	Sn	04 35 46.1	-3.6	
	baz=148							
PTPK	Patty Peak	12.08	331	Pn	Pn	04 33 34.2	-2.4	
YUK2	White River	12.12	336	Pn	Pn	04 33 34.1	-3.0	
M29M	Somme Creek	12.16	342	Pn	Pn	04 33 33.5	-4.2	
M29M	Somme Creek	12.16	342	P	Pn	04 33 35.5	-2.1	
	baz=155,SNR=34							
M29M				S	Sn	04 35 53.2	-0.1	
	baz=155							
OVMT	Ovando	12.18	103	Pn	Pn	04 33 39.1	+1.1	
MKRVA	Milk River, Al	12.20	92	Pn	Pn	04 33 38.0	-0.2	
Q23K	Middleton Isla	12.26	319	P	Pn	04 33 35.5	-3.4	
	baz=126,SNR=8.3							
Q23K				S	Sn	04 35 49.7	-5.8	
	baz=126							
Q23K				S	Sn	04 35 49.7	-5.8	
	baz=126							
MCARA	McCarthy VSAT	12.40	331	Pn	Pn	04 33 37.4	-3.4	
MCARA	McCarthy VSAT	12.40	331	P	Pn	04 33 38.7	-2.2	
	baz=140,SNR=19							
MCARA				S	Sn	04 35 53.3	-5.7	
	baz=140							
BMRM	Bremner River	12.61	327	P	Pn	04 33 41.1	-2.6	
	baz=135,SNR=29							
BMRM				S	Sn	04 35 56.1	-7.9	
	baz=135							
BVCY	Beaver Creek	12.66	338	Pn	Pn	04 33 41.3	-3.0	
BVCY	Beaver Creek	12.66	338	P	Pn	04 33 42.4	-1.9	
	baz=149							
BVCY				S	Sn	04 36 02.6	-2.6	
	baz=149							
LYMT	Lyon Mountain	12.66	102	Pn	Pn	04 33 45.8	+1.2	
L29M	L29M	12.72	344	Pn	Pn	04 33 43.8	-1.3	
L29M	L29M	12.72	344	P	Pn	04 33 44.2	-1.0	
	baz=158,SNR=15							
L29M				S	Sn	04 36 05.3	-1.4	
	baz=158							
EYAK	Cordova Ski Ar	12.73	324	P	Pn	04 33 44.2	-1.0	
EYAK	Cordova Ski Ar	12.73	324	P	Pn	04 33 42.5	-2.7	

HARP S Sn 04 36 31.8 -2.1
baz=138
J30M Hart River 13.85 350 Pn Pn 04 33 59.2 -1.6
J30M Hart River 13.85 350 P Pn 04 33 58.7 -2.0
baz=164,SNR=14
J30M S Sn 04 36 30.0 -4.6
baz=164
PWL Port Wells 13.91 322 P Pn 04 33 59.0 -2.4
baz=126,SNR=35
PWL S Sn 04 36 31.7 -4.1
baz=126
SEW Seward 13.94 318 P Pn 04 33 59.5 -2.3
baz=122,SNR=72
SEW S Sn 04 36 35.5 -1.0
baz=122
M24K Tolsona, Glenn 13.95 328 P Pn 04 33 59.5 -2.5
baz=135,SNR=16
M24K S Sn 04 36 36.0 -0.7
baz=135
J29N Klondike Camp 13.99 346 Pn Pn 04 34 02.3 -0.3
J29N Klondike Camp 13.99 346 P Pn 04 34 02.1 -0.4
baz=159
J29N S Sn 04 36 35.1 -2.6
baz=159
MCCM Marconi Confer 14.04 154 Pn 04 34 05.3 +2.0
SCM Sheep Creek Mo 14.15 326 P Pn 04 34 02.3 -2.5
baz=132,SNR=69
SCM S Sn 04 36 39.5 -2.2
baz=132
O22K Cooper Landing 14.26 319 P Pn 04 34 03.4 -2.7
baz=122
O22K S Sn 04 36 45.0 +0.9
baz=122
M23K Glacier View 14.27 325 P Pn 04 34 03.7 -2.6
baz=131,SNR=49
M23K S Sn 04 36 41.1 -3.4
baz=131
KNK Knik Glacier 14.30 323 P Pn 04 34 04.4 -2.3
baz=128,SNR=13
KNK S Sn 04 36 44.8 -0.4
baz=128
YKA Yellowknife Ar 14.32 31 Pn 04 34 01.8 -5.2
YKA Yellowknife Ar 14.32 31 Pn Pn 04 34 02.8 -4.2
3.5nm,0.3s,baz=228,slow=12,SNR=52
27nm,0.8s
K27K Chicken 14.33 339 Pn Pn 04 34 04.1 -3.1
K27K Chicken 14.33 339 P Pn 04 34 05.5 -1.6
baz=149
K27K S Sn 04 36 45.1 -0.9
baz=149
YKAW1 Yellowknife Wh 14.35 31 Pn 04 34 02.9 -4.5
YKAW1 Yellowknife Wh 14.35 31 Pn Pn 04 34 02.9 -4.5
PAX Paxson 14.36 332 Pn Pn 04 34 04.1 -3.6
PAX Paxson 14.36 332 P Pn 04 34 05.5 -2.1
baz=139,SNR=47
PAX S Sn 04 36 44.9 -1.9
baz=139
YKAW3 Yellowknife Wh 14.37 31 Pn 04 34 03.4 -4.2
YKAW3 Yellowknife Wh 14.37 31 Pn Pn 04 34 03.1 -4.5
KDAK Kodiak Island 14.43 306 Pn 04 34 05.7 -2.8
KDAK Kodiak Island 14.43 306 Pn Pn 04 34 06.6 -1.8
0.5nm,0.3s,baz=102,slow=8.3,SNR=13
KDAK LR LR 04 38 20.3
comp=Z,246µm,20.3s,baz=148,slow=32
35nm,0.9s
KDAK Kodiak Island 14.43 306 *ce* P Pn 04 34 06.0 -2.5
KDAK pmax pmax
comp=Z,550nm,1.8s
KDAK MLR MLR
comp=Z,195µm,17.0s
KDAK Kodiak Island 14.43 306 ⇑P Pn 04 34 03.6 -4.8
KDAK Kodiak Island 14.43 306 P Pn 04 34 06.7 -1.7
baz=108
KDAK S Sn 04 36 50.8 +2.5
baz=108
I30M Mount Dempster 14.49 350 Pn Pn 04 34 07.3 -2.1
I30M Mount Dempster 14.49 350 P Pn 04 34 08.1 -1.3
baz=165,SNR=61
I30M S Sn 04 36 51.7 +1.8
baz=165
DOT Dot Lake 14.50 335 Pn Pn 04 34 05.3 -4.2
RC01 Rabbit Creek A 14.60 321 P Pn 04 34 08.2 -2.7
baz=124,SNR=20
RC01 S Sn 04 36 50.3 -2.2
baz=124
Q20K Shuyak Island 14.61 309 P Pn 04 34 08.8 -2.3
baz=111,SNR=8.5
Q20K S Sn 04 36 53.3 +0.4
baz=111
OHAK Old Harbor 14.63 304 P Pn 04 34 10.6 -0.6
OHAK Old Harbor 14.63 304 P Pn 04 34 08.9 -2.4
baz=105,SNR=20
OHAK S Sn 04 36 53.7 +0.4
baz=105
PMR Palmer 14.66 323 P Pn 04 34 10.6 -1.0
PMR Palmer 14.66 323 P Pn 04 34 09.9 -1.7
baz=127,SNR=33
PMR S Sn 04 36 54.4 +0.4
baz=127
HOM Homer 14.69 314 P Pn 04 34 09.5 -2.5
baz=116,SNR=14
HOM S Sn 04 36 52.9 -1.7
baz=116
SCRK Sand Creek 14.74 336 P Pn 04 34 09.8 -3.1
baz=145,SNR=79
SCRK S Sn 04 36 57.3 +1.1
baz=145
RIDG Independent Ri 14.78 334 P Pn 04 34 11.0 -2.4
baz=142,SNR=20
RIDG S Sn 04 36 57.8 +0.8
baz=142
WAT6 Susitna Watana 14.80 328 P Pn 04 34 11.0 -2.7
baz=133,SNR=312
WAT6 S Sn 04 36 58.9 +1.2
baz=133
ELK Elko 14.82 128 Pn Pn 04 34 15.6 +1.4
comp=Z,0.2nm,0.3s,baz=319,slow=10,SNR=79
ELK LR LR 04 41 03.3
comp=Z,41µm,18.5s,baz=324,slow=42
comp=Z,63nm,1.2s
ELK Elko 14.82 128 ⇑P Pn 04 34 15.0 +0.9
I29M Ogilvie Camp, 14.86 347 P Pn 04 34 12.9 -1.4
baz=160,SNR=151
I29M S Sn 04 37 00.1 +1.2
baz=160
H31M Peel River 14.88 354 Pn Pn 04 34 12.3 -2.3
H31M Peel River 14.88 354 P Pn 04 34 13.1 -1.6
baz=170,SNR=29
H31M S Sn 04 36 59.7 +0.3
baz=170
SII Sitkinak Islan 14.96 301 P Pn 04 34 15.4 -0.3
SII Sitkinak Islan 14.96 301 P Pn 04 34 13.3 -2.4
baz=101,SNR=6.4
SII S Sn 04 37 02.8 +1.5
baz=101
YNE Yellowstone No 14.99 106 IAmb IAmb 04 34 21.0
comp=Z,796nm,1.8s
CAPN Captain Cook N 15.01 318 P Pn 04 34 14.7 -1.6
baz=121
CAPN S Sn 04 37 07.0 +4.6
baz=121
DHY Denali Highway 15.03 329 P Pn 04 34 13.8 -2.9
baz=135,SNR=62
DHY S Sn 04 37 03.9 +0.7
baz=135
J26L Joseph Creek 15.08 338 P Pn 04 34 15.4 -1.9
baz=147,SNR=76
J26L S Sn 04 37 07.1 +2.8
baz=147
K24K Donnelly Dome 15.09 333 P Pn 04 34 15.6 -1.8
baz=140,SNR=22
K24K S Sn 04 37 06.6 +2.1
baz=140
M22K Willow 15.14 322 IAmb IAmb 04 34 22.7
comp=Z,492nm,1.4s
M22K Willow 15.14 322 P Pn 04 34 15.6 -2.4
baz=126,SNR=40
M22K S Sn 04 37 08.7 +3.2
baz=126
FXWY Fox Creek 15.15 112 Pn 04 34 19.2 +0.7
I28M Miner Creek 15.19 345 Pn Pn 04 34 15.8 -3.0
I28M Miner Creek 15.19 345 P Pn 04 34 17.8 -1.1
baz=157,SNR=137
I28M S Sn 04 37 09.8 +2.9
baz=157
SUA Susitna One 15.21 321 IAmb IAmb 04 34 24.6
comp=Z,318nm,1.2s
SUA Susitna One 15.21 321 P Pn 04 34 16.5 -2.7
baz=124
SUA S Sn 04 37 09.8 +2.1
baz=124
WAT1 Susitna Watana 15.25 327 P Pn 04 34 17.4 -2.2
baz=132
WAT1 S Sn 04 37 09.5 +1.2
baz=132
TPAW Teton Pass 15.28 112 IAmb IAmb 04 34 26.3
comp=Z,573nm,1.5s
O20K Slope Mountain 15.32 314 P Pn 04 34 18.1 -2.5
baz=116,SNR=53
O20K S Sn 04 37 13.9 +3.8
baz=116
NVAR Mina Array Bea 15.33 141 Pn 04 34 22.8 +1.8
NVAR Mina Array Bea 15.33 141 Pn Pn 04 34 22.6 +1.7
comp=Z,1.2nm,0.3s,baz=320,slow=11,SNR=123
NVAR LR LR 04 40 06.3
comp=Z,115µm,19.3s,baz=330,slow=36
comp=Z,81nm,1.0s
R18K Karluk 15.33 304 P Pn 04 34 18.4 -2.2
baz=104
R18K S Sn 04 37 10.3 +0.1
baz=104
Q19K Cape Douglas, 15.34 310 IAmb IAmb 04 34 27.8
comp=Z,761nm,1.3s
Q19K Cape Douglas, 15.34 310 P Pn 04 34 18.6 -2.1
baz=110,SNR=19
Q19K S S 04 37 20.2 -6.9
baz=110
NV11 Mina Array Sit 15.39 141 IAmb IAmb 04 34 27.5
comp=Z,561nm,1.4s
RLMT Red Lodge 15.39 105 IAmb IAmb 04 34 26.0
comp=Z,510nm,1.9s
RLMT Red Lodge 15.39 105 ⇑P Pn 04 34 21.0 -0.7
LHV Little Huntoon 15.40 142 IAmb IAmb 04 34 28.0
comp=Z,987nm,1.9s
P19K Oil Pt 15.41 313 Pn 04 34 18.7 -3.1
P19K Oil Pt 15.41 313 P Pn 04 34 19.5 -2.3
baz=113,SNR=64
P19K S Sn 04 37 12.6 +0.1
baz=113
Q09A Carvers 15.45 137 IAmb IAmb 04 34 27.4
comp=Z,409nm,1.2s
CUT Chulitna 15.58 324 IAmb IAmb 04 34 29.6
comp=Z,877nm,1.3s
CUT Chulitna 15.58 324 P Pn 04 34 22.0 -1.9
baz=127,SNR=16
CUT S Sn 04 37 17.8 +1.4
baz=127
SPU Mount Spurr 15.60 319 IAmb IAmb 04 34 30.6
comp=Z,916nm,1.4s
J25K Salcha River, 15.62 336 Pn Pn 04 34 20.3 -4.1
J25K Salcha River, 15.62 336 P Pn 04 34 22.6 -1.9
baz=143,SNR=62
J25K S Sn 04 37 21.4 +4.1
baz=143
I27K Kandik River 15.62 343 Pn Pn 04 34 19.8 -4.7
I27K Kandik River 15.62 343 P Pn 04 34 23.2 -1.3
baz=153,SNR=83
I27K S Sn 04 37 22.1 +4.6
baz=153
CHIR Chirikof Islan 15.63 297 Pn 04 34 21.1 -3.4
CHIR IAmb IAmb 04 34 30.6
comp=Z,465nm,1.2s
CHIR Chirikof Islan 15.63 297 P Pn 04 34 24.6 0.0
CHIR Chirikof Islan 15.63 297 P Pn 04 34 21.7 -2.9
baz=97
CHIR S S 04 37 25.6 -7.4
baz=97
EPYK Eagle Plains 15.64 351 Pn Pn 04 34 22.6 -2.1
EPYK Eagle Plains 15.64 351 P Pn 04 34 23.6 -1.0
baz=165,SNR=37
EPYK S Sn 04 37 18.3 +0.5
baz=165
AHID Auburn Hatcher 15.64 115 ⇑P Pn 04 34 26.1 +1.1
SPCR Spurr Chakacha 15.67 319 P Pn 04 34 22.8 -2.3
baz=120,SNR=47
SPCR S Sn 04 37 24.4 +5.7
baz=120
I26K Coal Creek Min 15.67 340 Pn Pn 04 34 23.0 -2.0
I26K Coal Creek Min 15.67 340 P Pn 04 34 24.0 -1.0
baz=149,SNR=116
I26K S Sn 04 37 19.5 +0.9
baz=149
STLK Strandline Lak 15.67 320 IAmb IAmb 04 34 31.6
comp=Z,664nm,1.3s
H29M Whitestone 15.68 348 Pn Pn 04 34 25.7 +0.5
H29M Whitestone 15.68 348 P Pn 04 34 24.1 -1.1
baz=161,SNR=187
H29M S Sn 04 37 20.9 +2.1
baz=161
SAO San Andreas Ge 15.73 152 ⇑P Pn 04 34 27.2 +1.1
SKT Skwentna 15.81 322 IAmb IAmb 04 34 33.5
comp=Z,564nm,1.2s
SKT Skwentna 15.81 322 P Pn 04 34 24.6 -2.3
baz=124,SNR=51
SKT S Sn 04 37 26.2 +4.1
baz=124
HDA Harding Lake 15.88 333 P Pn 04 34 25.9 -1.9
baz=139,SNR=95
HDA S Sn 04 37 26.3 +2.5
baz=139
Q18K Katmai Hardscr 15.92 308 P Pn 04 34 26.0 -2.4
baz=107,SNR=28
Q18K S Sn 04 37 26.4 +1.7
baz=107
G31M Satah River 15.98 355 Pn Pn 04 34 27.5 -1.5
G31M Satah River 15.98 355 P Pn 04 34 27.5 -1.5
baz=171,SNR=105
G31M S Sn 04 37 30.0 +3.9
baz=171
MCK McKinley 15.99 329 P Pn 04 34 27.6 -1.6
baz=134,SNR=121
MCK S Sn 04 37 29.0 +2.6
baz=134
HWUT Hardware Ranch 16.13 119 Pn 04 34 32.9 +1.5
HWUT Hardware Ranch 16.13 119 ⇑P Pn 04 34 32.8 +1.4
O19K Port Alsworth 16.14 314 IAmb IAmb 04 34 37.0
comp=Z,1µm,1.6s
O19K Port Alsworth 16.14 314 P Pn 04 34 28.9 -2.1
baz=114,SNR=42
O19K S Sn 04 37 33.7 +3.9
baz=114
ILAR Eielson Array 16.14 334 Pn 04 34 29.9 -1.3
ILAR Eielson Array 16.14 334 Pn Pn 04 34 31.4 +0.3
comp=Z,0.1nm,0.3s,baz=150,slow=11,SNR=53
ILAR LR LR 04 40 21.1
comp=Z,123µm,19.7s,baz=130,slow=36
comp=Z,20nm,1.0s
ILAR Eielson Array 16.14 334 P Pn 04 34 29.9 -1.3
H27K Steamboat Moun 16.17 344 Pn Pn 04 34 30.5 -1.0
H27K Steamboat Moun 16.17 344 P Pn 04 34 31.2 -0.4
baz=154,SNR=270
H27K S Sn 04 37 32.5 +1.7
baz=154
G30M tAoh Zraii Nji 16.19 352 Pn Pn 04 34 29.3 -2.4
G30M tAoh Zraii Nji 16.19 352 P Pn 04 34 30.0 -1.7
baz=167,SNR=26
G30M S Sn 04 37 30.7 -0.4
baz=167
Q17K Contact Creek 16.25 306 P Pn 04 34 30.4 -2.2
baz=105,SNR=30
Q17K S Sn 04 37 38.6 +5.8
baz=105
TRF Thorofare Moun 16.25 327 IAmb IAmb 04 34 39.0
comp=Z,1µm,1.5s
TRF Thorofare Moun 16.25 327 P Pn 04 34 31.0 -1.7
baz=130,SNR=118
TRF S Sn 04 37 37.6 +4.7
baz=130
P18K Big Mountain, 16.26 310 IAmb IAmb 04 34 40.4
comp=Z,801nm,1.6s
P18K Big Mountain, 16.26 310 P Pn 04 34 30.3 -2.5
baz=110,SNR=42
P18K S Sn 04 37 34.1 +1.1
baz=110
G29M Pine Creek 16.30 349 Pn Pn 04 34 32.8 -0.4
G29M Pine Creek 16.30 349 P Pn 04 34 32.1 -1.1
baz=163,SNR=104
G29M S Sn 04 37 32.8 -1.1
baz=163
PLK4 Peulik 4 16.34 304 IAmb IAmb 04 34 38.9
comp=Z,744nm,1.2s
R17L Mt. Peulik Vol 16.34 304 P Pn 04 34 32.2 -1.5
baz=102,SNR=44
R17L S S 04 37 41.8 -5.7
baz=102
PRP Porcupine Dome 16.39 338 P Pn 04 34 33.2 -1.2
baz=144,SNR=39
PRP S Sn 04 37 39.3 +3.1
baz=144
M20K Styx River 16.40 320 IAmb IAmb 04 34 40.3
comp=Z,1µm,1.4s
M20K Styx River 16.40 320 P Pn 04 34 32.3 -2.2
baz=121
M20K S Sn 04 37 39.0 +2.6
baz=121
O18K Koktuh Hills 16.42 312 IAmb IAmb 04 34 42.2
comp=Z,759nm,1.1s
O18K Koktuh Hills 16.42 312 P Pn 04 34 32.4 -2.3
baz=111,SNR=137
O18K S Sn 04 37 40.6 +3.9
baz=111
DUG Dugway, Tooele 16.46 125 ⇑P Pn 04 34 35.9 +0.4
BWN Browne 16.47 330 IAmb IAmb 04 34 41.1
comp=Z,1µm,1.4s
N19K Bonanza Creek 16.47 315 IAmb IAmb 04 34 40.7
comp=Z,1µm,1.8s
N19K Bonanza Creek 16.47 315 P Pn 04 34 33.0 -2.4
baz=115,SNR=61
N19K S Sn 04 37 39.9 +1.8
baz=115
F31M Tsiigehtchic 16.47 356 Pn Pn 04 34 33.1 -2.1
F31M Tsiigehtchic 16.47 356 P Pn 04 34 33.5 -1.8
baz=173,SNR=149
F31M S Sn 04 37 40.2 +2.3
baz=173
COLA College 16.49 333 P Pn 04 34 33.5 -2.1
COLA College 16.49 333 P Pn 04 34 35.4 -0.1
COLA College 16.49 333 P Pn 04 34 33.5 -2.1
COLA pmax pmax
comp=Z,145nm,1.2s
COLA College 16.49 333 ⇑P Pn 04 34 33.5 -2.1
COLA College 16.49 333 P Pn 04 34 33.2 -2.3
baz=138
COLA S Sn 04 37 40.0 +1.6
baz=138
BW06 Boulder Array 16.53 112 ⇑P Pn 04 34 38.0 +1.5
PDAR Pinedale Array 16.53 112 P Pn 04 34 37.9 +1.4
PDAR Pinedale Array 16.53 112 Pn P 04 34 38.4 -0.8
comp=Z,2.0nm,0.3s,baz=308,slow=11,SNR=146
PDAR LR LR 04 41 02.9
comp=Z,89µm,18.3s,baz=304,slow=38
R11B Troy Canyon, C 16.55 135 IAmb IAmb 04 34 44.5
comp=Z,840nm,1.9s
LAO LASA Array 16.56 96 IAmb IAmb 04 34 39.2
comp=Z,527nm,1.2s
LAO LASA Array 16.56 96 ⇑P Pn 04 34 36.0 -0.5
PPLA Purkeypile 16.59 324 IAmb IAmb 04 34 43.6
comp=Z,1µm,1.3s
PPLA Purkeypile 16.59 324 P Pn 04 34 34.4 -2.6
baz=125,SNR=50
PPLA S Sn 04 37 43.3 +2.2
baz=125
NEA2 Nenana 16.64 331 P Pn 04 34 35.2 -2.3
baz=135,SNR=339
NEA2 S Sn 04 37 43.2 +1.1
baz=135
G27K Doyon Strip 16.72 345 IAmb IAmb 04 34 44.8
comp=Z,728nm,1.6s
G27K Doyon Strip 16.72 345 Pn Pn 04 34 37.1 -1.4
G27K Doyon Strip 16.72 345 P Pn 04 34 36.8 -1.7
baz=155,SNR=442
G27K S Sn 04 37 44.7 +0.7
baz=155
Q16K King Salmon 16.75 307 P Pn 04 34 36.9 -1.9
baz=105,SNR=63
Q16K S Sn 04 37 49.5 +4.9
baz=105
F30M Barrier River 16.77 353 Pn Pn 04 34 37.0 -2.1
F30M Barrier River 16.77 353 P Pn 04 34 37.4 -1.6
baz=168,SNR=54
F30M S Sn 04 37 47.9 +2.8
baz=168
P17K Kvichak River 16.79 309 P Pn 04 34 36.7 -2.6
baz=107,SNR=54
P17K S Sn 04 37 49.4 +3.7
baz=107
CAST Castle Rocks 16.86 325 P Pn 04 34 37.7 -2.6
baz=127,SNR=228
CAST S Sn 04 37 46.0 -1.4
baz=127
JLU Jordanelle 16.89 121 IAmb IAmb 04 34 45.5
comp=Z,1µm,1.9s
BPAW Bear Paw Mtn. 16.91 328 IAmb IAmb 04 34 48.4
comp=Z,2µm,1.4s
BPAW Bear Paw Mtn. 16.91 328 P Pn 04 34 38.9 -2.1
baz=130,SNR=157
BPAW S Sn 04 37 48.6 -0.1
baz=130
M19K Big River Lodg 16.93 319 P Pn 04 34 38.1 -3.1
baz=119,SNR=123
M19K S Sn 04 37 49.6 +0.5
baz=119
L20K Farewell, AK 17.01 321 P Pn 04 34 39.5 -2.7
baz=121,SNR=277
L20K S Sn 04 37 53.9 +2.8
baz=121
N18K Kilae Creek 17.04 314 IAmb IAmb 04 34 47.9
comp=Z,668nm,1.4s
N18K Kilae Creek 17.04 314 P Pn 04 34 40.8 -1.9
baz=113,SNR=98
N18K S Sn 04 37 53.8 +1.9
baz=113
H25L Birch Creek 17.08 339 P Pn 04 34 41.4 -1.5
baz=145,SNR=152
H25L S Sn 04 37 55.8 +3.3
baz=145
I23K Minto, Yukon-K 17.13 332 P Pn 04 34 41.5 -2.0
baz=136,SNR=119
I23K S Sn 04 37 55.9 +2.1
baz=136
FYU Fort Yukon 17.20 340 IAmb IAmb 04 34 51.5
comp=Z,679nm,1.3s
F28M Old Crow 17.20 348 Pn Pn 04 34 42.2 -2.3
F28M Old Crow 17.20 348 P Pn 04 34 43.1 -1.4
baz=160,SNR=79
F28M S Sn 04 37 57.3 +1.7
baz=160
PSUT Pine Spring 17.20 130 IAmb IAmb 04 34 51.9
comp=Z,845nm,1.7s
CHUM Lake Minchumin 17.23 326 P Pn 04 34 42.8 -2.0
baz=128,SNR=270
CHUM S S 04 38 00.5 -5.0
baz=128
G26K Porcupine Rive 17.23 342 IAmb IAmb 04 34 51.8
comp=Z,1µm,1.6s
G26K Porcupine Rive 17.23 342 Pn Pn 04 34 43.3 -1.6
G26K Porcupine Rive 17.23 342 P Pn 04 34 43.9 -1.0
baz=151,SNR=223
G26K S Sn 04 37 57.7 +1.4
baz=151
H24K Noodor Dome 17.24 336 IAmb IAmb 04 34 51.7
comp=Z,1µm,1.9s
H24K Noodor Dome 17.24 336 P Pn 04 34 43.0 -2.0
baz=140,SNR=194
H24K S Sn 04 37 59.8 +3.3
baz=140
CHGN Chignik 17.24 298 IAmb IAmb 04 34 53.6
comp=Z,2µm,1.6s
CHGN Chignik 17.24 298 P Pn 04 34 43.1 -2.0
baz=96,SNR=29
CHGN S Sn 04 37 57.2 +0.6
baz=96
L19K White Mountain 17.25 319 P Pn 04 34 43.3 -1.9
baz=119,SNR=475
L19K S Sn 04 38 00.3 +3.2
baz=119
O17K Koliganek Bris 17.29 310 P Pn 04 34 43.8 -1.8
baz=108,SNR=132
O17K S Sn 04 38 00.8 +3.1
baz=108
BSUT Blindstream Ca 17.31 120 IAmb IAmb 04 34 53.2
comp=Z,2µm,2.0s
INK Inuvik 17.33 356 P Pn 04 34 44.4 -1.6
comp=Z,0.1nm,0.3s,baz=174,slow=13,SNR=23
INK LR LR 04 41 01.4
comp=Z,65µm,18.0s,baz=178,slow=36
comp=Z,14nm,0.9s
INK Inuvik 17.33 356 Pn Pn 04 34 43.0 -3.0
INK Inuvik 17.33 356 ⇓P Pn 04 34 44.0 -2.1
INK Inuvik 17.33 356 P Pn 04 34 44.2 -1.8
baz=174,SNR=33
INK S Sn 04 37 59.5 +0.9

baz=174
M18K Stony River 17.35 317 P **Pn** 04 34 44.3 -2.0
baz=115,SNR=141
M18K S **Sn** 04 38 02.1 +2.9

baz=115
WCT Wildcat Mounta 17.41 140 IAmb IAmb 04 34 53.4
comp=Z,532nm,1.2s
TPNV Topopah Spring 17.43 139 P **Pn** 04 34 53.5
comp=Z,769nm,1.4s
TPNV Topopah Spring 17.43 139 ⇑P **Pn** 04 34 48.7 +0.9
MLY Manley 17.46 331 IAmb IAmb 04 34 55.0
comp=Z,1µm,1.4s
MLY Manley 17.46 331 P **Pn** 04 34 45.8 -2.0
baz=133,SNR=103
MLY S **Sn** 04 38 05.3 +3.3

baz=133
P16K Nushagak River 17.51 308 P **Pn** 04 34 46.7 -1.7
baz=105,SNR=18
P16K S **S** 04 38 07.0 -4.3

baz=105
FFC Flin Flon 17.54 67 **Pn** 04 34 45.9 -3.0
FFC IAmb IAmb 04 34 55.8
comp=Z,444nm,1.1s
FFC Flin Flon 17.54 67 P **Pn** 04 34 45.9 -3.0
FFC pmax pmax
comp=Z,444nm,1.1s
FFC Flin Flon 17.54 67 ⇑P **Pn** 04 34 45.8 -3.0
G25K Bearman Lake 17.55 339 P **Pn** 04 34 47.0 -1.9
baz=146,SNR=218
G25K S **Sn** 04 38 07.0 +2.9

baz=146
K20K Telida 17.56 323 P **Pn** 04 34 46.5 -2.5
baz=123,SNR=331
K20K S **Sn** 04 38 03.3 -1.0

baz=123
PRN Pahroc Range 17.57 135 ⇑P **P** 04 34 50.7 +0.3
N17K Nushagak Hills 17.58 313 P **Pn** 04 34 47.8 -1.5
baz=110,SNR=195
N17K S **Sn** 04 38 04.4 -0.5

baz=110
H23K Yukon River 17.68 334 P **Pn** 04 34 48.6 -1.9
baz=137,SNR=91
H23K S **Sn** 04 38 08.0 +0.8

baz=137
E29M Blow River 17.71 351 P **Pn** 04 34 49.3 -1.6
baz=164
E29M S **Sn** 04 38 07.0 -1.0

baz=164
O16K Kokwok River B 17.71 309 IAmb IAmb 04 35 00.6
comp=Z,922nm,1.2s
O16K Kokwok River B 17.71 309 P **Pn** 04 34 49.4 -1.5
baz=106,SNR=178
O16K S **S** 04 38 12.7 -2.7

baz=106
BMAR Burnt Mountain 17.80 342 **Pn** 04 34 51.7 -0.4
G24K Hadweenzic Riv 17.82 338 P **Pn** 04 34 49.9 -2.2
baz=143,SNR=82
G24K S **Sn** 04 38 11.0 +0.4

baz=143
CHNA Chernabura Isl 17.83 293 P **Pn** 04 34 51.4 -1.0
CHNA Chernabura Isl 17.83 293 P **Pn** 04 34 50.7 -1.6
baz=90,SNR=7.5
CHNA S **S** 04 38 15.2 -2.6

baz=90
S14K Fog Glacier 17.87 298 P **Pn** 04 34 51.9 -1.1
baz=94
S14K S **S** 04 38 15.6 -3.3

baz=94
I21K Tanana 17.95 330 P **Pn** 04 34 52.3 -1.5
baz=131
I21K S **S** 04 38 18.6 -1.5

baz=131
F26K Sheenjek River 17.95 343 P **Pn** 04 34 51.9 -2.0
baz=151
F26K S **Sn** 04 38 15.9 +2.0

baz=151
E27K Coleen River 17.98 347 P **Pn** 04 34 52.8 -1.3
baz=157,SNR=189
E27K S **Sn** 04 38 15.5 +1.1

baz=157
M17K Holitna River 18.02 315 P **Pn** 04 34 52.9 -1.8
baz=112,SNR=265
M17K S **Sn** 04 38 17.7 +2.2

baz=112
L18K Granite Mounta 18.04 318 IAmb IAmb 04 35 00.6
comp=Z,1µm,1.4s
L18K Granite Mounta 18.04 318 P **Pn** 04 34 53.5 -1.4
baz=116,SNR=297
L18K S **Sn** 04 38 14.5 -1.3

baz=116
QSM Queen of Sheba 18.04 142 IAmb IAmb 04 35 03.0
comp=Z,974nm,1.7s
BCW Bitter Crk WRg 18.05 149 IAmb IAmb 04 35 02.3
comp=Z,996nm,1.6s
J20K Nowinta River 18.05 326 P **Pn** 04 34 53.8 -1.2
baz=125,SNR=534
J20K S **Sn** 04 38 17.2 +1.1

baz=125
E28M Babbage River 18.10 349 P **Pn** 04 34 54.0 -1.6
baz=161
E28M S **Sn** 04 38 18.9 +1.6

baz=161
F25K Christian Rive 18.15 341 P **Pn** 04 34 54.6 -1.7
baz=148,SNR=221
F25K S **Sn** 04 38 21.0 +2.2

baz=148
H22K Ishtalitna Cre 18.25 332 P **Pn** 04 34 56.2 -1.3
baz=134,SNR=186
H22K S **S** 04 38 23.6 -2.7

baz=134
N16K Nishlik Lake 18.30 312 P **Pn** 04 34 57.3 -0.9
baz=108,SNR=166
N16K S **S** 04 38 25.8 -1.6

baz=108
CCAC Calif City Air 18.33 146 IAmb IAmb 04 35 06.1
comp=Z,877nm,1.6s
SDPT Sand Point 18.35 295 IAmb IAmb 04 35 05.0
comp=Z,956nm,1.2s
SDPT Sand Point 18.35 295 P **P** 04 34 58.9 +0.1
SDPT Sand Point 18.35 295 P **Pn** 04 34 57.9 -0.8
baz=91,SNR=22
SDPT S **S** 04 38 32.0 +3.7

baz=91
K22A Casper 18.40 108 IAmb IAmb 04 35 04.5
comp=Z,755nm,1.4s
KUKN Kugluktuk,NWT 18.42 19 Pn **P** 04 34 56.1 -3.4
O15K Ungalikthiuk R 18.46 307 IAmb IAmb 04 35 08.4
comp=Z,516nm,1.1s
O15K Ungalikthiuk R 18.46 307 P **P** 04 34 59.4 -0.6
baz=103,SNR=73
G23K Bananza Creek 18.47 335 P **P** 04 34 58.9 -1.2
baz=138,SNR=79
G23K S **S** 04 38 29.5 -1.2

baz=138
J19K Poorman 18.48 324 P **P** 04 34 59.3 -1.0
baz=122,SNR=412
J19K S **Sn** 04 38 27.2 +0.5

baz=122
H21K Melozitna Rive 18.52 330 IAmb IAmb 04 35 07.9
comp=Z,1µm,1.5s
H21K Melozitna Rive 18.52 330 P **P** 04 35 00.0 -0.7
baz=131,SNR=304
H21K S **S** 04 38 30.9 -0.9

baz=131
I20K Naaghedeneel 18.53 327 P **P** 04 35 00.0 -0.7
baz=126,SNR=203
I20K S **S** 04 38 30.3 -1.5

baz=126
M16K Timber Creek 18.57 313 P **P** 04 35 00.6 -0.6
baz=109,SNR=240
M16K S **S** 04 38 35.6 +2.8

baz=109
F24K Squaw Lake 18.57 339 P **P** 04 35 00.7 -0.6
baz=144,SNR=162
F24K S **S** 04 38 32.7 -0.1

baz=144
E25K Arctic Village 18.59 342 P **P** 04 35 01.1 -0.4
baz=149,SNR=102
E25K S **S** 04 38 32.2 -0.9

baz=149
J18K Innoko River 18.63 322 P **P** 04 35 00.6 -1.2
baz=119,SNR=606
J18K S **S** 04 38 32.2 -1.8

baz=119
L17K Donlin 18.68 317 P **P** 04 35 01.7 -0.8
baz=113,SNR=184
L17K S **S** 04 38 35.5 +0.4

baz=113
D28M Stokes Point 18.71 351 P **P** 04 35 02.0 -0.6
baz=164
D28M S **S** 04 38 36.1 +0.7

baz=164
N15K Kwethluk River 18.84 310 IAmb IAmb 04 35 14.9
comp=Z,790nm,1.4s
N15K Kwethluk River 18.84 310 P **Pn** 04 35 04.7 -0.1
baz=105,SNR=45
N15K S **S** 04 38 43.2 +4.9

baz=105
D27M Malcolm River 18.88 348 IAmb IAmb 04 35 12.1
comp=Z,729nm,1.3s
D27M Malcolm River 18.88 348 P **P** 04 35 04.0 -0.6
baz=159
D27M S **Sn** 04 38 36.6 +0.4

baz=159
COLD Coldfoot 18.90 336 IAmb IAmb 04 35 13.3
comp=Z,884nm,1.8s
COLD Coldfoot 18.90 336 P **P** 04 35 04.3 -0.5
baz=139
COLD S **S** 04 38 44.2 +4.8

baz=139
K17K Iditarod 18.93 319 P **P** 04 35 04.4 -0.7
baz=115,SNR=203
K17K S **S** 04 38 46.0 +6.1

baz=115
O20A White River Ci 18.98 117 IAmb IAmb 04 35 11.3
comp=Z,464nm,1.3s
G22K Bettles 19.02 334 P **P** 04 35 05.8 -0.3
baz=136
G22K S **S** 04 38 45.5 +3.8

baz=136
IMAR Indian Mountai 19.03 330 P **P** 04 35 05.5 -0.7
L16K Owhat River 19.04 315 IAmb IAmb 04 35 11.3
comp=Z,663nm,1.2s
L16K Owhat River 19.04 315 P **P** 04 35 06.0 -0.3
baz=110,SNR=186
L16K S **Sn** 04 38 40.0 0.0

baz=110
H20K Anotleneega Mo 19.09 328 P **P** 04 35 06.6 -0.3
baz=127,SNR=179
H20K S **S** 04 38 42.4 -0.8

baz=127
RSSD Black Hills 19.11 101 **P** 04 35 06.8 -0.8
RSSD IAmb IAmb 04 35 16.4
comp=Z,565nm,1.7s
RSSD Black Hills 19.11 101 P **P** 04 35 06.8 -0.8
RSSD pmax pmax
comp=Z,565nm,1.7s
RSSD Black Hills 19.11 101 ⇑P **P** 04 35 06.8 -0.8
RSSD Black Hills 19.11 101 P **P** 04 35 06.2 -1.3
E24K Your Creek 19.16 339 IAmb IAmb 04 35 17.1
comp=Z,613nm,1.3s
E24K Your Creek 19.16 339 P **P** 04 35 07.6 -0.1
baz=144
E24K S **S** 04 38 48.3 +3.7

baz=144
O14K Tigyukauivet M 19.20 307 IAmb IAmb 04 35 20.3
comp=Z,562nm,1.5s
O14K Tigyukauivet M 19.20 307 P **P** 04 35 08.1 -0.1
baz=101,SNR=22
O14K S **S** 04 38 45.3 -0.2

baz=101
S12K Black Hills 19.25 296 IAmb IAmb 04 35 12.8
comp=Z,1µm,1.4s
S12K Black Hills 19.25 296 P **Pn** 04 35 09.2 -0.6
baz=90,SNR=21
S12K S **S** 04 38 50.6 +4.0

baz=90
M15K Kasigluk River 19.27 312 P **Pn** 04 35 09.8 -0.1
baz=106,SNR=111
M15K S **S** 04 38 48.6 +1.7

baz=106
G21K Allakaket 19.31 332 P **P** 04 35 09.6 +0.3
baz=132
G21K S **S** 04 38 47.4 -0.2

baz=132
GCSA Galena City Sc 19.35 325 P **P** 04 35 09.5 -0.2
baz=122,SNR=22
GCSA S **S** 04 38 49.9 +1.5

baz=122
E23K Chandalar 19.40 338 IAmb IAmb 04 35 18.9
comp=Z,862nm,1.4s
E23K Chandalar 19.40 338 P **Pn** 04 35 11.3 -0.2
baz=142,SNR=134
E23K S **S** 04 38 50.3 +0.7

baz=142
J17K VABM Dome 19.54 320 P **P** 04 35 11.6 -0.2
baz=116,SNR=185
J17K S **S** 04 38 52.0 -0.2

baz=116
N14K Kuskokwak Cree 19.56 309 P **Pn** 04 35 12.4 -0.8
baz=103,SNR=142
N14K S **S** 04 38 55.7 +3.1

baz=103
C27K Jago River 19.61 346 IAmb IAmb 04 35 22.3
comp=Z,457nm,1.2s
C27K Jago River 19.61 346 P **P** 04 35 12.9 +0.4
baz=154
C27K S **S** 04 38 53.2 -0.4

baz=154
F22K John River 19.63 335 P **Pn** 04 35 13.8 -0.3
baz=136
F22K S **Sn** 04 38 58.1 +3.8

baz=136
H19K Roundabout Mou 19.64 327 P **P** 04 35 12.5 -0.3
baz=125,SNR=815
H19K S **Sn** 04 38 55.6 +1.2

baz=125
D25K Kavik River 19.78 343 P **Pn** 04 35 15.6 -0.4
baz=149
D25K S **Sn** 04 38 58.3 +0.4

baz=149
F21K Alatna River 19.78 333 IAmb IAmb 04 35 26.9
comp=Z,947nm,1.4s
F21K Alatna River 19.78 333 P **Pn** 04 35 15.3 -0.7
baz=133
F21K S **Sn** 04 38 57.1 -0.9

baz=133
PV22 Blue Mesa, Par 19.80 121 IAmb IAmb 04 35 23.9
comp=Z,1µm,2.0s
PV20 West Nyswonger 19.85 122 IAmb IAmb 04 35 21.1
comp=Z,401nm,0.9s
TOLK Toolik Lake Re 19.86 339 IAmb IAmb 04 35 26.5
comp=Z,910nm,1.4s
TOLK Toolik Lake Re 19.86 339 P **Pn** 04 35 16.4 -0.5
baz=143,SNR=86
TOLK S **Sn** 04 39 05.8 +6.0

baz=143
M14K Bethel 19.89 311 P **P** 04 35 16.1 +0.5
baz=105,SNR=80
M14K S **Sn** 04 39 09.8 +9.2

baz=105
PV17 East Wray Mesa 19.89 122 IAmb IAmb 04 35 22.6
comp=Z,821nm,1.3s
PV16 Nyswonger Mesa 19.90 122 IAmb IAmb 04 35 22.6
comp=Z,570nm,1.3s
PV11 David Mesa, Pa 19.93 122 IAmb IAmb 04 35 29.3
comp=Z,813nm,1.3s
L15K Ungalak Mounta 19.93 314 P **Pn** 04 35 17.1 -0.6
baz=108
L15K S **Sn** 04 39 05.6 +3.9

baz=108
PV05 Paradox Valley 19.97 122 IAmb IAmb 04 35 23.6
comp=Z,841nm,1.4s
PV03 Paradox Valley 19.97 122 IAmb IAmb 04 35 29.7
comp=Z,794nm,1.6s
E22K Anaktuvuk Pass 19.99 337 P **Pn** 04 35 17.5 -1.0
baz=138
E22K S **Sn** 04 39 07.3 +4.2

baz=138
W13A Hualapai Mount 20.01 137 IAmb IAmb 04 35 26.1
comp=Z,486nm,1.4s
C26K Camden Bay 20.06 346 P **P** 04 35 17.6 +0.2
baz=153,SNR=27
C26K S Sn 04 39 07.2 +2.8

baz=153
PV13 Radium Mtn., P 20.06 122 IAmb IAmb 04 35 24.5
comp=Z,956nm,1.4s
H18K Honhosa River 20.10 325 P **P** 04 35 18.4 +0.4
baz=121,SNR=166
H18K S Sn 04 39 07.9 +2.2

baz=121
D24K Happy Valley 20.11 341 IAmb IAmb 04 35 28.2
comp=Z,624nm,1.3s
D24K Happy Valley 20.11 341 P **P** 04 35 17.7 -0.2
baz=145,SNR=75
D24K S Sn 04 39 10.5 +4.7

baz=145
J16K Anvik River 20.12 319 IAMs_20 IAMs_20 04 42 14.7
comp=Z,92µm,18.0s
J16K Anvik River 20.12 319 P **P** 04 35 18.2 +0.1
baz=113,SNR=242
J16K S Sn 04 39 08.2 +2.1

baz=113
K15K Wolf Creek Mou 20.15 316 P **P** 04 35 19.1 +0.6
K15K Wolf Creek Mou 20.15 316 P Pn 04 35 19.3 -1.0
baz=109,SNR=377
K15K S Sn 04 39 11.2 +4.3

baz=109
G19K Purcell Mounta 20.21 328 IAMs_20 IAMs_20 04 42 43.4
comp=Z,109µm,18.0s
G19K Purcell Mounta 20.21 328 P **P** 04 35 18.8 -0.3
baz=125,SNR=126
G19K S Sn 04 39 09.7 +1.5

baz=125
PFO Pinyon Flats O 20.27 144 Pn 04 35 21.7 -0.4
PFO IAmb IAmb 04 35 28.3
comp=Z,913nm,1.4s
PFO Pinyon Flats O 20.27 144 P Pn 04 35 21.7 -0.4
comp=Z,71nm,0.9s,baz=328,slow=7.9,SNR=59
PFO LR LR 04 43 06.3
comp=Z,40µm,20.4s,baz=319,slow=36
comp=Z,71nm,0.9s
F20K Avaraart Lake 20.32 331 IAMs_20 IAMs_20 04 43 17.0
comp=Z,120µm,18.0s
F20K Avaraart Lake 20.32 331 P **P** 04 35 20.1 -0.2
baz=129
F20K S Sn 04 39 12.9 +1.9

baz=129
D23K Nanushuk River 20.36 339 P **P** 04 35 19.9 -0.8
baz=141,SNR=97
D23K S Sn 04 39 16.5 +4.7

baz=141
L14K Kuka Creek 20.39 313 IAMs_20 IAMs_20 04 42 09.1
comp=Z,95µm,18.0s
L14K Kuka Creek 20.39 313 P **P** 04 35 21.3 +0.3
baz=105,SNR=191
L14K S Sn 04 39 15.8 +3.3

baz=105
I17K Unalakleet 20.40 320 P **P** 04 35 21.3 +0.1
I17K IAMs_20 IAMs_20 04 42 33.0
comp=Z,91µm,18.0s
I17K Unalakleet 20.40 320 P **P** 04 35 21.4 +0.3
baz=114,SNR=188
I17K S Sn 04 39 13.8 +1.0

baz=114
M13K Dall Lake 20.48 310 IAMs_20 IAMs_20 04 41 53.8
comp=Z,123µm,20.0s
M13K Dall Lake 20.48 310 P **P** 04 35 22.4 +0.4
baz=102,SNR=94
M13K S Sn 04 39 16.1 +1.5

baz=102
C24K Franklin Bluff 20.56 342 IAMs_20 IAMs_20 04 43 06.3
comp=Z,110µm,20.0s
C24K Franklin Bluff 20.56 342 P **P** 04 35 22.4 -0.4
baz=146
C24K S Sn 04 39 19.2 +2.8

baz=146
H17K Granite Mounta 20.57 324 P **P** 04 35 22.9 -0.1
H17K Granite Mounta 20.57 324 P **P** 04 35 22.7 -0.3
baz=118,SNR=766
H17K S Sn 04 39 16.9 +0.1

baz=118
G18K Tagagawik 20.60 327 P **P** 04 35 23.6 +0.3
baz=122,SNR=160
G18K S Sn 04 39 17.2 -0.4

baz=122
ISCO Idaho Springs 20.71 113 **P** 04 35 25.7 +0.6
ISCO IAmb IAmb 04 35 32.0
comp=Z,918nm,2.0s
ISCO Idaho Springs 20.71 113 P **P** 04 35 25.7 +0.6
ISCO pmax pmax
comp=Z,918nm,2.0s
ISCO MLR MLR
comp=Z,184µm,18.0s
ISCO Idaho Springs 20.71 113 ⇑P **P** 04 35 25.7 +0.6
D22K Ayikyak River 20.77 337 P **P** 04 35 25.6 +0.5
D22K IAMs_20 IAMs_20 04 43 39.6
comp=Z,178µm,18.0s
D22K Ayikyak River 20.77 337 P **P** 04 35 24.3 -0.8
baz=138,SNR=74
D22K S Sn 04 39 21.5 0.0

baz=138
E21K Killik River 20.77 336 IAmb IAmb 04 35 38.2
comp=Z,618nm,1.8s
E21K IAMs_20 IAMs_20 04 42 58.7
comp=Z,127µm,19.0s
E21K Killik River 20.77 336 P **P** 04 35 25.1 -0.1
baz=135
E21K S Sn 04 39 21.6 -0.1

baz=135
WUAZ Wupatki 20.81 131 **P** 04 35 27.1 +1.2
WUAZ IAmb IAmb 04 35 43.2
comp=Z,609nm,1.2s
WUAZ IAMs_20 IAMs_20 04 43 58.4
comp=Z,105µm,19.0s
WUAZ Wupatki 20.81 131 ⇑P **P** 04 35 27.1 +1.2
F19K Shaleruckik Mo 20.83 329 IAMs_20 IAMs_20 04 43 13.7
comp=Z,90µm,18.0s
F19K Shaleruckik Mo 20.83 329 P **P** 04 35 26.0 +0.2
baz=126,SNR=198
F19K S Sn 04 39 23.0 -0.2

baz=126
BLYC Blythe 20.90 140 IAmb IAmb 04 35 36.2
comp=Z,825nm,1.6s
BLYC IAMs_20 IAMs_20 04 43 29.6
comp=Z,89µm,18.0s
MVCO Mesa Verde 20.93 123 **P** 04 35 27.8 +0.4
MVCO IAmb IAmb 04 35 41.7
comp=Z,605nm,1.4s
MVCO IAMs_20 IAMs_20 04 43 45.5
comp=Z,90µm,18.0s
MVCO Mesa Verde 20.93 123 ⇑P **P** 04 35 27.8 +0.4
C23K Itkillik River 21.04 341 IAmb IAmb 04 35 34.0
comp=Z,751nm,1.4s
C23K IAMs_20 IAMs_20 04 43 44.7
comp=Z,124µm,21.0s
C23K Itkillik River 21.04 341 P **P** 04 35 28.2 +0.2
baz=143,SNR=88
C23K S Sn 04 39 27.7 -0.3

baz=143
E19K Redstone River 21.04 331 P **P** 04 35 28.2 +0.1
baz=128,SNR=305
E19K S Sn 04 39 27.2 -1.0

baz=128
A36M Sachs Harbour 21.10 5 Pn **P** 04 35 27.8 -0.8
A36M Sachs Harbour 21.10 5 P **P** 04 35 28.4 -0.2
baz=189,SNR=34
A36M S **S** 04 39 21.1 -2.0

baz=189
G17K Kiwalik Mounta 21.11 324 P **P** 04 35 28.6 -0.2
baz=118,SNR=209
G17K S Sn 04 39 28.0 -1.9

baz=118
TKX Tecate 21.16 146 IAmb IAmb 04 35 35.0
comp=Z,790nm,1.5s
TKX IAMs_20 IAMs_20 04 44 35.8
comp=Z,81µm,18.0s
J14K Nanvaranak Lak 21.19 316 P **P** 04 35 29.9 +0.2
baz=108,SNR=88
J14K S Sn 04 39 29.6 -2.1

baz=108
E20K Nigu River 21.25 334 P **P** 04 35 29.6 -0.8
baz=131,SNR=223
E20K S Sn 04 39 29.4 -3.8

baz=131
F18K Selawik 21.32 328 P **P** 04 35 30.8 -0.2
baz=122,SNR=131
F18K S Sn 04 39 32.9 -2.0

baz=122
CBX Cerro Bola 21.37 146 IAMs_20 IAMs_20 04 44 11.4
comp=Z,83µm,19.0s
K13K Kusilvak Mount 21.45 313 IAmb IAmb 04 35 46.0
comp=Z,435nm,1.4s
K13K IAMs_20 IAMs_20 04 42 52.7
comp=Z,85µm,18.0s
K13K Kusilvak Mount 21.45 313 P **P** 04 35 31.9 -0.6
baz=104,SNR=49
K13K S Sn 04 39 37.7 -0.3

baz=104
AKUT Akutan 21.47 292 **P** 04 35 32.1 -0.7
AKUT Akutan 21.47 292 P **P** 04 35 34.2 +1.4
C21K Knifeblade Rid 21.49 336 P **P** 04 35 32.4 -0.5
baz=135,SNR=168
C21K S Sn 04 39 36.5 -2.4

baz=135
Q24A Divide 21.53 114 IAMs_20 IAMs_20 04 43 59.5
comp=Z,98µm,20.0s
LVA Lava Point 21.62 292 P **P** **04 35 32.4 -2.1**
D20K Etivluk River 21.66 334 IAmb IAmb 04 35 45.3
comp=Z,417nm,1.2s
D20K IAMs_20 IAMs_20 04 43 04.5
comp=Z,140µm,19.0s
D20K Etivluk River 21.66 334 P **P** **04 35 34.4 -0.4**
baz=131,SNR=43
D20K S Sn 04 39 39.1 -4.1
baz=131
X16A Lo Mia Camp, P 21.68 133 IAmb IAmb 04 35 45.1
comp=Z,324nm,1.1s
X16A IAMs_20 IAMs_20 04 44 52.8
comp=Z,85µm,18.0s
G16K Koyuk River 21.69 323 IAmb IAmb 04 35 53.3
comp=Z,409nm,1.1s
G16K Koyuk River 21.69 323 P **P** **04 35 34.2 -0.9**
baz=116,SNR=59
G16K S **S** **04 39 38.9 +4.0**
baz=116
B21K Ikpikpuk River 21.78 337 IAmb IAmb 04 35 44.0
comp=Z,646nm,1.4s
B21K IAMs_20 IAMs_20 04 43 53.4
comp=Z,119µm,20.0s
B21K Ikpikpuk River 21.78 337 P **P** **04 35 35.4 -0.6**
baz=136,SNR=26
B21K S Sn 04 39 41.0 -4.8
baz=136
F17K Baldwin Pennin 21.79 326 P **P** **04 35 35.6 -0.5**
baz=120,SNR=188
F17K S Sn 04 39 43.8 -2.2
baz=120
M11K Mekoryuk 21.86 309 IAmb IAmb 04 35 50.7
comp=Z,482nm,1.1s
M11K IAMs_20 IAMs_20 04 43 15.9
comp=Z,151µm,18.0s
M11K Mekoryuk 21.86 309 P **P** **04 35 37.1 +0.2**
baz=99
M11K S Sn 04 39 44.2 -3.7
baz=99
ULM Lac du Bonnet 21.87 79 IAmb IAmb 04 35 48.7
comp=Z,564nm,1.3s
ULM Lac du Bonnet 21.87 79 P **P** **04 35 35.4 -1.7**
comp=Z,79nm,0.9s,baz=288,slow=11,SNR=53
ULM LR LR 04 44 00.0
comp=Z,64µm,18.8s,baz=286,slow=37
comp=Z,79nm,0.9s
ULM Lac du Bonnet 21.87 79 Pn **P** **04 35 35.3 -1.7**
ULM Lac du Bonnet 21.87 79 ⇓eP **P** **04 35 35.6 -1.5**
ULM Lac du Bonnet 21.87 79 ⇑P **P** **04 35 35.4 -1.7**
ESJX Sierra Juarez 21.90 145 IAmb IAmb 04 35 43.2
comp=Z,682nm,1.4s
ESJX IAMs_20 IAMs_20 04 44 58.2
comp=Z,107µm,18.0s
W18A Petrified Fore 21.92 129 IAMs_20 IAMs_20 04 44 30.2
comp=Z,136µm,19.0s
UNV Unalaska Valle 21.94 291 IAmb IAmb 04 35 51.0
comp=Z,312nm,1.2s
UNV Unalaska Valle 21.94 291 P **P** **04 35 37.4 -0.3**
baz=82
UNV S Sn 04 39 44.7 -5.1
baz=82
D19K Kuna River 21.95 333 P **P** **04 35 36.6 -1.2**
baz=128
D19K S **S** **04 39 44.1 +4.3**
baz=128
B22K Teshekpuk Lake 22.04 339 P **P** **04 35 38.5 -0.2**
B22K IAMs_20 IAMs_20 04 44 42.1
comp=Z,164µm,18.0s
B22K Teshekpuk Lake 22.04 339 P **P** **04 35 37.9 -0.8**
baz=139,SNR=52
B22K S Sn 04 39 46.3 -5.6
baz=139
113A Mohawk Valley, 22.07 140 IAmb IAmb 04 35 45.4
comp=Z,514nm,1.8s
FCC Fort Churchill 22.07 55 P **P** **04 35 39.3 +0.2**
FCC Fort Churchill 22.07 55 P **P** **04 35 39.3 +0.2**
FCC pmax pmax
comp=Z,1µm,1.5s
FCC MLR MLR
comp=Z,204µm,18.0s
FCC Fort Churchill 22.07 55 ⇑P **P** **04 35 38.9 -0.3**
E18K Tukpahlearik C 22.08 329 IAMs_20 IAMs_20 04 43 54.6
comp=Z,94µm,18.0s
E18K Tukpahlearik C 22.08 329 P **P** **04 35 38.7 -0.6**
baz=123,SNR=88
E18K S **S** **04 39 45.6 +3.2**
baz=123
OGNE Ogallala 22.11 106 IAMs_20 IAMs_20 04 44 29.6
comp=Z,122µm,18.0s
OGNE Ogallala 22.11 106 ⇑P **P** **04 35 40.2 +0.3**
SUSD Miller 22.12 95 IAmb IAmb 04 35 47.6
comp=Z,460nm,1.1s
SUSD IAMs_20 IAMs_20 04 44 08.2
comp=Z,130µm,19.0s
G15K Niukluk 22.18 322 P **P** **04 35 39.9 -0.4**
baz=112,SNR=96
G15K S Sn 04 39 50.6 -4.8
baz=112
SDCO Great Sand Dun 22.18 117 **P** **04 35 41.0 +0.1**
SDCO IAmb IAmb 04 35 44.9
comp=Z,389nm,1.8s
SDCO Great Sand Dun 22.18 117 ⇑P **P** **04 35 41.0 +0.1**
X18A Snowflake 22.29 130 IAmb IAmb 04 35 59.5
comp=Z,572nm,1.4s
X18A IAMs_20 IAMs_20 04 44 53.0
comp=Z,110µm,19.0s
E17K Hotham Inlet 22.31 328 P **P** **04 35 41.0 -0.7**
baz=120,SNR=61
E17K S **S** **04 39 51.3 +4.6**
baz=120
BLKN Baker Lake 22.34 41 **P** **04 35 41.6 -0.4**
BLKN IAmb IAmb 04 35 57.9
comp=Z,370nm,1.1s
AGMN Agassiz Nation 22.48 84 **P** **04 35 41.9 -1.8**
AGMN IAmb IAmb 04 36 02.8
comp=Z,615nm,1.3s
AGMN IAMs_20 IAMs_20 04 44 26.8
comp=Z,114µm,18.0s
AGMN Agassiz Nation 22.48 84 ⇑P **P** **04 35 42.0 -1.7**
AGMN Agassiz Nation 22.48 84 ⇑P **P** **04 35 42.0 -1.7**
VTX Valle De La Tr 22.52 145 IAmb IAmb 04 36 01.9
comp=Z,355nm,1.5s
ANM Nome 22.55 320 IAMs_20 IAMs_20 04 44 16.5
comp=Z,89µm,18.0s
ANM Nome 22.55 320 P **P** **04 35 43.3 -1.0**
baz=110
ANM S **S** **04 39 57.3 +6.0**
baz=110
B20K Meade River 22.68 336 IAMs_20 IAMs_20 04 44 33.2
comp=Z,124µm,20.0s
B20K Meade River 22.68 336 P **P** **04 35 45.0 -0.6**
baz=133
B20K S **S** **04 39 57.8 +4.3**
baz=133
F15K North Star Dit 22.69 323 P **P** **04 35 45.1 -0.7**
baz=113,SNR=75
F15K S **S** **04 39 58.7 +4.9**
baz=113
C19K Lookout Ridge 22.75 333 IAMs_20 IAMs_20 04 43 49.9
comp=Z,141µm,18.0s
C19K Lookout Ridge 22.75 333 P **P** **04 35 45.6 -0.8**
baz=128,SNR=27
C19K S **S** **04 39 59.8 +5.0**
baz=128
A22K Sinclair Lake 22.88 340 P **P** **04 35 46.7 -1.0**
baz=138
A22K S **S** **04 40 01.8 +4.9**
baz=138
C18K Utukok River 22.95 331 IAMs_20 IAMs_20 04 45 05.5
comp=Z,119µm,18.0s
C18K Utukok River 22.95 331 P **P** **04 35 46.9 -1.6**
baz=124,SNR=133
C18K S **S** **04 40 03.3 +4.9**
baz=124
KSCO Kaye Shedlock' 22.97 111 IAMs_20 IAMs_20 04 45 01.6
comp=Z,77µm,18.0s
D17K Noatak River 23.04 328 P **P** **04 35 48.1 -1.2**
baz=120,SNR=50
D17K S **S** **04 40 03.6 +3.8**
baz=120
RDOG Red Dog Mine 23.16 329 IAMs_20 IAMs_20 04 44 40.2
comp=Z,82µm,18.0s
RDOG Red Dog Mine 23.16 329 P **P** **04 35 49.3 -1.3**
baz=121,SNR=51
RDOG S **S** **04 40 05.6 +3.6**
baz=121
214A Organ Pipe Nat 23.17 139 IAMs_20 IAMs_20 04 45 39.5
comp=Z,81µm,20.0s
SFX San Felipe 23.18 144 IAmb IAmb 04 35 56.1
comp=Z,518nm,1.4s
T25A Trinidad 23.22 117 IAmb IAmb 04 36 05.8
comp=Z,654nm,1.6s
F14K Arctic Creek 23.25 322 P **P** **04 35 50.7 -0.9**
baz=111,SNR=28
F14K S **S** **04 40 07.9 +4.5**
baz=111
EPLO Experimental L 23.36 79 P **P** **04 35 50.6 -2.2**
EPLO IAmb IAmb 04 36 12.0
comp=Z,413nm,1.1s
P08K Saint George I 23.42 299 P **P** **04 35 53.0 -0.3**
baz=87
P08K S **S** **04 40 06.1 -0.2**
baz=87
C17K DeLong Mountai 23.46 330 P **P** **04 35 53.3 -0.4**
baz=121,SNR=11
C17K S **S** **04 40 10.1 +3.1**
baz=121
NIKH Nikolski High 23.46 290 P **P** **04 35 56.5 +2.7**
NIKH Nikolski High 23.46 290 P **P** **04 35 54.1 +0.3**
baz=79
NIKH S **S** **04 40 12.1 +5.0**
baz=79
A21K Barrow 23.48 339 P **P** **04 35 53.4 -0.3**
baz=136
A21K S **S** **04 40 10.8 +3.8**
baz=136
B18K Kokolik River 23.54 333 P **P** **04 35 53.8 -0.6**
baz=125,SNR=56
B18K S **S** **04 40 10.8 +2.8**
baz=125
ANMO Albuquerque 23.72 124 LR LR 04 45 30.3
comp=Z,61µm,21.2s,baz=48,slow=37
TUC Tucson 23.74 135 P **P** **04 35 57.8 +1.0**
TUC Tucson 23.74 135 P **P** **04 35 57.8 +1.0**
TUC pmax pmax
comp=Z,809nm,1.9s
TUC MLR MLR
comp=Z,59µm,18.0s
TUC Tucson 23.74 135 ⇑P **P** **04 35 57.8 +1.0**
SPIA Saint Paul Isl 23.78 300 IAMs_20 IAMs_20 04 43 48.7
comp=Z,81µm,20.0s
SPIA Saint Paul Isl 23.78 300 P **P** **04 35 56.0 -0.8**
baz=88
SPIA S **S** **04 40 09.7 -2.3**
baz=88
A19K Wainwright 23.83 335 P **P** **04 35 57.0 -0.3**
baz=127
A19K S **S** **04 40 17.7 +5.0**
baz=127
TNA Tin City 23.91 321 IAMs_20 IAMs_20 04 44 36.0
comp=Z,66µm,18.0s
TNA Tin City 23.91 321 P **P** **04 35 57.6 -0.3**
baz=109,SNR=16
TNA S **S** **04 40 19.8 +5.9**
baz=109
ECSD EROS Data Cent 23.94 95 IAMs_20 IAMs_20 04 45 46.3
comp=Z,117µm,20.0s
ECSD EROS Data Cent 23.94 95 ⇑P **P** **04 35 57.6 -1.0**
C16K Lisburne Hills 24.06 329 IAMs_20 IAMs_20 04 45 07.9
comp=Z,76µm,19.0s
C16K Lisburne Hills 24.06 329 P **P** **04 35 59.1 -0.3**
baz=118,SNR=11
C16K S **S** **04 40 22.4 +6.1**
baz=118
CBKS Cedar Bluff 24.82 108 IAMs_20 IAMs_20 04 46 07.7
comp=Z,130µm,19.0s
CBKS Cedar Bluff 24.82 108 ⇑P **P** **04 36 06.8 +0.2**
GAMB Gambell 25.01 316 IAmb IAmb 04 36 23.3
comp=Z,256nm,1.2s
GAMB Gambell 25.01 316 P **P** **04 36 08.1 0.0**
baz=101
GAMB S **S** **04 40 39.7 +8.1**
baz=101
L34A Svendsen Farm, 25.02 98 IAMs_20 IAMs_20 04 45 58.3
comp=Z,124µm,19.0s
EYMN Ely 25.34 82 IAMs_20 IAMs_20 04 46 12.7
comp=Z,96µm,19.0s
EYMN Ely 25.34 82 ⇑P **P** **04 36 10.9 -0.3**
SPMN Marine on St. 25.64 88 IAMs_20 IAMs_20 04 46 26.1
comp=Z,122µm,22.0s
R32A Long Quarter, 25.69 107 IAmb IAmb 04 36 36.5
comp=Z,275nm,1.3s
E38A The Farm, Brul 25.82 85 IAmb IAmb 04 36 29.8
comp=Z,257nm,1.2s
I37A Lemond, Waseca 25.83 91 IAMs_20 IAMs_20 04 46 09.3
comp=Z,60µm,18.0s
AMTX Amarillo 26.37 117 ⇑P **P** **04 36 21.4 +0.6**
TBO Thunder Bay 26.38 79 IAMs_20 IAMs_20 04 45 29.0
comp=Z,81µm,20.0s
MSTX Muleshoe 26.44 120 IAmb IAmb 04 36 59.0
comp=Z,180nm,1.3s
HSIG 26.51 139 IAmb IAmb 04 36 26.6
HSIG comp=Z,277nm,1.3s IAMs_20 IAMs_20 04 47 53.0
comp=Z,88µm,18.0s
HSIG 26.51 139 ⇑P **P** **04 36 23.1 +1.1**
HSIG 26.51 139 P **P** **04 36 25.2 +3.3**
ATKA Atka Island 26.81 290 IAmb IAmb 04 36 34.1
comp=Z,260nm,1.2s
ATKA Atka Island 26.81 290 P **P** **04 36 25.1 +0.6**
MNTX Cornudas Mount 26.83 127 IAmb IAmb 04 36 31.9
comp=Z,210nm,1.5s
MNTX IAMs_20 IAMs_20 04 47 29.0
comp=Z,87µm,21.0s
MNTX Cornudas Mount 26.83 127 ⇑P **P** **04 36 25.5 +0.7**
ELIS Ellis County 26.84 112 IAMs_20 IAMs_20 04 47 27.4
comp=Z,64µm,19.0s
KAN12 Harper NE Stat 26.85 108 IAmb IAmb 04 36 52.5
comp=Z,229nm,1.2s
KAN08 Anthony NE Sta 26.91 108 IAmb IAmb 04 36 56.2
comp=Z,122nm,1.0s
OK038 West end E0370 26.95 110 IAmb IAmb 04 36 38.8
comp=Z,274nm,1.1s
OK038 IAMs_20 IAMs_20 04 47 27.4
comp=Z,82µm,18.0s
SCIA State Center 27.03 95 IAmb IAmb 04 36 44.6
comp=Z,136nm,0.9s
SCIA State Center 27.03 95 ⇑P **P** **04 36 27.0 +0.4**
G40A Rib Lake 27.26 86 IAmb IAmb 04 36 53.8
comp=Z,117nm,0.9s
KAN13 South Haven SW 27.34 108 IAmb IAmb 04 37 12.4
comp=Z,309nm,1.4s
CROK Carrier 27.38 110 IAmb IAmb 04 36 52.9
comp=Z,192nm,1.2s
CROK IAMs_20 IAMs_20 04 47 47.8
comp=Z,93nm,18.0s
SRIG Santa Rosalia 27.50 143 P **P** **04 36 33.8 +2.9**
COWI Conover 27.55 84 IAmb IAmb 04 37 00.9
comp=Z,336nm,1.4s
COWI Conover 27.55 84 ⇑P **P** **04 36 30.7 -0.6**
N38A Joes South For 27.63 97 IAmb IAmb 04 37 00.9
comp=Z,261nm,1.0s
N38A IAMs_20 IAMs_20 04 47 54.6
comp=Z,130µm,22.0s
I40A Norwalk 27.64 89 IAmb IAmb 04 37 03.1
comp=Z,160nm,1.0s
I40A IAMs_20 IAMs_20 04 46 34.4
comp=Z,77µm,22.0s
VHRN Van Horn 27.76 127 IAmb IAmb 04 36 37.9
comp=Z,152nm,1.4s
RES Resolute Bay 27.82 19 P **P** **04 36 32.8 -0.5**
RES IAmb IAmb 04 37 09.9
comp=Z,231nm,1.3s
RES Resolute Bay 27.82 19 LR LR 04 48 19.6
comp=Z,85µm,18.1s,baz=232,slow=38
RES Resolute Bay 27.82 19 Pn **P** **04 36 32.1 -1.2**
RES Resolute Bay 27.82 19 P **P** **04 36 32.8 -0.5**
RES pmax pmax
comp=Z,231nm,1.3s
RES MLR MLR
comp=Z,58µm,21.0s
RES Resolute Bay 27.82 19 ⇓P **P** **04 36 33.0 -0.3**
ODSA Odessa 27.97 122 IAmb IAmb 04 36 55.0
comp=Z,153nm,1.1s
OK051 E0350 and S346 28.07 108 IAmb IAmb 04 36 58.2
comp=Z,226nm,1.2s
OK051 IAMs_20 IAMs_20 04 48 32.8
comp=Z,116µm,20.0s
P38A Dawn 28.12 100 IAmb IAmb 04 36 49.1
comp=Z,183nm,1.1s
WMOK Wichita Mounta 28.14 113 IAMs_20 IAMs_20 04 48 11.9
comp=Z,113µm,21.0s
WMOK Wichita Mounta 28.14 113 IAmb IAmb 04 36 59.3
comp=Z,166nm,1.2s
WMOK Wichita Mounta 28.14 113 ⇑P **P** **04 36 37.0 +0.5**
OK029 Liberty Lake 28.18 110 IAMs_20 IAMs_20 04 48 04.8
comp=Z,71µm,22.0s
L40A Anamosa 28.20 93 IAmb IAmb 04 36 48.9
comp=Z,250nm,1.2s
L40A IAMs_20 IAMs_20 04 47 56.3
comp=Z,83µm,20.0s
SN05 Snyder 5 28.30 119 IAmb IAmb 04 36 57.7
comp=Z,251nm,1.3s
JFWS Jewell Farm 28.36 91 IAMs_20 IAMs_20 04 47 38.6
comp=Z,65µm,18.0s
JFWS Jewell Farm 28.36 91 IAmb IAmb 04 37 21.6
comp=Z,97nm,0.9s
JFWS Jewell Farm 28.36 91 ⇑P **P** **04 36 38.2 -0.3**
QUOK Quay 28.37 109 IAmb IAmb 04 36 51.0
comp=Z,292nm,1.4s
QUOK IAMs_20 IAMs_20 04 48 51.8
comp=Z,85µm,19.0s
ADK Adak 28.38 290 P **P** **04 36 37.3 -1.2**
ADK Adak 28.38 290 P **P** **04 36 40.4 +1.9**
ADK Adak 28.38 290 P **P** **04 36 37.3 -1.2**
ADK pmax pmax
comp=Z,421nm,1.3s
ADK Adak 28.38 290 ⇓P **P** **04 36 38.0 -0.5**
APMT Aspermont 28.39 117 IAmb IAmb 04 37 34.2
comp=Z,212nm,1.5s
OK052 Battle Ridge R 28.43 109 IAmb IAmb 04 36 52.2
comp=Z,264nm,1.1s
OK052 IAMs_20 IAMs_20 04 48 20.5
comp=Z,84µm,21.0s
FNO Franklin 28.58 111 IAmb IAmb 04 36 53.2
comp=Z,150nm,1.2s
DEOK Depew 28.71 109 IAMs_20 IAMs_20 04 49 03.0
comp=Z,94µm,18.0s
I42A Draeger Farm, 28.72 88 IAmb IAmb 04 37 11.0
comp=Z,227nm,1.2s
ALPN Alpine 28.78 126 IAmb IAmb 04 36 45.7
comp=Z,240nm,2.0s
X34A Smith Ranch, M 28.79 112 IAmb IAmb 04 36 59.4
comp=Z,321nm,1.5s
X34A IAMs_20 IAMs_20 04 49 27.0
comp=Z,97µm,20.0s
SGCY Sterling City 28.90 120 IAmb IAmb 04 36 47.0
comp=Z,207nm,1.8s
WTFS Witchita Falls 29.01 114 IAmb IAmb 04 37 10.2
comp=Z,179nm,1.4s
TUL3 Leonard 29.09 108 IAmb IAmb 04 37 16.1
comp=Z,204nm,1.3s
TUL3 IAMs_20 IAMs_20 04 49 14.9
comp=Z,93µm,18.0s
P40A Paris 29.10 98 IAmb IAmb 04 37 38.1
comp=Z,216nm,1.4s
H43A Windswept, Lux 29.16 86 IAmb IAmb 04 37 49.4
comp=Z,301nm,1.5s
ILON Igloolik, Nuna 29.16 33 P **P** **04 36 45.6 +0.3**
ILON IAmb IAmb 04 37 45.4
comp=Z,166nm,1.3s
ILON IAMs_20 IAMs_20 04 47 44.8
comp=Z,74µm,20.0s
N41A Harden Midland 29.17 95 IAmb IAmb 04 37 18.0
comp=Z,189nm,1.1s
ABTX Abilene, Hawle 29.18 117 IAmb IAmb 04 36 51.6
comp=Z,430nm,2.0s
L42A Oliver, Polo 29.21 92 IAmb IAmb 04 36 58.3
comp=Z,200nm,1.1s
L42A IAMs_20 IAMs_20 04 48 15.0
comp=Z,67µm,19.0s
RLO Rose Lookout 29.38 107 IAmb IAmb 04 37 12.1
comp=Z,128nm,1.2s
TX31 Lajitas Ar. Si 29.61 127 IAmb IAmb 04 36 54.3
comp=Z,301nm,1.8s
TXAR Lajitas Array 29.61 127 P **P** **04 36 50.2 +0.4**
TXAR Lajitas Array 29.61 127 P **P** **04 36 50.7 +1.0**
TXAR comp=Z,8.5nm,0.7s,baz=326,slow=7.8,SNR=77 PcP **PcP** **04 39 53.8 -0.5**
comp=Z,2.7nm,1.0s,baz=157,slow=1.7,SNR=3.9
TXAR LR LR 04 49 20.2
comp=Z,40µm,20.2s,baz=320,slow=38
comp=Z,8.5nm,0.7s
TXAR Lajitas Array 29.61 127 P **P** **04 36 50.2 +0.4**
OZNA Ozona 29.66 122 IAmb IAmb 04 36 53.9
comp=Z,332nm,1.9s
K43A Burlington 29.68 90 IAmb IAmb 04 37 01.7
comp=Z,156nm,1.2s
K43A IAMs_20 IAMs_20 04 47 47.4
comp=Z,60µm,21.0s
R40A Maddies Statio 29.71 101 IAmb IAmb 04 37 20.3
comp=Z,174nm,1.4s
FW03 Perrin-Whitt E 29.77 115 IAMs_20 IAMs_20 04 49 14.3
comp=Z,94µm,18.0s
PLPT Palo Pinto 29.79 115 IAmb IAmb 04 37 53.7
comp=Z,161nm,1.7s
SAND Sanderson 29.90 124 IAmb IAmb 04 36 56.5
comp=Z,300nm,1.9s
Z35A Perchaven, San 30.03 113 IAmb IAmb 04 37 11.8
comp=Z,238nm,1.2s
Z35A IAMs_20 IAMs_20 04 49 20.0
comp=Z,87µm,19.0s
FW06 Azle 30.11 114 IAMs_20 IAMs_20 04 49 25.3
comp=Z,75µm,20.0s
FW07 Weatherford 30.18 115 IAMs_20 IAMs_20 04 49 28.0
comp=Z,90nm,19.0s
L44A Lake County Fo 30.22 90 IAmb IAmb 04 37 54.5
comp=Z,244nm,1.5s
L44A IAMs_20 IAMs_20 04 48 05.7
comp=Z,84µm,18.0s
HDIL Hopedale 30.24 94 IAMs_20 IAMs_20 04 48 59.4
comp=Z,93µm,18.0s
HDIL Hopedale 30.24 94 ⇑P **P** **04 36 54.8 -0.4**
I45A Fountain 30.33 86 IAmb IAmb 04 37 13.8
comp=Z,80nm,0.9s
E46A Sault Ste Mari 30.46 81 IAmb IAmb 04 37 09.5
comp=Z,212nm,1.4s
E46A IAMs_20 IAMs_20 04 48 40.4
comp=Z,90nm,19.0s
HQIL Hanson Quary C 30.46 91 IAmb IAmb 04 37 42.4
comp=Z,222nm,1.5s
HQIL IAMs_20 IAMs_20 04 48 53.1
comp=Z,65µm,18.0s
CCM Cathedral Cave 30.49 100 P **P** **04 36 56.7 -0.7**
CCM IAmb IAmb 04 37 27.2
comp=Z,105nm,1.1s
CCM Cathedral Cave 30.49 100 P **P** **04 36 56.7 -0.7**
CCM pmax pmax
comp=Z,105nm,1.2s
CCM MLR MLR
comp=Z,157µm,21.0s
CCM Cathedral Cave 30.49 100 ⇑P **P** **04 36 56.1 -1.3**
CCM Cathedral Cave 30.49 100 P **P** **04 36 57.4 0.0**
CCM S **S** **04 41 51.8 -6.8**
M44A Midewin, Midew 30.56 92 IAmb IAmb 04 37 09.9
comp=Z,183nm,1.2s
M44A IAMs_20 IAMs_20 04 48 58.9
comp=Z,63µm,19.0s
P43A Skaggs, Pawnee 30.62 96 IAmb IAmb 04 37 58.8
comp=Z,217nm,1.3s
P43A IAMs_20 IAMs_20 04 49 52.6
comp=Z,74µm,18.0s
HPIG 30.64 133 P **P** **04 37 01.4 +2.4**
FW13 Cleburne 30.64 115 IAmb IAmb 04 37 31.9
comp=Z,130nm,1.5s
JCT Junction City 30.73 120 IAmb IAmb 04 37 04.2
comp=Z,272nm,1.8s
JCT Junction City 30.73 120 ⇑P **P** **04 36 59.5 -0.1**
FW14 Alvarado 30.74 115 IAmb IAmb 04 37 44.7
comp=Z,173nm,1.4s
FW14 IAMs_20 IAMs_20 04 49 50.9
comp=Z,59µm,22.0s
SLM Saint Louis 30.77 98 IAMs_20 IAMs_20 04 49 19.7
comp=Z,102µm,22.0s
WHTX Lake Whitney, 30.89 115 IAmb IAmb 04 37 39.4
comp=Z,105nm,1.3s
GLMI Grayling 30.97 83 IAmb IAmb 04 37 20.2
comp=Z,160nm,1.1s
FVM French Village 31.05 99 IAmb IAmb 04 37 31.3
comp=Z,117nm,1.2s
DRIO Del Rio 31.11 123 IAmb IAmb 04 37 06.2
comp=Z,138nm,1.5s
TREL Terrell 31.14 113 IAmb IAmb 04 37 15.9
comp=Z,243nm,1.4s
LPIG La Paz 31.14 142 LR LR 04 49 48.5
comp=Z,22µm,18.3s,baz=331,slow=37
POIN Pond Inlet 31.21 27 P **P** **04 37 03.0 -0.3**
POIN IAmb IAmb 04 37 28.6
comp=Z,114nm,1.1s

FCAR Ozark Folk Cen 31.33 104 IAmb IAmb 04 37 21.0
comp=Z,99nm,1.0s
MIAR Mount Ida 31.35 107 IAmb IAmb 04 37 27.8
comp=Z,259nm,1.6s
MIAR Mount Ida 31.35 107 ⇑P P 04 37 05.4 +0.5
Q44A Meyer Farm, Va 31.37 97 IAmb IAmb 04 38 05.4
comp=Z,265nm,1.5s
Q44A IAMs_20 IAMs_20 04 49 36.5
comp=Z,88µm,18.0s
Z38A Mt. Pleasant 31.40 111 IAmb IAmb 04 37 18.4
comp=Z,244nm,1.4s
Z38A IAMs_20 IAMs_20 04 50 23.3
comp=Z,71µm,19.0s
J47A Sunmer 31.62 86 IAmb IAmb 04 37 19.1
comp=Z,166nm,1.0s
WHAR Wooly Hollow 31.62 105 IAmb IAmb 04 37 19.2
comp=Z,89nm,1.2s
SLBS Sierra La Lagu 31.66 142 P P 04 37 08.2 +0.3
SLBS Sierra La Lagu 31.66 142 ⇓P P 04 37 10.0 +2.1
435B Jarrell 31.72 117 IAmb IAmb 04 37 20.8
comp=Z,112nm,1.2s
SFIN Lafayette 31.72 93 IAMs_20 IAMs_20 04 50 13.6
comp=Z,72µm,21.0s
HNDO Hondo 31.75 121 IAmb IAmb 04 37 11.8
comp=Z,231nm,2.0s
LCAR Lake Charles 31.81 103 IAmb IAmb 04 37 38.4
comp=Z,147nm,1.6s
237A Washetta, Mont 31.83 113 IAMs_20 IAMs_20 04 50 37.7
comp=Z,69µm,20.0s
UALR University of 31.94 106 IAmb IAmb 04 37 41.1
comp=Z,182nm,1.6s
S44A Carbondale 31.95 99 IAmb IAmb 04 38 17.6
comp=Z,87nm,0.9s
SIUC Southern Illin 31.96 98 IAmb IAmb 04 38 17.6
comp=Z,91nm,0.9s
OLIL Olney 32.05 96 IAmb IAmb 04 37 43.4
comp=Z,184nm,1.1s
OLIL IAMs_20 IAMs_20 04 49 16.4
comp=Z,60µm,21.0s
P46A Rosedale 32.09 94 IAmb IAmb 04 38 07.7
comp=Z,214nm,1.5s
WLAR White Oak Lake 32.22 108 IAmb IAmb 04 37 35.5
comp=Z,175nm,1.4s
WLAR IAMs_20 IAMs_20 04 51 12.7
comp=Z,87µm,19.0s
N47A Urbana 32.32 91 IAmb IAmb 04 37 25.7
comp=Z,98nm,1.1s
N47A IAMs_20 IAMs_20 04 49 19.4
comp=Z,60µm,19.0s
I49A Point Hope 32.52 84 IAmb IAmb 04 37 28.6
comp=Z,158nm,0.9s
I49A IAMs_20 IAMs_20 04 49 42.2
comp=Z,45µm,18.0s
833A Chaparral WMA, 32.63 122 IAMs_20 IAMs_20 04 51 50.5
comp=Z,53µm,18.0s
NATX Nacogdoches 32.67 112 IAMs_20 IAMs_20 04 51 12.9
comp=Z,53µm,20.0s
Z41A Richland Creek 32.70 108 IAmb IAmb 04 37 40.8
comp=Z,107nm,1.3s
Z41A IAMs_20 IAMs_20 04 51 36.5
comp=Z,83µm,18.0s
BLO Bloomington 32.78 94 IAmb IAmb 04 37 34.0
comp=Z,112nm,1.0s
BLO IAMs_20 IAMs_20 04 50 27.6
comp=Z,79µm,18.0s
USIN University of 32.78 97 IAmb IAmb 04 37 40.7
comp=Z,92nm,0.9s
AAM Ann Arbor 32.84 87 IAmb IAmb 04 37 31.2
comp=Z,161nm,1.4s
O48B Farmland 33.01 91 IAmb IAmb 04 37 32.2
comp=Z,197nm,1.2s
O48B IAMs_20 IAMs_20 04 49 51.7
comp=Z,63µm,20.0s
735A Kenedy 33.07 120 IAmb IAmb 04 38 10.6
comp=Z,91nm,1.1s
HDBT Hernando Brdge 33.08 103 IAMs_20 IAMs_20 04 50 52.2
comp=Z,74µm,21.0s
K50A Casco 33.24 85 IAmb IAmb 04 37 34.6
comp=Z,188nm,1.1s
N49A Columbus Grove 33.25 89 IAmb IAmb 04 37 34.2
comp=Z,147nm,1.4s
N49A IAMs_20 IAMs_20 04 50 36.9
comp=Z,42µm,20.0s
P48A Milroy 33.30 93 IAMs_20 IAMs_20 04 50 42.3
comp=Z,62µm,20.0s
HKT Hockley 33.34 116 P P 04 37 23.3 +1.0
HKT IAmb IAmb 04 37 26.0
comp=Z,210nm,1.7s
HKT Hockley 33.34 116 ⇓*e*P P 04 37 24.0 +1.6
HKT pmax pmax
comp=Z,218nm,2.0s
HKT MLR MLR
comp=Z,162µm,17.0s
HKT Hockley 33.34 116 ⇑P P 04 37 23.1 +0.7
SMY Shemya 33.48 295 P P 04 37 23.6 +0.1
WCI Wyandotte Cave 33.48 95 P P 04 37 22.8 -0.8
WCI IAmb IAmb 04 38 03.5
comp=Z,66nm,1.0s
WCI Wyandotte Cave 33.48 95 IAMs_20 IAMs_20 04 50 11.3
comp=Z,60µm,19.0s
WCI Wyandotte Cave 33.48 95 P P 04 37 22.8 -0.8
WCI pmax pmax
comp=Z,67nm,1.0s
WCI MLR MLR
comp=Z,60µm,19.0s
WCI Wyandotte Cave 33.48 95 ⇓P P 04 37 23.4 -0.3
O49A Covington 33.57 91 IAmb IAmb 04 37 36.9
comp=Z,245nm,1.5s
O49A IAMs_20 IAMs_20 04 50 19.4
comp=Z,44µm,20.0s
M50A Fremont 33.71 88 IAmb IAmb 04 37 38.7
comp=Z,316nm,1.9s
M50A IAMs_20 IAMs_20 04 50 49.8
comp=Z,42µm,18.0s
T47A Sharon Grove 33.73 98 IAmb IAmb 04 38 40.4
comp=Z,239nm,1.9s
WVT Waverly 33.82 99 P P 04 37 25.3 -1.3
WVT IAmb IAmb 04 38 38.7
comp=Z,123nm,1.6s
WVT Waverly 33.82 99 P P 04 37 25.3 -1.3
WVT pmax pmax
comp=Z,123nm,1.6s
WVT MLR MLR
comp=Z,136µm,21.0s
WVT Waverly 33.82 99 ⇑P P 04 37 25.6 -1.0
OXF Oxford 33.91 103 IAMs_20 IAMs_20 04 51 49.0
comp=Z,62µm,19.0s
OXF Oxford 33.91 103 ⇑P P 04 37 26.9 -0.5
VLDQ Val d'Or 33.91 74 IAmb IAmb 04 37 37.9
comp=Z,116nm,1.1s
BUKO Buck Lake 33.93 79 IAMs_20 IAMs_20 04 50 59.1
comp=Z,76µm,18.0s
KVTX Kingsville 34.06 121 IAMs_20 IAMs_20 04 53 21.1
comp=Z,74µm,19.0s
R49A Shelbyville 34.15 94 IAmb IAmb 04 37 56.3
comp=Z,252nm,2.0s
R49A IAMs_20 IAMs_20 04 51 19.9
comp=Z,69µm,19.0s
FRB Frobisher Bay 34.22 44 LR LR 04 50 34.6
comp=Z,31µm,19.4s,baz=280,slow=35
Y45A Yeager Farm, C 34.26 104 IAmb IAmb 04 38 00.9
comp=Z,201nm,1.3s
Y45A IAMs_20 IAMs_20 04 51 38.4
comp=Z,87µm,22.0s
441A DeRidder 34.27 112 IAmb IAmb 04 37 43.8
comp=Z,141nm,1.1s
441A IAMs_20 IAMs_20 04 52 30.1
comp=Z,36µm,18.0s
BILL Bilibino 34.30 323 P P 04 37 30.3 -0.1
BILL Bilibino 34.30 323 ⇑*e*P P 04 37 30.3 -0.1
BILL pmax pmax
comp=Z,280nm,1.5s
BILL MLR MLR
comp=Z,28µm,18.0s
N51A Ashland 34.40 88 IAmb IAmb 04 37 44.2
comp=Z,228nm,1.5s
N51A IAMs_20 IAMs_20 04 50 03.1
comp=Z,38µm,18.0s
ACSO Alum Creek Sta 34.40 90 IAmb IAmb 04 37 44.4
comp=Z,108nm,1.1s
ACSO IAMs_20 IAMs_20 04 50 43.2
comp=Z,55µm,20.0s
ACSO Alum Creek Sta 34.40 90 ⇑P P 04 37 31.2 -0.4
SADO Sadowa 34.41 80 IAmb IAmb 04 37 42.9
comp=Z,169nm,1.1s
SADO IAMs_20 IAMs_20 04 51 20.9
comp=Z,63µm,18.0s
SADO Sadowa 34.41 80 LR LR 04 52 43.5
comp=Z,36µm,18.5s,baz=314,slow=38
PLAL Pickwick Lake 34.41 101 IAmb IAmb 04 37 42.8
comp=Z,106nm,1.2s
TULEG Thule 34.46 21 IAMs_20 IAMs_20 04 49 13.3
comp=Z,53µm,20.0s
TULEG Thule 34.46 21 *i*P P 04 37 30.6 -1.1
TULEG IAmb IAmb 04 37 35.7
comp=Z,14nm,0.8s
R50A Paris 34.69 93 IAmb IAmb 04 38 01.5
comp=Z,134nm,1.0s
R50A IAMs_20 IAMs_20 04 51 46.1
comp=Z,57µm,20.0s
M52A Chesterland 34.70 86 IAMs_20 IAMs_20 04 51 01.9
comp=Z,50µm,22.0s
V48A Smith Brothers 34.70 99 IAmb IAmb 04 38 50.8
comp=Z,129nm,1.5s
P51A Williamsport 34.78 91 IAmb IAmb 04 37 47.4
comp=Z,116nm,1.0s
P51A IAMs_20 IAMs_20 04 51 25.4
comp=Z,64µm,18.0s
CLTN Cedars of Leba 34.78 98 IAMs_20 IAMs_20 04 51 51.0
comp=Z,77µm,22.0s
VBMS Vicksburg 34.80 107 IAmb IAmb 04 37 48.2
comp=Z,216nm,1.1s
U49A Red Boiling Sp 34.86 97 IAmb IAmb 04 38 40.0
comp=Z,176nm,2.0s
Q51A Peebles 34.86 92 IAmb IAmb 04 37 48.7
comp=Z,145nm,1.0s
Q51A IAMs_20 IAMs_20 04 50 58.7
comp=Z,44µm,20.0s
T50A Nancy 35.13 96 IAmb IAmb 04 38 54.5
comp=Z,179nm,1.9s
T50A IAMs_20 IAMs_20 04 51 13.1
comp=Z,66µm,18.0s
SSFO Shawnee State 35.15 92 IAmb IAmb 04 37 51.8
comp=Z,89nm,0.9s
SSFO IAMs_20 IAMs_20 04 51 09.3
comp=Z,49µm,20.0s
O52A Adamsville 35.19 89 IAmb IAmb 04 37 51.0
comp=Z,107nm,1.4s
O52A IAMs_20 IAMs_20 04 51 45.4
comp=Z,43µm,19.0s
P52A Corning 35.27 90 IAMs_20 IAMs_20 04 51 11.5
comp=Z,53µm,21.0s
146A Ure 35.39 105 IAmb IAmb 04 38 02.5
comp=Z,260nm,1.5s
146A IAMs_20 IAMs_20 04 53 28.6
comp=Z,57µm,20.0s
ALLY Alegheny Colle 35.40 85 IAmb IAmb 04 37 52.5
comp=Z,144nm,1.2s
N53A Lisbon 35.43 87 IAmb IAmb 04 37 53.1
comp=Z,158nm,1.1s
N53A IAMs_20 IAMs_20 04 51 26.3
comp=Z,45µm,19.0s
DELO Deloro Mine 35.48 79 IAmb IAmb 04 37 52.4
comp=Z,175nm,1.1s
DELO IAMs_20 IAMs_20 04 51 55.2
comp=Z,69µm,18.0s
KUQ Kuujjuuaa 35.49 54 IAMs_20 IAMs_20 04 51 43.8
comp=Z,57µm,18.0s
O53A New Philadelph 35.50 88 IAmb IAmb 04 37 53.6
comp=Z,123nm,1.2s
O53A IAMs_20 IAMs_20 04 50 18.4
comp=Z,38µm,19.0s
S51A Beattyville 35.54 94 IAMs_20 IAMs_20 04 53 18.6
comp=Z,73µm,18.0s
Q52A Bidwell 35.58 91 IAmb IAmb 04 37 54.3
comp=Z,113nm,1.2s
Q52A IAMs_20 IAMs_20 04 51 58.6
comp=Z,53µm,18.0s
Z47A Carrollton 35.61 104 IAmb IAmb 04 38 11.2
comp=Z,118nm,1.4s
ZAIG Zacatecas 35.64 132 IAmb IAmb 04 37 47.8
comp=Z,289nm,1.5s
ZAIG IAMs_20 IAMs_20 04 54 01.6
comp=Z,76µm,19.0s
ZAIG Zacatecas 35.64 132 ⇑P P 04 37 44.3 +1.6
ZAIG Zacatecas 35.64 132 P P 04 37 44.4 +1.6
MEDO Medina 35.65 82 IAmb IAmb 04 37 53.9
comp=Z,126nm,1.2s
P53A Whipple 35.83 89 IAMs_20 IAMs_20 04 52 06.1
comp=Z,49µm,18.0s
WVNY West Valley, N 35.96 83 IAmb IAmb 04 37 56.4
comp=Z,142nm,1.0s
WVNY IAMs_20 IAMs_20 04 51 13.1
comp=Z,52µm,18.0s
J55A Hilton 36.00 81 IAmb IAmb 04 37 56.6
comp=Z,132nm,1.0s
O54A Avella 36.07 88 IAmb IAmb 04 37 58.4
comp=Z,144nm,1.4s
O54A IAMs_20 IAMs_20 04 51 50.3
comp=Z,51µm,18.0s
PECO Prince Edward 36.16 80 IAmb IAmb 04 37 59.1
comp=Z,222nm,1.4s
PECO IAMs_20 IAMs_20 04 52 16.3
comp=Z,71µm,18.0s
GAC Glen Almond 36.22 76 ⇑P P 04 37 47.0 -0.2
MMNY Mt. Morris Dam 36.22 82 IAmb IAmb 04 37 58.5
comp=Z,124nm,1.1s
MMNY IAMs_20 IAMs_20 04 52 34.0
comp=Z,61µm,19.0s
FPAL Fort Paine 36.23 100 IAMs_20 IAMs_20 04 52 59.5
comp=Z,60µm,21.0s
TZTN Tazewell 36.24 95 IAmb IAmb 04 38 43.0
comp=Z,220nm,1.4s
TZTN IAMs_20 IAMs_20 04 53 20.3
comp=Z,71µm,20.0s
TZTN Tazewell 36.24 95 ⇑P P 04 37 47.0 -0.5
LRAL Lakeview Retre 36.38 103 IAmb IAmb 04 38 17.8
comp=Z,138nm,1.4s
Q54A Cox's Mills 36.47 90 IAMs_20 IAMs_20 04 52 39.1
comp=Z,49µm,18.0s
TRQ Mont Tremblant 36.53 75 IAmb IAmb 04 38 04.0
comp=Z,117nm,0.9s
TRQ IAMs_20 IAMs_20 04 53 18.9
comp=Z,36µm,19.0s
KIP Kipapa 36.58 226 IAMs_20 IAMs_20 04 48 10.3
comp=Z,48µm,19.0s
TKL Tuckaleechee C 36.66 96 LR LR 04 53 25.4
comp=Z,102µm,18.1s,baz=314,slow=37
TKL Tuckaleechee C 36.66 96 ⇑P P 04 37 50.0 -1.1
X51A Calhoun 36.69 99 IAmb IAmb 04 38 07.5
comp=Z,112nm,1.1s
MCWV Mont Chateau 36.70 88 IAMs_20 IAMs_20 04 52 42.1
comp=Z,53µm,18.0s
MCWV Mont Chateau 36.70 88 ⇓P P 04 37 51.5 +0.1
L56A Greenwood 36.76 83 IAmb IAmb 04 38 04.7
comp=Z,150nm,1.3s
S54A Dingess, Becki 36.88 92 IAmb IAmb 04 38 19.5
comp=Z,158nm,1.3s
S54A IAMs_20 IAMs_20 04 52 40.9
comp=Z,52µm,18.0s
JOKA Jonika Flow 37.03 220 IAMs_20 IAMs_20 04 49 26.0
comp=Z,34µm,19.0s
J57A Williamstown 37.05 80 IAmb IAmb 04 38 05.5
comp=Z,140nm,1.2s
J57A IAMs_20 IAMs_20 04 52 52.9
comp=Z,53µm,19.0s
HMH Humu'ula Sheep 37.08 221 IAMs_20 IAMs_20 04 48 42.2
comp=Z,40µm,19.0s
K57A Scipio Center 37.09 81 IAmb IAmb 04 38 32.5
comp=Z,364nm,2.0s
K57A IAMs_20 IAMs_20 04 52 15.9
comp=Z,56µm,18.0s
STCH Steam Cracks 37.12 221 IAMs_20 IAMs_20 04 49 15.5
comp=Z,33µm,19.0s
KULLO Kullorsuaq 37.22 25 *i*P P 04 37 55.4 0.0
KULLO IAmb IAmb 04 38 11.3
comp=Z,53nm,1.1s
V53A Saluda 37.25 96 IAmb IAmb 04 38 14.4
comp=Z,80nm,0.8s
AIN Ainahou 37.27 221 IAMs_20 IAMs_20 04 48 30.4
comp=Z,39µm,20.0s
HLP Hilina Pali 37.28 221 IAMs_20 IAMs_20 04 48 29.6
comp=Z,41µm,19.0s
LONY Lake Ozonia 37.30 78 IAMs_20 IAMs_20 04 51 08.4
comp=Z,52µm,18.0s
LONY Lake Ozonia 37.30 78 ⇑P P 04 37 55.6 -0.8
R55A Marlinton 37.34 90 IAmb IAmb 04 38 34.2
comp=Z,381nm,1.7s
R55A IAMs_20 IAMs_20 04 52 55.2
comp=Z,40µm,18.0s
U54A Nelsons Funny 37.34 94 IAMs_20 IAMs_20 04 53 10.4
comp=Z,49µm,21.0s
SCHQ Schefferville 37.38 59 P P 04 37 55.6 -1.3
comp=Z,19nm,0.8s,baz=308,slow=8.1,SNR=15
SCHQ LR LR 04 52 30.5
comp=Z,44µm,19.0s,baz=294,slow=35
comp=Z,19nm,0.8s
SSPA Standing Stone 37.38 85 P P 04 37 53.4 -3.8
SSPA Standing Stone 37.38 85 ⇓P P 04 37 55.9 -1.3
KHU Kahuku 37.45 221 IAMs_20 IAMs_20 04 49 27.1
comp=Z,35µm,18.0s
MNTQ Montreal, Queb 37.45 76 IAMs_20 IAMs_20 04 52 08.1
comp=Z,40µm,22.0s
M57A Sunshine Farm, 37.46 84 IAmb IAmb 04 38 09.7
comp=Z,435nm,1.9s
M57A IAMs_20 IAMs_20 04 52 09.9
comp=Z,63µm,19.0s
Q56A Snyder Ridge, 37.48 88 IAMs_20 IAMs_20 04 53 07.6
comp=Z,45µm,18.0s
250A Grady 37.55 103 IAmb IAmb 04 38 29.2
comp=Z,276nm,1.2s
UPNV Upernavik 37.68 28 *i*P P 04 37 58.0 -1.3
UPNV IAmb IAmb 04 38 07.7
comp=Z,36nm,1.1s
BINY Binghamton 37.70 82 IAmb IAmb 04 38 37.9
comp=Z,409nm,2.0s
BINY Binghamton 37.70 82 ⇓P P 04 37 59.3 -0.6
LDAQ Lac Daran 37.71 71 IAMs_20 IAMs_20 04 52 46.6
comp=Z,62µm,19.0s
BLA Blacksburg 37.80 92 IAmb IAmb 04 38 24.7
comp=Z,149nm,1.1s
BLA IAMs_20 IAMs_20 04 52 54.3
comp=Z,44µm,20.0s
BLA Blacksburg 37.80 92 ⇑P P 04 38 00.4 -0.3
FRNY Flat Rock 37.81 77 IAmb IAmb 04 38 12.0
comp=Z,108nm,1.1s
FRNY IAMs_20 IAMs_20 04 51 33.6
comp=Z,37µm,21.0s
P57A Homestead Farm 37.96 87 IAmb IAmb 04 38 14.8
comp=Z,271nm,1.5s
N58A Sunbury 38.00 84 IAmb IAmb 04 38 22.2
comp=Z,106nm,0.9s
N58A IAMs_20 IAMs_20 04 54 46.2
comp=Z,54µm,18.0s
V55A Taylorsville 38.14 94 IAMs_20 IAMs_20 04 53 46.6
comp=Z,64µm,18.0s
L59A Walton 38.30 81 IAmb IAmb 04 38 42.0
comp=Z,326nm,1.9s
L59A IAMs_20 IAMs_20 04 52 59.9
comp=Z,50µm,18.0s
GOGA Godfrey 38.31 99 IAmb IAmb 04 38 34.3
comp=Z,254nm,1.7s
GOGA Godfrey 38.31 99 ⇑P P 04 38 04.2 -0.9
S57A Dark Hollow, R 38.39 90 IAmb IAmb 04 38 32.6
comp=Z,204nm,1.7s
S57A IAMs_20 IAMs_20 04 53 09.8
comp=Z,38µm,21.0s
JRQG Juriquilla Cam 38.41 131 IAMs_20 IAMs_20 04 55 28.0
comp=Z,47µm,20.0s
PAULI Pauline 38.42 96 IAmb IAmb 04 38 36.1
comp=Z,249nm,1.7s
LMQ La Malbaie 38.45 71 IAMs_20 IAMs_20 04 52 02.2
comp=Z,45µm,19.0s
NEEM North Greenlan 38.51 20 ⇓P P 04 38 06.4 -0.2
NEEM North Greenlan 38.51 20 *i*P P 04 38 04.4 -2.2
NEEM IAmb IAmb 04 38 17.9
comp=Z,64nm,0.7s
VT1 Waterbury 38.58 77 IAMs_20 IAMs_20 04 52 09.2
comp=Z,44µm,20.0s
T57A Hurt 38.66 91 IAMs_20 IAMs_20 04 55 17.2
comp=Z,60µm,19.0s
NUUG Nuugaatsiaq 38.76 30 *i*P P 04 38 08.4 0.0
NUUG IAmb IAmb 04 38 18.3
comp=Z,23nm,1.1s
451A Vernon 38.82 104 IAmb IAmb 04 38 31.7
comp=Z,218nm,1.3s
R58B Mineral 38.94 89 IAMs_20 IAMs_20 04 52 46.4
comp=Z,30µm,18.0s
MOIG Morelia 38.95 133 IAmb IAmb 04 38 19.2
comp=Z,417nm,1.8s
MOIG Morelia 38.95 133 P P 04 38 12.4 +1.6
LUPA Lehigh Univers 38.98 84 IAmb IAmb 04 38 23.3
comp=Z,182nm,1.4s
LUPA IAMs_20 IAMs_20 04 53 05.0
comp=Z,66µm,19.0s
CBN Corbin Frederi 39.12 88 IAMs_20 IAMs_20 04 54 08.0
comp=Z,48µm,19.0s
LBNH Lisbon 39.13 76 IAMs_20 IAMs_20 04 52 57.6
comp=Z,64µm,19.0s
LBNH Lisbon 39.13 76 ⇓P P 04 38 12.3 +0.4
HNH Hanover 39.19 77 IAMs_20 IAMs_20 04 52 26.3
comp=Z,43µm,20.0s
J61A Chester 39.22 78 IAMs_20 IAMs_20 04 52 49.0
comp=Z,44µm,19.0s
UMMG Uummannaq 39.28 31 *i*P P 04 38 12.4 -0.4
UMMG IAmb IAmb 04 38 21.7
comp=Z,36nm,0.8s
ICQ Pointe Anglais 39.33 67 IAmb IAmb 04 38 26.8
comp=Z,479nm,1.6s
W57A Gilead 39.35 94 IAMs_20 IAMs_20 04 54 34.7
comp=Z,57µm,20.0s
E62A Clayton Lake 39.38 72 IAmb IAmb 04 38 46.6
comp=Z,235nm,1.6s
H62A Milan 39.43 76 IAmb IAmb 04 38 52.9
comp=Z,299nm,2.0s
H62A IAMs_20 IAMs_20 04 52 55.4
comp=Z,29µm,18.0s
D62A Allapoint, All 39.44 71 IAmb IAmb 04 38 27.3
comp=Z,265nm,1.5s
D62A IAMs_20 IAMs_20 04 53 49.3
comp=Z,55µm,20.0s
G62A West of Eustis 39.48 74 IAMs_20 IAMs_20 04 53 24.6
comp=Z,38µm,18.0s
V58A Windy Hill, Pi 39.50 92 IAMs_20 IAMs_20 04 55 40.5
comp=Z,50µm,18.0s
KSCT Kent School, K 39.52 81 IAmb IAmb 04 38 26.3
comp=Z,343nm,1.1s
TIGA Tifton 39.57 101 IAmb IAmb 04 38 17.9
comp=Z,241nm,1.8s
L61B Northampton 39.62 79 IAMs_20 IAMs_20 04 52 16.8
comp=Z,40µm,22.0s
PAL Palisades 39.66 82 IAMs_20 IAMs_20 04 52 51.1
comp=Z,46µm,18.0s
I62A Tamworth 39.69 77 IAMs_20 IAMs_20 04 53 22.3
comp=Z,56µm,19.0s
T59A Double "B" Far 39.75 90 IAMs_20 IAMs_20 04 54 29.9
comp=Z,52µm,18.0s
K62A Royalston 39.78 79 IAMs_20 IAMs_20 04 52 34.0
comp=Z,42µm,18.0s
P61A Hammonton 39.87 84 IAmb IAmb 04 38 31.1
comp=Z,150nm,1.2s
P61A IAMs_20 IAMs_20 04 52 21.8
comp=Z,50µm,22.0s
553A Crawfordville 39.93 104 IAMs_20 IAMs_20 04 54 51.5
comp=Z,45µm,22.0s
ILULI Ilulissat 39.98 33 *i*P P 04 38 17.4 -1.2
ILULI IAmb IAmb 04 38 30.2
comp=Z,28nm,1.1s
N62A Caumsett State 39.98 82 IAMs_20 IAMs_20 04 52 59.4
comp=Z,43µm,19.0s
I63A Otisfield 40.06 76 IAMs_20 IAMs_20 04 53 17.8
comp=Z,43µm,18.0s
X58A Rowland 40.15 94 P P 04 38 20.0 -0.4
X58A IAmb IAmb 04 38 38.6
comp=Z,136nm,1.1s
PKME Peaks-Kenny Pk 40.20 74 ⇓P P 04 38 20.9 +0.2
UCCT U. Connecticut 40.27 80 IAmb IAmb 04 38 58.8
comp=Z,261nm,2.0s
UCCT IAMs_20 IAMs_20 04 55 48.9
comp=Z,53µm,18.0s
HRV Adam Dziewonsk 40.29 79 P P 04 38 19.6 -1.9
HRV Adam Dziewonsk 40.29 79 IAMs_20 IAMs_20 04 52 47.3
comp=Z,45µm,20.0s
HRV Adam Dziewonsk 40.29 79 P P 04 38 19.6 -1.9
HRV pmax pmax
comp=Z,55nm,1.2s
W59A Clinton 40.32 93 IAmb IAmb 04 38 35.7
comp=Z,252nm,1.4s
W59A IAMs_20 IAMs_20 04 54 23.2
comp=Z,37µm,20.0s
F64A Sherman 40.47 72 IAmb IAmb 04 38 35.7
comp=Z,161nm,1.2s
WES Weston 40.50 79 IAMs_20 IAMs_20 04 52 56.0
comp=Z,47µm,20.0s
S61A Accomac 40.50 87 IAMs_20 IAMs_20 04 53 42.7
comp=Z,45µm,19.0s
NHSC New Hope 40.57 96 IAmb IAmb 04 38 54.1
comp=Z,335nm,1.4s
NHSC New Hope 40.57 96 ⇑P P 04 38 23.5 -0.4
M63A Gales Ferry 40.60 80 IAMs_20 IAMs_20 04 56 03.7
comp=Z,46µm,18.0s
BCX Boston College 40.62 78 IAMs_20 IAMs_20 04 52 59.2
comp=Z,40µm,20.0s

SFJD	**Kangerlussuaq**	**40.79**	**36**	LR	LR	04 55 52.5			
	comp=Z,90µm,18.5s,baz=301,slow=37								
SFJD	**Kangerlussuaq**	**40.79**	**36**	⇑P	**P**	**04 38 26.8**	**+1.4**		
SFJD	**Kangerlussuaq**	**40.79**	**36**	*i* P	**P**	**04 38 24.3**	**-1.0**		
SFJD				IAmb	IAmb	04 38 38.0			
	comp=Z,337nm,1.8s								
SFJD	**Kangerlussuaq**	**40.79**	**36**	P	**P**	**04 38 25.0**	**-0.3**		
SEY	**Seymchan**	**41.01**	**317**	LR	LR	04 55 56.3			
	comp=Z,43µm,18.2s,baz=52,slow=37								
SEY	**Seymchan**	**41.01**	**317**	⇑*e*P	**P**	**04 38 26.9**	**-0.3**		
SEY				pmax	pmax				
	comp=Z,141nm,1.5s								
SEY				MLR	MLR				
	comp=Z,41µm,16.0s								
456A	**Hilliard**	**41.04**	**101**	IAMs_20	IAMs_20	04 56 19.7			
	comp=Z,52µm,19.0s								
L64A	**Middleborough**	**41.05**	**79**	IAMs_20	IAMs_20	04 53 12.5			
	comp=Z,45µm,21.0s								
V61A	**Roper**	**41.10**	**90**	IAMs_20	IAMs_20	04 55 11.7			
	comp=Z,49µm,18.0s								
BATG	**Bathurst New B**	**41.11**	**69**	IAmb	IAmb	04 38 43.8			
	comp=Z,157nm,1.5s								
Y60A	**Bolivia**	**41.21**	**94**	IAMs_20	IAMs_20	04 55 59.9			
	comp=Z,46µm,18.0s								
G65A	**Princeton**	**41.28**	**73**	IAmb	IAmb	04 38 42.7			
	comp=Z,138nm,1.1s								
NUUK	**Nuuk**	**41.29**	**41**	*i* P	**P**	**04 38 31.3**	**+1.8**		
NUUK				IAmb	IAmb	04 38 40.7			
	comp=Z,71nm,1.3s								
M65A	**Busby, Falmout**	**41.38**	**79**	IAMs_20	IAMs_20	04 53 22.2			
	comp=Z,35µm,21.0s								
M65A	**Busby, Falmout**	**41.38**	**79**	P	**P**	**04 38 29.3**	**-1.2**		
	baz=305								
M65A				S	**S**	**04 44 46.6**	**+1.7**		
	baz=305								
GGN	**Saint George**	**41.76**	**72**	IAmb	IAmb	04 38 46.6			
	comp=Z,187nm,1.2s								
PET	**Petropavlovsk**	**41.95**	**301**	P	**P**	**04 38 34.5**	**-0.5**		
PET				IAMs_20	IAMs_20	04 53 35.4			
	comp=Z,29µm,21.0s								
PET	**Petropavlovsk**	**41.95**	**301**	P	**P**	**04 38 36.0**	**+1.0**		
PET	**Petropavlovsk**	**41.95**	**301**	*e*P	**P**	**04 38 33.7**	**-1.3**		
PET				*e*		04 40 12.0			
PET				*e*S	**S**	**04 44 50.4**	**-2.8**		
PET				pmax	pmax				
	comp=Z,3µm,7.1s								
PET				pmax	pmax				
	comp=Z,2µm,13.3s								
PET				pmax	pmax				
	comp=Z,332nm,1.2s								
PET				pmax	pmax				
	comp=Z,5µm,12.7s								
PET				pmax	pmax				
	comp=Z,6µm,12.3s								
PET				MLR	MLR				
	comp=Z,10µm,16.0s								
PET				MLR	MLR				
	comp=Z,10µm,17.0s								
PET	**Petropavlovsk**	**41.95**	**301**	P	**P**	**04 38 34.8**	**-0.2**		
	comp=Z,5µmcomp=Z,292nm,1.3s								
TLIG	**Tlapa**	**42.01**	**131**	P	**P**	**04 38 37.8**	**+1.8**		
TLIG	**Tlapa**	**42.01**	**131**	⇑P	**P**	**04 38 36.4**	**+0.4**		
TLIG	**Tlapa**	**42.01**	**131**	P	**P**	**04 38 38.3**	**+2.4**		
PEA0B	**Petropavlovsk-**	**42.42**	**302**	*ce*P	**P**	**04 38 38.4**	**-0.5**		
PETK	**Petropavlovsk-**	**42.42**	**302**	P	**P**	**04 38 38.6**	**-0.3**		
PETK	**Petropavlovsk-**	**42.42**	**302**	P	**P**	**04 38 38.5**	**-0.5**		
	comp=Z,70nm,1.0s,baz=73,slow=13,SNR=68								
PETK				LR	LR	04 54 14.6			
	comp=Z,25µm,21.1s,baz=56,slow=33								
	comp=Z,70nm,1.0s								
PETK	**Petropavlovsk-**	**42.42**	**302**	P	**P**	**04 38 38.6**	**-0.3**		
LMN	**Caledonia Moun**	**42.59**	**70**	IAMs_20	IAMs_20	04 54 16.6			
	comp=Z,36µm,18.0s								
SUMG	**Summit**	**42.85**	**26**	P	**P**	**04 38 42.5**	**-0.1**		
SUMG	**Summit**	**42.85**	**26**	P	**P**	**04 38 42.1**	**-0.4**		
SUMG				IAmb	IAmb	04 39 13.4			
	comp=Z,151nm,1.3s								
SUMG				IAMs_20	IAMs_20	04 57 06.1			
	comp=Z,56µm,19.0s								
SUMG	**Summit**	**42.85**	**26**	P	**P**	**04 38 42.1**	**-0.4**		
SUMG				pmax	pmax				
	comp=Z,151nm,1.3s								
SUMG				MLR	MLR				
	comp=Z,56µm,19.0s								
SUMG	**Summit**	**42.85**	**26**	⇓P	**P**	**04 38 42.7**	**+0.1**		
SUMG	**Summit**	**42.85**	**26**	*i* P	**P**	**04 38 42.0**	**-0.6**		
SUMG				IAmb	IAmb	04 38 54.5			
	comp=Z,79nm,1.1s								
SUMG				IAMs_20	IAMs_20	04 57 33.9			
	comp=Z,76µm,12.9s								
SUMG				IVMs_BB	IVMs_BB	04 57 37.9			
	comp=Z,36µm,11.4s								
MA2	**Magadan**	**43.03**	**313**	P	**P**	**04 38 43.9**	**+0.2**		
MA2				IAmb	IAmb	04 38 51.5			
	comp=Z,280nm,1.3s								
MA2				IAMs_20	IAMs_20	04 55 31.1			
	comp=Z,35µm,21.0s								
MA2	**Magadan**	**43.03**	**313**	LR	LR	04 55 42.3			
	comp=Z,37µm,21.5s,baz=52,slow=35								
MA2	**Magadan**	**43.03**	**313**	P	**P**	**04 38 45.6**	**+1.9**		
MA2	**Magadan**	**43.03**	**313**	⇓*e*P	**P**	**04 38 43.3**	**-0.4**		
MA2				pmax	pmax				
	comp=Z,293nm,1.4s								
MA2				MLR	MLR				
	comp=Z,39µm,17.0s								
MA2	**Magadan**	**43.03**	**313**	⇑P	**P**	**04 38 43.8**	**0.0**		
NOR	**Nord**	**43.10**	**11**	*i* P	**P**	**04 38 44.3**	**+0.2**		
NOR				IAmb	IAmb	04 38 59.7			
	comp=Z,447nm,2.4s								
NOR				IAMs_20	IAMs_20	04 56 51.7			
	comp=Z,135µm,22.3s								
NOR				IVMs_BB	IVMs_BB	04 57 00.8			
	comp=Z,50µm,10.3s								
DWPF	**Disney Wildern**	**43.24**	**103**	P	**P**	**04 38 46.1**	**+0.3**		
DWPF				IAmb	IAmb	04 38 48.8			
	comp=Z,246nm,1.9s								
HAL	**Halifax**	**43.96**	**71**	IAMs_20	IAMs_20	04 55 02.1			
	comp=Z,30µm,18.0s								
IVI	**Ivigtut**	**43.97**	**44**	IAMs_20	IAMs_20	04 57 18.6			
	comp=Z,34µm,18.0s								
IVI	**Ivigtut**	**43.97**	**44**	*i* P	**P**	**04 38 53.0**	**+1.8**		
IVI				IAmb	IAmb	04 39 05.1			
	comp=Z,42nm,1.0s								
CMIG	**Matias Romero**	**44.21**	**127**	LR	LR	05 00 29.0			
	comp=Z,25µm,18.5s,baz=312,slow=40								
SKR	**Severo-Kuril's**	**44.46**	**300**	*e*P	**P**	**04 38 54.5**	**-0.8**		
SKR				*e*		04 40 35.5			
SKR				*e*S	**S**	**04 45 33.7**	**+3.8**		
SKR				pmax	pmax				
	comp=Z,2µm,8.8s								
SKR				MLR	MLR				
	comp=Z,9µm,16.0s								
GBN	**Guysborough**	**44.77**	**69**	P	**P**	**04 38 58.4**	**+0.5**		
DRLN	**Deer Lake**	**45.02**	**62**	P	**P**	**04 38 59.8**	**0.0**		
TEIG	**Tepich**	**45.17**	**117**	P	**P**	**04 39 01.2**	**-0.1**		
TEIG				IAmb	IAmb	04 39 03.9			
	comp=Z,91nm,1.2s								
TEIG	**Tepich**	**45.17**	**117**	⇑P	**P**	**04 39 01.6**	**+0.3**		
NRS	**Narsarsuaq**	**45.18**	**43**	IAMs_20	IAMs_20	04 56 40.6			
	comp=Z,33µm,18.0s								
NRS	**Narsarsuaq**	**45.18**	**43**	*i* P	**P**	**04 39 00.4**	**-0.5**		
NRS				IAmb	IAmb	04 39 10.4			
	comp=Z,60nm,1.4s								
NRS				IAMs_20	IAMs_20	04 58 54.6			
	comp=Z,60µm,14.0s								
NRS				IVMs_BB	IVMs_BB	04 58 58.3			
	comp=Z,31µm,12.0s								
DAG	**Danmarks Havn**	**45.48**	**17**	P	**P**	**04 39 02.0**	**-1.1**		
DAG	**Danmarks Havn**	**45.48**	**17**	⇑P	**P**	**04 39 02.4**	**-0.7**		
DAG	**Danmarks Havn**	**45.48**	**17**	*i* P	**P**	**04 39 03.0**	**-0.1**		
DAG				IAmb	IAmb	04 39 12.9			
	comp=Z,36nm,1.1s								
TIXI	**Tiksi**	**45.62**	**334**	P	**P**	**04 39 03.2**	**-1.1**		
TIXI				IAMs_20	IAMs_20	05 01 13.9			
	comp=Z,32µm,19.0s								
TIXI	**Tiksi**	**45.62**	**334**	LR	LR	05 01 25.1			
	comp=Z,31µm,19.1s,baz=69,slow=40								
TIXI	**Tiksi**	**45.62**	**334**	⇓*e*P	**P**	**04 39 05.1**	**+0.8**		
TIXI				pmax	pmax				
	comp=Z,74nm,1.2s								
TIXI				MLR	MLR				
	comp=Z,30µm,18.0s								
ISOG	**Isortoq, Green**	**45.69**	**36**	*i* P	**P**	**04 39 03.4**	**-1.5**		
ISOG				IAmb	IAmb	04 39 16.3			
	comp=Z,65nm,0.9s								
ANGG	**Ammassalik, Gr**	**46.14**	**35**	IAmb	IAmb	04 39 43.1			
	comp=Z,196nm,1.4s								
ANGG	**Ammassalik, Gr**	**46.14**	**35**	*i* P	**P**	**04 39 08.9**	**+0.5**		
ANGG				IAmb	IAmb	04 39 16.0			
	comp=Z,83nm,1.1s								
CCIG	**Comitan**	**46.30**	**124**	IAmb	IAmb	04 39 14.2			
	comp=Z,114nm,1.4s								
CCIG				IAMs_20	IAMs_20	05 02 05.7			
	comp=Z,28µm,18.0s								
DBG	**Daneborg**	**46.59**	**21**	*i* P	**P**	**04 39 11.2**	**-0.7**		
DBG				IAmb	IAmb	04 39 24.1			
	comp=Z,59nm,1.1s								
SOEG	**Soedalen**	**46.96**	**30**	*i* P	**P**	**04 39 17.4**	**+2.6**		
SOEG				IAmb	IAmb	04 39 27.6			
	comp=Z,181nm,1.5s								
CAMR	**Camarioca**	**47.00**	**108**	IAmb	IAmb	04 39 19.2			
	comp=Z,1µm,2.0s								
CAMR				IAMs_20	IAMs_20	05 01 03.0			
	comp=Z,77µm,18.0s								
KBS	**Kingsbay**	**48.33**	**9**	P	**P**	**04 39 26.0**	**+0.6**		
KBS				IAmb	IAmb	04 39 41.1			
	comp=Z,64nm,1.0s								
KBS	**Kingsbay**	**48.33**	**9**	⇑*e*P	**P**	**04 39 27.5**	**+2.1**		
KBS				pmax	pmax				
	comp=Z,80nm,1.1s								
KBS				MLR	MLR				
	comp=Z,48µm,17.0s								
KBS	**Kingsbay**	**48.33**	**9**	*e*P	**P**	**04 39 24.9**	**-0.5**		
KBS				*e*PP	**PP**	**04 41 16.6**	**-0.9**		
KBS				IVmB_BB		04 41 36.9			
	comp=Z,3µm,4.6s								
KBS				*e*S	**S**	**04 46 23.1**	**-1.8**		
KBS	**Kingsbay**	**48.33**	**9**	⇓P	**P**	**04 39 26.6**	**+1.2**		
KBS	**Kingsbay**	**48.33**	**9**	*i* P	**P**	**04 39 27.4**	**+2.1**		
SCO	**Scoresbysund**	**48.44**	**25**	*i* P	**P**	**04 39 24.5**	**-1.8**		
SCO				IAmb	IAmb	04 39 33.8			
	comp=Z,49nm,1.7s								
MTO3	**Montecristo**	**49.33**	**123**	IAmb	IAmb	04 39 38.2			
	comp=Z,142nm,1.3s								
SPA0	**Spitsbergen Ar**	**49.42**	**9**	*e*P	**P**	**04 39 33.3**	**-0.5**		
SPA0				IVmB_BB		04 39 46.9			
	comp=Z,2µm,5.1s								
SPA0				*e*PP	**PP**	**04 41 24.6**	**-2.8**		
SPA0				*e*S	**S**	**04 46 40.2**	**0.0**		
SPITS	**Spitsbergen Ar**	**49.42**	**9**	P	**P**	**04 39 31.3**	**-2.4**		
	comp=Z,4.0nm,0.8s,baz=20,slow=10,SNR=7.7								
SPITS				LR	LR	05 01 28.5			
	comp=Z,34µm,18.3s,baz=304,slow=38								
	comp=Z,4.0nm,0.8s								
SPITS	**Spitsbergen Ar**	**49.42**	**9**	P	**P**	**04 39 32.8**	**-1.0**		
SPITS				pmax	pmax				
	comp=Z,226nm,1.7s								
YAK	**Yakutsk**	**50.66**	**323**	P	**P**	**04 39 42.0**	**-1.3**		
YAK				IAmb	IAmb	04 39 49.2			
	comp=Z,160nm,1.1s								
YAK	**Yakutsk**	**50.66**	**323**	IAMs_20	IAMs_20	05 01 06.5			
	comp=Z,37µm,20.0s								
YAK	**Yakutsk**	**50.66**	**323**	LR	LR	05 01 33.9			
	comp=Z,35µm,19.3s,baz=42,slow=37								
YAK	**Yakutsk**	**50.66**	**323**	*e*P	**P**	**04 39 44.0**	**+0.7**		
YAK				*e**PP	**pwP**	**04 39 53.1**	**+4.6**		
YAK				*e*		04 41 01.2			
YAK				*e*		04 41 39.9			
YAK				*e*PPP	PPP	04 42 36.2			
YAK				*e*S	**S**	**04 46 59.8**	**+2.0**		
YAK				*e*SS	**SS**	**04 50 29.0**	**-2.3**		
YAK				*e*SSS	SSS	04 52 01.8			
YAK				pmax	pmax				
	comp=Z,146nm,1.1s								
YAK				pmax	pmax				
	comp=N,83nm,1.5s								
YAK				pmax	pmax				
	comp=E,73nm,1.4s								
YAK				pmax	pmax				
	comp=Z,2µm,6.7s								
YAK				pmax	pmax				
	comp=N,2µm,7.1s								
YAK				pmax	pmax				
	comp=E,2µm,9.0s								
YAK				smax	smax				
	comp=N,2µm,14.2s								
YAK				smax	smax				
	comp=E,11µm,12.6s								
YAK				MLR	MLR				
	comp=Z,40µm,22.0s								
YAK				MLR	MLR				
	comp=N,29µm,23.0s								
YAK				MLR	MLR				
	comp=E,20µm,19.0s								
TGUH	**Tegucigalpa,Un**	**50.73**	**121**	⇑P	**P**	**04 39 45.9**	**+1.3**		
BBSR	**BB Station**	**50.80**	**85**	P	**P**	**04 39 43.0**	**-1.9**		
BBSR	**BB Station**	**50.80**	**85**	IAMs_20	IAMs_20	05 01 19.2			
	comp=Z,41µm,19.0s								
NKL	**Nikolayevsk**	**51.12**	**309**	*e*P	**P**	**04 39 45.3**	**-1.6**		
NKL				*e*S	**S**	**04 47 03.0**	**-1.4**		
NKL				pmax	pmax				
	comp=E,103nm,0.5s								
NKL				pmax	pmax				
	comp=N,270nm,1.2s								
NKL				pmax	pmax				
	comp=Z,584nm,1.2s								
NKL				smax	smax				
	comp=E,459nm,3.0s								
NKL				smax	smax				
	comp=N,1µm,9.0s								
NKL				MLR	MLR				
	comp=E,23µm,15.0s								
NKL				MLR	MLR				
	comp=N,44µm,16.0s								
NKL				MLR	MLR				
	comp=Z,41µm,16.0s								
JNW	**Jan Mayen West**	**51.40**	**21**	*e*P	**P**	**04 39 48.3**	**-0.5**		
JNW				IVmB_BB		04 40 05.8			
	comp=Z,3µm,3.6s								
JNW				*e*S	**S**	**04 47 06.0**	**-1.9**		
JMIC	**Jan Mayen**	**51.42**	**21**	LR	LR	05 01 40.0			
	comp=Z,20µm,19.6s,baz=324,slow=36								
TYV	**Tymovskoe**	**51.49**	**306**	*e*P	**P**	**04 39 50.2**	**+0.5**		
TYV				*e*S	**S**	**04 47 12.2**	**+2.6**		
TYV				pmax	pmax				
	comp=Z,56nm,1.1s								
TYV				pmax	pmax				
	comp=Z,500nm,2.0s								
TYV				smax	smax				
	comp=N,3µm,8.7s								
TYV				smax	smax				
	comp=E,2µm,8.7s								
HOPEN	**Hopen**	**51.71**	**7**	*e*P	**P**	**04 39 50.5**	**-0.5**		
HOPEN				IVmB_BB		04 40 06.6			
	comp=Z,3µm,4.8s								
HOPEN				*e*PP	**PP**	**04 41 46.8**	**-1.4**		
HOPEN				*e*S	**S**	**04 47 11.6**	**-0.3**		
PILO	**Pilon**	**51.78**	**107**	*e*P	**P**	**04 39 52.4**	**+0.1**		
HLGC	**Holguin**	**51.85**	**105**	*e*P	**P**	**04 39 49.8**	**-3.0**		
LMGC	**Las Mercedes**	**51.90**	**106**	*e*P	**P**	**04 39 50.4**	**-2.7**		
CRIN	**San Cristobal**	**51.98**	**122**	IAMs_20	IAMs_20	05 03 42.3			
	comp=Z,20µm,20.0s								
YAR	**Yar**	**52.06**	**105**	*e*P	**P**	**04 39 55.1**	**+0.7**		
KUR	**Kuril'sk**	**52.10**	**298**	*e*P	**P**	**04 39 53.4**	**-0.9**		
KUR				*i*		04 41 52.1			
KUR				PPP	PPP	04 42 54.8			
KUR				*e*S	**S**	**04 47 17.7**	**-0.4**		
KUR				*e*		04 49 47.6			
KUR				pmax	pmax				
	comp=Z,2µm,8.4s								
KUR				pmax	pmax				
	comp=Z,203nm,1.3s								
KUR				MLR	MLR				
	comp=Z,6µm,19.0s								
KUR				MLR	MLR				
	comp=N,9µm,18.0s								
KUR				MLR	MLR				
	comp=E,7µm,17.0s								
HERN	**Volcan Telica**	**52.17**	**121**	IAmb	IAmb	04 39 58.2			
	comp=Z,193nm,1.1s								
HERN				IAMs_20	IAMs_20	05 04 32.9			
	comp=Z,22µm,20.0s								
BORG	**Borgarnes**	**52.26**	**31**	LR	LR	05 02 19.4			
	comp=Z,35µm,18.1s,baz=336,slow=36								
PINC	**Pinares de May**	**52.32**	**105**	*e*P	**P**	**04 39 53.1**	**-3.1**		
CHIV	**Chivirico**	**52.33**	**106**	IAmb	IAmb	04 39 59.5			
	comp=Z,730nm,2.0s								
MOAC	**Moa**	**52.70**	**104**	*e*P	**P**	**04 39 57.7**	**-1.3**		
RCC	**Rio Carpintero**	**52.75**	**105**	*e*P	P	04 39 50.4	-9.0		
NMDO	**Nuevo Mundo**	**52.76**	**104**	IAmb	IAmb	04 40 02.6			
	comp=Z,255nm,1.6s								
NMDO				IAMs_20	IAMs_20	05 03 24.3			
	comp=Z,52µm,19.0s								
NMDO	**Nuevo Mundo**	**52.76**	**104**	*e*P	**P**	**04 39 55.1**	**-4.4**		
MGAN	**Managua**	**52.87**	**121**	IAMs_20	IAMs_20	05 04 31.4			
	comp=Z,21µm,22.0s								
UGL	**Uglegorsk**	**52.87**	**305**	*e*P	P	04 39 52.6	-7.4		
UGL				*e*S	S	04 47 19.2	-9.4		
UGL				pmax	pmax				
	comp=Z,2µm,7.2s								
UGL				smax	smax				
	comp=E,13µm,15.0s								
UGL				smax	smax				
	comp=N,2µm,11.0s								
UGL				MLR	MLR				
	comp=N,11µm,16.0s								
UGL				MLR	MLR				
	comp=E,13µm,16.0s								
UGL				MLR	MLR				
	comp=Z,18µm,15.0s								
BOAB	**BOACO BROADBAN**	**52.93**	**120**	P	**P**	**04 40 00.4**	**-0.4**		
BOAB	**BOACO BROADBAN**	**52.93**	**120**	P	**P**	**04 40 00.7**	**-0.2**		
BOAB				IAMs_20	IAMs_20	05 05 08.1			
	comp=Z,31µm,19.0s								
BOAB	**BOACO BROADBAN**	**52.93**	**120**	⇑P	**P**	**04 40 00.8**	**0.0**		
MTDJ	**Mount Denham**	**52.99**	**108**	IAMs_20	IAMs_20	05 05 29.8			
	comp=Z,21µm,18.0s								
MTDJ	**Mount Denham**	**52.99**	**108**	*e*P	**P**	**04 39 59.1**	**-2.3**		
MTDJ	**Mount Denham**	**52.99**	**108**	⇑P	**P**	**04 40 00.4**	**-1.0**		
QMBU	**Quimbuelo**	**53.13**	**104**	*e*P	**P**	**04 39 59.7**	**-2.6**		
GTBY	**Guantanamo Bay**	**53.16**	**105**	IAmb	IAmb	04 40 22.6			
	comp=Z,151nm,1.5s								
GTBY	**Guantanamo Bay**	**53.16**	**105**	*e*P	**P**	**04 39 59.1**	**-3.4**		
MASC	**Masc**	**53.51**	**104**	*e*P	**P**	**04 40 01.1**	**-4.0**		
STH	**Stony Hill**	**53.54**	**108**	*e*P	P	04 39 59.7	-5.6		
ACON	**Acoyapa**	**53.60**	**120**	IAmb	IAmb	04 40 08.6			
	comp=Z,143nm,1.2s								
ACON	**Acoyapa**	**53.60**	**120**	P	**P**	**04 40 05.9**	**+0.2**		
	comp=Z,3µmcomp=Z,142nm,2.2s								
YSS	**Yuzhno-Sakhali**	**53.83**	**302**	P	**P**	**04 40 06.1**	**-1.0**		
YSS				IAmb	IAmb	04 40 13.5			
	comp=Z,134nm,1.3s								
YSS	**Yuzhno-Sakhali**	**53.83**	**302**	P	**P**	**04 40 08.5**	**+1.4**		
YSS	**Yuzhno-Sakhali**	**53.83**	**302**	*ce*P	**P**	**04 40 06.8**	**-0.3**		
YSS				*e*S	**S**	**04 47 36.8**	**-4.8**		
YSS				*e*		04 49 55.9			
YSS				pmax	pmax				
	comp=Z,70nm,1.2s								
YSS				pmax	pmax				
	comp=N,30nm,1.0s								
YSS				pmax	pmax				
	comp=E,40nm,1.1s								
YSS				pmax	pmax				
	comp=Z,2µm,6.8s								
YSS				pmax	pmax				
	comp=N,500nm,4.5s								
YSS				pmax	pmax				
	comp=E,500nm,7.3s								
YSS				smax	smax				
	comp=N,4µm,17.9s								
YSS				smax	smax				
	comp=E,7µm,16.2s								
XMAS	**Kiritimati**	**53.88**	**214**	IAMs_20	IAMs_20	04 57 53.1			
	comp=Z,33µm,20.0s								
YUK	**Yuzh-Kuril'sk**	**53.97**	**298**	*e*P	**P**	**04 40 05.3**	**-2.8**		
YUK				*i* S	**S**	**04 47 36.8**	**-6.7**		
YUK				pmax	pmax				
	comp=Z,526nm,1.4s								
BLUN	**Bluefields**	**54.34**	**119**	P	**P**	**04 40 12.4**	**+1.3**		
	comp=Z,3µmcomp=Z,141nm,1.7s								
GRNR	**Gornyy**	**54.67**	**309**	⇓*i*P	**P**	**04 40 12.8**	**-0.4**		
GRNR				pmax	pmax				
	comp=Z,30nm,1.1s								
JTS	**Las Juntas de**	**55.11**	**121**	P	**P**	**04 40 16.0**	**-0.8**		
JTS	**Las Juntas de**	**55.11**	**121**	P	**P**	**04 40 15.4**	**-1.3**		
	comp=Z,23nm,0.9s,baz=320,slow=8.7,SNR=10								
JTS				LR	LR	05 06 09.6			
	comp=Z,12µm,19.6s,baz=322,slow=39								
	comp=Z,23nm,0.9s								
JTS	**Las Juntas de**	**55.11**	**121**	P	**P**	**04 40 16.0**	**-0.8**		
JTS				pmax	pmax				
	comp=Z,31nm,1.0s								
JTS				MLR	MLR				
	comp=Z,12µm,19.0s								
JKA	**Kamikawa-asahi**	**55.72**	**299**	IAmb	IAmb	04 40 29.4			
	comp=Z,106nm,1.3s								
ASAJ	**Asahikawa**	**55.72**	**299**	LR	LR	05 02 26.7			
	comp=Z,8µm,21.3s,baz=48,slow=34								
LGNH	**Logne**	**55.76**	**103**	*e*P	P	04 40 16.4	-5.1		
SDDR	**Presa de Saban**	**56.22**	**102**	IAmb	IAmb	04 40 26.6			
	comp=Z,60nm,1.0s								
SDDR				IAMs_20	IAMs_20	05 04 02.8			
	comp=Z,26µm,21.0s								
SDDR	**Presa de Saban**	**56.22**	**102**	*e*P	**P**	**04 40 23.0**	**-1.8**		
SDDR	**Presa de Saban**	**56.22**	**102**	⇑P	**P**	**04 40 24.2**	**-0.5**		
SC01	**Santiago de lo**	**56.23**	**101**	IAmb	IAmb	04 40 53.8			
	comp=Z,120nm,1.1s								
ERM	**Erimo**	**56.78**	**297**	P	**P**	**04 40 27.6**	**-0.9**		
ERM				IAmb	IAmb	04 40 33.9			
	comp=Z,118nm,1.3s								
ERM	**Erimo**	**56.78**	**297**	⇑*e*P	**P**	**04 40 28.7**	**+0.3**		
ERM				pmax	pmax				
	comp=Z,130nm,1.4s								
ERM	**Erimo**	**56.78**	**297**	P	**P**	**04 40 27.8**	**-0.6**		
ZEA	**Zeya**	**56.97**	**316**	*e*P	**P**	**04 40 29.4**	**-0.2**		
ZEA				*e*PPP	PPP	04 44 02.4			
ZEA				*e*S	**S**	**04 48 24.0**	**+0.6**		
ZEA				*e*SS	**SS**	**04 52 14.5**	**+3.4**		
ZEA				pmax	pmax				
	comp=Z,60nm,1.3s								
ZEA				pmax	pmax				
	comp=E,500nm,5.6s								
ZEA				pmax	pmax				
	comp=N,400nm,6.4s								
ZEA				pmax	pmax				
	comp=Z,700nm,5.4s								
ZEA				smax	smax				
	comp=N,2µm,10.8s			

TEY MLR MLR
comp=Z,400nm,17.0s
KEV Kevo 58.35 9 IAms_20 IAms_20 05 07 13.4
comp=Z,28µm,19.0s
KEV Kevo 58.35 9 ⇓P **P 04 40 39.4 +0.4**
KEV Kevo 58.35 9 P **P 04 40 39.1 0.0**
KEV S **S 04 48 44.2 +3.1**
ARA0 ARCESS Array S 58.41 10 *e*P **P 04 40 39.1 -0.4**
ARA0 IVmB_BB 04 40 54.6
comp=Z,3µm,5.2s
ARA0 *e*S **S 04 48 40.9 -1.0**
ARA0 IAms_20 IAms_20 05 05 10.0
comp=Z,26µm,19.5s
ARCES ARCESS Array B 58.41 10 P **P 04 40 37.6 -1.9**
comp=Z,3.4nm,0.8s,baz=357,slow=5.4,SNR=10
ARCES LR LR 05 05 39.0
comp=Z,19µm,21.9s,baz=334,slow=36
comp=Z,3.4nm,0.8s
STEI Steigen 58.56 14 *e*P **P 04 40 42.0 +1.5**
STEI IVmB_BB 04 40 56.6
comp=Z,3µm,4.1s
STEI *e*S **S 04 48 42.3 -1.6**
KTK1 Kautokeino 58.65 11 *e*P **P 04 40 41.7 +0.5**
KTK1 IVmB_BB 04 40 56.3
comp=Z,3µm,4.9s
KTK1 *e*S **S 04 48 44.9 -0.2**
KTK1 IVMs_BB IVMs_BB 05 01 58.1
comp=Z,8µm,24.8s
H11S1 WAKE ISLAND Hy 58.75 261 T T 05 44 31.0
baz=48,slow=74,SNR=1757
H11S2 WAKE ISLAND Hy 58.76 261 T T 05 44 27.5
baz=48,slow=74,SNR=1137
H11S3 WAKE ISLAND Hy 58.77 261 T T 05 44 27.2
baz=48,slow=74,SNR=1318
BCIP Isla Barro Col 58.85 117 ⇑P **P 04 40 43.3 0.0**
FAUS Fauske 59.07 15 *e*P **P 04 40 44.7 +0.6**
FAUS IVmB_BB 04 40 59.7
comp=Z,2µm,5.0s
FAUS *e*S **S 04 48 49.1 -1.4**
GMAL Guarumal, Vera 59.23 119 P **P 04 40 47.1 +1.2**
comp=Z,3µmcomp=Z,114nm,1.6s
HEH HeiHe 59.30 313 *e*P **P 04 40 43.8 -2.1**
HEH S **S 04 48 52.2 -1.7**
HEH SS **SS 04 52 50.0 +2.3**
HEH pmax pmax
comp=Z,260nm,1.2s
HEH pmax pmax
comp=Z,1µm,5.3s
HEH LR LR
comp=Z,18µm,18.8s
HEH LR LR
comp=Z,12µm,16.0s
HEH LR LR
comp=Z,27µm,18.5s
BOD Bodaibo 59.30 326 *e*P **P 04 40 44.4 -1.4**
BOD pmax pmax
comp=Z,145nm,1.3s
VAGH Vaagaholmen 59.33 16 *e*P **P 04 40 45.5 -0.4**
VAGH IVmB_BB 04 41 01.6
comp=Z,3µm,5.7s
VAGH *e*S **S 04 48 53.1 -0.7**
PRSN Puerto Rico Se 59.36 99 IAms_20 IAms_20 05 06 15.9
comp=Z,19µm,20.0s
AOPR Arecibo Observ 59.51 99 IAmb IAmb 04 40 56.2
comp=Z,48nm,0.8s
AOPR IAms_20 IAms_20 05 07 17.8
comp=Z,20µm,19.0s
CRPR Cabo Rojo, PR 59.54 99 IAms_20 IAms_20 05 05 49.7
comp=Z,22µm,22.0s
UUPR Utuado, UPR, P 59.60 99 IAmb IAmb 04 40 52.7
comp=Z,42nm,0.9s
STOK Stokkvaagen 59.65 16 *e*P **P 04 40 49.0 +0.9**
STOK IVmB_BB 04 41 04.0
comp=Z,3µm,5.3s
STOK *e*S **S 04 48 56.7 -1.2**
STOK IVMs_BB IVMs_BB 05 05 59.7
comp=Z,12µm,18.5s
CELP Cerrillos 59.82 99 IAmb IAmb 04 41 17.2
comp=Z,198nm,1.8s
OBIP Obispado Ponce 59.83 99 IAmb IAmb 04 40 57.2
comp=Z,47nm,0.8s
LEIR Leirfjorden 59.86 16 *e*P **P 04 40 49.3 -0.3**
LEIR IVmB_BB 04 41 05.8
comp=Z,3µm,4.5s
LEIR *e* 04 44 28.2
LEIR *e*S **S 04 48 57.6 -3.1**
LEIR IVMs_BB IVMs_BB 05 06 05.8
comp=Z,12µm,19.5s
GCPR Guaynabo City 59.95 98 IAmb IAmb 04 40 59.4
comp=Z,48nm,0.8s
GCPR IAMs_20 IAMs_20 05 02 33.6
comp=Z,21µm,20.0s
MOR8 Moi Rana 60.04 16 *e*P **P 04 40 49.9 -0.9**
MOR8 IVmB_BB 04 41 06.5
comp=Z,3µm,4.0s
MOR8 *e*S **S 04 49 00.8 -2.3**
MOR8 IVMs_BB IVMs_BB 05 06 31.3
comp=Z,12µm,18.2s
SJG San Juan 60.06 98 P **P 04 40 51.7 +0.1**
SJG San Juan 60.06 98 IAMs_20 IAMs_20 05 08 58.4
comp=Z,21µm,18.0s
SJG San Juan 60.06 98 LR LR 05 07 41.2
comp=Z,16µm,21.2s,baz=326,slow=37
SJG San Juan 60.06 98 P **P 04 40 51.7 +0.1**
SJG pmax pmax
comp=Z,287nm,1.9s
SJG MLR MLR
comp=Z,21µm,18.0s
SJG San Juan 60.06 98 ⇑P **P 04 40 50.8 -0.9**
SJG San Juan 60.06 98 P **P 04 40 50.9 -0.7**
comp=Z,2µmcomp=Z,788nmcomp=Z,22nm,2.0s
PDPR Patillas Dam, 60.21 98 IAmb IAmb 04 41 03.0
comp=Z,51nm,0.9s
PDPR IAMs_20 IAMs_20 05 05 01.4
comp=Z,21µm,22.0s
HUMP Col San Antoni 60.23 98 IAmb IAmb 04 41 01.4
comp=Z,56nm,0.8s
HUMP IAMs_20 IAMs_20 05 07 41.8
comp=Z,24µm,18.0s
TAOE Nuku Hiva Isla 60.28 191 IAMs_20 IAMs_20 04 59 29.2
comp=Z,19µm,22.0s
TAOE Nuku Hiva Isla 60.28 191 *e*P P 04 40 59.0 +5.8
comp=Z,332nm,1.3s
TAOE Nuku Hiva Isla 60.28 191 *e*PP PP 04 42 56.7 -10
comp=Z,302nm,28.3s
TAOE *e*S **S 04 49 06.8 -0.6**
comp=Z,5µm,23.3s
TAOE *e*SS **SS 04 53 04.2 -1.0**
comp=Z,2µm,25.9s
TAOE *e*LQ LQ 04 56 06.5
comp=Z,16µm,26.3s
TAOE *e*LR LR 04 58 38.1
comp=Z,42µm,25.4s
LVZ Lovozero 60.81 6 P **P 04 40 55.4 -0.8**
LVZ IAMs_20 IAMs_20 05 09 45.5
comp=Z,21µm,18.0s
LVZ Lovozero 60.81 6 *de*P **P 04 40 56.0 -0.1**
LVZ pmax pmax
comp=Z,184nm,1.4s
LVZ MLR MLR
comp=Z,18µm,17.0s
JMM Marumori 60.92 295 P **P 04 40 59.9 +2.6**
SJCC San Jacinto, C 60.94 112 P **P 04 41 00.1 +2.4**
comp=Z,9µmcomp=Z,2µmcomp=Z,70nm,1.2s
APA Apatity 61.04 7 ⇓*i*P **P 04 40 59.4 +1.8**
APA *i* S **S 04 49 17.4 +1.6**
APA *i* 04 50 42.2
APA *i* SS **SS 04 53 12.4 -1.9**
APA MLR MLR
comp=Z,21µm,14.5s
NSS Namsos 61.09 18 *e*P **P 04 40 57.0 -1.0**
NSS IVmB_BB 04 41 13.6
comp=Z,2µm,4.2s
NSS *e*S **S 04 49 13.9 -2.6**
USA0B Ussuriysk Arra 61.30 306 P **P 04 40 58.4 -1.4**
USA0B IAmb IAmb 04 41 05.4
comp=Z,116nm,1.2s
USA0B Ussuriysk Arra 61.30 306 *ce*P **P 04 40 57.9 -1.9**
USRK Ussuriysk Ar. 61.30 306 P **P 04 40 59.1 -0.6**
comp=Z,43nm,1.0s,baz=46,slow=8.2,SNR=31
USRK LR LR 05 08 03.3
comp=Z,17µm,19.3s,baz=47,slow=37
comp=Z,43nm,1.0s
APAC Apartado, Choc 61.74 115 P **P 04 41 04.8 +1.8**
comp=Z,8µmcomp=Z,3µmcomp=Z,154nm,1.0s
LEWI Lewis, Hebride 61.80 30 *e*P **P 04 41 01.1 -1.8**
LEWI IAMs_20 IAMs_20 05 07 23.4
comp=Z,46µm,17.2s
MOL Molde 61.93 21 *e*P **P 04 41 05.8 +2.1**
MOL IVmB_BB 04 41 20.0
comp=Z,2µm,4.5s
MOL *e*S **S 04 49 23.3 -3.8**
VLA Vladivostok 62.12 305 ⇑*e*P **P 04 41 05.6 +0.4**
VLA pmax pmax
comp=Z,76nm,1.1s
VLA MLR MLR
comp=Z,12µm,19.0s
AKN Aaknes 62.15 21 *e*P **P 04 41 09.4 +4.1**
AKN IVmB_BB 04 41 50.2
comp=Z,2µm,3.2s
AKN *e*S **S 04 49 26.8 -3.2**
FOO Floro 62.20 22 *e*P **P 04 41 06.6 +1.1**
FOO *e*S **S 04 49 26.8 -3.8**
FOO IVMs_BB IVMs_BB 05 08 29.8
comp=Z,11µm,19.4s
MDJ Mudanjiang 62.22 307 IAmb IAmb 04 42 04.0
comp=Z,97nm,1.8s
MDJ IAMs_20 IAMs_20 05 05 41.1
comp=Z,31µm,22.0s
MDJ Mudanjiang 62.22 307 P **P 04 41 05.2 -0.8**
MDJ sP sP 04 41 09.9 +0.5
MDJ S S 04 49 21.4 -10
MDJ SS **SS 04 53 29.8 -4.0**
MDJ pmax pmax
comp=Z,18nm,1.4s
MDJ pmax pmax
comp=Z,1µm,7.1s
MDJ LR LR
comp=Z,13µm,22.5s
MDJ LR LR
comp=Z,19µm,20.3s
MDJ LR LR
comp=Z,39µm,22.7s
MDJ Mudanjiang 62.22 307 P **P 04 41 07.3 +1.3**
JSD Sado 62.24 297 P **P 04 41 09.8 +3.6**
LINV Loch Inver, As 62.31 29 *e*P **P 04 41 06.3 0.0**
LINV IAMs_20 IAMs_20 05 08 44.5
comp=Z,47µm,16.0s
UREC San Jos de Ur 62.46 114 P **P 04 41 07.6 -0.3**
comp=Z,329nmcomp=Z,28nm,0.7s
BNX BinXian 62.50 309 ⇑P **P 04 41 07.3 -0.5**
BNX PP **PP 04 43 29.5 +4.7**
BNX S **S 04 49 33.2 -1.7**
BNX pmax pmax
comp=Z,18nm,1.2s
BNX pmax pmax
comp=Z,1µm,9.7s
BNX LR LR
comp=Z,14µm,19.2s
BNX LR LR
comp=Z,17µm,18.4s
BNX LR LR
comp=Z,16µm,20.0s
SEUS St. Eustatius 62.51 96 IAMs_20 IAMs_20 05 06 20.0
comp=Z,28µm,21.0s
SUE Sulen 62.60 23 *e*P **P 04 41 10.8 +2.6**
SUE *e*S **S 04 49 33.2 -2.5**
DBBC Dabeiba 62.66 115 P **P 04 41 11.8 +2.4**
DOMB Dombas 62.73 20 *e*P **P 04 41 11.5 +2.4**
DOMB *e*PP **PP 04 43 24.2 -2.2**
DOMB *e*S **S 04 49 35.7 -1.7**
KPL Plockton 62.83 30 *e*P **P 04 41 06.7 -3.1**
KPL IAMs_20 IAMs_20 05 07 53.7
comp=Z,41µm,17.7s
HYA Hoyanger 62.85 22 *e*P **P 04 41 10.7 +0.9**
HYA *e*S **S 04 49 37.4 -1.5**
HYA IVMs_BB IVMs_BB 05 09 06.9
comp=Z,8µm,20.0s
MSHR Mys Shultsa 62.87 305 *de*P **P 04 41 08.9 -1.4**
MSHR pmax pmax
comp=Z,125nm,1.5s
MSHR MLR MLR
comp=Z,12µm,17.0s
PSTR Posyet 63.01 305 ⇓*e*P **P 04 41 11.6 +0.4**
ZARC Zaragoza, Cauc 63.06 113 P **P 04 41 11.3 -0.6**
comp=Z,2µmcomp=Z,96nm,1.1s
ANWB Willy Bob 63.13 95 IAMs_20 IAMs_20 05 08 16.3
comp=Z,26µm,20.0s
ASK Askoy 63.21 23 *e*P **P 04 41 13.3 +1.1**
ASK *e*S **S 04 49 41.1 -2.2**
MJAR Matsushiro Arr 63.32 296 P **P 04 41 12.8 -0.6**
MJAR IAmb IAmb 04 41 21.4
comp=Z,64nm,1.6s
MJAR Matsushiro Arr 63.32 296 P **P 04 41 12.6 -0.9**
comp=Z,8.6nm,0.9s,baz=34,slow=5.6,SNR=12
MJAR LR LR 05 04 30.8
comp=Z,8µm,21.9s,baz=40,slow=32
comp=Z,8.6nm,0.9s
MJAR Matsushiro Arr 63.32 296 P **P 04 41 12.8 -0.6**
MJAR pmax pmax
comp=Z,64nm,1.6s
MJB9 Matsu-Tunnel 63.32 296 IAmb IAmb 04 41 21.3
comp=Z,57nm,1.2s
MAJO Matsushiro 63.32 296 P **P 04 41 11.6 -1.8**
MAJO IAmb IAmb 04 41 21.4
comp=Z,61nm,1.2s
MAJO Matsushiro 63.32 296 P **P 04 41 15.2 +1.8**
MAJO Matsushiro 63.32 296 ⇓*e*P **P 04 41 12.6 -0.8**
MAJO pmax pmax
comp=Z,29nm,1.1s
BER Bergen 63.33 23 *e*P P 04 41 18.0 +5.0
OCAC Ocana 63.36 111 P **P 04 41 14.9 +0.9**
comp=Z,6µmcomp=Z,2µmcomp=Z,88nm,1.0s
MCD Coleburn Disti 63.37 29 *e*P **P 04 41 12.7 -0.7**
MCD IAMs_20 IAMs_20 05 06 53.0
comp=Z,34µm,20.4s
HIA Hailar 63.45 316 IAMs_20 IAMs_20 05 09 03.8
comp=Z,22µm,19.0s
HIA Hailar 63.45 316 IAmb IAmb 04 41 19.4
comp=Z,76nm,1.2s
HIA Hailar 63.45 316 P **P 04 41 14.7 +0.6**
ANBD Bethesda, Anti 63.60 95 *e*P **P 04 41 14.5 -1.0**
CBOC Ciudad Bolivar 63.72 115 P **P 04 41 17.6 +1.2**
comp=Z,8µmcomp=Z,2µmcomp=Z,67nm,1.2s
HELC Santa Helena 63.73 115 P **P 04 41 17.3 +0.6**
comp=Z,6µmcomp=Z,2µmcomp=Z,62nm,1.2s
SKAR Skarslia 63.77 21 *e*P **P 04 41 18.7 +2.7**
SKAR *e*PP **PP 04 43 37.8 +2.1**
SKAR *e*S **S 04 49 52.0 +1.5**
NC204 NORSAR Array S 63.78 20 IAmb IAmb 04 41 34.6
comp=Z,144nm,1.6s
LAWE Loch Awe, Argy 63.80 31 *e*P **P 04 41 13.3 -2.9**
LAWE IAMs_20 IAMs_20 05 08 19.2
comp=Z,34µm,18.0s
CIT Chita 63.90 322 *e*P **P 04 41 21.0 +3.9**
CIT *e* 04 41 54.6
CIT *e* 04 43 38.6
CIT *e* 04 45 05.8
CIT *e* 04 49 55.6
CIT pmax pmax
comp=Z,204nm,1.5s
ODD1 Odda 64.06 22 *e*P **P 04 41 20.2 +2.2**
PTBC PUERTO BERRIO, 64.06 114 P **P 04 41 19.0 +0.5**
comp=Z,582nmcomp=Z,79nm,0.9s
IDGL Inch Island, C 64.07 32 P **P 04 41 19.7 +1.7**
INVG Invergeldie, C 64.09 30 *e*P **P 04 41 15.0 -3.2**
INVG IAMs_20 IAMs_20 05 08 50.9
comp=Z,18µm,18.2s
NB2 NORSAR Subarra 64.09 20 P **P 04 41 19.9 +1.8**
comp=Z,487nm,2.5s,baz=335,slow=6.5
NB2 NORSAR Subarra 64.09 20 P **P 04 41 19.9 +1.8**
baz=335,slow=6.5
NOA NORSAR Array B 64.09 20 P **P 04 41 17.0 -1.1**
comp=Z,6.1nm,1.0s,baz=335,slow=6.5,SNR=11
NOA LR LR 05 09 25.4
comp=Z,28µm,19.9s,baz=325,slow=36
comp=Z,6.1nm,1.0s
DRUM Mains of Drumt 64.16 29 *e*P **P 04 41 18.0 -0.7**
DRUM IAMs_20 IAMs_20 05 07 26.1
comp=Z,37µm,20.9s
GDHS Morne Mazeau, 64.19 96 IAMs_20 IAMs_20 05 08 31.2
comp=Z,30µm,21.0s
ABD La Joyeuse, An 64.21 96 IAMs_20 IAMs_20 05 08 52.1
comp=Z,22µm,20.0s
KMY Karmoy 64.33 23 *e*P **P 04 41 20.2 +0.5**
KMY *e*S **S 04 49 58.5 +1.2**
PLMC San Jos del P 64.34 116 P **P 04 41 20.7 +0.2**
comp=Z,7µmcomp=Z,2µmcomp=Z,68nm,1.8s
NC602 NORSAR Array S 64.43 20 *e*P **P 04 41 23.8 +3.4**
NC602 *e*PP **PP 04 43 43.8 +2.4**
NC602 *e*S **S 04 49 58.5 0.0**
NC602 *e*SS **SS 04 54 10.6 +3.1**
SDV Santo Domingo 64.43 109 IAMs_20 IAMs_20 05 12 01.1
comp=Z,18µm,20.0s
SDV Santo Domingo 64.43 109 P **P 04 41 21.4 +0.3**
comp=Z,8.3nm,0.3s,baz=332,slow=6.1,SNR=11
SDV LR LR 05 12 22.2
comp=Z,15µm,19.2s,baz=336,slow=39
comp=Z,8.3nm,0.3s
SDV Santo Domingo 64.43 109 P **P 04 41 21.3 +0.1**
comp=Z,2µmcomp=Z,48nm,1.6s
SDV Santo Domingo 64.43 109 P **P 04 41 20.2 -1.0**
SDV S **S 04 50 00.3 +0.2**
CBE Ff, Capester 64.44 96 IAMs_20 IAMs_20 05 08 17.2
comp=Z,33µm,22.0s
PAMC Pamplona, Colo 64.44 111 P **P 04 41 21.6 0.0**
BLS5 Blasjo 64.45 23 *e*P **P 04 41 23.1 +2.6**
BLS5 *e*S **S 04 49 58.6 -0.3**
PGBU Glenifferbraes 64.46 30 *e*P **P 04 41 20.7 +0.2**
PGBU IAMs_20 IAMs_20 05 08 49.9
comp=Z,57µm,18.0s
CLGH Cloghs, Cushen 64.53 32 *e*P P 04 41 15.1 -5.9
TDBA Terre de Bas, 64.59 96 IAMs_20 IAMs_20 05 08 55.1
comp=Z,26µm,22.0s
GDSD La Dsirade Is 64.59 95 P **P 04 41 21.3 -0.7**
GDSD IAmb IAmb 04 41 40.1
comp=Z,102nm,1.1s
GDSD IAMs_20 IAMs_20 05 09 22.3
comp=Z,20µm,20.0s
GUY2C Guyana, Caldas 64.61 115 P **P 04 41 23.6 +1.0**
comp=Z,5µmcomp=Z,2µmcomp=Z,61nm,1.5s
MAGL Barre d'Ile 64.73 96 IAMs_20 IAMs_20 05 08 13.0
comp=Z,27µm,22.0s
IGLA Glengowla, Co 64.76 34 P **P 04 41 23.1 +0.6**
BARC Barichara 64.76 112 P **P 04 41 24.9 +1.5**
CN2 Changchun 64.86 309 *e*P **P 04 41 20.8 -2.6**
CN2 *es*P sP 04 41 27.5 +0.6
CN2 PcP **PcP 04 41 53.7 -3.0**
CN2 *e*S **S 04 50 05.2 +0.8**
CN2 SS **SS 04 54 12.2 -2.8**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,600nm,8.0s
CN2 LR LR
comp=Z,11µm,21.0s
CN2 LR LR
comp=Z,11µm,21.0s
CN2 LR LR
comp=Z,10µm,19.1s
OSL Oslo 64.98 20 *e*P **P 04 41 25.9 +2.1**
KONO Kongsberg 64.99 21 IAMs_20 IAMs_20 05 10 58.2
comp=Z,22µm,18.0s
KONO Kongsberg 64.99 21 ⇑*e*P **P 04 41 22.4 -1.6**
KONO pmax pmax
comp=Z,90nm,2.0s
KONO MLR MLR
comp=Z,21µm,18.0s
KONO Kongsberg 64.99 21 *e*P **P 04 41 28.1 +4.2**
SPBC San Pablo de B 65.00 114 P **P 04 41 25.6 +0.8**
comp=Z,6µmcomp=Z,2µmcomp=Z,80nm,1.4s
YOTC Yotoco, Valle 65.06 117 P **P 04 41 26.1 +0.9**
comp=Z,7µmcomp=Z,2µmcomp=Z,101nm,1.1s
NEWG New Galloway 65.11 31 *e*P **P 04 41 24.1 -0.8**
NEWG IAMs_20 IAMs_20 05 09 08.2
comp=Z,30µm,17.7s
GAL1 Galloway 65.17 31 *e*P **P 04 41 23.0 -2.1**
GAL1 IAMs_20 IAMs_20 05 08 59.0
comp=Z,35µm,18.7s
EKA Eskdalemuir Ar 65.28 30 P **P 04 41 25.3 -0.6**
comp=Z,2.0nm,0.7s,baz=325,slow=5.8,SNR=6.4
comp=Z,2.0nm,0.7s
ILTH Belurgan, Co L 65.32 32 P **P 04 41 26.4 +0.2**
RUSC La Rusia 65.38 113 P **P 04 41 29.4 +1.7**
comp=Z,7µmcomp=Z,3µmcomp=Z,148nm,1.5s
KEF Keuruu 65.40 12 *e*P **P 04 41 27.9 +1.3**
HFS Hagfors 65.43 19 P **P 04 41 26.2 -0.6**
comp=Z,6.1nm,0.9s,baz=8.5,slow=3.0,SNR=11
HFS LR LR 05 10 36.1
comp=Z,32µm,19.0s,baz=332,slow=37
comp=Z,6.1nm,0.9s
JAMC Jamundi, Valle 65.51 118 P **P 04 41 29.2 +1.0**
comp=Z,6µmcomp=Z,3µmcomp=Z,69nm,0.9s
ROSC El Rosal 65.52 114 P **P 04 41 29.3 +0.8**
comp=Z,71nm,1.0s,baz=45,slow=4.4,SNR=45
ROSC LR LR 05 14 57.4
comp=Z,6µm,18.8s,baz=346,slow=40
comp=Z,71nm,1.0s
VAL Valentia 65.63 36 P **P 04 41 27.4 -0.8**
VAL Valentia 65.63 36 P P 04 41 33.2 +5.0
SVN Savane Anatole 65.64 97 IAMs_20 IAMs_20 05 10 01.2
comp=Z,22µm,21.0s
TAMC Tame, Arauca 65.70 111 P **P 04 41 30.2 +1.0**
comp=Z,7µmcomp=Z,4µmcomp=Z,216nm,1.5s
IOMK Kirk Michael 65.72 31 *e*P P 04 41 22.3 -6.5
IOMK IAMs_20 IAMs_20 05 09 15.7
comp=Z,18µm,16.7s
FDF Fort de France 65.73 97 IAMs_20 IAMs_20 05 08 44.6
comp=Z,30µm,22.0s
ORTC Ortega, Tolima 65.75 116 P **P 04 41 30.0 +0.5**
comp=Z,6µmcomp=Z,2µmcomp=Z,147nm,1.2s
CVER Cruz Verde, Cu 65.92 114 P **P 04 41 32.8 +1.7**
comp=Z,3µmcomp=Z,57nm,1.2s
KESW Keswick, Cumbr 65.92 30 *e*P P 04 41 24.6 -5.5
KESW IAMs_20 IAMs_20 05 08 44.6
comp=Z,29µm,18.9s
DSB Dublin 65.95 33 P **P 04 41 30.0 -0.3**
DSB Dublin 65.95 33 P P 04 41 35.4 +5.1
HOMB Homborsund 65.97 22 *e*P **P 04 41 33.9 +3.6**
CHIC Chingaza 66.02 114 P **P 04 41 33.7 +1.9**
comp=Z,6µmcomp=Z,2µmcomp=Z,72nm,0.9s
RAF Rauma 66.04 14 *e*P **P 04 41 32.5 +1.7**
EDMD Edmundbyers 66.07 30 *e*P **P 04 41 30.4 -0.7**
EDMD IAMs_20 IAMs_20 05 11 40.1
comp=Z,39µm,14.3s
PRAC Prado 66.11 116 P **P 04 41 32.3 +0.4**
comp=Z,8µmcomp=Z,2µmcomp=Z,140nm,1.7s
MPOM Morne Pois Mar 66.14 97 IAMs_20 IAMs_20 05 09 41.2
comp=Z,31µm,22.0s
BBAC Balboa, Cauca 66.18 119 P **P 04 41 33.9 +1.4**
comp=Z,7µmcomp=Z,2µmcomp=Z,142nm,1.2s
FIA1 FINESS Array S 66.26 12 P **P 04 41 32.7 +0.6**
FINES FINESS Array B 66.26 12 P **P 04 41 32.6 +0.4**
FINES FINESS Array B 66.26 12 P **P 04 41 30.6 -1.5**
comp=Z,9.0nm,0.9s,baz=359,slow=7.6,SNR=12
FINES LR LR 05 10 46.3
comp=Z,26µm,18.0s,baz=348,slow=36
comp=Z,9.0nm,0.9s
FINES FINESS Array B 66.26 12 P **P 04 41 32.6 +0.4**
WPS Cemaes, Angles 66.45 32 *e*P **P 04 41 34.1 +0.7**
WPS IAMs_20 IAMs_20 05 09 16.7
comp=Z,38µm,20.7s
IWEX Carrickbyrne, 66.53 34 P **P 04 41 30.9 -3.1**
WLF1 Llynfaes 66.58 32 *e*P **P 04 41 34.0 -0.3**
WLF1 IAMs_20 IAMs_20 05 09 20.1
comp=Z,77µm,20.7s
HHU Hamhung 66.68 305 P **P 04 41 36.0 +0.8**
HHU S **S 04 50 23.6 -3.1**
HHU AmB
comp=Z,3µm,6.2s
HHU AMS AMS
comp=Z,10µm,14.9s
GARC Garzon, Huila 67.02 117 P **P 04 41 38.8 +0.9**
comp=Z,5µmcomp=Z,4µmcomp=Z,371nm,0.8s
PCRV Puerto La Cruz 67.06 103 LR LR 05 11 40.7
comp=Z,25µm,20.9s,slow=37
IRK Irkutsk 67.13 327 *e*P **P 04 41 37.6 -0.3**
IRK *e*S **S 04 50 39.8 +8.0**
IRK pmax pmax
comp=Z,224nm,1.7s
MEF Metsahovi 67.21 13 *e*P **P 04 41 39.2 +1.0**
SNY Shenyang 67.25 309 ⇓P **P 04 41 37.3 -1.5**
SNY PP **PP 04 44 04.1 -2.4**
SNY S **S 04 50 36.3 +2.8**
SNY SS **SS 04 54 48.1 -4.0**
SNY pmax pmax
comp=Z,15nm,0.5s
SNY pmax pmax
comp=Z,820nm,4.0s
SNY LR LR
comp=Z,9µm,16.6s
SNY LR LR
comp=Z,11µm,14.4s
SNY LR LR
comp=Z,19µm,21.6s
FOEL Foel Wylfa 67.31 31 *e*P **P 04 41 38.3 -0.7**
FOEL IAMs_20 IAMs_20 05 10 03.2

comp=Z,38µm,18.6s
LBWR Ladybower, Pea 67.36 30 *e*P **P** **04 41 37.8 -1.5**
LBWR IAMs_20 IAMs_20 05 12 23.5
comp=Z,27µm,16.3s
KRAR Krasnoyarsk 67.36 335⇓ *e*P **P** **04 41 40.6 +1.4**
GRGR Grenville 67.40 99 IAMs_20 IAMs_20 05 11 07.0
comp=Z,19µm,22.0s
STNC Stoke 67.47 31 *e*P **P** **04 41 37.8 -2.2**
STNC IAMs_20 IAMs_20 05 09 30.2
comp=Z,26µm,19.0s
PMOR Pomariorio Ree 67.55 198 *e*S **S** **04 50 33.8 -3.5**
comp=Z,4µm,23.4s
PMOR *e*SS **SS** **04 54 55.1 -3.2**
comp=Z,2µm,23.1s
PMOR *e*LR LR 05 01 55.1
comp=Z,21µm,21.3s
CALA Caldeira 67.62 56 *e*P **P** **04 41 43.9 +2.6**
CALA *i* IAmb IAmb 04 41 51.1
comp=Z,114nm,1.4s
SRBC Serra Branca 67.63 55 *e*P **P** **04 41 44.7 +3.4**
SRBC *i* IAmb IAmb 04 41 53.2
comp=Z,241nm,1.3s
PGRA Graciosa 67.67 55 *e*P P 04 41 56.6 +15
PGRA *i* IAmb IAmb 04 42 06.3
comp=Z,135nm,1.7s
VAH Vaihoa 67.72 198 *e*S **S** **04 50 34.5 -4.9**
comp=Z,5µm,28.0s
VAH *e*SS **SS** **04 54 56.2 -4.9**
comp=Z,6µm,35.1s
VAH *e*LR LR 05 01 59.9
comp=Z,14µm,21.8s
HLM1 Long Mynd 67.73 32 *e*P **P** **04 41 39.7 -2.0**
HLM1 IAMs_20 IAMs_20 05 10 15.7
comp=Z,34µm,19.4s
LMK Market Rasen 67.75 30 *e*P P 04 41 36.6 -5.1
LMK IAMs_20 IAMs_20 05 12 46.9
comp=Z,45µm,14.7s
ROSA Rosais 67.76 56 *e*P **P** **04 41 44.8 +2.7**
ROSA *i* IAmb IAmb 04 41 51.9
comp=Z,86nm,1.4s
ROSA *e*LR LR 05 02 33.8
ROSA *i* IAMs_20 IAMs_20 05 06 47.7
comp=Z,7µm,22.0s
JCJ Chichijima 67.77 286 LR LR 05 05 47.0
comp=Z,3µm,19.6s,baz=134,slow=31
PICO Pico 67.83 56 *e*P P 04 41 55.9 +13
PICO *i* IAmb IAmb 04 42 01.7
comp=Z,148nm,2.2s
PICO *e*LR LR 05 03 20.7
PICO *i* IAMs_20 IAMs_20 05 08 43.3
comp=Z,18µm,18.0s
PMAN Manadas 67.91 56 *e*P P 04 41 48.8 +5.8
PMAN *i* IAmb IAmb 04 41 48.9
comp=Z,69nm,1.4s
MACC Macarena, Meta 67.98 116 P **P** **04 41 43.1 -0.6**
comp=Z,4µmcomp=Z,2µmcomp=Z,163nm,0.8s
PID Ribeirinha 68.03 56 *e*P P 04 41 58.9 +15
PID *i* IAmb IAmb 04 42 10.2
comp=Z,122nm,2.2s
CWF Charnwood Fore 68.06 31 *e*P P 04 41 37.5 -6.2
CWF IAMs_20 IAMs_20 05 11 48.3
comp=Z,24µm,16.7s
SUJ Sinuiju 68.10 307 P **P** **04 41 44.5 +0.4**
SUJ S **S** **04 50 41.2 -2.5**
SUJ AmB
comp=Z,2µm,6.1s
SUJ AMS AMS
comp=Z,10µm,16.9s
KLMR Klimovskoe 68.11 5 *e*P **P** **04 41 43.7 -0.2**
KLMR *e* 04 44 12.7
KLMR S **S** **04 50 40.8 -2.4**
KLMR pmax pmax
comp=Z,250nm,1.3s
KLMR MLR MLR
comp=Z,17µm,16.0s
MCH1 Michaelchurch 68.13 32 *e*P **P** **04 41 41.4 -2.8**
MCH1 IAMs_20 IAMs_20 05 11 48.4
comp=Z,34µm,16.6s
ARBE Arbavere 68.19 13 *e*P **P** **04 41 44.0 -0.3**
PAGU Aguaiva, Azore 68.27 55 *e*P **P** **04 41 48.8 +3.5**
PAGU *i* IAmb IAmb 04 41 55.4
comp=Z,123nm,1.5s
PAGU *e*LR LR 05 03 27.6
PAGU *i* IAMs_20 IAMs_20 05 08 40.8
comp=Z,18µm,18.0s
KSRS Korea Array 68.31 303 P **P** **04 41 44.8 -0.8**
comp=Z,5.0nm,0.9s,baz=55,slow=5.4,SNR=22
comp=Z,5.0nm,0.9s
MONM Monmouth 68.33 32 *e*P **P** **04 41 41.4 -4.0**
MONM IAMs_20 IAMs_20 05 11 54.8
comp=Z,34µm,16.4s
ADH Angra Heroismo 68.33 55 *e*P **P** **04 41 47.6 +2.0**
ADH *i* IAmb IAmb 04 41 50.7
comp=Z,90nm,1.6s
KSAR Wonju Array Be 68.34 303 P **P** **04 41 44.2 -1.5**
KSAR Wonju Array Be 68.34 303 P **P** **04 41 44.2 -1.5**
GUVC San Jose del G 68.35 114 P **P** **04 41 47.1 +1.0**
PSCM Serra do Cume 68.36 55 *e*P P 04 41 51.9 +6.1
PSCM *i* IAmb IAmb 04 42 04.0
comp=Z,115nm,1.5s
HTL Hartland 68.47 33 *e*P **P** **04 41 47.2 +0.9**
HTL IAMs_20 IAMs_20 05 11 13.8
comp=Z,41µm,17.0s
OLDB Oldbury-Upon-S 68.56 32 *e*P P 04 41 41.8 -5.0
OLDB IAMs_20 IAMs_20 05 12 10.9
comp=Z,34µm,16.1s
MTSE Matsula 68.56 14 *e*P **P** **04 41 48.4 +1.6**
STRD Stroud 68.59 32 *e*P P 04 41 40.8 -6.3
STRD IAMs_20 IAMs_20 05 10 52.4
comp=Z,29µm,18.4s
MOY Mondy 68.72 328 *e*P P 04 41 36.9 -11
MOY pmax pmax
comp=Z,18nm,1.9s
CCA1 Carnmenellis 68.88 34 *e*P **P** **04 41 47.5 -1.4**
CCA1 IAMs_20 IAMs_20 05 12 55.8
comp=Z,37µm,14.4s
SWN1 Swindon 68.94 31 *e*P **P** **04 41 45.8 -3.4**
SWN1 IAMs_20 IAMs_20 05 11 02.4
comp=Z,22µm,18.7s
HJU Haeju 69.02 305 P **P** **04 41 50.4 +0.4**
HJU S **S** **04 50 52.2 -2.5**
HJU AmB
comp=Z,2µm,6.2s
HJU AMS AMS
comp=Z,15µm,15.3s
ZAK Zakamensk 69.03 326 *e*P **P** **04 41 49.8 -0.2**
ZAK pmax pmax
comp=Z,28nm,1.9s
DYA Yadsworthy 69.13 33 *e*P **P** **04 41 49.9 -0.5**
DYA IAMs_20 IAMs_20 05 11 34.4
comp=Z,44µm,16.9s
XLT XiLinHaoTe 69.18 315 *e*P **P** **04 41 50.2 -0.8**
XLT pP sP 04 41 55.0 +0.6
XLT sP pwP 04 41 59.0 +2.7
XLT PcP **PcP** **04 42 12.1 -2.7**
XLT PcS 04 46 12.6
XLT S **S** **04 50 57.7 +1.0**
XLT SS **SS** **04 55 23.7 +1.7**
XLT pmax pmax
comp=Z,22nm,1.3s
XLT pmax pmax
comp=Z,980nm,5.7s
XLT LR LR
comp=Z,17µm,18.2s
XLT LR LR
comp=Z,17µm,17.4s
VSU Vasula 69.23 13*de*P **P** **04 41 51.4 +0.5**
VSU pmax pmax
comp=Z,169nm,1.4s
VSU Vasula 69.23 13 *e*P **P** **04 41 52.7 +1.8**
ELMS Elmsett, Ipswi 69.33 30 *e*P **P** **04 41 48.9 -2.8**
ELMS IAMs_20 IAMs_20 05 12 09.1
comp=Z,39µm,18.1s
TJN Taejon 69.41 303 IAMs_20 IAMs_20 05 10 53.2
comp=Z,23µm,20.0s
TJN Taejon 69.41 303 P **P** **04 41 54.9 +2.5**
TJN Taejon 69.41 303⇑ *e*P **P** **04 41 52.2 -0.2**
PSET Sete Cidades 69.74 55 *e*LR LR 05 03 36.1
PSET *i* IAMs_20 IAMs_20 05 09 32.9
comp=Z,22µm,18.0s
ULN Ulaanbaatar 69.74 323 P **P** **04 41 54.6 +0.2**
ULN Ulaanbaatar 69.74 323⇓ *e*P **P** **04 41 54.1 -0.4**
ULN pmax pmax
comp=Z,37nm,1.2s
ULN MLR MLR
comp=Z,33µm,20.0s
CMLA Cha da Macela 69.89 55 *e*P **P** **04 41 57.6 +2.2**
CMLA *i* IAmb IAmb 04 42 01.5
comp=Z,129nm,1.5s
CMLA *e*LR LR 05 03 40.9
CMLA *i* IAMs_20 IAMs_20 05 04 19.8
comp=Z,1µm,18.0s
JNU Nakatsue 69.94 298 LR LR 05 09 30.8
comp=Z,8µm,21.8s,baz=41,slow=33
JNU Nakatsue 69.94 298 P **P** **04 41 57.6 +1.8**
SONM Songino Array 70.02 323 P **P** **04 41 56.3 +0.1**
SONM IAmb IAmb 04 42 02.5
comp=Z,68nm,1.3s
SONM Songino Array 70.02 323 P **P** **04 41 55.4 -0.8**
comp=Z,25nm,1.4s,baz=25,slow=2.4,SNR=24
SONM LR LR 05 13 15.3
comp=Z,26µm,19.6s,baz=24,slow=36
comp=Z,25nm,1.4s
SONM Songino Array 70.02 323 P **P** **04 41 56.3 +0.1**
SONM pmax pmax
comp=Z,68nm,1.3s
BART Pico Bartolome 70.06 54 *e*P P 04 42 07.3 +11
BART *i* IAmb IAmb 04 42 10.3
comp=Z,134nm,2.2s
HMNX Herstmonceux 70.19 31 *e*P **P** **04 41 55.6 -1.3**
HMNX IAMs_20 IAMs_20 05 13 05.0
comp=Z,32µm,17.0s
BSEG Bad Segeberg 70.32 23 *e*P **P** **04 42 00.9 +3.3**
comp=Z,170nm,1.6s,baz=337,slow=5.9
PPTF Pamatai, Papee 70.40 199 IAMs_20 IAMs_20 05 06 09.2
comp=Z,12µm,19.0s
PPT2 Papeete2 70.40 199 *e*S **S** **04 51 09.5 -1.7**
comp=Z,2µm,24.8s
PPT2 *e*SS **SS** **04 55 44.2 +1.6**
comp=Z,3µm,25.5s
PPT2 *e*LQ LQ 04 59 36.3
comp=Z,8µm,31.0s
PPT2 *e*LR LR 05 03 16.2
comp=Z,34µm,27.2s
PPT2 *e*LR LR 05 03 25.4
comp=Z,24µm,29.0s
DL2 Dalian 70.44 308 P **P** **04 41 58.9 +0.2**
DL2 S **S** **04 51 13.5 +2.1**
DL2 pmax pmax
comp=Z,41nm,1.7s
DL2 pmax pmax
comp=Z,970nm,6.3s
DL2 LR LR
comp=Z,17µm,21.2s
DL2 LR LR
comp=Z,19µm,15.7s
DL2 LR LR
comp=Z,25µm,22.1s
PAE Paea 70.47 199 *e*S **S** **04 51 12.2 +0.3**
comp=Z,408nm,23.3s
PAE *e*SS **SS** **04 55 39.1 -4.4**
comp=Z,623nm,34.4s
PAE *e*LR LR 05 03 14.4
comp=Z,4µm,22.5s
TVO Taravao 70.52 199 *e*S **S** **04 51 11.6 -1.0**
comp=Z,568nm,24.1s
TVO Taravao 70.52 199 *e*LR LR 05 03 17.3
comp=Z,4µm,23.1s
PSMA Santa Maria 70.67 55 *e*P **P** **04 42 04.5 +4.3**
PSMA *i* IAmb IAmb 04 42 06.9
comp=Z,79nm,1.3s
KIRV Kirov 70.68 0 LR LR 05 16 26.9
comp=Z,16µm,19.0s,baz=359,slow=39
KIRV Kirov 70.68 0*de*P **P** **04 42 00.5 +0.7**
PSMN Pico do Norte, 70.70 55 *e*P P 04 42 05.4 +5.1
PSMN *i* IAmb IAmb 04 42 07.2
comp=Z,82nm,1.2s
JSA Saint Aubin 70.79 33 *e*P **P** **04 41 57.1 -3.6**
JSA IAMs_20 IAMs_20 05 12 44.3
comp=Z,39µm,17.1s
IBBN Ibbenburen 71.12 26 *e*P **P** **04 42 05.6 +3.0**
comp=Z,109nm,1.4s,baz=337,slow=5.9
IBBN *e*pP **pwP** **04 42 10.3 +2.4**
RETH Rethem/Aller, 71.16 24 *e*P **P** **04 42 05.8 +3.0**
comp=Z,296nm,2.0s,baz=337,slow=5.9
ZAA0 Zalesovo Array 71.21 339 IAmb IAmb 04 42 15.5
comp=Z,134nm,1.4s
ZALV Zalesovo Beam 71.21 339 P **P** **04 42 02.9 -0.2**
ZALV Zalesovo Beam 71.21 339 P **P** **04 42 02.8 -0.3**
comp=Z,10nm,1.0s,baz=32,slow=5.9,SNR=19
ZALV LR LR 05 18 17.6
comp=Z,12µm,18.4s,baz=12,slow=40
comp=Z,10nm,1.0s
GORT1 Trebel 71.43 23 *e*P **P** **04 42 07.5 +3.1**
comp=Z,316nm,1.9s,baz=337,slow=5.9
UCC Uccle 71.49 28 *d*P **P** **04 42 02.9 -2.0**
comp=Z,14nm,1.6s
PABE Paberze 71.67 15 IAMs_20 IAMs_20 05 16 00.7
comp=Z,16µm,18.0s
PABE Paberze 71.67 15 *e*P **P** **04 42 07.1 +1.2**
BEBN Eben Emael 71.89 28 *d*P **P** **04 42 05.0 -2.3**
ISAL Salakas 71.94 14 *e*P **P** **04 42 09.0 +1.5**
FLTG Flechtingen 72.01 24 *e*P **P** **04 42 10.5 +2.6**
baz=337,slow=5.9
BSTI Sart Tilman 72.04 28 *d*P **P** **04 42 09.9 +1.8**
comp=Z,5.5nm,1.2s
SVE Sverdlovsk 72.05 354 *e*P **P** **04 42 09.6 +1.5**
SVE *e*S **S** **04 51 28.8 -0.6**
SVE *e* 04 56 01.9
SVE *e* 04 59 20.3
SVE pmax pmax
comp=Z,112nm,1.4s
ASSE Asse, Remlinge 72.05 24 *e*P **P** **04 42 10.8 +2.7**
comp=Z,286nm,2.2s,baz=337,slow=5.9
BMRD Maredsous 72.06 28 *d*P **P** **04 42 09.9 +1.7**
comp=Z,22nm,1.7s
BGES Gesves 72.08 28 *d*P **P** **04 42 09.6 +1.2**
comp=Z,22nm,1.3s
BCLA Clavier 72.11 28 *d*P **P** **04 42 12.6 +4.0**
comp=Z,27nm,1.2s
MEM Membach 72.15 27 *d*P **P** **04 42 09.9 +1.0**
comp=Z,37nm,1.3s
BJI Beijing 72.19 312 P **P** **04 42 08.8 -0.4**
BJI PP **PP** **04 44 51.0 +2.0**
BJI S **S** **04 51 33.2 +1.7**
BJI pmax pmax
comp=Z,11nm,1.5s
BJI pmax pmax
comp=Z,560nm,5.9s
BJI LR LR
comp=Z,9µm,17.2s
BJI LR LR
comp=Z,4µm,14.3s
BJI LR LR
comp=Z,7µm,17.7s
DOU Dourbes 72.19 29 *d*P **P** **04 42 11.2 +2.1**
comp=Z,18nm,1.5s
BTNL Ternell 72.20 27 *d*P **P** **04 42 09.6 +0.4**
comp=Z,26nm,1.5s
BJT Baijiatuau 72.21 312 IAMs_20 IAMs_20 05 15 07.0
comp=Z,12µm,20.0s
BJT Baijiatuau 72.21 312 P **P** **04 42 13.9 +4.5**
IDID Didziasalis 72.28 13 *e*P **P** **04 42 10.7 +1.2**
KASTN Kahler Asten 72.29 26 *e*P **P** **04 42 12.7 +3.0**
comp=Z,168nm,2.3s,baz=337,slow=5.9
BHOU Houvegnez 72.38 28 *d*P **P** **04 42 12.5 +2.3**
comp=Z,13nm,2.0s
GTTG Gottingen 72.40 25 *e*P **P** **04 42 13.2 +2.8**
comp=Z,50nm,1.1s,baz=337,slow=5.9
GTTG *e*pP **pwP** **04 42 18.2 +2.6**
GKP Gorka Klasztor 72.53 20 *e*P **P** **04 42 12.0 +1.0**
GKP *e*S **S** **04 51 39.3 +4.2**
GKP *e*L L 05 10 49.1
comp=Z,16µm,25.5s
GKP Gorka Klasztor 72.53 20 *e*P **P** **04 42 12.1 +1.0**
ARTI Arti 72.63 355 P **P** **04 42 12.7 +1.1**
ARTI IAmb IAmb 04 42 25.7
comp=Z,72nm,1.0s
ARTI IAMs_20 IAMs_20 05 15 13.9
comp=Z,13µm,20.0s
ARTI Arti 72.63 355 LR LR 05 15 26.1
comp=Z,12µm,20.9s,baz=9.5,slow=37
ARTI Arti 72.63 355*d* iP **P** **04 42 12.0 +0.4**
ARTI 04 42 34.8
ARTI PPP PPP 04 46 43.1
ARTI S **S** **04 51 37.5 +1.4**
ARTI pmax pmax
comp=Z,95nm,2.1s
ARTI MLR MLR
comp=Z,13µm,20.0s
SUW Suwalki 72.97 16 *e*S **SKiKP** **04 51 43.3 -2.8**
SUW *e*L L 05 10 35.6
comp=Z,14µm,26.0s
SUW Suwalki 72.97 16 IAMs_20 IAMs_20 05 14 13.0
comp=Z,17µm,21.0s
SUW Suwalki 72.97 16 *e*P **P** **04 42 14.5 +0.9**
WLF Walferdange 73.03 28 P **P** **04 42 15.2 +1.1**
WLF Walferdange 73.03 28 *d*P **P** **04 42 14.2 +0.1**
comp=Z,15nm,1.5s
WLF Walferdange 73.03 28 *e*P **P** **04 42 17.0 +2.9**
comp=Z,156nm,1.9s,baz=337,slow=5.9
UBBA Unterbreizbach 73.07 25 *e*P **P** **04 42 16.9 +2.7**
comp=Z,170nm,1.9s,baz=337,slow=5.9
MOS Moscow 73.08 7 *e*P **P** **04 42 15.2 +0.9**
MOS *e* 04 44 56.2
MOS *e*S **S** **04 51 41.0 -0.2**
MOS *e* 04 52 21.4
MOS pmax pmax
comp=Z,137nm,1.4s
MOS pmax pmax
comp=Z,700nm,3.0s
MOS smax smax
comp=E,3µm,8.5s
MOS MLR MLR
comp=N,16µm,19.0s
MOS MLR MLR
comp=Z,19µm,19.0s
TNS Taunus Mts 73.19 26 *e*P **P** **04 42 17.5 +2.3**
comp=Z,21nm,1.0s,baz=337,slow=5.9
TNS *e*pP **pwP** **04 42 22.5 +2.1**
MNK Minsk 73.23 13 *i* P **P** **04 42 16.3 +1.1**
MNK *i* 04 44 59.2
MNK *i* PPP PPP 04 46 43.9
MNK *i* S **S** **04 51 43.4 +0.4**
MNK pmax pmax
comp=E,29nm,1.2s
MNK pmax pmax
comp=N,10.0nm,0.7s
MNK pmax pmax
comp=Z,58nm,0.9s
MNK MLR MLR
comp=Z,22µm,18.0s
MNK MLR MLR
comp=N,9µm,17.0s
MNK MLR MLR
comp=E,12µm,20.0s
ATAH Atahualpa 73.25 125 LR LR 05 14 41.7
comp=E,12µm,18.1s,baz=346,slow=36
CLL Collm 73.39 23 *e*P **P** **04 42 18.0 +1.8**
CLL *e* 04 42 23.0
CLL *e*S **SKiKP** **04 51 52.0 +5.2**
CLL pmax pmax
comp=Z,363nm,2.7s
CLL MLR MLR
comp=Z,23µm,18.1s
CLL Collm 73.39 23 *e*P **P** **04 42 18.9 +2.7**
comp=Z,548nm,3.1s,baz=337,slow=5.9
OBN Obninsk 73.61 8 IAMs_20 IAMs_20 05 17 54.9
comp=Z,16µm,18.0s
OBN Obninsk 73.61 8 LR LR 05 17 41.0
comp=Z,11µm,18.2s,baz=302,slow=38
OBN Obninsk 73.61 8*de*P **P** **04 42 18.0 +0.6**
OBN *e* 04 42 32.3
OBN *e* 04 45 02.3
OBN *e*PPP PPP 04 46 46.3
OBN *i* S **S** **04 51 48.5 +1.2**
OBN *i* SS **SS** **04 56 37.1 +8.2**
OBN pmax pmax
comp=Z,209nm,1.4s
OBN MLR MLR
comp=Z,15µm,16.0s
HHC Hu-ho-hao-te 73.63 316 *e*P **P** **04 42 18.2 +0.3**
HHC sP pwP 04 42 26.2 +2.9
HHC S **S** **04 51 49.2 +1.0**
HHC pmax pmax
comp=Z,47nm,1.6s
HHC pmax pmax
comp=Z,560nm,6.7s
HHC LR LR
comp=Z,14µm,16.1s
HHC LR LR
comp=Z,13µm,16.6s
HHC LR LR
comp=Z,26µm,16.4s
MOX Moxa 73.65 24 *e*L L 05 14 03.2
comp=Z,18µm,21.0s
SGC2 Sao Gabriel da 73.81 111 P **P** **04 42 18.4 -0.8**
SGC2 Sao Gabriel da 73.81 111 P **P** **04 42 18.1 -1.1**
SGC2 S **SKiKP** **04 51 49.6 +1.2**
BRG Berggiesshubel 74.02 23 *e*P **P** **04 42 22.3 +2.5**
comp=Z,223nm,2.1s,baz=337,slow=5.9
BRG Berggiesshubel 74.02 23 *e*P **P** **04 42 22.4 +2.5**
BRG Amp 04 42 23.6
comp=Z,12nm,1.2s
BRG Berggiesshubel 74.02 23 P P 04 42 29.0 +9.1
BRG Amp 04 42 30.6
comp=Z,23nm,1.1s
BRG Berggiesshubel 74.02 23 PP PP 04 45 05.0 +0.7
BRG Berggiesshubel 74.02 23 S **S** **04 51 59.0 +6.9**
TANN Tannenbergstha 74.08 24 *e*P **P** **04 42 23.0 +2.7**
comp=Z,18nm,1.2s,baz=337,slow=5.9
R9F13 Warsaw-Wawer 74.31 18 *e*P **P** **04 42 25.5 +4.0**
RICC Richard 74.36 23 *e*P **P** **04 42 23.9 +2.0**
RICC AMS AMS 05 16 40.0
comp=Z,20µm,17.4s
GRA1 Grafenberg Arr 74.42 25 IAMs_20 IAMs_20 05 15 08.8
comp=Z,14µm,20.0s
GRF Grafenberg Arr 74.42 25 *e*P **P** **04 42 25.4 +3.1**
comp=Z,55nm,1.1s,baz=337,slow=5.9
GRF *e*pP **pwP** **04 42 29.8 +2.2**
GRF *e*L L 05 14 58.4
comp=Z,14µm,20.9s
GRFO Grafenberg 74.42 25 IAMs_20 IAMs_20 05 15 08.8
comp=Z,14µm,20.0s
PVCC Panska Ves 74.49 22 *e*P **P** **04 42 24.8 +2.1**
PVCC *e*S **S** **04 52 03.8 +6.5**
PVCC AMS AMS 05 16 40.0
comp=Z,18µm,16.7s
PVCC Panska Ves 74.49 22 *e*P **P** **04 42 24.8 +2.1**
PVCC *e*S **S** **04 52 03.8 +6.5**
PVCC MLR MLR
comp=Z,18µm,16.7s
BTO Baotou 74.50 317 *e*P **P** **04 42 22.6 -0.4**
BTO pP **pwP** **04 42 27.4 -1.0**
BTO sP **sP** **04 42 29.7 +3.2**
BTO PP **PP** **04 45 10.2 +1.3**
BTO S **S** **04 51 57.8 -0.2**
BTO sS **sS** **04 52 03.1 +0.9**
BTO SS **SS** **04 56 46.0 +2.5**
BTO pmax pmax
comp=Z,28nm,0.9s
BTO pmax pmax
comp=Z,1µm,9.5s
BTO LR LR
comp=Z,20µm,21.6s
BTO LR LR
comp=Z,31µm,23.9s
PGAV Gavieira, Arco 74.57 41 *e*P **P** **04 42 23.5 +0.1**
PGAV *e*PcP **PcP** **04 42 35.9 -2.0**
PGAV *i* IAmb IAmb 04 42 50.9
comp=Z,123nm,1.6s
PGAV *e*PP **PP** **04 45 11.4 +2.0**
PGAV *e*S **S** **04 52 00.6 +1.8**
PGAV *e*SS **SS** **04 56 37.9 -6.5**
PGAV *e*LR LR 05 06 02.7
PGAV *i* IAMs_20 IAMs_20 05 14 54.0
comp=Z,18µm,16.0s
KSP Ksiaz 74.60 21 *e*P **P** **04 42 24.5 +1.2**
KSP *e*PP **PP** **04 45 11.7 +2.5**
KSP *e*S **S** **04 52 06.0 +7.4**
KSP *e*L L 05 14 49.9
comp=Z,20µm,20.7s
ECH Echery 74.63 28 IAMs_20 IAMs_20 05 14 42.4
comp=Z,22µm,22.0s
BRVK Borovoye 74.75 347 P **P** **04 42 25.5 +1.4**
BRVK IAmb IAmb 04 42 51.6
comp=Z,79nm,1.2s
BRVK Borovoye 74.75 347 IAMs_20 IAMs_20 05 21 34.2
comp=Z,17µm,19.0s
BRVK Borovoye 74.75 347*d* iP **P** **04 42 24.6 +0.5**
BRVK pmax pmax
comp=Z,90nm,1.4s
BVA0 Borovoye Array 74.77 347 *i* P **P** **04 42 24.7 +0.5**
BVAR Borovoye Array 74.77 347 P **P** **04 42 23.7 -0.5**
comp=Z,16nm,0.9s,baz=349,slow=4.8,SNR=38
BVAR LR LR 05 20 10.7

comp=Z,7µm,18.5s,baz=18,slow=40
comp=Z,16nm,0.9s
TIA Tai'an 74.77 309 P **P** **04 42 23.3 -1.2**
TIA sP **sP** **04 42 28.6 +0.6**
TIA S **S** **04 52 01.5 +0.5**
TIA SKS **SKSac** **04 52 30.4 -2.7**
TIA pmax pmax
comp=Z,21nm,1.2s
TIA pmax pmax
comp=Z,890nm,9.0s
TIA LR LR
comp=Z,12µm,22.0s
TIA LR LR
comp=Z,10µm,21.4s
TIA LR LR
comp=Z,27µm,20.6s
CHVC Chvalec 74.78 21 *e*P **P** **04 42 25.6 +1.2**
CHVC AMS AMS 05 16 20.0
comp=Z,22µm,18.5s
CHVC Chvalec 74.78 21 *e*P **P** **04 42 25.6 +1.2**
CHVC MLR MLR
comp=Z,22µm,18.5s
UPC Upice 74.85 21 *e*P **P** **04 42 25.5 +0.8**
UPC *e*S **S** **04 52 07.7 +6.3**
UPC AMS AMS 05 16 20.0
comp=Z,25µm,18.4s
UPC Upice 74.85 21 *e*P **P** **04 42 25.5 +0.8**
UPC *e*S **S** **04 52 07.7 +6.3**
UPC MLR MLR
comp=Z,25µm,18.4s
OSTC Ostas 74.85 21 *e*P P 04 42 31.6 +6.8
OSTC *e*S **S** **04 52 10.2 +8.8**
OSTC AMS AMS 05 16 20.0
comp=Z,22µm,18.6s
OSTC Ostas 74.85 21 *e*P P 04 42 31.6 +6.8
OSTC *e*S **S** **04 52 10.2 +8.8**
OSTC MLR MLR
comp=Z,22µm,18.6s
PRA Prague 74.88 23 *e*P **P** **04 42 24.9 0.0**
PRA *e*S **S** **04 52 09.3 +7.6**
PRA AMS AMS 05 17 00.0
comp=Z,24µm,17.0s
PRA Prague 74.88 23 *e*P **P** **04 42 24.9 0.0**
PRA *e*S **S** **04 52 09.3 +7.6**
PRA MLR MLR
comp=Z,24µm,17.0s
PCAB Cabril 74.89 41 *e*P **P** **04 42 26.3 +1.2**
PCAB *e*PcP **PcP** **04 42 38.6 -0.4**
PCAB *i* IAmb IAmb 04 42 52.6
comp=Z,139nm,1.7s
PCAB *e*PP **PP** **04 45 14.5 +2.5**
HNS HongShan 74.98 312 ⇑P **P** **04 42 26.4 +0.7**
HNS S **S** **04 52 07.5 +4.3**
HNS pmax pmax
comp=Z,61nm,1.1s
HNS LR LR
comp=Z,6µm,17.1s
HNS LR LR
comp=Z,23µm,16.7s
PRU Pruhonice 74.98 22 *e*P **P** **04 42 27.1 +1.6**
PRU *e*S **S** **04 52 09.6 +6.7**
PRU AMS AMS 05 17 00.0
comp=Z,24µm,17.0s
PRU Pruhonice 74.98 22 *e*P **P** **04 42 27.1 +1.6**
PRU *e*S **S** **04 52 09.6 +6.7**
PRU MLR MLR
comp=Z,24µm,17.0s
DPC Dobruska-Polom 75.06 21 *e*P **P** **04 42 27.5 +1.4**
DPC *e*S **S** **04 52 10.6 +6.7**
DPC AMS AMS 05 16 20.0
comp=Z,24µm,18.4s
DPC Dobruska-Polom 75.06 21 *e*P **P** **04 42 27.5 +1.4**
DPC *e*S **S** **04 52 10.6 +6.7**
DPC MLR MLR
comp=Z,24µm,18.4s
GOPC GO Pecny, Ondr 75.11 22 *e*P **P** **04 42 27.9 +1.6**
GOPC AMS AMS 05 17 20.0
comp=Z,18µm,18.8s
GOPC GO Pecny, Ondr 75.11 22 *e*P **P** **04 42 27.9 +1.6**
GOPC MLR MLR
comp=Z,18µm,18.8s
ECAL Calabor 75.22 40 P **P** **04 42 27.9 +0.7**
POLO Lamas de Olo 75.26 41 *e*P **P** **04 42 28.4 +1.0**
POLO *e*PcP **PcP** **04 42 40.5 -0.3**
POLO *i* IAmb IAmb 04 42 54.9
comp=Z,97nm,1.6s
POLO *e*PP **PP** **04 45 16.6 +1.3**
PBRG Braganca 75.33 40 *e*P **P** **04 42 29.0 +1.3**
PBRG *e*PcP **PcP** **04 42 41.8 +0.7**
PBRG *i* IAmb IAmb 04 42 55.3
comp=Z,116nm,1.5s
PBRG *e*PP **PP** **04 45 15.9 +0.2**
WET Wettzell 75.35 24 *e*P **P** **04 42 30.5 +2.8**
comp=Z,38nm,1.5s,baz=337,slow=5.9
PVRL Vila Real 75.38 41 *e*P **P** **04 42 29.5 +1.5**
PVRL *e*PcP **PcP** **04 42 40.3 -0.9**
PVRL *i* IAmb IAmb 04 42 55.5
comp=Z,232nm,1.7s
TBTG Tabatinga, AM 75.39 116 P **P** **04 42 27.5 -0.8**
TBTG S **S** **04 52 08.8 +0.6**
ZVC Zvikov 75.41 23 *e*P **P** **04 42 28.8 +0.8**
ZVC AMS AMS 05 17 10.0
comp=Z,19µm,16.8s
KRLC Kraliky 75.43 21 *e*P **P** **04 42 29.4 +1.3**
KRLC AMS AMS 05 16 50.0
comp=Z,19µm,17.2s
KRLC Kraliky 75.43 21 *e*P **P** **04 42 29.4 +1.3**
KRLC MLR MLR
comp=Z,19µm,17.2s
KHC Kasperske Hory 75.54 23 *e*P **P** **04 42 30.1 +1.3**
KHC *e*PP **PP** **04 45 12.3 -5.0**
KHC *e*S **S** **04 52 14.2 +5.0**
KHC AMS AMS 05 20 10.0
comp=Z,16µm,14.2s
KHC Kasperske Hory 75.54 23 *de*P **P** **04 42 30.4 +1.6**
KHC pmax pmax
comp=Z,157nm,4.5s
KHC MLR MLR
comp=Z,11µm,15.0s
KURK Kurchatov 75.58 341 P **P** **04 42 29.3 +0.4**
KURK IAmb IAmb 04 42 42.8
comp=Z,120nm,1.7s
KURK Kurchatov 75.58 341 IAMs_20 IAMs_20 05 22 16.4
comp=Z,10µm,18.0s
KURK Kurchatov 75.58 341 *de*P **P** **04 42 29.3 +0.4**
KURK pmax pmax
comp=Z,69nm,1.7s
BOAV Boa Vista 75.67 104 IAmb IAmb 04 42 37.4
comp=Z,96nm,1.3s
BOAV IAMs_20 IAMs_20 05 17 53.5
comp=Z,15µm,20.0s
BOAV Boa Vista 75.67 104 P **P** **04 42 30.8 +0.9**
BOAV S **S** **04 52 11.8 +0.4**
KURBB Kurchatov Arra 75.69 341 P **P** **04 42 29.4 -0.1**
comp=Z,19nm,0.9s,baz=20,slow=5.4,SNR=64
KURBB LR LR 05 19 15.2
comp=Z,9µm,18.4s,baz=18,slow=38
comp=Z,19nm,0.9s
KURBB Kurchatov Arra 75.69 341 P **P** **04 42 30.7 +1.2**
MVO Moncorvo 75.75 41 *e*P **P** **04 42 31.1 +0.9**
MVO *ep*P **P** **04 42 31.1 +0.9**
MVO *e*PcP **PcP** **04 42 40.0 -2.9**
MVO *i* IAmb IAmb 04 42 57.8
comp=Z,132nm,1.6s
MVO *e*PP **PP** **04 45 19.2 -0.1**
MVO *e*S **S** **04 52 15.5 +3.6**
MVO *e*SS **SS** **04 57 08.0 +5.7**
MVO *e*LR LR 05 06 17.2
MVO *i* IAMs_20 IAMs_20 05 15 40.5
comp=Z,15µm,16.0s
PVIS Viseu 75.77 41 *e*P **P** **04 42 30.7 +0.4**
PVIS *e*PcP **PcP** **04 42 43.7 +0.7**
STEB Steborice 75.78 20 *e*P P 04 42 38.6 +8.5
TIY Taiyuan 75.79 313 P **P** **04 42 34.6 +4.1**
TIY PcP **pwP** **04 42 39.1 +3.3**
TIY S **S** **04 52 13.5 +1.1**
TIY pmax pmax
comp=Z,30nm,0.8s
TIY pmax pmax
comp=Z,710nm,9.8s
TIY LR LR
comp=Z,14µm,19.2s
TIY LR LR
comp=Z,8µm,17.9s
TIY LR LR

comp=Z,13µm,17.2s
GEC2 GERESS Array S 75.84 23 IAmb IAmb 04 42 49.4
comp=Z,100nm,1.9s
GEC2 GERESS Array S 75.84 23 *e*P **P** **04 42 32.8 +2.2**
comp=Z,61nm,1.6s,baz=337,slow=5.9
GERES GERESS Array B 75.84 23 P **P** **04 42 30.4 -0.2**
comp=Z,1.4nm,0.7s,baz=299,slow=2.7,SNR=5.8
GERES LR LR 05 17 52.4
comp=Z,14µm,18.4s,baz=336,slow=37
comp=Z,1.4nm,0.7s
TREC Trest 75.86 22 AMS AMS 05 18 00.0
comp=Z,18µm,15.1s
MORC Moravsky Berou 75.88 21 IAMs_20 IAMs_20 05 15 41.2
comp=Z,17µm,20.0s
MORC Moravsky Berou 75.88 21 *e*P **P** **04 42 31.2 +0.5**
MORC *e*S **S** **04 52 11.6 -1.3**
MORC Moravsky Berou 75.88 21 ⇓P **P** **04 42 34.0 +3.3**
MORC Moravsky Berou 75.88 21 ⇓P **P** **04 42 34.0 +3.3**
OJC Ojcow 75.94 19 *e*P **P** **04 42 30.9 -0.1**
OJC *e*PP **PP** **04 45 22.4 +1.8**
OJC *e*S **S** **04 52 18.3 +4.8**
OJC *e*SS **SS** **04 57 11.9 +7.4**
OJC *e*L L 05 17 06.8
comp=Z,33µm,19.6s
OKC Ostrava-Krasne 75.95 20 *e*P **P** **04 42 31.8 +0.7**
OKC *e*S **S** **04 52 20.8 +7.2**
OKC AMS AMS 05 18 00.0
comp=Z,20µm,17.0s
OKC Ostrava-Krasne 75.95 20 *e*P **P** **04 42 31.8 +0.7**
OKC *e*S **S** **04 52 20.8 +7.2**
OKC MLR MLR
comp=Z,20µm,17.0s
TBI Tubuai 75.98 198 *e*P **P** **04 42 31.3 0.0**
comp=Z,1µm,26.5s
TBI Tubuai 75.98 198 *e*PP PP 04 45 14.6 -7.6
comp=Z,1µm,28.0s
TBI *e*S **S** **04 52 13.6 -0.5**
comp=Z,14µm,32.5s
TBI *e*SS **SS** **04 57 04.3 -3.2**
comp=Z,10µm,29.8s
TBI *e*LQ LQ 05 02 42.1
comp=Z,17µm,30.8s
TBI *e*LR LR 05 05 59.0
comp=Z,114µm,30.5s
TBI *e*LR LR 05 06 02.9
comp=Z,23µm,29.0s
COI Coimbra 75.98 42 IAMs_20 IAMs_20 05 15 02.1
comp=Z,21µm,18.0s
COI Coimbra 75.98 42 *e*P **P** **04 42 31.4 +0.1**
COI *e*PcP **PcP** **04 42 43.8 0.0**
COI *i* IAmb IAmb 04 42 58.5
comp=Z,255nm,1.5s
CKRC Cesky Krumlov 76.01 23 *e*P **P** **04 42 31.3 -0.2**
CKRC *e*PP **PP** **04 45 19.6 -1.6**
CKRC *e*S **S** **04 52 21.0 +6.6**
CKRC AMS AMS 05 17 40.0
comp=Z,18µm,17.5s
CKRC Cesky Krumlov 76.01 23 *e*P **P** **04 42 31.3 -0.2**
CKRC *e* 04 45 19.6
CKRC *e*S **S** **04 52 21.0 +6.6**
CKRC MLR MLR
comp=Z,18µm,17.5s
PCAS Casmilo, Conde 76.07 42 *e*P **P** **04 42 33.0 +1.0**
PCAS *e*PcP **PcP** **04 42 46.1 +1.9**
PCAS *i* IAmb IAmb 04 42 59.5
comp=Z,225nm,1.6s
VRAC Vranov 76.10 21 *e*P **P** **04 42 32.7 +0.7**
VRAC *e*S **S** **04 52 18.2 +2.9**
VRAC Vranov 76.10 21 LR LR 05 17 43.4
comp=Z,27µm,19.1s,baz=340,slow=37
VRAC Vranov 76.10 21 ⇑P **P** **04 42 31.2 -0.8**
VRAC Vranov 76.10 21 ⇑P **P** **04 42 31.2 -0.8**
JOW Kunigami 76.17 295 LR LR 05 13 29.6
comp=Z,2µm,21.6s,baz=60,slow=34
GUMO Guam 76.18 274 LR LR 05 10 17.7
comp=Z,9µm,20.6s,baz=35,slow=31
MTE Manteigas 76.18 41 IAMs_20 IAMs_20 05 15 41.4
comp=Z,20µm,18.0s
MTE Manteigas 76.18 41 *e*P **P** **04 42 29.1 -3.5**
MTE *e*PcP **PcP** **04 42 46.6 +1.9**
MTE *i* IAmb IAmb 04 43 01.1
comp=Z,145nm,1.7s
MTE *e*S **S** **04 52 19.5 +2.9**
MTE *e*SS **SS** **04 57 11.8 +3.0**
MTE *e*LR LR 05 06 47.8
MTE *i* IAMs_20 IAMs_20 05 16 14.3
comp=Z,15µm,18.0s
MTE Manteigas 76.18 41 *e*P **P** **04 42 33.2 +0.6**
DAVA Damuels 76.25 27 *i* pP pP 04 42 37.9 +2.3
comp=Z,46nm,1.4s,SNR=7.0
KRUC Moravsky 76.29 22 *e*P **P** **04 42 33.5 +0.5**
KRUC *e*S **S** **04 52 20.5 +3.2**
LPSR Galich'ya Gora 76.29 7 *e*P **P** **04 42 34.0 +1.1**
LPSR pmax pmax
comp=Z,89nm,1.2s
RETA Reutte 76.31 26 *ep*P pP 04 42 38.0 +2.2
comp=Z,7.7nm,0.9s
MAUC Maruska 76.33 21 *e*P **P** **04 42 34.7 +1.4**
MAUC *e*PP **PP** **04 45 24.9 +1.0**
MAUC *e*S **S** **04 52 23.6 +5.7**
PSBE So Bento 76.39 43 *e*P **P** **04 42 35.4 +1.6**
PSBE *e*PcP **PcP** **04 42 49.0 +3.4**
PSBE *i* IAmb IAmb 04 43 02.3
comp=Z,190nm,1.6s
PSBE *e*PP **PP** **04 45 28.9 +4.1**
RAR Rarotonga 76.45 208 IAMs_20 IAMs_20 05 08 13.5
comp=Z,14µm,21.0s
RAR Rarotonga 76.45 208 LR LR 05 08 13.6
comp=Z,15µm,21.4s,baz=332,slow=29
MOTA Moosalm 76.54 26 pP pP 04 42 36.4 -0.8
comp=Z,35nm,1.7s
PSARD Sardoal 76.59 42 *e*P **P** **04 42 35.2 +0.3**
PSARD *e*PcP **PcP** **04 42 48.0 +1.6**
PSARD *i* IAmb IAmb 04 43 02.1
comp=Z,152nm,1.6s
RJOB Jochberg 76.63 24 *e*P **P** **04 42 37.9 +2.9**
comp=Z,17nm,0.8s,baz=337,slow=5.9
PMAFR Mafra 76.65 43 P **P** **04 42 35.5 +0.3**
WATA Walderalm 76.67 25 *i* pP pP 04 42 38.3 +0.4
comp=Z,46nm,1.5s,SNR=5.6
PCBR Castelo Branco 76.68 42 *e*P **P** **04 42 36.5 +1.1**
PCBR *e*PcP **PcP** **04 42 50.2 +3.4**
PCBR *i* IAmb IAmb 04 43 02.5
comp=Z,95nm,1.7s
SQTA Sankt Quirin 76.68 26 *ep*P **P** **04 42 36.6 +1.2**
comp=Z,39nm,1.3s,SNR=6.7
DAVOX Davos/Dischmat 76.71 27 LR LR 05 16 41.8
comp=Z,30µm,20.6s,baz=315,slow=36
FETA Feichten 76.73 26 *ep*P pP 04 42 39.0 +0.7
comp=Z,22nm,1.1s
SSE Sheshan 76.75 303 P **P** **04 42 35.4 -0.5**
SSE S **S** **04 52 23.5 +0.6**
SSE pmax pmax
comp=Z,20nm,1.0s
SSE pmax pmax
comp=Z,490nm,4.5s
SSE LR LR
comp=Z,1µm,16.8s
SSE LR LR
comp=Z,4µm,16.8s
WTTA Wattenberg 76.76 25 *i* pP pP 04 42 40.5 +2.1
comp=Z,40nm,1.3s,SNR=6.3
CZSB Cruzeiro do Su 76.76 120 *e*P P 04 42 26.1 -10
CZSB Cruzeiro do Su 76.76 120 S **S** **04 52 27.0 +3.7**
JAVC Velka Javorina 76.77 21 *e*P **P** **04 42 36.6 +0.8**
JAVC *e*S **S** **04 52 26.7 +3.9**
NIE Niedzica 76.81 19 *e*P **P** **04 42 37.4 +1.4**
NIE *ep*P **PP** **04 45 30.4 +2.5**
NIE *e*S **S** **04 52 29.4 +6.3**
NIE *e*SS **SS** **04 57 16.1 -1.6**
NIE *e*L L 05 17 38.9
comp=Z,18µm,19.5s
BELG Belogornoye 76.87 1 LR LR 05 19 10.8
comp=Z,11µm,21.0s,baz=355,slow=38
BELG Belogornoye 76.87 1 *d* *i*P **P** **04 42 36.6 +0.4**
BELG pmax pmax
comp=Z,49nm,1.2s
BELG MLR MLR
comp=Z,3µm,19.0s
LESA Schwarzleotal 76.89 25 *ep*P pP 04 42 38.8 -0.3
comp=Z,27nm,1.8s
LANS Liptovska Anna 76.89 20 *e*P P 04 42 45.7 +9.2
BIOA Bad Ischl, Aus 76.89 24 *ep*P pP 04 42 40.8 +1.8
comp=Z,12nm,0.9s
MOA Molln 76.90 23 *ep*P pP 04 42 40.8 +1.7

comp=Z,9.1nm,1.2s
LIS Lisbon 76.90 43 *e*P **P** **04 42 36.4 -0.3**
LIS *e*S **S** **04 52 24.0 -0.4**
LIS IAMs_20 IAMs_20 05 14 06.4
comp=Z,27µm,18.5s
PACT Alcochete 77.00 43 *e*P **P** **04 42 38.0 +0.9**
PACT *i* IAmb IAmb 04 42 46.8
comp=Z,281nm,1.6s
STHS Stebnicka Huta 77.00 18 *e*P P 04 42 45.0 +7.9
PMTG Montargil 77.01 42 *e*P **P** **04 42 37.7 +0.5**
PMTG *i* IAmb IAmb 04 42 46.6
comp=Z,80nm,1.7s
PMTG *e*PcP **PcP** **04 42 49.9 +1.7**
PMRV Marv??o 77.06 42 *e*P **P** **04 42 37.8 +0.3**
PMRV *e*PcP **PcP** **04 42 52.4 +3.9**
PMRV *i* IAmb IAmb 04 43 04.6
comp=Z,91nm,1.6s
PMRV *e*S **S** **04 52 27.4 +1.3**
PMRV *e*LR LR 05 07 08.6
PMRV *i* IAMs_20 IAMs_20 05 16 18.1
comp=Z,14µm,18.0s
KWP Kalwaria Pacla 77.08 17 *e*P **P** **04 42 38.2 +0.7**
KWP *e*S **S** **04 52 32.6 +6.6**
KWP *e*L L 05 16 25.4
comp=Z,35µm,21.9s
AKASG Malin Array Be 77.13 13 P **P** **04 42 37.4 -0.3**
comp=Z,9.4nm,0.9s,baz=347,slow=5.3,SNR=25
AKASG LR LR 05 17 14.2
comp=Z,24µm,18.6s,baz=348,slow=36
comp=Z,9.4nm,0.9s
AKBB Malin Array Si 77.13 13 *ce*P **P** **04 42 38.8 +1.1**
KIEV Kiev 77.13 13 ⇑P **P** **04 42 38.8 +1.1**
KIEV Kiev 77.13 13 ⇑P **P** **04 42 38.8 +1.1**
MODS Modra-Piesok 77.14 21 *e*P **P** **04 42 38.2 +0.3**
MODS *e* 04 42 46.0
MODS Modra-Piesok 77.14 21 *e*P **P** **04 42 38.2 +0.3**
MODS *e* 04 42 46.0
AK12 Malin Array Si 77.17 13 P **P** **04 42 36.9 -1.1**
AK14 Malin Array Si 77.18 13 P **P** **04 42 36.8 -1.2**
FUTU Fugatoga 77.19 227 IAMs_20 IAMs_20 05 08 57.4
comp=Z,19µm,21.0s
NJ2 Nanjing 77.21 305 ⇑P **P** **04 42 40.6 +2.1**
NJ2 sP **PcP** **04 42 47.2 -2.0**
NJ2 PcP pwP 04 42 52.8 +9.0
NJ2 S **S** **04 52 29.5 +1.6**
NJ2 ScS **SKKSac** **04 52 52.0 +0.1**
NJ2 pmax pmax
comp=Z,32nm,1.0s
NJ2 pmax pmax
comp=Z,830nm,4.3s
NJ2 LR LR
comp=Z,4µm,18.0s
NJ2 LR LR
comp=Z,10µm,16.1s
NJ2 LR LR
comp=Z,9µm,19.1s
CONA Conrad Observa 77.22 22 *i* pP pP 04 42 41.2 +0.2
comp=Z,34nm,1.5s,SNR=5.6
ZSN Zaisan 77.22 336 *e*P **P** **04 42 39.5 +1.2**
ZSN *e*S **S** **04 52 29.4 +1.8**
ZSN Zaisan 77.22 336 *e*P **P** **04 42 39.6 +1.2**
ZSN *e*S **S** **04 52 29.4 +1.8**
VORR Voronezh 77.24 7 *e*P **P** **04 42 41.1 +2.8**
VORR pmax pmax
comp=Z,75nm,0.4s
BRZS Berezniki 77.37 345 *e*P **P** **04 42 40.4 +1.3**
BRZS Berezniki 77.37 345 *e*P **P** **04 42 40.4 +1.3**
VYHS Vyhne 77.37 20 *e*P **P** **04 42 41.5 +2.3**
VYHS *e* 04 42 47.6
VYHS Vyhne 77.37 20 *e*P **P** **04 42 41.5 +2.3**
VYHS *e* 04 42 47.6
KBA Koelnbreinsper 77.38 24 *ep*P pP 04 42 42.5 +0.5
comp=Z,36nm,1.2s
PESTR Estremoz 77.45 42 P **P** **04 42 39.8 +0.1**
PESTR Estremoz 77.45 42 P **P** **04 42 40.0 +0.3**
PESTR IAmb IAmb 04 43 06.8
comp=Z,139nm,1.5s
PESTR Estremoz 77.45 42 *e*P **P** **04 42 40.8 +1.0**
PESTR *e*PcP **PcP** **04 42 54.4 +4.2**
PESTR *i* IAmb IAmb 04 43 06.8
comp=Z,138nm,1.6s
PESTR *e*PP **PP** **04 45 37.7 +4.1**
RONA Rosalia, Austr 77.54 22 *ep*P pP 04 42 43.1 +0.4
comp=Z,26nm,1.5s
EVO Evora 77.55 43 P **P** **04 42 40.1 -0.2**
EVO Evora 77.55 43 *e*P **P** **04 42 41.0 +0.7**
EVO *e*PcP **PcP** **04 42 54.9 +4.3**
EVO *i* IAmb IAmb 04 43 01.7
comp=Z,128nm,1.8s
LUBAR Lubar, Ukraine 77.67 14 P **P** **04 42 39.9 -0.9**
VSR Storozhevoye 77.69 7 *e*P **P** **04 42 41.5 +0.7**
VSR pmax pmax
comp=Z,30nm,1.2s
VSR MLR MLR
comp=Z,21µm,18.0s
ARSA Arzberg 77.77 23 IAMs_20 IAMs_20 05 18 07.4
comp=Z,22µm,20.0s
ARSA Arzberg 77.77 23 *ep*P pP 04 42 44.8 +0.8
comp=Z,31nm,1.4s
EBAD Badajoz 77.78 42 P **P** **04 42 41.2 -0.4**
VRH Novokhopyorsk 77.86 5 *e*P **P** **04 42 40.9 -0.9**
VRH pmax pmax
comp=Z,20nm,1.2s
VRH MLR MLR
comp=Z,10µm,15.0s
TEFE Tefe 77.89 111 P **P** **04 42 41.1 -1.3**
TEFE S **S** **04 52 36.1 +0.5**
VORD Divnogorie 77.95 7 *e*P **P** **04 42 42.3 0.0**
VORD pmax pmax
comp=Z,30nm,1.2s
VORD MLR MLR
comp=Z,8µm,15.0s
NIUE Niue 77.95 218 IAMs_20 IAMs_20 05 11 11.9
comp=Z,15µm,20.0s
PMOZ Porto Moniz, M 77.97 52 *e*S **S** **04 52 43.1 +6.7**
PMOZ *e*LR LR 05 07 35.3
PMOZ *i* IAMs_20 IAMs_20 05 13 12.2
comp=Z,10µm,18.0s
UCM Universidad Co 78.00 38 P **P** **04 42 42.5 -0.3**
PBEJ Beja 78.03 43 *e*P **P** **04 42 45.2 +2.2**
PBEJ *i* IAmb IAmb 04 43 10.2
comp=Z,96nm,1.6s
MESJ Messejana 78.04 43 *e*P **P** **04 42 42.7 -0.4**
MESJ *e*S **S** **04 52 36.5 -0.2**
MESJ IAMs_20 IAMs_20 05 14 48.5
comp=Z,27µm,20.3s
PTEO Sao Teotonio 78.07 44 *e*P **P** **04 42 44.5 +1.3**
PTEO *i* IAmb IAmb 04 42 53.6
comp=Z,132nm,1.6s
HORU Horodok 78.14 15 P **P** **04 42 42.8 -0.6**
PSZ Piszkesteto 78.15 20 IAMs_20 IAMs_20 05 19 57.2
comp=Z,16µm,19.0s
PSZ Piszkesteto 78.15 20 ⇓P **P** **04 42 44.9 +1.4**
PSZ Piszkesteto 78.15 20 ⇓P **P** **04 42 44.9 +1.4**
PSZ Piszkesteto 78.15 20 *e*P **P** **04 42 44.8 +1.2**
NNA Nana 78.16 126 P **P** **04 42 43.6 -0.3**
NNA Nana 78.16 126 IAMs_20 IAMs_20 05 17 17.1
comp=Z,13µm,18.0s
NNA Nana 78.16 126 P **P** **04 42 43.6 -0.3**
comp=Z,50nm,1.2s,baz=336,slow=5.9,SNR=5.5
NNA LR LR 05 17 11.6
comp=Z,12µm,18.2s,baz=331,slow=36
comp=Z,50nm,1.2s
NNA Nana 78.16 126 *de*P **P** **04 42 45.3 +1.4**
NNA pmax pmax
comp=Z,297nm,1.5s
NNA MLR MLR
comp=Z,20µm,18.0s
SOKA Soboth 78.18 23 *i* pP **P** **04 42 44.8 +1.0**
comp=Z,52nm,1.3s,SNR=7.6
PMAR Madeira 78.19 52 *e*P **P** **04 42 45.9 +1.6**
PMAR *i* IAmb IAmb 04 43 17.1
comp=Z,298nm,1.6s
ROBS Robic 78.20 25 *e*P **P** **04 42 43.4 -0.4**
PAB San Pablo 78.21 40 P **P** **04 42 45.4 +1.3**
PAB IAmb IAmb 04 43 10.8
comp=Z,74nm,1.4s
PAB San Pablo 78.21 40 IAMs_20 IAMs_20 05 20 56.0
comp=Z,15µm,18.0s
PAB San Pablo 78.21 40 ⇓P **P** **04 42 44.0 -0.1**
OBKA Obir 78.22 24 *e*P **P** **04 42 44.5 +0.5**
comp=Z,4.2nm,0.7s
PERS Pernice 78.25 23 *e*P **P** **04 42 44.4 +0.3**
ESBB Sonseca Array 78.25 39 IAmb IAmb 04 43 11.0
comp=Z,71nm,1.4s

ESDC	**Sonseca Array**	**78.25**	**39**	P	**P**	**04 42 44.2**	**-0.1**
ESDC				IAmb	IAmb	04 43 03.2	
	comp=Z,81nm,1.5s						
ESDC	**Sonseca Array**	**78.25**	**39**	P	**P**	**04 42 44.8**	**+0.5**
	comp=Z,79nm,1.1s,baz=318,slow=4.3,SNR=16						
ESDC				LR	LR	05 14 24.0	
	comp=Z,6µm,18.3s,baz=329,slow=34						
	comp=Z,7.9nm,1.1s						
PBAR	**Barrancos**	**78.26**	**42**	P	**P**	**04 42 43.4**	**-0.9**
PBAR	**Barrancos**	**78.26**	**42**	*e*P	**P**	**04 42 45.4**	**+1.1**
PBAR				*e*PcP	**PcP**	**04 42 58.3**	**+4.6**
PBAR				*i* IAmb	IAmb	04 43 11.4	
	comp=Z,78nm,1.6s						
PCVE	**Castro Verde**	**78.29**	**43**	P	**P**	**04 42 41.9**	**-2.5**
PCVE	**Castro Verde**	**78.29**	**43**	*e*P	**P**	**04 42 41.6**	**-2.8**
PCVE				*e*PcP	**PcP**	**04 42 55.7**	**+1.9**
PCVE				*i* IAmb	IAmb	04 43 11.8	
	comp=Z,92nm,1.6s						
STNU	**Starunia**	**78.30**	**17**	P	**P**	**04 42 43.0**	**-1.3**
MORF	**Marmelete**	**78.30**	**44**	*e*P	**P**	**04 42 44.2**	**-0.3**
MORF				*e*S	**S**	**04 52 39.2**	**-0.5**
MORF				IAMs_20	IAMs_20	05 17 14.6	
	comp=Z,19µm,18.8s						
MORF	**Marmelete**	**78.30**	**44**	P	**P**	**04 42 44.0**	**-0.6**
MORF				IAmb	IAmb	04 42 58.1	
	comp=Z,110nm,1.3s						
MORF				IAMs_20	IAMs_20	05 17 10.6	
	comp=Z,19µm,18.0s						
MORF	**Marmelete**	**78.30**	**44**	*e*P	**P**	**04 42 45.6**	**+1.1**
MORF				*i* IAmb	IAmb	04 43 00.3	
	comp=Z,146nm,1.6s						
MORF	**Marmelete**	**78.30**	**44**	P	**P**	**04 42 44.0**	**-0.6**
MORF				pmax	pmax		
	comp=Z,110nm,1.3s						
MORF				MLR	MLR		
	comp=Z,19µm,18.0s						
LYN	**LuoYang**	**78.35**	**311**	P	**P**	**04 42 45.2**	**+0.4**
LYN				pP	pwP	04 42 49.2	-0.9
LYN				S	**S**	**04 52 40.0**	**-0.2**
LYN				sS	sS	04 52 46.9	+2.5
LYN				SS	**SS**	**04 57 45.8**	**+4.1**
LYN				pmax	pmax		
	comp=Z,70nm,1.0s						
LYN				pmax	pmax		
	comp=Z,2µm,5.3s						
LYN				LR	LR		
	comp=Z,12µm,16.1s						
LYN				LR	LR		
	comp=Z,17µm,18.2s						
LYN				LR	LR		
	comp=Z,20µm,17.2s						
PFVI	**Vila Bisbo**	**78.37**	**44**	P	**P**	**04 42 43.5**	**-1.4**
PFVI	**Vila Bisbo**	**78.37**	**44**	*e*P	P	04 42 39.8	-5.0
PFVI				*i* IAmb	IAmb	04 43 13.0	
	comp=Z,234nm,1.6s						
EJON	**La Jonquera**	**78.40**	**33**	P	**P**	**04 42 45.2**	**+0.2**
MDP	**Montagnes des**	**78.45**	**96**	LR	LR	05 19 41.4	
	comp=Z,6µm,19.0s,baz=336,slow=38						
SABO	**M.te Sabotino**	**78.47**	**25**	IAMs_20	IAMs_20	05 18 56.8	
	comp=Z,17µm,19.0s						
MK31	**Makanchi Array**	**78.47**	**338**	*i* P	**P**	**04 42 44.0**	**-1.3**
MKAR	**Makanchi Array**	**78.47**	**338**	P	**P**	**04 42 43.7**	**-1.6**
MKAR	**Makanchi Array**	**78.47**	**338**	P	**P**	**04 42 43.9**	**-1.4**
	comp=Z,8.2nm,0.8s,baz=32,slow=4.5,SNR=36						
MKAR				LR	LR	05 22 33.7	
	comp=Z,22µm,18.6s,baz=2.0,slow=40						
	comp=Z,8.2nm,0.8s						
MAKZ	**Makanchi**	**78.53**	**338**	P	**P**	**04 42 45.2**	**-0.5**
MAKZ				IAmb	IAmb	04 43 01.6	
	comp=Z,109nm,1.2s						
MAKZ				IAMs_20	IAMs_20	05 22 25.7	
	comp=Z,19µm,19.0s						
MAKZ	**Makanchi**	**78.53**	**338**	⇑P	**P**	**04 42 45.6**	**-0.1**
AKTO	**Aktyubinsk**	**78.58**	**354**	LR	LR	05 19 15.6	
	comp=Z,9µm,21.9s,baz=5.5,slow=37						
EGRO	**El Granado**	**78.61**	**43**	P	**P**	**04 42 45.1**	**-1.1**
PVAQ	**Vaqueiros**	**78.62**	**43**	P	**P**	**04 42 45.3**	**-0.9**
PVAQ	**Vaqueiros**	**78.62**	**43**	*e*P	**P**	**04 42 44.8**	**-1.4**
PVAQ				*e*PcP	**PcP**	**04 42 58.5**	**+3.3**
PVAQ				*i* IAmb	IAmb	04 43 15.4	
	comp=Z,130nm,1.6s						
PVAQ				*e*S	**S**	**04 52 43.6**	**+0.6**
PVAQ				*e*SS	**SS**	**04 57 52.7**	**+7.1**
PVAQ				*e*LR	LR	05 07 28.4	
PVAQ				*i* IAMs_20	IAMs_20	05 15 44.8	
	comp=Z,19µm,20.0s						
PBDV	**Barranco-do-Ve**	**78.66**	**43**	*e*P	**P**	**04 42 47.8**	**+1.2**
PBDV				*e*PcP	**PcP**	**04 43 01.9**	**+6.4**
PBDV				*i* IAmb	IAmb	04 43 15.0	
	comp=Z,107nm,1.7s						
KOGS	**Kog**	**78.70**	**23**	*e*P	**P**	**04 42 46.2**	**-0.3**
TRI	**Trieste**	**78.76**	**25**	IAMs_20	IAMs_20	05 20 16.6	
	comp=Z,19µm,18.0s						
EMIN	**Mina Concepcio**	**78.76**	**42**	P	**P**	**04 42 45.3**	**-1.7**
KMPD	**K-Podol'skiy**	**78.78**	**15**	P	**P**	**04 42 45.4**	**-1.5**
MSSA	**Maissana**	**78.85**	**28**	IAMs_20	IAMs_20	05 17 08.2	
	comp=Z,19µm,20.0s						
ECAB	**El Cabril**	**79.03**	**41**	P	**P**	**04 42 47.2**	**-1.3**
VLC	**Villacollemand**	**79.25**	**28**	P	**P**	**04 42 48.2**	**-1.5**
EADA	**Adamuz**	**79.29**	**40**	P	**P**	**04 42 48.7**	**-1.3**
BURAR	**Bucovina Array**	**79.48**	**16**	⇑P	**P**	**04 42 51.9**	**+1.0**
BURAR	**Bucovina Array**	**79.48**	**16**	⇑P	**P**	**04 42 51.9**	**+1.0**
MORH	**Mrgy, Hungar**	**79.48**	**21**	⇑P	P	04 42 45.2	-5.6
ECHE	**Chera**	**79.50**	**37**	P	**P**	**04 42 51.6**	**+0.5**
SORM	**Soroca**	**79.50**	**14**	⇑P	**P**	**04 42 48.5**	**-2.4**
SORM	**Soroca**	**79.50**	**14**	⇑P	**P**	**04 42 48.5**	**-2.4**
AB31	**Akbulak array**	**79.62**	**353**	P	**P**	**04 42 50.6**	**-0.9**
AB31	**Akbulak array**	**79.62**	**353**	*i* P	**P**	**04 42 50.9**	**-0.6**
ABKAR	**Akbulak array**	**79.62**	**353**	P	**P**	**04 42 50.8**	**-0.8**
ABKAR	**Akbulak array**	**79.62**	**353**	P	**P**	**04 42 50.8**	**-0.8**
ABKAR				IAmb	IAmb	04 43 17.0	
	comp=Z,63nm,1.2s						
GTA	**Gaotai**	**79.69**	**323**	P	**P**	**04 42 51.4**	**-0.8**
GTA				PP	**PP**	**04 45 54.0**	**+1.6**
GTA				S	**S**	**04 52 52.6**	**-2.0**
GTA				SKS	**SKSac**	**04 53 00.2**	**-8.9**
GTA				pmax	pmax		
	comp=Z,22nm,1.7s						
GTA				pmax	pmax		
	comp=Z,560nm,10.5s						
GTA				LR	LR		
	comp=Z,15µm,18.2s						
GTA				LR	LR		
	comp=Z,29µm,20.0s						
DRGR		**79.80**	**18**	⇑P	**P**	**04 42 51.9**	**-0.8**
DRGR		**79.80**	**18**	⇑P	**P**	**04 42 51.9**	**-0.8**
WMQ	**Urumqi**	**79.81**	**333**	P	**P**	**04 42 55.8**	**+3.1**
WMQ				S	**S**	**04 52 55.6**	**0.0**
WMQ				SS	**SS**	**04 57 58.6**	**-4.5**
WMQ				pmax	pmax		
	comp=Z,28nm,2.3s						
WMQ				pmax	pmax		
	comp=Z,180nm,3.7s						
WMQ				LR	LR		
	comp=Z,14µm,20.7s						
WMQ				LR	LR		
	comp=Z,13µm,23.9s						
WMQ				LR	LR		
	comp=Z,13µm,15.9s						
ESPR	**Espera**	**79.87**	**42**	P	**P**	**04 42 51.6**	**-1.5**
MACA	**Manacapuru-AM**	**79.96**	**108**	P	**P**	**04 42 54.0**	**+0.2**
MACA				IAmb	IAmb	04 43 05.9	
	comp=Z,109nm,1.5s						
MACA	**Manacapuru-AM**	**79.96**	**108**	P	**P**	**04 42 53.9**	**+0.1**
MACA				S	**S**	**04 52 57.7**	**0.0**
SFS	**San Fernando**	**80.06**	**43**	P	**P**	**04 42 54.1**	**0.0**
SIRR	**Siria**	**80.09**	**19**	⇑P	**P**	**04 42 57.8**	**+3.6**
CNIL	**Conil**	**80.20**	**42**	P	**P**	**04 42 55.4**	**+0.5**
EGOR	**Sierra Gorda,**	**80.39**	**41**	P	**P**	**04 42 52.9**	**-3.2**
XAN	**Xi'an**	**80.42**	**314**	⇓P	**P**	**04 42 55.0**	**-1.2**
XAN				pP	pP	04 42 58.7	-0.1
XAN				PP	**PP**	**04 45 56.2**	**-2.4**
XAN				S	**S**	**04 53 00.4**	**-1.9**
XAN				pmax	pmax		
	comp=Z,57nm,1.2s						
XAN				pmax	pmax		
	comp=Z,1µm,5.7s						
XAN				LR	LR		
	comp=Z,16µm,15.3s						
XAN				LR	LR		
	comp=Z,25µm,19.2s						
EMAL	**Malaga-Limoner**	**80.55**	**41**	P	**P**	**04 42 53.9**	**-2.9**
CASP	**Castiglione de**	**80.64**	**28**	P	**P**	**04 42 56.8**	**-0.4**
CASP				IAmb	IAmb	04 43 06.0	
	comp=Z,133nm,1.7s						
CASP				IAMs_20	IAMs_20	05 21 33.6	
	comp=Z,16µm,18.0s						
SURR	**Surduc**	**80.68**	**19**	⇑P	**P**	**04 42 56.5**	**-0.7**
KIS	**Kishinev**	**80.68**	**14**	*e*P	**P**	**04 42 54.0**	**-3.3**
	comp=Z,300nm,6.5s						
KIS	**Kishinev**	**80.68**	**14**	*e*P	**P**	**04 42 54.0**	**-3.3**
KIS				*e*		04 46 11.0	
KIS				*e*S	**S**	**04 53 03.0**	**-1.4**
KIS				pmax	pmax		
	comp=Z,300nm,6.5s						
KIS				MLR	MLR		
	comp=Z,4µm,19.0s						
WHN	**Wuhan**	**80.70**	**308**	P	**P**	**04 43 00.1**	**+2.4**
WHN				PP	**PP**	**04 46 03.6**	**+2.7**
WHN				S	**S**	**04 53 04.0**	**-1.2**
WHN				pmax	pmax		
	comp=Z,110nm,1.3s						
WHN				pmax	pmax		
	comp=Z,3µm,5.5s						
WHN				LR	LR		
	comp=Z,18µm,14.9s						
WHN				LR	LR		
	comp=Z,50µm,32.4s						
BZS	**Buzias**	**80.70**	**19**	*e*P	**P**	**04 42 53.4**	**-4.0**
BZS	**Buzias**	**80.70**	**19**	⇑P	**P**	**04 43 00.7**	**+3.3**
BZS	**Buzias**	**80.70**	**19**	⇑P	**P**	**04 43 00.7**	**+3.3**
MILM	**Milestii Mici**	**80.76**	**14**	*e*P	P	04 42 53.0	-4.7
MILM	**Milestii Mici**	**80.76**	**14**	*e*PP	PP	04 46 00.0	-0.8
MILM				*e*S	**S**	**04 53 08.0**	**+2.8**
MILM	**Milestii Mici**	**80.76**	**14**	*e*P	P	04 42 53.0	-4.7
MILM				*e*		04 46 00.0	
MILM				*e*S	**S**	**04 53 08.0**	**+2.8**
MILM				*e*PS	**PnS**	**04 53 51.0**	**+0.8**
MILM				MLR	MLR		
	comp=Z,10µm,20.0s						
TESR	**Tescani**	**80.80**	**16**	⇑P	**P**	**04 42 57.1**	**-0.8**
VASR	**Vaslui**	**80.86**	**15**	⇑P	**P**	**04 43 02.1**	**+3.9**
LZH	**Lanzhou**	**80.93**	**318**	*e*P	**P**	**04 43 01.5**	**+2.5**
LZH				sP	PcP	04 43 08.5	+2.9
LZH				PP	**PP**	**04 46 07.4**	**+4.6**
LZH				S	**S**	**04 53 05.0**	**-2.8**
LZH				sS	SKSac	04 53 18.8	+0.9
LZH				SS	**SS**	**04 58 23.8**	**+3.3**
LZH				pmax	pmax		
	comp=Z,36nm,1.2s						
LZH				pmax	pmax		
	comp=Z,590nm,7.6s						
LZH				LR	LR		
	comp=Z,10µm,20.0s						
LZH				LR	LR		
	comp=Z,15µm,19.6s						
LZH				LR	LR		
	comp=Z,17µm,21.0s						
TDK	**Taldyqorghan**	**81.05**	**340**	*e*P	**P**	**04 43 00.5**	**+1.2**
TDK				MLR	MLR		
	comp=Z,10µm,18.0s						
TDK	**Taldyqorghan**	**81.05**	**340**	*e*P	**P**	**04 43 00.6**	**+1.2**
TDK				LR	LR	05 21 19.1	
	comp=Z,10µm,17.7s						
DOPR	**Dopca**	**81.10**	**17**	⇑P	**P**	**04 43 00.7**	**+1.1**
GZR	**Gura Zlata**	**81.16**	**19**	⇑P	**P**	**04 42 58.9**	**-1.0**
GZR	**Gura Zlata**	**81.16**	**19**	⇑P	**P**	**04 42 58.9**	**-1.0**
CART	**Cartagena**	**81.22**	**38**	P	**P**	**04 43 03.0**	**+2.6**
VRI	**Vrincioaia**	**81.44**	**16**	*e*P	**P**	**04 42 58.8**	**-2.6**
VRI	**Vrincioaia**	**81.44**	**16**	⇑P	**P**	**04 43 01.2**	**-0.2**
VRI	**Vrincioaia**	**81.44**	**16**	⇑P	**P**	**04 43 01.2**	**-0.2**
VRI	**Vrincioaia**	**81.44**	**16**	P	**P**	**04 43 00.7**	**-0.7**
PLOR	**Plostina**	**81.44**	**16**	⇑P	**P**	**04 43 05.5**	**+4.1**
PLOR	**Plostina**	**81.44**	**16**	⇑P	**P**	**04 43 05.5**	**+4.1**
MDVR	**Moldovita**	**81.52**	**20**	⇓P	P	04 43 07.3	+5.4
ARR	**Arges**	**81.54**	**17**	⇑P	P	04 43 07.9	+5.9
VOIR		**81.55**	**17**	⇑P	**P**	**04 43 00.8**	**-1.3**
VOIR		**81.55**	**17**	⇑P	**P**	**04 43 00.8**	**-1.3**
HERR	**Herculane**	**81.57**	**19**	⇓P	**P**	**04 43 00.0**	**-2.1**
MLR	**Muntele Rosu**	**81.67**	**16**	*e*P	**P**	**04 43 02.6**	**-0.1**
MLR	**Muntele Rosu**	**81.67**	**16**	LR	LR	05 20 03.0	
	comp=Z,40µm,20.4s,baz=2.5,slow=36						
MLR	**Muntele Rosu**	**81.67**	**16**	⇑P	**P**	**04 43 04.9**	**+2.1**
MLR	**Muntele Rosu**	**81.67**	**16**	⇑P	**P**	**04 43 04.9**	**+2.1**
AQU	**L'Aquila**	**81.77**	**26**	P	**P**	**04 43 02.6**	**-0.7**
RTC	**Rabat Centre**	**81.87**	**44**	P	**P**	**04 42 59.3**	**-4.5**
BTLS	**Baital**	**81.90**	**343**	*e*P	**P**	**04 43 05.1**	**+1.3**
BTLS				*e*S	**S**	**04 53 19.0**	**+1.7**
BTLS	**Baital**	**81.90**	**343**	*e*P	**P**	**04 43 05.2**	**+1.4**
BTLS				*e*S	**S**	**04 53 19.0**	**+1.7**
MSVF	**Nonsavu**	**81.96**	**229**	IAMs_20	IAMs_20	05 11 31.9	
	comp=Z,13µm,20.0s						
MSVF	**Nonsavu**	**81.96**	**229**	LR	LR	05 11 43.1	
	comp=Z,14µm,20.9s,baz=22,slow=30						
MSVF	**Nonsavu**	**81.96**	**229**	P	P	04 43 10.2	+5.8
MSVF	**Nonsavu**	**81.96**	**229**	*de*P	**P**	**04 43 05.3**	**+0.9**
MSVF				pmax	pmax		
	comp=Z,66nm,1.8s						
MACI	**Morro de la Ar**	**82.01**	**54**	IAMs_20	IAMs_20	05 15 20.9	
	comp=Z,14µm,22.0s						
AVE	**Averroes**	**82.21**	**45**	P	**P**	**04 43 04.1**	**-1.5**
AVE	**Averroes**	**82.21**	**45**	IAMs_20	IAMs_20	05 19 15.3	
	comp=Z,8µm,18.0s						
CFR	**Carcaliu**	**82.34**	**15**	⇑P	**P**	**04 43 05.8**	**-0.3**
CFR	**Carcaliu**	**82.34**	**15**	⇑P	**P**	**04 43 05.8**	**-0.3**
PLE	**Pljevlja**	**82.39**	**22**	⇓P	**P**	**04 43 06.6**	**+0.1**
UPM	**Unac-Piva**	**82.39**	**22**	⇓P	**P**	**04 43 06.2**	**-0.5**
KPKS	**Kokpek**	**82.45**	**339**	*e*P	**P**	**04 43 08.0**	**+1.1**
KPKS	**Kokpek**	**82.45**	**339**	*e*P	**P**	**04 43 08.0**	**+1.1**
SHLS	**Shalkode**	**82.57**	**338**	*e*P	**P**	**04 43 08.0**	**+0.5**
SHLS				pmax	pmax		
	comp=Z,124nm,2.0s						
SHLS	**Shalkode**	**82.57**	**338**	*e*P	**P**	**04 43 08.1**	**+0.5**
	comp=Z,124nm,2.0s						
BRY	**Bratogost**	**82.59**	**22**	⇓P	**P**	**04 43 07.7**	**+0.1**
BOVS	**Bovan**	**82.61**	**20**	⇑P	**P**	**04 43 08.0**	**+0.4**
TPGR	**Topolog**	**82.70**	**15**	⇑P	P	04 43 16.1	+8.1
NKME	**Niksic**	**82.82**	**22**	⇓P	**P**	**04 43 08.7**	**0.0**
KOME	**Kolasin**	**82.87**	**22**	⇓P	**P**	**04 43 09.4**	**+0.4**
VALD	**Valchedram**	**82.92**	**19**	*i* P	**P**	**04 43 10.8**	**+1.7**
IVA	**Berane**	**82.94**	**21**	⇓P	**P**	**04 43 09.5**	**+0.1**
TLBR	**Topalu**	**82.94**	**15**	⇑P	**P**	**04 43 12.6**	**+3.3**
SGRT	**San Giovanni R**	**82.96**	**25**	IAMs_20	IAMs_20	05 20 20.8	
	comp=Z,20µm,21.0s						
HCY	**Herceg Novi**	**83.01**	**23**	⇓P	**P**	**04 43 09.2**	**-0.4**
CEME	**Cevo**	**83.02**	**22**	⇓P	**P**	**04 43 09.7**	**-0.1**
QZH	**Quanzhou**	**83.02**	**301**	*e*P	**P**	**04 43 09.4**	**-0.5**
QZH				S	**S**	**04 53 29.7**	**+0.5**
QZH				LR	LR		
	comp=Z,6µm,15.8s						
QZH				LR	LR		
	comp=Z,7µm,17.2s						
QZH				LR	LR		
	comp=Z,10µm,15.8s						
MAL2	**Monte Alegre,**	**83.02**	**102**	P	**P**	**04 43 11.1**	**+1.1**
MAL2				S	**S**	**04 53 30.8**	**+1.4**
AAA	**Alma-Ata**	**83.09**	**340**	*e*P	**P**	**04 43 11.3**	**+1.2**
AAA				pmax	pmax		
	comp=Z,75nm,1.1s						
AAA	**Alma-Ata**	**83.09**	**340**	*e*P	**P**	**04 43 11.4**	**+1.2**
	comp=Z,76nm,1.1s						
AAA				LR	LR	05 21 45.6	
	comp=Z,10µm,18.4s						
TIRR	**Tirgusor**	**83.09**	**15**	*e*P	**P**	**04 43 12.7**	**+2.7**
TIRR	**Tirgusor**	**83.09**	**15**	IAMs_20	IAMs_20	05 19 14.8	
	comp=Z,13µm,22.0s						
PDG	**Podgorica**	**83.21**	**22**	*e*P	P	04 43 05.9	-4.7
PDG	**Podgorica**	**83.21**	**22**	⇓P	**P**	**04 43 08.4**	**-2.3**
PDG	**Podgorica**	**83.21**	**22**	⇓P	**P**	**04 43 11.1**	**+0.5**
ERBR	**Yeremizino-Bor**	**83.26**	**6**	*e*P	**P**	**04 43 12.8**	**+1.9**
ERBR				*e*S	**S**	**04 53 34.7**	**+3.7**
ERBR				pmax	pmax		
	comp=Z,153nm,1.6s						
ENH	**Enshi**	**83.30**	**311**	P	**P**	**04 43 10.9**	**-0.5**
ENH				IAmb	IAmb	04 43 40.9	
	comp=Z,61nm,1.3s						
ENH				IAMs_20	IAMs_20	05 21 16.6	
	comp=Z,15µm,20.0s						
ENH	**Enshi**	**83.30**	**311**	P	**P**	**04 43 14.6**	**+3.2**
MPEP	**Malo Peshtene**	**83.30**	**19**	*i* P	**P**	**04 43 13.0**	**+1.8**
SGDS	**Sogindy**	**83.32**	**342**	*e*P	**P**	**04 43 12.7**	**+1.3**
CNSH	**ChangSha**	**83.34**	**307**	P	**P**	**04 43 13.8**	**+2.2**
CNSH				S	**S**	**04 53 36.1**	**+3.7**
CNSH				LR	LR		
	comp=Z,4µm,15.2s						
CNSH				LR	LR		
	comp=Z,3µm,14.7s						
CNSH				LR	LR		
	comp=Z,12µm,30.8s						
SIM	**Simferopol'**	**83.42**	**11**	*e*P	P	04 43 18.6	+6.9
SIM				*e*S	**S**	**04 53 39.0**	**+6.3**
SIM				pmax	pmax		
	comp=Z,48nm,1.1s						
SIM				MLR	MLR		
	comp=Z,16µm,18.6s						
DRME	**Dracevica, Mon**	**83.42**	**22**	⇓*i* P	**P**	**04 43 12.4**	**+0.6**
USP	**Ospenovka**	**83.53**	**342**	P	**P**	**04 43 13.2**	**+0.9**
	SNR=10						
TKM2	**Tokmak 2**	**83.64**	**341**	P	**P**	**04 43 15.3**	**+2.1**
	SNR=18						
PUK	**Puka**	**83.72**	**22**	P	**P**	**04 43 13.3**	**-0.1**
SZH	**Strazhitsa**	**83.82**	**17**	P	**P**	**04 43 13.3**	**-0.5**
PSN	**Preselentsi**	**83.84**	**15**	*i* P	**P**	**04 43 17.3**	**+3.4**
MDT	**Midelt**	**83.86**	**43**	LR	LR	05 19 35.0	
	comp=Z,13µm,18.1s,baz=352,slow=35						
ITTB	**Itaituba**	**83.91**	**105**	*e*P	**P**	**04 43 14.3**	**-0.3**
ITTB	**Itaituba**	**83.91**	**105**	P	**P**	**04 43 14.9**	**+0.3**
ITTB				S	**S**	**04 53 37.0**	**-1.4**
VTS	**Vitosha**	**83.91**	**19**	*i* P	**P**	**04 43 16.4**	**+1.9**
VTS	**Vitosha**	**83.91**	**19**	P	**P**	**04 43 14.4**	**-0.1**
ANN	**Anapa**	**83.92**	**9**	*e*P	**P**	**04 43 12.9**	**-1.3**
ANN				*e*S	**S**	**04 53 36.2**	**-1.5**
ANN				pmax	pmax		
	comp=Z,88nm,1.4s						
FRU1	**Bishkek**	**83.94**	**342**	IAMs_20	IAMs_20	05 25 08.6	
	comp=Z,13µm,19.0s						
BOOM	**Boomskoye usch**	**83.98**	**341**	IAMs_20	IAMs_20	05 23 53.7	
	comp=Z,12µm,18.0s						
KBK	**Karagaybulak**	**84.03**	**341**	P	**P**	**04 43 17.3**	**+2.2**
	SNR=9.8						
GOF	**Gofitskoye**	**84.06**	**5**	*ce*P	**P**	**04 43 16.9**	**+1.9**
PLNA	**Plana**	**84.08**	**19**	*i* P	**P**	**04 43 18.6**	**+3.3**
AAK	**Ala-Archa**	**84.13**	**342**	P	**P**	**04 43 15.1**	**-0.5**
AAK				IAmb	IAmb	04 43 27.5	
	comp=Z,48nm,1.4s						
AAK	**Ala-Archa**	**84.13**	**342**	P	**P**	**04 43 15.1**	**-0.5**
AAK				pmax	pmax		
	comp=Z,48nm,1.4s						
AAK	**Ala-Archa**	**84.13**	**342**	P	**P**	**04 43 17.1**	**+1.5**
AAK				S	**S**	**04 53 41.9**	**+1.5**
SKO	**Skopje**	**84.14**	**21**	*i* P	**P**	**04 43 18.6**	**+3.1**
PRD	**Provadia**	**84.18**	**16**	*i* P	**P**	**04 43 19.4**	**+3.8**
PGB	**Panagyurishte**	**84.20**	**19**	*i* P	**P**	**04 43 19.4**	**+3.6**
EKS2	**Erkin-Say**	**84.25**	**342**	P	**P**	**04 43 18.5**	**+2.3**
	SNR=9.3						
MATE	**Matera**	**84.25**	**24**	*e*P	**P**	**04 43 15.1**	**-0.9**
MATE	**Matera**	**84.25**	**24**	⇑P	**P**	**04 43 16.7**	**+0.7**
TIO	**Tiouine**	**84.28**	**46**	P	P	04 43 11.0	-5.6
TARG	**Taragay, Kyrgy**	**84.30**	**339**	IAMs_20	IAMs_20	05 25 22.4	
	comp=Z,14µm,19.0s						
LABN	**Labinsk**	**84.34**	**6**	*e*P	**P**	**04 43 16.6**	**+0.2**
LABN				*e*S	**SKSac**	**04 53 38.4**	**-1.6**
LABN				pmax	pmax		
	comp=Z,22nm,0.6s						
TIR	**Tirane**	**84.38**	**22**	*e*P	**P**	**04 43 17.4**	**+0.7**
GOMU	**GeErMu**	**84.38**	**325**	P	**P**	**04 43 17.9**	**+0.6**
GOMU				pP	pwP	04 43 26.1	+3.5
GOMU				S	**SKSac**	**04 53 37.8**	**-3.5**
GOMU				pmax	pmax		
	comp=Z,10.0nm,1.2s						
GOMU				LR	LR		
	comp=Z,15µm,21.3s						
GOMU				LR	LR		
	comp=Z,11µm,22.0s						
GOMU				LR	LR		
	comp=Z,19µm,22.4s						
KK31	**Karatay Array**	**84.41**	**345**	P	**P**	**04 43 16.2**	**-0.6**
KK31				IAmb	IAmb	04 43 43.2	
	comp=Z,72nm,1.8s						
KK31	**Karatay Array**	**84.41**	**345**	P	**P**	**04 43 16.2**	**-0.6**
KK31				pmax	pmax		
	comp=Z,72nm,1.8s						
KKAR	**Karatay Array**	**84.41**	**345**	P	**P**	**04 43 15.8**	**-1.0**
KKAR	**Karatay Array**	**84.41**	**345**	P	**P**	**04 43 16.2**	**-0.7**
KKAR				IAmb	IAmb	04 43 43.2	
	comp=Z,75nm,1.8s						
KKAR	**Karatay Array**	**84.41**	**345**	P	**P**	**04 43 15.9**	**-1.0**
KKAR						04 43 16.2	
KKAR				pmax	pmax		
	comp=Z,75nm,1.8s						
HURO	**Huro Makira**	**84.45**	**246**	P	P	04 43 22.6	+5.3
DZA	**Taraz**	**84.47**	**344**	*e*P	**P**	**04 43 18.3**	**+1.1**
DZA	**Taraz**	**84.47**	**344**	*e*P	**P**	**04 43 18.4**	**+1.1**
UCH	**Uchtor**	**84.53**	**342**	P	**P**	**04 43 21.0**	**+3.0**
	SNR=6.7						
BRLS	**Borolday**	**84.59**	**345**	*e*P	**P**	**04 43 20.3**	**+2.5**
BRLS	**Borolday**	**84.59**	**345**	*e*P	**P**	**04 43 20.3**	**+2.5**
CUC	**Castrocucco**	**84.63**	**25**	IAMs_20	IAMs_20	05 22 44.9	
	comp=Z,16µm,20.0s						
KKB	**Krupnik**	**84.63**	**19**	*i* P	**P**	**04 43 20.3**	**+2.3**
KKB	**Krupnik**	**84.63**	**19**	P	**P**	**04 43 18.1**	**+0.1**
PLD	**Plovdiv**	**84.67**	**18**	*e*P	**P**	**04 43 20.4**	**+2.3**
PLD	**Plovdiv**	**84.67**	**18**	*i* P	**P**	**04 43 20.3**	**+2.2**
PLD	**Plovdiv**	**84.67**	**18**	P	**P**	**04 43 18.3**	**+0.2**
JMB	**Yambol**	**84.67**	**17**	P	**P**	**04 43 18.5**	**+0.3**
AML	**Almayash

comp=Z,19µm,18.2s
CD2 LR LR
comp=Z,20µm,16.1s
BMO2 UHE Belo Monte 85.41 101 P **P** **04 43 19.6 -2.6**
BMO2 S **S** **04 53 53.1 -0.3**
IUG Iuzhnay 85.42 345 *eP* **P** **04 43 23.0 +1.0**
IUG pmax pmax
comp=Z,84nm,1.4s
IUG Iuzhnay 85.42 345 *eP* **P** **04 43 23.1 +1.0**
comp=Z,84nm,1.4s
SRS Serrai 85.42 19 P **P** **04 43 20.9 -1.1**
NEST Nestorio 85.54 21 P **P** **04 43 22.0 -0.7**
TIP Timpagrande 85.64 25 P **P** **04 43 22.6 -0.6**
TIP IAmb IAmb 04 43 38.5
comp=Z,78nm,1.6s
TIP Timpagrande 85.64 25 ⇓P **P** **04 43 21.3 -1.9**
ARSB Arslanbob 85.69 342 IAMs_20 IAMs_20 05 26 44.1
comp=Z,9µm,20.0s
RDO Rodhopi 85.79 18 *eP* **P** **04 43 23.1 -0.6**
RDO Rodhopi 85.79 18 P **P** **04 43 23.5 -0.2**
KZN Kozani 85.81 21 P **P** **04 43 22.2 -1.8**
HORT Hortiatis 85.82 20 P **P** **04 43 23.0 -1.0**
KEK Kerkira 85.91 23 *eP* **P** **04 43 27.5 +3.1**
KEK Kerkira 85.91 23 IAMs_20 IAMs_20 05 24 08.7
comp=Z,16µm,19.0s
KEK Kerkira 85.91 23 P **P** **04 43 24.8 +0.4**
CTYL Yalikoy Yolu 85.97 16 *eP* **P** **04 43 25.7 +1.1**
KPRO Kipourio 86.05 21 P **P** **04 43 25.2 0.0**
ALN Alexandroupoli 86.13 18 P **P** **04 43 24.7 -0.7**
IGT Igoumenitsa 86.21 22 P **P** **04 43 24.5 -1.4**
NPGB Novo Progresso 86.24 106 *eP* P **04 43 11.4 -15**
NPGB Novo Progresso 86.24 106 *eP* **P** **04 43 25.9 -0.4**
NPGB Novo Progresso 86.24 106 P **P** **04 43 28.0 +1.7**
NPGB S **S** **04 54 00.8 -0.7**
LPAZ La Paz 86.32 121 P **P** **04 43 26.7 -0.6**
LPAZ IAmb IAmb 04 43 42.0
comp=Z,118nm,1.5s
LPAZ La Paz 86.32 121 P **P** **04 43 26.6 -0.6**
comp=Z,5.5nm,0.7s,baz=353,slow=7.3,SNR=17
LPAZ LR LR 05 25 12.2
comp=Z,7µm,18.2s,baz=316,slow=38
comp=Z,5.5nm,0.7s
LPAZ La Paz 86.32 121 *eP* **P** **04 43 26.3 -1.0**
LPAZ La Paz 86.32 121 P **P** **04 43 27.4 +0.1**
LPAZ S **S** **04 54 02.7 -0.6**
BZK Bozkurt 86.35 11 *eP* **P** **04 43 28.4 +1.9**
ERIK Erikli-Kesan 86.43 17 *eP* **P** **04 43 28.7 +1.8**
TYRN Tyrnavos 86.48 21 P **P** **04 43 25.9 -1.3**
ISK Istanbul-Kandi 86.50 15 *eP* **P** **04 43 27.8 +0.6**
THL Klokotos Trika 86.57 21 P **P** **04 43 25.9 -1.7**
VAE Valguarnera 86.58 27 LR LR 05 23 37.4
comp=Z,31µm,18.2s,baz=1.0,slow=37
TETR Tetrakomo, Epi 86.61 22 P **P** **04 43 26.1 -1.9**
KEST Kesra 86.62 32 P **P** **04 43 27.9 -0.2**
comp=Z,2.8nm,1.0s,baz=126,slow=5.7,SNR=5.8
KEST LR LR 05 23 31.3
comp=Z,20µm,18.2s,baz=341,slow=37
comp=Z,2.8nm,1.0s
PB18 Visviri 86.68 123 P **P** **04 43 29.7 +0.8**
DIKM Dikmen 86.80 11 *eP* **P** **04 43 31.3 +2.6**
DIKM Dikmen 86.80 11 ⇑P **P** **04 43 29.8 +1.1**
KSH Kashi 86.82 340 P **P** **04 43 32.3 +3.2**
KSH sP pwP 04 43 39.6 +5.2
KSH S **S** **04 54 10.5 +3.6**
KSH pmax pmax
comp=Z,34nm,1.4s
KSH pmax pmax
comp=Z,1µm,5.2s
KSH LR LR
comp=Z,23µm,17.2s
AP01 Chacalluta 86.87 124 IAMs_20 IAMs_20 05 22 09.9
comp=Z,9µm,20.0s
ARMT Armutlu 86.95 16 *eP* **P** **04 43 32.2 +2.7**
EDC Edincik 86.99 16 *eP* **P** **04 43 31.1 +1.4**
LKD2 Lefkada island 87.00 22 P P 04 43 25.1 -4.7
TMAB Tom-Au,PA,Br 87.08 97 *eP* **P** **04 43 31.0 +0.6**
TMAB Tom-Au,PA,Br 87.08 97 *eP* **P** **04 43 29.9 -0.5**
TMAB Tom-Au,PA,Br 87.08 97 S **S** **04 54 11.6 +2.0**
MAKR Makrakomi, Fth 87.12 21 P **P** **04 43 28.2 -2.2**
EVR Evrytania 87.14 21 P **P** **04 43 30.9 +0.4**
EVGI Lefkada island 87.15 22 P **P** **04 43 30.7 +0.2**
AGG Agios Georgios 87.16 21 P **P** **04 43 28.6 -2.0**
ILGA Ilgaz 87.20 12 IAMs_20 IAMs_20 05 24 02.6
comp=Z,14µm,22.0s
EZN Ezine 87.22 18 P **P** **04 43 29.5 -1.2**
ADVT Abdulvahap 87.23 15 *eP* **P** **04 43 31.3 +0.5**
PB16 IPOC Station P 87.28 124 P **P** **04 43 31.6 -0.3**
PB16 IAmb IAmb 04 43 52.9
comp=Z,97nm,1.4s
FSK Fiskardo 87.29 22 P **P** **04 43 30.3 -0.8**
BTK Batken 87.32 344 IAMs_20 IAMs_20 05 26 50.0
comp=Z,13µm,19.0s
GULT Gulveren 87.35 14 *eP* P 04 43 39.6 +8.1
AOS Alonnisos 87.36 20 P **P** **04 43 30.5 -0.9**
PVO Paravola 87.36 22 P **P** **04 43 31.1 -0.4**
MDUB Mudurnu 87.42 14 *eP* **P** **04 43 32.5 +0.6**
KVT Kavak 87.45 10 *eP* **P** **04 43 33.3 +2.3**
CAVI Cavuskoy 87.47 15 *eP* **P** **04 43 33.4 +1.4**
ANX Ano Chora 87.48 21 P **P** **04 43 30.5 -1.7**
CANT Cankiri 87.63 12 *eP* **P** **04 43 34.0 +1.1**
EFP Efpalio 87.63 21 P **P** **04 43 30.9 -1.8**
SERG Sergoula 87.68 21 P **P** **04 43 30.9 -2.1**
DRK Karamyk 87.70 343 IAMs_20 IAMs_20 05 24 58.0
comp=Z,12µm,21.0s
KALE Kalithea 87.72 21 P **P** **04 43 31.5 -1.9**
AKH Akhalkalaki 87.72 4 *eP* P 04 43 39.9 +6.5
AXS Araxos 87.73 22 P **P** **04 43 31.5 -1.8**
AKT Akhty 87.79 1 *eP* **P** **04 43 34.4 +0.7**
AKT *e* 04 46 58.9
AKT *e*PPP PPP 04 48 57.1
AKT *e*S **SKSac** **04 54 01.4 -0.5**
AKT pmax pmax
comp=Z,47nm,1.2s
AKT MLR MLR
comp=Z,11µm,17.0s
CHOM Cayeli-Rize 87.87 7 *eP* **P** **04 43 35.5 +1.6**
RLS Riolos of Patr 87.88 22 P **P** **04 43 33.3 -0.7**
ESPY Espiye-Giresun 87.89 8 *eP* **P** **04 43 37.6 +3.6**
KYMI Kymi, Euboea I 87.92 20 P **P** **04 43 33.4 -0.8**
VILB Vilhena 88.05 113 P **P** **04 43 34.8 -0.2**
VILB Vilhena 88.05 113 *eP* **P** **04 43 34.9 -0.1**
VILB Vilhena 88.05 113 *eP* **P** **04 43 34.6 -0.4**
VILB Vilhena 88.05 113 P **P** **04 43 36.3 +1.2**
KLV Kalavryta, Ach 88.05 21 P **P** **04 43 33.4 -1.5**
DKL Dikili 88.06 17 *eP* P 04 43 39.6 +4.8
TVSB Tavsanli 88.14 15 *eP* **P** **04 43 38.2 +2.8**
CORM Corum 88.18 11 *eP* **P** **04 43 39.0 +3.4**
VILL Villia 88.20 20 P **P** **04 43 35.0 -0.6**
GUR Goura 88.20 21 P **P** **04 43 35.0 -0.7**
ANTO Ankara 88.24 13 *eP* **P** **04 43 37.4 +1.6**
ANTO Ankara 88.24 13 ⇑P **P** **04 43 36.1 +0.3**
ANTO Ankara 88.24 13 ⇑P **P** **04 43 36.1 +0.3**
ANTO Ankara 88.24 13 P **P** **04 43 36.2 +0.4**
ANTO S **S** **04 54 24.5 +4.1**
LTK Loutraki 88.26 21 P **P** **04 43 35.0 -0.9**
TOKT Tokat 88.26 10 *eP* **P** **04 43 37.6 +1.7**
RSDY Resadiye-TOKAT 88.27 9 *eP* **P** **04 43 36.7 +0.8**
GAR Garm 88.44 344 P **P** **04 43 36.2 -0.6**
SVRH Sivrihisar-ESK 88.47 14 *eP* **P** **04 43 34.6 -2.3**
KARS Kars 88.48 5 *eP* **P** **04 43 40.5 +3.5**
CIFT Cifteler, Eski 88.49 14 *eP* **P** **04 43 37.3 +0.3**
BR131 Keskin Array S 88.50 12 *eP* **P** **04 43 36.9 -0.2**
BR131 Keskin Array S 88.50 12 P **P** **04 43 36.0 -1.1**
BR131 IAmb IAmb 04 43 52.4
comp=Z,40nm,1.4s
BR131 Keskin Array S 88.50 12⇑*eP* **P** **04 43 36.9 -0.2**
BRTR Keskin Array B 88.50 12 P **P** **04 43 36.5 -0.6**
BRTR Keskin Array B 88.50 12 P **P** **04 43 36.7 -0.4**
comp=Z,1.9nm,0.8s,baz=351,slow=2.0,SNR=10
BRTR LR LR 05 24 34.0
comp=Z,8µm,21.7s,baz=347,slow=37
comp=Z,1.9nm,0.8s
BRTR Keskin Array B 88.50 12 P **P** **04 43 36.5 -0.6**
SENK Senkaya-Erzuru 88.51 5 *eP* **P** **04 43 38.7 +1.5**
GO01 Chusmiza 88.55 124 IAmb IAmb 04 43 58.7
comp=Z,39nm,0.7s
CHOS Chios island 88.56 18 *eP* **P** **04 43 39.3 +2.0**
URLA Izmir 88.69 18 *eP* **P** **04 43 38.2 +0.3**
SVSK Karacayir 88.71 10 *eP* **P** **04 43 40.5 +2.6**
BLCB Balcova 88.75 17 *eP* **P** **04 43 40.8 +2.7**
BLCB Balcova 88.75 17 P **P** **04 43 39.5 +1.4**
VLX Vlachokerasia 88.75 21 P **P** **04 43 39.7 +1.4**

SACV Santiago Islan 88.75 68 IAMs_20 IAMs_20 05 18 01.7
comp=Z,10µm,20.0s
ITM Ithomi 88.83 22 *eP* **P** **04 43 37.3 -1.2**
ITM Ithomi 88.83 22 P **P** **04 43 38.6 0.0**
KULA Kula-Manisa 88.92 16 *eP* P 04 43 44.7 +5.7
MANT Manisa 88.92 16 P **P** **04 43 38.2 -1.0**
MANT IAmb IAmb 04 43 54.0
comp=Z,56nm,1.2s
MANT IAMs_20 IAMs_20 05 24 54.2
comp=Z,17µm,20.0s
KOPT Kop Dagi 88.92 7 IAMs_20 IAMs_20 05 25 54.0
comp=Z,13µm,21.0s
PRPB Parauapebas 88.96 101 *eP* **P** **04 43 38.6 -0.8**
PRPB Parauapebas 88.96 101 P **P** **04 43 42.7 +3.3**
PRPB S **S** **04 54 27.4 -0.2**
CLDB Colider 88.99 109 P **P** **04 43 39.4 -0.1**
CLDB S **S** **04 54 28.9 +1.1**
PDRB Porto dos Gac 89.02 110 *eP* **P** **04 43 38.6 -1.0**
PDRB Porto dos Gac 89.02 110 *eP* **P** **04 43 38.6 -1.0**
PDRB Porto dos Gac 89.02 110 P **P** **04 43 41.2 +1.6**
PDRB S **S** **04 54 29.2 +1.1**
GNI Garni 89.04 4 *eP* P 04 43 44.7 +5.0
GNI Garni 89.04 4 LR LR 05 27 28.5
comp=Z,7µm,20.3s,baz=2.5,slow=38
GNI Garni 89.04 4⇑*eP* **P** **04 43 40.6 +0.9**
GNI pmax pmax
comp=Z,102nm,1.4s
GNI MLR MLR
comp=Z,8µm,17.0s
KOPR Koprukoy-ERZUR 89.05 6 *eP* **P** **04 43 43.5 +3.8**
SHUT Suhut-Afyon 89.20 15 *eP* **P** **04 43 41.1 +0.7**
AYDB Zeytinkoy-Aydi 89.33 17 *eP* **P** **04 43 42.3 +1.3**
VLI Veliai 89.50 21 P **P** **04 43 38.6 -3.1**
AGRB Hanur-Agry 89.53 5 *eP* **P** **04 43 44.7 +2.7**
BNN Bunyan 89.63 11 *eP* **P** **04 43 44.1 +1.7**
ARPR Arapgir-MALATY 89.66 9 IAMs_20 IAMs_20 05 27 53.5
comp=Z,11µm,18.0s
LADK Ladik-KONYA 89.82 13 *eP* **P** **04 43 43.6 +0.3**
BNGB Bingl 89.96 7 *eP* **P** **04 43 46.1 +2.2**
KTHA Kythira Island 89.97 21 *eP* **P** **04 43 47.0 +3.1**
KTHA Kythira Island 89.97 21 P P 04 43 38.6 -5.3
SULT Sultanhani-AKS 89.98 13 *eP* **P** **04 43 44.9 +0.9**
SIV San Ignacio 89.98 116 P **P** **04 43 43.8 -0.3**
comp=Z,4.6nm,0.8s,baz=304,slow=2.8,SNR=24
SIV PP **PP** **04 47 19.6 +2.3**
comp=Z,8.3nm,1.1s,baz=321,slow=8.9,SNR=3.8
SIV LR LR 05 29 04.9
comp=Z,6µm,19.2s,baz=357,slow=39
comp=Z,4.6nm,0.8s
CLDR Caldiran 90.00 4 *eP* **P** **04 43 43.5 -0.8**
APMY Acipayam-Deniz 90.04 16 *eP* **P** **04 43 48.2 +3.9**
KONT Konya--Tatoy 90.07 13 *eP* **P** **04 43 45.3 +0.9**
PZH PanZhiHua 90.07 315 P **P** **04 43 44.1 -0.6**
PZH PP **PP** **04 47 17.3 +0.2**
PZH SKS **SKSac** **04 54 13.3 -2.6**
PZH S **S** **04 54 36.6 -1.4**
PZH SS **SS** **05 00 33.7 -1.4**
PZH pmax pmax
comp=Z,20nm,1.3s
PZH pmax pmax
comp=Z,330nm,4.5s
PZH LR LR
comp=Z,9µm,17.3s
PZH LR LR
comp=Z,6µm,21.6s
PZH LR LR
comp=Z,14µm,20.7s
DARE Darende-Malaty 90.09 9 *eP* **P** **04 43 46.1 +1.6**
SARI SarD1z-Kayseri 90.14 10 *eP* **P** **04 43 45.3 +0.4**
RAO Raoul Island 90.24 220 LR LR 05 15 23.5
comp=Z,6µm,22.0s,baz=6.0,slow=30
TGY Tagaytay City 90.37 293 LR LR 05 24 34.4
comp=Z,2µm,18.3s,baz=44,slow=36
GURO Guroymak-BITLI 90.49 6 IAMs_20 IAMs_20 05 26 34.5
comp=Z,8µm,20.0s
VANB Van 90.53 5 *eP* **P** **04 43 50.1 +3.5**
PTLB Pontes e Lacer 90.66 114 P **P** **04 43 46.8 -0.3**
PTLB IAmb IAmb 04 44 01.0
comp=Z,88nm,1.4s
PTLB Pontes e Lacer 90.66 114 *eP* **P** **04 43 47.1 -0.1**
PTLB Pontes e Lacer 90.66 114 P **P** **04 43 48.3 +1.2**
PAL01 Palmeiras do T 90.72 100 S **S** **04 54 44.8 +0.9**
AKDM Akdamar-Van 90.77 5 *eP* P 04 43 53.2 +5.4
KMI Kunming 90.81 313 P **P** **04 43 47.8 -0.4**
KMI PP **PP** **04 47 24.8 +1.7**
KMI SKS **SKSac** **04 54 20.7 +0.3**
KMI S **S** **04 54 42.5 -2.6**
KMI pmax pmax
comp=Z,11nm,0.5s
KMI pmax pmax
comp=Z,250nm,6.1s
KMI LR LR
comp=Z,4µm,15.5s
KMI LR LR
comp=Z,14µm,20.7s
KMI LR LR
comp=Z,11µm,19.3s
ELL Elmali 90.85 16 *eP* **P** **04 43 49.7 +1.6**
PAL2 UHE Estreito - 90.95 99 P **P** **04 43 51.4 +2.7**
PAL2 S **S** **04 54 47.7 +1.7**
KOZT Kozan 90.99 11 *eP* **P** **04 43 49.7 +1.1**
HDMB Hadim 91.05 14 *eP* **P** **04 43 52.1 +2.9**
ARG Arkhangelos 91.05 17 IAMs_20 IAMs_20 05 24 13.7
comp=Z,9µm,22.0s
KMRS Kahramanmaras 91.08 10 *eP* **P** **04 43 49.7 +0.6**
JAY Jayapura 91.16 267 LR LR 05 19 19.4
comp=Z,6µm,19.0s,baz=24,slow=32
BBSD Serra de San D 91.21 116 *eP* **P** **04 43 48.6 -1.1**
IDI Anoyia 91.30 20 P **P** **04 43 47.6 -2.6**
IDI Anoyia 91.30 20 LR LR 05 28 39.1
comp=Z,8µm,19.1s,baz=342,slow=38
KOUNC **Koumac, New Ca 91.31 238** P P 04 43 55.2 +5.1
DZM Mont Dzumac 91.41 236 IAMs_20 IAMs_20 05 20 02.7
comp=Z,7µm,19.0s
DZM Mont Dzumac 91.41 236 *eP* **P** **04 43 54.0 +3.3**
comp=Z,66nm,1.6s
DZM Mont Dzumac 91.41 236 *ePP* **PP** **04 47 24.5 -4.2**
comp=Z,165nm,30.4s
DZM *e*S **S** **04 54 43.2 -6.7**
comp=Z,658nm,27.1s
DZM *e*SS **SS** **05 00 58.1 +1.9**
comp=Z,4µm,28.6s
DZM *e*LQ LQ 05 08 39.6
comp=Z,8µm,27.9s
DZM *e*LR LR 05 13 10.5
comp=Z,12µm,25.1s
DZM Mont Dzumac 91.41 236 LR LR 05 19 56.3
comp=Z,7µm,18.8s,baz=36,slow=32
DZM Mont Dzumac 91.41 236 P P 04 43 55.8 +5.1
OUENC **Ouen Island, N 91.49 235** P P 04 43 56.0 +5.1
KARP Karpathos 91.52 18 IAMs_20 IAMs_20 05 26 37.0
comp=Z,15µm,21.0s
LSA Lhasa 91.55 325 IAMs_20 IAMs_20 05 26 50.4
comp=Z,16µm,20.0s
LSA Lhasa 91.55 325 P P 04 43 46.5 -5.4
LSA LR LR
comp=Z,13µm,19.4s
LSA LR LR
comp=Z,15µm,19.8s
GVD Gavdhos 91.56 21 *eP* P 04 43 59.9 +8.6
SRNI Srinagar 92.27 339 *eP* **P** **04 43 55.8 +1.2**
SMTB Santa Maria do 92.42 101 *eP* **P** **04 43 53.9 -1.6**
SMTB Santa Maria do 92.42 101 S **S** **04 54 59.7 +0.4**
QIZ Qiongzhong 92.48 305 IAMs_20 IAMs_20 05 26 57.7
comp=Z,8µm,20.0s
QIZ Qiongzhong 92.48 305 P **P** **04 43 53.3 -2.5**
QIZ PP **PP** **04 47 40.7 +4.4**
QIZ SKS **SKSac** **04 54 27.3 -2.2**
QIZ S **S** **04 54 57.6 -2.3**
QIZ SS **SS** **05 01 11.2 +1.1**
QIZ LR LR
comp=Z,6µm,15.1s
QIZ LR LR
comp=Z,7µm,19.1s
ZIRO ZIRO 92.49 322 *eP* **P** **04 43 57.4 +1.5**
HNLY HANLEY 92.53 335⇑*eP* **P** **04 43 59.1 +2.6**
SNDB Serra Nova Dou 92.57 106 *eP* **P** **04 43 55.5 -0.6**
TNCH TengChong 92.77 317 ⇑P **P** **04 43 56.6 -0.7**
TNCH pP pP 04 43 58.9 -0.9
TNCH sP sP 04 44 00.5 -0.3
TNCH PP **PP** **04 47 37.1 -1.4**
TNCH S S 04 54 52.9 -10
TNCH SS **SS** **05 01 11.9 -2.2**
TNCH pmax pmax
comp=Z,19nm,0.9s
TNCH pmax pmax
comp=Z,180nm,2.8s
TNCH LR LR
comp=Z,6µm,21.2s
TNCH LR LR
comp=Z,9µm,21.8s
TNCH LR LR
comp=Z,5µm,26.0s
KBL Kabul 93.00 344 P **P** **04 43 57.5 -0.8**
KBL IAmb IAmb 04 44 16.5
comp=Z,46nm,1.4s
KBL Kabul 93.00 344 P **P** **04 43 57.5 -0.8**
KBL pmax pmax
comp=Z,47nm,1.4s
KBU Kabul Universi 93.01 344 P **P** **04 43 57.8 -0.5**
SALV Santo Antonio 93.02 112 *eP* **P** **04 43 56.7 -1.4**
SALV Santo Antonio 93.02 112 S **S** **04 55 04.4 +0.1**
BBTS Babate 93.04 62 LR LR 05 22 01.0
comp=Z,16µm,21.1s,baz=198,slow=33
NIL Nilore 93.05 340 P **P** **04 43 57.8 -0.4**
NIL Nilore 93.05 340 IAMs_20 IAMs_20 05 31 20.8
comp=Z,9µm,19.0s
NIL Nilore 93.05 340 P **P** **04 43 57.8 -0.4**
NIL pmax pmax
comp=Z,108nm,1.5s
CSS Mathiatis 93.14 13 *eP* **P** **04 43 59.0 +0.4**
CSS Mathiatis 93.14 13 IAMs_20 IAMs_20 05 28 56.7
comp=Z,11µm,20.0s
DAV Davao City (W) 93.17 285 LR LR 05 16 52.7
comp=Z,6µm,21.9s,baz=60,slow=30
TAWA Tawang 93.19 323 *eP* **P** **04 44 00.7 +1.3**
SLVN Son La 93.51 311 IAMs_20 IAMs_20 05 31 19.6
comp=Z,10µm,19.0s
JMU Jammu 93.59 339 *eP* **P** **04 44 01.8 +1.1**
THN Thein Dam 93.67 338 *eP* **P** **04 44 02.5 +1.4**
DHRM DHARAMSHALA 93.70 337 *eP* **P** **04 44 04.0 +2.5**
DHRM IAmb IAmb 04 44 27.2
comp=Z,74nm,1.5s
TEZP TEZPUR 93.71 322 *eP* **P** **04 44 02.8 +1.4**
KLP Kalpa 93.90 336 *eP* **P** **04 44 03.8 +1.3**
KOHI KOHIMA 94.00 321 *eP* **P** **04 44 03.8 +0.9**
JOSI Joshimath 94.47 334⇑*eP* **P** **04 44 06.5 +1.5**
SMLA Simla 94.56 336 *eP* **P** **04 44 05.4 +0.3**
SMLA IAmb IAmb 04 44 13.2
comp=Z,73nm,1.3s
GTK Tadong 94.64 326 *eP* **P** **04 44 09.4 +3.7**
GTK IAmb IAmb 04 44 22.9
comp=Z,36nm,1.0s
IMP Imphal 94.86 320 *eP* **P** **04 44 07.4 +0.6**
IMP IAmb IAmb 04 44 21.8
comp=Z,14nm,1.2s
SHL Shillong 95.01 322 *eP* **P** **04 44 08.7 +1.1**
SHL IAmb IAmb 04 44 24.8
comp=Z,12nm,1.0s
DDI Dehra Dun 95.10 335 *eP* **P** **04 44 08.6 +0.9**
DDI IAmb IAmb 04 44 44.0
comp=Z,532nm,6.7s
SSV2 Sao Salvador 95.13 104 P **P** **04 44 07.1 -0.7**
PTH Pithoragarh 95.24 333 *eP* **P** **04 44 09.3 +0.7**
MMAI Mount Meron Ar 95.34 12 LR LR 05 30 41.8
comp=Z,4µm,20.1s,baz=333,slow=38
LCO Las Campanas 95.56 130 IAMs_20 IAMs_20 05 24 25.4
comp=Z,7µm,19.0s
BDQN Bodoquena, MS 96.00 115 *eP* **P** **04 44 11.7 0.0**
CO05 La Serena 96.06 131 IAMs_20 IAMs_20 05 25 15.7
comp=Z,10µm,18.0s
AZL Aizawl 96.34 321 *eP* **P** **04 44 13.6 +0.1**
ASF Jabal al Asfar 96.35 11 LR LR 05 32 17.2
comp=Z,7µm,18.6s,baz=24,slow=38
MURT Porto Murtinho 96.46 117 *eP* **P** **04 44 13.4 -0.3**
GO04 Tololo Observa 96.48 131 IAMs_20 IAMs_20 05 24 43.8
comp=Z,8µm,20.0s
GNR GANAUR 96.50 336⇑*eP* **P** **04 44 15.3 +1.3**
SRGN SRI GANGA NAGA 96.50 339 *eP* **P** **04 44 16.6 +2.5**
CO06 Fray Jorge 96.51 132 IAMs_20 IAMs_20 05 24 42.5
comp=Z,11µm,19.0s
AQDB Aquidauana 96.62 114 IAMs_20 IAMs_20 05 29 49.5
comp=Z,9µm,21.0s
CO01 Juntas del Tor 96.66 131 IAMs_20 IAMs_20 05 25 10.4
comp=Z,9µm,20.0s
ASOR Ausora 96.66 335 *eP* **P** **04 44 16.4 +1.6**
SDBA SAO DESIDERIO 96.82 101 *eP* **P** **04 44 15.0 -0.6**
SDBA SAO DESIDERIO 96.82 101 S **S** **04 55 36.2 -1.6**
NDI New Delhi 96.88 336 *eP* **P** **04 44 17.0 +1.2**
TAM Tamanrasset 96.89 40 IAMs_20 IAMs_20 05 29 50.9
comp=Z,7µm,18.0s
NPLP NPLP New Delhi 96.93 336 *eP* **P** **04 44 18.2 +2.2**
JMIU JAMIA UNIVERSI 96.96 336 *eP* **P** **04 44 17.6 +1.4**
LDR Lodi Road 96.97 336 *eP* **P** **04 44 18.0 +1.8**
AYAN Aya Nagar 97.09 336⇑*eP* Pdif 04 44 18.9 +2.1
CO03 El Pedregal 97.09 131 IAMs_20 IAMs_20 05 25 56.9
comp=Z,10µm,18.0s
CO02 Combarbal 97.25 132 IAMs_20 IAMs_20 05 26 01.1
comp=Z,11µm,19.0s
BDFB Brasilia 97.41 106 LR LR 05 31 56.5
comp=Z,9µm,18.4s,baz=328,slow=38
RCBR Riachuelo 97.41 90 IAMs_20 IAMs_20 05 23 28.6
comp=Z,13µm,20.0s
RCBR Riachuelo 97.41 90 LR LR 05 26 10.4
comp=Z,4µm,19.4s,baz=328,slow=34
KUDL Kundal 97.58 336 *eP* Pdif 04 44 21.5 +2.6
BRDH Bariadhala 97.70 321 LR LR 05 32 30.2
comp=Z,17µm,19.7s,baz=34,slow=38
CMAR Chiang Mai Arr 98.32 313 P **P** **04 44 21.7 -0.7**
CMAR Chiang Mai Arr 98.32 313 P Pdif 04 44 22.6 +0.2
comp=Z,2.4nm,0.7s,baz=7.2,slow=5.2,SNR=9.6
CMAR LR LR 05 31 17.2
comp=Z,6µm,19.6s,baz=25,slow=37
comp=Z,2.4nm,0.7s
CMAR Chiang Mai Arr 98.32 313 P **P** **04 44 21.7 -0.7**
VA01 Torpederas 98.47 133 IAMs_20 IAMs_20 05 25 29.7
comp=Z,10µm,20.0s
BKNR BIKANER 98.47 339 *eP* Pdif 04 44 25.1 +2.1
VA03 San Esteban 98.76 132 IAMs_20 IAMs_20 05 27 13.3
comp=Z,11µm,19.0s
MT02 Curacav 98.90 133 IAMs_20 IAMs_20 05 25 44.0
comp=Z,9µm,20.0s
OUZ Omahuta 98.97 223 IAMs_20 IAMs_20 05 18 38.3
comp=Z,14µm,22.0s
PEL Peldehue 99.01 133 IAMs_20 IAMs_20 05 26 27.1
comp=Z,9µm,20.0s
VA05 Santo Domingo 99.01 134 IAMs_20 IAMs_20 05 25 36.0
comp=Z,9µm,21.0s
MXZ Matakaoa Point 99.03 219 IAMs_20 IAMs_20 05 24 31.9
comp=Z,9µm,20.0s
BNDA BANDA 99.04 332⇑*eP* **Pdif** **04 44 26.4 +0.9**
MT05 Renca 99.19 133 IAMs_20 IAMs_20 05 26 02.8
comp=Z,9µm,20.0s
MT16 CCHEN 99.32 133 IAMs_20 IAMs_20 05 26 46.2
comp=Z,9µm,20.0s
MT01 Popeta 99.35 134 IAMs_20 IAMs_20 05 26 37.0
comp=Z,8µm,20.0s
MT03 Universidad Ad 99.38 133 IAMs_20 IAMs_20 05 26 47.8
comp=Z,9µm,20.0s
MT09 Talagante 99.40 133 IAMs_20 IAMs_20 05 26 38.2
comp=Z,9µm,21.0s
JHNI Jhansi 99.57 334⇑*eP* **Pdif** **04 44 28.9 +1.0**
MT08 Bocatoma Ro 99.57 132 IAMs_20 IAMs_20 05 27 05.8
comp=Z,10µm,20.0s
BO04 La Punta 99.75 133 IAMs_20 IAMs_20 05 26 58.5
comp=Z,9µm,20.0s
LMEL Las Melosas 99.82 133 IAMs_20 IAMs_20 05 26 14.3
comp=Z,8µm,20.0s
BO01 Tunca 99.87 134 IAMs_20 IAMs_20 05 26 52.7
comp=Z,8µm,21.0s
TOZ Tahuroa Road 100.30 221 IAMs_20 IAMs_20 05 21 57.6
comp=Z,10µm,21.0s
BO02 Sierra Bellavi 100.34 134 IAMs_20 IAMs_20 05 27 18.1
comp=Z,8µm,19.0s
RTZ Ruatahuna 100.46 219 IAMs_20 IAMs_20 05 22 24.9
comp=Z,10µm,20.0s
ML02 Panimavida 100.86 135 IAMs_20 IAMs_20 05 26 44.9
comp=Z,8µm,20.0s
BI05 Punta Hualpn 100.90 136 IAMs_20 IAMs_20 05 26 54.1
comp=Z,8µm,19.0s
BKZ Black Stump Fm 101.13 219 IAMs_20 IAMs_20 05 22 36.5
comp=Z,9µm,21.0s
HIZ Hauiti 101.23 221 IAMs_20 IAMs_20 05 21 46.3
comp=Z,8µm,21.0s
BI02 San Fabin de 101.67 135 IAMs_20 IAMs_20 05 28 25.5
comp=Z,8µm,19.0s
BFZ Birch Farm 102.52 219 IAMs_20 IAMs_20 05 26 49.4
comp=Z,10µm,20.0s
CTZ Chatham Island 102.57 212 IAMs_20 IAMs_20 05 21 51.8
comp=Z,11µm,20.0s

MRZ	**Mangatainoka R**	**102.77**	**219**	IAMs_20	IAMs_20	05 23 38.0		
	comp=Z,9μm,20.0s							
LHI	**Lord Howe Isla**	**102.89**	**236**	IAMs_20	IAMs_20	05 25 51.8		
	comp=Z,7μm,18.0s							
LR04	**Corral**	**103.43**	**138**	IAMs_20	IAMs_20	05 30 11.0		
	comp=Z,6μm,18.0s							
SNZO	**South Karori**	**103.67**	**219**	IAMs_20	IAMs_20	05 23 55.8		
	comp=Z,8μm,20.0s							
LR03	**Panguipulli**	**103.67**	**138**	IAMs_20	IAMs_20	05 29 29.6		
	comp=Z,7μm,18.0s							
VAO	**Valinhos**	**103.68**	**110**	IAMs_20	IAMs_20	05 34 41.4		
	comp=Z,12μm,22.0s							
SPB	**Sao Paulo**	**103.85**	**110**	IAMs_20	IAMs_20	05 36 18.1		
	comp=Z,10μm,19.0s							
ITAB	**Concordia**	**103.91**	**116**	IAMs_20	IAMs_20	05 34 58.0		
	comp=Z,9μm,21.0s							
UOSS	**Minazif**	**104.06**	**354**	IAMs_20	IAMs_20	05 38 40.7		
	comp=Z,7μm,21.0s							
NNZ	**Nelson**	**104.12**	**220**	IAMs_20	IAMs_20	05 23 20.8		
	comp=Z,9μm,21.0s							
QRZ	**Quartz Range**	**104.15**	**221**	IAMs_20	IAMs_20	05 23 04.3		
	comp=Z,11μm,21.0s							
LR05	**Currie**	**104.32**	**138**	IAMs_20	IAMs_20	05 29 31.6		
	comp=Z,8μm,19.0s							
THZ	**Tophouse**	**104.78**	**220**	IAMs_20	IAMs_20	05 23 39.1		
	comp=Z,11μm,21.0s							
KHZ	**Kahutara**	**105.07**	**219**	IAMs_20	IAMs_20	05 23 34.8		
	comp=Z,8μm,20.0s							
DSZ	**Denniston Nort**	**105.21**	**221**	IAMs_20	IAMs_20	05 23 43.6		
	comp=Z,9μm,20.0s							
RAYN	**Ar Rayn**	**105.63**	**4**	IAMs_20	IAMs_20	05 38 24.2		
	comp=Z,8μm,22.0s							
LL07	**Hotel Espejo d**	**105.87**	**140**	IAMs_20	IAMs_20	05 28 07.9		
	comp=Z,6μm,19.0s							
LTZ	**Lake Taylor**	**105.89**	**220**	IAMs_20	IAMs_20	05 24 10.4		
	comp=Z,13μm,22.0s							
GO07	**Milladeo Hill,**	**106.03**	**140**	IAMs_20	IAMs_20	05 28 13.1		
	comp=Z,8μm,20.0s							
ARMA	**Armidale**	**106.03**	**241**	IAMs_20	IAMs_20	05 25 29.6		
	comp=Z,7μm,20.0s							
INZ	**Inchbonnie**	**106.18**	**221**	IAMs_20	IAMs_20	05 23 34.1		
	comp=Z,9μm,22.0s							
OXZ	**Oxford**	**106.43**	**220**	IAMs_20	IAMs_20	05 26 12.9		
	comp=Z,10μm,20.0s							
MQZ	**McQueen's Vall**	**106.50**	**219**	IAMs_20	IAMs_20	05 25 44.8		
	comp=Z,9μm,20.0s							
SRIT	**Nakonsritamara**	**106.53**	**308**	IAMs_20	IAMs_20	05 40 33.5		
	comp=Z,7μm,20.0s							
TRQA	**Tornquist**	**107.13**	**130**	IAMs_20	IAMs_20	05 31 51.7		
	comp=Z,10μm,19.0s							
RPZ	**Rata Peaks**	**107.16**	**220**	IAMs_20	IAMs_20	05 24 48.0		
	comp=Z,12μm,22.0s							
HYB	**Hyderabad**	**107.17**	**331**	*e*PP	**PP**	**04 49 27.5**	**-0.1**	
HYB				IVMs_BB	IVMs_BB	05 38 33.7		
	comp=Z,3μm,23.7s							
FOZ	**Fox Glacier**	**107.52**	**221**	IAMs_20	IAMs_20	05 26 47.5		
	comp=Z,8μm,20.0s							
LBZ	**Lake Benmore**	**108.06**	**220**	IAMs_20	IAMs_20	05 24 16.1		
	comp=Z,12μm,22.0s							
WRAB	**Tennant Creek**	**108.42**	**261**	IAMs_20	IAMs_20	05 27 40.3		
	comp=Z,7μm,21.0s							
ODZ	**Otahua Downs**	**108.42**	**220**	IAMs_20	IAMs_20	05 25 18.4		
	comp=Z,10μm,21.0s							
WRA	**Warramunga Arr**	**108.43**	**261**	PP	**PP**	**04 49 40.7**	**+2.7**	
	comp=Z,1.2nm,1.0s,baz=37,slow=7.1,SNR=5.4							
WKZ	**Wanaka**	**108.90**	**221**	IAMs_20	IAMs_20	05 32 47.3		
	comp=Z,8μm,19.0s							
IPM	**Ipoh**	**109.31**	**304**	IAMs_20	IAMs_20	05 37 10.6		
	comp=Z,8μm,19.0s							
MLZ	**Mavora Lakes**	**109.71**	**221**	IAMs_20	IAMs_20	05 32 17.7		
	comp=Z,7μm,19.0s							
DCZ	**Deep Cove**	**110.19**	**222**	IAMs_20	IAMs_20	05 26 02.4		
	comp=Z,8μm,22.0s							
WHZ	**Wether Hill Ro**	**110.21**	**221**	IAMs_20	IAMs_20	05 28 38.8		
	comp=Z,8μm,20.0s							
LHMI	**Lhok Sumawe**	**110.74**	**308**	IAMs_20	IAMs_20	05 44 33.1		
	comp=Z,7μm,19.0s							
PYZ	**Puysegur Point**	**110.95**	**221**	IAMs_20	IAMs_20	05 26 11.7		
	comp=Z,8μm,20.0s							
CAN	**Canberra**	**111.18**	**240**	IAMs_20	IAMs_20	05 28 09.0		
	comp=Z,6μm,20.0s							
ASAR	**Alice Springs**	**111.46**	**259**	PKiKP	**PKiKP**	**04 49 20.4**	**+1.6**	
	comp=Z,1.3nm,0.9s,baz=19,slow=3.1,SNR=5.7							
ASAR				PKKPbc	**PKKPab**	**05 00 20.6**	**-1.0**	
	comp=Z,2.1nm,1.1s,baz=206,slow=3.8,SNR=6.3							
RPSI	**Rantau Prapat**	**111.91**	**305**	IAMs_20	IAMs_20	05 43 33.6		
	comp=Z,5μm,18.0s							
ASCN	**Ascension**	**112.45**	**74**	IAMs_20	IAMs_20	05 31 52.7		
	comp=Z,10μm,20.0s							
BKNI	**Bangkinang**	**112.80**	**302**	IAMs_20	IAMs_20	05 43 11.4		
	comp=Z,7μm,20.0s							
GSI	**Gunungsitoli**	**113.79**	**306**	IAMs_20	IAMs_20	05 43 51.2		
	comp=Z,8μm,19.0s							
MG02	**Cerro Sombrero**	**115.64**	**144**	IAMs_20	IAMs_20	05 34 25.2		
	comp=Z,5μm,18.0s							
PALK	**Pallekele**	**115.93**	**325**	IAMs_20	IAMs_20	05 41 22.9		
	comp=Z,7μm,22.0s							
TAU	**Tasmania Unive**	**117.59**	**235**	IAMs_20	IAMs_20	05 33 47.9		
	comp=Z,5μm,18.0s							
EFI	**East Falkland**	**119.28**	**137**	IAMs_20	IAMs_20	05 38 49.5		
	comp=Z,7μm,20.0s							
FURI	**Furi**	**119.53**	**12**	IAMs_20	IAMs_20	05 47 15.6		
	comp=Z,6μm,19.0s							
SHEL	**Horse Pasture**	**123.93**	**72**	IAMs_20	IAMs_20	05 37 14.8		
	comp=Z,5μm,19.0s							
LODK	**Lodwar**	**124.36**	**17**	IAMs_20	IAMs_20	05 47 53.3		
	comp=Z,8μm,20.0s							
MBAR	**Mbarara**	**127.25**	**24**	IAMs_20	IAMs_20	05 48 21.1		
	comp=Z,8μm,19.0s							
KMBO	**Kilima Mbogo**	**129.15**	**16**	IAMs_20	IAMs_20	05 52 01.0		
	comp=Z,5μm,19.0s							
KIBK	**Kibwezi**	**130.47**	**15**	PP	PP	04 52 07.5	-1.2	
KIBK	**Kibwezi**	**130.47**	**15**	IAMs_20	IAMs_20	05 52 28.5		
	comp=Z,6μm,19.0s							
HOPE	**Hope Point**	**130.91**	**129**	IAMs_20	IAMs_20	05 47 48.8		
	comp=Z,9μm,21.0s							
MSEY	**Mahe Island**	**133.46**	**352**	IAMs_20	IAMs_20	05 55 56.1		
	comp=Z,4μm,19.0s							
SBA	**Scott Base**	**134.21**	**195**	IAMs_20	IAMs_20	05 37 19.1		
	comp=Z,9μm,20.0s							
VNDA	**Vanda**	**134.85**	**196**	PKP	**PKPdf**	**04 50 02.5**	**+0.7**	
	comp=Z,2.2nm,1.0s,baz=178,slow=1.3,SNR=8.3							
TSUM	**Tsumeb**	**139.44**	**50**	IAMs_20	IAMs_20	05 46 35.6		
	comp=Z,9μm,22.0s							
QSPA	**South Pole Qui**	**140.90**	**180**	PKhKP	PKPpre	04 50 07.0		
	comp=Z,2.8nm,0.9s,baz=269,slow=1.4,SNR=13							
WIN	**Windhoek**	**142.04**	**54**	IAMs_20	IAMs_20	05 52 39.7		
	comp=Z,7μm,19.0s							
KGCAE	**Kacgae**	**144.76**	**47**		**PKPdf**	**04 50 21.2**	**-0.3**	
KGCAE	**Kacgae**	**144.76**	**47**	*i* P	**PKPab**	**04 50 19.7**	**-0.6**	
LKGWB	**Lokgwabe**	**145.37**	**50**	*i* P	**PKPbc**	**04 50 22.2**	**-0.2**	
BROLN	**Tlhalogang**	**145.41**	**38**	*i* P	**PKPbc**	**04 50 21.6**	**-1.0**	
KDWAN	**Kaudwane**	**146.33**	**44**	PKPdf	**PKPdf**	**04 50 23.8**	**-0.4**	
KDWAN	**Kaudwane**	**146.33**	**44**	*i* P	**PKPdf**	**04 50 24.7**	**+0.5**	
CASY	**Casey**	**146.43**	**220**		**PKPbc**	**04 50 23.9**	**-0.3**	
CASY	**Casey**	**146.43**	**220**	IAMs_20	IAMs_20	05 51 33.6		
	comp=Z,7μm,19.0s							
MREMI	**Moremi**	**146.77**	**39**	*i* P	**PKPab**	**04 50 28.6**	**+0.8**	
LPHEP	**Lephephe**	**146.83**	**42**	*i* P	**PKPbc**	**04 50 26.8**	**-0.1**	
SKOMA	**Sekoma**	**146.99**	**46**	*i* P	**PKPbc**	**04 50 27.7**	**+0.5**	
VNA3	**Neumayer Olymp**	**147.04**	**149**	⇑P	**PKPdf**	**04 50 24.8**	**+1.0**	
	comp=Z,71nm,0.7s							
VNA1	**Neumayer--Stat**	**147.56**	**148**	⇑P	**PKPbc**	**04 50 26.9**	**-0.4**	
	comp=Z,39nm,0.8s							
VNA2	**Neumayer--Watz**	**147.81**	**149**	⇑P	**PKPbc**	**04 50 27.7**	**-0.3**	
	comp=Z,35nm,0.7s,baz=326,slow=1.3							
ABPO	**Ambohimpanom**	**147.94**	**4**	IAMs_20	IAMs_20	06 01 44.4		
	comp=Z,7μm,21.0s							
LBTB	**Lobatse**	**148.16**	**44**	PKPdf	**PKPdf**	**04 50 26.7**	**-0.5**	
LBTB	**Lobatse**	**148.16**	**44**	PKiKP	**PKPdf**	**04 50 26.7**	**-0.5**	
MAKGR	**Makgori**	**148.50**	**46**	PKPdf	**PKPdf**	**04 50 27.5**	**-0.3**	
SNAA	**Sanae**	**149.12**	**151**	⇑P	**PKPdf**	**04 50 27.3**	**0.0**	
	comp=Z,401nm,0.8s							
SNAA	**Sanae**	**149.12**	**151**		**PKPdf**	**04 50 27.5**	**+0.3**	
SNAA				IAMs_20	IAMs_20	05 58 03.4		
	comp=Z,6μm,22.0s							
SNAA	**Sanae**	**149.12**	**151**	PKP	**PKPdf**	**04 50 27.3**	**0.0**	
	comp=Z,5.3nm,0.9s,baz=152,slow=0.2,SNR=12							
SNAA				PKPbc	**PKPbc**	**04 50 32.2**	**+0.8**	
	comp=Z,15nm,0.8s,baz=208,slow=2.2,SNR=22							
TROLL	**Troll, Antarti**	**150.63**	**152**	⇑P	**PKPdf**	**04 50 30.0**	**+0.3**	
	comp=Z,2μm,1.1s							
BOSA	**Boshof**	**151.09**	**48**	PKPdf	**PKPdf**	**04 50 31.1**	**-0.6**	
BOSA	**Boshof**	**151.09**	**48**	PKP	**PKPdf**	**04 50 32.4**	**+0.6**	
	comp=Z,13nm,0.9s,baz=330,slow=1.5,SNR=7.0							
BOSA				PKPbc	**PKPbc**	**04 50 37.8**	**+0.2**	
	comp=Z,17nm,0.8s,baz=335,slow=3.7,SNR=11							
BOSA	**Boshof**	**151.09**	**48**	PKIKP	**PKPdf**	**04 50 31.2**	**-0.6**	
FOMA	**Nahampoana Res**	**153.85**	**5**	IAMs_20	IAMs_20	06 01 51.9		
	comp=Z,8μm,22.0s							
SYO	**Syowa Base**	**161.41**	**169**	⇓*e*PKPdf	**PKPdf**	**04 50 42.2**	**-1.5**	
SYO	**Syowa Base**	**161.41**	**169**	⇑*e*PKPab	**PKPab**	**04 51 28.8**	**+0.6**	
SYO	**Syowa Base**	**161.41**	**169**	⇑*es*PKPab	sPKPab	04 51 35.6	+4.0	
MAW	**Mawson**	**162.16**	**197**	PKP	**PKPdf**	**04 50 45.6**	**+1.1**	
	comp=Z,4.4nm,0.9s,baz=352,slow=5.8,SNR=3.5							
MAW				PKPab	**PKPab**	**04 51 32.6**	**+1.1**	
	comp=Z,2.6nm,0.8s,baz=317,slow=4.5,SNR=4.3							

*NEIC **04** 04:35:12.4±0.8, 19°.4N±0°.2×155°.26W±0°.08, h35km±2km, Error ellipse: s-maj=27.3km s-min=13.3km az=174.0*
HVO 04 04:35:13.6±0.4,**19°.4N**±0°.2×**155°.2W**±0°.1,**h30**km±3km,
ML3.8/38,**ML4.2**/46(NEIC),**Error ellipse: s-maj=23.4km s-min=12.0km az=159.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUH	**Pauahi**	**0.02**	**110**		Pb	04 35 18.4	-0.3
PUH					Sb	04 35 21.8	-0.5
KKO	**Keanakako'i**	**0.04**	**300**		Pb	04 35 18.4	-0.5
KKO					Sb	04 35 22.1	-0.3
BYL	**Byron's Ledge**	**0.04**	**321**		Pb	04 35 18.4	-0.5
BYL					Sb	04 35 21.8	-0.7
BYL				IAML		04 35 22.3	
	comp=N,24μm,0.3s						
BYL				IAML		04 35 22.7	
	comp=E,24μm,0.8s						
RIM	**Rim**	**0.04**	**292**		Pb	04 35 18.4	-0.5
RIM					Sb	04 35 21.9	-0.5
HATHI	**Halema'uma'u T**	**0.05**	**328**		Pb	04 35 18.3	-0.6
SBLHI	**Steaming Bluff**	**0.06**	**324**		Pb	04 35 18.3	-0.6
SBLHI					Sb	04 35 21.9	-0.6
KNHH	**Kane Nui o Ham**	**0.06**	**90**		Pb	04 35 18.5	-0.4
SDHHI	**Sand Hill**	**0.06**	**280**		Pb	04 35 18.4	-0.5
SDHHI					Sb	04 35 22.1	-0.4
OBL	**Observatory Le**	**0.06**	**308**		Pb	04 35 18.3	-0.6
OBL					Sb	04 35 21.8	-0.7
UWB	**Uwekahuna Bluf**	**0.06**	**316**		Pb	04 35 18.2	-0.7
UWB					Sb	04 35 21.8	-0.8
WRMHI	**West Rim**	**0.07**	**293**		Pb	04 35 18.4	-0.6
WRMHI					Sb	04 35 21.9	-0.7
UWE	**Uwekahuna**	**0.07**	**306**		Pb	04 35 18.4	-0.6
UWE				IAML		04 35 22.5	
	comp=N,23μm,0.4s						
RSD	**Rainshed**	**0.09**	**332**		Sb	04 35 22.5	-0.4
RSD	**Rainshed**	**0.09**	**332**	Pg	Pb	04 35 20.8	+1.7
STCH	**Steam Cracks**	**0.10**	**87**		Pb	04 35 18.6	-0.5
STCH				IAML		04 35 22.4	
	comp=N,43μm,0.2s						
HLP	**Hilina Pali**	**0.11**	**221**		Pb	04 35 18.8	-0.3
HLP					Sb	04 35 22.5	-0.3
NPOC	**North of Pu'u**	**0.12**	**83**		Pb	04 35 18.7	-0.5
NPOC					Sb	04 35 22.2	-0.7
JCUZ	**Jacuzzi**	**0.12**	**88**		Pb	04 35 18.8	-0.5
JCUZ					Sb	04 35 22.5	-0.5
MLH	**Mauna Loa**	**0.18**	**308**		Pb	04 35 19.5	-0.5
MLH					Sb	04 35 23.9	-0.3
MLH	**Mauna Loa**	**0.18**	**308**	IAML		04 35 24.1	
	comp=E,8μm,0.3s						
MLH				IAML		04 35 24.4	
	comp=N,18μm,0.6s						
HTC	**Hot Caves**	**0.21**	**228**		Pb	04 35 19.6	-0.3
HTC					Sb	04 35 23.8	-0.5
AIN	**Ainahou**	**0.21**	**268**		Pb	04 35 19.7	-0.4
AIN					Sb	04 35 24.3	-0.3
AIN	**Ainahou**	**0.21**	**268**	IAML		04 35 24.8	
	comp=E,49μm,0.4s						
AIN				IAML		04 35 25.2	
	comp=N,24μm,0.3s						
JOKA	**Jonika Flow**	**0.22**	**76**		Pb	04 35 19.4	-0.7
HMH	**Humu'ula Sheep**	**0.33**	**313**		Pb	04 35 21.1	-0.6
HMH				IAML		04 35 26.9	
	comp=E,30μm,0.6s						
HMH	**Humu'ula Sheep**	**0.33**	**313**		Sb	04 35 26.7	-0.5
MWH	**Mokuaweoweo**	**0.36**	**287**		Pb	04 35 21.2	-1.2
MWH					Sb	04 35 27.2	-1.1
MWH	**Mokuaweoweo**	**0.36**	**287**	IAML		04 35 27.5	
	comp=N,13μm,0.8s						
MWH				IAML		04 35 29.6	
	comp=E,12μm,0.8s						
KHU	**Kahuku**	**0.39**	**250**		Pb	04 35 21.2	-1.3
KHU					Sb	04 35 27.0	-1.5
KHU	**Kahuku**	**0.39**	**250**	IAML		04 35 27.1	
	comp=N,19μm,0.4s						
KHU				IAML		04 35 27.2	
	comp=E,32μm,0.5s						
HPO	**Honuapo**	**0.42**	**227**		Pb	04 35 21.5	-1.3
ALEP	**Alea Permanent**	**0.42**	**293**		Pb	04 35 21.7	-1.4
ALEP					Sb	04 35 27.7	-1.8
POHA	**Pohakuloa**	**0.47**	**323**		Pb	04 35 22.5	-1.3
POHA				IAML		04 35 29.7	
	comp=E,13μm,0.5s						
POHA				IAML		04 35 29.8	
	comp=E,19μm,0.7s						
HUH	**Hualalai**	**0.65**	**298**		Pb	04 35 25.0	-1.6
HUH					Pn	04 35 32.9	+5.9
HUH	**Hualalai**	**0.65**	**298**	IAML		04 35 45.0	
	comp=N,13μm,0.5s						
CPH	**Captain Cook**	**0.66**	**280**		Pb	04 35 24.4	-2.3
HPAH	**Hawaii Prepara**	**0.78**	**326**		Pn	04 35 26.3	-2.4
HPAH					Sb	04 35 35.4	-3.7
HPAH	**Hawaii Prepara**	**0.78**	**326**	IAML		04 35 35.7	
	comp=N,11μm,0.1s						
HPAH				IAML		04 35 35.8	
	comp=E,15μm,0.1s						
KKH	**Kailua Kona**	**0.79**	**291**		Pn	04 35 26.1	-2.6
KKH					Sb	04 35 35.7	-3.6
MHA	**Mahukona**	**1.02**	**322**		Pn	04 35 29.8	-2.1
MHA					Sn	04 35 41.6	-3.7
HLK	**Haleakala**	**1.67**	**325**		Pn	04 35 38.6	-2.5
HLK					Sn	04 35 56.1	-5.6
KHLH	**Kahului Airpor**	**1.88**	**324**		Pn	04 35 41.9	-1.8
KHLH					Sn	04 36 02.3	-4.2
WMR	**Waimanalo Ridg**	**3.00**	**310**		Pn	04 35 56.2	-3.0
WMR					Sn	04 36 28.0	-6.2
DHH	**Diamond Head**	**3.05**	**308**		Pn	04 35 56.8	-3.1
DHH					Sn	04 36 29.2	-6.2
HON	**Honolulu**	**3.24**	**307**		Pn	04 35 59.4	-3.0
HON					Sn	04 36 34.4	-5.7
KIP	**Kipapa**	**3.31**	**308**		Pn	04 36 00.5	-2.9
KIP	**Kipapa**	**3.31**	**308**		Sn	04 36 35.1	-6.7
KIP	**Kipapa**	**3.31**	**308**	IAML		04 36 39.3	
	comp=E,665nm,0.6s						
KIP				IAML		04 36 40.4	
	comp=E,535nm,0.5s						
OPA	**Opana**	**3.47**	**312**		Pn	04 36 02.5	-3.2
OPA					Sn	04 36 38.5	-7.3

*IDC **04** 04:40:36.8±2.4, 1°.55S×77°.89W, h153km±24km, mb3.8/10, mbtmp4.3/14, Error ellipse: s-maj=21.6km s-min=14.2km az=57.0*
*IGQ **04** 04:40:37.6±0.2, 2°.S±2°.×7°.8W±°, h165km±2km, MLv3.8/56*
*NEIC **04** 04:40:37.6±1.9, 1°.58S±0°.05×77°.98W±0°.08, h152km±9km, mb4.6/16, Error ellipse: s-maj=11.2km s-min=7.7km az=88.0*
ISC 04 04:40:37.7±0.6,**1°.62S**±0°.03×**78°.10W**±0°.05,**h166**km±5km,
n152,σ1**9°01**/162,**mb4.3**/14,**26C-52D,Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUYO	**Puyo, Santa Ro**	**0.15**	**30**	⇓P		**Pn**	**04 40 59.6**	**-0.4**
APUY	**Puyo**	**0.19**	**32**	⇓P		**Pn**	**04 40 59.6**	**-0.4**
BPAT	**Tungurahua Vol**	**0.36**	**289**	S		**Sn**	**04 41 18.5**	**-0.1**
BPAT				⇓P		**Pn**	**04 41 00.5**	**-0.3**
BULB	**Ulba Tungurahu**	**0.36**	**301**	S		**Sn**	**04 41 17.4**	**-1.0**
BULB				⇓P		**Pn**	**04 41 00.4**	**-0.4**
ARRY	**Arrayan**	**0.38**	**288**	S		**Sn**	**04 41 17.7**	**-0.7**
ARRY				⇓P		**Pn**	**04 41 00.3**	**-0.5**
BMAS	**Trigal station**	**0.40**	**287**	⇓P		**Pn**	**04 40 58.8**	**-2.2**
POND	**Pondoa**	**0.41**	**299**	⇓P		**Pn**	**04 41 00.5**	**-0.4**
JUI6	**Juive**	**0.42**	**298**	⇓P		**Pn**	**04 41 00.7**	**-0.2**
IGUA	**Igualata**	**0.56**	**284**	⇓P		**Pn**	**04 41 01.8**	**-0.1**
PIS1	**Pisayambo**	**0.63**	**333**	⇓P		**Pn**	**04 41 01.8**	**-0.3**
PIS1				S		**Sn**	**04 41 21.8**	**+0.9**
PIAT	**Ana Tenorio**	**0.64**	**345**	⇓P		**Pn**	**04 41 01.8**	**-0.3**
PIAT				S		**Sn**	**04 41 20.4**	**-0.4**
TAMH	**Tambohuasha Ch**	**0.69**	**277**	⇑P		**Pn**	**04 41 02.6**	**+0.2**
PORT	**Chimborazo Vol**	**0.69**	**283**	⇑P		**Pn**	**04 41 02.9**	**+0.3**
PORT					S	**Sn**	**04 41 22.0**	**+0.5**
ASLC	**Ecuador-Salced**	**0.76**	**320**	⇓P		**Pn**	**04 41 02.8**	**+0.1**
CHSH	**Refugio Sur-Vo**	**0.78**	**279**	⇑P		**Pn**	**04 41 02.9**	**-0.2**
VCES	**Cotopaxi**	**0.87**	**340**	⇓P		**Pn**	**04 41 03.7**	**0.0**
JSCH	**Cashca Totoras**	**0.88**	**264**	⇑P		**Pn**	**04 41 03.8**	**+0.2**
AGRD	**Ecuador-Guaran**	**0.91**	**273**	⇑P		**Pn**	**04 41 03.8**	**0.0**
BRRN	**Barrancas-Volc**	**0.92**	**336**	⇓P		**Pn**	**04 41 03.6**	**-0.3**
BMOR	**Cotopaxi Volca**	**0.96**	**338**	⇓P		**Pn**	**04 41 04.0**	**-0.4**
TAIS	**Taisha**	**0.96**	**142**	⇓P		**Pn**	**04 41 04.0**	**+0.2**
TAMB	**Tambo**	**0.96**	**344**	⇓P		**Pn**	**04 41 04.2**	**-0.2**
SRAM	**San Ramn-Vol**	**0.98**	**332**	⇓P		**Pn**	**04 41 04.3**	**0.0**
BTAM	**Cotopaxi Volca**	**0.99**	**342**	⇓P		**Pn**	**04 41 04.5**	**-0.1**
BREF	**Cotopaxi Volca**	**1.01**	**340**	⇓P		**Pn**	**04 41 04.9**	**+0.1**
BVC2	**Cotopaxi Volca**	**1.01**	**342**	⇓P		**Pn**	**04 41 04.7**	**-0.1**
SUCR	**Mariscal Sucre**	**1.05**	**338**	⇓P		**Pn**	**04 41 05.0**	**0.0**
ANTM	**Antisana-La Mi**	**1.09**	**353**	⇓P		**Pn**	**04 41 05.1**	**-0.3**
ILLI	**Illinizas Sur**	**1.10**	**325**	⇓P		**Pn**	**04 41 05.2**	**-0.2**
MONB	**Balzapamba Mon**	**1.11**	**263**	⇑P		**Pn**	**04 41 04.7**	**-0.2**
PITA	**Cotopaxi Volc**	**1.11**	**342**	⇓P		**Pn**	**04 41 05.4**	**-0.1**
ANTS	**Antisana-Sarah**	**1.12**	**356**	⇓P		**Pn**	**04 41 05.5**	**-0.2**
ANTG	**Antisana-Guama**	**1.12**	**352**	⇓P		**Pn**	**04 41 05.4**	**-0.3**
TOMA	**Boca Toma-Volc**	**1.17**	**343**	⇓P		**Pn**	**04 41 06.0**	**+0.1**
ANTI	**Antisana**	**1.17**	**357**	⇓P		**Pn**	**04 41 05.7**	**-0.4**
AZOG	**Ecuador-Azogue**	**1.35**	**214**	P		**Pn**	**04 41 07.9**	**+0.5**
COHC	**Cochancay**	**1.43**	**234**			**Pn**	**04 41 07.2**	**-0.6**
COHC					Sn	**Sn**	**04 41 31.0**	**+0.1**
COHC	**Cochancay**	**1.43**	**234**	⇑P		**Pn**	**04 41 07.1**	**-0.6**
GGPT	**Toaza - Volcan**	**1.48**	**339**	⇓P		**Pn**	**04 41 08.4**	**-0.4**
AQUE	**Quevedo**	**1.50**	**292**	P		**Pn**	**04 41 08.1**	**-0.4**
GGPC	**Guagua Pichinc**	**1.52**	**341**	⇓P		**Pn**	**04 41 08.9**	**-0.5**
PU07	**PU07**	**1.52**	**242**	⇑P		**Pn**	**04 41 07.1**	**-1.6**
TERV	**Terraza Guagua**	**1.52**	**341**	⇓P		**Pn**	**04 41 08.9**	**-0.4**
ACUE	**Ecuador-Cuenca**	**1.54**	**214**	⇑P		**Pn**	**04 41 10.2**	**+0.9**
PINO	**Pino**	**1.54**	**341**	⇓P		**Pn**	**04 41 09.1**	**-0.5**
YANA	**Yana**	**1.57**	**342**	⇓P		**Pn**	**04 41 09.2**	**-0.5**
BOSC	**San Juan Bosco**	**1.57**	**195**	⇑P		**Pn**	**04 41 09.9**	**+0.5**
REVS	**Reventador Sur**	**1.58**	**18**	⇓P		**Pn**	**04 41 09.0**	**-0.6**
LAV4	**Lava4-Reventad**	**1.59**	**17**	P		**Pn**	**04 41 09.4**	**-0.4**
MILO	**Milagro-Astudi**	**1.60**	**246**	P		**Pn**	**04 41 07.8**	**-1.6**
REVN	**San Rafael**	**1.61**	**17**	P		**Pn**	**04 41 09.5**	**-0.4**
ANGU	**Angureal**	**1.66**	**3**	⇓P		**Pn**	**04 41 10.6**	**-0.2**
PULU	**Pululahua**	**1.68**	**346**	⇓P		**Pn**	**04 41 10.2**	**-0.6**
CAYA	**Cayambe**	**1.69**	**4**	⇓P		**Pn**	**04 41 11.0**	**0.0**
PU06	**PU06**	**1.72**	**243**	⇑P		**Pn**	**04 41 09.4**	**-1.4**
PU04	**PU04**	**1.83**	**235**	⇑P		**Pn**	**04 41 10.7**	**-1.2**
GYE3	**Ecuador-Guayaq**	**1.88**	**254**	P		**Pn**	**04 41 10.9**	**-1.6**
OTAV	**Otavalo**	**1.88**	**349**			**Pn**	**04 41 11.9**	**-1.1**
OTAV					Sn	**Sn**	**04 41 37.6**	**-2.7**
OTAV	**Otavalo**	**1.88**	**349**	⇓P

comp=Z,3.8nm,0.7s,baz=352,slow=8.3,SNR=7.1
comp=Z,3.8nm,0.7s

ULM	**Lac du Bonnet**	**53.88**	**346**	P		**P**	04 49 42.6	**-1.0**
	comp=Z,1.7nm,0.3s,baz=166,slow=7.2,SNR=6.0							
	comp=Z,1.7nm,0.3s							
NVAR	**Mina Array Bea**	**54.40**	**321**	P		**P**	04 49 49.5	**+1.6**
	comp=Z,1.1nm,0.7s,baz=138,slow=7.7,SNR=7.1							
	comp=Z,1.1nm,0.7s							
DBIC	**Dimbokro**	**73.56**	**83**	P		**P**	04 51 51.9	**-1.3**
	comp=Z,3.2nm,0.5s,baz=298,slow=4.0,SNR=19							
	comp=Z,3.2nm,0.5s							
ESDC	**Sonseca Array**	**78.87**	**49**	P		**P**	04 52 22.6	**-0.2**
	comp=Z,0.5nm,0.7s,baz=272,slow=4.2,SNR=4.0							
	comp=Z,0.5nm,0.7s							
ILAR	**Eielson Array**	**82.55**	**336**	P		**P**	04 52 41.9	**+0.1**
	comp=Z,1.4nm,0.7s,baz=141,slow=3.8,SNR=15							
	comp=Z,1.4nm,0.7s							
EKA	**Eskdalemuir Ar**	**82.80**	**34**	P		**P**	04 52 42.3	**-0.9**
	comp=Z,0.7nm,0.6s,baz=259,slow=4.0,SNR=4.3							
	comp=Z,0.7nm,0.6s							
CCB	**Clear Creek Bu**	**82.88**	**336**	P		**P**	04 52 43.5	**0.0**
QSPA	**South Pole Qui**	**88.44**	**180**	P		**P**	04 53 12.8	**+1.9**
	comp=Z,8.5nm,1.0s,baz=219,slow=1.1,SNR=5.2							
	comp=Z,8.5nm,1.0s							
KURBB	**Kurchatov Arra**	**127.31**	**19**	PKP		**PKPdf**	04 59 22.6	**-0.1**
	comp=Z,0.2nm,0.3s,baz=315,slow=2.6,SNR=5.0							
MKAR	**Makanchi Array**	**131.87**	**18**	PKP		**PKPdf**	04 59 31.4	**0.0**
	comp=Z,0.2nm,0.4s,baz=312,slow=3.0,SNR=4.9							
KSRS	**Korea Array**	**137.04**	**329**	PKP		**PKPdf**	04 59 40.8	**-0.6**
	comp=Z,0.6nm,0.4s,baz=346,slow=1.6,SNR=5.5							
ASAR	**Alice Springs**	**140.00**	**229**	PKhKP	PKPpre		04 59 39.1	
	comp=Z,0.5nm,0.4s,baz=118,slow=3.8,SNR=8.9							
ASAR				PKP		**PKPdf**	04 59 47.1	**-0.2**
	comp=Z,1.6nm,0.9s,baz=100,slow=2.0,SNR=9.6							
WRA	**Warramunga Arr**	**141.64**	**234**	PKhKP	PKPpre		04 59 44.5	
	comp=Z,1.5nm,0.7s,baz=117,slow=2.3,SNR=7.3							
WRA				PKP		**PKPdf**	04 59 50.0	**-0.2**
	comp=Z,1.6nm,0.7s,baz=115,slow=2.2,SNR=7.8							

*NEIC **04** 04:48:42.3±1.0, 19°.38N±0°.04×155°.25W±0°.04, h35km±2km, Error ellipse: s-maj=7.3km s-min=5.4km az=165.0*
HVO 04 04:48:43.9±1.2, 19°.37N±0°.04×155°.23W±0°.02, h30km±6km, ML3.4/36, ML3.7/46(NEIC), Error ellipse: s-maj=6.0km s-min=1.2km az=160.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUH	**Pauahi**	**0.02**	**88**		Pb	04 48 48.6	-0.3
PUH					Sb	04 48 52.0	-0.5
PUH				IAML		04 48 52.2	
	comp=N,16μm,0.3s						
KKO	**Keanakako'i**	**0.04**	**308**		Pb	04 48 48.6	-0.5
KKO					Sb	04 48 52.0	-0.6
RIM	**Rim**	**0.04**	**300**		Pb	04 48 48.6	-0.5
RIM					Sb	04 48 52.1	-0.4
BYL	**Byron's Ledge**	**0.05**	**327**		Pb	04 48 48.6	-0.5
BYL					Sb	04 48 52.1	-0.5
BYL				IAML		04 48 52.3	
	comp=N,10μm,0.2s						
HATHI	**Halema'uma'u T**	**0.06**	**332**		Pb	04 48 48.5	-0.6
HATHI					Sb	04 48 51.9	-0.8
HATHI				IAML		04 48 53.1	
	comp=E,5μm,0.5s						
HATHI				IAML		04 48 58.5	
	comp=N,6μm,0.4s						
SDHHI	**Sand Hill**	**0.06**	**286**		Pb	04 48 48.6	-0.5
SDHHI					Sb	04 48 52.1	-0.6
KNHH	**Kane Nui o Ham**	**0.06**	**84**		Pb	04 48 48.7	-0.4
SBLHI	**Steaming Bluff**	**0.06**	**328**		Pb	04 48 48.5	-0.6
SBLHI					Sb	04 48 52.2	-0.5
OBL	**Observatory Le**	**0.07**	**313**		Pb	04 48 48.5	-0.6
OBL					Sb	04 48 51.9	-0.8
UWB	**Uwekahuna Bluf**	**0.07**	**320**		Pb	04 48 48.5	-0.7
WRMHI	**West Rim**	**0.07**	**298**		Pb	04 48 48.5	-0.6
WRMHI					Sb	04 48 52.2	-0.6
UWE	**Uwekahuna**	**0.07**	**310**		Pb	04 48 48.6	-0.6
UWE	**Uwekahuna**	**0.07**	**310**		Sb	04 48 52.2	-0.7
UWE				IAML		04 48 52.4	
	comp=N,7μm,0.4s						
UWE				IAML		04 48 52.5	
	comp=E,8μm,0.3s						
RSD	**Rainshed**	**0.10**	**335**		Pb	04 48 48.8	-0.5
RSD					Sb	04 48 53.1	0.0
STCH	**Steam Cracks**	**0.10**	**83**		Pb	04 48 48.8	-0.4
HLP	**Hilina Pali**	**0.10**	**223**		Pb	04 48 49.0	-0.3
NPOC	**North of Pu'u**	**0.12**	**80**		Pb	04 48 48.9	-0.5
NPOC					Sb	04 48 52.6	-0.6
JCUZ	**Jacuzzi**	**0.12**	**85**		Pb	04 48 49.0	-0.4
JCUZ					Sb	04 48 52.7	-0.5
MLH	**Mauna Loa**	**0.19**	**310**		Pb	04 48 49.7	-0.5
MLH					Sb	04 48 54.0	-0.5
MLH	**Mauna Loa**	**0.19**	**310**	IAML		04 48 54.2	
	comp=E,3μm,0.2s						
MLH				IAML		04 48 57.3	
	comp=N,4μm,0.2s						
HTC	**Hot Caves**	**0.21**	**229**		Pb	04 48 49.8	-0.3
HTC					Sb	04 48 54.3	-0.1
AIN	**Ainahou**	**0.21**	**270**		Pb	04 48 50.0	-0.4
AIN					Sb	04 48 54.5	-0.3
AIN	**Ainahou**	**0.21**	**270**	IAML		04 48 54.9	
	comp=E,16μm,0.3s						
AIN				IAML		04 48 55.2	
	comp=N,11μm,0.3s						
JOKA	**Jonika Flow**	**0.22**	**74**		Pb	04 48 49.7	-0.7
HMH	**Humu'ula Sheep**	**0.33**	**314**		Pb	04 48 51.3	-0.6
HMH					Sb	04 48 56.9	-0.6
HMH	**Humu'ula Sheep**	**0.33**	**314**	IAML		04 48 57.0	
	comp=E,9μm,0.3s						
MWH	**Mokuaweoweo**	**0.36**	**288**		Pb	04 48 51.4	-1.2
MWH					Sb	04 48 56.9	-1.7
MWH	**Mokuaweoweo**	**0.36**	**288**	IAML		04 49 04.2	
	comp=N,4μm,0.4s						
KHU	**Kahuku**	**0.38**	**251**		Pb	04 48 51.4	-1.2
KHU				IAML		04 48 57.2	
	comp=N,6μm,0.3s						
KHU	**Kahuku**	**0.38**	**251**		Sb	04 48 57.1	-1.5
HPO	**Honuapo**	**0.41**	**227**		Pb	04 48 52.0	-1.0
HPO	**Honuapo**	**0.41**	**227**		Sb	04 48 57.8	-1.3
ALEP	**Alea Permanent**	**0.42**	**293**		Pb	04 48 52.0	-1.4
ALEP					Sb	04 48 57.9	-1.9
POHA	**Pohakuloa**	**0.47**	**324**		Pb	04 48 52.7	-1.3
POHA				IAML		04 48 59.6	
	comp=N,4μm,0.3s						
POHA				IAML		04 49 00.3	
	comp=N,5μm,0.3s						
HUH	**Hualalai**	**0.65**	**299**		Pb	04 48 55.2	-1.6
HUH					Pn	04 49 03.0	+5.7
HUH	**Hualalai**	**0.65**	**299**	IAML		04 49 07.8	
	comp=N,4μm,0.2s						
HUH				IAML		04 49 11.4	
	comp=E,5μm,0.4s						
CPH	**Captain Cook**	**0.66**	**280**		Pb	04 48 54.6	-2.3
HPAH	**Hawaii Prepara**	**0.79**	**326**		Pn	04 48 56.5	-2.5
HPAH					Sb	04 49 05.7	-3.8
HPAH	**Hawaii Prepara**	**0.79**	**326**	IAML		04 49 05.8	
	comp=N,6μm,0.2s						
HPAH				IAML		04 49 05.9	
	comp=E,7μm,0.1s						
KKH	**Kailua Kona**	**0.79**	**291**		Pn	04 48 56.5	-2.6
KKH					Sb	04 49 06.0	-3.6
MHA	**Mahukona**	**1.03**	**322**		Pn	04 49 00.1	-2.2
MHA					Sn	04 49 11.7	-4.0
HLK	**Haleakala**	**1.68**	**325**		Pn	04 49 08.8	-2.7
HLK					Sn	04 49 26.4	-5.7
KHLH	**Kahului Airpor**	**1.89**	**324**		Pn	04 49 12.3	-1.8
KHLH					Sn	04 49 32.6	-4.3
WMR	**Waimanalo Ridg**	**3.00**	**311**		Pn	04 49 26.6	-2.9
WMR					Sn	04 49 58.5	-6.0
DHH	**Diamond Head**	**3.06**	**308**		Pn	04 49 27.6	-2.6
DHH					Sn	04 49 59.5	-6.3
HON	**Honolulu**	**3.24**	**307**		Pn	04 49 30.1	-2.7
HON					Sn	04 50 04.6	-5.8
KIP	**Kipapa**	**3.31**	**308**		Pn	04 49 31.3	-2.5
KIP					Sn	04 50 05.5	-6.6
OPA	**Opana**	**3.47**	**312**		Pn	04 49 35.3	-0.7
OPA					Sn	04 50 11.2	-5.0

*JMA **04** 05:07:42.8±0.1, 23°.7N±0°.8×122°.5E±0°.4, h28km, MV2.4/12, NEAR ISHIGAKIJIMA ISLAND*
*TAP **04** 05:07:43.8, 23°.75N×122°.49E, h38km, ML3.1, D*
ISC 04 05:07:41.2±1.1, 23°.69N±0°.02×122°.47E±0°.02, h16km±8km,
n116, σ0.977/217, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.45**	**343**	*i*	Pn	05 07 52.6	-0.1
EOS4				*i*	Sn	05 07 59.6	-0.7
EOS3	**EOS3**	**0.61**	**347**	*i*	Pn	05 07 55.6	+0.5
EOS3				*eS*	Sn	05 08 04.3	-0.2
EOS2	**EOS2**	**0.76**	**344**	*eP*	Pn	05 07 58.1	+1.0
EOS2				*S*	Sn	05 08 08.3	+0.1
TEYL	**Yanliau Villag**	**0.81**	**283**	*eP*	Pn	05 07 58.4	+0.4
TEYL				*eS*	Sn	05 08 10.6	+0.8
SHUL	**Shoufeng**	**0.83**	**277**	P	Pn	05 07 58.6	+0.4
SHUL					Sn	05 08 10.1	-0.1
HWA	**Hwalien**	**0.84**	**290**	P	Pn	05 07 59.4	+1.0
HWA				*eS*	Sn	05 08 10.9	+0.5
JYNG	**Yonagunijimaku**	**0.88**	**30**	*eP*	Pn	05 07 59.0	+0.1
JYNG				*eS*	Sb	05 08 09.7	+0.2
TWD	**Chiawan**	**0.89**	**296**	*eP*	Pn	05 07 59.0	0.0
TWD				*i*	Sg	05 08 10.5	+0.4
ETL	**Fush Village**	**0.90**	**301**	*i*	Pn	05 07 59.8	+0.6
ETL				*i*	Sn	05 08 11.3	-0.6
YOJ	**Yonaguni jima**	**0.92**	**33**	*eP*	Pn	05 07 59.7	+0.3
YOJ				*eS*	Sb	05 08 11.4	+0.7
YOJ	**Yonaguni jima**	**0.92**	**33**	*i*	Pn	05 07 60.0	+0.5
YOJ				S	Sb	05 08 11.2	+0.5
EAHA	**Aohua**	**0.92**	**314**	P	Pn	05 08 00.6	+1.1
EAHA				S	Sn	05 08 12.1	-0.3
ETM	**Tongmen**	**0.93**	**287**	*eP*	Pn	05 07 59.6	-0.1
ETM				S	Sn	05 08 12.4	-0.2
NACB	**Ninganchiao**	**0.93**	**301**	P	Pn	05 07 59.6	0.0
NACB				*eS*	Sg	05 08 11.4	-0.1
EGFH	**Guangfu**	**0.95**	**269**	*eP*	Pn	05 08 01.9	+2.0
EGFH				*eS*	Sn	05 08 13.5	+0.3
ESL	**Shilin**	**0.95**	**278**	*eP*	Pn	05 08 00.5	-0.1
HGSD	**Ruisui**	**0.97**	**259**	*i*	Pn	05 08 00.5	+0.3
HGSD				*eS*	Sg	05 08 12.7	-0.1
EWUT	**Wuta**	**0.98**	**320**	*i*	Pn	05 08 01.4	+1.1
EWUT				*eS*	Sn	05 08 14.1	+0.2
WARBT	**Fenglin Townsh**	**0.99**	**272**	P	Pn	05 08 00.5	+0.1
WARBT				S	Sg	05 08 13.4	+0.1
ENA	**Nanau**	**0.99**	**318**	P	Pn	05 08 01.6	+1.1
ENA				*eS*	Sn	05 08 14.8	+0.7
ECBN	**Changbin**	**1.00**	**249**	*eP*	Pg	05 08 00.6	0.0
ECBN				*eS*	Sb	05 08 12.8	-0.3
LXIB	**Xiulin Townshi**	**1.02**	**289**	P	Pn	05 08 01.4	+0.4
LXIB				S	Sn	05 08 14.5	-0.5
ETLH	**Xiulin Townshi**	**1.04**	**300**	*eP*	Pn	05 08 01.4	+0.2
ETLH				S	Sn	05 08 15.1	-0.3
EHYH	**Wanrong**	**1.04**	**260**	*i*	Pg	05 08 02.1	+0.7
EHYH				*i*	Sn	05 08 16.0	+0.5
EHY	**Hungye**	**1.06**	**260**	*eP*	Pg	05 08 02.1	+0.4
EHY				*eS*	Sg	05 08 15.3	-0.4
TWC	**Suao**	**1.08**	**329**	*eP*	Pg	05 08 02.2	+0.2
TWC				S	Sg	05 08 15.8	-0.3
CHKH	**Chenggong**	**1.10**	**244**	P	Pg	05 08 02.2	-0.2
CHKH				*eS*	Sb	05 08 15.5	-0.4
EYUL	**Yuli**	**1.10**	**252**	*eP*	Pg	05 08 03.0	+0.5
YULB	**Yu-li**	**1.11**	**255**	P	Pg	05 08 02.9	+0.2
YULB				S	Sg	05 08 16.9	-0.3
TWF1	**Yuli**	**1.12**	**253**	*i*	Pg	05 08 03.0	+0.1
TWF1				*i*	Sn	05 08 17.6	+0.2
NDS	**Dongshan**	**1.16**	**324**	P	Pb	05 08 03.1	+0.2
NDS				*eS*	Sn	05 08 18.4	-0.1
CHKT	**Chengkung**	**1.17**	**240**	*eP*	Pb	05 08 03.3	+0.3
CHKT				*eS*	Sb	05 08 16.4	-1.5
FULB	**Fuli**	**1.18**	**246**	*eP*	Pb	05 08 03.4	+0.1
FULB				*eS*	Sb	05 08 17.6	-0.6
WHF	**Hehuan Shan**	**1.19**	**293**	P	Pg	05 08 04.1	-0.1
WHF				*i*	Sb	05 08 18.9	0.0
LATG	**Datong**	**1.20**	**315**	*eP*	Pg	05 08 04.6	+0.1
LATG				S	Sb	05 08 19.2	+0.1
OWD	**Renai**	**1.21**	**283**	*eP*	Pg	05 08 04.5	-0.1
OWD				*eS*	Sb	05 08 19.3	0.0
VWDT	**VWDT**	**1.22**	**273**	*i*	Pg	05 08 04.6	0.0
VWDT				*eS*	Sg	05 08 20.1	-0.4
NNSB	**Datong**	**1.23**	**307**	P	Pg	05 08 04.8	-0.3
NNSB				*eS*	Sb	05 08 19.9	0.0
NNSH	**Datong**	**1.23**	**307**	P	Pg	05 08 04.8	-0.2
NNSH				S	Sn	05 08 20.0	-0.3
FUSS	**Fushou**	**1.25**	**297**	P	Pb	05 08 04.7	+0.2
FUSS				S	Sg	05 08 21.0	-0.6
NNS	**Nan Shan**	**1.25**	**307**	*eP*	Pg	05 08 06.5	+1.2
NNS				*eS*	Sb	05 08 18.6	-1.7
ENTT	**Nioudou**	**1.25**	**319**	*eP*	Pg	05 08 05.4	0.0
ENTT				S	Sn	05 08 20.5	-0.2
TWE	**Neicheng**	**1.26**	**325**	*eP*	Pg	05 08 05.6	+0.1
WUSB	**Renai**	**1.27**	**284**	P	Pg	05 08 05.8	-0.3
WUSB				*eS*	Sg	05 08 22.0	-0.3
EHD	**Haiduan**	**1.27**	**245**	*eP*	Pb	05 08 05.0	+0.2
EHD				*eS*	Sb	05 08 20.2	-0.8
HATJ	**Hateruma jima**	**1.28**	**73**	*eP*	Pn	05 08 05.1	+0.7
EDH	**Donghe**	**1.28**	**237**	P	Pn	05 08 04.3	-0.1
EDH				*eS*	Sb	05 08 20.1	-1.2
ECS	**Chishang**	**1.29**	**243**	P	Pg	05 08 06.8	+0.8
ECS				S	Sg	05 08 23.1	+0.2
NTC	**Toucheng**	**1.30**	**334**	*eP*	Pg	05 08 06.5	+0.2
IRIF	**Iriomote-Funau**	**1.32**	**61**	*eP*	Pb	05 08 06.0	+0.3
IRIF				*eS*	Sn	05 08 22.7	+0.4
FUSB	**Fushanzhiwuyua**	**1.33**	**323**	*eP*	Pg	05 08 07.1	+0.2
FUSB				*eS*	Sb	05 08 22.2	-0.6
LDUT	**Ludao**	**1.36**	**222**	P	Pn	05 08 06.1	+0.5
LDUT				*eS*	Sn	05 08 21.9	-1.3
TWB1	**Santiao Chiao**	**1.39**	**342**	*eP*	Pb	05 08 06.7	0.0
SSLB	**Suanglung**	**1.39**	**274**	*eP*	Pb	05 08 07.0	+0.2
SSLB				*eS*	Sn	05 08 23.7	-0.3
YHNB	**Yeheng**	**1.40**	**315**	*eP*	Pg	05 08 07.5	-0.5
YHNB				*eS*	Sb	05 08 24.5	0.0
NWLT	**Wulai**	**1.40**	**321**	*eP*	Pg	05 08 07.9	-0.2
NWLT				S	Sn	05 08 24.1	-0.1
YUS	**Yu-Shan**	**1.40**	**262**	P	Pb	05 08 07.7	+0.4
YUS				S	Sb	05 08 25.4	+0.2
TIPB	**Shuangxi**	**1.41**	**336**	*eP*	Pb	05 08 07.6	+0.6
TIPB				S	Sn	05 08 24.2	-0.2
NSK	**Sanguang**	**1.41**	**314**	*eP*	Pg	05 08 07.9	-0.5
NSK				S	Sn	05 08 24.1	-0.5
ELDTW	**Lidau**	**1.42**	**250**	*eP*	Pb	05 08 07.3	0.0
ELDTW				*eS*	Sn	05 08 24.6	-0.3
SMLT	**Sun Moon Lake**	**1.45**	**278**	*eP*	Pb	05 08 08.2	+0.4
SMLT				*eS*	Sb	05 08 26.6	+0.6
DPDB	**Guoxing**	**1.45**	**284**	P	Pb	05 08 08.4	+0.5
DPDB				*eS*	Sg	05 08 27.1	-0.9
LONT	**Longtian**	**1.45**	**238**	P	Pb	05 08 07.9	0.0
LONT				*eS*	Sb	05 08 25.9	-0.2
WCS	**Beigang Elemen**	**1.47**	**285**	*eP*	Pb	05 08 08.6	+0.5
WCS				*eS*	Sg	05 08 27.7	-0.9
WHYT	**Xinyi Township**	**1.48**	**271**	*eP*	Pg	05 08 09.1	-0.5
WHYT				S	Sg	05 08 27.7	-1.2
TYC	**Yuchr**	**1.49**	**279**	P	Pb	05 08 08.8	+0.3
TYC				*eS*	Sg	05 08 28.2	-1.0
SXI1	**Grass Mountain**	**1.50**	**339**	*eP*	Pb	05 08 08.4	-0.3
SXI1				*eS*	Sn	05 08 24.0	-2.8
WHP	**Taichung City**	**1.51**	**293**	*eP*	Pg	05 08 10.7	+0.5
WHP				*eS*	Sb	05 08 28.3	+0.5
JKRS	**Kuro-shima**	**1.52**	**69**	*eP*	Pn	05 08 08.6	+1.0
NHDH	**Xindian Distri**	**1.53**	**326**	*eP*	Pg	05 08 10.3	-0.4
ALS	**Alishan**	**1.53**	**264**	*eP*	Pb	05 08 09.8	+0.5
ALS				S	Sg	05 08 29.5	-1.2
TWGBT	**Beinan**	**1.54**	**236**	*eP*	Pb	05 08 09.4	0.0
TWGBT				*i*	Sn	05 08 27.4	-0.3
TWG	**Pinlang**	**1.54**	**236**	P	Pn	05 08 08.8	+0.7
TWG				S	Sn	05 08 27.6	-0.2
NFF	**Wufeng Townshi**	**1.55**	**308**	*eP*	Pg	05 08 11.0	0.0
NFF				S	Sb	05 08 28.7	-0.2
TATO	**Taipei**	**1.56**	**325**	*eP*	Pb	05 08 10.2	+0.5
TATO				*eS*	Sb	05 08 29.6	+0.3
KSHI	**Guanxi Townshi**	**1.60**	**313**	*eP*	Pg	05 08 11.8	-0.2
KSHI				*eS*	Sg	05 08 31.9	-0.9
LIOB	**Emei**	**1.63**	**306**	*eP*	Pg	05 08 12.2	-0.4
LIOB				*eS*	Sg	05 08 32.7	-1.1
NSTT	**Nanjuang**	**1.63**	**305**	*eS*	Sg	05 08 32.7	-1.1
STYH	**Taoyuan**	**1.64**	**252**	*i*	Pb	05 08 11.2	+0.3
STYH				*i*	Sb	05 08 31.5	+0.1
CHN5	**Tsauling**	**1.64**	**267**	*eP*	Pg	05 08 12.2	-0.6
CHN5				*eS*	Sg	05 08 33.1	-1.0
WNT	**Mingjian**	**1.64**	**277**	P	Pb	05 08 11.5	+0.4
WNT				*eS*	Sb	05 08 31.4	-0.1
STYT	**Tauyuan**	**1.65**	**252**	P	Pb	05 08 11.3	0.0
STYT				S	Sb	05 08 32.2	+0.2
WWF	**Wufeng**	**1.66**	**283**	P	Pg	05 08 12.8	-0.2
WWF				*eS*	Sg	05 08 36.0	+1.4
JIJ	**Ishigaki jima**	**1.68**	**66**	*eP*	Pn	05 08 10.8	+1.0
TWQ1	**Liyutan**	**1.68**	**293**	P	Pg	05 08 13.4	-0.1
TWQ1				*eS*	Sg	05 08 34.2	-1.2
ZUZH	**Zhuzihu**	**1.69**	**330**	P	Pb	05 08 11.6	-0.3
ZUZH				*eS*	Sn	05 08 32.1	+0.7
YM08	**YM08**	**1.69**	**332**	P	Pn	05 08 10.9	+0.8
YM08				S	Sn	05 08 30.4	-1.1
TWS1	**Kuangyinshan**	**1.70**	**326**	*eP*	Pn	05 08 10.6	+0.4
TWS1				*eS*	Sn	05 08 30.5	-1.1
ANP	**Anpu**	**1.72**	**330**	*eP*	Pn	05 08 11.2	+0.6
ANP				S	Sn	05 08 31.0	-1.3
TPUB	**Ta-pu**	**1.73**	**257**	*eP*	Pg	05 08 13.5	-0.9
TPUB				*i*	Sb	05 08 34.9	+0.8
WTP	**Ta-pu**	**1.76**	**256**	P	Pb	05 08 13.9	+0.9
WTP				*eS*	Sg	05 08 36.2	-1.5
ECL	**Taimali**	**1.76**	**232**	*eP*	Pb	05 08 13.9	+0.8
ECL				*eS*	Sn	05 08 31.4	-1.8
WDLH	**Douliu**	**1.77**	**270**	P	Pb	05 08 13.7	+0.5
WDLH				S	Sb	05 08 35.6	+0.5
TWY	**Chenhua**	**1.77**	**334**	P	Pn	05 08 11.8	+0.7
TWY				S	Sn	05 08 32.5	-0.8
SGST	**Jiashian**	**1.83**	**251**	*eP*	Pb	05 08 14.5	+0.2
SGST				*eS*	Sb	05 08 37.2	+0.2
CHN1	**Nanshi**	**1.85**	**255**	*eP*	Pg	05 08 16.1	-0.5
CHN1				*eS*	Sg	05 08 40.0	-0.7
TWK	**Hsinying**	**1.86**	**257**	P	Pb	05 08 15.3	+0.4
TWK				*eS*	Sb	05 08 38.9	+0.9
SNST	**Tainan City**	**1.87**	**256**	P	Pb	05 08 15.0	+0.1
JISG	**Ishigakijimahi**	**1.91**	**62**	*eP*	Pn	05 08 13.3	+0.2
JISG				*eS*	Sn	05 08 36.1	-0.7
SSD	**Sandimen**	**1.93**	**241**	*eP*	Pb	05 08 16.3	+0.3
RLNB	**Erlin**	**1.94**	**276**	P	Pb	05 08 16.4	+0.3
RLNB				*eS*	Sg	05 08 42.8	-0.8
TSMG	**Majia**	**1.94**	**240**	*eP*	Pb	05 08 16.3	+0.2
EAST	**Anshuo**	**1.98**	**229**	*eP*	Pb	05 08 17.3	+0.5
EAST				*eS*	Sn	05 08 37.5	-1.0
MASBT	**Mashibuluo**	**2.00**	**238**	*eP*	Pg	05 08 18.7	-0.8
ICHU	**Yijhu**	**2.03**	**261**	P	Pb	05 08 18.1	+0.3
ICHU				*eS*	Sn	05 08 40.9	+1.1
WSL	**Shuilin Townsh**	**2.06**	**266**	P	Pb	05 08 18.0	-0.2
WSL				S	Sb	05 08 43.2	-0.3
SCZT	**Fangliau**	**2.15**	**233**	*eP*	Pb	05 08 19.7	+0.1
SCZT				*eS*	Sb	05 08 44.9	-1.2
PNG	**Penghu**	**2.67**	**268**	*eP*	Pn	05 08 25.7	+2.1
PNG				*i*	Sn	05 08 57.3	+1.7
VWUC	**VWUC**	**3.04**	**296**	*eP*	Pn	05 08 30.6	+1.9
VWUC				*eS*	Sn	05 09 03.2	-1.5
PTMZ	**Houxiangcun**	**3.33**	**294**	P	Pn	05 08 34.3	+1.6
PTMZ				*eS*	Sn	05 09 10.5	-1.4
MATB	**Ma-tsu**	**3.35**	**318**	P	Pn	05 08 34.1	+1.2
MATB				*eS*	Sn	05 09 10.3	-2.2
KNMB	**Chin-men Tao**	**3.81**	**283**	P	Pn	05 08 40.5	+1.3
KNMB				S	Sn	05 09 23.0	-0.6
XPSS	**Dashiqiu**	**3.83**	**328**	*eP*	Pn	05 08 39.9	+0.5
MHZQ	**Yeshan**	**3.94**	**308**	*eP*	Pn	05 08 42.2	+1.3
MHZQ				*eS*	Sn	05 09 24.6	-2.3
AXDP	**Jialang**	**4.28**	**287**	P	Pn	05 08 47.3	+1.7
AXDP				*eS*	Sn	05 09 34.3	-0.9
ZPLA	**Ao Xicun**	**4.33**	**274**	P	Pn	05 08 48.4	+2.1
ZPLA				*eS*	Sn	05 09 36.4	-0.1

*NNC **04** 05:19:54.3±0.4, 43°.41N×78°.94E, h0km, mb3.4, mpv3.5, Error ellipse: s-maj=4.0km s-min=2.6km az=5.0*
*KRNET **04** 05:19:55.0±0.1, 43°.44N×78°.96E, h21km, mb3.1*
*SOME **04** 05:19:55.3, 43°.42N×78°.87E, h10km*
ISC 04 05:19:55.8±0.9, 43°.43N±0°.02×78°.87E±0°.02, h14km±6km, n34, σ1.948/65, 17C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KPKS	**Kokpek**	**0.14**	**286**	P	Pg	05 19 59.7	+0.1
	4.6nm,0.1s						
KPKS				*S*	Sg	05 20 02.9

KUU *eS* **Sb** **05 20 54.7 +0.9**
46nm,0.2s
KST Kastek 2.16 261 Pg **Pb** **05 20 35.1 +0.4**
8.9nm,0.7s
KST Lg Lg 05 21 03.7
23nm,0.3s
KST Kastek 2.16 261 *eP* **Pb** **05 20 35.1 +0.4**
8.9nm,0.7s
KST *eS* **Sb** **05 21 03.8 +2.3**
23nm,0.3s
ULHL Ulahol 2.27 240 ⇑*iP* **Pb** **05 20 35.0 -1.6**
ULHL ⇑*iS* **Sb** **05 21 04.3 -0.3**
KRBS Karabastau 2.34 278 Pg **Pb** **05 20 37.7 0.0**
2.4nm,0.2s
KRBS Lg Lg 05 21 08.2
16nm,0.2s
BOOM Boomskoye usch 2.35 247 ⇑*iP* **Pb** **05 20 36.4 -1.6**
BOOM ⇑*iS* **Sb** **05 21 06.2 -0.7**
TKM2 Tokmak 2 2.45 259 ⇓Pg **Pb** **05 20 40.5 +0.8**
1.1nm,0.3s
TKM2 ⇓Lg Lg 05 21 12.2
6.1nm,0.3s
TKM2 Tokmak 2 2.45 259 ⇑*iP* **Pb** **05 20 38.0 -1.7**
TKM2 ⇑*iS* **Sb** **05 21 08.8 -1.0**
MK31 Makanchi Array 4.14 35 ⇑Pn **Pn** **05 20 59.6 +1.0**
0.1nm,0.1s,baz=226,slow=14,SNR=8.1
MK31 ⇑Sn **Sn** **05 21 45.8 -1.1**
0.1nm,0.2s,baz=212,slow=25,SNR=3.9
MK31 ⇑Lg Lg 05 22 01.1
0.2nm,0.2s,baz=215,slow=28,SNR=7.0

*IDC **04** 05:50:45.8±1.0,3°.69S×144°.64E, h0km, mb3.8/7, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=52.3km s-min=20.6km az=93.0*
ISC 04 05:50:50.0±1.0, 3.7S±0.1×144.6E±0.3, h26km, n8, σ0s74/8, mb3.9/7, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.97**	**211**	P	**P**	**05 55 08.7**	**-0.9**
	0.2nm,0.3s,baz=35,slow=11,SNR=6.1						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**22.36**	**206**	P	**P**	**05 55 46.0**	**-0.3**
	0.9nm,0.7s,baz=32,slow=10,SNR=12						
	0.9nm,0.7s						
KSRS	**Korea Array**	**43.78**	**341**	P	**P**	**05 58 52.9**	**-0.6**
	0.8nm,0.4s,baz=162,slow=8.7,SNR=4.2						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**74.20**	**321**	P	**P**	**06 02 25.5**	**+0.9**
	0.2nm,0.5s,baz=97,slow=8.5,SNR=1.9						
	0.2nm,0.5s						
VNDA	**Vanda**	**74.34**	**176**	P	**P**	**06 02 25.2**	**+0.4**
	0.5nm,0.7s,baz=342,slow=7.3,SNR=4.9						
	0.5nm,0.7s						
BVAR	**Borovoye Array**	**83.50**	**324**	P	**P**	**06 03 15.8**	**+0.3**
	1.4nm,0.5s,baz=99,slow=6.6,SNR=6.9						
	1.4nm,0.5s						
ILAR	**Eielson Array**	**84.35**	**24**	P	**P**	**06 03 19.0**	**-0.6**
	0.5nm,0.6s,baz=260,slow=5.2,SNR=7.3						
	0.5nm,0.6s						
QSPA	**South Pole Qui**	**86.24**	**180**	P	**P**	**06 03 29.5**	**+0.3**
	1.6nm,0.7s,baz=29,slow=0.9,SNR=10						
	1.6nm,0.7s						

*IDC **04** 05:55:47.5±1.6,51°.05N×130°.46W, h0km, mb3.9/1, mbtmp3.2/5, ML2.7/3, MS4.6/2, Error ellipse: s-maj=19.4km s-min=17.4km az=26.0*
ISC 04 05:55:48.3±1.3, 51.0N±0.1×130.2W±0.1, h10km, n14, σ0s48/7, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBB	**Bella Bella**	**1.73**	**47**	Pn	**Pb**	**05 56 19.9**	**-0.2**
	17nm,0.3s,baz=236,slow=16,SNR=15						
BBB				Sn	**Sg**	**05 56 43.8**	**-0.1**
	89nm,0.3s,baz=243,slow=11,SNR=4.5						
DLBC	**Dease Lake**	**7.43**	**1**	Pn	**Pn**	**05 57 36.8**	**0.0**
	baz=185,slow=8.9,SNR=6.5						
	0.1nm,0.3s						
YKA	**Yellowknife Ar**	**14.26**	**30**	LR	LR	06 04 12.7	
	comp=Z,2μm,18.1s,baz=27,slow=35						
NVAR	**Mina Array Bea**	**15.13**	**142**	Pn	**P**	**05 59 27.1**	**-0.3**
	0.1nm,0.3s,baz=309,slow=13,SNR=6.0						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**16.29**	**112**	Pn	**P**	**05 59 41.0**	**+0.7**
	0.6nm,0.5s,baz=316,slow=10,SNR=8.5						
ILAR	**Eielson Array**	**16.31**	**334**	Pn	**Pn**	**05 59 37.5**	**+0.4**
	baz=143,slow=9.1,SNR=1.5						
	0.2nm,0.9s						
PETK	**Petropavlovsk-**	**42.66**	**302**	P	**P**	**06 03 44.5**	**-0.2**
	1.6nm,0.9s,baz=70,slow=13,SNR=4.1						
	1.6nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**57.94**	**262**	T	T	07 08 06.1	
	baz=41,slow=75,SNR=117						
H11N3	**WAKE ISLAND Hy**	**57.94**	**262**	T	T	07 08 02.8	
	baz=41,slow=75,SNR=145						
H11N1	**WAKE ISLAND Hy**	**57.95**	**262**	T	T	07 08 07.4	
	baz=41,slow=75,SNR=104						
H11S1	**WAKE ISLAND Hy**	**58.97**	**261**	T	T	07 09 34.4	
	baz=48,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	**58.98**	**261**	T	T	07 09 35.7	
	baz=48,slow=75,SNR=10						
H11S3	**WAKE ISLAND Hy**	**58.99**	**261**	T	T	07 09 40.0	
	baz=48,slow=75,SNR=8.5						
IDI	**Anoyia**	**91.29**	**20**	LR	LR	06 52 23.9	
	comp=Z,409nm,20.5s,baz=175,slow=37						

*TEH **04** 05:59:27.1,36°.18N×54°.06E, h12km±26km*
*IDC **04** 05:59:28.4±8.7,36°.27N×54°.14E, h0km, mb3.2/4, mbtmp3.4/5, ML3.4/1, Error ellipse: s-maj=156.9km s-min=25.7km az=6.0*
ISC 04 05:59:28.3±0.8, 36.17N±0.04×54.06E±0.04, h10km, n51, σ1s12/50, mb3.1/3, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKIA	**Kiasar**	**0.31**	**277**	Pg	**Pg**	**05 59 33.5**	**-1.1**
IGLO	**Ghaloghah**	**0.38**	**331**	Pg	**Pg**	**05 59 35.0**	**-1.0**
IANJ	**Anjilo**	**0.71**	**190**	Pg	**Pg**	**05 59 41.2**	**-0.9**
IALA	**Alasht**	**1.01**	**265**	Pg	**Pg**	**05 59 46.6**	**-1.4**
IFIR	**Firoozkooh**	**1.18**	**244**	Pg	**Pb**	**05 59 49.6**	**-1.5**
ILAS	**Lasjerd**	**1.19**	**229**	Pg	**Pb**	**05 59 49.8**	**-1.4**
IPRN	**Peran**	**1.39**	**273**	Pg	**Pg**	**05 59 53.7**	**-1.4**
IMND	**Minoodasht**	**1.53**	**45**	Pg	**Pn**	**05 59 54.7**	**-1.1**
IDMV	**Damavand**	**1.75**	**251**	Pg	**Pb**	**05 59 59.2**	**-1.6**
MZPU	**Pul - Mazandar**	**2.03**	**278**	Pn	**Pb**	**06 00 04.0**	**-1.5**
MRVT	**Maraveh tapeh**	**2.20**	**47**	Pn	**Pb**	**06 00 05.2**	**+0.1**
TEHA	**Amirabad Tehra**	**2.21**	**260**	Pn	**Pb**	**06 00 06.8**	**-1.7**
IVRN	**Varamin**	**2.23**	**239**	Pn	**Pb**	**06 00 06.1**	**-2.8**
ISFB	**Sefidab**	**2.35**	**220**	Pn	**Pb**	**06 00 07.3**	**+0.2**
IHSB	**Hasanabad**	**2.38**	**253**	Pn	**Pb**	**06 00 08.5**	**-2.8**
KRSH	**Karshahi**	**2.70**	**216**	Pn	**Pn**	**06 00 12.7**	**+0.6**
IQOM	**Qom**	**2.77**	**242**	Pn	**Pn**	**06 00 13.8**	**+0.7**
TAPT	**Tabas- Tapeh t**	**2.83**	**116**	Pn	**Pn**	**06 00 13.7**	**-0.1**
SBZV	**Sabzevar**	**2.88**	**85**	Pn	**Pn**	**06 00 14.5**	**0.0**
ANAR	**Anarak**	**2.98**	**185**	Pn	**Pn**	**06 00 15.9**	**0.0**
QAMS	**Qamsar**	**3.27**	**223**	Pn	**Pn**	**06 00 20.1**	**+0.2**
ISFR	**Sfrayin**	**3.29**	**73**	Pn	**Pn**	**06 00 20.9**	**+0.7**
IKLH	**Kolahrood**	**3.50**	**216**	Pn	**Pn**	**06 00 24.1**	**+1.0**
IZEF	**Zefreh**	**3.56**	**204**	Pn	**Pn**	**06 00 24.4**	**+0.4**
TPRV	**Parvadeh(Tabas**	**3.81**	**145**	Pn	**Pn**	**06 00 27.6**	**+0.4**
IAKL	**Akhelmad**	**3.81**	**82**	Pn	**Pn**	**06 00 27.4**	**0.0**
IEMG	**Emamgholi**	**3.89**	**70**	Pn	**Pn**	**06 00 28.9**	**+0.4**
ICHK	**Chekchek**	**3.93**	**176**	Pn	**Pn**	**06 00 29.2**	**+0.3**
IPAY	**Payeh**	**4.00**	**85**	Pn	**Pn**	**06 00 29.7**	**-0.2**
IGAR	**Gharneh**	**4.11**	**205**	Pn	**Pn**	**06 00 32.3**	**+0.9**
HAGD	**Aghdareh**	**4.23**	**253**	Pn	**Pn**	**06 00 33.8**	**+0.7**
IMOG	**Moghan**	**4.27**	**89**	Pn	**Pn**	**06 00 34.3**	**+0.5**
IKRD	**Kardeh**	**4.44**	**81**	Pn	**Pn**	**06 00 36.5**	**+0.6**
IRAM	**Ramesheh**	**4.57**	**198**	Pn	**Pn**	**06 00 38.6**	**+0.8**
IMEH	**Mehriz**	**4.79**	**174**	Pn	**Pn**	**06 00 41.6**	**+0.8**
JHBN	**Jahan bin**	**4.83**	**217**	Pn	**Pn**	**06 00 42.6**	**+1.1**
IMYA	**Miami**	**4.89**	**86**	Pn	**Pn**	**06 00 41.6**	**-0.5**
AFRZ	**Afriz**	**4.91**	**122**	Pn	**Pn**	**06 00 42.8**	**+0.4**
TBJM	**Torbat-e-JAM**	**5.18**	**98**	Pn	**Pn**	**06 00 46.2**	**+0.1**
KLNJ	**Kolanjah**	**5.54**	**202**	Pn	**Pn**	**06 00 52.5**	**+1.2**
GRMI	**Germi**	**5.56**	**300**	Pn	**Pn**	**06 00 51.8**	**+0.5**
IHSH	**Hashtrud**	**5.58**	**284**	Pn	**Pn**	**06 00 52.8**	**+1.1**
SHRT	**Shahrakht**	**5.71**	**114**	Pn	**Pn**	**06 00 52.9**	**-0.3**
BSRN	**Basiran**	**5.94**	**133**	Pn	**Pn**	**06 00 56.7**	**+0.3**
IHRS	**Heris**	**6.00**	**293**	Pn	**Pn**	**06 00 58.7**	**+1.4**
KHGB	**Koh Gabri**	**6.12**	**160**	Pn	**Pn**	**06 00 60.0**	**+0.9**
KBZ	**Khabaz**	**11.41**	**315**	Pn	**Pn**	**06 02 13.4**	**+2.1**
	0.3nm,0.3s,baz=120,slow=8.1,SNR=2.2						
	0.8nm,0.4s						
BVAR	**Borovoye Array**	**20.39**	**29**	P	Pn	06 04 05.3	-2.0
	2.5nm,0.5s,baz=219,slow=9.0,SNR=10						
	2.5nm,0.5s						
KURBB	**Kurchatov Arra**	**22.77**	**43**	P	**P**	**06 04 31.4**	**+0.7**
	0.1nm,0.3s,baz=244,slow=12,SNR=5.0						
	0.1nm,0.3s						
AKASG	**Malin Array Be**	**23.01**	**317**	P	**P**	**06 04 35.5**	**+2.2**
	0.2nm,0.3s,baz=132,slow=8.9,SNR=2.2						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**23.54**	**54**	P	**P**	**06 04 38.7**	**0.0**
	0.8nm,0.7s,baz=240,slow=12,SNR=9.6						
	0.8nm,0.7s						

IDC 04 06:17:30.8±1.1, 53.56S×134.65W, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=45.3km s-min=29.6km az=154.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**36.62**	**180**	P	P	06 24 39.0	+0.6
	1.3nm,1.0s,baz=103,slow=1.2,SNR=2.3						
	1.3nm,1.0s						
H03S2	**Juan Fernandez**	**43.57**	**86**	T	T	07 11 50.2	
	baz=223,slow=74,SNR=7.0						
H03S1	**Juan Fernandez**	**43.58**	**86**	T	T	07 11 51.1	
	baz=223,slow=74,SNR=6.9						
H03S3	**Juan Fernandez**	**43.59**	**86**	T	T	07 11 51.6	
	baz=223,slow=74,SNR=8.2						
H03N3	**Juan Fernandez**	**43.84**	**86**	T	T	07 12 09.0	
	baz=227,slow=72,SNR=47						
H03N2	**Juan Fernandez**	**43.85**	**86**	T	T	07 12 07.3	
	baz=227,slow=72,SNR=52						
H03N1	**Juan Fernandez**	**43.86**	**86**	T	T	07 12 08.0	
	baz=227,slow=72,SNR=51						
LPAZ	**La Paz**	**63.13**	**81**	P	P	06 28 00.1	-0.9
	0.6nm,0.6s,baz=200,slow=9.1,SNR=2.6						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**72.15**	**254**	P	P	06 28 57.4	+0.1
	1.4nm,0.8s,baz=134,slow=5.9,SNR=9.5						
	1.4nm,0.8s						
H01W1	**Cape Leeuwin H**	**73.76**	**233**	T	T	07 50 46.8	
	baz=144,slow=76,SNR=18						
H01W2	**Cape Leeuwin H**	**73.77**	**233**	T	T	07 50 43.9	
	baz=144,slow=76,SNR=23						
H01W3	**Cape Leeuwin H**	**73.78**	**233**	T	T	07 50 48.1	
	baz=144,slow=76,SNR=18						
WRA	**Warramunga Arr**	**74.80**	**257**	P	P	06 29 12.4	-0.5
	0.9nm,0.7s,baz=140,slow=5.4,SNR=7.4						
	0.9nm,0.7s						
TXAR	**Lajitas Array**	**86.82**	**27**	P	P	06 30 17.8	+1.0
	0.5nm,0.9s,baz=184,slow=7.5,SNR=4.8						
	0.5nm,0.9s						

*NOU **04** 06:23:26.9,41°.82S×174°.47E, h8km, MLv4.0/10, Cook Strait, New Zealand*
*WEL **04** 06:23:28.7±0.3,42°.5S±2°×17°.4E±°, h5km, M3.6/11, ML3.8/11, MLv3.6/11, Error ellipse: s-maj=3.1km s-min=2.0km az=138.2, confirmed*
ISC 04 06:23:28.4±0.8, 41.67S±0.02×174.29E±0.02, h17km±5km, n54, σ0s93/70, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.09**	**215**	P	**Pg**	**06 23 31.9**	**0.0**
CMWZ				S	**Sg**	**06 23 35.0**	**+0.7**
SEDS	**Seddon Fire St**	**0.16**	**271**	P	**Pg**	**06 23 32.2**	**-0.5**
SEDS				S	**Sg**	**06 23 35.5**	**+0.1**
WDFS	**Ward Fire Stat**	**0.19**	**216**	P	**Pg**	**06 23 33.2**	**+0.1**
WDFS				S	**Sg**	**06 23 37.4**	**+1.1**
BSWZ	**Blackbirch Sta**	**0.31**	**262**	P	**Pg**	**06 23 34.6**	**-0.4**
BSWZ				S	**Sg**	**06 23 39.5**	**0.0**
TUWZ	**Tuamarina**	**0.35**	**314**	P	**Pg**	**06 23 35.8**	**0.0**
TUWZ				S	**Sg**	**06 23 41.0**	**+0.1**
KEKS	**Kekerengu Vall**	**0.36**	**219**	P	**Pg**	**06 23 36.2**	**+0.2**
KEKS				S	**Sb**	**06 23 42.7**	**+1.0**
TCW	**Tory Channel**	**0.46**	**359**	P	**Pg**	**06 23 37.1**	**-0.7**
TCW				S	**Sg**	**06 23 43.4**	**-0.7**
SNZO	**South Karori**	**0.48**	**41**	P	**Pg**	**06 23 37.6**	**-0.5**
SNZO	**South Karori**	**0.48**	**41**	S	**Sg**	**06 23 45.2**	**+0.6**
BHW	**Baring Head**	**0.51**	**59**	P	**Pg**	**06 23 38.8**	**+0.1**
WEL	**Wellington**	**0.53**	**43**	P	**Pg**	**06 23 38.9**	**-0.1**
WEL				S	**Sg**	**06 23 46.7**	**+0.5**
PLWZ	**Palliser**	**0.73**	**82**	P	**Pg**	**06 23 43.4**	**+0.6**
PLWZ				S	**Sn**	**06 23 55.1**	**+0.3**
MSWZ	**Moikau Station**	**0.77**	**71**	P	**Pb**	**06 23 43.7**	**+0.4**
MSWZ				S	**Sg**	**06 23 54.6**	**+1.0**
CAW	**Cannon Point**	**0.82**	**46**	P	**Pb**	**06 23 43.8**	**-0.3**
NNZ	**Nelson**	**0.82**	**304**	P	**Pb**	**06 23 43.3**	**-0.8**
NNZ				S	**Sb**	**06 23 54.1**	**-0.8**
KIKS	**Kaikoura**	**0.88**	**211**	P	**Pb**	**06 23 45.7**	**+0.6**
KIKS				S	**Sn**	**06 23 58.5**	**+0.3**
PAWZ	**Paruwai Farm**	**0.91**	**72**	P	**Pb**	**06 23 45.9**	**+0.2**
DUWZ	**D'Urville Isla**	**0.91**	**342**	P	**Pb**	**06 23 44.9**	**-0.9**
KHZ	**Kahutara**	**0.93**	**217**	P	**Pb**	**06 23 46.2**	**+0.2**
KHZ	**Kahutara**	**0.93**	**217**	P	**Pb**	**06 23 46.4**	**+0.4**
KHZ				S	**Sn**	**06 24 00.5**	**+1.0**
KIW	**Kapiti Island**	**0.94**	**30**	P	**Pb**	**06 23 45.7**	**-0.5**
KIW				S	**Sb**	**06 23 57.8**	**-0.6**
THZ	**Tophouse**	**1.04**	**265**	P	**Pb**	**06 23 47.4**	**-0.5**
THZ				S	**Sn**	**06 24 04.3**	**+2.0**
MTW	**Mount Morrison**	**1.05**	**61**	P	**Pb**	**06 23 47.8**	**-0.3**
OGWZ	**Otaki Gorge**	**1.09**	**38**	P	**Pb**	**06 23 48.3**	**-0.4**
TRWZ	**Traveller**	**1.09**	**76**	P	**Pb**	**06 23 48.1**	**-0.6**
MRNZ	**Matariki Terra**	**1.18**	**283**	P	**Pn**	**06 23 49.9**	**-0.2**
TKNZ	**Takaka Hill**	**1.19**	**302**	P	**Pn**	**06 23 49.7**	**-0.4**
HOWZ	**Holdsworth Sta**	**1.21**	**50**	P	**Pn**	**06 23 50.1**	**-0.4**
TMWZ	**Te Maipa**	**1.33**	**65**	P	**Pn**	**06 23 51.3**	**-0.9**
MRZ	**Mangatainoka R**	**1.41**	**44**	P	**Pn**	**06 23 53.0**	**-0.2**
MRZ				S	**Sg**	**06 24 14.2**	**+0.3**
TIWZ	**Tintock**	**1.50**	**54**	P	**Pn**	**06 23 54.5**	**-0.1**
QRZ	**Quartz Range**	**1.57**	**302**	P	**Pn**	**06 23 56.0**	**+0.5**
QRZ	**Quartz Range**	**1.57**	**302**	P	**Pn**	**06 23 56.2**	**+0.7**
GVZ	**Greta Valley S**	**1.59**	**215**	P	**Pn**	**06 23 55.2**	**-0.6**
OHWZ	**Ohakea**	**1.66**	**28**	P	**Pn**	**06 23 58.3**	**+1.6**
PRWZ	**Pori Road**	**1.70**	**49**	P	**Pn**	**06 23 56.7**	**-0.5**
POWZ	**Post Office Ro**	**1.70**	**42**	P	**Pn**	**06 23 57.1**	**-0.2**
BFZ	**Birch Farm**	**1.78**	**57**	P	**Pn**	**06 23 57.0**	**-1.4**
BFZ	**Birch Farm**	**1.78**	**57**	P	**Pn**	**06 23 56.9**	**-1.4**
DSZ	**Dennistion Nort**	**1.86**	**267**	P	**Pn**	**06 24 00.4**	**+0.9**
LTZ	**Lake Taylor**	**1.86**	**233**	P	**Pn**	**06 23 59.2**	**-0.3**
AMCZ	**Amberley**	**1.93**	**218**	P	**Pn**	**06 23 57.8**	**-2.5**
DVHZ	**Dannevirke**	**1.98**	**47**	P	**Pn**	**06 23 60.0**	**-1.1**
ANWZ	**Angora Road**	**2.05**	**54**	P	**Pn**	**06 24 01.1**	**-1.0**
TSZ	**Takapari Road**	**2.06**	**39**	P	**Pn**	**06 24 01.7**	**-0.5**
OKCZ	**Okains Bay**	**2.24**	**203**	P	**Pn**	**06 24 03.1**	**-1.6**
PNHZ	**Pukenui**	**2.28**	**40**	P	**Pn**	**06 24 04.5**	**-0.8**
MQZ	**McQueen's Vall**	**2.36**	**210**	P	**Pn**	**06 24 04.1**	**-2.2**
KHEZ	**Kahui Hut**	**2.39**	**355**	P	**Pb**	**06 24 10.4**	**-0.5**
AKCZ	**Akaroa Harbour**	**2.42**	**204**	P	**Pn**	**06 24 05.4**	**-1.7**
BKZ	**Black Stump Fm**	**3.02**	**35**	P	**Pn**	**06 24 15.7**	**+0.3**
RPZ	**Rata Peaks**	**3.13**	**228**	P	**Pn**	**06 24 15.6**	**-1.4**
HIZ	**Hauiti**	**3.19**	**8**	P	**Pn**	**06 24 20.1**	**+2.4**
ODZ	**Otahua Downs**	**4.29**	**217**	P	**Pn**	**06 24 31.2**	**-1.6**

*TEH **04** 06:24:52.5,36°.17N×54°.09E, h8km±32km*
*THR **04** 06:24:53.0±0.0,36°.17N×54°.15E, h10km±4km, ML4.3*
*MOS **04** 06:24:55.8±1.4,36°.50N×54°.35E, h10km, mb4.3/10, Error ellipse: s-maj=7.8km s-min=6.2km az=99.0*
*NEIC **04** 06:24:55.5±1.4,36°.3N±0°.1×54°.38E±0°.10, h10km±2km, mb4.1/12, Error ellipse: s-maj=25.0km s-min=13.0km az=171.0*
*IDC **04** 06:24:56.1±2.1,36°.38N×54°.16E, h0km, mb3.9/10, mbtmp4.0/14, ML3.6/4, Error ellipse: s-maj=38.6km s-min=15.9km az=1.0*
ISC 04 06:24:54.0±0.5, 36.17N±0.04×54.12E±0.03, h10km, n171, σ1s96/144, mb4.2/25, 7C, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKIA	**Kiasar**	**0.36**	**277**	Pg	**Pg**	**06 24 59.6**	**-1.6**
IGLO	**Ghaloghah**	**0.41**	**325**	Pg	**Pg**	**06 25 00.8**	**-1.3**
IANJ	**Anjilo**	**0.72**	**194**	Pg	**Pg**	**06 25 06.8**	**-1.9**
IALA	**Alasht**	**1.07**	**266**	Pg	**Pg**	**06 25 12.7**	**-1.8**
ILAS	**Lasjerd**	**1.23**	**231**	Pg	**Pb**	**06 25 15.6**	**-1.8**
IFIR	**Firoozkooh**	**1.23**	**245**	Pg	**Pb**	**06 25 15.3**	**-2.1**
IPRN	**Peran**	**1.45**	**274**	Pg	**Pb**	**06 25 19.2**	**-1.9**
IMND	**Minoodasht**	**1.50**	**43**	Pg	**Pb**	**06 25 20.3**	**-1.6**
SHRO	**Shahrood**	**1.54**	**96**	*e*PgA		06 25 21.1	
SHRO				IAML		06 26 21.1	
	comp=Z,2.7nm,1.0s						
IDMV	**Damavand**	**1.80**	**252**	Pg	**Pb**	**06 25 25.7**	**-1.4**
DAMV	**Damavand**	**1.83**	**254**	*e*PnA		06 25 26.0	
DAMV				IAML		06 26 07.0	
	comp=Z,1.1nm,1.0s						
MZPU	**Pul - Mazandar**	**2.08**	**278**	Pn	**Pb**	**06 25 29.9**	**-2.0**
MRVT	**Maraveh tapeh**	**2.17**	**46**	Pn	**Pb**	**06 25 31.0**	**-2.3**
MRVT	**Maraveh tapeh**	**2.17**	**46**	*e*PnA		06 25 30.7	
MRVT				IAML		06 26 07.1	
	comp=Z,5.6nm,1.0s						
IVRN	**Varamin**	**2.27**	**240**	Pn	**Pb**	**06 25 32.0**	**-3.2**
ISFB	**Sefidab**	**2.38**	**221**	Pn	**Pb**	**06 25 33.3**	**-3.6**
IHSB	**Hasanabad**	**2.43**	**253**	Pn	**Pb**	**06 25 34.5**	**-3.3**
CHTH	**Charan**	**2.44**	**265**	*e*PnA		06 25 37.1	
CHTH				IAML		06 26 03.5	
	comp=Z,0.5nm,1.0s						
KLST	**Kelardasht - M**	**2.50**	**279**	Pn	**Pb**	**06 25 36.2**	**-2.9**
THKV	**Tehran--Karaj**	**2.64**	**266**	*e*Pn	**Pb**	**06 25 39.9**	**-1.6**
THKV				IAML		06 26 24.0	
	comp=Z,2.6nm,1.0s						
KRSH	**Karshahi**	**2.73**	**217**	Pn	**Pn**	**06 25 38.9**	**+0.8**
TAPT	**Tabas- Tapeh t**	**2.79**	**116**	Pn	**Pn**	**06 25 39.6**	**+0.8**
IQOM	**Qom**	**2.82**	**243**	Pn	**Pn**	**06 25 39.8**	**+0.5**
SBZV	**Sabzevar**	**2.83**	**84**	Pn	**Pn**	**06 25 40.0**	**+0.7**
SBZV	**Sabzevar**	**2.83**	**84**	*e*PnA		06 25 40.1	
SBZV				IAML		06 26 34.8	
	comp=Z,1.7nm,1.0s						
GHVR	**GHOM**	**2.86**	**235**	*e*PnA		06 25 41.0	
GHVR				IAML		06 26 46.7	
	comp=Z,2.1nm,1.0s						
ANAR	**Anarak**	**2.99**	**186**	Pn	**Pn**	**06 25 41.9**	**+0.4**
TNSJ	**Nastanj**	**3.00**	**136**	Pn	**Pn**	**06 25 42.8**	**+1.2**
BJRD	**Bojnurd**	**3.04**	**59**	*e*PnA		06 25 43.8	
BJRD				IAML		06 26 40.6	
	comp=Z,0.9nm,1.0s						
IGZV	**Ghazvin**	**3.16**	**275**	Pn	**Pn**	**06 25 44.7**	**+0.7**
ISFR	**Sfrayin**	**3.24**	**73**	Pn	**Pn**	**06 25 46.2**	**+1.1**
QAMS	**Qamsar**	**3.30**	**224**	Pn	**Pn**	**06 25 46.0**	**0.0**
GIDE	**GILAN DEYLAMAN**	**3.48**	**284**	*e*PnA		06 25 49.6	
GIDE				IAML		06 26 52.2	
	comp=Z,2.7nm,1.0s						
TABS	**Tabas**	**3.52**	**135**	*e*PnA		06 25 50.0	
TABS				IAML		06 27 02.6	
	comp=Z,1.7nm,1.0s						
IKLH	**Kolahrood**	**3.53**	**217**	Pn	**Pn**	**06 25 49.6**	**+0.6**
NASN	**Na'in**	**3.53**	**198**	*e*PnA		06 25 50.2	
NASN				IAML		06 27 02.2	
	comp=Z,0.5nm,1.0s						
IZEF	**Zefreh**	**3.58**	**205**	Pn	**Pn**	**06 25 50.2**	**+0.4**
QABG	**Abgarm-Qazvin**	**3.71**	**264**	Pn	**Pn**	**06 25 52.4**	**+0.9**
ASAO	**Ashtian**	**3.72**	**245**	*e*Pn	**Pn**	**06 25 52.4**	**+0.7**
ASAO				IAML		06 27 03.0	
	comp=Z,0.5nm,1.0s						
IAKL	**Akhelmad**	**3.76**	**82**	Pn	**Pn**	**06 25 53.1**	**+0.8**
TPRV	**Parvadeh(Tabas**	**3.78**	**145**	Pn	**Pn**	**06 25 53.9**	**+1.6**
YZKH	**Yazd**	**3.79**	**174**	*e*PnA		06 25 53.3	
YZKH				IAML		06 26 28.7	
	comp=Z,0.4nm,1.0s						
IEMG	**Emamgholi**	**3.84**	**70**	Pn	**Pn**	**06 25 54.7**	**+1.3**
ICHK	**Chekchek**	**3.92**	**176**	Pn	**Pn**	**06 25 55.1**	**+0.7**
IPAY	**Payeh**	**3.95**	**84**	Pn	**Pn**	**06 25 55.3**	**+0.6**
IMOG	**Moghan**	**4.22**	**89**	Pn	**Pn**	**06 25 59.2**	**+0.6**
TBHD	**Torbat heydari**	**4.22**	**99**	Pn	**Pn**	**06 26 00.2**	**+1.6**
HAGD	**Aghdareh**	**4.28**	**253**	Pn	**Pn**	**06 26 00.2**	**+0.8**
IPIR	**Pirpir**	**4.38**	**218**	Pn	**Pn**	**06 26 01.7**	**+0.9**
IKRD	**Kardeh**	**4.39**	**80**	Pn	**Pn**	**06 26 02.3**	**+1.4**
ZNJK	**Zanjan**	**4.42**	**278**	*e*Pn	**Pn**	**06 26 03.9**	**+2.7**
ZNJK				IAML		06 26 52.5	
	comp=Z,0.2nm,1.0s						
IRAM	**Ramesheh**	**4.58**	**199**	Pn	**Pn**	**06 26 03.7**	**+0.2**
**

AAK **Ala-Archa** **17.00 61** P **Pn** **06 28 48.0 -4.0**
AAK pmax pmax
comp=Z,11nm,1.1s
KSH **Kashi** **17.57 72** P **Pn** **06 28 53.6 -5.5**
KSH pmax pmax
comp=Z,9.0nm,0.6s
NRN **Naryn** **17.83 66** P **Pn** **06 28 59.6 -2.8**
NRN **Naryn** **17.83 66** P **Pn** **06 28 59.6 -2.8**
NRN pmax pmax
comp=Z,6.0nm,0.7s
LPSR **Galich'ya Gora** **19.63 332** *e*P **P** **06 29 21.1 -1.3**
LPSR pmax pmax
comp=Z,29nm,0.7s
BRVK **Borovoye** **20.35 29** Pn 06 29 30.7 -1.7
BRVK IAmb IAmb 06 29 35.1
comp=Z,14nm,1.1s
BRVK **Borovoye** **20.35 29***c*e P Pn 06 29 31.4 -1.0
BRVK pmax pmax
comp=Z,15nm,1.2s
BVAO **Borovoye Array** **20.37 29** *i* P Pn 06 29 31.3 -1.3
BVAR **Borovoye Array** **20.37 29** P Pn 06 29 31.5 -1.1
comp=Z,16nm,0.8s,baz=213,slow=9.7,SNR=54
comp=Z,16nm,0.8s
ARTI **Arti** **20.43 7** Pn 06 29 32.0 -1.3
ARTI **Arti** **20.43 7** P Pn 06 29 32.5 -0.8
comp=Z,13nm,0.6s,baz=195,slow=7.3,SNR=13
comp=Z,13nm,0.6s
ARTI **Arti** **20.43 7***c i*P Pn 06 29 32.4 -0.9
ARTI 06 29 49.8
ARTI SS Sn 06 33 43.8 +20
ARTI pmax pmax
comp=Z,14nm,0.7s
MANT **Manisa** **20.45 284** P Pn 06 29 34.3 +0.5
SVE **Sverdlovsk** **21.13 10** *e*P **P** **06 29 41.5 +2.8**
SVE pmax pmax
comp=Z,19nm,1.3s
KARP **Karpathos** **21.84 276** P **P** **06 29 49.1 +2.5**
comp=Z,45nm,1.0s
OBN **Obninsk** **22.46 333** *e*P **P** **06 29 54.7 +1.7**
OBN *e*PPP PPP 06 30 25.8
OBN pmax pmax
comp=Z,9.0nm,0.9s
KIRV **Kirov** **22.64 354** P **P** **06 29 56.9 +2.0**
comp=Z,14nm,0.6s,baz=170,slow=22,SNR=6.6
comp=Z,14nm,0.6s
KIRV **Kirov** **22.64 354** *i* P **P** **06 29 56.8 +1.9**
KURBB **Kurchatov Arra** **22.74 43** P **P** **06 29 57.4 +1.4**
comp=Z,1.2nm,0.8s,baz=244,slow=11,SNR=8.2
comp=Z,1.2nm,0.8s
KURK **Kurchatov** **22.83 43** **P** **06 29 56.3 -0.7**
KURK IAmb IAmb 06 30 11.9
comp=Z,7.3nm,1.0s
KURK **Kurchatov** **22.83 43***c*e P **P** **06 29 58.1 +1.1**
KURK pmax pmax
comp=Z,5.0nm,0.8s
AK10 **Malin Array Si** **22.98 317** P **P** **06 30 00.4 +1.8**
AK08 **Malin Array Si** **23.00 317** P **P** **06 30 00.5 +1.8**
AK06 **Malin Array Si** **23.00 317** P **P** **06 30 00.8 +2.0**
AK02 **Malin Array Si** **23.04 317** P **P** **06 30 00.9 +1.8**
AKASG **Malin Array Be** **23.05 317** P **P** **06 30 01.1 +1.9**
comp=Z,1.8nm,0.7s,baz=125,slow=9.1,SNR=4.8
comp=Z,1.8nm,0.7s
AKASG **Malin Array Be** **23.05 317***c*e P **P** **06 30 02.5 +3.3**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB **Malin Array Si** **23.05 317** **P** **06 30 00.8 +1.6**
AKBB IAmb IAmb 06 30 39.5
comp=Z,6.6nm,0.8s
AKBB **Malin Array Si** **23.05 317** P **P** **06 30 00.8 +1.6**
AKBB pmax pmax
comp=Z,7.0nm,0.8s
AKBB **Malin Array Si** **23.05 317** P **P** **06 30 01.1 +1.9**
AK01 **Malin Array Si** **23.05 317** P **P** **06 30 01.1 +1.9**
KIEV **Kiev** **23.05 317** **P** **06 30 00.8 +1.5**
KIEV IAmb IAmb 06 30 39.4
comp=Z,6.2nm,0.8s
KIEV **Kiev** **23.05 317** P **P** **06 30 00.8 +1.5**
KIEV pmax pmax
comp=Z,6.0nm,0.9s
KIEV **Kiev** **23.05 317** P **P** **06 30 01.2 +1.9**
comp=Z,29nm,0.7s
AK16 **Malin Array Si** **23.10 317** P **P** **06 30 01.5 +1.8**
MAKZ **Makanchi** **23.30 54** **P** **06 30 01.4 -0.5**
MAKZ **Makanchi** **23.30 54** P **P** **06 30 01.4 -0.5**
MAKZ pmax pmax
comp=Z,12nm,1.2s
MK31 **Makanchi Array** **23.50 54** *i* P **P** **06 30 04.6 +0.6**
MKAR **Makanchi Array** **23.50 54** **P** **06 30 03.1 -0.9**
MKAR **Makanchi Array** **23.50 54** P **P** **06 30 04.8 +0.8**
comp=Z,2.6nm,0.7s,baz=243,slow=7.5,SNR=29
comp=Z,2.6nm,0.7s
MKAR **Makanchi Array** **23.50 54***c*e P **P** **06 30 05.0 +1.0**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
LUBAR **Lubar, Ukraine** **23.52 314** P **P** **06 30 05.6 +1.6**
LUBAR pP **sP** **06 30 09.0 -0.1**
MI30 **MI30,Zelenitsa** **23.64 316** P **P** **06 30 07.8 +2.6**
comp=Z,14nm,1.0s
KMPD **K-Podol'skiy** **23.76 310** P **P** **06 30 08.6 +2.3**
BURAR **Bucovina Array** **24.23 307** P **P** **06 30 12.4 +1.5**
BUR08 **Bucovina Ar. S** **24.25 307** P **P** **06 30 13.7 +2.6**
BUR08 IAmb IAmb 06 30 53.8
comp=Z,8.9nm,1.2s
STNU **Starunia** **25.03 309** P **P** **06 30 19.9 +1.9**
RNPP5 **Staryi Chortor** **25.16 316** P **P** **06 30 21.1 +1.9**
KLMR **Klimovskoe** **26.41 344** *e*P **P** **06 30 30.1 -0.3**
KLMR pmax pmax
comp=Z,6.0nm,0.9s
KOLS **Kolonicke sedl** **26.50 309** *e*P **P** **06 30 36.2 +4.8**
KOLS **Kolonicke sedl** **26.50 309** *e*P **P** **06 30 36.2 +4.8**
WMQ **Urumqi** **26.70 63** *e*P **P** **06 30 33.9 +0.6**
WMQ pmax pmax
comp=Z,20nm,1.3s
ZALV **Zalesovo Beam** **27.72 40** P **P** **06 30 42.9 +0.6**
comp=Z,0.6nm,0.4s,baz=254,slow=10,SNR=1.8
comp=Z,0.6nm,0.4s
TIP **Timpagrande** **29.59 287** P **P** **06 31 01.7 +2.5**
comp=Z,3.1nm,1.0s
GERES **GERESS Array B** **32.00 306** P **P** **06 31 22.4 +2.0**
comp=Z,0.5nm,0.7s,baz=108,slow=8.6,SNR=4.7
comp=Z,0.5nm,0.7s
CLL **Collm** **32.86 310** *i* P **P** **06 31 29.7 +2.0**
CLL *e* 06 31 33.0
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL **Collm** **32.86 310** P **P** **06 31 29.5 +1.8**
comp=Z,6.9nm,0.9s
CLL **Collm** **32.86 310** *i* P **P** **06 31 29.7 +2.0**
comp=Z,5.0nm,1.0s
CLL *ex* x 06 31 33.0
CLL *e*PP **PP** **06 32 44.0 +2.1**
CLL *e*PPPP 06 32 57.0
LVZ **Lovozero** **33.64 347***c*e P **P** **06 31 36.2 +1.8**
LVZ pmax pmax
comp=Z,35nm,1.7s
LVZ **Lovozero** **33.64 347** P **P** **06 31 34.8 +0.4**
comp=Z,26nm,1.4s
LZH **Lanzhou** **39.80 75** *e*P P 06 32 20.7 -6.7
LZH pP pP 06 32 27.0 -4.0
LZH pmax pmax
comp=Z,20nm,1.1s
ULN **Ulaanbaatar** **40.29 56***c*e P **P** **06 32 33.2 +1.9**
ULN pmax pmax
comp=Z,7.0nm,1.7s
PZH **PanZhiHua** **41.45 90** P **P** **06 32 41.4 +0.3**
EKA **Eskdalemuir Ar** **42.94 315** P P 06 32 56.6 +3.8
comp=Z,0.3nm,0.4s,baz=111,slow=9.1,SNR=3.9
comp=Z,0.3nm,0.4s
HHC **Hu-ho-hao-te** **44.51 66** *e*P **P** **06 33 05.3 -0.4**
HHC pmax pmax
comp=Z,11nm,0.8s
KSRS **Korea Array** **57.63 65** P P 06 34 48.5 +4.3
comp=Z,1.6nm,0.6s,baz=281,slow=7.0,SNR=8.0
comp=Z,1.6nm,0.6s

TEH **04** *06:27:30.4,36.19N×54.07E,h7km±14km*
NEIC **04** *06:27:32.0±1.8,35.93N±0.09×54.38E±0.08,h10km±1km, mb4.7/43, Error ellipse: s-maj=14.8km s-min=11.5km az=168.0*
MOS **04** *06:27:31.7±1.3,36.20N×54.25E,h14km,mb4.9/23, Error ellipse: s-maj=6.1km s-min=4.4km az=128.6*
IDC **04** *06:27:31.1±0.8,36.15N×54.20E,h0km,mb4.2/26, mbtmp4.2/33,ML4.0/7,MS4.3/7, Error ellipse:*

s-maj=17.0km s-min=11.1km az=0.0
THR **04** *06:27:33.4±0.0,36.20N×54.16E,h10km±6km,ML4.8*
GII **04** *06:27:35.3±0.0,35.93N×54.38E,h10km,confirmed*
ISC 04 06:27:32.8±0.4,**36.17N**±0.03×**54.15E**±0.03,**h10km**,**n339,**
s207/325,mb4.6/88,MS4.2/10,21C-11D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IKIA	**Kiasar**	**0.38**	**277**	Pg	**Pg**		**06 27 38.2**	**-2.2**
IGLO	**Ghaloghah**	**0.42**	**323**	Pg	**Pg**		**06 27 39.5**	**-1.7**
IANJ	**Anjilo**	**0.72**	**195**	Pg	**Pg**		**06 27 45.7**	**-1.1**
IALA	**Alasht**	**1.09**	**266**	Pg	**Pg**		**06 27 51.4**	**-2.3**
ILAS	**Lasjerd**	**1.24**	**231**	Pg	**Pn**		**06 27 54.4**	**-2.1**
IFIR	**Firoozkooh**	**1.25**	**246**	Pg	**Pn**		**06 27 53.9**	**-2.6**
IPRN	**Peran**	**1.47**	**274**	Pg	**Pn**		**06 27 58.1**	**-1.3**
IMND	**Minoodasht**	**1.49**	**43**	Pg	**Pn**		**06 27 59.2**	**-0.4**
SHRO	**Shahrood**	**1.52**	**96**	*e*PgA			06 28 01.1	
SHRO				IAML			06 28 27.9	
	comp=Z,7.3nm,1.0s							
IDMV	**Damavand**	**1.81**	**252**	Pg	**Pn**		**06 28 04.3**	**0.0**
MZPU	**Pul - Mazandar**	**2.10**	**278**	Pn	**Pn**		**06 28 08.6**	**+0.4**
MRVT	**Maraveh tapeh**	**2.16**	**46**	Pn	**Pn**		**06 28 10.0**	**+1.2**
TEHA	**Amirabad Tehra**	**2.28**	**260**	Pn	**Pn**		**06 28 10.8**	**+0.2**
IVRN	**Varamin**	**2.29**	**240**	Pn	**Pn**		**06 28 10.9**	**+0.2**
ISFB	**Sefidab**	**2.39**	**221**	Pn	**Pn**		**06 28 12.2**	**+0.1**
IHSB	**Hasanabad**	**2.44**	**254**	Pn	**Pn**		**06 28 13.3**	**+0.5**
CHTH	**Charan**	**2.46**	**265**	*e*PnA			06 28 16.2	
CHTH				IAML			06 28 36.9	
	comp=Z,2.5nm,1.0s							
KLST	**Kelardasht - M**	**2.52**	**279**	Pn	**Pn**		**06 28 14.6**	**+0.6**
THKV	**Tehran--Karaj**	**2.66**	**266**	*e*Pn	**Pb**		**06 28 19.5**	**-1.1**
THKV				IAML			06 29 01.9	
	comp=Z,13nm,1.0s							
KRSH	**Karshahi**	**2.74**	**218**	Pn	**Pn**		**06 28 17.7**	**+0.7**
TAPT	**Tabas- Tapeh t**	**2.77**	**117**	Pn	**Pn**		**06 28 18.7**	**+1.4**
SBZV	**Sabzevar**	**2.81**	**84**	Pn	**Pn**		**06 28 19.6**	**+1.6**
SBZV	**Sabzevar**	**2.81**	**84**	*e*Pn	**Pn**		**06 28 20.0**	**+2.0**
SBZV				IAML			06 29 12.1	
	comp=Z,5.6nm,1.0s							
IQOM	**Qom**	**2.84**	**243**	Pn	**Pn**		**06 28 18.7**	**+0.3**
GHVR	**GHOM**	**2.88**	**235**	*e*Pn	**Pb**		**06 28 22.8**	**-1.4**
GHVR				IAML			06 29 21.3	
	comp=Z,13nm,1.0s							
TNSJ	**Nastanj**	**2.98**	**137**	Pn	**Pn**		**06 28 21.8**	**+1.6**
ANAR	**Anarak**	**2.99**	**187**	Pn	**Pn**		**06 28 21.3**	**+1.0**
BJRD	**Bojnurd**	**3.03**	**59**	*e*Pn	**Pn**		**06 28 23.5**	**+2.6**
BJRD				IAML			06 29 21.5	
	comp=Z,2.6nm,1.0s							
ISFR	**Sfrayin**	**3.22**	**73**	Pn	**Pn**		**06 28 25.3**	**+1.6**
QAMS	**Qamsar**	**3.31**	**224**	Pn	**Pn**		**06 28 25.0**	**+0.1**
IKLH	**Iskahrood**	**3.54**	**217**	Pn	**Pn**		**06 28 28.9**	**+0.9**
IZEF	**Zefreh**	**3.59**	**205**	Pn	**Pn**		**06 28 28.8**	**0.0**
QABG	**Abgarm-Qazvin**	**3.73**	**264**	Pn	**Pn**		**06 28 31.0**	**+0.3**
IAKL	**Akhelmad**	**3.75**	**82**	Pn	**Pn**		**06 28 32.3**	**+1.4**
TPRV	**Parvadeh(Tabas**	**3.77**	**145**	Pn	**Pn**		**06 28 32.7**	**+1.7**
IEMG	**Emamgholi**	**3.83**	**70**	Pn	**Pn**		**06 28 33.7**	**+1.7**
ICHK	**Chekchek**	**3.92**	**177**	Pn	**Pn**		**06 28 34.7**	**+1.5**
IPAY	**Payeh**	**3.93**	**84**	Pn	**Pn**		**06 28 35.1**	**+1.7**
IGAR	**Gharneh**	**4.14**	**206**	Pn	**Pn**		**06 28 36.9**	**+0.7**
IMOG	**Moghan**	**4.20**	**89**	Pn	**Pn**		**06 28 39.1**	**+1.9**
ISAD	**Sadrabad**	**4.26**	**185**	Pn	**Pn**		**06 28 38.7**	**+0.7**
HAGD	**Aghdareh**	**4.30**	**253**	Pn	**Pn**		**06 28 39.2**	**+0.8**
IKRD	**Kardeh**	**4.37**	**80**	Pn	**Pn**		**06 28 41.2**	**+1.8**
IPIR	**Pirpir**	**4.39**	**219**	Pn	**Pn**		**06 28 40.8**	**+0.9**
ZNJK	**Zanjan**	**4.43**	**278**	*e*Pn	**Pn**		**06 28 43.2**	**+2.9**
ZNJK				IAML			06 30 10.9	
	comp=Z,0.9nm,1.0s							
IRAM	**Ramesheh**	**4.59**	**199**	Pn	**Pn**		**06 28 43.9**	**+1.5**
IBAF	**Bafgh**	**4.71**	**165**	Pn	**Pn**		**06 28 45.4**	**+1.3**
GAS1	**Astara - Iran**	**4.78**	**299**	Pn	**Pn**		**06 28 44.1**	**-0.7**
IMEH	**Mehriz**	**4.78**	**175**	Pn	**Pn**		**06 28 46.7**	**+1.6**
IMYA	**Miami**	**4.82**	**86**	Pn	**Pn**		**06 28 47.3**	**+1.8**
AFRZ	**Afriz**	**4.85**	**123**	Pn	**Pn**		**06 28 47.6**	**+1.7**
JHBN	**Jahan bin**	**4.87**	**217**	Pn	**Pn**		**06 28 47.6**	**+1.2**
ITEG	**Tejag**	**5.00**	**129**	Pn	**Pn**		**06 28 50.0**	**+1.8**
JRKH	**Jarkhoshk**	**5.03**	**91**	Pn	**Pn**		**06 28 50.1**	**+1.7**
TBJM	**Torbat-e-JAM**	**5.11**	**98**	Pn	**Pn**		**06 28 51.2**	**+1.6**
IKOO	**Kooshah**	**5.49**	**131**	Pn	**Pn**		**06 28 56.7**	**+1.9**
GTMR	**Gotvand**	**5.56**	**230**	*e*Pn	**Pn**		**06 28 57.5**	**+1.9**
GTMR				IAML			06 30 48.6	
	comp=Z,1.4nm,1.0s							
KLNJ	**Kolanjah**	**5.57**	**203**	Pn	**Pn**		**06 28 57.7**	**+1.7**
SNGE	**Sanandaj**	**5.64**	**261**	*e*Pn	**Pn**		**06 28 59.0**	**+2.1**
SNGE				IAML			06 29 40.3	
	comp=Z,0.0nm,1.0s							
IHSH	**Hashtrud**	**5.64**	**284**	Pn	**Pn**		**06 28 57.6**	**+0.5**
IHRS	**Heris**	**6.06**	**293**	Pn	**Pn**		**06 29 02.9**	**+0.2**
ITBZ	**Tabriz**	**6.71**	**290**	Pn	**Pn**		**06 29 11.8**	**+0.3**
IAZR	**Azarshahr**	**6.71**	**285**	Pn	**Pn**		**06 29 12.4**	**+0.7**
ILBA	**Ilam Banvizeh**	**7.00**	**251**	Pn	**Pn**		**06 29 15.9**	**+0.5**
ISHB	**Shabestar**	**7.13**	**290**	Pn	**Pn**		**06 29 16.9**	**-0.4**
AKT	**Akhty**	**7.30**	**319**	*e*P	**Pn**		**06 29 18.1**	**-1.4**
AKT				*e*S	**Sn**		**06 30 41.0**	**-1.4**
AKT				pmax	pmax			
	comp=Z,49nm,0.3s							
AKT				smax	smax			
	comp=N,139nm,0.4s							
AKT				smax	smax			
	comp=E,219nm,0.6s							
DSBU	**Dashti - Bushe**	**8.15**	**198**	Pn	**Pn**		**06 29 32.6**	**+1.3**
GNI	**Garni**	**8.41**	**301**		**Pn**		**06 29 38.1**	**+3.3**
GNI	**Garni**	**8.41**	**301**	Pn	**Pn**		**06 29 37.3**	**+2.5**
	comp=E,5.1nm,0.3s,baz=19,slow=12,SNR=8.6							
	comp=E,22nm,0.7s							
GNI	**Garni**	**8.41**	**301**	*i* P	**Pn**		**06 29 36.7**	**+1.9**
GNI	**Garni**	**8.41**	**301**	Pn	**Pn**		**06 29 38.2**	**+3.4**
	comp=E,1μcomp=E,148nm,0.8s							
GEVA	**Gevas**	**9.10**	**287**		**Pn**		**06 29 47.3**	**+3.0**
KARS	**Kars**	**9.76**	**300**	Pn	**Pn**		**06 29 55.9**	**+2.5**
KARS	**Kars**	**9.76**	**300**	P	**Pn**		**06 29 55.9**	**+2.5**
GURO	**Guroymak-BITLI**	**9.94**	**287**		**Pn**		**06 29 58.5**	**+2.8**
SRVN	**Saravan**	**11.20**	**139**	*i* P	**Pn**		**06 30 16.9**	**+3.8**
UOSS	**Minazif**	**11.32**	**170**	Pn	**Pn**		**06 30 11.5**	**-3.2**
KOPT	**Kop Dagi**	**11.42**	**294**		**Pn**		**06 30 18.3**	**+2.1**
KBZ	**Khabaz**	**11.46**	**315**	Pn	**Pn**		**06 30 19.4**	**+2.9**
	comp=E,1.0nm,0.3s,baz=188,slow=7.7,SNR=5.0							
	comp=E,2.1nm,0.3s							
KBZ	**Khabaz**	**11.46**	**315**	*i* P	**Pn**		**06 30 17.6**	**+1.1**
SHA1	**Shidzhatmaz**	**11.61**	**314**	*i* P	**Pn**		**06 30 17.8**	**-0.9**
KIV	**Kislovodsk**	**11.72**	**315**	*e*P	**Pn**		**06 30 20.1**	**0.0**
KIV				*e*S	**Sn**		**06 32 32.0**	**+0.9**
KIV				pmax	pmax			
	comp=Z,17nm,1.0s							
KIV				MLR	MLR			
	comp=Z,207nm,13.0s							
GOF	**Gofitskoye**	**12.24**	**320**	*c*e P	**Pn**		**06 30 30.6**	**+3.5**
KBL	**Kabul**	**12.27**	**93**	Pn	Pn		06 30 23.1	-4.7
KBL	**Kabul**	**12.27**	**93**	P	Pn		06 30 23.1	-4.7
GAR	**Garm**	**13.13**	**73**		**Pn**		**06 30 37.3**	**-2.2**
GAZ	**Gaziantep**	**13.64**	**279**	Pn	**Pn**		**06 30 46.6**	**+0.3**
BTK	**Batken**	**13.69**	**68**	Pn	**Pn**		**06 30 45.5**	**-1.5**
BTK	**Batken**	**13.69**	**68**	P	**Pn**		**06 30 45.5**	**-1.5**
DRK	**Karamyk**	**14.34**	**71**	Pn	**Pn**		**06 30 54.5**	**-1.6**
DRK	**Karamyk**	**14.34**	**71**	P	**Pn**		**06 30 54.5**	**-1.6**
KK31	**Karatay Array**	**14.38**	**56**		**Pn**		**06 30 54.8**	**-1.5**
KK31	**Karatay Array**	**14.38**	**56**	P	**Pn**		**06 30 54.8**	**-1.5**
KK31	**Karatay Array**	**14.38**	**56**	S	**Pn**		**06 30 55.3**	**-1.0**
KKAR	**Karatay Array**	**14.38**	**56**		**Pn**		**06 30 54.9**	**-1.5**
KKAR	**Karatay Array**	**14.38**	**56**		**Pn**		**06 30 54.3**	**-2.0**
KKAR	**Karatay Array**	**14.38**	**56**	P	**Pn**		**06 30 54.3**	**-2.0**
AKTO	**Aktyubinsk**	**14.54**	**10**	Pn	**Pn**		**06 30 53.9**	**-4.6**
	comp=Z,3.2nm,0.3s,baz=195,slow=22,SNR=9.9							
AKTO				Sn	**Sn**		**06 33 32.5**	**-7.1**
	comp=Z,1.8nm,0.3s,baz=68,slow=14,SNR=4.3							
AKTO				LR	LR		06 37 58.8	
	comp=Z,586nm,21.5s,baz=122,slow=43							
	comp=Z,9.3nm,0.5s							
RAYN	**Ar Rayn**	**14.65**	**213**		**Pn**		**06 30 56.0**	**-4.1**
RAYN	**Ar Rayn**	**14.65**	**213**	P	**Pn**		**06 30 56.1**	**-4.1**
BNN	**Bunyan**	**14.77**	**286**	Pn	**Pn**		**06 31 04.0**	**+2.2**
BNN				IAmb	IAmb		06 31 12.6	
	comp=Z,33nm,0.8s							
ASF	**Jabal al Asfar**	**14.82**	**259**	Pn	**Pn**		**06 31 02.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=355,slow=2.9,SNR=5.5							
	comp=Z,1.3nm,0.5s							
ANN	**Anapa**	**15.35**	**309**	*e*P	**Pn**		**06 31 08.0**	**-1.3**
ANN				pmax	pmax			
	comp=Z,47nm,1.1s							
ARSB	**Arslanbob**	**15.56**	**65**		**Pn**		**06 31 11.9**	**-0.4**
ARSB	**Arslanbob**	**15.56**	**65**	P	**Pn**		**06 31 12.0**	**-0.4**
ARSB				pmax	pmax			
	comp=Z,96nm,1.3s							
MMAI	**Mount Meron Ar**	**15.75**	**264**	Pn	**Pn**		**06 31 15.3**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=91,slow=14,SNR=8.1							
	comp=Z,0.8nm,0.4s							
NIL	**Nilore**	**15.87**	**94**		**Pn**		**06 31 12.7**	**-3.7**
NIL	**Nilore**	**15.87**	**94**	P	**Pn**		**06 31 12.7**	**-3.7**
NIL				pmax	pmax			
	comp=Z,24nm,1.0s							
HMDT	**Nahal Hemdat**	**15.89**	**261**	P	**P**		**06 31 21.7**	**+1.5**
GHAJ	**Ghor Haditha**	**16.20**	**258**		**P**		**06 31 26.2**	**+2.7**
GHAJ				IAmb	IAmb		06 31 27.5	
	comp=Z,56nm,1.1s							
GHAJ	**Ghor Haditha**	**16.20**	**258**	P	**P**		**06 31 25.4**	**+1.8**
DSI	**Dead Sea**	**16.24**	**259**	P	**P**		**06 31 25.8**	**+1.6**
BR104	**Keskin Array S**	**16.56**	**288**	P	**P**		**06 31 27.7**	**0.0**
	comp=Z,54nmcomp=Z,5.9nm,1.2s							
BR131	**Keskin Array S**	**16.56**	**289**		**P**		**06 31 27.4**	**-0.4**
BR131	**Keskin Array S**	**16.56**	**289**	P	**P**		**06 31 27.4**	**-0.4**
BR131				pmax	pmax			
	comp=Z,16nm,1.3s							
BRTR	**Keskin Array B**	**16.56**	**289**	Pn	**Pn**		**06 31 26.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=106,slow=9.1,SNR=8.1							
	comp=Z,1.9nm,0.8s							
BR105	**Keskin Array S**	**16.57**	**289**	P	**P**		**06 31 28.0**	**+0.1**
	comp=Z,61nmcomp=Z,6.2nm,1.0s							
BR106	**Keskin Array S**	**16.58**	**289**	P	**P**		**06 31 28.0**	**+0.1**
	comp=Z,48nmcomp=Z,6.2nm,1.0s							
BZK	**Bozkurt**	**16.67**	**296**		**P**		**06 31 31.1**	**+2.3**
ILGA	**Ilgaz**	**16.69**	**293**		**P**		**06 31 29.4**	**+0.1**
ILGA				IAmb	IAmb		06 31 35.6	
	comp=Z,53nm,1.4s							
BELG	**Belogornoye**	**16.87**	**346**	Pn	**Pn**		**06 31 24.1**	**-4.8**
	comp=Z,1.5nm,0.3s,baz=345,slow=2.4,SNR=11							
BELG				Sn	Sn		06 34 24.7	-12
	comp=Z,0.9nm,0.3s,baz=87,slow=20,SNR=6.7							
PRNI	**Paran**	**17.02**	**256**	P	**P**		**06 31 34.5**	**+1.7**
FRU1	**Bishkek**	**17.13**	**61**		**Pn**		**06 31 31.3**	**-1.0**
FRU1	**Bishkek**	**17.13**	**61**	P	**Pn**		**06 31 31.3**	**-1.0**
FRU1				pmax	pmax			
	comp=Z,75nm,0.3s							
HRFI	**Mount Harif**	**17.13**	**255**	P	**P**		**06 31 35.7**	**+1.7**
ANTO	**Ankara**	**17.22**	**289**	P	**P**		**06 31 36.5**	**+1.5**
ANTO	**Ankara**	**17.22**	**289**	P	**P**		**06 31 36.6**	**+1.5**
ANTO				pmax	pmax			
	comp=Z,35nm,1.3s							
ANTO	**Ankara**	**17.22**	**289**	P	**P**		**06 31 36.0**	**+1.0**
	comp=Z,191nmcomp=Z,9.7nm,1.1s							
MBRI	**Mt Berech**	**17.33**	**254**	P	**P**		**06 31 38.3**	**+2.0**
KRMI	**Paran Flat**	**17.34**	**255**	P	**P**		**06 31 38.3**	**+2.0**
EIL	**Elat**	**17.36**	**254**	P	**Pn**		**06 31 35.8**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=3.6,slow=6.8,SNR=7.3							
	comp=Z,3.6nm,0.9s							
VRH	**Novokhopyorsk**	**17.47**	**333**	*e*P	**Pn**		**06 31 36.1**	**-0.3**
VRH				*e*S	**Sn**		**06 34 52.9**	**+2.0**
VRH				pmax	pmax			
	comp=Z,50nm,0.7s							
VRH				smax	smax			
	comp=N,200nm,1.4s							
SIM	**Simferopol'**	**17.54**	**306**	*e*P	**P**		**06 31 39.2**	**+0.8**
SIM				pmax	pmax			
	comp=Z,14nm,0.9s							
KSH	**Kashi**	**17.55**	**72**	P	**Pn**		**06 31 32.5**	**-5.2**
KSH				sP	P		06 31 38.0	-0.8
KSH				pmax	pmax			
	comp=Z,26nm,0.9s							
NRN	**Naryn**	**17.81**	**66**	P	**Pn**		**06 31 39.8**	**-1.3**
NRN	**Naryn**	**17.81**	**66**	P	**Pn**		**06 31 39.8**	**-1.3**
NRN				pmax	pmax			
	comp=Z,33nm,1.0s							
VORD	**Divnogorie**	**18.24**	**329**	*e*P	**Pn**		**06 31 43.7**	**-2.2**
VORD				pmax	pmax			
	comp=Z,20nm,1.1s							
VSR	**Storozhevoye**	**18.48**	**329**	*e*P	**P**		**06 31 44.5**	**-4.2**
VSR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
MDUB	**Mudurnu**	**18.50**	**290**	P	**Pn**		**06 31 50.7**	**+1.4**
KDJ	**Kajisay**	**18.81**	**65**	IAmb	IAmb		06 32 02.0	
	comp=Z,41nm,1.1s							
VORR	**Voronezh**	**18.81**	**330**	*e*P	**P**		**06 31 52.6**	**+0.3**
VORR				pmax	pmax			
	comp=Z,80nm,0.4s							
LPSR	**Galich'ya Gora**	**19.64**	**332**	*e*P	**P**		**06 31 59.2**	**-2.2**
LPSR				*e*S	**S**		**06 35 38.4**	**-4.4**
LPSR				pmax	pmax			
	comp=Z,71nm,0.9s							
LPSR				smax	smax			
	comp=E,300nm,1.6s							
KLYT	**Kilyos**	**20.21**	**292**	P	Pn		06 32 09.8	+0.2
	comp=E,53nm,1.4s							
BRVK	**Borovoye**	**20.34**	**29**		**P**		**06 32 10.0**	**+0.9**
BRVK				IAmb	IAmb		06 32 14.1	
	comp=Z,51nm,1.1s							
BRVK	**Borovoye**	**20.34**	**29***c*e P		**P**		**06 32 10.2**	**+1.1**
BRVK				pmax	pmax			
	comp=Z,47nm,1.0s							
BVAR	**Borovoye Array**	**20.36**	**29**	P	**P**		**06 32 10.0**	**+0.7**
	comp=Z,43nm,0.8s,baz=216,slow=9.2,SNR=43							
BVAR				LR	LR		06 41 13.0	
	comp=Z,606nm,19.2s,baz=231,slow=40							
	comp=Z,43nm,0.8s							
ARTI	**Arti**	**20.43**	**7**	P	**P**		**06 32 10.5**	**+0.5**
ARTI	**Arti**	**20.43**	**7**	P	**P**		**06 32 11.1**	**+1.1**
	comp=Z,31nm,0.7s,baz=185,slow=10,SNR=16							
ARTI				LR	LR		06 41 45.8	
	comp=Z,690nm,18.6s,baz=231,slow=42							
	comp=Z,31n

	KIRV	**Kirov**	**22.65**	**354**	*i* P		**P**	**06 32 34.4 +0.6**
	KURBB	**Kurchatov Arra**	**22.72**	**43**	P		**P**	**06 32 35.2 +0.5**
		comp=Z,1.9nm,0.6s,baz=244,slow=12,SNR=8.3						
	KURBB				LR		LR	06 42 23.1
		comp=Z,581nm,18.7s,baz=176,slow=39						
		comp=Z,1.9nm,0.6s						
	VRI	**Vrincioaia**	**22.75**	**304**	⇑P		**P**	**06 32 36.6 +1.5**
	VRI	**Vrincioaia**	**22.75**	**304**	P		**P**	**06 32 36.5 +1.5**
	PLOR	**Plostina**	**22.80**	**304**	⇑P		**P**	**06 32 36.9 +1.3**
	PLOR	**Plostina**	**22.80**	**304**	P		**P**	**06 32 36.9 +1.3**
	KURK	**Kurchatov**	**22.82**	**43**	P		**P**	**06 32 37.6 +1.9**
	KURK				IAmb		IAmb	06 32 47.1
		comp=Z,25nm,1.0s						
	KURK	**Kurchatov**	**22.82**	**43**	*ce*P		**P**	**06 32 35.3 -0.4**
	KURK				pmax		pmax	
		comp=Z,7.0nm,1.0s						
	RDO	**Rodhopi**	**22.84**	**291**	P		**P**	**06 32 40.6 +4.7**
	RDO				IAmb		IAmb	06 32 46.3
		comp=Z,22nm,1.1s						
	TESR	**Tescani**	**22.98**	**305**	⇑P		**P**	**06 32 37.5 0.0**
	AK10	**Malin Array Si**	**23.00**	**317**	P		**P**	**06 32 39.9 +2.4**
	AK06	**Malin Array Si**	**23.02**	**317**	P		**P**	**06 32 40.4 +2.6**
	AK02	**Malin Array Si**	**23.05**	**317**	P		**P**	**06 32 40.7 +2.6**
	AKASG	**Malin Array Be**	**23.06**	**317**	P		**P**	**06 32 36.8 -1.4**
		comp=Z,2.2nm,0.7s,baz=127,slow=9.8,SNR=12						
	AKASG				S		**S**	**06 36 49.0 0.0**
		comp=Z,0.7nm,0.6s,baz=124,slow=21,SNR=5.7						
		comp=Z,2.2nm,0.7s						
	AKBB	**Malin Array Si**	**23.06**	**317**	P		**P**	**06 32 37.5 -0.7**
	AKBB				IAmb		IAmb	06 32 54.3
		comp=Z,37nm,1.2s						
	AKBB	**Malin Array Si**	**23.06**	**317**	*i* P		**P**	**06 32 36.7 -1.5**
	AKBB				pmax		pmax	
		comp=Z,17nm,0.9s						
	KIEV	**Kiev**	**23.07**	**317**	P		**P**	**06 32 37.6 -0.6**
	KIEV				IAmb		IAmb	06 32 54.3
		comp=Z,33nm,1.2s						
	KIEV	**Kiev**	**23.07**	**317**	⇓P		**P**	**06 32 37.4 -0.8**
	KIEV	**Kiev**	**23.07**	**317**	P		**P**	**06 32 37.6 -0.6**
	KIEV				pmax		pmax	
		comp=Z,33nm,1.3s						
	ONER	**Baraj Valea Uz**	**23.10**	**305**	⇑P		**P**	**06 32 39.5 +0.8**
	AK18	**Malin Array Si**	**23.16**	**317**	P		**P**	**06 32 41.9 +2.7**
	AK22	**Malin Array Si**	**23.17**	**317**	P		**P**	**06 32 42.1 +2.7**
	AK22				pP		**sP**	**06 32 44.7 +0.5**
	MLR	**Muntele Rosu**	**23.18**	**302**	P		**P**	**06 32 41.2 +1.5**
	MLR				IAmb		IAmb	06 32 50.4
		comp=Z,39nm,1.2s						
	MLR	**Muntele Rosu**	**23.18**	**302**	⇑P		**P**	**06 32 41.2 +1.5**
	MLR	**Muntele Rosu**	**23.18**	**302**	P		**P**	**06 32 41.2 +1.5**
	MLR	**Muntele Rosu**	**23.18**	**302**	P		**P**	**06 32 41.9 +2.2**
		comp=Z,27nm,1.2s						
	MAKZ	**Makanchi**	**23.29**	**54**	P		**P**	**06 32 41.5 +0.9**
	MAKZ				IAmb		IAmb	06 32 43.8
		comp=Z,40nm,1.1s						
	MAKZ	**Makanchi**	**23.29**	**54**	P		**P**	**06 32 41.5 +0.9**
	MAKZ				pmax		pmax	
		comp=Z,40nm,1.2s						
	MK31	**Makanchi Array**	**23.49**	**54**	*ce*P		**P**	**06 32 43.5 +0.9**
	MKAR	**Makanchi Array**	**23.49**	**54**	P		**P**	**06 32 43.6 +0.9**
	MKAR	**Makanchi Array**	**23.49**	**54**	P		**P**	**06 32 43.2 +0.6**
		comp=Z,6.4nm,0.8s,baz=244,slow=8.6,SNR=19						
		comp=Z,6.4nm,0.8s						
	MKAR	**Makanchi Array**	**23.49**	**54**	*ce*P		**P**	**06 32 43.2 +0.6**
	MKAR				pmax		pmax	
		comp=Z,7.0nm,0.8s						
	LUBAR	**Lubar, Ukraine**	**23.53**	**314**	P		**P**	**06 32 43.8 +0.8**
	MI30	**MI30,Zelenitsa**	**23.66**	**316**	P		**P**	**06 32 47.0 +2.8**
		comp=Z,33nm,1.3s						
	DOPR	**Dopca**	**23.68**	**303**	⇓P		**P**	**06 32 45.2 +0.7**
	IDI	**Anoyia**	**23.73**	**277**	P		**P**	**06 32 44.8 -0.4**
	IDI				IAmb		IAmb	06 32 54.6
		comp=Z,27nm,1.4s						
	KMPD	**K-Podol'skiy**	**23.77**	**310**	P		**P**	**06 32 48.0 +2.7**
	VOIR		**23.79**	**302**	⇓P		**P**	**06 32 46.8 +1.2**
	VOIR		**23.79**	**302**	P		**P**	**06 32 46.8 +1.2**
	VOIR		**23.79**	**302**	P		**P**	**06 32 47.4 +1.8**
		comp=Z,17nm,1.1s						
	ARR	**Arges**	**24.06**	**302**	⇓P		**P**	**06 32 49.3 +1.1**
	BURAR	**Bucovina Array**	**24.24**	**307**	P		**P**	**06 32 49.6 -0.3**
	BURAR	**Bucovina Array**	**24.24**	**307**	⇓P		**P**	**06 32 51.6 +1.7**
	BURAR	**Bucovina Array**	**24.24**	**307**	P		**P**	**06 32 51.6 +1.7**
	BUR08	**Bucovina Ar. S**	**24.26**	**307**	P		**P**	**06 32 53.1 +3.0**
	BUR08				IAmb		IAmb	06 33 13.6
		comp=Z,14nm,0.9s						
	KSV	**Kosov**	**24.56**	**309**	P		**P**	**06 32 54.7 +2.0**
	LOT	**Lotru**	**24.67**	**301**	⇑P		**P**	**06 32 54.9 +1.0**
	STNU	**Starunia**	**25.04**	**309**	P		**P**	**06 32 58.8 +1.8**
	RNPP5	**Staryi Chortor**	**25.18**	**316**	P		**P**	**06 32 59.5 +1.3**
	GZR	**Gura Zlata**	**25.35**	**301**	⇓P		**P**	**06 33 00.9 +1.0**
	GZR	**Gura Zlata**	**25.35**	**301**	P		**P**	**06 33 00.8 +1.0**
	MEZ	**Mezhgor'ye**	**25.60**	**308**	P		**P**	**06 33 04.1 +2.0**
	DRGR		**25.67**	**304**	⇑P		**P**	**06 33 03.8 +1.0**
	DRGR		**25.67**	**304**	P		**P**	**06 33 03.8 +1.0**
	MNK	**Minsk**	**25.78**	**324**	*i* P		**P**	**06 33 08.8 +5.2**
		comp=E,27nm,0.8s						
	MNK				*i* P		**P**	**06 33 08.8 +5.2**
		comp=N,34nm,0.9s						
	MNK				*i* P		**P**	**06 33 08.8 +5.2**
		comp=Z,38nm,0.9s,baz=124						
	MNK				*i* PP		**PnPn**	**06 33 47.1 +6.9**
	MNK				*i* PPP		PPP	06 33 55.1
	MNK				*i* S		S	06 37 43.9 +11
	MNK				*i* SS		**SnSn**	**06 38 40.8 +13**
	MNK				*i* SSS		SSS	06 38 54.7
	MNK				*i* LQ		LQ	06 41 24.5
	MNK				*i* LR		LR	06 43 23.8
	MNK	**Minsk**	**25.78**	**324**	*i* P		**P**	**06 33 08.8 +5.2**
	MNK				*i*			06 33 47.0
	MNK				*i* PPP		PPP	06 33 55.0
	MNK				*i* SS			06 38 40.8
	MNK				*i* SSS		SSS	06 38 54.6
	MNK				pmax		pmax	
		comp=E,27nm,0.8s						
	MNK				pmax		pmax	
		comp=N,34nm,0.9s						
	MNK				pmax		pmax	
		comp=Z,38nm,0.9s						
	ITM	**Ithomi**	**25.80**	**282**	P		**P**	**06 33 03.0 -1.1**
	ITM				IAmb		IAmb	06 33 08.3
		comp=Z,11nm,0.7s						
	BOVS	**Bovan**	**25.86**	**297**	⇑P		**P**	**06 33 05.6 +1.1**
	SURR	**Surduc**	**25.86**	**302**	⇑P		**P**	**06 33 05.5 +1.0**
	BRIU	**Brid**	**25.87**	**308**	P		**P**	**06 33 06.4 +1.9**
	FNA	**Florina**	**25.98**	**290**	P		**P**	**06 33 06.5 +0.8**
	FNA	**Florina**	**25.98**	**290**	P		**P**	**06 33 06.5 +0.8**
	MDVR	**Moldovita**	**25.99**	**299**	⇓P		**P**	**06 33 06.7 +0.9**
	BERU	**Beregovo**	**26.08**	**307**	P		**P**	**06 33 08.6 +2.2**
	BZS	**Buzias**	**26.19**	**301**	⇑P		**P**	**06 33 08.6 +1.2**
	BZS	**Buzias**	**26.19**	**301**	P		**P**	**06 33 08.6 +1.2**
	SIRR	**Siria**	**26.27**	**303**	⇑P		**P**	**06 33 10.5 +2.2**
	HOLU	**Holmets**	**26.33**	**308**	P		**P**	**06 33 10.5 +1.9**
	KWP	**Kalwaria Pacla**	**26.45**	**310**	P		**P**	**06 33 11.7 +1.9**
		comp=Z,25nm,1.1s						
	WMQ	**Urumqi**	**26.68**	**63**	*e*P		**P**	**06 33 12.3 +0.3**
	KEK	**Kerkira**	**27.22**	**288**	IAmb		IAmb	06 33 24.2
		comp=Z,20nm,0.9s						
	ZALV	**Zalesovo Beam**	**27.71**	**40**	P		**P**	**06 33 20.1 -0.9**
	ZALV	**Zalesovo Beam**	**27.71**	**40**	P		**P**	**06 33 20.4 -0.6**
		comp=Z,1.3nm,0.6s,baz=268,slow=10,SNR=4.1						
	ZALV				LR		LR	06 44 58.0
		comp=Z,243nm,20.0s,baz=228,slow=38						
		comp=Z,1.3nm,0.6s						
	ZALV	**Zalesovo Beam**	**27.71**	**40**	*i* P		**P**	**06 33 20.3 -0.7**
	ZALV				pmax		pmax	
		comp=Z,1.0nm,0.6s						
	PSZ	**Piszkesteto**	**27.79**	**306**	P		**P**	**06 33 22.6 +0.7**
	PSZ	**Piszkesteto**	**27.79**	**306**	P		**P**	**06 33 22.6 +0.7**
	PSZ				pmax		pmax	
		comp=Z,7.0nm,0.9s						
	OJC	**Ojcow**	**28.43**	**310**	P		**P**	**06 33 27.9 +0.4**
	OJC	**Ojcow**	**28.43**	**310**	P		**P**	**06 33 27.9 +0.4**
	OJC	**Ojcow**	**28.43**	**310**	P		**P**	**06 33 29.1 +1.6**
		comp=Z,21nm,1.1s						
	VYHS	**Vyhne**	**28.61**	**307**	*e*P		P	06 33 35.4 +6.3
	VYHS	**Vyhne**	**28.61**	**307**	*e*P		P	06 33 35.4 +6.3
	MODS	**Modra-Piesok**	**29.60**	**306**	*e*P		P	06 33 42.9 +5.0
	MODS	**Modra-Piesok**	**29.60**	**306**	*e*P		P	06 33 42.9 +5.0
	RONA	**Rosalia, Austr**	**30.14**	**304**	*ep*P		pP	06 33 48.3 +2.1
		comp=Z,7.0nm,0.9s						
	CEL	**Celeste**	**30.40**	**286**	P		**P**	**06 33 46.4 +1.3**
		comp=Z,8.9nm,1.3s						
	CONA	**Conrad Observa**	**30.46**	**305**	*ep*P		pP	06 33 49.5 +0.4
		comp=Z,8.1nm,1.5s						

	CHVC	**Chvalec**	**30.84**	**310**	*e*P		**P**	**06 33 50.3 +1.5**
	CHVC	**Chvalec**	**30.84**	**310**	*e*P		**P**	**06 33 50.3 +1.5**
	SOKA	**Soboth**	**30.86**	**302**	*ep*P		pP	06 33 54.4 +1.6
		comp=Z,8.7nm,1.0s						
	FINES	**FINESS Array B**	**30.87**	**334**	P		**P**	**06 33 50.0 +1.1**
		comp=Z,3.1nm,0.9s,baz=144,slow=7.1,SNR=3.5						
		comp=Z,3.1nm,0.9s						
	MOA	**Molln**	**31.51**	**304**	*ep*P		pP	06 33 58.7 +0.3
		comp=Z,6.0nm,1.3s						
	CKRC	**Cesky Krumlov**	**31.62**	**306**	*e*P		P	06 34 02.1 +6.4
	CKRC	**Cesky Krumlov**	**31.62**	**306**	*e*P		P	06 34 02.1 +6.4
	MYKA	**Terra Mystica**	**31.82**	**302**	*ep*P		pP	06 34 02.7 +1.5
		comp=Z,6.1nm,1.0s						
	GEC2	**GERESS Array S**	**32.02**	**306**	P		**P**	**06 33 59.5 +0.2**
	GEC2				IAmb		IAmb	06 34 06.2
		comp=Z,9.9nm,1.1s						
	GERES	**GERESS Array B**	**32.02**	**306**	P		**P**	**06 33 60.0 +0.6**
	GERES	**GERESS Array B**	**32.02**	**306**	P		**P**	**06 33 59.1 -0.3**
		comp=Z,1.3nm,0.8s,baz=97,slow=7.0,SNR=15						
	GERES				PcP		**PcP**	**06 36 49.5 +0.5**
		comp=Z,0.7nm,0.6s,baz=169,slow=1.4,SNR=3.9						
		comp=Z,1.3nm,0.8s						
	GERES	**GERESS Array B**	**32.02**	**306**	P		**P**	**06 34 00.0 +0.6**
	KBA	**Koelnbreinsper**	**32.05**	**303**	*i* pP		pP	06 34 04.1 +0.8
		comp=Z,6.9nm,1.0s						
	KHC	**Kasperske Hory**	**32.14**	**307**	*e*P		P	06 34 06.0 +5.7
	KHC	**Kasperske Hory**	**32.14**	**307**	*i* P		**P**	**06 34 00.4 +0.1**
	KHC				pmax		pmax	
		comp=Z,4.0nm,0.8s						
	LESA	**Schwarzleotal**	**32.54**	**303**	*e*P		**P**	**06 34 04.5 +0.6**
		comp=Z,9.7nm,0.8s						
	ABTA	**Abfaltersbach**	**32.60**	**302**	*ep*P		pP	06 34 07.9 -0.1
		comp=Z,7.6nm,1.1s						
	GOMU	**GeErMu**	**32.66**	**78**	P		**P**	**06 34 07.7 +2.3**
	GOMU				pP		sP	06 34 12.7 +2.3
	GOMU				sP		pP	06 34 15.5 +6.6
	GOMU				pmax		pmax	
		comp=Z,8.0nm,1.4s						
	CLL	**Collm**	**32.87**	**310**	P		**P**	**06 34 08.0 +1.3**
	CLL	**Collm**	**32.87**	**310**	*e*P		**P**	**06 34 08.0 +1.3**
	CLL				*e*			06 34 11.0
	CLL				pmax		pmax	
		comp=Z,19nm,1.0s						
	CLL				MLR		MLR	
		comp=Z,900nm,21.8s						
	CLL	**Collm**	**32.87**	**310**	*e*P		**P**	**06 34 08.0 +1.3**
		comp=Z,6.0nm,1.0s						
	CLL				*e*Pmax			06 34 11.0
		comp=Z,19nm,1.0s						
	CLL				AMS		AMS	07 00 00.0
		comp=Z,900nm,21.8s						
	WTTA	**Wattenberg**	**33.23**	**303**	*e*P		**P**	**06 34 09.6 -0.5**
		comp=Z,20nm,0.7s						
	WATA	**Walderalm**	**33.28**	**303**	*ep*P		pP	06 34 13.9 -0.1
		comp=Z,24nm,1.1s						
	SQTA	**Sankt Quirin**	**33.52**	**303**	*ep*P		pP	06 34 15.6 -0.5
		comp=Z,14nm,0.8s						
	MOTA	**Moosalm**	**33.60**	**303**	*ep*P		pP	06 34 16.0 -0.9
		comp=Z,7.5nm,0.8s						
	FETA	**Feichten**	**33.84**	**302**	*e*P		**P**	**06 34 15.5 +0.2**
		comp=Z,25nm,0.9s						
	FUORN	**Ofenpass-Fuorn**	**34.14**	**302**	P		**P**	**06 34 18.9 +0.8**
	FUORN				IAmb		IAmb	06 34 30.5
		comp=Z,7.5nm,0.8s						
	DAVA	**Damuels**	**34.43**	**303**	*e*P		**P**	**06 34 20.2 -0.2**
		comp=Z,26nm,0.9s						
	TUE	**Stuetta**	**34.77**	**301**	P		**P**	**06 34 25.7 +2.2**
	TUE				IAmb		IAmb	06 34 30.3
		comp=Z,6.9nm,0.8s						
	HFS	**Hagfors**	**35.23**	**326**	P		**P**	**06 34 27.2 +0.1**
		comp=Z,4.5nm,0.8s,baz=143,slow=5.2,SNR=5.5						
		comp=Z,4.5nm,0.8s						
	GTA	**Gaotai**	**35.94**	**71**	P		**P**	**06 34 35.0 +1.4**
	GTA				pP		sP	06 34 40.2 +1.6
	GTA				pmax		pmax	
		comp=Z,8.0nm,1.6s						
	GTA				LR		LR	
		comp=N,620nm,15.6s						
	GTA				LR		LR	
		comp=E,310nm,16.7s						
	GTA				LR		LR	
		comp=Z,700nm,15.6s						
	KEST	**Kesra**	**36.03**	**283**	P		**P**	**06 34 34.9 +0.6**
	KEST				IAmb		IAmb	06 34 41.2
		comp=Z,12nm,1.1s						
	SENIN	**Lac Senin/Sane**	**36.19**	**301**	IAmb		IAmb	06 34 40.6
		comp=Z,5.6nm,0.7s						
	ECH	**Echery**	**36.30**	**304**	IAmb		IAmb	06 34 42.0
		comp=Z,9.8nm,1.0s						
	NOA	**NORSAR Array B**	**36.72**	**326**	P		**P**	**06 34 39.8 -0.1**
		comp=Z,1.1nm,0.8s,baz=117,slow=8.2,SNR=3.4						
		comp=Z,1.1nm,0.8s						
	ARCES	**ARCESS Array B**	**36.89**	**344**	P		**P**	**06 34 41.6 +0.4**
		comp=Z,4.7nm,1.1s,baz=133,slow=8.5,SNR=4.9						
		comp=Z,4.7nm,1.1s						
	LZH	**Lanzhou**	**39.78**	**75**	*e*P		**P**	**06 35 03.2 -2.9**
	LZH				sP		sP	06 35 13.9 +2.8
	LZH				pmax		pmax	
		comp=Z,20nm,1.0s						
	SONM	**Songino Array**	**39.83**	**56**	P		**P**	**06 35 05.4 -0.9**
	SONM	**Songino Array**	**39.83**	**56**	P		**P**	**06 35 04.3 -2.0**
		comp=Z,1.3nm,0.8s,baz=286,slow=7.6,SNR=6.2						
		comp=Z,1.3nm,0.8s						
	SONM	**Songino Array**	**39.83**	**56**	P		**P**	**06 35 05.4 -0.9**
	SONM				pmax		pmax	
		comp=Z,6.0nm,1.4s						
	ULN	**Ulaanbaatar**	**40.27**	**56**	P		**P**	**06 35 08.4 -1.6**
	ULN	**Ulaanbaatar**	**40.27**	**56**	*ce*P		**P**	**06 35 11.2 +1.2**
	ULN				pmax		pmax	
		comp=Z,18nm,1.7s						
	PZH	**PanZhiHua**	**41.43**	**90**	P		**P**	**06 35 18.6 -1.2**
	EKA	**Eskdalemuir Ar**	**42.95**	**315**	P		**P**	**06 35 32.0 +0.3**
		comp=Z,4.4nm,0.9s,baz=100,slow=8.6,SNR=8.7						
		comp=Z,4.4nm,0.9s						
	CMAR	**Chiang Mai Arr**	**43.12**	**102**	P		**P**	**06 35 32.8 -0.8**
		comp=Z,1.2nm,0.4s,baz=300,slow=9.5,SNR=8.3						
		comp=Z,1.2nm,0.4s						
	CMAR	**Chiang Mai Arr**	**43.12**	**102**	*i* P		**P**	**06 35 32.7 -0.8**
	CMAR				pmax		pmax	
		comp=Z,2.0nm,0.4s						
	XAN	**Xi'an**	**44.36**	**76**	P		**P**	**06 35 44.1 +0.7**
	XAN				pmax		pmax	
		comp=Z,11nm,0.9s						
	XAN				pmax		pmax	
		comp=Z,1μm,10.2s						
	HHC	**Hu-ho-hao-te**	**44.49**	**66**	*e*P		**P**	**06 35 42.1 -2.3**
	HHC				pmax		pmax	
		comp=Z,8.0nm,0.7s						
	SPITS	**Spitsbergen Ar**	**45.03**	**350**	P		**P**	**06 35 48.2 +0.1**
		comp=Z,2.8nm,0.7s,baz=118,slow=10,SNR=6.2						
		comp=Z,2.8nm,0.7s						
	ESDC	**Sonseca Array**	**45.29**	**293**	P		**P**	**06 35 50.1 -0.6**
		comp=Z,1.4nm,0.9s,baz=68,slow=8.0,SNR=6.5						
		comp=Z,1.4nm,0.9s						
	KBS	**Kingsbay**	**46.19**	**350**	*i* P		**P**	**06 36 00.1 +2.9**
	KBS				pmax		pmax	
		comp=Z,11nm,0.9s						
	DAG	**Danmarks Havn**	**51.18**	**344**	*i* P		**P**	**06 36 39.1 +3.5**
	DAG				IAmb		IAmb	06 36 41.8
		comp=Z,12nm,1.1s						
	TIXI	**Tiksi**	**51.33**	**23**	*i* P		**P**	**06 36 39.2 +2.4**
	TIXI				pmax		pmax	
		comp=Z,7.0nm,1.5s						
	NOR	**Nord**	**51.67**	**350**	*i* P		**P**	**06 36 42.2 +2.9**
	NOR				IAmb		IAmb	06 36 44.5
		comp=Z,30nm,2.0s						
	TORD	**Torodi Ar. Bea**	**52.18**	**258**	P		**P**	**06 36 42.8 -1.1**
	TORD	**Torodi Ar. Bea**	**52.18**	**258**	P		**P**	**06 36 43.7 -0.2**
		comp=Z,0.8nm,0.3s,baz=39,slow=9.6,SNR=4.4						
		comp=Z,0.8nm,0.3s						
	ZEA	**Zeya**	**52.24**	**46**	*e*P		**P**	**06 36 48.5 +4.6**
	ZEA				pmax		pmax	
		comp=Z,10.0nm,0.5s						
	NJ2	**Nanjing**	**52.85**	**74**	*e*P		**P**	**06 36 46.1 -2.6**
	NJ2				pmax		pmax	
		comp=Z,10.0nm,0.5s						
	HEH	**HeiHe**	**53.13**	**50**	*e*P		**P**	**06 36 51.2 +0.8**
	HEH				pmax		pmax	
		comp=Z,16nm,0.9s						
	CN2	**Changchun**	**53.62**	**58**	*e*P		**P**	**06 36 52.0 -2.2**
	CN2				pmax		pmax	
		comp=Z,10.0nm,0.7s						
	KLR	**Kul'dur**	**56.11**	**50**	*i* P		**P**	**06 37 10.9 -1.3**
	KLR				pmax		pmax	
		comp=Z,8.0nm,2.1s						
	SUMG	**Summit**	**56.69**	**339**	P		**P**	**06 37 17.4 +1.0**
	SUMG	**Summit**	**56.69**	**339**	P		**P**	**06 37 17.4 +1.0**

	SUMG				pmax		pmax	
		comp=Z,14nm,1.0s						
	SUMG	**Summit**	**56.69**	**339**	*i* P		**P**	**06 37 20.0 +3.6**
	SUMG				IAmb		IAmb	06 37 23.1
		comp=Z,13nm,0.9s						
	LSZ	**Lusaka**	**56.75**	**210**	LR		LR	07 04 50.6
		comp=Z,444nm,18.1s,baz=160,slow=40						
	KS19	**Wonju Array Si**	**57.55**	**65**	P		**P**	**06 37 21.6 -1.0**
	KSAR	**Wonju Array Be**	**57.59**	**65**	P		**P**	**06 37 20.6 -2.2**
	KSAR	**Wonju Array Be**	**57.59**	**65**	P		**P**	**06 37 20.6 -2.2**
	KSRS	**Korea Array**	**57.61**	**65**	P		**P**	**06 37 22.9 -0.1**
		comp=Z,4.3nm,0.7s,baz=277,slow=8.0,SNR=6.8						
		comp=Z,4.3nm,0.7s						
	USRK	**Ussuriysk Ar.**	**57.94**	**56**	P		**P**	**06 37 24.2 -0.9**
		comp=Z,3.0nm,0.7s,baz=269,slow=7.3,SNR=5.5						
		comp=Z,3.0nm,0.7s						
	NEEM	**North Greenlan**	**58.21**	**346**	*i* P		**P**	**06 37 31.3 +4.4**
	NEEM				IAmb		IAmb	06 37 35.2
		comp=Z,5.2nm,0.8s						
	SEY	**Seymchan**	**62.00**	**31**	*i* P		**P**	**06 37 53.9 +1.1**
	SEY				pmax		pmax	
		comp=Z,13nm,2.5s						
	YSS	**Yuzhno-Sakhali**	**63.80**	**50**	*e*P		**P**	**06 38 07.6 +2.6**
	YSS				pmax		pmax	
		comp=Z,10.0nm,0.3s						
	BILL	**Bilibino**	**64.55**	**23**	*ce*P		**P**	**06 38 10.0 +0.4**
	BILL				pmax		pmax	
		comp=Z,16nm,1.3s						
	MAJO	**Matsushiro**	**65.43**	**62**	*i* P		**P**	**06 38 14.4 -1.5**
	MAJO				pmax		pmax	
		comp=Z,12nm,1.2s						
	MJAR	**Matsushiro Arr**	**65.44**	**62**	P		**P**	**06 38 15.4 -0.5**
		comp=Z,0.6nm,0.3s,baz=295,slow=10,SNR=5.9						
		comp=Z,0.6nm,0.3s						
	PETK	**Petropavlovsk-**	**69.24**	**39**	P		**P**	**06 38 39.5 -0.2**
		comp=Z,0.7nm,0.5s,baz=270,slow=3.0,SNR=4.0						
		comp=Z,0.7nm,0.5s						
	BOSA	**Boshof**	**69.94**	**207**	P		**P**	**06 38 45.8 +1.4**
		comp=Z,3.9nm,1.1s,baz=8.3,slow=3.4,SNR=3.2						
		comp=Z,3.9nm,1.1s						
	TOLK	**Toolik Lake Re**	**74.02**	**9**	P		**P**	**06 39 09.6 +1.3**
	TOLK				IAmb		IAmb	06 39 15.3
		comp=Z,8.7nm,0.9s						
	SCHQ	**Schefferville**	**76.22**	**329**	LR		LR	07 14 13.1
		comp=Z,468nm,19.9s,baz=114,slow=37						
	COLA	**College**	**77.82**	**9**	*i* P		**P**	**06 39 30.6 +0.7**
	COLA				pmax		pmax	
		comp=Z,4.0nm,0.9s						
	ILAR	**Eielson Array**	**78.05**	**9**	P		**P**	**06 39 29.9 -1.4**
		comp=Z,0.6nm,1.0s,baz=329,slow=2.2,SNR=7.2						
		comp=Z,0.6nm,1.0s						
	YKA	**Yellowknife Ar**	**81.27**	**355**	P		**P**	**06 39 48.4 -0.3**
		comp=Z,0.3nm,0.7s,baz=7.8,slow=5.7,SNR=4.4						
		comp=Z,0.3nm,0.7s						

TEH **04** *06:40:15.8, 36.˚16N×54.˚08E, h7km±22km*
THR **04** *06:40:16.6±0.0, 36.˚15N×54.˚10E, h10km±3km, ML4.1*
IDC **04** *06:40:16.9±3.8, 36.˚12N×54.˚28E, h0km, mb3.6/5, mbtmp3.8/8, ML3.9/3, Error ellipse: s-maj=62.8km s-min=21.8km az=175.0*

ISC 04 06:40:16.9±0.7, 36.˚15N±0.˚04×54.˚10E±0.˚04, h10km, n91, σ1°80/78, mb3.5/3, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKIA	**Kiasar**	**0.34**	**280**	Pg	**Pg**	**06 40 22.7**	**-1.0**
IGLO	**Ghaloghah**	**0.41**	**328**	Pg	**Pg**	**06 40 24.2**	**-0.9**
IANJ	**Anjilo**	**0.70**	**193**	Pg	**Pb**	**06 40 29.9**	**-1.4**
IALA	**Alasht**	**1.05**	**267**	Pg	**Pg**	**06 40 35.7**	**-1.3**
ILAS	**Lasjerd**	**1.20**	**231**	Pg	**Pg**	**06 40 38.7**	**-1.3**
IFIR	**Firoozkooh**	**1.21**	**245**	Pg	**Pb**	**06 40 38.5**	**-1.4**
IPRN	**Peran**	**1.43**	**274**	Pg	**Pg**	**06 40 42.6**	**-1.7**
IMND	**Minoodasht**	**1.52**	**43**	Pg	**Pb**	**06 40 43.9**	**-1.3**
SHRO	**Shahrood**	**1.56**	**95**	*e*PnA		**06 40 45.1**	
SHRO				IAML		06 41 18.8	
	comp=Z,1.3nm,1.0s						
IDMV	**Damavand**	**1.77**	**252**

comp=Z,0.2nm,1.0s
KLNJ Kolanjah 5.54 203 Pn **Pn** **06 41 41.2 +1.5**
KLNJ Kolanjah 5.54 203 *e*Pn **Pn** **06 41 42.0 +2.3**
KLNJ IAML 06 43 49.2
comp=Z,0.2nm,1.0s
SNGE Sanandaj 5.60 261 *e*PnA 06 41 44.0
SNGE IAML 06 43 10.1
comp=Z,0.0nm,1.0s
GRMI Germi 5.60 300 *e*PnA 06 41 40.7
GRMI IAML 06 42 47.2
comp=Z,0.2nm,1.0s
IHSH Hashtrud 5.61 284 Pn **Pn** **06 41 41.7 +1.0**
SHRT Shahrakht 5.67 114 *e*PnA 06 41 42.6
SHRT IAML 06 43 40.1
comp=Z,0.1nm,1.0s
IKFM Kafar-mosalman 5.77 245 Pn **Pn** **06 41 43.9 +1.4**
BSRN Basiran 5.90 134 Pn **Pn** **06 41 45.6 +1.1**
BSRN Basiran 5.90 134 *e*Pn **Pn** **06 41 46.6 +2.1**
BSRN IAML 06 43 39.1
comp=Z,0.1nm,1.0s
IHRS Heris 6.03 293 Pn **Pn** **06 41 47.7 +1.3**
KHGB Koh Gabri 6.09 160 Pn **Pn** **06 41 49.1 +1.8**
IAZR Azarshahr 6.68 286 Pn **Pn** **06 41 56.8 +1.5**
CHMN Cheshme madani 6.91 154 Pn **Pn** **06 41 59.9 +1.5**
ILBA Ilam Banvizeh 6.96 251 Pn **Pn** **06 42 00.4 +1.5**
GNI Garni 8.38 301 Pn Pn 06 42 24.0 +5.5
comp=Z,4.1nm,0.3s,baz=220,slow=3.9,SNR=5.3
comp=Z,12nm,0.4s
AKTO Aktyubinsk 14.56 10 Pn **Pn** **06 43 40.8 -2.0**
comp=Z,0.9nm,0.3s,baz=187,slow=15,SNR=8.6
comp=Z,3.1nm,0.4s
BRTR Keskin Array B 16.53 289 Pn **P** **06 44 13.2 +1.7**
comp=Z,0.1nm,0.3s,baz=97,slow=10,SNR=4.4
comp=Z,0.5nm,0.7s
KSH Kashi 17.59 72 P **Pn** **06 44 18.5 -3.8**
KSH pmax pmax
comp=Z,5.0nm,0.5s
BVAR Borovoye Array 20.39 29 P Pn 06 44 54.5 -1.3
comp=Z,5.5nm,0.7s,baz=216,slow=9.2,SNR=17
comp=Z,5.5nm,0.7s
ARTI Arti 20.45 7 P Pn 06 44 55.5 -0.9
comp=Z,4.3nm,0.5s,baz=205,slow=6.1,SNR=6.7
comp=Z,4.3nm,0.5s
KURBB Kurchatov Arra 22.76 43 P **P** **06 45 19.9 +0.8**
comp=Z,0.3nm,0.8s,baz=243,slow=12,SNR=6.1
comp=Z,0.3nm,0.8s
AKASG Malin Array Be 23.05 317 P **P** **06 45 25.6 +3.5**
comp=Z,1.1nm,0.6s,baz=122,slow=11,SNR=5.7
comp=Z,1.1nm,0.6s
MKAR Makanchi Array 23.53 54 P **P** **06 45 27.7 +0.6**
comp=Z,1.1nm,0.7s,baz=240,slow=8.4,SNR=13
comp=Z,1.1nm,0.7s
CLL Collm 32.85 310 *e*P **P** **06 46 53.0 +2.4**
CLL *ex* x 06 46 58.0
CLL AMS AMS 07 11 00.0
comp=N,300nm,20.9s
CLL AMS AMS 07 11 00.0
comp=E,500nm,19.9s
CLL AMS AMS 07 11 00.0
comp=Z,600nm,19.4s
CLL AMS AMS 07 17 00.0
comp=Z,600nm,18.4s

ASRS ***04*** *06:49:33.0±0.8, 53.81N×88.23E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 04 06:49:36.9±3.7, 53.80N×88.17E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=36.1km s-min=20.8km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.99**	**276**	I	I	07 02 00.0	
	0.3nm,1.1s,baz=91,slow=298,SNR=2.5						
ZALV	**Zalesovo Beam**	**1.99**	**276**	Pn	Pn	06 50 12.4	+0.6
	1.1nm,0.3s,baz=90,slow=15,SNR=11						
ZALV				Lg	Lg	06 50 40.2	
	2.6nm,0.3s,baz=95,slow=23,SNR=15						
KURBB	**Kurchatov Arra**	**6.72**	**246**	Pn	Pn	06 51 17.0	+0.2
	0.1nm,0.3s,baz=62,slow=14,SNR=5.6						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.96**	**211**	Pn	Pn	06 51 35.0	+1.2
	0.1nm,0.3s,baz=29,slow=14,SNR=2.2						
	0.1nm,0.4s						

CATAC ***04*** *06:51:06.6±0.7, 8°N±4.4°×8°W±2.7°, h1km, M3.5/11, mb3.6/1, MLv3.5/11, Error ellipse: s-maj=8.9km s-min=6.9km az=124.6, confirmed*
UPA ***04*** *06:51:07.3±0.9, 8.28N×82.82W, h18km±2km, MW3.4*
ISC 04 06:51:06.6±1.6, 8.22N±0.07×82.84W±0.04, h16km±8km, n29, σ0.92/42, 2C-5D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LESP3	**La Esperanza,**	**0.19**	**16**	↑*i*P	**Pg**	**06 51 11.6**	**+0.3**
CDITO	**Canoas**	**0.35**	**355**	P	**Pg**	**06 51 13.9**	**0.0**
CDITO	**Canoas**	**0.35**	**355**	S	**Sg**	**06 51 18.1**	**-0.9**
DVD	**David**	**0.44**	**61**	*e*P	**Pg**	**06 51 15.7**	**+0.1**
DVD				*e*S	**Sb**	**06 51 22.6**	**+0.2**
PEDE3	**Pedregal, Chir**	**0.45**	**68**	↓*e*P	**Pg**	**06 51 15.7**	**0.0**
PEDE3				*e*S	**Sb**	**06 51 22.7**	**+0.2**
LOCO3	**Loma Colorada,**	**0.46**	**66**	↓*e*P	**Pg**	**06 51 16.0**	**+0.2**
LOCO3				*e*S	**Sb**	**06 51 22.9**	**0.0**
CHIR3	**Chiriqui UPA,**	**0.54**	**71**	*e*P	**Pg**	**06 51 17.4**	**+0.1**
CHIR3				*e*S	**Sg**	**06 51 24.3**	**-0.1**
MLIR3	**Monte Lirio, C**	**0.57**	**2**	↑*e*P	**Pb**	**06 51 18.1**	**-0.1**
MLIR3				*e*S	**Sg**	**06 51 25.6**	**0.0**
PTAR3	**Potrerillos Ar**	**0.58**	**36**	*e*P	**Pg**	**06 51 17.9**	**-0.2**
PTAR3				*e*S	**Sb**	**06 51 26.7**	**+0.2**
BRU2	**Volcan**	**0.59**	**15**	↓*i*P	**Pg**	**06 51 18.0**	**-0.3**
BRU2				*e*S	**Sb**	**06 51 26.7**	**-0.1**
BRU2	**Volcan**	**0.59**	**15**	P	**Pg**	**06 51 18.0**	**-0.3**
BC3P	**Paso Ancho**	**0.64**	**21**	↓*e*P	**Pg**	**06 51 18.6**	**-0.6**
BC3P				*e*S	**Sb**	**06 51 27.9**	**-0.2**
BQSF3	**Alto Boquete,**	**0.66**	**38**	*e*P	**Pg**	**06 51 18.9**	**-0.7**
BQSF3				*e*S	**Sg**	**06 51 28.4**	**0.0**
PSOM3	**Paja de Sombre**	**0.69**	**48**	↓*e*P	**Pg**	**06 51 19.2**	**-1.0**
PSOM3				*e*S	**Sg**	**06 51 28.9**	**-0.5**
DRK0	**Durika**	**1.11**	**339**	*e*P	**Pg**	**06 51 26.1**	**-2.0**
DRK0				*e*S	**Sg**	**06 51 41.5**	**-1.2**
DRK0	**Durika**	**1.11**	**339**	P	**Pg**	**06 51 27.2**	**-0.9**
OCHAL	**Ojochal**	**1.18**	**318**	S	**Sb**	**06 51 44.2**	**+0.6**
GMAL	**Guarumal, Vera**	**1.66**	**106**	*e*P	**Pn**	**06 51 34.2**	**-0.7**
GMAL				*e*S	**Sn**	**06 51 55.5**	**-0.4**
LCR2	**La Lucha 2**	**1.90**	**323**	S	**Sb**	**06 52 04.6**	**+0.1**
LCR2	**La Lucha 2**	**1.90**	**323**	P	**Pn**	**06 51 39.5**	**+1.0**
TCS1	**Tacares**	**2.31**	**322**	P	**Pn**	**06 51 46.1**	**+2.0**
TRT2	**Tortugero**	**2.48**	**339**	P	**Pn**	**06 51 48.0**	**+1.6**
TRT2	**Tortugero**	**2.48**	**339**	S	**Sb**	**06 52 19.8**	**-1.4**
SOCE	**Pocosol**	**2.77**	**321**	P	**Pn**	**06 51 52.5**	**+2.2**
JTS	**Las Juntas de**	**2.93**	**315**	*e*P	**Pn**	**06 51 52.2**	**-0.3**
JTS				*e*S	**Sn**	**06 52 27.4**	**+0.1**
INDI	**Punta indio, G**	**3.10**	**302**	P	**Pn**	**06 51 55.9**	**+1.1**
BLUN	**Bluefields**	**3.87**	**346**	P	**Pn**	**06 52 06.9**	**+1.5**
ACON	**Acoyapa**	**4.38**	**329**	P	**Pn**	**06 52 13.8**	**+1.4**
BOAB	**BOACO BROADBAN**	**5.04**	**327**	P	**Pn**	**06 52 22.7**	**+1.3**

SSNC ***04*** *06:51:55.0±2.7, 19.34N×70.54W, h20km±21km, MD3.5, ML2.8*
OSPL ***04*** *06:51:56.2±1.5, 19.73N×70.53W, h0km±7km, ML2.2*
SDD ***04*** *06:51:57.0±2.1, 19.69N×70.60W, h18km±24km, MD3.3, ML2.5, MW2.9*
ISC 04 06:51:54.8±1.2, 19.71N±0.03×70.54W±0.03, h18km±4km, n21, σ1§55/38, 11C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SC01	**Santiago de lo**	**0.33**	**212**	↑*e*Pg	**Pg**	**06 52 01.9**	**-0.1**
SC01				IAML		06 52 11.0	
	comp=N,275nm,0.3s						
SC01	**Santiago de lo**	**0.33**	**212**	*i* P	**Pg**	**06 52 01.6**	**-0.3**
SC01				*e*S	**Sg**	**06 52 07.1**	**+0.2**
SC01				IAML		06 52 08.8	
	comp=Z,180nm,0.5s						
LUDR	**Luperon**	**0.43**	**295**	↑*e*Pg	**Pb**	**06 52 05.6**	**+1.7**
MADR	**Mao Valverde**	**0.55**	**255**	↑*e*Pg	**Pg**	**06 52 06.6**	**+0.8**
MADR				↑*e*Sg	**Sb**	**06 52 14.0**	**+0.8**
MADR				IAML		06 52 22.6	
	comp=N,293nm,0.5s						
LOPP1	**Punta Rusia, P**	**0.63**	**283**	*i* P	**Pb**	**06 52 07.5**	**+0.2**
LOPP1				*e*S	**Sb**	**06 52 16.5**	**+0.7**
LOPP1				IAML		06 52 25.2	
	comp=Z,99nm,0.7s						
REDR	**Restauracion**	**0.97**	**236**	↑*e*Pg	**Pg**	**06 52 15.0**	**+1.3**
REDR				↓*e*Sg	**Sn**	**06 52 29.9**	**+3.1**
REDR				IAML		06 52 30.6	
	comp=N,222nm,0.2s						
SDDR	**Presa de Saban**	**1.01**	**224**	*i* P	**Pg**	**06 52 14.8**	**+0.3**
MCDR	**Montecristi**	**1.06**	**280**	↓*e*Pg	**Pn**	**06 52 15.3**	**+0.5**
MCDR				↑*e*Sg	**Sb**	**06 52 28.0**	**-0.2**
MCDR				IAML		06 52 32.6	
	comp=N,105nm,0.2s						
LONE3	**El Aguacate, B**	**1.40**	**218**	*i* P	**Pg**	**06 52 22.3**	**+0.4**
LONE3				*e*S	**Sg**	**06 52 41.0**	**+0.7**
LONE3				IAML		06 52 41.8	
	comp=Z,39nm,0.5s						
MIDR	**Miches**	**1.58**	**117**	↓*e*Pg	**Pg**	**06 52 24.8**	**-0.6**
MIDR				↓*e*Sg	**Sg**	**06 52 46.5**	**+0.5**
MIDR				IAML		06 52 49.8	
	comp=N,16nm,0.2s						
LODU1	**El Espartillar**	**1.61**	**213**	*i* P	**Pb**	**06 52 23.7**	**-0.3**
LODU1				*e*S	**Sb**	**06 52 45.4**	**+1.3**
LODU1				IAML		06 52 45.8	
	comp=Z,89nm,0.5s						
PODR	**Polo**	**1.69**	**205**	*e*Pg	**Pb**	**06 52 25.2**	**-0.2**
PODR				*e*Sg	**Sb**	**06 52 46.8**	**+0.3**
PODR				IAML		06 52 56.8	
	comp=N,33nm,1.4s						
JIDR	**Jimani**	**1.73**	**226**	↑*e*Pg	**Pn**	**06 52 25.4**	**+1.4**
JIDR				↑*e*Sg	**Sb**	**06 52 47.8**	**+0.3**
JIDR				IAML		06 52 48.8	
	comp=N,132nm,0.5s						
GRTK	**Grand Turk**	**1.87**	**343**	*e*P	**Pg**	**06 52 31.1**	**+0.2**
GRTK				*e*S	**Sb**	**06 52 52.9**	**+1.4**
GRTK				IAML		06 52 54.2	
	comp=N,40nm,0.2s						
GRTK				IAML		06 52 54.7	
	comp=N,68nm,0.3s						
GRTK	**Grand Turk**	**1.87**	**343**	*e*Pg	**Pb**	**06 52 28.8**	**+0.3**
GRTK				↑*e*Sg	**Sb**	**06 52 53.0**	**+1.5**
GRTK				IAML		06 53 02.1	
	comp=N,37nm,1.2s						
HIDR	**Higuey Centro**	**2.06**	**123**	↓*e*Pg	**Pb**	**06 52 32.5**	**+0.9**
HIDR				↑*e*Sg	**Sg**	**06 53 00.1**	**-0.9**
HIDR				IAML		06 53 04.1	
	comp=N,77nm,0.2s						
LOBH	**Bahia de las A**	**2.11**	**210**	*i* P	**Pb**	**06 52 31.9**	**-0.7**
MASC	**Masc**	**3.50**	**278**	*e*P	**Pn**	**06 52 47.6**	**-0.7**
QMBU	**Quimbuelo**	**4.04**	**278**	*e*P	**Pn**	**06 52 54.5**	**-1.4**
QMBU				*e*S	**Sn**	**06 53 41.1**	**-1.7**
QMBU				*e*Sg	**Sb**	**06 53 52.0**	**-2.2**
QMBU				IAML		06 53 56.6	
	comp=N,4.0nm,0.4s						
QMBU				IAML		06 53 57.0	
	comp=E,9.4nm,0.3s						
GTBY	**Guantanamo Bay**	**4.31**	**274**	*e*P	**Pn**	**06 53 02.2**	**+2.8**
GTBY				*e*S	**Sn**	**06 53 45.0**	**-4.2**
RCC	**Rio Carpintero**	**4.86**	**274**	*e*P	**Pn**	**06 53 05.0**	**-2.0**
RCC				*e*S	**Sn**	**06 53 59.0**	**-3.8**

ASRS ***04*** *07:00:18.0±0.7, 54.41N×86.89E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 04 07:00:19.1±3.2, 54.49N×87.05E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=28.4km s-min=20.7km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**248**	I	I	07 08 20.0	
	baz=67,slow=315,SNR=3.5						
ZALV	**Zalesovo Beam**	**1.42**	**248**	Pg	Pn	07 00 44.1	-2.0
	1.0nm,0.3s,baz=67,slow=16,SNR=13						
ZALV				Lg	Lg	07 01 04.0	
	0.9nm,0.3s,baz=70,slow=26,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.47**	**237**	Pn	Pn	07 01 56.1	+0.5
	0.1nm,0.3s,baz=54,slow=14,SNR=12						
KURBB				Lg	Lg	07 03 47.0	
	baz=51,slow=31,SNR=4.3						
	2.1nm,0.7s						
MKAR	**Makanchi Array**	**8.27**	**203**	Pn	Pn	07 02 21.9	+1.6
	0.1nm,0.3s,baz=21,slow=15,SNR=2.6						
	0.1nm,0.3s						

IDC ***04*** *07:01:29.2±0.5, 2.22N×126.53E, h0km, mb4.3/19, mbtmp4.4/20, ML4.3/1, MS3.8/1, Error ellipse: s-maj=30.0km s-min=11.7km az=74.0*
DJA ***04*** *07:01:34.2±0.2, 2.1N±2.2°×12.7°E±0.8°, h10km, M4.6/1, MLv4.6/15, MLv4.6/1*
NEIC ***04*** *07:01:36.8±1.7, 2.29N±0.08×126.87E±0.08, h56km±7km, mb4.7/34, Error ellipse: s-maj=13.1km s-min=9.3km az=223.0*
ISC 04 07:01:36.0±0.4, 2.36N±0.05×126.91E±0.07, h53km, n99, σ1§40/104, mb4.6/39, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.65**	**164**		**Pn**	**07 02 02.3**	**-0.2**
TNTI	**Ternate**	**1.65**	**164**	P	**Pn**	**07 02 02.4**	**-0.2**
TNTI	**Ternate**	**1.65**	**164**	P	**Pn**	**07 02 02.4**	**-0.2**
SGSI	**Sangihe**	**1.90**	**314**	P	**Pn**	**07 02 05.7**	**-0.4**
SGSI				S	**Sn**	**07 02 30.9**	**+2.0**
KMSI	**Cibinong**	**3.42**	**239**	P	**Pn**	**07 02 29.6**	**+2.7**
SANI	**Sanana**	**4.48**	**192**	P	**Pn**	**07 02 41.4**	**0.0**
SANI	**Sanana**	**4.48**	**192**	P	**Pn**	**07 02 42.7**	**+1.3**
MRSI	**Marisa**	**5.31**	**249**	P	**Pn**	**07 02 55.4**	**+2.6**
LUWI	**Luwuk**	**5.34**	**231**	Pn	**Pn**	**07 02 54.0**	**+0.8**
LUWI	**Luwuk**	**5.34**	**231**	P	**Pn**	**07 02 56.5**	**+3.2**
SWI	**Sorong**	**5.40**	**126**	P	**Pn**	**07 02 56.1**	**+2.0**
NLAI	**Namlea**	**5.57**	**178**	P	**Pn**	**07 02 58.4**	**+2.0**
MSAI	**Masohi**	**6.02**	**160**	P	**Pn**	**07 03 05.4**	**+2.8**
TOLI2	**Tolitoli**	**6.25**	**259**		**Pn**	**07 03 06.0**	**+0.4**
TOLI2	**Tolitoli**	**6.25**	**259**	P	**Pn**	**07 03 06.1**	**+0.4**
MPSI	**Mapaga**	**7.29**	**254**	P	**Pn**	**07 03 23.6**	**+3.6**
FAKI	**Fak Fak**	**7.49**	**134**	Pn	**Pn**	**07 03 23.7**	**+1.1**
MYLDM	**Lahad Datu**	**8.84**	**289**		**Pn**	**07 03 42.8**	**+1.6**
MYLDM	**Lahad Datu**	**8.84**	**289**	P	**Pn**	**07 03 43.9**	**+2.6**
TTSI	**Tana Toraja**	**8.89**	**233**	P	**Pn**	**07 03 45.2**	**+3.3**
SPSI	**Sidrap Palu**	**9.51**	**229**	P	**Pn**	**07 03 52.0**	**+1.6**
KAPI	**Kappang**	**10.24**	**224**	Pn	**Pn**	**07 03 59.7**	**-0.6**
JAY	**Jayapura**	**14.62**	**109**	Pn	**P**	**07 05 03.5**	**-1.6**
	1.4nm,0.3s,baz=287,slow=7.5,SNR=12						
	20nm,0.7s						
DRS	**Darwin Rock St**	**15.22**	**165**	P	**Pn**	**07 05 07.4**	**-0.4**
MTN	**Manton Dam**	**15.68**	**165**		**Pn**	**07 05 13.6**	**-0.1**
MTN				IAmb	IAmb	07 05 20.4	
	comp=Z,19nm,0.5s						
MTN	**Manton Dam**	**15.68**	**165**	P	**P**	**07 05 17.3**	**+0.5**
KDU	**Kakadu**	**15.94**	**160**	P	**P**	**07 05 20.2**	**+0.5**
KNRA	**Kununurra**	**18.02**	**174**		**P**	**07 05 42.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**20.37**	**183**		**P**	**07 06 08.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**20.37**	**183**	P	**P**	**07 06 07.3**	**-1.1**
	comp=Z,6.1nm,0.5s,baz=19,slow=9.9,SNR=28						
	comp=Z,6.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.37**	**183**	P	**P**	**07 06 07.9**	**-0.5**
YULB	**Yu-li**	**21.60**	**346**	P	**P**	**07 06 18.2**	**-3.4**
YULB				IAmb	IAmb	07 06 38.9	
	comp=Z,17nm,0.9s						
TPUB	**Ta-pu**	**21.68**	**344**	P	**P**	**07 06 19.7**	**-2.8**
TPUB	**Ta-pu**	**21.68**	**344**	P	**P**	**07 06 23.5**	**+1.0**
COEN	**Coen**	**22.87**	**136**	P	**P**	**07 06 33.9**	**-1.4**
COEN				IAmb	IAmb	07 06 59.9	
	comp=Z,22nm,1.4s						
COEN	**Coen**	**22.87**	**136**	P	**P**	**07 06 34.9**	**-0.3**
WB0	**Warramunga Arr**	**23.19**	**162**	P	**P**	**07 06 37.1**	**-1.3**
WB0				IAmb	IAmb	07 06 45.2	
	comp=Z,22nm,0.8s						
WRAB	**Tennant Creek**	**23.33**	**162**	P	**P**	**07 06 38.6**	**-1.2**
WRAB				IAmb	IAmb	07 06 46.7	
	comp=Z,19nm,0.8s						
WRA	**Warramunga Arr**	**23.34**	**162**	P	**P**	**07 06 37.1**	**-2.7**
WRA	**Warramunga Arr**	**23.34**	**162**	P	**P**	**07 06 38.2**	**-1.6**
	comp=Z,11nm,0.4s,baz=340,slow=10,SNR=70						
WRA				S	**S**	**07 10 47.8**	**-0.9**
	comp=Z,2.0nm,0.8s,baz=338,slow=18,SNR=5.2						
	comp=Z,11nm,0.4s						
WR8	**Warramunga Arr**	**23.40**	**162**	P	**P**	**07 06 39.1**	**-1.3**
WR8				IAmb	IAmb	07 06 45.2	
	comp=Z,16nm,0.3s						
MBWA	**Marble Bar**	**24.41**	**196**	P	**P**	**07 06 49.3**	**-0.4**
QIS	**Mount Isa**	**25.96**	**152**	P	**P**	**07 07 03.6**	**-0.2**
QIS	**Mount Isa**	**25.96**	**152**	P	**P**	**07 07 03.4**	**-0.4**
AS31	**Alice Springs**	**26.75**	**166**	P	**P**	**07 07 09.6**	**-1.4**
ASAR	**Alice Springs**	**26.75**	**166**	P	**P**	**07 07 09.7**	**-1.3**
ASAR	**Alice Springs**	**26.75**	**166**	P	**P**	**07 07 09.9**	**-1.0**
	comp=Z,1.4nm,0.3s,baz=344,slow=6.7,SNR=31						
ASAR				PcP	**PcP**	**07 10 33.9**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=347,slow=2.7,SNR=4.0						
ASAR				S	**S**	**07 11 43.2**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=338,slow=17,SNR=5.8						
	comp=Z,1.4nm,0.3s						
AS01	**Alice Springs**	**26.77**	**166**	P	**P**	**07 07 10.2**	**-0.9**
AS01	**Alice Springs**	**26.77**	**166**	P	**P**	**07 07 10.1**	**-1.0**
MEEK	**Meekatharra**	**29.92**	**195**	P	**P**	**07 07 39.0**	**-0.2**
NJ2	**Nanjing**	**30.49**	**346**	*e*P	**P**	**07 07 42.6**	**-1.4**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
CMAR	**Chiang Mai Arr**	**31.73**	**302**	P	**P**	**07 07 53.5**	**-1.7**
	comp=Z,3.0nm,0.7s,baz=120,slow=7.5,SNR=10						
CMAR				LR	LR	07 20 47.3	
	comp=Z,168nm,21.6s,baz=165,slow=37						
	comp=Z,3.0nm,0.7s						
CHTO	**Chiang Mai**	**31.89**	**303**	P	**P**	**07 07 56.0**	**-0.6**
CHTO				IAmb	IAmb	07 07 56.4	
	comp=Z,9.9nm,0.6s						
FORT	**Forrest**	**32.98**	**178**	P	**P**	**07 08 05.0**	**-1.0**
FORT				IAmb	IAmb	07 08 08.2	
	comp=Z,9.1nm,0.7s						
PZH	**PanZhiHua**	**34.05**	**317**	P	**P**	**07 08 16.7**	**+1.2**
KSRS	**Korea Array**	**34.93**	**1**	P	**P**	**07 08 24.4**	**+1.6**
	comp=Z,2.5nm,0.6s,baz=180,slow=9.9,SNR=11						
	comp=Z,2.5nm,0.6s						
MJAR	**Matsushiro Arr**	**35.58**	**16**	P	**P**	**07 08 29.5**	**+1.1**
	comp=Z,2.0nm,0.5s,baz=154,slow=8.3,SNR=4.2						
	comp=Z,2.0nm,0.5s						
XAN	**Xi'an**	**35.71**	**334**	P	**P**	**07 08 28.0**	**-1.6**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BBOO	**Buckleboo**	**36.04**	**167**	P	**P**	**07 08 31.6**	**-0.8**
EIDS	**Eidsvold**	**36.18**	**141**	P	**P**	**07 08 32.2**	**-1.4**
STKA	**Stephens Creek**	**36.80**	**159**	P	**P**	**07 08 38.5**	**-0.4**
STKA	**Stephens Creek**	**36.80**	**159**	P	**P**	**07 08 38.8**	**-0.1**
	comp=Z,24nm,0.7s,baz=332,slow=9.3,SNR=49						
STKA				PcP	**PcP**	**07 11 00.2**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=348,slow=5.8,SNR=3.4						
	comp=Z,24nm,0.7s						
STKA	**Stephens Creek**	**36.80**	**159**	P	**P**	**07 08 38.4**	**-0.5**
JMM	**Marumori**	**37.56**	**18**	P	**P**	**07 08 46.0**	**+0.8**
BJT	**Baijiatuau**	**38.73**	**347**	P	**P**	**07 08 55.3**	**+0.2**
BJT				IAmb	IAmb	07 08 58.8	
	comp=Z,5.3nm,0.6s						
LZH	**Lanzhou**	**39.77**	**330**	*e*P	**P**	**07 09 03.2**	**-0.8**
LZH				pP	pP	07 09 18.4	+1.2
LZH				pmax	pmax		
	comp=Z,17nm,0.8s						
ARMA	**Armidale**	**40.24**	**146**	P	**P**	**07 09 08.0**	**+0.1**
ARMA	**Armidale**	**40.24**	**146**	P	**P**	**07 09 09.1**	**+1.2**
HHC	**Hu-ho-hao-te**	**40.74**	**342**	*e*P	**P**	**07 09 12.2**	**+0.3**
HHC				pmax	pmax		
	comp=Z,20nm,0.8s						
SHL	**Shillong**	**40.84**	**308**	P	**P**	**07 09 10.1**	**-2.9**
SHL				IAmb	IAmb	07 09 12.5	
	comp=Z,8.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**41.90**	**5**	P	**P**	**07 09 22.8**	**+1.6**
	comp=Z,5.9nm,0.8s,baz=205,slow=8.4,SNR=10						
	comp=Z,5.9nm,0.8s						
XLT	**XiLinHaoTe**	**42.46**	**348**	*e*P	**P**	**07 09 26.8**	**+0.9**
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CAN	**Canberra**	**42.82**	**153**	P	**P**	**07 09 28.4**	**-0.5**
CAN				IAmb	IAmb	07 09 48.3	
	comp=Z,24nm,1.2s						
DZM	**Mont Dzumac**	**45.61**	**124**	P	**P**	**07 09 52.8**	**+1.2**
DZM				IAmb	IAmb	07 10 07.6	
	comp=Z,13nm,1.3s						
HEH	**HeiHe**	**47.72**	**0**	*e*P	**P**	**07 10 08.4**	**+1.0**
ULN	**Ulaanbaatar**	**48.47**	**342**	P	**P**	**07 10 12.7**	**-0.8**
ULN				IAmb	IAmb	07 10 17.3	
	comp=Z,4.8nm,0.5s						
SONM	**Songino Array**	**48.64**	**342**	P	**P**	**07 10 14.3**	**-0.4**
SONM	**Songino Array**	**48.64**	**342**	P	**P**	**07 10 14.8**	**0.0**
	comp=Z,1.4nm,0.5s,baz=158,slow=9.7,SNR=5.3						
	comp=Z,1.4nm,0.5s						
MKAR	**Makanchi Array**	**58.77**	**326**	P	**P**	**07 11 28.3**	**-0.5**
	comp=Z,2.6nm,0.5s,baz=122,slow=8.6,SNR=33						
	comp=Z,2.6nm,0.5s						
MAKZ	**Makanchi**	**58.96**	**326**	P	**P**	**07 11 28.4**	**-1.7**
MAKZ				IAmb	IAmb	07 11 33.9	
	comp=Z,3.2nm,0.6s						
LBZ	**Lake Benmore**	**60.46**	**146**	P	**P**	**07 11 40.0**	**-0.4**
ZALV	**Zalesovo Beam**	**61.88**	**333**	P	**P**	**07 11 49.0**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=20,slow=4.7,SNR=3.7						
	comp=Z,0.9nm,0.5s						
KKAR	**Karatay Array**	**64.35**	**317**	P	**P**	**07 12 06.5**	**0.0**
BVAR	**Borovoye Array**	**68.56**	**327**	P	**P**	**07 12 33.0**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=116,slow=6.8,SNR=7.1						
	comp=Z,2.8nm,0.7s						
AB31	**Akbulak array**	**73.31**	**321**	P	**P**	**07 13 01.7**	**-0.4**
ABKAR	**Akbulak array**	**73.31**	**321**	P	**P**	**07 13 00.6**	**-1.4**
VNDA	**Vanda**	**82.06**	**173**	P	**P**	**07 13 49.7**	**-0.5**
VNDA	**Vanda**	**82.06**	**

GARC	**Garzon, Huila**	**5.67**	**22**	P		**Pn**	07 13 52.3	**+1.9**
GARC				P		**Pn**	**07 13 52.7**	**+2.3**
GARC				P		**Pn**	**07 13 52.9**	**+2.5**
POPC	**Popayan, Colom**	**5.70**	**9**	P		**Pn**	**07 13 54.6**	**+3.8**
POPC				P		Pn	07 13 55.8	+5.0
POPC				P		Pn	07 13 55.8	+5.0
JAMC	**Jamundi, Valle**	**6.37**	**8**	P		Pn	07 14 05.2	+5.3
JAMC				P		Pn	07 14 05.2	+5.3
JAMC				P		Pn	07 14 07.2	+7.3
CZSB	**Cruzeiro do Su**	**6.66**	**134**			**Pn**	**07 14 04.8**	**+1.0**
CZSB	**Cruzeiro do Su**	**6.66**	**134**	*eP*		**Pn**	**07 14 04.7**	**+1.0**
CZSB				*eS*		**Sn**	**07 15 18.3**	**-0.8**
TBTG	**Tabatinga, AM**	**7.72**	**98**			**Pn**	**07 14 20.7**	**+2.4**
NNA	**Nana**	**8.83**	**175**			**Pn**	**07 14 33.7**	**+0.1**
NNA	**Nana**	**8.83**	**175**	Pn		**Pn**	**07 14 34.1**	**+0.5**
	3.6nm,0.3s,baz=309,slow=8.5,SNR=8.1							
NNA					Sn	**Sn**	**07 16 10.9**	**-1.7**
	3.1nm,0.3s,baz=129,slow=22,SNR=3.6							
	11nm,0.4s							
RUSC	**La Rusia**	**10.02**	**27**			**Pn**	**07 14 53.4**	**+3.0**
BAUV	**El Baul**	**15.30**	**38**	Pn		**Pn**	**07 16 03.0**	**+1.0**
BAUV				IAmb	IAmb		07 16 21.2	
	comp=Z,12nm,0.9s							
LPAZ	**La Paz**	**16.04**	**145**			**Pn**	**07 16 13.0**	**+0.9**
LPAZ	**La Paz**	**16.04**	**145**	Pn		**Pn**	**07 16 13.1**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=332,slow=12,SNR=15							
	comp=Z,4.8nm,0.8s							
LPAZ	**La Paz**	**16.04**	**145**	*eP*		**Pn**	**07 16 13.6**	**+1.5**
MACA	**Manacapuru-AM**	**16.86**	**91**			**Pn**	**07 16 21.2**	**-0.8**
MACA				IAmb	IAmb		07 16 25.3	
	comp=Z,19nm,0.6s							
MACA	**Manacapuru-AM**	**16.86**	**91**	*eP*		**Pn**	**07 16 21.1**	**-0.9**
PB16	**IPOC Station P**	**17.05**	**153**			**Pn**	**07 16 25.1**	**+0.2**
PB11	**IPOC Station P**	**18.25**	**156**	P		**P**	**07 16 40.4**	**+0.9**
PB11				IAmb	IAmb		07 16 46.8	
	comp=Z,12nm,1.0s							
GO01	**Chusmiza**	**18.36**	**154**	P		**Pn**	**07 16 41.9**	**+0.8**
GO01				IAmb	IAmb		07 16 45.8	
	comp=Z,35nm,1.5s							
PB08	**IPOC Station P**	**18.80**	**155**	P		**P**	**07 16 45.3**	**-0.4**
PB09	**IPOC Station P**	**20.24**	**157**	P		Pn	07 17 02.6	-0.7
PB03	**IPOC Station P**	**20.28**	**159**	P		Pn	07 17 03.0	-0.8
PB03				IAmb	IAmb		07 17 13.6	
	comp=Z,26nm,1.4s							
SIV	**San Ignacio**	**20.66**	**129**	P		Pn	07 17 07.0	-1.1
	comp=Z,2.1nm,0.5s,baz=300,slow=11,SNR=18							
	comp=Z,2.1nm,0.5s							
MTO3	**Montecristo**	**20.97**	**326**	P		**P**	**07 17 09.9**	**+0.7**
MTO3				IAmb	IAmb		07 17 21.5	
	comp=Z,12nm,0.9s							
BBSD	**Serra de San D**	**21.74**	**131**	*eP*		**P**	**07 17 17.9**	**+0.6**
GRFF	**Grenada Fort F**	**21.80**	**46**	*eS*		**S**	**07 21 16.1**	**-2.2**
ITTB	**Itaituba**	**21.82**	**94**	*eP*		**P**	**07 17 16.8**	**-1.5**
PTLB	**Pontes e Lacer**	**21.90**	**125**	P		**P**	**07 17 19.4**	**+0.4**
PTLB				IAmb	IAmb		07 17 20.8	
	comp=Z,6.7nm,1.1s							
PTLB	**Pontes e Lacer**	**21.90**	**125**	*eP*		**P**	**07 17 20.1**	**+1.1**
PDRB	**Porto dos Gac**	**22.30**	**113**	*eP*		**P**	**07 17 23.6**	**+0.1**
NPGB	**Novo Progresso**	**22.46**	**101**	*eP*		**P**	**07 17 24.2**	**-0.9**
CLDB	**Colider**	**22.93**	**111**	*eP*		**P**	**07 17 29.4**	**-0.6**
GO02	**Mina Guanaco**	**23.21**	**161**	P		**P**	**07 17 33.9**	**+0.7**
GO02				IAmb	IAmb		07 17 48.6	
	comp=Z,17nm,1.3s							
TEIG	**Tepich**	**25.48**	**336**	P		**P**	**07 17 53.2**	**-0.7**
TEIG				IAmb	IAmb		07 18 10.2	
	comp=Z,19nm,1.3s							
CAMR	**Camarioca**	**26.29**	**352**	P		**P**	**07 18 02.0**	**+0.7**
CAMR				IAmb	IAmb		07 18 38.8	
	comp=Z,33nm,1.0s							
MT09	**Talagante**	**31.10**	**169**	P		**P**	**07 18 43.9**	**-0.3**
PLCA	**Paso Flores**	**37.97**	**171**	P		**P**	**07 19 43.6**	**+0.2**
PLCA				IAmb	IAmb		07 20 15.7	
	comp=Z,9.3nm,1.4s							
PLCA	**Paso Flores**	**37.97**	**171**	P		**P**	**07 19 43.5**	**0.0**
	comp=Z,1.6nm,0.8s,baz=356,slow=12,SNR=3.3							
	comp=Z,1.6nm,0.8s							
TXAR	**Lajitas Array**	**40.84**	**324**	P		**P**	**07 20 07.4**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=152,slow=5.7,SNR=4.2							
	comp=Z,0.3nm,0.8s							
PDAR	**Pinedale Array**	**54.06**	**331**	P		**P**	**07 21 49.7**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=141,slow=8.6,SNR=2.6							
	comp=Z,0.2nm,0.5s							
ULM	**Lac du Bonnet**	**55.46**	**346**	P		**P**	**07 21 58.4**	**-1.7**
	comp=Z,1.1nm,0.5s,baz=145,slow=6.0,SNR=2.1							
	comp=Z,1.1nm,0.5s							
TORD	**Torodi Ar. Bea**	**80.28**	**76**	P		**P**	**07 24 35.0**	**-2.1**
TORD	**Torodi Ar. Bea**	**80.28**	**76**	P		**P**	**07 24 36.0**	**-1.2**
	comp=Z,0.7nm,0.9s,baz=170,slow=3.8,SNR=4.5							
	comp=Z,0.7nm,0.9s							
G31M	**Satah River**	**80.43**	**340**	P		**P**	**07 24 36.2**	**-0.6**
G31M				IAmb	IAmb		07 25 14.7	
	comp=Z,9.3nm,1.5s							
SNAA	**Sanae**	**82.26**	**162**	P		**P**	**07 24 46.1**	**-0.5**
SNAA	**Sanae**	**82.26**	**162**	P		**P**	**07 24 46.2**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=270,slow=4.1,SNR=18							
	comp=Z,1.7nm,0.7s							
ILAR	**Eielson Array**	**84.14**	**336**	P		**P**	**07 24 55.6**	**-0.7**
	comp=Z,0.4nm,1.1s,baz=111,slow=4.0,SNR=2.5							
	comp=Z,0.4nm,1.1s							
QSPA	**South Pole Qui**	**86.94**	**180**	P		**P**	**07 25 10.6**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=124,slow=3.6,SNR=7.7							
	comp=Z,3.2nm,0.9s							
VNDA	**Vanda**	**93.30**	**191**	P		**P**	**07 25 39.7**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=56,slow=3.6,SNR=3.8							
	comp=Z,0.5nm,0.7s							

RSNC 04 07:20:52.0±0.0,5°N±2°×7°4W±°,h146km±5km,M3.0,mb4.2, ML2.7,Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPBC	**San Pablo de B**	**0.36**	**307**	P		07 21 11.8	-0.6
SPBC				S		07 21 26.3	-1.6
CHIC	**Chingaza**	**0.80**	**177**	P		07 21 14.6	-0.7
CHIC				S		07 21 30.9	-2.1
RUSC	**La Rusia**	**0.83**	**56**	P		07 21 15.4	-0.2
RUSC				S		07 21 32.5	-1.0
CVER	**Cruz Verde, Cu**	**0.95**	**198**	P		07 21 16.7	+0.2
CVER				S		07 21 34.8	-0.4
NORC	**Norcasia**	**1.09**	**277**	P		07 21 16.5	-0.8
NORC				S		07 21 35.2	-1.3
PTBC	**PUERTO BERRIO,**	**1.29**	**329**	P		07 21 17.9	-1.3
PTBC				S		07 21 38.3	-1.6
BARC	**Barichara**	**1.30**	**27**	P		07 21 19.1	-0.4
BARC				S		07 21 39.1	-1.3
VILC	**Villavicencio,**	**1.31**	**176**	P		07 21 18.6	-0.9
VILC				S		07 21 39.4	-1.1
BRJC	**Barrancabermej**	**1.53**	**1**	P		07 21 21.4	-0.3
BRJC				S		07 21 44.3	-0.1
GUY2C	**Guyana, Caldas**	**1.59**	**263**	P		07 21 22.1	-0.6
GUY2C				S		07 21 46.0	-0.2
RECRC	**Villamaria, Ca**	**1.63**	**253**	P		07 21 23.7	+0.4
RECRC				S		07 21 47.1	0.0
NIZA	**Niza - Manizal**	**1.72**	**258**	P		07 21 24.8	+0.8
NIZA				S		07 21 49.3	+0.8
ANIL	**Santa Ana**	**1.87**	**240**	P		07 21 25.4	-0.3
ANIL				S		07 21 50.9	-0.5
HELC	**Santa Helena**	**1.90**	**294**	P		07 21 25.7	-0.4
HELC				S		07 21 51.3	-0.8
PRAC	**Prado**	**2.03**	**213**	P		07 21 26.5	-0.8
PRAC				S		07 21 53.2	-1.2
ORTC	**Ortega, Tolima**	**2.10**	**224**	P		07 21 27.3	-0.9
ORTC				S		07 21 54.7	-1.2
PAMC	**Pamplona, Colo**	**2.18**	**29**	P		07 21 29.5	0.0
PAMC				S		07 21 58.4	+0.1
TAMC	**Tame, Arauca**	**2.22**	**63**	P		07 21 29.3	-0.2
TAMC				S		07 21 58.0	-0.4
URMC	**La Uribe, Meta**	**2.25**	**195**	P		07 21 29.9	-0.1
URMC				S		07 21 58.5	-0.7
CBOC	**Ciudad Bolivar**	**2.26**	**281**	P		07 21 30.1	-0.1
CBOC				S		07 21 58.9	-0.6
ZARC	**Zaragoza, Cauc**	**2.31**	**332**	P		07 21 29.0	-1.7
ZARC				S		07 21 58.6	-1.8
PLMC	**San Jos del P**	**2.55**	**258**	P		07 21 34.1	+0.5
PLMC				S		07 22 06.5	+0.9
OCAC	**Ocana**	**2.83**	**9**	P		07 21 37.1	-0.1
OCAC				S		07 22 12.3	+0.2
DBBC	**Dabeiba**	**2.88**	**303**	P		07 21 38.1	+0.3
DBBC				S		07 22 13.2	0.0
UREC	**San Jos de Ur**	**2.89**	**323**	P		07 21 35.8	-2.1
UREC				S		07 22 10.5	-2.8
YOTC	**Yotoco, Valle**	**2.93**	**241**	P		07 21 37.8	-0.7
YOTC				S		07 22 13.8	-0.6
GUVC	**San Jose del G**	**3.09**	**158**	P		07 21 38.8	-1.6
GUVC				S		07 22 14.9	-2.9
BETC	**Betania**	**3.19**	**211**	P		07 21 39.8	-2.0
BETC				S		07 22 17.9	-2.4
MACC	**Macarena, Meta**	**3.26**	**181**	P		07 21 40.6	-2.1
MACC				S		07 22 17.7	-4.2
JAMC	**Jamundi, Valle**	**3.63**	**233**	P		07 21 47.4	-0.1
JAMC				S		07 22 30.3	-0.3
GARC	**Garzon, Huila**	**3.65**	**208**	P		07 21 46.6	-1.2
GARC				S		07 22 28.8	-2.3
APAC	**Apartado, Choc**	**3.71**	**312**	P		07 21 48.1	-0.3
APAC				S		07 22 32.2	+0.1
POPC	**Popayan, Colom**	**4.07**	**225**	P		07 21 53.1	-0.3
FLOC	**Florencia**	**4.25**	**206**	P		07 21 55.1	-0.5
FLOC				S		07 22 43.1	-1.9
LCBC	**Los crdobas,**	**4.26**	**323**	P		07 21 54.1	-1.6
LCBC				S		07 22 41.9	-3.3
ARGC	**Ariguani, Magd**	**4.42**	**354**	P		07 21 57.8	0.0
ARGC				S		07 22 48.3	-0.7
SJCC	**San Jacinto, C**	**4.65**	**343**	P		07 21 58.1	-2.7
SJCC				S		07 22 49.8	-4.6
SMRC	**Santa Marta, M**	**5.71**	**356**	P		07 22 13.7	-1.2
SMRC				S		07 23 14.8	-4.9
URIC	**Uribia, Colomb**	**6.48**	**16**	P		07 22 22.5	-2.6
URIC				S		07 23 33.0	-5.0

KRSC 04 07:40:09.3±1.5,56°23N×164°39E,h48km±19km,MI4.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.88**	**269**	*eP*		Pn	07 40 25.4	0.0
KBTR				*eS*		Sn	07 40 36.6	-0.4
KBG	**Krutoberegovo**	**0.94**	**272**	*eP*		Pn	07 40 26.3	+0.2
KBG				*eS*		Sn	07 40 38.4	-0.1
BKI	**Bering**	**1.36**	**138**	*eP*		Pn	07 40 34.6	+2.7
BKI				*eS*		Sn	07 40 51.7	+3.0
SMKR	**Semkarok**	**1.66**	**284**	*eP*		Pn	07 40 38.6	+2.5
SMKR				*eS*		Sn	07 40 58.7	+2.5
BDR	**Baidarnaya**	**1.80**	**282**	*eS*		Sn	07 41 03.4	+3.7
SRKR	**Sorokina**	**1.84**	**285**	*eP*		Pn	07 40 41.6	+3.1
SRKR				*eS*		Sn	07 41 04.0	+3.4
ZLN	**Zelenaya**	**2.02**	**266**	*eP*		Pn	07 40 44.5	+3.5
CIRR	**Tsirk**	**2.04**	**268**	*eP*		Pn	07 40 44.9	+3.6
LGNR	**Loginova**	**2.08**	**268**	*eP*		Pn	07 40 45.4	+3.5
KLY	**Klyuchi**	**2.09**	**274**	*eP*		Pn	07 40 43.5	+1.7
BZGR	**Bezymyannyi-Gr**	**2.09**	**264**	*eP*		Pn	07 40 45.0	+3.1
BZWR	**Bezymyannyi-We**	**2.20**	**265**	*eP*		Pn	07 40 46.9	+3.4
BZMR	**Bezymyannaya**	**2.21**	**264**	*eP*		Pn	07 40 46.7	+3.2
MKZ	**Mys Kozlova**	**2.26**	**223**	*eP*		Pn	07 40 46.1	+2.0
MKZ				*eS*		Sn	07 41 11.5	+0.7
KIRR	**Kirishev**	**2.29**	**265**	*eP*		Pn	07 40 48.5	+3.9
KPT	**Kopyto**	**2.35**	**265**	*eP*		Pn	07 40 49.2	+3.7
KMNR	**Kamenistaya**	**2.38**	**260**	*eP*		Pn	07 40 49.5	+3.6
TUMD	**Tumrok D**	**2.48**	**247**	*eP*		Pn	07 40 50.4	+3.2
KOZ	**Kozyrevsk**	**2.53**	**268**	*eP*		Pn	07 40 52.1	+4.2
SRDR	**Sredinnyy**	**2.61**	**274**	*eP*		Pn	07 40 52.9	+3.9
SRDR				*eS*		Sn	07 41 23.9	+4.4
OSSR	**Ossora**	**3.11**	**347**	*eP*		Pn	07 40 58.6	+2.8
OSSR				*eS*		Sn	07 41 31.7	0.0
ESO	**Esso**	**3.20**	**267**	*eP*		Pn	07 41 00.4	+3.3
KII	**Karymskiy**	**3.59**	**234**	*eP*		Pn	07 41 06.3	+3.9
SPN	**Mys Shipunski**	**4.03**	**221**	*eP*		Pn	07 41 10.6	+2.2
NLC	**Nalytchevo**	**4.24**	**226**	*eS*		Sn	07 42 00.7	+1.4
SDLR	**Sedlovina**	**4.35**	**229**	*eP*		Pn	07 41 16.4	+3.5
KRX	**Arik**	**4.39**	**232**	*eP*		Pn	07 41 17.1	+3.6
SMAR	**Somma**	**4.39**	**230**	*eP*		Pn	07 41 17.2	+3.6
AVH	**Avacha**	**4.42**	**230**	*eP*		Pn	07 41 19.1	+5.2
UGLR	**Uglovaya**	**4.42**	**229**	*eP*		Pn	07 41 17.6	+3.7
KOK	**Koryaka**	**4.44**	**231**	*eP*		Pn	07 41 17.9	+3.7
GNL	**Ganaly**	**4.50**	**238**	*eP*		Pn	07 41 19.3	+4.3
DALK	**Dalny**	**4.58**	**228**	*eP*		Pn	07 41 19.4	+3.4
MTVR	**Mutnovka**	**5.22**	**227**	*eP*		Pn	07 41 29.4	+4.5
ASAK	**Asacha**	**5.41**	**227**	*eP*		Pn	07 41 32.2	+4.8

IDC 04 07:45:32.9±2.9,24°.53S×179°.06W,h384km±46km,mb3.3/5, mbtmp4.2/7,Error ellipse: s-maj=59.8km s-min=29.6km az=49.0

ISC 04 07:45:33.1±2.0,24°.5S±0°.1×178°.9W±0°.3,h400km,n7, σ1°.9 36/7,mb3.5/5,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.31**	**337**	P		**Pn**	**07 47 19.8**	**-0.7**
	42nm,0.7s,baz=153,slow=9.9,SNR=35							
URZ	**Urewera**	**14.13**	**193**	P		**P**	**07 48 34.4**	**-1.6**
	6.3nm,0.5s,baz=277,slow=1.0,SNR=5.7							
STKA	**Stephens Creek**	**35.44**	**249**	P		**P**	**07 51 53.6**	**+0.1**
	1.1nm,0.5s,baz=79,slow=9.7,SNR=3.5							
	1.1nm,0.5s							
ASAR	**Alice Springs**	**42.93**	**261**	P		**P**	**07 52 54.8**	**-0.1**
	1.1nm,0.6s,baz=96,slow=7.2,SNR=20							
	1.1nm,0.6s							
WRA	**Warramunga Arr**	**43.37**	**266**	P		**P**	**07 52 57.2**	**-1.1**
	2.5nm,0.5s,baz=99,slow=7.0,SNR=31							
	2.5nm,0.5s							
FITZ	**Fitzroy Crossi**	**51.78**	**266**	P		**P**	**07 54 03.4**	**+1.3**
	2.6nm,0.7s,baz=107,slow=13,SNR=2.1							
	2.6nm,0.7s							
QSPA	**South Pole Qui**	**65.59**	**180**	P		**P**	**07 55 36.6**	**+1.2**
	1.1nm,0.9s,baz=173,slow=8.9,SNR=1.7							
	1.1nm,0.9s							

IDC 04 08:21:47.4±2.1,4°.34N×126°.40E,h0km,mb3.4/4, mbtmp3.4/4,MS3.3/2,Error ellipse: s-maj=207.0km s-min=23.2km az=66.0

DJA 04 08:21:58.7±1.2,5°N±9°×12°7E±°,h107km±10km,M3.0/1, MLv3.6/5,MLv3.0/1

ISC 04 08:21:57.6±1.5,4°.7N±0°.2×127°.5E±0°.1,h100km,n6, σ0°.31/6,mb3.3/4,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.24**	**242**	P		**Pn**	**08 22 33.3**	**0.0**
SGSI				S		**Sn**	**08 23 00.7**	**0.0**
WRA	**Warramunga Arr**	**25.43**	**165**	P		**P**	**08 27 16.3**	**+0.1**
	0.3nm,0.5s,baz=342,slow=9.5,SNR=2.1							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**28.91**	**168**	P		**P**	**08 27 47.3**	**0.0**
	0.2nm,0.4s,baz=345,slow=8.8,SNR=7.8							
ASAR				LR	LR	08 39 45.1		
	comp=Z,71nm,19.3s,baz=63,slow=37							
	0.2nm,0.4s							
MJAR	**Matsushiro Arr**	**33.14**	**16**	LR	LR	08 42 00.3		
	comp=Z,37nm,21.4s,baz=18,slow=36							
MKAR	**Makanchi Array**	**57.19**	**325**	P		**P**	**08 31 34.6**	**+0.4**
	0.2nm,0.4s,baz=132,slow=7.8,SNR=4.2							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**61.33**	**327**	P		**P**	**08 32 02.2**	**-0.4**
	0.4nm,0.6s,baz=123,slow=6.1,SNR=5.2							
	0.4nm,0.6s							

ASRS 04 08:25:15.0±1.5,53°.53N×87°.44E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 04 08:25:17.5±3.5,53°.48N×87°.62E,h0km,mbtmp2.6/2, ML2.3/2,Error ellipse: s-maj=32.3km s-min=17.9km az=53.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.73**	**287**	I	I	08 35 40.0	
	baz=105,slow=321,SNR=11						
ZALV	**Zalesovo Beam**	**1.73**	**287**	Pg	Pn	08 25 47.7	-1.0
	0.7nm,0.3s,baz=104,slow=16,SNR=6.3						
ZALV				Lg	Lg	08 26 13.4	
	0.8nm,0.3s,baz=106,slow=26,SNR=4.0						
KURBB	**Kurchatov Arra**	**6.29**	**247**	Pn	Pn	08 26 51.7	+0.2
	0.1nm,0.3s,baz=58,slow=13,SNR=3.5						
KURBB				Lg	Lg	08 28 36.3	
	baz=63,slow=34						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.51**	**209**	Pn	Pn	08 27 10.0	+1.7
	0.1nm,0.3s,baz=28,slow=14,SNR=2.0						
	0.1nm,0.2s						

CATAC 04 08:30:52.6±0.4,10°N±3°×8°4W±°,h21km±3km,M2.6/6, MLv2.6/6,Error ellipse: s-maj=9.2km s-min=4.4km az=58.3,confirmed,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCR2	**La Lucha 2**	**0.34**	**201**	P	Pb	08 31 00.0	-0.1
LCR2	**La Lucha 2**	**0.34**	**201**	S	Sn	08 31 08.6	-0.4
TCS1	**Tacares**	**0.41**	**267**	P	Pn	08 31 08.2	+4.7
TRT2	**Tortugero**	**0.51**	**16**	P	Pb	08 31 01.9	-1.1
SOCE	**Pocosol**	**0.79**	**294**	P	Pb	08 31 04.7	-3.0
SOCE	**Pocosol**	**0.79**	**294**	S	Sb	08 31 16.7	-1.3
OCHAL	**Ojochal**	**0.99**	**166**	P	Pb	08 31 07.1	-3.9
OCHAL	**Ojochal**	**0.99**	**166**	S	Sb	08 31 19.9	-3.8
DRK0	**Durika**	**1.01**	**142**	P	Pn	08 31 13.7	+1.9
DRK0	**Durika**	**1.01**	**142**	S	Sn	08 31 31.4	+5.9
CMARA	**Lajas Hojancha**	**1.52**	**269**	P	Pb	08 31 21.3	+1.1
POLN	**Al Sur del Vol**	**3.86**	**312**	P	Pn	08 31 54.6	+3.8

NOU 04 08:31:46.5,44°.08S×168°.56E,h0km,MLv4.4/12,South Island, New Zealand

WEL 04 08:31:47.4±0.5,44°.5S±3°×16°9E±°,h5km,M4.0/7,ML4.2/7, MLv4.0/7,Error ellipse: s-maj=4.0km s-min=3.7km az=104.6,confirmed

WEL 04 08:31:47.7,44°.07S×168°.71E,h19km,ML4.0,Mw3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr1.51; Mθθ1.75; Mφφ-3.26; Mrθ2.64; Mθφ-2.01; Mφr0.29; Fault plane solution: Mo4.36000×10^14 NP1: φs58.00000°,δ73.00000°,λ140.00000°. NP2: φs162.00000°,δ52.00000°,λ22.00000°. Principal axes: T 4.4850, Plg40.0000°, Azm13.0000°; N -0.2520, Plg47.0000°, Azm218.0000°; P -4.2330, Plg13.0000°, Azm114.0000°; Stations used: WKZ EAZ WVZ OBLIQUE-REVERSE FAULTING

ISC 04 08:31:47.2±0.9,44°.08S±0°.03×168°.65E±0°.03,h9km±6km, n46,σ0°.84/55,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NSBS	**Neils Beach**	**0.09**	**6**	P	**Pg**	**08 31 49.8**	**+0.5**
NSBS				S	**Sg**	**08 31 51.5**	**+0.6**
JCZ	**Jackson Bay**	**0.10**	**86**	P	**Pg**	**08 31 49.5**	**-0.2**
JCZ	**Jackson Bay**	**0.10**	**86**	P	**Pg**	**08 31 49.6**	**-0.1**
JCZ				S	**Sg**	**08 31 50.8**	**-0.6**
MECS	**Makarora Emerg**	**0.45**	**110**	P	**Pg**	**08 31 56.1**	**+0.2**
MECS				S	**Sg**	**08 32 01.7**	**0.0**
MSZ	**Milford Sound**	**0.79**	**221**	P	**Pb**	**08 32 02.9**	**-0.2**
MSZ				S	**Sb**	**08 32 13.9**	**0.0**
WKZ	**Wanaka**	**0.79**	**161**	P	**Pb**	**08 32 03.1**	**-0.2**
WKZ				S	**Sb**	**08 32 13.4**	**-0.7**
FOZ	**Fox Glacier**	**1.01**	**57**	P	**Pg**	**08 32 05.8**	**-0.7**
LBZ	**Lake Benmore**	**1.15**	**106**	P	**Pb**	**08 32 09.0**	**-0.2**
LBZ				S	**Sg**	**08 32 23.6**	**-0.4**
EAZ	**Earnscleugh**	**1.24**	**158**	P	**Pn**	**08 32 11.1**	**+0.3**
EAZ				S	**Sn**	**08 32 27.3**	**-0.5**
MLZ	**Mavora Lakes**	**1.34**	**196**	P	**Pg**	**08 32 12.5**	**-0.5**
MLZ				S	**Sn**	**08 32 32.5**	**+2.3**
GCSZ	**Gaunt Creek Bo**	**1.44**	**58**	P	**Pn**	**08 32 12.3**	**-1.2**
ODZ	**Otahua Downs**	**1.72**	**125**	P	**Pn**	**08 32 17.6**	**+0.2**
ODZ	**Otahua Downs**	**1.72**	**125**	S	**Sg**	**08 32 41.9**	**-0.6**
ODZ	**Otahua Downs**	**1.72**	**125**	P	**Pb**	**08 32 18.1**	**-0.9**
ODZ				S	**Sb**	**08 32 40.7**	**-0.1**
TMZ	**Timaru**	**1.72**	**101**	P	**Pn**	**08 32 17.5**	**+0.1**
DCZ	**Deep Cove**	**1.75**	**217**	P	**Pg**	**08 32 19.3**	**-1.4**
RPZ	**Rata Peaks**	**1.78**	**79**	P	**Pn**	**08 32 18.8**	**+0.6**
RPZ	**Rata Peaks**	**1.78**	**79**	S	**Sg**	**08 32 43.7**	**-0.6**
RPZ	**Rata Peaks**	**1.78**	**79**	P	**Pn**	**08 32 18.5**	**+0.4**
WVZ	**Waitaha Valley**	**1.82**	**57**	P	**Pn**	**08 32 17.4**	**-1.3**
ARCZ	**Arundel**	**1.83**	**87**	P	**Pn**	**08 32 18.7**	**-0.1**
WHZ	**Wether Hill Ro**	**1.88**	**195**	P	**Pb**	**08 32 21.0**	**-0.7**
TUZ	**Tuapeka**	**2.00**	**160**	P	**Pn**	**08 32 21.5**	**+0.3**
MHCZ	**Mount Hutt**	**2.18**	**76**	P	**Pn**	**08 32 24.4**	**+0.6**
HHSZ	**Highcliff Hill**	**2.27**	**143**	P	**Pn**	**08 32 25.8**	**+0.8**
WACZ	**Wakanui South**	**2.31**	**88**	P	**Pn**	**08 32 25.0**	**-0.4**
INZ	**Inchbonnie**	**2.45**	**57**	P	**Pn**	**08 32 26.2**	**-1.2**
SYZ	**Scrubby Hill**	**2.48**	**172**	P	**Pn**	**08 32 28.3**	**+0.5**
SYZ	**Scrubby Hill**	**2.48**	**172**	P	**Pn**	**08 32 28.4**	**+0.6**
RACZ	**Rakaia**	**2.55**	**83**	P	**Pn**	**08 32 28

FSA	**Cafayete**	**3.55**	**177**	*eP*		**Pn**	**09 02 56.3**	**+0.9**
FSA				*eS*		**S**	**09 03 40.4**	**-1.8**
PB08	**IPOC Station P**	**3.65**	**310**			**Pn**	**09 02 58.3**	**+1.4**
PB05	**IPOC Station P**	**3.71**	**265**			**Pn**	**09 02 57.4**	**+0.1**
PB05	**IPOC Station P**	**3.71**	**265**	⇑*iP*		**Pn**	**09 02 57.6**	**+0.3**
PB05				*i* S		**S**	**09 03 41.3**	**-4.1**
PB05	**IPOC Station P**	**3.71**	**265**	*eP*		**Pn**	**09 02 57.5**	**+0.3**
PB05				*eS*		**S**	**09 03 43.8**	**-1.5**
PB05				IAML			09 03 44.9	
	comp=Z,219nm,0.3s							
GO01	**Chusmiza**	**4.01**	**315**			**Pn**	**09 03 01.9**	**+0.8**
GO01	**Chusmiza**	**4.01**	**315**	*eP*		**Pn**	**09 03 02.2**	**+1.2**
GO01				*eS*		**S**	**09 03 54.3**	**+2.1**
GO02	**Mina Guanaco**	**4.05**	**229**			**Pn**	**09 03 01.8**	**+0.4**
GO02	**Mina Guanaco**	**4.05**	**229**	*eP*		**Pn**	**09 03 01.8**	**+0.4**
GO02				*i* S		**S**	**09 03 50.9**	**-1.9**
GO02	**Mina Guanaco**	**4.05**	**229**	*eP*		**Pn**	**09 03 02.1**	**+0.7**
GO02				*eS*		**S**	**09 03 51.8**	**-1.0**
PATCX	**Punta Patache**	**4.06**	**294**			**Pn**	**09 03 01.4**	**+0.1**
PATCX	**Punta Patache**	**4.06**	**294**	*eP*		**Pn**	**09 03 01.5**	**+0.1**
PATCX				*i* S		**S**	**09 03 49.4**	**-3.3**
PATCX	**Punta Patache**	**4.06**	**294**	*eP*		**Pn**	**09 03 01.6**	**+0.2**
PATCX				*eS*		**S**	**09 03 50.4**	**-2.3**
PATCX				IAML			09 03 52.8	
	comp=Z,220nm,0.5s							
PB10	**IPOC Station P**	**4.13**	**256**			**Pn**	**09 03 01.6**	**-0.4**
PB10	**IPOC Station P**	**4.13**	**256**	*eP*		**Pn**	**09 03 02.0**	**+0.1**
PB10				*eS*		**S**	**09 03 51.9**	**-2.0**
PB10				IAML			09 03 52.6	
	comp=Z,257nm,0.3s							
TA01	**Diego Aracena**	**4.20**	**297**			**Pn**	**09 03 02.4**	**-0.5**
TA01	**Diego Aracena**	**4.20**	**297**	*eP*		**Pn**	**09 03 02.9**	**0.0**
TA01				*eS*		**S**	**09 03 53.1**	**-2.4**
TA01				IAML			09 03 54.5	
	comp=Z,101nm,1.1s							
PB11	**IPOC Station P**	**4.26**	**310**			**Pn**	**09 03 03.9**	**+0.2**
PB11	**IPOC Station P**	**4.26**	**310**	*eP*		**Pn**	**09 03 03.8**	**+0.1**
PB11				*eS*		**S**	**09 03 54.7**	**-2.3**
PB11				IAML			09 03 56.7	
	comp=Z,194nm,0.2s							
TA02	**Huaiquique**	**4.31**	**301**			**Pn**	**09 03 04.1**	**-0.1**
TA02	**Huaiquique**	**4.31**	**301**	*eP*		**Pn**	**09 03 04.9**	**+0.8**
TA02				*eS*		**S**	**09 03 55.7**	**-2.2**
TA02				IAML			09 03 58.3	
	comp=Z,269nm,0.1s							
PB14	**IPOC Station P**	**4.38**	**241**			**Pn**	**09 03 05.3**	**0.0**
PB14	**IPOC Station P**	**4.38**	**241**	*eP*		**Pn**	**09 03 05.2**	**0.0**
PB14				*eS*		**S**	**09 03 57.1**	**-2.6**
PB14				IAML			09 04 00.7	
	comp=Z,352nm,0.2s							
AC02	**Maricunga**	**5.03**	**211**			**Pn**	**09 03 13.6**	**+0.3**
AC02	**Maricunga**	**5.03**	**211**	*eP*		**Pn**	**09 03 13.4**	**+0.2**
AC02				*eS*		**S**	**09 04 10.2**	**-4.1**
PB16	**IPOC Station P**	**5.22**	**323**			**Pn**	**09 03 16.9**	**+1.2**
PB16	**IPOC Station P**	**5.22**	**323**	*eP*		**Pn**	**09 03 16.5**	**+0.7**
PB16				*eS*		**S**	**09 04 19.0**	**+0.2**
AC01	**Pan de Azucar**	**5.38**	**227**			**Pn**	**09 03 16.1**	**-1.0**
AC01	**Pan de Azucar**	**5.38**	**227**	*eP*		**Pn**	**09 03 16.3**	**-0.8**
AC01				*eS*		**S**	**09 04 16.3**	**-5.0**
PB18	**Visviri**	**5.82**	**327**			**Pn**	**09 03 25.2**	**+2.0**
AC06	**Mina Casimiro**	**6.09**	**217**			**Pn**	**09 03 24.5**	**-1.4**
GO03	**Copiapo**	**6.21**	**215**			**Pn**	**09 03 26.4**	**-1.1**
LPAZ	**La Paz**	**6.49**	**343**	P		**Pn**	**09 03 32.7**	**+1.1**
	comp=Z,12nm,0.4s,baz=150,slow=6.5,SNR=78							
LPAZ				S		**S**	**09 04 46.1**	**-1.5**
	comp=Z,5.7nm,0.9s,baz=258,slow=18,SNR=1.5							
LPAZ	**La Paz**	**6.49**	**343**	*eP*		**Pn**	**09 03 32.7**	**+1.1**
LPAZ				*eS*		**S**	**09 04 46.6**	**-1.0**
BBSD	**Serra de San D**	**7.49**	**46**	*eP*		**Pn**	**09 03 43.2**	**-0.3**
BBSD				*eS*		**S**	**09 05 07.0**	**-2.5**
LCO	**Las Campanas**	**7.61**	**211**	Pn		**Pn**	**09 03 43.6**	**-1.5**
SIV	**San Ignacio**	**8.12**	**37**	P		**Pn**	**09 03 51.0**	**-0.6**
	comp=Z,9.0nm,0.5s,baz=216,slow=9.6,SNR=60							
SIV				S		**S**	**09 05 16.4**	**-7.8**
	comp=Z,2.2nm,0.7s,baz=226,slow=14,SNR=4.7							
VA03	**San Esteban**	**10.88**	**200**			**Pn**	**09 04 25.7**	**-0.5**
VILB	**Vilhena**	**11.12**	**32**			**Pn**	**09 04 29.3**	**0.0**
VILB	**Vilhena**	**11.12**	**32**	*eP*		**Pn**	**09 04 29.3**	**0.0**
SALV	**Santo Antonio**	**11.92**	**58**	*eP*		**Pn**	**09 04 39.4**	**+0.1**
MT09	**Talagante**	**11.95**	**200**			**Pn**	**09 04 38.8**	**-0.9**
BO04	**La Punta**	**12.04**	**198**			**Pn**	**09 04 41.1**	**+0.4**
BO02	**Sierra Bellavi**	**12.84**	**197**			**Pn**	**09 04 49.4**	**-1.1**
PCMB	**Pacaembu**	**13.88**	**89**	*eP*		**P**	**09 05 04.9**	**+0.9**
PDRB	**Porto dos Gac**	**14.14**	**41**	*eP*		**Pn**	**09 05 06.2**	**-0.4**
NNA	**Nana**	**14.61**	**314**	P		**Pn**	**09 05 14.2**	**+2.0**
	comp=Z,6.5nm,0.6s,baz=151,slow=14,SNR=2.5							
CZSB	**Cruzeiro do Su**	**16.01**	**336**	P		**P**	**09 05 27.4**	**-0.2**
CZSB				IAmb		IAmb	09 05 28.9	
	comp=Z,12nm,0.6s							
CZSB	**Cruzeiro do Su**	**16.01**	**336**	*eP*		**P**	**09 05 27.3**	**-0.3**
IPMB	**Ipameri, GO**	**17.47**	**78**	*eP*		**P**	**09 05 44.0**	**+0.4**
SNDB	**Serra Nova Dou**	**17.68**	**56**	*eP*		**P**	**09 05 44.7**	**-1.1**
VAO	**Valinhos**	**17.74**	**95**	P		**P**	**09 05 46.6**	**+0.1**
VAO	**Valinhos**	**17.74**	**95**	*eP*		**P**	**09 05 47.0**	**+0.4**
LR05	**Currie**	**18.30**	**194**			**P**	**09 05 53.4**	**+1.1**
BDFB	**Brasilia**	**18.50**	**71**			**P**	**09 05 55.2**	**+0.4**
BDFB				IAmb		IAmb	09 05 57.0	
	comp=Z,16nm,1.1s							
BDFB	**Brasilia**	**18.50**	**71**	P		**P**	**09 05 54.7**	**-0.1**
	comp=Z,11nm,0.9s,baz=244,slow=12,SNR=12							
PLCA	**Paso Flores**	**18.50**	**190**	P		**P**	**09 05 54.6**	**+0.1**
	comp=Z,5.9nm,1.0s,baz=355,slow=11,SNR=6.8							
TBTG	**Tabatinga, AM**	**18.61**	**348**	P		**P**	**09 05 57.5**	**+1.7**
TBTG	**Tabatinga, AM**	**18.61**	**348**	*eP*		**P**	**09 05 56.0**	**+0.2**
NPGB	**Novo Progresso**	**18.62**	**36**	*eP*		**P**	**09 05 54.6**	**-1.4**
TEFE	**Tefe**	**18.99**	**5**	*eP*		**P**	**09 05 59.4**	**-0.5**
MACA	**Manacapuru-AM**	**20.00**	**16**			**P**	**09 06 09.7**	**-1.1**
MACA				IAmb		IAmb	09 06 12.0	
	comp=Z,14nm,0.6s							
MACA	**Manacapuru-AM**	**20.00**	**16**	*eP*		**P**	**09 06 09.0**	**-1.7**
ITTB	**Itaituba**	**20.72**	**31**	*eP*		**P**	**09 06 16.5**	**-1.9**
JANB	**Januaria**	**22.00**	**74**	*eP*		**P**	**09 06 29.2**	**-1.5**
SMTB	**Santa Maria do**	**22.46**	**56**	*eP*		**P**	**09 06 34.2**	**-0.7**
SDBA	**SAO DESIDERIO**	**22.65**	**67**	*eP*		**P**	**09 06 36.2**	**-0.5**
PRPB	**Parauapebas**	**22.69**	**47**	*eP*		**P**	**09 06 35.4**	**-1.7**
FLOC	**Florencia**	**25.70**	**338**	P		**P**	**09 07 05.1**	**+0.9**
FLOC				IAmb		IAmb	09 07 05.7	
	comp=Z,5.9nm,0.5s							
RUSC	**La Rusia**	**29.06**	**346**	P		**P**	**09 07 34.5**	**0.0**
RUSC				IAmb		IAmb	09 07 36.0	
	comp=Z,7.6nm,0.4s							
RCBR	**Riachuelo**	**33.63**	**65**	P		**P**	**09 08 13.7**	**-0.3**
RCBR				IAmb		IAmb	09 08 14.8	
	comp=Z,15nm,0.9s							
ANWB	**Willy Bob**	**40.20**	**7**	P		**P**	**09 09 07.1**	**-1.9**
V55A	**Taylorsville**	**59.80**	**346**	P		**P**	**09 11 36.6**	**+1.0**
V55A				IAmb		IAmb	09 11 37.7	
	comp=Z,7.3nm,0.7s							
X48A	**Hartselle**	**60.05**	**340**	P		**P**	**09 11 38.4**	**+1.1**
X48A				IAmb		IAmb	09 11 38.8	
	comp=Z,5.2nm,0.7s							
W50A	**Signal Mountai**	**60.23**	**342**	P		**P**	**09 11 39.5**	**+0.9**
SWET	**Sewanee**	**60.42**	**341**	IAmb		IAmb	09 11 41.2	
	comp=Z,6.6nm,0.7s							
SNAA	**Sanae**	**60.47**	**161**	P		**P**	**09 11 40.8**	**+1.0**
SNAA	**Sanae**	**60.47**	**161**	P		**P**	**09 11 40.7**	**+1.0**
	comp=Z,1.8nm,1.1s,baz=0.0,slow=2.0,SNR=2.6							
	comp=Z,1.8nm,1.1s							
U54A	**Nelsons Funny**	**60.58**	**346**	IAmb		IAmb	09 11 42.5	
	comp=Z,6.3nm,0.6s							
WVT	**Waverly**	**61.85**	**340**			**P**	**09 11 49.5**	**+0.2**
WVT				IAmb		IAmb	09 11 50.6	
	comp=Z,8.1nm,0.8s							
T47A	**Sharon Grove**	**62.42**	**341**			**P**	**09 11 52.9**	**-0.1**
PBMO	**Poplar Bluff**	**63.29**	**338**	P		**P**	**09 11 59.4**	**+0.7**
PBMO				IAmb		IAmb	09 12 00.8	
	comp=Z,7.8nm,0.9s							
J59A	**Piesco**	**66.13**	**353**	IAmb		IAmb	09 12 19.3	
	comp=Z,4.7nm,0.7s							
QSPA	**South Pole Qui**	**67.65**	**180**	P		**P**	**09 12 28.6**	**+2.1**
	comp=Z,1.3nm,0.4s,baz=130,slow=7.9,SNR=22							
	comp=Z,1.3nm,0.4s							
TORD	**Torodi Ar. Bea**	**75.36**	**69**	P		**P**	**09 13 12.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**75.36**	**69**	P		**P**	**09 13 11.7**	**-1.4**
	comp=Z,2.5nm,0.4s,baz=261,slow=5.4,SNR=3.7							
	comp=Z,2.5nm,0.4s							
PDAR	**Pinedale Array**	**76.29**	**329**	P		**P**	**09 13 18.3**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=162,slow=4.1,SNR=1.1							
	comp=Z,0.1nm,0.4s							
SCHQ	**Schefferville**	**77.07**	**360**	P		**P**	**09 13 22.2**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=168,slow=9.3,SNR=2.0							
	comp=Z,1.6nm,0.6s							
ULM	**Lac du Bonnet**	**77.10**	**341**	P		**P**	**09 13 22.8**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=143,slow=10,SNR=2.2							
	comp=Z,1.8nm,0.8s							
BOSA	**Boshof**	**80.73**	**117**	P		**P**	**09 13 42.5**	**0.0**
	comp=Z,0.5nm,0.4s,baz=225,slow=4.3,SNR=1.1							
	comp=Z,0.5nm,0.4s							
ESDC	**Sonseca Array**	**84.84**	**43**	P		**P**	**09 14 04.3**	**+1.2**
	comp=Z,1.7nm,0.9s,baz=225,slow=5.6,SNR=8.5							
	comp=Z,1.7nm,0.9s							
YKA	**Yellowknife Ar**	**93.03**	**340**	P		**P**	**09 14 41.5**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=131,slow=3.5,SNR=5.7							
	comp=Z,0.5nm,0.7s							
ASAR	**Alice Springs**	**130.07**	**204**	PKP		**PKiKP**	**09 20 37.8**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=130,slow=1.4,SNR=2.8							
MKAR	**Makanchi Array**	**144.94**	**39**	PKP		**PKPab**	**09 21 05.3**	**+1.5**
	comp=Z,3.0nm,0.7s,baz=308,slow=3.9,SNR=23							

*ASRS **04** 09:11:55.0±0.9,54.30N×86.90E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 04 09:11:57.5±3.1,54.33N×87.04E,h0km,mbtmp3.1/2, ML3.0/2,Error ellipse: s-maj=28.3km s-min=17.7km az=56.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.36**	**255**	I	I	09 20 04.1	
	baz=73,slow=315,SNR=5.5						
ZALV	**Zalesovo Beam**	**1.36**	**255**	Pg	Pg	09 12 21.3	-2.2
	7.5nm,0.3s,baz=73,slow=17,SNR=29						
ZALV				Lg	Lg	09 12 41.3	
	4.1nm,0.3s,baz=74,slow=30,SNR=8.5						
KURBB	**Kurchatov Arra**	**6.38**	**238**	Pn	Pn	09 13 33.7	+1.0
	0.2nm,0.3s,baz=51,slow=13,SNR=7.7						
	1.3nm,0.4s						
MKAR	**Makanchi Array**	**8.12**	**204**	Pn	Pn	09 13 58.0	+1.4
	0.3nm,0.3s,baz=27,slow=14,SNR=7.3						
MKAR				Lg	Lg	09 16 13.4	
	baz=21,slow=33,SNR=2.5						
	0.3nm,0.3s						

*IDC **04** 09:15:33.9±1.8,7.96S×154.88E,h0km,mb4.0/3, mbtmp4.2/4,ML4.8/1,MS3.7/1,Error ellipse: s-maj=46.0km s-min=27.0km az=175.0*
*NEIC **04** 09:15:34.3±0.9,6.7S±0.7×155.22E±0.05,h90km±15km, mb4.3/14,Error ellipse: s-maj=19.5km s-min=7.4km az=185.0*

ISC 04 09:15:34.9±1.3,7.8S±0.2×154.88E±0.08,h10km,n22, σ2$04/19,mb4.4/8,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.50**	**323**		Pn	09 16 32.2	-11
HNR	**Honiara**	**5.26**	**108**	Pn	**Pn**	**09 16 52.4**	**-1.3**
HNR	**Honiara**	**5.26**	**108**	Pn	**Pn**	**09 16 52.5**	**-1.2**
	30nm,0.3s,baz=282,slow=6.7,SNR=2.8						
HNR				Sn	**Sn**	**09 17 55.6**	**+1.1**
	14nm,0.3s,baz=76,slow=10,SNR=1.8						
	215nm,0.8s						
COEN	**Coen**	**13.02**	**241**	Pn	Pn	09 18 46.4	+6.3
CTAO	**Charters Tower**	**14.79**	**214**	Pn	**P**	**09 19 12.5**	**+2.1**
CTAO				IAmb	IAmb	09 19 47.1	
	comp=Z,38nm,1.5s						
EIDS	**Eidsvold**	**17.84**	**191**	P	**P**	**09 19 48.0**	**+3.9**
EIDS				IAmb	IAmb	09 19 50.6	
	comp=Z,12nm,1.0s						
DZM	**Mont Dzumac**	**18.03**	**143**	P	**P**	**09 19 45.2**	**-1.2**
DZM				IAmb	IAmb	09 20 16.8	
	comp=Z,15nm,1.4s						
WB0	**Warramunga Arr**	**23.14**	**237**	P	**P**	**09 20 41.5**	**-0.2**
WB0				IAmb	IAmb	09 20 42.2	
	comp=Z,7.2nm,0.7s						
WR8	**Warramunga Arr**	**23.14**	**236**	P	**P**	**09 20 41.4**	**-0.3**
WR8				IAmb	IAmb	09 20 43.1	
	comp=Z,9.9nm,0.8s						
WRAB	**Tennant Creek**	**23.26**	**237**	P	**P**	**09 20 42.6**	**-0.2**
WRAB				IAmb	IAmb	09 20 43.6	
	comp=Z,9.9nm,0.8s						
WRA	**Warramunga Arr**	**23.27**	**237**	P	**P**	**09 20 41.4**	**-1.5**
WRA	**Warramunga Arr**	**23.27**	**237**	P	**P**	**09 20 42.6**	**-0.4**
	comp=Z,8.4nm,0.7s,baz=59,slow=9.3,SNR=50						
	comp=Z,8.4nm,0.7s						
MTN	**Manton Dam**	**23.89**	**256**	P	**P**	**09 20 45.9**	**-3.1**
INKA	**Innaminka**	**23.92**	**212**	P	**P**	**09 20 49.4**	**+0.2**
INKA				IAmb	IAmb	09 20 50.5	
	comp=Z,6.8nm,0.7s						
AS31	**Alice Springs**	**25.56**	**230**	P	**P**	**09 21 02.7**	**-1.5**
ASAR	**Alice Springs**	**25.56**	**230**	P	**P**	**09 21 03.2**	**-1.1**
	comp=Z,2.5nm,0.5s,baz=59,slow=9.2,SNR=44						
	comp=Z,2.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**30.23**	**247**	P	**P**	**09 21 42.0**	**-4.1**
BBOO	**Buckleboo**	**30.39**	**212**	P	**P**	**09 21 46.8**	**-0.6**
FORT	**Forrest**	**33.93**	**224**	P	**P**	**09 22 17.1**	**-1.3**
URZ	**Urewera**	**36.36**	**150**	LR	LR	09 34 47.3	
	comp=Z,109nm,19.5s,baz=252,slow=32						
QSPA	**South Pole Qui**	**82.17**	**180**	P	P	09 27 48.5	-7.5
QSPA				IAmb	IAmb	09 28 29.5	
	comp=Z,6.7nm,1.4s						
MKAR	**Makanchi Array**	**83.94**	**319**	P	**P**	**09 28 07.8**	**+2.4**
	comp=Z,0.4nm,0.8s,baz=90,slow=4.3,SNR=2.7						
	comp=Z,0.4nm,0.8s						

IDC 04 09:17:35.7±18.0,4.66N×123.71E,h650km±315km, mb2.7/5,mbtmp3.8/5,Error ellipse: s-maj=306.6km s-min=72.2km az=63.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.59**	**157**	P	P	09 22 24.9	-0.7
	0.2nm,0.5s,baz=335,slow=8.6,SNR=1.1						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**29.86**	**161**	P	P	09 22 54.4	+0.6
	0.4nm,0.3s,baz=341,slow=8.7,SNR=10						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**55.10**	**326**	P	P	09 26 08.9	0.0
	1.2nm,0.4s,baz=119,slow=7.6,SNR=23						
	1.2nm,0.4s						
KURBB	**Kurchatov Arra**	**59.36**	**328**	P	P	09 26 37.6	0.0
	1.2nm,0.5s,baz=129,slow=6.2,SNR=15						
	1.2nm,0.5s						
BVAR	**Borovoye Array**	**64.92**	**328**	P	P	09 27 14.1	+0.8
	0.6nm,0.6s,baz=134,slow=8.3,SNR=2.0						
	0.6nm,0.6s						

*ASRS **04** 09:26:54.0±1.0,54.66N×83.68E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 04 09:26:55.3±1.8,54.67N×83.76E,h0km,mbtmp2.9/3, ML2.4/3,Error ellipse: s-maj=16.8km s-min=10.6km az=12.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**139**	I	I	09 32 23.8	
	0.1nm,1.1s,baz=318,slow=319,SNR=12						
ZALV	**Zalesovo Beam**	**0.95**	**139**	Pg	Pg	09 27 13.1	-0.4
	1.9nm,0.3s,baz=320,slow=16,SNR=14						
ZALV				Lg	Lg	09 27 27.3	
	8.4nm,0.3s,baz=320,slow=24,SNR=24						
KURBB	**Kurchatov Arra**	**5.16**	**220**	Pn	Pn	09 28 14.7	+1.0
	0.1nm,0.3s,baz=42,slow=13,SNR=3.7						
KURBB				Pg	Pg	09 28 30.6	-3.5
	0.1nm,0.3s,baz=34,slow=15,SNR=6.7						
KURBB				Lg	Lg	09 29 40.5	
	0.1nm,0.3s,baz=42,slow=30,SNR=6.2						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.95**	**187**	Pn	Pn	09 28 51.5	-0.4
	0.1nm,0.3s,baz=12,slow=13,SNR=3.0						
MKAR				Lg	Lg	09 31 08.1	
	0.1nm,0.3s,baz=20,slow=31,SNR=5.4						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**8.08**	**264**	Pn	Pn	09 28 52.3	-1.5
	0.1nm,0.3s,baz=64,slow=13,SNR=3.0						
	0.8nm,0.4s						

*GCG **04** 09:32:29.0±1.3,15.73N×91.01W,h0km±8km,MD3.9, ML2.9,MW2.9*
*CATAC **04** 09:32:29.0±0.7,16°N±3°×9°1W±°,h19km±7km,M3.0/5, MLv3.0/5,Error ellipse: s-maj=10.0km s-min=5.2km az=47.2,confirmed*

ISC 04 09:32:28.8±0.9,15.58N±0.05×90.97W±0.03,h10km,n17, σ1$39/18,Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUEH	**Huehuetenango**	**0.58**	**243**	IAML		09 32 50.5	
	comp=E,1μm,0.5s						
HUEH	**Huehuetenango**	**0.58**	**243**	P	**Pg**	**09 32 39.5**	**-0.5**
HUEH				S	**Sb**	**09 32 49.9**	**+0.4**
CCIG	**Comitan**	**1.33**	**302**	*eP*	**Pn**	**09 32 52.8**	**-0.7**
CCIG				IAML		09 33 17.2	
	comp=N,146nm,0.5s						
CCIG	**Comitan**	**1.33**	**302**	P	**Pn**	**09 32 53.1**	**-0.4**
CCIG	**Comitan**	**1.33**	**302**	S	**Sb**	**09 33 12.4**	**+1.4**
FG8	**Yepocapa, Chim**	**1.37**	**163**	*i* P	**Pn**	**09 32 52.9**	**-1.2**
PETF	**Flores**	**1.70**	**38**	*eP*	**Pn**	**09 32 58.1**	**-0.4**
PETF				*eS*	**Sn**	**09 33 20.3**	**0.0**
PETF				*i* S	**Sb**	**09 33 20.7**	**-0.9**
PETF				IAML		09 33 24.9	
	comp=E,375nm,0.4s						
PETF	**Flores**	**1.70**	**38**	P	**Pn**	**09 32 58.4**	**-0.1**
ESQI	**Esquipulas**	**1.87**	**123**	P	**Pg**	**09 33 04.8**	**+0.2**
ESQI	**Esquipulas**	**1.87**	**123**	S	**Sg**	**09 33 32.7**	**+3.8**
SLOZ	**Alcaldia de Sa**	**1.92**	**143**	P	Pn	09 32 53.3	-8.3
MTO3	**Montecristo**	**1.94**	**127**	P	**Pg**	**09 33 06.1**	**0.0**
MTO3	**Montecristo**	**1.94**	**127**	S	**Sb**	**09 33 28.4**	**-0.5**
SARH	**Santa Rosa de**	**2.27**	**110**	*eP*	**Pb**	**09 33 08.4**	**-1.6**
SARH	**Santa Rosa de**	**2.27**	**110**	P	**Pg**	**09 33 11.9**	**-0.5**
SARH	**Santa Rosa de**	**2.27**	**110**	S	**Sg**	**09 33 44.4**	**+2.5**
TGIG		**2.39**	**300**	*i* P	**Pn**	**09 33 08.3**	**+0.2**
TGIG				IAML		09 33 42.4	
	comp=E,43nm,0.4s						

*ASRS **04** 09:50:54.0±1.5,53.74N×91.07E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 04 09:51:01.8±3.6,53.56N×90.61E,h0km,mbtmp3.0/3, ML2.4/3,Error ellipse: s-maj=33.2km s-min=24.3km az=33.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.46**	**279**	I	I	10 12 25.0	
	0.2nm,1.2s,baz=91,slow=309,SNR=5.2						
ZALV	**Zalesovo Beam**	**3.46**	**279**	Pn	Pn	09 51 58.9	+2.1
	0.6nm,0.3s,baz=94,slow=15,SNR=5.1						
ZALV				Lg	Lg	09 52 51.5	
	1.4nm,0.3s,baz=93,slow=28,SNR=7.0						
	1.4nm,0.3s						
KURBB	**Kurchatov Arra**	**8.00**	**253**	Pn	Pn	09 52 58.6	-0.6
	0.1nm,0.3s,baz=65,slow=15,SNR=3.5						
KURBB				Sn	Sn	09 54 28.5	-1.8
	baz=69,slow=27,SNR=5.3						
KURBB				Lg	Lg	09 55 16.5	
	baz=61,slow=31,SNR=5.8						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**8.62**	**222**	Pn	Pn	09 53 08.4	+0.7
	0.1nm,0.3s,baz=41,slow=14,SNR=6.2						
MKAR				Lg	Lg	09 55 35.9	
	baz=29,slow=33,SNR=1.1						
	0.5nm,0.5s						

*ASRS **04** 09:54:33.0±0.8,54.04N×86.50E,h0km,M2.8,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 04 09:54:35.4±2.8,54.06N×86.61E,h0km,mbtmp3.0/2, ML2.8/2,Error ellipse: s-maj=22.6km s-min=14.3km az=58.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.06**	**265**	I	I	10 01 20.0	
	baz=83,slow=308,SNR=16						
ZALV	**Zalesovo Beam**	**1.06**	**265**	Pg	Pg	09 54 55.1	-0.7
	1.7nm,0.3s,baz=82,slow=18,SNR=13						
ZALV				Lg	Lg	09 55 10.1	
	2.8nm,0.3s,baz=84,slow=29,SNR=12						
KURBB	**Kurchatov Arra**	**6.03**	**238**	Pn	Pn	09 56 07.0	+1.2
	0.2nm,0.3s,baz=55,slow=13,SNR=6.6						
KURBB				Lg	Lg	09 57 49.0	
	baz=58,slow=33,SNR=4.7						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**7.78**	**202**	Pn	Pn	09 56 30.5	+0.6
	0.2nm,0.3s,baz=23,slow=15,SNR=4.7						
	0.2nm,0.3s						

*SOME **04** 09:56:19.1,44.67N×81.97E,h10km*
*NNC **04** 09:56:20.9±1.4,44.72N×81

KU6	**Riekki**	**0.84**	**45**	PG			10 02 09.1	
	baz=165							
KU6				MSG			10 02 25.1	
	comp=Z,4.9nm,0.2s							
KU6				SB			10 02 26.8	
RANF	**Ranua**	**0.89**	**311**	PG			10 02 21.8	
	baz=126							
RANF				SG			10 02 48.3	
OLKF	**Oulanka, Finla**	**0.97**	**24**	PG			10 02 15.2	
OLKF				MSG			10 02 35.0	
	comp=Z,4.3nm,0.2s							
OLKF				SN			10 02 37.9	
OUL	**Oulu**	**1.12**	**253**	PG			10 02 22.2	
	baz=94							
OUL				SG			10 02 48.9	
RMF	**Romuvaara**	**1.38**	**152**	PG			10 01 57.0	
	baz=28							
RMF				SG			10 02 05.3	
RMF				MSG			10 02 05.4	
	comp=Z,9.4nm,0.2s							
RNF	**Rovaniemi**	**1.54**	**321**	PB			10 02 31.6	
RNF				SG			10 03 06.4	
OBF4	**Vikkela, Lumij**	**1.54**	**247**	PG			10 02 27.2	
	baz=88							
OBF4				MSG			10 02 55.7	
	comp=Z,5.7nm,0.2s							
OBF4				SG			10 02 59.3	
TOF	**Tornio**	**1.81**	**293**	MSG			10 03 12.2	
	comp=Z,1.1nm,0.2s							
TOF				SG			10 03 14.4	
OUF	**Merijarvi**	**1.91**	**237**	PB			10 02 29.4	
OUF				MSG			10 03 01.6	
	comp=Z,7.7nm,0.2s							
OUF				SG			10 03 04.5	
OBF0	**Syolatti, Pyha**	**2.02**	**244**	PG			10 02 34.4	
OBF0				MSG			10 03 07.1	
	comp=Z,2.8nm,0.2s							
NIF	**Nilsia**	**2.08**	**188**	PG			10 02 18.9	
NIF				SN			10 02 44.5	
KALU	**Kalix**	**2.15**	**284**	PB			10 02 38.9	
KVDA	**Kovda**	**2.21**	**53**	P	**Pb**		**10 02 22.1**	**-1.4**
KVDA				S	**Sn**		**10 02 48.7**	**+0.2**
VRF	**Varrio**	**2.37**	**11**	PB			10 02 35.5	
	baz=169							
VRF				MSG			10 03 14.8	
	comp=Z,1.8nm,0.2s							
VRF				SG			10 03 18.1	
KLF	**Kolari**	**2.55**	**317**	PN			10 02 45.1	
KLF				SG			10 03 39.3	
ERTU	**Ertsjaerv**	**2.79**	**297**	PG			10 02 56.5	
APA0	**Apatity Array**	**2.84**	**38**	S	**Sb**		**10 03 09.9**	**+0.3**
SUF	**Sumiainen**	**2.91**	**201**	PB			10 02 35.1	
	baz=43							
SUF				MSG			10 03 09.7	
	comp=Z,1.4nm,0.2s							
SUF				SG			10 03 13.0	
APA	**Apatity**	**2.92**	**41**	S	**Sn**		**10 03 07.7**	**+1.5**
RAJF	**Raja-Jooseppi**	**3.05**	**359**	PN			10 02 45.8	
HEF	**Hetta**	**3.52**	**330**	SG			10 04 07.5	
UMAU	**Umeaa**	**3.68**	**248**	PN			10 02 53.6	
FINES	**FINESS Array B**	**4.15**	**196**	Pn	**Pn**		**10 02 47.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=31,slow=13,SNR=1.1							
FINES				Pg	**Pb**		**10 02 56.0**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=30,slow=15,SNR=1.4							
FINES				Lg	Lg		10 03 47.5	
	comp=Z,0.6nm,0.3s,baz=34,slow=27,SNR=9.0							
	comp=Z,0.6nm,0.6s							
ARCES	**ARCESS Array B**	**4.27**	**346**	Pn	**Pg**		**10 03 04.1**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=154,slow=12,SNR=24							
ARCES				Sn	**Sg**		**10 04 02.2**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=154,slow=25,SNR=1.2							
ARCES				Lg	Lg		10 04 24.7	
	comp=Z,0.1nm,0.3s,baz=151,slow=28,SNR=2.1							
	comp=Z,2.1nm,0.9s							
ARCES	**ARCESS Array B**	**4.27**	**346**	P	**Pb**		**10 02 56.5**	**-2.0**
VJF	**Virojoki**	**4.94**	**185**	SN			10 03 43.3	
I37NO	**I37NO**	**5.27**	**318**	I	I		10 37 40.0	
	baz=129,slow=312,SNR=2.5							

*IDC **04** 10:01:43.0±1.2,27.°96N×105.°08E,h0km,mb3.4/5, mbtmp3.4/6,ML3.9/1,MS3.6/1,Error ellipse: s-maj=44.4km s-min=21.6km az=60.0*

ISC 04 10:01:48.2±1.4,28.°1N±0.°2×105.°2E±0.°2,h35km,n7, σ0s50/6,mb3.5/5,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**19.77**	**2**	P	**Pn**	**10 06 17.3**	**+0.3**
	0.3nm,0.3s,baz=196,slow=14,SNR=2.2						
	0.6nm,0.5s						
JOW	**Kunigami**	**20.51**	**88**	LR	LR	10 15 02.8	
	comp=Z,194nm,20.7s,baz=284,slow=39						
KSRS	**Korea Array**	**21.24**	**58**	P	**P**	**10 06 30.9**	**-0.2**
	0.4nm,0.5s,baz=243,slow=10,SNR=2.9						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**25.94**	**322**	P	**P**	**10 07 16.5**	**-0.7**
	0.3nm,0.5s,baz=118,slow=10,SNR=6.1						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**30.27**	**325**	P	**P**	**10 07 56.0**	**+0.2**
	0.3nm,0.3s,baz=125,slow=8.0,SNR=1.8						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**55.41**	**146**	P	**P**	**10 11 19.3**	**+0.1**
	0.5nm,0.6s,baz=326,slow=7.5,SNR=1.6						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**58.39**	**149**	P	**P**	**10 11 40.4**	**0.0**
	0.2nm,0.5s,baz=330,slow=7.0,SNR=8.2						
	0.2nm,0.5s						

*JMA **04** 10:10:27.3±0.1,23.°9N±0.°3×121.°6E±0.°7,h44km,MV3.9/18, TAIWAN REGION*
*TAP **04** 10:10:27.7,23.°98N×121.°61E,h44km,ML4.0,B*

ISC 04 10:10:29.8±1.3,23.°95N±0.°01×121.°64E±0.°02,h36km,n159, σ1s90/271,15C-8D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.04**	**303**	*eP*	**Pn**	**10 10 35.6**	**-0.1**
HWA				*eS*	**Sn**	**10 10 41.6**	**+1.8**
TEYL	**Yanliau Villag**	**0.10**	**206**	⇑*eP*	Pn	10 10 35.5	-0.5
TEYL				*eS*	Sn	10 10 41.7	+1.5
ETM	**Tongmen**	**0.14**	**275**	⇓*iP*	Pn	10 10 34.9	-6.1
ETM				S	Sn	10 10 39.7	-12
SHUL	**Shoufeng**	**0.18**	**204**	⇓P	**Pn**	**10 10 36.0**	**-3.3**
SHUL				*eS*	**Sn**	**10 10 42.2**	**-6.4**
ETL	**Fush Village**	**0.20**	**355**	⇑P	**Pn**	**10 10 35.3**	**-3.5**
ETL				S	**Sn**	**10 10 40.7**	**-6.8**
LXIB	**Xiulin Townshi**	**0.22**	**288**	⇓*iP*	**Pn**	**10 10 35.4**	**-3.2**
LXIB				S	**Sn**	**10 10 40.9**	**-6.0**
NACB	**Ninganchiao**	**0.22**	**349**	P	**Pn**	**10 10 35.3**	**-3.2**
NACB	**Ninganchiao**	**0.22**	**349**	S	**Pn**	**10 10 41.1**	**-5.5**
NACB	**Ninganchiao**	**0.22**	**349**	⇑*iP*	**Pn**	**10 10 35.3**	**-3.2**
NACB				S	**Sn**	**10 10 40.7**	**-5.9**
ESL	**Shilin**	**0.24**	**234**	⇓*iP*	**Pn**	**10 10 35.4**	**-2.8**
ESL				S	**Sn**	**10 10 40.7**	**-5.3**
TEGC	**Jichi Village**	**0.26**	**201**	P	**Pn**	**10 10 36.6**	**-1.4**
TEGC				*eS*	**Sn**	**10 10 45.1**	**-0.3**
ETLH	**Xiulin Townshi**	**0.29**	**330**	⇑*iP*	**Pn**	**10 10 36.0**	**-2.1**
ETLH				*eS*	**Sn**	**10 10 41.5**	**-3.7**
WARBT	**Fenglin Townsh**	**0.33**	**225**	⇓*iP*	**Pn**	**10 10 36.1**	**-2.0**
WARBT				*eS*	**Sn**	**10 10 42.3**	**-2.6**
EGFH	**Guangfu**	**0.35**	**215**	*eP*	**Pn**	**10 10 36.4**	**-1.8**
EHP	**Heping Village**	**0.36**	**14**	*eS*	**Sn**	**10 10 44.3**	**-0.8**
EAHA	**Aohua**	**0.38**	**13**	P	**Pn**	**10 10 37.1**	**-1.5**
EAHA				S	**Sn**	**10 10 44.1**	**-1.2**
WHF	**Hehuan Shan**	**0.39**	**299**	⇑P	**Pn**	**10 10 37.5**	**-1.7**
WHF				S	**Sn**	**10 10 44.3**	**-2.0**
OWD	**Renai**	**0.43**	**270**	⇓P	**Pn**	**10 10 37.9**	**-1.5**
OWD				S	**Sn**	**10 10 44.5**	**-1.9**
FUSS	**Fushou**	**0.47**	**309**	⇑P	**Pn**	**10 10 38.5**	**-1.6**
FUSS				S	**Sn**	**10 10 46.0**	**-1.4**
ENA	**Nanau**	**0.48**	**11**	⇓P	**Pn**	**10 10 38.2**	**-1.8**
WUSB	**Renai**	**0.48**	**275**	⇓*iP*	**Pn**	**10 10 38.6**	**-1.6**
WUSB				S	**Sn**	**10 10 46.0**	**-1.6**
VWDT	**VWDT**	**0.50**	**247**	P	**Pn**	**10 10 39.0**	**-1.4**
VWDT				*eS*	**Sn**	**10 10 47.0**	**-0.8**
HGSD	**Ruisui**	**0.50**	**204**	*eP*	**Pn**	**10 10 38.8**	**-1.6**
HGSD				*eS*	**Sn**	**10 10 48.6**	**+0.8**
EWUT	**Wuta**	**0.50**	**14**	⇑P	**Pn**	**10 10 38.5**	**-2.0**
EWUT				*eS*	**Sn**	**10 10 46.5**	**-1.4**
TWT	**Tachien**	**0.52**	**305**	P	**Pn**	**10 10 39.5**	**-1.5**
TWT				S	**Sn**	**10 10 47.4**	**-1.3**
NNSB	**Datong**	**0.53**	**333**	⇑P	**Pn**	**10 10 39.0**	**-2.1**
NNSB				*eS*	**Sn**	**10 10 46.6**	**-2.2**
EHYH	**Wanrong**	**0.53**	**211**	*eP*	**Pn**	**10 10 38.3**	**-2.7**
EHY	**Hungye**	**0.53**	**213**	*eP*	**Pn**	**10 10 38.2**	**-2.8**
TDCB	**Techi**	**0.53**	**304**	P	**Pn**	**10 10 39.5**	**-1.7**
TDCB				S	**Sn**	**10 10 47.0**	**-1.9**
NNS	**Nan Shan**	**0.54**	**333**	⇑P	**Pn**	**10 10 39.1**	**-2.2**
NNS				*eS*	**Sn**	**10 10 47.1**	**-2.0**
LATG	**Datong**	**0.59**	**350**	⇑P	**Pn**	**10 10 39.4**	**-2.5**
LATG				*eS*	**Sn**	**10 10 47.8**	**-2.5**
EOS4	**EOS4**	**0.64**	**75**	*eP*	**Pn**	**10 10 40.9**	**-1.2**
EOS4				*eS*	**Sn**	**10 10 50.7**	**-0.2**
YULB	**Yu-li**	**0.64**	**210**	P	**Pn**	**10 10 39.6**	**-2.9**
YULB	**Yu-li**	**0.64**	**210**	S	**Sn**	**10 10 47.9**	**-3.6**
YULB	**Yu-li**	**0.64**	**210**	P	**Pn**	**10 10 39.5**	**-3.1**
YULB				*eS*	**Sn**	**10 10 48.0**	**-3.4**
ESAO	**Su ao**	**0.65**	**16**	*eP*	**Pn**	**10 10 40.7**	**-1.9**
ESAO				*eS*	**Sn**	**10 10 50.2**	**-1.3**
SSLB	**Suanglung**	**0.65**	**255**	P	**Pn**	**10 10 40.8**	**-1.9**
SSLB	**Suanglung**	**0.65**	**255**	P	**Pn**	**10 10 40.6**	**-2.1**
ECBN	**Changbin**	**0.66**	**196**	P	**Pn**	**10 10 41.4**	**-1.4**
ECBN				*eS*	**Sn**	**10 10 51.6**	**-0.1**
WCS	**Beigang Elemen**	**0.68**	**279**	P	**Pn**	**10 10 41.4**	**-1.5**
WCS				*eS*	**Sn**	**10 10 51.3**	**-0.9**
TWF1	**Yuli**	**0.68**	**208**	P	**Pn**	**10 10 40.0**	**-2.9**
TWC	**Suao**	**0.68**	**16**	P	**Pn**	**10 10 41.2**	**-1.7**
TWC				*eS*	**Sn**	**10 10 51.9**	**-0.4**
NDS	**Dongshan**	**0.68**	**6**	P	**Pn**	**10 10 39.9**	**-3.1**
NDS				*eS*	**Sn**	**10 10 51.4**	**-0.9**
SMLT	**Sun Moon Lake**	**0.68**	**264**	P	**Pn**	**10 10 41.4**	**-1.8**
SMLT				*eS*	**Sn**	**10 10 51.1**	**-1.4**
ENTT	**Nioudou**	**0.69**	**354**	⇑*iP*	**Pn**	**10 10 40.9**	**-2.2**
ENTT				S	**Sn**	**10 10 52.0**	**-2.1**
EOS3	**EOS3**	**0.70**	**62**	P	**Pn**	**10 10 42.5**	**-0.6**
EOS3				*eS*	**Sn**	**10 10 53.5**	**+1.0**
EOS2	**EOS2**	**0.71**	**49**	P	**Pn**	**10 10 42.9**	**-0.3**
WHP	**Taichung City**	**0.71**	**297**	*eP*	**Pn**	**10 10 42.4**	**-1.1**
WHP				*eS*	**Sn**	**10 10 51.5**	**-1.7**
YHNB	**Yeheng**	**0.75**	**341**	P	**Pn**	**10 10 42.1**	**-1.9**
YHNB	**Yeheng**	**0.75**	**341**	⇑*iP*	**Pn**	**10 10 42.1**	**-1.9**
YHNB				S	**Sn**	**10 10 52.0**	**-2.1**
NSK	**Sanguang**	**0.76**	**340**	⇑*iP*	**Pn**	**10 10 42.2**	**-1.9**
NSK				S	**Sn**	**10 10 52.1**	**-2.4**
TWE	**Neicheng**	**0.76**	**2**	⇑*iP*	**Pn**	**10 10 41.9**	**-2.1**
TWE				*eS*	**Sn**	**10 10 52.7**	**-1.6**
WHYT	**Xinyi Township**	**0.77**	**251**	*eP*	**Pn**	**10 10 42.8**	**-1.3**
WHYT				*eS*	**Sn**	**10 10 54.6**	**+0.1**
CHKH	**Chenggong**	**0.79**	**197**	*eP*	**Pn**	**10 10 42.7**	**-1.8**
CHKH				*eS*	**Sn**	**10 10 54.3**	**-0.7**
FUSB	**Fushanzhiwuyua**	**0.80**	**356**	⇑P	**Pn**	**10 10 42.5**	**-2.2**
FUSB				S	**Sn**	**10 10 53.4**	**-2.1**
ILA	**Ilan**	**0.81**	**7**	*eP*	**Pn**	**10 10 43.0**	**-1.8**
FULB	**Fuli**	**0.82**	**203**	P	**Pn**	**10 10 42.6**	**-2.2**
FULB				*eS*	**Sn**	**10 10 54.2**	**-1.5**
NFF	**Wufeng Townshi**	**0.83**	**325**	P	**Pn**	**10 10 43.6**	**-1.4**
NFF				*eS*	**Sn**	**10 10 54.7**	**-1.4**
NWLT	**Wulai**	**0.83**	**351**	P	**Pn**	**10 10 43.0**	**-2.0**
NWLT				*eS*	**Sn**	**10 10 54.0**	**-2.0**
WJS	**Zhushan**	**0.85**	**261**	*eP*	**Pn**	**10 10 44.6**	**-0.7**
WJS				*eS*	**Sn**	**10 10 56.8**	**+0.3**
WNT	**Mingjian**	**0.88**	**265**	P	**Pn**	**10 10 44.9**	**-0.8**
WNT				*eS*	**Sn**	**10 10 57.1**	**-0.2**
ALS	**Alishan**	**0.89**	**240**	*eP*	**Pn**	**10 10 44.8**	**-1.3**
ALS				*eS*	**Sn**	**10 10 56.9**	**-0.9**
TWQ1	**Liyutan**	**0.89**	**296**	*eP*	**Pn**	**10 10 44.6**	**-1.1**
TWQ1				*eS*	**Sn**	**10 10 56.4**	**-1.0**
CHKT	**Chengkung**	**0.89**	**197**	*eP*	**Pn**	**10 10 43.8**	**-2.0**
CHKT				*eS*	**Sn**	**10 10 55.1**	**-1.3**
NSTT	**Nanjuang**	**0.89**	**319**	P	**Pn**	**10 10 45.0**	**-0.8**
NSTT				S	**Sn**	**10 10 56.8**	**-0.8**
LIOB	**Emei**	**0.90**	**320**	P	**Pn**	**10 10 45.0**	**-0.9**
LIOB				*eS*	**Sn**	**10 10 57.1**	**-0.6**
EHD	**Haiduan**	**0.90**	**207**	*eP*	**Pn**	**10 10 42.6**	**-3.3**
EHD				*eS*	**Sn**	**10 10 54.2**	**-3.5**
TCU	**Taichung**	**0.91**	**282**	*eP*	**Pn**	**10 10 45.4**	**-0.6**
TCU				*eS*	**Sn**	**10 10 57.3**	**-0.5**
KSHI	**Guanxi Townshi**	**0.92**	**333**	P	**Pn**	**10 10 45.5**	**-0.8**
KSHI				*eS*	**Sn**	**10 10 59.2**	**+0.9**
EGS		**0.93**	**16**	*eP*	**Pn**	**10 10 45.4**	**-0.9**
EGS				*eS*	**Sn**	**10 10 58.5**	**+0.2**
NSY	**Sanyi**	**0.93**	**300**	*eP*	**Pn**	**10 10 46.0**	**-0.3**
NSY				*eS*	**Sn**	**10 10 58.9**	**+0.4**
ECS	**Chishang**	**0.94**	**205**	*eP*	**Pn**	**10 10 44.8**	**-1.7**
ECS				*eS*	**Sn**	**10 10 57.2**	**-1.5**
CHN5	**Tsauling**	**0.95**	**248**	*i P*	**Pn**	**10 10 45.7**	**-1.0**
CHN5				S	**Sn**	**10 10 49.6**	**+0.3**
ELDTW	**Lidau**	**0.95**	**217**	*eP*	**Pn**	**10 10 44.4**	**-2.4**
ELDTW				*eS*	**Sn**	**10 10 57.8**	**-1.4**
NMLH	**Miaoli**	**0.97**	**307**	*eP*	**Pn**	**10 10 46.0**	**-0.9**
NMLH				*eS*	**Sn**	**10 10 59.3**	**-0.1**
WDJ	**Dajia District**	**1.00**	**293**	P	**Pn**	**10 10 46.3**	**-0.9**
WDJ				*eS*	**Sn**	**10 10 59.3**	**-0.7**
WCHH	**Zhanghua**	**1.00**	**277**	*eP*	**Pn**	**10 10 46.5**	**-0.7**
WCHH				*eS*	**Sn**	**10 11 01.0**	**+0.9**
NHDH	**Xindian Distri**	**1.01**	**354**	*eP*	**Pn**	**10 10 45.9**	**-1.6**
NHDH				S	**Sn**	**10 10 59.0**	**-1.4**
TWA	**Mucha**	**1.02**	**357**	*i P*	**Pn**	**10 10 46.2**	**-1.5**
TWA				S	**Sn**	**10 10 59.4**	**-1.4**
WGK	**Gukeng**	**1.02**	**255**	P	**Pn**	**10 10 46.7**	**-0.9**
WGK				*eS*	**Sn**	**10 11 01.7**	**+0.9**
EDH	**Donghe**	**1.03**	**198**	*eP*	**Pn**	**10 10 45.2**	**-2.4**
EDH				*eS*	**Sn**	**10 10 59.2**	**-1.6**
TATO	**Taipei**	**1.03**	**352**	P	**Pn**	**10 10 46.1**	**-1.5**
TATO	**Taipei**	**1.03**	**352**	S	**Sn**	**10 10 59.7**	**-1.1**
TIPB	**Shuangxi**	**1.03**	**9**	*i P*	**Pn**	**10 10 46.2**	**-1.5**
TIPB				*eS*	**Sn**	**10 11 01.4**	**+0.6**
SBCB	**Hsinchu**	**1.03**	**324**	*eP*	**Pn**	**10 10 46.7**	**-0.9**
SBCB				S	**Sn**	**10 11 01.0**	**+0.1**
HSN	**Hsinchu**	**1.04**	**324**	P	**Pn**	**10 10 46.9**	**-1.0**
HSN				*eS*	**Sn**	**10 11 00.7**	**-0.5**
WDLH	**Douliu**	**1.05**	**256**	*eP*	**Pn**	**10 10 47.1**	**-0.7**
WDLH				*eS*	**Sn**	**10 11 01.8**	**+0.6**
WCKO	**Fanlu**	**1.08**	**242**	*eP*	**Pn**	**10 10 47.9**	**-0.5**
WCKO				*eS*	**Sn**	**10 11 02.7**	**+0.5**
TWB1	**Santiao Chiao**	**1.10**	**17**	*eP*	**Pn**	**10 10 47.7**	**-0.9**
TWB1				*eS*	**Sn**	**10 11 02.2**	**-0.3**
STYH	**Taoyuan**	**1.11**	**226**	*i P*	**Pn**	**10 10 47.9**	**-0.9**
STYH				S	**Sn**	**10 11 02.2**	**-0.8**
NWF	**Wu-fen Shan**	**1.12**	**6**	*eP*	**Pn**	**10 10 47.5**	**-1.5**
NWF				*eS*	**Sn**	**10 11 02.3**	**-0.9**
WFSB	**Wu-fen Shan**	**1.12**	**6**	P	**Pn**	**10 10 47.5**	**-1.4**
WFSB				*eS*	**Sn**	**10 11 02.7**	**-0.3**
TPUB	**Ta-pu**	**1.13**	**235**	P	**Pn**	**10 10 48.5**	**-0.7**
TPUB	**Ta-pu**	**1.13**	**235**	S	**Sn**	**10 11 04.2**	**+0.7**
TPUB	**Ta-pu**	**1.13**	**235**	P	**Pn**	**10 10 48.4**	**-0.7**
TPUB				S	**Sn**	**10 11 03.9**	**+0.4**
LONT	**Longtian**	**1.14**	**204**	*eP*	**Pn**	**10 10 46.1**	**-3.2**
LONT				*eS*	**Sn**	**10 11 00.9**	**-2.8**
SXI1	**Grass Mountain**	**1.16**	**11**	P	**Pn**	**10 10 48.3**	**-1.2**
SXI1				*eS*	**Sn**	**10 11 03.7**	**-0.3**
TWS1	**Kuangyinshan**	**1.16**	**350**	*eP*	**Pn**	**10 10 48.0**	**-1.5**
TWS1				*eS*	**Sn**	**10 11 02.8**	**-1.3**
WTP	**Ta-pu**	**1.18**	**233**	P	**Pn**	**10 10 48.9**	**-0.9**
WTP				*eS*	**Sn**	**10 11 05.5**	**+0.8**
WTK	**Tuku**	**1.18**	**257**	*eP*	**Pn**	**10 10 49.2**	**-0.5**
WTK				*eS*	**Sn**	**10 11 05.0**	**+0.4**
TNOU	**National Taiwa**	**1.20**	**6**	P	**Pn**	**10 10 48.1**	**-1.9**
TNOU				*eS*	**Sn**	**10 11 03.1**	**-1.9**
CHY	**Chiayi**	**1.21**	**248**	*eP*	**Pn**	**10 10 49.4**	**-0.5**
CHY				*eS*	**Sn**	**10 11 05.7**	**+0.5**
ZUZH	**Zhuzihu**	**1.21**	**356**	P	**Pn**	**10 10 48.1**	**-2.0**
ZUZH				S	**Sn**	**10 11 02.5**	**-2.8**
NTST	**Danshui**	**1.22**	**352**	*eP*	**Pn**	**10 10 48.6**	**-1.7**
NTST				*eS*	**Sn**	**10 11 04.3**	**-1.2**
YM08	**YM08**	**1.23**	**358**	P	**Pn**	**10 10 48.1**	**-2.4**
YM08				*eS*	**Sn**	**10 11 03.0**	**-2.9**
ANP	**Anpu**	**1.23**	**355**	P	**Pn**	**10 10 48.3**	**-2.3**
ANP				*eS*	**Sn**	**10 11 04.1**	**-1.9**
TWG	**Pinlang**	**1.24**	**205**	*eP*	**Pn**	**10 10 47.5**	**-3.1**
TWG				*eS*	**Sn**	**10 11 02.4**	**-3.8**
TWGBT	**Beinan**	**1.24**	**205**	P	**Pn**	**10 10 47.6**	**-3.0**
TWGBT	**Beinan**	**1.24**	**205**	P	**Pn**	**10 10 47.6**	**-3.0**
TWGBT				*eS*	**Sn**	**10 11 02.5**	**-3.6**
WTCT	**Ta-ch'eng**	**1.25**	**266**	*eP*	**Pn**	**10 10 49.6**	**-1.1**
WTCT				*eS*	**Sn**	**10 11 06.7**	**+0.5**
TWK	**Hsinying**	**1.26**	**237**	P	**Pn**	**10 10 50.2**	**-0.8**
TWK				*eS*	**Sn**	**10 11 06.7**	**+0.1**
SNST	**Tainan City**	**1.28**	**235**	*eP*	**Pn**	**10 10 50.7**	**-0.4**
SNST				*eS*	**Sn**	**10 11 07.5**	**+0.5**
LDUT	**Ludao**	**1.28**	**187**	*eP*	**Pn**	**10 10 49.1**	**-2.1**
LDUT				*eS*	**Sn**	**10 11 05.9**	**-1.2**
JYNG	**Yonagunijimaku**	**1.29**	**67**	P	**Pn**	**10 10 50.4**	**-0.8**
JYNG				S	**Sn**	**10 11 06.4**	**-0.8**
TWY	**Chenhua**	**1.32**	**358**	*eP*	**Pn**	**10 10 49.8**	**-1.9**
TWY				*eS*	**Sn**	**10 11 06.4**	**-1.6**
WSF	**Szhu**	**1.34**	**257**	*eP*	**Pn**	**10 10 51.1**	**-0.8**
WSF				*eS*	**Sn**	**10 11 08.8**	**+0.3**
YOJ	**Yonaguni jima**	**1.35**	**68**	P	**Pn**	**10 10 51.0**	**-1.0**
YOJ	**Yonaguni jima**	**1.35**	**68**	*eP*	**Pn**	**10 10 51.1**	**-0.9**
YOJ				S	**Sn**	**10 11 07.7**	**-1.0**
YOJ	**Yonaguni jima**	**1.35**	**68**	P	**Pn**	**10 10 51.0**	**-1.0**
YOJ				S	**Sn**	**10 11 07.8**	**-0.8**
WSL	**Shuilin Townsh**	**1.37**	**252**	P	**Pn**	**10 10 51.5**	**-0.8**
WSL				S	**Sn**	**10 11 09.8**	**+0.7**
ICHU	**Yijhu**	**1.38**	**245**	*eP*	**Pn**	**10 10 51.9**	**-0.7**
ICHU				*eS*	**Sn**	**10 11 10.1**	**+0.6**
CHN8	**Yiju**	**1.45**	**246**	*eS*	**Sn**	**10 11 11.6**	**+0.5**
CHN3	**Shinhua**	**1.46**	**234**	*eS*	**Sn**	**10 11 12.3**	**+0.8**
SSHA	**Shanhua**	**1.49**	**237**	*eS*	**Sn**	**10 11 13.3**	**+1.2**
ECL	**Taimali**	**1.49**	**205**	*eP*	**Pn**	**10 10 51.8**	**-2.2**
SCST	**Cishan**	**1.50**	**225**	*eP*	**Pn**	**10 10 54.2**	**0.0**
SCST				*eS*	**Sn**	**10 11 14.6**	**+2.2**
SSD	**Sandimen**	**1.52**	**218**	*eP*	**Pn**	**10 10 54.1**	**-0.3**
SSD				*eS*	**Sn**	**10 11 13.2**	**+0.2**
SCLT	**Jiali**	**1.54**	**240**	*eS*	**Sn**	**10 11 13.7**	**+0.3**
TSMG	**Majia**	**1.54**	**217**	*eS*	**Sn**	**10 11 14.4**	**+0.8**
MASBT	**Mashibuluo**	**1.63**	**215**	P	**Pn**	**10 10 54.7**	**-1.2**
MASBT				*eS*	**Sn**	**10 11 16.4**	**+0.8**
TSCK	**Chigu Township**	**1.64**	**241**	*eP*	**Pn**	**10 10 55.2**	**-0.9**
TSCK				*eS*	**Sn**	**10 11 15.6**	**-0.3**
PCYT	**Pengchaiyu**	**1.71**	**13**	*eP*	**Pn**	**10 10 55.6**	**-1.5**
SCZT	**Fangliau**	**1.83**	**211**	*eP*	**Pn**	**10 10 58.3**	**-0.4**
SCZT				*eS*	**Sn**	**10 11 21.1**	**+0.3**
IRIF	**Iriomote-Funau**	**1.94**	**78**	*eP*	**Pn**	**10 10 59.1**	**-1.1**
IRIF				*eS*	**Sn**	**10 11 22.8**	**-0.6**
WDGT	**Dungji**	**1.95**	**250**	P	**Pn**	**10 10 58.8**	**-1.5**
WDGT				*eS*	**Sn**	**10 11 21.3**	**-2.2**
PHUB	**P'eng-hu**	**1.95**	**257**	*eP*	**Pn**	**10 10 58.4**	**-1.9**
PHUB				S	**Sn**	**10 11 21.5**	**-2.0**
PNG	**Penghu**	**1.95**	**259**	P	**Pn**	**10 10 58.4**	**-1.9**
PNG				*eS*	**Sn**	**10 11 21.9**	**-1.7**
HATJ	**Hateruma jima**	**1.98**	**87**	*eP*	**Pn**	**10 11 00.0**	**-0.7**
HATJ				*eS*	**Sn**	**10 11 24.1**	**-0.2**
TWK1	**Hengchun**	**2.15**	**201**	*eS*	**Sn**	**10 11 26.6**	**-1.8**
VCHM	**Qimei**	**2.16**	**250**	*eP*	**Pn**	**10 11 01.8**	**-1.5**
JKRS	**Kuro-shima**	**2.18**	**82**	*eP*	**Pn**	**10 11 03.1**	**-0.4**
JKRS				S	**Sn**	**10 11 29.5**	**+0.3**
VWUC	**VWUC**	**2.25**	**298**	*eP*	**Pn**	**10 11 01.9**	**-2.6**
JIJ	**Ishigaki jima**	**2.32**	**79**	P	**Pn**	**10 11 04.1**	**-1.3**
JIJ				*eS*	**Sn**	**10 11 31.0**	**-1.7**
JISG	**Ishigakijimahi**	**2.52**	**75**	*i P*	**Pn**	**10 11 06.8**	**-1.3**
JISG				S	**Sn**	**10 11 35.5**	**-2.0**
PTMZ	**Houxiangcun**	**2.54**	**296**	*eP*	**Pn**	**10 11 06.0**	**-2.4**
**MATB

σ1⁸29/29, **9C-1D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.56**	**159**	P	**Pn**	**11 38 11.2**	**+0.5**
	2.2nm,0.1s						
BRLS				S	**Sn**	**11 38 23.2**	**+2.6**
	29nm,0.3s						
BRLS	**Borolday**	**0.56**	**159**	*e*P	**Pn**	**11 38 11.2**	**+0.5**
BRLS				*e*S	**Sn**	**11 38 23.3**	**+2.6**
BRLS	**Borolday**	**0.56**	**159**	*e*P	**Pn**	**11 38 11.2**	**+0.5**
	2.2nm,0.1s						
BRLS				*e*S	**Sn**	**11 38 23.2**	**+2.6**
	29nm,0.3s						
KK31	**Karatay Array**	**0.83**	**122**	⇑P	**Pg**	**11 38 10.2**	**-1.1**
	2.4nm,0.3s,baz=318,slow=14,SNR=23						
KK31				⇓S	**Sg**	**11 38 21.7**	**-0.3**
	28nm,0.6s,baz=319,slow=36,SNR=40						
KKAR	**Karatay Array**	**0.83**	**122**	⇑*i*P	**Pg**	**11 38 10.3**	**-1.0**
KKAR				⇑*i*S	**Sg**	**11 38 21.7**	**-0.3**
IUG	**luzhnay**	**1.44**	**166**	P	**Pn**	**11 38 22.8**	**-0.2**
	16nm,0.2s						
IUG				S	**Sn**	**11 38 43.4**	**+0.7**
	22nm,0.1s						
IUG	**luzhnay**	**1.44**	**166**	*e*P	**Pn**	**11 38 22.8**	**-0.2**
IUG				*e*S	**Sn**	**11 38 43.4**	**+0.7**
TRKS	**Terek-Say**	**2.33**	**149**	⇑*i*P	**Pb**	**11 38 37.0**	**-1.5**
TRKS				⇑*i*S	**Sb**	**11 39 07.9**	**0.0**
MNAS	**Manas**	**2.41**	**115**	⇑*i*P	**Pn**	**11 38 36.0**	**-0.3**
MNAS				⇑*i*S	**Sn**	**11 39 06.3**	**-0.2**
ARK	**Arkit**	**2.49**	**134**	⇑*e*P	**Pn**	**11 38 37.9**	**+0.5**
ARK				⇑*e*S	**Sn**	**11 39 09.1**	**+0.5**
MRKS	**Merke**	**2.80**	**105**	Pg	**Pb**	**11 38 44.9**	**-1.5**
	4.0nm,0.4s						
MRKS				Lg	Lg	11 39 21.6	
	7.5nm,0.4s						
MRKS	**Merke**	**2.80**	**105**	*e*P	**Pb**	**11 38 44.9**	**-1.5**
	4.0nm,0.4s						
MRKS				*e*S	**Sb**	**11 39 21.6**	**+0.3**
	7.5nm,0.4s						
BTLS	**Baital**	**3.55**	**64**	Pg	**Pb**	**11 38 58.2**	**-1.0**
	10nm,0.5s						
BTLS				Lg	Lg	11 39 44.4	
	5.2nm,0.5s						
BTLS	**Baital**	**3.55**	**64**	*e*P	**Pb**	**11 38 58.2**	**-1.0**
	10nm,0.5s						
BTLS				*e*S	**Sb**	**11 39 44.4**	**+1.6**
	5.2nm,0.5s						
KST	**Kastek**	**4.70**	**94**	Pg	**Pb**	**11 39 18.4**	**-0.4**
	1.2nm,0.2s						
KST				Lg	Lg	11 40 18.7	
	4.6nm,0.5s						
KST	**Kastek**	**4.70**	**94**	*e*P	**Pb**	**11 39 18.4**	**-0.4**
	1.2nm,0.2s						
KST				*e*S	**Sb**	**11 40 18.7**	**+2.6**
	4.6nm,0.5s						

*IDC **04** 11:42:27.5±0.5, 46˚.42N×150˚.70E, h96km±4km, mb4.1/27, mbtmp4.4/32, MS3.2/17, Error ellipse: s-maj=12.0km s-min=9.4km az=135.0*

*MOS **04** 11:42:27.4±1.3, 46˚.25N×150˚.90E, h118km, mb4.5/25, Error ellipse: s-maj=7.2km s-min=5.6km az=69.7*

*SKHL **04** 11:42:27.5±0.4, 46˚.10N×151˚.10E, h126km±3km, mb5.3/8, mbv5.0/2, msh5.0/3, msha6.2/5*

*JMA **04** 11:42:29.3±0.5, 45˚.N±3˚×15˚1E±˚, h116km, MV4.4/14, KURILE ISLANDS REGION*

*NIED **04** 11:42:29.3, 45˚.35N×151˚.22E, h116km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr3.10; Mθθ-3.41; Mφφ0.30; Mrθ-1.45; Mθφ-1.67; Mφr-5.58; Fault plane solution: M₀6.71000×10¹⁵ NP1:φs92.00000°, δ27.00000°, λ150.00000°. NP2:φs209.00000°, δ77.00000°, λ66.00000°.*

*NEIC **04** 11:42:30.9±1.7, 46˚.3N±0˚.1×150˚.8E±0˚.1, h122km±7km, mb4.5/194 Error ellipse: s-maj=17.3km s-min=11.3km az=147.0*

ISC 04 11:42:27.5±0.4, **46˚.18N**±0˚.04×**150˚.95E**±0˚.04, **h105**km±3km, **h105km:pP-P, n595, σ1⁸25/570, mb4.6**/167, **8C-5D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.36**	**247**	*c i*PN	**Pn**	**11 43 06.0**	**+1.1**
KUR				*i* S	**Sn**	**11 43 35.4**	**+1.9**
KUR				pmax	pmax		
	comp=Z,2μm,0.7s						
KUR				pmax	pmax		
	comp=N,914nm,0.2s						
KUR				pmax	pmax		
	comp=E,526nm,0.1s						
KUR				smax	smax		
	comp=E,18μm,1.7s						
KUR				smax	smax		
	comp=N,6μm,2.2s						
KUR				smax	smax		
	comp=N,4μm,0.7s						
KUR				smax	smax		
	comp=E,3μm,0.7s						
KUR	**Kuril'sk**	**2.36**	**247**	*i* P	**Pn**	**11 43 06.0**	**+1.1**
KUR				AMB	AMB	11 43 07.3	
	comp=E,2μm,0.4s						
KUR				*i* S	**Sn**	**11 43 35.5**	**+1.9**
KUR				A	A	11 43 36.7	
	comp=E,6μm,1.7s						
KUR				A	A	11 43 36.7	
	comp=E,18μm,1.7s						
KUR				A	A	11 43 38.1	
	comp=E,4μm,0.7s						
KUR				A	A	11 43 38.1	
	comp=E,3μm,0.7s						
SHO	**Shikotan**	**3.72**	**233**	*c i*PN	**Pn**	**11 43 23.8**	**+0.8**
SHO				*i* S	**Sn**	**11 44 04.3**	**-1.7**
SHO				pmax	pmax		
	comp=N,72nm,0.3s						
SHO				pmax	pmax		
	comp=Z,141nm,0.3s						
SHO				smax	smax		
	comp=N,523nm,0.4s						
SHO				smax	smax		
	comp=E,719nm,0.4s						
SHO	**Shikotan**	**3.72**	**233**	*i* P	**Pn**	**11 43 23.8**	**+0.8**
SHO				AMB	AMB	11 43 34.3	
	comp=E,140nm,0.3s						
SHO				*i* S	**Sn**	**11 44 05.1**	**-0.9**
SHO				A	A	11 44 11.6	
	comp=E,520nm,0.4s						
SHO				A	A	11 44 11.6	
	comp=E,720nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.19**	**241**	*c i*PN	**Pn**	**11 43 30.6**	**+1.3**
YUK				*i* S	**Sn**	**11 44 18.0**	**+0.8**
YUK				pmax	pmax		
	comp=N,102nm,0.2s						
YUK				pmax	pmax		
	comp=Z,552nm,0.2s						
YUK				pmax	pmax		
	comp=E,66nm,0.1s						
YUK				smax	smax		
	comp=N,1μm,0.6s						
YUK				smax	smax		
	comp=E,1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.19**	**241**	*i* P	**Pn**	**11 43 30.6**	**+1.3**
YUK				AMB	AMB	11 43 31.2	
	comp=E,550nm,0.2s						
YUK				*i* S	**Sn**	**11 44 18.0**	**+0.8**
YUK				A	A	11 44 23.1	
	comp=E,1μm,0.4s						
YUK				A	A	11 44 23.1	
	comp=E,1μm,0.4s						
RUSJ	**Misakicho**	**4.54**	**245**	*e*PN	**Pn**	**11 43 35.5**	**+1.6**
RUSJ				*e*S	**Sn**	**11 44 30.3**	**+4.7**
GLVR	**Golovnino**	**4.56**	**240**	*e*PN	**Pn**	**11 43 35.3**	**+1.0**
GLVR				*i* S	**Sn**	**11 44 26.2**	**0.0**
GLVR				pmax	pmax		
	comp=Z,204nm,0.4s						
GLVR				pmax	pmax		
	comp=E,106nm,0.5s						
GLVR				smax	smax		
	comp=E,1μm,0.5s						
GLVR				smax	smax		
	comp=N,1μm,0.4s						
GLVR	**Golovnino**	**4.56**	**240**	*e*P	**Pn**	**11 43 35.3**	**+1.0**
GLVR				AMB	AMB	11 43 37.1	
	comp=N,200nm,0.4s						
GLVR				*i* S	**Sn**	**11 44 26.2**	**0.0**
GLVR				A	A	11 44 35.7	
	comp=N,1μm,0.4s						
GLVR				A	A	11 44 35.7	
	comp=N,1μm,0.4s						
NEM2	**Nemuro 2**	**4.65**	**235**	P	**Pn**	**11 43 35.0**	**-0.6**
NEM2				S	**Sn**	**11 44 25.1**	**-3.4**
NMR	**Nemuro--Hokkai**	**4.66**	**235**	⇑*i*PN	**Pn**	**11 43 35.0**	**-0.6**
NMR				*i* S	**Sn**	**11 44 24.8**	**-3.7**
NMR	**Nemuro--Hokkai**	**4.66**	**235**	*i* P	**Pn**	**11 43 35.0**	**-0.6**
NMR				*i* S	**Sn**	**11 44 25.1**	**-3.4**
JRA	**Rausu**	**4.70**	**244**	P	**Pn**	**11 43 37.9**	**+1.7**
JRA				S	**Sn**	**11 44 32.1**	**+2.6**
JNK	**Nakash**	**5.13**	**242**	P	**Pn**	**11 43 43.1**	**+1.1**
JNK				*e*S	**Sn**	**11 44 39.5**	**-0.4**
AKK	**Akkeshi**	**5.39**	**236**	*e*P	**Pn**	**11 43 44.5**	**-0.9**
JTKR	**Abashiri--Toko**	**5.46**	**249**	*e*P	**Pn**	**11 43 48.4**	**+2.0**
JTKR				*e*S	**Sn**	**11 44 49.9**	**+2.1**
JAK	**Akkeshi**	**5.48**	**237**	P	**Pn**	**11 43 46.1**	**-0.6**
JAK				S	**Sn**	**11 44 44.7**	**-3.8**
SKR	**Severo-Kuril's**	**5.67**	**35**	*e*PN	**Pn**	**11 43 49.1**	**-0.1**
SKR				*e*S	**Sn**	**11 44 50.7**	**-2.2**
SKR				pmax	pmax		
	comp=Z,470nm,0.5s						
SKR				smax	smax		
	comp=N,355nm,0.5s						
SKR				smax	smax		
	comp=E,246nm,0.6s						
SKR				MLR	MLR		
	comp=Z,400nm,11.0s						
SKR	**Severo-Kuril's**	**5.67**	**35**	*e*P	**Pn**	**11 43 49.8**	**+0.6**
SKR				AMB	AMB	11 43 52.3	
	comp=Z,200nm,0.6s						
SKR				*e*S	**Sn**	**11 44 52.8**	**-0.1**
SKR				A	A	11 44 57.6	
	comp=Z,90nm,0.5s						
SKR				A	A	11 44 57.6	
	comp=Z,110nm,0.5s						
YSS	**Yuzhno-Sakhali**	**5.71**	**281**		**Pn**	**11 43 52.4**	**+2.7**
YSS	**Yuzhno-Sakhali**	**5.71**	**281**	*c e*PN	**Pn**	**11 43 52.6**	**+2.9**
YSS				*e*S	**Sn**	**11 44 58.2**	**+4.4**
YSS				pmax	pmax		
	comp=Z,120nm,0.8s						
YSS				pmax	pmax		
	comp=E,100nm,0.9s						
YSS				pmax	pmax		
	comp=Z,100nm,2.8s						
YSS				smax	smax		
	comp=N,600nm,0.9s						
YSS				smax	smax		
	comp=E,90nm,1.0s						
YSS				smax	smax		
	comp=N,200nm,6.4s						
YSS				smax	smax		
	comp=E,200nm,5.2s						
YSS	**Yuzhno-Sakhali**	**5.71**	**281**	*e*P	**Pn**	**11 43 52.6**	**+2.9**
YSS				AMB	AMB	11 43 53.8	
	comp=E,120nm,0.8s						
YSS				AMB	AMB	11 44 04.0	
	comp=E,100nm,3.0s						
YSS				*e*S	**Sn**	**11 44 56.3**	**+2.5**
YSS				A	A	11 45 01.3	
	comp=E,60nm,0.9s						
YSS				A	A	11 45 01.3	
	comp=E,90nm,0.9s						
YSS				A	A	11 45 06.8	
	comp=E,200nm,3.4s						
YSS				A	A	11 45 06.8	
	comp=E,200nm,3.4s						
JAR	**Ashorobuto**	**5.87**	**243**	P	**Pn**	**11 43 53.4**	**+1.4**
JAR				*e*S	**Sn**	**11 44 58.4**	**+0.5**
JOB	**Onbets**	**6.05**	**240**	P	**Pn**	**11 43 54.7**	**+0.3**
JOB				*e*S	**Sn**	**11 44 59.6**	**-2.6**
JKK2	**Kamakawa 2**	**6.25**	**251**	P	**Pn**	**11 43 59.6**	**+2.4**
JKA	**Kamikawa-asahi**	**6.26**	**254**		**Pn**	**11 43 59.3**	**+2.1**
ASAJ	**Asahikawa**	**6.26**	**254**	P	**Pn**	**11 43 59.4**	**+2.2**
	comp=E,16nm,0.3s,baz=36,slow=6.2,SNR=51						
ASAJ				S	**Sn**	**11 45 07.0**	**-0.3**
	comp=E,30nm,0.7s,baz=320,slow=15,SNR=3.7						
ASAJ	**Asahikawa**	**6.26**	**254**	PN	**Pn**	**11 43 59.3**	**+2.1**
JCH	**Churui**	**6.50**	**239**	*e*P	**Pn**	**11 44 00.6**	**0.0**
JCH				S	**Sn**	**11 45 08.6**	**-4.5**
UGL	**Uglegorsk**	**6.67**	**299**	*e*PN	Pn	11 43 57.5	-5.3
UGL				pmax	pmax		
	comp=Z,140nm,1.4s						
UGL				pmax	pmax		
	comp=Z,400nm,0.8s						
UGL	**Uglegorsk**	**6.67**	**299**	*e*P	**Pn**	**11 44 04.6**	**+1.8**
UGL				AMB	AMB	11 44 06.3	
	comp=Z,80nm,0.6s						
UGL				AMB	AMB	11 44 09.0	
	comp=Z,140nm,1.5s						
UGL				*e*S	**Sn**	**11 45 18.4**	**+1.2**
ERM	**Erimo**	**6.99**	**236**		**Pn**	**11 44 08.4**	**+1.3**
ERM	**Erimo**	**6.99**	**236**	PN	**Pn**	**11 44 08.4**	**+1.3**
JNBK	**Urakawa-nobuka**	**7.06**	**239**	*e*S	**Sn**	**11 45 20.9**	**-6.0**
TYV	**Tymovskoe**	**7.23**	**313**	*e*PN	**Pn**	**11 44 13.4**	**+3.0**
TYV				*e*S	**Sn**	**11 45 30.2**	**-0.6**
TYV				pmax	pmax		
	comp=Z,139nm,0.9s						
TYV				pmax	pmax		
	comp=Z,100nm,1.9s						
TYV				smax	smax		
	comp=N,100nm,4.5s						
TYV				smax	smax		
	comp=E,100nm,4.5s						
TYV				smax	smax		
	comp=N,9.0nm,1.4s						
TYV				smax	smax		
	comp=E,22nm,1.4s						
TYV	**Tymovskoe**	**7.23**	**313**	*e*P	**Pn**	**11 44 13.4**	**+3.0**
TYV				AMB	AMB	11 44 16.0	
	comp=E,100nm,1.9s						
TYV				*e*S	**Sn**	**11 45 30.2**	**-0.6**
TYV				A	A	11 45 31.8	
	comp=E,100nm,4.9s						
TYV				A	A	11 45 31.8	
	comp=E,140nm,4.9s						
PEA0B	**Petropavlovsk-**	**8.20**	**30**		**Pn**	**11 44 23.7**	**+0.2**
PEA0B	**Petropavlovsk-**	**8.20**	**30**	PN	**Pn**	**11 44 23.7**	**+0.2**
PETK	**Petropavlovsk-**	**8.20**	**30**		**Pn**	**11 44 23.7**	**+0.2**
PETK	**Petropavlovsk-**	**8.20**	**30**	P	**Pn**	**11 44 23.4**	**-0.1**
	comp=E,16nm,0.7s,baz=170,slow=9.8,SNR=52						
PETK				LR	LR	11 47 42.5	
	comp=E,89nm,19.7s,baz=201,slow=39						
PETK	**Petropavlovsk-**	**8.20**	**30**	PN	**Pn**	**11 44 23.7**	**+0.2**
PET	**Petropavlovsk**	**8.48**	**33**	*e*PN	**Pn**	**11 44 26.5**	**-0.8**
PET				*e*S	**Sn**	**11 45 58.7**	**-2.4**
PET				MLR	MLR		
	comp=Z,100nm,12.0s						
PET	**Petropavlovsk**	**8.48**	**33**	*e*P	**Pn**	**11 44 26.5**	**-0.8**
JANG	**Nango**	**9.00**	**233**	P	**Pn**	**11 44 31.3**	**-3.2**
JANG				S	Sn	11 46 03.5	-10
JTH	**Tanohata**	**9.11**	**230**	*e*S	Sn	11 46 05.0	-12
NKL	**Nikolayevsk**	**9.64**	**320**	*e*P	**Pn**	**11 44 44.9**	**+1.9**
TEY	**Ternei**	**10.12**	**269**	*e*PN	Pn	11 44 44.7	-5.0
GRNR	**Gornyy**	**10.68**	**301**	⇓*i*PN	**Pn**	**11 44 59.3**	**+2.1**
GRNR				pmax	pmax		
	comp=E,10.0nm,1.1s						
GRNR				pmax	pmax		
	comp=Z,20nm,1.2s						
KLR	**Kul'dur**	**13.29**	**290**	P	**Pn**	**11 45 32.5**	**+0.8**
	comp=Z,12nm,1.0s,baz=98,slow=13,SNR=19						
KLR				LR	LR	11 50 51.0	
	comp=Z,45nm,18.1s,baz=104,slow=39						
KLR	**Kul'dur**	**13.29**	**290**	*e*P	**Pn**	**11 45 30.7**	**-1.0**
MA2	**Magadan**	**13.42**	**360**	P	**Pn**	**11 45 33.6**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=27,slow=20,SNR=1.5						
USA0B	**Ussuriysk Arra**	**13.52**	**268**		**Pn**	**11 45 36.4**	**+1.6**
USA0B	**Ussuriysk Arra**	**13.52**	**268**	PN	**Pn**	**11 45 36.4**	**+1.6**
USRK	**Ussuriysk Ar.**	**13.52**	**268**	P	**Pn**	**11 45 36.0**	**+1.1**
	comp=Z,5.5nm,0.4s,baz=78,slow=12,SNR=16						
USRK				LR	LR	11 51 06.2	
	comp=Z,57nm,18.4s,baz=81,slow=39						
MJAR	**Matsushiro Arr**	**13.56**	**229**	P	**Pn**	**11 45 34.2**	**-1.3**
	comp=Z,2.5nm,0.8s,baz=29,slow=13,SNR=6.8						
MJAR				LR	LR	11 50 29.4	
	comp=Z,37nm,20.1s,baz=54,slow=36						
MJB9	**Matsu-Tunnel**	**13.56**	**229**		**Pn**	**11 45 33.0**	**-2.4**
MAJO	**Matsushiro**	**13.56**	**229**		**Pn**	**11 45 33.7**	**-1.7**
MAJO	**Matsushiro**	**13.56**	**229**	*i* P	**Pn**	**11 45 36.7**	**+1.3**
MDJ	**Mudanjiang**	**15.08**	**272**		**Pn**	**11 45 56.5**	**+1.6**
MDJ	**Mudanjiang**	**15.08**	**272**	P	**P**	**11 45 56.9**	**-0.7**
MDJ				sP	pP	11 46 15.6	-0.4
MDJ				S	**Sn**	**11 48 41.0**	**-0.3**
MDJ				pmax	pmax		
	comp=Z,15nm,0.6s						
HEH	**HeiHe**	**16.19**	**293**	*e*P	**Pn**	**11 46 08.9**	**+0.3**
HEH				pmax	pmax		
	comp=Z,35nm,1.1s						
BNX	**BinXian**	**16.37**	**277**	⇓P	**Pn**	**11 46 10.7**	**-0.2**
BNX				pmax	pmax		
	comp=E,5.0nm,0.7s						
SEY	**Seymchan**	**16.81**	**2**	P	**Pn**	**11 46 15.5**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=218,slow=19,SNR=2.8						
ZEA	**Zeya**	**16.97**	**305**	*e*P	**P**	**11 46 18.7**	**+0.4**
ZEA				pmax	pmax		
	comp=E,10.0nm,1.3s						
ZEA				pmax	pmax		
	comp=N,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.2s						
ZEA	**Zeya**	**16.97**	**305**	*e*P	**Pn**	**11 46 15.8**	**-2.3**
CN2	**Changchun**	**18.17**	**272**	*e*P	**P**	**11 46 32.4**	**+0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KSRS	**Korea Array**	**19.20**	**251**	P	**P**	**11 46 44.0**	**+1.1**
	comp=Z,9.3nm,0.7s,baz=59,slow=11,SNR=42						
KSRS				PcP	**PcP**	**11 51 03.0**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=358,slow=1.5,SNR=5.7						
KSRS				LR	LR	11 53 22.0	
	comp=Z,15μm,20.4s,baz=60,slow=34						
KSRS	**Korea Array**	**19.20**	**251**	P	**P**	**11 46 44.0**	**+1.1**
KS19	**Wonju Array Si**	**19.21**	**251**	P	**P**	**11 46 44.5**	**+1.5**
KS19				IAmb	IAmb	11 46 50.9	
	comp=Z,15nm,0.8s						
KSAR	**Wonju Array Be**	**19.23**	**251**		**P**	**11 46 43.0**	**-0.3**
KSAR	**Wonju Array Be**	**19.23**	**251**	P	**P**	**11 46 43.0**	**-0.3**
YAK	**Yakutsk**	**20.03**	**330**	P	**P**	**11 46 51.0**	**-0.7**
YAK	**Yakutsk**	**20.03**	**330**	P	**P**	**11 46 49.7**	**-2.0**
	comp=Z,12nm,0.3s,baz=246,slow=0.6,SNR=1.8						
YAK	**Yakutsk**	**20.03**	**330**	*e*P	**P**	**11 46 51.7**	**0.0**
YAK				*e*S	**S**	**11 50 28.9**	**-1.9**
YAK				pmax	pmax		
	comp=Z,41nm,1.1s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
YAK				smax	smax		
	comp=N,63nm,2.5s						
YAK				smax	smax		
	comp=E,29nm,2.2s						
INCN	**Inchon**	**20.04**	**253**	P	**P**	**11 46 51.4**	**-0.6**
INCN	**Inchon**	**20.04**	**253**	P	**P**	**11 46 51.4**	**-0.6**
INCN				pmax	pmax		
	comp=Z,24nm,0.7s						
JNU	**Nakatsue**	**20.15**	**237**		**P**	**11 46 52.2**	**-1.1**
JNU				IAmb	IAmb	11 46 59.4	
	comp=Z,18nm,0.9s						
JNU	**Nakatsue**	**20.15**	**237**	P	**P**	**11 46 54.2**	**+0.9**
	comp=Z,12nm,0.6s,baz=352,slow=2.8,SNR=17						
JNU				LR	LR	11 55 23.5	
	comp=Z,38nm,18.9s,baz=37,slow=38						
	comp=Z,12nm,0.6s						
TJN	**Taejon**	**20.19**	**249**		**P**	**11 46 54.2**	**+0.6**
TJN	**Taejon**	**20.19**	**249**	*i* P	**P**	**11 46 53.5**	**-0.1**
BILL	**Bilibino**	**23.30**	**15**	*i* P	**P**	**11 47 25.3**	**-0.4**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.8s						
BILL	**Bilibino**	**23.30**	**15**	*e*P	**P**	**11 47 25.3**	**-0.4**
XLT	**XiLinHaoTe**	**24.63**	**277**	*e*P	**P**	**11 47 37.6**	**-0.4**
XLT				pmax	pmax		
	comp=Z,12nm,0.5s						
BJT	**Baijiatuan**	**25.99**	**269**		**P**	**11 47 52.6**	**+2.3**
BJT				IAmb	IAmb	11 47 54.3	
	comp=Z,11nm,0.9s						
BJT	**Baijiatuan**	**25.99**	**269**	P	**P**	**11 47 52.6**	**+2.3**
BJT				pmax	pmax		
	comp=Z,11nm,0.9s						
SPIA	**Saint Paul Isl**	**26.09**	**51**	P	**P**	**11 47 52.3**	**+1.3**
	baz=262						
P08K	**Saint George I**	**26.40**	**52**	P	**P**	**11 47 54.5**	**+0.7**
	baz=264						
NIKH	**Nikolski High**	**26.65**	**60**	P	**P**	**11 47 56.4**	**+0.3**
	baz=272						
TIA	**Tai'an**	**27.15**	**261**	P	**P**	**11 48 01.7**	**+1.0**
GAMB	**Gambell**	**27.16**	**36**	P	**P**	**11 48 00.8**	**+0.3**
	baz=248						
TIXI	**Tiksi**	**27.61**	**345**	LR	LR	11 59 52.3	
	comp=Z,23nm,18.6s,baz=172,slow=38						
UNV	**Unalaska Valle**	**28.04**	**58**	P	**P**	**11 48 08.9**	**+0.5**
	baz=272						
NJ2	**Nanjing**	**28.40**	**252**	*e*P	**P**	**11 48 12.9**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
M11K	**Mekoryuk**	**28.69**	**45**	P	**P**	**11 48 14.4**	**+0.2**
	baz=260						
HHC	**Hu-ho-hao-te**	**28.84**	**274**	*e*P	**P**	**11 48 16.6**	**+0.7**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
TNA	**Tin City**	**29.34**	**34**	P	**P**	**11 48 19.7**	**-0.1**
	baz=249						
H11N2	**WAKE ISLAND Hy**	**29.46**	**148**	T	T	12 20 01.1	
	baz=338,slow=76,SNR=2666						
H11N1	**WAKE ISLAND Hy**	**29.47**	**148**	T	T	12 20 02.1	
	baz=338,slow=76,SNR=2617						
H11N3	**WAKE ISLAND Hy**	**29.48**	**148**	T	T	12 20 02.3	
	baz=338,slow=76,SNR=2640						
ULN	**Ulaanbaatar**	**29.68**	**289**	*c e*P	**P**	**11 48 21.3**	**-2.0**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ULN	**Ulaanbaatar**	**29.68**	**289**	*e*P	**P**	**11 48 21.3**	**-2.0**
K13K	**Kusilvak Mount**	**29.72**	**42**	P	**P**	**11 48 22.9**	**-0.4**
	baz=259						
F14K	**Arctic Creek**	**29.93**	**35**	P	**P**	**11 48 24.7**	**-0.4**
	baz=251						
ANM	**Nome**	**30.04**	**37**	P	**P**	**11 48 26.2**	**+0.2**
	baz=254						
M13K	**Dall Lake**	**30.09**	**45**	P	**P**	**11 48 26.9**	**+0.4**
	baz=263						
SONM	**Songino Array**	**30.11**	**290**	P	**P**	**11 48 27.2**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=100,slow=8.1,SNR=4.3						
	comp=Z,0.9nm,0.4s						
J14K	**Nanvaranak Lak**	**30.38**	**40**	P	**P**	**11 48 29.1**	**0.0**
	baz=259						
H11S1	**WAKE ISLAND Hy**	**30.51**	**150**	T	T	12 21 20.4	
	baz=338,slow=76,SNR=1432						
H11S3	**WAKE ISLAND Hy**	**30.52**	**150**	T	T	12 21 21.5	
	baz=338,slow=76,SNR=1390						
H11S2	**WAKE ISLAND Hy**	**30.53**	**150**	T	T	12 21 20.7	
	baz=338,slow=76,SNR=755						
L14K	**Kuka Creek**	**30.55**	**43**	P	**P**	**11 48 31.2**	**+0.7**
	baz=262						
S12K	**Black Hills**	**30.55**	**55**	P	**P**	**11 48 31.1**	**+0.4**
	baz=272						
F15K	**North Star Dit**	**30.67**	**35**	P	**P**	**11 48 31.5**	**-0.1**
	baz=253						
G15K	**Niukluk**	**30.71**	**36**	P	**P**	**11 48 32.2**	**+0.3**
	baz=254						
M14K	**Bethel**	**30.82**	**45**	P	**P**	**11 48 33.6**	**+0.7**
	baz=264						
N14K	**Kuskokwak Cree**	**30.87**	**46**	P	**P**	**11 48 33.8**	**+0.5**
	baz=265						
O14K	**Tigyukauivet M**	**31.03**	**48**	P	**P**	**11 48 35.3**	**+0.5**
	baz=267						
L15K	**Ungalak Mounta**	**31.16**	**43**	P	**P**	**11 48 36.1**	**+0.2**
	baz=262						
K15K	**Wolf Creek Mou**	**31.23**	**42**	P	**P**	**11 48 36.8**	**+0.3**
	baz=262						
C16K	**Lisburne Hills**	**31.30**	**30**	P	**

baz=251
L16K Owhat River 32.12 43 P P 11 48 44.8 +0.5
baz=264
C17K DeLong Mountai 32.12 30 P P 11 48 44.0 -0.3
baz=250
E17K Hotham Inlet 32.16 33 P P 11 48 44.7 0.0
baz=254
F17K Baldwin Pennin 32.21 34 P P 11 48 44.8 -0.3
baz=255
G17K Kiwalik Mounta 32.22 36 P P 11 48 44.0 -1.2
baz=257
M16K Timber Creek 32.30 44 P P 11 48 45.3 -0.7
baz=266
WHN Wuhan 32.34 254 P P 11 48 47.5 +0.9
WHN pmax pmax
comp=Z,48nm,0.6s
N16K Nishlik Lake 32.36 45 P P 11 48 47.0 +0.5
baz=267,SNR=6.0
H17K Granite Mounta 32.40 37 P P 11 48 47.5 +0.7
baz=259
J17K VABM Dome 32.50 40 P P 11 48 48.6 +0.9
baz=262
O16K Kokwok River B 32.67 47 P P 11 48 49.8 +0.7
baz=269
L17K Donlin 32.71 42 P P 11 48 50.4 +0.9
baz=265
E18K Tukpahlearik C 32.72 32 P P 11 48 49.6 +0.1
baz=254
K17K Iditarod 32.77 41 P P 11 48 50.9 +0.9
baz=264
C18K Utukok River 32.86 30 P P 11 48 52.0 +1.1
baz=252
F18K Selawik 32.87 34 P P 11 48 51.0 +0.2
baz=257
B18K Kokolik River 32.89 29 P P 11 48 51.4 +0.4
baz=250
M17K Holitna River 33.06 44 P 11 48 53.9 +1.2
M17K IAmb IAmb 11 48 55.6
comp=Z,12nm,0.9s
M17K Holitna River 33.06 44 P P 11 48 53.4 +0.8
baz=267
H18K Honhosa River 33.09 37 P P 11 48 53.3 +0.5
baz=260
G18K Tagagawik 33.11 35 P P 11 48 53.6 +0.6
baz=259
N17K Nushagak Hills 33.15 45 P P 11 48 53.9 +0.6
baz=268
O17K Koliganek Bris 33.18 47 P P 11 48 54.1 +0.5
baz=270
Q16K King Salmon 33.41 49 P P 11 48 56.4 +0.8
baz=272
A19K Wainwright 33.42 27 P P 11 48 56.0 +0.4
baz=250
L18K Granite Mounta 33.47 42 P P 11 48 56.6 +0.5
baz=266
P17K Kvichak River 33.51 48 P P 11 48 57.2 +0.7
baz=271
C19K Lookout Ridge 33.56 30 P P 11 48 57.2 +0.3
baz=253
J18K Innoko River 33.57 40 P P 11 48 57.2 +0.2
baz=264
R17L Mt. Peulik Vol 33.61 51 P P 11 48 57.5 +0.1
baz=274
N18K Kilae Creek 33.79 45 P P 11 48 59.2 +0.2
baz=269
Q17K Contact Creek 33.83 49 P P 11 48 59.6 +0.2
baz=273
M18K Stony River 33.84 44 P P 11 48 59.8 +0.5
baz=268
D19K Kuna River 33.91 31 P P 11 49 00.7 +0.9
baz=255
H19K Roundabout Mou 33.94 36 P P 11 49 00.6 +0.4
H19K IAmb IAmb 11 49 02.3
comp=Z,9.4nm,1.1s
H19K Roundabout Mou 33.94 36 P P 11 49 00.3 +0.2
baz=262
XAN Xi'an 33.97 264 P P 11 49 01.3 +0.4
XAN pmax pmax
comp=Z,31nm,0.8s
E19K Redstone River 33.99 33 P P 11 49 00.7 +0.1
baz=258
J19K Poorman 34.10 39 P P 11 49 02.2 +0.6
J19K IAmb IAmb 11 49 03.3
comp=Z,4.9nm,0.8s
J19K Poorman 34.10 39 P P 11 49 01.8 +0.2
baz=265
O18K Koktuh Hills 34.13 47 P P 11 49 01.5 -0.4
baz=271
P18K Big Mountain, 34.13 47 P P 11 49 01.1 -0.8
baz=272
CHIR Chirikof Islan 34.17 54 P P 11 49 01.8 -0.5
baz=277
Q18K Katmai Hardscr 34.27 49 P P 11 49 02.5 -0.8
baz=273
L19K White Mountain 34.33 42 P P 11 49 03.1 -0.5
baz=268
F20K Avaraart Lake 34.48 34 P P 11 49 04.3 -0.5
baz=260
N19K Bonanza Creek 34.48 45 IAmb IAmb 11 49 07.5
comp=Z,6.1nm,0.9s
N19K Bonanza Creek 34.48 45 P P 11 49 05.0 0.0
baz=270
D20K Etivluk River 34.49 31 P P 11 49 04.5 -0.5
baz=257
M19K Big River Lodg 34.54 43 P P 11 49 05.9 +0.5
baz=269
E20K Nigu River 34.54 32 P P 11 49 05.3 -0.1
baz=258
H20K Anotleneega Mo 34.58 37 P P 11 49 06.2 +0.4
baz=263
B20K Meade River 34.63 28 P P 11 49 06.8 +0.8
baz=254
R18K Karluk 34.64 51 P P 11 49 06.6 +0.3
baz=275
I20K Naaghedeneel 34.68 38 P P 11 49 06.8 +0.3
baz=264
K20K Telida 34.74 40 P P 11 49 07.4 +0.2
baz=267
J20K Nowinta River 34.76 39 IAmb IAmb 11 49 09.4
comp=Z,6.6nm,0.8s
J20K Nowinta River 34.76 39 P P 11 49 07.3 0.0
baz=266,SNR=8.0
L20K Farewell, AK 34.79 42 P P 11 49 07.5 -0.1
baz=268
SII Sitkinak Islan 34.89 52 P P 11 49 08.8 +0.4
baz=277
Q19K Cape Douglas, 34.97 48 P P 11 49 09.8 +0.7
baz=274
M20K Styx River 35.13 43 P P 11 49 12.1 +1.5
M20K IAmb IAmb 11 49 13.3
comp=Z,6.2nm,0.8s
M20K Styx River 35.13 43 P P 11 49 11.1 +0.5
baz=270
P19K Oil Pt 35.14 47 P P 11 49 11.1 +0.5
baz=273
C21K Knifeblade Rid 35.24 30 P P 11 49 11.7 +0.4
baz=258
G21K Allakaket 35.27 35 P P 11 49 11.8 +0.2
baz=263
OHAK Old Harbor 35.30 51 P P 11 49 12.3 +0.4
baz=276
F21K Alatna River 35.37 34 P P 11 49 12.7 +0.2
baz=262
E21K Killik River 35.39 32 P P 11 49 12.8 +0.2
baz=260
B21K Ikpikpuk River 35.40 29 P P 11 49 12.6 0.0
baz=258
O20K Slope Mountain 35.42 46 P P 11 49 13.5 +0.4
baz=273
H21K Melozitna Rive 35.46 36 P P 11 49 13.3 +0.1
baz=265
CHUM Lake Minchumin 35.55 40 P P 11 49 13.9 -0.1
baz=268
PPLA Purkeypile 35.58 41 P P 11 49 15.7 +1.2
PPLA IAmb IAmb 11 49 17.0
comp=Z,6.2nm,0.7s
PPLA Purkeypile 35.58 41 P P 11 49 14.5 +0.1
baz=269
A22K Sinclair Lake 35.61 27 P P 11 49 14.3 -0.1
baz=255
KDAK Kodiak Island 35.62 50 P P 11 49 15.6 +0.9
baz=276
CAST Castle Rocks 35.64 40 P 11 49 15.6 +0.8
CAST IAmb IAmb 11 49 17.3
comp=Z,7.5nm,0.8s
CAST Castle Rocks 35.64 40 P P 11 49 15.0 +0.2
baz=269,SNR=11
STLK Strandline Lak 35.76 44 P P 11 49 16.3 +0.4
STLK IAmb IAmb 11 49 18.4
comp=Z,8.2nm,0.8s
SKT Skwentna 35.89 43 P P 11 49 15.8 -1.2
SKT IAmb IAmb 11 49 19.9
comp=Z,6.3nm,1.1s
SKT Skwentna 35.89 43 P P 11 49 17.5 +0.5
baz=271
F22K John River 35.91 33 P P 11 49 18.1 +1.0
baz=263
D22K Ayikyak River 35.93 31 P P 11 49 18.2 +1.0
baz=261
HOM Homer 35.94 47 P P 11 49 18.1 +0.7
baz=274
B22K Teshekpuk Lake 35.95 28 P P 11 49 18.3 +0.9
baz=258
H22K Ishtalitna Cre 36.07 36 P P 11 49 19.1 +0.6
baz=266
G22K Bettles 36.10 34 P P 11 49 19.3 +0.6
baz=264
E22K Anaktuvuk Pass 36.13 32 IAmb IAmb 11 49 49.7
comp=Z,8.3nm,1.2s
E22K Anaktuvuk Pass 36.13 32 P P 11 49 19.4 +0.4
baz=262
BPAW Bear Paw Mtn. 36.14 39 P 11 49 20.0 +0.9
BPAW IAmb IAmb 11 49 21.4
comp=Z,5.0nm,0.7s
BPAW Bear Paw Mtn. 36.14 39 P P 11 49 19.8 +0.7
baz=269,SNR=6.3
MLY Manley 36.28 38 P 11 49 21.2 +0.9
MLY Manley 36.28 38 P P 11 49 20.9 +0.6
baz=268
LZH Lanzhou 36.41 271 *e*P P 11 49 23.2 +1.3
LZH pP sP 11 49 52.2 -4.8
LZH pmax pmax
comp=Z,29nm,0.7s
TRF Thorofare Moun 36.45 40 P 11 49 22.4 +0.5
TRF IAmb IAmb 11 49 23.8
comp=Z,5.7nm,0.7s
TRF Thorofare Moun 36.45 40 P P 11 49 21.4 -0.4
baz=270,SNR=7.5
CUT Chulitna 36.47 42 P P 11 49 22.1 +0.2
baz=272
M22K Willow 36.56 43 P P 11 49 23.0 +0.4
baz=273
COLD Coldfoot 36.64 34 P P 11 49 23.6 +0.3
baz=265
D23K Nanushuk River 36.66 31 P P 11 49 24.0 +0.6
baz=262
G23K Bananza Creek 36.67 35 P P 11 49 24.1 +0.5
baz=266
RC01 Rabbit Creek A 36.79 44 P P 11 49 24.6 0.0
baz=274
C23K Itkillik River 36.81 30 P P 11 49 25.0 +0.4
baz=261
H23K Yukon River 36.82 36 IAmb IAmb 11 49 27.5
comp=Z,4.5nm,0.8s
H23K Yukon River 36.82 36 P P 11 49 25.1 +0.3
baz=268,SNR=5.7
I23K Minto, Yukon-K 36.87 37 P P 11 49 25.1 -0.1
baz=269
E23K Chandalar 36.94 33 P P 11 49 26.3 +0.4
baz=265
NEA2 Nenana 36.99 38 P P 11 49 27.1 +0.9
NEA2 IAmb IAmb 11 49 28.3
comp=Z,7.4nm,0.8s
NEA2 Nenana 36.99 38 P P 11 49 26.5 +0.2
baz=270,SNR=12
TOLK Toolik Lake Re 37.02 32 P P 11 49 26.9 +0.4
baz=264
PMR Palmer 37.05 43 P P 11 49 27.5 +0.8
PMR IAmb IAmb 11 49 28.7
comp=Z,4.4nm,0.8s
PMR Palmer 37.05 43 P P 11 49 27.5 +0.8
PMR pmax pmax
comp=Z,4.0nm,0.8s
PMR Palmer 37.05 43 P P 11 49 26.9 +0.2
baz=274
MCK McKinley 37.05 40 P 11 49 27.7 +0.9
MCK IAmb IAmb 11 49 30.1
comp=Z,6.7nm,0.9s
MCK McKinley 37.05 40 P P 11 49 27.7 +0.9
MCK pmax pmax
comp=Z,7.0nm,0.9s
MCK McKinley 37.05 40 P P 11 49 27.1 +0.3
baz=271
GHO Glory Hole Cre 37.13 43 P P 11 49 28.0 +0.4
GHO IAmb IAmb 11 49 29.3
comp=Z,5.1nm,0.7s
WAT1 Susitna Watana 37.25 41 P P 11 49 28.9 +0.4
baz=273
D24K Happy Valley 37.34 31 P P 11 49 29.9 +0.7
baz=264
E24K Your Creek 37.37 33 P P 11 49 29.9 +0.4
baz=266
KNK Knik Glacier 37.38 44 P P 11 49 30.3 +0.7
baz=275
C24K Franklin Bluff 37.45 30 P P 11 49 30.4 +0.4
baz=263
PWL Port Wells 37.49 45 IAmb IAmb 11 49 31.7
comp=Z,6.3nm,0.8s
PWL Port Wells 37.49 45 P P 11 49 31.3 +0.8
baz=275
H24K Noodor Dome 37.50 36 P P 11 49 31.0 +0.3
baz=269
COLA College 37.51 38 P P 11 49 31.8 +1.2
COLA College 37.51 38 *i* P P 11 49 31.0 +0.4
COLA pmax pmax
comp=Z,10.0nm,0.8s
COLA College 37.51 38 P P 11 49 31.2 +0.6
baz=271
F24K Squaw Lake 37.56 34 P P 11 49 31.6 +0.5
baz=267
GTA Gaotai 37.58 278 P P 11 49 32.3 +0.6
GTA pmax pmax
comp=Z,8.0nm,1.4s
WAT6 Susitna Watana 37.64 42 P P 11 49 32.5 +0.6
baz=2
G24K Hadweenzic Riv 37.68 35 P P 11 49 32.5 +0.4
baz=269
M23K Glacier View 37.70 43 P P 11 49 32.8 +0.5
baz=275
DHY Denali Highway 37.77 41 IAmb IAmb 11 49 34.5
comp=Z,6.7nm,0.6s
DHY Denali Highway 37.77 41 P P 11 49 33.4 +0.3
baz=273,SNR=9.0
SCM Sheep Creek Mo 37.88 43 IAmb IAmb 11 49 37.6
comp=Z,6.7nm,0.6s
SCM Sheep Creek Mo 37.88 43 P P 11 49 34.5 +0.6
baz=275
HDA Harding Lake 37.91 39 IAmb IAmb 11 49 35.4
comp=Z,6.3nm,0.6s
HDA Harding Lake 37.91 39 P P 11 49 34.6 +0.6
baz=272,SNR=7.8
IL31 37.92 38 IAmb IAmb 11 49 35.6
comp=Z,11nm,1.4s
ILAR Eielson Array 37.92 38 P P 11 49 34.9 +0.7
ILAR Eielson Array 37.92 38 P P 11 49 34.2 +0.1
comp=Z,2.3nm,0.8s,baz=262,slow=6.8,SNR=35
ILAR pP pP 11 49 56.0 -1.4
comp=Z,0.6nm,0.6s,baz=274,slow=8.6,SNR=3.4
ILAR LR LR 12 07 27.2
comp=Z,63nm,18.2s,baz=3.0,slow=40
comp=Z,2.3nm,0.8s
P23K Montague Islan 38.04 46 P P 11 49 35.4 +0.3
baz=277
GLI Glacier Island 38.09 44 P P 11 49 36.4 +0.8
baz=276
D25K Kavik River 38.23 31 IAmb IAmb 11 50 12.3
comp=Z,8.2nm,1.3s
D25K Kavik River 38.23 31 P P 11 49 37.3 +0.6
baz=266
G25K Bearman Lake 38.23 35 P P 11 49 37.4 +0.7
baz=270
H25L Birch Creek 38.34 36 P P 11 49 38.5 +0.9
baz=271
M24K Tolsona, Glenn 38.40 42 P P 11 49 38.5 +0.2
baz=276
F25K Christian Rive 38.42 33 P P 11 49 37.7 -0.6
baz=269
K24K Donnelly Dome 38.45 40 P P 11 49 39.1 +0.6
baz=274,SNR=6.5
E25K Arctic Village 38.46 33 P P 11 49 38.5 -0.1
baz=268
PRP Porcupine Dome 38.48 37 P P 11 49 39.0 0.0
baz=272
J25K Salcha River, 38.58 38 P P 11 49 39.2 -0.5
baz=273,SNR=6.8
KLU Klutina 38.59 43 P P 11 49 40.8 +0.9
KLU Klutina 38.59 43 P P 11 49 40.1 +0.3
baz=277,SNR=7.6
Q23K Middleton Isla 38.65 47 P P 11 49 41.1 +0.9
baz=279
PAX Paxson 38.65 41 P P 11 49 40.7 +0.3
baz=275
C26K Camden Bay 38.78 30 P P 11 49 41.5 +0.4
baz=267
EYAK Cordova Ski Ar 38.78 45 P P 11 49 42.6 +1.3
baz=278
HARP HAARP 38.85 42 P P 11 49 42.6 +0.7
baz=276
RIDG Independent Ri 38.87 40 IAmb IAmb 11 49 43.4
comp=Z,4.5nm,0.7s
RIDG Independent Ri 38.87 40 P P 11 49 43.1 +1.0
baz=275
F26K Sheenjek River 38.99 33 P P 11 49 43.4 +0.3
baz=270
G26K Porcupine Rive 39.14 35 P P 11 49 44.7 +0.4
baz=272
C27K Jago River 39.18 30 P P 11 49 44.7 +0.1
baz=268
N25K Chitina, Valde 39.20 43 IAmb IAmb 11 49 47.4
comp=Z,11nm,1.4s
N25K Chitina, Valde 39.20 43 P P 11 49 45.5 +0.6
baz=278
SCRK Sand Creek 39.23 39 P P 11 49 46.0 +0.8
baz=275,SNR=5.1
BMRM Bremner River 39.28 44 IAmb IAmb 11 49 48.0
comp=Z,13nm,1.0s
BMRM Bremner River 39.28 44 P P 11 49 45.8 +0.1
baz=278
RAGM Ragged Mountai 39.34 45 P P 11 49 48.0 +2.0
RAGM IAmb IAmb 11 49 48.3
comp=Z,6.3nm,0.6s
J26L Joseph Creek 39.37 38 P P 11 49 46.6 +0.3
baz=275
MENT Mentasta 39.45 41 P P 11 49 48.7 +1.7
I26K Coal Creek Min 39.48 37 P P 11 49 48.2 +1.0
baz=274
KAIM Kayak Island 39.53 46 P P 11 49 49.1 +1.5
baz=280
L26K Log Cabin Wild 39.61 41 IAmb IAmb 11 49 51.4
comp=Z,7.2nm,1.2s
L26K Log Cabin Wild 39.61 41 P P 11 49 49.5 +1.3
baz=275,SNR=6.5
VRDI Verde Repeater 39.80 43 IAmb IAmb 11 49 52.4
comp=Z,7.4nm,1.0s
M26K Nabesna, AK 39.85 42 P P 11 49 51.2 +0.9
baz=278,SNR=13
E27K Coleen River 39.95 33 P P 11 49 51.9 +0.9
baz=272
MCARA McCarthy VSAT 39.98 43 P P 11 49 51.7 +0.4
baz=279
G27K Doyon Strip 39.99 35 P P 11 49 52.6 +1.2
baz=274
CRQE Cirque 40.05 44 P P 11 49 53.5 +1.4
baz=280,SNR=5.7
K27K Chicken 40.06 39 IAmb IAmb 11 49 54.3
comp=Z,8.4nm,0.9s
K27K Chicken 40.06 39 P P 11 49 53.2 +1.3
baz=277
BGLC Bering Glacier 40.06 45 P P 11 49 53.1 +1.2
baz=280
H27K Steamboat Moun 40.08 36 P 11 49 53.8 +1.7
H27K IAmb IAmb 11 49 55.1
comp=Z,5.1nm,0.8s
H27K Steamboat Moun 40.08 36 P P 11 49 53.4 +1.2
baz=274,SNR=6.9
I27K Kandik River 40.10 37 P P 11 49 53.7 +1.4
baz=275
GYA Guiyang 40.13 256 ⇓P P 11 50 03.8 +11
GYA pmax pmax
comp=Z,32nm,0.6s
D27M Malcolm River 40.15 31 P P 11 49 53.7 +1.0
baz=271
WAX Waxell Ridge 40.22 45 P P 11 49 55.5 +2.2
L27K Beaver Creek, 40.29 40 IAmb IAmb 11 49 57.6
comp=Z,7.4nm,0.9s
L27K Beaver Creek, 40.29 40 P P 11 49 55.2 +1.3
baz=278,SNR=17
BCAR Beaver Creek A 40.31 40 P 11 49 55.8 +1.7
M27K Edge Creek, AK 40.37 42 IAmb IAmb 11 49 57.7
comp=Z,7.4nm,0.8s
M27K Edge Creek, AK 40.37 42 P P 11 49 55.8 +1.1
baz=279,SNR=12
F28M Old Crow 40.63 33 P P 11 49 58.3 +1.7
baz=274
BARN Barnard Glacie 40.69 44 P P 11 49 59.5 +2.2
E28M Babbage River 40.69 32 P P 11 49 57.9 +0.8
baz=274
MESA MESA 40.71 45 P P 11 49 58.4 +0.9
baz=281
I28M Miner Creek 40.81 37 P 11 49 59.7 +1.5
I28M IAmb IAmb 11 50 00.6
comp=Z,5.8nm,0.7s
I28M Miner Creek 40.81 37 P P 11 49 58.9 +0.7
baz=277,SNR=8.8
BVCY Beaver Creek 40.83 41 P P 11 49 59.3 +1.0
baz=280
CTG Chitna Glacier 40.85 44 P P 11 49 59.3 +0.6
baz=281,SNR=8.3
CTGM Chitina Glacie 40.86 44 P P 11 50 00.0 +1.3
LOGN Logan Glacier 41.04 44 IAmb IAmb 11 50 03.3
comp=Z,9.2nm,0.9s
TABL Table Mountain 41.05 44 P P 11 50 01.8 +1.5
YUK3 Moose Creek 41.12 42 P P 11 50 01.7 +0.7
baz=281,SNR=6.5
DAWY Dawson 41.23 39 P P 11 50 02.2 +0.6
baz=279
E29M Blow River 41.31 32 P P 11 50 03.0 +0.9
baz=275
H29M Whitestone 41.36 35 P P 11 50 03.1 +0.5
baz=277
G29M Pine Creek 41.41 34 IAmb IAmb 11 50 06.1
comp=Z,5.5nm,0.7s
G29M Pine Creek 41.41 34 P P 11 50 04.2 +1.2
baz=277,SNR=5.4
O28M Mount Upton 41.44 44 P P 11 50 04.9 +1.2
O28M IAmb IAmb 11 50 06.2
comp=Z,8.1nm,0.8s
O28M Mount Upton 41.44 44 P P 11 50 03.9 +0.3
baz=282,SNR=6.4
I29M Oqilvie Camp, 41.50 37 P P 11 50 04.7 +1.0
baz=278,SNR=10
YUK8 Steele Glacier 41.54 43 P P 11 50 05.2 +0.7
baz=282,SNR=5.2
PINM Pinnacle 41.56 45 P P 11 50 05.8 +1.4
baz=283
ZALV Zalesovo Beam 41.73 306 PcP PcP 11 52 00.4 +0.3
comp=Z,5.5nm,0.7s,baz=60,slow=3.6,SNR=16
ZALV LR LR 12 06 45.0
comp=Z,26nm,20.5s,baz=51,slow=35
M29M Somme Creek 41.92 41 P P 11 50 08.7 +1.4
M29M Somme Creek 41.92 41 P P 11 50 08.7 +1.4
baz=281,SNR=6.8
L29M L29M 41.94 40 P P 11 50 09.2 +1.8
L29M IAmb IAmb 11 50 10.7
comp=Z,9.3nm,1.1s
L29M L29M 41.94 40 P P 11 50 08.5 +1.1
baz=281,SNR=7.0
EPYK Eagle Plains 42.00 35 IAmb IAmb 11 50 10.4
comp=Z,8.8nm,1.1s
EPYK Eagle Plains 42.00 35 P P 11 50 09.1 +1.3
baz=278,SNR=6.2
YUK4 Talbot Arm 42.06 43 P P 11 50 09.6 +1.0
baz=282
PNL Peninsula 42.07 45 P P 11 50 10.4 +1.9
baz=284
K29M Barlow Dome 42.08 39 P P 11 50 09.6 +1.0
baz=281,SNR=5.7
G30M tAoh Zrail Nji 42.11 34 P P 11 50 09.8 +1.1
baz=278
F30M Barrier River 42.19 33 IAmb IAmb 11 50 12.6
comp=Z,6.8nm,0.8s
F30M Barrier River 42.19 33 P P 11 50 10.7 +1.4
baz=278
I30M Mount Dempster 42.32 37 IAmb IAmb 11 50 13.0
comp=Z,9.2nm,0.7s
I30M Mount Dempster 42.32 37 P P 11 50 11.5 +0.9
baz=280,SNR=18
J30M Hart River 42.45 38 P P 11 50 12.5 +0.8
baz=281,SNR=5.2
M30M Minto, Yukon 42.65 41 P P 11 50 14.6 +1.5
baz=283
HYT Haines Junctio 42.72 43 P P 11 50 15.7 +1.9
HYT IAmb IAmb 11 50 17.4
comp=Z,14nm,1.0s

HYT Haines Junctio 42.72 43 P P 11 50 14.6 +0.7
baz=284,SNR=16
N30M Aishikik Lake 42.77 42 P P 11 50 14.8 +0.6
N30M Aishikik Lake 42.77 42 P P 11 50 15.7 +1.6
baz=284
MAYO Mayo, Yukon 42.84 39 P P 11 50 15.9 +1.3
baz=282
G31M Satah River 42.87 34 P P 11 50 16.0 +1.2
baz=280
P29M Windy Craggy 42.90 45 P P 11 50 17.5 +2.3
P29M Windy Craggy 42.90 45 P P 11 50 17.0 +1.8
baz=285,SNR=6.6
INK Inuvik 42.93 32 P P 11 50 16.6 +1.4
baz=279
F31M Tsiigehtchic 42.99 33 P P 11 50 17.4 +1.7
baz=280
H31M Peel River 43.05 36 P P 11 50 17.6 +1.3
H31M Peel River 43.05 36 P P 11 50 17.3 +1.0
baz=281
P30M Million Dollar 43.15 44 P P 11 50 18.7 +1.4
baz=285
N31M Braeburn, Yuko 43.37 42 P P 11 50 20.9 +1.9
N31M IAmb IAmb 11 50 22.6
comp=Z,9.0nm,0.9s
N31M Braeburn, Yuko 43.37 42 P P 11 50 20.5 +1.5
baz=284,SNR=8.6
O30N Mendenhall 43.40 43 IAmb IAmb 11 50 23.1
comp=Z,8.1nm,0.9s
O30N Mendenhall 43.40 43 P P 11 50 20.5 +1.3
baz=285,SNR=8.3
PZH PanZhiHua 43.45 261 P P 11 50 21.6 +1.5
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
PLBC Pleasant Camp 43.62 45 P P 11 50 22.5 +1.6
baz=286,SNR=13
KMI Kunming 43.66 258 P P 11 50 23.0 +1.0
KMI pmax pmax
comp=Z,18nm,1.3s
M31M Drury Creek, Y 43.83 41 P P 11 50 24.4 +1.8
M31M IAmb IAmb 11 50 25.2
comp=Z,4.7nm,0.7s
M31M Drury Creek, Y 43.83 41 P P 11 50 23.9 +1.3
baz=285,SNR=8.4
WHY Whitehorse 44.01 43 P P 11 50 25.3 +1.2
baz=286,SNR=5.2
S31K Pelican 44.12 47 P P 11 50 26.2 +1.3
baz=288
SKAG Skagway 44.13 45 P P 11 50 26.0 +1.0
baz=287
FARO Faro, Yukon 44.29 41 P P 11 50 27.3 +1.0
baz=286,SNR=6.9
SIT Sitka 44.87 48 P P 11 50 32.2 +1.3
baz=289
P32M Atlin 44.87 44 P P 11 50 32.4 +1.4
baz=288,SNR=5.1
R32K Eaglecrest 44.89 46 P P 11 50 33.2 +2.2
R32K IAmb IAmb 11 50 34.5
comp=Z,8.9nm,0.7s
R32K Eaglecrest 44.89 46 P P 11 50 32.3 +1.2
baz=289,SNR=5.2
P33M Teslin, Yukon 45.12 43 P P 11 50 34.1 +1.1
P33M IAmb IAmb 11 50 36.7
comp=Z,9.8nm,1.0s
P33M Teslin, Yukon 45.12 43 P P 11 50 34.4 +1.4
baz=288,SNR=12
MMPY Sheldon Lake, 45.12 40 P P 11 50 33.7 +0.8
baz=287
S32K Killisnoo 45.12 47 P P 11 50 33.6 +0.8
baz=289
Q32M Nakina River 45.78 45 P P 11 50 39.9 +1.5
Q32M IAmb IAmb 11 50 41.5
comp=Z,12nm,1.4s
Q32M Nakina River 45.78 45 P P 11 50 38.9 +0.6
baz=290
MK31 Makanchi Array 45.87 297 *i* P **P 11 50 37.6 -1.4**
MKAR Makanchi Array 45.87 297 P P 11 50 37.0 -2.0
comp=Z,2.3nm,0.5s,baz=72,slow=8.2,SNR=16
MKAR PcP **PcP 11 52 14.9 +0.5**
comp=Z,2.2nm,0.6s,baz=62,slow=3.9,SNR=10
MKAR ScP **ScP 11 55 56.4 -1.2**
comp=Z,0.2nm,0.6s,baz=57,slow=5.3,SNR=2.7
MKAR LR LR 12 10 29.0
comp=Z,39nm,18.5s,baz=110,slow=37
comp=Z,2.3nm,0.5s
MKAR Makanchi Array 45.87 297 *i* P **P 11 50 37.7 -1.3**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 45.87 297 *eP* **P 11 50 37.7 -1.3**
R33M Jennings River 46.27 44 P P 11 50 43.8 +1.8
R33M IAmb IAmb 11 50 45.8
comp=Z,8.2nm,0.8s
R33M Jennings River 46.27 44 P P 11 50 42.7 +0.6
baz=290,SNR=12
U33K Whale Pass 46.34 49 P P 11 50 43.1 +0.7
baz=292
KURK Kurchatov 46.43 303 P P 11 50 41.9 -1.4
KURK *PP **pP 11 51 06.0 -1.0**
KURK 11 52 17.1
KURK Kurchatov 46.43 303 *eP* **P 11 50 39.9 -3.4**
KURBB Kurchatov Arra 46.52 303 P P 11 50 41.9 -2.1
comp=Z,0.8nm,0.4s,baz=75,slow=8.8,SNR=9.8
KURBB pP **pP 11 51 06.0 -1.8**
comp=Z,1.2nm,0.4s,baz=76,slow=6.3,SNR=2.4
KURBB PcP **PcP 11 52 17.1 +0.5**
comp=Z,1.7nm,0.6s,baz=71,slow=3.4,SNR=11
comp=Z,0.8nm,0.4s
CRAG Craig 46.58 50 P P 11 50 45.8 +1.5
baz=292
WRAK Wrangell Islan 46.63 48 P P 11 50 46.2 +1.5
baz=292
S34M Telegraph Cree 46.70 46 P P 11 50 47.3 +2.0
baz=291
TGTN Hyland Airport 46.80 40 P P 11 50 47.2 +1.1
baz=290
WTLY Watson Lake, Y 47.05 42 P P 11 50 49.1 +1.1
WTLY Watson Lake, Y 47.05 42 P P 11 50 49.3 +1.3
baz=291
DLBC Dease Lake 47.06 45 P P 11 50 49.3 +1.2
baz=292,SNR=6.5
V35K Ketchikan 47.42 49 P P 11 50 52.3 +1.3
baz=293
T35M Bob Quinn 47.49 47 P P 11 50 53.4 +1.8
T35M IAmb IAmb 11 50 55.9
comp=Z,7.3nm,0.8s
T35M Bob Quinn 47.49 47 P P 11 50 53.3 +1.8
baz=293
WRGLY Wrigley 48.29 37 P P 11 50 59.0 +1.5
baz=292
LIRD Liard River Hi 48.58 43 P P 11 51 01.5 +1.8
baz=293
LSA Lhasa 48.81 272 P P 11 51 03.9 +1.4
LSA pmax pmax
comp=Z,47nm,0.6s
TOAD Toad River Com 49.21 43 P P 11 51 06.7 +2.1
baz=294,SNR=6.9
KOTAN Kotaneelee Air 49.24 41 P P 11 51 06.5 +1.7
baz=294
BVAR Borovoye Array 50.06 309 P P 11 51 09.5 -1.7
comp=Z,1.3nm,0.4s,baz=56,slow=7.9,SNR=7.1
BVAR pP **pP 11 51 32.2 -3.0**
comp=Z,2.1nm,0.4s,baz=68,slow=5.4,SNR=5.9
BVAR PcP **PcP 11 52 29.2 -0.1**
comp=Z,4.0nm,0.5s,baz=81,slow=4.1,SNR=8.4
comp=Z,1.3nm,0.4s
BRVK Borovoye 50.10 309 *ce*P **P 11 51 09.2 -2.3**
BRVK pmax pmax
comp=Z,1.0nm,0.6s
BRVK Borovoye 50.10 309 *eP* **P 11 51 09.2 -2.3**
CHTO Chiang Mai 50.53 255 P P 11 51 16.4 +1.3
CHTO Chiang Mai 50.53 255 P P 11 51 16.4 +1.3
CHTO pmax pmax
comp=Z,20nm,0.7s
CMAR Chiang Mai Arr 50.78 255 P P 11 51 18.4 +1.4
CMAR Chiang Mai Arr 50.78 255 P P 11 51 18.2 +1.2
comp=Z,7.9nm,0.7s,baz=38,slow=7.2,SNR=40
CMAR PcP **PcP 11 52 34.5 +2.0**
comp=Z,0.7nm,0.4s,baz=50,slow=2.7,SNR=2.1
CMAR LR LR 12 13 02.5
comp=Z,12nm,18.7s,baz=175,slow=36
comp=Z,7.9nm,0.7s
CMAR Chiang Mai Arr 50.78 255 *i* P **P 11 51 18.7 +1.7**
CMAR pmax pmax
comp=Z,8.0nm,0.7s
TARG Taragay, Kyrgy 51.12 293 IAmb IAmb 11 51 22.0
comp=Z,4.9nm,0.6s

KDJ Kajisay 51.31 294 IAmb IAmb 11 51 23.5
comp=Z,8.4nm,1.1s
RES Resolute Bay 51.85 18 IAmb IAmb 11 51 25.8
comp=Z,11nm,1.1s
RES Resolute Bay 51.85 18 LR LR 12 16 06.0
comp=Z,37nm,18.2s,baz=355,slow=39
BOOM Boomskoye usch 51.91 295 IAmb IAmb 11 51 27.0
comp=Z,5.7nm,0.6s
YKA Yellowknife Ar 52.27 36 P P 11 51 28.7 +1.2
comp=Z,1.9nm,0.9s,baz=303,slow=7.7,SNR=11
YKA pP **pP 11 51 51.5 -0.6**
comp=Z,0.9nm,0.8s,baz=302,slow=7.8,SNR=3.7
comp=Z,1.9nm,0.9s
AAK Ala-Archa 52.74 296 *ce*P **P 11 51 29.6 -1.9**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 52.74 296 *eP* **P 11 51 29.6 -1.9**
EVN Everest 52.88 273 P P 11 51 33.9 +0.6
SPITS Spitsbergen Ar 52.90 349 P P 11 51 31.2 -0.8
comp=Z,6.4nm,0.9s,baz=57,slow=10,SNR=4.3
comp=Z,6.4nm,0.9s
ARTI Arti 54.52 317 LR LR 12 18 07.0
comp=Z,31nm,18.0s,baz=347,slow=40
ARTI Arti 54.52 317 *c i* P **P 11 51 41.7 -2.3**
ARTI *PP **pP 11 52 09.2 +0.8**
ARTI 11 52 44.3
ARTI S **S 11 59 12.3 -2.4**
ARTI SS **SS 12 02 52.5 -5.5**
ARTI pmax pmax
comp=Z,12nm,1.5s
KK31 Karatay Array 54.96 298 P 11 51 47.6 +0.2
KK31 IAmb IAmb 11 51 48.2
comp=Z,3.2nm,0.8s
KK31 Karatay Array 54.96 298 P P 11 51 47.6 +0.2
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 54.96 298 P 11 51 46.9 -0.5
KKAR Karatay Array 54.96 298 IAmb IAmb 11 51 48.2
comp=Z,3.3nm,0.8s
KKAR Karatay Array 54.96 298 P P 11 51 46.9 -0.5
NLWA Neilton Lookou 55.43 55 IAmb IAmb 11 51 53.7
comp=Z,7.3nm,0.9s
BTK Batken 56.47 295 IAmb IAmb 11 52 00.4
comp=Z,4.2nm,0.7s
GAR Garm 57.40 294 P 11 52 05.1 +0.2
ABKAR Akbulak array 57.64 309 P 11 52 04.9 -1.4
ABKAR Akbulak array 57.64 309 IAmb IAmb 11 52 08.2
comp=Z,7.0nm,0.5s
ARCES ARCESS Array B 57.89 340 P P 11 52 05.7 -2.1
comp=Z,3.3nm,0.8s,baz=41,slow=6.4,SNR=6.1
ARCES PcP **PcP 11 52 59.4 +0.4**
comp=Z,2.4nm,0.9s,baz=51,slow=3.0,SNR=5.2
comp=Z,3.3nm,0.8s
AKTO Aktyubinsk 57.98 311 LR LR 12 18 33.1
comp=Z,46nm,18.4s,baz=284,slow=38
BLKN Baker Lake 58.08 28 IAmb IAmb 11 52 11.3
comp=Z,4.1nm,0.6s
I05D Terrebonne, OR 58.61 57 IAmb IAmb 11 52 16.3
comp=Z,6.1nm,0.9s
PINE Pine Mountain 59.16 57 IAmb IAmb 11 52 20.7
comp=Z,5.1nm,0.8s
J05D Fort Rock, OR 59.29 58 IAmb IAmb 11 52 21.4
comp=Z,5.3nm,0.9s
K05A Summer Lake 59.82 58 IAmb IAmb 11 52 25.2
comp=Z,6.2nm,0.8s
J08A Circle Bar Ran 60.86 57 P 11 52 30.9 +2.1
J08A IAmb IAmb 11 52 31.8
comp=Z,4.4nm,1.0s
PLID Pearl Lake 61.22 54 P 11 52 32.6 +1.2
PLID IAmb IAmb 11 52 33.7
comp=Z,4.8nm,0.9s
MSO Missoula 61.29 51 P 11 52 33.0 +1.4
MSO IAmb IAmb 11 52 33.9
comp=Z,3.4nm,0.8s
WVOR Wild Horse Val 61.33 58 IAmb IAmb 11 52 35.2
comp=Z,5.3nm,1.0s
SUMG Summit 61.36 3 P 11 52 32.3 +0.3
SUMG Summit 61.36 3 P P 11 52 32.3 +0.3
SUMG pmax pmax
comp=Z,19nm,0.7s
BELG Belogornoye 61.95 317 *eP* P 11 52 31.1 -4.7
BELG pmax pmax
comp=Z,2.0nm,0.9s
PAHR Pah Rah Range 62.56 60 IAmb IAmb 11 52 42.9
comp=Z,7.4nm,1.3s
RYN Ryan 63.76 61 IAmb IAmb 11 52 50.9
comp=Z,4.1nm,0.8s
FINES FINESS Array B 63.91 334 P P 11 52 46.4 -2.2
comp=Z,4.0nm,0.7s,baz=46,slow=8.2,SNR=11
FINES PcP **sP 11 53 22.6 -2.4**
comp=Z,2.0nm,0.6s,baz=65,slow=4.7,SNR=4.9
FINES LR LR 12 23 26.4
comp=Z,37nm,19.2s,baz=82,slow=39
comp=Z,4.0nm,0.7s
FINES FINESS Array B 63.91 334 *i* P **P 11 52 47.0 -1.6**
FINES pmax pmax
comp=Z,3.0nm,0.6s
LHV Little Huntoon 64.01 61 IAmb IAmb 11 52 53.0
comp=Z,8.8nm,1.0s
NVAR Mina Array Bea 64.02 61 P P 11 52 51.6 +1.6
comp=Z,3.9nm,0.8s,baz=300,slow=7.2,SNR=23
NVAR pP **pP 11 53 15.0 -0.1**
comp=Z,0.5nm,0.6s,baz=294,slow=7.2,SNR=2.5
comp=Z,3.9nm,0.8s
OBN Obninsk 64.92 325 *eP* **P 11 52 54.2 -1.1**
OBN *e**PP **pwP 11 53 24.0 -0.5**
OBN *e* 11 53 25.7
OBN *e**SP **sP 11 53 37.3 +5.7**
OBN *e* 11 55 18.0
OBN pmax pmax
comp=Z,3.0nm,0.6s
GRAC Grapevine Rang 65.51 62 IAmb IAmb 11 53 02.2
comp=Z,6.0nm,0.7s
PDAR Pinedale Array 66.28 52 P P 11 53 05.7 +1.0
comp=Z,1.5nm,0.8s,baz=310,slow=1.8,SNR=11
comp=Z,1.5nm,0.8s
GWY Greenwater Val 66.46 62 IAmb IAmb 11 53 08.0
comp=Z,4.5nm,0.8s
WRA Warramunga Arr 67.51 197 P P 11 53 13.1 +0.9
comp=Z,2.5nm,0.6s,baz=15,slow=6.7,SNR=14
WRA pP **PcP 11 53 39.0 +0.3**
comp=Z,2.3nm,0.7s,baz=11,slow=6.4,SNR=7.0
comp=Z,2.5nm,0.6s
WRA Warramunga Arr 67.51 197 *i* P **P 11 53 13.3 +1.1**
WRA pmax pmax
comp=Z,3.0nm,0.6s
NB2 NORSAR Subarra 68.27 340 P P 11 53 15.2 -1.4
comp=Z,1.5nm,0.3s,baz=29,slow=6.5
NOA NORSAR Array B 68.27 340 P P 11 53 15.3 -1.2
comp=Z,2.9nm,0.5s,baz=30,slow=6.7,SNR=10
NOA LR LR 12 26 34.1
comp=Z,12nm,19.0s,baz=220,slow=39
comp=Z,2.9nm,0.5s
HFS Hagfors 68.46 339 P P 11 53 16.1 -1.6
comp=Z,5.2nm,0.5s,baz=38,slow=7.5,SNR=14
comp=Z,5.2nm,0.5s
PV10 Paradox Valley 69.53 56 IAmb IAmb 11 53 27.7
comp=Z,9.4nm,0.9s
PV19 Morning Glory 69.61 56 IAmb IAmb 11 53 29.9
comp=Z,13nm,1.3s
PV17 East Wray Mesa 69.64 56 IAmb IAmb 11 53 27.9
comp=Z,6.6nm,0.7s
PV16 Nyswonger Mesa 69.64 56 P P 11 53 27.1 +1.5
PV12 Saucer Basin, 69.71 56 IAmb IAmb 11 53 29.3
comp=Z,5.6nm,1.0s
PV03 Paradox Valley 69.72 56 IAmb IAmb 11 53 28.3
comp=Z,9.3nm,1.4s
KIV Kislovodsk 70.11 313 *eP* **P 11 53 27.5 -0.8**
KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV Kislovodsk 70.11 313 *eP* **P 11 53 27.5 -0.8**
KBZ Khabaz 70.17 313 P P 11 53 29.2 +0.8
comp=Z,5.3nm,0.8s,baz=88,slow=5.0,SNR=6.1
comp=Z,5.3nm,0.8s
AKASG Malin Array Be 71.17 325 P P 11 53 32.4 -2.1
comp=Z,1.8nm,0.3s,baz=38,slow=6.2,SNR=10
comp=Z,1.8nm,0.3s
AKASG Malin Array Be 71.17 325 *i* P **P 11 53 33.7 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AS31 Alice Springs 71.21 196 P 11 53 35.4 +0.5
ASAR Alice Springs 71.21 196 P P 11 53 37.0 +2.0
comp=Z,2.6nm,0.6s,baz=6.9,slow=4.9,SNR=55
ASAR pP **pP 11 54 02.0 +0.9**
comp=Z,0.9nm,0.5s,baz=12,slow=6.1,SNR=3.7
comp=Z,2.6nm,0.6s
AK17 Malin Array Si 71.25 325 P P 11 53 34.9 0.0

AK14 Malin Array Si 71.28 325 P P 11 53 35.0 -0.1
GNI Garni 71.75 309 LR LR 12 26 53.4
comp=Z,23nm,20.0s,baz=181,slow=37
LUBAR Lubar, Ukraine 72.37 325 P P 11 53 41.0 -0.6
NDNU Novodnistrovsk 73.58 325 P P 11 53 48.9 +0.1
I37A Lemond, Waseca 73.68 43 IAmb IAmb 11 53 52.6
comp=Z,9.2nm,0.7s
KMPD K-Podol'skiy 73.97 325 P P 11 53 50.3 -0.7
SCHQ Schefferville 74.40 22 P P 11 53 53.9 +0.3
comp=Z,7.7nm,0.6s,baz=286,slow=7.3,SNR=6.0
comp=Z,2.7nm,0.6s
KWP Kalwaria Pacla 74.53 328 P P 11 53 55.2 +0.9
comp=Z,18nm,1.2s
STNU Starunia 74.61 326 P P 11 53 55.3 +0.5
OJC Ojcow 75.08 330 *eP* **P 11 53 57.9 +0.5**
OJC Ojcow 75.08 330 P P 11 53 58.0 +0.5
comp=Z,16nm,0.9s
BUR08 Bucovina Ar. S 75.21 325 P 11 53 58.5 0.0
BUR08 IAmb IAmb 11 53 59.8
comp=Z,7.3nm,0.6s
BURAR Bucovina Array 75.22 325 P P 11 53 58.9 +0.4
BURAR IAmb IAmb 11 53 59.7
comp=Z,7.0nm,0.7s
KOLS Kolonicke sedl 75.27 328 *eP* **P 11 53 59.3 +0.7**
KOLS pmax pmax
comp=Z,7.0nm,0.7s
KOLS Kolonicke sedl 75.27 328 *eP* **P 11 53 59.2 +0.7**
RAKU Rahkiv 75.30 326 P P 11 53 59.1 +0.3
DIKM Dikmen 75.50 316 P P 11 54 01.3 +1.3
comp=Z,11nm,1.1s
TESR Tescani 75.54 324 P P 11 54 00.7 +0.5
comp=Z,13nm,0.9s
UOSS Minazif 75.56 291 P P 11 54 00.8 +0.2
NIE Niedzica 75.58 329 P P 11 54 01.5 +1.1
comp=Z,3.4nm,0.8s
TRSU Trosnyk 75.71 327 P P 11 54 02.7 +1.6
ARPR Arapgir-MALATY 75.89 312 IAmb IAmb 11 54 04.8
comp=Z,11nm,0.8s
STEB Steborice 76.02 331 *eP* **P 11 54 03.6 +0.8**
LANS Liptovska Anna 76.10 330 *eP* **P 11 54 04.9 +1.5**
LANS pmax pmax
comp=Z,6.0nm,0.7s
LANS Liptovska Anna 76.10 330 *eP* **P 11 54 04.9 +1.5**
DPC Dobruska-Polom 76.14 332 P P 11 54 04.4 +0.8
comp=Z,4.7nm,1.1s
MORC Moravsky Berou 76.23 331 IAmb IAmb 11 54 05.9
comp=Z,8.7nm,0.9s
MORC Moravsky Berou 76.23 331 *eP* **P 11 54 04.6 +0.5**
CLL Collm 76.35 334 *i* P **P 11 54 04.5 -0.1**
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 76.35 334 P P 11 54 04.6 -0.1
comp=Z,13nm,0.7s
CLL Collm 76.35 334 *i* P **P 11 54 04.5 -0.1**
comp=Z,12nm,1.0s
EKA Eskdalemuir Ar 76.52 345 P P 11 54 05.5 -0.1
comp=Z,1.9nm,0.3s,baz=19,slow=5.1,SNR=23
comp=Z,1.9nm,0.3s
ISR Istrita 76.71 323 P P 11 54 07.8 +0.9
comp=Z,22nm,1.0s
VYHS Vyhne 76.88 330 *eP* **P 11 54 08.6 +0.9**
VYHS pmax pmax
comp=Z,10.0nm,1.2s
VYHS Vyhne 76.88 330 *eP* **P 11 54 08.6 +0.9**
JAVC Velka Javorina 76.97 330 *eP* **P 11 54 09.7 +1.4**
GOPC GO Pecny, Ondr 77.02 333 *eP* **P 11 54 09.1 +0.6**
GOPC GO Pecny, Ondr 77.02 333 *eP* **P 11 54 09.1 +0.6**
PRU Pruhonice 77.03 333 *eP* **P 11 54 08.9 +0.4**
PRU Pruhonice 77.03 333 *eP* **P 11 54 08.9 +0.4**
VOIR 77.07 324 P P 11 54 09.9 +1.0
comp=Z,10nm,0.9s
KRUC Moravsky 77.23 331 *eP* **P 11 54 10.3 +0.6**
MODS Modra-Piesok 77.52 330 *eP* **P 11 54 11.3 0.0**
MODS pmax pmax
comp=Z,21nm,1.0s
MODS Modra-Piesok 77.52 330 *eP* **P 11 54 11.3 0.0**
BRTR Keskin Array B 77.77 315 P 11 54 13.7 +0.7
BRTR Keskin Array B 77.77 315 P P 11 54 13.6 +0.6
comp=Z,2.3nm,0.8s,baz=74,slow=4.6,SNR=12
comp=Z,2.3nm,0.8s
BR104 Keskin Array S 77.78 315 P P 11 54 13.8 +0.7
comp=Z,4.7nm,0.9s
BR105 Keskin Array S 77.78 315 P P 11 54 13.9 +0.8
comp=Z,4.8nm,0.9s
KHC Kasperske Hory 78.08 333 *eP* **P 11 54 14.6 +0.1**
KHC Kasperske Hory 78.08 333 *eP* **P 11 54 14.6 +0.1**
KHC Kasperske Hory 78.08 333 P P 11 54 15.1 +0.6
comp=Z,11nm,0.7s
CKRC Cesky Krumlov 78.12 332 *eP* **P 11 54 14.7 0.0**
CKRC Cesky Krumlov 78.12 332 *eP* **P 11 54 14.7 0.0**
GEC2 GERESS Array S 78.30 333 IAmb IAmb 11 54 16.5
comp=Z,4.3nm,0.7s
GERES GERESS Array B 78.30 333 P P 11 54 15.9 +0.1
GERES GERESS Array B 78.30 333 P P 11 54 15.5 -0.2
comp=Z,2.4nm,0.4s,baz=18,slow=4.6,SNR=20
comp=Z,2.4nm,0.4s
CONA Conrad Observa 78.39 331 *eP* **P 11 54 17.1 +0.8**
comp=Z,8.8nm,0.7s
RONA Rosalia, Austr 78.44 331 *i* P **P 11 54 17.4 +1.0**
comp=Z,8.1nm,0.7s
MPLH Magyarpolny 78.46 330 P P 11 54 17.4 +0.9
comp=Z,2µmcomp=Z,38nm,0.8s
MOA Molln 78.99 332 *eP* **P 11 54 19.9 +0.5**
comp=Z,6.9nm,0.8s
TXAR Lajitas Array 79.07 59 P P 11 54 21.6 +1.2
comp=Z,2.0nm,0.5s,baz=298,slow=4.2,SNR=45
TXAR pP **pP 11 54 45.7 -0.7**
comp=Z,1.2nm,0.5s,baz=298,slow=4.0,SNR=6.1
comp=Z,2.0nm,0.5s
LESA Schwarzleotal 79.87 333 P P 11 54 25.1 +0.8
comp=Z,6.6nm,0.6s
MYKA Terra Mystica 80.26 332 *eP* **P 11 54 26.5 +0.1**
comp=Z,3.3nm,0.6s
WATA Walderlam 80.30 333 *i* P **P 11 54 27.2 +0.5**
comp=Z,9.5nm,0.5s
WTTA Wattenberg 80.34 333 *eP* **P 11 54 27.6 +0.7**
comp=Z,19nm,0.4s
RDO Rodhopi 80.37 321 IAmb IAmb 11 54 28.3
comp=Z,9.1nm,0.8s
BFO Black Forest 80.38 336 P P 11 54 27.3 +0.4
BFO IAmb IAmb 11 54 30.1
comp=Z,9.3nm,0.8s
BFO Black Forest 80.38 336 P P 11 54 27.3 +0.4
BFO pmax pmax
comp=Z,9.0nm,0.8s
RETA Reutte 80.42 334 *i* P **P 11 54 28.0 +0.8**
comp=Z,4.2nm,0.5s
MOTA Moosalm 80.44 334 *i* P **P 11 54 27.8 +0.4**
comp=Z,12nm,0.7s
SQTA Sankt Quirin 80.52 333 *i* P **P 11 54 28.6 +0.8**
comp=Z,5.8nm,0.7s
RAR Rarotonga 80.55 134 LR LR 12 30 32.6
comp=Z,48nm,18.9s,baz=20,slow=36
ECH Echery 80.81 336 IAmb IAmb 11 54 30.1
comp=Z,8.1nm,0.8s
DAVA Damuels 80.86 334 *i* P **P 11 54 30.3 +0.6**
comp=Z,11nm,0.7s
TUE Stuetta 81.76 334 P 11 54 35.1 +0.6
TUE IAmb IAmb 11 54 37.5
comp=Z,7.6nm,0.8s
TUE Stuetta 81.76 334 P P 11 54 35.2 +0.7
comp=Z,53nm,0.9s
MMAI Mount Meron Ar 82.06 310 P P 11 54 36.5 +0.4
comp=Z,6.7nm,0.6s,baz=38,slow=7.4,SNR=12
comp=Z,6.7nm,0.6s
FNA Florina 82.42 324 IAmb IAmb 11 54 38.2
comp=Z,6.8nm,0.8s
RAYN Ar Rayn 83.37 297 P 11 54 43.9 +0.9
RAYN IAmb IAmb 11 54 44.4
comp=Z,9.1nm,0.8s
RAYN Ar Rayn 83.37 297 P P 11 54 43.9 +0.9
RAYN pmax pmax
comp=Z,9.0nm,0.9s
BNI Bardonecchia 83.83 335 IAmb IAmb 11 54 47.0
comp=Z,7.8nm,0.9s
TIP Timpagrande 85.64 326 P P 11 54 54.2 -0.1
CEST Esterri de Car 87.59 338 IAmb IAmb 11 55 05.9
comp=Z,5.5nm,0.8s
KEST Kesra 91.43 330 P P 11 55 21.4 -0.5
comp=Z,4.5nm,0.7s,baz=332,slow=2.4,SNR=4.7
comp=Z,4.5nm,0.7s
ESDC Sonseca Array 91.63 341 P P 11 55 21.6 -1.0
comp=Z,1.0nm,0.8s,baz=12,slow=3.7,SNR=5.6
comp=Z,1.0nm,0.8s
MAW Mawson 130.95 210 PKP PKPdf 12 01 26.4 +1.3
comp=Z,0.5nm,0.4s,baz=83,slow=8.1,SNR=1.8
BOSA Boshof 134.35 273 PKP PKPdf 12 01 33.1 +0.1

comp=Z,3.2nm,1.0s,baz=12,slow=7.9,SNR=2.7
H03N2 Juan Fernandez 140.25 89 T T 14 38 34.7
baz=308,slow=77,SNR=54
H03N1 Juan Fernandez 140.26 89 T T 14 38 34.9
baz=308,slow=77,SNR=80
H03N3 Juan Fernandez 140.26 89 T T 14 38 32.6
baz=308,slow=77,SNR=84
PLCA Paso Flores 149.65 95 PKPbc **PKPbc 12 02 06.0 +1.6**
comp=Z,2.1nm,0.8s,baz=16,slow=5.7,SNR=5.0
SNAA Sanae 151.58 197 PKPbc **PKPbc 12 02 08.3 +0.4**
comp=Z,2.1nm,0.7s,baz=176,slow=3.9,SNR=22

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*SNET **04** 11:57:34.3±1.3, 12.99N×89.31W, h36km, ML3.6*
*GCG **04** 11:57:34.4±1.2, 13.00N×89.35W, h42km±16km, MD3.8, ML3.0*
*CATAC **04** 11:57:35.1±0.5, 13°N±3'×8°9W±', h28km±3km, M3.7/21, MLv3.7/21, Error ellipse: s-maj=7.3km s-min=3.8km az=19.4, confirmed*
ISC 04 11:57:35.7±1.8, **13.06N**±0.09×**89.29W**±0.05, **h42**km±15km, **n63**, σ0**945/77**, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.42**	**356**	*eP*	**Pn**	**11 57 45.4**	**-0.2**
LALI				*eS*	**Sn**	**11 57 52.8**	**+0.3**
LALI	**Alcalda de L**	**0.42**	**356**	*i P*	**Pn**	**11 57 45.4**	**-0.2**
LALI				*i S*	**Sn**	**11 57 52.7**	**+0.1**
LALI	**Alcalda de L**	**0.42**	**356**	P	**Pn**	**11 57 45.4**	**-0.2**
PANCS	**Alcalda de**	**0.56**	**11**	S	**Sn**	**11 57 55.9**	**+0.2**
PANCS	**Alcalda de**	**0.56**	**11**	P	**Pn**	**11 57 46.9**	**-0.5**
LOMA	**Loma Larga**	**0.59**	**12**	*eP*	**Pn**	**11 57 47.5**	**-0.3**
LOMA				*eS*	**Sn**	**11 57 57.5**	**+1.0**
LOMA	**Loma Larga**	**0.59**	**12**	S	**Sn**	**11 57 56.7**	**+0.2**
LOMA	**Loma Larga**	**0.59**	**12**	P	**Pn**	**11 57 47.5**	**-0.3**
LFRS	**El Faro**	**0.60**	**22**	*eP*	**Pn**	**11 57 47.4**	**-0.6**
ITCA	**Escuela Especi**	**0.61**	**1**	P	**Pn**	**11 57 47.7**	**-0.4**
ITCA	**Escuela Especi**	**0.61**	**1**	S	**Sn**	**11 57 57.2**	**+0.3**
JAYA	**Jayaque - finc**	**0.61**	**346**	*eP*	**Pn**	**11 57 47.6**	**-0.5**
JAYA				*eS*	**Sn**	**11 57 56.8**	**-0.1**
JAYA	**Jayaque - finc**	**0.61**	**346**	*i P*	**Pn**	**11 57 47.6**	**-0.5**
JAYA				*i S*	**Sn**	**11 57 57.6**	**+0.6**
JAYA	**Jayaque - finc**	**0.61**	**346**	P	**Pn**	**11 57 47.6**	**-0.5**
PMON	**Piamonte**	**0.65**	**358**	*eP*	**Pn**	**11 57 48.2**	**-0.4**
PMON				*eS*	**Sn**	**11 57 59.0**	**+1.2**
UEES	**Universidad Ev**	**0.65**	**5**	P	**Pn**	**11 57 48.1**	**-0.5**
UEES	**Universidad Ev**	**0.65**	**5**	S	**Sn**	**11 57 58.1**	**+0.2**
IGN	**Direccin Gen**	**0.66**	**10**	S	**Sn**	**11 57 58.1**	**+0.1**
IGN	**Direccin Gen**	**0.66**	**10**	P	**Pn**	**11 57 48.4**	**-0.3**
UDBS	**Universidad Do**	**0.66**	**12**	S	**Sn**	**11 57 58.3**	**+0.2**
UDBS	**Universidad Do**	**0.66**	**12**	P	**Pn**	**11 57 48.7**	**-0.1**
BOQS	**Boqueron**	**0.67**	**1**	*eP*	**Pn**	**11 57 48.8**	**-0.2**
BOQS				*eS*	**Sn**	**11 57 59.1**	**+0.6**
PIC2	**El Picacho**	**0.68**	**3**	*eP*	**Pn**	**11 57 49.1**	**0.0**
COEG	**Centro de Oper**	**0.68**	**36**	*eP*	**Pn**	**11 57 48.2**	**-0.9**
COEG				*eS*	**Sn**	**11 57 58.8**	**+0.1**
COEG	**Centro de Oper**	**0.68**	**36**	P	**Pn**	**11 57 48.2**	**-0.9**
TECO	**Alcaldia de Te**	**0.69**	**47**	S	**Sn**	**11 57 58.3**	**-0.3**
LFU	**La Fuente**	**0.70**	**14**	*eP*	**Pn**	**11 57 49.3**	**-0.1**
LFU				*eS*	**Sn**	**11 57 59.5**	**+0.3**
PAVA	**Las Pavas**	**0.73**	**28**	*eP*	**Pn**	**11 57 49.2**	**-0.6**
PAVA				*eS*	**Sn**	**11 58 00.8**	**+0.9**
PAVA	**Las Pavas**	**0.73**	**28**	S	**Sn**	**11 57 60.0**	**+0.1**
PAVA	**Las Pavas**	**0.73**	**28**	P	**Pn**	**11 57 49.3**	**-0.6**
CEDA	**San Andres**	**0.74**	**352**	P	**Pn**	**11 57 49.6**	**-0.2**
ALJI	**Alcalda de J**	**0.75**	**69**	*eP*	**Pn**	**11 57 50.2**	**+0.4**
ALJI				*eS*	**Sn**	**11 58 00.8**	**+0.6**
ALJI				*eS*		11 58 00.8	
ALJI	**Alcalda de J**	**0.75**	**69**	P	**Pn**	**11 57 49.8**	**-0.1**
UESV	**Universidad de**	**0.75**	**41**	S	**Sn**	**11 58 00.4**	**+0.1**
CEVE	**Cerro Verde**	**0.82**	**337**	P	**Pn**	**11 57 50.9**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.84**	**41**	P	**Pn**	**11 57 50.8**	**-0.4**
PQSS	**Presa 15 de Se**	**0.91**	**52**	*eP*	**Pn**	**11 57 51.4**	**-0.7**
PQSS	**Presa 15 de Se**	**0.91**	**52**	P	**Pn**	**11 57 51.3**	**-0.7**
PQSS	**Presa 15 de Se**	**0.91**	**52**	S	**Sn**	**11 58 04.0**	**+0.1**
UNIC	**Universidad Ca**	**0.95**	**345**	P	**Pn**	**11 57 52.4**	**-0.2**
UNIC	**Universidad Ca**	**0.95**	**345**	S	**Sn**	**11 58 02.4**	**+0.3**
NUBE	**Las Nubes**	**0.96**	**330**	*eP*	**Pn**	**11 57 52.3**	**-0.6**
NUBE				*eS*	**Sn**	**11 58 05.6**	**+0.1**
NUBE	**Las Nubes**	**0.96**	**330**	*i P*	**Pn**	**11 57 52.3**	**-0.6**
NUBE				*i S*	**Sn**	**11 58 05.6**	**+0.1**
NUBE	**Las Nubes**	**0.96**	**330**	P	**Pn**	**11 57 52.4**	**-0.5**
PACA	**Pacayal**	**1.03**	**67**	*eP*	**Pn**	**11 57 53.6**	**-0.1**
PACA				*eS*	**Sn**	**11 58 07.7**	**+0.6**
PACA	**Pacayal**	**1.03**	**67**	P	**Pn**	**11 57 53.7**	**-0.1**
LOAL	**Lomas de Alarc**	**1.04**	**333**	P	**Pn**	**11 57 53.9**	**-0.1**
FAME	**Alcaldia de Sa**	**1.05**	**318**	P	**Pn**	**11 57 53.4**	**-0.5**
SLOZ	**Alcaldia de Sa**	**1.07**	**334**	P	**Pn**	**11 57 54.4**	**+0.1**
MTO3	**Montecristo**	**1.33**	**357**	*eP*	**Pn**	**11 57 57.8**	**-0.3**
MTO3	**Montecristo**	**1.33**	**357**	*i P*	**Pn**	**11 57 57.8**	**-0.3**
MTO3	**Montecristo**	**1.33**	**357**	P	**Pn**	**11 57 57.7**	**-0.3**
LCND	**La Caada**	**1.39**	**80**	*eP*	**Pn**	**11 57 58.2**	**-0.4**
LCND	**La Caada**	**1.39**	**80**	P	**Pn**	**11 57 58.1**	**-0.4**
CNCH	**Conchagua**	**1.44**	**81**	P	**Pn**	**11 57 58.7**	**-0.7**
CNCH	**Conchagua**	**1.44**	**81**	S	**Sn**	**11 58 17.2**	**+0.1**
ESQI	**Esquipulas**	**1.49**	**358**	*eP*	**Pn**	**11 58 00.4**	**+0.3**
ESQI	**Esquipulas**	**1.49**	**358**	S	**Sn**	**11 58 18.6**	**+0.2**
ESQI	**Esquipulas**	**1.49**	**358**	P	**Pn**	**11 58 00.0**	**-0.1**
MARCA	**Marcala la Paz**	**1.64**	**48**	*i P*	**Pn**	**11 58 01.7**	**-0.4**
MARCA	**Marcala la Paz**	**1.64**	**48**	P	**Pn**	**11 58 01.5**	**-0.7**
SARH	**Santa Rosa de**	**1.78**	**17**	*i P*	**Pn**	**11 58 04.4**	**+0.4**
PKGN	**Cerro Pekin**	**2.29**	**100**	P	**Pn**	**11 58 11.3**	**+0.2**

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*IDC **04** 12:07:42.8±1.6, 39.19N×143.76E, h0km, mb3.5/5, mbtmp3.5/7, ML2.9/2, MS3.1/1, Error ellipse: s-maj=36.7km s-min=27.1km az=104.0*
*JMA **04** 12:07:42.6±0.2, 39°2N±0.7'×14°4E±', h29km, MV3.1/27, FAR E OFF SANRIKU*
ISC 04 12:07:43.9±1.1, **39.28N**±0.07×**143.84E**±0.09, **h10**km, **n20**, σ1**813/22**, **mb3.6/5**, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.59**	**281**	P	**Pn**	**12 08 11.4**	**-0.7**
MIYJ				*eS*	**Sn**	**12 08 32.5**	**-0.1**
JTH	**Tanohata**	**1.66**	**294**	*eP*	**Pn**	**12 08 12.8**	**-0.3**
JTH				*eS*	**Sn**	**12 08 35.1**	**+0.7**
OFUJ	**Ofunato**	**1.70**	**264**	P	**Pn**	**12 08 12.8**	**-0.8**
JOM	**Ohasama**	**1.98**	**276**	P	**Pn**	**12 08 17.3**	**-0.2**
JMK	**Ichinoseki**	**2.06**	**262**	P	**Pn**	**12 08 18.1**	**-0.5**
JANG	**Nango**	**2.09**	**302**	*eP*	**Pn**	**12 08 18.2**	**-0.8**
JYK	**Kaneyama**	**2.73**	**263**	*eP*	**Pn**	**12 08 27.8**	**0.0**
JNBK	**Urakawa-nobuka**	**3.10**	**345**	*eS*	**Sn**	**12 09 10.8**	**+0.8**
JOTO	**OTAMA OYAMA**	**3.25**	**239**	*eS*	**Sn**	**12 09 12.7**	**-0.9**
JCH	**Churui**	**3.35**	**354**	*eS*	**Sn**	**12 09 14.2**	**-1.8**
JAK	**Akkeshi**	**3.77**	**10**	*eS*	**Sn**	**12 09 23.9**	**-2.4**
JAR	**Ashorobuto**	**4.01**	**359**	*eS*	**Sn**	**12 09 30.1**	**-2.3**
ASAJ	**Asahikawa**	**4.92**	**350**	Pn	**Pn**	**12 08 58.7**	**+0.9**
	0.6nm,0.3s,baz=185,slow=14,SNR=6.5						
ASAJ				Sn	**Sn**	**12 09 54.6**	**-0.1**
	0.2nm,0.3s,baz=111,slow=28,SNR=1.5 1.6nm,0.3s						
MJAR	**Matsushiro Arr**	**5.22**	**240**	Pn	**Pn**	**12 09 02.1**	**0.0**
	0.1nm,0.3s,baz=59,slow=12,SNR=9.0 3.5nm,0.6s						
SEY	**Seymchan**	**24.24**	**10**	LR	LR	12 23 53.3	
	comp=Z,42nm,18.5s,baz=179,slow=40						
ZALV	**Zalesovo Beam**	**41.86**	**311**	P	**P**	**12 15 33.9**	**0.0**
	0.8nm,0.3s,baz=79,slow=7.8,SNR=2.4 0.8nm,0.3s						
MKAR	**Makanchi Array**	**44.58**	**301**	P	**P**	**12 15 56.4**	**+0.3**
	0.4nm,0.9s,baz=78,slow=9.3,SNR=3.6 0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**46.16**	**307**	P	**P**	**12 16 08.7**	**+0.3**
	0.4nm,0.6s,baz=81,slow=8.7,SNR=4.6 0.4nm,0.6s						
ILAR	**Eielson Array**	**46.57**	**34**	P	**P**	**12 16 13.5**	**+1.9**
	0.2nm,0.6s,baz=273,slow=7.4,SNR=2.7 0.2nm,0.6s						
WRA	**Warramunga Arr**	**59.58**	**190**	P	**P**	**12 17 47.0**	**-0.8**
	0.9nm,1.1s,baz=8.7,slow=6.8,SNR=2.1 0.9nm,1.1s						

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*HEL **04** 12:11:12.7±0.5, 68.12N×33.78E, h0km, ML1.8, Explosion Hypocentre not reviewed by the ISC*
*BER **04** 12:11:15.3±0.5, 67.97N×33.56E, h0km, ML1.5, Suspected explosion*
*KOLA **04** 12:11:16.6, 68.12N×33.21E, h0km, ML2.1, Error ellipse: s-maj=2.7km s-min=1.6km az=90.0, Olenegorsk City, Mines*
*IDC **04** 12:11:19.0±2.8, 68.23N×32.72E, h0km, mbtmp3.2/3, ML2.2/3, Error ellipse: s-maj=33.5km s-min=12.5km az=60.0*
ISC 04 12:11:14.6±0.8, **68.08N**±0.04×**33.22E**±0.05, **h0**km, **n17**, σ1**829/25**, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.49**	**190**	P	**Pb**	**12 11 25.8**	**-0.2**
APA0				S	**Sb**	**12 11 32.5**	**-1.1**
APA	**Apatity**	**0.52**	**172**	P	**Pb**	**12 11 26.4**	**-0.2**
APA				S	**Sb**	**12 11 33.6**	**-1.0**
LVZ	**Lovozero**	**0.57**	**108**	P	**Pb**	**12 11 27.1**	**-0.3**
LVZ				S	**Sb**	**12 11 35.7**	**-0.4**
LVZ	**Lovozero**	**0.57**	**108**	SG		12 11 27.6	
TERR	**Teriberka**	**1.32**	**31**	P	**Pg**	**12 11 39.5**	**-0.3**
TERR				S	**Sg**	**12 11 55.9**	**-1.1**
KVDA	**Kovda**	**1.40**	**186**	P	**Pb**	**12 11 42.2**	**+0.6**
KVDA				S	**Sn**	**12 12 02.0**	**+1.4**
VRF	**Varrio**	**1.41**	**258**	PG		12 11 41.8	
VRF				SG		12 11 60.0	
VRF				MSG		12 12 01.2	
	comp=Z,12nm,0.2s						
RAJF	**Raja-Jooseppi**	**1.87**	**284**	PG		12 11 49.2	
RAJF				SB		12 12 12.7	
OLKF	**Oulanka, Finla**	**2.31**	**222**	PG		12 11 56.6	
OLKF				MSG		12 12 26.0	
	comp=Z,3.5nm,0.2s						
OLKF				SG		12 12 28.4	
KU6	**Riekki**	**2.44**	**214**	PG		12 11 59.2	
	baz=34						
KU6				MSG		12 12 29.1	
	comp=Z,1.9nm,0.2s						
KU6				SG		12 12 32.4	
VADS	**Vadso**	**2.47**	**328**	P	**Pn**	**12 11 57.2**	**+1.2**
VADS				S	**Sn**	**12 12 27.7**	**+0.8**
VADS	**Vadso**	**2.47**	**328**	*eP*	**Pn**	**12 11 56.8**	**+0.8**
MSF	**Maaselka**	**2.73**	**219**	SG		12 12 41.3	
KEV	**Kevo**	**2.81**	**310**	*eP*	**Pn**	**12 12 02.1**	**+1.5**
KEV				*eS*	**Sn**	**12 12 36.1**	**+1.1**
KEV	**Kevo**	**2.81**	**310**	PB		12 12 02.6	
KEV				SB		12 12 37.4	
KEV				MSG		12 12 39.2	
	comp=Z,4.6nm,0.2s						
KU1	**Kurvinen**	**2.91**	**211**	PB		12 12 05.9	
KU2	**Taivalkoski**	**3.09**	**222**	PB		12 12 07.4	
RNF	**Rovaniemi**	**3.16**	**245**	PN		12 12 07.3	
RNF				SN		12 12 45.3	
ARA0	**ARCESS Array S**	**3.16**	**301**	*eP*	**Pn**	**12 12 06.9**	**+1.4**
ARA0				IAML		12 12 51.5	
	comp=Z,2.9nm,0.4s						
ARA0	**ARCESS Array S**	**3.16**	**301**	PB		12 12 07.0	
ARA0				SN		12 12 44.6	
ARCES	**ARCESS Array B**	**3.16**	**301**	Pn	**Pn**	**12 12 06.8**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=115,slow=15,SNR=14						
ARCES				Sn	**Sn**	**12 12 43.1**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=112,slow=24,SNR=2.2						
ARCES				Lg	Lg	12 12 50.0	
	comp=Z,1.0nm,0.3s,baz=112,slow=32,SNR=13 comp=Z,0.5nm,0.3s						
ARCES	**ARCESS Array B**	**3.16**	**301**	P	**Pn**	**12 12 06.8**	**+1.3**
ARCES				S	**Sn**	**12 12 43.7**	**-0.2**
RANF	**Ranua**	**3.27**	**234**	PN		12 12 08.6	
RANF				SB		12 12 55.1	
HEF	**Hetta**	**3.58**	**280**	*eP*	**Pn**	**12 12 12.0**	**+0.8**
HEF	**Hetta**	**3.58**	**280**	PN		12 12 12.0	
HEF				SN		12 12 55.1	
KLF	**Kolari**	**3.64**	**261**	PN		12 12 13.9	
	baz=68						
KTK1	**Kautokeino**	**3.78**	**289**	*eP*	**Pn**	**12 12 14.9**	**+0.8**
KTK1				IAML		12 13 14.5	
	comp=Z,3.0nm,0.3s						
KTK1	**Kautokeino**	**3.78**	**289**	PN		12 12 15.0	
KTK1				SB		12 13 11.1	
TOF	**Tornio**	**4.02**	**244**	PN		12 12 18.3	
TOF				SN		12 13 04.7	
PAJU	**Pajala**	**4.02**	**259**	PN		12 12 18.6	
PAJU				SN		12 13 06.0	
RMF	**Romuvaara**	**4.11**	**201**	PN		12 12 19.7	
OUL	**Oulu**	**4.19**	**228**	PN		12 12 21.4	
KALU	**Kalix**	**4.47**	**245**	PN		12 12 24.5	
ERTU	**Ertsjaerv**	**4.54**	**255**	PN		12 12 25.3	
ERTU				SN		12 13 18.2	
I37NO	**I37NO**	**5.45**	**287**	I	I	12 43 30.0	
	baz=92,slow=321,SNR=3.1						
FAUS	**Fauske**	**6.85**	**272**	S	**Sn**	**12 14 10.8**	**-3.7**
FINES	**FINESS Array B**	**7.33**	**208**	Pn	**Pn**	**12 13 04.5**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=30,slow=12,SNR=2.1 comp=Z,1.5nm,0.8s						
HFS	**Hagfors**	**11.62**	**236**	Pn	**Pn**	**12 14 01.0**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=49,slow=18,SNR=2.0 comp=Z,2.2nm,0.9s						

IDC 04 12:21:41.9±3.0, **14.13N**×**121.22E**, **h212**km±15km, **mb3.0**/4, **mbtmp3.5**/4, **Error ellipse: s-maj=211.7km s-min=17.3km az=63.0**, **Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.27**	**265**	P	Pn	**12 22 11.8**	**+2.0**
	101nm,0.4s,baz=102,slow=9.3,SNR=1.6						
TGY				S	S	12 22 32.1	+0.6
	185nm,0.3s,baz=101,slow=16,SNR=7.2						
WRA	**Warramunga Arr**	**36.23**	**159**	P	P	12 28 24.6	-0.4
	0.5nm,0.5s,baz=341,slow=8.8,SNR=7.0 0.5nm,0.5s						
ASAR	**Alice Springs**	**39.56**	**162**	P	P	12 28 52.6	-0.1
	0.4nm,0.4s,baz=338,slow=7.4,SNR=14 0.4nm,0.4s						
MKAR	**Makanchi Array**	**45.99**	**323**	P	P	12 29 43.7	-0.4
	0.4nm,0.7s,baz=103,slow=6.8,SNR=2.6 0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**50.12**	**326**	P	P	12 30 15.4	-0.2
	0.2nm,0.3s,baz=121,slow=8.7,SNR=3.2 0.2nm,0.3s						

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*KRSC **04** 12:25:34.7±1.5, 54.77N×164.53E, h47km±31km, Ml3.6*
*IDC **04** 12:25:41.5±1.6, 55.29N×163.26E, h0km, mb3.4/2, mbtmp3.3/3, ML2.4/1, Error ellipse: s-maj=169.1km s-min=25.0km az=147.0*
ISC 04 12:25:34.8±1.1, **54.80N**±0.04×**164.58E**±0.06, **h10**km, **n40**, σ1**872/62**, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.90**	**62**	*eP*	**Pb**	**12 25 53.1**	**+0.6**
BKI				*eS*	**Sg**	**12 26 04.9**	**+1.0**
MKZ	**Mys Kozlova**	**1.67**	**263**	*eP*	**Pn**	**12 26 03.9**	**-0.2**
MKZ				*eS*	**Sn**	**12 26 22.6**	**-2.9**
KBTR	**Krutoberegovo**	**1.73**	**325**	*eP*	**Pn**	**12 26 02.8**	**-2.2**
KBTR				*eS*	**Sn**	**12 26 21.8**	**-5.4**
KBG	**Krutoberegovo**	**1.81**	**325**	*eS*	**Sn**	**12 26 26.8**	**-2.2**
TUMD	**Tumrok D**	**2.44**	**281**	*eP*	**Pn**	**12 26 15.0**	**+0.3**
TUMD				*eS*	**Sn**	**12 26 43.5**	**-1.1**
BZGR	**Bezymyannyi-Gr**	**2.50**	**299**	*eP*	**Pn**	**12 26 16.8**	**+1.2**
BZGR				*eS*	**Sn**	**12 26 45.5**	**-0.6**
SMKR	**Semkarok**	**2.51**	**317**	*eP*	**Pn**	**12 26 16.6**	**+0.8**
SMKR				*eS*	**Sn**	**12 26 46.9**	**+0.5**
BZMR	**Bezymyannaya**	**2.60**	**298**	*eP*	**Pn**	**12 26 18.3**	**+1.3**
BZMR				*eS*	**Sn**	**12 26 49.2**	**+0.6**
BZWR	**Bezymyannyi-We**	**2.61**	**298**	*eP*	**Pn**	**12 26 18.0**	**+0.9**
KMNR	**Kamenistaya**	**2.66**	**293**	*eP*	**Pn**	**12 26 19.2**	**+1.4**
KMNR				*eS*	**Sn**	**12 26 50.2**	**0.0**
KIRR	**Kirishev**	**2.68**	**297**	*eP*	**Pn**	**12 26 19.5**	**+1.4**
KIRR				*eS*	**Sn**	**12 26 51.4**	**+0.7**
KLY	**Klyuchi**	**2.70**	**306**	*eP*	**Pn**	**12 26 17.2**	**-1.0**
KLY				*eS*	**Sn**	**12 26 48.1**	**-2.8**
KPT	**Kopyto**	**2.75**	**297**	*eP*	**Pn**	**12 26 20.8**	**+1.8**
KPT				*eS*	**Sn**	**12 26 53.2**	**+1.0**
KOZ	**Kozyrevsk**	**2.96**	**297**	*eP*	**Pn**	**12 26 24.2**	**+2.3**
KOZ				*eS*	**Sn**	**12 26 59.2**	**+1.7**
KII	**Karymskiy**	**3.09**	**258**	*eP*	**Pn**	**12 26 24.9**	**+1.2**
KII				*eS*	**Sn**	**12 26 60.0**	**-0.8**
SRDR	**Sredinnyy**	**3.15**	**301**	*eS*	**Sn**	**12 27 03.4**	**+1.2**
SPN	**Mys Shipunski**	**3.18**	**240**	*eP*	**Pn**	**12 26 25.2**	**+0.3**
SPN				*eS*	**Sn**	**12 27 00.1**	**-2.7**
NLC	**Nalytchevo**	**3.49**	**244**	*eS*	**Sn**	**12 27 08.1**	**-2.3**
ESO	**Esso**	**3.54**	**291**	*eP*	**Pn**	**12 26 30.3**	**+0.5**
SDLR	**Sedlovina**	**3.69**	**248**	*eP*	**Pn**	**12 26 32.7**	**+0.8**
SDLR				*eS*	**Sn**	**12 27 13.5**	**-1.9**
SMAR	**Somma**	**3.74**	**248**	*eP*	**Pn**	**12 26 33.7**	**+1.0**
SMAR				*eS*	**Sn**	**12 27 14.8**	**-2.1**
KRER	**Koryakskii**	**3.75**	**249**	*eP*	**Pn**	**12 26 34.4**	**+1.5**
KRER				*eS*	**Sn**	**12 27 15.4**	**-1.7**
UGLR	**Uglovaya**	**3.75**	**247**	*eP*	**Pn**	**12 26 33.9**	**+1.2**
UGLR				*eS*	**Sn**	**12 27 15.8**	**-1.2**
AVH	**Avacha**	**3.77**	**248**	*eP*	**Pn**	**12 26 34.8**	**+1.8**
AVH				*eS*	**Sn**	**12 27 15.7**	**-1.8**
KRX	**Arik**	**3.78**	**250**	*eP*	**Pn**	**12 26 34.5**	**+1.3**
KRX				*eS*	**Sn**	**12 27 15.5**	**-2.2**
KOK	**Koryaka**	**3.81**	**249**	*eP*	**Pn**	**12 26 35.0**	**+1.3**
KOK				*eS*	**Sn**	**12 27 16.6**	**-1.9**
DALK	**Dalny**	**3.87**	**245**	*eP*	**Pn**	**12 26 35.0**	**+0.6**
DALK				*eS*	**Sn**	**12 27 16.7**	**-3.1**
PET	**Petropavlovsk**	**3.93**	**246**	*eP*	**Pn**	**12 26 36.2**	**+1.1**
PET				*eS*	**Sn**	**12 27 19.0**	**-2.1**
GNL	**Ganaly**	**4.05**	**257**	*eP*	**Pn**	**12 26 38.8**	**+1.9**
KRMR	**Karymshinskiy**	**4.30**	**245**	*eS*	**Sn**	**12 27 28.8**	**-1.6**
PETK	**Petropavlovsk-**	**4.40**	**250**	Pn	**Pn**	**12 26 42.6**	**+1.0**
	1.4nm,0.3s,baz=76,slow=18,SNR=24						
PETK				Sn	**Sn**	**12 27 31.6**	**-1.3**
	0.8nm,0.3s,baz=73,slow=40,SNR=4.7 1.4nm,0.3s						
MTVR	**Mutnovka**	**4.46**	**241**	*eP*	**Pn**	**12 26 43.8**	**+1.3**
MTVR				*eS*	**Sn**	**12 27 32.1**	**-2.3**
GRL	**Gorelyy**	**4.47**	**242**	*eP*	**Pn**	**12 26 44.2**	**+1.5**
GRL				*eS*	**Sn**	**12 27 34.4**	**-0.4**
OSSR	**Ossora**	**4.54**	**350**	*eP*	**Pn**	**12 26 43.4**	**-0.1**
ASAK	**Asacha**	**4.66**	**241**	*eP*	**Pn**	**12 26 47.1**	**+2.0**
ASAK				*eS*	**Sn**	**12 27 37.1**	**-2.1**
ILAR	**Eielson Array**	**25.72**	**48**	P	P	12 31 15.2	+10
	0.5nm,0.6s,baz=254,slow=8.3,SNR=9.0 0.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**35.05**	**176**	T	T	13 11 05.9	
	baz=359						
H11N3	**WAKE ISLAND Hy**	**35.06**	**176**	T	T	13 11 01.8	
	baz=359,slow=74,SNR=9.4						
H11N1	**WAKE ISLAND Hy**	**35.07**	**176**	T	T	13 11 04.0	
	baz=359,slow=74,SNR=11						
TXAR	**Lajitas Array**	**67.55**	**71**	P	P	12 36 43.2	+12
	0.3nm,0.7s,baz=319,slow=6.5,SNR=4.9 0.3nm,0.7s						

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*HEL **04** 12:28:38.1±0.3, 61.55N×30.20E, h0km, ML1.7, Explosion Hypocentre not reviewed by the ISC*
IDC 04 12:28:41.2±2.6, **61.59N**×**29.85E**, **h0**km, **mbtmp3.4**/2, **ML2.3**/2, **Error ellipse: s-maj=28.9km s-min=12.0km az=154.0**, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUF	**Ruokolahti**	**0.46**	**249**	PG		12 28 49.4	
	baz=77						
RUF				SG		12 28 56.8	
RUF				MSG		12 28 57.6	
	comp=Z,5.3nm,0.2s						
VJF	**Virojoki**	**1.54**	**227**	PG		12 29 07.4	
VJF				MSG		12 29 27.1	
	comp=Z,8.5nm,0.2s						
VJF				SN		12 29 28.6	
KAF	**Kangasniemi**	**1.76**	**289**	PG		12 29 13.0	
KAF				MSG		12 29 35.6	
	comp=Z,2.5nm,0.2s						
KAF				SG		12 29 37.7	
FIA0	**FINESS Array S**	**1.81**	**267**	PG		12 29 13.4	
FIA0				MSG		12 29 36.9	
	comp=Z,5.9nm,0.2s						
FIA0				SG		12 29 37.7	
FINES	**FINESS Array B**	**1.81**	**267**	Pg	Pn	12 29 13.7	+0.1
	comp=Z,0.5nm,0.3s,baz=86,slow=16,SNR=17						
FINES				Lg	Lg	12 29 37.9	
	comp=Z,1.9nm,0.3s,baz=83,slow=27,SNR=22						
NIF	**Nilsia**	**2.04**	**333**	PG		12 29 16.5	
	baz=145						
NIF				SG		12 29 46.1	
SUF	**Sumiainen**	**2.07**	**305**	PG		12 29 18.2	
	baz=116						
SUF				MSG		12 29 44.4	
	comp=Z,3.6nm,0.2s						
SUF				SG		12 29 47.6	
PVF	**Pernaja**	**2.20**	**243**	PG		12 29 19.6	
PVF				MSG		12 29 47.3	
	comp=Z,3.0nm,0.2s						
PVF				SG		12 29 50.4	
KEF	**Keuruu**	**2.43**	**286**	PB		12 29 23.4	
KEF				MSG		12 29 54.8	
	comp=Z,2.9nm,0.2s						
KEF				SB		12 29 56.4	
RMF	**

CRAG IAML 12 52 18.6
comp=N,15µm,1.1s
CRAG IAML 12 52 20.1
comp=E,17µm,0.6s
CRAG Craig 1.05 91 P Pn 12 51 57.8 -0.3
CRAG Craig 1.05 91 S Sb 12 52 12.0 +0.5
CRAG Craig 1.05 91 P Pg 12 51 56.8 -0.2
baz=271,SNR=1000
CRAG S **Sb 12 52 11.8 +0.3**
baz=271
U33K Whale Pass 1.21 59 Pg 12 51 59.8 -0.2
U33K Sg **Sg 12 52 15.4 -0.4**
U33K IAML 12 52 16.8
comp=E,13µm,0.5s
U33K Whale Pass 1.21 59 P Pb 12 52 00.1 0.0
U33K S **Sg 12 52 15.3 -0.4**
U33K Whale Pass 1.21 59 P Pg 12 51 58.9 -1.1
baz=240,SNR=482
U33K S **Sg 12 52 15.6 -0.1**
baz=240
SIT Sitka 1.57 353 Sn 12 52 25.8 +0.1
SIT **Sb 12 52 26.7 +0.6**
SIT Sitka 1.57 353 Pn 12 52 03.7 -1.5
SIT IAML 12 52 29.4
comp=E,4µm,0.6s
SIT Sitka 1.57 353 P Pn 12 52 04.6 -0.5
SIT Sitka 1.57 353 P Pn 12 52 03.4 -1.7
baz=174,SNR=399
T33K Petersburg 1.73 40 Pn 12 52 06.8 -0.5
T33K **Pb 12 52 07.3 -1.6**
T33K **Sb 12 52 31.1 +0.2**
T33K Petersburg 1.73 40 P Pg 12 52 09.6 -0.4
T33K Sn **Sb 12 52 31.2 +0.2**
T33K Petersburg 1.73 40 P Pn 12 52 06.9 -0.5
baz=222,SNR=100
WRAK Wrangell Islan 1.74 57 Sb 12 52 31.6 +0.4
WRAK Wrangell Islan 1.74 57 Pn 12 52 07.0 -0.5
WRAK Wrangell Islan 1.74 57 P Pn 12 52 07.5 0.0
WRAK Sn **Sn 12 52 29.3 -0.6**
WRAK Wrangell Islan 1.74 57 P Pn 12 52 07.2 -0.3
baz=239,SNR=307
V35K Ketchikan 1.92 94 Pn 12 52 09.5 -0.5
V35K IAML 12 52 44.1
comp=E,3µm,0.8s
V35K IAML 12 52 45.1
comp=N,3µm,0.5s
V35K Ketchikan 1.92 94 P Pn 12 52 09.9 -0.1
V35K Ketchikan 1.92 94 P Pn 12 52 09.3 -0.7
baz=275,SNR=1000
NDB Naden 1.95 142 Pn 12 52 09.6 -0.9
NDB **Pn 12 52 10.0 -0.5**
NDB **Sn 12 52 35.4 +0.1**
NDB Naden 1.95 142 P Pn 12 52 10.1 -0.5
NDB Sg **Sb 12 52 38.2 +0.9**
S32K Killisnoo 1.98 6 Sn 12 52 35.0 -0.9
S32K **Sb 12 52 37.1 -0.9**
S32K Killisnoo 1.98 6 Pn 12 52 10.3 -0.4
S32K Killisnoo 1.98 6 P Pn 12 52 10.4 -0.4
S32K Killisnoo 1.98 6 P Pn 12 52 10.1 -0.7
baz=187,SNR=207
MASB Masset 2.27 130 P Pn 12 52 13.2 -1.6
PCLB Port Clements 2.29 141 P Pn 12 52 14.3 -0.8
PCLB Sg **Sb 12 52 48.2 +1.1**
S31K Pelican 2.56 345 Pn 12 52 18.0 -0.7
S31K Pelican 2.56 345 P Pn 12 52 17.6 -1.1
S31K Pelican 2.56 345 P Pn 12 52 17.9 -0.7
baz=165,SNR=58
DI2B Dawson Inlet 2.73 147 P Pn 12 52 20.4 -0.7
DI2B Sg **Sb 12 52 59.4 -0.3**
DIB Dawson Inlet, 2.73 147 Pn 12 52 19.8 -1.4
DIB **Pn 12 52 20.0 -1.1**
DIB **Sn 12 52 51.5 -3.0**
DIB Dawson Inlet, 2.73 147 IAML 12 53 01.8
comp=E,2µm,0.4s
DIB IAML 12 53 02.9
comp=N,2µm,0.5s
DIB Dawson Inlet, 2.73 147 P Pn 12 52 20.4 -0.7
DIB Sg **Sb 12 52 59.3 -0.5**
H02S1 DAWSON INLET T 2.73 147 Pn Pn 12 52 20.4 -0.7
H02S1 Sn **Sn 12 52 52.7 -1.7**
R32K Eaglecrest 2.79 5 Pn 12 52 21.7 -0.2
R32K IAML 12 53 05.8
comp=E,1µm,0.9s
R32K Eaglecrest 2.79 5 P Pn 12 52 21.6 -0.3
R32K Eaglecrest 2.79 5 P Pn 12 52 21.4 -0.5
baz=186,SNR=103
JIS Juneau Island 2.80 6 Pn 12 52 21.5 -0.5
JIS Juneau Island 2.80 6 P Pn 12 52 22.0 0.0
U35K Hyder 2.83 80 Pn 12 52 23.4 +1.0
U35K Hyder 2.83 80 P Pn 12 52 22.9 +0.4
baz=263
R31K City Hall, Gus 2.94 352 Pn 12 52 23.5 -0.6
R31K City Hall, Gus 2.94 352 P Pn 12 52 24.3 +0.3
R31K City Hall, Gus 2.94 352 P Pn 12 52 23.9 -0.1
baz=172
MOBC Moresby Island 2.95 142 Pn 12 52 23.2 -1.0
MOBC Moresby Island 2.95 142 IAML 12 53 24.3
comp=N,2µm,1.4s
RUBB Prince Rupert 2.97 112 Pn 12 52 23.7 -0.7
RUBB IAML 12 53 18.7
comp=E,2µm,1.3s
RUBB Prince Rupert 2.97 112 P Pn 12 52 24.1 -0.3
T35M Bob Quinn 3.02 59 Pn 12 52 26.1 +0.9
T35M Bob Quinn 3.02 59 P Pn 12 52 26.7 +1.5
T35M Sg **Sg 12 53 13.1 -0.7**
T35M Bob Quinn 3.02 59 P Pn 12 52 26.5 +1.3
baz=242,SNR=77
HG1B Mitchell Dam 3.07 146 P Pn 12 52 24.9 -0.8
S34M Telegraph Cree 3.21 40 Pn 12 52 28.5 +0.8
S34M Telegraph Cree 3.21 40 Sg Sb 12 53 15.9 +2.4
S34M Telegraph Cree 3.21 40 P Pn 12 52 28.0 +0.3
baz=223,SNR=28
BNAB Bonilla 3.24 127 Pn 12 52 26.7 -1.3
BNAB **Pn 12 52 26.9 -1.1**
BNAB Bonilla 3.24 127 P Pn 12 52 27.1 -1.0
GRNB Grenville Isla 3.35 118 P Pn 12 52 28.2 -1.5
BAIB Barry Inlet 3.50 146 P Pn 12 52 30.6 -1.1
BAIB Sg **Sb 12 53 22.4 +0.6**
Q32M Nakina River 3.76 22 Pn 12 52 36.0 +0.6
Q32M IAML 12 53 42.9
comp=N,584nm,1.1s
Q32M IAML 12 53 48.0
comp=E,615nm,1.3s
Q32M Nakina River 3.76 22 P Pn 12 52 36.1 +0.6
Q32M Nakina River 3.76 22 P Pn 12 52 35.8 +0.3
baz=204,SNR=57
HG4B Hotspring 3.92 144 Pn 12 52 36.7 -0.8
JEDB Jedway, Haida 3.92 144 P Pn 12 52 37.0 -0.4
JEDB Sg **Sb 12 53 34.8 +0.9**
KITB Kitimat 3.94 109 P Pn 12 52 37.4 -0.3
SKAG Skagway 3.97 357 Pn 12 52 39.0 +0.8
SKAG Skagway 3.97 357 P Pn 12 52 38.7 +0.5
SKAG Skagway 3.97 357 P Pn 12 52 38.6 +0.5
baz=178,SNR=29
SKAG S **Sn 12 53 25.1 +0.2**
baz=178
DLBC Dease Lake 4.00 41 Pn Pn 12 52 39.1 +0.6
comp=E,0.1nm,0.3s,baz=229,slow=6.0,SNR=53
DLBC Sn **Sn 12 53 25.1 -0.6**
comp=E,3.3nm,0.3s,baz=172,slow=18,SNR=6.1
DLBC Lg Lg 12 53 42.8
comp=E,5.1nm,0.3s,baz=114,slow=20,SNR=7.4
DLBC Dease Lake 4.00 41 P Pn 12 52 38.7 +0.1
baz=225,SNR=16
PLBC Pleasant Camp 4.03 350 Pn 12 52 39.4 +0.4
PLBC Pleasant Camp 4.03 350 P Pn 12 52 39.9 +0.9
PLBC Pleasant Camp 4.03 350 P Pn 12 52 39.2 +0.2
baz=169,SNR=18
P32M Atlin 4.15 9 Pn 12 52 41.1 +0.4
P32M IAML 12 53 58.3
comp=E,516nm,1.4s
P32M Atlin 4.15 9 P Pn 12 52 40.6 -0.1
baz=190,SNR=84
P29M Windy Craggy 4.39 341 Pn 12 52 44.6 +0.6
P29M IAML 12 54 06.3
comp=E,456nm,0.8s
P29M IAML 12 54 06.6
comp=N,374nm,1.4s
P29M Windy Craggy 4.39 341 P Pn 12 52 44.5 +0.4
baz=160,SNR=29
P29M S **Sn 12 53 35.7 +0.3**
baz=160
R33M Jennings River 4.46 27 Pn 12 52 45.1 +0.1
R33M IAML 12 54 05.1
comp=N,519nm,0.8s
R33M IAML 12 54 11.3
comp=E,503nm,1.4s
R33M Jennings River 4.46 27 P Pn 12 52 45.4 +0.4
baz=211,SNR=50
P30M Million Dollar 4.75 348 Pn 12 52 49.6 +0.7
P30M Million Dollar 4.75 348 IAML 12 54 16.9
comp=E,338nm,1.6s
P30M Million Dollar 4.75 348 P Pn 12 52 49.7 +0.8
baz=167,SNR=16
PNL Peninsula 4.80 332 Pn 12 52 49.1 -0.5
PNL Peninsula 4.80 332 P Pn 12 52 49.7 +0.1
PNL Peninsula 4.80 332 S Sn 12 53 45.7 +0.2
PNL Peninsula 4.80 332 P Pn 12 52 49.8 +0.2
baz=149
P33M Teslin, Yukon 4.86 13 Pn 12 52 51.0 +0.6
P33M Teslin, Yukon 4.86 13 P Pn 12 52 51.1 +0.6
baz=195,SNR=90
BCPM Bancas Point 5.11 333 Pn Pn 12 52 54.0 +0.2
BCPM IAML 12 53 57.5
comp=N,225nm,0.4s
BCPM IAML 12 56 18.0
comp=E,223nm,0.5s
WHY Whitehorse 5.17 1 Pn 12 52 55.3 +0.5
WHY Whitehorse 5.17 1 P Pn 12 52 55.2 +0.5
baz=181,SNR=48
WHY S **Sn 12 53 53.8 -0.9**
baz=181
O29M Mount Kennedy 5.18 340 Pn 12 52 55.8 +1.0
O29M Mount Kennedy 5.18 340 IAML 12 53 55.5
comp=E,301nm,0.7s
O29M Mount Kennedy 5.18 340 P Pn 12 52 56.0 +1.2
baz=157,SNR=14
O29M S **Sn 12 53 54.2 -0.7**
baz=157
BBB Bella Bella 5.25 127 Pn 12 52 55.8 +0.1
BBB IAML 12 54 32.6
comp=E,236nm,1.8s
BBB IAML 12 54 53.0
comp=N,242nm,1.3s
BBB Bella Bella 5.25 127 Pn Pn 12 52 55.6 -0.1
comp=N,17nm,0.3s,baz=318,slow=15,SNR=65
BBB Sn **Sn 12 53 55.0 -1.5**
comp=N,22nm,0.3s,baz=22,slow=21,SNR=10
BBB Lg Lg 12 54 24.1
comp=N,28nm,0.3s,baz=219,slow=24,SNR=5.9
BBB LR LR 12 54 50.6
comp=N,607nm,20.8s,baz=337,slow=36
BBB Bella Bella 5.25 127 P Pn 12 52 55.1 -0.6
YUK7 Dusty Glacier 5.31 343 Pn 12 52 57.2 +0.5
O30N Mendenhall 5.31 354 Pn 12 52 57.0 +0.4
O30N Mendenhall 5.31 354 IAML 12 54 30.1
comp=E,322nm,1.2s
O30N IAML 12 54 30.6
comp=N,184nm,1.6s
O30N Mendenhall 5.31 354 P Pn 12 52 57.4 +0.7
baz=174,SNR=51
PINM Pinnacle 5.40 331 P Pn 12 52 58.7 +0.9
baz=147,SNR=43
PCA Pinnacle 5.40 331 Pn 12 52 58.9 +1.1
HYT Haines Junctio 5.50 347 Pn 12 53 00.9 +1.6
HYT Haines Junctio 5.50 347 P Pn 12 53 00.1 +0.9
baz=165,SNR=13
SAMH Samovar Hills 5.58 329 Pn 12 53 01.2 +0.9
CHX Chaix Hills 5.62 327 Pn 12 53 01.1 +0.1
CHX **Pn 12 53 01.5 +0.5**
YUK6 Outpost Mounta 5.74 343 P Pn 12 53 03.4 +0.8
baz=161
N32M Quiet Lake 5.75 9 Pn 12 53 03.8 +1.2
N32M Quiet Lake 5.75 9 P Pn 12 53 03.4 +0.8
baz=191
YUK5 Granite Creek 5.84 346 Pn 12 53 05.8 +1.8
RKAV Rock Avalanche 5.88 327 Pn 12 53 05.0 +0.4
RKAV **Pn 12 53 05.3 +0.8**
TABL Table Mountain 5.93 329 Pn 12 53 05.9 +0.6
O28M Mount Upton 5.96 335 Pn 12 53 06.6 +0.9
O28M Mount Upton 5.96 335 P Pn 12 53 06.8 +1.1
baz=151,SNR=27
MESA MESA 5.98 324 P Pn 12 53 06.2 +0.2
baz=139,SNR=10
N31M Braeburn, Yuko 6.01 356 Pn 12 53 07.3 +1.0
N31M Braeburn, Yuko 6.01 356 P Pn 12 53 07.1 +0.9
baz=176,SNR=16
YAH Yahtse 6.06 326 Pn 12 53 08.0 +1.0
N30M Aishikik Lake 6.07 350 Pn 12 53 08.0 +0.9
N30M Aishikik Lake 6.07 350 P Pn 12 53 08.1 +1.0
baz=169,SNR=20
YUK4 Talbot Arm 6.16 343 P Pn 12 53 10.6 +2.2
baz=161,SNR=15
LOGN Logan Glacier 6.21 332 Pn 12 53 10.2 +1.1
BAGL Bagley Icefiel 6.26 326 Pn 12 53 10.4 +0.8
YUK8 Steele Glacier 6.32 338 Pn 12 53 11.4 +0.8
YUK8 Steele Glacier 6.32 338 P Pn 12 53 11.8 +1.2
baz=155,SNR=7.9
GRNC Granite Creek 6.35 328 Pn 12 53 12.2 +1.2
HOLB Holberg 6.38 137 Pn 12 53 10.1 -1.2
HOLB Holberg 6.38 137 P Pn 12 53 09.6 -1.7
BGLC Bering Glacier 6.41 320 Pn 12 53 11.2 -0.4
BGLC Bering Glacier 6.41 320 P Pn 12 53 11.1 -0.4
baz=133
CTGM Chitina Glacie 6.42 331 Pn 12 53 13.5 +1.6
CTG Chitina Glacier 6.42 331 P Pn 12 53 13.3 +1.4
baz=146,SNR=174
ISLE Juniper Island 6.43 326 Pn 12 53 13.1 +1.0
WAX Waxell Ridge 6.49 323 Pn 12 53 12.2 -0.6
GRIN Grindle Hills 6.53 321 Pn 12 53 12.9 -0.5
SUCK Suckling Hills 6.56 318 Pn 12 53 15.2 +1.4
BARN Barnard Glacie 6.59 330 Pn 12 53 15.6 +1.3
PHC Port Hardy 6.61 134 Pn 12 53 13.4 -1.0
PHC Port Hardy 6.61 134 P Pn 12 53 12.8 -1.6
KHIT Khitrov Hills 6.62 322 Pn 12 53 13.6 -1.0
KIAG Kiagna River 6.68 327 Pn 12 53 15.3 -0.3
TGL Tana Glacier 6.71 325 Pn 12 53 15.6 -0.2
KAIM Kayak Island 6.72 315 Pn 12 53 14.9 -1.0
KAIM Kayak Island 6.72 315 P Pn 12 53 15.1 -0.9
baz=128
M31M Drury Creek, Y 6.72 2 P Pn 12 53 17.5 +1.5
baz=183,SNR=18
BERG Berg Lake 6.75 320 Pn 12 53 15.7 -0.6
CRQE Cirque 6.79 324 P Pn 12 53 17.3 +0.4
baz=138,SNR=23
FARO Faro, Yukon 6.80 6 Pn 12 53 18.4 +1.4
FARO Faro, Yukon 6.80 6 P Pn 12 53 18.4 +1.4
baz=188,SNR=71
CRQM Cirque 6.81 324 Pn 12 53 17.0 -0.2
YUK3 Moose Creek 6.91 338 P Pn 12 53 19.3 +0.7
baz=154,SNR=11
PTPK Patty Peak 6.92 328 Pn 12 53 20.2 +1.3
MAYB Maynard 6.95 134 P Pn 12 53 18.3 -1.0
TGTN Hyland Airport 6.98 27 Pn 12 53 20.7 +1.2
TGTN Hyland Airport 6.98 27 P Pn 12 53 20.6 +1.1
baz=213,SNR=14
RAGM Ragged Mountai 7.11 317 Pn 12 53 19.9 -1.3
M30M Minto, Yukon 7.15 353 Pn 12 53 22.2 +0.4
M30M Minto, Yukon 7.15 353 P Pn 12 53 22.6 +0.8
baz=172,SNR=9.6
M29M Somme Creek 7.19 347 Pn 12 53 23.4 +1.0
M29M Somme Creek 7.19 347 P Pn 12 53 23.8 +1.4
baz=164,SNR=77
MCARA McCarthy VSAT 7.25 328 P Pn 12 53 24.6 +1.5
baz=141,SNR=33
GOAT Goat Mountain 7.25 319 Pn 12 53 21.9 -1.3
Q23K Middleton Isla 7.28 307 Pn 12 53 20.8 -2.8
Q23K Middleton Isla 7.28 307 P Pn 12 53 20.8 -2.8
baz=118
MMPY Sheldon Lake, 7.38 13 Pn 12 53 25.6 +0.5
MMPY Sheldon Lake, 7.38 13 P Pn 12 53 26.7 +1.6
baz=197,SNR=16
KOTAN Kotaneelee Air 7.45 47 P Pn 12 53 26.8 +1.0
baz=236
BMRM Bremner River 7.46 321 Pn 12 53 25.0 -1.1
BMRM Bremner River 7.46 321 P Pn 12 53 27.1 +0.9
baz=133,SNR=18
GLB Gilahina Butte 7.54 326 Pn 12 53 27.1 0.0
EYAK Cordova Ski Ar 7.63 316 P Pn 12 53 29.9 +1.6
EYAK Cordova Ski Ar 7.63 316 P Pn 12 53 27.8 -0.6
baz=127
M27K Edge Creek, AK 7.74 335 P Pn 12 53 31.0 +1.0
baz=150,SNR=24
L29M L29M 7.79 349 Pn 12 53 31.7 +1.0
L29M L29M 7.79 349 P Pn 12 53 32.1 +1.4
baz=167,SNR=94
HIN Hinchinbrook I 7.84 313 Pn 12 53 30.0 -1.4
N25K Chitina, Valde 7.91 325 Pn 12 53 32.6 +0.3
N25K Chitina, Valde 7.91 325 P Pn 12 53 33.3 +0.9
baz=137,SNR=22
CBB Campbell River 8.00 129 Pn 12 53 34.8 +1.3
P23K Montague Islan 8.02 309 P Pn 12 53 31.2 -2.6
baz=119
FID Port Fidalgo 8.04 316 Pn 12 53 32.9 -1.1
M26K Nabesna, AK 8.06 332 Pn 12 53 34.9 +0.6
M26K Nabesna, AK 8.06 332 P Pn 12 53 36.0 +1.7
baz=146,SNR=15
WAZA Wrangell Mount 8.12 328 Pn 12 53 33.7 -1.7
KLU Klutina 8.29 321 Pn 12 53 36.8 -0.7
KLU Klutina 8.29 321 P Pn 12 53 36.9 -0.7
baz=132,SNR=18
BCAR Beaver Creek A 8.34 338 Pn 12 53 38.2 +0.1
L27K Beaver Creek, 8.35 338 P Pn 12 53 38.2 0.0
baz=152
GLI Glacier Island 8.36 315 Pn 12 53 36.6 -1.7
GLI Glacier Island 8.36 315 P Pn 12 53 37.5 -0.9
baz=125
K29M Barlow Dome 8.46 352 Pn 12 53 40.8 +0.9
K29M Barlow Dome 8.46 352 P Pn 12 53 41.3 +1.4
baz=170,SNR=34
HARP HAARP 8.68 327 Pn 12 53 42.0 -0.8
HARP HAARP 8.68 327 P Pn 12 53 44.0 +1.3
baz=139,SNR=7.3
M24K Tolsona, Glenn 8.80 323 P Pn 12 53 45.6 +1.2
baz=134,SNR=12
PWL Port Wells 8.86 313 Pn 12 53 43.2 -2.0
PWL Port Wells 8.86 313 P Pn 12 53 43.6 -1.6
baz=122
DAWY Dawson 8.87 347 P Pn 12 53 46.5 +1.2
baz=164,SNR=30
SEW Seward 8.99 307 P Pn 12 53 45.4 -1.6
baz=115
SCM Sheep Creek Mo 9.02 320 P Pn 12 53 48.0 +0.4
baz=130,SNR=12
J30M Hart River 9.12 356 Pn 12 53 49.2 +0.3
J30M Hart River 9.12 356 P Pn 12 53 49.0 0.0
baz=175,SNR=15
M23K Glacier View 9.15 319 P Pn 12 53 49.5 +0.3
baz=128,SNR=6.6
PAX Paxson 9.20 329 Pn 12 53 50.2 +0.2
PAX Paxson 9.20 329 P Pn 12 53 50.8 +0.8
baz=140,SNR=24
KNK Knik Glacier 9.21 315 P Pn 12 53 50.2 +0.2
baz=124
K27K Chicken 9.26 340 Pn 12 53 48.6 -2.1
K27K Chicken 9.26 340 P Pn 12 53 51.2 +0.5
baz=154
O22K Cooper Landing 9.27 309 P Pn 12 53 49.9 -1.0
baz=116
LLLB Lillooet 9.28 116 Pn 12 53 53.5 +2.4
RC01 Rabbit Creek A 9.56 312 Pn 12 53 53.0 -1.9
RC01 Rabbit Creek A 9.56 312 P Pn 12 53 53.9 -0.9
baz=120
PMR Palmer 9.57 315 Pn 12 53 54.2 -0.7
PMR Palmer 9.57 315 P Pn 12 53 54.7 -0.3
PMR Palmer 9.57 315 P Pn 12 53 54.6 -0.4
baz=124,SNR=10
GHO Glory Hole Cre 9.59 317 Pn 12 53 54.9 -0.4
CNPM China Poot 9.62 301 Pn 12 53 53.6 -2.1
SCRK Sand Creek 9.62 336 P Pn 12 53 56.8 +1.0
baz=148,SNR=12
RIDG Independent Ri 9.64 333 P Pn 12 53 57.1 +1.2
baz=145,SNR=11
WAT6 Susitna Watana 9.66 322 Pn 12 53 56.2 -0.1
WAT6 Susitna Watana 9.66 322 P Pn 12 53 56.6 +0.3
baz=132,SNR=29
I30M Mount Dempster 9.77 357 P Pn 12 53 58.5 +0.6
baz=176,SNR=29
HOM Homer 9.86 302 P Pn 12 53 57.9 -1.0
baz=108
DHY Denali Highway 9.87 325 P Pn 12 54 00.7 +1.5
baz=135,SNR=15
K24K Donnelly Dome 9.94 331 P Pn 12 54 00.3 +0.3
baz=142,SNR=23
KDAK Kodiak Island 9.96 290 Pn 12 53 58.2 -2.1
KDAK Kodiak Island 9.96 290 Pn Pn 12 53 59.2 -1.1
comp=N,13nm,0.3s,baz=48,slow=3.5,SNR=135
KDAK Sn **Sn 12 55 47.0 -5.2**
comp=N,0.4nm,0.3s,baz=118,slow=18,SNR=1.7
KDAK LR LR 12 57 12.0
comp=N,384nm,21.7s,baz=124,slow=34
KDAK Kodiak Island 9.96 290 P Pn 12 53 59.3 -1.0
baz=96
SYI Shuyak Island 9.98 295 Pn 12 53 58.7 -1.8
Q20K Shuyak Island 9.98 295 P Pn 12 53 59.2 -1.3
baz=101
J26L Joseph Creek 9.98 338 P Pn 12 54 01.9 +1.2
baz=151
CAPN Captain Cook N 10.03 308 P Pn 12 54 01.0 -0.2
baz=115
M22K Willow 10.06 315 P Pn 12 54 02.2 +0.6
baz=122,SNR=7.9
WAT1 Susitna Watana 10.10 322 P Pn 12 54 03.2 +0.9
baz=131
I28M Miner Creek 10.27 348 P Pn 12 54 05.0 +0.4
baz=164,SNR=12
OHAK Old Harbor 10.30 287 P Pn 12 54 02.2 -2.8
baz=92
H31M Peel River 10.34 1 Pn 12 54 06.8 +1.3
H31M Peel River 10.34 1 P Pn 12 54 06.2 +0.8
baz=182
O20K Slope Mountain 10.46 303 P Pn 12 54 06.4 -0.8
baz=109
CUT Chulitna 10.47 317 Pn 12 54 08.9 +1.6
J25K Salcha River, 10.49 335 P Pn 12 54 07.0 -0.6
baz=146,SNR=9.9
I26K Coal Creek Min 10.62 341 P Pn 12 54 10.9 +1.6
baz=154
P19K Oil Pt 10.63 300 Pn 12 54 08.3 -1.2
P19K Oil Pt 10.63 300 P Pn 12 54 08.5 -1.0
baz=105
I27K Kandik River 10.63 345 P Pn 12 54 10.8 +1.3
baz=159
NLWA Neilton Lookou 10.67 135 Pn 12 54 11.1 +1.0
Q19K Cape Douglas, 10.68 296 P Pn 12 54 08.8 -1.4
baz=101
HDA Harding Lake 10.73 331 P Pn 12 54 10.7 -0.2
baz=141,SNR=12
SKT Skwentna 10.75 314 P Pn 12 54 11.6 +0.5
baz=120,SNR=8.1
MCK McKinley 10.84 325 P Pn 12 54 13.7 +1.5
baz=133
H29M Whitestone 10.87 353 P Pn 12 54 14.1 +1.3
baz=170
EPYK Eagle Plains 10.93 356 P Pn 12 54 14.2 +0.6
baz=175,SNR=12
R18K Karluk 10.95 289 P Pn 12 54 13.2 -0.6
baz=93
ILAR Eielson Array 11.00 332 Pn 12 54 15.0 +0.5
ILAR Eielson Array 11.00 332 Pn Pn 12 54 15.3 +0.8
comp=N,0.6nm,0.3s,baz=155,slow=12,SNR=68
ILAR Lg Lg 12 57 26.8
comp=N,0.1nm,0.3s,baz=185,slow=39,SNR=1.7
ILAR LR LR 12 58 37.6
comp=N,174nm,20.8s,baz=120,slow=38
comp=N,5.3nm,0.8s
TRF Thorofare Moun 11.11 322 P Pn 12 54 17.2 +1.0
baz=129,SNR=33
H27K Steamboat Moun 11.21 346 P Pn 12 54 18.4 +0.9
baz=161,SNR=8.6
BWN Browne 11.31 326 Pn 12 54 18.2 -0.5
Q18K Katmai Hardscr 11.34 294 P Pn 12 54 18.4 -0.8
baz=98
COLA College 11.34 331 Pn 12 54 19.7 +0.5
COLA College 11.34 331 P Pn 12 54 19.3 +0.2
M20K Styx River 11.38 312 P Pn 12 54 18.8 -0.9
baz=116
G31M Satah River 11.46 1 Pn 12 54 20.8 0.0
G31M Satah River 11.46 1 P Pn 12 54 22.2 +1.4
baz=182
NEA2 Nenana 11.48 328 P Pn 12 54 20.5 -0.6
baz=136,SNR=24
PPLA Purkeypile 11.49 317 Pn 12 54 21.6 +0.3
PPLA Purkeypile 11.49 317 P Pn 12 54 20.4 -0.9
baz=123
G30M tAoh Zraii Nji 11.53 358 P Pn 12 54 19.9 -1.9
baz=177
G29M Pine Creek 11.54 354 P Pn 12 54 20.6 -1.2
baz=172
P18K Big Mountain, 11.57 298 P Pn 12 54 21.1 -1.2
baz=101
N19K Bonanza Creek 11.57 305 P Pn 12 54 21.4 -1.0
baz=109
O18K Koktuh Hills 11.65 300 P Pn 12 54 22.3 -1.2
baz=103
CHIR Chirikof Islan 11.66 280 P Pn 12 54 24.6 +1.1

CAST Castle Rocks 11.74 319 P Pn 12 54 24.5 -0.1
baz=125,SNR=8.6
Q17K Contact Creek 11.75 292 P Pn 12 54 23.8 -1.1
baz=95
BPAW Bear Paw Mtn. 11.76 324 P Pn 12 54 25.4 +0.5
baz=130,SNR=14
G27K Doyon Strip 11.78 347 P Pn 12 54 26.0 +0.8
baz=161,SNR=5.3
M19K Big River Lodg 11.93 310 P Pn 12 54 25.7 -1.4
baz=114
L20K Farewell, AK 11.96 313 P Pn 12 54 26.5 -1.1
baz=118
I23K Minto, Yukon-K 11.97 330 P Pn 12 54 27.8 0.0
baz=137,SNR=7.9
R17L Mt. Peulik Vol 11.97 289 P Pn 12 54 27.4 -0.5
baz=91
F31M Tsiigehtchic 11.99 2 Pn 12 54 28.0 0.0
F31M Tsiigehtchic 11.99 2 P Pn 12 54 26.5 -1.5
baz=184
CHUM Lake Minchumin 12.09 321 P Pn 12 54 29.8 +0.4
baz=126,SNR=30
H24K Noodor Dome 12.11 334 P Pn 12 54 29.5 -0.1
baz=143
P17K Kvichak River 12.15 296 P Pn 12 54 28.8 -1.3
baz=99
F30M Barrier River 12.15 359 P Pn 12 54 29.4 -0.8
baz=178
N18K Kilae Creek 12.19 304 P Pn 12 54 29.5 -1.3
baz=106
Q16K King Salmon 12.19 294 P Pn 12 54 29.2 -1.6
baz=96
G26K Porcupine Rive 12.22 343 P Pn 12 54 29.3 -1.8
baz=156
L19K White Mountain 12.24 311 P Pn 12 54 31.4 0.0
baz=114,SNR=11
MLY Manley 12.30 327 P Pn 12 54 33.0 +0.7
baz=134,SNR=9.2
M18K Stony River 12.41 307 P Pn 12 54 33.0 -0.7
baz=110
K20K Telida 12.46 317 P Pn 12 54 34.1 -0.4
baz=121,SNR=7.2
H23K Yukon River 12.53 331 P Pn 12 54 34.4 -1.0
baz=139,SNR=9.5
O17K Koliganek Bris 12.57 299 P Pn 12 54 34.6 -1.4
baz=100
YKA Yellowknife Ar 12.57 48 Pn Pn 12 54 36.6 +0.7
comp=N,0.3nm,0.3s,baz=264,slow=20,SNR=11
YKA Sn Sn 12 56 50.6 -5.5
baz=256,slow=20
YKA Lg Lg 12 58 10.2
comp=N,0.2nm,0.3s,baz=240,slow=29,SNR=6.1
comp=N,1.2nm,0.9s
YKAW3 Yellowknife Wh 12.60 48 Pn 12 54 37.3 +0.9
YKAW1 Yellowknife Wh 12.62 48 Pn 12 54 36.8 +0.2
G24K Hadweenzic Riv 12.71 337 P Pn 12 54 36.5 -1.4
baz=146
N17K Nushagak Hills 12.77 302 P Pn 12 54 37.2 -1.5
baz=104
BMAR Burnt Mountain 12.79 343 Pn 12 54 40.1 +1.2
MXC Moxie City 12.83 128 Pn 12 54 39.8 +0.2
INK Inuvik 12.86 2 Pn 12 54 39.9 0.0
INK Inuvik 12.86 2 Pn Pn 12 54 41.3 +1.4
comp=N,0.2nm,0.3s,baz=171,slow=12,SNR=5.0
INK Sn Sn 12 56 58.6 -4.6
comp=N,0.2nm,0.3s,baz=199,slow=18,SNR=1.5
INK Lg Lg 12 58 18.8
comp=N,0.2nm,0.3s,baz=110,slow=18,SNR=5.1
INK LR LR 12 59 21.6
comp=N,106nm,18.6s,baz=218,slow=36
comp=N,1.6nm,0.6s
J20K Nowinta River 12.92 320 P Pn 12 54 40.2 -0.6
baz=124,SNR=11
P16K Nushagak River 12.92 295 P Pn 12 54 39.7 -1.0
baz=96
F26K Sheenjek River 12.96 344 P Pn 12 54 40.3 -1.0
baz=156
E29M Blow River 13.00 355 P Pn 12 54 40.6 -1.1
baz=173
O16K Kokwok River B 13.04 298 P Pn 12 54 41.2 -1.2
baz=98
L18K Granite Mounta 13.05 310 P Pn 12 54 41.8 -0.6
baz=112
E27K Coleen River 13.09 349 P Pn 12 54 41.6 -1.4
baz=163
H22K Ishtalitna Cre 13.10 329 P Pn 12 54 42.3 -0.8
baz=135,SNR=7.9
D08A Wollman Farm, 13.11 124 Pn 12 54 45.1 +1.7
M17K Holitna River 13.12 306 P Pn 12 54 42.7 -0.7
baz=107
F25K Christian Rive 13.12 342 P Pn 12 54 42.8 -0.7
baz=153
NEW Newport 13.17 116 Pn 12 54 47.6 +3.3
NEW Newport 13.17 116 Pn Pn 12 54 47.0 +2.7
comp=N,0.2nm,0.3s,baz=318,slow=14,SNR=12
NEW Lg Lg 12 58 34.4
comp=N,0.1nm,0.3s,baz=227,slow=19,SNR=6.0
NEW LR LR 12 59 51.4
comp=N,526nm,18.1s,baz=304,slow=37
comp=N,11nm,1.1s
E28M Babbage River 13.31 353 P Pn 12 54 45.2 -0.9
baz=169
G23K Bananza Creek 13.33 333 P Pn 12 54 46.2 -0.2
baz=140,SNR=15
H21K Melozitna Rive 13.37 327 P Pn 12 54 46.0 -0.7
baz=131,SNR=28
J19K Poorman 13.38 318 P Pn 12 54 46.2 -0.8
baz=120
I20K Naaghedeneel 13.39 322 P Pn 12 54 46.0 -1.0
baz=125
F24K Squaw Lake 13.49 338 P Pn 12 54 47.0 -1.4
baz=147
N16K Nishlik Lake 13.52 301 P Pn 12 54 47.9 -1.1
baz=101
J18K Innoko River 13.56 315 P Pn 12 54 48.7 -0.8
baz=116,SNR=10
L17K Donlin 13.73 308 P Pn 12 54 50.6 -1.1
baz=109
M16K Timber Creek 13.73 303 P Pn 12 54 50.9 -0.9
baz=103
COLD Coldfoot 13.78 335 P Pn 12 54 51.5 -0.9
baz=141,SNR=16
IMAR Indian Mountai 13.87 327 Pn 12 54 54.3 +0.6
O15K Ungalikthiuk R 13.88 296 P Pn 12 54 53.2 -0.6
baz=95
K17K Iditarod 13.92 311 P Pn 12 54 53.5 -0.9
baz=111
H20K Anotleneega Mo 13.94 324 P Pn 12 54 53.4 -1.1
baz=127,SNR=9.9
D28M Stokes Point 13.98 354 P Pn 12 54 53.8 -1.3
baz=171
D27M Malcolm River 14.05 351 P Pn 12 54 54.5 -1.6
baz=166
CHNA Chernabura Isl 14.06 277 P Pn 12 54 58.3 +2.0
E24K Your Creek 14.08 339 P Pn 12 54 55.5 -1.1
baz=147
N15K Kwethluk River 14.12 300 P Pn 12 54 56.2 -0.9
baz=98
L16K Owhat River 14.14 306 P Pn 12 54 55.9 -1.4
baz=105,SNR=5.7
G21K Aliakaket 14.15 329 P Pn 12 54 55.9 -1.6
baz=133
LNOR Lincton Mounta 14.28 126 Pn Pn 12 55 02.4 +3.0
E23K Chandalar 14.31 337 Pn Pn 12 55 01.0 +1.3
E23K Chandalar 14.31 337 P Pn 12 54 58.8 -0.9
baz=145
G08A Pilot Rock 14.41 129 Pn Pn 12 55 01.9 +0.5
SDPT Sand Point 14.46 280 P Pn 12 55 03.4 +1.7
comp=N,28nm,1.0s
SDPT Sand Point 14.46 280 P Pn 12 55 01.0 -0.7
baz=79
F22K John River 14.49 333 P Pn 12 55 01.1 -1.1
baz=138
H19K Roundabout Mou 14.49 322 P Pn 12 55 01.9 -0.2
baz=124,SNR=13
M15K Kasigluk River 14.50 301 P Pn 12 55 01.4 -0.8
baz=100
J17K VABM Dome 14.50 313 P Pn 12 55 01.1 -1.1
baz=112
O14K Tigyukauivet M 14.62 296 P Pn 12 55 02.9 -1.0
baz=94
F21K Alatna River 14.63 331 P Pn 12 55 03.4 -0.7
baz=135
C27K Jago River 14.70 348 P Pn 12 55 03.5 -1.5
baz=160
TOLK Toolik Lake Re 14.78 339 P Pn 12 55 04.5 -1.6
baz=146
D25K Kavik River 14.79 344 P Pn 12 55 04.5 -1.8
baz=154,SNR=9.3

E22K Anaktuvuk Pass 14.87 335 P Pn 12 55 06.0 -1.4
baz=140,SNR=9.2
N14K Kuskokwak Cree 14.89 298 P Pn 12 55 06.0 -1.6
baz=96
H18K Honhosa River 14.98 320 P Pn 12 55 07.8 -1.0
baz=119
G19K Purcell Mounta 15.05 324 IAmb IAmb 12 55 26.8
comp=Z,7.8nm,1.1s
G19K Purcell Mounta 15.05 324 P Pn 12 55 08.8 -1.0
baz=125
D24K Happy Valley 15.06 341 P Pn 12 55 09.1 -0.8
baz=149,SNR=14
L15K Ungalak Mounta 15.06 305 P Pn 12 55 09.9 0.0
baz=102,SNR=5.2
J16K Anvik River 15.11 311 P Pn 12 55 09.7 -0.7
baz=110
J05D Fort Rock, OR 15.12 138 P 12 55 14.0 -2.2
J05D IAmb IAmb 12 55 20.9
comp=Z,9.8nm,0.9s
M14K Bethel 15.12 301 P Pn 12 55 09.8 -0.9
baz=98
C26K Camden Bay 15.13 347 P Pn 12 55 09.8 -0.9
baz=158
F20K Avaraart Lake 15.17 328 IAmb IAmb 12 55 28.2
comp=Z,11nm,0.9s
F20K Avaraart Lake 15.17 328 P Pn 12 55 10.1 -1.1
baz=130,SNR=7.5
K15K Wolf Creek Mou 15.23 307 IAmb IAmb 12 55 24.0
comp=Z,17nm,1.2s
K15K Wolf Creek Mou 15.23 307 P Pn 12 55 11.4 -0.6
baz=105
S12K Black Hills 15.27 282 P Pn 12 55 12.1 -0.6
baz=80
D23K Nanushuk River 15.28 338 P Pn 12 55 11.2 -1.5
baz=144
I17K Unalakleet 15.35 314 P Pn 12 55 12.6 -1.1
baz=111
G18K Tagagawik 15.46 322 IAmb IAmb 12 55 25.8
comp=Z,10nm,0.9s
G18K Tagagawik 15.46 322 P Pn 12 55 13.9 -1.2
baz=121
H17K Granite Mounta 15.46 318 IAmb IAmb 12 55 17.6
comp=Z,13nm,1.2s
H17K Granite Mounta 15.46 318 P Pn 12 55 13.9 -1.2
baz=116
C24K Franklin Bluff 15.53 342 P Pn 12 55 15.3 -0.7
baz=150
L14K Kuka Creek 15.56 303 P Pn 12 55 15.4 -1.1
baz=100,SNR=9.6
E21K Killik River 15.64 333 P Pn 12 55 16.5 -1.0
baz=137
D22K Ayikyak River 15.65 336 IAmb IAmb 12 55 26.4
comp=Z,17nm,0.9s
D22K Ayikyak River 15.65 336 P Pn 12 55 16.8 -0.8
baz=140
L04D Klamath Falls 15.66 143 IAmb IAmb 12 55 34.0
comp=Z,14nm,1.1s
F19K Shaleruckik Mo 15.68 325 P Pn 12 55 17.9 0.0
baz=126
K05A Summer Lake 15.72 139 IAmb IAmb 12 55 27.9
comp=Z,18nm,1.3s
MSO Missoula 15.74 115 P 12 55 21.5 -1.6
MSO IAmb IAmb 12 55 34.5
comp=Z,22nm,1.2s
M13K Dall Lake 15.76 300 P Pn 12 55 18.9 -0.2
baz=96
E19K Redstone River 15.88 328 IAmb IAmb 12 55 33.9
comp=Z,16nm,0.8s
E19K Redstone River 15.88 328 P Pn 12 55 20.7 +0.1
baz=128
PLID Pearl Lake 15.94 123 P 12 55 23.9 -1.5
YBH Yreka Blue Hor 15.96 145 Pn P 12 55 25.4 -0.1
baz=300,slow=1.2,SNR=6.1
YBH LR LR 13 00 38.0
comp=Z,22nm,21.2s,baz=312,slow=34
C23K Itkillik River 15.98 340 IAmb IAmb 12 55 29.9
comp=Z,26nm,0.8s
C23K Itkillik River 15.98 340 P Pn 12 55 21.9 0.0
baz=146
G17K Kiwalik Mounta 15.99 319 P Pn 12 55 20.9 -1.2
baz=117
E20K Nigu River 16.10 331 P Pn 12 55 22.1 -1.4
baz=132
F18K Selawik 16.17 323 P Pn 12 55 22.9 -1.4
baz=122
J14K Nanvaranak Lak 16.25 308 IAmb IAmb 12 55 33.1
comp=Z,21nm,1.1s
J14K Nanvaranak Lak 16.25 308 P Pn 12 55 23.9 -1.4
baz=104
C21K Knifeblade Rid 16.36 334 P Pn 12 55 25.6 -1.2
baz=137
D20K Etivluk River 16.52 332 IAmb IAmb 12 55 40.3
comp=Z,20nm,0.9s
D20K Etivluk River 16.52 332 P Pn 12 55 27.4 -1.4
baz=133
K13K Kusilvak Mount 16.59 305 P Pn 12 55 28.4 -1.3
baz=100
G16K Koyuk River 16.59 318 P Pn 12 55 28.2 -1.5
baz=114
F17K Baldwin Pennin 16.65 322 P Pn 12 55 29.3 -1.1
baz=119
B21K Ikpikpuk River 16.67 336 P Pn 12 55 29.3 -1.3
baz=138
D19K Kuna River 16.79 330 IAmb IAmb 12 55 39.8
comp=Z,40nm,1.4s
E18K Tukpahlearik C 16.92 325 IAmb IAmb 12 55 49.0
comp=Z,22nm,1.1s
LRM Limekiln Ridge 17.18 115 P Pn 12 55 38.0 +0.4
EGMT Eagleton 17.24 105 P Pn 12 55 37.8 -0.3
EGMT IAmb IAmb 12 55 50.4
comp=Z,37nm,1.3s
MFID Camas Ranch 17.29 126 Pn Pn 12 55 38.8 +0.1
DLMT Dillon 17.42 116 P Pn 12 55 40.6 +0.2
HLID Hailey 17.83 124 IAmb IAmb 12 55 51.1
comp=Z,26nm,1.3s
BEKR Beckworth 18.42 142 IAmb IAmb 12 55 59.0
comp=Z,23nm,1.5s
YHB Horse Butte 18.56 116 IAmb IAmb 12 55 59.2
comp=Z,21nm,1.3s
FFC Flin Flon 18.80 79 Pn 12 55 59.0 +1.9
PAHR Pah Rah Range 18.91 140 IAmb IAmb 12 56 04.7
comp=Z,31nm,1.5s
YNE Yellowstone No 19.00 113 IAmb IAmb 12 56 04.5
comp=Z,21nm,1.3s
MPK Martis Peak 19.05 142 IAmb IAmb 12 56 06.6
comp=Z,31nm,1.4s
H17A Grant Village 19.13 115 IAmb IAmb 12 56 07.3
comp=Z,18nm,1.3s
RLMT Red Lodge 19.32 112 Pn 12 56 04.8 +1.2
RLMT IAmb IAmb 12 56 09.1
comp=Z,26nm,1.2s
FXWY Fox Creek 19.43 118 IAmb IAmb 12 56 10.7
comp=Z,20nm,1.4s
TPAW Teton Pass 19.58 118 Pn 12 56 06.3 -0.6
TPAW IAmb IAmb 12 56 13.4
comp=Z,26nm,1.3s
LOHW Long Hollow 19.67 117 IAmb IAmb 12 56 13.5
comp=Z,23nm,1.4s
ELK Elko 19.69 130 P Pn 12 56 09.8 +1.7
comp=Z,0.1nm,0.3s,baz=324,slow=9.9,SNR=6.4
ELK Lg Lg 13 02 08.3
comp=Z,0.1nm,0.3s,baz=24,slow=20,SNR=1.3
ELK LR LR 13 03 56.8
comp=Z,200nm,20.7s,baz=326,slow=37
comp=Z,0.6nm,0.3s
WAKR Walker 19.96 142 IAmb IAmb 12 56 20.5
comp=Z,18nm,1.5s
HVU Hansel Valley 19.97 124 IAmb IAmb 12 56 17.1
comp=Z,17nm,1.4s
NVAR Mina Array Bea 20.43 140 P Pn 12 56 15.8 -1.1
NVAR Mina Array Bea 20.43 140 P Pn 12 56 18.7 +1.8
comp=Z,2.9nm,1.0s,baz=313,slow=11,SNR=12
NVAR LR LR 13 04 58.4
comp=Z,202nm,18.0s,baz=359,slow=39
comp=Z,2.9nm,1.0s
NV11 Mina Array Sit 20.48 140 IAmb IAmb 12 56 34.9
comp=Z,20nm,1.5s
BW06 Boulder Array 20.81 117 IAmb IAmb 12 56 27.1
comp=Z,22nm,1.3s
PD31 Pinedale Array 20.81 117 IAmb IAmb 12 56 27.1
comp=Z,22nm,1.3s
PDAR Pinedale Array 20.81 117 P Pn 12 56 21.8 +0.5
PDAR Pinedale Array 20.81 117 P Pn 12 56 22.6 +1.3
comp=Z,8.4nm,0.9s,baz=316,slow=6.2,SNR=16
PDAR LR LR 13 04 57.2
comp=Z,101nm,20.9s,baz=310,slow=38
comp=Z,8.4nm,0.9s
TCUT Toone Canyon 21.14 123 IAmb IAmb 12 56 29.7
comp=Z,11nm,0.9s
MZP Montezuma Peak 21.41 139 P P 12 56 25.4 -0.1
DSP Deep Springs 21.49 141 P 12 56 25.4 -0.6
DSP IAmb IAmb 12 56 33.2
comp=Z,16nm,1.4s
S11A Rachel 22.09 136 IAmb IAmb 12 56 40.7
comp=Z,20nm,1.3s
TPNV Topopah Spring 22.50 138 IAmb IAmb 12 56 42.5
comp=Z,9.4nm,0.9s
RSSD Black Hills 22.78 107 P P 12 56 39.3 -0.8
MVU Marysvale 22.86 129 IAmb IAmb 12 57 07.5
comp=Z,11nm,1.5s
Q16A Castle Valley 22.99 126 IAmb IAmb 12 56 46.9
comp=Z,10nm,1.3s
GWY Greenwater Val 23.02 139 IAmb IAmb 12 56 48.9
comp=Z,10.0nm,1.5s
SRU San Rafael Swe 23.13 125 IAmb IAmb 12 56 57.7
comp=Z,11nm,1.3s
QSM Queen of Sheba 23.14 140 IAmb IAmb 12 56 49.0
comp=Z,13nm,1.3s
SHPR Sheep Range 23.31 136 P P 12 56 45.6 +0.1
O20A White River Ci 23.43 120 P 12 56 48.0 +1.3
ULM Lac du Bonnet 23.94 86 P P 12 56 53.6 +2.3
comp=Z,1.7nm,0.6s,baz=272,slow=6.6,SNR=3.8
ULM LR LR 13 05 42.6
comp=Z,95nm,18.4s,baz=306,slow=35
comp=Z,1.7nm,0.6s
V12A Nelson 24.12 137 P 12 56 53.9 +0.6
V12A IAmb IAmb 12 57 09.3
comp=Z,7.4nm,1.3s
PV21 Cone Mtn., Par 24.30 123 IAmb IAmb 12 56 60.0
comp=Z,4.6nm,0.7s
PV22 Blue Mesa, Par 24.41 123 P P 12 56 55.8 -0.3
PV04 Paradox Valley 24.47 124 P P 12 56 55.4 -1.2
PV04 IAmb IAmb 12 57 01.6
comp=Z,7.0nm,0.8s
PV16 Nyswonger Mesa 24.53 124 IAmb IAmb 12 57 29.4
comp=Z,12nm,1.3s
PV17 East Wray Mesa 24.53 124 IAmb IAmb 12 57 02.3
comp=Z,11nm,1.2s
PV03 Paradox Valley 24.60 124 IAmb IAmb 12 57 29.3
comp=Z,13nm,1.4s
PV05 Paradox Valley 24.63 124 IAmb IAmb 12 57 03.3
comp=Z,3.7nm,0.7s
PV13 Radium Mtn., P 24.69 124 IAmb IAmb 12 57 02.5
comp=Z,7.9nm,0.9s
RES Resolute Bay 24.70 24 LR LR 13 06 35.0
comp=Z,24nm,22.0s,baz=324,slow=36
PV01 Paradox Valley 24.83 123 IAmb IAmb 12 57 05.2
comp=Z,9.6nm,1.1s
W13A Hualapai Mount 25.04 136 IAmb IAmb 12 57 07.5
comp=Z,5.1nm,1.1s
PFO Pinyon Flats O 25.40 142 LR LR 13 07 07.3
comp=Z,301nm,19.1s,baz=344,slow=36
EPLO Experimental L 25.43 86 P 12 57 05.8 +0.8
Y14A Wickenburg 26.41 136 IAmb IAmb 12 57 20.8
comp=Z,4.4nm,0.9s
ANMO Albuquerque 28.41 124 LR LR 13 09 12.0
comp=Z,120nm,18.4s,baz=58,slow=37
WMOK Wichita Mounta 32.37 115 IAmb IAmb 12 58 09.9
comp=Z,3.3nm,0.8s
FRB Frobisher Bay 33.09 48 LR LR 13 10 50.7
comp=Z,68nm,18.5s,baz=288,slow=35
U38A Gravette 33.41 108 P P 12 58 17.1 +1.1
TXAR Lajitas Array 34.39 127 P P 12 58 27.9 +3.3
comp=Z,1.3nm,0.8s,baz=331,slow=6.9,SNR=18
TXAR LR LR 13 13 06.2
comp=Z,64nm,18.4s,baz=322,slow=37
comp=Z,1.3nm,0.8s
MIAR Mount Ida 35.27 109 P P 12 58 31.8 -0.3
MIAR IAmb IAmb 12 58 42.8
comp=Z,3.5nm,0.8s
SEY Seymchan 36.01 312 LR LR 13 14 04.9
comp=Z,69nm,19.0s,baz=26,slow=38
LPIG La Paz 36.25 140 LR LR 13 14 10.3
comp=Z,88nm,21.0s,baz=218,slow=37
SADO Sadowa 36.41 83 LR LR 13 11 58.9
comp=Z,128nm,20.9s,baz=322,slow=34
PETK Petropavlovsk- 37.97 295 P P 12 58 56.7 +1.8
comp=Z,2.0nm,0.9s,baz=71,slow=11,SNR=4.5
PETK LR LR 13 16 09.3
comp=Z,70nm,18.4s,baz=99,slow=39
comp=Z,2.0nm,0.9s
SFJD Kangerlussuaq 38.90 39 LR LR 13 13 37.5
comp=Z,110nm,18.1s,baz=300,slow=34
TKL Tuxekaleechee C 39.86 98 LR LR 13 16 14.5
comp=Z,120nm,21.8s,baz=306,slow=37
TIXI Tiksi 40.47 331 LR LR 13 19 50.6
comp=Z,113nm,18.7s,baz=74,slow=42
SPITS Spitsbergen Ar 45.43 8 LR LR 13 19 52.2
comp=Z,56nm,20.2s,baz=303,slow=37
YAK Yakutsk 45.55 319 LR LR 13 19 48.2
comp=Z,75nm,18.9s,baz=43,slow=37
CMIG Matias Romero 48.97 125 LR LR 13 24 15.7
comp=Z,87nm,18.4s,baz=286,slow=40
BORG Borgarnes 49.83 31 LR LR 13 21 54.0
comp=Z,54nm,18.8s,baz=328,slow=36
ASAJ Asahikawa 51.35 294 LR LR 13 25 11.5
comp=Z,27nm,18.1s,baz=48,slow=39
NRIK Noril'sk 51.68 342 LR LR 13 23 14.0
comp=Z,46nm,21.9s,baz=50,slow=37
KLR Kul'dur 53.15 305 LR LR 13 27 28.1
comp=Z,43nm,18.0s,baz=38,slow=40
HEH HeiHe 54.39 309 eP P 13 01 05.8 +1.7
HEH pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 54.46 8 LR LR 13 26 40.5
comp=Z,27nm,18.4s,baz=344,slow=39
H11N2 WAKE ISLAND Hy 56.02 255 T T 14 02 03.3
baz=35,slow=76,SNR=1207
H11N3 WAKE ISLAND Hy 56.02 255 T T 14 02 04.4
baz=35,slow=76,SNR=1353
H11N1 WAKE ISLAND Hy 56.03 255 T T 14 02 08.0
baz=35,slow=76,SNR=1603
USRK Ussuriysk Ar. 56.65 301 LR LR 13 27 03.9
comp=Z,49nm,19.4s,baz=51,slow=38
H11S1 WAKE ISLAND Hy 57.11 254 T T 14 03 29.1
baz=35,slow=76,SNR=992
H11S2 WAKE ISLAND Hy 57.13 254 T T 14 03 32.7
baz=35,slow=76,SNR=1257
H11S3 WAKE ISLAND Hy 57.13 254 T T 14 03 29.3
baz=35,slow=76,SNR=1192
MJAR Matsushiro Arr 59.14 290 LR LR 13 25 07.3
comp=Z,28nm,21.2s,baz=69,slow=34
JTS Las Juntas de 59.62 119 LR LR 13 33 23.0
comp=Z,42nm,20.0s,baz=296,slow=42
NOA NORSAR Array B 60.77 18 LR LR 13 28 31.2
comp=Z,31nm,19.3s,baz=335,slow=36
HFS Hagfors 62.05 17 LR LR 13 30 33.2
comp=Z,53nm,18.6s,baz=330,slow=38
FINES FINESS Array B 62.44 10 LR LR 13 31 56.9
comp=Z,35nm,19.4s,baz=30,slow=39
SJG San Juan 63.28 97 LR LR 13 30 35.4
comp=Z,41nm,19.2s,baz=160,slow=37
KSRS Korea Array 63.77 298 P P 13 02 11.3 +2.1
comp=Z,1.7nm,1.1s,baz=30,slow=6.7,SNR=5.5
comp=Z,1.7nm,1.1s
JNU Nakatsue 65.62 293 LR LR 13 29 44.4
comp=Z,25nm,21.5s,baz=9.5,slow=35
ZALV Zalesovo Beam 66.11 336 P P 13 02 25.8 +1.6
comp=Z,1.0nm,0.6s,baz=356,slow=6.7,SNR=4.9
ZALV LR LR 13 35 05.0
comp=Z,71nm,18.8s,baz=5.0,slow=40
comp=Z,1.0nm,0.6s
ARTI Arti 67.93 352 LR LR 13 32 47.4
comp=Z,35nm,21.2s,baz=38,slow=36
SDV Santo Domingo 68.31 107 LR LR 13 34 25.7
comp=Z,55nm,18.8s,baz=4.5,slow=38
HHC Hu-ho-hao-te 68.65 312 eP P 13 02 40.2 -0.5
HHC pmax pmax
comp=Z,11nm,0.6s
BVAR Borovoye Array 69.82 344 P P 13 02 49.7 +2.0
comp=Z,0.6nm,0.4s,baz=17,slow=6.0,SNR=2.3
BVAR LR LR 13 35 53.6
comp=Z,52nm,20.9s,baz=16,slow=38
comp=Z,0.6nm,0.4s
PCRV Puerto La Cruz 70.56 101 LR LR 13 35 29.7
comp=Z,49nm,18.4s,slow=37
KURBB Kurchatov Arra 70.62 338 P P 13 02 53.9 +1.4
comp=Z,1.2nm,0.6s,baz=21,slow=5.8,SNR=9.1
comp=Z,1.2nm,0.6s
GERES GERESS Array B 72.76 21 LR LR 13 34 37.0
comp=Z,36nm,21.1s,baz=41,slow=36
VRAC Vranov 72.88 19 LR LR 13 35 27.2
comp=Z,26nm,19.4s,baz=302,slow=36
AKASG Malin Array Be 73.34 10 LR LR 13 36 09.8
comp=Z,50nm,21.1s,baz=356,slow=36
GUMO Guam 73.35 270 LR LR 13 28 34.0

comp=Z,19nm,20.3s,baz=74,slow=30
MKAR Makanchi Array 73.35 334 P **P** **13 03 10.4 +1.3**
comp=Z,1.7nm,0.8s,baz=40,slow=6.3,SNR=12
MKAR LR LR 13 38 15.8
comp=Z,54nm,18.2s,baz=4.0,slow=38
comp=Z,1.7nm,0.8s
DAVOX Davos/Dischmat 73.87 24 LR LR 13 37 21.0
comp=Z,39nm,18.0s,baz=259,slow=37
LZH Lanzhou 75.89 314 *e*P **P** **13 03 23.6 -0.5**
LZH pP sP 13 03 27.2 +0.4
LZH pmax pmax
comp=Z,16nm,1.0s
MLR Muntele Rosu 78.09 14 LR LR 13 40 00.3
comp=Z,57nm,20.2s,baz=351,slow=37
MDP Montagnes des 81.47 93 LR LR 13 38 20.6
comp=Z,29nm,21.7s,baz=96,slow=34
VAE Valguarnera 83.75 24 LR LR 13 47 24.1
comp=Z,21nm,19.2s,baz=320,slow=40
GNI Garni 84.71 0 LR LR 13 47 56.8
comp=Z,25nm,19.6s,baz=346,slow=40
PZH PanZhiHua 85.11 311 P **P** **13 04 13.6 -0.1**
LPAZ La Paz 90.83 118 LR LR 13 48 47.1
comp=Z,28nm,21.2s,baz=218,slow=38
ASF Jabal al Asfar 92.40 7 LR LR 13 51 32.2
comp=Z,11nm,18.1s,baz=185,slow=39
CMAR Chiang Mai Arr 93.39 310 LR LR 13 50 56.6
comp=Z,34nm,18.3s,baz=205,slow=38
QSPA South Pole Qui 145.31 180 PKPbc **PKiKP** **13 11 16.0 -1.9**
comp=Z,4.8nm,0.8s,baz=114,slow=1.1,SNR=20

IDC 04 12:56:18.0±2.7, 0°74N×125°82E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=297.0km s-min=28.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.19**	**158**	P	P	13 01 15.8	-0.2
	1.0nm,0.4s,baz=337,slow=9.7,SNR=12						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**25.50**	**163**	P	P	13 01 48.4	0.0
	0.3nm,0.6s,baz=338,slow=7.4,SNR=5.1						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**59.51**	**327**	P	P	13 06 23.2	+0.1
	0.1nm,0.3s,baz=128,slow=8.1,SNR=2.2						
	0.1nm,0.3s						

IDC 04 12:56:38.2±2.8, 30°58S×177°92W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=65.6km s-min=22.8km az=116.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.32**	**0**	Pn	Pn	12 57 05.6	+1.7
	96nm,0.3s,baz=96,slow=22,SNR=1.3						
RAO				Sn	Sb	12 57 21.4	+0.1
	275nm,0.3s,baz=230,slow=24,SNR=2.4						
STKA	**Stephens Creek**	**34.51**	**257**	P	P	13 03 29.2	+1.1
	4.6nm,0.6s,baz=100,slow=11,SNR=10						
	4.6nm,0.6s						
ASAR	**Alice Springs**	**43.17**	**267**	P	P	13 04 40.7	-0.3
	0.5nm,0.3s,baz=103,slow=7.4,SNR=12						
ASAR				PcP	PcP	13 06 30.8	+0.2
	0.4nm,1.0s,baz=101,slow=3.7,SNR=1.4						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**44.17**	**272**	P	P	13 04 48.0	-1.0
	1.6nm,0.5s,baz=111,slow=8.1,SNR=16						
	1.6nm,0.5s						
FINES	**FINESS Array B**	**145.33**	**340**	PKPbc	PKPbc	13 16 15.3	-1.7
	1.6nm,0.5s,baz=29,slow=3.2,SNR=8.9						

*IDC **04** 13:01:42.0±6.9, 15°.08N×91°.88W, h0km, mb3.7/3, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=164.8km s-min=43.5km az=15.0*
*GCG **04** 13:01:52.5±1.9, 14°.86N×92°.78W, h67km±15km, MD4.1, ML4.4, MW3.6*
*MEX **04** 13:01:53.4±0.8, 14°.80N×92°.90W, h56km±13km, MD3.9*
*CATAC **04** 13:01:59.2±0.8, 15°N±5°×9°3W±°, h22km±3km, M4.0/6, MLv4.0/6, Error ellipse: s-maj=12.9km s-min=7.6km az=49.6, confirmed*
ISC 04 13:01:50.8±1.0, 14°72N±0°05×92°90W±0°03, h63km±9km, n47, σ2s02/67, mb3.8/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.64**	**73**	*e*P	**Pn**	**13 02 05.0**	**+0.5**
THIG				*e*S	**Sn**	**13 02 14.3**	**-0.2**
THIG		**0.64**	**73**	*i* P	**Pn**	**13 02 05.1**	**+0.5**
THIG				*i* S	**Sn**	**13 02 14.8**	**+0.3**
PATR	**El Naranjo**	**0.75**	**58**	*e*P	**Pn**	**13 02 05.8**	**-0.3**
PATR				*e*S	**Sn**	**13 02 15.0**	**-1.3**
SMCA	**Catarina**	**0.81**	**80**	*i* P	**Pn**	**13 02 06.9**	**+0.4**
SMCA				*i* S	**Sn**	**13 02 17.9**	**-0.2**
SMCA				IAML		13 02 18.1	
	comp=N,6μm,0.1s						
PAVE	**Pavencul**	**0.84**	**56**	*e*P	**Pn**	**13 02 07.0**	**-0.1**
PAVE				*e*S	**Sn**	**13 02 18.0**	**-1.2**
PCIG		**1.03**	**342**	*e*P	**Pn**	**13 02 09.6**	**+0.2**
PCIG				*i* P		13 02 09.6	
PCIG				*i* S	**Sn**	**13 02 21.9**	**-1.1**
PCIG				*i* S		13 02 22.1	
RTAL	**Retalhuleu**	**1.18**	**99**	*e*P	**Pn**	**13 02 12.6**	**+1.4**
RTAL				*e*S	**Sn**	**13 02 27.0**	**+0.4**
RTAL	**Retalhuleu**	**1.18**	**99**	S	**Sn**	**13 02 25.9**	**-0.7**
RTAL	**Retalhuleu**	**1.18**	**99**	P	**Pn**	**13 02 12.7**	**+1.4**
SOKI	**Kika Raxquin**	**1.45**	**86**	*i* P	**Pn**	**13 02 17.0**	**+1.8**
SOKI				IAML		13 02 40.1	
	comp=N,2μm,0.5s						
HUEH	**Huehuetenango**	**1.47**	**66**	*e*P	**Pn**	**13 02 15.9**	**+0.5**
HUEH				*e*S	**Sn**	**13 02 34.4**	**+0.5**
HUEH	**Huehuetenango**	**1.47**	**66**	*i* P	**Pn**	**13 02 16.2**	**+0.8**
HUEH				*i* S	**Sn**	**13 02 34.9**	**+1.0**
HUEH				IAML		13 02 41.8	
	comp=E,12μm,0.7s						
HUEH	**Huehuetenango**	**1.47**	**66**	P	**Pn**	**13 02 16.1**	**+0.7**
STG8	**El Palmar, Qui**	**1.52**	**100**	*i* P	**Pn**	**13 02 13.1**	**-3.0**
STG8				*i* S	**Sn**	**13 02 28.9**	**-6.1**
STG8				IAML		13 02 30.1	
	comp=N,13μm,0.2s						
STG0	**El Palmar, Qui**	**1.53**	**101**	*i* P	**Pn**	**13 02 13.6**	**-2.6**
STG0				*i* S	**Sn**	**13 02 29.3**	**-5.9**
STG0				IAML		13 02 32.7	
	comp=E,19μm,0.2s						
CCIG	**Comitan**	**1.72**	**25**	*i* P	**Pn**	**13 02 19.1**	**+0.4**
CCIG				*i* S	**Sn**	**13 02 38.0**	**-1.7**
CCIG	**Comitan**	**1.72**	**25**	*i* P	**Pn**	**13 02 19.1**	**+0.4**
CCIG				IAML		13 02 44.3	
	comp=E,1μm,0.5s						
CCIG	**Comitan**	**1.72**	**25**	P	**Pn**	**13 02 19.1**	**+0.4**
TGBT	**Tuxtla Gutierr**	**2.05**	**355**	*e*P	**Pn**	**13 02 24.8**	**+1.7**
TGBT				*e*S	**Sn**	**13 02 48.2**	**+0.6**
TGIG		**2.06**	**354**	*e*P	**Pn**	**13 02 22.4**	**-0.8**
TGIG				*e*S	**Sn**	**13 02 46.1**	**-1.7**
TGIG		**2.06**	**354**	*i* P	**Pn**	**13 02 22.4**	**-0.8**
TGIG				IAML		13 02 57.7	
	comp=E,1μm,0.4s						
NILT	**Santiago Nilte**	**2.47**	**318**	*i* P	**Pn**	**13 02 30.6**	**+1.8**
NILT				*i* S	**Sn**	**13 02 58.0**	**+0.1**
FAME	**Alcaldia de Sa**	**2.92**	**107**	P	**Pn**	**13 02 37.6**	**+2.7**
FAME	**Alcaldia de Sa**	**2.92**	**107**	S	**Sn**	**13 03 08.5**	**-0.4**
CMIG	**Matias Romero**	**3.04**	**321**	Pn	**Pn**	**13 02 37.4**	**+0.9**
	comp=E,2.7nm,0.3s,baz=130,slow=11,SNR=12						
CMIG				Pg		13 02 44.8	
	comp=E,2.7nm,0.3s,baz=151,slow=13,SNR=26						
CMIG				Sn	**Sn**	**13 03 12.2**	**+0.6**
	comp=E,24nm,0.3s,baz=177,slow=13,SNR=9.5						
	comp=E,13nm,0.3s						
CMIG	**Matias Romero**	**3.04**	**321**	*e*P	**Pn**	**13 02 37.3**	**+0.8**
CMIG				*e*S	**Sn**	**13 03 12.0**	**+0.4**
NUBE	**Las Nubes**	**3.13**	**105**	P	Pn	13 02 42.4	+4.5
NUBE	**Las Nubes**	**3.13**	**105**	S	**Sn**	**13 03 16.2**	**+2.0**
HUIG	**Huatulco**	**3.27**	**289**	*e*P	**Pn**	**13 02 37.1**	**-2.6**
HUIG				*e*S	**Sn**	**13 03 12.5**	**-4.9**
CEVE	**Cerro Verde**	**3.29**	**105**	S	**Sn**	**13 03 20.9**	**+2.6**
JAYA	**Jayaque - finc**	**3.51**	**107**	S	**Sn**	**13 03 25.4**	**+2.0**
PMON	**Piamonte**	**3.61**	**106**	P	Pn	13 02 49.7	+5.2
PETF	**Flores**	**3.64**	**53**	*e*P	**Pn**	**13 02 44.9**	**+0.1**
PETF				*e*S	**Sn**	**13 03 20.5**	**-6.0**
NEUV	**Arroyo Zacate**	**4.08**	**317**	*i* P	**Pn**	**13 02 50.6**	**-0.1**
NEUV				*e*S	**Sn**	**13 03 38.0**	**+0.7**
PEIG	**Puerto Escondi**	**4.29**	**288**	*e*P	**Pn**	**13 02 54.8**	**+1.1**
PEIG				*e*S	**Sn**	**13 03 40.3**	**-2.3**
VHO	**Vista Hermosa**	**4.37**	**303**	*e*S	**Sn**	**13 03 42.6**	**-2.1**
SCIG	**Sabancuy**	**4.53**	**21**	*e*P	**Pn**	**13 02 54.9**	**-2.0**
SCIG				*e*S	Sn	13 03 39.0	-9.2
YOIG	**Yosondua**	**4.96**	**296**	*e*P	Pn	13 03 06.8	+3.8
YOIG				*e*S	**Sn**	**13 04 01.1**	**+2.0**
TOIG	**Toxpalan**	**5.22**	**311**	*e*P	Pn	13 03 10.3	+3.8
TOIG				*e*S	**Sn**	**13 04 05.9**	**+0.5**
TXIG	**Tlaxiaco**	**5.32**	**299**	*e*P	Pn	13 03 12.1	+4.1
TXIG				*e*S	**Sn**	**13 04 06.6**	**-1.5**
HLIG	**Huajuapan de L**	**5.64**	**304**	*e*P	Pn	13 03 17.7	+5.5
HLIG				*e*S	**Sn**	**13 04 14.0**	**-1.8**
TPIG	**Tehuac#an**	**5.64**	**311**	*e*P	**Pn**	**13 03 11.0**	**-1.4**
TPIG				*e*S	**Sn**	**13 04 17.6**	**+1.6**
FTIG	**Fresnillo de T**	**5.94**	**303**	*e*P	Pn	13 03 19.5	+3.1
FTIG				*e*S	**Sn**	**13 04 22.4**	**-0.8**
TXAR	**Lajitas Array**	**17.62**	**327**	P	**P**	**13 05 54.1**	**+1.7**
	comp=E,0.1nm,0.3s,baz=139,slow=10,SNR=18						
	comp=E,1.5nm,0.8s						
NVAR	**Mina Array Bea**	**32.57**	**321**	P	**P**	**13 08 19.3**	**+2.8**
	comp=E,1.1nm,0.7s,baz=130,slow=8.9,SNR=14						
	comp=E,1.1nm,0.7s						
YKA	**Yellowknife Ar**	**50.13**	**347**	P	**P**	**13 10 37.1**	**-2.4**
	comp=E,0.3nm,0.7s,baz=146,slow=7.3,SNR=4.4						
	comp=E,0.3nm,0.7s						
ILAR	**Eielson Array**	**61.84**	**337**	P	**P**	**13 12 02.9**	**-0.2**
	comp=E,0.7nm,0.6s,baz=133,slow=5.7,SNR=12						
	comp=E,0.7nm,0.6s						

*IDC **04** 13:02:42.6±1.6, 20°.32S×177°.83W, h532km±17km, mb3.3/16, mbtmp4.2/18, Error ellipse: s-maj=17.5km s-min=12.9km az=138.0*
ISC 04 13:02:42.4±0.7, 20°4S±0°1×177°8W±0°1, h534km, n22, σ1s15/22, mb3.8/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.72**	**304**	P	**P**	**13 04 08.6**	**-0.5**
	9.3nm,0.5s,baz=159,slow=5.9,SNR=18						
DZM	**Mont Dzumac**	**14.76**	**261**	P	**P**	**13 05 48.3**	**-1.5**
	4.0nm,1.0s,baz=58,slow=20,SNR=1.7						
URZ	**Urewera**	**18.32**	**193**	P	**P**	**13 06 20.5**	**-3.3**
	9.2nm,0.3s,baz=277,slow=3.1,SNR=9.1						
RPZ	**Rata Peaks**	**25.03**	**199**	P	**P**	**13 07 25.0**	**+0.9**
	10nm,0.8s,baz=0.0,slow=8.1,SNR=2.2						
	10nm,0.8s						
STKA	**Stephens Creek**	**37.97**	**244**	P	**P**	**13 09 15.5**	**+0.8**
	1.0nm,0.4s,baz=64,slow=11,SNR=4.1						
	1.0nm,0.4s						
JAY	**Jayapura**	**44.16**	**288**	P	**P**	**13 10 04.6**	**+0.4**
	4.9nm,0.5s,baz=129,slow=6.6,SNR=6.7						
	4.9nm,0.5s						
ASAR	**Alice Springs**	**44.70**	**257**	P	**P**	**13 10 08.6**	**+0.4**
	1.5nm,0.6s,baz=96,slow=7.5,SNR=21						
ASAR				PcP	**PcP**	**13 11 39.1**	**-0.1**
	0.3nm,0.5s,baz=103,slow=4.2,SNR=2.2						
ASAR				S	**S**	**13 16 06.5**	**+0.5**
	1.2nm,0.9s,baz=92,slow=16,SNR=6.4						
	1.5nm,0.6s						
WRA	**Warramunga Arr**	**44.77**	**262**	P	**P**	**13 10 08.7**	**-0.1**
	0.6nm,0.3s,baz=97,slow=7.6,SNR=11						
	0.6nm,0.3s						
QSPA	**South Pole Qui**	**69.66**	**180**	P	**P**	**13 12 59.2**	**+1.0**
	2.2nm,0.7s,baz=38,slow=18,SNR=8.2						
	2.2nm,0.7s						
MJAR	**Matsushiro Arr**	**70.23**	**324**	P	**P**	**13 13 01.2**	**-0.6**
	2.3nm,0.5s,baz=152,slow=6.7,SNR=7.1						
	2.3nm,0.5s						
ASAJ	**Asahikawa**	**73.72**	**331**	P	**P**	**13 13 22.4**	**+0.5**
	5.9nm,0.7s,baz=135,slow=7.1,SNR=3.7						
	5.9nm,0.7s						
PETK	**Petropavlovsk-**	**76.22**	**345**	P	**P**	**13 13 35.2**	**-0.5**
	3.1nm,0.8s,baz=115,slow=6.7,SNR=6.7						
	3.1nm,0.8s						
KSRS	**Korea Array**	**76.92**	**318**	P	**P**	**13 13 39.6**	**-0.2**
	0.8nm,0.6s,baz=128,slow=6.3,SNR=5.9						
	0.8nm,0.6s						
USRK	**Ussuriysk Ar.**	**78.97**	**326**	P	**P**	**13 13 52.0**	**+1.2**
	3.2nm,0.7s,baz=137,slow=2.6,SNR=7.4						
	3.2nm,0.7s						
NVAR	**Mina Array Bea**	**80.85**	**43**	P	**P**	**13 14 01.0**	**0.0**
	0.8nm,0.8s,baz=228,slow=8.6,SNR=5.6						
	0.8nm,0.8s						
TXAR	**Lajitas Array**	**86.87**	**57**	P	**P**	**13 14 31.4**	**+0.6**
	0.4nm,0.7s,baz=214,slow=6.0,SNR=6.6						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**88.19**	**13**	P	**P**	**13 14 34.6**	**-1.4**
	0.6nm,0.7s,baz=220,slow=6.1,SNR=11						
	0.6nm,0.7s						
PDAR	**Pinedale Array**	**88.78**	**43**	P	**P**	**13 14 39.6**	**-0.1**
	0.4nm,0.6s,baz=185,slow=8.8,SNR=2.1						
	0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**90.23**	**290**	P	**P**	**13 14 48.5**	**+1.9**
	0.9nm,0.6s,baz=110,slow=5.4,SNR=4.8						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**114.08**	**317**	PKP	PKPdf	13 20 19.5	-1.2
	0.2nm,0.4s,baz=109,slow=2.3,SNR=4.0						
AKASG	**Malin Array Be**	**143.01**	**331**	PKhKP	PKPpre	13 21 11.8	
	2.0nm,0.5s,baz=45,slow=4.3,SNR=16						
BRTR	**Keskin Array B**	**146.89**	**313**	PKPbc	**PKPbc**	**13 21 24.9**	**-0.5**
	0.9nm,0.6s,baz=84,slow=3.8,SNR=4.6						

*IDC **04** 13:04:03.1±3.5, 6°.58S×127°.43E, h399km±38km, mb2.7/2, mbtmp3.7/6, Error ellipse: s-maj=57.6km s-min=14.7km az=63.0*
ISC 04 13:04:03.8±1.4, 6°6S±0°1×127°4E±0°1, h408km, n6, σ0s81/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.11**	**226**	P	**P**	**13 05 26.6**	**-0.6**
	8.6nm,0.4s,baz=304,slow=21,SNR=1.8						
BATI				S	**S**	**13 06 35.6**	**+0.3**
	12nm,0.3s,baz=212,slow=15,SNR=2.7						
FITZ	**Fitzroy Crossi**	**11.52**	**188**	P	**P**	**13 06 38.3**	**+0.2**
	2.2nm,1.0s,baz=295,slow=17,SNR=1.4						
WRA	**Warramunga Arr**	**14.86**	**154**	P	**P**	**13 07 14.9**	**+0.3**
	1.8nm,0.5s,baz=334,slow=11,SNR=13						
WRA				S	**S**	**13 09 51.2**	**-1.3**
	0.6nm,0.8s,baz=331,slow=21,SNR=5.4						
ASAR	**Alice Springs**	**18.07**	**160**	P	**P**	**13 07 49.3**	**+0.4**
	0.7nm,0.3s,baz=341,slow=12,SNR=27						
ASAR				S	**S**	**13 10 55.8**	**+1.0**
	0.3nm,0.5s,baz=347,slow=24,SNR=2.0						
MKAR	**Makanchi Array**	**66.51**	**328**	P	**P**	**13 14 11.0**	**-0.4**
	0.1nm,0.5s,baz=133,slow=5.4,SNR=2.4						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**70.85**	**329**	P	**P**	**13 14 38.1**	**+0.4**
	0.4nm,0.6s,baz=134,slow=5.4,SNR=6.5						
	0.4nm,0.6s						

*UPP **04** 13:10:19.2±0.1, 58°.82N×15°.11E, h0km, ML2.5, Unknown*
*DNK **04** 13:10:19.8±1.4, 58°.82N×15°.11E, h0km, ML2.1, Explosion*
*IDC **04** 13:10:20.2±2.0, 58°.78N×14°.96E, h0km, mbtmp3.5/2, ML1.8/3, Error ellipse: s-maj=18.5km s-min=9.3km az=26.0*
ISC 04 13:10:18.1±0.7, 58°78N±0°02×15°14E±0°02, h0km, n48, σ0s71/68, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASKU	**Askersund**	**0.20**	**306**	P	**Pg**	**13 10 22.6**	**+0.7**
ASKU				S	**Sg**	**13 10 25.0**	**+0.6**
ASKU	**Askersund**	**0.20**	**306**	P	**Pg**	**13 10 22.6**	**+0.7**
ASKU				S	**Sg**	**13 10 25.0**	**+0.6**
LNKU	**Linkoeping**	**0.59**	**161**	P	**Pb**	**13 10 31.1**	**-0.2**
LNKU	**Linkoeping**	**0.59**	**161**	P	**Pb**	**13 10 31.1**	**-0.2**
ESKU	**Eskilstuna**	**0.79**	**55**	P	**Pg**	**13 10 33.9**	**+0.6**
ESKU				S	**Sg**	**13 10 44.1**	**+0.6**
ESKU	**Eskilstuna**	**0.79**	**55**	P	**Pg**	**13 10 33.9**	**+0.6**
ESKU				S	**Sg**	**13 10 44.1**	**+0.6**
NRAU	**Nora**	**0.79**	**356**	P	**Pg**	**13 10 33.5**	**+0.1**
NRAU				S	**Sg**	**13 10 44.0**	**+0.3**
NRAU	**Nora**	**0.79**	**356**	P	**Pg**	**13 10 33.5**	**+0.1**
NRAU				S	**Sg**	**13 10 44.0**	**+0.3**
VIKU	**Vikbolandet**	**0.86**	**108**	P	**Pb**	**13 10 35.7**	**-0.2**
VIKU				S	**Sb**	**13 10 47.4**	**-0.7**
VIKU	**Vikbolandet**	**0.86**	**108**	P	**Pb**	**13 10 35.7**	**-0.2**
VIKU				S	**Sb**	**13 10 47.4**	**-0.7**
FKPU	**Falk**	**0.97**	**231**	P	**Pb**	**13 10 37.6**	**-0.2**
FKPU				S	**Sg**	**13 10 49.9**	**+0.7**
FKPU	**Falk**	**0.97**	**231**	P	**Pb**	**13 10 37.6**	**-0.2**
FKPU				S	**Sg**	**13 10 49.9**	**+0.7**
NASU	**Vaermlandsnaes**	**1.02**	**279**	P	**Pg**	**13 10 37.9**	**+0.2**
NASU				S	**Sg**	**13 10 51.1**	**+0.1**
NASU	**Vaermlandsnaes**	**1.02**	**279**	P	**Pg**	**13 10 37.9**	**+0.2**
NASU				S	**Sg**	**13 10 51.1**	**+0.1**
EKSU	**Eksjoe**	**1.22**	**176**	P	**Pb**	**13 10 42.2**	**+0.2**
EKSU	**Eksjoe**	**1.22**	**176**	P	**Pb**	**13 10 42.2**	**+0.2**
BACU	**Backbrunna**	**1.48**	**42**	P	**Pn**	**13 10 46.2**	**+0.3**
BACU	**Backbrunna**	**1.48**	**42**	P	**Pn**	**13 10 46.2**	**+0.3**
NYNU	**Nynaeshamn**	**1.51**	**80**	P	**Pg**	**13 10 47.1**	**+0.2**
NYNU	**Nynaeshamn**	**1.51**	**80**	P	**Pg**	**13 10 47.1**	**+0.2**
UDD	**Uddeholm**	**1.53**	**330**	P	**Pn**	**13 10 47.0**	**+0.4**
UDD	**Uddeholm**	**1.53**	**330**	P	**Pn**	**13 10 47.0**	**+0.4**
HFS	**Hagfors**	**1.54**	**332**	Pg	**Pn**	**13 10 47.1**	**+0.2**
	0.6nm,0.3s,baz=155,slow=18,SNR=50						
HFS				Lg	Lg	13 11 06.8	
	0.6nm,0.3s,baz=155,slow=28,SNR=18						
FIBU	**Brunna**	**1.60**	**44**	P	**Pb**	**13 10 48.4**	**-0.1**
FIBU	**Brunna**	**1.60**	**44**	P	**Pb**	**13 10 48.4**	**-0.1**
VANU	**Vaenersborg**	**1.63**	**261**	P	**Pb**	**13 10 49.0**	**0.0**
VANU	**Vaenersborg**	**1.63**	**261**	P	**Pb**	**13 10 49.0**	**0.0**
GNOU	**Gnosjoe**	**1.67**	**207**	P	**Pg**	**13 10 50.2**	**+0.2**
GNOU				S	**Sg**	**13 11 13.1**	**+1.6**
GNOU	**Gnosjoe**	**1.67**	**207**	P	**Pg**	**13 10 50.2**	**+0.2**
GNOU				S	**Sg**	**13 11 13.1**	**+1.6**
OSKU	**Oskarshamn**	**1.67**	**162**	P	**Pg**	**13 10 50.2**	**+0.1**
OSKU	**Oskarshamn**	**1.67**	**162**	P	**Pg**	**13 10 50.2**	**+0.1**
UPP	**Uppsala**	**1.67**	**49**	P	**Pb**	**13 10 49.5**	**-0.2**
UPP	**Uppsala**	**1.67**	**49**	P	**Pb**	**13 10 49.5**	**-0.2**
BORU	**Boraas**	**1.70**	**228**	P	**Pb**	**13 10 50.4**	**+0.2**
BORU	**Boraas**	**1.70**	**228**	P	**Pb**	**13 10 50.4**	**+0.2**
BORU				*e*P	**Pg**	**13 10 51.3**	**+0.6**
BORU				*e*S	**Sg**	**13 11 12.9**	**+0.2**
FALU	**Falun**	**1.75**	**11**	P	**Pb**	**13 10 50.8**	**-0.3**
FALU	**Falun**	**1.75**	**11**	P	**Pb**	**13 10 50.8**	**-0.3**
OSTU	**Oestervaala**	**1.77**	**34**	P	**Pb**	**13 10 51.2**	**-0.3**
OSTU	**Oestervaala**	**1.77**	**34**	P	**Pb**	**13 10 51.2**	**-0.3**
STRU	**Stroemstad**	**2.07**	**279**	*e*P	**Pb**	**13 10 56.4**	**-0.1**
STRU				*e*S	**Sn**	**13 11 21.4**	**+0.9**
FABU	**Falkenberg**	**2.20**	**217**	*e*P	**Pb**	**13 10 58.9**	**+0.1**
DEL	**Delary**	**2.42**	**197**	*e*P	**Pb**	**13 11 01.9**	**-0.5**
BLEU	**Blekinge**	**2.51**	**171**	*e*P	**Pb**	**13 11 03.8**	**-0.2**
BLEU				*e*S	**Sb**	**13 11 33.7**	**-1.7**
BJUU	**Bjuv**	**2.94**	**204**	*e*P	**Pb**	**13 11 09.7**	**-1.8**
NOA	**NORSAR Array B**	**3.01**	**321**	Pn	**Pn**	**13 11 06.7**	**-0.3**
	baz=146,slow=7.1,SNR=6.7						
NOA				Sn	**Sn**	**13 11 42.5**	**-1.3**
	baz=71,slow=9.0,SNR=1.2						
NOA				Lg	Lg	13 11 53.6	
	baz=136,slow=22,SNR=4.4						
HOMB	**Homborsund**	**3.52**	**264**	*e*S	**Sn**	**13 11 54.4**	**-1.7**
FINES	**FINESS Array B**	**6.09**	**59**	Pn	**Pn**	**13 11 51.2**	**+1.9**
	0.1nm,0.3s,baz=252,slow=12,SNR=1.9						
FINES				Sn	**Sn**	**13 13 00.9**	**+1.5**
	0.1nm,0.3s,baz=247,slow=23,SNR=2.2						
FINES				Lg	Lg	13 13 26.9	
	0.1nm,0.3s,baz=239,slow=29,SNR=2.0						
	2.3nm,0.9s						
ARCES	**ARCESS Array B**	**11.68**	**18**	Pn	**Pn**	**13 13 04.1**	**-1.7**
	0.1nm,0.3s,baz=208,slow=13,SNR=1.7						
	2.1nm,0.9s						

*HEL **04** 13:13:06.5±0.1, 66°.32N×22°.75E, h0km, ML1.3, Explosion*
Hypocentre not reviewed by the ISC
IDC 04 13:13:07.4±1.7, 66°27N×23°19E, h0km, mbtmp2.6/2, ML1.7/2, Error ellipse: s-maj=37.2km s-min=8.0km az=89.0, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KALU	**Kalix**	**0.41**	**170**	PG		13 13 15.9	
KALU				SG		13 13 22.9	
ERTU	**Ertsjaerv**	**0.49**	**306**	PG		13 13 12.4	
ERTU				SG		13 13 17.5	
TOF	**Tornio**	**0.50**	**112**	PG		13 13 19.0	
TOF				SG		13 13 27.7	
TOF				MSG		13 13 28.0	
	comp=Z,2.1nm,0.2s						
PAJU	**Pajala**	**0.76**	**358**	PG		13 13 19.4	
	baz=191						
PAJU				SG		13 13 29.0	
KLF	**Kolari**	**1.02**	**17**	PG		13 13 25.3	
	baz=210						
KLF				MSG		13 13 38.1	
	comp=Z,2.0nm,0.2s						
KLF				SG		13 13 38.5	
RNF	**Rovaniemi**	**1.19**	**72**	PG		13 13 30.7	
RNF				SG		13 13 48.8	
RANF	**Ranua**	**1.49**	**98**	PG		13 13 36.1	
	baz=286						
RANF				SN		13 13 59.0	
OUL	**Oulu**	**1.63**	**135**	PG		13 13 38.6	
OUL				SN		13 14 03.2	
OBF4	**Vikkela, Lumij**	**1.66**	**150**	PB		13 13 36.6	
OBF4				MSG		13 14 00.1	
	comp=Z,1.9nm,0.2s						
OBF4				SG		13 14 03.7	
OBF0	**Syolatti, Pyha**	**1.83**	**166**	MSG		13 14 04.0	
	comp=Z,1.6nm,0.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**2.54**	**315**	P	**Pb**	**13 24 27.0**	**-1.3**
JAGI	**Jajag, Banyuwa**	**5.78**	**291**	P	Pn	13 25 01.7	-6.9
JAGI	**Jajag, Banyuwa**	**5.78**	**291**	S	Sn	13 26 00.0	-15
FITZ	**Fitzroy Crossi**	**9.45**	**142**	P	**Pn**	**13 25 58.1**	**-0.8**
MBWA	**Marble Bar**	**10.46**	**179**	P	Pn	13 26 02.1	-11
WRA	**Warramunga Arr**	**16.95**	**125**	P	**Pn**	**13 27 42.0**	**+1.8**
	0.1nm,0.3s,baz=295,slow=13,SNR=1.1						
WRA				S	**Sn**	**13 30 45.7**	**-3.1**
	0.4nm,0.8s,baz=295,slow=26,SNR=1.5 0.3nm,0.5s						
ASAR	**Alice Springs**	**18.82**	**135**	P	**Pn**	**13 28 05.6**	**+2.5**
	0.2nm,0.3s,baz=315,slow=12,SNR=17 0.7nm,0.5s						
MKAR	**Makanchi Array**	**66.17**	**333**	P	**P**	**13 34 31.7**	**+1.2**
	0.2nm,0.6s,baz=138,slow=7.8,SNR=2.6 0.2nm,0.6s						

*NEIC **04** 13:23:54.8±2.0, 25.3S±0.1×179.9E±0.1, h494km±7km, mb4.4/24, Error ellipse: s-maj=19.4km s-min=12.3km az=152.0*

*NOU **04** 13:23:54.7, 25.10S×179.85W, h533km, mb4.4/44, South of Fiji Islands*

*IDC **04** 13:23:55.6±1.1, 25.09S×179.71E, h502km±11km, mb3.4/12, mbtmp4.3/16, Error ellipse: s-maj=13.8km s-min=11.7km az=142.0*

ISC 04 13:23:54.8±0.5, 25.14S±0.06×179.81E±0.07, h500km, n93, σ1s09/100, mb4.2/36, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.56**	**154**	P	**P**	**13 25 20.4**	**+2.6**
	883nm,0.4s,baz=109,slow=23,SNR=2.0						
RAO				S	**S**	**13 26 24.8**	**-0.8**
	520nm,0.4s,baz=76,slow=21,SNR=1.6						
LKBA	**Tubou, Lakemba**	**7.00**	**11**	P	**P**	**13 25 41.4**	**+0.3**
MSVF	**Nonsavu**	**7.55**	**347**	P	**P**	**13 25 46.8**	**0.0**
	13nm,0.4s,baz=232,slow=23,SNR=40						
MSVF				S	**S**	**13 27 17.8**	**-0.8**
	7.0nm,0.8s,baz=156,slow=20,SNR=2.2						
MSVF	**Nonsavu**	**7.55**	**347**	P	**P**	**13 25 46.7**	**-0.1**
TAVE	**Taveuni**	**8.40**	**2**	P	**P**	**13 25 56.8**	**+1.3**
YSA	**Yasawairara**	**8.66**	**346**	P	**P**	**13 25 58.4**	**+0.2**
INH	**Isangel**	**11.23**	**298**	P	**P**	**13 26 27.6**	**+2.4**
DZM	**Mont Dzumac**	**12.63**	**281**	P	**P**	**13 26 41.9**	**+1.7**
DZM	**Mont Dzumac**	**12.63**	**281**	P	**P**	**13 26 41.5**	**+1.3**
	14nm,0.7s,baz=74,slow=18,SNR=13						
DZM	**Mont Dzumac**	**12.63**	**281**	P	**P**	**13 26 43.0**	**+2.8**
URZ	**Urewera**	**13.27**	**189**	P	**P**	**13 26 47.1**	**+0.4**
	27nm,1.1s,baz=336,slow=8.6,SNR=2.2						
URZ				S	**S**	**13 29 07.0**	**-1.4**
	21nm,0.6s,baz=215,slow=21,SNR=7.1						
AFI	**Afiamalu**	**13.70**	**37**	P	**P**	**13 26 48.9**	**-2.6**
	31nm,1.1s						
BKZ	**Black Stump Fm**	**14.26**	**191**	P	**P**	**13 26 56.8**	**-0.3**
VLAKA	**Lakatoro**	**14.66**	**305**	P	**P**	**13 27 03.3**	**+1.7**
KOUNC	**Koumac, New Ca**	**15.02**	**285**	P	**P**	**13 27 08.0**	**+2.7**
BFZ	**Birch Farm**	**15.78**	**190**	P	**P**	**13 27 12.6**	**-0.3**
QRZ	**Quartz Range**	**16.78**	**199**	P	**P**	**13 27 23.5**	**+0.2**
THZ	**Tophouse**	**17.54**	**197**	P	**P**	**13 27 29.9**	**-0.9**
THZ				IAmb	IAmb	13 27 36.9	
	comp=Z,16nm,0.8s						
KHZ	**Kahutara**	**17.99**	**195**	P	**P**	**13 27 34.4**	**-0.4**
KHZ	**Kahutara**	**17.99**	**195**	P	**P**	**13 27 34.2**	**-0.6**
	comp=Z,37nm,1.4s						
INZ	**Inchbonnie**	**18.84**	**199**	P	**P**	**13 27 42.7**	**+0.1**
LUES	**Luesalemba Tem**	**19.53**	**315**	P	**P**	**13 27 49.0**	**-0.2**
RPZ	**Rata Peaks**	**19.86**	**199**	P	**P**	**13 27 53.2**	**+1.3**
	comp=Z,5.0nm,0.3s,baz=32,slow=6.2,SNR=7.3						
RPZ	**Rata Peaks**	**19.86**	**199**	P	**P**	**13 27 52.4**	**+0.4**
	comp=Z,34nm,2.9s						
NGOA	**Tingoa Rembel**	**23.06**	**302**	P	**P**	**13 28 22.1**	**+0.9**
ALEG	**Aligegeo Malai**	**24.44**	**309**	P	**P**	**13 28 33.8**	**+0.3**
TATA	**Tatamba Isabel**	**25.33**	**308**	P	**P**	**13 28 41.5**	**+0.2**
ARMA	**Armidale**	**25.45**	**252**	P	**P**	**13 28 42.9**	**+0.5**
ARMA				IAmb	IAmb	13 29 00.1	
	comp=Z,12nm,1.1s						
ARMA	**Armidale**	**25.45**	**252**	P	**P**	**13 28 44.6**	**+2.2**
	comp=Z,27nm,3.0s						
EIDS	**Eidsvold**	**25.96**	**263**	P	**P**	**13 28 47.8**	**+0.9**
EIDS				IAmb	IAmb	13 28 50.8	
	comp=Z,7.5nm,0.8s						
EIDS	**Eidsvold**	**25.96**	**263**	P	**P**	**13 28 47.7**	**+0.8**
	comp=Z,24nm,1.5s						
CNB	**Canberra Magne**	**28.09**	**242**	P	**P**	**13 29 07.1**	**+1.5**
CAN	**Canberra**	**28.39**	**242**	P	**P**	**13 29 08.1**	**0.0**
CAN	**Canberra**	**28.39**	**242**	P	**P**	**13 29 09.3**	**+1.2**
	comp=Z,31nm,2.7s						
CMSA	**Cobar Meteorol**	**30.61**	**250**	P	**P**	**13 29 27.4**	**0.0**
	comp=Z,5.1nm,0.8s						
CTAO	**Charters Tower**	**31.33**	**272**	P	**P**	**13 29 34.5**	**+0.7**
CTAO	**Charters Tower**	**31.33**	**272**	P	**P**	**13 29 34.0**	**+0.2**
	comp=Z,8.5nm,0.7s						
QLP	**Quilpie**	**31.98**	**260**	P	**P**	**13 29 39.1**	**-0.2**
	comp=Z,26nm,0.9s						
MTSU	**Mount Surprise**	**33.65**	**275**	P	**P**	**13 29 54.1**	**+0.5**
	comp=Z,27nm,0.8s						
STKA	**Stephens Creek**	**34.12**	**250**	P	**P**	**13 29 57.1**	**-0.2**
STKA	**Stephens Creek**	**34.12**	**250**	P	**P**	**13 29 57.5**	**+0.2**
	comp=Z,3.0nm,0.5s,baz=100,slow=12,SNR=12 comp=Z,3.0nm,0.5s						
STKA	**Stephens Creek**	**34.12**	**250**	P	**P**	**13 29 57.7**	**+0.4**
COEN	**Coen**	**36.16**	**281**	P	**P**	**13 30 15.2**	**+0.6**
COEN				IAmb	IAmb	13 30 17.4	
	comp=Z,11nm,1.1s						
COEN	**Coen**	**36.16**	**281**	P	**P**	**13 30 15.0**	**+0.4**
HTT	**Hallett**	**36.42**	**247**	P	**P**	**13 30 16.1**	**-0.5**
	comp=Z,7.2nm,1.1s						
QIS	**Mount Isa**	**37.23**	**269**	P	**P**	**13 30 23.0**	**-0.4**
	comp=Z,6.9nm,2.9s						
BBOO	**Buckleboo**	**38.81**	**248**	P	**P**	**13 30 35.4**	**-0.7**
BBOO				IAmb	IAmb	13 30 40.8	
	comp=Z,8.1nm,1.1s						
BBOO	**Buckleboo**	**38.81**	**248**	P	**P**	**13 30 34.8**	**-1.3**
	comp=Z,13nm,2.2s						
AS01	**Alice Springs**	**41.63**	**262**	P	**P**	**13 30 58.2**	**-0.7**
	comp=Z,8.7nm,1.0s						
AS31	**Alice Springs**	**41.67**	**262**		**P**	**13 30 59.2**	**-0.1**
ASAR	**Alice Springs**	**41.68**	**262**	P	**P**	**13 30 58.9**	**-0.4**
ASAR	**Alice Springs**	**41.68**	**262**	P	**P**	**13 30 59.1**	**-0.1**
	comp=Z,3.0nm,0.4s,baz=93,slow=7.1,SNR=146						
ASAR				pP	**pP**	**13 32 30.7**	**+1.7**
	comp=Z,1.0nm,0.9s,baz=83,slow=10,SNR=2.9						
ASAR				ScP	**ScP**	**13 35 48.2**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=102,slow=3.7,SNR=2.0						
ASAR				S	**S**	**13 36 39.1**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=101,slow=14,SNR=5.6 comp=Z,3.0nm,0.4s						
WR8	**Warramunga Arr**	**42.02**	**268**		**P**	**13 31 00.9**	**-1.1**
WR8				IAmb	IAmb	13 31 02.9	
	comp=Z,10nm,0.6s						
WRAB	**Tennant Creek**	**42.16**	**268**	P	**P**	**13 31 01.8**	**-1.3**
WRAB				IAmb	IAmb	13 31 03.2	
	comp=Z,11nm,0.9s						
WB0	**Warramunga Arr**	**42.16**	**268**		**P**	**13 31 01.1**	**-2.0**
WB0				IAmb	IAmb	13 31 03.3	
	comp=Z,16nm,0.6s						
WRA	**Warramunga Arr**	**42.16**	**268**	P	**P**	**13 31 01.3**	**-1.8**
WRA	**Warramunga Arr**	**42.16**	**268**	P	**P**	**13 31 02.6**	**-0.5**
	comp=Z,9.3nm,0.4s,baz=100,slow=6.8,SNR=74						
WRA				ScP	**ScP**	**13 35 49.7**	**+0.8**
	comp=Z,1.5nm,0.9s,baz=100,slow=3.7,SNR=5.1						
WRA				S	**S**	**13 36 44.7**	**-2.0**
	comp=Z,2.4nm,1.0s,baz=100,slow=14,SNR=6.7 comp=Z,9.3nm,0.4s						
FORT	**Forrest**	**45.73**	**251**	P	**P**	**13 31 28.8**	**-1.8**
FORT				IAmb	IAmb	13 31 30.3	
	comp=Z,9.5nm,0.8s						
KDU	**Kakadu**	**46.24**	**276**	P	**P**	**13 31 33.4**	**-1.4**
	comp=Z,10.0nm,0.6s						
MTN	**Manton Dam**	**47.39**	**276**	P	**P**	**13 31 42.0**	**-1.5**
MTN				IAmb	IAmb	13 31 43.4	
	comp=Z,9.8nm,1.0s						
MTN	**Manton Dam**	**47.39**	**276**	P	**P**	**13 31 42.5**	**-1.0**
	comp=Z,11nm,2.1s						
DRS	**Darwin Rock St**	**47.76**	**276**	P	**P**	**13 31 45.2**	**-1.0**
	comp=Z,9.9nm,0.5s						
KNRA	**Kununurra**	**48.52**	**271**		**P**	**13 31 51.9**	**0.0**
MLH	**Mauna Loa**	**50.51**	**31**	P	**P**	**13 32 06.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**50.57**	**267**		**P**	**13 32 06.8**	**-0.3**
FAKI	**Fak Fak**	**50.79**	**288**	P	**P**	**13 32 08.5**	**-0.2**
	comp=Z,25nm,1.1s						
MBWA	**Marble Bar**	**55.00**	**261**	P	**P**	**13 32 37.6**	**-1.1**
MBWA	**Marble Bar**	**55.00**	**261**	P	**P**	**13 32 37.4**	**-1.3**
	comp=Z,8.7nm,2.8s						
MORW	**Morawa**	**56.29**	**251**	P	**P**	**13 32 46.7**	**-1.0**
CASY	**Casey**	**58.92**	**206**	P	**P**	**13 33 04.2**	**-0.7**
LUWI	**Luwuk**	**59.95**	**284**	P	**P**	**13 33 12.3**	**-0.4**
PLAI	**Plampang**	**61.02**	**274**	P	**P**	**13 33 18.8**	**-1.0**
	comp=Z,57nm,1.2s						
TOLI2	**Tolitoli**	**62.73**	**285**	P	**P**	**13 33 29.8**	**-1.1**
TOLI2				IAmb	IAmb	13 33 31.7	
	comp=Z,8.2nm,0.7s						
TOLI2	**Tolitoli**	**62.73**	**285**	P	**P**	**13 33 29.9**	**-1.1**
QSPA	**South Pole Qui**	**64.94**	**180**	P	**P**	**13 33 44.9**	**+0.5**
QSPA	**South Pole Qui**	**64.94**	**180**	P	**P**	**13 33 45.1**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=46,slow=1.5,SNR=6.2 comp=Z,1.0nm,0.7s						
UGM	**Wanagama**	**67.95**	**271**	P	**P**	**13 34 03.0**	**-0.8**
MJAR	**Matsushiro Arr**	**72.82**	**326**	P	**P**	**13 34 32.0**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=159,slow=5.2,SNR=3.2 comp=Z,1.8nm,0.7s						
KSRS	**Korea Array**	**79.09**	**320**	P	**P**	**13 35 07.5**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=140,slow=5.8,SNR=9.5 comp=Z,1.2nm,0.7s						
PETK	**Petropavlovsk-**	**80.27**	**347**	P	**P**	**13 35 12.7**	**0.0**
	comp=Z,1.4nm,0.7s,baz=114,slow=7.8,SNR=6.6 comp=Z,1.4nm,0.7s						
SNAA	**Sanae**	**83.43**	**179**	P	**P**	**13 35 28.3**	**-0.5**
	comp=Z,0.9nm,1.0s,baz=192,slow=9.3,SNR=2.7 comp=Z,0.9nm,1.0s						
GSI	**Gunungsitoli**	**83.52**	**274**	P	**P**	**13 35 28.8**	**-1.5**
NVAR	**Mina Array Bea**	**85.77**	**44**	P	**P**	**13 35 41.5**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=224,slow=8.7,SNR=7.2 comp=Z,1.2nm,0.7s						
I07A	**Izee**	**88.46**	**39**	P	**P**	**13 35 54.6**	**+1.2**
I07A				IAmb	IAmb	13 35 55.4	
	comp=Z,3.0nm,0.9s						
ELK	**Elko**	**89.04**	**44**	P	**P**	**13 35 56.3**	**0.0**
	comp=Z,0.3nm,0.3s,baz=262,slow=3.3,SNR=2.3 comp=Z,0.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**89.80**	**290**	P	**P**	**13 36 01.5**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=153,slow=3.9,SNR=6.6 comp=Z,0.7nm,0.4s						
TXAR	**Lajitas Array**	**91.23**	**58**	P	**P**	**13 36 07.2**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=212,slow=6.9,SNR=14 comp=Z,1.1nm,0.8s						
BVAR	**Borovoye Array**	**121.25**	**318**	PKP	**PKPdf**	**13 41 49.6**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=90,slow=1.4,SNR=2.8						
HFS	**Hagfors**	**143.73**	**348**	PKP	PKPab	13 42 30.2	-0.5
	comp=Z,2.0nm,0.4s,baz=54,slow=3.8,SNR=17						
AKASG	**Malin Array Be**	**145.91**	**326**	PKPbc	**PKPdf**	**13 42 36.7**	**+0.8**
	comp=Z,1.2nm,0.4s,baz=44,slow=4.6,SNR=10						
ASF	**Jabal al Asfar**	**146.83**	**291**	PKPbc	**PKiKP**	**13 42 42.6**	**-0.4**
	comp=Z,2.2nm,0.5s,baz=142,slow=6.6,SNR=5.8						
MMAI	**Mount Meron Ar**	**148.03**	**293**	PKPbc	**PKPbc**	**13 42 45.0**	**+1.0**
	comp=Z,2.3nm,0.5s,baz=74,slow=3.0,SNR=5.3						
BRTR	**Kerkin Array B**	**148.17**	**305**	PKPbc	**PKPbc**	**13 42 43.9**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=111,slow=3.2,SNR=6.0						

IDC 04 13:24:41.7±999.0, 53.25N×41.78E, h0km, Error ellipse: s-maj=397.8km s-min=93.8km az=142.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.36**	**325**	I	I	13 51 20.0	
	0.1nm,0.6s,baz=141,slow=322,SNR=2.1						
I26DE	**FREYUNG INFRAS**	**18.13**	**267**	I	I	15 14 04.0	
	baz=67,slow=322,SNR=0.5						
I37NO	**I37NO**	**19.19**	**335**	I	I	15 21 00.0	
	baz=135,slow=326,SNR=2.6						

*IDC **04** 13:29:46.2±1.1, 52.83N×132.53W, h0km, mb3.8/4, mbtmp3.5/8, ML2.8/4, MS2.8/3, Error ellipse: s-maj=13.6km s-min=6.9km az=63.0*

*ANF **04** 13:30:07.8±2.7, 54.48N×132.47W, h0km, ML3.5/14, Error ellipse: s-maj=29.7km s-min=10.8km az=9.0*

ISC 04 13:29:47.2±1.2, 52.88N±0.08×132.66W±0.08, h10km, n51, σ1s43/48, mb3.9/4, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.34**	**20**	Pg	**Pg**	**13 29 53.9**	**0.0**
H02S1				Lg	Lg	13 29 57.5	
V35K	**Ketchikan**	**2.52**	**14**	P	**Pn**	**13 30 27.0**	**-1.2**
	baz=195,SNR=68						
CRAG	**Craig**	**2.60**	**354**	P	**Pn**	**13 30 27.5**	**-1.8**
	baz=174,SNR=17						
BBB	**Bella Bella**	**2.87**	**102**	Pn	**Pn**	**13 30 31.3**	**-1.6**
	2.6nm,0.3s,baz=282,slow=14,SNR=24						
BBB				Sn	**Sn**	**13 31 04.8**	**-2.6**
	12nm,0.3s,baz=252,slow=20,SNR=10						
BBB				Lg	Lg	13 31 13.7	
	25nm,0.3s,baz=4.5,slow=21,SNR=10.0 5.3nm,0.3s						
U33K	**Whale Pass**	**3.25**	**355**	P	**Pn**	**13 30 36.5**	**-1.6**
	baz=176						
WRAK	**Wrangell Islan**	**3.55**	**3**	P	**Pn**	**13 30 41.9**	**-0.3**
	baz=184,SNR=17						
T35M	**Bob Quinn**	**4.33**	**18**	P	**Pn**	**13 30 53.8**	**+0.7**
	baz=200,SNR=15						
SIT	**Sitka**	**4.45**	**341**	P	**Pn**	**13 30 52.6**	**-2.0**
	baz=159						
SIT				Sb	**Sn**	**13 31 41.5**	**-4.9**
	baz=159						
S32K	**Kilisnoo**	**4.72**	**347**	P	**Pn**	**13 30 57.5**	**-0.8**
	baz=166						
S34M	**Telegraph Cree**	**5.12**	**9**	P	**Pn**	**13 31 04.6**	**+0.8**
	baz=191,SNR=5.2						
S31K	**Pelican**	**5.48**	**340**	P	**Pn**	**13 31 10.1**	**+1.3**
	baz=157						
S31K				Sb	**Sn**	**13 32 11.6**	**-0.2**
	baz=157						
R32K	**Eaglecrest**	**5.50**	**350**	P	**Pn**	**13 31 08.7**	**-0.4**
	baz=168						
DLBC	**Dease Lake**	**5.76**	**14**	Pn	**Pn**	**13 31 14.6**	**+1.9**
	baz=162,slow=12,SNR=12						
DLBC				Sn	**Sn**	**13 32 19.8**	**+0.9**
	0.1nm,0.3s,baz=157,slow=10.0,SNR=4.6						
DLBC				Lg	Lg	13 32 43.9	
	0.2nm,0.3s,baz=272,slow=19,SNR=7.3						
DLBC				LR	LR	13 33 33.4	
	comp=Z,11nm,19.2s,baz=145,slow=39						
DLBC	**Dease Lake**	**5.76**	**14**	P	**Pn**	**13 31 13.9**	**+1.1**
	baz=196						
Q32M	**Nakina River**	**6.09**	**2**	P	**Pn**	**13 31 17.8**	**+0.5**
	baz=182						
Q32M				Sb	**Sn**	**13 32 24.6**	**-2.6**
	baz=182						
R33M	**Jennings River**	**6.59**	**8**	P	**Pn**	**13 31 25.0**	**+0.8**
	baz=189,SNR=9.1						
R33M				Sb	**Sn**	**13 32 40.0**	**+0.5**
	baz=189						
P32M	**Atlin**	**6.75**	**355**	P	**Pn**	**13 31 26.6**	**+0.4**
	baz=175						
SKAG	**Skagway**	**6.76**	**348**	P	**Pn**	**13 31 27.8**	**+1.6**
	baz=166						
PLBC	**Pleasant Camp**	**6.90**	**344**	P	**Pn**	**13 31 29.8**	**+1.5**
	baz=161						
TOAD	**Toad River Com**	**7.29**	**32**	P	**Pn**	**13 31 34.6**	**+0.9**
	baz=218						
P33M	**Teslin, Yukon**	**7.35**	**359**	P	**Pn**	**13 31 34.6**	**+0.2**
	baz=180,SNR=13						
LIRD	**Liard River Hi**	**7.50**	**27**	P	**Pn**	**13 31 37.6**	**+1.2**
	baz=212						
WHY	**Whitehorse**	**7.89**	**352**	P	**Pn**	**13 31 41.9**	**-0.1**
	baz=170,SNR=9.9						
O30N	**Mendenhall**	**8.13**	**348**	P	**Pn**	**13 31 46.1**	**+1.0**
	baz=165						
N32M	**Quiet Lake**	**8.29**	**359**	P	**Pn**	**13 31 47.8**	**+0.4**
	baz=178						
N30M	**Aishikik Lake**	**8.93**	**346**	P	**Pn**	**13 31 56.6**	**+0.5**
	baz=163						
TGTN	**Hyland Airport**	**8.98**	**14**	P	**Pn**	**13 31 57.2**	**+0.3**
	baz=197						
CTG	**Chitna Glacier**	**9.38**	**333**	P	**Pn**	**13 32 04.9**	**+2.6**
	baz=146						
FARO	**Faro, Yukon**	**9.38**	**358**	P	**Pn**	**13 32 02.8**	**+0.5**
	baz=178						
M31M	**Drury Creek, Y**	**9.39**	**355**	P	**Pn**	**13 32 03.3**	**+0.9**
	baz=174						
MMPY	**Sheldon Lake,**	**9.79**	**4**	P	**Pn**	**13 32 08.9**	**+1.0**
	baz=185						
M30M	**Minto, Yukon**	**9.96**	**349**	P	**Pn**	**13 32 11.1**	**+0.8**
	baz=166						
M29M	**Somme Creek**	**10.07**	**344**	P	**Pn**	**13 32 13.1**	**+1.3**
	baz=160						
NEW	**Newport**	**10.91**	**109**	Lg	Lg	13 35 26.5	
	0.1nm,0.3s,baz=1.9,slow=22,SNR=1.5						
YKA	**Yellowknife Ar**	**13.58**	**38**	Pn	**Pn**	**13 32 58.6**	**-1.1**
	0.1nm,0.3s,baz=227,slow=11,SNR=8.2						
YKA				Lg	Lg	13 36 51.1	
	baz=229,slow=28,SNR=4.5 1.0nm,0.9s						
ILAR	**Eielson Array**	**13.96**	**334**	Pn	**Pn**	**13 33 06.9**	**+2.1**
	0.1nm,0.3s,baz=148,slow=9.9,SNR=12						
ILAR				Lg	Lg	13 37 15.0	
	baz=322,slow=32,SNR=1.3						
ILAR				LR	LR	13 38 32.4	
	comp=Z,74nm,18.1s,baz=180,slow=38 0.2nm,0.8s						
NEA2	**Nenana**	**14.44**	**331**	P	**P**	**13 33 17.2**	**-1.0**
	baz=137,SNR=5.4						
INK	**Inuvik**	**15.48**	**359**	Lg	Lg	13 37 54.5	
	0.7nm,0.3s,baz=88,slow=32,SNR=2.1						
G23K	**Bananza Creek**	**16.29**	**335**	P	**P**	**13 33 40.5**	**+1.7**
	baz=140,SNR=6.7						
PDAR	**Pinedale Array**	**18.45**	**114**	P	**P**	**13 34 03.0**	**0.0**
	0.1nm,0.3s,baz=309,slow=13,SNR=4.1						
ULM	**Lac du Bonnet**	**22.86**	**82**	P	**P**	**13 34 50.2**	**-0.1**
	0.7nm,0.4s,baz=312,slow=12,SNR=1.7 0.7nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**56.73**	**259**	T	T	14 41 05.9	
	baz=38,slow=76,SNR=492						
H11N3	**WAKE ISLAND Hy**	**56.73**	**259**	T	T	14 41 06.8	
	baz=38,slow=76,SNR=491						
H11N1	**WAKE ISLAND Hy**	**56.75**	**259**	T	T	14 41 14.3	
	baz=38,slow=76,SNR=338						
H11S1	**WAKE ISLAND Hy**	**57.79**	**258**	T	T	14 42 29.0	
	baz=37,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	**57.80**	**258**	T	T	14 42 30.0	
	baz=37,slow=75,SNR=9.5						
H11S3	**WAKE ISLAND Hy**	**57.81**	**258**	T	T	14 42 30.6	
	baz=37,slow=75,SNR=11						
KURBB	**Kurchatov Arra**	**73.56**	**340**	P	**P**	**13 41 20.3**	**+0.4**
	1.4nm,0.9s,baz=20,slow=5.6,SNR=9.3 1.4nm,0.9s						
BELG	**Belogornoye**	**75.09**	**360**	LR	LR	14 21 19.2	
	comp=Z,22nm,18.6s,baz=62,slow=41						
MKAR	**Makanchi Array**	**76.31**	**336**	P	**P**	**13 41 36.6**	**+0.8**
	1.2nm,0.7s,baz=22,slow=4.6,SNR=11 1.2nm,0.7s						
ESDC	**Sonseca Array**	**77.68**	**38**	P	**P**	**13 41 44.1**	**+0.3**
	0.4nm,0.6s,baz=322,slow=8.3,SNR=4.1 0.4nm,0.6s						

IDC 04 13:38:39.7±4.1, 30.15N×141.05E, h0km, mb3.6/5, mbtmp3.5/6, ML2.5/1, MS3.3/3, Error ellipse: s-maj=153.4km s-min=27.0km az=75.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.81**	**340**	Pn	Pn	13 40 18.8	-2.0
	0.1nm,0.3s,baz=161,slow=11,SNR=6.2						
MJAR				Sn	Sn	13 41 41.8	+2.8
	baz=170,slow=21,SNR=1.7 1.7nm,0.6s						
JOW	**Kunigami**	**11.71**	**257**	LR	LR	13 44 41.7	
	comp=Z,67nm,21.1s,baz=305,slow=31						
ZALV	**Zalesovo Beam**	**46.56**	**317**	P	P	13 47 10.3	+1.3
	0.4nm,0.3s,baz=79,slow=7.6,SNR=2.2 0.4nm,0.3s						
MKAR	**Makanchi Array**	**47.80**	**308**	P	P	13 47 17.4	-1.4
	0.3nm,0.6s,baz=92,slow=8.1,SNR=3.1 0.3nm,0.6s						
WRA	**Warramunga Arr**	**50.22**	**188**	P	P	13 47 37.4	-0.1
	0.4nm,0.7s,baz=7.5,slow=7.3,SNR=2.6 0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**50.22**	**313**	P	P	13 47 36.3	-1.0
	0.3nm,0.5s,baz=91,slow=6.8,SNR=5.7 0.3nm,0.5s						
BVAR	**Borovoye Array**	**55.15**	**316**	P	P	13 48 14.8	+1.0
	0.6nm,0.5s,baz=101,slow=7.7,SNR=4.6 0.6nm,0.5s						
BBB	**Bella Bella**	**67.30**	**42**	LR	LR	14 18 20.0	
	comp=Z,42nm,19.0s,baz=214,slow=35						
HFS	**Hagfors**	**80.24**	**336**	LR	LR	14 27 07.2	
	comp=Z,18nm,19.1s,baz=351,slow=36						

IDC 04 13:56:39.3±2.2, 30.29S×178.12W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=60.8km s-min=42.0km az=39.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.01**	**267**	P	P	14 04 40.5	-0.4
	0.7nm,0.6s,baz=104,slow=7.3,SNR=11 0.7nm,0.6s						
WRA	**Warramunga Arr**	**43.99**	**272**	P	P	14 04 48.8	+0.1
	0.4nm,0.3s,baz=112,slow=8.0,SNR=6.8 0.4nm,0.3s						
QSPA	**South Pole Qui**	**59.83**	**180**	P	P	14 06 46.4	+0.1
	1.8nm,1.2s,baz=53,slow=5.1,SNR=1.2 1.8nm,1.2s						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	14 16 16.2	-0.9
	1.0nm,0.7s,baz=46,slow=4.0,SNR=6.0						

IDC 04 14:04:04.0±999.0, 54.60N×41.56E, h0km, Error ellipse: s-maj=434.4km s-min=70.8km az=132.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOMU	**GeErMu**	**6.25**	**86**	Pn	**Pn**	**15 15 27.3**	**+1.1**
GOMU				Sn	**Sn**	**15 16 38.2**	**+0.4**
GOMU				LR	LR		
	comp=N,2μm,10.4s						
GOMU				LR	LR		
	comp=Z,910nm,12.9s						
LSA	**Lhasa**	**7.18**	**151**	Pg	**Pb**	**15 15 56.8**	**-1.8**
LSA				LR	LR		
	comp=N,1μm,13.3s						
LSA				LR	LR		
	comp=Z,440nm,14.7s						
WMQ	**Urumqi**	**7.79**	**3**	P	**Pn**	**15 15 51.0**	**+4.0**
GTA	**Gaotai**	**10.62**	**68**	*e*P	**Pn**	**15 16 24.6**	**-1.3**
GTA				pP		15 16 30.1	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
GTA				LR	LR		
	comp=N,3μm,14.5s						
GTA				LR	LR		
	comp=E,1μm,13.4s						
GTA				LR	LR		
	comp=Z,1μm,13.8s						
MKAR	**Makanchi Array**	**11.34**	**343**	Pn	**Pn**	**15 16 37.1**	**+1.5**
	0.1nm,0.3s,baz=147,slow=15,SNR=9.0						
MKAR				Sn	**Sn**	**15 18 40.5**	**-1.8**
	baz=158,slow=13,SNR=1.7						
MKAR				Lg	Lg	15 20 06.1	
	0.1nm,0.3s,baz=154,slow=17,SNR=3.8						
MKAR				LR	LR	15 21 39.2	
	comp=Z,219nm,18.4s,baz=156,slow=41 0.9nm,0.7s						
BRDH	**Bariadhala**	**13.88**	**162**	LR	LR	15 23 18.5	
	comp=Z,146nm,19.1s,baz=239,slow=41						
KURBB	**Kurchatov Arra**	**15.84**	**340**	Pn	**Pn**	**15 17 34.7**	**-1.8**
	baz=157,slow=12,SNR=5.5						
KURBB				Sn	**Sn**	**15 20 27.0**	**-5.0**
	baz=245,slow=15,SNR=2.3						
KURBB				Lg	Lg	15 22 18.0	
	baz=174,slow=29,SNR=1.6 0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**17.98**	**356**	P	**P**	**15 18 03.2**	**-0.8**
	0.1nm,0.3s,baz=172,slow=12,SNR=3.6						
ZALV				LR	LR	15 26 14.6	
	comp=Z,130nm,20.3s,baz=178,slow=41 0.7nm,0.5s						
SONM	**Songino Array**	**18.52**	**45**	P	**P**	**15 18 08.6**	**-1.5**
	0.3nm,0.3s,baz=230,slow=12,SNR=5.3						
SONM				LR	LR	15 25 38.9	
	comp=Z,276nm,21.8s,baz=235,slow=38 1.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.40**	**146**	P	Pn	15 18 29.5	-3.3
	0.3nm,0.3s,baz=326,slow=9.8,SNR=5.5 0.3nm,0.3s						
BVAR	**Borovoye Array**	**20.66**	**331**	P	Pn	15 18 35.8	+0.1
	2.7nm,0.8s,baz=134,slow=11,SNR=15						
BVAR				LR	LR	15 27 27.4	
	comp=Z,210nm,18.1s,baz=138,slow=39 2.7nm,0.8s						
AKTO	**Aktyubinsk**	**25.41**	**314**	LR	LR	15 30 41.6	
	comp=Z,378nm,18.3s,baz=59,slow=39						
QIZ	**Qiongzhong**	**26.24**	**124**	P	**P**	**15 19 30.2**	**+1.4**
QIZ				S	**S**	**15 24 02.7**	**+1.5**
QIZ				LR	LR		
	comp=E,510nm,4.3s						
QIZ				LR	LR		
	comp=Z,430nm,10.3s						
ARTI	**Arti**	**28.10**	**325**	LR	LR	15 32 02.7	
	comp=Z,224nm,19.7s,baz=124,slow=39						
PALK	**Pallekele**	**29.22**	**193**	LR	LR	15 31 24.7	
	comp=Z,93nm,20.1s,baz=12,slow=36						
BELG	**Belogornoye**	**32.19**	**313**	LR	LR	15 34 58.4	
	comp=Z,254nm,18.2s,baz=88,slow=39						
GNI	**Garni**	**33.36**	**290**	LR	LR	15 36 33.5	
	comp=Z,66nm,18.6s,baz=122,slow=41						
NRIK	**Noril'sk**	**33.36**	**0**	LR	LR	15 35 34.8	
	comp=Z,199nm,20.3s,baz=182,slow=39						
KIRV	**Kirov**	**33.39**	**324**	LR	LR	15 35 26.4	
	comp=Z,236nm,18.5s,baz=119,slow=38						
KLR	**Kul'dur**	**34.89**	**54**	LR	LR	15 37 35.0	
	comp=Z,24nm,18.6s,baz=264,slow=41						
USRK	**Ussuriysk Ar.**	**34.92**	**62**	LR	LR	15 35 25.8	
	comp=Z,71nm,20.0s,baz=245,slow=37						
JNU	**Nakatsue**	**35.94**	**82**	LR	LR	15 37 16.0	
	comp=Z,71nm,20.0s,baz=325,slow=39						
JOW	**Kunigami**	**36.09**	**93**	LR	LR	15 35 21.8	
	comp=Z,126nm,19.8s,baz=310,slow=36						
TGY	**Tagaytay City**	**37.34**	**117**	LR	LR	15 36 22.0	
	comp=Z,121nm,20.0s,baz=222,slow=36						
MJAR	**Matsushiro Arr**	**40.80**	**74**	LR	LR	15 38 17.6	
	comp=Z,102nm,19.7s,baz=290,slow=36						
ASF	**Jabal al Asfar**	**41.38**	**280**	LR	LR	15 44 05.4	
	comp=Z,50nm,18.2s,baz=95,slow=44						
TIXI	**Tiksi**	**41.67**	**19**	LR	LR	15 39 52.8	
	comp=Z,83nm,21.2s,baz=236,slow=38						
BRTR	**Keskin Array B**	**41.84**	**292**	P	**P**	**15 21 44.9**	**+1.1**
	0.8nm,0.8s,baz=98,slow=7.6,SNR=4.9 0.8nm,0.8s						
ASAJ	**Asahikawa**	**42.53**	**61**	LR	LR	15 39 53.5	
	comp=Z,80nm,19.4s,baz=312,slow=37						
AKASG	**Malin Array Be**	**43.44**	**308**	LR	LR	15 42 01.4	
	comp=Z,166nm,19.4s,baz=64,slow=39						
EIL	**Elat**	**43.84**	**277**	LR	LR	15 44 03.3	
	comp=Z,101nm,20.7s,baz=67,slow=41						
FINES	**FINESS Array B**	**45.38**	**324**	LR	LR	15 42 18.0	
	comp=Z,102nm,18.9s,baz=84,slow=38						
DAV	**Davao City (W)**	**45.47**	**120**	LR	LR	15 41 41.8	
	comp=Z,84nm,18.5s,baz=334,slow=37						
MLR	**Muntele Rosu**	**46.26**	**301**	LR	LR	15 46 10.7	
	comp=Z,85nm,18.1s,baz=264,slow=42						
MA2	**Magadan**	**46.60**	**39**	LR	LR	15 43 06.1	
	comp=Z,102nm,18.2s,baz=265,slow=38						
SEY	**Seymchan**	**47.48**	**34**	LR	LR	15 43 29.4	
	comp=Z,108nm,18.9s,baz=269,slow=38						
KAPI	**Kappang**	**51.02**	**136**	LR	LR	15 50 16.7	
	comp=Z,47nm,18.1s,baz=290,slow=43						
HFS	**Hagfors**	**51.47**	**322**	P	**P**	**15 23 00.3**	**+1.5**
	6.7nm,1.1s,baz=112,slow=9.5,SNR=2.3						
HFS				LR	LR	15 45 29.9	
	comp=Z,68nm,21.5s,baz=82,slow=37 6.7nm,1.1s						
VRAC	**Vranov**	**51.69**	**308**	LR	LR	15 47 02.0	
	comp=Z,103nm,18.3s,baz=71,slow=38						
NB2	**NORSAR Subarra**	**52.56**	**324**	P	**P**	**15 23 09.7**	**+2.7**
	comp=Z,0.7nm,0.6s,baz=82,slow=7.4						
NOA	**NORSAR Array B**	**52.56**	**324**	P	**P**	**15 23 07.3**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=82,slow=7.3,SNR=4.1						
NOA				LR	LR	15 46 29.2	
	comp=Z,72nm,20.1s,baz=80,slow=37 comp=Z,0.8nm,0.6s						
GUMO	**Guam**	**56.15**	**98**	LR	LR	15 47 30.8	
	comp=Z,28nm,21.2s,baz=314,slow=36						
DAVOX	**Davos/Dischmat**	**56.72**	**307**	LR	LR	15 51 08.2	
	comp=Z,133nm,19.4s,baz=85,slow=39						
VAE	**Valguarnera**	**56.85**	**295**	LR	LR	15 56 20.7	
	comp=Z,46nm,19.9s,baz=140,slow=45						
KEST	**Kesra**	**61.29**	**295**	LR	LR	15 55 38.2	
	comp=Z,45nm,19.5s,baz=352,slow=41						
ESDC	**Sonseca Array**	**68.85**	**304**	LR	LR	15 58 06.7	
	comp=Z,67nm,18.3s,baz=48,slow=38						
WRA	**Warramunga Arr**	**71.39**	**133**	P	**P**	**15 25 11.9**	**-2.1**
	comp=Z,0.7nm,0.8s,baz=328,slow=6.8,SNR=3.1 comp=Z,0.7nm,0.8s						
INK	**Inuvik**	**71.64**	**15**	LR	LR	16 03 05.1	
	comp=Z,60nm,18.4s,baz=92,slow=41						
SFJD	**Kangerlussuaq**	**72.37**	**344**	LR	LR	16 02 44.0	
	comp=Z,55nm,18.3s,baz=34,slow=40						
ASAR	**Alice Springs**	**74.04**	**136**	P	**P**	**15 25 29.0**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=319,slow=4.1,SNR=2.2 comp=Z,0.5nm,0.8s						
FRB	**Frobisher Bay**	**78.69**	**349**	LR	LR	16 04 16.0	
	comp=Z,56nm,18.9s,baz=358,slow=38						
LBTB	**Lobatse**	**84.00**	**223**	LR	LR	16 02 11.4	
	comp=Z,34nm,18.7s,baz=106,slow=34						
STKA	**Stephens Creek**	**84.68**	**136**	LR	LR	16 07 51.3	
	comp=Z,36nm,19.3s,baz=359,slow=38						
BOSA	**Boshof**	**86.72**	**231**	LR	LR	16 02 49.8	
	comp=Z,34nm,19.9s,baz=136,slow=34						
SCHQ	**Schefferville**	**86.76**	**345**	LR	LR	16 09 51.2	
	comp=Z,26nm,18.0s,baz=311,slow=39						
DBIC	**Dimbokro**	**87.70**	**277**	LR	LR	16 09 17.6	
	comp=Z,45nm,18.0s,baz=139,slow=38						
NEW	**Newport**	**93.33**	**16**	LR	LR	16 14 12.7	
	comp=Z,49nm,18.1s,baz=304,slow=39						
ULM	**Lac du Bonnet**	**94.05**	**2**	LR	LR	16 12 20.3	
	comp=Z,35nm,18.8s,baz=340,slow=37						

MOS ***04*** *16:03:45.7±1.3,50.˙06N×87.˚42E,h7km,mb4.6/1,Error ellipse: s-maj=9.8km s-min=4.8km az=88.1*
ASRS ***04*** *16:03:45.3±0.1,50.˙2N±0.˙8×87.˚4E±0.˙8,h1km,MLh4.3/28, Error ellipse: s-maj=1.9km s-min=1.6km az=45.2, confirmed*
NNC ***04*** *16:03:49.7±3.3,50.˙05N×87.˚15E,h0km,mb4.3,mpv4.1, Error ellipse: s-maj=23.8km s-min=13.1km az=75.0*

ISC 04 16:03:47.3±0.6,50.˙11N±0.˙02×87.˚37E±0.˙02,h10km,n79, σ2$05/119,10C-8D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHBI	**Chibit, Altay**	**0.22**	**22**	⇓Pg	**Pg**	**16 03 50.0**	**-1.9**
CHBI				Sg	**Sg**	**16 03 53.3**	**-1.8**
CHBI	**Chibit, Altay**	**0.22**	**22**	PG	**Pg**	**16 03 50.0**	**-1.9**
AKAR	**Aktash**	**0.26**	**37**	⇓Pg	**Pg**	**16 03 51.7**	**-1.0**
AKAR				Sg	**Sg**	**16 03 55.4**	**-1.0**
AKAR	**Aktash**	**0.26**	**37**	PG	**Pg**	**16 03 51.7**	**-1.0**
DGZ	**Jazzator, Alta**	**0.41**	**175**	⇓Pg	**Pg**	**16 03 53.7**	**-1.8**
DGZ				Sg	**Sg**	**16 03 58.9**	**-2.0**
DGZ	**Jazzator, Alta**	**0.41**	**175**	PG	**Pg**	**16 03 53.7**	**-1.8**
DGZ						16 03 59.0	
CUR	**Chagan-Uzun**	**0.63**	**91**	⇑Pg	**Pg**	**16 03 57.1**	**-2.5**
CUR				Sg	**Sg**	**16 04 05.1**	**-2.8**
CUR	**Chagan-Uzun**	**0.63**	**91**	PG	**Pg**	**16 03 57.0**	**-2.5**
CUR						16 04 05.0	
ULGR	**Ulagan, Altay**	**0.64**	**36**	⇓Pg	**Pg**	**16 03 58.8**	**-0.9**
ULGR				Sg	**Sg**	**16 04 07.1**	**-0.9**
ULGR	**Ulagan, Altay**	**0.64**	**36**	PG	**Pg**	**16 03 59.0**	**-0.7**
ULGR						16 04 07.3	
ELDR	**Elanda**	**1.38**	**324**	Pg	**Pn**	**16 04 11.3**	**-1.3**
ELDR				Sg	**Sn**	**16 04 30.3**	**-0.6**
ELDR	**Elanda**	**1.38**	**324**	PG	**Pn**	**16 04 11.4**	**-1.2**
ELDR						16 04 30.3	
YALR	**Yailyu, Altay**	**1.67**	**5**	Pg	**Pn**	**16 04 16.6**	**-0.1**
YALR				Sg	**Sg**	**16 04 40.4**	**-0.5**
YALR	**Yailyu, Altay**	**1.67**	**5**	PN	**Pn**	**16 04 16.5**	**-0.1**
YALR						16 04 40.3	
ARTR	**Artybash**	**1.69**	**358**	Pg	**Pb**	**16 04 17.2**	**-1.4**
ARTR				Sg	**Sg**	**16 04 40.6**	**-1.0**
ARTR	**Artybash**	**1.69**	**358**	PN	**Pb**	**16 04 17.1**	**-1.4**
ARTR						16 04 40.6	
UKR	**Ust'-Kan**	**1.85**	**297**	Pg	**Pg**	**16 04 21.4**	**-1.5**
UKR				Sg	**Sg**	**16 04 45.8**	**-1.1**
UKR	**Ust'-Kan**	**1.85**	**297**	PN	**Pg**	**16 04 21.3**	**-1.5**
UKR						16 04 45.7	
TEL	**Teeli**	**2.02**	**62**	Pg	**Pb**	**16 04 23.7**	**-0.5**
TEL				Sg	**Sg**	**16 04 50.3**	**-1.9**
TEL	**Teeli**	**2.02**	**62**	PN	**Pb**	**16 04 23.6**	**-0.5**
TEL						16 04 50.2	
GALT	**Gorno-Altaysk,**	**2.06**	**335**	Pg	**Pb**	**16 04 24.8**	**+0.1**
GALT				Sg	**Sg**	**16 04 52.0**	**-1.5**
GALT	**Gorno-Altaysk,**	**2.06**	**335**	PN	**Pb**	**16 04 24.8**	**+0.1**
GALT						16 04 51.9	
TASR	**Tashtagol**	**2.67**	**7**	Pg	**Pb**	**16 04 34.9**	**-0.3**
TASR				Sg	**Sb**	**16 05 09.4**	**+1.4**
TASR	**Tashtagol**	**2.67**	**7**	PN	**Pb**	**16 04 34.9**	**-0.3**
TASR						16 05 09.4	
ZSN	**Zaisan**	**3.14**	**213**	Pg	**Pg**	**16 04 44.4**	**-3.0**
	91nm,0.3s						
ZSN				Lg	Lg	16 05 24.4	
	226nm,0.4s						
ELT	**Eltsovka**	**3.23**	**348**	Pn	**Pn**	**16 04 39.5**	**+1.4**
ELT				Pg	**Pb**	**16 04 43.8**	**+1.0**
ELT				Sg	**Sb**	**16 05 26.9**	**+2.8**
ELT	**Eltsovka**	**3.23**	**348**	PN	**Pn**	**16 04 39.5**	**+1.4**
ELT						16 04 43.8	
ELT						16 05 26.9	
KALT2	**Kaltan 2**	**3.29**	**359**	Pn	**Pb**	**16 04 41.7**	**-4.1**
KALT2				Pg	**Pg**	**16 04 45.7**	**-4.7**
KALT2				Sg	**Sg**	**16 05 29.4**	**-3.7**
KALT1	**Kaltan 1**	**3.31**	**1**	Sg	**Sg**	**16 05 30.2**	**-3.3**
TAIL	**Tailep, Kuzbas**	**3.34**	**358**	Sg	**Sg**	**16 05 32.3**	**-2.3**
KALT3	**Kaltan 3**	**3.41**	**1**	Sg	**Sg**	**16 05 33.1**	**-3.6**
DJO	**Djoy, Khakassi**	**3.60**	**40**	Pg	**Pb**	**16 04 52.2**	**+1.2**
DJO				Sg	**Sg**	**16 05 38.7**	**-4.1**
DJO	**Djoy, Khakassi**	**3.60**	**40**	PN	**Pb**	**16 04 52.2**	**+1.2**
DJO						16 05 38.6	
VEH	**Verkhnyaya Baz**	**3.64**	**29**	Pn	**Pn**	**16 04 45.2**	**+1.3**
VEH				Pg	**Pb**	**16 04 51.7**	**-0.1**
VEH				Sg	**Sb**	**16 05 39.3**	**+3.2**
VEH	**Verkhnyaya Baz**	**3.64**	**29**	PN	**Pn**	**16 04 51.7**	**+1.3**
VEH						16 04 51.7	
VEH						16 05 39.2	
LUZB	**Luzhba, Kemero**	**3.68**	**14**	Pg	**Pb**	**16 04 51.6**	**-0.8**
LUZB				Sg	**Sg**	**16 05 40.8**	**-4.6**
LUZB	**Luzhba, Kemero**	**3.68**	**14**	PN	**Pb**	**16 04 51.6**	**-0.8**
LUZB						16 05 40.8	
CERR	**Cheremushki**	**3.73**	**41**	Pg	**Pb**	**16 04 54.4**	**+1.1**
CERR				Sg	**Sg**	**16 05 44.0**	**-3.1**
CERR	**Cheremushki**	**3.73**	**41**	PN	**Pb**	**16 04 54.4**	**+1.1**
CERR						16 05 44.0	
ERU	**Erunakovo, Kuz**	**4.04**	**0**	Sg	**Sg**	**16 05 53.7**	**-3.2**
ZALV	**Zalesovo Beam**	**4.15**	**339**	*e*PN	**Pn**	**16 04 51.0**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.3s						
BJR3	**Bachatsky-3 (S**	**4.19**	**350**	Pg	**Pb**	**16 05 02.4**	**+1.4**
BJR3				Sg	**Sg**	**16 06 00.3**	**-1.4**
BJR3	**Bachatsky-3 (S**	**4.19**	**350**	PN	**Pb**	**16 05 02.4**	**+1.4**
BJR1	**Bachatsky 1, K**	**4.21**	**349**	Pn	**Pn**	**16 04 53.5**	**+1.9**
BJR1				Pg	**Pb**	**16 05 02.5**	**+1.1**
BJR1				Sg	**Sg**	**16 06 02.1**	**-0.4**
BJR1	**Bachatsky 1, K**	**4.21**	**349**	PN	**Pn**	**16 04 53.5**	**+1.9**
BJR1						16 05 02.5	
POMOR	**Pomortsevo, Ku**	**4.33**	**353**	Pn	**Pn**	**16 04 55.9**	**+2.6**
POMOR				Sg	**Sg**	**16 06 04.4**	**-2.0**
POMOR	**Pomortsevo, Ku**	**4.33**	**353**	PN	**Pn**	**16 04 55.8**	**+2.6**
SALR	**Pechorkino, Sa**	**4.43**	**347**	Pn	**Pn**	**16 04 57.0**	**+2.4**
SALR				Pg	**Pb**	**16 05 06.5**	**+1.3**
SALR				Sg	**Sg**	**16 06 07.9**	**-1.7**
SALR	**Pechorkino, Sa**	**4.43**	**347**	PN	**Pn**	**16 04 56.9**	**+2.4**
SALR						16 05 06.5	
ARDR	**Aradan**	**4.53**	**55**	Pn	**Pn**	**16 04 57.2**	**+1.2**
ARDR				Pg	**Pb**	**16 05 09.2**	**+2.3**
ARDR				Sg	**Sg**	**16 06 09.2**	**-3.5**
ARDR	**Aradan**	**4.53**	**55**	PN	**Pn**	**16 04 57.2**	**+1.2**
ARDR						16 05 09.2	
SEM	**Semipalatinsk**	**4.58**	**276**	Pg	**Pg**	**16 05 13.7**	**-1.3**
	comp=Z,7.6nm,0.2s						
SEM				Lg	Lg	16 06 13.6	
	comp=Z,106nm,0.4s						
MK31	**Makanchi Array**	**4.74**	**227**	⇓Pn	**Pn**	**16 05 01.1**	**+2.2**
	comp=Z,1.5nm,0.2s,baz=51,slow=13,SNR=339						
MK31				Pg	**Pg**	**16 05 16.5**	**-1.5**
	comp=Z,10.0nm,0.3s,baz=56,slow=15,SNR=9.7						
MK31				⇑Sn	**Sn**	**16 05 57.2**	**+3.4**
	comp=Z,17nm,0.5s,baz=60,slow=23,SNR=4.5						
MK31				⇑Lg	Lg	16 06 16.3	
	comp=Z,11nm,0.3s,baz=48,slow=33,SNR=6.6						
MK31	**Makanchi Array**	**4.74**	**227**	*i* PN	**Pn**	**16 05 00.9**	**+2.1**
MKAR	**Makanchi Array**	**4.74**	**227**	Pn	**Pn**	**16 05 00.7**	**+1.9**
MKAR				Pg	**Pg**	**16 05 16.0**	**-2.0**
MKAR				Sg	**Sg**	**16 06 16.6**	**-2.8**
MKAR	**Makanchi Array**	**4.74**	**227**	PN	**Pn**	**16 05 00.7**	**+1.9**
MKAR						16 05 16.0	
MKAR						16 06 16.5	
MAKZ	**Makanchi**	**4.88**	**229**	⇑Pn	**Pn**	**16 05 02.6**	**+1.9**
	comp=Z,3.4nm,0.4s						
MAKZ				⇑Pg	**Pg**	**16 05 16.8**	**-3.9**
	comp=Z,15nm,0.5s						
MAKZ				⇓Sn	**Sn**	**16 05 58.3**	**+1.0**
	comp=Z,15nm,0.4s						
MAKZ				⇑Lg	Lg	16 06 21.1	
	comp=Z,73nm,0.8s						
MAKZ	**Makanchi**	**4.88**	**229**	Pn	**Pn**	**16 05 03.0**	**+2.2**
MAKZ				Pg	**Pg**	**16 05 17.8**	**-2.9**
MAKZ				S	**Sn**	**16 05 59.8**	**+2.6**
MAKZ				Sg	**Sg**	**16 06 21.1**	**-2.8**
MAKZ	**Makanchi**	**4.88**	**229**	PN	**Pn**	**16 05 02.9**	**+2.2**
MAKZ						16 05 17.8	
MAKZ				S	**Sn**	**16 05 59.8**	**+2.6**
NVSII	**Novosibirsk**	**5.37**	**334**	P	**Pn**	**16 05 06.7**	**-0.7**
NVSII				S	**Sn**	**16 06 07.5**	**-1.7**
NVSII	**Novosibirsk**	**5.37**	**334**	PN	**Pn**	**16 05 06.7**	**-0.7**
NVS	**Novosibirsk**	**5.37**	**334**	P	**Pn**	**16 05 07.1**	**-0.3**
NVS				S	**Sn**	**16 06 07.0**	**-2.3**
NVS	**Novosibirsk**	**5.37**	**334**	PN	**Pn**	**16 05 07.1**	**-0.3**
BRCR	**Berchikul'**	**5.57**	**6**	Pn	**Pn**	**16 05 12.9**	**+2.7**
BRCR				Sg	**Sb**	**16 06 36.2**	**+4.9**
BRCR	**Berchikul'**	**5.57**	**6**	PN	**Pn**	**16 05 12.8**	**+2.7**
BRCR						16 06 36.1	
KURK	**Kurchatov**	**5.63**	**280**	⇑Pn	**Pn**	**16 05 12.3**	**+1.3**
	comp=Z,3.0nm,0.4s						
KURK				⇓Sn	**Sn**	**16 06 16.9**	**+1.2**
	comp=Z,7.1nm,0.5s						
KURK				⇓Lg	Lg	16 06 41.9	
	comp=Z,33nm,0.7s						
KURK	**Kurchatov**	**5.63**	**280**	*i* PN	**Pn**	**16 05 11.7**	**+0.7**
KURBB	**Kurchatov Arra**	**5.68**	**279**	⇑Pn	**Pn**	**16 05 12.7**	**+1.0**
	comp=Z,13nm,0.4s						
KURBB				⇑Sn	**Sn**	**16 06 18.0**	**+1.0**
	comp=Z,10nm,0.3s						
KURBB				⇑Lg	Lg	16 06 43.7	
	comp=Z,56nm,0.6s						
TDK	**Taldyqorghan**	**7.93**	**233**	Pg	**Pg**	**16 06 15.7**	**-3.3**
	comp=Z,24nm,0.3s						
TDK				Lg	Lg	16 07 59.0	
	comp=Z,84nm,0.7s						
SHLS	**Shalkode**	**8.83**	**221**	Pg	Pg	16 06 29.1	-7.2
	comp=Z,4.3nm,0.3s						
SHLS				Lg	Lg	16 08 22.6	
	comp=Z,17nm,0.6s						
KTBS	**Karatobe**	**9.71**	**233**	Pg	Pn	16 06 47.6	+41
	comp=Z,1.9nm,0.4s						
KTBS				Lg	Lg	16 08 55.3	
	comp=Z,27nm,0.9s						
KUU	**Kurty**	**9.77**	**235**	Pg	Pn	16 06 47.6	+40
	comp=Z,2.8nm,0.1s						
KUU				Lg	Lg	16 08 55.3	
	comp=Z,27nm,0.7s						
TNSS	**Tian-Shan**	**10.07**	**229**	Pg	Pn	16 06 55.2	+43
	comp=Z,0.1nm,0.1s						
TNSS				Lg	Lg	16 09 07.3	
	comp=Z,2.1nm,1.0s						
BRVK	**Borovoye**	**11.03**	**292**	*i* P	**Pn**	**16 06 25.1**	**0.0**
AAK	**Ala-Archa**	**11.61**	**235**	*i* P	**Pn**	**16 06 33.8**	**+0.7**
ULN	**Ulaanbaatar**	**13.12**	**92**	*i* P	**Pn**	**16 06 53.4**	**-0.3**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.2s						
KK31	**Karatay Array**	**13.53**	**245**	*i* P	**P**	**16 07 08.3**	**-0.1**
AB31	**Akbulak array**	**17.74**	**278**	*e*P	**P**	**16 07 55.3**	**+0.3**
OBN	**Obninsk**	**30.68**	**299**	*e*P	**P**	**16 10 02.9**	**+1.2**
OBN				*e*		16 11 00.2	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						

IDC ***04*** *16:09:03.1±1.9,25.˙39S×179.˚61E,h496km±21km, mb3.5/13,mbtmp4.4/17,Error ellipse: s-maj=16.8km s-min=12.5km az=80.0*
NOU ***04*** *16:09:03.6,25.˙36S×179.˚97W,h526km,mb4.5/19,South of Fiji Islands*
NEIC ***04*** *16:09:04.0±1.4,25.˙5S±0.˙1×179.˚59E±0.˙08,h505km±7km, mb4.3/53,Error ellipse: s-maj=16.7km s-min=10.3km az=162.0*

ISC 04 16:09:03.8±0.4,25.˚44S±0.˙05×179.˚59E±0.˙07,h507km, n136,σ1$40/146,mb4.2/40,4C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.40**	**150**	P	**P**	**16 10 26.4**	**+0.5**
GLKZ				S	**S**	**16 11 36.7**	**+3.8**
LKBA	**Tubou, Lakemba**	**7.33**	**12**	P	**P**	**16 10 53.3**	**-0.3**
MSVF	**Nonsavu**	**7.81**	**349**	P	**P**	**16 10 57.2**	**-1.4**
	25nm,0.7s,baz=255,slow=21,SNR=24						
MSVF	**Nonsavu**	**7.81**	**349**	P	**P**	**16 10 57.8**	**-0.8**
TAVE	**Taveuni**	**8.71**	**3**	P	**P**	**16 11 08.3**	**+0.5**
YSA	**Yasawairara**	**8.90**	**347**	P	**P**	**16 11 09.4**	**-0.4**
INH	**Isangel**	**11.20**	**300**	P	**P**	**16 11 36.1**	**+2.2**
WCZ	**Waipu Caves**	**11.39**	**202**	P	**P**	**16 11 38.8**	**+3.0**
KUZ	**Kuaotunu**	**11.74**	**195**	P	**P**	**16 11 41.5**	**+2.1**
KUZ	**Kuaotunu**	**11.74**	**195**	P	**P**	**16 11 41.4**	**+2.0**
ABAZ	**Army Bay**	**11.84**	**199**	P	**P**	16 11 49.5	+9.0
WIAZ	**Waiheke Island**	**11.94**	**198**	P	**P**	**16 11 42.9**	**+1.4**
ETAZ	**East Tamaki Re**	**12.15**	**198**	P	**P**	16 11 51.4	+7.7
WTAZ	**Waiatarua**	**12.23**	**199**	P	**P**	16 11 52.7	+8.2
HAZ	**Te Kaha**	**12.37**	**187**	P	**P**	**16 11 44.6**	**-1.4**
HAZ				S	**S**	**16 13 55.8**	**-3.9**
PKGZ	**Pakihiroa**	**12.45**	**186**	P	**P**	**16 11 46.9**	**-0.1**
PKGZ				S	**S**	**16 14 03.9**	**+2.5**
DZM	**Mont Dzumac**	**12.50**	**283**	P	**P**	**16 11 48.8**	**+1.0**
DZM	**Mont Dzumac**	**12.50**	**283**	P	**P**	**16 11 47.7**	**-0.1**
	11nm,0.8s,baz=139,slow=17,SNR=8.1						
DZM	**Mont Dzumac**	**12.50**	**283**	P	**P**	**16 11 51.9**	**+4.1**
RUGZ	**Raukumara Rang**	**12.59**	**187**	P	**P**	**16 11 49.2**	**+0.7**
PUZ	**Puketiti**	**12.64**	**185**	P	**P**	**16 11 47.7**	**-1.2**
PUZ				S	**S**	**16 14 03.5**	**-1.6**
TOZ	**Tahuroa Road**	**12.73**	**195**	P	**P**	**16 11 50.7**	**+0.9**

WRA	Warramunga Arr	41.96	268	P		P	16 16 09.7	-0.3
	comp=Z,5.2nm,0.6s,baz=100,slow=6.8,SNR=27							
	comp=Z,5.2nm,0.6s							
JAY	Jayapura	43.81	295	P		P	16 16 24.2	-0.3
	comp=Z,6.8nm,0.5s,baz=187,slow=6.5,SNR=8.4							
	comp=Z,6.8nm,0.5s							
KNRA	Kununurra	48.33	271			P	16 16 58.8	-0.2
FITZ	Fitzroy Crossi	50.36	267	P		P	16 17 14.3	+0.3
FITZ	Fitzroy Crossi	50.36	267	P		P	16 17 14.6	+0.6
	comp=Z,4.7nm,0.5s,baz=112,slow=7.7,SNR=14							
	comp=Z,4.7nm,0.5s							
FAKI	Fak Fak	50.70	288	P		P	16 17 16.5	0.0
VNDA	Vanda	52.82	185	P		P	16 17 31.8	+1.0
VNDA	Vanda	52.82	185	P		P	16 17 31.1	+0.3
	comp=Z,0.4nm,0.6s,baz=44,slow=5.1,SNR=3.3							
	comp=Z,0.4nm,0.6s							
MBWA	Marble Bar	54.76	261	P		P	16 17 44.8	-0.7
MBWA				IAmb		IAmb	16 17 46.1	
	comp=Z,24nm,1.4s							
MORW	Morawa	56.01	251	P		P	16 17 53.6	-0.5
MORW				IAmb		IAmb	16 18 21.9	
	comp=Z,37nm,1.4s							
TOLI2	Tolitoli	62.62	286	P		P	16 18 37.4	-1.3
JAGI	Jajag, Banyuwa	64.26	273	P		P	16 18 47.8	-1.4
QSPA	South Pole Qui	64.64	180	P		P	16 18 51.6	+0.7
QSPA	South Pole Qui	64.64	180	P		P	16 18 51.5	+0.7
	comp=Z,3.6nm,0.6s,baz=292,slow=0.5,SNR=37							
	comp=Z,3.6nm,0.6s							
MJAR	Matsushiro Arr	72.96	326	P		P	16 19 41.1	-0.3
MJAR	Matsushiro Arr	72.96	326	P		P	16 19 40.1	-1.2
	comp=Z,3.3nm,0.7s,baz=170,slow=6.3,SNR=7.0							
	comp=Z,3.3nm,0.7s							
MAJO	Matsushiro	72.96	326	P		P	16 19 41.1	-0.3
MAJO				IAmb		IAmb	16 19 42.1	
	comp=Z,9.1nm,0.9s							
JNU	Nakatsue	74.44	319	P		P	16 19 49.3	-0.6
JNU				IAmb		IAmb	16 20 04.6	
	comp=Z,24nm,1.5s							
SMAI	San Martin Ant	74.80	159	P		P	16 19 52.4	+1.1
SMAI				IAmb		IAmb	16 19 53.3	
	comp=Z,5.4nm,0.8s							
BELA	Belgrano 2	74.95	173	P		P	16 19 51.8	-0.3
BELA				IAmb		IAmb	16 19 52.4	
	comp=Z,3.5nm,0.5s							
KSRS	Korea Array	79.19	321	P		P	16 20 16.6	+0.8
	comp=Z,1.9nm,0.7s,baz=135,slow=5.9,SNR=14							
	comp=Z,1.9nm,0.7s							
KSAR	Wonju Array Be	79.21	321	P		P	16 20 15.8	0.0
PETK	Petropavlovsk-	80.51	347	P		P	16 20 22.1	-0.2
PETK	Petropavlovsk-	80.51	347	P		P	16 20 21.5	-0.8
	comp=Z,1.6nm,0.7s,baz=123,slow=7.3,SNR=5.8							
	comp=Z,1.6nm,0.7s							
TROLL	Troll, Antarti	82.79	181	⇑P		P	16 20 34.0	-0.1
	comp=Z,248nm,0.4s							
SNAA	Sanae	83.14	179	⇑P		P	16 20 35.1	-0.6
	comp=Z,12nm,0.4s							
SNAA	Sanae	83.14	179	P		P	16 20 35.3	-0.4
SNAA	Sanae	83.14	179	P		P	16 20 35.0	-0.7
	comp=Z,0.9nm,0.6s,baz=194,slow=6.9,SNR=7.6							
	comp=Z,0.9nm,0.6s							
VNA3	Neumayer Olymp	83.36	177	⇑P		P	16 20 36.2	-0.5
	comp=Z,7.9nm,0.7s							
VNA2	Neumayer--Watz	83.77	178	⇑P		P	16 20 38.5	-0.3
	comp=Z,2.1nm,0.6s,baz=179,slow=5.6							
SLBS	Sierra La Lagu	83.89	60	P		P	16 20 41.3	+1.0
SLBS				IAmb		IAmb	16 20 51.9	
	comp=Z,11nm,1.2s							
O02D	Mt. Diablo Mer	84.47	41	P		P	16 20 43.6	+0.8
O02D				IAmb		IAmb	16 20 45.2	
	comp=Z,9.8nm,1.0s							
GWY	Greenwater Val	85.84	47	P		P	16 20 49.8	+0.1
L04D	Klamath Falls	86.05	39	P		P	16 20 51.2	+0.8
L04D				IAmb		IAmb	16 21 15.2	
	comp=Z,8.0nm,1.4s							
GMN	Gold Mountain	86.11	45	P		P	16 20 51.0	0.0
NVAR	Mina Array Bea	86.11	44	P		P	16 20 51.1	+0.2
NVAR	Mina Array Bea	86.11	44	P		P	16 20 51.6	+0.7
	comp=Z,1.5nm,0.7s,baz=229,slow=8.5,SNR=9.2							
	comp=Z,1.5nm,0.7s							
PAHR	Pah Rah Range	86.22	43	P		P	16 20 51.5	+0.2
TPNV	Topopah Spring	86.56	46			P	16 20 53.1	0.0
TPNV				IAmb		IAmb	16 20 55.9	
	comp=Z,6.0nm,1.1s							
TPH	Tonopah	86.59	45	P		P	16 20 52.9	-0.3
J04A	Umpqua Nationa	86.82	39	P		P	16 20 54.6	+0.5
K05A	Summer Lake	87.18	39	P		P	16 20 57.2	+1.4
K05A				IAmb		IAmb	16 20 57.9	
	comp=Z,6.3nm,1.2s							
J05D	Fort Rock, OR	87.34	39	P		P	16 20 57.4	+0.8
J05D				IAmb		IAmb	16 20 58.5	
	comp=Z,7.1nm,1.0s							
PRN	Pahroc Range	87.61	46	P		P	16 20 58.6	+0.7
TUC	Tucson	87.75	53	P		P	16 20 59.0	+0.4
TUC				IAmb		IAmb	16 21 01.2	
	comp=Z,4.8nm,0.9s							
PINE	Pine Mountain	87.82	39			P	16 20 59.7	+0.8
PINE				IAmb		IAmb	16 21 00.9	
	comp=Z,6.9nm,0.9s							
WVOR	Wild Horse Val	88.32	41	P		P	16 21 01.6	+0.5
WVOR				IAmb		IAmb	16 21 02.9	
	comp=Z,4.9nm,1.1s							
X16A	Lo Mia Camp, P	88.40	51			P	16 21 01.9	+0.1
X16A				IAmb		IAmb	16 21 04.0	
	comp=Z,3.2nm,0.9s							
I07A	Izee	88.82	39			P	16 21 03.2	-0.1
I07A				IAmb		IAmb	16 21 05.2	
	comp=Z,3.8nm,0.8s							
J08A	Circle Bar Ran	88.97	40			P	16 21 04.3	+0.2
J08A				IAmb		IAmb	16 21 05.7	
	comp=Z,5.2nm,1.1s							
G08A	Pilot Rock	89.86	38	P		P	16 21 08.1	-0.1
G08A				IAmb		IAmb	16 21 10.0	
	comp=Z,4.0nm,1.4s							
HMU	Henry Mountain	90.75	48			pP	16 23 07.9	+2.5
CRQM	Cirque	91.08	17	P		P	16 21 13.7	+0.1
TMUT	Trail Mountain	91.17	47			P	16 21 15.2	+0.6
F10A	Beach Ranch, E	91.25	39	P		P	16 21 13.4	-1.1
F10A				IAmb		IAmb	16 21 15.2	
	comp=Z,2.0nm,0.8s							
SRU	San Rafael Swe	91.52	47	P		P	16 21 15.9	-0.2
SRU				IAmb		IAmb	16 21 17.4	
	comp=Z,3.3nm,0.7s							
TX31	Lajitas Ar. Si	91.56	58			P	16 21 17.0	+0.6
TXAR	Lajitas Array	91.56	58	P		P	16 21 17.4	+1.0
	comp=Z,1.5nm,0.8s,baz=219,slow=6.7,SNR=16							
	comp=Z,1.5nm,0.8s							
BSUT	Blindstream Ca	92.12	46			P	16 21 19.8	+0.8
T25A	Trinidad	94.70	51			pP	16 23 18.9	-4.7
PKME	Peaks-Kenny Pk	122.18	51			PKPdf	16 26 59.4	-1.1
ARCES	ARCESS Array B	133.31	348	SKPbc		SKPbc	16 30 01.8	+0.2
	comp=Z,1.8nm,0.6s,baz=29,slow=2.8,SNR=9.4							
FINES	FINESS Array B	139.78	341	SKPbc		SKPbc	16 30 21.6	+0.7
	comp=Z,2.3nm,0.7s,baz=50,slow=4.1,SNR=8.6							
HFS	Hagfors	143.98	348	PKP		PKPbc	16 27 38.8	-1.1
	comp=Z,2.2nm,0.7s,baz=29,slow=3.4,SNR=9.0							
AKASG	Malin Array Be	146.05	326	PKPbc		PKPbc	16 27 45.8	-0.5
	comp=Z,0.5nm,0.4s,baz=46,slow=4.4,SNR=2.9							
MMAI	Mount Meron Ar	147.97	292	PKPbc		PKiKP	16 27 53.0	-0.6
	comp=Z,1.6nm,0.5s,baz=141,slow=3.0,SNR=3.2							
BRTR	Keskin Array B	148.18	305	PKPbc		PKPbc	16 27 52.8	+0.2
	comp=Z,1.5nm,0.6s,baz=114,slow=4.0,SNR=7.9							
EKA	Eskdalemuir Ar	150.07	3	PKPbc		PKPbc	16 27 55.8	-0.7
	comp=Z,0.8nm,0.5s,baz=2.9,slow=3.3,SNR=4.6							

*IDC **04** 16:21:50.6±1.9,5°.05N×125°.88E,h0^{km},mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=198.8km s-min=19.9km az=66.0*

*NEIC **04** 16:22:01.5±1.9,5°.56N±0°.08×127°.1E±0°.1,h108^{km}±7km, mb4.2/17, Error ellipse: s-maj=20.3km s-min=8.5km az=66.0*

ISC 04 16:22:00.2±0.9,5°.58N±0°.07×127°.1E±0°.1,h100^{km},n30, σ1^{s}07/32,mb4.2/12,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	2.14	314	Pn	Pn	16 22 35.8	+1.2
DAV				Sn	Sn	16 23 03.4	+2.4
DAV	Davao City (W)	2.14	314	Sn	Sn	16 23 00.1	-0.9
	65nm,0.3s,baz=246,slow=22,SNR=17						
TNTI	Ternate	4.78	177		Pn	16 23 10.7	+0.6
TNTI				Sn	Sn	16 24 04.7	+0.4
TOLI2	Tolitoli	7.74	235		Pn	16 23 49.7	-0.5
LUWI	Luwuk	7.88	214	Pn	Pn	16 23 53.9	+1.6
SBUM	Sibu	15.19	259	P	P	16 25 32.5	+0.3
MTN	Manton Dam	18.73	168	P	P	16 26 10.4	-0.8
MTN				IAmb	IAmb	16 26 32.4	
	comp=Z,34nm,1.5s						
KNRA	Kununurra	21.18	176	P	P	16 26 38.1	+0.4
KNRA				IAmb	IAmb	16 26 44.7	
	comp=Z,9.6nm,0.8s						
WB0	Warramunga Arr	26.18	164	P	P	16 27 25.3	-0.4
WB0				IAmb	IAmb	16 27 46.2	
	comp=Z,6.1nm,1.0s						
WRA	Warramunga Arr	26.33	165	P	P	16 27 26.8	-0.2
	comp=Z,0.7nm,0.5s,baz=341,slow=11,SNR=11						
	comp=Z,0.7nm,0.5s						
WR8	Warramunga Arr	26.39	164	P	P	16 27 26.6	-0.8
WR8				IAmb	IAmb	16 27 37.2	
	comp=Z,17nm,1.5s						
GSI	Gunungsitoli	29.80	263	P	P	16 27 56.2	-1.8
ASAR	Alice Springs	29.81	167	P	P	16 27 58.5	+0.5
ASAR	Alice Springs	29.81	167	P	P	16 27 58.0	0.0
	comp=Z,0.2nm,0.4s,baz=343,slow=6.6,SNR=14						
	comp=Z,0.2nm,0.4s						
BBOO	Buckleboo	39.11	168	P	P	16 29 18.2	+0.3
NWAO	Narrogin (SRO)	39.43	193	P	P	16 29 20.8	+0.2
STKA	Stephens Creek	39.72	161	P	P	16 29 23.0	0.0
MKAR	Makanchi Array	56.28	324	P	P	16 31 31.2	+0.7
	comp=Z,1.5nm,0.4s,baz=115,slow=7.3,SNR=36						
	comp=Z,1.5nm,0.4s						
MAKZ	Makanchi	56.47	324	P	P	16 31 32.5	+0.6
MAKZ				IAmb	IAmb	16 31 33.2	
	comp=Z,2.6nm,1.0s						
KDJ	Kajisay	57.25	317	P	P	16 31 38.9	+1.3
ZALV	Zalesovo Beam	59.14	332	P	P	16 31 47.2	-3.1
KURK	Kurchatov	60.41	327	P	P	16 31 58.3	-0.8
KURK				IAmb	IAmb	16 32 00.6	
	comp=Z,3.2nm,0.8s						
KURBB	Kurchatov Arra	60.41	327	P	P	16 31 59.9	+0.8
	comp=Z,1.9nm,0.8s,baz=126,slow=6.2,SNR=23						
	comp=Z,1.9nm,0.8s						
KK31	Karatay Array	62.17	316	P	P	16 32 10.5	-0.7
KK31				IAmb	IAmb	16 32 12.1	
	comp=Z,2.2nm,0.9s						
KKAR	Karatay Array	62.17	316	P	P	16 32 10.1	-1.0
KKAR	Karatay Array	62.17	316	P	P	16 32 10.4	-0.8
KKAR				IAmb	IAmb	16 32 12.1	
	comp=Z,2.3nm,0.9s						
BRVK	Borovoye	66.08	326	P	P	16 32 37.3	+0.8
BRVK				IAmb	IAmb	16 32 39.6	
	comp=Z,3.4nm,0.9s						
AB31	Akbulak array	70.98	320	P	P	16 33 06.7	-0.4
ABKAR	Akbulak array	70.98	320	P	P	16 33 07.0	-0.2
ABKAR	Akbulak array	70.98	320	P	P	16 33 07.2	+0.1

GUC 04 16:23:02.4±0.8,27°.42S×71°.47W,h42^{km}±4^{km},ML2.7,2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC04	Llanos de Chal	0.85	156	*e*P	Pn	16 23 18.0	-0.1
AC04				*e*S	Sn	16 23 29.4	0.0
AC04				IAML		16 23 33.0	
	comp=E,321nm,0.4s						
AC06	Mina Casimiro	0.99	87		Pn	16 23 20.4	+0.4
AC06	Mina Casimiro	0.99	87	⇓*i*P	Pn	16 23 20.5	+0.5
AC06				*e*S	Sn	16 23 33.4	+0.6
AC06				IAML		16 23 35.5	
	comp=N,329nm,0.2s						
GO03	Copiapo	1.11	99	⇓*i*P	Pn	16 23 22.4	+0.8
GO03				IAML		16 23 41.5	
	comp=E,198nm,0.3s						
AC01	Pan de Azucar	1.49	32	*e*P	Pn	16 23 27.4	+0.6
AC01				IAML		16 23 55.8	
	comp=E,109nm,0.6s						
LCO	Las Campanas	1.72	157	*e*P	Pn	16 23 32.0	+1.8
LCO				*e*S	Sn	16 23 53.5	+2.4
AC02	Maricunga	2.17	75	*e*P	Pn	16 23 39.8	+3.4
AC02				*e*S	Sn	16 24 07.7	+5.3
AC02				IAML		16 24 13.3	
	comp=N,127nm,0.3s						
GO04	Tololo Observa	2.80	168	*e*P	Pn	16 23 46.9	+1.9
GO02	Mina Guanaco	2.81	37	*e*P	Pn	16 23 47.5	+2.3
CO01	Juntas del Tor	2.82	155	IAML		16 24 36.4	
	comp=N,52nm,0.8s						

NOU 04 16:39:01.5,11°.07S×166°.22E,h111^{km},mb4.4/11,Santa Cruz Islands,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUES	Luesalemba Tem	0.51	323	P	Pn	16 39 19.0	+0.5
LUES	Luesalemba Tem	0.51	323	S	Sn	16 39 34.6	+3.3
HURO	Huro Makira	4.29	278	P	Pn	16 40 04.3	-0.4
HURO	Huro Makira	4.29	278	S	Sn	16 40 54.6	+0.8
VLAKA	Lakatoro	5.14	167	P	Pn	16 40 15.0	-1.2
NGOA	Tingoa Renbel	6.06	265	P	Pn	16 40 28.4	-0.3
NGOA	Tingoa Renbel	6.06	265	S	Sn	16 41 37.0	+0.3
TATA	Tatamba Isabel	6.86	292	P	Pn	16 40 40.3	+0.7
KOUNC	Koumac, New Ca	9.61	191	P	Pn	16 41 18.0	+1.2
DZM	Mont Dzumac	10.94	179	P	Pn	16 41 33.8	-1.2
OUENC	Ouen Island, N	11.30	177	P	Pn	16 41 40.9	+1.2

*IDC **04** 16:40:18.3±0.6,0°.81N×127°.04E,h0^{km},mb4.2/16, mbtmp4.3/19,ML4.6/3,MS5.3/1, Error ellipse: s-maj=30.5km s-min=11.5km az=82.0*

*DJA **04** 16:40:23.7±0.4,1°.N±2°×12°.7E±°,h20^{km}±4^{km},M4.4/1, MLv4.6/22,MLv4.4/1*

*NEIC **04** 16:40:24.3±2.0,0°.82N±0°.05×126°.94E±0°.04,h43^{km}±6^{km}, mb4.6/53, Error ellipse: s-maj=7.7km s-min=5.4km az=213.0*

ISC 04 16:40:23.3±0.4,0°.82N±0°.04×126°.91E±0°.04,h35^{km},n132, σ1^{s}47/140,mb4.6/40,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	0.46	96		Pn	16 40 34.7	+1.3
TNTI				Sn	Sn	16 40 41.2	+0.8
TNTI	Ternate	0.46	96	P	Pn	16 40 34.7	+1.3
TNTI	Ternate	0.46	96	P	Pn	16 40 34.3	+0.9
TNTI				S	Sn	16 40 42.6	+2.1
KMSI	Cibinong	2.94	265	P	Pn	16 41 08.7	+1.2
KMSI				S	Sn	16 41 44.1	+2.6
SANI	Sanana	2.99	198	P	Pn	16 41 08.5	+0.2
SANI	Sanana	2.99	198	P	Pn	16 41 08.3	0.0
SANI				S	Sn	16 41 40.5	-2.5
SGSI	Sangihe	3.16	334	P	Pn	16 41 13.2	+2.6
SGSI				S	Sn	16 41 48.6	+1.4
NLAI	Namlea	4.04	177	P	Pn	16 41 23.1	+0.5
LUWI	Luwuk	4.53	246		Pn	16 41 31.4	+2.0
LUWI				Sn	Sn	16 42 22.0	+1.1
LUWI	Luwuk	4.53	246	P	Pn	16 41 31.6	+2.2
MSAI	Masohi	4.61	154	P	Pn	16 41 32.9	+2.4
MSAI				S	Sn	16 42 27.7	+4.9
AAI	Ambon	4.66	164	P	Pn	16 41 34.1	+2.9
SWI	Sorong	4.66	111	P	Pn	16 41 33.5	+2.2
MRSI	Marisa	4.98	266	P	Pn	16 41 38.2	+2.6
APSI	Ampana	5.53	252	P	Pn	16 41 45.1	+1.9
BNDI	Bandanaira	6.09	151	P	Pn	16 41 54.1	+3.2
TOLI2	Tolitoli	6.13	273		Pn	16 41 53.6	+2.2
KDI	Kendari	6.39	222	P	Pn	16 41 56.0	+0.9
FAKI	Fak Fak	6.50	125		Pn	16 41 58.4	+1.8
FAKI	Fak Fak	6.50	125	P	Pn	16 41 58.3	+1.7
FAKI	Fak Fak	6.50	125	P	Pn	16 41 59.4	+2.8
MPSI	Mapaga	7.02	266	P	Pn	16 42 06.5	+2.8
PCI	Palu	7.27	256	P	Pn	16 42 08.2	+1.0
BBSI	Bau Bau	7.62	215	P	Pn	16 42 14.1	+2.2
TTSI	Tana Toraja	8.06	242	P	Pn	16 42 17.7	-0.2
BNSI	Bone	8.55	233	P	Pn	16 42 25.0	+0.4
SPSI	Sidrap Palu	8.57	236	P	Pn	16 42 26.1	+1.1
KAPI	Kappang	9.20	231		Pn	16 42 34.8	+1.2
KAPI	Kappang	9.20	231	Pn	Pn	16 42 34.6	+1.0
	10.0nm,0.3s,baz=6.9,slow=17,SNR=18						
	26nm,0.3s						
KAPI	Kappang	9.20	231	P	Pn	16 42 35.2	+1.6
BSSI	Bau Bau, Buton	9.43	223	P	Pn	16 42 39.5	+2.8
SOEI	Soe	10.83	194	Pn	Pn	16 42 56.0	0.0
SOEI	Soe	10.83	194	P	Pn	16 42 58.8	+2.8
EDFI	Ende, Flores	10.83	209	P	Pn	16 42 58.2	+2.1
BATI	Baumata	11.42	196	Pn	Pn	16 43 02.9	-1.1
	4.8nm,0.3s,baz=50,slow=3.7,SNR=6.2						
	13nm,0.7s						
KKM	Kota Kinabalu	11.87	296	Pn	Pn	16 43 09.3	-1.0
GENI	Genyem	13.68	104	P	Pn	16 43 39.2	+4.2
DRS	Darwin Rock St	13.75	163	P	Pn	16 43 35.7	-0.2
MTN	Manton Dam	14.21	163	Pn	Pn	16 43 40.4	-1.8
MTN	Manton Dam	14.21	163	P	Pn	16 43 42.1	0.0
KDU	Kakadu	14.51	158	P	Pn	16 43 45.3	-1.0
SBUM	Sibu	14.77	276		Pn	16 43 49.4	-0.4
JAGI	Jajag, Banyuwa	15.71	234	Pn	Pn	16 44 03.5	+1.4
JAGI				IAmb	IAmb	16 44 09.6	
	comp=Z,49nm,1.0s						
JAGI	Jajag, Banyuwa	15.71	234	P	Pn	16 44 02.9	+0.8
KNRA	Kununurra	16.49	174		Pn	16 44 11.8	-0.3
KSM	Kuching	16.61	272		Pn	16 44 14.8	+1.2
FITZ	Fitzroy Crossi	18.84	184	P	P	16 44 39.4	-1.0
FITZ	Fitzroy Crossi	18.84	184	P	P	16 44 40.3	0.0
	comp=Z,0.8nm,0.3s,baz=16,slow=10,SNR=14						
	comp=Z,8.7nm,0.7s						
BBJI	Bungbulang	20.89	246	P	P	16 45 02.8	-0.1
WB0	Warramunga Arr	21.74	161		P	16 45 11.1	-0.7
WB0				IAmb	IAmb	16 45 13.4	
	comp=Z,16nm,0.5s						
COEN	Coen	21.80	133	P	P	16 45 11.0	-1.5
COEN	Coen	21.80	133	P	P	16 45 13.7	+1.2
WRAB	Tennant Creek	21.88	161	P	P	16 45 13.0	-0.3
WRAB				IAmb	IAmb	16 45 16.6	
	comp=Z,12nm,0.7s						
WRA	Warramunga Arr	21.88	161		P	16 45 11.5	-1.9
WRA	Warramunga Arr	21.88	161	P	P	16 45 13.4	0.0
	comp=Z,12nm,0.6s,baz=339,slow=11,SNR=84						
WRA				S	S	16 49 11.3	-2.2
	comp=Z,3.6nm,0.8s,baz=328,slow=20,SNR=8.1						
	comp=Z,12nm,0.6s						
WR8	Warramunga Arr	21.95	161		P	16 45 13.5	-0.6
WR8				IAmb	IAmb	16 45 17.4	
	comp=Z,11nm,0.6s						
MBWA	Marble Bar	22.94	197		P	16 45 22.9	-1.7
MBWA				IAmb	IAmb	16 45 23.9	
	comp=Z,20nm,0.7s						
MBWA	Marble Bar	22.94	197	P	P	16 45 23.3	-1.3
YULB	Yu-li	23.09	347	P	P	16 45 24.3	-1.8
YULB				IAmb	IAmb	16 45 27.6	
	comp=Z,34nm,1.5s						
TPUB	Ta-pu	23.16	345	P	P	16 45 25.5	-1.3
TPUB				IAmb	IAmb	16 45 33.4	
	comp=Z,26nm,1.0s						
QIS	Mount Isa	24.62	150	P	P	16 45 41.5	+0.9
AS31	Alice Springs	25.27	165		P	16 45 46.3	-0.2
ASAR	Alice Springs	25.27	165	P	P	16 45 46.6	+0.1
	comp=Z,12nm,0.3s,baz=343,slow=12,SNR=81						
ASAR				S	S	16 50 08.0	-2.3
	comp=Z,2.6nm,0.7s,baz=350,slow=22,SNR=9.3						
	comp=Z,12nm,0.3s						
AS01	Alice Springs	25.28	165	P	P	16 45 48.4	+1.8
MEEK	Meekatharra	28.45	196	P	P	16 46 15.9	+0.9
JCJ	Chichijima	29.96	28	P	P	16 46 27.9	-0.5
FORT	Forrest	31.44	178	P	P	16 46 40.9	-0.6
FORT				IAmb	IAmb	16 46 57.5	
	comp=Z,22nm,1.1s						
MORW	Morawa	31.48	198	P	P	16 46 42.0	+0.1
BLDU	Ballidu	32.73	196	P	P	16 46 52.8	0.0
MUN	Mundaring	34.16	196	P	P	16 47 05.2	0.0
BBOO	Buckleboo	34.55	166	P	P	16 47 08.4	-0.2
BBOO	Buckleboo	34.55	166	P	P	16 47 08.7	+0.1
STKA	Stephens Creek	35.37	158	P	P	16 47 15.7	-0.1
STKA	Stephens Creek	35.37	158	P	P	16 47 15.2	-0.5
	comp=Z,6.2nm,0.3s,baz=349,slow=8.4,SNR=9.2						
	comp=Z,6.2nm,0.3s						
STKA	Stephens Creek	35.37	158	P	P	16 47 16.3	+0.6
HTT	Hallett	35.90	163	P	P	16 47 21.2	+0.9
JGF	Kuroka	35.95	15	P	P	16 47 19.8	-0.9
JGF				IAmb	IAmb	16 47 39.3	
	comp=Z,14nm,1.1s						
KSRS	Korea Array	36.47	1	P	P	16 47 24.8	-0.2
	comp=Z,0.7nm,0.6s,baz=176,slow=9.5,SNR=4.7						
KSRS				LR	LR	17 07 07.3	
	comp=Z,4μm,18.2s,baz=110,slow=44						
	comp=Z,0.7nm,0.6s						
CMSA	Cobar Meteorol	36.78	153	P	P	16 47 29.0	+1.2
MJAR	Matsushiro Arr	37.05	15	P	P	16 47 29.1	-1.0
	comp=Z,1.2nm,0.4s,baz=185,slow=8.6,SNR=5.6						
	comp=Z,1.2nm,0.4s						
ARMA	Armidale	38.98	145	P	P	16 47 46.1	-0.4
JMM	Marumori	39.02	18	P	P	16 47 46.7	+0.1
CAN	Canberra	41.46	152	P	P	16 48 08.2	+1.3
JTM	Tenmabayashi	41.81	16	P	P	16 48 10.8	+1.2
TOO	Toolangi	41.89	158	P	P	16 48 10.4	0.0
USRK	Ussuriysk Ar.	43.43	5	P	P	16 48 23.4	+0.7
	comp=Z,2.2nm,0.7s,baz=178,slow=7.9,SNR=10						
	comp=Z,2.2nm,0.7s						
USA0B	Ussuriysk Arra	43.43	5	P	P	16 48 23.6	+0.9
JKA	Kamikawa-asahi	45.32	16	P	P	16 48 35.5	-2.4
JKA				IAmb	IAmb	16 48 37.0	
	comp=Z,12nm,1.2s						
SONM	Songino Array	50.

E19K IAmb IAmb 16 53 13.1
comp=Z,5.4nm,1.0s
KDAK Kodiak Island 84.24 32 P **P** **16 52 50.7 -0.5**
D20K Etivluk River 84.34 21 P **P** **16 52 50.7 -0.8**
IMAR Indian Mountai 84.92 24 P **P** **16 52 53.4 -1.1**
SKT Skwentna 85.31 28 P **P** **16 52 56.5 0.0**
SKT IAmb IAmb 16 53 34.0
comp=Z,6.9nm,1.4s
SUA Susitna One 85.62 29 P **P** **16 52 58.1 -0.1**
SUA IAmb IAmb 16 53 18.3
comp=Z,4.7nm,1.2s
COLD Coldfoot 86.49 23 P **P** **16 53 02.5 +0.2**
RIDG Independent Ri 88.49 26 P **P** **16 53 12.0 0.0**
RIDG IAmb IAmb 16 53 18.8
comp=Z,6.4nm,1.5s
I28M Miner Creek 90.58 25 P **P** **16 53 21.6 -0.2**
QSPA South Pole Qui 90.75 180 P **P** **16 53 22.0 -0.6**
QSPA IAmb IAmb 16 53 40.2
comp=Z,4.4nm,1.2s
QSPA South Pole Qui 90.75 180 P **P** **16 53 22.2 -0.4**
comp=Z,0.5nm,0.7s,baz=53,slow=0.8,SNR=4.5
comp=Z,0.5nm,0.7s

AUST *04* 16:43:04.1±0.3, 27°S±3°×13°5E±°, h10km, mb3.9/5, ML3.3/9, Error ellipse: s-maj=5.9km s-min=5.6km az=109.4, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MULG	**Mulgathing**	**2.97**	**198**	P	Pn	16 43 52.9	+1.7
MULG				S	Sn	16 44 30.0	+3.0
AS09	**Alice Springs**	**3.90**	**344**	P	Pn	16 44 04.4	+0.3
AS31	**Alice Springs**	**3.94**	**343**	P	Pn	16 44 04.9	+0.3
LCRK	**Leigh Creek**	**4.02**	**139**	P	Pn	16 44 06.8	+1.1
LCRK				S	Sn	16 44 53.8	+0.9
INKA	**Innaminka**	**4.99**	**95**	P	Pn	16 44 18.8	-0.1
BBOO	**Buckleboo**	**5.39**	**172**	P	Pn	16 44 25.0	+0.4
	comp=Z,0.1nmcomp=Z,15nm,1.4s						
BBOO	**Buckleboo**	**5.39**	**172**	S	Sn	16 45 24.9	-1.9
WRKA	**Warakurna**	**6.60**	**290**	P	Pn	16 44 40.7	-0.5
	comp=Z,0.0nmcomp=Z,6.1nm,2.6s						
WRKA				S	Sg	16 47 00.8	+25
FORT	**Forrest**	**7.02**	**240**	P	Pn	16 44 47.4	+0.5
	comp=Z,0.0nmcomp=Z,12nm,1.1s						
FORT				S	Sn	16 46 06.0	-0.8
QIS	**Mount Isa**	**7.99**	**32**	P	Pn	16 45 00.1	-0.3
	comp=Z,0.0nmcomp=Z,5.6nm,2.9s						
QLP	**Quilpie**	**8.16**	**86**	P	Pn	16 45 01.8	-0.8
	comp=Z,0.1nmcomp=Z,22nm,2.7s						

*SJA **04** 16:56:13.2±0.7, 30°94S×71°49W, h50km±8km, ML3.4, MW3.5*
*GUC **04** 16:56:14.8±0.8, 30°90S×71°22W, h52km±4km, ML3.4*
ISC 04 16:56:16.0±1.2, 30°96S±0°02×71°35W±0°04, h47km±10km, n42, σ1°58/64, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.37**	**319**	*eP*	**Pn**	**16 56 25.9**	**+0.3**
CO06				*eS*	**Sn**	**16 56 34.6**	**+2.1**
CO06				IAML		16 56 37.0	
	comp=E,5μm,0.3s						
CO02	**Combarbal**	**0.39**	**129**	*eP*	**Pn**	**16 56 25.3**	**-0.7**
CO02				*eS*	**Sn**	**16 56 33.5**	**+0.4**
CO02				IAML		16 56 33.9	
	comp=E,11μm,0.2s						
CO02	**Combarbal**	**0.39**	**129**	*eP*	**Pn**	**16 56 25.2**	**-0.7**
CO02				IAML		16 56 34.3	
	comp=Z,2μm,0.1s						
CO03	**El Pedregal**	**0.58**	**78**	*eP*	**Pn**	**16 56 27.1**	**-1.2**
CO03				*eS*	**Sn**	**16 56 35.8**	**-1.2**
CO03				IAML		16 56 37.3	
	comp=E,5μm,0.1s						
CO03	**El Pedregal**	**0.58**	**78**	*eP*	Pn	16 56 15.8	-12
CO03				*eS*	Sn	16 56 27.1	-10
CO03				IAML		16 56 37.6	
	comp=Z,1μm,0.5s						
GO04	**Tololo Observa**	**0.92**	**31**	*eP*	**Pn**	**16 56 32.0**	**-0.7**
GO04				*eS*	**Sn**	**16 56 44.5**	**-0.6**
GO04				IAML		16 56 47.2	
	comp=E,6μm,0.5s						
GO04	**Tololo Observa**	**0.92**	**31**	*eP*	**Pn**	**16 56 32.1**	**-0.7**
GO04				*eS*	**Sn**	**16 56 44.9**	**-0.2**
CO05	**La Serena**	**1.04**	**5**	*eP*	**Pn**	**16 56 33.6**	**-0.7**
CO05				*eS*	**Sn**	**16 56 47.3**	**-0.4**
CO05				IAML		16 56 50.7	
	comp=E,1μm,0.2s						
CO01	**Juntas del Tor**	**1.46**	**48**	*eP*	**Pn**	**16 56 39.9**	**-0.3**
CO01				*eS*	**Sn**	**16 56 58.4**	**+0.1**
CO01				IAML		16 56 59.4	
	comp=E,688nm,0.3s						
CO01	**Juntas del Tor**	**1.46**	**48**	*eP*	**Pn**	**16 56 39.2**	**-1.0**
CO01				*eS*	**Sn**	**16 56 58.8**	**+0.4**
CO01				IAML		16 56 59.4	
	comp=Z,460nm,0.3s						
VA06	**Catapilco**	**1.60**	**178**	*eP*	**Pn**	**16 56 40.5**	**-1.3**
VA06				*eS*	**Sn**	**16 57 01.6**	**+0.3**
VA06				IAML		16 57 04.8	
	comp=N,740nm,0.3s						
AROD	**Rodeo**	**1.80**	**65**	*eP*	**Pn**	**16 56 46.0**	**+1.0**
AROD				*eS*	**Sn**	**16 57 09.8**	**+3.0**
VA03	**San Esteban**	**1.92**	**159**	*eP*	**Pn**	**16 56 45.9**	**-0.5**
VA03				*eS*	**Sn**	**16 57 10.1**	**+0.6**
VA03				IAML		16 57 15.7	
	comp=Z,238nm,0.2s						
RTLS	**Leoncito**	**1.95**	**116**	*eP*	**Pn**	**16 56 47.6**	**+0.7**
RTLS				*eS*	**Sn**	**16 57 05.7**	**-4.6**
RTLS				IAML		16 57 13.6	
	comp=Z,320nm,0.5s						
ACCO	**Cerro Coronel**	**2.00**	**80**	*eP*	**Pn**	**16 56 48.7**	**+1.0**
LCO	**Las Campanas**	**2.02**	**16**	*eS*	**Sn**	**16 57 12.8**	**+0.7**
LCO	**Las Campanas**	**2.02**	**16**	*eP*	**Pn**	**16 56 47.5**	**-0.4**
LCO				*eS*	**Sn**	**16 57 13.3**	**+1.2**
LCO				IAML		16 57 17.2	
	comp=Z,355nm,0.3s						
ROC1	**El Roble**	**2.03**	**172**	*eP*	**Pn**	**16 56 46.4**	**-1.7**
ROC1				*eS*	**Sn**	**16 57 14.7**	**+2.3**
VA01	**Torpederas**	**2.07**	**187**	*eP*	Pn	16 56 31.1	-17
ACDV	**Cuesta del Vie**	**2.08**	**68**	*eP*	Pn	16 56 39.9	-8.7
ACDV				IAML		16 57 28.1	
	comp=Z,93nm,0.3s						
PEL	**Peldehue**	**2.25**	**166**	*eP*	**Pn**	**16 56 50.3**	**-0.5**
PEL				*eS*	Sn	16 57 08.0	-9.4
MT02	**Curacav**	**2.30**	**176**	*eP*	**Pn**	**16 56 49.8**	**-1.7**
MT02				*eS*	**Sn**	**16 57 20.5**	**+1.9**
MT02				IAML		16 57 29.8	
	comp=Z,106nm,0.2s						
ZON	**Zonda**	**2.36**	**105**	*eP*	**Pn**	**16 56 53.3**	**+0.9**
ZON				*eS*	**Sn**	**16 57 23.4**	**+3.1**
MT05	**Renca**	**2.48**	**168**	*eP*	**Pn**	**16 56 53.6**	**-0.4**
MT05				*eS*	**Sn**	**16 57 26.2**	**+3.1**
MT05				IAML		16 57 29.9	
	comp=Z,147nm,0.2s						
RTLL	**Cerro Villicun**	**2.49**	**99**	*eP*	**Pn**	**16 56 54.6**	**+0.4**
RTLL				*eS*	**Sn**	**16 57 25.9**	**+2.5**
FCH	**Farellones**	**2.53**	**159**	*eP*	**Pn**	**16 56 55.1**	**+0.2**
FCH				*eS*	**Sn**	**16 57 25.7**	**+1.0**
FCH				IAML		16 57 34.0	
	comp=E,176nm,0.2s						
MT03	**Universidad Ad**	**2.63**	**164**	*eS*	**Sn**	**16 57 27.9**	**+1.1**
MT03				IAML		16 57 37.5	
	comp=Z,203nm,0.5s						
MT04	**Ro Olivares**	**2.65**	**157**	*eP*	**Pn**	**16 56 56.8**	**+0.3**
MT04				*eS*	**Sn**	**16 57 29.1**	**+1.7**
MT04				IAML		16 57 34.2	
	comp=Z,126nm,0.6s						
ASAL	**Salagasta**	**2.69**	**128**	*eP*	**Pn**	**16 56 55.1**	**-1.8**
MT08	**Bocatoma Ro**	**2.73**	**156**	*eP*	**Pn**	**16 56 53.6**	**-3.9**
MT08				*eP*		16 56 58.4	
MT08				*eS*	**Sn**	**16 57 32.9**	**+3.5**
MT08				IAML		16 57 36.9	
	comp=Z,55nm,1.2s						
AC04	**Llanos de Chal**	**2.75**	**5**	*eP*	**Pn**	**16 56 56.4**	**-1.4**
AC04				*eS*	Sn	16 57 17.0	-13
AC04				IAML		16 57 38.1	
	comp=Z,73nm,0.5s						
AGUA	**GUANDACOL**	**2.88**	**60**	*eP*	Pn	16 57 01.6	+2.1
AGUA				IAML		16 57 44.3	
	comp=Z,132nm,0.3s						
MT01	**Popeta**	**2.90**	**178**	*eP*	**Pn**	**16 56 57.8**	**-1.9**
MT01				*eS*	**Sn**	**16 57 31.0**	**-2.3**
MT01				IAML		16 57 41.1	
	comp=Z,94nm,0.4s						
LMEL	**Las Melosas**	**3.04**	**162**	*eP*	**Pn**	**16 57 02.0**	**+0.2**
LMEL				*eS*	**Sn**	**16 57 38.0**	**+1.0**
AVFE	**Valle Fertil**	**3.37**	**86**	*eS*	**Sn**	**16 57 43.6**	**-1.4**
AVFE				IAML		16 57 53.3	
	comp=Z,66nm,0.7s						
BO01	**Tunca**	**3.43**	**176**	*eP*	**Pn**	**16 57 05.7**	**-1.3**
BO01				*eS*	**Sn**	**16 57 47.8**	**+1.4**
BO01				IAML		16 58 06.2	
	comp=Z,44nm,0.7s						
GO03	**Copiapo**	**3.49**	**17**	*eP*	**Pn**	**16 57 08.2**	**+0.3**
GO03				*eS*	**Sn**	**16 57 48.5**	**+0.4**
VCA	**Vinchina**	**3.52**	**52**	*eS*	**Sn**	**16 57 48.3**	**-0.5**
VCA				IAML		16 58 02.8	
	comp=Z,94nm,0.5s						
BO02	**Sierra Bellavi**	**3.85**	**173**	*eP*	**Pn**	**16 57 11.7**	**-1.1**
BO02				IAML		16 58 07.9	
	comp=Z,104nm,0.5s						
ACHE	**Chepes**	**4.03**	**94**	*eP*	**Pn**	**16 57 14.6**	**-0.7**
AC02	**Maricunga**	**4.55**	**26**	*eP*	**Pn**	**16 57 22.5**	**-0.3**
AC02				*eS*	**Sn**	**16 58 15.5**	**+0.9**
AC02				IAML		16 58 42.9	
	comp=Z,26nm,2.4s						
MRA	**San Martin**	**5.02**	**108**	*eP*	**Pn**	**16 57 27.7**	**-1.2**
MRA				IAML		16 58 30.2	
	comp=Z,51nm,0.6s						
MRA				IAML		16 58 30.2	
	comp=Z,51nm,0.6s						
MRA				IAML		16 58 30.2	
	comp=Z,51nm,0.6s						

*UPP **04** 17:00:50.2±0.1, 67°07N×20°92E, h0km, ML2.1, Unknown*
*HEL **04** 17:00:50.3±0.3, 67°08N×20°90E, h0km, ML2.1, Explosion Hypocentre not reviewed by the ISC*
*IDC **04** 17:00:51.8±1.0, 67°05N×21°16E, h0km, mbtmp3.0/4, ML2.0/4, Error ellipse: s-maj=19.6km s-min=9.0km az=110.0*
ISC 04 17:00:50.1±1.2, 67°08N±0°03×20°93E±0°04, h1km±12km, n17, σ0°92/24, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.56**	**47**	P	**Pg**	**17 01 01.1**	**+0.3**
MASU				S	**Sg**	**17 01 08.9**	**+0.9**
ERTU	**Ertsjaerv**	**0.73**	**136**	P	**Pg**	**17 01 03.9**	**-0.1**
ERTU				S	**Sg**	**17 01 13.9**	**+0.6**
ERTU	**Ertsjaerv**	**0.73**	**136**	PB		17 01 03.8	
PAJU	**Pajala**	**0.86**	**93**	P	**Pg**	**17 01 06.2**	**-0.2**
PAJU				S	**Sb**	**17 01 18.0**	**-1.7**
PAJU	**Pajala**	**0.86**	**93**	PG		17 01 06.2	
	baz=278						
PAJU				SB		17 01 17.9	
KUA	**Kurravaara**	**0.91**	**346**	P	**Pg**	**17 01 07.2**	**-0.2**
KUA				S	**Sg**	**17 01 19.7**	**+0.6**
RATU	**Laukkuluspa**	**0.91**	**326**	P	**Pg**	**17 01 07.1**	**-0.3**
RATU				S	**Sg**	**17 01 19.4**	**+0.2**
HARU	**Harads**	**0.92**	**179**	P	**Pg**	**17 01 07.4**	**-0.3**
HARU				S	**Sg**	**17 01 19.5**	**-0.1**
SALU	**Saltoluokta**	**0.99**	**289**	P	**Pg**	**17 01 08.8**	**-0.3**
LANU	**Lannavaara**	**1.05**	**22**	PG		17 01 08.9	
KOVU	**Salmi**	**1.18**	**346**	P	**Pb**	**17 01 12.5**	**-0.8**
KLF	**Kolari**	**1.19**	**81**	PG		17 01 12.5	
KLF				MSG		17 01 26.9	
	comp=Z,20nm,0.2s						
KLF				SB		17 01 27.6	
KALU	**Kalix**	**1.57**	**140**	P	**Pb**	**17 01 19.1**	**-0.6**
KALU	**Kalix**	**1.57**	**140**	PN		17 01 19.1	
	baz=319						
SJUU	**Sjulsmark**	**1.60**	**170**	P	**Pb**	**17 01 19.8**	**-0.6**
TOF	**Tornio**	**1.69**	**125**	PG		17 01 21.2	
	baz=305						
TOF				MSG		17 01 41.1	
	comp=Z,14nm,0.2s						
HEF	**Hetta**	**1.69**	**37**	*eP*	**Pb**	**17 01 21.1**	**-0.7**
HEF	**Hetta**	**1.69**	**37**	PG		17 01 20.8	
	baz=222						
HEF				MSG		17 01 41.1	
	comp=Z,11nm,0.2s						
HEF				SN		17 01 45.3	
KIF	**Kilpisjarvi**	**1.93**	**359**	*eP*	**Pb**	**17 01 25.8**	**-0.2**
KIF	**Kilpisjarvi**	**1.93**	**359**	PG		17 01 25.7	
KIF				MSG		17 01 49.1	
	comp=Z,26nm,0.2s						
KIF				SG		17 01 53.4	
RNF	**Rovaniemi**	**2.06**	**101**	PG		17 01 27.2	
KTK1	**Kautokeino**	**2.12**	**23**	PG		17 01 28.9	
KTK1				SG		17 01 59.7	
I37NO	**I37NO**	**2.18**	**338**	I	I	17 14 25.9	
	baz=157,slow=334,SNR=3.4						
RANF	**Ranua**	**2.58**	**112**	PB		17 01 34.7	
	baz=296						
RANF				SG		17 02 10.4	
TRO	**Tromso**	**2.67**	**345**	SG		17 02 15.6	
OBF4	**Vikkela, Lumij**	**2.85**	**141**	PB		17 01 38.5	
	baz=324						
OBF4				MSG		17 02 14.2	
	comp=Z,4.2nm,0.2s						
OUL	**Oulu**	**2.85**	**132**	PG		17 01 40.4	
OBF0	**Syolatti, Pyha**	**2.93**	**151**	PB		17 01 40.7	
OBF0				MSG		17 02 16.6	
	comp=Z,4.0nm,0.2s						
ARA0	**ARCESS Array S**	**2.99**	**32**	PN		17 01 40.0	
	baz=212						
ARA0				SG		17 02 23.2	
ARCES	**ARCESS Array B**	**2.99**	**32**	Pn	**Pn**	**17 01 39.8**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=211,slow=15,SNR=45						
ARCES				Sn	**Sb**	**17 02 18.7**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=210,slow=18,SNR=9.2						
	comp=Z,0.8nm,0.2s						
RAJF	**Raja-Jooseppi**	**3.13**	**60**	PB		17 01 43.7	
RAJF				SG		17 02 27.9	
OUF	**Merijarvi**	**3.15**	**148**	PB		17 01 42.7	
	baz=332						
UMAU	**Umeaa**	**3.21**	**182**	PB		17 01 42.8	
KU2	**Taivalkoski**	**3.24**	**112**	PB		17 01 45.3	
VRF	**Varrio**	**3.41**	**75**	PN		17 01 46.6	
OLKF	**Oulanka, Finla**	**3.45**	**99**	PN		17 01 46.8	
MSF	**Maaselka**	**3.46**	**106**	PB		17 01 47.4	
	baz=294						
KEV	**Kevo**	**3.50**	**37**	PN		17 01 47.3	
	baz=218						
KU6	**Riekki**	**3.73**	**102**	PB		17 01 52.6	
	baz=294						
KU1	**Kurvinen**	**3.80**	**110**	PB		17 01 53.4	
RMF	**Romuvaara**	**4.70**	**123**	PN		17 02 03.7	
FINES	**FINESS Array B**	**6.09**	**156**	Pn	**Pn**	**17 02 22.1**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=344,slow=12,SNR=6.8						
FINES				Sn	**Sn**	**17 03 31.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=348,slow=24,SNR=5.2						
	comp=Z,1.6nm,0.8s						
NOA	**NORSAR Array B**	**7.40**	**220**	Pn	**Pn**	**17 02 40.2**	**+1.1**
	baz=26,slow=11,SNR=2.3						
	comp=Z,1.1nm,1.0s						
HFS	**Hagfors**	**7.68**	**208**	Pn	**Pn**	**17 02 43.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=26,slow=13,SNR=6.0						
	comp=Z,2.1nm,0.8s						

*NEIC **04** 17:02:54.6±1.2, 35°717N±0°010×117°48W±0°01, h15km±3km, Error ellipse: s-maj=1.6km s-min=1.2km az=135.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}1.16; $M_{\theta\theta}$-9.16; $M_{\phi\phi}$8.00; $M_{r\theta}$0.31; $M_{\theta r}$1.95; $M_{\phi r}$-0.29; Fault plane solution: M_{o}8.87000×10^{14} NP1:ϕ_s141.40000°, δ89.86000°, λ177.25000°. NP2: ϕ_s231.41000°, δ87.25000°, λ0.14000°. Principal axes: T 8.2327, Plg2.0000°, Azm96.0000°; N 1.1604, Plg87.0000°, Azm319.0000°; P -9.3931, Plg2.0000°, Azm186.0000°;*
*IDC **04** 17:02:54.3±0.7, 35°71N×117°39W, h0km, mb3.5/4, mbtmp3.4/9, ML3.6/5, MS2.8/5 Error ellipse: s-maj=15.5km s-min=5.7km az=73.0*
*NEIC **04** 17:02:55.4, 35°71N×117°51W, h10km*
*PAS **04** 17:02:55.3±1.1, 35°708N±0°010×117°504W±0°007, h11km±5km, Mwr4.0/6, mb3.8/5(NEIC), ML4.1/90(NEIC), Mwr3.9/64(NEIC), Error ellipse: s-maj=1.5km s-min=0.8km az=164.0*
ISC 04 17:02:55.2±0.8, 35°69N±0°02×117°51W±0°02, h16km±6km, n114, σ0°86/132, mb3.4/4, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.14**	**329**		**Pb**	**17 02 58.5**	**-1.1**
CLC					**Sb**	**17 03 00.9**	**-1.6**
SRTC	**Snort**	**0.20**	**270**		**Pg**	**17 02 59.9**	**-0.1**
SRTC					**Sg**	**17 03 03.9**	**+0.8**
CCCA	**Chr Cany lake**	**0.20**	**145**		**Pb**	**17 03 00.1**	**-0.6**
CCCA					**Sg**	**17 03 04.1**	**+0.8**
TOW	**Tower One**	**0.24**	**299**		**Pg**	**17 03 00.5**	**-0.1**
TOW					**Sb**	**17 03 05.0**	**-0.3**
LRMC	**Laurel Mtn Rad**	**0.26**	**214**		**Pg**	**17 03 00.6**	**-0.3**
LRMC					**Sg**	**17 03 04.8**	**0.0**
WNMM	**Nine Mile Cany**	**0.35**	**295**		**Pg**	**17 03 02.1**	**-0.4**
WNMM					**Sg**	**17 03 07.6**	**+0.1**
WVPM	**Volcano Peak E**	**0.36**	**316**		**Pg**	**17 03 02.1**	**-0.6**
WVPM					**Sg**	**17 03 07.5**	**-0.3**
MPMC	**Manual Prospec**	**0.36**	**2**		**Pg**	**17 03 02.0**	**-0.8**
MPMC					**Sg**	**17 03 07.4**	**-0.6**
JRC2	**Joshua Ridge**	**0.38**	**320**		**Pg**	**17 03 02.5**	**-0.5**
JRC2					**Sg**	**17 03 07.8**	**-0.5**
WCSM	**Coso Springs S**	**0.39**	**328**		**Pg**	**17 03 02.6**	**-0.7**
WCSM					**Sg**	**17 03 08.1**	**-0.7**
WRVM	**Rose V. Centra**	**0.44**	**315**		**Pg**	**17 03 03.5**	**-0.6**
WRVM					**Sg**	**17 03 09.8**	**-0.4**
DTP	**Desert Tortois**	**0.51**	**213**		**Pg**	**17 03 04.9**	**-0.5**
DTP					**Sg**	**17 03 11.9**	**-0.2**
MFS	**McCloud Flat S**	**0.51**	**326**		**Pg**	**17 03 04.8**	**-0.6**
MFS					**Sg**	**17 03 11.5**	**-0.8**
WBSM	**Bird Springs**	**0.54**	**253**		**Pg**	**17 03 05.5**	**-0.5**
WBSM					**Sg**	**17 03 13.0**	**-0.2**
QSM	**Queen of Sheba**	**0.59**	**62**		**Pg**	**17 03 06.1**	**-0.7**
QSM				Sg	**Sg**	**17 03 13.8**	**-0.8**
WORM	**Onyx Ranch**	**0.60**	**270**		Pn	17 03 14.3	+5.2
CCAC	**Calif City Air**	**0.68**	**218**		**Pb**	**17 03 08.2**	**-0.6**
CCAC				Sg	**Sg**	**17 03 17.9**	**+0.2**
CCAC				IAML		17 03 18.8	
	comp=N,18μm,0.3s						
WHFM	**Hanning Flat**	**0.68**	**270**		Pn	17 03 17.1	+6.8
GSC	**Goldstone, Bar**	**0.69**	**124**		**Pb**	**17 03 08.2**	**-0.8**
GSC	**Goldstone, Bar**	**0.69**	**124**		**Sg**	**17 03 18.0**	**-0.1**
ISA	**Isabella, Lake**	**0.79**	**268**		**Sb**	**17 03 20.3**	**-0.8**
ISA	**Isabella, Lake**	**0.79**	**268**		**Pb**	**17 03 09.8**	**-0.8**
ISA				IAML		17 03 21.3	
	comp=N,8μm,0.3s						
ISA				IAML		17 03 23.3	
	comp=E,8μm,0.4s						
HYS	**Haystack Butte**	**0.83**	**183**		**Pb**	**17 03 10.7**	**-0.6**
GWY	**Greenwater Val**	**0.84**	**54**		**Pb**	**17 03 10.7**	**-0.9**
GWY					**Sb**	**17 03 21.9**	**-0.8**
WASM	**Alta Sierra Ca**	**0.85**	**273**		**Pb**	**17 03 11.2**	**-0.7**
WASM					Pn	17 03 22.4	+10
CWC	**Cottonwood Cre**	**0.88**	**328**		**Pb**	**17 03 11.6**	**-0.6**
CWC					**Sb**	**17 03 22.9**	**-0.9**
CGO	**Cerro Gordo**	**0.89**	**344**		**Pb**	**17 03 11.3**	**-1.2**
CGO					**Sb**	**17 03 23.8**	**-0.5**
EDW2	**Edwards Air Fo**	**0.90**	**206**		**Pb**	**17 03 11.9**	**-0.6**
EDW2					Pn	17 03 24.1	+11
RRX	**Edison Barstow**	**0.92**	**153**		**Pb**	**17 03 12.5**	**-0.3**
FURC	**Furnace Creek,**	**0.93**	**34**		**Pb**	**17 03 12.6**	**-0.4**
TPO	**Tropico Hills**	**1.00**	**216**		**Pb**	**17 03 13.9**	**-0.4**
TPO					**Sn**	**17 03 27.9**	**-0.7**
SHOC	**Shoshone, Teco**	**1.02**	**78**		**Sn**	**17 03 28.8**	**-0.3**
SBB	**Saddle Back Bu**	**1.04**	**195**		**Pb**	**17 03 14.4**	**-0.5**
TEJ	**El Tejon**	**1.07**	**245**		**Pb**	**17 03 14.5**	**-0.9**
SPG2	**Springville 2**	**1.14**	**297**		**Pn**	**17 03 16.0**	**-0.6**
VTV	**Victorville**	**1.14**	**173**		**Pn**	**17 03 16.1**	**-0.5**
ADO	**Adelanto Recei**	**1.14**	**177**		**Pn**	**17 03 16.4**	**-0.2**
ALPC	**Antelope**	**1.20**	**213**		**Pn**	**17 03 16.8**	**-0.5**
MAGC	**SCE Magundon P**	**1.20**	**254**		**Pb**	**17 03 17.4**	**-0.2**
TJR	**Tejon Ranch**	**1.21**	**237**		**Pn**	**17 03 17.1**	**-0.5**
ARVC	**Arvin**	**1.22**	**243**		**Pb**	**17 03 17.5**	**-0.4**
THC	**Tehachapi Micr**	**1.23**	**231**		**Pb**	**17 03 17.6**	**-0.6**
LRRC	**Littlerock Res**	**1.24**	**200**		**Pn**	**17 03 17.5**	**-0.4**
LEOC	**Leona Valley**	**1.24**	**212**		**Pn**	**17 03 17.5**	**-0.6**
AMDNV	**Amargosa**	**1.25**	**52**		**Pn**	**17 03 17.0**	**-1.0**
HOLC	**Holcomb Ridge**	**1.26**	**193**		**Pn**	**17 03 17.9**	**-0.5**
CJV	**Casa Juvan**	**1.27**	**204**		**Pn**	**17 03 17.9**	**-0.6**
DSCC	**Desert Studies**	**1.27**	**115**		**Pn**	**17 03 17.1**	**-1.3**
HEC	**Hector,Ludlow**	**1.29**	**132**		**Pn**	**17 03 17.9**	**-0.8**
VES	**Vestal, Richgr**	**1.29**	**277**		**Pb**	**17 03 18.4**	**-0.7**
JNH	**Juniper Hills**	**1.30**	**197**		**Pn**	**17 03 18.4**	**-0.5**
GRAC	**Grapevine Rang**	**1.30**	**5**		**Pn**	**17 03 18.7**	**-0.2**
GRAC				IAML		17 03 43.9	
	comp=N,4μm,0.9s						
GRAC				IAML		17 03 45.6	
	comp=E,4μm,0.4s						
WCT	**Wildcat Mounta**	**1.31**	**33**		**Pn**	**17 03 18.1**	**-0.8**
WCT				IAML		17 03 38.2	
	comp=E,6μm,0.5s						
WCT				IAML		17 03 38.4	
	comp=N,5μm,0.7s						
TUQ	**Turquoise Moun**	**1.32**	**101**		**Pn**	**17 03 18.0**	**-1.1**
SGV	**South Grapevin**	**1.34**	**17**		**Pn**	**17 03 18.9**	**-0.6**
BFSC	**Mount Baldy Ra**	**1.46**	**185**		**Pn**	**17 03 20.8**	**-0.2**
MTPC	**Mountain Pass**	**1.61**	**97**		**Pn**	**17 03 22.2**	**-0.9**
TPNV	**Topopah Spring**	**1.61**	**39**	Pn	**Pn**	**17 03 22.7**	**-0.5**
GMN	**Gold Mountain**	**1.62**	**7**		**Pn**	**17 03 23.1**	**-0.3**
PASC	**Pasadena Art C**	**1.62**	**200**		**Pn**	**17 03 23.1**	**0.0**
PASC				IAML		17 03 48.9	
	comp=N,3μm,0.6s						
PASC				IAML		17 03 50.2	
	comp=E,4μm,0.4s						
DSP	**Deep Springs**	**1.71**	**348**		**Pn**	**17 03 24.4**	**0.0**
DSP				IAML		17 03 53.1	
	comp=E,1μm,0.9s						
BCW	**Bitter Crk WRg**	**1.73**	**245**		**Pn**	**17 03 24.2**	**-0.6**
BCW				IAML		17 03 53.4	
	comp=N,3μm,0.5s						
BCW				IAML		17 04 09.4	
	comp=E,3μm,0.8s						
MZP	**Montezuma Peak**	**2.01**	**3**		**Pn**	**17 03 28.7**	**0.0**
ELS	**Elsinore Mount**	**2.04**	**

CCUT	**Cedar City**	**3.81**	**60**	Pn		**Pn**	**17 03 54.3**	**+0.8**
CCUT				IAML			17 04 58.1	
	comp=N,279nm,1.2s							
CCUT				IAML			17 05 00.0	
	comp=E,212nm,0.8s							
CCX	**Cicese**	**3.88**	**169**	Pn		**Pn**	**17 03 55.2**	**+1.0**
CCX				IAML			17 04 57.9	
	comp=N,363nm,0.6s							
CCX				IAML			17 05 00.4	
	comp=E,451nm,0.8s							
ESJX	**Sierra Juarez**	**3.90**	**160**			**Pn**	**17 03 54.8**	**+0.1**
ESJX				IAML			17 05 01.2	
	comp=N,273nm,0.7s							
ESJX				IAML			17 05 02.1	
	comp=E,265nm,0.7s							
KNB	**Kanab**	**4.01**	**69**			**Pn**	**17 03 56.9**	**+0.7**
KNB				IAML			17 05 04.5	
	comp=E,175nm,1.3s							
KNB				IAML			17 05 12.3	
	comp=N,201nm,1.1s							
Y14A	**Wickenburg**	**4.10**	**114**			**Pn**	**17 03 56.4**	**-0.9**
Y14A				IAML			17 05 09.0	
	comp=E,387nm,0.5s							
PAHR	**Pah Rah Range**	**4.27**	**340**			**Pn**	**17 04 00.8**	**+1.0**
WUAZ	**Wupatki**	**5.00**	**90**			**Pn**	**17 04 10.6**	**+0.8**
WUAZ				IAML			17 05 33.7	
	comp=E,155nm,0.9s							
WUAZ				IAML			17 05 36.4	
	comp=E,187nm,1.1s							
X16A	**Lo Mia Camp, P**	**5.14**	**103**			**Pn**	**17 04 12.2**	**+0.5**
X16A				IAML			17 05 49.2	
	comp=E,70nm,1.1s							
ELK	**Elko**	**5.35**	**19**			**Pn**	**17 04 15.4**	**+0.7**
ELK	**Elko**	**5.35**	**19**	Pn		**Pn**	**17 04 15.4**	**+0.7**
	comp=E,1.1nm,0.3s,baz=214,slow=12,SNR=19							
ELK				Pg		**Pb**	**17 04 32.0**	**+3.5**
	comp=E,10nm,0.3s,baz=213,slow=15,SNR=7.2							
ELK				Lg		Lg	17 05 42.0	
	comp=E,16nm,0.3s,baz=25,slow=23,SNR=11							
	comp=E,2.5nm,0.3s							
X18A	**Snowflake**	**6.30**	**98**			**Pn**	**17 04 28.5**	**+0.8**
WVOR	**Wild Horse Val**	**6.79**	**353**	Pn		**Pn**	**17 04 36.1**	**+1.8**
YBH	**Yreka Blue Hor**	**7.27**	**328**	Pn		**Pn**	**17 04 43.8**	**+2.9**
	baz=204,slow=4.5,SNR=3.0							
YBH				Lg		Lg	17 06 41.8	
	baz=353,slow=6.9,SNR=4.3							
MVCO	**Mesa Verde**	**7.42**	**76**			**Pn**	**17 04 44.2**	**+1.2**
DUN6	**Lazy B Ranch**	**7.65**	**112**	Pn		**Pn**	**17 04 47.0**	**+0.9**
319A	**Douglas**	**8.11**	**120**	Pn		**Pn**	**17 04 52.3**	**-0.1**
ANMO	**Albuquerque**	**9.06**	**92**	Lg		Lg	17 07 38.5	
	comp=E,0.2nm,0.3s,baz=269,slow=23,SNR=6.0							
ANMO				LR		LR	17 08 21.9	
	comp=E,68nm,21.9s,baz=36,slow=36							
TPAW	**Teton Pass**	**9.28**	**31**			**Pn**	**17 05 07.7**	**-1.0**
PDAR	**Pinedale Array**	**9.37**	**39**	Pn		**Pn**	**17 05 11.9**	**+2.1**
	baz=228,slow=11,SNR=3.8							
PDAR				Lg		Lg	17 07 46.2	
	comp=E,0.2nm,0.3s,baz=91,slow=28,SNR=5.4							
PDAR				LR		LR	17 08 53.3	
	comp=E,27nm,19.9s,baz=232,slow=39							
	comp=E,0.4nm,0.8s							
NEW	**Newport**	**12.56**	**1**	LR		LR	17 11 31.7	
	comp=E,39nm,20.5s,baz=220,slow=41							
TX31	**Lajitas Ar. Si**	**13.28**	**115**	Pn		**Pn**	**17 06 01.7**	**-1.6**
TXAR	**Lajitas Array**	**13.28**	**115**	Pn		**Pn**	**17 06 02.5**	**-0.8**
TXAR	**Lajitas Array**	**13.28**	**115**	Pn		**Pn**	**17 06 04.8**	**+1.6**
	comp=E,0.3nm,0.3s,baz=291,slow=12,SNR=11							
TXAR				Lg		Lg	17 09 50.5	
	comp=E,0.1nm,0.3s,baz=290,slow=29,SNR=6.3							
TXAR				LR		LR	17 10 30.8	
	comp=E,33nm,18.9s,baz=307,slow=35							
	comp=E,0.2nm,0.4s							
JCT	**Junction City**	**15.72**	**104**	Pn		**P**	**17 06 37.6**	**-2.4**
JCT				IAmb		IAmb	17 06 48.6	
	comp=Z,5.0nm,1.0s							
BRDY	**Brady**	**16.05**	**101**	P		**P**	**17 06 43.2**	**-0.5**
BBB	**Bella Bella**	**18.14**	**339**	LR		LR	17 14 54.7	
	comp=Z,84nm,21.9s,baz=152,slow=40							
MIAR	**Mount Ida**	**19.60**	**86**	P		**Pn**	**17 07 24.1**	**-0.1**
MIAR				IAmb		IAmb	17 07 34.7	
	comp=Z,4.5nm,0.9s							
ULM	**Lac du Bonnet**	**21.39**	**40**	P		**P**	**17 07 42.9**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=231,slow=10,SNR=3.4							
	comp=Z,2.8nm,0.8s							
FFC	**Flin Flon**	**21.86**	**25**	P		**P**	**17 07 46.6**	**-0.5**
YKA	**Yellowknife Ar**	**26.89**	**3**	P		**P**	**17 08 36.6**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=189,slow=9.2,SNR=4.7							
	comp=Z,0.3nm,0.7s							
ILAR	**Eielson Array**	**34.02**	**338**	P		**P**	**17 09 39.6**	**+1.4**
	comp=Z,0.2nm,0.9s,baz=145,slow=8.6,SNR=3.1							
	comp=Z,0.2nm,0.9s							
SCHQ	**Schefferville**	**39.45**	**45**	P		**P**	**17 10 24.8**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=253,slow=14,SNR=2.1							
	comp=Z,2.0nm,0.9s							

BER ***04*** *17:09:31.2±3.1, 77.76N×7.37E, h10km, mb(Pn)3.5, ML2.6(NAO), Confirmed Earthquake*
NAO ***04*** *17:09:33.6±1.7, 77.96N×8.00E, h22km±10km, ML2.6*
FCIAR ***04*** *17:09:34.0, 77.57N×8.39E, h10km, station ZFI2 has station magnitude of 3.20*
KOLA ***04*** *17:09:35.8, 78.01N×9.10E, h0km, ML1.9, Error ellipse: s-maj=17.3km s-min=9.4km az=60.0, Greenland sea*

ISC 04 17:09:33.8±2.7, 77.87N±0.06×8.3E±0.1, h33km±4km, n19, σ1§15/35, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BRBA	**Barentsburg A**	**1.25**	**78**	Pn		**Pb**	**17 09 56.1**	**-0.7**
BRBA				Sb		**Sb**	**17 10 12.2**	**-0.3**
BRBA	**Barentsburg A**	**1.25**	**78**	*e*P		**Pb**	**17 09 56.0**	**-0.7**
BRBA				*e*S		**Sb**	**17 10 16.2**	**+3.8**
BRBB	**Barentsburg B**	**1.25**	**77**	P		**Pb**	**17 09 57.3**	**+0.5**
BRBB				S		**Sn**	**17 10 09.6**	**-1.0**
KBS	**Kingsbay**	**1.29**	**33**	Pn		**Pb**	**17 09 56.9**	**-0.6**
KBS				Sn		**Sn**	**17 10 11.0**	**-0.5**
KBS	**Kingsbay**	**1.29**	**33**	P		**Pn**	**17 09 56.0**	**+0.7**
KBS				S		**Sn**	**17 10 11.8**	**+0.3**
KBS	**Kingsbay**	**1.29**	**33**	*e*P		**Pn**	**17 09 56.2**	**+0.8**
KBS				*e*S		**Sn**	**17 10 11.6**	**+0.2**
KBS				IAML			17 10 14.1	
	comp=Z,48nm,0.3s							
SPA0	**Spitsbergen Ar**	**1.71**	**76**	Pn		**Pb**	**17 10 03.6**	**-0.9**
	baz=254,slow=16							
SPA0				Sn		**Sb**	**17 10 25.2**	**-0.3**
	baz=249,slow=18							
SPA0	**Spitsbergen Ar**	**1.71**	**76**	*e*P		**Pb**	**17 10 03.4**	**-1.1**
SPA0				*e*S		**Sb**	**17 10 25.5**	**-0.1**
SPA0	**Spitsbergen Ar**	**1.71**	**76**	Pn		**Pb**	**17 10 03.6**	**-0.9**
	baz=254,slow=16							
SPA0				Sn		**Sb**	**17 10 25.2**	**-0.3**
	baz=249,slow=18							
SPITS	**Spitsbergen Ar**	**1.71**	**76**	P		**Pb**	**17 10 03.4**	**-1.1**
SPITS				S		**Sb**	**17 10 24.9**	**-0.6**
HSPB	**Hornsund (broa**	**1.80**	**115**	*e*P		**Pn**	**17 10 02.3**	**-0.1**
HSPB				*e*S		**Sn**	**17 10 23.6**	**-0.4**
HSPB	**Hornsund (broa**	**1.80**	**115**	*e*P		**Pn**	**17 10 02.5**	**+0.2**
HOPEN	**Hopen**	**3.95**	**102**	Pn		**Pn**	**17 10 33.2**	**+1.3**
HOPEN				Sn		**Sn**	**17 11 17.1**	**+0.2**
HOPEN	**Hopen**	**3.95**	**102**	*e*P		**Pn**	**17 10 32.7**	**+0.8**
HOPEN				*e*S		**Sn**	**17 11 16.6**	**-0.3**
HOPEN	**Hopen**	**3.95**	**102**	*e*P		**Pn**	**17 10 33.0**	**+1.1**
HOPEN				*e*S		**Sn**	**17 11 16.8**	**-0.1**
HOPEN				IAML			17 11 18.1	
	comp=Z,12nm,0.9s							
ZFI2	**Zemlya Franca-**	**7.71**	**49**	*e*P		**Pn**	**17 11 25.5**	**+2.1**
ZFI2				*e*S		**Sn**	**17 12 47.4**	**-1.9**
	comp=Z,6.4nm,2.4s							
OMEGA	**Omega**	**7.72**	**50**	P		**Pn**	**17 11 25.5**	**+2.0**
OMEGA				S		**Sn**	**17 12 48.0**	**-1.6**
ARA0	**ARCESS Array S**	**9.60**	**141**	Pn		**Pn**	**17 11 49.2**	**-0.1**
	baz=332,slow=12							
ARA0	**ARCESS Array S**	**9.60**	**141**	Pn		**Pn**	**17 11 49.2**	**-0.1**
	baz=332,slow=12							

IDC 04 17:25:25.8±419.0, 62.96N×40.03E, h0km, Error ellipse: s-maj=163.0km s-min=122.8km az=28.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**6.42**	**194**	I		I	18 04 10.0	
	baz=12,slow=324,SNR=1.1							
I37NO	**I37NO**	**10.60**	**315**	I		I	18 28 20.0	
	baz=116,slow=323,SNR=2.5							
I26DE	**FREYUNG INFRAS**	**20.22**	**238**	I		I	19 25 50.0	
	baz=36,slow=323,SNR=1.4							

REN ***04*** *17:33:48.4±1.6, 35.68N±0.03×117.52W±0.04, h11km±3km, Error ellipse: s-maj=5.4km s-min=3.8km az=122.0*
MOS ***04*** *17:33:48.8±1.2, 35.70N×117.44W, h11km, mb5.8/77, MS6.4/78, Error ellipse: s-maj=6.1km s-min=4.2km az=105.4*
NEIC ***04*** *17:33:48.9±1.6, 35.66N±0.03×117.50W±0.04, h10km±1km, Error ellipse: s-maj=6.3km s-min=4.3km az=304.0, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr=0.09; Mθθ=3.62; Mφφ=3.71; Mrθ=0.52; Mrφ=0.40; Mθφ=0.46; Fault plane solution: M0=3.75000×10^18 NP1: φs=228.06000°, δ=89.50000°, λ=-10.70000°. NP2: φs=318.15000°, δ=79.30000°, λ=-179.49000°. Principal axes: T 3.7927, Plg7.0000°, Azm274.0000°; N -0.0851, Plg79.0000°, Azm45.0000°; P -3.7077, Plg8.0000°, Azm183.0000°;*
IDC ***04*** *17:33:48.6±0.3, 35.68N×117.49W, h0km, mb4.9/30, mbtmp4.9/39, ML4.6/8, MS6.3/81 Error ellipse: s-maj=10.5km s-min=5.4km az=73.0*
IPGP ***04*** *17:33:48.0, 35.71N×117.51W, h19km, Mw6.5, Fault plane solution: NP1:φs=315.00000°, δ=79.00000°, λ=-173.00000°. NP2:φs=224.00000°, δ=83.00000°, λ=-11.00000°.*
BJI ***04*** *17:33:48.5, 35.72N×117.51W, h10km, mB6.0/49, mb5.2/51, Ms6.6/67, Ms7 6.4/65*
NEIC ***04*** *17:33:49, 35.71N×117.51W, h11km*
NEIC ***04*** *17:33:49, 35.71N×117.51W, h14km, Moment Tensor Solution. Duration: 29s8 Moment tensor: Scale 10^18Nm; Mrr=0.36; Mθθ=6.08; Mφφ=6.45; Mrθ=0.48; Mrφ=0.25; Mθφ=0.82; Fault plane solution: M0=6.35000×10^18 NP1: φs=226.25000°, δ=81.76000°, λ=1.21000°. NP2:φs=136.07000°, δ=88.80000°, λ=171.76000°. Principal axes: T 6.5464, Plg7.0000°, Azm91.0000°; N -0.4145, Plg82.0000°, Azm308.0000°; P -6.1318, Plg5.0000°, Azm181.0000°;*
PAS ***04*** *17:33:49±1.6, 35.71N±0.03×117.50W±0.04, h10km±3km, Mwr6.4/6, mb5.7/215(NEIC), ML6.2/7(REN), ML6.2/116(NEIC), Ms_20 6.4/934(NEIC), Mwb6.3/58(NEIC), Mww6.5/66(NEIC) Error ellipse: s-maj=5.4km s-min=3.6km az=124.0*
NEIC ***04*** *17:33:49, 35.71N×117.51W, h14km*
OSUNB ***04*** *17:33:52.8±0.6, 35.64N×117.29W, h5km±3km, mB6.1/25, Error ellipse: s-maj=5.5km s-min=6.0km az=0.0*
BGR ***04*** *17:33:55.0, 35.30N×118.12W, h33km, mb5.6, mB_BB6.0, Ms6.7*
GCMT ***04*** *17:33:58.0±0.0, 35.69N×117.54W, h13km, MW6.5/180, Moment Tensor Solution. s167,c411; s180,c764; Duration: 4s1 Moment tensor: Scale 10^18Nm; Mrr=0.46±.02; Mθθ=5.68±.02; Mφφ=6.13±.02; Mrθ=0.00±.04; Mrφ=0.49±.02; Mθr=0.56±.05; Best double couple: M0=5.94900×10^18 NP1:φs=227.00000°, δ=86.00000°, λ=3.00000°. NP2:φs=137.00000°, δ=87.00000°, λ=176.00000°. Principal axes: T 6.1980, Plg5.0000°, Azm92.0000°; N -0.5030, Plg85.0000°, Azm275.0000°; P -5.7000, Plg0.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
CATAC ***04*** *17:34:27.6±2.7, 33°N±22°×11°7W±°, h20km±7km, M5.3/6, MLv5.3/6, confirmed*

ISC 04 17:33:51.0±0.4, 35.67N±0.01×117.53W±0.02, h12km±2km, h12km:pP-P, n1961, σ2§59/1817, mb5.6/355, MS6.4/622, 105C-46D, Central California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CLC	**China Lake**	**0.16**	**339**			**Pg**	**17 33 52.1**	**-2.6**
CLC						**Sg**	**17 33 55.2**	**-2.2**
CLC	**China Lake**	**0.16**	**339**	P		**Pg**	**17 33 52.1**	**-2.6**
SRTC	**Snort**	**0.18**	**277**			**Pg**	**17 33 53.6**	**-1.5**
CCCA	**Chr Cany lake**	**0.20**	**137**			**Pg**	**17 33 53.8**	**-1.6**
CCCA						**Sg**	**17 33 57.7**	**-0.7**
LRMC	**Laurel Mtn Rad**	**0.23**	**214**			**Pg**	**17 33 54.3**	**-1.6**
TOW	**Tower One**	**0.24**	**306**			**Pg**	**17 33 54.2**	**-1.9**
TOW						**Sg**	**17 33 59.0**	**-0.5**
WNMM	**Nine Mile Cany**	**0.35**	**300**			**Pg**	**17 33 55.8**	**-2.3**
WNMM						**Sg**	**17 34 02.3**	**-0.5**
WVPM	**Volcano Peak E**	**0.36**	**320**			**Pg**	**17 33 55.8**	**-2.6**
WVPM						**Sg**	**17 34 01.3**	**-2.1**
JRC2	**Joshua Ridge**	**0.39**	**324**			**Pg**	**17 33 56.2**	**-2.6**
JRC2						**Sg**	**17 34 02.0**	**-2.1**
MPMC	**Manual Prospec**	**0.39**	**5**			**Pg**	**17 33 55.7**	**-3.1**
WCSM	**Coso Springs S**	**0.41**	**331**			**Pg**	**17 33 56.3**	**-2.8**
WCSM						**Sg**	**17 34 02.0**	**-2.6**
WRVM	**Rose V. Centra**	**0.45**	**319**			**Pg**	**17 33 57.2**	**-2.7**
WRVM						**Sg**	**17 34 03.9**	**-2.0**
DTP	**Desert Tortois**	**0.48**	**213**			**Pg**	**17 33 58.5**	**-1.9**
WBSM	**Bird Springs**	**0.52**	**255**			**Pg**	**17 33 59.2**	**-2.0**
WBSM						**Sg**	**17 34 07.0**	**-1.0**
MFS	**McCloud Flat S**	**0.52**	**329**			**Pg**	**17 33 58.5**	**-2.7**
MFS						**Sg**	**17 34 06.0**	**-2.2**
WORM	**Onyx Ranch**	**0.58**	**273**			**Pg**	**17 34 00.1**	**-2.3**
WORM						**Sg**	**17 34 08.7**	**-1.4**
QSM	**Queen of Sheba**	**0.61**	**61**			**Pg**	**17 33 59.8**	**-3.2**
QSM				IAML			17 34 20.7	
	comp=N,1006μm,0.6s							
CCAC	**Calif City Air**	**0.65**	**218**			**Pg**	**17 34 01.9**	**-1.8**
CCAC				IAML			17 34 18.9	
	comp=E,1441μm,1.4s							
CCAC				IAML			17 34 23.6	
	comp=N,1319μm,1.4s							
WHFM	**Hanning Flat**	**0.67**	**273**			**Pg**	**17 34 01.7**	**-2.3**
GSC	**Goldstone, Bar**	**0.69**	**122**			**Pg**	**17 34 01.9**	**-2.6**
GSC				IAML			17 34 15.1	
	comp=N,792μm,0.8s							
GSC				IAML			17 34 19.4	
	comp=E,1009μm,0.6s							
GSC	**Goldstone, Bar**	**0.69**	**122**	P		**Pg**	**17 34 01.9**	**-2.6**
GSC							17 34 11.6	
ISA	**Isabella, Lake**	**0.77**	**270**			**Pg**	**17 34 03.5**	**-2.4**
ISA				IAML			17 34 22.2	
	comp=E,739μm,0.7s							
ISA	**Isabella, Lake**	**0.77**	**270**	P		**Pg**	**17 34 03.5**	**-2.4**
HYS	**Haystack Butte**	**0.81**	**182**			**Pg**	**17 34 04.3**	**-2.3**
HYS						**Sg**	**17 34 16.1**	**-1.0**
WASM	**Alta Sierra Ca**	**0.84**	**275**			**Pg**	**17 34 04.8**	**-2.5**
GWY	**Greenwater Val**	**0.87**	**53**			**Pg**	**17 34 04.3**	**-3.5**
GWY						**Sg**	**17 34 15.7**	**-3.5**
GWY				IAML			17 34 21.1	
	comp=E,579μm,0.8s							
GWY				IAML			17 34 25.3	
	comp=N,582μm,1.3s							
EDW2	**Edwards Air Fo**	**0.87**	**206**			**Pg**	**17 34 05.5**	**-2.4**
CWC	**Cottonwood Cre**	**0.89**	**330**			**Pg**	**17 34 05.2**	**-3.0**
CWC						Pn	17 34 15.8	+6.4
RRX	**Edison Barstow**	**0.90**	**151**			**Pg**	**17 34 06.2**	**-2.2**
RRX						**Sg**	**17 34 18.9**	**-1.4**
CGO	**Cerro Gordo**	**0.91**	**346**			**Pg**	**17 34 05.0**	**-3.6**
FURC	**Furnace Creek,**	**0.96**	**34**			**Pg**	**17 34 06.4**	**-3.1**
FURC						**Sg**	**17 34 17.7**	**-4.3**
TPO	**Tropico Hills**	**0.97**	**216**			**Pg**	**17 34 07.6**	**-2.2**
SBB	**Saddle Back Bu**	**1.01**	**194**			**Pb**	**17 34 08.0**	**-2.4**
SBB						**Sg**	**17 34 22.6**	**-1.0**
SHOC	**Shoshone, Teco**	**1.04**	**77**			**Pb**	**17 34 07.5**	**-3.5**
SHOC						**Sb**	**17 34 22.9**	**-1.8**
TEJ	**El Tejon**	**1.04**	**246**			**Pb**	**17 34 09.5**	**-1.5**
VTV	**Victorville**	**1.12**	**172**			**Pb**	**17 34 09.7**	**-2.6**
VTV	**Victorville**	**1.12**	**172**	P		**Pb**	**17 34 09.7**	**-2.6**
ADO	**Adelanto Recei**	**1.12**	**176**			**Pb**	**17 34 10.1**	**-2.2**
SPG2	**Springville 2**	**1.14**	**298**			**Pb**	**17 34 09.6**	**-3.0**
ALPC	**Antelope**	**1.17**	**213**			**Pb**	**17 34 10.6**	**-2.5**
MAGC	**SCE Magundon P**	**1.18**	**255**			**Pn**	**17 34 11.1**	**-2.2**
TJR	**Tejon Ranch**	**1.18**	**238**			**Pb**	**17 34 10.7**	**-2.6**
AMDNV	**Amargosa**	**1.28**	**52**			**Pn**	**17 34 10.7**	**-3.9**
HEC	**Hector,Ludlow**	**1.29**	**130**			**Sb**	**17 34 29.7**	**-2.0**
BAKC	**Calstate**	**1.33**	**256**			**Pn**	**17 34 13.6**	**-1.7**
TUQ	**Turquoise Moun**	**1.33**	**100**			**Pn**	**17 34 11.8**	**-3.6**
GRAC	**Grapevine Rang**	**1.33**	**6**			**Pn**	**17 34 12.4**	**-3.0**
GRAC				IAML			17 34 38.6	
	comp=E,373μm,1.4s							
GRAC				IAML			17 34 41.8	
	comp=N,457μm,1.1s							
WCT	**Wildcat Mounta**	**1.34**	**33**			**Pn**	**17 34 12.1**	**-3.5**
WCT	**Wildcat Mounta**	**1.34**	**33**			**Pn**	**17 34 11.9**	**-3.6**
WCT						**Sb**	**17 34 31.1**	**-2.1**
WCT				IAML			17 34 33.5	
	comp=N,248μm,0.7s							
WCT				IAML			17 34 43.7	
	comp=E,292μm,1.6s							
SGV	**South Grapevin**	**1.37**	**17**			**Pn**	**17 34 12.6**	**-3.5**
SDH	**Striped Hills**	**1.37**	**44**			**Pn**	**17 34 12.1**	**-3.9**
TIN	**Tinemaha, Big**	**1.49**	**338**			**Pn**	**17 34 15.7**	**-2.1**
TIN	**Tinemaha, Big**	**1.49**	**338**	P		**Pn**	**17 34 15.7**	**-2.1**
NSP	**Numbskull Pass**	**1.50**	**45**			**Pn**	**17 34 13.9**	**-3.9**
LCH	**Last Change Ra**	**1.56**	**357**			**Pn**	**17 34 15.7**	**-3.1**
HLNC	**Highland**	**1.56**	**171**			**Pn**	**17 34 16.6**	**-2.0**
CFSC	**Central Fire S**	**1.57**	**173**			**Pn**	**17 34 16.6**	**-2.1**
PASC	**Pasadena Art C**	**1.59**	**200**			**Pn**	**17 34 16.8**	**-2.2**
PASC				IAML			17 34 47.2	
	comp=N,228μm,1.3s							
PASC				IAML			17 34 49.6	
	comp=E,401μm,1.5s							
MCY	**Mercury**	**1.61**	**52**			**Pn**	**17 34 15.6**	**-3.7**
MTPC	**Mountain Pass**	**1.62**	**96**			**Pn**	**17 34 15.9**	**-3.6**
VOG	**Valley Oaks Go**	**1.64**	**294**			**Pn**	**17 34 17.3**	**-2.3**
GMN	**Gold Mountain**	**1.64**	**7**			**Pn**	**17 34 16.8**	**-3.1**
TPNV	**Topopah Spring**	**1.64**	**39**			**Pn**	**17 34 16.4**	**-3.4**
TPNV				IAML			17 34 44.4	
	comp=E,217μm,0.8s							
TPNV				IAML			17 34 52.5	
	comp=E,305μm,1.8s							
TPNV	**Topopah Spring**	**1.64**	**39**	P		**Pn**	**17 34 16.4**	**-3.4**
TPNV	**Topopah Spring**	**1.64**	**39**	⇓P		**Pn**	**17 34 16.4**	**-3.4**
GTM	**Goat Mountain**	**1.68**	**145**			**Pn**	**17 34 17.1**	**-3.1**
BCW	**Bitter Crk WRg**	**1.71**	**245**			**Pn**	**17 34 18.0**	**-2.6**
CPY	**CP-1**	**1.73**	**43**			**Pn**	**17 34 17.7**	**-3.3**
DSP	**Deep Springs**	**1.73**	**348**			**Pn**	**17 34 18.0**	**-2.9**
GMRC	**Granite Mounta**	**1.77**	**119**			**Pn**	**17 34 17.4**	**-4.1**
POCCA	**Poleta Canyon**	**1.79**	**340**			**Pn**	**17 34 19.5**	**-2.5**
BHPR	**Bishop**	**1.80**	**335**			**Pn**	**17 34 19.6**	**-2.4**
ELS	**Elsinore Mount**	**2.02**	**178**			**Pn**	**17 34 22.6**	**-2.4**
ELS				IAML			17 34 59.7	
	comp=E,124μm,0.8s							
MZP	**Montezuma Peak**	**2.03**	**3**			**Pn**	**17 34 22.3**	**-2.9**
DANC	**Danby, Needles**	**2.04**	**120**			**Pn**	**17 34 21.7**	**-3.4**
DGR	**Domenigoni Val**	**2.06**	**168**			**Pn**	**17 34 23.7**	**-1.7**
SHPR	**Sheep Range**	**2.09**	**66**			**Pn**	**17 34 22.7**	**-3.3**
V12A	**Nelson**	**2.18**	**88**			**Pn**	**17 34 23.4**	**-3.7**
V12A				IAML			17 35 08.3	
	comp=N,108μm,2.1s							
KCC	**Kaiser Creek**	**2.19**	**319**			**Pn**	**17 34 26.2**	**-1.1**
BENR	**Benton**	**2.21**	**338**			**Pn**	**17 34 25.6**	**-2.1**
PFO	**Pinyon Flats O**	**2.23**	**156**	Pn		**Pn**	**17 34 25.2**	**-2.8**
PFO				IAML			17 35 08.5	
	comp=N,158μm,2.5s							
PFO	**Pinyon Flats O**	**2.23**	**156**	Pn		**Pn**	**17 34 25.1**	**-2.8**
	comp=N,268nm,0.3s,baz=343,slow=9.6,SNR=514							
PFO				Pg		**Pb**	**17 34 29.9**	**-1.5**
	baz=330,slow=14							
PFO				Lg		Lg	17 34 59.7	
	comp=N,10μm,0.3s,baz=46,slow=22,SNR=12							
PFO				LR		LR	17 35 07.4	
	comp=N,171μm,20.4s,baz=98,slow=35							
	comp=N,2μm,0.6s							
PFO	**Pinyon Flats O**	**2.23**	**156**	*i* P		**Pn**	**17 34 24.9**	**-3.0**
I57US	**PINON FLAT INF**	**2.24**	**156**	I		I	17 50 20.0	
	comp=N,0.1nm,0.5s,baz=336,slow=296,SNR=1.0							
MCBM	**Casa Benchmark**	**2.26**	**331**			**Pn**	**17 34 27.6**	**-0.8**
TPH	**Tonopah**	**2.41**	**6**			**Pn**	**17 34 27.6**	**-2.9**
TPH	**Tonopah**	**2.41**	**6**	P		**Pn**	**17 34 27.6**	**-2.9**
S11A	**Rachel**	**2.44**	**35**			**Pn**	**17 34 27.6**	**-3.1**
PRN	**Pahroc Range**	**2.64**	**48**			**Pn**	**17 34 30.6**	**-3.0**
PRN				IAML			17 35 30.3	
	comp=E,136μm,1.0s							
PRN				IAML			17 35 38.1	
	comp=N,139μm,1.3s							
PRN	**Pahroc Range**	**2.64**	**48**	⇑P		**Pn**	**17 34 30.6**	**-3.0**
LHV	**Little Huntoon**	**2.69**	**343**			**Pn**	**17 34 32.2**	**-1.8**
LHV				IAML			17 35 26.7	
	comp=E,76μm,2.2s							
PMPB	**Monarch Peak**	**2.71**	**283**			**Pn**	**17 34 31.9**	**-2.5**
NV08	**Mina Array Sit**	**2.80**	**347**			**Pn**	**17 34 33.3**	**-2.5**
NV11	**Mina Array Sit**	**2.80**	**350**			**Pn**	**17 34 33.1**	**-2.6**
NVAR	**Mina Array Bea**	**2.82**	**348**			**Pn**	**17 34 33.5**	**-2.6**
NVAR	**Mina Array Bea**	**2.82**	**348**	Pn		**Pn**	**17 34 33.7**	**-2.4**
	comp=E,294nm,0.3s,baz=171,slow=15,SNR=989							
NVAR				Pg		**Pb**	**17 34 41.1**	**-0.4**
	comp=E,3μm,0.3s,baz=173,slow=18,SNR=70							
NVAR				LR		LR	17 35 09.4	
	comp=E,204μm,20.9s,baz=159,slow=29							
NVAR				Lg		Lg	17 35 21.6	
	comp=E,2μm,0.3s,baz=125

X16A IAML 17 36 47.7
comp=N,18µm,2.1s
GDXM Geysers 5.24 308 IAML 17 37 09.8
comp=E,8µm,3.1s
GDXM IAML 17 37 14.2
comp=N,10µm,1.9s
ELK Elko 5.38 19 Pn 17 35 09.2 -2.1
ELK Elko 5.38 19 IAML 17 36 46.0
comp=N,8µm,3.9s
ELK Elko 5.38 19 Pn **Pn 17 35 09.9 -1.3**
comp=N,17nm,0.3s,baz=206,slow=11,SNR=221
ELK Pg **Pb 17 35 27.3 +2.3**
comp=N,145nm,0.3s,baz=218,slow=13,SNR=23
ELK Lg Lg 17 36 39.5
comp=N,641nm,0.3s,baz=136,slow=17,SNR=8.2
ELK LR LR 17 37 35.3
comp=N,405µm,18.2s,baz=202,slow=42
comp=N,83nm,0.4s
ELK Elko 5.38 19 ⇓P **Pn 17 35 09.1 -2.1**
HOPS Hopland Field 5.53 309 Pn 17 35 12.2 -0.9
DUG Dugway, Tooele 5.86 38 ⇑P **Pn 17 35 17.1 -0.6**
WVOR Wild Horse Val 6.81 353 ⇓P **Pn 17 35 30.4 -0.4**
YBH Yreka Blue Hor 7.28 328 Pn **Pn 17 35 39.3 +2.0**
comp=N,0.2nm,0.3s,baz=164,slow=7.2,SNR=50
YBH Lg Lg 17 37 42.2
comp=N,1.1nm,0.3s,baz=327,slow=2.2,SNR=9.5
YBH LR LR 17 38 13.4
comp=N,13µm,20.0s,baz=156,slow=36
MVCO Mesa Verde 7.44 75 Pn 17 35 37.5 -2.1
MVCO Mesa Verde 7.44 75 ⇑P **Pn 17 35 38.8 -0.8**
HWUT Hardware Ranch 7.54 36 ⇓P **Pn 17 35 41.3 +0.4**
DUN6 Lazy B Ranch 7.66 112 Pn 17 35 39.5 -2.9
HLID Hailey 8.24 16 ⇑P **Pn 17 35 49.8 -0.6**
HSIG 8.65 138 ⇑P **Pn 17 35 55.4 -0.6**
AHID Auburn Hatcher 8.66 33 ⇓P **Pn 17 35 56.8 +0.5**
Y22A Socorro 8.86 98 P **Pn 17 35 59.9 +0.9**
ANMO Albuquerque 9.08 91 Pn **Pn 17 36 02.1 +0.1**
comp=N,2.0nm,0.3s,baz=10,slow=10.0,SNR=28
ANMO Lg Lg 17 38 34.8
comp=N,14nm,0.3s,baz=344,slow=11,SNR=6.4
comp=N,32nm,1.0s
BMO Blue Mountains 9.17 1 ⇓P **Pn 17 36 03.8 +0.6**
PDAR Pinedale Array 9.40 39 Pn **Pn 17 36 06.5 0.0**
comp=N,0.6nm,0.3s,baz=229,slow=13,SNR=52
PDAR Lg Lg 17 38 43.2
comp=N,3.0nm,0.3s,baz=228,slow=39,SNR=1.9
PDAR LR LR 17 39 53.6
comp=N,35µm,20.5s,baz=221,slow=39
comp=N,12nm,0.9s
SRIG Santa Rosalia 9.47 150 ⇓P **Pn 17 36 08.8 +1.7**
SDCO Great Sand Dun 9.88 74 ⇓P **Pn 17 36 12.2 -0.8**
COR Corvallis 9.94 335 ⇓P **Pn 17 36 16.9 +3.4**
F10A Beach Ranch, E 10.30 1 ⇑P **Pn 17 36 20.6 +2.0**
ISCO Idaho Springs 10.30 63 ⇑P **Pn 17 36 19.3 +0.5**
HAWA Hanford 10.82 353 ⇓P **Pn 17 36 27.9 +2.2**
MNTX Cornudas Mount 10.86 108 Pn 17 36 25.0 -1.3
MNTX Cornudas Mount 10.86 108 S **Pn 17 36 25.6 -0.7**
BOZ Bozeman (W) 10.88 22 ⇓P **Pn 17 36 28.2 +1.6**
MSO Missoula 11.47 12 ⇓P **Pn 17 36 35.3 +0.7**
I56US NEWPORT INFRAS 12.59 1 Lg Lg 17 40 30.7
baz=181,slow=30
NEW Newport 12.59 1 Pn **Pn 17 36 50.7 +0.8**
comp=N,0.5nm,0.3s,baz=184,slow=13,SNR=21
NEW LR LR 17 42 05.9
comp=N,212µm,19.6s,baz=192,slow=40
comp=N,19nm,0.8s
NLWA Neilton Lookou 12.63 340 ⇓P **Pn 17 36 51.9 +1.5**
LPIG La Paz 13.11 150 Pn **Pn 17 36 57.9 +0.9**
comp=N,67nm,0.3s,baz=211,slow=11,SNR=16
TXAR Lajitas Array 13.29 114 Pn **Pn 17 36 58.9 -0.6**
comp=N,2.4nm,0.3s,baz=294,slow=13,SNR=57
TXAR Lg Lg 17 40 48.9
comp=N,5.0nm,0.3s,baz=299,slow=27,SNR=7.0
TXAR LR LR 17 42 39.3
comp=N,116µm,18.9s,baz=294,slow=40
comp=N,16nm,0.6s
EGMT Eagleton 13.63 23 ⇓P **Pn 17 37 04.6 +0.6**
SLBS Sierra La Lagu 13.63 149 ⇑P **Pn 17 37 06.6 +2.4**
CBKS Cedar Bluff 14.52 72 Pn **Pn 17 37 13.6 -2.7**
CBKS Cedar Bluff 14.52 72 P **Pn 17 37 13.6 -2.7**
CBKS Cedar Bluff 14.52 72 ⇑P **Pn 17 37 15.5 -0.7**
SHB Sechelt 14.67 344 ⇓P **Pn 17 37 18.9 +0.5**
K30B Basset 15.54 58 IAmb IAmb 17 37 35.2
comp=Z,756nm,1.6s
E28A Huff 16.68 44 IAmb IAmb 17 37 49.9
comp=Z,822nm,1.6s
KSU1 Kansas State U 16.97 72 ⇑P **Pn 17 37 47.2 -1.0**
833A Chaparral WMA, 17.02 110 IAmb IAmb 17 37 55.9
comp=Z,648nm,1.3s
ECSD EROS Data Cent 17.96 57 P **Pn 17 37 58.2 -2.3**
ECSD EROS Data Cent 17.96 57 ⇑P **Pn 17 37 58.6 -1.9**
BBB Bella Bella 18.15 339 P **Pn 17 38 02.5 -0.2**
comp=Z,0.6nm,0.3s,baz=155,slow=9.2,SNR=19
BBB LR LR 17 45 14.1
comp=Z,100µm,18.2s,baz=161,slow=38
comp=Z,39nm,1.0s
BBB Bella Bella 18.15 339 ⇓P **P 17 38 03.4 +0.5**
MLDN Muldoon 18.18 103 IAmb IAmb 17 38 10.3
comp=Z,505nm,1.1s
ZAIG Zacatecas 18.29 131 ⇑P **P 17 38 07.6 +2.5**
HKT Hockley 19.09 101 *i* P **P 17 38 13.6 +0.2**
HKT Hockley 19.09 101 ⇑P **P 17 38 12.6 -0.8**
MIAR Mount Ida 19.62 86 ⇑P **P 17 38 18.5 -0.8**
SCIA State Center 19.92 64 ⇑P **P 17 38 22.7 +0.3**
WLAR White Oak Lake 20.17 89 IAMs_20 IAMs_20 17 46 38.5
comp=Z,162µm,20.0s
X40A Basin Creek Fa 20.23 86 P **P 17 38 23.3 -2.7**
X40A IAmb IAmb 17 38 33.2
comp=Z,686nm,1.5s
I37A Lemond, Waseca 20.26 58 IAMs_20 IAMs_20 17 46 32.4
comp=Z,170µm,22.0s
R40A Maddies Statio 20.33 75 P **P 17 38 24.1 -2.9**
R40A IAmb IAmb 17 38 36.7
comp=Z,608nm,1.1s
R40A IAMs_20 IAMs_20 17 46 29.6
comp=Z,218µm,22.0s
AGMN Agassiz Nation 20.38 45 P 17 38 25.6 -1.8
AGMN IAmb IAmb 17 38 40.9
comp=Z,613nm,1.1s
AGMN Agassiz Nation 20.38 45 ⇓P **P 17 38 26.0 -1.4**
DIB Dawson Inlet, 20.45 334 P 17 38 27.7 -0.4
Z41A Richland Creek 20.52 90 IAMs_20 IAMs_20 17 46 57.7
comp=Z,167µm,18.0s
P40A Paris 20.53 72 P **P 17 38 26.4 -2.8**
P40A IAMs_20 IAMs_20 17 46 35.7
comp=Z,143µm,19.0s
WHAR Wooly Hollow 20.55 84 IAMs_20 IAMs_20 17 46 55.4
comp=Z,191µm,18.0s
UALR University of 20.58 85 P **P 17 38 27.8 -2.0**
UALR IAmb IAmb 17 38 42.9
comp=Z,386nm,1.1s
UALR IAMs_20 IAMs_20 17 46 51.4
comp=Z,269µm,22.0s
RUBB Prince Rupert 20.65 339 IAMs_20 IAMs_20 17 47 15.7
comp=Z,131µm,18.0s
441A DeRidder 20.93 97 IAMs_20 IAMs_20 17 47 30.8
comp=Z,151µm,21.0s
SPMN Marine on St. 21.03 55 IAMs_20 IAMs_20 17 47 03.6
comp=Z,209µm,19.0s
JRQG Juriquilla Cam 21.14 130 P **P 17 38 35.7 -0.4**
CCM Cathedral Cave 21.14 76 P **P 17 38 33.7 -2.1**
CCM IAmb IAmb 17 38 47.6
comp=Z,359nm,0.9s
CCM IAMs_20 IAMs_20 17 47 13.0
comp=Z,181µm,20.0s
CCM Cathedral Cave 21.14 76 P **P 17 38 33.7 -2.1**
CCM pmax pmax
comp=Z,359nm,0.9s
CCM MLR MLR
comp=Z,181µm,20.0s
CCM Cathedral Cave 21.14 76 ⇑P **P 17 38 34.4 -1.4**
L40A Anamosa 21.41 65 IAMs_20 IAMs_20 17 47 27.8
comp=Z,173µm,21.0s
ULM Lac du Bonnet 21.42 40 P **P 17 38 36.3 -2.3**
ULM Lac du Bonnet 21.42 40 P **P 17 38 36.6 -2.1**
comp=Z,53nm,0.8s,baz=233,slow=10,SNR=67
ULM LR LR 17 47 28.7
comp=Z,82µm,18.7s,baz=238,slow=38
comp=Z,53nm,0.8s
ULM Lac du Bonnet 21.42 40 *i* P **P 17 38 35.0 -3.6**
ULM Lac du Bonnet 21.42 40 ⇓P **P 17 38 36.5 -2.1**
MOIG Morelia 21.47 134 P **P 17 38 39.0 -0.6**
MOIG Morelia 21.47 134 ⇑P **P 17 38 42.5 +2.9**
N41A Harden Midland 21.52 68 IAMs_20 IAMs_20 17 47 18.9
comp=Z,173µm,22.0s
FVM French Village 21.79 76 IAMs_20 IAMs_20 17 47 26.2
comp=Z,167µm,18.0s
143A Socs Landing, 21.79 90 IAMs_20 IAMs_20 17 47 48.6
comp=Z,156µm,20.0s
PBMO Poplar Bluff 21.87 79 IAMs_20 IAMs_20 17 47 28.3
comp=Z,194µm,18.0s
FFC Flin Flon 21.89 25 P **P 17 38 41.4 -2.2**
FFC Flin Flon 21.89 25 P **P 17 38 41.4 -2.2**
FFC pmax pmax
comp=Z,643nm,1.0s
FFC MLR MLR
comp=Z,97µm,18.0s
FFC Flin Flon 21.89 25 ⇓P **P 17 38 41.7 -2.0**
V35K Ketchikan 21.92 338 P **P 17 38 45.1 +1.1**
baz=148,SNR=122
V35K S **S 17 42 44.6 -1.0**
baz=148
SLM Saint Louis 21.92 74 IAMs_20 IAMs_20 17 47 31.7
comp=Z,198µm,19.0s
U35K Hyder 21.98 341 IAMs_20 IAMs_20 17 47 13.7
comp=Z,154µm,18.0s
U35K Hyder 21.98 341 P **P 17 38 44.9 +0.3**
baz=152
U35K S **S 17 42 51.8 +5.1**
baz=152
I40A Norwalk 22.18 60 IAMs_20 IAMs_20 17 47 42.2
comp=Z,181µm,20.0s
JFWS Jewell Farm 22.25 63 P **P 17 38 45.8 -1.9**
JFWS IAmb IAmb 17 38 57.9
comp=Z,328nm,1.1s
JFWS Jewell Farm 22.25 63 IAMs_20 IAMs_20 17 47 54.2
comp=Z,170µm,20.0s
JFWS Jewell Farm 22.25 63 P **P 17 38 45.8 -1.9**
JFWS pmax pmax
comp=Z,328nm,1.1s
JFWS MLR MLR
comp=Z,170µm,20.0s
JFWS Jewell Farm 22.25 63 ⇑P **P 17 38 47.0 -0.6**
EPLO Experimental L 22.28 44 P **P 17 38 45.1 -2.8**
GNAR Goshel 22.29 81 IAMs_20 IAMs_20 17 47 48.4
comp=Z,174µm,20.0s
PEBM Pemiscott Bayo 22.39 81 IAMs_20 IAMs_20 17 47 51.2
comp=Z,206µm,20.0s
PARMO Parma 22.42 79 IAMs_20 IAMs_20 17 47 53.9
comp=Z,178µm,20.0s
CGM3 Cape Girardeau 22.44 78 IAMs_20 IAMs_20 17 47 54.4
comp=Z,165µm,21.0s
P43A Skaggs, Pawnee 22.48 71 IAMs_20 IAMs_20 17 47 48.5
comp=Z,140µm,19.0s
PVMO Portageville 22.49 80 IAMs_20 IAMs_20 17 47 47.7
comp=Z,191µm,20.0s
CRAG Craig 22.51 336 P **P 17 38 55.0 +4.7**
CRAG Craig 22.51 336 ⇑P **P 17 38 52.0 +1.7**
CRAG Craig 22.51 336 P **P 17 38 49.7 -0.5**
baz=145,SNR=40
CRAG S **S 17 43 03.0 +6.2**
baz=145
L42A Oliver, Polo 22.55 65 IAMs_20 IAMs_20 17 48 02.0
comp=Z,206µm,20.0s
VBMS Vicksburg 22.64 91 IAMs_20 IAMs_20 17 48 36.1
comp=Z,151µm,20.0s
VBMS Vicksburg 22.64 91 ⇑P **P 17 38 51.6 -0.3**
LNXT Lenox 22.69 81 IAMs_20 IAMs_20 17 48 01.2
comp=Z,202µm,21.0s
HDIL Hopedale 22.70 69 IAMs_20 IAMs_20 17 48 15.0
comp=Z,139µm,19.0s
HDIL Hopedale 22.70 69 ⇑P **P 17 38 50.7 -1.7**
S44A Carbondale 22.73 77 IAMs_20 IAMs_20 17 48 03.1
comp=Z,175µm,19.0s
SIUC Southern Illin 22.76 76 IAMs_20 IAMs_20 17 48 03.9
comp=Z,180µm,19.0s
EYMN Ely 22.84 49 P **P 17 38 52.2 -1.7**
EYMN IAmb IAmb 17 39 11.8
comp=Z,643nm,1.6s
EYMN Ely 22.84 49 ⇑P **P 17 38 52.6 -1.2**
HICK Hickman 22.85 79 IAMs_20 IAMs_20 17 48 07.3
comp=Z,165µm,21.0s
Q44A Meyer Farm, Va 22.87 73 IAMs_20 IAMs_20 17 47 59.8
comp=Z,153µm,19.0s
UNM Universidad Na 22.95 130 IAMs_20 IAMs_20 17 49 00.2
comp=Z,169µm,21.0s
T35M Bob Quinn 22.98 342 IAMs_20 IAMs_20 17 47 56.3
comp=Z,164µm,18.0s
T35M Bob Quinn 22.98 342 P **P 17 38 56.1 +0.9**
baz=153,SNR=68
T35M S **S 17 43 11.8 +6.5**
baz=153
OXF Oxford 23.01 85 ⇑P **P 17 38 55.0 -0.7**
U33K Whale Pass 23.05 337 P **P 17 38 55.9 0.0**
baz=146,SNR=53
U33K S **S 17 43 13.3 +7.1**
baz=146
WRAK Wrangell Islan 23.07 339 P **P 17 38 55.0 -1.1**
WRAK Wrangell Islan 23.07 339 ⇑P **P 17 38 57.7 +1.7**
WRAK Wrangell Islan 23.07 339 P **P 17 38 56.4 +0.3**
baz=148,SNR=92
WRAK S Sn 17 43 15.4 -7.7
baz=148
T45A Paducah 23.27 78 IAMs_20 IAMs_20 17 48 21.4
comp=Z,149µm,19.0s
I42A Draeger Farm, 23.39 61 IAMs_20 IAMs_20 17 48 20.1
comp=Z,149µm,21.0s
T33K Petersburg 23.58 339 P **P 17 38 60.0 -1.2**
baz=147
T33K S Sn 17 43 26.4 -8.9
baz=147
K43A Burlington 23.62 64 IAMs_20 IAMs_20 17 48 46.3
comp=Z,174µm,21.0s
M44A Midewin, Midew 23.70 67 IAMs_20 IAMs_20 17 48 35.5
comp=Z,140µm,18.0s
TOAD Toad River Com 23.74 350 P **P 17 39 02.3 -0.6**
baz=164,SNR=109
TOAD S **S 17 43 27.0 +9.3**
baz=164
COWI Conover 23.74 55 P **P 17 39 01.6 -1.4**
COWI Conover 23.74 55 ⇑P **P 17 39 01.1 -1.9**
346A Big Creek Wild 23.74 92 IAMs_20 IAMs_20 17 48 46.3
comp=Z,121µm,21.0s
L44A Lake County Fo 23.86 65 IAMs_20 IAMs_20 17 48 44.9
comp=Z,146µm,22.0s
HQIL Hanson Quary C 23.87 66 P **P 17 39 02.3 -1.9**
HQIL IAMs_20 IAMs_20 17 48 51.1
comp=Z,149µm,21.0s
USIN University of 23.97 76 IAMs_20 IAMs_20 17 48 49.9
comp=Z,168µm,21.0s
WVT Waverly 24.02 80 P **P 17 39 03.2 -2.5**
WVT IAmb IAmb 17 39 19.2
comp=Z,343nm,1.4s
WVT Waverly 24.02 80 IAMs_20 IAMs_20 17 48 51.4
comp=Z,183µm,20.0s
WVT Waverly 24.02 80 P **P 17 39 03.2 -2.5**
WVT pmax pmax
comp=Z,343nm,1.4s
WVT MLR MLR
comp=Z,183µm,20.0s
WVT Waverly 24.02 80 ⇑P **P 17 39 05.4 -0.3**
S34M Telegraph Cree 24.03 342 P **P 17 39 06.3 +0.7**
baz=152,SNR=24
S34M S S 17 43 36.1 +14
baz=152
DLBC Dease Lake 24.24 344 LR LR 17 49 10.7
comp=Z,10µm,20.7s,baz=142,slow=38
DLBC Dease Lake 24.24 344 P **P 17 39 08.5 +0.9**
baz=155,SNR=51
DLBC S **S 17 43 30.6 +4.8**
baz=155
P46A Rosedale 24.27 72 IAMs_20 IAMs_20 17 48 55.8
comp=Z,153µm,19.0s
H43A Windswept, Lux 24.30 60 IAMs_20 IAMs_20 17 48 35.4
comp=Z,126µm,19.0s
F42A Maple Grove Fa 24.33 57 IAMs_20 IAMs_20 17 48 56.0
comp=Z,155µm,20.0s
SFIN Lafayette 24.36 70 IAMs_20 IAMs_20 17 48 59.2
comp=Z,170µm,19.0s
TBO Thunder Bay 24.39 49 P **P 17 39 07.6 -1.4**
TBO IAMs_20 IAMs_20 17 47 47.5
comp=Z,106µm,21.0s
LIRD Liard River Hi 24.41 349 P **P 17 39 09.7 +0.7**
baz=163,SNR=13
LIRD S **S 17 43 29.3 +1.0**
baz=163
T47A Sharon Grove 24.50 78 IAMs_20 IAMs_20 17 48 57.9
comp=Z,173µm,19.0s
SIT Sitka 24.52 336 IAMs_20 IAMs_20 17 49 38.1
comp=Z,93µm,18.0s
SIT Sitka 24.52 336 P **P 17 39 12.3 +2.3**
SIT Sitka 24.52 336 P **P 17 39 11.7 +1.6**
baz=143,SNR=34
SIT S **S 17 43 35.9 +5.8**
baz=143
S32K Killisnoo 24.62 338 P **P 17 39 11.2 +0.3**
baz=145,SNR=23
S32K S **S 17 43 37.7 +6.1**
baz=145
TLIG Tlapa 24.67 132 P **P 17 39 10.8 -1.1**
TLIG IAmb IAmb 17 39 23.1
comp=Z,125nm,0.9s
TLIG Tlapa 24.67 132 ⇓P **P 17 39 14.1 +2.2**
BLO Bloomington 24.81 73 IAMs_20 IAMs_20 17 49 09.1
comp=Z,146µm,19.0s
KOTAN Kotaneelee Air 24.84 352 P **P 17 39 13.1 +0.1**
baz=167,SNR=34
KOTAN S **S 17 43 44.4 +9.2**
baz=167
X48A Hartselle 24.94 84 IAMs_20 IAMs_20 17 49 22.7
comp=Z,102µm,18.0s
WCI Wyandotte Cave 25.03 75 P **P 17 39 13.5 -1.4**
WCI Wyandotte Cave 25.03 75 P **P 17 39 13.5 -1.4**
WCI pmax pmax
comp=Z,1µm,1.7s
WCI MLR MLR
comp=Z,80µm,18.0s
WCI Wyandotte Cave 25.03 75 ⇑P **P 17 39 14.8 -0.1**
L46A Eue Claire 25.05 66 IAMs_20 IAMs_20 17 49 28.2
comp=Z,115µm,20.0s
CLTN Cedars of Leba 25.23 80 IAMs_20 IAMs_20 17 49 30.3
comp=Z,99µm,20.0s
Q32M Nakina River 25.24 342 IAMs_20 IAMs_20 17 49 09.0
comp=Z,126µm,22.0s
Q32M Nakina River 25.24 342 P **P 17 39 17.1 +0.3**
baz=151,SNR=66
Q32M S **S 17 43 48.0 +6.0**
baz=151
R32K Eaglecrest 25.27 339 P **P 17 39 16.3 -0.5**
baz=146,SNR=60
R32K S **S 17 43 47.4 +5.2**
baz=146
LRAL Lakeview Retre 25.29 87 P **P 17 39 15.0 -2.3**
LRAL IAmb IAmb 17 39 30.6
comp=Z,217nm,1.2s
R33M Jennings River 25.31 344 IAMs_20 IAMs_20 17 49 32.9
comp=Z,134µm,19.0s
R33M Jennings River 25.31 344 P **P 17 39 18.0 +0.6**
baz=154,SNR=171
R33M S **S 17 43 50.6 +7.5**
baz=154
I45A Fountain 25.32 61 IAMs_20 IAMs_20 17 49 29.3
comp=Z,127µm,21.0s
N47A Urbana 25.44 69 IAMs_20 IAMs_20 17 49 48.7
comp=Z,119µm,18.0s
WTLY Watson Lake, Y 25.52 347 IAMs_20 IAMs_20 17 50 22.5
comp=Z,162µm,20.0s
WTLY Watson Lake, Y 25.52 347 P **P 17 39 18.9 -0.3**
baz=158,SNR=40
WTLY S **S 17 43 53.4 +7.2**
baz=158
S31K Pelican 25.54 337 IAMs_20 IAMs_20 17 50 19.0
comp=Z,87µm,18.0s
S31K Pelican 25.54 337 P **P 17 39 17.4 -1.9**
baz=143,SNR=24
S31K S **S 17 43 53.6 +7.2**
baz=143
Y49A Blount Mountai 25.58 85 IAMs_20 IAMs_20 17 50 04.6
comp=Z,162µm,19.0s
P48A Milroy 25.65 72 IAMs_20 IAMs_20 17 49 47.3
comp=Z,134µm,19.0s
SWET Sewanee 25.69 82 P **P 17 39 18.7 -2.2**
SWET IAmb IAmb 17 39 28.6
comp=Z,294nm,1.2s
R31K City Hall, Gus 25.75 338 P **P 17 39 21.7 +0.6**
baz=144
R31K S **S 17 43 58.3 +8.6**
baz=144
BRAL Brewton 25.78 91 P **P 17 39 21.5 -0.2**
BRAL IAMs_20 IAMs_20 17 49 50.1
comp=Z,99µm,22.0s
BRAL Brewton 25.78 91 ⇑P **P 17 39 21.9 +0.2**
FPAL Fort Paine 26.08 83 P **P 17 39 22.2 -2.3**
P32M Atlin 26.16 341 IAMs_20 IAMs_20 17 49 46.2
comp=Z,119µm,22.0s
P32M Atlin 26.16 341 P **P 17 39 25.8 +0.8**
baz=149,SNR=57
P32M S **S 17 44 05.7 +9.4**
baz=149
P33M Teslin, Yukon 26.47 343 P **P 17 39 27.6 -0.2**
P33M Teslin, Yukon 26.47 343 P **P 17 39 27.8 0.0**
baz=151,SNR=33
P33M S **S 17 44 09.4 +8.1**
baz=151
SKAG Skagway 26.49 340 P **P 17 39 27.5 -0.3**
SKAG Skagway 26.49 340 ⇑P **P 17 39 31.1 +3.2**
SKAG Skagway 26.49 340 P **P 17 39 26.7 -1.1**
baz=146,SNR=12
SKAG S **S 17 44 10.5 +9.2**
baz=146
GLMI Grayling 26.58 60 P **P 17 39 27.0 -1.9**
GLMI IAMs_20 IAMs_20 17 49 55.7
comp=Z,127µm,21.0s
N49A Columbus Grove 26.59 69 IAMs_20 IAMs_20 17 50 16.1
comp=Z,123µm,20.0s
X51A Calhoun 26.68 83 IAMs_20 IAMs_20 17 50 17.9
comp=Z,99µm,21.0s
TGTN Hyland Airport 26.76 349 P **P 17 39 29.6 -0.8**
baz=160,SNR=14
TGTN S **S 17 44 13.9 +8.1**
baz=160
CPCT Cooper Cave 26.79 81 P **P 17 39 28.5 -2.3**
CPCT IAmb IAmb 17 39 41.7
comp=Z,277nm,1.3s
CPCT IAMs_20 IAMs_20 17 50 27.5
comp=Z,115µm,20.0s
PLBC Pleasant Camp 26.79 339 P **P 17 39 30.4 -0.1**
baz=144,SNR=38
PLBC S **S 17 44 16.0 +10**
baz=144
YKAW1 Yellowknife Wh 26.90 3 P **P 17 39 30.1 -1.5**
YKAW1 IAmb IAmb 17 39 47.3
comp=Z,293nm,0.9s
YKA Yellowknife Ar 26.91 3 P **P 17 39 30.6 -1.0**
YKA Yellowknife Ar 26.91 3 P **P 17 39 29.6 -2.1**
comp=Z,4.5nm,0.7s,baz=189,slow=8.6,SNR=39
YKA LR LR 17 50 52.5
comp=Z,106µm,18.8s,baz=197,slow=38
comp=Z,4.5nm,0.7s
YKA Yellowknife Ar 26.91 3 P **P 17 39 30.6 -1.0**
YKAW3 Yellowknife Wh 26.98 3 P **P 17 39 30.8 -1.4**
YKAW3 IAmb IAmb 17 39 47.5
comp=Z,294nm,1.1s
451A Vernon 27.02 92 IAMs_20 IAMs_20 17 52 08.9
comp=Z,92µm,19.0s
AAM Ann Arbor 27.02 66 P **P 17 39 30.8 -2.1**
AAM IAMs_20 IAMs_20 17 50 26.5
comp=Z,111µm,21.0s
AAM Ann Arbor 27.02 66 P **P 17 39 30.8 -2.1**
AAM pmax pmax
comp=Z,97nm,0.9s
AAM MLR MLR
comp=Z,112µm,21.0s
E46A Sault Ste Mari 27.06 56 IAMs_20 IAMs_20 17 50 31.4
comp=Z,143µm,19.0s
S51A Beattyville 27.21 76 IAMs_20 IAMs_20 17 50 35.7
comp=Z,111µm,19.0s
W52A Murphy 27.33 81 IAMs_20 IAMs_20 17 50 38.9
comp=Z,103µm,18.0s
CMIG Matias Romero 27.34 127 LR LR 17 49 32.0
comp=Z,118µm,21.0s,baz=227,slow=34
P29M Windy Craggy 27.35 338 P **P 17 39 34.6 -1.0**
baz=142,SNR=24
P29M S **S 17 44 23.8 +8.8**
baz=142
TKL Tuckaleechee C 27.35 80 P **P 17 39 33.7 -2.2**
TKL IAmb IAmb 17 39 41.5
comp=Z,177nm,1.1s
TKL Tuckaleechee C 27.35 80 LR LR 17 50 57.0
comp=Z,113µm,19.0s,baz=268,slow=38
TKL Tuckaleechee C 27.35 80 P **P 17 39 33.7 -2.2**
TKL pmax pmax
comp=Z,177nm,1.1s
TKL Tuckaleechee C 27.35 80 ⇑P **P 17 39 35.7 -0.2**
N32M Quiet Lake 27.36 344 P **P 17 39 34.2 -1.6**
baz=152
N32M S **S 17 44 24.9 +10**
baz=152
WHY Whitehorse 27.38 341 P **P 17 39 35.4 -0.6**
WHY IAMs_20 IAMs_20 17 50 33.5

comp=Z,120µm,20.0s
WHY Whitehorse 27.38 341 P **P** **17 39 35.1 -0.9**
WHY baz=148,SNR=50 S **S** **17 44 22.2 +6.6**
baz=148
TZTN Tazewell 27.39 78 P **P** **17 39 34.5 -1.8**
TZTN IAmb IAmb 17 39 47.3
comp=Z,327nm,1.4s
M50A Fremont 27.45 67 IAMs_20 IAMs_20 17 50 59.9
comp=Z,116µm,19.0s
P51A Williamsport 27.48 72 IAMs_20 IAMs_20 17 50 54.7
comp=Z,115µm,19.0s
P30M Million Dollar 27.50 339 P **P** **17 39 37.5 +0.4**
baz=144
P30M S **S** **17 44 25.2 +7.7**
baz=144
ACSO Alum Creek Sta 27.51 70 P **P** **17 39 35.8 -1.5**
ACSO Alum Creek Sta 27.51 70 ⇑P **P** **17 39 37.3 0.0**
I49A Point Hope 27.75 62 IAMs_20 IAMs_20 17 51 03.6
comp=Z,125µm,21.0s
O30N Mendenhall 27.79 340 IAMs_20 IAMs_20 17 50 48.5
comp=Z,86µm,18.0s
O30N Mendenhall 27.79 340 P **P** **17 39 40.0 +0.4**
baz=146,SNR=46
O30N S **S** **17 44 31.5 +9.5**
baz=146
K50A Casco 27.81 65 IAMs_20 IAMs_20 17 51 06.3
comp=Z,149µm,20.0s
WRGLY Wrigley 27.83 354 P **P** **17 39 39.8 -0.1**
baz=170,SNR=9.5
WRGLY S **S** **17 44 28.1 +5.7**
baz=170
PNL Peninsula 27.91 336 P **P** **17 39 43.0 +2.4**
PNL Peninsula 27.91 336 P **P** **17 39 39.8 -0.8**
baz=140,SNR=16
PNL S **S** **17 44 31.6 +7.8**
baz=140
N51A Ashland 27.96 69 IAMs_20 IAMs_20 17 51 07.3
comp=Z,124µm,20.0s
GOGA Godfrey 28.07 85 P **P** **17 39 41.0 -1.3**
GOGA IAmb IAmb 17 39 53.3
comp=Z,157nm,1.4s
GOGA Godfrey 28.07 85 IAMs_20 IAMs_20 17 51 32.6
comp=Z,109µm,20.0s
GOGA Godfrey 28.07 85 P **P** **17 39 41.0 -1.3**
GOGA pmax pmax
GOGA comp=Z,157nm,1.4s MLR MLR
comp=Z,109µm,20.0s
GOGA Godfrey 28.07 85 ⇑P **P** **17 39 40.8 -1.5**
V53A Saluda 28.12 80 IAMs_20 IAMs_20 17 51 11.8
comp=Z,121µm,19.0s
O29M Mount Kennedy 28.14 338 IAMs_20 IAMs_20 17 51 45.6
comp=Z,75µm,19.0s
O29M Mount Kennedy 28.14 338 P **P** **17 39 42.7 -0.1**
baz=142,SNR=8.6
O29M S **S** **17 44 34.6 +6.9**
baz=142
HYT Haines Junctio 28.23 339 IAMs_20 IAMs_20 17 52 08.3
comp=Z,91µm,21.0s
HYT Haines Junctio 28.23 339 P **P** **17 39 42.2 -1.5**
baz=144,SNR=32
HYT S S 17 44 39.2 +10
baz=144
MMPY Sheldon Lake, 28.30 347 IAMs_20 IAMs_20 17 50 34.9
comp=Z,84µm,21.0s
MMPY Sheldon Lake, 28.30 347 P **P** **17 39 43.8 -0.4**
baz=156,SNR=56
MMPY S **S** **17 44 37.0 +6.9**
baz=156
N31M Braeburn, Yuko 28.31 342 P **P** **17 39 44.4 +0.2**
baz=147,SNR=35
N31M S **S** **17 44 37.0 +6.8**
baz=147
FARO Faro, Yukon 28.38 344 IAMs_20 IAMs_20 17 51 20.9
comp=Z,108µm,18.0s
FARO Faro, Yukon 28.38 344 P **P** **17 39 44.6 -0.2**
baz=152,SNR=41
FARO S **S** **17 44 39.5 +8.3**
baz=152
O52A Adamsville 28.39 70 IAMs_20 IAMs_20 17 51 23.8
comp=Z,133µm,20.0s
PINM Pinnacle 28.51 336 P **P** **17 39 45.4 -0.7**
baz=139
PINM S S 17 44 42.6 +9.1
baz=139
154A Montrose 28.57 86 IAMs_20 IAMs_20 17 51 39.8
comp=Z,137µm,20.0s
YUK6 Outpost Mounta 28.58 339 P **P** **17 39 44.8 -2.1**
baz=143,SNR=10
YUK6 S **S** **17 44 41.3 +6.5**
baz=143
M31M Drury Creek, Y 28.59 343 P **P** **17 39 46.1 -0.6**
baz=150,SNR=57
M31M S S 17 44 44.2 +10
baz=150
N30M Aishikik Lake 28.64 340 P **P** **17 39 44.5 -2.7**
baz=145,SNR=37
N30M S S 17 44 46.5 +11
baz=145
M52A Chesterland 28.72 67 IAMs_20 IAMs_20 17 51 41.5
comp=Z,101µm,20.0s
HODGE Hodges 28.85 82 P **P** **17 39 47.5 -1.8**
YUK4 Talbot Arm 28.98 339 P **P** **17 39 49.2 -1.2**
baz=143,SNR=8.9
YUK4 S **S** **17 44 50.0 +8.8**
baz=143
S54A Dingess, Beckl 28.99 75 IAMs_20 IAMs_20 17 51 16.8
comp=Z,92µm,20.0s
O28M Mount Upton 29.01 337 P **P** **17 39 49.7 -1.0**
O28M IAmb IAmb 17 39 58.7
comp=Z,292nm,1.6s
O28M Mount Upton 29.01 337 P **P** **17 39 50.0 -0.7**
baz=140,SNR=49
O28M S **S** **17 44 48.8 +7.2**
baz=140
TABL Table Mountain 29.07 336 P **P** **17 39 49.7 -1.5**
TABL IAmb IAmb 17 40 17.0
comp=Z,184nm,1.3s
TABL IAMs_20 IAMs_20 17 52 32.3
comp=Z,67µm,18.0s
PAULI Pauline 29.08 81 IAMs_20 IAMs_20 17 51 50.4
comp=Z,117µm,19.0s
N53A Lisbon 29.13 69 IAMs_20 IAMs_20 17 52 03.2
comp=Z,102µm,20.0s
MESA MESA 29.15 335 P **P** **17 39 48.0 -3.9**
MESA IAmb IAmb 17 40 01.9
comp=Z,118nm,1.0s
MESA IAMs_20 IAMs_20 17 51 28.4
comp=Z,110µm,18.0s
MESA MESA 29.15 335 P **P** **17 39 48.8 -3.1**
baz=136
MESA S **S** **17 44 51.0 +7.3**
baz=136
YAH Yahtse 29.21 335 IAMs_20 IAMs_20 17 51 50.1
comp=Z,104µm,18.0s
YUK8 Steele Glacier 29.27 338 P **P** **17 39 50.7 -2.3**
baz=141,SNR=7.2
YUK8 S **S** **17 44 53.0 +7.3**
baz=141
KMSC Kings Mountain 29.40 80 IAMs_20 IAMs_20 17 52 01.8
comp=Z,101µm,19.0s
M30M Minto, Yukon 29.49 342 IAMs_20 IAMs_20 17 52 26.4
comp=Z,125µm,20.0s
M30M Minto, Yukon 29.49 342 P **P** **17 39 52.7 -2.0**
baz=147,SNR=26
M30M S **S** **17 44 53.1 +4.4**
baz=147
CTG Chitna Glacier 29.52 336 P **P** **17 39 54.0 -1.2**
baz=138,SNR=19
CTG S **S** **17 44 54.3 +4.9**
baz=138
BGLC Bering Glacier 29.58 334 S **S** **17 44 54.8 +4.9**
baz=134
ALLY Alegheny Colle 29.63 67 P **P** **17 39 53.7 -2.5**
ALLY IAmb IAmb 17 40 58.1
comp=Z,184nm,1.4s
ALLY IAMs_20 IAMs_20 17 52 11.5
comp=Z,114µm,20.0s
WAX Waxell Ridge 29.66 335 IAMs_20 IAMs_20 17 51 24.9
comp=Z,79µm,18.0s
SUCK Suckling Hills 29.72 333 IAMs_20 IAMs_20 17 52 34.6
comp=Z,71µm,18.0s
ERPA Erie 29.74 66 P **P** **17 39 54.3 -2.9**
CCIG Comitan 29.75 124 IAMs_20 IAMs_20 17 50 56.1
comp=Z,138µm,22.0s
BLA Blacksburg 29.77 76 P **P** **17 39 55.3 -2.2**
BLA IAmb IAmb 17 40 07.4
comp=Z,214nm,1.1s
BLA Blacksburg 29.77 76 P **P** **17 39 55.3 -2.2**
BLA pmax pmax
BLA comp=Z,214nm,1.2s MLR MLR
comp=Z,151µm,19.0s
M29M Somme Creek 29.82 340 IAMs_20 IAMs_20 17 52 12.1
comp=Z,81µm,20.0s
M29M Somme Creek 29.82 340 P **P** **17 39 58.8 +1.1**
baz=144,SNR=90
M29M S **S** **17 44 57.9 +3.9**
baz=144
KAIM Kayak Island 29.86 333 P **P** **17 39 57.5 -0.4**
baz=132
KAIM S **S** **17 44 59.1 +4.7**
baz=132
YUK3 Moose Creek 29.86 338 P **P** **17 39 57.2 -1.1**
baz=140,SNR=28
YUK3 S **S** **17 45 03.9 +8.9**
baz=140
TGL Tana Glacier 29.87 335 IAMs_20 IAMs_20 17 52 49.4
comp=Z,88µm,18.0s
TEIG Tepich 29.93 113 P **P** **17 39 56.1 -2.8**
TEIG IAMs_20 IAMs_20 17 53 28.6
comp=Z,84µm,19.0s
TEIG Tepich 29.93 113 P **P** **17 39 59.5 +0.6**
comp=Z,44µmcomp=Z,191nm,1.8s
MCWV Mont Chateau 29.95 71 P **P** **17 39 57.6 -1.3**
MCWV IAmb IAmb 17 40 07.1
comp=Z,168nm,0.8s
MCWV IAMs_20 IAMs_20 17 52 30.0
comp=Z,119µm,18.0s
MCWV Mont Chateau 29.95 71 ⇑P **P** **17 39 59.1 +0.1**
CRQE Cirque 29.95 335 P **P** **17 39 57.8 -1.2**
baz=135
CRQE S **S** **17 45 03.7 +7.5**
baz=135
CRQM Cirque 29.97 335 P **P** **17 39 58.5 -0.7**
CRQM IAmb IAmb 17 40 13.8
comp=Z,144nm,1.2s
CRQM IAMs_20 IAMs_20 17 52 59.8
comp=Z,76µm,18.0s
HMT Hamilton 30.08 333 IAMs_20 IAMs_20 17 51 17.1
comp=Z,114µm,18.0s
MAYO Mayo, Yukon 30.14 344 IAMs_20 IAMs_20 17 52 22.6
comp=Z,119µm,19.0s
MAYO Mayo, Yukon 30.14 344 P **P** **17 39 59.0 -1.4**
baz=149
MAYO S S 17 45 09.1 +10
baz=149
BIRD Birdtown, Kers 30.21 81 P **P** **17 39 59.5 -1.8**
BIRD IAmb IAmb 17 40 08.8
comp=Z,189nm,1.1s
BIRD IAMs_20 IAMs_20 17 52 34.2
comp=Z,111µm,18.0s
RAGM Ragged Mountai 30.26 333 IAMs_20 IAMs_20 17 51 22.0
comp=Z,119µm,18.0s
L29M L29M 30.28 341 IAMs_20 IAMs_20 17 53 38.1
comp=Z,116µm,18.0s
L29M L29M 30.28 341 P **P** **17 40 02.2 +0.6**
baz=145,SNR=66
L29M S S 17 45 12.2 +11
baz=145
Q23K Middleton Isla 30.28 331 P **P** **17 39 59.8 -1.9**
baz=129
Q23K S **S** **17 45 03.7 +2.8**
Q23K baz=129 S **S** **17 45 03.7 +2.8**
baz=129
BUKO Buck Lake 30.32 59 P **P** **17 39 59.8 -2.4**
BUKO IAMs_20 IAMs_20 17 52 07.6
comp=Z,124µm,20.0s
MCARA McCarthy VSAT 30.39 336 P **P** **17 40 03.4 +0.8**
baz=136,SNR=24
MCARA S **S** **17 45 10.3 +7.6**
baz=136
SADO Sadowa 30.45 61 P **P** **17 40 00.8 -2.6**
SADO Sadowa 30.45 61 LR LR 17 52 56.8
comp=Z,135µm,19.5s,baz=277,slow=38
BVCY Beaver Creek 30.48 339 P **P** **17 40 03.4 -0.1**
baz=140,SNR=30
BVCY S S 17 45 13.9 +10
baz=140
W57A Gilead 30.48 80 IAMs_20 IAMs_20 17 52 35.2
comp=Z,89µm,19.0s
Q56A Snyder Ridge, 30.51 72 IAMs_20 IAMs_20 17 52 11.0
comp=Z,78µm,22.0s
BMRM Bremner River 30.64 334 IAMs_20 IAMs_20 17 51 54.8
comp=Z,70µm,19.0s
BMRM Bremner River 30.64 334 P **P** **17 40 03.8 -1.1**
baz=133,SNR=22
BMRM S **S** **17 45 06.9 +0.2**
baz=133
GLB Gilahina Butte 30.69 335 IAMs_20 IAMs_20 17 52 19.3
comp=Z,67µm,18.0s
K29M Barlow Dome 30.74 343 IAMs_20 IAMs_20 17 53 16.3
comp=Z,117µm,21.0s
K29M Barlow Dome 30.74 343 P **P** **17 40 06.3 +0.5**
baz=147,SNR=75
K29M S **S** **17 45 09.7 +1.3**
baz=147
M27K Edge Creek, AK 30.74 338 IAMs_20 IAMs_20 17 53 00.5
comp=Z,61µm,18.0s
M27K Edge Creek, AK 30.74 338 P **P** **17 40 06.9 +1.0**
baz=139,SNR=58
M27K S **S** **17 45 09.7 +1.2**
baz=139
EYAK Cordova Ski Ar 30.77 333 P **P** **17 40 05.0 -0.9**
EYAK IAmb IAmb 17 40 49.4
comp=Z,138nm,1.3s
EYAK IAMs_20 IAMs_20 17 54 08.3
comp=Z,74µm,18.0s
EYAK Cordova Ski Ar 30.77 333 P **P** **17 40 05.1 -0.8**
baz=131,SNR=22
EYAK S **S** **17 45 10.0 +1.3**
baz=131
NHSC New Hope 30.81 84 IAMs_20 IAMs_20 17 53 38.2
comp=Z,66µm,18.0s
NHSC New Hope 30.81 84 ⇑P **P** **17 40 05.8 -0.8**
CSU Charleston Sou 30.93 84 IAMs_20 IAMs_20 17 53 42.3
comp=Z,74µm,18.0s
HIN Hinchinbrook I 30.95 332 IAMs_20 IAMs_20 17 51 54.2
comp=Z,99µm,18.0s
Y58A Scranton 31.02 82 IAMs_20 IAMs_20 17 52 27.7
comp=Z,81µm,22.0s
P23K Montague Islan 31.05 331 IAMs_20 IAMs_20 17 51 19.8
comp=Z,86µm,18.0s
P23K Montague Islan 31.05 331 P **P** **17 40 08.0 -0.5**
baz=128,SNR=15
P23K S **S** **17 45 11.5 -1.6**
baz=128
N25K Chitina, Valde 31.08 335 IAMs_20 IAMs_20 17 52 21.4
comp=Z,75µm,18.0s
N25K Chitina, Valde 31.08 335 P **P** **17 40 07.8 -1.0**
baz=134,SNR=41
N25K S **S** **17 45 16.4 +2.7**
baz=134
J30M Hart River 31.09 344 P **P** **17 40 07.3 -1.6**
J30M Hart River 31.09 344 P **P** **17 40 08.9 0.0**
baz=149,SNR=148
J30M S **S** **17 45 14.6 +0.8**
baz=149
M26K Nabesna, AK 31.12 337 P **P** **17 40 09.6 +0.5**
baz=137,SNR=38
M26K S **S** **17 45 17.7 +3.4**
baz=137
X58A Rowland 31.13 81 IAMs_20 IAMs_20 17 53 03.6
comp=Z,105µm,19.0s
DIV Divide 31.16 334 IAMs_20 IAMs_20 17 52 02.8
comp=Z,91µm,19.0s
BCAR Beaver Creek A 31.25 339 P **P** **17 40 09.2 -1.1**
L27K Beaver Creek, 31.26 339 IAMs_20 IAMs_20 17 54 01.2
comp=Z,106µm,19.0s
L27K Beaver Creek, 31.26 339 P **P** **17 40 09.7 -0.7**
baz=140,SNR=35
L27K S **S** **17 45 20.8 +4.3**
baz=140
SSPA Standing Stone 31.38 69 P **P** **17 40 09.5 -2.0**
SSPA Standing Stone 31.38 69 IAMs_20 IAMs_20 17 53 32.7
comp=Z,108µm,18.0s
SSPA Standing Stone 31.38 69 ⇑P **P** **17 40 11.3 -0.2**
DAWY Dawson 31.39 342 IAMs_20 IAMs_20 17 53 00.5
comp=Z,110µm,19.0s
DAWY Dawson 31.39 342 P **P** **17 40 11.8 +0.3**
baz=144,SNR=36
DAWY S **S** **17 45 20.0 +1.6**
baz=144
J29N Klondike Camp 31.41 343 IAMs_20 IAMs_20 17 52 35.2
comp=Z,80µm,22.0s
J29N Klondike Camp 31.41 343 P **P** **17 40 09.6 -2.1**
baz=146
J29N S **S** **17 45 22.2 +3.3**
baz=146
DWPF Disney Wildern 31.43 94 P **P** **17 40 10.2 -1.9**
DWPF IAmb IAmb 17 40 23.4
comp=Z,174nm,1.2s
DWPF Disney Wildern 31.43 94 IAMs_20 IAMs_20 17 54 11.8
comp=Z,75µm,18.0s
DWPF Disney Wildern 31.43 94 *e*P **P** **17 40 15.5 +3.4**
DWPF Disney Wildern 31.43 94 P **P** **17 40 16.7 +4.5**
KLU Klutina 31.46 334 IAMs_20 IAMs_20 17 52 22.6
comp=Z,80µm,19.0s
KLU Klutina 31.46 334 P **P** **17 40 12.4 +0.2**
baz=132,SNR=32
KLU S **S** **17 45 23.5 +3.8**
baz=132
GLI Glacier Island 31.49 332 P **P** **17 40 12.4 +0.1**
baz=130,SNR=20
GLI S **S** **17 45 20.0 0.0**
baz=130
BLKN Baker Lake 31.51 18 P **P** **17 40 09.6 -2.9**
BLKN IAmb IAmb 17 40 24.2
comp=Z,92nm,0.8s
BLKN IAMs_20 IAMs_20 17 55 04.4
comp=Z,85µm,19.0s
DELO Delong Mine 31.52 61 P **P** **17 40 10.7 -2.1**
L56A Greenwood 31.55 66 IAMs_20 IAMs_20 17 53 21.3
comp=Z,118µm,20.0s
I30M Mount Dempster 31.66 345 P **P** **17 40 13.3 -0.6**
baz=150,SNR=52
I30M S **S** **17 45 20.6 -2.2**
baz=150
L26K Log Cabin Wild 31.69 338 IAMs_20 IAMs_20 17 53 59.6
comp=Z,73µm,18.0s
L26K Log Cabin Wild 31.69 338 P **P** **17 40 14.4 +0.3**
baz=138
L26K S **S** **17 45 29.2 +6.1**
baz=138
W59A Clinton 31.71 79 IAMs_20 IAMs_20 17 53 23.0
comp=Z,105µm,20.0s
MENT Mentasta 31.74 337 P **P** **17 40 12.8 -1.8**
MENT IAmb IAmb 17 40 28.2
comp=Z,253nm,1.6s
H31M Peel River 31.77 347 P **P** **17 40 14.9 +0.1**
baz=153,SNR=58
H31M S **S** **17 45 24.3 0.0**
baz=153
HARP HAARP 31.82 336 P **P** **17 40 14.7 -0.5**
baz=134,SNR=27
HARP S **S** **17 45 29.4 +4.3**
baz=134
M57A Sunshine Farm, 31.91 67 IAMs_20 IAMs_20 17 53 33.8
comp=Z,93µm,21.0s
SEW Seward 31.94 330 P **P** **17 40 16.2 -0.1**
baz=126,SNR=27
SEW S **S** **17 45 24.8 -2.1**
baz=126
PWL Port Wells 31.95 332 P **P** **17 40 15.8 -0.5**
baz=128,SNR=36
PWL S **S** **17 45 27.7 +0.5**
baz=128
PECO Prince Edward 31.95 63 IAMs_20 IAMs_20 17 53 42.9
comp=Z,108µm,21.0s
VLDQ Val d'Or 31.96 55 P **P** **17 40 13.1 -3.5**
VLDQ IAmb IAmb 17 40 25.4
comp=Z,177nm,1.1s
M24K Tolsona, Glenn 31.96 335 IAMs_20 IAMs_20 17 52 58.9
comp=Z,73µm,19.0s
M24K Tolsona, Glenn 31.96 335 P **P** **17 40 16.4 -0.2**
baz=132,SNR=16
M24K S **S** **17 45 28.8 +1.3**
baz=132
CBN Corbin Frederi 32.02 73 P **P** **17 40 15.1 -2.2**
CBN IAmb IAmb 17 40 25.5
comp=Z,94nm,0.8s
K27K Chicken 32.08 340 P **P** **17 40 15.2 -2.3**
baz=140
K27K S **S** **17 45 29.8 +0.7**
baz=140
KDAK Kodiak Island 32.09 325 P **P** **17 40 16.9 -0.7**
KDAK IAmb IAmb 17 40 34.3
comp=Z,90nm,1.1s
KDAK Kodiak Island 32.09 325 IAMs_20 IAMs_20 17 52 44.3
comp=Z,79µm,18.0s
KDAK Kodiak Island 32.09 325 LR LR 17 52 01.7
comp=Z,46µm,19.7s,baz=120,slow=34
KDAK Kodiak Island 32.09 325 *i* P **P** **17 40 15.9 -1.7**
KDAK pmax pmax
KDAK comp=Z,139nm,1.2s MLR MLR
comp=Z,84µm,17.0s
KDAK Kodiak Island 32.09 325 ⇑P **P** **17 40 20.7 +3.1**
KDAK Kodiak Island 32.09 325 P **P** **17 40 17.0 -0.5**
baz=118
KDAK S **S** **17 45 29.9 +0.6**
baz=118
OHAK Old Harbor 32.16 323 P **P** **17 40 16.9 -1.4**
OHAK IAmb IAmb 17 40 28.1
comp=Z,81nm,1.0s
OHAK IAMs_20 IAMs_20 17 52 20.4
comp=Z,57µm,18.0s
OHAK Old Harbor 32.16 323 P **P** **17 40 16.1 -2.2**
baz=117,SNR=13
OHAK S **S** **17 45 33.3 +2.8**
baz=117
SCM Sheep Creek Mo 32.19 334 IAMs_20 IAMs_20 17 52 33.9
comp=Z,85µm,18.0s
SCM Sheep Creek Mo 32.19 334 P **P** **17 40 19.2 +0.6**
baz=131,SNR=44
SCM S **S** **17 45 33.6 +2.5**
baz=131
I29M Ogilvie Camp, 32.20 344 IAMs_20 IAMs_20 17 54 46.0
comp=Z,99µm,18.0s
I29M Ogilvie Camp, 32.20 344 P **P** **17 40 18.1 -0.5**
baz=147,SNR=75
I29M S **S** **17 45 28.1 -2.9**
baz=147
N58A Sunbury 32.25 68 IAMs_20 IAMs_20 17 53 19.8
comp=Z,75µm,21.0s
O22K Cooper Landing 32.27 330 IAMs_20 IAMs_20 17 52 06.0
comp=Z,63µm,18.0s
O22K Cooper Landing 32.27 330 P **P** **17 40 16.4 -2.7**
baz=126
O22K S **S** **17 45 31.5 -0.6**
baz=126
SDMD Soldier's Deli 32.28 71 IAMs_20 IAMs_20 17 53 45.9
comp=Z,89µm,19.0s
K57A Scipio Center 32.31 65 IAMs_20 IAMs_20 17 54 02.3
comp=Z,101µm,19.0s
M23K Glacier View 32.31 333 P **P** **17 40 17.0 -2.6**
baz=130,SNR=25
M23K S **S** **17 45 33.7 +0.9**
baz=130
SII Sitkinak Islan 32.32 322 P **P** **17 40 23.2 +3.5**
SII Sitkinak Islan 32.32 322 P **P** **17 40 18.1 -1.6**
baz=115
SII S **S** **17 45 35.6 +2.6**
baz=115
PAX Paxson 32.32 336 IAMs_20 IAMs_20 17 54 22.4
comp=Z,78µm,18.0s
PAX Paxson 32.32 336 P **P** **17 40 19.8 0.0**
baz=134,SNR=36
PAX S **S** **17 45 35.7 +2.5**
baz=134
KNK Knik Glacier 32.34 332 P **P** **17 40 19.1 -0.7**
KNK Knik Glacier 32.34 332 P **P** **17 40 19.3 -0.6**
baz=128,SNR=30
KNK S **S** **17 45 35.8 +2.5**
baz=128
SYI Shuyak Island 32.40 326 IAMs_20 IAMs_20 17 52 20.6
comp=Z,73µm,19.0s
Q20K Shuyak Island 32.40 326 P **P** **17 40 18.8 -1.6**
baz=120
Q20K S **S** **17 45 36.3 +2.1**
baz=120
SLKM Skilak Lake 32.48 330 IAMs_20 IAMs_20 17 52 03.8
comp=Z,57µm,18.0s
SCRK Sand Creek 32.59 339 IAMs_20 IAMs_20 17 54 52.4
comp=Z,106µm,19.0s
SCRK Sand Creek 32.59 339 P **P** **17 40 20.1 -2.1**
baz=138,SNR=110
SCRK S **S** **17 45 42.7 +5.4**
baz=138
HOM Homer 32.61 328 P **P** **17 40 21.6 -0.5**
baz=122
HOM S **S** **17 45 38.2 +0.8**

baz=122
RC01 Rabbit Creek A 32.63 331 IAMs_20 IAMs_20 17 52 28.6
comp=Z,55µm,18.0s
RC01 Rabbit Creek A 32.63 331 P **P** **17 40 21.4 -0.9**
baz=126,SNR=28
RC01 S **S** **17 45 39.3 +1.5**
baz=126
I28M Miner Creek 32.65 343 P **P** **17 40 22.0 -0.6**
baz=145,SNR=175
I28M S **S** **17 45 44.2 +5.9**
baz=145
RIDG Independent Ri 32.68 338 IAMs_20 IAMs_20 17 55 23.7
comp=Z,69µm,18.0s
RIDG Independent Ri 32.68 338 P **P** **17 40 22.6 -0.2**
baz=136,SNR=39
RIDG S **S** **17 45 42.5 +3.9**
baz=136
PMR Palmer 32.70 332 P **P** **17 40 26.4 +3.5**
PMR Palmer 32.70 332 P **P** **17 40 22.0 -0.9**
baz=128,SNR=72
PMR S **S** **17 45 38.1 -0.8**
baz=128
BINY Binghamton 32.72 66 P **P** **17 40 21.8 -1.6**
BINY IAmb IAmb 17 40 33.5
comp=Z,177nm,1.4s
EPYK Eagle Plains 32.73 346 P **P** **17 40 23.3 +0.1**
baz=150,SNR=73
EPYK S **S** **17 45 39.2 0.0**
baz=150
060A Indiantown 32.73 95 IAMs_20 IAMs_20 17 55 13.3
comp=Z,79µm,18.0s
G31M Satah River 32.77 348 P **P** **17 40 22.4 -1.0**
baz=154,SNR=74
G31M S **S** **17 45 43.3 +3.6**
baz=154
CHIR Chirikof Islan 32.77 320 IAMs_20 IAMs_20 17 52 42.5
comp=Z,65µm,18.0s
CHIR Chirikof Islan 32.77 320 P P 17 40 28.7 +5.1
CHIR Chirikof Islan 32.77 320 S **S** **17 45 45.1 +5.1**
baz=112
WAT6 Susitna Watana 32.83 335 P **P** **17 40 22.5 -1.7**
baz=131,SNR=65
WAT6 S **S** **17 45 47.5 +6.4**
baz=131
J26L Joseph Creek 32.86 340 P **P** **17 40 23.6 -0.8**
baz=139,SNR=70
J26L S **S** **17 45 46.0 +4.5**
baz=139
ESQI Esquipulas 32.86 123 P **P** **17 40 22.9 -2.0**
R18K Karluk 32.88 323 P **P** **17 40 23.2 -1.4**
baz=116
R18K S **S** **17 45 42.4 +0.7**
baz=116
H29M Whitestone 32.94 345 IAMs_20 IAMs_20 17 55 10.5
comp=Z,91µm,19.0s
H29M Whitestone 32.94 345 P **P** **17 40 24.1 -0.9**
baz=148,SNR=62
H29M S **S** **17 45 45.7 +3.2**
baz=148
MTO3 Montecristo 32.96 123 P **P** **17 40 23.9 -2.0**
MTO3 IAmb IAmb 17 41 27.9
comp=Z,163nm,1.9s
CAPN Captain Cook N 33.01 330 P **P** **17 40 22.3 -3.4**
baz=124
CAPN S **S** **17 45 47.2 +3.6**
baz=124
K24K Donnelly Dome 33.01 337 P **P** **17 40 23.9 -1.8**
baz=135,SNR=17
K24K S **S** **17 45 43.5 -0.2**
baz=135
DHY Denali Highway 33.03 335 P **P** **17 40 23.9 -2.1**
baz=132,SNR=84
DHY S **S** **17 45 45.6 +1.3**
baz=132
V61A Roper 33.07 78 IAMs_20 IAMs_20 17 54 06.9
comp=Z,107µm,19.0s
Q19K Cape Douglas, 33.12 326 P **P** **17 40 22.2 -4.5**
baz=118,SNR=10
Q19K S **S** **17 45 46.4 +0.8**
baz=118
F31M Tsiigehtchic 33.15 349 IAMs_20 IAMs_20 17 55 11.0
comp=Z,97µm,19.0s
F31M Tsiigehtchic 33.15 349 P **P** **17 40 22.9 -3.9**
baz=155,SNR=13
F31M S **S** **17 45 51.3 +5.6**
baz=155
G30M tAoh Zraii Nji 33.17 347 IAMs_20 IAMs_20 17 54 24.5
comp=Z,66µm,18.0s
G30M tAoh Zraii Nji 33.17 347 P **P** **17 40 23.1 -4.0**
baz=152,SNR=42
G30M S **S** **17 45 48.6 +2.5**
baz=152
M22K Willow 33.18 332 P **P** **17 40 23.5 -3.5**
baz=127
M22K S **S** **17 45 49.6 +3.5**
baz=127
I27K Kandik River 33.19 342 P **P** **17 40 25.5 -1.8**
baz=143,SNR=24
I27K S **S** **17 45 47.9 +1.4**
baz=143
SUA Susitna One 33.25 331 P **P** **17 40 24.5 -3.3**
baz=126
SUA S **S** **17 45 51.2 +3.6**
baz=126
O20K Slope Mountain 33.25 328 P **P** **17 40 26.0 -1.9**
baz=121,SNR=33
O20K S **S** **17 45 51.2 +3.6**
baz=121
WAT1 Susitna Watana 33.27 334 P **P** **17 40 26.4 -1.6**
baz=130
WAT1 S **S** **17 45 47.7 -0.1**
baz=130
P19K Oil Pt 33.30 327 P **P** **17 40 25.9 -2.3**
baz=120,SNR=20
P19K S **S** **17 45 52.5 +4.3**
baz=120
I26K Coal Creek Min 33.36 341 IAMs_20 IAMs_20 17 54 10.8
comp=Z,63µm,20.0s
I26K Coal Creek Min 33.36 341 P **P** **17 40 28.0 -0.7**
baz=140
I26K S **S** **17 45 54.0 +5.0**
baz=140
G29M Pine Creek 33.46 345 P **P** **17 40 26.4 -3.2**
baz=149,SNR=75
G29M S **S** **17 45 54.0 +3.4**
baz=149
J25K Salcha River, 33.47 339 P **P** **17 40 27.3 -2.4**
baz=136,SNR=94
J25K S **S** **17 45 53.1 +2.2**
baz=136
R61A Willards 33.59 73 IAMs_20 IAMs_20 17 54 36.4
comp=Z,81µm,18.0s
Q18K Katmai Hardscr 33.62 325 P **P** **17 40 29.2 -2.0**
baz=116,SNR=35
Q18K S **S** **17 45 52.6 -0.9**
baz=116
CUT Chulitna 33.63 333 IAMs_20 IAMs_20 17 53 06.8
comp=Z,63µm,18.0s
CUT Chulitna 33.63 333 P **P** **17 40 28.2 -2.8**
baz=127,SNR=18
CUT S **S** **17 45 52.6 -0.6**
baz=127
F30M Barrier River 33.65 347 P **P** **17 40 30.4 -0.7**
F30M Barrier River 33.65 347 P **P** **17 40 27.8 -3.3**
baz=153,SNR=200
F30M S **S** **17 45 54.7 +1.2**
baz=153
H27K Steamboat Moun 33.67 343 P **P** **17 40 29.5 -2.0**
baz=143,SNR=88
H27K S **S** **17 45 53.0 -0.9**
baz=143
SPCR Spurr Chakacha 33.68 330 P **P** **17 40 30.5 -1.1**
baz=123
SPCR S **S** **17 45 54.0 -0.2**
baz=123
CAMR Camarioca 33.74 102 P **P** **17 40 30.6 -1.8**
CAMR IAmb IAmb 17 40 45.0
comp=Z,679nm,1.2s
CAMR IAMs_20 IAMs_20 17 55 58.1
comp=Z,54µm,22.0s
CAMR Camarioca 33.74 102 *e*P **P** **17 40 34.1 +1.7**
CAMR Camarioca 33.74 102 P **P** **17 40 36.7 +4.3**
RND Reindeer 33.75 335 P **P** **17 40 31.5 -0.7**
RND IAmb IAmb 17 40 45.5
comp=Z,227nm,1.6s
RND IAMs_20 IAMs_20 17 54 11.2
comp=Z,61µm,19.0s
RND Reindeer 33.75 335 P **P** **17 40 31.5 -0.7**

RND pmax pmax
comp=Z,227nm,1.6s
RND MLR MLR
comp=Z,61µm,19.0s
J59A Piesco 33.76 63 IAMs_20 IAMs_20 17 54 55.8
comp=Z,90µm,20.0s
HDA Harding Lake 33.80 337 P **P** **17 40 30.6 -2.0**
baz=134,SNR=26
HDA S **S** **17 45 56.0 +0.1**
baz=134
PLK4 Peulik 4 33.84 323 IAMs_20 IAMs_20 17 53 24.8
comp=Z,63µm,18.0s
R17L Mt. Peulik Vol 33.84 323 P **P** **17 40 32.1 -0.9**
baz=114,SNR=11
R17L S **S** **17 45 58.2 +1.5**
baz=114
SKT Skwentna 33.85 332 P **P** **17 40 31.4 -1.6**
baz=125,SNR=48
SKT S **S** **17 45 57.3 +0.6**
baz=125
Q17K Contact Creek 33.87 324 P **P** **17 40 32.2 -1.2**
baz=115,SNR=24
Q17K S **S** **17 45 51.9 -5.4**
baz=115
BRNJ Basking Ridge 33.89 68 IAMs_20 IAMs_20 17 55 00.3
comp=Z,81µm,18.0s
INK Inuvik 33.91 349 P **P** **17 40 32.3 -1.1**
INK Inuvik 33.91 349 LR LR 17 56 36.7
comp=Z,91µm,19.7s,baz=165,slow=40
INK Inuvik 33.91 349 P **P** **17 40 32.3 -1.1**
INK pmax pmax
comp=Z,620nm,1.6s
INK MLR MLR
comp=Z,149µm,18.0s
INK Inuvik 33.91 349 ⇑P **P** **17 40 35.4 +2.0**
INK Inuvik 33.91 349 P **P** **17 40 33.1 -0.3**
baz=156,SNR=47
INK S **S** **17 45 57.9 +0.5**
baz=156
MCK McKinley 33.99 335 IAMs_20 IAMs_20 17 53 56.5
comp=Z,73µm,18.0s
MCK McKinley 33.99 335 P **P** **17 40 32.2 -2.0**
baz=131,SNR=74
MCK S **S** **17 45 59.5 +0.6**
baz=131
ILAR Eielson Array 34.04 338 P **P** **17 40 33.8 -0.8**
ILAR Eielson Array 34.04 338 P **P** **17 40 33.6 -1.0**
comp=Z,15nm,0.9s,baz=154,slow=7.3,SNR=65
ILAR LR LR 17 56 15.4
comp=Z,34µm,18.4s,baz=134,slow=40
comp=Z,15nm,0.9s
ILAR Eielson Array 34.04 338 P **P** **17 40 33.8 -0.8**
O19K Port Alsworth 34.04 328 IAMs_20 IAMs_20 17 52 43.0
comp=Z,58µm,20.0s
O19K Port Alsworth 34.04 328 P **P** **17 40 31.2 -3.4**
baz=119,SNR=14
O19K S **S** **17 45 58.0 -1.6**
baz=119
P18K Big Mountain, 34.06 326 P **P** **17 40 34.4 -0.5**
baz=117,SNR=16
P18K S **S** **17 45 59.2 -1.0**
baz=117
G27K Doyon Strip 34.17 343 P **P** **17 40 35.0 -0.8**
baz=144,SNR=90
G27K S **S** **17 46 02.9 +1.3**
baz=144
PRP Porcupine Dome 34.17 340 P **P** **17 40 35.1 -0.9**
PRP IAmb IAmb 17 40 43.7
comp=Z,264nm,1.6s
PRP IAMs_20 IAMs_20 17 54 57.2
comp=Z,65µm,18.0s
PRP Porcupine Dome 34.17 340 P **P** **17 40 33.8 -2.1**
baz=137,SNR=38
PRP S **S** **17 46 05.7 +3.8**
baz=137
WRH Wood River Hil 34.21 337 IAMs_20 IAMs_20 17 56 08.2
comp=Z,87µm,20.0s
CCB Clear Creek Bu 34.24 337 IAMs_20 IAMs_20 17 55 46.0
comp=Z,70µm,21.0s
O18K Koktuh Hills 34.27 327 IAMs_20 IAMs_20 17 53 39.0
comp=Z,55µm,19.0s
O18K Koktuh Hills 34.27 327 P **P** **17 40 36.0 -0.7**
baz=118,SNR=25
O18K S **S** **17 46 04.7 +1.4**
baz=118
TRF Thorofare Moun 34.28 334 IAMs_20 IAMs_20 17 54 17.1
comp=Z,65µm,20.0s
TRF Thorofare Moun 34.28 334 P **P** **17 40 36.1 -0.8**
baz=128,SNR=98
TRF S **S** **17 46 03.8 +0.2**
baz=128
CPNY Central Park 34.34 68 IAMs_20 IAMs_20 17 54 58.1
comp=Z,65µm,21.0s
PAL Palisades 34.35 68 IAMs_20 IAMs_20 17 54 58.6
comp=Z,62µm,21.0s
MNTQ Montreal, Queb 34.38 60 P **P** **17 40 36.1 -1.6**
CHGN Chignik 34.40 320 P **P** **17 40 38.1 +0.4**
baz=109,SNR=21
FRNY Flat Rock 34.40 61 IAMs_20 IAMs_20 17 55 04.6
comp=Z,109µm,22.0s
COLA College 34.41 338 IAMs_20 IAMs_20 17 56 04.5
comp=Z,66µm,22.0s
COLA College 34.41 338 *i*P **P** **17 40 36.7 -1.0**
COLA pmax pmax
comp=Z,117nm,1.4s
COLA MLR MLR
comp=Z,61µm,16.0s
COLA College 34.41 338 ⇑P **P** **17 40 39.8 +2.0**
COLA College 34.41 338 P **P** **17 40 34.8 -2.9**
baz=133
COLA S **S** **17 46 06.8 +1.7**
baz=133
COLA College 34.41 338 P **P** **17 40 39.4 +1.7**
Q16K King Salmon 34.41 324 P **P** **17 40 35.2 -2.6**
baz=115
Q16K S **S** **17 46 05.0 -0.4**
baz=115
N19K Bonanza Creek 34.42 329 P **P** **17 40 35.5 -2.6**
baz=120,SNR=82
N19K S **S** **17 46 07.8 +2.1**
baz=120
M20K Styx River 34.42 331 IAMs_20 IAMs_20 17 53 45.0
comp=Z,55µm,19.0s
M20K Styx River 34.42 331 P **P** **17 40 37.3 -0.7**
baz=123
M20K S **S** **17 46 06.9 +1.2**
baz=123
F28M Old Crow 34.44 345 IAMs_20 IAMs_20 17 55 20.1
comp=Z,82µm,19.0s
F28M Old Crow 34.44 345 P **P** **17 40 37.7 -0.4**
baz=147,SNR=43
F28M S **S** **17 46 08.0 +2.3**
baz=147
POKR Poker Plat Res 34.45 338 P **P** **17 40 35.1 -3.0**
baz=134
POKR S **S** **17 46 07.2 +1.3**
baz=134
BWN Browne 34.46 336 IAMs_20 IAMs_20 17 55 44.3
comp=Z,54µm,19.0s
P17K Kvichak River 34.53 325 P **P** **17 40 37.0 -1.8**
baz=116
P17K S **S** **17 46 06.0 -1.2**
baz=116
KTH Kantishna Hill 34.57 334 IAMs_20 IAMs_20 17 54 16.7
comp=Z,70µm,18.0s
CNBA Chernabura Isl 34.59 317 IAMs_20 IAMs_20 17 51 26.7
comp=Z,62µm,21.0s
CHNA Chernabura Isl 34.59 317 P **P** **17 40 42.3 +2.9**
CHNA Chernabura Isl 34.59 317 P **P** **17 40 36.9 -2.5**
baz=106,SNR=16
CHNA S **S** **17 46 10.2 +2.0**
baz=106
NEA2 Nenana 34.60 337 P **P** **17 40 38.1 -1.4**
baz=131,SNR=102
NEA2 S **S** **17 46 09.4 +1.1**
baz=131
PPLA Purkeypile 34.63 333 IAMs_20 IAMs_20 17 53 39.5
comp=Z,59µm,19.0s
PPLA Purkeypile 34.63 333 P **P** **17 40 38.1 -1.8**
baz=125,SNR=56
PPLA S **S** **17 46 11.5 +2.5**
baz=125
TGUH Tegucigalpa,Un 34.65 121 P **P** **17 40 38.1 -2.4**
TGUH Tegucigalpa,Un 34.65 121 P **P** **17 40 44.4 +3.9**
comp=Z,4µmcomp=Z,123nm,1.3s
E29M Blow River 34.72 347 IAMs_20 IAMs_20 17 55 34.4
comp=Z,99µm,19.0s
E29M Blow River 34.72 347 P **P** **17 40 40.1 -0.3**

baz=150,SNR=66
E29M S **S** **17 46 13.2 +3.3**
baz=150
G26K Porcupine Rive 34.80 342 IAMs_20 IAMs_20 17 56 05.7
comp=Z,103µm,20.0s
G26K Porcupine Rive 34.80 342 P **P** **17 40 39.8 -1.4**
baz=141,SNR=95
G26K S **S** **17 46 15.8 +4.6**
baz=141
H25L Birch Creek 34.81 340 P **P** **17 40 40.3 -0.9**
baz=137,SNR=23
H25L S **S** **17 46 14.0 +2.6**
baz=137
CAST Castle Rocks 34.90 334 P **P** **17 40 41.5 -0.6**
CAST IAmb IAmb 17 41 33.5
comp=Z,140nm,1.5s
CAST IAMs_20 IAMs_20 17 54 06.6
comp=Z,74µm,18.0s
CAST Castle Rocks 34.90 334 P **P** **17 40 41.4 -0.6**
baz=126,SNR=55
CAST S **S** **17 46 10.1 -2.8**
baz=126
BPAW Bear Paw Mtn. 34.93 335 IAMs_20 IAMs_20 17 54 31.2
comp=Z,57µm,18.0s
BPAW Bear Paw Mtn. 34.93 335 P **P** **17 40 41.1 -1.3**
baz=128,SNR=58
BPAW S **S** **17 46 08.5 -4.8**
baz=128
M19K Big River Lodg 34.94 330 P **P** **17 40 41.0 -1.5**
baz=122,SNR=23
M19K S **S** **17 46 11.4 -2.2**
baz=122
N18K Kilae Creek 34.96 328 IAMs_20 IAMs_20 17 53 21.2
comp=Z,50µm,18.0s
N18K Kilae Creek 34.96 328 P **P** **17 40 41.3 -1.3**
baz=118,SNR=33
N18K S **S** **17 46 14.3 +0.5**
baz=118
S14K Fog Glacier 35.00 319 P **P** **17 40 41.4 -1.7**
baz=108
S14K S **S** **17 46 10.9 -3.8**
baz=108
VT1 Waterbury 35.01 62 P **P** **17 40 41.4 -1.8**
VT1 IAmb IAmb 17 40 55.6
comp=Z,100nm,0.8s
L20K Farewell, AK 35.04 331 P **P** **17 40 42.2 -1.1**
baz=123,SNR=75
L20K S **S** **17 46 13.2 -2.0**
baz=123
I23K Minto, Yukon-K 35.07 337 IAMs_20 IAMs_20 17 56 33.9
comp=Z,69µm,18.0s
I23K Minto, Yukon-K 35.07 337 P **P** **17 40 42.7 -0.8**
baz=132,SNR=55
I23K S **S** **17 46 13.4 -1.9**
baz=132
O17K Koliganek Bris 35.08 326 P **P** **17 40 43.2 -0.5**
baz=116,SNR=26
O17K S **S** **17 46 13.5 -2.2**
baz=116
H24K Noodor Dome 35.09 339 P **P** **17 40 42.6 -1.1**
baz=134,SNR=76
H24K S **S** **17 46 15.4 -0.3**
baz=134
J61A Chester 35.19 63 IAMs_20 IAMs_20 17 55 31.5
comp=Z,99µm,21.0s
P16K Nushagak River 35.19 324 IAMs_20 IAMs_20 17 54 35.5
comp=Z,67µm,18.0s
P16K Nushagak River 35.19 324 P **P** **17 40 42.1 -2.5**
baz=114
P16K S **S** **17 46 15.4 -2.0**
baz=114
E28M Babbage River 35.21 346 IAMs_20 IAMs_20 17 55 47.5
comp=Z,89µm,18.0s
E28M Babbage River 35.21 346 P **P** **17 40 43.5 -1.2**
baz=148,SNR=68
E28M S **S** **17 46 16.5 -1.0**
baz=148
SDPT Sand Point 35.22 318 P **P** **17 40 44.2 -0.7**
baz=106,SNR=11
SDPT S **S** **17 46 17.5 -0.4**
baz=106
G25K Bearman Lake 35.26 341 P **P** **17 40 44.1 -1.0**
baz=138,SNR=49
G25K S **S** **17 46 18.8 +0.6**
baz=138
CHUM Lake Minchumin 35.26 334 P **P** **17 40 43.9 -1.2**
baz=126,SNR=76
CHUM S **S** **17 46 16.9 -1.4**
baz=126
L19K White Mountain 35.27 330 P **P** **17 40 44.0 -1.3**
baz=121,SNR=41
L19K S **S** **17 46 18.9 +0.2**
baz=121
E27K Coleen River 35.28 345 IAMs_20 IAMs_20 17 55 47.4
comp=Z,70µm,18.0s
E27K Coleen River 35.28 345 P **P** **17 40 44.9 -0.4**
baz=145,SNR=74
E27K S **S** **17 46 20.8 +2.1**
baz=145
M18K Stony River 35.32 329 P **P** **17 40 44.0 -1.7**
baz=119,SNR=45
M18K S **S** **17 46 19.3 0.0**
baz=119
BMAR Burnt Mountain 35.37 342 P **P** **17 40 46.0 -0.1**
MLY Manley 35.43 336 IAMs_20 IAMs_20 17 56 18.6
comp=Z,78µm,20.0s
MLY Manley 35.43 336 P **P** **17 40 45.6 -1.1**
baz=130,SNR=66
MLY S **S** **17 46 20.3 -0.8**
baz=130
N17K Nushagak Hills 35.46 327 P **P** **17 40 45.6 -1.3**
baz=116,SNR=33
N17K S **S** **17 46 23.2 +1.8**
baz=116
F26K Sheenjek River 35.47 343 P **P** **17 40 47.1 +0.2**
baz=141,SNR=97
F26K S **S** **17 46 22.4 +0.9**
baz=141
O16K Kokwok River B 35.47 325 P **P** **17 40 46.9 -0.1**
baz=114,SNR=18
O16K S **S** **17 46 19.6 -2.0**
baz=114
CAIB Caibarien 35.53 101 *e*P **P** **17 40 47.7 -0.3**
CAIB Caibarien 35.53 101 P **P** **17 40 51.3 +3.3**
H23K Yukon River 35.58 338 P **P** **17 40 47.4 -0.5**
baz=132,SNR=91
H23K S **S** **17 46 24.3 +1.0**
baz=132
G24K Hadweenzic Riv 35.58 340 IAMs_20 IAMs_20 17 55 43.5
comp=Z,66µm,18.0s
G24K Hadweenzic Riv 35.58 340 P **P** **17 40 47.7 -0.2**
baz=136,SNR=48
G24K S **S** **17 46 23.4 +0.1**
baz=136
K20K Telida 35.60 333 IAMs_20 IAMs_20 17 54 20.0
comp=Z,57µm,19.0s
K20K Telida 35.60 333 P **P** **17 40 47.0 -1.1**
baz=124,SNR=220
K20K S **S** **17 46 25.4 +1.8**
baz=124
LBNH Lisbon 35.60 62 P **P** **17 40 47.2 -1.1**
LBNH IAmb IAmb 17 40 59.7
comp=Z,153nm,1.4s
LBNH Lisbon 35.60 62 P **P** **17 40 47.2 -1.1**
LBNH pmax pmax
comp=Z,153nm,1.5s
LBNH MLR MLR
comp=Z,126µm,21.0s
LBNH Lisbon 35.60 62 ⇓P **P** **17 40 48.9 +0.5**
D28M Stokes Point 35.69 347 P **P** **17 40 48.8 +0.1**
baz=150
D28M S **S** **17 46 26.2 +1.4**
baz=150
M63A Gales Ferry 35.71 67 IAMs_20 IAMs_20 17 56 06.5
comp=Z,91µm,21.0s
CRIN San Cristobal 35.75 122 P **P** **17 40 53.7 +3.8**
comp=Z,97nm,0.5s
F25K Christian Rive 35.76 342 P **P** **17 40 50.2 +0.7**
baz=139,SNR=84
F25K S **S** **17 46 28.6 +2.6**
baz=139
FSCY Frank Sound, G 35.88 107 *e*P **P** **17 40 46.4 -4.5**
M17K Holitna River 35.96 328 IAMs_20 IAMs_20 17 54 03.7
comp=Z,50µm,19.0s
M17K Holitna River 35.96 328 P **P** **17 40 50.9 -0.3**
baz=117,SNR=67
M17K S **S** **17 46 31.3 +2.1**
baz=117

HERN **Volcan Telica** **35.96 122** IAMs_20 IAMs_20 17 56 34.7
comp=Z,184µm,19.0s

HRV **Adam Dziewonsk** **35.97 65** P **P** **17 40 50.0 -1.5**
HRV IAmb IAmb 17 41 02.2
comp=Z,133nm,1.3s

HRV **Adam Dziewonsk** **35.97 65** P **P** **17 40 50.0 -1.5**
HRV pmax pmax
comp=Z,133nm,1.3s

HRV MLR MLR
comp=Z,172µm,20.0s

HRV **Adam Dziewonsk** **35.97 65** ⇑P **P** **17 40 51.3 -0.3**

D27M **Malcolm River** **36.03 346** IAMs_20 IAMs_20 17 56 14.2
comp=Z,66µm,19.0s

D27M **Malcolm River** **36.03 346** P **P** **17 40 50.5 -1.3**
baz=147,SNR=16

D27M S **S** **17 46 30.0 -0.2**
baz=147

L18K **Granite Mounta** **36.03 330** P **P** **17 40 50.3 -1.5**
baz=119,SNR=85

L18K S **S** **17 46 29.1 -1.2**
baz=119

J20K **Nowinta River** **36.09 334** P **P** **17 40 51.8 -0.5**
baz=124,SNR=94

J20K S **S** **17 46 31.4 +0.4**
baz=124

LDAQ **Lac Daran** **36.09 56** P **P** **17 40 50.9 -1.7**
LDAQ IAmb IAmb 17 41 04.3
comp=Z,226nm,1.8s

LDAQ IAMs_20 IAMs_20 17 56 03.3
comp=Z,85µm,20.0s

O15K **Ungalikthiuk R** **36.12 324** IAMs_20 IAMs_20 17 55 14.1
comp=Z,71µm,18.0s

O15K **Ungalikthiuk R** **36.12 324** P **P** **17 40 50.4 -2.1**
baz=112,SNR=5.8

O15K S **S** **17 46 33.6 +1.9**
baz=112

CNGN **Cerro Negro** **36.13 122** P **P** **17 40 51.0 -2.2**

CNGN **Cerro Negro** **36.13 122** P **P** **17 40 57.0 +3.8**
comp=Z,408µmcomp=Z,24µmcomp=Z,636nm,1.1s

E25K **Arctic Village** **36.14 343** P **P** **17 40 52.4 -0.3**
baz=140,SNR=66

E25K S **S** **17 46 30.0 -1.8**
baz=140

N16K **Nishlik Lake** **36.14 326** P **P** **17 40 51.0 -1.8**
baz=114,SNR=48

N16K S **S** **17 46 30.9 -1.1**
baz=114

S12K **Black Hills** **36.18 318** P **P** **17 40 51.0 -2.2**
baz=105

S12K S **S** **17 46 34.1 +1.4**
baz=105

H22K **Ishtalitna Cre** **36.19 337** P **P** **17 40 51.7 -1.5**
baz=130,SNR=63

H22K S **S** **17 46 31.4 -1.3**
baz=130

F24K **Squaw Lake** **36.29 341** P **P** **17 40 54.7 +0.7**
baz=136,SNR=34

F24K S **S** **17 46 39.7 +5.5**
baz=136

G23K **Bananza Creek** **36.32 339** IAMs_20 IAMs_20 17 57 06.9
comp=Z,55µm,20.0s

G23K **Bananza Creek** **36.32 339** P **P** **17 40 54.2 -0.1**
baz=132,SNR=45

G23K S **S** **17 46 33.4 -1.2**
baz=132

M16K **Timber Creek** **36.45 327** P **P** **17 40 54.9 -0.5**
baz=115,SNR=29

M16K S **S** **17 46 35.5 -1.3**
baz=115

H21K **Melozitna Rive** **36.50 336** IAMs_20 IAMs_20 17 57 08.8
comp=Z,75µm,18.0s

H21K **Melozitna Rive** **36.50 336** P **P** **17 40 54.9 -0.9**
baz=128,SNR=114

H21K S **S** **17 46 37.8 +0.4**
baz=128

J19K **Poorman** **36.53 333** IAMs_20 IAMs_20 17 55 08.6
comp=Z,65µm,19.0s

J19K **Poorman** **36.53 333** P **P** **17 40 54.7 -1.3**
baz=122,SNR=78

J19K S **S** **17 46 38.9 +1.1**
baz=122

I20K **Naaghedeneel** **36.56 334** P **P** **17 40 56.2 0.0**
baz=125,SNR=48

I20K S **S** **17 46 36.4 -1.8**
baz=125

A36M **Sachs Harbour** **36.61 356** IAMs_20 IAMs_20 17 57 23.3
comp=Z,77µm,20.0s

A36M **Sachs Harbour** **36.61 356** P **P** **17 40 56.4 -0.1**
baz=169

A36M S **S** **17 46 35.9 -2.9**
baz=169

N15K **Kwethluk River** **36.62 325** IAMs_20 IAMs_20 17 54 45.3
comp=Z,51µm,19.0s

N15K **Kwethluk River** **36.62 325** P **P** **17 40 55.3 -1.6**
baz=113,SNR=12

N15K S **S** **17 46 38.8 -0.6**
baz=113

L17K **Donlin** **36.66 329** P **P** **17 40 53.2 -4.0**
baz=117,SNR=54

L17K S **S** **17 46 33.5 -6.3**
baz=117

J18K **Innoko River** **36.67 332** IAMs_20 IAMs_20 17 56 26.3
comp=Z,51µm,19.0s

J18K **Innoko River** **36.67 332** P **P** **17 40 55.9 -1.3**
baz=120,SNR=76

J18K S **S** **17 46 37.3 -2.7**
baz=120

MGAN **Managua** **36.69 122** P **P** **17 41 02.3 +4.4**
comp=Z,116nm,1.2s

JOKA **Jonika Flow** **36.70 254** IAMs_20 IAMs_20 17 51 58.5
comp=Z,69µm,20.0s

LMQ **La Malbaie** **36.70 56** P **P** **17 40 56.3 -1.4**
LMQ IAmb IAmb 17 41 08.9
comp=Z,149nm,1.2s

LMQ IAMs_20 IAMs_20 17 56 29.3
comp=Z,93µm,20.0s

COLD **Coldfoot** **36.72 339** IAMs_20 IAMs_20 17 55 39.6
comp=Z,52µm,18.0s

COLD **Coldfoot** **36.72 339** P **P** **17 40 54.9 -2.7**
baz=133,SNR=33

COLD S **S** **17 46 40.6 -0.1**
baz=133

M65A **Busby, Falmout** **36.74 66** P **P** **17 40 53.7 -4.4**
baz=277

M65A S **S** **17 46 41.5 0.0**
baz=277

STCH **Steam Cracks** **36.82 254** IAMs_20 IAMs_20 17 52 00.7
comp=Z,64µm,20.0s

O14K **Tigyukauivet M** **36.84 324** IAMs_20 IAMs_20 17 55 37.1
comp=Z,71µm,18.0s

O14K **Tigyukauivet M** **36.84 324** P **P** **17 40 55.3 -3.4**
baz=110

O14K S **S** **17 46 40.6 -2.0**
baz=110

E24K **Your Creek** **36.84 341** IAMs_20 IAMs_20 17 56 46.8
comp=Z,53µm,20.0s

E24K **Your Creek** **36.84 341** P **P** **17 40 58.0 -0.7**
baz=136,SNR=82

E24K S **S** **17 46 43.5 +0.8**
baz=136

BOAB **BOACO BROADBAN** **36.88 121** P **P** **17 41 00.6 +1.1**

BOAB **BOACO BROADBAN** **36.88 121** P **P** **17 40 58.1 -1.4**

BOAB **BOACO BROADBAN** **36.88 121** ⇓P **P** **17 41 03.0 +3.4**

PUH **Pauahi** **36.90 254** IAMs_20 IAMs_20 17 52 03.8
comp=Z,60µm,21.0s

G22K **Bettles** **36.90 338** P **P** **17 40 57.1 -2.1**
baz=131

G22K S **S** **17 46 42.1 -1.3**
baz=131

C27K **Jago River** **36.90 345** IAMs_20 IAMs_20 17 56 52.2
comp=Z,67µm,18.0s

C27K **Jago River** **36.90 345** P **P** **17 40 59.5 +0.4**
baz=143,SNR=74

C27K S **S** **17 46 43.0 -0.4**
baz=143

HATHI **Halema'uma'u T** **36.90 254** IAMs_20 IAMs_20 17 52 04.0
comp=Z,65µm,21.0s

BYL **Byron's Ledge** **36.91 254** IAMs_20 IAMs_20 17 52 11.1
comp=Z,64µm,20.0s

UWE **Uwekahuna** **36.93 254** IAMs_20 IAMs_20 17 52 04.6
comp=Z,64µm,21.0s

K17K **Iditarod** **36.93 330** P **P** **17 40 58.7 -0.7**
baz=118,SNR=64

K17K S **S** **17 46 41.4 -2.6**
baz=118

POHA **Pohakuloa** **36.93 255** P **P** **17 40 59.4 -0.8**
POHA IAmb IAmb 17 41 43.5
comp=Z,216nm,1.2s

POHA **Pohakuloa** **36.93 255** IAMs_20 IAMs_20 17 53 43.7
comp=Z,67µm,18.0s

MLH **Mauna Loa** **36.96 254** IAMs_20 IAMs_20 17 52 13.6
comp=Z,65µm,20.0s

L16K **Owhat River** **36.97 328** P **P** **17 41 00.6 +0.8**
baz=115,SNR=61

L16K S **S** **17 46 43.6 -1.0**
baz=115

HMH **Humu'ula Sheep** **36.98 255** IAMs_20 IAMs_20 17 52 24.0
comp=Z,62µm,20.0s

HLP **Hilina Pali** **37.01 254** IAMs_20 IAMs_20 17 52 24.8
comp=Z,61µm,20.0s

IMAR **Indian Mountai** **37.01 336** P **P** **17 40 59.0 -1.1**

AIN **Ainahou** **37.09 254** IAMs_20 IAMs_20 17 52 17.8
comp=Z,58µm,19.0s

M15K **Kasigluk River** **37.10 326** P **P** **17 41 00.3 -0.5**
baz=112,SNR=30

M15K S **S** **17 46 46.5 0.0**
baz=112

H20K **Anotleneega Mo** **37.10 335** P **P** **17 41 00.8 -0.1**
baz=125,SNR=131

H20K S **S** **17 46 44.7 -1.8**
baz=125

MWH **Mokuaweoweo** **37.13 255** IAMs_20 IAMs_20 17 52 28.1
comp=Z,58µm,20.0s

E23K **Chandalar** **37.13 341** P **P** **17 41 01.3 0.0**
baz=134,SNR=69

E23K S **S** **17 46 48.7 +1.6**
baz=134

HUH **Hualalai** **37.21 255** IAMs_20 IAMs_20 17 52 31.1
comp=Z,62µm,20.0s

WVL **Waterville** **37.21 61** P **P** **17 41 00.5 -1.5**
WVL IAmb IAmb 17 41 13.2
comp=Z,207nm,1.5s

E62A **Clayton Lake** **37.24 58** IAMs_20 IAMs_20 17 56 33.7
comp=Z,98µm,21.0s

D25K **Kavik River** **37.25 344** P **P** **17 41 02.9 +0.7**
baz=140,SNR=49

D25K S **S** **17 46 48.8 0.0**
baz=140

G21K **Allakaket** **37.26 337** IAMs_20 IAMs_20 17 57 51.8
comp=Z,70µm,19.0s

G21K **Allakaket** **37.26 337** P **P** **17 41 01.9 -0.3**
baz=128

G21K S **S** **17 46 49.8 +0.9**
baz=128

N14K **Kuskokwak Cree** **37.27 325** IAMs_20 IAMs_20 17 56 00.6
comp=Z,57µm,18.0s

N14K **Kuskokwak Cree** **37.27 325** P **P** **17 41 02.2 -0.1**
baz=110,SNR=23

N14K S **S** **17 46 49.0 -0.2**
baz=110

KHU **Kahuku** **37.28 254** IAMs_20 IAMs_20 17 52 31.9
comp=Z,62µm,20.0s

C26K **Camden Bay** **37.39 345** P **P** **17 41 03.8 +0.6**
baz=142,SNR=40

C26K S **S** **17 46 50.9 +0.1**
baz=142

GCSA **Galena City Sc** **37.39 333** P **P** **17 41 02.4 -0.9**
baz=122,SNR=11

GCSA S **S** **17 46 47.2 -3.7**
baz=122

PKME **Peaks-Kenny Pk** **37.44 60** P **P** **17 41 02.1 -1.8**
PKME IAmb IAmb 17 41 14.8
comp=Z,144nm,1.4s

F22K **John River** **37.48 339** P **P** **17 41 04.8 +0.7**
baz=130,SNR=41

F22K S **S** **17 46 52.6 +0.3**
baz=130

TOLK **Toolik Lake Re** **37.53 341** IAMs_20 IAMs_20 17 57 09.9
comp=Z,61µm,21.0s

TOLK **Toolik Lake Re** **37.53 341** P **P** **17 41 04.0 -0.5**
baz=135,SNR=58

TOLK S **S** **17 46 49.3 -3.8**
baz=135

J17K **VABM Dome** **37.56 331** IAMs_20 IAMs_20 17 55 51.9
comp=Z,47µm,19.0s

J17K **VABM Dome** **37.56 331** P **P** **17 41 04.5 -0.3**
baz=118,SNR=26

J17K S **S** **17 46 52.3 -1.2**
baz=118

ACON **Acoyapa** **37.56 121** P **P** **17 41 03.7 -1.6**

ACON **Acoyapa** **37.56 121** P **P** **17 41 09.2 +3.9**
comp=Z,2µmcomp=Z,45nm,1.8s

D62A **Allapoint, All** **37.56 57** IAMs_20 IAMs_20 17 56 16.2
comp=Z,79µm,20.0s

H19K **Roundabout Mou** **37.66 335** IAMs_20 IAMs_20 17 55 58.5
comp=Z,43µm,18.0s

H19K **Roundabout Mou** **37.66 335** P **P** **17 41 05.3 -0.3**
baz=123,SNR=47

H19K S **S** **17 46 55.0 +0.1**
baz=123

F21K **Alatna River** **37.69 338** IAMs_20 IAMs_20 17 56 23.1
comp=Z,52µm,20.0s

F21K **Alatna River** **37.69 338** P **P** **17 41 05.3 -0.5**
baz=128,SNR=25

F21K S **S** **17 46 58.1 +2.6**
baz=128

M14K **Bethel** **37.70 326** P **P** **17 41 05.4 -0.5**
baz=111,SNR=66

M14K S **S** **17 46 57.2 +1.6**
baz=111

D24K **Happy Valley** **37.71 342** P **P** **17 41 05.7 -0.3**
baz=136,SNR=24

D24K S **S** **17 46 57.3 +1.6**
baz=136

E22K **Anaktuvuk Pass** **37.79 340** IAMs_20 IAMs_20 17 58 29.8
comp=Z,49µm,18.0s

E22K **Anaktuvuk Pass** **37.79 340** P **P** **17 41 06.4 -0.3**
baz=132,SNR=65

E22K S **S** **17 46 58.0 +1.0**
baz=132

L15K **Ungalak Mounta** **37.84 327** P **P** **17 41 07.4 +0.3**
baz=113,SNR=34

L15K S **S** **17 46 59.3 +1.6**
baz=113

AKUT **Akutan** **37.96 314** P P 17 41 13.3 +5.1

KIP **Kipapa** **38.02 259** P **P** **17 41 07.7 -1.4**
KIP IAmb IAmb 17 41 26.6
comp=Z,170nm,1.1s

KIP **Kipapa** **38.02 259** IAMs_20 IAMs_20 17 52 30.4
comp=Z,65µm,21.0s

KIP **Kipapa** **38.02 259***ce*P **P** **17 41 09.8 +0.7**
KIP pmax pmax
comp=Z,161nm,1.7s

ESPN **Las Esperanzas** **38.02 120** P **P** **17 41 07.1 -2.0**
ESPN IAmb IAmb 17 41 20.9
comp=Z,197nm,1.1s

ESPN **Las Esperanzas** **38.02 120** P **P** **17 41 09.9 +0.7**
comp=Z,41µmcomp=Z,4µmcomp=Z,196nm,1.3s

D23K **Nanushuk River** **38.05 341** IAMs_20 IAMs_20 17 57 24.6
comp=Z,68µm,19.0s

D23K **Nanushuk River** **38.05 341** P **P** **17 41 09.4 +0.5**
baz=134,SNR=59

D23K S **S** **17 47 03.9 +3.1**
baz=134

F64A **Sherman** **38.07 59** IAMs_20 IAMs_20 17 56 35.7
comp=Z,90µm,21.0s

C24K **Franklin Bluff** **38.09 343** P **P** **17 41 08.5 -0.6**
baz=137

C24K S **S** **17 47 01.5 0.0**
baz=137

K15K **Wolf Creek Mou** **38.10 328** P **P** **17 41 08.4 -1.0**
baz=114,SNR=28

K15K S **S** **17 47 03.4 +1.7**
baz=114

J16K **Anvik River** **38.12 330** IAMs_20 IAMs_20 17 56 34.9
comp=Z,48µm,19.0s

J16K **Anvik River** **38.12 330** P **P** **17 41 08.2 -1.4**
baz=116,SNR=33

J16K S **S** **17 47 03.6 +1.5**
baz=116

H18K **Honhosa River** **38.15 333** P **P** **17 41 07.3 -2.4**
baz=120

H18K S **S** **17 47 02.8 +0.4**
baz=120

G19K **Purcell Mounta** **38.22 335** P **P** **17 41 09.8 -0.5**
baz=123,SNR=80

G19K S **S** **17 47 00.6 -2.8**
baz=123

M13K **Dall Lake** **38.23 325** IAMs_20 IAMs_20 17 56 48.7
comp=Z,49µm,18.0s

M13K **Dall Lake** **38.23 325** P **P** **17 41 08.8 -1.6**
baz=109,SNR=21

M13K S **S** **17 47 03.5 -0.1**
baz=109

L14K **Kuka Creek** **38.24 326** IAMs_20 IAMs_20 17 55 55.0
comp=Z,46µm,19.0s

L14K **Kuka Creek** **38.24 326** P **P** **17 41 08.5 -2.0**
baz=111,SNR=23

L14K S **S** **17 47 01.8 -2.0**
baz=111

F20K **Avaraart Lake** **38.28 337** P **P** **17 41 08.5 -2.3**
baz=126,SNR=27

F20K S **S** **17 47 05.8 +1.5**
baz=126

UNV **Unalaska Valle** **38.34 314** P **P** **17 41 08.0 -3.5**
baz=98

UNV S **S** **17 47 06.3 +0.8**
baz=98

I17K **Unalakleet** **38.43 331** IAMs_20 IAMs_20 17 56 28.8
comp=Z,46µm,18.0s

I17K **Unalakleet** **38.43 331** P **P** **17 41 08.9 -3.2**
baz=116,SNR=12

I17K S **S** **17 47 07.0 +0.5**
baz=116

PILO **Pilon** **38.52 103** *e*P **P** **17 41 15.4 +2.0**

BLUN **Bluefields** **38.52 119** P **P** **17 41 18.1 +4.7**
comp=Z,3µmcomp=Z,193nm,1.1s

D22K **Ayikyak River** **38.52 340** IAMs_20 IAMs_20 17 59 06.2
comp=Z,78µm,19.0s

D22K **Ayikyak River** **38.52 340** P **P** **17 41 11.1 -1.8**
baz=131,SNR=27

D22K S **S** **17 47 08.8 +0.7**
baz=131

E21K **Killik River** **38.60 339** IAMs_20 IAMs_20 17 56 52.2
comp=Z,43µm,18.0s

E21K **Killik River** **38.60 339** P **P** **17 41 12.4 -1.2**
baz=129,SNR=35

E21K S **S** **17 47 10.4 +1.1**
baz=129

H17K **Granite Mounta** **38.61 333** IAMs_20 IAMs_20 17 56 23.6
comp=Z,61µm,18.0s

H17K **Granite Mounta** **38.61 333** P **P** **17 41 11.4 -2.2**
baz=118,SNR=21

H17K S **S** **17 47 07.6 -1.7**
baz=118

G18K **Tagagawik** **38.63 334** P **P** **17 41 11.6 -2.2**
baz=121

G18K S **S** **17 47 07.8 -1.9**
baz=121

C23K **Itkillik River** **38.64 342** P **P** **17 41 12.5 -1.3**
baz=135,SNR=26

C23K S **S** **17 47 07.9 -1.8**
baz=135

LMGC **Las Mercedes** **38.76 103** *e*P **P** **17 41 18.8 +3.5**

F19K **Shaleruckik Mo** **38.83 336** P **P** **17 41 13.9 -1.5**
baz=123,SNR=51

F19K S **S** **17 47 14.1 +1.6**
baz=123

JTS **Las Juntas de** **38.90 122** P **P** **17 41 14.8 -1.8**

JTS **Las Juntas de** **38.90 122** IAMs_20 IAMs_20 17 57 20.5
comp=Z,86µm,22.0s

JTS **Las Juntas de** **38.90 122** LR LR 17 57 42.4
comp=Z,81µm,21.9s,baz=304,slow=37

JTS **Las Juntas de** **38.90 122** P **P** **17 41 14.8 -1.8**
JTS pmax pmax
comp=Z,50nm,0.9s

JTS MLR MLR
comp=Z,86µm,22.0s

JTS **Las Juntas de** **38.90 122** ⇑P **P** **17 41 20.3 +3.7**

JTS **Las Juntas de** **38.90 122** P **P** **17 41 18.0 +1.4**
comp=Z,10µmcomp=Z,3µmcomp=Z,43nm,0.7s

E19K **Redstone River** **39.00 337** IAMs_20 IAMs_20 17 58 56.8
comp=Z,78µm,19.0s

E19K **Redstone River** **39.00 337** P **P** **17 41 15.7 -1.2**
baz=124

E19K S **S** **17 47 11.8 -3.4**
baz=124

SOCE **Pocosol** **39.06 122** P **P** **17 41 16.4 -1.5**

HLGC **Holguin** **39.08 101** *e*P **P** **17 41 19.5 +1.5**

YAR **Yar** **39.11 102** *e*P **P** **17 41 20.7 +2.4**

E20K **Nigu River** **39.14 338** P **P** **17 41 16.9 -1.2**
baz=126

E20K S **S** **17 47 13.9 -3.5**
baz=126

J14K **Nanvaranak Lak** **39.14 328** P **P** **17 41 16.9 -1.2**
baz=112,SNR=22

J14K S **S** **17 47 18.6 +1.3**
baz=112

G17K **Kiwalik Mounta** **39.15 333** P **P** **17 41 16.4 -1.8**
baz=118,SNR=34

G17K S **S** **17 47 18.7 +1.2**
baz=118

GGN **Saint George** **39.17 60** P **P** **17 41 17.5 -1.1**
GGN IAmb IAmb 17 41 29.5
comp=Z,239nm,1.3s

KUQ **Kuujjuuaa** **39.20 39** IAMs_20 IAMs_20 17 58 07.2
comp=Z,57µm,19.0s

CHIV **Chivirico** **39.27 102** P **P** **17 41 18.3 -1.4**
CHIV IAmb IAmb 17 41 31.7
comp=Z,262nm,1.2s

CHIV IAMs_20 IAMs_20 17 58 36.8
comp=Z,58µm,22.0s

CHIV **Chivirico** **39.27 102** *e*P **P** **17 41 22.5 +2.9**

CHIV **Chivirico** **39.27 102** P **P** **17 41 22.7 +3.0**

C21K **Knifeblade Rid** **39.28 340** P **P** **17 41 17.1 -2.2**
baz=129,SNR=26

C21K S **S** **17 47 17.9 -1.5**
baz=129

K13K **Kusilvak Mount** **39.33 327** IAMs_20 IAMs_20 17 56 47.8
comp=Z,42µm,18.0s

K13K **Kusilvak Mount** **39.33 327** P **P** **17 41 17.8 -1.8**
baz=110,SNR=13

K13K S **S** **17 47 22.0 +1.8**
baz=110

F18K **Selawik** **39.34 335** P **P** **17 41 17.7 -1.9**
baz=120,SNR=17

F18K S **S** **17 47 20.2 0.0**
baz=120

MTDJ **Mount Denham** **39.34 106** *e*P **P** **17 41 24.4 +4.0**

MTDJ **Mount Denham** **39.34 106** P **P** **17 41 24.1 +3.7**
comp=Z,62nm,1.1s

SCHQ **Schefferville** **39.47 45** P **P** **17 41 20.6 -0.4**
comp=Z,51nm,1.2s,baz=283,slow=6.3,SNR=15

SCHQ LR LR 17 56 54.5
comp=Z,43µm,21.5s,baz=260,slow=35

PINC **Pinares de May** **39.50 101** *e*P **P** **17 41 25.1 +3.6**
comp=Z,51nm,1.2s

B21K **Ikpikpuk River** **39.53 341** IAMs_20 IAMs_20 17 59 50.8
comp=Z,67µm,19.0s

B21K **Ikpikpuk River** **39.53 341** P **P** **17 41 19.9 -1.3**
baz=130,SNR=17

B21K S **S** **17 47 23.7 +0.6**
baz=130

D20K **Etivluk River** **39.54 339** IAMs_20 IAMs_20 17 57 44.0
comp=Z,51µm,20.0s

D20K **Etivluk River** **39.54 339** P **P** **17 41 19.8 -1.6**
baz=126

D20K S **S** **17 47 22.8 -0.5**
baz=126

M11K **Mekoryuk** **39.56 324** IAMs_20 IAMs_20 17 57 15.1
comp=Z,59µm,18.0s

M11K **Mekoryuk** **39.56 324** P **P** **17 41 18.8 -2.8**
baz=106

M11K S **S** **17 47 24.9 +1.2**
baz=106

NIKH **Nikolski High** **39.64 312** P **P** **17 41 21.1 -1.3**
baz=95

NIKH S **S** **17 47 25.6 +0.4**
baz=95

SAIC **Isla e San And** **39.65 116** P **P** **17 41 26.3 +3.5**
comp=Z,14µmcomp=Z,4µmcomp=Z,317nm,1.1s

MARVS **Santiago de Cu** **39.67 102** *e*P **P** **17 41 22.9 -0.1**

HDC **Heredia** **39.68 122** IAMs_20 IAMs_20 17 59 58.2
comp=Z,60µm,19.0s

B22K **Teshekpuk Lake** **39.69 342** P **P** **17 41 20.8 -1.7**
baz=132,SNR=8.2

B22K S **S** **17 47 26.0 +0.5**
baz=132

G16K **Koyuk River** **39.74 333** P **P** **17 41 22.0 -1.0**
baz=116,SNR=36

G16K S **S** **17 47 21.7 -4.6**
baz=116

F17K **Baldwin Pennin** **39.82 334** IAMs_20 IAMs_20 17 57 16.5
comp=Z,44µm,18.0s

F17K **Baldwin Pennin** **39.82 334** P **P** **17 41 21.9 -1.8**
baz=118

F17K S **S** **17 47 27.9 +0.5**
baz=118

RCC **Rio Carpintero** **39.84 102** *e*P **P** **17 41 27.0 +2.6**

D19K **Kuna River** **39.86 338** IAMs_20 IAMs_20 17 57 51.6
comp=Z,60µm,18.0s

D19K **Kuna River** **39.86 338** P **P** **17 41 21.4 -2.6**
baz=124

D19K S **S** **17 47 28.3 +0.1**

baz=124
LCR2 La Lucha 2 39.94 122 IAMs_20 IAMs_20 17 59 47.1
comp=Z,53µm,19.0s
STH Stony Hill 40.00 105 *e*P **P** **17 41 27.4 +1.6**
MOAC Moa 40.08 100 *e*P **P** **17 41 29.6 +3.3**
E18K Tukpahlearik C 40.08 336 IAMs_20 IAMs_20 17 57 46.3
comp=Z,52µm,18.0s
E18K Tukpahlearik C 40.08 336 P **P** **17 41 23.8 -2.0**
E18K baz=120 S **S** **17 47 32.9 +1.5**
baz=120
NMDO Nuevo Mundo 40.11 100 P **P** **17 41 25.1 -1.6**
NMDO IAmb IAmb 17 41 48.5
comp=Z,80nm,1.0s
NMDO IAMs_20 IAMs_20 17 59 20.0
comp=Z,37µm,20.0s
NMDO Nuevo Mundo 40.11 100 *e*P **P** **17 41 27.7 +1.1**
NMDO Nuevo Mundo 40.11 100 P **P** **17 41 30.0 +3.4**
G15K Niukluk 40.21 331 P **P** **17 41 26.2 -0.8**
baz=114,SNR=51
G15K S **S** **17 47 34.9 +1.5**
baz=114
E17K Hotham Inlet 40.33 335 P **P** **17 41 27.1 -0.8**
baz=118
E17K S **S** **17 47 35.9 +0.8**
baz=118
GTBY Guantanamo Bay 40.34 101 *e*P **P** **17 41 30.7 +2.2**
GTBY Guantanamo Bay 40.34 101 P **P** **17 41 31.5 +3.0**
comp=Z,101nm,1.0s
QMBU Quimbuelo 40.43 101 *e*P **P** **17 41 32.1 +2.7**
QMBU Quimbuelo 40.43 101 P P 17 41 34.4 +5.0
B20K Meade River 40.47 340 IAMs_20 IAMs_20 17 58 52.5
comp=Z,52µm,18.0s
B20K Meade River 40.47 340 P **P** **17 41 27.4 -1.5**
B20K baz=127,SNR=25 S **S** **17 47 40.8 +3.7**
baz=127
P08K Saint George I 40.47 318 P **P** **17 41 27.9 -1.3**
baz=98
P08K S **S** **17 47 35.2 -2.2**
baz=98
A22K Sinclair Lake 40.52 342 P **P** **17 41 27.7 -1.7**
baz=130
A22K S **S** **17 47 39.3 +1.5**
baz=130
ANM Nome 40.57 331 P **P** **17 41 27.9 -2.0**
baz=112
ANM S **S** **17 47 41.6 +2.8**
baz=112
RES Resolute Bay 40.59 9 LR LR 17 58 54.5
comp=Z,96µm,18.3s,baz=216,slow=37
RES Resolute Bay 40.59 9 ⇑P **P** **17 41 32.5 +2.6**
C19K Lookout Ridge 40.65 338 IAMs_20 IAMs_20 17 58 19.3
comp=Z,70µm,18.0s
C19K Lookout Ridge 40.65 338 P **P** **17 41 29.1 -1.5**
C19K baz=123 S **S** **17 47 42.2 +2.3**
baz=123
F15K North Star Dit 40.74 332 P **P** **17 41 30.8 -0.5**
F15K IAmb IAmb 17 41 44.5
comp=Z,380nm,1.9s
F15K North Star Dit 40.74 332 P **P** **17 41 29.1 -2.3**
baz=114
F15K S **S** **17 47 43.9 +2.7**
baz=114
FRB Frobisher Bay 40.74 31 LR LR 17 59 27.1
comp=Z,39µm,18.3s,baz=252,slow=38
C18K Utukok River 40.90 337 IAMs_20 IAMs_20 18 00 09.9
comp=Z,64µm,19.0s
C18K Utukok River 40.90 337 P **P** **17 41 31.2 -1.5**
baz=121,SNR=19
C18K S **S** **17 47 41.5 -2.2**
baz=121
MASC Masc 40.91 100 *e*P **P** **17 41 35.2 +1.9**
MASC Masc 40.91 100 P P 17 41 39.1 +5.9
SPIA Saint Paul Isl 40.93 319 P **P** **17 41 30.9 -2.1**
baz=98
SPIA S **S** **17 47 43.7 -0.6**
baz=98
D17K Noatak River 41.05 335 P **P** **17 41 31.6 -2.2**
baz=118,SNR=23
D17K S **S** **17 47 47.4 +1.6**
baz=118
A21K Barrow 41.13 342 P **P** **17 41 33.5 -0.9**
baz=129
A21K S **S** **17 47 45.3 -1.6**
baz=129
RDOG Red Dog Mine 41.16 336 IAMs_20 IAMs_20 17 58 31.8
comp=Z,48µm,19.0s
RDOG Red Dog Mine 41.16 336 P **P** **17 41 34.7 0.0**
baz=118,SNR=5.5
RDOG S **S** **17 47 48.3 +0.9**
baz=118
F14K Arctic Creek 41.29 332 P **P** **17 41 34.0 -1.9**
baz=112
F14K S **S** **17 47 49.4 0.0**
baz=112
C17K DeLong Mountai 41.44 337 P **P** **17 41 35.9 -1.3**
baz=118
C17K S **S** **17 47 50.7 -1.1**
baz=118
B18K Kokolik River 41.45 338 P **P** **17 41 37.4 +0.2**
baz=121
B18K S **S** **17 47 49.8 -2.0**
baz=121
BRU2 Volcan 41.52 122 IAMs_20 IAMs_20 17 59 43.0
comp=Z,66µm,21.0s
A19K Wainwright 41.68 339 P **P** **17 41 39.2 +0.2**
baz=122
A19K S **S** **17 47 54.4 -0.6**
baz=122
TNA Tin City 41.94 331 P **P** **17 41 39.7 -1.4**
baz=110
TNA S **S** **17 47 58.4 -0.6**
baz=110
C16K Lisburne Hills 42.07 336 IAMs_20 IAMs_20 17 59 40.9
comp=Z,38µm,18.0s
C16K Lisburne Hills 42.07 336 P **P** **17 41 41.6 -0.6**
baz=116
C16K S **S** **17 48 03.2 +2.3**
baz=116
GRTK Grand Turk 42.73 96 IAMs_20 IAMs_20 18 01 59.3
comp=Z,41µm,19.0s
GRTK Grand Turk 42.73 96 P **P** **17 41 52.5 +4.4**
comp=Z,17µmcomp=Z,4µmcomp=Z,95nm,1.7s
ATKA Atka Island 42.87 311 P **P** **17 41 50.4 +1.5**
ATKA Atka Island 42.87 311 ⇑P **P** **17 41 50.6 +1.8**
GAMB Gambell 42.96 328 P **P** **17 41 47.8 -1.7**
baz=104
GAMB S **S** **17 48 13.2 -0.9**
baz=104
GMAL Guarumal, Vera 43.26 121 P **P** **17 41 54.7 +2.2**
BCIP Isla Barro Col 43.27 118 IAMs_20 IAMs_20 18 00 41.4
comp=Z,59µm,21.0s
BCIP Isla Barro Col 43.27 118 P **P** **17 41 54.4 +1.8**
comp=Z,4µmcomp=Z,147nm,1.5s
CLRN Clyde River 43.40 22 ⇓P **P** **17 41 56.8 +3.8**
CACAO El Cacao, Vera 43.82 121 P **P** **17 42 01.4 +4.4**
SDDR Presa de Saban 43.90 100 P **P** **17 41 56.5 -1.1**
SDDR Presa de Saban 43.90 100 *e*P **P** **17 41 58.6 +1.0**
SDDR Presa de Saban 43.90 100 P **P** **17 42 01.6 +3.9**
AZU Azuero 43.91 120 P **P** **17 42 01.6 +3.9**
comp=Z,7µmcomp=Z,2µmcomp=Z,53nm,1.3s
ADK Adak 44.41 310 P **P** **17 42 00.1 -1.2**
ADK IAmb IAmb 17 42 07.2
comp=Z,149nm,0.9s
ADK Adak 44.41 310 P **P** **17 42 00.1 -1.2**
ADK pmax pmax
comp=Z,149nm,0.9s
ADK MLR MLR
comp=Z,31µm,19.0s
MAPC Malpelo 45.73 125 P **P** **17 42 14.5 +2.3**
comp=Z,3µmcomp=Z,91nm,1.1s
LCBC Los crdobas, 46.00 115 P P 17 42 19.5 +5.1
PTAC Punta Ardita, 46.11 118 P **P** **17 42 16.9 +1.6**
comp=Z,3µmcomp=Z,165nm,1.1s
SMRC Santa Marta, M 46.12 111 P **P** **17 42 14.5 -0.9**
SMRC IAmb IAmb 17 42 26.2
comp=Z,133nm,1.1s
SMRC Santa Marta, M 46.12 111 P **P** **17 42 19.0 +3.7**
comp=Z,12µmcomp=Z,3µmcomp=Z,114nm,1.2s
SJCC San Jacinto, C 46.21 113 P **P** **17 42 20.3 +4.2**
comp=Z,13µmcomp=Z,3µmcomp=Z,150nm,1.2s
TULEG Thule 46.35 14 *i* P **P** **17 42 19.3 +2.9**
TULEG IAmb IAmb 17 42 21.6
comp=Z,88nm,1.4s
APAC Apartado, Choc 46.49 116 P **P** **17 42 22.7 +4.5**
comp=Z,11µmcomp=Z,3µmcomp=Z,123nm,1.2s
ARGC Ariguani, Magd 46.93 112 P **P** **17 42 25.9 +4.2**
comp=Z,12µmcomp=Z,3µmcomp=Z,89nm,1.1s
SOLC Bahia Solano 47.03 119 P **P** **17 42 25.6 +3.1**
CRJC Cerrejon, Guaj 47.23 110 P **P** **17 42 28.0 +3.8**
comp=Z,12µmcomp=Z,2µmcomp=Z,94nm,1.2s
DBBC Dabeiba 47.35 117 P **P** **17 42 27.5 +2.4**
URCC San Jos de Ur 47.35 116 P **P** **17 42 24.7 -0.3**
comp=Z,613nmcomp=Z,48nm,0.8s
URIC Uribia, Colomb 47.50 109 P **P** **17 42 28.6 +2.5**
comp=Z,14µmcomp=Z,2µmcomp=Z,74nm,2.0s
AGPR Aguadilla, PR 47.53 97 P **P** **17 42 25.3 -1.1**
PRSN Puerto Rico Se 47.63 98 IAMs_20 IAMs_20 18 06 07.2
comp=Z,37µm,20.0s
CRPR Cabo Rojo, PR 47.77 98 IAMs_20 IAMs_20 18 03 26.9
comp=Z,37µm,21.0s
UPNV Upernavik 47.91 21 *i* P **P** **17 42 32.0 +3.4**
UPNV IAmb IAmb 17 42 35.0
comp=Z,30nm,1.1s
EMPR Esperanza - Ma 47.99 97 IAMs_20 IAMs_20 18 06 32.7
comp=Z,42µm,20.0s
ZARC Zaragoza, Cauc 48.02 115 P **P** **17 42 33.3 +3.1**
comp=Z,2µmcomp=Z,47nm,1.1s
NUUK Nuuk 48.08 32 *i* P **P** **17 42 30.2 +0.2**
NUUK IAmb IAmb 17 42 38.9
comp=Z,73nm,1.1s
KULLO Kullorsuaq 48.14 18 *i* P **P** **17 42 33.3 +2.9**
KULLO IAmb IAmb 17 42 41.5
comp=Z,85nm,1.2s
CBOC Ciudad Bolivar 48.28 118 P **P** **17 42 36.0 +3.6**
comp=Z,3µmcomp=Z,84nm,1.1s
HELC Santa Helena 48.41 117 P **P** **17 42 38.0 +4.4**
comp=Z,10µmcomp=Z,2µmcomp=Z,69nm,1.1s
SJG San Juan 48.49 97 IAMs_20 IAMs_20 18 06 45.0
comp=Z,42µm,19.0s
SJG San Juan 48.49 97 LR LR 18 06 47.1
comp=Z,37µm,18.8s,baz=275,slow=41
SJG San Juan 48.49 97 ⇑P **P** **17 42 33.8 0.0**
SJG San Juan 48.49 97 P **P** **17 42 36.6 +2.8**
comp=Z,6µmcomp=Z,1µmcomp=Z,47nm,1.1s
NUUG Nuugaatsiaq 48.50 23 *i* P **P** **17 42 36.0 +2.9**
NUUG IAmb IAmb 17 42 46.1
comp=Z,42nm,1.5s
AUA1 Aruba 48.55 106 P **P** **17 42 37.3 +3.0**
comp=Z,290nmcomp=Z,2.8nm,0.8s
MALC Bahia Malaga 48.64 121 P **P** **17 42 35.5 +0.6**
PDPR Patillas Dam, 48.64 97 IAMs_20 IAMs_20 18 06 45.0
comp=Z,32µm,19.0s
OCAC Ocana 48.67 113 P **P** **17 42 38.8 +3.4**
comp=Z,12µmcomp=Z,2µmcomp=Z,123nm,1.0s
UMMG Uummannaq 48.68 24 *i* P **P** **17 42 38.4 +3.8**
UMMG IAmb IAmb 17 42 40.3
comp=Z,150nm,1.8s
SFJD Kangerlussuaq 48.75 29 P **P** **17 42 33.6 -1.5**
SFJD Kangerlussuaq 48.75 29 IAMs_20 IAMs_20 18 03 31.3
comp=Z,54µm,20.0s
SFJD Kangerlussuaq 48.75 29 LR LR 18 03 59.0
comp=Z,38µm,18.2s,baz=262,slow=37
SFJD Kangerlussuaq 48.75 29 P **P** **17 42 33.6 -1.5**
SFJD pmax pmax
comp=Z,118nm,0.9s
SFJD MLR MLR
comp=Z,54µm,20.0s
SFJD Kangerlussuaq 48.75 29 *i* P **P** **17 42 37.4 +2.2**
SFJD IAmb IAmb 17 42 43.4
comp=Z,134nm,0.9s
SFJD Kangerlussuaq 48.75 29 P **P** **17 42 38.3 +3.2**
SFJD S **S** **17 49 41.2 +3.9**
PLMC San Jos del P 48.75 119 P **P** **17 42 39.5 +3.6**
comp=Z,14µmcomp=Z,1µmcomp=Z,122nm,1.1s
GR1C Gorgona, Isla 48.78 123 P **P** **17 42 38.1 +2.1**
ILULI Ilulissat 48.81 26 P **P** **17 42 34.7 -0.9**
ILULI IAmb IAmb 17 42 59.8
comp=Z,170nm,1.6s
ILULI Ilulissat 48.81 26 P **P** **17 42 34.7 -0.9**
ILULI pmax pmax
comp=Z,171nm,1.6s
ILULI MLR MLR
comp=Z,60µm,18.0s
ILULI Ilulissat 48.81 26 *i* P **P** **17 42 39.0 +3.5**
ILULI IAmb IAmb 17 42 44.7
comp=Z,52nm,1.1s
PTBC PUERTO BERRIO, 48.95 116 P **P** **17 42 39.8 +2.4**
comp=Z,505nmcomp=Z,64nm,1.1s
TAOE Nuku Hiva Isla 49.16 210 *e*P P 17 42 43.9 +5.0
comp=Z,314nm,1.6s
TAOE *e*S **S** **17 49 46.5 +2.2**
comp=Z,20µm,25.3s
TAOE *e*SS **SS** **17 53 18.2 +2.3**
comp=Z,7µm,25.6s
TAOE *e*LQ LQ 17 54 30.7
comp=Z,106µm,26.5s
TAOE *e*LR LR 17 56 29.7
comp=Z,57µm,25.6s
BRJC Barrancabermej 49.19 115 P **P** **17 42 41.4 +2.2**
comp=Z,14µmcomp=Z,2µmcomp=Z,115nm,0.9s
GUY2C Guyana, Caldas 49.19 118 P **P** **17 42 41.4 +1.7**
comp=Z,10µmcomp=Z,2µmcomp=Z,109nm,1.1s
TUMC Tumaco 49.26 124 P P 17 42 45.5 +5.8
comp=Z,8µmcomp=Z,5µmcomp=Z,219nm,0.8s
NORC Norcasia 49.31 117 P **P** **17 42 42.9 +2.7**
comp=Z,9µmcomp=Z,3µmcomp=Z,125nm,1.7s
YOTC Yotoco, Valle 49.35 120 P **P** **17 42 44.6 +4.0**
comp=Z,10µmcomp=Z,2µmcomp=Z,67nm,1.2s
JAMC Jamundi, Valle 49.66 121 P **P** **17 42 47.3 +4.2**
comp=Z,8µmcomp=Z,2µmcomp=Z,97nm,1.2s
ANIL Santa Ana 49.67 119 P **P** **17 42 47.8 +4.6**
comp=Z,3µmcomp=Z,170nm,1.1s
IVI Ivigtut 49.69 36 IAMs_20 IAMs_20 18 03 43.3
comp=Z,37µm,20.0s
IVI Ivigtut 49.69 36 *i* P **P** **17 42 41.8 -0.6**
IVI IAmb IAmb 17 42 50.6
comp=Z,61nm,1.3s
PAMC Pamplona, Colo 49.72 114 P **P** **17 42 43.8 0.0**
JOHN Johnston Islan 49.73 262 P **P** **17 42 41.5 -1.7**
JOHN Johnston Islan 49.73 262 IAMs_20 IAMs_20 17 57 57.5
comp=Z,53µm,20.0s
SPBC San Pablo de B 49.83 116 P **P** **17 42 46.2 +2.0**
comp=Z,10µmcomp=Z,2µmcomp=Z,45nm,1.0s
BARC Barahara 49.86 115 P **P** **17 42 46.1 +1.6**
XMAS Kiritimati 49.86 237 P **P** **17 42 42.7 -1.5**
XMAS IAmb IAmb 17 43 00.0
comp=Z,174nm,1.2s
BBAC Balboa, Cauca 50.12 123 P **P** **17 42 48.0 +1.5**
comp=Z,8µmcomp=Z,3µmcomp=Z,110nm,1.4s
ORTC Ortega, Tolima 50.18 119 P **P** **17 42 51.0 +4.2**
comp=Z,9µmcomp=Z,2µmcomp=Z,107nm,1.4s
ROSC El Rosal 50.20 117 P **P** **17 42 47.4 +0.1**
comp=Z,6.4nm,0.4s,baz=345,slow=8.2,SNR=16
ROSC LR LR 18 07 00.8
comp=Z,39µm,19.6s,baz=332,slow=40
comp=Z,6.4nm,0.4s
ROSC El Rosal 50.20 117 P P 17 42 52.3 +4.9
comp=Z,10µmcomp=Z,3µmcomp=Z,137nm,1.5s
SDV Santo Domingo 50.29 110 P **P** **17 42 45.1 -2.7**
SDV IAmb IAmb 17 43 01.2
comp=Z,96nm,1.2s
SDV Santo Domingo 50.29 110 LR LR 18 05 45.7
comp=Z,80µm,21.7s,baz=301,slow=38
SDV Santo Domingo 50.29 110 P **P** **17 42 48.5 +0.7**
SDV Santo Domingo 50.29 110 P **P** **17 42 45.8 -2.0**
SDV S **S** **17 50 00.7 +0.2**
PAC1 Pacto, Paraso 50.37 126 P **P** **17 42 52.9 +4.6**
comp=Z,2µmcomp=Z,94nm,1.1s
NEEM North Greenlan 50.39 15 ⇓P **P** **17 42 48.6 +0.7**
NEEM North Greenlan 50.39 15 *i* P **P** **17 42 51.0 +3.1**
NEEM IAmb IAmb 17 42 54.1
comp=Z,101nm,1.1s
RUSC La Rusia 50.40 115 P **P** **17 42 46.4 -2.5**
RUSC IAmb IAmb 17 42 59.9
comp=Z,205nm,1.3s
RUSC La Rusia 50.40 115 P **P** **17 42 50.8 +1.9**
comp=Z,11µmcomp=Z,3µmcomp=Z,137nm,1.3s
PRAC Prado 50.58 119 P **P** **17 42 54.1 +4.3**
comp=Z,8µmcomp=Z,2µmcomp=Z,91nm,1.4s
CVER Cruz Verde, Cu 50.60 117 P **P** **17 42 53.3 +2.8**
comp=Z,4µmcomp=Z,214nm,1.4s
CUSE Cuicocha Este 50.60 125 P **P** **17 42 51.8 +1.4**
comp=Z,3µmcomp=Z,119nm,0.9s
OTAV Otavalo 50.62 125 P **P** **17 42 48.0 -2.6**
OTAV IAmb IAmb 17 43 02.5
comp=Z,133nm,1.0s
OTAV Otavalo 50.62 125 IAMs_20 IAMs_20 18 01 41.2
comp=Z,35µm,22.0s
OTAV Otavalo 50.62 125 P **P** **17 42 48.0 -2.6**
OTAV pmax pmax
comp=Z,133nm,1.0s
OTAV MLR MLR
comp=Z,35µm,22.0s
OTAV Otavalo 50.62 125 ⇑P **P** **17 42 52.0 +1.4**
OTAV Otavalo 50.62 125 *e*P **P** **17 42 48.2 -2.3**
OTAV Otavalo 50.62 125 P **P** **17 42 53.3 +2.7**
comp=Z,6µmcomp=Z,3µmcomp=Z,142nm,1.1s
OTAV Otavalo 50.62 125 P **P** **17 42 51.9 +1.4**
OTAV S **S** **17 50 05.3 -0.2**
MIDW Midway 50.65 279 P **P** **17 42 48.2 -1.9**
MIDW IAmb IAmb 17 42 56.6
comp=Z,94nm,0.9s
CRUC La Cruz 50.65 123 P **P** **17 42 52.9 +2.2**
comp=Z,12µmcomp=Z,566nm,0.9s
TAMC Tame, Arauca 50.99 114 P **P** **17 42 55.6 +2.7**
comp=Z,11µmcomp=Z,4µmcomp=Z,205nm,1.0s
NRS Narsarsuaq 51.02 36 P **P** **17 42 51.8 -0.7**
NRS IAmb IAmb 17 43 18.6
comp=Z,112nm,1.4s
NRS IAMs_20 IAMs_20 18 04 46.5
comp=Z,35µm,20.0s
NRS Narsarsuaq 51.02 36 P **P** **17 42 51.8 -0.7**
BONI La Bonita 51.08 124 P **P** **17 42 57.7 +3.9**
comp=Z,7µmcomp=Z,3µmcomp=Z,70nm,1.0s
GARC Garzon, Huila 51.22 121 P **P** **17 42 59.3 +4.4**
comp=Z,2µmcomp=Z,53nm,2.1s
FLOC Florencia 51.54 122 P **P** **17 42 55.8 -1.2**
FLOC IAmb IAmb 17 44 14.8
comp=Z,85nm,1.2s
FLOC Florencia 51.54 122 P **P** **17 43 01.6 +4.6**
comp=Z,7µmcomp=Z,2µmcomp=Z,69nm,1.9s
PIAT Ana Tenorio 51.66 126 P P 17 43 04.1 +5.8
comp=Z,6µmcomp=Z,3µmcomp=Z,97nm,1.1s
COHC Cochancay 52.13 128 P **P** **17 42 59.4 -2.0**
COHC Cochancay 52.13 128 P **P** **17 43 00.8 -0.6**
comp=Z,2µmcomp=Z,86nm,1.2s
PTGC Puerto Gaitan, 52.23 116 P **P** **17 43 03.8 +1.7**
comp=Z,10µmcomp=Z,4µmcomp=Z,203nm,1.1s
BAUV El Baul 52.25 108 P **P** **17 43 00.2 -2.0**
ANWB Willy Bob 52.26 95 IAMs_20 IAMs_20 18 08 45.6
comp=Z,29µm,20.0s
BILL Bilibino 52.34 333 P **P** **17 43 01.1 -1.2**
BILL IAmb IAmb 17 43 10.6
comp=Z,154nm,1.4s
BILL IAMs_20 IAMs_20 18 04 22.7
comp=Z,31µm,20.0s
BILL Bilibino 52.34 333*c i* P **P** **17 43 02.6 +0.3**
BILL pmax pmax
comp=Z,148nm,2.5s
MACC Macarena, Meta 52.41 119 P **P** **17 43 06.5 +3.0**
comp=Z,8µmcomp=Z,3µmcomp=Z,85nm,1.2s
GUVC San Jose del G 53.00 118 P **P** **17 43 09.9 +2.1**
GDHS Morne Mazeau, 53.01 96 IAMs_20 IAMs_20 18 06 00.4
comp=Z,34µm,22.0s
SUMG Summit 53.13 22 P **P** **17 43 07.1 -1.4**
SUMG Summit 53.13 22 P **P** **17 43 07.4 -1.1**
SUMG IAmb IAmb 17 43 47.2
comp=Z,147nm,1.3s
SUMG IAMs_20 IAMs_20 18 08 30.7
comp=Z,48µm,19.0s
SUMG Summit 53.13 22 P **P** **17 43 07.4 -1.1**
SUMG pmax pmax
comp=Z,147nm,1.3s
SUMG MLR MLR
comp=Z,48µm,19.0s
SUMG Summit 53.13 22 ⇓P **P** **17 43 12.1 +3.6**
SUMG Summit 53.13 22 *i* P **P** **17 43 11.4 +2.9**
SUMG IAmb IAmb 17 43 14.9
comp=Z,47nm,1.0s
MCRA Macar, Loja 53.16 131 P **P** **17 43 09.8 +0.8**
comp=Z,3µmcomp=Z,173nm,1.1s
CBE Ff, Capester 53.25 96 IAMs_20 IAMs_20 18 06 17.9
comp=Z,34µm,21.0s
ISOG Isortoq, Green 53.48 31 *i* P **P** **17 43 12.4 +1.8**
ISOG IAmb IAmb 17 43 18.0
comp=Z,51nm,0.8s
ANGG Ammassalik, Gr 54.02 30 IAMs_20 IAMs_20 18 08 00.7
comp=Z,33µm,19.0s
ANGG Ammassalik, Gr 54.02 30 *i* P **P** **17 43 15.0 +0.4**
ANGG IAmb IAmb 17 43 24.7
comp=Z,26nm,0.9s
PCRV Puerto La Cruz 54.16 104 LR LR 18 10 24.7
comp=Z,34µm,18.1s,slow=40
SVN Savane Anatole 54.27 97 IAMs_20 IAMs_20 18 09 19.1
comp=Z,35µm,20.0s
FDF Fort de France 54.34 97 IAMs_20 IAMs_20 18 09 31.0
comp=Z,37µm,20.0s
SOEG Soedalen 56.02 27 *i* P **P** **17 43 31.9 +2.8**
SOEG IAmb IAmb 17 43 36.8
comp=Z,48nm,1.0s
ATAH Atahualpa 56.28 131 LR LR 18 04 50.6
comp=Z,16µm,18.5s,baz=333,slow=33
NOR Nord 56.52 10 ⇑P **P** **17 43 35.4 +3.0**
NOR Nord 56.52 10 *i* P **P** **17 43 36.0 +3.5**
NOR IAmb IAmb 17 43 45.9
comp=Z,50nm,1.1s
DAG Danmarks Havn 57.59 16 P **P** **17 43 37.2 -2.9**
DAG Danmarks Havn 57.59 16 ⇓P **P** **17 43 42.7 +2.6**
DAG Danmarks Havn 57.59 16 *i* P **P** **17 43 42.8 +2.6**
DAG IAmb IAmb 17 43 45.9
comp=Z,48nm,1.1s
DBG Daneborg 57.97 19 *i* P **P** **17 43 45.1 +2.4**
DBG IAmb IAmb 17 43 54.0
comp=Z,108nm,1.6s
PMOR Pomariorio Ree 58.02 215 *e*P P 17 43 37.5 -6.3
comp=Z,3µm,29.1s
PMOR *e*S **S** **17 51 45.2 +0.9**
comp=Z,6µm,24.0s
PMOR *e*SS **SS** **17 55 30.7 -5.3**
comp=Z,5µm,23.6s
PMOR *e*LQ LQ 17 58 17.4
comp=Z,10µm,23.7s
PMOR *e*LR LR 18 00 44.1
comp=Z,28µm,23.6s
VAH Vaihoa 58.10 215 *e*S S 17 51 36.3 -9.0
comp=Z,4µm,24.6s
VAH *e*SS **SS** **17 55 35.5 -1.7**
comp=Z,4µm,24.8s
VAH *e*LQ LQ 17 58 18.0
comp=Z,4µm,23.6s
VAH *e*LR LR 18 00 46.8
comp=Z,22µm,23.4s
SCO Scoresbysund 58.66 23 P **P** **17 43 46.8 -0.8**
SCO IAmb IAmb 17 44 18.7
comp=Z,87nm,1.2s
SCO IAMs_20 IAMs_20 18 11 32.9
comp=Z,42µm,21.0s
SCO Scoresbysund 58.66 23 P **P** **17 43 46.8 -0.8**
SCO pmax pmax
comp=Z,87nm,1.2s
SCO MLR MLR
comp=Z,42µm,21.0s
SCO Scoresbysund 58.66 23 ⇓P **P** **17 43 51.1 +3.5**
SCO Scoresbysund 58.66 23 *i* P **P** **17 43 49.0 +1.4**
SCO IAmb IAmb 17 43 59.0
comp=Z,238nm,1.9s
SGC2 Sao Gabriel da 58.95 116 P **P** **17 43 51.8 +1.3**
SGC2 S **S** **17 52 01.2 +4.6**
SEY Seymchan 58.96 328 LR LR 18 09 34.4
comp=Z,27µm,19.2s,baz=82,slow=36
SEY Seymchan 58.96 328 *i* P **P** **17 43 49.8 0.0**
SEY pmax pmax
comp=Z,104nm,1.5s
SEY MLR MLR
comp=Z,23µm,18.0s
PET Petropavlovsk 58.96 316 P **P** **17 43 48.6 -1.4**
PET IAmb IAmb 17 43 58.5
comp=Z,82nm,0.9s
PET Petropavlovsk 58.96 316 P **P** **17 43 51.3 +1.3**
PET Petropavlovsk 58.96 316 *e*P **P** **17 43 50.7 +0.7**
PET *e**PP **pP** **17 43 54.1 -0.1**
PET *e*S **S** **17 51 55.7 -0.2**
PET pmax pmax
comp=Z,500nm,3.6s
PET pmax pmax
comp=Z,82nm,1.1s
PET pmax pmax
comp=Z,400nm,8.7s
PET MLR MLR
comp=Z,8µm,18.0s
PET MLR MLR
comp=Z,8µm,18.0s
PET Petropavlovsk 58.96 316 P **P** **17 43 49.1 -0.9**
comp=Z,2µmcomp=Z,102nm,1.1s
PET Petropavlovsk 58.96 316 ⇑P **P** **17 43 49.6 -0.4**
PEA0B Petropavlovsk- 59.48 316 P **P** **17 43 51.8 -1.9**
PEA0B Petropavlovsk- 59.48 316*c i* P **P** **17 43 52.7 -0.9**

PETK Petropavlovsk- 59.48 316 P **P** **17 43 51.6 -2.0**
PETK Petropavlovsk- 59.48 316 P **P** **17 43 52.0 -1.6**
comp=Z,67nm,1.0s,baz=76,slow=12,SNR=52
PETK LR LR 18 05 21.3
comp=Z,10μm,21.1s,baz=80,slow=32
comp=Z,67nm,1.0s
TBTG Tabatinga, AM 59.65 121 P **P** **17 43 53.2 -2.0**
TBTG IAMs_20 IAMs_20 18 10 48.5
comp=Z,25μm,21.0s
TBTG Tabatinga, AM 59.65 121 *e*P **P** **17 43 53.3 -2.0**
CZSB Cruzeiro do Su 60.34 126 P **P** **17 43 57.9 -2.1**
CZSB IAMs_20 IAMs_20 18 09 11.0
comp=Z,35μm,21.0s
CZSB Cruzeiro do Su 60.34 126 *e*P **P** **17 43 57.9 -2.1**
CZSB Cruzeiro do Su 60.34 126 *e*P **P** **17 43 57.7 -2.3**
CZSB Cruzeiro do Su 60.34 126 P **P** **17 44 03.2 +3.2**
CZSB Cruzeiro do Su 60.34 126 P **P** **17 43 59.9 -0.1**
MA2 Magadan 60.83 324 P **P** **17 44 02.1 -0.7**
MA2 IAmb IAmb 17 44 11.3
comp=Z,81nm,0.9s
MA2 IAMs_20 IAMs_20 18 09 47.3
comp=Z,25μm,21.0s
MA2 Magadan 60.83 324 LR LR 18 09 57.7
comp=Z,21μm,20.0s,baz=70,slow=36
MA2 Magadan 60.83 324 P **P** **17 44 04.9 +2.1**
MA2 Magadan 60.83 324 *ce*P **P** **17 44 05.1 +2.3**
MA2 pmax pmax
comp=Z,208nm,2.5s
MA2 MLR MLR
comp=Z,24μm,20.0s
MA2 Magadan 60.83 324 ⇑P **P** **17 44 01.8 -1.0**
BORG Borgarnes 60.88 29 IAMs_20 IAMs_20 18 12 31.8
comp=Z,27μm,21.0s
BORG Borgarnes 60.88 29 LR LR 18 10 08.1
comp=Z,27μm,20.2s,baz=294,slow=36
NNA Nana 61.03 133 IAMs_20 IAMs_20 18 05 42.4
comp=Z,25μm,22.0s
NNA Nana 61.03 133 LR LR 18 08 33.0
comp=Z,18μm,18.8s,baz=322,slow=34
NNA Nana 61.03 133 *ce*P **P** **17 44 04.4 -0.3**
NNA pmax pmax
comp=Z,98nm,1.0s
PPT Papeete 61.04 215 LR LR 18 04 12.3
comp=Z,13μm,19.3s,baz=18,slow=30
PPT2 Papeete2 61.06 215 *e*PP **PP** **17 46 15.8 -3.8**
comp=Z,787nm,25.0s
PPT2 *e*S **S** **17 52 22.1 -1.5**
comp=Z,7μm,26.8s
PPT2 *e*SS **SS** **17 56 23.8 0.0**
comp=Z,4μm,24.5s
PPT2 *e*LQ LQ 17 59 24.6
comp=Z,42μm,28.8s
PPT2 *e*LR LR 18 02 00.5
comp=Z,26μm,28.8s
PPT2 *e*LR LR 18 02 08.2
comp=Z,38μm,26.8s
TVO Taravao 61.07 215 *e*P **P** **17 44 04.8 -0.1**
comp=Z,866nm,29.3s
TVO *e*S **S** **17 52 18.7 -5.1**
comp=Z,662nm,23.3s
TVO *e*SS **SS** **17 56 19.3 -4.7**
comp=Z,672nm,25.9s
TVO *e*LQ LQ 17 59 30.3
comp=Z,1μm,26.9s
TVO *e*LR LR 18 02 09.3
comp=Z,5μm,23.7s
PAE Paea 61.12 215 *e*P **P** **17 44 04.5 -0.7**
comp=Z,308nm,27.0s
PAE Paea 61.12 215 *e*PP **PP** **17 46 12.4 -7.7**
comp=Z,183nm,25.4s
PAE *e*S **S** **17 52 18.6 -5.7**
comp=Z,1μm,24.1s
PAE *e*SS **SS** **17 56 21.5 -3.1**
comp=Z,327nm,21.6s
PAE *e*LQ LQ 17 59 31.1
comp=Z,1μm,23.1s
PAE *e*LR LR 18 02 08.0
comp=Z,5μm,23.9s
SKR Severo-Kuril's 61.26 314 *e*P **P** **17 44 04.6 -1.2**
SKR *e*S S 17 52 34.9 +9.5
SKR *e*SS **SS** **17 56 21.2 -3.9**
SKR pmax pmax
comp=Z,700nm,7.7s
SKR pmax pmax
comp=Z,93nm,1.1s
SKR MLR MLR
comp=Z,7μm,18.0s
KBS Kingsbay 62.00 10 *i* P **P** **17 44 12.7 +2.3**
KBS pmax pmax
comp=Z,107nm,1.5s
KBS MLR MLR
comp=Z,52μm,17.0s
KBS Kingsbay 62.00 10 *e*P **P** **17 44 09.0 -1.4**
KBS IVmB_BB 17 44 23.0
comp=Z,1μm,2.7s
KBS *e*S **S** **17 52 34.7 +0.6**
KBS *e*SS **SS** **17 56 35.2 -0.5**
KBS Kingsbay 62.00 10 *i* P **P** **17 44 15.1 +4.8**
BOAV Boa Vista 62.15 109 P **P** **17 44 10.2 -2.1**
BOAV IAmb IAmb 17 44 32.3
comp=Z,77nm,1.1s
BOAV IAMs_20 IAMs_20 18 12 47.4
comp=Z,42μm,22.0s
BOAV Boa Vista 62.15 109 *e*P **P** **17 44 10.2 -2.1**
BOAV Boa Vista 62.15 109 *e*P **P** **17 44 12.0 -0.4**
JMIC Jan Mayen 62.52 20 LR LR 18 13 45.5
comp=Z,23μm,20.0s,baz=307,slow=38
TEFE Tefe 62.93 117 *e*P **P** **17 44 15.8 -1.7**
TEFE Tefe 62.93 117 *e*P **P** **17 44 17.1 -0.4**
TEFE Tefe 62.93 117 P **P** **17 44 20.1 +2.6**
SPA0 Spitsbergen Ar 63.15 10 *e*P **P** **17 44 16.6 -1.6**
SPA0 IVmB_BB 17 44 29.7
comp=Z,1μm,2.0s
SPA0 *e*S **S** **17 52 45.8 -2.9**
SPITS Spitsbergen Ar 63.15 10 P **P** **17 44 16.5 -1.6**
comp=Z,15nm,1.0s,baz=291,slow=20,SNR=1.9
SPITS LR LR 18 13 08.0
comp=Z,40μm,18.4s,baz=289,slow=37
comp=Z,15nm,1.0s
SPITS Spitsbergen Ar 63.15 10 P **P** **17 44 18.1 0.0**
SPITS pmax pmax
comp=Z,136nm,1.2s
TIXI Tiksi 63.43 341 P **P** **17 44 19.1 -0.9**
TIXI IAmb IAmb 17 44 39.9
comp=Z,80nm,1.1s
TIXI Tiksi 63.43 341 LR LR 18 13 17.7
comp=Z,19μm,20.6s,baz=74,slow=37
TIXI Tiksi 63.43 341 *ce*P **P** **17 44 22.2 +2.2**
TIXI pmax pmax
comp=Z,122nm,1.7s
TIXI MLR MLR
comp=Z,28μm,24.0s
HSPB Hornsund (broa 63.92 11 *e*P P 17 44 28.0 +4.9
HSPB *e*S **S** **17 53 05.9 +7.7**
HSPB *e*L L 18 09 41.9
comp=Z,49μm,22.8s
MACA Manacapuru-AM 65.62 113 P **P** **17 44 33.7 -1.5**
MACA IAMs_20 IAMs_20 18 15 04.4
comp=Z,34μm,21.0s
MACA Manacapuru-AM 65.62 113 *e*P **P** **17 44 33.2 -1.9**
MACA Manacapuru-AM 65.62 113 *e*P **P** **17 44 36.5 +1.3**
MACA Manacapuru-AM 65.62 113 P **P** **17 44 36.8 +1.7**
HOPEN Hopen 65.63 9 *e*P **P** **17 44 32.8 -1.6**
HOPEN *e*S **S** **17 53 19.8 +0.5**
TBI Tubuai 66.03 212 *e*PP **PP** **17 46 58.0 -5.2**
comp=Z,1μm,27.2s
TBI *e*S **S** **17 53 22.2 -3.0**
comp=Z,27μm,29.2s
TBI *e*SS **SS** **17 57 38.5 -2.7**
comp=Z,28μm,31.5s
TBI *e*LQ LQ 18 01 33.4
comp=Z,309μm,33.8s
TBI *e*LR LR 18 04 22.6
comp=Z,153μm,28.2s
TBI *e*LR LR 18 04 24.9
comp=Z,34μm,27.5s
LABB L¡brea 66.23 122 P **P** **17 44 38.6 -0.5**
LABB S **S** **17 53 26.8 -1.3**
BJO1 Bjornoya 66.41 12 IVMs_BB IVMs_BB 18 12 08.0
comp=Z,11μm,21.7s
MDP Montagnes des 66.70 101 LR LR 18 16 22.1
comp=Z,20μm,20.6s,baz=300,slow=38
PCED Cedros 68.04 58 *e*P **P** **17 44 54.2 +3.9**
CALA Caldeira 68.06 58 *e*P **P** **17 44 49.0 -1.6**
CALA *i* IAmb IAmb 17 45 03.6
comp=Z,204nm,1.6s
CALA *e*LR LR 18 06 43.6
CALA *i* IAMs_20 IAMs_20 18 13 37.5
comp=Z,22μm,22.0s
PICO Pico 68.29 58 *e*P **P** **17 44 51.4 -0.6**
PICO *i* IAmb IAmb 17 45 14.3
comp=Z,171nm,1.4s
PICO *e*LR LR 18 05 49.8
PICO *i* IAMs_20 IAMs_20 18 14 31.8
comp=Z,27μm,20.0s
ROSA Rosais 68.31 57 *e*P **P** **17 44 51.0 -1.0**
ROSA *i* IAmb IAmb 17 45 04.7
comp=Z,155nm,1.5s
ROSA *e*LR LR 18 05 55.8
ROSA *i* IAMs_20 IAMs_20 18 14 21.5
comp=Z,30μm,20.0s
PGRA Graciosa 68.34 57 *e*P P 17 45 04.3 +12
PPNO Prainha do Nor 68.42 58 *e*P **P** **17 44 57.4 +4.7**
PPNO *i* IAmb IAmb 17 45 05.0
comp=Z,186nm,1.3s
PMAN Manadas 68.46 57 *e*P **P** **17 44 52.8 -0.1**
PMAN *i* IAmb IAmb 17 45 48.1
comp=Z,139nm,1.4s
KUR Kuril'sk 68.62 311 P **P** **17 44 51.6 -2.2**
KUR *e*S **S** **17 53 56.6 +0.5**
KUR *e* 17 54 55.8
KUR *e*SS **SS** **17 58 18.4 -1.4**
KUR pmax pmax
comp=Z,229nm,1.0s
KUR MLR MLR
comp=E,8μm,17.0s
KUR MLR MLR
comp=Z,7μm,17.0s
YAK Yakutsk 68.70 332 P **P** **17 44 53.5 -0.5**
YAK IAmb IAmb 17 45 03.1
comp=Z,80nm,0.9s
YAK Yakutsk 68.70 332 IAMs_20 IAMs_20 18 15 13.9
comp=Z,29μm,19.0s
YAK Yakutsk 68.70 332 LR LR 18 15 22.0
comp=Z,25μm,19.3s,baz=49,slow=36
YAK Yakutsk 68.70 332 *e*P **P** **17 44 54.3 +0.3**
YAK *e* 17 45 18.8
YAK *e* 17 47 25.8
YAK *e*PPP PPP 17 49 04.0
YAK *e*S **S** **17 53 57.7 +1.1**
YAK *e*'SS **PnS** **17 54 26.6 +6.2**
YAK *e* 17 54 53.9
YAK *e*SS **SS** **17 58 24.5 +4.3**
YAK pmax pmax
comp=Z,71nm,0.9s
YAK pmax pmax
comp=N,20nm,1.7s
YAK pmax pmax
comp=E,46nm,1.6s
YAK pmax pmax
comp=Z,259nm,4.7s
YAK pmax pmax
comp=N,83nm,2.5s
YAK pmax pmax
comp=E,98nm,2.3s
YAK smax smax
comp=E,690nm,7.4s
YAK smax smax
comp=N,4μm,17.5s
YAK MLR MLR
comp=Z,36μm,24.0s
YAK MLR MLR
comp=N,11μm,23.0s
YAK MLR MLR
comp=E,17μm,22.0s
TYV Tymovskoe 68.83 318 *e*P **P** **17 44 55.9 +0.9**
TYV *e*S **S** **17 53 54.5 -4.0**
TYV pmax pmax
comp=Z,600nm,3.4s
TYV pmax pmax
comp=Z,53nm,1.3s
TYV smax smax
comp=N,900nm,7.4s
TYV smax smax
comp=E,1μm,7.4s
TYV smax smax
comp=N,7.0nm,1.9s
TYV smax smax
comp=E,6.0nm,1.9s
TYV MLR MLR
comp=Z,16μm,21.0s
PAGU Agualva, Azore 69.01 57 *e*LR LR 18 06 35.7
PAGU *i* IAMs_20 IAMs_20 18 14 54.0
comp=Z,39μm,20.0s
RAR Rarotonga 69.29 222 LR LR 18 07 08.7
comp=Z,8μm,20.7s,baz=30,slow=29
LPAZ La Paz 69.69 129 P **P** **17 44 59.6 -1.8**
LPAZ IAmb IAmb 17 45 14.1
comp=Z,59nm,0.9s
LPAZ La Paz 69.69 129 P **P** **17 45 01.1 -0.4**
comp=Z,22nm,0.8s,baz=336,slow=8.1,SNR=20
LPAZ LR LR 18 15 37.0
comp=Z,22μm,20.8s,baz=328,slow=36
comp=Z,22nm,0.8s
LPAZ La Paz 69.69 129 *e*P **P** **17 44 59.1 -2.3**
LPAZ La Paz 69.69 129 *e*P **P** **17 45 00.2 -1.3**
LPAZ La Paz 69.69 129 P **P** **17 45 00.9 -0.6**
LPAZ S **S** **17 54 13.7 +3.1**
MAL2 Monte Alegre, 69.83 108 P **P** **17 45 02.9 +1.1**
AP01 Chacalluta 69.90 132 IAMs_20 IAMs_20 18 10 35.4
comp=Z,26μm,22.0s
UGL Uglegorsk 70.08 317 *e*P **P** **17 45 03.2 +0.4**
UGL *e* 17 47 37.8
UGL *e*S **S** **17 54 06.2 -7.1**
UGL pmax pmax
comp=Z,1μm,8.0s
UGL smax smax
comp=E,2μm,8.0s
UGL smax smax
comp=N,4μm,13.0s
UGL MLR MLR
comp=E,10μm,16.0s
UGL MLR MLR
comp=N,8μm,16.0s
UGL MLR MLR
comp=Z,8μm,20.0s
ITTB Itaituba 70.13 111 *e*P **P** **17 45 02.2 -1.4**
ITTB Itaituba 70.13 111 *e*P **P** **17 45 03.8 +0.2**
ITTB Itaituba 70.13 111 P **P** **17 45 05.3 +1.7**
ITTB S **S** **17 54 15.3 +0.5**
LOF Lofoten 70.25 17 *e*P **P** **17 45 01.9 -1.6**
LOF IVmB_BB 17 45 14.4
comp=Z,998nm,2.5s
TRO Tromso 70.30 15 *e*P **P** **17 45 02.2 -1.5**
TRO *e*S **S** **17 54 12.9 -2.2**
CN01 Coaracy Nunes 70.31 104 P **P** **17 45 05.7 +1.0**
PB16 IPOC Station P 70.38 131 P **P** **17 45 04.2 -1.4**
PB16 IAmb IAmb 17 45 15.4
comp=Z,81nm,1.0s
PB16 IAMs_20 IAMs_20 18 11 41.1
comp=Z,18μm,20.0s
HAMF Hammerfest 70.39 13 *e*P **P** **17 45 03.2 -1.1**
HAMF IVmB_BB 17 47 10.8
comp=Z,2μm,3.6s
HAMF *e*PP **PP** **17 47 38.7 -0.8**
HAMF *e*S **S** **17 54 14.3 -1.8**
HAMF IVMs_BB IVMs_BB 18 17 32.5
comp=Z,12μm,17.9s
YUK Yuzh-Kuril'sk 70.46 311 *e*P **P** **17 45 05.3 +0.1**
YUK *i* S **S** **17 54 12.7 -5.1**
YUK pmax pmax
comp=Z,588nm,2.0s
YUK pmax pmax
comp=Z,608nm,1.3s
YUK pmax pmax
comp=N,343nm,1.1s
YUK pmax pmax
comp=E,211nm,1.1s
PSET Sete Cidades 70.48 57 *e*P **P** **17 45 04.5 -1.0**
PSET *e*LR LR 18 07 15.6
PSET *i* IAMs_20 IAMs_20 18 15 46.4
comp=E,32μm,18.0s
CMLA Cha da Macela 70.64 57 *e*P **P** **17 45 05.1 -1.4**
CMLA *i* IAmb IAmb 17 45 26.0
comp=E,161nm,1.2s
CMLA *e*LR LR 18 07 21.5
CMLA *i* IAMs_20 IAMs_20 18 15 51.0
comp=E,31μm,20.0s
JETT Jettan, Norway 70.66 14 *e*P **P** **17 45 04.4 -1.7**
JETT IVmB_BB 17 45 55.8
comp=Z,2μm,4.8s
JETT *e*S **S** **17 54 13.9 -5.7**
JETT IVMs_BB IVMs_BB 18 18 14.0
comp=Z,9μm,18.4s
YSS Yuzhno-Sakhali 70.81 314 P **P** **17 45 04.7 -2.5**
YSS Yuzhno-Sakhali 70.81 314 *ce*P **P** **17 45 06.1 -1.2**
YSS *e* 17 45 24.0
YSS *e*S **S** **17 54 15.7 -6.1**
YSS *e*SS **SS** **17 58 58.6 +5.3**
YSS pmax pmax
comp=Z,120nm,1.2s
YSS pmax pmax
comp=N,30nm,1.3s
YSS pmax pmax
comp=E,60nm,1.0s
YSS pmax pmax
comp=Z,700nm,4.3s
YSS pmax pmax
comp=N,200nm,6.3s
YSS pmax pmax
comp=E,200nm,2.9s
YSS smax smax
comp=N,3μm,17.2s
YSS smax smax
comp=E,2μm,17.7s
YSS Yuzhno-Sakhali 70.81 314 ⇑P **P** **17 45 06.0 -1.2**
STEI Steigen 70.82 17 *e*P **P** **17 45 05.4 -1.5**
STEI IVmB_BB 17 45 34.2
comp=Z,802nm,4.1s
STEI *e*S **S** **17 54 21.5 +0.2**
AFI Afiamalu 71.14 236 IAMs_20 IAMs_20 18 10 23.7
comp=Z,19μm,19.0s
VAGH Vaagaholmen 71.25 19 *e*P **P** **17 45 08.2 -1.4**
VAGH IVmB_BB 17 46 09.9
comp=Z,1μm,5.1s
VAGH *e*S **S** **17 54 25.2 -1.1**
FAUS Fauske 71.26 17 *e*P **P** **17 45 08.2 -1.4**
FAUS IVmB_BB 17 45 36.9
comp=Z,1μm,3.2s
FAUS *e*S **S** **17 54 24.3 -2.1**
PSMN Pico do Norte, 71.34 58 *e*P **P** **17 45 09.5 -1.2**
PSMN *i* IAmb IAmb 17 45 33.2
comp=Z,231nm,1.8s
PSMN *e*LR LR 18 07 19.5
PSMN *i* IAMs_20 IAMs_20 18 14 13.7
comp=Z,20μm,22.0s
PB11 IPOC Station P 71.38 133 P **P** **17 45 09.4 -1.7**
PB11 IAMs_20 IAMs_20 18 12 23.6
comp=Z,18μm,22.0s
STOK Stokkvaagen 71.49 19 *e*P **P** **17 45 09.4 -1.6**
STOK IVmB_BB 17 46 52.8
comp=Z,2μm,4.4s
STOK *e*S **S** **17 54 22.3 -6.8**
STOK IVMs_BB IVMs_BB 18 14 59.5
comp=Z,7μm,19.0s
HMBC Humberstone 71.64 133 P **P** **17 45 11.2 -1.5**
HMBC IAmb IAmb 17 45 21.7
comp=Z,67nm,0.9s
HMBC IAMs_20 IAMs_20 18 12 27.4
comp=Z,19μm,22.0s
ARA0 ARCESS Array S 71.66 13 *e*P **P** **17 45 10.5 -1.6**
ARA0 IVmB_BB 17 45 28.7
comp=Z,1μm,4.3s
ARA0 *e*S **S** **17 54 28.9 -2.1**
ARA0 *e*SS **SS** **17 59 07.1 +1.6**
ARCES ARCESS Array B 71.66 13 P **P** **17 45 11.7 -0.4**
comp=Z,4.4nm,0.8s,baz=324,slow=6.0,SNR=7.4
ARCES LR LR 18 18 41.4
comp=Z,34μm,18.8s,baz=334,slow=38
comp=Z,4.4nm,0.8s
IDGL Inch Island, C 71.66 35 P **P** **17 45 15.5 +3.2**
KTK1 Kautokeino 71.68 14 *e*P **P** **17 45 10.8 -1.4**
KTK1 IVmB_BB 17 45 28.0
comp=Z,1μm,4.3s
KTK1 *e*S **S** **17 54 29.1 -2.2**
KTK1 *e*SS **SS** **17 59 07.9 +2.2**
KTK1 IVMs_BB IVMs_BB 18 13 39.0
comp=Z,8μm,20.2s
TA01 Diego Aracena 71.69 133 P **P** **17 45 11.3 -1.5**
TA01 IAmb IAmb 17 45 26.7
comp=Z,114nm,1.0s
TA01 IAMs_20 IAMs_20 18 10 44.7
comp=Z,19μm,22.0s
LEIR Leirfjorden 71.69 19 *e*P **P** **17 45 10.5 -1.7**
LEIR IVmB_BB 17 46 53.4
comp=Z,1μm,2.3s
LEIR *e*S **S** **17 54 29.7 -1.7**
KEV Kevo 71.74 12 IAMs_20 IAMs_20 18 17 44.3
comp=Z,27μm,20.0s
IGLA Glengowla, Co 71.75 37 P **P** **17 45 16.5 +3.7**
VADS Vadso 71.81 11 *e*P **P** **17 45 11.2 -1.7**
VADS IVmB_BB 17 45 24.5
comp=Z,2μm,1.8s
VADS *e*S **S** **17 54 31.9 -0.8**
VADS *e*SS **SS** **17 59 05.6 -2.0**
PATCX Punta Patache 71.90 134 P **P** **17 45 12.9 -1.2**
PATCX IAmb IAmb 17 45 27.1
comp=Z,103nm,1.1s
LAWE Loch Awe, Argy 71.91 33 *e*P **P** **17 45 16.7 +3.0**
LAWE IAmb IAmb 17 45 24.7
comp=Z,79nm,1.0s
LAWE IAMs_20 IAMs_20 18 15 54.1
comp=Z,28μm,19.0s
PB08 IPOC Station P 71.97 132 P **P** **17 45 14.0 -1.0**
PB08 IPOC Station P 71.97 132 IAMs_20 IAMs_20 18 12 42.3
comp=Z,18μm,22.0s
MOR8 Moi Rana 71.99 19 *e*P **P** **17 45 12.5 -1.6**
MOR8 IVmB_BB 17 46 35.7
comp=Z,1μm,3.3s
MOR8 *e*S **S** **17 54 34.6 -0.3**
MOR8 *e*SS **SS** **17 59 10.2 -0.4**
ATM1 UHE Belo Monte 72.15 108 P **P** **17 45 18.4 +2.5**
NPGB Novo Progresso 72.15 113 *e*P **P** **17 45 13.9 -1.9**
NPGB Novo Progresso 72.15 113 *e*P **P** **17 45 16.4 +0.6**
NPGB Novo Progresso 72.15 113 P **P** **17 45 17.7 +1.9**
NPGB S **S** **17 54 38.0 -0.2**
VAL Valentia 72.17 38 P **P** **17 45 13.0 -2.4**
VAL Valentia 72.17 38 P P 17 45 21.1 +5.7
GRNR Gornyy 72.21 320 ⇑*i*P **P** **17 45 15.5 -0.2**
GRNR pmax pmax
comp=Z,20nm,1.3s
GRNR MLR MLR
comp=E,7μm,21.0s
BMO2 UHE Belo Monte 72.37 108 P **P** **17 45 16.6 -0.5**
JKA Kamikawa-asahi 72.41 312 P **P** **17 45 16.0 -1.0**
JKA IAmb IAmb 17 45 31.1
comp=Z,84nm,1.1s
ASAJ Asahikawa 72.42 312 LR LR 18 18 12.1
comp=Z,7μm,18.1s,baz=72,slow=37
ASAJ Asahikawa 72.42 312 P **P** **17 45 16.0 -1.0**
ASAJ pmax pmax
comp=Z,84nm,1.1s
ASAJ MLR MLR
comp=Z,7μm,20.0s
BMO1 UHE Belo Monte 72.43 107 P **P** **17 45 20.6 +3.1**
PB01 IPOC Station P 72.46 133 P **P** **17 45 16.2 -1.4**
PB01 IAMs_20 IAMs_20 18 11 49.3
comp=Z,21μm,22.0s
FOO Floro 72.53 25 *e*P **P** **17 45 15.9 -1.4**
FOO IVmB_BB 17 46 12.3
comp=Z,2μm,4.2s
FOO *e*S **S** **17 54 38.9 -2.3**
FOO *e*SS **SS** **17 59 19.6 +0.8**
FOO IVMs_BB IVMs_BB 18 22 59.0
comp=Z,9μm,18.2s
NSS Namsos 72.57 20 *e*P **P** **17 45 16.0 -1.5**
NSS IVmB_BB 17 45 46.0
comp=Z,1μm,3.2s
NSS *e*S **S** **17 54 42.0 +0.5**
NSS IVMs_BB IVMs_BB 18 16 38.0
comp=Z,13μm,21.0s
VILB Vilhena 72.59 121 P **P** **17 45 17.0 -1.4**
VILB Vilhena 72.59 121 *e*P **P** **17 45 16.4 -2.0**
VILB Vilhena 72.59 121 *e*P **P** **17 45 19.0 +0.6**
VILB Vilhena 72.59 121 P **P** **17 45 19.9 +1.5**
MOL Molde 72.67 23 *e*P **P** **17 45 16.4 -1.8**
MOL *e*S **S** **17 54 42.4 -0.4**
MOL IVMs_BB IVMs_BB 18 16 23.5
comp=Z,8μm,20.3s
DRUM Mains of Drumt 72.76 31 *e*P **P** **17 45 21.5 +2.7**
DRUM IAmb IAmb 17 45 22.4
comp=Z,330nm,1.9s
DRUM IAMs_20 IAMs_20 18 18 09.6
comp=Z,28μm,16.6s
AKN Aaknes 72.77 24 *e*P **P** **17 45 17.3 -1.6**
AKN IVmB_BB 17 46 22.8

comp=Z,1µm,3.0s
AKN eS S 17 54 45.8 +1.7
AKN eSS SS 17 59 24.4 +1.6
SUE Sulen 74.80 25 eP P 17 45 17.2 -1.8
SUE IVmB_BB 17 47 19.7
comp=Z,3µm,3.5s
SUE eS S 17 54 43.2 -1.1
SUE eSS SS 17 59 22.4 -0.7
SUE IVMs_BB IVMs_BB 18 17 20.0
comp=Z,9µm,22.1s
ILTH Belurgan, Co L 72.84 35 P P 17 45 22.7 +3.4
EDI Edinburgh 73.09 32 eP P 17 45 22.9 +2.2
EDI IAMs_20 IAMs_20 18 18 01.3
comp=Z,26µm,16.4s
NEWG New Galloway 73.13 33 eP P 17 45 23.6 +2.6
NEWG IAmb IAmb 17 45 32.3
comp=Z,82nm,1.2s
NEWG IAMs_20 IAMs_20 18 21 53.0
comp=Z,19µm,14.9s
PB09 IPOC Station P 73.19 134 IAMs_20 IAMs_20 18 11 27.5
comp=Z,19µm,22.0s
ERM Erimo 73.21 310 P P 17 45 20.9 -0.8
ERM IAmb IAmb 17 45 48.1
comp=Z,120nm,1.1s
ERM Erimo 73.21 310 P P 17 45 23.1 +1.4
ERM Erimo 73.21 310 ceP P 17 45 22.2 +0.5
ERM pmax pmax
comp=Z,90nm,1.3s
ERM Erimo 73.21 310 P P 17 45 23.1 +1.4
ERM S SKiKP 17 54 56.2 +2.8
HYA Hoyanger 73.22 25 eP P 17 45 19.9 -1.5
DSB Dublin 73.30 36 P P 17 45 20.0 -2.1
DSB Dublin 73.30 36 P P 17 45 20.7 -1.3
DSB IAmb IAmb 17 45 30.8
comp=Z,58nm,0.7s
DSB IAMs_20 IAMs_20 18 19 04.4
comp=Z,22µm,19.0s
DSB Dublin 73.30 36 P P 17 45 22.6 +0.5
DSB Dublin 73.30 36 ⇑P P 17 45 25.1 +3.0
ASK Askoy 73.36 26 eP P 17 45 20.9 -1.4
PB05 IPOC Station P 73.44 135 P P 17 45 22.0 -1.4
PB05 IAmb IAmb 17 45 36.3
comp=Z,95nm,1.4s
PB05 IAMs_20 IAMs_20 18 11 13.4
comp=Z,25µm,22.0s
ESK Eskdalemuir 73.46 33 IAMs_20 IAMs_20 18 15 07.7
comp=Z,29µm,20.0s
ESK Eskdalemuir 73.46 33 eP P 17 45 25.3 +2.3
ESK IAMs_20 IAMs_20 18 15 02.6
comp=Z,30µm,18.9s
EKA Eskdalemuir Ar 73.47 33 P P 17 45 22.8 -0.2
comp=Z,11nm,0.9s,baz=307,slow=4.7,SNR=11
comp=Z,11nm,0.9s
BER Bergen 73.48 26 eP P 17 45 21.4 -1.6
DOMB Dombas 73.55 23 eP P 17 45 21.6 -1.8
IWEX Carrickbyrne, 73.64 37 P P 17 45 24.0 -0.1
IWEX Carrickbyrne, 73.64 37 eP P 17 45 23.9 -0.2
NRIK Noril'sk 73.68 351 P P 17 45 23.2 -0.8
NRIK IAmb IAmb 17 45 35.9
comp=Z,118nm,1.2s
NRIK Noril'sk 73.68 351 P P 17 45 25.1 +1.1
comp=Z,45nm,1.0s,baz=29,slow=5.3,SNR=31
NRIK LR LR 18 22 18.6
comp=Z,17µm,18.2s,baz=34,slow=40
comp=Z,45nm,1.0s
NRIK Noril'sk 73.68 351 i P P 17 45 24.1 +0.1
NRIK pmax pmax
comp=Z,109nm,1.2s
NRIK MLR MLR
comp=Z,19µm,18.0s
PB06 IPOC Station P 73.70 134 IAMs_20 IAMs_20 18 11 56.0
comp=Z,19µm,21.0s
PB10 IPOC Station P 73.76 136 IAMs_20 IAMs_20 18 11 41.7
comp=Z,23µm,22.0s
KESW Keswick, Cumbr 73.97 33 eP P 17 45 27.3 +1.2
KESW IAMs_20 IAMs_20 18 18 01.6
comp=Z,19µm,16.3s
WPS Cemaes, Angles 74.08 35 eP P 17 45 28.2 +1.6
WPS IAmb IAmb 17 45 35.5
comp=Z,73nm,0.8s
WPS IAMs_20 IAMs_20 18 22 17.3
comp=Z,26µm,17.6s
SIV San Ignacio 74.11 124 LR LR 18 17 19.1
comp=Z,18µm,20.7s,baz=331,slow=35
PDRB Porto dos Gac 74.15 117 eP P 17 45 25.7 -1.9
PDRB Porto dos Gac 74.15 117 eP P 17 45 28.3 +0.7
PDRB Porto dos Gac 74.15 117 P P 17 45 29.7 +2.1
PDRB S S 17 55 06.3 +5.4
WLF1 Llynfaes 74.20 35 eP P 17 45 28.5 +1.2
WLF1 IAmb IAmb 17 45 32.2
comp=Z,167nm,1.2s
WLF1 IAMs_20 IAMs_20 18 22 20.1
comp=Z,56µm,17.4s
ODD1 Odda 74.27 26 eP P 17 45 26.2 -1.6
KMY Karmoy 74.27 27 eP P 17 45 26.0 -1.6
SKAR Skarslia 74.29 24 eP P 17 45 26.2 -1.7
EDMD Edmundbyers 74.32 33 eP P 17 45 29.6 +1.6
EDMD IAMs_20 IAMs_20 18 15 38.0
comp=Z,20µm,18.8s
CLDB Colider 74.34 116 eP P 17 45 26.9 -1.8
CLDB Colider 74.34 116 eP P 17 45 29.6 +1.0
CLDB Colider 74.34 116 P P 17 45 28.5 -0.2
BLS5 Blasjo 74.56 26 eP P 17 45 27.5 -1.9
LVZ Lovozero 74.64 11 i P P 17 45 31.9 +2.1
LVZ pmax pmax
comp=Z,72nm,1.0s
LVZ MLR MLR
comp=Z,38µm,17.0s
AF01 San Pedro de A 74.70 134 IAMs_20 IAMs_20 18 12 55.6
comp=Z,18µm,22.0s
PB14 IPOC Station P 74.71 136 P P 17 45 30.3 -0.7
PB14 IPOC Station P 74.71 136 IAMs_20 IAMs_20 18 11 46.0
comp=Z,18µm,21.0s
APA Apatity 74.75 11 i P P 17 45 33.3 +3.0
APA e 17 45 49.0
APA i 17 48 13.0
APA eS S 17 55 09.1 +2.9
APA MLR MLR
comp=Z,42µm,17.4s
TMAB Tom-Au,PA,Br 74.81 104 eP P 17 45 28.7 -2.8
TMAB Tom-Au,PA,Br 74.81 104 eP P 17 45 36.5 +5.0
RSBS Rosebush, Pemb 74.88 36 eP P 17 45 32.8 +1.5
RSBS IAmb IAmb 17 45 36.4
comp=Z,49nm,1.1s
ZEA Zeya 74.88 326 eP P 17 45 32.5 +1.2
ZEA eS S 17 55 13.6 +5.6
ZEA pmax pmax
comp=E,100nm,4.0s
ZEA pmax pmax
comp=Z,400nm,4.0s
ZEA pmax pmax
comp=E,20nm,1.1s
ZEA pmax pmax
comp=Z,40nm,1.0s
ZEA smax smax
comp=E,500nm,11.3s
ZEA smax smax
comp=N,2µm,16.8s
ZEA MLR MLR
comp=E,6µm,20.0s
ZEA MLR MLR
comp=N,7µm,18.0s
ZEA MLR MLR
comp=Z,10µm,19.0s
NB2 NORSAR Subarra 74.98 23 P P 17 45 32.4 +0.6
comp=Z,236nm,2.0s,baz=320,slow=5.9
NB2 NORSAR Subarra 74.98 23 P P 17 45 32.4 +0.6
baz=320,slow=5.9
NOA NORSAR Array B 74.98 23 P P 17 45 31.6 -0.3
comp=Z,7.4nm,0.8s,baz=318,slow=5.8,SNR=17
NOA LR LR 18 19 32.6
comp=Z,15µm,18.5s,baz=325,slow=37
comp=Z,7.4nm,0.8s
FOEL Foel Wylfa 75.01 35 eP P 17 45 32.8 +0.7
FOEL IAmb IAmb 17 45 39.8
comp=Z,56nm,0.9s
FOEL IAMs_20 IAMs_20 18 23 02.9
comp=Z,24µm,15.4s
PTLB Pontes e Lacer 75.06 122 P P 17 45 31.8 -1.0
PTLB IAmb IAmb 17 45 41.5
comp=Z,61nm,1.1s
PTLB IAMs_20 IAMs_20 18 19 17.8
comp=Z,27µm,20.0s
PTLB Pontes e Lacer 75.06 122 eP P 17 45 30.9 -1.9
PTLB Pontes e Lacer 75.06 122 eP P 17 45 33.5 +0.7
PTLB Pontes e Lacer 75.06 122 P P 17 45 32.7 0.0
BBSD Serra de San D 75.27 124 eP P 17 45 34.1 +0.1
NC602 NORSAR Array S 75.32 23 P P 17 45 32.5 -1.2
NC602 NORSAR Array S 75.32 23 eP P 17 45 32.3 -1.4
LBWR Ladybower, Pea 75.36 34 eP P 17 45 35.0 +0.9
LBWR IAmb IAmb 17 45 39.4
comp=Z,53nm,1.0s
LBWR IAMs_20 IAMs_20 18 23 53.3
comp=Z,22µm,15.3s
TEY Ternei 75.43 315 eP P 17 45 25.0 -10
TEY MLR MLR
comp=E,200nm,21.0s
TEY MLR MLR
comp=N,100nm,19.0s
TEY MLR MLR
comp=Z,200nm,18.0s
KONO Kongsberg 75.49 25 P P 17 45 33.1 -1.6
KONO IAmb IAmb 17 45 48.4
comp=Z,88nm,1.1s
KONO Kongsberg 75.49 25 IAMs_20 IAMs_20 18 20 40.9
comp=Z,21µm,18.0s
KONO Kongsberg 75.49 25 ceP P 17 45 35.7 +1.0
KONO pmax pmax
comp=Z,27nm,0.7s
KONO MLR MLR
comp=Z,19µm,16.0s
KONO Kongsberg 75.49 25 eP P 17 45 33.1 -1.6
KLR Kul'dur 75.55 321 LR LR 18 18 56.8
comp=Z,10µm,20.2s,baz=50,slow=36
KLR Kul'dur 75.55 321 i P P 17 45 35.0 -0.3
KLR pmax pmax
comp=Z,65nm,1.5s
KLR MLR MLR
comp=Z,14µm,21.0s
GO02 Mina Guanaco 75.59 136 IAMs_20 IAMs_20 18 12 14.2
comp=Z,19µm,22.0s
SNART Snartemo 75.61 27 eP P 17 45 33.9 -1.6
SNART Snartemo 75.61 27 i P P 17 45 39.0 +3.6
OSL Oslo 75.65 24 eP P 17 45 34.0 -1.6
MCH1 Michaelchurch 75.68 35 eP P 17 45 37.5 +1.5
MCH1 IAmb IAmb 17 45 40.8
comp=Z,82nm,1.5s
MCH1 IAMs_20 IAMs_20 18 23 07.5
comp=Z,24µm,17.2s
CCA1 Carnmenellis 75.75 38 eP P 17 45 38.1 +1.7
CCA1 IAmb IAmb 17 45 41.3
comp=Z,89nm,1.2s
CCA1 IAMs_20 IAMs_20 18 19 56.2
comp=Z,22µm,18.8s
SBD Saint Breward 75.78 37 eP P 17 45 37.1 +0.5
SBD IAmb IAmb 17 45 45.4
comp=Z,81nm,0.8s
AC01 Pan de Azucar 75.80 137 IAMs_20 IAMs_20 18 12 24.7
comp=Z,19µm,21.0s
PRPB Parauapebas 75.82 108 eP P 17 45 35.3 -2.0
PRPB Parauapebas 75.82 108 eP P 17 45 39.0 +1.7
PRPB Parauapebas 75.82 108 P P 17 45 39.0 +1.7
FUTU Fugatoga 75.82 241 IAMs_20 IAMs_20 18 14 33.7
comp=Z,16µm,18.0s
MONM Monmouth 75.88 36 eP P 17 45 39.5 +2.4
MONM IAmb IAmb 17 45 45.9
comp=Z,35nm,0.9s
MONM IAMs_20 IAMs_20 18 19 55.6
comp=Z,23µm,17.6s
CWF Charnwood Fore 75.99 34 eP P 17 45 38.6 +0.9
CWF IAmb IAmb 17 45 43.9
comp=Z,31nm,1.0s
CWF IAMs_20 IAMs_20 18 23 26.8
comp=Z,24µm,17.4s
HOMB Homborsund 76.13 26 eP P 17 45 36.7 -1.7
HOMB Homborsund 76.13 26 i P P 17 45 41.9 +3.6
DYA Yadsworthy 76.24 37 eP P 17 45 41.8 +2.6
DYA IAmb IAmb 17 45 47.9
comp=Z,85nm,0.8s
DYA IAMs_20 IAMs_20 18 22 03.6
comp=Z,21µm,15.8s
HFS Hagfors 76.47 23 P P 17 45 39.9 -0.4
comp=Z,18nm,0.9s,baz=117,slow=0.3,SNR=8.9
HFS LR LR 18 20 18.7
comp=Z,19µm,20.0s,baz=317,slow=36
comp=Z,18nm,0.9s
STRU Stroemstad 76.49 25 i P P 17 45 43.7 +3.3
AC06 Mina Casimiro 76.88 138 P P 17 45 41.2 -1.9
AC06 IAmb IAmb 17 46 05.7
comp=Z,58nm,1.1s
MAS01 UHE Manso 77.00 119 P P 17 45 45.4 +1.4
HEH HeiHe 77.07 323 eP P 17 45 42.2 -1.7
HEH sP pP 17 45 48.2 +0.1
HEH S S 17 55 27.8 -4.5
HEH SS SS 18 00 29.2 +0.8
HEH pmax pmax
comp=Z,31nm,1.2s
HEH pmax pmax
comp=Z,840nm,6.0s
HEH LR LR
comp=Z,14µm,23.5s
HEH LR LR
comp=Z,15µm,23.1s
HEH LR LR
comp=Z,15µm,23.7s
AC02 Maricunga 77.15 137 P P 17 45 42.6 -2.6
AC02 IAmb IAmb 17 45 52.6
comp=Z,207nm,1.9s
AC02 IAMs_20 IAMs_20 18 13 09.6
comp=Z,17µm,21.0s
AC04 Llanos de Chal 77.16 139 IAMs_20 IAMs_20 18 16 02.9
comp=Z,14µm,18.0s
OVD Ostervraa, Den 77.45 26 i P P 17 45 49.5 +3.7
OVD IAmb IAmb 17 45 50.1
comp=Z,91nm,0.4s
SALV Santo Antonio 77.78 120 eP P 17 45 47.4 -0.8
SALV Santo Antonio 77.78 120 eP P 17 45 50.2 +1.9
SALV Santo Antonio 77.78 120 P P 17 45 50.0 +1.8
VA04 Juan Fernndez 77.88 148 IAMs_20 IAMs_20 18 14 40.9
comp=Z,16µm,20.0s
LCO Las Campanas 78.00 139 IAMs_20 IAMs_20 18 16 29.1
comp=Z,19µm,19.0s
BORU Boraas 78.10 25 i P P 17 45 54.1 +4.6
SNDB Serra Nova Dou 78.38 114 eP P 17 45 54.3 +2.6
SNDB Serra Nova Dou 78.38 114 P P 17 45 53.5 +1.8
CO05 La Serena 78.44 140 IAMs_20 IAMs_20 18 14 09.7
comp=Z,20µm,20.0s
USA0B Ussuriysk Arra 78.56 317 P P 17 45 50.9 -1.3
USA0B IAmb IAmb 17 46 01.0
comp=Z,79nm,1.1s
USA0B Ussuriysk Arra 78.56 317 i P P 17 45 51.0 -1.3
USRK Ussuriysk Ar. 78.56 317 P P 17 45 50.6 -1.6
USRK Ussuriysk Ar. 78.56 317 P P 17 45 50.9 -1.4
comp=Z,31nm,0.9s,baz=55,slow=5.0,SNR=38
USRK LR LR 18 17 29.4
comp=Z,6µm,21.7s,baz=40,slow=33
comp=Z,31nm,0.9s
FINES FINESS Array B 78.80 17 P P 17 45 52.8 -0.5
FINES FINESS Array B 78.80 17 P P 17 45 52.5 -0.7
comp=Z,4.9nm,0.8s,baz=2.9,slow=3.8,SNR=10
FINES LR LR 18 23 50.2
comp=Z,25µm,18.2s,baz=335,slow=38
comp=Z,4.9nm,0.8s
FINES FINESS Array B 78.80 17 i P P 17 45 57.2 +3.9
FINES pmax pmax
comp=Z,5.0nm,0.7s
CO06 Fray Jorge 78.84 141 IAMs_20 IAMs_20 18 13 51.3
comp=Z,26µm,20.0s
GO04 Tololo Observa 78.87 140 IAMs_20 IAMs_20 18 14 24.1
comp=Z,17µm,20.0s
PMOZ Porto Moniz, M 79.03 58 eP P 17 46 01.3 +6.1
PMOZ i IAmb IAmb 17 46 07.3
comp=Z,110nm,1.7s
PMOZ eS SKSac 17 56 05.6 -5.5
PMOZ eLR LR 18 12 34.5
PMOZ i IAMs_20 IAMs_20 18 19 24.7
comp=Z,22µm,18.0s
CO01 Juntas del Tor 79.09 139 IAMs_20 IAMs_20 18 17 11.9
comp=Z,18µm,18.0s
SMTB Santa Maria do 79.21 109 eP P 17 45 54.2 -2.1
SMTB Santa Maria do 79.21 109 eP P 17 45 59.8 +3.5
SMTB Santa Maria do 79.21 109 P P 17 45 59.4 +3.1
PGAV Gavieira, Arco 79.25 46 eP P 17 46 04.1 +7.8
PGAV i IAmb IAmb 17 46 11.7
comp=Z,53nm,1.6s
PGAV eS SKSac 17 56 02.3 -10
PGAV eSS SS 18 01 02.6 +0.7
PGAV eLQ LQ 18 06 07.5
PGAV eLR LR 18 11 54.1
PGAV i IAMs_20 IAMs_20 18 20 45.8
comp=Z,18µm,20.0s
PMAR Madeira 79.29 57 eP P 17 46 06.1 +9.4
PMAR i IAmb IAmb 17 46 09.2
comp=Z,268nm,1.4s
PMAR etx tx 17 52 15.1
VLA Vladivostok 79.30 316 i P P 17 45 55.9 -0.4
VLA pmax pmax
comp=Z,72nm,1.4s
VLA MLR MLR
comp=Z,10µm,20.0s
LAJE UHE Lajeado 79.35 110 P P 17 45 59.5 +2.5
DEL Delary 79.39 25 i P P 17 46 00.6 +4.0
CO03 El Pedregal 79.46 140 IAMs_20 IAMs_20 18 14 41.7
comp=Z,24µm,20.0s
PMPST Porto Santo, M 79.48 57 eP P 17 46 05.1 +7.6
PMPST i IAmb IAmb 17 46 16.5
comp=Z,171nm,2.0s
MJAR Matsushiro Arr 79.48 307 P P 17 45 55.7 -1.8
MJAR Matsushiro Arr 79.48 307 P P 17 45 56.5 -1.0
comp=Z,6.2nm,0.9s,baz=32,slow=4.2,SNR=13
MJAR LR LR 18 14 59.2
comp=Z,11µm,21.9s,baz=62,slow=31
comp=Z,6.2nm,0.9s
MAJO Matsushiro 79.48 307 P P 17 45 55.5 -2.0
MAJO Matsushiro 79.48 307 P P 17 45 57.0 -0.5
COP Copenhagen 79.50 26 i P P 17 46 00.1 +3.0
COP IAmb IAmb 17 46 00.6
comp=Z,132nm,0.9s
CO02 Combarbal 79.59 141 IAMs_20 IAMs_20 18 14 25.1
comp=Z,23µm,20.0s
MDJ Mudanjiang 79.62 318 P P 17 45 56.8 -1.3
MDJ Mudanjiang 79.62 318 P P 17 45 58.5 +0.4
MDJ sP sP 17 46 04.0 +0.1
MDJ S S 17 55 58.7 -1.1
MDJ pmax pmax
comp=Z,10.0nm,1.2s
MDJ pmax pmax
comp=Z,380nm,3.8s
MDJ LR LR
comp=Z,8µm,19.9s
MDJ LR LR
comp=Z,6µm,22.2s
MDJ LR LR
comp=Z,22µm,22.4s
UCC Uccle 79.88 33 dP P 17 46 02.7 +3.4
POLO Lamas de Olo 79.90 46 eP P 17 46 01.4 +1.5
POLO i IAmb IAmb 17 46 11.1
comp=Z,42nm,1.7s
PVRL Vila Real 80.01 46 eP P 17 46 00.5 +0.2
PVRL i IAmb IAmb 17 46 15.9
comp=Z,117nm,1.4s
BNX BinXian 80.05 320 ⇑P P 17 46 01.2 +0.8
BNX PcP pP 17 46 05.3 +0.6
BNX S S 17 56 01.2 -3.2
BNX pmax pmax
comp=Z,54nm,1.1s
BNX pmax pmax
comp=Z,610nm,7.0s
BNX LR LR
comp=Z,7µm,20.0s
BNX LR LR
comp=Z,11µm,26.2s
BNX LR LR
comp=Z,16µm,24.2s
BSEG Bad Segeberg 80.05 28 eP P 17 46 04.3 +4.2
comp=Z,68nm,1.3s,baz=321,slow=5.1
MSHR Mys Shultsa 80.05 316 ceP P 17 46 00.1 -0.3
MSHR pmax pmax
comp=Z,85nm,2.5s
MSHR MLR MLR
comp=Z,11µm,20.0s
BDQN Bodoquena, MS 80.15 124 eP P 17 45 59.8 -1.4
BDQN Bodoquena, MS 80.15 124 eP P 17 46 01.7 +0.6
ECAL Calabor 80.16 45 P P 17 46 00.4 -0.8
BLEU Blekinge 80.18 24 i P P 17 46 04.6 +3.7
PSTR Posyet 80.21 316 i P P 17 46 01.8 +0.5
PBRG Braganca 80.24 45 eP P 17 46 01.6 0.0
PBRG i IAmb IAmb 17 46 20.1
comp=Z,71nm,1.9s
IBBN Ibbenburen 80.25 31 eP P 17 46 05.7 +4.4
baz=321,slow=5.1
PVIS Viseu 80.25 47 eP P 17 46 04.0 +2.3
COI Coimbra 80.27 47 IAMs_20 IAMs_20 18 18 16.5
comp=Z,23µm,22.0s
COI Coimbra 80.27 47 eP P 17 46 05.4 +3.8
COI i IAmb IAmb 17 46 34.8
comp=Z,98nm,1.8s
PCAS Casmilo, Conde 80.31 47 eP P 17 46 03.3 +1.4
PCAS i IAmb IAmb 17 46 12.3
comp=Z,69nm,1.7s
MURT Porto Murtinho 80.41 125 eP P 17 46 01.9 -0.6
MURT Porto Murtinho 80.41 125 eP P 17 46 02.3 -0.3
BMRD Maredsous 80.42 33 dP P 17 46 02.6 +0.4
comp=Z,30nm,1.1s
ARAG Araguaiana, MT 80.42 117 eP P 17 46 00.2 -2.5
ARAG Araguaiana, MT 80.42 117 eP P 17 46 03.1 +0.3
MVO Moncorvo 80.48 46 eP P 17 46 07.4 +4.5
MVO i IAmb IAmb 17 46 18.7
comp=Z,124nm,1.7s
MVO eS SKSac 17 56 13.8 -7.1
MVO eSS SS 18 01 20.9 +0.7
MVO eLQ LQ 18 06 38.7
MVO eLR LR 18 12 04.4
MVO i IAMs_20 IAMs_20 18 25 11.0
comp=Z,16µm,18.0s
DOU Dourbes 80.49 34 dP P 17 46 03.8 +1.2
comp=Z,34nm,1.1s
BGES Gesves 80.50 33 dP P 17 46 02.1 -0.6
comp=Z,31nm,1.0s
PMAFR Mafra 80.52 49 P P 17 45 60.0 -3.1
VA06 Catapilco 80.52 142 IAMs_20 IAMs_20 18 14 08.8
comp=Z,28µm,22.0s
BSTI Sart Tilman 80.57 33 dP P 17 46 03.8 +0.7
comp=Z,13nm,0.9s
BCLA Clavier 80.57 33 dP P 17 46 04.1 +1.0
comp=Z,26nm,1.1s
RETH Rethem/Aller, 80.58 30 eP P 17 46 07.5 +4.5
comp=Z,23nm,1.0s,baz=321,slow=5.1
MTE Manteigas 80.66 47 P P 17 46 02.6 -1.3
MTE IAMs_20 IAMs_20 18 24 27.0
comp=Z,15µm,18.0s
MTE Manteigas 80.66 47 eP P 17 46 06.2 +2.3
MTE i IAmb IAmb 17 46 21.3
comp=Z,124nm,1.4s
MTE eS S 17 56 11.2 +0.1
MTE eSS SS 18 01 25.6 +2.6
MTE eLQ LQ 18 06 39.6
MTE eLR LR 18 12 07.6
MTE i IAMs_20 IAMs_20 18 34 06.1
comp=Z,13µm,18.0s
BUG Bochum-Univer 80.68 31 eP P 17 46 07.7 +4.0
comp=Z,21nm,1.1s,baz=321,slow=5.1
RGN Rugen 80.70 27 IAMs_20 IAMs_20 18 24 31.9
comp=Z,19µm,21.0s
LIS Lisbon 80.75 49 eP P 17 46 03.0 -1.2
LIS eS S 17 56 11.3 -0.6
LIS IAMs_20 IAMs_20 18 15 47.3
comp=N,34µm,24.0s
MEM Membach 80.75 33 dP P 17 46 06.3 +2.2
comp=Z,39nm,1.0s
PSARD Sardoal 80.80 48 eP P 17 46 04.9 +0.3
PSARD i IAmb IAmb 17 46 15.6
comp=Z,82nm,1.7s
BTNL Ternell 80.81 33 dP P 17 46 09.1 +4.6
comp=Z,15nm,1.1s
BSD Bornholm Skovb 80.83 25 i P P 17 46 08.0 +3.6
BSD IAmb IAmb 17 46 08.8
comp=Z,77nm,1.2s
MSVF Nonsavu 80.83 241 LR LR 18 17 08.6
comp=Z,13µm,18.2s,baz=41,slow=32
MSVF Nonsavu 80.83 241 i P P 17 46 05.1 +0.1
MSVF pmax pmax
comp=Z,47nm,1.3s
MSVF MLR MLR
comp=Z,16µm,17.0s
CLF Chambon-Foret 80.86 36 IAMs_20 IAMs_20 18 23 24.7
comp=Z,23µm,20.0s
AQDB Aquidauana 80.88 123 P P 17 46 03.0 -2.0
AQDB Aquidauana 80.88 123 eP P 17 46 06.8 +1.7
AQDB Aquidauana 80.88 123 P P 17 46 07.6 +2.5
BHOU Houvegnez 80.93 33 dP P 17 46 05.9 +0.8
comp=Z,21nm,1.0s
INU Inuyama 80.97 307 P P 17 46 03.5 -2.0
PCBR Castelo Branco 81.05 47 eP P 17 46 09.6 +3.7
PCBR i IAmb IAmb 17 46 17.6

comp=Z,92nm,1.3s
VA03 San Esteban 81.06 141 P **P** **17 46 04.3 -1.6**
VA03 IAmb IAmb 17 46 35.8
comp=Z,106nm,1.1s
VA03 IAMs_20 IAMs_20 18 14 37.1
comp=Z,26µm,21.0s
NRDL Niedersach Rie 81.06 29 *eP* **P** **17 46 09.6 +4.0**
comp=Z,56nm,1.2s,baz=321,slow=5.1
PMTG Montargil 81.09 48 *eP* **P** **17 46 08.1 +2.0**
PMTG *i* IAmb IAmb 17 46 22.4
comp=Z,94nm,1.8s
GORT1 Trebel 81.16 28 *eP* **P** **17 46 10.8 +4.8**
comp=Z,55nm,1.2s,baz=321,slow=5.1
VA05 Santo Domingo 81.24 143 IAMs_20 IAMs_20 18 14 49.9
comp=Z,24µm,22.0s
SSV2 Sao Salvador 81.24 113 P **P** **17 46 09.8 +2.6**
PEL Peldehue 81.29 142 IAMs_20 IAMs_20 18 14 54.4
comp=Z,25µm,21.0s
NBPS Pedro II - PI 81.31 102 P **P** **17 46 09.3 +1.6**
KASTN Kahler Asten 81.34 31 *eP* **P** **17 46 11.3 +4.0**
comp=Z,42nm,1.4s,baz=321,slow=5.1
HIA Hailar 81.36 326 P **P** **17 46 05.9 -1.5**
HIA Hailar 81.36 326 IAMs_20 IAMs_20 18 23 51.1
comp=Z,15µm,21.0s
HIA Hailar 81.36 326 P **P** **17 46 05.9 -1.5**
HIA pmax pmax
comp=Z,46nm,1.0s
HIA MLR MLR
comp=Z,15µm,21.0s
PMRV Marv??o 81.37 47 *eP* **P** **17 46 07.6 0.0**
PMRV *i* IAmb IAmb 17 46 18.0
comp=Z,84nm,1.2s
PMRV *eS* **SKSac** **17 56 20.5 -6.5**
PMRV *eSS* **SS** **18 01 35.4 +1.9**
PMRV *eLQ* LQ 18 07 31.4
PMRV *eLR* LR 18 14 16.1
PMRV *i* IAMs_20 IAMs_20 18 19 23.7
comp=Z,14µm,22.0s
MT05 Renca 81.47 142 P **P** **17 46 06.8 -1.2**
MT05 IAMs_20 IAMs_20 18 14 47.8
comp=Z,26µm,22.0s
WLF Walferdange 81.50 33 P **P** **17 46 11.1 +3.0**
WLF Walferdange 81.50 33 IAMs_20 IAMs_20 18 19 22.2
comp=Z,26µm,22.0s
WLF Walferdange 81.50 33 *dP* P 17 46 02.9 -5.2
comp=Z,36nm,0.9s
WLF Walferdange 81.50 33 *eP* **P** **17 46 12.3 +4.2**
comp=Z,44nm,0.9s,baz=321,slow=5.1
EVO Evora 81.56 48 P **P** **17 46 08.9 +0.3**
EVO Evora 81.56 48 *eP* **P** **17 46 09.1 +0.5**
EVO *i* IAmb IAmb 17 46 20.7
comp=Z,62nm,1.3s
ASSE Asse, Remlinge 81.56 29 *eP* **P** **17 46 12.6 +4.3**
comp=Z,1µm,3.4s,baz=321,slow=5.1
VSU Vasula 81.58 18 *i* P **P** **17 46 08.9 +0.6**
VSU pmax pmax
comp=Z,116nm,1.5s
VSU MLR MLR
comp=Z,20µm,18.0s
MT01 Popeta 81.59 143 IAMs_20 IAMs_20 18 15 00.1
comp=Z,25µm,22.0s
MT16 CCHEN 81.60 142 P **P** **17 46 06.2 -2.5**
MT16 IAmb IAmb 17 46 43.2
comp=Z,108nm,1.0s
PESTR Estremoz 81.60 48 P **P** **17 46 09.6 +0.8**
PESTR Estremoz 81.60 48 P **P** **17 46 07.4 -1.5**
PESTR IAmb IAmb 17 46 45.3
comp=Z,104nm,1.5s
PESTR IAMs_20 IAMs_20 18 19 18.0
comp=Z,28µm,22.0s
PESTR Estremoz 81.60 48 *eP* **P** **17 46 09.8 +0.9**
PESTR *i* IAmb IAmb 17 46 20.6
comp=Z,81nm,1.4s
FLTG Flechtingen 81.63 29 *eP* **P** **17 46 12.7 +4.0**
comp=Z,40nm,1.0s,baz=321,slow=5.1
MT09 Talagante 81.65 142 IAMs_20 IAMs_20 18 14 41.7
comp=Z,24µm,21.0s
CLZ Clausthal 81.66 30 *eP* **P** **17 46 13.1 +4.2**
comp=Z,49nm,0.9s,baz=321,slow=5.1
C2SB Chapadao do Su 81.71 120 *eP* **P** **17 46 13.6 +4.0**
GTTG Gottingen 81.72 30 *eP* P 17 46 14.0 +4.8
comp=Z,27nm,1.0s,baz=321,slow=5.1
PTEO Sao Teotonio 81.74 49 *eP* **P** **17 46 10.1 +0.5**
PTEO *i* IAmb IAmb 17 46 25.3
comp=Z,174nm,1.5s
MESJ Messejana 81.87 49 *eP* **P** **17 46 09.1 -1.2**
MESJ *eS* **S** **17 56 22.8 -0.8**
MESJ *eSS* **SS** **18 01 41.7 +0.8**
MESJ IAMs_20 IAMs_20 18 21 50.5
comp=Z,31µm,18.8s
CIT Chita 81.93 331 *eP* **P** **17 46 11.6 +1.2**
CIT *e* 17 49 25.6
CIT *e* 17 51 12.2
CIT *e* 17 56 32.6
CIT pmax pmax
comp=Z,180nm,1.8s
MORF Marmelete 81.94 50 *eP* **P** **17 46 09.4 -1.3**
MORF *eS* **S** **17 56 23.8 -0.6**
MORF IAMs_20 IAMs_20 18 14 44.1
comp=N,41µm,29.0s
MORF Marmelete 81.94 50 P **P** **17 46 09.4 -1.3**
MORF IAmb IAmb 17 46 47.5
comp=Z,141nm,1.4s
MORF Marmelete 81.94 50 *eP* **P** **17 46 11.2 +0.6**
MORF *i* IAmb IAmb 17 46 22.1
comp=Z,102nm,1.5s
MORF Marmelete 81.94 50 P **P** **17 46 09.4 -1.3**
MORF pmax pmax
comp=Z,141nm,1.4s
MORF MLR MLR
comp=Z,28µm,20.0s
PFVI Vila Bisbo 81.94 50 P **P** **17 46 09.5 -1.1**
PFVI Vila Bisbo 81.94 50 *eP* **P** **17 46 11.0 +0.4**
PFVI *i* IAmb IAmb 17 46 25.8
comp=Z,101nm,1.5s
PBEJ Beja 81.97 49 *eP* **P** **17 46 11.9 +1.1**
PBEJ *i* IAmb IAmb 17 46 49.4
comp=Z,48nm,1.5s
KLMR Klimovskoe 82.00 11 *eP* **P** **17 46 09.7 -0.8**
KLMR *e* 17 49 16.8
KLMR S **S** **17 56 24.7 +0.6**
KLMR SS **SS** **18 01 42.3 +0.8**
KLMR pmax pmax
comp=Z,98nm,1.1s
KLMR MLR MLR
comp=Z,19µm,17.0s
BO04 La Punta 82.01 142 P **P** **17 46 09.6 -1.2**
BO04 IAmb IAmb 17 46 25.6
comp=Z,88nm,1.2s
BO04 IAMs_20 IAMs_20 18 14 53.2
comp=Z,26µm,22.0s
EBAD Badajoz 82.02 48 P **P** **17 46 09.6 -1.4**
TNS Taunus Mts 82.09 32 *eP* **P** **17 46 15.5 +4.3**
comp=Z,148nm,2.2s,baz=321,slow=5.1
BO01 Tunca 82.09 143 IAMs_20 IAMs_20 18 15 14.4
comp=Z,22µm,22.0s
PCVE Castro Verde 82.11 49 P **P** **17 46 10.3 -1.2**
PCVE Castro Verde 82.11 49 *eP* **P** **17 46 11.9 +0.4**
PCVE *i* IAmb IAmb 17 46 27.3
comp=Z,95nm,1.4s
RPRD Ribas do Rio P 82.25 122 *eP* **P** **17 46 14.7 +2.3**
UBBA Unterbreizbach 82.29 31 *eP* **P** **17 46 16.5 +4.4**
comp=Z,339nm,2.5s,baz=321,slow=5.1
JCJ Chichijima 82.34 298 LR LR 18 16 01.6
comp=Z,5µm,21.5s,baz=135,slow=31
PBAR Barrancos 82.38 48 P **P** **17 46 12.2 -0.7**
PBAR Barrancos 82.38 48 *eP* **P** **17 46 14.1 +1.2**
PBAR *i* IAmb IAmb 17 46 27.7
comp=Z,58nm,1.6s
CN2 Changchun 82.38 319 *eP* **P** **17 46 14.3 +1.5**
CN2 *epP* PcP 17 46 17.6 -0.4
CN2 *esP* sP 17 46 21.1 +2.4
CN2 *eS* **S** **17 56 27.3 -1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,10µm,23.0s
CN2 LR LR
comp=Z,8µm,23.0s
CN2 LR LR
comp=Z,6µm,21.6s
PBDV Barranco-do-Ve 82.42 49 *eP* **P** **17 46 16.5 +3.3**
PBDV *i* IAmb IAmb 17 46 42.0
comp=Z,74nm,1.3s
PVAQ Vaqueiros 82.45 49 P **P** **17 46 14.3 +1.0**
PVAQ Vaqueiros 82.45 49 P **P** **17 46 11.8 -1.5**
PVAQ IAmb IAmb 17 46 41.6
comp=Z,90nm,1.2s
PVAQ Vaqueiros 82.45 49 *eP* **P** **17 46 14.9 +1.6**
PVAQ *i* IAmb IAmb 17 46 25.7
comp=Z,55nm,1.2s
PVAQ *eS* **SKSac** **17 56 33.2 -1.1**
PVAQ *eSS* **SS** **18 01 51.3 +1.7**
PVAQ *eLQ* LQ 18 07 36.7
PVAQ *eLR* LR 18 13 13.9
PVAQ *i* IAMs_20 IAMs_20 18 22 37.9
comp=Z,24µm,18.0s
EGRO El Granado 82.51 49 P **P** **17 46 13.5 -0.1**
BO02 Sierra Bellavi 82.56 143 IAMs_20 IAMs_20 18 15 08.9
comp=Z,21µm,22.0s
NEUB Neuenburg 82.71 29 *eP* **P** **17 46 18.4 +4.0**
comp=Z,123nm,1.5s,baz=321,slow=5.1
EMIN Mina Concepcio 82.86 48 P **P** **17 46 15.5 0.0**
BI05 Punta Hualpn 83.00 146 IAMs_20 IAMs_20 18 16 15.4
comp=Z,21µm,19.0s
ECH Echery 83.01 34 IAMs_20 IAMs_20 18 20 22.3
comp=Z,21µm,20.0s
ML02 Panimavida 83.03 144 IAMs_20 IAMs_20 18 18 00.3
comp=Z,20µm,19.0s
MOX Moxa 83.08 30 *eP* **P** **17 46 20.4 +4.0**
comp=Z,164nm,1.9s,baz=321,slow=5.1
MOX *eL* L 18 28 08.3
comp=Z,31µm,18.3s
PAB San Pablo 83.09 46 P **P** **17 46 15.7 -1.0**
PAB IAmb IAmb 17 46 53.8
comp=Z,82nm,1.6s
PAB San Pablo 83.09 46 IAMs_20 IAMs_20 18 23 22.2
comp=Z,14µm,20.0s
PAB San Pablo 83.09 46 P **P** **17 46 15.7 -1.0**
PAB pmax pmax
comp=Z,82nm,1.6s
PAB MLR MLR
comp=Z,14µm,20.0s
CLL Collm 83.12 29 *i* P **P** **17 46 18.1 +1.6**
CLL *i* 17 46 24.5
CLL *eS* **SKSac** **17 56 36.0 -2.2**
CLL pmax pmax
comp=Z,92nm,1.6s
CLL MLR MLR
comp=Z,26µm,20.5s
CLL Collm 83.12 29 *eP* **P** **17 46 20.2 +3.7**
comp=Z,44nm,1.2s,baz=321,slow=5.1
BDFB Brasilia 83.17 115 P **P** **17 46 15.1 -2.3**
BDFB Brasilia 83.17 115 P **P** **17 46 17.9 +0.6**
comp=Z,2.3nm,0.5s,baz=317,slow=6.2,SNR=4.9
BDFB LR LR 18 26 09.0
comp=Z,22µm,21.6s,baz=304,slow=38
comp=Z,2.3nm,0.5s
BDFB Brasilia 83.17 115 P **P** **17 46 18.0 +0.6**
BDFB Brasilia 83.17 115 P **P** **17 46 21.9 +4.6**
UCM Universidad Co 83.22 45 P **P** **17 46 16.6 -0.7**
ESBB Sonseca Array 83.23 45 P **P** **17 46 16.1 -1.3**
ESDC Sonseca Array 83.23 45 P **P** **17 46 17.8 +0.4**
comp=Z,4.9nm,0.8s,baz=313,slow=4.9,SNR=13
ESDC PKKPbc **PKKPbc** **18 04 42.0 +5.1**
comp=Z,1.7nm,1.2s,baz=127,slow=0.7,SNR=4.6
ESDC PKPPKP **P'P'df** **18 12 45.6 -2.9**
comp=Z,0.3nm,0.8s,baz=141,slow=3.7,SNR=4.7
comp=Z,4.9nm,0.8s
PABE Paberze 83.40 21 IAMs_20 IAMs_20 18 26 16.0
comp=Z,20µm,20.0s
BFO Black Forest 83.45 33 IAMs_20 IAMs_20 18 20 05.9
comp=Z,17µm,22.0s
BFO Black Forest 83.45 33 *eP* **P** **17 46 22.2 +3.8**
comp=Z,32nm,1.0s,baz=321,slow=5.1
SDBA SAO DESIDERIO 83.48 110 *eP* **P** **17 46 21.2 +2.3**
SDBA SAO DESIDERIO 83.48 110 P **P** **17 46 22.0 +3.1**
NBPB Pedra_Branca-C 83.48 102 *eP* **P** **17 46 23.7 +4.8**
NBPB Pedra_Branca-C 83.48 102 P **P** **17 46 20.3 +1.3**
STU Stuttgart 83.50 32 *eP* **P** **17 46 22.4 +3.9**
comp=Z,59nm,0.9s,baz=321,slow=5.1
TANN Tannenbergstha 83.60 30 *eP* **P** **17 46 23.2 +4.0**
comp=Z,512nm,2.8s,baz=321,slow=5.1
GRF Grafenberg Arr 83.66 31 *eP* **P** **17 46 22.0 +2.7**
comp=Z,70nm,1.1s,baz=321,slow=5.1
GRF *eL* L 18 22 16.4
comp=Z,32µm,20.7s
GRFO Grafenberg 83.66 31 P **P** **17 46 18.4 -1.0**
GRFO Grafenberg 83.66 31 P **P** **17 46 18.4 -1.0**
GRFO pmax pmax
comp=Z,106nm,1.2s
GRFO MLR MLR
comp=Z,32µm,20.0s
SJPY San Joaquin 83.72 127 *eP* **P** **17 46 21.0 +1.1**
NBCL Cascavel-CE 83.73 100 *eP* **P** **17 46 24.3 +4.0**
NBCL Cascavel-CE 83.73 100 P **P** **17 46 24.3 +4.0**
MANZ Manzanera 83.79 30 *eP* **P** **17 46 24.0 +3.9**
comp=Z,22nm,1.7s,baz=321,slow=5.1
BI02 San Fabin de 83.83 144 P **P** **17 46 19.0 -1.2**
BI02 IAMs_20 IAMs_20 18 18 06.3
comp=Z,19µm,20.0s
BRG Berggiesshubel 83.83 29 *eP* **P** **17 46 24.0 +3.9**
comp=Z,158nm,1.8s,baz=321,slow=5.1
BRG Berggiesshubel 83.83 29 *eP* **P** **17 46 21.6 +1.5**
BRG Amp 17 46 22.9
comp=Z,5.5nm,0.9s
BRG Berggiesshubel 83.83 29 P P 17 46 25.6 +5.4
BRG Amp 17 46 26.0
comp=Z,20nm,1.0s
BRG Berggiesshubel 83.83 29 SP 17 57 46.0
CPUP Villa Florida 83.85 128 P **P** **17 46 18.4 -2.1**
CPUP Villa Florida 83.85 128 P **P** **17 46 20.6 +0.1**
comp=Z,4.6nm,1.1s,baz=164,slow=5.8,SNR=7.9
CPUP LR LR 18 24 30.5
comp=Z,3µm,19.5s,baz=191,slow=36
comp=Z,4.6nm,1.1s
CPUP Villa Florida 83.85 128 *eP* **P** **17 46 22.9 +2.4**
CPUP Villa Florida 83.85 128 P **P** **17 46 22.0 +1.5**
HHU Hamhung 83.85 315 P **P** **17 46 20.0 -0.5**
SSB Saint Sauveur 83.92 37 IAMs_20 IAMs_20 18 22 01.6
comp=Z,18µm,19.0s
JMN Monobe 84.00 307 P **P** **17 46 20.3 -1.1**
ROTZ Rotzenmuhle 84.00 30 *eP* **P** **17 46 25.3 +4.2**
comp=Z,6.1nm,1.1s,baz=321,slow=5.1
ITRB Iturama 84.08 119 *eP* **P** **17 46 26.5 +4.6**
CEST Esterri de Car 84.14 41 IAMs_20 IAMs_20 18 30 03.7
comp=Z,15µm,18.0s
RICC Richard 84.15 29 *eP* P 17 46 27.1 +5.3
RICC *ex* x 17 46 29.8
RICC AMS AMS 18 25 20.0
comp=Z,21µm,18.2s
PVCC Panska Ves 84.35 28 *eP* P 17 46 28.0 +5.2
PVCC AMS AMS 18 25 30.0
comp=Z,22µm,18.1s
PVCC Panska Ves 84.35 28 *eP* P 17 46 28.0 +5.2
PVCC MLR MLR
comp=Z,22µm,18.1s
SUW Suwalki 84.45 22 *eP* **P** **17 46 26.8 +3.6**
SUW *eS* S 17 57 01.4 +12
SUW *eL* L 18 19 25.0
comp=Z,38µm,27.3s
SUW Suwalki 84.45 22 P **P** **17 46 22.4 -0.8**
SUW Suwalki 84.45 22 P **P** **17 46 22.4 -0.8**
SUW MLR MLR
comp=Z,28µm,20.0s
IPMB Ipameri, GO 84.52 117 *eP* P 17 46 29.2 +5.1
IPMB Ipameri, GO 84.52 117 P **P** **17 46 26.6 +2.4**
SACV Santiago Islan 84.53 76 IAMs_20 IAMs_20 18 23 18.8
comp=Z,14µm,20.0s
TRCB Terra Rica 84.54 123 *eP* **P** **17 46 26.8 +2.6**
TRCB Terra Rica 84.54 123 P **P** **17 46 26.7 +2.6**
PRA Prague 84.66 29 *eP* **P** **17 46 27.6 +3.2**
PRA *eSKS* S 17 57 03.3 +12
PRA AMS AMS 18 25 20.0
comp=Z,24µm,18.2s
PRA Prague 84.66 29 *eP* **P** **17 46 27.6 +3.2**
PRA MLR MLR
comp=Z,24µm,18.2s
PCMB Pacaembu 84.70 121 *eP* **P** **17 46 27.9 +2.9**
SNY Shenyang 84.74 319 ⇑P **P** **17 46 26.6 +1.6**
SNY S **S** **17 56 59.7 +7.2**
SNY pmax pmax
comp=Z,22nm,1.2s
SNY pmax pmax
comp=Z,340nm,2.9s
SNY LR LR
comp=Z,3µm,15.3s
SNY LR LR
comp=Z,7µm,21.5s
SNY LR LR
comp=Z,12µm,35.1s
KSP Ksiaz 84.75 27 *eP* **P** **17 46 29.2 +4.3**
KSP *eS* S 17 57 01.8 +9.4
KSP *eL* L 18 19 36.1
comp=Z,25µm,25.4s
PRU Pruhonice 84.77 29 *eP* **P** **17 46 29.4 +4.5**
PRU *eSKS* S 17 57 04.7 +12
PRU AMS AMS 18 25 30.0
comp=Z,22µm,18.0s
PRU Pruhonice 84.77 29 *eP* **P** **17 46 29.4 +4.5**
PRU MLR MLR
comp=Z,22µm,18.0s
WET Wettzell 84.77 30 *eP* **P** **17 46 28.8 +3.8**
comp=Z,21nm,1.1s,baz=321,slow=5.1
FUR Furstenfeldbru 84.86 32 *eP* **P** **17 46 29.7 +4.2**
comp=Z,49nm,1.0s,baz=321,slow=5.1
CHVC Chvalec 84.87 28 AMS AMS 18 27 50.0
comp=Z,21µm,17.4s
EMAL Malaga-Limoner 84.87 48 P **P** **17 46 27.0 +1.2**
SFA1 Serra Facao 84.88 116 P **P** **17 46 28.4 +2.4**
UPC Upice 84.92 28 *eP* **P** **17 46 29.1 +3.4**
UPC *eSKS* S 17 57 05.1 +11
UPC AMS AMS 18 27 50.0
comp=Z,20µm,18.3s
UPC Upice 84.92 28 *eP* **P** **17 46 29.1 +3.4**
UPC MLR MLR
comp=Z,20µm,18.3s
GOPC GO Pecny, Ondr 84.92 29 *eP* **P** **17 46 30.1 +4.3**
GOPC *eSKS* S 17 57 05.9 +12
GOPC AMS AMS 18 25 30.0
comp=Z,26µm,18.5s
GOPC GO Pecny, Ondr 84.92 29 *eP* **P** **17 46 30.1 +4.3**
GOPC MLR MLR
comp=Z,26µm,18.5s
DAVA Damuels 84.92 33 *ePcP* **PcP** **17 46 28.2 -1.1**
comp=Z,12nm,0.9s
OSTC Ostas 84.95 28 *eP* **P** **17 46 29.3 +3.4**
OSTC *eSKS* S 17 57 04.8 +10
OSTC AMS AMS 18 27 50.0
comp=Z,22µm,16.8s
OSTC Ostas 84.95 28 *eP* **P** **17 46 29.3 +3.4**
OSTC MLR MLR
comp=Z,22µm,16.8s
KHC Kasperske Hory 85.06 30 *eP* **P** **17 46 31.2 +4.7**
KHC *ex* x 17 46 34.9
KHC *ex* x 17 49 50.0
KHC *eSKS* S 17 57 04.9 +9.3
KHC AMS AMS 18 27 20.0
comp=Z,25µm,18.3s
KHC Kasperske Hory 85.06 30 *eP* **P** **17 46 31.2 +4.7**
KHC *e* 17 46 34.9
KHC *e* 17 49 50.0
KHC MLR MLR
comp=Z,25µm,18.3s
ZVC Zvikov 85.06 29 *eSKS* S 17 57 05.9 +10
ZVC AMS AMS 18 25 00.0
comp=Z,26µm,20.0s
IRK Irkutsk 85.15 336 *eP* **P** **17 46 26.5 -0.4**
IRK *eS* **S** **17 56 57.9 +1.6**
IRK pmax pmax
comp=Z,287nm,2.3s
RETA Reutte 85.16 32 PcP **PcP** **17 46 30.8 +0.5**
comp=Z,24nm,1.3s
DPC Dobruska-Polom 85.16 28 *eP* P 17 46 31.8 +4.8
DPC *eSKS* S 17 57 08.2 +12
DPC AMS AMS 18 28 00.0
comp=Z,20µm,17.0s
DPC Dobruska-Polom 85.16 28 *eP* P 17 46 31.8 +4.8
DPC MLR MLR
comp=Z,20µm,17.0s
NBMA Muriti-CE 85.21 103 P **P** **17 46 29.0 +1.3**
KSRS Korea Array 85.28 313 P **P** **17 46 26.8 -0.9**
comp=Z,10.0nm,0.9s,baz=58,slow=4.7,SNR=36
KSRS PP **PP** **17 49 48.0 +3.1**
comp=Z,6.5nm,1.1s,baz=49,slow=7.6,SNR=6.3
comp=Z,10.0nm,0.9s
KS19 Wonju Array Si 85.28 313 P **P** **17 46 26.5 -1.3**
KS19 IAmb IAmb 17 46 54.5
comp=Z,105nm,1.6s
KSAR Wonju Array Be 85.31 313 P **P** **17 46 26.4 -1.5**
KSAR Wonju Array Be 85.31 313 P **P** **17 46 26.4 -1.5**
R9F13 Warsaw-Wawer 85.32 24 *eP* P 17 46 32.6 +4.9
comp=Z,1.7nm,0.8s
R9F13 *ePP* **PP** **17 49 43.5 -1.2**
R9F13 *eSKS* **SKSac** **17 56 50.7 -1.7**
R9F13 *eS* **SKKSac** **17 56 58.7 -0.2**
GEC2 GERESS Array S 85.34 30 P **P** **17 46 26.6 -1.4**
GEC2 GERESS Array S 85.34 30 *eP* **P** **17 46 31.4 +3.5**
comp=Z,35nm,1.4s,baz=321,slow=5.1
GERES GERESS Array B 85.34 30 P **P** **17 46 26.5 -1.4**
GERES GERESS Array B 85.34 30 P **P** **17 46 27.3 -0.6**
comp=Z,1.1nm,0.5s,baz=319,slow=5.2,SNR=16
GERES LR LR 18 23 53.3
comp=Z,24µm,21.6s,baz=322,slow=35
comp=Z,1.1nm,0.5s
MNK Minsk 85.38 19 *i* P **P** **17 46 24.5 -3.4**
MNK *i* 17 49 42.3
MNK *i* S **SKSac** **17 56 48.8 -3.8**
MNK *i* SS **SS** **18 02 27.2 -4.5**
MNK *i* SSS SSS 18 06 02.9
MNK pmax pmax
comp=E,25nm,1.0s
MNK pmax pmax
comp=N,12nm,0.7s
MNK pmax pmax
comp=Z,56nm,0.8s
MNK MLR MLR
comp=N,14µm,18.0s
MNK MLR MLR
comp=Z,22µm,19.0s
MNK MLR MLR
comp=E,17µm,18.0s
MOTA Moosalm 85.42 32 *ePcP* **PcP** **17 46 32.7 +1.2**
comp=E,24nm,0.9s
SUJ Sinuiju 85.44 317 P **P** **17 46 28.3 -0.2**
SUJ S **S** **17 56 57.2 -2.3**
SUJ AmB
comp=Z,440nm,2.0s
SUJ AMS AMS
comp=Z,8µm,27.9s
LR04 Corral 85.46 148 IAMs_20 IAMs_20 18 18 35.6
comp=Z,16µm,20.0s
KIRV Kirov 85.47 7 LR LR 18 29 54.5
comp=Z,19µm,18.4s,baz=352,slow=39
KIRV Kirov 85.47 7 *i* P **P** **17 46 27.9 -0.3**
FETA Feichten 85.50 33 *ePcP* **PcP** **17 46 32.0 +0.1**
comp=Z,23nm,1.9s
KRLC Kraliky 85.56 28 *eP* P 17 46 33.8 +4.8
KRLC *eSKS* S 17 57 11.6 +11
KRLC AMS AMS 18 28 20.0
comp=Z,18µm,16.5s
KRLC Kraliky 85.56 28 *eP* P 17 46 33.8 +4.8
KRLC MLR MLR
comp=Z,18µm,16.5s
SQTA Sankt Quirin 85.56 32 *i* PcP **PcP** **17 46 33.2 +1.1**
comp=Z,14nm,0.8s
JANB Januaria 85.57 112 *eP* **P** **17 46 33.6 +4.2**
JANB Januaria 85.57 112 P **P** **17 46 32.2 +2.7**
CKRC Cesky Krumlov 85.60 30 *eP* P 17 46 36.4 +7.2
CKRC *eSKS* S 17 57 11.6 +11
CKRC AMS AMS 18 25 10.0
comp=Z,26µm,21.1s
CKRC Cesky Krumlov 85.60 30 *eP* P 17 46 36.4 +7.2
CKRC MLR MLR
comp=Z,26µm,21.1s
FUORN Ofenpass-Fuorn 85.60 33 P **P** **17 46 27.9 -1.6**
FUORN IAmb IAmb 17 47 22.6
comp=Z,75nm,1.3s
WATA Walderalm 85.63 32 *epP* pP 17 46 33.0 -0.8
comp=Z,32nm,1.4s
TREC Trest 85.69 29 *eSKS* S 17 57 13.4 +12
TREC AMS AMS 18 25 40.0
comp=Z,23µm,17.4s
WTTA Wattenberg 85.71 32 P **P** **17 46 26.2 -3.8**
comp=Z,2.0nm,0.6s
LR03 Panguipulli 85.73 147 IAMs_20 IAMs_20 18 19 08.8
comp=Z,19µm,19.0s
RJOB Jochberg 85.83 31 *eP* **P** **17 46 34.1 +3.7**
comp=Z,22nm,1.3s,baz=321,slow=5.1
LDASE Londrina, Braz 85.97 122 *eP* **P** **17 46 33.6 +2.3**
INCN Inchon 86.02 314 P **P** **17 46 30.1 -1.4**
INCN Inchon 86.02 314 P **P** **17 46 30.1 -1.4**
INCN pmax pmax

comp=Z,28nm,0.9s
INCN MLR MLR

comp=Z,7µm,22.0s
RAO Raoul Island 86.02 230 LR LR 18 16 24.7
comp=Z,5µm,21.7s,baz=58,slow=30
LESA Schwarzleotal 86.03 31 *e*pP pP 17 46 35.1 -0.6
comp=Z,15nm,1.6s
STEB Steborice 86.04 27 *e*P P 17 46 38.3 +7.0
MORC Moravsky Berou 86.08 27 P **P** **17 46 30.7 -0.9**
MORC IAmb IAmb 17 46 44.5
comp=Z,94nm,1.8s
MORC IAMs_20 IAMs_20 18 25 45.2
comp=Z,20µm,21.0s
MORC Moravsky Berou 86.08 27 *e*PCP **P** **17 46 32.5 +0.9**
MORC *e*SCS **S** **17 57 05.5 -0.2**
MORC Moravsky Berou 86.08 27 ⇑P **P** **17 46 33.7 +2.1**
MORC Moravsky Berou 86.08 27 P **P** **17 46 30.7 -0.9**
MORC pmax pmax
comp=Z,94nm,1.8s
MORC MLR MLR
comp=Z,20µm,21.0s
VRAC Vranov 86.11 28 *e*PCP **P** **17 46 31.1 -0.6**
VRAC *e*SCS **S** **17 57 08.3 +2.5**
VRAC Vranov 86.11 28 LR LR 18 27 02.6
comp=Z,27µm,18.3s,baz=318,slow=37
VRAC Vranov 86.11 28 ⇑P **P** **17 46 33.0 +1.3**
VRAC Vranov 86.11 28 P **P** **17 46 32.9 +1.3**
HJU Haeju 86.16 315 P **P** **17 46 32.7 +0.6**
HJU S **S** **17 57 04.5 -2.2**
HJU AmB
comp=Z,371nm,1.9s
HJU AMS AMS
comp=Z,9µm,22.7s
PMNB Patos De Minas 86.16 116 *e*P **P** **17 46 35.6 +3.1**
PTGB Pitanga 86.21 124 *e*P **P** **17 46 33.9 +1.4**
PTGB Pitanga 86.21 124 P **P** **17 46 34.1 +1.6**
BIOA Bad Ischl, Aus 86.22 31 *e*pP pP 17 46 35.9 -0.7
comp=Z,24nm,1.7s
KRUC Moravsky 86.23 28 *e*PCP **PcP** **17 46 34.5 -0.4**
KRUC *e*SCS **S** **17 57 12.4 +5.4**
OKC Ostrava-Krasne 86.26 27 *e*P **P** **17 46 36.0 +3.6**
OKC *e*SKS S 17 57 17.7 +10
OKC AMS AMS 18 28 00.0
comp=Z,15µm,17.8s
OKC Ostrava-Krasne 86.26 27 *e*P **P** **17 46 36.0 +3.6**
OKC MLR MLR
comp=Z,15µm,17.8s
BB19B Bebedouro 86.27 119 *e*P **P** **17 46 36.7 +3.8**
BB19B Bebedouro 86.27 119 P **P** **17 46 35.4 +2.5**
JNU Nakatsue 86.32 309 LR LR 18 21 47.4
comp=Z,9µm,20.2s,baz=66,slow=33
TJN Taejon 86.33 313 P **P** **17 46 31.6 -1.4**
TJN IAMs_20 IAMs_20 18 26 01.7
comp=Z,22µm,20.0s
TJN Taejon 86.33 313 *i*P **P** **17 46 33.1 +0.1**
CART Cartagena 86.35 45 IAMs_20 IAMs_20 18 20 29.4
comp=Z,14µm,21.0s
MOA Molln 86.36 30 *e*pP **P** **17 46 33.5 +0.6**
comp=Z,19nm,1.8s
LR05 Currie 86.37 147 IAMs_20 IAMs_20 18 19 28.7
comp=Z,21µm,19.0s
ABTA Abfaltersbach 86.49 32 *e*pP pP 17 46 37.7 -0.3
comp=Z,11nm,1.6s
MOS Moscow 86.51 14 *e*P **P** **17 46 33.6 +0.1**
MOS *e*S **SKSac** **17 56 57.0 -2.7**
MOS pmax pmax
comp=Z,700nm,2.7s
MOS pmax pmax
comp=Z,161nm,2.0s
MOS MLR MLR
comp=N,15µm,18.0s
MOS MLR MLR
comp=Z,16µm,18.0s
OJC Ojcow 86.54 26 *e*P **P** **17 46 31.1 -2.6**
OJC *e*S **S** **17 57 17.3 +7.3**
OJC *e*L L 18 22 11.7
comp=Z,17µm,24.2s
OJC Ojcow 86.54 26 P **P** **17 46 32.4 -1.4**
OJC Ojcow 86.54 26 P **P** **17 46 32.4 -1.4**
RCBR Riachuelo 86.59 100 IAMs_20 IAMs_20 18 28 15.8
comp=Z,13µm,20.0s
RCBR Riachuelo 86.59 100 LR LR 18 28 59.9
comp=Z,6µm,21.0s,baz=305,slow=38
LL05 Los Muermos 86.69 148 IAMs_20 IAMs_20 18 19 04.2
comp=Z,15µm,21.0s
MOY Mondy 86.71 337 *e*P **P** **17 46 35.4 +0.7**
MOY pmax pmax
comp=Z,230nm,2.5s
TIO Tiouine 86.88 54 P **P** **17 46 35.8 -0.2**
JAVC Velka Javorina 86.88 28 *e*PCP **PcP** **17 46 39.1 +1.3**
JAVC *e*SCS **S** **17 57 13.8 +0.3**
OBN Obninsk 86.89 15 P **P** **17 46 33.9 -1.4**
OBN IAMs_20 IAMs_20 18 31 29.8
comp=Z,20µm,18.0s
OBN Obninsk 86.89 15 LR LR 18 26 50.4
comp=Z,19µm,18.6s,baz=286,slow=37
OBN Obninsk 86.89 15 ⇓P **P** **17 46 38.5 +3.2**
OBN Obninsk 86.89 15 *e*P **P** **17 46 35.7 +0.4**
OBN *e* 17 49 57.3
OBN *e*PPP PPP 17 51 54.3
OBN *e*S **SKSac** **17 57 02.2 +0.2**
OBN *e*SS **SS** **18 02 58.1 +4.5**
OBN pmax pmax
comp=Z,61nm,1.7s
OBN MLR MLR
comp=Z,18µm,18.0s
JQT1 Jequitai-MG 86.89 114 P **P** **17 46 38.5 +2.5**
CONA Conrad Observa 86.94 29 *e*pP **P** **17 46 35.2 -0.6**
comp=Z,15nm,1.4s
CONA *e*S **S** **17 57 05.3 -8.8**
comp=Z,110nm,3.4s
XLT XiLinHaoTe 87.02 324 *e*P **P** **17 46 35.9 -0.5**
XLT sP sP 17 46 42.1 -0.2
XLT sS sS 17 57 26.3 +4.1
XLT pmax pmax
comp=Z,25nm,1.2s
XLT LR LR
comp=Z,16µm,23.3s
XLT LR LR
comp=Z,7µm,22.7s
ZAK Zakamensk 87.05 335 *e*P **P** **17 46 37.3 +0.9**
ZAK pmax pmax
comp=Z,56nm,1.6s
SMOL Smolenice 87.07 28 *e*P P 17 46 42.4 +6.0
SMOL pmax pmax
comp=Z,31nm,1.4s
MODS Modra-Piesok 87.13 28 *e*P **P** **17 46 40.4 +3.7**
MODS pmax pmax
comp=Z,273nm,2.1s
MODS Modra-Piesok 87.13 28 *e*P **P** **17 46 40.4 +3.7**
MODS Modra-Piesok 87.13 28 *e*S **S** **17 57 10.8 -5.0**
MODS *e*SS **SS** **18 03 01.1 +3.3**
MODS *e*L L 18 18 09.6
RONA Rosalia, Austr 87.29 29 PcP **P** **17 46 36.8 -0.8**
comp=Z,11nm,0.9s
LANS Liptovska Anna 87.31 27 *e*P P 17 46 44.8 +7.2
LANS pmax pmax
comp=Z,45nm,2.4s
LANS Liptovska Anna 87.31 27 *e*P **P** 17 46 44.8 +7.2
ARSA Arzberg 87.35 30 *e*pP **P** **17 46 37.7 -0.1**
comp=Z,5.1nm,0.9s
MDT Midelt 87.36 51 LR LR 18 25 35.1
comp=Z,13µm,18.8s,baz=318,slow=36
NIE Niedzica 87.39 26 *e*P **P** **17 46 41.2 +3.2**
NIE *e*S **S** **17 57 20.4 +2.1**
NIE *e*L L 18 30 01.6
comp=Z,15µm,19.7s
PLCA Paso Flores 87.43 146 P **P** **17 46 36.7 -1.4**
PLCA IAmb IAmb 17 46 52.5
comp=Z,54nm,1.1s
PLCA Paso Flores 87.43 146 P **P** **17 46 37.8 -0.3**
comp=Z,22nm,1.2s,baz=327,slow=7.4,SNR=9.8
PLCA LR LR 18 19 20.9
comp=Z,16µm,18.7s,baz=326,slow=31
comp=Z,22nm,1.2s
PLCA Paso Flores 87.43 146 *e*P **P** **17 46 40.3 +2.2**
PLCA Paso Flores 87.43 146 P **P** **17 46 37.4 -0.7**
RNPP9 Sopachiv 87.53 22 P **P** **17 46 37.9 -0.6**
OBKA Obir 87.54 31 *e*pP pP 17 46 41.4 -1.8
comp=Z,7.1nm,1.6s
RNPP8 Varash 87.59 22 P **P** **17 46 37.8 -1.0**
SOKA Soboth 87.60 31 *e*pP pP 17 46 42.8 -0.6
comp=Z,8.0nm,0.8s
VYHS Vyhne 87.62 27 *e*P P 17 46 43.9 +4.8
VYHS pmax pmax
comp=Z,79nm,2.2s
VYHS Vyhne 87.62 27 *e*S **S** **17 57 16.0 -4.5**
VYHS *e*SS **SS** **18 03 08.4 +3.5**
VYHS *e*L L 18 21 35.6
MAHO Mahon 87.66 41 IAMs_20 IAMs_20 18 29 41.8
comp=Z,16µm,18.0s
STHS Stebnicka Huta 87.72 26 *e*P **P** **17 46 43.6 +4.0**
STHS pmax pmax
comp=Z,16nm,0.8s
STHS Stebnicka Huta 87.72 26 *e*P **P** **17 46 43.5 +4.0**
ULN Ulaanbaatar 87.78 332 P **P** **17 46 39.7 -0.4**
ULN IAmb IAmb 17 46 47.5
comp=Z,72nm,1.3s
ULN Ulaanbaatar 87.78 332 *ce*P **P** **17 46 40.7 +0.6**
ULN pmax pmax
comp=Z,23nm,1.3s
ULN MLR MLR
comp=Z,28µm,20.0s
TRI Trieste 87.84 32 IAMs_20 IAMs_20 18 23 48.9
comp=Z,24µm,21.0s
ITAB Concordia 87.85 126 *e*P **P** **17 46 42.5 +2.2**
ITAB Concordia 87.85 126 P **P** **17 46 41.9 +1.6**
SVE Sverdlovsk 87.85 1 *e*P **P** 17 46 45.1 +5.1
SVE *e*PPP PPP 17 51 58.9
SVE *e*S S 17 57 12.4 -10
SVE *e*SS **SS** **18 03 06.3 -1.3**
SVE pmax pmax
comp=Z,65nm,1.5s
SVE MLR MLR
comp=Z,22µm,19.0s
DL2 Dalian 87.86 318 P **P** **17 46 40.0 -0.3**
DL2 pP **sP** **17 46 49.9 +3.7**
DL2 S **S** **17 57 25.4 +2.4**
DL2 pmax pmax
comp=Z,15nm,1.2s
DL2 pmax pmax
comp=Z,210nm,4.9s
DL2 LR LR
comp=Z,9µm,23.2s
DL2 LR LR
comp=Z,10µm,23.9s
DL2 LR LR
comp=Z,13µm,21.0s
LL07 Hotel Espejo d 87.86 149 IAMs_20 IAMs_20 18 20 51.3
comp=Z,14µm,19.0s
ANA01 Lindo Horizont 87.96 109 P **P** **17 46 45.0 +3.8**
GO07 Milladeo Hill, 88.02 149 IAMs_20 IAMs_20 18 18 43.4
comp=Z,19µm,20.0s
DIAM Diamantina, MG 88.05 114 *e*P **P** **17 46 45.1 +3.5**
DIAM Diamantina, MG 88.05 114 P **P** **17 46 44.6 +2.9**
SONM Songino Array 88.06 332 P **P** **17 46 40.3 -1.1**
SONM IAmb IAmb 17 46 53.4
comp=Z,48nm,1.1s
SONM Songino Array 88.06 332 P **P** **17 46 41.6 +0.3**
comp=Z,7.8nm,1.0s,baz=34,slow=3.2,SNR=27
SONM PP **PP** **17 50 09.5 +2.4**
comp=Z,9.5nm,1.2s,baz=46,slow=8.5,SNR=4.1
SONM LR LR 18 27 12.1
comp=Z,15µm,20.3s,baz=28,slow=36
comp=Z,7.8nm,1.0s
SONM Songino Array 88.06 332 P **P** **17 46 40.3 -1.1**
SONM pmax pmax
comp=Z,49nm,1.1s
NBLA Lagarto - SE 88.14 105 P **P** **17 46 42.9 +0.9**
MPLH Magyarpolny 88.22 29 P **P** **17 46 40.8 -1.1**
comp=Z,1µmcomp=Z,50nm,1.1s
ARTI Arti 88.24 2 P **P** **17 46 41.9 0.0**
ARTI IAMs_20 IAMs_20 18 31 58.4
comp=Z,19µm,20.0s
ARTI Arti 88.24 2 LR LR 18 29 14.7
comp=Z,18µm,21.4s,baz=348,slow=38
ARTI Arti 88.24 2 *ci*P **P** **17 46 42.0 +0.2**
ARTI S **SKSac** **17 57 10.7 +0.5**
ARTI SS **SS** **18 03 16.6 +3.3**
ARTI pmax pmax
comp=Z,17nm,1.0s
ARTI pmax pmax
comp=Z,431nm,12.4s
ARTI MLR MLR
comp=Z,29µm,23.0s
KECS Kecovo 88.24 26 *e*P P 17 46 47.9 +5.9
KECS Kecovo 88.24 26 *e*P P 17 46 47.9 +5.9
OSSC Osservatorio P 88.43 35 IAMs_20 IAMs_20 18 29 58.6
comp=Z,17µm,20.0s
MI28 Mi28,Pidlybu 88.49 21 P **P** **17 46 42.0 -1.1**
KOLS Kolonicke sedl 88.49 25 *e*P P 17 46 51.2 +8.0
KOLS pmax pmax
comp=Z,9.0nm,1.0s
PSZ Piszkesteto 88.50 27 P **P** **17 46 42.1 -1.2**
PSZ IAmb IAmb 17 47 27.6
comp=Z,64nm,1.6s
PSZ Piszkesteto 88.50 27 ⇑P **P** **17 46 45.6 +2.3**
PSZ Piszkesteto 88.50 27 P **P** **17 46 42.1 -1.2**
PSZ pmax pmax
comp=Z,64nm,1.6s
PSZ MLR MLR
comp=Z,21µm,19.0s
NBAN Anadia - AL 88.56 103 P **P** **17 46 45.3 +1.3**
VABB Valinhos 88.61 120 P **P** **17 46 47.7 +3.6**
VAO Valinhos 88.62 120 IAMs_20 IAMs_20 18 28 21.1
comp=Z,21µm,21.0s
VAO Valinhos 88.62 120 *e*P **P** **17 46 47.9 +3.7**
SPB Sao Paulo 88.67 120 IAMs_20 IAMs_20 18 26 57.5
comp=Z,22µm,21.0s
SPB Sao Paulo 88.67 120 *e*P **P** **17 46 48.0 +3.8**
ZAA0 Zalesovo Array 88.68 347 P **P** **17 46 42.3 -1.6**
ZAA0 IAmb IAmb 17 46 55.9
comp=Z,40nm,0.8s
ZALV Zalesovo Beam 88.68 347 P **P** **17 46 42.3 -1.7**
ZALV Zalesovo Beam 88.68 347 P **P** **17 46 42.8 -1.1**
comp=Z,5.2nm,0.5s,baz=6.8,slow=5.1,SNR=25
ZALV LR LR 18 30 26.6
comp=Z,17µm,21.2s,baz=18,slow=38
comp=Z,5.2nm,0.5s
ZALV Zalesovo Beam 88.68 347 *i*P **P** **17 46 42.2 -1.7**
ZALV pmax pmax
comp=Z,5.0nm,0.5s
CASP Castiglione de 88.81 35 IAMs_20 IAMs_20 18 28 08.9
comp=Z,18µm,20.0s
LL02 Futaleuf 88.84 148 IAMs_20 IAMs_20 18 20 22.2
comp=Z,13µm,21.0s
HOLU Holmets 88.88 25 P **P** **17 46 44.0 -1.0**
BSCB Bom Sucesso 88.92 117 *e*P **P** **17 46 49.1 +3.4**
BSCB Bom Sucesso 88.92 117 P **P** **17 46 49.1 +3.4**
AK21 Malin Array Si 89.02 20 P **P** **17 46 44.6 -1.0**
AK20 Malin Array Si 89.04 21 P **P** **17 46 44.8 -0.9**
AK22 Malin Array Si 89.04 20 P **P** **17 46 44.8 -0.9**
CPSB Cacapava Do Su 89.14 129 *e*P P 17 46 51.3 +5.0
CPSB Cacapava Do Su 89.14 129 P **P** **17 46 49.1 +2.7**
AKASG Malin Array Be 89.14 20 P **P** **17 46 45.0 -1.2**
AKASG Malin Array Be 89.14 20 P **P** **17 46 45.5 -0.6**
comp=Z,8.4nm,0.9s,baz=332,slow=3.8,SNR=22
AKASG LR LR 18 29 35.2
comp=Z,11µm,18.4s,baz=333,slow=38
comp=Z,8.4nm,0.9s
AKASG Malin Array Be 89.14 20 *i*P **P** **17 46 49.7 +3.5**
AKASG pmax pmax
comp=Z,11nm,0.8s
AKBB Malin Array Si 89.14 20 *ce*P **P** **17 46 46.6 +0.4**
AKBB pmax pmax
comp=Z,38nm,1.3s
AKBB MLR MLR
comp=Z,24µm,18.0s
AKBB Malin Array Si 89.14 20 P **P** **17 46 45.1 -1.1**
KIEV Kiev 89.14 20 ⇑P **P** **17 46 49.2 +3.0**
KIEV Kiev 89.14 20 P **P** **17 46 49.2 +3.0**
KIEV Kiev 89.14 20 P **P** **17 46 45.1 -1.1**
comp=Z,3µmcomp=Z,109nm,1.0s
PET01 Itanhaem-SP 89.22 121 *e*P **P** **17 46 50.4 +3.5**
CMC01 Camacan, BA 89.41 109 P **P** **17 46 50.4 +2.5**
LUBAR Lubar, Ukraine 89.41 22 P **P** **17 46 46.4 -1.1**
HNR Honiara 89.43 258 LR LR 18 22 31.1
comp=Z,30µm,18.5s,baz=64,slow=33
MORH Mrgy, Hungar 89.43 29 ⇑P **P** **17 46 50.5 +2.9**
TRSU Trosnyk 89.45 25 P **P** **17 46 46.0 -1.7**
TRQA Tornquist 89.58 139 P **P** **17 46 51.6 +3.4**
FDMO Fiordimonte 89.65 34 P **P** **17 46 47.4 -1.4**
FDMO IAmb IAmb 17 47 30.6
comp=Z,53nm,1.5s
LPSR Galich'ya Gora 89.73 14 *e*P **P** **17 46 49.6 +0.7**
LPSR pmax pmax
comp=Z,30nm,0.7s
LPSR MLR MLR
comp=Z,13µm,15.0s
CESX Cesi 89.75 34 IAMs_20 IAMs_20 18 31 37.8
comp=Z,17µm,18.0s
PARB Paraibuna 89.78 119 *e*P **P** **17 46 53.4 +3.8**
BJI Beijing 89.89 322 P **P** **17 46 51.6 +1.7**
BJI S **S** **17 57 44.5 +2.4**
BJI SS **SS** **18 03 45.7 +7.4**
BJI pmax pmax
comp=Z,7.0nm,1.3s
BJI pmax pmax
comp=Z,350nm,12.5s
BJI LR LR
comp=Z,4µm,18.8s
BJI LR LR
comp=Z,5µm,22.2s
BJI LR LR
comp=Z,9µm,26.8s
BJT Baijiatuao 89.91 322 P **P** **17 46 48.7 -1.3**
BJT Baijiatuao 89.91 322 P **P** **17 46 48.7 -1.3**
BJT pmax pmax
comp=Z,25nm,1.2s
BJT MLR MLR
comp=Z,9µm,20.0s
GUA01 Guaratinga, BA 89.92 110 *e*P **P** **17 46 54.3 +4.0**
GUA01 Guaratinga, BA 89.92 110 P **P** **17 46 53.9 +3.6**
PLTB Pedras Altas 89.96 130 *e*P **P** **17 46 52.7 +2.5**
PLTB Pedras Altas 89.96 130 P **P** **17 46 53.4 +3.3**
KSV Kosov 89.97 24 P **P** **17 46 49.1 -1.1**
BMR Baia Mare 90.00 25 ⇓P **P** **17 46 52.6 +2.3**
BMR Baia Mare 90.00 25 P **P** **17 46 52.5 +2.3**
MAJ01 Sao Joao Batis 90.03 124 *e*P **P** **17 46 55.3 +4.7**
MBO M'Bour 90.08 72 IAMs_20 IAMs_20 18 22 40.5
comp=Z,22µm,21.0s
SJMB Sao Joao De Ma 90.16 113 *e*P **P** **17 46 54.1 +2.7**
SJMB Sao Joao De Ma 90.16 113 P **P** **17 46 54.4 +3.0**
CAMP Campotosto 90.19 34 IAMs_20 IAMs_20 18 30 44.2
comp=Z,22µm,21.0s
KMPD K-Podol'skiy 90.21 23 P **P** **17 46 49.9 -1.3**
BBTS Babate 90.25 72 LR LR 18 23 06.6
comp=Z,21µm,21.2s,baz=189,slow=33
NDNU Novodnistrovsk 90.46 22 P **P** **17 46 51.1 -1.3**
DRGR 90.47 26 ⇑P **P** **17 46 54.9 +2.2**
DRGR 90.47 26 P **P** **17 46 54.8 +2.2**
SIRR Siria 90.54 27 ⇓P **P** **17 46 55.7 +2.9**
BUR08 Bucovina Ar. S 90.60 24 P **P** **17 46 51.8 -1.4**
BUR08 IAmb IAmb 17 47 05.0
comp=Z,66nm,1.9s
VSL Villasalto 90.61 38 IAMs_20 IAMs_20 18 25 46.6
comp=Z,15µm,20.0s
BURAR Bucovina Array 90.63 24 **P** **17 46 52.2 -1.1**
BURAR Bucovina Array 90.63 24 ⇑P **P** **17 46 55.8 +2.4**
BURAR Bucovina Array 90.63 24 P **P** **17 46 55.8 +2.4**
VORR Voronezh 90.67 14 *e*P **P** **17 46 53.5 +0.2**
VORR pmax pmax
comp=Z,40nm,0.5s
VORR MLR MLR
comp=Z,10µm,14.0s
COYC Coyhaique 90.69 150 P **P** **17 46 52.7 -0.4**
COYC Coyhaique 90.69 150 IAMs_20 IAMs_20 18 20 05.9
comp=Z,18µm,20.0s
MARR Marisel-Cluj 90.72 26 ⇑P **P** **17 46 56.0 +2.2**
BZS Buzias 91.07 27 ⇑P **P** **17 46 58.0 +2.6**
BZS Buzias 91.07 27 P **P** **17 46 57.9 +2.6**
VSR Storozhevoye 91.09 14 *e*P **P** **17 46 52.7 -2.6**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR MLR MLR
comp=Z,14µm,18.0s
SURR Surduc 91.14 27 ⇑P **P** **17 46 57.8 +2.2**
SORM Soroca 91.17 22 ⇑P **P** **17 46 59.1 +3.3**
SORM Soroca 91.17 22 P **P** **17 46 59.0 +3.3**
BELG Belogornoye 91.35 9 LR LR 18 31 46.1
comp=Z,25µm,18.7s,baz=344,slow=38
BELG Belogornoye 91.35 9 *e*P **P** **17 46 54.8 -1.6**
BELG pmax pmax
comp=Z,11nm,1.0s
BELG MLR MLR
comp=Z,4µm,18.0s
VORD Divnogorie 91.35 14 *e*P **P** **17 46 54.6 -1.9**
VORD pmax pmax
comp=Z,20nm,1.4s
VORD MLR MLR
comp=Z,4µm,14.0s
BRVK Borovoye 91.38 355 IAMs_20 IAMs_20 18 35 07.6
comp=Z,19µm,20.0s
BRVK Borovoye 91.38 355 *ce*P **P** **17 46 57.5 +0.9**
BRVK pmax pmax
comp=Z,70nm,1.0s
BRVK MLR MLR
comp=Z,18µm,21.0s
BVAR Borovoye Array 91.40 355 P **P** **17 46 55.4 -1.3**
comp=Z,3.3nm,0.6s,baz=358,slow=4.4,SNR=18
BVAR LR LR 18 33 26.6
comp=Z,19µm,19.0s,baz=1.7,slow=39
comp=Z,3.3nm,0.6s
HHC Hu-ho-hao-te 91.50 325 ⇑*i*P P 17 47 03.4 +5.8
HHC sP sP 17 47 11.2 +7.8
HHC Hu-ho-hao-te 91.50 325 SKS **SKSac** **17 57 34.6 +4.5**
HHC Hu-ho-hao-te 91.50 325 S **S** **17 58 04.3 +7.1**
HHC Hu-ho-hao-te 91.50 325 SS SS 18 04 12.0 +10
HHC Hu-ho-hao-te 91.50 325 LR LR
comp=Z,15µm,23.5s
HHC Hu-ho-hao-te 91.50 325 LR LR
comp=E,6µm,24.3s
HHC Hu-ho-hao-te 91.50 325 LR LR
comp=N,9µm,19.5s
HHC Hu-ho-hao-te 91.50 325 pmax pmax
comp=Z,450nm,5.0s
HHC Hu-ho-hao-te 91.50 325 pmax pmax
comp=Z,26nm,1.0s
VRH Novokhopyorsk 91.59 13 *e*P **P** **17 46 56.3 -1.3**
VRH pmax pmax
comp=Z,30nm,1.0s
VRH MLR MLR
comp=Z,17µm,18.0s
GZR Gura Zlata 91.69 27 ⇑P **P** **17 47 01.4 +3.0**
GZR Gura Zlata 91.69 27 P **P** **17 47 01.3 +3.0**
MDVR Moldovita 91.82 28 ⇑P **P** **17 47 01.0 +2.1**
AY03 Cochrane 91.85 151 IAMs_20 IAMs_20 18 20 39.8
comp=Z,16µm,20.0s
DZM Mont Dzumac 91.98 244 **P** **17 46 58.8 -1.0**
DZM IAMs_20 IAMs_20 18 20 10.9
comp=Z,14µm,20.0s
DZM Mont Dzumac 91.98 244 *e*P **P** **17 47 00.8 +0.9**
comp=Z,155nm,1.4s
DZM Mont Dzumac 91.98 244 *e*S **S** **17 57 59.4 -2.3**
comp=Z,5µm,29.4s
DZM *e*SS **SS** **18 04 05.1 -5.9**
comp=Z,11µm,28.2s
DZM *e*LQ LQ 18 12 35.7
comp=Z,37µm,34.0s
DZM *e*LR LR 18 16 27.8
comp=Z,23µm,25.6s
DZM Mont Dzumac 91.98 244 LR LR 18 22 57.1
comp=Z,13µm,18.6s,baz=60,slow=32
HERR Herculane 92.00 27 ⇑P **P** **17 47 01.1 +1.5**
LOT Lotru 92.00 26 ⇓P **P** **17 47 02.1 +2.2**
TESR Tescani 92.07 24 ⇑P **P** **17 47 02.5 +2.5**
DOPR Dopca 92.12 25 ⇑P **P** **17 47 01.9 +1.7**
JOW Kunigami 92.15 305 LR LR 18 21 04.3
comp=Z,6µm,21.6s,baz=72,slow=31
TIA Tai'an 92.27 319 P **P** **17 47 02.1 +1.1**
TIA sP **pP** **17 47 05.9 +0.5**
TIA SKS **SKSac** **17 57 37.2 +2.9**
TIA S **ScS** **17 58 08.1 +1.8**
TIA SS **SS** **18 04 19.1 +6.3**
TIA pmax pmax
comp=Z,21nm,1.5s
TIA pmax pmax
comp=Z,430nm,4.3s
TIA LR LR
comp=Z,7µm,23.7s
TIA LR LR
comp=Z,9µm,24.4s
TIA LR LR
comp=Z,16µm,24.8s
KIS Kishinev 92.33 22 *e*P P 17 47 09.0 +7.9
KIS pmax pmax
comp=Z,70nm,2.5s
KIS MLR MLR
comp=Z,6µm,17.0s
KIS MLR MLR
comp=N,5µm,16.5s
MILM Milestii Mici 92.40 22 *e*P P 17 47 07.0 +5.6
comp=N,200nm,2.5s
MILM *e*SKS **SKSac** **17 57 30.0 -4.6**

MILM *i* S **ScS** **17 58 15.0 +8.0**
MILM **Milestii Mici** **92.40 22** *e*P P 17 47 07.0 +5.6
MILM *e* 17 57 30.0
MILM pmax pmax
comp=Z,200nm,2.5s
MILM MLR MLR
comp=Z,15µm,17.5s
VOIR **92.47 25** ⇓P **P** **17 47 04.0 +2.1**
VOIR **92.47 25** P **P** **17 47 04.0 +2.1**
HNS **HongShan** **92.64 321** ⇓P **P** **17 47 04.8 +2.1**
HNS SKS **SKSac** **17 57 33.7 -2.6**
HNS S **S** **17 58 00.8 -6.4**
HNS pmax pmax
comp=Z,24nm,1.3s
HNS LR LR
comp=Z,4µm,20.8s
HNS LR LR
comp=Z,13µm,20.2s
HNS LR LR
comp=Z,13µm,22.8s
PLOR **Plostina** **92.65 24** ⇑P **P** **17 47 05.2 +2.5**
PLOR **Plostina** **92.65 24** P **P** **17 47 05.1 +2.5**
VRI **Vrincioaia** **92.67 24** ⇑P **P** **17 47 04.8 +2.1**
VRI **Vrincioaia** **92.67 24** P **P** **17 47 04.8 +2.1**
RABL **Rabaul** **92.67 267** P **P** **17 47 02.1 -1.1**
ACER **Acerenza** **92.73 33** IAMs_20 IAMs_20 18 30 57.4
comp=Z,18µm,19.0s
MLR **Muntele Rosu** **92.73 25** LR LR 18 31 38.6
comp=Z,27µm,18.3s,baz=328,slow=37
MLR **Muntele Rosu** **92.73 25** ⇑P **P** **17 47 05.9 +2.7**
MLR **Muntele Rosu** **92.73 25** P **P** **17 47 05.8 +2.7**
BOVS **Bovan** **92.78 28** ⇓P **P** **17 47 06.0 +2.7**
KURK **Kurchatov** **92.81 350** P **P** **17 47 03.0 -0.2**
KURK IAmb IAmb 17 47 16.8
comp=Z,54nm,1.3s
KURK **Kurchatov** **92.81 350** IAMs_20 IAMs_20 18 31 57.8
comp=Z,13µm,21.0s
KURK **Kurchatov** **92.81 350** *ce*P **P** **17 47 02.7 -0.5**
KURK pmax pmax
comp=Z,51nm,1.4s
KURBB **Kurchatov Arra** **92.92 350** P **P** **17 47 03.8 +0.1**
comp=Z,5.8nm,0.6s,baz=14,slow=4.3,SNR=21
KURBB PP **PP** **17 50 45.0 -0.2**
comp=Z,4.5nm,1.2s,baz=13,slow=7.7,SNR=4.3
KURBB LR LR 18 35 36.3
comp=Z,11µm,18.3s,baz=0.5,slow=40
comp=Z,5.8nm,0.6s
CUC **Castrocucco** **93.31 34** IAMs_20 IAMs_20 18 29 20.8
comp=Z,15µm,19.0s
KEST **Kesra** **93.44 41** P **P** **17 47 07.0 +0.4**
comp=Z,9.5nm,1.1s,baz=26,slow=3.7,SNR=6.1
KEST LR LR 18 27 31.1
comp=Z,12µm,21.2s,baz=323,slow=34
comp=Z,9.5nm,1.1s
TIY **Taiyuan** **93.54 323** P **P** **17 47 09.3 +2.3**
TIY SKS **SKSac** **17 57 42.6 +1.1**
TIY S **ScS** **17 58 19.2 +2.2**
TIY SS **SS** **18 04 32.0 +0.9**
TIY pmax pmax
comp=Z,200nm,5.4s
TIY LR LR
comp=Z,11µm,18.6s
TIY LR LR
comp=Z,13µm,22.0s
TIY LR LR
comp=Z,7µm,22.0s
SSE **Sheshan** **93.69 313** P **P** **17 47 04.3 -3.4**
SSE S **S** **17 58 12.4 -4.3**
SSE pmax pmax
comp=Z,8.0nm,0.7s
SSE pmax pmax
comp=Z,130nm,3.5s
SSE LR LR
comp=Z,2µm,17.7s
SSE LR LR
comp=Z,4µm,17.5s
CFR **Carcaliu** **93.74 24** ⇓P **P** **17 47 10.7 +3.0**
CFR **Carcaliu** **93.74 24** P **P** **17 47 10.6 +3.0**
TPGR **Topolog** **94.11 24** ⇓P **P** **17 47 12.4 +3.0**
AKTO **Aktyubinsk** **94.18 3** LR LR 18 33 31.3
comp=Z,30µm,20.8s,baz=355,slow=38
NJ2 **Nanjing** **94.37 315** *e*P **P** **17 47 07.5 -3.3**
NJ2 SS SS 18 04 49.6 +6.5
NJ2 pmax pmax
comp=Z,15nm,0.5s
NJ2 LR LR
comp=Z,4µm,19.1s
NJ2 LR LR
comp=Z,7µm,19.1s
NJ2 LR LR
comp=Z,8µm,20.6s
TIP **Timpagrande** **94.39 34** IAMs_20 IAMs_20 18 31 24.6
comp=Z,17µm,20.0s
SCTE **Santa Cesarea** **94.43 32** IAMs_20 IAMs_20 18 35 22.3
comp=Z,15µm,19.0s
TIRR **Tirgusor** **94.47 24** IAMs_20 IAMs_20 18 32 17.8
comp=Z,16µm,20.0s
CEL **Celeste** **94.74 35** IAMs_20 IAMs_20 18 35 27.7
comp=Z,15µm,18.0s
FNA **Florina** **95.06 30** IAMs_20 IAMs_20 18 31 59.0
comp=Z,18µm,20.0s
URZ **Urewera** **95.21 226** LR LR 18 21 15.5
comp=Z,5µm,21.8s,baz=44,slow=30
GO09 **Cerro Castillo** **95.23 153** IAMs_20 IAMs_20 18 21 23.2
comp=Z,12µm,21.0s
KEK **Kerkira** **95.30 32** IAMs_20 IAMs_20 18 28 31.3
comp=Z,16µm,22.0s
AB31 **Akbulak array** **95.42 2** P **P** **17 47 14.2 -1.0**
AB31 IAmb IAmb 17 47 26.7
comp=Z,48nm,1.6s
ABKAR **Akbulak array** **95.42 2** P **P** **17 47 14.9 -0.3**
MG05 **Puerto Natales** **95.50 154** IAMs_20 IAMs_20 18 24 08.4
comp=Z,13µm,18.0s
CTZ **Chatham Island** **95.55 219** IAMs_20 IAMs_20 18 19 53.3
comp=Z,11µm,22.0s
SIM **Simferopol'** **95.74 20** *e*P **P** **17 47 13.9 -2.9**
SIM *e* 17 51 03.0
SIM *e* 17 57 51.0
SIM *e*S **S** **17 58 26.0 -8.2**
SIM pmax pmax
comp=Z,100nm,17.2s
SIM MLR MLR
comp=Z,15µm,18.0s
LYN **LuoYang** **95.99 321** P **P** **17 47 20.8 +2.7**
LYN sP sP 17 47 27.1 +3.1
LYN PP **PP** **17 51 14.3 +4.6**
LYN SKS **SKSac** **17 57 56.4 +1.8**
LYN sS sS 17 58 48.9 +5.0
LYN pmax pmax
comp=Z,12nm,1.0s
LYN pmax pmax
comp=Z,480nm,4.6s
LYN LR LR
comp=Z,8µm,17.9s
LYN LR LR
comp=Z,12µm,22.3s
LYN LR LR
comp=Z,22µm,24.8s
MK31 **Makanchi Array** **96.00 346** P **P** **17 47 16.1 -1.9**
MK31 **Makanchi Array** **96.00 346** *i*P **P** **17 47 16.0 -2.0**
MKAR **Makanchi Array** **96.00 346** P **P** **17 47 15.8 -2.2**
MKAR **Makanchi Array** **96.00 346** P **P** **17 47 17.6 -0.4**
comp=Z,1.7nm,0.8s,baz=1.4,slow=5.1,SNR=21
MKAR PKKPbc **PKKPbc** **18 04 08.6 +2.9**
comp=Z,1.0nm,0.8s,baz=234,slow=4.2,SNR=6.2
MKAR LR LR 18 36 27.7
comp=Z,13µm,19.3s,baz=1.5,slow=39
comp=Z,1.7nm,0.8s
MKAR **Makanchi Array** **96.00 346** *i*P **P** **17 47 21.1 +3.1**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
WDD **Wied Dalam** **96.01 37** IAMs_20 IAMs_20 18 28 17.7
comp=Z,11µm,20.0s
MAKZ **Makanchi** **96.04 347** IAMs_20 IAMs_20 18 31 45.3
comp=Z,18µm,22.0s
MAKZ **Makanchi** **96.04 347** P **P** **17 47 18.9 +0.7**
ERBR **Yeremizino-Bor** **96.59 15** *e*P P 17 47 30.2 +10
ERBR *e* 17 58 01.1
ERBR *e*PS **PS** **18 00 07.0 +4.9**
ERBR pmax pmax
comp=Z,22nm,0.5s
ERBR MLR MLR
comp=Z,17µm,18.0s
ANN **Anapa** **96.75 18** *e*P **P** **17 47 16.8 -4.6**
ANN *e* 17 51 17.7
ANN *e* 17 57 59.9
ANN *e*PS **PS** **18 00 06.1 +2.3**
ANN *e*SS SS 18 05 22.5 +6.8
ANN pmax pmax
comp=Z,40nm,0.9s
MG04 **Isla Riesco** **96.80 154** IAMs_20 IAMs_20 18 23 51.6
comp=Z,11µm,18.0s
MG02 **Cerro Sombrero** **97.59 153** IAMs_20 IAMs_20 18 23 38.6
comp=Z,14µm,21.0s
WMQ **Urumqi** **97.62 342** P **P** **17 47 25.2 -0.3**
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ LR LR
comp=Z,10µm,21.9s
WMQ LR LR
comp=Z,10µm,20.1s
WMQ LR LR
comp=Z,15µm,23.9s
LABN **Labinsk** **97.66 15** *e*P **P** **17 47 22.5 -3.0**
LABN pmax pmax
comp=Z,14nm,0.5s
GTA **Gaotai** **97.72 332** *e*P Pdif 17 47 27.5 +1.3
GTA pP sP 17 47 31.4 -0.6
GTA sP pP 17 47 35.6 +5.2
GTA PP **PP** **17 51 26.7 +3.7**
GTA S **S** **17 58 50.4 -1.3**
GTA sS sS 17 59 04.3 +5.4
GTA pmax pmax
comp=Z,4.0nm,1.5s
GTA pmax pmax
comp=Z,240nm,6.5s
GTA LR LR
comp=Z,9µm,21.1s
GTA LR LR
comp=Z,15µm,21.8s
GTA LR LR
comp=Z,16µm,22.9s
WHN **Wuhan** **98.06 317** S **S** **17 58 55.1 +0.6**
WHN **Wuhan** **98.06 317** SS SS 18 05 13.3 -22
WHN **Wuhan** **98.06 317** LR LR
comp=Z,28µm,22.4s
WHN **Wuhan** **98.06 317** LR LR
comp=Z,10µm,13.3s
WHN **Wuhan** **98.06 317** LR LR
comp=N,13µm,17.0s
XAN **Xi'an** **98.19 323** P **P** **17 47 26.3 -1.9**
XAN S **S** **17 58 51.4 -4.3**
XAN SS **SS** **18 05 36.8 -0.1**
XAN pmax pmax
comp=N,4.0nm,0.8s
XAN pmax pmax
comp=N,370nm,6.1s
XAN LR LR
comp=N,8µm,19.2s
XAN LR LR
comp=N,13µm,22.7s
SOC **Sochi** **98.44 17** *e*P Pdif 17 47 33.5 +4.4
SOC *e* 17 51 29.7
SOC *e*S **SKSac** **17 58 12.3 +5.4**
SOC *e*SS **SS** **18 05 44.6 +5.0**
SOC pmax pmax
comp=Z,11nm,1.1s
SOC MLR MLR
comp=Z,16µm,20.0s
KIV **Kislovodsk** **98.73 14** IAMs_20 IAMs_20 18 36 23.3
comp=Z,17µm,20.0s
KIV **Kislovodsk** **98.73 14** *e*P **P** **17 47 29.2 -1.3**
KIV *e* 17 51 29.5
KIV *e* 17 58 07.4
KIV *e*SS SS 18 05 48.0 +4.2
KIV *e*SSS SSS 18 09 34.1
KIV pmax pmax
comp=Z,4.0nm,1.0s
KVAR **Kislovodsk Arr** **98.73 14** LR LR 18 33 48.6
comp=Z,11µm,21.7s,baz=292,slow=36
LZH **Lanzhou** **98.89 327** *e*P **P** **17 47 27.9 -3.5**
LZH PP **PP** **17 51 33.2 +1.1**
LZH SS SS 18 05 51.8 +5.0
LZH pmax pmax
comp=Z,190nm,7.2s
LZH LR LR
comp=Z,14µm,21.0s
LZH LR LR
comp=Z,21µm,20.3s
LZH LR LR
comp=Z,25µm,21.7s
SHA1 **Shidzhatmaz** **98.93 14** *i*P Pdif 17 47 32.3 +0.7
KBZ **Khabaz** **98.99 14** P Pdif 17 47 32.5 +1.1
comp=Z,1.2nm,0.7s,baz=4.2,slow=2.3,SNR=5.0
KBZ LR LR 18 34 13.0
comp=Z,8µm,20.7s,baz=340,slow=37
comp=Z,1.2nm,0.7s
KBZ **Khabaz** **98.99 14** *i*P Pdif 17 47 32.6 +1.1
KBZ pmax pmax
comp=Z,7.0nm,1.0s
USHA **Ushuaia** **99.50 154** LR LR 18 25 14.6
comp=Z,7µm,21.5s,baz=336,slow=31
QRZ **Quartz Range** **99.56 226** IAMs_20 IAMs_20 18 31 02.7
comp=Z,9µm,18.0s
TPUB **Ta-pu** **99.59 308** IAMs_20 IAMs_20 18 25 12.5
comp=Z,12µm,22.0s
MG01 **Puerto William** **99.87 153** IAMs_20 IAMs_20 18 30 04.8
comp=Z,11µm,18.0s
ANTO **Ankara** **100.01 23** IAMs_20 IAMs_20 18 35 14.4
comp=Z,19µm,21.0s
BRTR **Keskin Array B** **100.40 22** P **Pdif** **17 47 38.2 +0.1**
comp=Z,0.7nm,0.9s,baz=265,slow=4.5,SNR=4.2
BRTR **Keskin Array B** **100.40 22** *i*P **Pdif** **17 47 41.7 +3.6**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
TOKA **Tokat** **100.68 20** IAMs_20 IAMs_20 18 35 45.1
comp=Z,16µm,22.0s
TAM **Tamanrasset** **100.73 52** IAMs_20 IAMs_20 18 30 20.0
comp=Z,18µm,21.0s
PRZ **Przheval'sk** **100.87 348** IAMs_20 IAMs_20 18 36 30.5
comp=Z,18µm,21.0s
ISP **Isparta** **101.11 25** IAMs_20 IAMs_20 18 40 08.0
comp=Z,13µm,20.0s
FRU1 **Bishkek** **101.11 351** IAMs_20 IAMs_20 18 38 07.1
comp=Z,15µm,20.0s
BOOM **Boomskoye usch** **101.25 350** IAMs_20 IAMs_20 18 36 50.8
comp=Z,15µm,22.0s
AAK **Ala-Archa** **101.30 351** IAMs_20 IAMs_20 18 38 13.1
comp=Z,14µm,20.0s
EFI **East Falkland** **101.34 147** IAMs_20 IAMs_20 18 28 07.8
comp=Z,12µm,21.0s
KOPT **Kop Dagi** **102.01 17** IAMs_20 IAMs_20 18 36 21.1
comp=Z,15µm,21.0s
AKT **Akhty** **102.04 11** *e*P **Pdif** **17 47 51.3 +6.0**
AKT *e* 17 52 01.1
AKT *e*PPP PPP 17 54 12.0
AKT pmax pmax
comp=Z,13nm,2.0s
ARPR **Arapgir-MALATY** **102.34 19** IAMs_20 IAMs_20 18 38 29.9
comp=Z,12µm,21.0s
GNI **Garni** **102.80 14** IAMs_20 IAMs_20 18 35 20.1
comp=Z,14µm,22.0s
FOZ **Fox Glacier** **102.82 225** IAMs_20 IAMs_20 18 33 22.8
comp=Z,9µm,18.0s
GEVA **Gevas** **104.22 16** IAMs_20 IAMs_20 18 41 00.7
comp=Z,10µm,20.0s
CSS **Mathiatis** **104.65 24** IAMs_20 IAMs_20 18 40 41.5
comp=Z,12µm,19.0s
COEN **Coen** **105.48 264** IAMs_20 IAMs_20 18 27 45.1
comp=Z,16µm,21.0s
PZH **PanZhiHua** **107.89 323** SS SS 18 07 45.8 -5.2
PZH pmax pmax
comp=Z,480nm,1.3s
PZH pmax pmax
comp=Z,1µm,6.9s
PZH LR LR
comp=N,5µm,25.1s
PZH LR LR
comp=E,9µm,22.8s
PZH LR LR
comp=Z,9µm,18.1s
BALJ **Balqa** **108.05 24** IAMs_20 IAMs_20 18 40 43.4
comp=Z,8µm,20.0s
QIZ **Qiongzhong** **109.48 312** Pdif **Pdif** **17 48 14.0 -4.6**
QIZ S **Sdif** **18 00 17.8 -13**
QIZ SS **SS** **18 08 08.0 -4.8**
QIZ LR LR
comp=Z,6µm,23.4s
QIZ LR LR
comp=Z,10µm,23.4s
TNTI **Ternate** **109.73 286** IAMs_20 IAMs_20 18 36 08.5
comp=Z,9µm,19.0s
SMAI **San Martin Ant** **110.11 162** IAMs_20 IAMs_20 18 29 47.5
comp=Z,9µm,20.0s
ZIRO **ZIRO** **110.52 330** *e*P PKiKP 17 52 44.9 +21
ZIRO IAmb IAmb 17 53 09.0
comp=Z,227nm,3.1s
TNCH **TengChong** **110.67 325** PKP **PKiKP** **17 52 23.8 -0.4**
TNCH PP **PP** **17 53 03.7 +4.0**
TNCH SKS **SKSdf** **17 59 33.8 -2.7**
TNCH SS **SS** **18 08 28.1 -0.3**
TNCH AMB AMB
comp=Z,490nm,4.0s
TNCH LR LR
comp=Z,5µm,23.0s
TNCH LR LR
comp=Z,8µm,21.4s
TNCH LR LR
comp=Z,17µm,24.8s
JMU **Jammu** **110.98 349** *e*P PKiKP 17 52 47.0 +23
SLVN **Son La** **111.05 319** IAMs_20 IAMs_20 18 47 45.0
comp=Z,11µm,18.0s
DHRM **DHARAMSHALA** **111.20 347** *e*P PKiKP 17 52 45.5 +20
TAWA **Tawang** **111.23 332** *e*P PKiKP 17 52 44.7 +19
TAWA IAmb IAmb 17 53 15.1
comp=Z,95nm,2.3s
KLP **Kalpa** **111.53 346**⇑ *e*P PKiKP 17 52 45.9 +20
TEZP **TEZPUR** **111.75 331** IAmb IAmb 17 52 28.8
comp=Z,154nm,2.3s
TEZP *e*P PKiKP 17 52 46.5 +20
CAN **Canberra** **111.99 242** IAMs_20 IAMs_20 18 35 34.9
comp=Z,10µm,18.0s
GTK **Tadong** **112.67 335** *e*P PKiKP 17 52 48.6 +21
GTK IAmb IAmb 17 53 19.8
comp=Z,33nm,1.6s
EVN **Everest** **112.67 337** IAMs_20 IAMs_20 18 42 34.2
comp=Z,14µm,21.0s
DDI **Dehra Dun** **112.74 345** *e*P PKiKP 17 52 49.0 +21
IMP **Imphal** **112.86 329** IAmb IAmb 17 52 30.9
comp=Z,31nm,1.6s
IMP *e*P PKiKP 17 52 48.2 +20
PTH **Pithoragarh** **113.01 343** *e*P PKiKP 17 52 48.8 +20
SHL **Shillong** **113.05 331**⇑ *e*P PKiKP 17 52 49.2 +20
HOPE **Hope Point** **113.32 141** IAMs_20 IAMs_20 18 43 22.8
comp=Z,10µm,21.0s
GNR **GANAUR** **114.10 346**⇑ *e*P PKPdf 17 52 51.5 +21
ASOR **Ausora** **114.31 345**⇑ *e*P PKPdf 17 52 51.6 +21
AZL **Aizawl** **114.36 330** *e*P PKPdf 17 52 51.2 +20
NDI **New Delhi** **114.50 346** *e*P PKPdf 17 52 51.6 +20
BHGR **Bahadurgarh** **114.55 346** *e*P PKPdf 17 52 51.5 +20
BRCI **Bahraich** **114.57 341** *e*P PKPdf 17 52 51.4 +20
JMIU **JAMIA UNIVERSI** **114.59 346** *e*P PKPdf 17 52 51.7 +20
LDR **Lodi Road** **114.60 346** *e*P PKPdf 17 52 51.3 +20
AYAN **Aya Nagar** **114.71 346**⇑ *e*P PKPdf 17 52 51.4 +20
KUDL **Kundal** **115.17 346** *e*P PKPdf 17 52 52.4 +20
SAIH **SAIHA** **115.34 329** *e*P PKPdf 17 52 53.3 +20
LKN **LUCKNOW** **115.51 342** *e*P PKPdf 17 52 53.2 +20
CHTO **Chiang Mai** **115.73 321** IAMs_20 IAMs_20 18 47 35.5
comp=Z,8µm,19.0s
WRAB **Tennant Creek** **115.79 263** IAMs_20 IAMs_20 18 33 40.1
comp=Z,15µm,21.0s
WRA **Warramunga Arr** **115.80 263** PKP **PKiKP** **17 52 34.0 +0.2**
comp=Z,5.7nm,0.8s,baz=60,slow=2.0,SNR=9.4
WRA **Warramunga Arr** **115.80 263** PKIKP **PKiKP** **17 52 34.0 +0.2**
BKNR **BIKANER** **115.84 349** *e*P PKPdf 17 52 52.3 +18
STKA **Stephens Creek** **115.84 248** PKP **PKiKP** **17 52 33.6 +0.1**
comp=Z,8.9nm,0.9s,baz=21,slow=3.7,SNR=9.1
CMAR **Chiang Mai Arr** **116.03 321** PKP **PKiKP** **17 52 33.2 -1.2**
comp=Z,0.7nm,0.6s,baz=358,slow=1.7,SNR=4.4
TAU **Tasmania Unive** **116.59 235** IAMs_20 IAMs_20 18 33 25.4
comp=Z,11µm,20.0s
SHEL **Horse Pasture** **116.70 91** IAMs_20 IAMs_20 18 41 17.2
comp=Z,12µm,22.0s
BOK **Bokaro** **116.84 336** *e*P PKiKP 17 52 57.3 +21
BNDA **BANDA** **116.88 342** *e*P PKiKP 17 52 55.9 +20
JHNI **Jhansi** **117.33 344** *e*P PKiKP 17 52 56.2 +19
KNTI **KHUNTI** **117.72 336** *e*P PKiKP 17 52 56.4 +19
ASAR **Alice Springs** **118.00 260** PKP **PKPdf** **17 52 35.5 -2.4**
comp=Z,0.6nm,0.6s,baz=82,slow=2.4,SNR=13
ASAR PKKPbc **PKKPab** **18 03 02.1 +2.2**
comp=Z,2.5nm,1.1s,baz=228,slow=2.8,SNR=8.4
GUNA **GUNA** **118.38 345**⇑ *e*P PKiKP 17 52 59.5 +21
SOEI **Soe** **118.49 279** IAMs_20 IAMs_20 18 40 13.2
comp=Z,12µm,20.0s
BKB **Balikpapan** **119.10 291** IAMs_20 IAMs_20 18 37 22.2
comp=Z,9µm,22.0s
KAPI **Kappang** **119.27 286** IAMs_20 IAMs_20 18 34 46.1
comp=Z,8µm,22.0s
UOSS **Minazif** **119.42 7** IAMs_20 IAMs_20 18 52 54.9
comp=Z,8µm,20.0s
MMRI **Maumere** **119.47 281** IAMs_20 IAMs_20 18 39 12.0
comp=Z,7µm,21.0s
BHPL **Bhopal** **119.72 344** *e*P PKiKP 17 53 02.7 +21
BHUJ **Bhuj** **121.00 352** *e*P PKiKP 17 53 04.8 +21
SBA **Scott Base** **121.66 194** IAMs_20 IAMs_20 18 34 09.6
comp=Z,13µm,20.0s
KSM **Kuching** **122.11 299** IAMs_20 IAMs_20 18 40 58.2
comp=Z,9µm,22.0s
VNDA **Vanda** **122.53 195** PKP **PKPdf** **17 52 44.6 -0.4**
comp=Z,1.2nm,1.0s,baz=352,slow=3.8,SNR=5.3
BELA **Belgrano 2** **123.10 165** IAMs_20 IAMs_20 18 38 21.7
comp=Z,9µm,20.0s
DGPR **DIGLIPUR** **123.51 324**⇑ *e*P PKiKP 17 53 07.7 +19
HYB **Hyderabad** **125.05 341** *e*PP **PP** **17 54 37.5 -1.7**
QSPA **South Pole Qui** **125.50 180** PKP **PKPdf** **17 52 50.9 -0.1**
comp=Z,4.8nm,0.6s,baz=60,slow=0.6,SNR=14
FORT **Forrest** **125.82 255** IAMs_20 IAMs_20 18 40 18.2
comp=Z,8µm,21.0s
KAD **Karad** **126.16 346** *e*P PKiKP 17 53 14.0 +20
MYKOM **Kota Tinggi** **126.35 305** IAMs_20 IAMs_20 18 38 32.8
comp=Z,7µm,22.0s
MBWA **Marble Bar** **128.27 270** IAMs_20 IAMs_20 18 44 23.7
comp=Z,9µm,20.0s
MDRS **Chennai** **128.69 338** *e*P PKiKP 17 53 19.0 +20
RPSI **Rantau Prapat** **128.84 310** IAMs_20 IAMs_20 18 57 54.2
comp=Z,8µm,20.0s
VNA3 **Neumayer Olymp** **129.06 157** ⇑P **PKPdf** **17 52 58.0 +0.3**
comp=Z,19nm,0.8s
PMBI **Palembang** **129.12 300** IAMs_20 IAMs_20 18 40 42.7
comp=Z,9µm,21.0s
BKNI **Bangkinang** **129.30 306** IAMs_20 IAMs_20 19 01 34.8
comp=Z,7µm,21.0s
ATD **Arta Tunnel** **129.52 25** IAMs_20 IAMs_20 18 52 09.3
comp=Z,7µm,21.0s
VNA1 **Neumayer--Stat** **129.56 156** ⇑P **PKiKP** **17 53 04.9 +5.5**
comp=Z,5.7nm,0.7s
VNA2 **Neumayer--Watz** **129.82 156** ⇑P **PKiKP** **17 53 01.8 +1.9**
comp=Z,5.9nm,0.6s,baz=300,slow=2.8
FURI **Furi** **130.31 32** IAMs_20 IAMs_20 18 54 12.9
comp=Z,10µm,21.0s
GSI **Gunungsitoli** **130.76 311** IAMs_20 IAMs_20 18 55 31.0
comp=Z,8µm,20.0s
SNAA **Sanae** **131.17 158** ⇑P **PKPdf** **17 53 01.2 -0.6**
comp=Z,137nm,0.9s
SNAA **Sanae** **131.17 158** PKP **PKiKP** **17 53 02.6 -0.1**
comp=Z,7.3nm,1.1s,baz=181,slow=1.4,SNR=6.1
TROLL **Troll, Antarti** **132.73 159** ⇑P **PKiKP** **17 53 05.6 -0.3**
comp=Z,210nm,0.8s
PALK **Pallekele** **133.97 334** IAMs_20 IAMs_20 19 03 22.5
comp=Z,10µm,19.0s
TRD **Trivandrum** **133.99 340**⇑ *e*P PKiKP 17 53 27.3 +17
MBAR **Mbarara** **134.31 47** IAMs_20 IAMs_20 18 53 12.2
comp=Z,9µm,21.0s
NVL **N'lazarevskaya** **135.96 158** *e*PKHKP PKPpre 17 52 58.3
NVL *e*SS SS 18 13 56.5 +7.7
NVL pmax pmax
comp=Z,9.0nm,0.7s
NVL pmax pmax
comp=N,1µm,14.1s
NVL MLR MLR
comp=Z,176nm,19.0s
HMDM **Hanimaadhoo** **136.60 344** IAMs_20 IAMs_20 19 01 20.5
comp=Z,10µm,21.0s
TSUM **Tsumeb** **137.31 80** IAMs_20 IAMs_20 18 55 51.6
comp=Z,11µm,21.0s
KIBK **Kibwezi** **139.84 40** IAMs_20 IAMs_20 19 05 31.6
comp=Z,7µm,20.0s
COCO **West Island** **141.17 298** IAMs_20 IAMs_20 19 09 06.3
comp=Z,6µm,20.0s
KOOLE **Kule** **141.32 83** **PKPdf** **17 53 18.8 -3.4**
KSANE **Kasane** **142.50 72** PKPdf **PKPdf** **17 53 22.4 -1.9**
LSZ **Lusaka** **143.25 65** PKPdf PKPbc 17 53 24.2 +1.4
LSZ **Lusaka** **143.25 65** PKIKP PKPbc 17 53 24.2 +1.4
LSZ MLR MLR
comp=Z,16µm,20.0s
SYO **Syowa Base** **144.28 166**⇑ *i*PKPdf PKPbc 17 53 24.6 +0.6
SYO **Syowa Base** **144.28 166**⇑ *i*pPKPdf **PKiKP** **17 53 28.0 -1.3**
SYO **Syowa Base** **144.28 166**⇑ *i*pPKiKP **PKiKP** **17 53 32.1 +2.8**

SYO	**Syowa Base**	**144.28**	**166**	⇑ *i*PP		PP	17 56 40.0	-1.1
PHPEN	**Phepeng**	**144.62**	**84**			**PKPab**	**17 53 24.8**	**-1.7**
KDWAN	**Kaudwane**	**145.10**	**80**	PKPbc		**PKPbc**	**17 53 26.4**	**-1.8**
SUR	**Sutherland**	**145.50**	**97**	IAMs_20	IAMs_20		18 54 53.3	
	comp=Z,9μm,22.0s							
MAW	**Mawson**	**148.02**	**180**	PKP		**PKPdf**	**17 53 30.6**	**-1.5**
	comp=Z,3.3nm,0.4s,baz=83,slow=4.9,SNR=9.9							
MAW				PKPbc		**pPKPdf**	**17 53 36.4**	**-0.2**
	comp=Z,34nm,0.9s,baz=175,slow=4.2,SNR=14							
MSEY	**Mahe Island**	**148.49**	**13**	IAMs_20	IAMs_20		19 09 39.3	
	comp=Z,9μm,20.0s							

*NEIC **04** 17:35:01.0±1.0,35°.643N±0°.008×117°.56W±0°.01, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.6km az=353.0*

PAS 04 17:35:01.7±0.9,**35°.644N**±0°.006×**117°.57W**±0°.01, **h5**km±2km, **ML4.5, mb5.7**/30(NEIC), **Error ellipse: s-maj=1.3km s-min=0.9km az=78.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.16**	**288**		Pg	17 35 05.3	+0.5
CLC	**China Lake**	**0.17**	**352**		Pg	17 35 05.2	+0.1
CLC					Sg	17 35 08.1	+0.6
LRMC	**Laurel Mtn Rad**	**0.19**	**210**		Pg	17 35 05.4	0.0
LRMC					Sg	17 35 08.7	+0.8
CCCA	**Chr Cany lake**	**0.20**	**126**		Pg	17 35 06.0	+0.4
CCCA					Sg	17 35 09.4	+1.1
TOW	**Tower One**	**0.23**	**316**		Pg	17 35 06.6	+0.4
TOW					Sg	17 35 10.9	+1.7
WNMM	**Nine Mile Cany**	**0.34**	**306**		Pg	17 35 08.4	+0.2
WVPM	**Volcano Peak E**	**0.37**	**326**		Pg	17 35 08.8	0.0
WVPM					Sg	17 35 13.6	-0.1
JRC2	**Joshua Ridge**	**0.39**	**330**		Pg	17 35 09.2	0.0
JRC2					Sg	17 35 14.6	+0.2
WCSM	**Coso Springs S**	**0.41**	**337**		Pg	17 35 09.6	-0.1
WCSM					Sg	17 35 15.2	+0.1
MPMC	**Manual Prospec**	**0.42**	**9**		Pg	17 35 09.4	-0.4
MPMC					Sg	17 35 15.6	+0.3
DTP	**Desert Tortois**	**0.44**	**211**		Pg	17 35 10.0	-0.2
DTP					Sg	17 35 16.1	+0.3
WRVM	**Rose V. Centra**	**0.45**	**324**		Pg	17 35 10.2	-0.1
WRVM					Sg	17 35 16.3	+0.1
WBSM	**Bird Springs**	**0.48**	**257**		Pg	17 35 10.6	-0.3
WBSM					Sg	17 35 17.4	+0.3
MFS	**McCloud Flat S**	**0.53**	**334**		Pg	17 35 11.7	-0.1
MFS					Sg	17 35 19.1	+0.4
WORM	**Onyx Ranch**	**0.55**	**276**		Pg	17 35 11.9	-0.3
WORM					Sg	17 35 19.2	-0.3
CCAC	**Calif City Air**	**0.61**	**217**	Pg	Pg	17 35 13.2	-0.2
CCAC	**Calif City Air**	**0.61**	**217**		Sg	17 35 21.7	+0.4
WHFM	**Hanning Flat**	**0.64**	**275**		Pg	17 35 13.5	-0.5
WHFM					Sg	17 35 21.9	-0.3
QSM	**Queen of Sheba**	**0.65**	**60**	Pg	Pg	17 35 14.2	0.0
GSC	**Goldstone, Bar**	**0.71**	**119**	Pg	Pg	17 35 15.1	-0.2
GSC	**Goldstone, Bar**	**0.71**	**119**		Sg	17 35 24.6	+0.1
ISA	**Isabella, Lake**	**0.74**	**272**	Pg	Pg	17 35 15.4	-0.4
ISA	**Isabella, Lake**	**0.74**	**272**		Sg	17 35 25.3	-0.2
HYS	**Haystack Butte**	**0.78**	**180**		Pg	17 35 16.2	-0.4
HYS					Sg	17 35 26.5	-0.2
WASM	**Alta Sierra Ca**	**0.81**	**277**		Pg	17 35 16.7	-0.6
WASM					Sg	17 35 27.3	-0.5
CWC	**Cottonwood Cre**	**0.90**	**333**		Pg	17 35 18.6	-0.3
GWY	**Greenwater Val**	**0.91**	**53**	Pg	Pg	17 35 18.4	-0.7
SBB	**Saddle Back Bu**	**0.98**	**193**		Pg	17 35 19.7	-0.7
SBB					Sg	17 35 32.9	-0.2
VTV	**Victorville**	**1.10**	**170**		Pg	17 35 22.6	-0.1
VTV					Sg	17 35 37.3	+0.4
SPG2	**Springville 2**	**1.12**	**300**		Pg	17 35 22.2	-0.9
GRAC	**Grapevine Rang**	**1.36**	**7**		Pn	17 35 27.4	0.0
PASC	**Pasadena Art C**	**1.55**	**199**		Pn	17 35 28.6	-1.4
TPNV	**Topopah Spring**	**1.68**	**39**		Pn	17 35 31.0	-0.9
DSP	**Deep Springs**	**1.75**	**349**	Pn	Pn	17 35 32.4	-0.4
MZP	**Montezuma Peak**	**2.06**	**4**	Pn	Pb	17 35 38.5	-1.2
W13A	**Hualapai Mount**	**3.06**	**99**	Pn	Pn	17 35 49.2	-1.7
ORV	**Oroville**	**5.00**	**323**	Pn	Pn	17 36 16.0	-1.4
WUAZ	**Wupatki**	**5.05**	**90**	Pn	Pn	17 36 17.8	-0.4
X16A	**Lo Mia Camp, P**	**5.17**	**102**	Pn	Pn	17 36 19.1	-0.9
DUG	**Dugway, Tooele**	**5.89**	**38**	Pn	Pn	17 36 29.7	-0.1
O02D	**Mt. Diablo Mer**	**6.12**	**319**	Pn	Pn	17 36 31.1	-1.8
TUC	**Tucson**	**6.54**	**119**	Pn	Pn	17 36 38.3	-0.4
319A	**Douglas**	**8.12**	**119**	Pn	Pn	17 36 58.9	-1.6
HSIG		**8.66**	**138**	Pn	Pn	17 37 07.7	+0.1
EPT	**El Paso**	**9.99**	**110**	Pn	Pn	17 37 25.0	-1.0
WAH2	**Wahluke Slope**	**11.20**	**353**	Pn	Pn	17 37 41.3	-1.1
BPMT	**Black Pine Rid**	**11.22**	**15**	Pn	Pn	17 37 41.3	-1.6
LTY	**Liberty**	**11.83**	**350**	Pn	Pn	17 37 52.9	+1.8
D05A	**Enumclaw**	**12.00**	**345**	Pn	Pn	17 37 53.3	0.0
RSSD	**Black Hills**	**13.39**	**47**	Pn	Pn	17 38 10.0	-2.6
ABTX	**Abilene, Hawle**	**15.15**	**96**	Pn	Pn	17 38 35.2	-1.2
ABTX				IAmb	IAmb	17 38 52.6	
	comp=Z,397nm,1.0s						
R32A	**Long Quarter,**	**15.31**	**74**	Pn	Pn	17 38 38.0	-0.6
WTFS	**Witchita Falls**	**15.82**	**91**	Pn	Pn	17 38 41.8	-3.4
GC02	**Grant County #**	**15.95**	**80**	Pn	Pn	17 38 43.7	-3.1
PLPT	**Palo Pinto**	**16.17**	**95**		Pn	17 38 50.8	+1.0
PLPT				IAmb	IAmb	17 39 03.4	
	comp=Z,912nm,1.3s						
X34A	**Smith Ranch, M**	**16.18**	**88**	Pn	Pn	17 38 50.5	+0.7
FW06	**Azle**	**16.75**	**93**	P	Pn	17 38 56.1	-0.9
Z35A	**Perchaven, San**	**16.91**	**92**	P	Pn	17 38 59.0	-0.1
Z35A				IAmb	IAmb	17 39 12.8	
	comp=Z,1μm,1.4s						
QUOK	**Quay**	**16.91**	**82**	P	Pn	17 38 58.4	-0.7
QUOK				IAmb	IAmb	17 39 14.7	
	comp=Z,841nm,1.3s						
U38A	**Gravette**	**18.76**	**81**	P	P	17 39 17.8	-3.8
S39A	**Bolivar**	**19.55**	**77**	P	P	17 39 29.0	-1.2
DIB	**Dawson Inlet,**	**20.46**	**334**	P	P	17 39 39.1	-0.8
UALR	**University of**	**20.62**	**85**	P	P	17 39 39.5	-2.4
UALR				IAmb	IAmb	17 39 52.4	
	comp=Z,529nm,1.9s						
GLAT	**Glass**	**22.87**	**80**	P	P	17 40 02.6	-3.5
I42A	**Draeger Farm,**	**23.43**	**61**	P	P	17 40 08.2	-3.5
I42A				IAmb	IAmb	17 40 16.9	
	comp=Z,185nm,1.1s						
R33M	**Jennings River**	**25.33**	**344**	P	P	17 40 26.8	-2.5
R33M				IAmb	IAmb	17 40 35.3	
	comp=Z,258nm,1.5s						
S31K	**Pelican**	**25.55**	**337**	P	P	17 40 28.7	-2.4
S31K				IAmb	IAmb	17 40 47.3	
	comp=Z,186nm,1.6s						
O48B	**Farmland**	**25.89**	**70**	P	P	17 40 32.5	-2.0
O48B				IAmb	IAmb	17 40 49.4	
	comp=Z,191nm,1.1s						
SKAG	**Skagway**	**26.50**	**340**	P	P	17 40 39.9	+0.1
SKAG				IAmb	IAmb	17 40 45.6	
	comp=Z,223nm,1.7s						
R50A	**Paris**	**26.61**	**74**	P	P	17 40 40.9	-0.1
WRGLY	**Wrigley**	**27.85**	**354**	P	P	17 40 47.9	-4.0
WRGLY				IAmb	IAmb	17 40 54.8	
	comp=Z,162nm,1.1s						
PCA	**Pinnacle**	**28.52**	**336**	P	P	17 40 57.7	-0.3
PCA				IAmb	IAmb	17 41 03.1	
	comp=Z,146nm,1.5s						
LOGN	**Logan Glacier**	**29.32**	**337**	P	P	17 41 03.6	-1.6
GRNC	**Granite Creek**	**29.50**	**336**	P	P	17 41 06.2	-0.6
R55A	**Marlinton**	**29.91**	**74**	P	P	17 41 09.6	-0.9
R55A				IAmb	IAmb	17 41 16.1	
	comp=Z,208nm,1.4s						
BUKO	**Buck Lake**	**30.36**	**59**	P	P	17 41 12.8	-1.6
BUKO				IAmb	IAmb	17 41 17.2	
	comp=Z,250nm,1.8s						
P23K	**Montague Islan**	**31.06**	**331**	P	P	17 41 19.4	-0.9
P23K				IAmb	IAmb	17 41 24.2	
	comp=Z,255nm,1.7s						
DAWY	**Dawson**	**31.40**	**342**	P	P	17 41 21.4	-1.9
DAWY				IAmb	IAmb	17 41 38.7	
	comp=Z,230nm,1.7s						
BLKN	**Baker Lake**	**31.54**	**18**	P	P	17 41 22.7	-1.8

*NEIC **04** 17:35:51.8±0.4,35°.687N±0°.010×117°.51W±0°.01, h5km±3km, Error ellipse: s-maj=1.6km s-min=1.4km az=67.0*

PAS 04 17:35:52.2±0.5,**35°.687N**±0°.009×**117°.506W**±0°.009, **h2**km±2km, **ML4.6**/22, **ML4.7**/8(NEIC), **Error ellipse: s-maj=1.3km s-min=1.0km az=201.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.15**	**330**		Pg	17 35 55.3	+0.2
CLC					Sg	17 35 57.7	+0.6
CCCA	**Chr Cany lake**	**0.20**	**144**		Pg	17 35 56.8	+0.8
TOW	**Tower One**	**0.24**	**300**		Sg	17 36 01.9	+1.9
LRMC	**Laurel Mtn Rad**	**0.25**	**215**		Sg	17 36 01.0	+0.7
WNMM	**Nine Mile Cany**	**0.36**	**296**		Pg	17 35 59.5	+0.4
WVPM	**Volcano Peak E**	**0.36**	**316**		Sg	17 36 04.8	+0.9
MPMC	**Manual Prospec**	**0.37**	**2**		Pg	17 35 59.6	+0.2
MPMC					Sg	17 36 04.6	+0.5
JRC2	**Joshua Ridge**	**0.38**	**320**		Pg	17 35 59.7	+0.1
JRC2					Sg	17 36 05.7	+1.1
WCSM	**Coso Springs S**	**0.40**	**328**		Sg	17 36 05.9	+0.8
WRVM	**Rose V. Centra**	**0.45**	**316**		Pg	17 36 01.0	+0.3
WRVM					Sg	17 36 07.2	+0.7
DTP	**Desert Tortois**	**0.50**	**214**		Sg	17 36 09.0	+0.7
MFS	**McCloud Flat S**	**0.51**	**327**		Sg	17 36 09.4	+0.7
WBSM	**Bird Springs**	**0.54**	**254**		Pg	17 36 02.4	0.0
WBSM					Sg	17 36 10.3	+0.9
QSM	**Queen of Sheba**	**0.59**	**62**	Pg	Pg	17 36 03.9	+0.4
QSM				Sg	Sg	17 36 11.4	+0.4
QSM				IAML		17 36 12.2	
	comp=N,52μm,2.1s						
QSM				IAML		17 36 12.9	
	comp=E,33μm,0.8s						
WORM	**Onyx Ranch**	**0.60**	**271**		Pg	17 36 03.7	0.0
WORM					Sg	17 36 11.5	+0.1
WHFM	**Hanning Flat**	**0.69**	**271**		Pg	17 36 05.2	-0.1
WHFM					Sg	17 36 14.7	+0.5
GSC	**Goldstone, Bar**	**0.69**	**124**	Pg	Pg	17 36 05.1	-0.2
GSC				Sg	Sg	17 36 15.2	+0.9
ISA	**Isabella, Lake**	**0.79**	**269**		Pg	17 36 06.9	-0.4
ISA					Sg	17 36 18.0	+0.5
GWY	**Greenwater Val**	**0.84**	**54**	Pg	Pg	17 36 07.9	-0.4
GWY				IAML		17 36 16.3	
	comp=E,29μm,1.8s						
GWY				Sg	Sg	17 36 19.8	+0.5
GWY				IAML		17 36 25.6	
	comp=N,35μm,2.0s						
WASM	**Alta Sierra Ca**	**0.86**	**274**		Pg	17 36 08.3	-0.3
WASM					Sg	17 36 20.7	+1.0

*NEIC **04** 17:37:00.7±0.4,35°.705N±0°.005×117°.48W±0°.01, h4km±3km, Error ellipse: s-maj=1.3km s-min=0.6km az=60.0*

PAS 04 17:37:01.1±0.5,**35°.711N**±0°.008×**117°.48W**±0°.01, **h2**km, **ML3.8**/15, **ML4.3**/22(NEIC), **Error ellipse: s-maj=1.3km s-min=1.1km az=99.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.14**	**317**		Sg	17 37 06.4	+0.5
CCCA	**Chr Cany lake**	**0.21**	**154**		Pg	17 37 05.8	+0.7
CCCA					Sg	17 37 08.7	+0.9
LRMC	**Laurel Mtn Rad**	**0.28**	**216**		Pg	17 37 06.8	+0.2
LRMC					Sg	17 37 11.0	+0.7
MPMC	**Manual Prospec**	**0.35**	**358**		Pg	17 37 08.0	+0.2
MPMC					Sg	17 37 13.1	+0.7
WVPM	**Volcano Peak E**	**0.36**	**311**		Pg	17 37 08.5	+0.3
JRC2	**Joshua Ridge**	**0.38**	**315**		Pg	17 37 08.8	+0.3
WCSM	**Coso Springs S**	**0.39**	**323**		Sg	17 37 14.4	+0.5
MFS	**McCloud Flat S**	**0.51**	**323**		Pg	17 37 11.1	+0.2
DTP	**Desert Tortois**	**0.53**	**214**		Pn	17 37 18.7	+2.7
QSM	**Queen of Sheba**	**0.56**	**63**	Pg	Pg	17 37 11.7	-0.2
WBSM	**Bird Springs**	**0.57**	**252**		Sg	17 37 20.0	+0.6
GSC	**Goldstone, Bar**	**0.68**	**126**		Sg	17 37 23.6	+0.5
GSC	**Goldstone, Bar**	**0.68**	**126**	Pg	Pg	17 37 13.9	-0.3
CCAC	**Calif City Air**	**0.71**	**218**	Pg	Pg	17 37 14.3	-0.4
CCAC				IAML		17 37 18.9	
	comp=E,18μm,1.6s						
CCAC				IAML		17 37 37.6	
	comp=N,19μm,1.9s						
WHFM	**Hanning Flat**	**0.71**	**269**		Sg	17 37 24.4	+0.5
GWY	**Greenwater Val**	**0.81**	**54**	Pg	Pg	17 37 16.7	0.0
GWY				IAML		17 37 36.8	
	comp=N,10μm,2.0s						
ISA	**Isabella, Lake**	**0.81**	**267**	Pg	Pg	17 37 16.5	-0.3
HYS	**Haystack Butte**	**0.85**	**185**		Sg	17 37 28.5	+0.1
WCT	**Wildcat Mounta**	**1.28**	**32**	Pg	Pg	17 37 25.6	-0.2
WCT				IAML		17 37 46.0	
	comp=N,5μm,2.6s						
WCT				IAML		17 37 47.1	
	comp=E,7μm,2.6s						
TPNV	**Topopah Spring**	**1.58**	**38**	Pg	Pg	17 37 31.5	-0.1
GMN	**Gold Mountain**	**1.60**	**6**		Pn	17 37 29.9	-0.8
GMN				IAML		17 37 55.0	
	comp=N,4μm,3.0s						
ELS	**Elsinore Mount**	**2.06**	**179**		Pb	17 37 38.5	-0.9
ELS				IAML		17 37 58.4	
	comp=E,2μm,2.0s						
ELS				IAML		17 38 11.0	
	comp=N,2μm,2.4s						

*NEIC **04** 17:37:14.4±0.8,35°.658N±0°.009×117°.52W±0°.01, h5km±2km, Error ellipse: s-maj=1.5km s-min=1.0km az=146.0*

PAS 04 17:37:14.8±0.7,**35°.666N**±0°.008×**117°.52W**±0°.01, **h2**km±1km, **ML4.2**/13, **ML4.4**/28(NEIC), **Error ellipse: s-maj=1.3km s-min=1.1km az=79.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.16**	**336**		Pg	17 37 18.2	+0.2
CLC					Sg	17 37 21.0	+0.7
CCCA	**Chr Cany lake**	**0.19**	**139**		Pg	17 37 19.2	+0.8
SRTC	**Snort**	**0.19**	**278**		Pg	17 37 19.1	+0.6
SRTC					Sg	17 37 22.8	+1.8
LRMC	**Laurel Mtn Rad**	**0.23**	**216**		Sg	17 37 22.8	+0.5
WNMM	**Nine Mile Cany**	**0.36**	**299**		Pg	17 37 22.2	+0.4
MPMC	**Manual Prospec**	**0.39**	**3**		Pg	17 37 22.6	+0.1
MPMC					Sg	17 37 28.3	+0.7
JRC2	**Joshua Ridge**	**0.40**	**323**		Pg	17 37 22.7	+0.2
JRC2					Sg	17 37 28.5	+0.8
WCSM	**Coso Springs S**	**0.41**	**331**		Pg	17 37 23.1	+0.3
WCSM					Sg	17 37 28.9	+0.7
WRVM	**Rose V. Centra**	**0.46**	**318**		Sg	17 37 30.4	+0.8
DTP	**Desert Tortois**	**0.48**	**214**		Pn	17 37 30.6	+1.8
WBSM	**Bird Springs**	**0.52**	**256**		Pg	17 37 25.0	+0.1
WBSM					Sg	17 37 32.1	+0.4
MFS	**McCloud Flat S**	**0.53**	**329**		Pg	17 37 25.1	+0.1
MFS					Sg	17 37 32.7	+0.8
WORM	**Onyx Ranch**	**0.59**	**273**		Pg	17 37 26.3	+0.1
WORM					Sg	17 37 33.8	-0.1
CCAC	**Calif City Air**	**0.66**	**219**	Pg	Pg	17 37 26.1	-1.3
CCAC				IAML		17 37 42.9	
	comp=E,18μm,1.6s						
GSC	**Goldstone, Bar**	**0.68**	**122**	Pg	Pg	17 37 26.9	-1.1
ISA	**Isabella, Lake**	**0.78**	**270**	Pg	Pg	17 37 27.5	-2.3
GWY	**Greenwater Val**	**0.86**	**53**	Pg	Pg	17 37 30.1	-1.3
GRAC	**Grapevine Rang**	**1.33**	**5**	Pg	Pg	17 37 39.4	-1.0
WCT	**Wildcat Mounta**	**1.34**	**32**	Pg	Pg	17 37 39.4	-1.0
PASC	**Pasadena Art C**	**1.59**	**200**		Pn	17 37 43.7	-0.4
PASC				IAML		17 38 10.2	
	comp=E,5μm,2.5s						
PASC				IAML		17 38 13.4	
	comp=N,5μm,2.7s						
GMN	**Gold Mountain**	**1.65**	**7**		Pn	17 37 44.6	-0.5
DSP	**Deep Springs**	**1.74**	**348**	Pg	Pn	17 37 46.0	-0.2
DSP				IAML		17 38 04.3	
	comp=E,4μm,2.5s						
DSP				IAML		17 38 11.1	
	comp=N,4μm,2.8s						
ELS	**Elsinore Mount**	**2.01**	**178**		Pb	17 37 52.1	-0.2
MZP	**Montezuma Peak**	**2.03**	**3**	Pn	Pn	17 37 49.9	-0.6
MZP				IAML		17 38 01.4	
	comp=N,2μm,2.2s						
MZP				IAML		17 38 17.6	
	comp=E,2μm,2.8s						

*NEIC **04** 17:37:25.5±0.9,35°.67N±0°.01×117°.454W±0°.009, h13km±3km, Error ellipse: s-maj=2.1km s-min=1.0km az=179.0*

PAS 04 17:37:25.7±0.8,**35°.68N**±0°.01×**117°.45W**±0°.01, **h16**km±2km, **ML4.3**/9, **ML4.3**/10(NEIC), **Error ellipse: s-maj=2.2km s-min=1.5km az=195.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.17**	**155**		Pg	17 37 29.9	0.0
CCCA					Sg	17 37 33.2	+0.4
CLC	**China Lake**	**0.18**	**319**		Pg	17 37 29.8	-0.4
CLC					Sg	17 37 32.9	-0.3
SRTC	**Snort**	**0.24**	**273**		Pg	17 37 31.0	-0.1
SRTC					Sg	17 37 35.0	+0.2
TOW	**Tower One**	**0.28**	**297**		Pg	17 37 31.9	0.0
TOW					Sb	17 37 37.1	+0.1
WVPM	**Volcano Peak E**	**0.40**	**312**		Sg	17 37 39.5	0.0
JRC2	**Joshua Ridge**	**0.42**	**316**		Sg	17 37 39.9	-0.2
WRVM	**Rose V. Centra**	**0.48**	**313**		Sg	17 37 42.0	0.0
MFS	**McCloud Flat S**	**0.55**	**323**		Sg	17 37 43.7	-0.2
QSM	**Queen of Sheba**	**0.55**	**59**	Pg	Pg	17 37 35.3	-1.4
QSM				Sg	Sg	17 37 43.7	-0.4
QSM				IAML		17 37 44.3	
	comp=N,17μm,0.5s						
QSM				IAML		17 37 44.7	
	comp=E,22μm,0.3s						
WBSM	**Bird Springs**	**0.58**	**256**		Sg	17 37 44.1	-0.7
WORM	**Onyx Ranch**	**0.64**	**272**		Sg	17 37 45.9	-1.0
GSC	**Goldstone, Bar**	**0.65**	**125**	Pg	Pg	17 37 37.4	-1.0
GSC				IAML		17 37 42.2	
	comp=N,12μm,0.5s						
GWY	**Greenwater Val**	**0.81**	**51**		Pg	17 37 41.2	-0.3
GWY				IAML		17 37 48.0	
	comp=N,12μm,0.6s						
ISA	**Isabella, Lake**	**0.83**	**269**		Pb	17 37 40.2	-1.6
ISA					Sb	17 37 51.5	-1.4

*NEIC **04** 17:37:55.2±0.6,35°.754N±0°.009×117°.552W±0°.004, h10km±5km, Error ellipse: s-maj=1.3km s-min=0.5km az=167.0*

PAS 04 17:37:55.5±0.5,**35°.746N**±0°.009×**117°.55W**±0°.01, **h8**km±4km, **ML4.1**/25, **ML4.2**/12(NEIC), **Error ellipse: s-maj=1.5km s-min=1.2km az=58.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.08**	**332**		Pg	17 37 57.6	-0.1
CLC					Sg	17 37 59.3	0.0
SRTC	**Snort**	**0.17**	**252**		Pg	17 37 59.3	+0.3
TOW	**Tower One**	**0.18**	**290**		Pg	17 37 59.7	+0.4
TOW					Sg	17 38 03.4	+1.4
CCCA	**Chr Cany lake**	**0.27**	**145**		Pg	17 38 01.1	+0.3
CCCA					Sg	17 38 05.6	+1.1
LRMC	**Laurel Mtn Rad**	**0.29**	**202**		Pg	17 38 01.0	-0.2
LRMC					Sg	17 38 05.2	+0.1
WVPM	**Volcano Peak E**	**0.30**	**313**		Pg	17 38 01.3	-0.1
WVPM					Sg	17 38 05.7	+0.3
JRC2	**Joshua Ridge**	**0.32**	**319**		Pg	17 38 01.7	-0.1
JRC2					Sg	17 38 06.3	+0.2
MPMC	**Manual Prospec**	**0.32**	**9**		Pg	17 38 01.6	-0.2
MPMC					Sg	17 38 06.2	+0.1
WCSM	**Coso Springs S**	**0.33**	**328**		Pg	17 38 01.8	-0.2
WCSM					Sg	17 38 06.6	+0.1
WRVM	**Rose V. Centra**	**0.38**	**314**		Pg	17 38 02.8	-0.2
WRVM					Sg	17 38 08.1	+0.1
MFS	**McCloud Flat S**	**0.45**	**327**		Pg	17 38 04.0	-0.2
MFS					Sg	17 38 10.2	+0.1
WBSM	**Bird Springs**	**0.52**	**247**		Pg	17 38 05.2	-0.4
WBSM					Sg	17 38 12.5	-0.1
DTP	**Desert Tortois**	**0.53**	**207**		Pn	17 38 12.7	+3.2
WORM	**Onyx Ranch**	**0.56**	**265**		Pg	17 38 06.0	-0.5
WORM					Sg	17 38 13.4	-0.4
QSM	**Queen of Sheba**	**0.60**	**68**	Pg	Pg	17 38 06.8	-0.2
QSM				IAML		17 38 25.5	
	comp=E,7μm,2.8s						
WHFM	**Hanning Flat**	**0.65**	**266**		Pg	17 38 07.5	-0.5
WHFM					Sg	17 38 16.2	-0.4
CCAC	**Calif City Air**	**0.70**	**213**		Sg	17 38 18.2	0.0
CCAC	**Calif City Air**	**0.70**	**213**	Pg	Pg	17 38 08.7	-0.3
CCAC				IAML		17 38 11.8	
	comp=N,10μm,3.5s						
CCAC				IAML		17 38 19.8	
	comp=E,15μm,2.4s						
GSC	**Goldstone, Bar**	**0.75**	**126**		Sg	17 38 19.8	0.0
GSC	**Goldstone, Bar**	**0.75**	**126**	Pg	Pg	17 38 09.9	-0.1
GSC				IAML		17 38 21.1	
	comp=E,15μm,1.5s						
GSC				IAML		17 38 22.4	
	comp=N,9μm,0.4s						
ISA	**Isabella, Lake**	**0.76**	**264**		Sg	17 38 19.4	-0.5
ISA	**Isabella, Lake**	**0.76**	**264**	Pg	Pg	17 38 09.5	-0.5
CWC	**Cottonwood Cre**	**0.81**	**328**		Pg	17 38 11.3	+0.1
WASM	**Alta Sierra Ca**	**0.82**	**270**		Pg	17 38 10.7	-0.6
WASM					Sg	17 38 21.5	-0.4
HYS	**Haystack Butte**	**0.88**	**181**		Pg	17 38 12.7	+0.3
EDW2	**Edwards Air Fo**	**0.94**	**203**		Pb	17 38 13.8	-0.2
SBB	**Saddle Back Bu**	**1.08**	**192**		Pg	17 38 16.3	0.0
TJR	**Tejon Ranch**	**1.21**	**234**		Pb	17 38 18.1	-0.6
CMB	**Columbia Colle**	**3.22**	**316**	Pn	Pn	17 38 46.5	+0.1
CMB				IAML		17 40 40.5	
	comp=E,1μm,4.4s						
TJX	**Tijuana**	**3.25**	**173**	Pn	Pn	17 38 46.9	+0.1
BW06	**Boulder Array**	**9.36**	**39**	Pn	Pn	17 40 08.9	-1.9
PD31	**Pinedale Array**	**9.36**	**39**	Pn	Pn	17 40 08.7	-2.0
MSTX	**Muleshoe**	**12.27**	**94**	Pn	Pn	17 40 50.7	0.0
NEW	**Newport**	**12.51**	**1**	Pn	Pn	17 40 53.5	-0.3

*NEIC **04** 17:38

WVPM	**Volcano Peak E**	**0.38**	**329**		Pg	17 38 55.1	+0.1
DTP	**Desert Tortois**	**0.41**	**212**		Pg	17 38 55.5	-0.1
WRVM	**Rose V. Centra**	**0.46**	**327**		Pg	17 38 56.0	-0.5
WRVM					Sg	17 39 02.5	-0.2
WBSM	**Bird Springs**	**0.47**	**260**		Pg	17 38 56.3	-0.3
WBSM					Sg	17 39 02.5	-0.3
WORM	**Onyx Ranch**	**0.55**	**278**		Pg	17 38 55.7	-2.4
CCAC	**Calif City Air**	**0.59**	**218**		Sg	17 39 07.0	+0.3
CCAC	**Calif City Air**	**0.59**	**218**	Pg	Pg	17 38 58.9	-0.1
CCAC				IAML		17 39 13.5	
	comp=E,3µm,1.2s						
CCAC				IAML		17 39 19.9	
	comp=N,3µm,1.3s						
QSM	**Queen of Sheba**	**0.67**	**59**	Pg	Pg	17 38 59.4	-1.1
QSM				IAML		17 39 17.7	
	comp=E,4µm,0.5s						
QSM				IAML		17 39 18.4	
	comp=N,3µm,0.5s						
GSC	**Goldstone, Bar**	**0.71**	**117**	Pg	Pg	17 39 00.3	-0.8
GSC				IAML		17 39 19.9	
	comp=N,2µm,1.2s						
ISA	**Isabella, Lake**	**0.73**	**273**	Pg	Pg	17 39 01.2	-0.4
ISA				IAML		17 39 12.3	
	comp=E,2µm,0.5s						
EDW2	**Edwards Air Fo**	**0.81**	**205**		Pb	17 39 04.2	+0.4
RRX	**Edison Barstow**	**0.88**	**147**		Pn	17 39 05.9	-0.1
HOLC	**Holcomb Ridge**	**1.18**	**191**		Pn	17 39 10.6	+0.4
HOLC					Sn	17 39 26.2	-0.3
PASC	**Pasadena Art C**	**1.53**	**199**	Pn	Pn	17 39 14.5	-0.4
PASC				IAML		17 39 23.4	
	comp=E,506nm,1.5s						
ELS	**Elsinore Mount**	**1.97**	**176**	Pn	Pn	17 39 22.2	+1.1
CBX	**Cerro Bola**	**3.39**	**167**	Pn	Pn	17 39 41.8	+1.2

NEIC ***04*** *17:39:34.8±1.2,35°.64N±0°.01×117°.56W±0°.02,h10km±2km, Error ellipse: s-maj=3.0km s-min=2.5km az=338.0*

PAS 04 17:39:35.4±1.1,**35°.68N**±0°.01×**117°.50W**±0°.02,**h10**km±7km, **ML3.7**,**ML3.9**/16(NEIC),**Error ellipse: s-maj=2.3km s-min=1.0km az=58.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.19**	**145**		Pg	17 39 39.8	+0.3
WVPM	**Volcano Peak E**	**0.37**	**316**		Pg	17 39 42.5	-0.2
WVPM					Sg	17 39 48.1	+0.4
WRVM	**Rose V. Centra**	**0.45**	**316**		Pg	17 39 44.0	-0.3
DTP	**Desert Tortois**	**0.50**	**214**		Pg	17 39 45.0	-0.2
MFS	**McCloud Flat S**	**0.52**	**326**		Pg	17 39 45.3	-0.3
QSM	**Queen of Sheba**	**0.58**	**61**	Pg	Pg	17 39 47.1	+0.3
QSM				IAML		17 39 54.8	
	comp=E,7µm,0.5s						
QSM				IAML		17 39 57.6	
	comp=N,6µm,0.8s						
CCAC	**Calif City Air**	**0.68**	**219**		Pg	17 39 47.1	-1.4
CCAC				IAML		17 39 58.9	
	comp=N,5µm,0.4s						
GSC	**Goldstone, Bar**	**0.68**	**124**		Sg	17 39 57.7	+0.1
GSC	**Goldstone, Bar**	**0.68**	**124**	Pg	Pg	17 39 48.1	-0.5
GSC				IAML		17 40 00.8	
	comp=N,3µm,0.6s						
GSC				IAML		17 40 03.6	
	comp=E,8µm,4.6s						
ISA	**Isabella, Lake**	**0.79**	**269**	Pg	Pg	17 39 48.9	-1.8
ISA				IAML		17 40 00.7	
	comp=N,4µm,0.3s						
GWY	**Greenwater Val**	**0.84**	**53**	Pg	Pg	17 39 51.5	-0.1
GWY				IAML		17 40 04.8	
	comp=N,5µm,0.4s						
GWY				IAML		17 40 05.2	
	comp=E,5µm,0.4s						
CGO	**Cerro Gordo**	**0.90**	**344**		Sb	17 40 05.2	-0.2
HEC	**Hector,Ludlow**	**1.28**	**131**		Pn	17 39 58.8	-0.6
TUQ	**Turquoise Moun**	**1.31**	**100**		Pn	17 39 59.1	-0.7
WCT	**Wildcat Mounta**	**1.31**	**32**	Pn	Pn	17 39 58.7	-1.2
GRAC	**Grapevine Rang**	**1.31**	**5**		Pn	17 39 59.1	-0.7
TPNV	**Topopah Spring**	**1.62**	**38**	Pn	Pb	17 40 05.1	-0.3
GMN	**Gold Mountain**	**1.62**	**7**	Pn	Pn	17 40 03.5	-0.7
DSP	**Deep Springs**	**1.73**	**347**	Pn	Pn	17 40 05.2	-0.2
BCW	**Bitter Crk WRg**	**1.73**	**245**	Pn	Pn	17 40 03.2	-2.4
MZP	**Montezuma Peak**	**2.02**	**3**	Pn	Pn	17 40 09.1	-0.6
TRAM	**Private Proper**	**2.26**	**271**		Pn	17 40 09.4	-3.3
TPH	**Tonopah**	**2.40**	**5**	Pn	Pn	17 40 14.7	-0.2
S11A	**Rachel**	**2.41**	**35**	Pn	Pn	17 40 14.9	-0.1
PRN	**Pahroc Range**	**2.62**	**48**	Pn	Pn	17 40 17.3	-0.5
NV11	**Mina Array Sit**	**2.79**	**349**	Pn	Pn	17 40 20.1	-0.2
W13A	**Hualapai Mount**	**3.01**	**100**	Pn	Pn	17 40 22.9	-0.4
R11B	**Troy Canyon, C**	**3.07**	**29**	Pn	Pn	17 40 24.8	+0.7
BLYC	**Blythe**	**3.12**	**127**	Pn	Pn	17 40 23.9	-0.7
Q09A	**Carvers**	**3.15**	**5**	Pn	Pn	17 40 25.3	+0.1
YUH	**Yuha Desert**	**3.30**	**156**	Pn	Pn	17 40 25.8	-1.3
GLA	**Glamis**	**3.43**	**139**	Pn	Pn	17 40 28.4	-0.5
CBX	**Cerro Bola**	**3.43**	**168**	Pn	Pn	17 40 28.3	-0.7

NEIC ***04*** *17:40:01.8±0.6,35°.734N±0°.005×117°.57W±0°.01, h8km±4km,Error ellipse: s-maj=1.2km s-min=0.5km az=116.0*

PAS 04 17:40:02.2±0.5,**35°.725N**±0°.009×**117°.571W**±0°.009, **h7**km±2km,**ML4.0**/34,**ML3.8**/6(NEIC),**Error ellipse: s-maj=1.3km s-min=1.1km az=195.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.09**	**346**		Pg	17 40 04.4	0.0
CLC					Sg	17 40 06.2	+0.2
SRTC	**Snort**	**0.15**	**257**		Pg	17 40 05.7	+0.3
TOW	**Tower One**	**0.18**	**298**		Pg	17 40 06.3	+0.4
TOW					Sg	17 40 09.8	+1.5
CCCA	**Chr Cany lake**	**0.26**	**140**		Pg	17 40 07.8	+0.4
CCCA					Sg	17 40 11.9	+1.0
LRMC	**Laurel Mtn Rad**	**0.26**	**200**		Pg	17 40 07.3	-0.1
LRMC					Sg	17 40 11.2	+0.2
WNMM	**Nine Mile Cany**	**0.30**	**293**		Pg	17 40 07.9	-0.1
WNMM					Sg	17 40 12.6	+0.6
WVPM	**Volcano Peak E**	**0.30**	**318**		Pg	17 40 08.3	+0.1
WVPM					Sg	17 40 12.5	+0.2
JRC2	**Joshua Ridge**	**0.32**	**323**		Pg	17 40 08.6	0.0
JRC2					Sg	17 40 13.3	+0.4
MPMC	**Manual Prospec**	**0.34**	**11**		Pg	17 40 08.7	-0.3
MPMC					Sg	17 40 13.5	+0.1
WCSM	**Coso Springs S**	**0.34**	**332**		Pg	17 40 08.8	-0.2
WCSM					Sg	17 40 13.6	+0.1
WRVM	**Rose V. Centra**	**0.38**	**318**		Pg	17 40 09.6	-0.1
WRVM					Sg	17 40 15.0	+0.2
MFS	**McCloud Flat S**	**0.45**	**330**		Pg	17 40 10.9	-0.2
MFS					Sg	17 40 17.2	+0.1
WBSM	**Bird Springs**	**0.50**	**248**		Pg	17 40 11.6	-0.3
WBSM					Sg	17 40 18.6	+0.1
DTP	**Desert Tortois**	**0.51**	**206**		Pg	17 40 11.6	-0.4
DTP					Sg	17 40 18.7	0.0
WORM	**Onyx Ranch**	**0.55**	**267**		Pg	17 40 12.5	-0.3
WORM					Sg	17 40 19.7	-0.3
QSM	**Queen of Sheba**	**0.62**	**67**	Pg	Pg	17 40 13.7	-0.5
QSM					Sg	17 40 22.3	+0.1
QSM				IAML		17 40 22.8	
	comp=E,6µm,0.2s						
QSM				IAML		17 40 23.5	
	comp=N,5µm,0.5s						
WHFM	**Hanning Flat**	**0.63**	**268**		Pg	17 40 14.0	-0.4
CCAC	**Calif City Air**	**0.68**	**213**		Sg	17 40 24.2	+0.1
CCAC	**Calif City Air**	**0.68**	**213**	Pg	Pg	17 40 14.9	-0.3
CCAC				IAML		17 40 25.5	
	comp=N,5µm,0.5s						
ISA	**Isabella, Lake**	**0.74**	**265**		Sg	17 40 26.0	0.0
ISA	**Isabella, Lake**	**0.74**	**265**	Pg	Pg	17 40 15.7	-0.7
ISA				IAML		17 40 26.4	
	comp=E,4µm,1.2s						
GSC	**Goldstone, Bar**	**0.75**	**124**		Sg	17 40 26.6	0.0
GSC	**Goldstone, Bar**	**0.75**	**124**	Pg	Pg	17 40 16.2	-0.6
WASM	**Alta Sierra Ca**	**0.80**	**271**		Pg	17 40 17.2	-0.5
CWC	**Cottonwood Cre**	**0.82**	**330**		Pg	17 40 17.4	-0.8
HYS	**Haystack Butte**	**0.86**	**180**		Pb	17 40 19.4	-0.2
GWY	**Greenwater Val**	**0.86**	**58**	Pg	Pg	17 40 18.9	0.0
EDW2	**Edwards Air Fo**	**0.91**	**202**		Pg	17 40 20.1	+0.3
ADO	**Adelanto Recei**	**1.18**	**174**		Pg	17 40 24.8	0.0
WCT	**Wildcat Mounta**	**1.31**	**35**	Pg	Pn	17 40 26.9	-0.2
R11B	**Troy Canyon, C**	**3.06**	**31**	Pn	Pn	17 40 51.8	+0.5
LCMT	**Little Creek M**	**3.72**	**69**	Pn	Pn	17 41 00.2	-0.1
ESJX	**Sierra Juarez**	**3.95**	**160**	Pn	Pn	17 41 02.7	-0.8

NEIC ***04*** *17:40:18.3±1.3,35°.710N±0°.009×117°.498W±0°.004, h8km±8km,Error ellipse: s-maj=1.3km s-min=0.4km az=193.0*

PAS 04 17:40:18.5±1.1,**35°.707N**±0°.008×**117°.51W**±0°.01, **h9**km±7km,**ML4.5**/40,**ML4.6**/100(NEIC),**Error ellipse: s-maj=1.5km s-min=1.1km az=67.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.13**	**327**		Pg	17 40 21.4	-0.1
CLC					Sg	17 40 23.9	+0.3
SRTC	**Snort**	**0.20**	**266**		Pg	17 40 23.0	+0.4
SRTC					Sg	17 40 26.7	+1.4
CCCA	**Chr Cany lake**	**0.22**	**147**		Pg	17 40 23.2	+0.2
CCCA					Sg	17 40 27.2	+1.3
TOW	**Tower One**	**0.23**	**296**		Pg	17 40 23.6	+0.4
TOW					Sg	17 40 27.7	+1.3
LRMC	**Laurel Mtn Rad**	**0.27**	**212**		Pg	17 40 23.6	-0.3
LRMC					Sg	17 40 27.8	+0.3
WVPM	**Volcano Peak E**	**0.35**	**314**		Pg	17 40 25.2	-0.2
WVPM					Sg	17 40 30.3	+0.2
WNMM	**Nine Mile Cany**	**0.35**	**293**		Pg	17 40 25.3	-0.1
WNMM					Sg	17 40 30.3	+0.3
MPMC	**Manual Prospec**	**0.35**	**3**		Pg	17 40 25.3	-0.3
MPMC					Sg	17 40 30.2	0.0
JRC2	**Joshua Ridge**	**0.37**	**319**		Pg	17 40 25.6	-0.2
JRC2					Sg	17 40 30.9	+0.3
WCSM	**Coso Springs S**	**0.38**	**327**		Pg	17 40 25.9	-0.1
WCSM					Sg	17 40 31.0	-0.1
WRVM	**Rose V. Centra**	**0.43**	**314**		Pg	17 40 26.7	-0.3
WRVM					Sg	17 40 32.7	+0.1
MFS	**McCloud Flat S**	**0.50**	**326**		Pg	17 40 27.9	-0.3
MFS					Sg	17 40 34.9	+0.1
DTP	**Desert Tortois**	**0.52**	**212**		Pg	17 40 28.1	-0.5
DTP					Sg	17 40 35.2	-0.1
WBSM	**Bird Springs**	**0.54**	**252**		Pg	17 40 28.6	-0.5
WBSM					Sg	17 40 35.9	-0.2
QSM	**Queen of Sheba**	**0.58**	**64**		Sg	17 40 37.4	0.0
QSM	**Queen of Sheba**	**0.58**	**64**	Pg	Pg	17 40 29.4	-0.4
QSM				IAML		17 40 37.9	
	comp=E,27µm,0.4s						
QSM				IAML		17 40 37.9	
	comp=N,28µm,0.5s						
WORM	**Onyx Ranch**	**0.60**	**269**		Pg	17 40 29.6	-0.5
WORM					Sg	17 40 37.3	-0.6
WHFM	**Hanning Flat**	**0.68**	**269**		Pg	17 40 31.2	-0.5
WHFM					Sg	17 40 40.1	-0.6
CCAC	**Calif City Air**	**0.69**	**217**		Sg	17 40 40.7	-0.1
CCAC	**Calif City Air**	**0.69**	**217**	Pg	Pg	17 40 31.1	-0.8
CCAC				IAML		17 40 42.6	
	comp=N,9µm,1.0s						
CCAC				IAML		17 40 45.7	
	comp=E,10µm,0.9s						
GSC	**Goldstone, Bar**	**0.70**	**125**		Sg	17 40 41.1	-0.1
GSC	**Goldstone, Bar**	**0.70**	**125**	Pg	Pg	17 40 31.8	-0.3
GSC				IAML		17 40 42.3	
	comp=E,21µm,0.6s						
GSC				IAML		17 40 44.0	
	comp=N,17µm,0.4s						
ISA	**Isabella, Lake**	**0.79**	**267**		Sg	17 40 43.3	-0.6
ISA	**Isabella, Lake**	**0.79**	**267**	Pg	Pg	17 40 33.3	-0.4
ISA				IAML		17 40 44.2	
	comp=N,10µm,0.5s						
ISA				IAML		17 40 44.6	
	comp=E,10µm,0.4s						
GWY	**Greenwater Val**	**0.83**	**55**	Pg	Pg	17 40 34.7	+0.1
GWY				IAML		17 40 47.9	
	comp=N,17µm,0.7s						
GWY				IAML		17 40 49.0	
	comp=E,19µm,0.4s						
HYS	**Haystack Butte**	**0.84**	**183**		Pn	17 40 45.3	+8.6
WASM	**Alta Sierra Ca**	**0.85**	**272**		Sg	17 40 45.3	-0.8
CWC	**Cottonwood Cre**	**0.86**	**328**		Pg	17 40 35.1	-0.1
CWC					Pn	17 40 46.4	+9.3
ARVC	**Arvin**	**1.22**	**242**		Pn	17 40 41.9	0.0
GRAC	**Grapevine Rang**	**1.29**	**5**		Pn	17 40 42.6	-0.3
GRAC				IAML		17 41 04.1	
	comp=E,10µm,0.8s						
GRAC				IAML		17 41 07.3	
	comp=N,13µm,1.4s						
WCT	**Wildcat Mounta**	**1.30**	**33**		Pn	17 40 42.6	-0.4
HEC	**Hector,Ludlow**	**1.30**	**132**		Pn	17 40 42.6	-0.3
SGV	**South Grapevin**	**1.33**	**17**		Pb	17 40 43.8	+0.1
SIL	**Silver Peak**	**1.47**	**157**		Pb	17 40 46.4	+0.3
BFSC	**Mount Baldy Ra**	**1.47**	**185**		Pg	17 40 46.8	+0.1
BBRC	**Big Bear Solar**	**1.52**	**161**		Pg	17 40 47.5	-0.2
DECC	**Green Verdugo**	**1.60**	**205**		Pg	17 40 49.2	0.0
GMN	**Gold Mountain**	**1.60**	**7**	Pn	Pb	17 40 48.0	-0.5
TPNV	**Topopah Spring**	**1.60**	**39**	Pn	Pb	17 40 48.5	0.0
TPNV				IAML		17 41 11.8	
	comp=N,4µm,1.1s						
MTPC	**Mountain Pass**	**1.61**	**97**		Pn	17 40 45.7	-1.6
PASC	**Pasadena Art C**	**1.63**	**200**	Pn	Pb	17 40 48.3	-0.5
PASC				IAML		17 41 15.6	
	comp=E,4µm,1.0s						
PASC	**Pasadena Art C**	**1.63**	**200**		Pn	17 40 48.1	+0.6
PSRC	**Puddingstone R**	**1.63**	**189**		Pg	17 40 49.8	+0.1
DSP	**Deep Springs**	**1.70**	**348**	Pn	Pb	17 40 49.3	-0.6
BCW	**Bitter Crk WRg**	**1.73**	**244**	Pn	Pb	17 40 50.5	-0.2
BCW				IAML		17 41 05.5	
	comp=E,5µm,4.0s						
BCW				IAML		17 41 31.0	
	comp=N,6µm,4.6s						
MZP	**Montezuma Peak**	**1.99**	**3**		Pb	17 40 54.7	-0.5
ELS	**Elsinore Mount**	**2.06**	**178**	Pn	Pb	17 40 55.6	-0.5
SHPR	**Sheep Range**	**2.06**	**67**	Pn	Pb	17 40 55.5	-0.8
V12A	**Nelson**	**2.16**	**89**	Pn	Pb	17 40 56.7	-1.3
V12A				IAML		17 41 27.1	
	comp=N,2µm,0.9s						
PFO	**Pinyon Flats O**	**2.26**	**157**	Pn	Pn	17 40 56.4	+0.1
TPH	**Tonopah**	**2.38**	**5**	Pn	Pn	17 40 57.4	-0.5
TPH				IAML		17 41 19.6	
	comp=N,6µm,4.8s						
S11A	**Rachel**	**2.40**	**36**	Pn	Pn	17 40 58.0	-0.2
S11A				IAML		17 41 20.1	
	comp=E,6µm,3.6s						
LHV	**Little Huntoon**	**2.66**	**343**	Pn	Pn	17 41 01.6	0.0
LHV				IAML		17 41 28.3	
	comp=N,2µm,5.0s						
LHV				IAML		17 42 11.2	
	comp=E,3µm,4.9s						
NV11	**Mina Array Sit**	**2.77**	**349**	Pn	Pn	17 41 03.1	-0.1
NV11				IAML		17 41 27.9	
	comp=E,1µm,3.7s						
NV11				IAML		17 41 32.5	
	comp=N,2µm,4.8s						
NVAR	**Mina Array Bea**	**2.79**	**347**	Pn	Pn	17 41 03.6	0.0
W13A	**Hualapai Mount**	**3.02**	**101**	Pn	Pn	17 41 05.3	-1.5
W13A				IAML		17 41 31.8	
	comp=E,1µm,4.3s						
W13A				IAML		17 41 54.4	
	comp=N,1µm,2.2s						
RYN	**Ryan**	**3.03**	**345**	Pn	Pn	17 41 07.0	+0.2
RYN				IAML		17 41 26.7	
	comp=E,1µm,4.1s						
RYN				IAML		17 41 42.6	
	comp=N,1µm,4.7s						
R11B	**Troy Canyon, C**	**3.05**	**30**	Pn	Pn	17 41 07.8	+0.6
Q09A	**Carvers**	**3.13**	**5**	Pn	Pn	17 41 08.5	+0.2
WAKR	**Walker**	**3.19**	**332**		Pn	17 41 09.6	+0.5
WAKR				IAML		17 41 41.7	
	comp=N,2µm,4.5s						
WAKR				IAML		17 41 44.8	
	comp=E,2µm,4.3s						
SAO	**San Andreas Ge**	**3.35**	**289**	Pn	Pn	17 41 12.6	+1.5
CBX	**Cerro Bola**	**3.46**	**168**	Pn	Pn	17 41 12.4	-0.3
ESJX	**Sierra Juarez**	**3.92**	**160**	Pn	Pn	17 41 18.1	-1.0
ESJX				IAML		17 42 21.7	
	comp=N,833nm,3.2s						
ESJX				IAML		17 43 11.6	
	comp=E,1µm,4.9s						
PSUT	**Pine Spring**	**4.06**	**45**	Pn	Pn	17 41 20.1	-1.0
PSUT				IAML		17 41 50.5	
	comp=E,1µm,4.2s						
PSUT				IAML		17 42 15.8	
	comp=N,1µm,4.4s						
MPK	**Martis Peak**	**4.10**	**332**	Pn	Pn	17 41 20.6	-1.1
Y14A	**Wickenburg**	**4.11**	**114**	Pn	Pn	17 41 19.9	-1.7
Y14A				IAML		17 41 57.4	
	comp=N,2µm,5.0s						
Y14A				IAML		17 42 41.3	
	comp=E,1µm,4.4s						
SPR3	**Spring Creek 3**	**4.15**	**37**	Pn	Pn	17 41 22.2	-0.1
SPR3				IAML		17 41 55.0	
	comp=N,940nm,4.8s						
SPR3				IAML		17 41 58.4	
	comp=E,955nm,4.8s						
AFDM	**Forest Hills D**	**4.25**	**321**	Pn	Pn	17 41 23.1	-0.5
AFDM				IAML		17 41 56.5	
	comp=E,885nm,4.1s						
AFDM				IAML		17 43 33.7	
	comp=N,665nm,4.9s						
VTX	**Valle De La Tr**	**4.54**	**161**	Pn	Pn	17 41 26.9	-0.6
VTX				IAML		17 42 31.3	
	comp=E,963nm,4.5s						
VTX				IAML		17 43 07.6	
	comp=N,784nm,4.6s						
BEKR	**Beckworth**	**4.73**	**332**	Pn	Pn	17 41 28.9	-1.2
BEKR				IAML		17 42 11.9	
	comp=N,723nm,3.9s						
MCCM	**Marconi Confer**	**4.94**	**301**	Pn	Pn	17 41 34.0	+1.1
ORV	**Oroville**	**4.98**	**322**	Pn	Pn	17 41 33.1	-0.4
ORV				IAML		17 43 00.1	
	comp=E,627nm,5.0s						
WUAZ	**Wupatki**	**5.00**	**90**	Pn	Pn	17 41 33.7	-0.3
MVU	**Marysvale**	**5.07**	**55**	Pn	Pn	17 41 35.1	+0.1
X16A	**Lo Mia Camp, P**	**5.14**	**103**	Pn	Pn	17 41 34.5	-1.5
SFX	**San Felipe**	**5.16**	**154**	Pn	Pn	17 41 35.2	-0.7
GDXM	**Geysers**	**5.23**	**308**	Pn	Pn	17 41 34.4	-2.6
ELK	**Elko**	**5.34**	**19**	Pn	Pn	17 41 38.2	-0.5
ELK				IAML		17 42 23.8	
	comp=E,348nm,4.7s						
ELK				IAML		17 42 26.2	
	comp=E,409nm,4.9s						
214A	**Organ Pipe Nat**	**5.41**	**132**	Pn	Pn	17 41 38.0	-1.4
HOPS	**Hopland Field**	**5.51**	**308**	Pn	Pn	17 41 39.8	-1.0
O02D	**Mt. Diablo Mer**	**6.11**	**319**	Pn	Pn	17 41 48.9	-0.2
X18A	**Snowflake**	**6.31**	**99**	Pn	Pn	17 41 52.8	+0.8
TUC	**Tucson**	**6.53**	**119**	Pn	Pn	17 41 53.0	-2.0
JLU	**Jordanelle**	**6.83**	**43**	Pn	Pn	17 41 59.0	-0.2
BSUT	**Blindstream Ca**	**7.18**	**46**	Pn	Pn	17 42 06.1	+2.1
PV03	**Paradox Valley**	**7.38**	**67**	Pn	Pn	17 42 07.4	+0.7
PV07	**Paradox Valley**	**7.59**	**66**	Pn	Pn	17 42 09.6	0.0
DUN6	**Lazy B Ranch**	**7.66**	**112**	Pn	Pn	17 42 10.2	-0.2
319A	**Douglas**	**8.11**	**120**	Pn	Pn	17 42 16.3	-0.4

IDC 04 17:40:52.8±1.6,**0°.12N×125°.89E,h0**km,**mb3.7**/4, **mbtmp3.7**/4,**Error ellipse: s-maj=169.0km s-min=21.7km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.59**	**158**	P	P	17 45 44.2	-0.3
	1.2nm,0.6s,baz=336,slow=10,SNR=10 1.2nm,0.6s						
ASAR	**Alice Springs**	**24.89**	**162**	P	P	17 46 17.8	+0.2
	0.6nm,0.5s,baz=343,slow=7.7,SNR=40 0.6nm,0.5s						
MKAR	**Makanchi Array**	**60.06**	**327**	P	P	17 51 01.6	-0.2
	1.5nm,0.9s,baz=123,slow=8.1,SNR=8.8 1.5nm,0.9s						
KURBB	**Kurchatov Arra**	**64.33**	**329**	P	P	17 51 30.5	+0.2
	0.7nm,0.6s,baz=133,slow=6.8,SNR=2.0 0.7nm,0.6s						

NEIC ***04*** *17:41:20.2±0.6,35°.729N±0°.008×117°.50W±0°.02, h6km±3km,Error ellipse: s-maj=2.0km s-min=1.1km az=82.0*

PAS 04 17:41:20.9±0.9,**35°.727N**±0°.008×**117°.53W**±0°.01, **h2**km±4km,**ML3.3**/7,**Error ellipse: s-maj=1.7km s-min=1.0km az=62.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.10**	**328**		Pg	17 41 23.2	+0.3
CLC					Sg	17 41 24.8	+0.5
SRTC	**Snort**	**0.18**	**259**		Pg	17 41 25.2	+0.8
SRTC					Sg	17 41 28.6	+1.8
TOW	**Tower One**	**0.21**	**293**		Pg	17 41 25.5	+0.7
TOW					Sg	17 41 29.3	+1.7
CCCA	**Chr Cany lake**	**0.24**	**146**		Pg	17 41 26.2	+0.7
LRMC	**Laurel Mtn Rad**	**0.28**	**207**		Pg	17 41 26.0	-0.2
WVPM	**Volcano Peak E**	**0.32**	**314**		Pg	17 41 27.3	+0.2
WVPM					Sg	17 41 32.0	+0.7
MPMC	**Manual Prospec**	**0.33**	**6**		Pg	17 41 27.5	+0.2
MPMC					Sg	17 41 32.2	+0.6
JRC2	**Joshua Ridge**	**0.34**	**318**		Pg	17 41 27.8	+0.3
JRC2					Sg	17 41 32.6	+0.7
WCSM	**Coso Springs S**	**0.36**	**327**		Pg	17 41 27.8	+0.1
WCSM					Sg	17 41 32.9	+0.5
WRVM	**Rose V. Centra**	**0.41**	**314**		Pg	17 41 28.8	+0.2
WRVM					Sg	17 41 34.4	+0.5
MFS	**McCloud Flat S**	**0.47**	**326**		Sg	17 41 36.5	+0.4
WBSM	**Bird Springs**	**0.53**	**249**		Pg	17 41 31.2	+0.1
WBSM					Sg	17 41 38.1	+0.1
WORM	**Onyx Ranch**	**0.58**	**267**		Pg	17 41 32.0	0.0
WHFM	**Hanning Flat**	**0.67**	**268**		Pg	17 41 33.6	-0.1
CCAC	**Calif City Air**	**0.70**	**215**		Sg	17 41 44.3	+1.0
ISA	**Isabella, Lake**	**0.77**	**266**	Pg	Pg	17 41 35.4	-0.2
WASM	**Alta Sierra Ca**	**0.84**	**271**		Pg	17 41 36.8	-0.1

NEIC ***04*** *17:42:53.7±1.1,35°.734N±0°.005×117°.59W±0°.01, h5km±1km,Error ellipse: s-maj=2.1km s-min=1.9km az=255.0*

PAS 04 17:42:54.1±0.4,**35°.730N**±0°.009×**117°.56W**±0°.01, **h8**km±3km,**ML3.2**/30,**ML3.3**/18(NEIC),**Error ellipse: s-maj=1.4km s-min=1.3km az=87.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC

SBB	Saddle Back Bu	1.06	192			Pg	17 43 14.6	+0.1
SPG2	Springville 2	1.09	296			Pg	17 43 13.8	-1.1
GRAC	Grapevine Rang	1.27	7	Pg		Pn	17 43 18.3	0.0
GMN	Gold Mountain	1.58	9			Pb	17 43 23.7	-0.1
GMN					IAML		17 43 34.5	
	comp=N,338nm,4.4s							
GMN					IAML		17 43 49.7	
	comp=E,370nm,5.0s							
POCCA	Poleta Canyon	1.73	341			Pb	17 43 26.2	-0.1
W13A	Hualapai Mount	3.07	101	Pn		Pn	17 43 41.4	-1.7

NEIC 04 17:43:29.2±1.2,**35°.678N**±0°.005×**117°.55W**±0°.01,
h5km±3km,**ML3.3**/36,**ML3.6**/7(PAS),**Error ellipse:**
s-maj=1.5km s-min=0.7km az=67.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	Chr Cany lake	0.21	135		Pg	17 43 34.0	+0.6
CCCA					Sg	17 43 37.5	+1.3
LRMC	Laurel Mtn Rad	0.23	209		Pg	17 43 33.9	+0.2
LRMC					Sg	17 43 37.1	+0.4
WVPM	Volcano Peak E	0.35	321		Pb	17 43 37.2	-0.7
WRVM	Rose V. Centra	0.43	320		Pb	17 43 38.5	-0.8
WRVM					Sg	17 43 44.4	+1.2
WBSM	Bird Springs	0.50	254		Pg	17 43 39.0	+0.2
WBSM					Sg	17 43 45.9	+0.5
MFS	McCloud Flat S	0.50	331		Sg	17 43 46.9	+1.4
QSM	Queen of Sheba	0.62	62		Pg	17 43 41.0	-0.2
QSM				Sg	Sg	17 43 49.8	+0.5
QSM				IAML		17 43 50.3	
	comp=N,3μm,0.4s						
QSM				IAML		17 43 53.5	
	comp=E,2μm,0.7s						
CCAC	Calif City Air	0.65	216	Pg	Pg	17 43 41.6	-0.1
CCAC				Sg	Sg	17 43 50.4	+0.3
CCAC				IAML		17 43 50.7	
	comp=E,2μm,0.3s						
CCAC				IAML		17 43 50.8	
	comp=N,2μm,0.4s						
WHFM	Hanning Flat	0.65	272		Pg	17 43 41.9	+0.1
ISA	Isabella, Lake	0.75	269	Pg	Pg	17 43 43.4	-0.3
ISA				Sg	Sg	17 43 53.6	+0.1
HYS	Haystack Butte	0.81	181		Pb	17 43 45.4	-0.5
WASM	Alta Sierra Ca	0.82	274		Pg	17 43 45.0	-0.1
GWY	Greenwater Val	0.88	54	Pg	Pg	17 43 45.7	-0.3
GWY				IAML		17 44 00.4	
	comp=N,1μm,0.3s						
GWY				IAML		17 44 01.3	
	comp=E,2μm,0.5s						
SPG2	Springville 2	1.12	298		Pg	17 43 50.3	-0.3
ADO	Adelanto Recei	1.13	175		Pg	17 43 50.9	0.0
LEOC	Leona Valley	1.21	211		Pn	17 43 53.1	+0.2
GRAC	Grapevine Rang	1.32	6	Pg	Pn	17 43 53.9	-0.5
GRAC				IAML		17 44 20.8	
	comp=N,320nm,1.0s						
WCT	Wildcat Mounta	1.34	34	Pg	Pn	17 43 54.5	-0.1
WCT				IAML		17 44 14.3	
	comp=E,336nm,0.8s						
PASC	Pasadena Art C	1.59	199		Pn	17 43 57.7	-0.3
PASC				IAML		17 44 22.3	
	comp=N,232nm,1.0s						
PASC				IAML		17 44 23.5	
	comp=E,239nm,0.3s						
PSRC	Puddingstone R	1.60	188		Pg	17 43 59.5	-0.3
GMN	Gold Mountain	1.64	8		Pn	17 43 58.7	-0.2
DSP	Deep Springs	1.72	349	Pn	Pb	17 44 00.8	-0.5
MZP	Montezuma Peak	2.02	4	Pn	Pn	17 44 04.1	-0.1
MZP				IAML		17 45 11.3	
	comp=N,193nm,1.2s						
TPH	Tonopah	2.41	6	Pn	Pn	17 44 09.2	-0.2
TPH				IAML		17 45 21.7	
	comp=E,114nm,0.2s						
NV11	Mina Array Sit	2.79	350	Pn	Pn	17 44 15.3	+0.6
BLYC	Blythe	3.15	127	Pn	Pn	17 44 18.5	-1.0
MPK	Martis Peak	4.12	332	Pn	Pn	17 44 32.7	-0.3
Y14A	Wickenburg	4.12	114		Pn	17 44 32.8	-0.1
Y14A				IAML		17 46 51.7	
	comp=E,74nm,0.7s						
X16A	Lo Mia Camp, P	5.17	102		Pn	17 44 47.2	-0.2
X16A				IAML		17 45 59.3	
	comp=E,27nm,1.3s						

*NEIC **04** 17:44:32.6±1.2,35°.695N±0°.006×117°.508W±0°.009,*
h5km±1km,Error ellipse: s-maj=2.3km s-min=1.4km
az=275.0

PAS 04 17:44:32.8±1.1,**35°.688N**±0°.006×**117°.507W**±0°.007,
h2km±1km,**ML4.1**/244,**ML4.0**/110(NEIC),**Error ellipse:**
s-maj=1.1km s-min=0.4km az=142.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	China Lake	0.15	330		Pg	17 44 36.0	+0.2
CLC					Sg	17 44 38.3	+0.6
SRTC	Snort	0.20	271		Pg	17 44 37.3	+0.7
SRTC					Sg	17 44 40.2	+1.0
CCCA	Chr Cany lake	0.20	144		Pg	17 44 40.8	+4.1
TOW	Tower One	0.24	300		Pg	17 44 38.2	+0.7
TOW					Sg	17 44 42.6	+2.0
LRMC	Laurel Mtn Rad	0.25	215		Pg	17 44 37.9	+0.2
LRMC					Sg	17 44 41.4	+0.5
WNMM	Nine Mile Cany	0.36	296		Pg	17 44 40.0	+0.3
WVPM	Volcano Peak E	0.36	316		Pg	17 44 40.6	+0.8
WVPM					Sg	17 44 45.7	+1.2
MPMC	Manual Prospec	0.37	2		Pg	17 44 40.0	0.0
MPMC					Sg	17 44 45.4	+0.6
JRC2	Joshua Ridge	0.38	320		Pg	17 44 40.5	+0.3
JRC2					Sg	17 44 45.5	+0.3
WCSM	Coso Springs S	0.40	328		Pg	17 44 40.7	+0.2
WCSM					Sg	17 44 46.5	+0.8
WRVM	Rose V. Centra	0.45	316		Pg	17 44 41.7	+0.3
WRVM					Sg	17 44 47.9	+0.7
DTP	Desert Tortois	0.50	213		Pn	17 44 49.2	+2.1
MFS	McCloud Flat S	0.51	327		Pn	17 44 50.6	+3.2
WBSM	Bird Springs	0.54	254		Pg	17 44 41.2	-1.9
WBSM					Sg	17 44 50.7	+0.7
QSM	Queen of Sheba	0.59	62		Pg	17 44 43.5	-0.6
QSM				Sg	Sg	17 44 52.0	+0.2
QSM				IAML		17 44 52.7	
	comp=N,6μm,0.6s						
WORM	Onyx Ranch	0.60	271		Pg	17 44 44.4	+0.1
WORM					Sg	17 44 52.2	+0.1
CCAC	Calif City Air	0.68	218	Pg	Pg	17 44 45.5	-0.2
CCAC				Sg	Sg	17 44 54.9	+0.4
CCAC				IAML		17 45 00.2	
	comp=E,6μm,0.5s						
CCAC				IAML		17 45 00.3	
	comp=N,7μm,0.3s						
WHFM	Hanning Flat	0.69	271		Pg	17 44 45.9	-0.1
GSC	Goldstone, Bar	0.69	124	IAML		17 44 55.7	
	comp=N,6μm,0.4s						
GSC				IAML		17 44 57.1	
	comp=E,6μm,0.6s						
ISA	Isabella, Lake	0.79	268		Sg	17 44 58.2	+0.1
ISA	Isabella, Lake	0.79	268	Pg	Pg	17 44 47.7	-0.2
ISA				IAML		17 44 59.1	
	comp=N,5μm,0.4s						
ISA				IAML		17 44 59.2	
	comp=E,5μm,0.3s						
HYS	Haystack Butte	0.82	184		Pb	17 44 49.8	-0.1
HYS					Sb	17 45 02.3	+0.8
GWY	Greenwater Val	0.84	54		Pg	17 44 48.8	-0.2
GWY				Sg	Sg	17 45 00.3	+0.4
GWY				IAML		17 45 05.3	
	comp=N,4μm,0.7s						
CWC	Cottonwood Cre	0.88	328		Pg	17 44 50.0	+0.3
CGO	Cerro Gordo	0.89	345		Pb	17 44 50.8	-0.5
EDW2	Edwards Air Fo	0.90	206		Pb	17 44 50.8	-0.4
RRX	Edison Barstow	0.91	153		Pb	17 44 51.0	-0.4
FURC	Furnace Creek,	0.94	34		Pg	17 44 50.8	+0.1
TPO	Tropico Hills	1.00	216		Sg	17 45 05.2	+0.3
SBB	Saddle Back Bu	1.03	195		Pg	17 44 51.9	-0.6
SBB					Sb	17 45 07.0	-0.4
SPG2	Springville 2	1.14	297		Pg	17 44 53.9	-0.8
SPG2					Sg	17 45 09.2	-0.4
LRRC	Littlerock Res	1.23	200		Sg	17 45 12.9	+0.4
AMDNV	Amargosa	1.25	52		Pg	17 44 56.0	-0.9
HOLC	Holcomb Ridge	1.26	193		Pg	17 44 56.8	-0.1
VES	Vestal, Richgr	1.29	277		Pg	17 44 57.0	-0.6
GRAC	Grapevine Rang	1.31	5		Pg	17 44 56.9	-1.1
GRAC				IAML		17 45 26.6	
	comp=E,2μm,3.3s						
WCT	Wildcat Mounta	1.31	33		Pg	17 44 56.9	-1.1
TUQ	Turquoise Moun	1.31	101		Pg	17 44 57.4	-0.6
PASC	Pasadena Art C	1.61	200		Pn	17 45 01.4	-1.0
PASC				IAML		17 45 29.6	
	comp=E,1μm,0.7s						
TPNV	Topopah Spring	1.62	39		Pn	17 45 01.4	-1.2
TPNV				IAML		17 45 35.2	
	comp=E,1μm,2.8s						
GMN	Gold Mountain	1.62	7		Pn	17 45 01.7	-1.0
DSP	Deep Springs	1.72	348		Pn	17 45 03.1	-0.7
BCW	Bitter Crk WRg	1.73	245		Pn	17 45 03.4	-0.6
BCW				IAML		17 45 33.0	
	comp=E,2μm,2.7s						
BCW				IAML		17 45 34.0	
	comp=N,2μm,2.4s						
POCCA	Poleta Canyon	1.78	340		Pg	17 45 06.8	-0.2
MZP	Montezuma Peak	2.01	3	Pn	Pn	17 45 07.4	-0.7
ELS	Elsinore Mount	2.04	178	Pn	Pn	17 45 07.6	-0.7
SHPR	Sheep Range	2.07	66	Pn	Pn	17 45 08.1	-0.7
V12A	Nelson	2.16	88	Pn	Pn	17 45 08.9	-1.1
PFO	Pinyon Flats O	2.24	157	Pn	Pn	17 45 10.4	-0.8
TPH	Tonopah	2.39	5	Pn	Pn	17 45 12.3	-1.0
S11A	Rachel	2.41	35	Pn	Pn	17 45 12.8	-0.7
S11A				IAML		17 45 28.8	
	comp=N,1μm,4.7s						
LHV	Little Huntoon	2.68	343	Pn	Pn	17 45 16.1	-0.9
LHV				IAML		17 45 36.0	
	comp=N,489nm,4.9s						
LHV				IAML		17 46 17.6	
	comp=E,444nm,3.8s						
PMPB	Monarch Peak	2.72	282		Pn	17 45 16.8	-0.9
NV11	Mina Array Sit	2.79	349	Pn	Pn	17 45 18.4	-0.3
NV11				IAML		17 45 37.8	
	comp=N,405nm,4.5s						
NV11				IAML		17 46 53.8	
	comp=E,409nm,4.5s						
NVAR	Mina Array Bea	2.81	347	Pn	Pn	17 45 18.6	-0.4
BBGB	Big Mountain B	2.99	288	Pn	Pn	17 45 21.7	+0.2
RYN	Ryan	3.04	345	Pn	Pn	17 45 21.7	-0.5
RYN				IAML		17 46 20.9	
	comp=E,370nm,4.3s						
R11B	Troy Canyon, C	3.07	30	Pn	Pn	17 45 22.4	-0.2
R11B				IAML		17 46 12.8	
	comp=E,370nm,4.3s						
Q09A	Carvers	3.15	5	Pn	Pn	17 45 22.9	-0.8
Q09A				IAML		17 46 45.3	
	comp=N,730nm,4.2s						
TKX	Tecate	3.20	166	Pn	Pn	17 45 23.4	-0.8
TKX				IAML		17 46 39.3	
	comp=E,298nm,3.1s						
WAKR	Walker	3.21	332	Pn	Pn	17 45 23.9	-0.6
WAKR				IAML		17 46 52.0	
	comp=N,591nm,4.9s						
WAKR				IAML		17 46 53.2	
	comp=E,450nm,4.7s						
YUH	Yuha Desert	3.30	156	Pn	Pn	17 45 24.5	-1.1
YUH				IAML		17 46 23.8	
	comp=N,354nm,4.8s						
SAO	San Andreas Ge	3.36	290	Pn	Pn	17 45 25.4	-1.0
CBX	Cerro Bola	3.44	168	Pn	Pn	17 45 26.3	-1.2
CBX				IAML		17 46 27.4	
	comp=E,584nm,1.2s						
GLA	Glamis	3.44	139	Pn	Pn	17 45 26.4	-1.2
GLA				IAML		17 45 54.2	
	comp=E,532nm,4.2s						
GLA				IAML		17 46 25.8	
	comp=N,426nm,2.5s						
LCMT	Little Creek M	3.69	68	Pn	Pn	17 45 29.6	-1.4
LCMT				IAML		17 45 56.0	
	comp=N,262nm,3.9s						
LCMT				IAML		17 46 09.0	
	comp=E,239nm,4.6s						
CCUT	Cedar City	3.82	60	Pn	Pn	17 45 30.7	-2.2
CCUT				IAML		17 46 44.8	
	comp=E,382nm,4.1s						
CCX	Cicese	3.87	169	Pn	Pn	17 45 31.2	-2.3
ESJX	Sierra Juarez	3.90	160	Pn	Pn	17 45 31.6	-2.4
ESJX				IAML		17 46 31.9	
	comp=N,300nm,4.8s						
ESJX				IAML		17 47 00.8	
	comp=E,272nm,4.3s						
KNB	Kanab	4.01	69	Pn	Pn	17 45 33.3	-2.1
KNB				IAML		17 47 07.5	
	comp=N,315nm,4.2s						
SZCU	Shurtz Canyon	4.03	61	Pn	Pn	17 45 33.8	-2.1
SZCU				IAML		17 47 27.3	
	comp=N,314nm,4.8s						
PSUT	Pine Spring	4.07	45	Pn	Pn	17 45 34.4	-2.0
PSUT				IAML		17 46 55.0	
	comp=E,342nm,4.1s						
PSUT				IAML		17 46 57.7	
	comp=N,328nm,5.0s						
MPK	Martis Peak	4.12	332	Pn	Pn	17 45 34.9	-2.3
MPK				IAML		17 46 21.0	
	comp=N,335nm,4.6s						
SPR3	Spring Creek 3	4.16	36		Pn	17 45 35.6	-2.1
SPR3				IAML		17 46 22.3	
	comp=N,256nm,4.8s						
SPR3				IAML		17 47 46.1	
	comp=E,297nm,5.0s						
113A	Mohawk Valley,	4.25	132	Pn	Pn	17 45 36.6	-2.1
AFDM	Forest Hills D	4.27	321	Pn	Pn	17 45 36.9	-2.0
AFDM				IAML		17 46 17.6	
	comp=N,231nm,4.5s						
AFDM				IAML		17 46 49.6	
	comp=E,251nm,3.3s						
PAHR	Pah Rah Range	4.28	340	Pn	Pn	17 45 37.3	-1.9
PAHR				IAML		17 46 28.6	
	comp=N,221nm,4.6s						
PAHR				IAML		17 46 36.7	
	comp=E,296nm,4.6s						
VTX	Valle De La Tr	4.52	161	Pn	Pn	17 45 40.4	-2.0
VTX				IAML		17 47 02.6	
	comp=N,247nm,4.7s						
ORV	Oroville	4.99	322	Pn	Pn	17 45 47.1	-1.7
ORV				IAML		17 48 04.6	
	comp=N,86nm,4.8s						
WUAZ	Wupatki	5.00	90	Pn	Pn	17 45 49.3	+0.2
MVU	Marysvale	5.08	55	Pn	Pn	17 45 49.8	-0.5
X16A	Lo Mia Camp, P	5.13	103	Pn	Pn	17 45 50.4	-0.6
DUG	Dugway, Tooele	5.83	38	Pn	Pn	17 45 59.8	-0.7
TMUT	Trail Mountain	6.17	52	Pn	Pn	17 46 05.6	+0.3
X18A	Snowflake	6.30	98	Pn	Pn	17 46 05.8	-1.2
TUC	Tucson	6.52	119	Pn	Pn	17 46 08.1	-1.8
HVU	Hansel Valley	7.12	30	Pn	Pn	17 46 17.7	-0.5
BSUT	Blindstream Ca	7.19	46	Pn	Pn	17 46 19.8	+0.4
PV21	Cone Mtn., Par	7.39	65	Pn	Pn	17 46 20.9	-1.2

*NEIC **04** 17:46:03.4±0.7,35°.650N±0°.010×117°.610W±0°.008,*
h7km±2km,Error ellipse: s-maj=1.4km s-min=0.8km
az=198.0

PAS 04 17:46:03.7±0.6,**35°.643N**±0°.005×**117°.61W**±0°.01,
h10km±5km,**ML3.0**/22,**ML3.0**/12(NEIC),**Error ellipse:**
s-maj=1.6km s-min=0.9km az=89.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	Snort	0.12	293		Pg	17 46 07.0	+0.3
SRTC					Sg	17 46 09.0	+0.2
CLC	China Lake	0.17	3		Pg	17 46 07.4	-0.1
CLC					Sg	17 46 10.2	0.0
LRMC	Laurel Mtn Rad	0.17	200		Pg	17 46 07.4	-0.2
LRMC					Sg	17 46 10.1	-0.1
TOW	Tower One	0.21	323		Pg	17 46 08.3	+0.2
TOW					Sg	17 46 11.0	-0.1
CCCA	Chr Cany lake	0.23	120		Pg	17 46 08.8	+0.3
CCCA					Sg	17 46 12.7	+0.9
WNMM	Nine Mile Cany	0.31	310		Pg	17 46 09.9	0.0
WNMM					Sg	17 46 14.2	+0.1
WVPM	Volcano Peak E	0.35	331		Pg	17 46 10.4	-0.3
WVPM					Sg	17 46 15.5	+0.1
JRC2	Joshua Ridge	0.38	335		Pg	17 46 11.0	-0.3
JRC2					Sg	17 46 16.2	0.0
WCSM	Coso Springs S	0.40	342		Pg	17 46 11.4	-0.3
WCSM					Sg	17 46 16.9	-0.2
DTP	Desert Tortois	0.42	207		Pg	17 46 11.7	-0.4
DTP					Sg	17 46 17.3	-0.3
MPMC	Manual Prospec	0.42	13		Pg	17 46 11.7	-0.5
MPMC					Sg	17 46 17.8	-0.1
WRVM	Rose V. Centra	0.43	328		Pg	17 46 11.9	-0.3
WRVM					Sg	17 46 17.6	-0.3
WBSM	Bird Springs	0.44	256		Pg	17 46 12.1	-0.4
WBSM					Sg	17 46 18.3	-0.1
MFS	McCloud Flat S	0.51	337		Pg	17 46 13.4	-0.4
MFS					Sg	17 46 20.5	-0.1
WORM	Onyx Ranch	0.52	276		Pg	17 46 13.3	-0.5
WORM					Sg	17 46 20.1	-0.5
CCAC	Calif City Air	0.59	214		Sg	17 46 22.9	-0.1
CCAC	Calif City Air	0.59	214	Pg	Pg	17 46 14.8	-0.4
CCAC				IAML		17 46 23.5	
	comp=N,714nm,0.3s						
CCAC				IAML		17 46 25.1	
	comp=E,745nm,2.6s						
WHFM	Hanning Flat	0.60	275		Pg	17 46 14.9	-0.5
WHFM					Sg	17 46 22.8	-0.6
ISA	Isabella, Lake	0.70	272	Pg	Pg	17 46 16.6	-0.8
GSC	Goldstone, Bar	0.74	117	Pg	Pg	17 46 17.9	-0.2
GSC				IAML		17 46 30.6	
	comp=E,958nm,0.4s						
WASM	Alta Sierra Ca	0.78	277		Pg	17 46 18.0	-0.7
WASM					Sg	17 46 28.3	-0.6
SPG2	Springville 2	1.09	301		Sg	17 46 37.7	-1.2
SHOC	Shoshone, Teco	1.11	76		Pb	17 46 24.8	-0.3
WCT	Wildcat Mounta	1.40	34	Pn	Pn	17 46 28.0	-1.3
WCT				IAML		17 46 40.6	
	comp=N,170nm,3.0s						
WCT				IAML		17 47 03.5	
	comp=E,266nm,4.9s						
CLTC	Calectric	1.56	171		Pg	17 46 33.4	-0.3
PFO	Pinyon Flats O	2.24	155	Pn	Pn	17 46 41.1	+0.2
PFO				IAML		17 48 00.3	
	comp=E,123nm,4.8s						
V12A	Nelson	2.25	87	Pn	Pn	17 46 40.9	-0.2
W13A	Hualapai Mount	3.09	99	Pn	Pn	17 46 51.5	-1.3
R11B	Troy Canyon, C	3.15	30	Pn	Pn	17 46 52.4	-1.1

*NEIC **04** 17:46:49.4±1.0,35°.635N±0°.009×117°.62W±0°.01,*
h14km±1km,Error ellipse: s-maj=1.4km s-min=1.3km
az=60.0

PAS 04 17:46:50.0±0.7,**35°.639N**±0°.006×**117°.61W**±0°.01,
h11km±4km,**ML3.1**/23,**ML3.3**/38(NEIC),**Error ellipse:**
s-maj=1.6km s-min=1.0km az=88.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	Snort	0.12	295		Pg	17 46 53.3	+0.2
SRTC					Sg	17 46 56.2	+0.9
LRMC	Laurel Mtn Rad	0.17	200		Pg	17 46 53.6	-0.2
LRMC					Sg	17 46 56.4	-0.1
CLC	China Lake	0.18	3		Pg	17 46 53.7	-0.2
CLC					Sg	17 46 56.7	0.0
TOW	Tower One	0.21	324		Pg	17 46 54.7	+0.3
TOW					Sg	17 46 58.4	+0.9
CCCA	Chr Cany lake	0.23	119		Pg	17 46 55.1	+0.3
CCCA					Sg	17 46 58.9	+0.9
WNMM	Nine Mile Cany	0.31	311		Pg	17 46 56.2	-0.1
WNMM					Sg	17 47 00.7	+0.1
WVPM	Volcano Peak E	0.35	332		Pg	17 46 56.7	-0.4
WVPM					Sg	17 47 01.9	+0.1
JRC2	Joshua Ridge	0.38	335		Pg	17 46 57.2	-0.4
JRC2					Sg	17 47 02.6	-0.1
WCSM	Coso Springs S	0.41	342		Pg	17 46 57.7	-0.3
WCSM					Sg	17 47 03.4	-0.2
DTP	Desert Tortois	0.42	207		Pg	17 46 57.8	-0.4
DTP					Sg	17 47 03.4	-0.3
MPMC	Manual Prospec	0.43	13		Pg	17 46 58.1	-0.4
MPMC					Sg	17 47 04.2	0.0
WRVM	Rose V. Centra	0.43	328		Pg	17 46 58.1	-0.4
WRVM					Sg	17 47 04.4	+0.1
WBSM	Bird Springs	0.44	257		Pg	17 46 58.3	-0.4
WBSM					Sg	17 47 04.5	-0.1
MFS	McCloud Flat S	0.52	338		Pg	17 46 59.7	-0.4
MFS					Sg	17 47 07.0	0.0
WORM	Onyx Ranch	0.52	277		Pg	17 46 59.6	-0.5
WORM					Sg	17 47 06.4	-0.5
CCAC	Calif City Air	0.59	214		Sg	17 47 09.1	-0.1
CCAC	Calif City Air	0.59	214	Pg	Pg	17 47 00.9	-0.5
CCAC				IAML		17 47 09.4	
	comp=E,1μm,3.9s						
CCAC				IAML		17 47 09.6	
	comp=N,1μm,0.4s						
WHFM	Hanning Flat	0.60	276		Pg	17 47 01.1	-0.6
WHFM					Sg	17 47 09.1	-0.6
QSM	Queen of Sheba	0.69	61	Pg	Pg	17 47 02.7	-0.6
QSM				IAML		17 47 15.0	
	comp=E,934nm,0.6s						
ISA	Isabella, Lake	0.70	272		Sg	17 47 12.1	-0.8
ISA	Isabella, Lake	0.70	272	Pg	Pg	17 47 01.9	-1.7
GSC	Goldstone, Bar	0.74	117		Sg	17 47 13.4	-0.5
GSC	Goldstone, Bar	0.74	117	Pg	Pg	17 47 03.6	-0.6
GSC				IAML		17 47 16.5	
	comp=E,1μm,0.4s						
HYS	Haystack Butte	0.77	177		Pg	17 47 04.2	-0.7
WASM	Alta Sierra Ca	0.78	278		Pg	17 47 04.2	-0.8
WASM					Sg	17 47 14.6	-0.6
EDW2	Edwards Air Fo	0.82	203		Pg	17 47 05.2	-0.6
GWY	Greenwater Val	0.94	54	Pg	Pg	17 47 07.7	-0.4
TEJ	El Tejon	0.97	245		Pg	17 47 07.5	-1.2
SHOC	Shoshone, Teco	1.12	76		Pb	17 47 10.8	-0.5
BAKC	Calstate	1.25	257		Pg	17 47 14.3	+0.3
GRAC	Grapevine Rang	1.37	8	Pn	Pn	17 47 14.7	-0.4
GRAC				IAML		17 47 54.7	
	comp=E,542nm,2.8s						
WCT	Wildcat Mounta	1.40	34	Pn	Pn	17 47 14.6	-1.0
PASC	Pasadena Art C	1.54	198	Pn	Pn	17 47 16.8	-0.6
PASC				IAML		17 47 42.9	
	comp=N,342nm,3.5s						
PASC				IAML		17 47 49.4	
	comp=E,378nm,3.8s						
GMN	Gold Mountain	1.68	10	Pn	Pn	17 47 18.8	-0.8
GMN				IAML		17 48 12.8	
	comp=N,264nm,3.5s						
POCCA	Poleta Canyon	1.80	343		Pb	17 47 23.5	+0.4
ELS	Elsinore Mount	1.99	176	Pn	Pn	17 47 22.5	-1.1
ELS				IAML		17 48 06.1	
	comp=N,168nm,3.3s						
ELS				IAML		17 48 25.6	
	comp=E,333nm,3.2s						
MZP	Montezuma Peak	2.07	5	Pn	Pn	17 47 24.5	-0.4
MZP				IAML		17 48 25.6	
	comp=E,167nm,3.0s						
MZP				IAML		17 48 27.6	
	comp=N,132nm,4.8s						
SHPR	Sheep Range	2.17	66	Pn	Pn	17 47 25.5	-0.6
SHPR				IAML		17 47 40.7	
	comp=N,199nm,4.8s						
SHPR				IAML		17 48 23.0	
	comp=E,161nm,5.0s						
PFO	Pinyon Flats O	2.23	155	Pn	Pn	17 47 25.9	-1.2
PFO				IAML		17 48 05.1	
	comp=E,198nm,4.6s						
PFO				IAML		17 48 37.6	
	comp=E,159nm,3.0s						
V12A	Nelson	2.25	87	Pn	Pn	17 47 25.8	-1.4
V12A				IAML		17

CCCA	**Chr Cany lake**	**0.27**	**146**			Pg		17 47 23.4	+0.3
CCCA						Sg		17 47 27.6	+1.0
LRMC	**Laurel Mtn Rad**	**0.29**	**203**			Pg		17 47 23.3	-0.2
LRMC						Sg		17 47 27.5	+0.1
WVPM	**Volcano Peak E**	**0.30**	**313**			Pg		17 47 23.7	-0.1
WVPM						Sg		17 47 28.1	+0.3
MPMC	**Manual Prospec**	**0.32**	**8**			Pg		17 47 23.9	-0.3
MPMC						Sg		17 47 28.6	+0.3
JRC2	**Joshua Ridge**	**0.32**	**318**			Pg		17 47 24.0	-0.1
JRC2						Sg		17 47 28.7	+0.3
WCSM	**Coso Springs S**	**0.33**	**327**			Pg		17 47 24.3	-0.1
WCSM						Sg		17 47 29.0	+0.2
WRVM	**Rose V. Centra**	**0.38**	**313**			Pg		17 47 25.1	-0.2
WRVM						Sg		17 47 30.7	+0.3
MFS	**McCloud Flat S**	**0.45**	**326**			Pg		17 47 26.3	-0.2
MFS						Sg		17 47 32.8	+0.3
WBSM	**Bird Springs**	**0.53**	**247**			Pg		17 47 27.7	-0.3
WBSM						Sg		17 47 34.7	-0.2
DTP	**Desert Tortois**	**0.54**	**207**			Pg		17 47 27.6	-0.5
DTP						Sg		17 47 35.1	0.0
WORM	**Onyx Ranch**	**0.57**	**265**			Pg		17 47 28.3	-0.5
WORM						Sg		17 47 35.7	-0.5
QSM	**Queen of Sheba**	**0.59**	**68**	Pg		Pg		17 47 28.8	-0.5
QSM				IAML				17 47 37.1	
	comp=N,3µm,0.7s								
QSM				IAML				17 47 37.3	
	comp=E,4µm,0.2s								
WHFM	**Hanning Flat**	**0.66**	**266**			Pg		17 47 29.9	-0.6
WHFM						Sg		17 47 38.6	-0.3
CCAC	**Calif City Air**	**0.70**	**213**			Sg		17 47 40.8	+0.2
CCAC	**Calif City Air**	**0.70**	**213**	Pg		Pg		17 47 30.8	-0.6
CCAC				IAML				17 47 41.0	
	comp=E,1µm,0.3s								
CCAC				IAML				17 47 41.6	
	comp=N,2µm,0.3s								
GSC	**Goldstone, Bar**	**0.75**	**126**			Sg		17 47 41.8	-0.1
GSC	**Goldstone, Bar**	**0.75**	**126**	Pg		Pg		17 47 31.6	-0.6
GSC				IAML				17 47 44.6	
	comp=N,2µm,0.4s								
GSC				IAML				17 47 45.8	
	comp=E,2µm,0.5s								
ISA	**Isabella, Lake**	**0.76**	**264**			Sg		17 47 41.9	-0.4
ISA	**Isabella, Lake**	**0.76**	**264**	Pg		Pg		17 47 31.7	-0.7
ISA				IAML				17 47 42.6	
	comp=E,2µm,0.5s								
ISA				IAML				17 47 42.6	
	comp=N,3µm,0.3s								
CWC	**Cottonwood Cre**	**0.82**	**328**			Pg		17 47 33.4	-0.1
WASM	**Alta Sierra Ca**	**0.82**	**270**			Pg		17 47 33.1	-0.6
WASM						Sg		17 47 44.1	-0.2
CGO	**Cerro Gordo**	**0.83**	**346**			Pg		17 47 32.5	-1.3
CGO						Sg		17 47 43.9	-0.8
GWY	**Greenwater Val**	**0.84**	**58**			Pg		17 47 33.5	-0.5
GWY				IAML				17 47 48.1	
	comp=N,3µm,0.3s								
HYS	**Haystack Butte**	**0.88**	**181**			Pg		17 47 33.9	-0.8
HYS						Sg		17 47 45.5	-0.6
EDW2	**Edwards Air Fo**	**0.94**	**203**			Pg		17 47 34.9	-0.9
RRX	**Edison Barstow**	**0.98**	**152**			Sg		17 47 49.2	-0.1
TPO	**Tropico Hills**	**1.03**	**213**			Pg		17 47 36.8	-0.8
SHOC	**Shoshone, Teco**	**1.04**	**81**			Pg		17 47 37.5	-0.4
SHOC						Sg		17 47 51.3	-0.1
TEJ	**El Tejon**	**1.06**	**241**			Pg		17 47 37.5	-0.8
SBB	**Saddle Back Bu**	**1.08**	**192**			Pg		17 47 37.8	-0.8
SBB						Sg		17 47 51.8	-0.8
SPG2	**Springville 2**	**1.09**	**295**			Pg		17 47 37.7	-1.1
ADO	**Adelanto Recei**	**1.20**	**176**			Sg		17 47 57.3	-0.3
TJR	**Tejon Ranch**	**1.21**	**234**			Sg		17 47 55.4	-1.3
AMDNV	**Amargosa**	**1.24**	**55**			Sg		17 47 56.8	-1.0
AMDNV	**Amargosa**	**1.24**	**55**			Pn		17 47 41.3	-0.3
WCT	**Wildcat Mounta**	**1.28**	**35**			Pn		17 47 41.6	-0.6
WCT				IAML				17 48 01.0	
	comp=E,664nm,0.5s								
HOLC	**Holcomb Ridge**	**1.31**	**191**			Pg		17 47 42.8	-0.1
SDH	**Striped Hills**	**1.33**	**47**			Pn		17 47 42.8	-0.1
DSP	**Deep Springs**	**1.66**	**348**			Pn		17 47 46.8	-0.5
DSP				IAML				17 48 48.5	
	comp=E,430nm,4.1s								
MZP	**Montezuma Peak**	**1.96**	**4**	Pn		Pn		17 47 50.8	-0.9
TPH	**Tonopah**	**2.34**	**6**			Pn		17 47 56.1	-0.8
LHV	**Little Huntoon**	**2.62**	**343**			Pg		17 48 09.0	+1.0
LHV	**Little Huntoon**	**2.62**	**343**	IAML				17 48 30.1	
	comp=E,349nm,4.0s								
NV08	**Mina Array Sit**	**2.73**	**347**			Pg		17 48 08.9	-1.1
RYN	**Ryan**	**2.98**	**345**			Pg		17 48 14.2	-0.8

*ISK **04** 17:47:38.0,36˚33N×31˚20E,h24km,ML2.6/23*
*AFAD **04** 17:47:39.2,36˚33N×31˚23E,h24km±2km,ML2.4*
*NIC **04** 17:47:41.2,36˚35N×31˚74E,h35km±23km,Ml2.5/9*
ISC 04 17:47:37.8±1.2,36˚22N±0˚03×31˚26E±0˚02,h25km±14km, n51,σ1ˢ28/66,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
ALAN	**Alanya-ANTALYA**	**0.71**	**62**	Pg	**Pn**	**17 47 52.3**		**0.0**
ALAN				Sg	**Sn**	**17 48 03.0**		**+0.6**
AKUM	**Antalya-Kumluc**	**0.75**	**278**	P	**Pn**	**17 47 54.4**		**+1.6**
AKUM				S	**Sn**	**17 48 07.8**		**+4.5**
ANTB	**Antalya**	**0.83**	**324**	Pg	**Pb**	**17 47 52.9**		**-0.7**
ANTB				Sg	**Sb**	**17 48 03.3**		**-1.1**
GAZI	**Gazipasa**	**0.85**	**89**	Pg	**Pn**	**17 47 55.5**		**+1.2**
GAZI	**Gazipasa**	**0.85**	**89**	P	**Pn**	**17 47 54.8**		**+0.5**
GAZI				S	**Sb**	**17 48 05.3**		**+0.3**
GAZI				*i* IAML		17 48 11.0		
	comp=E,145nm,0.4s							
GAZI				*i* IAML		17 48 12.0		
	comp=N,166nm,0.4s							
KORT	**Korkueli**	**1.07**	**317**	Pg	**Pn**	**17 47 56.3**		**-1.0**
KORT	**Korkueli**	**1.07**	**317**	P	**Pb**	**17 47 59.6**		**+1.9**
KORT				*i* IAML		17 48 18.0		
	comp=N,98nm,0.5s							
KORT				*i* IAML		17 48 20.0		
	comp=E,109nm,0.7s							
HDMB	**Hadim**	**1.23**	**53**	Pn	**Pn**	**17 48 00.3**		**+0.6**
HDMB				Sn	**Sn**	**17 48 15.8**		**+0.1**
BUCA	**Burdur, Bucak-**	**1.24**	**333**	P	**Pn**	**17 47 58.7**		**-1.0**
SEYD	**Seydisehir-KON**	**1.27**	**21**	Pn	**Pn**	**17 47 59.9**		**-0.2**
SEYD				Sn	**Sn**	**17 48 15.3**		**-1.1**
SEDI	**Konya, Seydise**	**1.29**	**18**	P	**Pn**	**17 48 00.3**		**-0.1**
SEDI				S	**Sn**	**17 48 15.6**		**-1.3**
SEDI				*i* IAML		17 48 18.0		
	comp=N,98nm,0.5s							
SEDI				*i* IAML		17 48 19.0		
	comp=E,81nm,0.4s							
AKAS	**Kas**	**1.34**	**271**	Pn	**Pn**	**17 48 00.9**		**-0.2**
AKAS	**Kas**	**1.34**	**271**	P	**Pn**	**17 48 01.4**		**+0.4**
AKAS				*i* IAML		17 48 24.0		
	comp=N,62nm,0.4s							
BOZY	**Bozyazi-Mersin**	**1.39**	**94**	Pn	**Pb**	**17 48 03.6**		**+0.4**
ERMK	**Ermenek**	**1.40**	**72**	P	**Pb**	**17 48 04.6**		**+1.3**
ERMK				S	**Sb**	**17 48 21.9**		**+1.1**
AKMS	**Akamas**	**1.49**	**144**	P	**Pn**	**17 48 04.1**		**+1.1**
AKMS				S	**Sn**	**17 48 23.2**		**+1.5**
AKMS				AML	AML	17 48 33.5		
	0.3nm,0.3s							
AKMS				AML	AML	17 48 33.5		
	0.4nm,0.3s							
KNIK	**Mula-Seydike**	**1.49**	**295**	P	**Pb**	**17 48 04.8**		**-0.2**
KNIK				S	**Sb**	**17 48 22.8**		**-0.7**
TEKE	**Tekeli-Mersin**	**1.50**	**93**	Pn	**Pb**	**17 48 05.1**		**+0.1**
ALFC	**Alefka**	**1.52**	**134**	P	**Pn**	**17 48 03.9**		**+0.4**
ALFC				S	**Sn**	**17 48 21.8**		**-0.8**
ALFC				AML	AML	17 48 33.1		
	0.3nm,0.2s							
ALFC				AML	AML	17 48 33.5		
	0.3nm,0.2s							
BERE	**Bereket-Mersin**	**1.59**	**85**	Pn	**Pb**	**17 48 06.2**		**-0.4**
AKDN	**Akdeniz- Kıbrı**	**1.67**	**123**	Pn	**Pb**	**17 48 07.9**		**+0.1**
KKBE	**Karaman, Kazim**	**1.68**	**53**	P	**Pn**	**17 48 06.8**		**+1.1**
KKBE				S	**Sn**	**17 48 27.2**		**+0.7**
KKBE				*i* IAML		17 48 29.0		
	comp=N,46nm,0.4s							
KKBE				*i* IAML		17 48 29.0		
	comp=E,48nm,0.3s							
GOLH	**Golhisar**	**1.70**	**307**	P	**Pb**	**17 48 07.9**		**-0.5**
CAME	**Cameli-Denizli**	**1.73**	**295**	Pn	**Pn**	**17 48 06.2**		**-0.3**
BRDR	**BURDUR-Merkez**	**1.76**	**327**	P	**Pn**	**17 48 06.6**		**-0.2**
NATA	**Nata**	**1.79**	**143**	S	**Sn**	**17 48 30.1**		**+0.8**
NATA				AML	AML	17 48 42.8		
	0.5nm,0.4s							
NATA				AML	AML	17 48 48.5		
	0.4nm,0.8s							
BAGO	**Egridir - ISPA**	**1.80**	**348**	P	**Pn**	**17 48 06.6**		**-0.9**
TROD	**Troodos**	**1.83**	**134**	P	**Pn**	**17 48 08.4**		**+0.6**
TROD				S	**Sn**	**17 48 30.0**		**-0.3**
TROD				AML	AML	17 48 45.9		
	0.1nm,0.4s							
TROD				AML	AML	17 48 48.4		
	0.1nm,0.5s							
GULN	**MERSIN_Gulnar**	**1.85**	**91**	P	**Pn**	**17 48 09.6**		**+1.7**
GULN				*i* IAML		17 48 36.0		
	comp=N,43nm,0.8s							
GULN				*i* IAML		17 48 39.0		
	comp=E,38nm,0.4s							
KRMN	**Karaman**	**1.87**	**59**	Pn	**Pn**	**17 48 09.4**		**+1.1**
XYLS	**Xyliatos**	**1.89**	**129**	P	**Pn**	**17 48 08.5**		**-0.2**
XYLS				S	**Sn**	**17 48 30.0**		**-1.7**
XYLS				AML	AML	17 48 41.4		
	0.2nm,0.2s							
XYLS				AML	AML	17 48 45.1		
	0.1nm,0.3s							
DOGA	**KONYA_Doganhis**	**1.91**	**10**	P	**Pn**	**17 48 09.2**		**+0.3**
DOGA				*i* IAML		17 48 34.0		
	comp=N,42nm,0.4s							
DOGA				*i* IAML		17 48 34.0		
	comp=E,39nm,0.5s							
KONT	**Konya--Tatoy**	**1.93**	**27**	Pn	**Pn**	**17 48 09.5**		**+0.4**
KONT	**Konya--Tatoy**	**1.93**	**27**	P	**Pn**	**17 48 10.0**		**+0.8**
TISA	**Tisan-Mersin**	**1.96**	**91**	Pn	**Pb**	**17 48 11.6**		**-1.2**
IKL	**Isikli**	**1.96**	**89**	Pn	**Pn**	**17 48 11.3**		**+1.8**
KEBE	**Keben-Mersin**	**1.99**	**83**	Pn	**Pn**	**17 48 11.8**		**+1.8**
YVAC	**Isparta, Yalva**	**2.04**	**360**	P	**Pn**	**17 48 10.4**		**-0.3**
ATHAL	**Athalassa**	**2.05**	**121**	S	**Sn**	**17 48 32.5**		**-2.9**
ATHAL				AML	AML	17 48 46.2		
	0.3nm,0.9s							
ATHAL				AML	AML	17 48 48.0		
	0.2nm,0.4s							
LFK	**Lefkose**	**2.08**	**116**	Pn	**Pb**	**17 48 13.7**		**-1.1**
CSS	**Mathiatis**	**2.10**	**126**	Pn	**Pb**	**17 48 14.1**		**-1.2**
CSS	**Mathiatis**	**2.10**	**126**	P	**Pn**	**17 48 11.8**		**+0.3**
CSS				S	**Sn**	**17 48 34.9**		**-2.1**
CSS				AML	AML	17 48 52.1		
	0.1nm,0.5s							
CSS				AML	AML	17 48 60.0		
	0.1nm,0.6s							
LADK	**Ladik-KONYA**	**2.16**	**24**	Pn	**Pn**	**17 48 12.6**		**+0.2**
ASGA	**Asgata**	**2.17**	**131**	S	**Sn**	**17 48 37.8**		**-0.5**
ASGA				AML	AML	17 48 51.3		
	0.1nm,0.5s							
ASGA				AML	AML	17 48 54.2		
	0.1nm,0.5s							
MVOU	**Mavrovouni**	**2.28**	**121**	P	**Pn**	**17 48 13.4**		**-0.4**
MVOU				S	**Sn**	**17 48 38.1**		**-3.0**
MVOU				AML	AML	17 48 54.5		
	0.1nm,0.3s							
MVOU				AML	AML	17 48 55.2		
	0.1nm,0.5s							
KIZK	**Mersin**	**2.34**	**83**	Pn	**Pn**	**17 48 16.7**		**+2.0**
KIZK	**Mersin**	**2.34**	**83**	P	**Pn**	**17 48 17.0**		**+2.2**
EREN	**Erenkoy**	**2.46**	**105**	P	Pn	17 48 10.7		-5.7
KERG	**Konya-Eregli**	**2.59**	**62**	P	**Pn**	**17 48 19.2**		**+0.9**
KERG				*i* IAML		17 48 48.0		
	comp=N,22nm,1.2s							
KERG				*i* IAML		17 48 51.0		
	comp=E,19nm,0.6s							
CHBY	**Cihanbeyli**	**2.69**	**28**	Pn	**Pn**	**17 48 19.9**		**+0.3**
MERS	**Mersin**	**2.71**	**75**	Pn	**Pn**	**17 48 21.7**		**+1.9**

*NEIC **04** 17:47:54.6±0.5,35˚741N±0˚006×117˚56W±0˚01, h7km±2km,Error ellipse: s-maj=1.5km s-min=0.9km az=88.0*
PAS 04 17:47:55.0±0.8,35˚729N±0˚008×117˚56W±0˚01, h5km±2km,ML3.4/21,ML3.2/14(NEIC),Error ellipse: s-maj=1.2km s-min=1.2km az=213.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CLC	**China Lake**	**0.09**	**341**		Pg	17 47 56.9		-0.1
CLC					Sg	17 47 58.7		+0.2
SRTC	**Snort**	**0.16**	**257**		Pg	17 47 58.4		+0.2
SRTC					Sg	17 48 01.6		+1.3
TOW	**Tower One**	**0.18**	**296**		Pg	17 47 59.0		+0.3
CCCA	**Chr Cany lake**	**0.26**	**142**		Pg	17 48 00.6		+0.5
CCCA					Sg	17 48 04.6		+1.2
WVPM	**Volcano Peak E**	**0.30**	**317**		Pg	17 48 01.0		+0.1
WVPM					Sg	17 48 05.5		+0.5
JRC2	**Joshua Ridge**	**0.32**	**322**		Pg	17 48 01.3		0.0
JRC2					Sg	17 48 06.1		+0.4
MPMC	**Manual Prospec**	**0.33**	**10**		Pg	17 48 01.4		-0.2
MPMC					Sg	17 48 06.4		+0.4
WCSM	**Coso Springs S**	**0.34**	**331**		Pg	17 48 01.6		0.0
WCSM					Sg	17 48 06.4		+0.2
WRVM	**Rose V. Centra**	**0.39**	**316**		Pg	17 48 02.2		-0.2
WRVM					Sg	17 48 08.1		+0.5
MFS	**McCloud Flat S**	**0.46**	**328**		Pg	17 48 03.7		-0.1
MFS					Sg	17 48 10.0		+0.3
WBSM	**Bird Springs**	**0.51**	**248**		Pg	17 48 04.6		-0.2
WBSM					Sg	17 48 11.6		+0.1
DTP	**Desert Tortois**	**0.52**	**207**		Pg	17 48 04.5		-0.4
DTP					Sg	17 48 11.6		0.0
WORM	**Onyx Ranch**	**0.56**	**267**		Pg	17 48 05.2		-0.5
WORM					Sg	17 48 12.7		-0.2
QSM	**Queen of Sheba**	**0.61**	**67**		Sg	17 48 14.8		+0.1
WHFM	**Hanning Flat**	**0.64**	**267**		Sg	17 48 06.8		-0.5
WHFM					Sg	17 48 15.7		0.0
CCAC	**Calif City Air**	**0.69**	**213**		Pg	17 48 07.7		-0.4
CCAC					Sg	17 48 17.2		+0.2
CCAC	**Calif City Air**	**0.69**	**213**	IAML		17 48 17.5		
	comp=E,1µm,1.1s							
CCAC				IAML		17 48 18.3		
	comp=N,2µm,0.4s							
ISA	**Isabella, Lake**	**0.75**	**265**	Pg	Pg	17 48 08.7		-0.7
ISA				IAML		17 48 20.5		
	comp=E,1µm,0.5s							
ISA	**Isabella, Lake**	**0.75**	**265**		Sg	17 48 18.9		-0.2
GSC	**Goldstone, Bar**	**0.75**	**124**		Sg	17 48 19.2		+0.1
WASM	**Alta Sierra Ca**	**0.81**	**271**		Sg	17 48 20.9		-0.2
CGO	**Cerro Gordo**	**0.84**	**347**		Sg	17 48 22.6		+0.5
GRAC	**Grapevine Rang**	**1.27**	**7**		Pg	17 48 17.8		-1.6
GRAC				IAML		17 48 27.6		
	comp=E,672nm,3.9s							
WCT	**Wildcat Mounta**	**1.30**	**35**		Pn	17 48 18.4		-1.5
WCT				IAML		17 48 39.1		
	comp=E,369nm,2.9s							
GMN	**Gold Mountain**	**1.59**	**9**	Pg	Pb	17 48 24.9		-0.1
GMN				IAML		17 48 52.6		
	comp=N,251nm,3.7s							
DSP	**Deep Springs**	**1.67**	**349**		Pn	17 48 24.3		-0.5

JMA 04 17:48:40.8±0.1,36˚6N±0˚3×139˚6E±0˚3,h5km±2km, MV-0.5/10,NORTHERN TOCHIGI PREF,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
JAG	**Ashikaga**	**0.25**	**213**	*e*P	Pg	17 48 45.8		+0.1

*IDC **04** 17:49:48.1±21.0,41˚26N×143˚73E,h0km,mb3.6/3, mbtmp3.5/4,ML2.3/1,Error ellipse: s-maj=424.4km s-min=47.0km az=101.0*
*JMA **04** 17:49:58.8±0.1,41˚0N±0˚4×142˚5E±0˚7,h38km±4km, MV3.4/35,E OFF AOMORI PREF*
ISC 04 17:49:56.9±1.2,41˚05N±0˚03×142˚45E±0˚04,h13km±9km, n31,σ1ˢ03/41,mb3.5/3,6D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
JARK	**Aomorirokkasho**	**0.82**	**267**	⇓*i*P	**Pn**	**17 50 14.6**		**+0.4**
JARK				⇓*e*S	**Sn**	**17 50 25.7**		**-0.5**
JAHD	**Aomorihigashid**	**0.86**	**285**	⇓*i*P	**Pn**	**17 50 15.3**		**+0.6**
JAHD				⇓*e*S	**Sb**	**17 50 26.3**		**+1.0**
JANG	**Nango**	**0.98**	**226**	*e*P	**Pn**	**17 50 16.4**		**-0.1**
JANG				*e*S	**Sg**	**17 50 28.0**		**-0.6**
JKEN	**Kujiedanarisaw**	**1.02**	**214**	*e*P	**Pg**	**17 50 16.2**		**-0.2**
JKEN				*e*S	**Sg**	**17 50 29.1**		**-0.6**
JTM	**Tenmabayashi**	**1.08**	**256**	P	**Pn**	**17 50 18.9**		**+1.2**
JTM	**Tenmabayashi**	**1.08**	**256**	S	**Sn**	**17 50 33.2**		**+0.6**
JTM	**Tenmabayashi**	**1.08**	**256**	*e*P	**Pn**	**17 50 18.7**		**+0.9**
JTM				*e*S	**Sn**	**17 50 32.9**		**+0.3**
ERM	**Erimo**	**1.10**	**29**	P	**Pn**	**17 50 18.8**		**+0.8**
ERM	**Erimo**	**1.10**	**29**	S	**Sn**	**17 50 34.5**		**+1.4**
JEM	**Erimo**	**1.10**	**29**	P	**Pn**	**17 50 18.7**		**+0.6**
JEM				*e*S	**Sn**	**17 50 33.0**		**-0.2**
JOT	**Ohata**	**1.10**	**288**	⇓P	**Pg**	**17 50 18.9**		**+0.7**
JOT				⇓*e*S	**Sn**	**17 50 33.4**		**+0.2**
JNBK	**Urakawa-nobuka**	**1.25**	**11**	*e*P	**Pg**	**17 50 21.4**		**+0.6**
JKB	**Kayabe**	**1.35**	**309**	*e*P	**Pb**	**17 50 22.2**		**+0.1**
JKB				*e*S	**Sn**	**17 50 39.5**		**+0.2**
JSR	**Shiriuchi**	**1.60**	**288**	*e*P	**Pb**	**17 50 26.7**		**+0.3**
JSR				*e*S	**Sb**	**17 50 46.8**		**+0.3**
JAH	**Hinai**	**1.63**	**238**	*e*P	**Pb**	**17 50 26.6**		**-0.2**
JAH				*e*S	**Sn**	**17 50 46.5**		**+0.4**
JCH	**Churui**	**1.70**	**23**	*e*P	**Pb**	**17 50 27.5**		**-0.6**
JBT2	**Biratori 2**	**1.72**	**358**	*e*P	**Pb**	**17 50 28.0**		**-0.5**
JNB	**Noboribetsu**	**1.76**	**324**	P	**Pb**	**17 50 28.0**		**-1.1**
JNB				*e*S	**Sn**	**17 50 49.9**		**+0.4**
JOM	**Ohasama**	**1.81**	**210**	*e*P	**Pn**	**17 50 28.4**		**+0.6**
JOM				*e*S	**Sn**	**17 50 50.1**		**-0.6**
JOMM	**Oshimamatsumae**	**1.90**	**285**	*e*P	**Pb**	**17 50 30.6**		**-0.8**
JEW	**Eniwo**	**1.93**	**338**	*e*P	**Pb**	**17 50 31.4**		**-0.7**
JEW				*e*S	**Sb**	**17 50 55.4**		**-0.7**
JMM	**Marumori**	**3.43**	**202**	P	**Pn**	**17 50 51.2**		**+1.1**
MJAR	**Matsushiro Arr**	**5.59**	**218**	Pn	**Pn**	**17 51 23.7**		**+3.9**
	0.1nm,0.3s,baz=46,slow=10,SNR=4.6 1.0nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**29.76**	**128**	T	T	18 27 08.0		
	baz=318,slow=75,SNR=10							
H11N1	**WAKE ISLAND Hy**	**29.77**	**128**	T	T	18 27 08.6		
	baz=318,slow=75,SNR=8.5							
H11N3	**WAKE ISLAND Hy**	**29.78**	**128**	T	T	18 27 07.2		
	baz=318,slow=75,SNR=9.2							
ZALV	**Zalesovo Beam**	**39.91**	**309**	P	**P**	**17 57 29.4**		**-1.0**
	0.6nm,0.6s,baz=76,slow=12,SNR=2.1 0.6nm,0.6s							
MKAR	**Makanchi Array**	**42.78**	**299**	P	**P**	**17 57 52.3**		**-1.8**
	0.3nm,0.6s,baz=85,slow=9.8,SNR=5.9 0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**44.26**	**305**	P	**P**	**17 58 04.7**		**-1.3**
	0.7nm,0.4s,baz=79,slow=8.9,SNR=11 0.7nm,0.4s							

*NEIC **04** 17:51:46.0±1.1,35˚685N±0˚007×117˚51W±0˚01, h10km±4km,Error ellipse: s-maj=1.7km s-min=1.1km az=79.0*
PAS 04 17:51:46.6±1.3,35˚674N±0˚005×117˚52W±0˚01, h5km±2km,ML3.6/307,ML3.5/104(NEIC),Error ellipse: s-maj=1.4km s-min=0.7km az=68.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CLC	**China Lake**	**0.15**	**337**		Pg	17 51 49.8		0.0
CLC					Sg	17 51 52.4		+0.5
SRTC	**Snort**	**0.18**	**276**		Pg	17 51 50.7		+0.4
SRTC					Sg	17 51 54.5		+1.7
CCCA	**Chr Cany lake**	**0.20**	**139**		Pg	17 51 50.9		+0.3
CCCA					Sg	17 51 54.4		+1.3
LRMC	**Laurel Mtn Rad**	**0.23**	**214**		Pg	17 51 51.2		0.0
LRMC					Sg	17 51 54.7		+0.4
TOW	**Tower One**	**0.24**	**305**		Pg	17 51 51.9		+0.5
WVPM	**Volcano Peak E**	**0.36**	**319**		Pg	17 51 53.6		-0.2
WVPM					Sg	17 51 59.0		+0.3
WRVM	**Rose V. Centra**	**0.45**	**318**		Pg	17 51 55.2		-0.1
DTP	**Desert Tortois**	**0.48**	**213**		Pg	17 51 55.9		0.0
DTP					Sg	17 52 02.4		+0.1
MFS	**McCloud Flat S**	**0.52**	**329**		Pg	17 51 56.4		-0.2
MFS					Sg	17 52 04.5		+1.1
WBSM	**Bird Springs**	**0.52**	**255**		Pg	17 51 56.5		-0.2
WORM	**Onyx Ranch**	**0.59**	**272**		Pg	17 51 57.6		-0.3
WORM					Sg	17 52 05.2		-0.4
QSM	**Queen of Sheba**	**0.61**	**61**		Pg	17 51 57.8		-0.5
QSM				IAML		17 52 06.3		
	comp=E,4µm,0.3s							
QSM				IAML		17 52 06.5		
	comp=N,4µm,0.1s							
QSM	**Queen of Sheba**	**0.61**	**61**		Sg	17 52 06.1		-0.1
CCAC	**Calif City Air**	**0.66**	**218**		Sg	17 52 08.2		+0.3
CCAC	**Calif City Air**	**0.66**	**218**		Pg	17 51 58.8		-0.5
CCAC				IAML		17 52 08.6		
	comp=N,3µm,0.5s							
CCAC				IAML		17 52 08.7		
	comp=E,3µm,0.3s							
WHFM	**Hanning Flat**	**0.67**	**272**		Pg	17 51 59.3		-0.3
GSC	**Goldstone, Bar**	**0.69**	**122**	Pg	Pg	17 51 58.9		-1.1
GSC				IAML		17 52 12.3		
	comp=N,3µm,0.6s							
ISA	**Isabella, Lake**	**0.77**	**269**		Sg	17 52 11.2		-0.4
ISA	**Isabella, Lake**	**0.77**	**269**		Pg	17 52 00.5		-1.0
ISA				IAML		17 52 12.0		
	comp=N,2µm,0.3s							
HYS	**Haystack Butte**	**0.81**	**183

NVAR	**Mina Array Bea**	**2.82**	**347**		Pn	17 52 31.7	-0.9
BBGB	**Big Mountain B**	**2.99**	**289**	Pn	Pn	17 52 34.2	-0.5
W13A	**Hualapai Mount**	**3.03**	**100**	Pn	Pn	17 52 33.7	-1.7
W13A				IAML		17 53 24.6	
	comp=N,106nm,2.4s						
RYN	**Ryan**	**3.06**	**345**	Pn	Pn	17 52 35.2	-0.5
RYN				IAML		17 54 01.1	
	comp=E,82nm,5.0s						
R11B	**Troy Canyon, C**	**3.09**	**30**		Pn	17 52 34.5	-1.7
R11B				IAML		17 53 29.1	
	comp=E,84nm,3.9s						
BLYC	**Blythe**	**3.13**	**127**		Pn	17 52 34.9	-1.6
BLYC				IAML		17 53 25.1	
	comp=E,139nm,3.4s						
BLYC				IAML		17 53 28.9	
	comp=N,168nm,4.4s						
Q09A	**Carvers**	**3.17**	**5**	Pn	Pn	17 52 35.6	-1.6
WAKR	**Walker**	**3.21**	**332**		Pn	17 52 36.5	-1.5
WAKR				IAML		17 54 28.5	
	comp=E,84nm,4.4s						
CMB	**Columbia Colle**	**3.29**	**317**	Pn	Pn	17 52 37.4	-1.4
CMB				IAML		17 53 36.1	
	comp=N,79nm,4.2s						
YUH	**Yuha Desert**	**3.30**	**156**	Pn	Pn	17 52 37.8	-1.2
YUH				IAML		17 53 17.6	
	comp=N,118nm,4.4s						
YUH				IAML		17 53 28.0	
	comp=E,95nm,4.7s						
SAO	**San Andreas Ge**	**3.35**	**290**	Pn	Pn	17 52 39.2	-0.5
GLA	**Glamis**	**3.44**	**139**	Pn	Pn	17 52 41.2	+0.4
LCMT	**Little Creek M**	**3.70**	**68**		Pn	17 52 44.0	-0.7
LCMT				IAML		17 53 19.4	
	comp=E,52nm,4.7s						
CCUT	**Cedar City**	**3.83**	**60**	Pn	Pn	17 52 46.5	-0.1
CCUT				IAML		17 53 25.7	
	comp=N,78nm,4.7s						
CCUT				IAML		17 54 24.8	
	comp=E,55nm,4.8s						
ESJX	**Sierra Juarez**	**3.89**	**160**	Pn	Pn	17 52 46.5	-0.7
ESJX				IAML		17 53 42.9	
	comp=N,96nm,5.0s						
KNB	**Kanab**	**4.03**	**69**	IAML		17 53 55.0	
	comp=N,72nm,3.2s						
PSUT	**Pine Spring**	**4.09**	**45**	IAML		17 53 27.8	
	comp=E,59nm,4.8s						
PSUT				IAML		17 54 08.3	
	comp=N,67nm,4.0s						
SPR3	**Spring Creek 3**	**4.18**	**37**	IAML		17 54 00.3	
	comp=N,76nm,4.6s						
SPR3				IAML		17 54 03.0	
	comp=E,76nm,4.0s						
AFDM	**Forest Hills D**	**4.27**	**321**	IAML		17 53 42.2	
	comp=E,42nm,4.2s						
AFDM				IAML		17 54 10.4	
	comp=N,60nm,3.5s						
ELK	**Elko**	**5.37**	**19**	IAML		17 54 35.2	
	comp=N,26nm,4.8s						

*KOLA **04** 17:53:11.2, 77.68N×8.09E, h0km, ML2.6, Error ellipse: s-maj=25.6km s-min=13.6km az=60.0, Greenland sea, Knipovich ridge, middle*
*FCIAR **04** 17:53:18.0, 77.69N×8.42E, h10km, station ZFI2 has station magnitude of 3.40 station OMEGA has station magnitude of 3.60*

ISC 04 17:53:13.3±1.7, **77.79N**±0.06×**7.47E**±0.05, **h34**km±3km, **n12**, σ2.9**58**/24, **3C**, **Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.46**	**36**	P	**Pn**	**17 53 38.9**	**+1.7**
KBS				S	**Sn**	**17 53 54.6**	**-0.5**
KBS	**Kingsbay**	**1.46**	**36**	*i*P	**Pb**	**17 53 40.1**	**+0.3**
KBS				*i* S	**Sn**	**17 53 52.8**	**-2.3**
SPA0	**Spitsbergen Ar**	**1.90**	**74**	*i*P	**Pb**	**17 53 46.8**	**-0.5**
SPA0				*i* S	**Sb**	**17 54 08.8**	**-1.9**
SPITS	**Spitsbergen Ar**	**1.90**	**74**	P	**Pb**	**17 53 46.4**	**-0.9**
SPITS				S	**Sn**	**17 54 08.6**	**+2.6**
HSPB	**Hornsund (broa**	**1.94**	**110**	P	**Pn**	**17 53 43.4**	**-0.2**
HSPB				S	**Sn**	**17 54 06.9**	**+0.1**
HSPB	**Hornsund (broa**	**1.94**	**110**	*i*P	**Pn**	**17 53 45.7**	**+2.0**
HSPB				*e*S	**Sn**	**17 54 06.7**	**0.0**
HOPEN	**Hopen**	**4.11**	**99**	*e*P	**Pn**	**17 54 16.0**	**+2.5**
HOPEN				*e*S	**Sn**	**17 54 59.6**	**-0.7**
NOR	**Nord**	**5.72**	**323**	*e*P	**Pn**	**17 54 38.5**	**+2.9**
NOR				*e*S	**Sn**	**17 55 35.3**	**-4.6**
NOR				IAML		17 55 43.3	
	comp=Z,1.5nm,0.2s						
DAG	**Danmarks Havn**	**5.83**	**273**	*e*P	**Pn**	**17 54 39.5**	**+2.4**
DAG				*e*S	**Sn**	**17 55 40.7**	**-1.8**
DAG				IAML		17 55 43.2	
	comp=Z,7.8nm,0.2s						
DBG	**Daneborg**	**7.48**	**256**	*e*P	**Pn**	**17 55 01.9**	**+2.2**
DBG				*e*S	**Sn**	**17 56 20.4**	**-2.7**
DBG				IAML		17 56 24.2	
	comp=Z,1.2nm,0.4s						
ZFI2	**Zemlya Franca-**	**7.90**	**49**	*e*P	**Pn**	**17 55 08.8**	**+3.4**
ZFI2				*e*S	**Sn**	**17 56 29.6**	**-3.8**
	comp=Z,11nm,2.2s						
OMEGA	**Omega**	**7.91**	**49**	*e*P	**Pn**	**17 55 08.9**	**+3.3**
OMEGA				*e*S	**Sn**	**17 56 29.8**	**-3.9**
	comp=Z,15nm,2.3s						

*NEIC **04** 17:57:31.1±0.7, 35.665N±0.008×117.52W±0.01, h5km±1km, Error ellipse: s-maj=1.3km s-min=0.9km az=224.0*

PAS 04 17:57:31.5±0.6, **35.660N**±0.008×**117.52W**±0.01, **h2**km±2km, **ML3.0**/30, **ML2.9**/22(NEIC), **Error ellipse: s-maj=1.4km s-min=0.8km az=45.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.17**	**339**		Pg	17 57 34.8	+0.1
CLC					Sg	17 57 37.6	+0.6
CCCA	**Chr Cany lake**	**0.19**	**136**		Pg	17 57 35.8	+0.7
SRTC	**Snort**	**0.19**	**280**		Pg	17 57 35.7	+0.6
LRMC	**Laurel Mtn Rad**	**0.22**	**216**		Pg	17 57 35.9	+0.2
LRMC					Sg	17 57 39.3	+0.7
TOW	**Tower One**	**0.25**	**307**		Pg	17 57 36.8	+0.6
WNMM	**Nine Mile Cany**	**0.36**	**301**		Pg	17 57 38.7	+0.3
WVPM	**Volcano Peak E**	**0.38**	**320**		Pg	17 57 38.8	+0.1
JRC2	**Joshua Ridge**	**0.40**	**324**		Pg	17 57 39.3	+0.2
JRC2					Sg	17 57 45.0	+0.7
MPMC	**Manual Prospec**	**0.40**	**4**		Pg	17 57 39.2	0.0
MPMC					Sg	17 57 44.8	+0.4
WCSM	**Coso Springs S**	**0.42**	**332**		Pg	17 57 39.7	+0.2
WCSM					Sg	17 57 45.7	+0.8
WRVM	**Rose V. Centra**	**0.46**	**319**		Pg	17 57 40.3	0.0
DTP	**Desert Tortois**	**0.47**	**214**		Pg	17 57 40.5	-0.1
DTP					Sg	17 57 47.0	+0.3
WBSM	**Bird Springs**	**0.52**	**257**		Pg	17 57 41.5	+0.1
WBSM					Sg	17 57 48.6	+0.5
MFS	**McCloud Flat S**	**0.53**	**329**		Pg	17 57 41.8	+0.1
MFS					Sg	17 57 49.1	+0.6
WORM	**Onyx Ranch**	**0.59**	**274**		Pg	17 57 42.8	0.0
WORM					Sg	17 57 50.3	0.0
QSM	**Queen of Sheba**	**0.61**	**60**		Pg	17 57 43.1	-0.1
QSM				IAML		17 57 53.0	
	comp=N,750nm,0.6s						
QSM	**Queen of Sheba**	**0.61**	**60**		Sg	17 57 51.6	+0.5
CCAC	**Calif City Air**	**0.65**	**219**		Pg	17 57 43.9	0.0
CCAC	**Calif City Air**	**0.65**	**219**	IAML		17 57 58.3	
	comp=N,415nm,0.3s						
WHFM	**Hanning Flat**	**0.67**	**273**		Pg	17 57 44.3	-0.1
WHFM					Sg	17 57 53.2	+0.1
GSC	**Goldstone, Bar**	**0.69**	**121**		Pg	17 57 44.6	0.0
GSC					Sg	17 57 54.1	+0.7
GSC	**Goldstone, Bar**	**0.69**	**121**	IAML		17 57 54.6	
	comp=E,586nm,0.5s						
GSC				IAML		17 57 58.2	
	comp=N,480nm,0.3s						
ISA	**Isabella, Lake**	**0.78**	**271**		Pg	17 57 46.0	-0.3
ISA				IAML		17 57 57.0	
	comp=E,484nm,0.4s						
ISA				IAML		17 57 57.3	
	comp=N,322nm,0.3s						
ISA	**Isabella, Lake**	**0.78**	**271**		Sg	17 57 56.8	+0.4
HYS	**Haystack Butte**	**0.80**	**183**		Pb	17 57 48.0	-0.1
EDW2	**Edwards Air Fo**	**0.87**	**207**		Pg	17 57 47.3	-0.8
GWY	**Greenwater Val**	**0.87**	**53**		Pg	17 57 47.8	-0.4
GWY	**Greenwater Val**	**0.87**	**53**	IAML		17 58 04.0	
	comp=E,382nm,0.4s						
GWY				IAML		17 58 04.7	
	comp=N,462nm,0.9s						
TPO	**Tropico Hills**	**0.97**	**217**		Pb	17 57 51.2	+0.2
SPG2	**Springville 2**	**1.15**	**299**		Pg	17 57 52.7	-0.7
AMDNV	**Amargosa**	**1.28**	**51**		Pg	17 57 55.8	-0.2
WCT	**Wildcat Mounta**	**1.34**	**32**		Pg	17 57 56.0	-1.2
WCT				IAML		17 58 45.6	
	comp=E,156nm,0.4s						
CLTC	**Calectric**	**1.57**	**174**		Pn	17 58 00.3	0.0
TPNV	**Topopah Spring**	**1.65**	**38**		Pn	17 58 00.7	-0.8
GMN	**Gold Mountain**	**1.65**	**7**		Pn	17 58 01.0	-0.6
GMN				IAML		17 58 35.4	
	comp=N,92nm,0.5s						
MTUM	**Tungsten Hills**	**1.89**	**334**		Pb	17 58 06.8	+0.1
MZP	**Montezuma Peak**	**2.04**	**3**		Pn	17 58 06.2	-0.8
TPH	**Tonopah**	**2.42**	**6**		Pn	17 58 11.9	-0.4
W13A	**Hualapai Mount**	**3.02**	**100**	Pn	Pn	17 58 19.4	-1.2

*NEIC **04** 17:58:02.2±0.7, 35.707N±0.006×117.51W±0.01, h7km±3km, Error ellipse: s-maj=1.4km s-min=0.9km az=85.0*

PAS 04 17:58:02.6±0.8, **35.702N**±0.004×**117.51W**±0.01, **h5**km±2km, **ML3.3**/37, **ML3.1**/54(NEIC), **Error ellipse: s-maj=1.4km s-min=0.4km az=71.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.14**	**327**		Pg	17 58 05.5	+0.1
CLC					Sg	17 58 07.7	+0.5
SRTC	**Snort**	**0.20**	**267**		Pg	17 58 07.0	+0.5
SRTC					Sg	17 58 10.7	+1.6
CCCA	**Chr Cany lake**	**0.21**	**146**		Pg	17 58 07.3	+0.5
CCCA					Sg	17 58 11.0	+1.4
TOW	**Tower One**	**0.23**	**297**		Pg	17 58 07.7	+0.5
TOW					Sg	17 58 11.3	+1.0
LRMC	**Laurel Mtn Rad**	**0.26**	**213**		Pg	17 58 07.8	0.0
LRMC					Sg	17 58 11.4	+0.1
WNMM	**Nine Mile Cany**	**0.35**	**294**		Pg	17 58 09.5	+0.1
WNMM					Sg	17 58 14.8	+0.7
WVPM	**Volcano Peak E**	**0.35**	**315**		Pg	17 58 09.6	0.0
WVPM					Sg	17 58 14.6	+0.4
MPMC	**Manual Prospec**	**0.36**	**3**		Pg	17 58 09.4	-0.2
MPMC					Sg	17 58 14.6	+0.2
JRC2	**Joshua Ridge**	**0.37**	**319**		Pg	17 58 09.9	0.0
JRC2					Sg	17 58 15.1	+0.3
WCSM	**Coso Springs S**	**0.39**	**327**		Pg	17 58 10.3	+0.1
WCSM					Sg	17 58 15.4	+0.2
WRVM	**Rose V. Centra**	**0.43**	**315**		Pg	17 58 10.9	-0.1
WRVM					Sg	17 58 16.8	0.0
MFS	**McCloud Flat S**	**0.50**	**326**		Pg	17 58 12.2	-0.1
MFS					Sg	17 58 19.1	+0.2
DTP	**Desert Tortois**	**0.51**	**212**		Pg	17 58 12.1	-0.4
DTP					Sg	17 58 19.2	0.0
WBSM	**Bird Springs**	**0.54**	**252**		Pg	17 58 12.8	-0.3
WBSM					Sg	17 58 20.2	+0.1
QSM	**Queen of Sheba**	**0.58**	**63**		Sg	17 58 21.5	0.0
QSM	**Queen of Sheba**	**0.58**	**63**	Pg	Pg	17 58 13.3	-0.6
QSM				IAML		17 58 22.0	
	comp=N,917nm,0.5s						
QSM				IAML		17 58 23.2	
	comp=E,844nm,0.3s						
WORM	**Onyx Ranch**	**0.60**	**270**		Pg	17 58 13.7	-0.4
WORM					Sg	17 58 21.5	-0.4
WHFM	**Hanning Flat**	**0.68**	**270**		Pg	17 58 15.4	-0.4
WHFM					Sg	17 58 24.8	+0.1
CCAC	**Calif City Air**	**0.69**	**217**		Sg	17 58 25.0	+0.2
CCAC	**Calif City Air**	**0.69**	**217**	Pg	Pg	17 58 15.2	-0.6
CCAC				IAML		17 58 25.4	
	comp=E,822nm,0.3s						
CCAC				IAML		17 58 29.4	
	comp=N,940nm,0.2s						
GSC	**Goldstone, Bar**	**0.70**	**125**		Sg	17 58 25.3	+0.2
GSC	**Goldstone, Bar**	**0.70**	**125**		Pg	17 58 15.6	-0.5
GSC				IAML		17 58 26.0	
	comp=E,1μm,0.4s						
ISA	**Isabella, Lake**	**0.79**	**267**		Sg	17 58 27.4	-0.6
ISA	**Isabella, Lake**	**0.79**	**267**	Pg	Pg	17 58 17.1	-0.6
ISA				IAML		17 58 28.1	
	comp=N,438nm,0.5s						
ISA				IAML		17 58 28.3	
	comp=E,439nm,0.3s						
HYS	**Haystack Butte**	**0.84**	**183**		Pg	17 58 18.1	-0.6
WASM	**Alta Sierra Ca**	**0.85**	**273**		Sg	17 58 18.5	-0.5
WASM					Sg	17 58 29.8	-0.4
CWC	**Cottonwood Cre**	**0.87**	**328**		Pg	17 58 19.4	+0.1
CGO	**Cerro Gordo**	**0.88**	**344**		Sg	17 58 31.6	+0.6
EDW2	**Edwards Air Fo**	**0.91**	**206**		Pb	17 58 20.6	-0.4
RRX	**Edison Barstow**	**0.93**	**153**		Pb	17 58 21.0	-0.2
SPG2	**Springville 2**	**1.14**	**296**		Pg	17 58 23.4	-1.0
SPG2					Sg	17 58 38.4	-0.8
GRAC	**Grapevine Rang**	**1.30**	**5**	Pg	Pn	17 58 26.1	-1.5
GRAC				IAML		17 58 47.5	
	comp=N,269nm,0.8s						
GRAC				IAML		17 58 50.7	
	comp=E,344nm,0.6s						
WCT	**Wildcat Mounta**	**1.30**	**33**		Pg	17 58 26.1	-1.5
TUQ	**Turquoise Moun**	**1.32**	**101**		Pn	17 58 26.8	-1.1
SGV	**South Grapevin**	**1.33**	**17**		Pn	17 58 28.1	0.0
BAKC	**Calstate**	**1.35**	**255**		Pn	17 58 27.5	-0.6
TPNV	**Topopah Spring**	**1.61**	**39**		Pn	17 58 30.7	-1.2
TPNV				IAML		17 58 56.3	
	comp=E,193nm,0.4s						
TPNV				IAML		17 58 58.4	
	comp=E,165nm,0.4s						
GMN	**Gold Mountain**	**1.61**	**7**		Pn	17 58 30.7	-1.2
MTPC	**Mountain Pass**	**1.61**	**97**		Pn	17 58 30.4	-1.4
PASC	**Pasadena Art C**	**1.62**	**200**		Pn	17 58 30.9	-1.0
PASC				IAML		17 58 58.8	
	comp=E,156nm,0.7s						
PASC				IAML		17 58 59.2	
	comp=N,129nm,0.5s						
VOG	**Valley Oaks Go**	**1.64**	**293**		Pn	17 58 32.6	+0.4
POCCA	**Poleta Canyon**	**1.77**	**340**		Pb	17 58 35.4	-0.4
SHPR	**Sheep Range**	**2.06**	**66**		Pn	17 58 36.7	-1.4
PFO	**Pinyon Flats O**	**2.26**	**157**		Pn	17 58 39.3	-1.5
PFO				IAML		17 59 16.8	
	comp=N,66nm,0.8s						
TPH	**Tonopah**	**2.38**	**5**		Pn	17 58 41.2	-1.3
LHV	**Little Huntoon**	**2.67**	**343**		Pn	17 58 44.9	-1.4
LHV				IAML		17 59 13.0	
	comp=E,65nm,4.1s						
LHV				IAML		17 59 31.3	
	comp=N,77nm,4.3s						
NV11	**Mina Array Sit**	**2.77**	**349**		Pn	17 58 47.0	-1.0
NVAR	**Mina Array Bea**	**2.80**	**347**		Pn	17 58 46.3	-2.0
BBGB	**Big Mountain B**	**2.99**	**288**	Pn	Pn	17 58 50.0	-0.9
BBGB				IAML		17 59 45.5	
	comp=N,126nm,1.0s						
RYN	**Ryan**	**3.03**	**345**		Pn	17 58 50.2	-1.2
RYN				IAML		17 59 47.2	
	comp=E,38nm,4.7s						
BLYC	**Blythe**	**3.14**	**128**	Pn	Pn	17 58 51.6	-1.1
BLYC				IAML		17 59 42.9	
	comp=N,88nm,3.8s						
BLYC				IAML		17 59 43.1	
	comp=E,75nm,1.2s						
WAKR	**Walker**	**3.19**	**332**	Pn	Pn	17 58 51.5	-2.2
WAKR				IAML		17 59 44.4	
	comp=N,39nm,3.9s						
WAKR				IAML		18 00 02.8	
	comp=E,39nm,4.7s						
CMB	**Columbia Colle**	**3.28**	**316**	Pn	Pn	17 58 53.1	-1.6
CMB				IAML		17 59 52.2	
	comp=E,49nm,4.6s						
CMB				IAML		17 59 53.1	
	comp=N,29nm,0.5s						
SAO	**San Andreas Ge**	**3.36**	**290**	Pn	Pn	17 58 54.0	-1.7
CBX	**Cerro Bola**	**3.45**	**168**	Pn	Pn	17 58 56.3	-0.9
LCMT	**Little Creek M**	**3.68**	**68**	Pn	Pn	17 58 58.2	-2.2
LCMT				IAML		18 00 09.7	
	comp=N,20nm,3.6s						
Y14A	**Wickenburg**	**4.10**	**114**	Pn	Pn	17 59 04.9	-1.1
AFDM	**Forest Hills D**	**4.26**	**321**	Pn	Pn	17 59 06.8	-1.4
AFDM				IAML		18 00 15.7	
	comp=N,23nm,3.7s						
WUAZ	**Wupatki**	**5.00**	**90**		Pn	17 59 17.4	-1.1
X16A	**Lo Mia Camp, P**	**5.14**	**103**	Pn	Pn	17 59 19.4	-1.0
X16A				IAML		18 02 27.9	
	comp=N,19nm,5.0s						
X16A				IAML		18 02 44.3	
	comp=E,17nm,4.7s						

*NEIC **04** 18:01:22.8±1.1, 35.690N±0.003×117.51W±0.01, h10km±1km, Error ellipse: s-maj=2.9km s-min=1.8km az=241.0*

PAS 04 18:01:23.2±0.7, **35.688N**±0.005×**117.509W**±0.009, **h1**km±1km, **ML3.4**/19, **ML3.5**/85(NEIC), **Error ellipse: s-maj=1.1km s-min=0.8km az=99.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.15**	**330**		Pg	18 01 26.3	+0.2
CLC					Sg	18 01 28.6	+0.6
SRTC	**Snort**	**0.20**	**271**		Pg	18 01 27.6	+0.7
CCCA	**Chr Cany lake**	**0.20**	**144**		Pg	18 01 27.8	+0.8
CCCA					Sg	18 01 31.4	+1.7
TOW	**Tower One**	**0.24**	**300**		Pg	18 01 28.0	+0.2
LRMC	**Laurel Mtn Rad**	**0.25**	**214**		Pg	18 01 28.2	+0.2
LRMC					Sg	18 01 32.0	+0.7
WNMM	**Nine Mile Cany**	**0.36**	**296**		Pg	18 01 30.5	+0.5
WVPM	**Volcano Peak E**	**0.36**	**316**		Pg	18 01 30.6	+0.5
MPMC	**Manual Prospec**	**0.37**	**2**		Pg	18 01 30.5	+0.2
MPMC					Sg	18 01 36.1	+1.0
JRC2	**Joshua Ridge**	**0.38**	**320**		Pg	18 01 31.1	+0.5
JRC2					Sg	18 01 36.6	+1.1
WCSM	**Coso Springs S**	**0.40**	**328**		Pg	18 01 31.0	+0.2
WCSM					Sg	18 01 36.9	+0.9
WRVM	**Rose V. Centra**	**0.45**	**316**		Pg	18 01 32.1	+0.4
WRVM					Sg	18 01 38.5	+0.9
DTP	**Desert Tortois**	**0.50**	**213**		Pg	18 01 32.8	0.0
MFS	**McCloud Flat S**	**0.51**	**327**		Pg	18 01 33.3	+0.2
MFS					Sg	18 01 40.8	+1.1
WBSM	**Bird Springs**	**0.54**	**254**		Pg	18 01 33.6	+0.1
QSM	**Queen of Sheba**	**0.59**	**62**	Pg	Pg	18 01 34.4	-0.1
QSM				Sg	Sg	18 01 42.7	+0.6
QSM				IAML		18 01 43.7	
	comp=E,3μm,0.6s						
QSM				IAML		18 01 44.4	
	comp=N,3μm,0.5s						
WORM	**Onyx Ranch**	**0.60**	**271**		Pg	18 01 34.6	0.0
WORM					Sg	18 01 43.5	+1.1
CCAC	**Calif City Air**	**0.68**	**218**		Sg	18 01 45.9	+1.0
CCAC	**Calif City Air**	**0.68**	**218**		Pg	18 01 36.2	0.0
CCAC				IAML		18 01 50.4	
	comp=N,2μm,0.5s						
CCAC				IAML		18 01 56.8	
	comp=E,2μm,1.1s						
WHFM	**Hanning Flat**	**0.68**	**271**		Pg	18 01 36.3	0.0
GSC	**Goldstone, Bar**	**0.69**	**124**		Pg	18 01 36.1	-0.3
GSC				IAML		18 01 46.5	
	comp=N,3μm,0.6s						
GSC				IAML		18 01 46.8	
	comp=E,3μm,0.4s						
ISA	**Isabella, Lake**	**0.79**	**268**		Pg	18 01 38.0	-0.2
HYS	**Haystack Butte**	**0.82**	**183**		Pg	18 01 38.6	-0.3
GWY	**Greenwater Val**	**0.84**	**54**	Pg	Pg	18 01 39.2	-0.2
GWY				IAML		18 01 56.0	
	comp=N,3μm,0.6s						
WASM	**Alta Sierra Ca**	**0.85**	**274**		Pg	18 01 39.5	-0.1
CGO	**Cerro Gordo**	**0.89**	**345**		Pg	18 01 40.2	-0.1
CGO					Sg	18 01 51.4	-0.5
EDW2	**Edwards Air Fo**	**0.90**	**206**		Pg	18 01 39.9	-0.5
GRAC	**Grapevine Rang**	**1.31**	**5**		Pg	18 01 46.6	-1.7
GRAC				IAML		18 02 22.4	
	comp=E,976nm,0.9s						
WCT	**Wildcat Mounta**	**1.31**	**33**		Pg	18 01 47.8	-0.6
WCT				IAML		18 02 10.1	
	comp=E,674nm,0.7s						
WCT				IAML		18 02 10.2	
	comp=N,545nm,0.7s						
PASC	**Pasadena Art C**	**1.61**	**200**		Pn	18 01 51.5	-1.3
PASC				IAML		18 02 20.0	
	comp=N,372nm,0.8s						
TPNV	**Topopah Spring**	**1.62**	**39**		Pn	18 01 51.7	-1.3
TPNV				IAML		18 02 18.7	
	comp=N,704nm,0.8s						
GMN	**Gold Mountain**	**1.62**	**7**		Pn	18 01 51.6	-1.5
DSP	**Deep Springs**	**1.72**	**348**		Pn	18 01 53.2	-1.0
BCW	**Bitter Crk WRg**	**1.73**	**245**		Pn	18 01 53.4	-1.0
BCW				IAML		18 02 27.5	
	comp=N,432nm,1.3s						
BCW				IAML		18 02 27.7	
	comp=E,578nm,0.9s						
MZP	**Montezuma Peak**	**2.01**	**3**	Pn	Pn	18 01 57.3	-1.2
TPH	**Tonopah**	**2.39**	**5**		Pn	18 02 02.4	-1.3
S11A	**Rachel**	**2.41**	**35**		Pb	18 02 07.9	+0.5
S11A				IAML		18 02 49.3	
	comp=N,353nm,0.9s						
PRN	**Pahroc Range**	**2.62**	**48**		Pn	18 02 05.2	-1.6
PRN				IAML		18 02 55.8	
	comp=N,298nm,0.8s						
PRN				IAML		18 02 56.9	
	comp=E,326nm,0.7s						
LHV	**Little Huntoon**	**2.68**	**343**		Pn	18 02 06.5	-0.9
LHV				IAML		18 03 10.3	
	comp=N,128nm,0.8s						
LHV				IAML		18 03 10.3	
	comp=E,160nm,1.1s						
PMPB	**Monarch Peak**	**2.72**	**282**		Pn	18 02 04.2	-3.8
NVAR	**Mina Array Bea**	**2.81**	**347**		Pn	18 02 10.0	+0.6
RYN	**Ryan**	**3.04**	**345**		Pn	18 02 13.3	+0.7
R11B	**Troy Canyon, C**	**3.07**	**30**		Pb	18 02 19.9	+1.2
BLYC	**Blythe**	**3.13**	**127**	IAML		18 03 04.0	
	comp=E,114nm,0.9s						
BLYC				IAML		18 03 05.8	
	comp=N,154nm,0.7s						
WAKR	**Walker**	**3.21**	**332**	IAML		18 03 30.0	
	comp=N,91nm,4.5s						
CBX	**Cerro Bola**	**3.44**	**168**		Pn	18 02 16.1	-1.9
LCMT	**Little Creek M**	**3.69**	**68**		Pn	18 02 20.4	-1.0
LCMT				IAML		18 02 48.8	
	comp=E,52nm,4.5s						
CCUT	**Cedar City**	**3.82**	**60**	Pg	Pb	18 02 33.6	+2.2
CCUT				IAML		18 02 48.4	
	comp=E,50nm,5.0s						
CCUT				IAML		18 03 26.4	
	comp=N,48nm,4.5s						
KNB	**Kanab**	**4.01**	**69**	IAML		18 03 53.9	
	comp=E,61nm,4.8s						
KNB				IAML		18 03 54.4	
	comp=N,48nm,3.3s						
SPR3	**Spring Creek 3**	**4.16**	**37**	Pg	Pg	18 02 40.2	-2.8
SPR3				IAML		18 03 59.2	
	comp=N,54nm,4.5s				

AKAS				S	Sn	18 03 49.3	-1.0	
AKAS				*i* IAML		18 03 58.0		
	comp=E,86nm,0.4s							
AKAS				*i* IAML		18 04 00.0		
	comp=N,139nm,0.8s							
BUCA	**Burdur, Bucak-**	**1.33**	**341**	P	**Pn**	**18 03 36.8**	**+0.4**	
HDMB	**Hadim**	**1.44**	**51**	Pn	**Pb**	**18 03 39.4**	**-1.1**	
BCK	**Bucak**	**1.45**	**344**	Pn	**Pb**	**18 03 39.7**	**-1.0**	
KNIK	**Mula-Seydike**	**1.45**	**303**	P	**Pb**	**18 03 40.8**	**+0.1**	
KNIK				S	**Sb**	**18 03 58.8**	**0.0**	
AKMS	**Akamas**	**1.46**	**136**	P	**Pn**	**18 03 39.2**	**+1.1**	
AKMS				S	**Sb**	**18 04 01.8**	**+2.9**	
AKMS				AML	AML	18 04 06.9		
	0.3nm,0.5s							
AKMS				AML	AML	18 04 11.6		
	0.2nm,0.3s							
SEYD	**Seydisehir-KON**	**1.47**	**24**	Pn	**Pb**	**18 03 39.8**	**-1.1**	
SEDI	**Konya, Seydise**	**1.48**	**21**	P	**Pb**	**18 03 40.2**	**-1.0**	
SEDI				S	**Sn**	**18 03 56.7**	**-0.2**	
SEDI				*i* IAML		18 03 59.0		
	comp=E,62nm,0.5s							
SEDI				*i* IAML		18 04 01.0		
	comp=N,63nm,0.6s							
ALFC	**Alefka**	**1.53**	**126**	P	**Pn**	**18 03 39.6**	**+0.5**	
ALFC				S	**Sb**	**18 04 02.0**	**+1.1**	
ALFC				AML	AML	18 04 07.8		
	0.2nm,0.3s							
ALFC				AML	AML	18 04 11.2		
	0.3nm,0.3s							
IZZE	**Mula-Seydike**	**1.55**	**284**	P	**Pn**	**18 03 40.7**	**+1.2**	
IZZE				S	**Sn**	**18 03 58.0**	**-0.5**	
IZZE				*i* IAML		18 04 01.0		
	comp=N,122nm,0.5s							
IZZE				*i* IAML		18 04 01.0		
	comp=E,109nm,0.4s							
TEKE	**Tekeli-Mersin**	**1.64**	**87**	Pn	**Pb**	**18 03 42.4**	**-1.4**	
CAME	**Cameli-Denizli**	**1.69**	**302**	Pn	**Pb**	**18 03 43.5**	**-1.2**	
GOLH	**Golhisar**	**1.70**	**314**	P	**Pb**	**18 03 44.8**	**0.0**	
GOLH				*i* IAML		18 04 24.0		
	comp=E,54nm,1.0s							
BERE	**Bereket-Mersin**	**1.75**	**80**	Pn	**Pb**	**18 03 43.8**	**-1.9**	
NATA	**Nata**	**1.76**	**136**	S	**Sb**	**18 04 09.9**	**+2.3**	
NATA				AML	AML	18 04 24.2		
	0.6nm,0.7s							
NATA				AML	AML	18 04 24.7		
	0.5nm,0.7s							
CAEL	**Denizli, Camel**	**1.77**	**307**	P	**Pb**	**18 03 44.9**	**-1.2**	
CAEL				S	**Sn**	**18 04 03.7**	**-0.4**	
CAEL				*i* IAML		18 04 24.0		
	comp=E,88nm,1.1s							
CAEL				*i* IAML		18 04 26.0		
	comp=N,62nm,0.8s							
BRDR	**BURDUR-Merkez**	**1.83**	**333**	P	**Pb**	**18 03 45.7**	**-1.3**	
TROD	**Troodos**	**1.83**	**127**	P	**Pn**	**18 03 44.0**	**+0.6**	
TROD				S	**Sb**	**18 04 10.3**	**+0.6**	
TROD				AML	AML	18 04 25.8		
	0.1nm,0.5s							
TROD				AML	AML	18 04 26.8		
	0.1nm,0.4s							
SABU	**Mula-Dalaman**	**1.87**	**294**	P	**Pn**	**18 03 45.5**	**+1.6**	
SABU				S	**Sn**	**18 04 05.0**	**-1.4**	
XYLS	**Xyliatos**	**1.91**	**123**	P	**Pn**	**18 03 44.9**	**+0.5**	
XYLS				AML	AML	18 04 18.4		
	0.1nm,0.3s							
XYLS				AML	AML	18 04 22.7		
	0.1nm,0.3s							
TEVE	**Tevekalti-Mers**	**1.94**	**78**	Pn	**Pb**	**18 03 46.5**	**-2.4**	
BAGO	**Egridir - ISPA**	**1.94**	**353**	P	**Pb**	**18 03 47.2**	**-1.6**	
BAGO				S	**Sn**	**18 04 08.8**	**+0.8**	
APOL	**The Sanctuary**	**2.01**	**133**	S	**Sb**	**18 04 15.8**	**+1.2**	
APOL				AML	AML	18 04 28.0		
	0.1nm,0.3s							
APOL				AML	AML	18 04 34.9		
	0.1nm,0.7s							
DNZT	**Denizli-Tavas-**	**2.06**	**307**	P	**Pb**	**18 03 48.8**	**-2.1**	
DNZT				S	**Sn**	**18 04 11.3**	**+0.3**	
IKL	**Isikli**	**2.11**	**85**	Pn	**Pn**	**18 03 49.0**	**+1.9**	
CSS	**Mathiatis**	**2.13**	**120**	P	**Pn**	**18 03 47.8**	**+0.4**	
CSS				AML	AML	18 04 26.6		
	0.1nm,0.4s							
CSS				AML	AML	18 04 28.8		
KONT	**Konya--Tatoy**	**2.13**	**28**	Pn	**Pn**	**18 03 49.3**	**+1.8**	
LFK	**Lefkose**	**2.14**	**111**	Pn	**Pn**	**18 03 49.4**	**+1.9**	
KEBE	**Keben-Mersin**	**2.15**	**79**	Pn	**Pn**	**18 03 49.7**	**+1.9**	
ASGA	**Asgata**	**2.17**	**125**	S	**Sb**	**18 04 19.4**	**0.0**	
ASGA				AML	AML	18 04 31.7		
	0.1nm,0.5s							
ASGA				AML	AML	18 04 33.4		
	0.1nm,0.8s							
TAVA	**DENIZLI_Tavas**	**2.24**	**309**	P	**Pb**	**18 03 51.8**	**-2.2**	
TAVA				*i* IAML		18 04 34.0		
	comp=E,27nm,0.8s							
AFYN	**Afyon-Dinar-K**	**2.25**	**348**	P	**Pn**	**18 03 51.1**	**+1.9**	
DNIZ	**Denizli-Tavas-**	**2.27**	**314**	P	**Pb**	**18 03 52.0**	**-2.5**	
DNIZ				S	**Sn**	**18 04 17.3**	**+1.1**	
DNIZ				*i* IAML		18 04 26.0		
	comp=N,71nm,0.3s							
KZIL	**AFYON_Kizioren**	**2.32**	**341**	P	**Pn**	**18 03 51.6**	**+1.5**	
KZIL				S	**Sn**	**18 04 17.2**	**-0.3**	
MVOU	**Mavrovouni**	**2.32**	**116**	P	**Pn**	**18 03 50.3**	**+0.3**	
MVOU				AML	AML	18 04 33.8		
	0.1nm,0.6s							
MVOU				AML	AML	18 04 34.3		
	0.1nm,0.6s							
TURN	**Turunc**	**2.40**	**288**	P	**Pn**	**18 03 52.4**	**+1.2**	
TURN				S	**Sn**	**18 04 17.7**	**-1.7**	
TURN				*i* IAML		18 04 21.0		
	comp=N,33nm,0.3s							
TURN				*i* IAML		18 04 26.0		
	comp=E,25nm,0.2s							
MULA	**Mugla, Merkez-**	**2.53**	**299**	P	**Pn**	**18 03 54.7**	**+1.8**	
MULA				S	**Sn**	**18 04 19.5**	**-3.1**	
MULA				*i* IAML		18 04 27.0		
	comp=E,27nm,0.6s							
PASA	**Karahalli, USA**	**2.61**	**331**	P	**Pn**	**18 03 55.9**	**+1.7**	
PASA				S	**Sn**	**18 04 23.7**	**-1.1**	
ESEN	**Aydn-Nazilli**	**2.80**	**309**	P	**Pn**	**18 03 57.5**	**+0.9**	
YAZI	**Mula-Dat§a-**	**3.00**	**283**	P	**Pn**	**18 04 00.5**	**+1.2**	
BDRM	**Kayabasi**	**3.10**	**290**	P	**Pn**	**18 03 56.8**	**-3.9**	

NEIC ***04*** *18:03:18.1±1.1,35.°759N±0.°008×117.°55W±0.°01, h5km±1km, Error ellipse: s-maj=2.0km s-min=1.4km az=30.0*

PAS 04 18:03:18.6±0.6,35.°748N±0.°010×117.°54W±0.°02, h7km±1km, ML2.9/28, ML2.6/36(NEIC), Error ellipse: s-maj=2.1km s-min=1.0km az=57.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.08**	**327**		Pg	18 03 20.6	0.0
CLC					Sg	18 03 22.3	+0.2
SRTC	**Snort**	**0.18**	**252**		Pg	18 03 22.6	+0.4
TOW	**Tower One**	**0.19**	**289**		Pg	18 03 22.9	+0.4
TOW					Sg	18 03 26.4	+1.4
CCCA	**Chr Cany lake**	**0.27**	**147**		Pg	18 03 24.1	+0.3
CCCA					Sg	18 03 28.5	+1.1
LRMC	**Laurel Mtn Rad**	**0.29**	**203**		Pg	18 03 24.2	-0.2
LRMC					Sg	18 03 28.2	0.0
WVPM	**Volcano Peak E**	**0.30**	**312**		Pg	18 03 24.4	-0.1
WVPM					Sg	18 03 29.0	+0.4
MPMC	**Manual Prospec**	**0.31**	**8**		Pg	18 03 24.6	-0.2
MPMC					Sg	18 03 29.3	+0.3
JRC2	**Joshua Ridge**	**0.32**	**317**		Pg	18 03 24.9	0.0
JRC2					Sg	18 03 29.5	+0.3
WCSM	**Coso Springs S**	**0.33**	**327**		Pg	18 03 24.9	-0.3
WCSM					Sg	18 03 29.7	+0.1
WRVM	**Rose V. Centra**	**0.38**	**313**		Pg	18 03 26.0	-0.1
WRVM					Sg	18 03 31.4	+0.2
MFS	**McCloud Flat S**	**0.45**	**326**		Pg	18 03 27.1	-0.2
MFS					Sg	18 03 33.4	+0.2
WBSM	**Bird Springs**	**0.53**	**247**		Pg	18 03 28.5	-0.3
WBSM					Sg	18 03 35.9	+0.1
DTP	**Desert Tortois**	**0.54**	**207**		Pg	18 03 28.6	-0.4
DTP					Sg	18 03 35.8	-0.3
WORM	**Onyx Ranch**	**0.57**	**265**		Pg	18 03 29.2	-0.5
WORM					Sg	18 03 36.8	-0.3
QSM	**Queen of Sheba**	**0.59**	**68**		Pg	18 03 29.4	-0.6
QSM				IAML		18 03 41.9	
	comp=E,243nm,0.2s						
WHFM	**Hanning Flat**	**0.66**	**266**		Pg	18 03 30.8	-0.4
WHFM					Sg	18 03 39.3	-0.5
CCAC	**Calif City Air**	**0.71**	**213**		Sg	18 03 41.6	+0.1
CCAC	**Calif City Air**	**0.71**	**213**		Pg	18 03 31.7	-0.5
CCAC					IAML	18 03 42.5	
	comp=N,354nm,0.6s						
GSC	**Goldstone, Bar**	**0.75**	**126**		Sg	18 03 42.7	0.0
GSC	**Goldstone, Bar**	**0.75**	**126**	Pg	Pg	18 03 32.5	-0.5
ISA	**Isabella, Lake**	**0.76**	**264**		Sg	18 03 42.8	-0.4
ISA	**Isabella, Lake**	**0.76**	**264**	Pg	Pg	18 03 32.5	-0.8
ISA					IAML	18 03 43.6	
	comp=N,177nm,0.3s						
WASM	**Alta Sierra Ca**	**0.82**	**270**		Pg	18 03 34.0	-0.5
GWY	**Greenwater Val**	**0.83**	**58**		Pg	18 03 33.7	-0.9
GWY					IAML	18 03 49.0	
	comp=N,178nm,0.3s						
GWY					IAML	18 03 49.1	
	comp=E,238nm,0.4s						
TEJ	**El Tejon**	**1.07**	**241**		Pg	18 03 38.2	-0.9
AMDNV	**Amargosa**	**1.24**	**55**		Pb	18 03 42.0	-0.4
GRAC	**Grapevine Rang**	**1.25**	**6**	Pg	Pn	18 03 40.6	-2.0
GRAC					IAML	18 04 11.4	
	comp=N,121nm,1.0s						
WCT	**Wildcat Mounta**	**1.28**	**35**	Pg	Pn	18 03 40.9	-2.1
WCT					IAML	18 04 01.8	
	comp=E,93nm,1.0s						
HOLC	**Holcomb Ridge**	**1.31**	**191**		Pb	18 03 43.6	0.0
SDH	**Striped Hills**	**1.32**	**47**		Pn	18 03 43.6	0.0
BAKC	**Calstate**	**1.34**	**253**		Pn	18 03 41.1	-2.6
GMN	**Gold Mountain**	**1.57**	**8**		Pn	18 03 45.7	-1.4
TPNV	**Topopah Spring**	**1.59**	**41**		Pn	18 03 46.0	-1.3
TPNV					IAML	18 04 12.6	
	comp=E,62nm,1.6s						
TPNV					IAML	18 04 14.0	
	comp=E,68nm,1.7s						
DSP	**Deep Springs**	**1.66**	**348**		Pn	18 03 47.1	-1.0
BCW	**Bitter Crk WRg**	**1.73**	**243**	Pn	Pn	18 03 48.7	-0.5
SHPR	**Sheep Range**	**2.07**	**68**		Pn	18 03 52.9	-1.1
ELS	**Elsinore Mount**	**2.10**	**177**	Pn	Pn	18 03 53.4	-0.9
ELS					IAML	18 04 08.0	
	comp=N,29nm,3.8s						
ELS					IAML	18 04 31.7	
	comp=E,55nm,4.9s						
V12A	**Nelson**	**2.19**	**90**	Pn	Pn	18 03 54.4	-1.1
V12A					IAML	18 04 37.9	
	comp=N,34nm,5.0s						
V12A					IAML	18 04 50.3	
	comp=E,25nm,4.9s						
PFO	**Pinyon Flats O**	**2.31**	**157**	Pn	Pn	18 03 56.0	-1.2
PFO					IAML	18 04 28.2	
	comp=E,26nm,5.0s						
PFO					IAML	18 04 56.4	
	comp=E,27nm,4.3s						
PMPB	**Monarch Peak**	**2.68**	**281**	Pn	Pn	18 04 01.1	-1.2
WAKR	**Walker**	**3.14**	**332**	Pn	Pn	18 04 08.7	0.0
CBX	**Cerro Bola**	**3.50**	**168**	Pn	Pn	18 04 13.0	-0.6
CCX	**Cicese**	**3.94**	**169**	Pn	Pn	18 04 18.7	-0.8

NEIC ***04*** *18:06:15.8±0.7,35.°651N±0.°007×117.°52W±0.°01, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.4km az=345.0*

PAS ***04*** *18:06:16.1±0.7,35.°661N±0.°008×117.°52W±0.°01, h2km, ML4.0/33, ML3.8/94(NEIC), Error ellipse: s-maj=1.2km s-min=1.2km az=124.0*

IDC ***04*** *18:06:16.4±0.8,35.°65N×117.°45W, h0km, mb3.7/1, mbtmp3.4/6, ML3.7/5, Error ellipse: s-maj=18.5km s-min=5.8km az=74.0*

ISC 04 18:06:16.7±0.9, 35.°65N±0.°02×117.°52W±0.°02, h9km±8km, n86, σ0.°95/112, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.17**	**134**		**Pg**	**18 06 20.5**	**+0.1**
CLC	**China Lake**	**0.18**	**339**		**Pg**	**18 06 19.4**	**-1.1**
CLC					**Sg**	**18 06 21.8**	**-1.4**
SRTC	**Snort**	**0.19**	**284**		**Pg**	**18 06 20.3**	**-0.4**
SRTC					**Sg**	**18 06 24.0**	**+0.5**
LRMC	**Laurel Mtn Rad**	**0.21**	**219**		**Pg**	**18 06 20.6**	**-0.5**
LRMC					**Sg**	**18 06 24.0**	**-0.1**
TOW	**Tower One**	**0.26**	**309**		**Pg**	**18 06 21.5**	**-0.4**
TOW					**Sg**	**18 06 25.9**	**+0.5**
WNMM	**Nine Mile Cany**	**0.37**	**302**		**Pg**	**18 06 23.3**	**-0.6**
WVPM	**Volcano Peak E**	**0.39**	**321**		**Pg**	**18 06 23.7**	**-0.7**
WVPM					**Sg**	**18 06 29.2**	**-0.3**
MPMC	**Manual Prospec**	**0.41**	**3**		**Pg**	**18 06 23.8**	**-1.1**
MPMC					**Sg**	**18 06 29.5**	**-0.8**
WCSM	**Coso Springs S**	**0.43**	**332**		**Pg**	**18 06 24.2**	**-1.0**
WCSM					**Sg**	**18 06 30.4**	**-0.4**
DTP	**Desert Tortois**	**0.46**	**215**		**Pg**	**18 06 25.1**	**-0.6**
DTP					**Sg**	**18 06 31.6**	**-0.1**
WRVM	**Rose V. Centra**	**0.47**	**320**		**Pg**	**18 06 25.0**	**-0.9**
WRVM					**Sg**	**18 06 31.7**	**-0.4**
WBSM	**Bird Springs**	**0.52**	**258**		**Pg**	**18 06 26.1**	**-0.7**
WBSM					**Sg**	**18 06 33.3**	**-0.3**
MFS	**McCloud Flat S**	**0.55**	**330**		**Pg**	**18 06 26.4**	**-0.9**
MFS					**Sg**	**18 06 34.0**	**-0.4**
WORM	**Onyx Ranch**	**0.59**	**275**		**Pg**	**18 06 27.3**	**-0.9**
WORM					**Sg**	**18 06 35.2**	**-0.7**
QSM	**Queen of Sheba**	**0.62**	**59**		**Pg**	**18 06 27.9**	**-0.7**
QSM				Sg	**Sg**	**18 06 36.1**	**-0.6**
QSM				IAML		18 06 37.7	
	comp=N,8μm,0.3s						
CCAC	**Calif City Air**	**0.64**	**220**		**Sg**	**18 06 37.3**	**-0.1**
CCAC	**Calif City Air**	**0.64**	**220**		**Pg**	**18 06 28.5**	**-0.5**
CCAC				IAML		18 06 38.2	
	comp=N,8μm,0.6s						
CCAC				IAML		18 06 42.9	
	comp=E,6μm,0.8s						
GSC	**Goldstone, Bar**	**0.68**	**120**		**Sg**	**18 06 38.8**	**+0.2**
GSC	**Goldstone, Bar**	**0.68**	**120**		**Pg**	**18 06 29.2**	**-0.5**
GSC				IAML		18 06 39.0	
	comp=N,5μm,0.7s						
GSC				IAML		18 06 39.3	
	comp=E,9μm,0.5s						
WHFM	**Hanning Flat**	**0.68**	**275**		**Pg**	**18 06 28.9**	**-0.9**
WHFM					**Sg**	**18 06 37.9**	**-0.8**
ISA	**Isabella, Lake**	**0.78**	**272**		**Pg**	**18 06 30.8**	**-0.9**
ISA				Sg	**Sg**	**18 06 41.0**	**-0.9**
ISA				IAML		18 06 42.2	
	comp=E,4μm,0.5s						
ISA				IAML		18 06 42.3	
	comp=N,3μm,0.4s						
HYS	**Haystack Butte**	**0.78**	**183**		**Pg**	**18 06 30.9**	**-0.8**
HYS					**Sg**	**18 06 41.9**	**0.0**
WASM	**Alta Sierra Ca**	**0.85**	**277**		**Pg**	**18 06 32.1**	**-0.9**
WASM					**Sg**	**18 06 43.9**	**-0.3**
EDWD	**Edwards Air Fo**	**0.86**	**207**		**Pg**	**18 06 32.2**	**-0.9**
EDW2					**Sg**	**18 06 43.7**	**-0.6**
GWY	**Greenwater Val**	**0.88**	**52**		**Pg**	**18 06 32.5**	**-1.0**
GWY					**Sb**	**18 06 45.3**	**-0.7**
GWY				IAML		18 06 49.5	
	comp=N,5μm,0.8s						
GWY				IAML		18 06 50.6	
	comp=E,4μm,0.5s						
RRX	**Edison Barstow**	**0.88**	**151**		**Pg**	**18 06 33.1**	**-0.4**
CWC	**Cottonwood Cre**	**0.91**	**330**		**Pg**	**18 06 33.3**	**-1.0**
CGO	**Cerro Gordo**	**0.93**	**346**		**Pg**	**18 06 33.2**	**-1.5**
CGO					**Sg**	**18 06 46.9**	**0.0**
TPO	**Tropico Hills**	**0.96**	**217**		**Pg**	**18 06 34.4**	**-0.8**
TPO					**Sg**	**18 06 47.5**	**-0.1**
SBB	**Saddle Back Bu**	**0.99**	**195**		**Pg**	**18 06 34.6**	**-1.0**
SBB					**Sg**	**18 06 48.2**	**-0.3**
TEJ	**El Tejon**	**1.04**	**247**		**Pg**	**18 06 35.2**	**-1.5**
TEJ					**Sg**	**18 06 49.0**	**-1.3**
VTV	**Victorville**	**1.09**	**172**		**Pg**	**18 06 36.9**	**-0.8**
VTV					**Sg**	**18 06 52.0**	**+0.1**
SPG2	**Springville 2**	**1.16**	**299**		**Pg**	**18 06 37.3**	**-1.6**
SPG2					**Sg**	**18 06 52.2**	**-1.7**
DSCC	**Desert Studies**	**1.26**	**113**		**Pg**	**18 06 39.0**	**-1.8**
HEC	**Hector,Ludlow**	**1.27**	**130**		**Pg**	**18 06 39.8**	**-1.1**
AMDNV	**Amargosa**	**1.29**	**51**		**Pg**	**18 06 40.7**	**-0.6**
TUQ	**Turquoise Moun**	**1.32**	**99**		**Pg**	**18 06 40.7**	**-1.2**
GRAC	**Grapevine Rang**	**1.35**	**5**		**Pg**	**18 06 41.1**	**-1.5**
WCT	**Wildcat Mounta**	**1.35**	**32**		**Pg**	**18 06 40.9**	**-1.8**
PASC	**Pasadena Art C**	**1.57**	**201**		**Pn**	**18 06 44.2**	**-0.6**
PASC					IAML	18 07 09.1	
	comp=E,1μm,0.5s						
PASC					IAML	18 07 11.6	
	comp=N,836nm,0.6s						
RVR	**Riverside**	**1.65**	**176**		**Pb**	**18 06 47.5**	**+0.2**
TPNV	**Topopah Spring**	**1.66**	**38**		**Pn**	**18 06 45.4**	**-0.7**
TPNV					IAML	18 07 12.5	
	comp=N,1μm,0.8s						
TPNV					IAML	18 07 13.9	
	comp=N,1μm,1.1s						
VOG	**Valley Oaks Go**	**1.66**	**295**		**Pn**	**18 06 46.3**	**+0.5**
GMN	**Gold Mountain**	**1.67**	**7**		**Pn**	**18 06 45.5**	**-0.8**
GMN					IAML	18 07 11.8	
	comp=N,747nm,0.6s						
BCW	**Bitter Crk WRg**	**1.70**	**246**		**Pn**	**18 06 46.9**	**+0.3**
BCW					IAML	18 07 15.0	
	comp=N,2μm,1.0s						
DSP	**Deep Springs**	**1.76**	**348**		**Pn**	**18 06 46.9**	**-0.4**
DSP					IAML	18 07 13.7	
	comp=E,707nm,0.8s						
ELS	**Elsinore Mount**	**1.99**	**178**		**Pn**	**18 06 50.0**	**-0.6**
MZP	**Montezuma Peak**	**2.05**	**3**		**Pn**	**18 06 50.9**	**-0.7**
SHPR	**Sheep Range**	**2.09**	**65**		**Pn**	**18 06 51.5**	**-0.6**
V12A	**Nelson**	**2.17**	**87**		**Pn**	**18 06 51.9**	**-1.2**
V12A					IAML	18 07 29.1	
	comp=N,694nm,1.4s						
V12A					IAML	18 07 34.3	
	comp=E,521nm,0.8s						
PFO	**Pinyon Flats O**	**2.21**	**156**		**Pn**	**18 06 52.9**	**-0.7**
PFO					IAML	18 07 33.8	
	comp=E,412nm,1.2s						
PFO	**Pinyon Flats O**	**2.21**	**156**	Pn	**Pn**	**18 06 52.9**	**-0.7**
	comp=E,42nm,0.3s,baz=332,slow=15,SNR=23						
PFO				Pg	**Pb**	**18 06 56.9**	**0.0**
	comp=E,42nm,0.3s,baz=333,slow=17,SNR=18						
PFO				Lg	Lg	18 07 27.4	
	comp=E,87nm,0.3s,baz=247,slow=22,SNR=11						
	comp=E,131nm,0.5s						
TPH	**Tonopah**	**2.44**	**5**		**Pn**	**18 06 56.2**	**-0.6**
S11A	**Rachel**	**2.45**	**35**		**Pn**	**18 06 56.8**	**-0.2**
PRN	**Pahroc Range**	**2.65**	**48**		**Pn**	**18 06 59.3**	**-0.5**
PRN					IAML	18 07 48.6	
	comp=N,480nm,0.8s						
PRN					IAML	18 07 53.8	
	comp=E,538nm,0.7s						
LHV	**Little Huntoon**	**2.72**	**343**		**Pn**	**18 07 00.7**	**+0.2**
LHV					IAML	18 07 59.0	
	comp=E,301nm,1.6s						
LHV					IAML	18 08 00.7	
	comp=N,247nm,1.6s						
PMPB	**Monarch Peak**	**2.73**	**283**		**Pn**	**18 07 00.7**	**+0.1**
NV11	**Mina Array Sit**	**2.83**	**350**		**Pn**	**18 07 01.8**	**-0.4**
NVAR	**Mina Array Bea**	**2.85**	**347**		**Pn**	**18 07 02.0**	**-0.5**
NVAR	**Mina Array Bea**	**2.85**	**347**	Pn	**Pn**	**18 07 02.9**	**+0.4**
	comp=N,6.3nm,0.3s,baz=172,slow=14,SNR=16						
NVAR				Pg	**Pb**	**18 07 08.7**	**+0.8**
	comp=N,16nm,0.3s,baz=169,slow=19,SNR=22						
NVAR				Lg	Lg	18 07 48.2	
	comp=N,14nm,0.3s,baz=163,slow=20,SNR=5.9						
	comp=N,7.6nm,0.6s						
BBGB	**Big Mountain B**	**3.00**	**289**	Pn	**Pn**	**18 07 04.6**	**+0.1**
W13A	**Hualapai Mount**	**3.02**	**99**		**Pn**	**18 07 04.0**	**-0.8**
W13A					IAML	18 07 55.4	
	comp=N,244nm,1.4s						
W13A					IAML	18 07 55.9	
	comp=E,252nm,0.6s						
RYN	**Ryan**	**3.08**	**345**		**Pn**	**18 07 05.5**	**-0.1**
BLYC	**Blythe**	**3.11**	**127**		**Pn**	**18 07 04.3**	**-1.6**
BLYC					IAML	18 07 57.2	
	comp=N,424nm,0.6s						
BLYC					IAML	18 07 57.6	
	comp=E,341nm,0.6s						
R11B	**Troy Canyon, C**	**3.11**	**29**		**Pn**	**18 07 05.7**	**-0.4**
SAO	**San Andreas Ge**	**3.37**	**290**		**Pn**	**18 07 08.9**	**-0.5**
GLA	**Glamis**	**3.41**	**139**		**Pn**	**18 07 09.0**	**-1.1**
LCMT	**Little Creek M**	**3.71**	**67**		**Pn**	**18 07 14.1**	**-0.2**
ESJX	**Sierra Juarez**	**3.86**	**160**		**Pn**	**18 07 16.4**	**0.0**
ESJX					IAML	18 08 24.4	
	comp=E,126nm,1.2s						
ESJX					IAML	18 08 53.5	
	comp=N,151nm,0.1s						
KNB	**Kanab**	**4.03**	**69**		**Pn**	**18 07 18.7**	**0.0**
KNB					IAML	18 08 34.0	
	comp=E,122nm,1.2s						
KNB					IAML	18 08 41.2	
	comp=N,126nm,1.6s						
113A	**Mohawk Valley,**	**4.23**	**132**		**Pn**	**18 07 21.2**	**-0.1**
113A					IAML	18 08 37.7	
	comp=E,96nm,1.6s						
113A					IAML	18 08 43.5	
	comp=N,77nm,1.4s						
PAHR	**Pah Rah Range**	**4.32**	**340**		**Pn**	**18 07 23.1**	**+0.5**
WUAZ	**Wupatki**	**5.01**	**90**		**Pn**	**18 07 32.4**	**+0.2**
ORV	**Oroville**	**5.02**	**322**	Pn	**Pn**	**18 07 31.7**	**-0.5**
ORV					IAML	18 09 06.4	
	comp=E,57nm,1.6s						
ORV					IAML	18 09 08.3	
	comp=N,45nm,3.5s						
X16A	**Lo Mia Camp, P**	**5.13**	**102**		**Pn**	**18 07 33.6**	**-0.3**
X16A					IAML	18 09 18.4	
	comp=E,44nm,4.0s						
X16A					IAML	18 09 41.1	
	comp=N,46nm,4.0s						
214A	**Organ Pipe Nat**	**5.38**	**132**	Pn	**Pn**	**18 07 35.1**	**-2.0**
214A					IAML	18 09 20.0	
	comp=N,67nm,1.5s						
214A					IAML	18 09 21.0	
	comp=E,60nm,1.5s						
ELK	**Elko**	**5.40**	**19**	Pn	**Pn**	**18 07 35.8**	**-1.8**
ELK	**Elko**	**5.40**	**19**	Pn	**Pn**	**18 07 38.0**	**+0.5**
	comp=E,0.3nm,0.3s,baz=218,slow=12,SNR=2.6						
ELK				Pg	**Pb**	**18 07 54.4**	**+3.2**
	comp=E,2.1nm,0.3s,baz=208,slow=15,SNR=17						
ELK				Lg	Lg	18 09 05.2	
	comp=E,4.8nm,0.3s,baz=300,slow=9.1,SNR=10						
	comp=E,0.8nm,0.3s						
X18A	**Snowflake**	**6.30**	**98**		**Pn**	**18 07 50.2**	**+0.3**
**TU

CCAC	**Calif City Air**	**0.56**	**217**	Pg	Pg	18 07 19.8	-0.1
CCAC				IAML		18 07 32.5	
	comp=E,2µm,0.7s						
CCAC				IAML		18 07 36.0	
	comp=N,3µm,1.1s						
WHFM	**Hanning Flat**	**0.61**	**279**		Pg	18 07 20.9	-0.1
WHFM					Sg	18 07 28.9	+0.1
QSM	**Queen of Sheba**	**0.70**	**59**		Pg	18 07 22.9	+0.1
QSM					Sg	18 07 31.3	-0.6
ISA	**Isabella, Lake**	**0.71**	**275**	Pg	Pg	18 07 22.6	-0.3
ISA				IAML		18 07 26.3	
	comp=N,1µm,0.2s						
ISA				IAML		18 07 37.0	
	comp=E,1µm,0.5s						
ISA	**Isabella, Lake**	**0.71**	**275**		Sg	18 07 32.2	+0.2
GSC	**Goldstone, Bar**	**0.72**	**114**		Sg	18 07 33.5	+1.0
GSC	**Goldstone, Bar**	**0.72**	**114**	Pg	Pg	18 07 23.0	-0.1
GSC				IAML		18 07 36.8	
	comp=N,2µm,0.5s						
HYS	**Haystack Butte**	**0.73**	**177**		Pg	18 07 23.1	-0.2
EDW2	**Edwards Air Fo**	**0.78**	**204**		Pg	18 07 23.9	-0.4
WASM	**Alta Sierra Ca**	**0.78**	**280**		Pg	18 07 24.1	-0.2
WASM					Sg	18 07 34.7	+0.3
TPO	**Tropico Hills**	**0.88**	**215**		Pg	18 07 25.9	-0.2
SBB	**Saddle Back Bu**	**0.93**	**191**		Pg	18 07 26.5	-0.5
CGO	**Cerro Gordo**	**0.96**	**351**		Pg	18 07 27.6	-0.1
GWY	**Greenwater Val**	**0.96**	**52**	Pg	Pg	18 07 27.6	-0.2
ADO	**Adelanto Recei**	**1.06**	**172**		Pb	18 07 30.6	+0.2
ALPC	**Antelope**	**1.07**	**212**		Sb	18 07 45.1	+0.1
SPG2	**Springville 2**	**1.11**	**303**		Pg	18 07 30.2	-0.4
SHOC	**Shoshone, Teco**	**1.13**	**74**		Pb	18 07 31.2	-0.2
HOLC	**Holcomb Ridge**	**1.16**	**190**		Pg	18 07 30.8	-0.6
VES	**Vestal, Richgr**	**1.22**	**282**		Pg	18 07 32.3	-0.4
CHFC	**Chilao Flat St**	**1.31**	**195**		Pg	18 07 34.1	-0.3
AMDNV	**Amargosa**	**1.37**	**51**		Sg	18 07 35.5	-0.1
TUQ	**Turquoise Moun**	**1.39**	**96**		Pn	18 07 35.1	-0.7
GRAC	**Grapevine Rang**	**1.41**	**8**		Pn	18 07 35.7	-0.3
GRAC				IAML		18 08 02.7	
	comp=E,701nm,0.6s						
WCT	**Wildcat Mounta**	**1.43**	**33**		Pn	18 07 36.3	-0.1
WCT				IAML		18 07 56.9	
	comp=N,424nm,0.7s						
WCT				IAML		18 08 01.0	
	comp=E,435nm,0.6s						
SGV	**South Grapevin**	**1.46**	**19**		Pg	18 07 37.1	-0.1
PASC	**Pasadena Art C**	**1.50**	**199**		Pn	18 07 37.2	0.0
PASC				IAML		18 08 04.3	
	comp=E,453nm,0.9s						
GMN	**Gold Mountain**	**1.72**	**9**		Pn	18 07 40.0	-0.5
TPNV	**Topopah Spring**	**1.74**	**39**		Pn	18 07 40.7	+0.1
TPNV				IAML		18 08 08.3	
	comp=E,547nm,0.8s						
TPNV				IAML		18 08 09.2	
	comp=E,556nm,1.0s						
DSP	**Deep Springs**	**1.79**	**351**	Pn	Pn	18 07 41.8	+0.6
DSP				IAML		18 08 07.8	
	comp=E,280nm,0.6s						
MZP	**Montezuma Peak**	**2.10**	**5**	Pn	Pn	18 07 45.2	-0.5

*NEIC **04** 18:08:32.9±1.0,35°.670N±0°.010×117°.51W±0°.01, h4km±4km, Error ellipse: s-maj=1.8km s-min=1.2km az=50.0*

PAS 04 18:08:33.2±1.0,**35°.668N**±0°.010×**117°.51W**±0°.01, **h2**km±4km, **ML3.4**/80,**ML3.3**/34(NEIC), **Error ellipse: s-maj=1.8km s-min=1.2km az=50.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.17**	**333**		Pg	18 08 36.6	+0.2
CLC					Sg	18 08 39.2	+0.6
CCCA	**Chr Cany lake**	**0.18**	**141**		Pg	18 08 37.3	+0.6
SRTC	**Snort**	**0.20**	**277**		Pg	18 08 37.5	+0.5
LRMC	**Laurel Mtn Rad**	**0.24**	**217**		Pg	18 08 38.0	+0.3
TOW	**Tower One**	**0.25**	**304**		Pg	18 08 38.6	+0.6
TOW					Sg	18 08 42.7	+1.4
WNMM	**Nine Mile Cany**	**0.37**	**298**		Pg	18 08 40.5	+0.3
WVPM	**Volcano Peak E**	**0.38**	**318**		Pg	18 08 40.8	+0.3
MPMC	**Manual Prospec**	**0.39**	**2**		Pg	18 08 40.8	+0.1
MPMC					Sg	18 08 46.3	+0.5
JRC2	**Joshua Ridge**	**0.40**	**322**		Pg	18 08 41.1	+0.2
JRC2					Sg	18 08 46.7	+0.7
WCSM	**Coso Springs S**	**0.42**	**329**		Pg	18 08 41.5	+0.3
WCSM					Sg	18 08 47.4	+0.7
WRVM	**Rose V. Centra**	**0.46**	**318**		Pg	18 08 41.8	-0.3
DTP	**Desert Tortois**	**0.49**	**215**		Pg	18 08 42.5	0.0
DTP					Sg	18 08 49.0	+0.2
MFS	**McCloud Flat S**	**0.53**	**328**		Pg	18 08 43.4	+0.1
MFS					Sg	18 08 50.9	+0.6
WBSM	**Bird Springs**	**0.53**	**256**		Sg	18 08 50.6	+0.4
QSM	**Queen of Sheba**	**0.60**	**60**		Pg	18 08 44.4	-0.3
QSM	**Queen of Sheba**	**0.60**	**60**	IAML		18 08 53.2	
	comp=E,3µm,0.4s						
QSM				IAML		18 08 53.6	
	comp=N,2µm,0.7s						
WORM	**Onyx Ranch**	**0.60**	**273**		Pg	18 08 44.5	-0.2
CCAC	**Calif City Air**	**0.66**	**219**	Pg	Pg	18 08 45.5	-0.4
CCAC				IAML		18 08 55.7	
	comp=N,2µm,0.5s						
CCAC				IAML		18 09 00.4	
	comp=E,2µm,0.3s						
GSC	**Goldstone, Bar**	**0.68**	**122**		Sg	18 08 55.7	+0.7
GSC	**Goldstone, Bar**	**0.68**	**122**	Pg	Pg	18 08 45.4	-0.7
GSC				IAML		18 08 56.1	
	comp=N,2µm,0.6s						
GSC				IAML		18 08 58.7	
	comp=E,2µm,0.5s						
WHFM	**Hanning Flat**	**0.69**	**273**		Pg	18 08 46.1	-0.2
ISA	**Isabella, Lake**	**0.79**	**270**	Pg	Pg	18 08 47.9	-0.3
ISA				IAML		18 09 11.8	
	comp=N,2µm,0.3s						
ISA				IAML		18 09 12.3	
	comp=E,2µm,0.2s						
WASM	**Alta Sierra Ca**	**0.86**	**275**		Pg	18 08 49.4	-0.2
EDW2	**Edwards Air Fo**	**0.88**	**207**		Pg	18 08 49.6	-0.5
RRX	**Edison Barstow**	**0.89**	**152**		Pb	18 08 51.7	+0.3
CWC	**Cottonwood Cre**	**0.90**	**329**		Pg	18 08 50.3	-0.2
CGO	**Cerro Gordo**	**0.91**	**345**		Pg	18 08 50.1	-0.6
SHOC	**Shoshone, Teco**	**1.03**	**77**		Pg	18 08 52.3	-0.5
ADO	**Adelanto Recei**	**1.12**	**177**		Pb	18 08 55.4	+0.1
WCT	**Wildcat Mounta**	**1.33**	**32**	Pg	Pg	18 08 58.4	-0.3
WCT				IAML		18 09 22.0	
	comp=N,269nm,0.6s						
GRAC	**Grapevine Rang**	**1.33**	**5**	Pg	Pg	18 08 58.1	-0.5
GRAC	**Grapevine Rang**	**1.33**	**5**		Pg	18 08 58.3	-0.4
SGV	**South Grapevin**	**1.36**	**16**		Pb	18 08 59.5	-0.1
LCH	**Last Change Ra**	**1.57**	**356**		Pn	18 09 02.0	-0.2
PASC	**Pasadena Art C**	**1.59**	**201**		Pn	18 09 02.0	-0.4
PASC				IAML		18 09 29.7	
	comp=N,226nm,0.6s						
TPNV	**Topopah Spring**	**1.63**	**38**		Pn	18 09 02.6	-0.4
GMN	**Gold Mountain**	**1.64**	**7**		Pg	18 09 04.5	-0.1
GMN	**Gold Mountain**	**1.64**	**7**	IAML		18 09 40.8	
	comp=N,186nm,0.6s						
BCW	**Bitter Crk WRg**	**1.72**	**246**		Pn	18 09 03.9	-0.3
BCW				IAML		18 09 30.1	
	comp=N,256nm,0.8s						
BCW				IAML		18 09 53.8	
	comp=E,339nm,0.9s						
DSP	**Deep Springs**	**1.74**	**348**		Pb	18 09 06.1	+0.3
MZP	**Montezuma Peak**	**2.03**	**3**		Pb	18 09 11.5	+0.6
POB	**Polly Butte**	**2.03**	**166**		Pn	18 09 08.0	-0.5
PFO	**Pinyon Flats O**	**2.23**	**157**	Pg	Pb	18 09 14.8	+0.7
PFO				IAML		18 09 53.4	
	comp=E,102nm,4.2s						
SNDA	**J Saunders Pla**	**2.24**	**161**		Pb	18 09 15.0	+0.6
TPH	**Tonopah**	**2.41**	**5**		Pb	18 09 18.4	+1.0

*NEIC **04** 18:08:44.9±0.6,35°.709N±0°.007×117°.49W±0°.01, h6km±3km, Error ellipse: s-maj=1.4km s-min=1.0km az=76.0*

PAS 04 18:08:45.1±0.7,**35°.711N**±0°.006×**117°.48W**±0°.01, **h1**km±1km, **ML3.6**/216,**ML3.3**/22(NEIC), **Error ellipse: s-maj=1.7km s-min=1.0km az=94.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.14**	**317**		Pg	18 08 48.0	+0.2
CLC					Sg	18 08 50.4	+0.7
CCCA	**Chr Cany lake**	**0.21**	**154**		Pg	18 08 49.9	+0.9
SRTC	**Snort**	**0.22**	**265**		Pg	18 08 50.0	+0.7
SRTC					Sg	18 08 54.2	+1.9
TOW	**Tower One**	**0.25**	**293**		Pg	18 08 50.5	+0.6
LRMC	**Laurel Mtn Rad**	**0.28**	**216**		Pg	18 08 50.8	+0.3
LRMC					Sg	18 08 55.0	+0.7
MPMC	**Manual Prospec**	**0.35**	**358**		Pg	18 08 52.0	+0.3
WVPM	**Volcano Peak E**	**0.36**	**311**		Pg	18 08 52.2	+0.1
JRC2	**Joshua Ridge**	**0.38**	**315**		Pg	18 08 52.9	+0.5
JRC2					Sg	18 08 58.5	+1.1
WCSM	**Coso Springs S**	**0.39**	**323**		Pg	18 08 52.9	+0.2
WCSM					Sg	18 08 58.7	+0.9
WRVM	**Rose V. Centra**	**0.45**	**312**		Pg	18 08 53.9	+0.2
WRVM					Sg	18 09 00.2	+0.7
MFS	**McCloud Flat S**	**0.51**	**323**		Pg	18 08 55.1	+0.2
MFS					Sg	18 09 02.3	+0.9
DTP	**Desert Tortois**	**0.54**	**214**		Pg	18 08 56.3	0.0
DTP					Sg	18 09 03.2	+1.0
WBSM	**Bird Springs**	**0.57**	**252**		Pg	18 08 56.0	+0.1
WBSM					Sg	18 09 03.9	+0.6
WORM	**Onyx Ranch**	**0.62**	**269**		Pg	18 08 57.0	0.0
WORM					Sg	18 09 05.2	+0.1
CCAC	**Calif City Air**	**0.71**	**219**		Pg	18 08 58.6	-0.1
CCAC					Sg	18 09 08.9	+1.0
CCAC	**Calif City Air**	**0.71**	**219**	IAML		18 09 13.3	
	comp=N,1µm,0.4s						
CCAC				IAML		18 09 13.8	
	comp=E,1µm,0.3s						
WHFM	**Hanning Flat**	**0.71**	**269**		Sg	18 09 08.4	+0.5
GWY	**Greenwater Val**	**0.81**	**54**	Pg	Pg	18 09 00.1	-0.5
GWY				IAML		18 09 06.1	
	comp=N,1µm,0.8s						
ISA	**Isabella, Lake**	**0.81**	**267**	Pg	Pg	18 09 00.5	-0.2
ISA	**Isabella, Lake**	**0.81**	**267**		Sg	18 09 11.3	+0.1
HYS	**Haystack Butte**	**0.85**	**185**		Sg	18 09 12.6	+0.2
WASM	**Alta Sierra Ca**	**0.88**	**272**		Sg	18 09 13.5	+0.2
FURC	**Furnace Creek,**	**0.90**	**33**		Pb	18 09 03.8	+0.2
WCT	**Wildcat Mounta**	**1.28**	**32**	Pg	Pg	18 09 09.0	-0.6
TPNV	**Topopah Spring**	**1.58**	**38**		Pn	18 09 14.1	-0.4
TPNV				IAML		18 09 29.2	
	comp=N,420nm,0.7s						
TPNV				IAML		18 09 30.5	
	comp=N,271nm,0.6s						
PASC	**Pasadena Art C**	**1.64**	**201**		Pn	18 09 15.3	+0.3
PASC				IAML		18 09 27.5	
	comp=E,298nm,0.7s						
PRN	**Pahroc Range**	**2.58**	**48**	Pn	Pn	18 09 25.7	-2.5
PRN				IAML		18 10 08.4	
	comp=N,138nm,0.8s						
PRN				IAML		18 10 20.0	
	comp=E,155nm,1.1s						
YUH	**Yuha Desert**	**3.32**	**157**	Pn	Pn	18 09 35.3	-2.8
YUH				IAML		18 10 38.6	
	comp=N,48nm,4.9s						

*NEIC **04** 18:10:32.1±0.7,35°.664N±0°.006×117°.530W±0°.009, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.3km az=43.0*

PAS 04 18:10:32.7±0.5,**35°.660N**±0°.008×**117°.54W**±0°.01, **h10**km±5km, **ML3.5**/27,**ML3.3**/30(NEIC), **Error ellipse: s-maj=1.6km s-min=1.1km az=66.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.16**	**342**		Pg	18 10 36.3	-0.1
CLC					Sg	18 10 39.0	+0.1
SRTC	**Snort**	**0.18**	**280**		Pg	18 10 36.9	+0.3
SRTC					Sg	18 10 40.5	+1.3
CCCA	**Chr Cany lake**	**0.19**	**134**		Pg	18 10 37.1	+0.3
CCCA					Sg	18 10 40.7	+1.0
LRMC	**Laurel Mtn Rad**	**0.22**	**214**		Pg	18 10 37.1	-0.2
LRMC					Sg	18 10 40.4	0.0
TOW	**Tower One**	**0.24**	**309**		Pg	18 10 38.0	+0.3
TOW					Sg	18 10 42.0	+1.0
WNMM	**Nine Mile Cany**	**0.35**	**301**		Pg	18 10 39.5	-0.2
WNMM					Sg	18 10 44.6	+0.2
WVPM	**Volcano Peak E**	**0.37**	**322**		Pg	18 10 39.8	-0.3
WVPM					Sg	18 10 45.2	+0.1
JRC2	**Joshua Ridge**	**0.39**	**325**		Pg	18 10 40.2	-0.3
JRC2					Sg	18 10 45.7	0.0
MPMC	**Manual Prospec**	**0.40**	**5**		Pg	18 10 40.3	-0.4
MPMC					Sg	18 10 46.2	+0.2
WCSM	**Coso Springs S**	**0.41**	**333**		Pg	18 10 40.5	-0.3
WCSM					Sg	18 10 46.2	-0.1
WRVM	**Rose V. Centra**	**0.45**	**320**		Pg	18 10 41.2	-0.4
WRVM					Sg	18 10 47.6	0.0
DTP	**Desert Tortois**	**0.47**	**213**		Pg	18 10 41.3	-0.5
DTP					Sg	18 10 47.6	-0.4
WBSM	**Bird Springs**	**0.51**	**256**		Pg	18 10 42.2	-0.4
WBSM					Sg	18 10 49.1	-0.2
MFS	**McCloud Flat S**	**0.53**	**330**		Pg	18 10 42.7	-0.3
MFS					Sg	18 10 50.0	0.0
WORM	**Onyx Ranch**	**0.58**	**274**		Pg	18 10 43.4	-0.6
WORM					Sg	18 10 50.9	-0.7
QSM	**Queen of Sheba**	**0.62**	**60**		Pg	18 10 44.4	-0.4
QSM				Sg	Sg	18 10 52.6	-0.3
QSM				IAML		18 10 56.0	
	comp=E,3µm,0.6s						
QSM				IAML		18 10 56.0	
	comp=N,3µm,0.7s						
CCAC	**Calif City Air**	**0.64**	**218**		Pg	18 10 44.7	-0.5
CCAC				Sg	Sg	18 10 53.6	0.0
CCAC				IAML		18 10 54.1	
	comp=N,3µm,0.3s						
WHFM	**Hanning Flat**	**0.66**	**273**		Pg	18 10 45.0	-0.6
WHFM					Sg	18 10 53.7	-0.6
GSC	**Goldstone, Bar**	**0.69**	**121**		Pg	18 10 45.6	-0.5
GSC	**Goldstone, Bar**	**0.69**	**121**		Sg	18 10 55.0	-0.2
ISA	**Isabella, Lake**	**0.77**	**270**		Pg	18 10 46.8	-0.7
ISA				Sg	Sg	18 10 56.9	-0.6
ISA				IAML		18 11 00.2	
	comp=E,654nm,0.4s						
HYS	**Haystack Butte**	**0.80**	**182**		Pg	18 10 47.2	-0.8
HYS					Sg	18 10 57.7	-0.7
WASM	**Alta Sierra Ca**	**0.84**	**276**		Pg	18 10 48.1	-0.7
WASM					Pn	18 10 59.4	+8.6
EDW2	**Edwards Air Fo**	**0.86**	**206**		Pg	18 10 48.4	-0.9
GWY	**Greenwater Val**	**0.88**	**53**		Pg	18 10 49.2	-0.5
GWY				Sg	Sg	18 11 00.9	-0.2
GWY				IAML		18 11 03.4	
	comp=N,2µm,0.3s						
CWC	**Cottonwood Cre**	**0.90**	**331**		Pg	18 10 50.0	0.0
CGO	**Cerro Gordo**	**0.92**	**346**		Pg	18 10 49.6	-0.8
TPO	**Tropico Hills**	**0.96**	**216**		Pg	18 10 50.4	-0.8
SBB	**Saddle Back Bu**	**1.00**	**194**		Pg	18 10 50.9	-1.0
TEJ	**El Tejon**	**1.03**	**246**		Pg	18 10 51.2	-1.5
SHOC	**Shoshone, Teco**	**1.05**	**76**		Pg	18 10 52.4	-0.5
ADO	**Adelanto Recei**	**1.11**	**176**		Sn	18 11 09.9	+0.1
SPG2	**Springville 2**	**1.14**	**299**		Pb	18 10 53.4	-1.1
ARVC	**Arvin**	**1.18**	**244**		Pb	18 10 54.4	-0.8
DSCC	**Desert Studies**	**1.28**	**113**		Pn	18 10 55.8	-0.8
TUQ	**Turquoise Moun**	**1.33**	**99**		Pn	18 10 56.9	-0.6
GRAC	**Grapevine Rang**	**1.34**	**6**		Pn	18 10 57.1	-0.4
GRAC				IAML		18 11 21.4	
	comp=E,548nm,0.5s						
GRAC				IAML		18 11 25.9	
	comp=N,482nm,0.8s						
WCT	**Wildcat Mounta**	**1.35**	**33**	Pn	Pn	18 10 56.5	-1.2
WCT				IAML		18 11 17.3	
	comp=E,450nm,0.5s						
WCT				IAML		18 11 17.4	
	comp=N,320nm,0.7s						
BFSC	**Mount Baldy Ra**	**1.42**	**184**		Pb	18 10 59.5	+0.1
PASC	**Pasadena Art C**	**1.58**	**200**		Pn	18 11 00.5	-0.2
PASC				IAML		18 11 24.2	
	comp=N,336nm,0.5s						
PASC				IAML		18 11 25.9	
	comp=E,443nm,0.7s						
VOG	**Valley Oaks Go**	**1.64**	**294**		Pb	18 11 02.4	-0.6
GMN	**Gold Mountain**	**1.65**	**8**		Pn	18 11 01.3	-0.7
TPNV	**Topopah Spring**	**1.65**	**39**		Pn	18 11 01.1	-0.9
TPNV				IAML		18 11 29.6	
	comp=E,352nm,0.7s						
TPNV				IAML		18 11 30.1	
	comp=E,358nm,0.6s						
GVRC	**Garvey Reservo**	**1.68**	**197**		Pg	18 11 04.4	-0.5
MZP	**Montezuma Peak**	**2.04**	**3**		Pn	18 11 06.9	-0.5
TPH	**Tonopah**	**2.42**	**6**		Pn	18 11 12.3	-0.3
TPH				IAML		18 11 56.2	
	comp=E,265nm,0.9s						

*NEIC **04** 18:12:51.5±0.9,35°.673N±0°.003×117°.55W±0°.01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.4km az=317.0*

PAS 04 18:12:52.0±0.7,**35°.672N**±0°.007×**117°.56W**±0°.01, **h7**km±1km, **ML3.4**/92,**ML3.1**/46(NEIC), **Error ellipse: s-maj=1.3km s-min=1.0km az=59.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.15**	**348**		Pg	18 12 55.1	0.0
CLC					Sg	18 12 57.6	+0.3
SRTC	**Snort**	**0.15**	**277**		Pg	18 12 55.6	+0.4
SRTC					Sg	18 12 58.9	+1.4
TOW	**Tower One**	**0.21**	**310**		Pg	18 12 56.7	+0.4
TOW					Sg	18 13 01.0	+1.8
LRMC	**Laurel Mtn Rad**	**0.22**	**207**		Pg	18 12 56.4	0.0
LRMC					Sg	18 12 59.5	+0.1
CCCA	**Chr Cany lake**	**0.22**	**133**		Pg	18 12 56.7	+0.4
WNMM	**Nine Mile Cany**	**0.33**	**301**		Pg	18 12 58.5	0.0
WVPM	**Volcano Peak E**	**0.35**	**323**		Pn	18 13 03.8	+0.2
JRC2	**Joshua Ridge**	**0.37**	**327**		Pg	18 12 59.3	-0.1
JRC2					Sg	18 13 04.5	+0.2
MPMC	**Manual Prospec**	**0.39**	**9**		Pg	18 12 59.5	-0.3
MPMC					Sg	18 13 05.0	+0.2
WCSM	**Coso Springs S**	**0.39**	**335**		Pg	18 12 59.6	-0.1
WCSM					Sg	18 13 05.1	+0.2
WRVM	**Rose V. Centra**	**0.43**	**322**		Pg	18 12 59.7	-0.7
WRVM					Sg	18 13 06.0	0.0
DTP	**Desert Tortois**	**0.47**	**210**		Pg	18 13 00.7	-0.4
DTP					Sg	18 13 07.2	+0.1
WBSM	**Bird Springs**	**0.49**	**254**		Pg	18 13 01.3	-0.3
WBSM					Sg	18 13 08.0	0.0
MFS	**McCloud Flat S**	**0.50**	**332**		Pg	18 13 01.8	-0.1
MFS					Sg	18 13 08.9	+0.4
WORM	**Onyx Ranch**	**0.56**	**273**		Pg	18 13 02.3	-0.5
WORM					Sg	18 13 09.6	-0.4
QSM	**Queen of Sheba**	**0.63**	**62**		Pg	18 13 03.6	-0.7
QSM				IAML		18 13 13.0	
	comp=N,1µm,0.5s						
QSM				IAML		18 13 16.6	
	comp=E,2µm,0.7s						
QSM	**Queen of Sheba**	**0.63**	**62**		Sg	18 13 12.5	-0.1
CCAC	**Calif City Air**	**0.64**	**216**	Pg	Pg	18 13 03.8	-0.5
CCAC				IAML		18 13 13.1	
	comp=E,1µm,0.5s						
CCAC				IAML		18 13 13.1	
	comp=N,1µm,0.6s						
CCAC	**Calif City Air**	**0.64**	**216**		Sg	18 13 12.7	+0.1
WHFM	**Hanning Flat**	**0.64**	**272**		Pg	18 13 03.9	-0.5
WHFM					Sg	18 13 12.5	-0.3
GSC	**Goldstone, Bar**	**0.72**	**121**	Pg	Pg	18 13 05.4	-0.4
GSC	**Goldstone, Bar**	**0.72**	**121**		Sg	18 13 15.3	0.0
ISA	**Isabella, Lake**	**0.74**	**270**	Pg	Pg	18 13 05.6	-0.7
ISA				IAML		18 13 16.5	
	comp=N,990nm,0.2s						
ISA	**Isabella, Lake**	**0.74**	**270**		Sg	18 13 15.7	-0.3
HYS	**Haystack Butte**	**0.81**	**180**		Pb	18 13 08.2	-0.3
GWY	**Greenwater Val**	**0.89**	**54**		Pg	18 13 08.3	-0.8
GWY				IAML		18 13 23.2	
	comp=N,811nm,0.5s						
GWY				IAML		18 13 24.0	
	comp=E,914nm,0.4s						
SHOC	**Shoshone, Teco**	**1.07**	**77**		Pg	18 13 12.6	0.0
SPG2	**Springville 2**	**1.11**	**299**		Pg	18 13 12.4	-1.0
GRAC	**Grapevine Rang**	**1.33**	**7**		Pn	18 13 16.2	-0.9
GRAC				IAML		18 13 39.2	
	comp=N,503nm,0.4s						
GRAC				IAML		18 13 44.4	
	comp=E,567nm,0.6s						
WCT	**Wildcat Mounta**	**1.35**	**34**		Pn	18 13 16.0	-1.4
WCT				IAML		18 13 36.7	
	comp=N,206nm,0.6s						
WCT				IAML		18 13 40.8	
	comp=E,251nm,0.4s						
TUQ	**Turquoise Moun**	**1.36**	**100**		Pn	18 13 16.8	-0.7
PASC	**Pasadena Art C**	**1.58**	**199**	IAML		18 13 46.0	
	comp=E,275nm,0.9s						
PASC				IAML		18 13 47.2	
	comp=N,273nm,0.5s						
VOG	**Valley Oaks Go**	**1.61**	**294**		Pn	18 13 21.4	+0.4
GMN	**Gold Mountain**	**1.64**	**8**	IAML		18 13 51.8	
	comp=N,132nm,0.6s						
TPNV	**Topopah Spring**	**1.66**	**39**		Pn	18 13 20.8	-0.9
TPNV				IAML		18 13 48.5	
	comp=N,302nm,0.6s						
TPNV				IAML		18 13 48.6	
	comp=N,282nm,0.7s						
V12A	**Nelson**	**2.21**	**88**	IAML		18 14 08.8	
	comp=E,92nm,0.6s						
PFO	**Pinyon Flats O**	**2.25**	**156**	IAML		18 14 08.4	
	comp=E,69nm,1.8s						
W13A	**Hualapai Mount**	**3.06**	**100**	IAML		18 15 27.8	
	comp=N,68nm,0.5s						
W13A				IAML		18 15 29.8	
	comp=E,52nm,0.5s						
LCMT	**Little Creek M**	**3.73**	**68**	IAML		18 14 59.7	
	comp=E,22nm,3.6s						
LCMT				IAML		18 15 48.8	
	comp=N,24nm,4.2s						

*NEIC **04** 18:13:51.0±0.7,35°.716N±0°.009×117°.48W±0°.01, h9km±7km, Error ellipse: s-maj=1.4km s-min=1.2km az=207.0*

PAS 04 18:13:51.4±0.5,**35°.71N**±0°.01×**117°.49W**±0°.01, **h6**km±1km, **ML3.5**/166,**ML3.2**/20(NEIC), **Error ellipse: s-maj=1.8km s-min=1.3km az=206.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.14**	**320**		Pg	18 13 54.3	0.0
CLC					Sg	18 13 56.6	+0.2
CCCA	**Chr Cany lake**	**0.21**	**152**		Pg	18 13 55.9	+0.4
CCCA					Sg	18 13 59.5	+1.1
SRTC	**Snort**	**0.22**	**266**		Pg	18 13 56.1	+0.4
SRTC					Sg	18 13 59.7	+1.1
TOW	**Tower One**

comp=E,47nm,4.2s
Y14A Wickenburg 4.09 114 IAML 18 16 07.8
comp=E,47nm,1.3s
X16A Lo Mia Camp, P 5.12 103 Pn Pn 18 15 08.3 -0.4
X16A IAML 18 16 54.0
comp=N,20nm,4.4s
X16A IAML 18 16 59.7
comp=E,14nm,4.8s

*NEIC **04** 18:15:04.5±0.8, 35°.605N±0°.009×117°.62W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.9km az=139.0*
PAS 04 18:15:04.9±0.9, 35°.610N±0°.007×117°.60W±0°.01, h2km±1km, ML3.2, ML3.1/12(NEIC), Error ellipse: s-maj=1.6km s-min=1.0km az=96.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mtn Rad**	**0.15**	**207**		Pg	18 15 08.0	+0.2
CCCA	**Chr Cany lake**	**0.21**	**114**		Pg	18 15 09.5	+0.6
WVPM	**Volcano Peak E**	**0.38**	**333**		Pg	18 15 12.7	+0.4
DTP	**Desert Tortois**	**0.40**	**210**		Pg	18 15 12.5	+0.1
DTP					Sg	18 15 17.9	+0.4
WCSM	**Coso Springs S**	**0.44**	**342**		Pg	18 15 13.5	+0.3
MPMC	**Manual Prospec**	**0.46**	**12**		Pg	18 15 13.8	+0.1
MPMC					Sg	18 15 20.4	+0.8
WRVM	**Rose V. Centra**	**0.46**	**330**		Pg	18 15 13.9	+0.2
WORM	**Onyx Ranch**	**0.53**	**279**		Pg	18 15 15.1	+0.1
WORM					Sg	18 15 22.2	+0.3
MFS	**McCloud Flat S**	**0.55**	**338**		Pn	18 15 23.2	+3.4
CCAC	**Calif City Air**	**0.57**	**217**		Pg	18 15 15.3	-0.4
CCAC				IAML		18 15 34.7	
	comp=N,1µm,0.4s						
CCAC				IAML		18 15 34.9	
	comp=E,944nm,0.4s						
WHFM	**Hanning Flat**	**0.61**	**278**		Pg	18 15 16.7	0.0
QSM	**Queen of Sheba**	**0.69**	**59**		Pg	18 15 17.7	-0.5
ISA	**Isabella, Lake**	**0.71**	**274**		Pg	18 15 18.4	-0.1
GSC	**Goldstone, Bar**	**0.72**	**115**	Pg	Pg	18 15 18.2	-0.4
GSC				IAML		18 15 35.5	
	comp=N,1µm,0.3s						
WASM	**Alta Sierra Ca**	**0.79**	**280**		Pg	18 15 19.9	-0.1
GWY	**Greenwater Val**	**0.95**	**53**	Pg	Pg	18 15 22.5	-0.6
GWY				IAML		18 15 44.3	
	comp=N,648nm,0.5s						
GWY				IAML		18 15 45.2	
	comp=E,624nm,0.4s						
TEJ	**El Tejon**	**0.96**	**247**		Pg	18 15 22.7	-0.7
SPG2	**Springville 2**	**1.11**	**302**		Pg	18 15 25.9	-0.3
THC	**Tehachapi Micr**	**1.11**	**231**		Pg	18 15 25.8	-0.4
LRRC	**Littlerock Res**	**1.14**	**198**		Pb	18 15 27.1	-0.1
AMDNV	**Amargosa**	**1.36**	**51**		Pn	18 15 30.7	-0.2
TUQ	**Turquoise Moun**	**1.38**	**97**		Pn	18 15 30.3	-1.0
GRAC	**Grapevine Rang**	**1.40**	**8**		Pn	18 15 30.5	-1.0
SSK	**Sunset Peak**	**1.40**	**183**		Pb	18 15 31.9	+0.1
WCT	**Wildcat Mounta**	**1.42**	**33**		Pn	18 15 31.3	-0.6
PASC	**Pasadena Art C**	**1.51**	**199**		Pn	18 15 32.1	-0.9
BCW	**Bitter Crk WRg**	**1.63**	**246**		Pn	18 15 34.2	-0.4
GMN	**Gold Mountain**	**1.71**	**9**		Pn	18 15 35.1	-0.9
TPNV	**Topopah Spring**	**1.73**	**39**		Pn	18 15 35.2	-0.9
DSP	**Deep Springs**	**1.78**	**351**	Pn	Pn	18 15 36.2	-0.4
ELS	**Elsinore Mount**	**1.96**	**176**	Pn	Pn	18 15 38.4	-0.9
MZP	**Montezuma Peak**	**2.09**	**5**	Pn	Pn	18 15 40.5	-0.8
PFO	**Pinyon Flats O**	**2.21**	**154**	Pn	Pn	18 15 41.8	-0.8
V12A	**Nelson**	**2.24**	**86**	Pn	Pn	18 15 42.9	-0.3
TPH	**Tonopah**	**2.48**	**7**	Pn	Pn	18 15 45.8	-0.7
LHV	**Little Huntoon**	**2.73**	**345**	Pn	Pn	18 15 48.7	-1.0

*NEIC **04** 18:16:33.2±0.6, 35°.727N±0°.007×117°.53W±0°.01, h8km±7km, Error ellipse: s-maj=1.5km s-min=1.1km az=75.0*
PAS 04 18:16:33.7±0.5, 35°.725N±0°.006×117°.53W±0°.01, h7km±1km, ML2.9/26, ML2.6/44(NEIC), Error ellipse: s-maj=1.4km s-min=0.6km az=55.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.10**	**330**		Pg	18 16 36.1	-0.1
CLC					Sg	18 16 37.9	+0.2
SRTC	**Snort**	**0.18**	**259**		Pg	18 16 37.7	+0.3
TOW	**Tower One**	**0.20**	**294**		Pg	18 16 38.2	+0.4
TOW					Sg	18 16 42.0	+1.3
CCCA	**Chr Cany lake**	**0.24**	**145**		Pg	18 16 39.0	+0.4
CCCA					Sg	18 16 42.9	+1.1
LRMC	**Laurel Mtn Rad**	**0.27**	**206**		Pg	18 16 39.0	-0.2
LRMC					Sg	18 16 42.9	+0.1
WVPM	**Volcano Peak E**	**0.32**	**314**		Pg	18 16 40.0	-0.1
WVPM					Sg	18 16 44.6	+0.3
MPMC	**Manual Prospec**	**0.33**	**6**		Pg	18 16 40.1	-0.2
JRC2	**Joshua Ridge**	**0.34**	**319**		Pg	18 16 40.4	-0.1
JRC2					Sg	18 16 45.3	+0.3
WCSM	**Coso Springs S**	**0.35**	**328**		Pg	18 16 40.4	-0.3
WCSM					Sg	18 16 45.2	-0.3
WRVM	**Rose V. Centra**	**0.40**	**314**		Pg	18 16 41.4	-0.2
WRVM					Sg	18 16 47.0	+0.1
MFS	**McCloud Flat S**	**0.47**	**326**		Pg	18 16 42.7	-0.2
MFS					Sg	18 16 49.4	+0.3
DTP	**Desert Tortois**	**0.52**	**209**		Pg	18 16 43.4	-0.5
DTP					Sg	18 16 50.2	-0.4
WBSM	**Bird Springs**	**0.53**	**249**		Pg	18 16 43.6	-0.3
WBSM					Sg	18 16 50.8	-0.1
WORM	**Onyx Ranch**	**0.58**	**267**		Pg	18 16 44.4	-0.5
WORM					Sg	18 16 52.3	-0.2
QSM	**Queen of Sheba**	**0.59**	**66**		Sg	18 16 52.9	0.0
QSM	**Queen of Sheba**	**0.59**	**66**		Pg	18 16 44.8	-0.3
QSM				IAML		18 16 53.5	
	comp=E,365nm,0.2s						
QSM				IAML		18 16 53.8	
	comp=N,317nm,0.1s						
WHFM	**Hanning Flat**	**0.66**	**268**		Pg	18 16 46.1	-0.5
WHFM					Sg	18 16 55.3	+0.1
CCAC	**Calif City Air**	**0.69**	**215**		Pg	18 16 56.6	-0.5
CCAC					Sg	18 16 56.1	0.0
CCAC	**Calif City Air**	**0.69**	**215**	IAML		18 16 57.2	
	comp=E,369nm,0.3s						
GSC	**Goldstone, Bar**	**0.73**	**125**		Pg	18 16 47.4	-0.4
GSC	**Goldstone, Bar**	**0.73**	**125**		Sg	18 16 56.9	-0.4
GSC				IAML		18 17 00.4	
	comp=N,737nm,0.3s						
GSC				IAML		18 17 01.7	
	comp=E,624nm,0.4s						
ISA	**Isabella, Lake**	**0.77**	**266**		Pg	18 16 48.0	-0.5
ISA	**Isabella, Lake**	**0.77**	**266**	Sg	Sg	18 16 58.4	-0.1
ISA				IAML		18 16 58.7	
	comp=E,227nm,0.4s						
ISA				IAML		18 16 58.9	
	comp=N,173nm,0.3s						
WASM	**Alta Sierra Ca**	**0.83**	**271**		Pg	18 16 49.3	-0.5
WASM					Sg	18 17 00.5	-0.1
GWY	**Greenwater Val**	**0.84**	**57**		Sg	18 17 00.3	-0.5
GWY	**Greenwater Val**	**0.84**	**57**		Pg	18 16 49.1	-0.8
GWY				IAML		18 17 04.0	
	comp=N,244nm,0.2s						
CGO	**Cerro Gordo**	**0.85**	**345**		Pg	18 16 49.5	-0.7
HYS	**Haystack Butte**	**0.86**	**182**		Pg	18 16 49.5	-0.8
RRX	**Edison Barstow**	**0.95**	**152**		Pg	18 16 51.4	-0.7
TPO	**Tropico Hills**	**1.02**	**214**		Pg	18 16 52.5	-0.8
TPO					Sg	18 17 06.3	-0.2
SBB	**Saddle Back Bu**	**1.06**	**193**		Sg	18 17 07.5	-0.4
TEJ	**El Tejon**	**1.06**	**243**		Pg	18 16 52.8	-1.4
SPG2	**Springville 2**	**1.11**	**296**		Pg	18 16 53.9	-1.1
SPG2					Sg	18 17 08.4	-0.9
AMDNV	**Amargosa**	**1.25**	**54**		Pn	18 16 56.1	-1.5
LEOC	**Leona Valley**	**1.26**	**210**		Pn	18 16 56.5	-1.4
GRAC	**Grapevine Rang**	**1.27**	**6**	Pg	Pn	18 16 57.3	-0.8
GRAC				IAML		18 17 18.3	
	comp=E,105nm,0.3s						
GRAC				IAML		18 17 18.7	
	comp=N,115nm,0.5s						
WCT	**Wildcat Mounta**	**1.29**	**34**		Pn	18 16 57.9	-0.5
WCT				IAML		18 17 16.7	
	comp=N,83nm,0.7s						
SGV	**South Grapevin**	**1.32**	**18**		Pn	18 16 58.6	-0.2
TUQ	**Turquoise Moun**	**1.34**	**102**		Pn	18 16 58.2	-0.9
SSK	**Sunset Peak**	**1.52**	**185**		Pb	18 17 01.9	-0.4
GMN	**Gold Mountain**	**1.59**	**8**		Pn	18 17 02.3	-0.2
GMN				IAML		18 17 46.9	
	comp=N,54nm,0.4s						
TPNV	**Topopah Spring**	**1.60**	**40**		Pn	18 17 02.5	-0.2
TPNV				IAML		18 17 26.6	
	comp=N,95nm,0.3s						
TPNV				IAML		18 17 27.2	
	comp=N,77nm,1.1s						
PASC	**Pasadena Art C**	**1.64**	**199**		Pn	18 17 02.3	-0.8
PASC				IAML		18 17 30.2	
	comp=E,94nm,0.8s						
PASC				IAML		18 17 31.7	
	comp=N,60nm,4.8s						
DSP	**Deep Springs**	**1.68**	**348**		Pn	18 17 03.1	-0.4
BCW	**Bitter Crk WRg**	**1.73**	**244**	Pn	Pn	18 17 04.2	-0.1
BCW				IAML		18 17 42.1	
	comp=N,79nm,2.9s						
MZP	**Montezuma Peak**	**1.98**	**3**	Pn	Pn	18 17 07.2	-0.8
SHPR	**Sheep Range**	**2.07**	**67**	Pn	Pn	18 17 07.9	-1.2
ELS	**Elsinore Mount**	**2.07**	**178**	Pn	Pn	18 17 07.9	-1.2
ELS				IAML		18 18 25.0	
	comp=E,44nm,4.3s						
V12A	**Nelson**	**2.18**	**89**	Pn	Pn	18 17 09.3	-1.3
V12A				IAML		18 17 29.8	
	comp=E,27nm,4.9s						
PFO	**Pinyon Flats O**	**2.29**	**157**	Pn	Pn	18 17 10.7	-1.3
PFO				IAML		18 17 57.8	
	comp=E,24nm,4.4s						
PFO				IAML		18 18 29.2	
	comp=E,33nm,4.1s						
TPH	**Tonopah**	**2.36**	**6**	Pn	Pn	18 17 12.5	-0.6
NVAR	**Mina Array Bea**	**2.77**	**347**	Pn	Pn	18 17 19.8	+1.0
R11B	**Troy Canyon, C**	**3.05**	**30**	Pn	Pn	18 17 22.5	-0.1

*SEA **04** 18:17:58.2±1.7, 48°.56N±0°.05×123°.54W±0°.05, h25km±7km, Error ellipse: s-maj=6.9km s-min=4.8km az=175.0*
NEIC 04 18:17:56.7±0.8, 48°.57N±0°.07×123°.54W±0°.04, h30km±11km, ML2.1/10, ML2.0/13(SEA), Error ellipse: s-maj=10.0km s-min=3.8km az=181.0, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
B011	**North Saanich**	**0.10**	**40**		Pb	18 18 05.4	+3.3
B011					Sb	18 18 06.5	+0.7
PGC	**Sidney**	**0.10**	**39**		Pb	18 18 02.3	+0.2
PGC					Sb	18 18 05.4	-0.3
PGC	**Sidney**	**0.10**	**39**	IAML		18 18 05.5	
	comp=N,187nm,1.9s						
PGC				IAML		18 18 05.6	
	comp=E,169nm,0.2s						
SYMB	**Survey Mountai**	**0.17**	**265**		Pb	18 18 02.8	0.0
SYMB					Sb	18 18 06.7	-0.2
VGZ	**Gonzales**	**0.22**	**137**		Pb	18 18 03.4	+0.2
VGZ					Sb	18 18 07.3	-0.2
SNB	**Saturna Island**	**0.32**	**51**		Pn	18 18 05.0	-0.3
SNB					Sb	18 18 10.3	+0.5
UWFH	**University of**	**0.35**	**94**		Pb	18 18 05.2	+0.3
UWFH					Sb	18 18 10.6	+0.1
STW	**Striped Peak**	**0.43**	**191**		Pn	18 18 06.5	-0.4
STW					Sb	18 18 12.6	+0.1
B926	**Mesachie Lake**	**0.46**	**303**		Pb	18 18 06.6	0.0
B926					Sb	18 18 12.6	-0.7
CLRS	**Cowichan Lake**	**0.46**	**303**		Pb	18 18 06.5	0.0
CLRS					Sb	18 18 12.8	-0.5
CLRS	**Cowichan Lake**	**0.46**	**303**	IAML		18 18 13.2	
	comp=E,121nm,0.4s						
CLRS				IAML		18 18 13.4	
	comp=N,157nm,0.4s						
MCW	**Mount Constitu**	**0.48**	**77**		Pn	18 18 07.3	-0.3
B04A	**Port Angeles**	**0.52**	**177**		Pb	18 18 07.4	-0.1
B04A					Sb	18 18 14.4	-0.3
B04A	**Port Angeles**	**0.52**	**177**	IAML		18 18 15.2	
	comp=N,248nm,0.3s						
B04A				IAML		18 18 15.5	
	comp=E,192nm,0.4s						
A04D	**Lummi Island**	**0.57**	**75**		Pn	18 18 08.8	0.0
A04D					Sb	18 18 16.5	+0.2
A04D	**Lummi Island**	**0.57**	**75**	IAML		18 18 17.1	
	comp=E,157nm,0.2s						
A04D				IAML		18 18 17.9	
	comp=N,169nm,0.3s						
PTRF	**Port Renfrew**	**0.58**	**267**		Pb	18 18 08.0	-0.4
PTRF					Sb	18 18 15.7	-0.7
SQM	**Sequim**	**0.60**	**146**		Pn	18 18 09.1	0.0
SQM					Sn	18 18 17.6	-0.1
P403	**Sandy Floe Qua**	**0.65**	**218**		Pb	18 18 09.6	0.0
P403					Sb	18 18 18.5	+0.1
SVOH	**Skagit Valley**	**0.67**	**115**		Pn	18 18 10.3	+0.2
SVOH					Sn	18 18 19.6	+0.1
BLN	**Blyn Mountain**	**0.68**	**146**		Pb	18 18 10.2	0.0
BLN					Sn	18 18 20.4	+0.4
NLLB	**Nanaimo Lost L**	**0.72**	**336**		Pb	18 18 10.5	-0.3
NLLB					Sb	18 18 19.5	-0.8
OSD	**Olympics--Snow**	**0.76**	**188**		Pb	18 18 11.9	+0.3
C03A	**Quillayute Air**	**0.93**	**228**		Pb	18 18 15.5	+1.3
C03A				IAML		18 18 31.7	
	comp=E,36nm,3.7s						
GNW	**Green Mountain**	**1.12**	**154**	Pn	Pn	18 18 16.7	+0.4
LON	**Longmire**	**2.17**	**147**	Pn	Pn	18 18 31.4	+0.6

*NEIC **04** 18:18:45.3±1.7, 35°.670N±0°.008×117°.60W±0°.01, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.7km az=279.0*
PAS 04 18:18:45.7±0.9, 35°.638N±0°.010×117°.61W±0°.01, h6km±2km, ML3.3/19, ML3.0/64(NEIC), Error ellipse: s-maj=1.6km s-min=1.5km az=71.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mtn Rad**	**0.17**	**199**		Pg	18 18 49.3	+0.2
LRMC					Sg	18 18 52.0	+0.6
CCCA	**Chr Cany lake**	**0.23**	**119**		Pg	18 18 50.7	+0.4
WVPM	**Volcano Peak E**	**0.35**	**332**		Pg	18 18 52.5	-0.1
WCSM	**Coso Springs S**	**0.41**	**342**		Sg	18 18 59.3	+0.2
MPMC	**Manual Prospec**	**0.43**	**14**		Pg	18 18 53.9	-0.3
MPMC					Sg	18 19 00.0	+0.1
WRVM	**Rose V. Centra**	**0.43**	**329**		Pg	18 18 53.9	-0.3
WRVM					Sg	18 19 00.1	+0.3
WBSM	**Bird Springs**	**0.44**	**257**		Pg	18 18 54.1	-0.2
WBSM					Sg	18 19 00.3	+0.3
CCAC	**Calif City Air**	**0.58**	**214**		Sg	18 18 56.8	-0.3
CCAC	**Calif City Air**	**0.58**	**214**		Pg	18 19 04.9	+0.3
QSM	**Queen of Sheba**	**0.69**	**61**		Pg	18 18 58.5	-0.5
ISA	**Isabella, Lake**	**0.70**	**272**		Pg	18 18 58.6	-0.6
ISA				IAML		18 19 10.7	
	comp=E,442nm,0.3s						
ISA				IAML		18 19 12.2	
	comp=N,487nm,0.6s						
GSC	**Goldstone, Bar**	**0.74**	**117**		Pg	18 18 59.4	-0.6
GSC				IAML		18 19 12.5	
	comp=N,1µm,0.3s						
HYS	**Haystack Butte**	**0.77**	**177**		Pg	18 18 60.0	-0.6
WASM	**Alta Sierra Ca**	**0.77**	**278**		Pg	18 19 00.1	-0.5
EDW2	**Edwards Air Fo**	**0.82**	**202**		Pg	18 19 00.9	-0.5
CGO	**Cerro Gordo**	**0.92**	**351**		Pg	18 19 02.8	-0.7
GWY	**Greenwater Val**	**0.94**	**54**		Pg	18 19 03.0	-0.8
GWY				IAML		18 19 20.7	
	comp=E,757nm,0.5s						
ADO	**Adelanto Recei**	**1.09**	**172**		Pg	18 19 06.7	-0.1
ADO					Sn	18 19 22.5	-0.7
ALPC	**Antelope**	**1.10**	**211**		Sb	18 19 21.9	0.0
LEOC	**Leona Valley**	**1.15**	**210**		Pn	18 19 08.7	+0.2
CJV	**Casa Juvan**	**1.19**	**202**		Pg	18 19 08.5	0.0
VES	**Vestal, Richgr**	**1.21**	**280**		Pg	18 19 08.3	-0.7
DSCC	**Desert Studies**	**1.33**	**111**		Pn	18 19 09.6	-1.3
AMDNV	**Amargosa**	**1.35**	**53**		Pn	18 19 09.2	-2.0
GRAC	**Grapevine Rang**	**1.37**	**8**		Pn	18 19 10.4	-1.1
GRAC				IAML		18 19 32.3	
	comp=E,382nm,0.4s						
GRAC				IAML		18 19 34.1	
	comp=N,305nm,0.7s						
BFSC	**Mount Baldy Ra**	**1.40**	**182**		Pb	18 19 12.1	-0.2
WCT	**Wildcat Mounta**	**1.40**	**34**		Pn	18 19 10.3	-1.6
WCT				IAML		18 19 31.9	
	comp=E,247nm,0.5s						
WCT				IAML		18 19 32.1	
	comp=N,224nm,0.8s						
BCW	**Bitter Crk WRg**	**1.63**	**245**		Pn	18 19 14.7	-0.3
BCW				IAML		18 19 42.2	
	comp=N,165nm,0.7s						
BCW				IAML		18 19 48.6	
	comp=E,180nm,1.6s						
GMN	**Gold Mountain**	**1.68**	**10**		Pn	18 19 14.8	-1.2
MTPC	**Mountain Pass**	**1.69**	**95**		Pn	18 19 14.0	-1.9
DSP	**Deep Springs**	**1.75**	**351**		Pn	18 19 15.7	-1.0
POCCA	**Poleta Canyon**	**1.80**	**343**		Pb	18 19 19.0	-0.3
MZP	**Montezuma Peak**	**2.07**	**5**		Pn	18 19 20.4	-0.9
SHPR	**Sheep Range**	**2.17**	**66**		Pn	18 19 21.6	-1.0
PFO	**Pinyon Flats O**	**2.23**	**154**		Pn	18 19 21.8	-1.6
PFO				IAML		18 19 58.2	
	comp=E,83nm,0.7s						
PFO				IAML		18 19 58.3	
	comp=E,85nm,0.7s						
V12A	**Nelson**	**2.25**	**87**		Pn	18 19 21.6	-2.0
V12A				IAML		18 20 03.0	
	comp=N,58nm,0.6s						
TPH	**Tonopah**	**2.45**	**7**	Pn	Pn	18 19 25.8	-0.7
TPH					Pb	18 19 30.9	+0.5
LHV	**Little Huntoon**	**2.70**	**345**	IAML		18 20 17.6	
	comp=N,46nm,4.2s						
LHV				IAML		18 20 26.2	
	comp=E,56nm,3.8s						
KNB	**Kanab**	**4.11**	**69**	IAML		18 20 21.1	
	comp=E,19nm,4.0s						
KNB				IAML		18 21 18.5	
	comp=N,24nm,4.6s						
Y14A	**Wickenburg**	**4.16**	**113**	IAML		18 21 01.3	
	comp=E,24nm,0.5s						
Y14A				IAML		18 21 05.4	
	comp=N,33nm,3.2s						
PSUT	**Pine Spring**	**4.17**	**45**	IAML		18 20 38.0	
	comp=E,26nm,4.8s						
PSUT				IAML		18 21 14.4	
	comp=N,22nm,4.3s						
PAHR	**Pah Rah Range**	**4.30**	**341**	IAML		18 21 19.4	
	comp=E,17nm,5.0s						
WUAZ	**Wupatki**	**5.09**	**90**	IAML		18 21 33.5	
	comp=E,18nm,4.5s						

*IDC **04** 18:20:58.8±0.6, 4°.30S×80°.54W, h59km±4km, mb4.1/17, mbtmp4.5/22, Error ellipse: s-maj=20.2km s-min=7.8km az=61.0*
*VAO **04** 18:20:59.1±0.8, 4°.30S×80°.33W, h52km±7km, mb5.0*
*NEIC **04** 18:21:00.0±1.2, 4°.24S±0°.05×80°.4W±0°.1, h62km±3km, mb4.8/85, Error ellipse: s-maj=15.6km s-min=7.4km az=82.0*
*RSNC **04** 18:21:00.6±0.4, 4°.S-2°.×8°.0W-°, h46km±5km, M5.0, mB6.3, mb4.8, ML5.2, ML4.2, MLv5.0, Mw(mB)6.0*
ISC 04 18:20:58.7±0.4, 4°.29S±0°.04×80°.43W±0°.05, h59km±3km, h59km:pP-P, n209, σ1s30/247, mb4.8/54, 6C, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCRA	**Macar, Loja**	**0.48**	**100**	P	Pn	18 21 10.9	+0.4
MCRA				S	Sn	18 21 19.6	+0.5
COHC	**Cochancay**	**2.16**	**33**	P	Pn	18 21 33.6	+1.2
COHC				Sn	Sn	18 21 58.6	+0.7
COHC	**Cochancay**	**2.16**	**33**	P	Pn	18 21 33.6	+1.2
COHC				S	Sn	18 22 00.4	+2.4
PPLP	**Puerto Lpez**	**2.75**	**353**	P	Pn	18 21 40.5	+0.1
PPLP				S	Sn	18 22 09.7	-2.7
ATAH	**Atahualpa**	**3.48**	**144**	P	Pn	18 21 53.5	+2.7
	172nm,0.5s,baz=7.9,slow=7.1,SNR=138						
ATAH				S	Sn	18 22 34.0	+3.0
	1µm,0.4s,baz=13,slow=14,SNR=16						
PIAT	**Ana Tenorio**	**3.92**	**34**	P	Pn	18 21 58.5	+1.7
PAC1	**Pacto, Paraso**	**4.81**	**20**	P	Pn	18 22 09.1	+0.3
PAC1				S	Sn	18 23 01.6	-1.8
OTAV	**Otavalo**	**4.91**	**24**	P	Pn	18 22 11.9	+1.5
OTAV				Sn	Sn	18 23 06.7	+0.4
OTAV	**Otavalo**	**4.91**	**24**	*eP*	Pn	18 22 09.8	-0.7
OTAV				*eS*	Sn	18 23 06.3	0.0
OTAV	**Otavalo**	**4.91**	**24**	P	Pn	18 22 11.9	+1.5
OTAV				S	Sn	18 23 08.5	+2.3
CUSE	**Cuicocha Este**	**5.00**	**24**	P	Pn	18 22 13.3	+1.7
CUSE				S	Sn	18 23 11.1	+2.9
BONI	**La Bonita**	**5.53**	**32**	P	Pn	18 22 20.1	+1.3
	1.2nm90nm,0.7s						
TULM	**Tulcn-Chalpat**	**5.63**	**28**	P	Pn	18 22 22.6	+2.3
	1.4nm278nm,1.0s						
GCUF	**Volcan Galeras**	**6.29**	**29**	P	Pn	18 22 30.5	+1.2
	0.3nm101nm,1.2s						
TUMC	**Tumaco**	**6.31**	**16**	Pn	Pn	18 22 28.9	-0.3
TUMC	**Tumaco**	**6.31**	**16**	P	Pn	18 22 30.9	+1.8
	1.8nm295nm,0.8s						
TUMC				S	Sn	18 23 42.7	+2.9
	1.8nm295nm,0.8s						
BBAC	**Balboa, Cauca**	**7.03**	**27**	P	Pn	18 22 39.6	+0.3
	0.6nm55nm,0.5s						
BBAC				S	Sn	18 24 01.1	+3.2
	0.6nm55nm,0.5s						
FLOC	**Florencia**	**7.54**	**39**		Pn	18 22 45.0	-1.1
FLOC	**Florencia**	**7.54**	**39**	P	Pn	18 22 44.6	-1.5
	0.6nm28nm,0.4s						
GR1C	**Gorgona, Isla**	**7.59**	**17**	P	Pn	18 22 45.2	-1.5
GARC	**Garzon, Huila**	**8.11**	**38**	P	Pn	18 22 53.6	-0.5
	0.7nm41nm,0.4s						
GARC				S	Sn	18 24 24.5	0.0
	0.7nm41nm,0.4s						
MAPC	**Malpelo**	**8.32**	**352**	P	Pn	18 22 56.7	0.0
	26nm,0.6s						
MAPC				S	Sn	18 24 22.6	-6.7
	26nm,0.6s						
JAMC	**Jamundi, Valle**	**8.35**	**27**	P	Pn	18 22 55.5	-1.8
	22nm,0.8s						
JAMC				S	Sn	18 24 30.1	-0.2
	22nm,0.8s						
CZSB	**Cruzeiro do Su**	**8.41**	**114**		Pn	18 22 57.7	-0.3
CZSB	**Cruzeiro do Su**	**8.41**	**114**	*eP*	Pn	18 22 57.4	-0.6
CZSB				*eS*	Sn	18 24 30.1	-1.5
CZSB	**Cruzeiro do Su**	**8.41**	**114**	P	Pn	18 22 57.9	-0.1
	336nm,0.7s						
CZSB				S	Sn	18 24 30.2	-1.4
	336nm,0.7s						
NNA	**Nana**	**8.44**	**155**		Pn	18 22 59.5	+1.2
NNA	**Nana**	**8.44**	**155**	P	Pn	18 22 59.8	+1.5
	17nm,0.3s,baz=334,slow=8.8,SNR=9.6						
NNA				S	Sn	18 24 27.8	-4.4
	66nm,0.4s,baz=288,slow=21,SNR=5.3						
NNA	**Nana**	**8.44**	**155**	P	Pn	18 22 59.9	+1.5
	44nm,1.0s						
MALC	**Bahia Malaga**	**8.81**	**21**	P	Pn	18 23 02.9	-0.5
	64µm108nm,0.9s		

62nm,0.9s,baz=171,slow=3.8,SNR=20
TEFE Tefe 15.78 88 *eP* **Pn 18 24 33.5 -3.8**
SDV Santo Domingo 16.33 37 Pn 18 24 44.9 +0.4
SDV Santo Domingo 16.33 37 P **P 18 24 45.9 -0.6**
20nm,0.4s,baz=214,slow=10,SNR=21
SDV Santo Domingo 16.33 37 *eP* **P 18 24 45.9 -0.6**
SDV Santo Domingo 16.33 37 P **P 18 24 47.1 +0.6**
42nm,0.7s
ACON Acoyapa 16.82 344 P **Pn 18 24 51.3 +0.9**
ACON IAmb IAmb 18 24 54.3
comp=Z,46nm,0.9s
ACON Acoyapa 16.82 344 P **P 18 24 53.7 +2.0**
LPAZ La Paz 16.98 136 Pn 18 24 53.6 +0.6
LPAZ La Paz 16.98 136 P **P 18 24 54.1 0.0**
comp=Z,19nm,0.8s,baz=323,slow=9.6,SNR=19
LPAZ La Paz 16.98 136 *eP* **Pn 18 24 51.9 -1.0**
PB18 Visviri 17.03 142 Pn 18 24 54.5 +1.0
PB18 IAmb IAmb 18 25 00.9
comp=Z,78nm,0.8s
BOAB BOACO BROADBAN 17.42 343 P **Pn 18 24 58.4 +0.6**
BOAB IAmb IAmb 18 25 09.6
comp=Z,118nm,1.4s
PB16 IPOC Station P 17.58 143 P **Pn 18 25 01.2 +0.8**
BAUV El Baul 18.04 43 P **P 18 25 04.1 -1.1**
CRIN San Cristobal 18.11 339 P **P 18 25 07.0 +0.9**
PB11 IPOC Station P 18.63 147 P 18 25 12.2 +0.4
GO01 Chusmiza 18.81 145 P **Pn 18 25 15.5 +0.3**
GO01 IAmb IAmb 18 25 19.7
comp=Z,83nm,1.2s
HMBC Humberstone 18.92 148 P **P 18 25 15.6 +0.7**
TA01 Diego Aracena 19.01 149 P **Pn 18 25 17.1 +0.1**
PB08 IPOC Station P 19.21 146 P **P 18 25 18.7 +0.3**
PATCX Punta Patache 19.24 150 P **P 18 25 19.1 +0.7**
PATCX IAmb IAmb 18 25 22.5
comp=Z,51nm,0.9s
TGUH Tegucigalpa,Un 19.45 340 P **P 18 25 22.1 +1.3**
TGUH IAmb IAmb 18 25 26.9
comp=Z,86nm,0.9s
MACA Manacapuru-AM 19.74 87 P 18 25 23.3 -0.6
MACA IAmb IAmb 18 25 26.0
comp=Z,59nm,0.6s
MACA Manacapuru-AM 19.74 87 *eP* **P 18 25 23.4 -0.4**
PB01 IPOC Station P 19.76 148 P **P 18 25 25.3 +1.2**
PB03 IPOC Station P 20.47 151 P **P 18 25 32.7 +0.8**
PB03 IAmb IAmb 18 25 37.9
comp=Z,36nm,0.9s
PB09 IPOC Station P 20.51 149 P **P 18 25 33.9 +1.6**
PB09 IAmb IAmb 18 25 39.5
comp=Z,79nm,1.1s
MTO3 Montecristo 20.57 335 P 18 25 34.0 +1.0
MTO3 IAmb IAmb 18 25 36.4
comp=Z,37nm,0.8s
PB05 IPOC Station P 20.94 153 P 18 25 37.3 +0.4
BOAV Boa Vista 20.98 72 *eP* **P 18 25 38.2 +1.0**
PB06 IPOC Station P 21.11 151 P **P 18 25 39.1 +0.4**
PCRV Puerto La Cruz 21.31 48 P **P 18 25 43.0 +2.2**
comp=Z,6.1nm,0.6s,baz=210,slow=19,SNR=5.4
comp=Z,6.1nm,0.6s
VILB Vilhena 21.76 115 P 18 25 45.6 0.0
VILB IAmb IAmb 18 25 50.8
comp=Z,44nm,1.0s
VILB Vilhena 21.76 115 *eP* **P 18 25 46.6 +1.0**
AF01 San Pedro de A 22.02 149 P **P 18 25 49.0 +0.4**
PB14 IPOC Station P 22.41 155 P **P 18 25 53.0 +0.2**
PB14 IAmb IAmb 18 25 57.0
comp=Z,60nm,1.3s
GO02 Mina Guanaco 23.23 154 P 18 26 02.7 +1.5
BBSD Serra de San D 23.28 125 *eP* **P 18 26 01.6 +0.1**
CCIG Comitan 23.49 331 P **P 18 26 03.5 -0.1**
CCIG IAmb IAmb 18 26 26.5
comp=Z,79nm,2.0s
PTLB Pontes e Lacer 23.70 119 P 18 26 05.8 +0.4
PTLB Pontes e Lacer 23.70 119 *eP* **P 18 26 06.3 +0.9**
PDRB Porto dos Gac 24.56 109 *eP* **P 18 26 13.8 +0.5**
ITTB Itaituba 24.63 91 *eP* **P 18 26 14.3 +0.4**
AC02 Maricunga 24.89 155 P 18 26 18.0 +1.3
AC02 IAmb IAmb 18 26 19.9
comp=Z,23nm,0.9s
NPGB Novo Progresso 25.10 97 *eP* **P 18 26 17.9 -0.3**
CLDB Colider 25.27 106 *eP* **P 18 26 19.8 +0.1**
TEIG Tepich 25.55 343 P 18 26 22.7 +0.6
TEIG IAmb IAmb 18 26 23.8
comp=Z,16nm,0.7s
AOPR Arecibo Observ 26.22 31 P **P 18 26 29.4 +1.1**
LCO Las Campanas 26.27 160 P **P 18 26 29.5 +0.6**
LCO IAmb IAmb 18 26 31.5
comp=Z,35nm,1.2s
PDPR Patillas Dam, 26.33 32 P **P 18 26 28.8 -0.4**
PDPR IAmb IAmb 18 26 56.5
comp=Z,25nm,0.8s
SALV Santo Antonio 26.91 117 *eP* **P 18 26 35.3 +0.7**
CAMR Camarioca 27.20 358 P **P 18 26 38.1 +1.2**
CAMR IAmb IAmb 18 26 39.9
comp=Z,63nm,0.7s
GO04 Tololo Observa 27.31 162 P **P 18 26 39.1 +0.8**
GO04 IAmb IAmb 18 27 06.6
comp=Z,54nm,1.2s
CO01 Juntas del Tor 27.36 160 P **P 18 26 39.6 +0.9**
CO01 IAmb IAmb 18 26 45.8
comp=Z,40nm,1.8s
MURT Porto Murtinho 28.08 130 *eP* **P 18 26 45.5 +0.5**
BDQN Bodoquena, MS 28.09 127 *eP* **P 18 26 45.5 +0.5**
AQDB Aquidauana 28.95 126 P **P 18 26 52.8 +0.1**
AQDB IAmb IAmb 18 26 54.3
comp=Z,44nm,1.6s
AQDB Aquidauana 28.95 126 *eP* **P 18 26 54.0 +1.3**
SNDB Serra Nova Dou 29.82 107 *eP* **P 18 27 01.0 +0.6**
MT08 Bocatoma Ro 30.59 163 P 18 27 09.3 +1.9
BO04 La Punta 30.93 164 P **P 18 27 10.3 +0.2**
BO04 IAmb IAmb 18 27 13.8
comp=Z,30nm,1.2s
CPUP Villa Florida 31.14 137 P **P 18 27 11.8 -0.1**
comp=Z,1.0nm,0.8s,baz=175,slow=9.7,SNR=4.3
comp=Z,1.0nm,0.8s
SJPY San Joaquin 31.16 134 *eP* **P 18 27 13.4 +1.3**
BO02 Sierra Bellavi 31.65 165 P 18 27 17.0 +0.6
BO02 IAmb IAmb 18 27 19.6
comp=Z,20nm,0.9s
TRCB Terra Rica 32.58 127 P **P 18 27 24.5 -0.2**
BDFB Brasilia 33.80 112 P **P 18 27 35.4 -0.2**
BDFB Brasilia 33.80 112 P **P 18 27 35.7 +0.1**
comp=Z,5.1nm,0.5s,baz=284,slow=11,SNR=8.0
comp=Z,5.1nm,0.5s
PTGB Pitanga 34.01 129 *eP* **P 18 27 36.9 -0.3**
IPMB Ipameri, GO 34.34 116 *eP* **P 18 27 39.4 -0.8**
BB19B Bebedouro 35.19 121 *eP* **P 18 27 47.1 -0.4**
ITAB Concordia 35.35 133 P **P 18 27 48.8 +0.1**
250A Grady 36.49 352 P **P 18 27 58.6 +0.3**
250A IAmb IAmb 18 27 59.5
comp=Z,14nm,0.9s
152A Waverly Hall 36.98 354 P **P 18 28 02.2 -0.3**
152A IAmb IAmb 18 28 03.3
comp=Z,7,8nm,0.8s
HKT Hockley 37.10 338 P **P 18 28 04.3 +0.9**
HKT IAmb IAmb 18 28 07.8
comp=Z,17nm,1.3s
PLTB Pedras Altas 37.16 140 P **P 18 28 04.1 0.0**
PLCA Paso Flores 37.36 168 P **P 18 28 06.4 +0.7**
PLCA Paso Flores 37.36 168 P **P 18 28 05.6 -0.1**
comp=Z,6.9nm,1.0s,baz=324,slow=10,SNR=9.7
comp=Z,6.9nm,1.0s
PLCA Paso Flores 37.36 168 *eP* **P 18 28 05.8 +0.1**
PLCA Paso Flores 37.36 168 P **P 18 28 06.7 +1.0**
PLCA pP **pP 18 28 19.4 -1.3**
PLCA sP **sP 18 28 27.6 0.0**
PLCA PcP **PcP 18 30 24.4 +0.6**
TRQA Tornquist 37.60 156 P **P 18 28 07.9 +0.2**
GOGA Godfrey 37.60 356 P **P 18 28 07.3 -0.4**
LRAL Lakeview Retre 37.64 351 P **P 18 28 08.0 0.0**
LRAL IAmb IAmb 18 28 09.0
comp=Z,11nm,0.8s
Z47A Carrollton 37.98 350 P 18 28 10.8 -0.1
DIAM Diamantina, MG 38.54 114 *eP* **P 18 28 15.8 -0.3**
FPAL Fort Paine 38.93 353 P **P 18 28 18.2 -0.7**
JCT Junction City 39.22 333 P **P 18 28 22.5 +1.1**
JCT IAmb IAmb 18 28 24.0
comp=Z,12nm,0.8s
KMSC Kings Mountain 39.23 359 P **P 18 28 20.9 -0.4**
KMSC IAmb IAmb 18 28 22.4
comp=Z,30nm,1.3s
SWET Sewanee 39.63 353 P **P 18 28 23.9 -0.9**
CPCT Cooper Cave 39.71 355 P 18 28 25.0 -0.4
CPCT IAmb IAmb 18 28 26.3
comp=Z,15nm,0.8s

PLAL Pickwick Lake 39.72 350 P 18 28 24.9 -0.6
PLAL IAmb IAmb 18 28 26.3
comp=Z,12nm,1.2s
TKL Tuckaleechee C 39.86 356 P **P 18 28 26.1 -0.5**
TKL IAmb IAmb 18 28 27.3
comp=Z,13nm,1.1s
TXAR Lajitas Array 40.19 328 P **P 18 28 29.9 +0.4**
TXAR Lajitas Array 40.19 328 P **P 18 28 30.9 +1.4**
comp=Z,1.4nm,0.7s,baz=145,slow=10,SNR=13
comp=Z,1.4nm,0.7s
MIAR Mount Ida 40.56 343 P 18 28 32.8 +0.3
MIAR IAmb IAmb 18 28 34.3
comp=Z,9.8nm,0.8s
TZTN Tazewell 40.72 356 P **P 18 28 33.0 -0.8**
TZTN IAmb IAmb 18 28 34.3
comp=Z,11nm,0.9s
WHAR Wooly Hollow 40.91 345 P **P 18 28 35.5 +0.2**
WHAR IAmb IAmb 18 28 36.8
comp=Z,14nm,0.9s
SGCY Sterling City 41.04 333 P 18 28 37.0 +0.5
SGCY IAmb IAmb 18 28 38.4
comp=Z,18nm,1.1s
MNHN Monahans 41.34 331 P 18 28 39.8 +0.9
MNHN IAmb IAmb 18 28 41.3
comp=Z,15nm,0.7s
FCAR Ozark Folk Cen 41.44 346 P **P 18 28 39.6 -0.1**
FCAR IAmb IAmb 18 28 40.8
comp=Z,12nm,0.9s
CMC01 Camacan, BA 41.71 108 *eP* **P 18 28 42.5 +0.3**
APMT Aspermont 41.80 335 P 18 28 43.7 +1.1
APMT IAmb IAmb 18 28 45.1
comp=Z,19nm,0.9s
RIB01 Linhares ES 41.80 114 *eP* **P 18 28 42.6 -0.3**
X34A Smith Ranch, M 42.01 338 P 18 28 45.4 +1.0
WMOK Wichita Mounta 42.49 337 P **P 18 28 48.3 +0.1**
MNTX Cornudas Mount 42.95 328 P 18 28 52.3 +0.2
FVM French Village 43.07 348 P **P 18 28 52.3 -0.6**
FVM IAmb IAmb 18 28 54.0
comp=Z,9.5nm,0.8s
CCM Cathedral Cave 43.31 348 P **P 18 28 54.6 -0.2**
NBAN Anadia - AL 44.13 99 *eP* **P 18 29 01.2 -0.6**
DUN6 Lazy B Ranch 45.63 325 P 18 29 14.6 +1.0
ANMO Albuquerque 46.07 330 P **P 18 29 18.2 +1.1**
comp=Z,18nm,0.8s,baz=234,slow=9.6,SNR=42
comp=Z,18nm,0.8s
ANMO Albuquerque 46.07 330 P P 18 29 18.6 +1.6
ANMO sP pP 18 29 41.8 +9.2
TUC Tucson 46.43 324 P P 18 29 21.3 +1.5
TUC pP **pP 18 29 36.4 +1.0**
TUC sP **sP 18 29 43.9 +1.7**
BINY Binghamton 46.44 5 P 18 29 19.9 +0.3
BINY IAmb IAmb 18 29 20.9
comp=Z,12nm,0.8s
LDAQ Lac Daran 52.65 8 P **P 18 30 07.1 +0.2**
LDAQ IAmb IAmb 18 30 07.8
comp=Z,8.2nm,0.8s
RSSD Black Hills 52.66 339 P P 18 30 08.3 +1.1
RSSD pP **pP 18 30 24.6 +1.6**
RSSD ScP **ScP 18 35 08.9 0.0**
PDAR Pinedale Array 53.75 334 P **P 18 30 15.9 +0.6**
comp=Z,1.6nm,0.6s,baz=134,slow=8.5,SNR=19
comp=Z,1.6nm,0.6s
ULM Lac du Bonnet 55.93 348 P **P 18 30 30.5 -0.1**
comp=Z,9.3nm,0.7s,baz=165,slow=8.1,SNR=16
ULM pP **pP 18 30 46.3 -0.2**
comp=Z,7.6nm,0.8s,baz=151,slow=7.4,SNR=6.6
comp=Z,9.3nm,0.7s
YBH Yreka Blue Hor 59.80 324 P **P 18 30 57.1 -0.9**
comp=Z,0.1nm,0.6s,baz=129,slow=3.3,SNR=3.6
SCHQ Schefferville 59.99 9 P **P 18 30 58.0 -0.9**
comp=Z,3.5nm,0.7s,baz=184,slow=7.2,SNR=4.1
comp=Z,3.5nm,0.7s
NEW Newport 61.38 333 P **P 18 31 08.0 -0.6**
comp=Z,1.6nm,0.5s,baz=92,slow=21,SNR=4.6
comp=Z,1.6nm,0.5s
SMAI San Martin Ant 64.38 175 P 18 31 28.9 +0.8
YKA Yellowknife Ar 71.50 344 P **P 18 32 11.9 -0.9**
comp=Z,2.0nm,0.9s,baz=141,slow=5.3,SNR=17
YKA pP **PcP 18 32 28.1 -3.9**
comp=Z,0.6nm,0.8s,baz=134,slow=5.3,SNR=3.9
comp=Z,2.0nm,0.9s
DBIC Dimbokro 76.22 82 P **P 18 32 42.2 +0.7**
comp=Z,7.4nm,0.7s,baz=294,slow=7.0,SNR=6.8
comp=Z,7.4nm,0.7s
VNA3 Neumayer Olymp 79.83 162 ⇑P **P 18 33 00.6 +0.1**
comp=Z,19nm,0.8s
VNA1 Neumayer--Stat 80.11 161 ⇑P **P 18 33 02.3 +0.4**
comp=Z,19nm,1.0s
I30M Mount Dempster 80.33 339 P **P 18 33 04.3 +1.0**
I30M IAmb IAmb 18 35 37.8
comp=Z,11nm,0.6s
VNA2 Neumayer--Watz 80.46 161 ⇑P **P 18 33 03.6 -0.2**
comp=Z,13nm,0.7s,baz=297,slow=5.5
F30M Barrier River 81.45 341 P **P 18 33 09.6 +0.5**
G29M Pine Creek 81.80 340 P 18 33 11.7 +0.7
SNAA Sanae 82.06 162 ⇑P **P 18 33 12.7 +0.4**
comp=Z,365nm,0.7s
SNAA Sanae 82.06 162 P 18 33 12.9 +0.6
SNAA Sanae 82.06 162 P **P 18 33 12.7 +0.4**
comp=Z,15nm,0.7s,baz=266,slow=6.2,SNR=90
comp=Z,15nm,0.7s
ESDC Sonseca Array 82.37 49 P **P 18 33 15.4 +0.8**
comp=Z,0.8nm,0.8s,baz=272,slow=4.7,SNR=6.1
ESDC pP **pP 18 33 31.8 +0.4**
comp=Z,2.0nm,0.9s,baz=274,slow=5.0,SNR=8.2
comp=Z,0.8nm,0.8s
H27K Steamboat Moun 82.67 339 P **P 18 33 16.0 +0.4**
TORD Torodi Ar. Bea 83.32 76 P 18 33 19.8 -0.2
TROLL Troll, Antarti 83.77 162 ⇑P **P 18 33 22.1 +0.8**
comp=Z,686nm,0.8s
ILAR Eielson Array 84.05 337 P **P 18 33 22.8 +0.2**
comp=Z,0.5nm,0.6s,baz=153,slow=3.8,SNR=9.0
comp=Z,0.5nm,0.6s
QSPA South Pole Qui 85.79 180 P 18 33 32.5 +0.9
QSPA South Pole Qui 85.79 180 P **P 18 33 31.7 +0.1**
comp=Z,22nm,1.0s,baz=156,slow=1.2,SNR=84
comp=Z,22nm,1.0s
EKA Eskdalemuir Ar 86.30 34 pP pP 18 33 50.5 -0.5
comp=Z,2.6nm,0.8s,baz=245,slow=5.3,SNR=5.5
VNDA Vanda 91.63 191 P **P 18 33 58.8 -0.1**
comp=Z,0.8nm,0.8s,baz=122,slow=2.7,SNR=4.5
comp=Z,0.8nm,0.8s
SYO Syowa Base 96.35 162‖ *e*PcP **P 18 34 21.2 +0.6**
STKA Stephens Creek 126.24 225 PKP **PKPdf 18 39 55.2 -0.1**
comp=Z,1.4nm,0.5s,baz=100,slow=5.8,SNR=4.2
STKA pPKP **pPKPdf 18 40 12.2 -0.7**
comp=Z,2.7nm,0.8s,baz=314,slow=3.3,SNR=2.6
ZALV Zalesovo Beam 129.05 11 PKP **PKiKP 18 39 59.9 -0.7**
comp=Z,0.7nm,0.6s,baz=100,slow=1.8,SNR=2.4
ZALV pPKP **pPKPdf 18 40 16.6 -0.9**
comp=Z,1.3nm,0.6s,baz=276,slow=4.0,SNR=4.6
KURBB **Kurchatov Arra 130.55 18** PKP **PKiKP 18 40 03.4 -0.4**
comp=Z,1.1nm,0.8s,baz=316,slow=2.5,SNR=13
KURBB pPKP **pPKPdf 18 40 20.1 -0.4**
comp=Z,1.6nm,0.7s,baz=324,slow=2.4,SNR=12
MKAR Makanchi Array 135.09 17 PKP **PKPdf 18 40 11.7 0.0**
comp=Z,0.6nm,0.8s,baz=0.0,slow=2.4,SNR=5.7
MKAR pPKP **pPKPdf 18 40 27.5 -1.8**
comp=Z,0.9nm,0.7s,baz=357,slow=2.4,SNR=8.1
ASAR Alice Springs 136.50 229 PKhKP PKPpre 18 40 07.8
comp=Z,0.2nm,0.6s,baz=120,slow=3.5,SNR=5.7
ASAR PKP **PKPdf 18 40 14.4 -0.5**
comp=Z,1.7nm,0.8s,baz=122,slow=2.2,SNR=19
ASAR SKPbc **SKPbc 18 43 40.3 -2.2**
comp=Z,1.4nm,1.0s,baz=148,slow=4.4,SNR=5.6
KSRS Korea Array 138.02 326 PKP **PKPdf 18 40 17.9 +0.6**
comp=Z,1.0nm,0.8s,baz=347,slow=1.8,SNR=4.7
KSRS pPKP **pPKPdf 18 40 34.5 -0.4**
comp=Z,1.7nm,0.8s,baz=8.3,slow=1.2,SNR=6.8
WRA Warramunga Arr 138.20 234 PKP **PKPdf 18 40 17.9 -0.2**
comp=Z,2.3nm,0.7s,baz=115,slow=2.1,SNR=11
WRA SKPbc **SKPbc 18 43 45.6 -2.0**
comp=Z,1.6nm,0.8s,baz=122,slow=2.6,SNR=6.3
WMQ Urumqi 139.26 13 *e*PKP **PKPdf 18 40 19.3 -0.2**
WMQ LR LR
comp=Z,2μm,23.3s
GTA Gaotai 145.04 360 PKPbc **PKPdf 18 40 29.6 -0.4**
GTA pPKP pPKPab 18 40 45.6 -0.9
NJ2 Nanjing 146.98 329 *e*P **PKPdf 18 40 33.4 +0.1**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
XAN Xi'an 149.15 345 PKPbc **PKPdf 18 40 36.9 0.0**
XAN pPKP pPKPdf 18 40 57.4 +2.9
CMAR Chiang Mai Arr 165.90 2 PKP **PKPdf 18 40 56.5 -1.5**
comp=Z,1.0nm,0.9s,baz=295,slow=2.7,SNR=4.1
CMAR pPKPab **pPKPab 18 42 13.4 -1.1**
comp=Z,2.0nm,0.9s,baz=338,slow=4.9,SNR=7.1

*IDC **04** 18:23:06.0±1.1,23°.38N×143°.09E,h0km,mb3.6/7, mbtmp3.7/8,Error ellipse: s-maj=42.8km s-min=19.6km az=88.0*
ISC 04 18:23:11.7±1.2,23°.5N±0°.1×143°.1E±0°.3,h39km,n8,
σ0s99/9,mb3.7/7,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.69**	**348**	Pn	**Pn**	**18 24 06.1**	**-0.2**
	24nm,0.3s,baz=180,slow=0.0						
JCJ				Sn	**Sn**	**18 24 47.2**	**-1.4**
	baz=180,slow=0.0						
WRA	**Warramunga Arr**	**43.98**	**192**	P	**P**	**18 31 14.0**	**-1.3**
	0.4nm,0.3s,baz=9.9,slow=8.0,SNR=10						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**47.69**	**191**	P	**P**	**18 31 44.2**	**-0.4**
	0.2nm,0.4s,baz=14,slow=7.1,SNR=9.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**53.43**	**312**	P	**P**	**18 32 28.6**	**+0.8**
	0.2nm,0.5s,baz=87,slow=9.1,SNR=4.5						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**56.16**	**316**	P	**P**	**18 32 47.8**	**+0.4**
	0.2nm,0.4s,baz=91,slow=8.0,SNR=5.6						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**60.52**	**28**	P	**P**	**18 33 18.2**	**+0.6**
	0.8nm,0.8s,baz=258,slow=5.7,SNR=10						
	0.8nm,0.8s						
BVAR	**Borovoye Array**	**61.26**	**319**	P	**P**	**18 33 23.9**	**+1.0**
	0.6nm,0.5s,baz=79,slow=7.5,SNR=4.2						
	0.6nm,0.5s						
FINES	**FINESS Array B**	**81.54**	**334**	P	**P**	**18 35 24.7**	**-0.2**
	1.8nm,0.9s,baz=76,slow=4.5,SNR=3.6						
	1.8nm,0.9s						

*IDC **04** 18:25:20.0±3.5,34°.57N×137°.22E,h275km±159km, mb2.8/2,mbtmp3.3/3,Error ellipse: s-maj=250.0km s-min=52.5km az=22.0*
*JMA **04** 18:25:21.3±0.3,35°.N±1°×13°.7E±°,h305km±2km,MV2.4/28, CENTRAL AICHI PREF*
ISC 04 18:25:20.8±1.1,34°.9N±0°.2×137°.2E±0°.1,h300km,n10,
σ0s84/12,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAO	**Obara**	**0.38**	**8**	*eP*	**Pn**	**18 26 00.4**	**+1.2**
JNY	**Yasuok**	**0.72**	**49**	*eS*	**S**	**18 26 32.3**	**+1.0**
JVTA	**Yamagatataniai**	**0.80**	**332**	P	**Pn**	**18 26 01.1**	**+0.9**
JWT	**Wachi**	**1.52**	**285**	P	**Pn**	**18 26 04.8**	**+0.7**
JWT				*eS*	**S**	**18 26 38.4**	**-0.1**
JKG	**Kaga**	**1.55**	**333**	P	**Pn**	**18 26 04.4**	**+0.2**
MJAR	**Matsushiro Arr**	**1.84**	**26**	P	**Pn**	**18 26 06.8**	**+0.5**
	5.8nm,0.5s,baz=206,slow=7.9,SNR=18						
MJAR				S	**S**	**18 26 41.8**	**-0.8**
	1.3nm,0.6s,baz=203,slow=26,SNR=2.7						
MAT	**Matsushiro**	**1.84**	**26**	*eP*	**Pn**	**18 26 06.7**	**+0.4**
JKY	**Yasaka**	**1.86**	**294**	P	**Pn**	**18 26 06.9**	**+0.4**
WRA	**Warramunga Arr**	**54.60**	**183**	P	**P**	**18 34 17.9**	**-1.0**
	0.4nm,0.3s,baz=0.0,slow=7.6,SNR=5.4						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**58.32**	**184**	P	**P**	**18 34 44.4**	**-0.5**
	0.1nm,0.3s,baz=357,slow=6.1,SNR=6.0						
	0.1nm,0.3s						

*NEIC **04** 18:26:03.4±0.8,35°.666N±0°.009×117°.54W±0°.01, h4km±1km,Error ellipse: s-maj=1.5km s-min=1.2km az=69.0*
PAS 04 18:26:03.7±0.7,35°.665N±0°.008×117°.53W±0°.01, h1km±1km,ML3.1/24,ML3.2/64(NEIC),Error ellipse: s-maj=1.5km s-min=0.8km az=221.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.19**	**137**		Pg	18 26 08.2	+0.8
LRMC	**Laurel Mtn Rad**	**0.22**	**215**		Pg	18 26 08.3	+0.3
WVPM	**Volcano Peak E**	**0.37**	**320**		Pg	18 26 11.2	+0.4
MPMC	**Manual Prospec**	**0.39**	**4**		Pg	18 26 11.4	+0.2
WCSM	**Coso Springs S**	**0.41**	**332**		Pg	18 26 11.8	+0.2
WRVM	**Rose V. Centra**	**0.45**	**319**		Pg	18 26 12.7	+0.3
DTP	**Desert Tortois**	**0.47**	**213**		Pg	18 26 12.8	0.0
DTP					Sg	18 26 19.4	+0.5
WBSM	**Bird Springs**	**0.52**	**256**		Pg	18 26 13.7	+0.1
WBSM					Sg	18 26 21.1	+0.8
MFS	**McCloud Flat S**	**0.53**	**330**		Pg	18 26 14.0	+0.3
WORM	**Onyx Ranch**	**0.58**	**273**		Pg	18 26 14.8	0.0
QSM	**Queen of Sheba**	**0.61**	**61**		Pg	18 26 15.5	+0.1
QSM				IAML		18 26 24.5	
	comp=E,3μm,0.2s						
QSM				IAML		18 26 25.1	
	comp=N,2μm,0.3s						
QSM	**Queen of Sheba**	**0.61**	**61**		Sg	18 26 24.0	+0.6
CCAC	**Calif City Air**	**0.65**	**218**	IAML		18 26 25.8	
	comp=E,1μm,0.5s						
CCAC				IAML		18 26 25.9	
	comp=N,1μm,0.5s						
GSC	**Goldstone, Bar**	**0.69**	**121**		Pg	18 26 16.9	0.0
GSC				IAML		18 26 26.7	
	comp=N,1μm,0.5s						
GSC				IAML		18 26 30.1	
	comp=E,2μm,0.5s						
ISA	**Isabella, Lake**	**0.77**	**270**		Pg	18 26 18.3	-0.1
ISA				IAML		18 26 29.3	
	comp=E,420nm,0.6s						
GWY	**Greenwater Val**	**0.87**	**53**		Pg	18 26 20.2	-0.1
GWY				IAML		18 26 35.5	
	comp=E,858nm,0.3s						
GWY				IAML		18 26 37.0	
	comp=N,793nm,0.8s						
CGO	**Cerro Gordo**	**0.91**	**346**		Pb	18 26 22.3	-0.2
SPG2	**Springville 2**	**1.14**	**298**		Pg	18 26 25.1	-0.4
HOLC	**Holcomb Ridge**	**1.23**	**192**		Pg	18 26 27.3	0.0
DSCC	**Desert Studies**	**1.27**	**114**		Sg	18 26 44.3	-0.3
AMDNV	**Amargosa**	**1.28**	**52**		Pg	18 26 28.2	0.0
TUQ	**Turquoise Moun**	**1.33**	**99**		Pg	18 26 28.0	-1.1
GRAC	**Grapevine Rang**	**1.33**	**6**		Pg	18 26 28.8	-0.5
GRAC				IAML		18 26 51.7	
	comp=E,294nm,0.6s						
GRAC				IAML		18 26 54.4	
	comp=N,366nm,0.8s						
WCT	**Wildcat Mounta**	**1.34**	**33**	Pg	Pg	18 26 28.8	-0.6
CHFC	**Chilao Flat St**	**1.39**	**197**		Pg	18 26 30.0	-0.3
SIL	**Silver Peak**	**1.43**	**156**		Pn	18 26 30.8	-0.2
PASC	**Pasadena Art C**	**1.58**	**200**		Pn	18 26 32.2	-0.7
PASC				IAML		18 26 57.7	
	comp=E,176nm,0.7s						
PASC				IAML		18 26 59.6	
	comp=N,142nm,0.6s						
GMN	**Gold Mountain**	**1.65**	**7**		Pn	18 26 33.2	-0.8
BCW	**Bitter Crk WRg**	**1.70**	**245**	IAML		18 27 07.6	
	comp=E,210nm,1.1s						
BCW				IAML		18 27 10.2	
	comp=N,203nm,1.0s						
POCCA	**Poleta Canyon**	**1.80**	**340**		Pb	18 26 37.7	+0.2
BLAC	**Blackrock camp**	**1.85**	**149**		Pg	18 26 38.8	-0.2
MZP	**Montezuma Peak**	**2.04**	**3**		Pn	18 26 38.8	-0.6
SHPR	**Sheep Range**	**2.09**	**66**		Pn	18 26 39.0	-1.0
V12A	**Nelson**	**2.18**	**88**		Pn	18 26 39.7	-1.4
PFO	**Pinyon Flats O**	**2.23**	**156**		Pn	18 26 40.5	-1.3
PFO				IAML		18 27 15.6	
	comp=N,59nm,0.6s						
LHV	**Little Huntoon**	**2.70**	**343**		Pn	18 26 48.2	0.0
LHV				IAML		18 27 41.7	
	comp=E,70nm,4.6s						
LHV				IAML		18 28 23.8	
	comp=N,50nm,3.3s						
PMPB	**Monarch Peak**	**2.71**	**283**		Pn	18 26 48.4	-0.1
PMPB				IAML		18 27 43.2	
	comp=N,90nm,1.0s						
PMPB				IAML		18 27 43.4	
	comp=E,115nm,4.4s						
NV11	**Mina Array Sit**	**2.81**	**350**	Pn	Pn	18 26 49.7	-0.1
NV11					Pb	18 26 55.9	+1.2
NVAR	**Mina Array Bea**	**2.83**	**348**	Pn	Pn	18 26 50.0	-0.2
NVAR					Pb	18 26 55.7	+0.6
W13A	**Hualapai Mount**	**3.03**	**100**		Pn	18 26 51.6	-1.3
W13A				IAML		18 28 47.7	
	comp=E,40nm,0.5s						
W13A				IAML		18 28 47.8	
	comp=N,33nm,0.1s						
RYN	**Ryan**	**3.06**	**345**	Pn	Pn	18 26 53.3	-0.1
RYN					Pg	18 27 01.2	-1.2
RYN				IAML		18 28 26.2	
	comp=N,30nm,4.9s						

RYN				IAML		18 28 31.0		
	comp=E,34nm,4.6s							
WAKR	**Walker**	**3.22**	**332**		Pg	18 27 03.7	-1.7	
WAKR				IAML		18 28 58.4		
	comp=E,106nm,1.0s							
GLA	**Glamis**	**3.43**	**139**		Pg	18 27 07.5	-2.0	
LCMT	**Little Creek M**	**3.71**	**67**		Pn	18 27 01.7	-0.5	
LCMT				IAML		18 29 09.3		
	comp=N,109nm,1.0s							
KNB	**Kanab**	**4.03**	**69**		Pb	18 27 16.1	+0.5	
SPR3	**Spring Creek 3**	**4.19**	**36**		Pb	18 27 21.0	+2.6	
SPR3				IAML		18 29 28.1		
	comp=E,58nm,0.6s							
WUAZ	**Wupatki**	**5.02**	**90**		Pg	18 27 38.4	-1.4	
ELK	**Elko**	**5.38**	**19**		Pg	18 27 44.0	-2.8	
DUG	**Dugway, Tooele**	**5.86**	**38**		Pg	18 27 54.3	-1.6	

NEIC ***04*** *18:27:26.6±0.9,35°.687N±0°.009×117°.52W±0°.01, h8km, Error ellipse: s-maj=1.8km s-min=1.2km az=72.0*

PAS 04 18:27:26.7±0.7,35°.674N±0°.008×117°.52W±0°.01, h2km, ML3.3/24, ML3.9/44(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=68.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.19**	**140**		Pg	18 27 31.2	+0.8
CCCA					Sg	18 27 34.7	+1.7
LRMC	**Laurel Mtn Rad**	**0.24**	**215**		Pg	18 27 31.6	+0.3
WVPM	**Volcano Peak E**	**0.37**	**319**		Pg	18 27 34.2	+0.4
MPMC	**Manual Prospec**	**0.38**	**3**		Pn	18 27 39.8	+0.2
WCSM	**Coso Springs S**	**0.41**	**330**		Pg	18 27 34.7	+0.1
WCSM					Sg	18 27 40.7	+0.9
WRVM	**Rose V. Centra**	**0.45**	**318**		Pg	18 27 35.6	+0.3
WRVM					Sg	18 27 42.0	+0.7
DTP	**Desert Tortois**	**0.49**	**213**		Pg	18 27 36.0	0.0
DTP					Sg	18 27 42.7	+0.4
MFS	**McCloud Flat S**	**0.52**	**328**		Pg	18 27 36.8	+0.1
WBSM	**Bird Springs**	**0.53**	**255**		Pg	18 27 36.9	+0.1
WORM	**Onyx Ranch**	**0.59**	**272**		Pg	18 27 37.9	-0.1
QSM	**Queen of Sheba**	**0.60**	**61**		Pg	18 27 38.2	-0.1
QSM				IAML		18 27 46.9	
	comp=E,4μm,0.2s						
QSM				IAML		18 27 47.6	
	comp=N,4μm,0.2s						
CCAC	**Calif City Air**	**0.66**	**218**		Pg	18 27 39.3	-0.1
GSC	**Goldstone, Bar**	**0.69**	**122**		Pg	18 27 39.9	0.0
GSC				IAML		18 27 49.5	
	comp=E,3μm,0.5s						
ISA	**Isabella, Lake**	**0.78**	**269**		Pg	18 27 41.4	-0.2
WASM	**Alta Sierra Ca**	**0.85**	**275**		Pg	18 27 42.8	-0.1
GWY	**Greenwater Val**	**0.86**	**53**		Pg	18 27 42.9	-0.3
SHOC	**Shoshone, Teco**	**1.03**	**77**		Pg	18 27 46.4	-0.1
VTV	**Victorville**	**1.12**	**172**		Pg	18 27 48.5	+0.3
ADO	**Adelanto Recei**	**1.12**	**176**		Pb	18 27 48.8	-0.2
SPG2	**Springville 2**	**1.14**	**298**		Pg	18 27 47.9	-0.7
DSCC	**Desert Studies**	**1.27**	**114**		Pg	18 27 50.2	-0.9
TUQ	**Turquoise Moun**	**1.32**	**100**		Pg	18 27 51.1	-0.9
GRAC	**Grapevine Rang**	**1.32**	**5**		Pg	18 27 51.5	-0.6
GRAC				IAML		18 28 27.5	
	comp=E,4μm,0.4s						
WCT	**Wildcat Mounta**	**1.33**	**33**		Pg	18 27 51.8	-0.4
WCT				IAML		18 28 39.9	
	comp=E,1μm,1.2s						
PASC	**Pasadena Art C**	**1.60**	**200**		Pn	18 27 55.5	-0.5
TPNV	**Topopah Spring**	**1.63**	**38**		Pn	18 27 55.6	-1.1
GMN	**Gold Mountain**	**1.64**	**7**		Pn	18 27 56.0	-0.8
GMN				IAML		18 28 33.2	
	comp=N,2μm,0.5s						
GMN				IAML		18 28 56.8	
	comp=E,1μm,1.2s						
DSP	**Deep Springs**	**1.73**	**348**		Pn	18 27 57.1	-0.7
DSP				IAML		18 28 59.1	
	comp=E,1000nm,0.8s						
GMRC	**Granite Mounta**	**1.76**	**120**		Pn	18 27 56.4	-2.0
CRGC	**Crocker Grade**	**1.85**	**257**		Pb	18 28 01.2	-0.2
ELS	**Elsinore Mount**	**2.02**	**178**	Pn	Pn	18 28 01.3	-0.7
ELS				IAML		18 29 15.4	
	comp=N,936nm,0.5s						
MZP	**Montezuma Peak**	**2.03**	**3**		Pn	18 28 01.5	-0.7
MZP				IAML		18 28 36.8	
	comp=N,860nm,0.9s						
MZP				IAML		18 29 05.5	
	comp=E,690nm,0.8s						
SHPR	**Sheep Range**	**2.08**	**66**	Pn	Pn	18 28 02.6	-0.3
SHPR				IAML		18 29 06.2	
	comp=E,448nm,0.8s						
SHPR				IAML		18 29 07.1	
	comp=N,656nm,0.7s						
V12A	**Nelson**	**2.17**	**88**	Pn	Pn	18 28 02.4	-1.7
V12A				IAML		18 29 16.4	
	comp=N,1μm,0.9s						
V12A				IAML		18 29 22.1	
	comp=E,923nm,0.6s						
PFO	**Pinyon Flats O**	**2.23**	**157**		Pn	18 28 03.4	-1.5
PFO				IAML		18 29 17.3	
	comp=E,788nm,0.8s						
PFO				IAML		18 29 22.7	
	comp=E,1μm,0.9s						
WUAZ	**Wupatki**	**5.01**	**90**		Pn	18 28 42.0	-1.2
MVU	**Marysvale**	**5.09**	**55**		Pg	18 29 02.0	-2.4
MVU				IAML		18 29 43.3	
	comp=E,134nm,0.7s						

NEIC ***04*** *18:27:58.8±1.1,35°.749N±0°.010×117°.54W±0°.01, h5km, Error ellipse: s-maj=1.8km s-min=1.3km az=64.0*

PAS ***04*** *18:27:59.2±1.1,35°.743N±0°.010×117°.56W±0°.01, h1km±1km, ML4.4/15, mb4.1/11(NEIC), ML4.2/72(NEIC), Error ellipse: s-maj=1.7km s-min=1.2km az=56.0*

IDC ***04*** *18:27:59.3±0.7,35°.75N×117°.42W, h0km, mb3.5/3, mbtmp3.6/7, ML3.9/3, Error ellipse: s-maj=16.8km s-min=5.5km az=71.0*

ISC 04 18:27:59.5±1.0,35°.75N±0°.02×117°.53W±0°.02, h6km±8km, n85, σ1°07/87, mb4.1/7, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.27**	**149**		**Pg**	**18 28 05.1**	**+0.4**
CCCA					**Sg**	**18 28 09.3**	**+1.1**
LRMC	**Laurel Mtn Rad**	**0.30**	**204**		**Pg**	**18 28 04.9**	**-0.4**
LRMC					**Sg**	**18 28 09.2**	**-0.1**
WVPM	**Volcano Peak E**	**0.30**	**311**		**Pg**	**18 28 05.3**	**-0.2**
MPMC	**Manual Prospec**	**0.31**	**7**		**Pn**	**18 28 10.2**	**-0.5**
WNMM	**Nine Mile Cany**	**0.32**	**287**		**Pg**	**18 28 05.5**	**-0.2**
WNMM					**Sg**	**18 28 10.0**	**+0.2**
WCSM	**Coso Springs S**	**0.33**	**325**		**Pg**	**18 28 05.7**	**-0.3**
WCSM					**Sg**	**18 28 10.6**	**+0.1**
WRVM	**Rose V. Centra**	**0.39**	**312**		**Pg**	**18 28 06.7**	**-0.4**
WRVM					**Sg**	**18 28 12.2**	**0.0**
MFS	**McCloud Flat S**	**0.45**	**324**		**Pg**	**18 28 07.9**	**-0.3**
MFS					**Sg**	**18 28 14.4**	**+0.3**
WBSM	**Bird Springs**	**0.54**	**247**		**Pg**	**18 28 09.2**	**-0.7**
DTP	**Desert Tortois**	**0.55**	**208**		**Pg**	**18 28 09.4**	**-0.7**
QSM	**Queen of Sheba**	**0.58**	**68**		**Pg**	**18 28 10.5**	**-0.2**
QSM				IAML		18 28 19.0	
	comp=N,13μm,0.8s						
QSM				IAML		18 28 19.0	
	comp=E,13μm,0.3s						
WORM	**Onyx Ranch**	**0.58**	**265**		**Pg**	**18 28 10.0**	**-0.7**
WHFM	**Hanning Flat**	**0.67**	**265**		**Pg**	**18 28 11.5**	**-0.8**
CCAC	**Calif City Air**	**0.72**	**214**	Pg	**Pg**	**18 28 12.4**	**-0.9**
CCAC				IAML		18 28 22.7	
	comp=E,19μm,0.7s						
GSC	**Goldstone, Bar**	**0.74**	**127**	Pg	**Pg**	**18 28 13.3**	**-0.5**
ISA	**Isabella, Lake**	**0.77**	**264**	Pg	**Pg**	**18 28 13.2**	**-1.2**
ISA				IAML		18 28 24.2	
	comp=E,7μm,0.5s						
ISA				IAML		18 28 27.6	
	comp=N,6μm,0.5s						
GWY	**Greenwater Val**	**0.82**	**58**		**Pg**	**18 28 15.0**	**-0.4**
GWY				IAML		18 28 29.3	
	comp=N,13μm,1.1s						
SHOC	**Shoshone, Teco**	**1.03**	**81**		**Pg**	**18 28 19.2**	**-0.1**
SPG2	**Springville 2**	**1.10**	**294**		**Pg**	**18 28 19.2**	**-1.3**
MAGC	**SCE Magundon P**	**1.20**	**251**		**Pg**	**18 28 21.2**	**-1.3**
ADO	**Adelanto Recei**	**1.20**	**176**		**Pg**	**18 28 23.2**	**-0.3**
AMDNV	**Amargosa**	**1.23**	**55**		**Pg**	**18 28 21.8**	**-1.4**
ALPC	**Antelope**	**1.23**	**211**		**Pg**	**18 28 22.6**	**-0.6**
GRAC	**Grapevine Rang**	**1.25**	**6**	Pg	**Pg**	**18 28 22.6**	**-0.8**
GRAC	**Grapevine Rang**	**1.25**	**6**		**Pg**	**18 28 22.9**	**-0.6**
GRAC	**Grapevine Rang**	**1.25**	**6**		IAML	18 28 45.1	
	comp=E,6μm,0.6s						
GRAC					IAML	18 28 45.9	
	comp=N,8μm,1.0s						
WCT	**Wildcat Mounta**	**1.27**	**35**		**Pg**	**18 28 23.3**	**-0.6**
WCT					IAML	18 28 42.2	
	comp=N,6μm,0.7s						
WCT					IAML	18 28 42.8	
	comp=E,6μm,0.5s						
DSCC	**Desert Studies**	**1.32**	**117**		**Pn**	**18 28 22.5**	**-1.9**
CJV	**Casa Juvan**	**1.32**	**203**		**Pn**	**18 28 24.3**	**-0.3**
BAKC	**Calstate**	**1.34**	**253**		**Pn**	**18 28 23.9**	**-0.9**
BFSC	**Mount Baldy Ra**	**1.51**	**184**		**Pb**	**18 28 27.9**	**-0.2**
GMN	**Gold Mountain**	**1.56**	**8**		**Pn**	**18 28 27.0**	**-1.0**
GMN					IAML	18 28 51.2	
	comp=N,2μm,0.5s						
BBRC	**Big Bear Solar**	**1.57**	**161**		**Pn**	**18 28 28.4**	**+0.3**
TPNV	**Topopah Spring**	**1.58**	**41**		**Pn**	**18 28 28.3**	**+0.1**
TPNV					IAML	18 28 54.5	
	comp=N,4μm,0.9s						
TPNV					IAML	18 28 55.0	
	comp=N,5μm,1.1s						
VOG	**Valley Oaks Go**	**1.60**	**291**		**Pn**	**18 28 28.3**	**-0.1**
MTPC	**Mountain Pass**	**1.64**	**99**		**Pn**	**18 28 27.4**	**-1.5**
DSP	**Deep Springs**	**1.65**	**348**		**Pn**	**18 28 28.3**	**-0.7**
BLAC	**Blackrock camp**	**1.92**	**150**		**Pb**	**18 28 35.5**	**+0.4**
CARC	**Carrizo Plain**	**1.94**	**257**		**Pb**	**18 28 34.6**	**-0.6**
MZP	**Montezuma Peak**	**1.95**	**3**	Pn	**Pn**	**18 28 32.7**	**-0.7**
PFO	**Pinyon Flats O**	**2.31**	**157**	Pn	**Pn**	**18 28 36.6**	**-1.6**
	comp=N,70nm,0.4s,baz=337,slow=14,SNR=20						
PFO				Pg	**Pb**	**18 28 41.6**	**-0.1**
	comp=N,126nm,0.3s,baz=338,slow=15,SNR=25						
PFO				Lg	Lg	18 29 13.3	
	comp=N,257nm,0.3s,baz=238,slow=19,SNR=13						
TPH	**Tonopah**	**2.33**	**6**	Pn	**Pn**	**18 28 38.2**	**-0.3**
PMPB	**Monarch Peak**	**2.69**	**281**		**Pn**	**18 28 42.5**	**-0.9**
NV11	**Mina Array Sit**	**2.72**	**350**	Pn	**Pn**	**18 28 43.5**	**-0.4**
NVAR	**Mina Array Bea**	**2.74**	**347**	Pn	**Pn**	**18 28 44.1**	**-0.1**
	comp=N,20nm,0.3s,baz=171,slow=12,SNR=20						
NVAR				Pg	**Pb**	**18 28 50.2**	**+1.1**
	comp=N,128nm,0.3s,baz=170,slow=18,SNR=69						
NVAR				Lg	Lg	18 29 28.7	
	comp=N,42nm,0.3s,baz=280,slow=19,SNR=5.7						
	comp=N,24nm,0.5s						
RYN	**Ryan**	**2.98**	**345**	Pn	**Pn**	**18 28 47.0**	**-0.4**
W13A	**Hualapai Mount**	**3.05**	**101**	IAML		18 29 39.8	
	comp=N,700nm,1.1s						
W13A				IAML		18 29 40.8	
	comp=E,393nm,0.7s						
BLYC	**Blythe**	**3.18**	**128**		**Pn**	**18 28 48.1**	**-1.9**
BLYC				IAML		18 29 42.1	
	comp=N,1μm,0.7s						
TJX	**Tijuana**	**3.26**	**173**	Pn	**Pn**	**18 28 50.0**	**-1.2**
TKX	**Tecate**	**3.27**	**166**		**Pn**	**18 28 50.4**	**-0.9**
TKX				IAML		18 29 44.6	
	comp=E,454nm,0.5s						
YUH	**Yuha Desert**	**3.37**	**156**	Pn	**Pn**	**18 28 51.6**	**-1.0**
CBX	**Cerro Bola**	**3.50**	**168**		**Pn**	**18 28 53.8**	**-0.9**
CCUT	**Cedar City**	**3.80**	**61**	Pn	**Pn**	**18 28 58.6**	**-0.2**
CCUT				IAML		18 30 03.0	
	comp=N,238nm,1.4s						
ESJX	**Sierra Juarez**	**3.96**	**160**		**Pn**	**18 29 00.1**	**-0.8**
ESJX				IAML		18 30 10.4	
	comp=E,281nm,0.7s						
KNB	**Kanab**	**4.00**	**70**		**Pn**	**18 29 01.3**	**-0.3**
KNB				IAML		18 30 16.1	
	comp=N,191nm,1.4s						
PAHR	**Pah Rah Range**	**4.21**	**340**	Pn	**Pn**	**18 29 04.6**	**+0.2**
113A	**Mohawk Valley,**	**4.31**	**133**	IAML		18 30 16.4	
	comp=N,250nm,0.8s						
113A				IAML		18 30 16.8	
	comp=E,232nm,0.8s						
VTX	**Valle De La Tr**	**4.59**	**161**	IAML		18 30 29.5	
	comp=N,243nm,1.0s						
VTX				IAML		18 30 32.6	
	comp=E,204nm,2.4s						
ORV	**Oroville**	**4.93**	**322**	IAML		18 30 39.3	
	comp=E,223nm,0.7s						
ORV				IAML		18 30 43.2	
	comp=N,120nm,0.8s						
WUAZ	**Wupatki**	**5.02**	**91**		**Pn**	**18 29 15.8**	**+0.2**
WUAZ				IAML		18 29 52.5	
	comp=N,253nm,0.9s						
WUAZ				IAML		18 30 42.7	
	comp=N,197nm,1.1s						
X16A	**Lo Mia Camp, P**	**5.17**	**103**	Pn	**Pn**	**18 29 17.2**	**-0.3**
X16A				IAML		18 30 53.1	
	comp=N,131nm,1.7s						
X16A				IAML		18 31 03.8	
	comp=E,125nm,1.0s						
ELK	**Elko**	**5.30**	**19**	Pn	**Pn**	**18 29 19.6**	**+0.2**
	comp=E,2.3nm,0.3s,baz=242,slow=5.5,SNR=8.7						
ELK				Pg	**Pg**	**18 29 38.4**	**-2.7**
	comp=E,8.6nm,0.3s,baz=206,slow=14,SNR=15						
ELK				Lg	Lg	18 30 44.8	
	comp=E,6.6nm,0.3s,baz=276,slow=20,SNR=3.6						
	comp=E,6.3nm,0.4s						
DUG	**Dugway, Tooele**	**5.79**	**39**		**Pg**	**18 29 46.9**	**-3.6**
CTU	**Camp Tracy**	**6.71**	**41**	Pn	**Pn**	**18 29 38.7**	**0.0**
YBH	**Yreka Blue Hor**	**7.21**	**327**	Pn	**Pn**	**18 29 48.9**	**+3.4**
	baz=165,slow=10,SNR=2.6						
YBH				Lg	Lg	18 31 45.9	
	baz=49,slow=10,SNR=5.0						
319A	**Douglas**	**8.15**	**120**	Pn	**Pn**	**18 29 57.6**	**-0.8**
ANMO	**Albuquerque**	**9.09**	**92**	Pg	Pn	18 30 44.5	+33
	comp=E,0.9nm,0.3s,baz=12,slow=15,SNR=14						
ANMO				Lg	Lg	18 32 44.5	
	comp=E,0.2nm,0.3s,baz=118,slow=23,SNR=6.4						
PDAR	**Pinedale Array**	**9.34**	**39**	Lg	Lg	18 32 51.3	
	comp=E,0.1nm,0.3s,baz=218,slow=23,SNR=2.0						
F07A	**Phinny Hill Vi**	**10.29**	**351**	Pn	**Pn**	**18 30 29.1**	**+1.4**
MNTX	**Cornudas Mount**	**10.89**	**108**	Pn	**Pn**	**18 30 37.1**	**+1.2**
TXAR	**Lajitas Array**	**13.33**	**115**	Pn	**Pn**	**18 31 10.1**	**+0.8**
	comp=E,0.2nm,0.3s,baz=292,slow=13,SNR=8.5						
TXAR				Lg	Lg	18 34 57.4	
	comp=E,0.1nm,0.3s,baz=284,slow=27,SNR=4.1						
	comp=E,0.4nm,0.4s						
OK038	**West end E0370**	**15.21**	**82**		**Pn**	**18 31 32.5**	**-2.3**
OK038				IAmb	IAmb	18 31 41.1	
	comp=Z,32nm,0.8s						
BBB	**Bella Bella**	**18.07**	**339**	Pn	**Pn**	**18 32 10.4**	**-0.6**
BBB				IAmb	IAmb	18 32 29.6	
	comp=Z,14nm,1.2s						
U38A	**Gravette**	**18.71**	**81**	P	**Pn**	**18 32 20.8**	**+1.7**
MIAR	**Mount Ida**	**19.62**	**87**		**Pn**	**18 32 30.0**	**+0.1**
Z41A	**Richland Creek**	**20.52**	**90**	P	**P**	**18 32 38.5**	**+0.1**
ULM	**Lac du Bonnet**	**21.36**	**41**	P	**P**	**18 32 47.9**	**+0.5**
ULM				IAmb	IAmb	18 32 52.0	
	comp=Z,8.1nm,0.9s						
ULM	**Lac du Bonnet**	**21.36**	**41**	P	**P**	**18 32 49.2**	**+1.9**
	comp=Z,6.1nm,0.8s,baz=242,slow=10.0,SNR=6.7						
	comp=Z,6.1nm,0.8s						
YKA	**Yellowknife Ar**	**26.83**	**3**	P	**P**	**18 33 41.7**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=183,slow=8.4,SNR=5.2						
	comp=Z,0.3nm,0.7s						
YKAW3	**Yellowknife Wh**	**26.90**	**3**	P	**P**	**18 33 41.9**	**+1.0**
YKAW3				IAmb	IAmb	18 33 44.4	
	comp=Z,3.8nm,1.2s						
ILAR	**Eielson Array**	**33.96**	**338**	P	**P**	**18 34 44.6**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=156,slow=8.7,SNR=4.6						
	comp=Z,0.4nm,0.8s						
J19K	**Poorman**	**36.45**	**333**	P	**P**	**18 35 05.0**	**+0.2**
J19K				IAmb	IAmb	18 35 35.7	
	comp=Z,3.8nm,1.2s						
GAMB	**Gambell**	**42.89**	**328**	P	**P**	**18 35 57.9**	**-0.4**
COHC	**Cochancay**	**52.19**	**128**	P	**P**	**18 37 11.0**	**-0.2**
COHC				IAmb	IAmb	18 37 16.4	
	comp=Z,5.0nm,1.4s						
LPAZ	**La Paz**	**69.74**	**129**	P	**P**	**18 39 09.3**	**-2.0**
LPAZ				IAmb	IAmb	18 39 40.5	
	comp=Z,2.1nm,1.2s						

NEIC ***04*** *18:28:43.2±0.7,35°.676N±0°.009×117°.57W±0°.01, h7km±2km, Error ellipse: s-maj=1.4km s-min=1.3km az=98.0*

PAS 04 18:28:43.6±0.7,35°.666N±0°.009×117°.57W±0°.01, h4km±1km, ML4.1/17, ML3.7/14(NEIC), Error ellipse: s-maj=1.6km s-min=1.2km az=62.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mtn Rad**	**0.21**	**206**		Pg	18 28 47.8	+0.2
LRMC					Sg	18 28 51.1	+0.7
CCCA	**Chr Cany lake**	**0.22**	**130**		Pg	18 28 48.4	+0.5
WNMM	**Nine Mile Cany**	**0.32**	**303**		Pg	18 28 50.0	+0.2
WVPM	**Volcano Peak E**	**0.35**	**325**		Pg	18 28 50.3	-0.1
WVPM					Sg	18 28 55.4	+0.4
WCSM	**Coso Springs S**	**0.39**	**336**		Pg	18 28 51.2	0.0
WCSM					Sg	18 28 56.6	+0.2
MPMC	**Manual Prospec**	**0.40**	**10**		Pg	18 28 51.2	-0.2
MPMC					Sg	18 28 56.9	+0.4
WRVM	**Rose V. Centra**	**0.43**	**323**		Pg	18 28 51.7	-0.1
DTP	**Desert Tortois**	**0.46**	**209**		Sg	18 28 58.6	+0.2
WBSM	**Bird Springs**	**0.48**	**255**		Pg	18 28 52.8	-0.1
WBSM					Sg	18 28 59.4	+0.3
MFS	**McCloud Flat S**	**0.51**	**333**		Pg	18 28 53.3	-0.1
MFS					Sg	18 29 00.6	+0.7
WORM	**Onyx Ranch**	**0.55**	**273**		Pg	18 28 53.9	-0.3
CCAC	**Calif City Air**	**0.63**	**215**	Pg	Pg	18 28 55.5	-0.2
CCAC				IAML		18 29 04.5	
	comp=E,4μm,0.7s						
CCAC				IAML		18 29 05.1	
	comp=N,4μm,0.2s						
QSM	**Queen of Sheba**	**0.65**	**62**	Pg	Pg	18 28 55.9	-0.1
GSC	**Goldstone, Bar**	**0.72**	**120**	Pg	Pg	18 28 56.8	-0.7
GSC				IAML		18 29 09.9	
	comp=N,4μm,0.3s						
ISA	**Isabella, Lake**	**0.73**	**270**	Pg	Pg	18 28 57.1	-0.6
ISA				IAML		18 29 07.2	
	comp=N,4μm,0.5s						
ISA				IAML		18 29 07.5	
	comp=E,4μm,0.2s						
ISA	**Isabella, Lake**	**0.73**	**270**		Sg	18 29 07.0	-0.2
HYS	**Haystack Butte**	**0.80**	**180**		Pg	18 28 59.5	+0.5
HYS					Sg	18 29 08.9	-0.4
CWC	**Cottonwood Cre**	**0.88**	**332**		Pg	18 29 00.3	-0.1
CGO	**Cerro Gordo**	**0.90**	**348**		Pb	18 29 02.0	-0.1
SHOC	**Shoshone, Teco**	**1.08**	**77**		Pg	18 29 04.0	-0.3
WCT	**Wildcat Mounta**	**1.36**	**34**		Pn	18 29 08.8	-0.7
WCT				Pn	Pg	18 29 09.0	-0.7
WCT				IAML		18 29 28.5	
	comp=E,926nm,0.5s						
WCT				IAML		18 29 28.6	
	comp=N,740nm,0.8s						
TUQ	**Turquoise Moun**	**1.36**	**99**		Pn	18 29 08.4	-1.1
VOG	**Valley Oaks Go**	**1.61**	**295**		Pn	18 29 13.1	+0.3
GMN	**Gold Mountain**	**1.65**	**9**		Pn	18 29 13.2	-0.4
GMN				IAML		18 29 22.7	
	comp=N,606nm,0.8s						
R11B	**Troy Canyon, C**	**3.11**	**30**	Pn	Pn	18 29 33.3	-0.4
X18A	**Snowflake**	**6.35**	**98**	Pn	Pn	18 30 18.3	+0.2
G08A	**Pilot Rock**	**9.67**	**354**	Pn	Pn	18 31 01.9	-1.7
YNR	**Norris Junctio**	**10.46**	**28**	Pn	Pn	18 31 12.8	-1.8
MNTX	**Cornudas Mount**	**10.90**	**108**	Pn	Pn	18 31 20.1	-0.2

IDC ***04*** *18:39:44.8±0.6,35°.60N×117°.51W, h0km, mb4.3/10, mbtmp4.2/17, ML4.1/7, Error ellipse: s-maj=12.2km s-min=5.4km az=71.0*

NEIC ***04*** *18:39:44.4±1.3,35°.605N±0°.010×117°.59W±0°.01, h7km±1km, Error ellipse: s-maj=1.6km s-min=1.5km az=85.0*

PAS ***04*** *18:39:44.4±1.0,35°.601N±0°.010×117°.60W±0°.01, h3km±4km, Mwr4.6/4, mb4.5/82(NEIC), ML4.6/106(NEIC), Mww4.7/9(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=47.0*

ISC 04 18:39:44.6±1.0,35°.58N±0°.02×117°.58W±0°.02, h1km±7km, n366, σ1°21/347, mb4.5/44, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mtn Rad**	**0.14**	**220**		**Pg**	**18 39 47.4**	**+0.1**
LRMC					**Sg**	**18 39 49.8**	**+0.8**
SRTC	**Snort**	**0.18**	**308**		**Pg**	**18 39 48.1**	**+0.1**
CCCA	**Chr Cany lake**	**0.18**	**109**		**Pg**	**18 39 49.0**	**+0.8**
CCCA					**Sg**	**18 39 52.6**	**+2.1**
CLC	**China Lake**	**0.23**	**356**		**Pg**	**18 39 48.7**	**-0.4**
CLC					**Sg**	**18 39 52.1**	**-0.1**
TOW	**Tower One**	**0.27**	**326**		**Pg**	**18 39 49.9**	**0.0**
TOW					**Sg**	**18 39 54.1**	**+0.7**
WNMM	**Nine Mile Cany**	**0.37**	**314**		**Pg**	**18 39 51.4**	**-0.3**
DTP	**Desert Tortois**	**0.38**	**215**		**Pg**	**18 39 51.9**	**-0.1**
DTP					**Sg**	**18 39 57.7**	**+0.7**
WVPM	**Volcano Peak E**	**0.41**	**332**		**Pg**	**18 39 52.0**	**-0.6**
JRC2	**Joshua Ridge**	**0.44**	**335**		**Pg**	**18 39 52.5**	**-0.6**
JRC2					**Sg**	**18 39 58.5**	**-0.4**
WBSM	**Bird Springs**	**0.46**	**264**		**Pg**	**18 39 53.1**	**-0.4**
WBSM					**Sg**	**18 39 59.8**	**+0.3**
WCSM	**Coso Springs S**	**0.47**	**341**		**Pg**	**18 39 53.0**	**-0.6**
WCSM					**Sg**	**18 39 59.4**	**-0.3**
MPMC	**Manual Prospec**	**0.48**	**9**		**Pg**	**18 39 53.4**	**-0.5**
MPMC					**Sg**	**18 39 60.0**	**-0.1**
WRVM	**Rose V. Centra**	**0.49**	**329**		**Pg**	**18 39 53.4**	**-0.7**
WORM	**Onyx Ranch**	**0.55**	**282**		**Pg**	**18 39 54.5**	**-0.7**
WORM					**Sg**	**18 40 01.9**	**-0.5**
CCAC	**Calif City Air**	**0.56**	**220**		**Sg**	**18 40 03.2**	**+0.6**
CCAC	**Calif City Air**	**0.56**	**220**		**Pg**	**18 39 55.1**	**-0.3**
CCAC				IAML		18 40 06.3	
	comp=E,25μm,1.2s						
CCAC				IAML		18 40 09.6	
	comp=N,19μm,0.7s						
MFS	**McCloud Flat S**	**0.58**	**337**		**Pg**	**18 39 55.0**	**-0.7**
WHFM	**Hanning Flat**	**0.64**	**280**		**Pg**	**18 39 56.2**	**

DSP	Deep Springs	1.81	350			Pn		18 40 15.6	-1.3
ELS	Elsinore Mount	1.94	176			Pn		18 40 18.0	-0.8
ELS				IAML				18 40 56.8	
	comp=E,5µm,0.9s								
ELS				IAML				18 40 57.5	
	comp=N,4µm,0.6s								
MZP	Montezuma Peak	2.12	4			Pn		18 40 20.1	-1.3
SHPR	Sheep Range	2.16	64			Pn		18 40 21.2	-0.8
PFO	Pinyon Flats O	2.17	155			Pn		18 40 20.9	-1.2
PFO				IAML				18 40 56.8	
	comp=N,3µm,0.6s								
PFO	Pinyon Flats O	2.17	155	Pn		Pn		18 40 20.8	-1.2
	comp=N,81nm,0.3s,baz=339,slow=12,SNR=66								
PFO				Pg		Pg		18 40 25.5	-0.8
	comp=N,261nm,0.3s,baz=330,slow=14,SNR=50								
PFO				Lg		Lg		18 40 54.0	
	comp=N,133nm,0.3s,baz=23,slow=9.5,SNR=7.0								
	comp=N,156nm,0.3s								
V12A	Nelson	2.22	86	IAML				18 40 59.3	
	comp=E,2µm,0.4s								
V12A				IAML				18 41 06.3	
	comp=N,2µm,0.6s								
S11A	Rachel	2.53	35			Pn		18 40 25.8	-1.2
PMPB	Monarch Peak	2.69	284			Pn		18 40 27.7	-1.4
PMPB				IAML				18 41 18.7	
	comp=N,4µm,0.8s								
PRN	Pahroc Range	2.73	47			Pn		18 40 28.6	-1.2
NVAR	Mina Array Bea	2.90	349	Pn		Pn		18 40 31.3	-0.8
	comp=N,26nm,0.3s,baz=172,slow=15,SNR=108								
NVAR				Pg		Pb		18 40 38.0	+0.7
	comp=N,126nm,0.3s,baz=172,slow=16,SNR=42								
NVAR				Lg		Lg		18 41 17.6	
	comp=N,19nm,0.3s,baz=241,slow=39,SNR=1.0								
	comp=N,78nm,0.6s								
BBGB	Big Mountain B	2.98	290			Pn		18 40 31.5	-1.5
W13A	Hualapai Mount	3.06	98	IAML				18 41 28.9	
	comp=E,2µm,1.0s								
W13A				IAML				18 41 32.2	
	comp=N,2µm,1.5s								
TJX	Tijuana	3.10	172	Pn		Pn		18 40 33.8	-0.8
RYN	Ryan	3.13	346			Pn		18 40 34.4	-0.9
R11B	Troy Canyon, C	3.19	29			Pn		18 40 34.6	-1.5
R11B				IAML				18 41 27.4	
	comp=E,902nm,1.1s								
YUH	Yuha Desert	3.23	154			Pn		18 40 35.6	-0.9
SAO	San Andreas Ge	3.34	292			Pn		18 40 36.4	-1.6
CBX	Cerro Bola	3.35	167			Pn		18 40 37.5	-0.7
CCX	Cicese	3.78	168			Pn		18 40 44.1	+0.1
CCX				IAML				18 41 46.1	
	comp=E,1µm,0.6s								
CCX				IAML				18 41 50.0	
	comp=N,960nm,0.6s								
ESJX	Sierra Juarez	3.82	159			Pn		18 40 44.1	-0.6
ESJX				IAML				18 41 48.3	
	comp=E,784nm,0.8s								
KNB	Kanab	4.10	68	IAML				18 41 58.8	
	comp=E,772nm,1.2s								
KNB				IAML				18 42 00.9	
	comp=N,844nm,1.2s								
PSUT	Pine Spring	4.19	44	IAML				18 42 08.3	
	comp=E,924nm,1.4s								
PSUT				IAML				18 42 10.5	
	comp=N,974nm,1.8s								
MPK	Martis Peak	4.19	333	IAML				18 42 14.7	
	comp=E,1µm,0.7s								
113A	Mohawk Valley,	4.23	131	IAML				18 42 03.7	
	comp=E,535nm,1.7s								
113A				IAML				18 42 07.0	
	comp=N,546nm,1.0s								
SPR3	Spring Creek 3	4.28	36	IAML				18 42 01.7	
	comp=E,872nm,1.7s								
SPR3				IAML				18 42 07.9	
	comp=N,621nm,1.6s								
AFDM	Forest Hills D	4.31	322			Pn		18 40 55.1	+3.7
AFDM				IAML				18 42 03.7	
	comp=N,638nm,1.4s								
AFDM				IAML				18 42 07.9	
	comp=E,631nm,0.7s								
PAHR	Pah Rah Range	4.36	341			Pn		18 40 51.5	-0.6
VTX	Valle De La Tr	4.44	160	IAML				18 42 07.0	
	comp=E,565nm,0.6s								
VTX				IAML				18 42 07.2	
	comp=N,408nm,1.1s								
BEKR	Beckworth	4.81	334			Pn		18 41 01.8	+3.5
BEKR				IAML				18 42 25.3	
	comp=N,399nm,0.8s								
WUAZ	Wupatki	5.06	89	IAML				18 42 29.5	
	comp=N,593nm,0.9s								
SFX	San Felipe	5.08	153	Pn		Pn		18 41 00.9	-0.9
SFX				IAML				18 42 33.1	
	comp=E,302nm,0.8s								
SFX				IAML				18 42 47.2	
	comp=N,322nm,1.2s								
X16A	Lo Mia Camp, P	5.17	101	IAML				18 42 33.3	
	comp=E,356nm,1.2s								
X16A				IAML				18 42 44.5	
	comp=N,470nm,1.0s								
MVU	Marysvale	5.19	54	IAML				18 42 38.2	
	comp=N,527nm,1.0s								
MVU				IAML				18 42 41.6	
	comp=E,431nm,1.7s								
ELK	Elko	5.47	19	Pn		Pn		18 41 07.2	-0.3
	comp=E,3.6nm,0.3s,baz=210,slow=9.2,SNR=41								
ELK				Pg		Pb		18 41 25.4	+4.3
	comp=E,11nm,0.3s,baz=206,slow=18,SNR=20								
ELK				Lg		Lg		18 42 35.9	
	comp=E,30nm,0.3s,baz=62,slow=10,SNR=7.3								
	comp=E,16nm,0.5s								
TUC	Tucson	6.52	118			Pn		18 41 19.6	-2.1
YBH	Yreka Blue Hor	7.33	328	Pn		Pn		18 41 36.7	+3.7
	baz=169,slow=5.9,SNR=10								
YBH				Lg		Lg		18 43 35.3	
	baz=6.5,slow=7.6,SNR=7.7								
319A	Douglas	8.10	119			Pn		18 41 42.2	-1.3
ANMO	Albuquerque	9.12	91	Pn		Pn		18 41 58.9	+1.4
	comp=E,0.6nm,0.3s,baz=7.7,slow=13,SNR=9.2								
ANMO				Pg				18 42 30.8	
	comp=E,1.1nm,0.3s,baz=5.6,slow=14,SNR=22								
ANMO				Lg		Lg		18 44 32.1	
	comp=E,0.8nm,0.3s,baz=274,slow=17,SNR=9.3								
	comp=E,2.4nm,0.5s								
PDAR	Pinedale Array	9.49	39	Pn		Pn		18 42 05.0	+2.3
	comp=E,0.2nm,0.3s,baz=231,slow=12,SNR=33								
PDAR				Lg		Lg		18 44 41.7	
	comp=E,0.2nm,0.3s,baz=249,slow=25,SNR=2.3								
	comp=E,5.3nm,0.9s								
NEW	Newport	12.68	1	Pn		Pn		18 42 47.4	+1.4
	comp=E,0.1nm,0.3s,baz=184,slow=13,SNR=4.0								
	comp=E,0.6nm,0.3s								
TX31	Lajitas Ar. Si	13.29	114			Pn		18 42 53.9	-0.7
TXAR	Lajitas Array	13.29	114			Pn		18 42 53.5	-1.0
TXAR	Lajitas Array	13.29	114	Pn		Pn		18 42 55.4	+0.9
	comp=E,1.4nm,0.3s,baz=292,slow=13,SNR=52								
TXAR				Lg		Lg		18 46 44.1	
	comp=E,0.2nm,0.3s,baz=297,slow=28,SNR=6.8								
	comp=E,2.5nm,0.4s								
OK038	West end E0370	15.27	81	IAmb		IAmb		18 43 31.8	
	comp=Z,22nm,0.9s								
DRIO	Del Rio	15.56	108			P		18 43 27.7	-2.0
K30B	Basset	15.62	58	P		P		18 43 29.2	-1.1
K30B				IAmb		IAmb		18 43 32.4	
	comp=Z,31nm,1.0s								
BRDY	Brady	16.09	100	Pn		Pn		18 43 32.4	+0.3
833A	Chaparral WMA,	17.03	110	IAmb		IAmb		18 43 49.9	
	comp=Z,34nm,1.2s								
DEOK	Depew	17.12	83	IAmb		IAmb		18 43 52.7	
	comp=Z,42nm,1.3s								
TUL3	Leonard	17.69	83	IAmb		IAmb		18 43 57.2	
	comp=Z,61nm,1.3s								
S39A	Bolivar	19.57	77	P		Pn		18 44 13.9	-1.2
I37A	Lemond, Waseca	20.34	58	IAmb		IAmb		18 44 27.7	
	comp=Z,26nm,1.0s								
R40A	Maddies Statio	20.39	75	IAmb		IAmb		18 44 27.2	
	comp=Z,22nm,1.0s								
P40A	Paris	20.59	71	P		P		18 44 25.4	+0.3
P40A				IAmb		IAmb		18 44 32.2	
	comp=Z,29nm,1.0s								
WHAR	Wooly Hollow	20.60	83			Pn		18 44 29.0	+1.8
WHAR				IAmb		IAmb		18 44 31.8	
	comp=Z,25nm,1.3s								
SPMN	Marine on St.	21.11	55	IAmb		IAmb		18 44 37.3	
	comp=Z,17nm,0.8s								
LCAR	Lake Charles	21.41	81			P		18 44 38.8	+4.9
ULM	Lac du Bonnet	21.51	40	P		P		18 44 33.8	-1.0
ULM	Lac du Bonnet	21.51	40	P		P		18 44 35.9	+1.1
	comp=Z,32nm,1.0s,baz=234,slow=10,SNR=33								
	comp=Z,32nm,1.0s								

N41A	Harden Midland	21.59	68	IAmb		IAmb		18 44 40.0	
	comp=Z,14nm,0.9s								
FFC	Flin Flon	21.98	25	P		P		18 44 39.4	-0.5
V35K	Ketchikan	21.98	338	P		P		18 44 40.8	+0.9
	baz=148								
EPLO	Experimental L	22.37	44	P		P		18 44 43.1	-1.0
EPLO				IAmb		IAmb		18 44 47.3	
	comp=Z,27nm,1.2s								
CRAG	Craig	22.57	337	P		P		18 44 46.7	+0.5
	baz=145								
T35M	Bob Quinn	23.05	342	P		P		18 44 51.4	+0.2
	baz=153								
U33K	Whale Pass	23.11	338	P		P		18 44 51.5	-0.2
	baz=146								
WRAK	Wrangell Islan	23.13	339	P		P		18 44 52.9	+0.9
	baz=148								
TOAD	Toad River Com	23.82	350	P		P		18 44 59.1	+0.2
	baz=164								
S34M	Telegraph Cree	24.10	342	P		P		18 45 02.4	+0.9
	baz=152								
DLBC	Dease Lake	24.31	344	P		P		18 45 04.7	+1.1
	baz=155								
LIRD	Liard River Hi	24.48	349	P		P		18 45 06.3	+1.3
	baz=163								
T47A	Sharon Grove	24.56	78			ScP		18 52 27.9	+4.0
SIT	Sitka	24.58	336	P		P		18 45 06.7	+0.8
	baz=143								
S32K	Killisnoo	24.68	338	P		P		18 45 07.0	+0.2
	baz=145								
KOTAN	Kotaneelee Air	24.92	352	P		P		18 45 09.7	+0.8
	baz=167								
Q32M	Nakina River	25.31	342	P		P		18 45 13.0	+0.2
	baz=151								
R32K	Eaglecrest	25.33	339	P		P		18 45 13.0	+0.3
	baz=146								
R33M	Jennings River	25.38	344	IAmb		IAmb		18 45 18.7	
	comp=Z,9.8nm,1.1s								
R33M	Jennings River	25.38	344	P		P		18 45 13.9	+0.6
	baz=154								
S31K	Pelican	25.60	337	P		P		18 45 15.9	+0.8
	baz=143								
Y49A	Blount Mountai	25.62	85			ScP		18 52 24.2	-2.8
P32M	Atlin	26.23	341	P		P		18 45 21.9	+1.1
	baz=149								
W50A	Signal Mountai	26.25	81	P		P		18 45 19.1	-2.2
W50A				IAmb		IAmb		18 45 27.0	
	comp=Z,9.5nm,0.8s								
P33M	Teslin, Yukon	26.54	343	P		P		18 45 24.6	+0.8
	baz=151								
SKAG	Skagway	26.55	340	P		P		18 45 25.1	+1.4
	baz=146								
TGTN	Hyland Airport	26.84	349	P		P		18 45 27.5	+1.1
	baz=160								
PLBC	Pleasant Camp	26.85	339	P		P		18 45 27.4	+1.0
	baz=144								
YKA	Yellowknife Ar	27.00	3	P		P		18 45 28.9	+1.2
	comp=Z,2.7nm,0.9s,baz=190,slow=9.0,SNR=21								
	comp=Z,2.7nm,0.9s								
P29M	Windy Craggy	27.41	338	P		P		18 45 32.9	+1.4
	baz=142								
N32M	Quiet Lake	27.43	344	P		P		18 45 33.1	+1.4
	baz=152								
WHY	Whitehorse	27.45	341	P		P		18 45 33.5	+1.5
	baz=148								
P30M	Million Dollar	27.57	339	P		P		18 45 33.8	+0.8
	baz=144								
PNL	Peninsula	27.97	336	P		P		18 45 36.9	+0.4
	baz=140								
HYT	Haines Junctio	28.30	339	P		P		18 45 40.0	+0.4
	baz=144								
MMPY	Sheldon Lake,	28.38	347	P		P		18 45 41.2	+1.0
	baz=156								
N31M	Braeburn, Yuko	28.38	342	P		P		18 45 41.3	+1.1
	baz=148								
FARO	Faro, Yukon	28.45	344	P		P		18 45 42.2	+1.4
	baz=152								
PINM	Pinnacle	28.57	336	P		P		18 45 43.0	+1.0
	baz=139								
M31M	Drury Creek, Y	28.66	344	P		P		18 45 43.8	+1.2
	baz=151								
N30M	Aishikik Lake	28.70	340	P		P		18 45 43.6	+0.5
	baz=146								
M30M	Minto, Yukon	29.56	342	P		P		18 45 51.8	+1.1
	baz=147								
M29M	Somme Creek	29.89	341	P		P		18 45 54.3	+0.7
	baz=144								
KAIM	Kayak Island	29.92	333	P		P		18 45 54.5	+0.7
	baz=132								
YUK3	Moose Creek	29.93	338	P		P		18 45 54.5	+0.4
	baz=141								
L29M	L29M	30.34	342	P		P		18 45 58.5	+0.8
	baz=146								
MCARA	McCarthy VSAT	30.45	336	P		P		18 45 59.5	+1.1
	baz=136								
BVCY	Beaver Creek	30.54	339	P		P		18 46 00.1	+0.7
	baz=141								
BMRM	Bremner River	30.70	334	P		P		18 46 01.8	+1.1
	baz=134								
M27K	Edge Creek, AK	30.80	338	P		P		18 46 01.2	-0.5
M27K				IAmb		IAmb		18 46 08.3	
	comp=Z,6.1nm,1.2s								
M27K	Edge Creek, AK	30.80	338	P		P		18 46 02.7	+0.9
	baz=139								
K29M	Barlow Dome	30.81	343	P		P		18 46 00.7	-1.0
K29M	Barlow Dome	30.81	343	P		P		18 46 02.4	+0.6
	baz=147								
EYAK	Cordova Ski Ar	30.83	333	P		P		18 46 02.9	+1.1
	baz=131								
HIN	Hinchinbrook I	31.01	332	P		P		18 46 02.9	-0.6
P23K	Montague Islan	31.11	331	P		P		18 46 04.8	+0.6
	baz=128								
N25K	Chitina, Valde	31.14	335	P		P		18 46 05.8	+1.2
	baz=134								
J30M	Hart River	31.16	344	IAmb		IAmb		18 46 09.7	
	comp=Z,9.5nm,1.4s								
J30M	Hart River	31.16	344	P		P		18 46 06.5	+1.7
	baz=150								
M26K	Nabesna, AK	31.18	337	P		P		18 46 06.4	+1.3
	baz=138								
L27K	Beaver Creek,	31.33	339	P		P		18 46 07.4	+1.1
	baz=140								
DAWY	Dawson	31.45	342	P		P		18 46 08.5	+1.2
	baz=145								
GLI	Glacier Island	31.55	333	P		P		18 46 08.9	+0.8
	baz=130								
I30M	Mount Dempster	31.73	345	P		P		18 46 11.1	+1.2
	baz=150,SNR=5.3								
L26K	Log Cabin Wild	31.75	338	P		P		18 46 11.5	+1.5
	baz=138								
H31M	Peel River	31.84	347	P		P		18 46 10.7	-0.1
H31M				IAmb		IAmb		18 46 18.1	
	comp=Z,5.5nm,1.2s								
H31M	Peel River	31.84	347	P		P		18 46 12.2	+1.4
	baz=154								
SEW	Seward	31.99	330	P		P		18 46 13.0	+1.0
	baz=126								
PWL	Port Wells	32.00	332	P		P		18 46 13.0	+0.8
	baz=128								
M24K	Tolsona, Glenn	32.02	335	P		P		18 46 13.4	+0.9
	baz=133								
K27K	Chicken	32.14	340	P		P		18 46 15.0	+1.6
	baz=141								
OHAK	Old Harbor	32.21	323	P		P		18 46 15.3	+1.3
	baz=117								
SCM	Sheep Creek Mo	32.25	334	P		P		18 46 15.6	+1.2
	baz=131								
I29M	Ogilvie Camp,	32.27	344	P		P		18 46 15.6	+1.1
	baz=147								
SII	Sitkinak Islan	32.36	322	P		P		18 46 16.3	+0.9
	baz=115								
M23K	Glacier View	32.37	334	P		P		18 46 16.4	+1.1
	baz=130								
PAX	Paxson	32.39	336	P		P		18 46 16.6	+1.0
	baz=135								
KNK	Knik Glacier	32.40	333	P		P		18 46 17.3	+1.6
	baz=129								
Q20K	Shuyak Island	32.45	326	P		P		18 46 17.2	+1.1
	baz=120								
SLKM	Skilak Lake	32.54	330	IAmb		IAmb		18 46 20.3	
	comp=Z,7.8nm,1.0s								
SCRK	Sand Creek	32.66	339	IAmb		IAmb		18 46 20.7	
	comp=Z,5.8nm,1.0s								
SCRK	Sand Creek	32.66	339	P		P		18 46 19.7	+1.7
	baz=138,SNR=7.1								
RC01	Rabbit Creek A	32.69	331	P		P		18 46 19.6	+1.4
	baz=127								
I28M	Miner Creek	32.72	343	P		P		18 46 18.7	+0.2
I28M				IAmb		IAmb		18 46 20.8	
	comp=Z,4.7nm,0.8s								
I28M	Miner Creek	32.72	343	P		P		18 46 19.4	+0.9
	baz=145,SNR=11								
RIDG	Independent Ri	32.74	338	P		P		18 46 20.0	+1.3
	baz=136								
EPYK	Eagle Plains	32.80	346	P		P		18 46 20.5	+1.4
	baz=150								
G31M	Satah River	32.84	348	P		P		18 46 20.7	+1.3
	baz=154								
WAT6	Susitna Watana	32.89	335	P		P		18 46 21.0	+0.9
	baz=131								
J26L	Joseph Creek	32.93	340	P		P		18 46 21.5	+1.1
	baz=139								
R18K	Karluk	32.93	323	P		P		18 46 21.2	+1.0
	baz=116								
H29M	Whitestone	33.01	345	IAmb		IAmb		18 46 23.3	
	comp=Z,3.7nm,0.8s								
H29M	Whitestone	33.01	345	P		P		18 46 22.1	+1.2
	baz=148								
DHY	Denali Highway	33.09	336	P		P		18 46 23.4	+1.6
	baz=132								
Q19K	Cape Douglas,	33.17	326	P		P		18 46 23.4	+0.9
	baz=119								
G30M	tAoh Zraii Nji	33.24	347	P		P		18 46 24.7	+1.7
	baz=152								
O20K	Slope Mountain	33.30	328	P		P		18 46 25.3	+1.7
	baz=122								
SUA	Susitna One	33.30	331	P		P		18 46 25.2	+1.6
	baz=126								
WAT1	Susitna Watana	33.33	335	P		P		18 46 25.5	+1.7
	baz=130								
P19K	Oil Pt	33.34	327	P		P		18 46 25.6	+1.6
	baz=120								
I26K	Coal Creek Min	33.43	341	P		P		18 46 26.2	+1.6
	baz=140								
G29M	Pine Creek	33.53	346	IAmb		IAmb		18 46 29.8	
	comp=Z,10nm,1.2s								
G29M	Pine Creek	33.53	346	P		P		18 46 26.1	+0.6
	baz=149								
J25K	Salcha River,	33.53	339	IAmb		IAmb		18 46 30.2	
	comp=Z,7.9nm,1.4s								
J25K	Salcha River,	33.53	339	P		P		18 46 27.0	+1.3
	baz=137								
Q18K	Katmai Hardscr	33.67	325	P		P		18 46 28.0	+1.1
	baz=117								
F30M	Barrier River	33.72	348	P		P		18 46 28.4	+1.3
	baz=153								
H27K	Steamboat Moun	33.74	343	P		P		18 46 28.8	+1.4
	baz=144,SNR=6.4								
R17L	Mt. Peulik Vol	33.89	323	P		P		18 46 29.5	+0.8
	baz=114								
SKT	Skwentna	33.91	332	P		P		18 46 28.9	0.0
SKT				IAmb		IAmb		18 46 31.2	
	comp=Z,3.7nm,0.8s								
SKT	Skwentna	33.91	332	P		P		18 46 29.9	+1.1
	baz=125								
Q17K	Contact Creek	33.92	324	P		P		18 46 29.8	+0.8
	baz=115								
INK	Inuvik	33.99	349	P		P		18 46 30.6	+1.2
	baz=156								
MCK	McKinley	34.05	336	P		P		18 46 31.3	+1.2
	baz=131								
O19K	Port Alsworth	34.09	328	P		P		18 46 31.6	+1.2
	baz=120								
IL31		34.10	338	P		P		18 46 30.6	+0.1
ILAR	Eielson Array	34.10	338	P		P		18 46 31.5	+1.0
	comp=Z,2.0nm,0.8s,baz=154,slow=7.4,SNR=26								
	comp=Z,2.0nm,0.8s								
P18K	Big Mountain,	34.11	326	P		P		18 46 32.0	+1.3
	baz=117								
PRP	Porcupine Dome	34.24	340	P		P		18 46 33.1	+1.2
	baz=137								
G27K	Doyon Strip	34.24	343	P		P		18 46 33.2	+1.5
	baz=144								
WRH	Wood River Hil	34.27	337	IAmb		IAmb		18 46 36.5	
	comp=Z,7.0nm,1.1s								
O18K	Koktuh Hills	34.32	327	P		P		18 46 33.6	+1.2
	baz=118								
TRF	Thorofare Moun	34.34	334	IAmb		IAmb		18 46 36.8	
	comp=Z,12nm,1.5s								
TRF	Thorofare Moun	34.34	334	P		P		18 46 33.7	+0.9
	baz=129								
N19K	Bonanza Creek	34.47	329	IAmb		IAmb		18 46 36.7	
	comp=Z,7.7nm,0.9s								
N19K	Bonanza Creek	34.47	329	P		P		18 46 35.2	+1.4
	baz=120								
M20K	Styx River	34.48	331	P		P		18 46 35.2	+1.3
	baz=123								
F28M	Old Crow	34.51	345	P		P		18 46 33.8	-0.2
F28M				IAmb		IAmb		18 46 37.8	
	comp=Z,6.2nm,1.2s								
F28M	Old Crow	34.51	345	P		P		18 46 35.4	+1.4
	baz=147								
POKR	Poker Plat Res	34.51	338	P		P		18 46 35.5	+1.5
	baz=134								
P17K	Kvichak River	34.58	325	P		P		18 46 35.7	+1.0
	baz=116								
CHNA	Chernabura Isl	34.62	317	P		P		18 46 36.0	+0.9
	baz=106								
NEA2	Nenana	34.67	337	P		P		18 46 36.6	+1.2
	baz=132								
PPLA	Purkeypile	34.69	333	P		P		18 46 36.7	+0.9
	baz=126,SNR=5.4								
E29M	Blow River	34.79	347	P		P		18 46 37.5	+1.1
	baz=150								
G26K	Porcupine Rive	34.87	342	P		P		18 46 38.9	+1.8
	baz=141,SNR=8.3								
H25L	Birch Creek	34.88	340	P		P		18 46 38.2	+1.1
	baz=138								
CAST	Castle Rocks	34.96	334	P		P		18 46 38.8	+0.8
	baz=126								
BPAW	Bear Paw Mtn.	34.99	335	P		P		18 46 37.6	-0.5
BPAW				IAmb		IAmb		18 46 40.2	
	comp=Z,6.6nm,0.8s								
BPAW	Bear Paw Mtn.	34.99	335	P		P		18 46 38.8	+0.7
	baz=128,SNR=9.8								
M19K	Big River Lodg	34.99	330	P		P		18 46 39.0	+0.8
	baz=122								
N18K	Kilae Creek	35.01	328	P		P		18 46 38.8	+0.4
	baz=118								
S14K	Fog Glacier	35.04	319	P		P		18 46 39.1	+0.3
	baz=108								
L20K	Farewell, AK	35.10	331	P		P		18 46 39.6	+0.4
	baz=123								
I23K	Minto, Yukon-K	35.13	337	P		P		18 46 41.0	+1.7
	baz=132								
O17K	Koliganek Bris	35.13	326	P		P		18 46 40.1	+0.7
	baz=116								
H24K	Noodor Dome	35.15	339	P		P		18 46 41.1	+1.5
	baz=134								
SDPT	Sand Point	35.26	318	P		P		18 46 41.7	+1.1
	baz=106								
E28M	Babbage River	35.28	346	IAmb		IAmb		18 46 43.

baz=117
L18K **Granite Mounta** 36.09 330 IAmb IAmb 18 46 53.3
comp=Z,8.5nm,1.2s
L18K **Granite Mounta** 36.09 330 P **P** **18 46 49.1 +1.5**
baz=119
J20K **Nowinta River** 36.15 334 IAmb IAmb 18 46 50.3
comp=Z,8.4nm,0.8s
J20K **Nowinta River** 36.15 334 P **P** **18 46 49.2 +1.1**
baz=125,SNR=9.3
O15K **Ungalikthiuk R** 36.17 324 P **P** **18 46 49.4 +1.0**
baz=112
N16K **Nishlik Lake** 36.19 326 P **P** **18 46 49.9 +1.4**
baz=115
E25K **Arctic Village** 36.21 343 P **P** **18 46 50.3 +1.7**
baz=140
H22K **Ishtalitna Cre** 36.26 337 P **P** **18 46 50.5 +1.5**
baz=130,SNR=9.3
F24K **Squaw Lake** 36.35 341 P **P** **18 46 51.4 +1.5**
baz=136
G23K **Bananza Creek** 36.38 339 P **P** **18 46 51.9 +1.7**
baz=133
M16K **Timber Creek** 36.51 327 P **P** **18 46 52.7 +1.5**
baz=115
H21K **Melozitna Rive** 36.56 336 P **P** **18 46 52.7 +1.0**
baz=128,SNR=10
J19K **Poorman** 36.59 333 P **P** **18 46 52.4 +0.6**
J19K **Poorman** 36.59 333 P **P** **18 46 52.6 +0.7**
baz=123,SNR=9.8
I20K **Naaghedeneel** 36.62 334 P **P** **18 46 52.0 0.0**
I20K **Naaghedeneel** 36.62 334 P **P** **18 46 53.6 +1.5**
baz=125,SNR=5.6
N15K **Kwethluk River** 36.67 326 P **P** **18 46 53.7 +1.1**
baz=113
A36M **Sachs Harbour** 36.69 356 P **P** **18 46 54.1 +1.5**
baz=170
L17K **Donlin** 36.71 329 P **P** **18 46 53.9 +1.0**
baz=117
J18K **Innoko River** 36.72 332 P **P** **18 46 52.7 -0.3**
J18K IAmb IAmb 18 46 55.2
comp=Z,6.1nm,0.8s
J18K **Innoko River** 36.72 332 P **P** **18 46 54.1 +1.1**
baz=121,SNR=7.0
COLD **Coldfoot** 36.79 339 P **P** **18 46 55.5 +2.0**
baz=133
O14K **Tigyukauivet M** 36.88 324 P **P** **18 46 55.6 +1.1**
baz=110
E24K **Your Creek** 36.91 341 P **P** **18 46 54.5 -0.2**
E24K IAmb IAmb 18 47 12.7
comp=Z,11nm,1.4s
E24K **Your Creek** 36.91 341 P **P** **18 46 56.1 +1.5**
baz=136
G22K **Bettles** 36.96 339 P **P** **18 46 56.6 +1.5**
baz=131
C27K **Jago River** 36.98 345 P **P** **18 46 56.7 +1.6**
baz=143,SNR=6.0
K17K **Iditarod** 36.98 330 P **P** **18 46 56.7 +1.4**
baz=118
L16K **Owhat River** 37.02 328 IAmb IAmb 18 47 00.5
comp=Z,12nm,1.1s
L16K **Owhat River** 37.02 328 P **P** **18 46 56.7 +1.1**
baz=115,SNR=6.1
IMAR **Indian Mountai** 37.07 336 P **P** **18 46 55.7 -0.3**
M15K **Kasigluk River** 37.15 326 P **P** **18 46 57.9 +1.3**
baz=113
H20K **Anotleneega Mo** 37.16 335 P **P** **18 46 58.0 +1.3**
baz=125,SNR=8.4
E23K **Chandalar** 37.20 341 P **P** **18 46 58.5 +1.3**
baz=134
G21K **Allakaket** 37.32 337 P **P** **18 46 59.3 +1.3**
baz=128
D25K **Kavik River** 37.32 344 P **P** **18 46 59.5 +1.4**
baz=140
N14K **Kuskokwak Cree** 37.32 325 P **P** **18 46 59.4 +1.3**
baz=111
GCSA **Galena City Sc** 37.45 333 P **P** **18 47 00.6 +1.5**
baz=122
C26K **Camden Bay** 37.46 345 P **P** **18 47 00.7 +1.5**
baz=142
TOLK **Toolik Lake Re** 37.60 341 P **P** **18 47 02.1 +1.6**
baz=135
J17K **VABM Dome** 37.62 331 P **P** **18 47 00.6 0.0**
J17K **VABM Dome** 37.62 331 P **P** **18 47 01.2 +0.6**
baz=118
H19K **Roundabout Mou** 37.72 335 P **P** **18 47 02.6 +1.1**
baz=123,SNR=5.9
M14K **Bethel** 37.75 326 P **P** **18 47 01.9 +0.2**
M14K **Bethel** 37.75 326 P **P** **18 47 02.2 +0.5**
baz=111
E22K **Anaktuvuk Pass** 37.86 340 P **P** **18 47 03.9 +1.2**
baz=132
L15K **Ungalak Mounta** 37.89 327 P **P** **18 47 04.0 +1.1**
baz=113
D23K **Nanushuk River** 38.12 341 P **P** **18 47 06.1 +1.3**
baz=134
K15K **Wolf Creek Mou** 38.15 328 P **P** **18 47 06.2 +1.1**
baz=114
C24K **Franklin Bluff** 38.16 343 P **P** **18 47 06.6 +1.5**
baz=137
J16K **Anvik River** 38.18 330 P **P** **18 47 05.3 -0.1**
J16K IAmb IAmb 18 47 08.0
comp=Z,15nm,1.4s
J16K **Anvik River** 38.18 330 P **P** **18 47 06.6 +1.3**
baz=116
H18K **Honhosa River** 38.20 333 P **P** **18 47 07.0 +1.4**
baz=121
M13K **Dall Lake** 38.27 325 P **P** **18 47 06.5 +0.3**
baz=110
G19K **Purcell Mounta** 38.28 335 P **P** **18 47 07.2 +1.0**
baz=123
L14K **Kuka Creek** 38.29 327 P **P** **18 47 06.0 -0.3**
L14K IAmb IAmb 18 47 17.6
comp=Z,13nm,1.4s
L14K **Kuka Creek** 38.29 327 P **P** **18 47 06.8 +0.6**
baz=111
F20K **Avaraart Lake** 38.34 337 P **P** **18 47 07.4 +0.7**
baz=126
UNV **Unalaska Valle** 38.37 314 P **P** **18 47 07.1 +0.1**
baz=98
I17K **Unalakleet** 38.48 331 P **P** **18 47 08.0 +0.2**
baz=116
D22K **Ayikyak River** 38.59 340 P **P** **18 47 09.5 +0.7**
baz=131
E21K **Killik River** 38.67 339 P **P** **18 47 10.1 +0.6**
baz=129
H17K **Granite Mounta** 38.67 333 P **P** **18 47 10.3 +0.8**
baz=119
G18K **Tagagawik** 38.69 334 P **P** **18 47 10.2 +0.6**
baz=121
C23K **Itkillik River** 38.71 342 P **P** **18 47 10.4 +0.6**
baz=135
F19K **Shalerucikik Mo** 38.89 336 P **P** **18 47 12.1 +0.9**
baz=123,SNR=5.5
E19K **Redstone River** 39.06 337 P **P** **18 47 13.3 +0.6**
baz=124
J14K **Nanvaranak Lak** 39.19 328 P **P** **18 47 15.0 +1.1**
baz=112
E20K **Nigu River** 39.20 338 P **P** **18 47 14.9 +0.9**
baz=126
G17K **Kiwalik Mounta** 39.21 333 P **P** **18 47 15.2 +1.2**
baz=118
C21K **Knifeblade Rid** 39.35 340 P **P** **18 47 16.1 +1.0**
baz=129
K13K **Kusilvak Mount** 39.38 327 P **P** **18 47 16.3 +0.9**
baz=110
G16K **Koyuk River** 39.80 333 P **P** **18 47 18.4 -0.4**
G16K IAmb IAmb 18 47 21.3
comp=Z,6.4nm,0.8s
G16K **Koyuk River** 39.80 333 P **P** **18 47 19.6 +0.8**
baz=116
F17K **Baldwin Pennin** 39.88 334 P **P** **18 47 19.8 +0.3**
baz=119
D19K **Kuna River** 39.92 338 P **P** **18 47 20.7 +0.8**
baz=124
E18K **Tukpahlearik C** 40.14 336 P **P** **18 47 22.7 +1.1**
baz=120
G15K **Niukluk** 40.27 332 P **P** **18 47 23.7 +0.9**
baz=114
ANM **Nome** 40.63 331 P **P** **18 47 26.5 +0.7**
baz=112
A21K **Barrow** 41.20 342 P **P** **18 47 31.2 +0.8**
baz=129
PEA0B **Petropavlovsk-** 59.51 316 P **P** **18 49 48.3 -0.9**
PETK **Petropavlovsk-** 59.51 316 P **P** **18 49 48.8 -0.4**
PETK **Petropavlovsk-** 59.51 316 P **P** **18 49 49.1 -0.2**
comp=Z,4.4nm,0.8s,baz=75,slow=12,SNR=14
comp=Z,4.4nm,0.8s
JTM **Tenmabayashi** 75.22 310 P **18 51 35.0 +6.1**
HEH **HeiHe** 77.12 323 *eP* **P** **18 51 38.8 -0.8**
HEH pmax pmax
comp=Z,4.0nm,0.9s
USRK **Ussuriysk Ar.** 78.59 317 P **P** **18 51 48.2 +0.3**
comp=Z,4.8nm,1.1s,baz=35,slow=4.7,SNR=5.1
comp=Z,4.8nm,1.1s
ESDC **Sonseca Array** 83.32 45 P **P** **18 52 14.2 +0.9**
comp=Z,0.8nm,0.8s,baz=303,slow=5.2,SNR=6.2
comp=Z,0.8nm,0.8s
SONM **Songino Array** 88.12 332 P **P** **18 52 37.1 0.0**
comp=Z,1.7nm,0.8s,baz=25,slow=7.2,SNR=7.2
comp=Z,1.7nm,0.8s
ZALV **Zalesovo Beam** 88.75 347 P **P** **18 52 39.0 -0.8**
ZALV **Zalesovo Beam** 88.75 347 P **P** **18 52 39.0 -0.8**
comp=Z,1.4nm,0.5s,baz=10.0,slow=3.8,SNR=6.2
comp=Z,1.4nm,0.5s
BVAR **Borovoye Array** 91.49 355 P **P** **18 52 52.8 +0.2**
comp=Z,2.2nm,0.7s,baz=0.0,slow=3.0,SNR=9.9
comp=Z,2.2nm,0.7s
HHC **Hu-ho-hao-te** 91.55 325 *eP* **P** **18 52 52.3 -1.0**
HHC pmax pmax
comp=Z,11nm,0.8s
KURBB **Kurchatov Arra** 92.99 350 P **P** **18 52 58.8 -0.8**
comp=Z,1.2nm,0.9s,baz=15,slow=4.4,SNR=11
comp=Z,1.2nm,0.9s
NJ2 **Nanjing** 94.40 315 *eP* **P** **18 53 05.4 -1.0**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s

*NEIC **04** 18:41:13.9±0.5, 35°.680N±0°.009×117°.53W±0°.01, h4km±3km, Error ellipse: s-maj=2.0km s-min=0.8km az=56.0*

PAS 04 18:41:14.3±0.5, 35°.675N±0°.006×117°.52W±0°.01, h2km±1km, ML3.2/7, ML3.3/6(NEIC), Error ellipse: s-maj=1.5km s-min=0.8km az=68.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.19**	**141**		Pg	18 41 18.7	+0.7
LRMC	**Laurel Mtn Rad**	**0.24**	**215**		Pg	18 41 19.1	+0.2
WNMM	**Nine Mile Cany**	**0.36**	**298**		Pg	18 41 21.5	+0.3
WVPM	**Volcano Peak E**	**0.37**	**318**		Pg	18 41 21.8	+0.4
MPMC	**Manual Prospec**	**0.38**	**3**		Pg	18 41 21.7	+0.1
WCSM	**Coso Springs S**	**0.41**	**330**		Pg	18 41 22.5	+0.4
WRVM	**Rose V. Centra**	**0.45**	**318**		Pg	18 41 23.1	+0.1
WRVM					Sg	18 41 29.5	+0.7
DTP	**Desert Tortois**	**0.49**	**214**		Pn	18 41 30.6	+2.2
WBSM	**Bird Springs**	**0.53**	**255**		Pg	18 41 24.5	+0.1
WBSM					Sg	18 41 31.9	+0.7
WHFM	**Hanning Flat**	**0.68**	**272**		Pg	18 41 27.3	0.0
EDW2	**Edwards Air Fo**	**0.88**	**206**		Pb	18 41 32.3	-0.1
WCT	**Wildcat Mounta**	**1.33**	**33**	Pg	Pg	18 41 39.0	-0.7
WCT				IAML		18 41 47.1	
	comp=E,529nm,1.5s						
WCT				IAML		18 41 49.7	
	comp=N,409nm,2.1s						
BBRC	**Big Bear Solar**	**1.49**	**161**		Pn	18 41 41.9	-0.5

IDC 04 18:41:58.3±3.0, 24°.97N×143°.85E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=136.1km s-min=25.3km az=79.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.59**	**193**	P	P	18 50 20.1	-0.2
	0.4nm,0.3s,baz=14,slow=8.0,SNR=3.5						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**49.30**	**192**	P	P	18 50 49.1	-0.1
	0.1nm,0.3s,baz=12,slow=14,SNR=4.1						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**55.60**	**315**	P	P	18 51 35.9	+0.2
	0.5nm,0.4s,baz=91,slow=8.2,SNR=11						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**60.62**	**318**	P	P	18 52 11.4	+0.5
	1.0nm,0.5s,baz=90,slow=8.9,SNR=4.5						
	1.0nm,0.5s						
FINES	**FINESS Array B**	**80.50**	**334**	P	P	18 54 11.4	-0.6
	0.8nm,0.4s,baz=55,slow=7.2,SNR=10						
	0.8nm,0.4s						

*NEIC **04** 18:44:24.8±0.7, 35°.721N±0°.004×117°.56W±0°.01, h8km±1km, Error ellipse: s-maj=1.3km s-min=0.6km az=82.0*

PAS 04 18:44:25±0.9, 35°.719N±0°.006×117°.56W±0°.01, h2km±2km, ML3.1/183, ML2.8/36(NEIC), Error ellipse: s-maj=1.2km s-min=0.8km az=69.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.10**	**342**		Pg	18 44 27.3	+0.2
CLC					Sg	18 44 29.1	+0.7
SRTC	**Snort**	**0.16**	**260**		Pg	18 44 28.7	+0.6
SRTC					Sg	18 44 31.9	+1.8
TOW	**Tower One**	**0.19**	**298**		Pg	18 44 29.3	+0.6
TOW					Sg	18 44 33.0	+1.8
CCCA	**Chr Cany lake**	**0.25**	**141**		Pn	18 44 34.7	-1.0
LRMC	**Laurel Mtn Rad**	**0.26**	**203**		Pg	18 44 30.1	+0.2
WNMM	**Nine Mile Cany**	**0.31**	**294**		Pg	18 44 31.2	+0.3
WVPM	**Volcano Peak E**	**0.31**	**318**		Pg	18 44 31.3	+0.3
JRC2	**Joshua Ridge**	**0.33**	**322**		Pg	18 44 31.7	+0.2
JRC2					Sg	18 44 36.7	+0.9
MPMC	**Manual Prospec**	**0.34**	**9**		Pg	18 44 31.8	+0.1
MPMC					Sg	18 44 36.8	+0.6
WCSM	**Coso Springs S**	**0.35**	**331**		Pg	18 44 31.9	+0.1
WCSM					Sg	18 44 37.0	+0.6
WRVM	**Rose V. Centra**	**0.39**	**317**		Pg	18 44 32.7	+0.1
WRVM					Sg	18 44 38.4	+0.6
MFS	**McCloud Flat S**	**0.46**	**329**		Pg	18 44 34.1	+0.2
MFS					Sg	18 44 40.6	+0.6
WBSM	**Bird Springs**	**0.51**	**249**		Pg	18 44 34.8	+0.1
WBSM					Sg	18 44 41.7	+0.4
DTP	**Desert Tortois**	**0.51**	**207**		Pg	18 44 34.6	-0.1
DTP					Sg	18 44 41.5	+0.2
WORM	**Onyx Ranch**	**0.56**	**268**		Pg	18 44 35.6	-0.1
WORM					Sg	18 44 43.0	+0.1
QSM	**Queen of Sheba**	**0.61**	**66**		Pg	18 44 36.5	-0.3
QSM				IAML		18 44 46.5	
	comp=N,652nm,0.3s						
QSM				IAML		18 44 51.2	
	comp=E,735nm,0.3s						
QSM	**Queen of Sheba**	**0.61**	**66**		Sg	18 44 45.0	+0.4
WHFM	**Hanning Flat**	**0.64**	**268**		Pg	18 44 37.3	-0.1
CCAC	**Calif City Air**	**0.68**	**214**		Sg	18 44 47.4	+0.6
CCAC	**Calif City Air**	**0.68**	**214**		Pg	18 44 37.6	-0.4
CCAC				IAML		18 44 47.9	
	comp=E,552nm,0.4s						
CCAC				IAML		18 44 48.5	
	comp=N,518nm,0.4s						
GSC	**Goldstone, Bar**	**0.74**	**124**		Sg	18 44 49.3	+0.5
GSC	**Goldstone, Bar**	**0.74**	**124**		Pg	18 44 38.9	-0.3
ISA	**Isabella, Lake**	**0.75**	**266**		Sg	18 44 49.3	+0.3
ISA	**Isabella, Lake**	**0.75**	**266**		Pg	18 44 38.9	-0.4
ISA				IAML		18 44 51.4	
	comp=E,329nm,0.2s						
ISA				IAML		18 44 53.7	
	comp=N,401nm,0.3s						
HYS	**Haystack Butte**	**0.85**	**181**		Pg	18 44 40.9	-0.5
GWY	**Greenwater Val**	**0.86**	**57**		Pg	18 44 41.3	-0.2
EDW2	**Edwards Air Fo**	**0.91**	**203**		Pg	18 44 41.9	-0.5
FURC	**Furnace Creek,**	**0.94**	**37**		Pb	18 44 44.0	+0.1
RRX	**Edison Barstow**	**0.96**	**151**		Pg	18 44 43.2	-0.1
TPO	**Tropico Hills**	**1.00**	**213**		Pg	18 44 43.8	-0.4
TEJ	**El Tejon**	**1.04**	**242**		Pg	18 44 44.1	-0.9
SBB	**Saddle Back Bu**	**1.05**	**192**		Pg	18 44 44.5	-0.6
SPG2	**Springville 2**	**1.09**	**296**		Sg	18 44 59.4	-0.7
AMDNV	**Amargosa**	**1.27**	**54**		Pb	18 44 49.6	0.0
GRAC	**Grapevine Rang**	**1.28**	**7**		Pg	18 44 49.0	-0.7
GRAC				IAML		18 45 10.3	
	comp=N,218nm,0.8s						
GRAC				IAML		18 45 14.3	
	comp=E,218nm,0.7s						
WCT	**Wildcat Mounta**	**1.31**	**35**		Pg	18 44 49.2	-1.0
WCT				IAML		18 45 12.0	
	comp=E,101nm,0.7s						
DSCC	**Desert Studies**	**1.32**	**115**		Pg	18 44 49.0	-1.3
TUQ	**Turquoise Moun**	**1.36**	**101**		Pg	18 44 50.3	-0.8
SSK	**Sunset Peak**	**1.51**	**184**		Pn	18 44 53.4	+0.2
GMN	**Gold Mountain**	**1.60**	**9**		Pn	18 44 53.7	-0.8
TPNV	**Topopah Spring**	**1.62**	**40**		Pn	18 44 54.2	-0.6
TPNV				IAML		18 45 19.3	
	comp=E,133nm,0.8s						
TPNV				IAML		18 45 20.6	
	comp=E,130nm,0.9s						
PASC	**Pasadena Art C**	**1.63**	**199**		Pn	18 44 53.9	-0.8
PASC				IAML		18 45 20.0	
	comp=E,78nm,0.8s						
DSP	**Deep Springs**	**1.68**	**349**		Pn	18 44 55.1	-0.3
CRGC	**Crocker Grade**	**1.83**	**256**		Pb	18 44 59.1	-0.2
MZP	**Montezuma Peak**	**1.98**	**4**		Pn	18 44 59.3	-0.5
ELS	**Elsinore Mount**	**2.07**	**177**	Pn	Pn	18 44 60.0	-0.8
ELS				IAML		18 45 18.7	
	comp=N,42nm,4.1s						
V12A	**Nelson**	**2.20**	**89**	Pn	Pn	18 45 02.0	-0.7
V12A				IAML		18 45 37.8	
	comp=E,42nm,1.5s						
V12A				IAML		18 45 44.1	
	comp=N,58nm,2.2s						
TPH	**Tonopah**	**2.37**	**6**		Pb	18 45 08.4	0.0

*NEIC **04** 18:47:06.0±0.9, 35°.684N±0°.010×117°.48W±0°.01, h8km±2km, Error ellipse: s-maj=1.6km s-min=1.4km az=54.0*

*IDC **04** 18:47:05.5±0.5, 35°.66N×117°.46W, h0km, mb4.2/14, mbtmp4.1/21, ML3.9/7, MS5.2/2, Error ellipse: s-maj=13.1km s-min=5.4km az=73.0*

*PAS **04** 18:47:06.6±0.9, 35°.676N±0°.010×117°.49W±0°.01, h9km±6km, Mwr4.3/4, mb4.4/28(NEIC), ML4.5/124(NEIC), Error ellipse: s-maj=1.5km s-min=1.5km az=60.0*

ISC 04 18:47:06.8±0.8, 35°.67N±0°.02×117°.50W±0°.02, h13km±5km, n132, σ1s00/127, mb4.3/27, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.17**	**331**		Pg	**18 47 10.1**	**-0.8**
CLC					Sg	**18 47 12.9**	**-0.8**
CCCA	**Chr Cany lake**	**0.18**	**143**		Pg	**18 47 10.8**	**-0.2**
CCCA					Sg	**18 47 14.1**	**+0.3**
SRTC	**Snort**	**0.21**	**277**		Pg	**18 47 11.3**	**-0.1**
SRTC					Sg	**18 47 15.4**	**+0.8**
LRMC	**Laurel Mtn Rad**	**0.24**	**219**		Pg	**18 47 11.5**	**-0.5**
LRMC					Sg	**18 47 15.6**	**0.0**
TOW	**Tower One**	**0.26**	**303**		Pg	**18 47 12.2**	**-0.2**
TOW					Sb	**18 47 16.7**	**-1.1**
WNMM	**Nine Mile Cany**	**0.38**	**298**		Pg	**18 47 13.9**	**-0.5**
WNMM					Sg	**18 47 19.4**	**-0.1**
WVPM	**Volcano Peak E**	**0.38**	**317**		Pg	**18 47 13.9**	**-0.7**
WVPM					Sg	**18 47 19.9**	**0.0**
MPMC	**Manual Prospec**	**0.39**	**1**		Pg	**18 47 13.7**	**-1.0**
MPMC					Sg	**18 47 19.2**	**-0.9**
JRC2	**Joshua Ridge**	**0.40**	**321**		Pg	**18 47 14.3**	**-0.7**
JRC2					Sg	**18 47 20.2**	**-0.2**
WCSM	**Coso Springs S**	**0.42**	**329**		Pg	**18 47 14.4**	**-0.8**
WCSM					Sg	**18 47 20.5**	**-0.4**
WRVM	**Rose V. Centra**	**0.47**	**317**		Pg	**18 47 15.3**	**-0.8**
WRVM					Sg	**18 47 22.0**	**-0.4**
DTP	**Desert Tortois**	**0.49**	**216**		Pg	**18 47 15.8**	**-0.7**
DTP					Sg	**18 47 22.6**	**-0.4**
MFS	**McCloud Flat S**	**0.54**	**327**		Pg	**18 47 16.6**	**-0.8**
MFS					Sg	**18 47 24.4**	**-0.2**
WBSM	**Bird Springs**	**0.54**	**256**		Pg	**18 47 16.9**	**-0.5**
WBSM					Sg	**18 47 24.4**	**-0.3**
QSM	**Queen of Sheba**	**0.59**	**60**		Pg	**18 47 17.4**	**-1.0**
QSM				IAML		18 47 26.0	
	comp=N,44μm,0.5s						
CCAC	**Calif City Air**	**0.67**	**220**		Pg	**18 47 19.1**	**-0.8**
CCAC					Sg	**18 47 28.6**	**0.0**
GSC	**Goldstone, Bar**	**0.67**	**123**		Pg	**18 47 18.9**	**-1.0**
GSC					Sg	**18 47 28.0**	**-0.8**
GSC				IAML		18 47 31.4	
	comp=E,23μm,0.7s						
WHFM	**Hanning Flat**	**0.69**	**273**		Pg	**18 47 19.5**	**-0.9**
WHFM					Sg	**18 47 28.8**	**-0.8**
ISA	**Isabella, Lake**	**0.80**	**270**		Pg	**18 47 21.4**	**-0.9**
ISA				Sg	Sg	**18 47 31.7**	**-1.0**
ISA				IAML		18 47 32.6	
	comp=E,15μm,0.2s						
ISA				IAML		18 47 32.7	
	comp=N,19μm,0.8s						
GWY	**Greenwater Val**	**0.85**	**52**		Pg	**18 47 22.0**	**-1.3**
EDW2	**Edwards Air Fo**	**0.88**	**208**		Sb	**18 47 35.8**	**0.0**
RRX	**Edison Barstow**	**0.89**	**153**		Sb	**18 47 36.6**	**+0.7**
CWC	**Cottonwood Cre**	**0.90**	**329**		Pg	**18 47 23.5**	**-0.9**
CWC					Sg	**18 47 35.7**	**-0.5**
FURC	**Furnace Creek,**	**0.95**	**33**		Pg	**18 47 24.1**	**-1.1**
SBB	**Saddle Back Bu**	**1.01**	**195**		Pg	**18 47 25.2**	**-1.2**
SBB					Sg	**18 47 38.6**	**-1.1**
SHOC	**Shoshone, Teco**	**1.02**	**77**		Pg	**18 47 25.3**	**-1.2**
TEJ	**El Tejon**	**1.07**	**246**		Pg	**18 47 25.9**	**-1.5**
TEJ					Sg	**18 47 40.4**	**-0.9**
VTV	**Victorville**	**1.11**	**173**		Pg	**18 47 27.0**	**-1.3**
ADO	**Adelanto Recei**	**1.12**	**177**		Pg	**18 47 27.4**	**-0.9**
ALPC	**Antelope**	**1.18**	**214**		Pg	**18 47 28.3**	**-1.2**
MAGC	**SCE Magundon P**	**1.20**	**256**		Pb	**18 47 29.0**	**-0.5**
TJR	**Tejon Ranch**	**1.20**	**238**		Pb	**18 47 28.3**	**-1.2**
ARVC	**Arvin**	**1.22**	**244**		Pn	**18 47 28.9**	**-0.7**
THC	**Tehachapi Micr**	**1.22**	**232**		Pb	**18 47 28.9**	**-1.0**
AMDNV	**Amargosa**	**1.26**	**51**		Pn	**18 47 28.5**	**-1.6**
WCT	**Wildcat Mounta**	**1.32**	**32**		Pn	**18 47 29.8**	**-1.4**
WCT					Sn	**18 47 48.4**	**-0.3**
WCT				IAML		18 47 49.2	
	comp=N,5μm,0.5s						
WCT				IAML		18 47 50.0	
	comp=E,6μm,0.6s						
GRAC	**Grapevine Rang**	**1.33**	**4**		Pn	**18 47 30.4**	**-0.8**
GRAC					Sn	**18 47 48.9**	**+0.1**
BBRC	**Big Bear Solar**	**1.48**	**161**		Pg	**18 47 34.9**	**-0.4**
MTPC	**Mountain Pass**	**1.59**	**96**		Pn	**18 47 33.4**	**-1.5**
PASC	**Pasadena Art C**	**1.60**	**201**		Pn	**18 47 34.4**	**-0.4**
PASC				IAML		18 48 03.3	
	comp=E,4μm,1.0s						
TPNV	**Topopah Spring**	**1.63**	**38**		Pn	**18 47 34.4**	**-1.0**
TPNV				IAML		18 48 00.6	
	comp=E,10μm,0.6s						
GMN	**Gold Mountain**	**1.64**	**7**		Pn	**18 47 34.6**	**-1.0**
GMN				IAML		18 48 00.7	
	comp=N,3μm,0.5s						
VOG	**Valley Oaks Go**	**1.66**	**294**		Pb	**18 47 36.8**	**-0.5**
BCW	**Bitter Crk WRg**	**1.73**	**246**		Pn	**18 47 35.8**	**-0.9**
BCW				IAML		18 48 12.8	
	comp=E,6μm,1.1s						
BCW				IAML		18 48 18.3	
	comp=N,6μm,1.1s						
DSP	**Deep Springs**	**1.74**	**347**		Pn	**18 47 36.4**	**-0.4**
DSP				IAML		18 48 02.8	
	comp=N,3μm,0.7s						
DSP				IAML		18 48 05.5	
	comp=E,4μm,1.1s						
POCCA	**Poleta Canyon**	**1.81**	**340**		Pb	**18 47 39.6**	**-0.3**
BHPR	**Bishop**	**1.81**	**334**		Pn	**18 47 37.8**	**-0.2**
MTUM	**Tungsten Hills**	**1.89**	**333**		Pn	**18 47 38.9**	**-0.1**
ELS	**Elsinore Mount**	**2.02**	**178**		Pn	**18 47 39.8**	**-0.8**
MZP	**Montezuma Peak**	**2.03**	**3**		Pn	**18 47 40.3**	**-0.8**
SHPR	**Sheep Range**	**2.07**	**65**		Pn	**18 47 40.4**	**-1.0**
SHPR				IAML		18 48 13.1	
	comp=N,2μm,0.7s						
V12A	**Nelson**	**2.15**	**88**		Pn	**18 47 41.0**	**-1.6**
V12A				IAML		18 48 17.2	
	comp=N,4μm,1.0s						
V12A				IAML		18 48 21.6	
	comp=E,3μm,0.6s						
PFO	**Pinyon Flats O**	**2.22**	**157**		Pn	**18 47 42.3**	**-1.3**
PFO	**Pinyon Flats O**	**2.22**	**157**	Pn	Pn	**18 47 42.4**	**-1.1**
	comp=E,12nm,0.3s,baz=340,slow=14,SNR=22						
PFO				Pg	**Pb**	**18 47 46.9**	**-0.1**
	comp=E,106nm,0.3s,baz=342,slow=16,SNR=74						
PFO				Lg	Lg	18 48 16.8	
	comp=E,408nm,0.3s,baz=58,slow=7.4,SNR=6.2						
	comp=E,85nm,0.3s						
PRN	**Pahroc Range**	**2.62**	**48**	IAML		18 48 38.2	
	comp=E,3μm,0.9s						
PRN				IAML		18 48 42.8	
	comp=N,3μm,0.6s						
LHV	**Little Huntoon**	**2.70**	**343**	IAML		18 48 37.1	
	comp=N,3μm,0.6s						
LHV				IAML		18 48 37.8	
	comp=E,3μm,0.8s						
NVAR	**Mina Array Bea**	**2.83**	**347**	Pn	**Pn**	**18 47 51.7**	**-0.3**
	comp=E,15nm,0.3s,baz=72,slow=14,SNR=46						
NVAR				Pg	**Pg**	**18 47 58.8**	**-2.3**
	comp=E,99nm,0.3s,baz=163,slow=16,SNR=43						
NVAR				Lg	Lg	18 48 36.2	
	comp=E,92nm,0.3s,baz=174,slow=31,SNR=4.5						
	comp=E,47nm,0.8s						

W13A Hualapai Mount 3.00 100 IAML 18 48 45.0
comp=E,1µm,0.8s
W13A IAML 18 48 45.0
comp=N,2µm,1.9s
BBGB Big Mountain B 3.01 289 **Pn** **18 47 54.5 +0.2**
RYN Ryan 3.07 345 IAML 18 48 56.3
comp=E,913nm,1.2s
R11B Troy Canyon, C 3.08 29 IAML 18 48 47.9
comp=E,1µm,0.6s
BLYC Blythe 3.11 127 **Pn** **18 47 53.6 -2.0**
BLYC IAML 18 48 46.5
comp=N,946nm,0.6s
BLYC IAML 18 48 46.6
comp=E,925nm,0.6s
Q09A Carvers 3.17 4 **Pn** **18 47 56.7 +0.1**
TJX Tijuana 3.17 173 **Pn** **18 47 56.5 0.0**
TKX Tecate 3.18 166 IAML 18 49 01.7
comp=E,986nm,0.5s
WAKR Walker 3.23 332 **Pn** **18 47 58.1 +0.7**
YUH Yuha Desert 3.28 156 **Pn** **18 47 56.5 -1.4**
CMB Columbia Colle 3.31 316 IAML 18 48 58.2
comp=N,981nm,0.9s
CMB IAML 18 48 59.3
comp=E,993nm,0.8s
GLA Glamis 3.42 139 IAML 18 49 04.6
comp=N,1µm,1.2s
ESJX Sierra Juarez 3.87 160 IAML 18 49 09.6
comp=E,503nm,1.4s
KNB Kanab 4.01 69 IAML 18 49 21.7
comp=E,559nm,1.2s
KNB IAML 18 49 25.8
comp=N,730nm,1.3s
Y14A Wickenburg 4.08 114 IAML 18 49 19.4
comp=E,710nm,0.7s
Y14A IAML 18 49 29.5
comp=N,861nm,1.1s
PSUT Pine Spring 4.08 44 IAML 18 49 19.6
comp=N,457nm,0.7s
PSUT IAML 18 49 27.2
comp=E,790nm,1.3s
SPR3 Spring Creek 3 4.17 36 IAML 18 49 17.8
comp=E,577nm,1.2s
SPR3 IAML 18 49 25.8
comp=N,483nm,1.1s
AFDM Forest Hills D 4.29 321 IAML 18 49 30.7
comp=E,827nm,1.2s
AFDM IAML 18 49 34.9
comp=N,397nm,1.4s
BEKR Beckworth 4.77 332 IAML 18 49 44.5
comp=E,384nm,1.0s
BEKR IAML 18 49 54.6
comp=N,267nm,0.8s
MCCM Marconi Confer 4.97 301 IAML 18 49 42.2
comp=E,414nm,1.4s
MCCM IAML 18 50 01.9
comp=N,280nm,1.3s
MVU Marysvale 5.08 55 IAML 18 49 50.3
comp=N,502nm,0.8s
MVU IAML 18 49 55.2
comp=E,380nm,1.2s
X16A Lo Mia Camp, P 5.12 102 IAML 18 49 57.8
comp=N,211nm,1.3s
X16A IAML 18 50 06.3
comp=E,201nm,1.4s
ELK Elko 5.37 19 IAML 18 49 58.5
comp=E,233nm,0.7s
ELK Elko 5.37 19 Pn **Pn** **18 48 27.3 +0.4**
comp=E,3.0nm,0.3s,baz=207,slow=8.2,SNR=26
ELK Pg Pg 18 48 44.7 -5.0
comp=E,21nm,0.3s,baz=217,slow=12,SNR=33
ELK Lg Lg 18 49 54.6
comp=E,30nm,0.3s,baz=304,slow=23,SNR=14
comp=E,13nm,0.5s
214A Organ Pipe Nat 5.38 132 IAML 18 50 11.1
comp=E,216nm,1.1s
214A IAML 18 50 27.9
comp=N,201nm,1.2s
YBH Yreka Blue Hor 7.30 328 Pn **Pn** **18 48 55.5 +2.3**
baz=159,slow=7.0,SNR=4.8
YBH Lg Lg 18 50 57.1
baz=150,slow=4.9,SNR=7.0
ANMO Albuquerque 9.05 91 Pn **Pn** **18 49 19.2 +1.8**
comp=N,0.1nm,0.3s,baz=155,slow=14,SNR=1.8
ANMO Pg 18 49 49.6
comp=N,0.4nm,0.3s,baz=26,slow=12,SNR=5.4
ANMO Lg Lg 18 51 48.2
comp=N,0.9nm,0.3s,baz=276,slow=21,SNR=14
comp=N,0.6nm,0.5s
PDAR Pinedale Array 9.39 39 Pn **Pn** **18 49 24.7 +2.7**
comp=N,0.2nm,0.3s,baz=226,slow=13,SNR=19
PDAR Lg Lg 18 52 00.5
comp=N,0.3nm,0.3s,baz=210,slow=28,SNR=2.4
comp=N,6.2nm,0.9s
NEW Newport 12.59 1 Pn **Pn** **18 50 08.4 +2.8**
comp=N,0.1nm,0.3s,baz=153,slow=13,SNR=5.4
comp=N,0.8nm,0.3s
TXAR Lajitas Array 13.27 115 Pn **Pn** **18 50 16.0 +1.0**
comp=N,0.5nm,0.3s,baz=290,slow=11,SNR=20
TXAR Lg Lg 18 54 04.6
comp=N,0.1nm,0.3s,baz=296,slow=32,SNR=5.6
comp=N,0.9nm,0.4s
LLLB Lillooet 15.27 349 **P** **18 50 49.4 +2.5**
LLLB IAmb IAmb 18 50 50.4
comp=Z,23nm,1.1s
E28A Huff 16.67 44 **Pn** **18 50 58.7 -1.3**
ECSD EROS Data Cent 17.94 57 **Pn** **18 51 15.2 -0.8**
F33A 5 Mile Ranch, 18.95 51 P **Pn** **18 51 27.6 -0.7**
P38A Dawn 19.37 71 P **Pn** **18 51 32.5 -0.8**
MIAR Mount Ida 19.60 86 P **Pn** **18 51 35.6 -0.5**
MIAR IAmb IAmb 18 51 43.7
comp=Z,23nm,1.1s
AGMN Agassiz Nation 20.36 45 P **P** **18 51 42.8 -0.1**
AGMN IAmb IAmb 18 51 44.6
comp=Z,21nm,0.9s
P40A Paris 20.51 72 IAmb IAmb 18 51 49.7
comp=Z,17nm,1.0s
SPMN Marine on St. 21.01 55 IAmb IAmb 18 51 54.8
comp=Z,18nm,1.0s
ULM Lac du Bonnet 21.40 40 P **P** **18 51 54.6 +0.4**
comp=Z,42nm,1.0s,baz=232,slow=10,SNR=45
comp=Z,42nm,1.0s
FFC Flin Flon 21.88 25 **P** **18 51 59.1 -0.1**
I40A Norwalk 22.16 60 IAmb IAmb 18 52 03.5
comp=Z,14nm,1.0s
L42A Oliver, Polo 22.52 65 IAmb IAmb 18 52 08.8
comp=Z,16nm,0.9s
G40A Rib Lake 22.78 57 IAmb IAmb 18 52 17.3
comp=Z,16nm,1.5s
EYMN Ely 22.82 49 P **P** **18 52 08.9 -0.5**
EYMN IAmb IAmb 18 52 15.2
comp=Z,12nm,1.1s
TBO Thunder Bay 24.37 49 **P** **18 52 24.8 +0.2**
W50A Signal Mountai 26.17 82 P **P** **18 52 41.1 +0.1**
W50A IAmb IAmb 18 52 42.0
comp=Z,6.7nm,0.8s
YKAW1 Yellowknife Wh 26.91 3 **P** **18 52 47.2 -0.1**
YKAW1 IAmb IAmb 18 52 51.3
comp=Z,9.7nm,0.8s
YKA Yellowknife Ar 26.91 3 P **P** **18 52 47.7 +0.3**
YKA Yellowknife Ar 26.91 3 P **P** **18 52 48.2 +0.9**
comp=Z,3.2nm,0.8s,baz=187,slow=9.1,SNR=22
comp=Z,3.2nm,0.8s
I28M Miner Creek 32.66 343 IAmb IAmb 18 53 41.1
comp=Z,3.5nm,0.8s
ILAR Eielson Array 34.05 338 P **P** **18 53 51.2 +0.7**
ILAR Eielson Array 34.05 338 P **P** **18 53 52.0 +1.5**
comp=Z,1.4nm,0.9s,baz=156,slow=7.3,SNR=16
comp=Z,1.4nm,0.9s
E28M Babbage River 35.22 346 **S** **18 59 33.9 +0.6**
K20K Telida 35.61 333 IAmb IAmb 18 54 06.7
comp=Z,7.0nm,0.8s
L18K Granite Mounta 36.05 330 P **P** **18 54 07.0 -0.6**
L18K IAmb IAmb 18 54 16.0
comp=Z,11nm,1.4s
J20K Nowinta River 36.10 334 P **P** **18 54 07.3 -0.8**
IMAR Indian Mountai 37.02 336 P **P** **18 54 16.6 +0.7**
SCHQ Schefferville 39.46 45 LR LR 19 11 20.2
comp=Z,2µm,18.2s,baz=20,slow=37
PETK Petropavlovsk- 59.50 316 P **P** **18 57 10.1 +0.6**
comp=Z,2.0nm,0.8s,baz=67,slow=11,SNR=5.2
comp=Z,2.0nm,0.8s
LPAZ La Paz 69.67 129 P **P** **18 58 19.4 +2.3**
comp=Z,1.2nm,0.7s,baz=337,slow=3.2,SNR=3.6
comp=Z,1.2nm,0.7s
NOA NORSAR Array B 74.97 23 P **P** **18 58 47.5 0.0**
comp=Z,1.6nm,0.9s,baz=316,slow=5.6,SNR=3.5
comp=Z,1.6nm,0.9s
HFS Hagfors 76.46 23 P **P** **18 58 56.5 +0.5**
comp=Z,4.2nm,1.0s,baz=256,slow=6.0,SNR=2.3
comp=Z,4.2nm,1.0s
HEH HeiHe 77.09 323 *eP* **P** **18 58 59.8 +0.1**
USRK Ussuriysk Ar. 78.58 317 P **P** **18 59 08.6 +0.5**
comp=Z,2.9nm,0.9s,baz=66,slow=5.6,SNR=4.3
comp=Z,2.9nm,0.9s
ESDC Sonseca Array 83.21 45 P **P** **18 59 32.3 -0.7**
comp=Z,0.6nm,0.7s,baz=298,slow=4.6,SNR=4.4
comp=Z,0.6nm,0.7s
SONM Songino Array 88.07 332 P **P** **18 59 56.6 -0.6**
comp=Z,1.0nm,0.7s,baz=1.4,slow=5.9,SNR=3.9
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 88.68 347 P **P** **18 59 59.2 -0.5**
comp=Z,0.8nm,0.5s,baz=19,slow=5.0,SNR=4.4
comp=Z,0.8nm,0.5s
AKASG Malin Array Be 89.13 20 P **P** **19 00 01.3 -0.5**
comp=Z,0.2nm,0.3s,baz=313,slow=3.1,SNR=5.1
comp=Z,0.2nm,0.3s
BVAR Borovoye Array 91.41 355 P **P** **19 00 12.9 +0.5**
comp=Z,1.6nm,0.9s,baz=45,slow=6.3,SNR=5.8
comp=Z,1.6nm,0.9s
HHC Hu-ho-hao-te 91.52 325 *eP* **P** **19 00 11.9 -1.5**
HHC pmax pmax
comp=Z,6.0nm,0.7s
KURBB Kurchatov Arra 92.92 350 P **P** **19 00 19.5 0.0**
comp=Z,0.6nm,0.7s,baz=18,slow=4.9,SNR=7.2
comp=Z,0.6nm,0.7s
WMQ Urumqi 97.63 342 *eP* Pdif 19 00 42.7 +1.4
WMQ pmax pmax
comp=Z,21nm,1.1s
LZH Lanzhou 98.90 327 *eP* **P** **19 00 44.8 -2.4**
LZH pP sP 19 00 54.5 +1.1
LZH pmax pmax
comp=Z,24nm,0.7s
KBZ Khabaz 98.99 14 LR LR 19 50 28.5
comp=Z,1µm,18.0s,baz=150,slow=38

IDC 04 18:48:22.9±1.7, 0°43N×125°80E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=177.1km s-min=23.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.91**	**158**	P	P	18 53 17.2	-0.7
	1.0nm,0.6s,baz=336,slow=11,SNR=7.0						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**25.22**	**162**	P	P	18 53 51.0	+0.5
	1.1nm,0.9s,baz=344,slow=11,SNR=7.7						
	1.1nm,0.9s						
MKAR	**Makanchi Array**	**59.75**	**327**	P	P	18 58 29.6	-0.1
	0.1nm,0.3s,baz=120,slow=7.1,SNR=4.2						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**64.03**	**329**	P	P	18 58 58.3	0.0
	0.3nm,0.8s,baz=128,slow=6.0,SNR=2.2						
	0.3nm,0.8s						

*NEIC **04** 18:50:15.8±0.8, 35°.68N±0°.01×117°.50W±0°.01, h5km, Error ellipse: s-maj=2.2km s-min=1.7km az=296.0*

PAS 04 18:50:16.0±0.9, 35°.677N±0°.008×117°.50W±0°.01, h1km±1km, ML3.7, ML3.5/120(NEIC), Error ellipse: s-maj=1.2km s-min=1.1km az=125.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCCA	**Chr Cany lake**	**0.19**	**144**		Pg	18 50 20.5	+0.9
LRMC	**Laurel Mtn Rad**	**0.25**	**217**		Pg	18 50 21.0	+0.3
LRMC					Sg	18 50 24.9	+1.0
MPMC	**Manual Prospec**	**0.38**	**1**		Pg	18 50 21.3	-2.1
WCSM	**Coso Springs S**	**0.41**	**328**		Pg	18 50 21.6	-2.3
WCSM					Sg	18 50 30.0	+0.7
DTP	**Desert Tortois**	**0.50**	**215**		Pn	18 50 32.8	+2.4
MFS	**McCloud Flat S**	**0.53**	**327**		Pn	18 50 33.7	+2.9
WBSM	**Bird Springs**	**0.54**	**255**		Pn	18 50 34.5	+3.4
QSM	**Queen of Sheba**	**0.59**	**61**		Pg	18 50 27.1	-0.2
QSM				IAML		18 50 35.8	
	comp=N,4µm,0.6s						
QSM				IAML		18 50 35.9	
	comp=E,4µm,0.6s						
WORM	**Onyx Ranch**	**0.60**	**272**		Pg	18 50 25.0	-2.6
WORM					Sg	18 50 36.1	+0.7
CCAC	**Calif City Air**	**0.67**	**219**		Pg	18 50 27.2	-1.7
CCAC	**Calif City Air**	**0.67**	**219**	IAML		18 50 44.1	
	comp=E,2µm,0.6s						
GSC	**Goldstone, Bar**	**0.68**	**123**		Pg	18 50 28.9	-0.2
GSC				IAML		18 50 39.0	
	comp=E,3µm,0.4s						
GSC				IAML		18 50 42.9	
	comp=N,3µm,0.3s						
ISA	**Isabella, Lake**	**0.79**	**269**	Pg	Pg	18 50 31.0	-0.2
ISA				IAML		18 50 42.5	
	comp=E,1µm,0.5s						
ISA				IAML		18 50 42.7	
	comp=N,2µm,0.3s						
HYS	**Haystack Butte**	**0.81**	**184**		Pb	18 50 33.0	0.0
GWY	**Greenwater Val**	**0.84**	**53**		Pg	18 50 32.2	0.0
WASM	**Alta Sierra Ca**	**0.86**	**274**		Pg	18 50 32.6	+0.1
CGO	**Cerro Gordo**	**0.91**	**344**		Pb	18 50 35.1	+0.3
AMDNV	**Amargosa**	**1.25**	**52**		Pg	18 50 40.0	-0.1
DSCC	**Desert Studies**	**1.26**	**115**		Pg	18 50 39.3	-0.8
TUQ	**Turquoise Moun**	**1.31**	**100**		Pg	18 50 40.3	-0.8
WCT	**Wildcat Mounta**	**1.32**	**32**	Pg	Pg	18 50 40.7	-0.6
WCT				IAML		18 51 00.3	
	comp=N,800nm,0.4s						
WCT				IAML		18 51 02.1	
	comp=E,680nm,0.7s						
GRAC	**Grapevine Rang**	**1.32**	**5**	Pg	Pg	18 50 40.7	-0.7
GRAC				IAML		18 51 07.3	
	comp=E,956nm,0.6s						
SVD	**Seven Oaks Dam**	**1.60**	**168**		Pn	18 50 45.6	+0.1
PASC	**Pasadena Art C**	**1.60**	**201**		Pn	18 50 45.0	-0.5
PASC				IAML		18 51 11.8	
	comp=N,444nm,0.5s						
PASC				IAML		18 51 11.9	
	comp=E,457nm,0.4s						
TPNV	**Topopah Spring**	**1.62**	**38**		Pn	18 50 45.8	-0.1
TPNV				IAML		18 51 11.2	
	comp=E,882nm,0.8s						
GMN	**Gold Mountain**	**1.63**	**7**		Pn	18 50 45.8	-0.4
BCW	**Bitter Crk WRg**	**1.73**	**245**		Pn	18 50 47.8	+0.5
BCW				IAML		18 51 14.0	
	comp=N,701nm,0.6s						
BCW				IAML		18 51 20.8	
	comp=E,665nm,0.7s						
DSP	**Deep Springs**	**1.73**	**348**		Pn	18 50 47.8	+0.5
BLAC	**Blackrock camp**	**1.84**	**150**		Pb	18 50 50.7	+0.1
MTUM	**Tungsten Hills**	**1.88**	**333**		Pb	18 50 51.2	0.0
MZP	**Montezuma Peak**	**2.02**	**3**	Pn	Pn	18 50 50.5	-1.1
ELS	**Elsinore Mount**	**2.02**	**178**	Pn	Pn	18 50 50.3	-1.0
ELS				IAML		18 51 23.3	
	comp=E,276nm,0.7s						
ELS				IAML		18 51 29.2	
	comp=N,352nm,0.6s						
SHPR	**Sheep Range**	**2.07**	**66**	Pn	Pn	18 50 50.7	-1.4
V12A	**Nelson**	**2.16**	**88**	Pn	Pn	18 50 52.0	-1.3
V12A				IAML		18 51 32.6	
	comp=E,262nm,0.6s						
V12A				IAML		18 51 34.3	
	comp=N,202nm,0.8s						
PFO	**Pinyon Flats O**	**2.23**	**157**	Pn	Pn	18 50 53.4	-0.9
PFO				IAML		18 51 31.5	
	comp=N,230nm,0.9s						
TPH	**Tonopah**	**2.40**	**5**	Pn	Pn	18 50 55.4	-1.3
S11A	**Rachel**	**2.42**	**35**	Pn	Pn	18 50 56.0	-0.9
PRN	**Pahroc Range**	**2.62**	**48**	Pn	Pn	18 50 58.3	-1.3
PRN				IAML		18 51 46.9	
	comp=E,285nm,0.7s						
LHV	**Little Huntoon**	**2.69**	**343**	Pn	Pn	18 50 59.9	-0.6
LHV				IAML		18 51 17.0	
	comp=E,183nm,1.2s						
LHV				IAML		18 51 55.5	
	comp=N,132nm,1.3s						
PMPB	**Monarch Peak**	**2.73**	**282**	Pn	Pn	18 50 60.0	-1.1
CPE	**Camp Elliot**	**2.80**	**173**	IAML		18 51 49.2	
	comp=N,168nm,0.6s						
CPE				IAML		18 52 52.0	
	comp=E,183nm,0.6s						
NV11	**Mina Array Sit**	**2.80**	**349**	Pn	Pn	18 51 00.7	-1.4
NVAR	**Mina Array Bea**	**2.82**	**347**	Pn	Pn	18 51 01.4	-1.1
BBGB	**Big Mountain B**	**3.00**	**288**	Pn	Pn	18 51 03.8	-1.1
W13A	**Hualapai Mount**	**3.01**	**100**	Pn	Pn	18 51 03.8	-1.2
RYN	**Ryan**	**3.06**	**345**	Pn	Pn	18 51 04.3	-1.4
R11B	**Troy Canyon, C**	**3.08**	**29**	Pn	Pn	18 51 04.6	-1.3
R11B				IAML		18 51 55.0	
	comp=E,96nm,0.6s						
BLYC	**Blythe**	**3.12**	**127**	Pn	Pn	18 51 04.2	-2.0
BLYC				IAML		18 51 56.2	
	comp=E,155nm,0.6s						
Q09A	**Carvers**	**3.16**	**5**	Pn	Pn	18 51 05.2	-1.9
TJX	**Tijuana**	**3.18**	**173**	Pn	Pn	18 51 05.7	-1.5
TKX	**Tecate**	**3.19**	**166**	Pn	Pn	18 51 05.4	-1.9
WAKR	**Walker**	**3.22**	**332**	Pn	Pn	18 51 06.9	-1.0
WAKR				IAML		18 52 09.0	
	comp=N,77nm,1.1s						
YUH	**Yuha Desert**	**3.29**	**156**	Pn	Pn	18 51 07.7	-1.1
YUH				IAML		18 52 02.6	
	comp=N,73nm,1.1s						
CMB	**Columbia Colle**	**3.30**	**316**	Pn	Pn	18 51 07.8	-1.1
CMB				IAML		18 52 08.0	
	comp=E,96nm,0.9s						
CMB				IAML		18 52 11.3	
	comp=N,76nm,0.8s						
SAO	**San Andreas Ge**	**3.37**	**290**	Pn	Pn	18 51 08.5	-1.3
CBX	**Cerro Bola**	**3.43**	**168**	Pn	Pn	18 51 08.8	-1.9
GLA	**Glamis**	**3.43**	**139**	Pn	Pn	18 51 08.8	-1.8
LCMT	**Little Creek M**	**3.69**	**68**	Pn	Pn	18 51 12.2	-2.1
CCUT	**Cedar City**	**3.82**	**59**	Pn	Pn	18 51 14.7	-1.5
ESJX	**Sierra Juarez**	**3.88**	**160**	Pn	Pn	18 51 15.7	-1.3
ESJX				IAML		18 52 24.9	
	comp=N,78nm,0.8s						
ESJX				IAML		18 52 26.7	
	comp=E,59nm,0.9s						
KNB	**Kanab**	**4.01**	**69**	Pn	Pn	18 51 17.5	-1.2
KNB				IAML		18 52 05.8	
	comp=E,48nm,1.2s						
KNB				IAML		18 52 32.0	
	comp=N,44nm,1.2s						
SZCU	**Shurtz Canyon**	**4.03**	**60**	Pn	Pn	18 51 17.5	-1.6
PSUT	**Pine Spring**	**4.08**	**45**	Pn	Pn	18 51 17.9	-1.8
PSUT				IAML		18 52 30.3	
	comp=N,84nm,0.7s						
PSUT				IAML		18 52 30.6	
	comp=E,63nm,0.8s						
Y14A	**Wickenburg**	**4.08**	**114**	Pn	Pn	18 51 18.7	-1.0
Y14A				IAML		18 52 29.6	
	comp=E,87nm,0.9s						
MPK	**Martis Peak**	**4.13**	**332**		Pn	18 51 20.0	-0.5
SPR3	**Spring Creek 3**	**4.17**	**36**	Pn	Pn	18 51 19.2	-1.9
SPR3				IAML		18 52 28.1	
	comp=E,51nm,0.9s						
SPR3				IAML		18 52 32.3	
	comp=N,46nm,0.9s						
113A	**Mohawk Valley,**	**4.24**	**132**	Pn	Pn	18 51 20.7	-1.1
113A				IAML		18 52 31.9	
	comp=N,42nm,1.2s						
113A				IAML		18 52 40.9	
	comp=E,36nm,0.9s						
AFDM	**Forest Hills D**	**4.28**	**321**	Pn	Pn	18 51 21.4	-1.0
AFDM				IAML		18 52 33.8	
	comp=N,42nm,0.6s						
AFDM				IAML		18 52 35.3	
	comp=E,78nm,1.1s						
PAHR	**Pah Rah Range**	**4.29**	**340**	Pn	Pn	18 51 21.2	-1.4
MVU	**Marysvale**	**5.08**	**55**	Pn	Pn	18 51 30.9	-2.6
MVU				IAML		18 53 01.1	
	comp=E,31nm,0.7s						
214A	**Organ Pipe Nat**	**5.38**	**132**	Pn	Pn	18 51 34.6	-2.9
214A				IAML		18 53 13.5	
	comp=E,23nm,1.1s						
214A				IAML		18 53 20.4	
	comp=N,23nm,0.9s						

*NEIC **04** 18:53:27.0±1.2, 35°.725N±0°.005×117°.56W±0°.01, h2km±1km, Error ellipse: s-maj=1.2km s-min=0.8km az=78.0*

PAS 04 18:53:27.7±0.6, 35°.729N±0°.004×117°.56W±0°.01, h8km±3km, ML3.4/27, ML3.3/26(NEIC), Error ellipse: s-maj=1.6km s-min=0.6km az=93.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.09**	**341**		Pg	18 53 29.9	-0.1
CLC					Sg	18 53 31.7	+0.1
SRTC	**Snort**	**0.16**	**257**		Pg	18 53 31.3	+0.3
SRTC					Sg	18 53 34.6	+1.4
TOW	**Tower One**	**0.18**	**296**		Pg	18 53 31.9	+0.4
TOW					Sg	18 53 35.3	+1.3
CCCA	**Chr Cany lake**	**0.26**	**142**		Pg	18 53 33.2	+0.3
CCCA					Sg	18 53 37.5	+1.2
LRMC	**Laurel Mtn Rad**	**0.27**	**202**		Pg	18 53 32.9	-0.2
LRMC					Sg	18 53 36.8	+0.1
WNMM	**Nine Mile Cany**	**0.30**	**292**		Pg	18 53 33.6	0.0
WNMM					Sg	18 53 38.0	+0.4
WVPM	**Volcano Peak E**	**0.30**	**317**		Pg	18 53 33.6	-0.2
WVPM					Sg	18 53 38.1	+0.3
JRC2	**Joshua Ridge**	**0.32**	**322**		Pg	18 53 34.0	-0.1
JRC2					Sg	18 53 38.8	+0.3
MPMC	**Manual Prospec**	**0.33**	**10**		Pg	18 53 34.1	-0.2
MPMC					Sg	18 53 38.9	+0.1
WCSM	**Coso Springs S**	**0.34**	**331**		Pg	18 53 34.2	-0.3
WCSM					Sg	18 53 39.2	+0.2
WRVM	**Rose V. Centra**	**0.39**	**316**		Pg	18 53 35.0	-0.2
WRVM					Sg	18 53 40.5	+0.1
MFS	**McCloud Flat S**	**0.46**	**328**		Pg	18 53 36.4	-0.2
MFS					Sg	18 53 42.5	-0.1
WBSM	**Bird Springs**	**0.51**	**248**		Pg	18 53 37.2	-0.4
WBSM					Sg	18 53 44.2	0.0
DTP	**Desert Tortois**	**0.52**	**207**		Pg	18 53 37.3	-0.4
DTP					Sg	18 53 44.3	-0.1
WORM	**Onyx Ranch**	**0.56**	**267**		Pg	18 53 37.9	-0.5
WORM					Sg	18 53 45.2	-0.5
QSM	**Queen of Sheba**	**0.61**	**67**		Pg	18 53 39.1	-0.4
QSM					Sg	18 53 47.5	0.0
QSM	**Queen of Sheba**	**0.61**	**67**	IAML		18 53 47.7	
	comp=E,1µm,0.2s						
QSM				IAML		18 53 48.4	
	comp=N,872nm,0.2s						
WHFM	**Hanning Flat**	**0.64**	**267**		Sg	18 53 48.1	-0.4
CCAC	**Calif City Air**	**0.69**	**213**		Sg	18 53 49.9	+0.1
CCAC	**Calif City Air**	**0.69**	**213**	Pg	Pg	18 53 40.4	-0.5
CCAC				IAML		18 53 50.2	
	comp=E,1µm,0.5s						
CCAC				IAML		18 53 50.4	
	comp=N,1µm,0.2s						
ISA	**Isabella, Lake**	**0.75**	**265**		Sg	18 53 51.1	-0.7
ISA	**Isabella, Lake**	**0.75**	**265**	Pg	Pg	18 53 41.3	-0.8
ISA				IAML		18 53 52.3	
	comp=E,924nm,0.4s						
GSC	**Goldstone, Bar**	**0.75**	**124**		Sg	18 53 52.0	+0.2
GSC	**Goldstone, Bar**	**0.75**	**124**		Pg	18 53 41.4	-0.6
GSC				IAML		18 53 52.2	
	comp=N,2µm,0.3s						
GSC				IAML		18 53 55.2	
	comp=E,1µm,0.4s						
WASM	**Alta Sierra Ca**	**0.81**	**271**		Pg	18 53 42.8	-0.5
WASM					Sg	18 53 53.6	-0.3
GWY	**Greenwater Val**	**0.85**	**57**		Pg	18 53 43.6	-0.5
GWY					Sg	18 53 55.2	-0.1
GWY	**Greenwater Val**	**0.85**	**57**	IAML		18 53 58.7	
	comp=E,1µm,0.4s						
HYS	**Haystack Butte**	**0.86**	**180**		Pg	18 53 43.5	-0.8
HYS					Sb	18 53 56.6	-0.1
EDW2	**Edwards Air Fo**	**0.92**	**203**		Pg	18 53 44.5	-0.8
FURC	**Furnace Creek,**	**0.93**	**37**		Pn	18 53 58.2	+11
TEJ	**El Tejon**	**1.05**	**242**		Pg	18 53 47.4	-0.4
SPG2	**Springville 2**	**1.09**	**296**		Pg	18 53 47.7	-0.8
AMDNV	**Amargosa**	**1.26**	**55**		Pn	18 53 51.4	-0.3
GRAC	**Grapevine Rang**	**1.27**	**7**		Pn	18 53 49.9	-2.0
GRAC				IAML		18 54 11.2	
	comp=E,396nm,0.4s						
HOLC	**Holcomb Ridge**	**1.29**	**191**		Pb	18 53 52.2	0.0
SS2	**San Sevaine**	**1.52**	**178**		Pg	18 53 56.6	-0.2
GMN	**Gold Mountain**	**1.59**	**9**		Pn	18 53 56.1	-0.2
TPNV	**Topopah Spring**	**1.61**	**41**		Pn	18 53 56.3	-0.3
TPNV				IAML		18 54 50.0	
	comp=E,645nm,0.5s						
TPNV				IAML		18 54 51.4	
	comp=E,553nm,0.5s						
PASC	**Pasadena Art C**	**1.64**	**198**		Pn	18 53 56.9	+0.1
PASC				IAML		18 54 21.6	
	comp=E,348nm,0.3s						
DSP	**Deep Springs**	**1.67**	**349**		Pb	18 53 58.8	+0.1
DSP	**Deep Springs**	**1.67**	**349**	IAML		18 54 52.2	
	comp=E,255nm,0.6s						
DSP				IAML		18 54 54.5	
	comp=N,261nm,0.8s						
BHPR	**Bishop**	**1.74**	**335**		Pb	18 54 00.0	+0.1

GTM	Goat Mountain	1.74	145			Pn	18 53 57.5	-0.8
MTUM	Tungsten Hills	1.81	334			Pb	18 54 01.3	+0.1
SHPR	Sheep Range	2.09	68		Pn	Pn	18 54 02.4	-0.8
SHPR					IAML		18 55 22.6	
	comp=N,329nm,1.0s							
NVAR	Mina Array Bea	2.76	348			Pb	18 54 18.8	+1.4

NEIC ***04*** *18:54:13.6±0.9,35°.594N±0°.010×117°.58W±0°.01, h9km±4km, Error ellipse: s-maj=1.6km s-min=1.5km az=85.0*

IDC ***04*** *18:54:14.1±0.8,35°.63N×117°.43W, h0km, mb3.6/3, mbtmp3.6/8, ML3.9/5, Error ellipse: s-maj=18.1km s-min=5.9km az=71.0*

PAS ***04*** *18:54:14.0±0.8,35°.597N±0°.009×117°.60W±0°.01, h6km±2km, ML4.3/334, ML4.2/90(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=60.0*

ISC 04 18:54:14.9±0.8, 35°.58N±0°.02×117°.62W±0°.02, h14km±5km, n101, σ1§36/125, mb3.5/3, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	Laurel Mtn Rad	0.11	208		Pg	18 54 16.9	-1.4
LRMC					Sg	18 54 19.0	-1.6
SRTC	Snort	0.15	316		Pg	18 54 17.6	-1.2
SRTC					Sg	18 54 20.8	-0.7
CCCA	Chr Cany lake	0.21	105		Pg	18 54 22.0	+2.3
CLC	China Lake	0.23	4		Pg	18 54 21.6	+1.5
TOW	Tower One	0.26	332		Pg	18 54 19.4	-1.1
TOW					Sg	18 54 23.8	-0.4
WNMM	Nine Mile Cany	0.35	318		Pg	18 54 20.8	-1.2
WNMM					Sg	18 54 25.9	-1.0
DTP	Desert Tortois	0.36	211		Pg	18 54 21.2	-1.0
DTP					Sg	18 54 26.4	-0.9
WVPM	Volcano Peak E	0.40	336		Pg	18 54 21.5	-1.5
WVPM					Sg	18 54 27.4	-1.1
WBSM	Bird Springs	0.43	264		Pg	18 54 22.5	-1.0
WBSM					Sg	18 54 28.8	-0.5
JRC2	Joshua Ridge	0.43	339		Sg	18 54 28.0	-1.4
WCSM	Coso Springs S	0.46	345		Pg	18 54 22.4	-1.6
WCSM					Sg	18 54 28.7	-1.6
WRVM	Rose V. Centra	0.48	332		Pg	18 54 22.9	-1.6
WRVM					Sg	18 54 29.4	-1.5
MPMC	Manual Prospec	0.49	12		Pg	18 54 22.9	-1.7
MPMC					Sg	18 54 29.5	-1.7
WORM	Onyx Ranch	0.52	283		Pg	18 54 23.9	-1.3
WORM					Sg	18 54 31.0	-1.2
CCAC	Calif City Air	0.54	218	Pg	Pg	18 54 24.6	-0.9
CCAC				Sg	Sg	18 54 32.8	+0.1
CCAC				IAML		18 54 33.3	
	comp=E,13μm,0.7s						
CCAC				IAML		18 54 33.3	
	comp=N,15μm,0.6s						
MFS	McCloud Flat S	0.57	340		Pg	18 54 24.5	-1.6
MFS					Sg	18 54 32.2	-1.5
WHFM	Hanning Flat	0.61	281		Pg	18 54 25.6	-1.2
ISA	Isabella, Lake	0.70	277		Pg	18 54 27.3	-1.3
HYS	Haystack Butte	0.72	177		Pg	18 54 27.6	-1.2
GSC	Goldstone, Bar	0.72	113		Pg	18 54 27.4	-1.5
GSC				Sg	Sg	18 54 37.0	-1.3
GSC				IAML		18 54 41.3	
	comp=E,17μm,0.5s						
QSM	Queen of Sheba	0.72	58		Pg	18 54 27.1	-1.8
QSM					Sg	18 54 36.4	-2.0
EDW2	Edwards Air Fo	0.76	204		Pg	18 54 28.4	-1.3
EDW2					Sg	18 54 38.8	-1.0
WASM	Alta Sierra Ca	0.78	282		Pg	18 54 28.8	-1.4
TPO	Tropico Hills	0.86	216		Pg	18 54 30.5	-1.0
RRX	Edison Barstow	0.87	144		Pg	18 54 30.3	-1.4
RRX					Sg	18 54 41.7	-1.3
SBB	Saddle Back Bu	0.91	191		Pg	18 54 31.0	-1.4
CWC	Cottonwood Cre	0.94	336		Pg	18 54 31.0	-2.0
CWC					Sg	18 54 43.5	-1.9
TEJ	El Tejon	0.94	249		Pg	18 54 31.5	-1.7
GWY	Greenwater Val	0.98	52		Pg	18 54 31.7	-2.1
GWY				Sg	Sg	18 54 44.6	-2.0
GWY				IAML		18 54 49.7	
	comp=E,8μm,0.7s						
GWY				IAML		18 54 50.0	
	comp=N,10μm,0.8s						
CGO	Cerro Gordo	0.98	351		Pg	18 54 31.8	-2.1
ADO	Adelanto Recei	1.04	172		Pg	18 54 33.5	-1.4
VTV	Victorville	1.04	167		Pg	18 54 33.6	-1.4
ALPC	Antelope	1.05	212		Pg	18 54 33.9	-1.3
TJR	Tejon Ranch	1.07	239		Pg	18 54 33.7	-1.9
THC	Tehachapi Micr	1.09	232		Pg	18 54 33.9	-2.0
MAGC	SCE Magundon P	1.09	259		Pg	18 54 34.3	-1.5
ARVC	Arvin	1.09	246		Pg	18 54 34.3	-1.6
SPG2	Springville 2	1.12	304		Pg	18 54 34.6	-1.9
SHOC	Shoshone, Teco	1.14	73		Pg	18 54 34.5	-2.3
SHOC					Sg	18 54 49.9	-1.7
VES	Vestal, Richgr	1.22	283		Pb	18 54 36.7	-1.0
HEC	Hector,Ludlow	1.29	125		Pn	18 54 37.3	-1.3
TUQ	Turquoise Moun	1.39	95		Pn	18 54 38.2	-1.8
AMDNV	Amargosa	1.39	51		Pn	18 54 38.1	-1.7
GRAC	Grapevine Rang	1.43	8		Pn	18 54 39.8	-0.7
GRAC				Sg	Sb	18 54 59.0	-0.4
GRAC				IAML		18 55 05.2	
	comp=E,5μm,0.3s						
BBRC	Big Bear Solar	1.43	156		Pn	18 54 41.1	+0.4
WCT	Wildcat Mounta	1.45	33		Pn	18 54 39.4	-1.4
WCT				Sg	Sn	18 54 58.7	-1.0
WCT				IAML		18 55 01.5	
	comp=N,3μm,0.8s						
WCT				IAML		18 55 01.7	
	comp=E,3μm,0.4s						
PASC	Pasadena Art C	1.48	199		Pn	18 54 40.9	-0.2
PASC				IAML		18 55 03.4	
	comp=E,2μm,1.1s						
BCW	Bitter Crk WRg	1.60	247		Pn	18 54 42.2	-0.7
BCW				IAML		18 55 06.4	
	comp=N,3μm,0.6s						
BCW				IAML		18 55 18.1	
	comp=E,2μm,0.9s						
VOG	Valley Oaks Go	1.61	298		Pn	18 54 43.4	+0.4
PEC	Perris	1.73	167		Pn	18 54 44.2	-0.3
GMN	Gold Mountain	1.74	9		Pn	18 54 44.4	-0.5
GMN				IAML		18 55 16.5	
	comp=E,2μm,0.6s						
CRGC	Crocker Grade	1.75	260		Pb	18 54 47.0	+0.1
TPNV	Topopah Spring	1.76	39	Pn	Pn	18 54 44.0	-1.0
TPNV				IAML		18 55 13.1	
	comp=E,3μm,0.5s						
TPNV				IAML		18 55 14.9	
	comp=E,3μm,0.8s						
POB	Polly Butte	1.97	163		Pn	18 54 47.8	-0.2
PFO	Pinyon Flats O	2.18	154	Pn	Pn	18 54 50.1	-0.8
	comp=E,11nm,0.3s,baz=336,slow=11,SNR=3.8						
PFO				Pg	Pb	18 54 54.0	-0.3
	comp=E,66nm,0.3s,baz=339,slow=15,SNR=14						
PFO				Lg	Lg	18 55 23.9	
	comp=E,193nm,0.3s,baz=94,slow=13,SNR=15						
	comp=E,180nm,0.6s						
S11A	Rachel	2.55	36		Pn	18 54 55.1	-0.9
PRN	Pahroc Range	2.76	48	Pn	Pn	18 54 58.1	-0.7
PRN				IAML		18 55 49.4	
	comp=N,1μm,0.9s						
PRN				IAML		18 55 51.2	
	comp=E,1μm,0.9s						
LHV	Little Huntoon	2.76	345	Pn	Pn	18 54 58.6	-0.1
NV11	Mina Array Sit	2.88	352		Pn	18 55 00.2	-0.3
NVAR	Mina Array Bea	2.90	349		Pn	18 55 00.9	+0.1
NVAR	Mina Array Bea	2.90	349	Pn	Pn	18 55 00.2	-0.6
	comp=E,9.8nm,0.3s,baz=201,slow=31,SNR=7.3						
NVAR				Pg	Pb	18 55 06.8	+0.3
	comp=E,92nm,0.3s,baz=172,slow=18,SNR=44						
NVAR				Lg	Lg	18 55 46.5	
	comp=E,32nm,0.3s,baz=45,slow=20,SNR=4.1						
	comp=E,18nm,0.5s						
BBGB	Big Mountain B	2.95	291		Pn	18 55 02.2	+0.8
W13A	Hualapai Mount	3.09	98		Pn	18 55 02.1	-1.3
RYN	Ryan	3.13	347		Pn	18 55 04.2	+0.3
RYN				IAML		18 57 05.7	
	comp=N,1μm,1.0s						
BLYC	Blythe	3.13	125		Pn	18 55 02.0	-1.8
BLYC				IAML		18 55 55.3	
	comp=N,567nm,0.7s						
BLYC				IAML		18 55 57.6	
	comp=E,480nm,0.6s						
R11B	Troy Canyon, C	3.21	30		Pn	18 55 04.0	-1.0
R11B				IAML		18 57 07.1	
	comp=N,544nm,1.1s						

YUH	Yuha Desert	3.25	154			Pn	18 55 04.2	-1.1
WAKR	Walker	3.26	334			Pn	18 55 07.0	+1.2
WAKR					IAML		18 56 12.1	
	comp=E,488nm,0.7s							
WAKR					IAML		18 57 09.1	
	comp=N,525nm,1.2s							
Q09A	Carvers	3.27	6			Pn	18 55 05.8	-0.1
SAO	San Andreas Ge	3.32	292			Pn	18 55 06.3	0.0
CBX	Cerro Bola	3.35	166			Pn	18 55 07.5	+0.5
GLA	Glamis	3.42	137			Pn	18 55 07.0	-0.9
CCX	Cicese	3.79	168	Pn		Pn	18 55 13.4	+0.6
CCX				IAML			18 56 26.8	
	comp=E,298nm,0.9s							
CCX				IAML			18 57 18.2	
	comp=N,259nm,1.2s							
LCMT	Little Creek M	3.81	67			Pn	18 55 13.0	-0.3
ESJX	Sierra Juarez	3.83	158			Pn	18 55 13.5	-0.1
ESJX					IAML		18 57 23.9	
	comp=N,311nm,1.0s							
CCUT	Cedar City	3.95	59	Pn		Pn	18 55 15.4	+0.2
CCUT				IAML			18 57 41.3	
	comp=E,268nm,1.2s							
KNB	Kanab	4.13	68			Pn	18 55 17.5	-0.2
KNB				IAML			18 57 29.0	
	comp=E,227nm,1.1s							
KNB				IAML			18 57 46.1	
	comp=N,199nm,1.1s							
Y14A	Wickenburg	4.13	112			Pn	18 55 16.7	-0.9
Y14A				IAML			18 56 28.5	
	comp=N,403nm,1.1s							
Y14A				IAML			18 56 37.8	
	comp=E,397nm,0.7s							
PSUT	Pine Spring	4.21	44			Pn	18 55 17.7	-1.1
PSUT				IAML			18 57 50.7	
	comp=E,372nm,0.9s							
PSUT				IAML			18 57 55.9	
	comp=N,358nm,1.0s							
113A	Mohawk Valley,	4.25	130			Pn	18 55 18.1	-1.0
113A				IAML			18 57 50.2	
	comp=E,207nm,1.2s							
113A				IAML			18 58 01.1	
	comp=N,196nm,0.8s							
AFDM	Forest Hills D	4.30	322			Pn	18 55 17.4	-2.5
AFDM				IAML			18 56 34.5	
	comp=E,413nm,0.7s							
AFDM				IAML			18 56 35.6	
	comp=N,334nm,0.9s							
SPR3	Spring Creek 3	4.30	37			Pn	18 55 18.6	-1.6
SPR3				IAML			18 56 35.3	
	comp=E,275nm,1.1s							
SPR3				IAML			18 57 26.6	
	comp=N,383nm,1.4s							
PAHR	Pah Rah Range	4.35	342			Pn	18 55 19.4	-1.3
PAHR				IAML			18 57 44.7	
	comp=E,193nm,1.2s							
PAHR				IAML			18 58 04.0	
	comp=N,175nm,1.8s							
ELK	Elko	5.49	19			Pn	18 55 36.5	+0.1
ELK	Elko	5.49	19	Pn		Pn	18 55 35.8	-0.6
	comp=N,1.7nm,0.3s,baz=164,slow=17,SNR=6.4							
ELK				Pg		Pb	18 55 53.9	+3.3
	comp=N,5.7nm,0.3s,baz=249,slow=13,SNR=10							
ELK				Lg		Lg	18 57 02.9	
	comp=N,9.6nm,0.3s,baz=290,slow=16,SNR=9.4							
	comp=N,4.4nm,0.4s							
Q16A	Castle Valley	6.12	55	Pn		Pn	18 55 45.7	+0.6
TMUT	Trail Mountain	6.30	52	Pn		Pn	18 55 48.2	+0.5
SRU	San Rafael Swe	6.66	56	Pn		Pn	18 55 52.5	+0.1
P18A	Preston Nutter	7.11	53	Pn		Pn	18 56 01.0	+2.2
HVU	Hansel Valley	7.25	30			Pn	18 56 00.4	-0.2
YBH	Yreka Blue Hor	7.32	329	Pn		Pn	18 56 04.9	+3.5
	baz=176,slow=6.2,SNR=2.0							
YBH				Lg		Lg	18 58 02.8	
	baz=18,slow=3.7,SNR=5.7							
PV18	Skein Mesa, Pa	7.46	67	Pn		Pn	18 56 03.4	-0.2
PV04	Paradox Valley	7.51	66	Pn		Pn	18 56 04.2	0.0
PV12	Saucer Basin,	7.57	66	Pn		Pn	18 56 06.0	+1.0
PV01	Paradox Valley	7.69	68			Pn	18 56 08.8	+2.2
ANMO	Albuquerque	9.15	91	Pg		Pn	18 56 58.1	+31
	comp=N,0.3nm,0.3s,baz=17,slow=11,SNR=8.4							
ANMO				Lg		Lg	18 58 55.4	
	comp=N,1.1nm,0.3s,baz=14,slow=14,SNR=21							
PDAR	Pinedale Array	9.52	39	Pn		Pn	18 56 34.2	+2.6
	comp=N,0.1nm,0.3s,baz=252,slow=9.8,SNR=2.9							
	comp=N,0.7nm,0.6s							
TXAR	Lajitas Array	13.32	114	Pn		Pn	18 57 24.1	+0.5
	comp=N,0.5nm,0.3s,baz=292,slow=12,SNR=26							
	comp=N,0.7nm,0.4s							
ULM	Lac du Bonnet	21.53	40	P		P	18 59 04.5	+1.1
	comp=N,6.6nm,0.9s,baz=240,slow=12,SNR=6.3							
	comp=N,6.6nm,0.9s							
YKA	Yellowknife Ar	27.00	3	P		P	18 59 58.6	+2.6
	comp=N,0.3nm,0.8s,baz=189,slow=8.9,SNR=4.4							
	comp=N,0.3nm,0.8s							
ILAR	Eielson Array	34.09	338	P		P	19 01 00.2	+1.5
	comp=N,0.4nm,0.6s,baz=157,slow=7.6,SNR=5.0							
	comp=N,0.4nm,0.6s							

NEIC ***04*** *18:55:27.4±0.6,35°.672N±0°.007×117°.50W±0°.01, h7km±2km, Error ellipse: s-maj=1.6km s-min=1.0km az=101.0*

PAS 04 18:55:27.8±0.3, 35°.674N±0°.008×117°.49W±0°.02, h9km±8km, ML3.1/8, ML2.9/6(NEIC), Error ellipse: s-maj=2.0km s-min=1.1km az=73.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	Chr Cany lake	0.18	146		Pg	18 55 31.9	+0.3
CCCA					Sg	18 55 35.2	+1.0
LRMC	Laurel Mtn Rad	0.25	219		Pg	18 55 32.7	-0.2
WNMM	Nine Mile Cany	0.38	297		Pg	18 55 35.1	-0.1
MPMC	Manual Prospec	0.38	0		Pg	18 55 35.3	-0.1
MPMC					Sg	18 55 40.5	0.0
WVPM	Volcano Peak E	0.38	316		Pg	18 55 35.2	-0.2
WCSM	Coso Springs S	0.42	327		Pg	18 55 35.8	-0.3
WCSM					Sg	18 55 41.7	+0.1
WRVM	Rose V. Centra	0.47	316		Pg	18 55 36.6	-0.4
DTP	Desert Tortois	0.50	216		Pg	18 55 37.1	-0.4
MFS	McCloud Flat S	0.53	326		Pg	18 55 37.9	-0.3
MFS					Sg	18 55 45.6	+0.4
WBSM	Bird Springs	0.55	256		Pg	18 55 38.1	-0.3
QSM	Queen of Sheba	0.58	60		Pg	18 55 38.8	-0.3
QSM	Queen of Sheba	0.58	60	IAML		18 55 47.0	
	comp=E,501nm,0.2s						
QSM				IAML		18 55 47.8	
	comp=N,580nm,0.9s						
WORM	Onyx Ranch	0.61	272		Pg	18 55 39.2	-0.5
GSC	Goldstone, Bar	0.67	123	Pg	Pg	18 55 40.2	-0.6
GSC				IAML		18 55 46.7	
	comp=E,652nm,1.3s						
WHFM	Hanning Flat	0.70	272		Pg	18 55 40.9	-0.5
GWY	Greenwater Val	0.84	52		Pg	18 55 43.8	-0.2
GWY	Greenwater Val	0.84	52	IAML		18 55 49.3	
	comp=E,628nm,0.9s						
GWY				IAML		18 56 00.2	
	comp=N,411nm,1.4s						
HOLC	Holcomb Ridge	1.25	194		Sb	18 56 07.7	-0.1
MCCM	Marconi Confer	4.97	301		Pn	18 56 41.7	-0.9
O02D	Mt. Diablo Mer	6.14	319		Pg	18 57 24.1	-1.4

NEIC ***04*** *18:56:06.3±0.9,35°.723N±0°.008×117°.55W±0°.01, h6km±2km, Error ellipse: s-maj=1.4km s-min=1.0km az=50.0*

PAS ***04*** *18:56:06.4±1.0,35°.716N±0°.009×117°.56W±0°.01, h2km, Mwr4.6/6, mb4.4/46(NEIC), ML4.7/56(NEIC), Mww4.7/16(NEIC), Error ellipse: s-maj=1.2km s-min=1.2km az=197.0*

IDC ***04*** *18:56:06.7±0.6,35°.72N×117°.45W, h0km, mb4.1/9, mbtmp4.0/15, ML3.8/6, MS5.0/7, Error ellipse: s-maj=15.4km s-min=6.0km az=70.0*

ISC 04 18:56:07.1±0.8, 35°.71N±0°.01×117°.56W±0°.02, h8km±6km, n141, σ1§08/167, mb4.4/21, MS5.3/6, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	China Lake	0.11	345		Pg	18 56 08.7	-1.0
CLC					Sg	18 56 10.5	-1.1
SRTC	Snort	0.15	264		Pg	18 56 10.1	-0.3
SRTC					Sg	18 56 13.4	+0.8
TOW	Tower One	0.19	302		Pg	18 56 10.8	-0.3
TOW					Sg	18 56 14.5	+0.7

CCCA	Chr Cany lake	0.24	139			Pg	18 56 12.0	0.0
CCCA						Sg	18 56 16.0	+0.7
LRMC	Laurel Mtn Rad	0.25	204			Pg	18 56 15.5	+3.4
WNMM	Nine Mile Cany	0.31	296			Pg	18 56 12.7	-0.6
WVPM	Volcano Peak E	0.32	319			Pg	18 56 12.7	-0.8
JRC2	Joshua Ridge	0.34	324			Pg	18 56 13.2	-0.7
JRC2						Sg	18 56 18.4	-0.1
MPMC	Manual Prospec	0.35	9			Pg	18 56 13.2	-1.0
MPMC						Sg	18 56 18.5	-0.5
WCSM	Coso Springs S	0.36	332			Pg	18 56 13.4	-0.9
WCSM						Sg	18 56 18.5	-0.6
WRVM	Rose V. Centra	0.40	318			Pg	18 56 14.2	-0.8
WRVM						Sg	18 56 20.0	-0.4
MFS	McCloud Flat S	0.47	330			Pg	18 56 15.6	-0.8
MFS						Sg	18 56 22.4	-0.3
DTP	Desert Tortois	0.50	208			Pg	18 56 16.0	-0.7
DTP						Sg	18 56 23.0	-0.3
WBSM	Bird Springs	0.50	250			Pg	18 56 16.2	-0.7
WBSM						Sg	18 56 23.3	-0.2
WORM	Onyx Ranch	0.56	269			Pg	18 56 17.1	-0.8
WORM						Sg	18 56 24.5	-0.7
QSM	Queen of Sheba	0.62	65			Sg	18 56 26.5	-0.7
QSM	Queen of Sheba	0.62	65			Pg	18 56 17.9	-1.2
QSM				IAML			18 56 31.2	
	comp=N,37μm,0.9s							
QSM				IAML			18 56 32.9	
	comp=E,37μm,0.6s							
WHFM	Hanning Flat	0.64	269			Pg	18 56 18.7	-0.8
WHFM						Sg	18 56 27.4	-0.5
CCAC	Calif City Air	0.67	214			Sg	18 56 28.3	-0.4
CCAC	Calif City Air	0.67	214	Pg		Pg	18 56 19.3	-0.7
CCAC				IAML			18 56 30.6	
	comp=N,24μm,1.3s							
CCAC				IAML			18 56 34.2	
	comp=E,41μm,1.0s							
GSC	Goldstone, Bar	0.74	123			Sg	18 56 30.9	-0.1
GSC	Goldstone, Bar	0.74	123			Pg	18 56 20.5	-0.8
GSC				IAML			18 56 31.1	
	comp=N,38μm,0.6s							
GSC				IAML			18 56 34.3	
	comp=E,47μm,0.5s							
ISA	Isabella, Lake	0.74	267			Sg	18 56 30.5	-0.7
ISA	Isabella, Lake	0.74	267			Pg	18 56 20.5	-1.0
ISA				IAML			18 56 35.5	
	comp=N,24μm,1.0s							
WASM	Alta Sierra Ca	0.81	272			Pg	18 56 21.9	-0.8
WASM						Sg	18 56 33.6	+0.2
HYS	Haystack Butte	0.84	180			Pg	18 56 22.3	-1.0
HYS						Sg	18 56 34.0	-0.2
CWC	Cottonwood Cre	0.84	330			Pg	18 56 22.4	-1.0
CWC						Sg	18 56 33.9	-0.5
CGO	Cerro Gordo	0.86	347			Pg	18 56 22.4	-1.4
CGO						Sg	18 56 34.9	-0.2
GWY	Greenwater Val	0.87	56			Pg	18 56 22.7	-1.1
EDW2	Edwards Air Fo	0.90	203			Pg	18 56 23.2	-1.2
EDW2						Sg	18 56 35.0	-1.0
FURC	Furnace Creek,	0.95	36			Pg	18 56 24.5	-0.8
FURC						Sg	18 56 37.6	0.0
RRX	Edison Barstow	0.95	151			Pg	18 56 24.6	-0.8
RRX						Sg	18 56 37.2	-0.5
TPO	Tropico Hills	0.99	214			Pg	18 56 25.1	-1.1
TPO						Sg	18 56 38.5	-0.5
TEJ	El Tejon	1.04	243			Pg	18 56 25.4	-1.6
TEJ						Sg	18 56 39.6	-0.9
SBB	Saddle Back Bu	1.04	192			Pg	18 56 25.8	-1.3
SBB						Sb	18 56 41.0	-0.3
SHOC	Shoshone, Teco	1.06	79			Pg	18 56 26.4	-1.2
SHOC						Sb	18 56 41.8	-0.1
SPG2	Springville 2	1.09	297			Pg	18 56 26.6	-1.5
SPG2						Sg	18 56 41.1	-1.3
ADO	Adelanto Recei	1.16	175			Pg	18 56 28.4	-1.0
ADO						Sn	18 56 46.0	+0.1
VTV	Victorville	1.16	171			Pg	18 56 28.1	-1.3
VTV						Sb	18 56 44.8	0.0
MAGC	SCE Magundon P	1.16	253			Pg	18 56 28.3	-1.2
MAGC						Sg	18 56 44.1	-0.5
TJR	Tejon Ranch	1.18	235			Pg	18 56 28.1	-1.7
TJR						Sg	18 56 43.4	-1.7
ALPC	Antelope	1.18	211			Pg	18 56 28.5	-1.4
ALPC						Sb	18 56 45.7	+0.3
ARVC	Arvin	1.19	241			Pg	18 56 28.5	-1.4
ARVC						Sg	18 56 44.7	-0.6
THC	Tehachapi Micr	1.20	229			Pg	18 56 28.7	-1.5
THC						Sg	18 56 45.3	-0.6
LEOC	Leona Valley	1.23	210			Pg	18 56 29.3	-1.6
LEOC						Sg	18 56 46.8	-0.1
LRRC	Littlerock Res	1.24	198			Pb	18 56 29.5	-1.3
LRRC						Sb	18 56 46.9	0.0
VES	Vestal, Richgr	1.25	277			Pn	18 56 29.8	-1.1
VES						Sg	18 56 46.6	-0.6
CJV	Casa Juvan	1.27	202			Pn	18 56 30.0	-1.4
CJV						Sb	18 56 48.1	+0.2
HOLC	Holcomb Ridge	1.27	191			Pn	18 56 30.0	-1.3
HOLC						Sb	18 56 48.0	+0.1
AMDNV	Amargosa	1.28	54			Pn	18 56 29.8	-1.5
AMDNV						Sb	18 56 46.7	-1.4
GRAC	Grapevine Rang	1.30	7			Pn	18 56 30.5	-1.1
GRAC				IAML			18 56 52.0	
	comp=N,24μm,0.8s							
GRAC				IAML			18 56 56.0	
	comp=E,24μm,0.8s							
JNH	Juniper Hills	1.30	195			Pn	18 56 30.5	-1.2
JNH						Sb	18 56 48.8	0.0
BAKC	Calstate	1.31	254			Pn	18 56 31.0	-0.8
BAKC						Sb	18 56 49.0	0.0
DSCC	Desert Studies	1.32	115			Pn	18 56 30.0	-1.9
BTPC	Burnt Peak	1.32	219			Pn	18 56 30.7	-1.3
WCT	Wildcat Mounta	1.32	35			Pn	18 56 30.6	-1.5
WCT				IAML			18 56 50.5	
	comp=N,9μm,1.0s							
WCT				IAML			18 56 58.0	
	comp=E,11μm,1.2s							
HEC	Hector,Ludlow	1.33	131			Pn	18 56 30.7	-1.5
HEC						Sb	18 56 48.6	-1.1
SGV	South Grapevin	1.34	18			Pn	18 56 31.3	-1.1
SGV						Sb	18 56 49.7	-0.4
TUQ	Turquoise Moun	1.36	101			Pn	18 56 31.9	-1.8
VOG	Valley Oaks Go	1.60	293			Pn	18 56 35.2

WUAZ	**Wupatki**	**5.04**	**90**	Pn	**Pn**	**18 57 23.1**	**-0.2**
X16A	**Lo Mia Camp, P**	**5.18**	**103**	Pn	**Pn**	**18 57 24.9**	**-0.3**
X16A				IAML		18 58 57.5	
	comp=E,538nm,1.2s						
X16A				IAML		18 59 01.4	
	comp=N,432nm,1.2s						
ELK	**Elko**	**5.35**	**19**	Pg	**Pb**	**18 57 44.5**	**+3.4**
	comp=N,15nm,0.3s,baz=215,slow=14,SNR=9.6						
ELK				Lg	Lg	18 58 53.9	
	comp=N,39nm,0.3s,baz=308,slow=20,SNR=18						
BGU	**Big Grassy Mou**	**6.31**	**33**	Pn	**Pn**	**18 57 39.3**	**-1.4**
SRU	**San Rafael Swe**	**6.55**	**57**		**Pn**	**18 57 42.5**	**-1.5**
YBH	**Yreka Blue Hor**	**7.24**	**328**	Lg	Lg	18 59 55.0	
	baz=75,slow=7.6,SNR=6.7						
PV17	**East Wray Mesa**	**7.35**	**67**		**Pn**	**18 57 53.5**	**-1.4**
PV16	**Nyswonger Mesa**	**7.39**	**67**		**Pn**	**18 57 55.1**	**-0.4**
PV11	**David Mesa, Pa**	**7.42**	**67**		**Pn**	**18 57 55.2**	**-0.7**
PV12	**Saucer Basin,**	**7.47**	**67**		**Pn**	**18 57 55.9**	**-0.8**
319A	**Douglas**	**8.15**	**120**	Pn	**Pn**	**18 58 06.1**	**+0.2**
I07A	**Izee**	**8.50**	**350**		**Pn**	**18 58 10.7**	**0.0**
ANMO	**Albuquerque**	**9.11**	**92**	Pn	**Pn**	**18 58 20.0**	**+0.9**
	comp=N,0.2nm,0.3s,baz=6.3,slow=9.9,SNR=3.3						
ANMO				Lg	Lg	19 00 52.6	
	comp=N,0.5nm,0.3s,baz=255,slow=6.1,SNR=11						
	comp=N,3.5nm,0.8s						
TPAW	**Teton Pass**	**9.29**	**31**		**Pn**	**18 58 20.5**	**-1.2**
PDAR	**Pinedale Array**	**9.39**	**39**	Pn	**Pn**	**18 58 24.0**	**+1.0**
	comp=N,0.1nm,0.3s,baz=225,slow=12,SNR=4.6						
PDAR				Lg	Lg	19 01 00.0	
	comp=N,0.5nm,0.3s,baz=217,slow=30,SNR=6.4						
	comp=N,2.7nm,0.9s						
PLID	**Pearl Lake**	**9.45**	**7**		**Pn**	**18 58 21.8**	**-2.0**
YHL	**Hebgen Lake**	**10.35**	**26**	Pn	**Pn**	**18 58 33.2**	**-2.9**
HAWA	**Hanford**	**10.78**	**353**		**Pn**	**18 58 40.1**	**-1.6**
MSO	**Missoula**	**11.44**	**13**		**Pn**	**18 58 49.5**	**-1.4**
NEW	**Newport**	**12.55**	**1**		**Pn**	**18 59 04.8**	**-1.3**
NEW	**Newport**	**12.55**	**1**	Pn	**Pn**	**18 59 09.3**	**+3.3**
	comp=N,0.1nm,0.3s,baz=188,slow=11,SNR=5.0						
	comp=N,3.5nm,0.8s						
TXAR	**Lajitas Array**	**13.33**	**115**	Pn	**Pn**	**18 59 17.0**	**+0.2**
TXAR	**Lajitas Array**	**13.33**	**115**	Pn	**Pn**	**18 59 18.1**	**+1.3**
	comp=N,1.0nm,0.3s,baz=291,slow=13,SNR=32						
TXAR				Lg	Lg	19 03 04.7	
	comp=N,0.1nm,0.3s,baz=291,slow=25,SNR=6.2						
	comp=N,1.8nm,0.4s						
CBB	**Campbell River**	**15.40**	**341**	Pn	**Pn**	**18 59 44.7**	**-0.1**
CBB				IAmb	IAmb	18 59 56.1	
	comp=Z,20nm,1.0s						
BRDY	**Brady**	**16.10**	**101**	Pn	**Pn**	**18 59 53.1**	**-0.8**
X34A	**Smith Ranch, M**	**16.18**	**88**		**P**	**18 59 56.8**	**-1.3**
X34A				IAmb	IAmb	19 00 02.3	
	comp=Z,28nm,1.0s						
TUL3	**Leonard**	**17.66**	**83**	IAmb	IAmb	19 00 17.8	
	comp=Z,39nm,1.2s						
ECSD	**EROS Data Cent**	**17.97**	**57**		**Pn**	**19 00 17.1**	**-0.2**
U38A	**Gravette**	**18.74**	**81**	IAmb	IAmb	19 00 30.9	
	comp=Z,32nm,1.3s						
F33A	**5 Mile Ranch,**	**18.97**	**51**		**P**	**19 00 27.6**	**-1.3**
S39A	**Bolivar**	**19.53**	**77**	P	**P**	**19 00 35.0**	**0.0**
I37A	**Lemond, Waseca**	**20.27**	**58**	IAmb	IAmb	19 00 51.7	
	comp=Z,25nm,1.4s						
AGMN	**Agassiz Nation**	**20.37**	**45**		**P**	**19 00 44.2**	**+0.1**
AGMN				IAmb	IAmb	19 00 48.3	
	comp=Z,14nm,0.9s						
P40A	**Paris**	**20.54**	**72**	IAmb	IAmb	19 00 54.1	
	comp=Z,20nm,1.1s						
WHAR	**Wooly Hollow**	**20.57**	**84**		**P**	**19 00 45.9**	**-0.5**
WHAR				IAmb	IAmb	19 00 53.2	
	comp=Z,34nm,1.5s						
CCM	**Cathedral Cave**	**21.16**	**76**	P	**P**	**19 00 52.0**	**-0.7**
LCAR	**Lake Charles**	**21.38**	**81**	IAmb	IAmb	19 01 03.1	
	comp=Z,31nm,1.5s						
ULM	**Lac du Bonnet**	**21.41**	**41**	P	**P**	**19 00 54.4**	**-0.9**
ULM				IAmb	IAmb	19 00 59.4	
	comp=Z,23nm,1.0s						
ULM	**Lac du Bonnet**	**21.41**	**41**	P	**P**	**19 00 55.6**	**+0.4**
	comp=Z,18nm,0.9s,baz=230,slow=11,SNR=13						
	comp=Z,18nm,0.9s						
FVM	**French Village**	**21.81**	**76**	IAmb	IAmb	19 01 08.3	
	comp=Z,23nm,1.2s						
FFC	**Flin Flon**	**21.87**	**25**		**P**	**19 00 59.7**	**-0.4**
EPLO	**Experimental L**	**22.27**	**44**	IAmb	IAmb	19 01 07.1	
	comp=Z,14nm,1.0s						
E38A	**The Farm, Brul**	**22.30**	**53**	IAmb	IAmb	19 01 22.9	
	comp=Z,21nm,1.1s						
TBO	**Thunder Bay**	**24.39**	**49**	IAmb	IAmb	19 01 37.8	
	comp=Z,12nm,1.1s						
X48A	**Hartselle**	**24.96**	**84**	IAmb	IAmb	19 01 36.1	
	comp=Z,8.6nm,0.9s						
R33M	**Jennings River**	**25.27**	**344**	IAmb	IAmb	19 01 41.1	
	comp=Z,10.0nm,1.1s						
W50A	**Signal Mountai**	**26.21**	**82**	P	**P**	**19 01 42.7**	**+0.1**
CPCT	**Cooper Cave**	**26.80**	**81**		**P**	**19 01 48.5**	**+0.6**
CPCT				IAmb	IAmb	19 01 53.8	
	comp=Z,9.0nm,1.0s						
YKAW1	**Yellowknife Wh**	**26.87**	**3**	P	**P**	**19 01 47.7**	**-0.4**
YKAW1				IAmb	IAmb	19 01 52.0	
	comp=Z,11nm,1.0s						
YKA	**Yellowknife Ar**	**26.87**	**3**	P	**P**	**19 01 49.5**	**+1.3**
	comp=Z,4.2nm,1.0s,baz=186,slow=9.0,SNR=19						
	comp=Z,4.2nm,1.0s						
ILAR	**Eielson Array**	**33.99**	**338**	P	**P**	**19 02 52.1**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=153,slow=7.1,SNR=7.0						
	comp=Z,0.6nm,0.9s						
E29M	**Blow River**	**34.67**	**347**		**P**	**19 02 57.8**	**+0.9**
E29M				IAmb	IAmb	19 03 02.1	
	comp=Z,9.4nm,1.4s						
K20K	**Telida**	**35.55**	**333**	P	**P**	**19 03 04.3**	**-0.2**
K20K				IAmb	IAmb	19 03 13.7	
	comp=Z,7.2nm,0.9s						
J19K	**Poorman**	**36.48**	**333**	P	**P**	**19 03 13.5**	**+1.0**
PETK	**Petropavlovsk-**	**59.43**	**316**	P	**P**	**19 06 11.1**	**+0.9**
	comp=Z,4.2nm,0.8s,baz=77,slow=13,SNR=10						
	comp=Z,4.2nm,0.8s						
USRK	**Ussuriysk Ar.**	**78.51**	**317**	P	**P**	**19 08 10.1**	**+1.2**
	comp=Z,2.4nm,0.7s,baz=61,slow=5.7,SNR=4.4						
	comp=Z,2.4nm,0.7s						
KSRS	**Korea Array**	**85.23**	**313**	P	**P**	**19 08 45.1**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=71,slow=4.6,SNR=4.2						
	comp=Z,1.0nm,0.8s						
RCBR	**Riachuelo**	**86.63**	**100**	LR	LR	19 51 47.7	
	comp=Z,488nm,20.7s,baz=155,slow=39						
ZALV	**Zalesovo Beam**	**88.63**	**347**	P	**P**	**19 09 00.6**	**0.0**
	comp=Z,0.7nm,0.5s,baz=359,slow=5.9,SNR=3.6						
	comp=Z,0.7nm,0.5s						
BELG	**Belogornoye**	**91.32**	**9**	LR	LR	19 51 16.7	
	comp=Z,1μm,19.5s,baz=159,slow=36						
BVAR	**Borovoye Array**	**91.36**	**355**	P	**P**	**19 09 15.1**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=20,slow=4.9,SNR=6.8						
BVAR				LR	LR	19 55 07.9	
	comp=Z,1μm,19.3s,baz=193,slow=39						
	comp=Z,0.7nm,0.7s						
HHC	**Hu-ho-hao-te**	**91.46**	**325**	*eP*	**P**	**19 09 14.2**	**-0.1**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KURBB	**Kurchatov Arra**	**92.88**	**350**	P	**P**	**19 09 20.6**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=13,slow=4.8,SNR=4.3						
KURBB				LR	LR	19 58 11.7	
	comp=Z,750nm,18.4s,baz=186,slow=40						
	comp=Z,0.3nm,0.7s						
AKTO	**Aktyubinsk**	**94.14**	**3**	LR	LR	19 56 03.8	
	comp=Z,1μm,18.4s,baz=205,slow=38						
MKAR	**Makanchi Array**	**95.96**	**346**	LR	LR	19 58 03.9	
	comp=Z,882nm,18.7s,baz=204,slow=39						

NEIC ***04*** *19:00:09.5±1.2,35°.716N±0°.010×117°.56W±0°.01, h4km±2km, Error ellipse: s-maj=1.6km s-min=1.4km az=60.0*

PAS 04 19:00:09.5±0.7,**35°.710N**±0°.007×**117°.56W**±0°.01, **h0**km±1km,**ML3.2**/23,**ML3.1**/30(NEIC),**Error ellipse: s-maj=1.3km s-min=1.1km az=71.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.24**	**140**		Pg	19 00 15.0	+0.9
LRMC	**Laurel Mtn Rad**	**0.25**	**204**		Pg	19 00 14.7	+0.4
WVPM	**Volcano Peak E**	**0.32**	**319**		Pg	19 00 16.1	+0.5
MPMC	**Manual Prospec**	**0.35**	**9**		Pn	19 00 21.2	-0.9
WCSM	**Coso Springs S**	**0.36**	**332**		Pg	19 00 16.9	+0.5
WCSM					Sg	19 00 22.3	+1.2
WRVM	**Rose V. Centra**	**0.40**	**318**		Pg	19 00 17.6	+0.3
WRVM					Sg	19 00 22.4	0.0
MFS	**McCloud Flat S**	**0.47**	**329**		Pg	19 00 19.0	+0.4
DTP	**Desert Tortois**	**0.50**	**208**		Pg	19 00 19.2	+0.1
WBSM	**Bird Springs**	**0.51**	**250**		Pg	19 00 19.6	+0.4
WBSM					Sg	19 00 26.8	+1.0
QSM	**Queen of Sheba**	**0.61**	**65**		Pg	19 00 20.7	-0.6
QSM				IAML		19 00 33.8	
	comp=E,1μm,0.5s						
WHFM	**Hanning Flat**	**0.65**	**269**		Pg	19 00 22.0	+0.2
CCAC	**Calif City Air**	**0.67**	**214**		Pg	19 00 22.2	-0.1
CCAC				IAML		19 00 35.3	
	comp=N,978nm,0.4s						
CCAC				IAML		19 00 35.4	
	comp=E,1μm,0.6s						
CCAC	**Calif City Air**	**0.67**	**214**		Sg	19 00 32.1	+1.0
GSC	**Goldstone, Bar**	**0.73**	**123**	Pg	Pg	19 00 23.6	0.0
GSC				IAML		19 00 37.9	
	comp=N,1μm,0.3s						
ISA	**Isabella, Lake**	**0.75**	**267**		Pg	19 00 23.9	+0.1
ISA				IAML		19 00 34.8	
	comp=N,901nm,0.3s						
ISA				IAML		19 00 38.6	
	comp=E,860nm,0.2s						
WASM	**Alta Sierra Ca**	**0.81**	**272**		Pg	19 00 25.4	+0.3
HYS	**Haystack Butte**	**0.84**	**181**		Pg	19 00 27.0	-0.1
AMDNV	**Amargosa**	**1.27**	**54**		Pg	19 00 33.6	+0.3
HOLC	**Holcomb Ridge**	**1.27**	**191**		Pg	19 00 33.9	0.0
DSCC	**Desert Studies**	**1.31**	**115**		Pg	19 00 34.0	-0.7
SGV	**South Grapevin**	**1.34**	**18**		Pg	19 00 35.1	0.0
TUQ	**Turquoise Moun**	**1.36**	**101**		Pg	19 00 34.8	-0.8
SIL	**Silver Peak**	**1.48**	**156**		Pb	19 00 38.1	0.0
GMN	**Gold Mountain**	**1.60**	**8**		Pg	19 00 40.4	+0.1
PASC	**Pasadena Art C**	**1.62**	**199**		Pn	19 00 38.5	-0.8
TPNV	**Topopah Spring**	**1.62**	**40**		Pn	19 00 38.6	-0.9
TPNV				IAML		19 01 06.6	
	comp=E,220nm,0.9s						
TPNV				IAML		19 01 06.6	
	comp=E,233nm,0.6s						
DSP	**Deep Springs**	**1.69**	**349**		Pn	19 00 40.1	-0.1
MTUM	**Tungsten Hills**	**1.83**	**334**		Pb	19 00 44.0	+0.1
PFO	**Pinyon Flats O**	**2.28**	**156**	Pn	Pn	19 00 47.6	-0.9
PFO				IAML		19 01 22.9	
	comp=E,84nm,0.7s						
PFO				IAML		19 01 25.3	
	comp=E,75nm,0.7s						
PRN	**Pahroc Range**	**2.63**	**49**	Pn	Pn	19 00 52.6	-0.8
RYN	**Ryan**	**3.01**	**345**	Pn	Pn	19 00 58.9	+0.2
RYN				IAML		19 01 47.9	
	comp=N,56nm,4.6s						
RYN				IAML		19 01 57.9	
	comp=E,42nm,4.1s						
W13A	**Hualapai Mount**	**3.06**	**100**	Pn	Pn	19 00 58.1	-1.2
W13A				IAML		19 01 52.8	
	comp=N,46nm,1.7s						
W13A				IAML		19 01 53.2	
	comp=E,43nm,0.7s						

NEIC ***04*** *19:01:10.5±1.4,35°.731N±0°.007×117°.546W±0°.005, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.3km az=327.0*

PAS 04 19:01:10.8±1.0,**35°.709N**±0°.006×**117°.56W**±0°.01, **h2**km±3km,**ML3.0**/25,**ML2.8**/32(NEIC),**Error ellipse: s-maj=1.3km s-min=0.8km az=59.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.11**	**343**		Pg	19 01 13.2	+0.2
CLC					Sg	19 01 15.1	+0.6
SRTC	**Snort**	**0.16**	**264**		Pg	19 01 14.5	+0.6
SRTC					Sg	19 01 17.8	+1.8
TOW	**Tower One**	**0.20**	**301**		Pg	19 01 14.8	+0.2
CCCA	**Chr Cany lake**	**0.24**	**139**		Pg	19 01 16.4	+1.0
CCCA					Sg	19 01 20.1	+1.6
LRMC	**Laurel Mtn Rad**	**0.25**	**204**		Pg	19 01 15.8	+0.2
JRC2	**Joshua Ridge**	**0.34**	**323**		Pg	19 01 17.6	+0.2
JRC2					Sg	19 01 23.0	+1.1
MPMC	**Manual Prospec**	**0.35**	**9**		Pg	19 01 17.7	+0.1
WCSM	**Coso Springs S**	**0.36**	**332**		Pg	19 01 17.1	+0.4
WCSM					Sg	19 01 23.5	+1.3
WRVM	**Rose V. Centra**	**0.40**	**318**		Pg	19 01 18.7	+0.1
MFS	**McCloud Flat S**	**0.47**	**329**		Pg	19 01 20.1	+0.2
MFS					Sg	19 01 26.9	+0.8
DTP	**Desert Tortois**	**0.50**	**208**		Pg	19 01 20.3	-0.1
WBSM	**Bird Springs**	**0.51**	**250**		Pg	19 01 20.6	+0.1
WBSM					Sg	19 01 27.5	+0.4
WORM	**Onyx Ranch**	**0.56**	**269**		Pg	19 01 21.4	-0.1
WORM					Sg	19 01 28.9	+0.2
QSM	**Queen of Sheba**	**0.61**	**65**		Sg	19 01 30.9	+0.3
QSM	**Queen of Sheba**	**0.61**	**65**		Pg	19 01 21.8	-0.8
QSM				IAML		19 01 31.9	
	comp=E,548nm,0.2s						
QSM				IAML		19 01 32.2	
	comp=N,739nm,0.4s						
WHFM	**Hanning Flat**	**0.65**	**269**		Pg	19 01 23.4	+0.2
WHFM					Sg	19 01 31.7	+0.2
CCAC	**Calif City Air**	**0.67**	**214**	Pg	Pg	19 01 23.3	-0.3
CCAC				IAML		19 01 37.6	
	comp=N,299nm,0.3s						
CCAC				IAML		19 01 39.3	
	comp=E,357nm,1.0s						
GSC	**Goldstone, Bar**	**0.73**	**123**		Sg	19 01 35.0	+0.6
GSC	**Goldstone, Bar**	**0.73**	**123**	Pg	Pg	19 01 24.7	-0.2
GSC				IAML		19 01 35.7	
	comp=E,722nm,0.5s						
GSC				IAML		19 01 39.1	
	comp=N,669nm,0.3s						
ISA	**Isabella, Lake**	**0.75**	**267**		Sg	19 01 34.5	-0.3
ISA	**Isabella, Lake**	**0.75**	**267**	Pg	Pg	19 01 25.1	-0.1
ISA				IAML		19 01 35.9	
	comp=N,560nm,0.3s						
ISA				IAML		19 01 36.3	
	comp=E,574nm,0.2s						
WASM	**Alta Sierra Ca**	**0.81**	**272**		Pg	19 01 25.8	-0.6
WASM					Sg	19 01 37.6	+0.6
HYS	**Haystack Butte**	**0.84**	**181**		Pg	19 01 26.5	-0.4
HYS					Sg	19 01 37.8	-0.1
GWY	**Greenwater Val**	**0.86**	**56**		Pg	19 01 26.5	-0.8
EDW2	**Edwards Air Fo**	**0.90**	**204**		Pg	19 01 27.5	-0.5
TPO	**Tropico Hills**	**0.99**	**214**		Pb	19 01 31.0	+0.2
SPG2	**Springville 2**	**1.10**	**297**		Pg	19 01 31.3	-0.5
SPG2					Sg	19 01 45.7	-0.4
LEOC	**Leona Valley**	**1.24**	**210**		Pb	19 01 34.8	-0.2
LRRC	**Littlerock Res**	**1.24**	**198**		Pg	19 01 34.6	0.0
HOLC	**Holcomb Ridge**	**1.27**	**191**		Pg	19 01 35.1	0.0
GRAC	**Grapevine Rang**	**1.29**	**7**		Pg	19 01 34.2	-1.4
JNH	**Juniper Hills**	**1.30**	**195**		Pb	19 01 36.0	0.0
WCT	**Wildcat Mounta**	**1.32**	**35**		Pg	19 01 34.1	-2.0
WCT				IAML		19 01 56.6	
	comp=E,114nm,0.6s						
TUQ	**Turquoise Moun**	**1.36**	**101**		Pg	19 01 35.8	-1.1
CHFC	**Chilao Flat St**	**1.43**	**196**		Pn	19 01 37.5	-0.3
GMN	**Gold Mountain**	**1.61**	**8**		Pn	19 01 37.6	-2.8
PASC	**Pasadena Art C**	**1.62**	**199**		Pn	19 01 37.8	-2.5
PASC				IAML		19 02 07.5	
	comp=N,68nm,0.8s						
TPNV	**Topopah Spring**	**1.63**	**40**		Pn	19 01 38.4	-2.2
TPNV				IAML		19 02 07.1	
	comp=N,152nm,0.6s						
TPNV				IAML		19 02 07.8	
	comp=N,164nm,1.1s						
DSP	**Deep Springs**	**1.69**	**349**		Pn	19 01 37.7	-3.6
DSP				IAML		19 02 06.1	
	comp=E,86nm,1.0s						
MZP	**Montezuma Peak**	**1.99**	**4**	Pn	Pn	19 01 43.3	-2.5
ELS	**Elsinore Mount**	**2.06**	**177**	Pn	Pn	19 01 46.5	0.0
ELS				IAML		19 02 17.8	
	comp=E,49nm,0.7s						

JMA ***04*** *19:01:36.4±0.5,34°.N±4°.×13°.7E±°, h355km, MV2.9/16, SE OFF KII PENINSULA*

IDC ***04*** *19:01:37.9±3.0,33°.78N×137°.38E, h364km±182km, mb2.6/1, mbtmp3.1/3, Error ellipse: s-maj=269.6km s-min=44.4km az=17.0*

ISC 04 19:01:37.6±1.3,**33°.8N**±0°.1×**137°.4E**±0°.1,**h350**km,**n8, σ1s77/11,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**2.22**	**313**	*eP*	**Pn**	**19 02 31.6**	**+1.1**
JRY	**Ryogami san**	**2.56**	**29**	*eP*	**Pn**	**19 02 35.7**	**+2.6**
BSO3	**Boso 3**	**2.79**	**68**	*eP*	**Pn**	**19 02 35.4**	**+0.6**
BSO3				*eS*	**S**	**19 03 22.0**	**+1.3**
MJAR	**Matsushiro Arr**	**2.84**	**14**	P	**Pn**	**19 02 36.9**	**+1.4**
	1.2nm,0.5s,baz=187,slow=8.8,SNR=4.2						
JAG	**Ashikaga**	**3.14**	**32**	P	**Pn**	**19 02 38.8**	**+0.6**
JAG				S	**S**	**19 03 26.1**	**-0.9**
JYT	**Yasato**	**3.36**	**43**	*eP*	**Pn**	**19 02 40.4**	**+0.2**
JYT				*eS*	**S**	**19 03 27.4**	**-3.3**
KSRS	**Korea Array**	**8.53**	**298**	P	**Pn**	**19 03 38.5**	**+0.5**
	1.6nm,0.6s,baz=109,slow=12,SNR=7.5						
WRA	**Warramunga Arr**	**53.50**	**184**	P	**P**	**19 10 22.1**	**-1.1**
	0.1nm,0.4s,baz=2.3,slow=7.3,SNR=1.5						
	0.1nm,0.4s						

IDC ***04*** *19:05:18.9±1.5,13°.90N×121°.24E,h114km±9km,mb3.5/8, mbtmp3.9/8,Error ellipse: s-maj=103.9km s-min=16.4km az=64.0*

ISC 04 19:05:17.9±0.9,**14°.1N**±0°.1×**121°.7E**±0°.2,**h100**km,**n10, σ1s89/12,mb3.9/8,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.76**	**272**	P	**Pn**	**19 05 37.0**	**+1.1**
	792nm,0.3s,baz=283,slow=1.5,SNR=18						
TGY				S	**Sn**	**19 05 49.5**	**0.0**
	3μm,0.3s,baz=339,slow=22,SNR=16						
NJ2	**Nanjing**	**18.09**	**352**	*eP*	**Pn**	**19 09 26.0**	**+3.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
SONM	**Songino Array**	**35.99**	**342**	P	**P**	**19 12 09.3**	**0.0**
	comp=Z,1.4nm,0.7s,baz=165,slow=10,SNR=5.7						
	comp=Z,1.4nm,0.7s						
WRA	**Warramunga Arr**	**36.01**	**160**	P	**P**	**19 12 08.5**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=335,slow=8.9,SNR=1.9						
	comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**39.36**	**162**	P	**P**	**19 12 37.1**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=336,slow=7.0,SNR=4.4						
ASAR				pP	**pP**	**19 13 03.6**	**+2.8**
	comp=Z,0.4nm,0.6s,baz=341,slow=6.5,SNR=7.5						
	comp=Z,0.3nm,0.7s						
MKAR	**Makanchi Array**	**46.32**	**323**	P	**P**	**19 13 32.5**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=130,slow=8.8,SNR=13						
	comp=Z,1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**49.19**	**332**	P	**P**	**19 13 53.7**	**-2.0**
	comp=Z,1.1nm,0.3s,baz=128,slow=6.3,SNR=5.5						
	comp=Z,1.1nm,0.3s						
KURBB	**Kurchatov Arra**	**50.43**	**326**	P	**P**	**19 14 04.2**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=127,slow=7.8,SNR=25						
	comp=Z,2.2nm,0.6s						
BVAR	**Borovoye Array**	**56.02**	**325**	P	**P**	**19 14 45.1**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=109,slow=8.0,SNR=5.1						
	comp=Z,0.4nm,0.3s						
ARCES	**ARCESS Array B**	**79.09**	**339**	P	**P**	**19 17 09.5**	**-1.5**
	comp=Z,1.6nm,0.8s,baz=76,slow=7.7,SNR=6.8						
	comp=Z,1.6nm,0.8s						

NEIC ***04*** *19:10:19.6±0.7,35°.698N±0°.009×117°.50W±0°.01, h6km±2km, Error ellipse: s-maj=1.6km s-min=1.2km az=116.0*

PAS 04 19:10:19.8±0.6,**35°.694N**±0°.007×**117°.50W**±0°.01, **h1**km±1km,**ML3.3**/22,**ML3.0**/102(NEIC),**Error ellipse: s-maj=1.4km s-min=0.9km az=63.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.20**	**148**		Pg	19 10 24.4	+0.8
CCCA					Sg	19 10 27.8	+1.6
LRMC	**Laurel Mtn Rad**	**0.26**	**216**		Pg	19 10 24.0	-0.9
MPMC	**Manual Prospec**	**0.36**	**1**		Pg	19 10 27.0	+0.2
WNMM	**Nine Mile Cany**	**0.36**	**294**		Pg	19 10 27.3	+0.5
WVPM	**Volcano Peak E**	**0.37**	**314**		Pg	19 10 27.3	+0.5
WCSM	**Coso Springs S**	**0.40**	**326**		Pg	19 10 27.8	+0.3
WCSM					Sg	19 10 33.5	+0.9
WRVM	**Rose V. Centra**	**0.45**	**314**		Pg	19 10 28.7	+0.3
MFS	**McCloud Flat S**	**0.51**	**325**		Pg	19 10 29.9	+0.3
MFS					Sg	19 10 37.4	+1.1
WBSM	**Bird Springs**	**0.55**	**254**		Pg	19 10 29.6	-0.7
WBSM					Sg	19 10 38.3	+0.9
QSM	**Queen of Sheba**	**0.58**	**62**		Pg	19 10 31.0	+0.1
QSM	**Queen of Sheba**	**0.58**	**62**		Sg	19 10 39.0	+0.7
GSC	**Goldstone, Bar**	**0.69**	**125**		Pg	19 10 32.9	0.0
CCAC	**Calif City Air**	**0.69**	**218**		Pg	19 10 32.8	-0.2
CCAC				IAML		19 10 43.2	
	comp=E,1μm,0.3s						
ISA	**Isabella, Lake**	**0.80**	**268**		Pg	19 10 34.9	-0.2
ISA				IAML		19 10 46.4	
	comp=N,676nm,0.3s						
ISA				IAML		19 10 46.4	
	comp=E,921nm,0.5s						
HYS	**Haystack Butte**	**0.83**	**184**		Pg	19 10 35.4	-0.3
GWY	**Greenwater Val**	**0.83**	**54**		Pg	19 10 35.6	-0.1
SHOC	**Shoshone, Teco**	**1.01**	**78**		Pb	19 10 39.8	-0.3
SBB	**Saddle Back Bu**	**1.04**	**195**		Pg	19 10 39.1	-0.6
DSCC	**Desert Studies**	**1.26**	**115**		Pg	19 10 42.9	-1.1
WCT	**Wildcat Mounta**	**1.30**	**32**		Pg	19 10 44.3	-0.5
WCT				IAML		19 11 03.7	
	comp=N,276nm,0.4s		

	comp=E,12nm,1.3s								
113A				IAML			19 12 53.2		
	comp=N,17nm,4.2s								
WUAZ	**Wupatki**	**4.99**	**90**	IAML			19 13 04.3		
	comp=N,15nm,0.5s								
WUAZ				IAML			19 13 04.8		
	comp=N,16nm,0.8s								
MVU	**Marysvale**	**5.07**	**55**	IAML			19 13 51.3		
	comp=E,19nm,3.9s								
X16A	**Lo Mia Camp, P**	**5.13**	**103**	IAML			19 13 12.0		
	comp=N,7.3nm,1.4s								
X16A				IAML			19 13 13.4		
	comp=E,9.0nm,3.1s								
ELK	**Elko**	**5.35**	**19**	IAML			19 13 11.1		
	comp=E,5.8nm,3.9s								

*NEIC **04** 19:14:59.1±0.5,35°.654N±0°.007×117°.53W±0°.01, h4km±2km, Error ellipse: s-maj=1.4km s-min=1.1km az=95.0*

PAS 04 19:14:59.5±0.4,35°.653N±0°.006×117°.54W±0°.01, h2km±1km, ML3.0/25, ML2.7/74(NEIC), Error ellipse: s-maj=1.3km s-min=1.0km az=103.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.19**	**132**		Pg	19 15 03.9	+0.7
LRMC	**Laurel Mtn Rad**	**0.21**	**214**		Pg	19 15 03.8	+0.3
LRMC					Sg	19 15 07.1	+0.8
WNMM	**Nine Mile Cany**	**0.35**	**303**		Pg	19 15 07.3	+1.0
WVPM	**Volcano Peak E**	**0.37**	**323**		Pg	19 15 06.9	+0.2
JRC2	**Joshua Ridge**	**0.40**	**326**		Pg	19 15 07.5	+0.4
MPMC	**Manual Prospec**	**0.41**	**6**		Pg	19 15 07.4	0.0
MPMC					Sg	19 15 13.2	+0.6
WCSM	**Coso Springs S**	**0.42**	**334**		Pg	19 15 07.6	+0.1
WCSM					Sg	19 15 13.8	+0.8
WRVM	**Rose V. Centra**	**0.46**	**321**		Pg	19 15 08.4	+0.1
DTP	**Desert Tortois**	**0.46**	**213**		Pg	19 15 08.3	+0.1
WBSM	**Bird Springs**	**0.50**	**257**		Pn	19 15 16.6	+2.6
MFS	**McCloud Flat S**	**0.53**	**331**		Pg	19 15 09.8	+0.1
MFS					Sg	19 15 17.4	+0.8
WORM	**Onyx Ranch**	**0.57**	**274**		Pg	19 15 10.5	0.0
QSM	**Queen of Sheba**	**0.63**	**60**		Pg	19 15 11.5	0.0
QSM					Sg	19 15 20.1	+0.4
CCAC	**Calif City Air**	**0.63**	**218**		Pg	19 15 11.7	0.0
CCAC				IAML		19 15 21.0	
	comp=N,774nm,0.4s						
CCAC				IAML		19 15 21.1	
	comp=E,601nm,0.6s						
GSC	**Goldstone, Bar**	**0.69**	**120**		Pg	19 15 12.5	-0.3
GSC				IAML		19 15 25.3	
	comp=N,700nm,0.6s						
ISA	**Isabella, Lake**	**0.76**	**271**		Pg	19 15 13.9	-0.2
ISA				IAML		19 15 24.7	
	comp=E,280nm,0.4s						
ISA				IAML		19 15 28.4	
	comp=N,257nm,0.6s						
GWY	**Greenwater Val**	**0.89**	**53**		Pg	19 15 16.0	-0.4
GWY					Sg	19 15 27.8	-0.1
GWY				IAML		19 15 30.1	
	comp=N,479nm,0.2s						
SPG2	**Springville 2**	**1.14**	**299**		Pg	19 15 20.6	-0.7
THC	**Tehachapi Micr**	**1.18**	**231**		Pg	19 15 21.6	-0.6
BAKC	**Calstate**	**1.31**	**257**		Pb	19 15 25.2	+0.3
TUQ	**Turquoise Moun**	**1.33**	**99**		Pg	19 15 24.3	-0.8
GRAC	**Grapevine Rang**	**1.35**	**6**		Pg	19 15 24.7	-0.7
WCT	**Wildcat Mounta**	**1.36**	**33**		Pg	19 15 24.3	-1.2
WCT				IAML		19 15 44.6	
	comp=E,147nm,0.4s						
WCT				IAML		19 15 44.8	
	comp=N,114nm,0.5s						
PASC	**Pasadena Art C**	**1.57**	**200**		Pn	19 15 27.4	-1.1
PASC				IAML		19 15 54.9	
	comp=N,121nm,0.6s						
PASC				IAML		19 15 56.2	
	comp=E,117nm,0.7s						
GMN	**Gold Mountain**	**1.66**	**8**		Pn	19 15 29.2	-0.7
GMN				IAML		19 15 55.6	
	comp=E,68nm,0.5s						
GMN				IAML		19 15 55.7	
	comp=N,99nm,0.5s						
TPNV	**Topopah Spring**	**1.66**	**38**		Pn	19 15 28.8	-1.1
TPNV				IAML		19 15 56.8	
	comp=N,155nm,0.6s						
BCW	**Bitter Crk WRg**	**1.69**	**246**		Pn	19 15 30.4	+0.3
BCW				IAML		19 15 58.9	
	comp=E,109nm,0.8s						
BCW				IAML		19 16 01.3	
	comp=N,87nm,1.2s						
DSP	**Deep Springs**	**1.75**	**349**		Pn	19 15 30.4	-0.4
ELS	**Elsinore Mount**	**2.00**	**177**		Pn	19 15 34.1	-0.3
ELS				IAML		19 16 06.8	
	comp=E,42nm,0.7s						
MZP	**Montezuma Peak**	**2.05**	**3**		Pn	19 15 34.6	-0.7
SHPR	**Sheep Range**	**2.11**	**65**		Pn	19 15 35.1	-0.8
V12A	**Nelson**	**2.19**	**87**	Pn	Pn	19 15 35.4	-1.6
V12A				IAML		19 16 17.5	
	comp=E,46nm,0.5s						
V12A				IAML		19 16 21.2	
	comp=N,52nm,0.7s						
PFO	**Pinyon Flats O**	**2.22**	**156**	Pn	Pn	19 15 36.4	-1.2
LHV	**Little Huntoon**	**2.71**	**344**		Pn	19 15 44.8	+0.8
LHV				IAML		19 16 30.4	
	comp=E,27nm,0.7s						
NV11	**Mina Array Sit**	**2.82**	**350**		Pn	19 15 45.9	+0.2
NVAR	**Mina Array Bea**	**2.84**	**348**		Pn	19 15 46.3	+0.2
RYN	**Ryan**	**3.07**	**345**		Pn	19 15 50.0	+0.8
BLYC	**Blythe**	**3.13**	**127**	IAML		19 16 40.4	
	comp=N,32nm,0.6s						
WAKR	**Walker**	**3.23**	**332**	IAML		19 16 59.1	
	comp=N,13nm,1.1s						
YUH	**Yuha Desert**	**3.28**	**155**	IAML		19 17 03.4	
	comp=E,13nm,4.8s						
CMB	**Columbia Colle**	**3.30**	**317**	IAML		19 16 48.5	
	comp=E,17nm,0.7s						
CMB				IAML		19 16 53.4	
	comp=N,21nm,0.7s						
KNB	**Kanab**	**4.04**	**69**	IAML		19 16 42.1	
	comp=E,8.5nm,4.4s						
KNB				IAML		19 17 38.7	
	comp=N,7.8nm,4.8s						
PSUT	**Pine Spring**	**4.12**	**45**	IAML		19 17 14.7	
	comp=E,7.9nm,0.5s						
PSUT				IAML		19 17 23.9	
	comp=N,10nm,1.2s						
WUAZ	**Wupatki**	**5.03**	**90**	IAML		19 19 30.6	
	comp=N,7.6nm,3.0s						

*NEIC **04** 19:17:51.1±0.9,35°.705N±0°.004×117°.50W±0°.01, h3km±4km, Error ellipse: s-maj=1.5km s-min=0.4km az=101.0*

PAS 04 19:17:51.4±0.6,35°.691N±0°.007×117°.51W±0°.01, h1km±1km, ML3.2/22, ML2.9/58(NEIC), Error ellipse: s-maj=1.2km s-min=1.1km az=76.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.20**	**144**		Pg	19 17 56.2	+0.8
LRMC	**Laurel Mtn Rad**	**0.25**	**213**		Pg	19 17 56.6	+0.3
LRMC					Sg	19 18 00.4	+0.9
WNMM	**Nine Mile Cany**	**0.35**	**295**		Pg	19 17 58.7	+0.5
WVPM	**Volcano Peak E**	**0.36**	**316**		Pg	19 17 58.8	+0.6
MPMC	**Manual Prospec**	**0.37**	**3**		Pg	19 17 58.6	+0.1
JRC2	**Joshua Ridge**	**0.38**	**320**		Pg	19 17 59.0	+0.4
JRC2					Sg	19 18 04.6	+1.0
WCSM	**Coso Springs S**	**0.39**	**328**		Pg	19 17 59.1	+0.2
WCSM					Sg	19 18 04.8	+0.7
WRVM	**Rose V. Centra**	**0.44**	**316**		Pg	19 18 00.3	+0.4
QSM	**Queen of Sheba**	**0.59**	**62**		Pg	19 18 02.7	0.0
QSM				IAML		19 18 23.1	
	comp=E,630nm,0.2s						
CCAC	**Calif City Air**	**0.68**	**218**		Pg	19 18 04.4	0.0
CCAC				IAML		19 18 19.1	
	comp=N,664nm,0.6s						
CCAC				IAML		19 18 19.5	
	comp=E,769nm,0.6s						
GSC	**Goldstone, Bar**	**0.69**	**124**		Pg	19 18 04.8	+0.1
ISA	**Isabella, Lake**	**0.78**	**268**		Pg	19 18 06.3	-0.1
ISA				IAML		19 18 20.8	
	comp=N,492nm,0.4s						
ISA				IAML		19 18 21.6	
	comp=E,501nm,0.2s						
HYS	**Haystack Butte**	**0.83**	**183**		Pb	19 18 08.6	0.0
GWY	**Greenwater Val**	**0.84**	**54**		Pb	19 18 08.3	-0.7
GWY				IAML		19 18 23.2	
	comp=E,438nm,0.7s						
GWY				IAML		19 18 25.8	
	comp=N,357nm,0.6s						
WASM	**Alta Sierra Ca**	**0.85**	**273**		Pg	19 18 07.7	-0.1
TPO	**Tropico Hills**	**1.00**	**216**		Pb	19 18 11.8	+0.3
AMDNV	**Amargosa**	**1.25**	**52**		Pg	19 18 12.5	-3.0
VES	**Vestal, Richgr**	**1.29**	**277**		Pg	19 18 15.6	-0.5
GRAC	**Grapevine Rang**	**1.31**	**5**		Pg	19 18 15.9	-0.6
GRAC				IAML		19 18 39.1	
	comp=E,288nm,0.8s						
WCT	**Wildcat Mounta**	**1.31**	**33**		Pg	19 18 15.8	-0.8
WCT				IAML		19 18 37.9	
	comp=N,148nm,0.5s						
WCT				IAML		19 18 38.1	
	comp=E,191nm,0.4s						
TUQ	**Turquoise Moun**	**1.32**	**101**		Pg	19 18 16.2	-0.5
PASC	**Pasadena Art C**	**1.61**	**200**		Pn	19 18 21.1	+0.1
PASC				IAML		19 18 48.2	
	comp=N,172nm,0.6s						
PASC				IAML		19 18 48.9	
	comp=E,162nm,0.5s						
PSRC	**Puddingstone R**	**1.61**	**189**		Pb	19 18 22.0	0.0
TPNV	**Topopah Spring**	**1.62**	**39**		Pb	19 18 21.8	-0.3
TPNV				IAML		19 18 45.6	
	comp=E,178nm,0.4s						
GMN	**Gold Mountain**	**1.62**	**7**		Pn	19 18 20.7	-0.6
DSP	**Deep Springs**	**1.72**	**348**		Pn	19 18 22.0	-0.4
MZP	**Montezuma Peak**	**2.01**	**3**		Pn	19 18 26.4	-0.3
ELS	**Elsinore Mount**	**2.04**	**178**		Pn	19 18 26.1	-0.8
ELS				IAML		19 19 03.0	
	comp=E,67nm,0.2s						
ELS				IAML		19 19 07.4	
	comp=N,80nm,0.5s						
V12A	**Nelson**	**2.17**	**88**		Pn	19 18 27.3	-1.4
V12A				IAML		19 19 08.5	
	comp=E,58nm,0.5s						
V12A				IAML		19 19 09.0	
	comp=N,45nm,1.0s						
PFO	**Pinyon Flats O**	**2.25**	**157**		Pn	19 18 28.8	-1.1
PFO				IAML		19 19 08.8	
	comp=N,47nm,0.9s						
WAKR	**Walker**	**3.20**	**332**	IAML		19 19 52.5	
	comp=E,17nm,0.7s						
CMB	**Columbia Colle**	**3.28**	**316**	IAML		19 19 41.2	
	comp=E,28nm,0.7s						
CMB				IAML		19 19 42.9	
	comp=N,36nm,1.0s						
YUH	**Yuha Desert**	**3.31**	**156**	IAML		19 19 42.2	
	comp=N,17nm,4.7s						
ESJX	**Sierra Juarez**	**3.90**	**160**	IAML		19 19 21.6	
	comp=N,17nm,0.1s						
ESJX				IAML		19 19 22.0	
	comp=E,24nm,0.1s						
SPR3	**Spring Creek 3**	**4.16**	**37**	IAML		19 20 04.0	
	comp=E,18nm,1.4s						
SPR3				IAML		19 20 04.6	
	comp=N,15nm,0.6s						
PAHR	**Pah Rah Range**	**4.27**	**340**	IAML		19 19 27.2	
	comp=E,7.5nm,4.5s						

*NEIC **04** 19:20:51.3±0.9,35°.64N±0°.01×117°.55W±0°.01, h3km±3km, Error ellipse: s-maj=1.8km s-min=1.4km az=53.0*

PAS 04 19:20:51.8±0.8,35°.639N±0°.006×117°.55W±0°.01, h1km±1km, ML2.8/26, ML2.9/12(NEIC), Error ellipse: s-maj=1.8km s-min=0.9km az=90.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.19**	**127**		Pg	19 20 56.2	+0.7
LRMC	**Laurel Mtn Rad**	**0.19**	**214**		Pg	19 20 55.7	+0.3
WNMM	**Nine Mile Cany**	**0.35**	**305**		Pg	19 20 58.9	+0.4
WVPM	**Volcano Peak E**	**0.38**	**325**		Pg	19 20 59.5	+0.5
WVPM					Sg	19 21 05.2	+1.2
JRC2	**Joshua Ridge**	**0.40**	**329**		Pg	19 20 59.9	+0.4
MPMC	**Manual Prospec**	**0.42**	**7**		Pg	19 20 60.0	+0.1
WCSM	**Coso Springs S**	**0.42**	**336**		Pg	19 21 00.1	+0.2
WCSM					Sg	19 21 06.5	+1.1
DTP	**Desert Tortois**	**0.44**	**213**		Pg	19 21 00.3	+0.1
DTP					Sg	19 21 06.6	+0.7
WRVM	**Rose V. Centra**	**0.46**	**323**		Pg	19 21 00.8	+0.2
WBSM	**Bird Springs**	**0.49**	**258**		Pg	19 21 01.3	+0.2
WBSM					Sg	19 21 08.3	+0.8
WORM	**Onyx Ranch**	**0.56**	**276**		Pg	19 21 02.5	0.0
WORM					Sg	19 21 10.2	+0.3
CCAC	**Calif City Air**	**0.62**	**218**		Pg	19 21 03.0	-0.5
CCAC				IAML		19 21 20.0	
	comp=N,402nm,0.4s						
QSM	**Queen of Sheba**	**0.65**	**59**		Sg	19 21 13.1	+0.6
QSM	**Queen of Sheba**	**0.65**	**59**		Pg	19 21 03.8	-0.3
QSM				IAML		19 21 14.2	
	comp=N,1μm,0.3s						
WHFM	**Hanning Flat**	**0.65**	**275**		Pg	19 21 04.2	0.0
WHFM					Sg	19 21 13.3	+0.6
GSC	**Goldstone, Bar**	**0.70**	**119**		Pg	19 21 05.1	0.0
GSC				IAML		19 21 17.0	
	comp=E,714nm,0.5s						
GSC				IAML		19 21 18.7	
	comp=N,426nm,0.4s						
ISA	**Isabella, Lake**	**0.75**	**272**		Pg	19 21 05.8	-0.4
GWY	**Greenwater Val**	**0.90**	**52**	Pg	Pg	19 21 09.4	+0.3
GWY				IAML		19 21 25.1	
	comp=E,467nm,0.3s						
GWY				IAML		19 21 26.0	
	comp=N,476nm,0.5s						
SPG2	**Springville 2**	**1.13**	**300**		Pg	19 21 12.9	-0.6
LEOC	**Leona Valley**	**1.18**	**212**		Pn	19 21 15.2	-0.2
VES	**Vestal, Richgr**	**1.26**	**280**		Pg	19 21 15.7	-0.2
AMDNV	**Amargosa**	**1.31**	**51**		Pg	19 21 16.7	-0.2
TUQ	**Turquoise Moun**	**1.34**	**98**		Pg	19 21 16.8	-0.7
GRAC	**Grapevine Rang**	**1.36**	**6**	Pg	Pg	19 21 17.2	-0.7
SGV	**South Grapevin**	**1.40**	**17**		Pb	19 21 18.9	0.0
PASC	**Pasadena Art C**	**1.55**	**200**		Pn	19 21 20.3	-0.2
BCW	**Bitter Crk WRg**	**1.67**	**246**		Pn	19 21 21.4	-0.9
GMN	**Gold Mountain**	**1.68**	**8**		Pn	19 21 21.4	-1.1
DSP	**Deep Springs**	**1.76**	**349**		Pn	19 21 22.6	-0.7
TPC	**Twentynine Pal**	**1.97**	**141**		Pn	19 21 24.1	-2.1
ELS	**Elsinore Mount**	**1.99**	**177**		Pn	19 21 25.6	-1.0
MZP	**Montezuma Peak**	**2.06**	**4**		Pn	19 21 26.9	-0.9
SHPR	**Sheep Range**	**2.12**	**65**		Pn	19 21 27.5	-1.0
V12A	**Nelson**	**2.20**	**87**		Pn	19 21 28.7	-0.8
PFO	**Pinyon Flats O**	**2.21**	**156**		Pn	19 21 29.0	-0.7
TPH	**Tonopah**	**2.45**	**6**		Pn	19 21 32.7	-0.3
S11A	**Rachel**	**2.47**	**35**	Pn	Pn	19 21 32.8	-0.6
PRN	**Pahroc Range**	**2.68**	**48**		Pn	19 21 34.9	-1.3
PMPB	**Monarch Peak**	**2.70**	**283**	Pn	Pn	19 21 35.0	-1.4
LHV	**Little Huntoon**	**2.72**	**344**		Pn	19 21 35.2	-1.3
NVAR	**Mina Array Bea**	**2.85**	**348**		Pn	19 21 37.5	-1.0
W13A	**Hualapai Mount**	**3.04**	**99**		Pn	19 21 40.0	-1.3
RYN	**Ryan**	**3.08**	**346**		Pn	19 21 40.4	-1.3
BLYC	**Blythe**	**3.13**	**126**	Pn	Pn	19 21 40.4	-1.8
R11B	**Troy Canyon, C**	**3.13**	**30**		Pn	19 21 41.2	-1.2
Q09A	**Carvers**	**3.20**	**5**	Pn	Pn	19 21 41.2	-2.2
CMB	**Columbia Colle**	**3.30**	**317**	Pn	Pn	19 21 42.8	-1.7
CBX	**Cerro Bola**	**3.40**	**167**	Pn	Pn	19 21 44.5	-1.5
CCUT	**Cedar City**	**3.87**	**59**	Pn	Pn	19 21 51.1	-1.6
Y14A	**Wickenburg**	**4.11**	**113**	Pn	Pn	19 21 54.0	-1.8
PSUT	**Pine Spring**	**4.13**	**45**		Pn	19 21 54.3	-1.9
SPR3	**Spring Creek 3**	**4.22**	**36**	Pn	Pn	19 21 55.0	-2.6
PAHR	**Pah Rah Range**	**4.31**	**341**	Pn	Pn	19 21 56.3	-2.3
X16A	**Lo Mia Camp, P**	**5.16**	**102**	Pn	Pn	19 22 07.3	-3.0
ELK	**Elko**	**5.41**	**19**	Pn	Pn	19 22 10.7	-3.1

*NEIC **04** 19:21:31.7±1.0,35°.669N±0°.009×117°.48W±0°.01, h13km±4km, Error ellipse: s-maj=1.7km s-min=1.2km az=58.0*

*IDC **04** 19:21:31.6±0.6,35°.65N×117°.42W, h0km, mb4.1/8, mbtmp4.0/15, ML3.8/7, MS4.1/1, Error ellipse: s-maj=13.0km s-min=5.3km az=71.0*

*PAS **04** 19:21:32.1±1.1,35°.672N±0°.004×117°.48W±0°.01, h5km±3km, Mwr4.5/4, mb4.3/30(NEIC), ML4.6/118(NEIC), Error ellipse: s-maj=1.5km s-min=0.6km az=104.0*

ISC 04 19:21:32.4±0.4,35°.66N±0°.02×117°.47W±0°.02, h7km, n321, σ1§49/330, mb4.4/19, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.18**	**327**		**Pg**	**19 21 38.4**	**+2.3**
SRTC	**Snort**	**0.23**	**278**		**Pg**	**19 21 36.8**	**-0.1**
SRTC					Sg	19 21 41.2	+1.3
LRMC	**Laurel Mtn Rad**	**0.25**	**223**		Pg	19 21 37.0	-0.3
LRMC					Sg	19 21 40.8	+0.1
TOW	**Tower One**	**0.28**	**302**		Pb	19 21 37.8	-2.0
TOW					Sb	19 21 42.7	-2.0
WNMM	**Nine Mile Cany**	**0.40**	**297**		Pb	19 21 39.5	-2.2
MPMC	**Manual Prospec**	**0.40**	**358**		Sg	19 21 45.0	-0.4
WVPM	**Volcano Peak E**	**0.40**	**316**		Pg	19 21 39.5	-0.7
WVPM					Sb	19 21 45.6	-2.7
JRC2	**Joshua Ridge**	**0.42**	**320**		Sb	19 21 46.0	-2.9
WCSM	**Coso Springs S**	**0.43**	**327**		Pg	19 21 40.0	-0.9
WCSM					Sg	19 21 46.1	-0.5
WRVM	**Rose V. Centra**	**0.48**	**316**		Pg	19 21 41.0	-0.8
WRVM					Sb	19 21 48.2	-2.5
DTP	**Desert Tortois**	**0.50**	**218**		Pg	19 21 41.3	-0.7
DTP					Sg	19 21 48.4	-0.1
MFS	**McCloud Flat S**	**0.55**	**326**		Pg	19 21 42.2	-0.9
MFS					Sg	19 21 49.8	-0.4
WBSM	**Bird Springs**	**0.56**	**257**		Sg	19 21 49.8	-0.7
QSM	**Queen of Sheba**	**0.58**	**58**		Pb	19 21 42.9	-1.9
QSM					Sg	19 21 50.8	-0.3
WORM	**Onyx Ranch**	**0.63**	**273**		Pg	19 21 43.6	-0.9
WORM					Sg	19 21 51.9	-0.8
GSC	**Goldstone, Bar**	**0.65**	**123**		Pg	19 21 44.4	-0.6
GSC				IAML		19 21 53.9	
	comp=N,31μm,0.7s						
GSC				IAML		19 21 57.0	
	comp=E,31μm,0.7s						
GSC	**Goldstone, Bar**	**0.65**	**123**		Sb	19 21 53.6	-1.8
CCAC	**Calif City Air**	**0.67**	**221**		Sb	19 21 54.0	-2.0
CCAC	**Calif City Air**	**0.67**	**221**		Pb	19 21 44.7	-1.8
CCAC				IAML		19 21 58.1	
	comp=N,19μm,0.6s						
WHFM	**Hanning Flat**	**0.71**	**273**		Pg	19 21 45.2	-0.9
HYS	**Haystack Butte**	**0.80**	**186**		Pg	19 21 47.0	-0.7
HYS					Sb	19 21 57.9	-1.8
ISA	**Isabella, Lake**	**0.81**	**270**		Pg	19 21 47.0	-1.0
ISA				IAML		19 22 01.0	
	comp=E,21μm,0.5s						
ISA				IAML		19 22 01.4	
	comp=N,20μm,1.0s						
ISA	**Isabella, Lake**	**0.81**	**270**		Sg	19 21 57.9	-0.8
GWY	**Greenwater Val**	**0.84**	**51**		Pb	19 21 47.7	-1.7
GWY					Sg	19 21 58.6	-0.8
GWY				IAML		19 22 02.6	
	comp=N,30μm,0.4s						
GWY				IAML		19 22 02.6	
	comp=E,26μm,0.3s						
RRX	**Edison Barstow**	**0.88**	**153**		Pb	19 21 48.7	-1.2
WASM	**Alta Sierra Ca**	**0.89**	**275**		Pg	19 21 48.4	-1.0
EDW2	**Edwards Air Fo**	**0.89**	**209**		Pg	19 21 48.3	-1.1
CWC	**Cottonwood Cre**	**0.92**	**328**		Pb	19 21 49.3	-1.5
CWC					Sb	19 22 01.2	-2.0
CGO	**Cerro Gordo**	**0.93**	**343**		Pg	19 21 49.4	-1.6
CGO					Sg	19 22 01.3	-0.9
FURC	**Furnace Creek,**	**0.94**	**31**		Pb	19 21 49.9	-1.1
TPO	**Tropico Hills**	**0.99**	**219**		Pb	19 21 50.6	-1.4
SHOC	**Shoshone, Teco**	**1.00**	**76**		Pb	19 21 50.9	-1.2
SHOC					Sb	19 22 04.4	-1.1
SBB	**Saddle Back Bu**	**1.01**	**197**		Pb	19 21 50.9	-1.4
VTV	**Victorville**	**1.10**	**174**		Pb	19 21 52.6	-1.2
VTV					Sb	19 22 07.3	-1.2
ADO	**Adelanto Recei**	**1.11**	**178**		Sb	19 22 07.3	-1.3
SPG2	**Springville 2**	**1.18**	**298**		Pg	19 21 53.4	-1.6
SPG2					Sb	19 22 09.0	-1.6
ALPC	**Antelope**	**1.18**	**215**		Pg	19 21 53.7	-1.4
MAGC	**SCE Magundon P**	**1.22**	**256**		Pb	19 21 54.4	-1.4
LRRC	**Littlerock Res**	**1.22**	**202**		Pb	19 21 54.2	-1.6
THC	**Tehachapi Micr**	**1.23**	**233**		Pg	19 21 54.5	-1.5
ARVC	**Arvin**	**1.23**	**245**		Pb	19 21 54.6	-1.3
DSCC	**Desert Studies**	**1.23**	**114**		Pb	19 21 53.8	-2.2
LEOC	**Leona Valley**	**1.23**	**214**		Pg	19 21 54.4	-1.7
HOLC	**Holcomb Ridge**	**1.24**	**194**		Pg	19 21 54.5	-1.6
AMDNV	**Amargosa**	**1.25**	**50**		Pn	19 21 54.5	-1.7
CJV	**Casa Juvan**	**1.25**	**206**		Pn	19 21 54.7	-1.7
JNH	**Juniper Hills**	**1.27**	**198**		Pn	19 21 55.0	-1.7
TUQ	**Turquoise Moun**	**1.28**	**100**		Pn	19 21 54.9	-2.0
WCT	**Wildcat Mounta**	**1.32**	**31**		Pn	19 21 55.8	-1.5
WCT				IAML		19 22 17.6	
	comp=N,12μm,0.5s						
WCT				IAML		19 22 18.4	
	comp=E,7μm,0.5s						
VES	**Vestal, Richgr**	**1.32**	**278**		Pn	19 21 56.0	-1.3
BTPC	**Burnt Peak**	**1.33**	**223**		Pn	19 21 55.7	-1.8
GRAC	**Grapevine Rang**	**1.33**	**4**		Pg	19 21 56.5	-1.5
GRAC	**Grapevine Rang**	**1.33**	**4**		Pg	19 21 56.4	-1.5
BAKC	**Calstate**	**1.37**	**257**		Pg	19 21 57.2	-1.4
CHFC	**Chilao Flat St**	**1.40**	**199**		Pn	19 21 56.7	-1.8
MTPC	**Mountain Pass**	**1.57**	**96**		Pn	19 21 59.1	-1.8
PASC	**Pasadena Art C**	**1.60**	**202**		Pn	19 21 59.9	-1.1
TPNV	**Topopah Spring**	**1.62**	**37**		Pn	19 22 00.4	-1.2
TPNV				IAML		19 22 26.9	
	comp=E,8μm,0.6s						
TPNV				IAML		19 22 30.4	
	comp=E,9μm,0.6s						
GTM	**Goat Mountain**	**1.64**	**146**		Pg	19 22 03.0	-0.9
GMN	**Gold Mountain**	**1.65**	**6**		Pn	19 22 01.0	-0.9
GMN				IAML		19 22 27.3	
	comp=N,5μm,0.5s						
BCW	**Bitter Crk WRg**	**1.74**	**246**	Pn	Pn	19 22 01.5	-1.6
DSP	**Deep Springs**	**1.75**	**347**	Pn	Pn	19 22 02.1	-1.0
DSP				IAML		19 22 28.4	
	comp=N,5μm,0.5s						
DSP				IAML		19 22 28.6	
	comp=E,6μm,0.6s						
BBSC	**Beaumont Base**	**1.78**	**167**		Pn	19 22 03.1	-0.5
ELS	**Elsinore Mount**	**2.01**	**179**	Pn	Pn	19 22 05.5	-1.2
ELS				IAML		19 22 42.8	
	comp=E,4μm,0.9s						
MZP	**

comp=E,1µm,0.9s
CMB IAML 19 23 25.4

comp=N,1µm,0.8s
SAO San Andreas Ge 3.40 290 Pn 19 22 24.4 -1.4
CCUT Cedar City 3.81 59 Pn **Pn 19 22 31.5 -0.2**
CCUT IAML 19 23 37.4

comp=N,815nm,1.2s
CCX Cicese 3.84 170 Pn 19 22 31.8 -0.1
ESJX Sierra Juarez 3.86 160 IAML 19 23 36.9
comp=E,1µm,1.2s
ESJX IAML 19 23 37.0

comp=N,781nm,1.1s
KNB Kanab 3.99 69 Pn 19 22 33.9 -0.2
KNB IAML 19 23 42.4

comp=E,679nm,0.9s
KNB IAML 19 23 42.6

comp=N,1µm,1.3s
Y14A Wickenburg 4.06 114 IAML 19 23 48.6
comp=E,979nm,0.7s
Y14A IAML 19 23 49.2

comp=N,1µm,1.1s
PSUT Pine Spring 4.07 44 Pn 19 22 34.4 -0.9
PSUT IAML 19 23 56.5

comp=N,818nm,1.4s
PSUT IAML 19 23 58.2

comp=E,810nm,1.5s
SPR3 Spring Creek 3 4.17 36 Pn 19 22 34.9 -1.8
SPR3 IAML 19 23 49.8

comp=E,812nm,1.2s
SPR3 IAML 19 23 56.0

comp=N,549nm,1.5s
113A Mohawk Valley, 4.21 132 Pn 19 22 34.7 -2.4
113A IAML 19 23 45.5

comp=N,510nm,0.9s
AFDM Forest Hills D 4.31 321 Pn 19 22 36.7 -1.6
AFDM IAML 19 23 52.0

comp=N,627nm,0.8s
AFDM IAML 19 23 57.0

comp=E,682nm,1.2s
VTX Valle De La Tr 4.49 161 Pn 19 22 39.1 -1.8
VTX IAML 19 23 59.4

comp=N,715nm,1.2s
BEKR Beckworth 4.78 332 Pn 19 22 45.6 +0.6
BEKR IAML 19 24 10.6

comp=E,427nm,1.0s
MCCM Marconi Confer 4.99 301 Pn 19 22 46.5 -1.2
MCCM IAML 19 24 33.7

comp=E,331nm,1.8s
ORV Oroville 5.03 322 Pn **Pn 19 22 48.8 +0.5**
ORV IAML 19 24 10.7

comp=E,315nm,1.0s
MVU Marysvale 5.07 54 Pn **Pn 19 22 49.3 +0.3**
MVU IAML 19 24 19.3

comp=E,369nm,1.4s
X16A Lo Mia Camp, P 5.10 102 Pn 19 22 49.0 -0.5
X16A IAML 19 24 23.3

comp=N,393nm,1.1s
X16A IAML 19 24 35.3

comp=E,305nm,2.0s
GDXM Geysers 5.28 308 Pn **Pn 19 22 50.1 -1.6**
214A Organ Pipe Nat 5.36 132 IAML 19 24 33.1

comp=N,356nm,1.3s
ELK Elko 5.37 18 Pn 19 22 52.9 -0.3
ELK Elko 5.37 18 Pn **Pn 19 22 53.4 +0.2**
comp=N,3.2nm,0.3s,baz=218,slow=12,SNR=23
ELK Pg **Pg 19 23 11.2 -4.0**

comp=N,26nm,0.3s,baz=221,slow=13,SNR=33
ELK Lg Lg 19 24 20.2

comp=N,44nm,0.3s,baz=123,slow=22,SNR=10
comp=N,29nm,0.8s
HOPS Hopland Field 5.56 308 Pn 19 22 55.2 -0.4
X18A Snowflake 6.27 98 Pn **Pn 19 23 05.5 0.0**
YBH Yreka Blue Hor 7.31 328 Pn **Pn 19 23 21.7 +2.0**
baz=163,slow=6.2,SNR=19
YBH Lg Lg 19 25 23.0

baz=273,slow=5.1,SNR=5.0
ANMO Albuquerque 9.03 91 Pn **Pn 19 23 44.8 +1.4**
comp=N,0.2nm,0.3s,baz=353,slow=11,SNR=5.6
ANMO Pg 19 24 16.2

comp=N,1.4nm,0.3s,baz=356,slow=11,SNR=15
ANMO Lg Lg 19 26 12.9

comp=N,1.3nm,0.3s,baz=285,slow=22,SNR=15
comp=N,1.1nm,0.6s
PDAR Pinedale Array 9.38 38 Pn **Pn 19 23 50.1 +2.0**
comp=N,0.2nm,0.3s,baz=229,slow=14,SNR=16
PDAR Lg Lg 19 26 25.6

comp=N,0.3nm,0.3s,baz=230,slow=28,SNR=1.9
comp=N,2.7nm,0.7s
NEW Newport 12.60 1 Pn **Pn 19 24 34.9 +3.0**
baz=180,slow=14,SNR=4.8
comp=N,2.1nm,0.8s
TXAR Lajitas Array 13.24 115 Pn **Pn 19 24 41.0 0.0**
TXAR Lajitas Array 13.24 115 Pn **Pn 19 24 41.9 +1.0**
comp=N,0.4nm,0.3s,baz=292,slow=12,SNR=14
TXAR Lg Lg 19 28 28.7

comp=N,0.1nm,0.3s,baz=288,slow=29,SNR=7.9
TXAR LR LR 19 30 16.4

comp=N,826nm,21.4s,baz=320,slow=40
comp=N,1.1nm,0.5s
SAND Sanderson 14.10 109 Pn 19 24 53.9 +1.2
ABTX Abilene, Hawle 15.07 96 Pn **Pn 19 25 05.5 -0.3**
ABTX IAmb IAmb 19 25 24.3

comp=Z,5.3nm,0.6s
LLLB Lillooet 15.28 349 Pn **Pn 19 25 08.3 -0.1**
LLLB IAmb IAmb 19 25 25.9

comp=Z,17nm,1.0s
CBB Campbell River 15.47 341 Pn **Pn 19 25 11.5 +0.5**
CBB IAmb IAmb 19 25 24.9

comp=Z,15nm,1.1s
DRIO Del Rio 15.51 109 Pn **Pn 19 25 10.9 -0.6**
DRIO IAmb IAmb 19 25 28.0

comp=Z,14nm,1.0s
JCT Junction City 15.69 104 Pn 19 25 12.9 -1.0
BRDY Brady 16.02 101 Pn 19 25 17.9 -0.3
DGMT Dagmar 16.12 33 Pn 19 25 19.4 0.0
HNDO Hondo 16.50 107 Pn 19 25 24.4 +0.1
E28A Huff 16.66 44 Pn **P 19 25 27.6 -1.2**
E28A IAmb IAmb 19 25 34.6

comp=Z,44nm,1.1s
OK052 Battle Ridge R 16.77 83 P 19 25 29.0 -1.0
OK052 IAmb IAmb 19 25 39.9

comp=Z,21nm,1.1s
MIAR Mount Ida 19.58 86 P **Pn 19 26 01.0 -1.2**
MIAR IAmb IAmb 19 26 08.9

comp=Z,18nm,1.1s
N38A Joes South For 19.70 68 P **P 19 26 01.3 -0.8**
N38A IAmb IAmb 19 26 13.6

comp=Z,17nm,0.6s
ULM Lac du Bonnet 21.39 40 P 19 26 21.1 +0.6
ULM Lac du Bonnet 21.39 40 P **P 19 26 21.1 +0.6**
comp=Z,36nm,0.9s,baz=233,slow=10,SNR=48
comp=Z,36nm,0.9s
V35K Ketchikan 21.94 338 P **P 19 26 28.8 +2.5**
baz=148
EPLO Experimental L 22.26 44 P **P 19 26 28.4 -1.3**
E38A The Farm, Brul 22.28 53 P 19 26 30.8 +0.8
E38A IAmb IAmb 19 26 39.5

comp=Z,13nm,0.9s
CGM3 Cape Girardeau 22.40 78 P **P 19 26 32.3 +0.9**
CGM3 IAmb IAmb 19 26 39.1

comp=Z,12nm,1.0s
CRAG Craig 22.54 336 P **P 19 26 34.2 +1.5**
baz=145
T35M Bob Quinn 23.00 342 P **P 19 26 40.1 +2.5**
baz=153
U33K Whale Pass 23.07 337 P **P 19 26 39.2 +0.9**
baz=146
WRAK Wrangell Islan 23.09 339 P **P 19 26 39.6 +1.2**
baz=148
TOAD Toad River Com 23.76 350 P **P 19 26 50.7 +5.5**
baz=164
S34M Telegraph Cree 24.05 342 P **P 19 26 49.3 +1.4**
baz=152
DLBC Dease Lake 24.26 344 P **P 19 26 51.1 +1.2**
comp=Z,0.4nm,0.9s,baz=130,slow=9.5,SNR=6.7
DLBC Dease Lake 24.26 344 P **P 19 26 52.5 +2.6**
baz=154
SIT Sitka 24.55 336 P **P 19 26 53.2 +0.7**
baz=143
S32K Killisnoo 24.64 338 P **P 19 26 53.6 +0.3**
baz=145
Q32M Nakina River 25.26 342 P **P 19 27 00.9 +1.7**
baz=151
R32K Eaglecrest 25.29 339 P **P 19 27 00.3 +1.2**
baz=146
R33M Jennings River 25.33 344 P **P 19 27 01.5 +1.8**
baz=154

P32M Atlin 26.18 341 P **P 19 27 08.3 +1.0**
baz=149
YKA Yellowknife Ar 26.92 3 P **P 19 27 14.5 +0.6**
comp=Z,1.7nm,0.8s,baz=186,slow=8.3,SNR=14
comp=Z,1.7nm,0.8s
WRGLY Wrigley 27.84 354 P P 19 27 29.1 +6.9
baz=170
PNL Peninsula 27.93 336 P **P 19 27 23.1 +0.1**
baz=140
HYT Haines Junctio 28.26 339 P **P 19 27 26.3 +0.2**
baz=144
MMPY Sheldon Lake, 28.32 347 P **P 19 27 28.5 +1.9**
baz=156
FARO Faro, Yukon 28.40 344 P **P 19 27 28.6 +1.4**
baz=152
M31M Drury Creek, Y 28.61 343 P **P 19 27 31.1 +2.1**
N30M Aishikik Lake 28.66 340 P **P 19 27 30.5 +1.0**
baz=145
M30M Minto, Yukon 29.51 342 P **P 19 27 38.6 +1.5**
baz=147
CTG Chitna Glacier 29.55 336 P **P 19 27 37.7 +0.1**
baz=138
M29M Somme Creek 29.84 340 P **P 19 27 40.8 +0.8**
baz=144
KAIM Kayak Island 29.89 333 P **P 19 27 40.7 +0.4**
baz=132
YUK3 Moose Creek 29.89 338 P **P 19 27 41.2 +0.6**
baz=140
L29M L29M 30.30 341 P **P 19 27 45.3 +1.3**
baz=145
K29M Barlow Dome 30.76 343 P **P 19 27 50.2 +2.1**
baz=147
P23K Montague Islan 31.08 331 P **P 19 27 51.2 +0.4**
baz=128
J30M Hart River 31.11 344 P **P 19 27 53.1 +1.9**
baz=149
L27K Beaver Creek, 31.29 339 P **P 19 27 52.5 -0.2**
baz=140
DAWY Dawson 31.41 342 P **P 19 27 54.8 +1.0**
baz=144
I30M Mount Dempster 31.68 345 P **P 19 27 57.7 +1.4**
baz=150
SEW Seward 31.97 330 P **P 19 27 59.4 +0.7**
baz=126
PWL Port Wells 31.98 332 P **P 19 27 59.1 +0.3**
baz=128
K27K Chicken 32.10 340 P **P 19 28 00.2 +0.3**
baz=140
KDAK Kodiak Island 32.12 325 P **P 19 28 02.0 +1.9**
baz=118
OHAK Old Harbor 32.20 323 P **P 19 28 03.0 +2.3**
baz=117
SCM Sheep Creek Mo 32.22 334 P **P 19 28 00.9 -0.1**
baz=130
M23K Glacier View 32.34 333 P **P 19 28 01.9 0.0**
baz=130
PAX Paxson 32.35 336 P **P 19 28 02.7 +0.6**
baz=134
KNK Knik Glacier 32.37 332 P **P 19 28 02.5 +0.3**
baz=128
Q20K Shuyak Island 32.43 326 P **P 19 28 04.6 +1.8**
baz=132
SCRK Sand Creek 32.61 339 P **P 19 28 05.6 +1.1**
baz=138
RC01 Rabbit Creek A 32.66 331 P **P 19 28 05.7 +0.9**
baz=126
I28M Miner Creek 32.67 343 P **P 19 28 06.2 +1.2**
baz=145,SNR=10
PMR Palmer 32.73 332 P **P 19 28 05.8 +0.5**
baz=128
EPYK Eagle Plains 32.75 346 P **P 19 28 08.0 +2.4**
baz=150
WAT6 Susitna Watana 32.85 335 P **P 19 28 07.3 +0.7**
baz=131
J26L Joseph Creek 32.88 339 P **P 19 28 07.8 +1.0**
baz=139
R18K Karluk 32.91 323 P **P 19 28 09.2 +2.2**
baz=116
H29M Whitestone 32.96 345 P **P 19 28 09.0 +1.6**
baz=148
K24K Donnelly Dome 33.04 337 P **P 19 28 08.5 +0.4**
baz=135
DHY Denali Highway 33.06 335 P **P 19 28 09.0 +0.6**
baz=132
F31M Tsiigehtchic 33.17 349 P P 19 28 13.7 +4.6
baz=155
SUA Susitna One 33.27 331 P **P 19 28 11.5 +1.2**
baz=126
WAT1 Susitna Watana 33.30 334 P **P 19 28 11.4 +1.0**
baz=130
P19K Oil Pt 33.33 327 P **P 19 28 12.6 +1.9**
baz=120
I26K Coal Creek Min 33.38 341 P **P 19 28 12.2 +1.2**
baz=140
G29M Pine Creek 33.48 345 P **P 19 28 14.2 +2.3**
baz=149
J25K Salcha River, 33.49 339 P **P 19 28 13.4 +1.3**
baz=136
Q18K Kamai Hardscr 33.66 325 P **P 19 28 14.7 +1.0**
baz=116
F30M Barrier River 33.66 347 P **P 19 28 16.3 +2.8**
baz=152
H27K Steamboat Moun 33.70 343 P **P 19 28 15.5 +1.7**
baz=143
SKT Skwentna 33.88 332 P **P 19 28 16.4 +1.0**
baz=125
Q17K Contact Creek 33.91 324 P **P 19 28 16.6 +0.8**
baz=115
MCK McKinley 34.02 335 P **P 19 28 15.9 -0.7**
baz=131
ILAR Eielson Array 34.06 338 P **P 19 28 18.1 +1.1**
comp=Z,1.5nm,0.8s,baz=155,slow=7.6,SNR=18
comp=Z,1.5nm,0.8s
P18K Big Mountain, 34.09 326 P **P 19 28 18.3 +1.0**
baz=117
G27K Doyon Strip 34.19 343 P **P 19 28 19.5 +1.4**
baz=144
PRP Porcupine Dome 34.20 340 P **P 19 28 18.3 -0.1**
baz=137
TRF Thorofare Moun 34.30 334 P **P 19 28 19.5 +0.2**
baz=128
CHGN Chignik 34.44 320 P P 19 28 25.0 +4.7
baz=109
N19K Bonanza Creek 34.45 329 P **P 19 28 21.4 +0.9**
baz=120
M20K Styx River 34.45 331 P **P 19 28 21.2 +0.8**
baz=123
F28M Old Crow 34.46 345 P **P 19 28 22.0 +1.6**
baz=147
POKR Poker Plat Res 34.47 338 P **P 19 28 21.6 +1.1**
baz=134
NEA2 Nenana 34.63 337 P **P 19 28 22.8 +0.9**
baz=131
PPLA Purkeypile 34.66 333 P **P 19 28 22.7 +0.4**
baz=125
E29M Blow River 34.73 347 P **P 19 28 25.0 +2.3**
baz=150
G26K Porcupine Rive 34.82 342 P 19 28 25.8 +2.3
G26K Porcupine Rive 34.82 342 P **P 19 28 25.9 +2.3**
baz=141,SNR=6.8
CAST Castle Rocks 34.93 333 P **P 19 28 24.8 +0.3**
baz=126
BPAW Bear Paw Mtn. 34.95 335 P **P 19 28 25.1 +0.3**
BPAW IAmb IAmb 19 28 26.6

comp=Z,4.7nm,0.8s
BPAW Bear Paw Mtn. 34.95 335 P **P 19 28 26.0 +1.3**
baz=128,SNR=5.1
M19K Big River Lodg 34.97 330 P **P 19 28 25.5 +0.6**
M19K IAmb IAmb 19 28 38.0

comp=Z,4.6nm,1.1s
M19K Big River Lodg 34.97 330 P **P 19 28 26.0 +1.1**
baz=122
N18K Kilae Creek 34.99 328 P **P 19 28 25.9 +0.8**
baz=118
L20K Farewell, AK 35.07 331 P **P 19 28 26.7 +0.9**
baz=123,SNR=11
I23K Minto, Yukon-K 35.09 337 P **P 19 28 26.9 +1.1**
baz=132
H24K Noodor Dome 35.11 339 P **P 19 28 27.6 +1.5**
baz=134
O17K Koliganek Bris 35.12 326 P **P 19 28 28.1 +2.0**
baz=116
P16K Nushagak River 35.22 324 P **P 19 28 29.6 +2.6**
baz=114
E28M Babbage River 35.23 346 P **P 19 28 29.3 +2.3**
baz=148
G25K Bearman Lake 35.28 341 P **P 19 28 29.4 +2.0**
baz=138
CHUM Lake Minchumin 35.29 334 P **P 19 28 28.7 +1.1**
baz=126
L19K White Mountain 35.30 330 P **P 19 28 28.7 +1.0**
baz=121
E27K Coleen River 35.30 345 P **P 19 28 29.9 +2.3**
baz=145
M18K Stony River 35.35 329 P **P 19 28 28.6 +0.5**
baz=119
MLY Manley 35.46 336 P **P 19 28 30.0 +1.0**
baz=130
N17K Nushagak Hills 35.49 327 P **P 19 28 30.6 +1.3**
baz=116
F26K Sheenjek River 35.49 343 P **P 19 28 29.9 +0.6**
F26K Sheenjek River 35.49 343 P **P 19 28 31.3 +2.0**
baz=141,SNR=7.2
O16K Kokwok River B 35.50 325 P **P 19 28 31.2 +1.8**
baz=114
H23K Yukon River 35.60 338 P **P 19 28 30.1 -0.2**
H23K Yukon River 35.60 338 P **P 19 28 31.3 +1.1**
baz=132
K20K Telida 35.63 333 P **P 19 28 31.3 +0.8**
K20K Telida 35.63 333 P **P 19 28 31.8 +1.3**
baz=124,SNR=16
CRIN San Cristobal 35.71 122 P **P 19 28 32.4 +0.7**
F25K Christian Rive 35.78 342 P 19 28 32.9 +1.1
F25K IAmb IAmb 19 28 38.1

comp=Z,3.6nm,0.9s
F25K Christian Rive 35.78 342 P **P 19 28 33.3 +1.5**
baz=139
M17K Holitna River 35.99 328 P **P 19 28 35.4 +1.8**
baz=117,SNR=5.4
L18K Granite Mounta 36.06 330 P **P 19 28 35.7 +1.5**
baz=119
J20K Nowinta River 36.12 334 P **P 19 28 36.1 +1.4**
baz=124,SNR=5.7
E25K Arctic Village 36.16 343 P **P 19 28 37.5 +2.4**
baz=140
N16K Nishlik Lake 36.17 326 P **P 19 28 36.8 +1.6**
baz=114
H22K Ishtalitna Cre 36.22 337 P **P 19 28 36.7 +1.2**
baz=130,SNR=5.2
S12K Black Hills 36.22 318 P P 19 28 40.6 +4.9
baz=105
G23K Bananza Creek 36.34 339 P **P 19 28 37.6 +0.9**
baz=132
M16K Timber Creek 36.49 327 P **P 19 28 39.7 +1.8**
baz=115
H21K Melozitna Rive 36.53 336 P **P 19 28 40.0 +1.8**
baz=128,SNR=7.4
J19K Poorman 36.55 333 P **P 19 28 39.8 +1.4**
baz=122,SNR=8.1
I20K Naaghedeneel 36.59 334 P **P 19 28 39.6 +0.9**
baz=125
N15K Kwethluk River 36.65 325 P **P 19 28 41.5 +2.2**
baz=113
L17K Donlin 36.69 329 P **P 19 28 40.7 +1.1**
baz=117
J18K Innoko River 36.69 332 P **P 19 28 41.0 +1.4**
baz=120,SNR=6.9
COLD Coldfoot 36.74 339 P **P 19 28 41.4 +1.4**
baz=133
E24K Your Creek 36.87 341 P **P 19 28 43.3 +2.2**
baz=136
O14K Tigyukauivet M 36.87 324 P **P 19 28 42.4 +1.3**
baz=110
C27K Jago River 36.92 345 P **P 19 28 42.0 +0.6**
C27K IAmb IAmb 19 28 48.6

comp=Z,7.1nm,1.0s
C27K Jago River 36.92 345 P **P 19 28 44.1 +2.7**
baz=143
G22K Bettles 36.92 338 P **P 19 28 43.0 +1.5**
baz=131
K17K Iditarod 36.96 330 P **P 19 28 42.2 +0.3**
K17K Iditarod 36.96 330 P **P 19 28 43.5 +1.6**
baz=118
L16K Owhat River 37.00 328 P **P 19 28 43.1 +0.9**
L16K IAmb IAmb 19 28 45.2

comp=Z,7.3nm,0.8s
L16K Owhat River 37.00 328 P **P 19 28 44.2 +2.0**
baz=115,SNR=5.5
IMAR Indian Mountai 37.04 336 P **P 19 28 42.5 0.0**
H20K Anotleneega Mo 37.12 335 P **P 19 28 44.9 +1.6**
baz=125,SNR=6.0
M15K Kasigluk River 37.13 326 P **P 19 28 44.5 +1.2**
baz=112
D25K Kavik River 37.27 344 P **P 19 28 46.0 +1.5**
baz=140
G21K Allakaket 37.28 337 P **P 19 28 45.8 +1.2**
baz=128
N14K Kuskokwak Cree 37.31 325 P **P 19 28 45.6 +0.8**
baz=110
C26K Camden Bay 37.41 345 P **P 19 28 48.3 +2.8**
baz=142
F22K John River 37.51 339 P **P 19 28 46.3 -0.2**
baz=130
TOLK Toolik Lake Re 37.55 341 P **P 19 28 48.5 +1.6**
baz=135
J17K VABM Dome 37.59 331 P **P 19 28 47.7 +0.5**
baz=118
H19K Roundabout Mou 37.69 335 P **P 19 28 48.1 +0.2**
baz=123
M14K Bethel 37.73 326 P **P 19 28 50.5 +2.1**
baz=111
D24K Happy Valley 37.73 342 P **P 19 28 50.1 +1.8**
baz=136
E22K Anaktuvuk Pass 37.81 340 P **P 19 28 50.6 +1.5**
baz=132
L15K Ungalak Mounta 37.87 327 P **P 19 28 52.2 +2.6**
baz=113
D23K Nanushuk River 38.07 341 P **P 19 28 53.3 +2.1**
baz=134
C24K Franklin Bluff 38.12 343 P **P 19 28 53.8 +2.2**
baz=137
K15K Wolf Creek Mou 38.13 328 P **P 19 28 53.3 +1.5**
baz=114
J16K Anvik River 38.15 330 P **P 19 28 53.1 +1.1**
baz=116
H18K Honhosa River 38.17 333 P **P 19 28 53.0 +0.8**
baz=120
G19K Purcell Mounta 38.24 335 P **P 19 28 53.6 +0.9**
baz=123
F20K Avaraart Lake 38.31 337 P **P 19 28 55.0 +1.8**
baz=126
D22K Ayikyak River 38.55 340 P **P 19 28 57.5 +2.2**
baz=131
E21K Killik River 38.62 339 P **P 19 28 57.6 +1.6**
baz=129
H17K Granite Mounta 38.64 333 P **P 19 28 57.7 +1.6**
baz=118
G18K Tagagawik 38.66 334 P **P 19 28 58.2 +2.0**
baz=121
C23K Itkillik River 38.66 342 P **P 19 28 59.1 +3.0**
baz=135
F19K Shaleruckik Mo 38.85 336 P **P 19 28 59.3 +1.6**
baz=123
E19K Redstone River 39.02 337 P **P 19 29 00.8 +1.6**
baz=124
E20K Nigu River 39.16 338 P **P 19 29 03.1 +2.6**
baz=126
J14K Nanvaranak Lak 39.17 328 P **P 19 29 02.6 +2.1**
baz=112
G17K Kiwalik Mounta 39.18 333 P **P 19 29 02.5 +1.9**
baz=118
C21K Knifeblade Rid 39.31 340 P **P 19 29 04.2 +2.6**
baz=129
F18K Selawik 39.36 335 P **P 19 29 04.2 +2.2**
baz=120
B21K Ikpikpuk River 39.55 341 P **P 19 29 06.4 +2.8**
baz=130
NIKH Nikolski High 39.68 312 P P 19 29 16.2 +11
baz=95
B22K Teshekpuk Lake 39.71 342 P **P 19 29 09.4 +4.5**
baz=132
G16K Koyuk River 39.77 332 P **P 19 29 07.6 +2.1**
baz=116
D19K Kuna River 39.88 338 P P 19 29 10.1 +3.6
baz=124
E17K Hotham Inlet 40.35 335 P **P 19 29 12.1 +1.9**
baz=118
B20K Meade River 40.49 340 P **P 19 29 14.4 +3.1**
baz=127
F15K North Star Dit 40.76 332 P **P 19 29 16.7 +3.0**
baz=114
C18K Utukok River 40.92 337 P **P 19 29 18.4 +3.3**
baz=121
D17K Noatak River 41.07 335 P P 19 29 20.1 +3.9
baz=118

PETK	**Petropavlovsk-**	**59.51**	**316**	P		**P**	**19 31 36.1**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=80,slow=11,SNR=7.8							
	comp=Z,3.9nm,0.8s							
LPAZ	**La Paz**	**69.65**	**129**	P		**P**	**19 32 42.5**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=3.5,slow=8.7,SNR=4.9							
	comp=Z,1.4nm,0.8s							
GERES	**GERESS Array B**	**85.32**	**30**	P		**P**	**19 34 10.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=273,slow=4.9,SNR=3.4							
	comp=Z,0.1nm,0.3s							
AKASG	**Malin Array Be**	**89.13**	**20**	P		**P**	**19 34 30.2**	**+1.8**
	comp=Z,0.4nm,0.4s,baz=326,slow=3.7,SNR=5.1							
	comp=Z,0.4nm,0.4s							
BVAR	**Borovoye Array**	**91.42**	**355**	P		**P**	**19 34 39.0**	**0.0**
	comp=Z,1.7nm,0.8s,baz=26,slow=3.8,SNR=7.3							
	comp=Z,1.7nm,0.8s							
HHC	**Hu-ho-hao-te**	**91.54**	**325**	*e*P		**P**	**19 34 40.0**	**0.0**
HHC				pmax		pmax		
	comp=Z,15nm,0.7s							
NJ2	**Nanjing**	**94.41**	**315**	*e*P		**P**	**19 34 51.9**	**-1.3**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
WMQ	**Urumqi**	**97.64**	**342**	*e*P		Pdif	19 35 08.2	+0.3
WMQ				PP		**PP**	**19 39 06.3**	**+2.0**
WMQ				pmax		pmax		
	comp=Z,43nm,0.9s							

BJI ***04*** *19:21:59.3, 4°.33S× 153°.41E, h54km, mB5.4/7, mb5.1/64, Ms5.0/4, Ms7 4.9/4*

IDC ***04*** *19:21:59.8± 1.7, 4°.67S× 153°.33E, h50km± 14km, mb4.7/27, mbtmp4.9/30, ML5.0/2, Error ellipse: s-maj=13.0km s-min=9.3km az=76.0*

MOS ***04*** *19:22:01.3± 1.0, 4°.50S× 152°.94E, h63km, mb5.3/41, Error ellipse: s-maj=10.4km s-min=5.6km az=110.6*

NEIC ***04*** *19:22:01.4± 1.5, 4°.61S± 0°.05× 153°.24E± 0°.05, h62km± 5km, mb5.0/228, Error ellipse: s-maj=8.8km s-min=4.6km az=141.0*

DJA ***04*** *19:22:03.7± 0.5, 5°.5S× 3°.3× 15°.3E± °, h98km± 5km, M5.6/1, mb5.0/56, mb5.6/1*

ISC 04 19:22:01.2± 0.5, 4°.62S± 0°.04× 153°.20E± 0°.05, h63km± 3km, h65km:pP-P, n832, σ 1$ 03/762, mb5.0/210, 44C-26D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.11**	**292**		**Pn**	**19 22 21.3**	**+0.4**
RABL				Sn	**Sn**	**19 22 37.3**	**+1.8**
I40PG	**Keravat**	**1.22**	**285**	P	**Pn**	**19 22 21.8**	**-0.6**
	baz=130,slow=19						
I40PG				S	**Sn**	**19 22 40.0**	**+2.0**
	baz=76,slow=52						
MANU	**Manus Island**	**6.36**	**294**		**Pn**	**19 23 34.3**	**+1.9**
HNR	**Honiara**	**8.23**	**126**	Pn	**Pn**	**19 23 57.9**	**-0.1**
HNR	**Honiara**	**8.23**	**126**	P	**Pn**	**19 23 54.9**	**-3.1**
	21nm,0.3s,baz=251,slow=3.5,SNR=4.1						
HNR				S	**Sn**	**19 25 33.0**	**+3.4**
	592nm,0.9s,baz=129,slow=13,SNR=3.8						
	34nm,0.4s						
HNR	**Honiara**	**8.23**	**126**	P	**Pn**	**19 23 57.9**	**-0.1**
PATS	**Pohnpei**	**12.47**	**24**		**Pn**	**19 24 54.0**	**-2.0**
PATS	**Pohnpei**	**12.47**	**24**	P	**Pn**	**19 24 54.6**	**-1.4**
	comp=Z,257nm,0.9s						
JAY	**Jayapura**	**12.64**	**279**	P	**Pn**	**19 24 57.8**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=148,slow=5.8,SNR=5.3						
JAY	**Jayapura**	**12.64**	**279**	P	**P**	**19 25 04.5**	**-3.0**
	comp=Z,32nm,1.0s						
GENI	**Genyem**	**13.16**	**278**	P	**P**	**19 25 11.0**	**-2.2**
	comp=Z,79nm,1.1s						
COEN	**Coen**	**13.55**	**226**		**Pn**	**19 25 10.7**	**0.0**
COEN	**Coen**	**13.55**	**226**	P	**Pn**	**19 25 11.1**	**+0.4**
	comp=Z,50nm,1.2s						
SMPI	**Sarmi**	**14.69**	**280**	P	**P**	**19 25 28.7**	**-1.6**
	comp=Z,97nm,0.8s						
MTSU	**Mount Surprise**	**16.00**	**212**	P	**P**	**19 25 44.7**	**-0.1**
CTAO	**Charters Tower**	**16.80**	**203**		**Pn**	**19 25 52.4**	**0.0**
CTAO	**Charters Tower**	**16.80**	**203**	Pn	**Pn**	**19 25 52.2**	**-0.3**
CTAO				IAmb	IAmb	19 25 55.8	
	comp=Z,56nm,1.2s						
CTAO	**Charters Tower**	**16.80**	**203**	P	**Pn**	**19 25 52.4**	**0.0**
CTAO				pmax	pmax		
	comp=Z,56nm,1.2s						
BAKI	**Biak**	**17.40**	**281**	P	**P**	**19 26 00.3**	**-0.1**
	comp=Z,56nm,0.9s						
RKPI	**Ransiki, Papua**	**19.24**	**279**	P	**P**	**19 26 20.8**	**+0.2**
	comp=Z,117nm,1.0s						
GUMO	**Guam**	**19.89**	**336**		**P**	**19 26 28.4**	**+0.8**
GUMO	**Guam**	**19.89**	**336**	P	**P**	**19 26 27.9**	**+0.3**
	comp=Z,4.9nm,0.3s,baz=163,slow=7.5,SNR=9.9						
	comp=Z,181nm,1.0s						
GUMO	**Guam**	**19.89**	**336**	P	**P**	**19 26 28.4**	**+0.8**
GUMO				pmax	pmax		
	comp=Z,247nm,1.1s						
QIS	**Mount Isa**	**20.63**	**219**	P	**P**	**19 26 34.4**	**-1.4**
	comp=Z,53nm,0.9s						
EIDS	**Eidsvold**	**20.73**	**185**	P	**P**	**19 26 37.0**	**+0.3**
FAKI	**Fak Fak**	**20.97**	**274**		**P**	**19 26 38.9**	**-0.5**
FAKI	**Fak Fak**	**20.97**	**274**	P	**P**	**19 26 39.2**	**-0.2**
	comp=Z,58nm,1.6s						
DZM	**Mont Dzumac**	**21.58**	**145**		**P**	**19 26 45.3**	**-0.6**
DZM	**Mont Dzumac**	**21.58**	**145**	P	**P**	**19 26 44.1**	**-1.8**
	comp=Z,27nm,0.6s,baz=298,slow=8.3,SNR=22						
	comp=Z,27nm,0.6s						
KDU	**Kakadu**	**21.98**	**247**	P	**P**	**19 26 48.6**	**-1.6**
	comp=Z,125nm,0.9s						
SWI	**Sorong**	**22.22**	**279**	P	**P**	**19 26 53.1**	**+0.3**
	comp=Z,71nm,1.1s						
MTN	**Manton Dam**	**23.27**	**248**		**P**	**19 27 03.1**	**-0.5**
MTN				IAmb	IAmb	19 27 05.0	
	comp=Z,105nm,1.3s						
MTN	**Manton Dam**	**23.27**	**248**	P	**P**	**19 27 02.9**	**-0.7**
	comp=Z,50nm,0.6s						
QLP	**Quilpie**	**23.46**	**201**	P	**P**	**19 27 03.8**	**-1.4**
	comp=Z,76nm,0.9s						
WB0	**Warramunga Arr**	**23.71**	**229**		**P**	**19 27 07.2**	**-0.4**
WRAB	**Tennant Creek**	**23.85**	**229**	*i* P	**P**	**19 27 08.8**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,23nm,0.7s						
WRA	**Warramunga Arr**	**23.86**	**229**		**P**	**19 27 08.4**	**-0.6**
WRA	**Warramunga Arr**	**23.86**	**229**	P	**P**	**19 27 08.8**	**-0.2**
	comp=Z,14nm,0.6s,baz=52,slow=9.7,SNR=92						
WRA				PcP	**PcP**	**19 30 51.3**	**+0.6**
	comp=Z,6.6nm,1.0s,baz=57,slow=2.2,SNR=5.2						
WRA				S	**S**	**19 31 22.9**	**+2.1**
	comp=Z,6.0nm,1.1s,baz=52,slow=18,SNR=7.2						
	comp=Z,14nm,0.6s						
WRA	**Warramunga Arr**	**23.86**	**229**	*i* P	**P**	**19 27 08.8**	**-0.2**
WRA				pmax	pmax		
	comp=Z,15nm,0.6s						
AAI	**Ambon**	**24.95**	**271**	P	**P**	**19 27 16.6**	**-2.4**
	comp=Z,91nm,1.1s						
ARMA	**Armidale**	**25.71**	**183**	P	**P**	**19 27 27.2**	**+1.4**
NLAI	**Namlea**	**26.07**	**272**	P	**P**	**19 27 29.4**	**+0.3**
	comp=Z,27nm,0.5s						
KNRA	**Kununurra**	**26.41**	**244**	P	**P**	**19 27 31.7**	**-0.4**
AS31	**Alice Springs**	**26.55**	**223**		**P**	**19 27 33.2**	**-0.2**
ASAR	**Alice Springs**	**26.55**	**223**	P	**P**	**19 27 33.2**	**-0.2**
ASAR	**Alice Springs**	**26.55**	**223**	P	**P**	**19 27 32.7**	**-0.7**
	comp=Z,4.4nm,0.6s,baz=55,slow=8.7,SNR=44						
ASAR				PcP	**PcP**	**19 30 57.6**	**+0.8**
	comp=Z,1.6nm,0.4s,baz=74,slow=2.6,SNR=5.2						
ASAR				S	**S**	**19 32 08.3**	**+4.7**
	comp=Z,4.2nm,1.1s,baz=43,slow=18,SNR=5.9						
ASAR				ScP	**ScP**	**19 34 33.1**	**+1.6**
	comp=Z,1.7nm,0.9s,baz=41,slow=3.6,SNR=4.7						
	comp=Z,4.4nm,0.6s						
STKA	**Stephens Creek**	**29.22**	**201**	P	**P**	**19 27 56.0**	**-1.0**
STKA	**Stephens Creek**	**29.22**	**201**	P	**P**	**19 27 55.8**	**-1.3**
	comp=Z,3.5nm,0.6s,baz=36,slow=13,SNR=7.8						
STKA				PcP	**PcP**	**19 31 04.2**	**+1.1**
	comp=Z,9.3nm,0.9s,baz=71,slow=3.4,SNR=6.0						
STKA				PKKP	**PKKPdf**	**19 53 36.0**	**-3.3**
	comp=Z,2.2nm,0.9s,baz=350,slow=7.6,SNR=2.9						
	comp=Z,3.5nm,0.6s						
STKA	**Stephens Creek**	**29.22**	**201**	P	**P**	**19 27 56.1**	**-1.0**
STKA				pmax	pmax		
	comp=Z,287nm,2.0s						
KMSI	**Cibinong**	**29.64**	**279**	P	**P**	**19 28 01.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**30.09**	**241**	P	**P**	**19 28 04.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**30.09**	**241**	P	**P**	**19 28 04.0**	**-0.9**
	comp=Z,30nm,0.7s,baz=50,slow=7.1,SNR=117						
	comp=Z,30nm,0.7s						
EDFI	**Ende, Flores**	**31.55**	**261**	P	**P**	**19 28 15.3**	**-2.7**
	comp=Z,17nm,0.8s						
APSI	**Ampana**	**31.72**	**276**	P	**P**	**19 28 18.4**	**-1.0**
	comp=Z,26nm,0.6s						

BBOO	**Buckleboo**	**32.30**	**208**	P		**P**	**19 28 25.1**	**+0.8**
BBOO				IAmb		IAmb	19 29 00.6	
	comp=Z,39nm,1.2s							
TOLI2	**Tolitoli**	**32.88**	**279**	P		**P**	**19 28 28.9**	**-0.7**
BNSI	**Bone**	**32.99**	**269**	P		**P**	**19 28 29.2**	**-1.3**
	comp=Z,29nm,0.9s							
WSI	**Waingapu**	**33.01**	**259**	P		**P**	**19 28 28.4**	**-2.3**
	comp=Z,87nm,1.6s							
JCJ	**Chichijima**	**33.27**	**342**	P		**P**	**19 28 31.1**	**-1.7**
KAPI	**Kappang**	**33.33**	**268**	*i* P		**P**	**19 28 30.5**	**-3.0**
KAPI				pmax		pmax		
	comp=Z,12nm,0.9s							
SPSI	**Sidrap Palu**	**33.34**	**270**	P		**P**	**19 28 31.5**	**-2.1**
	comp=Z,13nm,0.8s							
PCI	**Palu**	**33.52**	**275**	P		**P**	**19 28 35.7**	**+0.6**
	comp=Z,47nm,0.9s							
MPSI	**Mapaga**	**33.63**	**278**	P		**P**	**19 28 35.2**	**-0.9**
	comp=Z,23nm,0.7s							
WBSI	**Waikabubak, Su**	**33.90**	**260**	P		**P**	**19 28 36.4**	**-2.1**
	comp=Z,50nm,0.8s							
FORT	**Forrest**	**35.18**	**219**	P		**P**	**19 28 49.1**	**-0.2**
FORT				IAmb		IAmb	19 29 04.1	
	comp=Z,15nm,0.7s							
MBWA	**Marble Bar**	**36.40**	**240**	P		**P**	**19 28 59.1**	**-0.8**
MBWA	**Marble Bar**	**36.40**	**240**	P		**P**	**19 28 59.4**	**-0.6**
KKM	**Kota Kinabalu**	**38.41**	**286**	P		**P**	**19 29 16.6**	**-0.5**
KKM				IAmb		IAmb	19 29 18.3	
	comp=Z,21nm,0.9s							
TAU	**Tasmania Unive**	**38.49**	**187**	P		**P**	**19 29 17.4**	**+0.2**
TAU				IAmb		IAmb	19 29 39.0	
	comp=Z,31nm,1.2s							
TAU	**Tasmania Unive**	**38.49**	**187**	P		**P**	**19 29 17.4**	**+0.2**
TAU				pmax		pmax		
	comp=Z,31nm,1.3s							
TOZ	**Tahuroa Road**	**38.75**	**151**	P		P	19 29 24.9	+5.5
JAGI	**Jajag, Banyuwa**	**38.96**	**262**	P		**P**	**19 29 18.8**	**-2.9**
KMRZ	**Kaimai**	**39.05**	**151**	P		**P**	**19 29 25.5**	**+3.4**
WIZ	**White Island**	**39.42**	**149**	P		**P**	**19 29 26.5**	**+1.4**
JOW	**Kunigami**	**39.48**	**324**	P		**P**	**19 29 26.8**	**+1.1**
JOW	**Kunigami**	**39.48**	**324**	P		**P**	**19 29 27.5**	**+1.8**
	comp=Z,70nm,0.8s,baz=170,slow=8.0,SNR=12							
	comp=Z,70nm,0.8s							
HAZ	**Te Kaha**	**39.90**	**149**	P		**P**	**19 29 29.5**	**+0.4**
URZ	**Urewera**	**39.95**	**150**	P		**P**	**19 29 29.8**	**+0.4**
RUGZ	**Raukumara Rang**	**40.00**	**149**	P		**P**	**19 29 30.3**	**+0.2**
QRZ	**Quartz Range**	**40.02**	**157**	P		**P**	**19 29 31.1**	**+1.1**
PKGZ	**Pakihiroa**	**40.13**	**149**	P		**P**	**19 29 32.0**	**+1.0**
MWZ	**Matawai**	**40.21**	**150**	P		**P**	**19 29 32.8**	**+1.0**
MTHZ	**Maungataniwha**	**40.28**	**151**	P		**P**	**19 29 33.3**	**+1.0**
TWGZ	**Tauwhareparae**	**40.32**	**149**	P		**P**	**19 29 33.5**	**+0.8**
BKZ	**Black Stump Fm**	**40.36**	**152**	P		**P**	**19 29 32.9**	**0.0**
RAHZ	**Arahi**	**40.45**	**151**	P		**P**	**19 29 34.3**	**+0.7**
DSZ	**Denniston Nort**	**40.54**	**158**	P		P	19 29 39.2	+4.8
CNGZ	**Carnagh Statio**	**40.67**	**149**	P		**P**	**19 29 35.6**	**+0.1**
KRHZ	**Kereru**	**40.68**	**152**	P		**P**	**19 29 35.5**	**0.0**
NNZ	**Nelson**	**40.69**	**156**	P		**P**	**19 29 38.1**	**+2.6**
PNHZ	**Pukenui**	**40.82**	**153**	P		**P**	**19 29 36.9**	**+0.2**
TSZ	**Takapari Road**	**40.83**	**153**	P		**P**	**19 29 36.7**	**0.0**
THZ	**Tophouse**	**40.97**	**157**	P		**P**	**19 29 38.1**	**+0.2**
THZ	**Tophouse**	**40.97**	**157**	P		**P**	**19 29 37.7**	**-0.2**
MRZ	**Maungatainoka R**	**41.14**	**154**	P		**P**	**19 29 38.8**	**-0.5**
WVZ	**Waitaha Valley**	**41.34**	**160**	P		**P**	**19 29 40.7**	**-0.1**
FOZ	**Fox Glacier**	**41.45**	**162**	P		**P**	**19 29 41.5**	**-0.2**
BFZ	**Birch Farm**	**41.46**	**153**	P		**P**	**19 29 41.4**	**-0.5**
SBUM	**Sibu**	**41.54**	**279**	P		**P**	**19 29 42.7**	**-0.3**
LTZ	**Lake Taylor**	**41.61**	**159**	P		**P**	**19 29 43.7**	**+0.5**
KHZ	**Kahutara**	**41.77**	**157**	P		**P**	**19 29 43.5**	**-0.8**
PCJI	**Pacitan**	**41.89**	**263**	P		**P**	**19 29 44.3**	**-1.5**
MSZ	**Milford Sound**	**41.94**	**164**	P		**P**	**19 29 47.6**	**+1.9**
OXZ	**Oxford**	**42.00**	**159**	P		**P**	**19 29 45.9**	**-0.4**
RPZ	**Rata Peaks**	**42.01**	**161**	P		**P**	**19 29 46.9**	**+0.5**
RPZ	**Rata Peaks**	**42.01**	**161**	P		**P**	**19 29 47.1**	**+0.7**
GVZ	**Greta Valley S**	**42.05**	**158**	P		**P**	**19 29 46.7**	**0.0**
SSLB	**Suanglung**	**42.25**	**313**	P		**P**	**19 29 48.1**	**-0.5**
LBZ	**Lake Benmore**	**42.33**	**162**	P		**P**	**19 29 49.0**	**0.0**
DCZ	**Deep Cove**	**42.47**	**165**	P		**P**	**19 29 50.8**	**+0.7**
MQZ	**McQueen's Vall**	**42.55**	**159**	P		**P**	**19 29 50.9**	**+0.2**
TMZ	**Timaru**	**42.59**	**161**	P		**P**	**19 29 50.1**	**-1.0**
MLZ	**Mavora Lakes**	**42.63**	**164**	P		**P**	**19 29 51.7**	**+0.3**
JGF	**Kuroka**	**42.68**	**341**	P		**P**	**19 29 51.8**	**-0.1**
JGF				IAmb		IAmb	19 30 36.8	
	comp=Z,84nm,2.0s							
MORW	**Morawa**	**42.77**	**231**	P		**P**	**19 29 52.0**	**-0.8**
ODZ	**Otahua Downs**	**43.07**	**162**	P		**P**	**19 29 55.0**	**+0.1**
WHZ	**Wether Hill Ro**	**43.08**	**165**	P		**P**	**19 29 54.9**	**-0.1**
JNU	**Nakatsue**	**43.08**	**332**	P		**P**	**19 29 55.5**	**+0.3**
JNU	**Nakatsue**	**43.08**	**332**	P		**P**	**19 29 55.8**	**+0.5**
	comp=Z,44nm,0.8s,baz=118,slow=2.5,SNR=35							
	comp=Z,44nm,0.8s							
KSM	**Kuning**	**43.28**	**277**	P		**P**	**19 29 56.5**	**-0.6**
MJAR	**Matsushiro Arr**	**43.28**	**342**	P		**P**	**19 29 55.2**	**-1.5**
MJAR	**Matsushiro Arr**	**43.28**	**342**	P		**P**	**19 29 56.0**	**-0.7**
	comp=Z,4.0nm,0.8s,baz=166,slow=7.4,SNR=9.1							
MJAR				PcP		**PcP**	**19 31 45.7**	**+0.9**
	comp=Z,15nm,0.8s,baz=159,slow=3.4,SNR=17							
	comp=Z,4.0nm,0.8s							
MAJO	**Matsushiro**	**43.28**	**342**	*i* P		**P**	**19 29 55.7**	**-1.0**
MAJO				pmax		pmax		
	comp=Z,7.0nm,0.8s							
MAJO	**Matsushiro**	**43.28**	**342**	P		**P**	**19 29 56.3**	**-0.4**
MAJO				PcP		**PcP**	**19 31 44.8**	**-0.1**
TUZ	**Tuapeka**	**43.59**	**163**	P		**P**	**19 29 59.9**	**+0.8**
NWAO	**Narrogin (SRO)**	**43.80**	**226**	P		**P**	**19 30 00.9**	**-0.1**
	comp=Z,16nm,1.0s,baz=147,slow=13,SNR=1.9							
	comp=Z,16nm,1.0s							
CNJI	**Cibinong**	**45.88**	**264**	P		**P**	**19 30 16.1**	**-1.7**
	comp=Z,56nm,1.0s							
JTM	**Tenmabayashi**	**46.53**	**347**	P		**P**	**19 30 22.6**	**+0.2**
CGJI	**Cibinong**	**47.30**	**265**	P		**P**	**19 30 27.9**	**-1.1**
	comp=Z,42nm,1.0s							
ERM	**Erimo**	**47.30**	**350**	P		**P**	**19 30 28.6**	**+0.2**
ERM				IAmb		IAmb	19 30 51.3	
	comp=Z,15nm,0.8s							
ERM	**Erimo**	**47.30**	**350**	P		**P**	**19 30 28.7**	**+0.2**
ERM				pmax		pmax		
	comp=Z,15nm,0.9s							
TJN	**Taejon**	**47.40**	**331**	P		**P**	**19 30 29.6**	**+0.3**
TJN	**Taejon**	**47.40**	**331**	*i* P		**P**	**19 30 30.0**	**+0.7**
TJN				pmax		pmax		
	comp=Z,2.0nm,0.7s							
KSRS	**Korea Array**	**48.02**	**333**	P		**P**	**19 30 34.7**	**+0.6**
	comp=Z,11nn,0.8s,baz=150,slow=8.0,SNR=63							
KSRS				PcP		**PcP**	**19 32 02.4**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=156,slow=4.1,SNR=5.4							
	comp=Z,11nm,0.8s							
KSAR	**Wonju Array Be**	**48.02**	**333**	P		**P**	**19 30 33.7**	**-0.5**
KSAR	**Wonju Array Be**	**48.02**	**333**	P		**P**	**19 30 33.7**	**-0.5**
KS19	**Wonju Array Si**	**48.08**	**333**	P		**P**	**19 30 34.3**	**-0.3**
KS19				IAmb		IAmb	19 30 35.9	
	comp=Z,15nm,0.9s							
INCN	**Inchon**	**48.64**	**332**			**P**	**19 30 39.7**	**+0.8**
INCN	**Inchon**	**48.64**	**332**	P		**P**	**19 30 39.7**	**+0.8**
INCN				pmax		pmax		
	comp=Z,75nm,0.8s							
INCN	**Inchon**	**48.64**	**332**	P		**P**	**19 30 40.4**	**+1.4**
MDSI	**Maura Dua**	**48.85**	**268**	P		**P**	**19 30 39.7**	**-1.3**
	comp=Z,13nm,1.2s							
NJ2	**Nanjing**	**48.95**	**321**	*e*P		**P**	**19 30 42.7**	**+1.3**
NJ2				pmax		pmax		
	comp=Z,15nm,0.5s							
ASAJ	**Asahikawa**	**49.44**	**350**	P		**P**	**19 30 45.7**	**+0.8**
	comp=Z,20nm,0.8s,baz=209,slow=12,SNR=17							
	comp=Z,20nm,0.8s							
PSTR	**Posyet**	**51.25**	**339**	*i* P		**P**	**19 30 59.5**	**+1.0**
YSS	**Yuzhno-Sakhali**	**52.17**	**351**	*e*P		**P**	**19 31 05.8**	**+0.5**
YSS				pmax		pmax		
	comp=Z,10.0nm,1.2s							
USA0B	**Ussuriysk Arra**	**52.20**	**341**	*i* P		**P**	**19 31 06.3**	**+0.6**
USRK	**Ussuriysk Ar.**	**52.20**	**341**			**P**	**19 31 05.6**	**0.0**
USRK	**Ussuriysk Ar.**	**52.20**	**341**	P		**P**	**19 31 06.5**	**+0.8**
	comp=Z,20nm,0.8s,baz=175,slow=8.3,SNR=34							
USRK				PcP		**PcP**	**19 32 17.3**	**+0.8**
	comp=Z,6.4nm,0.7s,baz=159,slow=5.2,SNR=4.9							
	comp=Z,20nm,0.8s							
TIA	**Tai'an**	**52.80**	**323**	P		**P**	**19 31 10.7**	**+0.4**
TIA				PcP		**PcP**	**19 32 20.2**	**+1.2**
TIA				pmax		pmax		
	comp=Z,21nm,1.2s							
MDJ	**Mudanjiang**	**53.39**	**339**	P		**P**	**19 31 14.9**	**+0.5**
MDJ				PcP		**PcP**	**19 32 21.7**	**+0.7**
MDJ				S		**S**	**19 38 46.6**	**+4.7**
MDJ				pmax		pmax		
	comp=Z,29nm,1.1s							
MDJ	**Mudanjiang**	**53.39**	**339**	P		**P**	**19 31 15.2**	**+0.8**

MDJ				PcP		**PcP**	**19 32 21.4**	**+0.4**
CN2	**Changchun**	**54.30**	**335**	*e*P		**P**	**19 31 20.8**	**-0.2**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.4s							
HNS	**HongShan**	**55.04**	**323**	⇑P		**P**	**19 31 27.5**	**+1.0**
HNS				pmax		pmax		
	comp=Z,32nm,1.1s							
BNX	**BinXian**	**55.15**	**338**	⇑P		**P**	**19 31 27.1**	**-0.1**
BNX				pmax		pmax		
	comp=Z,56nm,0.9s							
KHU	**Kahuku**	**55.66**	**63**	P		**P**	**19 31 31.6**	**0.0**
KHU	**Kahuku**	**55.66**	**63**	P		**P**	**19 31 31.6**	**0.0**
KHU				pmax		pmax		
	comp=Z,94nm,0.8s							
GSI	**Gunungsitoli**	**55.88**	**275**	P		**P**	**19 31 31.4**	**-1.7**
	comp=Z,17nm,1.0s							
HMH	**Humu'ula Sheep**	**55.90**	**63**	P		**P**	**19 31 33.4**	**0.0**
TYV	**Tymovskoe**	**56.00**	**352**	*e*P		**P**	**19 31 33.0**	**-0.2**
TYV				*e*S		**S**	**19 39 15.0**	**-1.7**
TYV				pmax		pmax		
	comp=Z,15nm,0.8s							
TYV				pmax		pmax		
	comp=Z,100nm,2.7s							
TYV				smax		smax		
	comp=N,200nm,3.7s							
TYV				smax		smax		
	comp=E,100nm,3.7s							
XAN	**Xi'an**	**56.76**	**316**	⇑P		**P**	**19 31 39.3**	**+0.3**
XAN				pmax		pmax		
	comp=E,27nm,0.9s							
XAN				pmax		pmax		
	comp=E,2μm,7.7s							
KLR	**Kul'dur**	**56.78**	**343**	P		**P**	**19 31 39.5**	**+0.8**
	comp=E,20nm,0.8s,baz=161,slow=4.1,SNR=38							
	comp=E,20nm,0.8s							
KLR	**Kul'dur**	**56.78**	**343**	*i* P		**P**	**19 31 39.6**	**+0.8**
KLR				pmax		pmax		
	comp=E,36nm,1.0s							
GRNR	**Gornyy**	**57.03**	**347**	⇓ *i* P		**P**	**19 31 40.1**	**-0.4**
GRNR				pmax		pmax		
	comp=E,8.0nm,0.8s							
KMI	**Kunming**	**57.21**	**304**	P		**P**	**19 31 44.0**	**+1.4**
KMI				pmax		pmax		
	comp=E,11nm,1.2s							
PET	**Petropavlovsk**	**57.61**	**4**	P		**P**	**19 31 43.9**	**-0.6**
PET				IAmb		IAmb	19 31 46.2	
	comp=E,16nm,0.8s							
PET	**Petropavlovsk**	**57.61**	**4**	*ce*P		**P**	**19 31 44.9**	**+0.4**
PET				pmax		pmax		
	comp=E,16nm,0.8s							
PET	**Petropavlovsk**	**57.61**	**4**	P		**P**	**19 31 44.6**	**+0.1**
	comp=E,25nm,1.0s							
PEA0B	**Petropavlovsk-**	**57.64**	**3**	P		**P**	**19 31 44.5**	**-0.2**
PEA0B	**Petropavlovsk-**	**57.64**	**3**	*i* P		**P**	**19 31 45.9**	**+1.2**
PETK	**Petropavlovsk-**	**57.64**	**3**	P		**P**	**19 31 45.5**	**+0.7**
	comp=E,15nm,0.8s,baz=163,slow=5.6,SNR=24							
PETK				PKPPKP		P'P'df	20 01 36.3	+7.9
	comp=E,1.2nm,0.8s,baz=46,slow=6.4,SNR=3.6							
	comp=E,15nm,0.8s							
CM31	**Chiang Mai Arr**	**58.16**	**295**	P		**P**	**19 31 49.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**58.16**	**295**			**P**	**19 31 49.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**58.16**	**295**	P		**P**	**19 31 50.4**	**+1.3**
	comp=E,11nm,0.7s,baz=118,slow=5.4,SNR=77							
	comp=E,11nm,0.7s							
CMAR	**Chiang Mai Arr**	**58.16**	**295**	*i* P		**P**	**19 31 50.4**	**+1.3**
CMAR				pmax		pmax		
	comp=E,13nm,0.7s							
CHTO	**Chiang Mai**	**58.27**	**295**	P		**P**	**19 31 49.7**	**-0.1**
CHTO	**Chiang Mai**	**58.27**	**295**	P		**P**	**19 31 49.7**	**-0.1**
CHTO				pmax		pmax		
	comp=E,36nm,1.6s			

YAK **Yakutsk** 68.88 348 *e*P **P** **19 32 59.3 +0.4**
YAK *e**PP **pP** **19 33 14.1 -1.8**
YAK *e* 19 33 23.1
YAK *e* 19 35 31.8
YAK *e*PPP PPP 19 37 12.1
YAK *e*S **S** **19 41 58.9 +0.9**
YAK *e**SS **sS** **19 42 26.5 +0.9**
YAK *e* 19 42 52.7
YAK *e*SS **SS** **19 46 18.4 -6.1**
YAK pmax pmax
comp=Z,40nm,1.5s
YAK pmax pmax
comp=N,13nm,1.5s
YAK pmax pmax
comp=E,7.0nm,1.6s
YAK pmax pmax
comp=Z,567nm,15.6s
YAK pmax pmax
comp=N,611nm,17.1s
YAK pmax pmax
comp=E,854nm,18.2s
YAK smax smax
comp=N,115nm,3.8s
YAK smax smax
comp=E,43nm,3.0s
ZAK **Zakamensk** 69.54 328 *e*P **P** **19 33 03.6 +0.2**
ZAK pmax pmax
comp=Z,10.0nm,1.2s
IRK **Irkutsk** 70.14 330 *e*P **P** **19 33 05.9 -1.1**
IRK pmax pmax
comp=Z,14nm,1.6s
S12K **Black Hills** 70.44 25 P **P** **19 33 09.5 +0.8**
baz=228
SDPT **Sand Point** 70.88 26 P **P** **19 33 11.8 +0.5**
baz=230
CHNA **Chernabura Isl** 70.94 27 P **P** **19 33 12.2 +0.5**
baz=231
MOY **Mondy** 71.46 329 *e*P **P** **19 33 15.3 +0.2**
MOY pmax pmax
comp=Z,18nm,1.7s
EVN **Everest** 71.58 301 P **P** **19 33 16.3 -0.6**
S14K **Fog Glacier** 71.88 26 P **P** **19 33 17.5 0.0**
baz=230
M11K **Mekoryuk** 72.15 20 P **P** **19 33 18.0 -0.8**
baz=223
VNDA **Vanda** 73.00 178 P **P** **19 33 23.8 +0.1**
VNDA IAmb IAmb 19 33 26.4
comp=Z,16nm,0.8s
VNDA **Vanda** 73.00 178 P **P** **19 33 24.4 +0.7**
comp=Z,20nm,1.0s,baz=332,slow=6.8,SNR=57
comp=Z,20nm,1.0s
BILL **Bilibino** 73.08 5 P **P** **19 33 24.3 0.0**
BILL IAmb IAmb 19 33 26.0
comp=Z,20nm,0.7s
BILL **Bilibino** 73.08 5*ce*P **P** **19 33 25.0 +0.8**
BILL pmax pmax
comp=Z,20nm,0.7s
GAMB **Gambell** 73.10 15 P **P** **19 33 24.0 -0.4**
baz=217
O14K **Tigyukauivet M** 73.14 23 P **P** **19 33 24.6 -0.1**
baz=228
M13K **Dall Lake** 73.16 21 P **P** **19 33 25.1 +0.3**
baz=226
CHIR **Chirikof Islan** 73.34 27 P **P** **19 33 26.3 +0.3**
baz=234
N14K **Kuskokwak Cree** 73.43 22 P **P** **19 33 27.4 +0.9**
baz=227
SBA **Scott Base** 73.54 177 P **P** **19 33 28.5 +1.6**
SBA IAmb IAmb 19 33 30.7
comp=Z,19nm,0.9s
SBA **Scott Base** 73.54 177 P **P** **19 33 28.5 +1.6**
SBA pmax pmax
comp=Z,19nm,0.9s
O15K **Ungalikthiuk R** 73.64 23 P **P** **19 33 28.1 +0.4**
baz=229
K13K **Kusilvak Mount** 73.79 19 P **P** **19 33 29.6 +1.0**
baz=224
M14K **Bethel** 73.89 21 IAmb IAmb 19 33 30.9
comp=Z,21nm,0.8s
M14K **Bethel** 73.89 21 P **P** **19 33 30.4 +1.2**
baz=227,SNR=7.7
L14K **Kuka Creek** 74.04 20 IAmb IAmb 19 33 32.0
comp=Z,16nm,0.8s
L14K **Kuka Creek** 74.04 20 P **P** **19 33 30.9 +0.9**
baz=226,SNR=6.1
R17L **Mt. Peulik Vol** 74.09 26 P **P** **19 33 30.5 0.0**
baz=233,SNR=5.9
N15K **Kwethluk River** 74.19 22 IAmb IAmb 19 33 32.7
comp=Z,10nm,0.8s
N15K **Kwethluk River** 74.19 22 P **P** **19 33 31.8 +0.8**
baz=229
M15K **Kasigluk River** 74.32 22 P **P** **19 33 32.5 +0.9**
baz=228,SNR=6.1
SII **Sitkinak Islan** 74.43 27 P **P** **19 33 33.3 +0.9**
baz=235
O16K **Kokwok River B** 74.59 23 P **P** **19 33 34.1 +0.8**
baz=231
Q16K **King Salmon** 74.60 25 P **P** **19 33 34.3 +0.9**
baz=232
Q17K **Contact Creek** 74.68 25 P **P** **19 33 33.9 0.0**
baz=233,SNR=10
L15K **Ungalak Mounta** 74.69 21 P **P** **19 33 34.6 +0.8**
baz=227
J14K **Nanvaranak Lak** 74.74 19 IAmb IAmb 19 33 36.4
comp=Z,16nm,0.8s
J14K **Nanvaranak Lak** 74.74 19 P **P** **19 33 34.2 +0.1**
baz=225,SNR=6.1
ACHA **Angle Creek He** 74.88 25 P **P** **19 33 34.7 -0.4**
R18K **Kariuk** 74.89 26 P **P** **19 33 35.4 +0.4**
baz=235
N16K **Nishlik Lake** 74.89 22 P **P** **19 33 36.3 +1.2**
baz=230
P17K **Kvichak River** 75.01 24 P **P** **19 33 36.0 +0.4**
baz=233
K15K **Wolf Creek Mou** 75.10 20 IAmb IAmb 19 33 38.1
comp=Z,21nm,0.8s
K15K **Wolf Creek Mou** 75.10 20 P **P** **19 33 36.9 +0.7**
baz=227,SNR=13
O17K **Koliganek Bris** 75.10 24 P **P** **19 33 37.2 +1.0**
baz=232
M16K **Timber Creek** 75.17 22 IAmb IAmb 19 33 38.6
comp=Z,20nm,0.8s
M16K **Timber Creek** 75.17 22 P **P** **19 33 37.0 +0.4**
baz=230,SNR=9.0
OHAK **Old Harbor** 75.21 27 **P** **19 33 36.4 -0.4**
OHAK IAmb IAmb 19 33 37.9
comp=Z,11nm,0.7s
OHAK **Old Harbor** 75.21 27 P **P** **19 33 37.3 +0.4**
baz=236
Q18K **Katmai Hardscr** 75.28 25 P **P** **19 33 37.3 -0.1**
baz=234,SNR=9.6
L16K **Owhat River** 75.43 21 P **P** **19 33 39.0 +0.9**
baz=229,SNR=6.0
ANM **Nome** 75.49 17 P **P** **19 33 38.9 +0.6**
baz=223
TNA **Tin City** 75.52 16 P **P** **19 33 39.2 +0.8**
baz=220
N17K **Nushagak Hills** 75.53 23 P **P** **19 33 39.4 +0.7**
baz=232,SNR=5.3
P18K **Big Mountain,** 75.62 24 P **P** **19 33 39.2 -0.1**
baz=234
KDAK **Kodiak Island** 75.84 27 P **P** **19 33 40.8 +0.4**
baz=236
WMQ **Urumqi** 75.88 317 *e*P **P** **19 33 42.7 +1.6**
F14K **Arctic Creek** 75.89 16 P **P** **19 33 41.4 +0.8**
baz=222
O18K **Koktuh Hills** 75.91 24 P **P** **19 33 41.4 +0.5**
baz=234
M17K **Holitna River** 75.98 22 IAmb IAmb 19 33 43.5
comp=Z,12nm,0.8s
M17K **Holitna River** 75.98 22 P **P** **19 33 42.0 +0.8**
baz=231,SNR=6.2
Q19K **Cape Douglas,** 76.02 25 P **P** **19 33 41.6 +0.1**
baz=235,SNR=7.2
J16K **Anvik River** 76.08 20 P **P** **19 33 42.4 +0.6**
baz=228,SNR=5.3
N18K **Kilae Creek** 76.13 23 IAmb IAmb 19 33 44.2
comp=Z,16nm,0.9s
N18K **Kilae Creek** 76.13 23 P **P** **19 33 42.8 +0.6**
baz=233,SNR=8.3
L17K **Donlin** 76.13 21 P **P** **19 33 43.2 +1.2**
baz=230,SNR=7.5
G15K **Niukluk** 76.19 17 P **P** **19 33 43.5 +1.1**
baz=224
Q20K **Shuyak Island** 76.38 26 P **P** **19 33 44.4 +0.8**
baz=236
I17K **Unalakleet** 76.46 19 P **P** **19 33 45.1 +1.2**
baz=228
K17K **Iditarod** 76.50 21 IAmb IAmb 19 33 46.3
comp=Z,13nm,1.0s
K17K **Iditarod** 76.50 21 P **P** **19 33 45.4 +1.2**
baz=230,SNR=6.3
F15K **North Star Dit** 76.53 17 P **P** **19 33 45.9 +1.6**
baz=223
P19K **Oil Pt** 76.61 25 P **P** **19 33 45.0 +0.2**
baz=236,SNR=12
M18K **Stony River** 76.65 23 P **P** **19 33 45.9 +0.9**
baz=233,SNR=5.6
J17K **VABM Dome** 76.67 20 IAmb IAmb 19 33 47.4
comp=Z,13nm,0.8s
J17K **VABM Dome** 76.67 20 P **P** **19 33 46.1 +0.9**
baz=229,SNR=7.7
N19K **Bonanza Creek** 76.77 23 P **P** **19 33 46.3 +0.5**
baz=234,SNR=5.7
L18K **Granite Mounta** 76.77 22 IAmb IAmb 19 33 47.9
comp=Z,12nm,0.9s
L18K **Granite Mounta** 76.77 22 P **P** **19 33 46.5 +0.8**
baz=232,SNR=9.9
HYB **Hyderabad** 76.81 289 *e*P **P** **19 33 46.7 -0.2**
ILSW **Iliamna Southw** 76.83 25 IAmb IAmb 19 33 47.0
comp=Z,8.7nm,0.7s
G16K **Koyuk River** 76.98 18 IAmb IAmb 19 33 48.8
comp=Z,12nm,0.9s
G16K **Koyuk River** 76.98 18 P **P** **19 33 48.2 +1.4**
baz=226,SNR=5.6
O20K **Slope Mountain** 77.10 25 P **P** **19 33 48.6 +1.0**
baz=236
HOM **Homer** 77.28 25 P **P** **19 33 49.4 +0.8**
baz=237
H17K **Granite Mounta** 77.42 19 IAmb IAmb 19 33 51.3
comp=Z,15nm,0.7s
H17K **Granite Mounta** 77.42 19 P **P** **19 33 50.5 +1.2**
baz=228,SNR=11
L19K **White Mountain** 77.43 22 IAmb IAmb 19 33 51.3
comp=Z,18nm,0.8s
L19K **White Mountain** 77.43 22 P **P** **19 33 50.4 +1.0**
baz=234,SNR=19
M19K **Big River Lodg** 77.44 23 IAmb IAmb 19 33 51.6
comp=Z,35nm,1.6s
M19K **Big River Lodg** 77.44 23 P **P** **19 33 50.6 +1.1**
baz=234,SNR=12
J18K **Innoko River** 77.54 21 IAmb IAmb 19 33 51.5
comp=Z,11nm,0.9s
J18K **Innoko River** 77.54 21 P **P** **19 33 50.6 +0.6**
baz=232,SNR=11
G17K **Kiwalik Mounta** 77.57 18 P **P** **19 33 51.0 +0.9**
baz=227,SNR=10
BRLK **Bradley Lake** 77.66 25 IAmb IAmb 19 33 51.6
comp=Z,11nm,0.7s
TIXI **Tiksi** 77.77 352 P **P** **19 33 50.8 -0.2**
TIXI **Tiksi** 77.77 352*ce*P **P** **19 33 51.7 +0.6**
TIXI pmax pmax
comp=Z,12nm,1.3s
M20K **Styx River** 77.92 23 IAmb IAmb 19 33 53.8
comp=Z,10nm,0.8s
M20K **Styx River** 77.92 23 P **P** **19 33 52.6 +0.4**
baz=235
L20K **Farewell, AK** 77.97 22 P **P** **19 33 53.7 +1.2**
baz=234,SNR=12
F17K **Baldwin Pennin** 78.03 17 P **P** **19 33 53.5 +0.9**
baz=227
H18K **Honhosa River** 78.06 19 P **P** **19 33 53.5 +0.7**
baz=230
C16K **Lisburne Hills** 78.23 15 P **P** **19 33 54.9 +1.2**
baz=222
J19K **Poorman** 78.25 21 IAmb IAmb 19 33 55.9
comp=Z,31nm,1.4s
J19K **Poorman** 78.25 21 P **P** **19 33 55.1 +1.3**
baz=232,SNR=12
GCSA **Galena City C** 78.28 20 P **P** **19 33 54.8 +0.8**
baz=231,SNR=7.5
E17K **Hotham Inlet** 78.31 16 P **P** **19 33 55.1 +0.9**
baz=226,SNR=5.3
D17K **Noatak River** 78.40 16 P **P** **19 33 55.7 +1.0**
baz=225
K20K **Telida** 78.42 21 IAmb IAmb 19 33 56.8
comp=Z,12nm,0.8s
K20K **Telida** 78.42 21 P **P** **19 33 55.4 +0.5**
baz=234
G18K **Tagagawik** 78.45 18 IAmb IAmb 19 33 56.5
comp=Z,10nm,0.8s
G18K **Tagagawik** 78.45 18 P **P** **19 33 55.6 +0.6**
baz=229,SNR=10
SEW **Seward** 78.45 26 IAmb IAmb 19 33 56.1
comp=Z,15nm,0.8s
SEW **Seward** 78.45 26 P **P** **19 33 55.4 +0.4**
baz=239
SKT **Skwentna** 78.60 23 P **P** **19 33 56.2 +0.3**
baz=237
F18K **Selawik** 78.61 17 P **P** **19 33 56.5 +0.7**
baz=228
SUA **Susitna One** 78.63 24 IAmb IAmb 19 33 56.8
comp=Z,14nm,0.6s
SUA **Susitna One** 78.63 24 P **P** **19 33 56.1 -0.1**
baz=238
RDOG **Red Dog Mine** 78.70 15 P **P** **19 33 57.1 +0.7**
baz=225
RC01 **Rabbit Creek A** 78.85 25 IAmb IAmb 19 33 58.0
comp=Z,16nm,0.8s
RC01 **Rabbit Creek A** 78.85 25 P **P** **19 33 57.5 +0.2**
baz=238,SNR=12
PPLA **Purkeypile** 78.85 22 IAmb IAmb 19 33 59.5
comp=Z,23nm,1.5s
PPLA **Purkeypile** 78.85 22 P **P** **19 33 57.5 +0.1**
baz=236
J20K **Nowinta River** 78.88 21 IAmb IAmb 19 33 59.3
comp=Z,14nm,0.8s
J20K **Nowinta River** 78.88 21 P **P** **19 33 57.9 +0.5**
baz=234,SNR=21
E18K **Tukpahlearik C** 78.89 17 P **P** **19 33 57.7 +0.3**
baz=227
H19K **Roundabout Mou** 78.92 19 IAmb IAmb 19 33 59.3
comp=Z,16nm,0.8s
H19K **Roundabout Mou** 78.92 19 P **P** **19 33 57.9 +0.4**
baz=231,SNR=18
C17K **DeLong Mountai** 78.93 15 P **P** **19 33 58.3 +0.7**
baz=224
ZSN **Zaisan** 78.98 320 *e*P **P** **19 33 59.0 +0.7**
ZSN **Zaisan** 78.98 320 *e*P **P** **19 33 59.0 +0.7**
M22K **Willow** 79.04 24 IAmb IAmb 19 33 59.1
comp=Z,19nm,0.9s
M22K **Willow** 79.04 24 P **P** **19 33 58.6 +0.4**
baz=238
G19K **Purcell Mounta** 79.10 18 IAmb IAmb 19 34 00.5
comp=Z,20nm,1.1s
G19K **Purcell Mounta** 79.10 18 P **P** **19 33 59.9 +1.3**
baz=231,SNR=12
I20K **Naaghedeneel** 79.13 20 IAmb IAmb 19 34 00.7
comp=Z,19nm,0.8s
I20K **Naaghedeneel** 79.13 20 P **P** **19 33 59.5 +0.8**
baz=233
CAST **Castle Rocks** 79.19 22 P **P** **19 33 58.6 -0.5**
baz=236,SNR=21
P23K **Montague Islan** 79.29 26 IAmb IAmb 19 34 00.8
comp=Z,14nm,1.0s
P23K **Montague Islan** 79.29 26 P **P** **19 33 59.4 -0.3**
baz=241
PWL **Port Wells** 79.31 25 P **P** **19 34 00.5 +0.6**
baz=240,SNR=9.4
F19K **Shaleruckik Mo** 79.33 18 IAmb IAmb 19 34 01.2
comp=Z,9.8nm,0.8s
F19K **Shaleruckik Mo** 79.33 18 P **P** **19 34 00.4 +0.6**
baz=230,SNR=9.8
PMR **Palmer** 79.36 24 IAmb IAmb 19 34 00.6
comp=Z,12nm,0.9s
PMR **Palmer** 79.36 24 P **P** **19 34 00.1 +0.1**
baz=239,SNR=9.3
CHUM **Lake Minchumin** 79.36 22 P **P** **19 34 00.4 +0.4**
baz=236,SNR=21
H20K **Anotleneega Mo** 79.41 20 P **P** **19 34 00.7 +0.4**
baz=233,SNR=9.1
GHO **Glory Hole Cre** 79.53 24 IAmb IAmb 19 34 01.9
comp=Z,12nm,0.8s
KNK **Knik Glacier** 79.54 25 P **P** **19 34 01.8 +0.7**
baz=240
C18K **Utukok River** 79.57 15 P **P** **19 34 01.9 +0.8**
baz=226
KTH **Kantishna Hill** 79.70 22 IAmb IAmb 19 34 02.0
comp=Z,10nm,0.8s
GLI **Glacier Island** 79.85 25 P **P** **19 34 02.9 +0.2**
baz=241
TRF **Thorofare Moun** 79.88 22 P **P** **19 34 03.4 +0.4**
baz=238,SNR=12
E19K **Redstone River** 79.89 17 P **P** **19 34 03.4 +0.6**
baz=230
BPAW **Bear Paw Mtn.** 79.97 22 P **P** **19 34 03.0 -0.3**
baz=237,SNR=7.9
M23K **Glacier View** 80.04 24 P **P** **19 34 04.0 +0.3**
baz=240
IMAR **Indian Mountai** 80.08 19 P **P** **19 34 03.9 0.0**
F20K **Avaraart Lake** 80.09 18 IAmb IAmb 19 34 07.2
comp=Z,25nm,1.6s
F20K **Avaraart Lake** 80.09 18 P **P** **19 34 04.3 +0.5**
baz=232,SNR=8.9
H21K **Melozitna River** 80.21 20 P **P** **19 34 04.6 0.0**
baz=235,SNR=9.0
SCM **Sheep Creek Mo** 80.22 25 IAmb IAmb 19 35 35.6
comp=Z,28nm,1.0s
SCM **Sheep Creek Mo** 80.22 25 P **P** **19 34 04.9 +0.1**
baz=241,SNR=6.7
WAT1 **Susitna Watana** 80.23 23 P **P** **19 34 04.8 0.0**
baz=239
EYAK **Cordova Ski Ar** 80.28 26 P **P** **19 34 05.2 +0.2**
baz=242
D19K **Kuna River** 80.31 16 P **P** **19 34 04.9 -0.2**
baz=229
C19K **Lookout Ridge** 80.31 15 P **P** **19 34 05.4 +0.3**
baz=228
RND **Reindeer** 80.41 23 IAmb IAmb 19 34 06.0
comp=Z,16nm,0.8s
WAT6 **Susitna Watana** 80.42 24 P **P** **19 34 05.7 -0.3**
baz=240,SNR=12
MK31 **Makanchi Array** 80.45 319 *i*P **P** **19 34 06.1 -0.2**
MK31 pmax pmax
comp=Z,43nm,1.0s
MKAR **Makanchi Array** 80.45 319 **P** **19 34 06.6 +0.3**
MKAR **Makanchi Array** 80.45 319 P **P** **19 34 07.1 +0.8**
comp=Z,20nm,0.7s,baz=102,slow=7.0,SNR=195
MKAR PKKPbc **PKKPbc** **19 52 48.6 -1.0**
comp=Z,0.5nm,0.7s,baz=315,slow=0.7,SNR=5.8
comp=Z,20nm,0.7s
MKAR **Makanchi Array** 80.45 319 *i*P **P** **19 34 07.0 +0.7**
MKAR pmax pmax
comp=Z,19nm,0.7s
G21K **Allakaket** 80.47 19 P **P** **19 34 06.0 0.0**
baz=234,SNR=6.2
DIV **Divide** 80.54 25 IAmb IAmb 19 34 07.8
comp=Z,11nm,0.7s
MCK **McKinley** 80.54 22 P **P** **19 34 06.5 +0.1**
baz=239,SNR=15
MLY **Manley** 80.57 21 P **P** **19 34 06.7 +0.1**
baz=237,SNR=23
KAIM **Kayak Island** 80.58 27 P **P** **19 34 07.5 +0.8**
baz=244
KLU **Klutina** 80.64 25 IAmb IAmb 19 34 09.1
comp=Z,19nm,1.0s
KLU **Klutina** 80.64 25 P **P** **19 34 07.7 +0.6**
baz=242,SNR=12
MAKZ **Makanchi** 80.66 319 **P** **19 34 08.1 +0.7**
MAKZ **Makanchi** 80.66 319 P **P** **19 34 08.1 +0.7**
MAKZ pmax pmax
comp=Z,46nm,0.8s
A19K **Wainwright** 80.69 14 P **P** **19 34 08.2 +1.2**
baz=226
E20K **Nigu River** 80.71 17 P **P** **19 34 08.1 +0.8**
baz=231,SNR=12
DHY **Denali Highway** 80.82 23 P **P** **19 34 08.3 +0.2**
baz=240,SNR=13
H22K **Ishtalitna Cre** 80.83 20 P **P** **19 34 08.5 +0.6**
baz=236,SNR=8.5
M24K **Tolsona, Glenn** 80.83 25 P **P** **19 34 08.5 +0.4**
baz=242,SNR=7.0
D20K **Etivluk River** 80.88 17 IAmb IAmb 19 34 10.3
comp=Z,16nm,1.1s
D20K **Etivluk River** 80.88 17 P **P** **19 34 08.5 +0.4**
baz=231
F21K **Alatna River** 80.90 18 P **P** **19 34 09.0 +0.7**
baz=234,SNR=5.9
NEA2 **Nenana** 80.94 22 P **P** **19 34 08.1 -0.4**
baz=239,SNR=7.0
BMRM **Bremner River** 80.97 26 P **P** **19 34 08.8 0.0**
baz=243
BERG **Berg Lake** 81.11 27 IAmb IAmb 19 34 10.9
comp=Z,20nm,0.8s
I23K **Minto, Yukon-K** 81.13 21 P **P** **19 34 09.7 +0.3**
baz=238,SNR=6.9
ZAA0 **Zalesovo Array** 81.22 326 IAmb IAmb 19 34 11.6
comp=Z,9.3nm,0.6s
ZALV **Zalesovo Beam** 81.22 326 **P** **19 34 09.4 -0.8**
ZALV **Zalesovo Beam** 81.22 326 P **P** **19 34 09.9 -0.3**
comp=Z,8.7nm,0.4s,baz=109,slow=5.1,SNR=39
ZALV PKKPbc **PKKPbc** **19 52 45.6 -2.5**
comp=Z,0.4nm,0.5s,baz=270,slow=4.4,SNR=3.6
comp=Z,8.7nm,0.4s
WRH **Wood River Hil** 81.24 22 IAmb IAmb 19 34 10.8
comp=Z,16nm,1.2s
N25K **Chitina, Valde** 81.26 25 P **P** **19 34 10.5 +0.1**
baz=243,SNR=6.5
G22K **Bettles** 81.36 19 P **P** **19 34 10.9 +0.3**
baz=236
SHLS **Shalkode** 81.38 315 *e*P **P** **19 34 10.3 -1.2**
SHLS pmax pmax
comp=Z,14nm,0.9s
SHLS **Shalkode** 81.38 315 *e*P **P** **19 34 10.3 -1.2**
comp=Z,14nm,0.9s
HARP **HAARP** 81.39 24 P **P** **19 34 11.6 +0.7**
baz=242
H23K **Yukon River** 81.42 21 IAmb IAmb 19 34 13.1
comp=Z,24nm,1.5s
H23K **Yukon River** 81.42 21 P **P** **19 34 11.5 +0.4**
baz=238,SNR=8.8
E21K **Killik River** 81.47 17 IAmb IAmb 19 34 13.6
comp=Z,12nm,0.9s
E21K **Killik River** 81.47 17 P **P** **19 34 12.0 +0.7**
baz=233,SNR=8.3
F22K **John River** 81.48 18 P **P** **19 34 11.9 +0.6**
baz=235
CRQM **Cirque** 81.52 26 IAmb IAmb 19 34 14.2
comp=Z,14nm,0.8s
GLB **Gilahina Butte** 81.53 26 IAmb IAmb 19 34 12.9
comp=Z,16nm,0.9s
PAX **Paxson** 81.53 24 P **P** **19 34 12.0 +0.2**
baz=242
COLA **College** 81.54 22 P **P** **19 34 10.7 -0.9**
COLA **College** 81.54 22 *i*P **P** **19 34 10.7 -0.9**
COLA pmax pmax
comp=Z,17nm,0.8s
COLA **College** 81.54 22 P **P** **19 34 11.9 +0.3**
baz=240
CRQE **Cirque** 81.54 26 P **P** **19 34 12.2 +0.3**
baz=245
B20K **Meade River** 81.55 15 P **P** **19 34 12.3 +0.7**
baz=230
VRDI **Verde Repeater** 81.59 26 IAmb IAmb 19 34 13.3
comp=Z,12nm,0.8s
HDA **Harding Lake** 81.64 22 P **P** **19 34 12.5 +0.3**
baz=241
C21K **Knifeblade Rid** 81.67 17 P **P** **19 34 12.8 +0.5**
baz=233
G23K **Bananza Creek** 81.73 20 IAmb IAmb 19 34 14.2
comp=Z,16nm,1.4s
G23K **Bananza Creek** 81.73 20 P **P** **19 34 13.6 +0.9**
baz=237,SNR=10
K24K **Donnelly Dome** 81.80 23 IAmb IAmb 19 35 05.0
comp=Z,19nm,1.2s
MESA **MESA** 81.81 27 P **P** **19 34 13.9 +0.5**
baz=246
POKR **Poker Plat Res** 81.81 22 P **P** **19 34 13.8 +0.6**
baz=240
MCARA **McCarthy VSAT** 81.84 26 P **P** **19 34 13.6 +0.3**
baz=245
ILAR **Eielson Array** 81.84 22 P **P** **19 34 11.4 -1.9**
ILAR **Eielson Array** 81.84 22 P **P** **19 34 11.8 -1.4**
comp=Z,5.0nm,0.7s,baz=252,slow=5.3,SNR=55
ILAR PKKPbc **PKKPbc** **19 52 44.6 -2.6**
comp=Z,0.9nm,0.7s,baz=355,slow=1.1,SNR=12
comp=Z,5.0nm,0.7s
E22K **Anaktuvuk Pass** 81.95 18 P **P** **19 34 14.6 +0.7**
baz=236,SNR=5.5
COLD **Coldfoot** 81.96 19 P **P** **19 34 14.5 +0.7**
baz=237
B21K **Ikpikpuk River** 82.00 16 P **P** **19 34 14.5 +0.6**
baz=233
KPKS **Kokpek** 82.01 315 *e*P **P** **19 34 15.1 +0.4**
KPKS **Kokpek** 82.01 315 *e*P **P** **19 34 15.2 +0.4**
H24K **Noodor Dome** 82.02 21 P **P** **19 34 14.7 +0.4**
baz=240,SNR=6.8
D22K **Ayikyak River** 82.11 17 IAmb IAmb 19 34 17.4
comp=Z,14nm,0.9s
D22K **Ayikyak River** 82.11 17 P **P** **19 34 15.3 +0.7**
baz=235,SNR=6.4
RIDG **Independent Ri** 82.14 23 IAmb IAmb 19 34 17.1
comp=Z,13nm,1.1s

RIDG **Independent Ri** 82.14 23 P P 19 34 14.8 -0.1
baz=243,SNR=12
M26K **Nabesna, AK** 82.29 25 P P 19 34 16.0 +0.2
baz=244,SNR=5.2
BARN **Barnard Glacie** 82.30 26 IAmb IAmb 19 34 17.4
comp=Z,12nm,0.8s
J25K **Salcha River,** 82.34 22 IAmb IAmb 19 34 16.6
comp=Z,15nm,0.8s
J25K **Salcha River,** 82.34 22 P P 19 34 15.6 -0.4
baz=242,SNR=22
DOT **Dot Lake** 82.41 24 IAmb IAmb 19 34 17.2
comp=Z,17nm,0.9s
CTG **Chitna Glacier** 82.41 27 P P 19 34 16.7 +0.2
baz=246,SNR=6.3
CTGM **Chitina Glacie** 82.41 27 IAmb IAmb 19 34 17.9
comp=Z,13nm,0.8s
L26K **Log Cabin Wild** 82.42 24 P P 19 34 16.6 +0.2
baz=244,SNR=12
A21K **Barrow** 82.53 14 P P 19 34 17.9 +1.2
baz=230
PINM **Pinnacle** 82.56 28 P P 19 34 17.4 +0.2
baz=247
SCRK **Sand Creek** 82.58 23 P P 19 34 17.6 +0.3
baz=243,SNR=11
E23K **Chandalar** 82.59 19 P P 19 34 18.3 +1.1
baz=238,SNR=8.5
G24K **Hadweenzic Riv** 82.59 20 P P 19 34 17.9 +0.7
baz=240,SNR=7.0
PRP **Porcupine Dome** 82.71 22 P P 19 34 18.2 +0.2
baz=242
M27K **Edge Creek, AK** 82.75 25 IAmb IAmb 19 34 19.9
comp=Z,23nm,0.9s
M27K **Edge Creek, AK** 82.75 25 P P 19 34 18.5 +0.2
baz=246,SNR=22
D23K **Nanushuk River** 82.76 18 IAmb IAmb 19 34 21.4
comp=Z,50nm,1.0s
D23K **Nanushuk River** 82.76 18 P P 19 34 18.7 +0.7
baz=236,SNR=10
B22K **Teshekpuk Lake** 82.76 16 P P 19 34 18.5 +0.5
baz=234
SEM **Semipalatinsk** 82.78 322 *e*P P 19 34 18.9 +0.1
SEM **Semipalatinsk** 82.78 322 *e*P P 19 34 18.9 +0.1
PNL **Peninsula** 82.79 28 P P 19 34 18.9 +0.5
baz=248
O28M **Mount Upton** 82.85 27 P P 19 34 19.8 +0.9
baz=247,SNR=5.1
F24K **Squaw Lake** 82.87 19 P P 19 34 19.5 +0.9
baz=239,SNR=13
TOLK **Toolik Lake Re** 82.92 18 IAmb IAmb 19 35 05.8
comp=Z,15nm,1.3s
TOLK **Toolik Lake Re** 82.92 18 P P 19 34 19.8 +0.9
baz=238,SNR=6.5
H25L **Birch Creek** 82.96 21 P P 19 34 19.7 +0.7
baz=241
E24K **Your Creek** 82.96 19 IAmb IAmb 19 34 55.3
comp=Z,22nm,1.9s
E24K **Your Creek** 82.96 19 P P 19 34 19.5 +0.4
baz=239
J26L **Joseph Creek** 82.98 23 P P 19 34 19.7 +0.4
baz=244,SNR=11
L27K **Beaver Creek,** 83.06 25 P P 19 34 20.2 +0.5
baz=246,SNR=14
BCAR **Beaver Creek A** 83.08 25 P 19 34 19.5 -0.3
G25K **Bearman Lake** 83.10 20 P P 19 34 20.8 +1.0
baz=241
KSH **Kashi** 83.12 311 P P 19 34 23.4 +2.8
KSH pmax pmax
comp=Z,18nm,0.9s
YUK3 **Moose Creek** 83.12 26 P P 19 34 21.0 +0.8
baz=247,SNR=10
TNSS **Tian-Shan** 83.14 314 *e*P P 19 34 21.0 0.0
TNSS **Tian-Shan** 83.14 314 *e*P P 19 34 21.1 0.0
BVCY **Beaver Creek** 83.20 25 P P 19 34 21.8 +1.4
baz=246,SNR=5.1
AAA **Alma-Ata** 83.21 314 *e*P P 19 34 21.2 +0.3
AAA pmax pmax
comp=Z,12nm,0.7s
AAA **Alma-Ata** 83.21 314 *e*P P 19 34 21.2 +0.3
comp=Z,12nm,0.7s
YUK8 **Steele Glacier** 83.24 27 P P 19 34 21.5 +0.6
baz=248
C23K **Itkillik River** 83.26 17 IAmb IAmb 19 34 23.5
comp=Z,21nm,1.0s
C23K **Itkillik River** 83.26 17 P P 19 34 21.7 +1.2
baz=236,SNR=6.2
K27K **Chicken** 83.36 24 P P 19 34 21.6 +0.4
baz=245
O29M **Mount Kennedy** 83.41 28 P P 19 34 22.2 +0.5
baz=249
D24K **Happy Valley** 83.42 18 IAmb IAmb 19 34 23.3
comp=Z,35nm,1.6s
D24K **Happy Valley** 83.42 18 P P 19 34 22.3 +0.9
baz=238
I26K **Coal Creek Min** 83.50 22 P P 19 34 22.6 +0.8
baz=244,SNR=6.1
P29M **Windy Craggy** 83.56 29 P P 19 34 22.9 +0.5
baz=250
F25K **Christian Rive** 83.66 20 P P 19 34 23.7 +1.0
baz=241,SNR=8.1
S31K **Pelican** 83.74 30 P P 19 34 23.8 +0.7
baz=251
YUK6 **Outpost Mounta** 83.74 27 P P 19 34 24.0 +0.5
baz=249
C24K **Franklin Bluff** 83.76 17 IAmb IAmb 19 34 25.5
comp=Z,19nm,0.8s
C24K **Franklin Bluff** 83.76 17 P P 19 34 23.9 +0.8
baz=238
YUK4 **Talbot Arm** 83.76 27 P P 19 34 24.2 +0.7
baz=249
KUU **Kurty** 83.76 315 *e*P P 19 34 24.0 +0.3
KUU pmax pmax
comp=Z,11nm,0.7s
KUU **Kurty** 83.76 315 *e*P P 19 34 24.0 +0.3
comp=Z,11nm,0.7s
KURK **Kurchatov** 83.87 322 P 19 34 23.9 -0.1
KURK **Kurchatov** 83.87 322 *ce*P P 19 34 24.5 +0.5
KURK pmax pmax
comp=Z,42nm,1.0s
KURBB **Kurchatov Arra** 83.90 322 P P 19 34 24.5 +0.3
comp=Z,16nm,0.8s,baz=109,slow=4.0,SNR=126
KURBB PKKPbc **PKKPbc** 19 52 40.7 -1.1
comp=Z,0.6nm,0.2s,baz=292,slow=2.9,SNR=5.6
KURBB PKPPKP **P'P'df** 20 00 49.3 +4.3
comp=Z,0.3nm,0.3s,baz=290,slow=2.4,SNR=4.6
comp=Z,16nm,0.8s
KURBB **Kurchatov Arra** 83.90 322 P P 19 34 24.1 -0.1
SIT **Sitka** 83.91 31 P P 19 34 24.6 +0.5
baz=252
E25K **Arctic Village** 83.94 19 P P 19 34 24.8 +0.7
baz=242
BMAR **Burnt Mountain** 83.94 20 P P 19 34 23.8 -0.4
G26K **Porcupine Rive** 84.00 21 IAmb IAmb 19 34 26.9
comp=Z,19nm,0.9s
G26K **Porcupine Rive** 84.00 21 P P 19 34 24.7 +0.4
baz=243,SNR=22
TKM2 **Tokmak 2** 84.09 314 P P 19 34 26.8 +1.1
SNR=61
HYT **Haines Junctio** 84.09 27 IAmb IAmb 19 34 27.0
comp=Z,16nm,1.0s
HYT **Haines Junctio** 84.09 27 P P 19 34 26.3 +1.2
baz=250,SNR=16
P30M **Million Dollar** 84.10 28 P P 19 34 25.8 +0.7
baz=250
PLBC **Pleasant Camp** 84.16 29 P P 19 34 25.9 +0.5
baz=251
NIL **Nilore** 84.20 304 P 19 34 26.2 0.0
NIL **Nilore** 84.20 304 P P 19 34 26.2 0.0
NIL pmax pmax
comp=Z,39nm,0.9s
I27K **Kandik River** 84.20 22 P P 19 34 25.9 +0.4
baz=245,SNR=11
F26K **Sheenjek River** 84.21 20 IAmb IAmb 19 34 27.5
comp=Z,15nm,1.3s
F26K **Sheenjek River** 84.21 20 P P 19 34 26.8 +1.2
baz=243,SNR=9.0
M29M **Somme Creek** 84.24 26 P P 19 34 26.9 +1.0
baz=249,SNR=13
D25K **Kavik River** 84.26 18 P P 19 34 26.3 +0.6
baz=241,SNR=7.1
S32K **Killisnoo** 84.43 31 P P 19 34 27.0 +0.3
baz=252
DAWY **Dawson** 84.46 24 P P 19 34 27.6 +0.8
baz=248,SNR=9.0
H27K **Steamboat Moun** 84.50 22 IAmb IAmb 19 34 28.7
comp=Z,17nm,1.4s
H27K **Steamboat Moun** 84.50 22 P P 19 34 28.0 +1.0
baz=245,SNR=11
N30M **Aishikik Lake** 84.50 27 P P 19 34 27.4 +0.2
baz=250
KBK **Karagaybulak** 84.50 313 P P 19 34 29.1 +1.3
SNR=28
CRAG **Craig** 84.62 33 P P 19 34 28.6 +0.9
baz=254
L29M **L29M** 84.63 25 IAmb IAmb 19 34 29.5
comp=Z,8.7nm,0.9s
L29M **L29M** 84.63 25 P P 19 34 28.1 +0.4
baz=249,SNR=12
SKAG **Skagway** 84.67 29 P P 19 34 29.2 +1.3
baz=252
G27K **Doyon Strip** 84.69 21 P P 19 34 28.2 +0.3
baz=245,SNR=5.7
CHMS **Chumysh** 84.71 314 P P 19 34 30.1 +1.5
SNR=12
O30N **Mendenhall** 84.73 28 IAmb IAmb 19 34 30.7
comp=Z,19nm,1.8s
O30N **Mendenhall** 84.73 28 P P 19 34 28.9 +0.7
baz=251,SNR=5.4
UCH **Uchtor** 84.74 313 P P 19 34 31.1 +1.8
SNR=66
I28M **Miner Creek** 84.78 23 IAmb IAmb 19 34 29.9
comp=Z,21nm,1.7s
I28M **Miner Creek** 84.78 23 P P 19 34 28.7 +0.2
baz=247,SNR=6.5
U33K **Whale Pass** 84.80 33 P P 19 34 29.1 +0.5
baz=254
AAK **Ala-Archa** 84.83 313 P P 19 34 30.8 +1.5
SNR=25
AAK **Ala-Archa** 84.83 313 P 19 34 30.3 +0.9
AAK **Ala-Archa** 84.83 313 *ce*P P 19 34 30.6 +1.3
AAK pmax pmax
comp=Z,55nm,0.7s
SGDS **Sogindy** 84.89 314 *e*P P 19 34 29.8 +0.3
comp=Z,16nm,0.8s
USP **Ospenovka** 84.94 314 P P 19 34 30.9 +1.1
SNR=73
C26K **Camden Bay** 85.00 18 P P 19 34 30.6 +1.2
baz=242
M30M **Minto, Yukon** 85.02 26 IAmb IAmb 19 34 31.3
comp=Z,13nm,1.4s
M30M **Minto, Yukon** 85.02 26 P P 19 34 30.2 +0.5
baz=250,SNR=8.3
J29N **Klondike Camp** 85.08 24 IAmb IAmb 19 34 32.6
comp=Z,14nm,1.1s
J29N **Klondike Camp** 85.08 24 P P 19 34 30.7 +0.7
baz=249
N31M **Braeburn, Yuko** 85.10 27 IAmb IAmb 19 34 32.7
comp=Z,13nm,1.1s
N31M **Braeburn, Yuko** 85.10 27 P P 19 34 31.2 +1.1
baz=251,SNR=6.5
K29M **Barlow Dome** 85.15 25 IAmb IAmb 19 34 32.1
comp=Z,13nm,0.9s
K29M **Barlow Dome** 85.15 25 P P 19 34 31.5 +1.1
baz=249,SNR=20
C27K **Jago River** 85.23 18 IAmb IAmb 19 34 33.5
comp=Z,7.9nm,0.8s
C27K **Jago River** 85.23 18 P P 19 34 31.8 +1.2
baz=243,SNR=6.3
WHY **Whitehorse** 85.25 28 P P 19 34 31.2 +0.2
baz=252
E27K **Coleen River** 85.29 20 IAmb IAmb 19 34 33.8
comp=Z,12nm,1.1s
E27K **Coleen River** 85.29 20 P P 19 34 31.8 +0.8
baz=245,SNR=13
WRAK **Wrangell Islan** 85.30 32 P P 19 34 31.5 +0.4
baz=254
AML **Almayashu** 85.32 313 P P 19 34 33.9 +1.8
SNR=74
QSPA **South Pole Qui** 85.34 180 P 19 34 31.4 +0.1
QSPA **South Pole Qui** 85.34 180 P P 19 34 31.7 +0.4
comp=Z,44nm,0.8s,baz=346,slow=1.4,SNR=184
comp=Z,44nm,0.8s
EKS2 **Erkin-Say** 85.35 313 P P 19 34 33.2 +1.2
SNR=73
I29M **Ogilvie Camp,** 85.38 23 IAmb IAmb 19 34 32.5
comp=Z,11nm,1.1s
I29M **Ogilvie Camp,** 85.38 23 P P 19 34 31.8 +0.4
baz=248,SNR=10
V35K **Ketchikan** 85.41 34 P P 19 34 32.1 +0.4
baz=255
P32M **Allin** 85.49 29 P P 19 34 32.5 +0.4
baz=253
BTLS **Baital** 85.61 316 *e*P P 19 34 33.2 +0.3
BTLS pmax pmax
comp=Z,22nm,0.8s
BTLS **Baital** 85.61 316 *e*P P 19 34 33.3 +0.3
comp=Z,22nm,0.8s
F28M **Old Crow** 85.66 21 IAmb IAmb 19 34 35.9
comp=Z,8.1nm,0.9s
F28M **Old Crow** 85.66 21 P P 19 34 33.1 +0.4
baz=247,SNR=8.8
H29M **Whitestone** 85.67 22 P P 19 34 33.3 +0.5
baz=248
J30M **Hart River** 85.89 24 IAmb IAmb 19 34 35.8
comp=Z,8.8nm,0.8s
J30M **Hart River** 85.89 24 P P 19 34 34.1 +0.1
baz=250,SNR=14
MAW **Mawson** 85.89 203 P P 19 34 34.0 +0.2
comp=Z,12nm,0.7s,baz=101,slow=6.4,SNR=30
comp=Z,12nm,0.7s
NRIK **Noril'sk** 85.92 341 P P 19 34 34.0 +0.1
comp=Z,29nm,0.6s,baz=115,slow=4.2,SNR=21
comp=Z,29nm,0.6s
NRIK **Noril'sk** 85.92 341 *i* P P 19 34 34.1 +0.1
NRIK pmax pmax
comp=Z,25nm,0.6s
D27M **Malcolm River** 85.94 19 IAmb IAmb 19 34 37.2
comp=Z,9.0nm,0.8s
D27M **Malcolm River** 85.94 19 P P 19 34 34.5 +0.4
baz=246,SNR=8.5
M31M **Drury Creek, Y** 85.95 27 P P 19 34 34.4 +0.1
baz=252,SNR=9.2
G29M **Pine Creek** 86.06 22 IAmb IAmb 19 34 36.8
comp=Z,17nm,1.1s
G29M **Pine Creek** 86.06 22 P P 19 34 35.5 +0.8
baz=249,SNR=11
I30M **Mount Dempster** 86.09 23 IAmb IAmb 19 34 36.9
comp=Z,10nm,1.2s
I30M **Mount Dempster** 86.09 23 P P 19 34 35.3 +0.2
baz=250,SNR=10
E28M **Babbage River** 86.16 20 P P 19 34 35.9 +0.7
baz=247,SNR=12
N32M **Quiet Lake** 86.24 28 IAmb IAmb 19 34 37.2
comp=Z,11nm,0.7s
N32M **Quiet Lake** 86.24 28 P P 19 34 36.3 +0.5
baz=254
S34M **Telegraph Cree** 86.33 31 P P 19 34 36.5 +0.3
baz=255
EPYK **Eagle Plains** 86.35 22 P P 19 34 36.4 +0.2
baz=250,SNR=17
FARO **Faro, Yukon** 86.43 27 IAmb IAmb 19 34 37.8
comp=Z,12nm,1.3s
FARO **Faro, Yukon** 86.43 27 P P 19 34 37.1 +0.4
baz=253,SNR=7.2
T35M **Bob Quinn** 86.56 32 P P 19 34 37.4 0.0
baz=256
E29M **Blow River** 86.64 20 P P 19 34 38.2 +0.6
baz=249
D28M **Stokes Point** 86.71 19 P P 19 34 38.5 +0.7
baz=248
G30M **tAoh Zraii Nji** 86.74 22 IAmb IAmb 19 34 39.6
comp=Z,11nm,1.1s
G30M **tAoh Zraii Nji** 86.74 22 P P 19 34 38.5 +0.4
baz=250,SNR=8.7
R33M **Jennings River** 86.78 30 IAmb IAmb 19 34 40.4
comp=Z,11nm,1.4s
R33M **Jennings River** 86.78 30 P P 19 34 39.2 +0.6
baz=256,SNR=5.8
DLBC **Dease Lake** 87.02 31 P P 19 34 39.4 -0.3
comp=Z,0.3nm,1.0s,baz=224,slow=9.3,SNR=4.8
DLBC **Dease Lake** 87.02 31 P P 19 34 40.1 +0.4
baz=256
H31M **Peel River** 87.08 23 IAmb IAmb 19 34 40.7
comp=Z,16nm,1.4s
H31M **Peel River** 87.08 23 P P 19 34 39.8 +0.1
baz=252,SNR=8.5
F30M **Barrier River** 87.11 21 P P 19 34 40.4 +0.6
baz=251,SNR=13
DZA **Taraz** 87.17 313 *e*P P 19 34 40.8 +0.1
DZA pmax pmax
comp=Z,8.0nm,0.8s
DZA **Taraz** 87.17 313 *e*P P 19 34 40.9 +0.1
comp=Z,8.3nm,0.8s
G31M **Satah River** 87.45 22 IAmb IAmb 19 34 42.5
comp=Z,15nm,1.1s
G31M **Satah River** 87.45 22 P P 19 34 41.8 +0.4
baz=252,SNR=8.1
MMPY **Sheldon Lake,** 87.47 27 IAmb IAmb 19 34 43.4
comp=Z,9.6nm,1.2s
MMPY **Sheldon Lake,** 87.47 27 P P 19 34 41.8 0.0
baz=255,SNR=10
KBL **Kabul** 87.78 305 P 19 34 42.3 -1.8
KBL IAmb IAmb 19 34 44.3
comp=Z,7.4nm,0.9s
KBL **Kabul** 87.78 305 P P 19 34 42.3 -1.8
KBL pmax pmax
comp=Z,7.0nm,0.9s
KK31 **Karatay Array** 87.79 313 *i* P P 19 34 43.5 -0.2
KKAR **Karatay Array** 87.79 313 P 19 34 43.6 0.0
KKAR **Karatay Array** 87.79 313 IAmb IAmb 19 34 45.1
comp=Z,16nm,0.8s
KKAR **Karatay Array** 87.79 313 P P 19 34 43.7 0.0
F31M **Tsiigehtchic** 87.81 22 P P 19 34 44.1 +0.9
baz=253
IUG **luzhnay** 88.01 312 *e*P P 19 34 45.0 +0.2
IUG pmax pmax
comp=Z,8.0nm,0.7s
IUG **luzhnay** 88.01 312 *e*P P 19 34 45.0 +0.2
comp=Z,7.7nm,0.7s
WTLY **Watson Lake, Y** 88.02 29 IAmb IAmb 19 34 46.1
comp=Z,10nm,1.0s
WTLY **Watson Lake, Y** 88.02 29 P P 19 34 45.1 +0.7
baz=257
INK **Inuvik** 88.14 21 IAmb IAmb 19 34 46.5
comp=Z,9.0nm,0.9s
INK **Inuvik** 88.14 21 P P 19 34 45.2 +0.5
baz=253,SNR=6.3
BRLS **Boroldaу** 88.27 313 *e*P P 19 34 46.4 +0.4
BRLS pmax pmax
comp=Z,5.0nm,0.6s
BRLS **Boroldaу** 88.27 313 *e*P P 19 34 46.4 +0.4
comp=Z,4.8nm,0.6s
CHM **Chimkent** 88.35 312 *e*P P 19 34 46.4 +0.1
CHM pmax pmax
comp=Z,8.0nm,0.4s
CHM **Chimkent** 88.35 312 *e*P P 19 34 46.5 +0.1
comp=Z,8.0nm,0.4s
BVA0 **Borovoye Array** 89.33 323 *i* P P 19 34 50.4 -0.3
BVAR **Borovoye Array** 89.33 323 P P 19 34 50.4 -0.3
comp=Z,74nm,0.7s,baz=101,slow=5.7,SNR=296
BRVK **Borovoye** 89.40 323 *ce*P P 19 34 50.7 -0.3
BRVK pmax pmax
comp=Z,44nm,0.7s
J05D **Fort Rock, OR** 89.91 47 P 19 34 53.5 -0.3
J05D IAmb IAmb 19 35 19.2
comp=Z,7.1nm,1.2s
PINE **Pine Mountain** 90.18 46 P P 19 34 54.4 -0.7
PINE IAmb IAmb 19 35 44.2
comp=Z,22nm,1.7s
NVAR **Mina Array Bea** 91.66 52 P P 19 35 01.5 -0.7
comp=Z,0.4nm,0.3s,baz=143,slow=2.1,SNR=4.7
comp=Z,0.4nm,0.3s
G08A **Pilot Rock** 91.73 45 P 19 35 02.0 -0.2
SYO **Syowa Base** 93.97 199 ⇑ *e*P P 19 35 10.5 -1.3
SYO **Syowa Base** 93.97 199 ⇑ *e*PcP PcP 19 35 12.4 +0.1
YKA **Yellowknife Ar** 95.08 28 P P 19 35 16.9 -0.1
comp=Z,1.3nm,0.8s,baz=278,slow=4.8,SNR=14
comp=Z,1.3nm,0.8s
YKA **Yellowknife Ar** 95.08 28 *i* P P 19 35 16.8 -0.2
YKA pmax pmax
comp=Z,2.0nm,0.9s
SVE **Sverdlovsk** 95.24 327 *e*P P 19 35 17.0 -0.9
SVE pmax pmax
comp=Z,13nm,1.4s
ABKAR **Akbulak array** 95.59 319 P 19 35 17.6 -2.1
ARTI **Arti** 96.48 326 P 19 35 22.1 -1.5
ARTI **Arti** 96.48 326 *c i*P P 19 35 22.1 -1.5
ARTI *PP pwP 19 35 42.5 -0.6
ARTI 19 39 17.8
ARTI S SKSac 19 45 52.4 -2.4
ARTI pmax pmax
comp=Z,16nm,0.8s
PDAR **Pinedale Array** 98.44 48 P Pdif 19 35 33.5 +0.5
comp=Z,0.4nm,0.7s,baz=215,slow=4.9,SNR=4.3
comp=Z,0.4nm,0.7s
TROLL **Troll, Antarti** 101.19 189 ⇑ P Pdif 19 35 44.4 -0.2
comp=Z,122nm,0.5s
SNAA **Sanae** 102.26 188 P Pdif 19 35 48.6 -0.6
comp=Z,1.2nm,0.9s,baz=206,slow=2.0,SNR=4.1
TXAR **Lajitas Array** 103.70 61 PP PKiKP 19 40 18.3 +3.6
comp=Z,0.7nm,0.9s,baz=258,slow=5.0,SNR=4.5
TXAR PKKPbc **PKKPbc** 19 51 50.5 +1.7
comp=Z,0.3nm,0.7s,baz=120,slow=5.0,SNR=4.1
KLMR **Klimovskoe** 105.41 332 *e*P Pdif 19 36 00.3 -3.0
KLMR pmax pmax
comp=Z,19nm,1.3s
ARCES **ARCESS Array B** 106.81 343 Pdiff Pdif 19 36 08.9 -0.5
comp=Z,4.3nm,0.9s,baz=65,slow=8.6,SNR=4.7
ARCES PKiKP **PKiKP** 19 40 18.3 -0.8
comp=Z,0.7nm,0.5s,baz=132,slow=1.5,SNR=13
ARCES PKKPbc **PKKPbc** 19 51 37.3 -3.3
comp=Z,0.8nm,0.5s,baz=245,slow=1.9,SNR=6.2
OBN **Obninsk** 108.79 327 *i* P Pdif 19 36 18.2 -0.2
OBN *e* 19 40 52.5
OBN *e*PPP PPP 19 43 09.0
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,447nm,16.0s
FINES **FINESS Array B** 111.05 336 Pdiff Pdif 19 36 26.8 -1.6
comp=Z,1.6nm,0.5s,baz=74,slow=4.8,SNR=16
FINES PKiKP **PKiKP** 19 40 27.2 0.0
comp=Z,3.4nm,0.8s,baz=112,slow=3.0,SNR=13
FINES PKKPbc **PKKPbc** 19 51 23.0 -3.8
comp=Z,1.2nm,0.8s,baz=252,slow=2.0,SNR=6.2
AKASG **Malin Array Be** 114.58 325 PKP PKPdf 19 40 34.4 +0.1
comp=Z,4.3nm,0.5s,baz=64,slow=2.0,SNR=20
KIEV **Kiev** 114.59 325 ⇑ P PKiKP 19 40 33.7 -0.6
KIEV **Kiev** 114.59 325 ⇑ PKiKP PKiKP 19 40 33.7 -0.6
KIRS **Kirsehir-Merke** 115.43 311 ⇑ P PKiKP 19 40 35.1 -1.3
BRTR **Keskin Array B** 115.47 312 PKiKP 19 40 34.7 -1.9
BRTR **Keskin Array B** 115.47 312 PKP PKiKP 19 40 36.5 -0.1
comp=Z,1.4nm,0.6s,baz=120,slow=2.6,SNR=7.8
BRTR PP **PP** 19 41 42.5 +3.8
comp=Z,1.1nm,0.8s,baz=60,slow=7.5,SNR=4.9
SORM **Soroca** 116.16 322 ⇓ P PKiKP 19 40 37.4 0.0
SORM **Soroca** 116.16 322 ⇓ PKiKP PKiKP 19 40 37.4 0.0
SUW **Suwalki** 116.28 330 PKPdf 19 40 35.6 -1.9
SUW **Suwalki** 116.28 330 PKiKP PKPdf 19 40 35.6 -1.9
HFS **Hagfors** 116.65 339 PKP PKPdf 19 40 36.9 -1.1
comp=Z,6.4nm,0.9s,baz=66,slow=3.6,SNR=9.9
NB2 **NORSAR Subarra** 116.88 340 PKPdf PKPdf 19 40 38.2 -0.3
comp=Z,2.9nm,0.7s,baz=43,slow=1.9
NB2 **NORSAR Subarra** 116.88 340 PKPdf PKPdf 19 40 38.2 -0.3
baz=43,slow=1.9
NOA **NORSAR Array B** 116.88 340 PKP PKiKP 19 40 38.5 +0.1
comp=Z,3.7nm,0.7s,baz=46,slow=1.9,SNR=16
TLCR 117.04 319 ⇑ P PKiKP 19 40 40.0 +0.8
TLCR 117.04 319 ⇑ PKiKP PKiKP 19 40 40.0 +0.8
CFR **Carcaliu** 117.48 319 ⇑ P PKPpre 19 40 33.8
CFR **Carcaliu** 117.48 319 ⇑ PKiKP PKPpre 19 40 33.8
TLBR **Topalu** 117.79 319 ⇑ P PKiKP 19 40 42.2 +1.5
HARR **Harsova** 117.81 319 ⇓ P PKiKP 19 40 41.5 +0.8
HARR **Harsova** 117.81 319 ⇓ PKiKP PKiKP 19 40 41.5 +0.8
VRI **Vrincioaia** 118.11 320 ⇓ P PKiKP 19 40 42.5 +1.2
VRI **Vrincioaia** 118.11 320 ⇓ PKiKP PKiKP 19 40 42.5 +1.2
BURAR **Bucovina Array** 118.29 323 ⇓ P PKiKP 19 40 42.6 +0.9
BURAR **Bucovina Array** 118.29 323 ⇓ PKiKP PKiKP 19 40 42.6 +0.9
ISR **Istrita** 118.54 320 ⇓ P PKiKP 19 40 43.4 +1.2
ISR **Istrita** 118.54 320 ⇓ PKiKP PKiKP 19 40 43.4 +1.2
NEHR **Nehoiu** 118.57 320 ⇑ P PKiKP 19 40 42.4 +0.2
MLR **Muntele Rosu** 118.77 320 ⇑ P PKiKP 19 40 43.2 +0.4
MLR **Muntele Rosu** 118.77 320 ⇑ PKiKP PKiKP 19 40 43.2 +0.4
VOIR 119.36 321 ⇑ P PKiKP 19 40 44.7 +0.9
VOIR 119.36 321 ⇑ PKiKP PKiKP 19 40 44.7 +0.9
KOLS **Kolonicke sedl** 119.39 325 *e*PKiKP PKiKP 19 40 45.1 +1.4
KOLS **Kolonicke sedl** 119.39 325 *e*PKP PKiKP 19 40 45.1 +1.4
TAVA **DENIZLI_Tavas** 119.68 311 ⇓ P PKiKP 19 40 46.2 +1.5
PLCA **Paso Flores** 119.69 143 PKP **PKPdf** 19 40 44.6 0.0
comp=Z,5.3nm,0.6s,baz=253,slow=1.5,SNR=26
STHS **Stebnicka Huta** 119.72 326 *e*PKiKP PKiKP 19 40 44.8 +0.4
STHS **Stebnicka Huta** 119.72 326 *e*PKP PKiKP 19 40 44.8 +0.4
HUMR **Humele** 119.80 320 ⇑ P **PKPdf** 19 40 44.2 -0.3
MARR **Marisel-Cluj** 119.99 323 ⇑ P PKiKP 19 40 45.7 +0.7
BOSA **Boshof** 120.05 233 PKP **PKPdf** 19 40 45.5 -0.2
comp=Z,3.7nm,0.8s,baz=68,slow=2.7,SNR=6.1
OJC **Ojcow** 120.08 327 *e*PKPdf PKiKP 19 40 45.1 +0.1
LOT **Lotru** 120.16 321 ⇑ P PKiKP 19 40 45.6 +0.1
DRGR 120.18 323 ⇓ P PKiKP 19 40 45.4 0.0
DRGR 120.18 323 ⇓ PKiKP PKiKP 19 40 45.4 0.0
NIE **Niedzica** 120.24 326 *e*PKPdf PKiKP 19 40 46.1 +0.7
GZR **Gura Zlata** 120.81 321 ⇓ P **PKPdf** 19 40 46.6 0.0

LANS	Liptovska Anna	120.84	326	ePKIKP		PKiKP	19 40 48.3	+1.7
LANS	Liptovska Anna	120.84	326	ePKP		PKiKP	19 40 48.3	+1.7
SURR	Surduc	121.04	322	⇑P		PKPdf	19 40 46.6	-0.3
SIRR	Siria	121.07	323	⇑P		PKiKP	19 40 47.9	+0.8
PSZ	Piszkesteto	121.27	325	⇑P		PKiKP	19 40 48.6	+1.1
PSZ	Piszkesteto	121.27	325	⇑PKIKP		PKiKP	19 40 48.6	+1.1
HERR	Herculane	121.27	321	⇓P		PKiKP	19 40 47.7	+0.2
STEB	Steborice	121.32	328	ePKPDF		PKiKP	19 40 48.5	+1.0
BZS	Buzias	121.42	322	⇑P		PKiKP	19 40 47.7	-0.1
BZS	Buzias	121.42	322	⇑PKIKP		PKiKP	19 40 47.7	-0.1
MORC	Moravsky Berou	121.53	328	ePKP		PKiKP	19 40 48.4	+0.5
MORC	Moravsky Berou	121.53	328	⇑P		PKiKP	19 40 47.9	0.0
VYHS	Vyhne	121.55	326	ePKIKP		PKiKP	19 40 48.6	+0.6
VYHS	Vyhne	121.55	326	ePKP		PKiKP	19 40 48.6	+0.6
KSP	Ksiaz	121.55	329	ePKPdf		PKiKP	19 40 48.4	+0.5
MAUC	Maruska	121.62	327	ePKPDF		PKiKP	19 40 49.4	+1.3
KRLC	Kraliky	121.76	329	ePKPDF		PKiKP	19 40 49.2	+0.8
KRLC	Kraliky	121.76	329	ePKIKP		PKiKP	19 40 49.2	+0.8
MDVR	Moldovita	121.76	321	⇑P		PKPdf	19 40 48.1	-0.3
CHVC	Chvalec	121.83	329	ePKPDF		PKiKP	19 40 49.6	+1.1
CHVC	Chvalec	121.83	329	ePKIKP		PKiKP	19 40 49.6	+1.1
DPC	Dobruska-Polom	121.83	329	ePKPDF		PKiKP	19 40 49.3	+0.8
DPC	Dobruska-Polom	121.83	329	ePKIKP		PKiKP	19 40 49.3	+0.8
UPC	Upice	121.90	329	ePKPDF		PKiKP	19 40 49.8	+1.2
UPC	Upice	121.90	329	ePKIKP		PKiKP	19 40 49.8	+1.2
JAVC	Velka Javorina	121.99	327	ePKP		PKiKP	19 40 50.2	+1.3
BSEG	Bad Segeberg baz=48,slow=1.9	122.31	335	ePKPdf		PKiKP	19 40 50.3	+1.1
BOVS	Bovan	122.31	320	⇑P		PKiKP	19 40 50.1	+0.6
VRAC	Vranov	122.31	328	ePKP		PKiKP	19 40 49.5	0.0
VRAC	Vranov	122.31	328	⇑P		PKiKP	19 40 49.4	0.0
VRAC	Vranov	122.31	328	⇑PKIKP		PKiKP	19 40 49.4	0.0
MODS	Modra-Piesok	122.48	327	ePKIKP		PKPdf	19 40 49.5	-0.1
MODS	Modra-Piesok	122.48	327	ePKP		PKPdf	19 40 49.5	-0.1
GORT1	Trebel baz=48,slow=1.9	122.53	334	ePKPdf		PKiKP	19 40 50.8	+1.2
KRUC	Moravsky	122.56	328	ePKP		PKiKP	19 40 50.1	+0.2
PVCC	Panska Ves	122.61	330	ePKPDF		PKiKP	19 40 51.0	+1.0
PVCC	Panska Ves	122.61	330	ePKIKP		PKiKP	19 40 51.0	+1.0
BRG	Berggiesshubel baz=48,slow=1.9	122.71	331	ePKPdf		PKiKP	19 40 51.0	+0.8
BRG	Berggiesshubel comp=Z,17nm,0.8s	122.71	331	⇓*i* PKP Amp		PKiKP	19 40 51.0 19 40 51.7	+0.8
BRG	Berggiesshubel comp=Z,4.7nm,0.8s	122.71	331	P Amp		PKiKP	19 40 56.0 19 40 57.6	+5.9
RICC	Richard	122.84	330	ePKPDF		PKiKP	19 40 51.2	+0.8
CLL	Collm	122.88	331			PKPdf	19 40 49.8	-0.5
CLL	Collm	122.88	331	*i* PKIKP		PKiKP	19 40 50.7	+0.2
CLL				*e*			19 41 08.0	
CLL				pmax		pmax		
CLL	Collm comp=Z,26nm,0.8s	122.88	331	*i* PKPdf		PKiKP	19 40 50.7	+0.2
CLL				*e*pPKPdf		pPKPdf	19 41 08.0	-0.4
CLL				*e*sPKPdf		sPKPdf	19 41 17.0	+1.9
CLL	Collm baz=48,slow=1.9	122.88	331	*e*PKPdf		PKiKP	19 40 51.0	+0.6
GOPC	GO Pecny, Ondr	122.89	329	ePKPDF		PKiKP	19 40 51.6	+1.0
GOPC	GO Pecny, Ondr	122.89	329	ePKIKP		PKiKP	19 40 51.6	+1.0
MORH	Mrgy, Hungar	122.90	324	⇓P		PKiKP	19 40 51.0	+0.3
TREC	Trest	122.90	328	ePKPDF		PKiKP	19 40 51.5	+0.9
TREC	Trest	122.90	328	ePKIKP		PKiKP	19 40 51.5	+0.9
PRU	Pruhonice	122.96	329	ePKPDF		PKiKP	19 40 51.3	+0.6
PRU	Pruhonice	122.96	329	ePKIKP		PKiKP	19 40 51.3	+0.6
FLTG	Flechtingen baz=48,slow=1.9	123.02	333	ePKPdf		PKiKP	19 40 51.3	+0.7
NRDL	Niedersach Rie baz=48,slow=1.9	123.41	334	ePKPdf		PKiKP	19 40 52.5	+1.1
ASSE	Asse, Remlinge baz=48,slow=1.9	123.41	333	ePKPdf		PKiKP	19 40 52.3	+1.0
RONA	Rosalia, Austr comp=Z,15nm,0.9s,SNR=9.4	123.41	326	*i* PKiKP		PKiKP	19 40 52.1	+0.4
ZVC	Zvikov	123.48	329	ePKPDF		PKiKP	19 40 52.6	+0.9
CONA	Conrad Observa comp=Z,7.8nm,0.7s,SNR=6.1	123.51	327	*i* PKiKP		PKiKP	19 40 52.2	+0.3
NEUB	Neuenburg baz=48,slow=1.9	123.53	332	ePKPdf		PKiKP	19 40 52.5	+0.8
RETH	Rethem/Aller, baz=48,slow=1.9	123.56	334	ePKPdf		PKiKP	19 40 52.6	+0.9
TANN	Tannenbergstha baz=48,slow=1.9	123.72	331	ePKPdf		PKiKP	19 40 52.8	+0.6
CLZ	Clausthal baz=48,slow=1.9	123.74	333	ePKPdf		PKiKP	19 40 53.2	+1.0
CKRC	Cesky Krumlov	123.81	328	ePKPDF		PKiKP	19 40 53.4	+1.0
CKRC	Cesky Krumlov	123.81	328	ePKIKP		PKiKP	19 40 53.4	+1.0
NKC	Novy Kostel	123.85	331	ePKPDF		PKiKP	19 40 53.6	+1.1
NKC	Novy Kostel	123.85	331	ePKIKP		PKiKP	19 40 53.6	+1.1
MOX	Moxa baz=48,slow=1.9	123.98	332	ePKPdf		PKiKP	19 40 53.2	+0.5
KHC	Kasperske Hory	123.99	329	ePKPDF		PKiKP	19 40 53.3	+0.5
KHC	Kasperske Hory	123.99	329	ePKIKP		PKiKP	19 40 53.3	+0.5
ARSA	Arzberg comp=Z,4.1nm,0.9s	124.10	326	ePKiKP		PKiKP	19 40 53.5	+0.4
GEC2	GERESS Array S baz=48,slow=1.9	124.10	329	ePKPdf		PKiKP	19 40 53.5	+0.4
GERES	GERESS Array B comp=Z,16nm,0.8s,baz=66,slow=1.6,SNR=83	124.10	329	PKP		PKiKP	19 40 53.5	+0.4
GTTG	Gottingen baz=48,slow=1.9	124.13	333	ePKPdf		PKiKP	19 40 53.8	+0.9
MANZ	Manzenberg baz=48,slow=1.9	124.18	331	ePKPdf		PKiKP	19 40 53.8	+0.7
ROTZ	Rotzenmuhle baz=48,slow=1.9	124.27	330	ePKPdf		PKiKP	19 40 53.8	+0.5
WET	Wettzell baz=48,slow=1.9	124.34	329	ePKPdf		PKiKP	19 40 54.0	+0.6
MOA	Molln comp=Z,4.5nm,0.6s	124.42	328	ePKiKP		PKiKP	19 40 54.3	+0.6
IBBN	Ibbenburen baz=48,slow=1.9	124.55	335	ePKPdf		PKiKP	19 40 54.4	+0.7
PERS	Pernice	124.68	326	ePKPdf		PKPdf	19 40 53.7	-0.2
SOKA	Soboth comp=Z,11nm,1.0s,SNR=6.1	124.70	326	*i* PKP		PKPdf	19 40 54.0	-0.1
GRF	Grafenberg Arr baz=48,slow=1.9	124.80	331	ePKPdf		PKiKP	19 40 54.8	+0.4
BIOA	Bad Ischl, Aus comp=Z,21nm,1.3s,SNR=5.3	124.85	328	*i* PKP		PKiKP	19 40 54.4	-0.1
KASTN	Kahler Asten baz=48,slow=1.9	125.06	334	ePKPdf		PKiKP	19 40 55.6	+0.7
OBKA	Obir comp=Z,7.5nm,1.4s	125.07	326	ePKP		PKPdf	19 40 54.7	0.0
RJOB	Jochberg baz=48,slow=1.9	125.27	328	ePKPdf		PKPdf	19 40 55.2	+0.1
KBA	Koelnbreinsper comp=Z,13nm,0.9s	125.39	327	ePKiKP		PKiKP	19 40 55.7	-0.1
BUG	Bochum--Univer baz=48,slow=1.9	125.39	335	ePKPdf		PKiKP	19 40 55.8	+0.4
GBAS	Gorenja Brezov	125.47	326	*i* PKPdf		PKPdf	19 40 55.4	-0.1
CRNS	Crni Vrh	125.49	326	*i* PKPdf		PKPdf	19 40 55.5	0.0
MYKA	Terra Mystica comp=Z,15nm,1.0s	125.50	327	ePKP		PKPdf	19 40 55.3	-0.2
LESA	Schwarzleotal comp=Z,6.2nm,0.4s,SNR=11	125.53	328	ePKP		PKPdf	19 40 55.6	0.0
TNS	Taunus Mts baz=48,slow=1.9	125.74	333	ePKPdf		PKiKP	19 40 56.9	+0.6
EKA	Eskdalemuir Ar comp=Z,5.9nm,0.7s,baz=20,slow=3.2,SNR=14	125.97	344	PKP		PKiKP	19 40 57.4	+1.0
ABTA	Abfaltersbach comp=Z,16nm,0.8s,SNR=13	126.04	327	*i* PKP		PKPdf	19 40 55.9	-0.7
WATA	Walderalm comp=Z,23nm,1.0s,SNR=12	126.16	328	*i* PKiKP		PKiKP	19 40 57.3	0.0
WTTA	Wattenberg comp=Z,39nm,0.8s,SNR=20	126.18	328	*i* PKiKP		PKiKP	19 40 57.3	-0.1
MOTA	Moosalm comp=Z,32nm,0.8s,SNR=15	126.40	329	*i* PKiKP		PKiKP	19 40 57.8	0.0
SQTA	Sankt Quirin comp=Z,26nm,0.8s,SNR=15	126.43	329	*i* PKiKP		PKiKP	19 40 58.0	+0.2
RETA	Reutte comp=Z,16nm,1.2s	126.49	329	ePKiKP		PKiKP	19 40 58.0	+0.2
BTNL	Ternell	126.51	334	*d*PKP		PKiKP	19 40 58.0	+0.3
MEM	Membach	126.54	335	*d*PKP		PKiKP	19 40 58.1	+0.4
FETA	Feichten comp=Z,32nm,1.1s,SNR=20	126.81	329	*i* PKiKP		PKiKP	19 40 59.0	+0.3
BCLA	Clavier	126.98	335	*d*PKPdf		PKiKP	19 40 58.6	0.0
DAVA	Damuels comp=Z,21nm,1.0s,SNR=11	127.07	329	*i* PKiKP		PKiKP	19 40 59.2	+0.1
UCC	Uccle	127.09	336	*d*PKP		PKiKP	19 40 59.0	+0.2
BGES	Gesves	127.10	335	*d*PKP		PKiKP	19 40 58.8	-0.1
BFO	Black Forest baz=48,slow=1.9	127.12	331	ePKPdf		PKiKP	19 40 59.1	0.0
WLF	Walferdange	127.17	334	*d*PKP		PKiKP	19 40 59.6	+0.5
WLF	Walferdange baz=48,slow=1.9	127.17	334	ePKPdf		PKiKP	19 41 00.1	+1.0
BMRD	Maredsous	127.30	335	*d*PKP		PKiKP	19 40 59.3	+0.1
DOU	Dourbes	127.53	335	*d*PKPdf		PKiKP	19 41 00.1	+0.4
LPAZ	La Paz comp=Z,3.0nm,0.5s,baz=272,slow=0.5,SNR=12	134.16	118	PKP		PKiKP	19 41 14.9	+0.1
KEST	Kesra comp=Z,3.8nm,0.6s,baz=141,slow=1.9,SNR=6.2	134.54	318	PKP		PKiKP	19 41 14.2	-0.2
KEST				PKPPKP			19 59 07.0	
CPUP	Villa Florida comp=Z,2.1nm,1.0s,baz=99,slow=2.7,SNR=6.8	137.33	138	PKP		PKiKP	19 41 19.4	-0.8
PBRG	Braganca	138.86	337	*e*PKPdf		PKPdf	19 41 18.0	-2.9
ESDC	Sonseca Array comp=Z,0.9nm,0.8s,baz=8.7,slow=4.0,SNR=6.6	139.45	333	PKhKP		PKPpre	19 41 15.6	
ESDC				PKP		PKPdf	19 41 22.9	+0.9
MVO	Moncorvo	139.52	337	*e*PKPdf		PKPpre	19 41 15.2	
POLO	Lamas de Olo	139.63	338	*e*PKPdf		PKPpre	19 41 15.3	
PAB	San Pablo	139.73	333	⇑PKIKP		PKiKP	19 41 24.3	-0.6
MTE	Manteigas	140.38	337	*e*PKPdf		PKPpre	19 41 18.2	
PCBR	Castelo Branco	140.83	336	*e*PKPdf		PKPdf	19 41 23.4	-1.0
PCAS	Casmilo, Conde	141.05	337	*e*PKPdf		PKPdf	19 41 24.8	0.0
PMRV	Marv??o	141.14	336	*e*PKPdf		PKPpre	19 41 20.2	
PSARD	Sardoal	141.31	337	*e*PKPdf		PKPpre	19 41 20.0	
PMTG	Montargil	141.79	336	*e*PKPdf		PKPpre	19 41 23.5	
PBAR	Barrancos	142.05	334	*e*PKPdf		PKPpre	19 41 22.8	
EVO	Evora	142.16	336	*e*PKPdf		PKPpre	19 41 22.6	
PBEJ	Beja	142.53	335	*e*PKPdf		PKPpre	19 41 23.7	
PCVE	Castro Verde	142.93	335	*e*PKPdf		PKPpre	19 41 25.6	
PVAQ	Vaqueiros	142.99	334	*e*PKPdf		PKPpre	19 41 21.7	
PTEO	Sao Teotonio	143.29	336	*e*PKPdf		PKPbc	19 41 27.0	+1.0
MORF	Marmelete	143.47	335	*e*PKPdf		PKPbc	19 41 27.8	+1.2
PFVI	Vila Bisbo	143.69	335	*e*PKPdf		PKPdf	19 41 30.1	+0.5
PMPST	Porto Santo, M	150.04	342	*e*PKPab		PKiKP	19 41 46.8	+0.6
PMOZ	Porto Moniz, M	150.54	343	*e*PKPab		PKiKP	19 41 48.2	+0.8
PMAR	Madeira	150.55	343	*e*PKPab		PKiKP	19 41 48.5	+1.0
TORD	Torodi Ar. Bea comp=Z,56nm,0.8s,baz=36,slow=3.3,SNR=60	150.62	289	PKPbc		PKPbc	19 41 47.2	0.0
BDFB	Brasilia comp=Z,32nm,0.7s,baz=147,slow=2.6,SNR=12	150.91	134	PKP		PKPdf	19 41 43.6	+1.3
BDFB				PKPbc		PKPbc	19 41 47.9	0.0
DBIC	Dimbokro comp=Z,5.2nm,0.6s,baz=133,slow=4.4,SNR=6.2	158.06	276	PKPab		PKPab	19 42 25.7	-0.1

IDC 04 19:35:08.2±1.9, 6°93S×128°94E, h0km, mb3.6/1, mbtmp4.0/5, ML4.0/4, Error ellipse: s-maj=48.9km s-min=27.0km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata 25nm,0.3s,baz=102,slow=1.9,SNR=36	6.15	238	Pn	Pn	19 36 41.1	+0.7
BATI				Sn	Sn	19 37 40.0	-12
	15nm,0.3s,baz=247,slow=23,SNR=9.1 67nm,0.4s						
FITZ	Fitzroy Crossi 0.9nm,0.3s,baz=23,slow=9.0,SNR=22	11.56	196	Pn	Pn	19 37 52.7	-2.0
FITZ				Sn	Sn	19 39 46.5	-18
	1.1nm,0.3s,baz=285,slow=21,SNR=6.6 2.6nm,0.5s						
WRA	Warramunga Arr 0.4nm,0.3s,baz=338,slow=13,SNR=10.0	13.96	158	Pn	Pn	19 38 28.2	+0.7
WRA				Sn	Sn	19 40 56.4	-7.0
	1.2nm,0.3s,baz=337,slow=22,SNR=12 1.5nm,0.9s						
ASAR	Alice Springs 0.3nm,0.3s,baz=340,slow=11,SNR=25	17.32	165	P	P	19 39 12.4	-0.7
ASAR				S	Sn	19 42 15.9	-9.1
	1.2nm,0.6s,baz=342,slow=24,SNR=9.2 1.9nm,0.7s						
MKAR	Makanchi Array 0.3nm,0.5s,baz=121,slow=7.8,SNR=7.5 0.3nm,0.5s	67.59	327	P	P	19 46 06.8	0.0

*PAS **04** 19:49:05.0±0.7, 35°683N±0°008×117°492W±0°007, h-0km±1km, ML3.2/26, ML3.1/104(NEIC), Error ellipse: s-maj=1.3km s-min=0.7km az=202.0*

NEIC 04 19:49:04.8±0.7, 35°68N±0°01×117°49W±0°01, h5km±1km, Error ellipse: s-maj=1.6km s-min=1.5km az=211.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	Chr Cany lake	0.18	146		Pg	19 49 09.4	+0.9
LRMC	Laurel Mtn Rad	0.25	218		Pg	19 49 10.2	+0.4
LRMC					Sg	19 49 14.2	+1.0
WVPM	Volcano Peak E	0.38	316		Pg	19 49 12.8	+0.5
JRC2	Joshua Ridge	0.40	320		Pg	19 49 13.1	+0.5
JRC2					Sg	19 49 19.0	+1.1
WRVM	Rose V. Centra	0.46	315		Pg	19 49 14.1	+0.3
WRVM					Sg	19 49 20.9	+1.0
DTP	Desert Tortois	0.50	215		Pg	19 49 14.7	+0.2
DTP					Sg	19 49 22.1	+1.0
MFS	McCloud Flat S	0.53	326		Pg	19 49 15.3	+0.3
QSM	Queen of Sheba	0.58	60		Pg	19 49 16.3	+0.3
QSM					Sg	19 49 24.4	+0.8
QSM				IAML		19 49 25.2	
	comp=N,2μm,0.5s						
GSC	Goldstone, Bar	0.67	124		Pg	19 49 18.2	+0.4
GSC				IAML		19 49 28.4	
	comp=E,1μm,0.4s						
GSC				IAML		19 49 29.1	
	comp=N,1μm,0.6s						
CCAC	Calif City Air	0.68	219		Pg	19 49 18.1	+0.2
CCAC				IAML		19 49 33.2	
	comp=N,2μm,0.7s						
CCAC				IAML		19 49 33.4	
	comp=E,813nm,0.5s						
ISA	Isabella, Lake	0.80	269		Pg	19 49 20.3	0.0
ISA				IAML		19 49 31.9	
	comp=E,499nm,0.5s						
HYS	Haystack Butte	0.82	185		Pg	19 49 20.9	+0.4
GWY	Greenwater Val	0.84	53		Pg	19 49 20.9	0.0
CGO	Cerro Gordo	0.91	344		Pg	19 49 22.0	-0.3
SPG2	Springville 2	1.16	297		Pg	19 49 26.6	-0.4
AMDNV	Amargosa	1.25	51		Pn	19 49 29.0	+0.1
TUQ	Turquoise Moun	1.30	100		Pn	19 49 29.4	-0.3
WCT	Wildcat Mounta	1.31	32		Pn	19 49 30.0	+0.1
WCT				IAML		19 49 50.1	
	comp=N,283nm,0.5s						
WCT				IAML		19 49 52.0	
	comp=E,282nm,0.5s						
GRAC	Grapevine Rang	1.32	4		Pn	19 49 29.8	-0.2
PASC	Pasadena Art C	1.61	201		Pn	19 49 34.1	+0.3
PASC				IAML		19 50 00.0	
	comp=E,236nm,0.8s						
PASC				IAML		19 50 00.7	
	comp=N,179nm,0.4s						
TPNV	Topopah Spring	1.62	38		Pn	19 49 34.2	0.0
GMN	Gold Mountain	1.63	6		Pn	19 49 34.4	0.0
GMN				IAML		19 50 02.8	
	comp=E,148nm,0.7s						
DSP	Deep Springs	1.73	347		Pn	19 49 35.9	+0.3
DSP				IAML		19 50 01.7	
	comp=E,125nm,0.9s						
BCW	Bitter Crk WRg	1.74	245		Pb	19 49 37.7	+0.4
BCW				IAML		19 50 03.0	
	comp=E,232nm,0.6s						
BCW				IAML		19 50 03.3	
	comp=N,256nm,0.6s						
MZP	Montezuma Peak	2.02	2		Pn	19 49 40.1	+0.3
ELS	Elsinore Mount	2.03	178		Pn	19 49 39.5	-0.2
ELS				IAML		19 50 14.8	
	comp=E,120nm,0.4s						
ELS				IAML		19 50 18.5	
	comp=N,112nm,0.6s						
SHPR	Sheep Range	2.06	66		Pn	19 49 41.5	+1.2
V12A	Nelson	2.15	88		Pn	19 49 41.0	-0.4
V12A				IAML		19 50 21.7	
	comp=E,87nm,0.9s						
V12A				IAML		19 50 22.0	
	comp=N,109nm,0.7s						
PFO	Pinyon Flats O	2.23	157	Pn	Pn	19 49 42.6	+0.1
PFO				IAML		19 50 20.7	
	comp=N,79nm,0.8s						
TPH	Tonopah	2.40	5		Pn	19 49 45.3	+0.4
LHV	Little Huntoon	2.69	343		Pn	19 49 50.2	+1.5
LHV				IAML		19 50 05.8	
	comp=E,58nm,0.6s						
PMPB	Monarch Peak	2.74	282	Pn	Pn	19 49 50.4	+0.9
NV11	Mina Array Sit	2.80	349		Pn	19 49 51.4	+1.0
NVAR	Mina Array Bea	2.82	347		Pn	19 49 52.0	+1.3
R11B	Troy Canyon, C	3.07	29	IAML		19 50 44.2	
	comp=E,48nm,0.5s						
BLYC	Blythe	3.11	127	IAML		19 50 47.2	
	comp=N,68nm,0.9s						
BLYC				IAML		19 50 48.4	
	comp=E,56nm,0.7s						
CMB	Columbia Colle	3.31	316	IAML		19 50 55.9	
	comp=E,40nm,0.8s						
CMB				IAML		19 50 59.6	
	comp=N,34nm,0.7s						
ESJX	Sierra Juarez	3.88	160	IAML		19 51 27.1	
	comp=N,34nm,0.1s						
ESJX				IAML		19 51 27.7	
	comp=E,36nm,0.1s						
KNB	Kanab	4.00	69	IAML		19 51 17.9	
	comp=N,18nm,2.6s						
PSUT	Pine Spring	4.07	44	IAML		19 51 19.4	
	comp=N,35nm,0.6s						
PSUT				IAML		19 51 26.9	
	comp=E,24nm,0.7s						
SPR3	Spring Creek 3	4.16	36	IAML		19 51 19.1	
	comp=E,21nm,0.7s						
SPR3				IAML		19 51 20.0	
	comp=N,18nm,0.7s						
AFDM	Forest Hills D	4.28	321	IAML		19 51 29.9	
	comp=N,21nm,0.6s						
AFDM				IAML		19 51 30.0	
	comp=E,27nm,0.7s						
BEKR	Beckworth	4.76	332	IAML		19 51 51.6	
	comp=E,20nm,0.8s						
WUAZ	Wupatki	4.99	90	IAML		19 51 45.6	
	comp=E,20nm,1.1s						
MVU	Marysvale	5.07	55	IAML		19 51 45.9	
	comp=N,15nm,0.7s						
MVU				IAML		19 51 50.5	
	comp=E,15nm,0.6s						
X16A	Lo Mia Camp, P	5.12	102	IAML		19 51 51.5	
	comp=E,8.7nm,3.4s						
X16A				IAML		19 52 10.8	
	comp=N,9.7nm,1.3s						
ELK	Elko	5.36	19	IAML		19 52 28.3	
	comp=N,14nm,0.4s						
ELK				IAML		19 52 29.1	
	comp=N,16nm,0.2s						

IDC 04 19:49:29.0±3.4, 9°03N×126°50E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=298.6km s-min=22.9km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.4nm,0.7s,baz=346,slow=8.6,SNR=2.0 0.4nm,0.7s	29.80	165	P	P	19 55 38.2	+0.3
ASAR	Alice Springs 0.1nm,0.3s,baz=351,slow=6.7,SNR=9.7 0.1nm,0.3s	33.29	168	P	P	19 56 08.3	-0.3
MKAR	Makanchi Array 0.6nm,0.6s,baz=117,slow=7.8,SNR=7.5 0.6nm,0.6s	53.15	323	P	P	19 58 49.1	+0.4
KURBB	Kurchatov Arra 0.4nm,0.4s,baz=126,slow=6.5,SNR=4.3 0.4nm,0.4s	57.22	326	P	P	19 59 17.4	-0.6

*PAS **04** 19:51:16.9±0.8, 35°71N±0°01×117°557W±0°009, h0km±1km, ML3.3/23, ML3.1/58(NEIC), Error ellipse: s-maj=1.6km s-min=0.9km az=157.0*

NEIC 04 19:51:16.8±0.9, 35°713N±0°008×117°562W±0°008, h8km±4km, Error ellipse: s-maj=1.4km s-min=0.5km az=217.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	Laurel Mtn Rad	0.25	203		Pg	19 51 22.0	+0.1
WNMM	Nine Mile Cany	0.31	295		Pg	19 51 23.4	+0.5
WVPM	Volcano Peak E	0.31	319		Pg	19 51 23.4	+0.3
JRC2	Joshua Ridge	0.34	323		Pg	19 51 23.9	+0.3
WRVM	Rose V. Centra	0.40	318		Pg	19 51 24.8	+0.2
MFS	McCloud Flat S	0.47	330		Pg	19 51 26.3	+0.3
MFS					Sg	19 51 33.0	+0.9
DTP	Desert Tortois	0.50	208		Pg	19 51 26.5	0.0
DTP					Sg	19 51 33.6	+0.5
WBSM	Bird Springs	0.50	250		Pg	19 51 26.9	+0.3
WORM	Onyx Ranch	0.55	268		Pn	19 51 35.2	+4.0
QSM	Queen of Sheba	0.62	66		Pg	19 51 28.7	-0.1
QSM					Sg	19 51 37.0	+0.2
QSM				IAML		19 51 38.5	
	comp=N,2μm,0.7s						
QSM				IAML		19 51 38.8	
	comp=E,1μm,0.2s						
CCAC	Calif City Air	0.67	214		Pg	19 51 29.8	0.0
CCAC				IAML		19 51 43.7	
	comp=E,848nm,0.5s						
GSC	Goldstone, Bar	0.74	123		Pg	19 51 31.1	0.0
GSC				IAML		19 51 41.5	
	comp=N,1μm,0.4s						
GSC				IAML		19 51 42.0	
	comp=E,2μm,0.6s						
ISA	Isabella, Lake	0.74	266		Pg	19 51 31.2	+0.1
ISA				IAML		19 51 42.4	
	comp=E,1μm,0.2s						
ISA				IAML		19 51 43.0	
	comp=N,1μm,0.2s						
ISA	Isabella, Lake	0.74	266		Sb	19 51 41.9	-0.6
HYS	Haystack Butte	0.85	180		Pg	19 51 32.8	-0.3
HYS					Sg	19 51 44.1	0.0
CGO	Cerro Gordo	0.86	347		Pb	19 51 34.4	+0.1
GWY	Greenwater Val	0

NEIC ***04*** *19:52:12.6±1.0,35°.620N±0°.008×117°.604W±0°.008, h2km±2km, Error ellipse: s-maj=1.1km s-min=0.9km az=185.0*

PAS 04 19:52:13.1±0.9, 35°.609N±0°.007×117°.59W±0°.01, h5km±3km, ML3.0/27, ML2.7/20(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=86.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mtn Rad**	**0.15**	**210**		Pg	19 52 16.2	+0.1
CCCA	**Chr Cany lake**	**0.20**	**114**		Pg	19 52 17.5	+0.4
CCCA					Sg	19 52 21.0	+1.2
WNMM	**Nine Mile Cany**	**0.35**	**312**		Pg	19 52 19.9	+0.2
WVPM	**Volcano Peak E**	**0.39**	**332**		Pg	19 52 20.6	0.0
DTP	**Desert Tortois**	**0.40**	**211**		Pg	19 52 20.6	-0.2
DTP					Sg	19 52 26.2	+0.2
JRC2	**Joshua Ridge**	**0.41**	**335**		Pg	19 52 20.9	-0.2
WBSM	**Bird Springs**	**0.45**	**261**		Pg	19 52 21.7	-0.1
WBSM					Sg	19 52 28.1	+0.3
WRVM	**Rose V. Centra**	**0.47**	**329**		Pg	19 52 21.9	-0.3
CCAC	**Calif City Air**	**0.57**	**218**	Pg	Pg	19 52 23.9	-0.2
CCAC				IAML		19 52 32.4	
	comp=N,456nm,0.3s						
CCAC				IAML		19 52 32.5	
	comp=E,355nm,0.5s						
WHFM	**Hanning Flat**	**0.62**	**278**		Pg	19 52 24.8	-0.3
QSM	**Queen of Sheba**	**0.69**	**59**		Pg	19 52 25.8	-0.5
QSM					Sg	19 52 35.3	+0.1
GSC	**Goldstone, Bar**	**0.71**	**115**	Pg	Pg	19 52 26.1	-0.6
GSC				IAML		19 52 40.9	
	comp=E,533nm,0.4s						
ISA	**Isabella, Lake**	**0.72**	**275**	Pg	Pg	19 52 26.1	-0.9
ISA				IAML		19 52 36.7	
	comp=E,245nm,0.2s						
ISA				IAML		19 52 36.9	
	comp=N,231nm,0.2s						
EDW2	**Edwards Air Fo**	**0.80**	**205**		Pb	19 52 29.7	+0.2
WASM	**Alta Sierra Ca**	**0.80**	**280**		Pg	19 52 28.0	-0.4
SBB	**Saddle Back Bu**	**0.94**	**192**		Pg	19 52 31.4	+0.3
GWY	**Greenwater Val**	**0.94**	**52**		Pg	19 52 30.6	-0.6
GWY				IAML		19 52 49.3	
	comp=E,149nm,0.4s						
SPG2	**Springville 2**	**1.12**	**302**		Pg	19 52 33.9	-0.7
HOLC	**Holcomb Ridge**	**1.17**	**190**		Pg	19 52 35.2	-0.2
CJV	**Casa Juvan**	**1.17**	**203**		Sb	19 52 51.2	-0.2
JNH	**Juniper Hills**	**1.20**	**195**		Pb	19 52 36.2	-0.1
SS2	**San Sevaine**	**1.40**	**177**		Pg	19 52 40.1	+0.2
LCMT	**Little Creek M**	**3.78**	**67**	IAML		19 53 39.6	
	comp=E,8.5nm,0.9s						
LCMT				IAML		19 53 43.7	
	comp=N,9.3nm,1.4s						
AFDM	**Forest Hills D**	**4.29**	**322**	IAML		19 53 51.7	
	comp=N,9.3nm,1.3s						
AFDM				IAML		19 53 53.8	
	comp=E,13nm,0.7s						

NEIC ***04*** *19:56:00.2±0.6,35°.652N±0°.007×117°.515W±0°.008, h6km±2km, Error ellipse: s-maj=1.3km s-min=0.4km az=141.0*

PAS ***04*** *19:56:00.5±0.7,35°.662N±0°.004×117°.52W±0°.01, h1km±1km, Mwr4.2/6, mb3.8/6(NEIC), ML4.2/98(NEIC), Error ellipse: s-maj=1.5km s-min=0.7km az=95.0*

IDC ***04*** *19:56:00.9±0.8,35°.67N×117°.38W, h0km, mb3.5/3, mbtmp3.5/8, ML3.8/5, MS3.2/1, Error ellipse: s-maj=17.7km s-min=5.6km az=76.0*

ISC 04 19:56:00.6±1.1, 35°.64N±0°.01×117°.51W±0°.02, h1km±9km, n119, σ0.95/145, mb3.5/3, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.19**	**338**		**Pg**	**19 56 03.9**	**-0.4**
CLC					**Sg**	**19 56 06.0**	**-0.7**
SRTC	**Snort**	**0.20**	**285**		**Pg**	**19 56 04.8**	**+0.3**
SRTC					**Sg**	**19 56 08.5**	**+1.4**
LRMC	**Laurel Mtn Rad**	**0.21**	**221**		**Pg**	**19 56 05.1**	**+0.4**
LRMC					**Sg**	**19 56 08.5**	**+1.0**
TOW	**Tower One**	**0.27**	**309**		**Pg**	**19 56 06.0**	**+0.3**
TOW					**Sg**	**19 56 10.4**	**+1.2**
WNMM	**Nine Mile Cany**	**0.38**	**302**		**Pg**	**19 56 07.8**	**0.0**
WVPM	**Volcano Peak E**	**0.40**	**321**		**Pg**	**19 56 08.1**	**-0.1**
WVPM					**Sg**	**19 56 13.3**	**-0.1**
MPMC	**Manual Prospec**	**0.42**	**2**		**Pg**	**19 56 08.2**	**-0.4**
MPMC					**Sg**	**19 56 14.0**	**0.0**
JRC2	**Joshua Ridge**	**0.42**	**325**		**Pg**	**19 56 08.5**	**-0.1**
JRC2					**Sg**	**19 56 14.3**	**+0.2**
WCSM	**Coso Springs S**	**0.44**	**332**		**Pg**	**19 56 08.7**	**-0.4**
WCSM					**Sg**	**19 56 14.7**	**-0.1**
DTP	**Desert Tortois**	**0.46**	**216**		**Pg**	**19 56 09.6**	**+0.2**
DTP					**Sg**	**19 56 16.2**	**+0.8**
WRVM	**Rose V. Centra**	**0.48**	**320**		**Pg**	**19 56 09.5**	**-0.3**
WRVM					**Sg**	**19 56 15.9**	**-0.1**
WBSM	**Bird Springs**	**0.52**	**259**		**Pg**	**19 56 10.6**	**-0.1**
WBSM					**Sg**	**19 56 17.9**	**+0.5**
MFS	**McCloud Flat S**	**0.55**	**330**		**Pg**	**19 56 10.8**	**-0.4**
MFS					**Sg**	**19 56 18.5**	**+0.1**
WORM	**Onyx Ranch**	**0.60**	**276**		**Sg**	**19 56 19.6**	**-0.2**
QSM	**Queen of Sheba**	**0.61**	**58**		**Pg**	**19 56 12.4**	**0.0**
QSM					**Sg**	**19 56 20.6**	**+0.3**
CCAC	**Calif City Air**	**0.64**	**221**	Pg	**Pg**	**19 56 12.9**	**+0.1**
CCAC				IAML		19 56 22.7	
	comp=N,21μm,0.3s						
CCAC				IAML		19 56 27.4	
	comp=E,15μm,0.8s						
GSC	**Goldstone, Bar**	**0.67**	**120**	Pg	**Pg**	**19 56 13.7**	**+0.3**
GSC				IAML		19 56 23.5	
	comp=N,15μm,0.8s						
GSC				IAML		19 56 23.6	
	comp=E,16μm,0.6s						
GSC	**Goldstone, Bar**	**0.67**	**120**		**Sg**	**19 56 23.1**	**+1.1**
WHFM	**Hanning Flat**	**0.69**	**275**		**Pg**	**19 56 13.3**	**-0.4**
WHFM					**Sg**	**19 56 22.4**	**-0.2**
HYS	**Haystack Butte**	**0.78**	**184**		**Pg**	**19 56 15.4**	**0.0**
HYS					**Sg**	**19 56 26.4**	**+0.9**
ISA	**Isabella, Lake**	**0.79**	**272**	Pg	**Pg**	**19 56 15.2**	**-0.5**
ISA				Sg	**Sg**	**19 56 25.2**	**-0.6**
ISA				IAML		19 56 26.2	
	comp=N,5μm,0.3s						
ISA				IAML		19 56 26.3	
	comp=E,5μm,0.5s						
EDW2	**Edwards Air Fo**	**0.85**	**208**		**Sg**	**19 56 28.1**	**0.0**
WASM	**Alta Sierra Ca**	**0.86**	**277**		**Pg**	**19 56 16.6**	**-0.5**
WASM					**Sg**	**19 56 28.4**	**+0.3**
RRX	**Edison Barstow**	**0.87**	**151**		**Sb**	**19 56 29.7**	**-0.9**
GWY	**Greenwater Val**	**0.87**	**51**		**Pg**	**19 56 17.0**	**-0.3**
GWY				Sg	**Sg**	**19 56 28.4**	**-0.3**
GWY				IAML		19 56 34.0	
	comp=E,12μm,1.0s						
CWC	**Cottonwood Cre**	**0.92**	**330**		**Pg**	**19 56 17.7**	**-0.6**
CWC					Pn	19 56 30.1	+9.3
CGO	**Cerro Gordo**	**0.94**	**345**		**Sg**	**19 56 30.8**	**0.0**
FURC	**Furnace Creek,**	**0.98**	**32**		**Pg**	**19 56 19.0**	**-0.4**
FURC					**Sg**	**19 56 32.6**	**+0.6**
SBB	**Saddle Back Bu**	**0.98**	**195**		**Sg**	**19 56 32.7**	**+0.5**
SHOC	**Shoshone, Teco**	**1.04**	**75**		**Pg**	**19 56 20.6**	**+0.2**
VTV	**Victorville**	**1.09**	**172**		**Pg**	**19 56 21.4**	**0.0**
VTV					**Sb**	**19 56 37.4**	**+0.6**
ADO	**Adelanto Recei**	**1.09**	**177**		**Pg**	**19 56 21.5**	**0.0**
ADO					**Sb**	**19 56 37.4**	**+0.4**
ALPC	**Antelope**	**1.15**	**214**		**Pg**	**19 56 22.0**	**-0.6**
ALPC					**Sb**	**19 56 38.4**	**-0.3**
SPG2	**Springville 2**	**1.16**	**299**		**Pg**	**19 56 21.8**	**-1.1**
TJR	**Tejon Ranch**	**1.18**	**239**		**Sg**	**19 56 37.8**	**-0.7**
MAGC	**SCE Magundon P**	**1.19**	**257**		**Sg**	**19 56 37.9**	**-0.8**
LRRC	**Littlerock Res**	**1.19**	**201**		**Sb**	**19 56 39.5**	**-0.2**
ARVC	**Arvin**	**1.19**	**245**		**Sg**	**19 56 38.4**	**-0.5**
HOLC	**Holcomb Ridge**	**1.21**	**193**		**Sb**	**19 56 40.8**	**+0.3**
CJV	**Casa Juvan**	**1.22**	**205**		**Sb**	**19 56 41.2**	**+0.3**
JNH	**Juniper Hills**	**1.24**	**197**		**Sg**	**19 56 40.8**	**+0.3**
DSCC	**Desert Studies**	**1.25**	**113**		**Pg**	**19 56 23.4**	**-1.1**
DSCC					**Sg**	**19 56 40.6**	**-0.1**
WCT	**Wildcat Mounta**	**1.35**	**32**		**Pn**	**19 56 25.1**	**-1.6**
WCT					**Sg**	**19 56 42.6**	**-1.5**
WCT				IAML		19 56 45.2	
	comp=E,2μm,1.5s						
WCT				IAML		19 56 45.3	
	comp=N,3μm,0.8s						
GRAC	**Grapevine Rang**	**1.36**	**5**	Pg	**Pn**	**19 56 25.5**	**-1.2**
GRAC					**Sg**	**19 56 44.1**	**-0.1**
GRAC				IAML		19 56 48.7	
	comp=E,6μm,0.7s						
BFSC	**Mount Baldy Ra**	**1.40**	**185**		**Pn**	**19 56 26.3**	**-1.1**
SIL	**Silver Peak**	**1.41**	**156**		**Pn**	**19 56 26.3**	**-1.1**
BBRC	**Big Bear Solar**	**1.46**	**160**		**Pn**	**19 56 28.3**	**+0.1**
TIN	**Tinemaha, Big**	**1.53**	**338**		**Pn**	**19 56 28.2**	**-0.9**
PASC	**Pasadena Art C**	**1.57**	**201**		**Pn**	**19 56 28.8**	**-0.7**
PASC					**Sn**	**19 56 49.6**	**-0.8**
PASC				IAML		19 56 54.6	
	comp=E,2μm,0.6s						
PASC				IAML		19 56 56.1	
	comp=N,2μm,0.5s						
MTPC	**Mountain Pass**	**1.60**	**95**		**Pn**	**19 56 28.7**	**-1.4**
CFT	**Crafton Hills**	**1.63**	**168**		**Pn**	**19 56 29.8**	**-0.7**
GTM	**Goat Mountain**	**1.64**	**144**		**Pn**	**19 56 30.7**	**+0.1**
TPNV	**Topopah Spring**	**1.66**	**38**		**Pn**	**19 56 29.7**	**-1.2**
TPNV				IAML		19 56 56.2	
	comp=N,4μm,1.0s						
TPNV				IAML		19 56 57.0	
	comp=N,4μm,0.8s						
VOG	**Valley Oaks Go**	**1.66**	**295**		**Pn**	**19 56 30.6**	**-0.2**
GMN	**Gold Mountain**	**1.67**	**7**		**Pn**	**19 56 30.0**	**-1.2**
BCW	**Bitter Crk WRg**	**1.71**	**246**		**Pn**	**19 56 30.1**	**-1.4**
BCW				IAML		19 56 57.2	
	comp=N,3μm,0.9s						
BCW				IAML		19 57 08.1	
	comp=E,3μm,1.2s						
GMRC	**Granite Mounta**	**1.74**	**119**		**Pn**	**19 56 30.0**	**-2.0**
CPY	**CP-1**	**1.74**	**42**		**Pn**	**19 56 31.0**	**-1.0**
DSP	**Deep Springs**	**1.77**	**348**		**Pn**	**19 56 31.2**	**-1.0**
BHPR	**Bishop**	**1.83**	**335**		**Pn**	**19 56 33.0**	**-0.4**
ELS	**Elsinore Mount**	**1.99**	**178**		**Pn**	**19 56 34.5**	**-0.9**
MZP	**Montezuma Peak**	**2.06**	**3**	Pn	**Pn**	**19 56 35.5**	**-1.0**
SHPR	**Sheep Range**	**2.09**	**65**		**Pn**	**19 56 35.8**	**-1.0**
V12A	**Nelson**	**2.17**	**87**	Pn	**Pn**	**19 56 36.6**	**-1.2**
V12A				IAML		19 57 21.4	
	comp=N,910nm,0.9s						
PFO	**Pinyon Flats O**	**2.20**	**157**	Pn	**Pn**	**19 56 37.1**	**-1.2**
	comp=N,18nm,0.3s,baz=338,slow=10.0,SNR=31						
PFO				Pg	**Pb**	**19 56 41.3**	**0.0**
	comp=N,108nm,0.3s,baz=334,slow=13,SNR=51						
PFO				Lg	Lg	19 57 11.0	
	comp=N,192nm,0.3s,baz=71,slow=10,SNR=12						
	comp=N,248nm,0.3s						
PFO	**Pinyon Flats O**	**2.20**	**157**		**Pn**	**19 56 36.8**	**-1.6**
KCC	**Kaiser Creek**	**2.23**	**320**		**Pb**	**19 56 41.0**	**-0.6**
MLAC	**Mammoth, Mammo**	**2.25**	**332**		**Pb**	**19 56 42.2**	**0.0**
MCBM	**Casa Benchmark**	**2.29**	**331**		**Pb**	**19 56 43.0**	**+0.1**
MDYM	**Dry Creek**	**2.35**	**329**		**Pb**	**19 56 43.9**	**0.0**
TPH	**Tonopah**	**2.44**	**5**		**Pn**	**19 56 41.0**	**-0.8**
S11A	**Rachel**	**2.45**	**35**		**Pn**	**19 56 40.6**	**-1.2**
PRN	**Pahroc Range**	**2.65**	**48**		**Pn**	**19 56 43.6**	**-0.9**
PRN				IAML		19 57 33.5	
	comp=N,2μm,0.8s						
PRN				IAML		19 57 37.9	
	comp=E,2μm,0.8s						
LHV	**Little Huntoon**	**2.73**	**343**		**Pn**	**19 56 44.5**	**-0.9**
LHV				IAML		19 57 37.7	
	comp=E,708nm,0.7s						
LHV				IAML		19 57 45.2	
	comp=N,492nm,1.4s						
PMPB	**Monarch Peak**	**2.73**	**283**		**Pn**	**19 56 44.4**	**-1.2**
PMPB				IAML		19 57 31.9	
	comp=E,1μm,1.0s						
NV08	**Mina Array Sit**	**2.83**	**347**		**Pn**	**19 56 46.6**	**-0.5**
NV11	**Mina Array Sit**	**2.83**	**350**		**Pn**	**19 56 46.2**	**-0.9**
NVAR	**Mina Array Bea**	**2.86**	**347**		**Pn**	**19 56 46.6**	**-0.8**
NVAR	**Mina Array Bea**	**2.86**	**347**	Pn	**Pn**	**19 56 46.9**	**-0.5**
	comp=E,10nm,0.3s,baz=95,slow=3.4,SNR=62						
NVAR				Pg	**Pb**	**19 56 53.4**	**+1.0**
	comp=E,44nm,0.3s,baz=170,slow=17,SNR=77						
NVAR				LR	LR	19 57 15.3	
	comp=E,441nm,21.0s,baz=103,slow=26						
NVAR				Lg	Lg	19 57 31.4	
	comp=E,25nm,0.3s,baz=270,slow=26,SNR=6.6						
	comp=E,15nm,0.5s						
NV09	**Mina Array Sit**	**2.87**	**347**		**Pn**	**19 56 47.1**	**-0.4**
BBGB	**Big Mountain B**	**3.01**	**289**		**Pn**	**19 56 49.4**	**-0.1**
W13A	**Hualapai Mount**	**3.01**	**99**		**Pn**	**19 56 48.5**	**-1.1**
W13A				IAML		19 57 49.2	
	comp=N,514nm,1.1s						
RYN	**Ryan**	**3.09**	**345**		**Pn**	**19 56 49.8**	**-0.8**
R11B	**Troy Canyon, C**	**3.11**	**29**		**Pn**	**19 56 49.0**	**-1.9**
R11B				IAML		19 57 44.5	
	comp=E,350nm,0.8s						
Q09A	**Carvers**	**3.20**	**5**		**Pn**	**19 56 49.9**	**-2.2**
TJIG	**Tijuana**	**3.27**	**168**	*eS*	**Sb**	**19 57 41.0**	**+1.2**
CMB	**Columbia Colle**	**3.32**	**317**		**Pb**	**19 56 58.6**	**-1.7**
CMB	**Columbia Colle**	**3.32**	**317**	IAML		19 57 49.5	
	comp=E,634nm,0.9s						
CMB				IAML		19 57 55.2	
	comp=N,604nm,0.8s						
SAO	**San Andreas Ge**	**3.38**	**291**		**Pn**	**19 56 52.9**	**-1.5**
CBX	**Cerro Bola**	**3.39**	**168**	*eS*	**Sb**	**19 57 42.4**	**-0.9**
LCMT	**Little Creek M**	**3.71**	**67**		**Pn**	**19 56 58.6**	**-0.5**
CCUT	**Cedar City**	**3.84**	**59**	Pn	**Pn**	**19 57 00.8**	**-0.2**
CCUT				IAML		19 58 06.3	
	comp=N,234nm,1.6s						
CCUT				IAML		19 58 09.1	
	comp=E,240nm,1.8s						
KNB	**Kanab**	**4.03**	**69**		**Pn**	**19 57 03.5**	**0.0**
KNB				IAML		19 58 18.4	
	comp=E,306nm,1.2s						
KNB				IAML		19 58 26.3	
	comp=N,283nm,1.7s						
SZCU	**Shurtz Canyon**	**4.06**	**60**	Pn	**Pn**	**19 57 03.8**	**-0.2**
PSUT	**Pine Spring**	**4.11**	**44**		**Pn**	**19 57 04.3**	**-0.4**
PSUT				IAML		19 58 15.7	
	comp=N,327nm,1.5s						
PSUT				IAML		19 58 21.6	
	comp=E,248nm,1.5s						
MPK	**Martis Peak**	**4.16**	**332**		**Pn**	**19 57 04.1**	**-1.3**
SPR3	**Spring Creek 3**	**4.20**	**36**		**Pn**	**19 57 04.1**	**-1.9**
SPR3				IAML		19 58 14.0	
	comp=N,235nm,1.1s						
SPR3				IAML		19 58 14.1	
	comp=E,349nm,1.6s						
AFDM	**Forest Hills D**	**4.30**	**321**		**Pn**	**19 57 06.9**	**-0.3**
AFDM				IAML		19 58 19.6	
	comp=N,300nm,1.4s						
PAHR	**Pah Rah Range**	**4.32**	**340**		**Pn**	**19 57 07.3**	**-0.3**
BEKR	**Beckworth**	**4.79**	**333**		**Pn**	**19 57 13.7**	**-0.2**
BEKR				IAML		19 58 44.0	
	comp=N,146nm,0.8s						
SPIG	**San Pedro Mart**	**4.89**	**159**	*eS*	**Sg**	**19 58 33.4**	**-4.3**
WUAZ	**Wupatki**	**5.00**	**90**		**Pn**	**19 57 17.0**	**+0.1**
WUAZ				IAML		19 58 43.1	
	comp=N,219nm,0.9s						
WUAZ				IAML		19 58 46.7	
	comp=N,276nm,0.9s						
MVU	**Marysvale**	**5.11**	**54**	Pn	**Pn**	**19 57 18.8**	**+0.3**
MVU				IAML		19 58 43.3	
	comp=E,174nm,0.7s						
ELK	**Elko**	**5.40**	**19**	Pn	**Pn**	**19 57 21.5**	**-1.0**
	comp=E,0.7nm,0.3s,baz=225,slow=12,SNR=6.8						
ELK				Pg	**Pb**	**19 57 38.7**	**+2.8**
	comp=E,2.5nm,0.3s,baz=207,slow=14,SNR=35						
ELK				Lg	Lg	19 58 48.8	
	comp=E,6.9nm,0.3s,baz=310,slow=22,SNR=11						
	comp=E,2.6nm,0.5s						
YBH	**Yreka Blue Hor**	**7.32**	**328**	Lg	Lg	19 59 52.1	
	baz=25,slow=5.7,SNR=7.2						
PV03	**Paradox Valley**	**7.41**	**67**	Pn	**Pn**	**19 57 49.8**	**-0.3**
PV04	**Paradox Valley**	**7.41**	**66**	Pn	**Pn**	**19 57 49.9**	**-0.1**
PV01	**Paradox Valley**	**7.58**	**68**	Pn	**Pn**	**19 57 52.5**	**+0.1**
ANMO	**Albuquerque**	**9.06**	**91**	Lg	Lg	20 00 42.6	
	comp=E,0.2nm,0.3s,baz=116,slow=12,SNR=7.1						
PDAR	**Pinedale Array**	**9.41**	**39**	Pn	**Pn**	**19 58 19.4**	**+1.9**
	comp=E,0.1nm,0.3s,baz=226,slow=12,SNR=4.1						
PDAR				Lg	Lg	20 00 56.0	
	comp=E,0.1nm,0.3s,baz=225,slow=31,SNR=6.2						
	comp=E,0.2nm,0.4s						
TXAR	**Lajitas Array**	**13.26**	**114**	Pn	**Pn**	**19 59 11.7**	**+1.6**
	comp=E,0.3nm,0.3s,baz=294,slow=13,SNR=5.5						
TXAR				Lg	Lg	20 02 57.1	
	baz=290,slow=28						
	comp=E,0.5nm,0.4s						
TUL3	**Leonard**	**17.63**	**83**	Pn	**Pn**	**20 00 06.7**	**-0.7**
TUL3				IAmb	IAmb	20 00 17.8	
	comp=Z,4.8nm,0.6s						
MIAR	**Mount Ida**	**19.61**	**86**	P	**P**	**20 00 29.1**	**-1.2**
MIAR				IAmb	IAmb	20 00 32.1	
	comp=Z,4.3nm,0.8s						
P40A	**Paris**	**20.52**	**71**	P	**P**	**20 00 39.3**	**-0.9**
P40A				IAmb	IAmb	20 00 45.1	
	comp=Z,6.5nm,1.1s						
ULM	**Lac du Bonnet**	**21.43**	**40**	P	**P**	**20 00 49.8**	**-0.1**
	comp=Z,4.4nm,0.9s,baz=228,slow=13,SNR=5.3						
	comp=Z,4.4nm,0.9s						
FVM	**French Village**	**21.78**	**76**	P	**P**	**20 00 52.7**	**-1.1**
YKA	**Yellowknife Ar**	**26.94**	**3**	P	**P**	**20 01 43.8**	**+0.7**
	comp=Z,1.0nm,1.0s,baz=188,slow=9.2,SNR=5.6						
	comp=Z,1.0nm,1.0s						
ILAR	**Eielson Array**	**34.07**	**338**	P	**P**	**20 02 48.4**	**+2.3**
	comp=Z,0.3nm,0.8s,baz=142,slow=5.4,SNR=4.9						
	comp=Z,0.3nm,0.8s						

NEIC ***04*** *19:56:06.9±2.7,32°.120N±0°.010×115°.15W±0°.02, h10km±2km, Error ellipse: s-maj=3.3km s-min=3.1km az=91.0*

ECX ***04*** *19:56:07.8±0.6,32°.17N×115°.24W, h10km±1km, MD3.4, ML3.7*

MEX ***04*** *19:56:08.4±1.1,32°.16N×115°.14W, h15km±18km, MD3.0*

PAS ***04*** *19:56:08.2±1.8,32°.17N±0°.02×115°.15W±0°.04, h24km±8km, ML3.5/20, ML3.5/30(NEIC), Error ellipse: s-maj=4.6km s-min=3.2km az=111.0*

CATAC ***04*** *19:56:08.4±0.6,32°.N±5°×11°.5W±°, h10km±8km, M3.6/6, MLv3.6/6, confirmed*

ISC 04 19:56:07.6±0.9, 32°.15N±0°.02×115°.20W±0°.02, h20km±3km, n61, σ0.62/85, 5C-11D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RHX	**Rio Hardy**	**0.07**	**257**	⇓*eP*	**Pg**	**19 56 10.7**	**-0.6**
RHX				*i* S	**Sg**	**19 56 12.2**	**-1.4**
AGSX	**Ej. Aguas Cali**	**0.12**	**17**	⇓*iP*	**Pg**	**19 56 11.4**	**-0.3**
AGSX				*i* S	**Sg**	**19 56 14.1**	**-0.4**
AGSX				IAML		19 56 14.3	
	comp=N,42μm,0.1s						
AGSX				*e*		19 56 14.3	
AGSX				IAML		19 56 14.5	
	comp=E,33μm,0.1s						
AGSX				*e*		19 56 14.5	
GUVIX	**Guadalupe Vict**	**0.18**	**35**	⇓*iP*	**Pg**	**19 56 13.0**	**+0.5**
GUVIX				*i* S	**Sg**	**19 56 16.7**	**+0.9**
GUVIX	**Guadalupe Vict**	**0.18**	**35**	P	**Pg**	**19 56 13.1**	**+0.5**
DELX	**Delta**	**0.20**	**3**	⇓*iP*	**Pg**	**19 56 13.2**	**+0.5**
DELX				*i* S	**Sg**	**19 56 18.3**	**+2.0**
RITX	**Riito Sonora**	**0.20**	**86**	⇑*iP*	**Pg**	**19 56 13.7**	**+0.9**
RITX				*eS*	**Sg**	**19 56 17.6**	**+1.3**
MBIG	**Mexicali**	**0.26**	**1**	⇓*eP*	**Pg**	**19 56 14.3**	**+0.8**
MBIG	**Mexicali**	**0.26**	**1**	*eP*	**Pb**	**19 56 13.1**	**-0.3**
MBIG				*eP*	**Pg**	**19 56 14.1**	**+0.5**
MBIG				*eS*	**Sg**	**19 56 18.1**	**+0.4**
MBIG				*eS*		19 56 19.0	
CPBX	**Cerro Prieto**	**0.28**	**342**		**Pg**	**19 56 14.1**	**+0.1**
CPBX				Sg	**Sg**	**19 56 18.9**	**+0.6**
CPBX	**Cerro Prieto**	**0.28**	**342**	*eP*	**Pg**	**19 56 14.2**	**+0.2**
CPBX				*eS*	**Sg**	**19 56 18.9**	**+0.6**
CPBX				⇑*e*		19 56 20.4	
CPBX				IAML		19 56 20.4	
	comp=E,28μm,0.3s						
CPBX				IAML		19 56 20.8	
	comp=N,20μm,0.4s						
CPBX				⇓*e*		19 56 20.8	
CPBX	**Cerro Prieto**	**0.28**	**342**	P	**Pg**	**19 56 14.5**	**+0.5**
PESCX	**Ej. Pescaderos**	**0.35**	**36**	⇓*eP*	**Pb**	**19 56 15.6**	**+0.4**
PESCX				*eS*	**Sb**	**19 56 21.5**	**+1.2**
ALAMX	**Rancho Alamar**	**0.45**	**252**	⇑*iP*	**Pb**	**19 56 17.5**	**+0.5**
ALAMX				*eS*	**Sb**	**19 56 23.9**	**+0.6**
ALAMX				IAML		19 56 24.4	
	comp=E,7μm,0.2s						
ALAMX				*e*		19 56 24.4	
ALAMX				IAML		19 56 24.5	
	comp=N,9μm,0.3s						
ALAMX				⇓*e*		19 56 24.5	
YUCAX	**Ej. Yucatįn**	**0.46**	**11**	⇓*iP*	**Pb**	**19 56 17.8**	**+0.7**
YUCAX				*eS*	**Sn**	**19 56 25.6**	**-1.2**
JARAX	**Ej. Heriberto**	**0.50**	**320**	*eP*	**Pb**	**19 56 17.7**	**0.0**
JARAX				*eS*	**Sb**	**19 56 24.6**	**0.0**
UABX	**UABC, Campus M**	**0.52**	**337**		**Pg**	**19 56 19.0**	**+0.8**
5054	**Holtville Bond**	**0.55**	**348**		**Pg**	**19 56 19.3**	**+0.5**
5054					**Sn**	**19 56 28.5**	**-0.6**
5053	**Calexico**	**0.57**	**335**		**Pg**	**19 56 19.6**	**+0.5**
EMSC	**East Mesa**	**0.61**	**17**	*eP*	**Pg**	**19 56 19.9**	**+0.1**
CEA0	**Mexicali**	**0.64**	**322**	*eP*	**Pg**	**19 56 20.4**	**+0.1**
CEA0				*eS*	**Sg**	**19 56 29.3**	**+0.5**
ESJX	**Sierra Juarez**	**0.65**	**257**		**Pg**	**19 56 20.9**	**+0.4**
ESJX					**Sg**	**19 56 29.5**	**+0.2**
ESJX				IAML		19 56 30.6	
	comp=E,4μm,0.2s						
ESJX				IAML		19 56 32.9	
	comp=N,2μm,0.1s						
ESJX	**Sierra Juarez**	**0.65**	**257**	P	**Pg**	**19 56 21.0**	**+0.4**
DREC	**Desert Rsrch C**	**0.69**	**342**		**Pg**	**19 56 21.3**	**+0.1**
DREC	**Desert Rsrch C**	**0.69**	**342**	*eP*	**Pg**	**19 56 21.3**	**+0.1**
COA

214A	**Organ Pipe Nat**	**2.04**	**95**		**Pn**	**19 56 40.1**	**-0.8**
Y14A	**Wickenburg**	**2.57**	**45**		**Pn**	**19 56 47.4**	**-0.7**

*KNET **04** 20:02:02.5±0.3,42°.51N×75°.22E,h18km±2km, ml1.3,Error ellipse: s-maj=2.9km s-min=1.8km az=175.0*
*NNC **04** 20:02:04.4±0.5,42°.59N×75°.18E,h0km, mb2.5,mpv2.6, Error ellipse: s-maj=4.6km s-min=1.9km az=170.0*
*SOME **04** 20:02:04.7,42°.58N×75°.18E,h15km*
ISC 04 20:02:03.6±1.0,42°.53N±0°.03×75°.20E±0°.02,h17km±7km, n32,σ0°72/60,14C-9D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBK	**Karagaybulak**	**0.22**	**304**	⇑P	**Pg**	**20 02 08.9**	**-0.1**
KBK	49nm,0.1s,SNR=118			⇓S	**Sg**	**20 02 12.4**	**-0.1**
TKM2	**Tokmak 2**	**0.49**	**37**	⇑P	**Pg**	**20 02 12.9**	**-0.6**
TKM2	5.4nm,0.2s,SNR=45			⇑S	**Sg**	**20 02 19.9**	**-0.2**
TKM2	32nm,0.1s **Tokmak 2**	**0.49**	**37**	⇑P	**Pg**	**20 02 13.1**	**-0.4**
TKM2	0.4nm,0.1s			⇑S	**Sg**	**20 02 19.8**	**-0.3**
AAK	5.0nm,0.2s **Ala-Archa**	**0.53**	**282**	⇑P	**Pg**	**20 02 13.9**	**-0.3**
AAK	4.1nm,0.1s,SNR=5.1			⇑S	**Sg**	**20 02 21.5**	**+0.1**
AAK	28nm,0.2s **Ala-Archa**	**0.53**	**282**	⇑P	**Pg**	**20 02 14.1**	**-0.2**
AAK	0.5nm,0.4s			⇓S	**Sg**	**20 02 21.3**	**-0.1**
CHMS	2.4nm,0.4s **Chumysh**	**0.57**	**325**	⇓P	**Pg**	**20 02 14.9**	**-0.1**
CHMS	13nm,0.2s,SNR=33			⇑S	**Sg**	**20 02 22.8**	**+0.2**
CHMS	43nm,0.1s **Chumysh**	**0.57**	**325**	⇑P	**Pg**	**20 02 14.9**	**-0.1**
CHMS	3.6nm,0.3s			⇓S	**Sg**	**20 02 22.6**	**0.0**
UCH	6.5nm,0.2s **Uchtor**	**0.59**	**239**	⇓P	**Pg**	**20 02 15.1**	**-0.4**
UCH	1.2nm,0.1s,SNR=6.7			⇓S	**Sg**	**20 02 23.0**	**-0.4**
KST	4.2nm,0.2s **Kastek**	**0.76**	**48**	P	**Pb**	**20 02 18.7**	**+0.1**
KST	1.3nm,0.1s			S	**Sb**	**20 02 28.8**	**+0.1**
KST	6.4nm,0.2s **Kastek**	**0.76**	**48**	*e*P	**Pb**	**20 02 18.7**	**+0.1**
KST	1.3nm,0.1s			*e*S	**Sg**	**20 02 28.6**	**0.0**
ULHL	6.4nm,0.2s **Ulahol**	**0.83**	**110**	⇑P	**Pg**	**20 02 18.9**	**-0.9**
ULHL	1.0nm,0.1s,SNR=9.0			⇓S	**Sg**	**20 02 29.8**	**-0.9**
USP	5.1nm,0.1s **Ospenovka**	**0.90**	**325**	⇑P	**Pb**	**20 02 20.6**	**-0.1**
USP	7.7nm,0.2s,SNR=6.0			⇑S	**Sg**	**20 02 32.9**	**0.0**
SGDS	5.4nm,0.1s **Sogindy**	**1.01**	**336**	P	**Pb**	**20 02 22.8**	**0.0**
SGDS	0.9nm,0.1s			S	**Sb**	**20 02 35.5**	**-0.2**
EKS2	3.2nm,0.1s **Erkin-Say**	**1.06**	**277**	⇑P	**Pn**	**20 02 23.9**	**+0.1**
EKS2	0.6nm,0.1s			⇓S	**Sn**	**20 02 38.4**	**+0.2**
MTBS	2.7nm,0.1s **Maitube**	**1.09**	**56**	P	**Pg**	**20 02 24.7**	**0.0**
MTBS	2.5nm,0.2s			S	**Sg**	**20 02 38.9**	**0.0**
MTBS	12nm,0.1s **Maitube**	**1.09**	**56**	*e*P	**Pg**	**20 02 24.7**	**0.0**
MTBS	2.5nm,0.2s			*e*S	**Sg**	**20 02 38.9**	**0.0**
KRBS	12nm,0.1s **Karabastau**	**1.22**	**17**	P	**Pg**	**20 02 26.9**	**-0.2**
KRBS	1.0nm,0.1s			S	**Sn**	**20 02 42.6**	**+0.5**
TNSS	3.7nm,0.1s **Tian-Shan**	**1.38**	**68**	P	**Pg**	**20 02 30.4**	**0.0**
TNSS	0.4nm,0.1s			S	**Sg**	**20 02 48.7**	**+0.3**
TNSS	0.9nm,0.2s **Tian-Shan**	**1.38**	**68**	*e*P	**Pg**	**20 02 30.4**	**0.0**
TNSS	0.4nm,0.1s			*e*S	**Sg**	**20 02 48.7**	**+0.3**
MRKS	0.9nm,0.2s **Merke**	**1.47**	**279**	P	**Pg**	**20 02 31.6**	**-0.3**
MRKS	1.5nm,0.1s			S	**Sg**	**20 02 50.8**	**-0.3**
MRKS	21nm,0.3s **Merke**	**1.47**	**279**	*e*P	**Pg**	**20 02 31.6**	**-0.3**
MRKS	1.5nm,0.1s			*e*S	**Sg**	**20 02 50.8**	**-0.3**
KOTS	21nm,0.3s **Kotyrbulak**	**1.57**	**63**	*e*P	**Pg**	**20 02 34.5**	**+0.6**
KOTS	0.9nm,0.1s			*e*S	**Sg**	**20 02 55.5**	**+1.1**
KUU	4.1nm,0.4s **Kurty**	**1.60**	**31**	P	**Pb**	**20 02 32.5**	**-0.2**
KUU	2.3nm,0.0s			S	**Sb**	**20 02 52.2**	**-0.4**
KUU	16nm,0.2s **Kurty**	**1.60**	**31**	*e*P	**Pb**	**20 02 32.5**	**-0.2**
KUU	2.3nm,0.0s			*e*S	**Sb**	**20 02 52.2**	**-0.4**
KTBS	16nm,0.2s **Karatobe**	**1.60**	**42**	P	**Pg**	**20 02 34.0**	**-0.4**
KTBS	0.9nm,0.1s			S	**Sg**	**20 02 54.9**	**-0.5**
CHKK	7.3nm,0.3s **Chushkaly**	**1.86**	**44**	P	**Pg**	**20 02 38.5**	**-0.8**
CHKK	16nm,0.2s			S	**Sg**	**20 03 02.5**	**-1.0**
CHKK	12nm,0.2s **Chushkaly**	**1.86**	**44**	*e*P	**Pg**	**20 02 38.5**	**-0.8**
CHKK	16nm,0.2s			*e*S	**Sg**	**20 03 02.5**	**-1.0**
ARXS	12nm,0.2s **Arharly**	**2.55**	**48**	Pg	**Pg**	**20 02 51.0**	**-1.5**
ARXS	0.7nm,0.1s			Lg	Lg	20 03 23.9	
BTLS	5.3nm,0.3s **Baital**	**2.64**	**342**	Pg	**Pb**	**20 02 52.4**	**+1.9**
BTLS	0.5nm,0.1s			Lg	Lg	20 03 26.3	
BTLS	2.5nm,0.4s **Baital**	**2.64**	**342**	*e*P	**Pb**	**20 02 52.4**	**+1.9**
BTLS	0.5nm,0.1s			*e*S	**Sg**	**20 03 26.3**	**-2.3**
BLB	2.5nm,0.4s **Baldybastay**	**2.86**	**56**	Pg	**Pb**	**20 02 56.2**	**+1.9**
BLB	2.7nm,0.3s			Lg	Lg	20 03 32.8	
KK31	7.8nm,0.6s **Karatay Array**	**3.49**	**281**	⇓Pg	**Pg**	**20 03 09.6**	**-1.0**
KK31	0.3nm,0.5s,baz=96,slow=16,SNR=4.4 0.5nm,0.3s,baz=88,slow=31,SNR=5.8			Lg	Lg	20 03 52.0	

IDC 04 20:04:07.5±1.9,0°.44N×125°.93E,h0km,mb3.7/3, mbtmp3.7/3,Error ellipse: s-maj=171.7km s-min=24.3km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.87**	**158**	P	P	20 09 00.9	-1.2
ASAR	2.0nm,0.5s,baz=336,slow=11,SNR=13 **Alice Springs**	**25.18**	**163**	P	P	20 09 35.8	+0.8
MKAR	2.0nm,0.5s 1.4nm,0.7s,baz=343,slow=10,SNR=18 **Makanchi Array**	**59.82**	**327**	P	P	20 14 14.7	-0.1
	1.4nm,0.7s 0.2nm,0.3s,baz=126,slow=7.0,SNR=8.8 0.2nm,0.3s						

*NEIC **04** 20:05:08.1±2.2,43°.74N±0°.07×105°.34W±0°.04,h0km±1km, ML3.7/65,Error ellipse: s-maj=12.4km s-min=5.4km az=1.0*
*IDC **04** 20:05:10.4±1.5,44°.17N×105°.84W,h0km,mb4.0/2, mbtmp3.9/4,ML3.6/2,Error ellipse: s-maj=56.1km s-min=9.0km az=146.0*
ISC 04 20:05:08.6±0.9,43°.78N±0°.07×105°.34W±0°.06,h0km,n24, σ1s22/15,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.00**	**70**	Pg	**Pb**	**20 05 28.6**	**-0.4**
K22A	**Casper**	**1.42**	**218**	Pg	**Pg**	**20 05 34.8**	**-1.0**
K22A	875nm,0.3s			IAML		20 05 56.4	
K22A	1μm,0.3s			IAML		20 05 59.9	
RLMT	**Red Lodge**	**3.12**	**297**		**Pn**	**20 06 01.4**	**+2.2**
PD31	**Pinedale Array**	**3.24**	**253**		**Pn**	**20 06 01.7**	**+0.7**
PDAR	**Pinedale Array**	**3.24**	**253**		**Pn**	**20 06 01.7**	**+0.7**
PDAR	**Pinedale Array**	**3.24**	**253**	Pn	**Pn**	**20 06 02.6**	**+1.6**
PDAR	7.0nm,0.3s,baz=69,slow=16,SNR=51 19nm,0.3s,baz=63,slow=30,SNR=6.6 9.9nm,0.3s			Lg	Lg	20 06 46.4	
BW06	**Boulder Array**	**3.25**	**253**		**Pn**	**20 06 01.7**	**+0.7**
YNE	**Yellowstone No**	**3.57**	**292**		**Pn**	**20 06 04.7**	**-0.7**
YNE	comp=N,85nm,0.7s			IAML		20 07 09.2	
YNE	comp=E,100nm,0.9s			IAML		20 07 16.6	
YMP	**Mirror Lake Pl**	**3.59**	**287**		**Pn**	**20 06 04.7**	**-1.1**
YMP	comp=N,126nm,0.7s			IAML		20 07 08.9	
YMP	comp=E,168nm,0.8s			IAML		20 07 10.4	
GCMT	**Greycliff**	**3.68**	**305**		**Pn**	**20 06 08.7**	**+1.8**
OGNE	**Ogallala**	**3.74**	**138**		**Pn**	**20 06 08.4**	**+0.7**
ISCO	**Idaho Springs**	**3.98**	**183**		**Pn**	**20 06 12.5**	**+1.3**
ISCO	comp=E,59nm,2.0s			IAML		20 07 18.2	
TPAW	**Teton Pass**	**4.08**	**268**	IAML		20 07 35.4	
TPAW	comp=E,79nm,0.9s			IAML		20 07 42.3	
O20A	comp=E,57nm,1.0s **White River Ci**	**4.24**	**212**	IAML		20 07 32.7	
E28A	comp=E,102nm,1.2s **Huff**	**4.31**	**48**	IAML		20 07 53.9	
E28A	comp=E,107nm,1.2s			IAML		20 07 58.3	
AHID	comp=E,80nm,1.1s **Auburn Hatcher**	**4.33**	**258**	IAML		20 07 36.2	
AHID	comp=E,95nm,1.2s			IAML		20 07 37.8	
YHL	comp=E,72nm,0.7s **Hebgen Lake**	**4.33**	**286**	IAML		20 07 37.9	
YHL	comp=N,68nm,1.1s			IAML		20 07 38.6	
BOZ	comp=E,75nm,1.3s **Bozeman (W)**	**4.84**	**294**	IAML		20 07 42.9	
HWUT	comp=E,36nm,1.7s **Hardware Ranch**	**5.08**	**247**	IAML		20 07 47.5	
HWUT	comp=E,64nm,1.1s			IAML		20 07 59.7	
BSUT	comp=E,67nm,1.2s **Blindstream Ca**	**5.17**	**233**	IAML		20 08 01.3	
BSUT	comp=N,28nm,1.7s			IAML		20 08 13.7	
ULM	comp=E,33nm,2.6s **Lac du Bonnet**	**9.14**	**42**	Pn	**Pn**	**20 07 21.0**	**-0.7**
I56US	comp=E,1.1nm,0.3s,baz=228,slow=11,SNR=9.4 comp=E,2.6nm,0.4s **NEWPORT INFRAS**	**9.35**	**303**	I	I	20 57 50.0	
ARCES	baz=116,slow=314,SNR=3.7 **ARCESS Array B**	**61.39**	**18**	P	**P**	**20 15 26.1**	**+0.2**
MKAR	comp=E,2.8nm,0.9s,baz=324,slow=6.0,SNR=6.1 comp=E,2.8nm,0.9s **Makanchi Array**	**89.56**	**355**	P	**P**	**20 18 08.1**	**+0.3**
	comp=E,0.5nm,0.8s,baz=11,slow=5.6,SNR=3.9 comp=E,0.5nm,0.8s						

*NEIC **04** 20:06:07.8±0.9,35°.70N±0°.01×117°.492W±0°.009, h11km±6km,Error ellipse: s-maj=1.7km s-min=0.8km az=204.0*
PAS 04 20:06:08.3±0.7,35°.698N±0°.009×117°.49W±0°.01, h9km±7km,ML3.4/19,ML3.0/88(NEIC),Error ellipse: s-maj=1.4km s-min=1.4km az=84.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCCA	**Chr Cany lake**	**0.20**	**150**		Pg	20 06 12.8	+0.4
CCCA					Sg	20 06 16.6	+1.4
LRMC	**Laurel Mtn Rad**	**0.27**	**216**		Pg	20 06 13.5	-0.2
LRMC					Sg	20 06 17.9	+0.5
WVPM	**Volcano Peak E**	**0.37**	**313**		Pg	20 06 15.3	-0.2
WVPM					Sg	20 06 21.0	+0.6
WNMM	**Nine Mile Cany**	**0.37**	**293**		Pg	20 06 15.3	-0.2
WNMM					Sg	20 06 20.8	+0.4
JRC2	**Joshua Ridge**	**0.39**	**318**		Pg	20 06 15.7	-0.2
WRVM	**Rose V. Centra**	**0.45**	**314**		Pg	20 06 16.8	-0.3
DTP	**Desert Tortois**	**0.52**	**214**		Pg	20 06 17.8	-0.6
QSM	**Queen of Sheba**	**0.57**	**62**		Pg	20 06 18.9	-0.4
QSM	comp=N,914nm,0.2s			IAML		20 06 27.2	
QSM	comp=E,1μm,0.2s			IAML		20 06 27.3	
GSC	**Goldstone, Bar**	**0.68**	**125**		Pg	20 06 20.9	-0.6
GSC	comp=N,1μm,0.4s			IAML		20 06 30.6	
GSC	comp=E,1μm,0.4s			IAML		20 06 30.6	
GSC	**Goldstone, Bar**	**0.68**	**125**		Sg	20 06 30.4	0.0
CCAC	**Calif City Air**	**0.69**	**219**		Pg	20 06 21.1	-0.5
CCAC	comp=E,1μm,0.3s			IAML		20 06 31.2	
CCAC	comp=N,1μm,0.3s			IAML		20 06 31.3	
CCAC	**Calif City Air**	**0.69**	**219**		Sg	20 06 30.8	+0.1
ISA	**Isabella, Lake**	**0.80**	**268**		Pg	20 06 23.0	-0.8
ISA	comp=E,900nm,0.2s			IAML		20 06 34.1	
ISA	comp=N,1μm,0.1s			IAML		20 06 34.6	
GWY	**Greenwater Val**	**0.82**	**54**		Pg	20 06 23.5	-0.7
GWY	comp=E,736nm,0.4s			IAML		20 06 37.6	
GWY	comp=N,784nm,0.4s			IAML		20 06 37.7	
CWC	**Cottonwood Cre**	**0.88**	**327**		Sb	20 06 37.8	-0.1
CGO	**Cerro Gordo**	**0.89**	**343**		Pg	20 06 24.6	-0.8
CGO					Sg	20 06 37.6	+0.6
EDW2	**Edwards Air Fo**	**0.91**	**207**		Pg	20 06 25.1	-0.8
SPG2	**Springville 2**	**1.15**	**296**		Pg	20 06 29.5	-0.9
AMDNV	**Amargosa**	**1.23**	**52**		Pn	20 06 31.2	-0.5
DSCC	**Desert Studies**	**1.26**	**116**		Pn	20 06 31.0	-1.1
WCT	**Wildcat Mounta**	**1.30**	**32**		Pn	20 06 32.1	-0.5
WCT	comp=N,267nm,0.5s			IAML		20 06 51.3	
WCT	comp=E,318nm,0.3s			IAML		20 06 52.3	
GRAC	**Grapevine Rang**	**1.30**	**4**		Pn	20 06 31.8	-0.9
TUQ	**Turquoise Moun**	**1.30**	**101**		Pn	20 06 31.9	-0.9
CHFC	**Chilao Flat St**	**1.43**	**198**		Pg	20 06 35.9	+0.2
BBRC	**Big Bear Solar**	**1.51**	**162**		Pb	20 06 36.8	+0.3
TPNV	**Topopah Spring**	**1.60**	**38**		Pn	20 06 35.6	-1.3
TPNV	comp=E,280nm,0.7s			IAML		20 07 01.6	
GMN	**Gold Mountain**	**1.61**	**6**		Pn	20 06 35.9	-1.2
GMN	comp=N,125nm,0.3s			IAML		20 07 01.0	
GMN	comp=E,118nm,0.5s			IAML		20 07 04.3	
PASC	**Pasadena Art C**	**1.63**	**201**		Pn	20 06 36.2	-1.0
PASC	comp=N,208nm,0.6s			IAML		20 07 03.6	
DSP	**Deep Springs**	**1.71**	**347**		Pn	20 06 37.5	-0.8
DSP	comp=N,108nm,0.6s			IAML		20 07 03.6	
DSP	comp=E,110nm,0.7s			IAML		20 07 04.0	
BCW	**Bitter Crk WRg**	**1.75**	**245**		Pn	20 06 37.4	-1.5
BCW	comp=E,119nm,0.8s			IAML		20 07 14.1	
BCW	comp=N,119nm,0.6s			IAML		20 07 16.1	
POCCA	**Poleta Canyon**	**1.78**	**339**		Pb	20 06 40.9	-0.3
CRGC	**Crocker Grade**	**1.88**	**257**		Pb	20 06 42.6	-0.3
MZP	**Montezuma Peak**	**2.00**	**2**		Pn	20 06 41.5	-1.0
ELS	**Elsinore Mount**	**2.05**	**179**		Pn	20 06 42.1	-0.9
ELS	comp=N,87nm,0.6s comp=E,167nm,0.6s			IAML		20 07 18.9 20 07 19.0	
SHPR	**Sheep Range**	**2.05**	**66**		Pn	20 06 42.1	-1.0
V12A	**Nelson**	**2.15**	**88**		Pn	20 06 43.3	-1.1
V12A	comp=E,96nm,0.5s			IAML		20 07 22.9	
V12A	comp=N,133nm,0.5s			IAML		20 07 23.1	
PFO	**Pinyon Flats O**	**2.25**	**158**		Pn	20 06 44.4	-1.4
TPH	**Tonopah**	**2.38**	**5**		Pn	20 06 47.2	-0.5
R11B	**Troy Canyon, C**	**3.05**	**29**	IAML		20 07 45.6	
BLYC	comp=E,32nm,0.6s **Blythe**	**3.12**	**128**	IAML		20 07 50.2	
BLYC	comp=N,62nm,0.7s			IAML		20 07 50.4	
CMB	comp=E,71nm,0.8s **Columbia Colle**	**3.29**	**316**	IAML		20 07 55.7	
CMB	comp=E,36nm,0.5s			IAML		20 07 59.5	
ESJX	comp=N,28nm,0.7s **Sierra Juarez**	**3.90**	**160**	IAML		20 09 17.2	
PSUT	comp=N,32nm,0.1s **Pine Spring**	**4.05**	**45**	IAML		20 08 21.1	
PSUT	comp=E,13nm,0.6s			IAML		20 08 26.8	
SPR3	comp=N,14nm,0.9s **Spring Creek 3**	**4.14**	**36**	IAML		20 08 19.4	
SPR3	comp=E,15nm,0.9s			IAML		20 08 23.6	
AFDM	comp=N,19nm,0.8s **Forest Hills D**	**4.27**	**320**	IAML		20 08 27.6	
AFDM	comp=N,12nm,0.6s			IAML		20 08 28.5	
BEKR	comp=E,17nm,0.8s **Beckworth**	**4.74**	**332**	IAML		20 08 49.5	
BEKR	comp=N,8.3nm,0.5s			IAML		20 08 51.4	
WUAZ	comp=E,16nm,0.7s **Wupatki**	**4.99**	**90**	IAML		20 08 46.6	
	comp=E,17nm,0.8s						

*TEH **04** 20:09:10.5,36°.17N×54°.08E,h9km±26km*
*THR **04** 20:09:10.9±0.0,36°.15N×54°.13E,h8km±3km,ML4.0*
ISC 04 20:09:11.1±1.0,36°.19N±0°.04×54°.11E±0°.04,h10km,n81, σ1s68/67,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKIA	**Kiasar**	**0.34**	**273**	Pg	**Pg**	**20 09 17.4**	**-0.7**
IGLO	**Ghaloghah**	**0.38**	**324**	Pg	**Pg**	**20 09 18.8**	**0.0**
IANJ	**Anjilo**	**0.74**	**192**	Pg	**Pb**	**20 09 24.9**	**-1.4**
IALA	**Alasht**	**1.05**	**264**	Pg	**Pg**	**20 09 30.5**	**-1.0**
IFIR	**Firoozkooh**	**1.23**	**244**	Pg	**Pb**	**20 09 33.1**	**-1.5**
ILAS	**Lasjerd**	**1.23**	**229**	Pg	**Pb**	**20 09 33.4**	**-1.3**
IPRN	**Peran**	**1.43**	**273**	Pg	**Pb**	**20 09 37.3**	**-0.7**
IMND	**Minoodasht**	**1.49**	**44**	Pg	**Pn**	**20 09 37.9**	**-0.1**
SHRO	**Shahrood**	**1.56**	**97**	*e*PgA		20 09 39.3	
SHRO	comp=Z,0.9nm,1.0s			IAML		20 09 41.3	
IDMV	**Damavand**	**1.79**	**251**	Pg	**Pb**	**20 09 43.3**	**-1.0**
DAMV	**Damavand**	**1.82**	**253**	*e*PnA		20 09 43.5	
DAMV	comp=Z,1.3nm,1.0s			IAML		20 10 37.3	
MZPU	**Pul - Mazandar**	**2.06**	**278**	Pn	**Pb**	**20 09 47.7**	**-1.1**
MRVT	**Maraveh tapeh**	**2.16**	**47**	Pn	**Pb**	**20 09 49.0**	**-1.5**
MRVT	**Maraveh tapeh**	**2.16**	**47**	*e*PnA		20 09 48.9	
MRVT	comp=Z,1.0nm,1.0s			IAML		20 10 25.3	
IVRN	**Varamin**	**2.28**	**239**	Pn	**Pn**	**20 09 49.5**	**+0.6**
ISFB	**Sefidab**	**2.39**	**220**	Pn	**Pn**	**20 09 50.9**	**+0.5**
IHSB	**Hasanabad**	**2.42**	**253**	Pn	**Pb**	**20 09 52.5**	**-2.4**
CHTH	**Charan**	**2.43**	**264**	*e*PnA		20 09 54.2	
CHTH	comp=Z,0.6nm,1.0s			IAML		20 11 08.8	
KLST	**Kelardasht - M**	**2.48**	**278**	Pn	**Pb**	**20 09 53.7**	**-2.3**
THKV	**Tehran--Karaj**	**2.63**	**265**	*e*PnA		20 09 57.5	
THKV	comp=Z,2.1nm,1.0s			IAML		20 10 42.1	
KRSH	**Karshahi**	**2.74**	**217**	Pn	**Pn**	**20 09 56.0**	**+0.6**
TAPT	**Tabas- Tapeh t**	**2.81**	**117**	Pn	**Pn**	**20 09 57.5**	**+1.2**
IQOM	**Qom**	**2.82**	**242**	Pn	**Pn**	**20 09 57.5**	**+1.0**
SBZV	**Sabzevar**	**2.84**	**85**	Pn	**Pn**	**20 09 58.3**	**+1.6**
SBZV	**Sabzevar**	**2.84**	**85**	*e*PnA		20 09 58.4	
SBZV	comp=Z,0.4nm,1.0s			IAML		20 10 53.8	
GHVR	**GHOM**	**2.86**	**234**	*e*PnA		20 09 58.6	
GHVR	comp=Z,2.6nm,1.0s			IAML		20 11 07.0	
ANAR	**Anarak**	**3.01**	**186**	Pn	**Pn**	**20 09 59.9**	**+0.9**
TNSJ	**Nastanj**	**3.03**	**137**	Pn	**Pn**	**20 10 00.5**	**+1.3**
BJRD	**Bojnurd**	**3.04**	**59**	*e*PnA		20 10 02.1	
BJRD	comp=Z,0.2nm,1.0s			IAML		20 11 06.3	
IGZV	**Ghazvin**	**3.15**	**275**	Pn	**Pn**	**20 10 03.2**	**+2.2**
ISFR	**Sfrayin**	**3.25**	**73**	Pn	**Pn**	**20 10 04.8**	**+2.4**
QAMS	**Qamsar**	**3.31**	**223**	Pn	**Pn**	**20 10 03.6**	**+0.3**
GIDE	**GILAN DEYLAMAN**	**3.46**	**283**	*e*PnA		20 10 06.7	
GIDE	comp=Z,1.6nm,1.0s			IAML		20 11 08.2	
JIR1	**Jirandeh**	**3.51**	**280**	Pn	**Pn**	**20 10 07.5**	**+1.6**
IKLH	**Kolahrood**	**3.54**	**217**	Pn	**Pn**	**20 10 07.4**	**+1.0**
TABS	**Tabas**	**3.54**	**135**	*e*PnA		20 10 08.2	
TABS	comp=Z,0.6nm,1.0s			IAML		20 11 14.4	
IZEF	**Zefreh**	**3.60**	**205**	Pn	**Pn**	**20 10 07.5**	**+0.2**
ASAO	**Ashtian**	**3.72**	**245**	*e*PnA		20 10 10.0	
ASAO	comp=Z,0.5nm,1.0s			IAML		20 11 13.7	
IAKL	**Akhelmad**	**3.77**	**82**	Pn	**Pn**	**20 10 11.4**	**+1.7**
TPRV	**Parvadeh(Tabas**	**3.81**	**145**	Pn	**Pn**	**20 10 11.5**	**+1.6**
YZKH	**Yazd**	**3.81**	**174**	*e*PnA		20 10 11.4	
YZKH	comp=Z,0.3nm,1.0s			IAML		20 11 37.8	
IEMG	**Emamgholi**	**3.85**	**70**	Pn	**Pn**	**20 10 12.6**	**+1.9**
ICHK	**Chekchek**	**3.95**	**176**	Pn	**Pn**	**20 10 13.2**	**+1.2**
IPAY	**Payeh**	**3.96**	**85**	Pn	**Pn**	**20 10 13.7**	**+1.6**
IGAR	**Gharneh**	**4.15**	**205**	Pn	**Pn**	**20 10 16.1**	**+1.3**
KHMZ	**Khomeyn**	**4.19**	**235**	*e*Pn	**Pn**	**20 10 18.2**	**+2.8**
KHMZ	comp=Z,0.3nm,1.0s			IAML		20 11 32.6	
CSN1	**Caspian**	**4.24**	**290**	Pn	**Pn**	**20 10 17.4**	**+1.6**
HAGD	**Aghdareh**	**4.28**	**253**	Pn	**Pn**	**20 10 17.6**	**+1.1**
ISAD	**Sadrabad**	**4.28**	**185**	Pn	**Pn**	**20 10 18.0**	**+1.4**
IPIR	**Pirpir**	**4.39**	**218**	Pn	**Pn**	**20 10 20.4**	**+2.2**
IKRD	**Kardeh**	**4.40**	**81**	Pn	**Pn**	**20 10 20.2**	**+2.0**
ZNJK	**Zanjan**	**4.40**	**278**	*e*Pn	**Pn**	**20 10 21.5**	**+3.3**
ZNJK	comp=Z,0.1nm,1.0s			IAML		20 11 01.4	
IRAM	**Ramesheh**	**4.60**	**199**	Pn	**Pn**	**20 10 22.4**	**+1.4**
GAS1	**Astara - Iran**	**4.74**	**299**	Pn	**Pn**	**20 10 23.3**	**+0.8**
IMEH	**Mehriz**	**4.81**	**175**	Pn	**Pn**	**20 10 25.3**	**+1.5**
IMYA	**Miami**	**4.85**	**86**	Pn	**Pn**	**20 10 26.1**	**+1.7**
JHBN	**Jahan bin**	**4.87**	**217**	Pn	**Pn**	**20 10 26.3**	**+1.5**
IBRJ	**Brojen**	**4.88**	**210**	Pn	**Pn**	**20 10 26.5**	**+1.6**
AFRZ	**Afriz**	**4.89**	**123**	Pn	**Pn**	**20 10 26.7**	**+1.8**
ITEG	**Tejag**	**5.05**	**129**	Pn	**Pn**	**20 10 29.5**	**+2.4**
JRKH	**Jarkhoshk**	**5.07**	**91**	Pn	**Pn**	**20 10 28.8**	**+1.6**
TBJM	**Torbat-e-JAM**	**5.15**	**98**	Pn	**Pn**	**20 10 30.3**	**+1.9**
SNQR	**Sonqor, Kerman**	**5.45**	**258**	Pn	**Pn**	**20 10 34.6**	**+2.0**
IKOO	**Kooshah**	**5.53**	**131**	Pn	**Pn**	**20 10 35.4**	**+1.7**
GTMR	**Gotvand**	**5.55**	**229**	*e*Pn	**Pn**	**20 10 36.4**	**+2.5**
GTMR	comp=Z,0.1nm,1.0s			IAML		20 12 31.1	
KLNJ	**Kolanjah**	**5.58**	**203**	Pn	**Pn**	**20 10 35.9**	**+1.3**
KLNJ	**Kolanjah**	**5.58**	**203**	*e*Pn	**Pn**	**20 10 36.9**	**+2.4**
KLNJ	comp=Z,0.1nm,1.0s			IAML		20 12 24.4	
GRMI	**Germi**	**5.59**	**300**	Pn	**Pn**	**20 10 35.4**	**+1.0**
GRMI	**Germi**	**5.59**	**300**	*e*PnA		20 10 35.3	
GRMI	comp=Z,0.1nm,1.0s			IAML		20 11 42.7	
SNGE	**Sanandaj**	**5.61**	**261**	*e*Pn	**Pn**	**20 10 38.0**	**+3.1**
SNGE	comp=Z,29nm,1.0s			IAML		20 12 45.0	
SHRT	**Shahrakht**	**5.68**	**115**	Pn	**Pn**	**20 10 36.8**	**+1.2**
SHRT	**Shahrakht**	**5.68**	**115**	*e*PnA		20 10 37.1	
SHRT	comp=Z,34nm,1.0s			IAML		20 12 29.2	
IKFM	**Kafar-mosalman**	**5.79**	**244**	Pn	**Pn**	**20 10 39.2**	**+2.0**
BSRN	**Basiran**	**5.93**	**134**	Pn	**Pn**	**20 10 40.8**	**+1.7**
BSRN	**Basiran**	**5.93**	**134**	*e*Pn	**Pn**	**20 10 40.9**	**+1.7**
BSRN		

comp=Z,0.1nm,1.0s
IHRS Heris 6.02 293 Pn Pn 20 10 42.3 +1.8
KHGB Koh Gabri 6.13 160 Pn Pn 20 10 44.1 +2.0
IAZR Azarshahr 6.67 285 Pn Pn 20 10 51.2 +1.7
NGRK Negar Kerman 6.89 161 Pn Pn 20 10 53.9 +1.3
CHMN Cheshme madani 6.94 154 Pn Pn 20 10 53.9 +0.6
ISHB Shabestar 7.09 290 Pn Pn 20 10 56.8 +1.7

*AEIC **04** 20:09:27.1±1.1,54.°05N±0.°10×164.°7W±0.°1,h57km±8km, Error ellipse: s-maj=16.3km s-min=4.6km az=150.0*

NEIC 04 20:09:27.2±0.9,53.°9N±0.°1×164.°62W±0.°10,h32km±10km, ML2.8/14,ML2.7(AEIC),Error ellipse: s-maj=16.3km s-min=4.5km az=152.0,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	West Dahl East	0.57	2		Pb	20 09 38.4	-0.5
WECS	Westdahl Cape	0.64	352		Pb	20 09 39.5	-0.4
WEBT	Westdahl Beart	0.69	354		Pn	20 09 40.2	-0.5
WEBT					Sn	20 09 50.9	+0.5
AKUT	Akutan	0.72	290		Pn	20 09 40.8	-0.2
AKUT					Sn	20 09 50.9	+0.1
AKUT	Akutan	0.72	290	IAML		20 09 51.8	
	comp=N,584nm,0.4s						
AHB	Akutan Harbor	0.73	287		Pn	20 09 41.2	-0.1
AHB					Sn	20 09 51.6	+0.2
ZRO	Akutan Zero	0.82	284		Pn	20 09 42.3	-0.1
ZRO					Sn	20 09 53.6	+0.1
AKGG	Akutan Green G	0.86	291		Pn	20 09 43.0	+0.1
LVA	Lava Point	0.87	288		Pn	20 09 43.1	0.0
LVA				IAML		20 09 58.7	
	comp=N,370nm,0.6s						
LVA				IAML		20 09 59.3	
	comp=E,251nm,0.5s						
SSBA	Shishaldin	0.92	18		Pn	20 09 42.9	-1.0
ISLZ	Isanotski Laza	0.98	33		Pn	20 09 43.5	-1.2
ISNN	Isanotski Nort	1.06	28		Pn	20 09 45.3	-0.3
UNV	Unalaska Valle	1.11	268		Pn	20 09 46.3	-0.1
MTBL	Makushin Table	1.22	274		Pn	20 09 46.8	-1.1
HAG	Hague Volcano	2.12	47		Pn	20 10 00.7	+0.3
PS1A	Pavlof South-1	2.26	47		Pn	20 10 02.4	+0.2
S12K	Black Hills	2.34	38	Pn	Pn	20 10 03.1	-0.2
S12K				IAML		20 10 35.5	
	comp=N,42nm,0.2s						
S12K				IAML		20 10 38.9	
	comp=E,51nm,0.2s						
SDPT	Sand Point	2.81	57	Pn	Pn	20 10 10.6	+0.8
SDPT				IAML		20 10 53.8	
	comp=N,46nm,0.7s						
SDPT				IAML		20 11 01.6	
	comp=E,34nm,1.2s						
CNBA	Chernabura Isl	3.09	71	Pn	Pn	20 10 13.5	-0.1
CNBA				IAML		20 10 57.7	
	comp=N,14nm,2.3s						
CHGN	Chignik	4.30	54	Pn	Pn	20 10 31.0	+0.8
O15K	Ungalikthiuk R	5.92	25	Pn	Pn	20 10 52.7	+0.3
N15K	Kwethluk River	6.75	20	Pn	Pn	20 11 04.8	+0.9
KDAK	Kodiak Island	7.81	55	Pn	Pn	20 11 19.1	+0.8

*NEIC **04** 20:14:49.8±1.0,35.°695N±0.°008×117.°491W±0.°008, h6km±2km, Error ellipse: s-maj=1.4km s-min=0.6km az=143.0*

*IDC **04** 20:14:50.0±0.7,35.°69N×117.°46W,h0km,mb3.3/3, mbtmp3.3/8,ML3.8/5, Error ellipse: s-maj=16.3km s-min=5.6km az=74.0*

*PAS **04** 20:14:50.3±0.8,35.°699N±0.°005×117.°51W±0.°01, h6km±2km,ML4.2/336,ML3.9/94(NEIC), Error ellipse: s-maj=1.3km s-min=0.6km az=117.0*

ISC 04 20:14:50.8±0.8,35.°67N±0.°02×117.°51W±0.°02,h13km±6km, n101,σ1809/115,mb3.1/3,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	China Lake	0.16	335		Pg	20 14 55.4	+0.7
SRTC	Snort	0.19	277		Pg	20 14 54.5	-0.6
SRTC					Sg	20 14 58.4	+0.2
TOW	Tower One	0.25	305		Pg	20 14 55.4	-0.7
TOW					Sg	20 14 59.6	-0.1
WNMM	Nine Mile Cany	0.36	299		Pg	20 14 57.2	-0.9
WNMM					Sg	20 15 02.4	-0.6
WVPM	Volcano Peak E	0.37	319		Pg	20 14 57.2	-1.2
WVPM					Sg	20 15 02.4	-1.1
MPMC	Manual Prospec	0.39	3		Pn	20 15 02.0	-0.4
JRC2	Joshua Ridge	0.39	323		Pg	20 14 57.6	-1.1
JRC2					Sg	20 15 02.8	-1.3
WCSM	Coso Springs S	0.41	330		Pg	20 14 57.6	-1.4
WCSM					Sg	20 15 03.2	-1.4
WRVM	Rose V. Centra	0.46	318		Pg	20 14 58.7	-1.2
WRVM					Sg	20 15 04.7	-1.3
DTP	Desert Tortois	0.48	214		Pg	20 14 59.8	-0.6
DTP					Sg	20 15 06.5	-0.3
MFS	McCloud Flat S	0.53	328		Pg	20 14 59.9	-1.3
MFS					Sg	20 15 06.9	-1.4
WBSM	Bird Springs	0.53	256		Pg	20 15 00.4	-0.8
WBSM					Sg	20 15 07.7	-0.5
WORM	Onyx Ranch	0.59	273		Pg	20 15 01.1	-1.4
WORM					Sg	20 15 08.9	-1.4
QSM	Queen of Sheba	0.60	60		Pg	20 15 01.3	-1.3
QSM					Sg	20 15 09.2	-1.4
QSM	Queen of Sheba	0.60	60	IAML		20 15 09.8	
	comp=E,9μm,0.5s						
QSM				IAML		20 15 09.8	
	comp=N,9μm,0.6s						
CCAC	Calif City Air	0.66	219		Pg	20 15 03.1	-0.6
CCAC					Sg	20 15 12.6	+0.3
CCAC	Calif City Air	0.66	219	IAML		20 15 13.0	
	comp=N,9μm,0.4s						
CCAC				IAML		20 15 17.2	
	comp=E,9μm,0.4s						
WHFM	Hanning Flat	0.68	273		Pg	20 15 03.0	-1.0
WHFM					Sg	20 15 11.8	-1.2
GSC	Goldstone, Bar	0.68	122		Sg	20 15 13.0	-0.2
GSC	Goldstone, Bar	0.68	122		Pg	20 15 03.2	-0.9
GSC				IAML		20 15 13.3	
	comp=N,20μm,0.4s						
GSC				IAML		20 15 13.5	
	comp=E,14μm,0.3s						
ISA	Isabella, Lake	0.78	270		Pg	20 15 04.9	-1.1
ISA				IAML		20 15 07.5	
	comp=N,3μm,0.2s						
ISA				IAML		20 15 19.1	
	comp=E,3μm,0.5s						
HYS	Haystack Butte	0.80	183		Pg	20 15 05.6	-0.8
HYS					Sg	20 15 16.7	-0.2
WASM	Alta Sierra Ca	0.85	275		Pg	20 15 06.2	-1.1
GWY	Greenwater Val	0.86	53		Pg	20 15 05.8	-1.6
GWY	Greenwater Val	0.86	53	IAML		20 15 23.5	
	comp=N,6μm,0.5s						
EDW2	Edwards Air Fo	0.88	207		Sg	20 15 18.6	-0.7
CWC	Cottonwood Cre	0.90	329		Pg	20 15 06.8	-1.4
CWC					Sg	20 15 18.4	-1.5
RRX	Edison Barstow	0.90	152		Pg	20 15 07.6	-0.5
CGO	Cerro Gordo	0.91	345		Sg	20 15 19.4	-1.0
FURC	Furnace Creek,	0.96	33		Pg	20 15 07.9	-1.3
FURC					Sg	20 15 20.6	-1.1
TPO	Tropico Hills	0.98	217		Pg	20 15 09.0	-0.8
SBB	Saddle Back Bu	1.01	195		Sg	20 15 23.0	-0.5
SHOC	Shoshone, Teco	1.03	77		Pg	20 15 09.9	-0.9
SHOC					Sg	20 15 23.7	-0.5
TEJ	El Tejon	1.05	246		Sg	20 15 23.1	-1.8
VTV	Victorville	1.12	172		Pg	20 15 11.5	-0.8
VTV					Sn	20 15 28.0	+0.5
ADO	Adelanto Recei	1.12	177		Pg	20 15 11.6	-0.7
SPG2	Springville 2	1.15	298		Pg	20 15 11.1	-1.8
SPG2					Sg	20 15 25.8	-2.1
ALPC	Antelope	1.17	214		Pg	20 15 12.4	-1.0
ALPC					Sg	20 15 28.2	-0.4
MAGC	SCE Magundon P	1.19	255		Pg	20 15 12.2	-1.5
ARVC	Arvin	1.20	244		Pg	20 15 12.5	-1.4
LRRC	Littlerock Res	1.22	200		Pb	20 15 13.0	-0.7
LEOC	Leona Valley	1.22	212		Pg	20 15 13.1	-1.3
DSCC	Desert Studies	1.27	114		Pn	20 15 12.9	-1.4
DSCC					Sb	20 15 30.0	-0.8
AMDNV	Amargosa	1.27	52		Pn	20 15 12.6	-1.7
HEC	Hector,Ludlow	1.28	131		Sg	20 15 30.7	-1.3
VES	Vestal, Richgr	1.29	278		Pn	20 15 13.9	-0.7
TUQ	Turquoise Moun	1.32	100		Pn	20 15 13.7	-1.4
GRAC	Grapevine Rang	1.33	5		Pn	20 15 14.4	-0.8
GRAC				IAML		20 15 38.3	
	comp=N,3μm,0.9s						
WCT	Wildcat Mounta	1.33	32		Pn	20 15 14.1	-1.2
WCT	Wildcat Mounta	1.33	32	IAML		20 15 33.4	
	comp=E,2μm,0.4s						
WCT				IAML		20 15 33.6	
	comp=N,2μm,0.7s						
BAKC	Calstate	1.34	256		Pn	20 15 15.2	0.0
BBRC	Big Bear Solar	1.48	161		Pb	20 15 18.3	-0.1
TIN	Tinemaha, Big	1.50	338		Pn	20 15 17.8	+0.2
PASC	Pasadena Art C	1.59	200		Pn	20 15 18.5	-0.2
PASC				IAML		20 15 42.9	
	comp=N,1μm,0.4s						
PASC				IAML		20 15 45.7	
	comp=E,1μm,0.7s						
TPNV	Topopah Spring	1.64	38		Pn	20 15 18.6	-1.0
TPNV				IAML		20 15 46.3	
	comp=E,2μm,0.5s						
GMN	Gold Mountain	1.64	7		Pb	20 15 20.6	-0.5
GMN	Gold Mountain	1.64	7	IAML		20 15 44.7	
	comp=N,886nm,0.6s						
VOG	Valley Oaks Go	1.65	294		Pn	20 15 19.9	+0.4
BCW	Bitter Crk WRg	1.71	245		Pn	20 15 19.8	-0.7
BCW				IAML		20 15 48.1	
	comp=N,2μm,0.7s						
BCW				IAML		20 16 03.6	
	comp=E,2μm,1.1s						
DSP	Deep Springs	1.74	348		Pn	20 15 20.1	-0.6
CARC	Carrizo Plain	1.94	260		Pb	20 15 25.9	-0.2
ELS	Elsinore Mount	2.02	178		Pn	20 15 24.6	-0.1
MZP	Montezuma Peak	2.03	3		Pn	20 15 24.3	-0.8
SHPR	Sheep Range	2.08	66		Pn	20 15 24.8	-0.8
V12A	Nelson	2.17	88		Pn	20 15 25.7	-1.1
V12A				IAML		20 16 05.1	
	comp=E,659nm,0.5s						
V12A				IAML		20 16 05.9	
	comp=N,619nm,0.5s						
PFO	Pinyon Flats O	2.23	157		Pn	20 15 26.9	-0.7
PFO				IAML		20 16 06.0	
	comp=N,481nm,1.0s						
PFO	Pinyon Flats O	2.23	157	Pn	Pn	20 15 27.0	-0.6
	comp=N,14nm,0.3s,baz=335,slow=12,SNR=56						
PFO				Pg	Pb	20 15 31.4	+0.4
	comp=N,73nm,0.3s,baz=332,slow=15,SNR=94						
PFO				Lg	Lg	20 16 00.9	
	comp=N,177nm,0.3s,baz=89,slow=21,SNR=14						
	comp=N,101nm,0.5s						
S11A	Rachel	2.43	35	Pn	Pn	20 15 29.9	-0.5
PRN	Pahroc Range	2.63	48		Pn	20 15 32.6	-0.6
PRN				IAML		20 16 17.8	
	comp=N,726nm,0.5s						
PRN				IAML		20 16 21.4	
	comp=E,690nm,0.9s						
LHV	Little Huntoon	2.70	343		Pn	20 15 34.2	+0.3
LHV				IAML		20 16 28.3	
	comp=E,449nm,0.9s						
LHV				IAML		20 16 28.7	
	comp=N,356nm,0.7s						
PMPB	Monarch Peak	2.72	283		Pn	20 15 33.8	-0.5
NV11	Mina Array Sit	2.81	350		Pn	20 15 35.4	-0.2
NVAR	Mina Array Bea	2.83	347		Pn	20 15 35.0	-1.0
NVAR	Mina Array Bea	2.83	347	Pn	Pn	20 15 35.7	-0.3
	comp=N,8.6nm,0.3s,baz=181,slow=15,SNR=37						
NVAR				Pg	Pb	20 15 42.2	+0.9
	comp=N,72nm,0.3s,baz=170,slow=18,SNR=94						
NVAR				Lg	Lg	20 16 20.1	
	comp=N,29nm,0.3s,baz=33,slow=47,SNR=2.0						
	comp=N,6.6nm,0.3s						
BBGB	Big Mountain B	3.00	289		Pn	20 15 38.0	-0.2
W13A	Hualapai Mount	3.02	100		Pn	20 15 37.7	-0.9
W13A				IAML		20 16 30.9	
	comp=E,246nm,0.6s						
W13A				IAML		20 16 33.3	
	comp=N,286nm,0.7s						
RYN	Ryan	3.06	345		Pn	20 15 39.2	+0.1
R11B	Troy Canyon, C	3.09	29		Pn	20 15 38.9	-0.6
R11B				IAML		20 16 26.4	
	comp=E,202nm,0.9s						
BLYC	Blythe	3.12	127		Pn	20 15 38.0	-1.7
BLYC				IAML		20 16 31.9	
	comp=E,568nm,0.5s						
Q09A	Carvers	3.17	5		Pn	20 15 40.6	0.0
Q09A				IAML		20 16 37.6	
	comp=N,557nm,0.6s						
YUH	Yuha Desert	3.29	156		Pn	20 15 41.1	-0.9
CMB	Columbia Colle	3.30	317	IAML		20 16 38.7	
	comp=E,470nm,0.7s						
CMB				IAML		20 16 40.5	
	comp=N,290nm,0.5s						
SAO	San Andreas Ge	3.36	290		Pn	20 15 42.9	-0.2
CBX	Cerro Bola	3.42	168		Pn	20 15 44.3	+0.3
CBX				IAML		20 16 42.6	
	comp=N,407nm,0.5s						
GLA	Glamis	3.43	139		Pn	20 15 42.4	-1.7
ESJX	Sierra Juarez	3.88	160		Pn	20 15 50.5	+0.1
ESJX				IAML		20 16 55.2	
	comp=E,106nm,0.9s						
KNB	Kanab	4.02	69	IAML		20 17 02.7	
	comp=E,99nm,0.9s						
KNB				IAML		20 17 14.1	
	comp=N,98nm,0.9s						
SPR3	Spring Creek 3	4.18	36	IAML		20 17 01.0	
	comp=E,149nm,1.6s						
SPR3				IAML		20 17 03.0	
	comp=N,165nm,0.8s						
113A	Mohawk Valley,	4.24	132	IAML		20 17 09.8	
	comp=E,92nm,0.5s						
113A				IAML		20 17 12.7	
	comp=N,122nm,0.8s						
WUAZ	Wupatki	5.01	90		Pn	20 16 06.6	+0.8
WUAZ				IAML		20 17 33.2	
	comp=N,127nm,0.9s						
X16A	Lo Mia Camp, P	5.14	102	IAML		20 17 39.0	
	comp=E,83nm,1.0s						
X16A				IAML		20 17 44.8	
	comp=N,70nm,1.4s						
ELK	Elko	5.38	19	Pn	Pn	20 16 11.9	+1.0
	comp=N,1.3nm,0.3s,baz=220,slow=11,SNR=9.7						
ELK				Pg	Pb	20 16 28.4	+3.7
	comp=N,4.6nm,0.3s,baz=241,slow=11,SNR=17						
ELK				Lg	Lg	20 17 37.3	
	comp=N,11nm,0.3s,baz=288,slow=3.2,SNR=9.7						
	comp=N,2.1nm,0.3s						
X18A	Snowflake	6.30	98	Pn	Pn	20 16 23.6	-0.1
TUC	Tucon	6.52	119		Pn	20 16 25.9	-0.6
YBH	Yreka Blue Hor	7.29	328	Pn	Pn	20 16 39.9	+2.7
	baz=179,slow=13,SNR=1.9						
YBH				Lg	Lg	20 18 35.3	
	baz=146,slow=15,SNR=3.6						
ANMO	Albuquerque	9.07	91	Pg	Pn	20 17 35.5	+34
	comp=N,0.4nm,0.3s,baz=16,slow=14,SNR=8.3						
ANMO				Lg	Lg	20 19 31.8	
	comp=N,0.2nm,0.3s,baz=242,slow=13,SNR=6.9						
PDAR	Pinedale Array	9.40	39	Pn	Pn	20 17 09.1	+2.9
	comp=N,0.1nm,0.3s,baz=232,slow=5.6,SNR=2.0						
PDAR				Lg	Lg	20 19 44.0	
	comp=N,0.1nm,0.3s,baz=214,slow=33,SNR=8.3						
	comp=N,0.3nm,0.5s						
TXAR	Lajitas Array	13.28	115	Pn	Pn	20 18 01.2	+2.0
	comp=N,0.2nm,0.3s,baz=294,slow=13,SNR=12						
TXAR				Lg	Lg	20 21 45.4	
	comp=N,0.1nm,0.3s,baz=290,slow=29,SNR=3.7						
	comp=N,0.4nm,0.4s						
ULM	Lac du Bonnet	21.41	40	P	P	20 19 39.3	+1.0
	comp=N,2.2nm,0.8s,baz=216,slow=8.6,SNR=3.2						
	comp=N,2.2nm,0.8s						
YKA	Yellowknife Ar	26.91	3	P	P	20 20 31.3	-0.1
	comp=N,0.1nm,0.4s,baz=201,slow=7.9,SNR=2.4						
	comp=N,0.1nm,0.4s						
ILAR	Eielson Array	34.04	338	P	P	20 21 34.7	+0.3
	comp=N,0.2nm,0.8s,baz=153,slow=6.5,SNR=4.1						
	comp=N,0.2nm,0.8s						

*NEIC **04** 20:17:36.7±0.8,35.°703N±0.°005×117.°50W±0.°01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.9km az=207.0*

PAS 04 20:17:36.8±0.9,35.°700N±0.°004×117.°48W±0.°01, h1km±1km,ML3.1/25,ML2.8/30(NEIC),Error ellipse: s-maj=1.5km s-min=0.4km az=109.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	Chr Cany lake	0.20	151		Pg	20 17 41.5	+0.8
LRMC	Laurel Mtn Rad	0.27	216		Pg	20 17 42.3	+0.3
LRMC					Sg	20 17 46.5	+0.9
WVPM	Volcano Peak E	0.37	313		Pg	20 17 44.3	+0.4
WNMM	Nine Mile Cany	0.37	293		Pg	20 17 44.4	+0.4
WRVM	Rose V. Centra	0.45	313		Pg	20 17 45.8	+0.3
MFS	McCloud Flat S	0.51	324		Pg	20 17 46.9	+0.2
MFS					Sg	20 17 54.3	+0.9
DTP	Desert Tortois	0.52	214		Pg	20 17 46.8	0.0
DTP					Sg	20 17 54.1	+0.5
WBSM	Bird Springs	0.56	253		Pg	20 17 47.6	+0.1
QSM	Queen of Sheba	0.57	62		Pg	20 17 47.9	+0.2
QSM	Queen of Sheba	0.57	62	IAML		20 17 56.0	
	comp=E,830nm,0.5s						
QSM				IAML		20 17 56.1	
	comp=N,831nm,0.5s						
WORM	Onyx Ranch	0.62	270		Pg	20 17 48.6	0.0
GSC	Goldstone, Bar	0.68	125	IAML		20 18 02.4	
	comp=E,686nm,0.3s						
CCAC	Calif City Air	0.70	219		Pg	20 17 50.1	-0.1
ISA	Isabella, Lake	0.81	268		Pg	20 17 52.1	-0.2
ISA				IAML		20 18 03.9	
	comp=N,460nm,0.3s						
GWY	Greenwater Val	0.82	53		Pg	20 17 52.5	0.0
GWY	Greenwater Val	0.82	53	IAML		20 18 06.9	
	comp=N,505nm,0.6s						
WASM	Alta Sierra Ca	0.87	273		Sg	20 18 06.0	+1.1
CGO	Cerro Gordo	0.89	343		Sb	20 18 06.9	-0.8
RRX	Edison Barstow	0.91	154		Pb	20 17 55.6	+0.1
ADO	Adelanto Recei	1.15	178		Pb	20 17 59.5	0.0
SPG2	Springville 2	1.15	296		Pg	20 17 58.3	-0.6
AMDNV	Amargosa	1.23	52		Pb	20 18 00.7	-0.2
DSCC	Desert Studies	1.26	116		Pg	20 18 00.2	-0.7
LEOC	Leona Valley	1.26	212		Pg	20 18 01.2	+0.2
CJV	Casa Juvan	1.29	205		Pg	20 18 01.4	0.0
WCT	Wildcat Mounta	1.29	32		Pg	20 18 01.2	-0.4
WCT	Wildcat Mounta	1.29	32	IAML		20 18 20.4	
	comp=N,162nm,0.5s						
WCT				IAML		20 18 21.1	
	comp=E,119nm,0.4s						
GRAC	Grapevine Rang	1.30	4	Pg	Pg	20 18 01.4	-0.3
GRAC				IAML		20 18 23.4	
	comp=N,227nm,1.0s						
GRAC				IAML		20 18 23.8	
	comp=E,276nm,0.6s						
TUQ	Turquoise Moun	1.30	101		Pg	20 18 01.2	-0.5
VES	Vestal, Richgr	1.31	277		Pg	20 18 01.5	-0.5
TPNV	Topopah Spring	1.60	38		Pn	20 18 05.9	-0.5
TPNV				IAML		20 18 32.2	
	comp=E,195nm,0.6s						
TPNV				IAML		20 18 32.5	
	comp=E,176nm,0.4s						
GMN	Gold Mountain	1.61	6		Pn	20 18 06.0	-0.6
PASC	Pasadena Art C	1.63	201		Pn	20 18 06.0	-0.6
PASC				IAML		20 18 33.9	
	comp=N,70nm,0.5s						
MTUM	Tungsten Hills	1.87	333		Pg	20 18 12.4	-0.2
MZP	Montezuma Peak	2.00	2	Pn	Pn	20 18 11.1	-0.9
ELS	Elsinore Mount	2.05	179	Pn	Pn	20 18 11.4	-1.0
ELS				IAML		20 18 42.9	
	comp=E,51nm,0.6s						
PFO	Pinyon Flats O	2.25	158	Pn	Pn	20 18 14.3	-1.0
PFO				IAML		20 18 51.3	
	comp=E,39nm,0.8s						
PFO				IAML		20 18 51.4	
	comp=E,43nm,0.9s						

*NEIC **04** 20:23:09.3±0.7,35.°639N±0.°009×117.°60W±0.°01, h12km±4km, Error ellipse: s-maj=1.6km s-min=1.3km az=70.0*

PAS 04 20:23:10.0±0.6,35.°640N±0.°008×117.°60W±0.°01, h10km±3km,ML3.4/18,ML3.1/66(NEIC),Error ellipse: s-maj=1.5km s-min=1.2km az=78.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	Laurel Mtn Rad	0.17	203		Pg	20 23 13.7	-0.1
LRMC					Sg	20 23 16.6	+0.1
TOW	Tower One	0.21	322		Sg	20 23 19.0	+1.4
CCCA	Chr Cany lake	0.22	121		Pg	20 23 15.0	+0.4
WNMM	Nine Mile Cany	0.32	309		Sg	20 23 21.0	+0.3
WVPM	Volcano Peak E	0.36	330		Pg	20 23 16.8	-0.3
WVPM					Sg	20 23 22.2	+0.3
JRC2	Joshua Ridge	0.38	334		Pg	20 23 17.3	-0.3
JRC2					Sg	20 23 22.8	+0.1
DTP	Desert Tortois	0.42	208		Pg	20 23 18.1	-0.2
DTP					Sg	20 23 23.9	0.0
WRVM	Rose V. Centra	0.44	327		Pg	20 23 18.2	-0.4
WBSM	Bird Springs	0.45	257		Sg	20 23 25.0	+0.1
MFS	McCloud Flat S	0.52	337		Pg	20 23 19.8	-0.4
WORM	Onyx Ranch	0.53	276		Pg	20 23 18.9	-1.3
CCAC	Calif City Air	0.59	215		Pg	20 23 20.8	-0.7
QSM	Queen of Sheba	0.68	61		Pg	20 23 22.5	-0.6
QSM	Queen of Sheba	0.68	61	IAML		20 23 32.0	
	comp=N,1μm,0.5s						
QSM				IAML		20 23 34.5	
	comp=E,1μm,0.6s						
ISA	Isabella, Lake	0.71	272		Pg	20 23 23.0	-0.8
ISA				IAML		20 23 33.1	
	comp=N,939nm,0.3s						
ISA				IAML		20 23 36.2	
	comp=E,816nm,0.3s						
ISA	Isabella, Lake	0.71	272		Sg	20 23 32.4	-0.7
GSC	Goldstone, Bar	0.73	117		Pg	20 23 23.5	-0.6
GSC	Goldstone, Bar	0.73	117		Sg	20 23 33.2	-0.5
RRX	Edison Barstow	0.91	147		Pg	20 23 26.9	-0.6
CGO	Cerro Gordo	0.92	350		Pg	20 23 27.0	-0.8
GWY	Greenwater Val	0.93	54		Pg	20 23 27.1	-0.9
GWY				IAML		20 23 42.5	
	comp=E,813nm,0.3s						
GWY				IAML		20 23 42.5	
	comp=N,809nm,0.3s						
SPG2	Springville 2	1.10	301		Pg	20 23 30.0	-1.1
SHOC	Shoshone, Teco	1.11	76		Pb	20 23 30.8	-0.5
DSCC	Desert Studies	1.32	112		Pn	20 23 33.7	-0.8
GRAC	Grapevine Rang	1.37	8		Pn	20 23 34.6	-0.6
TUQ	Turquoise Moun	1.38	98		Pn	20 23 33.7	-1.8
WCT	Wildcat Mounta	1.39	34	Pn	Pn	20 23 34.2	-1.4
WCT				IAML		20 23 55.6	
	comp=N,264nm,0.5s						
WCT				IAML		20 23 55.9	
	comp=E,385nm,0.6s						
SS2	San Sevaine	1.43	177		Pb	20 23 36.8	+0.1
PASC	Pasadena Art C	1.54	198		Pn	20 23 36.7	-0.9
PASC				IAML		20 24 03.4	
	comp=N,397nm,0.6s						
BCW	Bitter Crk WRg	1.64	245		Pn	20 23 38.5	-0.5
BCW				IAML		20 24 03.7	
	comp=N,250nm,0.5s						
BCW				IAML		20 24 07.9	
	comp=E,279nm,0.5s						
GMN	Gold Mountain	1.68	9		Pn	20 23 39.1	-0.6
GMN				IAML		20 24 04.9	
	comp=E,112nm,0.4s						
GMN				IAML		20 24 06.3	
	comp=N,138nm,0.5s						
TPNV	Topopah Spring	1.70	39		Pn	20 23 38.8	-

BLYC	**Blythe**	**3.16**	**126**		Pn	20 23 57.5	-2.3
BLYC				IAML		20 24 52.8	
	comp=E,73nm,0.6s						
CBX	**Cerro Bola**	**3.41**	**167**		Pn	20 24 02.9	-0.4
GLA	**Glamis**	**3.45**	**138**	Pn	Pn	20 24 01.7	-2.2
LCMT	**Little Creek M**	**3.77**	**67**	Pn	Pn	20 24 08.8	+0.5
ESJX	**Sierra Juarez**	**3.88**	**159**	Pn	Pn	20 24 09.3	-0.6
PSUT	**Pine Spring**	**4.16**	**45**	Pn	Pn	20 24 13.0	-0.7
PSUT				IAML		20 25 31.5	
	comp=N,17nm,0.6s						
PSUT				IAML		20 25 32.1	
	comp=E,19nm,0.8s						
AFDM	**Forest Hills D**	**4.26**	**322**	IAML		20 25 28.2	
	comp=E,34nm,0.8s						
AFDM				IAML		20 25 31.3	
	comp=N,31nm,0.7s						
WUAZ	**Wupatki**	**5.08**	**90**		Pn	20 24 26.1	-0.2
WUAZ				IAML		20 25 51.0	
	comp=N,14nm,1.1s						
WUAZ				IAML		20 26 13.3	
	comp=N,15nm,0.8s						

TEH ***04*** *20:34:07.5, 34˚.32N×45˚.71E, h10km±715km*
ISN ***04*** *20:34:07.8±1.2, 34˚.34N×45˚.67E, h14km±16km, ML2.5*
ISC 04 20:34:08.1±1.2**, 34˚.37N**±0˚.04×**45˚.72E**±0˚.06**, h13**km±12km**,
n6, σ1§06/9**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.18**	**323**	**Pg**	**Pg**	**20 34 11.3**	**-0.9**
KGS1				Sg	**Sg**	**20 34 16.4**	**+1.3**
GLG1	**Gilan-e-Gharb**	**0.30**	**147**	Pg	**Pg**	**20 34 13.3**	**-0.9**
IDHR	**Dehrash**	**0.65**	**59**	Pg	**Pg**	**20 34 20.4**	**-0.3**
IGHG	**Ghaleghazi**	**0.70**	**93**	Pg	**Pb**	**20 34 22.3**	**-0.1**
IBDR	**Badra**	**1.26**	**172**	*e*Pn	**Pg**	**20 34 32.0**	**-0.4**
	baz=350						
IBDR				*e*Sn	**Sg**	**20 34 50.0**	**+1.2**
IBDR				AML	AML	20 34 57.3	
	comp=N,4.6nm,1.1s						
IKRK	**Kirkuk**	**1.53**	**313**	*e*Pn	**Pg**	**20 34 37.0**	**-0.5**
IKRK				*e*Sn	**Sg**	**20 34 58.0**	**+0.6**
IKRK				AML	AML	20 35 10.2	
	comp=N,6.8nm,0.7s						

ISK ***04*** *20:37:19.4, 38˚.21N×26˚.62E, h8km, ML2.5/22*
AFAD ***04*** *20:37:19.9, 38˚.24N×26˚.62E, h5km±1km, ML2.5*
THE ***04*** *20:37:20.3, 38˚.N±1˚×2˚.7E±˚, h11km±2km, M2.4/6, MLh2.4/6*
ISC 04 20:37:19.9±0.8**, 38˚.22N**±0˚.02×**26˚.62E**±0˚.02**, h11**km±5km**,
n51, σ0§56/75**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEYE	**Izmir, Urla-Ze**	**0.10**	**283**	P	**Pg**	**20 37 22.5**	**-0.1**
ZEYE				S	**Sg**	**20 37 24.1**	**-0.4**
URLA	**Izmir**	**0.14**	**352**	Pg	**Pg**	**20 37 23.4**	**+0.1**
URLA				Sg	**Sg**	**20 37 26.3**	**+0.6**
URLA	**Izmir**	**0.14**	**352**	P	**Pg**	**20 37 23.4**	**+0.1**
URLA				S	**Sg**	**20 37 24.8**	**-0.9**
URLA				*i* IAML		20 37 27.0	
	comp=N,1μm,0.5s						
URLA				*i* IAML		20 37 27.0	
	comp=E,1μm,0.6s						
DGB	**zmir**	**0.26**	**129**	P	**Pg**	**20 37 25.5**	**+0.3**
DGB				S	**Sg**	**20 37 28.3**	**-0.6**
DGB				*i* IAML		20 37 30.0	
	comp=N,621nm,0.4s						
DGB				*i* IAML		20 37 30.0	
	comp=E,1μm,0.1s						
GMLD	**Gumuldur**	**0.27**	**121**	Pg	**Pg**	**20 37 25.1**	**-0.3**
GMLD				Sg	**Sg**	**20 37 29.2**	**+0.1**
CESE	**eme**	**0.28**	**294**	Pg	**Pg**	**20 37 24.7**	**-0.8**
CESE				Sg	**Sg**	**20 37 29.7**	**+0.4**
BLCB	**Balcova**	**0.37**	**63**	Pg	**Pg**	**20 37 27.2**	**-0.1**
BLCB				Sg	**Sg**	**20 37 32.5**	**+0.3**
BLCB	**Balcova**	**0.37**	**63**	P	**Pg**	**20 37 27.4**	**+0.1**
BLCB				S	**Sg**	**20 37 32.7**	**+0.5**
KARB	**zmir-Karabur**	**0.47**	**340**	P	**Pg**	**20 37 29.2**	**0.0**
CHOS	**Chios island**	**0.48**	**291**	Pg	**Pg**	**20 37 29.2**	**0.0**
CHOS	**Chios island**	**0.48**	**291**	P	**Pg**	**20 37 29.7**	**+0.5**
CHOS				S	**Sb**	**20 37 37.8**	**+0.4**
FOCM	**Foa**	**0.50**	**10**	Pg	**Pg**	**20 37 29.6**	**-0.1**
FOCM				Sg	**Sb**	**20 37 37.6**	**-0.4**
SMG	**Samos**	**0.54**	**161**	P	**Pg**	**20 37 30.5**	**+0.2**
SMG				S	**Sb**	**20 37 38.9**	**-0.1**
GCAM	**G?zelcaml?**	**0.71**	**137**	Pg	**Pg**	**20 37 33.4**	**-0.2**
GCAM				Sg	**Sb**	**20 37 43.8**	**-0.1**
GCAM	**G?zelcaml?**	**0.71**	**137**	P	**Pg**	**20 37 33.8**	**+0.2**
GCAM				*i* IAML		20 37 45.0	
	comp=N,206nm,0.4s						
GCAM				*i* IAML		20 37 47.0	
	comp=E,162nm,0.3s						
IZMD	**zmir-Dikili-**	**0.80**	**17**	P	**Pg**	**20 37 35.4**	**0.0**
ZEDA	**zmir-Bergama**	**0.83**	**25**	P	**Pb**	**20 37 36.6**	**+0.3**
ZEDA				S	**Sg**	**20 37 46.6**	**-0.1**
DKL	**Dikili**	**0.88**	**15**	Pg	**Pb**	**20 37 37.9**	**+0.7**
DDIM	**Aydin, Didim**	**0.90**	**147**	P	**Pb**	**20 37 37.7**	**+0.2**
DDIM				*i* IAML		20 37 52.0	
	comp=N,140nm,0.5s						
DDIM				*i* IAML		20 37 54.0	
	comp=E,162nm,0.5s						
AYDB	**Zeytinkoy-Aydi**	**1.04**	**105**	Pg	**Pg**	**20 37 39.7**	**-0.2**
IZMR	**zmir-demi**	**1.05**	**94**	P	**Pg**	**20 37 40.0**	**-0.1**
AYVA	**Ayvalik**	**1.09**	**3**	P	**Pg**	**20 37 40.5**	**-0.4**
AYVA				S	**Sb**	**20 37 55.2**	**+0.3**
GOMA	**Golmarmara-Man**	**1.13**	**64**	Pn	**Pn**	**20 37 41.8**	**+0.2**
AKHS	**Akhisar**	**1.15**	**54**	P	**Pg**	**20 37 41.4**	**-0.5**
AKHS				*i* IAML		20 37 59.0	
	comp=E,107nm,0.7s						
ODEM	**Odemis-Izmir**	**1.15**	**87**	Pn	**Pg**	**20 37 41.7**	**-0.2**
SIGR	**SIGRI**	**1.16**	**329**	Pn	**Pg**	**20 37 41.6**	**-0.6**
SIGR	**SIGRI**	**1.16**	**329**	P	**Pg**	**20 37 42.0**	**-0.2**
SIGR				S	**Sn**	**20 37 57.9**	**+0.1**
SOMA	**Soma-Manisa**	**1.18**	**37**	Pn	**Pb**	**20 37 42.3**	**+0.1**
BODT	**Bodrum**	**1.28**	**154**	Pn	**Pb**	**20 37 44.2**	**+0.3**
BODT	**Bodrum**	**1.28**	**154**	P	**Pn**	**20 37 43.3**	**-0.3**
BODT				S	**Sb**	**20 38 00.5**	**+0.2**
MLSB	**Milas**	**1.30**	**135**	Pn	**Pn**	**20 37 44.4**	**+0.5**
BDRM	**Kayabasi**	**1.32**	**150**	P	**Pn**	**20 37 43.7**	**-0.6**
BUHA	**Balikesir, Bur**	**1.33**	**15**	P	**Pn**	**20 37 44.8**	**+0.4**
BUHA				S	**Sg**	**20 38 03.8**	**+1.1**
BUHA				*i* IAML		20 38 07.0	
	comp=E,103nm,0.4s						
KOCA	**Canakkale, Ayv**	**1.34**	**344**	P	**Pn**	**20 37 44.9**	**+0.4**
KOCA				S	**Sb**	**20 38 01.1**	**-0.9**
KOCA				*i* IAML		20 38 06.0	
	comp=E,60nm,0.7s						
NAZL	**Nazilli-Aydin**	**1.34**	**100**	Pn	**Pn**	**20 37 44.9**	**+0.4**
GORD	**Gordes-Manisa**	**1.40**	**60**	Pn	**Pn**	**20 37 45.8**	**+0.4**
KIRA	**zmir-Kiraz**	**1.40**	**90**	P	**Pn**	**20 37 45.4**	**0.0**
KIRA				S	**Sb**	**20 38 03.4**	**-0.6**
ESEN	**Aydn-Nazilli**	**1.43**	**107**	P	**Pn**	**20 37 45.4**	**-0.3**
ESEN				S	**Sn**	**20 38 04.3**	**-0.1**
APE	**Apeiranthos**	**1.44**	**217**	P	**Pn**	**20 37 45.6**	**-0.3**
APE				S	**Sb**	**20 38 05.7**	**+0.7**
STEP	**BALIKESIR_Sava**	**1.44**	**36**	P	**Pb**	**20 37 47.1**	**+0.4**
STEP				S	**Sb**	**20 38 05.8**	**+0.7**
STEP				*i* IAML		20 38 10.0	
	comp=N,81nm,0.4s						
BAYC	**CANAKKALE_Bayr**	**1.52**	**358**	P	**Pn**	**20 37 46.5**	**-0.5**
BAYC				S	**Sn**	**20 38 04.2**	**-2.7**
MANT	**Manisa**	**1.55**	**79**	P	**Pb**	**20 37 48.6**	**-0.1**
MANT				S	**Sn**	**20 38 07.1**	**-0.6**
EZN	**Ezine**	**1.62**	**352**	Pn	**Pn**	**20 37 49.2**	**+0.8**
KULA	**Kula-Manisa**	**1.63**	**79**	Pn	**Pn**	**20 37 49.2**	**+0.6**
MULA	**Mugla, Merkez-**	**1.65**	**125**	P	**Pn**	**20 37 49.4**	**+0.5**
YAZI	**Mula-Dat§a-**	**1.67**	**156**	P	**Pn**	**20 37 49.7**	**+0.6**
BOZC	**Bozcaada**	**1.68**	**345**	Pn	**Pn**	**20 37 49.8**	**+0.6**
BALY	**Balya**	**1.71**	**27**	P	**Pg**	**20 37 52.2**	**-0.5**
BALY				*i* IAML		20 38 20.0	
	comp=N,53nm,0.4s						
DEMI	**Demirci**	**1.84**	**63**	P	**Pb**	**20 37 54.3**	**+0.8**
COMU	**Canakkale**	**1.88**	**357**	Pn	**Pn**	**20 37 52.9**	**+0.9**
USAK	**Uak-Merkez**	**1.95**	**74**	P	**Pb**	**20 37 55.5**	**+0.1**
USAK				*i* IAML		20 38 21.0	
	comp=E,44nm,2.2s						
USAK				*i* IAML		20 39 11.0	
	comp=N,36nm,2.7s						

NEIC ***04*** *20:45:26.5±0.8, 35˚.698N×0˚.004×117˚.47W±0˚.01, h6km±3km, Error ellipse: s-maj=1.5km s-min=0.6km az=83.0*
PAS 04 20:45:26.6±0.8**, 35˚.701N**±0˚.009×**117˚.48W**±0˚.01**, h0**km±1km**, ML3.1**/25**, ML3.1**/102(NEIC)**, Error ellipse: s-maj=1.3km s-min=1.2km az=154.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.20**	**152**		Pg	20 45 30.6	+0.2
TOW	**Tower One**	**0.26**	**295**		Pg	20 45 32.4	+0.9
LRMC	**Laurel Mtn Rad**	**0.28**	**217**		Pg	20 45 32.3	+0.4
LRMC					Sg	20 45 36.5	+1.1
MPMC	**Manual Prospec**	**0.36**	**359**		Pg	20 45 33.7	+0.3
WVPM	**Volcano Peak E**	**0.37**	**312**		Pg	20 45 34.3	+0.5
WNMM	**Nine Mile Cany**	**0.38**	**292**		Pg	20 45 34.3	+0.5
JRC2	**Joshua Ridge**	**0.39**	**316**		Pg	20 45 34.6	+0.5
JRC2					Sg	20 45 40.8	+1.7
WRVM	**Rose V. Centra**	**0.45**	**313**		Pg	20 45 35.7	+0.4
WRVM					Sg	20 45 42.4	+1.1
MFS	**McCloud Flat S**	**0.52**	**324**		Pg	20 45 36.8	+0.3
DTP	**Desert Tortois**	**0.53**	**215**		Pg	20 45 36.8	+0.1
DTP					Sg	20 45 44.1	+0.6
QSM	**Queen of Sheba**	**0.56**	**62**	Pg	Pg	20 45 37.7	+0.3
QSM					Sg	20 45 45.4	+0.7
QSM				IAML		20 45 45.9	
	comp=E,2μm,0.5s						
QSM				IAML		20 45 46.0	
	comp=N,2μm,0.6s						
WBSM	**Bird Springs**	**0.56**	**253**		Sg	20 45 45.7	+1.0
WORM	**Onyx Ranch**	**0.62**	**270**		Pg	20 45 38.6	+0.1
GSC	**Goldstone, Bar**	**0.68**	**126**		Pg	20 45 39.8	+0.2
GSC				IAML		20 45 49.5	
	comp=N,1μm,0.5s						
GSC				IAML		20 45 49.6	
	comp=E,1μm,0.7s						
CCAC	**Calif City Air**	**0.70**	**219**		Pg	20 45 40.2	+0.1
CCAC				IAML		20 45 55.8	
	comp=E,808nm,1.1s						
CCAC				IAML		20 45 58.3	
	comp=N,702nm,1.2s						
ISA	**Isabella, Lake**	**0.81**	**268**		Pg	20 45 42.2	0.0
ISA				IAML		20 45 53.8	
	comp=E,507nm,0.6s						
GWY	**Greenwater Val**	**0.82**	**53**		Pg	20 45 42.1	-0.2
CGO	**Cerro Gordo**	**0.89**	**343**		Pg	20 45 43.3	-0.3
SBB	**Saddle Back Bu**	**1.05**	**196**		Pb	20 45 47.3	-0.4
SPG2	**Springville 2**	**1.16**	**296**		Pg	20 45 48.3	-0.6
AMDNV	**Amargosa**	**1.23**	**52**		Pg	20 45 49.1	-1.0
DSCC	**Desert Studies**	**1.25**	**116**		Pg	20 45 50.1	-0.6
WCT	**Wildcat Mounta**	**1.29**	**32**		Pg	20 45 50.8	-0.6
WCT				IAML		20 46 10.3	
	comp=N,252nm,0.5s						
WCT				IAML		20 46 11.9	
	comp=E,247nm,0.8s						
TUQ	**Turquoise Moun**	**1.29**	**101**		Pg	20 45 51.0	-0.4
GRAC	**Grapevine Rang**	**1.30**	**4**		Pg	20 45 51.1	-0.4
GRAC				IAML		20 46 15.4	
	comp=N,469nm,0.9s						
SS2	**San Sevaine**	**1.49**	**181**		Pg	20 45 55.4	+0.2
TPNV	**Topopah Spring**	**1.59**	**38**		Pn	20 45 55.4	-0.8
TPNV				IAML		20 46 22.4	
	comp=N,322nm,0.5s						
GMN	**Gold Mountain**	**1.61**	**6**		Pn	20 45 55.8	-0.7
GMN				IAML		20 46 22.7	
	comp=N,138nm,0.6s						
PASC	**Pasadena Art C**	**1.63**	**201**		Pn	20 45 56.0	-0.6
DSP	**Deep Springs**	**1.71**	**347**		Pn	20 45 57.1	-0.6
DSP				IAML		20 46 24.2	
	comp=E,124nm,0.6s						
BCW	**Bitter Crk WRg**	**1.75**	**245**		Pb	20 45 59.4	-0.4
BCW				IAML		20 46 31.3	
	comp=E,248nm,1.2s						
BCW				IAML		20 46 51.9	
	comp=N,225nm,1.2s						
MZP	**Montezuma Peak**	**2.00**	**2**		Pn	20 46 01.6	-0.3
SHPR	**Sheep Range**	**2.04**	**66**		Pn	20 46 02.1	-0.3
SHPR				IAML		20 46 34.0	
	comp=N,98nm,0.6s						
ELS	**Elsinore Mount**	**2.05**	**179**		Pn	20 46 01.9	-0.5
ELS				IAML		20 46 34.7	
	comp=E,84nm,0.6s						
ELS				IAML		20 46 40.5	
	comp=N,80nm,0.6s						
V12A	**Nelson**	**2.14**	**89**		Pn	20 46 02.4	-1.3
V12A				IAML		20 46 41.7	
	comp=N,73nm,0.5s						
V12A				IAML		20 46 44.1	
	comp=E,71nm,0.6s						
PFO	**Pinyon Flats O**	**2.25**	**158**		Pn	20 46 04.6	-0.6
PFO				IAML		20 46 41.4	
	comp=E,73nm,0.8s						
PFO				IAML		20 46 44.8	
	comp=E,84nm,1.4s						
R11B	**Troy Canyon, C**	**3.05**	**29**	IAML		20 47 05.3	
	comp=E,33nm,0.6s						
BLYC	**Blythe**	**3.12**	**128**	IAML		20 47 07.0	
	comp=E,63nm,0.6s						
BLYC				IAML		20 47 10.0	
	comp=N,70nm,0.9s						
CMB	**Columbia Colle**	**3.30**	**316**	IAML		20 47 14.7	
	comp=N,33nm,1.5s						
CMB				IAML		20 47 19.9	
	comp=E,27nm,0.7s						
ESJX	**Sierra Juarez**	**3.90**	**161**	IAML		20 47 34.9	
	comp=N,21nm,1.1s						
ESJX				IAML		20 47 37.5	
	comp=E,26nm,0.8s						
KNB	**Kanab**	**3.98**	**69**	IAML		20 47 40.2	
	comp=E,26nm,0.9s						
KNB				IAML		20 47 51.0	
	comp=N,22nm,1.5s						
PSUT	**Pine Spring**	**4.05**	**45**	IAML		20 47 38.7	
	comp=E,25nm,0.9s						
PSUT				IAML		20 47 40.3	
	comp=N,33nm,0.7s						
Y14A	**Wickenburg**	**4.08**	**114**	IAML		20 47 41.4	
	comp=E,30nm,0.5s						
SPR3	**Spring Creek 3**	**4.14**	**36**	IAML		20 47 37.7	
	comp=E,20nm,0.8s						
SPR3				IAML		20 47 41.0	
	comp=N,18nm,0.7s						
113A	**Mohawk Valley,**	**4.24**	**133**	IAML		20 47 48.7	
	comp=N,14nm,0.7s						
113A				IAML		20 47 52.5	
	comp=E,12nm,0.7s						
AFDM	**Forest Hills D**	**4.27**	**320**	IAML		20 47 45.8	
	comp=E,28nm,0.9s						
AFDM				IAML		20 47 48.2	
	comp=N,18nm,1.5s						
BEKR	**Beckworth**	**4.74**	**332**	IAML		20 48 10.5	
	comp=N,11nm,2.6s						
BEKR				IAML		20 48 10.8	
	comp=E,15nm,0.7s						
MVU	**Marysvale**	**5.05**	**55**	IAML		20 48 10.8	
	comp=E,17nm,1.2s						
X16A	**Lo Mia Camp, P**	**5.11**	**103**	IAML		20 48 15.6	
	comp=N,8.4nm,1.2s						
X16A				IAML		20 48 31.7	
	comp=E,6.5nm,3.2s						

NEIC ***04*** *20:55:24.5±1.1, 35˚.713N×0˚.007×117˚.47W±0˚.01, h4km±1km, Error ellipse: s-maj=1.4km s-min=0.9km az=50.0*
PAS 04 20:55:24.8±0.7**, 35˚.709N**±0˚.007×**117˚.48W**±0˚.01**, h0**km±1km**, ML3.4**/20**, ML3.1**/66(NEIC)**, Error ellipse: s-maj=1.3km s-min=1.0km az=66.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.20**	**153**		Pg	20 55 28.6	-0.1
CCCA					Sg	20 55 33.4	+2.0
TOW	**Tower One**	**0.25**	**293**		Pg	20 55 30.6	+0.9
TOW					Sb	20 55 35.2	-2.1
LRMC	**Laurel Mtn Rad**	**0.28**	**216**		Pg	20 55 30.7	+0.5
LRMC					Sg	20 55 34.8	+0.9
MPMC	**Manual Prospec**	**0.35**	**358**		Pg	20 55 31.9	+0.3
MPMC					Sg	20 55 36.8	+0.7
WVPM	**Volcano Peak E**	**0.37**	**311**		Pg	20 55 32.3	+0.5
WNMM	**Nine Mile Cany**	**0.37**	**291**		Pg	20 55 32.5	+0.6
JRC2	**Joshua Ridge**	**0.38**	**315**		Pg	20 55 32.8	+0.6
JRC2					Sg	20 55 38.3	+1.1
DTP	**Desert Tortois**	**0.53**	**214**		Pg	20 55 35.3	+0.3
QSM	**Queen of Sheba**	**0.56**	**62**		Pg	20 55 35.8	+0.3
QSM				IAML		20 55 44.2	
	comp=E,2μm,0.2s						
QSM				IAML		20 55 44.4	
	comp=N,2μm,0.2s						
WBSM	**Bird Springs**	**0.57**	**253**		Pg	20 55 35.9	+0.2
GSC	**Goldstone, Bar**	**0.68**	**126**		Pg	20 55 38.1	+0.2
GSC				IAML		20 55 51.0	
	comp=N,1μm,0.3s						
GSC				IAML		20 55 51.2	
	comp=E,1μm,0.4s						
GSC	**Goldstone, Bar**	**0.68**	**126**		Sg	20 55 47.5	+0.8
CCAC	**Calif City Air**	**0.71**	**219**		Pg	20 55 38.5	+0.1
CCAC				IAML		20 55 48.7	
	comp=N,1μm,0.5s						
CCAC				IAML		20 55 48.8	
	comp=E,1μm,0.3s						
WHFM	**Hanning Flat**	**0.71**	**269**		Pg	20 55 38.5	0.0
GWY	**Greenwater Val**	**0.81**	**54**		Pg	20 55 40.3	0.0
GWY				IAML		20 55 55.0	
	comp=E,869nm,0.6s						
GWY				IAML		20 55 56.2	
	comp=N,762nm,0.5s						
ISA	**Isabella, Lake**	**0.81**	**267**		Pg	20 55 40.2	-0.2
ISA				IAML		20 55 51.7	
	comp=N,804nm,0.3s						
ISA				IAML		20 55 51.9	
	comp=E,795nm,0.4s						
ISA	**Isabella, Lake**	**0.81**	**267**		Sg	20 55 51.5	+0.6
RRX	**Edison Barstow**	**0.92**	**155**		Pb	20 55 43.5	-0.1
AMDNV	**Amargosa**	**1.22**	**52**		Pg	20 55 47.4	-0.9
DSCC	**Desert Studies**	**1.26**	**116**		Pg	20 55 48.5	-0.4
WCT	**Wildcat Mounta**	**1.28**	**32**		Pg	20 55 48.6	-0.9
WCT				IAML		20 56 07.2	
	comp=N,319nm,0.5s						
WCT				IAML		20 56 08.1	
	comp=E,336nm,0.4s						
GRAC	**Grapevine Rang**	**1.29**	**4**		Pg	20 55 49.2	-0.3
TUQ	**Turquoise Moun**	**1.29**	**102**		Pg	20 55 49.0	-0.7
TPNV	**Topopah Spring**	**1.59**	**38**		Pn	20 55 53.3	-1.1
TPNV				IAML		20 56 19.1	
	comp=E,336nm,0.7s						
GMN	**Gold Mountain**	**1.60**	**6**		Pn	20 55 53.6	-0.9
GMN				IAML		20 56 03.3	
	comp=N,170nm,0.5s						
SVD	**Seven Oaks Dam**	**1.63**	**169**		Pg	20 55 56.2	+0.2
PASC	**Pasadena Art C**	**1.64**	**201**		Pn	20 55 54.2	-0.7
PASC				IAML		20 56 20.6	
	comp=E,248nm,0.5s						
PASC				IAML		20 56 20.7	
	comp=N,210nm,0.6s						
DSP	**Deep Springs**	**1.71**	**347**		Pn	20 55 55.2	-0.6
DSP				IAML		20 56 21.0	
	comp=E,155nm,0.5s						
BHPR	**Bishop**	**1.78**	**333**		Pb	20 55 58.6	+0.1
PEC	**Perris**	**1.83**	**172**		Pn	20 55 56.8	-0.8
MZP	**Montezuma Peak**	**1.99**	**2**		Pn	20 55 59.4	-0.6
MZP				IAML		20 56 33.8	
	comp=N,119nm,0.7s						
SHPR	**Sheep Range**	**2.04**	**66**		Pn	20 55 59.8	-0.7
ELS	**Elsinore Mount**	**2.06**	**179**		Pn	20 55 59.9	-0.8
ELS				IAML		20 56 30.4	
	comp=N,153nm,0.5s						
ELS				IAML		20 56 32.9	
	comp=E,156nm,0.3s						
V12A	**Nelson**	**2.14**	**89**	Pn	Pn	20 56 00.4	-1.5
V12A				IAML		20 56 37.3	
	comp=N,87nm,0.6s						
PFO	**Pinyon Flats O**	**2.25**	**158**		Pn	20 56 02.0	-1.4
TPH	**Tonopah**	**2.37**	**5**		Pn	20 56 04.5	-0.6
S11A	**Rachel**	**2.38**	**35**	Pn	Pn	20 56 04.5	-0.7
S11A				IAML		20 56 44.8	
	comp=N,151nm,0.5s						
PMPB	**Monarch Peak**	**2.74**	**282**	IAML		20 56 58.4	
	comp=N,75nm,1.0s						
PMPB				IAML		20 57 01.6	
	comp=E,80nm,0.9s						
GLA	**Glamis**	**3.44**	**140**		Pg	20 56 32.2	+1.4
KNB	**Kanab**	**3.98**	**69**		Pb	20 56 35.9	0.0
PSUT	**Pine Spring**	**4.04**	**45**		Pb	20 56 39.5	+2.6
PSUT				IAML		20 57 37.4	
	comp=N,25nm,0.8s						
PSUT				IAML		20 57 37.8	
	comp=E,17nm,0.6s						
SPR3	**Spring Creek 3**	**4.13**	**36**		Pb	20 56 40.1	+1.5
SPR3				IAML		20 57 39.6	
	comp=N,24nm,0.8s						
SPR3				IAML		20 57 40.5	
	comp=E,24nm,0.8s						
BEKR	**Beckworth**	**4.74**	**332**	IAML		20 58 03.4	
	comp=E,14nm,0.7s						
ELK	**Elko**	**5.33**	**19**		Pn	20 56 46.1	+0.3
ELK				IAML		20 58 15.3	
	comp=E,7.6nm,0.7s						

IDC ***04*** *20:57:33.6±0.7, 56˚.13N×163˚.95E, h0km, mb3.9/19, mbtmp3.9/22, ML4.0/2, Error ellipse: s-maj=19.0km s-min=13.5km az=153.0*
NEIC ***04*** *20:57:34.8±1.3, 56˚.0N±0˚.1×163˚.86E±0˚.07, h10km±1km, mb4.2/61, Error ellipse: s-maj=21.9km s-min=6.2km az=173.0*
KRSC ***04*** *20:57:35.3±1.5, 56˚.09N×164˚.11E, h49km±22km, Ml4.4*
MOS ***04*** *20:57:37.4±0.9, 56˚.12N×164˚.03E, h44km, mb4.5/8, Error ellipse: s-maj=8.5km s-min=5.1km az=55.9*
ISC 04 20:57:36.3±0.4**, 56˚.11N**±0˚.04×**164˚.07E**±0˚.03**, h19**km**, n182**, σ1§59/185**, mb4.2**/51**, 1D, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.71**	**279**	PN	**Pb**	**20 57 47.9**	**-2.0**
KBTR	**Krutoberegovo**	**0.71**	**279**	*e*P	**Pb**	**20 57 48.0**	**-2.0**
KBG	**Krutoberegovo**	**0.78**	**281**	PN	**Pb**	**20 57 49.4**	**-1.7**
KBG				S	**Sg**	**20 58 02.6**	**+0.8**
KBG	**Krutoberegovo**	**0.78**	**281**	*e*P	**Pb**	**20 57 49.5**	**-1.7**
KBG				*e*S	**Sg**	**20 58 02.7**	**+0.8**
BKI	**Bering**	**1.41**	**129**	PN	**Pn**	**20 57 59.7**	**-1.1**
BKI				S	**Sn**	**20 58 17.9**	**-0.9**
BKI	**Bering**	**1.41**	**129**	*e*P	**Pn**	**20 57 59.8**	**-1.1**
BKI				*e*S	**Sn**	**20 58 17.9**	**-0.9**
SMKR	**Semkarok**	**1.52**	**289**	PN	**Pn**	**20 58 02.0**	**-0.5**
SMKR	**Semkarok**	**1.52**	**289**	*e*P	**Pn**	**

SDLR	**Sedlovina**	**4.14**	**229**	PN	**Pn**	**20 58 39.6**	**+1.2**
SDLR	**Sedlovina**	**4.14**	**229**	*e*P	**Pn**	**20 58 39.7**	**+1.2**
KRER	**Koryakskii**	**4.17**	**230**	PN	**Pn**	**20 58 40.9**	**+1.8**
KRER	**Koryakskii**	**4.17**	**230**	*e*P	**Pn**	**20 58 40.9**	**+1.8**
KRX	**Arik**	**4.18**	**231**	PN	**Pn**	**20 58 40.7**	**+1.6**
KRX	**Arik**	**4.18**	**231**	*e*P	**Pn**	**20 58 40.8**	**+1.6**
SMAR	**Somma**	**4.18**	**229**	PN	**Pn**	**20 58 40.2**	**+1.0**
SMAR	**Somma**	**4.18**	**229**	*e*P	**Pn**	**20 58 40.2**	**+1.0**
AVH	**Avacha**	**4.21**	**230**	PN	**Pn**	**20 58 41.2**	**+1.8**
AVH	**Avacha**	**4.21**	**230**	*e*P	**Pn**	**20 58 41.3**	**+1.8**
UGLR	**Uglovaya**	**4.21**	**229**	PN	**Pn**	**20 58 40.7**	**+1.3**
UGLR	**Uglovaya**	**4.21**	**229**	*e*P	**Pn**	**20 58 40.8**	**+1.3**
KOK	**Koryaka**	**4.23**	**230**	PN	**Pn**	**20 58 41.6**	**+1.9**
KOK	**Koryaka**	**4.23**	**230**	*e*P	**Pn**	**20 58 41.6**	**+1.9**
GNL	**Ganaly**	**4.29**	**238**	PN	**Pn**	**20 58 42.1**	**+1.6**
GNL	**Ganaly**	**4.29**	**238**	*e*P	**Pn**	**20 58 42.1**	**+1.6**
PET	**Petropavlovsk**	**4.42**	**228**		Pn	20 58 37.7	-4.5
PET	**Petropavlovsk**	**4.42**	**228**	*e*PN	**Pn**	**20 58 44.2**	**+2.0**
PET				*e*S	**Sn**	**20 59 34.1**	**+1.1**
PET				pmax	pmax		
	comp=Z,21nm,0.5s						
PET				smax	smax		
	comp=E,98nm,0.8s						
PET				smax	smax		
	comp=N,155nm,0.5s						
PEA0B	**Petropavlovsk-**	**4.77**	**234**		**Pn**	**20 58 46.1**	**-1.0**
PEA0B	**Petropavlovsk-**	**4.77**	**234**	*i* PN	**Pn**	**20 58 46.3**	**-0.8**
PETK	**Petropavlovsk-**	**4.77**	**234**		**Pn**	**20 58 45.1**	**-2.0**
PETK	**Petropavlovsk-**	**4.77**	**234**	Pn	**Pn**	**20 58 46.2**	**-0.9**
	comp=N,1.4nm,0.4s,baz=74,slow=16,SNR=12						
PETK				Sn	**Sn**	**20 59 40.7**	**-1.1**
	comp=N,1.5nm,0.3s,baz=0.0,slow=3.0,SNR=5.3						
KRMR	**Karymshinskiy**	**4.78**	**229**	PN	**Pn**	**20 58 50.0**	**+2.9**
KRMR	**Karymshinskiy**	**4.78**	**229**	*e*P	**Pn**	**20 58 50.0**	**+2.9**
GRL	**Gorelyy**	**5.00**	**227**	PN	**Pn**	**20 58 52.8**	**+2.5**
GRL	**Gorelyy**	**5.00**	**227**	*e*P	**Pn**	**20 58 52.9**	**+2.5**
MTVR	**Mutnovka**	**5.01**	**226**	PN	**Pn**	**20 58 52.1**	**+1.6**
MTVR	**Mutnovka**	**5.01**	**226**	*e*P	**Pn**	**20 58 52.1**	**+1.6**
ASAK	**Asacha**	**5.20**	**227**	PN	**Pn**	**20 58 55.1**	**+2.1**
ASAK	**Asacha**	**5.20**	**227**	*e*P	**Pn**	**20 58 55.1**	**+2.1**
K13K	**Kusilvak Mount**	**17.00**	**57**		**Pn**	**21 01 32.6**	**0.0**
ASAJ	**Asahikawa**	**18.17**	**238**	P	**Pn**	**21 01 46.1**	**-1.2**
	comp=N,0.2nm,0.3s,baz=99,slow=10,SNR=6.0						
	comp=N,6.9nm,0.8s						
YAK	**Yakutsk**	**18.47**	**303**	P	**P**	**21 01 50.6**	**0.0**
	comp=N,1.9nm,0.3s,baz=270,slow=1.6,SNR=4.3						
	comp=N,7.3nm,0.4s						
YAK	**Yakutsk**	**18.47**	**303**	*e*P	**P**	**21 01 49.9**	**-0.7**
YAK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.1s						
K15K	**Wolf Creek Mou**	**18.49**	**56**	P	**Pn**	**21 01 53.9**	**+2.9**
S12K	**Black Hills**	**18.89**	**77**	P	**P**	**21 01 56.5**	**+1.3**
ERM	**Erimo**	**19.55**	**233**	P	**P**	**21 02 00.3**	**-2.3**
ERM				IAmb	IAmb	21 02 17.2	
	comp=Z,22nm,0.9s						
ERM	**Erimo**	**19.55**	**233**	P	**P**	**21 02 00.3**	**-2.3**
ERM				pmax	pmax		
	comp=Z,22nm,1.0s						
M16K	**Timber Creek**	**19.70**	**60**	P	**P**	**21 02 05.5**	**+1.3**
E18K	**Tukpahlearik C**	**19.85**	**41**	P	**Pn**	**21 02 08.4**	**+1.1**
E18K				IAmb	IAmb	21 02 18.3	
	comp=Z,9.5nm,0.9s						
SDPT	**Sand Point**	**19.85**	**77**	P	**P**	**21 02 07.3**	**+1.5**
K17K	**Iditarod**	**20.01**	**55**		**P**	**21 02 09.2**	**+1.7**
K17K				IAmb	IAmb	21 02 17.8	
	comp=Z,9.2nm,1.0s						
M17K	**Holitna River**	**20.42**	**59**		Pn	21 02 14.3	+0.1
M17K				IAmb	IAmb	21 02 25.5	
	comp=Z,12nm,0.8s						
F19K	**Shaleruckik Mo**	**20.76**	**44**		Pn	21 02 18.7	+0.7
F19K				IAmb	IAmb	21 02 27.3	
	comp=Z,9.2nm,0.8s						
H19K	**Roundabout Mou**	**21.06**	**47**	P	**P**	**21 02 22.6**	**+3.7**
H19K				IAmb	IAmb	21 02 31.1	
	comp=Z,6.6nm,0.8s						
N18K	**Kilae Creek**	**21.22**	**61**	P	**P**	**21 02 23.5**	**+2.9**
TIXI	**Tiksi**	**21.46**	**330**		**P**	**21 02 24.1**	**+1.2**
TIXI				IAmb	IAmb	21 02 27.3	
	comp=Z,8.6nm,0.8s						
TIXI	**Tiksi**	**21.46**	**330**	P	**P**	**21 02 24.0**	**+1.0**
	comp=Z,4.7nm,0.5s,baz=129,slow=8.7,SNR=8.7						
	comp=Z,4.7nm,0.5s						
TIXI	**Tiksi**	**21.46**	**330**	*i* P	**P**	**21 02 24.0**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
D20K	**Etivluk River**	**21.66**	**39**	P	**P**	**21 02 26.3**	**+1.1**
D20K				IAmb	IAmb	21 02 35.6	
	comp=Z,7.2nm,0.8s						
J20K	**Nowinta River**	**21.93**	**51**		**P**	**21 02 30.8**	**+2.6**
IMAR	**Indian Mountai**	**22.22**	**47**	P	**P**	**21 02 33.1**	**+1.8**
G21K	**Allakaket**	**22.38**	**45**	P	**P**	**21 02 35.9**	**+2.8**
H21K	**Melozitna Rive**	**22.58**	**48**	P	**P**	**21 02 36.5**	**+1.4**
H21K				IAmb	IAmb	21 02 46.4	
	comp=Z,12nm,1.5s						
CAST	**Castle Rocks**	**22.84**	**53**	P	**P**	**21 02 40.4**	**+2.5**
D22K	**Ayikyak River**	**23.08**	**39**	P	**P**	**21 02 42.1**	**+1.7**
D22K				IAmb	IAmb	21 02 48.5	
	comp=Z,6.8nm,0.9s						
E22K	**Anaktuvuk Pass**	**23.26**	**41**	P	**P**	**21 02 43.4**	**+1.2**
BPAW	**Bear Paw Mtn.**	**23.32**	**52**	P	**P**	**21 02 43.8**	**+1.1**
KDAK	**Kodiak Island**	**23.41**	**68**	P	**P**	**21 02 43.6**	**0.0**
KDAK				IAmb	IAmb	21 02 51.7	
	comp=Z,8.5nm,1.1s						
KDAK	**Kodiak Island**	**23.41**	**68**	*i* P	**P**	**21 02 41.7**	**-1.9**
MLY	**Manley**	**23.42**	**49**	P	**P**	**21 02 44.9**	**+1.1**
SUA	**Susitna One**	**23.62**	**58**	IAmb	IAmb	21 02 55.0	
	comp=Z,8.2nm,0.8s						
TRF	**Thorofare Moun**	**23.65**	**53**		**P**	**21 02 46.9**	**+0.7**
TRF				IAmb	IAmb	21 02 55.0	
	comp=Z,8.2nm,0.9s						
G23K	**Bananza Creek**	**23.79**	**45**	P	**P**	**21 02 47.7**	**+0.4**
D23K	**Nanushuk River**	**23.81**	**39**	P	**P**	**21 02 48.6**	**+1.1**
D23K				IAmb	IAmb	21 02 56.0	
	comp=Z,5.5nm,1.0s						
I23K	**Minto, Yukon-K**	**24.00**	**49**	P	**P**	**21 02 50.6**	**+1.2**
E23K	**Chandalar**	**24.07**	**42**	P	**P**	**21 02 51.2**	**+1.2**
E23K				IAmb	IAmb	21 02 59.5	
	comp=Z,8.0nm,1.1s						
TOLK	**Toolik Lake Re**	**24.16**	**40**	P	**P**	**21 02 51.5**	**+0.7**
TOLK				IAmb	IAmb	21 02 59.6	
	comp=Z,6.6nm,0.8s						
E24K	**Your Creek**	**24.49**	**42**	P	**P**	**21 02 55.1**	**+1.2**
E24K				IAmb	IAmb	21 03 02.5	
	comp=Z,8.6nm,0.8s						
D24K	**Happy Valley**	**24.50**	**39**	P	**P**	**21 02 55.0**	**+1.1**
WRH	**Wood River Hil**	**24.57**	**51**		**P**	**21 02 55.0**	**+0.5**
C24K	**Franklin Bluff**	**24.63**	**38**	P	**P**	**21 02 56.3**	**+1.3**
F24K	**Squaw Lake**	**24.67**	**43**	P	**P**	**21 02 56.1**	**+0.6**
CCB	**Clear Creek Bu**	**24.68**	**50**	IAmb	IAmb	21 03 03.4	
	comp=Z,12nm,1.5s						
G24K	**Hadweenzic Riv**	**24.80**	**45**	P	**P**	**21 02 58.2**	**+1.6**
PWL	**Port Wells**	**24.87**	**59**	P	**P**	**21 02 57.4**	**+0.1**
DHY	**Denali Highway**	**24.99**	**54**		**P**	**21 02 59.0**	**+0.4**
DHY				IAmb	IAmb	21 03 06.6	
	comp=Z,3.1nm,0.7s						
IL31		**25.07**	**50**	P	**P**	**21 02 58.9**	**-0.1**
IL31				IAmb	IAmb	21 03 06.6	
	comp=Z,4.2nm,0.9s						
ILAR	**Eielson Array**	**25.07**	**50**	P	**P**	**21 02 59.7**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=258,slow=7.0,SNR=23						
	comp=Z,1.7nm,0.8s						
SCM	**Sheep Creek Mo**	**25.18**	**57**	P	**P**	**21 03 00.9**	**+0.7**
SCM	**Sheep Creek Mo**	**25.18**	**57**	P	**P**	**21 03 00.9**	**+0.7**
SCM				pmax	pmax		
	comp=Z,12nm,0.8s						
D25K	**Kavik River**	**25.39**	**39**	P	**P**	**21 03 02.7**	**+0.7**
E25K	**Arctic Village**	**25.59**	**42**	P	**P**	**21 03 05.3**	**+1.5**
E25K				IAmb	IAmb	21 03 11.8	
	comp=Z,3.8nm,0.8s						
J25K	**Salcha River,**	**25.73**	**50**	P	**P**	**21 03 04.7**	**-0.4**
J25K				IAmb	IAmb	21 03 13.6	
	comp=Z,5.6nm,1.4s						
BMAR	**Burnt Mountain**	**25.94**	**44**	P	**P**	**21 03 08.0**	**+1.0**
F26K	**Sheenjek River**	**26.11**	**43**	P	**P**	**21 03 09.8**	**+1.3**
MJA0	**Matsu Arr-Jizo**	**26.21**	**233**	*e*P	**P**	**21 03 11.1**	**+1.4**
MJA0				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MAJO	**Matsushiro**	**26.23**	**233**	*i* P	P	21 03 03.7	-6.1
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MJAR	**Matsushiro Arr**	**26.23**	**233**	P	**P**	**21 03 09.8**	**-0.1**
	comp=Z,4.1nm,0.9s,baz=26,slow=8.5,SNR=9.4						
	comp=Z,4.1nm,0.9s						
G26K	**Porcupine Rive**	**26.26**	**45**		**P**	**21 03 10.6**	**+0.8**
G26K				IAmb	IAmb	21 03 18.3	
	comp=Z,4.3nm,0.7s						
SCRK	**Sand Creek**	**26.39**	**51**		**P**	**21 03 10.8**	**-0.4**
SCRK				IAmb	IAmb	21 03 18.0	
	comp=Z,7.6nm,0.8s						
DOT	**Dot Lake**	**26.41**	**52**	P	**P**	**21 03 11.3**	**+0.1**
H27K	**Steamboat Moun**	**27.20**	**46**	P	**P**	**21 03 19.6**	**+1.2**
BCAR	**Beaver Creek A**	**27.51**	**53**	P	**P**	**21 03 21.4**	**+0.3**
M27K	**Edge Creek, AK**	**27.61**	**55**	P	**P**	**21 03 23.9**	**+1.7**
M27K				IAmb	IAmb	21 03 31.0	
	comp=Z,3.5nm,0.8s						
E28M	**Babbage River**	**27.83**	**41**	P	**P**	**21 03 25.4**	**+1.5**
I28M	**Miner Creek**	**27.93**	**48**	P	**P**	**21 03 25.8**	**+0.8**
I28M				IAmb	IAmb	21 03 34.8	
	comp=Z,2.5nm,0.8s						
H29M	**Whitestone**	**28.47**	**46**		**P**	**21 03 31.2**	**+1.5**
H29M				IAmb	IAmb	21 03 37.8	
	comp=Z,5.4nm,0.8s						
G30M	**tAoh Zraii Nji**	**29.22**	**44**	P	**P**	**21 03 37.0**	**+0.7**
G30M				IAmb	IAmb	21 03 44.3	
	comp=Z,3.6nm,0.8s						
HYT	**Haines Junctio**	**30.02**	**57**	P	**P**	**21 03 44.9**	**+1.3**
HYT				IAmb	IAmb	21 03 52.4	
	comp=Z,3.7nm,0.9s						
INK	**Inuvik**	**30.06**	**41**	P	**P**	**21 03 44.8**	**+1.1**
INK	**Inuvik**	**30.06**	**41**	P	**P**	**21 03 44.8**	**+1.1**
INK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SONM	**Songino Array**	**35.52**	**281**	P	**P**	**21 04 30.9**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=57,slow=8.8,SNR=3.6						
	comp=Z,0.6nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**36.38**	**176**	T	T	21 43 10.4	
	baz=358,slow=74,SNR=753						
H11N3	**WAKE ISLAND Hy**	**36.40**	**175**	T	T	21 43 15.1	
	baz=358,slow=74,SNR=290						
H11N1	**WAKE ISLAND Hy**	**36.40**	**176**	T	T	21 43 11.7	
	baz=358,slow=74,SNR=438						
HHC	**Hu-ho-hao-te**	**37.02**	**268**	*e*P	**P**	**21 04 43.2**	**-1.4**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
YKA	**Yellowknife Ar**	**39.38**	**46**	P	**P**	**21 05 04.8**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=298,slow=8.5,SNR=8.4						
	comp=Z,1.2nm,0.7s						
GTA	**Gaotai**	**44.58**	**276**	P	**P**	**21 05 46.9**	**-0.1**
GTA				pP	pwP	21 05 55.6	-0.6
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LZH	**Lanzhou**	**44.68**	**270**	*e*P	P	21 05 41.2	-6.6
LZH				sP	pP	21 05 48.4	-4.4
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
KURK	**Kurchatov**	**48.11**	**302**	*i* P	P	21 06 09.8	-4.6
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KURBB	**Kurchatov Arra**	**48.22**	**302**	P	**P**	**21 06 14.0**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=53,slow=7.9,SNR=9.0						
	comp=Z,0.6nm,0.5s						
MKAR	**Makanchi Array**	**48.94**	**296**	P	**P**	**21 06 17.9**	**-3.0**
MKAR	**Makanchi Array**	**48.94**	**296**	P	**P**	**21 06 19.6**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=52,slow=5.8,SNR=9.5						
	comp=Z,0.3nm,0.4s						
BVAR	**Borovoye Array**	**50.33**	**308**	P	**P**	**21 06 31.1**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=60,slow=6.2,SNR=6.5						
	comp=Z,0.7nm,0.5s						
BRVK	**Borovoye**	**50.35**	**309**	P	**P**	**21 06 31.1**	**-0.4**
BRVK				IAmb	IAmb	21 06 39.8	
	comp=Z,1.9nm,0.7s						
BRVK	**Borovoye**	**50.35**	**309**	*i* P	**P**	**21 06 28.0**	**-3.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARTI	**Arti**	**52.83**	**318**	P	**P**	**21 06 50.1**	**+0.2**
ARTI	**Arti**	**52.83**	**318**	*d* P	**P**	**21 06 49.8**	**-0.1**
ARTI						21 08 46.3	
ARTI				S	**S**	**21 14 13.2**	**-3.9**
ARTI				SS	**SS**	**21 17 45.8**	**-9.4**
ARTI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PD31	**Pinedale Array**	**54.09**	**65**	P	**P**	**21 07 00.5**	**+0.8**
PD31				IAmb	IAmb	21 07 08.2	
	comp=Z,1.8nm,0.8s						
PDAR	**Pinedale Array**	**54.09**	**65**	P	**P**	**21 06 59.9**	**+0.2**
PDAR	**Pinedale Array**	**54.09**	**65**	P	**P**	**21 06 59.3**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=325,slow=4.4,SNR=5.5						
	comp=Z,0.7nm,0.7s						
ULM	**Lac du Bonnet**	**55.09**	**50**	P	**P**	**21 07 07.7**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=297,slow=3.8,SNR=4.5						
	comp=Z,1.3nm,0.6s						
ABKAR	**Akbulak array**	**57.58**	**311**	P	**P**	**21 07 24.3**	**+0.1**
ABKAR	**Akbulak array**	**57.58**	**311**	P	**P**	**21 07 24.5**	**+0.2**
ABKAR				IAmb	IAmb	21 07 25.6	
	comp=Z,3.2nm,0.5s						
FINES	**FINESS Array B**	**58.23**	**338**	P	**P**	**21 07 28.8**	**+0.1**
	comp=Z,2.6nm,1.0s,baz=12,slow=9.8,SNR=3.6						
	comp=Z,2.6nm,1.0s						
OBN	**Obninsk**	**61.18**	**329**	*e*P	**P**	**21 07 47.8**	**-1.2**
OBN				*e**PP	**pwP**	**21 08 01.0**	**+2.2**
OBN				*e**SP	sP	21 08 05.9	+10
OBN				*e*		21 08 27.8	
OBN				*e*		21 10 02.4	
OBN				*e*PPP	PPP	21 11 30.3	
OBN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NB2	**NORSAR Subarra**	**61.25**	**345**	P	**P**	**21 07 50.1**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=18,slow=6.9						
NOA	**NORSAR Array B**	**61.25**	**345**	P	**P**	**21 07 50.0**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=17,slow=6.8,SNR=4.9						
	comp=Z,1.1nm,0.7s						
HFS	**Hagfors**	**61.74**	**344**	P	**P**	**21 07 52.6**	**-0.2**
	comp=Z,4.4nm,1.1s,baz=34,slow=5.6,SNR=5.0						
	comp=Z,4.4nm,1.1s						
SCHQ	**Schefferville**	**61.88**	**31**	P	**P**	**21 07 53.2**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=27,slow=5.1,SNR=4.0						
	comp=Z,1.5nm,0.6s						
AKASG	**Malin Array Be**	**67.17**	**331**	P	**P**	**21 08 28.6**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=29,slow=6.1,SNR=4.3						
	comp=Z,0.8nm,0.4s						
TXAR	**Lajitas Array**	**67.39**	**71**	P	**P**	**21 08 31.2**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=288,slow=5.7,SNR=7.7						
	comp=Z,0.5nm,0.5s						
GERES	**GERESS Array B**	**72.53**	**340**	P	**P**	**21 09 02.6**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=17,slow=5.6,SNR=3.7						
	comp=Z,0.5nm,0.7s						
GERES	**GERESS Array B**	**72.53**	**340**	*e*P	**P**	**21 09 03.4**	**+1.9**
WRA	**Warramunga Arr**	**79.82**	**208**	P	**P**	**21 09 43.4**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=18,slow=5.2,SNR=2.0						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**83.49**	**208**	P	**P**	**21 10 03.8**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=19,slow=5.4,SNR=5.2						
	comp=Z,0.8nm,0.8s						
QSPA	**South Pole Qui**	**145.86**	**180**	PKPbc	**PKPdf**	**21 17 12.5**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=310,slow=0.7,SNR=10						

NEIC ***04*** *21:02:55.2±1.8, 35.685N±0.010×117.47W±0.01, h9km±8km, Error ellipse: s-maj=1.7km s-min=1.5km az=84.0*

PAS 04 21:02:55.9±1.4, 35.69N±0.01×117.49W±0.01, h7km±4km, ML3.6/19, ML3.1/108(NEIC), Error ellipse: s-maj=1.8km s-min=1.7km az=182.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.19**	**149**		Pg	21 03 00.1	+0.4
CCCA					Sg	21 03 03.6	+1.3
TOW	**Tower One**	**0.26**	**298**		Pg	21 03 01.3	+0.4
TOW					Sb	21 03 06.1	-1.4
LRMC	**Laurel Mtn Rad**	**0.26**	**217**		Pg	21 03 01.0	-0.1
WNMM	**Nine Mile Cany**	**0.37**	**294**		Pg	21 03 03.1	-0.1
WVPM	**Volcano Peak E**	**0.37**	**314**		Pg	21 03 03.1	-0.1
WVPM					Sg	21 03 08.8	+0.6
WRVM	**Rose V. Centra**	**0.46**	**314**		Pg	21 03 04.5	-0.2
WRVM					Sg	21 03 11.2	+0.4
DTP	**Desert Tortois**	**0.51**	**215**		Pg	21 03 05.3	-0.5
DTP					Sg	21 03 12.3	-0.2
MFS	**McCloud Flat S**	**0.52**	**325**		Pg	21 03 05.7	-0.3
QSM	**Queen of Sheba**	**0.57**	**61**		Pg	21 03 06.5	-0.4
QSM					Sg	21 03 14.3	-0.1
GSC	**Goldstone, Bar**	**0.68**	**125**		Pg	21 03 08.5	-0.4
CCAC	**Calif City Air**	**0.69**	**219**		Pg	21 03 08.7	-0.4
CCAC				IAML		21 03 22.5	
	comp=E,1μm,0.4s						
ISA	**Isabella, Lake**	**0.81**	**268**		Pg	21 03 10.6	-0.8
ISA				IAML		21 03 22.2	
	comp=N,709nm,0.4s						
ISA				IAML		21 03 22.6	
	comp=E,732nm,0.1s						
GWY	**Greenwater Val**	**0.83**	**53**		Pg	21 03 11.2	-0.6
GWY				IAML		21 03 25.0	
	comp=N,938nm,0.5s						
HYS	**Haystack Butte**	**0.83**	**185**		Pg	21 03 11.0	-0.8
CWC	**Ceftonwood Cre**	**0.89**	**327**		Pg	21 03 13.1	+0.1
CGO	**Cerro Gordo**	**0.90**	**343**		Pg	21 03 12.6	-0.6
EDW2	**Edwards Air Fo**	**0.91**	**207**		Pg	21 03 12.3	-1.0
AMDNV	**Amargosa**	**1.24**	**52**		Pb	21 03 17.9	-1.7
TUQ	**Turquoise Moun**	**1.30**	**101**		Pn	21 03 19.3	-1.2
WCT	**Wildcat Mounta**	**1.30**	**32**		Pn	21 03 19.1	-1.5
WCT				IAML		21 03 39.3	
	comp=E,324nm,0.4s						
WCT				IAML		21 03 39.5	
	comp=N,188nm,0.4s						
GRAC	**Grapevine Rang**	**1.31**	**4**		Pn	21 03 19.8	-0.8
GRAC				IAML		21 03 44.3	
	comp=N,487nm,1.0s						
GRAC				IAML		21 03 45.0	
	comp=E,449nm,0.8s						
TPNV	**Topopah Spring**	**1.60**	**38**		Pn	21 03 23.5	-1.3
TPNV				IAML		21 03 48.9	
	comp=E,247nm,0.4s						
TPNV				IAML		21 03 49.8	
	comp=E,251nm,0.7s						
GMN	**Gold Mountain**	**1.62**	**6**		Pn	21 03 24.3	-0.8
PASC	**Pasadena Art C**	**1.62**	**201**		Pn	21 03 23.8	-1.1
PASC				IAML		21 03 51.4	
	comp=E,244nm,0.5s						
PASC				IAML		21 03 55.0	
	comp=N,128nm,0.6s						
DSP	**Deep Springs**	**1.72**	**347**		Pn	21 03 25.6	-0.7
BCW	**Bitter Crk WRg**	**1.75**	**245**		Pn	21 03 25.6	-1.1
BCW				IAML		21 04 00.3	
	comp=E,278nm,0.6s						
BCW				IAML		21 04 07.6	
	comp=N,278nm,1.1s						
EW2	**E Wide Canyon**	**1.96**	**153**		Pn	21 03 28.3	-1.3
MZP	**Montezuma Peak**	**2.01**	**2**		Pn	21 03 29.9	-0.6
ELS	**Elsinore Mount**	**2.04**	**179**		Pn	21 03 29.8	-0.9
ELS				IAML		21 04 01.5	
	comp=E,81nm,0.3s						
ELS				IAML		21 04 07.9	
	comp=N,98nm,0.5s						
SHPR	**Sheep Range**	**2.05**	**66**		Pn	21 03 30.5	-0.4
SHPR				IAML		21 04 01.9	
	comp=N,74nm,0.7s						
DGR	**Domenigoni Val**	**2.07**	**169**		Pb	21 03 34.5	+0.7
V12A	**Nelson**	**2.14**	**88**		Pn	21 03 30.5	-1.7
V12A				IAML		21 04 05.4	
	comp=N,122nm,0.5s						
V12A				IAML		21 04 07.2	
	comp=E,78nm,0.4s						
PFO	**Pinyon Flats O**	**2.24**	**158**		Pn	21 03 33.3	-0.2
PFO				IAML		21 04 09.3	
	comp=E,97nm,0.9s						
TPH	**Tonopah**	**2.39**	**5**	Pn	Pn	21 03 34.9	-0.7
TPH					Pb	21 03 39.5	+0.2
S11A	**Rachel**	**2.40**	**35**		Pb	21 03 40.5	+1.0
S11A				IAML		21 04 18.8	
	comp=N,149nm,0.6s						
PRN	**Pahroc Range**	**2.60**	**48**	Pn	Pn	21 03 38.0	-0.5
PRN					Pg	21 03 45.3	-0.4
PRN				IAML		21 04 21.5	
	comp=E,124nm,0.8s						
PRN				IAML		21 04 21.5	
	comp=N,132nm,0.8s						
LHV	**Little Huntoon**	**2.68**	**343**		Pn	21 03 39.4	-0.1
LHV				Pg	Pg	21 03 46.1	-1.2
LHV				IAML		21 03 55.7	
	comp=N,53nm,0.6s						
LHV				IAML		21 04 25.1	
	comp=E,42nm,0.6s						
PMPB	**Monarch Peak**	**2.74**	**282**		Pn	21 03 40.6	+0.3
PMPB				IAML		21 04 27.3	
	comp=N,97nm,1.1s						
PMPB				IAML		21 04 42.7	
	comp=E,110nm,1.1s						
NV11	**Mina Array Sit**	**2.79**	**349**		Pn	21 03 40.2	-0.9
NV11				Pg	Pb	21 03 47.7	+1.6
NVAR	**Mina Array Bea**	**2.81**	**347**	Pn	Pn	21 03 40.5	-1.0
NVAR					Pg	21 03 48.4	-1.4
W13A	**Hualapai Mount**	**3.00**	**100**		Pn	21 03 42.4	-1.6
W13A				IAML		21 04 43.7	
	comp=N,35nm,0.9s						
BBGB	**Big Mountain B**	**3.01**	**288**		Pn	21 03 43.9

TGIG			**2.05**	**54**	*eP*		**Pn**	**21 09 05.9**	**+0.3**
TGIG					*eS*		**Sn**	**21 09 31.5**	**+1.6**
TGIG			**2.05**	**54**	*eP*		**Pn**	**21 09 05.9**	**+0.3**
TGIG					*eS*		**Sn**	**21 09 31.3**	**+1.4**
TGIG					IAML			21 09 34.8	
	comp=N,337nm,0.4s								
TGBT	**Tuxtla Gutierr**		**2.08**	**55**	*eS*		**Sn**	**21 09 31.0**	**+0.5**
PEIG	**Puerto Escondi**		**2.24**	**281**	*eP*		**Pn**	**21 09 08.5**	**+0.4**
PEIG					*eS*		**Sn**	**21 09 31.7**	**-3.0**
NEUV	**Arroyo Zacate**		**2.31**	**337**	*eP*		**Pn**	**21 09 09.3**	**+0.3**
NEUV					*eS*		**Sn**	**21 09 36.0**	**-0.2**
VHO	**Vista Hermosa**		**2.34**	**310**	*eP*		**Pn**	**21 09 10.8**	**+1.2**
VHO					*eS*		**Sn**	**21 09 36.9**	**-0.5**
PATR	**El Naranjo**		**2.57**	**100**	*eP*		**Pn**	**21 09 13.4**	**+0.5**
PATR					*eS*		**Sn**	**21 09 41.7**	**-1.4**
PAVE	**Pavencul**		**2.61**	**98**	*eP*		**Pn**	**21 09 13.5**	**+0.1**
PAVE					*eS*		**Sn**	**21 09 43.7**	**-0.4**
CCIG	**Comitan**		**2.71**	**75**	*eP*		**Pn**	**21 09 17.8**	**+3.1**
CCIG					*eS*		**Sn**	**21 09 46.2**	**-0.1**
CCIG	**Comitan**		**2.71**	**75**	*eP*		**Pn**	**21 09 13.0**	**-1.7**
CCIG					IAML			21 09 55.7	
	comp=N,269nm,0.3s								
YOIG	**Yosondua**		**2.88**	**297**	*eP*		**Pn**	**21 09 20.1**	**+2.9**
YOIG					*eS*		**Sn**	**21 09 51.0**	**+0.4**
PNIG	**Pinotepa**		**3.25**	**285**	*eP*		**Pn**	**21 09 23.1**	**+1.1**
PNIG					*eS*		**Sn**	**21 09 57.1**	**-2.3**
TXIG	**Tlaxiaco**		**3.25**	**301**	*eP*		**Pn**	**21 09 25.6**	**+3.3**
TXIG					*e*			21 09 59.2	
TOIG	**Toxpalan**		**3.28**	**320**	*eP*		**Pn**	**21 09 28.5**	**+3.0**
TOIG					*eS*		**Sn**	**21 10 03.6**	**+3.3**
TPIG	**Tehuac#an**		**3.71**	**320**	*eP*		**Pn**	**21 09 32.2**	**+3.8**
TPIG					*eS*		**Sn**	**21 10 13.1**	**+2.1**
FTIG	**Fresnillo de T**		**3.90**	**307**	*eP*		**Pn**	**21 09 27.5**	**-3.6**
FTIG					*eS*		**Sn**	**21 10 14.7**	**-1.0**
MGIG	**Malinaltepec**		**3.98**	**295**	*eP*		**Pn**	**21 09 32.9**	**+0.6**
MGIG					*eS*		**Sn**	**21 10 16.6**	**-1.2**
JAUV	**Jalcomulco**		**4.20**	**334**	*eP*		**Pn**	**21 09 36.2**	**+1.1**
JAUV					*eS*		**Sn**	**21 10 16.8**	**-6.2**

*IDC **04** 21:11:44.8±2.1,56°.36N×163°.90E,h0km,mb3.2/2, mbtmp3.1/3,ML2.2/1,Error ellipse: s-maj=196.1km s-min=25.7km az=142.0*

*KRSC **04** 21:11:45.1±1.5,56°.02N×164°.07E,h21km±29km,Ml3.8*

ISC 04 21:11:44.0±1.8,**56°.10N**±0°.06×**164°.20E**±0°.05,**h1**km±13km, **n35,σ1°67/39,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
KBTR	**Krutoberegovo**	**0.78**	**278**	*eP*		**Pg**	**21 11 58.3**		**-0.6**
KBTR				*eS*		**Sg**	**21 12 08.7**		**-0.3**
KBG	**Krutoberegovo**	**0.85**	**281**	*eP*		**Pg**	**21 11 60.0**		**-0.3**
KBG				*eS*		**Sg**	**21 12 11.5**		**+0.3**
BKI	**Bering**	**1.35**	**131**	*eP*		**Pn**	**21 12 09.9**		**-0.1**
BKI				*eS*		**Sb**	**21 12 28.2**		**+0.4**
SMKR	**Semkarok**	**1.59**	**289**	*eP*		**Pn**	**21 12 12.6**		**-0.9**
ZLN	**Zelenaya**	**1.91**	**269**	*eP*		**Pn**	**21 12 18.5**		**+0.8**
CIRR	**Tsirk**	**1.93**	**272**	*eP*		**Pn**	**21 12 19.0**		**+0.8**
BZGR	**Bezymyannyi-Gr**	**1.97**	**267**	*eP*		**Pn**	**21 12 18.2**		**-0.5**
BZWR	**Bezymyannyi-We**	**2.08**	**268**	*eP*		**Pn**	**21 12 20.7**		**+0.4**
BZMR	**Bezymyannaya**	**2.09**	**267**	*eP*		**Pn**	**21 12 21.1**		**+0.8**
MKZ	**Mys Kozlova**	**2.10**	**223**	*eP*		**Pn**	**21 12 19.5**		**-0.7**
MKZ				*eS*		**Sn**	**21 12 44.4**		**-2.5**
KIRR	**Kirishev**	**2.17**	**268**	*eP*		**Pn**	**21 12 21.9**		**+0.5**
KPT	**Kopyto**	**2.24**	**268**	*eP*		**Pn**	**21 12 23.0**		**+0.7**
KMNR	**Kamenistaya**	**2.26**	**263**	*eP*		**Pn**	**21 12 23.3**		**+0.7**
TUMD	**Tumrok D**	**2.33**	**249**	*eP*		**Pn**	**21 12 23.1**		**-0.4**
TUMD				*eS*		**Sn**	**21 12 51.6**		**-1.3**
KOZ	**Kozyrevsk**	**2.42**	**271**	*eP*		**Pn**	**21 12 26.1**		**+1.3**
OSSR	**Ossora**	**3.22**	**350**	*eP*		**Pn**	**21 12 34.8**		**-0.8**
KII	**Karymskiy**	**3.43**	**235**	*eP*		**Pn**	**21 12 39.6**		**+1.0**
SPN	**Mys Shipunski**	**3.87**	**221**	*eP*		**Pn**	**21 12 43.5**		**-1.1**
SPN				*eS*		**Sn**	**21 13 24.1**		**-6.5**
SDLR	**Sedlovina**	**4.18**	**230**	*eP*		**Pn**	**21 12 49.7**		**+0.6**
KRER	**Koryakskii**	**4.22**	**231**	*eP*		**Pn**	**21 12 51.4**		**+1.7**
KRX	**Arik**	**4.23**	**232**	*eP*		**Pn**	**21 12 52.3**		**+2.6**
SMAR	**Somma**	**4.23**	**230**	*eP*		**Pn**	**21 12 50.3**		**+0.5**
AVH	**Avacha**	**4.26**	**230**	*eP*		**Pn**	**21 12 51.8**		**+1.8**
UGLR	**Uglovaya**	**4.26**	**229**	*eP*		**Pn**	**21 12 50.8**		**+0.7**
KOK	**Koryaka**	**4.28**	**231**	*eP*		**Pn**	**21 12 51.7**		**+1.3**
GNL	**Ganaly**	**4.34**	**239**	*eP*		**Pn**	**21 12 52.0**		**+0.8**
PETK	**Petropavlovsk-**	**4.82**	**234**	Pn		**Pn**	**21 12 59.0**		**+1.2**
	0.5nm,0.3s,baz=74,slow=15,SNR=8.5								
PETK				Sn		**Sn**	**21 13 57.0**		**+2.7**
	0.4nm,0.3s,baz=94,slow=20,SNR=3.7 1.1nm,0.5s								
GRL	**Gorelyy**	**5.05**	**228**	*eP*		**Pn**	**21 13 02.9**		**+2.0**
MTVR	**Mutnovka**	**5.05**	**227**	*eP*		**Pn**	**21 13 02.4**		**+1.3**
ASAK	**Asacha**	**5.25**	**227**	*eP*		**Pn**	**21 13 05.5**		**+1.9**
ILAR	**Eielson Array**	**25.02**	**50**	P		**P**	**21 17 09.6**		**+0.4**
	0.5nm,0.9s,baz=262,slow=8.7,SNR=7.8 0.5nm,0.9s								
H11N2	**WAKE ISLAND Hy 36.37**		**176**	T		T	21 57 24.5		
	baz=357,slow=76,SNR=341								
H11N3	**WAKE ISLAND Hy 36.38**		**176**	T		T	21 57 25.7		
	baz=357,slow=76,SNR=172								
H11N1	**WAKE ISLAND Hy 36.39**		**176**	T		T	21 57 26.5		
	baz=357,slow=76,SNR=238								
TXAR	**Lajitas Array**	**67.33**	**71**	P		**P**	**21 22 42.0**		**+1.4**
	0.2nm,0.8s,baz=311,slow=4.7,SNR=4.1 0.2nm,0.8s								

*NEIC **04** 21:26:34.7±1.6,35°.671N×0°.009×117°.52W±0°.01, h10km±7km,Error ellipse: s-maj=1.7km s-min=1.3km az=91.0*

PAS 04 21:26:35.1±1.6,**35°.677N**×0°.010×**117°.53W**±0°.01, **h7**km±4km,**ML3.0**/22,**ML2.7**/78(NEIC),**Error ellipse: s-maj=1.5km s-min=1.4km az=215.0,Central California**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
SRTC	**Snort**	**0.18**	**275**			Pg	21 26 39.2		+0.4
CCCA	**Chr Cany lake**	**0.20**	**139**			Pg	21 26 39.5		+0.3
CCCA						Sg	21 26 43.1		+1.2
TOW	**Tower One**	**0.23**	**305**			Pg	21 26 40.3		+0.5
TOW						Sg	21 26 44.5		+1.6
LRMC	**Laurel Mtn Rad**	**0.23**	**213**			Pg	21 26 39.6		-0.2
LRMC						Sg	21 26 43.1		+0.1
WNMM	**Nine Mile Cany**	**0.35**	**298**			Pg	21 26 42.0		+0.1
WNMM						Sg	21 26 47.3		+0.7
WVPM	**Volcano Peak E**	**0.36**	**319**			Pg	21 26 42.0		-0.2
WVPM						Sg	21 26 47.2		+0.2
WRVM	**Rose V. Centra**	**0.44**	**318**			Pg	21 26 43.4		-0.3
DTP	**Desert Tortois**	**0.48**	**212**			Pg	21 26 44.0		-0.4
DTP						Sg	21 26 50.7		-0.1
MFS	**McCloud Flat S**	**0.51**	**329**			Pg	21 26 44.8		-0.3
QSM	**Queen of Sheba**	**0.61**	**62**			Pg	21 26 46.5		-0.3
QSM						Sg	21 26 54.6		-0.1
CCAC	**Calif City Air**	**0.66**	**218**			Pg	21 26 47.4		-0.4
GSC	**Goldstone, Bar**	**0.70**	**122**	Pg		Pg	21 26 48.4		-0.2
ISA	**Isabella, Lake**	**0.77**	**269**	Pg		Pg	21 26 49.2		-0.7
ISA					IAML		21 26 59.5		
	comp=N,333nm,0.4s								
ISA					IAML		21 26 59.8		
	comp=E,308nm,0.2s								
ISA				Sg		Sg	21 26 60.0		0.0
GWY	**Greenwater Val**	**0.86**	**54**	Pg		Pg	21 26 51.5		-0.1
GWY					IAML		21 27 05.7		
	comp=N,331nm,0.3s								
GWY					IAML		21 27 11.7		
	comp=E,291nm,0.4s								
EDW2	**Edwards Air Fo**	**0.88**	**206**			Pg	21 26 52.0		0.0
CGO	**Cerro Gordo**	**0.90**	**346**			Pb	21 26 52.8		-0.4
SHOC	**Shoshone, Teco**	**1.04**	**77**			Pg	21 26 54.9		-0.2
ALPC	**Antelope**	**1.17**	**213**			Sb	21 27 13.4		+0.3
CJV	**Casa Juvan**	**1.25**	**204**			Sg	21 27 15.3		0.0
GRAC	**Grapevine Rang**	**1.32**	**6**			Pn	21 26 59.6		-0.4
WCT	**Wildcat Mounta**	**1.33**	**33**			Pn	21 26 58.9		-1.2
WCT						Sb	21 27 17.4		-0.3
WCT					IAML		21 27 19.1		
	comp=E,143nm,0.5s								
WCT					IAML		21 27 19.2		
	comp=N,98nm,0.6s								
CHFC	**Chilao Flat St**	**1.40**	**197**			Pn	21 27 01.4		+0.2
PASC	**Pasadena Art C**	**1.60**	**200**			Pn	21 27 03.0		-0.7
PASC						Sn	21 27 24.6		0.0
PASC					IAML		21 27 27.8		
	comp=E,106nm,0.3s								
PASC					IAML		21 27 30.4		
	comp=N,120nm,0.9s								
GMN	**Gold Mountain**	**1.64**	**8**			Pb	21 27 05.7		0.0
GMN					IAML		21 27 31.9		
	comp=N,70nm,0.5s								
TPNV	**Topopah Spring**	**1.64**	**39**			Pn	21 27 03.2		-1.2
TPNV						Pb	21 27 05.8		+0.1
TPNV					IAML		21 27 29.1		
	comp=N,94nm,0.4s								
TPNV					IAML		21 27 30.5		
	comp=N,97nm,0.4s								
BCW	**Bitter Crk WRg**	**1.71**	**245**			Pn	21 27 05.5		+0.2
BCW					IAML		21 27 32.3		
	comp=N,80nm,0.8s								
BCW					IAML		21 27 37.1		
	comp=E,82nm,1.0s								
DSP	**Deep Springs**	**1.73**	**348**			Pb	21 27 07.0		-0.1
MZP	**Montezuma Peak**	**2.02**	**3**			Pg	21 27 13.2		-0.7
ELS	**Elsinore Mount**	**2.03**	**178**			Pn	21 27 08.7		-1.0
ELS					IAML		21 27 45.2		
	comp=E,30nm,0.6s								
SHPR	**Sheep Range**	**2.09**	**66**			Pn	21 27 09.6		-1.0
V12A	**Nelson**	**2.18**	**88**	Pn		Pn	21 27 11.5		-0.3
V12A					IAML		21 27 44.8		
	comp=N,42nm,0.5s								
V12A					IAML		21 27 50.4		
	comp=E,40nm,0.5s								
CRY	**Cary Ranch**	**2.21**	**163**			Pb	21 27 15.2		-0.2
PFO	**Pinyon Flats O**	**2.24**	**157**			Pb	21 27 16.5		+0.6
TPH	**Tonopah**	**2.41**	**6**			Pb	21 27 19.8		+1.0
S11A	**Rachel**	**2.43**	**36**			Pn	21 27 14.0		-1.3
S11A					IAML		21 27 56.0		
	comp=E,54nm,1.0s								
PRN	**Pahroc Range**	**2.64**	**48**			Pn	21 27 15.8		-2.4
PRN					IAML		21 28 01.6		
	comp=E,32nm,0.8s								
PRN					IAML		21 28 14.4		
	comp=N,38nm,0.8s								
LHV	**Little Huntoon**	**2.69**	**343**			Pg	21 27 25.5		-1.1
LHV					IAML		21 27 37.7		
	comp=N,16nm,0.6s								
LHV					IAML		21 28 10.8		
	comp=E,14nm,0.5s								
PMPB	**Monarch Peak**	**2.71**	**282**	Pn		Pn	21 27 19.2		+0.1
PMPB					IAML		21 28 38.9		
	comp=N,43nm,2.6s								
NV11	**Mina Array Sit**	**2.80**	**350**			Pn	21 27 19.8		-0.6
NVAR	**Mina Array Bea**	**2.82**	**347**			Pb	21 27 27.1		+1.2
BBGB	**Big Mountain B**	**2.98**	**289**	Pn		Pn	21 27 23.2		+0.3
W13A	**Hualapai Mount**	**3.03**	**100**	Pn		Pn	21 27 22.1		-1.5
W13A					IAML		21 28 14.1		
	comp=E,23nm,0.7s								
W13A					IAML		21 28 14.7		
	comp=N,16nm,0.8s								
RYN	**Ryan**	**3.05**	**345**			Pg	21 27 31.9		-1.6
R11B	**Troy Canyon, C**	**3.09**	**30**	Pn		Pn	21 27 26.3		+1.9
R11B					IAML		21 28 14.9		
	comp=E,11nm,0.3s								
BLYC	**Blythe**	**3.13**	**127**	Pn		Pn	21 27 25.2		+0.4
BLYC					IAML		21 28 16.3		
	comp=E,25nm,0.6s								
KNB	**Kanab**	**4.03**	**69**		IAML		21 28 57.0		
	comp=E,5.8nm,1.7s								
KNB					IAML		21 29 02.4		
	comp=N,7.4nm,4.7s								
PSUT	**Pine Spring**	**4.09**	**45**		IAML		21 28 46.3		
	comp=N,6.4nm,0.8s								
PSUT					IAML		21 28 50.7		
	comp=E,7.0nm,1.4s								
SPR3	**Spring Creek 3**	**4.18**	**37**		IAML		21 28 52.6		
	comp=E,8.4nm,0.9s								
SPR3					IAML		21 28 53.9		
	comp=N,6.6nm,2.0s								
WUAZ	**Wupatki**	**5.02**	**90**		IAML		21 29 03.1		
	comp=N,7.0nm,4.1s								
WUAZ					IAML		21 29 13.5		
	comp=N,7.0nm,0.6s								

*NEIC **04** 21:33:33.6±1.7,35°.616N×0°.010×117°.58W±0°.01, h2km±1km,Error ellipse: s-maj=1.8km s-min=1.3km az=61.0*

PAS 04 21:33:34.4±1.4,**35°.62N**±0°.01×**117°.59W**±0°.01,**h5**km±4km, **ML3.1**/20,**ML2.7**/84(NEIC),**Error ellipse: s-maj=2.0km s-min=1.1km az=220.0,Central California**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
SRTC	**Snort**	**0.15**	**300**			Pg	21 33 37.9		+0.5
LRMC	**Laurel Mtn Rad**	**0.15**	**209**			Pg	21 33 37.6		+0.1
LRMC						Sg	21 33 40.1		+0.5
CCCA	**Chr Cany lake**	**0.20**	**116**			Pg	21 33 38.8		+0.4
TOW	**Tower One**	**0.24**	**324**			Pg	21 33 39.5		+0.4
TOW						Sg	21 33 44.0		+1.7
WNMM	**Nine Mile Cany**	**0.34**	**312**			Pg	21 33 41.0		0.0
WNMM						Sg	21 33 46.2		+0.7
WVPM	**Volcano Peak E**	**0.38**	**331**			Pg	21 33 41.6		-0.2
WVPM						Sg	21 33 47.4		+0.5
DTP	**Desert Tortois**	**0.41**	**211**			Pg	21 33 41.9		-0.3
WBSM	**Bird Springs**	**0.46**	**260**			Pg	21 33 43.0		-0.2
WRVM	**Rose V. Centra**	**0.46**	**328**			Pg	21 33 43.0		-0.3
CCAC	**Calif City Air**	**0.58**	**217**	Pg		Pg	21 33 45.3		-0.2
CCAC					IAML		21 33 58.4		
	comp=N,540nm,0.2s								
CCAC					IAML		21 33 58.6		
	comp=E,680nm,0.3s								
QSM	**Queen of Sheba**	**0.68**	**59**			Pg	21 33 47.1		-0.4
QSM						Sg	21 33 56.2		-0.2
QSM					IAML		21 33 59.5		
	comp=E,552nm,0.3s								
GSC	**Goldstone, Bar**	**0.71**	**116**			Pg	21 33 47.7		-0.3
ISA	**Isabella, Lake**	**0.72**	**274**			Pg	21 33 47.7		-0.5
ISA					IAML		21 33 58.3		
	comp=N,555nm,0.2s								
GWY	**Greenwater Val**	**0.94**	**52**			Pg	21 33 51.9		-0.5
GWY					IAML		21 34 07.4		
	comp=N,265nm,0.3s								
GWY					IAML		21 34 10.9		
	comp=E,251nm,0.6s								
SBB	**Saddle Back Bu**	**0.94**	**192**			Pg	21 33 52.1		-0.4
SPG2	**Springville 2**	**1.12**	**302**			Pg	21 33 54.8		-1.0
HOLC	**Holcomb Ridge**	**1.17**	**190**			Pg	21 33 56.1		-0.7
GRAC	**Grapevine Rang**	**1.39**	**7**			Pn	21 33 59.9		-0.6
GRAC					IAML		21 34 24.2		
	comp=E,171nm,0.8s								
WCT	**Wildcat Mounta**	**1.41**	**33**			Pn	21 33 59.4		-1.4
SIL	**Silver Peak**	**1.41**	**153**			Pn	21 34 00.8		0.0
PASC	**Pasadena Art C**	**1.52**	**199**			Pn	21 34 01.4		-0.8
PASC					IAML		21 34 24.7		
	comp=N,69nm,0.4s								
PASC					IAML		21 34 27.8		
	comp=E,96nm,0.8s								
OAT	**Oat Mountain**	**1.52**	**214**			Pg	21 34 03.7		+0.1
BCW	**Bitter Crk WRg**	**1.64**	**246**			Pn	21 34 04.0		+0.2
BCW					IAML		21 34 30.5		
	comp=E,70nm,0.5s								
BCW					IAML		21 34 31.7		
	comp=N,78nm,1.0s								
GMN	**Gold Mountain**	**1.70**	**9**			Pn	21 34 04.3		-0.6
TPNV	**Topopah Spring**	**1.71**	**39**			Pn	21 34 04.3		-0.7
TPNV					IAML		21 34 32.6		
	comp=N,50nm,0.5s								
TPNV					IAML		21 34 37.8		
	comp=N,53nm,0.6s								
DSP	**Deep Springs**	**1.78**	**350**			Pn	21 34 04.6		-1.1
DSP					IAML		21 34 31.9		
	comp=E,48nm,0.4s								
GMRC	**Granite Mounta**	**1.78**	**117**			Pn	21 34 03.6		-2.3
MTUM	**Tungsten Hills**	**1.90**	**336**			Pb	21 34 09.5		-0.1
ELS	**Elsinore Mount**	**1.97**	**176**			Pn	21 34 07.4		-1.0
ELS					IAML		21 34 36.8		
	comp=E,70nm,0.3s								
ELS					IAML		21 34 43.8		
	comp=N,59nm,0.5s								
MZP	**Montezuma Peak**	**2.09**	**4**			Pn	21 34 09.4		-0.8
MZP				Pg		Pb	21 34 13.5		+0.7
SHPR	**Sheep Range**	**2.16**	**65**			Pn	21 34 09.6		-1.5
CRY	**Cary Ranch**	**2.16**	**161**			Pn	21 34 10.6		-0.5
PFO	**Pinyon Flats O**	**2.21**	**155**			Pb	21 34 15.3		+0.5
PFO	**Pinyon Flats O**	**2.21**	**155**	Pn		Pn	21 34 10.3		-1.4
PFO				Pg		Pb	21 34 15.4		+0.6
PFO					IAML		21 34 50.7		
	comp=N,21nm,0.6s								
PFO					IAML		21 34 51.9		
	comp=N,20nm,0.8s								
V12A	**Nelson**	**2.23**	**86**			Pg	21 34 16.2		-0.9
V12A					IAML		21 34 48.3		
	comp=E,34nm,0.4s								
V12A					IAML		21 34 53.2		
	comp=N,39nm,1.4s								
BENR	**Benton**	**2.24**	**340**			Pb	21 34 15.6		+0.2
TPH	**Tonopah**	**2.47**	**7**	Pn		Pn	21 34 15.0		-0.5
TPH						Pg	21 34 20.7		-1.0
BBGB	**Big Mountain B**	**2.96**	**290**	Pn		Pn	21 34 20.9		-1.1
W13A	**Hualapai Mount**	**3.07**	**99**	Pn		Pn	21 34 22.1		-1.6
W13A					IAML		21 35 14.9		
	comp=N,15nm,0.8s								
W13A					IAML		21 35 15.5		
	comp=E,13nm,0.8s								
RYN	**Ryan**	**3.10**	**346**	Pn		Pn	21 34 23.7		-0.3
TJX	**Tijuana**	**3.13**	**172**	Pn		Pn	21 34 23.0		-1.3
BLYC	**Blythe**	**3.14**	**125**	Pn		Pn	21 34 22.1		-2.2
BLYC					IAML		21 35 16.9		
	comp=E,17nm,0.5s								
BLYC					IAML		21 35 19.4		
	comp=N,22nm,0.7s								
R11B	**Troy Canyon, C**	**3.17**	**30**			Pn	21 34 23.3		-1.7
WAKR	**Walker**	**3.24**	**333**	Pn		Pn	21 34 25.2		-0.8
WAKR					IAML		21 35 29.6		
	comp=N,11nm,1.2s								
YUH	**Yuha Desert**	**3.27**	**155**	Pg		Pb	21 34 34.6		+1.8
YUH					IAML		21 34 56.0		
	comp=N,12nm,4.3s								
YUH					IAML		21 34 59.4		
	comp=E,11nm,4.2s								
CMB	**Columbia Colle**	**3.30**	**318**		IAML		21 35 20.7		
	comp=N,16nm,0.6s								
CMB					IAML		21 35 23.2		
	comp=E,21nm,0.7s								
SAO	**San Andreas Ge**	**3.32**	**291**	Pn		Pn	21 34 26.9		0.0
CBX	**Cerro Bola**	**3.38**	**167**	Pn		Pn	21 34 27.3		-0.6
GLA	**Glamis**	**3.43**	**137**	Pn		Pn	21 34 25.8		-2.7
GLA					IAML		21 35 33.0		
	comp=E,25nm,0.7s								
GLA					IAML		21 35 33.8		
	comp=N,16nm,0.6s								
LCMT	**Little Creek M**	**3.78**	**67**			Pb	21 34 43.0		+1.4
ESJX	**Sierra Juarez**	**3.85**	**159**	Pn		Pn	21 34 33.8		-0.6
KNB	**Kanab**	**4.10**	**69**		IAML		21 35 56.1		
	comp=N,6.8nm,1.4s								
KNB					IAML		21 36 05.8		
	comp=E,7.8nm,4.6s								
Y14A	**Wickenburg**	**4.13**	**113**		IAML		21 35 44.3		
	comp=E,12nm,0.5s								
Y14A					IAML		21 35 54.9		
	comp=N,14nm,0.7s								
PSUT	**Pine Spring**	**4.17**	**45**		IAML		21 36 04.6		
	comp=E,7.0nm,3.4s								
PSUT					IAML		21 36 10.8		
	comp=N,5.9nm,3.9s								
SPR3	**Spring Creek 3**	**4.26**	**37**		IAML		21 35 17.8		
	comp=E,5.4nm,4.1s								
SPR3					IAML		21 35 57.9		
	comp=N,4.8nm,2.9s								

*NEIC **04** 21:40:33.1±1.9,35°.666N±0°.007×117°.49W±0°.01, h8km±8km,Error ellipse: s-maj=1.5km s-min=1.0km az=81.0*

PAS 04 21:40:33.5±1.9,**35°.669N**±0°.006×**117°.52W**±0°.01, **h2**km±3km,**ML3.4**/20,**ML3.2**/112(NEIC),**Error ellipse: s-maj=1.5km s-min=0.9km az=100.0,Central California**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
SRTC	**Snort**	**0.19**	**277**			Sg	21 40 41.5		+1.9
CCCA	**Chr Cany lake**	**0.19**	**139**			Pg	21 40 37.9		+0.7
LRMC	**Laurel Mtn Rad**	**0.23**	**215**			Pg	21 40 38.1		+0.2
LRMC						Sg	21 40 41.7		+0.8
TOW	**Tower One**	**0.24**	**305**			Pg	21 40 38.8		+0.7
WNMM	**Nine Mile Cany**	**0.36**	**299**			Pg	21 40 40.7		+0.4
WVPM	**Volcano Peak E**	**0.37**	**319**			Pg	21 40 40.8		+0.2
WRVM	**Rose V. Centra**	**0.45**	**318**			Pg	21 40 42.2		+0.1
DTP	**Desert Tortois**	**0.48**	**214**			Pg	21 40 42.6		0.0
DTP						Sg	21 40 49.3		+0.4
WBSM	**Bird Springs**	**0.52**	**256**			Pg	21 40 43.5		+0.1
MFS	**McCloud Flat S**	**0.52**	**329**			Pg	21 40 43.6		+0.1
QSM	**Queen of Sheba**	**0.61**	**61**			Pg	21 40 45.0		0.0
QSM						Sg	21 40 53.2		+0.3
QSM					IAML		21 40 53.6		
	comp=E,2μm,0.2s								
QSM					IAML		21 40 54.5		
	comp=N,2μm,0.3s								
CCAC	**Calif City Air**	**0.66**	**218**			Pg	21 40 45.9		-0.1
CCAC						Sg	21 40 55.1		+0.6
CCAC					I

comp=N,128nm,0.7s
PRN IAML 21 42 10.7
comp=E,135nm,0.8s
LHV Little Huntoon 2.69 343 Pn 21 41 17.9 +0.1
LHV IAML 21 42 06.9
comp=E,78nm,0.7s
PMPB Monarch Peak 2.72 283 Pn 21 41 18.3 0.0
NV11 Mina Array Sit 2.80 350 Pn 21 41 19.4 0.0
NV11 Pg 21 41 26.1 -1.1
NVAR Mina Array Bea 2.83 347 Pn 21 41 19.6 -0.2
NVAR Pg Pb 21 41 26.1 +1.3
BBGB Big Mountain B 2.99 289 Pn 21 41 22.4 +0.4
W13A Hualapai Mount 3.02 100 IAML 21 42 12.9
comp=N,59nm,1.2s
W13A IAML 21 42 21.5
comp=E,47nm,1.0s
BLYC Blythe 3.12 127 IAML 21 42 13.8
comp=N,103nm,0.5s
BLYC IAML 21 42 14.9
comp=E,85nm,0.5s
CMB Columbia Colle 3.30 317 IAML 21 42 22.1
comp=E,64nm,0.9s
CMB IAML 21 42 23.9
comp=N,53nm,0.7s
ESJX Sierra Juarez 3.88 160 IAML 21 42 40.0
comp=E,25nm,0.9s
PSUT Pine Spring 4.09 45 IAML 21 42 48.0
comp=E,21nm,0.8s
PSUT IAML 21 42 48.1
comp=N,23nm,0.9s
Y14A Wickenburg 4.10 114 IAML 21 42 50.9
comp=E,49nm,0.6s
SPR3 Spring Creek 3 4.18 36 IAML 21 42 46.4
comp=N,22nm,0.8s
SPR3 IAML 21 42 50.9
comp=E,21nm,0.9s
113A Mohawk Valley, 4.25 132 IAML 21 42 49.5
comp=N,20nm,0.8s
113A IAML 21 42 51.6
comp=E,17nm,0.6s
AFDM Forest Hills D 4.28 321 IAML 21 42 52.2
comp=N,32nm,0.4s
AFDM IAML 21 42 57.9
comp=E,38nm,0.8s
BEKR Beckworth 4.76 333 IAML 21 43 18.9
comp=E,29nm,0.8s
BEKR IAML 21 43 19.0
comp=N,13nm,0.6s
WUAZ Wupatki 5.01 90 IAML 21 43 11.9
comp=N,25nm,0.5s
WUAZ IAML 21 43 12.6
comp=N,18nm,0.8s
X16A Lo Mia Camp, P 5.14 102 IAML 21 43 17.8
comp=N,11nm,1.5s
X16A IAML 21 43 19.8
comp=E,12nm,1.2s

NEIC ***04*** *21:47:03.9±1.5, 35°.64N±0°.01×117°.60W±0°.02, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.2km az=55.0*
PAS 04 21:47:04.4±1.2, 35°.63N±0°.01×117°.61W±0°.01, h9km±7km, ML3.3/19,**ML2.9**/76(NEIC), **Error ellipse: s-maj=1.8km s-min=1.5km az=52.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mtn Rad**	**0.16**	**202**		Pg	21 47 07.9	-0.1
LRMC					Sg	21 47 10.7	+0.2
TOW	**Tower One**	**0.22**	**324**		Pg	21 47 09.3	+0.4
TOW					Sg	21 47 13.4	+1.5
CCCA	**Chr Cany lake**	**0.23**	**118**		Pg	21 47 09.3	+0.3
CCCA					Sg	21 47 13.1	+1.0
WNMM	**Nine Mile Cany**	**0.32**	**311**		Pg	21 47 10.7	-0.1
WVPM	**Volcano Peak E**	**0.36**	**332**		Pg	21 47 11.3	-0.2
WVPM					Sg	21 47 16.5	+0.2
DTP	**Desert Tortois**	**0.41**	**208**		Pg	21 47 12.1	-0.4
WRVM	**Rose V. Centra**	**0.44**	**329**		Pg	21 47 12.7	-0.4
WRVM					Sg	21 47 18.9	+0.1
CCAC	**Calif City Air**	**0.58**	**215**	Pg	Pg	21 47 15.3	-0.4
QSM	**Queen of Sheba**	**0.69**	**61**		Pg	21 47 17.3	-0.4
QSM					Sg	21 47 26.2	-0.4
ISA	**Isabella, Lake**	**0.71**	**273**	Pg	Pg	21 47 17.4	-0.7
ISA				Sg	Sg	21 47 26.9	-0.4
ISA				IAML		21 47 28.1	
	comp=N,338nm,0.2s						
ISA				IAML		21 47 30.2	
	comp=E,369nm,0.2s						
GSC	**Goldstone, Bar**	**0.73**	**117**	Pg	Pg	21 47 17.9	-0.6
GSC				Sg	Sg	21 47 27.8	-0.3
GSC				IAML		21 47 30.6	
	comp=N,789nm,0.5s						
HYS	**Haystack Butte**	**0.77**	**178**		Pg	21 47 18.5	-0.7
WASM	**Alta Sierra Ca**	**0.78**	**278**		Pg	21 47 18.8	-0.7
EDW2	**Edwards Air Fo**	**0.81**	**203**		Pg	21 47 19.4	-0.7
RRX	**Edison Barstow**	**0.91**	**146**		Pg	21 47 21.5	-0.4
CGO	**Cerro Gordo**	**0.93**	**350**		Pg	21 47 21.7	-0.7
GWY	**Greenwater Val**	**0.94**	**54**		Pg	21 47 22.0	-0.6
GWY	**Greenwater Val**	**0.94**	**54**		Sg	21 47 34.6	-0.2
SPG2	**Springville 2**	**1.10**	**301**		Pg	21 47 24.4	-1.1
THC	**Tehachapi Micr**	**1.13**	**230**		Pg	21 47 25.3	-0.8
LEOC	**Leona Valley**	**1.15**	**210**		Pg	21 47 26.3	-0.2
VES	**Vestal, Richgr**	**1.22**	**280**		Pn	21 47 27.1	-0.5
GRAC	**Grapevine Rang**	**1.38**	**8**		Pn	21 47 29.4	-0.4
GRAC				IAML		21 47 52.8	
	comp=N,238nm,0.6s						
GRAC				IAML		21 47 55.5	
	comp=E,241nm,0.3s						
TUQ	**Turquoise Moun**	**1.39**	**98**		Pn	21 47 28.9	-1.2
SSK	**Sunset Peak**	**1.42**	**183**		Pb	21 47 31.2	+0.1
SS2	**San Sevaine**	**1.42**	**176**		Pn	21 47 30.7	+0.3
PASC	**Pasadena Art C**	**1.53**	**198**		Pn	21 47 31.6	-0.3
PASC				IAML		21 47 54.5	
	comp=N,165nm,0.5s						
PASC				IAML		21 47 56.8	
	comp=E,199nm,0.6s						
VOG	**Valley Oaks Go**	**1.59**	**296**		Pb	21 47 33.5	-0.5
LCH	**Last Change Ra**	**1.60**	**359**		Pn	21 47 32.2	-0.8
BCW	**Bitter Crk WRg**	**1.63**	**245**	Pn	Pn	21 47 32.7	-0.7
BCW				IAML		21 48 00.9	
	comp=N,133nm,0.8s						
BCW				IAML		21 48 09.4	
	comp=E,147nm,0.7s						
GMN	**Gold Mountain**	**1.69**	**9**	Pn	Pn	21 47 33.8	-0.5
GMN				IAML		21 47 44.7	
	comp=N,74nm,0.5s						
TPNV	**Topopah Spring**	**1.71**	**39**	Pn	Pn	21 47 34.8	+0.2
TPNV				IAML		21 48 02.7	
	comp=N,195nm,0.5s						
TPNV				IAML		21 48 02.8	
	comp=N,207nm,0.6s						
DSP	**Deep Springs**	**1.76**	**351**	Pn	Pn	21 47 34.2	-0.9
POCCA	**Poleta Canyon**	**1.81**	**343**		Pb	21 47 37.7	-0.1
ELS	**Elsinore Mount**	**1.98**	**176**		Pn	21 47 37.9	-0.4
ELS				IAML		21 48 10.6	
	comp=E,62nm,0.7s						
ELS				IAML		21 48 11.6	
	comp=N,60nm,0.3s						
MZP	**Montezuma Peak**	**2.07**	**5**	Pn	Pn	21 47 38.9	-0.7
SHPR	**Sheep Range**	**2.17**	**66**	Pn	Pn	21 47 38.8	-2.1
PFO	**Pinyon Flats O**	**2.23**	**155**		Pn	21 47 40.6	-1.0
PFO				IAML		21 48 16.7	
	comp=N,66nm,0.7s						
PFO				IAML		21 48 16.8	
	comp=N,66nm,0.8s						
V12A	**Nelson**	**2.25**	**87**	Pn	Pn	21 47 40.6	-1.2
V12A				IAML		21 48 21.3	
	comp=E,42nm,0.4s						
TPH	**Tonopah**	**2.46**	**7**	Pn	Pn	21 47 44.5	-0.4
TPH					Pb	21 47 50.0	+1.1
PMPB	**Monarch Peak**	**2.66**	**284**	Pn	Pn	21 47 48.6	+1.1
LHV	**Little Huntoon**	**2.71**	**345**	Pn	Pn	21 47 48.0	-0.1
LHV					Pg	21 47 55.5	-0.9
LHV				IAML		21 48 51.6	
	comp=E,27nm,1.5s						
PRN	**Pahroc Range**	**2.72**	**49**	Pg	Pg	21 47 55.8	-0.7
PRN				IAML		21 48 39.9	
	comp=E,77nm,0.8s						
PRN				IAML		21 48 39.9	
	comp=N,71nm,0.6s						
NV11	**Mina Array Sit**	**2.83**	**351**	Pn	Pn	21 47 49.6	-0.3
NVAR	**Mina Array Bea**	**2.85**	**349**	Pn	Pn	21 47 50.3	+0.1
NVAR					Pg	21 47 57.3	-1.7
BBGB	**Big Mountain B**	**2.94**	**290**	Pn	Pn	21 47 51.8	+0.4
RYN	**Ryan**	**3.08**	**347**	Pn	Pn	21 47 52.9	-0.5
RYN					Pg	21 48 01.9	-1.5
W13A	**Hualapai Mount**	**3.09**	**99**		Pn	21 47 51.9	-1.6
YUH	**Yuha Desert**	**3.29**	**154**	IAML		21 48 50.0	
	comp=N,18nm,0.6s						
KNB	**Kanab**	**4.10**	**69**	IAML		21 49 23.5	
	comp=E,8.6nm,1.0s						
KNB				IAML		21 49 30.0	
	comp=N,8.7nm,2.3s						
Y14A	**Wickenburg**	**4.15**	**113**	IAML		21 49 21.8	
	comp=E,20nm,0.4s						
Y14A				IAML		21 49 27.3	
	comp=N,18nm,0.8s						
AFDM	**Forest Hills D**	**4.26**	**322**	IAML		21 49 22.4	
	comp=N,18nm,0.8s						
113A	**Mohawk Valley,**	**4.28**	**131**	IAML		21 49 27.1	
	comp=N,7.9nm,0.7s						
113A				IAML		21 49 30.6	
	comp=E,8.8nm,2.8s						
WUAZ	**Wupatki**	**5.08**	**89**	IAML		21 49 05.2	
	comp=E,7.7nm,1.4s						
WUAZ				IAML		21 50 03.6	
	comp=E,8.6nm,2.4s						
X16A	**Lo Mia Camp, P**	**5.20**	**102**	IAML		21 50 09.8	
	comp=N,4.7nm,2.3s						
X16A				IAML		21 50 44.0	
	comp=E,4.1nm,4.6s						

IDC ***04*** *22:02:11.9±0.9, 0°.98S×26°.85E, h0km, mb4.0/12, mbtmp4.0/13, ML3.6/1, MS3.5/3, Error ellipse: s-maj=34.9km s-min=17.7km az=88.0*
ISC 04 22:02:12.9±0.7, 1°.08S±0°.09×26°.9E±0°.2, h10km, n19, σ1°.25/15, mb4.1/12, MS3.5/3, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**14.17**	**175**	Pn	**Pn**	**22 05 31.7**	**-2.2**
	0.5nm,0.3s,baz=2.9,slow=13,SNR=3.5						
LSZ				Sn	Sn	22 08 01.6	-10
	1.2nm,0.3s,baz=118,slow=15,SNR=5.1						
LSZ				Lg	Lg	22 09 39.3	
	1.5nm,0.3s,baz=280,slow=22,SNR=5.1						
MATP	**Matopo**	**19.29**	**175**	P	**P**	**22 06 38.6**	**+0.3**
	0.2nm,0.3s,baz=358,slow=14,SNR=14						
	2.0nm,0.8s						
TSUM	**Tsumeb**	**20.18**	**206**	S	S	22 10 24.1	-11
	3.0nm,0.6s,baz=129,slow=21,SNR=3.8						
BOSA	**Boshof**	**27.42**	**183**	P	**P**	**22 08 00.6**	**+1.5**
	2.0nm,0.8s,baz=344,slow=10,SNR=3.8						
	2.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**28.70**	**300**	LR	LR	22 18 50.3	
	comp=Z,116nm,20.0s,baz=340,slow=35						
DBIC	**Dimbokro**	**32.59**	**284**	P	**P**	**22 08 45.3**	**+0.4**
	6.3nm,0.9s,baz=123,slow=6.9,SNR=6.2						
	6.3nm,0.9s						
ASF	**Jabal al Asfar**	**34.41**	**15**	LR	LR	22 21 02.4	
	comp=Z,40nm,19.7s,baz=81,slow=33						
KEST	**Kesra**	**40.11**	**338**	P	**P**	**22 09 47.4**	**-1.6**
	2.2nm,0.7s,baz=159,slow=1.6,SNR=4.3						
	2.2nm,0.7s						
BRTR	**Keskin Array B**	**41.08**	**8**	P	**P**	**22 09 58.0**	**+1.0**
	1.3nm,0.6s,baz=178,slow=9.9,SNR=10						
	1.3nm,0.6s						
ESDC	**Sonseca Array**	**49.41**	**329**	P	**P**	**22 11 03.2**	**+0.1**
	0.4nm,0.7s,baz=153,slow=8.7,SNR=4.6						
	0.4nm,0.7s						
GERES	**GERESS Array B**	**51.02**	**349**	P	**P**	**22 11 14.8**	**-0.4**
	0.3nm,0.4s,baz=156,slow=6.7,SNR=5.7						
	0.3nm,0.4s						
HFS	**Hagfors**	**61.90**	**353**	P	**P**	**22 12 33.1**	**+0.7**
	1.3nm,0.5s,baz=188,slow=9.0,SNR=7.6						
	1.3nm,0.5s						
FINES	**FINESS Array B**	**62.36**	**360**	P	**P**	**22 12 34.3**	**-1.1**
	1.6nm,0.9s,baz=131,slow=5.3,SNR=4.1						
	1.6nm,0.9s						
NB2	**NORSAR Subarra**	**63.12**	**352**	P	**P**	**22 12 40.7**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=165,slow=6.5						
NOA	**NORSAR Array B**	**63.12**	**352**	P	**P**	**22 12 40.0**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=140,slow=8.2,SNR=8.2						
	comp=Z,1.1nm,0.6s						
MKAR	**Makanchi Array**	**67.89**	**38**	P	**P**	**22 13 11.8**	**0.0**
	comp=Z,0.5nm,0.6s,baz=253,slow=7.1,SNR=5.6						
	comp=Z,0.5nm,0.6s						
ARCES	**ARCESS Array B**	**70.49**	**359**	P	**P**	**22 13 27.4**	**0.0**
	comp=Z,2.6nm,1.0s,baz=169,slow=5.3,SNR=3.6						
	comp=Z,2.6nm,1.0s						
MAW	**Mawson**	**70.90**	**166**	LR	LR	22 43 49.1	
	comp=Z,56nm,18.2s,baz=300,slow=35						
QSPA	**South Pole Qui**	**88.96**	**180**	P	**P**	**22 15 10.2**	**+2.4**
	comp=Z,1.6nm,0.9s,baz=292,slow=1.4,SNR=4.1						
	comp=Z,1.6nm,0.9s						

IDC 04 22:02:27.9±1.8, 1°.83N×126°.85E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=166.2km s-min=21.7km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.85**	**162**	P	P	22 07 32.1	-0.9
	2.7nm,0.9s,baz=340,slow=11,SNR=20						
	2.7nm,0.9s						
ASAR	**Alice Springs**	**26.25**	**165**	P	P	22 08 05.9	+0.8
	0.9nm,0.7s,baz=354,slow=15,SNR=7.4						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**59.18**	**326**	P	P	22 12 31.1	+0.2
	0.2nm,0.3s,baz=119,slow=8.5,SNR=5.3						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**63.40**	**328**	P	P	22 12 58.9	-0.3
	0.3nm,0.5s,baz=125,slow=6.3,SNR=4.6						
	0.3nm,0.5s						

NEIC ***04*** *22:02:34.5±1.6, 35°.68N±0°.01×117°.52W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.8km az=8.0*
PAS 04 22:02:35.1±1.6, 35°.68N±0°.01×117°.52W±0°.02, h3km±4km, ML3.4/21,**ML3.1**/114(NEIC), **Error ellipse: s-maj=2.4km s-min=1.4km az=74.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.20**	**141**		Pg	22 02 39.5	+0.6
CCCA					Sg	22 02 42.9	+1.5
LRMC	**Laurel Mtn Rad**	**0.24**	**215**		Pg	22 02 39.9	+0.2
WNMM	**Nine Mile Cany**	**0.36**	**298**		Pg	22 02 42.2	+0.2
WVPM	**Volcano Peak E**	**0.37**	**318**		Pg	22 02 42.3	+0.1
WVPM					Sg	22 02 47.8	+0.8
WRVM	**Rose V. Centra**	**0.45**	**317**		Pg	22 02 43.7	0.0
DTP	**Desert Tortois**	**0.49**	**213**		Pg	22 02 44.3	-0.2
DTP					Sg	22 02 51.0	+0.1
MFS	**McCloud Flat S**	**0.52**	**328**		Pg	22 02 45.1	+0.1
QSM	**Queen of Sheba**	**0.60**	**61**		Pg	22 02 46.4	-0.1
CCAC	**Calif City Air**	**0.67**	**218**		Pg	22 02 47.7	-0.2
GSC	**Goldstone, Bar**	**0.69**	**123**		Pg	22 02 48.1	-0.2
ISA	**Isabella, Lake**	**0.78**	**269**		Pg	22 02 49.8	-0.3
ISA				IAML		22 03 00.6	
	comp=N,830nm,0.3s						
ISA				IAML		22 03 00.8	
	comp=E,944nm,0.5s						
GWY	**Greenwater Val**	**0.85**	**53**		Pg	22 02 51.1	-0.3
GWY				IAML		22 03 08.5	
	comp=E,1μm,0.4s						
GWY				IAML		22 03 10.1	
	comp=N,997nm,0.8s						
SHOC	**Shoshone, Teco**	**1.03**	**77**		Pg	22 02 55.1	+0.2
VTV	**Victorville**	**1.12**	**172**		Pg	22 02 56.8	+0.1
DSCC	**Desert Studies**	**1.27**	**114**		Pg	22 02 57.8	-1.6
TUQ	**Turquoise Moun**	**1.32**	**100**		Pg	22 02 59.3	-1.1
GRAC	**Grapevine Rang**	**1.32**	**5**		Pg	22 02 59.8	-0.7
GRAC				IAML		22 03 20.9	
	comp=N,446nm,0.7s						
GRAC				IAML		22 03 22.4	
	comp=E,484nm,0.7s						
WCT	**Wildcat Mounta**	**1.32**	**33**		Pg	22 02 59.4	-1.2
WCT				IAML		22 03 19.8	
	comp=E,239nm,0.5s						
CHFC	**Chilao Flat St**	**1.41**	**198**		Pn	22 03 01.2	-0.6
PASC	**Pasadena Art C**	**1.60**	**200**		Pn	22 03 03.2	-1.1
PASC				IAML		22 03 32.0	
	comp=E,177nm,0.5s						
TPNV	**Topopah Spring**	**1.63**	**38**		Pn	22 03 03.8	-1.1
TPNV				IAML		22 03 31.6	
	comp=E,135nm,0.7s						
TPNV				IAML		22 03 33.9	
	comp=E,193nm,0.6s						
GMN	**Gold Mountain**	**1.63**	**7**		Pn	22 03 04.0	-1.0
GMN				IAML		22 03 33.0	
	comp=N,154nm,0.6s						
BCW	**Bitter Crk WRg**	**1.72**	**245**		Pn	22 03 05.8	-0.3
BCW				IAML		22 03 34.6	
	comp=N,319nm,0.9s						
BCW				IAML		22 03 43.2	
	comp=E,322nm,1.1s						
DSP	**Deep Springs**	**1.73**	**348**		Pn	22 03 05.0	-1.0
DSP					Pb	22 03 05.6	-1.9
DSP				IAML		22 03 34.2	
	comp=E,141nm,0.8s						
MZP	**Montezuma Peak**	**2.02**	**3**		Pn	22 03 09.6	-0.7
ELS	**Elsinore Mount**	**2.03**	**178**		Pn	22 03 09.2	-1.1
ELS				IAML		22 03 42.7	
	comp=E,90nm,0.5s						
ELS				IAML		22 03 42.9	
	comp=N,84nm,0.5s						
SHPR	**Sheep Range**	**2.08**	**66**		Pn	22 03 10.9	-0.2
V12A	**Nelson**	**2.17**	**88**		Pn	22 03 11.0	-1.2
V12A				IAML		22 03 47.3	
	comp=E,89nm,0.5s						
V12A				IAML		22 03 53.1	
	comp=N,106nm,0.5s						
PFO	**Pinyon Flats O**	**2.24**	**157**		Pn	22 03 11.6	-1.6
PFO				IAML		22 03 48.8	
	comp=N,96nm,0.8s						
TPH	**Tonopah**	**2.40**	**6**		Pn	22 03 15.3	-0.2
S11A	**Rachel**	**2.42**	**35**		Pg	22 03 21.2	-0.3
S11A				IAML		22 03 59.0	
	comp=E,174nm,0.8s						
S11A				IAML		22 04 01.7	
	comp=N,137nm,1.1s						
PSMM	**Smith Mountain**	**2.53**	**280**		Pb	22 03 19.5	-1.8
PRN	**Pahroc Range**	**2.63**	**48**		Pn	22 03 17.7	-0.9
PRN				IAML		22 04 07.5	
	comp=E,119nm,0.8s						
LHV	**Little Huntoon**	**2.69**	**343**		Pn	22 03 20.2	+1.0
LHV				IAML		22 04 06.9	
	comp=N,64nm,0.6s						
LHV				IAML		22 04 10.3	
	comp=E,68nm,0.7s						
PMPB	**Monarch Peak**	**2.72**	**282**		Pn	22 03 20.6	+0.8
PMPB				IAML		22 04 06.2	
	comp=N,134nm,0.7s						
PMPB				IAML		22 04 11.4	
	comp=E,114nm,0.9s						
NV11	**Mina Array Sit**	**2.80**	**350**		Pn	22 03 20.7	-0.2
NVAR	**Mina Array Bea**	**2.82**	**347**		Pn	22 03 21.5	+0.2
MYLM	**Yosemite Lake**	**2.89**	**307**		Pb	22 03 26.4	-1.0
BBGB	**Big Mountain B**	**2.99**	**289**		Pn	22 03 22.7	-0.9
W13A	**Hualapai Mount**	**3.02**	**100**	Pg	Pg	22 03 32.2	-0.8
W13A				IAML		22 04 20.8	
	comp=N,44nm,0.9s						
RYN	**Ryan**	**3.05**	**345**		Pn	22 03 24.1	-0.3
RYN				Pg	Pg	22 03 33.6	0.0
R11B	**Troy Canyon, C**	**3.08**	**30**		Pn	22 03 24.8	-0.1
BLYC	**Blythe**	**3.12**	**127**	IAML		22 04 16.3	
	comp=E,78nm,0.5s						
BLYC				IAML		22 04 16.9	
	comp=N,85nm,0.6s						
WAKR	**Walker**	**3.21**	**332**		Pn	22 03 26.2	-0.5
CMB	**Columbia Colle**	**3.29**	**316**		Pn	22 03 27.8	+0.2
CMB				IAML		22 04 25.7	
	comp=E,35nm,0.7s						
CMB				IAML		22 04 30.5	
	comp=N,30nm,0.8s						
YUH	**Yuha Desert**	**3.30**	**156**		Pb	22 03 35.8	+1.5
YUH				IAML		22 04 26.0	
	comp=E,27nm,1.1s						
SAO	**San Andreas Ge**	**3.36**	**290**		Pn	22 03 29.3	+0.8
CBX	**Cerro Bola**	**3.43**	**168**		Pn	22 03 29.9	+0.3
GLA	**Glamis**	**3.44**	**139**		Pn	22 03 27.8	-1.8
LCMT	**Little Creek M**	**3.70**	**68**		Pn	22 03 31.6	-1.6
CPBX	**Cerro Prieto**	**3.73**	**150**	Pn	Pn	22 03 33.7	+0.1
CCUT	**Cedar City**	**3.83**	**60**	Pg	Pg	22 03 46.6	-1.9
CCX	**Cicese**	**3.87**	**169**	Pg	Pb	22 03 44.0	+0.1
ESJX	**Sierra Juarez**	**3.89**	**160**		Pb	22 03 46.8	+2.4
KNB	**Kanab**	**4.02**	**69**	IAML		22 04 47.6	
	comp=N,19nm,1.6s						
KNB				IAML		22 04 47.8	
	comp=E,21nm,0.9s						
SZCU	**Shurtz Canyon**	**4.04**	**60**	Pn	Pn	22 03 36.8	-1.3
SZCU				IAML		22 04 52.0	
	comp=E,14nm,0.3s						
PSUT	**Pine Spring**	**4.08**	**45**	IAML		22 04 50.6	
	comp=E,19nm,1.1s						
PSUT				IAML		22 04 57.4	
	comp=N,17nm,1.4s						
SPR3	**Spring Creek 3**	**4.17**	**36**	IAML		22 04 53.4	
	comp=E,15nm,1.1s						
SPR3				IAML		22 04 58.4	
	comp=N,17nm,1.0s						
113A	**Mohawk Valley,**	**4.25**	**132**	IAML		22 04 51.7	
	comp=E,21nm,0.7s						
113A				IAML		22 04 57.2	
	comp=N,18nm,0.9s						
AFDM	**Forest Hills D**	**4.27**	**321**	IAML		22 04 52.2	
	comp=N,19nm,0.5s						
AFDM				IAML		22 04 57.8	
	comp=E,18nm,1.1s						
BEKR	**Beckworth**	**4.75**	**333**	IAML		22 05 21.7	
	comp=E,20nm,0.9s						
BEKR				IAML		22 05 27.8	
	comp=N,11nm,0.9s						
WUAZ	**Wupatki**	**5.01**	**90**	IAML		22 05 23.1	
	comp=N,20nm,1.4s						
WUAZ				IAML		22 06 57.6	
	comp=N,24nm,0.5s						
X16A	**Lo Mia Camp, P**	**5.14**	**102**	IAML		22 04 34.6	
	comp=E,13nm,0.1s						
X16A				IAML		22 04 34.7	
	comp=N,17nm,0.1s						

NEIC ***04*** *22:05:02.7±1.2, 35°.655N±0°.007×117°.53W±0°.02, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=276.0*
PAS 04 22:05:03.2±1.2, 35°.66N±0°.01×117°.53W±0°.01, h8km±8km, ML2.8/21,**ML3.2**/52(NEIC), **Error ellipse: s-maj=1.5km s-min=1.5km az=180.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.17**	**342**		Pg	22 05 06.7	-0.1
CLC					Sg	22 05 09.5	+0.2
SRTC	**Snort**	**0.18**	**281**		Pg	22 05 07.3	+0.3
SRTC					Sg	22 05 10.9	+1.4
CCCA	**Chr Cany lake**	**0.19**	**134**		Pg	22 05 11.0	+3.8
LRMC	**Laurel Mtn Rad**	**0.21**	**215**		Pg	22 05 07.6	-0.1
LRMC					Sg	22 05 10.8	+0.1
TOW	**Tower One**	**0.24**	**309**		Pg	22 05 08.4	+0.3
TOW					Sg	22 05 12.8	+1.4
WNMM	**Nine Mile Cany**	**0.35**	**302**		Pg	22 05 10.1	-0.1
WNMM					Sg	22 05 15.6	+0.6
WVPM	**Volcano Peak E**	**0.37**	**322**		Pg	22 05 10.3	-0.3
WVPM					Sg	22 05 15.6	+0.1
MPMC	**Manual Prospec**	**0.40**	**5**		Pg	22 05 10.8	-0.3
MPMC					Sg	22 05 16.7	+0.2
WCSM	**Coso Springs S**	**0.41**	**333**		Pg	22 05 11.2	-0.2
WCSM					Sg	22 05 16.9	0.0
WRVM	**Rose V. Centra**	**0.46**	**320**		Pg	22 05 11.8	-0.4
WRVM					Sg	22 05 18.1	-0.1
DTP	**Desert Tortois**	**0.47**	**213**		Pg	22 05 11.8	-0.4
DTP					Sg	22 05 18.1	-0.2
WBSM	**Bird Springs**	**0.51**	**257**		Pg	22 05 12.8	-0.3
MFS	**McCloud Flat S**	**0.53**	**330**		Pg	22 05 13.2	-0.3
MFS					Sg	22 05 20.8	+0.3
WORM	**Onyx Ranch**	**0.58**	**274**		Sg	22 05 21.6	-0.5
QSM	**Queen of Sheba**	**0.62**	**60**		Pg	22 05 15.0	-0.2
QSM				IAML		22 05 34.2	
	comp=E,1μm,0.4s						
QSM	**

GWY					Sg		22 05 30.9	-0.6
GWY				IAML			22 05 52.0	
	comp=N,2µm,0.6s							
CGO	**Cerro Gordo**	**0.92**	**346**		Pg		22 05 20.4	-0.5
ARVC	**Arvin**	**1.19**	**244**		Pb		22 05 25.7	-0.2
DSCC	**Desert Studies**	**1.27**	**113**		Pn		22 05 26.4	-0.8
AMDNV	**Amargosa**	**1.29**	**52**		Pn		22 05 27.3	-0.1
AMDNV					Sb		22 05 44.5	+0.1
TUQ	**Turquoise Moun**	**1.33**	**99**		Pn		22 05 27.5	-0.7
GRAC	**Grapevine Rang**	**1.34**	**6**		Pn		22 05 27.3	-1.0
WCT	**Wildcat Mounta**	**1.35**	**33**		Pn		22 05 28.6	+0.1
CHFC	**Chilao Flat St**	**1.38**	**197**		Pn		22 05 27.9	-1.0
PASC	**Pasadena Art C**	**1.58**	**200**		Pn		22 05 30.8	-0.7
PASC					Pn	Pb	22 05 30.9	-1.7
TPNV	**Topopah Spring**	**1.65**	**38**			Pn	22 05 32.9	+0.3
GMN	**Gold Mountain**	**1.66**	**8**			Pn	22 05 32.3	-0.5
BCW	**Bitter Crk WRg**	**1.70**	**246**			Pn	22 05 32.5	-0.6
DSP	**Deep Springs**	**1.75**	**348**			Pn	22 05 33.8	+0.1
ELS	**Elsinore Mount**	**2.01**	**177**	Pn	Pn		22 05 37.1	-0.3
ELS				IAML			22 06 38.5	
	comp=N,109nm,0.5s							
MZP	**Montezuma Peak**	**2.04**	**3**	Pn	Pn		22 05 37.5	-0.6
SHPR	**Sheep Range**	**2.10**	**66**	Pn	Pn		22 05 38.8	0.0
SHPR				IAML			22 06 30.5	
	comp=N,105nm,0.5s							
V12A	**Nelson**	**2.18**	**87**	Pn	Pn		22 05 39.5	-0.4
PFO	**Pinyon Flats O**	**2.22**	**156**	Pn	Pn		22 05 40.0	-0.4
TPH	**Tonopah**	**2.43**	**6**		Pb		22 05 48.2	+1.0
S11A	**Rachel**	**2.45**	**35**	Pn	Pn		22 05 44.4	+0.9
PRN	**Pahroc Range**	**2.65**	**48**	Pn	Pn		22 05 46.7	+0.3
LHV	**Little Huntoon**	**2.70**	**344**	Pn	Pn		22 05 47.0	+0.1
LHV				IAML			22 06 20.5	
	comp=N,102nm,0.7s							
PSAM	**San Ardo**	**2.75**	**279**		Pn		22 05 47.5	0.0
NV11	**Mina Array Sit**	**2.81**	**350**	Pg	Pg		22 05 55.9	-1.3
NVAR	**Mina Array Bea**	**2.83**	**348**		Pg		22 05 56.1	-1.5
BBGB	**Big Mountain B**	**2.98**	**289**	Pn	Pn		22 05 52.6	+1.7
W13A	**Hualapai Mount**	**3.03**	**100**	Pn	Pn		22 05 51.1	-0.5
RYN	**Ryan**	**3.07**	**345**	Pg	Pb		22 05 59.6	+1.5
Q09A	**Carvers**	**3.18**	**5**	Pn	Pn		22 05 52.9	-0.8

NEIC ***04*** *22:05:22.2±1.1,35.°724N±0.°009×117.°474W±0.°009, h5km±3km, Error ellipse: s-maj=1.6km s-min=0.7km az=143.0*

PAS 04 22:05:22.3±1.1, 35.°712N±0.°010×117.°48W±0.°01, h2km±2km, ML3.6, ML3.3/112(NEIC), Error ellipse: s-maj=1.7km s-min=1.1km az=128.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.14**	**317**		Pg	22 05 25.3	+0.2
CLC					Sg	22 05 27.6	+0.6
CCCA	**Chr Cany lake**	**0.21**	**154**		Pg	22 05 26.9	+0.7
SRTC	**Snort**	**0.22**	**265**		Pg	22 05 27.2	+0.7
SRTC					Sg	22 05 31.5	+2.0
TOW	**Tower One**	**0.25**	**293**		Pg	22 05 27.9	+0.8
TOW					Sg	22 05 32.1	+1.7
LRMC	**Laurel Mtn Rad**	**0.29**	**216**		Pg	22 05 27.9	+0.2
LRMC					Sg	22 05 31.9	+0.3
WVPM	**Volcano Peak E**	**0.36**	**311**		Pg	22 05 29.7	+0.4
WVPM					Sg	22 05 34.8	+0.7
WNMM	**Nine Mile Cany**	**0.37**	**291**		Pg	22 05 29.8	+0.4
JRC2	**Joshua Ridge**	**0.38**	**315**		Pg	22 05 30.0	+0.4
WCSM	**Coso Springs S**	**0.39**	**323**		Pg	22 05 30.0	+0.2
WCSM					Sg	22 05 35.7	+0.7
WRVM	**Rose V. Centra**	**0.45**	**311**		Pg	22 05 31.1	+0.3
WRVM					Sg	22 05 37.4	+0.7
MFS	**McCloud Flat S**	**0.51**	**323**		Pg	22 05 32.2	+0.1
MFS					Sg	22 05 39.5	+0.8
DTP	**Desert Tortois**	**0.54**	**214**		Pg	22 05 32.5	0.0
DTP					Sg	22 05 39.7	+0.3
QSM	**Queen of Sheba**	**0.56**	**63**	Pg	Pg	22 05 33.1	+0.1
QSM				Sg	Sg	22 05 40.8	+0.7
QSM				IAML		22 05 41.2	
	comp=E,3µm,0.5s						
QSM				IAML		22 05 42.1	
	comp=N,2µm,0.5s						
WORM	**Onyx Ranch**	**0.62**	**269**		Pg	22 05 34.1	-0.1
WORM					Sg	22 05 42.5	+0.1
GSC	**Goldstone, Bar**	**0.68**	**127**	Pg	Pg	22 05 35.4	0.0
GSC				Sg	Sg	22 05 44.7	+0.5
WHFM	**Hanning Flat**	**0.71**	**269**		Sg	22 05 45.5	+0.4
CCAC	**Calif City Air**	**0.71**	**218**	Pg	Pg	22 05 36.5	+0.6
GWY	**Greenwater Val**	**0.81**	**54**	Pg	Pg	22 05 37.5	-0.3
GWY				Sg	Sg	22 05 48.4	+0.1
GWY				IAML		22 05 54.4	
	comp=N,2µm,0.5s						
ISA	**Isabella, Lake**	**0.81**	**267**	Pg	Pg	22 05 37.7	-0.2
ISA				Sg	Sg	22 05 48.8	+0.4
ISA				IAML		22 05 49.2	
	comp=N,1µm,0.3s						
ISA				IAML		22 05 49.2	
	comp=E,2µm,0.5s						
HYS	**Haystack Butte**	**0.85**	**185**		Pg	22 05 38.2	-0.3
HYS					Sg	22 05 49.6	0.0
WASM	**Alta Sierra Ca**	**0.88**	**272**		Pg	22 05 39.0	-0.1
WASM					Sg	22 05 50.4	-0.2
EDW2	**Edwards Air Fo**	**0.93**	**207**		Sg	22 05 51.9	-0.3
TPO	**Tropico Hills**	**1.03**	**217**		Sg	22 05 55.9	+0.4
SBB	**Saddle Back Bu**	**1.06**	**196**		Pg	22 05 42.0	-0.6
SBB					Sg	22 05 55.9	-0.4
SPG2	**Springville 2**	**1.15**	**295**		Pg	22 05 43.4	-1.0
SPG2					Sg	22 05 58.6	-0.7
AMDNV	**Amargosa**	**1.22**	**52**		Sg	22 06 01.1	-0.3
WCT	**Wildcat Mounta**	**1.28**	**32**		Pg	22 05 46.1	-0.7
WCT				Sg	Sg	22 06 03.2	-0.2
WCT				IAML		22 06 05.2	
	comp=E,416nm,0.7s						
WCT				IAML		22 06 05.5	
	comp=N,558nm,0.5s						
GRAC	**Grapevine Rang**	**1.28**	**4**		Pg	22 05 46.3	-0.6
TPNV	**Topopah Spring**	**1.58**	**38**		Pn	22 05 51.0	-0.5
GMN	**Gold Mountain**	**1.59**	**6**		Pn	22 05 51.5	-0.2
GMN				IAML		22 06 02.0	
	comp=N,201nm,0.5s						
SVD	**Seven Oaks Dam**	**1.63**	**169**		Pb	22 05 53.1	0.0
PASC	**Pasadena Art C**	**1.64**	**201**		Pn	22 05 51.1	-1.0
PASC				IAML		22 06 17.7	
	comp=E,306nm,0.6s						
PASC				IAML		22 06 22.1	
	comp=N,223nm,0.7s						
DSP	**Deep Springs**	**1.70**	**347**		Pn	22 05 52.5	-0.4
DSP				IAML		22 06 18.0	
	comp=E,183nm,0.7s						
BCW	**Bitter Crk WRg**	**1.76**	**245**		Pb	22 05 54.6	-0.7
BCW				IAML		22 06 31.2	
	comp=N,303nm,1.4s						
BCW				IAML		22 06 31.9	
	comp=E,424nm,0.7s						
MZP	**Montezuma Peak**	**1.99**	**2**	Pn	Pn	22 05 57.8	+0.6
SHPR	**Sheep Range**	**2.04**	**66**		Pn	22 05 57.6	-0.1
ELS	**Elsinore Mount**	**2.06**	**179**		Pn	22 05 57.2	-0.7
ELS				IAML		22 06 35.1	
	comp=E,118nm,0.5s						
V12A	**Nelson**	**2.14**	**89**		Pn	22 05 58.5	-0.5
V12A				IAML		22 06 37.6	
	comp=N,166nm,0.7s						
V12A				IAML		22 06 38.0	
	comp=E,118nm,0.6s						
PFO	**Pinyon Flats O**	**2.26**	**158**		Pb	22 06 04.3	+0.5
PFO				IAML		22 06 37.3	
	comp=E,125nm,0.7s						
TPH	**Tonopah**	**2.37**	**5**		Pg	22 06 07.0	-0.7
S11A	**Rachel**	**2.38**	**35**		Pg	22 06 07.1	-0.7
PRN	**Pahroc Range**	**2.58**	**48**		Pg	22 06 11.4	-0.4
PRN				IAML		22 06 52.1	
	comp=E,192nm,0.5s						
PRN				IAML		22 06 57.0	
	comp=N,232nm,0.5s						
LHV	**Little Huntoon**	**2.66**	**342**		Pn	22 06 07.7	+1.5
LHV				IAML		22 06 53.7	
	comp=E,77nm,0.8s						
LHV				IAML		22 07 06.0	
	comp=N,69nm,1.2s						
PMPB	**Monarch Peak**	**2.74**	**282**		Pn	22 06 06.7	-0.6
NV11	**Mina Array Sit**	**2.77**	**349**		Pn	22 06 08.4	+0.6
NVAR	**Mina Array Bea**	**2.79**	**347**	Pn	Pn	22 06 09.2	+1.1
W13A	**Hualapai Mount**	**3.00**	**101**	Pn	Pn	22 06 09.2	-1.8
W13A				IAML		22 07 01.8	
	comp=E,53nm,0.7s						
W13A				IAML		22 07 06.2	
	comp=N,60nm,1.1s						
BBGB	**Big Mountain B**	**3.01**	**288**	Pn	Pn	22 06 12.4	+1.3
RYN	**Ryan**	**3.03**	**344**		Pn	22 06 11.4	0.0
RYN				Pg	Pg	22 06 20.1	-0.2
R11B	**Troy Canyon, C**	**3.04**	**29**		Pg	22 06 21.3	+0.8
R11B				IAML		22 07 00.1	
	comp=E,67nm,0.5s						
BLYC	**Blythe**	**3.12**	**128**		Pn	22 06 11.2	-1.3
BLYC				IAML		22 07 02.5	
	comp=E,125nm,0.6s						
Q09A	**Carvers**	**3.12**	**4**	Pg	Pg	22 06 22.4	+0.3
Q09A				IAML		22 07 12.7	
	comp=N,136nm,0.8s						
Q09A				IAML		22 07 43.9	
	comp=E,119nm,1.0s						
CMB	**Columbia Colle**	**3.29**	**316**		Pn	22 06 17.4	+2.5
CMB				IAML		22 07 10.8	
	comp=N,70nm,0.6s						
CMB				IAML		22 07 13.4	
	comp=E,53nm,1.1s						
SAO	**San Andreas Ge**	**3.38**	**289**		Pn	22 06 16.7	+0.7
CBX	**Cerro Bola**	**3.46**	**169**		Pn	22 06 17.2	-0.1
CCUT	**Cedar City**	**3.78**	**60**	Pg	Pg	22 06 32.8	-2.0
ESJX	**Sierra Juarez**	**3.91**	**161**		Pn	22 06 22.2	-1.3
ESJX				IAML		22 07 29.9	
	comp=E,35nm,0.8s						
ESJX				IAML		22 08 03.7	
	comp=N,23nm,0.1s						
KNB	**Kanab**	**3.98**	**70**		Pb	22 06 34.1	+0.9
PSUT	**Pine Spring**	**4.04**	**45**	IAML		22 07 35.1	
	comp=E,32nm,0.7s						
PSUT				IAML		22 07 35.6	
	comp=N,46nm,0.7s						
Y14A	**Wickenburg**	**4.08**	**114**	IAML		22 07 33.5	
	comp=E,68nm,0.5s						
Y14A				IAML		22 07 37.1	
	comp=N,74nm,0.9s						
SPR3	**Spring Creek 3**	**4.13**	**36**	IAML		22 07 33.8	
	comp=N,32nm,0.8s						
SPR3				IAML		22 07 34.0	
	comp=E,41nm,0.8s						
AFDM	**Forest Hills D**	**4.26**	**320**	IAML		22 07 45.1	
	comp=N,30nm,0.7s						
AFDM				IAML		22 07 50.4	
	comp=E,38nm,1.2s						
BEKR	**Beckworth**	**4.73**	**332**	IAML		22 07 59.9	
	comp=N,14nm,0.7s						
BEKR				IAML		22 08 17.5	
	comp=E,25nm,0.7s						
WUAZ	**Wupatki**	**4.98**	**90**	IAML		22 08 01.6	
	comp=E,25nm,0.6s						
WUAZ				IAML		22 08 05.0	
	comp=E,28nm,0.9s						
MVU	**Marysvale**	**5.05**	**55**	IAML		22 08 09.0	
	comp=N,28nm,0.8s						
MVU				IAML		22 09 30.2	
	comp=E,23nm,4.9s						
ELK	**Elko**	**5.32**	**19**	IAML		22 08 13.1	
	comp=E,8.3nm,0.8s						

NEIC ***04*** *22:07:01.2±1.4,58.°83N±0.°04×154.°43W±0.°08, h117km±5km, Error ellipse: s-maj=6.3km s-min=5.6km az=137.0*

ANF ***04*** *22:07:01.7±0.1,58.°86N×154.°33W,h109km±2km, Error ellipse: s-maj=1.5km s-min=1.3km az=169.0*

AEIC ***04*** *22:07:02.7±1.5,58.°83N±0.°04×154.°37W±0.°07, h111km±5km, ML3.1, ML3.1/168(NEIC), Error ellipse: s-maj=6.3km s-min=5.3km az=142.0*

IDC ***04*** *22:07:02.7±9.0,58.°92N×153.°53W,h81km±102km, mb3.0/2, mbtmp3.2/4, ML3.4/2, MS3.8/1, Error ellipse: s-maj=100.6km s-min=62.7km az=114.0*

ISC 04 22:07:01.9±0.7, 58.°86N±0.°03×154.°35W±0.°03, h116km±6km, n385, σ0.°94/406, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPH	**Katmai Pasha**	**0.26**	**179**		**Pn**	**22 07 18.0**	**-0.3**
KAPH					**Sn**	**22 07 30.5**	**0.0**
Q19K	**Cape Douglas,**	**0.38**	**78**		**Pn**	**22 07 18.5**	**-0.2**
Q19K				Sn	**Sn**	**22 07 31.4**	**0.0**
Q19K				IAML		22 07 32.1	
	comp=N,1µm,0.6s						
Q19K	**Cape Douglas,**	**0.38**	**78**	P	**Pn**	**22 07 18.5**	**-0.2**
	baz=262,SNR=133						
Q19K				S	**Sn**	**22 07 31.0**	**-0.3**
	baz=262						
KAHG	**Katmai Hook Gl**	**0.38**	**196**		**Pn**	**22 07 18.5**	**-0.3**
KAHG					**Sn**	**22 07 31.2**	**-0.2**
KAHC	**Katmai Hardscr**	**0.40**	**239**		**Pn**	**22 07 18.2**	**-0.7**
KAHC					**Sn**	**22 07 30.6**	**-1.1**
KAHC	**Katmai Hardscr**	**0.40**	**239**		**Pn**	**22 07 18.3**	**-0.7**
Q18K	**Katmai Hardscr**	**0.40**	**239**	P	**Pn**	**22 07 18.3**	**-0.6**
	baz=55,SNR=87						
Q18K				S	**Sn**	**22 07 30.7**	**-1.0**
	baz=55						
AUCH	**Augustine Cone**	**0.69**	**42**		**Pn**	**22 07 20.9**	**+0.1**
P18K	**Big Mountain,**	**0.70**	**320**		**Pn**	**22 07 20.0**	**-0.9**
P18K				Sn	**Sn**	**22 07 33.9**	**-1.3**
P18K				IAML		22 07 34.2	
	comp=E,338nm,0.8s						
P18K				IAML		22 07 34.6	
	comp=N,354nm,0.6s						
P18K	**Big Mountain,**	**0.70**	**320**	P	**Pn**	**22 07 20.0**	**-0.9**
	baz=139,SNR=80						
P18K				S	**Sn**	**22 07 33.8**	**-1.4**
	baz=139						
AUL	**Augustine Lava**	**0.71**	**41**		**Pn**	**22 07 21.0**	**+0.1**
ACHA	**Angle Creek He**	**0.82**	**219**		**Pn**	**22 07 21.4**	**-0.6**
ANCK	**Angle Creek**	**0.89**	**223**		**Sn**	**22 07 37.6**	**-0.5**
OPT	**Oil Point**	**0.98**	**35**		**Pn**	**22 07 23.6**	**+0.2**
P19K	**Oil Pt**	**0.98**	**35**		**Pn**	**22 07 23.7**	**+0.2**
P19K				IAML		22 07 41.0	
	comp=E,407nm,0.5s						
P19K				IAML		22 07 41.1	
	comp=N,366nm,0.5s						
P19K	**Oil Pt**	**0.98**	**35**	P	**Pn**	**22 07 23.6**	**+0.2**
	baz=217,SNR=87						
P19K				S	**Sn**	**22 07 40.0**	**+0.3**
	baz=217						
CNTC	**Contact Creek**	**1.00**	**234**		**Sn**	**22 07 38.8**	**-1.2**
Q17K	**Contact Creek**	**1.00**	**234**	P	**Pn**	**22 07 23.1**	**-0.6**
	baz=52,SNR=59						
Q17K				S	**Sn**	**22 07 39.1**	**-0.9**
	baz=52						
KJL	**Kejulik**	**1.03**	**219**		**Pn**	**22 07 23.7**	**-0.2**
Q20K	**Shuyak Island**	**1.05**	**103**	P	**Pn**	**22 07 24.1**	**+0.1**
	baz=285,SNR=13						
Q20K				S	**Sn**	**22 07 40.6**	**-0.2**
	baz=285						
SYI	**Shuyak Island**	**1.05**	**103**		**Pn**	**22 07 23.9**	**-0.2**
SYI				Sn	**Sn**	**22 07 40.9**	**+0.2**
SYI				IAML		22 07 41.7	
	comp=N,764nm,0.5s						
SYI				IAML		22 07 41.7	
	comp=E,453nm,0.1s						
O18K	**Koktuh Hills**	**1.09**	**337**		**Pn**	**22 07 23.6**	**-0.8**
O18K				IAML		22 07 41.0	
	comp=E,150nm,0.9s						
O18K	**Koktuh Hills**	**1.09**	**337**	P	**Pn**	**22 07 23.7**	**-0.8**
	baz=156,SNR=55						
O18K				S	**Sn**	**22 07 40.5**	**-1.2**
	baz=156						
P17K	**Kvichak River**	**1.13**	**288**	P	**Pn**	**22 07 24.3**	**-0.5**
	baz=106,SNR=142						
P17K				S	**Sn**	**22 07 41.9**	**-0.3**
	baz=106						
Q16K	**King Salmon**	**1.21**	**263**		**Pn**	**22 07 25.5**	**-0.2**
Q16K					**Sn**	**22 07 43.6**	**-0.2**
Q16K	**King Salmon**	**1.21**	**263**	P	**Pn**	**22 07 25.4**	**-0.2**
	baz=80,SNR=62						
Q16K				S	**Sn**	**22 07 43.5**	**-0.2**
	baz=80						
ILSW	**Iliamna Southw**	**1.29**	**28**		**Sn**	**22 07 45.3**	**-0.2**
ILSW	**Iliamna Southw**	**1.29**	**28**		**Pn**	**22 07 26.5**	**-0.2**
ILSW				IAML		22 07 46.7	
	comp=E,179nm,0.9s						
ILSW				IAML		22 07 47.1	
	comp=N,167nm,0.9s						
R18K	**Karluk**	**1.29**	**182**		**Pn**	**22 07 25.5**	**-1.2**
R18K	**Karluk**	**1.29**	**182**	IAML		22 07 47.0	
	comp=E,206nm,0.4s						
R18K				IAML		22 07 49.0	
	comp=N,162nm,0.5s						
R18K	**Karluk**	**1.29**	**182**	P	**Pn**	**22 07 25.7**	**-1.0**
	baz=1.9						
R18K				S	**Sn**	**22 07 44.3**	**-1.0**
	baz=1.9						
O19K	**Port Alsworth**	**1.34**	**1**		**Pn**	**22 07 26.0**	**-1.1**
O19K				IAML		22 07 48.0	
	comp=N,271nm,0.5s						
O19K				IAML		22 08 08.2	
	comp=E,252nm,0.5s						
O19K	**Port Alsworth**	**1.34**	**1**	P	**Pn**	**22 07 26.5**	**-0.6**
	baz=181						
O19K				S	**Sn**	**22 07 45.4**	**-1.0**
	baz=181						
IVE	**Iliamna Volcan**	**1.35**	**30**		**Pn**	**22 07 27.3**	**-0.1**
KDAK	**Kodiak Island**	**1.42**	**138**		**Pn**	**22 07 27.3**	**-0.8**
KDAK				IAML		22 07 51.6	
	comp=E,491nm,0.4s						
KDAK	**Kodiak Island**	**1.42**	**138**	P	**Pn**	**22 07 27.6**	**-0.5**
	baz=320						
KDAK				S	**Sn**	**22 07 47.3**	**-0.7**
	baz=320						
O20K	**Slope Mountain**	**1.51**	**35**	P	**Pn**	**22 07 29.3**	**0.0**
	baz=217,SNR=29						
O20K				S	**Sn**	**22 07 49.9**	**-0.1**
	baz=217						
HOM	**Homer**	**1.61**	**59**		**Pn**	**22 07 30.1**	**-0.1**
HOM	**Homer**	**1.61**	**59**	P	**Pn**	**22 07 30.3**	**0.0**
	baz=242,SNR=6.5						
HOM				S	**Sn**	**22 07 52.0**	**+0.2**
	baz=242						
PLK4	**Peulik 4**	**1.62**	**222**		**Pn**	**22 07 30.1**	**-0.5**
PLK4				IAML		22 07 53.0	
	comp=N,158nm,0.8s						
PLK4				IAML		22 07 54.4	
	comp=E,124nm,0.9s						
R17L	**Mt. Peulik Vol**	**1.62**	**222**	P	**Pn**	**22 07 30.2**	**-0.3**
	baz=39						
R17L				S	**Sn**	**22 07 51.9**	**-0.4**
	baz=39						
O17K	**Koliganek Bris**	**1.68**	**304**		**Pn**	**22 07 30.2**	**-0.9**
O17K	**Koliganek Bris**	**1.68**	**304**	P	**Pn**	**22 07 30.3**	**-0.9**
	baz=122,SNR=84						
O17K				S	**Sn**	**22 07 52.5**	**-0.9**
	baz=122						
OHAK	**Old Harbor**	**1.73**	**160**		**Pn**	**22 07 30.5**	**-1.2**
OHAK				IAML		22 07 53.5	
	comp=N,150nm,0.5s						
OHAK				IAML		22 07 53.9	
	comp=E,123nm,0.4s						
OHAK	**Old Harbor**	**1.73**	**160**	P	**Pn**	**22 07 30.2**	**-1.6**
OHAK	**Old Harbor**	**1.73**	**160**	S	**Sn**	**22 07 53.0**	**-1.5**
OHAK	**Old Harbor**	**1.73**	**160**	P	**Pn**	**22 07 30.8**	**-1.0**
	baz=341						
OHAK				S	**Sn**	**22 07 52.7**	**-1.8**
	baz=341						
CNPM	**China Poot**	**1.74**	**66**		**Pn**	**22 07 31.5**	**-0.4**
CNPM				IAML		22 07 54.4	
	comp=E,169nm,0.1s						
CNPM				IAML		22 07 55.2	
	comp=N,156nm,0.3s						
PLBL	**Peulik Blue Cr**	**1.74**	**229**		**Pn**	**22 07 31.5**	**-0.5**
RED	**Redoubt Volcan**	**1.76**	**26**		**Pn**	**22 07 32.0**	**-0.2**
RED				IAML		22 07 55.9	
	comp=N,78nm,1.2s						
RED				IAML		22 07 56.4	
	comp=E,100nm,0.7s						
RDWB	**Redoubt West**	**1.81**	**24**		**Sn**	**22 07 55.9**	**-0.6**
P16K	**Nushagak River**	**1.89**	**277**		**Pn**	**22 07 33.3**	**-0.4**
P16K				IAML		22 07 58.5	
	comp=E,156nm,1.1s						
P16K				IAML		22 08 00.4	
	comp=N,164nm,1.0s						
P16K	**Nushagak River**	**1.89**	**277**	P	**Pn**	**22 07 33.3**	**-0.4**
	baz=93,SNR=14						
P16K				S	**Sn**	**22 07 57.7**	**-0.4**
	baz=93						
RDJH	**Redoubt Jeurge**	**1.91**	**24**		**Sn**	**22 07 58.6**	**-0.1**
N19K	**Bonanza Creek**	**1.96**	**358**		**Pn**	**22 07 34.6**	**-0.1**
N19K				IAML		22 07 59.6	
	comp=N,83nm,0.6s						
N19K				IAML		22 08 16.5	
	comp=E,56nm,0.6s						
N19K	**Bonanza Creek**	**1.96**	**358**	P	**Pn**	**22 07 34.4**	**-0.3**
	baz=178,SNR=14						
N19K				S	**Sn**	**22 07 58.9**	**-0.9**
	baz=178						
N18K	**Kilae Creek**	**1.99**	**338**		**Pn**	**22 07 34.5**	**-0.4**
N18K	**Kilae Creek**	**1.99**	**338**	P	**Pn**	**22 07 34.5**	**-0.4**
	baz=156,SNR=54						
N18K				S	**Sn**	**22 07 59.1**	**-1.2**
	baz=156						
BRLK	**Bradley Lake**	**2.00**	**61**		**Pn**	**22 07 34.2**	**-0.9**
O16K	**Kokwok River B**	**2.06**	**293**		**Pn**	**22 07 35.2**	**-0.6**
O16K				IAML		22 08 01.9	
	comp=E,53nm,0.9s						
O16K	**Kokwok River B**	**2.06**	**293**	P	**Pn**	**22 07 35.3**	**-0.6**
	baz=109,SNR=66						
O16K				S	**Sn**	**22 08 00.9**	**-0.9**
	baz=109						
N17K	**Nushagak Hills**	**2.21**	**321**		**Pn**	**22 07 37.3**	**-0.4**
N17K	**Nushagak Hills**	**2.21**	**321**	P	**Pn**	**22 07 37.4**	**-0.4**
	baz=136,SNR=66						
SII	**Sitkinak Islan**	**2.30**	**178**	Pn	**Pn**	**22 07 37.9**	**-1.1**
SII				IAML		22 08 07.9	
	comp=N,90nm,0.6s						
SII				IAML		22 08 08.2	
	comp=E,98nm,0.8s						
SII	**Sitkinak Islan**	**2.30**	**178**	P	**Pn**	**22 07 37.8**	**-1.1**
SII	**Sitkinak Islan**	**2.30**	**178**	S	**Sn**	**22 08 05.9**	**-1.5**
SII	**Sitkinak Islan**	**2.30**	**178**	P	**Pn**	**22 07 37.9**	**-1.1**
	baz=358						
SII				S	**Sn**	**22 08 06.0**	**-1.4**
	baz=358						
CAPN	**Captain Cook N**	**2.51**	**39**	Pn	**Pn**	**22 07 42.8**	**+1.3**
CAPN				IAML		22 08 17.8	
	comp=N,234nm,0.6s						
CAPN	**Captain Cook N**	**2.51**	**39**	P	**Pn**	**22 07 42.8**	**+1.3**
	baz=222						
N20K	**Mount Spurr**	**2.59**	**24**	P	**Pn**	**22 07 42.4**	**-0.2**
	baz=206						
SPCR	**Spurr Chakacha**	**2.59**	**24**		**Pn**	**22 07 42.5**	**-0.2**
SPCR	**Spurr Chakacha**	**2.59**	**24**	P	**Pn**	**22 07 42.5**	**-0.2**
	baz=206						
SPU	**Mount Spurr**	**2.60**	**25**		**Pn**	**22 07 42.4**	**-0.5**
SLKM	**Skilak Lake**	**2.67**	**50**		**Pn**	**22 07 43.2**	**-0.5**
SLKM				IAML		22 08 16.9	
	comp=E,142nm,0.2s						
M18K	**Stony River**	**2.75**	**345**	P	**Pn**	**22 07 44.5**	**-0.1**
	baz=164,SNR=66						
M18K				S	**Sn**	**22 08 17.1**	**-0.4**
	baz=164						
N16K	**Nishlik Lake**	**2.77**	**308**	P	**Pn**	**22 07 44.8**	**-0.2**
	baz=124,SNR=44						
SEW	**Seward**	**2.80**	**61**	

CHIR	Chirikof Islan	3.12	193		Pn	Pn	22 07 48.0	-1.5
CHIR	comp=N,62nm,0.9s				IAML		22 08 24.2	
CHIR	comp=E,53nm,1.1s				IAML		22 08 24.9	
CHIR	Chirikof Islan	3.12	193		P	Pn	22 07 47.9	-1.7
CHIR	Chirikof Islan	3.12	193		P	Pn	22 07 48.0	-1.5
	baz=12							
SUA	Susitna One	3.18	33			Pn	22 07 49.9	-0.5
SUA	Susitna One	3.18	33		IAML		22 08 27.8	
SUA	comp=N,60nm,0.4s				IAML		22 08 28.0	
	comp=E,63nm,0.8s							
SUA	Susitna One	3.18	33		P	Pn	22 07 50.2	-0.2
	baz=216							
M16K	Timber Creek	3.18	315			Pn	22 07 50.2	-0.1
M16K	Timber Creek	3.18	315		P	Pn	22 07 50.1	-0.1
	baz=131,SNR=8.3							
N15K	Kwethluk River	3.21	297			Pn	22 07 51.0	+0.2
N15K	comp=N,40nm,0.8s				IAML		22 08 29.3	
N15K	comp=E,65nm,0.7s				IAML		22 08 30.4	
N15K	Kwethluk River	3.21	297		P	Pn	22 07 51.0	+0.2
	baz=112,SNR=20							
RC01	Rabbit Creek A	3.23	44			Pn	22 07 50.5	-0.5
RC01	Rabbit Creek A	3.23	44		P	Pn	22 07 50.5	-0.5
	baz=228,SNR=17							
L19K	White Mountain	3.35	356			Pn	22 07 52.4	-0.2
L19K	comp=E,21nm,0.8s				IAML		22 09 03.0	
L19K	White Mountain	3.35	356		P	Pn	22 07 52.5	0.0
	baz=176,SNR=9.5							
CHGN	Chignik	3.37	222		Pn	Pn	22 07 52.4	-0.3
CHGN	comp=E,54nm,0.1s				IAML		22 08 31.9	
CHGN	comp=N,63nm,0.1s				IAML		22 08 34.1	
CHGN	Chignik	3.37	222		P	Pn	22 07 52.5	-0.3
	baz=38							
SKT	Skwentna	3.43	23			Pn	22 07 53.3	-0.4
SKT	comp=N,21nm,0.3s				IAML		22 08 36.2	
SKT	comp=E,22nm,0.2s				IAML		22 08 40.8	
SKT	Skwentna	3.43	23		P	Pn	22 07 53.4	-0.4
	baz=206							
L18K	Granite Mounta	3.57	342		P	Pn	22 07 55.1	-0.3
	baz=160,SNR=5.6							
M22K	Willow	3.59	34			Pn	22 07 54.7	-1.0
M22K	Willow	3.59	34		P	Pn	22 07 55.4	-0.3
	baz=218							
O14K	Tigyukauivet M	3.59	279		Pn	Pn	22 07 55.6	-0.2
O14K	comp=N,17nm,1.1s				IAML		22 08 38.8	
O14K	comp=E,23nm,0.9s				IAML		22 08 39.3	
O14K	Tigyukauivet M	3.59	279		P	Pn	22 07 55.5	-0.3
	baz=93							
PWL	Port Wells	3.64	54		P	Pn	22 07 55.2	-1.2
	baz=239,SNR=6.7							
L20K	Farewell, AK	3.64	3		P	Pn	22 07 56.2	-0.4
	baz=184							
M15K	Kasigluk River	3.70	303		P	Pn	22 07 57.0	-0.2
	baz=117,SNR=8.1							
VNHG	Veniaminof 1	3.70	227			Pn	22 07 57.3	-0.1
P23K	Montague Islan	3.73	69			Pn	22 07 57.1	-0.5
P23K	Montague Islan	3.73	69		P	Pn	22 07 57.2	-0.4
	baz=255							
PMR	Palmer	3.78	41		IAML		22 08 39.6	
PMR	comp=E,47nm,0.3s				IAML		22 08 40.3	
PMR	comp=N,38nm,0.2s							
	Palmer	3.78	41		P	Pn	22 07 56.1	-2.2
PMR	Palmer	3.78	41		P	Pn	22 07 57.0	-1.3
	baz=226							
S14K	Fog Glacier	3.81	230		P	Pn	22 07 59.2	+0.4
	baz=45							
L17K	Donlin	3.83	331		P	Pn	22 07 58.5	-0.4
	baz=148,SNR=7.3							
L16K	Owhat River	3.83	321			Pn	22 07 58.8	-0.2
L16K	Owhat River	3.83	321		P	Pn	22 07 58.8	-0.2
	baz=136,SNR=21							
N14K	Kuskokwak Cree	3.90	289			Pn	22 07 59.9	0.0
N14K	comp=N,28nm,1.1s				IAML		22 08 45.4	
N14K	comp=E,14nm,1.1s				IAML		22 09 09.8	
N14K	Kuskokwak Cree	3.90	289		P	Pn	22 07 59.8	0.0
	baz=102							
KNK	Knik Glacier	3.91	46		Pn	Pn	22 07 59.6	-0.4
KNK	Knik Glacier	3.91	46		P	Pn	22 07 58.9	-1.1
	baz=232							
GHO	Glory Hole Cre	3.98	40		IAML		22 08 45.5	
GHO	comp=E,62nm,0.6s				IAML		22 08 49.8	
GHO	comp=N,68nm,0.5s							
CUT	Chulitna	4.09	28		Pn	Pn	22 08 02.0	-0.4
CUT	comp=N,43nm,0.2s				IAML		22 08 51.4	
Q23K	Middleton Isla	4.16	79		P	Pn	22 08 02.9	-0.5
	baz=266,SNR=5.1							
GLI	Glacier Island	4.18	58			Pn	22 08 02.4	-1.3
GLI	comp=N,59nm,0.5s				IAML		22 08 48.9	
GLI	Glacier Island	4.18	58		P	Pn	22 08 01.7	-2.0
	baz=244							
PPLA	Purkeypile	4.19	14		Pn	Pn	22 08 03.9	-0.1
PPLA	Purkeypile	4.19	14		P	Pn	22 08 04.2	+0.3
	baz=196							
HIN	Hinchinbrook I	4.28	65			Pn	22 08 03.9	-1.1
M14K	Bethel	4.29	300			Pn	22 08 04.8	-0.3
M14K	Bethel	4.29	300		P	Pn	22 08 05.1	0.0
	baz=113							
K17K	Iditarod	4.33	335			Pn	22 08 05.4	-0.2
K17K	comp=N,9.2nm,1.0s				IAML		22 09 33.2	
K17K	comp=E,10nm,1.1s				IAML		22 09 34.9	
K17K	Iditarod	4.33	335		P	Pn	22 08 05.6	-0.1
	baz=152,SNR=11							
M23K	Glacier View	4.42	45		P	Pn	22 08 05.6	-1.2
	baz=231							
K20K	Telida	4.52	2			Pn	22 08 08.0	-0.2
K20K	Telida	4.52	2		P	Pn	22 08 08.4	+0.1
	baz=182							
L15K	Ungalak Mounta	4.54	312		P	Pn	22 08 08.2	-0.3
	baz=125							
SCM	Sheep Creek Mo	4.59	46			Pn	22 08 08.0	-1.3
SCM	Sheep Creek Mo	4.59	46		IAML		22 09 00.9	
SCM	comp=N,40nm,0.6s							
	Sheep Creek Mo	4.59	46		P	Pn	22 08 08.1	-1.2
	baz=233,SNR=5.2							
EYAK	Cordova Ski Ar	4.68	65			Pn	22 08 09.6	-0.7
EYAK	comp=E,20nm,0.5s				IAML		22 09 01.8	
EYAK	comp=N,18nm,0.2s				IAML		22 09 03.8	
EYAK	Cordova Ski Ar	4.68	65		P	Pn	22 08 09.6	-0.7
EYAK	Cordova Ski Ar	4.68	65		P	Pn	22 08 09.4	-0.9
	baz=253,SNR=5.2							
CAST	Castle Rocks	4.71	13			Pn	22 08 10.7	-0.1
CAST	Castle Rocks	4.71	13		P	Pn	22 08 11.1	+0.3
	baz=195,SNR=9.1							
J18K	Innoko River	4.76	347		IAML		22 09 53.5	
J18K	comp=E,6.5nm,0.9s							
	Innoko River	4.76	347		P	Pn	22 08 11.5	0.0
	baz=165,SNR=8.1							
M13K	Dall Lake	4.83	293		Pn	Pn	22 08 12.7	+0.4
M13K	comp=N,8.6nm,1.1s				IAML		22 09 20.9	
M13K	comp=E,7.5nm,1.1s				IAML		22 09 45.7	
M13K	Dall Lake	4.83	293		P	Pn	22 08 12.8	+0.5
	baz=105							
SDPT	Sand Point	4.85	226		Pn	Pn	22 08 11.5	-1.1
SDPT	comp=E,15nm,1.1s				IAML		22 09 10.9	
SDPT	comp=N,22nm,1.1s				IAML		22 09 12.3	
SDPT	Sand Point	4.85	226		P	Pn	22 08 11.3	-1.3
	baz=41							
L14K	Kuka Creek	4.86	304			Pn	22 08 12.7	0.0
L14K	Kuka Creek	4.86	304		IAML		22 09 31.2	
L14K	comp=E,10.0nm,1.1s				IAML		22 09 53.4	
	comp=N,7.3nm,1.1s							

L14K	Kuka Creek	4.86	304		P	Pn	22 08 13.0	+0.3
	baz=117,SNR=6.3							
DIV	Divide	4.87	58			Pn	22 08 11.8	-1.2
DIV	Divide	4.87	58		IAML		22 09 07.8	
	comp=E,34nm,0.4s							
WAT1	Susitna Watana	4.89	33			Pn	22 08 11.6	-1.7
WAT1	Susitna Watana	4.89	33		P	Pn	22 08 11.7	-1.5
	baz=218							
K15K	Wolf Creek Mou	4.94	317		Pn	Pn	22 08 14.0	+0.1
K15K	Wolf Creek Mou	4.94	317		P	Pn	22 08 13.8	0.0
	baz=131							
WAT6	Susitna Watana	4.95	38			Pn	22 08 12.4	-1.7
WAT6	Susitna Watana	4.95	38		P	Pn	22 08 12.5	-1.6
	baz=224,SNR=11							
CHNA	Chernabura Isl	4.95	218		P	Pn	22 08 12.2	-1.9
CHNA	Chernabura Isl	4.95	218		P	Pn	22 08 12.4	-1.7
	baz=33							
CNBA	Chernabura Isl	4.96	218		Pn	Pn	22 08 12.2	-1.9
CNBA	comp=N,17nm,0.7s				IAML		22 09 07.0	
CNBA	comp=E,18nm,0.6s				IAML		22 09 12.4	
KLU	Klutina	4.97	54		P	Pn	22 08 13.3	-1.0
	baz=242,SNR=43							
KTH	Kantishna Hill	5.00	18		Pn	Pn	22 08 13.9	-0.8
KTH	comp=E,7.2nm,0.8s				IAML		22 09 12.8	
KTH	comp=N,7.5nm,0.8s				IAML		22 09 13.2	
TRF	Thorofare Moun	5.01	21		Pn	Pn	22 08 14.2	-0.7
TRF	comp=N,13nm,0.4s				IAML		22 09 11.1	
TRF	comp=E,10nm,0.6s				IAML		22 09 16.6	
TRF	Thorofare Moun	5.01	21		P	Pn	22 08 14.0	-1.0
	baz=205							
J17K	VABM Dome	5.10	335			Pn	22 08 15.6	-0.4
J17K	VABM Dome	5.10	335		IAML		22 09 51.0	
	comp=E,5.2nm,1.1s							
J17K	VABM Dome	5.10	335		P	Pn	22 08 15.9	-0.1
	baz=151,SNR=5.8							
CHUM	Lake Minchumin	5.14	10		P	Pn	22 08 16.7	+0.1
	baz=192							
RAGM	Ragged Mountai	5.15	69			Pn	22 08 15.8	-0.9
GOAT	Goat Mountain	5.17	66			Pn	22 08 16.1	-0.9
KAIM	Kayak Island	5.19	74		Pn	Pn	22 08 17.4	+0.1
KAIM	Kayak Island	5.19	74		P	Pn	22 08 17.2	0.0
	baz=263							
J19K	Poorman	5.19	354			Pn	22 08 16.5	-0.8
J19K	Poorman	5.19	354		P	Pn	22 08 15.1	-2.2
	baz=173							
M24K	Tolsona, Glenn	5.19	48			Pn	22 08 16.4	-0.9
M24K	Tolsona, Glenn	5.19	48		P	Pn	22 08 16.4	-0.9
	baz=235							
S12K	Black Hills	5.24	236		Pn	Pn	22 08 18.2	+0.3
S12K	comp=N,12nm,1.0s				IAML		22 09 22.4	
S12K	comp=E,12nm,0.9s				IAML		22 09 25.0	
S12K	Black Hills	5.24	236		P	Pn	22 08 18.4	+0.5
	baz=50							
RND	Reindeer	5.29	28		Pn	Pn	22 08 17.6	-0.9
RND	comp=E,17nm,0.6s				IAML		22 09 15.9	
RND	comp=N,21nm,0.5s				IAML		22 09 16.3	
BMRM	Bremner River	5.34	62			Pn	22 08 18.4	-0.9
BMRM	Bremner River	5.34	62		P	Pn	22 08 18.6	-0.8
	baz=251,SNR=5.1							
J20K	Nowinta River	5.34	1			Pn	22 08 19.8	+0.6
J20K	Nowinta River	5.34	1		P	Pn	22 08 19.6	+0.3
	baz=181							
J16K	Anvik River	5.38	328			Pn	22 08 18.8	-1.0
J16K	comp=N,4.3nm,0.9s				IAML		22 10 06.7	
J16K	Anvik River	5.38	328		P	Pn	22 08 19.5	-0.3
	baz=143							
DHY	Denali Highway	5.43	36			Pn	22 08 18.9	-1.6
DHY	Denali Highway	5.43	36		P	Pn	22 08 18.9	-1.6
	baz=222							
BPAW	Bear Paw Mtn.	5.50	16		Pn	Pn	22 08 20.4	-1.0
BPAW	Bear Paw Mtn.	5.50	16		P	Pn	22 08 20.3	-1.1
	baz=199							
SUCK	Suckling Hills	5.53	73		Pn	Pn	22 08 21.3	-0.5
MCK	McKinley	5.54	26		Pn	Pn	22 08 22.0	0.0
N25K	Chitina, Valde	5.59	56		P	Pn	22 08 21.8	-0.9
	baz=245,SNR=51							
HARP	HAARP	5.75	48			Pn	22 08 24.3	-0.6
HARP	HAARP	5.75	48		P	Pn	22 08 24.2	-0.6
	baz=236							
BGLC	Bering Glacier	5.78	73		P	Pn	22 08 25.3	+0.2
	baz=262							
GRIN	Cindle Hills	5.79	71			Pn	22 08 25.0	-0.3
GLB	Gilahina Butte	5.87	59			Pn	22 08 25.9	-0.6
I17K	Unalakleet	5.89	332		Pn	Pn	22 08 26.9	+0.2
I17K	Unalakleet	5.89	332		P	Pn	22 08 26.4	-0.3
	baz=146							
J14K	Nanvaranak Lak	5.96	315		Pn	Pn	22 08 27.2	-0.4
J14K	Nanvaranak Lak	5.96	315		P	Pn	22 08 27.4	-0.1
	baz=127							
K13K	Kusilvak Mount	5.97	306		Pn	Pn	22 08 27.3	-0.3
K13K	Kusilvak Mount	5.97	306		P	Pn	22 08 27.4	-0.3
	baz=116							
CRQM	Cirque	5.97	67		Pn	Pn	22 08 25.4	-2.6
PAX	Paxson	5.98	43			Pn	22 08 26.6	-1.4
PAX	Paxson	5.98	43		P	Pn	22 08 26.9	-1.0
	baz=230,SNR=12							
CRQE	Cirque	5.99	67		P	Pn	22 08 27.4	-0.8
	baz=257							
GCSA	Galena City Sc	6.03	350		P	Pn	22 08 28.8	+0.3
	baz=168							
TGL	Tana Glacier	6.12	67			Pn	22 08 29.0	-0.9
MCARA	McCarthy VSAT	6.20	61			Pn	22 08 30.1	-0.8
MCARA	McCarthy VSAT	6.20	61		P	Pn	22 08 30.4	-0.5
	baz=251							
NEA2	Nenana	6.28	21		Pn	Pn	22 08 30.1	-1.8
NEA2	Nenana	6.28	21		P	Pn	22 08 29.8	-2.1
	baz=206							
ISLE	Juniper Island	6.32	69			Pn	22 08 32.1	-0.6
WRH	Wood River Hil	6.37	25		Pn	Pn	22 08 31.2	-2.0
KIAG	Kiagna River	6.38	66			Pn	22 08 32.8	-0.7
PTPK	Patty Peak	6.40	64			Pn	22 08 33.2	-0.5
BALM	Baldy	6.42	65			Pn	22 08 33.2	-0.6
BAGL	Bagley Icefiel	6.42	70			Pn	22 08 33.7	-0.2
MLY	Manley	6.43	14		Pn	Pn	22 08 32.6	-1.3
MLY	Manley	6.43	14		P	Pn	22 08 33.4	-0.5
	baz=197							
MESA	MESA	6.45	73			Pn	22 08 33.5	-0.9
MESA	MESA	6.45	73		P	Pn	22 08 34.4	0.0
	baz=264,SNR=5.4							
K24K	Donnelly Dome	6.45	36			Pn	22 08 34.7	+0.4
K24K	Donnelly Dome	6.45	36		P	Pn	22 08 34.7	+0.4
	baz=224							
YAH	Yahtse	6.58	71			Pn	22 08 35.7	-0.4
CCB	Clear Creek Bu	6.59	25			Pn	22 08 33.8	-2.3
HDA	Harding Lake	6.59	29		Pn	Pn	22 08 34.6	-1.5
HDA	Harding Lake	6.59	29		P	Pn	22 08 34.6	-1.5
	baz=216							
H18K	Honhosa River	6.59	345		Pn	Pn	22 08 36.2	0.0
H18K	Honhosa River	6.59	345		P	Pn	22 08 36.0	-0.1
	baz=162							
M26K	Nabesna, AK	6.62	53			Pn	22 08 36.4	-0.1
M26K	Nabesna, AK	6.62	53		P	Pn	22 08 36.5	-0.1
	baz=243,SNR=19							
GRNC	Granite Creek	6.63	68			Pn	22 08 36.4	-0.5
H17K	Granite Mounta	6.64	339		Pn	Pn	22 08 36.8	0.0
H17K	Granite Mounta	6.64	339		P	Pn	22 08 36.9	0.0
	baz=154							
RIDG	Independent Ri	6.70	39		P	Pn	22 08 37.1	-0.6
	baz=228							
I23K	Minto, Yukon-K	6.74	18		Pn	Pn	22 08 37.0	-1.1
I23K	Minto, Yukon-K	6.74	18		P	Pn	22 08 36.9	-1.1
	baz=203							
BARN	Barnard Glacie	6.75	65			Pn	22 08 37.5	-0.9
H19K	Roundabout Mou	6.77	353		Pn	Pn	22 08 38.1	-0.4
L26K	Log Cabin Wild	6.79	47		P	Pn	22 08 38.2	-0.8
	baz=237							
H21K	Melozitna Rive	6.87	5		Pn	Pn	22 08 39.2	-0.7
H21K	Melozitna Rive	6.87	5		P	Pn	22 08 39.8	-0.1
	baz=187							
CTG	Chitna Glacier	6.88	67		P	Pn	22 08 40.3	+0.1
	baz=258							
CTGM	Chitina Glacie	6.88	67			Pn	22 08 38.5	-1.6
TABL	Table Mountain	6.88	71			Pn	22 08 40.2	-0.1
DOT	Dot Lake	6.91	42			Pn	22 08 38.6	-1.8

ILAR	Eielson Array	6.91	28		Pn	Pn	22 08 37.7	-2.6
ILAR	Eielson Array	6.91	28		P	Pn	22 08 38.1	-2.3
ILAR	comp=N,0.4nm,0.3s,baz=214,slow=14,SNR=27				S	Sn	22 09 52.0	-5.3
	comp=N,1.2nm,0.4s,baz=209,slow=26,SNR=13 comp=N,0.9nm,0.4s							
LOGN	Logan Glacier	7.01	68		Pn	Pn	22 08 41.2	-0.7
SAMH	Samovar Hills	7.03	74			Pn	22 08 42.3	+0.1
M27K	Edge Creek, AK	7.07	55		P	Pn	22 08 42.8	0.0
	baz=246,SNR=7.6							
POKR	Poker Plat Res	7.07	24		P	Pn	22 08 40.2	-2.4
	baz=211							
SCRK	Sand Creek	7.14	40		Pn	Pn	22 08 41.9	-1.8
SCRK	Sand Creek	7.14	40		P	Pn	22 08 42.2	-1.5
	baz=229							
IMAR	Indian Mountai	7.16	2		Pn	Pn	22 08 41.8	-2.0
J25K	Salcha River,	7.17	33			Pn	22 08 42.0	-2.1
J25K	Salcha River,	7.17	33		P	Pn	22 08 43.0	-1.1
	baz=221,SNR=6.9							
PCA	Pinnacle	7.29	74		Pn	Pn	22 08 45.6	0.0
PINM	Pinnacle	7.29	74		P	Pn	22 08 46.1	+0.5
	baz=266							
G18K	Tagagawik	7.34	346		Pn	Pn	22 08 46.3	+0.1
G18K	Tagagawik	7.34	346		P	Pn	22 08 47.0	+0.7
	baz=162							
H23K	Yukon River	7.34	16		Pn	Pn	22 08 44.8	-1.5
H23K	Yukon River	7.34	16		P	Pn	22 08 45.3	-1.0
	baz=200							
O28M	Mount Upton	7.39	69		Pn	Pn	22 08 47.2	-0.1
O28M	Mount Upton	7.39	69		P	Pn	22 08 47.3	+0.1
	baz=261,SNR=13							
L27K	Beaver Creek,	7.41	50			Pn	22 08 46.5	-0.7
L27K	Beaver Creek,	7.41	50		P	Pn	22 08 47.0	-0.2
	baz=241,SNR=7.1							
G19K	Purcell Mounta	7.42	351		Pn	Pn	22 08 47.7	+0.4
BCAR	Beaver Creek A	7.43	50			Pn	22 08 47.0	-0.4
YUK3	Moose Creek	7.49	61		P	Pn	22 08 48.4	-0.1
	baz=253,SNR=16							
BVCY	Beaver Creek	7.53	56			Pn	22 08 48.8	0.0
BVCY	Beaver Creek	7.53	56		P	Pn	22 08 48.8	0.0
	baz=248,SNR=9.3							
G16K	Koyuk River	7.55	334		Pn	Pn	22 08 49.6	+0.5
H24K	Noodor Dome	7.62	20		Pn	Pn	22 08 48.5	-1.6
H24K	Noodor Dome	7.62	20		P	Pn	22 08 48.8	-1.3
	baz=206							
J26L	Joseph Creek	7.63	38		Pn	Pn	22 08 49.0	-1.3
J26L	Joseph Creek	7.63	38		P	Pn	22 08 49.9	-0.4
	baz=227							
YUK8	Steele Glacier	7.69	65		P	Pn	22 08 50.4	-0.9
	baz=258,SNR=5.7							
G21K	Allakaket	7.70	3		Pn	Pn	22 08 51.1	0.0
PNL	Peninsula	7.71	78		P	Pn	22 08 50.2	-1.1
PNL	Peninsula	7.71	78		P	Pn	22 08 50.7	-0.6
	baz=271,SNR=5.3							
ANM	Nome	7.75	322		Pn	Pn	22 08 51.2	-0.6
K27K	Chicken	7.84	43		Pn	Pn	22 08 52.0	-0.9
K27K	Chicken	7.84	43		P	Pn	22 08 52.0	-0.9
	baz=234							
PRP	Porcupine Dome	7.85	28		Pn	Pn	22 08 51.6	-1.7
PRP	Porcupine Dome	7.85	28		P	Pn	22 08 51.6	-1.7
	baz=216							
AKUT	Akutan	7.89	238		Pn	Pn	22 08 52.8	-0.9
LVA	Lava Point	7.99	239		Pn	Pn	22 08 54.7	-0.4
ZRO	Akutan Zero	8.01	238			Pn	22 08 54.8	-0.6
G23K	Bananza Creek	8.13	12		Pn	Pn	22 08 55.9	-1.0
G23K	Bananza Creek	8.13	12		P	Pn	22 08 56.3	-0.7
	baz=196							
O29M	Mount Kennedy	8.14	73		Pn	Pn	22 08 57.8	+0.5
O29M	Mount Kennedy	8.14	73		P	Pn	22 08 57.7	+0.5
	baz=267							
F19K	Shaleruckik Mo	8.16	350		Pn	Pn	22 08 58.0	+0.7
YUK4	Talbot Arm	8.23	66		P	Pn	22 08 58.7	+0.2
	baz=259							
F17K	Baldwin Pennin	8.24	340		Pn	Pn	22 08 58.3	-0.1
F20K	Avaraart Lake	8.25	356		Pn	Pn	22 08 57.9	-0.5
YUK6	Outpost Mounta	8.30	69		P	Pn	22 08 59.3	-0.2
	baz=263							
I26K	Coal Creek Min	8.32	34		Pn	Pn	22 08 58.4	-1.2
I26K	Coal Creek Min	8.32	34		P	Pn	22 08 59.1	-0.5
	baz=224							
F15K	North Star Dit	8.37	329		Pn	Pn	22 09 00.1	-0.1
UNV	Unalaska Valle	8.41	239		Pn	Pn	22 08 59.2	-1.5
UNV	Unalaska Valle	8.41	239		P	Pn	22 08 59.0	-1.7
	baz=48							
F21K	Alatna River	8.41	2		Pn	Pn	22 09 01.4	+0.7
G24K	Hadweenzic Riv	8.47	19		Pn	Pn	22 08 59.0	-2.6
P29M	Windy Craggy	8.55	78		Pn	Pn	22 09 03.0	+0.3
P29M	Windy Craggy	8.55	78		P	Pn	22 09 03.2	+0.5
	baz=272							
M29M	Somme Creek	8.59	59		Pn	Pn	22 09 03.8	+0.5
M29M	Somme Creek	8.59	59		P	Pn	22 09 03.2	-0.1
	baz=252,SNR=19							
MGOD	Makushin Gods	8.60	239			Pn	22 09 02.2	-1.2
HYT	Haines Junctio	8.71	70		Pn	Pn	22 09 05.2	+0.3
HYT	Haines Junctio	8.71	70		P	Pn	22 09 05.2	+0.3
	baz=264							
E19K	Redstone River	8.73	353		Pn	Pn	22 09 05.2	+0.2
G25K	Bearman Lake	8.78	22		P	Pn	22 09 05.8	+0.1
	baz=209							
DAWY	Dawson	8.85	48		Pn	Pn	22 09 05.8	-0.9
DAWY	Dawson	8.85	48		P	Pn	22 09 06.4	-0.4
	baz=241							
P30M	Million Dollar	8.94	74		P	Pn	22 09 08.7	+0.8
	baz=270							
L29M	L29M	8.95	55		Pn	Pn	22 09 07.9	-0.3
L29M	L29M	8.95	55		P	Pn	22 09 08.2	0.0
	baz=249							
N30M	Aishikik Lake	8.99	66		Pn	Pn	22 09 08.3	-0.4
N30M	Aishikik Lake	8.99	66		P	Pn	22 09 08.3	-0.4
	baz=261,SNR=12							
E18K	Tukpahlearik C	9.04	344		Pn	Pn	22 09 10.3	+1.1
F24K	Squaw Lake	9.17	16		Pn	Pn	22 09 09.6	-1.4
PLBC	Pleasant Camp	9.26	79		P	Pn	22 09 13.9	+1.6
	baz=274,SNR=6.1							
M30M	Minto, Yukon	9.37	59		Pn	Pn	22 09 13.8	+0.1
M30M	Minto, Yukon	9.37	59		P	Pn	22 09 13.7	0.0
	baz=255							
O30N	Mendenhall	9.39	70		Pn	Pn	22 09 13.2	-0.9
O30N	Mendenhall	9.39	70		P	Pn	22 09 15.0	+0.9
	baz=266							
I28M	Miner Creek	9.43	39		Pn	Pn	22 09 13.8	-0.8
I28M	Miner Creek	9.43	39		P

WRAK	**Wrangell Islan**	**12.03**	**92**	P		**Pn**	**22 09 50.3**	**+1.0**
	baz=291								
ADK	**Adak**	**14.44**	**251**	Pn		**Pn**	**22 10 21.7**	**+1.1**
KIWB	**Kanaga Island**	**14.69**	**251**	Pn		**Pn**	**22 10 24.4**	**+0.7**
YKA	**Yellowknife Ar**	**19.58**	**62**	P		**P**	**22 11 20.1**	**-0.3**
	comp=N,0.2nm,0.3s,baz=278,slow=17,SNR=4.6								
	comp=N,0.3nm,0.5s								
NEW	**Newport**	**24.20**	**100**	LR		LR	22 20 15.9		
	comp=N,223nm,19.6s,baz=196,slow=33								
PDAR	**Pinedale Array**	**31.83**	**100**	P		**P**	**22 13 17.0**	**+1.3**	
	comp=N,0.4nm,0.6s,baz=309,slow=7.5,SNR=3.7								
	comp=N,0.4nm,0.6s								
TXAR	**Lajitas Array**	**45.26**	**108**	P		**P**	**22 15 07.8**	**+0.1**	
	comp=N,0.2nm,0.7s,baz=330,slow=7.2,SNR=3.6								
	comp=N,0.2nm,0.7s								

NEIC ***04*** *22:12:07.4±1.6,35°.74N±0°.01×117°.56W±0°.01,h5km±1km, Error ellipse: s-maj=2.7km s-min=1.9km az=15.0*

NEIC ***04*** *22:12:08,35°.74N×117°.57W,h8km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=0.28; Mθθ=-5.52; Mφφ=5.80; Mrθ=0.80; Mrφ=2.61; Mθφ=-0.72; Fault plane solution: M0=6.32000×10¹⁵ NP1:φs=328.00000°, δ=87.00000°,λ=-170.00000°. NP2:φs=237.00000°, δ=80.00000°,λ=-3.00000°. Principal axes: T 6.4131, Plg5.0000°, Azm102.0000°; N -0.1788, Plg80.0000°, Azm345.0000°; P -6.2343, Plg9.0000°, Azm193.0000°;*

PAS ***04*** *22:12:08.3±1.7,35°.74N±0°.01×117°.57W±0°.01,h2km±3km, Mwr4.5/6,mb4.2/17(NEIC),ML4.4/138(NEIC) Error ellipse: s-maj=1.6km s-min=1.4km az=206.0*

IDC ***04*** *22:12:08.5±0.7,35°.75N×117°.48W,h0km,mb4.0/6, mbtmp3.8/13,ML3.6/6,MS3.6/32,Error ellipse: s-maj=13.6km s-min=5.4km az=72.0*

ISC 04 22:12:09.0±0.5,35°.71N±0°.02×117°.53W±0°.02,h10km, n173,σ1s25/160,mb4.2/8,MS3.7/25,Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
WNMM	**Nine Mile Cany**	**0.33**	**294**		**Pg**	**22 12 14.3**	**-1.3**	
WVPM	**Volcano Peak E**	**0.33**	**316**		**Pg**	**22 12 14.2**	**-1.6**	
WVPM					**Sg**	**22 12 18.5**	**-1.6**	
MPMC	**Manual Prospec**	**0.35**	**6**		**Pg**	**22 12 14.6**	**-1.4**	
MPMC					**Sg**	**22 12 19.4**	**-1.3**	
WRVM	**Rose V. Centra**	**0.41**	**316**		**Pg**	**22 12 15.6**	**-1.6**	
WRVM					**Sg**	**22 12 20.9**	**-1.8**	
MFS	**McCloud Flat S**	**0.48**	**327**		**Pg**	**22 12 16.9**	**-1.6**	
MFS					**Sg**	**22 12 23.1**	**-1.8**	
DTP	**Desert Tortois**	**0.51**	**210**		**Pg**	**22 12 18.3**	**-0.7**	
DTP					**Sg**	**22 12 25.8**	**+0.1**	
WBSM	**Bird Springs**	**0.52**	**251**		**Pg**	**22 12 18.1**	**-1.1**	
WBSM					**Sg**	**22 12 25.3**	**-0.9**	
WORM	**Onyx Ranch**	**0.58**	**269**		**Pg**	**22 12 18.8**	**-1.5**	
WORM					**Sg**	**22 12 26.2**	**-1.6**	
QSM	**Queen of Sheba**	**0.60**	**65**		**Pg**	**22 12 19.6**	**-1.0**	
QSM					**Sg**	**22 12 28.0**	**-0.4**	
QSM				IAML		22 12 28.7		
	comp=E,20μm,0.3s							
QSM				IAML		22 12 29.0		
	comp=N,23μm,0.6s							
WHFM	**Hanning Flat**	**0.66**	**269**		**Pg**	**22 12 20.4**	**-1.4**	
WHFM					**Sg**	**22 12 29.1**	**-1.5**	
CCAC	**Calif City Air**	**0.68**	**215**		**Pg**	**22 12 21.6**	**-0.7**	
CCAC				IAML		22 12 32.6		
	comp=N,15μm,0.5s							
CCAC				IAML		22 12 41.1		
	comp=E,19μm,1.4s							
CCAC	**Calif City Air**	**0.68**	**215**		**Sg**	**22 12 31.3**	**+0.1**	
GSC	**Goldstone, Bar**	**0.72**	**124**		**Pg**	**22 12 22.7**	**-0.3**	
GSC				IAML		22 12 36.6		
	comp=N,19μm,0.7s							
GSC	**Goldstone, Bar**	**0.72**	**124**		**Sb**	**22 12 33.1**	**-0.6**	
ISA	**Isabella, Lake**	**0.77**	**267**		**Pg**	**22 12 22.4**	**-1.5**	
ISA					**Sg**	**22 12 32.3**	**-1.6**	
ISA	**Isabella, Lake**	**0.77**	**267**	IAML		22 12 33.4		
	comp=E,15μm,0.5s							
WASM	**Alta Sierra Ca**	**0.83**	**272**		**Sg**	**22 12 34.4**	**-1.6**	
HYS	**Haystack Butte**	**0.85**	**182**		**Sg**	**22 12 36.4**	**0.0**	
GWY	**Greenwater Val**	**0.85**	**56**		**Pg**	**22 12 24.4**	**-1.0**	
GWY	**Greenwater Val**	**0.85**	**56**		**Sg**	**22 12 35.6**	**-0.9**	
CWC	**Cottonwood Cre**	**0.85**	**329**		**Pg**	**22 12 24.2**	**-1.3**	
CWC					**Sg**	**22 12 34.9**	**-1.8**	
CGO	**Cerro Gordo**	**0.87**	**345**		**Pg**	**22 12 23.6**	**-2.1**	
FURC	**Furnace Creek,**	**0.93**	**36**		**Pg**	**22 12 26.0**	**-0.9**	
FURC					**Sb**	**22 12 38.9**	**-0.7**	
RRX	**Edison Barstow**	**0.94**	**152**		**Sb**	**22 12 40.4**	**+0.4**	
TPO	**Tropico Hills**	**1.01**	**215**		**Sg**	**22 12 41.3**	**-0.1**	
SHOC	**Shoshone, Teco**	**1.04**	**79**		**Pb**	**22 12 28.6**	**-0.5**	
SHOC					**Sb**	**22 12 42.9**	**0.0**	
SBB	**Saddle Back Bu**	**1.05**	**193**		**Sn**	**22 12 43.8**	**-0.7**	
SPG2	**Springville 2**	**1.11**	**296**		**Sg**	**22 12 42.4**	**-2.5**	
VTV	**Victorville**	**1.16**	**172**		**Pb**	**22 12 30.5**	**-0.7**	
ADO	**Adelanto Recei**	**1.16**	**176**		**Pb**	**22 12 30.8**	**-0.4**	
MAGC	**SCE Magundon P**	**1.19**	**253**		**Pb**	**22 12 30.2**	**-1.4**	
THC	**Tehachapi Micr**	**1.22**	**229**		**Pn**	**22 12 30.7**	**-1.6**	
VES	**Vestal, Richgr**	**1.27**	**276**		**Pn**	**22 12 31.4**	**-1.4**	
CJV	**Casa Juvan**	**1.28**	**203**		**Pn**	**22 12 32.0**	**-1.1**	
GRAC	**Grapevine Rang**	**1.29**	**6**		**Pn**	**22 12 31.8**	**-1.4**	
GRAC				IAML		22 12 55.6		
	comp=E,10μm,1.1s							
GRAC				IAML		22 12 56.0		
	comp=N,8μm,0.8s							
DSCC	**Desert Studies**	**1.30**	**115**		**Pn**	**22 12 31.8**	**-1.4**	
WCT	**Wildcat Mounta**	**1.31**	**34**		**Pn**	**22 12 31.9**	**-1.6**	
WCT				IAML		22 12 53.9		
	comp=E,5μm,1.3s							
TUQ	**Turquoise Moun**	**1.34**	**101**		**Pn**	**22 12 32.6**	**-1.3**	
TIN	**Tinemaha, Big**	**1.45**	**337**		**Pn**	**22 12 35.0**	**-0.5**	
BBRC	**Big Bear Solar**	**1.53**	**161**		**Pn**	**22 12 36.6**	**0.0**	
GMN	**Gold Mountain**	**1.60**	**8**		**Pn**	**22 12 36.5**	**-1.1**	
TPNV	**Topopah Spring**	**1.61**	**40**		**Pn**	**22 12 36.7**	**-1.0**	
TPNV				IAML		22 13 04.7		
	comp=E,5μm,0.9s							
TPNV				IAML		22 13 06.1		
	comp=E,7μm,1.4s							
PASC	**Pasadena Art C**	**1.63**	**199**		**Pn**	**22 12 37.3**	**-0.5**	
PASC				IAML		22 13 04.2		
	comp=E,5μm,0.9s							
PASC				IAML		22 13 06.6		
	comp=N,4μm,0.8s							
DSP	**Deep Springs**	**1.69**	**348**		**Pn**	**22 12 37.6**	**-1.0**	
BCW	**Bitter Crk WRg**	**1.72**	**244**		**Pn**	**22 12 37.9**	**-1.2**	
BCW				IAML		22 13 10.1		
	comp=E,7μm,1.0s							
GVRC	**Garvey Reservo**	**1.73**	**196**		**Pn**	**22 12 39.1**	**+0.1**	
CRGC	**Crocker Grade**	**1.85**	**256**		**Pn**	**22 12 41.0**	**+0.1**	
CARC	**Carrizo Plain**	**1.93**	**259**		**Pn**	**22 12 41.1**	**-0.9**	
MZP	**Montezuma Peak**	**1.99**	**3**	Pn	**Pn**	**22 12 41.4**	**-1.6**	
SMMC	**Simmler**	**2.05**	**260**		**Pn**	**22 12 43.6**	**+0.1**	
ELS	**Elsinore Mount**	**2.06**	**178**		**Pn**	**22 12 43.4**	**-0.4**	
ELS				IAML		22 13 21.5		
	comp=E,3μm,0.8s							
ELS				IAML		22 13 22.2		
	comp=N,2μm,0.7s							
SHPR	**Sheep Range**	**2.08**	**67**		**Pn**	**22 12 43.4**	**-0.8**	
V12A	**Nelson**	**2.18**	**89**		**Pn**	**22 12 44.4**	**-1.1**	
V12A				IAML		22 13 21.2		
	comp=N,2μm,0.9s							
PFO	**Pinyon Flats O**	**2.27**	**157**		**Pn**	**22 12 46.0**	**-0.8**	
PFO				IAML		22 13 26.9		
	comp=N,2μm,1.3s							
PFO				IAML		22 13 27.1		
	comp=N,4μm,1.9s							
PFO	**Pinyon Flats O**	**2.27**	**157**	Pn	**Pn**	**22 12 45.8**	**-0.9**	
	comp=N,12nm,0.3s,baz=338,slow=14,SNR=54							
PFO				Pg	**Pg**	**22 12 51.1**	**-1.5**	
	comp=N,69nm,0.3s,baz=338,slow=14,SNR=52							
PFO				Lg	Lg	22 13 21.6		
	comp=N,183nm,0.3s,baz=57,slow=14,SNR=6.6							
PFO				LR	LR	22 13 22.3		
	comp=N,200nm,20.6s,baz=204,slow=32							
	comp=N,33nm,0.3s							
TPH	**Tonopah**	**2.37**	**6**		**Pn**	**22 12 47.4**	**-0.8**	
TPH				IAML		22 13 31.0		
	comp=E,3μm,1.1s							
S11A	**Rachel**	**2.41**	**36**		**Pn**	**22 12 48.3**	**-0.3**	
PRN	**Pahroc Range**	**2.62**	**49**		**Pn**	**22 12 51.1**	**-0.4**	
LHV	**Little Huntoon**	**2.65**	**343**		**Pn**	**22 12 51.7**	**-0.1**	
LHV				IAML		22 13 43.9		
	comp=N,1μm,1.6s							
LHV				IAML		22 13 47.4		
	comp=E,2μm,2.1s							
PMPB	**Monarch Peak**	**2.70**	**282**		**Pn**	**22 12 51.6**	**-0.9**	
NV11	**Mina Array Sit**	**2.76**	**350**	IAML		22 13 39.7		
	comp=E,988nm,1.6s							
NVAR	**Mina Array Bea**	**2.78**	**347**		**Pn**	**22 12 52.8**	**-1.1**	
NVAR	**Mina Array Bea**	**2.78**	**347**	Pn	**Pn**	**22 12 53.2**	**-0.7**	
	comp=E,20nm,0.3s,baz=180,slow=15,SNR=124							
NVAR				Pg	**Pg**	**22 12 59.9**	**-2.5**	
	comp=E,131nm,0.3s,baz=148,slow=15,SNR=66							
NVAR				LR	LR	22 13 32.2		
	comp=E,241nm,21.9s,baz=143,slow=31							
NVAR				Lg	Lg	22 13 34.7		
	comp=E,65nm,0.3s,baz=148,slow=17,SNR=4.3							
	comp=E,13nm,0.3s							
BBGB	**Big Mountain B**	**2.97**	**288**		**Pn**	**22 12 56.8**	**+0.5**	
RYN	**Ryan**	**3.02**	**345**		**Pn**	**22 12 56.6**	**-0.5**	
W13A	**Hualapai Mount**	**3.04**	**101**		**Pn**	**22 12 56.6**	**-0.8**	
R11B	**Troy Canyon, C**	**3.06**	**30**	Pn	**Pn**	**22 12 56.8**	**-0.9**	
Q09A	**Carvers**	**3.13**	**5**		**Pn**	**22 12 58.6**	**0.0**	
Q09A				IAML		22 13 17.6		
	comp=N,2μm,1.1s							
BLYC	**Blythe**	**3.16**	**127**		**Pn**	**22 12 57.3**	**-1.5**	
BLYC				IAML		22 13 50.3		
	comp=N,1μm,0.8s							
BLYC				IAML		22 13 54.2		
	comp=E,1μm,1.0s							
WAKR	**Walker**	**3.18**	**332**		**Pn**	**22 12 59.5**	**+0.2**	
TJX	**Tijuana**	**3.22**	**173**		**Pn**	**22 12 59.4**	**-0.2**	
TKX	**Tecate**	**3.23**	**166**	IAML		22 13 50.9		
	comp=E,774nm,0.8s							
CMB	**Columbia Colle**	**3.26**	**316**		**Pn**	**22 13 00.3**	**+0.1**	
CMB				IAML		22 13 53.9		
	comp=N,635nm,0.9s							
SAO	**San Andreas Ge**	**3.33**	**290**		**Pn**	**22 12 59.9**	**-1.3**	
YUH	**Yuha Desert**	**3.33**	**156**		**Pn**	**22 13 00.3**	**-1.0**	
YUH				IAML		22 14 03.6		
	comp=E,803nm,1.1s							
YUH				IAML		22 14 05.4		
	comp=N,549nm,1.7s							
CBX	**Cerro Bola**	**3.46**	**168**		**Pn**	**22 13 03.4**	**+0.3**	
LCMT	**Little Creek M**	**3.70**	**68**	IAML		22 14 14.7		
	comp=N,426nm,1.6s							
CCX	**Cicese**	**3.90**	**169**		**Pn**	**22 13 09.6**	**+0.6**	
CCX				IAML		22 14 14.5		
	comp=E,956nm,0.9s							
CCX				IAML		22 14 28.1		
	comp=N,638nm,1.0s							
ESJX	**Sierra Juarez**	**3.92**	**160**	IAML		22 14 21.5		
	comp=E,485nm,0.9s							
ESJX				IAML		22 14 41.5		
	comp=N,384nm,1.4s							
KNB	**Kanab**	**4.02**	**70**	IAML		22 14 22.0		
	comp=E,807nm,0.9s							
KNB				IAML		22 14 25.7		
	comp=N,731nm,1.3s							
SZCU	**Shurtz Canyon**	**4.04**	**61**	Pn	**Pn**	**22 13 10.8**	**-0.3**	
SZCU				IAML		22 14 31.6		
	comp=E,376nm,1.1s							
SZCU				IAML		22 14 34.8		
	comp=N,383nm,1.7s							
PSUT	**Pine Spring**	**4.07**	**45**		**Pn**	**22 13 11.4**	**-0.2**	
PSUT				IAML		22 14 37.5		
	comp=N,600nm,1.3s							
MPK	**Martis Peak**	**4.09**	**332**		**Pb**	**22 13 23.4**	**+2.1**	
MPK				IAML		22 14 39.0		
	comp=E,958nm,1.1s							
MPK				IAML		22 14 51.4		
	comp=N,949nm,1.0s							
Y14A	**Wickenburg**	**4.12**	**114**		**Pn**	**22 13 11.3**	**-0.8**	
Y14A				IAML		22 14 30.8		
	comp=E,745nm,1.0s							
SPR3	**Spring Creek 3**	**4.16**	**37**	IAML		22 14 19.2		
	comp=N,362nm,1.2s							
SPR3				IAML		22 14 28.7		
	comp=E,495nm,1.6s							
AFDM	**Forest Hills D**	**4.24**	**321**		**Pn**	**22 13 13.7**	**+0.1**	
AFDM				IAML		22 14 25.8		
	comp=N,381nm,1.5s							
AFDM				IAML		22 14 25.9		
	comp=E,482nm,1.6s							
113A	**Mohawk Valley,**	**4.28**	**132**		**Pn**	**22 13 13.4**	**-0.8**	
113A				IAML		22 14 33.0		
	comp=N,387nm,0.8s							
113A				IAML		22 14 36.2		
	comp=E,450nm,1.4s							
VTX	**Valle De La Tr**	**4.55**	**161**		**Pn**	**22 13 19.5**	**+1.5**	
VTX					**Pg**	**22 13 34.8**	**-1.4**	
VTX				IAML		22 14 35.8		
	comp=N,486nm,1.1s							
VTX				IAML		22 14 38.2		
	comp=E,643nm,1.4s							
BEKR	**Beckworth**	**4.71**	**332**		**Pb**	**22 13 34.3**	**+2.4**	
BEKR				IAML		22 14 52.4		
	comp=E,318nm,1.1s							
MCCM	**Marconi Confer**	**4.92**	**301**	Pn	**Pn**	**22 13 23.8**	**+0.8**	
MCCM				IAML		22 14 45.5		
	comp=E,263nm,1.1s							
MCCM				IAML		22 15 04.3		
	comp=N,212nm,1.4s							
ORV	**Oroville**	**4.96**	**322**	Pn	**Pn**	**22 13 23.4**	**-0.2**	
ORV				IAML		22 14 54.5		
	comp=E,265nm,1.7s							
MVU	**Marysvale**	**5.08**	**55**		**Pn**	**22 13 26.7**	**+1.2**	
X16A	**Lo Mia Camp, P**	**5.16**	**103**	IAML		22 15 06.1		
	comp=N,202nm,1.2s							
X16A				IAML		22 15 06.7		
	comp=E,214nm,1.1s							
SFX	**San Felipe**	**5.17**	**154**		**Pg**	**22 13 46.6**	**-1.5**	
SFX				IAML		22 15 02.4		
	comp=E,366nm,1.4s							
SFX				IAML		22 15 07.2		
	comp=N,251nm,1.6s							
GDXM	**Geysers**	**5.21**	**308**		**Pn**	**22 13 28.6**	**+1.5**	
ELK	**Elko**	**5.34**	**19**		**Pn**	**22 13 29.1**	**0.0**	
ELK	**Elko**	**5.34**	**19**	Pn	**Pn**	**22 13 29.0**	**0.0**	
	comp=N,1.9nm,0.3s,baz=205,slow=9.9,SNR=9.5							
ELK				Pg	**Pb**	**22 13 45.8**	**+3.2**	
	comp=N,16nm,0.3s,baz=214,slow=14,SNR=32							
ELK				Lg	Lg	22 14 56.4		
	comp=N,18nm,0.3s,baz=95,slow=18,SNR=7.9							
	comp=N,4.3nm,0.3s							
HOPS	**Hopland Field**	**5.50**	**308**		**Pn**	**22 13 30.5**	**-0.5**	
DUG	**Dugway, Tooele**	**5.83**	**38**		**Pg**	**22 13 57.4**	**-3.2**	
HMU	**Henry Mountain**	**5.88**	**66**	Pn	**Pn**	**22 13 37.5**	**+1.0**	
HATC	**Hat Creek Radi**	**5.96**	**330**	Pn	**Pn**	**22 13 37.3**	**-0.1**	
Q16A	**Castle Valley**	**6.00**	**56**	Pn	**Pn**	**22 13 39.2**	**+1.3**	
TMUT	**Trail Mountain**	**6.17**	**53**	Pn	**Pn**	**22 13 40.4**	**-0.1**	
KCPM	**Cahto Peak**	**6.22**	**311**	Pn	**Pn**	**22 13 39.4**	**-1.6**	
BGU	**Big Grassy Mou**	**6.29**	**33**	Pn	**Pn**	**22 13 42.6**	**+0.6**	
X18A	**Snowflake**	**6.33**	**99**		**Pn**	**22 13 43.8**	**+1.3**	
W18A	**Petrified Fore**	**6.39**	**93**	Pn	**Pn**	**22 13 44.5**	**+1.0**	
W18A					**Pg**	**22 14 08.3**	**-3.1**	
SRU	**San Rafael Swe**	**6.53**	**57**	Pn	**Pn**	**22 13 46.6**	**+1.3**	
KMRM	**Mail Ridge**	**6.64**	**315**	Pn	**Pn**	**22 13 46.4**	**-0.3**	
YBH	**Yreka Blue Hor**	**7.25**	**328**	Pn	**Pn**	**22 13 55.9**	**+0.9**	
	baz=169,slow=8.6,SNR=4.4							
YBH				Lg	Lg	22 15 56.0		
	baz=10,slow=9.5,SNR=6.0							
YBH				LR	LR	22 16 24.3		
	comp=N,29nm,18.4s,baz=154,slow=35							
PV04	**Paradox Valley**	**7.40**	**66**		**Pn**	**22 13 57.5**	**+0.2**	
PV21	**Cone Mtn., Par**	**7.40**	**65**	Pn	**Pn**	**22 13 58.2**	**+0.9**	
PV21					Pg	22 14 25.3	-5.5	
MVCO	**Mesa Verde**	**7.43**	**76**	Pn	**Pn**	**22 13 59.6**	**+1.9**	
K05A	**Summer Lake**	**7.47**	**341**	Pn	**Pn**	**22 14 00.4**	**+2.2**	
L04D	**Klamath Falls**	**7.48**	**332**	Pn	**Pn**	**22 13 57.3**	**-1.0**	
ANMO	**Albuquerque**	**9.08**	**92**	Pn	**Pn**	**22 14 20.9**	**+0.5**	
	comp=N,0.2nm,0.3s,baz=10.0,slow=11,SNR=8.8							
ANMO				Pg		22 14 53.4		
	comp=N,0.7nm,0.3s,baz=12,slow=14,SNR=8.9							
ANMO				Lg	Lg	22 16 51.8		
	comp=N,0.5nm,0.3s,baz=295,slow=19,SNR=4.6							
ANMO				LR	LR	22 18 30.8		
	comp=N,233nm,20.9s,baz=19,slow=42							
	comp=N,1.3nm,0.7s							
PDAR	**Pinedale Array**	**9.37**	**39**	Pn	**Pn**	**22 14 25.4**	**+1.1**	
	comp=N,0.1nm,0.3s,baz=226,slow=12,SNR=8.9							
PDAR				Lg	Lg	22 17 02.3		
	comp=N,0.2nm,0.3s,baz=223,slow=32,SNR=6.0							
PDAR				LR	LR	22 17 59.0		
	comp=N,130nm,18.2s,baz=223,slow=38							
	comp=N,1.7nm,1.0s							
VHRN	**Van Horn**	**11.59**	**112**	Pn	**Pn**	**22 14 55.5**	**+0.8**	
NEW	**Newport**	**12.55**	**1**	Pn	**Pn**	**22 15 08.5**	**+0.9**	
	comp=N,0.1nm,0.3s,baz=169,slow=14,SNR=3.5							
	comp=N,1.4nm,0.7s							
LPIG	**La Paz**	**13.15**	**150**	LR	LR	22 19 49.8		
	comp=N,134nm,18.9s,baz=14,slow=35							
TXAR	**Lajitas Array**	**13.31**	**115**	Pn	**Pn**	**22 15 20.6**	**+2.4**	
	comp=N,1.6nm,0.4s,baz=293,slow=12,SNR=28							
TXAR				Lg	Lg	22 19 08.3		
	comp=N,0.1nm,0.3s,baz=283,slow=28,SNR=6.9							
TXAR				LR	LR	22 20 45.5		
	comp=N,144nm,19.6s,baz=296,slow=39							
DKNS	**Dickens**	**13.82**	**94**	Pn	**Pn**	**22 15 24.9**	**-0.2**	
LAO	**LASA Array**	**13.87**	**34**	Pn	**Pn**	**22 15 23.8**	**-1.8**	
SN07	**Snyder 07**	**13.99**	**96**	Pn	**Pn**	**22 15 27.7**	**+0.4**	
SN05	**Snyder 5**	**14.05**	**97**		**Pn**	**22 15 29.2**	**+1.0**	
SMWD	**Samnorwood**	**14.12**	**87**	Pn	**Pn**	**22 15 30.0**	**+0.9**	
SGCY	**Sterling City**	**14.16**	**101**		**P**	**22 15 33.1**	**-4.2**	
SAND	**Sanderson**	**14.17**	**110**		**Pn**	**22 15 29.5**	**-0.2**	
OZNA	**Ozona**	**14.52**	**105**		**Pn**	**22 15 34.0**	**-0.7**	
JCT	**Junction City**	**15.74**	**104**		**Pn**	**22 15 50.7**	**-0.2**	
WTFS	**Witchita Falls**	**15.80**	**92**	Pn	**Pn**	**22 15 51.6**	**0.0**	
WTFS				IAmb	IAmb	22 16 11.8		
	comp=Z,18nm,0.9s							
BRDY	**Brady**	**16.08**	**101**		**Pn**	**22 15 55.4**	**+0.3**	
KAN09	**Caldwell North**	**16.10**	**79**		**Pn**	**22 15 55.2**	**-0.2**	
DGMT	**Dagmar**	**16.11**	**34**	Pn	**Pn**	**22 15 56.2**	**+0.7**	
PLPT	**Palo Pinto**	**16.15**	**95**	Pn	**Pn**	**22 15 55.8**	**-0.3**	
X34A	**Smith Ranch, M**	**16.15**	**88**	Pn	**Pn**	**22 15 55.7**	**-0.5**	
X34A				IAmb	IAmb	22 16 17.3		
	comp=Z,17nm,1.0s							
FW07	**Weatherford**	**16.61**	**95**	Pn	**Pn**	**22 16 00.3**	**-1.7**	
E28A	**Huff**	**16.66**	**44**	P	**P**	**22 16 03.9**	**-1.1**	
E28A				IAmb	IAmb	22 16 07.1		
	comp=Z,18nm,0.9s							
TUL3	**Leonard**	**17.64**	**83**	Pn	**Pn**	**22 16 14.3**	**-0.5**	
TUL3				IAmb	IAmb	22 16 22.7		
	comp=Z,17nm,1.1s							
MDND	**Maddock**	**18.00**	**42**		**P**	**22 16 19.6**	**-0.2**	
MDND				IAmb	IAmb	22 16 23.9		
	comp=Z,29nm,1.0s							
BBB	**Bella Bella**	**18.11**	**339**	LR	LR	22 24 12.2		
	comp=Z,142nm,18.3s,baz=155,slow=40							
MIAR	**Mount Ida**	**19.62**	**86**	P	**Pn**	**22 16 38.1**	**-0.9**	
MIAR				IAmb	IAmb	22 16 46.2		
	comp=Z,24nm,1.1s							
ULM	**Lac du Bonnet**	**21.39**	**41**	P	**P**	**22 16 56.7**	**+0.1**	
ULM				IAmb	IAmb	22 17 14.9		
	comp=Z,16nm,1.1s							
ULM	**Lac du Bonnet**	**21.39**	**41**	P	**P**	**22 16 58.7**	**+2.1**	
	comp=Z,6.9nm,0.7s,baz=221,slow=12,SNR=7.0							
ULM				LR	LR	22 25 56.9		
	comp=Z,111nm,19.7s,baz=242,slow=39							
	comp=Z,6.9nm,0.7s							
FFC	**Flin Flon**	**21.85**	**25**	P	**P**	**22 17 01.5**	**-0.1**	
FFC				IAmb	IAmb	22 17 15.0		
	comp=Z,9.9nm,1.0s							
DLBC	**Dease Lake**	**24.20**	**344**	LR	LR	22 26 12.8		
	comp=Z,32nm,21.5s,baz=130,slow=35							
W50A	**Signal Mountai**	**26.19**	**82**	P	**P**	**22 17 43.5**	**-0.4**	
YKA	**Yellowknife Ar**	**26.87**	**3**	P	**P**	**22 17 50.6**	**+1.0**	
	comp=Z,0.6nm,0.8s,baz=188,slow=9.1,SNR=5.5							
	comp=Z,0.6nm,0.8s							
TKL	**Tuckaleechee C**	**27.35**	**80**	P	**P**	**22 17 55.6**	**+1.4**	
	comp=Z,4.4nm,1.1s,baz=264,slow=2.9,SNR=6.4							
TKL				LR	LR	22 29 08.9		
	comp=Z,167nm,21.8s,baz=254,slow=37							
	comp=Z,4.4nm,1.1s							
CMIG	**Matias Romero**	**27.37**	**127**	LR	LR	22 27 46.4		
	comp=Z,148nm,20.1s,baz=224,slow=34							
SADO	**Sadowa**	**30.43**	**61**	LR	LR	22 31 08.2		
	comp=Z,195nm,21.7s,baz=274,slow=38							
INK	**Inuvik**	**33.87**	**349**	LR	LR	22 34 10.7		
	comp=Z,239nm,18.0s,baz=159,slow=39							
ILAR	**Eielson Array**	**34.00**	**338**	P	**P**	**22 18 54.4**	**+1.8**	
	comp=Z,0.5nm,0.7s,baz=158,slow=7.4,SNR=8.8							
ILAR				LR	LR	22 34 01.1		
	comp=Z,80nm,19.4s,baz=183,slow=39							
	comp=Z,0.5nm,0.7s							
JTS	**Las Juntas de**	**38.92**	**122**	LR	LR	22 36 58.8		
	comp=Z,129nm,19.3s,baz=301,slow=38							
RES	**Resolute Bay**	**40.55**	**9**	LR	LR	22 37 14.1		
	comp=Z,108nm,20.6s,baz=182,slow=37							
FRB	**Frobisher Bay**	**40.71**	**31**	LR	LR	22 37 38.0		
	comp=Z,129nm,19.0s,baz=306,slow=38							
ROSC	**

MORF				*i* IAML			22 22 40.3		
MORF				*i* IAML			22 22 42.9		
PTEO	**Sao Teotonio**	**4.75**	**49**	*e*S		Sn	22 22 39.5	-8.9	
PTEO				*i* IAML			22 22 40.6		
AVE	**Averroes**	**5.01**	**103**	Pn		Pn	22 21 55.9	-1.0	
AVE				Sn		Sn	22 22 48.9	-6.1	
PBDV	**Barranco-do-Ve**	**5.10**	**56**	*e*P		**Pn**	**22 21 56.9**	**-1.3**	
PBDV				*e*S		Sn	22 22 48.0	-9.2	
PBDV				*i* IAML			22 22 50.6		
PBDV				*i* IAML			22 22 53.4		
PCVE	**Castro Verde**	**5.24**	**52**	Sn		Sn	22 22 51.7	-8.8	
PCVE				Pn		**Pn**	**22 21 58.3**	**-1.7**	
PCVE	**Castro Verde**	**5.24**	**52**	*e*P		Pn	22 21 56.6	-3.4	
PCVE				*e*S		Sn	22 22 51.2	-9.3	
PCVE				*i* IAML			22 22 53.7		
PCVE				*i* IAML			22 22 55.6		
PCVE				*i* IAML			22 22 56.2		
MESJ	**Messejana**	**5.25**	**50**	*e*P		Pn	22 21 56.7	-3.4	
MESJ				*e*S		Sn	22 22 50.5	-10	
MESJ				IAML			22 22 55.0		
	comp=N,1.7nm,0.2s								
PVAQ	**Vaqueiros**	**5.33**	**56**	Pn		Pn	22 21 58.3	-3.0	
PVAQ	**Vaqueiros**	**5.33**	**56**	*e*P		Pn	22 21 58.3	-3.0	
PVAQ				*e*S		Sn	22 22 52.8	-10	
PVAQ				*i* IAML			22 22 53.6		
PVAQ				*i* IAML			22 22 56.0		
PVAQ				*i* IAML			22 22 57.3		
PVAQ	**Vaqueiros**	**5.33**	**56**	P		Pn	22 21 57.8	-3.4	
PVAQ	**Vaqueiros**	**5.33**	**56**	S		Sn	22 22 54.9	-7.9	
PMAFR	**Mafra**	**5.45**	**35**	*e*S		Sn	22 22 55.6	-10	
PMAFR				*i* IAML			22 22 55.8		
PARRA	**Arraiolos**	**5.46**	**37**	*e*S		**Sn**	**22 23 08.4**	**+2.5**	
PARRA				*i* IAML			22 23 10.0		
PARRA				*i* IAML			22 23 14.2		
PARRA				*i* IAML			22 23 14.4		
EGRO	**El Granado**	**5.56**	**56**	Pn		Pn	22 22 01.3	-3.1	
EGRO				Sn		Sn	22 22 58.4	-10	
EGRO	**El Granado**	**5.56**	**56**	P		Pn	22 22 01.3	-3.1	
EGRO				⇑*i*IVmb_VC			22 22 06.8		
	comp=N,86nm,SNR=1.2								
EGRO				S		Sn	22 22 59.5	-8.8	
PBEJ	**Beja**	**5.58**	**50**	*e*S		Sn	22 22 59.8	-9.1	
PBEJ				*i* IAML			22 23 02.2		
PBEJ				*i* IAML			22 23 04.5		
ZHG	**ZHG**	**5.60**	**99**	P		Pn	22 22 01.9	-3.1	
ZHG	**ZHG**	**5.60**	**99**	S		Sn	22 22 03.2	-7.3	
TTIG	**Tnine Tigouga,**	**5.69**	**133**	P		**Pn**	**22 22 06.6**	**+0.3**	
TTIG	**Tnine Tigouga,**	**5.69**	**133**	S		**Sn**	**22 23 11.4**	**-0.3**	
EVO	**Evora**	**5.81**	**45**	Sn		Sn	22 23 04.5	-10	
EVO	**Evora**	**5.81**	**45**	*e*S		Sn	22 23 04.8	-10	
EVO				*i* IAML			22 23 07.2		
EVO				*i* IAML			22 23 07.3		
EVO				*i* IAML			22 23 09.4		
PMTG	**Montargil**	**6.07**	**40**	*e*S		Sn	22 23 10.9	-10	
PMTG				*i* IAML			22 23 12.9		
PMTG				*i* IAML			22 23 13.6		
RSA	**Sarsar**	**6.14**	**85**	P		Pn	22 22 09.4	-3.0	
RSA	**Sarsar**	**6.14**	**85**	S		Sn	22 23 16.3	-6.4	
PBAR	**Barrancos**	**6.20**	**52**	Pn		Pn	22 22 10.1	-3.1	
PBAR				Sn		Sn	22 23 13.2	-11	
PBAR	**Barrancos**	**6.20**	**52**	*e*P		Pn	22 22 10.5	-2.7	
PBAR				*e*S		Sn	22 23 14.3	-10	
PBAR				*i* IAML			22 23 18.0		
PBAR				*i* IAML			22 23 18.6		
PBAR				*i* IAML			22 23 26.0		
TIO	**Tiouine**	**6.20**	**124**	Sn		Sn	22 23 17.0	-7.4	
TIO				Pn		Pn	22 22 11.7	-1.7	
TIO	**Tiouine**	**6.20**	**124**	P		Pn	22 22 12.3	-1.0	
TIO	**Tiouine**	**6.20**	**124**	S		Sn	22 23 20.5	-3.9	
EMIN	**Mina Concepcio**	**6.23**	**57**	S		Sn	22 23 16.4	-8.5	
ESPR	**Espera**	**6.46**	**67**	Pn		**Pn**	**22 22 15.4**	**-1.4**	
PSARD	**Sardoal**	**6.50**	**37**	*e*S		Sn	22 23 21.6	-10	
PSARD				*i* IAML			22 23 25.8		
PSARD				*i* IAML			22 23 28.4		
EBAD	**Badajoz**	**6.56**	**48**	Pn		Pn	22 22 14.8	-3.3	
EBAD				Sn		Sn	22 23 21.1	-12	
EBAD	**Badajoz**	**6.56**	**48**	P		Pn	22 22 14.8	-3.3	
EBAD				⇑*i*IVmb_VC			22 22 16.4		
	comp=N,92nm,SNR=1.5								
EBAD				S		Sn	22 23 22.6	-10	
OUZM	**OUZ**	**6.56**	**122**	P		Pn	22 22 16.8	-1.5	
OUZM	**OUZ**	**6.56**	**122**	S		Sn	22 23 29.3	-3.9	
PMRV	**Marv??o**	**6.78**	**42**	*e*S		Sn	22 23 27.1	-11	
PMRV				*i* IAML			22 23 28.4		
PMRV				*i* IAML			22 23 32.8		
PMRV				*i* IAML			22 23 34.4		
ECAB	**El Cabril**	**7.25**	**59**	Pn		Pn	22 22 24.1	-3.5	
ECAB				Sn		Sn	22 23 40.1	-10	
ECAB	**El Cabril**	**7.25**	**59**	P		Pn	22 22 24.7	-3.0	
ECAB				⇑*i*IVmb_VC			22 22 31.7		
	comp=N,56nm,SNR=1.1								
ECAB				S		Sn	22 23 39.3	-11	
MD31	**MD31**	**7.28**	**101**	P		Pn	22 22 26.6	-1.5	
MD31	**MD31**	**7.28**	**101**	S		Sn	22 23 43.9	-6.9	
MDT	**Midelt**	**7.42**	**101**	P		Pn	22 22 27.7	-2.3	
MDT	**Midelt**	**7.42**	**101**	S		Sn	22 23 48.1	-6.2	
AKLM	**AKL**	**7.76**	**87**	P		Pn	22 22 30.4	-4.2	
AKLM	**AKL**	**7.76**	**87**	S		Sn	22 23 53.7	-8.9	
EADA	**Adamuz**	**7.89**	**60**	Pn		Pn	22 22 32.9	-3.5	
EADA				Sn		Sn	22 23 54.5	-11	
EADA	**Adamuz**	**7.89**	**60**	P		Pn	22 22 32.1	-4.3	
EADA				⇑*i*IVmb_VC			22 22 33.3		
	comp=N,67nm,SNR=1.4								
EADA				S		Sn	22 23 55.3	-10	
EPLA	**Plasencia**	**7.95**	**44**	P		Pn	22 22 33.6	-3.7	
EPLA				⇑*i*IVmb_VC			22 22 42.6		
	comp=N,77nm,SNR=1.3								
EPLA				S		Sn	22 23 56.2	-11	
POLO	**Lamas de Olo**	**8.08**	**31**	*e*S		Sn	22 23 58.1	-12	
PSIM	**Granatula de C**	**8.75**	**58**	P		Pn	22 22 44.9	-3.3	
PSIM				S		Sn	22 24 14.6	-12	
JBK	**JBK**	**8.84**	**88**	P		Pn	22 22 45.0	-4.6	
JBK	**JBK**	**8.84**	**88**	S		Sn	22 24 20.4	-8.9	

IDC ***04*** *22:28:59.8±2.0,22°.64S×174°.74W,h0km,mb4.0/3, mbtmp4.1/4,ML5.3/1,MS3.3/4,Error ellipse: s-maj=67.6km s-min=42.0km az=158.0*

NEIC ***04*** *22:29:03.4±2.1,22°.51S±0°.10×174°.7W±0°.1,h10km±1km, mb4.7/11,Error ellipse: s-maj=18.4km s-min=14.5km az=138.0*

ISC 04 22:29:04.5±0.8,22°.5S±0°.1×174°.7W±0°.1,h22km,n26, σ1°25/22,mb4.6/9,MS3.4/4,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NIUE	**Niue**	**5.63**	**53**	Pn		**Pn**	**22 30 26.3**	**-0.6**
RAO	**Raoul Island**	**7.30**	**203**	Pn		**Pn**	**22 30 49.6**	**-0.3**
MSVF	**Nonsavu**	**8.30**	**304**			**Pn**	**22 31 03.9**	**+0.3**
MSVF	**Nonsavu**	**8.30**	**304**	Pn		**Pn**	**22 31 02.8**	**-0.8**
	1.3nm,0.3s,baz=119,slow=21,SNR=7.5 21nm,0.8s							
PPT	**Papeete**	**24.11**	**83**	LR		LR	22 41 53.7	
	comp=Z,38nm,19.2s,baz=8.0,slow=32							
CTAO	**Charters Tower**	**36.38**	**266**	P		**P**	**22 36 08.1**	**+0.7**
CTAO				IAmb		IAmb	22 36 18.5	
	comp=Z,19nm,1.1s							
BBOO	**Buckleboo**	**44.45**	**246**	P		**P**	**22 37 14.6**	**+0.5**
BBOO				IAmb		IAmb	22 37 22.9	
	comp=Z,37nm,1.4s							
AS31	**Alice Springs**	**47.07**	**258**	P		**P**	**22 37 33.8**	**-1.2**
ASAR	**Alice Springs**	**47.07**	**258**	P		**P**	**22 37 34.2**	**-0.7**
ASAR	**Alice Springs**	**47.07**	**258**	P		**P**	**22 37 32.2**	**-2.7**
	comp=Z,1.2nm,0.8s,baz=99,slow=7.6,SNR=16 comp=Z,1.2nm,0.8s							
WR8	**Warramunga Arr**	**47.23**	**263**	P		**P**	**22 37 35.1**	**-1.1**
WR8				IAmb		IAmb	22 37 44.6	
	comp=Z,8.9nm,1.4s							
WB0	**Warramunga Arr**	**47.37**	**263**	P		**P**	**22 37 36.2**	**-1.1**
WB0				IAmb		IAmb	22 37 53.9	
	comp=Z,14nm,1.5s							
WRA	**Warramunga Arr**	**47.38**	**263**	P		**P**	**22 37 37.4**	**+0.1**
WRA	**Warramunga Arr**	**47.38**	**263**	P		**P**	**22 37 35.1**	**-2.3**
	comp=Z,1.4nm,0.6s,baz=101,slow=8.5,SNR=15 comp=Z,1.4nm,0.6s							
FORT	**Forrest**	**51.35**	**248**	P		**P**	**22 38 06.0**	**-1.5**
FORT				IAmb		IAmb	22 38 07.2	
	comp=Z,14nm,1.1s							
FITZ	**Fitzroy Crossi**	**55.81**	**263**	P		**P**	**22 38 41.5**	**+1.2**
FITZ				IAmb		IAmb	22 38 44.7	
	comp=Z,2.3nm,1.3s							
FITZ	**Fitzroy Crossi**	**55.81**	**263**	P		**P**	**22 38 40.6**	**+0.2**
	comp=Z,2.9nm,1.0s,baz=104,slow=15,SNR=1.7 comp=Z,2.9nm,1.0s							
NWAO	**Narrogin (SRO)**	**60.23**	**244**	P		**P**	**22 39 12.0**	**+0.9**
AMKA	**Amchitka**	**73.76**	**356**	P		**P**	**22 40 38.4**	**+1.8**
JNU	**Nakatsue**	**75.85**	**315**	LR		LR	23 14 15.9	
	comp=Z,15nm,18.0s,baz=46,slow=36							
BELA	**Belgrano 2**	**77.16**	**172**	P		**P**	**22 40 56.7**	**+0.7**
BELA				IAmb		IAmb	22 41 03.9	
	comp=Z,2.7nm,1.1s							
PETK	**Petropavlovsk-**	**79.03**	**343**	LR		LR	23 13 58.9	
	comp=Z,18nm,18.5s,baz=81,slow=34							
SEY	**Seymchan**	**89.05**	**346**	LR		LR	23 20 02.6	
	comp=Z,21nm,19.9s,baz=182,slow=34							
AKASG	**Malin Array Be**	**146.23**	**332**	PKPbc		**PKPdf**	**22 48 41.1**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=42,slow=4.2,SNR=6.8							
BRTR	**Keskin Array B**	**150.46**	**312**	PKPbc		**PKPbc**	**22 48 53.1**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=116,slow=4.3,SNR=3.8							
MMAI	**Mount Meron Ar**	**151.47**	**298**	PKPbc		**PKPbc**	**22 48 56.9**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=111,slow=6.7,SNR=5.8							

IDC ***04*** *22:39:48.2±0.9,54°.79N×159°.87W,h0km,mb4.4/25, mbtmp4.4/27,ML3.5/3,MS3.5/26,Error ellipse: s-maj=24.3km s-min=13.5km az=167.0*

MOS ***04*** *22:39:50.9±1.0,54°.82N×159°.82W,h27km,mb4.8/29, Error ellipse: s-maj=10.9km s-min=5.0km az=88.5*

NEIC ***04*** *22:39:53.3±1.5,54°.73N±0°.05×159°.83W±0°.04,h31km±4km, mb4.5/121,ML4.4/42,Mwr4.2/17,ML4.3(AEIC),Error ellipse: s-maj=7.0km s-min=2.7km az=199.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.77; Mθθ-0.98; Mφφ0.21; Mrθ1.78; Mθφ-0.14; Mrφ0.73; Fault plane solution: M₀2.13000×10¹⁵ NP1: φs283.70000°,δ14.37000°,λ124.25000°. NP2: φs68.60000°,δ78.17000°,λ81.80000°. Principal axes: T 2.0514, Plg56.0000°, Azm328.0000°; N 0.1494, Plg8.0000°, Azm70.0000°; P -2.2008, Plg33.0000°, Azm165.0000°;*

AEIC ***04*** *22:39:54.3±1.6,54°.70N±0°.05×159°.80W±0°.06,h20km±3km Error ellipse: s-maj=7.8km s-min=4.7km az=155.0*

NEIC ***04*** *22:39:54.2,54°.78N×159°.80W,h37km*

ISC 04 22:39:53.0±0.6,54°.73N±0°.05×159°.85W±0°.03,h32km±3km, h33km:pP-P,n586,σ1°02/567,mb4.5/120,MS3.5/25, 27C-20D,South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CNBA	**Chernabura Isl**	**0.18**	**59**			**Pb**	**22 39 58.9**	**-0.4**
CNBA				Sg		**Sn**	**22 40 03.5**	**0.0**
CNBA				IAML			22 40 04.1	
	comp=E,57μm,0.7s							
CHNA	**Chernabura Isl**	**0.18**	**56**	P		**Pb**	**22 39 58.9**	**-0.4**
CHNA	**Chernabura Isl**	**0.18**	**56**	S		**Sn**	**22 40 03.4**	**-0.2**
SDPT	**Sand Point**	**0.72**	**330**			**Pn**	**22 40 06.7**	**-0.2**
SDPT						**Sb**	**22 40 15.8**	**-0.9**
SDPT				IAML			22 40 17.8	
	comp=N,13μm,0.8s							
SDPT				IAML			22 40 17.9	
	comp=E,11μm,0.8s							
SDPT	**Sand Point**	**0.72**	**330**	P		**Pn**	**22 40 06.7**	**-0.2**
SDPT	**Sand Point**	**0.72**	**330**	S		**Sb**	**22 40 16.0**	**-0.7**
PS1A	**Pavlof South-1**	**1.29**	**303**			**Pb**	**22 40 15.6**	**-1.1**
PS1A						**Pn**	**22 40 15.7**	**+1.0**
PS1A						**Sb**	**22 40 33.4**	**+0.5**
PS4A	**Pavlof South-4**	**1.31**	**299**			**Pn**	**22 40 15.9**	**+0.9**
PS4A						**Sb**	**22 40 33.1**	**-0.4**
PS4A						**Sn**	**22 40 33.7**	**+2.3**
HAG	**Hague Volcano**	**1.32**	**297**			**Pb**	**22 40 16.2**	**-1.0**
HAG						**Sb**	**22 40 34.7**	**+0.9**
HAG	**Hague Volcano**	**1.32**	**297**	P		**Pb**	**22 40 16.2**	**-1.0**
HAG							22 40 34.7	
PN7A	**Pavlof North-7**	**1.42**	**301**			**Pb**	**22 40 18.1**	**-0.9**
PN7A						**Sb**	**22 40 37.2**	**+0.5**
VNWF	**Veniaminof 8**	**1.44**	**7**			**Pb**	**22 40 18.0**	**-1.2**
VNHG	**Veniaminof 1**	**1.55**	**14**			**Pb**	**22 40 19.4**	**-1.6**
VNFG	**Fog Glacier, M**	**1.57**	**6**			**Pb**	**22 40 20.1**	**-1.4**
S12K	**Black Hills**	**1.60**	**309**			**Sb**	**22 40 40.8**	**-1.0**
S12K						**Sn**	**22 40 41.4**	**+2.9**
S12K	**Black Hills**	**1.60**	**309**			**Pn**	**22 40 20.3**	**+1.3**
CHGN	**Chignik**	**1.78**	**27**			**Pn**	**22 40 21.7**	**+0.3**
CHGN						**Sn**	**22 40 43.8**	**+1.0**
CHGN				IAML			22 40 55.0	
	comp=N,4μm,0.7s							
ISLZ	**Isanotski Laza**	**2.24**	**272**			**Sb**	**22 40 57.4**	**-2.6**
AZAC	**Aniakchak**	**2.36**	**22**			**Pn**	**22 40 30.7**	**+1.2**
SSLS	**Shishaldin Sou**	**2.41**	**271**			**Pn**	**22 40 31.8**	**+1.7**
SSLS						**Pn**	**22 40 32.0**	**-3.6**
SSLS						**Sb**	**22 41 02.8**	**-2.0**
ANNE	**Aniakchak Nort**	**2.41**	**24**			**Pn**	**22 40 31.5**	**+1.3**
ANNE						**Pb**	**22 40 32.0**	**-3.7**
CHIR	**Chirikof Islan**	**2.66**	**64**			**Pn**	**22 40 33.6**	**+0.2**
CHIR	**Chirikof Islan**	**2.66**	**64**	IAML			22 41 27.1	
	comp=E,2μm,1.0s							
CHIR				IAML			22 41 29.0	
	comp=N,1μm,1.3s							
CHIR	**Chirikof Islan**	**2.66**	**64**	P		**Pn**	**22 40 33.7**	**+0.2**
CHIR	**Chirikof Islan**	**2.66**	**64**	S		**Sn**	**22 41 04.7**	**+0.1**
WEBT	**Westdahl Beart**	**2.85**	**269**			**Pn**	**22 40 38.1**	**+1.9**
PLBL	**Peulik Blue Cr**	**3.43**	**28**			**Pn**	**22 40 45.2**	**+1.1**
PLK4	**Peulik 4**	**3.51**	**32**			**Pn**	**22 40 46.3**	**+1.0**
PLK4				IAML			22 41 40.2	
	comp=N,1μm,0.8s							
PLK4				IAML			22 41 40.8	
	comp=E,1μm,0.8s							
AKUT	**Akutan**	**3.51**	**263**			**Pn**	**22 40 46.0**	**+0.8**
AKUT				IAML			22 41 46.5	
	comp=E,596nm,0.7s							
AKUT				IAML			22 41 48.5	
	comp=N,596nm,0.6s							
AKUT	**Akutan**	**3.51**	**263**	P		**Pn**	**22 40 47.0**	**+1.8**
PLK2	**Peulik 2**	**3.62**	**31**			**Pn**	**22 40 48.2**	**+1.4**
LVA	**Lava Point**	**3.65**	**264**			**Pn**	**22 40 48.8**	**+1.5**
LVA				IAML			22 42 00.0	
	comp=E,509nm,0.7s							
AKRB	**Akutan Reef Bi**	**3.68**	**263**			**Pn**	**22 40 49.4**	**+1.8**
SII	**Sitkinak Islan**	**3.70**	**58**			**Pn**	**22 40 47.9**	**0.0**
SII				IAML			22 41 56.1	
	comp=E,865nm,1.1s							
SII				IAML			22 42 08.3	
	comp=N,874nm,0.9s							
SII	**Sitkinak Islan**	**3.70**	**58**	P		**Pn**	**22 40 48.0**	**+0.1**
UNV	**Unalaska Vale**	**4.00**	**260**			**Pn**	**22 40 52.9**	**+1.0**
UNV				IAML			22 41 55.1	
	comp=N,193nm,0.8s							
UNV				IAML			22 41 58.5	
	comp=E,286nm,0.7s							
UNV	**Unalaska Valle**	**4.00**	**260**			**Pn**	**22 40 53.0**	**+1.0**
MTBL	**Makushin Table**	**4.07**	**262**			**Pn**	**22 40 54.5**	**+1.6**
MTBL						Pb	22 40 54.6	-9.2
KJL	**Kejulik**	**4.10**	**34**			**Pn**	**22 40 54.4**	**+1.0**
MREP	**Makushin Rep't**	**4.14**	**260**			**Pn**	**22 40 55.2**	**+1.2**
R18K	**Karluk**	**4.15**	**45**			**Pn**	**22 40 54.5**	**+0.5**
R18K	**Karluk**	**4.15**	**45**	IAML			22 42 02.6	
	comp=E,642nm,0.6s							
R18K				IAML			22 42 07.0	
	comp=N,666nm,0.7s							
MGOD	**Makushin Gods**	**4.22**	**260**			**Pn**	**22 40 56.3**	**+1.3**
ACHA	**Angle Creek He**	**4.30**	**34**			**Pn**	**22 40 56.8**	**+0.6**
P16K	**Nushagak River**	**4.43**	**13**			**Pn**	**22 40 59.0**	**+1.1**
P16K				IAML			22 42 31.7	
	comp=E,660nm,0.8s							
OHAK	**Old Harbor**	**4.46**	**53**			**Pn**	**22 40 57.8**	**-0.4**
O15K	**Ungalikthiuk R**	**4.46**	**0**			**Pn**	**22 40 58.4**	**+0.1**
O15K				IAML			22 42 25.6	
	comp=E,240nm,0.7s							
O14K	**Tigyukauivet M**	**4.60**	**351**			**Pn**	**22 41 00.8**	**+0.5**
O14K				IAML			22 42 24.2	
	comp=E,217nm,0.9s							
O14K				IAML			22 42 39.3	
	comp=N,290nm,0.8s							
P17K	**Kvichak River**	**4.85**	**21**			**Pn**	**22 41 04.9**	**+1.3**
OKFG	**Magazine Ridge**	**4.93**	**258**			**Pn**	**22 41 06.2**	**+1.5**
O16K	**Kokwok River B**	**4.97**	**10**			**Pn**	**22 41 05.0**	**-0.3**
O16K				IAML			22 42 46.2	
	comp=E,169nm,1.1s							
OKTU	**Okmok Mt. Tuli**	**5.01**	**258**			**Pn**	**22 41 06.9**	**+1.0**
OKNC	**Okmok New Cone**	**5.03**	**259**			**Pn**	**22 41 07.4**	**+1.3**
KDAK	**Kodiak Island**	**5.08**	**50**			**Pn**	**22 41 06.6**	**-0.1**
KDAK				IAML			22 42 29.3	
	comp=E,162nm,1.0s							
KDAK				IAML			22 42 37.6	
	comp=E,171nm,1.0s							
KDAK	**Kodiak Island**	**5.08**	**50**	Pn		**Pn**	**22 41 05.3**	**-1.5**
	comp=E,6.4nm,0.3s,baz=220,slow=7.2,SNR=59							
KDAK				LR		LR	22 43 23.4	
	comp=E,609nm,18.3s,baz=222,slow=43 comp=E,15nm,0.3s							
KDAK	**Kodiak Island**	**5.08**	**50**	*i* P		**Pn**	**22 41 05.9**	**-0.9**
N14K	**Kuskokwak Cree**	**5.30**	**350**			**Pn**	**22 41 10.3**	**+0.5**
P18K	**Big Mountain,**	**5.31**	**26**			**Pn**	**22 41 10.4**	**+0.4**
Q19K	**Cape Douglas,**	**5.42**	**36**	Pn		**Pn**	**22 41 11.6**	**+0.1**
N15K	**Kwethluk River**	**5.46**	**359**			**Pn**	**22 41 12.9**	**+0.9**
NIKH	**Nikolski High**	**5.61**	**255**	Pn		**Pn**	**22 41 15.1**	**+1.0**
NIKH	**Nikolski High**	**5.61**	**255**	P		**Pn**	**22 41 15.4**	**+1.3**
SYI	**Shuyak Island**	**5.66**	**44**			**Pn**	**22 41 15.6**	**+0.9**
O18K	**Koktuh Hills**	**5.72**	**24**			**Pn**	**22 41 16.4**	**+0.7**
P08K	**Saint George I**	**5.80**	**293**	Pn		**Pn**	**22 41 17.5**	**+0.9**
AUCH	**Augustine Cone**	**5.81**	**34**			**Pn**	**22 41 18.1**	**+1.2**
N17K	**Nushagak Hills**	**5.99**	**13**			**Pn**	**22 41 20.0**	**+0.8**
M13K	**Dall Lake**	**6.00**	**343**	Pn		**Pn**	**22 41 21.2**	**+1.8**
P19K	**Oil Pt**	**6.11**	**33**			**Pn**	**22 41 21.4**	**+0.4**
M14K	**Bethel**	**6.14**	**350**	Pn		**Pn**	**22 41 22.2**	**+0.9**
O19K	**Port Alsworth**	**6.24**	**26**			**Pn**	**22 41 23.8**	**+1.1**
M16K	**Timber Creek**	**6.33**	**4**	Pn		**Pn**	**22 41 25.1**	**+1.1**
SPIA	**Saint Paul Isl**	**6.33**	**297**	Pn		**Pn**	**22 41 25.0**	**+1.0**
N18K	**Kilae Creek**	**6.33**	**18**			**Pn**	**22 41 25.2**	**+1.2**
ILSW	**Iliamna Southw**	**6.40**	**32**			**Pn**	**22 41 26.2**	**+1.2**
M11K	**Mekoryuk**	**6.62**	**332**			**Pn**	**22 41 28.9**	**+1.0**
O20K	**Slope Mountain**	**6.64**	**33**			**Pn**	**22 41 29.1**	**+0.9**
HOM	**Homer**	**6.66**	**39**			**Pn**	**22 41 28.9**	**+0.5**
CNPM	**China Poot**	**6.72**	**41**			**Pn**	**22 41 29.5**	**+0.2**
N19K	**Bonanza Creek**	**6.74**	**23**			**Pn**	**22 41 29.5**	**-0.2**
L14K	**Kuka Creek**	**6.80**	**348**			**Pn**	**22 41 30.7**	**+0.3**
M17K	**Holitna River**	**6.81**	**10**			**Pn**	**22 41 31.1**	**+0.5**
RED	**Redoubt Volcan**	**6.86**	**31**			**Pn**	**22 41 31.8**	**+0.5**
RDWB	**Redoubt West**	**6.89**	**30**			**Pn**	**22 41 31.9**	**+0.1**
NCT	**North Crescent**	**6.93**	**30**			**Pn**	**22 41 32.0**	**-0.2**
L16K	**Owhat River**	**7.01**	**1**	Pn		**Pn**	**22 41 32.7**	**-0.5**
RDT	**Redoubt**	**7.09**	**31**			**Pn**	**22 41 35.2**	**+0.8**
CAPN	**Captain Cook N**	**7.63**	**34**	Pn		**Pn**	**22 41 41.5**	**-0.2**
K15K	**Wolf Creek Mou**	**7.64**	**354**	Pn		**Pn**	**22 41 42.3**	**+0.4**
K13K	**Kusilvak Mount**	**7.65**	**343**			**Pn**	**22 41 42.4**	**+0.4**
SPU	**Mount Spurr**	**7.68**	**29**	Pn		**Pn**	**22 41 43.1**	**+0.6**
L18K	**Granite Mounta**	**7.69**	**11**			**Pn**	**22 41 43.0**	**+0.4**
M19K	**Big River Lodg**	**7.75**	**20**			**Pn**	**22 41 44.1**	**+0.8**
SLKM	**Skilak Lake**	**7.76**	**38**			**Pn**	**22 41 44.5**	**+0.9**
SEW	**Seward**	**7.78**	**42**			**Pn**	**22 41 43.5**	**-0.2**
L19K	**White Mountain**	**7.92**	**17**			**Pn**	**22 41 46.1**	**+0.3**
O22K	**Cooper Landing**	**7.92**	**39**			**Pn**	**22 41 44.6**	**-1.1**
M20K	**Styx River**	**8.00**	**23**			**Pn**	**22 41 47.0**	**+0.1**
STLK	**Strandline Lak**	**8.00**	**29**			**Pn**	**22 41 47.2**	**+0.3**
K17K	**Iditarod**	**8.05**	**5**	Pn		**Pn**	**22 41 48.4**	**+0.9**
J14K	**Nanvaranak Lak**	**8.27**	**348**			**Pn**	**22 41 50.9**	**+0.4**
SUA	**Susitna One**	**8.29**	**32**	Pn		**Pn**	**22 41 51.0**	**+0.1**
RC01	**Rabbit Creek A**	**8.34**	**36**	Pn		**Pn**	**22 41 52.1**	**+0.6**
L20K	**Farewell, AK**	**8.37**	**19**			**Pn**	**22 41 53.1**	**+1.1**
SKT	**Skwentna**	**8.48**	**28**			**Pn**	**22 41 54.2**	**+0.8**
P23K	**Montague Islan**	**8.55**	**47**	Pn		**Pn**	**22 41 54.4**	**+0.1**
J16K	**Anvik River**	**8.59**	**358**			**Pn**	**22 41 55.4**	**+0.4**
PWL	**Port Wells**	**8.69**	**40**			**Pn**	**22 41 54.7**	**-1.5**
J17K	**ABM Dome**	**8.71**	**2**			**Pn**	**22 41 56.5**	**0.0**
M22K	**Willow**	**8.71**	**32**	Pn		**Pn**	**22 41 56.3**	**-0.2**
Q23K	**Middleton Isla**	**8.73**	**52**	Pn		**

O28M Mount Upton 12.09 52 Pn Pn 22 42 42.0 -1.1
POKR Poker Plat Res 12.11 26 Pn **Pn 22 42 42.4 -0.6**
PNL Peninsula 12.12 58 P **Pn 22 42 43.5 +0.2**
F19K Shaleruckik Mo 12.19 4 Pn 22 42 45.0 +0.9
G21K Allakaket 12.22 12 Pn 22 42 44.9 +0.3
H23K Yukon River 12.23 20 Pn 22 42 45.0 +0.4
SCRK Sand Creek 12.27 35 Pn 22 42 44.7 -0.6
J25K Salcha River, 12.28 30 Pn 22 42 44.1 -1.3
L27K Beaver Creek, 12.47 41 Pn 22 42 48.0 0.0
BCAR Beaver Creek A 12.49 41 Pn 22 42 47.5 -0.8
F20K Avaraart Lake 12.52 7 Pn 22 42 48.6 0.0
H24K Noodor Dome 12.59 23 Pn 22 42 50.2 +0.5
O29M Mount Kennedy 12.70 55 Pn 22 42 51.6 +0.4
E18K Tukpahlearik C 12.74 359 Pn **Pn 22 42 52.6 +0.9**
J26L Joseph Creek 12.76 33 Pn 22 42 51.7 -0.2
E19K Redstone River 12.84 5 Pn 22 42 54.9 +2.0
F21K Alatna River 12.90 11 Pn 22 42 54.6 +0.8
PRP Porcupine Dome 12.92 27 Pn 22 42 53.6 -0.6
G23K Bananza Creek 12.92 18 Pn 22 42 54.0 -0.2
P29M Windy Craggy 12.93 59 Pn 22 42 55.0 +0.7
K27K Chicken 12.95 37 Pn **Pn 22 42 55.0 +0.6**
AMKA Amchitka 12.97 264 Pn 22 42 55.6 +0.8
HYT Haines Junctio 13.35 54 Pn **Pn 22 43 00.4 +0.3**
COLD Coldfoot 13.36 16 Pn **Pn 22 43 00.7 +0.6**
G24K Hadweenzic Riv 13.41 22 Pn 22 43 00.3 -0.5
I26K Coal Creek Min 13.44 31 Pn **Pn 22 42 59.5 -1.7**
S31K Pelican 13.47 66 Pn 22 43 01.6 0.0
N30M Aishikik Lake 13.74 51 Pn **Pn 22 43 04.8 -0.7**
C16K Lisburne Hills 13.84 351 Pn **Pn 22 43 08.6 +2.1**
D19K Kuna River 13.84 3 Pn **Pn 22 43 07.7 +1.1**
DAWY Dawson 13.94 40 Pn 22 43 09.4 +1.4
DAWY P **P 22 43 19.0 +3.3**
SIT Sitka 13.94 70 Pn **Pn 22 43 07.5 -0.4**
SIT Sitka 13.94 70 P **Pn 22 43 07.5 -0.4**
E22K Anaktuvuk Pass 13.97 13 Pn **Pn 22 43 09.9 +1.5**
C18K Utukok River 13.98 358 Pn **Pn 22 43 09.4 +0.8**
O30N Mendenhall 14.01 55 Pn **Pn 22 43 08.8 -0.1**
F24K Squaw Lake 14.03 19 Pn 22 43 10.4 +1.1
E21K Killik River 14.03 9 Pn **Pn 22 43 11.2 +1.9**
SKAG Skagway 14.11 60 Pn 22 43 11.7 +1.5
D20K Etivluk River 14.12 5 Pn 22 43 12.2 +1.9
E23K Chandalar 14.21 16 P **P 22 43 16.1 -2.7**
M30M Minto, Yukon 14.28 47 Pn **Pn 22 43 13.4 +0.8**
S32K Killisnoo 14.34 69 Pn 22 43 13.3 -0.1
N31M Braeburn, Yuko 14.35 52 P **P 22 43 21.6 +1.3**
R32K Eaglecrest 14.40 65 Pn **Pn 22 43 15.4 +1.2**
E24K Your Creek 14.41 17 Pn 22 43 15.6 +1.1
E24K P **P 22 43 21.1 +0.2**
C19K Lookout Ridge 14.43 0 P **P 22 43 21.1 0.0**
G26K Porcupine Rive 14.48 26 Pn 22 43 15.0 -0.2
K29M Barlow Dome 14.53 42 Pn 22 43 16.1 -0.1
F25K Christian Rive 14.55 22 Pn 22 43 15.9 -0.5
WHY Whitehorse 14.55 56 Pn **Pn 22 43 16.5 0.0**
J29N Klondike Camp 14.58 39 Pn 22 43 16.9 +0.2
D22K Ayikyak River 14.58 10 Pn 22 43 18.5 +1.8
BMAR Burnt Mountain 14.66 24 Pn **Pn 22 43 17.3 -0.5**
TOLK Toolik Lake Re 14.75 15 Pn 22 43 19.2 +0.1
D23K Nanushuk River 14.90 13 Pn 22 43 21.3 +0.3
G27K Doyon Strip 14.94 29 Pn 22 43 19.3 -2.3
P32M Atlin 14.94 60 Pn 22 43 22.2 +0.6
F26K Sheenjek River 14.97 24 Pn 22 43 21.7 -0.3
E25K Arctic Village 15.01 21 Pn 22 43 22.3 -0.2
I29M Ogilvie Camp, 15.05 36 Pn 22 43 22.9 -0.1
MAYO Mayo, Yukon 15.07 44 P **P 22 43 29.2 +1.0**
M31M Drury Creek, Y 15.20 50 P **P 22 43 28.5 -1.2**
M31M IAmb IAmb 22 43 41.0
comp=Z,18nm,0.8s
U33K Whale Pass 15.21 74 Pn **Pn 22 43 24.6 -0.5**
CRAG Craig 15.29 76 Pn **Pn 22 43 26.7 +0.6**
D24K Happy Valley 15.33 15 P 22 43 30.4 -0.7
D24K IAmb IAmb 22 43 35.7
comp=Z,14nm,0.7s
J30M Hart River 15.34 41 IAmb IAmb 22 43 35.7
comp=Z,32nm,0.7s
P33M Teslin, Yukon 15.47 58 Pn 22 43 28.8 +0.1
P33M IAmb IAmb 22 43 37.1
comp=Z,17nm,0.9s
N32M Quiet Lake 15.52 55 P **P 22 43 33.0 -0.3**
H29M Whitestone 15.53 34 P **P 22 43 35.3 +1.9**
H29M IAmb IAmb 22 43 53.4
comp=Z,16nm,0.8s
WRAK Wrangell Islan 15.61 73 Pn **Pn 22 43 30.6 +0.2**
I30M Mount Dempster 15.65 38 Pn 22 43 31.5 +0.5
FARO Faro, Yukon 15.67 51 P **P 22 43 33.8 -1.2**
C23K Itkillik River 15.73 12 IAmb IAmb 22 43 40.4
comp=Z,30nm,0.8s
C24K Franklin Bluff 15.87 14 Pn **Pn 22 43 32.7 -0.9**
D25K Kavik River 15.88 18 P **P 22 43 35.9 -1.3**
F28M Old Crow 16.00 28 Pn 22 43 35.0 -0.3
H02S1 DAWSON INLET T 16.14 84 T T 23 00 31.8
SNR=6.1
EPYK Eagle Plains 16.16 35 Pn 22 43 38.3 +0.9
C27K Jago River 16.64 20 P **P 22 43 45.9 +0.3**
G30M tAoh Zraii Nji 16.68 33 Pn 22 43 43.3 -0.7
G30M IAmb IAmb 22 43 49.4
comp=Z,34nm,1.1s
H31M Peel River 16.68 38 Pn 22 43 43.9 -0.1
H31M IAmb IAmb 22 43 52.1
comp=Z,24nm,0.8s
MMPY Sheldon Lake, 16.71 50 P 22 43 46.3 -0.1
DLBC Dease Lake 16.77 65 Pn **Pn 22 43 43.7 -1.5**
baz=227,slow=9.9,SNR=4.3
DLBC LR LR 22 49 00.3
comp=Z,6.7nm,21.6s,baz=218,slow=33
E28M Babbage River 16.79 26 Pn **Pn 22 43 45.8 +0.5**
F30M Barrier River 17.19 32 P **P 22 43 52.0 +0.4**
G31M Satah River 17.28 35 Pn 22 43 50.7 -0.7
INK Inuvik 18.29 32 Pn 22 44 04.2 +0.4
INK Inuvik 18.29 32 P **P 22 44 00.8 -2.9**
comp=Z,1.3nm,0.3s,baz=228,slow=11,SNR=12
INK LR LR 22 51 39.0
comp=Z,117nm,18.0s,baz=252,slow=39
comp=Z,11nm,0.8s
BBB Bella Bella 18.99 85 LR LR 22 49 58.9
comp=Z,112nm,19.1s,baz=254,slow=32
WRGLY Wrigley 20.33 51 Pn 22 44 29.3 +1.1
WRGLY IAmb IAmb 22 44 43.6
comp=Z,26nm,1.0s
BILL Bilibino 20.62 323 *ce*P **P 22 44 29.3 +0.1**
BILL pmax pmax
comp=Z,13nm,1.3s
A36M Sachs Harbour 22.68 27 P **P 22 44 49.3 -1.9**
A36M IAmb IAmb 22 45 03.2
comp=Z,15nm,0.8s
NLWA Neilton Lookou 23.57 93 P **P 22 45 03.0 +2.6**
PET Petropavlovsk 24.27 283 P **P 22 45 07.5 +0.7**
PET Petropavlovsk 24.27 283 *ce*P **P 22 45 07.5 +0.7**
PET pmax pmax
comp=Z,44nm,0.8s
PET Petropavlovsk 24.27 283 P **P 22 45 07.7 +0.8**
comp=Z,62nm,1.1s
YKAW3 Yellowknife Wh 24.34 53 P **P 22 45 08.6 +1.1**
YKAW3 IAmb IAmb 22 45 10.0
comp=Z,4.1nm,0.8s
YKA Yellowknife Ar 24.35 53 P **P 22 45 07.3 -0.1**
YKA Yellowknife Ar 24.35 53 P **P 22 45 06.2 -1.3**
comp=Z,1.8nm,0.7s,baz=270,slow=8.0,SNR=17
YKA LR LR 22 56 00.2
comp=Z,134nm,19.6s,baz=217,slow=40
comp=Z,1.8nm,0.7s
YKAW1 Yellowknife Wh 24.40 53 P **P 22 45 09.2 +1.2**
YKAW1 IAmb IAmb 22 45 10.4
comp=Z,3.9nm,0.6s
PEA0B Petropavlovsk- 24.78 284 P 22 45 11.5 0.0
PEA0B Petropavlovsk- 24.78 284 *i*P **P 22 45 11.3 -0.2**
PETK Petropavlovsk- 24.78 284 P **P 22 45 11.1 -0.4**
comp=Z,17nm,0.5s,baz=74,slow=15,SNR=78
PETK LR LR 22 54 56.4
comp=Z,51nm,20.0s,baz=78,slow=37
comp=Z,17nm,0.5s
SEY Seymchan 25.48 308 LR LR 22 56 26.6
comp=Z,163nm,18.6s,baz=88,slow=39
SEY Seymchan 25.48 308 *i*P **P 22 45 16.3 -1.5**
SEY pmax pmax
comp=Z,4.0nm,0.6s
MA2 Magadan 26.70 301 LR LR 22 57 14.7
comp=Z,56nm,18.2s,baz=99,slow=39
MA2 Magadan 26.70 301 P **P 22 45 29.6 +0.8**
comp=Z,12nm,1.6s
NEW Newport 27.03 86 LR LR 22 54 26.2
comp=Z,90nm,19.7s,baz=310,slow=32
YBH Yreka Blue Hor 27.59 103 LR LR 22 54 18.2
comp=Z,7.9nm,19.5s,baz=294,slow=32

J08A Circle Bar Ran 28.99 96 ScP 22 52 31.9 -4.3
LYMT Lyon Mountain 30.50 85 P **P 22 46 04.3 +1.3**
RES Resolute Bay 31.73 27 LR LR 23 00 14.1
comp=Z,42nm,19.1s,baz=329,slow=39
BLKN Baker Lake 32.37 47 P 22 46 19.4 +0.4
BLKN IAmb IAmb 22 46 20.1
comp=Z,4.9nm,0.8s
TIXI Tiksi 33.74 327 LR LR 23 01 25.9
comp=Z,52nm,18.5s,baz=90,slow=38
PDAR Pinedale Array 34.52 89 P 22 46 41.3 +3.0
BSUT Blindstream Ca 35.23 93 P **P 22 46 44.2 -0.3**
BSUT IAmb IAmb 22 47 01.3
comp=Z,6.7nm,1.1s
TMUT Trail Mountain 35.79 95 P 22 46 49.6 +0.3
TMUT IAmb IAmb 22 47 03.0
comp=Z,2.9nm,0.8s
YAK Yakutsk 35.92 311 *ce*P **P 22 46 48.8 -1.0**
YAK pmax pmax
comp=Z,9.0nm,0.6s
ILON Igloolik, Nuna 36.45 36 P 22 46 55.2 +1.0
ILON IAmb IAmb 22 46 56.4
comp=Z,6.6nm,0.6s
PFO Pinyon Flats O 36.82 107 LR LR 22 58 51.5
comp=Z,81nm,20.7s,baz=226,slow=31
O20A White River Ci 36.95 91 P **P 22 46 59.8 +0.7**
O20A IAmb IAmb 22 47 12.8
comp=Z,5.5nm,0.8s
ULM Lac du Bonnet 38.01 70 P **P 22 47 08.1 +0.5**
comp=Z,3.6nm,0.9s,baz=311,slow=7.8,SNR=3.6
comp=Z,3.6nm,0.9s
EPLO Experimental L 39.49 69 P **P 22 47 19.2 -0.9**
KLR Kul'dur 40.96 292 LR LR 23 06 07.6
comp=Z,57nm,18.7s,baz=67,slow=39
NEEM North Greenlan 41.06 18 *i*P **P 22 47 31.5 -1.6**
NEEM IAmb IAmb 22 47 33.5
comp=Z,7.2nm,0.7s
KULLO Kullorsuaq 41.33 23 *i*P **P 22 47 34.1 -0.9**
KULLO IAmb IAmb 22 47 35.6
comp=Z,11nm,0.9s
EYMN Ely 41.68 70 IAmb IAmb 22 47 39.4
comp=Z,6.1nm,0.7s
E38A The Farm, Brul 42.45 72 IAmb IAmb 22 47 45.3
comp=Z,5.2nm,0.6s
NOR Nord 42.48 7 *i*P **P 22 47 42.5 -1.9**
NOR IAmb IAmb 22 47 45.0
comp=Z,4.7nm,0.9s
HEH HeiHe 42.68 295 *e*P **P 22 47 45.0 -1.3**
H11N2 WAKE ISLAND Hy 43.09 229 T T 23 34 00.8
baz=28,slow=76,SNR=80
H11N3 WAKE ISLAND Hy 43.09 229 T T 23 34 01.3
baz=28,slow=76,SNR=58
H11N1 WAKE ISLAND Hy 43.10 229 T T 23 33 51.7
baz=28,slow=76,SNR=48
FRB Frobisher Bay 43.64 40 LR LR 23 07 54.7
comp=Z,66nm,19.7s,baz=7.5,slow=39
H11S1 WAKE ISLAND Hy 44.25 229 T T 23 35 11.7
baz=29,slow=74,SNR=28
H11S2 WAKE ISLAND Hy 44.26 229 T T 23 35 28.9
baz=29,slow=74,SNR=25
H11S3 WAKE ISLAND Hy 44.27 229 T T 23 35 28.2
baz=29,slow=76,SNR=417
MNTX Cornudas Mount 44.50 98 pP 22 48 12.4 +1.6
I40A Norwalk 44.65 74 IAmb IAmb 22 48 03.2
comp=Z,5.4nm,0.8s
MJAR Matsushiro Arr 45.36 273 P 22 48 09.5 +1.5
MJAR IAmb IAmb 22 48 11.9
comp=Z,2.8nm,0.7s
MJAR Matsushiro Arr 45.36 273 P **P 22 48 08.1 +0.2**
comp=Z,2.8nm,0.5s,baz=29,slow=6.9,SNR=14
comp=Z,2.8nm,0.5s
MJB9 Matsu-Tunnel 45.36 273 P P 22 48 08.9 +0.9
MAJO Matsushiro 45.36 273 P P 22 48 08.6 +0.6
MAJO Matsushiro 45.36 273 P **P 22 48 08.6 +0.6**
MAJO pmax pmax
comp=Z,12nm,0.6s
I42A Draeger Farm, 45.60 73 P P 22 48 09.3 -0.4
I42A IAmb IAmb 22 48 10.6
comp=Z,6.0nm,0.7s
DAG Danmarks Havn 46.48 11 *i*P **P 22 48 15.2 -1.1**
DAG IAmb IAmb 22 48 16.5
comp=Z,5.6nm,0.8s
KBS Kingsbay 46.51 2 *i*P **P 22 48 16.2 -0.3**
SUMG Summit 46.71 21 P 22 48 19.4 +0.8
SUMG IAmb IAmb 22 48 21.2
comp=Z,5.6nm,0.8s
SUMG Summit 46.71 21 P **P 22 48 19.4 +0.8**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 46.71 21 *i*P **P 22 48 18.0 -0.6**
SUMG IAmb IAmb 22 48 20.2
comp=Z,10nm,1.1s
NRIK Noril'sk 46.96 333 P 22 48 20.3 +0.1
NRIK Noril'sk 46.96 333 P **P 22 48 20.3 +0.1**
comp=Z,10nm,0.6s,baz=52,slow=8.3,SNR=15
NRIK LR LR 23 11 20.7
comp=Z,63nm,18.9s,baz=26,slow=40
comp=Z,10nm,0.6s
TXAR Lajitas Array 47.24 99 P **P 22 48 24.2 +1.3**
comp=Z,0.6nm,0.8s,baz=306,slow=5.7,SNR=6.7
comp=Z,0.6nm,0.8s
SPITS Spitsbergen Ar 47.33 1 P **P 22 48 21.5 -1.4**
comp=Z,2.0nm,0.3s,baz=40,slow=6.8,SNR=18
comp=Z,2.0nm,0.3s
CN2 Changchun 47.73 289 *e*P **P 22 48 25.5 -0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
DBG Daneborg 48.43 14 *i*P **P 22 48 30.6 -0.8**
DBG IAmb IAmb 22 48 31.6
comp=Z,12nm,1.4s
FW14 Alvarado 48.72 91 P P 22 48 36.4 +2.1
SFIN Lafayette 48.93 75 P P 22 48 35.6 -0.1
KSRS Korea Array 50.64 281 P P 22 48 49.4 +0.6
comp=Z,3.2nm,0.8s,baz=48,slow=6.9,SNR=14
KSRS LR LR 23 11 43.0
comp=Z,9µm,18.9s,baz=30,slow=38
comp=Z,3.2nm,0.8s
WCI Wyandotte Cave 50.86 77 P P 22 48 49.9 -0.5
WCI IAmb IAmb 22 48 51.6
comp=Z,3.3nm,0.6s
WCI Wyandotte Cave 50.86 77 P **P 22 48 49.9 -0.5**
WCI pmax pmax
comp=Z,3.0nm,0.6s
DELO Deloro Mine 51.30 65 P P 22 48 53.5 -0.1
WVT Waverly 51.46 80 P 22 48 55.1 +0.2
WVT IAmb IAmb 22 48 55.6
comp=Z,4.4nm,0.7s
WVT Waverly 51.46 80 P **P 22 48 55.1 +0.2**
WVT pmax pmax
comp=Z,4.0nm,0.7s
SCO Scoresbysund 51.50 17 P P 22 48 55.7 +1.0
SCO IAmb IAmb 22 49 13.7
comp=Z,3.6nm,1.0s
SCO Scoresbysund 51.50 17 P **P 22 48 55.7 +1.0**
SCO pmax pmax
comp=Z,4.0nm,1.0s
ALLY Alegheny Colle 51.91 70 P P 22 48 58.4 +0.1
ALLY IAmb IAmb 22 48 58.8
comp=Z,5.7nm,0.6s
ANGG Ammassalik, Gr 52.22 26 P P 22 49 00.4 +0.3
CLTN Cedars of Leba 52.34 79 P P 22 49 01.4 -0.1
CLTN IAmb IAmb 22 49 16.6
comp=Z,3.2nm,0.9s
U49A Red Boiling Sp 52.35 78 P P 22 49 01.1 -0.4
IVI Ivigtut 52.48 35 P P 22 49 03.4 +1.3
IVI Ivigtut 52.48 35 *i*P **P 22 49 01.8 -0.4**
IVI IAmb IAmb 22 49 03.6
comp=Z,18nm,0.9s
XLT XiLinHaoTe 52.68 295 *e*P **P 22 49 04.1 0.0**
XLT pmax pmax
comp=Z,13nm,1.0s
XLT pmax pmax
comp=Z,110nm,3.7s
O54A Avella 52.79 71 P P 22 49 04.3 -0.5
O54A IAmb IAmb 22 49 13.3
comp=Z,4.3nm,0.7s
L56A Greenwood 52.96 67 P P 22 49 06.0 0.0
L56A IAmb IAmb 22 49 06.8
comp=Z,6.5nm,0.6s
K57A Scipio Center 53.11 66 P P 22 49 06.4 -0.7
K57A IAmb IAmb 22 49 20.2
comp=Z,6.5nm,0.9s
J59A Piesco 53.66 64 P P 22 49 11.2 0.0
J59A IAmb IAmb 22 49 11.3
comp=Z,3.5nm,0.7s
M57A Sunshine Farm, 53.75 68 P P 22 49 12.0 +0.1
M57A IAmb IAmb 22 49 16.1
comp=Z,2.8nm,0.8s
FPAL Fort Paine 53.86 80 P P 22 49 12.3 -0.4
E62A Clayton Lake 53.99 58 P P 22 49 13.2 -0.3
TKL Tuckaleechee C 54.10 77 LR LR 23 12 08.8
comp=Z,77nm,18.4s,baz=340,slow=36
N58A Sunbury 54.32 68 P P 22 49 15.8 -0.2
N58A IAmb IAmb 22 49 24.1
comp=Z,3.9nm,0.9s
ULN Ulaanbaatar 54.47 304 *ce*P **P 22 49 17.4 +0.2**
ULN pmax pmax
comp=Z,5.0nm,1.0s
G62A West of Eustis 54.47 60 P P 22 49 16.6 -0.5
G62A IAmb IAmb 22 49 17.4
comp=Z,2.7nm,0.8s
H62A Milan 54.61 61 P P 22 49 18.0 0.0
H62A IAmb IAmb 22 49 18.4
comp=Z,3.6nm,0.8s
SONM Songino Array 54.80 305 P P 22 49 19.9 +0.3
SONM IAmb IAmb 22 49 20.4
comp=Z,4.8nm,0.8s
SONM Songino Array 54.80 305 P P 22 49 19.1 -0.5
comp=Z,7.0nm,0.8s,baz=49,slow=6.6,SNR=29
SONM PcP **PcP 22 50 22.3 +0.7**
comp=Z,1.3nm,0.6s,baz=64,slow=1.8,SNR=4.2
comp=Z,7.0nm,0.8s
F64A Sherman 55.11 58 P P 22 49 20.6 -1.0
F64A IAmb IAmb 22 49 35.8
comp=Z,4.7nm,1.1s
BATG Bathurst New B 55.22 56 P P 22 49 22.3 -0.1
BATG IAmb IAmb 22 49 23.0
comp=Z,7.6nm,1.1s
K62A Royalston 55.40 64 P P 22 49 24.4 +0.6
K62A IAmb IAmb 22 49 33.3
comp=Z,7.5nm,1.0s
KEV Kevo 55.72 357 P P 22 49 25.1 -0.5
KEV IAmb IAmb 22 49 29.4
comp=Z,6.9nm,1.0s
KEV Kevo 55.72 357 P **P 22 49 25.1 -0.5**
KEV pmax pmax
comp=Z,7.0nm,1.0s
ARCES ARCESS Array B 55.98 358 P P 22 49 27.0 -0.6
ARCES ARCESS Array B 55.98 358 P **P 22 49 26.4 -1.2**
comp=Z,1.3nm,0.5s,baz=22,slow=7.0,SNR=13
ARCES PcP **PcP 22 50 26.2 +0.6**
comp=Z,1.4nm,0.6s,baz=8.7,slow=3.7,SNR=6.2
ARCES LR LR 23 15 39.2
comp=Z,29nm,18.2s,baz=6.0,slow=38
comp=Z,1.3nm,0.5s
BORG Borgarnes 56.67 20 LR LR 23 16 14.8
comp=Z,26nm,18.1s,baz=329,slow=39
LMN Caledonia Moun 56.84 56 P P 22 49 33.9 -0.2
HHC Hu-ho-hao-te 57.20 296 *e*P **P 22 49 37.8 +1.0**
HHC pmax pmax
comp=Z,11nm,0.7s
ZAA0 Zalesovo Array 59.31 322 P P 22 49 50.9 -0.3
ZAA0 IAmb IAmb 22 49 52.4
comp=Z,2.2nm,0.7s
ZALV Zalesovo Beam 59.31 322 P P 22 49 51.3 +0.1
ZALV Zalesovo Beam 59.31 322 P P 22 49 51.0 -0.1
comp=Z,2.0nm,0.6s,baz=25,slow=6.3,SNR=8.2
ZALV LR LR 23 17 32.2
comp=Z,86nm,19.2s,baz=48,slow=38
comp=Z,2.0nm,0.6s
NJ2 Nanjing 59.68 284 *e*P **P 22 49 53.3 -0.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
XAN Xi'an 63.67 292 P P 22 50 20.9 0.0
XAN pmax pmax
comp=Z,9.0nm,0.7s
KLMR Klimovskoe 63.74 350 *e*P **P 22 50 18.8 -2.1**
KLMR *e**PP **pP 22 50 28.1 -2.8**
KLMR pmax pmax
comp=Z,14nm,1.5s
SVE Sverdlovsk 64.03 337 *e*P **P 22 50 23.1 +0.2**
FIA1 FINESS Array S 64.08 357 P P 22 50 22.4 -0.6
FINES FINESS Array B 64.08 357 P P 22 50 23.2 +0.1
FINES FINESS Array B 64.08 357 P P 22 50 22.7 -0.4
comp=Z,2.1nm,0.6s,baz=21,slow=7.4,SNR=16
comp=Z,2.1nm,0.6s
NC204 NORSAR Array S 64.10 5 P P 22 50 23.8 +0.4
KURK Kurchatov 64.15 323 P 22 50 23.8 +0.1
KURK Kurchatov 64.15 323 *ce*P **P 22 50 23.9 +0.1**
KURK pmax pmax
comp=Z,5.0nm,1.3s
NC303 NORSAR Array S 64.18 5 P P 22 50 24.0 +0.2
NC303 IAmb IAmb 22 50 25.6
comp=Z,4.8nm,0.8s
GTA Gaotai 64.25 302 P P 22 50 24.4 -0.4
GTA pP pP 22 50 29.5 -5.2
GTA pmax pmax
comp=Z,18nm,1.1s
GTA LR LR
comp=N,130nm,15.6s
GTA LR LR
comp=E,81nm,16.4s
GTA LR LR
comp=Z,91nm,16.0s
KURBB Kurchatov Arra 64.26 323 P P 22 50 24.6 +0.1
comp=Z,2.0nm,0.8s,baz=19,slow=6.6,SNR=20
KURBB LR LR 23 20 39.3
comp=Z,87nm,19.2s,baz=172,slow=38
comp=Z,2.0nm,0.8s
KURBB Kurchatov Arra 64.26 323 P P 22 50 19.6 -4.9
NC405 NORSAR Array S 64.31 5 P P 22 50 24.9 +0.2
NBO00 NORSAR Array S 64.35 5 P P 22 50 25.1 +0.2
NB201 NORSAR Array S 64.35 5 P P 22 50 25.4 +0.4
NB2 NORSAR Subarra 64.36 5 P P 22 50 25.0 -0.1
comp=Z,1.8nm,0.6s,baz=355,slow=6.9
NOA NORSAR Array B 64.36 5 P P 22 50 24.9 -0.1
comp=Z,2.8nm,0.6s,baz=356,slow=6.6,SNR=14
comp=Z,2.8nm,0.6s
NAO01 NORSAR Array S 64.54 5 P P 22 50 26.6 +0.5
KIRV Kirov 64.60 344 *i*P **P 22 50 25.8 -0.8**
NC602 NORSAR Array S 64.68 5 P P 22 50 27.4 +0.3
NC602 IAmb IAmb 22 50 33.0
comp=Z,3.5nm,1.1s
LZH Lanzhou 64.78 297 *e*P **P 22 50 28.3 0.0**
LZH pP pP 22 50 36.1 -2.2
LZH pmax pmax
comp=Z,20nm,1.0s
BVA0 Borovoye Array 64.84 329 *i*P **P 22 50 27.9 -0.4**
BVAR Borovoye Array 64.84 329 P **P 22 50 28.3 0.0**
comp=Z,5.1nm,0.7s,baz=38,slow=7.2,SNR=33
comp=Z,5.1nm,0.7s
BRVK Borovoye 64.85 329 P 22 50 28.4 +0.1
BRVK IAmb IAmb 22 50 29.3
comp=Z,4.1nm,0.8s
BRVK Borovoye 64.85 329 *ce*P **P 22 50 28.8 +0.5**
BRVK pmax pmax
comp=Z,9.0nm,2.5s
ARTI Arti 64.94 338 P 22 50 28.5 -0.4
ARTI Arti 64.94 338 *c*P **P 22 50 28.3 -0.5**
ARTI 22 52 47.1
ARTI S **S 22 59 07.8 0.0**
ARTI SS **SS 23 03 14.7 -3.9**
ARTI pmax pmax
comp=Z,5.0nm,0.6s
HFS Hagfors 65.37 4 P **P 22 50 31.5 0.0**
comp=Z,4.6nm,0.5s,baz=29,slow=3.4,SNR=44
comp=Z,4.6nm,0.5s
TAOE Nuku Hiva Isla 65.47 159 *e*LR LR 23 10 07.8
comp=Z,106nm,25.3s
MK31 Makanchi Array 66.07 318 *i*P **P 22 50 35.3 -1.0**
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 66.07 318 P **P 22 50 35.7 -0.6**
comp=Z,1.4nm,0.5s,baz=48,slow=5.7,SNR=18
comp=Z,1.4nm,0.5s
WMQ Urumqi 66.31 313 *e*P **P 22 50 40.5 +2.5**
WMQ pmax pmax
comp=Z,16nm,0.8s
EKA Eskdalemuir Ar 68.65 14 P **P 22 50 53.1 +0.7**
comp=Z,4.6nm,0.8s,baz=336,slow=4.7,SNR=9.6
comp=Z,4.6nm,0.8s
OBN Obninsk 69.69 350 *e*P **P 22 50 59.5 +0.6**
OBN *e* 22 51 04.2
OBN *e**PP **pP 22 51 10.0 +1.1**
OBN *e* 22 51 22.5
OBN *e* 22 53 32.0
OBN *e*PPP PPP 22 55 13.9
OBN pmax pmax
comp=Z,3.0nm,0.8s
BELG Belogornoye 70.83 343 LR LR 23 26 09.9
comp=Z,40nm,19.6s,baz=13,slow=39
MNK Minsk 70.95 355 *i*P **P 22 51 06.6 0.0**
MNK *i* 22 53 46.3

MNK				*i* PPP	PPP	22 55 29.6		
MNK				*i* S	**S**	**23 00 19.0**	**-0.6**	
MNK				pmax	pmax			
	comp=N,13nm,0.8s							
MNK				pmax	pmax			
	comp=Z,11nm,1.0s							
MNK				pmax	pmax			
	comp=E,10.0nm,1.1s							
AB31	**Akbulak array**	**71.13**	**334**	lAmb	lAmb	22 51 08.4		
	comp=Z,3.6nm,0.7s							
AB31	**Akbulak array**	**71.13**	**334**	*e*P	**P**	**22 51 07.4**	**-0.4**	
ABKAR	**Akbulak array**	**71.13**	**334**	lAmb	lAmb	22 51 08.4		
	comp=Z,3.6nm,0.7s							
BOOM	**Boomskoye usch**	**72.12**	**320**	lAmb	lAmb	22 51 15.6		
	comp=Z,7.7nm,0.9s							
HNR	**Honiara**	**72.27**	**222**	LR	LR	23 15 52.8		
	comp=Z,34nm,20.3s,baz=339,slow=30							
AAK	**Ala-Archa**	**72.53**	**321**	*ce*P	**P**	**22 51 17.7**	**+1.2**	
AAK				pmax	pmax			
	comp=Z,5.0nm,1.3s							
PPT2	**Papeete2**	**72.56**	**170**	*e*LR	LR	23 13 19.5		
	comp=Z,51nm,22.5s							
PPT2				*e*LR	LR	23 13 26.0		
	comp=Z,102nm,27.5s							
NRN	**Naryn**	**73.01**	**319**	lAmb	lAmb	22 51 21.0		
	comp=Z,4.4nm,0.6s							
KK31	**Karatay Array**	**73.52**	**324**	lAmb	lAmb	22 51 23.2		
	comp=Z,5.5nm,0.8s							
KK31	**Karatay Array**	**73.52**	**324**	*i* P	**P**	**22 51 21.6**	**-0.6**	
KKAR	**Karatay Array**	**73.52**	**324**		**P**	**22 51 22.0**	**-0.2**	
KKAR	**Karatay Array**	**73.52**	**324**	lAmb	lAmb	22 51 23.2		
	comp=Z,5.8nm,0.8s							
KKAR	**Karatay Array**	**73.52**	**324**	P	**P**	**22 51 22.0**	**-0.2**	
CLL	**Collm**	**74.17**	**5**	*i* P	**P**	**22 51 26.0**	**+0.2**	
CLL				pmax	pmax			
	comp=Z,4.0nm,1.0s							
CLL	**Collm**	**74.17**	**5**	*i* P	**P**	**22 51 26.0**	**+0.2**	
	comp=Z,4.0nm,1.0s							
ARSB	**Arslanbob**	**74.22**	**321**	lAmb	lAmb	22 51 28.4		
	comp=Z,3.1nm,0.6s							
MSVF	**Nonsavu**	**74.60**	**202**	LR	LR	23 17 47.9		
	comp=Z,120nm,21.2s,baz=35,slow=30							
AK23	**Malin Array Si**	**74.61**	**354**	P	**P**	**22 51 27.6**	**-0.8**	
AK22	**Malin Array Si**	**74.62**	**354**	P	**P**	**22 51 27.6**	**-0.8**	
AK20	**Malin Array Si**	**74.64**	**354**	P	**P**	**22 51 27.8**	**-0.7**	
AK03	**Malin Array Si**	**74.64**	**354**	P	**P**	**22 51 27.8**	**-0.8**	
AKASG	**Malin Array Be**	**74.67**	**354**	P	**P**	**22 51 28.1**	**-0.6**	
	comp=Z,3.0nm,0.4s,baz=9.7,slow=5.9,SNR=16							
AKASG				LR	LR	23 27 32.9		
	comp=Z,20nm,18.4s,baz=6.0,slow=38							
	comp=Z,3.0nm,0.4s							
AKBB	**Malin Array Si**	**74.67**	**354**	*ce*P	**P**	**22 51 28.8**	**+0.1**	
KIEV	**Kiev**	**74.67**	**354**		**P**	**22 51 28.2**	**-0.5**	
KIEV	**Kiev**	**74.67**	**354**	⇑P	**P**	**22 51 27.9**	**-0.8**	
KIEV	**Kiev**	**74.67**	**354**	⇑P	**P**	**22 51 27.9**	**-0.8**	
KSH	**Kashi**	**74.68**	**318**	P	**P**	**22 51 32.7**	**+3.5**	
CHVC	**Chvalec**	**75.00**	**3**	*e*P	**P**	**22 51 31.3**	**+0.6**	
CHVC				*ep*P	**pP**	**22 51 41.3**	**+0.5**	
CHVC	**Chvalec**	**75.00**	**3**	*e*P	**P**	**22 51 31.3**	**+0.6**	
CHVC				*e**PP	**pP**	**22 51 41.3**	**+0.5**	
OSTC	**Ostas**	**75.03**	**3**	*e*P	**P**	**22 51 31.9**	**+1.0**	
OSTC	**Ostas**	**75.03**	**3**	*e*P	**P**	**22 51 31.9**	**+1.0**	
DPC	**Dobruska-Polom**	**75.24**	**3**	*e*P	**P**	**22 51 32.0**	**-0.1**	
DPC	**Dobruska-Polom**	**75.24**	**3**	*e*P	**P**	**22 51 32.0**	**-0.1**	
KRLC	**Kraliky**	**75.53**	**2**	*e*P	**P**	**22 51 34.4**	**+0.6**	
KRLC				*ep*P	**pP**	**22 51 44.3**	**+0.5**	
KRLC	**Kraliky**	**75.53**	**2**	*e*P	**P**	**22 51 34.4**	**+0.6**	
KRLC				*e**PP	**pP**	**22 51 44.4**	**+0.5**	
STEB	**Steborice**	**75.69**	**2**	*e*P	**P**	**22 51 35.3**	**+0.6**	
MORC	**Moravsky Berou**	**75.84**	**2**	*e*P	**P**	**22 51 35.7**	**+0.1**	
MORC	**Moravsky Berou**	**75.84**	**2**	⇑P	P	22 51 30.2	-5.4	
MORC	**Moravsky Berou**	**75.84**	**2**	⇑P	P	22 51 30.2	-5.4	
ZVC	**Zvikov**	**76.08**	**4**	*e*P	**P**	**22 51 37.7**	**+0.8**	
BTK	**Batken**	**76.11**	**322**	lAmb	lAmb	22 51 40.3		
	comp=Z,6.5nm,1.1s							
STHS	**Stebnicka Huta**	**76.22**	**359**	*e*P	**P**	**22 51 38.4**	**+0.7**	
STHS				pmax	pmax			
	comp=Z,8.0nm,0.7s							
STHS	**Stebnicka Huta**	**76.22**	**359**	*e*P	**P**	**22 51 38.3**	**+0.6**	
MAUC	**Maruska**	**76.26**	**2**	*e*P	**P**	**22 51 38.9**	**+0.9**	
VRAC	**Vranov**	**76.29**	**2**	*e*P	**P**	**22 51 38.7**	**+0.6**	
KHC	**Kasperske Hory**	**76.37**	**4**	*e*P	**P**	**22 51 39.6**	**+1.0**	
KHC				*ep*P	**pP**	**22 51 48.3**	**-0.4**	
KHC	**Kasperske Hory**	**76.37**	**4**	*e*P	**P**	**22 51 39.6**	**+1.0**	
KHC				*e**PP	**pP**	**22 51 48.3**	**-0.4**	
LANS	**Liptovska Anna**	**76.49**	**0**	*e*P	**P**	**22 51 41.0**	**+1.7**	
LANS	**Liptovska Anna**	**76.49**	**0**	*e*P	**P**	**22 51 41.0**	**+1.7**	
KRUC	**Moravsky**	**76.53**	**3**	*e*P	**P**	**22 51 39.4**	**-0.1**	
GERES	**GERESS Array B**	**76.66**	**4**	P	**P**	**22 51 40.4**	**+0.1**	
	comp=Z,1.7nm,0.8s,baz=352,slow=4.0,SNR=12							
	comp=Z,1.7nm,0.8s							
KOLS	**Kolonicke sedl**	**76.70**	**359**	*e*P	**P**	**22 51 41.5**	**+1.1**	
KOLS				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KOLS	**Kolonicke sedl**	**76.70**	**359**	*e*P	**P**	**22 51 41.5**	**+1.1**	
CKRC	**Cesky Krumlov**	**76.71**	**4**	*e*P	**P**	**22 51 38.4**	**-2.1**	
CKRC	**Cesky Krumlov**	**76.71**	**4**	*e*P	**P**	**22 51 38.4**	**-2.1**	
ECH	**Echery**	**76.85**	**9**	lAmb	lAmb	22 51 44.7		
	comp=Z,2.8nm,0.8s							
NDNU	**Novodnistrovsk**	**76.87**	**355**	P	**P**	**22 51 41.4**	**0.0**	
VYHS	**Vyhne**	**77.14**	**1**	*e*P	**P**	**22 51 43.8**	**+0.9**	
VYHS				pmax	pmax			
	comp=Z,7.0nm,1.3s							
VYHS	**Vyhne**	**77.14**	**1**	*e*P	**P**	**22 51 43.8**	**+0.9**	
MODS	**Modra-Piesok**	**77.24**	**2**	*e*P	**P**	**22 51 44.0**	**+0.5**	
MODS	**Modra-Piesok**	**77.24**	**2**	*e*P	**P**	**22 51 44.0**	**+0.5**	
SORM	**Soroca**	**77.28**	**354**	⇓P	**P**	**22 51 43.0**	**-0.6**	
SORM	**Soroca**	**77.28**	**354**	⇓P	**P**	**22 51 43.0**	**-0.6**	
SORM	**Soroca**	**77.28**	**354**	P	**P**	**22 51 43.4**	**-0.2**	
	comp=Z,8.4nm,1.0s							
CONA	**Conrad Observa**	**77.65**	**3**	P	**P**	**22 51 46.8**	**+1.0**	
	comp=Z,4.0nm,0.8s,SNR=4.8							
RONA	**Rosalia, Austr**	**77.89**	**3**	*e*P	**P**	**22 51 47.1**	**0.0**	
	comp=Z,1.3nm,0.7s							
BUR08	**Bucovina Ar. S**	**77.91**	**357**	lAmb	lAmb	22 51 57.9		
	comp=Z,2.7nm,0.8s							
BURAR	**Bucovina Array**	**77.94**	**356**	⇑P	**P**	**22 51 47.5**	**0.0**	
BURAR	**Bucovina Array**	**77.94**	**356**	⇑P	**P**	**22 51 47.5**	**0.0**	
MOTA	**Moosalm**	**78.01**	**6**	*i* P	**P**	**22 51 48.6**	**+0.6**	
	comp=Z,5.9nm,1.1s							
WATA	**Walderalm**	**78.05**	**6**	*i* P	**P**	**22 51 49.0**	**+0.9**	
	comp=Z,8.4nm,1.2s							
WTTA	**Wattenberg**	**78.13**	**6**	*i* P	**P**	**22 51 49.4**	**+0.8**	
	comp=Z,4.6nm,0.6s,SNR=4.4							
SQTA	**Sankt Quirin**	**78.14**	**6**	*e*P	**P**	**22 51 49.1**	**+0.5**	
	comp=Z,9.6nm,1.3s							
FETA	**Feichten**	**78.31**	**7**	*i* P	**P**	**22 51 49.5**	**-0.2**	
	comp=Z,3.6nm,0.8s							
KBA	**Koelnbreinsper**	**78.40**	**5**	*e*P	**P**	**22 51 52.3**	**+2.1**	
	comp=Z,4.4nm,0.6s							
MPLH	**Magyarpolny**	**78.45**	**2**	P	**P**	**22 51 50.6**	**+0.4**	
	comp=Z,12nm,1.4s							
BIZ	**Bicaz**	**78.58**	**356**	⇑P	P	22 51 58.5	+7.5	
FUORN	**Ofenpass-Fuorn**	**78.68**	**7**		**P**	**22 51 53.6**	**+1.8**	
FUORN				lAmb	lAmb	22 51 54.4		
	comp=Z,3.1nm,0.7s							
DRGR		**78.83**	**358**	⇓P	**P**	**22 51 53.0**	**+0.6**	
DRGR		**78.83**	**358**	⇓P	**P**	**22 51 53.0**	**+0.6**	
SOKA	**Soboth**	**78.88**	**4**	*i* P	**P**	**22 51 53.4**	**+0.7**	
	comp=Z,3.7nm,0.8s,SNR=4.2							
MARR	**Marisel-Cluj**	**78.94**	**358**	⇑P	**P**	**22 51 53.6**	**+0.6**	
OBKA	**Obir**	**79.03**	**4**	*i* P	**P**	**22 51 54.2**	**+0.8**	
	comp=Z,11nm,0.6s,SNR=18							
PRED	**Cave del Predi**	**79.05**	**5**	P	**P**	**22 51 54.1**	**+0.5**	
ONER	**Baraj Valea Uz**	**79.17**	**356**	⇓P	**P**	**22 51 55.5**	**+1.3**	
SIRR	**Siria**	**79.37**	**359**	⇓P	**P**	**22 51 55.4**	**+0.1**	
MORH	**Mrgy, Hungar**	**79.42**	**1**	⇓P	**P**	**22 51 56.3**	**+0.8**	
OZUR		**79.44**	**356**	⇑P	**P**	**22 51 57.2**	**+1.5**	
DOPR	**Dopca**	**79.58**	**356**	⇓P	**P**	**22 51 57.0**	**+0.6**	
VRI	**Vrincioaia**	**79.62**	**355**	⇑P	**P**	**22 51 57.2**	**+0.5**	
VRI	**Vrincioaia**	**79.62**	**355**	⇑P	**P**	**22 51 57.2**	**+0.5**	
VRI	**Vrincioaia**	**79.62**	**355**	P	**P**	**22 51 56.9**	**+0.2**	
	comp=Z,3.5nm,1.7s							
PLOR	**Plostina**	**79.64**	**355**	⇑P	**P**	**22 51 58.7**	**+1.9**	
PLOR	**Plostina**	**79.64**	**355**	⇑P	**P**	**22 51 58.7**	**+1.9**	
ODBI	**Odobesti**	**79.71**	**355**	P	**P**	**22 51 57.3**	**+0.2**	
	comp=Z,5.9nm,0.7s							
EVN	**Everest**	**79.82**	**304**	P	**P**	**22 51 58.8**	**0.0**	
EVN				lAmb	lAmb	22 52 00.9		
	comp=Z,6.1nm,0.7s							
KIV	**Kislovodsk**	**79.83**	**344**	P	**P**	**22 51 58.2**	**+0.2**	
KIV				lAmb	lAmb	22 51 59.2		
	comp=Z,6.5nm,0.7s							
KIV	**Kislovodsk**	**79.83**	**344**	P	**P**	**22 51 58.1**	**+0.2**	
	comp=Z,6.3nm,0.9s							
SURR	**Surduc**	**79.88**	**359**	⇑P	**P**	**22 51 58.5**	**+0.5**	
BNI	**Bardonecchia**	**79.94**	**10**	P	**P**	**22 51 60.0**	**+1.5**	
BNI				lAmb	lAmb	22 52 09.1		
	comp=Z,5.2nm,1.1s							
BNI	**Bardonecchia**	**79.94**	**10**	P	**P**	**22 52 00.0**	**+1.5**	
BNI				pmax	pmax			
	comp=Z,5.0nm,1.2s							
BISRR	**Bisoca**	**79.94**	**355**	P	**P**	**22 51 58.6**	**+0.1**	
KBZ	**Khabaz**	**80.02**	**343**	P	**P**	**22 51 59.8**	**+1.0**	
	comp=Z,3.1nm,0.8s,baz=314,slow=4.4,SNR=7.1							
KBZ				LR	LR	23 31 03.3		
	comp=Z,29nm,20.2s,baz=9.0,slow=38							
	comp=Z,3.1nm,0.8s							
KBZ	**Khabaz**	**80.02**	**343**	*i* P	**P**	**22 51 58.8**	**0.0**	
KBZ				pmax	pmax			
	comp=Z,4.0nm,0.9s							
BZS	**Buzias**	**80.02**	**359**	⇑P	**P**	**22 51 59.4**	**+0.6**	
BZS	**Buzias**	**80.02**	**359**	⇑P	**P**	**22 51 59.4**	**+0.6**	
MLR	**Muntele Rosu**	**80.03**	**356**	⇓P	**P**	**22 52 00.5**	**+1.5**	
MLR	**Muntele Rosu**	**80.03**	**356**	⇓P	**P**	**22 52 00.5**	**+1.5**	
MLR	**Muntele Rosu**	**80.03**	**356**	P	**P**	**22 51 59.1**	**+0.1**	
VOIR		**80.12**	**356**	⇓P	**P**	**22 52 00.6**	**+1.1**	
VOIR		**80.12**	**356**	⇓P	**P**	**22 52 00.6**	**+1.1**	
VOIR		**80.12**	**356**	P	**P**	**22 51 59.5**	**0.0**	
GZR	**Gura Zlata**	**80.23**	**358**	⇓P	**P**	**22 52 01.1**	**+1.1**	
GZR	**Gura Zlata**	**80.23**	**358**	⇓P	**P**	**22 52 01.1**	**+1.1**	
CFR	**Carcaliu**	**80.24**	**354**	⇑P	**P**	**22 51 58.9**	**-1.0**	
CFR	**Carcaliu**	**80.24**	**354**	⇑P	**P**	**22 51 58.9**	**-1.0**	
SOC	**Sochi**	**80.65**	**346**	*e*P	**P**	**22 52 01.6**	**-0.6**	
SOC				*e*		22 55 03.7		
SOC				*e*S	**S**	**23 02 07.7**	**+0.7**	
SOC				*e*SS	**SS**	**23 07 23.4**	**+4.9**	
SOC				pmax	pmax			
	comp=Z,6.0nm,0.9s							
HARR	**Harsova**	**80.73**	**354**	⇓P	**P**	**22 52 01.4**	**-1.2**	
HARR	**Harsova**	**80.73**	**354**	⇓P	**P**	**22 52 01.4**	**-1.2**	
HERR	**Herculane**	**80.75**	**358**	⇓P	**P**	**22 52 03.4**	**+0.7**	
NIL	**Nilore**	**80.86**	**317**	P	**P**	**22 52 04.0**	**+0.4**	
NIL	**Nilore**	**80.86**	**317**	P	**P**	**22 52 04.0**	**+0.4**	
NIL				pmax	pmax			
	comp=Z,10.0nm,0.8s							
AKT	**Akhty**	**81.30**	**339**	*e*P	**P**	**22 52 06.1**	**+0.2**	
AKT				pmax	pmax			
	comp=Z,11nm,0.8s							
CMAR	**Chiang Mai Arr**	**81.41**	**290**		**P**	**22 52 06.3**	**-0.3**	
CMAR	**Chiang Mai Arr**	**81.41**	**290**	P	**P**	**22 52 07.0**	**+0.4**	
	comp=Z,4.1nm,0.8s,baz=16,slow=5.6,SNR=14							
	comp=Z,4.1nm,0.8s							
CMAR	**Chiang Mai Arr**	**81.41**	**290**	P	**P**	**22 52 06.3**	**-0.3**	
KBL	**Kabul**	**81.67**	**321**	P	**P**	**22 52 06.8**	**-1.2**	
KBL				lAmb	lAmb	22 52 07.7		
	comp=Z,4.1nm,0.7s							
KBL	**Kabul**	**81.67**	**321**	P	**P**	**22 52 06.8**	**-1.2**	
KBL				pmax	pmax			
	comp=Z,4.0nm,0.7s							
ESDC	**Sonseca Array**	**83.72**	**18**		**P**	**22 52 19.4**	**+0.9**	
ESDC				lAmb	lAmb	22 52 20.4		
	comp=Z,4.8nm,0.8s							
ESDC	**Sonseca Array**	**83.72**	**18**	P	**P**	**22 52 17.9**	**-0.6**	
	comp=Z,4.6nm,0.7s,baz=340,slow=4.6,SNR=41							
ESDC				LR	LR	23 34 26.1		
	comp=Z,23nm,18.1s,baz=360,slow=39							
	comp=Z,4.6nm,0.7s							
HOMI	**Horasan**	**83.77**	**343**	⇓P	**P**	**22 52 20.7**	**+1.7**	
OZAP	**Van, Ozalp-Mer**	**84.75**	**341**	⇓P	**P**	**22 52 26.1**	**+2.2**	
BRTR	**Keskin Array B**	**85.21**	**350**		**P**	**22 52 26.0**	**-0.1**	
BRTR	**Keskin Array B**	**85.21**	**350**	P	**P**	**22 52 26.6**	**+0.5**	
	comp=Z,1.0nm,0.8s,baz=20,slow=4.4,SNR=9.2							
	comp=Z,2.1nm,0.9s							
BRTR	**Keskin Array B**	**85.21**	**350**	P	**P**	**22 52 26.0**	**-0.1**	
KIRS	**Kirsehir-Merke**	**85.77**	**349**	⇓P	**P**	**22 52 30.3**	**+1.5**	
BNN	**Bunyan**	**85.82**	**348**		**P**	**22 52 29.7**	**+0.6**	
WRA	**Warramunga Arr**	**93.01**	**239**	P	**P**	**22 53 01.4**	**-1.6**	
	comp=Z,0.5nm,0.8s,baz=37,slow=4.2,SNR=3.2							
	comp=Z,0.5nm,0.8s							
H03N2	**Juan Fernandez**	**111.73**	**117**	T	T	00 59 32.8		
	baz=323,slow=77,SNR=6.1							
H03N1	**Juan Fernandez**	**111.74**	**117**	T	T	00 59 36.3		
	baz=323,slow=77,SNR=6.0							
H03N3	**Juan Fernandez**	**111.75**	**117**	T	T	00 59 35.4		
	baz=323,slow=77,SNR=5.8							
QSPA	**South Pole Qui**	**144.50**	**180**	PKP	**PKPab**	**22 59 23.0**	**0.0**	
	comp=Z,1.2nn,0.6s,baz=286,slow=0.8,SNR=10							
BOSA	**Boshof**	**153.64**	**350**	PKPbc	**PKPbc**	**22 59 46.6**	**-1.5**	
	comp=Z,2.5nm,0.9s,baz=62,slow=4.6,SNR=3.6							

*IDC **04** 22:39:57.8±2.0, 45°.91N×106°.91W, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=62.8km s-min=10.0km az=132.0*
*NEIC **04** 22:39:58.0±2.2, 45°.82N±0°.05×106°.60W±0°.04, h0km±1km, ML3.0/24, Error ellipse: s-maj=9.4km s-min=4.3km az=160.0*

ISC 04 22:39:56.8±1.0, 45°.95N±0°.04×106°.67W±0°.05, h0km, n25, σ1s63/25, Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAO	**LASA Array**	**0.80**	**23**		**Pn**	**22 40 15.6**	**+0.2**
RLMT	**Red Lodge**	**2.01**	**246**		**Pb**	**22 40 33.2**	**-1.1**
RLMT				IAML		22 41 01.9	
	104nm,0.4s						
RLMT				IAML		22 41 06.3	
	69nm,0.4s						
GCMT	**Greycliff**	**2.10**	**267**		**Pb**	**22 40 35.2**	**-0.7**
YNE	**Yellowstone No**	**2.53**	**249**		**Pn**	**22 40 40.5**	**+1.1**
YNE				IAML		22 41 16.8	
	comp=N,90nm,0.5s						
YNE				IAML		22 41 21.0	
	comp=E,81nm,0.5s						
RSSD	**Black Hills**	**2.61**	**134**		**Pn**	**22 40 40.5**	**0.0**
RSSD				IAML		22 41 18.7	
	comp=E,59nm,0.5s						
RSSD				IAML		22 41 18.8	
	comp=E,68nm,0.6s						
YMP	**Mirror Lake Pl**	**2.74**	**245**		**Pb**	**22 40 45.4**	**-1.5**
EGMT	**Eagleton**	**2.96**	**316**		**Pb**	**22 40 49.5**	**-1.0**
EGMT				IAML		22 41 40.0	
	comp=E,52nm,0.7s						
DGMT	**Dagmar**	**3.03**	**33**		**Pb**	**22 40 50.2**	**-1.4**
YHH	**Holmes Hill**	**3.17**	**250**		**Pn**	**22 40 50.2**	**+1.9**
K22A	**Casper**	**3.30**	**178**		**Pn**	**22 40 51.2**	**+1.3**
K22A				IAML		22 42 00.5	
	comp=E,35nm,0.1s						
K22A				IAML		22 42 00.8	
	comp=E,30nm,0.1s						
BOZ	**Bozeman (W)**	**3.49**	**266**		**Pb**	**22 40 57.3**	**-2.3**
BOZ				IAML		22 41 53.6	
	comp=E,20nm,0.7s						
HRY	**Holter Researc**	**3.66**	**284**	Pn	**Pn**	**22 40 56.9**	**+2.1**
HRY					**Pg**	**22 41 07.4**	**+0.5**
PD31	**Pinedale Array**	**3.80**	**214**		**Pn**	**22 40 58.7**	**+1.8**
PDAR	**Pinedale Array**	**3.80**	**214**		**Pn**	**22 40 58.9**	**+2.0**
PDAR	**Pinedale Array**	**3.80**	**214**	Pn	**Pn**	**22 40 59.4**	**+2.6**
	comp=E,0.4nm,0.3s,baz=30,slow=12,SNR=5.2						
PDAR				Pg	**Pb**	**22 41 05.6**	**+0.7**
	comp=E,1.1nm,0.3s,baz=36,slow=18,SNR=15						
PDAR				Lg	Lg	22 41 53.6	
	comp=E,4.5nm,0.3s,baz=40,slow=31,SNR=5.9						
	comp=E,0.5nm,0.4s						
BW06	**Boulder Array**	**3.80**	**214**		**Pn**	**22 40 58.0**	**+1.1**
BW06				IAML		22 42 01.1	
	comp=E,16nm,0.6s						
FXWY	**Fox Creek**	**3.87**	**235**		**Pg**	**22 41 08.9**	**-2.1**
LYMT	**Lyon Mountain**	**4.02**	**287**		**Pn**	**22 41 01.0**	**+1.2**
LRM	**Limekiln Ridge**	**4.04**	**270**	Pn	**Pn**	**22 41 01.7**	**+1.6**
MCMT	**McKenzie Canyo**	**4.50**	**258**		**Pn**	**22 41 08.0**	**+1.5**
OVMT	**Ovando**	**4.51**	**287**		**Pn**	**22 41 08.7**	**+2.2**
BPMT	**Black Pine Rid**	**4.73**	**278**		**Pn**	**22 41 11.1**	**+1.4**
NEW	**Newport**	**7.50**	**292**	Lg	Lg	22 43 51.6	
	comp=E,0.2nn,0.3s,baz=350,slow=4.9,SNR=3.7						
I56US	**NEWPORT INFRAS**	**7.50**	**292**	I	I	23 25 10.0	
	baz=105,slow=310,SNR=2.8						
ULM	**Lac du Bonnet**	**8.40**	**55**	Pn	**Pn**	**22 42 01.3**	**+1.5**
	comp=E,0.3nn,0.3s,baz=252,slow=14,SNR=2.1						
ULM				Lg	Lg	22 44 22.6	
	comp=E,0.4nm,0.3s,baz=345,slow=20,SNR=3.3						
	comp=E,1.1nm,0.4s						

*IDC **04** 22:41:53.4±3.4, 24°.66N×95°.26E, h139km±33km, mb3.5/11, mbtmp3.9/12, Error ellipse: s-maj=35.2km s-min=14.5km az=63.0*

ISC 04 22:41:54.2±0.8, 24°.5N±0°.1×94°.8E±0°.1, h150km, n20, σ1s58/24, mb3.8/11, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ODAN	**Odare**	**7.11**	**291**	Pn	**Pn**	**22 43 35.8**	**0.0**
	baz=304,slow=0.0						
ODAN				Sn	**Sn**	**22 44 54.6**	**-0.9**
	94nm,0.4s,baz=304,slow=0.0						
CMAR	**Chiang Mai Arr**	**7.11**	**146**	P	**Pn**	**22 43 34.0**	**-1.7**
	4.1nm,0.5s,baz=325,slow=13,SNR=19						
RAMN	**Ramite**	**7.80**	**290**	Pn	**Pn**	**22 43 44.4**	**-0.8**
	baz=302,slow=0.0						
GUN	**Gumba**	**8.72**	**295**	Pn	**Pn**	**22 43 57.8**	**+0.3**
	baz=305,slow=0.0						
GUN				Sn	**Sn**	**22 45 34.2**	**-0.4**
	30nm,0.3s,baz=305,slow=0.0						
PKI	**Pulchoki**	**9.00**	**292**	Pn	**Pn**	**22 44 01.7**	**+0.5**
	baz=302,slow=0.0						
PKIN	**Phulchoki**	**9.01**	**292**	Pn	**Pn**	**22 44 00.7**	**-0.6**
	baz=302,slow=0.0						
KKN	**Kakani**	**9.18**	**293**	Pn	**Pn**	**22 44 04.8**	**+1.3**
	baz=303,slow=0.0						
GKN	**Gorkha**	**9.79**	**293**	Pn	**Pn**	**22 44 11.2**	**-0.3**
	baz=302,slow=0.0						
GKN				Sn	**Sn**	**22 45 57.5**	**-2.5**
	33nm,0.3s,baz=302,slow=0.0						
PYUN	**Piuthan**	**11.20**	**291**	Pn	**Pn**	**22 44 29.5**	**-0.7**
	baz=299,slow=0.0						
PYUN				Sn	**Sn**	**22 46 30.8**	**-3.4**
	25nm,0.5s,baz=299,slow=0.0						
MKAR	**Makanchi Array**	**24.43**	**339**	P	**P**	**22 46 59.9**	**+1.1**
	0.8nm,0.5s,baz=150,slow=8.6,SNR=13						
	0.8nm,0.5s						
SONM	**Songino Array**	**25.07**	**19**	P	**P**	**22 47 02.1**	**-2.7**
	0.5nm,0.4s,baz=209,slow=8.5,SNR=3.6						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**29.00**	**338**	P	**P**	**22 47 39.6**	**0.0**
	0.2nm,0.4s,baz=145,slow=10,SNR=2.1						
	0.2nm,0.4s						
AKASG	**Malin Array Be**	**56.12**	**316**	P	**P**	**22 51 18.7**	**+0.9**
	0.6nm,0.3s,baz=81,slow=7.1,SNR=5.1						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**58.56**	**135**	P	**P**	**22 51 35.3**	**0.0**
	1.0nm,0.7s,baz=323,slow=7.5,SNR=7.9						
	1.0nm,0.7s						
FINES	**FINESS Array B**	**58.67**	**328**	P	**P**	**22 51 34.8**	**-0.6**
	1.0nm,0.4s,baz=116,slow=7.5,SNR=4.4						
	1.0nm,0.4s						
ARCES	**ARCESS Array B**	**60.08**	**338**	P	**P**	**22 51 45.8**	**+0.8**
	2.7nm,1.0s,baz=105,slow=5.9,SNR=1.2						
	2.7nm,1.0s						
ASAR	**Alice Springs**	**61.05**	**139**	P	**P**	**22 51 50.9**	**-1.4**
	0.7nm,0.9s,baz=318,slow=6.5,SNR=3.4						
	0.7nm,0.9s						
HFS	**Hagfors**	**64.72**	**327**	P	**P**	**22 52 16.3**	**+0.3**
	3.8nm,1.0s,baz=77,slow=14,SNR=1.7						
	3.8nm,1.0s						
GERES	**GERESS Array B**	**66.28**	**315**	P	**P**	**22 52 28.4**	**+2.1**
	0.4nm,0.5s,baz=69,slow=7.3,SNR=4.2						
	0.4nm,0.5s						
BOSA	**Boshof**	**85.20**	**236**	P	**P**	**22 54 17.3**	**+3.2**
	1.5nm,0.5s,baz=76,slow=1.8,SNR=8.3						
	1.5nm,0.5s						

*NEIC **04** 22:42:21.2±1.2, 35°.728N±0°.005×117°.52W±0°.01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.5km az=258.0*

**PAS 04 22:42:21.8

JNH Sg 22 43 02.7 -1.5
TUQ Turquoise Moun 1.33 102 Pn 22 42 45.6 -1.6
TUQ Sg 22 43 04.2 -0.5
SIL Silver Peak 1.49 157 Pn 22 42 49.3 -0.1
GMN Gold Mountain 1.59 8 Pn 22 42 50.5 -0.4
GMN IAML 22 43 14.6
comp=E,69nm,0.3s
GMN IAML 22 43 16.8
comp=N,86nm,0.5s
TPNV Topopah Spring 1.60 40 Pn 22 42 49.7 -1.2
TPNV IAML 22 43 14.4
comp=N,110nm,0.5s
TPNV IAML 22 43 14.7
comp=N,160nm,0.2s
PASC Pasadena Art C 1.64 200 Pn 22 42 50.6 -0.8
PASC IAML 22 43 17.9
comp=N,112nm,0.7s
PASC IAML 22 43 18.1
comp=E,141nm,0.5s
DSP Deep Springs 1.68 348 Pn 22 42 51.0 -0.9
BCW Bitter Crk WRg 1.73 244 Pn 22 42 52.0 -0.7
BCW IAML 22 43 29.7
comp=N,106nm,0.6s
BCW IAML 22 43 34.7
comp=E,79nm,0.9s
BLAC Blackrock camp 1.89 150 Pn 22 42 53.9 -1.0
MZP Montezuma Peak 1.98 3 Pn 22 42 55.8 -0.4
MZP IAML 22 43 28.7
comp=E,37nm,0.5s
SHPR Sheep Range 2.07 67 Pn 22 42 56.6 -0.8
ELS Elsinore Mount 2.07 178 Pn 22 42 56.3 -1.0
ELS IAML 22 43 33.8
comp=E,41nm,0.5s
V12A Nelson 2.17 89 Pn 22 42 58.7 -0.1
V12A IAML 22 43 33.4
comp=N,37nm,1.2s
V12A IAML 22 43 35.3
comp=E,38nm,0.4s
PFO Pinyon Flats O 2.28 157 Pn 22 42 58.8 -1.4
PFO IAML 22 43 36.9
comp=E,27nm,0.6s
TPH Tonopah 2.36 6 Pn 22 42 59.9 -1.5
S11A Rachel 2.39 36 Pn 22 43 01.4 -0.5
S11A IAML 22 43 45.1
comp=N,76nm,0.9s
S11A IAML 22 43 48.1
comp=E,77nm,0.8s
PRN Pahroc Range 2.60 49 Pn 22 43 04.3 -0.5
PRN IAML 22 43 51.7
comp=E,50nm,0.7s
PRN IAML 22 43 56.7
comp=N,52nm,0.6s
LHV Little Huntoon 2.64 343 Pn 22 43 05.7 +0.6
LHV IAML 22 43 23.4
comp=N,20nm,0.8s
LHV IAML 22 43 53.0
comp=E,23nm,0.7s
PMPB Monarch Peak 2.70 281 Pn 22 43 06.2 +0.2
NVAR Mina Array Bea 2.77 347 Pb 22 43 13.2 +1.2
BBGB Big Mountain B 2.97 288 Pn Pn 22 43 10.8 +1.0
RYN Ryan 3.01 345 Pn Pn 22 43 10.4 +0.1
W13A Hualapai Mount 3.04 101 IAML 22 44 01.4
comp=N,29nm,1.2s
W13A IAML 22 44 04.8
comp=E,14nm,0.8s
BLYC Blythe 3.16 128 Pg 22 43 22.5 +0.2
BLYC IAML 22 44 05.0
comp=E,35nm,0.4s
BLYC IAML 22 44 05.8
comp=N,41nm,0.5s
TKX Tecate 3.24 166 Pn 22 43 12.8 -0.5
CMB Columbia Colle 3.25 316 IAML 22 44 09.1
comp=E,25nm,0.8s
CMB IAML 22 44 11.9
comp=N,20nm,0.7s
YUH Yuha Desert 3.34 156 IAML 22 44 08.5
comp=E,10nm,4.7s
LCMT Little Creek M 3.69 68 Pn 22 43 18.6 -1.0
CCUT Cedar City 3.81 60 Pg Pg 22 43 33.1 -1.7
KNB Kanab 4.01 70 Pn Pn 22 43 24.3 +0.2
KNB IAML 22 44 24.9
comp=N,6.3nm,4.7s
SZCU Shurtz Canyon 4.03 61 Pg Pg 22 43 36.4 -2.6
PSUT Pine Spring 4.06 45 IAML 22 44 33.6
comp=N,9.6nm,0.9s
PSUT IAML 22 44 34.3
comp=E,11nm,0.9s
Y14A Wickenburg 4.12 114 Pn 22 43 25.1 -0.4
SPR3 Spring Creek 3 4.14 37 IAML 22 44 32.5
comp=E,9.7nm,0.8s
SPR3 IAML 22 44 34.0
comp=N,8.9nm,0.7s
WUAZ Wupatki 5.01 91 IAML 22 45 02.9
comp=N,7.1nm,1.0s
WUAZ IAML 22 45 14.1
comp=N,7.5nm,1.9s

SJA ***04*** *22:45:15.3±0.6,28˚.04S×66˚.87W,h176km±3km,ML4.3, MW4.1*
NEIC ***04*** *22:45:16.2±1.4,28˚.04S±0˚.06×66˚.88W±0˚.09,h163km±8km, mb4.4/43,Error ellipse: s-maj=11.2km s-min=8.6km az=87.0*
IDC ***04*** *22:45:17.1±0.7,27˚.95S×66˚.64W,h163km±5km,mb3.6/10, mbtmp4.1/13,MS2.7/1,Error ellipse: s-maj=20.1km s-min=12.6km az=78.0*
VAO ***04*** *22:45:27.8±0.7,27˚.23S×66˚.18W,h216km±8km,mb4.2*
ISC 04 22:45:16.0±0.5,27˚.98S±0˚.04×66˚.90W±0˚.04,h162km±5km, n162,σ1§25/184,mb4.3/30,Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**1.07**	**115**	*eP*	**Pn**	**22 45 43.2**	**+0.7**
CYA				*eS*	**Sn**	**22 46 02.4**	**-0.5**
CYA				IAML		22 46 03.9	
	comp=Z,802nm,0.8s						
VCA	**Vinchina**	**1.37**	**237**	*eP*	**Pn**	**22 45 46.3**	**+0.9**
VCA				*eS*	**Sn**	**22 46 09.1**	**+1.1**
VCA				IAML		22 46 13.0	
	comp=Z,4μm,0.3s						
ACLC	**CERRO LA CRUZ**	**1.44**	**182**	*eP*	**Pn**	**22 45 46.9**	**+0.8**
ACLC				*eS*	**Sn**	**22 46 09.4**	**+0.1**
ACLC				IAML		22 46 09.9	
	comp=Z,2μm,0.5s						
FSA	**Cafayete**	**2.04**	**24**	*eP*	**Pn**	**22 45 54.0**	**+1.5**
FSA				*eS*	**Sn**	**22 46 22.7**	**+2.0**
AGUA	**GUANDACOL**	**2.05**	**223**	*eP*	**Pn**	**22 45 53.4**	**+0.9**
AGUA				*eS*	**Sn**	**22 46 22.0**	**+1.2**
AGUA				IAML		22 46 23.5	
	comp=Z,3μm,0.2s						
AC02	**Maricunga**	**2.29**	**299**		**Pn**	**22 45 56.8**	**+1.1**
AC02	**Maricunga**	**2.29**	**299**	*eP*	**Pn**	**22 45 58.1**	**+2.5**
AC02				*eS*	**Sn**	**22 46 23.9**	**-2.4**
APLL	**PUNTA DE LOS L**	**2.43**	**172**	*eP*	**Pn**	**22 45 57.1**	**+0.3**
APLL				*eS*	**Sn**	**22 46 27.6**	**-1.0**
AVFE	**Valle Fertil**	**2.71**	**190**	*eP*	**Pn**	**22 46 00.4**	**0.0**
AVFE				*eS*	**Sn**	**22 46 33.8**	**-1.0**
AVFE				IAML		22 46 37.6	
	comp=Z,1μm,0.5s						
ACDV	**Cuesta del Vie**	**2.92**	**221**	*eP*	**Pn**	**22 46 03.4**	**+0.5**
ACDV				*eS*	**Sn**	**22 46 40.8**	**+1.3**
ACDV				IAML		22 46 40.9	
	comp=Z,522nm,0.6s						
GO03	**Copiapo**	**2.98**	**277**		**Pn**	**22 46 04.4**	**+0.8**
GO03					**Sn**	**22 46 40.1**	**-0.5**
GO03	**Copiapo**	**2.98**	**277**	*eP*	**Pn**	**22 46 04.6**	**+1.0**
AC06	**Mina Casimiro**	**3.12**	**281**		**Pn**	**22 46 05.8**	**+0.4**
AC06					**Sn**	**22 46 43.0**	**-0.7**
AROD	**Rodeo**	**3.13**	**225**	*eP*	**Pn**	**22 46 06.9**	**+1.2**
AROD				*eS*	**Sn**	**22 46 45.7**	**+1.3**
ACHE	**Chepes**	**3.17**	**176**	*eP*	**Pn**	**22 46 06.4**	**+0.3**
ACHE				*eS*	**Sn**	**22 46 43.8**	**-1.4**
ACCO	**Cerro Coronel**	**3.21**	**216**	*eS*	**Sn**	**22 46 46.4**	**+0.1**
CO01	**Juntas del Tor**	**3.43**	**234**		**Pn**	**22 46 11.0**	**+1.5**
CO01	**Juntas del Tor**	**3.43**	**234**	*eP*	**Pn**	**22 46 11.0**	**+1.5**
CO01				*eS*	**Sn**	**22 46 48.9**	**-2.2**
CO01				IAML		22 46 54.4	
	comp=Z,420nm,0.8s						
SLA	**San Lorenzo**	**3.48**	**21**	*eP*	**Pn**	**22 46 12.1**	**+1.9**
LCO	**Las Campanas**	**3.50**	**252**		**Pn**	**22 46 10.6**	**+0.3**
LCO					**Sn**	**22 46 52.4**	**-0.2**
LCO	**Las Campanas**	**3.50**	**252**	*eP*	**Pn**	**22 46 10.9**	**+0.5**
LCO				*eS*	**Sn**	**22 46 52.6**	**0.0**
RTLL	**Cerro Villicun**	**3.60**	**202**	*eP*	**Pn**	**22 46 11.4**	**-0.1**
RTLL				*eS*	**Sn**	**22 46 52.8**	**-2.0**
AC04	**Llanos de Chal**	**3.69**	**266**		**Pn**	**22 46 12.5**	**-0.1**
AC04	**Llanos de Chal**	**3.69**	**266**	*eP*	**Pn**	**22 46 12.6**	**0.0**
AC04				*eS*	**Sn**	**22 46 54.4**	**-2.2**
AC04				IAML		22 46 55.6	
	comp=Z,349nm,0.4s						
GO02	**Mina Guanaco**	**3.70**	**319**		**Pn**	**22 46 14.2**	**+1.2**
AC01	**Pan de Azucar**	**3.77**	**298**		**Pn**	**22 46 14.2**	**+0.5**
AC01	**Pan de Azucar**	**3.77**	**298**	*eP*	**Pn**	**22 46 14.1**	**+0.5**
AC01				IAML		22 47 03.6	
	comp=Z,174nm,0.8s						
SJA	**San Juan**	**3.82**	**202**	*eP*	**Pn**	**22 46 14.5**	**+0.3**
SJA				IAML		22 47 02.6	
	comp=Z,213nm,0.3s						
ZON	**Zonda**	**3.87**	**203**		**Pn**	**22 46 14.7**	**-0.2**
ZON	**Zonda**	**3.87**	**203**	*eP*	**Pn**	**22 46 14.7**	**-0.2**
ZON				*eS*	**Sn**	**22 46 59.3**	**-1.6**
ZON				IAML		22 47 00.7	
	comp=Z,243nm,0.4s						
GO04	**Tololo Observa**	**4.05**	**236**		**Pn**	**22 46 17.2**	**-0.2**
GO04	**Tololo Observa**	**4.05**	**236**	*eP*	**Pn**	**22 46 17.4**	**0.0**
GO04				*eS*	**Sn**	**22 47 05.2**	**-0.1**
CO05	**La Serena**	**4.26**	**242**		**Pn**	**22 46 18.8**	**-1.1**
CO03	**El Pedregal**	**4.36**	**228**		**Pn**	**22 46 21.1**	**-0.2**
CO03	**El Pedregal**	**4.36**	**228**	*eP*	**Pn**	**22 46 21.8**	**+0.5**
CO03				*eS*	**Sn**	**22 47 12.6**	**+0.3**
CO03				*eS*		22 47 13.1	
CO03				IAML		22 47 14.6	
	comp=Z,330nm,0.3s						
MRA	**San Martin**	**4.54**	**167**	*eP*	**Pn**	**22 46 23.1**	**-0.5**
MRA				*eS*	Sn	22 47 02.1	-14
MRA				IAML		22 47 14.8	
	comp=Z,322nm,0.9s						
PB14	**IPOC Station P**	**4.59**	**316**		**Pn**	**22 46 25.4**	**+0.8**
PB14	**IPOC Station P**	**4.59**	**316**	*eP*	**Pn**	**22 46 25.6**	**+1.0**
PB14				*eS*	**Sn**	**22 47 13.1**	**-5.0**
PB14				IAML		22 47 19.9	
	comp=Z,87nm,0.8s						
CO02	**Combarbal**	**4.80**	**227**		**Pn**	**22 46 26.1**	**-0.9**
CO02	**Combarbal**	**4.80**	**227**	*eP*	**Pn**	**22 46 26.4**	**-0.7**
CO02				*eS*	**Sn**	**22 47 22.4**	**-0.3**
CO02				IAML		22 47 26.8	
	comp=Z,375nm,0.7s						
ASAL	**Salagasta**	**4.89**	**200**	*eP*	**Pn**	**22 46 30.7**	**+2.5**
ASAL				*eS*	**Sn**	**22 47 21.1**	**-3.5**
CO06	**Fray Jorge**	**4.93**	**236**		**Pn**	**22 46 26.8**	**-1.9**
PB10	**IPOC Station P**	**5.54**	**323**	Pn	**Pn**	**22 46 36.4**	**-0.3**
VA03	**San Esteban**	**5.71**	**213**		**Pn**	**22 46 38.2**	**-0.8**
PB06	**IPOC Station P**	**5.78**	**335**		**Pn**	**22 46 40.8**	**+0.6**
PB05	**IPOC Station P**	**5.92**	**329**		**Pn**	**22 46 42.4**	**+0.5**
MT08	**Bocatoma Ro**	**6.07**	**205**		**Pn**	**22 46 43.6**	**-0.3**
PEL	**Coldehue**	**6.09**	**211**		**Pn**	**22 46 42.8**	**-1.3**
MT02	**Curarav**	**6.40**	**214**		**Pn**	**22 46 46.7**	**-1.4**
LMEL	**Las Melosas**	**6.50**	**205**		**Pn**	**22 46 49.0**	**-0.5**
MT09	**Talagante**	**6.76**	**210**		**Pn**	**22 46 51.0**	**-2.0**
TA01	**Diego Aracena**	**7.97**	**337**	Pn	**Pn**	**22 47 08.3**	**-0.7**
PB11	**IPOC Station P**	**8.56**	**342**		**Pn**	**22 47 15.7**	**-1.3**
CPUP	**Villa Florida**	**8.68**	**81**		**Pn**	**22 47 19.7**	**+1.3**
CPUP	**Villa Florida**	**8.68**	**81**	P	**Pn**	**22 47 14.8**	**-3.6**
	comp=Z,0.8nm,0.7s,baz=124,slow=12,SNR=4.7						
PB16	**IPOC Station P**	**9.90**	**345**		**Pn**	**22 47 35.1**	**+0.1**
BI05	**Punta Hualpn**	**10.23**	**210**	Pn	**Pn**	**22 47 35.6**	**-3.1**
MURT	**Porto Murtinho**	**10.53**	**55**	*eP*	**Pn**	**22 47 41.7**	**-1.0**
TRQA	**Tornquist**	**10.86**	**159**	Pn	**Pn**	**22 47 45.5**	**-1.5**
TRQA	**Tornquist**	**10.86**	**159**	*eP*	P	22 48 04.5	+9.4
LPAZ	**La Paz**	**11.70**	**354**		**Pn**	**22 47 58.5**	**-0.2**
LPAZ	**La Paz**	**11.70**	**354**	P	**Pn**	**22 47 57.9**	**-0.7**
	comp=Z,7.2nm,0.4s,baz=132,slow=6.0,SNR=43						
LPAZ	**La Paz**	**11.70**	**354**	*eP*	**Pn**	**22 47 57.6**	**-1.1**
CPSB	**Cacapava Do Su**	**12.01**	**105**	*eP*	**P**	**22 48 07.5**	**-0.6**
PLTB	**Pedras Altas**	**12.14**	**111**	Pn	**Pn**	**22 48 01.5**	**-2.2**
PLTB	**Pedras Altas**	**12.14**	**111**	*eP*	**P**	**22 48 10.7**	**+1.1**
BBSD	**Serra de San D**	**12.21**	**30**	*eP*	**Pn**	**22 48 03.8**	**-0.9**
AQDB	**Aquidauana**	**12.65**	**56**		**Pn**	**22 48 09.9**	**-0.5**
AQDB				P	**P**	**22 48 16.3**	**+0.9**
AQDB	**Aquidauana**	**12.65**	**56**	*eP*	**Pn**	**22 48 08.9**	**-1.5**
LR05	**Currie**	**12.92**	**198**	Pn	**Pn**	**22 48 11.5**	**-2.2**
PLCA	**Paso Flores**	**13.07**	**192**	Pn	**Pn**	**22 48 14.3**	**-1.3**
PLCA	**Paso Flores**	**13.07**	**192**	P	**Pn**	**22 48 14.4**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=9.0,slow=11,SNR=4.6						
PLCA				LR	LR	22 52 57.1	
	comp=Z,36nm,19.7s,baz=255,slow=35						
SIV	**San Ignacio**	**13.10**	**26**	P	**Pn**	**22 48 14.3**	**-1.8**
	comp=Z,6.6nm,0.9s,baz=205,slow=11,SNR=27						
ITAB	**Concordia**	**13.12**	**90**	P	**P**	**22 48 20.5**	**0.0**
ITAB	**Concordia**	**13.12**	**90**	*eP*	**Pn**	**22 48 19.0**	**+2.7**
PTGB	**Pitanga**	**13.69**	**80**	*eP*	**Pn**	**22 48 25.0**	**+1.3**
TRCB	**Terra Rica**	**13.89**	**71**	P	**P**	**22 48 29.2**	**+0.1**
TRCB	**Terra Rica**	**13.89**	**71**	*eP*	**Pn**	**22 48 25.6**	**-0.5**
CNLB	**Canela**	**14.16**	**99**	*eP*	**P**	**22 48 33.4**	**+1.3**
RPRD	**Ribas do Rio P**	**14.16**	**61**	*eP*	**Pn**	**22 48 28.0**	**-1.5**
PTLB	**Pontes e Lacer**	**14.40**	**32**		**Pn**	**22 48 32.1**	**-0.4**
PTLB	**Pontes e Lacer**	**14.40**	**32**	*eP*	**Pn**	**22 48 30.4**	**-2.1**
LL01	**San Ignacio de**	**15.05**	**196**		**Pn**	**22 48 38.1**	**-2.2**
PCMB	**Pacaembu**	**15.55**	**69**	*eP*	**Pn**	**22 48 45.4**	**-1.3**
MAJ01	**Sao Joao Batis**	**15.86**	**92**	*eP*	**Pn**	**22 48 50.1**	**-0.4**
SALV	**Santo Antonio**	**15.88**	**43**	*eP*	**Pn**	**22 48 48.5**	**-2.3**
GO07	**Milladeo Hill,**	**16.06**	**198**	P	**Pn**	**22 48 53.4**	**+0.6**
VILB	**Vilhena**	**16.21**	**24**	P	**Pn**	**22 48 54.5**	**-0.3**
VILB	**Vilhena**	**16.21**	**24**	*eP*	**Pn**	**22 48 52.7**	**-2.2**
FRTB	**Fartura**	**16.30**	**77**	*eP*	**Pn**	**22 48 55.3**	**-0.6**
ITRB	**Iturama**	**17.22**	**65**	*eP*	**P**	**22 49 04.5**	**-1.5**
BB19B	**Bebedouro**	**18.07**	**72**	*eP*	**P**	**22 49 14.3**	**-0.9**
ARAG	**Araguaiana, MT**	**18.56**	**52**	*eP*	**P**	**22 49 18.4**	**-2.3**
VAO	**Valinhos**	**18.66**	**79**	P	**P**	**22 49 21.7**	**-0.1**
VAO				IAML	IAmb	22 49 22.4	
	comp=Z,26nm,1.0s						
VAO	**Valinhos**	**18.66**	**79**	*eP*	**P**	**22 49 21.6**	**-0.1**
PDRB	**Porto dos Gac**	**18.87**	**32**	*eP*	**P**	**22 49 21.7**	**-2.3**
PARB	**Paraibuna**	**19.73**	**81**	*eP*	**P**	**22 49 32.8**	**-0.5**
IPMB	**Ipameri, GO**	**19.85**	**64**	*eP*	**P**	**22 49 33.1**	**-1.5**
CZSB	**Cruzeiro do Su**	**20.88**	**344**	*eP*	Pn	22 49 48.6	-1.8
PMNB	**Patos De Minas**	**20.99**	**68**	*eP*	**P**	**22 49 45.5**	**-1.4**
BSCB	**Bom Sucesso**	**21.29**	**76**	*eP*	**P**	**22 49 49.7**	**-0.3**
MAN01	**Angra dos Reis**	**21.32**	**81**	*eP*	**P**	**22 49 50.5**	**+0.2**
BDFB	**Brasilia**	**21.37**	**59**	P	**P**	**22 49 49.7**	**-1.2**
BDFB				IAmb	IAmb	22 49 55.5	
	comp=Z,31nm,1.5s						
BDFB	**Brasilia**	**21.37**	**59**	P	**P**	**22 49 49.5**	**-1.5**
	comp=Z,4.3nm,0.6s,baz=226,slow=14,SNR=6.2						
	comp=Z,4.3nm,0.6s						
SNDB	**Serra Nova Dou**	**21.61**	**46**	*eP*	**P**	**22 49 51.0**	**-2.4**
JANB	**Januaria**	**24.58**	**63**	*eP*	**P**	**22 50 19.6**	**-1.7**
MTO3	**Montecristo**	**47.42**	**330**	P	**P**	**23 53 36.4**	**+1.9**
MTO3				IAmb	IAmb	22 53 37.0	
	comp=Z,6.5nm,0.8s						
SNAA	**Sanae**	**55.59**	**160**	P	**P**	**22 54 34.6**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=272,slow=10.0,SNR=10						
SNAA				pP	**pP**	**22 55 12.8**	**+0.8**
	comp=Z,1.7nm,0.5s,baz=281,slow=12,SNR=4.6						
	comp=Z,1.7nm,0.5s						
QSPA	**South Pole Qui**	**62.24**	**180**	P	**P**	**22 55 21.5**	**+1.2**
	comp=Z,2.6nm,0.7s,baz=177,slow=1.0,SNR=24						
	comp=Z,2.6nm,0.7s						
FPAL	**Fort Paine**	**64.66**	**343**	P	**P**	**22 55 36.4**	**0.0**
X48A	**Hartselle**	**64.96**	**342**		**P**	**22 55 38.9**	**+0.6**
X48A				IAmb	IAmb	22 55 39.5	
	comp=Z,8.5nm,1.1s						
HNDO	**Hondo**	**65.04**	**329**	P	**P**	**22 55 40.7**	**+1.8**
V53A	**Saluda**	**65.07**	**346**	P	**P**	**22 55 39.3**	**+0.3**
V53A				IAmb	IAmb	22 55 49.4	
	comp=Z,4.8nm,1.3s						
SWET	**Sewanee**	**65.38**	**343**	P	**P**	**22 55 41.3**	**+0.3**
SWET				IAmb	IAmb	22 55 42.1	
	comp=Z,4.8nm,0.8s						
JCT	**Junction City**	**66.08**	**329**	P	**P**	**22 55 46.3**	**+0.7**
V48A	**Smith Brothers**	**66.11**	**342**	P	**P**	**22 55 45.4**	**-0.3**
V48A				IAmb	IAmb	22 55 46.3	
	comp=Z,4.6nm,0.7s						
WLAR	**White Oak Lake**	**66.18**	**336**	P	**P**	**22 55 47.0**	**+0.9**
BRDY	**Brady**	**66.41**	**330**		**P**	**22 55 48.3**	**+0.7**
BRDY				IAmb	IAmb	22 55 49.5	
	comp=Z,5.4nm,0.8s						
SAND	**Sanderson**	**66.73**	**327**	IAmb	IAmb	22 55 52.3	
	comp=Z,6.2nm,0.8s						
WVT	**Waverly**	**66.75**	**342**		**P**	**22 55 49.6**	**-0.1**
UALR	**University of**	**66.90**	**337**	P	**P**	**22 55 50.0**	**-0.7**
TXAR	**Lajitas Array**	**66.97**	**325**	P	**P**	**22 55 51.8**	**+0.4**
TXAR	**Lajitas Array**	**66.97**	**325**	P	**P**	**22 55 53.0**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=148,slow=8.3,SNR=12						
	comp=Z,1.1nm,0.8s						
TX31	**Lajitas Ar. Si**	**66.98**	**325**	P	**P**	**22 55 51.8**	**+0.4**
OZNA	**Ozona**	**67.06**	**328**		**P**	**22 55 52.0**	**+0.2**
OZNA				IAmb	IAmb	22 55 53.8	
	comp=Z,4.7nm,0.6s						
PLPT	**Palo Pinto**	**67.43**	**332**	P	**P**	**22 55 54.9**	**+0.9**
PLPT				IAmb	IAmb	22 56 31.9	
	comp=Z,6.9nm,0.8s						
LCAR	**Lake Charles**	**67.69**	**339**	IAmb	IAmb	22 55 56.9	
	comp=Z,5.5nm,1.0s						
FCAR	**Ozark Folk Cen**	**67.84**	**338**	IAmb	IAmb	22 55 58.0	
	comp=Z,9.8nm,1.3s						
MNHN	**Monahans**	**68.18**	**327**	IAmb	IAmb	22 56 01.1	
	comp=Z,7.4nm,0.7s						
SN07	**Snyder 07**	**68.78**	**330**	P	**P**	**22 56 03.2**	**+0.7**
SN07				IAmb	IAmb	22 56 04.3	
	comp=Z,3.9nm,0.8s						
HHAR	**Hobbs**	**68.81**	**337**	P	**P**	**22 56 02.9**	**+0.3**
HHAR				IAmb	IAmb	22 56 04.5	
	comp=Z,13nm,1.4s						
FVM	**French Village**	**69.23**	**340**	IAmb	IAmb	22 56 06.4	
	comp=Z,6.1nm,0.8s						
CCM	**Cathedral Cave**	**69.54**	**340**	P	**P**	**22 56 07.4**	**+0.4**
CCM				IAmb	IAmb	22 56 08.4	
	comp=Z,8.1nm,0.8s						
OK052	**Battle Ridge R**	**69.60**	**334**	P	**P**	**22 56 07.6**	**+0.2**
VNDA	**Vanda**	**70.81**	**190**	P	**P**	**22 56 15.7**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=118,slow=5.7,SNR=1.3						
	comp=Z,0.2nm,0.6s						
P40A	**Paris**	**71.14**	**340**	P	**P**	**22 56 17.6**	**+0.8**
P40A				IAmb	IAmb	22 56 17.6	
	comp=Z,4.3nm,0.6s						
319A	**Douglas**	**71.52**	**323**	P	**P**	**22 56 19.8**	**+0.4**
319A				IAmb	IAmb	22 56 22.5	
	comp=Z,6.9nm,0.7s						
ANMO	**Albuquerque**	**72.90**	**327**	P	**P**	**22 56 29.4**	**+1.8**
	comp=Z,2.1nm,0.7s,baz=262,slow=9.3,SNR=6.5						
	comp=Z,2.1nm,0.7s						
L40A	**Anamosa**	**73.23**	**341**	P	**P**	**22 56 29.4**	**+0.4**
T25A	**Trinidad**	**73.74**	**330**		**P**	**22 56 33.5**	**+1.1**
X16A	**Lo Mia Camp, P**	**75.02**	**323**	P	**P**	**22 56 39.8**	**-0.1**
Y14A	**Wickenburg**	**75.50**	**322**	P	**P**	**22 56 42.6**	**+0.2**
BOSA	**Boshof**	**78.87**	**116**	P	**P**	**22 57 01.5**	**-0.2**
	comp=Z,6.9nm,1.2s,baz=262,slow=3.3,SNR=6.2						
	comp=Z,6.9nm,1.2s						
AGMN	**Agassiz Nation**	**80.25**	**341**		**P**	**22 57 09.0**	**+0.7**
AGMN				IAmb	IAmb	22 57 09.8	
	comp=Z,4.7nm,0.8s						
PD31	**Pinedale Array**	**80.61**	**330**	P	**P**	**22 57 11.4**	**+0.7**
PDAR	**Pinedale Array**	**80.61**	**330**	P	**P**	**22 57 10.6**	**-0.1**
PDAR	**Pinedale Array**	**80.61**	**330**	P	**P**	**22 57 11.7**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=124,slow=8.3,SNR=7.8						
	comp=Z,0.8nm,0.7s						
HWUT	**Hardware Ranch**	**80.62**	**328**	P	**P**	**22 57 11.4**	**+0.7**
ELK	**Elko**	**81.77**	**325**	P	**P**	**22 57 18.4**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=118,slow=3.3,SNR=4.0						
	comp=Z,0.8nm,0.5s						
ULM	**Lac du Bonnet**	**82.02**	**342**	P	**P**	**22 57 18.3**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=153,slow=4.5,SNR=3.1						
	comp=Z,2.0nm,0.7s						
MCMT	**McKenzie Canyo**	**83.70**	**329**	P	**P**	**22 57 27.0**	**+0.3**
LRM	**Limekiln Ridge**	**84.29**	**330**	P	**P**	**22 57 29.5**	**-0.1**
LYMT	**Lyon Mountain**	**85.11**	**331**	P	**P**	**22 57 34.4**	**+0.6**
BPMT	**Black Pine Rid**	**85.21**	**330**	P	**P**	**22 57 34.1**	**-0.1**
PLID	**Pearl Lake**	**85.37**	**328**	P	**P**	**22 57 34.9**	**-0.1**
PINE	**Pine Mountain**	**86.89**	**324**	P	**P**	**22 57 42.8**	**+0.3**
PINE				IAmb	IAmb	22 57 45.2	
	comp=Z,4.4nm,0.9s						
ASAR	**Alice Springs**	**124.87**	**203**	PKP	**PKPdf**	**23 03 57.2**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=137,slow=1.8,SNR=8.8						
WRA	**Warramunga Arr**	**128.11**	**206**	PKP	**PKPdf**	**23 04 03.9**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=162,slow=1.7,SNR=13						
WRA				pPKP	**pPKPdf**	**23 04 47.2**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=173,slow=1.7,SNR=1.7						
BVAR	**Borovoye Array**	**139.86**	**39**	PKP	**PKPdf**	**23 04 26.0**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=6.7,slow=4.9,SNR=4.2						
KURBB	**Kurchatov Arra**	**145.46**	**40**	PKPbc	**PKPbc**	**23 04 36.0**	**+1.3**
	comp=Z,2.9nm,0.9s,baz=302,slow=3.4,SNR=19						
KURBB				pPKPbc	**pPKPdf**	**23 05 16.8**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=300,slow=3.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**146.81**	**31**	PKPbc	**PKPbc**	**23 04 38.9**	**+0.3**
	comp=Z,8.6nm,0.8s,baz=298,slow=3.2,SNR=20						
MKAR	**Makanchi Array**	**149.43**	**44**	PKPbc	**PKPbc**	**23 04 46.0**	**+0.3**
	comp=Z,3.6nm,0.8s,baz=302,slow=3.0,SNR=28						
MKAR				pPKPbc	**pPKPbc**	**23 05 28.4**	**0.0**
	comp=Z,1.8nm,0.7s,baz=304,slow=2.6,SNR=5.3						

IDC 04 23:01:29.0±1.7,52˚.70N×158˚.87E,h0km,Error ellipse: s-maj=12.2km s-min=5.5km az=62.0,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**0.82**	**301**	Pg	Pg	23 01 45.0	+0.3
	3.1nm,0.3s,baz=116,slow=21,SNR=28						
PETK				Lg	Lg	23 01 55.8	
	2.0nm,0.3s,baz=101,slow=22,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**33.49**	**166**	H	H	23 43 29.6	
	baz=352,SNR=1619						
H11N3	**WAKE ISLAND Hy**	**33.51**	**166**	H	H	23 43 32.6	

PASC	**Pasadena Art C**	**1.61**	**202**			Pn	23 13 08.4	-0.8
PASC				IAML			23 13 36.2	
	comp=E,200nm,0.6s							
PASC				IAML			23 13 37.2	
	comp=N,153nm,0.5s							
TPNV	**Topopah Spring**	**1.61**	**37**			Pn	23 13 08.3	-1.1
TPNV				IAML			23 13 34.2	
	comp=N,173nm,0.5s							
TPNV				IAML			23 13 34.6	
	comp=N,188nm,0.6s							
GMN	**Gold Mountain**	**1.64**	**6**			Pn	23 13 08.8	-1.0
GMN						Pb	23 13 10.9	-0.1
VOG	**Valley Oaks Go**	**1.68**	**293**			Pn	23 13 10.8	+0.7
DSP	**Deep Springs**	**1.74**	**347**			Pn	23 13 10.6	-0.4
DSP				IAML			23 13 36.3	
	comp=N,128nm,0.5s							
DSP				IAML			23 13 36.5	
	comp=E,154nm,0.5s							
BCW	**Bitter Crk WRg**	**1.75**	**246**			Pn	23 13 11.0	-0.3
ELS	**Elsinore Mount**	**2.02**	**179**			Pb	23 13 16.9	-0.6
ELS				IAML			23 13 50.6	
	comp=E,127nm,0.7s							
MZP	**Montezuma Peak**	**2.03**	**2**			Pn	23 13 14.6	-0.7
SHPR	**Sheep Range**	**2.05**	**65**			Pb	23 13 17.7	-0.4
SHPR				IAML			23 13 46.5	
	comp=N,104nm,0.7s							
V12A	**Nelson**	**2.13**	**88**			Pn	23 13 15.4	-1.2
V12A				IAML			23 13 49.4	
	comp=E,91nm,0.6s							
V12A				IAML			23 13 49.4	
	comp=N,111nm,0.4s							
PFO	**Pinyon Flats O**	**2.22**	**158**			Pb	23 13 21.5	+0.6
PFO				IAML			23 13 53.3	
	comp=N,94nm,1.3s							
PLM	**Palomar**	**2.37**	**168**			Pn	23 13 19.0	-0.9
S11A	**Rachel**	**2.41**	**35**			Pb	23 13 24.9	+0.8
S11A				IAML			23 14 00.9	
	comp=N,128nm,0.4s							
S11A				IAML			23 14 01.9	
	comp=E,123nm,1.0s							
TPH	**Tonopah**	**2.41**	**5**			Pn	23 13 20.4	0.0
MATG	**Mataguay Scout**	**2.56**	**164**			Pn	23 13 23.0	+0.6
PRN	**Pahroc Range**	**2.61**	**48**			Pn	23 13 22.6	-0.6
PRN				IAML			23 14 10.7	
	comp=N,107nm,0.6s							
PRN				IAML			23 14 11.1	
	comp=E,116nm,0.8s							
LHV	**Little Huntoon**	**2.71**	**343**			Pg	23 13 31.3	-1.0
LHV				IAML			23 14 10.0	
	comp=E,60nm,0.6s							
LHV				IAML			23 14 11.0	
	comp=N,60nm,0.6s							
PMPB	**Monarch Peak**	**2.76**	**282**			Pn	23 13 26.5	+1.4
PMPB				IAML			23 14 14.4	
	comp=E,102nm,0.7s							
NV11	**Mina Array Sit**	**2.81**	**349**			Pn	23 13 26.0	+0.1
NVAR	**Mina Array Bea**	**2.83**	**347**			Pb	23 13 29.4	-2.0
BLYC	**Blythe**	**3.09**	**127**	IAML			23 14 21.2	
	comp=N,62nm,0.6s							
BLYC				IAML			23 14 21.4	
	comp=E,56nm,0.7s							
CMB	**Columbia Colle**	**3.32**	**316**	IAML			23 14 29.8	
	comp=E,29nm,0.6s							
CMB				IAML			23 14 30.4	
	comp=N,28nm,0.6s							
ESJX	**Sierra Juarez**	**3.87**	**160**	IAML			23 14 43.0	
	comp=E,28nm,0.6s							
ESJX				IAML			23 14 45.6	
	comp=N,27nm,0.8s							
KNB	**Kanab**	**3.99**	**69**	IAML			23 14 44.3	
	comp=E,16nm,2.9s							
KNB				IAML			23 14 50.5	
	comp=N,20nm,1.4s							
Y14A	**Wickenburg**	**4.06**	**114**	IAML			23 14 56.4	
	comp=E,31nm,0.6s							
PSUT	**Pine Spring**	**4.07**	**44**	IAML			23 14 59.9	
	comp=E,20nm,1.6s							
PSUT				IAML			23 15 01.7	
	comp=N,16nm,1.0s							
SPR3	**Spring Creek 3**	**4.16**	**36**	IAML			23 14 53.1	
	comp=E,15nm,1.6s							
SPR3				IAML			23 14 54.0	
	comp=N,14nm,0.8s							
113A	**Mohawk Valley,**	**4.22**	**132**	IAML			23 14 53.4	
	comp=N,13nm,0.8s							
AFDM	**Forest Hills D**	**4.30**	**321**	IAML			23 15 04.2	
	comp=E,19nm,0.6s							
AFDM				IAML			23 15 09.4	
	comp=N,14nm,1.3s							
BEKR	**Beckworth**	**4.77**	**332**	IAML			23 15 19.7	
	comp=E,18nm,0.6s							
BEKR				IAML			23 15 23.7	
	comp=N,8.4nm,0.6s							
WUAZ	**Wupatki**	**4.97**	**90**	IAML			23 15 18.9	
	comp=N,19nm,1.1s							
X16A	**Lo Mia Camp, P**	**5.10**	**102**	IAML			23 15 40.8	
	comp=N,7.6nm,1.5s							

NEIC ***04*** *23:13:04.6±0.9, 35°.77N±0°.02×117°.57W±0°.01, h9km±9km, Error ellipse: s-maj=2.2km s-min=1.5km az=192.0*

PAS 04 23:13:04.9±1.1**, 35°.75N**±0°.01×**117°.58W**±0°.01**, h2**km±1km**, ML3.1**/22**, ML2.9**/26(NEIC)**, Error ellipse: s-maj=1.6km s-min=1.1km az=193.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.15**	**248**		Pg	23 13 08.4	+0.6
TOW	**Tower One**	**0.16**	**292**		Pg	23 13 08.8	+0.7
LRMC	**Laurel Mtn Rad**	**0.28**	**198**		Pg	23 13 10.4	+0.1
LRMC					Sg	23 13 14.5	+0.6
WVPM	**Volcano Peak E**	**0.28**	**316**		Pg	23 13 10.8	+0.4
CCCA	**Chr Cany lake**	**0.28**	**142**		Pg	23 13 11.0	+0.7
CCCA					Sg	23 13 15.4	+1.4
WNMM	**Nine Mile Cany**	**0.28**	**290**		Pg	23 13 10.6	+0.3
MPMC	**Manual Prospec**	**0.32**	**13**		Pg	23 13 11.2	+0.1
WRVM	**Rose V. Centra**	**0.36**	**316**		Pg	23 13 12.1	+0.2
WBSM	**Bird Springs**	**0.50**	**246**		Pg	23 13 14.5	0.0
WORM	**Onyx Ranch**	**0.54**	**265**		Pg	23 13 15.2	-0.1
WHFM	**Hanning Flat**	**0.63**	**266**		Pg	23 13 16.9	-0.1
CCAC	**Calif City Air**	**0.69**	**211**		Sg	23 13 27.7	+0.5
CCAC	**Calif City Air**	**0.69**	**211**	Pg	Pg	23 13 18.3	+0.2
CCAC				IAML		23 13 27.9	
	comp=E,941nm,0.3s						
CCAC				IAML		23 13 28.1	
	comp=N,786nm,0.4s						
ISA	**Isabella, Lake**	**0.73**	**264**		Sg	23 13 29.0	+0.5
ISA	**Isabella, Lake**	**0.73**	**264**	Pg	Pg	23 13 18.6	-0.4
ISA				IAML		23 13 29.4	
	comp=E,445nm,0.2s						
ISA				IAML		23 13 33.0	
	comp=N,404nm,0.3s						
GSC	**Goldstone, Bar**	**0.77**	**125**		Sg	23 13 30.2	+0.5
GSC	**Goldstone, Bar**	**0.77**	**125**	Pg	Pg	23 13 19.1	-0.6
WASM	**Alta Sierra Ca**	**0.80**	**270**		Sg	23 13 30.7	+0.2
GWY	**Greenwater Val**	**0.86**	**59**	Pg	Pg	23 13 21.3	0.0
GWY				IAML		23 13 26.6	
	comp=E,574nm,0.5s						
GWY				IAML		23 13 38.4	
	comp=N,510nm,0.4s						
HYS	**Haystack Butte**	**0.88**	**179**		Pb	23 13 22.7	-0.3
EDW2	**Edwards Air Fo**	**0.93**	**202**		Pb	23 13 23.5	-0.3
GMN	**Gold Mountain**	**1.57**	**9**		Pn	23 13 32.4	-1.6
TPNV	**Topopah Spring**	**1.61**	**41**		Pn	23 13 32.3	-2.2
TPNV				IAML		23 13 40.9	
	comp=N,140nm,1.0s						
TPNV				IAML		23 14 01.2	
	comp=N,135nm,0.7s						
DSP	**Deep Springs**	**1.65**	**349**		Pn	23 13 34.8	-0.1
BCW	**Bitter Crk WRg**	**1.70**	**242**		Pn	23 13 35.1	-0.6
ELS	**Elsinore Mount**	**2.10**	**177**	Pn	Pn	23 13 41.2	0.0
ELS				IAML		23 13 51.9	
	comp=N,62nm,0.5s						
ELS				IAML		23 13 52.2	
	comp=E,94nm,0.7s						
SHPR	**Sheep Range**	**2.10**	**68**	Pn	Pn	23 13 41.2	0.0
V12A	**Nelson**	**2.22**	**90**	Pn	Pn	23 13 42.7	-0.2
V12A				IAML		23 13 56.9	
	comp=N,87nm,0.9s						
V12A				IAML		23 14 01.0	
	comp=E,76nm,0.5s						
PFO	**Pinyon Flats O**	**2.32**	**156**	Pn	Pn	23 13 44.5	+0.3
PFO				IAML		23 13 57.1	
	comp=E,72nm,0.8s						
PFO				IAML		23 13 58.8	
	comp=E,73nm,0.8s						

SJA ***04*** *23:27:14.3±1.3, 28°.45S×67°.47W, h143km±7km, ML3.8, MW3.3*

IDC ***04*** *23:27:22.6±5.9, 28°.67S×67°.54W, h197km±46km, mbtmp3.6/2, Error ellipse: s-maj=62.7km s-min=41.0km az=50.0*

ISC 04 23:27:15.5±0.9**, 28°.46S**±0°.05×**67°.48W**±0°.06**, h141**km±7km**, n20, σ0s76/26, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.70**	**246**	*eP*	**Pn**	**23 27 37.4**	**+0.2**
VCA				*eS*	**Sn**	**23 27 53.7**	**0.0**
VCA				IAML		23 27 57.4	
	comp=Z,3μm,0.4s						
ACLC	**CERRO LA CRUZ**	**1.07**	**155**	*eP*	**Pn**	**23 27 40.5**	**+0.3**
ACLC				*eS*	**Sn**	**23 27 58.7**	**-0.4**
ACLC				IAML		23 27 59.6	
	comp=Z,940nm,0.3s						
AGUA	**GUANDACOL**	**1.36**	**221**	*eP*	**Pn**	**23 27 43.4**	**+0.5**
AGUA				*eS*	**Sn**	**23 28 03.5**	**-0.5**
AGUA				IAML		23 28 05.5	
	comp=Z,2μm,0.5s						
CYA	**Choya**	**1.48**	**90**	*eP*	**Pn**	**23 27 44.1**	**-0.1**
CYA				*eS*	**Sn**	**23 28 04.5**	**-1.5**
CYA				IAML		23 28 06.3	
	comp=Z,517nm,0.5s						
APLL	**PUNTA DE LOS L**	**2.10**	**157**	*eP*	**Pn**	**23 27 51.6**	**+0.2**
AVFE	**Valle Fertil**	**2.19**	**180**	*eP*	**Pn**	**23 27 52.6**	**+0.1**
AVFE				*eS*	**Sn**	**23 28 20.9**	**-0.1**
AVFE				IAML		23 28 22.9	
	comp=Z,294nm,0.3s						
ACDV	**Cuesta del Vie**	**2.23**	**220**	*eP*	**Pn**	**23 27 52.4**	**-0.6**
ACDV				*eS*	**Sn**	**23 28 22.3**	**+0.5**
ACDV				IAML		23 28 23.5	
	comp=Z,354nm,0.7s						
GO03	**Copiapo**	**2.58**	**289**	*eP*	**Pn**	**23 27 56.5**	**-0.9**
FSA	**Cafayete**	**2.69**	**30**	*eP*	**Pn**	**23 27 59.0**	**+0.2**
ACHE	**Chepes**	**2.78**	**165**	*eP*	**Pn**	**23 28 00.4**	**+0.5**
ACHE				*eS*	**Sn**	**23 28 33.3**	**-0.9**
ZON	**Zonda**	**3.25**	**198**	*eP*	**Pn**	**23 28 05.6**	**-0.2**
ZON				IAML		23 29 01.2	
	comp=Z,52nm,0.4s						
RTLS	**Leoncito**	**3.68**	**205**	*eP*	**Pn**	**23 28 11.6**	**-0.1**
RTLS				IAML		23 29 14.9	
	comp=Z,102nm,0.7s						
CPUP	**Villa Florida**	**9.27**	**79**	P	Pn	23 29 33.6	+7.7
	comp=Z,0.7nm,0.6s,baz=110,slow=13,SNR=5.4						
LPAZ	**La Paz**	**12.13**	**357**	P	**P**	**23 30 12.6**	**+1.5**
	comp=Z,2.5nm,0.6s,baz=181,slow=8.8,SNR=9.3						
ASAR	**Alice Springs**	**124.23**	**204**	PKP	**PKPdf**	**23 45 57.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=145,slow=2.2,SNR=2.5						
WRA	**Warramunga Arr**	**127.47**	**206**	PKP	**PKPdf**	**23 46 04.4**	**0.0**
	comp=Z,0.5nm,0.6s,baz=151,slow=2.5,SNR=6.7						
KURBB	**Kurchatov Arra**	**146.15**	**40**	PKPbc	**PKPbc**	**23 46 39.2**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=297,slow=3.6,SNR=6.6						
ZALV	**Zalesovo Beam**	**147.48**	**31**	PKPbc	**PKPbc**	**23 46 43.2**	**+0.7**
	comp=Z,1.7nm,0.3s,baz=294,slow=3.7,SNR=9.3						
MKAR	**Makanchi Array**	**150.13**	**44**	PKPbc	**PKPbc**	**23 46 50.0**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=277,slow=2.8,SNR=9.0						
SONM	**Songino Array**	**160.08**	**12**	PKP	**PKPdf**	**23 46 55.8**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=346,slow=1.2,SNR=2.1						

IDC 04 23:28:23.5±2.2**, 31°.29S×178°.72W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=65.3km s-min=36.6km az=46.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.45**	**268**	P	P	23 36 20.0	-0.4
	0.5nm,0.7s,baz=102,slow=8.0,SNR=4.4						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**43.52**	**273**	P	P	23 36 29.2	+0.1
	0.4nm,0.4s,baz=114,slow=8.1,SNR=6.9						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**58.82**	**180**	P	P	23 38 23.5	-0.1
	1.5nm,0.7s,baz=102,slow=2.1,SNR=8.3						
	1.5nm,0.7s						
FINES	**FINESS Array B**	**145.76**	**339**	PKPbc	PKPdf	23 48 03.1	-0.2
	3.1nm,0.9s,baz=40,slow=2.4,SNR=3.8						

NEIC ***04*** *23:31:46.0±1.6, 56°.28N±0°.07×148°.8W±0°.1, h10km±2km, ML3.6/84, ML3.4(AEIC), Error ellipse: s-maj=12.4km s-min=9.3km az=167.0*

AEIC ***04*** *23:31:50.6±1.7, 56°.28N±0°.07×148°.8W±0°.1, h12km±7km, Error ellipse: s-maj=10.9km s-min=8.3km az=161.0*

ISC 04 23:31:45.5±1.2**, 56°.34N**±0°.08×**148°.85W**±0°.06**, h10**km**, n206, σ1s37/203, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.50**	**307**	Pn	**Pn**	**23 32 27.2**	**+1.0**
KDAK	**Kodiak Island**	**2.50**	**307**		**Sn**	**23 32 54.1**	**-2.6**
OHAK	**Old Harbor**	**2.60**	**292**		**Pn**	**23 32 28.2**	**+0.6**
OHAK	**Old Harbor**	**2.60**	**292**		**Sn**	**23 32 57.3**	**-1.9**
OHAK	**Old Harbor**	**2.60**	**292**	P	**Pn**	**23 32 27.9**	**+0.4**
SII	**Sitkinak Islan**	**2.97**	**276**		**Sn**	**23 33 07.0**	**-1.4**
SII	**Sitkinak Islan**	**2.97**	**276**		**Pn**	**23 32 33.4**	**+0.7**
SII				IAML		23 33 14.9	
	comp=E,150nm,0.9s						
SYI	**Shuyak Island**	**2.98**	**321**		**Sn**	**23 33 08.0**	**-0.4**
SYI	**Shuyak Island**	**2.98**	**321**		**Pn**	**23 32 34.0**	**+1.3**
R18K	**Karluk**	**3.31**	**294**		**Pn**	**23 32 38.7**	**+1.4**
R18K	**Karluk**	**3.31**	**294**	IAML		23 33 23.8	
	comp=N,159nm,0.5s						
R18K				IAML		23 33 33.5	
	comp=E,150nm,0.5s						
Q23K	**Middleton Isla**	**3.37**	**22**		**Pn**	**23 32 38.4**	**+0.2**
Q23K				IAML		23 33 18.3	
	comp=E,82nm,0.5s						
CNPM	**China Poot**	**3.44**	**339**		**Pn**	**23 32 39.9**	**+0.8**
CNPM	**China Poot**	**3.44**	**339**		**Sn**	**23 33 18.4**	**-1.6**
BRLK	**Bradley Lake**	**3.60**	**343**	Pn	**Pn**	**23 32 42.1**	**+0.7**
BRLK				IAML		23 33 25.8	
	comp=N,80nm,0.6s						
BRLK				IAML		23 33 29.7	
	comp=E,87nm,0.5s						
HOM	**Homer**	**3.65**	**337**	Pn	**Pn**	**23 32 40.5**	**-1.4**
HOM				IAML		23 33 32.2	
	comp=N,189nm,1.2s						
Q19K	**Cape Douglas,**	**3.66**	**317**		**Pn**	**23 32 43.1**	**+0.9**
Q19K				IAML		23 33 53.9	
	comp=N,139nm,0.8s						
P23K	**Montague Islan**	**3.75**	**11**	Pn	**Pn**	**23 32 44.2**	**+0.8**
P23K				IAML		23 33 28.8	
	comp=E,92nm,0.3s						
P23K				IAML		23 33 32.8	
	comp=N,103nm,0.6s						
P23K	**Montague Islan**	**3.75**	**11**		**Sn**	**23 33 24.3**	**-3.2**
KAHG	**Katmai Hook Gl**	**3.76**	**307**		**Pn**	**23 32 45.2**	**+1.6**
SEW	**Seward**	**3.79**	**355**		**Pn**	**23 32 44.2**	**+0.3**
CHIR	**Chirikof Islan**	**3.83**	**265**	Pn	**Pn**	**23 32 45.0**	**+0.5**
CHIR	**Chirikof Islan**	**3.83**	**265**		**Sn**	**23 33 27.5**	**-2.0**
CHIR	**Chirikof Islan**	**3.83**	**265**	P	**Pn**	**23 32 45.1**	**+0.6**
ACHA	**Angle Creek He**	**3.99**	**301**		**Pn**	**23 32 48.7**	**+2.0**
KAHC	**Katmai Hardscr**	**4.05**	**307**		**Pn**	**23 32 49.2**	**+1.6**
P19K	**Oil Pt**	**4.06**	**327**		**Pn**	**23 32 49.5**	**+1.8**
O22K	**Cooper Landing**	**4.18**	**354**	Pn	**Pn**	**23 32 50.7**	**+1.5**
SLKM	**Skilak Lake**	**4.24**	**351**		**Pn**	**23 32 51.0**	**+0.8**
SLKM	**Skilak Lake**	**4.24**	**351**	IAML		23 33 39.9	
	comp=E,114nm,0.4s						
HIN	**Hinchinbrook I**	**4.25**	**16**		**Pn**	**23 32 51.0**	**+0.7**
HIN				IAML		23 33 42.0	
	comp=E,91nm,0.6s						
PLK3	**Peulik 3**	**4.28**	**292**		**Pn**	**23 32 51.8**	**+1.2**
CNTC	**Contact Creek**	**4.28**	**300**		**Pn**	**23 32 52.4**	**+1.7**
KAIM	**Kayak Island**	**4.30**	**31**		**Pn**	**23 32 51.4**	**+0.5**
KAIM	**Kayak Island**	**4.30**	**31**	IAML		23 33 50.1	
	comp=N,115nm,0.6s						
KAIM				IAML		23 33 50.4	
	comp=E,114nm,0.9s						
ILSW	**Iliamna Southw**	**4.30**	**330**		**Pn**	**23 32 52.1**	**+1.0**
ILSW				IAML		23 33 44.7	
	comp=E,61nm,0.8s						
ILSW				IAML		23 33 48.5	
	comp=N,59nm,0.7s						
PLK4	**Peulik 4**	**4.31**	**291**		**Pn**	**23 32 52.7**	**+1.6**
PLK4				IAML		23 33 46.6	
	comp=N,52nm,0.6s						
PLK4				IAML		23 33 54.4	
	comp=E,52nm,0.8s						
PLK2	**Peulik 2**	**4.33**	**292**		**Pn**	**23 32 52.8**	**+1.5**
EYAK	**Cordova Ski Ar**	**4.53**	**20**		**Pn**	**23 32 54.8**	**+0.8**
EYAK				IAML		23 33 52.4	
	comp=N,71nm,1.0s						
EYAK				IAML		23 33 54.3	
	comp=E,58nm,0.9s						
EYAK	**Cordova Ski Ar**	**4.53**	**20**	P	**Pn**	**23 32 54.7**	**+0.7**
PWL	**Port Wells**	**4.54**	**3**		**Pn**	**23 32 55.0**	**+0.7**
PWL				IAML		23 33 45.7	
	comp=E,73nm,0.7s						
PWL				IAML		23 33 47.4	
	comp=N,50nm,0.5s						
PLBL	**Peulik Blue Cr**	**4.57**	**291**		**Pn**	**23 32 56.6**	**+2.0**
P18K	**Big Mountain,**	**4.58**	**315**		**Pn**	**23 32 56.2**	**+1.4**
RED	**Redoubt Volcan**	**4.58**	**335**	Pn	**Pn**	**23 32 55.3**	**+0.4**
RED				IAML		23 33 56.0	
	comp=N,52nm,0.7s						
RED				IAML		23 33 57.0	
	comp=E,65nm,0.7s						
FID	**Port Fidalgo**	**4.59**	**15**		**Pn**	**23 32 55.4**	**+0.5**
FID				IAML		23 33 51.0	
	comp=E,48nm,0.5s						
FID				IAML		23 34 02.7	
	comp=N,41nm,0.5s						
CAPN	**Captain Cook N**	**4.60**	**346**	Pn	**Pn**	**23 32 57.2**	**+2.1**
SUCK	**Suckling Hills**	**4.61**	**34**		**Pn**	**23 32 56.4**	**+1.3**
SUCK				IAML		23 33 49.0	
	comp=N,86nm,0.6s						
SUCK				IAML		23 34 06.8	
	comp=E,49nm,0.7s						
GLI	**Glacier Island**	**4.64**	**11**		**Pn**	**23 32 55.9**	**+0.3**
GLI				IAML		23 33 51.8	
	comp=E,51nm,0.6s						
GLI				IAML		23 33 56.9	
	comp=N,40nm,0.6s						
HMT	**Hamilton**	**4.68**	**29**		**Pn**	**23 32 57.2**	**+1.1**
RC01	**Rabbit Creek A**	**4.79**	**355**		**Pn**	**23 32 58.9**	**+1.2**
RC01				IAML		23 33 53.5	
	comp=E,70nm,0.6s						
RC01				IAML		23 33 56.3	
	comp=N,50nm,0.6s						
O19K	**Port Alsworth**	**4.83**	**326**		**Pn**	**23 32 58.2**	**+0.1**
O18K	**Koktuh Hills**	**4.88**	**319**		**Pn**	**23 32 59.6**	**+0.7**
BERG	**Berg Lake**	**4.88**	**32**		**Pn**	**23 32 59.2**	**+0.2**
P17K	**Kvichak River**	**4.97**	**308**		**Pn**	**23 33 01.8**	**+1.7**
DIV	**Divide**	**5.07**	**17**		**Pn**	**23 33 02.5**	**+1.0**
DIV				IAML		23 34 00.1	
	comp=N,25nm,0.6s						
KNK	**Knik Glacier**	**5.09**	**2**	Pn	**Pn**	**23 33 02.7**	**+0.9**
KNK				IAML		23 34 04.7	
	comp=N,30nm,0.5s						
KNK				IAML		23 34 11.2	
	comp=E,40nm,0.7s						
SPU	**Mount Spurr**	**5.14**	**342**		**Pn**	**23 33 03.0**	**+0.6**
SPU				IAML		23 34 05.3	
	comp=N,28nm,0.6s						
SPU				IAML		23 34 06.7	
	comp=E,26nm,0.6s						
BMRM	**Bremner River**	**5.14**	**24**		**Pn**	**23 33 03.1**	**+0.6**
BMRM				IAML		23 34 06.5	
	comp=E,32nm,0.7s						
BMRM				IAML		23 34 12.5	
	comp=N,35nm,0.6s						
WAX	**Waxell Ridge**	**5.19**	**35**		**Pn**	**23 33 03.8**	**+0.6**
ANPB	**Aniakchak Plen**	**5.24**	**279**		**Pn**	**23 33 05.3**	**+1.4**
PMR	**Palmer**	**5.27**	**359**		**Pn**	**23 33 04.9**	**+0.7**
PMR				IAML		23 34 06.3	
	comp=N,21nm,0.5s						
PMR				IAML		23 34 07.5	
	comp=E,27nm,0.6s						
PMR	**Palmer**	**5.27**	**359**	P	**Pn**	**23 33 06.9**	**+2.7**
MESA	**MESA**	**5.30**	**41**		**Pn**	**23 33 05.8**	**+1.0**
MESA				IAML		23 34 11.4	
	comp=E,28nm,0.6s						
CRQM	**Cirque**	**5.34**	**32**		**Pn**	**23 33 05.6**	**+0.2**
N19K	**Bonanza Creek**	**5.37**	**329**		**Pn**	**23 33 06.1**	**+0.4**
KLU	**Klutina**	**5.39**	**15**		**Pn**	**23 33 06.4**	**+0.5**
STLK	**Strandline Lak**	**5.40**	**345**		**Pn**	**23 33 07.0**	**+0.9**
TGL	**Tana Glacier**	**5.43**	**33**		**Pn**	**23 33 06.7**	**+0.1**
GHO	**Glory Hole Cre**	**5.45**	**360**		**Pn**	**23 33 07.6**	**+0.8**
BAGL	**Bagley Icefiel**	**5.47**	**38**		**Pn**	**23 33 07.4**	**+0.5**
ISLE	**Juniper Island**	**5.47**	**36**		**Pn**	**23 33 07.5**	**+0.4**
YAH	**Yahtse**	**5.50**	**40**		**Pn**	**23 33 07.9**	**+0.3**
SCM	**Sheep Creek Mo**	**5.57**	**7**		**Pn**	**23 33 10.0**	**+1.7**
O17K	**Koliganek Bris**	**5.57**	**312**		**Pn**	**23 33 09.9**	**+1.5**
P16K	**Nushagak River**	**5.60**	**303**		**Pn**	**23 33 09.8**	**+1.1**
VRDI	**Verde Repeater**	**5.65**	**28**		**Pn**	**23 33 10.1**	**+0.5**
KIAG	**Kiagna River**	**5.71**	**34**		**Pn**	**23 33 10.6**	**+0.2**
N25K	**Chitina, Valde**	**5.72**	**21**		**Pn**	**23 33 11.3**	**+0.8**
GLB	**Gilahina Butte**	**5.75**	**25**		**Pn**	**23 33 11.5**	**+0.7**
GRNC	**Granite Creek**	**5.76**	**37**		**Pn**	**23 33 11.7**	**+0.6**
BALM	**Baldy**	**5.80**	**33**		**Pn**	**23 33 12.5**	**+0.8**
SKT	**Skwentna**	**5.83**	**347**		**Pn**	**23 33 13.1**	**+1.2**
MCARA	**McCarthy VSAT**	**5.89**	**28**		**Pn**	**23 33 13.9**	**+1.2**
PCA	**Pinnacle**	**5.90**	**47**		**Pn**	**23 33 14.6**	**+1.7**
O16K	**Kokwok River B**	**5.90**	**307**		**Pn**	**23 33 14.0**	**+1.1**
M24K	**Tolsona, Glenn**	**5.95**	**12**		**Pn**	**23 33 14.1**	**+0.5**
PNL	**Peninsula**	**6.03**	**52**		**Pn**	**23 33 15.1**	**+0.4**
PNL	**Peninsula**	**6.03**	**52**	P	**Pn**	**23 33 15.8**	**+1.1**
BARN	**Barnard Glacie**	**6.04**	**35**		**Pn**	**23 33 14.9**	**0.0**
N17K	**Nushagak Hills**	**6.07**	**317**		**Pn**	**23 33 15.6**	**+0.4**
CTGM	**Chitina Glacie**	**6.07**	**37**		**Pn**	**23 33 14.8**	**-0.5**
BCPM	**Bancas Point**	**6.08**	**50**		**Pn**	**23 33 16.0**	**+0.7**
LOGN	**Logan Glacier**	**6.08**	**39**		**Pn**	**23 33 15.7**	**+0.2**
WACK	**Wrangell Chich**	**6.12**	**20**		**Pn**	**23 33 16.8**	**+0.7**
M19K	**Big River Lodg**	**6.27**	**335**	Pn	**Pn**	**23 33

ILAR	Eielson Array	8.52	6	Pn		Pn	23 33 49.7	+1.0
J26L	Joseph Creek	8.59	15			Pn	23 33 51.3	+1.4
M13K	Dall Lake	8.64	304	Pn		Pn	23 33 52.1	+1.8
L29M	L29M	8.67	34			Pn	23 33 52.4	+1.5
J17K	VABM Dome	8.74	328	Pn		Pn	23 33 52.3	+0.5
L14K	Kuka Creek	8.74	311	Pn		Pn	23 33 54.1	+2.3
M30M	Minto, Yukon	8.75	39			Pn	23 33 52.0	0.0
U33K	Whale Pass	8.77	85	Pn		Pn	23 33 51.7	-0.4
MLY	Manley	8.77	355			Pn	23 33 53.0	+0.7
K15K	Wolf Creek Mou	8.80	318	Pn		Pn	23 33 54.2	+1.5
POKR	Poker Plat Res	8.84	4	Pn		Pn	23 33 55.3	+2.2
I23K	Minto, Yukon-K	8.84	359			Pn	23 33 54.4	+1.2
I20K	Naaghedeneel	8.92	344	Pn		Pn	23 33 55.5	+1.2
DAWY	Dawson	9.06	27	Pn		Pn	23 33 58.0	+1.8
J16K	Anvik River	9.13	325	Pn		Pn	23 33 57.8	+0.7
Q32M	Nakina River	9.27	67	Pn		Pn	23 33 59.5	+0.4
P33M	Teslin, Yukon	9.29	59			Pn	23 33 59.9	+0.5
PRP	Porcupine Dome	9.35	9			Pn	23 34 01.6	+1.3
K29M	Barlow Dome	9.40	32			Pn	23 34 02.0	+1.1
I26K	Coal Creek Min	9.41	15			Pn	23 34 03.1	+2.1
M31M	Drury Creek, Y	9.44	46			Pn	23 34 03.0	+1.7
N32M	Quiet Lake	9.50	53	Pn		Pn	23 34 03.3	+1.0
H23K	Yukon River	9.53	358	Pn		Pn	23 34 04.3	+1.8
H21K	Melozitna River	9.54	350			Pn	23 34 04.2	+1.4
H24K	Noodor Dome	9.54	2	Pn		Pn	23 34 04.7	+1.9
K13K	Kusilvak Mount	9.86	311	Pn		Pn	23 34 09.0	+2.0
H19K	Roundabout Mou	9.92	341	Pn		Pn	23 34 09.2	+1.3
IMAR	Indian Mountai	9.96	348	Pn		Pn	23 34 10.0	+1.5
H18K	Honhosa River	9.98	336	Pn		Pn	23 34 08.7	-0.1
R33M	Jennings River	10.00	65			Pn	23 34 09.7	+0.5
I28M	Miner Creek	10.10	22			Pn	23 34 12.7	+2.2
J30M	Hart River	10.29	32			Pn	23 34 14.7	+1.5
I29M	Ogilvie Camp,	10.39	25			Pn	23 34 16.0	+1.6
G24K	Hadweenzic Riv	10.42	3	Pn		Pn	23 34 16.7	+1.9
G23K	Bananza Creek	10.43	357	Pn		Pn	23 34 16.1	+1.2
G21K	Allakaket	10.45	350	Pn		Pn	23 34 18.0	+2.9
H27K	Steamboat Moun	10.52	16	Pn		Pn	23 34 18.2	+2.0
G19K	Purcell Mounta	10.60	342	Pn		Pn	23 34 20.8	+3.6
G18K	Tagagawik	10.68	338	Pn		Pn	23 34 19.3	+0.9
I30M	Mount Dempster	10.77	29			Pn	23 34 22.6	+2.9
MMPY	Sheldon Lake,	10.91	48			Pn	23 34 23.6	+2.1
G26K	Porcupine Rive	10.91	11	Pn		Pn	23 34 23.5	+2.0
HG4B	Hotspring	11.07	104	Pn		Pn	23 34 23.3	-0.4
H29M	Whitestone	11.10	23	Pn		Pn	23 34 25.6	+1.5
F21K	Alatna River	11.14	351	Pn		Pn	23 34 25.8	+1.2
F20K	Avaraart Lake	11.22	346	Pn		Pn	23 34 27.9	+2.2
F24K	Squaw Lake	11.23	2	Pn		Pn	23 34 26.5	+0.6
BMAR	Burnt Mountain	11.31	8	Pn		Pn	23 34 28.6	+1.7
F25K	Christian Rive	11.39	6	Pn		Pn	23 34 29.6	+1.4
G29M	Pine Creek	11.77	21	Pn		Pn	23 34 33.6	+0.4
H31M	Peel River	11.77	30	Pn		Pn	23 34 32.9	-0.4
E24K	Your Creek	11.78	1	Pn		Pn	23 34 35.6	+2.2
E19K	Redstone River	11.82	344	Pn		Pn	23 34 35.9	+2.0
E22K	Anaktuvuk Pass	11.92	355	Pn		Pn	23 34 36.4	+1.1
G31M	Satah River	12.63	27	Pn		Pn	23 34 46.6	+1.7
D23K	Nanushuk River	12.70	357	Pn		Pn	23 34 47.8	+1.9

NEIC ***04*** *23:34:00.2±0.9, 35.°655N×0.°004×117.°520W±0.°009, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.3km az=310.0*

PAS 04 23:34:00.6±0.6, 35.°662N×0.°004×117.°525W±0.°009, h3km±4km, ML3.8/7, ML3.5/118(NEIC), **Error ellipse: s-maj=1.2km s-min=0.4km az=117.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CLC	**China Lake**	**0.16**	**339**		**Pg**	23	34 04.0	+0.1
SRTC	**Snort**	**0.18**	**279**		**Pg**	23	34 04.9	+0.7
SRTC					**Sg**	23	34 07.9	+1.2
CCCA	**Chr Cany lake**	**0.19**	**136**		**Pg**	23	34 05.0	+0.7
TOW	**Tower One**	**0.24**	**307**		**Pg**	23	34 05.9	+0.6
WVPM	**Volcano Peak E**	**0.37**	**320**		**Pg**	23	34 08.1	+0.3
MPMC	**Manual Prospec**	**0.40**	**4**		**Pg**	23	34 08.3	0.0
WCSM	**Coso Springs S**	**0.41**	**332**		**Pg**	23	34 08.6	0.0
WRVM	**Rose V. Centra**	**0.46**	**319**		**Pg**	23	34 09.5	+0.1
WRVM					**Sg**	23	34 16.0	+0.6
MFS	**McCloud Flat S**	**0.53**	**330**		**Pg**	23	34 10.9	+0.1
MFS					**Sg**	23	34 18.7	+1.1
QSM	**Queen of Sheba**	**0.61**	**60**	Pg	**Pg**	23	34 12.5	+0.1
CCAC	**Calif City Air**	**0.65**	**218**	Pg	**Pg**	23	34 13.0	-0.1
GSC	**Goldstone, Bar**	**0.69**	**121**		**Pg**	23	34 13.8	0.0
ISA	**Isabella, Lake**	**0.77**	**270**	Pg	**Pg**	23	34 15.2	-0.2
ISA				IAML		23	34 29.7	
	comp=N,3μm,0.5s							
ISA				IAML		23	34 30.2	
	comp=E,2μm,0.2s							
GWY	**Greenwater Val**	**0.87**	**53**		**Pg**	23	34 16.9	-0.4
CWC	**Cottonwood Cre**	**0.90**	**330**		**Pg**	23	34 17.3	-0.6
SBB	**Saddle Back Bu**	**1.00**	**194**		**Pg**	23	34 19.1	-0.7
TEJ	**El Tejon**	**1.04**	**246**		**Sg**	23	34 33.2	-1.0
GRAC	**Grapevine Rang**	**1.34**	**5**		**Pg**	23	34 25.8	-0.5
WCT	**Wildcat Mounta**	**1.34**	**33**		**Pg**	23	34 25.3	-1.0
WCT				IAML		23	34 54.8	
	comp=N,887nm,0.5s							
PASC	**Pasadena Art C**	**1.58**	**200**		**Pn**	23	34 28.5	-1.1
PASC				IAML		23	34 59.4	
	comp=N,915nm,0.5s							
PASC				IAML		23	35 13.5	
	comp=E,317nm,0.5s							
TPNV	**Topopah Spring**	**1.65**	**38**		**Pn**	23	34 29.8	-0.9
GMN	**Gold Mountain**	**1.65**	**7**		**Pn**	23	34 30.2	-0.6
GMN				IAML		23	35 06.4	
	comp=E,383nm,0.4s							
GMN				IAML		23	35 11.1	
	comp=N,508nm,0.5s							
BCW	**Bitter Crk WRg**	**1.71**	**246**		**Pn**	23	34 30.4	-1.0
BCW				IAML		23	35 05.5	
	comp=N,1μm,0.4s							
BCW				IAML		23	35 10.4	
	comp=E,1μm,0.5s							
DSP	**Deep Springs**	**1.74**	**348**		**Pn**	23	34 31.3	-0.5
DSP				IAML		23	35 05.9	
	comp=E,284nm,0.5s							
ELS	**Elsinore Mount**	**2.01**	**178**		**Pn**	23	34 34.9	-0.7
ELS				IAML		23	35 15.4	
	comp=E,810nm,0.4s							
MZP	**Montezuma Peak**	**2.04**	**3**		**Pn**	23	34 35.5	-0.6
SHPR	**Sheep Range**	**2.09**	**66**		**Pn**	23	34 36.3	-0.5
SHPR				IAML		23	35 18.3	
	comp=N,248nm,0.3s							
SHPR				IAML		23	35 18.4	
	comp=E,345nm,0.5s							
V12A	**Nelson**	**2.18**	**88**		**Pn**	23	34 36.8	-1.1
V12A				IAML		23	35 24.1	
	comp=N,521nm,0.4s							
V12A				IAML		23	35 24.4	
	comp=E,514nm,0.5s							
PFO	**Pinyon Flats O**	**2.23**	**156**		**Pn**	23	34 37.4	-1.2
PFO				IAML		23	35 23.3	
	comp=E,336nm,0.5s							
PFO				IAML		23	35 28.1	
	comp=E,189nm,0.4s							
TPH	**Tonopah**	**2.42**	**6**		**Pn**	23	34 40.8	-0.6
TPH				IAML		23	35 34.8	
	comp=N,251nm,0.5s							
TPH				IAML		23	35 48.8	
	comp=E,185nm,0.5s							
S11A	**Rachel**	**2.44**	**35**		**Pn**	23	34 40.7	-0.9
S11A				IAML		23	35 34.2	
	comp=N,481nm,0.4s							
PRN	**Pahroc Range**	**2.65**	**48**		**Pn**	23	34 44.2	-0.2
PRN				IAML		23	35 44.7	
	comp=E,385nm,0.4s							
LHV	**Little Huntoon**	**2.70**	**343**		**Pn**	23	34 44.7	-0.3
LHV				IAML		23	35 52.5	
	comp=E,132nm,0.5s							
LHV				IAML		23	35 59.5	
	comp=N,123nm,0.5s							
RAMR	**Ramage Ranch**	**2.73**	**270**	Pn	Pn	23	34 44.4	-1.0
RAMR				IAML		23	35 50.2	
	comp=N,301nm,0.5s							
CPE	**Camp Elliot**	**2.79**	**173**	Pn	Pn	23	34 45.1	-1.1
CPE				IAML		23	35 50.5	
	comp=E,219nm,0.5s							
NV11	**Mina Array Sit**	**2.81**	**350**		**Pn**	23	34 46.5	-0.2
NVAR	**Mina Array Bea**	**2.83**	**348**		**Pn**	23	34 46.9	-0.2
BBGB	**Big Mountain B**	**2.99**	**289**		**Pn**	23	34 48.3	-0.7
W13A	**Hualapai Mount**	**3.03**	**100**		**Pn**	23	34 48.7	-1.0
W13A				IAML		23	35 55.5	
	comp=E,82nm,0.5s							
W13A				IAML		23	36 12.0	
	comp=N,83nm,0.5s							
RYN	**Ryan**	**3.07**	**345**		**Pn**	23	34 50.3	+0.1
R11B	**Troy Canyon, C**	**3.10**	**29**		**Pn**	23	34 50.5	-0.2
BLYC	**Blythe**	**3.12**	**127**		**Pn**	23	34 50.2	-0.6
BLYC				IAML		23	36 00.9	
	comp=E,182nm,0.4s							
BLYC				IAML		23	36 03.5	
	comp=N,165nm,0.5s							
TJX	**Tijuana**	**3.17**	**173**		**Pn**	23	34 51.1	-0.3
TJX				IAML		23	36 05.4	
	comp=N,113nm,0.4s							
Q09A	**Carvers**	**3.18**	**5**		**Pn**	23	34 52.0	+0.2
Q09A				IAML		23	36 17.1	
	comp=N,157nm,0.5s							
TKX	**Tecate**	**3.18**	**166**		**Pn**	23	34 52.0	+0.4
WAKR	**Walker**	**3.22**	**332**		**Pn**	23	34 52.5	+0.1
WAKR				IAML		23	36 01.2	
	comp=E,133nm,0.4s							
WAKR				IAML		23	36 06.7	
	comp=N,74nm,0.5s							
YUH	**Yuha Desert**	**3.29**	**156**		**Pn**	23	34 53.0	-0.1
CMB	**Columbia Colle**	**3.30**	**317**		**Pn**	23	34 53.3	+0.1
CMB				IAML		23	36 04.3	
	comp=E,91nm,0.5s							
CMB				IAML		23	36 05.3	
	comp=N,67nm,0.4s							
SAO	**San Andreas Ge**	**3.36**	**290**		**Pn**	23	34 53.9	-0.2
CBX	**Cerro Bola**	**3.42**	**168**		**Pn**	23	34 54.2	-0.7
CBX				IAML		23	36 08.0	
	comp=E,166nm,0.4s							
CBX				IAML		23	36 08.2	
	comp=N,217nm,0.5s							
GLA	**Glamis**	**3.43**	**139**		**Pn**	23	34 54.6	-0.5
GLA				IAML		23	36 17.3	
	comp=N,158nm,0.5s							
GLA				IAML		23	36 20.5	
	comp=E,174nm,0.5s							
LCMT	**Little Creek M**	**3.71**	**67**		**Pn**	23	34 58.1	-0.9
CCUT	**Cedar City**	**3.84**	**59**	Pn	**Pn**	23	35 01.0	0.0
CCX	**Cicese**	**3.85**	**169**		**Pn**	23	35 00.8	0.0
ESJX	**Sierra Juarez**	**3.88**	**160**		**Pn**	23	35 01.1	-0.3
ESJX				IAML		23	36 54.1	
	comp=E,60nm,0.1s							
KNB	**Kanab**	**4.03**	**69**		**Pn**	23	35 03.4	-0.1
SZCU	**Shurtz Canyon**	**4.06**	**60**	Pn	**Pn**	23	35 03.2	-0.7
Y14A	**Wickenburg**	**4.10**	**114**		**Pn**	23	35 04.3	0.0
Y14A				IAML		23	36 34.1	
	comp=E,120nm,0.5s							
Y14A				IAML		23	36 36.8	
	comp=N,137nm,0.5s							
113A	**Mohawk Valley,**	**4.25**	**132**		**Pn**	23	35 05.2	-1.1
MCCM	**Marconi Confer**	**4.96**	**302**	Pn	**Pn**	23	35 15.4	-0.5
WUAZ	**Wupatki**	**5.01**	**90**	Pn	**Pn**	23	35 16.6	-0.4
WUAZ				IAML		23	37 14.6	
	comp=N,44nm,0.5s							
WUAZ				IAML		23	37 33.7	
	comp=N,32nm,0.5s							
X16A	**Lo Mia Camp, P**	**5.14**	**102**		**Pn**	23	35 18.1	-0.7
ELK	**Elko**	**5.38**	**19**		**Pn**	23	35 21.6	-0.5
214A	**Organ Pipe Nat**	**5.39**	**132**		**Pn**	23	35 21.3	-0.7
214A				IAML		23	37 22.6	
	comp=E,24nm,0.5s							
214A				IAML		23	37 31.2	
	comp=N,13nm,0.4s							

IDC ***04*** *23:34:01.4±0.8, 35.°56N×117.°61W, h0km, mb3.8/4, mbtmp3.7/10, ML3.8/4, MS3.1/7, Error ellipse: s-maj=15.1km s-min=6.0km az=71.0*

NEIC ***04*** *23:34:01, 35.°66N×117.°53W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.46; $M_{\theta\theta}$-1.11; $M_{\phi\phi}$ 1.56; $M_{r\theta}$-0.21; $M_{\theta\phi}$-0.27; $M_{\phi r}$-0.35; Fault plane solution: $M_0$1.43000×10^{15} NP1:ϕ_s37.00000°, δ83.00000°, λ-20.00000°. NP2:ϕ_s130.00000°, δ70.00000°, λ-173.00000°. Principal axes: T 1.6441, Plg9.0000°, Azm85.0000°; N -0.4293, Plg69.0000°, Azm200.0000°; P -1.2147, Plg19.0000°, Azm352.0000°;*

NEIC ***04*** *23:34:02.0±1.4, 35.°609N×0.°007×117.°59W±0.°01, h5km±1km Error ellipse: s-maj=2.5km s-min=1.4km az=146.0*

PAS ***04*** *23:34:02.4±1.2, 35.°601N×0.°008×117.°61W±0.°01, h5km±2km, Mwr4.0/4, ML4.1/68(NEIC), Error ellipse: s-maj=1.2km s-min=1.1km az=71.0*

ISC 04 23:34:02.9±0.8, 35.°59N±0.°02×117.°62W±0.°02, h13km±5km, n87, σ1°13/107, mb4.0/5, MS3.2/3, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
LRMC	**Laurel Mtn Rad**	**0.12**	**203**		**Pg**	**23**	**34 05.4**	**-0.8**
LRMC					**Sg**	**23**	**34 07.7**	**-0.9**
SRTC	**Snort**	**0.14**	**314**		**Pg**	**23**	**34 06.0**	**-0.4**
SRTC					**Sg**	**23**	**34 09.1**	**+0.1**
CCCA	**Chr Cany lake**	**0.22**	**107**		**Pg**	**23**	**34 07.1**	**-0.6**
CCCA					**Sg**	**23**	**34 10.7**	**-0.2**
CLC	**China Lake**	**0.22**	**6**		**Pg**	**23**	**34 06.6**	**-1.2**
CLC					**Sg**	**23**	**34 10.0**	**-1.1**
TOW	**Tower One**	**0.24**	**332**		**Pg**	**23**	**34 07.7**	**-0.4**
TOW					**Sg**	**23**	**34 12.0**	**+0.3**
WNMM	**Nine Mile Cany**	**0.34**	**318**		**Pg**	**23**	**34 07.8**	**-1.9**
WNMM					**Sg**	**23**	**34 14.5**	**+0.1**
DTP	**Desert Tortois**	**0.37**	**209**		**Pg**	**23**	**34 09.6**	**-0.7**
DTP					**Sg**	**23**	**34 15.4**	**0.0**
WVPM	**Volcano Peak E**	**0.39**	**336**		**Pg**	**23**	**34 09.9**	**-0.8**
WVPM					**Sg**	**23**	**34 15.5**	**-0.5**
WBSM	**Bird Springs**	**0.42**	**263**		**Pg**	**23**	**34 10.6**	**-0.7**
WBSM					**Sg**	**23**	**34 17.3**	**+0.3**
WCSM	**Coso Springs S**	**0.45**	**345**		**Pg**	**23**	**34 10.8**	**-0.9**
WCSM					**Sg**	**23**	**34 17.2**	**-0.7**
WRVM	**Rose V. Centra**	**0.47**	**333**		**Pg**	**23**	**34 11.2**	**-0.9**
WRVM					**Sg**	**23**	**34 17.7**	**-0.7**
MPMC	**Manual Prospec**	**0.48**	**13**		**Pg**	**23**	**34 11.2**	**-1.1**
MPMC					**Sg**	**23**	**34 17.8**	**-1.0**
WORM	**Onyx Ranch**	**0.51**	**282**		**Pg**	**23**	**34 11.7**	**-1.3**
WORM					**Sg**	**23**	**34 19.4**	**-0.4**
CCAC	**Calif City Air**	**0.54**	**216**		**Sg**	**23**	**34 21.1**	**+0.3**
MFS	**McCloud Flat S**	**0.56**	**340**		**Pg**	**23**	**34 12.8**	**-1.0**
MFS					**Sg**	**23**	**34 20.3**	**-0.9**
WHFM	**Hanning Flat**	**0.60**	**280**		**Pg**	**23**	**34 14.0**	**-0.6**
WHFM					**Sg**	**23**	**34 22.1**	**-0.4**
ISA	**Isabella, Lake**	**0.70**	**276**		**Sg**	**23**	**34 25.2**	**-0.4**
QSM	**Queen of Sheba**	**0.72**	**59**	Pg	**Pg**	**23**	**34 15.6**	**-1.2**
QSM				Sg	**Sg**	**23**	**34 24.6**	**-1.7**
QSM				IAML		23	34 25.6	
	comp=E,25μm,0.5s							
QSM				IAML		23	34 28.6	
	comp=N,35μm,0.5s							
HYS	**Haystack Butte**	**0.73**	**176**		**Pg**	**23**	**34 15.5**	**-1.5**
HYS					**Sg**	**23**	**34 25.9**	**-0.6**
GSC	**Goldstone, Bar**	**0.73**	**113**	Pg	**Pg**	**23**	**34 15.9**	**-1.1**
GSC				IAML		23	34 29.3	
	comp=N,19μm,0.5s							
GSC				IAML		23	34 29.9	
	comp=E,17μm,0.5s							
EDW2	**Edwards Air Fo**	**0.77**	**203**		**Pg**	**23**	**34 16.6**	**-1.2**
EDW2					**Sg**	**23**	**34 27.3**	**-0.6**
WASM	**Alta Sierra Ca**	**0.77**	**281**		**Pg**	**23**	**34 16.6**	**-1.3**
WASM					**Sg**	**23**	**34 27.6**	**-0.5**
TPO	**Tropico Hills**	**0.87**	**215**		Pg	23	34 18.8	-0.4
TPO	**Tropico Hills**	**0.87**	**215**		**Pg**	**23**	**34 19.0**	**-0.7**
RRX	**Edison Barstow**	**0.88**	**144**		**Pg**	**23**	**34 17.6**	**-2.2**
SBB	**Saddle Back Bu**	**0.92**	**190**		**Pb**	**23**	**34 20.7**	**0.0**
SBB					**Sg**	**23**	**34 31.7**	**-0.9**
CWC	**Cottonwood Cre**	**0.92**	**337**		**Pg**	**23**	**34 19.5**	**-1.2**
TEJ	**El Tejon**	**0.94**	**248**		**Pg**	**23**	**34 19.6**	**-1.4**
CGO	**Cerro Gordo**	**0.97**	**351**		**Pg**	**23**	**34 19.6**	**-2.0**
GWY	**Greenwater Val**	**0.98**	**52**	Pg	**Pg**	**23**	**34 20.5**	**-1.2**
GWY				IAML		23	34 38.1	
	comp=E,11μm,0.7s							
GWY				IAML		23	34 38.4	
	comp=N,12μm,0.7s							
ADO	**Adelanto Recei**	**1.05**	**171**		**Pg**	**23**	**34 22.1**	**-1.1**
VTV	**Victorville**	**1.06**	**167**		**Pg**	**23**	**34 22.1**	**-1.2**
ALPC	**Antelope**	**1.06**	**212**		**Pb**	**23**	**34 23.1**	**0.0**
TJR	**Tejon Ranch**	**1.07**	**239**		**Pg**	**23**	**34 22.2**	**-1.3**
MAGC	**SCE Magundon P**	**1.08**	**258**		**Pg**	**23**	**34 22.7**	**-1.1**
ARVC	**Arvin**	**1.09**	**245**		**Pg**	**23**	**34 22.8**	**-1.1**
SPG2	**Springville 2**	**1.11**	**304**		**Pg**	**23**	**34 21.8**	**-2.4**
GRAC	**Grapevine Rang**	**1.42**	**8**	Pg	**Pn**	**23**	**34 28.2**	**-0.3**
GRAC				IAML		23	34 50.4	
	comp=E,4μm,0.8s							
GRAC				IAML		23	34 53.8	
	comp=N,5μm,0.8s							
WCT	**Wildcat Mounta**	**1.45**	**34**		**Pn**	**23**	**34 27.9**	**-0.9**
WCT				IAML		23	34 49.9	
	comp=N,3μm,0.8s							
WCT				IAML		23	34 51.4	
	comp=E,3μm,0.5s							
VOG	**Valley Oaks Go**	**1.60**	**298**		**Pn**	**23**	**34 30.9**	**0.0**
GMN	**Gold Mountain**	**1.73**	**10**		**Pn**	**23**	**34 32.6**	**-0.4**
GMN				IAML		23	35 03.2	
	comp=N,2μm,0.7s							
GMN				IAML		23	35 05.2	
	comp=E,1μm,0.6s							
TPNV	**Topopah Spring**	**1.75**	**39**		**Pn**	**23**	**34 32.5**	**-0.6**
TPNV				IAML		23	35 01.5	
	comp=E,3μm,0.5s							
TPNV				IAML		23	35 04.0	
	comp=E,3μm,0.7s							
DSP	**Deep Springs**	**1.80**	**351**	Pn	**Pn**	**23**	**34 33.6**	**0.0**
DSP				IAML		23	35 04.2	
	comp=E,632nm,1.0s							
DSP				IAML		23	35 12.1	
	comp=N,506nm,1.1s							
SMMC	**Simmler**	**1.96**	**263**		**Pb**	**23**	**34 37.9**	**-0.5**
MZP	**Montezuma Peak**	**2.11**	**5**	Pn	**Pn**	**23**	**34 38.0**	**-0.2**
MZP				IAML		23	35 14.3	
	comp=N,457nm,0.8s							
MZP				IAML		23	35 19.4	
	comp=E,431nm,1.0s							
PFO	**Pinyon Flats O**	**2.20**	**154**	Pn	**Pn**	**23**	**34 40.3**	**+1.0**
PFO				IAML		23	35 15.3	
	comp=E,961nm,0.9s							
PFO				IAML		23	35 15.3	
	comp=E,715nm,0.9s							
PFO	**Pinyon Flats O**	**2.20**	**154**	Pn	**Pn**	**23**	**34 38.7**	**-0.5**
	comp=E,30nm,0.3s,baz=336,slow=13,SNR=73							
PFO				Sn	**Sn**	**23**	**35 06.2**	**-0.2**
	comp=E,84nm,0.3s,baz=32,slow=6.6,SNR=7.4							
PFO				Lg	Lg	23	35 11.2	
	comp=E,248nm,0.3s,baz=234,slow=21,SNR=12							
	comp=E,117nm,0.3s							
TPH	**Tonopah**	**2.50**	**7**	Pn	**Pn**	**23**	**34 43.4**	**0.0**
TPH				IAML		23	35 24.1	
	comp=E,830nm,0.9s							
TPH				IAML		23	35 27.7	
	comp=N,1μm,1.1s							
S11A	**Rachel**	**2.54**	**36**	Pn	**Pn**	**23**	**34 43.9**	**-0.1**
S11A				IAML		23	35 28.3	
	comp=N,2μm,1.1s							
S11A				IAML		23	35 30.4	
	comp=E,2μm,1.1s							
PMPB	**Monarch Peak**	**2.65**	**284**		**Pn**	**23**	**34 44.9**	**-0.5**
LHV	**Little Huntoon**	**2.75**	**345**	Pn	**Pn**	**23**	**34 47.6**	**+1.0**
LHV				IAML		23	35 56.3	
	comp=E,539nm,1.2s							
LHV				IAML		23	36 06.6	
	comp=N,382nm,1.6s							
NV11	**Mina Array Sit**	**2.87**	**352**	Pn	**Pn**	**23**	**34 48.7**	**+0.3**
NV11				IAML		23	35 38.9	
	comp=E,207nm,1.0s							
NV11				IAML		23	35 38.9	
	comp=N,151nm,1.1s							
NVAR	**Mina Array Bea**	**2.88**	**349**	Pn	**Pn**	**23**	**34 49.1**	**+0.3**
NVAR	**Mina Array Bea**	**2.88**	**349**	Pn	**Pn**	**23**	**34 49.3**	**+0.6**
	comp=N,7.7nm,0.3s,baz=172,slow=15,SNR=112							
NVAR				Pg	**Pg**	**23**	**34 55.1**	**+0.8**
	comp=N,51nm,0.3s,baz=170,slow=18,SNR=57							
NVAR				Lg	Lg	23	35 33.6	
	comp=N,18nm,0.3s,baz=167,slow=31,SNR=3.8							
	comp=N,23nm,0.5s							
BUCR	**Buckhorn Ranch**	**2.91**	**316**	Pn	**Pn**	**23**	**34 49.4**	**+0.5**
BUCR				IAML		23	35 35.2	
	comp=E,1μm,1.5s							
BUCR				IAML		23	35 35.5	
	comp=N,889nm,0.6s							
W13A	**Hualapai Mount**	**3.10**	**98**	Pn	**Pn**	**23**	**34 50.6**	**-1.1**
W13A				IAML		23	35 46.8	
	comp=E,336nm,0.8s							
W13A				IAML		23	35 50.2	
	comp=N,453nm,1.1s							
Q09A	**Carvers**	**3.25**	**6**	Pn	**Pn**	**23**	**34 54.4**	**+0.5**
Q09A				IAML		23	35 54.4	
	comp=N,959nm,1.5s							
Q09A				IAML		23	35 57.9	
	comp=E,1μm,1.1s							
LCMT	**Little Creek M**	**3.81**	**67**	Pn	**Pn**	**23**	**35 01.6**	**+0.2**
LCMT				IAML		23	36 07.2	
	comp=N,124nm,1.1s							
LCMT				IAML		23	36 13.1	
	comp=E,119nm,1.0s							
ESJX	**Sierra Juarez**	**3.84**	**158**	Pg	**Pb**	**23**	**35 12.7**	**+2.1**

ULM	**Lac du Bonnet**	**21.53**	**40**	P		**P**	**23 38 52.1**	**+0.5**	
	comp=E,6.2nm,0.7s,baz=239,slow=9.8,SNR=10								
	comp=E,6.2nm,0.7s								
YKA	**Yellowknife Ar**	**26.99**	**3**	P		**P**	**23 39 45.3**	**+1.2**	
	comp=E,0.7nm,0.9s,baz=187,slow=8.8,SNR=6.4								
	comp=E,0.7nm,0.9s								
TKL	**Tuckaleechee C**	**27.44**	**80**	LR		LR	23 50 55.7		
	comp=E,32nm,20.7s,baz=299,slow=37								
SADO	**Sadowa**	**30.56**	**61**	LR		LR	23 52 13.3		
	comp=E,53nm,18.6s,baz=259,slow=36								
ILAR	**Eielson Array**	**34.08**	**338**	P		**P**	**23 40 47.6**	**+0.9**	
	comp=E,0.8nm,0.8s,baz=153,slow=8.0,SNR=13								
	comp=E,0.8nm,0.8s								
AKASG	**Malin Array Be**	**89.24**	**20**	LR		LR	00 25 47.4		
	comp=E,17nm,18.0s,baz=18,slow=35								
KURBB	**Kurchatov Arra**	**92.98**	**350**	P		**P**	**23 47 15.3**	**-0.5**	
	comp=E,0.5nm,0.8s,baz=6.5,slow=6.9,SNR=3.4								
	comp=E,0.5nm,0.8s								
LZH	**Lanzhou**	**98.91**	**327**	*e*P		**P**	**23 47 41.9**	**-1.4**	
LZH				pmax		pmax			
	comp=Z,18nm,1.3s								

*BER **04** 23:38:57.9±2.5, 77.85N×7.69E, h10km, mb(Pn)3.6, ML2.8(NAO), Confirmed Earthquake*
*NAO **04** 23:38:58.0±1.9, 77.99N×7.89E, h11km±15km, ML2.8*
*FCIAR **04** 23:39:02.0, 77.65N×8.51E, h10km, station ZFI2 has station magnitude of 3.40*

ISC 04 23:38:55.3±1.3, 77.87N±0.05×7.82E±0.05, h19km±4km, n22, σ1s77/40, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBS	**Kingsbay**	**1.35**	**36**	Pn		**Pg**	**23 39 22.0**	**+0.6**
KBS				Sn		**Sb**	**23 39 37.6**	**+0.8**
KBS	**Kingsbay**	**1.35**	**36**	*e*P		**Pg**	**23 39 21.7**	**+0.3**
KBS				*e*S		**Sb**	**23 39 37.6**	**+0.8**
KBS				IAML			23 39 40.1	
	comp=Z,56nm,0.4s							
KBS	**Kingsbay**	**1.35**	**36**	*i* P		**Pg**	**23 39 22.8**	**+1.4**
KBS				*i* S		**Sn**	**23 39 37.0**	**+0.5**
BRBA	**Barentsburg A**	**1.36**	**79**	Pn		**Pg**	**23 39 22.2**	**+0.7**
BRBA				Sb		**Sg**	**23 39 38.4**	**-0.7**
BRBA	**Barentsburg A**	**1.36**	**79**	*e*P		**Pg**	**23 39 22.1**	**+0.6**
BRBA				*e*S		**Sg**	**23 39 37.9**	**-1.2**
SPA0	**Spitsbergen Ar**	**1.81**	**76**	Pn		**Pg**	**23 39 29.6**	**-0.5**
	baz=256,slow=16							
SPA0				Sn		**Sg**	**23 39 51.3**	**-2.4**
	baz=260,slow=22							
SPA0	**Spitsbergen Ar**	**1.81**	**76**	*e*P		**Pg**	**23 39 29.4**	**-0.7**
SPA0				*e*S		**Sg**	**23 39 51.2**	**-2.4**
SPA0	**Spitsbergen Ar**	**1.81**	**76**	Pn		**Pg**	**23 39 29.6**	**-0.5**
	baz=256,slow=16							
SPA0				Sn		**Sg**	**23 39 51.3**	**-2.4**
	baz=260,slow=22							
HSPB	**Hornsund (broa**	**1.90**	**113**	Pn		**Pb**	**23 39 28.6**	**-0.7**
HSPB	**Hornsund (broa**	**1.90**	**113**	*e*P		**Pb**	**23 39 28.4**	**-0.7**
HSPB				*e*S		**Sn**	**23 39 49.3**	**-0.5**
HSPB	**Hornsund (broa**	**1.90**	**113**	*e*P		**Pb**	**23 39 28.5**	**-0.7**
HSPB				*e*			23 39 46.7	
HSPB				IAML			23 39 47.0	
	comp=Z,28nm,0.3s							
HSPB				*e*S		**Sn**	**23 39 49.6**	**-0.3**
HOPEN	**Hopen**	**4.05**	**101**	Pn		**Pn**	**23 39 59.0**	**+2.8**
HOPEN				Sn		**Sn**	**23 40 42.7**	**-0.3**
HOPEN	**Hopen**	**4.05**	**101**	*e*P		**Pn**	**23 39 58.7**	**+2.6**
HOPEN				*e*S		**Sn**	**23 40 42.4**	**-0.6**
HOPEN	**Hopen**	**4.05**	**101**	*e*P		**Pn**	**23 39 59.0**	**+2.8**
HOPEN				*e*S		**Sn**	**23 40 42.6**	**-0.3**
HOPEN				IAML			23 40 44.1	
	comp=Z,25nm,0.4s							
NOR	**Nord**	**5.70**	**322**	*i* P		**Pn**	**23 40 20.0**	**+1.2**
NOR				*i* S		**Sn**	**23 41 20.4**	**-3.1**
NOR				IAML			23 41 26.1	
	comp=Z,0.8nm,0.2s							
DAG	**Danmarks Havn**	**5.90**	**272**	*i* P		**Pn**	**23 40 22.0**	**+0.6**
DAG				*i* P		**Pn**	**23 40 22.0**	**+0.6**
DAG				*i* S		Sn	23 41 21.7	-6.6
DAG				IAML			23 41 28.0	
	comp=Z,1.7nm,0.2s							
DBG	**Daneborg**	**7.57**	**256**	*i* P		**Pn**	**23 40 44.5**	**+0.1**
DBG				*i* S		Sn	23 42 00.4	-9.0
DBG				IAML			23 42 08.0	
	comp=Z,0.4nm,0.3s							
ZFI2	**Zemlya Franca-**	**7.79**	**49**	*e*P		**Pn**	**23 40 52.1**	**+4.8**
ZFI2				S		**Sn**	**23 42 13.1**	**-1.6**
	comp=Z,10nm,1.9s							
ARA0	**ARCESS Array S**	**9.66**	**140**	Pn		**Pn**	**23 41 15.5**	**+2.5**
	baz=333,slow=12							
ARA0				Sn		**Sn**	**23 42 58.6**	**-2.3**
	baz=346,slow=22							
ARA0	**ARCESS Array S**	**9.66**	**140**	Pn		**Pn**	**23 41 15.5**	**+2.5**
	baz=333,slow=12							
ARA0				Sn		**Sn**	**23 42 58.6**	**-2.3**
	baz=346,slow=22							
NEEM	**North Greenlan**	**12.15**	**297**	*i* P		**Pn**	**23 41 45.9**	**-1.3**
SUMG	**Summit**	**12.58**	**270**	*i* P		**Pn**	**23 41 54.0**	**+0.8**

*IDC **04** 23:42:32.2±2.2, 35.59N×117.88W, h0km, mbtmp2.9/3, ML3.7/3, Error ellipse: s-maj=29.0km s-min=11.6km az=59.0*
*NEIC **04** 23:42:33.3±1.8, 35.74N±0.01×117.55W±0.01, h8km±9km, Error ellipse: s-maj=1.8km s-min=1.0km az=142.0*
*PAS **04** 23:42:33.7±2.2, 35.75N±0.01×117.57W±0.01, h2km±3km, Mwr3.7/6, ML3.6/122(NEIC), Error ellipse: s-maj=1.8km s-min=1.4km az=179.0*

ISC 04 23:42:34.3±0.9, 35.75N±0.02×117.55W±0.02, h12km±7km, n75, σ1s34/84, Central California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SRTC	**Snort**	**0.17**	**252**			**Pg**	**23 42 37.4**	**-0.7**
SRTC						**Sg**	**23 42 40.7**	**-0.2**
TOW	**Tower One**	**0.18**	**290**			**Pg**	**23 42 37.7**	**-0.7**
TOW						**Sg**	**23 42 41.8**	**+0.5**
LRMC	**Laurel Mtn Rad**	**0.29**	**202**			**Pg**	**23 42 39.3**	**-0.9**
WVPM	**Volcano Peak E**	**0.30**	**313**			**Pg**	**23 42 39.5**	**-1.0**
WNMM	**Nine Mile Cany**	**0.30**	**289**			**Pg**	**23 42 39.6**	**-0.9**
WNMM						**Sg**	**23 42 44.5**	**-0.1**
MPMC	**Manual Prospec**	**0.32**	**9**			**Pg**	**23 42 40.0**	**-0.8**
MPMC						**Sg**	**23 42 44.6**	**-0.5**
WRVM	**Rose V. Centra**	**0.38**	**314**			**Pg**	**23 42 40.9**	**-1.0**
MFS	**McCloud Flat S**	**0.45**	**326**			**Pg**	**23 42 42.0**	**-1.1**
WBSM	**Bird Springs**	**0.52**	**247**			**Pg**	**23 42 43.5**	**-1.0**
DTP	**Desert Tortois**	**0.53**	**207**			**Pg**	**23 42 43.7**	**-1.0**
WORM	**Onyx Ranch**	**0.56**	**265**			**Pg**	**23 42 44.2**	**-1.1**
WORM						**Sg**	**23 42 51.4**	**-1.4**
QSM	**Queen of Sheba**	**0.60**	**68**			**Pg**	**23 42 45.0**	**-0.9**
QSM				Sg		**Sg**	**23 42 53.8**	**0.0**
QSM				IAML			23 42 54.1	
	comp=E,4μm,0.5s							
QSM				IAML			23 42 58.1	
	comp=N,4μm,0.7s							
CCAC	**Calif City Air**	**0.70**	**213**			**Pg**	**23 42 47.0**	**-1.0**
CCAC				IAML			23 42 57.7	
	comp=N,3μm,0.5s							
CCAC				IAML			23 43 04.6	
	comp=E,2μm,1.3s							
GSC	**Goldstone, Bar**	**0.75**	**126**			**Pg**	**23 42 48.2**	**-0.6**
GSC				IAML			23 43 01.8	
	comp=N,2μm,0.3s							
GSC				IAML			23 43 03.2	
	comp=E,4μm,0.7s							
ISA	**Isabella, Lake**	**0.76**	**264**			**Pg**	**23 42 47.7**	**-1.2**
ISA				Sg		**Sg**	**23 42 58.1**	**-0.7**
ISA				IAML			23 42 58.4	
	comp=E,3μm,0.6s							
ISA				IAML			23 43 02.2	
	comp=N,3μm,0.4s							
CWC	**Cottonwood Cre**	**0.81**	**328**			**Pb**	**23 42 50.0**	**-0.5**
CGO	**Cerro Gordo**	**0.83**	**346**			**Pg**	**23 42 49.1**	**-1.2**
CGO						**Sg**	**23 43 01.0**	**-0.2**
GWY	**Greenwater Val**	**0.84**	**58**			**Pg**	**23 42 49.9**	**-0.7**
GWY				Sg		**Sb**	**23 43 02.1**	**-0.1**
TPO	**Tropico Hills**	**1.03**	**213**			**Pg**	**23 42 52.7**	**-1.4**
SHOC	**Shoshone, Teco**	**1.05**	**81**			**Pb**	**23 42 54.3**	**-0.1**
SPG2	**Springville 2**	**1.08**	**295**			**Pg**	**23 42 53.5**	**-1.7**
ADO	**Adelanto Recei**	**1.20**	**175**			**Pn**	**23 42 57.1**	**+0.1**
ALPC	**Antelope**	**1.22**	**210**			**Pg**	**23 42 56.6**	**-1.1**
GRAC	**Grapevine Rang**	**1.26**	**7**			**Pg**	**23 42 57.2**	**-1.3**
GRAC				IAML			23 43 17.6	
	comp=E,1μm,0.7s							
GRAC				IAML			23 43 17.8	
	comp=N,2μm,0.6s							
WCT	**Wildcat Mounta**	**1.28**	**35**			**Pg**	**23 42 57.5**	**-1.5**
WCT				IAML			23 43 16.9	
	comp=N,698nm,1.0s							
WCT				IAML			23 43 18.5	
	comp=E,971nm,0.8s							
DSCC	**Desert Studies**	**1.33**	**117**			**Pg**	**23 42 57.4**	**-2.3**
TUQ	**Turquoise Moun**	**1.36**	**103**			**Pn**	**23 42 58.2**	**-1.0**
CHFC	**Chilao Flat St**	**1.46**	**196**			**Pn**	**23 42 59.8**	**-0.9**
GMN	**Gold Mountain**	**1.57**	**9**			**Pn**	**23 43 02.0**	**-0.2**
VOG	**Valley Oaks Go**	**1.59**	**292**			**Pn**	**23 43 02.7**	**+0.4**
TPNV	**Topopah Spring**	**1.60**	**41**			**Pn**	**23 43 02.1**	**-0.5**
TPNV				IAML			23 43 30.0	
	comp=E,911nm,0.7s							
TPNV				IAML			23 43 32.0	
	comp=E,988nm,1.1s							
PASC	**Pasadena Art C**	**1.65**	**199**			**Pn**	**23 43 02.7**	**-0.4**
PASC				IAML			23 43 29.8	
	comp=E,600nm,0.9s							
PASC				IAML			23 43 31.3	
	comp=N,426nm,0.9s							
DSP	**Deep Springs**	**1.66**	**348**			**Pn**	**23 43 03.1**	**-0.1**
DSP				IAML			23 43 28.1	
	comp=E,613nm,0.8s							
BCW	**Bitter Crk WRg**	**1.72**	**243**			**Pn**	**23 43 04.2**	**0.0**
MZP	**Montezuma Peak**	**1.96**	**4**			**Pn**	**23 43 07.5**	**-0.1**
SHPR	**Sheep Range**	**2.08**	**68**			**Pn**	**23 43 09.3**	**+0.1**
SHPR				IAML			23 43 42.4	
	comp=N,306nm,0.6s							
ELS	**Elsinore Mount**	**2.10**	**177**			**Pn**	**23 43 09.0**	**-0.3**
ELS				IAML			23 43 46.8	
	comp=E,343nm,0.8s							
ELS				IAML			23 43 47.6	
	comp=N,286nm,0.9s							
V12A	**Nelson**	**2.20**	**90**			**Pn**	**23 43 10.0**	**-0.7**
PFO	**Pinyon Flats O**	**2.31**	**157**			**Pn**	**23 43 11.7**	**-0.6**
PFO				IAML			23 43 52.2	
	comp=N,242nm,0.8s							
PFO				IAML			23 43 55.3	
	comp=N,311nm,0.8s							
TPH	**Tonopah**	**2.34**	**6**			**Pn**	**23 43 12.2**	**-0.5**
TPH				Pg		**Pb**	**23 43 17.2**	**+0.7**
S11A	**Rachel**	**2.39**	**37**			**Pg**	**23 43 18.7**	**-1.4**
PKD	**Bear Valley Ra**	**2.44**	**276**			**Pn**	**23 43 15.4**	**+1.4**
PRN	**Pahroc Range**	**2.61**	**50**			**Pn**	**23 43 16.5**	**+0.1**
LHV	**Little Huntoon**	**2.62**	**343**			**Pn**	**23 43 16.5**	**+0.2**
LHV				Pg		**Pg**	**23 43 22.4**	**-2.0**
LHV				IAML			23 44 04.4	
	comp=E,187nm,1.3s							
LHV				IAML			23 44 12.2	
	comp=N,173nm,1.0s							
PMPB	**Monarch Peak**	**2.68**	**281**			**Pn**	**23 43 17.7**	**+0.4**
RAMR	**Ramage Ranch**	**2.70**	**269**			**Pb**	**23 43 19.9**	**-2.7**
NVAR	**Mina Array Bea**	**2.75**	**348**			**Pn**	**23 43 18.5**	**+0.1**
NVAR	**Mina Array Bea**	**2.75**	**348**	Pn		**Pn**	**23 43 18.8**	**+0.4**
	comp=N,3.4nm,0.3s,baz=173,slow=14,SNR=31							
NVAR				Pg		**Pg**	**23 43 25.1**	**-1.8**
	comp=N,21nm,0.3s,baz=173,slow=20,SNR=60							
NVAR				Lg	Lg		23 44 00.6	
	comp=N,22nm,0.3s,baz=171,slow=32,SNR=14							
	comp=N,3.1nm,0.3s							
BBGB	**Big Mountain B**	**2.94**	**287**			**Pn**	**23 43 21.7**	**+0.7**
RYN	**Ryan**	**2.98**	**345**			**Pn**	**23 43 22.0**	**+0.4**
R11B	**Troy Canyon, C**	**3.04**	**31**			**Pn**	**23 43 22.2**	**-0.1**
R11B				Pg		**Pg**	**23 43 30.6**	**-1.8**
W13A	**Hualapai Mount**	**3.06**	**101**	Pn		**Pn**	**23 43 21.6**	**-1.2**
Q09A	**Carvers**	**3.10**	**5**			**Pn**	**23 43 22.7**	**-0.5**
Q09A				Pg		**Pg**	**23 43 32.6**	**-1.1**
WAKR	**Walker**	**3.14**	**332**			**Pb**	**23 43 31.6**	**+1.4**
WAKR				IAML			23 44 14.3	
	comp=E,114nm,0.5s							
BLYC	**Blythe**	**3.19**	**128**			**Pn**	**23 43 23.0**	**-1.3**
BLYC				IAML			23 44 16.1	
	comp=N,192nm,0.8s							
BLYC				IAML			23 44 17.9	
	comp=E,157nm,0.9s							
CMB	**Columbia Colle**	**3.22**	**316**			**Pn**	**23 43 24.7**	**-0.1**
CMB				IAML			23 44 24.5	
	comp=E,110nm,0.7s							
CMB				IAML			23 44 25.0	
	comp=N,141nm,0.7s							
SAO	**San Andreas Ge**	**3.31**	**289**			**Pn**	**23 43 26.8**	**+0.9**
YUH	**Yuha Desert**	**3.37**	**156**			**Pg**	**23 43 36.0**	**-2.9**
CBX	**Cerro Bola**	**3.50**	**168**			**Pn**	**23 43 29.0**	**+0.3**
GLA	**Glamis**	**3.51**	**139**			**Pn**	**23 43 28.8**	**+0.2**
CCUT	**Cedar City**	**3.82**	**61**	Pg		**Pg**	**23 43 45.6**	**-1.9**
CCUT				IAML			23 44 38.5	
	comp=N,82nm,1.3s							
CCUT				IAML			23 44 42.2	
	comp=E,67nm,1.5s							
ESJX	**Sierra Juarez**	**3.96**	**160**			**Pn**	**23 43 35.1**	**0.0**
ESJX				IAML			23 44 41.9	
	comp=E,61nm,0.8s							
KNB	**Kanab**	**4.02**	**70**			**Pn**	**23 43 35.8**	**0.0**
KNB				IAML			23 44 47.2	
	comp=E,118nm,0.9s							
KNB				IAML			23 44 50.4	
	comp=N,103nm,0.8s							
SZCU	**Shurtz Canyon**	**4.04**	**61**	Pg		**Pg**	**23 43 49.3**	**-2.3**
MPK	**Martis Peak**	**4.05**	**332**	Pg		**Pg**	**23 43 49.3**	**-2.7**
MPK				IAML			23 44 59.6	
	comp=E,122nm,0.8s							
PSUT	**Pine Spring**	**4.06**	**46**	IAML			23 44 47.2	
	comp=N,104nm,0.8s							
PSUT				IAML			23 44 47.9	
	comp=E,122nm,0.9s							
SPR3	**Spring Creek 3**	**4.14**	**37**	IAML			23 44 50.6	
	comp=N,77nm,0.8s							
SPR3				IAML			23 44 53.9	
	comp=E,71nm,1.2s							
Y14A	**Wickenburg**	**4.15**	**114**	Pg		**Pb**	**23 43 50.0**	**+2.7**
Y14A				IAML			23 44 51.1	
	comp=N,120nm,0.8s							
Y14A				IAML			23 44 57.4	
	comp=E,93nm,0.8s							
AFDM	**Forest Hills D**	**4.20**	**321**			**Pb**	**23 43 49.6**	**+1.5**
AFDM				IAML			23 44 52.2	
	comp=E,81nm,0.7s							
AFDM				IAML			23 44 54.8	
	comp=N,76nm,0.7s							
113A	**Mohawk Valley,**	**4.32**	**132**	IAML			23 44 58.5	
	comp=N,51nm,0.8s							
113A				IAML			23 45 01.5	
	comp=E,42nm,1.3s							
BEKR	**Beckworth**	**4.68**	**332**			**Pg**	**23 43 59.9**	**-4.0**
BEKR				IAML			23 45 15.7	
	comp=N,29nm,0.6s							
BEKR				IAML			23 45 16.1	
	comp=E,72nm,0.7s							
WUAZ	**Wupatki**	**5.04**	**91**	Pg		**Pg**	**23 44 07.1**	**-3.6**
WUAZ				IAML			23 45 24.0	
	comp=E,63nm,0.9s							
X16A	**Lo Mia Camp, P**	**5.18**	**103**	IAML			23 45 31.9	
	comp=E,23nm,1.1s							
X16A				IAML			23 45 40.1	
	comp=N,23nm,1.0s							
PDAR	**Pinedale Array**	**9.36**	**39**	Pn		Pn	23 44 56.0	+6.8
	comp=N,0.1nm,0.3s,baz=219,slow=16,SNR=2.0							
PDAR				Pg			23 45 25.2	
	comp=N,0.1nm,0.3s,baz=214,slow=20,SNR=5.5							
PDAR				Lg		Lg	23 47 34.8	
	comp=N,0.1nm,0.3s,baz=223,slow=32,SNR=2.5							
	comp=N,0.1nm,0.3s							
TXAR	**Lajitas Array**	**13.34**	**115**	Pn		**Pn**	**23 45 47.1**	**+3.6**
	comp=N,0.1nm,0.3s,baz=291,slow=13,SNR=5.9							
TXAR				Lg		Lg	23 49 37.8	
	baz=299,slow=30,SNR=3.9							
	comp=N,0.2nm,0.5s							

IDC 04 23:42:42.3±2.0, 30.90S×177.46W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=56.4km s-min=41.8km az=39.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**43.55**	**267**	P		P	23 50 48.3	+0.2
	0.6nm,0.8s,baz=105,slow=7.7,SNR=11							
	0.6nm,0.8s							
WRA	**Warramunga Arr**	**44.59**	**272**	P		P	23 50 56.0	-0.4
	0.8nm,0.8s,baz=112,slow=7.9,SNR=7.5							
	0.8nm,0.8s							
QSPA	**South Pole Qui**	**59.21**	**180**	P		P	23 52 44.7	-0.3
	0.8nm,0.9s,baz=2.7,slow=0.4,SNR=1.7							
	0.8nm,0.9s							

FINES	**FINESS Array B**	**145.78**	**340**	PKPbc		PKPdf	00 02 21.9	-0.2	
	1.7nm,0.6s,baz=40,slow=3.2,SNR=12								

*FCIAR **04** 23:43:00.0, 76.97N×18.82E, h10km, station ZFI2 has station magnitude of 3.40*
*BER **04** 23:43:02.1±1.9, 76.86N×18.68E, h15km±10km, ML2.5, ML2.7(NAO), Confirmed Earthquake*
*KOLA **04** 23:43:03.8, 76.78N×19.82E, h0km, ML2.2, Storfjorden zone*

NAO 04 23:43:00.9±0.0, 76.99N×18.93E, h16km±1km, ML2.7, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HSPB	**Hornsund (broa**	**0.77**	**272**	Pb		Pg	23 43 15.1	-0.7
HSPB				Sb		Sg	23 43 24.7	-1.3
HSPB	**Hornsund (broa**	**0.77**	**272**	P		Pg	23 43 14.9	-0.9
HSPB				S		Sg	23 43 24.8	-1.2
HSPB	**Hornsund (broa**	**0.77**	**272**	*e*P		Pg	23 43 15.0	-0.8
HSPB				*e*S		Sg	23 43 24.4	-1.5
HSPB	**Hornsund (broa**	**0.77**	**272**	*e*P		Pg	23 43 15.1	-0.7
HSPB				*e*S		Sg	23 43 24.4	-1.5
HSPB				IAML			23 43 28.3	
	comp=Z,77nm,0.2s							
SPA0	**Spitsbergen Ar**	**1.32**	**336**	Pn		Pn	23 43 24.6	0.0
	baz=161,slow=18							
SPA0				Sn		Sb	23 43 41.9	+0.1
	baz=161,slow=37							
SPA0	**Spitsbergen Ar**	**1.32**	**336**	*e*P		Pn	23 43 24.3	-0.3
SPA0				*e*S		Sn	23 43 41.1	-0.7
SPA0	**Spitsbergen Ar**	**1.32**	**336**	Pn		Pn	23 43 24.6	0.0
	baz=161,slow=18							
SPA0				Sn		Sb	23 43 41.9	+0.1
	baz=161,slow=37							
SPITS	**Spitsbergen Ar**	**1.32**	**336**	P		Pn	23 43 24.2	-0.4
SPITS				S		Sb	23 43 42.1	+0.4
HOPEN	**Hopen**	**1.48**	**106**	Pn		Pn	23 43 26.9	+0.1
HOPEN				Sn		Sn	23 43 45.6	-0.3
HOPEN	**Hopen**	**1.48**	**106**	*e*P		Pn	23 43 26.6	-0.2
HOPEN				*e*S		Sn	23 43 45.1	-0.7
HOPEN	**Hopen**	**1.48**	**106**	*e*P		Pn	23 43 26.9	+0.1
HOPEN				*e*S		Sn	23 43 45.3	-0.5
HOPEN				IAML			23 43 50.4	
	comp=Z,129nm,0.3s							
BRBA	**Barentsburg A**	**1.48**	**319**	Pn		Pb	23 43 28.1	+0.1
BRBA				Sn		Sb	23 43 46.9	+0.3
BRBA	**Barentsburg A**	**1.48**	**319**	*e*P		Pb	23 43 28.0	0.0
BRBA				*e*S		Sb	23 43 47.4	+0.8
BRBA				IAML			23 43 49.0	
	comp=Z,181nm,0.3s							
KBS	**Kingsbay**	**2.43**	**326**	Pn		Pn	23 43 39.3	-0.6
KBS				Lg		Lg	23 44 15.9	
KBS	**Kingsbay**	**2.43**	**326**	P		Pn	23 43 38.9	-1.0
KBS				S		Sb	23 43 13.8	-0.1
KBS	**Kingsbay**	**2.43**	**326**	*e*Pg		Pb	23 43 45.1	+0.9
KBS				*e*Sg		Sg	23 44 16.9	-2.1
KBS				IAML			23 44 17.4	
	comp=Z,79nm,0.6s							
ZFI2	**Zemlya Franca-**	**6.65**	**42**	P		Pn	23 44 35.6	-2.2
ZFI2				*e*S		Sn	23 45 48.2	-4.8
	comp=Z,13nm,2.2s							
OMEGA	**Omega**	**6.65**	**42**	P		Pn	23 44 35.3	-2.4
OMEGA				S		Sn	23 45 47.2	-5.9
VADS	**Vadso**	**7.50**	**152**	P		Pn	23 44 48.4	-0.9
VADS				S		Sn	23 46 07.3	-6.5
ARA0	**ARCESS Array S**	**7.72**	**163**	Pn		Pn	23 44 51.1	-1.4
	baz=348,slow=10							
ARA0				Sn		Sn	23 46 11.6	-7.9
	baz=356,slow=22							
ARA0	**ARCESS Array S**	**7.72**	**163**	Pn		Pn	23 44 51.1	-1.4
	baz=348,slow=10							
ARA0				Sn		Sn	23 46 11.6	-7.9
	baz=356,slow=22							
ARCES	**ARCESS Array B**	**7.72**	**163**	P		Pn	23 44 52.3	-0.2
ARCES				S		Sn	23 46 12.3	-7.2
TERR	**Teriberka**	**9.08**	**141**	P		Pn	23 45 08.6	-2.5
TERR				S		Sn	23 46 44.0	-8.8

*NEIC **04** 23:54:36.0±1.2, 35.656N±0.010×117.51W±0.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.7km az=353.0*

PAS 04 23:54:36.4±1.7, 35.656N±0.010×117.52W±0.01, h2km±1km, ML3.4/39, ML3.2/114(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=219.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CLC	**China Lake**	**0.17**	**339**			Pg	23 54 39.9	+0.2
CLC						Sg	23 54 42.6	+0.6
CCCA	**Chr Cany lake**	**0.18**	**135**			Pg	23 54 43.9	+3.9
SRTC	**Snort**	**0.19**	**281**			Pg	23 54 40.7	+0.7
SRTC						Sg	23 54 44.4	+1.9
LRMC	**Laurel Mtn Rad**	**0.22**	**216**			Pg	23 54 44.1	+3.5
TOW	**Tower One**	**0.25**	**308**			Pg	23 54 41.9	+0.7
TOW						Sg	23 54 47.0	+2.6
WNMM	**Nine Mile Cany**	**0.36**	**301**			Pg	23 54 43.7	+0.4
WVPM	**Volcano Peak E**	**0.38**	**321**			Pg	23 54 43.9	+0.2
WVPM						Sg	23 54 49.7	+1.1
JRC2	**Joshua Ridge**	**0.40**	**325**			Sg	23 54 50.4	+1.1
MPMC	**Manual Prospec**	**0.40**	**4**			Sg	23 54 49.6	+0.2
WCSM	**Coso Springs S**	**0.42**	**332**			Sg	23 54 44.6	+0.1
WCSM						Sg	23 54 50.6	+0.7
WRVM	**Rose V. Centra**	**0.46**	**320**

TUQ					Sg		23 55 18.0	-0.9	
GRAC	**Grapevine Rang**	**1.34**	**5**		Pg		23 55 01.7	-0.5	
WCT	**Wildcat Mounta**	**1.35**	**32**		Pg		23 55 01.2	-1.0	
PASC	**Pasadena Art C**	**1.58**	**200**		Pn		23 55 05.0	-0.5	
PASC				IAML			23 55 30.8		
	comp=E,215nm,0.7s								
PSRC	**Puddingstone R**	**1.58**	**189**		Pg		23 55 06.9	+0.3	
VOG	**Valley Oaks Go**	**1.65**	**294**		Pn		23 55 06.8	+0.4	
TPNV	**Topopah Spring**	**1.65**	**38**		Pn		23 55 05.7	-0.9	
TPNV				IAML			23 55 35.9		
	comp=E,170nm,0.4s								
TPNV				IAML			23 55 37.9		
	comp=E,231nm,0.5s								
GMN	**Gold Mountain**	**1.66**	**7**		Pn		23 55 05.8	-1.0	
GMN				IAML			23 55 32.0		
	comp=N,218nm,0.6s								
GMN				IAML			23 55 34.5		
	comp=E,157nm,0.7s								
BCW	**Bitter Crk WRg**	**1.70**	**246**		Pn		23 55 07.0	-0.2	
BCW				IAML			23 55 40.2		
	comp=E,399nm,1.1s								
DSP	**Deep Springs**	**1.75**	**348**		Pn		23 55 07.5	-0.3	
DSP				IAML			23 55 33.9		
	comp=E,222nm,0.5s								
DSP				IAML			23 55 34.8		
	comp=N,153nm,0.5s								
ELS	**Elsinore Mount**	**2.00**	**178**		Pn		23 55 12.1	+0.7	
ELS				IAML			23 55 41.0		
	comp=E,110nm,0.5s								
POB	**Polly Butte**	**2.03**	**166**		Pn		23 55 11.1	-0.6	
DANC	**Danby, Needles**	**2.03**	**119**		Pn		23 55 09.9	-1.8	
MZP	**Montezuma Peak**	**2.04**	**3**		Pn		23 55 11.7	-0.4	
SHPR	**Sheep Range**	**2.09**	**65**		Pn		23 55 11.9	-0.8	
SHPR				IAML			23 55 47.7		
	comp=N,116nm,0.7s								
V12A	**Nelson**	**2.18**	**87**		Pn		23 55 13.0	-0.8	
V12A				IAML			23 55 46.8		
	comp=N,267nm,0.5s								
V12A				IAML			23 55 54.3		
	comp=E,179nm,0.7s								
PFO	**Pinyon Flats O**	**2.22**	**156**		Pn		23 55 13.6	-0.8	
PFO				IAML			23 55 56.0		
	comp=E,85nm,0.7s								
TPH	**Tonopah**	**2.43**	**6**		Pn		23 55 16.5	-0.8	
TPH				Pg	Pg		23 55 21.9	-1.0	
S11A	**Rachel**	**2.44**	**35**		Pn		23 55 17.2	-0.3	
S11A				Pg	Pg		23 55 23.0	-0.2	
S11A				IAML			23 56 05.8		
	comp=E,184nm,0.8s								
S11A				IAML			23 56 08.3		
	comp=N,144nm,0.9s								
PRN	**Pahroc Range**	**2.65**	**48**		Pn		23 55 19.8	-0.5	
PRN				Pg	Pg		23 55 26.4	-0.7	
PRN				IAML			23 56 15.8		
	comp=E,102nm,0.5s								
PRN				IAML			23 56 17.4		
	comp=N,126nm,0.6s								
LHV	**Little Huntoon**	**2.71**	**343**		Pn		23 55 20.7	-0.2	
LHV				IAML			23 56 09.8		
	comp=N,68nm,1.2s								
LHV				IAML			23 56 11.5		
	comp=E,95nm,0.7s								
PMPB	**Monarch Peak**	**2.72**	**283**		Pn		23 55 20.4	-0.8	
NV11	**Mina Array Sit**	**2.82**	**350**		Pn		23 55 22.1	-0.6	
NV11				IAML			23 56 08.8		
	comp=E,56nm,1.4s								
NVAR	**Mina Array Bea**	**2.84**	**348**		Pn		23 55 23.2	+0.2	
MYLM	**Yosemite Lake**	**2.90**	**307**		Pb		23 55 27.9	-1.0	
BBGB	**Big Mountain B**	**2.99**	**289**		Pn		23 55 24.9	-0.1	
W13A	**Hualapai Mount**	**3.02**	**100**	IAML			23 56 16.0		
	comp=E,101nm,0.6s								
W13A				IAML			23 56 17.0		
	comp=N,83nm,0.7s								
RYN	**Ryan**	**3.07**	**345**		Pn		23 55 26.4	+0.3	
BLYC	**Blythe**	**3.12**	**127**	IAML			23 56 24.4		
	comp=N,76nm,0.7s								
BLYC				IAML			23 56 25.8		
	comp=E,51nm,0.7s								
WAKR	**Walker**	**3.23**	**332**		Pb		23 55 36.2	+1.6	
CMB	**Columbia Colle**	**3.30**	**317**		Pn		23 55 30.2	+1.0	
CMB				IAML			23 56 28.0		
	comp=N,41nm,0.8s								
CMB				IAML			23 56 30.1		
	comp=E,49nm,0.8s								
SAO	**San Andreas Ge**	**3.36**	**290**		Pn		23 55 29.5	-0.4	
CBX	**Cerro Bola**	**3.41**	**168**		Pn		23 55 31.4	+0.6	
LCMT	**Little Creek M**	**3.71**	**67**		Pn		23 55 34.6	-0.3	
CCUT	**Cedar City**	**3.84**	**59**	Pn	Pn		23 55 36.6	-0.2	
ESJX	**Sierra Juarez**	**3.87**	**160**		Pn		23 55 37.1	0.0	
ESJX				IAML			23 56 23.8		
	comp=E,37nm,0.1s								
ESJX				IAML			23 56 39.9		
	comp=N,26nm,1.2s								
KNB	**Kanab**	**4.03**	**69**	IAML			23 56 54.2		
	comp=E,32nm,1.1s								
KNB				IAML			23 56 56.5		
	comp=N,24nm,1.3s								
SZCU	**Shurtz Canyon**	**4.06**	**60**	Pn	Pn		23 55 39.4	-0.4	
SZCU				Pg	Pg		23 55 52.2	-2.0	
SZCU				IAML			23 56 56.9		
	comp=E,19nm,0.4s								
PSUT	**Pine Spring**	**4.11**	**45**		Pn		23 55 39.3	-1.1	
PSUT				Pg	Pg		23 55 53.9	-1.2	
PSUT				IAML			23 56 58.0		
	comp=N,22nm,0.9s								
PSUT				IAML			23 56 59.3		
	comp=E,25nm,1.1s								
SPR3	**Spring Creek 3**	**4.20**	**36**	IAML			23 56 53.5		
	comp=E,20nm,1.0s								
SPR3				IAML			23 56 53.6		
	comp=N,16nm,0.8s								
113A	**Mohawk Valley,**	**4.24**	**132**	IAML			23 56 58.8		
	comp=E,18nm,1.0s								
AFDM	**Forest Hills D**	**4.28**	**321**	IAML			23 56 54.3		
	comp=E,29nm,0.7s								
AFDM				IAML			23 57 01.4		
	comp=N,22nm,1.0s								
BEKR	**Beckworth**	**4.77**	**333**	IAML			23 57 26.3		
	comp=E,29nm,0.8s								
BEKR				IAML			23 57 27.7		
	comp=N,12nm,0.9s								
X16A	**Lo Mia Camp, P**	**5.14**	**102**	IAML			23 57 26.8		
	comp=N,15nm,0.9s								
X16A				IAML			23 57 45.7		
	comp=E,12nm,1.1s								

NEIC ***04*** *23:58:05.3±1.2,56.30N±0.08×148.8W±0.1,h10km±2km, mb3.6/5,ML4.0/90,ML3.7(AEIC),Error ellipse: s-maj=14.9km s-min=9.3km az=157.0*

IDC ***04*** *23:58:06.0±1.8,56.39N×149.06W,h0km,mb3.7/1, mbtmp3.5/6,ML3.1/5,MS3.2/10,Error ellipse: s-maj=28.1km s-min=19.7km az=25.0*

AEIC ***04*** *23:58:11.5±1.3,56.4N±0.1×148.80W±0.08,h8km±8km, Error ellipse: s-maj=16.0km s-min=1.7km az=157.0*

ISC 04 23:58:05.9±0.9,56.42N±0.07×148.80W±0.05,h10km, n117,σ1§56/104,mb3.8/5,MS3.3/6,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.48**	**305**		**Sn**	**23 59 14.9**	**-1.6**
KDAK	**Kodiak Island**	**2.48**	**305**		**Pn**	**23 58 46.8**	**+0.6**
KDAK	**Kodiak Island**	**2.48**	**305**	Pn	**Pn**	**23 58 46.4**	**+0.1**
KDAK	**Kodiak Island**	**2.48**	**305**	Pn	**Pn**	**23 58 46.6**	**+0.3**
	5.4nm,0.3s,baz=97,slow=3.0,SNR=90						
KDAK				Sn	**Sn**	**23 59 14.3**	**-2.2**
	18nm,0.3s,baz=182,slow=23,SNR=15 14nm,0.3s						
OHAK	**Old Harbor**	**2.59**	**290**		**Pn**	**23 58 47.1**	**-0.7**
OHAK	**Old Harbor**	**2.59**	**290**		**Sn**	**23 59 17.4**	**-2.0**
OHAK	**Old Harbor**	**2.59**	**290**	P	**Pn**	**23 58 47.9**	**0.0**
SYI	**Shuyak Island**	**2.93**	**320**		**Pn**	**23 58 52.8**	**+0.3**
SYI				IAML		23 59 29.7	
	comp=E,390nm,0.5s						
SYI	**Shuyak Island**	**2.93**	**320**		**Sn**	**23 59 27.2**	**-0.5**
SII	**Sitkinak Islan**	**2.99**	**275**		**Pn**	**23 58 53.8**	**+0.5**
SII				IAML		23 59 34.5	
	comp=E,310nm,0.9s						
SII	**Sitkinak Islan**	**2.99**	**275**		**Sn**	**23 59 26.7**	**-2.4**
Q23K	**Middleton Isla**	**3.29**	**22**		**Pn**	**23 58 57.8**	**+0.4**
Q23K				IAML		23 59 42.3	
	comp=E,218nm,0.9s						
Q23K	**Middleton Isla**	**3.29**	**22**		**Sn**	**23 59 35.4**	**-1.2**
R18K	**Karluk**	**3.30**	**293**		**Pn**	**23 58 58.3**	**+0.7**
R18K					**Sn**	**23 59 34.6**	**-2.1**
R18K	**Karluk**	**3.30**	**293**	IAML		23 59 43.3	
	comp=N,303nm,0.5s						
R18K				IAML		23 59 45.1	
	comp=E,329nm,0.5s						
CNPM	**China Poot**	**3.38**	**338**		**Pn**	**23 58 59.5**	**+0.8**
CNPM				IAML		23 59 46.0	
	comp=E,210nm,0.8s						
CNPM	**China Poot**	**3.38**	**338**		**Sn**	**23 59 38.2**	**-0.6**
BRLK	**Bradley Lake**	**3.53**	**343**		**Pn**	**23 59 01.5**	**+0.6**
BRLK				IAML		23 59 45.3	
	comp=N,202nm,0.7s						
BRLK				IAML		23 59 46.5	
	comp=E,247nm,0.6s						
HOM	**Homer**	**3.58**	**336**		**Sn**	**23 59 44.0**	**+0.2**
HOM	**Homer**	**3.58**	**336**		**Pn**	**23 59 02.7**	**+1.3**
HOM				IAML		23 59 49.5	
	comp=N,443nm,0.6s						
Q19K	**Cape Douglas,**	**3.62**	**316**		**Pn**	**23 59 03.4**	**+1.3**
Q19K				IAML		00 00 06.2	
	comp=N,360nm,0.9s						
P23K	**Montague Islan**	**3.67**	**11**		**Pn**	**23 59 03.6**	**+1.0**
P23K					**Sn**	**23 59 44.0**	**-1.8**
P23K	**Montague Islan**	**3.67**	**11**	IAML		23 59 46.2	
	comp=E,356nm,0.3s						
P23K				IAML		23 59 52.2	
	comp=N,238nm,0.6s						
SEW	**Seward**	**3.71**	**355**		**Pn**	**23 59 04.1**	**+0.9**
KAHG	**Katmai Hook Gl**	**3.74**	**306**		**Sn**	**23 59 46.1**	**-1.6**
AU22	**Augustine Moun**	**3.83**	**323**		**Sn**	**23 59 49.4**	**-0.4**
CHIR	**Chirikof Islan**	**3.86**	**264**	Pn	**Pn**	**23 59 05.0**	**-0.3**
CHIR	**Chirikof Islan**	**3.86**	**264**	P	**Pn**	**23 59 05.7**	**+0.4**
AUL	**Augustine Lava**	**3.87**	**322**		**Pn**	**23 59 07.5**	**+2.1**
ACHA	**Angle Creek He**	**3.97**	**300**		**Pn**	**23 59 08.5**	**+1.6**
P19K	**Oil Pt**	**4.01**	**326**		**Pn**	**23 59 08.6**	**+1.2**
O22K	**Cooper Landing**	**4.11**	**354**		**Pn**	**23 59 09.8**	**+1.1**
SLKM	**Skilak Lake**	**4.17**	**350**		**Pn**	**23 59 10.3**	**+0.7**
HIN	**Hinchinbrook I**	**4.17**	**16**		**Pn**	**23 59 10.3**	**+0.7**
HIN				IAML		23 59 58.9	
	comp=N,296nm,0.6s						
HIN				IAML		00 00 01.4	
	comp=E,268nm,0.6s						
KAIM	**Kayak Island**	**4.22**	**32**		**Pn**	**23 59 11.0**	**+0.8**
KAIM				IAML		00 00 00.8	
	comp=N,226nm,0.8s						
KAIM				IAML		00 00 13.1	
	comp=E,221nm,0.9s						
ILSW	**Iliamna Southw**	**4.25**	**329**		**Pn**	**23 59 11.6**	**+0.8**
ILSW				IAML		00 00 03.4	
	comp=N,194nm,0.7s						
ILSW				IAML		00 00 08.9	
	comp=E,165nm,0.9s						
PLK4	**Peulik 4**	**4.30**	**290**	IAML		00 00 20.4	
	comp=E,108nm,0.7s						
EYAK	**Cordova Ski Ar**	**4.44**	**20**		**Pn**	**23 59 14.2**	**+1.0**
EYAK				IAML		00 00 05.4	
	comp=E,170nm,0.6s						
EYAK				IAML		00 00 15.0	
	comp=N,161nm,0.9s						
EYAK	**Cordova Ski Ar**	**4.44**	**20**	P	**Pn**	**23 59 14.4**	**+1.1**
PWL	**Port Wells**	**4.46**	**3**		**Pn**	**23 59 14.5**	**+0.9**
PWL				IAML		00 00 04.8	
	comp=E,199nm,0.5s						
PWL				IAML		00 00 06.8	
	comp=N,169nm,0.6s						
FID	**Port Fidalgo**	**4.51**	**15**		**Pn**	**23 59 14.7**	**+0.5**
FID				IAML		00 00 05.1	
	comp=E,142nm,0.4s						
FID				IAML		00 00 07.8	
	comp=N,99nm,0.5s						
RED	**Redoubt Volcan**	**4.52**	**334**	IAML		00 00 09.3	
	comp=E,154nm,0.6s						
RED				IAML		00 00 11.2	
	comp=N,160nm,0.8s						
SUCK	**Suckling Hills**	**4.53**	**34**		**Pn**	**23 59 14.9**	**+0.5**
SUCK				IAML		00 00 08.4	
	comp=N,189nm,0.6s						
SUCK				IAML		00 00 22.9	
	comp=E,114nm,0.9s						
CAPN	**Captain Cook N**	**4.53**	**345**	Pn	**Pn**	**23 59 15.8**	**+1.3**
GLI	**Glacier Island**	**4.56**	**11**		**Pn**	**23 59 15.7**	**+0.8**
GLI				IAML		00 00 07.9	
	comp=N,117nm,1.0s						
GLI				IAML		00 00 11.2	
	comp=E,152nm,0.6s						
RC01	**Rabbit Creek A**	**4.71**	**354**		**Pn**	**23 59 18.3**	**+1.3**
RC01				IAML		00 00 13.7	
	comp=N,135nm,0.3s						
FIS	**Fire Island**	**4.80**	**352**	Pn	**Pn**	**23 59 19.9**	**+1.7**
BERG	**Berg Lake**	**4.80**	**32**	IAML		00 00 21.7	
	comp=E,205nm,0.9s						
DIV	**Divide**	**4.98**	**17**		**Pn**	**23 59 21.6**	**+0.9**
KNK	**Knik Glacier**	**5.01**	**2**		**Pn**	**23 59 22.3**	**+1.2**
KNK				IAML		00 00 25.4	
	comp=E,101nm,0.8s						
KNK				IAML		00 00 31.2	
	comp=N,67nm,0.8s						
BMRM	**Bremner River**	**5.06**	**24**		**Pn**	**23 59 22.6**	**+0.8**
BMRM				IAML		00 00 25.9	
	comp=E,79nm,0.7s						
BMRM				IAML		00 00 31.6	
	comp=N,89nm,0.7s						
SPU	**Mount Spurr**	**5.07**	**342**		**Pn**	**23 59 22.8**	**+0.9**
SPU				IAML		00 00 25.6	
	comp=N,87nm,0.6s						
SPU				IAML		00 00 26.2	
	comp=E,86nm,0.5s						
WAX	**Waxell Ridge**	**5.11**	**35**		**Pn**	**23 59 23.3**	**+0.8**
PMR	**Palmer**	**5.19**	**358**		**Pn**	**23 59 24.5**	**+1.0**
PMR				IAML		00 00 25.7	
	comp=N,50nm,0.5s						
PMR				IAML		00 00 27.0	
	comp=E,77nm,0.7s						
PMR	**Palmer**	**5.19**	**358**	P	**Pn**	**23 59 25.8**	**+2.2**
MESA	**MESA**	**5.22**	**41**		**Pn**	**23 59 24.8**	**+0.6**
MESA				IAML		00 00 28.0	
	comp=N,59nm,0.7s						
CRQM	**Cirque**	**5.26**	**32**		**Pn**	**23 59 25.5**	**+0.8**
CRQM				IAML		00 00 25.2	
	comp=N,108nm,0.6s						
CRQM				IAML		00 00 25.5	
	comp=E,100nm,0.8s						
CHGN	**Chignik**	**5.35**	**273**		**Pn**	**23 59 26.6**	**+0.9**
CHGN				IAML		00 00 26.0	
	comp=N,58nm,0.6s						
CHGN				IAML		00 00 39.9	
	comp=E,48nm,0.7s						
TGL	**Tana Glacier**	**5.36**	**33**		**Pn**	**23 59 26.4**	**+0.5**
ISLE	**Juniper Island**	**5.39**	**36**		**Pn**	**23 59 27.2**	**+0.7**
M22K	**Willow**	**5.40**	**353**		**Pn**	**23 59 28.5**	**+2.2**
YAH	**Yahtse**	**5.42**	**40**		**Pn**	**23 59 27.8**	**+0.8**
SCM	**Sheep Creek Mo**	**5.49**	**7**		**Pn**	**23 59 29.7**	**+2.0**
PNL	**Peninsula**	**5.96**	**53**	P	**Pn**	**23 59 35.8**	**+1.6**
CHNA	**Chernabura Isl**	**6.31**	**260**	P	**Pn**	**23 59 39.4**	**+0.5**
SIT	**Sitka**	**7.44**	**79**	P	**Pn**	**23 59 53.1**	**-1.3**
JIS	**Juneau Island**	**8.02**	**71**	P	**Pn**	**00 00 04.1**	**+1.8**
ILAR	**Eielson Array**	**8.44**	**6**	Pn	**Pn**	**00 00 07.8**	**-0.2**
	comp=E,0.4nm,0.3s,baz=188,slow=13,SNR=20						
ILAR				Sn	**Sn**	**00 01 39.3**	**-3.9**
	comp=E,1.3nm,0.3s,baz=194,slow=25,SNR=8.0						
ILAR				LR	LR	00 03 28.3	
	comp=E,134nm,19.6s,baz=233,slow=38 comp=E,1.0nm,0.5s						
COLA	**College**	**8.50**	**3**	P	**Pn**	**00 00 11.5**	**+2.6**
DLBC	**Dease Lake**	**10.32**	**71**	Pn	**Pn**	**00 00 36.6**	**+2.6**
	baz=212,slow=26,SNR=3.1						
DLBC				Sn	**Sn**	**00 02 27.1**	**-2.5**
	baz=17,slow=19,SNR=2.0						
DLBC				LR	LR	00 03 15.5	
	comp=E,6.8nm,18.1s,baz=234,slow=30 comp=E,0.1nm,0.3s						
MMPY	**Sheldon Lake,**	**10.84**	**48**		**Pn**	**00 00 42.3**	**+1.3**
G27K	**Doyon Strip**	**10.96**	**15**	Pn	**Pn**	**00 00 44.9**	**+2.3**
H29M	**Whitestone**	**11.02**	**23**	Pn	**Pn**	**00 00 44.7**	**+1.3**
F21K	**Alatna River**	**11.06**	**350**	Pn	**Pn**	**00 00 45.4**	**+1.4**
F20K	**Avaraart Lake**	**11.15**	**346**	Pn	**Pn**	**00 00 46.8**	**+1.6**
F24K	**Squaw Lake**	**11.15**	**2**	Pn	**Pn**	**00 00 47.2**	**+2.0**
BMAR	**Burnt Mountain**	**11.23**	**8**	Pn	**Pn**	**00 00 47.6**	**+1.4**
G29M	**Pine Creek**	**11.68**	**21**		**Pn**	**00 00 53.5**	**+1.0**
H31M	**Peel River**	**11.69**	**31**	Pn	**Pn**	**00 00 53.4**	**+0.8**
E24K	**Your Creek**	**11.70**	**1**	Pn	**Pn**	**00 00 55.3**	**+2.5**
E19K	**Redstone River**	**11.75**	**344**	Pn	**Pn**	**00 00 54.3**	**+0.9**
E25K	**Arctic Village**	**11.84**	**6**	Pn	**Pn**	**00 00 55.0**	**+0.4**
E22K	**Anaktuvuk Pass**	**11.84**	**355**	Pn	**Pn**	**00 00 55.8**	**+1.1**
TOLK	**Toolik Lake Re**	**12.28**	**359**	Pn	**Pn**	**00 01 03.3**	**+2.7**
E21K	**Killik River**	**12.30**	**351**	Pn	**Pn**	**00 01 03.3**	**+2.4**
G31M	**Satah River**	**12.55**	**27**	Pn	**Pn**	**00 01 06.8**	**+2.5**
D23K	**Nanushuk River**	**12.62**	**357**	Pn	**Pn**	**00 01 08.0**	**+2.6**
D22K	**Ayikyak River**	**12.63**	**354**	Pn	**Pn**	**00 01 06.6**	**+1.2**
F30M	**Barrier River**	**12.74**	**23**	Pn	**Pn**	**00 01 08.3**	**+1.4**
BBB	**Bella Bella**	**12.79**	**101**	LR	LR	00 04 57.3	
	comp=E,188nm,19.7s,baz=322,slow=32						
D19K	**Kuna River**	**12.84**	**344**	Pn	**Pn**	**00 01 10.4**	**+2.1**
E28M	**Babbage River**	**12.93**	**15**	Pn	**Pn**	**00 01 10.0**	**+0.4**
C27K	**Jago River**	**13.45**	**8**	Pn	**Pn**	**00 01 18.3**	**+1.7**
INK	**Inuvik**	**13.81**	**24**		**Pn**	**00 01 20.5**	**-1.0**
INK	**Inuvik**	**13.81**	**24**	Pn	**Pn**	**00 01 23.6**	**+2.2**
	comp=E,0.2nm,0.3s,baz=164,slow=8.6,SNR=5.0						
INK				LR	LR	00 07 04.0	
	comp=E,110nm,19.5s,baz=210,slow=39 comp=E,3.9nm,0.8s						
YKA	**Yellowknife Ar**	**18.24**	**56**		**Pn**	**00 02 18.7**	**-0.1**
YKA	**Yellowknife Ar**	**18.24**	**56**	P	**P**	**00 02 21.2**	**+2.1**
	comp=E,0.1nm,0.3s,baz=272,slow=12,SNR=8.1						
YKA				LR	LR	00 09 10.2	
	comp=E,88nm,19.5s,baz=250,slow=36 comp=E,1.5nm,1.0s						
YKAW3	**Yellowknife Wh**	**18.25**	**56**		**Pn**	**00 02 17.3**	**-1.6**
YKAW3				IAmb	IAmb	00 02 32.9	
	comp=Z,2.1nm,0.8s						
YKAW1	**Yellowknife Wh**	**18.30**	**57**		**Pn**	**00 02 18.8**	**-0.8**
YKAW1				IAmb	IAmb	00 02 24.4	
	comp=Z,2.8nm,0.8s						
A36M	**Sachs Harbour**	**18.45**	**23**	P	**P**	**00 02 21.4**	**+0.1**
NEW	**Newport**	**20.85**	**100**	LR	LR	00 09 16.1	
	comp=Z,141nm,21.2s,baz=305,slow=32						
YBH	**Yreka Blue Hor**	**22.35**	**120**	P	**P**	**00 03 07.6**	**+3.7**
	comp=Z,0.1nm,0.7s,baz=347,slow=6.6,SNR=2.8						
YBH				LR	LR	00 09 44.7	
	comp=Z,6.8nm,18.0s,baz=308,slow=31						
BMO	**Blue Mountains**	**22.87**	**107**	P	**P**	**00 03 08.2**	**-1.2**
BMO				IAmb	IAmb	00 03 20.6	
	comp=Z,1.3nm,0.8s						
GCMT	**Greycliff**	**26.42**	**97**	P	**P**	**00 03 37.7**	**-5.0**
BLKN	**Baker Lake**	**26.53**	**51**	P	**P**	**00 03 44.1**	**+0.9**
BLKN				IAmb	IAmb	00 03 47.0	
	comp=Z,4.2nm,1.1s						
RES	**Resolute Bay**	**27.32**	**28**	LR	LR	00 15 15.6	
	comp=Z,80nm,19.3s,baz=279,slow=38						
SEY	**Seymchan**	**29.43**	**307**	LR	LR	00 17 11.4	
	comp=Z,135nm,18.8s,baz=143,slow=39						
PETK	**Petropavlovsk-**	**30.39**	**287**	LR	LR	00 15 41.4	
	comp=Z,37nm,20.8s,baz=83,slow=35						
MA2	**Magadan**	**31.21**	**301**	LR	LR	00 17 47.0	
	comp=Z,56nm,19.8s,baz=104,slow=38						
H11N2	**WAKE ISLAND Hy**	**49.18**	**240**	T	T	01 00 37.0	
	baz=30						
H11N3	**WAKE ISLAND Hy**	**49.19**	**240**	T	T	01 00 41.9	
	baz=30						
H11N1	**WAKE ISLAND Hy**	**49.20**	**240**	T	T	01 00 40.9	
	baz=30						
H11S1	**WAKE ISLAND Hy**	**50.32**	**240**	T	T	01 01 60.0	
	baz=29,slow=76						
H11S2	**WAKE ISLAND Hy**	**50.34**	**240**	T	T	01 02 05.8	
	baz=29,slow=76						
H11S3	**WAKE ISLAND Hy**	**50.34**	**240**	T	T	01 01 57.8	
	baz=29,slow=76						
SONM	**Songino Array**	**58.76**	**310**	P	**P**	**00 08 03.5**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=35,slow=6.9,SNR=5.6 comp=Z,0.3nm,0.3s						
FINES	**FINESS Array B**	**62.41**	**3**	P	P	00 08 34.6	+6.3
	comp=Z,1.5nm,0.8s,baz=353,slow=7.0,SNR=4.0						

IDC 05 00:02:48.8±1.7,52.65N×158.90E,h0km,Error ellipse: s-maj=11.6km s-min=5.1km az=62.0,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**0.86**	**303**	Pg	Pg	00 03 05.0	-0.3
	2.7nm,0.3s,baz=109,slow=20,SNR=70						
PETK				Lg	Lg	00 03 17.8	
	2.6nm,0.3s,baz=108,slow=21,SNR=6.9						
H11N2	**WAKE ISLAND Hy**	**33.44**	**166**	H	H	00 44 44.2	
	baz=351,slow=76,SNR=2657						
H11N3	**WAKE ISLAND Hy**	**33.45**	**166**	H	H	00 44 44.1	
	baz=351,slow=76,SNR=1539						
H11N1	**WAKE ISLAND Hy**	**33.46**	**166**	H	H	00 44 45.5	
	baz=351,slow=76,SNR=1476						
H11S1	**WAKE ISLAND Hy**	**34.62**	**167**	H	H	00 46 14.5	
	baz=352,slow=76,SNR=564						
H11S3	**WAKE ISLAND Hy**	**34.63**	**167**	H	H	00 46 14.9	
	baz=352,slow=76,SNR=172						
H11S2	**WAKE ISLAND Hy**	**34.63**	**167**	H	H	00 46 14.8	
	baz=352,slow=76,SNR=336						
H03N2	**Juan Fernandez**	**134.92**	**88**	H	H	02 51 44.1	
	baz=314,slow=78,SNR=32						
H03N1	**Juan Fernandez**	**134.94**	**88**	H	H	02 51 44.9	
	baz=314,slow=78,SNR=38						
H03N3	**Juan Fernandez**	**134.94**	**88**	H	H	02 51 45.8	
	baz=314,slow=78,SNR=33						

IDC 05 00:04:40.2±13.0,19.70S×176.88W,h526km±77km, mb3.0/2,mbtmp3.8/3,Error ellipse: s-maj=293.4km s-min=52.5km az=138.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.19**	**291**	P	P	00 06 11.2	+0.8
	4.6nm,0.6s,baz=96,slow=19,SNR=2.1						
ASAR	**Alice Springs**	**45.73**	**256**	P	P	00 12 15.1	+0.7
	2.2nm,0.5s,baz=88,slow=8.6,SNR=41 2.2nm,0.5s						
WRA	**Warramunga Arr**	**45.76**	**261**	P	P	00 12 13.3	-1.4
	0.3nm,0.4s,baz=95,slow=7.0,SNR=11 0.3nm,0.4s	

CCAC IAML 00 18 25.6
comp=N,7µm,0.5s
CCAC Calif City Air 0.70 209 Sg 00 18 24.6 +0.3
ISA Isabella, Lake 0.71 262 Pg 00 18 14.7 -0.8
ISA IAML 00 18 25.5
comp=E,7µm,0.6s
ISA IAML 00 18 26.4
comp=N,7µm,0.3s
CWC Cottonwood Cre 0.77 330 Pg 00 18 15.8 -0.8
CWC Sg 00 18 26.3 -0.4
WASM Alta Sierra Ca 0.77 268 Pg 00 18 16.0 -0.7
WASM Sg 00 18 26.4 -0.4
CGO Cerro Gordo 0.80 349 Sg 00 18 27.5 0.0
GSC Goldstone, Bar 0.80 125 Sg 00 18 27.2 -0.5
GSC Goldstone, Bar 0.80 125 Pg 00 18 16.7 -0.5
GSC IAML 00 18 31.0
comp=E,7µm,0.6s
GSC IAML 00 18 31.1
comp=N,5µm,0.3s
GWY Greenwater Val 0.87 61 Pg 00 18 17.9 -0.6
HYS Haystack Butte 0.90 178 Pg 00 18 18.3 -0.9
FURC Furnace Creek, 0.92 41 Pg 00 18 19.1 -0.5
EDW2 Edwards Air Fo 0.94 200 Pg 00 18 18.7 -1.1
RRX Edison Barstow 1.02 151 Pg 00 18 20.9 -0.6
TPO Tropico Hills 1.02 210 Pg 00 18 20.5 -1.0
SPG2 Springville 2 1.03 295 Pg 00 18 20.3 -1.3
SPG2 Sg 00 18 34.0 -1.1
SHOC Shoshone, Teco 1.09 83 Pg 00 18 21.9 -0.8
SBB Saddle Back Bu 1.09 189 Pg 00 18 21.5 -1.3
MAGC SCE Magundon P 1.15 250 Pg 00 18 22.8 -1.0
ARVC Arvin 1.19 238 Pg 00 18 23.2 -1.3
TJR Tejon Ranch 1.19 232 Pg 00 18 22.8 -1.7
VES Vestal, Richgr 1.20 274 Pg 00 18 23.7 -1.2
THC Tehachapi Micr 1.22 225 Pg 00 18 23.4 -1.7
ALPC Antelope 1.22 208 Pg 00 18 23.8 -1.4
ADO Adelanto Recei 1.22 173 Pg 00 18 24.5 -0.8
VTV Victorville 1.23 169 Pg 00 18 24.5 -0.9
GRAC Grapevine Rang 1.24 9 Pg 00 18 24.6 -1.0
GRAC Grapevine Rang 1.24 9 IAML 00 18 44.6
comp=E,5µm,0.7s
GRAC IAML 00 18 49.0
comp=N,5µm,0.7s
LEOC Leona Valley 1.27 207 Pg 00 18 24.7 -1.5
BAKC Calstate 1.29 251 Pn 00 18 25.5 -1.0
WCT Wildcat Mounta 1.29 38 Pg **Pn 00 18 25.4 -1.2**
WCT IAML 00 18 44.9
comp=E,3µm,0.4s
WCT IAML 00 18 44.9
comp=N,2µm,1.0s
DSCC Desert Studies 1.38 117 Pn 00 18 25.8 -1.8
VOG Valley Oaks Go 1.54 291 Pn 00 18 29.6 -0.2
GMN Gold Mountain 1.55 10 Pn 00 18 29.5 -0.8
GMN IAML 00 18 56.1
comp=N,1µm,0.8s
TPNV Topopah Spring 1.61 43 Pn 00 18 30.0 -0.9
TPNV IAML 00 18 54.9
comp=N,2µm,0.6s
TPNV IAML 00 18 55.6
comp=N,3µm,0.6s
DSP Deep Springs 1.62 350 Pn 00 18 30.4 -0.5
DSP IAML 00 18 55.0
comp=N,1µm,0.5s
PASC Pasadena Art C 1.66 197 Pn 00 18 30.8 -0.8
PASC IAML 00 18 56.3
comp=E,1µm,0.8s
BCW Bitter Crk WRg 1.69 241 Pn 00 18 30.9 -1.2
BCW IAML 00 19 11.8
comp=N,3µm,1.0s
MZP Montezuma Peak 1.94 5 Pn **Pn 00 18 35.1 -0.5**
SMMC Simmler 2.00 258 Pb 00 18 38.6 0.0
SHPR Sheep Range 2.11 69 IAML 00 19 10.8
comp=N,1µm,0.7s
SHPR IAML 00 19 10.8
comp=E,891nm,0.5s
ELS Elsinore Mount 2.12 176 Pn 00 18 37.2 -0.7
ELS IAML 00 19 15.1
comp=E,874nm,1.0s
ELS IAML 00 19 16.3
comp=N,872nm,1.2s
RPV Rancho Palos V 2.12 198 Pn 00 18 37.7 -0.2
V12A Nelson 2.24 90 Pn **Pn 00 18 38.3 -1.3**
V12A IAML 00 19 19.6
comp=N,1µm,0.8s
V12A IAML 00 19 24.1
comp=E,934nm,0.7s
TPH Tonopah 2.32 8 Pn 00 18 40.6 -0.2
PFO Pinyon Flats O 2.35 156 Pn 00 18 40.1 -1.0
PFO IAML 00 19 23.2
comp=E,730nm,0.8s
PFO Pinyon Flats O 2.35 156 Pn **Pn 00 18 40.0 -1.0**
comp=E,7.1nm,0.3s,baz=336,slow=12,SNR=21
PFO Pg **Pb 00 18 45.5 +0.9**
comp=E,45nm,0.3s,baz=331,slow=14,SNR=55
PFO Sn **Sn 00 19 09.7 -0.7**
comp=E,36nm,0.3s,baz=334,slow=15,SNR=4.1
PFO Lg Lg 00 19 15.8
comp=E,54nm,0.3s,baz=25,slow=11,SNR=7.2
comp=E,14nm,0.3s
S11A Rachel 2.40 38 Pn 00 18 41.6 -0.1
S11A IAML 00 19 24.6
comp=N,1µm,1.0s
LHV Little Huntoon 2.58 344 Pn 00 18 44.5 +0.4
LHV IAML 00 19 30.2
comp=N,632nm,0.7s
LHV IAML 00 19 30.2
comp=E,715nm,1.1s
PMPB Monarch Peak 2.63 281 Pn 00 18 44.4 -0.5
PRN Pahroc Range 2.63 51 Pn 00 18 44.7 -0.3
PRN IAML 00 19 39.3
comp=E,1µm,0.8s
NV11 Mina Array Sit 2.69 351 Pn 00 18 45.8 -0.1
NVAR Mina Array Bea 2.71 348 Pn 00 18 45.9 -0.3
NVAR Mina Array Bea 2.71 348 Pn **Pn 00 18 46.2 0.0**
comp=E,5.9nm,0.3s,baz=171,slow=15,SNR=32
NVAR Pg **Pb 00 18 51.4 +0.5**
comp=E,62nm,0.3s,baz=168,slow=18,SNR=82
NVAR Lg Lg 00 19 27.1
comp=E,20nm,0.3s,baz=128,slow=21,SNR=3.8
comp=E,9.0nm,0.6s
BBGB Big Mountain B 2.89 287 Pn 00 18 49.6 +1.1
RYN Ryan 2.95 346 Pn 00 18 49.6 +0.3
R11B Troy Canyon, C 3.04 32 Pn 00 18 50.1 -0.6
R11B Pg **Pb 00 18 57.6 +1.1**
Q09A Carvers 3.08 6 Pn 00 18 51.1 -0.1
Q09A Pg **Pg 00 18 59.0 -1.9**
WAKR Walker 3.10 332 Pn 00 18 52.0 +0.6
WAKR Pg **Pb 00 18 58.8 +1.3**
W13A Hualapai Mount 3.11 101 Pn **Pn 00 18 50.3 -1.4**
W13A IAML 00 19 44.5
comp=N,309nm,0.9s
CMB Columbia Colle 3.17 316 Pn 00 18 52.4 0.0
CMB IAML 00 19 45.8
comp=N,394nm,0.7s
CMB IAML 00 19 48.2
comp=E,290nm,0.9s
BLYC Blythe 3.24 128 Pn 00 18 51.2 -2.0
BLYC Pg **Pg 00 19 02.8 -1.1**
BLYC IAML 00 19 47.5
comp=E,445nm,0.8s
BLYC IAML 00 19 48.0
comp=N,490nm,0.7s
SAO San Andreas Ge 3.26 289 Pn 00 18 52.8 -0.7
TJX Tijuana 3.28 172 Pn 00 18 53.3 -0.5
YUH Yuha Desert 3.41 155 Pn 00 18 54.1 -1.5
YUH Pg **Pg 00 19 05.0 -2.2**
CBX Cerro Bola 3.54 167 Pn 00 18 57.2 -0.2
GLA Glamis 3.55 139 Pn 00 18 55.5 -2.1
GLA Pg **Pb 00 19 07.3 +2.2**
LCMT Little Creek M 3.73 69 Pn 00 19 00.0 -0.1
CCUT Cedar City 3.85 61 Pn **Pn 00 19 01.9 +0.1**
CCUT Pg **Pg 00 19 14.0 -1.6**
CCUT IAML 00 20 07.0
comp=N,172nm,1.3s
CPBX Cerro Prieto 3.85 150 Pn **Pn 00 19 00.4 -1.2**
CCX Cicese 3.97 168 Pn 00 19 03.2 -0.1
CCX IAML 00 20 13.0
comp=N,233nm,0.9s
CCX IAML 00 20 15.4
comp=E,382nm,0.8s
ESJX Sierra Juarez 4.00 159 IAML 00 20 12.2
comp=N,153nm,0.8s
ESJX IAML 00 20 12.2
comp=E,227nm,1.1s
MPK Martis Peak 4.01 332 Pn 00 19 03.7 -0.4
MPK Pb 00 19 04.5 -8.6
MPK IAML 00 20 21.1
comp=E,364nm,0.8s
MPK IAML 00 20 23.4
comp=N,330nm,0.8s
KNB Kanab 4.06 71 Pn 00 19 05.0 +0.3
KNB IAML 00 20 20.6
comp=E,192nm,0.9s
KNB IAML 00 20 32.0
comp=N,203nm,1.3s
SZCU Shurtz Canyon 4.07 62 Pn **Pn 00 19 05.6 +0.8**
PSUT Pine Spring 4.08 46 Pn **Pn 00 19 04.9 0.0**
PSUT **Pg 00 19 18.0 -1.9**
PSUT IAML 00 20 23.8
comp=E,273nm,1.3s
PSUT IAML 00 20 30.3
comp=N,235nm,1.1s
SPR3 Spring Creek 3 4.15 38 Pn 00 19 06.1 +0.1
SPR3 Pg **Pb 00 19 17.5 +2.1**
SPR3 IAML 00 20 17.8
comp=N,156nm,0.9s
SPR3 IAML 00 20 23.3
comp=E,167nm,1.4s
AFDM Forest Hills D 4.15 321 Pb 00 19 15.8 +0.5
AFDM IAML 00 20 17.4
comp=N,213nm,0.7s
AFDM IAML 00 20 24.3
comp=E,235nm,1.1s
PAHR Pah Rah Range 4.17 341 Pn 00 19 06.3 +0.1
PAHR Pg **Pb 00 19 18.4 +2.6**
Y14A Wickenburg 4.20 114 Pn 00 19 05.5 -1.0
Y14A IAML 00 20 17.9
comp=E,253nm,0.8s
Y14A IAML 00 20 27.3
comp=N,207nm,0.9s
113A Mohawk Valley, 4.37 132 Pn **Pn 00 19 07.4 -1.3**
VTX Valle De La Tr 4.62 160 Pn 00 19 12.5 +0.1
VTX IAML 00 20 31.7
comp=N,202nm,0.8s
BEKR Beckworth 4.63 333 Pn 00 19 12.2 -0.4
BEKR IAML 00 20 38.9
comp=N,110nm,0.7s
MVU Marysvale 5.10 56 IAML 00 20 44.1
comp=N,146nm,0.7s
MVU IAML 00 21 32.6
comp=E,111nm,0.9s
SFX San Felipe 5.25 153 IAML 00 20 57.7
comp=E,96nm,1.6s
SFX IAML 00 21 00.6
comp=N,93nm,1.1s
ELK Elko 5.31 20 Pn **Pn 00 19 21.4 -0.4**
comp=N,1.1nm,0.3s,baz=212,slow=12,SNR=15
ELK Pg **Pb 00 19 38.9 +3.8**
comp=N,7.9nm,0.3s,baz=232,slow=13,SNR=24
ELK Sn **Sn 00 20 21.3 -2.2**
baz=182,slow=14
ELK Lg Lg 00 20 47.6
comp=N,8.5nm,0.3s,baz=93,slow=23,SNR=9.9
ELK LR LR 00 21 36.6
comp=N,240nm,19.4s,baz=260,slow=42
comp=N,2.8nm,0.4s
YBH Yreka Blue Hor 7.16 328 Pn **Pn 00 19 50.0 +2.8**
baz=161,slow=4.3,SNR=5.2
YBH Pg **Pb 00 20 04.2 -2.5**
baz=186,slow=7.7,SNR=4.3
YBH Sn **Sn 00 21 12.5 +3.6**
baz=161,slow=13,SNR=1.8
YBH Lg Lg 00 21 43.9
baz=141,slow=11,SNR=2.8
319A Douglas 8.21 120 Pn 00 20 01.6 -0.1
J04A Umpqua Nationa 8.23 336 Pn **Pn 00 20 00.8 -1.2**
ANMO Albuquerque 9.15 92 Pn **Pn 00 20 11.5 -3.0**
comp=N,0.3nm,0.3s,baz=125,slow=9.4,SNR=1.3
ANMO Pg 00 20 47.4
comp=N,0.2nm,0.3s,baz=18,slow=12,SNR=10
ANMO Lg Lg 00 22 43.8
comp=N,0.2nm,0.3s,baz=307,slow=22,SNR=10.0
ANMO LR LR 00 23 34.7
comp=N,61nm,20.3s,baz=11,slow=38
PDAR Pinedale Array 9.37 39 Pn **Pn 00 20 15.3 -2.3**
comp=N,0.1nm,0.3s,baz=230,slow=12,SNR=6.0
PDAR Lg Lg 00 22 52.2
comp=N,0.1nm,0.3s,baz=222,slow=32,SNR=1.7
comp=N,0.2nm,0.5s
NEW Newport 12.49 1 LR LR 00 26 39.4
comp=N,60nm,21.4s,baz=186,slow=42
TXAR Lajitas Array 13.39 115 Pn **Pn 00 21 12.9 +0.4**
comp=N,0.3nm,0.3s,baz=292,slow=12,SNR=8.1
TXAR Lg Lg 00 24 57.2
comp=N,0.1nm,0.3s,baz=282,slow=32,SNR=1.3
TXAR LR LR 00 26 29.9
comp=N,23nm,21.3s,baz=270,slow=39
comp=N,0.7nm,0.5s
ULM Lac du Bonnet 21.39 41 P **P 00 22 48.3 -1.7**
comp=N,3.0nm,0.8s,baz=240,slow=9.8,SNR=5.1
comp=N,3.0nm,0.8s
YKA Yellowknife Ar 26.82 3 P **P 00 23 42.6 +0.1**
comp=N,0.7nm,0.9s,baz=188,slow=8.6,SNR=4.0
comp=N,0.7nm,0.9s
INK Inuvik 33.80 349 LR LR 00 40 49.3
comp=N,71nm,18.7s,baz=185,slow=40
ILAR Eielson Array 33.92 338 P **P 00 24 46.9 +1.6**
comp=N,0.6nm,0.9s,baz=156,slow=7.9,SNR=7.7
comp=N,0.6nm,0.9s
SFJD Kangerlussuaq 48.70 29 LR LR 00 47 20.4
comp=N,76nm,18.2s,baz=338,slow=36
BORG Borgarnes 60.82 29 LR LR 00 54 39.3
comp=N,36nm,19.5s,baz=322,slow=36
NOA NORSAR Array B 74.92 23 LR LR 01 01 19.9
comp=N,18nm,20.0s,baz=290,slow=35
DAVOX Davos/Dischmat 85.26 33 LR LR 01 07 42.5
comp=N,26nm,19.6s,baz=252,slow=35
GERES GERESS Array B 85.28 30 LR LR 01 08 36.0
comp=N,14nm,19.8s,baz=64,slow=36
VRAC Vranov 86.05 28 LR LR 01 11 18.4
comp=N,19nm,18.1s,baz=324,slow=37

*GCG **05** 00:20:01.2±1.1, 14.2°±35N×90.4°±44W, h178km±12km, MD4.2, ML4.1, MW3.7, Fault plane solution: NP1:ϕs138.75000°, δ90.00000°, λ75.00000°.*
*NEIC **05** 00:20:02.4±1.2, 14.4°±4N×0.1°×90.4°±3W×0.1°±08, h177km±8km, mb4.3/48, Error ellipse: s-maj=16.1km s-min=9.7km az=208.0*
*IDC **05** 00:20:02.3±1.8, 14.3°±9N×90.3°±9W, h195km±23km, mb3.5/7, mbtmp4.0/10, Error ellipse: s-maj=32.9km s-min=15.0km az=51.0*
*CATAC **05** 00:20:02.2±0.5, 14.1°±3N×9.0°±1W, h172km±3km, M3.5/14, MLv3.5/14, Error ellipse: s-maj=7.4km s-min=3.5km az=24.8, confirmed*

ISC 05 00:20:01.5±0.6, 14.5°±2N×90.6°±4W, h186km±5km, n115, σ1§43/126, mb4.3/24, 6C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FG16	**Alotenango, Sa**	**0.12**	**245**	⇑*i* P		**Pn**	**Pn**	**00 20 26.2**	**-0.1**
FG16				IAML				00 20 55.8	
	comp=E,5µm,0.5s								
FG16				IAML				00 20 55.9	
	comp=Z,1µm,0.3s								
FG8	**Yepocapa, Chim**	**0.17**	**248**	⇑*i* P		**Pn**	**Pn**	**00 20 26.2**	**0.0**
FG8				*i* S		**Sn**	**Sn**	**00 20 46.0**	**+0.7**
ESSG	**Sabana Grande**	**0.42**	**278**	*i* P		**Pn**	**Pn**	**00 20 25.8**	**-1.1**
ESSG				*i* S		**Sn**	**Sn**	**00 20 44.4**	**-1.8**
ESSG				IAML				00 20 46.0	
	comp=N,1µm,1.3s								
FAME	**Alcaldia de Sa**	**0.60**	**142**	P		**Pn**	**Pn**	**00 20 26.5**	**-1.0**
FAME	**Alcaldia de Sa**	**0.60**	**142**	S		**Sn**	**Sn**	**00 20 45.8**	**-1.8**
SLOZ	**Alcaldia de Sa**	**0.67**	**116**	P		**Pn**	**Pn**	**00 20 27.5**	**-0.4**
SLOZ	**Alcaldia de Sa**	**0.67**	**116**	S		**Sn**	**Sn**	**00 20 47.4**	**-0.7**
LOAL	**Lomas de Alarc**	**0.68**	**118**	P		**Pn**	**Pn**	**00 20 27.6**	**-0.3**
NUBE	**Las Nubes**	**0.73**	**125**	⇓*i* P		**Pn**	**Pn**	**00 20 27.9**	**-0.4**
NUBE	**Las Nubes**	**0.73**	**125**	P		**Pn**	**Pn**	**00 20 27.9**	**-0.4**
NUBE	**Las Nubes**	**0.73**	**125**	S		**Sn**	**Sn**	**00 20 47.3**	**-1.7**
CEVE	**Cerro Verde**	**0.90**	**123**	P		**Pn**	**Pn**	**00 20 29.5**	**+0.1**
CEVE	**Cerro Verde**	**0.90**	**123**	S		**Sn**	**Sn**	**00 20 50.4**	**-0.6**
STG0	**El Palmar, Qui**	**0.92**	**276**	⇑*i* P		**Pn**	**Pn**	**00 20 30.8**	**+1.3**
STG0				*i* S		**Sn**	**Sn**	**00 20 53.4**	**+2.4**
STG0				IAML				00 20 54.4	
	comp=E,4µm,0.6s								
STG8	**El Palmar, Qui**	**0.93**	**278**	⇑*i* P		**Pn**	**Pn**	**00 20 31.1**	**+1.4**
STG8				*i* S		**Sn**	**Sn**	**00 20 54.3**	**+3.0**
STG8				IAML				00 20 59.4	
	comp=N,3µm,0.7s								
MTO3	**Montecristo**	**1.01**	**86**			**Pn**	**Pn**	**00 20 29.8**	**-0.4**
MTO3	**Montecristo**	**1.01**	**86**	⇓*i* P		**Pn**	**Pn**	**00 20 29.7**	**-0.4**
MTO3	**Montecristo**	**1.01**	**86**	P		**Pn**	**Pn**	**00 20 29.6**	**-0.5**
MTO3	**Montecristo**	**1.01**	**86**	S		**Sn**	**Sn**	**00 20 51.0**	**-1.2**
ESQI	**Esquipulas**	**1.05**	**77**			**Pn**	**Pn**	**00 20 30.3**	**0.0**
ESQI	**Esquipulas**	**1.05**	**77**	P		**Pn**	**Pn**	**00 20 30.6**	**+0.2**
ESQI	**Esquipulas**	**1.05**	**77**	S		**Sn**	**Sn**	**00 20 52.6**	**0.0**
SOKI	**Kika Raxquin**	**1.09**	**297**	*i* P		**Pn**	**Pn**	**00 20 31.1**	**+0.1**
SOKI				*i* S		**Sn**	**Sn**	**00 20 56.5**	**+2.8**
SOKI				IAML				00 21 00.3	
	comp=N,2µm,0.8s								
JAYA	**Jayaque - finc**	**1.14**	**126**	*i* P		**Pn**	**Pn**	**00 20 30.8**	**-0.3**
JAYA				*i* S		**Sn**	**Sn**	**00 20 52.5**	**-1.4**
JAYA	**Jayaque - finc**	**1.14**	**126**	P		**Pn**	**Pn**	**00 20 30.4**	**-0.6**
JAYA	**Jayaque - finc**	**1.14**	**126**	S		**Sn**	**Sn**	**00 20 53.4**	**-0.5**
PMON	**Piamonte**	**1.22**	**120**	P		**Pn**	**Pn**	**00 20 31.8**	**+0.1**
RTAL	**Retalhuleu**	**1.27**	**279**			**Pn**	**Pn**	**00 20 31.4**	**-0.6**
RTAL	**Retalhuleu**	**1.27**	**279**	P		**Pn**	**Pn**	**00 20 31.1**	**-0.9**
RTAL	**Retalhuleu**	**1.27**	**279**	S		**Sn**	**Sn**	**00 20 54.7**	**-0.8**
LALI	**Alcalda de L**	**1.33**	**128**	S		**Sn**	**Sn**	**00 20 55.3**	**-1.2**
HUEH	**Huehuetenango**	**1.46**	**313**			**Pn**	**Pn**	**00 20 33.3**	**-0.5**
HUEH	**Huehuetenango**	**1.46**	**313**	S		**Sn**	**Sn**	**00 20 58.5**	**-0.4**
SARH	**Santa Rosa de**	**1.65**	**74**	P		**Pn**	**Pn**	**00 20 35.9**	**+0.4**
SARH	**Santa Rosa de**	**1.65**	**74**	S		**Sn**	**Sn**	**00 21 01.4**	**-0.4**
SMCA	**Catarina**	**1.71**	**288**	*i* P		**Pn**	**Pn**	**00 20 35.4**	**-0.6**
SMCA				*i* S		**Sn**	**Sn**	**00 21 00.9**	**-1.9**
SMCA				IAML				00 21 04.8	
	comp=E,1µm,1.1s								
SCLA	**Alcaldia de Sa**	**1.73**	**111**	P		**Pn**	**Pn**	**00 20 36.3**	**-0.1**
THIG		**1.90**	**288**	⇑*i* P		**Pn**	**Pn**	**00 20 37.6**	**-0.3**
THIG				*i* S		**Sn**	**Sn**	**00 21 05.1**	**-1.1**
THIG				IAML				00 21 07.7	
	comp=E,3µm,1.2s								
ALJI	**Alcalda de J**	**2.03**	**119**	S		**Sn**	**Sn**	**00 21 07.8**	**-1.0**
CCIG	**Comitan**	**2.57**	**319**			**Pn**	**Pn**	**00 20 46.0**	**+0.4**
CCIG	**Comitan**	**2.57**	**319**	⇓*i* P		**Pn**	**Pn**	**00 20 45.9**	**+0.4**
CCIG				*i* S		**Sn**	**Sn**	**00 21 19.6**	**-0.3**
CCIG				IAML				00 21 21.6	
	comp=N,240nm,1.2s								
CCIG	**Comitan**	**2.57**	**319**	P		**Pn**	**Pn**	**00 20 45.9**	**+0.4**
PETF	**Flores**	**2.63**	**11**			**Pn**	**Pn**	**00 20 45.8**	**-0.2**
PETF	**Flores**	**2.63**	**11**	⇓*i* P		**Pn**	**Pn**	**00 20 46.1**	**+0.1**
PETF	**Flores**	**2.63**	**11**	P		**Pn**	**Pn**	**00 20 46.0**	**-0.1**
PETF	**Flores**	**2.63**	**11**	S		**Sn**	**Sn**	**00 21 19.7**	**-1.2**
TGUH	**Tegucigalpa,Un**	**3.04**	**95**			**Pn**	**Pn**	**00 20 51.4**	**+0.3**
TGUH	**Tegucigalpa,Un**	**3.04**	**95**	P		**Pn**	**Pn**	**00 20 51.4**	**+0.3**
TGUH				S		**Sn**	**Sn**	**00 21 28.7**	**-1.1**
YUSH	**Yuscaran**	**3.47**	**96**	P		**Pn**	**Pn**	**00 20 56.6**	**+0.3**
TGIG		**3.58**	**313**	⇑*i* P		**Pn**	**Pn**	**00 20 57.5**	**-0.1**
TGIG				*i* S		**Sn**	**Sn**	**00 21 36.1**	**-5.5**
TGIG				IAML				00 22 01.9	
	comp=N,81nm,2.0s								
CMIG	**Matias Romero**	**5.12**	**303**	P		**Pn**	**Pn**	**00 21 17.1**	**-0.1**
	comp=N,5.4nm,0.3s,baz=140,slow=11,SNR=30								
CMIG				S		**Sn**	**Sn**	**00 22 11.1**	**-5.6**
	comp=N,41nm,0.3s,baz=124,slow=10,SNR=17								
ACON	**Acoyapa**	**5.60**	**114**	Pn		**Pn**	**Pn**	**00 21 24.3**	**+0.8**
TEIG	**Tepich**	**6.21**	**19**			**Pn**	**Pn**	**00 21 31.7**	**+0.3**
JTS	**Las Juntas de**	**6.66**	**126**			**Pn**	**Pn**	**00 21 40.0**	**+2.7**
JTS	**Las Juntas de**	**6.66**	**126**	P		**Pn**	**Pn**	**00 21 38.4**	**+1.1**
	comp=N,13nm,0.3s,baz=306,slow=17,SNR=16								
JTS				S		**Sn**	**Sn**	**00 22 45.8**	**-7.2**
	comp=N,9.0nm,0.5s,baz=314,slow=23,SNR=6.5								
LCR2	**La Lucha 2**	**7.74**	**125**			**Pn**	**Pn**	**00 21 53.4**	**+1.7**
MTDJ	**Mount Denham**	**12.94**	**71**	P		**P**	**P**	**00 23 04.9**	**+2.2**
HNDO	**Hondo**	**17.22**	**333**	P		**Pn**	**Pn**	**00 23 52.1**	**+1.0**
BRDY	**Brady**	**18.64**	**336**	P		**P**	**P**	**00 24 06.2**	**+0.9**
BRDY				IAmb		IAmb	IAmb	00 24 07.5	
	comp=Z,6.4nm,0.7s								
LRAL	**Lakeview Retre**	**18.88**	**9**	P		**Pn**	**Pn**	**00 24 10.2**	**-0.4**
Z47A	**Carrollton**	**18.91**	**6**	P		**Pn**	**Pn**	**00 24 10.4**	**-0.5**
Z47A				IAmb		IAmb	IAmb	00 24 11.4	
	comp=Z,11nm,0.8s								
152A	**Waverly Hall**	**18.98**	**15**	P		**P**	**P**	**00 24 10.8**	**+1.9**
TREL	**Terrell**	**19.04**	**345**	P		**P**	**P**	**00 24 10.8**	**+1.2**
FLOC	**Florencia**	**19.30**	**130**	P		**P**	**P**	**00 24 14.6**	**+2.0**
FLOC				IAmb		IAmb	IAmb	00 24 16.9	
	comp=Z,6.0nm,0.7s								
TXAR	**Lajitas Array**	**19.33**	**323**	P		**P**	**P**	**00 24 12.6**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=140,slow=9.1,SNR=1.6								
PLPT	**Palo Pinto**	**19.77**	**340**	P		**P**	**P**	**00 24 18.5**	**+1.0**
PLPT				IAmb		IAmb	IAmb	00 24 21.6	
	comp=Z,9.4nm,1.1s								
Y49A	**Blount Mountai**	**19.78**	**10**			**P**	**P**	**00 24 19.0**	**+1.4**
Y49A				IAmb		IAmb	IAmb	00 24 22.5	
	comp=Z,10nm,1.0s								
GOGA	**Godfrey**	**20.02**	**17**	P		**P**	**P**	**00 24 20.6**	**+0.5**
GOGA				IAmb		IAmb	IAmb	00 24 23.9	
	comp=Z,6.9nm,0.6s								
OXF	**Oxford**	**20.12**	**2**	P		**P**	**P**	**00 24 21.2**	**+0.1**
OXF				IAmb		IAmb	IAmb	00 24 52.9	
	comp=Z,9.2nm,0.7s								
X48A	**Hartselle**	**20.27**	**8**			**P**	**P**	**00 24 23.3**	**+0.6**
Y52A	**Lilburn**	**20.28**	**15**	P		**P**	**P**	**00 24 23.8**	**+0.9**
Y52A				IAmb		IAmb	IAmb	00 24 26.7	
	comp=Z,11nm,0.6s								
FPAL	**Fort Paine**	**20.59**	**11**	P		**P**	**P**	**00 24 27.3**	**+1.1**
SWET	**Sewanee**	**21.19**	**10**	P		**P**	**P**	**00 24 33.1**	**+0.6**
SWET				IAmb		IAmb	IAmb	00 24 35.1	
	comp=Z,11nm,0.9s								
W50A	**Signal Mountai**	**21.29**	**12**	P		**P**	**P**	**00 24 34.6**	**+1.0**
W50A				IAmb		IAmb	IAmb	00 24 35.9	
	comp=Z,7.4nm,0.5s								
W52A	**Murphy**	**21.49**	**15**	P		**P**	**P**	**00 24 36.6**	**+0.9**
JSC	**Jenkinsville**	**21.52**	**21**	P		**P**	**P**	**00 24 37.2**	**+1.2**
V48A	**Smith Brothers**	**21.57**	**8**	P		**P**	**P**	**00 24 37.4**	**+0.9**
V48A				IAmb		IAmb	IAmb	00 24 38.7	
	comp=Z,6.6nm,0.7s								
Y57A	**Sumter**	**21.60**	**23**	P		**P**	**P**	**00 24 37.1**	**+0.3**
BG3	**Lake Jocassee**	**21.65**	**17**	P		**P**	**P**	**00 24 38.4**	**+1.0**
BG3				IAmb		IAmb	IAmb	00 24 39.6	
	comp=Z,9.2nm,0.9s								
CPCT	**Cooper Cave**	**21.69**	**13**			**P**	**P**	**00 24 38.3**	**+0.5**
WVT	**Waverly**	**21.84**	**6**	P		**P**	**P**	**00 24 40.5**	**+1.3**
OKCSW	**OKLAHOMA CITY**	**21.93**	**344**	P		**P**	**P**	**00 24 40.1**	**0.0**
CLTN	**Cedars of Leba**	**21.98**	**9**	P		**P**	**P**	**00 24 41.7**	**+1.1**
TKL	**Tuckaleechee C**	**22.06**	**14**	P		**P**	**P**	**00 24 42.3**	**+0.9**
TKL	**Tuckaleechee C**	**22.06**	**14**	P		**P**	**P**	**00 24 41.4**	**0.0**
	comp=Z,7.1nm,0.6s,baz=185,slow=11,SNR=25								
	comp=Z,7.1nm,0.6s								
V53A	**Saluda**	**22.32**	**16**	P		**P**	**P**	**00 24 45.1**	**+1.1**
U49A	**Red Boiling Sp**	**22.48**	**10**	P		**P**	**P**	**00 24 45.6**	**+0.2**
U49A				IAmb		IAmb	IAmb	00 24 47.0	
	comp=Z,8.8nm,0.6s								
SMWD	**Samnorwood**	**22.51**	**339**	P		**P**	**P**	**00 24 45.8**	**+0.1**
T45A	**Paducah**	**22.66**	**4**	P		**P**	**P**	**00 24 48.3**	**+1.3**
T47A	**Sharon Grove**	**22.76**	**7**			**P**	**P**	**00 24 48.7**	**+0.8**
TZTN	**Tazewell**	**22.96**	**14**	P		**P**	**P**	**00 24 50.4**	**+0.7**
TZTN				IAmb		IAmb	IAmb	00 24 52.3	
	comp=Z,7.8nm,0.7s								
T50A	**Nancy**	**23.14**	**11**			**P**	**P**	**00 24 51.9**	**+0.6**
T50A				IAmb		IAmb	IAmb	00 24 53.6	
	comp=Z,5.9nm,0.8s								
S44A	**Carbondale**	**23.30**	**2**	P		**P**	**P**	**00 24 53.9**	**+1.1**
S44A				IAmb		IAmb	IAmb	00 24 55.2	
	comp=Z,8.6nm,0.7s								
SIUC	**Southern Illin**	**23.32**	**2**	P		**P**	**P**	**00 24 53.9**	**+1.0**
SIUC				IAmb		IAmb	IAmb	00 24 55.5	
	comp=Z,7.9nm,0.8s								
U54A	**Nelsons Funny**	**23.40**	**18**	P		**P**	**P**	**00 24 55.3**	**+1.6**
S51A	**Beattyville**	**24.00**	**13**	P		**P**	**P**	**00 25 00.0**	**+0.9**
S51A				IAmb		IAmb	IAmb	00 25 00.6	
	comp=Z,6.6nm,0.9s								
WCI	**Wyandotte Cave**	**24.09**	**8**			**P**	**P**	**00 25 01.0**	**+1.1**
R49A	**Shelbyville**	**24.32**	**10**	P		**P**	**P**	**00 25 02.5**	**+0.4**
OLIL	**Olney**	**24.40**	**4**			**P**	**P**	**00 25 03.8**	**+1.0**
OLIL				IAmb	

EPLO	**Experimental L**	**35.36**	**356**	P	**P**	**00 26 38.8**	**-0.3**
EPLO				IAmb	IAmb	00 26 39.1	
	comp=Z,4.5nm,0.8s						
ULM	**Lac du Bonnet**	**36.11**	**354**	P	**P**	**00 26 44.7**	**-0.7**
	comp=Z,3.9nm,0.6s,baz=172,slow=7.0,SNR=6.2						
	comp=Z,3.9nm,0.6s						
LPAZ	**La Paz**	**37.54**	**143**	P	**P**	**00 26 59.6**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=296,slow=6.5,SNR=4.4						
	comp=Z,0.9nm,0.6s						
SCHQ	**Schefferville**	**44.39**	**19**	P	**P**	**00 27 53.0**	**-0.5**
	comp=Z,5.4nm,0.5s,baz=221,slow=6.6,SNR=25						
	comp=Z,5.4nm,0.5s						
YKA	**Yellowknife Ar**	**51.08**	**346**	pP	pP	00 29 25.8	-0.9
	comp=Z,0.3nm,0.7s,baz=136,slow=6.9,SNR=5.2						
ILAR	**Eielson Array**	**63.16**	**336**	pP	pP	00 30 52.6	-0.5
	comp=Z,0.2nm,0.9s,baz=108,slow=7.9,SNR=4.1						
EKA	**Eskdalemuir Ar**	**76.79**	**36**	P	**P**	**00 31 31.4**	**-1.2**
	comp=Z,1.2nm,0.9s,baz=258,slow=3.5,SNR=2.6						
	comp=Z,1.2nm,0.9s						
ESDC	**Sonseca Array**	**78.30**	**52**	P	**P**	**00 31 39.4**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=286,slow=4.3,SNR=4.8						
	comp=Z,0.2nm,0.5s						

*AEIC **05** 00:23:49.3±1.6,56°.41N±0°.08×148°.8W±0°.1,h11km±7km, Error ellipse: s-maj=12.1km s-min=9.0km az=167.0*

NEIC 05 00:23:44.2±1.5,56°.35N±0°.07×148°.84W±0°.10,h10km±2km, ML3.6/96,ML3.4(AEIC),Error ellipse: s-maj=12.6km s-min=8.9km az=166.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.50**	**307**	Pn	Pn	00 24 24.4	-0.5
KDAK	**Kodiak Island**	**2.50**	**307**		Sn	00 24 51.1	-4.3
OHAK	**Old Harbor**	**2.60**	**292**		Pn	00 24 25.6	-0.6
OHAK	**Old Harbor**	**2.60**	**292**		Sn	00 24 54.2	-3.5
SYI	**Shuyak Island**	**2.97**	**321**		Pn	00 24 31.1	-0.2
SII	**Sitkinak Islan**	**2.97**	**276**		Sn	00 25 04.3	-2.7
SII	**Sitkinak Islan**	**2.97**	**276**	Pn	Pn	00 24 30.8	-0.6
SII				IAML		00 25 12.2	
	comp=E,165nm,0.9s						
SII				IAML		00 25 15.5	
	comp=N,135nm,0.6s						
R18K	**Karluk**	**3.31**	**294**		Pn	00 24 35.9	0.0
R18K	**Karluk**	**3.31**	**294**	IAML		00 25 20.9	
	comp=N,144nm,0.5s						
R18K				IAML		00 25 21.1	
	comp=E,121nm,0.4s						
Q23K	**Middleton Isla**	**3.37**	**22**		Pn	00 24 35.8	-1.0
CNPM	**China Poot**	**3.44**	**339**		Pn	00 24 37.2	-0.5
BRLK	**Bradley Lake**	**3.60**	**343**		Pn	00 24 39.3	-0.7
BRLK				IAML		00 25 23.0	
	comp=N,76nm,0.6s						
HOM	**Homer**	**3.64**	**337**	Pn	Pn	00 24 38.9	-1.6
Q19K	**Cape Douglas,**	**3.66**	**317**		Pn	00 24 40.6	-0.1
Q19K				IAML		00 25 39.0	
	comp=N,122nm,0.6s						
P23K	**Montague Islan**	**3.74**	**11**		Pn	00 24 41.1	-0.8
P23K				IAML		00 25 29.9	
	comp=N,78nm,0.6s						
P23K				IAML		00 25 33.1	
	comp=E,77nm,0.5s						
P23K	**Montague Islan**	**3.74**	**11**		Sn	00 25 21.6	-4.4
SEW	**Seward**	**3.78**	**355**	Pn	Pn	00 24 41.3	-1.2
CHIR	**Chirikof Islan**	**3.83**	**265**	Pn	Pn	00 24 42.4	-0.8
CHIR				IAML		00 25 26.1	
	comp=E,61nm,1.1s						
CHIR				IAML		00 25 31.1	
	comp=N,62nm,1.1s						
CAHL	**Cahill**	**3.91**	**299**		Pn	00 24 44.7	+0.5
ACHA	**Angle Creek He**	**3.98**	**301**		Pn	00 24 46.4	+1.1
KJL	**Kejulik**	**4.04**	**298**		Pn	00 24 46.7	+0.6
P19K	**Oil Pt**	**4.05**	**327**		Pn	00 24 46.4	+0.1
P19K	**Oil Pt**	**4.05**	**327**	IAML		00 25 41.5	
	comp=N,113nm,0.4s						
ANCK	**Angle Creek**	**4.06**	**300**		Pn	00 24 46.7	+0.3
O22K	**Cooper Landing**	**4.17**	**354**		Pn	00 24 47.5	-0.3
SLKM	**Skilak Lake**	**4.24**	**351**		Pn	00 24 47.8	-0.9
HIN	**Hinchinbrook I**	**4.25**	**16**		Pn	00 24 48.3	-0.6
HIN				IAML		00 25 39.8	
	comp=E,77nm,0.6s						
ILS	**Iliamna Low So**	**4.26**	**330**		Pn	00 24 48.5	-0.6
CNTC	**Contact Creek**	**4.28**	**300**		Pn	00 24 50.0	+0.7
PLK3	**Peulik 3**	**4.28**	**291**		Pn	00 24 49.6	+0.3
KAIM	**Kayak Island**	**4.29**	**31**		Pn	00 24 48.9	-0.5
KAIM				IAML		00 25 51.4	
	comp=E,75nm,0.8s						
IVE	**Iliamna Volcan**	**4.29**	**331**		Pn	00 24 48.8	-0.8
ILSW	**Iliamna Southw**	**4.30**	**330**		Pn	00 24 48.7	-1.0
ILSW				IAML		00 25 41.9	
	comp=E,54nm,0.8s						
ILSW				IAML		00 25 52.0	
	comp=N,54nm,0.8s						
PLK4	**Peulik 4**	**4.31**	**291**		Pn	00 24 49.9	+0.1
PLK4	**Peulik 4**	**4.31**	**291**	IAML		00 25 48.2	
	comp=N,46nm,0.9s						
PLK4				IAML		00 25 51.3	
	comp=E,70nm,0.8s						
PLK2	**Peulik 2**	**4.33**	**292**		Pn	00 24 49.9	-0.1
PLK1	**Peulik 1**	**4.48**	**292**		Pn	00 24 52.2	+0.1
EYAK	**Cordova Ski Ar**	**4.52**	**20**		Pn	00 24 52.0	-0.6
EYAK				IAML		00 25 46.9	
	comp=E,54nm,0.8s						
EYAK				IAML		00 25 50.0	
	comp=N,63nm,0.7s						
PWL	**Port Wells**	**4.54**	**3**		Pn	00 24 51.4	-1.5
PWL				IAML		00 25 42.8	
	comp=E,70nm,0.5s						
PWL				IAML		00 25 46.9	
	comp=N,59nm,0.4s						
PLBL	**Peulik Blue Cr**	**4.56**	**291**		Pn	00 24 53.7	+0.4
P18K	**Big Mountain,**	**4.58**	**315**		Pn	00 24 52.8	-0.6
RED	**Redoubt Volcan**	**4.58**	**335**		Pn	00 24 52.7	-0.8
RED				IAML		00 25 53.1	
	comp=N,51nm,0.9s						
RED				IAML		00 25 54.1	
	comp=E,57nm,0.8s						
FID	**Port Fidalgo**	**4.59**	**15**		Pn	00 24 52.3	-1.3
FID				IAML		00 25 47.0	
	comp=N,37nm,0.4s						
FID				IAML		00 25 47.9	
	comp=E,55nm,0.6s						
CAPN	**Captain Cook N**	**4.60**	**346**	Pn	Pn	00 24 53.9	+0.3
SUCK	**Suckling Hills**	**4.60**	**34**		Pn	00 24 53.4	-0.3
SUCK	**Suckling Hills**	**4.60**	**34**	IAML		00 26 07.5	
	comp=E,46nm,1.0s						
SUCK				IAML		00 26 08.8	
	comp=N,76nm,1.0s						
RDSO	**Redoubt South**	**4.60**	**335**		Pn	00 24 52.9	-1.0
RAGM	**Ragged Mountai**	**4.61**	**27**		Pn	00 24 53.4	-0.4
GLI	**Glacier Island**	**4.64**	**11**		Pn	00 24 53.0	-1.2
GLI				IAML		00 25 49.1	
	comp=E,53nm,0.4s						
GLI				IAML		00 25 54.1	
	comp=N,36nm,0.7s						
RC01	**Rabbit Creek A**	**4.78**	**355**		Pn	00 24 54.8	-1.4
RC01				IAML		00 25 50.6	
	comp=E,62nm,0.5s						
RC01				IAML		00 25 52.5	
	comp=N,48nm,0.4s						
O19K	**Port Alsworth**	**4.82**	**325**		Pn	00 24 57.3	+0.5
FIS	**Fire Island**	**4.87**	**352**	Pn	Pn	00 24 57.3	0.0
O18K	**Koktuh Hills**	**4.88**	**319**		Pn	00 24 57.3	-0.2
DIV	**Divide**	**5.06**	**17**	Pn	Pn	00 24 59.3	-0.8
SPU	**Mount Spurr**	**5.13**	**342**		Pn	00 25 00.5	-0.5
SPU				IAML		00 26 02.4	
	comp=N,31nm,0.5s						
SPU				IAML		00 26 03.8	
	comp=E,26nm,0.6s						
BMRM	**Bremner River**	**5.14**	**24**		Pn	00 25 00.7	-0.5
BMRM				IAML		00 26 03.6	
	comp=E,37nm,0.7s						
BMRM				IAML		00 26 06.9	
	comp=N,30nm,0.7s						
SUA	**Susitna One**	**5.23**	**350**	Pn	Pn	00 25 02.4	0.0
SUA				IAML		00 26 04.5	
	comp=E,22nm,0.5s						
ANPB	**Aniakchak Plen**	**5.24**	**279**		Pn	00 25 02.9	+0.4
BARK	**Barkley Ridge**	**5.27**	**37**		Pn	00 25 02.4	-0.5
PMR	**Palmer**	**5.27**	**359**		Pn	00 25 03.4	+0.6
PMR				IAML		00 26 04.7	
	comp=E,24nm,0.6s						
MESA	**MESA**	**5.29**	**41**	Pn	Pn	00 25 03.6	+0.2
MESA				IAML		00 26 08.7	
	comp=E,27nm,0.7s						
MESA				IAML		00 26 24.4	
	comp=N,34nm,0.8s						
CHGN	**Chignik**	**5.33**	**274**	Pn	Pn	00 25 03.7	0.0
CHGN				IAML		00 26 06.6	
	comp=N,35nm,0.1s						
CHGN				IAML		00 26 07.6	
	comp=E,38nm,0.1s						
CRQM	**Cirque**	**5.34**	**32**		Pn	00 25 03.3	-0.7
CRQM				IAML		00 26 06.7	
	comp=N,37nm,0.5s						
CRQM				IAML		00 26 07.7	
	comp=E,38nm,0.6s						
N19K	**Bonanza Creek**	**5.36**	**329**		Pn	00 25 03.6	-0.7
N19K	**Bonanza Creek**	**5.36**	**329**	IAML		00 26 11.5	
	comp=E,18nm,0.8s						
KLU	**Klutina**	**5.38**	**15**	IAML		00 26 06.3	
	comp=E,30nm,0.4s						
KLU				IAML		00 26 12.3	
	comp=N,33nm,0.4s						
STLK	**Strandline Lak**	**5.40**	**345**		Pn	00 25 04.6	-0.1
STLK				IAML		00 26 06.4	
	comp=E,22nm,0.6s						
STLK				IAML		00 26 14.3	
	comp=N,31nm,0.6s						
TGL	**Tana Glacier**	**5.43**	**33**		Pn	00 25 04.4	-0.8
GHO	**Glory Hole Cre**	**5.44**	**360**		Pn	00 25 05.0	-0.4
ISLE	**Juniper Island**	**5.46**	**36**		Pn	00 25 05.1	-0.6
YAH	**Yahtse**	**5.49**	**40**		Pn	00 25 06.5	+0.3
CHX	**Chaix Hills**	**5.53**	**44**		Pn	00 25 06.8	+0.3
SCM	**Sheep Creek Mo**	**5.56**	**7**		Pn	00 25 06.5	-0.5
O17K	**Koliganek Bris**	**5.57**	**312**		Pn	00 25 07.0	+0.1
P16K	**Nushagak River**	**5.60**	**303**		Pn	00 25 08.0	+0.7
RKAV	**Rock Avalanche**	**5.60**	**42**		Pn	00 25 07.5	0.0
VRDI	**Verde Repeater**	**5.64**	**28**		Pn	00 25 07.4	-0.8
N18K	**Kilae Creek**	**5.70**	**323**		Pn	00 25 08.2	-0.6
SAMH	**Samovar Hills**	**5.70**	**45**		Pn	00 25 09.2	+0.2
KIAG	**Kiagna River**	**5.70**	**34**		Pn	00 25 08.5	-0.5
N25K	**Chitina, Valde**	**5.71**	**21**		Pn	00 25 08.6	-0.5
GLB	**Gilahina Butte**	**5.74**	**25**		Pn	00 25 08.9	-0.4
VNHG	**Veniaminof 1**	**5.75**	**273**		Pn	00 25 10.6	+1.0
TABL	**Table Mountain**	**5.77**	**41**		Pn	00 25 09.9	0.0
BALM	**Baldy**	**5.80**	**33**		Pn	00 25 09.8	-0.4
SKT	**Skwentna**	**5.82**	**347**		Pn	00 25 10.5	+0.1
MCARA	**McCarthy VSAT**	**5.88**	**28**		Pn	00 25 10.5	-0.9
PCA	**Pinnacle**	**5.89**	**47**	Pn	Pn	00 25 11.6	+0.1
O16K	**Kokwok River B**	**5.90**	**307**		Pn	00 25 10.5	-1.0
M24K	**Tolsona, Glenn**	**5.94**	**12**		Pn	00 25 12.9	+0.8
M20K	**Styx River**	**5.98**	**340**		Pn	00 25 11.5	-1.1
PNL	**Peninsula**	**6.03**	**53**		Pn	00 25 13.3	0.0
BARN	**Barnard Glacie**	**6.03**	**35**		Pn	00 25 12.7	-0.8
N17K	**Nushagak Hills**	**6.06**	**317**		Pn	00 25 12.9	-0.8
CTGM	**Chitina Glacie**	**6.07**	**37**	Pn	Pn	00 25 13.4	-0.6
BCPM	**Bancas Point**	**6.07**	**50**	Pn	Pn	00 25 14.1	+0.2
LOGN	**Logan Glacier**	**6.08**	**39**	Pn	Pn	00 25 13.8	-0.4
WACK	**Wrangell Chich**	**6.12**	**20**		Pn	00 25 14.5	-0.2
CNBA	**Chernabura Isl**	**6.28**	**260**	Pn	Pn	00 25 16.6	-0.2
O28M	**Mount Upton**	**6.34**	**42**		Pn	00 25 16.1	-1.7
HARP	**HAARP**	**6.36**	**16**		Pn	00 25 18.7	+0.8
O15K	**Ungalikthiuk R**	**6.52**	**300**		Pn	00 25 20.1	0.0
SDPT	**Sand Point**	**6.63**	**266**	Pn	Pn	00 25 21.8	+0.3
N16K	**Nishlik Lake**	**6.66**	**313**		Pn	00 25 21.9	0.0
P29M	**Windy Craggy**	**6.76**	**56**		Pn	00 25 23.2	-0.2
M26K	**Nabesna, AK**	**6.77**	**24**		Pn	00 25 23.4	-0.1
PPLA	**Purkeypile**	**6.79**	**347**	Pn	Pn	00 25 24.1	+0.3
DHY	**Denali Highway**	**6.79**	**6**		Pn	00 25 23.9	-0.1
YUK2	**White River**	**6.84**	**34**		Pn	00 25 25.0	+0.5
PAX	**Paxson**	**6.86**	**13**		Pn	00 25 25.3	+0.5
M27K	**Edge Creek, AK**	**7.00**	**28**		Pn	00 25 26.6	-0.1
S31K	**Pelican**	**7.05**	**71**		Pn	00 25 25.9	-1.4
M16K	**Timber Creek**	**7.05**	**316**		Pn	00 25 27.6	+0.2
N15K	**Kwethluk River**	**7.06**	**308**		Pn	00 25 28.1	+0.6
RND	**Reindeer**	**7.08**	**360**	Pn	Pn	00 25 27.8	0.0
MENT	**Mentasta**	**7.10**	**19**	Pn	Pn	00 25 28.5	+0.4
L18K	**Granite Mounta**	**7.13**	**329**	Pn	Pn	00 25 27.7	-0.6
TRF	**Thorofare Moun**	**7.17**	**355**		Pn	00 25 29.2	+0.1
O14K	**Tigyukauivet M**	**7.25**	**299**	Pn	Pn	00 25 31.1	+1.1
CAST	**Castle Rocks**	**7.28**	**348**		Pn	00 25 30.9	+0.4
KTH	**Kantishna Hill**	**7.31**	**353**		Pn	00 25 31.4	+0.5
PS1A	**Pavlof South-1**	**7.32**	**268**		Pn	00 25 31.6	+0.6
PLBC	**Pleasant Camp**	**7.34**	**60**		Pn	00 25 31.6	+0.2
HYT	**Haines Junctio**	**7.43**	**48**		Pn	00 25 32.9	+0.2
S12K	**Black Hills**	**7.44**	**271**	Pn	Pn	00 25 32.4	-0.2
YUK5	**Granite Creek**	**7.46**	**45**		Pn	00 25 34.0	+0.9
K20K	**Telida**	**7.57**	**342**		Pn	00 25 33.0	-0.3
L17K	**Dustin**	**7.56**	**324**		Pn	00 25 33.8	+1.5
L27K	**Beaver Creek,**	**7.61**	**25**		Pn	00 25 34.6	-0.4
BCAR	**Beaver Creek A**	**7.62**	**25**	Pn	Pn	00 25 35.5	+0.3
K24K	**Donnelly Dome**	**7.64**	**10**	Pn	Pn	00 25 36.8	+1.4
L16K	**Owhat River**	**7.68**	**319**		Pn	00 25 35.7	-0.2
N14K	**Kuskokwak Cree**	**7.68**	**303**	Pn	Pn	00 25 37.1	+1.1
RIDG	**Independent Ri**	**7.68**	**13**		Pn	00 25 37.0	+1.0
DOT	**Dot Lake**	**7.71**	**16**		Pn	00 25 34.6	-1.7
SKAG	**Skagway**	**7.84**	**61**		Pn	00 25 38.0	-0.2
BPAW	**Bear Paw Mtn.**	**7.85**	**353**		Pn	00 25 37.7	-0.6
S32K	**Killisnoo**	**7.89**	**76**	Pn	Pn	00 25 38.2	-0.6
N30M	**Aishikik Lake**	**7.95**	**45**		Pn	00 25 39.5	-0.2
K17K	**Iditarod**	**7.99**	**327**		Pn	00 25 38.7	-1.5
SCRK	**Sand Creek**	**8.03**	**16**	Pn	Pn	00 25 41.2	+0.4
M29M	**Somme Creek**	**8.08**	**37**		Pn	00 25 42.1	+0.5
HDA	**Harding Lake**	**8.14**	**6**	Pn	Pn	00 25 42.9	+0.5
M14K	**Bethel**	**8.15**	**308**	Pn	Pn	00 25 43.3	+0.9
J18K	**Innoko River**	**8.16**	**334**	Pn	Pn	00 25 42.0	-0.5
WRH	**Wood River Hil**	**8.16**	**2**	Pn	Pn	00 25 42.9	+0.4
NEA2	**Nenana**	**8.28**	**359**		Pn	00 25 44.0	-0.1
J20K	**Nowinta River**	**8.28**	**344**		Pn	00 25 44.4	+0.2
CCB	**Clear Creek Bu**	**8.35**	**3**		Pn	00 25 45.9	+0.9
J19K	**Poorman**	**8.38**	**339**	Pn	Pn	00 25 44.5	-1.0
K27K	**Chicken**	**8.41**	**21**	Pn	Pn	00 25 45.8	-0.1
L15K	**Ungalak Mounta**	**8.43**	**315**		Pn	00 25 46.5	+0.4
J25K	**Salcha River,**	**8.47**	**10**		Pn	00 25 47.6	+0.8
WHY	**Whitehorse**	**8.49**	**54**		Pn	00 25 47.1	0.0
N31M	**Braeburn, Yuko**	**8.49**	**47**		Pn	00 25 47.1	0.0
IL31		**8.51**	**6**		Pn	00 25 47.3	0.0
ILAR	**Eielson Array**	**8.51**	**6**	Pn	Pn	00 25 47.1	-0.2
J26L	**Joseph Creek**	**8.59**	**15**		Pn	00 25 48.2	-0.3
ISLZ	**Isanotski Laza**	**8.59**	**265**		Pn	00 25 48.6	+0.1
M13K	**Dall Lake**	**8.64**	**304**	Pn	Pn	00 25 49.9	+0.8
L29M	**L29M**	**8.67**	**34**		Pn	00 25 49.8	+0.3
P32M	**Atlin**	**8.67**	**62**		Pn	00 25 49.0	-0.6
J17K	**VABM Dome**	**8.74**	**328**	Pn	Pn	00 25 49.9	-0.5
L14K	**Kuka Creek**	**8.74**	**311**		Pn	00 25 51.3	+0.8
M30M	**Minto, Yukon**	**8.75**	**39**		Pn	00 25 50.7	+0.1
MLY	**Manley**	**8.76**	**355**	Pn	Pn	00 25 50.2	-0.6
U33K	**Whale Pass**	**8.77**	**85**	Pn	Pn	00 25 48.5	-2.2
K15K	**Wolf Creek Mou**	**8.80**	**318**	Pn	Pn	00 25 51.3	0.0
I23K	**Minto, Yukon-K**	**8.84**	**359**	Pn	Pn	00 25 51.7	-0.1
DAWY	**Dawson**	**9.05**	**27**	Pn	Pn	00 25 55.2	+0.4
J16K	**Anvik River**	**9.12**	**324**	Pn	Pn	00 25 54.3	-1.4
Q32M	**Nakina River**	**9.26**	**67**	Pn	Pn	00 25 58.3	+0.5
P33M	**Teslin, Yukon**	**9.28**	**59**		Pn	00 25 58.0	0.0
PRP	**Porcupine Dome**	**9.34**	**9**		Pn	00 25 58.7	-0.1
K29M	**Barlow Dome**	**9.39**	**32**		Pn	00 25 59.7	+0.1
I26K	**Coal Creek Min**	**9.41**	**15**	Pn	Pn	00 25 60.0	+0.4
M31M	**Drury Creek, Y**	**9.43**	**46**		Pn	00 26 00.2	+0.3
N32M	**Quiet Lake**	**9.49**	**53**	Pn	Pn	00 26 01.2	+0.3
H23K	**Yukon River**	**9.52**	**358**	Pn	Pn	00 26 01.6	+0.5
H21K	**Melozitna Rive**	**9.54**	**350**		Pn	00 26 01.0	-0.4
H24K	**Nodor Dome**	**9.54**	**2**	Pn	Pn	00 26 02.2	+0.8
J14K	**Nanvaranak Lak**	**9.83**	**317**	Pn	Pn	00 26 06.1	+0.8
K13K	**Kusilvak Mount**	**9.85**	**311**	Pn	Pn	00 26 06.8	+1.1
FARO	**Faro, Yukon**	**9.86**	**47**	Pn	Pn	00 26 06.6	+0.7
IMAR	**Indian Mountai**	**9.95**	**348**	Pn	Pn	00 26 07.0	-0.1
H18K	**Honhosa River**	**9.97**	**336**	Pn	Pn	00 26 05.8	-1.5
R33M	**Jennings River**	**9.99**	**65**	Pn	Pn	00 26 08.1	+0.3
I28M	**Miner Creek**	**10.10**	**22**	Pn	Pn	00 26 10.3	+1.1
H17K	**Granite Mounta**	**10.17**	**332**	Pn	Pn	00 26 08.7	-1.4
MOBC	**Moresby Island**	**10.27**	**101**	Pn	Pn	00 26 11.8	+0.3
J30M	**Hart River**	**10.29**	**32**		Pn	00 26 12.1	+0.3
G24K	**Hadweenzic Riv**	**10.41**	**3**	Pn	Pn	00 26 13.8	+0.4
G23K	**Bananza Creek**	**10.42**	**357**	Pn	Pn	00 26 13.2	-0.3
G21K	**Allakaket**	**10.44**	**350**	Pn	Pn	00 26 15.0	+1.2
H27K	**Steamboat Moun**	**10.51**	**16**	Pn	Pn	00 26 15.5	+0.7
G18K	**Tagagawik**	**10.67**	**338**	Pn	Pn	00 26 17.4	+0.5
I30M	**Mount Dempster**	**10.76**	**29**	Pn	Pn	00 26 20.3	+2.0
MMPY	**Sheldon Lake,**	**10.90**	**48**	Pn	Pn	00 26 21.2	+1.1
H29M	**Whitestone**	**11.09**	**23**	Pn	Pn	00 26 23.9	+1.3
F21K	**Alatna River**	**11.13**	**351**	Pn	Pn	00 26 22.8	-0.4
F20K	**Avaraart Lake**	**11.22**	**346**	Pn	Pn	00 26 24.7	+0.4
BMAR	**Burnt Mountain**	**11.30**	**8**	Pn	Pn	00 26 24.8	-0.7
F19K	**Shaleruckik Mo**	**11.33**	**342**	Pn	Pn	00 26 26.1	+0.2
F25K	**Christian Rive**	**11.39**	**6**	Pn	Pn	00 26 27.3	+0.5
F26K	**Sheenjek River**	**11.60**	**9**	Pn	Pn	00 26 28.4	-1.2
G29M	**Pine Creek**	**11.76**	**21**	Pn	Pn	00 26 32.6	+0.8
E24K	**Your Creek**	**11.78**	**1**	Pn	Pn	00 26 31.9	-0.1
E19K	**Redstone River**	**11.81**	**344**	Pn	Pn	00 26 33.0	+0.5
E22K	**Anaktuvuk Pass**	**11.91**	**355**	Pn	Pn	00 26 33.6	-0.3
G31M	**Satah River**	**12.62**	**27**	Pn	Pn	00 26 44.7	+1.1
D23K	**Nanushuk River**	**12.70**	**357**	Pn	Pn	00 26 44.2	-0.3
D22K	**Ayikyak River**	**12.70**	**354**	Pn	Pn	00 26 44.6	-0.1

*NEIC **05** 00:32:06.0±2.1,35°.691N±0°.010×117°.45W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.7km az=276.0*

*PAS **05** 00:32:06.7±2.1,35°.703N±0°.010×117°.48W±0°.01, h1km±1km,Mwr4.0/6,ML4.1/132(NEIC),Error ellipse: s-maj=1.5km s-min=1.4km az=71.0*

*IDC **05** 00:32:07.1±0.7,35°.72N×117°.30W,h0km,mb3.4/3, mbtmp3.3/8,ML3.4/6,MS2.9/11, Error ellipse: s-maj=13.7km s-min=5.1km az=76.0*

ISC 05 00:32:06.7±1.0,35°.69N±0°.01×117°.45W±0°.02,h3km±8km, n115,σ0s80/129,mb3.2/3,MS3.4/4,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.17**	**318**		**Pg**	**00 32 09.7**	**-0.5**
CLC					**Sg**	**00 32 11.7**	**-0.9**
CCCA	**Chr Cany lake**	**0.18**	**156**		Pg	00 32 14.9	+4.7
SRTC	**Snort**	**0.24**	**272**		**Pg**	**00 32 11.6**	**+0.2**
SRTC					**Sg**	**00 32 15.6**	**+1.1**
LRMC	**Laurel Mtn Rad**	**0.28**	**222**		**Pg**	**00 32 12.2**	**+0.1**
LRMC					**Sg**	**00 32 16.2**	**+0.5**
TOW	**Tower One**	**0.28**	**296**		**Pg**	**00 32 12.3**	**+0.2**
TOW					**Sg**	**00 32 16.9**	**+1.0**
MPMC	**Manual Prospec**	**0.37**	**356**		**Pg**	**00 32 13.7**	**-0.3**
MPMC					**Sg**	**00 32 18.9**	**0.0**
WVPM	**Volcano Peak E**	**0.40**	**312**		**Pg**	**00 32 14.2**	**-0.2**
WVPM					**Sg**	**00 32 19.6**	**0.0**
WNMM	**Nine Mile Cany**	**0.40**	**293**		**Pg**	**00 32 14.2**	**-0.2**
WCSM	**Coso Springs S**	**0.42**	**323**		**Pg**	**00 32 14.5**	**-0.5**
WCSM					**Sg**	**00 32 20.3**	**-0.2**
WRVM	**Rose V. Centra**	**0.48**	**312**		**Pg**	**00 32 15.7**	**-0.3**
WRVM					**Sg**	**00 32 22.0**	**-0.2**
DTP	**Desert Tortois**	**0.53**	**218**		**Pg**	**00 32 16.8**	**0.0**
DTP					**Sg**	**00 32 24.1**	**+0.5**
MFS	**McCloud Flat S**	**0.54**	**323**		**Pg**	**00 32 16.7**	**-0.5**
MFS					**Sg**	**00 32 24.0**	**-0.1**
QSM	**Queen of Sheba**	**0.55**	**59**		**Pg**	**00 32 17.6**	**+0.3**
QSM					**Sg**	**00 32 25.1**	**+0.6**
QSM				IAML		00 32 26.1	
	comp=E,12μm,0.6s						
QSM				IAML		00 32 26.1	
	comp=N,12μm,0.7s						
WBSM	**Bird Springs**	**0.58**	**255**		**Pg**	**00 32 17.5**	**-0.3**
WBSM					**Sg**	**00 32 25.6**	**+0.3**
WORM	**Onyx Ranch**	**0.64**	**271**		**Pg**	**00 32 18.5**	**-0.5**
WORM					**Sg**	**00 32 27.3**	**-0.1**
GSC	**Goldstone, Bar**	**0.65**	**126**		**Pb**	**00 32 19.9**	**-0.9**
GSC				IAML		00 32 30.6	
	comp=N,9μm,0.8s						
GSC				IAML		00 32 32.1	
	comp=E,8μm,0.6s						
GSC	**Goldstone, Bar**	**0.65**	**126**		**Sb**	**00 32 29.3**	**-1.1**
CCAC	**Calif City Air**	**0.70**	**221**	Pg	**Pg**	**00 32 20.2**	**0.0**
CCAC			

S11A	**Rachel**	**2.39**	**35**			**Pn**	**00 32 46.5**	**-0.4**
TPH	**Tonopah**	**2.39**	**4**			**Pn**	**00 32 46.9**	**-0.1**
NEE2	**Needles Airpor**	**2.50**	**111**			**Pn**	**00 32 47.5**	**-0.8**
PRN	**Pahroc Range**	**2.59**	**48**			**Pn**	**00 32 49.3**	**-0.3**
PRN					IAML		00 33 40.1	
	comp=E,1µm,0.6s							
LHV	**Little Huntoon**	**2.70**	**342**			**Pn**	**00 32 50.5**	**-0.4**
LHV					IAML		00 33 41.9	
	comp=E,833nm,0.7s							
LHV					IAML		00 33 45.0	
	comp=N,602nm,1.9s							
PMPB	**Monarch Peak**	**2.77**	**282**			**Pn**	**00 32 50.8**	**-1.3**
NV11	**Mina Array Sit**	**2.80**	**349**			**Pn**	**00 32 52.1**	**-0.4**
NVAR	**Mina Array Bea**	**2.82**	**346**			**Pn**	**00 32 52.2**	**-0.7**
NVAR	**Mina Array Bea**	**2.82**	**346**	Pn		**Pn**	**00 32 53.2**	**+0.3**
	comp=N,7.6nm,0.3s,baz=172,slow=12,SNR=41							
NVAR				Pg		**Pb**	**00 32 58.6**	**+0.7**
	comp=N,87nm,0.3s,baz=171,slow=16,SNR=104							
NVAR				Lg	Lg		00 33 35.8	
	comp=N,29nm,0.3s,baz=286,slow=26,SNR=5.6							
NVAR				LR	LR		00 33 47.8	
	comp=N,124nm,21.4s,baz=152,slow=36							
	comp=N,6.3nm,0.4s							
W13A	**Hualapai Mount**	**2.97**	**100**			**Pn**	**00 32 54.5**	**-0.5**
BBGB	**Big Mountain B**	**3.04**	**288**			**Pn**	**00 32 55.3**	**-0.4**
R11B	**Troy Canyon, C**	**3.05**	**29**			**Pn**	**00 32 55.8**	**-0.2**
R11B					IAML		00 33 48.5	
	comp=E,335nm,1.1s							
BLYC	**Blythe**	**3.09**	**128**			**Pn**	**00 32 55.2**	**-1.2**
BLYC					IAML		00 33 49.5	
	comp=N,748nm,0.8s							
BLYC					IAML		00 33 56.9	
	comp=E,529nm,0.7s							
Q09A	**Carvers**	**3.15**	**4**			**Pn**	**00 32 56.5**	**-0.9**
TJX	**Tijuana**	**3.19**	**174**	Pn		**Pn**	**00 32 56.4**	**-1.3**
TJX						**Pb**	**00 33 05.2**	**+1.2**
TKX	**Tecate**	**3.19**	**167**			**Pn**	**00 32 57.5**	**-0.3**
TKX					IAML		00 33 45.3	
	comp=E,522nm,0.1s							
WAKR	**Walker**	**3.23**	**331**			**Pb**	**00 33 05.9**	**+1.0**
WAKR					IAML		00 34 02.5	
	comp=E,313nm,0.6s							
WAKR					IAML		00 34 04.9	
	comp=N,298nm,1.2s							
YUH	**Yuha Desert**	**3.29**	**157**			**Pn**	**00 32 59.3**	**+0.3**
YUH				Pg		**Pg**	**00 33 08.5**	**-1.2**
CMB	**Columbia Colle**	**3.32**	**316**			**Pn**	**00 33 00.6**	**+1.0**
CMB					IAML		00 33 55.5	
	comp=E,466nm,0.7s							
CMB					IAML		00 33 55.7	
	comp=N,445nm,0.7s							
SAO	**San Andreas Ge**	**3.40**	**290**			**Pn**	**00 33 00.5**	**-0.2**
GLA	**Glamis**	**3.41**	**140**			**Pn**	**00 32 59.6**	**-1.2**
CBX	**Cerro Bola**	**3.43**	**169**			**Pn**	**00 33 00.4**	**-0.8**
CCUT	**Cedar City**	**3.78**	**59**	Pn		**Pn**	**00 33 07.3**	**+1.1**
CCX	**Cicese**	**3.86**	**170**	IAML			00 34 17.1	
	comp=N,296nm,1.2s							
CCX					IAML		00 34 19.8	
	comp=E,325nm,0.9s							
ESJX	**Sierra Juarez**	**3.88**	**161**	IAML			00 34 12.8	
	comp=E,235nm,1.2s							
KNB	**Kanab**	**3.97**	**69**	IAML			00 34 24.2	
	comp=E,203nm,0.8s							
SZCU	**Shurtz Canyon**	**4.00**	**60**	Pn		**Pn**	**00 33 09.3**	**+0.3**
PSUT	**Pine Spring**	**4.04**	**44**	IAML			00 34 20.0	
	comp=E,356nm,0.8s							
PSUT					IAML		00 34 27.9	
	comp=N,252nm,1.3s							
SPR3	**Spring Creek 3**	**4.14**	**36**	IAML			00 34 17.5	
	comp=E,301nm,0.8s							
SPR3					IAML		00 34 28.6	
	comp=N,243nm,1.1s							
113A	**Mohawk Valley,**	**4.22**	**133**	IAML			00 34 21.9	
	comp=N,140nm,0.8s							
113A					IAML		00 34 35.9	
	comp=E,157nm,0.9s							
AFDM	**Forest Hills D**	**4.30**	**320**	IAML			00 34 25.8	
	comp=E,330nm,1.1s							
AFDM					IAML		00 34 26.0	
	comp=N,300nm,1.1s							
VTX	**Valle De La Tr**	**4.50**	**161**	IAML			00 34 36.4	
	comp=E,258nm,1.1s							
VTX					IAML		00 34 40.3	
	comp=N,173nm,1.4s							
BEKR	**Beckworth**	**4.77**	**332**	IAML			00 34 46.7	
	comp=E,223nm,0.6s							
BEKR					IAML		00 34 50.9	
	comp=N,120nm,1.0s							
WUAZ	**Wupatki**	**4.96**	**90**	IAML			00 34 49.1	
	comp=N,164nm,0.6s							
WUAZ					IAML		00 35 04.8	
	comp=N,158nm,1.5s							
ORV	**Oroville**	**5.02**	**321**	IAML			00 34 49.5	
	comp=E,153nm,0.8s							
MVU	**Marysvale**	**5.05**	**55**	IAML			00 34 49.8	
	comp=E,104nm,1.0s							
X16A	**Lo Mia Camp, P**	**5.09**	**103**	IAML			00 34 55.6	
	comp=N,111nm,1.1s							
X16A					IAML		00 35 02.8	
	comp=E,101nm,1.1s							
SFX	**San Felipe**	**5.12**	**154**	IAML			00 34 58.8	
	comp=N,81nm,1.0s							
SFX					IAML		00 35 19.5	
	comp=E,68nm,1.1s							
ELK	**Elko**	**5.34**	**18**	Pn		**Pn**	**00 33 28.2**	**+0.6**
	comp=E,0.6nm,0.3s,baz=175,slow=15,SNR=10							
ELK				Pg		**Pb**	**00 33 39.3**	**-1.6**
	comp=E,1.2nm,0.3s,baz=312,slow=6.1,SNR=8.1							
ELK				Sn		**Sn**	**00 34 28.4**	**-1.4**
	comp=E,2.4nm,0.3s,baz=225,slow=23,SNR=1.3							
ELK				Lg	Lg		00 34 53.9	
	comp=E,9.1nm,0.3s,baz=292,slow=21,SNR=9.7							
	comp=E,1.5nm,0.3s							
214A	**Organ Pipe Nat**	**5.36**	**133**	IAML			00 35 13.1	
	comp=N,116nm,1.1s							
214A					IAML		00 35 13.8	
	comp=E,129nm,1.1s							
YBH	**Yreka Blue Hor**	**7.30**	**327**	Pn		**Pn**	**00 33 58.1**	**+3.8**
	baz=162,slow=6.6,SNR=5.8							
YBH				Lg	Lg		00 35 56.7	
	baz=122,slow=6.4,SNR=4.5							
YBH				LR	LR		00 36 24.1	
	comp=E,10nm,18.3s,baz=150,slow=35							
ANMO	**Albuquerque**	**9.02**	**92**	Pn		**Pn**	**00 34 15.8**	**-2.2**
	comp=E,0.1nm,0.3s,baz=29,slow=9.6,SNR=4.0							
ANMO				Pg			00 34 48.3	
	comp=E,0.2nm,0.3s,baz=354,slow=15,SNR=6.1							
ANMO				Lg	Lg		00 36 46.8	
	comp=E,0.3nm,0.3s,baz=306,slow=14,SNR=6.1							
ANMO				LR	LR		00 38 10.0	
	comp=E,213nm,19.5s,baz=7.5,slow=41							
	comp=E,0.2nm,0.3s							
PDAR	**Pinedale Array**	**9.35**	**39**	Pn		**Pn**	**00 34 23.5**	**+0.9**
	baz=225,slow=12,SNR=4.8							
PDAR				Lg	Lg		00 36 57.8	
	comp=E,0.1nm,0.3s,baz=229,slow=29,SNR=1.6							
PDAR				LR	LR		00 37 28.9	
	comp=E,22nm,18.5s,baz=221,slow=35							
	comp=E,0.6nm,0.7s							
LPIG	**La Paz**	**13.10**	**150**	LR	LR		00 39 01.1	
	comp=E,90nm,21.4s,baz=284,slow=32							
TXAR	**Lajitas Array**	**13.24**	**115**	Pn		**Pn**	**00 35 17.8**	**+2.0**
	comp=E,0.1nm,0.3s,baz=298,slow=15,SNR=2.0							
TXAR				Lg	Lg		00 39 00.1	
	comp=E,0.1nm,0.3s,baz=328,slow=30,SNR=1.2							
TXAR				LR	LR		00 40 19.4	
	comp=E,37nm,22.0s,baz=300,slow=38							
	comp=E,0.4nm,0.5s							
BBB	**Bella Bella**	**18.16**	**339**	LR	LR		00 43 54.6	
	comp=E,82nm,21.1s,baz=171,slow=39							
ULM	**Lac du Bonnet**	**21.37**	**40**	P		**P**	**00 36 55.6**	**+0.5**
	comp=E,3.9nm,0.7s,baz=239,slow=11,SNR=8.1							
	comp=E,3.9nm,0.7s							
DLBC	**Dease Lake**	**24.24**	**344**	LR	LR		00 48 06.7	
	comp=E,13nm,20.2s,baz=154,slow=40							
YKA	**Yellowknife Ar**	**26.89**	**3**	P		**P**	**00 37 48.8**	**+0.3**
	comp=E,0.4nm,0.8s,baz=188,slow=9.2,SNR=4.1							
	comp=E,0.4nm,0.8s							
TKL	**Tuckaleechee C**	**27.29**	**80**	LR	LR		00 49 05.3	
	comp=E,104nm,19.4s,baz=302,slow=38							
ILAR	**Eielson Array**	**34.05**	**338**	P		**P**	**00 38 52.6**	**+0.8**
	comp=E,0.1nm,0.6s,baz=159,slow=9.1,SNR=4.3							
	comp=E,0.1nm,0.6s							
SEY	**Seymchan**	**58.98**	**328**	LR	LR		01 05 06.6	
	comp=E,43nm,20.3s,baz=172,slow=34							
MA2	**Magadan**	**60.85**	**324**	LR	LR		01 07 05.5	
	comp=E,20nm,18.9s,baz=352,slow=34							

IDC ***05*** *00:33:36.4±3.1,8.˚62S×117.˚28E,h114km±24km,mb3.4/8, mbtmp3.8/12,Error ellipse: s-maj=31.7km s-min=11.9km az=61.0*

DJA ***05*** *00:33:40.7±0.2,9.˚5S±5.˚5×11.˚8E±.˚,h143km±3km, M2.5/1, MLv4.3/16,MLv2.5/1*

ISC 05 00:33:39.3±0.7,8.75S±0.˚06×117.˚69E±0.˚05,h154km±7km, n32,σ1.˚98/37,mb3.6/8,Sumbawa region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.11**	**131**	P	**Pn**	**00 34 01.1**	**+1.1**
PLAI				S	**Sn**	**00 34 15.2**	**-0.5**
TWSI	**Taliwang, Sumb**	**0.80**	**271**	P	**Pn**	**00 34 03.7**	**+0.8**
TWSI				S	**Sn**	**00 34 20.6**	**-0.4**
WBSI	**Waikabubak, Su**	**1.89**	**118**	P	**Pn**	**00 34 15.3**	**+1.8**
WBSI				S	**Sn**	**00 34 41.2**	**+1.3**
SRBI	**Singaraja**	**2.54**	**285**	P	**Pn**	**00 34 22.1**	**+1.0**
SRBI				S	**Sn**	**00 34 53.8**	**+0.4**
WSI	**Waingapu**	**2.73**	**110**	P	**Pn**	**00 34 25.4**	**+2.0**
BASI	**Baing, Sumba**	**3.20**	**117**	P	**Pn**	**00 34 31.8**	**+2.5**
JAGI	**Jajag, Banyuwa**	**3.51**	**274**	P	**Pn**	**00 34 33.7**	**+0.3**
BSSI	**Bau Bau, Buton**	**3.80**	**47**	P	**Pn**	**00 34 38.1**	**+1.0**
EDFI	**Ende, Flores**	**3.95**	**90**	P	**Pn**	**00 34 41.0**	**+1.8**
KMMI	**Kalianget**	**4.06**	**294**	P	**Pn**	**00 34 43.4**	**+2.9**
GMJI	**Gumukmas**	**4.23**	**276**	P	**Pn**	**00 34 43.0**	**+0.3**
KAPI	**Kappang**	**4.24**	**29**	P	**Pn**	**00 34 41.8**	**-1.1**
	6.4nm,0.4s,baz=216,slow=23,SNR=5.4						
KAPI				S	**Sn**	**00 35 30.2**	**-2.1**
	4.5nm,0.2s,baz=207,slow=11,SNR=4.0						
MMRI	**Maumere**	**4.50**	**89**	P	**Pn**	**00 34 47.3**	**+1.1**
BNSI	**Bone**	**4.95**	**29**	P	**Pn**	**00 34 55.7**	**+3.6**
BATI	**Baumata**	**6.06**	**104**	P	**Pn**	**00 35 09.3**	**+2.3**
	31nm,0.4s,baz=254,slow=2.9,SNR=4.5						
BATI				S	**Sn**	**00 36 16.6**	**+1.0**
	16nm,0.3s,baz=125,slow=20,SNR=1.4						
BATI	**Baumata**	**6.06**	**104**	P	**Pn**	**00 35 06.6**	**-0.4**
PCJI	**Pacitan**	**6.47**	**274**	P	**Pn**	**00 35 15.1**	**+2.8**
SOEI	**Soe**	**6.57**	**99**	P	**Pn**	**00 35 13.0**	**-0.7**
UGM	**Wanagama**	**7.14**	**276**	P	**Pn**	**00 35 21.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**12.08**	**141**	P	**P**	**00 36 29.2**	**-3.7**
	1.1nm,0.7s,baz=326,slow=11,SNR=1.3						
FITZ				S	**Sn**	**00 38 36.4**	**-3.9**
	4.2nm,0.5s,baz=175,slow=23,SNR=13						
WRA	**Warramunga Arr**	**19.57**	**126**	P	**Pn**	**00 37 59.7**	**+1.3**
	3.1nm,0.6s,baz=302,slow=12,SNR=44						
WRA				S	**Sn**	**00 41 36.4**	**-3.4**
	0.5nm,0.5s,baz=301,slow=23,SNR=5.3						
ASAR	**Alice Springs**	**21.46**	**136**	P	**P**	**00 38 20.1**	**+4.3**
	0.5nm,0.7s,baz=313,slow=9.7,SNR=5.8						
ASAR				S	Sn	00 42 15.6	-9.0
	0.5nm,0.9s,baz=312,slow=23,SNR=2.5						
	0.5nm,0.7s						
KSRS	**Korea Array**	**46.95**	**11**	P	**P**	**00 41 55.9**	**+1.3**
	1.4nm,0.7s,baz=193,slow=8.5,SNR=9.3						
	1.4nm,0.7s						
USRK	**Ussuriysk Ar.**	**54.27**	**13**	P	**P**	**00 42 50.0**	**+0.7**
	2.3nm,0.6s,baz=185,slow=6.6,SNR=3.8						
	2.3nm,0.6s						
SONM	**Songino Array**	**57.22**	**351**	P	**P**	**00 43 09.7**	**-0.8**
	1.7nm,0.5s,baz=161,slow=9.2,SNR=9.1						
	1.7nm,0.5s						
MKAR	**Makanchi Array**	**63.66**	**334**	P	**P**	**00 43 54.3**	**+0.3**
	0.2nm,0.3s,baz=148,slow=6.5,SNR=1.8						
	0.2nm,0.3s						
H04N2	**CROZET ISLANDS**	**67.09**	**224**	T	T	01 56 47.3	
	baz=66,slow=71,SNR=25						
H04N1	**CROZET ISLANDS**	**67.10**	**224**	T	T	01 56 46.1	
	baz=66,slow=71,SNR=32						
H04N3	**CROZET ISLANDS**	**67.10**	**224**	T	T	01 56 54.5	
	baz=66,slow=71,SNR=31						
KURBB	**Kurchatov Arra**	**68.18**	**334**	P	**P**	**00 44 22.2**	**-0.6**
	0.2nm,0.6s,baz=131,slow=5.1,SNR=2.8						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**68.36**	**340**	P	**P**	**00 44 23.4**	**-0.4**
	0.3nm,0.3s,baz=154,slow=4.3,SNR=2.1						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**73.48**	**332**	P	**P**	**00 44 54.8**	**0.0**
	0.5nm,0.7s,baz=101,slow=7.5,SNR=2.9						
	0.5nm,0.7s						

NEIC ***05*** *00:45:38.4±2.1,35.˚698N±0.˚009×117.˚49W±0.˚01, h5km±2km,Error ellipse: s-maj=3.0km s-min=1.6km az=222.0*

IDC ***05*** *00:45:39.5±0.7,35.˚67N×117.˚48W,h0km,mb3.4/3, mbtmp3.3/9,ML3.5/6,MS2.7/2,Error ellipse: s-maj=14.8km s-min=5.0km az=74.0*

PAS ***05*** *00:45:39.5±2.0,35.˚70N±0.˚01×117.˚51W±0.˚01,h6km±6km, Mwr3.9/5,ML3.9/124(NEIC),Error ellipse: s-maj=2.2km s-min=1.5km az=212.0*

ISC 05 00:45:40.0±0.9,35.˚67N±0.˚02×117.˚52W±0.˚02,h7km±7km, n107,σ1.˚28/120,mb3.4/3,Central California

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	ISC
CLC	**China Lake**	**0.16**	**337**		**Pg**	**00 45 42.4**	**-0.9**
CLC					**Sg**	**00 45 44.8**	**-0.9**
CCCA	**Chr Cany lake**	**0.19**	**138**		**Pg**	**00 45 44.0**	**+0.2**
CCCA					**Sg**	**00 45 47.7**	**+1.3**
SRTC	**Snort**	**0.19**	**278**		**Pg**	**00 45 43.8**	**0.0**
SRTC					**Sg**	**00 45 47.5**	**+1.1**
LRMC	**Laurel Mtn Rad**	**0.23**	**216**		**Pg**	**00 45 44.5**	**-0.1**
LRMC					**Sg**	**00 45 48.2**	**+0.5**
TOW	**Tower One**	**0.24**	**305**		**Pg**	**00 45 44.6**	**-0.3**
TOW					**Sg**	**00 45 48.9**	**+0.8**
WNMM	**Nine Mile Cany**	**0.36**	**299**		**Pg**	**00 45 46.4**	**-0.6**
WNMM					**Sg**	**00 45 51.4**	**-0.4**
WVPM	**Volcano Peak E**	**0.37**	**319**		**Pg**	**00 45 46.4**	**-0.9**
WVPM					**Sg**	**00 45 51.7**	**-0.6**
JRC2	**Joshua Ridge**	**0.39**	**323**		**Sg**	**00 45 52.3**	**-0.7**
WCSM	**Coso Springs S**	**0.41**	**331**		**Pg**	**00 45 46.9**	**-1.2**
WCSM					**Sg**	**00 45 52.2**	**-1.3**
WRVM	**Rose V. Centra**	**0.46**	**319**		**Pg**	**00 45 47.8**	**-1.0**
WRVM					**Sg**	**00 45 54.0**	**-0.9**
DTP	**Desert Tortois**	**0.48**	**214**		**Pg**	**00 45 48.8**	**-0.5**
DTP					**Sg**	**00 45 55.8**	**+0.2**
WBSM	**Bird Springs**	**0.52**	**256**		**Pg**	**00 45 49.6**	**-0.5**
WBSM					**Sg**	**00 45 56.9**	**-0.1**
MFS	**McCloud Flat S**	**0.53**	**329**		**Pg**	**00 45 49.1**	**-1.1**
MFS					**Sg**	**00 45 56.2**	**-0.9**
WORM	**Onyx Ranch**	**0.59**	**273**		**Pg**	**00 45 50.5**	**-0.8**
WORM					**Sg**	**00 45 58.4**	**-0.7**
QSM	**Queen of Sheba**	**0.61**	**60**		**Pg**	**00 45 50.5**	**-1.2**
QSM				Sg	**Sg**	**00 45 58.4**	**-1.2**
CCAC	**Calif City Air**	**0.66**	**219**		**Pg**	**00 45 52.1**	**-0.5**
CCAC				IAML		00 46 02.1	
	comp=N,8µm,0.5s						
CCAC				IAML		00 46 02.2	
	comp=E,8µm,0.3s						
GSC	**Goldstone, Bar**	**0.69**	**122**		**Pg**	**00 45 52.5**	**-0.7**
GSC				IAML		00 46 02.5	
	comp=E,8µm,0.4s						
GSC	**Goldstone, Bar**	**0.69**	**122**		**Sg**	**00 46 02.0**	**-0.1**
ISA	**Isabella, Lake**	**0.78**	**270**		**Pg**	**00 45 54.1**	**-0.9**
HYS	**Haystack Butte**	**0.80**	**183**		**Pg**	**00 45 54.6**	**-0.8**
WASM	**Alta Sierra Ca**	**0.85**	**275**		**Pg**	**00 45 55.4**	**-1.0**
WASM					**Sg**	**00 46 06.5**	**-0.8**
GWY	**Greenwater Val**	**0.86**	**53**		**Pg**	**00 45 55.3**	**-1.3**
GWY				IAML		00 46 09.2	
	comp=N,6µm,0.6s						
EDW2	**Edwards Air Fo**	**0.88**	**207**		**Sg**	**00 46 07.8**	**-0.4**
CWC	**Cottonwood Cre**	**0.90**	**330**		**Pg**	**00 45 55.7**	**-1.6**
CWC					**Sg**	**00 46 07.8**	**-1.1**
RRX	**Edison Barstow**	**0.90**	**151**		**Pg**	**00 45 56.6**	**-0.7**
CGO	**Cerro Gordo**	**0.91**	**345**		**Sg**	**00 46 08.4**	**-1.0**
TPO	**Tropico Hills**	**0.98**	**217**		**Sg**	**00 46 11.2**	**-0.2**
SHOC	**Shoshone, Teco**	**1.04**	**77**		**Pb**	**00 45 58.4**	**-1.9**
TEJ	**El Tejon**	**1.05**	**246**		**Pb**	**00 45 58.7**	**-1.9**
VTV	**Victorville**	**1.11**	**172**		**Pb**	**00 46 00.6**	**-1.0**
VTV					**Sb**	**00 46 15.8**	**-0.7**
ADO	**Adelanto Recei**	**1.12**	**176**		**Pb**	**00 46 00.6**	**-1.1**
ADO					**Sn**	**00 46 16.6**	**-1.3**
SPG2	**Springville 2**	**1.14**	**298**		**Sb**	**00 46 14.8**	**-2.5**
ALPC	**Antelope**	**1.17**	**213**		**Pb**	**00 46 01.4**	**-1.2**
MAGC	**SCE Magundon P**	**1.19**	**256**		**Pn**	**00 46 01.6**	**-1.5**
TJR	**Tejon Ranch**	**1.19**	**238**		**Pn**	**00 46 01.1**	**-2.0**
ARVC	**Arvin**	**1.20**	**244**		**Sb**	**00 46 17.6**	**-1.2**
THC	**Tehachapi Micr**	**1.20**	**231**		**Pn**	**00 46 01.7**	**-1.8**
LRRC	**Littlerock Res**	**1.21**	**200**		**Pn**	**00 46 01.9**	**-1.5**
LEOC	**Leona Valley**	**1.22**	**212**		**Pn**	**00 46 02.0**	**-1.6**
HOLC	**Holcomb Ridge**	**1.24**	**193**		**Pn**	**00 46 02.3**	**-1.6**

HOLC						**Sg**	**00 46 20.2**	**+0.5**
CJV	**Casa Juvan**	**1.25**	**205**			**Pn**	**00 46 02.4**	**-1.6**
AMDNV	**Amargosa**	**1.27**	**52**			**Sb**	**00 46 19.0**	**-1.9**
HEC	**Hector,Ludlow**	**1.28**	**130**			**Pn**	**00 46 02.4**	**-2.0**
HEC						**Sb**	**00 46 19.3**	**-1.9**
VES	**Vestal, Richgr**	**1.29**	**278**			**Sb**	**00 46 20.3**	**-1.0**
TUQ	**Turquoise Moun**	**1.32**	**100**			**Pn**	**00 46 02.7**	**-2.3**
TUQ						**Sb**	**00 46 20.9**	**-1.6**
GRAC	**Grapevine Rang**	**1.33**	**5**			**Pn**	**00 46 03.6**	**-1.5**
GRAC	**Grapevine Rang**	**1.33**	**5**	IAML			00 46 28.3	
	comp=N,3µm,0.9s							
WCT	**Wildcat Mounta**	**1.33**	**32**			**Pn**	**00 46 03.4**	**-1.8**
WCT				IAML			00 46 23.1	
	comp=N,2µm,0.5s							
WCT				IAML			00 46 23.8	
	comp=E,2µm,0.4s							
PASC	**Pasadena Art C**	**1.59**	**200**			**Pn**	**00 46 07.6**	**-1.0**
PASC				IAML			00 46 34.1	
	comp=E,2µm,0.9s							
PASC				IAML			00 46 40.5	
	comp=N,775nm,0.9s							
SVD	**Seven Oaks Dam**	**1.59**	**167**			**Pb**	**00 46 09.6**	**-0.3**
TPNV	**Topopah Spring**	**1.64**	**38**			**Pn**	**00 46 07.6**	**-1.9**
TPNV				IAML			00 46 35.5	
	comp=N,2µm,0.5s							
TPNV				IAML			00 46 35.8	
	comp=N,1µm,0.3s							
GMN	**Gold Mountain**	**1.64**	**7**			**Pn**	**00 46 08.7**	**-0.9**
GMN				IAML			00 46 36.8	
	comp=N,880nm,0.6s							
BCW	**Bitter Crk WRg**	**1.71**	**245**			**Pn**	**00 46 08.9**	**-1.5**
DSP	**Deep Springs**	**1.74**	**348**			**Pn**	**00 46 09.4**	**-1.3**
DSP				IAML			00 46 34.9	
	comp=E,842nm,0.7s							
EW2	**E Wide Canyon**	**1.95**	**152**			**Pn**	**00 46 12.3**	**-1.3**
ELS	**Elsinore Mount**	**2.02**	**178**			**Pn**	**00 46 13.6**	**-1.0**
ELS				IAML			00 46 50.3	
	comp=E,590nm,0.7s							
DANC	**Danby, Needles**	**2.03**	**120**			**Pn**	**00 46 12.4**	**-2.3**
MZP	**Montezuma Peak**	**2.03**	**3**			**Pn**	**00 46 13.7**	**-1.3**
MURC	**Murrieta**	**2.08**	**173**			**Pn**	**00 46 14.4**	**-0.9**
SHPR	**Sheep Range**	**2.08**	**66**			**Pn**	**00 46 13.9**	**-1.6**
V12A	**Nelson**	**2.17**	**88**			**Pn**	**00 46 14.7**	**-2.0**
V12A				IAML			00 46 52.3	
	comp=N,491nm,0.4s							
PFO	**Pinyon Flats O**	**2.23**	**157**			**Pn**	**00 46 16.0**	**-1.5**
PFO				IAML			00 46 53.5	
	comp=N,637nm,1.2s							
PFO	**Pinyon Flats O**	**2.23**	**157**	Pn		**Pn**	**00 46 16.1**	**-1.5**
	comp=N,8.3nm,0.3s,baz=337,slow=13,SNR=31							
PFO				Pg		**Pb**	**00 46 21.0**	**+0.3**
	comp=N,51nm,0.3s,baz=331,slow=15,SNR=64							
PFO				Sn		**Sn**	**00 46 44.1**	**-1.3**
	comp=N,45nm,0.3s,baz=283,slow=19,SNR=7.3							
PFO				Lg	Lg		00 46 50.0	
	comp=N,141nm,0.3s,baz=55,slow=11,SNR=19							
	comp=N,23nm,0.3s							
TPH	**Tonopah**	**2.42**	**6**			**Pn**	**00 46 18.9**	**-1.2**
S11A	**Rachel**	**2.43**	**35**			**Pn**	**00 46 20.1**	**-0.3**
S11A				IAML			00 47 02.4	
	comp=E,937nm,0.6s							
S11A				IAML			00 47 03.1	
	comp=N,913nm,0.7s							
PRN	**Pahroc Range**	**2.64**	**48**			**Pn**	**00 46 21.8**	**-1.3**
PRN				IAML			00 47 05.6	
	comp=E,631nm,0.8s							
PRN				IAML			00 47 10.9	
	comp=N,667nm,1.0s							
LHV	**Little Huntoon**	**2.70**	**343**			**Pn**	**00 46 23.3**	**-0.5**
LHV				IAML			00 47 16.7	
	comp=E,345nm,1.2s							
LHV				IAML			00 47 16.7	
	comp=N,306nm,1.4s							
PMPB	**Monarch Peak**	**2.72**	**283**			**Pn**	**00 46 23.8**	**-0.4**
NV11	**Mina Array Sit**	**2.81**	**350**			**Pn**	**00 46 24.6**	**-0.9**
NVAR	**Mina Array Bea**	**2.83**	**347**	Pn		**Pn**	**00 46 25.0**	**-0.8**
	comp=N,4.4nm,0.3s,baz=181,slow=15,SNR=30							
NVAR				Pg		**Pb**	**00 46 31.9**	**+0.9**
	comp=N,46nm,0.3s,baz=165,slow=15,SNR=89							
NVAR				Sn		**Sn**	**00 47 00.3**	**0.0**
	comp=N,16nm,0.3s,baz=164,slow=17,SNR=3.6							
NVAR				Lg	Lg		00 47 08.8	
	comp=N,33nm,0.3s,baz=154,slow=14,SNR=6.8							
	comp=N,3.8nm,0.3s							
BBGB	**Big Mountain B**	**2.99**	**289**			**Pn**	**00 46 27.1**	**-0.9**
W13A	**Hualapai Mount**	**3.02**	**100**			**Pn**	**00 46 26.7**	**-1.8**
RYN	**Ryan**	**3.06**	**345**			**Pn**	**00 46 27.9**	**-1.1**
R11B	**Troy Canyon, C**	**3.09**	**29**			**Pn**	**00 46 28.8**	**-0.6**
BLYC	**Blythe**	**3.12**	**127**			**Pn**	**

comp=E,2.3nm,0.4s
YBH Yreka Blue Hor 7.29 328 Pn **Pn 00 47 29.1 +2.0**
baz=10,slow=22,SNR=1.7
YBH Lg Lg 00 49 29.8
baz=185,slow=5.0,SNR=5.4
ANMO Albuquerque 9.07 91 Pn **Pn 00 47 51.9 +0.3**
comp=E,0.1nm,0.3s,baz=215,slow=7.1,SNR=1.5
ANMO Pg 00 48 24.1
comp=E,0.4nm,0.3s,baz=9.7,slow=14,SNR=11
ANMO Lg Lg 00 50 19.4
comp=E,0.1nm,0.3s,baz=282,slow=20,SNR=7.9
ANMO LR LR 00 51 45.2
comp=E,67nm,19.8s,baz=4.0,slow=40
comp=E,0.5nm,0.5s
PDAR Pinedale Array 9.40 39 Pn **Pn 00 47 58.3 +2.2**
baz=220,slow=14,SNR=4.1
PDAR Lg Lg 00 50 32.4
comp=E,0.1nm,0.3s,baz=221,slow=38,SNR=3.7
comp=E,0.3nm,0.5s
TXAR Lajitas Array 13.28 114 Pn **Pn 00 48 51.8 +2.6**
comp=E,0.2nm,0.3s,baz=296,slow=15,SNR=2.3
TXAR Lg Lg 00 52 38.0
comp=E,0.1nm,0.3s,baz=274,slow=25,SNR=2.1
TXAR LR LR 00 53 59.7
comp=E,22nm,18.2s,baz=284,slow=38
comp=E,0.4nm,0.3s
ULM Lac du Bonnet 21.41 40 P **P 00 50 30.0 +1.6**
comp=E,3.6nm,0.7s,baz=236,slow=11,SNR=7.0
comp=E,3.6nm,0.7s
YKA Yellowknife Ar 26.91 3 P **P 00 51 22.2 +0.7**
comp=E,0.2nm,0.8s,baz=184,slow=7.2,SNR=2.5
comp=E,0.2nm,0.8s
ILAR Eielson Array 34.04 338 P **P 00 52 25.9 +1.4**
comp=E,0.2nm,0.4s,baz=161,slow=8.4,SNR=4.7
comp=E,0.2nm,0.4s

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*IDC **05** 00:50:02.4±1.4,34.°79N×138.°23E, h0km, mb3.3/4, mbtmp3.3/4, MS3.1/1, Error ellipse: s-maj=45.3km s-min=19.6km az=84.0*
*JMA **05** 00:50:05.4±0.3,35.°6N±0.°7×140.°1E±0.°9, h68km±2km, MV3.0/39, CENTRAL CHIBA PREF*
ISC 05 00:50:05.4±1.0,35.°55N±0.°05×140.°04E±0.°05, h75km±8km, n17, σ0.°65/22, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOK	**Tokyo**	**0.27**	**301**	*eP*	**Pn**	**00 50 17.4**	**+0.5**
TOK				*eS*	**Sn**	**00 50 26.0**	**+0.7**
JSMT	**Sammumatsuo**	**0.35**	**74**	P	**Pn**	**00 50 17.1**	**-0.3**
JOD2	**Odawara 2**	**0.83**	**250**	*i* P	**Pn**	**00 50 21.9**	**-0.2**
JOD2				S	**Sn**	**00 50 33.7**	**-0.9**
BSO3	**Boso 3**	**0.84**	**152**	*i* P	**Pn**	**00 50 21.9**	**-0.1**
BSO3				X		00 50 35.0	
JIM2	**Oshima 3**	**0.97**	**211**	P	**Pn**	**00 50 23.4**	**-0.4**
JIM2				*e*S	**Sn**	**00 50 36.5**	**-1.0**
JAG	**Ashikaga**	**1.00**	**332**	*i* P	**Pn**	**00 50 23.3**	**-0.8**
JRY	**Ryogami san**	**1.04**	**297**	*i* P	**Pn**	**00 50 24.7**	**+0.1**
BSO1	**Boso 1**	**1.18**	**139**	P	**Pn**	**00 50 25.4**	**-0.4**
BSO1				*e*S	**Sn**	**00 50 41.3**	**+0.1**
JYN	**Shimob**	**1.22**	**268**	*i* P	**Pn**	**00 50 27.0**	**+0.1**
JYN				S	**Sn**	**00 50 43.1**	**0.0**
JIZS	**Izushimoda**	**1.26**	**229**	S	**Sn**	**00 50 43.7**	**-0.3**
JKT	**Katashina**	**1.37**	**332**	S	**Sn**	**00 50 45.3**	**-1.4**
MJAR	**Matsushiro Arr**	**1.79**	**304**	Pn	**Pn**	**00 50 33.6**	**-0.7**
	1.5nm,0.3s,baz=186,slow=15,SNR=44						
MJAR				Sn	**Sn**	**00 50 56.7**	**+0.5**
	1.0nm,0.3s,baz=133,slow=13,SNR=2.8						
MKAR	**Makanchi Array**	**43.98**	**303**	P	**P**	**00 58 06.0**	**+0.9**
	0.2nm,0.6s,baz=94,slow=9.7,SNR=2.0						
	0.2nm,0.6s						
NRIK	**Noril'sk**	**44.16**	**336**	LR	LR	01 19 01.4	
	comp=Z,24nm,18.9s,baz=71,slow=39						
KURBB	**Kurchatov Arra**	**46.05**	**309**	P	**P**	**00 58 21.8**	**+0.4**
	0.3nm,0.7s,baz=91,slow=7.2,SNR=5.2						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**55.45**	**187**	P	**P**	**00 59 32.4**	**+0.2**
	0.2nm,0.4s,baz=2.2,slow=7.3,SNR=5.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**59.18**	**187**	P	**P**	**00 59 58.2**	**-0.3**
	0.2nm,0.7s,baz=2.2,slow=6.7,SNR=2.3						
	0.2nm,0.7s						

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*NEIC **05** 01:08:53.2±1.3,35.°739N×0.°009×117.°54W±0.°01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.8km az=220.0*
PAS 05 01:08:53.5±1.2,35.°726N±0.°010×117.°55W±0.°01, h1km±1km, ML3.0/25, ML2.8/76(NEIC), Error ellipse: s-maj=1.6km s-min=1.2km az=220.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRTC	**Snort**	**0.16**	**258**		Pg	01 08 57.4	+0.7
TOW	**Tower One**	**0.19**	**296**		Pg	01 08 58.0	+0.8
CCCA	**Chr Cany lake**	**0.25**	**143**		Pg	01 08 59.4	+1.1
CCCA					Sb	01 09 03.6	-2.0
LRMC	**Laurel Mtn Rad**	**0.27**	**204**		Pg	01 08 58.9	+0.3
WNMM	**Nine Mile Cany**	**0.31**	**292**		Pg	01 08 59.8	+0.4
WVPM	**Volcano Peak E**	**0.31**	**316**		Pg	01 08 59.8	+0.3
WVPM					Sg	01 09 04.7	+1.2
WCSM	**Coso Springs S**	**0.35**	**330**		Pg	01 09 00.4	+0.2
WRVM	**Rose V. Centra**	**0.39**	**316**		Pg	01 09 01.3	+0.2
WRVM					Sg	01 09 07.1	+0.9
MFS	**McCloud Flat S**	**0.46**	**328**		Pg	01 09 02.5	+0.2
QSM	**Queen of Sheba**	**0.60**	**67**		Pg	01 09 05.1	0.0
QSM					Sg	01 09 13.2	+0.3
QSM				IAML		01 09 14.7	
	comp=N,793nm,0.7s						
QSM				IAML		01 09 15.5	
	comp=E,656nm,0.2s						
CCAC	**Calif City Air**	**0.69**	**214**		Pg	01 09 06.7	+0.1
CCAC				IAML		01 09 16.6	
	comp=E,543nm,0.5s						
CCAC				IAML		01 09 17.4	
	comp=N,523nm,0.4s						
GSC	**Goldstone, Bar**	**0.74**	**125**		Pg	01 09 07.6	0.0
ISA	**Isabella, Lake**	**0.75**	**266**		Pg	01 09 07.8	-0.1
ISA				IAML		01 09 18.9	
	comp=E,318nm,0.7s						
ISA				IAML		01 09 22.6	
	comp=N,384nm,0.4s						
GWY	**Greenwater Val**	**0.85**	**57**		Pg	01 09 09.6	-0.2
SHOC	**Shoshone, Teco**	**1.05**	**80**		Pg	01 09 13.4	-0.2
SPG2	**Springville 2**	**1.09**	**296**		Pg	01 09 13.8	-0.6
LRRC	**Littlerock Res**	**1.26**	**198**		Pg	01 09 17.6	0.0
GRAC	**Grapevine Rang**	**1.28**	**7**		Pg	01 09 17.5	-0.4
GRAC				IAML		01 09 43.3	
	comp=N,264nm,0.8s						
WCT	**Wildcat Mounta**	**1.30**	**35**		Pg	01 09 17.6	-0.8
WCT				IAML		01 09 37.0	
	comp=N,112nm,0.5s						
WCT				IAML		01 09 42.0	
	comp=E,116nm,0.6s						
TUQ	**Turquoise Moun**	**1.36**	**102**		Pg	01 09 18.6	-0.9
CHFC	**Chilao Flat St**	**1.44**	**196**		Pn	01 09 20.6	-0.3
GMN	**Gold Mountain**	**1.59**	**8**		Pn	01 09 22.1	-0.8
TPNV	**Topopah Spring**	**1.61**	**40**		Pn	01 09 22.2	-1.0
TPNV				IAML		01 09 48.9	
	comp=E,186nm,0.6s						
TPNV				IAML		01 09 49.6	
	comp=E,183nm,0.7s						
PASC	**Pasadena Art C**	**1.64**	**199**		Pn	01 09 22.6	-0.7
PASC				IAML		01 09 48.3	
	comp=E,105nm,1.1s						
DSP	**Deep Springs**	**1.68**	**349**		Pn	01 09 23.4	-0.5
BCW	**Bitter Crk WRg**	**1.71**	**243**		Pn	01 09 25.1	+0.6
BCW				IAML		01 09 51.7	
	comp=N,162nm,0.6s						
BCW				IAML		01 09 53.7	
	comp=E,150nm,0.9s						
MZP	**Montezuma Peak**	**1.98**	**4**		Pn	01 09 28.0	-0.3
TPC	**Twentynine Pal**	**2.03**	**142**		Pn	01 09 27.7	-1.2
ELS	**Elsinore Mount**	**2.08**	**177**		Pn	01 09 28.6	-0.9
ELS				IAML		01 10 03.7	
	comp=E,41nm,0.3s						
SHPR	**Sheep Range**	**2.09**	**67**		Pn	01 09 29.0	-0.7
V12A	**Nelson**	**2.20**	**89**		Pn	01 09 29.8	-1.4
V12A				IAML		01 10 05.9	
	comp=N,39nm,1.1s						
CRY	**Cary Ranch**	**2.26**	**162**		Pn	01 09 33.1	+1.2
PFO	**Pinyon Flats O**	**2.29**	**157**		Pn	01 09 31.4	-1.1
PFO				IAML		01 10 07.1	
	comp=N,52nm,0.5s						
PFO				IAML		01 10 08.3	
	comp=N,40nm,0.5s						
TPH	**Tonopah**	**2.36**	**6**		Pn	01 09 31.4	-2.1
PRN	**Pahroc Range**	**2.62**	**49**		Pn	01 09 36.3	-0.7
PRN				IAML		01 10 24.6	
	comp=E,82nm,0.8s						
LHV	**Little Huntoon**	**2.63**	**343**		Pn	01 09 37.1	0.0
LHV				IAML		01 10 38.6	
	comp=N,24nm,1.7s						
PMPB	**Monarch Peak**	**2.68**	**281**		Pn	01 09 39.2	+1.4
BSM	**San Miguel Isl**	**2.85**	**235**		Pb	01 09 44.9	-0.2
RYN	**Ryan**	**3.00**	**345**		Pn	01 09 42.4	+0.1
W13A	**Hualapai Mount**	**3.06**	**101**		Pn	01 09 41.9	-1.2
BLYC	**Blythe**	**3.18**	**127**		Pn	01 09 42.6	-2.0
BLYC				IAML		01 10 37.7	
	comp=E,35nm,0.5s						
BLYC				IAML		01 10 38.7	
	comp=N,36nm,1.0s						
CBX	**Cerro Bola**	**3.48**	**168**		Pn	01 09 49.2	+0.3
GLA	**Glamis**	**3.49**	**139**		Pn	01 09 46.9	-2.0
KNB	**Kanab**	**4.03**	**70**	IAML		01 11 02.6	
	comp=E,11nm,1.1s						
KNB				IAML		01 11 16.6	
	comp=N,8.8nm,1.7s						
PSUT	**Pine Spring**	**4.07**	**45**	IAML		01 11 06.9	
	comp=E,16nm,0.7s						
PSUT				IAML		01 11 10.9	
	comp=N,13nm,1.0s						
X16A	**Lo Mia Camp, P**	**5.18**	**103**	IAML		01 11 44.2	
	comp=E,5.4nm,1.6s						
X16A				IAML		01 11 45.5	
	comp=N,4.7nm,1.3s						
ELK	**Elko**	**5.33**	**19**		Pn	01 10 14.0	-0.4
ELK				IAML		01 11 44.7	
	comp=N,4.1nm,0.6s						
ELK				IAML		01 11 45.0	
	comp=N,3.3nm,0.5s						

IDC 05 01:11:17.3±1.7,51.°38N×130.°52W, h0km, mbtmp2.7/5, ML3.0/4, Error ellipse: s-maj=19.4km s-min=11.6km az=60.0, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBB	**Bella Bella**	**1.70**	**61**	Pn	Pn	01 11 47.2	-0.9
	6.5nm,0.3s,baz=238,slow=6.8,SNR=46						
BBB				Sn	Sn	01 12 10.1	-0.5
	107nm,0.3s,baz=245,slow=16,SNR=11						
H02S1	**DAWSON INLET T**	**2.19**	**327**	Pn	Pn	01 11 51.7	-3.2
H02S1				Sn	Sn	01 12 17.8	-4.9
DLBC	**Dease Lake**	**7.08**	**2**	Pn	Pn	01 13 04.2	+2.0
	baz=179,slow=10.0,SNR=5.5						
DLBC				Sn	Sn	01 14 21.6	-1.6
	baz=209,slow=16						
DLBC				Lg	Lg	01 15 02.0	
	baz=207,slow=12,SNR=3.0						
	0.1nm,0.4s						
NEW	**Newport**	**9.20**	**105**	Pn	Pn	01 13 31.5	+0.3
	0.1nm,0.3s,baz=29,slow=22,SNR=1.0						
NEW				Lg	Lg	01 16 05.0	
	0.1nm,0.3s,baz=17,slow=2.5,SNR=3.4						
	0.7nm,0.5s						
YBH	**Yreka Blue Hor**	**11.04**	**148**	Pn	Pn	01 13 56.9	+0.5
	0.1nm,0.7s,baz=330,slow=8.1,SNR=4.5						
YKA	**Yellowknife Ar**	**14.07**	**32**	Pn	Pn	01 14 32.7	-5.0
	0.2nm,0.3s,baz=226,slow=12,SNR=9.4						
YKA				Lg	Lg	01 18 34.8	
	baz=217,slow=28,SNR=1.5						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**15.89**	**334**	Pn	Pn	01 15 02.5	+0.5
	baz=144,slow=10,SNR=6.8						
	0.2nm,0.9s						
PDAR	**Pinedale Array**	**16.63**	**113**	Pn	P	01 15 13.2	-1.2
	0.1nm,0.3s,baz=304,slow=8.0,SNR=16						
H11N2	**WAKE ISLAND Hy**	**57.77**	**261**	T	T	02 23 29.8	
	baz=41,slow=75,SNR=71						
H11N3	**WAKE ISLAND Hy**	**57.77**	**261**	T	T	02 23 32.8	
	baz=41,slow=75,SNR=77						
H11N1	**WAKE ISLAND Hy**	**57.79**	**261**	T	T	02 23 31.1	
	baz=41,slow=75,SNR=82						

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*NEIC **05** 01:18:13.0±1.4,35.°664N±0.°007×117.°52W±0.°01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.7km az=313.0*
PAS 05 01:18:13.4±1.6,35.°66N±0.°01×117.°52W±0.°01, h1km±1km, ML3.1/24, ML2.9/78(NEIC), Error ellipse: s-maj=1.7km s-min=1.4km az=52.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCCA	**Chr Cany lake**	**0.18**	**136**		Pg	01 18 17.7	+0.7
SRTC	**Snort**	**0.19**	**280**		Pg	01 18 17.7	+0.7
LRMC	**Laurel Mtn Rad**	**0.22**	**216**		Pg	01 18 17.9	+0.2
TOW	**Tower One**	**0.25**	**308**		Pg	01 18 18.9	+0.7
WNMM	**Nine Mile Cany**	**0.36**	**301**		Pg	01 18 20.8	+0.4
WVPM	**Volcano Peak E**	**0.38**	**321**		Pg	01 18 20.9	+0.2
WCSM	**Coso Springs S**	**0.42**	**332**		Pg	01 18 21.8	+0.3
WRVM	**Rose V. Centra**	**0.46**	**320**		Pg	01 18 22.3	+0.1
WRVM					Sg	01 18 29.1	+0.9
DTP	**Desert Tortois**	**0.47**	**214**		Pg	01 18 22.4	0.0
WBSM	**Bird Springs**	**0.52**	**257**		Pg	01 18 23.5	+0.1
WBSM					Sg	01 18 30.9	+0.9
WORM	**Onyx Ranch**	**0.59**	**274**		Pg	01 18 24.6	0.0
QSM	**Queen of Sheba**	**0.61**	**60**		Pg	01 18 25.2	+0.1
CCAC	**Calif City Air**	**0.65**	**219**		Pg	01 18 35.2	+1.0
CCAC	**Calif City Air**	**0.65**	**219**		Pg	01 18 25.8	0.0
CCAC				IAML		01 18 39.5	
	comp=E,633nm,0.8s						
CCAC				IAML		01 18 40.3	
	comp=N,953nm,0.6s						
GSC	**Goldstone, Bar**	**0.68**	**121**		Pg	01 18 26.6	+0.1
ISA	**Isabella, Lake**	**0.78**	**271**		Pg	01 18 28.1	-0.2
ISA				IAML		01 18 39.2	
	comp=E,697nm,0.4s						
ISA				IAML		01 18 39.3	
	comp=N,417nm,0.3s						
ISA	**Isabella, Lake**	**0.78**	**271**		Sg	01 18 39.0	+0.6
HYS	**Haystack Butte**	**0.79**	**183**		Pg	01 18 28.3	-0.4
EDW2	**Edwards Air Fo**	**0.87**	**207**		Pg	01 18 29.6	-0.5
GWY	**Greenwater Val**	**0.87**	**52**		Pg	01 18 29.8	-0.3
GWY				IAML		01 18 46.5	
	comp=N,582nm,0.6s						
CGO	**Cerro Gordo**	**0.92**	**346**		Pg	01 18 31.0	-0.1
CGO					Sg	01 18 44.0	+1.0
SPG2	**Springville 2**	**1.15**	**299**		Pg	01 18 34.8	-0.6
ARVC	**Arvin**	**1.19**	**244**		Pg	01 18 36.3	0.0
DSCC	**Desert Studies**	**1.27**	**114**		Sg	01 18 54.0	-0.1
AMDNV	**Amargosa**	**1.28**	**51**		Pg	01 18 36.9	-1.1
TUQ	**Turquoise Moun**	**1.32**	**99**		Pg	01 18 38.0	-0.8
GRAC	**Grapevine Rang**	**1.34**	**5**		Pg	01 18 38.6	-0.5
GRAC				IAML		01 19 00.4	
	comp=N,276nm,0.6s						
GRAC				IAML		01 19 01.6	
	comp=E,288nm,0.9s						
WCT	**Wildcat Mounta**	**1.34**	**32**		Pg	01 18 38.1	-1.1
CHFC	**Chilao Flat St**	**1.39**	**198**		Pg	01 18 39.5	-0.4
PASC	**Pasadena Art C**	**1.58**	**200**		Pn	01 18 41.8	-0.7
PASC				IAML		01 19 06.8	
	comp=N,106nm,0.7s						
PASC				IAML		01 19 08.2	
	comp=E,175nm,0.5s						
MTPC	**Mountain Pass**	**1.61**	**96**		Pn	01 18 41.8	-1.4
TPNV	**Topopah Spring**	**1.65**	**38**		Pn	01 18 42.7	-0.9
TPNV				IAML		01 19 09.7	
	comp=E,113nm,0.4s						
TPNV				IAML		01 19 11.6	
	comp=E,129nm,0.5s						
GMN	**Gold Mountain**	**1.65**	**7**		Pn	01 18 43.1	-0.7
BCW	**Bitter Crk WRg**	**1.71**	**246**		Pn	01 18 43.1	-1.3
BCW				IAML		01 19 29.4	
	comp=E,187nm,0.8s						
DSP	**Deep Springs**	**1.75**	**348**		Pn	01 18 44.4	-0.4
ELS	**Elsinore Mount**	**2.01**	**178**		Pn	01 18 47.5	-1.0
ELS				IAML		01 19 20.9	
	comp=E,76nm,0.3s						
ELS				IAML		01 19 21.8	
	comp=N,57nm,0.3s						
POB	**Polly Butte**	**2.03**	**166**		Pn	01 18 48.2	-0.6
MZP	**Montezuma Peak**	**2.04**	**3**		Pn	01 18 48.7	-0.4
DGR	**Domenigoni Val**	**2.05**	**168**		Pn	01 18 48.5	-0.5
SHPR	**Sheep Range**	**2.09**	**65**		Pn	01 18 49.4	-0.3
SHPR				IAML		01 19 24.7	
	comp=N,46nm,0.7s						
V12A	**Nelson**	**2.17**	**87**		Pn	01 18 49.6	-1.3
V12A				IAML		01 19 23.8	
	comp=N,85nm,0.5s						
V12A				IAML		01 19 27.3	
	comp=E,67nm,0.5s						
PFO	**Pinyon Flats O**	**2.22**	**156**		Pn	01 18 50.4	-1.1
PFO				IAML		01 19 25.2	
	comp=E,66nm,0.6s						
PFO				IAML		01 19 26.2	
	comp=E,43nm,0.5s						
PRN	**Pahroc Range**	**2.65**	**48**		Pn	01 18 57.0	-0.4
PRN				IAML		01 19 50.0	
	comp=E,64nm,0.8s						
PRN				IAML		01 19 54.4	
	comp=N,72nm,0.6s						
LHV	**Little Huntoon**	**2.71**	**343**		Pn	01 18 52.7	-5.2
LHV				IAML		01 19 51.7	
	comp=E,34nm,1.1s						
PMPB	**Monarch Peak**	**2.72**	**283**		Pn	01 18 59.7	+1.5
NV11	**Mina Array Sit**	**2.81**	**350**		Pn	01 18 59.7	+0.1
NVAR	**Mina Array Bea**	**2.84**	**347**		Pn	01 19 00.0	0.0
BBGB	**Big Mountain B**	**2.99**	**289**		Pn	01 19 01.7	-0.4
W13A	**Hualapai Mount**	**3.02**	**100**		Pn	01 19 01.5	-1.0
W13A				IAML		01 19 53.1	
	comp=N,37nm,0.6s						
W13A				IAML		01 19 55.4	
	comp=E,34nm,0.7s						
RYN	**Ryan**	**3.07**	**345**		Pn	01 19 03.9	+0.7
BLYC	**Blythe**	**3.12**	**127**		Pn	01 19 01.6	-2.1
BLYC				IAML		01 19 55.5	
	comp=E,37nm,0.6s						
BLYC				IAML		01 20 08.7	
	comp=N,39nm,0.9s						
YUH	**Yuha Desert**	**3.28**	**156**		Pn	01 19 05.2	-0.8
CBX	**Cerro Bola**	**3.41**	**168**		Pn	01 19 06.5	-1.4
GLA	**Glamis**	**3.42**	**139**		Pn	01 19 06.0	-1.9
KNB	**Kanab**	**4.03**	**69**	IAML		01 20 27.6	
	comp=N,13nm,1.6s						
KNB				IAML		01 20 28.7	
	comp=E,13nm,0.7s						
PSUT	**Pine Spring**	**4.10**	**45**	IAML		01 20 45.0	
	comp=E,11nm,0.8s						
PSUT				IAML		01 20 46.7	
	comp=N,9.7nm,1.3s						
X16A	**Lo Mia Camp, P**	**5.14**	**102**	IAML		01 20 38.3	
	comp=E,9.8nm,0.1s						

GCG 05 01:19:52.8±0.6,14.°26N×91.°40W, h50km±16km, MD3.5, ML2.9, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STG0	**El Palmar, Qui**	**0.17**	**20**	*i* P	Pn	01 20 04.3	+3.1
STG0				*i* S	Sn	01 20 12.1	+4.9
STG0				IAML		01 20 16.6	
	comp=E,786nm,0.6s						
STG8	**El Palmar, Qui**	**0.19**	**15**	*i* P	Pn	01 20 05.1	+3.7
STG8				*i* S	Sn	01 20 14.0	+6.4
STG8				IAML		01 20 16.3	
	comp=N,545nm,0.2s						
ESSG	**Sabana Grande**	**0.57**	**78**	*i* P	Pn	01 20 04.7	-0.3
FG8	**Yepocapa, Chim**	**0.81**	**90**	*i* P	Pn	01 20 04.5	-3.7
FG8				*i* S	Sn	01 20 13.5	-5.9
FG16	**Alotenango, Sa**	**0.86**	**89**	*i* P	Pn	01 20 05.2	-3.7
FG16				*i* S	Sn	01 20 16.2	-4.5
FG16				IAML		01 20 21.2	
	comp=E,1μm,0.7s						

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*IDC **05** 01:42:58.9±2.4,6.°25S×130.°59E, h112km±23km, mb3.8/5, mbtmp4.4/9, Error ellipse: s-maj=20.6km s-min=18.1km az=155.0*
*DJA **05** 01:42:59.7±0.3,6.°S±2.°×13.°1E±.°, h130km±9km, M4.3/1, MLv4.7/15, MLv4.3/1*
*NEIC **05** 01:42:59.3±1.1,6.°17S±0.°05×130.°55E±0.°09, h115km±8km, mb4.3/11, Error ellipse: s-maj=12.6km s-min=6.6km az=103.0*
ISC 05 01:42:59.8±0.5,6.°20S±0.°05×130.°66E±0.°05, h124km, n62, σ1.°13/61, mb4.1/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.83**	**336**	P	**Pn**	**01 43 32.0**	**+0.6**
BNDI	**Bandanaira**	**1.83**	**336**	P	**Pn**	**01 43 32.2**	**+0.8**
SAUI	**Saumlaki**	**1.88**	**160**	Pn	**Pn**	**01 43 34.2**	**+2.1**
SAUI				Sn	**Sn**	**01 43 56.3**	**-0.4**
SAUI	**Saumlaki**	**1.88**	**160**	P	**Pn**	**01 43 31.3**	**-0.7**
MSAI	**Masohi**	**3.32**	**329**	P	**Pn**	**01 43 50.5**	**+0.1**
MSAI				S	**Sn**	**01 44 29.2**	**-0.4**
AAI	**Ambon**	**3.50**	**315**	P	**Pn**	**01 43 54.6**	**+1.8**
FAKI	**Fak Fak**	**3.63**	**26**		**Pn**	**01 43 53.1**	**-1.4**
FAKI	**Fak Fak**	**3.63**	**26**	P	**Pn**	**01 43 53.4**	**-1.1**
FAKI	**Fak Fak**	**3.63**	**26**	P	**Pn**	**01 43 53.1**	**-1.4**
KMPI	**Kaimana, Papua**	**3.95**	**50**	P	**Pn**	**01 43 58.3**	**-0.5**
KMPI				S	**Sn**	**01 44 42.5**	**-2.0**
NLAI	**Namlea**	**4.61**	**310**	P	**Pn**	**01 44 08.5**	**+0.9**
SWI	**Sorong**	**5.34**	**6**	P	**Pn**	**01 44 16.0**	**-1.4**
RKPI	**Ransiki, Papua**	**5.83**	**37**	P	**Pn**	**01 44 23.1**	**-1.0**
DRS	**Darwin Rock St**	**6.20**	**178**	P	**Pn**	**01 44 29.1**	**+0.2**
DRS	**Darwin Rock St**	**6.20**	**178**	S	**Sn**	**01 45 37.2**	**-1.3**
SANI	**Sanana**	**6.22**	**311**	P	**Pn**	**01 44 30.3**	**+1.0**
SANI	**Sanana**	**6.22**	**311**	P	**Pn**	**01 44 29.5**	**+0.2**
MTN	**Manton Dam**	**6.62**	**176**	Pn	**Pn**	**01 44 34.3**	**-0.3**
MTN	**Manton Dam**	**6.62**	**176**	P	**Pn**	**01 44 34.6**	**0.0**
MTN	**Manton Dam**	**6.62**	**176**	S	**Sn**	**01 45 47.2**	**-1.5**
KDU	**Kakadu**	**6.69**	**165**	P	**Pn**	**01 44 35.0**	**-0.6**
SOEI	**Soe**	**7.25**	**240**	Pn	**Pn**	**01 44 41.2**	**-2.1**
SOEI	**Soe**	**7.25**	**240**	P	**Pn**	**01 44 43.6**	**+0.4**
BAKI	**Biak**	**7.37**	**48**	P	**Pn**	**01 44 44.2**	**-0.6**
BATI	**Baumata**	**7.98**	**240**	P	**Pn**	**01 44 52.6**	**-0.5**
	28nm,0.3s,baz=76,slow=7.0,SNR=2.5						
BATI				S	**Sn**	**01 46 19.1**	**-2.8**
	61nm,0.4s,baz=283,slow=23,SNR=5.9						
BATI	**Baumata**	**7.98**	**240**	P	**Pn**	**01 44 54.7**	**+1.6**
EDFI	**Ende, Flores**	**9.24**	**254**	P	**Pn**	**01 45 12.5**	**+2.3**
KNRA	**Kununurra**	**9.60**	**191**		**Pn**	**01 45 13.2**	**-1.6**
JAY	**Jayapura**	**10.67**	**70**	P	**Pn**	**01 45 30.0**	**+0.7**
	1.9nm,0.3s,baz=190,slow=12,SNR=1.7						
JAY				S	**Sn**	**01 47 27.9**	**+0.9**
	2.8nm,0.3s,baz=193,slow=19,SNR=2.5						
FITZ	**Fitzroy Crossi**	**12.80**	**202**	Pn	Pn	01 45 53.8	-3.5
FITZ	**Fitzroy Crossi**	**12.80**	**202**

TARG	**Taragay, Kyrgy**	**67.78 320**	P	P	01 53 40.6	-4.3
TARG			IAmb	IAmb	01 53 50.8	
	comp=Z,2.4nm,0.7s					
MKAR	**Makanchi Array**	**67.92 326**	P	**P**	**01 53 45.8**	**+0.5**
	comp=Z,3.2nm,0.4s,baz=120,slow=7.1,SNR=50					
	comp=Z,3.2nm,0.4s					
MAKZ	**Makanchi**	**68.10 326**	P	**P**	**01 53 46.6**	**+0.3**
MAKZ			IAmb	IAmb	01 53 47.4	
	comp=Z,4.0nm,0.5s					
KURBB	**Kurchatov Arra**	**72.18 328**	P	**P**	**01 54 11.3**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=130,slow=5.2,SNR=17					
	comp=Z,1.4nm,0.5s					
VNDA	**Vanda**	**73.16 173**	P	**P**	**01 54 17.3**	**+0.9**
VNDA			IAmb	IAmb	01 54 40.3	
	comp=Z,1.8nm,1.3s					
KKAR	**Karatay Array**	**73.18 318**	P	**P**	**01 54 16.6**	**-0.6**
BVAR	**Borovoye Array**	**77.74 328**	P	**P**	**01 54 42.9**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=134,slow=6.4,SNR=3.8					
	comp=Z,1.0nm,0.5s					
AB31	**Akbulak array**	**82.29 321**	P	**P**	**01 55 07.0**	**-0.6**
ABKAR	**Akbulak array**	**82.29 321**	P	**P**	**01 55 06.7**	**-0.8**
QSPA	**South Pole Qui**	**83.77 180**	P	**P**	**01 55 14.7**	**-0.4**
QSPA			IAmb	IAmb	01 55 41.4	
	comp=Z,3.5nm,1.3s					
QSPA	**South Pole Qui**	**83.77 180**	P	**P**	**01 55 14.6**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=45,slow=2.9,SNR=1.9					
	comp=Z,0.7nm,0.8s					
LPAZ	**La Paz**	**150.93 140**	PKPbc	**PKPbc**	**02 02 40.8**	**+1.1**
	comp=Z,1.5nm,0.4s,baz=21,slow=3.0,SNR=11					

WEL 05 01:49:33.5±1.2, 36°S±15″×17°9E±1″4, h133km±28km, M3.4/6, ML3.9/2, MLv3.4/6, Error ellipse: s-maj=23.1km s-min=14.3km az=138.2, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.91 204**		S	Sn	01 50 32.8	+1.1
WMGZ	**Waiomatatini S**	**2.11 199**		P	Pn	01 50 08.9	0.0
WMGZ				S	Sn	01 50 37.7	+1.5
PKGZ	**Pakihiroa**	**2.26 205**		P	Pn	01 50 10.8	0.0
PKGZ				S	Sn	01 50 41.0	+1.6
HAZ	**Te Kaha**	**2.28 212**		P	Pn	01 50 11.7	+0.7
PUZ	**Puketiti**	**2.39 200**		P	Pn	01 50 10.8	-1.7
PUZ				S	Sn	01 50 41.2	-1.2
RUGZ	**Raukumara Rang**	**2.50 211**		P	Pn	01 50 13.7	-0.2
TWGZ	**Tauwhareparae**	**2.57 204**		P	Pn	01 50 15.4	+0.6
TWGZ				S	Sn	01 50 46.6	+0.1
CNGZ	**Carnagh Statio**	**2.79 198**		P	Pn	01 50 17.7	+0.2
MWZ	**Matawai**	**2.88 209**		P	Pn	01 50 18.2	-0.5
MWZ				S	Sn	01 50 54.2	+0.7
URZ	**Urewera**	**2.99 215**		P	Pn	01 50 20.1	+0.1
URZ				S	Sn	01 50 54.8	-1.3
MUGZ	**Murupara**	**3.33 217**		P	Pn	01 50 24.0	-0.4
MUGZ				S	Sn	01 51 04.6	+0.7
MKAZ	**Moumakai**	**3.57 248**		P	Pn	01 50 26.7	-0.8
TOZ	**Tahuroa Road**	**3.59 237**		P	Pn	01 50 28.1	+0.2
BKZ	**Black Stump Fm**	**4.01 213**		P	Pn	01 50 31.7	-1.8
BKZ				S	Sn	01 51 20.6	+0.6
OTVZ	**Oturere**	**4.41 220**		P	Pn	01 50 43.4	+4.5
SNVZ	**South Ngauruho**	**4.44 220**		P	Pn	01 50 42.9	+3.6
FWVZ	**Far West T-bar**	**4.54 220**		P	Pn	01 50 45.3	+4.8
MOVZ	**Moawhango**	**4.55 217**		P	Pn	01 50 42.4	+1.8
WNVZ	**Wahianoa**	**4.57 219**		P	Pn	01 50 45.2	+4.3
MRZ	**Mangatainoka R**	**5.64 210**		S	Sn	01 51 56.2	-2.7

*IDC **05** 01:50:17.3±1.9, 56°36N×163°33E, h0km, mb3.4/4, mbtmp3.3/5, ML2.2/1, MS2.7/4, Error ellipse: s-maj=54.6km s-min=25.3km az=147.0*
*KRSC **05** 01:50:18.1±1.3, 55°94N×163°64E, h16km±13km, Ml4.1*
ISC 05 01:50:17.0±1.6, 56°05N±0°06×163°75E±0°04, h8km±10km, n34, σ1°59/37, mb3.6/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.54 287**		*eP*	**Pg**	**01 50 27.6**	**+0.1**
KBTR				*eS*	**Sg**	**01 50 34.2**	**-0.4**
KBG	**Krutoberegovo**	**0.62 290**		*eP*	**Pg**	**01 50 28.9**	**-0.1**
KBG				*eS*	**Sb**	**01 50 37.3**	**-1.7**
SMKR	**Semkarok**	**1.38 294**		*eP*	**Pn**	**01 50 42.2**	**-0.5**
SMKR				*eS*	**Sn**	**01 51 02.6**	**+1.5**
BDR	**Baidarnaya**	**1.51 291**		*eS*	**Sg**	**01 51 05.4**	**-0.1**
BKI	**Bering**	**1.52 123**		*eP*	**Pn**	**01 50 44.8**	**+0.3**
BKI				*eS*	**Sn**	**01 51 05.1**	**+0.7**
ZLN	**Zelenaya**	**1.65 270**		*eP*	**Pn**	**01 50 47.6**	**+1.1**
CIRR	**Tsirk**	**1.68 274**		*eP*	**Pn**	**01 50 47.8**	**+0.9**
LGNR	**Loginova**	**1.71 272**		*eP*	**Pn**	**01 50 48.4**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**1.72 268**		*iP*	**Pn**	**01 50 48.2**	**+0.8**
BZGR				*eS*	**Sb**	**01 51 11.1**	**+0.4**
KLY	**Klyuchi**	**1.75 280**		*eP*	**Pn**	**01 50 46.4**	**-1.3**
KLY				*eS*	**Sn**	**01 51 09.0**	**-1.2**
BZWR	**Bezymyannyi-We**	**1.83 269**		*eP*	**Pn**	**01 50 50.1**	**+1.2**
MKZ	**Mys Kozlova**	**1.89 218**		*eP*	**Pn**	**01 50 49.1**	**-0.5**
MKZ				*eS*	**Sn**	**01 51 11.4**	**-2.1**
KIRR	**Kirishev**	**1.92 269**		*eP*	**Pn**	**01 50 51.2**	**+1.1**
KIRR				*eS*	**Sn**	**01 51 15.9**	**+1.4**
KPT	**Kopyto**	**1.98 269**		*eP*	**Pn**	**01 50 51.4**	**+0.4**
KMNR	**Kamenistaya**	**2.00 263**		*eP*	**Pn**	**01 50 52.6**	**+1.4**
TUMD	**Tumrok D**	**2.08 247**		*eP*	**Pn**	**01 50 51.9**	**-0.4**
KOZ	**Kozyrevsk**	**2.17 272**		*eP*	**Pn**	**01 50 55.6**	**+2.1**
SRDR	**Sredinnyy**	**2.27 278**		*eP*	**Pn**	**01 50 56.7**	**+1.8**
SPN	**Mys Shipunski**	**3.67 218**		*eS*	**Sn**	**01 51 53.5**	**-3.9**
SDLR	**Sedlovina**	**3.96 227**		*eP*	**Pn**	**01 51 20.6**	**+2.4**
UGLR	**Uglovaya**	**4.04 227**		*eP*	**Pn**	**01 51 21.7**	**+2.5**
PETK	**Petropavlovsk-**	**4.59 233**		Pn	**Pn**	**01 51 28.9**	**+2.2**
	0.6nm,0.3s,baz=50,slow=16,SNR=4.8						
PETK				Sn	**Sn**	**01 52 23.4**	**+3.3**
	baz=61,slow=15						
	1.4nm,0.5s						
MA2	**Magadan**	**7.78 302**		LR	LR	01 55 15.1	
	comp=Z,48nm,19.5s,baz=218,slow=40						
SEY	**Seymchan**	**8.99 325**		LR	LR	01 55 54.3	
	comp=Z,51nm,21.3s,baz=220,slow=39						
YAK	**Yakutsk**	**18.36 303**		LR	LR	02 02 28.6	
	comp=Z,18nm,21.0s,baz=130,slow=41						
TIXI	**Tiksi**	**21.42 330**		LR	LR	02 03 38.6	
	comp=Z,28nm,21.4s,baz=170,slow=38						
ILAR	**Eielson Array**	**25.25 50**		P	**P**	**01 55 43.8**	**+0.7**
	0.3nm,0.8s,baz=249,slow=9.3,SNR=4.7						
	0.3nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**36.34 175**		T	T	02 36 02.1	
	baz=357,slow=76,SNR=1643						
H11N3	**WAKE ISLAND Hy**	**36.35 175**		T	T	02 36 11.8	
	baz=357,slow=76,SNR=1311						
H11N1	**WAKE ISLAND Hy**	**36.36 175**		T	T	02 36 12.1	
	baz=357,slow=76,SNR=1466						
KURBB	**Kurchatov Arra**	**48.09 301**		P	**P**	**01 58 55.7**	**-1.1**
	0.3nm,0.5s,baz=54,slow=8.0,SNR=6.2						
KURBB				PcP	**PcP**	**02 00 24.2**	**-0.1**
	0.5nm,0.8s,baz=39,slow=3.6,SNR=4.9						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**48.80 295**		P	**P**	**01 58 59.8**	**-2.6**
	0.4nm,0.5s,baz=52,slow=7.4,SNR=6.0						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**50.22 308**		PcP	**PcP**	**02 00 32.3**	**+0.3**
	0.5nm,0.5s,baz=58,slow=3.6,SNR=3.6						
ESDC	**Sonseca Array**	**84.07 350**		P	**P**	**02 02 49.1**	**+1.0**
	0.3nm,0.7s,baz=2.4,slow=5.5,SNR=4.2						
	0.3nm,0.7s						

*IDC **05** 01:54:48.5±0.7, 9°24S×79°74W, h0km, mb3.9/9, mbtmp3.9/13, ML3.6/4, MS3.2/4, Error ellipse: s-maj=26.1km s-min=17.5km az=72.0*
*NEIC **05** 01:54:52.6±2.7, 9°26S±0°06×79°8W±0°1, h35km±2km, mb4.5/15, Error ellipse: s-maj=18.8km s-min=10.9km az=86.0*
ISC 05 01:54:53.4±0.6, 9°21S±0°06×79°64W±0°09, h35km, n49, σ1°27/38, mb4.1/14, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.41 31**		Pn	**Pn**	**01 55 32.6**	**+1.9**
	32nm,0.3s,baz=184,slow=6.1,SNR=135						
ATAH				Sn	**Sn**	**01 56 02.5**	**+3.3**
	55nm,0.3s,baz=20,slow=19,SNR=9.8						
	102nm,0.3s						
NNA	**Nana**	**3.89 135**			**Pn**	**01 55 50.9**	**+0.1**
NNA	**Nana**	**3.89 135**		Pn	**Pn**	**01 55 51.3**	**+0.5**
	28nm,0.3s,baz=321,slow=12,SNR=32						
NNA				Sn	**Sn**	**01 56 34.6**	**-0.7**
	49nm,0.3s,baz=97,slow=14,SNR=7.6						
	68nm,0.3s						
CZSB	**Cruzeiro do Su**	**7.01 78**		Pn	**Pn**	**01 56 33.6**	**-0.1**
OTAV	**Otavalo**	**9.46 7**			**Pn**	**01 57 05.6**	**-2.2**
TBTG	**Tabatinga, AM**	**10.88 63**		Pn	**Pn**	**01 57 25.7**	**-1.0**
FLOC	**Florencia**	**11.44 21**			**Pn**	**01 57 31.2**	**-3.2**
LPAZ	**La Paz**	**13.24 123**		Pn	**Pn**	**01 57 59.4**	**-0.2**
	0.1nm,0.3s,baz=46,slow=2.4,SNR=2.4						
LPAZ				LR	LR	02 03 20.7	
	comp=Z,51nm,21.6s,baz=308,slow=38						
	0.4nm,0.5s						
PB11	**IPOC Station P**	**14.25 138**		Pn	**Pn**	**01 58 14.8**	**+1.9**
ROSC	**El Rosal**	**14.93 21**		LR	LR	02 04 44.5	
	comp=Z,178nm,18.9s,baz=82,slow=40						
RUSC	**La Rusia**	**16.37 24**			**Pn**	**01 58 40.3**	**-0.8**
AF01	**San Pedro de A**	**17.53 143**			**Pn**	**01 58 54.5**	**-1.0**
AF01				IAmb	IAmb	01 59 10.4	
	comp=Z,21nm,0.5s						
SIV	**San Ignacio**	**19.32 112**		P	**P**	**01 59 15.4**	**-0.5**
	baz=78,slow=22,SNR=1.4						
	comp=Z,0.4nm,0.6s						
MACA	**Manacapuru-AM**	**19.77 73**			**P**	**01 59 20.4**	**-0.4**
MACA				IAmb	IAmb	01 59 35.2	
	comp=Z,16nm,0.7s						
JTS	**Las Juntas de**	**20.09 345**		LR	LR	02 05 54.3	
	comp=Z,136nm,18.8s,baz=141,slow=33						
AC02	**Maricunga**	**20.15 152**		P	**P**	**01 59 25.5**	**+0.2**
BAUV	**El Baul**	**21.42 33**			**P**	**01 59 38.2**	**-0.3**
BOAV	**Boa Vista**	**22.27 60**		P	**P**	**01 59 46.3**	**-1.4**
H03N2	**Juan Fernandez**	**24.12 179**		T	T	02 25 16.4	
	baz=358,slow=76,SNR=96						
H03N1	**Juan Fernandez**	**24.12 179**		T	T	02 25 16.4	
	baz=358,slow=76,SNR=91						
H03N3	**Juan Fernandez**	**24.13 179**		T	T	02 25 15.2	
	baz=358,slow=76,SNR=94						
CPUP	**Villa Florida**	**27.14 132**		LR	LR	02 12 02.1	
	comp=Z,30nm,18.6s,baz=124,slow=38						
FCAR	**Ozark Folk Cen**	**46.38 346**		P	**P**	**02 03 15.7**	**-0.7**
FCAR				IAmb	IAmb	02 03 17.2	
	comp=Z,5.5nm,1.0s						
VHRN	**Van Horn**	**46.62 330**		P	**P**	**02 03 18.2**	**-0.4**
VHRN				IAmb	IAmb	02 03 19.9	
	comp=Z,2.0nm,0.8s						
SMWD	**Samnorwood**	**48.19 337**		P	**P**	**02 03 31.7**	**+1.0**
ANMO	**Albuquerque**	**50.72 331**		P	**P**	**02 03 50.9**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=242,slow=10,SNR=5.0						
	comp=Z,1.8nm,0.8s						
PDAR	**Pinedale Array**	**58.50 334**		P	**P**	**02 04 46.6**	**+0.1**
	comp=Z,1.8nm,1.1s,baz=142,slow=5.0,SNR=4.7						
	comp=Z,1.8nm,1.1s						
NEW	**Newport**	**66.10 334**		P	**P**	**02 05 37.3**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=129,slow=7.7,SNR=2.1						
	comp=Z,1.5nm,0.7s						
NLWA	**Neilton Lookou**	**68.66 329**		P	**P**	**02 05 52.7**	**-0.5**
NLWA				IAmb	IAmb	02 05 55.2	
	comp=Z,3.6nm,0.8s						
YKA	**Yellowknife Ar**	**76.42 344**		P	**P**	**02 06 38.6**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=142,slow=4.9,SNR=6.8						
	comp=Z,0.5nm,0.7s						
SNAA	**Sanae**	**77.16 162**		P	**P**	**02 06 44.0**	**+0.8**
	comp=Z,1.4nm,1.1s,baz=293,slow=7.7,SNR=2.5						
	comp=Z,1.4nm,1.1s						
QSPA	**South Pole Qui**	**80.90 180**		P	**P**	**02 07 05.3**	**+1.4**
	comp=Z,1.8nm,0.9s,baz=136,slow=2.2,SNR=7.4						
	comp=Z,1.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**83.74 76**		P	**P**	**02 07 19.9**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=260,slow=5.9,SNR=2.6						
	comp=Z,0.9nm,0.3s						
ESDC	**Sonseca Array**	**84.99 49**		P	**P**	**02 07 26.7**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=257,slow=5.7,SNR=1.9						
	comp=Z,0.3nm,0.7s						
BCAR	**Beaver Creek A**	**86.08 336**		P	**P**	**02 07 29.4**	**-0.9**
L27K	**Beaver Creek,**	**86.09 336**		IAmb	IAmb	02 07 31.5	
	comp=Z,4.1nm,1.2s						
VNDA	**Vanda**	**86.97 191**		P	**P**	**02 07 34.9**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=351,slow=10,SNR=2.0						
	comp=Z,0.4nm,0.8s						
E29M	**Blow River**	**87.44 342**			**P**	**02 07 34.8**	**-2.0**
E29M				IAmb	IAmb	02 07 37.8	
	comp=Z,4.1nm,1.1s						
D27M	**Malcolm River**	**88.84 342**		P	**P**	**02 07 42.7**	**-0.9**
D27M				IAmb	IAmb	02 07 44.5	
	comp=Z,2.6nm,0.8s						
BMAR	**Burnt Mountain**	**89.16 340**		P	**P**	**02 07 43.3**	**-1.8**
H11N3	**WAKE ISLAND Hy**	**15.06 287**		T	T	04 18 48.9	
	baz=92,slow=74,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**15.07 287**		T	T	04 18 45.7	
	baz=92,slow=74,SNR=7.0						
H11N1	**WAKE ISLAND Hy**	**15.07 287**		T	T	04 18 50.5	
	baz=92,slow=74,SNR=8.7						
H11S2	**WAKE ISLAND Hy**	**15.22 286**		T	T	04 19 01.9	
	baz=93,slow=74,SNR=19						
H11S1	**WAKE ISLAND Hy**	**15.22 286**		T	T	04 18 59.1	
	baz=93,slow=74,SNR=7.2						
H11S3	**WAKE ISLAND Hy**	**15.24 286**		T	T	04 19 03.1	
	baz=93,slow=74,SNR=12						
ASAR	**Alice Springs**	**133.71 224**		PKP	**PKPdf**	**02 14 07.6**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=113,slow=2.7,SNR=6.2						
KURBB	**Kurchatov Arra**	**134.94 20**		PKP	**PKPdf**	**02 14 09.5**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=320,slow=2.9,SNR=6.9						
WRA	**Warramunga Arr**	**135.75 229**		PKP	**PKPdf**	**02 14 11.4**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=124,slow=2.1,SNR=6.7						

*IDC **05** 01:57:17.9±4.3, 14°59N×93°02W, h0km, mb3.6/4, mbtmp3.6/5, Error ellipse: s-maj=127.1km s-min=51.7km az=33.0*
*GCG **05** 01:57:19.5±2.5, 14°35N×93°86W, h1km±140km, MD4.6*
*NEIC **05** 01:57:20.6±2.5, 14°23N±0°07×93°8W±0°1, h10km±2km, mb4.1/30, Error ellipse: s-maj=21.1km s-min=7.5km az=240.0*
ISC 05 01:57:18.5±1.2, 14°15N±0°10×93°79W±0°08, h10km, n41, σ1°73/37, mb4.1/16, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.66**	**63**	*iP*	**Pn**	**01 57 49.1**	**+1.4**
THIG				*iS*	**Sn**	**01 58 11.3**	**+2.3**
RTAL	**Retalhuleu**	**2.06**	**79**		**Pn**	**01 57 55.7**	**+2.5**
STG8	**El Palmar, Qui**	**2.38**	**82**	*iP*	**Pn**	**01 57 57.0**	**-0.9**
STG8				*iS*	**Sn**	**01 58 25.9**	**-1.4**
STG0	**El Palmar, Qui**	**2.39**	**83**	*iP*	**Pn**	**01 57 57.2**	**-0.7**
HUEH	**Huehuetenango**	**2.50**	**62**		**Pn**	**01 58 02.1**	**+2.6**
CCIG	**Comitan**	**2.66**	**37**		**Pn**	**01 58 03.3**	**+1.7**
CCIG	**Comitan**	**2.66**	**37**	*iP*	**Pn**	**01 58 03.6**	**+2.1**
TGIG		**2.69**	**14**	*iP*	**Pn**	**01 58 01.7**	**-0.3**
TGIG				*iS*	**Sn**	**01 58 33.4**	**-1.4**
FG8	**Yepocapa, Chim**	**3.13**	**88**	*iP*	**Pn**	**01 58 06.0**	**-2.0**
FG8				*iS*	**Sn**	**01 58 42.4**	**-3.2**
NUBE	**Las Nubes**	**3.90**	**93**	*iP*	**Pn**	**01 58 22.2**	**+3.6**
MTO3	**Montecristo**	**4.30**	**86**		**Pn**	**01 58 24.8**	**+0.5**
PETF	**Flores**	**4.68**	**53**		**Pn**	**01 58 31.0**	**+1.8**
TEIG	**Tepich**	**8.02**	**40**		**Pn**	**01 59 12.2**	**-2.9**
TXAR	**Lajitas Array**	**17.67**	**330**	P	**Pn**	**02 01 25.9**	**+1.0**
	1.1nm,0.8s,baz=153,slow=12,SNR=5.3						
OZNA	**Ozona**	**18.01**	**339**		**Pn**	**02 01 28.9**	**-0.2**
MNHN	**Monahans**	**18.99**	**336**		**Pn**	**02 01 42.0**	**+0.9**
ABTX	**Abilene, Hawle**	**19.16**	**345**	P	**P**	**02 01 41.4**	**-0.8**
Z47A	**Carrollton**	**19.67**	**14**		**P**	**02 01 48.4**	**+0.6**
SN07	**Snyder 07**	**19.94**	**342**	P	**P**	**02 01 50.7**	**-0.1**
SN07				IAmb	IAmb	02 01 51.6	
	comp=Z,4.8nm,0.7s						
MIAR	**Mount Ida**	**20.31**	**0**		Pn	02 01 57.3	+0.5
MNTX	**Cornudas Mount**	**20.45**	**331**		**P**	**02 01 58.2**	**+1.9**
DKNS	**Dickens**	**20.49**	**343**		**P**	**02 01 56.3**	**-0.5**
DKNS				IAmb	IAmb	02 02 12.7	
	comp=Z,7.2nm,1.0s						
FNO	**Franklin**	**21.27**	**352**	P	**P**	**02 02 08.2**	**+3.0**
FNO				IAmb	IAmb	02 02 09.4	
	comp=Z,6.7nm,0.9s						
MSTX	**Muleshoe**	**21.35**	**339**		**P**	**02 02 08.8**	**+2.6**
MSTX				IAmb	IAmb	02 02 11.1	
	comp=Z,9.0nm,1.0s						
SMWD	**Samnorwood**	**21.67**	**346**	P	**P**	**02 02 09.0**	**-0.4**
SMWD				IAmb	IAmb	02 02 12.5	
	comp=Z,7.0nm,0.8s						
FCAR	**Ozark Folk Cen**	**21.70**	**4**	P	**P**	**02 02 09.4**	**-0.3**
FCAR				IAmb	IAmb	02 02 12.1	
	comp=Z,8.2nm,0.8s						
HHAR	**Hobbs**	**22.04**	**360**		**P**	**02 02 14.1**	**+0.7**
HHAR				IAmb	IAmb	02 02 14.6	
	comp=Z,7.4nm,0.6s						
SBM	**South Baldy**	**23.18**	**331**	P	**P**	**02 02 27.2**	**+1.3**
U49A	**Red Boiling Sp**	**23.40**	**16**	P	**P**	**02 02 25.9**	**-1.8**
T25A	**Trinidad**	**24.78**	**339**	IAmb	IAmb	02 02 43.4	
	comp=Z,3.0nm,0.9s						
WCI	**Wyandotte Cave**	**24.89**	**14**	P	**P**	**02 02 40.9**	**-0.7**
WCI				IAmb	IAmb	02 02 42.2	
	comp=Z,6.9nm,1.0s						
P38A	**Dawn**	**25.38**	**0**	IAmb	IAmb	02 02 45.8	
	comp=Z,4.2nm,0.6s						
ISCO	**Idaho Springs**	**27.59**	**340**	IAmb	IAmb	02 03 08.9	
	comp=Z,2.7nm,1.0s						
ECSD	**EROS Data Cent**	**29.59**	**356**	IAmb	IAmb	02 03 23.8	
	comp=Z,3.3nm,1.0s						
PDAR	**Pinedale Array**	**31.60**	**338**	P	**P**	**02 03 41.1**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=162,slow=6.9,SNR=1.9						
	comp=Z,0.2nm,0.6s						
AGMN	**Agassiz Nation**	**34.09**	**358**	IAmb	IAmb	02 04 02.5	
	comp=Z,2.1nm,0.8s						
PLID	**Pearl Lake**	**36.14**	**333**	IAmb	IAmb	02 04 22.5	
	comp=Z,2.9nm,1.0s						
YKA	**Yellowknife Ar**	**50.50**	**348**	P	**P**	**02 06 16.2**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=155,slow=7.0,SNR=7.0						
	comp=Z,1.1nm,0.9s						
ILAR	**Eielson Array**	**62.03**	**337**	P	**P**	**02 07 38.1**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=134,slow=3.9,SNR=7.0						
	comp=Z,0.5nm,0.8s						
EKA	**Eskdalemuir Ar**	**78.86**	**36**	P	P	02 09 18.3	-3.6
	comp=Z,1.2nm,0.8s,baz=272,slow=5.7,SNR=3.5						
	comp=Z,1.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**145.26 338**		PKPbc	**PKPbc**	**02 16 57.8**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=37,slow=2.6,SNR=1.1						

*IDC **05** 01:58:08.5±1.4, 4°36S×154°74E, h477km±15km, mb3.6/19, mbtmp4.4/21, Error ellipse: s-maj=15.2km s-min=9.7km az=84.0*
*NEIC **05** 01:58:09.8±1.3, 4°41S±0°10×154°7E±0°1, h487km±9km, mb4.5/29, Error ellipse: s-maj=19.6km s-min=14.1km az=102.0*
ISC 05 01:58:06.4±0.4, 4°38S±0°06×154°67E±0°09, h446km, n59, σ1°51/64, mb4.3/32, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.51 274**		P	P	01 59 15.3	+5.6
HNR	**Honiara**	**7.25 134**		P	**P**	**01 59 56.7**	**+2.9**
	250nm,0.7s,baz=273,slow=1.5,SNR=3.5						
PATS	**Pohnpei**	**11.72 18**		P	**P**	**02 00 45.2**	**+2.8**
JAY	**Jayapura**	**14.06 277**		P	**P**	**02 01 11.3**	**+3.5**
	4.0nm,0.4s,baz=118,slow=5.9,SNR=3.8						
COEN	**Coen**	**14.80 229**		P	**P**	**02 01 19.7**	**+4.0**
CTAO	**Charters Tower**	**17.64 207**		P	**P**	**02 01 47.0**	**+1.4**
DZM	**Mont Dzumac**	**20.96 148**		P	**P**	**02 02 17.5**	**+0.5**
DZM	**Mont Dzumac**	**20.96 148**		P	**P**	**02 02 17.4**	**+0.4**
	13nm,0.5s,baz=238,slow=5.1,SNR=23						
	13nm,0.5s						
WB0	**Warramunga Arr**	**24.99 231**		P	**P**	**02 02 53.9**	**+0.7**
WB0				IAmb	IAmb	02 02 54.3	
	comp=Z,12nm,0.5s						
WR8	**Warramunga Arr**	**25.02 230**			**P**	**02 02 54.2**	**+0.8**
WR8				IAmb	IAmb	02 02 55.1	
	comp=Z,12nm,0.6s						
WRA	**Warramunga Arr**	**25.13 230**		P	**P**	**02 02 55.2**	**+0.8**
	comp=Z,11nm,0.5s,baz=54,slow=9.3,SNR=154						
WRA				PcP	**PcP**	**02 06 13.7**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=56,slow=2.8,SNR=5.5						
WRA				S	**S**	**02 06 43.9**	**-2.8**
	comp=Z,1.1nm,0.6s,baz=45,slow=17,SNR=4.7						
WRA				ScP	**ScP**	**02 09 07.2**	**-3.7**
	comp=Z,0.4nm,0.8s,baz=49,slow=3.5,SNR=4.5						
	comp=Z,11nm,0.5s						
AS31	**Alice Springs**	**27.73 224**		P	**P**	**02 03 17.5**	**+0.1**
ASAR	**Alice Springs**	**27.73 224**		P	**P**	**02 03 17.2**	**-0.3**
ASAR	**Alice Springs**	**27.73 224**		P	**P**	**02 03 17.5**	**+0.1**
	comp=Z,3.7nm,0.4s,baz=54,slow=8.7,SNR=79						
ASAR				PcP	**PcP**	**02 06 19.4**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=60,slow=1.5,SNR=5.5						
ASAR				S	**S**	**02 07 23.2**	**-4.3**
	comp=Z,1.6nm,0.8s,baz=51,slow=14,SNR=8.2						
ASAR				ScP	**ScP**	**02 09 14.9**	**-3.7**
	comp=Z,0.6nm,1.0s,baz=57,slow=4.1,SNR=4.6						
	comp=Z,3.7nm,0.4s				

KURBB	**Kurchatov Arra**	84.63	322	P		**P**	02 09 50.6	-1.1
	comp=Z,0.4nm,0.4s,baz=101,slow=3.7,SNR=2.1							
	comp=Z,0.4nm,0.4s							
QSPA	**South Pole Qui**	85.58	180			**P**	02 09 55.6	-0.7
QSPA				IAmb		IAmb	02 09 56.5	
	comp=Z,8.4nm,1.0s							
QSPA	**South Pole Qui**	85.58	180	P		**P**	02 09 55.5	-0.7
	comp=Z,6.5nm,0.8s,baz=164,slow=0.9,SNR=28							
	comp=Z,6.5nm,0.8s							
MAW	**Mawson**	86.67	203	P		**P**	02 10 00.3	-0.9
	comp=Z,2.0nm,0.6s,baz=130,slow=8.2,SNR=7.7							
	comp=Z,2.0nm,0.6s							
BVAR	**Borovoye Array**	90.03	323	P		**P**	02 10 15.3	-2.0
	comp=Z,0.7nm,0.6s,baz=67,slow=5.0,SNR=4.6							
	comp=Z,0.7nm,0.6s							
LPAZ	**La Paz**	132.96	117	PKP		**PKPdf**	02 16 30.9	-1.0
	comp=Z,0.6nm,0.4s,baz=184,slow=4.5,SNR=4.1							
BDFB	**Brasilia**	150.00	132	PKPbc		**PKPbc**	02 17 04.9	-1.8
	comp=Z,1.8nm,0.4s,baz=199,slow=3.9,SNR=6.4							
TORD	**Torodi Ar. Bea**	151.94	290	PKPbc		**PKPbc**	02 17 09.4	-1.7
	comp=Z,1.4nm,0.3s,baz=73,slow=2.8,SNR=4.2							

*ECX **05** 01:58:08.8±0.3,31°.84N×115°.82W,h9km±4km, MD3.1, ML3.3*
*NEIC **05** 01:58:08.0±1.3,31°.86N±0°.02×115°.85W±0°.02,h19km±4km, Error ellipse: s-maj=2.2km s-min=2.1km az=212.0*
*PAS **05** 01:58:08.4±1.0,31°.834N±0°.009×115°.81W±0°.02, h15km±5km,ML3.4/161,ML3.3/22(NEIC), Error ellipse: s-maj=2.2km s-min=1.2km az=108.0*
*MEX **05** 01:58:09.8±0.7,31°.75N×115°.46W,h10km±994km,MD3.6*
ISC 05 01:58:07.8±0.9,31°.84N±0°.02×115°.82W±0°.02,h18km±2km, n64,σ0s59/90,6C-6D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJX	**San Joaquin**	0.14	238	⇑*i*P	**Pg**	**01 58 12.9**	**+0.9**
SJX				*e*S	**Sg**	**01 58 16.2**	**+1.4**
SJX				*e*		01 58 16.4	
ALAMX	**Rancho Alamar**	0.19	28	⇑*i*P	**Pb**	**01 58 12.7**	**+0.2**
ALAMX				*e*S	**Sb**	**01 58 15.6**	**+0.2**
ALAMX				IAML		01 58 16.0	
	comp=N,7μm,0.2s						
ALAMX				⇓*e*		01 58 16.0	
ALAMX				IAML		01 58 16.3	
	comp=E,10μm,0.2s						
ALAMX				⇓*e*		01 58 16.3	
ESJX	**Sierra Juarez**	0.20	326		**Pb**	**01 58 12.9**	**+0.1**
ESJX					**Sb**	**01 58 16.2**	**+0.2**
ESJX	**Sierra Juarez**	0.20	326	IAML		01 58 16.4	
	comp=N,25μm,0.1s						
ESJX				IAML		01 58 16.6	
	comp=E,25μm,0.1s						
VTX	**Valle De La Tr**	0.45	177		**Pg**	**01 58 16.7**	**-0.2**
VTX					**Sg**	**01 58 23.1**	**0.0**
VTX	**Valle De La Tr**	0.45	177	IAML		01 58 23.3	
	comp=E,2μm,0.1s						
VTX				IAML		01 58 25.0	
	comp=N,1μm,0.1s						
VTX	**Valle De La Tr**	0.45	177	⇓*i*P	**Pg**	**01 58 16.7**	**-0.2**
VTX				*e*S	**Sg**	**01 58 23.0**	**-0.1**
VTX				⇑*e*		01 58 25.0	
VTX				IAML		01 58 25.0	
	comp=N,1μm,0.1s						
RHX	**Rio Hardy**	0.54	57	⇑*i*P	**Pb**	**01 58 18.5**	**-0.2**
RHX				*e*S	**Sg**	**01 58 25.6**	**-0.4**
SV2X	**San Vicente**	0.61	216	*i* P	**Pb**	**01 58 19.8**	**-0.2**
SV2X				*i* S	**Sb**	**01 58 27.9**	**-0.3**
CCX	**Cicese**	0.72	273		**Pb**	**01 58 21.8**	**0.0**
CCX					**Sb**	**01 58 31.6**	**+0.2**
CCX				IAML		01 58 31.8	
	comp=N,1μm,0.5s						
CCX				IAML		01 58 32.0	
	comp=E,1μm,0.3s						
CCX	**Cicese**	0.72	273	*e*P	**Pb**	**01 58 21.5**	**-0.3**
CCX				*i* S	**Sb**	**01 58 31.4**	**0.0**
CPBX	**Cerro Prieto**	0.72	37		**Pg**	**01 58 22.6**	**+0.6**
CPBX					**Sn**	**01 58 33.5**	**-0.3**
JARAX	**Ej. Heriberto**	0.72	16	*e*P	**Pb**	**01 58 21.6**	**-0.3**
JARAX				*e*S	**Sb**	**01 58 31.3**	**-0.1**
MBIG	**Mexicali**	0.77	43	*e*P	**Pb**	**01 58 22.4**	**-0.3**
MBIG				*e*P	**Pg**	**01 58 23.4**	**+0.5**
MBIG				*e*S	**Sb**	**01 58 32.8**	**0.0**
MBIG				*e*S	**Sg**	**01 58 33.1**	**0.0**
GUVIX	**Guadalupe Vict**	0.78	53		**Pg**	**01 58 23.4**	**+0.3**
GUVIX					**Sg**	**01 58 34.5**	**+1.1**
PBX	**Punta Banda**	0.78	263	⇑*i*P	**Pb**	**01 58 22.9**	**0.0**
PBX				*e*S	**Sb**	**01 58 33.4**	**+0.2**
RMX	**La Rumorosa**	0.79	344		**Pb**	**01 58 21.8**	**-1.4**
RMX					**Sb**	**01 58 31.6**	**-2.0**
RMX	**La Rumorosa**	0.79	344	*e*P	**Pb**	**01 58 21.8**	**-1.4**
RMX				*e*S	**Sb**	**01 58 31.6**	**-2.0**
YUH	**Yuha Desert**	0.81	354		**Pb**	**01 58 23.0**	**-0.4**
YUH				IAML		01 58 36.1	
	comp=E,605nm,0.2s						
YUH	**Yuha Desert**	0.81	354		**Sb**	**01 58 33.6**	**-0.4**
YUH2	**Yuha Desert**	0.81	354	⇓*e*P	**Pb**	**01 58 23.0**	**-0.4**
SPIG	**San Pedro Mart**	0.84	159	⇓*i*P	**Pb**	**01 58 24.0**	**-0.1**
SPIG				*e*S	**Sb**	**01 58 35.5**	**+0.3**
SPIG	**San Pedro Mart**	0.84	159	*e*P	**Pb**	**01 58 24.0**	**-0.1**
SPIG				*e*S	**Sb**	**01 58 34.9**	**-0.4**
IKP	**In-Ko-Pah, Jac**	0.85	343		**Pb**	**01 58 23.8**	**-0.3**
IKP					**Sb**	**01 58 34.4**	**-0.7**
IKP	**In-Ko-Pah, Jac**	0.85	343	⇓*e*P	**Pb**	**01 58 23.8**	**-0.3**
UABX	**UABC, Campus M**	0.85	22		**Pb**	**01 58 24.4**	**+0.4**
CBX	**Cerro Bola**	0.86	304		**Pb**	**01 58 24.3**	**0.0**
CBX				IAML		01 58 36.7	
	comp=N,2μm,0.4s						
CBX				IAML		01 58 36.7	
	comp=E,2μm,0.5s						
CBX	**Cerro Bola**	0.86	304		**Sb**	**01 58 35.4**	**-0.1**
CBX	**Cerro Bola**	0.86	304	*e*P	**Pb**	**01 58 24.0**	**-0.3**
CBX				*e*S	**Sb**	**01 58 35.6**	**+0.1**
CBX	**Cerro Bola**	0.86	304	*e*P	**Pb**	**01 58 24.0**	**-0.3**
CBX				*e*S	**Sb**	**01 58 35.1**	**-0.5**
5053	**Calexico**	0.87	18		**Pg**	**01 58 25.2**	**+0.4**
WESC	**Westside Schoo**	0.92	4		**Pb**	**01 58 25.7**	**+0.4**
WESC					**Sg**	**01 58 38.3**	**+0.4**
TJIG	**Tijuana**	0.94	309	*e*P	**Pb**	**01 58 25.0**	**-0.6**
TJIG				*e*S	**Sb**	**01 58 37.5**	**-0.2**
TJIG	**Tijuana**	0.94	309	*e*P	**Pb**	**01 58 25.2**	**-0.4**
TJIG				*e*S	**Sb**	**01 58 37.1**	**-0.6**
5054	**Holtville Bond**	0.94	25		**Sg**	**01 58 38.7**	**+0.1**
TKX	**Tecate**	0.99	318		**Pb**	**01 58 26.1**	**-0.4**
TKX	**Tecate**	0.99	318	IAML		01 58 40.0	
	comp=N,1μm,0.1s						
TKX	**Tecate**	0.99	318	*e*P	**Pb**	**01 58 25.6**	**-0.9**
TKX				*e*S	**Sb**	**01 58 38.9**	**-0.3**
COK2	**Cook Ranch 2**	1.01	4		**Pb**	**01 58 26.6**	**-0.2**
DREC	**Desert Rsrch C**	1.01	18		**Pb**	**01 58 26.7**	**-0.1**
CRR	**Carrizo Plain**	1.05	353		**Pb**	**01 58 27.3**	**-0.2**
CRR					**Sb**	**01 58 41.4**	**+0.4**
SNR	**Schaffner Ranc**	1.07	17		**Pb**	**01 58 27.4**	**-0.4**
IMPE	**Imperial**	1.08	11		**Pn**	**01 58 28.4**	**+0.4**
SWSC	**Sam W. Stewart**	1.10	1		**Pn**	**01 58 28.0**	**-0.3**
BAR	**Barrett**	1.11	319		**Sb**	**01 58 42.1**	**-0.6**
BAR	**Barrett**	1.11	319	*e*P	**Pn**	**01 58 27.9**	**-0.6**
DUZA	**Dulzura**	1.12	314		**Sb**	**01 58 42.5**	**-0.3**
SFX	**San Felipe**	1.15	134		**Pn**	**01 58 29.1**	**+0.2**
SFX				IAML		01 58 45.9	
	comp=E,523nm,0.3s						
SFX				IAML		01 58 45.0	
	comp=N,618nm,0.6s						
SFX	**San Felipe**	1.15	134	*e*P	**Pn**	**01 58 29.0**	**+0.1**
SFX				*e*S	**Sb**	**01 58 43.6**	**-0.1**
SQX	**San Quintin**	1.26	182	*e*P	**Pn**	**01 58 29.9**	**-0.6**
SQX				*e*S	**Sb**	**01 58 46.7**	**-0.2**
SQX				⇑*e*		01 58 47.9	
SQX				IAML		01 58 47.9	
	comp=E,559nm,0.2s						
ERRC	**Elmore Ranch**	1.27	360		**Pb**	**01 58 32.1**	**+0.8**
SDRC	**San Diego Road**	1.31	313		**Pn**	**01 58 31.6**	**+0.4**
RUN	**Ruthven**	1.33	32		**Pn**	**01 58 30.4**	**-1.1**
CPE	**Camp Elliot**	1.51	314		**Pn**	**01 58 34.5**	**+0.5**
CPE	**Camp Elliot**	1.51	314	IAML		01 58 54.6	
	comp=E,477nm,0.2s						
CPE				IAML		01 58 55.2	
	comp=N,653nm,0.2s						
BORC	**Borrego Spring**	1.51	341		**Pn**	**01 58 33.8**	**-0.2**
FRK	**Frink**	1.57	5		**Pn**	**01 58 33.9**	**-0.8**
GORC	**Green Oak Ranc**	1.77	318		**Pn**	**01 58 38.8**	**+1.3**
SNDA	**J Saunders Pla**	1.84	339		**Pn**	**01 58 38.7**	**+0.1**
PFO	**Pinyon Flats O**	1.85	343		**Pn**	**01 58 38.4**	**-0.4**
PFO	**Pinyon Flats O**	1.85	343		**Pn**	**01 58 38.5**	**-0.2**
PMD	**Palm Desert**	1.87	345		**Pn**	**01 58 38.5**	**-0.4**
113A	**Mohawk Valley,**	1.97	61		**Pn**	**01 58 39.8**	**-0.4**
X16A	**Lo Mia Camp, P**	4.48	54		**Pn**	**01 59 16.1**	**+1.2**

*NEIC **05** 02:01:40.4±1.6,35°.77N±0°.01×117°.59W±0°.01,h5km±1km, Error ellipse: s-maj=2.9km s-min=1.9km az=108.0*
PAS 05 02:01:40.9±1.4,35°.77N±0°.01×117°.62W±0°.01,h0km, ML3.2/23,Error ellipse: s-maj=1.6km s-min=1.5km az=213.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	0.24	317		Pg	02 01 49.7	+4.2
DTP	**Desert Tortois**	0.54	200		Pg	02 01 51.3	+0.1
WHFM	**Hanning Flat**	0.60	263		Pn	02 02 00.9	+4.2
QSM	**Queen of Sheba**	0.64	72		Pg	02 01 53.2	+0.1
CCAC	**Calif City Air**	0.70	208		Pg	02 01 54.4	+0.1
CCAC	**Calif City Air**	0.70	208		Sg	02 02 04.5	+1.0
ISA	**Isabella, Lake**	0.71	261		Pg	02 01 54.5	0.0
ISA	**Isabella, Lake**	0.71	261		Sg	02 02 04.4	+0.8
WASM	**Alta Sierra Ca**	0.77	268		Pg	02 01 55.7	+0.1
GSC	**Goldstone, Bar**	0.81	125		Pg	02 01 56.5	+0.1
GWY	**Greenwater Val**	0.87	62		Pg	02 01 57.6	0.0
TPO	**Tropico Hills**	1.02	209		Sb	02 02 16.0	+0.5
SPG2	**Springville 2**	1.03	295		Pg	02 01 59.9	-0.7
SBB	**Saddle Back Bu**	1.10	189		Sg	02 02 16.5	+0.4
SHOC	**Shoshone, Teco**	1.10	83		Sn	02 02 18.8	-0.6
MAGC	**SCE Magundon P**	1.14	249		Sn	02 02 20.2	-0.3
ARVC	**Arvin**	1.18	237		Sg	02 02 19.2	+0.3
TJR	**Tejon Ranch**	1.19	231		Pg	02 02 03.1	-0.5
TJR					Sg	02 02 19.2	+0.2
THC	**Tehachapi Micr**	1.22	225		Pg	02 02 04.5	+0.3
THC					Sg	02 02 20.1	+0.1
GRAC	**Grapevine Rang**	1.24	9		Pg	02 02 04.3	-0.3
AMDNV	**Amargosa**	1.27	58		Pg	02 02 04.5	-0.9
AMDNV					Sg	02 02 21.7	-0.2
LRRC	**Littlerock Res**	1.29	195		Sg	02 02 20.5	-1.9
WCT	**Wildcat Mounta**	1.29	38		Pg	02 02 05.2	-0.5
DSCC	**Desert Studies**	1.39	117		Pg	02 02 05.7	-1.8
DSCC					Sg	02 02 20.9	-4.5
TUQ	**Turquoise Moun**	1.42	103		Pn	02 02 06.5	-1.6
CHFC	**Chilao Flat St**	1.48	193		Pg	02 02 09.2	0.0
VOG	**Valley Oaks Go**	1.53	291		Pn	02 02 09.4	-0.1
GMN	**Gold Mountain**	1.55	11		Pn	02 02 09.2	-0.8
TPNV	**Topopah Spring**	1.61	43		Pn	02 02 09.9	-0.8
DSP	**Deep Springs**	1.62	350		Pn	02 02 10.4	-0.3
PASC	**Pasadena Art C**	1.67	196		Pn	02 02 10.7	-0.7
BHPR	**Bishop**	1.68	336		Pb	02 02 12.7	-0.1
BCW	**Bitter Crk WRg**	1.69	241		Pn	02 02 11.8	+0.1
MZP	**Montezuma Peak**	1.93	5		Pn	02 02 15.3	0.0
SHPR	**Sheep Range**	2.12	69		Pn	02 02 16.9	-0.8
ELS	**Elsinore Mount**	2.13	176		Pn	02 02 16.9	-0.8
POB	**Polly Butte**	2.16	164		Pn	02 02 17.6	-0.6
V12A	**Nelson**	2.25	90		Pn	02 02 18.3	-1.2
PFO	**Pinyon Flats O**	2.36	156	Pn	Pn	02 02 19.8	-1.1
LHV	**Little Huntoon**	2.57	344		Pn	02 02 24.5	+0.7
PMPB	**Monarch Peak**	2.62	281		Pn	02 02 24.6	+0.1
PRN	**Pahroc Range**	2.63	51		Pn	02 02 24.5	-0.3
NVAR	**Mina Array Bea**	2.71	348		Pn	02 02 26.9	+1.0
RYN	**Ryan**	2.94	346		Pn	02 02 29.9	+0.8

*IDC **05** 02:01:58.9±0.7,35°.67N×117°.37W,h0km,mb3.3/3, mbtmp3.3/8,ML3.5/4,MS2.5/4, Error ellipse: s-maj=15.6km s-min=5.7km az=76.0*
*NEIC **05** 02:01:58.0±1.9,35°.651N±0°.010×117°.534W±0°.008, h10km±2km, Error ellipse: s-maj=3.0km s-min=1.7km az=249.0*
*PAS **05** 02:01:59.0±1.8,35°.640N±0°.010×117°.55W±0°.01, h11km±5km,Mwr4.0/6,ML3.9/72(NEIC), Error ellipse: s-maj=1.8km s-min=1.4km az=72.0*
ISC 05 02:01:59.3±0.8,35°.62N±0°.02×117°.55W±0°.02,h12km±6km, n88,σ1s16/105,mb3.3/3,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	0.17	293		**Pg**	**02 02 03.1**	**-0.2**
SRTC					**Sg**	**02 02 06.7**	**+0.5**
LRMC	**Laurel Mtn Rad**	0.18	217		**Pg**	**02 02 03.2**	**-0.3**
LRMC					**Sg**	**02 02 06.3**	**0.0**
CCCA	**Chr Cany lake**	0.18	122		**Pg**	**02 02 03.5**	**0.0**
CCCA					**Sg**	**02 02 06.4**	**+0.1**
CLC	**China Lake**	0.20	349		**Pb**	**02 02 05.8**	**+0.8**
TOW	**Tower One**	0.25	317		**Pg**	**02 02 04.4**	**-0.3**
TOW					**Sg**	**02 02 08.7**	**+0.4**
WNMM	**Nine Mile Cany**	0.36	308		**Pg**	**02 02 06.0**	**-0.6**
WNMM					**Sg**	**02 02 11.0**	**-0.4**
WVPM	**Volcano Peak E**	0.39	327		**Pg**	**02 02 06.2**	**-1.0**
WVPM					**Sg**	**02 02 11.3**	**-1.2**
DTP	**Desert Tortois**	0.43	214		**Pg**	**02 02 07.4**	**-0.4**
DTP					**Sg**	**02 02 13.3**	**-0.3**
MPMC	**Manual Prospec**	0.44	7		**Sg**	**02 02 12.9**	**-1.1**
WCSM	**Coso Springs S**	0.44	337		**Pg**	**02 02 07.1**	**-1.0**
WCSM					**Sg**	**02 02 12.8**	**-1.2**
WRVM	**Rose V. Centra**	0.47	325		**Pg**	**02 02 07.6**	**-1.1**
WRVM					**Sg**	**02 02 14.1**	**-0.9**
WBSM	**Bird Springs**	0.49	260		**Sg**	**02 02 15.1**	**-0.4**
MFS	**McCloud Flat S**	0.55	334		**Pg**	**02 02 09.1**	**-1.1**
MFS					**Sg**	**02 02 17.2**	**-0.3**
WORM	**Onyx Ranch**	0.57	278		**Pg**	**02 02 09.5**	**-0.9**
WORM					**Sg**	**02 02 17.0**	**-1.0**
CCAC	**Calif City Air**	0.60	219		**Sg**	**02 02 19.0**	**-0.1**
CCAC	**Calif City Air**	0.60	219	Pg	**Pg**	**02 02 10.6**	**-0.6**
CCAC				IAML		02 02 20.2	
	comp=N,8μm,0.3s						
CCAC				IAML		02 02 24.3	
	comp=E,12μm,0.8s						
QSM	**Queen of Sheba**	0.65	58	Pg	**Pg**	**02 02 11.0**	**-1.1**
QSM				IAML		02 02 23.0	
	comp=E,8μm,0.5s						
QSM				IAML		02 02 24.0	
	comp=N,7μm,0.4s						
QSM	**Queen of Sheba**	0.65	58		**Sg**	**02 02 19.6**	**-1.1**
WHFM	**Hanning Flat**	0.65	277		**Pg**	**02 02 11.0**	**-1.0**
WHFM					**Sg**	**02 02 19.7**	**-1.0**
GSC	**Goldstone, Bar**	0.69	118		**Pg**	**02 02 11.5**	**-1.2**
GSC					**Sg**	**02 02 21.3**	**-0.5**
ISA	**Isabella, Lake**	0.75	273		**Sg**	**02 02 22.7**	**-1.1**
ISA	**Isabella, Lake**	0.75	273	Pg	**Pg**	**02 02 12.6**	**-1.3**
ISA				IAML		02 02 23.1	
	comp=N,4μm,0.8s						
ISA				IAML		02 02 24.1	
	comp=E,4μm,0.7s						
HYS	**Haystack Butte**	0.76	181		**Pg**	**02 02 13.3**	**-0.7**
WASM	**Alta Sierra Ca**	0.83	278		**Pg**	**02 02 14.2**	**-1.1**
RRX	**Edison Barstow**	0.87	148		**Pb**	**02 02 15.4**	**-1.0**
GWY	**Greenwater Val**	0.91	52	Pg	**Pb**	**02 02 14.8**	**-2.4**
GWY				IAML		02 02 30.0	
	comp=E,4μm,1.1s						
GWY				IAML		02 02 31.0	
	comp=N,4μm,0.4s						
CWC	**Cottonwood Cre**	0.92	332		**Pb**	**02 02 16.0**	**-1.3**
CGO	**Cerro Gordo**	0.95	348		**Pb**	**02 02 16.4**	**-1.6**
SBB	**Saddle Back Bu**	0.96	194		**Sb**	**02 02 29.4**	**-1.2**
ADO	**Adelanto Recei**	1.07	175		**Pb**	**02 02 19.4**	**-0.5**
VTV	**Victorville**	1.07	170		**Pb**	**02 02 19.2**	**-0.7**
ALPC	**Antelope**	1.12	213		**Pb**	**02 02 19.5**	**-1.1**
SPG2	**Springville 2**	1.14	301		**Pb**	**02 02 19.5**	**-1.5**
LEOC	**Leona Valley**	1.17	212		**Pn**	**02 02 20.5**	**-1.1**
HOLC	**Holcomb Ridge**	1.19	192		**Pn**	**02 02 21.3**	**-0.5**
CJV	**Casa Juvan**	1.19	204		**Pn**	**02 02 21.4**	**-0.5**
JNH	**Juniper Hills**	1.22	196		**Pn**	**02 02 21.8**	**-0.6**
BTPC	**Burnt Peak**	1.26	222		**Pn**	**02 02 22.6**	**-0.4**
HEC	**Hector,Ludlow**	1.27	128		**Pn**	**02 02 21.9**	**-1.1**
TUQ	**Turquoise Moun**	1.34	98		**Pn**	**02 02 22.4**	**-1.6**
TUQ					**Sn**	**02 02 40.9**	**-1.0**
CHFC	**Chilao Flat St**	1.34	197		**Pn**	**02 02 23.7**	**-0.4**
GRAC	**Grapevine Rang**	1.38	6	Pg	**Pn**	**02 02 21.0**	**-3.5**
WCT	**Wildcat Mounta**	1.39	32	Pg	**Pn**	**02 02 22.5**	**-2.1**
WCT				IAML		02 02 44.4	
	comp=E,2μm,1.0s						
WCT				IAML		02 02 44.5	
	comp=N,1μm,1.0s						
BBRC	**Big Bear Solar**	1.45	159		**Pb**	**02 02 26.1**	**-0.3**
MTPC	**Mountain Pass**	1.64	94		**Pn**	**02 02 26.4**	**-1.7**
GTM	**Goat Mountain**	1.65	143		**Pb**	**02 02 29.9**	**+0.2**
BCW	**Bitter Crk WRg**	1.67	246	IAML		02 02 54.2	
	comp=E,2μm,0.8s						
BCW				IAML		02 03 01.7	
	comp=N,1μm,0.7s						
GMN	**Gold Mountain**	1.69	8	Pn	**Pn**	**02 02 27.2**	**-1.8**
GMN				IAML		02 02 59.3	
	comp=N,830nm,0.7s						
DSP	**Deep Springs**	1.78	349		**Pn**	**02 02 28.7**	**-1.2**
DSP				IAML		02 03 01.9	
	comp=E,691nm,0.9s						
ELS	**Elsinore Mount**	1.97	177	Pn	**Pn**	**02 02 32.1**	**-0.5**
ELS				IAML		02 03 08.4	
	comp=E,733nm,1.1s						
ELS				IAML		02 03 09.7	
	comp=N,531nm,0.7s						
BACC	**Bachelor Mtn.**	2.05	168		**Pn**	**02 02 32.8**	**-0.9**
MZP	**Montezuma Peak**	2.08	4	Pn	**Pn**	**02 02 33.5**	**-0.8**
SHPR	**Sheep Range**	2.13	65	Pn	**Pn**	**02 02 34.2**	**-0.6**
CRY	**Cary Ranch**	2.16	162		**Pn**	**02 02 34.6**	**-0.6**
PFO	**Pinyon Flats O**	2.20	156	Pn	**Pn**	**02 02 34.8**	**-1.0**
PFO				IAML		02 03 14.3	
	comp=N,496nm,1.4s						
PFO	**Pinyon Flats O**	2.20	156	Pn	**Pn**	**02 02 34.6**	**-1.2**
	comp=N,9.4nm,0.3s,baz=340,slow=15,SNR=10						
PFO				Pg	**Pb**	**02 02 39.4**	**+0.3**
	comp=N,57nm,0.3s,baz=334,slow=12,SNR=16						
PFO				Sn	**Sn**	**02 03 02.8**	**-0.2**
	comp=N,30nm,0.3s,baz=172,slow=13,SNR=5.7						
PFO				Lg	Lg	02 03 08.6	
	comp=N,72nm,0.3s,baz=70,slow=23,SNR=10						
	comp=N,26nm,0.3s						
V12A	**Nelson**	2.20	87	Pn	**Pn**	**02 02 34.1**	**-1.7**
V12A				IAML		02 03 08.7	
	comp=N,442nm,1.1s						
PMPB	**Monarch Peak**	2.70	284	Pn	**Pn**	**02 02 42.2**	**-0.5**
NV11	**Mina Array Sit**	2.84	350	Pn	**Pn**	**02 02 44.1**	**-0.6**
NVAR	**Mina Array Bea**	2.87	348	Pn	**Pn**	**02 02 44.6**	**-0.5**
NVAR	**Mina Array Bea**	2.87	348	Pn	**Pn**	**02 02 45.4**	**+0.3**
	comp=N,10nm,0.3s,baz=176,slow=14,SNR=14						
NVAR				Pg	**Pb**	**02 02 51.4**	**+0.8**
	comp=N,34nm,0.3s,baz=170,slow=15,SNR=45						
NVAR				Sn	**Sn**	**02 03 20.4**	**+0.8**
	comp=N,4.6nm,0.3s,baz=182,slow=16,SNR=1.3						
NVAR				Lg	Lg	02 03 29.6	
	comp=N,3.2nm,0.3s,baz=158,slow=30,SNR=1.8						
NVAR				LR	LR	02 03 50.4	
	comp=N,125nm,18.8s,baz=228,slow=39						
	comp=N,8.0nm,0.3s						
Q09A	**Carvers**	3.22	5	Pn	**Pn**	**02 02 49.2**	**-0.7**
YUH	**Yuha Desert**	3.26	155	Pn	**Pn**	**02 02 49.0**	**-1.3**
CBX	**Cerro Bola**	3.38	167	Pn	**Pn**	**02 02 51.5**	**-0.6**
GLA	**Glamis**	3.42	138		**Pn**	**02 02 50.1**	**-2.4**
LCMT	**Little Creek M**	3.75	67	Pn	**Pn**	**02 02 57.0**	**-0.1**
ESJX	**Sierra Juarez**	3.85	159		**Pn**	**02 02 57.7**	**-0.9**
ESJX				IAML		02 04 02.4	
	comp=E,150nm,1.1s						
KNB	**Kanab**	4.07	69	Pn	**Pn**	**02 03 01.1**	**-0.4**
KNB				IAML		02 04 19.1	
	comp=E,101nm,1.2s						
KNB				IAML		02 04 20.1	
	comp=N,135nm,1.2s						
PSUT	**Pine Spring**	4.14	44		**Pn**	**02 03 00.3**	**-2.3**
PSUT				IAML		02 04 19.1	
	comp=E,175nm,1.2s						
PSUT				IAML		02 04 22.3	
	comp=N,171nm,1.5s						
113A	**Mohawk Valley,**	4.24	131		**Pn**	**02 03 01.4**	**-2.3**
113A				IAML		02 04 16.6	
	comp=N,91nm,1.1s						
113A				IAML		02 04 17.2	
	comp=E,91nm,1.1s						
PAHR	**Pah Rah Range**	4.33	341		**Pn**	**02 03 04.2**	**-0.9**
WUAZ	**Wupatki**	5.04	89		**Pn**	**02 03 14.7**	**-0.2**
WUAZ				IAML		02 04 46.9	
	comp=E,110nm,0.8s						
WUAZ	

CCAC	**Calif City Air**	**0.64**	**219**	Pg	Pg	02 05 31.4	-0.1
CCAC				IAML		02 05 46.4	
	comp=E,821nm,0.5s						
CCAC				IAML		02 05 46.0	
	comp=N,1μm,0.5s						
GSC	**Goldstone, Bar**	**0.68**	**121**		Sg	02 05 41.6	+0.5
GSC	**Goldstone, Bar**	**0.68**	**121**	Pg	Pg	02 05 32.4	+0.1
GSC				IAML		02 05 42.3	
	comp=E,2μm,0.5s						
GSC				IAML		02 05 43.9	
	comp=N,1μm,0.5s						
ISA	**Isabella, Lake**	**0.78**	**271**		Pg	02 05 33.9	-0.2
ISA				IAML		02 05 44.9	
	comp=E,1μm,0.4s						
ISA				IAML		02 05 48.6	
	comp=N,856nm,0.6s						
ISA	**Isabella, Lake**	**0.78**	**271**		Sg	02 05 43.9	-0.2
HYS	**Haystack Butte**	**0.79**	**183**		Pg	02 05 34.0	-0.3
HYS					Sg	02 05 44.7	+0.1
WASM	**Alta Sierra Ca**	**0.85**	**276**		Pg	02 05 35.2	-0.2
WASM					Sg	02 05 46.5	+0.1
EDW2	**Edwards Air Fo**	**0.86**	**207**		Sg	02 05 35.2	-0.5
EDW2					Pg	02 05 47.0	+0.1
GWY	**Greenwater Val**	**0.87**	**52**		Pg	02 05 35.6	-0.3
GWY				IAML		02 05 53.1	
	comp=E,1μm,0.6s						
GWY				IAML		02 05 53.1	
	comp=N,766nm,0.5s						
RRX	**Edison Barstow**	**0.89**	**151**		Pg	02 05 36.1	-0.1
RRX					Sg	02 05 48.2	+0.5
CWC	**Cottonwood Cre**	**0.90**	**330**		Pg	02 05 36.4	-0.1
CWC					Sg	02 05 49.1	+0.8
CGO	**Cerro Gordo**	**0.92**	**346**		Pg	02 05 36.4	-0.4
CGO					Sg	02 05 49.3	+0.5
TPO	**Tropico Hills**	**0.97**	**217**		Pg	02 05 37.3	-0.4
FURC	**Furnace Creek,**	**0.97**	**33**		Pg	02 05 37.7	-0.1
SBB	**Saddle Back Bu**	**1.00**	**194**		Sg	02 05 51.1	-0.1
SHOC	**Shoshone, Teco**	**1.04**	**76**		Sg	02 05 53.3	+0.6
TEJ	**El Tejon**	**1.04**	**246**		Pg	02 05 38.4	-0.8
TEJ					Sg	02 05 51.9	-0.8
VTV	**Victorville**	**1.10**	**172**		Sg	02 05 54.6	-0.1
SPG2	**Springville 2**	**1.15**	**299**		Pg	02 05 40.5	-0.7
SPG2					Sg	02 05 55.5	-0.5
ALPC	**Antelope**	**1.16**	**214**		Pb	02 05 41.9	0.0
TJR	**Tejon Ranch**	**1.18**	**238**		Pg	02 05 40.7	-1.0
ARVC	**Arvin**	**1.19**	**244**		Pg	02 05 41.5	-0.6
THC	**Tehachapi Micr**	**1.19**	**232**		Pg	02 05 41.3	-0.8
CJV	**Casa Juvan**	**1.23**	**205**		Sb	02 05 59.8	+0.1
DSCC	**Desert Studies**	**1.27**	**113**		Pg	02 05 42.1	-1.3
BAKC	**Calstate**	**1.33**	**257**		Sb	02 06 02.2	-0.1
GRAC	**Grapevine Rang**	**1.34**	**5**		Pg	02 05 44.3	-0.6
WCT	**Wildcat Mounta**	**1.35**	**32**		Pg	02 05 44.0	-1.1
CHFC	**Chilao Flat St**	**1.38**	**198**		Pn	02 05 45.2	-0.4
BBRC	**Big Bear Solar**	**1.48**	**160**		Pn	02 05 45.8	-1.2
PASC	**Pasadena Art C**	**1.58**	**200**	IAML		02 06 13.2	
	comp=E,216nm,0.6s						
VOG	**Valley Oaks Go**	**1.65**	**294**		Pn	02 05 49.6	+0.4
TPNV	**Topopah Spring**	**1.65**	**38**		Pn	02 05 48.4	-1.0
TPNV				IAML		02 05 56.9	
	comp=E,198nm,0.5s						
TPNV				IAML		02 06 17.0	
	comp=E,179nm,0.4s						
GMN	**Gold Mountain**	**1.66**	**7**		Pn	02 05 49.0	-0.5
GMN				IAML		02 06 14.8	
	comp=N,163nm,0.6s						
DSP	**Deep Springs**	**1.75**	**348**		Pn	02 05 50.5	-0.1
DSP				IAML		02 06 16.7	
	comp=E,156nm,0.5s						
GMRC	**Granite Mounta**	**1.75**	**119**		Pn	02 05 48.7	-2.1
ELS	**Elsinore Mount**	**2.00**	**178**		Pn	02 05 53.7	-0.4
ELS				IAML		02 06 23.7	
	comp=E,138nm,0.5s						
ELS				IAML		02 06 27.4	
	comp=N,129nm,0.4s						
MZP	**Montezuma Peak**	**2.04**	**3**	Pn	Pn	02 05 54.4	-0.5
SHPR	**Sheep Range**	**2.09**	**65**		Pn	02 05 54.9	-0.6
SHPR				IAML		02 06 30.4	
	comp=N,101nm,0.7s						
V12A	**Nelson**	**2.18**	**87**	Pn	Pn	02 05 55.2	-1.3
V12A				IAML		02 06 31.3	
	comp=E,154nm,0.4s						
PFO	**Pinyon Flats O**	**2.22**	**156**	Pn	Pn	02 05 55.9	-1.2
PFO				IAML		02 06 38.7	
	comp=E,90nm,0.7s						
SNDA	**J Saunders Pla**	**2.23**	**160**		Pn	02 05 58.7	+1.4
MLAC	**Mammoth, Mammo**	**2.24**	**332**		Pb	02 06 00.9	+0.5
MCSM	**Casa Diablo Ho**	**2.28**	**331**		Pb	02 06 01.7	+0.4
TPH	**Tonopah**	**2.43**	**6**	Pn	Pn	02 05 58.7	-1.3
PRN	**Pahroc Range**	**2.65**	**48**	Pn	Pn	02 06 02.4	-0.7
PRN				IAML		02 06 53.5	
	comp=E,78nm,0.4s						
PRN				IAML		02 07 00.1	
	comp=N,97nm,0.6s						
GATR	**Gnd/Air Tx Cnt**	**2.68**	**247**		Pn	02 06 03.7	+0.3
LHV	**Little Huntoon**	**2.71**	**343**	Pn	Pn	02 06 04.4	+0.7
LHV				IAML		02 06 52.6	
	comp=E,74nm,1.4s						
LHV				IAML		02 06 52.6	
	comp=N,55nm,1.2s						
PMPB	**Monarch Peak**	**2.72**	**283**	Pn	Pn	02 06 03.6	-0.3
NV11	**Mina Array Sit**	**2.82**	**350**	Pn	Pn	02 06 05.6	+0.2
NVAR	**Mina Array Bea**	**2.84**	**348**	Pn	Pn	02 06 05.8	+0.1
BBGB	**Big Mountain B**	**2.99**	**289**	Pn	Pn	02 06 07.9	+0.2
W13A	**Hualapai Mount**	**3.02**	**100**	Pn	Pn	02 06 07.5	-0.8
W13A				IAML		02 06 58.7	
	comp=E,90nm,0.6s						
W13A				IAML		02 07 03.7	
	comp=N,78nm,0.9s						
RYN	**Ryan**	**3.07**	**345**	Pn	Pn	02 06 09.4	+0.4
R11B	**Troy Canyon, C**	**3.10**	**29**	Pn	Pn	02 06 07.1	-2.2
BLYC	**Blythe**	**3.12**	**127**	Pn	Pn	02 06 07.3	-2.0
BLYC				IAML		02 07 07.2	
	comp=N,82nm,0.7s						
BLYC				IAML		02 07 14.2	
	comp=E,44nm,0.6s						
SAO	**San Andreas Ge**	**3.36**	**290**	Pn	Pn	02 06 12.5	-0.3
LCMT	**Little Creek M**	**3.71**	**67**	Pn	Pn	02 06 18.1	+0.5
KNB	**Kanab**	**4.03**	**69**	Pn	Pn	02 06 22.3	+0.2
PSUT	**Pine Spring**	**4.11**	**45**	Pn	Pn	02 06 22.7	-0.4
SPR3	**Spring Creek 3**	**4.20**	**36**	Pn	Pn	02 06 23.0	-1.5
113A	**Mohawk Valley,**	**4.24**	**132**	Pn	Pn	02 06 22.4	-2.4
ORV	**Oroville**	**5.01**	**322**	Pn	Pn	02 06 35.4	0.0
ORV				IAML		02 08 05.6	
	comp=E,13nm,0.8s						

IDC ***05*** *02:08:20.9±0.5,14°.90S×173°.76W,h0km,mb4.4/20, mbtmp4.4/20,MS4.6/45,Error ellipse: s-maj=20.7km s-min=13.7km az=130.0*

BJI ***05*** *02:08:21.4,14°.66S×173°.32W,h5km,mB5.2/11,mb4.9/21, Ms4.9/17,Ms7 4.7/18*

NEIC ***05*** *02:08:23.2,14°.79S×173°.35W,h18km,Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^17Nm; Mrr=0.46; Mθθ-0.04; Mϕϕ0.50; Mrθ0.47; Mrϕ0.58; Mθϕ0.47; Fault plane solution: M0 1.01000×10^17 NP1:φs4.64000°, δ27.39000°,λ-130.96000°. NP2:φs228.99000°, δ69.67000°,λ-71.24000°. Principal axes: T 1.1359, Plg22.0000°, Azm305.0000°; N -0.3615, Plg18.0000°, Azm42.0000°; P -0.7744, Plg61.0000°, Azm167.0000°;*

NEIC ***05*** *02:08:23.2,14°.79S×173°.45W,h18km*

NEIC ***05*** *02:08:23.2±2.8,14°.79S±0°.08×173°.45W±0°.07,h10km±1km, mb5.0/207,Mww5.3/12,Error ellipse: s-maj=14.7km s-min=10.1km az=157.0*

GCMT ***05*** *02:08:26.2±0.1,14°.74S±0°.01×173°.52W±0°.01,h12km, MW5.2/134,Moment Tensor Solution. s87,c136; s134,c229; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr-2.69±.13; Mθθ-2.11±.14; Mϕϕ4.80±.12; Mrθ-0.86±.33; Mrϕ7.59±.10; Mθϕ1.58±.31; Best double couple: M0 8.63000×10^16 NP1:φs77.00000°,δ74.00000°, λ-10.00000°. NP2:φs169.00000°,δ80.00000°, λ-164.00000°. Principal axes: T 9.7450, Plg4.0000°, Azm302.0000°; N -2.2300, Plg71.0000°, Azm200.0000°; P -7.5150, Plg18.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 02:08:25.2±0.3,15°.01S±0°.06×173°.40W±0°.05,h30km, n602,σ1§18/477,mb5.0/128,**MS4.7**/66,**19C-29D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.92**	**55**	Pn	**Pn**	**02 08 51.8**	**-4.2**
FUTU	**Fugatoga**	**4.62**	**278**		Pn	02 09 27.9	-5.2
NIUE	**Niue**	**5.23**	**141**		**Pn**	**02 09 40.1**	**-1.3**
MSVF	**Nonsavu**	**8.64**	**251**		**Pn**	**02 10 29.9**	**+1.6**
MSVF	**Nonsavu**	**8.64**	**251**	Pn	**Pn**	**02 10 31.1**	**+2.8**
	0.6nm,0.3s,baz=24,slow=11,SNR=7.5						
RAR	**Rarotonga**	**14.34**	**117**	LR	LR	02 15 57.0	
	comp=Z,3μm,21.6s,baz=284,slow=31						
RAO	**Raoul Island**	**14.77**	**196**	LR	LR	02 16 21.9	
	comp=Z,2μm,19.3s,baz=360,slow=32						
DZM	**Mont Dzumac**	**20.35**	**247**	P	**P**	**02 12 57.6**	**-1.8**
DZM				IAmb	IAmb	02 13 07.8	
	comp=Z,213nm,1.6s						
DZM	**Mont Dzumac**	**20.35**	**247**	*e*P	Pn	02 13 00.6	-1.0
	comp=Z,224nm,1.6s						
DZM				*e*S	**S**	**02 16 47.2**	**+1.1**
	comp=Z,7μm,26.3s						
DZM				*e*LR	LR	02 17 47.6	
	comp=Z,1μm,26.1s						
DZM	**Mont Dzumac**	**20.35**	**247**	P	**P**	**02 12 56.2**	**-3.2**
	comp=Z,18nm,0.9s,baz=71,slow=17,SNR=7.1						
DZM				LR	LR	02 19 37.0	
	comp=Z,1μm,18.6s,baz=84,slow=34 comp=Z,18nm,0.9s						
PPT	**Papeete**	**23.00**	**100**	LR	LR	02 19 55.3	
	comp=Z,1μm,22.0s,baz=273,slow=30						
PPT2	**Papeete2**	**23.00**	**100**	*e*P	**P**	**02 13 29.7**	**+1.7**
	comp=Z,317nm,33.0s						
PPT2				*e*S	**S**	**02 17 36.6**	**-0.2**
	comp=Z,6μm,26.8s						
PPT2				*e*LR	LR	02 18 55.4	
	comp=Z,2μm,25.5s						
PPT2				*e*LR	LR	02 19 02.1	
	comp=Z,3μm,23.8s						
XMAS	**Kiritimati**	**23.17**	**44**	P	**P**	**02 13 27.0**	**-2.5**
TBI	**Tubuai**	**24.05**	**114**	*e*P	**P**	**02 13 37.0**	**-1.0**
	comp=Z,1μm,32.8s						
TBI				*e*S	**S**	**02 17 53.1**	**-0.5**
	comp=Z,17μm,25.8s						
TBI				*e*LR	LR	02 19 35.8	
	comp=Z,23μm,27.0s						
TBI				*e*LR	LR	02 19 38.4	
	comp=Z,5μm,26.0s						
URZ	**Urewera**	**24.63**	**198**	LR	LR	02 22 05.1	
	comp=Z,3μm,19.3s,baz=9.5,slow=34						
RTZ	**Ruatahuna**	**25.00**	**198**	P	**P**	**02 13 45.3**	**-1.2**
RTZ	**Ruatahuna**	**25.00**	**198**	P	**P**	**02 13 45.4**	**-1.1**
HNR	**Honiara**	**26.62**	**279**	LR	LR	02 22 28.5	
	comp=Z,1μm,18.1s,baz=126,slow=32						
QRZ	**Quartz Range**	**28.48**	**203**	P	**P**	**02 14 17.4**	**-0.4**
TAOE	**Nuku Hiva Isla**	**33.08**	**83**	*e*P	**P**	**02 15 00.9**	**+2.1**
	comp=Z,75nm,24.3s						
TAOE				*e*S	**S**	**02 20 19.8**	**+3.6**
	comp=Z,2μm,37.9s						
TAOE				*e*LR	LR	02 23 34.1	
	comp=Z,2μm,26.1s						
H11S2	**WAKE ISLAND Hy**	**38.63**	**329**	T	T	02 56 38.2	
	baz=149,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**38.65**	**329**	T	T	02 56 34.9	
	baz=149,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**38.65**	**329**	T	T	02 56 39.6	
	baz=149,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**39.58**	**330**	T	T	02 58 02.3	
	baz=150,slow=76,SNR=35						
H11N1	**WAKE ISLAND Hy**	**39.58**	**330**	T	T	02 57 48.4	
	baz=150,slow=76,SNR=22						
H11N2	**WAKE ISLAND Hy**	**39.59**	**330**	T	T	02 57 56.0	
	baz=150,slow=76,SNR=23						
COEN	**Coen**	**42.01**	**266**	P	**P**	**02 16 13.3**	**-0.9**
TOO	**Toolangi**	**42.71**	**230**		**P**	**02 16 18.9**	**-0.9**
STKA	**Stephens Creek**	**44.23**	**240**	P	**P**	**02 16 30.4**	**-1.7**
	comp=Z,3.2nm,0.9s,baz=304,slow=7.6,SNR=3.0						
STKA				LR	LR	02 34 36.0	
	comp=Z,374nm,18.0s,baz=68,slow=36 comp=Z,3.2nm,0.9s						
JAY	**Jayapura**	**46.91**	**281**	LR	LR	02 34 49.1	
	comp=Z,1μm,20.4s,baz=31,slow=34						
WB0	**Warramunga Arr**	**49.89**	**257**		**P**	**02 17 13.1**	**-3.3**
WB0				IAmb	IAmb	02 17 18.3	
	comp=Z,34nm,1.5s						
WRA	**Warramunga Arr**	**49.93**	**256**		**P**	**02 17 13.5**	**-3.2**
WRA	**Warramunga Arr**	**49.93**	**256**	P	**P**	**02 17 14.0**	**-2.7**
	comp=Z,7.6nm,1.1s,baz=90,slow=7.6,SNR=23						
WRA				LR	LR	02 36 53.0	
	comp=Z,884nm,18.8s,baz=92,slow=34 comp=Z,7.6nm,1.1s						
AS31	**Alice Springs**	**50.23**	**252**		**P**	**02 17 15.2**	**-3.8**
ASAR	**Alice Springs**	**50.23**	**252**		**P**	**02 17 15.3**	**-3.7**
ASAR	**Alice Springs**	**50.23**	**252**	P	**P**	**02 17 15.5**	**-3.5**
	comp=Z,14nm,0.8s,baz=87,slow=7.9,SNR=75						
ASAR				LR	LR	02 36 27.4	
	comp=Z,958nm,20.7s,baz=90,slow=34 comp=Z,14nm,0.8s						
BATI	**Baumata**	**61.44**	**266**	LR	LR	02 43 10.6	
	comp=Z,847nm,20.8s,baz=130,slow=34						
SBA	**Scott Base**	**63.63**	**185**	P	**P**	**02 18 54.1**	**+1.1**
VNDA	**Vanda**	**63.76**	**186**		**P**	**02 18 54.6**	**+0.7**
VNDA	**Vanda**	**63.76**	**186**	P	**P**	**02 18 55.2**	**+1.4**
	comp=Z,4.1nm,0.9s,baz=6.3,slow=5.9,SNR=18 comp=Z,4.1nm,0.9s						
DAV	**Davao City (W)**	**64.33**	**286**	LR	LR	02 45 16.9	
	comp=Z,560nm,18.5s,baz=106,slow=35						
NIKH	**Nikolski High**	**67.82**	**3**	P	**P**	**02 19 22.0**	**+1.8**
	baz=185						
MJAR	**Matsushiro Arr**	**68.65**	**320**		**P**	**02 19 23.6**	**-2.3**
MJAR				IAmb	IAmb	02 19 34.9	
	comp=Z,11nm,1.4s						
MJAR	**Matsushiro Arr**	**68.65**	**320**	P	**P**	**02 19 22.8**	**-3.1**
	comp=Z,1.2nm,0.3s,baz=167,slow=5.3,SNR=6.5						
MJAR				LR	LR	02 43 25.1	
	comp=Z,671nm,22.0s,baz=121,slow=31 comp=Z,1.2nm,0.3s						
UNV	**Unalaska Valle**	**68.83**	**4**	P	**P**	**02 19 24.9**	**-1.6**
UNV	**Unalaska Valle**	**68.83**	**4**	P	**P**	**02 19 28.1**	**+1.6**
	baz=187						
JTM	**Tenmabayashi**	**69.73**	**325**		**P**	**02 19 32.9**	**+0.5**
JOW	**Kunigami**	**70.26**	**306**	LR	LR	02 44 34.3	
	comp=Z,494nm,21.6s,baz=337,slow=31						
CHNA	**Chernabura Isl**	**70.55**	**8**	P	**P**	**02 19 39.0**	**+1.9**
	baz=194						
SDPT	**Sand Point**	**70.94**	**8**	P	**P**	**02 19 41.0**	**+1.6**
	baz=193						
S12K	**Black Hills**	**71.09**	**7**	P	**P**	**02 19 41.7**	**+1.3**
	baz=192						
TGY	**Tagaytay City**	**71.09**	**291**	LR	LR	02 45 30.5	
	comp=Z,816nm,21.5s,baz=146,slow=32						
ASAJ	**Asahikawa**	**71.21**	**328**	LR	LR	02 44 57.6	
	comp=Z,291nm,21.7s,baz=160,slow=31						
P08K	**Saint George I**	**71.42**	**2**	P	**P**	**02 19 44.3**	**+2.0**
	baz=184						
JNU	**Nakatsue**	**71.54**	**313**	LR	LR	02 45 25.7	
	comp=Z,219nm,20.4s,baz=140,slow=31						
SPIA	**Saint Paul Isl**	**71.97**	**2**	P	**P**	**02 19 47.8**	**+2.2**
	baz=183						
S14K	**Fog Glacier**	**71.97**	**8**	P	**P**	**02 19 47.5**	**+1.7**
	baz=194						
CHGN	**Chignik**	**72.15**	**9**	P	**P**	**02 19 48.6**	**+1.9**
	baz=195						
PEA0B	**Petropavlovsk-**	**72.27**	**342**		**P**	**02 19 46.1**	**-1.5**
PETK	**Petropavlovsk-**	**72.27**	**342**		**P**	**02 19 46.0**	**-1.5**
PETK	**Petropavlovsk-**	**72.27**	**342**	P	**P**	**02 19 46.8**	**-0.7**
	comp=Z,3.6nm,0.8s,baz=111,slow=8.3,SNR=7.3 comp=Z,3.6nm,0.8s						
PFO	**Pinyon Flats O**	**72.66**	**47**	LR	LR	02 45 41.8	
	comp=Z,573nm,18.8s,baz=238,slow=31						
LPIG	**La Paz**	**72.84**	**59**	LR	LR	02 45 32.7	
	comp=Z,258nm,18.6s,baz=210,slow=30						
SII	**Sitkinak Islan**	**73.09**	**11**	P	**P**	**02 19 54.3**	**+1.9**
	baz=200						
YBH	**Yreka Blue Hor**	**73.29**	**37**		**P**	**02 19 54.9**	**+0.9**
YBH				IAmb	IAmb	02 20 06.6	
	comp=Z,11nm,1.0s						
YBH	**Yreka Blue Hor**	**73.29**	**37**	P	**P**	**02 19 55.2**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=201,slow=3.7,SNR=7.5						
YBH				LR	LR	02 44 27.7	
	comp=Z,27nm,21.7s,baz=260,slow=30						
BEKR	**Beckworth**	**73.57**	**40**		**P**	**02 19 55.4**	**-0.5**
BEKR				IAmb	IAmb	02 22 22.2	
	comp=Z,10nm,0.6s						
R17L	**Mt. Peulik Vol**	**73.74**	**9**	P	**P**	**02 19 57.7**	**+1.5**
	baz=197						
PLK4	**Peulik 4**	**73.74**	**9**		**P**	**02 19 56.5**	**+0.2**
PLK4				IAmb	IAmb	02 19 58.7	
	comp=Z,32nm,1.4s						
OHAK	**Old Harbor**	**73.89**	**11**	P	**P**	**02 19 57.1**	**+0.1**
	baz=200						
R18K	**Karluk**	**74.00**	**10**	P	**P**	**02 19 59.1**	**+1.5**
	baz=199						
NVAR	**Mina Array Bea**	**74.04**	**42**	P	**P**	**02 19 59.9**	**+1.2**
	comp=Z,2.4nm,0.8s,baz=224,slow=9.6,SNR=9.3						
NVAR				LR	LR	02 48 51.4	
	comp=Z,389nm,18.0s,baz=222,slow=33 comp=Z,2.4nm,0.8s						
Q17K	**Contact Creek**	**74.42**	**10**	P	**P**	**02 20 01.5**	**+1.2**
	baz=198						
KDAK	**Kodiak Island**	**74.55**	**11**	P	**P**	**02 20 02.1**	**+1.2**
	baz=201						
J04A	**Umpqua Nationa**	**74.58**	**36**	P	**P**	**02 20 02.4**	**+0.7**
O14K	**Tigyukauivet M**	**74.66**	**6**	P	**P**	**02 20 02.9**	**+1.5**
	baz=192						
Q16K	**King Salmon**	**74.70**	**9**	P	**P**	**02 20 03.3**	**+1.6**
	baz=197						
O15K	**Ungalikthiuk R**	**74.75**	**7**	P	**P**	**02 20 03.5**	**+1.5**
	baz=194						
P16K	**Nushagak River**	**74.85**	**8**	P	**P**	**02 20 03.9**	**+1.4**
	baz=196						
Q18K	**Katmai Hardscr**	**74.93**	**10**	P	**P**	**02 20 04.7**	**+1.5**
	baz=198						
K05A	**Summer Lake**	**74.97**	**37**		**P**	**02 20 04.4**	**+0.5**
K05A				IAmb	IAmb	02 20 16.5	
	comp=Z,25nm,1.1s						
QSPA	**South Pole Qui**	**75.03**	**180**	P	**P**	**02 20 05.1**	**+1.2**
QSPA				IAmb	IAmb	02 20 11.3	
	comp=Z,15nm,1.0s						
QSPA	**South Pole Qui**	**75.03**	**180**	P	**P**	**02 20 04.7**	**+0.9**
	comp=Z,14nm,1.1s,baz=47,slow=1.8,SNR=14						
QSPA				LR	LR	02 48 02.8	
	comp=Z,278nm,20.3s,baz=42,slow=32 comp=Z,14nm,1.1s						
P17K	**Kvichak River**	**75.23**	**9**	P	**P**	**02 20 06.2**	**+1.5**
	baz=197						
N14K	**Kuskokwak Cree**	**75.28**	**6**	P	**P**	**02 20 06.6**	**+1.6**
	baz=192						
Q20K	**Shuyak Island**	**75.36**	**11**	P	**P**	**02 20 06.5**	**+1.0**
	baz=201						
M11K	**Mekoryuk**	**75.36**	**4**	P	**P**	**02 20 06.6**	**+1.2**
	baz=187						
O16K	**Kokwok River B**	**75.38**	**8**	P	**P**	**02 20 06.0**	**+0.4**
O16K				IAmb	IAmb	02 20 23.7	
	comp=Z,13nm,1.2s						
O16K	**Kokwok River B**	**75.38**	**8**	P	**P**	**02 20 07.1**	**+1.5**
	baz=195						
Q19K	**Cape Douglas,**	**75.43**	**10**	P	**P**	**02 20 07.4**	**+1.4**
	baz=200						
M13K	**Dall Lake**	**75.60**	**5**	P	**P**	**02 20 07.5**	**+0.7**
	baz=190						
P18K	**Big Mountain,**	**75.61**	**9**	P	**P**	**02 20 07.2**	**+0.2**
	baz=198						
N15K	**Kwethluk River**	**75.69**	**7**	P	**P**	**02 20 08.2**	**+0.8**
	baz=193						
O17K	**Koliganek Bris**	**75.69**	**8**	P	**P**	**02 20 07.8**	**+0.5**
	baz=196						
KSRS	**Korea Array**	**75.89**	**315**	P	**P**	**02 20 08.6**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=130,slow=6.8,SNR=8.3 comp=Z,1.2nm,0.7s						
KSAR	**Wonju Array Be**	**75.91**	**315**		**P**	**02 20 09.1**	**0.0**
O18K	**Koktuh Hills**	**76.05**	**9**	P	**P**	**02 20 09.6**	**+0.2**
	baz=198						
M14K	**Bethel**	**76.06**	**6**	P	**P**	**02 20 09.7**	**+0.3**
	baz=191						
M15K	**Kasigluk River**	**76.14**	**6**	P	**P**	**02 20 10.0**	**+0.1**
	baz=193						
N16K	**Nishlik Lake**	**76.14**	**7**	P	**P**	**02 20 10.5**	**+0.5**
	baz=195						
TUC	**Tucson**	**76.15**	**51**	P	**P**	**02 20 11.6**	**+0.8**
TUC				IAmb	IAmb	02 20 18.0	
	comp=Z,8.2nm,0.8s						
P19K	**Oil Pt**	**76.19**	**10**	P	**P**	**02 20 11.2**	**+0.9**
	baz=200						
N17K	**Nushagak Hills**	**76.40**	**8**	P	**P**	**02 20 11.8**	**+0.3**
	baz=196						
HOM	**Homer**	**76.48**	**11**	P	**P**	**02 20 13.0**	**+1.1**
	baz=202						
ILSW	**Iliamna Southw**	**76.51**	**10**	IAmb	IAmb	02 20 16.3	
	comp=Z,16nm,1.0s						
O19K	**Port Alsworth**	**76.52**	**10**	P	**P**	**02 20 12.7**	**+0.7**
	baz=199						
L14K	**Kuka Creek**	**76.58**	**5**	IAmb	IAmb	02 20 17.6	
	comp=Z,14nm,0.9s						
L14K	**Kuka Creek**	**76.58**	**5**	P	**P**	**02 20 12.5**	**+0.1**
	baz=191						
M16K	**Timber Creek**	**76.65**	**7**	P	**P**	**02 20 13.1**	**+0.2**
	baz=194						
O20K	**Slope Mountain**	**76.69**	**11**	P	**P**	**02 20 13.5**	**+0.3**
	baz=201						
N18K	**Kilae Creek**	**76.73**	**9**	P	**P**	**02 20 13.6**	**+0.3**
	baz=197						
SPR3	**Spring Creek 3**	**76.96**	**43**		**P**	**02 20 15.9**	**+0.4**
K13K	**Kusilvak Mount**	**77.00**	**4**	P	**P**	**02 20 14.8**	**0.0**
	baz=189						
L15K	**Ungalak Mounta**	**77.02**	**6**	P	**P**	**02 20 15.4**	**+0.6**
	baz=192,SNR=9.3						
N19K	**Bonanza Creek**	**77.08**	**9**	P	**P**	**02 20 15.1**	**-0.3**
	baz=199						
USRK	**Ussuriysk Ar.**	**77.08**	**323**	P	**P**	**02 20 14.8**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=94,slow=5.7,SNR=6.7						
USRK				LR	LR	02 47 37.2	
	comp=Z,594nm,21.5s,baz=130,slow=31 comp=Z,2.5nm,0.8s						
KSM	**Kuching**	**77.15**	**275**	P	**P**	**02 20 16.8**	**+0.1**
M17K	**Holitna River**	**77.21**	**8**	P	**P**	**02 20 16.0**	**0.0**
	baz=196						
WUAZ	**Wupatki**	**77.24**	**48**		**P**	**02 20 17.3**	**+0.3**
WUAZ				IAmb	IAmb	02 22 31.2	
	comp=Z,16nm,0.8s						
L16K	**Owhat River**	**77.26**	**7**	P	**P**	**02 20 15.9**	**-0.4**
	baz=194						
SEW	**Seward**	**77.32**	**12**	P	**P**	**02 20 16.1**	**-

V35K Ketchikan 78.43 23 P P 02 20 22.9 0.0
baz=221
SIT Sitka 78.46 20 P P 02 20 23.4 +0.4
baz=218
U33K Whale Pass 78.48 22 P P 02 20 23.2 0.0
baz=220
EYAK Cordova Ski Ar 78.51 14 P P 02 20 23.1 -0.1
baz=207
GLI Glacier Island 78.51 13 P P 02 20 23.2 -0.1
baz=206
GAMB Gambell 78.55 1 P P 02 20 23.9 +0.6
baz=182
DUG Dugway, Tooele 78.58 43 IAmb IAmb 02 22 51.1
comp=Z,14nm,1.2s
SKT Skwentna 78.66 10 P P 02 20 24.5 +0.4
baz=202
J16K Anvik River 78.68 6 IAmb IAmb 02 20 29.9
comp=Z,20nm,0.9s
J16K Anvik River 78.68 6 P P 02 20 24.2 +0.1
baz=193,SNR=13
M22K Willow 78.71 11 P P 02 20 25.0 +0.8
baz=203
KNK Knik Glacier 78.71 12 P P 02 20 25.2 +0.8
baz=205
BGLC Bering Glacier 78.72 15 P P 02 20 24.3 0.0
baz=210
MDJ Mudanjiang 78.72 322 P P 02 20 27.8 +3.0
MDJ S S 02 30 25.0 +4.8
MDJ pmax pmax
comp=Z,8.0nm,1.7s
MDJ LR LR
comp=Z,220nm,10.0s
MDJ LR LR
comp=Z,300nm,15.5s
MDJ LR LR
comp=Z,420nm,11.0s
PMR Palmer 78.75 12 IAmb IAmb 02 20 51.2
comp=Z,17nm,1.4s
PMR Palmer 78.75 12 P P 02 20 23.6 -0.9
baz=204
L20K Farewell, AK 78.75 9 P P 02 20 24.0 -0.6
baz=199
ZAIG Zacatecas 78.83 63 P P 02 20 26.4 +0.2
S31K Pelican 78.89 19 P P 02 20 25.9 +0.5
baz=217
J17K VARM Dome 78.95 7 P P 02 20 25.5 -0.1
baz=194
WRAK Wrangell Islan 79.00 22 P P 02 20 26.6 +0.7
baz=220
DIV Divide 79.02 13 P P 02 20 26.0 -0.2
DIV IAmb IAmb 02 20 37.3
comp=Z,14nm,0.9s
S32K Killisnoo 79.04 20 P P 02 20 26.4 +0.3
baz=218
MESA MESA 79.10 15 P P 02 20 26.2 -0.6
baz=211
BMRM Bremner River 79.14 14 P P 02 20 26.2 -0.6
baz=208
PLID Pearl Lake 79.22 37 P 02 20 28.2 +0.5
I17K Unalakleet 79.26 6 P P 02 20 26.9 -0.3
baz=193
CUT Chulitna 79.28 11 P P 02 20 27.4 0.0
baz=203
J18K Innoko River 79.30 8 IAmb IAmb 02 20 39.0
comp=Z,14nm,0.9s
J18K Innoko River 79.30 8 P P 02 20 27.7 +0.2
baz=196,SNR=10
CRQE Cirque 79.31 15 P P 02 20 27.6 -0.3
baz=210
KLU Klutina 79.31 13 P P 02 20 27.2 -0.5
baz=207
SCM Sheep Creek Mo 79.33 12 P P 02 20 27.8 0.0
baz=206
HLID Hailey 79.33 39 P 02 20 29.1 +0.7
HLID IAmb IAmb 02 20 40.8
comp=Z,12nm,1.1s
PNL Peninsula 79.35 17 P P 02 20 27.5 -0.4
baz=213
TGL Tana Glacier 79.38 15 P P 02 20 27.4 -0.7
PPLA Purkeypile 79.41 10 P P 02 20 28.8 +0.4
baz=201
PINM Pinnacle 79.48 16 P P 02 20 28.6 -0.1
baz=213
K20K Telida 79.56 9 P P 02 20 28.9 -0.1
baz=199,SNR=8.1
ANM Nome 79.57 4 P P 02 20 28.9 0.0
baz=188
R32K Eaglecrest 79.69 20 P P 02 20 29.8 0.0
baz=218
N25K Chitina, Valde 79.71 14 P P 02 20 28.9 -1.0
baz=208
GLB Gilahina Butte 79.75 14 P 02 20 29.5 -0.6
P29M Windy Craggy 79.80 18 P P 02 20 29.3 -1.1
baz=215
M24K Tolsona, Glenn 79.81 13 P P 02 20 30.4 0.0
M24K IAmb IAmb 02 20 48.4
comp=Z,29nm,1.1s
M24K Tolsona, Glenn 79.81 13 P P 02 20 30.4 0.0
baz=207
MCARA McCarthy VSAT 79.88 14 P P 02 20 30.5 -0.2
baz=210
CAST Castle Rocks 79.92 10 P P 02 20 30.7 -0.2
baz=201
WAT6 Susitna Watana 79.92 12 P P 02 20 30.5 -0.6
baz=205
VHRN Van Horn 79.93 54 P 02 20 31.1 -0.8
VHRN IAmb IAmb 02 20 44.2
comp=Z,16nm,1.0s
NJ2 Nanjing 79.93 307 eP P 02 20 32.4 +0.7
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
CTG Chitna Glacier 79.93 15 P P 02 20 30.7 -0.5
baz=212
J19K Poorman 79.95 8 P P 02 20 30.9 -0.2
baz=198
WAT1 Susitna Watana 79.99 11 P P 02 20 30.9 -0.5
baz=204
PLBC Pleasant Camp 80.06 18 P P 02 20 31.9 +0.2
baz=216
PV05 Paradox Valley 80.06 46 IAmb IAmb 02 20 51.9
comp=Z,24nm,1.3s
O28M Mount Upton 80.07 16 P P 02 20 31.4 -0.7
baz=213
G15K Niukuk 80.08 4 P P 02 20 32.0 +0.3
baz=189
MVCO Mesa Verde 80.08 47 P 02 20 31.4 -1.3
O29M Mount Kennedy 80.11 17 P P 02 20 32.3 +0.2
baz=214
T35M Bob Quinn 80.18 22 P P 02 20 32.5 0.0
baz=222
KLR Kul'dur 80.20 327 LR LR 02 50 25.3
comp=Z,254nm,21.5s,baz=132,slow=32
KTH Kantishna Hill 80.23 10 IAmb IAmb 02 20 47.8
comp=Z,46nm,1.9s
PV10 Paradox Valley 80.24 46 IAmb IAmb 02 20 45.0
comp=Z,25nm,1.0s
TRF Thorofare Moun 80.25 10 IAmb IAmb 02 20 47.4
comp=Z,15nm,1.0s
TRF Thorofare Moun 80.25 10 P P 02 20 32.2 -0.6
baz=203
HARP HAARP 80.29 13 P P 02 20 32.6 -0.3
baz=208
PV13 Radium Mtn., P 80.29 46 IAmb IAmb 02 20 45.6
comp=Z,16nm,1.2s
CHUM Lake Minchumin 80.32 9 P P 02 20 31.8 -1.2
baz=201
PV03 Paradox Valley 80.32 46 IAmb IAmb 02 20 46.3
comp=Z,16nm,1.2s
J20K Nowinta River 80.32 8 IAmb IAmb 02 20 44.2
comp=Z,14nm,1.1s
J20K Nowinta River 80.32 8 P P 02 20 32.6 -0.4
baz=199,SNR=9.8
H17K Granite Mounta 80.37 6 P P 02 20 33.9 +0.6
baz=193
SKAG Skagway 80.38 19 P P 02 20 34.0 +0.6
baz=217
NEW Newport 80.39 34 P P 02 20 35.2 +1.3
comp=Z,0.9nm,0.7s,baz=188,slow=9.2,SNR=1.7
NEW LR LR 02 51 26.1
comp=Z,226nm,18.2s,baz=248,slow=32
comp=Z,0.9nm,0.7s
TX31 Lajitas Ar. Si 80.40 56 IAmb IAmb 02 20 46.9
comp=Z,24nm,1.4s
TXAR Lajitas Array 80.40 56 P 02 20 36.1 +1.7
TXAR Lajitas Array 80.40 56 P P 02 20 36.7 +2.3
comp=Z,3.1nm,0.9s,baz=222,slow=6.5,SNR=18
TXAR LR LR 02 50 41.2
comp=Z,159nm,18.6s,baz=245,slow=32
comp=Z,3.1nm,0.9s
P30M Million Dollar 80.42 18 P P 02 20 33.9 +0.1
baz=216
F14K Arctic Creek 80.42 3 P P 02 20 33.9 +0.3
baz=187
DHY Denali Highway 80.44 12 P P 02 20 33.1 -0.9
baz=206
TNA Tin City 80.44 2 P P 02 20 34.0 +0.4
baz=185
PV01 Paradox Valley 80.46 46 IAmb IAmb 02 20 46.5
comp=Z,22nm,1.3s
RND Reindeer 80.46 11 IAmb IAmb 02 20 42.4
comp=Z,26nm,1.3s
GCSA Galena City Sc 80.51 7 P P 02 20 34.6 +0.6
baz=196
ANMO Albuquerque 80.56 50 P P 02 20 37.1 +1.9
comp=Z,3.2nm,0.8s,baz=312,slow=4.3,SNR=16
ANMO LR LR 02 49 25.4
comp=Z,567nm,20.0s,baz=332,slow=30
comp=Z,3.2nm,0.8s
S34M Telegraph Cree 80.56 21 IAmb IAmb 02 20 46.9
comp=Z,17nm,1.3s
S34M Telegraph Cree 80.56 21 P P 02 20 34.2 -0.3
baz=221
G16K Koyuk River 80.60 5 P P 02 20 34.7 +0.2
baz=191
YUK8 Steele Glacier 80.61 16 P P 02 20 35.1 +0.1
baz=213
BNX BinXian 80.63 322 ⇓P P 02 20 35.8 +0.7
BNX S S 02 30 46.7 +6.3
BNX pmax pmax
comp=Z,8.0nm,1.6s
BNX pmax pmax
comp=Z,98nm,5.6s
BNX LR LR
comp=Z,250nm,17.4s
BNX LR LR
comp=Z,370nm,21.7s
BNX LR LR
comp=Z,580nm,21.7s
YUK6 Outpost Mounta 80.70 16 P P 02 20 34.5 -1.0
baz=214
PAX Paxson 80.73 13 P P 02 20 34.6 -0.8
baz=207
BPAW Bear Paw Mtn. 80.73 10 P P 02 20 34.4 -0.9
baz=202
H18K Honhosa River 80.74 6 IAmb IAmb 02 20 54.6
comp=Z,35nm,1.9s
H18K Honhosa River 80.74 6 P P 02 20 35.0 -0.3
baz=195
MCK McKinley 80.75 11 IAmb IAmb 02 20 45.9
comp=Z,21nm,1.0s
MCK McKinley 80.75 11 P P 02 20 34.2 -1.1
baz=204
F15K North Star Dit 80.75 4 P P 02 20 34.6 -0.7
baz=189
M26K Nabesna, AK 80.77 14 IAmb IAmb 02 20 47.2
comp=Z,17nm,1.1s
M26K Nabesna, AK 80.77 14 P P 02 20 35.3 -0.3
baz=210,SNR=8.3
CN2 Changchun 80.79 320 P P 02 20 38.0 +2.0
CN2 S S 02 30 44.1 +1.9
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,300nm,22.0s
CN2 LR LR
comp=Z,300nm,22.0s
CN2 LR LR
comp=Z,200nm,26.0s
ALPN Alpine 80.83 55 IAmb IAmb 02 20 48.8
comp=Z,18nm,1.0s
HYT Haines Junctio 80.84 17 P P 02 20 36.5 +0.4
baz=215
YUK3 Moose Creek 80.85 15 P P 02 20 36.3 +0.1
baz=212
G17K Kiwalik Mounta 80.85 5 P P 02 20 36.1 +0.3
baz=192
I20K Naaghedeneel 80.87 8 P P 02 20 36.7 +0.8
baz=199
YUK4 Talbot Arm 80.96 16 P P 02 20 37.3 +0.5
baz=214
Q32M Nakina River 80.97 20 P P 02 20 37.1 +0.3
baz=220
P32M Atlin 80.99 19 P P 02 20 36.8 0.0
baz=219
M27K Edge Creek, AK 81.00 14 IAmb IAmb 02 20 49.1
comp=Z,35nm,1.5s
M27K Edge Creek, AK 81.00 14 P P 02 20 36.9 0.0
baz=211
O30N Mendenhall 81.20 18 IAmb IAmb 02 20 49.4
comp=Z,12nm,1.1s
O30N Mendenhall 81.20 18 P P 02 20 38.4 +0.5
baz=216,SNR=8.4
L26K Log Cabin Wild 81.24 13 P P 02 20 38.3 +0.3
baz=209
BVCY Beaver Creek 81.29 15 P P 02 20 38.7 +0.4
baz=212
H19K Roundabout Mou 81.31 7 P P 02 20 38.6 +0.3
baz=197
DLBC Dease Lake 81.34 21 P P 02 20 38.7 0.0
comp=Z,0.2nm,0.9s,baz=226,slow=11,SNR=2.4
DLBC LR LR 02 52 10.8
comp=Z,22nm,18.5s,baz=202,slow=32
DLBC Dease Lake 81.34 21 P P 02 20 38.6 -0.2
baz=222
DLMT Dillon 81.39 38 IAmb IAmb 02 20 52.6
comp=Z,33nm,1.8s
K24K Donnelly Dome 81.41 12 P P 02 20 39.7 +0.8
baz=207
G18K Tagagawik 81.43 6 P P 02 20 39.2 +0.3
baz=194
TPAW Teton Pass 81.45 41 IAmb IAmb 02 20 52.1
comp=Z,14nm,1.1s
FXWY Fox Creek 81.47 41 IAmb IAmb 02 20 52.4
comp=Z,18nm,1.3s
WHY Whitehorse 81.47 18 IAmb IAmb 02 20 50.9
comp=Z,18nm,1.1s
WHY Whitehorse 81.47 18 P P 02 20 39.7 +0.3
baz=218
H20K Anotleneega Mo 81.48 8 P P 02 20 39.6 +0.4
baz=198
N30M Aishikik Lake 81.48 17 P P 02 20 39.7 +0.3
baz=215
NEA2 Nenana 81.51 10 P P 02 20 38.7 -0.7
baz=204
RIDG Independent Ri 81.55 12 IAmb IAmb 02 20 57.1
comp=Z,14nm,1.2s
RIDG Independent Ri 81.55 12 P P 02 20 38.9 -0.7
baz=208
SNOW Snow King Moun 81.56 41 IAmb IAmb 02 20 52.7
comp=Z,12nm,0.9s
WRH Wood River Hil 81.58 11 IAmb IAmb 02 20 44.2
comp=Z,24nm,1.0s
L27K Beaver Creek, 81.62 14 IAmb IAmb 02 20 44.3
comp=Z,19nm,1.7s
L27K Beaver Creek, 81.62 14 P P 02 20 39.6 -0.4
baz=211
BCAR Beaver Creek A 81.63 14 P 02 20 38.8 -1.3
MLY Manley 81.64 10 P 02 20 38.3 -1.8
MLY Manley 81.64 10 P P 02 20 39.9 -0.3
baz=202,SNR=8.3
F17K Baldwin Pennin 81.72 5 P P 02 20 40.4 0.0
baz=192
LOHW Long Hollow 81.73 41 IAmb IAmb 02 20 53.5
comp=Z,18nm,1.4s
HDA Harding Lake 81.73 11 P P 02 20 40.3 -0.2
baz=206
R33M Jennings River 81.74 20 P P 02 20 41.3 +0.4
baz=221
P33M Teslin, Yukon 81.76 19 P P 02 20 41.4 +0.5
baz=220
CCB Clear Creek Bu 81.79 11 IAmb IAmb 02 20 45.0
comp=Z,15nm,1.0s
G19K Purcell Mounta 81.84 7 IAmb IAmb 02 20 52.0
comp=Z,10nm,0.8s
G19K Purcell Mounta 81.84 7 P P 02 20 42.0 +0.9
baz=196
N31M Braeburn, Yuko 81.87 17 P P 02 20 41.0 -0.4
baz=217
SAND Sanderson 81.88 56 IAmb IAmb 02 20 53.9
comp=Z,10nm,1.0s
H21K Melozitna Rive 81.92 8 P P 02 20 41.6 +0.1
baz=200
M29M Somme Creek 81.92 16 P P 02 20 41.7 0.0
baz=214
SCRK Sand Creek 81.94 13 P P 02 20 41.8 0.0
baz=209,SNR=15
I23K Minto, Yukon-K 81.97 10 P P 02 20 41.3 -0.5
baz=204
PDAR Pinedale Array 81.98 42 P 02 20 41.5 -1.2
PDAR Pinedale Array 81.98 42 P P 02 20 42.8 +0.1
comp=Z,2.1nm,0.8s,baz=200,slow=3.9,SNR=13
PDAR LR LR 02 51 54.9
comp=Z,205nm,19.1s,baz=234,slow=32
comp=Z,2.1nm,0.8s
COLA College 81.98 11 P P 02 20 41.7 -0.1
COLA College 81.98 11 P P 02 20 42.1 +0.3
baz=205
F18K Selawik 82.02 6 P P 02 20 41.9 0.0
baz=194
IL31 82.07 11 IAmb IAmb 02 20 45.9
comp=Z,25nm,1.6s
ILAR Eielson Array 82.07 11 P P 02 20 41.0 -1.4
ILAR Eielson Array 82.07 11 P P 02 20 41.2 -1.1
comp=Z,4.4nm,1.1s,baz=204,slow=5.4,SNR=17
comp=Z,4.4nm,1.1s
BOZ Bozeman (W) 82.09 39 IAmb IAmb 02 20 56.2
comp=Z,24nm,1.5s
IMAR Indian Mountai 82.09 8 P P 02 20 42.4 0.0
SMAI San Martin Ant 82.12 159 P P 02 20 44.3 +1.6
SMAI IAmb IAmb 02 20 54.0
comp=Z,28nm,1.6s
J25K Salcha River, 82.22 12 IAmb IAmb 02 20 54.6
comp=Z,11nm,0.9s
J25K Salcha River, 82.22 12 P P 02 20 43.1 -0.1
baz=207,SNR=18
POKR Poker Plat Res 82.28 11 P P 02 20 43.6 +0.1
baz=205
E17K Hotham Inlet 82.31 5 P P 02 20 43.3 -0.2
baz=191
H22K Ishtalitna Cre 82.35 9 P P 02 20 43.9 +0.1
baz=202,SNR=9.8
K27K Chicken 82.40 13 IAmb IAmb 02 20 48.7
comp=Z,27nm,1.9s
K27K Chicken 82.40 13 P P 02 20 44.7 +0.7
baz=210
N32M Quiet Lake 82.40 18 IAmb IAmb 02 20 55.7
comp=Z,12nm,1.1s
N32M Quiet Lake 82.40 18 P P 02 20 44.9 +0.7
baz=219
F19K Shaleruckik Mo 82.43 6 P P 02 20 44.1 0.0
baz=195,SNR=9.2
SDCO Great Sand Dun 82.46 48 IAmb IAmb 02 20 57.1
comp=Z,12nm,1.1s
M30M Minto, Yukon 82.47 16 P P 02 20 44.4 -0.2
baz=216
J26L Joseph Creek 82.49 13 IAmb IAmb 02 20 56.2
comp=Z,12nm,0.9s
J26L Joseph Creek 82.49 13 P P 02 20 44.7 +0.1
baz=209,SNR=15
HRY Holter Researc 82.54 38 P P 02 20 45.2 -0.2
L29M L29M 82.56 15 IAmb IAmb 02 20 56.5
comp=Z,15nm,1.0s
L29M L29M 82.56 15 P P 02 20 45.5 +0.5
baz=214,SNR=14
H23K Yukon River 82.57 10 IAmb IAmb 02 22 20.9
comp=Z,20nm,1.9s
H23K Yukon River 82.57 10 P P 02 20 45.5 +0.5
baz=203
G21K Allakaket 82.63 8 P P 02 20 45.6 +0.4
baz=199,SNR=7.2
E18K Tukpahlearik C 82.74 5 P P 02 20 45.9 +0.2
baz=192
QIZ Qiongzhong 82.76 292 P P 02 20 47.0 0.0
QIZ S S 02 31 06.0 +2.5
QIZ LR LR
comp=Z,330nm,24.7s
QIZ LR LR
comp=Z,460nm,23.5s
YNE Yellowstone No 82.79 40 IAmb IAmb 02 20 58.6
comp=Z,17nm,1.3s
D17K Noatak River 82.83 4 P P 02 20 47.1 +1.0
baz=190
M31M Drury Creek, Y 82.84 17 IAmb IAmb 02 20 50.3
comp=Z,12nm,1.5s
M31M Drury Creek, Y 82.84 17 P P 02 20 46.7 +0.3
baz=218
H24K Noodor Dome 82.86 10 P P 02 20 46.1 -0.4
baz=205
F20K Avaraart Lake 82.86 7 P P 02 20 46.2 -0.2
baz=197
DRIO Del Rio 82.89 57 IAmb IAmb 02 20 59.1
comp=Z,19nm,1.1s
T25A Trinidad 82.99 49 IAmb IAmb 02 20 51.7
comp=Z,9.9nm,1.1s
PRP Porcupine Dome 83.00 11 P P 02 20 47.4 +0.1
baz=207,SNR=13
WTLY Watson Lake, Y 83.01 21 P P 02 20 47.9 +0.6
baz=223
OZNA Ozona 83.04 56 IAmb IAmb 02 20 59.8
comp=Z,30nm,1.8s
DAWY Dawson 83.05 14 IAmb IAmb 02 20 58.8
comp=Z,12nm,1.1s
DAWY Dawson 83.05 14 P P 02 20 48.0 +0.5
baz=213,SNR=10
HEH HeiHe 83.09 326 eP P 02 20 48.8 +0.9
HEH sP pP 02 20 55.3 -1.6
HEH S S 02 31 13.0 +7.5
HEH pmax pmax
comp=Z,4.0nm,1.2s
HEH LR LR
comp=Z,170nm,19.9s
HEH LR LR
comp=Z,100nm,19.3s
HEH LR LR
comp=Z,210nm,20.0s
E19K Redstone River 83.09 6 IAmb IAmb 02 20 59.5
comp=Z,12nm,0.8s
E19K Redstone River 83.09 6 P P 02 20 48.2 +0.6
baz=196,SNR=6.6
FARO Faro, Yukon 83.17 18 P P 02 20 48.7 +0.6
baz=219,SNR=6.1
RDOG Red Dog Mine 83.19 4 P P 02 20 49.0 +0.9
baz=190
ISCO Idaho Springs 83.26 46 IAmb IAmb 02 21 04.8
comp=Z,7.5nm,1.0s
C16K Lisburne Hills 83.27 3 P P 02 20 49.5 +1.1
baz=188
I26K Coal Creek Min 83.28 12 IAmb IAmb 02 20 59.9
comp=Z,15nm,1.2s
I26K Coal Creek Min 83.28 12 P P 02 20 48.3 -0.3
baz=209
G22K Bettles 83.29 9 P P 02 20 49.0 +0.4
baz=201
RLMT Red Lodge 83.30 40 IAmb IAmb 02 20 53.4
comp=Z,12nm,1.2s
F21K Alatna River 83.30 8 IAmb IAmb 02 20 59.8
comp=Z,9.5nm,1.1s
F21K Alatna River 83.30 8 P P 02 20 48.9 +0.2
baz=199
G23K Bananza Creek 83.31 9 P P 02 20 49.3 +0.5
baz=203
K29M Barlow Dome 83.33 15 IAmb IAmb 02 20 53.7
comp=Z,18nm,1.4s
K29M Barlow Dome 83.33 15 P P 02 20 49.5 +0.5
baz=215,SNR=11
MAYO Mayo, Yukon 83.54 16 P P 02 20 50.6 +0.6
baz=216
C17K DeLong Mountai 83.59 4 P P 02 20 50.6 +0.4
baz=190
J29N Klondike Camp 83.66 15 P P 02 20 51.3 +0.7
baz=214
G24K Hadweenzic Riv 83.71 10 P P 02 20 51.7 +0.9
baz=205
F22K John River 83.75 8 P P 02 20 51.8 +0.8
baz=201
CMIG Matias Romero 83.75 71 LR LR 02 51 39.4
comp=Z,233nm,18.2s,baz=255,slow=31
COLD Coldfoot 83.76 9 IAmb IAmb 02 20 54.4
comp=Z,14nm,1.2s
COLD Coldfoot 83.76 9 P P 02 20 51.9 +0.8
baz=203
I27K Kandik River 83.86 13 P P 02 20 52.2 +0.6
baz=211
C18K Utukok River 83.90 4 P P 02 20 52.4 +0.6
baz=192
JCT Junction City 83.94 56 P P 02 20 52.7 -0.1
E20K Nigu River 83.97 6 P P 02 20 53.1 +0.9
baz=197,SNR=11
D19K Kuna River 84.01 6 P P 02 20 52.6 +0.3
baz=195
G25K Bearman Lake 84.01 11 P P 02 20 53.1 +0.8
baz=206
HNDO Hondo 84.02 57 IAmb IAmb 02 21 11.8
comp=Z,12nm,1.0s

SN07	**Snyder 07**	84.03	54	IAmb	IAmb	02 21 04.2
	comp=Z,12nm,1.0s					
MMPY	**Sheldon Lake,**	84.09	18	P	**P**	**02 20 53.6 +0.7**
	baz=221,SNR=9.2					
I28M	**Miner Creek**	84.09	13	P	**P**	**02 20 53.1 +0.2**
	baz=212					
TGTN	**Hyland Airport**	84.22	20	P	**P**	**02 20 54.5 +1.0**
	baz=224					
J30M	**Hart River**	84.22	15	IAmb	IAmb	02 20 58.1
	comp=Z,13nm,1.4s					
J30M	**Hart River**	84.22	15	P	**P**	**02 20 54.0 +0.4**
	baz=216					
DKNS	**Dickens**	84.23	53	IAmb	IAmb	02 21 07.3
	comp=Z,20nm,1.2s					
D20K	**Etivluk River**	84.37	6	P	**P**	**02 20 54.0 -0.1**
	baz=196					
E22K	**Anaktuvuk Pass**	84.38	8	P	**P**	**02 20 54.8 +0.5**
	baz=201,SNR=14					
F24K	**Squaw Lake**	84.39	10	IAmb	IAmb	02 21 05.9
	comp=Z,6.6nm,0.9s					
F24K	**Squaw Lake**	84.39	10	P	**P**	**02 20 54.0 -0.3**
	baz=205					
I29M	**Ogilvie Camp,**	84.39	14	P	**P**	**02 20 54.2 -0.1**
	baz=214,SNR=10					
H27K	**Steamboat Moun**	84.42	12	IAmb	IAmb	02 21 03.0
	comp=Z,15nm,1.4s					
H27K	**Steamboat Moun**	84.42	12	P	**P**	**02 20 55.3 +0.8**
	baz=211,SNR=11					
EGMT	**Eagleton**	84.42	37	IAmb	IAmb	02 21 06.7
	comp=Z,17nm,1.3s					
C19K	**Lookout Ridge**	84.47	5	P	**P**	**02 20 55.4 +0.7**
	baz=194					
PMSA	**Palmer Station**	84.53	156	LR	LR	02 52 44.5
	comp=Z,279nm,18.1s,baz=256,slow=31					
B18K	**Kokolik River**	84.56	4	P	**P**	**02 20 56.2 +1.2**
	baz=191					
G26K	**Porcupine Rive**	84.60	11	P	**P**	**02 20 56.2 +0.9**
	baz=209,SNR=31					
E23K	**Chandalar**	84.62	9	IAmb	IAmb	02 21 01.3
	comp=Z,12nm,1.1s					
E23K	**Chandalar**	84.62	9	P	**P**	**02 20 56.1 +0.6**
	baz=203,SNR=8.9					
KOTAN	**Kotaneelee Air**	84.71	22	P	**P**	**02 20 56.6 +0.6**
	baz=228					
I30M	**Mount Dempster**	84.74	15	IAmb	IAmb	02 21 07.3
	comp=Z,14nm,1.1s					
I30M	**Mount Dempster**	84.74	15	P	**P**	**02 20 56.4 +0.2**
	baz=216,SNR=12					
E24K	**Your Creek**	84.81	9	P	**P**	**02 20 56.7 +0.2**
	baz=204					
F25K	**Christian Rive**	84.83	10	P	**P**	**02 20 57.3 +0.7**
	baz=207,SNR=11					
ABTX	**Abilene, Hawle**	84.84	54	P	**P**	**02 20 58.0 +0.7**
BMAR	**Burnt Mountain**	84.88	11	P	**P**	**02 20 57.6 +0.8**
G27K	**Doyon Strip**	84.89	12		**P**	**02 20 56.8 0.0**
G27K				IAmb	IAmb	02 21 01.5
	comp=Z,8.7nm,1.2s					
G27K	**Doyon Strip**	84.89	12	P	**P**	**02 20 57.4 +0.5**
	baz=211,SNR=10					
D22K	**Ayikyak River**	84.97	7	P	**P**	**02 20 58.4 +1.2**
	baz=200,SNR=6.4					
C21K	**Knifeblade Rid**	84.99	7	P	**P**	**02 20 57.8 +0.6**
	baz=198					
H29M	**Whitestone**	85.09	14	P	**P**	**02 20 58.5 +0.7**
	baz=214,SNR=11					
TOLK	**Toolik Lake Re**	85.17	9	IAmb	IAmb	02 21 09.6
	comp=Z,15nm,1.1s					
TOLK	**Toolik Lake Re**	85.17	9	P	**P**	**02 20 58.3 +0.1**
	baz=203					
F26K	**Sheenjek River**	85.19	11	IAmb	IAmb	02 21 15.6
	comp=Z,14nm,1.1s					
F26K	**Sheenjek River**	85.19	11	P	**P**	**02 20 59.8 +1.5**
	baz=208,SNR=9.2					
BJI	**Beijing**	85.20	313	P	**P**	**02 21 00.1 +1.2**
BJI				S	**S**	**02 31 26.4 -0.7**
BJI				pmax	pmax	
	comp=Z,6.0nm,1.4s					
BJI				LR	LR	
	comp=Z,82nm,20.0s					
BJI				LR	LR	
	comp=Z,86nm,19.6s					
BJI				LR	LR	
	comp=Z,140nm,22.6s					
HNS	**HongShan**	85.21	311	*e*P	**P**	**02 21 00.2 +1.2**
HNS				S	S	02 31 35.3 +8.0
HNS				LR	LR	
	comp=Z,170nm,19.6s					
HNS				LR	LR	
	comp=Z,270nm,22.6s					
HNS				LR	LR	
	comp=Z,390nm,23.9s					
D23K	**Nanushuk River**	85.31	8	P	**P**	**02 21 00.3 +1.5**
	baz=202,SNR=8.5					
E25K	**Arctic Village**	85.32	10	P	**P**	**02 21 00.0 +1.1**
	baz=207					
A19K	**Wainwright**	85.44	4	P	**P**	**02 21 00.5 +1.1**
	baz=192					
B21K	**Ikpikpuk River**	85.45	6	P	**P**	**02 20 60.0 +0.5**
	baz=198					
B20K	**Meade River**	85.56	6	P	**P**	**02 21 01.3 +1.3**
	baz=196					
EPYK	**Eagle Plains**	85.60	14	P	**P**	**02 21 01.1 +0.7**
	baz=215					
H31M	**Peel River**	85.72	15	P	**P**	**02 21 01.9 +0.9**
	baz=218					
D24K	**Happy Valley**	85.75	9	P	**P**	**02 21 01.5 +0.6**
	baz=204					
G29M	**Pine Creek**	85.75	13	IAmb	IAmb	02 21 05.3
	comp=Z,15nm,1.1s					
G29M	**Pine Creek**	85.75	13	P	**P**	**02 21 01.6 +0.5**
	baz=214,SNR=9.9					
F28M	**Old Crow**	85.94	12	IAmb	IAmb	02 21 06.5
	comp=Z,11nm,1.2s					
F28M	**Old Crow**	85.94	12	P	**P**	**02 21 02.3 +0.3**
	baz=212,SNR=8.7					
E27K	**Coleen River**	86.09	11	IAmb	IAmb	02 21 27.9
	comp=Z,9.7nm,1.1s					
E27K	**Coleen River**	86.09	11	P	**P**	**02 21 03.6 +0.8**
	baz=211,SNR=11					
C23K	**Itkillik River**	86.13	8	P	**P**	**02 21 03.8 +0.9**
	baz=202					
G30M	**tAoh Zraii Nji**	86.21	14	IAmb	IAmb	02 21 08.1
	comp=Z,19nm,1.0s					
G30M	**tAoh Zraii Nji**	86.21	14	P	**P**	**02 21 03.5 0.0**
	baz=216,SNR=14					
USHA	**Ushuaia**	86.24	146	LR	LR	02 49 51.8
	comp=Z,516nm,21.8s,baz=220,slow=29					
B22K	**Teshekpuk Lake**	86.27	7	P	**P**	**02 21 04.4 +0.9**
	baz=199					
D25K	**Kavik River**	86.27	9	P	**P**	**02 21 03.9 +0.2**
	baz=206					
C24K	**Franklin Bluff**	86.28	8	P	**P**	**02 21 04.3 +0.7**
	baz=204					
G31M	**Satah River**	86.62	14	P	**P**	**02 21 05.7 +0.3**
	baz=218,SNR=9.2					
A22K	**Sinclair Lake**	86.73	6	P	**P**	**02 21 05.9 +0.1**
	baz=198					
F30M	**Barrier River**	86.82	14	P	**P**	**02 21 06.5 +0.1**
	baz=216					
XLT	**XiLinHaoTe**	86.84	317	*e*P	**P**	**02 21 08.2 +1.1**
XLT				sP	pP	02 21 15.8 -0.3
XLT				pmax	pmax	
	comp=Z,61nm,4.3s					
E28M	**Babbage River**	86.85	12	IAmb	IAmb	02 21 11.0
	comp=Z,12nm,1.6s					
E28M	**Babbage River**	86.85	12	P	**P**	**02 21 06.4 -0.1**
	baz=213					
A21K	**Barrow**	86.88	5	P	**P**	**02 21 07.0 +0.5**
	baz=196					
C27K	**Jago River**	86.97	10	P	**P**	**02 21 07.5 +0.5**
	baz=209					
HKT	**Hockley**	86.98	58		**P**	**02 21 08.0 +0.1**
E29M	**Blow River**	87.00	12	IAmb	IAmb	02 21 18.9
	comp=Z,17nm,1.8s					
E29M	**Blow River**	87.00	12	P	**P**	**02 21 07.1 -0.1**
	baz=214					
WRGLY	**Wrigley**	87.01	20	P	**P**	**02 21 07.6 +0.2**
	baz=228					
C26K	**Camden Bay**	87.03	9	P	**P**	**02 21 08.3 +1.0**
	baz=208					
D27M	**Malcolm River**	87.12	11	P	**P**	**02 21 08.6 +0.8**
	baz=211					
F31M	**Tsiigehtchic**	87.16	14	P	**P**	**02 21 08.0 +0.1**
	baz=218					
D28M	**Stokes Point**	87.62	12	P	**P**	**02 21 10.1 0.0**
	baz=213					
INK	**Inuvik**	87.89	14	P	**P**	**02 21 11.9 +0.4**
	baz=218					

MAW	**Mawson**	88.16	199	P	**P**	**02 21 12.4 -0.5**
	comp=Z,3.4nm,0.9s,baz=64,slow=3.5,SNR=4.3					
	comp=Z,3.4nm,0.9s					
XAN	**Xi'an**	88.41	306	⇓P	**P**	**02 21 16.8 +2.0**
XAN				pmax	pmax	
	comp=Z,9.0nm,1.0s					
PSI	**Prapat**	88.47	273	LR	LR	03 02 43.0
	comp=Z,84nm,18.3s,baz=120,slow=37					
YAK	**Yakutsk**	88.76	337	LR	LR	02 54 02.2
	comp=Z,126nm,22.0s,baz=112,slow=31					
HHC	**Hu-ho-hao-te**	88.77	313	*e*P	**P**	**02 21 17.3 +0.9**
HHC				S	**S**	**02 32 01.9 +0.1**
HHC				sS	pS	02 32 10.6 -2.2
HHC				SS	**SS**	**02 37 55.7 +1.3**
HHC				pmax	pmax	
	comp=Z,8.0nm,0.6s					
HHC				pmax	pmax	
	comp=Z,40nm,4.5s					
HHC				LR	LR	
	comp=Z,140nm,18.6s					
HHC				LR	LR	
	comp=Z,150nm,18.4s					
HHC				LR	LR	
	comp=Z,230nm,19.8s					
YKA	**Yellowknife Ar**	89.75	23	P	**P**	**02 21 19.1 -1.2**
	comp=Z,2.0nm,0.9s,baz=246,slow=4.4,SNR=10					
YKA				LR	LR	02 56 30.9
	comp=Z,278nm,19.1s,baz=214,slow=32					
	comp=Z,2.0nm,0.9s					
PLCA	**Paso Flores**	89.77	132	LR	LR	02 52 46.2
	comp=Z,352nm,21.5s,baz=254,slow=30					
YKAW3	**Yellowknife Wh**	89.78	23	IAmb	IAmb	02 21 32.5
	comp=Z,7.2nm,1.1s					
YKAW1	**Yellowknife Wh**	89.79	23	IAmb	IAmb	02 21 25.0
	comp=Z,11nm,1.3s					
JTS	**Las Juntas de**	91.14	80	LR	LR	02 54 42.4
	comp=Z,164nm,18.1s,baz=283,slow=30					
CD2	**Chengdu**	91.61	301	*e*P	**P**	**02 21 30.0 +0.2**
FCAR	**Ozark Folk Cen**	91.79	53	P	**P**	**02 21 30.4 -0.1**
PZH	**PanZhiHua**	92.10	297	P	**P**	**02 21 32.7 +0.4**
PZH				pmax	pmax	
	comp=Z,10.0nm,0.7s					
PZH				pmax	pmax	
	comp=Z,100nm,5.1s					
CMAR	**Chiang Mai Arr**	92.49	288	LR	LR	02 57 15.1
	comp=Z,201nm,21.3s,baz=110,slow=32					
A36M	**Sachs Harbour**	92.53	13	P	**P**	**02 21 34.1 +1.1**
	baz=226					
P40A	**Paris**	92.91	50	IAmb	IAmb	02 21 45.7
	comp=Z,6.6nm,1.0s					
ATAH	**Atahualpa**	92.97	98	LR	LR	02 55 49.3
	comp=Z,406nm,18.3s,baz=243,slow=30					
SYO	**Syowa Base**	92.97	191	⇑*e*PcP	**PcP**	**02 21 37.5 +1.5**
SYO	**Syowa Base**	92.97	191	⇑*e*pP	pP	02 21 40.4 -3.8
CCM	**Cathedral Cave**	93.09	52	P	**P**	**02 21 36.0 -0.4**
CCM				IAmb	IAmb	02 21 54.2
	comp=Z,6.8nm,1.1s					
NNA	**Nana**	93.14	103	LR	LR	02 53 35.1
	comp=Z,120nm,21.0s,baz=255,slow=29					
SNAA	**Sanae**	93.29	177	P	**P**	**02 21 37.7 +0.9**
	comp=Z,1.6nm,1.1s,baz=5.4,slow=15,SNR=3.3					
SNAA				LR	LR	02 59 42.9
	comp=Z,292nm,20.5s,baz=214,slow=33					
	comp=Z,1.6nm,1.1s					
ULM	**Lac du Bonnet**	93.63	39	P	**P**	**02 21 37.9 -0.8**
	comp=Z,1.2nm,0.7s,baz=254,slow=7.1,SNR=3.9					
ULM				LR	LR	03 00 42.8
	comp=Z,407nm,18.1s,baz=242,slow=34					
	comp=Z,1.2nm,0.7s					
SONM	**Songino Array**	94.56	318	LR	LR	02 58 52.5
	comp=Z,173nm,21.6s,baz=104,slow=32					
TIXI	**Tiksi**	94.63	344	LR	LR	03 01 03.6
	comp=Z,135nm,20.0s,baz=160,slow=34					
PLAL	**Pickwick Lake**	94.72	55	IAmb	IAmb	02 22 02.8
	comp=Z,12nm,1.3s					
TKL	**Tuckaleechee C**	98.30	55	LR	LR	03 00 22.1
	comp=Z,159nm,20.0s,baz=269,slow=32					
BRDH	**Bariadhala**	100.13	291	LR	LR	03 03 39.5
	comp=Z,318nm,21.0s,baz=130,slow=33					
WMQ	**Urumqi**	106.61	312	Pdif	**Pdif**	**02 22 38.2 +1.1**
WMQ				LR	LR	
	comp=Z,140nm,18.3s					
KURBB	**Kurchatov Arra**	112.92	319	PKiKP	**PKiKP**	**02 26 59.4 +0.1**
	comp=Z,0.5nm,0.8s,baz=87,slow=2.1,SNR=4.2					
BVAR	**Borovoye Array**	117.58	322	PKP	**PKiKP**	**02 27 08.8 +0.6**
	comp=Z,1.4nm,0.8s,baz=191,slow=3.0,SNR=5.0					
ARCES	**ARCESS Array B**	124.23	352	PKP	**PKiKP**	**02 27 21.0 +0.2**
	comp=Z,4.2nm,0.8s,baz=318,slow=1.6,SNR=7.4					
AKASG	**Malin Array Be**	139.99	338	PKP	**PKiKP**	**02 27 51.3 -1.8**
	comp=Z,3.2nm,0.9s,baz=33,slow=2.5,SNR=7.0					
CLL	**Collm**	143.43	353		**PKPdf**	**02 27 57.2 +0.5**
CLL	**Collm**	143.43	353	*i* PKPdf	**PKiKP**	**02 27 57.9 -2.2**
	comp=Z,9.0nm,1.2s					
CLL				AMS	AMS	03 34 00.0
	comp=Z,100nm,21.6s					
CHVC	**Chvalec**	143.70	350	AMS	AMS	03 30 20.0
	comp=Z,300nm,21.7s					
OSTC	**Ostas**	143.70	350	AMS	AMS	03 30 30.0
	comp=Z,300nm,29.5s					
BRG	**Berggiesshubel**	143.74	352	*e*PKP	**PKiKP**	**02 28 00.0 -0.8**
BRG				Amp		02 28 09.5
	comp=Z,3.2nm,0.9s					
UPC	**Upice**	143.79	350	AMS	AMS	03 30 40.0
	comp=Z,300nm,21.6s					
DPC	**Dobruska-Polom**	143.88	349	*e*PKP	**PKPdf**	**02 27 56.1 -1.6**
DPC				AMS	AMS	03 30 30.0
	comp=Z,200nm,19.6s					
STEB	**Steborice**	144.00	348	*e*PKP	**PKPdf**	**02 27 56.4 -1.5**
BURAR	**Bucovina Array**	144.01	338	PKPdf	**PKPdf**	**02 27 58.1 0.0**
KRLC	**Kraliky**	144.06	349	AMS	AMS	03 27 50.0
	comp=Z,200nm,23.5s					
MORC	**Moravsky Berou**	144.20	348	*e*PKP	**PKPdf**	**02 27 56.8 -1.5**
LANS	**Liptovska Anna**	144.36	345	*e*P	**PKPdf**	**02 27 57.7 -0.9**
PRA	**Prague**	144.46	351	AMS	AMS	03 30 00.0
	comp=Z,300nm,22.7s					
MEM	**Membach**	144.50	1	*d*PKPdf	**PKPdf**	**02 27 59.1 +0.5**
BSTI	**Sart Tilman**	144.51	1	*d*PKP	**PKiKP**	**02 28 01.2 -1.2**
PRU	**Pruhonice**	144.52	351	AMS	AMS	03 30 10.0
GOPC	**GO Pecny, Ondr**	144.56	351	AMS	AMS	03 30 50.0
	comp=Z,200nm,23.4s					
ONER	**Baraj Valea Uz**	144.65	336	⇓P	**PKiKP**	**02 28 01.5 -1.3**
BCLA	**Clavier**	144.67	1	*d*PKPdf	**PKPdf**	**02 27 59.5 +0.5**
BGES	**Gesves**	144.70	2	*d*PKP	**PKiKP**	**02 28 01.5 -1.2**
BHOU	**Houvegnez**	144.75	1	*d*PKPdf	PKPbc	02 27 57.3 -0.8
ARCR	**ARCALIA**	144.77	339	⇓P	**PKiKP**	**02 28 02.0 -1.1**
BMRD	**Maredsous**	144.77	2	*d*PKP	**PKiKP**	**02 28 01.6 -1.3**
VRAC	**Vranov**	144.83	349	*e*PKP	**PKPdf**	**02 27 58.3 -1.0**
VRI	**Vrincioaia**	144.90	335	⇑P	**PKPdf**	**02 27 58.8 -0.8**
PLOR	**Plostina**	144.94	335	⇑P	**PKPdf**	**02 27 58.6 -1.1**
DOU	**Dourbes**	144.97	2	*d*PKP	**PKiKP**	**02 28 02.0 -1.4**
TPGR	**Topolog**	144.98	333	⇓P	**PKPdf**	**02 27 60.0 +0.2**
BNN	**Bunyan**	145.00	318	PKPdf	**PKPdf**	**02 27 59.5 -0.6**
GAZ	**Gaziantep**	145.00	315	PKPdf	**PKPdf**	**02 27 59.4 -0.7**
TURR	**Turia**	145.02	336	⇑P	**PKiKP**	**02 28 03.2 -0.5**
JAVC	**Velka Javorina**	145.04	347	*e*PKP	**PKPdf**	**02 28 00.0 +0.2**
TREC	**Trest**	145.05	350	AMS	AMS	03 31 30.0
	comp=Z,200nm,17.2s					
OZUR		145.08	336	⇓P	**PKPdf**	**02 27 59.4 -0.5**
KRUC	**Moravsky**	145.11	349	*e*PKP	**PKPdf**	**02 27 59.2 -0.6**
ZVC	**Zvikov**	145.11	351	*e*PKP	**PKiKP**	**02 28 01.7 -2.0**
ZVC				AMS	AMS	03 28 50.0
	comp=Z,200nm,20.8s					
VYHS	**Vyhne**	145.12	346	*e*P	**PKPdf**	**02 27 59.9 0.0**
BOSR	**Bodos**	145.15	337	⇑P	**PKiKP**	**02 28 03.7 -0.2**
HARR	**Harsova**	145.33	333	⇑P	**PKPdf**	**02 27 59.8 -0.5**
DOPR	**Dopca**	145.34	337	⇑P	**PKiKP**	**02 28 00.1 -0.2**
CJR	**Cluj-Napoca**	145.35	339	⇑P	**PKiKP**	**02 28 02.3 -2.0**
PSZ	**Piszkesteto**	145.39	344	⇑P	**PKiKP**	**02 28 03.5 -0.9**
TLBR	**Topalu**	145.39	333	⇓P	**PKPab**	**02 28 01.3 +0.8**
NEHR	**Nehoiu**	145.43	335	⇓P	**PKiKP**	**02 28 04.3 -0.1**
WLF	**Walferdange**	145.44	1	*d*PKP	**PKPab**	**02 28 01.2 +0.7**
KHC	**Kasperske Hory**	145.50	352	*e*PKP	**PKiKP**	**02 28 02.7 -1.8**
KHC				*ex*	x	02 28 09.2
KHC				AMS	AMS	03 27 40.0
	comp=Z,200nm,22.8s					
MLR	**Muntele Rosu**	145.52	336	⇓P	**PKPab**	**02 28 01.6 +0.5**
MARR	**Marisel-Cluj**	145.55	340	⇑P	**PKPab**	**02 28 01.0 -0.1**
DRGR		145.58	340	⇓P	**PKPab**	**02 28 01.3 +0.1**
ISR	**Istrita**	145.58	335	⇓P	**PKPab**	**02 28 00.3 -1.0**
MODS	**Modra-Piesok**	145.59	347	*e*P	**PKPab**	**02 28 00.8 -0.3**
CKRC	**Cesky Krumlov**	145.70	351	*e*PKP	**PKiKP**	**02 28 03.1 -1.8**
CKRC				AMS	AMS	03 32 00.0
	comp=Z,200nm,21.2s					
GERES	**GERESS Array B**	145.76	352	PKPbc	**PKPab**	**02 28 01.9 +0.1**
	comp=Z,3.5nm,0.9s,baz=35,slow=4.9,SNR=21					

BR131	**Keskin Array S**	145.86	321	PKPdf	**PKPab**	**02 28 01.5 -1.1**
BRTR	**Keskin Array B**	145.86	321	PKPbc	**PKPab**	**02 28 02.3 -0.3**
	comp=Z,4.3nm,0.8s,baz=132,slow=1.8,SNR=20					
SRO	**Srobarova**	145.88	346	*e*P	**PKiKP**	**02 28 03.6 -1.7**
VOIR		145.91	337	⇓P	**PKPab**	**02 28 03.0 +0.5**
TNR	**Turnu Rosu**	146.02	338	⇓P	**PKPab**	**02 28 02.7 -0.2**
KIRS	**Kirsehir-Merke**	146.05	320	⇓P	**PKiKP**	**02 28 04.2 -1.9**
ARR	**Arges**	146.13	337	⇑P	**PKiKP**	**02 28 04.2 -1.8**
ANTO	**Ankara**	146.27	322	⇓P	**PKiKP**	**02 28 04.8 -1.6**
CONA	**Conrad Observa**	146.30	349	*i* PKP	**PKPab**	**02 28 02.8 -1.1**
	comp=Z,2.8nm,0.7s,SNR=20					
DEV	**Deva**	146.31	339	⇓P	**PKPbc**	**02 28 02.1 -1.0**
SIRR	**Siria**	146.38	341	⇑P	**PKiKP**	**02 28 04.9 -1.5**
RONA	**Rosalia, Austr**	146.43	348	*e*PKP	**PKiKP**	**02 28 04.7 -1.8**
	comp=Z,40nm,2.4s,SNR=25					
MOA	**Molln**	146.65	351	*e*PKP	**PKPab**	**02 28 05.1 -0.1**
	comp=Z,0.3nm,0.5s,SNR=14					
SURR	**Surduc**	146.69	340	⇑P	**PKPab**	**02 28 04.5 -0.8**
GZR	**Gura Zlata**	146.78	339	⇓P	**PKPbc**	**02 28 03.7 -0.9**
BIOA	**Bad Ischl, Aus**	146.90	351	PKP	**PKPab**	**02 28 05.6 -0.5**
	comp=Z,17nm,1.5s					
BZS	**Buzias**	146.97	341	⇑P	**PKPab**	**02 28 05.1 -1.4**
ARSA	**Arzberg**	147.01	349	pPKP	**PKiKP**	**02 28 06.3 -1.4**
	comp=Z,39nm,1.3s					
LESA	**Schwarzleotal**	147.29	352	pPKP	**PKPab**	**02 28 06.2 -1.5**
	comp=Z,9.2nm,1.8s					
MORH	**Mrgy, Hungar**	147.29	344	⇓P	**PKPbc**	**02 28 05.2 -0.7**
HERR	**Herculane**	147.35	339	⇑P	**PKPbc**	**02 28 05.2 -0.9**
RETA	**Reutte**	147.44	355	pPKP	**PKPab**	**02 28 06.9 -1.5**
	comp=Z,0.1nm,0.3s					
WATA	**Walderalm**	147.51	354	pPKP	**PKPab**	**02 28 06.9 -1.8**
	comp=Z,2.0nm,0.6s					
KBA	**Koelnbreinsper**	147.54	351	*e*PKiKP	**PKiKP**	**02 28 08.5 -0.5**
	comp=Z,0.3nm,0.0s					
MOTA	**Moosalm**	147.55	354	PKP	**PKiKP**	**02 28 08.3 -0.7**
	comp=Z,7.9nm,0.9s					
WTTA	**Wattenberg**	147.57	354	PKP	**PKPab**	**02 28 07.8 -1.2**
	comp=Z,7.3nm,0.8s					
SOKA	**Soboth**	147.65	349	pPKP	**PKiKP**	**02 28 07.7 -1.4**
	comp=Z,14nm,1.4s,SNR=7.5					
SQTA	**Sankt Quirin**	147.66	354	*e*PKP	**PKPab**	**02 28 08.5 -0.8**
	comp=Z,2.3nm,0.7s					
MDVR	**Moldovita**	147.68	340	⇑P	**PKiKP**	**02 28 07.9 -1.3**
DAVA	**Damuels**	147.71	356	*e*PKP	**PKPab**	**02 28 08.6 -0.9**
	comp=Z,9.1nm,1.0s					
FETA	**Feichten**	147.90	355	*e*PKP	**PKiKP**	**02 28 09.0 -0.7**
	comp=Z,3.7nm,0.9s					
OBKA	**Obir**	147.90	350	PKP	**PKPbc**	**02 28 07.3 -0.4**
	comp=Z,0.9nm,0.6s					
MYKA	**Terra Mystica**	147.93	351	pPKP	**PKiKP**	**02 28 07.9 -1.7**
	comp=Z,12nm,1.2s					
ABTA	**Abfaltersbach**	147.98	352	PKP	**PKPbc**	**02 28 07.0 -0.9**
	comp=Z,9.6nm,1.0s,SNR=6.4					
PRED	**Cave del Predi**	148.13	351		**PKPbc**	**02 28 08.2 -0.1**
MMAI	**Mount Meron Ar**	148.32	310	PKPbc	**PKPbc**	**02 28 08.7 -0.5**
	comp=Z,4.8nm,0.8s,baz=33,slow=3.2,SNR=6.1					
FUORN	**Ofenpass-Fuorn**	148.34	355		**PKPbc**	**02 28 07.0 -2.0**
CIMO	**Cimolais**	148.42	352		**PKPdf**	**02 28 06.0 +0.5**
BAND	**Balkesir-Ban**	148.55	328	⇑P	**PKPab**	**02 28 13.5 +0.5**
TUE	**Stuetta**	148.55	356		**PKPbc**	**02 28 06.9 -2.7**
BOVS	**Bovan**	148.69	339	⇓P	**PKiKP**	**02 28 09.9 -1.3**
SENIN	**Lac Senin/Sane**	148.74	359		**PKPbc**	**02 28 09.2 -0.9**
EZN	**Ezine**	149.85	329	⇓P	**PKiKP**	**02 28 14.1 +0.5**
PCAB	**Cabril**	150.54	23	*i* IAmb	IAmb	02 28 22.4
	comp=Z,74nm,1.9s					
PCAB	**Cabril**	150.54	23	*e*P	**PKiKP**	**02 28 15.7 +0.6**
PDG	**Podgorica**	150.58	341	⇑P	**PKiKP**	**02 28 14.0 -1.1**
PBRG	**Braganca**	150.92	21	*i* IAmb	IAmb	02 28 22.1
	comp=Z,44nm,1.8s					
PBRG	**Braganca**	150.92	21	*e*P	**PKPab**	**02 28 18.6 -3.9**
POLO	**Lamas de Olo**	150.92	23	*i* IAmb	IAmb	02 28 21.8
	comp=Z,27nm,1.9s					
POLO	**Lamas de Olo**	150.92	23	*e*P	**PKiKP**	**02 28 16.6 +0.6**
BDRM	**Kayabasi**	151.26	324	⇓P	**PKPbc**	**02 28 14.7 -1.6**
MVO	**Moncorvo**	151.38	22	*i* IAmb	IAmb	02 28 22.7
	comp=Z,49nm,2.0s					
MVO	**Moncorvo**	151.38	22	*e*P	**PKiKP**	**02 28 18.0 +1.1**
PVIS	**Viseu**	151.45	23	*e*P	**PKPab**	**02 28 25.3 +0.4**
PCAS	**Casmilo, Conde**	151.78	25	*i* IAmb	IAmb	02 28 28.4
	comp=Z,33nm,2.2s					
PCAS	**Casmilo, Conde**	151.78	25	*e*P	**PKPab**	**02 28 25.8 -0.4**
PSARD	**Sardoal**	152.30	25	*i* IAmb	IAmb	02 28 40.2
	comp=Z,40nm,1.6s					
PSARD	**Sardoal**	152.30	25	*e*P	**PKiKP**	**02 28 22.2 +3.4**
ESDC	**Sonseca Array**	153.75	19		**PKPdf**	**02 28 13.5 -0.5**
ESDC	**Sonseca Array**	153.75	19	PKP	**PKPdf**	**02 28 15.1 +1.1**
	comp=Z,0.5nm,0.8s,baz=340,slow=3.0,SNR=3.3					
ESDC				PKPbc	**pPKPdf**	**02 28 22.5 -0.5**
	comp=Z,1.0nm,1.0s,baz=331,slow=1.9,SNR=6.3					
PBAR	**Bar

VIS	Vishakhapatnam	9.02	267	*e*S		Sn	02 15 39.7	-2.5
JHSG	JHARSUGUDA	9.09	293	*e*S		Sn	02 15 41.3	-2.6
ZIRO	ZIRO	9.10	6	*e*P		Pn	02 14 02.6	+0.8
ZIRO				*e*S		Sn	02 15 37.9	-6.5
ZIRO				IAML			02 15 48.3	
	comp=E,278nm,0.6s							
ZIRO				IAML			02 15 49.5	
	comp=E,315nm,0.6s							
GTK	Tadong	9.64	337	*e*S		Sn	02 15 54.3	-3.4
GTK				IAML			02 15 54.9	
	comp=E,249nm,0.3s							
GTK				IAML			02 15 59.0	
	comp=E,257nm,0.3s							
UBPT	Khong Chiam	12.54	103	Pn		Pn	02 14 45.9	-2.9
XAN	Xi'an	21.19	40	⇑P		P	02 16 35.3	-0.7
XAN				pmax	pmax			
	comp=Z,32nm,0.9s							
MKAR	Makanchi Array	29.57	345	P		P	02 17 55.9	+0.7
	comp=Z,3.1nm,0.4s,baz=159,slow=9.2,SNR=1.4							
	comp=Z,3.1nm,0.4s							
H08S3	Diego Garcia H	32.74	219	T		T	02 53 50.6	
	baz=38							
H08S2	Diego Garcia H	32.75	219	T		T	02 54 16.4	
	baz=38							
H08S1	Diego Garcia H	32.76	219	T		T	02 53 55.8	
	baz=38							
HEH	HeiHe	42.06	33	*e*P		P	02 19 42.6	+0.6
HEH				pmax	pmax			
	comp=Z,6.0nm,0.6s							
WB0	Warramunga Arr	55.75	131	P		P	02 21 28.0	+0.5
WB0				IAmb	IAmb		02 22 09.5	
	comp=Z,15nm,1.5s							
WRA	Warramunga Arr	55.83	131	P		P	02 21 28.7	+0.6
	comp=Z,1.0nm,0.7s,baz=313,slow=7.4,SNR=10.0							
	comp=Z,1.0nm,0.7s							
WR8	Warramunga Arr	55.95	131	P		P	02 21 29.8	+0.8
ASAR	Alice Springs	57.98	135	P		P	02 21 44.4	+1.0
	comp=Z,0.9nm,0.5s,baz=313,slow=6.8,SNR=10							
	comp=Z,0.9nm,0.5s							
FIA1	FINESS Array S	62.86	330	P		P	02 22 16.4	+0.3
FINES	FINESS Array B	62.87	330	P		P	02 22 16.4	+0.3
FINES	FINESS Array B	62.87	330	P		P	02 22 16.0	-0.1
	comp=Z,2.5nm,0.8s,baz=119,slow=6.7,SNR=7.2							
	comp=Z,2.5nm,0.8s							
ARCES	ARCESS Array B	64.96	339	P		P	02 22 30.4	+0.6
	comp=Z,2.1nm,0.8s,baz=96,slow=8.3,SNR=1.9							
	comp=Z,2.1nm,0.8s							
HFS	Hagfors	68.77	328	P		P	02 22 54.5	+0.3
	comp=Z,4.5nm,0.9s,baz=100,slow=6.6,SNR=5.7							
	comp=Z,4.5nm,0.9s							
GERES	GERESS Array B	69.22	316	P		P	02 22 58.1	+0.7
	comp=Z,1.4nm,0.8s,baz=79,slow=6.9,SNR=6.2							
	comp=Z,1.4nm,0.8s							
NOA	NORSAR Array B	69.98	329	P		P	02 23 01.4	-0.3
	comp=Z,0.7nm,0.9s,baz=103,slow=4.0,SNR=1.5							
	comp=Z,0.7nm,0.9s							
H04N2	CROZET ISLANDS	74.21	208	T		T	03 45 38.1	
	baz=40,slow=75,SNR=8.2							
H04N1	CROZET ISLANDS	74.22	208	T		T	03 45 42.1	
	baz=40,slow=75,SNR=3.4							
H04N3	CROZET ISLANDS	74.23	208	T		T	03 45 43.4	
	baz=40,slow=75,SNR=9.5							
EKA	Eskdalemuir Ar	78.36	325	P		P	02 23 51.2	+0.5
	comp=Z,1.0nm,0.6s,baz=83,slow=6.8,SNR=3.8							
	comp=Z,1.0nm,0.6s							
C18K	Utukok River	78.66	21	P		P	02 23 52.8	+0.5
E19K	Redstone River	80.50	22	P		P	02 24 02.8	+0.6
E19K				IAmb	IAmb		02 25 00.0	
	comp=Z,23nm,1.9s							
J16K	Anvik River	80.92	26	P		P	02 24 05.6	+1.1
J16K				IAmb	IAmb		02 24 06.3	
	comp=Z,5.4nm,0.8s							
G21K	Allakaket	82.24	22	P		P	02 24 11.5	0.0
G21K				IAmb	IAmb		02 24 29.6	
	comp=Z,14nm,1.8s							
TOLK	Toolik Lake Re	82.46	19	IAmb	IAmb		02 24 14.3	
	comp=Z,8.1nm,0.9s							
H21K	Melozitna Rive	82.91	22	IAmb	IAmb		02 24 16.9	
	comp=Z,6.1nm,0.8s							
ESDC	Sonseca Array	83.46	310	P		P	02 24 18.8	+0.4
	comp=Z,0.4nm,0.6s,baz=59,slow=4.8,SNR=4.0							
	comp=Z,0.4nm,0.6s							
MLY	Manley	83.97	22			P	02 24 21.4	+0.9
CAST	Castle Rocks	84.30	24	IAmb	IAmb		02 24 23.9	
	comp=Z,7.6nm,0.7s							
BPAW	Bear Paw Mtn.	84.37	23	IAmb	IAmb		02 24 24.4	
	comp=Z,4.0nm,0.7s							
BMAR	Burnt Mountain	84.70	19	P		P	02 24 25.6	+1.4
ILAR	Eielson Array	85.49	22	P		P	02 24 27.4	-0.7
	comp=Z,1.0nm,0.7s,baz=300,slow=5.0,SNR=6.9							
	comp=Z,1.0nm,0.7s							
TXAR	Lajitas Array	129.92	19	PKP		PKPdf	02 31 01.1	+0.3
	comp=Z,0.2nm,0.6s,baz=346,slow=3.3,SNR=2.1							

SOME ***05*** *02:12:11.3, 42.°08N×78.°73E, h15km, MS4.0*
IDC ***05*** *02:12:11.8±0.6, 42.°12N×78.°85E, h0km, mb4.1/23, mbtmp4.2/28, ML3.6/5, MS3.6/28, Error ellipse: s-maj=11.7km s-min=10.6km az=95.0*
KRNET ***05*** *02:12:11.2±0.1, 42.°13N×78.°80E, h16km, mb5.0*
MOS ***05*** *02:12:12.5±1.3, 42.°18N×78.°90E, h10km, mb4.8/26, Error ellipse: s-maj=4.5km s-min=3.4km az=39.9*
BJI ***05*** *02:12:12.4, 42.°15N×78.°86E, h8km, mB4.5/3, mb4.5/21, ML4.4/10, Ms4.1/16, Ms7 3.9/16*
NNC ***05*** *02:12:13.5±0.7, 42.°26N×78.°82E, h0km, mb5.1, mpv5.0, Error ellipse: s-maj=5.2km s-min=2.0km az=158.0*
NEIC ***05*** *02:12:15.4±1.9, 42.°17N±0.°07×78.°62E±0.°05, h10km±1km, mb4.6/56, Error ellipse: s-maj=11.9km s-min=6.6km az=174.0*

ISC 05 02:12:13.6±0.5, 42.°12N±0.°02×78.°78E±0.°02, h9km±3km, h9km:pP-P, n443, σ1.8°76/516, mb4.6/95, MS3.6/35, 56C-51D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	0.46	322			Pg	02 12 20.8	-1.9
PRZ				Sg		Sg	02 12 27.4	-1.2
PRZ	Przheval'sk	0.46	322	⇑*i*P		Pg	02 12 20.7	-1.9
PRZ				⇑*i*S		Sg	02 12 27.5	-1.2
PRZ	Przheval'sk	0.46	322	PG		Pg	02 12 20.8	-1.9
PRZ							02 12 27.4	
TARG	Taragay, Kyrgy	0.83	242			Pg	02 12 26.8	-2.8
TARG				Sg		Sg	02 12 38.7	-1.7
SHLS	Shalkode	1.15	26	P		Pb	02 12 35.8	0.0
	323nm,0.4s							
SHLS				S		Sn	02 12 53.3	+1.3
	1μm,0.4s							
SHLS	Shalkode	1.15	26	*e*P		Pb	02 12 35.8	0.0
SHLS				*e*S		Sn	02 12 53.3	+1.3
SHLS	Shalkode	1.15	26	*e*PG		Pb	02 12 35.6	-0.2
SHLS	Shalkode	1.15	26	*e*P		Pb	02 12 35.8	0.0
	222nm,0.1s							
SHLS				*e*S		Sn	02 12 53.3	+1.3
	974nm,0.2s							
KDJ	Kajisay	1.19	271			Pb	02 12 34.1	-2.4
KDJ				Sg		Sb	02 12 50.5	-1.5
KDJ	Kajisay	1.19	271	⇓*i*P		Pb	02 12 33.7	-2.8
KDJ				⇓*i*S		Sb	02 12 50.3	-1.7
KDJ	Kajisay	1.19	271	*i* PG		Pb	02 12 33.7	-2.8
KDJ				*i* S		Sb	02 12 50.3	-1.7
PDGK	Podgornoye	1.31	23	⇓P		Pn	02 12 35.4	-3.0
	292nm,0.6s							
PDGK				⇓S		Sb	02 12 52.3	-3.3
	2μm,0.7s							
PDGK	Podgornoye	1.31	23	PG		Pn	02 12 35.3	-3.0
PDGK				S		Sb	02 12 52.5	-3.1
TNSS	Tian-Shan	1.63	305	P		Pn	02 12 42.1	-0.8
	87nm,0.3s							
TNSS				S		Sn	02 13 03.7	-0.6
	307nm,0.6s							
TNSS	Tian-Shan	1.63	305	*e*P		Pn	02 12 42.1	-0.8
TNSS				*e*S		Sn	02 13 03.7	-0.6
TNSS	Tian-Shan	1.63	305	*e*P		Pn	02 12 42.1	-0.8
	87nm,0.3s							
TNSS				*e*S		Sn	02 13 03.7	-0.6
	393nm,0.4s							
KOTS	Kotyrbulak	1.66	313	P		Pn	02 12 42.6	-0.4
	386nm,0.2s							
KOTS				S		Sn	02 13 04.7	+0.2
	2μm,0.6s							
KOTS	Kotyrbulak	1.66	313	*e*P		Pn	02 12 42.6	-0.4
KOTS				*e*S		Sn	02 13 04.7	+0.2
KOTS	Kotyrbulak	1.66	313	*e*P		Pn	02 12 42.6	-0.4
	182nm,0.2s							
KOTS				*e*S		Sn	02 13 04.7	+0.2
	5μm,0.3s							
KNDC	Almaty	1.73	310	⇓P		Pn	02 12 44.0	0.0
	1μm,0.8s							
KNDC				⇑S		Sn	02 13 07.2	+1.1
	8μm,0.8s							
KNDC	Almaty	1.73	310	PN		Pn	02 12 43.9	0.0
KNDC							02 13 07.2	
AAA	Alma-Ata	1.75	309	P		Pn	02 12 44.6	+0.4
	617nm,0.3s							
AAA				S		Sn	02 13 08.0	+1.3
	78nm,0.5s							
AAA	Alma-Ata	1.75	309	*e*PN		Pn	02 12 44.7	+0.4
AAA	Alma-Ata	1.75	309	*e*P		Pn	02 12 44.6	+0.4
	610nm,0.2s							
AAA				*e*S		Sn	02 13 08.0	+1.3
	235nm,0.2s							
AAA	Alma-Ata	1.75	309	*e*P		Pn	02 12 44.8	+0.5
ULHL	Ulahol	1.89	275	P		Pn	02 12 46.8	+0.5
	SNR=1264							
ULHL	Ulahol	1.89	275	⇑*i*P		Pn	02 12 46.5	+0.2
ULHL				⇑*i*S		Sb	02 12 13.3	+0.1
ULHL	Ulahol	1.89	275	*i* PN		Pn	02 12 46.5	+0.2
ULHL				*i* S		Sb	02 12 13.3	+0.1
KASK	Kaskelen	1.92	305	⇑P		Pn	02 12 47.2	+0.7
	469nm,0.5s							
KASK				⇓S		Sn	02 13 12.4	+1.6
	2μm,0.5s							
BLB	Baldybastay	1.99	354	Pg		Pn	02 12 48.0	+0.4
	4μm,0.2s							
BLB				Lg		Lg	02 13 13.8	
	1μm,0.4s							
MTBS	Maitube	2.01	301	Pg		Pn	02 12 48.6	+0.9
	305nm,0.3s							
MTBS				Lg		Lg	02 13 15.0	
	3μm,0.4s							
MTBS	Maitube	2.01	301	*e*P		Pn	02 12 48.6	+0.9
MTBS				*e*S		Sb	02 13 15.0	-0.4
MTBS	Maitube	2.01	301	*e*P		Pn	02 12 48.6	+0.9
	305nm,0.3s							
MTBS				*e*S		Sb	02 13 15.0	-0.4
	3μm,0.4s							
BOOM	Boomskoye usch	2.14	281			Pn	02 12 50.8	+1.2
BOOM	Boomskoye usch	2.14	281	⇓*i*P		Pn	02 12 50.3	+0.6
BOOM				⇓*i*S		Sb	02 13 18.8	-0.5
BOOM	Boomskoye usch	2.14	281	PN		Pn	02 12 50.8	+1.2
CHKK	Chushkaly	2.17	323	Pg		Pn	02 12 52.0	+2.0
	2μm,0.8s							
CHKK				Lg		Lg	02 13 21.5	
	5μm,0.6s							
CHKK	Chushkaly	2.17	323	*e*PN		Pn	02 12 50.9	+0.9
CHKK	Chushkaly	2.17	323	*e*P		Pn	02 12 52.0	+2.0
	2μm,0.8s							
CHKK				*e*S		Sb	02 13 21.5	+1.3
	5μm,0.6s							
CHKK	Chushkaly	2.17	323	*e*P		Pn	02 12 51.0	+0.9
NRN	Naryn	2.19	253			Pn	02 12 51.9	+1.4
NRN	Naryn	2.19	253	⇓*i*P		Pn	02 12 51.4	+0.9
NRN				⇓*i*S		Sb	02 13 20.6	-0.4
NRN	Naryn	2.19	253	PN		Pn	02 12 51.9	+1.4
ARXS	Arharly	2.20	342	Pg		Pn	02 12 51.7	+1.2
	2μm,0.7s							
ARXS				Lg		Lg	02 13 20.1	
	2μm,0.6s							
ARXS	Arharly	2.20	342	*e*PN		Pn	02 12 51.7	+1.2
KTBS	Karatobe	2.21	317	Pg		Pn	02 12 52.4	+1.8
	2μm,0.6s							
KTBS				Lg		Lg	02 13 23.0	
	11μm,0.6s							
KNOS	Konyrlen	2.25	7	Pg		Pn	02 12 52.3	+1.0
	1μm,0.4s							
KNOS				Lg		Lg	02 13 21.4	
	1μm,0.3s							
KST	Kastek	2.27	295	Pg		Pn	02 12 53.2	+1.7
	396nm,0.6s							
KST				Lg		Lg	02 13 23.0	
	10μm,0.7s							
KST	Kastek	2.27	295	*e*P		Pn	02 12 53.2	+1.7
	396nm,0.6s							
KST				*e*S		Sb	02 13 22.9	-0.3
	10μm,0.7s							
TKM2	Tokmak 2	2.48	290	P		Pn	02 12 56.8	+2.4
	SNR=785							
TKM2	Tokmak 2	2.48	290	⇓Pn		Pn	02 12 56.6	+2.2
	577nm,1.0s							
TKM2				⇓Lg		Lg	02 13 33.7	
	2μm,0.5s							
TKM2	Tokmak 2	2.48	290	⇓*i*P		Pn	02 12 55.2	+0.7
TKM2				⇓*i*S		Sn	02 13 27.3	+2.3
TKM2	Tokmak 2	2.48	290	*i* PN		Pn	02 12 55.2	+0.7
TKM2				*i* S		Sn	02 13 27.3	+2.3
KUU	Kurty	2.52	315	Pg		Pb	02 12 57.4	-1.6
	1μm,0.9s							
KUU				Lg		Lg	02 13 29.8	
	4μm,0.7s							
KUU	Kurty	2.52	315	*e*PN		Pn	02 12 56.7	+2.0
KUU	Kurty	2.52	315	*e*P		Pb	02 12 57.4	-1.6
	1μm,0.9s							
KUU				*e*S		Sb	02 13 29.8	-0.3
	4μm,0.7s							
KUU	Kurty	2.52	315	*e*P		Pn	02 12 56.7	+2.0
KRBS	Karabastau	2.77	306	Pg		Pb	02 13 01.4	-2.0
	633nm,0.4s							
KRBS				Lg		Lg	02 13 36.9	
	4μm,0.6s							
KBK	Karagaybulak	2.89	282	P		Pn	02 13 02.6	+2.7
	SNR=269							
KBK	Karagaybulak	2.89	282	⇓*i*P		Pn	02 13 00.8	+0.8
KBK				⇓*i*S		Sn	02 13 36.8	+1.9
KBK	Karagaybulak	2.89	282	*i* PN		Pn	02 13 00.8	+0.8
KBK				*i* S		Sn	02 13 36.8	+1.9
TDK	Taldyqorghan	2.89	355	Pg		Pn	02 13 02.5	+2.6
	844nm,0.7s							
TDK				Lg		Lg	02 13 38.6	
	3μm,1.0s							
TDK	Taldyqorghan	2.89	355	*e*PN		Pn	02 13 00.8	+0.9
TDK	Taldyqorghan	2.89	355	*e*P		Pb	02 13 04.2	-1.2
	874nm,0.2s							
TDK				*e*S		Sb	02 13 41.4	+0.5
	3μm,1.0s							
TDK	Taldyqorghan	2.89	355	*e*P		Pn	02 13 00.8	+0.9
CHMS	Chumysh	3.10	288	P		Pn	02 13 05.1	+2.3
	SNR=18							
CHMS	Chumysh	3.10	288	⇑Pn		Pn	02 13 05.1	+2.3
	249nm,0.7s							
CHMS				⇑Lg		Lg	02 13 49.0	
	2μm,0.7s							
CHMS				Pg		Pg	02 14 19.2	+66
	106nm,0.2s							
CHMS				Lg		Lg	02 15 50.2	
	261nm,0.4s							
CHMS	Chumysh	3.10	288	⇓*i*P		Pn	02 13 03.6	+0.8
CHMS				⇓*i*S		Sn	02 13 41.8	+1.8
CHMS	Chumysh	3.10	288	*i* PN		Pn	02 13 03.6	+0.8
CHMS				*i* S		Sn	02 13 41.8	+1.8
FRU1	Bishkek	3.15	284	P		Pn	02 13 05.3	+1.9
FRU1	Bishkek	3.15	284	⇑*i*P		Pn	02 13 04.4	+1.0
FRU1				⇑*i*S		Sn	02 13 43.3	+2.2
FRU1	Bishkek	3.15	284	PN		Pn	02 13 05.3	+1.9
UCH	Uchtor	3.17	273	P		Pb	02 13 07.7	-2.7
	SNR=101							
UCH	Uchtor	3.17	273	⇑*i*P		Pn	02 13 04.9	+0.8
UCH				⇑*i*S		Sn	02 13 44.1	+1.8
UCH	Uchtor	3.17	273	*i* PN		Pn	02 13 04.9	+0.8
UCH				*i* S		Sn	02 13 44.1	+1.8
AAK	Ala-Archa	3.22	281	P		Pn	02 13 07.0	+2.5
	SNR=91							
AAK	Ala-Archa	3.22	281			Pn	02 13 06.5	+2.1
AAK	Ala-Archa	3.22	281	⇓Pn		Pn	02 13 07.4	+2.9
	267nm,0.8s							
AAK				⇑Lg		Lg	02 13 55.0	
	813nm,0.7s							
AAK	Ala-Archa	3.22	281	⇑*i*P		Pn	02 13 05.3	+0.8
AAK				⇑*i*S		Sn	02 13 44.7	+1.7
AAK	Ala-Archa	3.22	281	*ce*PN		Pn	02 13 06.9	+2.5
AAK				pmax	pmax			
	comp=Z,236nm,1.3s							
SGDS	Sogindy	3.33	295	Pg		Pb	02 13 11.2	-1.7
	comp=Z,194nm,0.6s							
SGDS				Lg		Lg	02 13 53.7	
	comp=Z,2μm,0.7s							
USP	Ospenovka	3.36	291	P		Pn	02 13 08.7	+2.5
	SNR=20							
USP	Ospenovka	3.36	291	⇓*i*P		Pn	02 13 07.0	+0.7
USP				⇓*i*S		Sn	02 13 47.8	+1.5
USP	Ospenovka	3.36	291	*i* PN		Pn	02 13 07.0	+0.7
USP				*i* S		Sn	02 13 47.8	+1.5
KSH	Kashi	3.36	220	Pn		Pb	02 13 15.6	+2.1
KSH				smax	smax			
	comp=Z,1μm,1.0s							
KSH				smax	smax			
	comp=Z,1μm,0.8s							
EKS2	Erkin-Say	3.74	280	P		Pb	02 13 17.0	-2.9
	SNR=25							
EKS2	Erkin-Say	3.74	280	⇓*e*P		Pn	02 13 12.5	+0.8
EKS2				⇓*i*S		Sn	02 13 56.7	+0.8
EKS2	Erkin-Say	3.74	280	*i* PN		Pn	02 13 12.5	+0.8
EKS2				*i* S		Sn	02 13 56.7	+0.8
AML	Almayashu	3.78	272	P		Pb	02 13 18.5	-2.3
	SNR=24							
AML	Almayashu	3.78	272	⇑*e*P		Pn	02 13 12.9	+0.4
AML				⇑*i*S		Sn	02 13 58.6	+1.3
AML	Almayashu	3.78	272	*i* PN		Pn	02 13 12.9	+0.4
AML				*i* S		Sn	02 13 58.6	+1.3
SALK	Salom-Alik	3.92	253	⇓*i*P		Pn	02 13 14.9	+0.7
SALK				⇓*i*S		Sn	02 14 01.5	+1.1
SALK	Salom-Alik	3.92	253	*i* PN		Pn	02 13 14.9	+0.7
SALK				*i* S		Sn	02 14 01.5	+1.1
MRKS	Merke	4.16	280	Pg		Pb	02 13 27.1	+0.1
	comp=Z,360nm,0.8s							
MRKS				Lg		Lg	02 14 21.5	
	comp=Z,498nm,0.6s							
MRKS	Merke	4.16	280	*e*P		Pb	02 13 27.1	+0.1
	comp=Z,360nm,0.8s							
MRKS				*e*S		Sb	02 14 21.5	+4.1
	comp=Z,498nm,0.6s							
ARSB	Arslanbob	4.41	262			Pn	02 13 23.2	+2.3
ARSB	Arslanbob	4.41	262	⇑*i*P		Pn	02 13 21.8	+0.9
ARSB				⇑*i*S		Sn	02 14 13.4	+1.0
ARSB	Arslanbob	4.41	262	PN		Pn	02 13 23.2	+2.3
BTLS	Baital	4.51	312	Pg		Pb	02 13 34.1	+1.2
	comp=Z,94nm,0.8s							
BTLS				Lg		Lg	02 14 32.9	
	comp=Z,283nm,1.0s							
BTLS	Baital	4.51	312	*e*PN		Pn	02 13 24.2	+2.1
BTLS	Baital	4.51	312	*e*P		Pb	02 13 34.1	+1.2
	comp=Z,93nm,0.6s							
BTLS				*e*S		Sb	02 14 32.9	+5.6
	comp=Z,446nm,0.5s							
BTLS	Baital	4.51	312	*e*P		Pn	02 13 24.2	+2.1
SFK	Sufi-Kurgan	4.51	244	⇓*e*P		Pn	02 13 23.2	+0.9
SFK				⇓*i*S		Sn	02 14 15.6	+0.6
SFK	Sufi-Kurgan	4.51	244	*i* PN		Pn	02 13 23.2	+0.9
SFK				*i* S		Sn	02 14 15.6	+0.6
MNAS	Manas	4.67	277	⇑*i*P		Pn	02 13 25.4	+1.0
MNAS				⇑*i*S		Sn	02 14 19.5	+0.7
MNAS	Manas	4.67	277	*i* PN		Pn	02 13 25.4	+1.0
MNAS				*i* S		Sn	02 14 19.5	+0.7
OHH	Osh	4.79	253	⇓*i*P		Pn	02 13 26.9	+0.9
OHH				⇓*i*S		Sn	02 14 22.2	+0.6
OHH	Osh	4.79	253	PN		Pn	02 13 27.5	+1.5
ARK	Arkit	5.09	269	⇑*i*P		Pn	02 13 31.1	+0.9
ARK				⇑*i*S		Sn	02 14 29.4	+0.2
ARK	Arkit	5.09	269	PN		Pn	02 13 34.0	+3.8
MAKZ	Makanchi	5.21	25			Pn	02 13 32.4	+0.7
MAKZ	Makanchi	5.21	25	PN		Pn	02 13 32.4	+0.7
MK31	Makanchi Array	5.30	27	Pn		Pn	02 13 32.1	-0.9
	comp=Z,118nm,0.9s,baz=208,slow=13,SNR=476							
MK31				⇑Sn		Sn	02 14 32.6	-1.6
	comp=Z,133nm,0.8s,baz=203,slow=21,SNR=4.9							
MK31	Makanchi Array	5.30	27	*i* PN		Pn	02 13 33.9	+0.9
MK31				pmax	pmax			
	comp=Z,118nm,0.9s							
MKAR	Makanchi Array	5.30	27	Pn		Pn	02 13 33.9	+0.9
	comp=Z,12nm,0.3s,baz=210,slow=14,SNR=287							
MKAR				Sn		Sn	02 14 36.2	+2.0
	comp=Z,10nm,0.3s,baz=198,slow=23,SNR=6.9							
MKAR				Lg		Lg	02 14 56.2	
	comp=Z,11nm,0.3s,baz=196,slow=24,SNR=5.5							
	comp=Z,19nm,0.3s							
MKAR	Makanchi Array	5.30	27	*i* PN		Pn	02 13 33.9	+0.9
MKAR				pmax	pmax			
	comp=Z,20nm,0.3s							
DZA	Taraz	5.56	280	Pg		Pb	02 13 53.6	+2.8
	comp=Z,128nm,0.1s							
DZA				Lg		Lg	02 15 06.3	
	comp=Z,348nm,0.3s							
DZA	Taraz	5.56	280	*e*P		Pb	02 13 53.6	+2.8
	comp=Z,128nm,0.1s							
DZA				*e*S		Sg	02 15 06.2	-5.8
	comp=Z,348nm,0.3s							
TRKS	Terek-Say	5.74	267	⇑*e*P		Pn	02 13 39.8	+0.7
TRKS				⇑*i*S		Sn	02 14 44.6	-0.6
TRKS	Terek-Say	5.74	267	PN		Pn	02 13 40.7	+1.6
DRK	Karamyk	5.92	246			Pn	02 13 44.1	+2.4
DRK	Karamyk	5.92	246	⇓*i*P		Pn	02 13 42.6	+0.9
DRK				⇓*i*S		Sn	02 14 49.2	-0.6
DRK	Karamyk	5.92	246	PN		Pn	02 13 44.1	+2.4
KK31	Karatay Array	6.18	282			Pn	02 13 45.3	+0.2
KK31	Karatay Array	6.18	282	⇓Pn		Pn	02 13 46.6	+1.6
	comp=Z,1.3nm,0.6s,baz=92,slow=14,SNR=11							
KK31				Pg		Pb	02 14 06.8	+5.4
	comp=Z,74nm,0.6s,baz=98,slow=15,SNR=52							
KK31				Lg		Lg	02 15 32.0	
	comp=Z,372nm,0.9s,baz=107,slow=27,SNR=7.8							
KK31	Karatay Array	6.18	282	PN		Pn	02 13 45.3	+0.2
KKAR	Karatay Array	6.18	282			Pn	02 13 46.0	+0.9
KKAR	Karatay Array	6.18	282			Pn	02 13 45.9	+0.9
KKAR	Karatay Array	6.18	282	PN		Pn	02 13 46.0	+0.9
IUG	Iuzhnay	6.50	273	Pg		Pb	02 14 12

DHRM DHARAMSHALA 10.05 192 *e*P **Pn 02 14 39.8 +1.4**
DHRM *e*S **Sn 02 16 29.6 -1.7**
DHRM IAML 02 16 33.5
comp=E,214nm,0.9s
DHRM IAML 02 16 36.0
comp=N,133nm,1.1s
KLP Kalpa 10.58 182 *e*P **Pn 02 14 47.0 +1.3**
KLP *e*S **Sn 02 16 43.3 -1.1**
KLP IAML 02 16 48.0
comp=N,57nm,0.8s
KLP IAML 02 16 51.6
comp=E,76nm,0.8s
KBL Kabul 10.75 228 Pn 02 14 49.0 +1.1
KBL Kabul 10.75 228 P **Pn 02 14 49.0 +1.1**
BHK Bhakra 10.85 191 *e*P **Pn 02 14 51.0 +1.9**
BHK IAmb IAmb 02 14 55.4
comp=Z,64nm,0.7s
BHK *e*S **Sn 02 16 48.2 -2.5**
SMLA Simla 11.05 187 *e*P **Pn 02 14 53.9 +2.1**
SMLA *e*S **Sn 02 16 50.7 -4.8**
SMLA IAML 02 16 53.9
comp=N,94nm,1.0s
SMLA IAML 02 16 55.7
comp=E,107nm,0.7s
BVA0 Borovoye Array 12.28 336 ⇑Pn **Pn 02 15 07.9 -0.6**
comp=E,24nm,0.9s,baz=140,slow=16,SNR=124
BVA0 ⇑Sn **Sn 02 17 25.9 +0.4**
comp=E,17nm,0.8s,baz=155,slow=23,SNR=7.0
BVA0 ⇓Lg Lg 02 18 38.8
comp=E,60nm,1.0s,baz=146,slow=29,SNR=4.2
BVA0 Borovoye Array 12.28 336 P **Pn 02 15 07.9 -0.6**
BVA0 S **Sn 02 17 25.9 +0.4**
BVAR Borovoye Array 12.28 336 Pn **Pn 02 15 07.2 -1.3**
comp=E,0.2nm,0.3s,baz=146,slow=12,SNR=77
BVAR Sn **Sn 02 17 19.7 -5.8**
comp=E,0.2nm,0.3s,baz=153,slow=17,SNR=6.1
BVAR Lg Lg 02 18 31.8
comp=E,0.1nm,0.3s,baz=150,slow=30,SNR=3.6
BVAR LR LR 02 20 06.6
comp=E,468nm,18.5s,baz=144,slow=39
comp=E,41nm,1.0s
BRVK Borovoye 12.34 335 Pn 02 15 07.8 -1.6
BRVK Borovoye 12.34 335 ⇑Pn **Pn 02 15 08.5 -0.9**
comp=E,28nm,0.9s
BRVK ⇑Sn **Sn 02 17 27.0 0.0**
comp=E,23nm,0.8s
BRVK ⇑Lg Lg 02 18 42.7
comp=E,67nm,1.2s
BRVK Borovoye 12.34 335*ce*P **Pn 02 15 08.6 -0.8**
BRVK pmax pmax
comp=Z,44nm,1.3s
ZAA0 Zalesovo Array 12.50 17 Pn 02 15 10.1 -1.4
ZAA0 Zalesovo Array 12.50 17 ⇓Pn **Pn 02 15 10.6 -0.9**
comp=Z,5.0nm,1.1s
ZAA0 ⇑Lg Lg 02 18 45.5
comp=Z,10nm,0.9s
ZALV Zalesovo Beam 12.50 17 Pn 02 15 10.1 -1.4
ZALV Zalesovo Beam 12.50 17 Pn **Pn 02 15 10.2 -1.2**
comp=Z,0.6nm,0.3s,baz=210,slow=11,SNR=49
ZALV Lg Lg 02 18 41.5
baz=190,slow=23
ZALV LR LR 02 19 37.9
comp=Z,96nm,19.4s,baz=207,slow=36
comp=Z,28nm,0.9s
NDI New Delhi 13.47 186 *e*P **Pn 02 15 23.7 -1.2**
NDI *e*S **Sn 02 17 49.7 -5.0**
GOMU GeErMu 13.77 110 P **Pn 02 15 26.5 -2.8**
GOMU pP P 02 15 33.6 -4.4
GOMU sP 02 15 37.0
GOMU S Sn 02 18 11.9 +9.4
GOMU pmax pmax
comp=Z,9.0nm,0.8s
GOMU LR LR
comp=Z,280nm,13.9s
GOMU LR LR
comp=Z,440nm,17.6s
GOMU LR LR
comp=Z,590nm,18.4s
SONA Sohna 13.91 186 *e*P **Pn 02 15 29.4 -1.5**
KUDL Kundal 14.07 188 *e*P **Pn 02 15 33.3 +0.2**
KUDL IAmb IAmb 02 15 40.8
comp=Z,16nm,0.8s
KUDL *e*S **Sn 02 18 03.2 -6.2**
AB31 Akbulak array 14.95 305 ⇓Pn **Pn 02 15 45.4 +0.4**
comp=Z,13nm,0.8s,baz=114,slow=12,SNR=27
AB31 ⇓Lg Lg 02 20 07.3
comp=Z,14nm,0.8s,baz=104,slow=27,SNR=4.7
AB31 Akbulak array 14.95 305 P **Pn 02 15 45.4 +0.4**
ABKAR Akbulak array 14.95 305 Pn 02 15 43.8 -1.2
ABKAR Akbulak array 14.95 305 Pn 02 15 43.5 -1.4
GTA Gaotai 16.16 93 P **Pn 02 15 56.3 -4.7**
GTA sP P 02 16 03.8 -0.5
GTA pmax pmax
comp=Z,14nm,1.4s
GTA LR LR
comp=Z,300nm,11.6s
GTA LR LR
comp=Z,360nm,12.0s
GTA LR LR
comp=Z,290nm,12.0s
AKTO Aktyubinsk 16.55 307 ⇑Pn **Pn 02 16 06.7 +1.0**
comp=Z,9.8nm,0.8s
AKTO ⇑Lg Lg 02 20 57.8
comp=Z,32nm,1.5s
AKTO Aktyubinsk 16.55 307 Pn **Pn 02 16 05.6 -0.1**
comp=Z,0.2nm,0.3s,baz=94,slow=9.1,SNR=8.2
AKTO Sn **Sn 02 19 00.3 -9.1**
comp=Z,0.1nm,0.3s,baz=243,slow=24,SNR=2.4
AKTO Lg Lg 02 20 49.4
comp=Z,0.1nm,0.3s,baz=312,slow=17,SNR=2.0
AKTO LR LR 02 22 47.1
comp=Z,212nm,20.4s,baz=121,slow=38
AKTO Aktyubinsk 16.55 307 P **Pn 02 16 06.7 +1.0**
JHNI Jhansi 16.61 181 *e*P **Pn 02 16 06.8 0.0**
JHNI IAmb IAmb 02 16 07.1
comp=Z,12nm,0.7s
MOY Mondy 17.87 50 *e*P **Pn 02 16 22.0 -0.4**
MOY pmax pmax
comp=Z,19nm,1.4s
SVE Sverdlovsk 18.77 328 *e*P **P 02 16 32.0 -0.7**
SVE *e*S **Sn 02 19 57.6 -5.4**
SVE pmax pmax
comp=Z,15nm,1.0s
SVE MLR MLR
comp=Z,424nm,10.0s
ZAK Zakamensk 18.79 56 *e*P **P 02 16 30.2 -3.0**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
ARTI Arti 19.41 324 P 02 16 37.5 -2.3
ARTI IAmb IAmb 02 16 57.4
comp=Z,12nm,0.5s
ARTI Arti 19.41 324 P **P 02 16 39.6 -0.3**
comp=Z,0.7nm,0.3s,baz=110,slow=7.9,SNR=6.9
ARTI S Sn 02 20 08.1 -10
comp=Z,2.9nm,0.6s,baz=283,slow=20,SNR=1.5
ARTI Lg Lg 02 22 16.0
comp=Z,0.7nm,0.3s,baz=28,slow=17,SNR=1.8
ARTI LR LR 02 24 32.9
comp=Z,296nm,18.2s,baz=110,slow=38
comp=Z,3.0nm,0.6s
ARTI Arti 19.41 324 P **Pn 02 16 40.9 -0.1**
ARTI S **S 02 20 19.9 +0.7**
ARTI MLR MLR
comp=Z,224nm,11.0s
SHL Shillong 19.74 143 P **P 02 16 41.5 -2.3**
SHL IAmb IAmb 02 16 43.0
comp=Z,29nm,0.8s
SHL Shillong 19.74 143 P **P 02 16 41.5 -2.3**
SHL pmax pmax
comp=Z,29nm,0.8s
SONM Songino Array 20.29 64 P 02 16 49.3 -0.4
SONM Songino Array 20.29 64 P **P 02 16 48.8 -0.9**
comp=Z,5.3nm,0.9s,baz=265,slow=10,SNR=19
SONM LR LR 02 25 18.5
comp=Z,522nm,19.4s,baz=268,slow=39
comp=Z,5.3nm,0.9s
SONM Songino Array 20.29 64 P **P 02 16 49.3 -0.4**
SONM pmax pmax
comp=Z,6.0nm,1.1s
LZH Lanzhou 20.33 99 *e*P Pn 02 16 51.6 -0.6
LZH sP sP 02 16 57.7 +2.2
LZH pmax pmax
comp=Z,31nm,1.1s
LZH LR LR
comp=Z,620nm,13.9s
LZH LR LR
comp=Z,400nm,13.4s
LZH LR LR
comp=Z,380nm,16.1s
ULN Ulaanbaatar 20.74 64 P **P 02 16 54.0 -0.5**
ULN Ulaanbaatar 20.74 64*ce*P **P 02 16 54.3 -0.2**
ULN pmax pmax
comp=Z,13nm,1.7s
BRDH Bariadhala 22.18 147 LR LR 02 27 32.8
comp=Z,220nm,19.2s,baz=308,slow=42
LKRN Lenkeran, Azer 23.04 272 P **P 02 17 23.1 +4.1**
AKT Akhty 23.10 279 ⇓*i*P **P 02 17 21.6 +1.9**
AKT *e* 02 17 46.4
AKT pmax pmax
comp=Z,16nm,0.8s
AKT MLR MLR
comp=Z,268nm,14.0s
BELG Belogornoye 23.34 307 P **P 02 17 21.8 -0.1**
comp=Z,16nm,1.0s,baz=27,slow=3.6,SNR=5.5
comp=Z,16nm,1.0s
SEKA Sheki 23.55 278 P **P 02 17 27.4 +3.2**
MNGR Mingechevir, A 23.73 277 P **P 02 17 29.7 +3.8**
GANJ Ganja 24.32 277 P **P 02 17 34.9 +3.3**
HHC Hu-ho-hao-te 24.51 82 *e*P **P 02 17 33.6 +0.2**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,77nm,4.5s
HHC LR LR
comp=Z,190nm,10.1s
HHC LR LR
comp=Z,220nm,10.9s
HHC LR LR
comp=Z,220nm,10.6s
KIRV Kirov 24.66 322 LR LR 02 27 59.1
comp=Z,156nm,18.1s,baz=124,slow=38
KIRV Kirov 24.66 322 *i*P **P 02 17 34.6 +0.3**
NAX Nakhchivan 25.34 275 P **P 02 17 44.7 +3.9**
GNI Garni 25.62 277 P 02 17 44.8 +1.4
GNI Garni 25.62 277 LR LR 02 29 21.7
comp=Z,84nm,18.7s,baz=88,slow=40
GNI Garni 25.62 277*ce*P **P 02 17 47.4 +4.0**
GNI pmax pmax
comp=Z,48nm,1.3s
GNI Garni 25.62 277 P **P 02 17 44.8 +1.4**
comp=Z,391nmcomp=Z,32nm,1.3s
GNI pP **pP 02 17 47.7 +0.3**
comp=Z,391nmcomp=Z,32nm,1.3s
NCK Nalchik 25.74 285 *i*P **P 02 17 47.0 +2.7**
NCK pmax pmax
comp=Z,4.0nm,1.0s
KMI Kunming 26.05 123 P **P 02 17 50.5 +3.0**
KMI pmax pmax
comp=Z,13nm,0.7s
KBZ Khabaz 26.20 286 P **P 02 17 48.7 +0.2**
comp=Z,2.1nm,0.9s,baz=97,slow=7.8,SNR=4.1
comp=Z,2.1nm,0.9s
KBZ Khabaz 26.20 286 *i*P **P 02 17 50.8 +2.4**
KBZ pmax pmax
comp=Z,5.0nm,1.1s
KIV Kislovodsk 26.32 286 P **P 02 17 50.0 +0.3**
KIV IAmb IAmb 02 18 34.0
comp=Z,9.4nm,0.9s
KIV Kislovodsk 26.32 286 *e*P **P 02 17 49.7 0.0**
KIV *e*S **S 02 22 22.6 +0.1**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,27nm,15.0s
KIV Kislovodsk 26.32 286 P **P 02 17 50.7 +1.0**
comp=Z,5.8nm,0.8s
SHA1 Shidzhatmaz 26.37 286 *i*P **P 02 17 51.3 +1.0**
KARS Kars 26.72 279 P 02 17 54.2 +0.8
KARS Kars 26.72 279 P **P 02 17 54.2 +0.8**
KARS pmax pmax
comp=Z,57nm,1.2s
VRH Novokhopyorsk 26.76 303 P **P 02 17 55.7 +2.3**
VRH pmax pmax
comp=Z,15nm,0.9s
XLT XiLinHaoTe 27.19 73 *e*P **P 02 17 58.1 +0.6**
XLT sP sP 02 18 04.8 +1.7
XLT pmax pmax
comp=Z,8.0nm,0.6s
XLT LR LR
comp=Z,240nm,12.8s
XLT LR LR
comp=Z,280nm,11.9s
GEVA Gevas 27.41 274 P **P 02 18 00.7 +1.0**
NRIK Noril'sk 27.67 7 P **P 02 18 00.8 -0.6**
comp=Z,6.2nm,0.9s,baz=148,slow=8.3,SNR=4.4
NRIK LR LR 02 28 29.9
comp=Z,94nm,19.0s,baz=194,slow=35
comp=Z,6.2nm,0.9s
GURO Guroymak-BITLI 28.10 275 P **P 02 18 06.7 +0.9**
VSR Storozhevoye 28.36 302 *e*P **P 02 18 07.5 -0.3**
VSR pmax pmax
comp=Z,8.0nm,0.7s
VORR Voronezh 28.36 303 P **P 02 18 09.9 +2.1**
VORR pmax pmax
comp=Z,10.0nm,0.9s
SOC Sochi 28.50 286 *e*P **P 02 18 08.3 -0.8**
SOC *e* 02 18 57.5
SOC *e*PPP PPP 02 19 09.1
SOC *e*S **S 02 22 55.7 -1.0**
SOC *e*SS **SnSn 02 24 16.3 +1.1**
SOC MLR MLR
comp=Z,93nm,20.0s
LPSR Galich'ya Gora 28.61 305 P **P 02 18 11.1 +1.1**
LPSR pmax pmax
comp=Z,17nm,1.0s
KOPT Kop Dagi 28.78 279 P **P 02 18 12.5 +0.5**
CMAR Chiang Mai Arr 29.17 138 P **P 02 18 15.3 0.0**
comp=Z,1.2nm,0.4s,baz=322,slow=8.9,SNR=2.6
CMAR LR LR 02 32 04.1
comp=Z,70nm,18.6s,baz=300,slow=41
comp=Z,1.2nm,0.4s
ANN Anapa 29.90 289 *e*P **P 02 18 21.7 +0.2**
ANN *e**PP **sP 02 18 28.4 +1.2**
ANN *e* 02 19 18.8
ANN *e*S **S 02 23 19.2 +0.5**
ANN *e*SS **SnSn 02 24 53.6 +4.3**
ANN pmax pmax
comp=Z,16nm,0.9s
KLMR Klimovskoe 30.16 322 *e*P **P 02 18 22.5 -1.1**
KLMR *e**PP **sP 02 18 31.6 +2.4**
KLMR *e* 02 19 21.5
KLMR pmax pmax
comp=Z,25nm,1.6s
OBN Obninsk 30.29 310 LR LR 02 29 34.4
comp=Z,137nm,21.1s,baz=24,slow=34
OBN Obninsk 30.29 310*ce*P **P 02 18 25.9 +1.1**
OBN *e* 02 19 29.0
OBN pmax pmax
comp=Z,26nm,1.5s
OBN MLR MLR
comp=Z,79nm,16.0s
OBN Obninsk 30.29 310 P **P 02 18 25.5 +0.7**
comp=Z,19nm,0.6s
DIKM Dikmen 32.15 284 P **P 02 18 42.7 +1.3**
comp=Z,17nm,1.1s
GAZ Gaziantep 32.15 275 P 02 18 44.0 +2.4
GAZ IAmb IAmb 02 18 46.9
comp=Z,10nm,1.1s
BNN Bunyan 32.57 279 P **P 02 18 46.5 +1.2**
BNN IAmb IAmb 02 18 49.7
comp=Z,10nm,0.8s
NJ2 Nanjing 33.25 94 *e*P **P 02 18 53.5 +2.4**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
RAYN Ar Rayn 33.27 247 P **P 02 18 51.3 -0.1**
RAYN Ar Rayn 33.27 247 P **P 02 18 51.3 -0.1**
RAYN pmax pmax
comp=Z,2.0nm,0.7s
ILGA Ilgaz 33.43 284 P **P 02 18 53.2 +0.3**
ILGA IAmb IAmb 02 18 57.3
comp=Z,11nm,1.0s
BR131 Keskin Array S 33.89 281 P 02 18 57.4 +0.6
BR131 IAmb IAmb 02 19 00.7
comp=Z,6.7nm,0.8s
BR131 Keskin Array S 33.89 281 *i*P **P 02 18 58.3 +1.5**
BRTR Keskin Array B 33.89 281 P 02 18 56.8 0.0
BRTR Keskin Array B 33.89 281 P **P 02 18 58.0 +1.1**
comp=Z,4.0nm,0.8s,baz=93,slow=6.8,SNR=25
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 33.89 281*c*P **P 02 18 58.0 +1.1**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BR104 Keskin Array S 33.90 281 P **P 02 18 58.0 +1.1**
comp=Z,55nmcomp=Z,6.7nm,0.9s
BR106 Keskin Array S 33.91 281 P **P 02 18 58.0 +1.1**
comp=Z,49nmcomp=Z,6.4nm,1.3s
BR105 Keskin Array S 33.91 281 P **P 02 18 58.1 +1.1**
comp=Z,62nmcomp=Z,7.9nm,0.9s
ASF Jabal al Asfar 34.53 267 LR LR 02 35 26.9
comp=Z,51nm,18.1s,baz=67,slow=40
AK09 Malin Array Si 34.62 302 P **P 02 19 03.2 +0.4**
AK09 pP **pP 02 19 06.9 0.0**
AK08 Malin Array Si 34.64 302 P **P 02 19 03.5 +0.5**
AK10 Malin Array Si 34.65 301 P **P 02 19 03.4 +0.4**
AK10 pP **pP 02 19 07.3 +0.2**
AK03 Malin Array Si 34.65 302 P **P 02 19 03.7 +0.6**
AKASG Malin Array Be 34.65 302 P **P 02 19 03.2 +0.2**
comp=Z,3.5nm,0.8s,baz=74,slow=8.6,SNR=13
AKASG LR LR 02 35 11.9
comp=Z,54nm,18.4s,baz=98,slow=40
comp=Z,3.5nm,0.8s
AKASG Malin Array Be 34.65 302*ce*P **P 02 19 04.6 +1.5**
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKBB Malin Array Si 34.65 302 P **P 02 19 03.0 -0.1**
AKBB IAmb IAmb 02 19 05.9
comp=Z,9.8nm,0.8s
AKBB Malin Array Si 34.65 302*ce*P **P 02 19 04.1 +1.0**
AKBB pmax pmax
comp=Z,10.0nm,0.9s
AKBB Malin Array Si 34.65 302 P **P 02 19 03.4 +0.3**
AK01 Malin Array Si 34.66 302 P **P 02 19 03.6 +0.4**
KIEV Kiev 34.66 302 P 02 19 03.2 0.0
KIEV IAmb IAmb 02 19 05.9
comp=Z,8.8nm,0.8s
KIEV Kiev 34.66 302 ⇓P **P 02 19 04.2 +1.0**
KIEV Kiev 34.66 302 ⇓P **P 02 19 04.2 +1.0**
KIEV Kiev 34.66 302 P **P 02 19 03.4 +0.2**
comp=Z,55nm,1.0s
PALK Pallekele 34.75 177 LR LR 02 33 24.7
comp=Z,120nm,21.0s,baz=340,slow=37
PURM Purcari 34.81 294 P **P 02 19 05.9 +1.4**
comp=Z,2µmcomp=Z,34nm,0.4s
MMAI Mount Meron Ar 35.24 270 LR LR 02 36 44.0
comp=Z,48nm,18.7s,baz=26,slow=42
UBPT Khong Chiam 35.27 131 P **P 02 19 10.7 +2.0**
UBPT IAmb IAmb 02 19 14.5
comp=Z,5.7nm,0.8s
MNK Minsk 35.27 308 *i*P **P 02 19 08.2 -0.2**
comp=E,26nm,1.2s
MNK *i*P **P 02 19 08.2 -0.2**
comp=N,20nm,1.0s
MNK *i*P **P 02 19 08.2 -0.2**
comp=Z,18nm,0.8s,baz=89
MNK *i*PP **PP 02 20 27.6 -0.6**
MNK *i*PPP PPP 02 20 39.6
MNK *i*S **S 02 24 41.7 -0.3**
MNK *i*SS **SnSn 02 27 03.1 +3.8**
MNK *i*SSS SSS 02 27 18.7
MNK *i*LQ LQ 02 30 28.2
MNK *i*LR LR 02 33 14.1
MNK *i*LRM MLR 02 34 08.0
comp=Z,80nm,16.8s
MNK *i*LRM MLR 02 34 45.7
comp=N,36nm,15.2s
MNK *i*LRM MLR 02 34 58.1
comp=E,58nm,16.0s
MNK Minsk 35.27 308 *i*P **P 02 19 08.1 -0.2**
MNK *i* 02 20 27.5
MNK *i*S **S 02 24 41.6 -0.3**
MNK *i*SS **SnSn 02 27 03.1 +3.8**
MNK pmax pmax
comp=E,26nm,1.2s
MNK pmax pmax
comp=N,20nm,1.0s
MNK pmax pmax
comp=Z,18nm,0.8s
MNK MLR MLR
comp=Z,80nm,17.0s
MNK MLR MLR
comp=N,36nm,15.0s
MNK MLR MLR
comp=E,58nm,16.0s
SORM Soroca 35.55 297 P **P 02 19 11.4 +0.6**
comp=E,8.5nm,0.9s
MI28 MI28,Pidlybu 35.61 302 P **P 02 19 11.7 +0.3**
LUBAR Lubar, Ukraine 35.67 300 P **P 02 19 12.3 +0.4**
LUBAR pP **pP 02 19 15.9 -0.1**
YAK Yakutsk 35.85 39 LR LR 02 33 35.5
comp=E,29nm,18.8s,baz=225,slow=36
NDNU Novodnistrovsk 36.12 298 P **P 02 19 16.2 +0.4**
FIA1 FINESS Array S 36.62 320 P **P 02 19 20.1 +0.3**
FINES FINESS Array B 36.62 320 P **P 02 19 19.9 0.0**
comp=E,1.9nm,0.8s,baz=96,slow=12,SNR=7.3
FINES LR LR 02 35 09.9
comp=E,93nm,20.1s,baz=96,slow=38
comp=E,1.9nm,0.8s
FINES FINESS Array B 36.62 320 *i*P P 02 19 24.7 +4.9
FINES pmax pmax
comp=Z,3.0nm,0.6s
RNPP9 Sopachiv 36.67 303 P **P 02 19 20.0 -0.4**
RNPP5 Staryi Chortor 36.70 303 P **P 02 19 20.8 +0.2**
RNPP8 Varash 36.70 303 P **P 02 19 20.8 +0.1**
KMPD K-Podol'skiy 36.72 298 P **P 02 19 21.2 +0.3**
KLR Kul'dur 37.03 60 *i*P **P 02 19 25.2 +1.7**
KLR pmax pmax
comp=Z,5.0nm,1.5s
VRI Vrincioaia 37.09 294 ⇑P **P 02 19 25.6 +1.5**
VRI Vrincioaia 37.09 294 ⇑P **P 02 19 25.6 +1.5**
PLOR Plostina 37.15 294 ⇓P **P 02 19 26.1 +1.5**
PLOR Plostina 37.15 294 ⇓P **P 02 19 26.1 +1.5**
KSAR Wonju Array Be 37.61 80 P **P 02 19 29.3 +0.8**
KSAR Wonju Array Be 37.61 80 P **P 02 19 29.3 +0.8**
KSRS Korea Array 37.63 80 P **P 02 19 27.6 -1.1**
comp=Z,0.9nm,0.7s,baz=286,slow=8.1,SNR=4.4
comp=Z,0.9nm,0.7s
MLR Muntele Rosu 37.71 294 P 02 19 30.8 +1.3
MLR IAmb IAmb 02 19 34.2
comp=Z,6.8nm,0.8s
MLR Muntele Rosu 37.71 294 LR LR 02 36 17.8
comp=Z,107nm,21.6s,baz=54,slow=38
MLR Muntele Rosu 37.71 294 ⇑P **P 02 19 31.9 +2.4**
MLR Muntele Rosu 37.71 294 ⇑P **P 02 19 31.9 +2.4**
MLR Muntele Rosu 37.71 294 P **P 02 19 30.1 +0.6**
comp=Z,9.7nm,0.8s
BURAR Bucovina Array 37.72 297 P 02 19 29.8 +0.3
BURAR Bucovina Array 37.72 297 ⇑P **P 02 19 31.0 +1.5**
BURAR Bucovina Array 37.72 297 ⇑P **P 02 19 31.0 +1.5**
BUR08 Bucovina Ar. S 37.72 297 P 02 19 30.1 +0.6
STNU Starunia 37.97 299 P **P 02 19 32.0 +0.5**
DOPR Dopca 37.97 295 ⇓P **P 02 19 33.5 +2.0**
SUW Suwalki 38.05 308 *e*P **P 02 19 32.6 +0.5**
SUW Suwalki 38.05 308 P **P 02 19 32.5 +0.5**
SUW Suwalki 38.05 308 P **P 02 19 32.5 +0.5**
ARCES ARCESS Array B 38.56 333 P **P 02 19 36.0 -0.2**
comp=Z,4.5nm,0.9s,baz=116,slow=8.2,SNR=9.6
ARCES LR LR 02 36 27.8
comp=Z,95nm,19.9s,baz=99,slow=38
comp=Z,4.5nm,0.9s
ARCES ARCESS Array B 38.56 333 P **P 02 19 36.0 -0.2**
KWP Kalwaria Pacla 38.95 301 *e*P **P 02 19 41.8 +2.1**
KWP Kalwaria Pacla 38.95 301 P **P 02 19 40.3 +0.6**
comp=Z,40nm,1.0s
LOT Lotru 39.20 294 ⇑P **P 02 19 44.6 +2.5**
BERU Beregovo 39.28 299 P **P 02 19 42.6 +0.2**
MARR Marisel-Cluj 39.33 296 ⇑P **P 02 19 43.9 +0.9**
KOLS Kolonicke sedl 39.37 300 *e*P **P 02 19 46.3 +3.1**
KOLS pmax pmax
comp=Z,4.0nm,0.9s
KOLS Kolonicke sedl 39.37 300 *e*P **P 02 19 46.3 +3.1**
HOLU Holmets 39.38 299 P **P 02 19 43.9 +0.6**
GZR Gura Zlata 39.89 294 ⇑P **P 02 19 47.9 +0.2**
GZR Gura Zlata 39.89 294 ⇑P **P 02 19 47.9 +0.2**
SIRR Siria 40.41 296 ⇓P **P 02 19 53.8 +1.9**
NIE Niedzica 40.53 301 *e*P **P 02 19 55.1 +2.2**
BZS Buzias 40.61 295 ⇓P **P 02 19 55.3 +1.7**
BZS Buzias 40.61 295 ⇓P **P 02 19 55.3 +1.7**
OJC Ojcow 40.68 302 *e*P **P 02 19 56.2 +2.1**
OJC Ojcow 40.68 302 P 02 19 55.0 +0.9
OJC Ojcow 40.68 302 P **P 02 19 55.0 +0.9**
OJC Ojcow 40.68 302 P **P 02 19 54.7 +0.6**
comp=Z,16nm,1.0s
MDVR Moldovita 40.79 294 ⇓P **P 02 19 56.4 +1.3**
VYHS Vyhne 41.69 300 *e*P **P 02 20 05.2 +2.8**
VYHS pmax pmax
comp=Z,5.0nm,1.2s

VYHS	Vyhne	41.69	300	*e*P		P	02 20 05.2	+2.8
STEB	Steborice	42.01	302	*e*P		P	02 20 07.2	+2.2
MAUC	Maruska	42.12	302	*e*P		P	02 20 08.4	+2.5
MORC	Moravsky Berou	42.20	302			P	02 20 06.2	-0.4
MORC	Moravsky Berou	42.20	302	*e*P		P	02 20 08.3	+1.7
MORC	Moravsky Berou	42.20	302	⇓P		P	02 20 08.5	+1.9
MORC	Moravsky Berou	42.20	302	⇓P		P	02 20 08.5	+1.9
SRO	Srobarova	42.20	299	*e*P		P	02 20 09.8	+3.2
SRO				pmax	pmax			
	comp=Z,14nm,1.4s							
SRO	Srobarova	42.20	299	*e*P		P	02 20 09.8	+3.2
JAVC	Velka Javorina	42.34	301	*e*P		P	02 20 10.9	+3.1
MORH	Mrgy, Hungar	42.43	297	⇑P		P	02 20 10.1	+1.7
MORH	Mrgy, Hungar	42.43	297	P		P	02 20 09.3	+0.8
	comp=Z,5.7nm,1.0s							
KRLC	Kraliky	42.60	303	*e*P		P	02 20 12.5	+2.6
KRLC	Kraliky	42.60	303	*e*P		P	02 20 12.5	+2.6
HFS	Hagfors	42.66	318	P		P	02 20 09.6	-0.5
	comp=Z,4.7nm,0.8s,baz=111,slow=8.1,SNR=5.8							
HFS				LR	LR		02 38 48.1	
	comp=Z,116nm,18.8s,baz=80,slow=37							
	comp=Z,4.7nm,0.8s							
MODS	Modra-Piesok	42.72	300	*e*P		P	02 20 12.5	+1.7
MODS	Modra-Piesok	42.72	300	*e*P		P	02 20 12.5	+1.7
DPC	Dobruska-Polom	42.82	303	*e*P		P	02 20 14.1	+2.4
DPC				AMS	AMS		02 41 10.0	
	comp=Z,100nm,12.3s							
DPC	Dobruska-Polom	42.82	303	*e*P		P	02 20 14.1	+2.4
DPC				MLR	MLR			
	comp=Z,100nm,12.3s							
VRAC	Vranov	42.91	302	*e*P		P	02 20 14.6	+2.2
VRAC	Vranov	42.91	302	LR	LR		02 38 42.3	
	comp=Z,90nm,18.6s,baz=64,slow=37							
CHVC	Chvalec	42.93	304	*e*P		P	02 20 15.5	+3.0
CHVC	Chvalec	42.93	304	*e*P		P	02 20 15.5	+3.0
UPC	Upice	42.98	304	*e*P		P	02 20 15.3	+2.4
UPC	Upice	42.98	304	*e*P		P	02 20 15.3	+2.4
KRUC	Moravsky	43.10	301	*e*P		P	02 20 16.1	+2.2
PDG	Podgorica	43.24	291	P		P	02 20 15.7	+0.6
PDG				IAmb	IAmb		02 20 21.9	
	comp=Z,9.7nm,0.9s							
PDG	Podgorica	43.24	291	⇓P		P	02 20 17.1	+2.0
RONA	Rosalia, Austr	43.54	300	*e*pP		P	02 20 19.5	+1.9
	comp=Z,7.8nm,1.1s							
TYV	Tymovskoe	43.57	56	*e*P		P	02 20 15.2	-2.4
TYV				pmax	pmax			
	comp=Z,11nm,1.5s							
TYV				pmax	pmax			
	comp=Z,100nm,3.2s							
NC602	NORSAR Array S	43.66	319	P		P	02 20 18.2	-0.1
CONA	Conrad Observa	43.75	300	*i* pP		P	02 20 21.4	+2.1
	comp=Z,7.7nm,1.0s,SNR=6.7							
NB2	NORSAR Subarra	43.79	319	P		P	02 20 18.9	-0.4
	comp=Z,18nm,1.7s,baz=84,slow=8.6							
NOA	NORSAR Array B	43.79	319	P		P	02 20 18.6	-0.8
	comp=Z,2.1nm,0.9s,baz=84,slow=8.0,SNR=4.7							
NOA				LR	LR		02 39 22.5	
	comp=Z,141nm,18.2s,baz=105,slow=37							
	comp=Z,2.1nm,0.9s							
PVCC	Panska Ves	43.86	304	*e*P		P	02 20 23.3	+3.3
PVCC				AMS	AMS		02 39 40.0	
	comp=Z,100nm,12.2s							
PVCC	Panska Ves	43.86	304	*e*P		P	02 20 23.3	+3.3
PVCC				MLR	MLR			
	comp=Z,100nm,12.2s							
NC204	NORSAR Array S	43.98	320	P		P	02 20 20.8	-0.1
PRU	Pruhonice	44.02	303	*e*P		P	02 20 24.3	+3.0
PRU				AMS	AMS		02 42 00.0	
	comp=Z,100nm,15.8s							
PRU	Pruhonice	44.02	303	*e*P		P	02 20 24.3	+3.0
PRU				MLR	MLR			
	comp=Z,100nm,15.8s							
PRA	Prague	44.07	303	AMS	AMS		02 42 00.0	
	comp=Z,100nm,13.0s							
BRG	Berggiesshubel	44.16	305	*e*P		P	02 20 24.7	+2.3
BRG				Amp			02 20 25.5	
	comp=Z,3.9nm,0.9s							
ZVC	Zvikov	44.39	303	*e*P		P	02 20 26.7	+2.5
CKRC	Cesky Krumlov	44.49	302	*e*P		P	02 20 27.8	+2.7
CKRC				AMS	AMS		02 42 50.0	
	comp=Z,100nm,13.4s							
CKRC	Cesky Krumlov	44.49	302	*e*P		P	02 20 27.8	+2.7
CKRC				MLR	MLR			
	comp=Z,100nm,13.4s							
CLL	Collm	44.62	305	P		P	02 20 26.3	+0.3
CLL				IAmb	IAmb		02 20 28.7	
	comp=Z,11nm,1.0s							
CLL	Collm	44.62	305	⇓*i*P		P	02 20 27.5	+1.4
CLL				pmax	pmax			
	comp=Z,11nm,1.0s							
CLL	Collm	44.62	305	P		P	02 20 26.7	+0.6
	comp=Z,222nmcomp=Z,11nm,1.0s							
CLL	Collm	44.62	305	⇓*i*P		P	02 20 27.5	+1.4
	comp=Z,11nm,1.0s							
CLL				*e*x	x		02 22 41.0	
CLL				*e*PPP	PPP		02 22 45.0	
SOKA	Soboth	44.67	299	*e*pP		P	02 20 28.5	+1.8
	comp=Z,8.4nm,1.5s							
MOA	Molln	44.80	300	*e*pP		P	02 20 29.5	+1.9
	comp=Z,3.5nm,1.2s							
KHC	Kasperske Hory	44.86	302	*e*P		P	02 20 30.7	+2.6
KHC	Kasperske Hory	44.86	302	*e*P		P	02 20 30.7	+2.6
KHC	Kasperske Hory	44.86	302	P		P	02 20 28.7	+0.6
GERES	GERESS Array B	44.87	302	P		P	02 20 28.7	+0.5
GERES	GERESS Array B	44.87	302	P		P	02 20 28.3	+0.1
	comp=Z,1.7nm,0.7s,baz=66,slow=6.4,SNR=13							
GERES				LR	LR		02 40 00.7	
	comp=Z,59nm,20.8s,baz=83,slow=37							
	comp=Z,1.7nm,0.7s							
GERES	GERESS Array B	44.87	302	P		P	02 20 28.7	+0.5
OBKA	Obir	45.04	298	*e*pP		P	02 20 31.7	+2.1
	comp=Z,7.5nm,1.0s							
SABO	M.te Sabotino	45.84	298	IAmb	IAmb		02 20 38.5	
	comp=Z,8.0nm,0.9s							
LESA	Schwarzleotal	45.96	300	*e*pP		P	02 20 38.1	+1.2
	comp=Z,5.1nm,0.8s							
GRA1	Grafenberg Arr	46.17	304	P		P	02 20 38.0	-0.3
GRF	Grafenberg Arr	46.17	304	P		P	02 20 38.1	-0.3
GRF				pmax	pmax			
	comp=Z,14nm,1.0s							
GRFO	Grafenberg	46.17	304	P		P	02 20 38.3	-0.1
GRFO	Grafenberg	46.17	304	P		P	02 20 38.3	-0.1
GRFO				pmax	pmax			
	comp=Z,12nm,0.9s							
ABTA	Abfaltersbach	46.29	299	*e*pP		P	02 20 40.4	+1.0
	comp=Z,3.0nm,0.9s							
CIMO	Cimolais	46.48	299	IAmb	IAmb		02 20 43.1	
	comp=Z,4.4nm,0.8s							
WTTA	Wattenberg	46.68	300	*i* pP		P	02 20 44.1	+1.5
	comp=Z,9.0nm,0.8s,SNR=5.1							
WATA	Walderalm	46.69	300	*e*pP		P	02 20 44.6	+1.9
	comp=Z,8.4nm,0.8s							
SQTA	Sankt Quirin	46.97	300	*e*pP		P	02 20 46.1	+1.3
	comp=Z,5.0nm,0.9s							
MOTA	Moosalm	46.99	301	*i* pP		P	02 20 46.8	+1.8
	comp=Z,14nm,0.9s,SNR=12							
CTI	Castel Tesino	47.09	299	IAmb	IAmb		02 20 50.4	
	comp=Z,4.4nm,1.0s							
RETA	Reutte	47.16	301	*i* pP		P	02 20 47.9	+1.6
	comp=Z,10nm,1.0s,SNR=8.7							
CEL	Celeste	47.23	287			P	02 20 47.2	+0.2
FDMO	Fiordimonte	47.24	294	IAmb	IAmb		02 20 50.4	
	comp=Z,7.5nm,0.9s							
FUORN	Ofenpass-Fuorn	47.78	300	IAmb	IAmb		02 21 00.9	
	comp=Z,6.8nm,0.8s							
DAVA	Damuels	47.79	301	*e*pP		P	02 20 53.3	+2.0
	comp=Z,12nm,0.9s							
DAVOX	Davos/Dischmat	47.97	300	LR	LR		02 42 15.6	
	comp=Z,96nm,18.8s,baz=81,slow=38							
OSSC	Osservatorio P	48.29	296	P		P	02 20 55.4	+0.4
OSSC				IAmb	IAmb		02 20 58.2	
	comp=Z,5.6nm,0.9s							
BFO	Black Forest	48.41	303			P	02 20 56.4	+0.5
BFO	Black Forest	48.41	303	P		P	02 20 56.4	+0.5
BFO				pmax	pmax			
	comp=Z,13nm,1.3s							
TUE	Stuetta	48.43	300			P	02 20 56.5	+0.2
TUE				IAmb	IAmb		02 21 03.9	
	comp=Z,3.0nm,0.8s							
ECH	Echery	49.18	303	IAmb	IAmb		02 21 04.5	
	comp=Z,4.8nm,1.0s							
SENIN	Lac Senin/Sane	49.78	301	P		P	02 21 07.6	+0.9
BNI	Bardonecchia	50.70	299			P	02 21 14.3	+0.8
BNI				IAmb	IAmb		02 21 16.8	
	comp=Z,11nm,1.1s							
BNI	Bardonecchia	50.70	299	P		P	02 21 14.3	+0.8
BNI				pmax	pmax			
	comp=Z,11nm,1.1s							
DAG	Danmarks Havn	51.09	343	*i* P		P	02 21 14.0	-1.8
DAG				IAmb	IAmb		02 21 18.9	
	comp=Z,3.1nm,0.8s							
PETK	Petropavlovsk-	51.73	49	LR	LR		02 43 46.4	
	comp=Z,251nm,19.6s,baz=150,slow=37							
SSB	Saint Sauveur	51.98	300	IAmb	IAmb		02 21 25.6	
	comp=Z,7.8nm,1.2s							
EKA	Eskdalemuir Ar	52.55	315	P		P	02 21 26.7	-0.4
	comp=Z,4.0nm,0.9s,baz=68,slow=9.1,SNR=6.8							
	comp=Z,4.0nm,0.9s							
KEST	Kesra	53.05	288	P		P	02 21 31.4	+0.3
	comp=Z,2.6nm,1.1s,baz=62,slow=15,SNR=2.1							
	comp=Z,2.6nm,1.1s							
NEEM	North Greenlan	56.79	348	*i* P		P	02 21 58.8	+0.9
NEEM				IAmb	IAmb		02 22 02.2	
	comp=Z,5.9nm,0.8s							
BORG	Borgarnes	56.80	330	LR	LR		02 45 45.7	
	comp=Z,63nm,19.6s,baz=351,slow=35							
ESDC	Sonseca Array	60.17	298			P	02 22 22.3	+0.6
ESDC	Sonseca Array	60.17	298	P		P	02 22 21.6	-0.1
	comp=Z,1.8nm,1.0s,baz=55,slow=6.6,SNR=8.8							
ESDC				LR	LR		02 51 36.1	
	comp=Z,36nm,18.4s,baz=40,slow=39							
	comp=Z,1.8nm,1.0s							
CAST	Castle Rocks	67.32	22			P	02 23 10.1	+1.7
CAST				IAmb	IAmb		02 23 11.1	
	comp=Z,3.2nm,0.8s							
KTH	Kantishna Hill	67.54	22	P		P	02 23 10.9	+1.0
KTH				IAmb	IAmb		02 23 12.2	
	comp=Z,5.6nm,1.0s							
ILAR	Eielson Array	67.61	19	P		P	02 23 09.6	-0.6
	comp=Z,1.5nm,0.8s,baz=320,slow=5.7,SNR=13							
	comp=Z,1.5nm,0.8s							
TORD	Torodi Ar. Bea	71.76	271	P		P	02 23 36.6	+0.1
TORD	Torodi Ar. Bea	71.76	271	P		P	02 23 35.6	-0.9
	comp=Z,2.0nm,0.6s,baz=44,slow=5.4,SNR=5.3							
	comp=Z,2.0nm,0.6s							
BLKN	Baker Lake	73.82	358			P	02 23 49.6	+1.6
BLKN				IAmb	IAmb		02 23 49.8	
	comp=Z,5.4nm,0.9s							
YKA	Yellowknife Ar	75.18	6	P		P	02 23 55.4	-0.5
	comp=Z,0.5nm,0.7s,baz=356,slow=5.8,SNR=9.2							
	comp=Z,0.5nm,0.7s							
YKA	Yellowknife Ar	75.18	6	*i* P		P	02 24 00.2	+4.3
YKA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
R33M	Jennings River	75.90	15	P		P	02 24 01.4	+1.1
SCHQ	Schefferville	79.06	341	P		P	02 24 17.1	-0.7
	comp=Z,3.2nm,0.9s,baz=40,slow=5.9,SNR=3.5							
	comp=Z,3.2nm,0.9s							
WRA	Warramunga Arr	80.25	128	P		P	02 24 24.5	-0.3
WRA	Warramunga Arr	80.25	128	P		P	02 24 24.0	-0.8
	comp=Z,1.2nm,0.9s,baz=326,slow=5.1,SNR=7.2							
	comp=Z,1.2nm,0.9s							
WRA	Warramunga Arr	80.25	128	*i* P		P	02 24 25.7	+0.9
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
WR8	Warramunga Arr	80.36	128	P		P	02 24 25.9	+0.6
WR8				IAmb	IAmb		02 25 04.2	
	comp=Z,6.9nm,1.2s							
DBIC	Dimbokro	80.85	271	P		P	02 24 28.7	+0.5
DBIC	Dimbokro	80.85	271	P		P	02 24 28.7	+0.5
DBIC				pmax	pmax			
	comp=Z,29nm,1.4s							
ASAR	Alice Springs	82.92	131	P		P	02 24 39.6	+0.8
ASAR	Alice Springs	82.92	131	P		P	02 24 38.2	-0.6
	comp=Z,0.9nm,0.8s,baz=326,slow=5.2,SNR=6.8							
	comp=Z,0.9nm,0.8s							
BOSA	Boshof	85.96	225	P		P	02 24 54.8	+0.6
BOSA	Boshof	85.96	225	P		P	02 24 54.8	+0.6
BOSA				pmax	pmax			
	comp=Z,15nm,1.5s							
PDAR	Pinedale Array	95.16	6	P		P	02 25 37.9	+0.4
	comp=Z,0.2nm,0.4s,baz=345,slow=5.5,SNR=2.5							
	comp=Z,0.2nm,0.4s							

WEL 05 02:13:31.1±1.2, 38°S±6°×17°7E±°, h4km±6km, M2.4/4, ML2.6/6, MLv2.4/4, Error ellipse: s-maj=8.1km s-min=4.4km az=178.0, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHRZ	Whale Island	0.04	38	P	Pg	02 13 32.6	+0.4
EDRZ	Edgecumbe	0.27	216	P	Pg	02 13 37.3	+0.8
OPRZ	Ohinepanea	0.31	277	P	Pg	02 13 37.6	+0.4
OPRZ				S	Sg	02 13 42.3	+1.0
URZ	Urewera	0.40	161	P	Pg	02 13 39.1	+0.3
RUGZ	Raukumara Rang	0.58	98	P	Pg	02 13 42.7	+0.3
RUGZ				S	Sg	02 13 50.9	+1.0
MUGZ	Murupara	0.61	193	P	Pg	02 13 42.7	-0.1
MWZ	Matawai	0.64	134	P	Pg	02 13 43.8	+0.4

*NEIC **05** 02:19:41.3±1.6, 35°.77N±0°.01×117°.60W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.9km az=60.0*

PAS 05 02:19:41.9±1.6, 35°.775N±0°.010×117°.62W±0°.01, h2km±4km, ML3.3/22, ML3.2/46(NEIC), Error ellipse: s-maj=1.4km s-min=1.4km az=67.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	Tower One	0.12	286		Pg	02 19 45.0	+0.7
TOW					Sg	02 19 48.1	+2.1
SRTC	Snort	0.14	232		Pg	02 19 45.1	+0.6
SRTC					Sg	02 19 47.9	+1.6
WVPM	Volcano Peak E	0.24	317		Pg	02 19 46.7	+0.2
WNMM	Nine Mile Cany	0.24	286		Pg	02 19 46.9	+0.3
WRVM	Rose V. Centra	0.32	316		Pg	02 19 48.2	+0.1
CCCA	Chr Cany lake	0.32	140		Pg	02 19 48.7	+0.6
CCCA					Sg	02 19 53.9	+1.6
MFS	McCloud Flat S	0.39	331		Pg	02 19 49.6	+0.2
MFS					Sg	02 19 55.7	+1.1
WBSM	Bird Springs	0.49	241		Pg	02 19 51.2	0.0
WORM	Onyx Ranch	0.52	261		Pg	02 19 51.6	-0.1
WORM					Sg	02 19 58.7	+0.2
DTP	Desert Tortois	0.54	200		Pg	02 19 52.0	-0.2
QSM	Queen of Sheba	0.64	72		Pg	02 19 54.0	-0.1
QSM				IAML		02 20 04.4	
	comp=N,1μm,0.7s						
CCAC	Calif City Air	0.70	208		Pg	02 19 55.1	-0.2
CCAC				IAML		02 20 05.4	
	comp=E,1μm,0.5s						
CCAC				IAML		02 20 05.6	
	comp=N,1μm,0.4s						
ISA	Isabella, Lake	0.71	261	IAML		02 20 05.9	
	comp=E,806nm,0.4s						
CGO	Cerro Gordo	0.79	349		Pg	02 19 56.7	-0.3
GWY	Greenwater Val	0.87	62		Pg	02 19 58.4	-0.2
GWY	Greenwater Val	0.87	62	IAML		02 20 15.3	
	comp=N,1μm,0.5s						
GWY				IAML		02 20 15.3	
	comp=E,945nm,0.5s						
TEJ	El Tejon	1.03	238		Pg	02 20 00.9	-0.7
SBB	Saddle Back Bu	1.10	189		Pg	02 20 02.1	-0.8
GRAC	Grapevine Rang	1.24	9	IAML		02 20 25.6	
	comp=N,578nm,0.5s						
GRAC				IAML		02 20 25.8	
	comp=E,552nm,0.8s						
WCT	Wildcat Mounta	1.29	38		Pg	02 20 05.9	-0.7
WCT				IAML		02 20 25.3	
	comp=E,335nm,0.5s						
WCT				IAML		02 20 26.8	
	comp=N,307nm,0.6s						
DSCC	Desert Studies	1.39	117		Pn	02 20 06.4	-1.8
PASC	Pasadena Art C	1.67	196		Pn	02 20 11.2	-0.9
PSRC	Puddingstone R	1.69	185		Pn	02 20 11.8	-0.6
BCW	Bitter Crk WRg	1.69	241		Pn	02 20 11.7	-0.7
BCW				IAML		02 20 51.7	
	comp=N,300nm,1.0s						
MTPC	Mountain Pass	1.71	99		Pn	02 20 11.4	-1.4
MTUM	Tungsten Hills	1.75	334		Pb	02 20 14.6	-0.2
BENR	Benton	2.08	339		Pb	02 20 21.0	+0.5
ELS	Elsinore Mount	2.13	176		Pn	02 20 17.7	-0.8
ELS				IAML		02 20 50.9	
	comp=E,101nm,0.7s						
CRY	Cary Ranch	2.32	162		Pn	02 20 20.6	-0.5
PFO	Pinyon Flats O	2.36	156	Pn	Pn	02 20 20.5	-1.2
PFO				IAML		02 21 03.5	
	comp=E,84nm,1.1s						
PMPB	Monarch Peak	2.62	281		Pn	02 20 26.8	+1.6
PRN	Pahroc Range	2.63	51	Pn	Pn	02 20 25.1	-0.4
PRN				IAML		02 21 18.2	
	comp=E,124nm,0.8s						
PRN				IAML		02 21 21.6	
	comp=N,114nm,0.9s						
NVAR	Mina Array Bea	2.71	349		Pn	02 20 27.1	+0.5
MYLM	Yosemite Lake	2.77	306		Pb	02 20 31.9	-0.2
SAO	San Andreas Ge	3.25	289		Pn	02 20 35.8	+2.0
BLYC	Blythe	3.25	128	IAML		02 21 27.8	
	comp=E,72nm,0.7s						
LCMT	Little Creek M	3.74	69		Pn	02 20 40.6	0.0
KNB	Kanab	4.06	71	Pn	Pn	02 20 44.8	-0.3
KNB				IAML		02 21 51.5	
	comp=N,22nm,1.3s						
KNB				IAML		02 21 55.4	
	comp=E,20nm,0.9s						
Y14A	Wickenburg	4.21	114		Pn	02 20 45.1	-2.0
Y14A				IAML		02 22 08.3	
	comp=E,23nm,0.6s						
113A	Mohawk Valley,	4.38	132		Pn	02 20 48.0	-1.3
113A				IAML		02 22 01.7	
	comp=E,18nm,0.7s						
113A				IAML		02 22 08.1	
	comp=N,20nm,0.9s						
X16A	Lo Mia Camp, P	5.24	103	Pn	Pn	02 21 01.5	+0.1

*SOME **05** 02:29:54.5, 42°.05N×78°.78E, h15km*
*KRNET **05** 02:29:54.8±0.1, 42°.10N×78°.82E, h13km, mb2.6*
*NNC **05** 02:29:55.7±1.0, 42°.16N×78°.85E, h0km, mb3.1, mpv3.1, Error ellipse: s-maj=7.7km s-min=3.0km az=163.0*

ISC 05 02:29:55.0±1.7, 42°.06N±0°.05×78°.77E±0°.05, h3km±12km, n31, σ1°00/54, 8C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	0.50	327	⇑*i*P	Pg	02 30 04.6	0.0
PRZ				⇑*i*S	Sg	02 30 11.5	+0.3
TARG	Taragay, Kyrgy	0.80	246	⇓*i*P	Pg	02 30 10.7	+0.5
TARG				⇓*i*S	Sb	02 30 22.4	-0.7
KDJ	Kajisay	1.19	274	⇓*i*P	Pb	02 30 17.6	-0.7
KDJ				⇓*i*S	Sb	02 30 34.0	-0.1
SHLS	Shalkode	1.21	25	P	Pn	02 30 19.5	+0.6
SHLS	4.3nm,0.1s			S	Sn	02 30 37.5	+1.6
	9.0nm,0.2s						
SHLS	Shalkode	1.21	25	*e*P	Pn	02 30 19.5	+0.6
SHLS				*e*S	Sn	02 30 37.5	+1.6
SHLS	Shalkode	1.21	25	*e*P	Pn	02 30 19.5	+0.6
SHLS	4.3nm,0.1s			*e*S	Sn	02 30 37.5	+1.6
	12nm,0.1s						
PDGK	Podgornoye	1.37	22	⇓P	Pn	02 30 19.2	-2.0
PDGK	1.2nm,0.4s			⇓S	Sb	02 30 36.2	-3.2
	10nm,0.5s						
TNSS	Tian-Shan	1.66	306	P	Pb	02 30 26.1	-0.4
TNSS	0.9nm,0.1s			S	Sg	02 30 48.9	+0.5
	2.4nm,0.2s						
TNSS	Tian-Shan	1.66	306	*e*P	Pb	02 30 26.1	-0.4
TNSS				*e*S	Sg	02 30 48.9	+0.5
TNSS	Tian-Shan	1.66	306	*e*P	Pb	02 30 26.1	-0.4
TNSS	0.3nm,0.1s			*e*S	Sg	02 30 48.9	+0.5
	3.8nm,0.1s						
KOTS	Kotyrbulak	1.69	314	P	Pb	02 30 26.9	0.0
KOTS	3.3nm,0.2s			S	Sg	02 30 50.1	+0.7
	19nm,0.3s						
KOTS	Kotyrbulak	1.69	314	*e*P	Pb	02 30 26.9	0.0
KOTS	3.3nm,0.1s			*e*S	Sg	02 30 50.1	+0.7
	19nm,0.2s						
ULHL	Ulahol	1.89	276	⇑*i*P	Pb	02 30 30.1	-0.2
ULHL				⇑*i*S	Sg	02 30 56.0	+0.3
MTBS	Maitube	2.03	302	Pg	Pb	02 30 31.9	-0.7
MTBS	2.1nm,0.2s			Lg	Lg	02 30 58.8	
	12nm,0.2s						
MTBS	Maitube	2.03	302	*e*P	Pb	02 30 31.9	-0.7
MTBS				*e*S	Sb	02 30 58.8	+0.5
MTBS	Maitube	2.03	302	*e*P	Pb	02 30 31.9	-0.7
MTBS	0.7nm,0.1s			*e*S	Sb	02 30 58.8	+0.5
	12nm,0.1s						
BLB	Baldybastay	2.04	354	Pg	Pb	02 30 32.0	-0.9
BLB	44nm,0.2s			Lg	Lg	02 30 59.1	
	13nm,0.1s						
BOOM	Boomskoye usch	2.14	282	⇑*i*P	Pb	02 30 33.7	-0.9
BOOM				⇑*i*S	Sb	02 31 01.8	+0.1
NRN	Naryn	2.17	254	⇓*e*P	Pb	02 30 35.0	-0.1
NRN				⇓*e*S	Sg	02 31 04.0	-0.6
CHKK	Chushkaly	2.22	324	Pg	Pb	02 30 35.7	0.0
CHKK	9.9nm,0.2s			Lg	Lg	02 31 05.6	
	35nm,0.5s						
CHKK	Chushkaly	2.22	324	*e*P	Pb	02 30 35.9	+0.2
CHKK	3.2nm,0.1s			*e*S	Sg	02 31 05.6	-0.7
	24nm,0.3s						
KTBS	Karatobe	2.25	318	Pg	Pb	02 30 36.7	+0.3
KTBS	8.1nm,0.3s			Lg	Lg	02 31 07.5	
	55nm,0.5s						
ARXS	Arharly	2.26	342	Pg	Pb	02 30 35.5	-0.9
ARXS	4.8nm,0.4s			Lg	Lg	02 31 05.3	
	5.6nm,0.5s						
KST	Kastek	2.29	296	Pg	Pb	02 30 37.0	-0.2
KST	2.5nm,0.2s			Lg	Lg	02 31 07.6	
	11nm,0.5s						
KST	Kastek	2.29	296	*e*P	Pb	02 30 37.0	-0.2
KST	2.5nm,0.2s			*e*S	Sg	02 31 07.6	-1.1
	11nm,0.5s						
KNOS	Konyrlen	2.31	7	Pg	Pb	02 30 36.3	-1.2
KNOS	3.3nm,0.2s			Lg	Lg	02 31 06.7	
	8.5nm,0.2s						
TKM2	Tokmak 2	2.50	291	⇓*i*P	Pb	02 30 38.7	-2.0
TKM2				⇓*i*S	Sb	02 31 10.5	-1.4
KUU	Kurty	2.56	317	Pg	Pb	02 30 40.4	-1.1

IDC 05 02:36:06.7±9.0, 6°26S×128°77E, h355km±108km, mb2.8/2, mbtmp3.7/5, Error ellipse: s-maj=63.9km s-min=42.2km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.16**	**194**	P	P	02 38 47.9	-2.0
	0.6nm,0.4s,baz=21,slom=13,SNR=1.4						
FITZ				S	S	02 41 04.8	-0.2
	0.6nm,0.4s,baz=77,slow=18,SNR=1.6						
WRA	**Warramunga Arr**	**14.64**	**159**	P	P	02 39 15.3	-2.0
	1.1nm,0.6s,baz=341,slow=13,SNR=19						
WRA				S	S	02 41 53.4	-1.8
	0.3nm,0.5s,baz=339,slow=22,SNR=1.5						
ASAR	**Alice Springs**	**18.00**	**165**	P	P	02 39 54.7	+1.2
	4.2nm,0.5s,baz=348,slow=11,SNR=62						
MKAR	**Makanchi Array**	**66.94**	**327**	P	P	02 46 22.1	+0.1
	0.2nm,0.4s,baz=125,slow=7.6,SNR=2.0						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**71.24**	**329**	P	P	02 46 47.8	-0.2
	0.2nm,0.4s,baz=126,slow=4.7,SNR=1.9						
	0.2nm,0.4s						

*NOU **05** 02:51:04.9, 18°72S×174°02W, h128km, mb4.7/11, Tonga Islands*
*IDC **05** 02:51:17.6±3.0, 19°10S×175°21W, h221km±26km, mb3.5/9, mbtmp4.1/10, Error ellipse: s-maj=25.1km s-min=17.0km az=81.0*
ISC 05 02:51:05.4±0.8, 18°69S±0°09×174°2W±0°1, h150km, n27, σ3°08/21, mb3.9/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**4.37**	**275**	P	**Pn**	**02 52 12.5**	**+2.1**
AFI	**Afiamalu**	**5.30**	**27**	P	**Pn**	**02 52 22.7**	**-0.3**
AFI	**Afiamalu**	**5.30**	**27**	S	**Sn**	**02 53 20.5**	**-3.0**
TAVE	**Taveuni**	**5.75**	**289**	P	**Pn**	**02 52 30.9**	**+2.1**
DGTI	**Dogotuki**	**6.22**	**291**	P	**Pn**	**02 52 36.9**	**+1.8**
MSVF	**Nonsavu**	**7.39**	**276**	P	**Pn**	**02 52 52.5**	**+1.7**
	35nm,0.7s,baz=117,slow=15,SNR=21						
MSVF	**Nonsavu**	**7.39**	**276**	P	**Pn**	**02 52 52.8**	**+2.0**
URZ	**Urewera**	**20.91**	**199**	P	**P**	**02 55 35.7**	**-0.3**
	14nm,0.3s,baz=290,slow=3.4,SNR=18						
URZ				S	**S**	**02 59 11.5**	**-9.2**
	16nm,0.8s,baz=253,slow=22,SNR=5.8						
	14nm,0.3s						
URZ	**Urewera**	**20.91**	**199**	P	**P**	**02 55 36.5**	**+0.5**
HIZ	**Hauiti**	**21.92**	**203**	P	**P**	**02 55 49.0**	**+2.3**
BKZ	**Black Stump Fm**	**21.94**	**200**	P	**P**	**02 55 47.3**	**+0.4**
QRZ	**Quartz Range**	**24.82**	**204**	P	**P**	**02 56 15.4**	**+1.8**
KHZ	**Kahutara**	**25.83**	**201**	P	**P**	**02 56 26.2**	**+3.5**
STKA	**Stephens Creek**	**41.77**	**243**	P	**P**	**02 58 36.9**	**-3.2**
	1.2nm,0.7s,baz=58,slow=9.5,SNR=1.6						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**48.39**	**260**	P	**P**	**02 59 30.1**	**-2.5**
	0.8nm,0.3s,baz=97,slow=7.1,SNR=36						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**48.40**	**255**	P	**P**	**02 59 30.1**	**-2.5**
	1.3nm,0.6s,baz=94,slow=7.9,SNR=21						
	1.3nm,0.6s						
VNDA	**Vanda**	**60.05**	**186**	P	**P**	**03 00 58.5**	**+2.5**
	1.1nm,0.6s,baz=358,slow=6.7,SNR=8.2						
	1.1nm,0.6s						
QSPA	**South Pole Qui**	**71.38**	**180**	P	**P**	**03 02 10.5**	**+1.6**
	2.5nm,0.7s,baz=26,slow=1.1,SNR=14						
	2.5nm,0.7s						
H03S2	**Juan Fernandez**	**84.06**	**124**	T	T	04 36 24.3	
	baz=249,slow=75						
H03S1	**Juan Fernandez**	**84.08**	**124**	T	T	04 36 24.3	
	baz=249,slow=75						
H03S3	**Juan Fernandez**	**84.08**	**124**	T	T	04 36 29.7	
	baz=249,slow=75						
H03N2	**Juan Fernandez**	**84.18**	**123**	T	T	04 36 36.4	
	baz=258,slow=72						
H03N3	**Juan Fernandez**	**84.19**	**123**	T	T	04 36 28.1	
	baz=258,slow=72						
H03N1	**Juan Fernandez**	**84.20**	**123**	T	T	04 36 30.8	
	baz=258,slow=72						
MAW	**Mawson**	**84.44**	**199**	P	**P**	**03 03 22.3**	**+1.5**
	2.5nm,1.0s,baz=162,slow=6.4,SNR=2.6						
	2.5nm,1.0s						
ILAR	**Eielson Array**	**85.81**	**11**	P	P	03 03 34.8	+7.4
	0.1nm,0.6s,baz=204,slow=5.9,SNR=2.0						
	0.1nm,0.6s						
SNAA	**Sanae**	**89.68**	**177**	P	**P**	**03 03 47.4**	**+1.3**
	0.6nm,0.7s,baz=212,slow=13,SNR=1.7						
	0.6nm,0.7s						

*NNC **05** 02:51:21.8±1.2, 42°13N×78°87E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=8.9km s-min=3.4km az=157.0*
*KRNET **05** 02:51:22.5±0.1, 42°11N×78°80E, h15km, mb2.3*
*SOME **05** 02:51:22.6, 42°17N×78°83E, h10km*
ISC 05 02:51:21.9±1.9, 42°08N±0°06×78°82E±0°06, h2km±13km, n22, σ1°00/35, 11C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.51**	**323**	⇑*i*P	**Pg**	**02 51 32.1**	**+0.4**
PRZ				⇑*i*S	**Sg**	**02 51 39.0**	**+0.7**
TARG	**Taragay, Kyrgy**	**0.83**	**246**	⇓*i*P	**Pg**	**02 51 38.3**	**+0.4**
TARG				⇓*i*S	**Sg**	**02 51 50.2**	**+1.5**
SHLS	**Shalkode**	**1.18**	**24**	P	**Pn**	**02 51 46.4**	**+0.9**
	2.5nm,0.2s						
SHLS				S	**Sn**	**02 52 03.8**	**+1.5**
	6.3nm,0.4s						
SHLS	**Shalkode**	**1.18**	**24**	*e*P	**Pn**	**02 51 46.9**	**+1.4**
	1.3nm,0.1s						
SHLS				*e*S	**Sn**	**02 52 04.0**	**+1.7**
	3.2nm,0.1s						
KDJ	**Kajisay**	**1.22**	**273**	⇑*i*P	**Pn**	**02 51 45.0**	**-1.2**
KDJ				⇑*i*S	**Sb**	**02 52 01.4**	**-0.7**
PDGK	**Podgornoye**	**1.34**	**21**	⇑P	**Pn**	**02 51 45.1**	**-2.7**
	1.1nm,0.5s						
PDGK				⇓S	**Sb**	**02 52 03.5**	**-2.2**
	5.0nm,0.5s						
TNSS	**Tian-Shan**	**1.68**	**305**	P	**Pb**	**02 51 53.7**	**-0.2**
	0.7nm,0.2s						
TNSS				S	**Sg**	**02 52 16.2**	**+0.3**
	1.3nm,0.2s						
TNSS	**Tian-Shan**	**1.68**	**305**	*e*P	**Pg**	**02 51 54.1**	**-0.1**
	0.2nm,0.0s						
TNSS				*e*S	**Sg**	**02 52 16.3**	**+0.3**
	2.3nm,0.1s						
ULHL	**Ulahol**	**1.92**	**276**	⇑*i*P	**Pb**	**02 51 57.8**	**0.0**
ULHL				⇑*i*S	**Sg**	**02 52 23.3**	**-0.4**
BLB	**Baldybastay**	**2.03**	**353**	Pg	**Pb**	**02 51 59.2**	**-0.5**
	26nm,0.2s						
BLB				Lg	Lg	02 52 25.5	
	9.1nm,0.3s						
MTBS	**Maitube**	**2.05**	**302**	Pg	**Pb**	**02 51 59.6**	**-0.4**
	2.2nm,0.3s						
MTBS				Lg	Lg	02 52 26.3	
	9.3nm,0.2s						
MTBS	**Maitube**	**2.05**	**302**	*e*P	**Pb**	**02 52 00.1**	**+0.2**
	2.6nm,0.1s						
MTBS				*e*S	**Sb**	**02 52 26.5**	**+0.5**
	3.8nm,0.1s						
BOOM	**Boomskoye usch**	**2.17**	**282**	⇑*i*P	**Pb**	**02 52 01.1**	**-1.0**
BOOM				⇑*i*S	**Sb**	**02 52 29.2**	**-0.4**
CHKK	**Chushkaly**	**2.23**	**323**	Pg	**Pb**	**02 52 03.3**	**+0.4**
	18nm,0.2s						
CHKK				Lg	Lg	02 52 32.8	
	17nm,0.4s						
CHKK	**Chushkaly**	**2.23**	**323**	*e*P	**Pb**	**02 52 02.8**	**0.0**
	3.4nm,0.0s						
CHKK				*e*S	**Sb**	**02 52 31.2**	**+0.3**
	6.0nm,0.1s						
ARXS	**Arharly**	**2.25**	**342**	Pg	**Pb**	**02 52 03.2**	**-0.1**
	4.8nm,0.5s						
ARXS				Lg	Lg	02 52 33.5	
	5.5nm,0.3s						
KTBS	**Karatobe**	**2.27**	**317**	Pg	**Pb**	**02 52 03.9**	**+0.4**
	4.0nm,0.3s						
KTBS				Lg	Lg	02 52 33.5	
	27nm,0.5s						
KNOS	**Konyrlen**	**2.29**	**6**	Pg	**Pb**	**02 52 03.4**	**-0.8**
	1.5nm,0.2s						
KNOS				Lg	Lg	02 52 33.2	
	7.1nm,0.2s						
KST	**Kastek**	**2.32**	**296**	Pg	**Pb**	**02 52 04.6**	**0.0**
	1.3nm,0.2s						
KST				Lg	Lg	02 52 35.1	
	19nm,0.7s						
KST	**Kastek**	**2.32**	**296**	*e*P	**Pb**	**02 52 05.3**	**+0.8**
	0.6nm,0.1s						
KST				*e*S	**Sg**	**02 52 35.5**	**-0.9**
	12nm,0.2s						
TKM2	**Tokmak 2**	**2.53**	**291**	⇑Pg	**Pb**	**02 52 07.2**	**-0.9**
	1.0nm,0.7s						
TKM2				⇑Lg	Lg	02 52 41.8	
	3.8nm,0.5s						
KRBS	**Karabastau**	**2.82**	**306**	Pg	**Pb**	**02 52 12.0**	**-1.0**
	2.3nm,0.2s						
KRBS				Lg	Lg	02 52 47.9	
	12nm,0.4s						

*IDC **05** 03:01:55.1±1.3, 39°39S×175°61E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=32.3km s-min=13.1km az=141.0*
*WEL **05** 03:01:55.4±0.6, 40°S±2°×17°6E±°, h21km±5km, ML4.0/12, MLv3.7/12, Error ellipse: s-maj=3.7km s-min=2.9km az=109.5, confirmed*
ISC 05 03:01:55.1±0.9, 40°02S±0°02×176°24E±0°03, h32km±7km, n79, σ1°04/89, mb3.3/3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNHZ	**Pukenui**	**0.11**	**344**	P	**Pn**	**03 02 00.8**	**+0.1**
WPHZ	**Waipukurau**	**0.16**	**106**	P	**Pn**	**03 02 01.9**	**+0.5**
DVHS	**Dannevirke Hig**	**0.21**	**211**	P	**Pn**	**03 02 01.2**	**-0.9**
DVHS				S	**Sb**	**03 02 07.2**	**+0.9**
TSZ	**Takapari Road**	**0.22**	**260**	P	**Pn**	**03 02 02.0**	**-0.2**
TSZ				S	**Sn**	**03 02 07.0**	**+0.3**
WPWS	**Waipawa Distri**	**0.28**	**74**	P	**Pn**	**03 02 03.0**	**0.0**
WPWS				S	**Sn**	**03 02 08.8**	**+0.8**
DVHZ	**Dannevirke**	**0.28**	**192**	P	**Pn**	**03 02 03.3**	**+0.2**
DVHZ				S	**Sb**	**03 02 09.7**	**+1.9**
PRHZ	**Porangahau**	**0.39**	**129**	P	**Pn**	**03 02 05.3**	**+0.8**
PRHZ				S	**Sn**	**03 02 13.9**	**+3.0**
KRHZ	**Kereru**	**0.39**	**15**	P	**Pn**	**03 02 04.0**	**-0.6**
KRHZ				S	**Sn**	**03 02 10.6**	**-0.3**
MNGS	**Mangaweka Scho**	**0.41**	**302**	P	**Pn**	**03 02 04.4**	**-0.4**
MNGS				S	**Sb**	**03 02 11.0**	**+0.5**
WDPS	**Woodville Poli**	**0.42**	**222**	P	**Pn**	**03 02 05.6**	**+0.6**
ANWZ	**Angora Road**	**0.47**	**158**	P	**Pn**	**03 02 06.7**	**+1.0**
ANWZ				S	**Sn**	**03 02 15.9**	**+3.0**
PXZ	**Pawanui**	**0.48**	**91**	P	**Pn**	**03 02 06.4**	**+0.7**
PXZ				S	**Sn**	**03 02 15.8**	**+2.8**
POWZ	**Post Office Ro**	**0.52**	**224**	P	**Pn**	**03 02 06.8**	**+0.4**
KAHZ	**Kahuranaki**	**0.54**	**65**	P	**Pn**	**03 02 07.5**	**+0.8**
PRWZ	**Pori Road**	**0.57**	**201**	P	**Pn**	**03 02 08.1**	**+1.1**
KWHZ	**Kaweka Forest**	**0.61**	**13**	P	**Pn**	**03 02 07.5**	**-0.2**
KWHZ				S	**Sn**	**03 02 16.5**	**+0.1**
BFZ	**Birch Farm**	**0.66**	**180**	P	**Pn**	**03 02 09.1**	**+0.8**
BFZ				S	**Sn**	**03 02 19.9**	**+2.4**
MCHZ	**McNeill Hill**	**0.68**	**31**	P	**Pn**	**03 02 09.3**	**+0.8**
MOVZ	**Moawhango**	**0.72**	**328**	P	**Pn**	**03 02 09.2**	**+0.1**
OHWZ	**Ohakea**	**0.73**	**255**	P	**Pn**	**03 02 11.1**	**+1.8**
TIWZ	**Tintock**	**0.80**	**200**	P	**Pn**	**03 02 11.6**	**+1.3**
MRZ	**Mangatainoka R**	**0.81**	**218**	P	**Pn**	**03 02 11.3**	**+0.8**
WNVZ	**Wahianoa**	**0.85**	**324**	P	**Pn**	**03 02 11.9**	**+0.8**
MTVZ	**Mangateitei**	**0.87**	**317**	P	**Pn**	**03 02 12.3**	**+1.0**
BKZ	**Black Stump Fm**	**0.88**	**13**	P	**Pn**	**03 02 11.6**	**+0.3**
TUVZ	**Tukino**	**0.88**	**329**	P	**Pn**	**03 02 12.5**	**+1.1**
CPWZ	**Castlepoint**	**0.89**	**182**	P	**Pn**	**03 02 13.3**	**+1.9**
WHVZ	**Whangaehu Hut**	**0.89**	**325**	P	**Pn**	**03 02 12.6**	**+0.9**
TRVZ	**Turoa**	**0.90**	**323**	P	**Pn**	**03 02 12.7**	**+0.9**
MAVZ	**Matarangi**	**0.92**	**325**	P	**Pn**	**03 02 12.9**	**+0.8**
FWVZ	**Far West T-bar**	**0.93**	**325**	P	**Pb**	**03 02 13.1**	**+0.1**
SNVZ	**South Ngauruho**	**0.95**	**331**	P	**Pb**	**03 02 13.5**	**+0.2**
ARHZ	**Aropaoanui**	**0.96**	**38**	P	**Pn**	**03 02 12.9**	**+0.6**
OTVZ	**Oturere**	**0.97**	**332**	P	**Pb**	**03 02 13.7**	**+0.2**
ETVZ	**East Tongariro**	**0.97**	**335**	P	**Pb**	**03 02 13.9**	**+0.2**
NGZ	**Ngauruhoe**	**0.98**	**329**	P	**Pb**	**03 02 13.9**	**+0.2**
COVZ	**Chateau Observ**	**0.98**	**326**	P	**Pb**	**03 02 13.9**	**+0.2**
TMVZ	**Te Maari**	**0.99**	**335**	P	**Pb**	**03 02 14.1**	**+0.1**
WAZ	**Wanganui**	**1.00**	**285**	P	**Pb**	**03 02 15.0**	**+1.0**
PKVZ	**Pokaka**	**1.01**	**316**	P	**Pb**	**03 02 14.2**	**+0.1**
NNVZ	**North Ngauruho**	**1.01**	**331**	P	**Pb**	**03 02 14.5**	**+0.2**
NTVZ	**North Tongarir**	**1.02**	**334**	P	**Pb**	**03 02 14.5**	**+0.1**
NMHZ	**Naumai**	**1.02**	**26**	P	**Pb**	**03 02 14.2**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.04**	**212**	P	**Pb**	**03 02 13.9**	**-0.7**
KRVZ	**Karewarewa**	**1.04**	**333**	P	**Pb**	**03 02 13.8**	**-0.8**
WTVZ	**West Tongariro**	**1.04**	**331**	P	**Pb**	**03 02 14.8**	**+0.1**
RITZ	**Rihia Road**	**1.08**	**344**	P	**Pb**	**03 02 15.4**	**0.0**
TMWZ	**Te Maipa**	**1.12**	**194**	P	**Pb**	**03 02 15.3**	**-0.7**
KATZ	**Kakaramea**	**1.13**	**338**	P	**Pb**	**03 02 16.0**	**-0.2**
TWVZ	**Taurewa**	**1.14**	**327**	P	**Pb**	**03 02 15.9**	**-0.4**
OGWZ	**Otaki Gorge**	**1.14**	**225**	P	**Pb**	**03 02 15.6**	**-0.8**
MRHZ	**Matea Rd**	**1.19**	**7**	P	**Pb**	**03 02 16.4**	**-0.9**
RATZ	**Rangitukua**	**1.21**	**342**	P	**Pb**	**03 02 17.2**	**-0.3**
MTHZ	**Maungataniwha**	**1.26**	**22**	P	**Pb**	**03 02 17.2**	**-1.1**
MTW	**Mount Morrison**	**1.27**	**206**	P	**Pb**	**03 02 16.7**	**-1.7**
RAHZ	**Arahi**	**1.28**	**31**	P	**Pb**	**03 02 17.1**	**-1.6**
KIW	**Kapiti Island**	**1.32**	**230**	P	**Pb**	**03 02 18.3**	**-1.1**
WATZ	**Wairara**	**1.37**	**343**	P	**Pb**	**03 02 18.9**	**-1.3**
WHTZ	**Whakaora**	**1.37**	**351**	P	**Pb**	**03 02 19.9**	**-0.4**
CAW	**Cannon Point**	**1.41**	**219**	P	**Pb**	**03 02 18.8**	**-2.0**
TRWZ	**Traveller**	**1.44**	**197**	P	**Pb**	**03 02 19.2**	**-2.2**
VRZ	**Vera Road**	**1.46**	**308**	P	**Pb**	**03 02 20.6**	**-1.0**
ALRZ	**Allen Road**	**1.46**	**3**	P	**Pn**	**03 02 19.5**	**+0.3**
PAWZ	**Paruwai Farm**	**1.49**	**204**	P	**Pb**	**03 02 20.3**	**-2.0**
WPRZ	**Whakapapatarin**	**1.50**	**358**	P	**Pn**	**03 02 20.3**	**+0.4**
SNGZ	**Shannon Statio**	**1.50**	**35**	P	**Pn**	**03 02 20.1**	**+0.2**
PRRZ	**Plateau Road**	**1.52**	**4**	P	**Pn**	**03 02 20.5**	**+0.3**
KUTZ	**Kaahu Road**	**1.56**	**348**	P	**Pn**	**03 02 21.5**	**+0.8**
MUGZ	**Murupara**	**1.60**	**15**	P	**Pn**	**03 02 21.1**	**0.0**
HRRZ	**Handcock Road**	**1.63**	**1**	P	**Pn**	**03 02 22.1**	**+0.5**
RRRZ	**Republican Roa**	**1.69**	**7**	P	**Pn**	**03 02 22.6**	**+0.1**
PLWZ	**Palliser**	**1.72**	**206**	P	**Pn**	**03 02 22.3**	**-0.6**
RIGZ	**Rimuhau**	**1.77**	**42**	P	**Pn**	**03 02 23.2**	**-0.3**
TARZ	**Mount Tarawera**	**1.79**	**7**	P	**Pn**	**03 02 24.4**	**+0.4**
URZ	**Urewera**	**1.89**	**21**	Pg	**Pn**	**03 02 24.4**	**-0.7**
	3.2nm,0.3s,baz=246,slow=4.6,SNR=15						
URZ				Lg	Lg	03 02 47.1	
	18nm,0.3s,baz=67,slow=21,SNR=7.5						
MWZ	**Matawai**	**1.96**	**31**	P	**Pn**	**03 02 25.5**	**-0.7**
VNDA	**Vanda**	**38.09**	**185**	P	P	03 09 20.0	+10
	0.8nm,0.7s,baz=8.8,slow=18,SNR=9.1						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**39.09**	**282**	P	**P**	**03 09 19.1**	**-0.4**
	0.2nm,0.3s,baz=118,slow=6.2,SNR=6.9						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**40.98**	**287**	P	**P**	**03 09 34.3**	**-0.9**
	0.3nm,0.5s,baz=128,slow=7.6,SNR=5.9						
	0.3nm,0.5s						

*NEIC **05** 03:15:18.0±2.3, 35°64N±0°01×117°55W±0°02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.3km az=348.0*
PAS 05 03:15:18.7±2.4, 35°63N±0°02×117°56W±0°01, h4km±3km, ML3.3/20, ML2.9/62(NEIC), Error ellipse: s-maj=2.2km s-min=1.7km az=188.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.16**	**293**		Pg	03 15 22.4	+0.4
SRTC					Sg	03 15 25.2	+1.1
LRMC	**Laurel Mtn Rad**	**0.18**	**213**		Pg	03 15 22.4	+0.1
CCCA	**Chr Cany lake**	**0.19**	**123**		Pg	03 15 23.1	+0.6
TOW	**Tower One**	**0.24**	**318**		Pg	03 15 23.9	+0.5
WVPM	**Volcano Peak E**	**0.38**	**327**		Pg	03 15 26.1	0.0
MPMC	**Manual Prospec**	**0.43**	**8**		Pg	03 15 26.9	-0.2
WRVM	**Rose V. Centra**	**0.46**	**325**		Pg	03 15 27.5	-0.2
CCAC	**Calif City Air**	**0.60**	**218**		Pg	03 15 30.1	-0.2
CCAC				IAML		03 15 38.9	
	comp=E,1μm,0.3s						
QSM	**Queen of Sheba**	**0.66**	**59**		Pg	03 15 31.1	-0.2
GSC	**Goldstone, Bar**	**0.70**	**118**		Pg	03 15 31.9	-0.2
ISA	**Isabella, Lake**	**0.74**	**273**		Pg	03 15 32.5	-0.5
ISA				IAML		03 15 43.1	
	comp=N,573nm,0.4s						
WASM	**Alta Sierra Ca**	**0.82**	**278**		Pg	03 15 34.0	-0.4
GWY	**Greenwater Val**	**0.92**	**52**		Pg	03 15 35.7	-0.6
GWY				IAML		03 15 53.6	
	comp=E,592nm,0.5s						
SHOC	**Shoshone, Teco**	**1.08**	**75**		Pg	03 15 38.7	-0.7
ALPC	**Antelope**	**1.12**	**213**		Pg	03 15 40.3	+0.2
ALPC					Sb	03 15 55.8	+0.2
SPG2	**Springville 2**	**1.13**	**301**		Pg	03 15 39.5	-1.0
ARVC	**Arvin**	**1.15**	**245**		Pg	03 15 40.4	-0.4
ARVC					Sg	03 15 55.4	-0.3
GRAC	**Grapevine Rang**	**1.37**	**7**		Pn	03 15 44.0	-0.8
GRAC				IAML		03 16 06.8	
	comp=E,339nm,0.4s						
WCT	**Wildcat Mounta**	**1.39**	**33**		Pn	03 15 43.5	-1.5
WCT				IAML		03 16 05.4	
	comp=N,135nm,0.5s						
WCT				IAML		03 16 05.5	
	comp=E,166nm,0.3s						
BFSC	**Mount Baldy Ra**	**1.39**	**183**		Pn	03 15 44.8	-0.3
BFSC					Sb	03 16 03.5	0.0
BBRC	**Big Bear Solar**	**1.46**	**159**		Pn	03 15 44.7	-1.4
PASC	**Pasadena Art C**	**1.54**	**200**		Pn	03 15 45.9	-1.1
PASC				IAML		03 16 11.1	
	comp=E,157nm,0.9s						
PASC				IAML		03 16 12.6	
	comp=N,109nm,0.4s						
BCW	**Bitter Crk WRg**	**1.66**	**246**		Pn	03 15 47.1	-1.6
BCW				IAML		03 16 15.1	
	comp=E,186nm,0.7s						
BCW				IAML		03 16 30.9	
	comp=N,150nm,0.6s						
GMN	**Gold Mountain**	**1.69**	**8**		Pn	03 15 48.5	-0.8
GMN				IAML		03 16 18.4	
	comp=N,82nm,0.5s						
TPNV	**Topopah Spring**	**1.69**	**38**		Pn	03 15 48.1	-1.1
TPNV				IAML		03 16 13.7	
	comp=N,139nm,0.4s						
TPNV				IAML		03 16 16.1	
	comp=N,186nm,0.5s						
DSP	**Deep Springs**	**1.77**	**349**		Pn	03 15 49.7	-0.4
ELS	**Elsinore Mount**	**1.98**	**177**		Pn	03 15 52.2	-0.9
ELS				IAML		03 16 21.9	
	comp=N,78nm,0.2s						
ELS				IAML		03 16 22.2	
	comp=E,86nm,0.2s						
MZP	**Montezuma Peak**	**2.07**	**4**		Pn	03 15 54.2	-0.4
SHPR	**Sheep Range**	**2.13**	**65**		Pn	03 15 54.4	-0.9
SHPR				IAML		03 16 29.9	
	comp=N,53nm,0.5s						
SHPR				IAML		03 16 30.6	
	comp=E,41nm,0.5s						
PFO	**Pinyon Flats O**	**2.21**	**155**		Pn	03 15 55.0	-1.3
V12A	**Nelson**	**2.21**	**87**		Pn	03 15 54.6	-1.7
V12A				IAML		03 16 32.4	
	comp=N,59nm,0.5s						
V12A				IAML		03 16 35.6	
	comp=E,54nm,0.5s						
TPH	**Tonopah**	**2.46**	**6**		Pn	03 15 59.2	-0.6
BORC	**Borrego Spring**	**2.54**	**158**		Pb	03 16 03.6	-1.3
NEE2	**Needles Airpor**	**2.56**	**109**		Pn	03 15 58.9	-2.1
PRN	**Pahroc Range**	**2.69**	**48**		Pn	03 16 04.8	+1.8
PRN				IAML		03 16 54.1	
	comp=N,85nm,0.5s						
PRN				IAML		03 16 54.6	
	comp=E,60nm,0.7s						
NV11	**Mina Array Sit**	**2.84**	**351**		Pn	03 16 05.1	+0.1
NVAR	**Mina Array Bea**	**2.86**	**348**		Pn	03 16 05.0	-0.4
W13A	**Hualapai Mount**	**3.05**	**99**	IAML		03 16 57.7	
	comp=N,22nm,0.3s						
RYN	**Ryan**	**3.09**	**346**		Pn	03 16 09.0	+0.6
BLYC	**Blythe**	**3.13**	**126**		Pn	03 16 06.6	-2.2
BLYC				IAML		03 17 01.8	
	comp=E,27nm,0.7s						
BLYC				IAML		03 17 02.0	
	comp=N,32nm,0.5s						
KNB	**Kanab**	**4.07**	**69**		Pn	03 16 21.8	-0.1
KNB				IAML		03 17 29.3	
	comp=E,11nm,1.6s						
KNB				IAML		03 17 39.3	
	comp=N,11nm,1.8s						

*NEIC **05** 03:19:53.2±1.5, 35°67N±0°02×117°52W±0°02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.6km az=134.0*
PAS 05 03:19:53.7±2.3, 35°64N±0°01×117°53W±0°02, h1km, ML3.3/22, ML3.3/100(NEIC), Error ellipse: s-maj=2.1km s-min=2.0km az=181.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.18**	**131**		Pg	03 19 57.4	+0.2
SRTC	**Snort**	**0.18**	**285**		Pg	03 19 58.0	+0.7
LRMC	**Laurel Mtn Rad**	**0.20**	**217**		Pg	03 19 58.1	+0.4
TOW	**Tower One**	**0.25**	**311**		Pg	03 19 59.1	+0.6
WNMM	**Nine Mile Cany**	**0.36**	**303**		Pg	03 20 01.2	+0.4
WVPM	**Volcano Peak E**	**0.39**	**323**		Pg	03 20 02.0	+0.8
WCSM	**Coso Springs S**	**0.43**	**333**		Pg	03 20 02.2	+0.3
DTP	**Desert Tortois**	**0.46**	**215**		Pg	03 20 02.6	+0.2
DTP					Sg	03 20 09.3	+1.0
WBSM	**Bird Springs**	**0.51**	**258**		Pg	03 20 03.7	+0.2
WBSM					Sg	03 20 11.0	+0.9
WORM	**Onyx Ranch**	**0.58**	**275**		Pg	03 20 04.9	0.0
WORM					Sg	03 20 13.1	+0.7
QSM	**Queen of Sheba**	**0.63**	**59**		Pg	03 20 05.5	-0.2
CCAC	**Calif City Air**	**0.63**	**219**		Pg	03 20 06.0	+0.2
CCAC				IAML		03

W13A	**Hualapai Mount**	**3.03**	**99**		Pn	03 20 41.7	-1.3
W13A				IAML		03 21 33.4	
	comp=N,95nm,1.1s						
W13A				IAML		03 21 34.5	
	comp=E,93nm,0.8s						
BLYC	**Blythe**	**3.11**	**126**		Pn	03 20 41.9	-2.1
BLYC				IAML		03 21 34.4	
	comp=N,102nm,0.7s						
BLYC				IAML		03 21 34.5	
	comp=E,89nm,0.7s						
YUH	**Yuha Desert**	**3.27**	**156**		Pn	03 20 45.2	-1.0
YUH				IAML		03 21 45.8	
	comp=E,45nm,1.1s						
CMB	**Columbia Colle**	**3.31**	**317**		Pn	03 20 48.7	+2.0
CMB				IAML		03 21 43.0	
	comp=E,46nm,1.0s						
CMB				IAML		03 21 46.3	
	comp=N,57nm,0.9s						
SAO	**San Andreas Ge**	**3.36**	**291**		Pn	03 20 48.3	+0.9
CBX	**Cerro Bola**	**3.40**	**168**		Pn	03 20 48.7	+0.7
LCMT	**Little Creek M**	**3.72**	**67**	IAML		03 21 55.1	
	comp=N,32nm,0.9s						
KNB	**Kanab**	**4.04**	**69**	IAML		03 22 10.6	
	comp=N,40nm,1.0s						
KNB				IAML		03 22 13.7	
	comp=E,37nm,1.2s						
Y14A	**Wickenburg**	**4.09**	**113**	IAML		03 22 08.6	
	comp=E,65nm,0.8s						
PSUT	**Pine Spring**	**4.12**	**44**	IAML		03 22 11.6	
	comp=N,36nm,1.0s						
PSUT				IAML		03 22 21.5	
	comp=E,31nm,1.2s						
SPR3	**Spring Creek 3**	**4.21**	**36**	IAML		03 22 07.0	
	comp=N,27nm,1.2s						
SPR3				IAML		03 22 19.8	
	comp=E,26nm,1.1s						
113A	**Mohawk Valley,**	**4.24**	**132**	IAML		03 22 25.5	
	comp=N,21nm,1.0s						
PAHR	**Pah Rah Range**	**4.32**	**341**		Pn	03 21 01.1	+0.5
WUAZ	**Wupatki**	**5.02**	**90**		Pn	03 21 10.1	-0.3
X16A	**Lo Mia Camp, P**	**5.14**	**102**	IAML		03 22 41.5	
	comp=E,14nm,1.2s						
X16A				IAML		03 22 49.5	
	comp=N,16nm,1.2s						
214A	**Organ Pipe Nat**	**5.38**	**132**	IAML		03 22 57.8	
	comp=N,16nm,1.1s						
214A				IAML		03 22 58.3	
	comp=E,19nm,1.2s						

IDC 05 03:25:58.1±388.0, 1°.56N×96°.95E, h0km, Error ellipse: s-maj=790.1km s-min=8.7km az=51.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**26.05**	**249**	H	H	03 58 24.9	
	baz=71,slow=76,SNR=79						
H08S3	**Diego Garcia H**	**26.06**	**249**	H	H	03 58 25.4	
	baz=71,slow=76,SNR=65						
H08S1	**Diego Garcia H**	**26.07**	**249**	H	H	03 58 26.5	
	baz=71,slow=76,SNR=77						
H04N2	**CROZET ISLANDS**	**61.93**	**214**	H	H	04 43 09.9	
	baz=53,slow=76,SNR=51						
H04N1	**CROZET ISLANDS**	**61.94**	**214**	H	H	04 43 10.0	
	baz=53,slow=76,SNR=42						
H04N3	**CROZET ISLANDS**	**61.95**	**214**	H	H	04 43 09.2	
	baz=53,slow=76,SNR=42						
H04S1	**CROZET ISLANDS**	**62.27**	**213**	H	H	04 43 33.7	
	baz=53,slow=76,SNR=8.7						
H04S3	**CROZET ISLANDS**	**62.28**	**213**	H	H	04 43 33.6	
	baz=53,slow=76,SNR=13						
H04S2	**CROZET ISLANDS**	**62.29**	**213**	H	H	04 43 34.9	
	baz=53,slow=76,SNR=14						

IDC 05 03:28:28.5±382.0, 1°.55N×96°.94E, h0km, Error ellipse: s-maj=779.4km s-min=8.7km az=51.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**26.04**	**249**	H	H	04 00 54.4	
	baz=71,slow=76,SNR=70						
H08S3	**Diego Garcia H**	**26.04**	**249**	H	H	04 00 54.6	
	baz=71,slow=76,SNR=69						
H08S1	**Diego Garcia H**	**26.06**	**249**	H	H	04 00 55.8	
	baz=71,slow=76,SNR=84						
H04N2	**CROZET ISLANDS**	**61.92**	**214**	H	H	04 45 39.5	
	baz=53,slow=76,SNR=53						
H04N1	**CROZET ISLANDS**	**61.93**	**214**	H	H	04 45 39.5	
	baz=53,slow=76,SNR=65						
H04N3	**CROZET ISLANDS**	**61.94**	**214**	H	H	04 45 39.1	
	baz=53,slow=76,SNR=58						
H04S1	**CROZET ISLANDS**	**62.26**	**213**	H	H	04 46 03.2	
	baz=53,slow=76,SNR=13						
H04S3	**CROZET ISLANDS**	**62.27**	**213**	H	H	04 46 03.1	
	baz=53,slow=76,SNR=15						
H04S2	**CROZET ISLANDS**	**62.28**	**213**	H	H	04 46 04.3	
	baz=53,slow=76,SNR=14						

*NEIC **05** 03:46:54.2±0.8, 35°.675N±0°.008×117°.50W±0°.02, h5km±1km, Error ellipse: s-maj=2.5km s-min=2.3km az=122.0*

PAS 05 03:46:54.4±0.7, 35°.682N±0°.009×117°.50W±0°.01, h1km, ML3.1/25, ML3.0/26(NEIC), Error ellipse: s-maj=1.8km s-min=1.3km az=68.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.19**	**145**		Pg	03 46 58.9	+0.8
TOW	**Tower One**	**0.25**	**301**		Pg	03 46 60.0	+0.8
LRMC	**Laurel Mtn Rad**	**0.25**	**216**		Pg	03 46 59.5	+0.3
WNMM	**Nine Mile Cany**	**0.37**	**296**		Pg	03 47 01.9	+0.5
WVPM	**Volcano Peak E**	**0.37**	**316**		Pg	03 47 01.9	+0.4
MPMC	**Manual Prospec**	**0.38**	**1**		Pg	03 47 01.8	+0.2
WCSM	**Coso Springs S**	**0.41**	**328**		Pg	03 47 02.6	+0.4
WCSM					Sg	03 47 08.6	+1.1
WRVM	**Rose V. Centra**	**0.45**	**316**		Pg	03 47 03.4	+0.3
DTP	**Desert Tortois**	**0.50**	**214**		Pg	03 47 04.0	0.0
QSM	**Queen of Sheba**	**0.59**	**61**		Pg	03 47 05.9	+0.2
QSM				IAML		03 47 14.4	
	comp=N,1μm,0.5s						
WORM	**Onyx Ranch**	**0.60**	**271**		Pg	03 47 05.5	-0.5
CCAC	**Calif City Air**	**0.68**	**219**	Pg	Pg	03 47 07.4	0.0
CCAC				IAML		03 47 17.5	
	comp=N,826nm,0.3s						
CCAC				IAML		03 47 22.2	
	comp=E,661nm,0.3s						
GSC	**Goldstone, Bar**	**0.68**	**124**	Pg	Pg	03 47 07.7	+0.2
GSC				IAML		03 47 17.4	
	comp=N,828nm,0.4s						
ISA	**Isabella, Lake**	**0.79**	**269**	Pg	Pg	03 47 09.6	0.0
ISA				IAML		03 47 20.8	
	comp=E,654nm,0.5s						
ISA				IAML		03 47 20.9	
	comp=N,541nm,0.4s						
HYS	**Haystack Butte**	**0.82**	**184**		Pg	03 47 09.8	-0.3
GWY	**Greenwater Val**	**0.84**	**53**		Pg	03 47 11.1	+0.6
GWY				IAML		03 47 25.2	
	comp=N,746nm,0.6s						
EDW2	**Edwards Air Fo**	**0.90**	**207**		Pg	03 47 11.1	-0.5
CGO	**Cerro Gordo**	**0.90**	**344**		Pb	03 47 12.8	-0.3
AMDNV	**Amargosa**	**1.25**	**52**		Pg	03 47 17.6	-1.0
DSCC	**Desert Studies**	**1.26**	**115**		Pg	03 47 18.8	-0.7
TUQ	**Turquoise Moun**	**1.31**	**100**		Pg	03 47 19.3	-0.3
WCT	**Wildcat Mounta**	**1.31**	**32**		Pg	03 47 19.3	-0.3
WCT				IAML		03 47 38.8	
	comp=N,203nm,0.4s						
WCT				IAML		03 47 39.6	
	comp=E,184nm,0.4s						
GRAC	**Grapevine Rang**	**1.32**	**5**	Pg	Pg	03 47 19.3	-0.3
GRAC				IAML		03 47 42.1	
	comp=N,271nm,0.8s						
GRAC				IAML		03 47 42.3	
	comp=E,329nm,0.9s						
GRAC	**Grapevine Rang**	**1.32**	**5**		Pg	03 47 19.6	-0.1
CHFC	**Chilao Flat St**	**1.41**	**198**		Pn	03 47 21.0	-0.4
MTPC	**Mountain Pass**	**1.60**	**97**		Pn	03 47 22.6	-1.4
PASC	**Pasadena Art C**	**1.61**	**201**	IAML		03 47 49.2	
	comp=E,114nm,0.8s						
DSP	**Deep Springs**	**1.73**	**347**		Pn	03 47 24.4	-1.2
GMRC	**Granite Mounta**	**1.75**	**120**		Pn	03 47 26.5	+0.4
HMTC	**Hemet**	**2.01**	**168**		Pn	03 47 29.0	-0.6
POB	**Polly Butte**	**2.05**	**166**		Pn	03 47 29.8	-0.3
W13A	**Hualapai Mount**	**3.01**	**100**		Pn	03 47 42.4	-1.1
RYN	**Ryan**	**3.05**	**345**		Pn	03 47 44.4	+0.4
CBX	**Cerro Bola**	**3.43**	**168**		Pn	03 47 48.6	-0.6
ESJX	**Sierra Juarez**	**3.89**	**160**	IAML		03 49 32.8	
	comp=N,21nm,0.1s						
NADM	**Allendale**	**4.52**	**309**		LR	03 49 18.7	
NMTM	**Middletown**	**5.03**	**310**		LR	03 49 08.5	
MNRC	**McLaughlin Min**	**5.07**	**310**		LR	03 49 09.5	

*NEIC **05** 04:11:37.9±2.0, 35°.722N±0°.009×117°.54W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.7km az=249.0*

PAS 05 04:11:38.5±2.2, 35°.72N±0°.02×117°.55W±0°.01, h1km±1km, Mwr3.5/4, ML3.5/102(NEIC), Error ellipse: s-maj=2.4km s-min=1.5km az=196.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.16**	**259**		Pg	04 11 42.4	+0.8
CCCA	**Chr Cany lake**	**0.25**	**142**		Pg	04 11 44.1	+0.9
LRMC	**Laurel Mtn Rad**	**0.26**	**203**		Pg	04 11 43.9	+0.3
WNMM	**Nine Mile Cany**	**0.31**	**293**		Pg	04 11 44.9	+0.4
WNMM					Sg	04 11 49.9	+1.5
WVPM	**Volcano Peak E**	**0.31**	**317**		Pg	04 11 44.8	+0.4
WVPM					Sg	04 11 50.0	+1.4
WCSM	**Coso Springs S**	**0.35**	**330**		Pg	04 11 45.5	+0.3
WCSM					Sg	04 11 50.5	+0.8
WRVM	**Rose V. Centra**	**0.40**	**316**		Pg	04 11 46.3	+0.2
QSM	**Queen of Sheba**	**0.61**	**66**		Pg	04 11 50.2	+0.1
QSM					Sg	04 11 58.5	+0.5
QSM				IAML		04 12 00.2	
	comp=E,4μm,0.2s						
QSM				IAML		04 12 00.7	
	comp=N,3μm,0.3s						
CCAC	**Calif City Air**	**0.68**	**214**		Pg	04 11 51.5	0.0
CCAC				IAML		04 12 01.5	
	comp=E,2μm,0.3s						
CCAC				IAML		04 12 02.3	
	comp=N,3μm,0.4s						
GSC	**Goldstone, Bar**	**0.74**	**124**		Pg	04 11 52.7	+0.1
ISA	**Isabella, Lake**	**0.75**	**266**		Pg	04 11 52.8	-0.1
ISA				IAML		04 12 03.5	
	comp=E,3μm,0.6s						
GWY	**Greenwater Val**	**0.85**	**57**		Pg	04 11 54.7	-0.2
SHOC	**Shoshone, Teco**	**1.05**	**80**		Pg	04 11 58.4	-0.3
ADO	**Adelanto Recei**	**1.17**	**175**		Pb	04 12 01.5	-0.1
ALPC	**Antelope**	**1.20**	**211**		Pg	04 12 01.2	-0.3
ARVC	**Arvin**	**1.20**	**241**		Pg	04 12 01.0	-0.5
AMDNV	**Amargosa**	**1.26**	**54**		Pg	04 12 01.8	-0.9
GRAC	**Grapevine Rang**	**1.28**	**7**		Pg	04 12 02.6	-0.4
GRAC				IAML		04 12 25.5	
	comp=E,1μm,0.4s						
GRAC				IAML		04 12 26.8	
	comp=N,1μm,0.8s						
WCT	**Wildcat Mounta**	**1.30**	**35**		Pg	04 12 02.9	-0.6
WCT				IAML		04 12 22.2	
	comp=N,643nm,0.6s						
WCT				IAML		04 12 25.4	
	comp=E,565nm,0.5s						
DSCC	**Desert Studies**	**1.32**	**116**		Pg	04 12 02.1	-1.6
TUQ	**Turquoise Moun**	**1.36**	**102**		Pg	04 12 03.0	-1.6
GMN	**Gold Mountain**	**1.59**	**8**		Pn	04 12 07.2	-0.8
GMN				IAML		04 12 38.6	
	comp=N,338nm,0.6s						
TPNV	**Topopah Spring**	**1.61**	**40**		Pn	04 12 07.3	-1.0
TPNV				IAML		04 12 33.3	
	comp=N,905nm,0.8s						
TPNV				IAML		04 12 34.9	
	comp=N,590nm,0.6s						
PASC	**Pasadena Art C**	**1.63**	**199**		Pn	04 12 07.4	-1.0
PASC				IAML		04 12 33.9	
	comp=E,341nm,0.9s						
MTPC	**Mountain Pass**	**1.65**	**98**		Pn	04 12 07.1	-1.6
DSP	**Deep Springs**	**1.68**	**349**		Pn	04 12 08.5	-0.5
DSP				IAML		04 12 33.4	
	comp=E,428nm,0.7s						
BCW	**Bitter Crk WRg**	**1.71**	**243**		Pn	04 12 08.3	-1.2
BCW				IAML		04 12 39.6	
	comp=E,866nm,0.8s						
GVRC	**Garvey Reservo**	**1.73**	**196**		Pg	04 12 12.0	+0.3
MZP	**Montezuma Peak**	**1.98**	**4**		Pn	04 12 12.8	-0.6
EW2	**E Wide Canyon**	**2.01**	**152**		Pn	04 12 12.8	-0.9
ELS	**Elsinore Mount**	**2.07**	**177**		Pn	04 12 13.5	-0.9
ELS				IAML		04 12 47.9	
	comp=E,204nm,0.5s						
SHPR	**Sheep Range**	**2.09**	**67**		Pn	04 12 14.0	-0.8
KCC	**Kaiser Creek**	**2.14**	**319**		Pb	04 12 17.9	-0.2
V12A	**Nelson**	**2.20**	**89**		Pn	04 12 14.8	-1.5
V12A				IAML		04 13 00.1	
	comp=E,192nm,0.6s						
PFO	**Pinyon Flats O**	**2.29**	**157**		Pn	04 12 16.2	-1.3
PFO				IAML		04 12 52.1	
	comp=E,239nm,0.6s						
PFO				IAML		04 12 53.4	
	comp=E,157nm,0.4s						
TPH	**Tonopah**	**2.36**	**6**		Pn	04 12 18.0	-0.6
NEE2	**Needles Airpor**	**2.58**	**111**		Pn	04 12 19.6	-1.8
PRN	**Pahroc Range**	**2.62**	**49**		Pn	04 12 21.6	-0.6
LHV	**Little Huntoon**	**2.64**	**343**		Pn	04 12 22.1	0.0
LHV				IAML		04 13 16.2	
	comp=E,113nm,1.0s						
PMPB	**Monarch Peak**	**2.68**	**282**		Pn	04 12 22.3	-0.5
NV11	**Mina Array Sit**	**2.75**	**350**		Pn	04 12 23.3	-0.6
NVAR	**Mina Array Bea**	**2.77**	**348**		Pn	04 12 23.4	-0.8
BBGB	**Big Mountain B**	**2.95**	**288**		Pn	04 12 26.3	-0.2
RYN	**Ryan**	**3.00**	**345**		Pn	04 12 27.1	-0.2
R11B	**Troy Canyon, C**	**3.06**	**30**		Pn	04 12 27.3	-0.8
R11B				IAML		04 13 19.4	
	comp=E,91nm,0.6s						
W13A	**Hualapai Mount**	**3.06**	**101**		Pn	04 12 26.9	-1.3
BLYC	**Blythe**	**3.18**	**127**		Pn	04 12 27.5	-2.0
BLYC				IAML		04 13 23.8	
	comp=N,168nm,0.9s						
BLYC				IAML		04 13 27.5	
	comp=E,131nm,0.7s						
CMB	**Columbia Colle**	**3.24**	**316**		Pn	04 12 29.9	-0.6
CMB				IAML		04 13 29.6	
	comp=E,78nm,0.6s						
CMB				IAML		04 13 30.4	
	comp=N,93nm,0.6s						
SAO	**San Andreas Ge**	**3.31**	**289**		Pn	04 12 31.8	+0.3
YUH	**Yuha Desert**	**3.35**	**156**		Pn	04 12 30.8	-1.2
YUH				IAML		04 13 30.7	
	comp=N,71nm,0.7s						
CBX	**Cerro Bola**	**3.48**	**167**		Pn	04 12 33.6	-0.3
GLA	**Glamis**	**3.49**	**139**		Pn	04 12 32.0	-1.9
LCMT	**Little Creek M**	**3.71**	**68**		Pn	04 12 36.9	-0.2
CCUT	**Cedar City**	**3.83**	**60**	Pn	Pn	04 12 39.0	+0.2
CCUT				IAML		04 13 43.5	
	comp=N,56nm,1.1s						
ESJX	**Sierra Juarez**	**3.94**	**160**		Pn	04 12 39.5	-0.8
ESJX				IAML		04 13 44.4	
	comp=E,62nm,0.6s						
ESJX				IAML		04 15 11.1	
	comp=N,95nm,0.1s						
KNB	**Kanab**	**4.03**	**70**		Pn	04 12 41.5	0.0
KNB				IAML		04 13 51.5	
	comp=N,44nm,1.3s						
KNB				IAML		04 13 52.7	
	comp=E,43nm,0.7s						
Y14A	**Wickenburg**	**4.14**	**114**		Pn	04 12 41.3	-1.7
Y14A				IAML		04 13 57.9	
	comp=N,79nm,0.9s						
Y14A				IAML		04 13 59.8	
	comp=E,63nm,0.6s						
VTX	**Valle De La Tr**	**4.56**	**161**		Pn	04 12 48.7	0.0
VTX				IAML		04 14 05.5	
	comp=N,49nm,0.8s						
VTX				IAML		04 14 10.9	
	comp=E,50nm,1.0s						
WUAZ	**Wupatki**	**5.04**	**91**	Pn	Pn	04 12 55.7	+0.3
WUAZ				IAML		04 14 19.2	
	comp=E,43nm,1.1s						
WUAZ				IAML		04 14 22.0	
	comp=E,42nm,0.5s						
MVU	**Marysvale**	**5.09**	**55**		Pn	04 12 55.2	-0.9
X16A	**Lo Mia Camp, P**	**5.18**	**103**		Pn	04 12 57.0	-0.3
X16A				IAML		04 14 30.6	
	comp=E,19nm,1.1s						
ELK	**Elko**	**5.33**	**19**		Pn	04 13 00.5	+1.0
ELK				IAML		04 14 29.1	
	comp=E,26nm,0.8s						
ELK				IAML		04 14 29.5	
	comp=E,17nm,0.8s						
SRU	**San Rafael Swe**	**6.54**	**57**		Pn	04 13 16.3	+0.3
TUC	**Tucson**	**6.57**	**119**	Pn	Pn	04 13 15.2	-1.1
PV19	**Morning Glory**	**7.33**	**67**	Pn	Pn	04 13 27.5	+0.7

*NEIC **05** 04:14:44.9±1.8, 35°.728N±0°.010×117°.46W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.7km az=10.0*

PAS 05 04:14:45.3±1.3, 35°.699N±0°.009×117°.48W±0°.01, h1km±1km, ML3.6/38, ML3.4/74(NEIC), Error ellipse: s-maj=1.6km s-min=0.9km az=46.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.15**	**321**		Pg	04 14 48.5	+0.2
CLC					Sg	04 14 50.8	+0.6
CCCA	**Chr Cany lake**	**0.20**	**151**		Pg	04 14 50.0	+0.8
CCCA					Sg	04 14 52.1	+0.4
SRTC	**Snort**	**0.22**	**268**		Pg	04 14 50.2	+0.7
SRTC					Sg	04 14 54.3	+2.0
TOW	**Tower One**	**0.26**	**296**		Pg	04 14 51.0	+0.7
TOW					Sg	04 14 55.6	+2.0
LRMC	**Laurel Mtn Rad**	**0.27**	**217**		Pg	04 14 50.8	+0.2
MPMC	**Manual Prospec**	**0.36**	**359**		Pg	04 14 52.4	+0.2
MPMC					Sg	04 14 57.5	+0.6
WVPM	**Volcano Peak E**	**0.37**	**313**		Pg	04 14 52.8	+0.3
WVPM					Sg	04 14 58.3	+1.1
WCSM	**Coso Springs S**	**0.40**	**325**		Pg	04 14 53.0	0.0
WCSM					Sg	04 14 59.0	+0.8
WRVM	**Rose V. Centra**	**0.45**	**313**		Pg	04 14 54.3	+0.3
WRVM					Sg	04 15 00.8	+0.9
MFS	**McCloud Flat S**	**0.52**	**324**		Pg	04 14 55.5	+0.3
MFS					Sg	04 15 02.8	+0.8
DTP	**Desert Tortois**	**0.52**	**215**		Pg	04 14 55.4	+0.1
DTP					Sg	04 15 02.8	+0.7
WBSM	**Bird Springs**	**0.56**	**253**		Pg	04 14 56.2	+0.1
WBSM					Sg	04 15 04.2	+0.9
QSM	**Queen of Sheba**	**0.56**	**62**		Pg	04 15 04.0	+0.6
QSM	**Queen of Sheba**	**0.56**	**62**		Pg	04 14 56.3	+0.2
QSM	**Queen of Sheba**	**0.56**	**62**	IAML		04 15 04.6	
	comp=E,4μm,0.5s						
QSM				IAML		04 15 04.6	
	comp=N,3μm,0.5s						
WORM	**Onyx Ranch**	**0.62**	**270**		Pg	04 14 57.1	-0.1
WORM					Sg	04 15 05.5	+0.2
GSC	**Goldstone, Bar**	**0.68**	**126**		Pg	04 15 07.8	+0.7
GSC	**Goldstone, Bar**	**0.68**	**126**	IAML		04 15 08.1	
	comp=N,3μm,0.4s						
GSC				IAML		04 15 15.1	
	comp=E,2μm,0.6s						
CCAC	**Calif City Air**	**0.70**	**219**		Sg	04 15 08.7	+0.9
CCAC	**Calif City Air**	**0.70**	**219**		Pg	04 14 58.7	0.0
CCAC	**Calif City Air**	**0.70**	**219**	IAML		04 15 09.1	
	comp=N,3μm,0.5s						
CCAC				IAML		04 15 13.7	
	comp=E,2μm,0.8s						
WHFM	**Hanning Flat**	**0.71**	**270**		Pg	04 14 58.8	0.0
WHFM					Sg	04 15 08.6	+0.6
ISA	**Isabella, Lake**	**0.81**	**268**		Sg	04 15 11.8	+0.5
ISA	**Isabella, Lake**	**0.81**	**268**		Pg	04 15 00.8	0.0
ISA	**Isabella, Lake**	**0.81**	**268**	IAML		04 15 12.3	
	comp=E,2μm,0.5s						
ISA				IAML		04 15 15.9	
	comp=N,1μm,0.5s						
GWY	**Greenwater Val**	**0.82**	**53**		Pg	04 15 01.2	+0.2
HYS	**Haystack Butte**	**0.84**	**185**		Pg	04 15 01.0	-0.4
HYS					Sg	04 15 12.4	+0.2
WASM	**Alta Sierra Ca**	**0.88**	**273**		Pg	04 15 02.0	-0.1
WASM					Sg	04 15 14.0	+0.5
CWC	**Cottonwood Cre**	**0.88**	**327**		Sg	04 15 14.4	+0.6
CGO	**Cerro Gordo**	**0.89**	**343**		Pg	04 15 01.9	-0.5
FURC	**Furnace Creek,**	**0.92**	**33**		Sg	04 15 15.5	+0.8
EDW2	**Edwards Air Fo**	**0.92**	**207**		Pg	04 15 02.4	-0.5
EDW2					Sg	04 15 14.5	-0.3
SHOC	**Shoshone, Teco**	**1.00**	**78**		Pg	04 15 04.2	-0.2
SHOC					Sb	04 15 19.3	+0.2
TPO	**Tropico Hills**	**1.02**	**217**		Pg	04 15 04.4	-0.5
TPO					Sg	04 15 18.3	+0.2
SBB	**Saddle Back Bu**	**1.05**	**196**		Pg	04 15 04.8	-0.6
TEJ	**El Tejon**	**1.09**	**245**		Pg	04 15 05.2	-1.0
VTV	**Victorville**	**1.14**	**174**		Pg	04 15 06.8	-0.4
VTV					Sb	04 15 22.7	-0.6
ADO	**Adelanto Recei**	**1.15**	**178**		Pb	04 15 08.1	+0.1
SPG2	**Springville 2**	**1.16**	**296**		Sg	04 15 21.9	-0.6
ALPC	**Antelope**	**1.21**	**214**		Pg	04 15 08.0	-0.5
ALPC					Sb	04 15 25.8	+0.6
AMDNV	**Amargosa**	**1.23**	**52**		Pg	04 15 09.1	+0.2
AMDNV					Sg	04 15 24.1	-0.7
ARVC	**Arvin**	**1.24**	**243**		Sg	04 15 25.1	-0.1
THC	**Tehachapi Micr**	**1.25**	**231**		Pg	04 15 08.5	-0.8
DSCC	**Desert Studies**	**1.25**	**116**		Pg	04 15 08.1	-1.2
DSCC					Sg	04 15 25.6	0.0
LEOC	**Leona Valley**	**1.26**	**213**		Pg	04 15 08.7	-0.7
HEC	**Hector,Ludlow**	**1.28**	**132**		Sg	04 15 26.0	-0.3
CJV	**Casa Juvan**	**1.29**	**205**		Pg	04 15 09.1	-0.9
CJV					Sb	04 15 27.6	+0.1
WCT	**Wildcat Mounta**	**1.29**	**32**	IAML		04 15 29.0	
	comp=N,607nm,0.4s						
WCT				IAML		04 15 29.4	
	comp=E,548nm,0.4s						
TUQ	**Turquoise Moun**	**1.30**	**101**		Pg	04 15 09.0	-1.1
GRAC	**Grapevine Rang**	**1.30**	**4**		Pg	04 15 09.8	-0.4
GRAC	**Grapevine Rang**	**1.30**	**4**	IAML		04 15 32.4	
	comp=N,1μm,0.8s						
JNH	**Juniper Hills**	**1.31**	**197**		Pg	04 15 09.4	-0.9
JNH					Sg	04 15 26.9	-0.4
VES	**Vestal, Richgr**	**1.31**	**277**		Pg	04 15 09.9	-0.6
VES					Sg	04 15 27.2	-0.2
SGV	**South Grapevin**	**1.33**	**16**		Pg	04 15 06.1	-4.7
CHFC	**Chilao Flat St**	**1.43**	**198**		Pn	04 15 11.6	-1.0
TPNV	**Topopah Spring**	**1.59**	**38**		Pn	04 15 14.3	-0.5
TPNV				IAML		04 15 41.1	
	comp=N,622nm,0.4s						
SVD	**Seven Oaks Dam**	**1.62**	**169**		Pb	04 15 16.0	0.0
PASC	**Pasadena Art C**	**1.63**	**201**		Pn	04 15 14.4	-0.7
VOG	**Valley Oaks Go**	**1.66**	**292**		Pn	04 15 16.0	+0.4
CPY	**CP-1**	**1.69**	**43**		Pn	04 15 14.1	-1.9
DSP	**Deep Springs**	**1.71**	**347**		Pn	04 15 16.0	-0.2
DSP				IAML		04 15 41.6	
	comp=E,256nm,0.7s						
BCW	**Bitter Crk WRg**	**1.75**	**245**		Pb	04 15 17.7	-0.6
BCW				IAML	

NV08	**Mina Array Sit**	**2.78**	**346**			Pn	04 15 31.6	+0.5
NV09	**Mina Array Sit**	**2.81**	**346**			Pn	04 15 31.8	+0.2
CPE	**Camp Elliot**	**2.82**	**174**		IAML		04 16 15.0	
	comp=E,184nm,0.5s							
CPE					IAML		04 16 16.4	
	comp=N,185nm,0.4s							
MYLM	**Yosemite Lake**	**2.90**	**306**			Pb	04 15 37.2	-0.7
W13A	**Hualapai Mount**	**3.00**	**100**			Pn	04 15 33.1	-1.0
RYN	**Ryan**	**3.04**	**344**			Pn	04 15 35.3	+0.6
BLYC	**Blythe**	**3.12**	**128**		Pn	Pn	04 15 33.7	-1.9
BLYC					IAML		04 16 25.6	
	comp=E,116nm,0.5s							
BLYC					IAML		04 16 27.4	
	comp=N,149nm,0.6s							
CMB	**Columbia Colle**	**3.29**	**316**			Pb	04 15 44.0	-0.6
CMB	**Columbia Colle**	**3.29**	**316**		IAML		04 16 33.2	
	comp=N,56nm,0.8s							
CMB					IAML		04 16 38.4	
	comp=E,64nm,0.7s							
YUH	**Yuha Desert**	**3.31**	**157**			Pn	04 15 37.2	-1.0
GLA	**Glamis**	**3.43**	**140**			Pn	04 15 38.7	-1.3
CBX	**Cerro Bola**	**3.44**	**168**			Pn	04 15 40.2	0.0
LCMT	**Little Creek M**	**3.66**	**68**			Pn	04 15 44.2	+0.9
ESJX	**Sierra Juarez**	**3.90**	**160**			Pn	04 15 45.9	-0.6
ESJX					IAML		04 16 51.2	
	comp=E,46nm,0.8s							
ESJX					IAML		04 16 53.4	
	comp=N,50nm,0.7s							
MVU	**Marysvale**	**5.06**	**55**			Pn	04 16 00.3	-2.1

SNET ***05*** *04:15:05.1±0.4, 13°.21N×88°.67W, h81km±29km, ML2.0*
CATAC 05 04:15:05.9±0.7, 13°N±6°×8°9W±°, h38km±5km, M2.3/12, MLv2.3/12, Error ellipse: s-maj=12.9km s-min=4.4km az=18.1, confirmed, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.36**	**28**	P	Pn	04 15 16.3	+1.7
ALJI	**Alcalda de J**	**0.36**	**28**	S	Sn	04 15 23.8	+2.5
TECO	**Alcaldia de Te**	**0.53**	**356**	P	Pn	04 15 17.2	+0.1
TECO	**Alcaldia de Te**	**0.53**	**356**	S	Sn	04 15 27.0	+2.1
PACA	**Pacayal**	**0.62**	**41**	*eP*	Pn	04 15 18.5	+0.1
PACA				*eS*	Sn	04 15 29.4	+2.2
PACA	**Pacayal**	**0.62**	**41**	P	Pn	04 15 19.1	+0.7
COEG	**Centro de Oper**	**0.63**	**348**	*eP*	Pn	04 15 18.9	+0.5
COEG				*eS*	Sn	04 15 29.5	+2.1
COEG				IAML		04 15 33.1	
	comp=Z,55nm,0.2s						
COEG	**Centro de Oper**	**0.63**	**348**	P	Pn	04 15 19.7	+1.2
COEG	**Centro de Oper**	**0.63**	**348**	S	Sn	04 15 29.0	+1.7
UESV	**Universidad de**	**0.63**	**356**	S	Sn	04 15 29.3	+1.9
UESV	**Universidad de**	**0.63**	**356**	P	Pn	04 15 19.3	+0.8
PQSS	**Presa 15 de Se**	**0.64**	**16**	S	Sn	04 15 30.3	+2.8
PQSS	**Presa 15 de Se**	**0.64**	**16**	P	Pn	04 15 19.6	+1.0
SCLA	**Alcaldia de Sa**	**0.69**	**1**	P	Pn	04 15 19.8	+0.5
SCLA	**Alcaldia de Sa**	**0.69**	**1**	S	Sn	04 15 31.2	+2.3
PAVA	**Las Pavas**	**0.73**	**345**	S	Sn	04 15 31.8	+1.9
PAVA	**Las Pavas**	**0.73**	**345**	P	Pn	04 15 20.6	+0.8
LCND	**La Caada**	**0.88**	**70**	*eP*	Pn	04 15 21.4	-0.4
LCND				*eS*	Sn	04 15 34.4	+0.9
LCND				IAML		04 15 36.9	
	comp=Z,29nm,0.3s						
LCND	**La Caada**	**0.88**	**70**	P	Pn	04 15 21.5	-0.3
LCND	**La Caada**	**0.88**	**70**	S	Sn	04 15 33.7	+0.2
PMON	**Piamonte**	**0.90**	**322**	P	Pn	04 15 22.4	+0.3
PMON	**Piamonte**	**0.90**	**322**	S	Sn	04 15 34.5	+0.5
CNCH	**Conchagua**	**0.93**	**73**	S	Sn	04 15 35.7	+1.0
CNCH	**Conchagua**	**0.93**	**73**	P	Pn	04 15 22.8	+0.3
JAYA	**Jayaque - finc**	**0.94**	**313**	P	Pn	04 15 23.8	+1.0
JAYA	**Jayaque - finc**	**0.94**	**313**	S	Sn	04 15 35.5	+0.4
NUBE	**Las Nubes**	**1.35**	**312**	*eS*	Sn	04 15 45.3	+0.2
NUBE	**Las Nubes**	**1.35**	**312**	S	Sn	04 15 45.0	-0.1
NUBE	**Las Nubes**	**1.35**	**312**	P	Pn	04 15 28.7	+0.4

IDC ***05*** *04:22:17.4±2.9, 10°.05S×161°.29E, h48km±24km, mb3.5/5, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=31.2km s-min=19.4km az=50.0*
ISC 05 04:22:17.6±1.1, 10°.1S±0°.2×161°.2E±0°.1, h50km, n7, σ0s94/9, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.41**	**296**	P	**Pn**	**04 22 40.1**	**-0.8**
	294nm,0.3s,baz=135,slow=8.0,SNR=12						
HNR				S	**Sn**	**04 22 59.4**	**+1.0**
	550nm,0.3s,baz=167,slow=23,SNR=14						
HNR				LR	LR	04 23 31.0	
	comp=Z,109nm,18.5s,baz=110,slow=50						
DZM	**Mont Dzumac**	**12.96**	**158**	P	**Pn**	**04 25 19.7**	**+0.5**
	0.8nm,0.3s,baz=352,slow=14,SNR=14						
	2.9nm,0.4s						
WRA	**Warramunga Arr**	**27.74**	**246**	P	**P**	**04 28 03.1**	**+1.4**
	0.8nm,0.5s,baz=75,slow=9.1,SNR=12						
WRA				PcP	**PcP**	**04 31 16.8**	**-0.8**
	0.3nm,0.9s,baz=76,slow=3.4,SNR=1.8						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**29.38**	**239**	P	**P**	**04 28 16.0**	**-0.3**
	0.2nm,0.5s,baz=70,slow=8.8,SNR=1.7						
	0.2nm,0.5s						
SONM	**Songino Array**	**75.29**	**325**	P	**P**	**04 33 55.4**	**-0.1**
	0.6nm,0.6s,baz=122,slow=10,SNR=3.5						
	0.6nm,0.6s						
QSPA	**South Pole Qui**	**79.95**	**180**	P	**P**	**04 34 20.7**	**-0.6**
	0.7nm,0.7s,baz=356,slow=5.1,SNR=2.0						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**84.03**	**20**	P	**P**	**04 34 43.0**	**+0.6**
	0.2nm,0.5s,baz=243,slow=4.9,SNR=4.2						
	0.2nm,0.5s						

NEIC ***05*** *04:40:36.6±2.2, 37°.16N±0°.05×140°.19E±0°.09, h107km±7km, mb4.3/10, Error ellipse: s-maj=10.0km s-min=6.8km az=76.0*
JMA ***05*** *04:40:36.6±0.1, 37°.2N±0°.3×140°.1E±0°.5, h102km, MV3.1/39, MID FUKUSHIMA PREF*
IDC ***05*** *04:40:36.8±3.9, 37°.20N×140°.10E, h114km±27km, mb3.7/12, mbtmp4.0/14, MS3.6/2, Error ellipse: s-maj=45.4km s-min=15.6km az=74.0*
ISC 05 04:40:36.2±0.7, 37°.21N±0°.04×140°.14E±0°.05, h105km±5km, n57, σ0s77/65, mb4.1/18, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSB	**Shiboa**	**0.30**	**217**	*eP*	**Pn**	**04 40 51.8**	**+0.4**
JSB				S	**Sn**	**04 41 03.0**	**+0.4**
JFFD	**Fukushimafurud**	**0.35**	**109**	*i* P	**Pn**	**04 40 51.8**	**+0.2**
JFFD				*eS*	**Sn**	**04 41 03.0**	**-0.2**
JOTO	**OTAMA OYAMA**	**0.39**	**23**	P	**Pn**	**04 40 52.1**	**+0.3**
JOTO				*eS*	**Sn**	**04 41 03.4**	**-0.1**
JFY	**Yanaizu**	**0.40**	**300**	P	**Pn**	**04 40 52.0**	**+0.1**
JFY				S	**Sn**	**04 41 03.2**	**-0.4**
JFK	**Kawauchi**	**0.61**	**74**	*eP*	**Pn**	**04 40 53.2**	**-0.1**
JFK				*eS*	**Sn**	**04 41 06.0**	**-0.2**
JMM	**Marumori**	**0.84**	**38**		**Pn**	**04 40 55.7**	**+0.4**
JMM	**Marumori**	**0.84**	**38**	P	**Pn**	**04 40 55.7**	**+0.4**
JMM				*eS*	**Sn**	**04 41 09.6**	**-0.1**
JKT	**Katashina**	**0.84**	**239**	P	**Pn**	**04 40 56.0**	**+0.6**
JUON	**Uonuma**	**0.87**	**271**	P	**Pn**	**04 40 55.7**	**+0.1**
JUON				*eS*	**Sn**	**04 41 09.8**	**-0.4**
JNS	**Sasagawa**	**0.90**	**313**	*i* P	**Pn**	**04 40 55.6**	**-0.2**
JNS				*eS*	**Sn**	**04 41 10.1**	**-0.6**
JAG	**Ashikaga**	**0.95**	**216**	P	**Pn**	**04 40 57.1**	**+0.6**
JAG				*eS*	**Sn**	**04 41 12.1**	**+0.3**
JYS	**Shirataka**	**1.02**	**357**	*i* P	**Pn**	**04 40 57.6**	**+0.4**
JYS				*eS*	**Sn**	**04 41 13.4**	**+0.4**
JAW	**Awa shima**	**1.44**	**331**	*i* P	**Pn**	**04 41 01.9**	**0.0**
JAW				*eS*	**Sn**	**04 41 21.5**	**+0.1**
JRY	**Ryogami san**	**1.55**	**220**	P	**Pn**	**04 41 03.9**	**+0.6**
JRY				*eS*	**Sn**	**04 41 24.8**	**+0.9**
MJAR	**Matsushiro Arr**	**1.69**	**247**		**Pn**	**04 41 05.8**	**+0.8**
MJAR	**Matsushiro Arr**	**1.69**	**247**	P	**Pn**	**04 41 05.7**	**+0.7**
	19nm,0.6s,baz=58,slow=11,SNR=58						
MJAR				S	**Sn**	**04 41 27.1**	**+0.2**
	12nm,0.5s,baz=61,slow=14,SNR=5.3						
MAJO	**Matsushiro**	**1.69**	**248**		**Pn**	**04 41 05.8**	**+0.8**
MAT	**Matsushiro**	**1.69**	**248**	*eP*	**Pn**	**04 41 05.7**	**+0.7**
MJB9	**Matsu-Tunnel**	**1.69**	**248**		**Pn**	**04 41 05.1**	**0.0**
JSD	**Sado**	**1.71**	**300**	*i* P	**Pn**	**04 41 04.9**	**-0.3**
JSD				*eS*	**Sn**	**04 41 26.5**	**-0.9**
JYK	**Kaneyama**	**1.72**	**6**	P	**Pn**	**04 41 06.1**	**+0.7**
JYK				*eS*	**Sn**	**04 41 28.4**	**+0.8**
JGF	**Kuroka**	**2.76**	**235**		**Pn**	**04 41 20.4**	**+1.5**
INU	**Inuyama**	**3.13**	**235**	Pn	**Pn**	**04 41 25.4**	**+1.6**
JHJ2	**Mitsune**	**4.09**	**184**	Pn	**Pn**	**04 41 36.3**	**-0.4**
USRK	**Ussuriysk Ar.**	**9.33**	**321**	P	**Pn**	**04 42 48.3**	**+0.7**
	2.2nm,0.7s,baz=126,slow=13,SNR=4.6						
KSRS	**Korea Array**	**9.74**	**275**	P	**Pn**	**04 42 55.0**	**+1.8**
	1.1nm,0.7s,baz=94,slow=14,SNR=6.5						
SONM	**Songino Array**	**26.85**	**304**	P	**P**	**04 46 06.5**	**-0.4**
	1.3nm,0.6s,baz=106,slow=9.4,SNR=9.3						
	1.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.11**	**119**	T	T	05 16 48.6	
	baz=313,slow=75,SNR=7.8						
H11N1	**WAKE ISLAND Hy**	**29.12**	**119**	T	T	05 16 57.0	
	baz=313,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**29.13**	**119**	T	T	05 16 42.5	
	baz=313,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**29.81**	**121**	T	T	05 17 37.6	
	baz=314,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	**29.81**	**121**	T	T	05 17 36.7	
	baz=314,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**29.83**	**121**	T	T	05 17 38.4	
	baz=314,slow=75,SNR=12						
ZALV	**Zalesovo Beam**	**41.05**	**312**	P	**P**	**04 48 08.6**	**-0.5**
ZALV	**Zalesovo Beam**	**41.05**	**312**	P	**P**	**04 48 08.4**	**-0.7**
	1.1nm,0.5s,baz=78,slow=9.2,SNR=4.4						
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**43.17**	**302**	P	**P**	**04 48 26.5**	**+0.1**
MKAR	**Makanchi Array**	**43.17**	**302**	P	**P**	**04 48 26.1**	**-0.3**
	0.5nm,0.6s,baz=83,slow=11,SNR=6.0						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**45.09**	**308**	P	**P**	**04 48 41.2**	**-0.5**
	1.6nm,0.6s,baz=85,slow=8.2,SNR=11						
	1.6nm,0.6s						
D19K	**Kuna River**	**45.65**	**27**	P	**P**	**04 48 47.2**	**+1.3**
D19K				IAmb	IAmb	04 49 27.0	
	comp=Z,13nm,1.4s						
BVAR	**Borovoye Array**	**49.70**	**312**	P	**P**	**04 49 17.3**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=64,slow=10,SNR=3.9						
BVAR				LR	LR	05 11 59.7	
	comp=Z,60nm,18.3s,baz=150,slow=38						
	comp=Z,0.8nm,0.5s						
I30M	**Mount Dempster**	**54.25**	**31**	P	**P**	**04 49 52.4**	**+1.4**
ARTI	**Arti**	**55.66**	**318**	P	**P**	**04 50 00.0**	**-1.1**
ARTI	**Arti**	**55.66**	**318**	P	**P**	**04 49 59.9**	**-1.2**
	comp=Z,4.6nm,0.6s,baz=59,slow=4.0,SNR=5.8						
	comp=Z,4.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**56.68**	**197**	P	**P**	**04 50 06.2**	**-2.5**
WB0	**Warramunga Arr**	**56.92**	**186**	P	**P**	**04 50 09.6**	**-0.9**
WB0				IAmb	IAmb	04 50 27.8	
	comp=Z,5.8nm,1.4s						
AB31	**Akbulak array**	**57.05**	**310**	P	**P**	**04 50 10.6**	**-0.6**
AB31				IAmb	IAmb	04 50 11.6	
	comp=Z,1.9nm,0.6s						
ABKAR	**Akbulak array**	**57.05**	**310**	P	**P**	**04 50 10.3**	**-0.8**
ABKAR				IAmb	IAmb	04 50 11.6	
	comp=Z,1.9nm,0.6s						
WR8	**Warramunga Arr**	**57.10**	**186**	P	**P**	**04 50 11.7**	**-0.1**
WRA	**Warramunga Arr**	**57.10**	**187**	P	**P**	**04 50 11.4**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=3.0,slow=7.3,SNR=17						
	comp=Z,0.8nm,0.5s						
ASAR	**Alice Springs**	**60.83**	**187**	P	**P**	**04 50 36.9**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=1.6,slow=6.9,SNR=2.4						
	comp=Z,0.2nm,0.6s						
ARCES	**ARCESS Array B**	**63.48**	**339**	P	**P**	**04 50 54.2**	**-0.4**
	comp=Z,5.7nm,1.1s,baz=351,slow=6.1,SNR=4.1						
	comp=Z,5.7nm,1.1s						
FINES	**FINESS Array B**	**68.19**	**332**	P	**P**	**04 51 23.7**	**-1.1**
	comp=Z,4.0nm,1.0s,baz=40,slow=11,SNR=1.9						
	comp=Z,4.0nm,1.0s						
KBZ	**Khabaz**	**70.02**	**310**	P	**P**	**04 51 36.3**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=348,slow=8.1,SNR=2.5						
	comp=Z,1.1nm,0.4s						
AKASG	**Malin Array Be**	**73.54**	**322**	P	**P**	**04 51 56.9**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=47,slow=5.4,SNR=1.7						
	comp=Z,0.4nm,0.5s						
AKBB	**Malin Array Si**	**73.54**	**322**	P	**P**	**04 51 58.5**	**+1.0**
AKBB				IAmb	IAmb	04 52 26.4	
	comp=Z,4.9nm,1.2s						
KIEV	**Kiev**	**73.55**	**322**	P	**P**	**04 51 58.5**	**+1.0**
KIEV				IAmb	IAmb	04 52 26.4	
	comp=Z,4.5nm,1.2s						
MLR	**Muntele Rosu**	**78.59**	**319**	LR	LR	05 28 36.4	
	comp=Z,37nm,18.0s,baz=105,slow=37						

IDC ***05*** *04:46:28.4±0.6, 18°.45N×92°.76E, h0km, mb4.3/24, mbtmp4.3/28, ML4.1/3, MS3.4/24, Error ellipse: s-maj=20.6km s-min=13.4km az=49.0*
BJI ***05*** *04:46:29.2, 18°.56N×92°.80E, h12km, mB4.7/7, mb4.6/48, Ms3.9/11, Ms7 3.6/12*
NDI ***05*** *04:46:31.3±3.1, 18°.48N×92°.63E, h10km, ML4.3, MW4.4*
NEIC ***05*** *04:46:31.3±1.5, 18°.62N±0°.08×92°.86E±0°.10, h10km±1km, mb4.7/31, Error ellipse: s-maj=17.5km s-min=11.4km az=232.0*
ISC 05 04:46:30.2±0.4, 18°.60N±0°.05×92°.71E±0°.06, h10km, n364, σ1s96/356, mb4.6/53, MS3.5/25, 1D, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAIH	**SAIHA**	**3.88**	**4**	*eP*	**Pn**	**04 47 31.3**	**+1.2**
SAIH				*eS*	**Sn**	**04 48 16.8**	**+1.0**
SAIH				*eS*	**Sb**	**04 48 20.8**	**-5.2**
SAIH				IAML		04 48 23.8	
	303nm,0.4s						
SAIH				IAML		04 48 29.9	
	comp=E,362nm,0.5s						
BRDH	**Bariadhala**	**4.18**	**346**	Pn	**Pn**	**04 47 35.1**	**+1.1**
	comp=E,52nm,0.3s,baz=98,slow=22,SNR=2.1						
BRDH				Sn	**Sn**	**04 48 23.6**	**+0.6**
	comp=E,52nm,0.3s,baz=70,slow=22,SNR=1.9						
	comp=E,120nm,0.3s						
AZL	**Aizawl**	**5.12**	**360**	*eP*	**Pn**	**04 47 49.0**	**+1.9**
AZL				*eS*	**Sn**	**04 48 47.3**	**+1.1**
AZL				IAML		04 48 55.9	
	comp=E,180nm,0.3s						
AZL				IAML		04 48 57.0	
	comp=E,306nm,0.3s						
DGPR	**DIGLIPUR**	**5.39**	**178**	*eP*	**Pn**	**04 47 50.0**	**-0.7**
CHTO	**Chiang Mai**	**5.92**	**87**		**Pn**	**04 47 56.7**	**-1.3**
CM31	**Chiang Mai Arr**	**5.92**	**90**	Pn	**Pn**	**04 47 57.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**5.92**	**90**	Pn	**Pn**	**04 47 58.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**5.92**	**90**	Pn	**Pn**	**04 47 57.1**	**-0.9**
	comp=E,0.8nm,0.3s,baz=270,slow=14,SNR=18						
CMAR				Sn	**Sn**	**04 49 02.2**	**-3.7**
	comp=E,1.4nm,0.3s,baz=269,slow=24,SNR=4.4						
	comp=E,4.7nm,0.5s						
IMP	**Imphal**	**6.31**	**10**	*eP*	**Pn**	**04 48 05.4**	**+2.0**
IMP				*eS*	**Sn**	**04 49 15.6**	**-0.1**
IMP				IAML		04 49 20.5	
	comp=E,323nm,0.7s						
IMP				IAML		04 49 23.3	
	comp=E,236nm,0.4s						
SHL	**Shillong**	**6.98**	**354**		**Pn**	**04 48 10.0**	**-2.7**
SHL	**Shillong**	**6.98**	**354**	*eP*	**Pn**	**04 48 14.4**	**+1.7**
SHL				*eS*	**Sn**	**04 49 25.1**	**-7.1**
SHL				IAML		04 49 30.4	
	comp=N,324nm,0.2s						
SHL				IAML		04 49 32.1	
	comp=E,213nm,0.4s						
KOHI	**KOHIMA**	**7.21**	**10**	*eP*	**Pn**	**04 48 17.5**	**+1.7**
KOHI				*eS*	**Sn**	**04 49 37.2**	**-0.6**
KOHI				IAML		04 49 49.2	
	comp=E,217nm,0.7s						
KOHI				IAML		04 49 54.0	
	comp=E,214nm,0.6s						
ZIRO	**ZIRO**	**8.95**	**7**	*eP*	**Pn**	**04 48 41.5**	**+1.7**
ZIRO				*eS*	**Sn**	**04 50 17.3**	**-3.4**
ZIRO				IAML		04 50 24.9	
	comp=E,316nm,0.7s						
ZIRO				IAML		04 50 27.2	
	comp=E,756nm,0.5s						
VIS	**Vishakhapatnam**	**8.96**	**266**	*eS*	Sn	04 50 11.4	-9.3
JHSG	**JHARSUGUGA**	**8.96**	**292**	*eS*	Sn	04 50 14.0	-6.8
JHSG				IAML		04 50 40.3	
	comp=E,318nm,0.4s						
JHSG				IAML		04 50 40.6	
	comp=N,240nm,0.4s						
TAWA	**Tawang**	**8.99**	**355**	*eP*	**Pn**	**04 48 42.3**	**+1.9**
TAWA				*eS*	**Sn**	**04 50 19.1**	**-2.9**
TAWA				IAML		04 50 28.4	
	comp=E,235nm,0.4s						
TAWA				IAML		04 50 36.7	
	comp=E,233nm,0.6s						
GTK	**Tadong**	**9.47**	**337**	*eS*	**Sn**	**04 50 28.4**	**-5.1**
GTK				IAML		04 50 36.1	
	comp=E,304nm,0.6s						
GTK				IAML		04 50 39.7	
	comp=E,268nm,0.6s						
EVN	**Everest**	**10.77**	**331**		**Pn**	**04 49 06.1**	**+1.0**
LSA	**Lhasa**	**11.14**	**353**		**Pn**	**04 49 09.8**	**-0.3**
LSA	**Lhasa**	**11.14**	**353**	P	**Pn**	**04 49 10.0**	**-0.1**
LSA				S	**Sn**	**04 51 12.5**	**-2.5**
KMI	**Kunming**	**11.35**	**53**	P	**Pn**	**04 49 16.4**	**+3.6**
KMI				pmax	pmax		
	comp=E,5.0nm,0.7s						
KMI				LR	LR		
	comp=E,350nm,16.6s						
KMI				LR	LR		
	comp=E,260nm,12.9s						
KMI				LR	LR		
	comp=E,270nm,18.4s						
PZH	**PanZhiHua**	**11.47**	**45**	P	**Pn**	**04 49 16.7**	**+2.5**
PZH				pmax	pmax		
	comp=E,7.0nm,1.0s						
PZH				pmax	pmax		
	comp=E,100nm,4.8s						
BHPL	**Bhopal**	**15.00**	**291**	*eS*	Sn	04 52 36.3	-13
PALK	**Pallekele**	**16.22**	**228**	Pn	**Pn**	**04 50 18.3**	**-0.1**
	comp=E,0.3nm,0.3s,baz=16,slow=4.9,SNR=3.5						
PALK				Sn	**Sn**	**04 53 13.5**	**-5.0**
	comp=E,0.4nm,0.3s,baz=45,slow=12,SNR=1.2						
PALK				LR	LR	04 57 11.8	
	comp=E,175nm,19.0s,baz=46,slow=40						
	comp=E,15nm,0.9s						
PSI	**Prapat**	**16.84**	**158**	Pn	**Pn**	**04 50 26.4**	**+0.1**
	comp=E,1.4nm,0.3s,baz=3.4,slow=20,SNR=1.0						
RPSI	**Rantau Prapat**	**16.94**	**158**		**Pn**	**04 50 26.4**	**-1.0**
GOMU	**GeErMu**	**17.63**	**6**	P	**Pn**	**04 50 34.4**	**-2.0**
GOMU				pP	P	04 50 38.3	+0.9
GOMU				pmax	pmax		
	comp=E,3.0nm,0.6s						
ENH	**Enshi**	**19.17**	**50**		**P**	**04 50 52.7**	**-1.3**
ENH				IAmb	IAmb	04 50 55.4	
	comp=Z,27nm,0.7s						
LZH	**Lanzhou**	**20.01**	**27**	*eP*	**Pn**	**04 51 04.3**	**-0.7**
LZH				sP	pwP	04 51 10.7	+2.3
LZH				pmax	pmax		
	comp=Z,32nm,1.1s						
LZH				LR	LR		
	comp=Z,200nm,14.3s						
LZH				LR	LR		
	comp=Z,200nm,13.9s						
LZH				LR	LR		
	comp=Z,180nm,14.1s						
XAN	**Xi'an**	**21.12**	**40**	P	**P**	**04 51 14.5**	**-0.7**
XAN				pmax	pmax		
	comp=Z,72nm,0.8s						
GTA	**Gaotai**	**21.64**	**15**	P	**P**	**04 51 22.0**	**+1.2**
GTA				pmax	pmax		
	comp=Z,22nm,0.9s						
GTA				LR	LR		
	comp=Z,170nm,14.9s						
GTA				LR	LR		
	comp=Z,200nm,15.6s						
GTA				LR	LR		
	comp=Z,160nm,15.6s						
WHN	**Wuhan**	**22.95**	**55**	P	**P**	**04 51 35.1**	**+0.3**
LYN	**LuoYang**	**23.70**	**44**	P	**P**	**04 51 39.8**	**-2.5**
LYN				pmax	pmax		
	comp=Z,29nm,0.4s						
KSH	**Kashi**	**25.38**	**329**	P	**P**	**04 51 59.9**	**+2.1**
KSH				pmax	pmax		
	comp=Z,11nm,0.6s						
WMQ	**Urumqi**	**25.50**	**352**	*eP*	**P**	**04 52 01.5**	**+2.7**
WMQ				pmax	pmax		
	comp=Z,19nm,1.1s						
TARG	**Taragay, Kyrgy**	**26.33**	**334**		**P**	**04 52 06.2**	**-0.5**
NJ2	**Nanjing**	**27.08**	**55**	*eP*	**P**	**04 52 13.1**	**0.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**27.45**	**32**	*eP*	**P**	**04 52 17.7**	**+1.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,92nm,5.1s						
MKAR	**Makanchi Array**	**29.40**	**345**		**P**	**04 52 34.9**	**+1.2**
MKAR	**Makanchi Array**	**29.40**	**345**	P	**P**	**04 52 35.6**	**+2.0**
	comp=Z,6.6nm,0.5s,baz=163,slow=9.6,SNR=94						
MKAR				LR	LR	05 07 38.6	
	comp=Z,34nm,18.2s,baz=163,slow=43						
	comp=Z,6.6nm,0.5s						
MAKZ	**Makanchi**	**29.49**	**345**		**P**	**04 52 35.7**	**+1.3**
SONM	**Songino Array**	**31.23**	**18**		**P**	**04 52 50.9**	**+0.9**
SONM	**Songino Array**	**31.23**	**18**	P	**P**	**04 52 51.1**	**+1.1**
	comp=Z,3.9nm,0.8s,baz=200,slow=10.0,SNR=19						
SONM				LR	LR	05 08 02.9	
	comp=Z,110nm,19.1s,baz=202,slow=41						
	comp=Z,3.9nm,0.8s						
ULN	**Ulaanbaatar**	**31.45**	**19**	P	**P**	**04 52 51.2**	**-0.8**
ULN				IAmb	IAmb	04 53 25.3	
	comp=Z,4.3nm,0.4s						
XLT	**XiLinHaoTe**	**31.97**	**33**	*eP*	**P**	**04 52 56.3**	**-0.2**
XLT				sP	pwP	04 53 03.8	+2.0
XLT				PP	**PnPn**	**04 54 03.2**	**+1.8**
XLT				pmax	pmax		
	comp=Z,6.0nm,1.1s						
H08S3	**Diego Garcia H**	**32.82**	**219**	T	T	05 28 33.0	
	baz=38						
H08S2	**Diego Garcia H**	**32.83**	**219**	T	T	05 28 46.7	
	baz=38						
H08S1	**Diego Carcia H**	**32.84**	**219**	T

comp=Z,0.3nm,0.4s,baz=86,slow=6.4,SNR=2.1
comp=Z,0.3nm,0.4s
WB0 Warramunga Arr 55.91 131 P **P** **04 56 06.6 -2.1**
WB0 IAmb IAmb 04 56 28.3
comp=Z,8.1nm,1.4s
WRA Warramunga Arr 55.99 131 P **P** **04 56 07.2 -2.0**
WRA Warramunga Arr 55.99 131 P **P** **04 56 08.0 -1.2**
comp=Z,1.7nm,0.9s,baz=317,slow=7.0,SNR=9.3
WRA PcP **PcP** **04 57 05.8 -1.9**
comp=Z,0.6nm,0.9s,baz=313,slow=3.8,SNR=2.2
comp=Z,1.7nm,0.9s
MA2 Magadan 58.12 31 LR LR 05 25 49.4
comp=Z,46nm,18.7s,baz=205,slow=41
ASAR Alice Springs 58.14 135 P **P** **04 56 24.1 -0.4**
ASAR Alice Springs 58.14 135 P **P** **04 56 23.7 -0.8**
comp=Z,1.1nm,0.8s,baz=315,slow=6.8,SNR=7.4
comp=Z,1.1nm,0.8s
AKASG Malin Array Be 59.07 318 P **P** **04 56 30.4 -0.1**
comp=Z,0.5nm,0.5s,baz=90,slow=6.5,SNR=5.5
AKASG LR LR 05 26 07.1
comp=Z,21nm,18.6s,baz=50,slow=40
comp=Z,0.5nm,0.5s
SEY Seymchan 59.94 27 LR LR 05 26 14.8
comp=Z,38nm,18.2s,baz=191,slow=40
PETK Petropavlovsk- 60.36 39 LR LR 05 24 06.9
comp=Z,50nm,19.9s,baz=238,slow=37
FINES FINESS Array B 62.69 330 P **P** **04 56 56.0 +1.0**
comp=Z,2.0nm,0.5s,baz=110,slow=4.7,SNR=14
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 64.79 339 P **P** **04 57 09.4 +0.7**
comp=Z,4.8nm,0.8s,baz=81,slow=7.5,SNR=8.8
ARCES LR LR 05 29 17.4
comp=Z,31nm,19.7s,baz=120,slow=40
comp=Z,4.8nm,0.8s
HFS Hagfors 68.60 328 P **P** **04 57 33.9 +0.8**
comp=Z,3.5nm,0.7s,baz=95,slow=3.6,SNR=8.4
HFS LR LR 05 31 27.0
comp=Z,32nm,19.0s,baz=86,slow=39
comp=Z,3.5nm,0.7s
GEC2 GERESS Array S 69.05 316 P **P** **04 57 37.4 +1.0**
GEC2 IAmb IAmb 04 57 38.2
comp=Z,2.8nm,0.7s
GERES GERESS Array B 69.05 316 P **P** **04 57 37.0 +0.6**
GERES GERESS Array B 69.05 316 P **P** **04 57 37.2 +0.8**
comp=Z,2.0nm,0.7s,baz=89,slow=5.6,SNR=14
comp=Z,2.0nm,0.7s
SPITS Spitsbergen Ar 69.12 348 P **P** **04 57 36.2 0.0**
comp=Z,7.5nm,0.7s,baz=92,slow=8.4,SNR=6.7
SPITS LR LR 05 34 15.5
comp=Z,40nm,18.5s,baz=96,slow=41
comp=Z,7.5nm,0.7s
NB2 NORSAR Subarra 69.81 329 P **P** **04 57 40.6 -0.1**
comp=Z,1.3nm,0.7s,baz=95,slow=5.6
NOA NORSAR Array B 69.81 329 P **P** **04 57 40.6 -0.1**
comp=Z,1.8nm,0.9s,baz=87,slow=6.1,SNR=4.4
NOA LR LR 05 31 43.8
comp=Z,23nm,18.1s,baz=85,slow=39
comp=Z,1.8nm,0.9s
DAVOX Davos/Dischmat 71.84 314 LR LR 05 36 12.6
comp=Z,11nm,20.3s,baz=96,slow=42
MATP Matopo 73.91 242 LR LR 05 27 48.3
comp=Z,13nm,19.3s,baz=69,slow=34
H04N2 CROZET ISLANDS 74.32 208 T T 06 20 03.6
baz=40,slow=75,SNR=25
H04N1 CROZET ISLANDS 74.33 208 T T 06 20 11.4
baz=40,slow=75,SNR=20
H04N3 CROZET ISLANDS 74.34 208 T T 06 20 10.8
baz=40,slow=75,SNR=23
NOR Nord 74.50 352 *i* P **P** **04 58 05.9 -2.5**
NOR IAmb IAmb 04 58 10.4
comp=Z,3.9nm,1.0s
GAMB Gambell 75.94 27 P **P** **04 58 16.5 -0.5**
baz=283
DAG Danmarks Havn 76.77 347 *i* P **P** **04 58 21.0 -0.4**
DAG IAmb IAmb 04 58 22.4
comp=Z,5.0nm,0.7s
TNA Tin City 77.06 25 P **P** **04 58 23.4 +0.1**
baz=286
C16K Lisburne Hills 77.23 22 P **P** **04 58 24.3 +0.1**
baz=288
F14K Arctic Creek 77.72 25 P **P** **04 58 26.5 -0.5**
baz=288
C17K DeLong Mountai 77.92 21 P **P** **04 58 27.8 -0.3**
baz=290
A19K Wainwright 78.01 20 P **P** **04 58 28.4 -0.1**
baz=291
B18K Kokolik River 78.08 20 P **P** **04 58 28.9 0.0**
baz=291
EKA Eskdalemuir Ar 78.18 324 P **P** **04 58 30.6 +0.9**
comp=Z,1.6nm,0.6s,baz=86,slow=6.3,SNR=7.8
comp=Z,1.6nm,0.6s
DBG Daneborg 78.20 345 *i* P **P** **04 58 30.5 +1.0**
DBG IAmb IAmb 04 58 31.0
comp=Z,4.8nm,1.1s
D17K Noatak River 78.22 22 P **P** **04 58 29.2 -0.5**
baz=290
F15K North Star Dit 78.31 24 P **P** **04 58 30.4 +0.1**
baz=289
LBTB Lobatse 78.38 239 LR LR 05 29 22.3
comp=Z,42nm,18.9s,baz=124,slow=33
ANM Nome 78.39 26 P **P** **04 58 29.7 -1.1**
baz=289
C18K Utukok River 78.54 21 P **P** **04 58 30.4 -1.2**
baz=292
G15K Niukluk 78.78 25 P **P** **04 58 32.4 -0.5**
baz=290
E17K Hotham Inlet 78.89 23 P **P** **04 58 33.2 -0.3**
baz=291
C19K Lookout Ridge 78.91 20 P **P** **04 58 34.2 +0.6**
baz=293
A21K Barrow 78.92 18 P **P** **04 58 33.9 +0.4**
baz=295
E18K Tukpahlearik C 79.21 22 P **P** **04 58 36.2 +1.0**
E18K IAmb IAmb 04 58 37.2
comp=Z,14nm,0.9s
E18K Tukpahlearik C 79.21 22 P **P** **04 58 35.2 0.0**
baz=292
G16K Koyuk River 79.31 24 P **P** **04 58 35.5 -0.2**
baz=291
B20K Meade River 79.32 19 P **P** **04 58 35.6 -0.1**
baz=295
F17K Baldwin Pennin 79.34 23 **P** **04 58 37.0 +1.1**
F17K IAmb IAmb 04 58 37.8
comp=Z,9.3nm,0.7s
F17K Baldwin Pennin 79.34 23 P **P** **04 58 36.6 +0.7**
baz=292
M11K Mekoryuk 79.37 30 P **P** **04 58 36.0 -0.1**
baz=289
A22K Sinclair Lake 79.54 18 P **P** **04 58 36.9 0.0**
baz=297
K13K Kusilvak Mount 79.56 28 P **P** **04 58 37.1 -0.1**
baz=290
D19K Kuna River 79.64 21 P **P** **04 58 37.9 +0.3**
baz=294
J14K Nanvaranak Lak 79.76 27 P **P** **04 58 38.3 +0.1**
baz=290
F18K Selawik 79.88 23 P **P** **04 58 38.9 +0.2**
baz=293
G17K Kiwalik Mounta 79.93 24 P **P** **04 58 39.5 +0.3**
baz=293
D20K Etivluk River 80.05 20 P **P** **04 58 40.0 +0.2**
baz=296
B21K Ikpikpuk River 80.28 19 P **P** **04 58 41.1 +0.1**
baz=297
B22K Teshekpuk Lake 80.31 18 P **P** **04 58 41.2 +0.1**
baz=298
NIKH Nikolski High 80.31 37 P **P** **04 58 40.7 -0.7**
baz=288
E19K Redstone River 80.39 22 **P** **04 58 41.8 +0.2**
E19K IAmb IAmb 04 58 43.3
comp=Z,6.5nm,0.8s
E19K Redstone River 80.39 22 P **P** **04 58 41.7 +0.1**
baz=295,SNR=7.7
E20K Nigu River 80.39 21 P **P** **04 58 42.3 +0.6**
baz=296,SNR=5.5
H17K Granite Mounta 80.44 24 P **P** **04 58 42.3 +0.4**
baz=293,SNR=5.3
C21K Knifeblade Rid 80.44 20 P **P** **04 58 41.6 -0.3**
baz=297
F19K Shaleruckik Mo 80.46 22 **P** **04 58 42.2 +0.2**
F19K IAmb IAmb 04 58 43.2
comp=Z,4.9nm,0.8s
F19K Shaleruckik Mo 80.46 22 P **P** **04 58 42.0 0.0**
baz=295,SNR=5.4
SCO Scoresbysund 80.47 342 *e*P **P** **04 58 44.0 +2.1**
SCO IAmb IAmb 04 58 44.3
comp=Z,3.8nm,1.0s
G18K Tagagawik 80.53 23 P **P** **04 58 42.6 +0.2**
baz=294
I17K Unalakleet 80.54 25 P **P** **04 58 41.8 -0.6**
baz=293
L14K Kuka Creek 80.66 28 P **P** **04 58 43.3 +0.3**
baz=292
K15K Wolf Creek Mou 80.80 27 P **P** **04 58 43.8 -0.1**
baz=292
J16K Anvik River 80.81 26 **P** **04 58 44.6 +0.7**
J16K IAmb IAmb 04 58 45.8
comp=Z,11nm,0.8s
J16K Anvik River 80.81 26 P **P** **04 58 44.4 +0.5**
baz=293,SNR=7.7
H18K Honhosa River 80.95 24 P **P** **04 58 45.3 +0.6**
baz=295
G19K Purcell Mounta 81.01 23 P **P** **04 58 45.2 +0.3**
baz=296,SNR=5.6
L15K Ungalak Mounta 81.06 28 P **P** **04 58 45.7 +0.5**
baz=292
F20K Avaraart Lake 81.09 22 P **P** **04 58 45.6 +0.3**
baz=297
M14K Bethel 81.20 29 P **P** **04 58 46.3 +0.2**
baz=292
D22K Ayikyak River 81.24 19 **P** **04 58 47.0 +0.8**
D22K Ayikyak River 81.24 19 P **P** **04 58 46.5 +0.4**
baz=299,SNR=5.3
C23K Itkillik River 81.39 18 P **P** **04 58 47.8 +0.9**
baz=301
J17K VABM Dome 81.40 26 P **P** **04 58 47.4 +0.4**
baz=294,SNR=5.9
H19K Roundabout Mou 81.51 23 P **P** **04 58 48.0 +0.5**
baz=296
N14K Kuskokwak Cree 81.64 29 P **P** **04 58 48.4 0.0**
baz=292
GCSA Galena City Sc 81.70 24 P **P** **04 58 48.9 +0.3**
baz=296
F21K Alatna River 81.79 21 **P** **04 58 49.6 +0.5**
F21K IAmb IAmb 04 58 51.2
comp=Z,6.6nm,0.8s
F21K Alatna River 81.79 21 P **P** **04 58 49.3 +0.2**
baz=299
M15K Kasigluk River 81.80 28 P **P** **04 58 49.4 +0.2**
baz=293
D23K Nanushuk River 81.82 19 P **P** **04 58 49.6 +0.4**
baz=301,SNR=7.8
E22K Anaktuvuk Pass 81.89 20 P **P** **04 58 50.4 +0.7**
baz=300
L16K Owhat River 81.93 27 P **P** **04 58 50.0 +0.1**
baz=294
K17K Iditarod 82.01 26 P **P** **04 58 51.1 +0.8**
baz=295,SNR=5.4
C24K Franklin Bluff 82.02 18 P **P** **04 58 51.4 +1.2**
baz=303
O14K Tigyukauivet M 82.10 30 P **P** **04 58 51.6 +0.8**
baz=293
H20K Anotleneega Mo 82.11 23 P **P** **04 58 51.2 +0.4**
baz=298,SNR=5.5
G21K Allakaket 82.12 22 P **P** **04 58 51.7 +0.9**
baz=299,SNR=5.7
L17K Donlin 82.25 27 P **P** **04 58 52.6 +1.0**
baz=295
N15K Kwethluk River 82.28 29 P **P** **04 58 52.6 +0.8**
baz=294
D24K Happy Valley 82.29 19 P **P** **04 58 52.4 +0.7**
baz=303
J18K Innoko River 82.33 25 P **P** **04 58 52.9 +0.9**
baz=296,SNR=5.2
TOLK Toolik Lake Re 82.34 19 P **P** **04 58 52.9 +0.9**
baz=302,SNR=11
M16K Timber Creek 82.44 28 P **P** **04 58 53.0 +0.4**
baz=295
J19K Poorman 82.52 24 P **P** **04 58 53.5 +0.5**
baz=297,SNR=6.3
I20K Naaghedeneel 82.59 23 P **P** **04 58 54.3 +1.0**
baz=298
G22K Bettles 82.61 21 P **P** **04 58 53.8 +0.5**
baz=300
E23K Chandalar 82.64 20 P **P** **04 58 54.0 +0.3**
baz=302
N16K Nishlik Lake 82.75 28 P **P** **04 58 55.0 +0.7**
baz=295
H21K Melozitna Rive 82.79 22 P **P** **04 58 55.2 +0.9**
H21K Melozitna Rive 82.79 22 P **P** **04 58 55.0 +0.6**
baz=295,SNR=16
O15K Ungalikthiuk R 82.81 30 P **P** **04 58 55.3 +0.7**
baz=294
COLD Coldfoot 82.89 20 P **P** **04 58 55.7 +0.9**
baz=302
L18K Granite Mounta 82.90 26 P **P** **04 58 55.2 +0.2**
baz=296
D25K Kavik River 82.92 18 P **P** **04 58 55.9 +0.9**
baz=305
M17K Holitna River 82.94 27 P **P** **04 58 56.3 +1.1**
baz=296
E24K Your Creek 82.98 19 P **P** **04 58 55.9 +0.5**
baz=303
C26K Camden Bay 82.99 17 P **P** **04 58 55.9 +0.7**
baz=306
J20K Nowinta River 83.01 24 P **P** **04 58 55.8 +0.3**
baz=298,SNR=6.2
S12K Black Hills 83.09 33 P **P** **04 58 56.6 +0.5**
baz=293
H22K Ishtalitna Cre 83.18 22 P **P** **04 58 57.0 +0.6**
baz=301,SNR=8.1
G23K Bananza Creek 83.22 21 P **P** **04 58 57.4 +0.8**
baz=302,SNR=8.6
ESDC Sonseca Array 83.31 309 P **P** **04 58 58.5 +0.8**
comp=Z,0.9nm,0.8s,baz=54,slow=4.7,SNR=6.0
comp=Z,0.9nm,0.8s
K20K Telida 83.44 25 P **P** **04 58 58.4 +0.7**
baz=299,SNR=7.9
N17K Nushagak Hills 83.44 28 P **P** **04 58 58.7 +0.9**
N17K IAmb IAmb 04 58 59.7
comp=Z,3.7nm,0.9s
N17K Nushagak Hills 83.44 28 P **P** **04 58 57.8 +0.1**
baz=296
O16K Kokwok River B 83.44 29 P **P** **04 58 58.2 +0.4**
baz=296
SUMG Summit 83.44 347 **P** **04 58 58.8 +0.7**
SUMG Summit 83.44 347 *i* P **P** **04 58 58.3 +0.2**
SUMG IAmb IAmb 04 58 59.9
comp=Z,13nm,1.1s
F24K Squaw Lake 83.48 20 P **P** **04 58 58.2 +0.3**
baz=304,SNR=6.0
C27K Jago River 83.50 17 P **P** **04 58 58.4 +0.5**
baz=307
M18K Stony River 83.59 27 P **P** **04 58 58.9 +0.3**
baz=297
L19K White Mountain 83.68 26 P **P** **04 58 59.2 +0.2**
baz=298,SNR=5.5
P16K Nushagak River 83.73 29 P **P** **04 58 59.6 +0.3**
baz=296
O17K Koliganek Bris 83.82 29 P **P** **04 58 60.0 +0.3**
baz=296
MLY Manley 83.86 22 **P** **04 59 00.3 +0.4**
MLY Manley 83.86 22 P **P** **04 59 00.2 +0.3**
baz=301,SNR=18
H23K Yukon River 83.86 22 P **P** **04 59 00.1 +0.2**
baz=302,SNR=8.5
CHUM Lake Minchumin 83.86 24 P **P** **04 59 00.1 +0.3**
baz=300,SNR=7.6
E25K Arctic Village 83.86 19 P **P** **04 59 00.0 +0.2**
baz=306
L20K Farewell, AK 83.94 25 P **P** **04 59 00.5 +0.2**
baz=299
N18K Kilae Creek 83.94 27 P **P** **04 59 00.5 +0.1**
baz=297
M19K Big River Lodg 84.00 26 P **P** **04 59 00.7 +0.1**
baz=298
SDPT Sand Point 84.06 33 P **P** **04 59 00.7 -0.3**
baz=294
G24K Hadweenzic Riv 84.08 20 P **P** **04 59 01.3 +0.4**
baz=304
F25K Christian Rive 84.15 19 P **P** **04 59 02.4 +1.0**
F25K IAmb IAmb 04 59 03.8
comp=Z,4.7nm,0.8s
F25K Christian Rive 84.15 19 P **P** **04 59 02.0 +0.6**
baz=306,SNR=7.9
S14K Fog Glacier 84.15 32 P **P** **04 59 01.5 -0.2**
baz=295
CAST Castle Rocks 84.18 24 P **P** **04 59 02.1 +0.5**
baz=300,SNR=28
BPAW Bear Paw Mtn. 84.25 23 P **P** **04 59 02.7 +0.8**
baz=301,SNR=11
I23K Minto, Yukon-K 84.29 22 P **P** **04 59 02.6 +0.7**
baz=303,SNR=5.4
P17K Kvichak River 84.38 29 P **P** **04 59 02.6 +0.1**
baz=297
PPLA Purkeypile 84.41 25 P **P** **04 59 03.0 +0.1**
baz=300
TULEG Thule 84.41 356 *i* P **P** **04 58 51.0 -11**
TULEG IAmb IAmb 04 58 51.7
comp=Z,24nm,0.7s
H24K Noodor Dome 84.42 21 P **P** **04 59 03.8 +1.0**
H24K IAmb IAmb 04 59 04.6
comp=Z,4.3nm,0.9s
H24K Noodor Dome 84.42 21 P **P** **04 59 02.8 0.0**
baz=304
G25K Bearman Lake 84.49 20 P **P** **04 59 03.3 +0.3**
baz=305
N19K Bonanza Creek 84.49 27 **P** **04 59 03.8 +0.5**
N19K IAmb IAmb 04 59 05.0
comp=Z,6.8nm,1.0s
N19K Bonanza Creek 84.49 27 P **P** **04 59 03.4 +0.2**
baz=298
D27M Malcolm River 84.50 17 P **P** **04 59 03.5 +0.4**
baz=310
Q16K King Salmon 84.51 29 P **P** **04 59 03.4 +0.2**
baz=297
M20K Styx River 84.53 26 P **P** **04 59 03.9 +0.4**
baz=300
F26K Sheenjek River 84.55 19 P **P** **04 59 04.0 +0.6**
baz=307,SNR=6.1
O18K Koktuh Hills 84.63 28 **P** **04 59 04.5 +0.6**
O18K IAmb IAmb 04 59 06.2
comp=Z,6.2nm,0.9s
O18K Koktuh Hills 84.63 28 P **P** **04 59 04.8 +0.9**
baz=298
NEA2 Nenana 84.69 22 P **P** **04 59 03.9 -0.2**
baz=303,SNR=12
CHGN Chignik 84.72 32 P **P** **04 59 04.1 -0.2**
baz=296
CHNA Chernabura Isl 84.74 34 P **P** **04 59 03.8 -0.7**
baz=295
P18K Big Mountain, 84.83 28 P **P** **04 59 04.4 -0.6**
baz=298
TRF Thorofare Moun 84.86 24 P **P** **04 59 04.9 -0.2**
baz=302
H25L Birch Creek 84.87 20 P **P** **04 59 04.9 0.0**
baz=306
POKR Poker Plat Res 84.98 22 P **P** **04 59 05.9 +0.4**
baz=304
E27K Coleen River 85.00 18 P **P** **04 59 05.9 +0.3**
baz=309
D28M Stokes Point 85.04 16 P **P** **04 59 05.8 +0.1**
baz=312
Q17K Contact Creek 85.06 30 P **P** **04 59 05.6 -0.6**
baz=298
G26K Porcupine Rive 85.11 19 P **P** **04 59 05.9 -0.2**
baz=307,SNR=6.0
R17L Mt. Peulik Vol 85.13 30 P **P** **04 59 06.0 -0.5**
baz=297
SKT Skwentna 85.14 25 P **P** **04 59 05.8 -0.6**
baz=301,SNR=8.4
MCK McKinley 85.22 23 P **P** **04 59 06.2 -0.6**
baz=303
Q18K Katmai Hardscr 85.29 29 P **P** **04 59 06.3 -1.0**
baz=298
E28M Babbage River 85.31 17 P **P** **04 59 07.1 0.0**
baz=311
ILAR Eielson Array 85.37 22 P **P** **04 59 06.8 -0.7**
comp=Z,2.2nm,0.7s,baz=299,slow=5.1,SNR=33
comp=Z,2.2nm,0.7s
PRP Porcupine Dome 85.41 21 P **P** **04 59 06.9 -0.9**
baz=306,SNR=7.4
P19K Oil Pt 85.60 28 P **P** **04 59 08.5 -0.2**
baz=300
O20K Slope Mountain 85.65 27 P **P** **04 59 09.1 +0.1**
baz=300
SUA Susitna One 85.73 26 P **P** **04 59 08.8 -0.7**
baz=302
Q19K Cape Douglas, 85.77 28 P **P** **04 59 09.6 0.0**
baz=299
M22K Willow 85.83 25 P **P** **04 59 09.7 -0.1**
baz=302
WAT1 Susitna Watana 85.86 24 P **P** **04 59 09.9 -0.1**
baz=303
G27K Doyon Strip 85.86 19 P **P** **04 59 10.0 0.0**
baz=309
F28M Old Crow 85.87 18 P **P** **04 59 09.7 -0.3**
baz=311
E29M Blow River 85.90 17 P **P** **04 59 09.4 -0.7**
baz=313,SNR=6.1
CAPN Captain Cook N 85.92 26 P **P** **04 59 09.8 -0.5**
baz=301
J25K Salcha River, 86.00 22 P **P** **04 59 10.2 -0.5**
baz=306
R18K Karluk 86.06 30 P **P** **04 59 10.4 -0.6**
baz=299
A36M Sachs Harbour 86.07 11 P **P** **04 59 10.8 0.0**
baz=324
DHY Denali Highway 86.17 23 P **P** **04 59 11.2 -0.4**
baz=304
H27K Steamboat Moun 86.27 19 P **P** **04 59 12.0 0.0**
baz=309,SNR=5.1
WAT6 Susitna Watana 86.31 24 P **P** **04 59 12.3 -0.1**
baz=304
PMR Palmer 86.31 25 P **P** **04 59 12.2 0.0**
baz=303,SNR=7.0
I26K Coal Creek Min 86.33 20 P **P** **04 59 12.2 -0.1**
baz=308
K24K Donnelly Dome 86.33 22 P **P** **04 59 12.3 -0.1**
baz=306
RC01 Rabbit Creek A 86.34 26 P **P** **04 59 11.9 -0.5**
baz=302,SNR=6.8
Q20K Shuyak Island 86.50 28 P **P** **04 59 12.3 -0.9**
baz=300
I27K Kandik River 86.64 20 P **P** **04 59 13.8 0.0**
baz=309,SNR=5.6
KNK Knik Glacier 86.68 25 P **P** **04 59 14.3 +0.2**
baz=304
SII Sitkinak Islan 86.68 31 P **P** **04 59 13.4 -0.7**
baz=299
J26L Joseph Creek 86.69 21 P **P** **04 59 13.8 -0.3**
baz=308
RIDG Independent Ri 86.70 22 P **P** **04 59 14.2 0.0**
baz=307
M23K Glacier View 86.76 24 P **P** **04 59 14.6 +0.1**
baz=304
OHAK Old Harbor 86.78 30 P **P** **04 59 14.6 0.0**
baz=300
TORD Torodi Ar. Bea 86.83 283 P **P** **04 59 16.9 +1.3**
comp=Z,1.0nm,0.9s,baz=84,slow=3.9,SNR=3.7
comp=Z,1.0nm,0.9s
KDAK Kodiak Island 86.83 29 P **P** **04 59 14.6 -0.2**
baz=300
SCRK Sand Creek 86.86 22 P **P** **04 59 15.0 -0.1**
baz=307
G29M Pine Creek 86.88 18 P **P** **04 59 14.7 -0.2**
baz=313
SCM Sheep Creek Mo 86.89 24 P **P** **04 59 14.4 -0.7**
baz=305
PAX Paxson 86.94 23 P **P** **04 59 15.3 0.0**
baz=306
SEW Seward 86.99 26 P **P** **04 59 15.2 -0.4**
baz=303
F30M Barrier River 87.02 17 P **P** **04 59 15.1 -0.5**
baz=315
PWL Port Wells 87.04 25 P **P** **04 59 15.7 -0.1**
baz=304,SNR=13
INK Inuvik 87.11 16 P **P** **04 59 16.0 +0.1**
baz=317
M24K Tolsona, Glenn 87.18 24 P **P** **04 59 16.5 0.0**
baz=306
H29M Whitestone 87.24 18 P **P** **04 59 17.1 +0.4**
baz=312
I28M Miner Creek 87.28 19 P **P** **04 59 17.2 +0.2**
baz=311,SNR=5.0
G30M tAoh Zraii Nji 87.34 17 P **P** **04 59 17.5 +0.2**
baz=314
HARP HAARP 87.39 23 P **P** **04 59 17.6 +0.1**
baz=306
K27K Chicken 87.49 21 P **P** **04 59 17.9 0.0**
baz=309
GLI Glacier Island 87.53 25 P **P** **04 59 18.7 +0.5**
baz=305
EPYK Eagle Plains 87.63 18 P **P** **04 59 18.8 +0.2**
baz=314
KLU Klutina 87.64 24 P **P** **04 59 18.7 0.0**
baz=306
L26K Log Cabin Wild 87.67 22 P **P** **04 59 19.3 +0.4**
baz=308
F31M Tsiigehtchic 87.69 16 P **P** **04 59 18.5 -0.3**
baz=316
I29M Ogilvie Camp, 87.84 19 P **P** **04 59 19.9 +0.2**
baz=312
P23K Montague Islan 87.91 26 P **P** **04 59 18.8 -1.2**

baz=305
G31M Satah River 87.92 17 P P 04 59 19.8 -0.1
baz=316
N25K Chitina, Valde 88.08 24 P P 04 59 20.6 -0.3
baz=307,SNR=5.4
M26K Nabesna, AK 88.19 23 P P 04 59 21.9 +0.6
baz=308,SNR=6.8
L27K Beaver Creek, 88.19 22 P P 04 59 22.3 +0.9
baz=309
EYAK Cordova Ski Ar 88.26 25 P P 04 59 21.9 +0.3
baz=306
DAWY Dawson 88.37 20 P P 04 59 22.7 +0.5
baz=311
BMRM Bremner River 88.46 24 P P 04 59 23.0 +0.3
baz=307
I30M Mount Dempster 88.53 19 P P 04 59 23.6 +0.6
baz=314
M27K Edge Creek, AK 88.62 22 P P 04 59 23.6 +0.1
baz=309,SNR=7.5
Q23K Middleton Isla 88.67 26 P P 04 59 24.0 +0.4
baz=306
H31M Peel River 88.71 18 P P 04 59 24.2 +0.5
baz=316
MCARA McCarthy VSAT 88.81 23 P P 04 59 24.5 +0.3
baz=308
BVCY Beaver Creek 88.95 22 P P 04 59 25.2 +0.3
baz=310
J30M Hart River 89.00 19 P P 04 59 25.4 +0.2
baz=314
K29M Barlow Dome 89.13 20 P P 04 59 25.7 -0.2
baz=313
KAIM Kayak Island 89.17 25 P P 04 59 26.3 +0.4
baz=307
L29M L29M 89.43 21 P P 04 59 28.1 +0.9
baz=313
YUK3 Moose Creek 89.51 22 P P 04 59 28.0 +0.2
baz=310
CTG Chitna Glacier 89.71 23 P P 04 59 29.0 +0.3
baz=310
M29M Somme Creek 89.77 21 P P 04 59 29.1 +0.3
baz=312
MESA MESA 89.98 24 P P 04 59 29.3 -0.7
baz=309
YUK8 Steele Glacier 90.08 23 P P 04 59 30.2 -0.3
baz=311
M30M Minto, Yukon 90.24 21 P P 04 59 30.9 -0.1
baz=314
O28M Mount Upton 90.27 23 P P 04 59 32.1 +0.7
baz=311
SFJD Kangerlussuaq 90.43 346 LR LR 05 47 02.1
comp=Z,21nm,19.1s,baz=360,slow=40
YUK4 Talbot Arm 90.45 22 P P 04 59 32.6 +0.4
baz=312
PINM Pinnacle 90.69 24 P P 04 59 33.9 +0.8
baz=311
YUK6 Outpost Mounta 90.82 22 P P 04 59 34.5 +0.5
baz=312
N30M Aishikik Lake 90.92 22 P P 04 59 34.7 +0.5
baz=314
O29M Mount Kennedy 91.17 23 P P 04 59 34.6 -0.9
baz=312
HYT Haines Junctio 91.21 22 P P 04 59 35.9 +0.3
baz=313
PNL Peninsula 91.29 24 P P 04 59 36.3 +0.4
baz=312
M31M Drury Creek, Y 91.30 20 P P 04 59 35.7 -0.2
baz=316
N31M Braeburn, Yuko 91.35 21 P P 04 59 37.0 +0.9
baz=315
FARO Faro, Yukon 91.62 20 P P 04 59 38.4 +1.0
baz=317
O30N Mendenhall 91.75 22 P P 04 59 38.5 +0.5
baz=314
P30M Million Dollar 91.89 22 P P 04 59 39.3 +0.6
baz=314
P29M Windy Craggy 91.94 23 P P 04 59 39.2 +0.3
baz=313
MMPY Sheldon Lake, 91.98 19 P P 04 59 39.5 +0.4
baz=319
WHY Whitehorse 92.25 21 P P 04 59 40.5 +0.1
baz=315
N32M Quiet Lake 92.50 20 P P 04 59 42.3 +0.8
baz=317
PLBC Pleasant Camp 92.57 23 P P 04 59 42.3 +0.5
baz=314
SKAG Skagway 92.94 22 P P 04 59 43.8 +0.3
baz=315
P32M Atlin 93.42 22 P P 04 59 46.1 +0.3
baz=316
S31K Pelican 93.66 24 P P 04 59 47.3 +0.5
baz=316
R32K Eaglecrest 94.08 23 P P 04 59 48.6 -0.2
baz=316
Q32M Nakina River 94.39 22 P P 04 59 49.8 -0.6
baz=318
R33M Jennings River 94.51 21 P P 04 59 50.5 -0.4
baz=319
SIT Sitka 94.65 24 P P 04 59 52.3 +0.9
baz=315
DLBC Dease Lake 95.56 21 P P 04 59 55.9 +0.3
baz=320
S34M Telegraph Cree 95.57 22 P P 04 59 56.0 +0.4
baz=319
U33K Whale Pass 96.18 24 P P 04 59 58.2 -0.2
baz=317
YKA Yellowknife Ar 96.34 12 P P 04 59 58.6 -0.4
comp=Z,0.4nm,0.8s,baz=2.1,slow=2.7,SNR=3.6
comp=Z,0.4nm,0.8s
T35M Bob Quinn 96.59 22 P P 04 59 59.7 -0.6
baz=319
CRAG Craig 96.65 24 P P 04 59 59.7 -0.8
baz=317
TOAD Toad River Com 96.78 19 P P 05 00 00.3 -0.8
baz=324
V35K Ketchikan 97.33 24 P P 05 00 02.5 -1.1
baz=318
CPUP Villa Florida 151.31 249 PKPbc PKPbc 05 06 24.0 -0.7
comp=Z,0.4nm,0.6s,baz=285,slow=18,SNR=1.9

*NEIC **05** 05:10:37.3±2.0,35°.71N±0°.01×117°.47W±0°.01,h11km±7km, Error ellipse: s-maj=1.8km s-min=1.7km az=75.0*
PAS 05 05:10:37.6±2.7,35°.707N±0°.009×117°.475W±0°.007, h6km±4km, ML3.2/20, ML2.9/88(NEIC), Error ellipse: s-maj=1.5km s-min=0.6km az=207.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.20**	**154**		Pg	05 10 42.0	+0.4
SRTC	**Snort**	**0.22**	**266**		Pg	05 10 42.3	+0.3
SRTC					Sg	05 10 46.4	+1.4
TOW	**Tower One**	**0.26**	**293**		Pg	05 10 43.0	+0.4
TOW					Sg	05 10 47.5	+1.4
MPMC	**Manual Prospec**	**0.35**	**358**		Pg	05 10 44.3	-0.2
WVPM	**Volcano Peak E**	**0.37**	**311**		Pg	05 10 44.7	-0.1
WNMM	**Nine Mile Cany**	**0.38**	**291**		Pg	05 10 44.9	0.0
WCSM	**Coso Springs S**	**0.40**	**323**		Pg	05 10 45.1	-0.3
WCSM					Sg	05 10 51.0	+0.4
WRVM	**Rose V. Centra**	**0.45**	**312**		Sg	05 10 52.6	+0.3
MFS	**McCloud Flat S**	**0.51**	**323**		Pg	05 10 47.3	-0.3
MFS					Sg	05 10 55.0	+0.7
DTP	**Desert Tortois**	**0.53**	**215**		Pg	05 10 47.4	-0.5
DTP					Sg	05 10 54.6	-0.2
QSM	**Queen of Sheba**	**0.56**	**62**		Pg	05 10 48.2	-0.1
QSM				IAML		05 10 57.0	
	comp=N,959nm,0.3s						
QSM				IAML		05 10 57.8	
	comp=E,893nm,0.2s						
WBSM	**Bird Springs**	**0.57**	**253**		Pg	05 10 48.2	-0.4
WBSM					Sg	05 10 56.0	0.0
WORM	**Onyx Ranch**	**0.62**	**269**		Pg	05 10 49.2	-0.5
GSC	**Goldstone, Bar**	**0.68**	**126**		Sg	05 10 59.8	+0.2
GSC	**Goldstone, Bar**	**0.68**	**126**		Pg	05 10 50.2	-0.5
GSC				IAML		05 10 59.9	
	comp=N,660nm,0.3s						
GSC				IAML		05 10 60.0	
	comp=E,1μm,0.5s						
CCAC	**Calif City Air**	**0.71**	**219**		Pg	05 10 50.5	-0.8
CCAC				IAML		05 11 01.0	
	comp=E,916nm,0.3s						
WHFM	**Hanning Flat**	**0.71**	**269**		Pg	05 10 50.8	-0.5
GWY	**Greenwater Val**	**0.81**	**54**		Sg	05 11 04.6	+0.9
GWY	**Greenwater Val**	**0.81**	**54**		Pg	05 10 52.4	-0.8
GWY				IAML		05 11 07.8	
	comp=E,655nm,0.3s						
GWY				IAML		05 11 08.2	
	comp=N,511nm,0.3s						
ISA	**Isabella, Lake**	**0.81**	**267**		Sg	05 11 03.4	-0.5
ISA	**Isabella, Lake**	**0.81**	**267**		Pg	05 10 52.8	-0.5
ISA				IAML		05 11 07.3	
	comp=E,671nm,0.2s						
HYS	**Haystack Butte**	**0.84**	**185**		Pg	05 10 53.1	-0.7
HYS					Sg	05 11 04.4	-0.4
WASM	**Alta Sierra Ca**	**0.88**	**272**		Pg	05 10 54.0	-0.5
CGO	**Cerro Gordo**	**0.88**	**343**		Pg	05 10 53.9	-0.8
CGO					Sb	05 11 07.2	-0.5
RRX	**Edison Barstow**	**0.92**	**155**		Pb	05 10 55.9	0.0
EDW2	**Edwards Air Fo**	**0.93**	**207**		Pg	05 10 54.5	-0.9
SBB	**Saddle Back Bu**	**1.06**	**196**		Pg	05 10 57.0	-0.9
TEJ	**El Tejon**	**1.10**	**245**		Pg	05 10 57.4	-1.4
TEJ					Sg	05 11 12.6	-0.4
ADO	**Adelanto Recei**	**1.16**	**178**		Pb	05 10 60.0	0.0
SPG2	**Springville 2**	**1.16**	**296**		Pg	05 10 58.7	-1.1
SPG2					Sg	05 11 14.1	-0.8
AMDNV	**Amargosa**	**1.22**	**52**		Pg	05 10 59.8	-1.3
AMDNV					Sb	05 11 17.1	0.0
ALPC	**Antelope**	**1.22**	**214**		Pn	05 11 01.9	+0.6
ALPC					Sb	05 11 17.5	+0.4
TJR	**Tejon Ranch**	**1.24**	**237**		Pg	05 10 59.9	-1.4
DSCC	**Desert Studies**	**1.25**	**116**		Pg	05 11 00.1	-1.5
THC	**Tehachapi Micr**	**1.26**	**231**		Pg	05 11 00.5	-1.2
LRRC	**Littlerock Res**	**1.26**	**201**		Pg	05 11 01.8	0.0
LRRC					Sn	05 11 18.9	-0.1
LEOC	**Leona Valley**	**1.27**	**213**		Pb	05 11 02.1	+0.1
LEOC					Sb	05 11 19.0	+0.3
HEC	**Hector,Ludlow**	**1.28**	**133**		Sg	05 11 18.0	-0.8
HOLC	**Holcomb Ridge**	**1.28**	**194**		Pn	05 11 01.1	-1.0
HOLC					Sb	05 11 19.1	+0.1
WCT	**Wildcat Mounta**	**1.28**	**32**		Pn	05 11 01.0	-1.2
WCT				IAML		05 11 20.6	
	comp=N,185nm,0.4s						
WCT				IAML		05 11 21.4	
	comp=E,206nm,0.3s						
GRAC	**Grapevine Rang**	**1.29**	**4**		Pn	05 11 01.8	-0.4
TUQ	**Turquoise Moun**	**1.29**	**102**		Pn	05 11 01.3	-1.1
CJV	**Casa Juvan**	**1.30**	**205**		Pg	05 11 02.5	+0.1
CJV					Sb	05 11 19.5	+0.1
VES	**Vestal, Richgr**	**1.31**	**276**		Sb	05 11 19.4	-0.4
JNH	**Juniper Hills**	**1.32**	**197**		Pn	05 11 02.2	-0.4
JNH					Sb	05 11 20.3	+0.3
SIL	**Silver Peak**	**1.46**	**158**		Pn	05 11 04.6	-0.1
BFSC	**Mount Baldy Ra**	**1.47**	**186**		Pn	05 11 04.8	0.0
BFSC					Sb	05 11 24.7	+0.2
SSK	**Sunset Peak**	**1.50**	**187**		Pb	05 11 06.2	+0.1
LCH	**Last Change Ra**	**1.53**	**355**		Pn	05 11 05.2	-0.4
MTPC	**Mountain Pass**	**1.58**	**98**		Pn	05 11 04.9	-1.4
MTPC					Sn	05 11 24.9	-2.3
TPNV	**Topopah Spring**	**1.59**	**38**		Pn	05 11 05.7	-0.7
TPNV				IAML		05 11 31.2	
	comp=E,162nm,0.8s						
TPNV				IAML		05 11 31.7	
	comp=E,146nm,0.5s						
GMN	**Gold Mountain**	**1.60**	**6**		Pn	05 11 06.0	-0.6
GMN				IAML		05 11 35.0	
	comp=N,114nm,0.6s						
SVD	**Seven Oaks Dam**	**1.63**	**169**		Pg	05 11 08.5	-0.4
SVD					Sb	05 11 29.3	+0.5
PSRC	**Puddingstone R**	**1.64**	**190**		Pg	05 11 08.7	-0.2
PSRC					Sg	05 11 30.2	+0.1
PASC	**Pasadena Art C**	**1.64**	**201**		Pn	05 11 06.3	-0.7
PASC				IAML		05 11 32.1	
	comp=E,128nm,0.5s						
PASC				IAML		05 11 34.3	
	comp=N,138nm,0.4s						
OAT	**Oat Mountain**	**1.65**	**215**		Pg	05 11 09.0	-0.3
VOG	**Valley Oaks Go**	**1.66**	**292**		Sb	05 11 30.4	+0.6
GTM	**Goat Mountain**	**1.68**	**147**		Pb	05 11 08.8	-0.3
DSP	**Deep Springs**	**1.71**	**347**		Pn	05 11 07.8	-0.1
DSP				IAML		05 11 32.7	
	comp=N,84nm,0.5s						
GMRC	**Granite Mounta**	**1.75**	**121**		Pn	05 11 06.5	-2.1
GMRC					Sb	05 11 32.2	-0.2
BCW	**Bitter Crk WRg**	**1.76**	**245**		Pn	05 11 07.5	-1.2
BCW				IAML		05 11 35.9	
	comp=E,106nm,0.6s						
BCW				IAML		05 11 38.5	
	comp=N,118nm,0.7s						
POCCA	**Poleta Canyon**	**1.77**	**339**		Pb	05 11 10.8	+0.1
BHPR	**Bishop**	**1.79**	**333**		Pb	05 11 10.8	-0.1
PEC	**Perris**	**1.83**	**172**		Sn	05 11 31.0	-2.2
BLAC	**Blackrock camp**	**1.86**	**151**		Pn	05 11 09.7	-0.4
MTUM	**Tungsten Hills**	**1.86**	**332**		Pb	05 11 12.1	-0.1
BREC	**Barre Substati**	**1.94**	**193**		Sn	05 11 34.1	-1.6
TPC	**Twentynine Pal**	**1.98**	**143**		Pn	05 11 10.8	-1.0
HMTC	**Hemet**	**2.03**	**169**		Pn	05 11 11.7	-0.7
SHPR	**Sheep Range**	**2.04**	**66**		Pn	05 11 12.3	-0.3
ELS	**Elsinore Mount**	**2.06**	**179**		Pn	05 11 12.3	-0.5
ELS				IAML		05 11 46.4	
	comp=E,56nm,0.6s						
POB	**Polly Butte**	**2.07**	**167**		Pn	05 11 12.4	-0.5
DGR	**Domenigoni Val**	**2.09**	**169**		Pn	05 11 12.8	-0.4
MURC	**Murrieta**	**2.12**	**174**		Pn	05 11 13.2	-0.3
BACC	**Bachelor Mtn.**	**2.12**	**170**		Pn	05 11 13.1	-0.5
V12A	**Nelson**	**2.14**	**89**		Pn	05 11 12.5	-1.4
V12A				IAML		05 11 50.5	
	comp=N,71nm,1.4s						
V12A				IAML		05 11 52.1	
	comp=E,51nm,0.6s						
BENR	**Benton**	**2.19**	**337**		Pb	05 11 17.9	+0.1
MLAC	**Mammoth, Mammo**	**2.21**	**331**		Pb	05 11 18.5	+0.4
PFO	**Pinyon Flats O**	**2.25**	**158**		Pn	05 11 14.2	-1.4
MCSM	**Casa Diablo Ho**	**2.26**	**330**		Pb	05 11 19.2	+0.3
SNDA	**J Saunders Pla**	**2.27**	**161**		Pb	05 11 19.7	+0.7
FRD	**Ford Ranch, An**	**2.32**	**162**		Pb	05 11 20.6	+0.7
FRD	**Ford Ranch, An**	**2.32**	**162**		Pb	05 11 20.7	+0.8
TPH	**Tonopah**	**2.37**	**5**		Pn	05 11 16.5	-0.8
PRN	**Pahroc Range**	**2.59**	**48**		Pn	05 11 19.5	-0.6
PRN				IAML		05 12 09.9	
	comp=N,65nm,0.5s						
PRN				IAML		05 12 09.9	
	comp=E,60nm,0.4s						
LHV	**Little Huntoon**	**2.67**	**342**		Pn	05 11 21.4	+0.2
LHV				IAML		05 12 08.4	
	comp=N,49nm,0.7s						
LHV				IAML		05 12 10.3	
	comp=E,55nm,0.8s						
PMPB	**Monarch Peak**	**2.75**	**282**		Pn	05 11 23.6	+1.3
NV11	**Mina Array Sit**	**2.77**	**349**		Pn	05 11 22.3	-0.4
W13A	**Hualapai Mount**	**3.00**	**101**		Pn	05 11 24.6	-1.2
W13A				IAML		05 12 15.1	
	comp=N,43nm,1.4s						
W13A				IAML		05 12 18.5	
	comp=E,27nm,0.6s						
RYN	**Ryan**	**3.03**	**344**		Pn	05 11 26.0	-0.3
BLYC	**Blythe**	**3.12**	**128**		Pn	05 11 25.5	-1.8
BLYC				IAML		05 12 17.8	
	comp=N,55nm,0.4s						
BLYC				IAML		05 12 21.6	
	comp=E,49nm,1.0s						
CBX	**Cerro Bola**	**3.45**	**169**	Pn	Pn	05 11 31.8	-0.2
LCMT	**Little Creek M**	**3.66**	**68**		Pn	05 11 35.1	+0.3
CCUT	**Cedar City**	**3.79**	**60**	Pn	Pn	05 11 37.1	+0.4
KNB	**Kanab**	**3.98**	**69**		Pn	05 11 38.6	-0.6
PSUT	**Pine Spring**	**4.04**	**45**		Pn	05 11 39.2	-1.0
PSUT				IAML		05 12 51.5	
	comp=N,13nm,0.6s						
PSUT				IAML		05 12 55.3	
	comp=E,12nm,0.6s						
Y14A	**Wickenburg**	**4.08**	**114**		Pn	05 11 39.0	-1.5
MPK	**Martis Peak**	**4.12**	**331**	Pn	Pn	05 11 39.8	-1.6
PAHR	**Pah Rah Range**	**4.27**	**340**	Pn	Pn	05 11 41.5	-1.8
WUAZ	**Wupatki**	**4.97**	**90**	Pn	Pn	05 11 51.8	-1.2
WUAZ				IAML		05 13 16.5	
	comp=E,14nm,0.5s						
ORV	**Oroville**	**5.00**	**321**	Pn	Pn	05 11 52.2	-0.9
ORV				IAML		05 12 32.1	
	comp=E,6.5nm,3.6s						
ORV				IAML		05 13 27.2	
	comp=N,5.4nm,2.0s						
X16A	**Lo Mia Camp, P**	**5.11**	**103**		Pn	05 11 54.0	-1.0
X16A				IAML		05 13 25.3	
	comp=N,6.9nm,1.0s						
X16A				IAML		05 13 25.4	
	comp=E,9.1nm,1.1s						
ELK	**Elko**	**5.33**	**19**	Pn	Pn	05 11 56.7	-1.3

*NEIC **05** 05:18:25.1±2.0,35°.779N±0°.009×117°.59W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.6km az=248.0*
PAS 05 05:18:25.4±1.7,35°.770N±0°.009×117°.61W±0°.01, h2km±2km, Mwr3.5/4, ML3.2/88(NEIC), Error ellipse: s-maj=1.3km s-min=1.3km az=173.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.13**	**288**		Pg	05 18 28.6	+0.7
TOW					Sg	05 18 31.6	+2.0
SRTC	**Snort**	**0.14**	**235**		Pg	05 18 28.6	+0.6
SRTC					Sg	05 18 31.6	+1.7
WVPM	**Volcano Peak E**	**0.24**	**317**		Pg	05 18 30.3	+0.2
WNMM	**Nine Mile Cany**	**0.25**	**287**		Pg	05 18 30.5	+0.3
WCSM	**Coso Springs S**	**0.28**	**334**		Sg	05 18 35.4	+0.8
LRMC	**Laurel Mtn Rad**	**0.29**	**191**		Pg	05 18 31.2	+0.1
CCCA	**Chr Cany lake**	**0.32**	**140**		Pg	05 18 32.1	+0.7
CCCA					Sg	05 18 37.4	+1.8
WRVM	**Rose V. Centra**	**0.33**	**317**		Pg	05 18 31.8	+0.1
MFS	**McCloud Flat S**	**0.40**	**330**		Pg	05 18 33.2	+0.2
WBSM	**Bird Springs**	**0.49**	**242**		Pg	05 18 34.8	0.0
WORM	**Onyx Ranch**	**0.52**	**262**		Sg	05 18 42.3	+0.3
DTP	**Desert Tortois**	**0.54**	**201**		Pg	05 18 35.5	-0.2
WHFM	**Hanning Flat**	**0.60**	**263**		Pg	05 18 36.9	-0.1
QSM	**Queen of Sheba**	**0.64**	**72**		Pg	05 18 37.4	-0.2
QSM				IAML		05 18 47.6	
	comp=N,1μm,0.6s						
QSM				IAML		05 18 50.4	
	comp=E,994nm,0.9s						
CCAC	**Calif City Air**	**0.70**	**208**		Sg	05 18 48.6	+0.7
CCAC	**Calif City Air**	**0.70**	**208**		Pg	05 18 38.3	-0.5
CCAC				IAML		05 18 49.2	
	comp=N,884nm,0.4s						
ISA	**Isabella, Lake**	**0.71**	**262**		Pg	05 18 38.5	-0.4
ISA				IAML		05 18 49.4	
	comp=E,881nm,0.5s						
ISA				IAML		05 18 50.3	
	comp=N,773nm,0.3s						
ISA	**Isabella, Lake**	**0.71**	**262**		Sg	05 18 48.3	+0.1
WASM	**Alta Sierra Ca**	**0.77**	**268**		Pg	05 18 40.0	-0.1
WASM					Sg	05 18 50.5	+0.4
CGO	**Cerro Gordo**	**0.79**	**349**		Pg	05 18 40.3	-0.3
CGO					Sg	05 18 51.7	+0.8
GSC	**Goldstone, Bar**	**0.81**	**125**		Sg	05 18 51.8	+0.5
GSC	**Goldstone, Bar**	**0.81**	**125**		Pg	05 18 40.3	-0.5
GWY	**Greenwater Val**	**0.87**	**61**		Sg	05 18 53.8	+0.4
GWY	**Greenwater Val**	**0.87**	**61**		Pg	05 18 41.4	-0.7
GWY				IAML		05 18 58.9	
	comp=N,1μm,0.6s						
HYS	**Haystack Butte**	**0.91**	**178**		Pg	05 18 42.2	-0.5
HYS					Sg	05 18 54.3	-0.1
EDW2	**Edwards Air Fo**	**0.94**	**199**		Pg	05 18 42.6	-0.7
TPO	**Tropico Hills**	**1.02**	**210**		Pg	05 18 44.4	-0.5
RRX	**Edison Barstow**	**1.02**	**150**		Pg	05 18 44.8	-0.2
SPG2	**Springville 2**	**1.03**	**295**		Pg	05 18 44.4	-0.7
SPG2					Sg	05 18 58.3	-0.2
SBB	**Saddle Back Bu**	**1.09**	**189**		Pg	05 18 45.5	-0.8
ARVC	**Arvin**	**1.18**	**238**		Pg	05 18 48.2	+0.2
VES	**Vestal, Richgr**	**1.20**	**274**		Sg	05 19 04.2	+0.3
THC	**Tehachapi Micr**	**1.22**	**225**		Pg	05 18 48.5	-0.2
VTV	**Victorville**	**1.23**	**169**		Sb	05 19 06.0	+0.4
GRAC	**Grapevine Rang**	**1.24**	**9**		Sb	05 19 05.9	-0.1
GRAC	**Grapevine Rang**	**1.24**	**9**		Pg	05 18 48.3	-0.8
GRAC				IAML		05 19 09.1	
	comp=N,688nm,0.5s						
GRAC				IAML		05 19 10.3	
	comp=E,639nm,0.6s						
AMDNV	**Amargosa**	**1.27**	**57**		Pg	05 18 48.7	-1.1
AMDNV					Sg	05 19 06.2	-0.2
LRRC	**Littlerock Res**	**1.29**	**195**		Pg	05 18 49.1	-1.0
WCT	**Wildcat Mounta**	**1.29**	**38**		Sg	05 19 07.3	+0.3
WCT	**Wildcat Mounta**	**1.29**	**38**		Pg	05 18 49.1	-1.1
WCT				IAML		05 19 08.8	
	comp=E,520nm,0.4s						
WCT				IAML		05 19 10.4	
	comp=N,331nm,0.7s						
SGV	**South Grapevin**	**1.30**	**21**		Pg	05 18 49.7	-0.6
CJV	**Casa Juvan**	**1.31**	**200**		Pg	05 18 49.4	-1.1
HOLC	**Holcomb Ridge**	**1.32**	**188**		Pg	05 18 49.5	-1.2
HOLC					Sb	05 19 08.3	0.0
JNH	**Juniper Hills**	**1.35**	**192**		Pg	05 18 50.0	-1.2
JNH					Sn	05 19 09.7	-0.1
TIN	**Tinemaha, Big**	**1.38**	**339**		Sn	05 19 10.3	-0.2
TUQ	**Turquoise Moun**	**1.42**	**103**		Pn	05 18 50.6	-1.7
TUQ					Sb	05 19 11.2	+0.1
LCH	**Last Change Ra**	**1.46**	**359**		Pn	05 18 52.5	-0.4
CHFC	**Chilao Flat St**	**1.47**	**193**		Pn	05 18 51.7	-1.4
CHFC					Sn	05 19 13.2	+0.3
BFSC	**Mount Baldy Ra**	**1.53**	**181**		Pb	05 18 54.4	-0.1
BFSC					Sg	05 19 14.6	+0.1
VOG	**Valley Oaks Go**	**1.54**	**291**		Pn	05 18 53.9	+0.1
VOG					Sb	05 19 14.5	+0.1
GMN	**Gold Mountain**	**1.55**	**10**		Pn	05 18 53.8	-0.5
GMN				IAML		05 19 18.1	
	comp=N,234nm,0.5s						
SSK	**Sunset Peak**	**1.56**	**182**		Pn	05 18 53.3	-0.9
SIL	**Silver Peak**	**1.56**	**155**		Pn	05 18 54.6	+0.3
TPNV	**Topopah Spring**	**1.61**	**43**		Pn	05 18 54.0	-0.9
TPNV				IAML		05 19 18.4	
	comp=N,286nm,0.6s						
TPNV				IAML		05 19 19.8	
	comp=N,425nm,0.8s						
DSP	**Deep Springs**	**1.62**	**350**		Pn	05 18 54.7	-0.2
DSP				IAML		05 19 18.9	
	comp=N,208nm,0.5s						
OAT	**Oat Mountain**	**1.64**	**210**		Pg	05 18 57.1	+0.2
PASC	**Pasadena Art C**	**1.66**	**197**		Pn	05 18 54.7	-0.8
POCCA	**Poleta Canyon**	**1.68**	**342**		Pb	05 18 56.7	-0.4
BHPR	**Bishop**	**1.68**	**335**		Pn	05 18 55.9	-0.1
PSRC	**Puddingstone R**	**1.68**	**186**		Pn	05 18 55.2	-0.6
BCW	**Bitter Crk WRg**	**1.69**	**241**		Pn	05 18 54.9	-1.0
BCW				IAML		05 19 35.8	
	comp=N,296nm,1.1s						
MTPC	**Mountain Pass**	**1.70**	**99**		Pn	05 18 54.7	-1.5
SVD	**Seven Oaks Dam**	**1.71**	**166**		Pg	05 18 58.3	+0.1
MTUM	**Tungsten Hills**	**1.76**	**334**		Pb	05 18 58.2	-0.2
GTM	**Goat Mountain**	**1.80**	**145**		Pb	05 18 59.1	0.0
BLAC	**Blackrock camp**	**1.97**	**149**		Pn	05 18 58.9	-0.9
TPC	**Twentynine Pal**	**2.10**	**142**		Pn	05 19 00.3	-1.2
MLAC	**Mammoth, Mammo**	**2.10**	**332**		Pb	05 19 04.5	+0.2
HMTC	**Hemet**	**2.12**	**166**		Pn	05 19 01.2	-0.6
SHPR	**Sheep Range**	**2.12**	**69**		Pn	05 19 01.2	-0.7
ELS	**Elsinore Mount**	**2.12**	**176**		Pn	05 19 00.9	-1.0
ELS				IAML		05 19 39.5	
	comp=E,105nm,0.7s						
MCSM	**Casa Diablo Ho**	**2.15**	**331**		Pb	05 19 05.3	+0.2
POB	**Polly Butte**	**2.15**	**165**		Pn	05 19 01.6	-0.7
V12A	**Nelson**	**2.25**	**90**		Pn	05 19 02.3	-1.3
V12A				IAML		05 19 38.4	
	comp=N,100nm,0.6s						
TPH	**Tonopah**	**2.32**	**8**		Pn	05 19 03.8	-0.9
PFO	**Pinyon Flats O**	**2.35**	**156**		Pn	05 19 04.0	-1.1
PFO				IAML		05 19 46.9	
	comp=N,89nm,0.9s						
FRD	**Ford Ranch, An**	**2.42**	**160**		Pn	05 19 05.2	-0.8
PLM	**Palomar**	**2.49**	**165**		Pn	05 19 06.4	-0.6
LHV	**Little Huntoon**	**2.58**	**344**		Pn	05 19 08.8	+0.7
LHV				IAML		05 19 54.2	
	comp=N,70nm,0.8s						
LHV				IAML		05 19 54.3	
	comp=E,86nm,1.0s						
PMPB	**Monarch Peak**	**2.62**	**281**		Pn	05 19 09.3	+0.6
PRN	**Pahroc Range**	**2.63**	**51**		Pn	05 19 08.6	-0.3
PRN				IAML		05 19 53.8	
	comp=N,138nm,0.7s

KNB					IAML			05 20 35.1	
	comp=N,21nm,1.3s								
KNB					IAML			05 20 44.4	
	comp=E,22nm,0.8s								
PSUT	**Pine Spring**	**4.08**	**46**			Pn		05 19 29.7	+0.8
PSUT					IAML			05 20 45.0	
	comp=N,30nm,0.9s								
PSUT					IAML			05 20 48.3	
	comp=E,29nm,1.7s								
SPR3	**Spring Creek 3**	**4.15**	**38**			Pn		05 19 30.4	+0.4
SPR3					IAML			05 20 39.6	
	comp=E,24nm,0.7s								
SPR3					IAML			05 20 41.8	
	comp=N,23nm,0.9s								
Y14A	**Wickenburg**	**4.21**	**114**	Pn	Pn	Pn		05 19 29.4	-1.1
Y14A					IAML			05 20 44.0	
	comp=N,38nm,0.6s								
Y14A					IAML			05 20 44.7	
	comp=E,22nm,0.4s								
113A	**Mohawk Valley,**	**4.37**	**132**			Pn		05 19 31.5	-1.2
113A					IAML			05 20 45.1	
	comp=E,16nm,0.7s								
113A					IAML			05 20 51.5	
	comp=N,20nm,0.9s								
WUAZ	**Wupatki**	**5.09**	**91**			Pn		05 19 41.0	-1.8
MVU	**Marysvale**	**5.10**	**56**			Pn		05 19 43.5	+0.5
MVU					IAML			05 21 08.0	
	comp=N,16nm,0.8s								
MVU					IAML			05 21 22.5	
	comp=E,12nm,1.6s								
X16A	**Lo Mia Camp, P**	**5.24**	**103**			Pn		05 19 44.4	-0.4
214A	**Organ Pipe Nat**	**5.51**	**132**	Pn		Pn		05 19 46.4	-2.1
X18A	**Snowflake**	**6.40**	**99**			Pn		05 20 01.0	+0.2
SRU	**San Rafael Swe**	**6.55**	**57**			Pn		05 20 03.1	+0.2
PV23	**Carpenter Ridg**	**7.38**	**66**			Pn		05 20 15.2	+1.0
PV13	**Radium Mtn., P**	**7.43**	**69**			Pn		05 20 14.5	-0.5
PV04	**Paradox Valley**	**7.44**	**67**	Pn		Pn		05 20 15.7	+0.7
PV03	**Paradox Valley**	**7.44**	**68**			Pn		05 20 15.7	+0.6

*IDC **05** 05:23:52.2±0.8, 14°.69N×147°.08E, h0km, mb4.0/14, mbtmp4.0/15, ML4.4/1, MS3.3/2, Error ellipse: s-maj=22.3km s-min=16.8km az=109.0*
*NEIC **05** 05:23:54.1±1.7, 14°.62N±0°.08×147°.2E±0°.1, h10km±1km, mb4.6/28, Error ellipse: s-maj=18.4km s-min=13.9km az=88.0*

ISC 05 05:23:57.1±0.7, 14°.63N±0°.09×146°.99E±0°.10, h33km, n57, σ0.079/52, mb4.4/28, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.30**	**244**		**Pn**	**05 24 33.4**	**+0.7**
GUMO	**Guam**	**2.30**	**244**	Pn	**Pn**	**05 24 32.9**	**+0.1**
	84nm,0.3s,baz=118,slow=5.8,SNR=23						
GUMO				Sn	**Sb**	**05 25 04.5**	**-1.5**
	67nm,0.3s,baz=18,slow=22,SNR=12						
	139nm,0.3s						
PATS	**Pohnpei**	**13.55**	**124**		Pn	05 27 00.1	-7.1
H11N1	**WAKE ISLAND Hy**	**19.67**	**72**	T	T	05 48 30.5	
	baz=258,slow=75,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**19.68**	**72**	T	T	05 48 33.6	
	baz=258,slow=75,SNR=2.9						
H11N3	**WAKE ISLAND Hy**	**19.69**	**72**	T	T	05 48 27.5	
	baz=258,slow=75,SNR=3.8						
JOW	**Kunigami**	**21.27**	**308**	P	**P**	**05 28 42.1**	**+1.3**
DAV	**Davao City (W)**	**22.31**	**253**	LR	LR	05 38 41.8	
	comp=Z,27nm,18.9s,baz=197,slow=40						
FAKI	**Fak Fak**	**22.74**	**221**	P	**P**	**05 28 57.1**	**+0.4**
MJAR	**Matsushiro Arr**	**23.19**	**342**	P	**P**	**05 28 58.6**	**-2.6**
	1.3nm,0.4s,baz=159,slow=9.2,SNR=2.0						
	1.3nm,0.4s						
MJB9	**Matsu-Tunnel**	**23.20**	**342**	P	**P**	**05 29 00.3**	**-0.8**
JNU	**Nakatsue**	**23.52**	**324**	P	**P**	**05 29 05.2**	**+0.8**
JNU				IAmb	IAmb	05 29 22.9	
	comp=Z,11nm,1.0s						
KSRS	**Korea Array**	**28.35**	**327**	P	**P**	**05 29 48.4**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=144,slow=10.0,SNR=8.0						
	comp=Z,1.4nm,0.6s						
BATI	**Baumata**	**33.82**	**224**	LR	LR	05 46 36.2	
	comp=Z,99nm,18.2s,baz=182,slow=40						
WB0	**Warramunga Arr**	**36.35**	**200**	P	**P**	**05 30 58.6**	**+0.3**
WB0				IAmb	IAmb	05 31 28.3	
	comp=Z,8.8nm,1.4s						
WRA	**Warramunga Arr**	**36.54**	**200**	P	**P**	**05 30 60.0**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=23,slow=9.7,SNR=9.0						
	comp=Z,0.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**38.73**	**214**	P	**P**	**05 31 19.4**	**+1.0**
ASAR	**Alice Springs**	**40.15**	**199**	P	**P**	**05 31 29.4**	**-0.9**
ASAR	**Alice Springs**	**40.15**	**199**	P	**P**	**05 31 31.0**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=18,slow=10,SNR=6.2						
	comp=Z,0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**46.11**	**282**	P	**P**	**05 32 18.8**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=88,slow=8.1,SNR=4.9						
	comp=Z,0.8nm,0.4s						
SONM	**Songino Array**	**47.10**	**323**	P	**P**	**05 32 25.7**	**-0.4**
SONM	**Songino Array**	**47.10**	**323**	P	**P**	**05 32 26.2**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=132,slow=7.4,SNR=7.1						
	comp=Z,1.6nm,0.6s						
BBOO	**Buckleboo**	**48.31**	**192**	P	**P**	**05 32 34.9**	**-0.6**
LSA	**Lhasa**	**53.37**	**296**	P	**P**	**05 33 14.3**	**0.0**
ZALV	**Zalesovo Beam**	**61.99**	**324**	P	**P**	**05 34 13.2**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=98,slow=11,SNR=3.7						
	comp=Z,1.3nm,0.7s						
MKAR	**Makanchi Array**	**62.19**	**315**	P	**P**	**05 34 16.0**	**+0.5**
MKAR	**Makanchi Array**	**62.19**	**315**	P	**P**	**05 34 16.2**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=89,slow=8.7,SNR=29						
	comp=Z,2.7nm,0.6s						
H18K	**Honhosa River**	**62.35**	**23**	P	**P**	**05 34 16.8**	**+0.6**
H18K				IAmb	IAmb	05 34 42.0	
	comp=Z,5.3nm,1.2s						
P19K	**Oil Pt**	**62.38**	**30**	P	**P**	**05 34 14.5**	**-2.0**
MAKZ	**Makanchi**	**62.40**	**315**	P	**P**	**05 34 17.4**	**+0.5**
MAKZ				IAmb	IAmb	05 34 18.5	
	comp=Z,5.0nm,0.8s						
CAST	**Castle Rocks**	**64.17**	**26**	P	**P**	**05 34 29.3**	**+1.0**
CAST				IAmb	IAmb	05 34 45.0	
	comp=Z,2.6nm,0.9s						
IMAR	**Indian Mountai**	**64.44**	**23**	P	**P**	**05 34 30.3**	**+0.3**
KURK	**Kurchatov**	**65.13**	**319**		**P**	**05 34 34.6**	**-0.1**
KURBB	**Kurchatov Arra**	**65.17**	**319**	P	**P**	**05 34 35.5**	**+0.4**
	comp=Z,6.1nm,0.6s,baz=99,slow=6.7,SNR=65						
	comp=Z,6.1nm,0.6s						
FID	**Port Fidalgo**	**65.93**	**30**	P	**P**	**05 34 39.0**	**-0.7**
D22K	**Ayikyak River**	**65.95**	**20**	P	**P**	**05 34 39.0**	**-0.7**
D22K				IAmb	IAmb	05 34 45.1	
	comp=Z,6.0nm,1.1s						
E22K	**Anaktuvuk Pass**	**65.96**	**21**	P	**P**	**05 34 39.2**	**-0.7**
E22K				IAmb	IAmb	05 34 53.6	
	comp=Z,5.3nm,1.4s						
ILAR	**Eielson Array**	**66.76**	**25**	P	**P**	**05 34 44.5**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=252,slow=5.7,SNR=7.8						
	comp=Z,0.3nm,0.5s						
D25K	**Kavik River**	**68.23**	**21**	P	**P**	**05 34 53.4**	**-0.8**
D25K				IAmb	IAmb	05 35 29.7	
	comp=Z,5.4nm,1.3s						
BMAR	**Burnt Mountain**	**68.36**	**23**	P	**P**	**05 34 55.9**	**+0.9**
L29M	**L29M**	**70.23**	**28**	P	**P**	**05 35 07.1**	**+0.4**
KK31	**Karatay Array**	**70.33**	**311**		**P**	**05 35 08.3**	**+0.6**
KK31				IAmb	IAmb	05 35 09.2	
	comp=Z,2.8nm,0.8s						
KKAR	**Karatay Array**	**70.33**	**311**		**P**	**05 35 07.8**	**+0.1**
KKAR				IAmb	IAmb	05 35 09.2	
	comp=Z,2.9nm,0.8s						
KKAR	**Karatay Array**	**70.33**	**311**	P	**P**	**05 35 08.0**	**+0.3**
BVAR	**Borovoye Array**	**70.40**	**321**	P	**P**	**05 35 08.2**	**+0.3**
	comp=Z,1.8nm,0.4s,baz=101,slow=7.7,SNR=7.4						
	comp=Z,1.8nm,0.4s						
BRVK	**Borovoye**	**70.46**	**321**	P	**P**	**05 35 08.5**	**+0.2**
BRVK				IAmb	IAmb	05 35 11.1	
	comp=Z,2.8nm,0.6s						
K29M	**Barlow Dome**	**70.58**	**27**	P	**P**	**05 35 09.9**	**+0.9**
EPYK	**Eagle Plains**	**71.21**	**24**	P	**P**	**05 35 13.6**	**+1.0**
EPYK				IAmb	IAmb	05 35 24.7	
	comp=Z,6.2nm,1.4s						
H31M	**Peel River**	**72.12**	**25**	P	**P**	**05 35 19.2**	**+1.1**
H31M				IAmb	IAmb	05 35 19.4	
	comp=Z,11nm,1.4s						
G31M	**Satah River**	**72.23**	**24**	P	**P**	**05 35 18.9**	**+0.2**
G31M				IAmb	IAmb	05 35 51.4	
	comp=Z,6.8nm,1.1s						
AB31	**Akbulak array**	**77.16**	**318**	P	**P**	**05 35 47.4**	**-0.2**
ABKAR	**Akbulak array**	**77.16**	**318**	P	**P**	**05 35 47.5**	**-0.1**
YKA	**Yellowknife Ar**	**80.99**	**28**	P	**P**	**05 36 08.6**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=294,slow=5.8,SNR=5.3						
	comp=Z,0.2nm,0.6s						

NVAR	**Mina Array Bea**	**84.67**	**52**	P		**P**		**05 36 28.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=280,slow=12,SNR=3.5								
	comp=Z,0.2nm,0.3s								
FINES	**FINESS Array B**	**91.08**	**336**	P		**P**		**05 36 57.4**	**-0.8**
	comp=Z,4.2nm,1.0s,baz=92,slow=4.2,SNR=2.3								
	comp=Z,4.2nm,1.0s								
DBIC	**Dimbokro**	**144.97**	**305**	PKPbc		**PKPab**		**05 43 31.7**	**+0.4**
	comp=Z,11nm,1.0s,baz=38,slow=3.5,SNR=4.5								
LPAZ	**La Paz**	**146.13**	**97**	PKPbc		**PKPab**		**05 43 36.0**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=347,slow=2.4,SNR=5.0								

IDC 05 05:38:52.9±2.4, 3°.21N×63°.66E, h0km, mb3.8/4, mbtmp3.8/4, MS3.4/9, Error ellipse: s-maj=213.4km s-min=26.7km az=38.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**17.45**	**76**	LR	LR	05 47 46.3	
	comp=Z,131nm,18.6s,baz=274,slow=31						
BRDH	**Bariadhala**	**33.32**	**52**	LR	LR	05 58 38.6	
	comp=Z,151nm,18.8s,baz=174,slow=36						
CMAR	**Chiang Mai Arr**	**37.71**	**64**	LR	LR	05 59 45.1	
	comp=Z,22nm,19.9s,baz=140,slow=33						
ASF	**Jabal al Asfar**	**38.23**	**322**	LR	LR	06 02 36.6	
	comp=Z,20nm,18.4s,baz=265,slow=37						
BRTR	**Keskin Array B**	**45.40**	**327**	P	P	05 47 13.3	-0.2
	1.0nm,0.9s,baz=150,slow=6.1,SNR=2.8						
	1.0nm,0.9s						
LBTB	**Lobatse**	**46.38**	**231**	LR	LR	06 04 07.1	
	comp=Z,62nm,19.0s,baz=92,slow=33						
BVAR	**Borovoye Array**	**49.96**	**5**	LR	LR	06 09 49.6	
	comp=Z,42nm,18.9s,baz=200,slow=37						
ZALV	**Zalesovo Beam**	**53.47**	**15**	LR	LR	06 09 38.5	
	comp=Z,22nm,21.2s,baz=63,slow=34						
H01W3	**Cape Leeuwin H**	**60.62**	**133**	T	T	06 54 55.4	
	baz=297						
H01W2	**Cape Leeuwin H**	**60.62**	**133**	T	T	06 54 52.6	
	baz=297						
H01W1	**Cape Leeuwin H**	**60.63**	**133**	T	T	06 54 53.7	
	baz=297						
JNU	**Nakatsue**	**69.23**	**56**	LR	LR	06 21 41.1	
	comp=Z,20nm,19.1s,baz=299,slow=37						
ESDC	**Sonseca Array**	**70.81**	**311**	P	P	05 50 11.5	-0.2
	0.3nm,0.4s,baz=86,slow=5.0,SNR=4.1						
	0.3nm,0.4s						
ARCES	**ARCESS Array B**	**70.84**	**347**	LR	LR	06 24 08.7	
	comp=Z,24nm,18.5s,baz=84,slow=38						
WRA	**Warramunga Arr**	**73.03**	**112**	P	P	05 50 25.1	-0.3
	1.4nm,0.8s,baz=291,slow=5.2,SNR=6.7						
	1.4nm,0.8s						
ASAR	**Alice Springs**	**73.31**	**116**	P	P	05 50 27.3	+0.3
	1.0nm,1.0s,baz=287,slow=5.2,SNR=5.3						
	1.0nm,1.0s						
TXAR	**Lajitas Array**	**145.43**	**340**	PKPbc	PKPbc	05 58 33.4	-0.4
	0.8nm,0.9s,baz=76,slow=1.5,SNR=8.0						

*IDC **05** 05:48:51.2±1.7, 27°.48N×53°.15E, h0km, mb3.8/4, mbtmp3.8/4, ML1.2/1, MS3.3/2, Error ellipse: s-maj=36.1km s-min=31.8km az=171.0*
*TEH **05** 05:48:52.1, 27°.56N×53°.41E, h6km±880km*

ISC 05 05:48:54.0±0.8, 27°.52N±0°.06×53°.36E±0°.05, h16km, n20, σ1.951/19, mb3.9/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.25**	**224**	Pg	**Pg**	**05 48 59.0**	**-0.6**
LAR1	**LAR**	**0.91**	**81**	Pg	**Pb**	**05 49 09.5**	**-1.9**
QIR1	**Qir**	**0.99**	**343**	Pg	**Pb**	**05 49 11.0**	**-1.9**
JHRM	**Jahrom**	**1.00**	**11**	Pg	**Pb**	**05 49 12.1**	**-0.9**
DSBU	**Dashti - Bushe**	**2.04**	**295**	Pn	**Pb**	**05 49 31.0**	**+0.2**
SHI	**Shiraz**	**2.24**	**341**	Pn	**Pb**	**05 49 33.0**	**-1.3**
KLNJ	**Kolanjah**	**3.80**	**336**	Pn	**Pn**	**05 49 54.2**	**+2.0**
KRBR	**Kerman**	**3.86**	**50**	Pn	**Pn**	**05 49 54.5**	**+1.5**
KHGB	**Koh Gabri**	**3.94**	**43**	Pn	**Pn**	**05 49 55.3**	**+1.3**
IMEH	**Mehriz**	**4.00**	**15**	Pn	**Pn**	**05 49 56.3**	**+1.4**
CHMN	**Cheshme madani**	**4.34**	**57**	Pn	**Pn**	**05 50 01.8**	**+2.1**
KBAM	**BAM**	**4.76**	**69**	Pn	**Pn**	**05 50 07.5**	**+2.2**
ICHK	**Chakchek**	**4.79**	**11**	Pn	**Pn**	**05 50 06.5**	**+0.7**
WSAR	**Wadi Sarin**	**6.39**	**131**	Pn	**Pn**	**05 50 28.3**	**+0.7**
	baz=278,slow=24,SNR=5.2						
WSAR				Sn	**Sn**	**05 51 41.2**	**+0.9**
	baz=357,slow=24,SNR=1.9						
BVAR	**Borovoye Array**	**28.45**	**22**	P	**P**	**05 54 48.9**	**+0.9**
	0.9nm,0.4s,baz=216,slow=9.0,SNR=4.7						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**29.77**	**42**	P	**P**	**05 55 00.7**	**+0.9**
	0.2nm,0.4s,baz=239,slow=10,SNR=5.9						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**29.96**	**33**	LR	LR	06 07 57.1	
	comp=Z,39nm,21.6s,baz=167,slow=38						
FINES	**FINESS Array B**	**38.52**	**339**	P	**P**	**05 56 14.5**	**-0.9**
	2.8nm,0.8s,baz=141,slow=9.2,SNR=3.6						
	2.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**50.18**	**264**	P	**P**	**05 57 47.5**	**-1.8**
	0.4nm,0.7s,baz=44,slow=8.6,SNR=2.1						
	0.4nm,0.7s						
YAK	**Yakutsk**	**59.71**	**32**	LR	LR	06 28 16.4	
	comp=Z,34nm,18.8s,baz=1.0,slow=40						

*NEIC **05** 06:09:22.2±1.4, 35°.624N±0°.004×117°.56W±0°.01, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.4km az=297.0*

PAS 05 06:09:23.1±1.5, 35°.622N±0°.008×117°.57W±0°.01, h6km±1km, Mwr3.7/6, ML3.7/106(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=79.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.16**	**296**		Pg	06 09 26.8	+0.4
SRTC					Sg	06 09 30.3	+1.7
LRMC	**Laurel Mtn Rad**	**0.17**	**212**		Pg	06 09 26.6	+0.1
LRMC					Sg	06 09 29.3	+0.4
CCCA	**Chr Cany lake**	**0.20**	**120**		Pg	06 09 27.5	+0.4
TOW	**Tower One**	**0.24**	**320**		Pg	06 09 28.3	+0.4
TOW					Sg	06 09 33.1	+1.9
WNMM	**Nine Mile Cany**	**0.35**	**309**		Pg	06 09 29.9	0.0
WVPM	**Volcano Peak E**	**0.38**	**329**		Pg	06 09 30.4	-0.2
DTP	**Desert Tortois**	**0.42**	**212**		Pg	06 09 30.9	-0.3
MPMC	**Manual Prospec**	**0.44**	**9**		Pg	06 09 31.4	-0.3
MPMC					Sg	06 09 37.6	+0.1
WRVM	**Rose V. Centra**	**0.46**	**326**		Pg	06 09 31.8	-0.3
WBSM	**Bird Springs**	**0.47**	**260**		Pg	06 09 32.0	-0.2
WBSM					Sg	06 09 38.6	+0.2
MFS	**McCloud Flat S**	**0.54**	**335**		Sg	06 09 41.2	+0.4
WORM	**Onyx Ranch**	**0.55**	**278**		Pg	06 09 33.4	-0.4
WORM					Sg	06 09 40.7	-0.3
CCAC	**Calif City Air**	**0.59**	**218**		Pg	06 09 34.2	-0.3
WHFM	**Hanning Flat**	**0.64**	**277**		Sg	06 09 43.5	-0.2
QSM	**Queen of Sheba**	**0.67**	**59**		Pg	06 09 35.6	-0.4
QSM					Sg	06 09 44.8	+0.1
QSM	**Queen of Sheba**	**0.67**	**59**	IAML		06 09 49.6	
	comp=N,6μm,0.5s						
GSC	**Goldstone, Bar**	**0.70**	**117**		Pg	06 09 36.3	-0.3
GSC					Sg	06 09 45.9	+0.1
ISA	**Isabella, Lake**	**0.73**	**273**		Pg	06 09 36.7	-0.6
ISA				IAML		06 09 47.1	
	comp=E,4μm,0.5s						
ISA				IAML		06 09 47.4	
	comp=N,3μm,0.2s						
ISA	**Isabella, Lake**	**0.73**	**273**		Sg	06 09 46.6	-0.2
HYS	**Haystack Butte**	**0.76**	**180**		Pg	06 09 37.1	-0.6
HYS					Sg	06 09 47.2	-0.3
WASM	**Alta Sierra Ca**	**0.81**	**279**		Sg	06 09 49.0	-0.3
EDW2	**Edwards Air Fo**	**0.82**	**205**		Pg	06 09 38.1	-0.7
RRX	**Edison Barstow**	**0.88**	**147**		Pg	06 09 39.6	-0.5
CWC	**Cottonwood Cre**	**0.91**	**333**		Pg	06 09 40.9	+0.2
TPO	**Tropico Hills**	**0.92**	**216**		Pg	06 09 40.0	-0.7
TPO					Sg	06 09 52.8	+0.3
GWY	**Greenwater Val**	**0.93**	**52**		Pg	06 09 40.2	-0.7
GWY	**Greenwater Val**	**0.93**	**52**	IAML		06 09 59.8	
	comp=N,2μm,0.6s						
GWY				IAML		06 09 59.9	
	comp=E,3μm,0.4s						
CGO	**Cerro Gordo**	**0.94**	**349**		Pg	06 09 40.5	-0.8
CGO					Sg	06 09 53.7	+0.1
SBB	**Saddle Back Bu**	**0.95**	**193**		Pg	06 09 40.6	-0.9
TEJ	**El Tejon**	**0.99**	**247**		Pg	06 09 40.9	-1.2
VTV	**Victorville**	**1.08**	**169**		Sb	06 09 58.8	+0.2
SHOC	**Shoshone, Teco**	**1.09**	**75**		Pg	06 09 43.3	-0.8
ALPC	**Antelope**	**1.11**	**213**		Pg	06 09 44.5	+0.1
ALPC					Sb	06 09 59.7	+0.3
TJR	**Tejon Ranch**	**1.13**	**239**		Pg	06 09 43.4	-1.3

SPG2	**Springville 2**	**1.13**	**301**			Pg		06 09 43.7	-1.0
MAGC	**SCE Magundon P**	**1.13**	**257**			Pg		06 09 44.1	-0.8
ARVC	**Arvin**	**1.14**	**245**			Pg		06 09 43.9	-1.1
THC	**Tehachapi Micr**	**1.14**	**232**			Pg		06 09 43.9	-1.1
LEOC	**Leona Valley**	**1.16**	**211**			Pg		06 09 44.4	-0.9
LRRC	**Littlerock Res**	**1.16**	**199**			Pg		06 09 44.3	-1.0
CJV	**Casa Juvan**	**1.19**	**203**			Pg		06 09 44.8	-1.0
JNH	**Juniper Hills**	**1.21**	**195**			Pg		06 09 45.2	-1.2
VES	**Vestal, Richgr**	**1.25**	**280**			Pb		06 09 46.0	-1.0
BAKC	**Calstate**	**1.28**	**258**			Pn		06 09 46.8	-0.8
HEC	**Hector,Ludlow**	**1.29**	**128**			Pn		06 09 46.0	-1.7
DSCC	**Desert Studies**	**1.29**	**111**			Pn		06 09 46.6	-1.1
AMDNV	**Amargosa**	**1.34**	**51**			Pn		06 09 46.6	-1.7
CHFC	**Chilao Flat St**	**1.34**	**196**			Pn		06 09 47.0	-1.5
TUQ	**Turquoise Moun**	**1.36**	**97**			Pn		06 09 47.1	-1.7
OSI	**Osito Audit: C**	**1.38**	**223**			Pn		06 09 48.8	-0.1
GRAC	**Grapevine Rang**	**1.38**	**7**			Pn		06 09 48.1	-0.9
GRAC					IAML			06 10 12.4	
	comp=E,1μm,0.4s								
BFSC	**Mount Baldy Ra**	**1.38**	**183**			Pn		06 09 47.7	-1.3
WCT	**Wildcat Mounta**	**1.40**	**33**			Pn		06 09 47.8	-1.5
WCT					IAML			06 10 15.8	
	comp=E,657nm,0.7s								
SIL	**Silver Peak**	**1.41**	**154**			Pn		06 09 48.0	-1.6
SSK	**Sunset Peak**	**1.41**	**184**			Pn		06 09 48.4	-1.1
SGV	**South Grapevin**	**1.42**	**18**			Pn		06 09 48.6	-1.1
MWC	**Mount Wilson**	**1.45**	**196**			Pb		06 09 50.5	-0.1
BBRC	**Big Bear Solar**	**1.46**	**158**			Pn		06 09 48.8	-1.4
DECC	**Green Verdugo**	**1.50**	**205**			Pb		06 09 51.2	-0.2
TIN	**Tinemaha, Big**	**1.52**	**340**			Pb		06 09 51.6	-0.3
PASC	**Pasadena Art C**	**1.53**	**199**			Pn		06 09 49.7	-1.4
PASC					IAML			06 10 16.9	
	comp=E,1μm,0.5s								
PASC					IAML			06 10 16.9	
	comp=N,771nm,0.7s								
OAT	**Oat Mountain**	**1.54**	**214**			Pn		06 09 50.4	-0.7
PSRC	**Puddingstone R**	**1.54**	**187**			Pn		06 09 50.4	-0.7
SVD	**Seven Oaks Dam**	**1.56**	**165**			Pb		06 09 52.2	-0.3
LCH	**Last Change Ra**	**1.61**	**358**			Pn		06 09 51.6	-0.6
VOG	**Valley Oaks Go**	**1.62**	**296**			Pn		06 09 52.2	0.0
RVR	**Riverside**	**1.63**	**174**			Pn		06 09 51.2	-1.1
BLCC	**Black Canyon**	**1.65**	**214**			Pn		06 09 52.0	-0.6
BCW	**Bitter Crk WRg**	**1.65**	**246**			Pn		06 09 51.0	-1.7
BCW					IAML			06 10 19.0	
	comp=N,751nm,0.9s								
BCW					IAML			06 10 41.7	
	comp=E,848nm,0.9s								
MTPC	**Mountain Pass**	**1.65**	**94**			Pn		06 09 51.3	-1.5
RHC	**Rose Hills Cem**	**1.66**	**193**			Pg		06 09 54.5	-0.4
GTM	**Goat Mountain**	**1.66**	**143**			Pb		06 09 53.9	-0.2
DJJ	**Donna J Jenkin**	**1.68**	**206**			Pn		06 09 51.9	-1.1
GMN	**Gold Mountain**	**1.69**	**8**			Pn		06 09 52.4	-1.1
GMN					IAML			06 10 18.3	
	comp=N,408nm,0.5s								
TPNV	**Topopah Spring**	**1.70**	**39**			Pn		06 09 52.1	-1.4
TPNV					IAML			06 10 21.0	
	comp=N,988nm,0.5s								
TPNV					IAML			06 10 26.6	
	comp=N,741nm,0.8s								
BBSC	**Beaumont Base**	**1.77**	**164**			Pn		06 09 53.7	-0.5
DSP	**Deep Springs**	**1.77**	**350**			Pn		06 09 53.5	-0.8
CRGC	**Crocker Grade**	**1.80**	**258**			Pb		06 09 55.7	-0.8
POCCA	**Poleta Canyon**	**1.83**	**342**			Pb		06 09 56.8	-0.3
BHPR	**Bishop**	**1.83**	**337**			Pn		06 09 54.9	-0.4
BLAC	**Blackrock camp**	**1.83**	**148**			Pn		06 09 53.8	-1.4
CARC	**Carrizo Plain**	**1.88**	**261**			Pb		06 09 57.8	-0.1
EW2	**E Wide Canyon**	**1.93**	**150**			Pn		06 09 55.2	-1.3
HMC	**Hemet**	**1.97**	**166**			Pn		06 09 55.5	-1.1
ELS	**Elsinore Mount**	**1.97**	**176**			Pn		06 09 55.9	-1.3
ELS					IAML			06 10 32.2	
	comp=E,550nm,0.6s								
ELS					IAML			06 10 33.0	
	comp=N,404nm,

X16A	**Lo Mia Camp, P**	**5.17**	**102**		Pn	06 10 40.0	-1.3
X16A				IAML		06 12 09.5	
	comp=E,51nm,1.1s						
X16A				IAML		06 12 18.4	
	comp=N,40nm,1.5s						
214A	**Organ Pipe Nat**	**5.39**	**131**		Pn	06 10 41.4	-2.8
214A				IAML		06 12 25.9	
	comp=N,30nm,0.7s						
214A				IAML		06 12 28.3	
	comp=E,43nm,1.2s						
ELK	**Elko**	**5.43**	**19**		Pn	06 10 43.9	-1.0
DUG	**Dugway, Tooele**	**5.92**	**38**		Pn	06 10 49.8	-1.6
X18A	**Snowflake**	**6.34**	**98**	Pn	Pn	06 10 56.8	-0.6
TUC	**Tucson**	**6.54**	**118**		Pn	06 10 57.6	-2.3
PV22	**Blue Mesa, Par**	**7.60**	**65**	Pn	Pn	06 11 13.1	-1.5
319A	**Douglas**	**8.12**	**119**	Pn	Pn	06 11 20.1	-1.5

ATH ***05*** *06:09:23.7,37.48N×20.55E,h12km±1km,ML3.5/14, Manual Solution by P.Lantzourakis First location: 2019/07/05 06:10:23, This location: 2021/06/08 21:53:45 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

THE ***05*** *06:09:24.1,37°N±1°×2°1E±°,h5km±2km,M3.5/25, MLh3.5/25*

ISC 05 06:09:24.0±1.5,37°49N±0°04×20°57E±0°05,h11km±8km, n55,σ0.55/78,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRI1	**kERI**	**0.26**	**49**	P	**Pg**	**06 09 29.4**	**+0.1**
KRI1				S	**Sg**	**06 09 32.9**	**+0.1**
LTHK	**Lithakia**	**0.30**	**44**	P	**Pg**	**06 09 30.0**	**-0.1**
LTHK				S	**Sg**	**06 09 34.3**	**+0.1**
ORTH	**Orthonies,Zaky**	**0.37**	**15**	P	**Pg**	**06 09 31.2**	**-0.2**
ORTH				S	**Sg**	**06 09 36.7**	**+0.3**
CLEM	**Kyllini,Ilia,G**	**0.59**	**48**	P	**Pg**	**06 09 35.9**	**+0.3**
CLEM				S	**Sg**	**06 09 43.8**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.60**	**15**	P	**Pg**	**06 09 36.0**	**+0.2**
RTZL				S	**Sg**	**06 09 44.2**	**+0.6**
KTLO	**Katakolo**	**0.61**	**76**	P	**Pg**	**06 09 36.2**	**+0.3**
KTLO				S	**Sb**	**06 09 45.2**	**-0.2**
KTLO	**Katakolo**	**0.61**	**76**	P	**Pg**	**06 09 35.9**	**-0.1**
KTLO				S	**Sg**	**06 09 44.1**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.62**	**1**	P	**Pg**	**06 09 35.6**	**-0.5**
PSDA				S	**Sb**	**06 09 45.4**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.62**	**1**	P	**Pg**	**06 09 35.9**	**-0.2**
PSDA				S	**Sg**	**06 09 44.9**	**+0.6**
VLS	**Valsamata**	**0.68**	**1**	P	**Pg**	**06 09 36.8**	**-0.5**
VLS				S	**Sg**	**06 09 46.5**	**+0.2**
VLS	**Valsamata**	**0.68**	**1**	P	**Pg**	**06 09 36.4**	**-0.9**
VLS				S	**Sg**	**06 09 46.9**	**+0.6**
ANDM	**Andravida**	**0.74**	**48**	P	**Pg**	**06 09 37.6**	**-0.7**
ANDM				S	**Sb**	**06 09 48.9**	**-0.1**
ANDM	**Andravida**	**0.74**	**48**	P	**Pg**	**06 09 37.8**	**-0.6**
ANDM				S	**Sg**	**06 09 47.6**	**-0.4**
SMHA	**Samh**	**0.76**	**4**	P	**Pb**	**06 09 39.1**	**-0.2**
SMHA				S	**Sg**	**06 09 48.7**	**0.0**
DMLN	**Damoulianata-K**	**0.76**	**348**	P	**Pg**	**06 09 38.3**	**-0.4**
DMLN				S	**Sb**	**06 09 50.0**	**+0.3**
DMLN	**Damoulianata-K**	**0.76**	**348**	P	**Pg**	**06 09 38.4**	**-0.4**
KRES	**Krestena**	**0.84**	**83**	P	**Pg**	**06 09 40.3**	**0.0**
KRES				S	**Sb**	**06 09 52.5**	**+0.5**
KRES	**Krestena**	**0.84**	**83**	P	**Pg**	**06 09 40.4**	**+0.1**
ZARO	**Zacharo**	**0.86**	**90**	P	**Pg**	**06 09 40.7**	**+0.2**
AMT	**Artemida-Makis**	**0.90**	**87**	P	**Pg**	**06 09 40.7**	**-0.8**
RLS	**Riolos of Patr**	**0.90**	**51**	P	**Pg**	**06 09 40.6**	**-0.8**
RLS				S	**Sb**	**06 09 54.0**	**+0.1**
RLS	**Riolos of Patr**	**0.90**	**51**	P	**Pg**	**06 09 40.7**	**-0.8**
AXS	**Araxos**	**0.95**	**42**	P	**Pg**	**06 09 41.4**	**-0.9**
AXS				S	**Sb**	**06 09 55.4**	**+0.3**
AXS	**Araxos**	**0.95**	**42**	P	**Pg**	**06 09 40.8**	**-1.5**
FSK	**Fiskardo**	**0.96**	**359**	P	**Pg**	**06 09 41.9**	**-0.7**
FSK				S	**Sb**	**06 09 56.4**	**+0.8**
DRO	**Drossia**	**1.01**	**63**	P	**Pg**	**06 09 42.9**	**-0.6**
DRO	**Drossia**	**1.01**	**63**	P	**Pg**	**06 09 42.6**	**-0.9**
PYL1	**Pylos**	**1.07**	**123**	P	**Pg**	**06 09 44.1**	**-0.5**
ITM	**Ithomi**	**1.12**	**106**	P	**Pg**	**06 09 44.8**	**-0.8**
ITM	**Ithomi**	**1.12**	**106**	P	**Pg**	**06 09 45.0**	**-0.6**
EVGI	**Lefkada island**	**1.13**	**3**	P	**Pg**	**06 09 44.7**	**-1.0**
EVGI	**Lefkada island**	**1.13**	**3**	P	**Pg**	**06 09 44.9**	**-0.9**
EVGI				S	**Sn**	**06 10 01.2**	**-0.1**
MTHA	**Methoni**	**1.13**	**126**	P	**Pg**	**06 09 45.4**	**-0.3**
MTHA				S	**Sn**	**06 10 01.4**	**+0.2**
DRAG	**Dragano-Lefkad**	**1.19**	**0**	P	**Pn**	**06 09 47.1**	**+0.5**
NYDR	**Nydri-Lefkada**	**1.22**	**5**	P	**Pn**	**06 09 46.5**	**-0.6**
UPR	**University Cam**	**1.24**	**50**	P	**Pb**	**06 09 47.8**	**+0.2**
UPR	**University Cam**	**1.24**	**50**	P	**Pn**	**06 09 47.4**	**0.0**
LKD2	**Lefkada island**	**1.29**	**3**	P	**Pn**	**06 09 47.7**	**-0.4**
LKD2				S	**Sn**	**06 10 07.4**	**+1.9**
LKD2	**Lefkada island**	**1.29**	**3**	P	**Pn**	**06 09 47.4**	**-0.7**
TSLK	**Tsoukalades, L**	**1.33**	**3**	P	**Pn**	**06 09 48.8**	**+0.2**
TSLK				S	**Sg**	**06 10 07.0**	**+0.1**
TSLK	**Tsoukalades, L**	**1.33**	**3**	P	**Pn**	**06 09 48.6**	**0.0**
PVO	**Paravola**	**1.35**	**34**	P	**Pn**	**06 09 48.7**	**-0.1**
PVO	**Paravola**	**1.35**	**34**	P	**Pn**	**06 09 48.4**	**-0.5**
KLV	**Kalavryta, Ach**	**1.36**	**66**	P	**Pn**	**06 09 48.9**	**-0.2**
KLV	**Kalavryta, Ach**	**1.36**	**66**	P	**Pn**	**06 09 49.0**	**-0.2**
EFP	**Efpalio**	**1.41**	**48**	P	**Pn**	**06 09 49.4**	**-0.3**
EFP	**Efpalio**	**1.41**	**48**	P	**Pn**	**06 09 49.3**	**-0.4**
VLX	**Vlachokerasia**	**1.44**	**94**	P	**Pn**	**06 09 50.3**	**+0.1**
GUR	**Goura**	**1.47**	**72**	P	**Pn**	**06 09 50.3**	**-0.3**
SERG	**Sergoula**	**1.49**	**52**	P	**Pn**	**06 09 50.7**	**-0.1**
KALE	**Kalithea**	**1.53**	**54**	P	**Pn**	**06 09 50.8**	**-0.6**
KALE	**Kalithea**	**1.53**	**54**	P	**Pn**	**06 09 51.2**	**-0.2**
EVR	**Evrytania**	**1.72**	**34**	P	**Pn**	**06 09 53.3**	**-0.8**
IGT	**Igoumenitsa**	**2.04**	**355**	P	**Pn**	**06 09 58.6**	**+0.1**
NEST	**Nestorio**	**2.94**	**7**	P	**Pn**	**06 10 10.1**	**-0.7**

CATAC 05 06:29:03.9±0.7,13°N±4°×8°9W±°,h25km±4km,M2.4/13, MLv2.4/13,Error ellipse: s-maj=8.5km s-min=4.2km az=20.4,confirmed,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOMA	**Loma Larga**	**0.65**	**1**	P	Pn	06 29 17.4	-0.4
LOMA	**Loma Larga**	**0.65**	**1**	S	Sn	06 29 27.2	-0.2
TECO	**Alcaldia de Te**	**0.67**	**36**	S	Sn	06 29 27.6	-0.2
TECO	**Alcaldia de Te**	**0.67**	**36**	P	Pb	06 29 17.1	0.0
ALJI	**Alcalda de J**	**0.69**	**61**	S	Sn	06 29 28.4	+0.4
ALJI	**Alcalda de J**	**0.69**	**61**	P	Pn	06 29 17.9	-0.2
COEG	**Centro de Oper**	**0.69**	**25**	P	Pb	06 29 17.6	+0.1
COEG	**Centro de Oper**	**0.69**	**25**	S	Sn	06 29 28.6	+0.2
JAYA	**Jayaque - finc**	**0.71**	**339**	P	Pn	06 29 18.3	-0.3
JAYA	**Jayaque - finc**	**0.71**	**339**	S	Sn	06 29 28.7	-0.1
PMON	**Piamonte**	**0.73**	**350**	P	Pn	06 29 18.8	0.0
PMON	**Piamonte**	**0.73**	**350**	S	Sn	06 29 29.6	+0.4
UESV	**Universidad de**	**0.75**	**31**	S	Sn	06 29 30.0	+0.3
UESV	**Universidad de**	**0.75**	**31**	P	Pb	06 29 18.2	-0.2
PAVA	**Las Pavas**	**0.76**	**19**	P	Pn	06 29 19.2	0.0
PAVA	**Las Pavas**	**0.76**	**19**	S	Sn	06 29 30.1	+0.1
SCLA	**Alcaldia de Sa**	**0.84**	**32**	S	Sn	06 29 31.6	-0.2
SCLA	**Alcaldia de Sa**	**0.84**	**32**	P	Pb	06 29 19.9	+0.1
PQSS	**Presa 15 de Se**	**0.88**	**44**	P	Pb	06 29 20.5	0.0
PQSS	**Presa 15 de Se**	**0.88**	**44**	S	Sn	06 29 33.1	+0.3
PACA	**Pacayal**	**0.97**	**60**	S	Sn	06 29 35.5	+0.4
PACA	**Pacayal**	**0.97**	**60**	P	Pn	06 29 22.0	-0.1
NUBE	**Las Nubes**	**1.08**	**328**	S	Sb	06 29 37.6	-0.1
NUBE	**Las Nubes**	**1.08**	**328**	P	Pn	06 29 23.2	-0.4
CNCH	**Conchagua**	**1.35**	**78**	S	Sn	06 29 44.8	+0.3
CNCH	**Conchagua**	**1.35**	**78**	P	Pn	06 29 27.4	+0.1
MTO3	**Montecristo**	**1.41**	**353**	P	Pn	06 29 28.2	-0.1
MTO3	**Montecristo**	**1.41**	**353**	S	Sn	06 29 46.6	+0.3

BJI ***05*** *06:38:12.3,20.56S×173.77W,h6km,mB5.6/13,mb5.1/33, Ms5.0/16,Ms7 4.7/17*

NEIC ***05*** *06:38:14.4,20.54S×173.67W,h12km,Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^16Nm; Mrr3.01; Mθθ-0.20; Mφφ-2.81; Mrθ 2.26; Mrφ-1.04; Mθφ 4.84; Fault plane solution: M0 6.17000×10^16 NP1: φs193.53000°,δ15.21000°,λ79.58000°. NP2:φs24.33000°, δ75.05000°,λ92.82000°. Principal axes: T 6.1031, Plg60.0000°, Azm298.0000°; N -0.1366, Plg3.0000°, Azm204.0000°; P -6.2397, Plg30.0000°, Azm112.0000°;*

NEIC ***05*** *06:38:14.4±1.6,20.55S±0.10×173.9W±0.1,h10km±1km, mb5.1/68,Mww5.1/12 Error ellipse: s-maj=18.0km s-min=15.7km az=130.0*

NEIC ***05*** *06:38:14.4,20.54S×173.89W,h12km*

IDC ***05*** *06:38:14.1±0.4,20.62S×174.29W,h0km,mb4.6/21, mbtmp4.6/22,ML5.5/2,MS4.5/55,Error ellipse: s-maj=18.3km s-min=13.5km az=115.0*

MOS ***05*** *06:38:17.1±2.6,20.40S×174.85W,h10km,mb5.1/27, MS4.7/8,Error ellipse: s-maj=12.2km s-min=9.9km az=117.8*

NOU ***05*** *06:38:19.8,20.43S×173.49W,h54km,mb5.1/16,Tonga Islands*

GCMT ***05*** *06:38:21.4±0.1,20.65S±0.01×173.74W±0.01,h21km, MW5.2/128,Moment Tensor Solution. s97,c141; s128,c201; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr5.88±.16; Mθθ-0.61±.11; Mφφ-5.28±.12; Mrθ 2.74±.23; Mθφ-2.61±.08; Mφr 4.05±.20; Best double couple: M0 7.87200×10^16 NP1:φs197.00000°,δ26.00000°, λ77.00000°. NP2:φs31.00000°,δ64.00000°,λ96.00000°. Principal axes: T 7.6290, Plg70.0000°, Azm313.0000°; N 0.4760, Plg6.0000°, Azm208.0000°; P -8.1140, Plg19.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 06:38:14.1±0.3,20.64S±0.05×173.82W±0.05,h10km, n602,σ1s36/564,mb5.1/86,MS4.6/78,59C-14D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.98**	**68**		**Pn**	**06 39 13.9**	**-1.3**
NIUE	**Niue**	**3.98**	**68**	P	**Pn**	**06 39 13.4**	**-1.8**
NIUE	**Niue**	**3.98**	**68**	S	**Sn**	**06 39 55.3**	**-6.6**
AFI	**Afiamalu**	**6.97**	**17**	Pn	**Pn**	**06 39 54.4**	**-2.1**
AFI	**Afiamalu**	**6.97**	**17**	P	**Pn**	**06 39 55.0**	**-1.4**
AFI	**Afiamalu**	**6.97**	**17**	P	**Pn**	**06 39 54.4**	**-2.1**
TAVE	**Taveuni**	**6.97**	**303**	P	Pn	06 40 02.0	+5.6
DGTI	**Dogotuki**	**7.49**	**304**	P	Pn	06 40 08.5	+5.0
MSVF	**Nonsavu**	**8.21**	**289**		Pn	06 40 17.6	+4.1
MSVF	**Nonsavu**	**8.21**	**289**	Pn	Pn	06 40 17.5	+4.0
	1.9nm,0.3s,baz=129,slow=12,SNR=30						
MSVF				LR	LR	06 43 01.8	
	comp=Z,14μm,18.7s,baz=74,slow=37						
MSVF	**Nonsavu**	**8.21**	**289**	P	Pn	06 40 19.5	+6.0
MSVF	**Nonsavu**	**8.21**	**289**	P	Pn	06 40 17.6	+4.1
RAO	**Raoul Island**	**9.35**	**203**	Pn	**Pn**	**06 40 26.6**	**-2.4**
	225nm,0.3s,baz=39,slow=22,SNR=4.0						
RAO				Sn	**Sn**	**06 42 07.6**	**-6.5**
	131nm,0.3s,baz=99,slow=24,SNR=1.8						
RAR	**Rarotonga**	**13.14**	**95**		**Pn**	**06 41 19.0**	**-1.8**
RAR	**Rarotonga**	**13.14**	**95**	Pn	**Pn**	**06 41 19.6**	**-1.3**
	19nm,0.3s,baz=240,slow=5.3,SNR=14						
RAR				Sn	Sn	06 43 37.1	-10
	3.9nm,0.3s,baz=94,slow=15,SNR=1.8						
RAR				LR	LR	06 47 11.9	
	comp=Z,1μm,18.0s,baz=248,slow=40						
RAR	**Rarotonga**	**13.14**	**95**	P	**Pn**	**06 41 19.9**	**-1.0**
DZM	**Mont Dzumac**	**18.44**	**262**		**Pn**	**06 42 27.4**	**-2.7**
DZM				IAmb	IAmb	06 42 36.1	
	comp=Z,55nm,1.0s						
DZM	**Mont Dzumac**	**18.44**	**262**	*e*P	**Pn**	**06 42 26.4**	**-3.7**
	comp=Z,170nm,1.3s						
DZM				*e*S	**Sn**	**06 45 57.6**	**+1.2**
	comp=Z,698nm,24.9s						
DZM				*e*LR	LR	06 46 54.0	
	comp=Z,3μm,22.6s						
DZM	**Mont Dzumac**	**18.44**	**262**	P	**Pn**	**06 42 28.5**	**-1.6**
	comp=Z,96nm,1.2s,baz=70,slow=20,SNR=9.2						
DZM				LR	LR	06 48 24.5	
	comp=Z,3μm,20.6s,baz=93,slow=34						
DZM	**Mont Dzumac**	**18.44**	**262**	P	**P**	**06 42 34.3**	**+4.2**
URZ	**Urewera**	**19.23**	**202**	P	**P**	**06 42 39.6**	**+1.1**
	comp=Z,2.6nm,0.3s,baz=356,slow=1.7,SNR=7.5						
URZ				S	Sn	06 46 00.3	-15
	comp=Z,10nm,0.8s,baz=225,slow=3.5,SNR=2.0						
URZ				LR	LR	06 49 24.9	
	comp=Z,1μm,21.9s,baz=6.5,slow=35						
	comp=Z,18nm,0.7s						
URZ	**Urewera**	**19.23**	**202**	P	**Pn**	**06 42 41.7**	**+2.2**
TOZ	**Tahuroa Road**	**19.39**	**206**	P	**P**	**06 42 41.5**	**+1.2**
HIZ	**Hauiti**	**20.32**	**206**	P	Pn	06 42 55.4	+3.0
BFZ	**Birch Farm**	**21.70**	**201**	P	**P**	**06 43 09.0**	**+3.8**
TBI	**Tubuai**	**22.74**	**101**	*e*P	**P**	**06 43 12.5**	**-4.0**
	comp=Z,1μm,36.8s						
TBI				*e*S	S	06 47 14.8	-11
	comp=Z,5μm,28.0s						
TBI				*e*LR	LR	06 48 38.3	
	comp=Z,3μm,29.5s						
TBI				*e*LR	LR	06 48 45.3	
	comp=Z,12μm,28.0s						
PPT2	**Papeete2**	**23.10**	**87**	*e*P	P	06 43 11.3	-9.1
	comp=Z,173nm,23.5s						
PPT2				*e*S	**S**	**06 47 27.8**	**-4.0**
	comp=Z,2μm,28.0s						
PPT2				*e*LR	LR	06 48 51.4	
	comp=Z,2μm,25.8s						
PPT2				*e*LR	LR	06 48 51.5	
	comp=Z,3μm,26.2s						
PPT	**Papeete**	**23.10**	**87**	LR	LR	06 51 47.1	
	comp=Z,976nm,18.2s,baz=260,slow=34						
QRZ	**Quartz Range**	**23.24**	**207**	P	**P**	**06 43 25.2**	**+3.7**
KHZ	**Kahutara**	**24.18**	**203**	P	**P**	**06 43 33.7**	**+3.0**
DSZ	**Denniston Nort**	**24.30**	**207**		**P**	**06 43 31.0**	**-0.8**
DSZ				IAmb	IAmb	06 43 37.5	
	comp=Z,91nm,1.1s						
OXZ	**Oxford**	**25.53**	**204**	P	**P**	**06 43 42.4**	**-0.5**
RPZ	**Rata Peaks**	**26.25**	**205**	P	**P**	**06 43 53.2**	**+3.8**
JCZ	**Jackson Bay**	**27.49**	**208**	P	**P**	**06 44 04.9**	**+4.2**
ODZ	**Otahua Downs**	**27.52**	**204**	P	**P**	**06 44 03.9**	**+3.1**
HNR	**Honiara**	**27.63**	**290**	LR	LR	06 53 59.1	
	comp=Z,1μm,18.1s,baz=158,slow=35						
ARMA	**Armidale**	**32.56**	**246**	P	**P**	**06 44 45.1**	**-0.6**
EIDS	**Eidsvold**	**32.59**	**255**	P	**P**	**06 44 45.3**	**-0.8**
EIDS				IAmb	IAmb	06 44 46.4	
	comp=Z,58nm,1.5s						
TAOE	**Nuku Hiva Isla**	**34.52**	**75**	*e*P	**P**	**06 45 06.8**	**+3.8**
	comp=Z,105nm,23.7s						
TAOE				*e*S	S	06 50 22.2	-10
	comp=Z,225nm,26.2s						
TAOE				*e*LR	LR	06 54 04.5	
	comp=Z,2μm,27.3s						
CAN	**Canberra**	**35.72**	**238**	P	**P**	**06 45 11.5**	**-1.6**
CAN				IAmb	IAmb	06 45 28.1	
	comp=Z,15nm,0.8s						
CAN	**Canberra**	**35.72**	**238**	P	**P**	**06 45 11.5**	**-1.6**
CAN				pmax	pmax		
	comp=Z,15nm,0.8s						
CTAO	**Charters Tower**	**37.37**	**264**	P	**P**	**06 45 25.5**	**-1.8**
CTAO	**Charters Tower**	**37.37**	**264**	P	**P**	**06 45 25.5**	**-1.8**
CTAO				pmax	pmax		
	comp=Z,14nm,0.9s						
TOO	**Toolangi**	**39.01**	**235**		**P**	**06 45 39.1**	**-1.8**
TOO	**Toolangi**	**39.01**	**235**	P	**P**	**06 45 39.2**	**-1.8**
TOO				pmax	pmax		
	comp=Z,10.0nm,1.4s						
STKA	**Stephens Creek**	**41.27**	**245**		**P**	**06 45 57.8**	**-2.0**
STKA				IAmb	IAmb	06 45 58.9	
	comp=Z,37nm,0.8s						
STKA	**Stephens Creek**	**41.27**	**245**	P	**P**	**06 45 57.2**	**-2.6**
	comp=Z,5.9nm,0.6s,baz=96,slow=9.7,SNR=9.8						
STKA				LR	LR	07 01 29.7	
	comp=Z,756nm,18.9s,baz=75,slow=34						
	comp=Z,5.9nm,0.6s						
STKA	**Stephens Creek**	**41.27**	**245**	⇑*i*P	**P**	**06 45 57.8**	**-2.0**
COEN	**Coen**	**41.50**	**272**		**P**	**06 45 59.1**	**-2.8**
MANU	**Manus Island**	**42.12**	**291**	P	**P**	**06 46 04.9**	**-2.0**
MANU				IAmb	IAmb	06 46 06.5	
	comp=Z,75nm,1.5s						
KIP	**Kipapa**	**44.57**	**21**	⇑*i*P	**P**	**06 46 26.2**	**-0.3**
KIP				pmax	pmax		
	comp=Z,27nm,1.1s						
BBOO	**Buckleboo**	**46.00**	**244**	P	**P**	**06 46 35.8**	**-2.1**
JAY	**Jayapura**	**47.83**	**286**	P	**P**	**06 46 49.5**	**-3.0**
	comp=Z,47nm,0.9s,baz=127,slow=5.4,SNR=19						
JAY				LR	LR	07 05 48.8	
	comp=Z,521nm,21.1s,baz=179,slow=35						
	comp=Z,47nm,0.9s						
JAY	**Jayapura**	**47.83**	**286**	P	**P**	**06 46 51.1**	**-1.3**
GENI	**Genyem**	**48.28**	**286**	P	**P**	**06 46 55.1**	**-0.8**
	comp=Z,65nm,1.1s						
AS31	**Alice Springs**	**48.30**	**256**	P	**P**	**06 46 53.8**	**-2.2**
ASAR	**Alice Springs**	**48.30**	**256**		**P**	**06 46 53.2**	**-2.7**
ASAR	**Alice Springs**	**48.30**	**256**	P	**P**	**06 46 53.1**	**-2.9**
ASAR				PcP	**PcP**	**06 48 23.8**	**+0.9**
	comp=Z,6.9nm,0.6s,baz=99,slow=7.8,SNR=42						
ASAR				PcP	**PcP**	**06 48 23.8**	**+0.9**
	comp=Z,2.8nm,0.7s,baz=100,slow=4.2,SNR=4.7						
ASAR				LR	LR	07 07 15.7	
	comp=Z,903nm,18.1s,baz=98,slow=36						
	comp=Z,6.9nm,0.6s						
WR8	**Warramunga Arr**	**48.31**	**261**	P	**P**	**06 46 54.0**	**-2.1**
WR8				IAmb	IAmb	06 47 10.1	
	comp=Z,8.9nm,0.8s						
WRAB	**Tennant Creek**	**48.45**	**261**	⇑*i*P	**P**	**06 46 55.0**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,18nm,1.5s						
WRA	**Warramunga Arr**	**48.46**	**261**	P	**P**	**06 46 54.9**	**-2.4**
WRA	**Warramunga Arr**	**48.46**	**261**	P	**P**	**06 46 53.7**	**-3.6**
	comp=Z,5.7nm,0.8s,baz=97,slow=7.6,SNR=37						
WRA				PcP	**PcP**	**06 48 23.6**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=94,slow=3.4,SNR=3.5						
WRA				LR	LR	07 06 38.5	
	comp=Z,518nm,18.3s,baz=68,slow=36						
	comp=Z,5.7nm,0.8s						
GUMO	**Guam**	**52.97**	**306**	LR	LR	07 08 29.8	
	comp=Z,249nm,19.2s,baz=128,slow=34						
MTN	**Manton Dam**	**53.08**	**269**	P	**P**	**06 47 29.9**	**-2.3**
MTN				IAmb	IAmb	06 47 30.8	
	comp=Z,18nm,0.8s						
FITZ	**Fitzroy Crossi**	**56.89**	**261**	P	**P**	**06 47 57.6**	**-2.1**
	comp=Z,1.5nm,0.3s,baz=120,slow=2.6,SNR=10						
	comp=Z,1.5nm,0.3s						
SBA	**Scott Base**	**58.02**	**185**	P	**P**	**06 48 08.8**	**+2.0**
SBA				IAmb	IAmb	06 48 12.2	
	comp=Z,13nm,0.9s						
SBA	**Scott Base**	**58.02**	**185**	P	**P**	**06 48 08.8**	**+2.0**
SBA				pmax	pmax		
	comp=Z,13nm,1.0s						
VNDA	**Vanda**	**58.15**	**186**	P	**P**	**06 48 10.1**	**+2.4**
VNDA	**Vanda**	**58.15**	**186**	P	**P**	**06 48 09.6**	**+2.0**
	comp=Z,3.1nm,0.9s,baz=6.9,slow=6.9,SNR=19						
VNDA				LR	LR	07 13 04.3	
	comp=Z,144nm,18.7s,baz=11,slow=36						
	comp=Z,3.1nm,0.9s						
VNDA	**Vanda**	**58.15**	**186**	P	**P**	**06 48 10.1**	**+2.4**
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SOEI	**Soe**	**60.42**	**270**	P	**P**	**06 48 23.0**	**-1.5**
BATI	**Baumata**	**60.85**	**270**	LR	LR	07 15 37.4	
	comp=Z,442nm,18.8s,baz=123,slow=37						
MBWA	**Marble Bar**	**61.64**	**256**	P	**P**	**06 48 29.9**	**-2.6**
NWAO	**Narrogin (SRO)**	**61.80**	**243**	LR	LR	07 14 08.3	
	comp=Z,478nm,18.8s,baz=86,slow=35						
CASY	**Casey**	**65.52**	**206**	P	**P**	**06 48 58.0**	**+0.6**
CASY				IAmb	IAmb	06 49 11.8	
	comp=Z,11nm,0.9s						
DAV	**Davao City (W)**	**65.58**	**288**	LR	LR	07 17 00.5	
	comp=Z,193nm,18.4s,baz=118,slow=36						
KAPI	**Kappang**	**66.20**	**274**	LR	LR	07 17 24.8	
	comp=Z,228nm,20.1s,baz=112,slow=36						
KAPI	**Kappang**	**66.20**	**274**	⇑*i*P	**P**	**06 49 00.8**	**-1.9**
KAPI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TOLI2	**Tolitoli**	**67.48**	**280**	P	**P**	**06 49 08.9**	**-1.9**
TOLI2				IAmb	IAmb	06 49 13.1	
	comp=Z,10nm,0.9s						
MPSI	**Mapaga**	**68.00**	**279**	P	**P**	**06 49 16.2**	**+2.1**
	comp=Z,15nm,0.9s						
QSPA	**South Pole Qui**	**69.43**	**180**	P	**P**	**06 49 25.1**	**+2.8**
	comp=Z,14nm,0.9s,baz=52,slow=2.1,SNR=34						
QSPA				LR	LR	07 19 22.7	
	comp=Z,236nm,18.1s,baz=42,slow=36						
	comp=Z,14nm,0.9s						
JGF	**Kuroka**	**72.58**	**320**	P	**P**	**06 49 41.4**	**-0.3**
MJA0	**Matsu Arr-Jizo**	**72.69**	**321**	*e*P	**P**	**06 49 41.9**	**-0.5**
MJAR	**Matsushiro Arr**	**72.71**	**321**	P	**P**	**06 49 41.9**	**-0.6**
MJAR				IAmb	IAmb	06 49 52.9	
	comp=Z,23nm,1.1s						
MJAR	**Matsushiro Arr**	**72.71**	**321**	P	**P**	**06 49 42.6**	**+0.1**
	comp=Z,14nm,1.0s,baz=156,slow=5.6,SNR=18						
MJAR				LR	LR	07 15 30.6	
	comp=Z,172nm,21.4s,baz=133,slow=31						
	comp=Z,14nm,1.0s						
MAJO	**Matsushiro**	**72.71**	**321**	P	**P**	**06 49 41.4**	**-1.0**
MAJO	**Matsushiro**	**72.71**	**321**	*c*P	**P**	**06 49 42.3**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,16nm,0.9s						
MJB9	**Matsu-Tunnel**	**72.72**	**321**	P	**P**	**06 49 41.5**	**-1.0**
TGY	**Tagaytay City**	**72.80**	**293**	LR	LR	07 21 09.1	
	comp=Z,158nm,18.9s,baz=40,slow=36						
NIKH	**Nikolski High**	**

SII **Sitkinak Islan** **78.66 11** P **P** **06 50 16.5 +0.4**
baz=199
BELA **Belgrano 2** **78.89 172** **P** **06 50 19.2 +1.9**
BELA IAmb IAmb 06 50 30.6
comp=Z,14nm,1.1s
R17L **Mt. Peulik Vol** **79.33 9** P **P** **06 50 20.0 +0.3**
baz=197
PLK4 **Peulik 4** **79.33 9** P **P** **06 50 20.3 +0.5**
PLK4 IAmb IAmb 06 50 34.5
comp=Z,19nm,1.1s
Y14A **Wickenburg** **79.34 48** P **P** **06 50 20.4 0.0**
TEY **Ternei** **79.43 327** *e*P P 06 50 10.8 -10
OHAK **Old Harbor** **79.45 11** P **P** **06 50 19.6 -0.7**
baz=200
R18K **Karluk** **79.57 10** P **P** **06 50 21.8 +0.8**
baz=198
PMSA **Palmer Station** **79.58 156** LR LR 07 19 27.2
comp=Z,172nm,18.5s,baz=262,slow=31
KSRS **Korea Array** **79.64 317** P **P** **06 50 23.2 +1.5**
comp=Z,5.1nm,0.9s,baz=137,slow=5.9,SNR=25
comp=Z,5.1nm,0.9s
KSAR **Wonju Array Be** **79.65 316** P **P** **06 50 21.6 -0.2**
KSAR **Wonju Array Be** **79.65 316** P **P** **06 50 21.7 -0.2**
Q17K **Contact Creek** **80.01 10** P **P** **06 50 23.8 +0.3**
baz=197
TUC **Tucson** **80.02 50** P **P** **06 50 23.1 -1.1**
TUC **Tucson** **80.02 50** P **P** **06 50 23.1 -1.1**
TUC pmax pmax
comp=Z,14nm,1.4s
KDAK **Kodiak Island** **80.11 11** LR LR 07 18 41.2
comp=Z,325nm,21.1s,baz=206,slow=30
KDAK **Kodiak Island** **80.11 11** P **P** **06 50 24.7 +0.8**
baz=200
R11B **Troy Canyon, C** **80.14 43** P **P** **06 50 23.9 -1.0**
O14K **Tigyukauivet M** **80.27 7** P **P** **06 50 25.4 +0.7**
baz=192
Q16K **King Salmon** **80.29 9** P **P** **06 50 25.5 +0.7**
baz=196
O15K **Ungalikthiuk R** **80.35 7** P **P** **06 50 25.4 +0.2**
baz=193
P16K **Nushagak River** **80.44 8** P **P** **06 50 26.0 +0.4**
baz=195
Q18K **Katmai Hardscr** **80.51 10** P **P** **06 50 26.7 +0.5**
baz=198
MSHR **Mys Shultsa** **80.78 322** *i* P **P** **06 50 27.6 -0.2**
MSHR pmax pmax
comp=Z,14nm,0.9s
P17K **Kvichak River** **80.82 9** P **P** **06 50 28.7 +1.0**
baz=196
TYV **Tymovskoe** **80.84 334** *e*P **P** **06 50 28.4 +0.4**
TYV pmax pmax
comp=Z,13nm,0.9s
TYV pmax pmax
comp=Z,100nm,2.9s
N14K **Kuskokwak Cree** **80.88 6** P **P** **06 50 28.3 +0.4**
baz=192
Q20K **Shuyak Island** **80.92 11** P **P** **06 50 29.2 +1.0**
baz=200
MDSI **Maura Dua** **80.96 269** P **P** **06 50 29.9 +0.4**
comp=Z,19nm,1.0s
M11K **Mekoryuk** **80.97 4** P **P** **06 50 28.9 +0.5**
baz=187
O16K **Kokwok River B** **80.97 8** P **P** **06 50 28.8 +0.3**
baz=195
Q19K **Cape Douglas,** **81.00 10** P **P** **06 50 29.4 +0.7**
baz=199
PSTP **Posyet** **81.03 322** *e*P **P** **06 50 28.1 -1.1**
P18K **Big Mountain,** **81.19 10** P **P** **06 50 29.8 +0.1**
baz=198
M13K **Dall Lake** **81.21 5** P **P** **06 50 30.0 +0.3**
baz=190
O17K **Koliganek Bris** **81.28 8** P **P** **06 50 31.0 +0.9**
baz=196
N15K **Kwethluk River** **81.29 7** P **P** **06 50 31.1 +0.9**
baz=193
SZCU **Shurtz Canyon** **81.32 44** P **P** **06 50 30.9 -0.3**
USA0B **Ussuriysk Arra** **81.34 324** *e*P **P** **06 50 31.0 +0.2**
USRK **Ussuriysk Ar.** **81.34 324** P **P** **06 50 30.5 -0.3**
USRK **Ussuriysk Ar.** **81.34 324** P **P** **06 50 32.5 +1.7**
comp=Z,2.1nm,0.6s,baz=127,slow=5.0,SNR=8.2
USRK LR LR 07 21 30.2
comp=Z,422nm,21.4s,baz=128,slow=32
comp=Z,2.1nm,0.6s
USRK **Ussuriysk Ar.** **81.34 324** P **P** **06 50 30.5 -0.3**
O18K **Koktuh Hills** **81.63 9** P **P** **06 50 31.9 -0.2**
O18K IAmb IAmb 06 50 46.2
comp=Z,20nm,1.1s
O18K **Koktuh Hills** **81.63 9** P **P** **06 50 33.0 +0.9**
baz=198
M14K **Bethel** **81.67 6** P **P** **06 50 33.0 +0.8**
M14K IAmb IAmb 06 50 51.4
comp=Z,29nm,1.2s
M14K **Bethel** **81.67 6** P **P** **06 50 33.6 +1.5**
baz=191
M15K **Kasigluk River** **81.74 6** P **P** **06 50 34.0 +1.5**
baz=192,SNR=6.2
N16K **Nishlik Lake** **81.75 7** P **P** **06 50 33.3 +0.7**
baz=194
P19K **Oil Pt** **81.76 10** P **P** **06 50 33.4 +0.7**
baz=199
ELK **Elko** **81.77 41** LR LR 07 23 45.6
comp=Z,573nm,18.1s,baz=226,slow=33
USHA **Ushuaia** **81.83 146** LR LR 07 25 58.0
comp=Z,119nm,18.3s,baz=196,slow=35
N17K **Nushagak Hills** **82.00 8** P **P** **06 50 34.5 +0.6**
baz=196
D05A **Enumclaw** **82.04 33** P **P** **06 50 33.9 -0.6**
D05A IAmb IAmb 06 50 57.3
comp=Z,20nm,1.1s
HOM **Homer** **82.04 11** P **P** **06 50 35.1 +0.9**
baz=201
ILSW **Iliamna Southw** **82.09 10** P **P** **06 50 34.4 -0.2**
O19K **Port Alsworth** **82.10 10** P **P** **06 50 35.3 +0.9**
baz=198
L14K **Kuka Creek** **82.19 5** P **P** **06 50 35.1 +0.3**
L14K IAmb IAmb 06 50 52.3
comp=Z,22nm,1.1s
L14K **Kuka Creek** **82.19 5** P **P** **06 50 36.5 +1.7**
baz=190,SNR=5.4
M16K **Timber Creek** **82.25 7** P **P** **06 50 36.7 +1.4**
baz=194,SNR=9.4
O20K **Slope Mountain** **82.27 11** P **P** **06 50 36.3 +0.8**
baz=200
N18K **Kilae Creek** **82.33 9** P **P** **06 50 36.2 +0.6**
baz=197
G08A **Pilot Rock** **82.39 36** P **P** **06 50 36.5 0.0**
K13K **Kusilvak Mount** **82.61 4** P **P** **06 50 38.1 +1.0**
baz=189
L15K **Ungalak Mounta** **82.63 6** P **P** **06 50 38.4 +1.2**
baz=192,SNR=16
H03S2 **Juan Fernandez** **82.66 123** T T 08 23 16.6
baz=248,slow=74,SNR=82
N19K **Bonanza Creek** **82.66 9** P **P** **06 50 38.3 +0.8**
baz=198
H03S1 **Juan Fernandez** **82.67 123** T T 08 23 17.6
baz=248,slow=74,SNR=114
H03S3 **Juan Fernandez** **82.68 123** T T 08 23 16.4
baz=248,slow=74,SNR=121
BBB **Bella Bella** **82.73 26** LR LR 07 24 36.6
comp=Z,222nm,18.0s,baz=222,slow=34
MAW **Mawson** **82.73 199** P **P** **06 50 39.2 +1.4**
comp=Z,7.1nm,0.9s,baz=137,slow=8.5,SNR=12
MAW LR LR 07 25 19.2
comp=Z,306nm,19.6s,baz=110,slow=34
comp=Z,7.1nm,0.9s
LTY **Liberty** **82.76 33** P **P** **06 50 38.2 -0.1**
M17K **Holitna River** **82.81 8** P **P** **06 50 39.7 +1.5**
baz=195,SNR=5.4
L16K **Owhat River** **82.87 7** P **P** **06 50 38.6 +0.2**
L16K IAmb IAmb 06 50 53.5
comp=Z,22nm,1.2s
L16K **Owhat River** **82.87 7** P **P** **06 50 40.3 +1.9**
baz=194,SNR=8.5
SEW **Seward** **82.87 12** P **P** **06 50 39.1 +0.6**
baz=203
Q23K **Middleton Isla** **82.90 14** P **P** **06 50 39.9 +1.3**
baz=206
MDJ **Mudanjiang** **82.93 323** P **P** **06 50 40.2 +1.0**
MDJ S **SKSac** **07 01 00.3 -0.6**
MDJ pmax pmax
comp=Z,18nm,1.0s
MDJ pmax pmax
comp=Z,290nm,4.3s
MDJ LR LR
comp=Z,200nm,16.5s
MDJ LR LR
comp=Z,230nm,17.2s
MDJ LR LR
comp=Z,390nm,22.0s
DUG **Dugway, Tooele** **82.96 42** P **P** **06 50 39.0 -0.6**
DUG **Dugway, Tooele** **82.96 42** P **P** **06 50 39.1 -0.6**
DUG pmax pmax
comp=Z,12nm,1.5s
NJ2 **Nanjing** **83.02 308** *e*P **P** **06 50 39.5 -0.4**
NJ2 pmax pmax
comp=Z,12nm,0.5s
BMO **Blue Mountains** **83.03 37** P **P** **06 50 40.5 +0.6**
BMO IAmb IAmb 06 50 47.0
comp=Z,26nm,1.9s
BMO **Blue Mountains** **83.03 37** P **P** **06 50 40.5 +0.6**
BMO pmax pmax
comp=Z,27nm,1.9s
M18K **Stony River** **83.11 9** P **P** **06 50 40.4 +0.7**
baz=197
P23K **Montague Islan** **83.19 13** P **P** **06 50 40.5 +0.3**
baz=205
K15K **Wolf Creek Mou** **83.23 6** P **P** **06 50 41.8 +1.5**
baz=192,SNR=22
CRAG **Craig** **83.32 22** P **P** **06 50 40.7 -0.1**
baz=218
N20K **Mount Spurr** **83.39 10** P **P** **06 50 41.7 +0.5**
baz=200
SPCR **Spurr Chakacha** **83.39 10** P **P** **06 50 41.1 -0.2**
baz=200
L17K **Donlin** **83.42 7** P **P** **06 50 42.4 +1.2**
baz=195,SNR=7.7
J14K **Nanvaranak Lak** **83.50 5** P **P** **06 50 42.9 +1.2**
baz=190
D08A **Wollman Farm,** **83.54 34** P **P** **06 50 42.0 -0.3**
D08A IAmb IAmb 06 50 47.4
comp=Z,11nm,0.9s
E09A **Wood Farm, Sta** **83.61 35** P **P** **06 50 42.2 -0.4**
E09A IAmb IAmb 06 50 47.9
comp=Z,7.7nm,0.9s
L18K **Granite Mounta** **83.70 8** P **P** **06 50 43.9 +1.2**
baz=196
M19K **Big River Lodg** **83.71 9** P **P** **06 50 43.8 +1.0**
baz=198
RC01 **Rabbit Creek A** **83.73 12** P **P** **06 50 44.1 +1.2**
baz=203
V35K **Ketchikan** **83.75 23** P **P** **06 50 43.8 +0.7**
baz=219
CRNM **Carthage** **83.78 50** **P** **06 50 43.9 -0.2**
PWL **Port Wells** **83.79 12** P **P** **06 50 44.0 +0.7**
baz=204
KAIM **Kayak Island** **83.79 14** P **P** **06 50 44.0 +0.7**
baz=208
U33K **Whale Pass** **83.83 22** P **P** **06 50 44.0 +0.5**
baz=218
SIT **Sitka** **83.86 20** P **P** **06 50 43.7 +0.1**
baz=216
TX31 **Lajitas Ar. Si** **83.86 56** **P** **06 50 45.0 +0.5**
TX31 IAmb IAmb 06 50 56.4
comp=Z,22nm,1.8s
TXAR **Lajitas Array** **83.86 56** P **P** **06 50 47.5 +3.0**
comp=Z,0.6nm,0.9s,baz=225,slow=6.9,SNR=5.8
TXAR LR LR 07 23 22.5
comp=Z,179nm,18.1s,baz=238,slow=32
comp=Z,0.6nm,0.9s
M20K **Styx River** **83.89 10** P **P** **06 50 44.2 +0.4**
baz=199
SUA **Susitna One** **83.89 11** P **P** **06 50 44.4 +0.5**
baz=202
L19K **White Mountain** **83.91 9** P **P** **06 50 44.4 +0.5**
baz=198
K17K **Iditarod** **83.98 7** P **P** **06 50 43.7 -0.4**
baz=195
EYAK **Cordova Ski Ar** **84.04 14** P **P** **06 50 44.6 +0.1**
baz=206
GLI **Glacier Island** **84.06 13** P **P** **06 50 44.1 -0.5**
baz=205
GAMB **Gambell** **84.15 1** P **P** **06 50 44.9 0.0**
baz=182
SKT **Skwentna** **84.24 10** P **P** **06 50 45.7 +0.2**
baz=201
KNK **Knik Glacier** **84.27 12** P **P** **06 50 46.6 +0.9**
baz=204
M22K **Willow** **84.27 11** P **P** **06 50 44.6 -1.0**
J16K **Anvik River** **84.29 6** P **P** **06 50 46.4 +0.7**
baz=192,SNR=7.8
PMR **Palmer** **84.31 12** P **P** **06 50 46.0 +0.2**
baz=203
S31K **Pelican** **84.31 19** P **P** **06 50 46.8 +0.9**
baz=215
L20K **Farewell, AK** **84.34 9** P **P** **06 50 46.3 +0.3**
baz=199,SNR=6.0
S32K **Killisnoo** **84.43 20** P **P** **06 50 47.3 +0.8**
baz=216
ANMO **Albuquerque** **84.47 50** LR LR 07 24 55.1
comp=Z,269nm,18.1s,baz=334,slow=33
QIZ **Qiongzhong** **84.51 293** P **P** **06 50 45.8 -2.1**
QIZ S **S** **07 01 15.0 0.0**
QIZ pmax pmax
comp=Z,19nm,1.1s
QIZ LR LR
comp=Z,280nm,19.6s
QIZ LR LR
comp=Z,230nm,13.1s
J17K **VABM Dome** **84.56 7** P **P** **06 50 48.4 +1.4**
baz=194,SNR=6.5
PV21 **Cone Mtn., Par** **84.57 45** P **P** **06 50 46.9 -1.2**
PV21 IAmb IAmb 06 51 01.1
comp=Z,30nm,1.7s
MESA **MESA** **84.60 15** P **P** **06 50 48.2 +0.6**
baz=210
BMRM **Bremner River** **84.67 14** P **P** **06 50 48.5 +0.8**
baz=207
KLR **Kul'dur** **84.69 328** P **P** **06 50 49.4 +1.3**
comp=Z,1.4nm,0.7s,baz=95,slow=6.0,SNR=3.8
KLR LR LR 07 23 38.2
comp=Z,294nm,21.0s,baz=150,slow=32
comp=Z,1.4nm,0.7s
KLR **Kul'dur** **84.69 328** ‖ *i*P **P** **06 50 48.6 +0.5**
KLR pmax pmax
comp=Z,10.0nm,2.0s
M23K **Glacier View** **84.76 12** P **P** **06 50 49.4 +1.3**
baz=204
PNL **Peninsula** **84.83 17** P **P** **06 50 49.7 +1.2**
baz=212
CRQE **Cirque** **84.83 15** P **P** **06 50 49.3 +0.6**
baz=209
CN2 **Changchun** **84.85 321** P **P** **06 50 49.7 +0.7**
CN2 S **S** **07 01 17.3 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,18.0s
CUT **Chulitna** **84.85 11** P **P** **06 50 49.7 +1.1**
baz=202
KLU **Klutina** **84.86 13** P **P** **06 50 49.8 +1.1**
baz=206
I17K **Unalakleet** **84.87 6** P **P** **06 50 49.7 +1.1**
baz=192
SCM **Sheep Creek Mo** **84.88 12** P **P** **06 50 49.1 +0.3**
baz=205,SNR=6.9
J18K **Innoko River** **84.89 8** P **P** **06 50 49.4 +0.6**
baz=196,SNR=16
PINM **Pinnacle** **84.96 16** P **P** **06 50 49.5 +0.2**
baz=211
PPLA **Purkeypile** **84.99 10** P **P** **06 50 49.6 +0.1**
baz=200
MA2 **Magadan** **85.02 343** LR LR 07 23 56.7
comp=Z,316nm,20.3s,baz=144,slow=32
MA2 **Magadan** **85.02 343** *d* *i*P **P** **06 50 49.0 -0.5**
MA2 pmax pmax
comp=Z,26nm,1.3s
R32K **Eaglecrest** **85.10 20** P **P** **06 50 50.6 +0.7**
baz=216
K20K **Telida** **85.14 9** P **P** **06 50 50.9 +0.8**
baz=198,SNR=8.5
ANM **Nome** **85.18 4** P **P** **06 50 51.2 +1.0**
baz=188
N25K **Chitina, Valde** **85.24 14** P **P** **06 50 50.7 0.0**
N25K IAmb IAmb 06 51 05.4
comp=Z,17nm,0.9s
N25K **Chitina, Valde** **85.24 14** P **P** **06 50 51.7 +1.0**
baz=207,SNR=7.2
NEW **Newport** **85.24 34** LR LR 07 25 48.8
comp=Z,415nm,18.0s,baz=232,slow=33
P29M **Windy Craggy** **85.25 17** P **P** **06 50 51.5 +0.8**
baz=214
M24K **Tolsona, Glenn** **85.36 13** P **P** **06 50 52.2 +1.0**
baz=206
LOGN **Logan Glacier** **85.40 15** P **P** **06 50 51.8 +0.2**
LOGN IAmb IAmb 06 51 06.4
comp=Z,17nm,1.0s
MCARA **McCarthy VSAT** **85.40 14** P **P** **06 50 52.0 +0.7**
baz=209
CTG **Chitna Glacier** **85.44 15** P **P** **06 50 52.1 +0.4**
baz=210
WAT6 **Susitna Watana** **85.48 12** P **P** **06 50 52.7 +0.7**
baz=204,SNR=8.5
PLBC **Pleasant Camp** **85.50 18** P **P** **06 50 53.1 +1.2**
baz=215
CAST **Castle Rocks** **85.50 10** P **P** **06 50 51.9 +0.1**
baz=200,SNR=11
T35M **Bob Quinn** **85.51 22** P **P** **06 50 52.8 +0.7**
baz=220
J19K **Poorman** **85.54 8** P **P** **06 50 53.0 +1.0**
baz=197,SNR=5.3
WAT1 **Susitna Watana** **85.56 11** P **P** **06 50 52.7 +0.6**
baz=204
O28M **Mount Upton** **85.56 16** P **P** **06 50 53.4 +0.9**
baz=211
MCMT **McKenzie Canyo** **85.57 39** **P** **06 50 53.9 +1.0**
O29M **Mount Kennedy** **85.58 17** P **P** **06 50 53.4 +0.9**
baz=213
G15K **Niukluk** **85.69 4** P **P** **06 50 54.1 +1.4**
baz=189
WHN **Wuhan** **85.72 305** P **P** **06 50 55.1 +1.5**
WHN pmax pmax
comp=Z,52nm,0.8s
SKAG **Skagway** **85.81 19** P **P** **06 50 54.6 +1.2**
baz=216
TRF **Thorofare Moun** **85.82 10** P **P** **06 50 54.1 +0.5**
baz=202,SNR=22
HARP **HAARP** **85.83 13** P **P** **06 50 54.7 +1.2**
baz=207
P30M **Million Dollar** **85.88 18** P **P** **06 50 54.8 +1.0**
baz=214
CHUM **Lake Minchumin** **85.90 9** P **P** **06 50 54.9 +1.1**
baz=200,SNR=5.4
J20K **Nowinta River** **85.92 8** P **P** **06 50 54.9 +1.1**
baz=198
H17K **Granite Mounta** **85.97 6** P **P** **06 50 53.7 -0.4**
H17K IAmb IAmb 06 51 07.5
comp=Z,10nm,1.1s
H17K **Granite Mounta** **85.97 6** P **P** **06 50 54.3 +0.2**
baz=193
DHY **Denali Highway** **86.00 12** P **P** **06 50 54.4 -0.1**
baz=205
CMIG **Matias Romero** **86.01 70** LR LR 07 22 23.3
comp=Z,235nm,19.2s,baz=238,slow=31
F14K **Arctic Creek** **86.03 3** P **P** **06 50 55.0 +0.6**
baz=187
TNA **Tin City** **86.05 2** P **P** **06 50 55.8 +1.4**
baz=186
YUK8 **Steele Glacier** **86.11 16** P **P** **06 50 56.2 +1.0**
baz=212
GCSA **Galena City Sc** **86.11 7** P **P** **06 50 56.2 +1.5**
baz=196,SNR=6.5
YUK6 **Outpost Mounta** **86.18 16** P **P** **06 50 56.3 +0.8**
baz=213
G16K **Koyuk River** **86.21 5** P **P** **06 50 56.4 +1.1**
baz=191
PAX **Paxson** **86.28 13** P **P** **06 50 56.9 +1.1**
baz=206
M26K **Nabesna, AK** **86.30 14** P **P** **06 50 56.9 +1.0**
baz=209
PLCA **Paso Flores** **86.30 132** LR LR 07 24 03.3
comp=Z,189nm,18.4s,baz=255,slow=32
HYT **Haines Junctio** **86.31 17** P **P** **06 50 56.4 +0.3**
baz=214,SNR=5.4
BPAW **Bear Paw Mtn.** **86.31 10** P **P** **06 50 56.8 +0.9**
baz=201
MCK **McKinley** **86.32 11** P **P** **06 50 56.2 +0.3**
MCK **McKinley** **86.32 11** P **P** **06 50 56.2 +0.3**
MCK pmax pmax
comp=Z,27nm,0.8s
MCK **McKinley** **86.32 11** P **P** **06 50 56.4 +0.6**
baz=203,SNR=12
H18K **Honhosa River** **86.34 6** P **P** **06 50 56.1 +0.2**
baz=194
YUK3 **Moose Creek** **86.35 15** P **P** **06 50 56.8 +0.5**
baz=211,SNR=9.3
Q32M **Nakina River** **86.36 20** P **P** **06 50 57.7 +1.3**
baz=218
F15K **North Star Dit** **86.36 4** P **P** **06 50 57.6 +1.6**
baz=189
P32M **Atlin** **86.40 19** P **P** **06 50 58.1 +1.7**
baz=217
PDAR **Pinedale Array** **86.42 42** P **P** **06 50 59.1 +1.9**
comp=Z,2.3nm,0.8s,baz=213,slow=3.8,SNR=18
PDAR LR LR 07 26 09.9
comp=Z,216nm,18.1s,baz=236,slow=33
comp=Z,2.3nm,0.8s
YUK4 **Talbot Arm** **86.44 16** P **P** **06 50 58.4 +1.7**
baz=213
G17K **Kiwalik Mounta** **86.46 5** P **P** **06 50 57.9 +1.4**
baz=192
I20K **Naaghteneel** **86.46 8** P **P** **06 50 57.9 +1.5**
baz=198,SNR=5.5
M27K **Edge Creek, AK** **86.52 14** P **P** **06 50 58.2 +1.2**
baz=210,SNR=11
O30N **Mendenhall** **86.66 18** P **P** **06 50 59.1 +1.4**
baz=215,SNR=5.9
DLBC **Dease Lake** **86.70 21** LR LR 07 23 53.6
comp=Z,15nm,19.3s,baz=212,slow=32
DLBC **Dease Lake** **86.70 21** P **P** **06 50 58.7 +0.8**
baz=220
L26K **Log Cabin Wild** **86.78 13** P **P** **06 50 59.3 +1.2**
baz=208,SNR=5.9
BVCY **Beaver Creek** **86.81 15** P **P** **06 50 59.6 +1.3**
baz=211,SNR=9.7
WHY **Whitehorse** **86.92 18** P **P** **06 50 59.3 +0.3**
baz=216
H19K **Roundabout Mou** **86.92 7** P **P** **06 50 59.9 +1.2**
baz=196
N30M **Aishikik Lake** **86.95 17** P **P** **06 50 59.6 +0.5**
baz=214
K24K **Donnelly Dome** **86.97 12** P **P** **06 51 00.3 +1.2**
baz=206
G18K **Tagagawik** **87.03 6** P **P** **06 50 58.4 -0.9**
G18K IAmb IAmb 06 51 12.6
comp=Z,31nm,1.6s
G18K **Tagagawik** **87.03 6** P **P** **06 51 00.6 +1.3**
baz=194
H20K **Anotleneega Mo** **87.07 8** P **P** **06 51 00.5 +0.9**
baz=198,SNR=9.2
NEA2 **Nenana** **87.09 10** P **P** **06 50 59.9 +0.3**
baz=203
RIDG **Independent Ri** **87.10 12** P **P** **06 51 00.7 +0.9**
baz=207,SNR=6.4
R33M **Jennings River** **87.12 20** P **P** **06 51 00.5 +0.5**
baz=220
L27K **Beaver Creek,** **87.14 14** P **P** **06 51 00.8 +0.8**
baz=210,SNR=6.7
BCAR **Beaver Creek A** **87.16 14** P **P** **06 51 00.3 +0.3**
P33M **Teslin, Yukon** **87.17 19** P **P** **06 51 01.6 +1.4**
baz=218
MLY **Manley** **87.22 10** P **P** **06 51 01.0 +0.7**
baz=202,SNR=8.6
HDA **Harding Lake** **87.30 11** P **P** **06 51 01.3 +0.7**
HDA **Harding Lake** **87.30 11** P **P** **06 51 02.3 +1.7**
baz=205,SNR=9.0
F17K **Baldwin Pennin** **87.33 5** P **P** **06 51 01.2 +0.6**
baz=192
N31M **Braeburn, Yuko** **87.33 17** P **P** **06 51 02.3 +1.4**
baz=215
SYO **Syowa Base** **87.41 191** ‖ *e*P **P** **06 51 00.8 -0.5**
SYO **Syowa Base** **87.41 191** ‖ *e*PcP **PcP** **06 51 03.2 -0.1**
M29M **Somme Creek** **87.42 16** P **P** **06 51 02.1 +0.7**
baz=213,SNR=7.8
G19K **Purcell Mounta** **87.44 7** P **P** **06 51 01.7 +0.5**
baz=196
SEY **Seymchan** **87.45 345** LR LR 07 25 58.8
comp=Z,339nm,20.0s,baz=156,slow=33
SEY **Seymchan** **87.45 345** ‖ *i*P **P** **06 51 02.0 +0.6**
SEY pmax pmax
comp=Z,20nm,1.3s
SCRK **Sand Creek** **87.48 13** P **P** **06 51 02.5 +0.8**
baz=208,SNR=8.3
H21K **Melozitna Rive** **87.51 9** P **P** **06 51 02.7 +1.1**
baz=200,SNR=7.3
HEH **HeiHe** **87.53 327** *e*P **P** **06 51 02.8 +0.7**
HEH sP **pwP** **06 51 13.0 +2.8**
HEH S **S** **07 01 41.5 -1.8**

HEH pmax pmax
comp=Z,12nm,1.5s
HEH LR LR
comp=Z,350nm,20.8s
HEH LR LR
comp=Z,330nm,19.8s
HEH LR LR
comp=Z,730nm,20.6s
I23K Minto, Yukon-K 87.55 10 P P 06 51 02.8 +1.1
baz=203
COLA College 87.56 11 *c i*P **P 06 51 02.7 +0.9**
COLA pmax pmax
comp=Z,18nm,1.0s
COLA College 87.56 11 P P 06 51 02.7 +0.9
baz=204
TROLL Troll, Antarti 87.56 179 ⇓P **P 06 51 04.1 +1.9**
comp=Z,216nm,1.1s
F18K Selawik 87.62 6 P P 06 51 03.4 +1.3
baz=193
IL31 87.64 11 P P 06 51 02.0 -0.1
ILAR Eielson Array 87.64 11 P P 06 51 01.8 -0.5
ILAR Eielson Array 87.64 11 P P 06 51 03.1 +0.9
comp=Z,2.8nm,0.7s,baz=216,slow=5.4,SNR=27
ILAR LR LR 07 24 08.6
comp=Z,155nm,21.1s,baz=179,slow=31
comp=Z,2.8nm,0.7s
VNA3 Neumayer Olymp 87.70 175 ⇓P **P 06 51 03.7 +1.0**
SNAA Sanae 87.72 177 ⇓P **P 06 51 04.9 +2.0**
comp=Z,72nm,1.0s
SNAA Sanae 87.72 177 P P 06 51 03.8 +0.9
SNAA IAmb IAmb 06 51 19.2
comp=Z,10nm,1.0s
SNAA Sanae 87.72 177 P P 06 51 04.2 +1.4
comp=Z,3.3nm,0.9s,baz=233,slow=13,SNR=12
SNAA LR LR 07 29 55.8
comp=Z,151nm,18.4s,baz=212,slow=35
comp=Z,3.3nm,0.9s
SNAA Sanae 87.72 177⇑ *i*P **P 06 51 04.3 +1.4**
SNAA pmax pmax
comp=Z,7.0nm,1.1s
J25K Salcha River, 87.78 12 P P 06 51 04.1 +1.1
baz=206,SNR=10
N32M Quiet Lake 87.84 18 P P 06 51 04.3 +0.9
baz=218
POKR Poker Flat Res 87.85 11 P P 06 51 04.4 +1.1
baz=205
E17K Hotham Inlet 87.92 5 P P 06 51 03.9 +0.4
baz=191
K27K Chicken 87.93 13 P P 06 51 04.4 +0.7
baz=210
H22K Ishtalitna Cre 87.93 9 P P 06 51 04.1 +0.4
baz=201
M30M Minto, Yukon 87.96 16 P P 06 51 04.6 +0.7
baz=214,SNR=6.0
F19K Shaleruckik Mo 88.03 6 P P 06 51 04.8 +0.7
baz=195
J26L Joseph Creek 88.03 13 P P 06 51 05.1 +0.8
baz=208,SNR=14
L29M L29M 88.06 15 P P 06 51 05.1 +0.7
baz=213,SNR=12
H23K Yukon River 88.15 10 P P 06 51 05.7 +1.0
baz=203
VNA2 Neumayer--Watz 88.19 176 ⇓P **P 06 51 03.8 -1.3**
comp=Z,2.5nm,0.3s,baz=190,slow=1.8
G21K Allakaket 88.23 8 P **P 06 51 06.1 +1.1**
baz=199
M31M Drury Creek, Y 88.30 17 P P 06 51 07.0 +1.5
baz=216
E18K Tukpahlearik C 88.35 5 P P 06 51 06.9 +1.4
baz=192
WTLY Watson Lake, Y 88.38 21 P P 06 51 06.9 +1.0
baz=222
PSI Prapat 88.41 274 LR LR 07 32 14.3
comp=Z,269nm,18.8s,baz=120,slow=37
H24K Noodor Dome 88.43 10 P P 06 51 06.9 +0.8
baz=204
D17K Noatak River 88.44 4 P P 06 51 06.7 +0.7
baz=190
F20K Avaraart Lake 88.47 7 P P 06 51 07.3 +1.2
baz=197
PRP Porcupine Dome 88.56 11 P P 06 51 08.1 +1.3
baz=206,SNR=7.1
HNS HongShan 88.57 311 ⇑P **P 06 51 07.9 +0.6**
HNS pmax pmax
comp=Z,16nm,1.0s
HNS LR LR
comp=Z,160nm,16.9s
HNS LR LR
comp=Z,200nm,17.3s
HNS LR LR
comp=Z,220nm,18.6s
DAWY Dawson 88.57 14 P P 06 51 08.1 +1.3
baz=212,SNR=15
E19K Redstone River 88.69 6 P P 06 51 07.6 +0.4
E19K IAmb IAmb 06 51 21.7
comp=Z,12nm,1.1s
E19K Redstone River 88.69 6 P P 06 51 08.6 +1.3
baz=196
TOAD Toad River Com 88.70 23 P P 06 51 08.5 +1.1
baz=225,SNR=13
BJI Beijing 88.78 314 P P 06 51 08.8 +0.6
BJI S **S 07 01 48.6 -7.0**
BJI pmax pmax
comp=Z,9.0nm,1.6s
BJI pmax pmax
comp=Z,110nm,5.3s
BJI LR LR
comp=Z,48nm,16.9s
BJI LR LR
comp=Z,110nm,18.6s
BJI LR LR
comp=Z,120nm,14.2s
RDOG Red Dog Mine 88.80 4 P P 06 51 08.8 +1.1
baz=190
I26K Coal Creek Min 88.83 12 P P 06 51 09.4 +1.5
baz=208
K29M Barlow Dome 88.83 15 P P 06 51 09.2 +1.1
baz=214,SNR=9.3
C16K Lisburne Hills 88.87 3 P P 06 51 09.2 +1.2
baz=188
G22K Bettles 88.88 9 P P 06 51 09.7 +1.6
baz=201
G23K Bananza Creek 88.90 9 P P 06 51 09.7 +1.5
baz=202
F21K Alatna River 88.90 8 P P 06 51 09.8 +1.5
baz=199
LYN LuoYang 88.92 308 P P 06 51 11.0 +2.0
LYN pP pwP 06 51 16.0 +0.1
LYN sP sP 06 51 19.6 +7.7
LYN pmax pmax
comp=Z,31nm,1.0s
LYN pmax pmax
comp=Z,310nm,4.1s
LYN LR LR
comp=Z,440nm,18.5s
LYN LR LR
comp=Z,210nm,16.1s
LYN LR LR
comp=Z,380nm,19.6s
MAYO Mayo, Yukon 89.03 16 P P 06 51 10.1 +1.2
baz=215
J29N Klondike Camp 89.17 15 P P 06 51 11.0 +1.4
baz=213
H25L Birch Creek 89.18 11 P P 06 51 10.6 +1.1
baz=206
C17K DeLong Mountai 89.20 4 P P 06 51 10.6 +1.0
baz=190
G24K Hadweenzic Riv 89.29 10 P P 06 51 10.8 +0.7
baz=205
F22K John River 89.34 8 P P 06 51 11.3 +1.1
baz=200
COLD Coldfoot 89.35 9 P P 06 51 11.7 +1.4
baz=202
I27K Kandik River 89.40 13 P P 06 51 11.7 +1.1
baz=210
C18K Utukok River 89.51 5 P P 06 51 11.8 +0.7
baz=192
E20K Nigu River 89.58 6 P P 06 51 12.0 +0.6
baz=196
G25K Bearman Lake 89.58 11 P P 06 51 12.7 +1.3
baz=206
TGTN Hyland Airport 89.61 20 P P 06 51 12.9 +1.2
baz=222
D19K Kuna River 89.61 6 P P 06 51 12.4 +0.8
baz=195
BILL Bilibino 89.63 353 *ce*P **P 06 51 11.5 -0.1**
BILL pmax pmax
comp=Z,3.0nm,0.6s

I28M Miner Creek 89.63 13 P P 06 51 13.6 +1.8
baz=212,SNR=5.1
ZEA Zeya 89.70 329 *e*P **P 06 51 14.0 +1.8**
ZEA pmax pmax
comp=Z,100nm,10.0s
ZEA pmax pmax
comp=Z,30nm,1.1s
J30M Hart River 89.73 15 P P 06 51 14.0 +1.7
baz=215
I29M Ogilvie Camp, 89.92 14 P P 06 51 14.6 +1.6
baz=213
H27K Steamboat Moun 89.97 13 P P 06 51 14.7 +1.4
baz=210
D20K Etivluk River 89.97 6 P P 06 51 14.7 +1.5
baz=196
F24K Squaw Lake 89.97 10 P P 06 51 14.9 +1.6
baz=204
E22K Anaktuvuk Pass 89.98 8 P P 06 51 14.5 +1.2
baz=200
E21K Killik River 90.00 7 P P 06 51 14.3 +0.9
baz=198
KOTAN Kotaneelee Air 90.03 22 P P 06 51 14.5 +0.9
baz=226
C19K Lookout Ridge 90.08 5 P P 06 51 15.0 +1.3
baz=193
G26K Porcupine Rive 90.16 11 P P 06 51 15.4 +1.3
baz=208
B18K Kokolik River 90.17 4 P P 06 51 15.1 +1.0
baz=191
E23K Chandalar 90.21 9 P P 06 51 15.3 +0.8
baz=203
I30M Mount Dempster 90.25 15 P P 06 51 15.3 +0.6
baz=215
E24K Your Creek 90.39 9 P P 06 51 16.3 +1.1
baz=204
F25K Christian River 90.41 10 P P 06 51 16.5 +1.2
baz=206
G27K Doyon Strip 90.44 12 P P 06 51 15.9 +0.4
baz=210
D22K Ayikyak River 90.57 8 P P 06 51 17.1 +1.1
baz=200
C21K Knifeblade Rid 90.59 7 P P 06 51 16.2 +0.2
baz=198
H29M Whitestone 90.63 14 P P 06 51 17.1 +0.8
baz=213
XLT XiLinHaoTe 90.67 317 *e*P **P 06 51 17.6 +0.5**
XLT sP pwP 06 51 26.2 +0.9
XLT pmax pmax
comp=Z,6.0nm,1.0s
TOLK Toolik Lake Re 90.76 9 P P 06 51 17.6 +0.7
baz=203
F26K Sheenjek River 90.76 11 P P 06 51 18.1 +1.2
baz=208
E25K Arctic Village 90.90 10 P P 06 51 18.1 +0.5
baz=206
D23K Nanushuk River 90.91 8 P P 06 51 18.6 +1.1
baz=202
A19K Wainwright 91.05 4 P P 06 51 19.0 +0.9
baz=192
B21K Ikpikpuk River 91.06 7 P P 06 51 19.4 +1.2
baz=198
EPYK Eagle Plains 91.12 14 P P 06 51 19.6 +0.9
baz=214
B20K Meade River 91.17 6 P P 06 51 19.8 +1.1
baz=196
H31M Peel River 91.22 15 P P 06 51 20.6 +1.5
baz=217
G29M Pine Creek 91.28 13 P P 06 51 20.6 +1.2
baz=213
D24K Happy Valley 91.34 9 P P 06 51 20.6 +1.1
baz=203
XAN Xi'an 91.36 306 ⇑P **P 06 51 21.3 +0.8**
XAN sP pwP 06 51 31.5 +4.0
XAN S **S 07 02 21.6 +1.7**
XAN pmax pmax
comp=Z,25nm,1.1s
XAN pmax pmax
comp=Z,280nm,3.5s
F28M Old Crow 91.50 12 P P 06 51 20.8 +0.5
baz=212
E27K Coleen River 91.66 12 P P 06 51 22.2 +1.1
baz=210
C23K Itkillik River 91.73 8 P P 06 51 22.4 +1.1
baz=202
G30M tAoh Zraii Nji 91.74 14 P P 06 51 22.1 +0.6
baz=215
D25K Kavik River 91.85 9 P P 06 51 22.7 +0.7
baz=206
B22K Teshekpuk Lake 91.87 7 P P 06 51 23.5 +1.6
baz=199
C24K Franklin Bluff 91.88 9 P P 06 51 23.4 +1.4
baz=203
G31M Satah River 92.14 15 P P 06 51 24.0 +0.8
baz=217
NNA Nana 92.23 104 LR LR 07 22 20.6
comp=Z,158nm,21.6s,baz=242,slow=29
HHC Hu-ho-hao-te 92.29 313 *e*P **P 06 51 24.7 0.0**
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,51nm,3.8s
HHC LR LR
comp=Z,82nm,15.5s
HHC LR LR
comp=Z,130nm,16.7s
HHC LR LR
comp=Z,220nm,16.7s
A22K Sinclair Lake 92.34 6 P P 06 51 25.2 +1.1
baz=198
F30M Barrier River 92.35 14 P P 06 51 25.2 +1.0
baz=215
WRGLY Wrigley 92.40 20 P P 06 51 25.6 +1.1
baz=226
E28M Babbage River 92.41 12 P P 06 51 25.5 +1.0
baz=212
A21K Barrow 92.49 5 P P 06 51 25.4 +0.6
baz=196
JTS Las Juntas de 92.52 80 LR LR 07 25 41.8
comp=Z,177nm,19.5s,baz=272,slow=31
C27K Jago River 92.55 10 P P 06 51 25.5 +0.3
baz=208
E29M Blow River 92.55 13 P P 06 51 25.5 +0.3
baz=213
ATAH Atahualpa 92.56 99 LR LR 07 23 25.5
comp=Z,207nm,20.7s,baz=239,slow=29
C26K Camden Bay 92.62 10 P P 06 51 26.3 +0.9
baz=207
F31M Tsiigehtchic 92.68 14 P P 06 51 26.3 +0.6
F31M Tsiigehtchic 92.68 14 P P 06 51 26.5 +0.8
baz=217
D27M Malcolm River 92.69 11 P P 06 51 26.3 +0.4
baz=211
KMI Kunming 92.92 296 P P 06 51 29.8 +1.6
KMI sP pwP 06 51 39.2 +4.1
KMI pmax pmax
comp=Z,16nm,1.1s
KMI LR LR
comp=Z,190nm,15.0s
KMI LR LR
comp=Z,340nm,17.5s
KMI LR LR
comp=Z,380nm,20.5s
D28M Stokes Point 93.18 12 P P 06 51 28.9 +0.9
baz=213
INK Inuvik 93.42 14 LR LR 07 26 28.7
comp=Z,204nm,21.1s,baz=230,slow=31
INK Inuvik 93.42 14 P P 06 51 29.8 +0.6
baz=217
YAK Yakutsk 93.75 337 LR LR 07 27 01.5
comp=Z,140nm,21.8s,baz=124,slow=31
CMAR Chiang Mai Arr 93.87 288 P P 06 51 33.5 +1.1
comp=Z,4.3nm,0.7s,baz=124,slow=3.0,SNR=26
CMAR LR LR 07 33 38.0
comp=Z,91nm,18.9s,baz=105,slow=36
comp=Z,4.3nm,0.7s
CMAR Chiang Mai Arr 93.87 288 *ce*P **P 06 51 34.2 +1.8**
CMAR pmax pmax
comp=Z,6.0nm,0.9s
CD2 Chengdu 94.19 301 *e*P **P 06 51 32.5 -1.2**
PZH PanZhihua 94.26 297 P P 06 51 34.1 -0.1
YKA Yellowknife Ar 95.04 24 P P 06 51 38.5 +1.8
comp=Z,1.1nm,0.8s,baz=246,slow=4.5,SNR=12
YKA LR LR 07 27 48.2
comp=Z,142nm,20.8s,baz=227,slow=31
comp=Z,1.1nm,0.8s
LZH Lanzhou 95.99 306 *e*P **P 06 51 44.7 +2.8**
LZH sP pwP 06 51 51.3 +1.2
LZH pmax pmax
comp=Z,20nm,1.0s
LZH LR LR
comp=Z,150nm,16.3s
LZH LR LR
comp=Z,310nm,16.1s
LZH LR LR
comp=Z,310nm,16.5s
ULM Lac du Bonnet 98.23 39 LR LR 07 32 47.6
comp=Z,279nm,18.4s,baz=233,slow=33
LPAZ La Paz 98.37 111 LR LR 07 28 38.4
comp=Z,159nm,19.8s,baz=254,slow=31
SONM Songino Array 98.46 318 P Pdif 06 51 53.9 +1.1
comp=Z,0.4nm,0.4s,baz=180,slow=0.3,SNR=1.5
SONM LR LR 07 38 05.1
comp=Z,88nm,18.1s,baz=114,slow=37
comp=Z,0.4nm,0.4s
TIXI Tiksi 99.92 344 LR LR 07 31 55.2
comp=Z,188nm,21.1s,baz=158,slow=32
MK31 Makanchi Array 114.15 313 *i* PKIKP PKPdf 06 56 53.4 -0.4
MKAR Makanchi Array 114.15 313 PKiKP **PKiKP 06 56 53.9 +0.1**
comp=Z,0.8nm,0.7s,baz=51,slow=2.5,SNR=7.9
KURK Kurchatov 116.75 317 PKIKP **PKiKP 06 56 58.8 +0.2**
KURBB Kurchatov Arra 116.81 317 PKP **PKiKP 06 56 58.8 +0.1**
comp=Z,0.8nm,0.7s,baz=87,slow=1.4,SNR=6.6
KURBB PP **PP 06 58 09.7 +2.3**
comp=Z,0.9nm,0.9s,baz=90,slow=7.8,SNR=5.5
BVAR Borovoye Array 121.70 320 PKP **PKiKP 06 57 08.4 +0.2**
comp=Z,1.2nm,0.4s,baz=98,slow=2.3,SNR=11
BRVK Borovoye 121.76 320 *c i*PKIKP **PKiKP 06 57 08.4 +0.1**
BRVK pmax pmax
comp=Z,7.0nm,1.6s
ARTI Arti 127.62 326 PKP **PKiKP 06 57 20.0 +0.2**
comp=Z,1.6nm,0.3s,baz=99,slow=6.2,SNR=3.1
ARTI Arti 127.62 326 *i* PKIKP **PKiKP 06 57 20.5 +0.6**
ARTI 06 59 25.0
ARTI 07 04 31.1
ARTI SS SS 07 16 56.5 +25
ARCES ARCESS Array B 129.71 351 PKP **PKiKP 06 57 23.9 +0.2**
comp=Z,2.5nm,0.8s,baz=48,slow=1.6,SNR=8.6
FINES FINESS Array B 136.93 346 PKP **PKiKP 06 57 38.0 -0.4**
comp=Z,1.4nm,0.6s,baz=90,slow=2.9,SNR=4.4
FINES FINESS Array B 136.93 346 *c i*PKIKP **PKiKP 06 57 39.5 +1.0**
FINES pmax pmax
comp=Z,1.0nm,0.6s
AKT Akhty 139.28 310 *e*PKIKP **PKPdf 06 57 40.7 -1.1**
AKT pmax pmax
comp=Z,16nm,1.3s
AKT MLR MLR
comp=Z,176nm,19.0s
NOA NORSAR Array B 139.48 356 PKP **PKPdf 06 57 42.6 +1.1**
comp=Z,0.2nm,0.6s,baz=33,slow=4.3,SNR=2.0
KIV Kislovodsk 141.82 316 *i* PKIKP **PKPdf 06 57 47.3 +1.0**
KIV pmax pmax
comp=Z,4.0nm,0.8s
RAYN Ar Rayn 143.53 282 ⇑PKIKP **PKiKP 06 57 51.7 -1.6**
EKA Eskdalemuir Ar 144.65 9 PKP **PKPdf 06 57 50.5 -0.3**
comp=Z,4.4nm,0.7s,baz=338,slow=3.4,SNR=13
AKASG Malin Array Be 144.94 334 PKP PKPbc 06 57 50.6 0.0
comp=Z,4.6nm,0.5s,baz=40,slow=4.4,SNR=23
KIEV Kiev 144.95 334 ⇓P PKPbc 06 57 50.9 +0.2
KIEV Kiev 144.95 334 ⇓PKIKP PKPbc 06 57 50.9 +0.3
SORM Soroca 147.27 332 ⇑P **PKPbc 06 57 58.1 +0.4**
SORM Soroca 147.27 332 ⇑PKIKP **PKPbc 06 57 58.1 +0.4**
MBAR Mbarara 148.01 232 *c i*PKP2 **PKPab 06 58 03.6 -0.1**
MBAR pmax pmax
comp=Z,12nm,1.3s
KWP Kalwaria Pacla 148.22 339 *e*PKP **PKiKP 06 58 01.4 -0.6**
OJC Ojcow 148.57 343 *e*PKP **PKiKP 06 58 02.2 -0.6**
KSP Ksiaz 148.82 348 *e*PKP **PKiKP 06 58 03.8 +0.6**
CLL Collm 148.93 352 *e*PKIKP **PKPdf 06 58 00.0 +1.9**
CLL *i* 06 58 03.4
CLL *i* 06 58 05.9
CLL pmax pmax
comp=Z,18nm,0.9s
CLL pmax pmax
comp=Z,11nm,0.6s
CLL Collm 148.93 352 *e*PKPdf **PKPdf 06 58 00.0 +1.9**
CLL *i* PKPbc **PKiKP 06 58 03.4 0.0**
comp=Z,18nm,0.9s
CLL *i* PKPab **PKPab 06 58 05.9 -0.1**
comp=Z,11nm,0.6s
CLL *e*PKPlp 06 58 05.0
comp=Z,200nm,19.0s
CLL *i* x x 06 58 14.8
comp=Z,25nm,1.1s
CLL *e*SKPdf **SKPdf 07 01 33.0 +0.9**
CLL *ex* x 07 11 14.0
CLL *e*SS **SS 07 20 48.0 +5.8**
CLL AMS AMS 08 04 00.0
comp=Z,200nm,20.7s
KOLS Kolonicke sedl 148.97 339 *e*PKP2 **PKPab 06 58 06.1 -0.2**
KOLS Kolonicke sedl 148.97 339 *e*PKP **PKPab 06 58 06.1 -0.2**
BURAR Bucovina Array 148.99 335 ⇑P **PKPbc 06 58 02.8 +0.3**
BURAR Bucovina Array 148.99 335 ⇑PKIKP **PKPbc 06 58 02.8 +0.3**
OSTC Ostas 149.11 348 *e*PKP **PKiKP 06 58 04.5 +0.6**
OSTC AMS AMS 08 03 50.0
comp=Z,200nm,17.2s
OSTC Ostas 149.11 348 *e*PKP2 **PKiKP 06 58 04.5 +0.6**
OSTC MLR MLR
comp=Z,200nm,17.2s
CHVC Chvalec 149.11 348 AMS AMS 08 03 40.0
comp=Z,200nm,21.0s
NIE Niedzica 149.16 342 *e*PKP **PKiKP 06 58 05.0 +1.0**
UPC Upice 149.20 348 AMS AMS 08 03 20.0
comp=Z,300nm,22.7s
BRG Berggiesshubel 149.22 350 *e*PKP **PKiKP 06 58 04.5 +0.4**
BRG Amp 06 58 05.1
comp=Z,9.1nm,0.8s
BRG Berggiesshubel 149.22 350 P **PKPab 06 58 08.2 +1.0**
BRG Amp 06 58 09.0
comp=Z,8.4nm,0.9s
BRG Berggiesshubel 149.22 350 P PKPab 06 58 16.2 +9.0
BRG Amp 06 58 17.0
comp=Z,12nm,1.0s
DPC Dobruska-Polom 149.28 347⇑ *e*PKP **PKiKP 06 58 05.0 +0.7**
DPC AMS AMS 08 04 00.0
comp=Z,200nm,23.0s
DPC Dobruska-Polom 149.28 347 *e*PKP2 **PKiKP 06 58 05.0 +0.7**
DPC MLR MLR
comp=Z,200nm,23.0s
OKC Ostrava-Krasne 149.35 345 AMS AMS 08 05 00.0
comp=Z,200nm,19.2s
STEB Steborice 149.35 345⇑ *e*PKP **PKiKP 06 58 05.0 +0.6**
PVCC Panska Ves 149.45 349 AMS AMS 08 05 20.0
comp=Z,200nm,21.1s
MORC Moravsky Berou 149.55 345 *e*PKP **PKiKP 06 58 05.1 +0.2**
MORC Moravsky Berou 149.55 345 ⇑P **PKiKP 06 58 05.5 +0.7**
MORC Moravsky Berou 149.55 345 ⇑PKP2 **PKiKP 06 58 05.5 +0.7**
CFR Carcaliu 149.56 329 ⇑P **PKiKP 06 58 04.5 -0.4**
CFR Carcaliu 149.56 329 ⇑PKP2 **PKiKP 06 58 04.5 -0.4**
LANS Liptovska Anna 149.63 343 *e*PKP2 **PKiKP 06 58 06.8 +1.8**
LANS Liptovska Anna 149.63 343 *e*PKP **PKiKP 06 58 06.8 +1.8**
TPGR Topolog 149.65 328 ⇓P **PKPbc 06 58 04.4 +0.3**
VRI Vrincioaia 149.71 331 ⇑P **PKiKP 06 58 04.8 -0.5**
VRI Vrincioaia 149.71 331 ⇑PKIKP **PKiKP 06 58 04.8 -0.5**
PLOR Plostina 149.76 331 ⇓P **PKPbc 06 58 04.3 -0.1**
PLOR Plostina 149.76 331 ⇓PKIKP **PKPbc 06 58 04.3 -0.1**
BRTR Keskin Array B 149.77 315 PKP **PKPdf 06 58 00.8 +0.7**
comp=Z,1.8nm,0.7s,baz=180,slow=2.5,SNR=3.6
BRTR PKPbc **PKiKP 06 58 06.2 +0.5**
comp=Z,4.3nm,0.8s,baz=104,slow=0.8,SNR=11
BRTR PP **PP 07 01 40.1 +2.0**
comp=Z,0.5nm,0.5s,baz=47,slow=6.3,SNR=2.5
MAUC Maruska 149.87 345⇑ *e*PKP **PKiKP 06 58 06.5 +1.0**
KIRS Kirsehir-Merke 149.88 314 ⇑P **PKPbc 06 58 03.0 -2.0**
PRA Prague 149.91 349 AMS AMS 08 05 30.0
comp=Z,300nm,21.7s
PRU Pruhonice 149.97 349⇑ *e*PKP **PKiKP 06 58 06.0 +0.4**
PRU AMS AMS 08 05 50.0
comp=Z,200nm,20.6s
PRU Pruhonice 149.97 349 *e*PKHKP PKPpre 06 58 06.0
PRU pmax MLR
comp=Z,200nm,20.6s
GOPC GO Pecny, Ondr 150.00 349⇑ *e*PKP **PKiKP 06 58 06.7 +1.0**
GOPC AMS AMS 08 14 20.0
comp=Z,200nm,17.1s
GOPC GO Pecny, Ondr 150.00 349 *e*PKP2 **PKiKP 06 58 06.7 +1.0**
GOPC MLR MLR
comp=Z,200nm,17.1s
HARR Harsova 150.01 328 ⇑P **PKPbc 06 58 05.3 +0.3**
HARR Harsova 150.01 328 ⇑PKIKP **PKPbc 06 58 05.3 +0.3**
VRAC Vranov 150.21 346 *e*PKP **PKiKP 06 58 06.6 +0.4**
VRAC Vranov 150.21 346 PKPbc **PKiKP 06 58 06.3 +0.2**
comp=Z,2.9nm,0.8s,baz=354,slow=3.8,SNR=5.3
VRAC Vranov 150.21 346 ⇑P **PKiKP 06 58 07.8 +1.6**

DOPR	**Dopca**	**150.23**	**332**	⇑P	**PKPbc**	**06 58 04.5**	**-1.0**
MLR	**Muntele Rosu**	**150.35**	**331**	⇑P	**PKPbc**	**06 58 05.4**	**-0.5**
MLR	**Muntele Rosu**	**150.35**	**331**	⇑PKHKP	PKPpre	06 58 05.4	
JAVC	**Velka Javorina**	**150.38**	**345**	*e*PKP	**PKiKP**	**06 58 07.8**	**+1.2**
VYHS	**Vyhne**	**150.41**	**343**	*e*PKHKP	PKPpre	06 58 07.4	
VYHS	**Vyhne**	**150.41**	**343**	*e*PKP	**PKiKP**	**06 58 07.4**	**+0.8**
VYHS				*e*		06 58 19.0	
KRUC	**Moravsky**	**150.49**	**346**	*e*PKP	**PKiKP**	**06 58 07.1**	**+0.4**
ZVC	**Zvikov**	**150.56**	**349**	⇑*e*PKP	**PKiKP**	**06 58 07.8**	**+0.9**
ZVC				AMS	AMS	08 06 40.0	
	comp=Z,200nm,23.8s						
MARR	**Marisel-Cluj**	**150.58**	**336**	⇑P	**PKPbc**	**06 58 06.5**	**0.0**
PSZ	**Piszkesteto**	**150.62**	**341**	⇑P	**PKPbc**	**06 58 06.3**	**-0.2**
PSZ	**Piszkesteto**	**150.62**	**341**	⇑PKIKP	**PKPbc**	**06 58 06.3**	**-0.2**
VOIR		**150.79**	**332**	⇑P	**PKPbc**	**06 58 07.3**	**+0.3**
VOIR		**150.79**	**332**	⇑PKIKP	**PKPbc**	**06 58 07.3**	**+0.3**
MODS	**Modra-Piesok**	**150.92**	**345**	*e*PKIKP	**PKiKP**	**06 58 07.7**	**0.0**
MODS	**Modra-Piesok**	**150.92**	**345**	*e*PKP	**PKiKP**	**06 58 07.6**	**-0.1**
KHC	**Kasperske Hory**	**150.96**	**350**	⇑*e*PKP	**PKiKP**	**06 58 08.5**	**+0.7**
KHC				*ex*	x	06 58 20.5	
KHC				AMS	AMS	08 06 00.0	
	comp=Z,200nm,22.1s						
KHC	**Kasperske Hory**	**150.96**	**350**	*e*PKIKP	**PKiKP**	**06 58 08.5**	**+0.7**
KHC				MLR	MLR		
	comp=Z,200nm,22.1s						
ARR	**Arges**	**151.03**	**333**	⇑P	**PKiKP**	**06 58 08.2**	**+0.1**
CKRC	**Cesky Krumlov**	**151.14**	**349**	⇑*e*PKP	**PKiKP**	**06 58 09.4**	**+1.3**
CKRC				AMS	AMS	08 07 00.0	
	comp=Z,200nm,24.0s						
CKRC	**Cesky Krumlov**	**151.14**	**349**	*e*PKIKP	**PKiKP**	**06 58 09.4**	**+1.3**
CKRC				MLR	MLR		
	comp=Z,200nm,24.0s						
GERES	**GERESS Array B**	**151.22**	**350**	PKPbc	**PKiKP**	**06 58 09.2**	**+0.8**
	comp=Z,4.2nm,0.8s,baz=29,slow=3.0,SNR=25						
MMAI	**Mount Meron Ar**	**151.26**	**301**	PKP	**PKPdf**	**06 58 03.2**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=245,slow=17,SNR=1.4						
MMAI				PKPbc	**pPKPbc**	**06 58 10.2**	**0.0**
	comp=Z,6.7nm,0.7s,baz=61,slow=5.8,SNR=12						
LOT	**Lotru**	**151.33**	**334**	⇓P	**PKiKP**	**06 58 08.6**	**-0.2**
SIRR	**Siria**	**151.47**	**337**	⇑P	**PKiKP**	**06 58 08.8**	**-0.1**
CONA	**Conrad Observa**	**151.67**	**346**	*i* pPKP	**PKiKP**	**06 58 10.5**	**+1.1**
	comp=Z,9.1nm,1.0s,SNR=6.1						
SURR	**Surduc**	**151.73**	**336**	⇑P	**PKiKP**	**06 58 09.9**	**+0.5**
GZR	**Gura Zlata**	**151.78**	**335**	⇑P	**PKiKP**	**06 58 09.4**	**-0.2**
GZR	**Gura Zlata**	**151.78**	**335**	⇑PKIKP	**PKiKP**	**06 58 09.4**	**-0.2**
RONA	**Rosalia, Austr**	**151.79**	**345**	*i* pPKP	**PKiKP**	**06 58 10.5**	**+1.0**
	comp=Z,9.7nm,0.7s,SNR=5.3						
BZS	**Buzias**	**152.04**	**337**	⇑P	**PKiKP**	**06 58 10.0**	**0.0**
BZS	**Buzias**	**152.04**	**337**	⇑PKIKP	**PKiKP**	**06 58 10.0**	**0.0**
MOA	**Molln**	**152.08**	**348**	*ep*PKP	**PKiKP**	**06 58 11.4**	**+1.3**
	comp=Z,3.3nm,0.7s						
BIOA	**Bad Ischl, Aus**	**152.35**	**349**	*ep*PKP	**PKiKP**	**06 58 11.2**	**+0.5**
	comp=Z,4.0nm,0.6s						
ARSA	**Arzberg**	**152.39**	**346**	*ep*PKP	**PKiKP**	**06 58 11.7**	**+0.9**
	comp=Z,3.1nm,0.7s						
MORH	**Mrgy, Hungar**	**152.52**	**341**	⇓P	**PKPbc**	**06 58 10.1**	**-0.7**
LESA	**Schwarzleotal**	**152.77**	**350**	*e*PKiKP	**PKPbc**	**06 58 10.7**	**-0.7**
	comp=Z,1.5nm,0.5s						
KBA	**Koelnbreinsper**	**152.99**	**349**	*ep*PKP	**PKiKP**	**06 58 13.7**	**+1.4**
	comp=Z,4.2nm,0.8s						
WATA	**Walderalm**	**153.01**	**352**	*ep*PKP	**PKiKP**	**06 58 12.7**	**+0.5**
	comp=Z,7.6nm,1.1s						
SOKA	**Soboth**	**153.04**	**346**	*e*PKiKP	**PKiKP**	**06 58 12.2**	**0.0**
	comp=Z,5.0nm,0.7s						
MOTA	**Moosalm**	**153.06**	**353**	*ep*PKP	**PKiKP**	**06 58 12.7**	**+0.3**
	comp=Z,4.3nm,0.7s						
WTTA	**Wattenberg**	**153.07**	**352**	*i* pPKP	**PKiKP**	**06 58 13.7**	**+1.3**
	comp=Z,9.6nm,0.6s,SNR=5.3						
SQTA	**Sankt Quirin**	**153.17**	**352**	*ep*PKP	**PKiKP**	**06 58 13.2**	**+0.7**
	comp=Z,6.1nm,0.8s						
DAVA	**Damuels**	**153.25**	**354**	*ep*PKP	**PKiKP**	**06 58 13.9**	**+1.2**
	comp=Z,8.8nm,0.9s						
MYKA	**Terra Mystica**	**153.37**	**348**	*ep*PKP	**PKiKP**	**06 58 13.2**	**+0.3**
	comp=Z,3.2nm,0.8s						
FETA	**Feichten**	**153.43**	**353**	*ep*PKP	**PKiKP**	**06 58 13.4**	**+0.3**
	comp=Z,4.8nm,0.8s						
ABTA	**Abfaltersbach**	**153.45**	**350**	*e*PKiKP	**PKPbc**	**06 58 12.2**	**-0.8**
	comp=Z,9.0nm,0.6s						
BOVS	**Bovan**	**153.66**	**334**	⇑P	**PKPbc**	**06 58 10.0**	**-3.3**
DAVOX	**Davos/Dischmat**	**153.75**	**354**	PKPbc	**PKiKP**	**06 58 15.2**	**+1.4**
	comp=Z,3.0nm,0.5s,baz=332,slow=15,SNR=5.7						
CRNS	**Crni Vrh**	**153.77**	**347**	*i* PKPbc	**PKiKP**	**06 58 14.1**	**+0.4**
VOJS	**Vojsko**	**153.90**	**348**	*i* PKPbc	**PKiKP**	**06 58 14.4**	**+0.5**
BOJS	**Bojanci**	**154.10**	**345**	*i* PKPbc	**PKiKP**	**06 58 15.6**	**+1.3**
ESDC	**Sonseca Array**	**159.13**	**22**	PKP	**PKPdf**	**06 58 14.2**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=311,slow=1.6,SNR=4.1						
ESDC				PKPab	**sPKPab**	**06 58 52.4**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=327,slow=6.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**171.40**	**149**	PKP	**PKPdf**	**06 58 23.8**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=280,slow=2.6,SNR=3.0						

*NEIC **05** 06:40:42.4±1.8,35°.706N×0°.007×117°.513W±0°.008, h8km±3km, Error ellipse: s-maj=1.3km s-min=0.5km az=221.0*

PAS 05 06:40:42.5±1.7,**35°.704N**×0°.008×**117°.51W**±0°.01, **h2**km±2km,**ML3.2**/19,**ML2.9**/40(NEIC),**Error ellipse: s-maj=1.3km s-min=1.1km az=66.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.20**	**267**		Pg	06 40 47.0	+0.7
CCCA	**Chr Cany lake**	**0.21**	**147**		Pg	06 40 47.3	+0.7
CCCA					Sg	06 40 51.1	+1.7
TOW	**Tower One**	**0.23**	**297**		Pg	06 40 47.7	+0.7
TOW					Sg	06 40 52.0	+1.9
LRMC	**Laurel Mtn Rad**	**0.27**	**212**		Pg	06 40 47.8	+0.2
LRMC					Sg	06 40 51.6	+0.5
WNMM	**Nine Mile Cany**	**0.35**	**293**		Pg	06 40 49.5	+0.3
WNMM					Sg	06 40 55.0	+1.1
WVPM	**Volcano Peak E**	**0.35**	**314**		Pg	06 40 49.5	+0.2
WVPM					Sg	06 40 54.7	+0.8
MPMC	**Manual Prospec**	**0.35**	**3**		Pg	06 40 49.4	+0.1
WRVM	**Rose V. Centra**	**0.43**	**315**		Pg	06 40 51.0	+0.1
WRVM					Sg	06 40 57.1	+0.6
MFS	**McCloud Flat S**	**0.50**	**326**		Pg	06 40 52.2	+0.1
MFS					Sg	06 40 59.3	+0.7
DTP	**Desert Tortois**	**0.52**	**212**		Pg	06 40 52.2	-0.2
DTP					Sg	06 40 59.3	+0.3
WBSM	**Bird Springs**	**0.54**	**252**		Pg	06 40 52.8	-0.1
QSM	**Queen of Sheba**	**0.58**	**63**		Pg	06 40 53.6	-0.1
QSM					Sg	06 41 01.7	+0.4
QSM	**Queen of Sheba**	**0.58**	**63**	IAML		06 41 01.7	
	comp=E,893nm,0.4s						
QSM				IAML		06 41 02.0	
	comp=N,938nm,0.5s						
WORM	**Onyx Ranch**	**0.60**	**269**		Sg	06 41 02.0	+0.3
CCAC	**Calif City Air**	**0.69**	**217**		Sg	06 41 05.1	+0.5
CCAC	**Calif City Air**	**0.69**	**217**	Pg	Pg	06 40 55.4	-0.4
CCAC				IAML		06 41 05.3	
	comp=N,758nm,0.3s						
CCAC				IAML		06 41 05.5	
	comp=E,766nm,0.3s						
GSC	**Goldstone, Bar**	**0.70**	**125**		Sg	06 41 05.3	+0.3
GSC	**Goldstone, Bar**	**0.70**	**125**	Pg	Pg	06 40 55.5	-0.4
ISA	**Isabella, Lake**	**0.79**	**267**	Pg	Pg	06 40 57.2	-0.4
ISA				IAML		06 41 08.3	
	comp=N,413nm,0.3s						
ISA				IAML		06 41 11.4	
	comp=E,526nm,0.2s						
GWY	**Greenwater Val**	**0.83**	**55**		Pg	06 40 58.3	-0.2
GWY	**Greenwater Val**	**0.83**	**55**	IAML		06 41 12.3	
	comp=N,538nm,0.5s						
HYS	**Haystack Butte**	**0.84**	**183**		Pb	06 40 59.4	-0.4
WASM	**Alta Sierra Ca**	**0.85**	**273**		Pg	06 40 58.6	-0.3
CGO	**Cerro Gordo**	**0.88**	**344**		Pg	06 40 59.4	0.0
CGO					Sg	06 41 11.7	+1.0
EDW2	**Edwards Air Fo**	**0.91**	**206**		Pg	06 40 59.3	-0.7
RRX	**Edison Barstow**	**0.93**	**153**		Pg	06 41 00.3	+0.1
TPO	**Tropico Hills**	**1.01**	**216**		Pg	06 41 01.9	0.0
SHOC	**Shoshone, Teco**	**1.02**	**79**		Pg	06 41 02.3	+0.2
SBB	**Saddle Back Bu**	**1.05**	**194**		Pg	06 41 02.0	-0.5
TEJ	**El Tejon**	**1.07**	**244**		Pg	06 41 01.9	-1.2
SPG2	**Springville 2**	**1.14**	**296**		Pg	06 41 03.4	-0.9
ALPC	**Antelope**	**1.20**	**213**		Sb	06 41 21.9	-0.1
THC	**Tehachapi Micr**	**1.23**	**230**		Pg	06 41 05.2	-1.0
AMDNV	**Amargosa**	**1.24**	**53**		Pg	06 41 06.1	-0.3
LRRC	**Littlerock Res**	**1.25**	**200**		Pg	06 41 06.2	-0.3
LRRC					Sg	06 41 22.8	+0.2
LEOC	**Leona Valley**	**1.25**	**212**		Pg	06 41 06.5	-0.1
HOLC	**Holcomb Ridge**	**1.27**	**193**		Pg	06 41 05.6	-1.3
HOLC					Sb	06 41 23.8	-0.3
DSCC	**Desert Studies**	**1.28**	**116**		Pg	06 41 06.0	-1.0
DSCC					Sg	06 41 23.5	0.0
CJV	**Casa Juvan**	**1.28**	**204**		Pg	06 41 06.7	-0.3
CJV					Sg	06 41 24.0	+0.3
VES	**Vestal, Richgr**	**1.29**	**277**		Pg	06 41 06.5	-0.7
VES					Sb	06 41 24.2	-0.2
GRAC	**Grapevine Rang**	**1.29**	**5**		Pg	06 41 07.3	0.0
GRAC	**Grapevine Rang**	**1.29**	**5**	Pg	Pg	06 41 06.6	-0.7
GRAC	**Grapevine Rang**	**1.29**	**5**	IAML		06 41 32.0	
	comp=E,213nm,0.6s						
GRAC				IAML		06 41 32.9	
	comp=N,170nm,0.6s						
HEC	**Hector,Ludlow**	**1.30**	**132**		Sb	06 41 24.7	-0.1
WCT	**Wildcat Mounta**	**1.30**	**33**		Pg	06 41 07.2	-0.2
WCT					Sg	06 41 24.5	+0.2
WCT	**Wildcat Mounta**	**1.30**	**33**	IAML		06 41 25.6	
	comp=E,177nm,0.4s						
JNH	**Juniper Hills**	**1.30**	**196**		Pg	06 41 06.3	-1.2
JNH					Sn	06 41 25.6	-0.3
TUQ	**Turquoise Moun**	**1.32**	**101**		Pg	06 41 06.9	-0.9
TUQ					Sg	06 41 25.0	+0.1
SGV	**South Grapevin**	**1.33**	**17**		Pg	06 41 07.8	-0.3
SGV					Sg	06 41 25.3	0.0
BAKC	**Calstate**	**1.35**	**255**		Pn	06 41 07.7	-0.7
CHFC	**Chilao Flat St**	**1.43**	**197**		Sb	06 41 28.8	+0.1
SIL	**Silver Peak**	**1.46**	**157**		Pn	06 41 09.8	-0.3
BBRC	**Big Bear Solar**	**1.52**	**161**		Pn	06 41 11.1	+0.3
BBRC					Sn	06 41 31.6	+0.3
PDE	**Pardee, Santa**	**1.54**	**215**		Pn	06 41 11.0	0.0
DECC	**Green Verdugo**	**1.60**	**205**		Sg	06 41 33.8	0.0
GMN	**Gold Mountain**	**1.61**	**7**		Pb	06 41 12.8	-0.2
PASC	**Pasadena Art C**	**1.63**	**200**		Sg	06 41 34.6	-0.2
PASC	**Pasadena Art C**	**1.63**	**200**		Pn	06 41 10.6	-1.5
PASC				IAML		06 41 38.0	
	comp=N,100nm,0.4s						
PASC				IAML		06 41 38.8	
	comp=E,132nm,0.6s						
PSRC	**Puddingstone R**	**1.63**	**189**		Pg	06 41 13.5	-0.2
PSRC					Sg	06 41 34.9	+0.1
SVD	**Seven Oaks Dam**	**1.63**	**168**		Pn	06 41 12.7	+0.5
OAT	**Oat Mountain**	**1.63**	**214**		Pg	06 41 14.2	+0.4
VOG	**Valley Oaks Go**	**1.64**	**293**		Sn	06 41 33.5	-0.5
DSP	**Deep Springs**	**1.70**	**348**		Pn	06 41 12.3	-0.9
BCW	**Bitter Crk WRg**	**1.73**	**244**		Pn	06 41 12.2	-1.5
BCW				IAML		06 41 43.7	
	comp=N,138nm,0.7s						
BCW				IAML		06 41 55.9	
	comp=E,141nm,1.1s						
GMRC	**Granite Mounta**	**1.77**	**121**		Pn	06 41 15.0	+0.7
EW2	**E Wide Canyon**	**1.98**	**152**		Pn	06 41 15.8	-1.2
TPC	**Twentynine Pal**	**2.00**	**143**		Pn	06 41 15.6	-1.7
HMTC	**Hemet**	**2.03**	**168**		Pn	06 41 16.8	-1.0
ELS	**Elsinore Mount**	**2.05**	**178**	Pn	Pn	06 41 16.8	-1.3
POB	**Polly Butte**	**2.07**	**166**		Pn	06 41 17.3	-1.0
DGR	**Domenigoni Val**	**2.09**	**169**		Pn	06 41 17.8	-0.8
MCSM	**Casa Diablo Ho**	**2.25**	**330**		Pb	06 41 24.3	+0.3
SNDA	**J Saunders Pla**	**2.27**	**161**		Pb	06 41 24.8	+0.5
BZNA	**Buzz No.'s Pla**	**2.31**	**162**		Pb	06 41 25.6	+0.5
TPH	**Tonopah**	**2.38**	**5**	Pn	Pn	06 41 22.0	-0.7
NV11	**Mina Array Sit**	**2.77**	**349**	Pn	Pn	06 41 26.9	-1.2
NVAR	**Mina Array Bea**	**2.79**	**347**		Pn	06 41 27.6	-0.9
RYN	**Ryan**	**3.03**	**345**		Pn	06 41 31.4	-0.2
BLYC	**Blythe**	**3.14**	**128**		Pn	06 41 32.1	-0.8
BLYC				IAML		06 42 25.1	
	comp=E,40nm,0.4s						
WAKR	**Walker**	**3.19**	**332**		Pn	06 41 34.9	+1.0
CBX	**Cerro Bola**	**3.45**	**168**	Pn	Pn	06 41 37.0	-0.4
ESJX	**Sierra Juarez**	**3.91**	**160**		Pn	06 41 42.2	-1.5
PSUT	**Pine Spring**	**4.06**	**45**		Pn	06 41 46.1	+0.2

*KRNET **05** 06:51:53.2±0.1,39°.51N×73°.30E,h18km,mb3.4*
*SOME **05** 06:51:58.3,41°.00N×73°.53E,h5km*
*NNC **05** 06:52:02.3±3.1,40°.95N×74°.04E,h14km±18km,mb3.4, mpv3.0,Error ellipse: s-maj=20.5km s-min=18.6km az=176.0*

ISC 05 06:51:53.4±1.5,**39°.55N**±0°.05×**73°.20E**±0°.04,**h9**km±10km, **n25,σ1°71/45,28C-14D,Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.52**	**27**	⇓*i*P	**Pg**	**06 52 03.5**	**0.0**
SFK				⇓*i*S	**Sg**	**06 52 11.1**	**+0.7**
OHH	**Osh**	**1.02**	**342**	⇑*e*P	**Pg**	**06 52 13.1**	**0.0**
OHH				⇑*e*S	**Sn**	**06 52 28.1**	**-0.5**
DRK	**Karamyk**	**1.09**	**267**	⇑*e*P	**Pb**	**06 52 14.8**	**+0.2**
DRK				⇑*i*S	**Sn**	**06 52 30.6**	**+0.2**
SALK	**Salom-Alik**	**1.41**	**19**	⇑*i*P	**Pn**	**06 52 19.6**	**+0.1**
SALK				⇑*e*S	**Sn**	**06 52 38.4**	**+0.1**
ARSB	**Arslanbob**	**1.78**	**355**	⇑*e*P	**Pb**	**06 52 26.6**	**+0.3**
ARSB				⇑*e*S	**Sg**	**06 52 50.8**	**+0.1**
BTK	**Batken**	**1.91**	**286**	⇓*i*P	**Pb**	**06 52 28.7**	**+0.3**
BTK				⇓*i*S	**Sg**	**06 52 54.4**	**-0.3**
GAR	**Garm**	**2.31**	**257**	⇑*i*P	**Pb**	**06 52 34.0**	**-1.3**
GAR				⇑*i*S	**Sb**	**06 53 03.6**	**-0.3**
ARK	**Arkit**	**2.44**	**338**	⇓*i*P	**Pb**	**06 52 35.8**	**-1.7**
ARK				⇓*i*S	**Sb**	**06 53 07.0**	**-0.6**
TRKS	**Terek-Say**	**2.52**	**322**	⇑*i*P	**Pn**	**06 52 36.4**	**+1.6**
TRKS				⇑*i*S	**Sn**	**06 53 07.7**	**+1.9**
AML	**Almayashu**	**2.60**	**8**	⇑*i*P	**Pn**	**06 52 37.9**	**+1.8**
AML				⇑*i*S	**Sb**	**06 53 10.3**	**-2.5**
NRN	**Naryn**	**2.84**	**48**	⇓*i*P	**Pn**	**06 52 39.7**	**+0.4**
NRN				⇓*i*S	**Sn**	**06 53 13.7**	**-0.2**
UCH	**Uchtor**	**2.85**	**20**	⇑*i*P	**Pn**	**06 52 41.0**	**+1.4**
UCH				⇑*i*S	**Sn**	**06 53 15.9**	**+1.6**
MNAS	**Manas**	**2.98**	**350**	⇓*e*P	**Pn**	**06 52 43.1**	**+2.1**
MNAS				⇓*i*S	**Sn**	**06 53 19.6**	**+2.6**
AAK	**Ala-Archa**	**3.23**	**17**	⇓*i*P	**Pn**	**06 52 46.1**	**+1.6**
AAK				⇓*i*S	**Sn**	**06 53 24.9**	**+1.6**
KBK	**Karagaybulak**	**3.37**	**22**	⇑*i*P	**Pn**	**06 52 48.1**	**+1.7**
KBK				⇑*i*S	**Sn**	**06 53 27.8**	**+1.1**
IUG	**luzhnay**	**3.54**	**318**	Pg	**Pn**	**06 52 51.7**	**+3.1**
IUG				Lg	Lg	06 53 29.8	
ULHL	**Ulahol**	**3.54**	**40**	⇑*i*P	**Pn**	**06 52 50.0**	**+1.2**
ULHL				⇑*i*S	**Sn**	**06 53 31.5**	**+0.5**
BOOM	**Boomskoye usch**	**3.59**	**34**	⇑*i*P	**Pn**	**06 52 50.7**	**+1.2**
BOOM				⇑*i*S	**Sn**	**06 53 32.8**	**+0.7**
USP	**Ospenovka**	**3.84**	**14**	⇑*i*P	**Pn**	**06 52 54.5**	**+1.8**
USP				⇑*i*S	**Sn**	**06 53 39.2**	**+1.2**
KDJ	**Kajisay**	**3.97**	**48**	⇓*i*P	**Pn**	**06 52 55.7**	**+1.1**
KDJ				⇓*i*S	**Sn**	**06 53 41.4**	**0.0**
KK31	**Karatay Array**	**4.09**	**331**	Pn	**Pn**	**06 52 54.7**	**-1.4**
	3.1nm,0.5s,baz=126,slow=13,SNR=14						
KK31				⇑Sn	**Sn**	**06 53 37.8**	**-6.2**
	3.8nm,0.5s,baz=154,slow=35,SNR=4.1						
KK31				⇑Lg	Lg	06 53 53.8	
	6.7nm,0.6s						
TARG	**Taragay, Kyrgy**	**4.12**	**57**	⇑*i*P	**Pn**	**06 52 57.7**	**+0.7**
TARG				⇑*i*S	**Sn**	**06 53 44.8**	**-0.7**
KRBS	**Karabastau**	**4.54**	**23**	Pg	Pn	06 52 55.4	-7.0
	1.0nm,0.2s						
KRBS				Lg	Lg	06 53 36.1	
	4.8nm,0.6s						
KTBS	**Karatobe**	**4.91**	**31**	Pg	**Pn**	**06 53 04.0**	**-3.4**
	1.3nm,0.6s						
KTBS				Lg	Lg	06 53 50.6	
	4.7nm,0.4s						
ARXS	**Arharly**	**5.80**	**35**	Pg	**Pn**	**06 53 20.5**	**+0.8**
	1.3nm,0.4s						
ARXS				Lg	Lg	06 54 18.7	
	2.7nm,0.5s						

KRNET 05 06:52:00.5±0.1,**41°.06N**×**73°.70E**,**h18**km,**mb2.9,16C-16D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.20**	**152**	⇑*i*P	Pb	06 52 04.7	-0.7
SALK				⇑*i*S	Sb	06 52 08.1	-0.6
ARSB	**Arslanbob**	**0.60**	**296**	⇑*e*P	Pg	06 52 12.3	-0.1
ARSB				⇑*e*S	Sb	06 52 20.7	0.0
OHH	**Osh**	**0.88**	**233**	⇓*i*P	Pb	06 52 16.9	-0.3
OHH				⇓*i*S	Sg	06 52 29.1	0.0
AML	**Almayashu**	**1.07**	**360**	P	Pn	06 52 21.0	+0.1
	SNR=14						
AML	**Almayashu**	**1.07**	**360**	⇑*i*P	Pb	06 52 20.2	-0.5
AML				⇑*i*S	Sg	06 52 35.1	-0.3
UCH	**Uchtor**	**1.32**	**27**	P	Pg	06 52 25.6	-0.4
	SNR=31						
UCH	**Uchtor**	**1.32**	**27**	⇓*i*P	Pb	06 52 25.0	0.0
UCH				⇓*i*S	Sg	06 52 42.9	-0.4
ARK	**Arkit**	**1.50**	**300**	⇓*e*P	Pb	06 52 28.3	+0.5
ARK				⇓*e*S	Sg	06 52 47.8	-1.1
EKS2	**Erkin-Say**	**1.60**	**2**	P	Pg	06 52 31.1	-0.2
	SNR=7.6						
EKS2	**Erkin-Say**	**1.60**	**2**	⇑*e*P	Pb	06 52 29.3	-0.3
EKS2				⇑*i*S	Sg	06 52 51.1	-1.1
MNAS	**Manas**	**1.68**	**328**	⇑*i*P	Pb	06 52 31.4	+0.4
MNAS				⇑*i*S	Sg	06 52 53.7	-1.0
AAK	**Ala-Archa**	**1.69**	**20**	P	Pg	06 52 32.2	-0.7
	SNR=6.5						
AAK	**Ala-Archa**	**1.69**	**20**	⇑Pn	Pg	06 52 32.2	-0.7
	2.8nm,0.5s						
AAK				⇓Lg	Lg	06 52 59.9	
	7.2nm,0.7s						
AAK	**Ala-Archa**	**1.69**	**20**	⇓*i*P	Pb	06 52 31.4	+0.4
AAK				⇓*i*S	Sg	06 52 53.8	-1.1
MRKS	**Merke**	**1.72**	**348**	P	Pg	06 52 32.7	-0.8
	19nm,0.2s						
MRKS				S	Sg	06 52 57.1	+1.1
	17nm,0.4s						
MRKS	**Merke**	**1.72**	**348**	*e*P	Pg	06 52 32.7	-0.8
	19nm,0.1s						
MRKS				*e*S	Sg	06 52 57.1	+1.1
	34nm,0.5s						
NRN	**Naryn**	**1.78**	**77**	⇓*e*P	Pb	06 52 32.5	-0.2
NRN				⇓*e*S	Sb	06 52 56.1	+1.3
KBK	**Karagaybulak**	**1.85**	**30**	P	Pg	06 52 36.0	-0.1
	SNR=5.9						
KBK	**Karagaybulak**	**1.85**	**30**	⇓*i*P	Pb	06 52 34.1	+0.3
KBK				⇓*i*S	Sg	06 52 58.8	-1.3
CHMS	**Chumysh**	**2.09**	**22**	P	Pg	06 52 40.6	0.0
	SNR=5.7						
BOOM	**Boomskoye usch**	**2.20**	**49**	⇓*i*P	Pb	06 52 39.4	-0.5
BOOM				⇓*i*S	Sb	06 53 07.1	+0.2
ULHL	**Ulahol**	**2.25**	**57**	P	Pg	06 52 43.5	-0.1
	SNR=15						
ULHL	**Ulahol**	**2.25**	**57**	⇑*i*P	Pb	06 52 39.3	-1.3
ULHL				⇑*i*S	Sb	06 53 08.3	+0.1
USP	**Ospenovka**	**2.29**	**15**	P	Pg	06 52 43.1	-1.2
	SNR=12						
TKM2	**Tokmak 2**	**2.34**	**37**	P	Pg	06 52 44.0	-1.3
	SNR=28						
TKM2	**Tokmak 2**	**2.34**	**37**	⇓Pg	Pb	06 52 43.6	+1.4
	9.4nm,0.5s						
TKM2				⇑Lg	Lg	06 53 17.2	
	23nm,0.7s						
SGDS	**Sogindy**	**2.49**	**16**	Pg	Pb	06 52 45.8	+1.1
	6.3nm,0.5s						
SGDS				Lg	Lg	06 53 19.6	
	9.6nm,0.9s						
KST	**Kastek**	**2.60**	**40**	*e*P	Pg	06 52 49.1	-1.3
	6.3nm,0.2s						
KST				*e*S	Sg	06 53 25.1	+1.0
	14nm,0.5s						
KDJ	**Kajisay**	**2.82**	**67**	⇑*e*P	Pb	06 52 47.8	-2.6
KDJ				⇑*e*S	Sb	06 53 22.4	-2.3
MTBS	**Maitube**	**2.90**	**44**	*e*P	Pg	06 52 54.6	-1.5
	7.7nm,0.2s						
MTBS				*e*S	Sg	06 53 34.4	+0.7
	2.2nm,0.1s						
TNSS	**Tian-Shan**	**3.12**	**50**	P

TXAR	**Lajitas Array**	**86.68**	**57**	P		**P**	07 12 59.4	**-0.1**
	0.3nm,0.7s,baz=220,slow=4.9,SNR=5.5							
	0.3nm,0.7s							
ILAR	**Eielson Array**	**88.08**	**13**	P		**P**	07 13 04.5	**-0.5**
	0.4nm,0.6s,baz=214,slow=5.7,SNR=6.2							
	0.4nm,0.6s							
PDAR	**Pinedale Array**	**88.61**	**43**	P		**P**	07 13 09.4	**+1.0**
	0.2nm,0.4s,baz=246,slow=5.3,SNR=1.9							
	0.2nm,0.4s							
BVAR	**Borovoye Array**	**119.17**	**320**	PKP		**PKPdf**	07 18 59.4	**-0.9**
	0.4nm,0.4s,baz=173,slow=1.2,SNR=2.7							
ARCES	**ARCESS Array B**	**128.81**	**350**	PKP		**PKPdf**	07 19 18.8	**+0.5**
	3.7nm,1.1s,baz=29,slow=2.8,SNR=1.9							
HFS	**Hagfors**	**139.43**	**351**	PKhKP		PKPpre	07 19 31.1	
	1.9nm,0.7s,baz=70,slow=1.7,SNR=1.5							
AKASG	**Malin Array Be**	**143.03**	**331**	PKP		**PKPdf**	07 19 42.3	**-2.8**
	0.9nm,0.4s,baz=44,slow=4.1,SNR=6.7							
EKA	**Eskdalemuir Ar**	**144.81**	**5**	PKP		**PKPdf**	07 19 48.0	**0.0**
	0.2nm,0.4s,baz=1.3,slow=6.4,SNR=1.8							
GERES	**GERESS Array B**	**150.13**	**345**	PKPbc		**PKPbc**	07 20 03.0	**+0.3**
	0.3nm,0.4s,baz=24,slow=7.5,SNR=3.4							

*NEIC **05** 07:02:22.0±2.0, 35°.743N±0°.010×117°.55W±0°.01, h2km±2km, Error ellipse: s-maj=1.5km s-min=1.5km az=224.0*

PAS 05 07:02:22.3±2.2, 35°.727N±0°.010×117°.56W±0°.01, h2km±1km, ML3.2/23, ML3.0/82(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=188.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.15**	**257**		Pg	07 02 25.9	+0.6
TOW	**Tower One**	**0.18**	**297**		Pg	07 02 26.6	+0.7
WNMM	**Nine Mile Cany**	**0.30**	**293**		Pg	07 02 28.5	+0.4
WVPM	**Volcano Peak E**	**0.30**	**317**		Pg	07 02 28.5	+0.3
WRVM	**Rose V. Centra**	**0.39**	**317**		Pg	07 02 29.9	+0.1
MFS	**McCloud Flat S**	**0.46**	**329**		Pg	07 02 31.3	+0.3
WBSM	**Bird Springs**	**0.51**	**248**		Pg	07 02 32.0	0.0
WBSM					Sg	07 02 39.2	+0.7
DTP	**Desert Tortois**	**0.51**	**207**		Pg	07 02 32.1	0.0
WORM	**Onyx Ranch**	**0.55**	**267**		Pg	07 02 32.9	0.0
QSM	**Queen of Sheba**	**0.61**	**67**		Sg	07 02 42.5	+0.5
QSM	**Queen of Sheba**	**0.61**	**67**		Pg	07 02 33.8	-0.2
QSM				IAML		07 02 43.0	
	comp=E,1μm,0.4s						
QSM				IAML		07 02 43.0	
	comp=N,1μm,0.5s						
WHFM	**Hanning Flat**	**0.64**	**267**		Pg	07 02 34.5	0.0
CCAC	**Calif City Air**	**0.68**	**213**		Sg	07 02 45.0	+0.8
CCAC	**Calif City Air**	**0.68**	**213**		Pg	07 02 35.1	-0.2
CCAC				IAML		07 02 45.2	
	comp=E,1μm,0.5s						
CCAC				IAML		07 02 45.2	
	comp=N,1μm,0.3s						
ISA	**Isabella, Lake**	**0.74**	**265**		Sb	07 02 47.5	-1.2
ISA	**Isabella, Lake**	**0.74**	**265**		Pg	07 02 36.0	-0.5
ISA				IAML		07 02 47.1	
	comp=E,480nm,0.6s						
ISA				IAML		07 02 51.0	
	comp=N,441nm,0.3s						
GSC	**Goldstone, Bar**	**0.75**	**124**		Sg	07 02 47.0	+0.6
GSC	**Goldstone, Bar**	**0.75**	**124**		Pg	07 02 36.4	-0.2
WASM	**Alta Sierra Ca**	**0.81**	**271**		Pg	07 02 37.7	-0.1
WASM					Sg	07 02 49.2	+0.9
CQO	**Cerro Gordo**	**0.84**	**347**		Pg	07 02 38.2	-0.3
GWY	**Greenwater Val**	**0.86**	**57**		Pg	07 02 38.7	-0.1
HYS	**Haystack Butte**	**0.86**	**180**		Pg	07 02 38.4	-0.4
EDW2	**Edwards Air Fo**	**0.91**	**203**		Pg	07 02 39.4	-0.4
TPO	**Tropico Hills**	**1.00**	**213**		Pg	07 02 41.2	-0.3
SBB	**Saddle Back Bu**	**1.06**	**192**		Pg	07 02 41.9	-0.7
SBB					Sb	07 02 57.6	-0.2
SPG2	**Springville 2**	**1.08**	**296**		Pg	07 02 42.4	-0.6
SPG2					Sg	07 02 56.9	-0.2
ADO	**Adelanto Recei**	**1.18**	**175**		Pb	07 02 45.4	-0.1
VTV	**Victorville**	**1.18**	**171**		Sb	07 03 01.6	+0.4
ALPC	**Antelope**	**1.20**	**210**		Pb	07 02 45.7	-0.1
VES	**Vestal, Richgr**	**1.24**	**276**		Pg	07 02 45.7	-0.4
VES					Sg	07 03 02.4	+0.2
LEOC	**Leona Valley**	**1.25**	**209**		Pb	07 02 46.5	-0.2
LRRC	**Littlerock Res**	**1.26**	**198**		Pg	07 02 45.5	-0.8
LRRC					Sb	07 03 03.6	+0.2
AMDNV	**Amargosa**	**1.27**	**55**		Sg	07 03 03.0	0.0
GRAC	**Grapevine Rang**	**1.28**	**7**		Pg	07 02 46.4	-0.4
GRAC				IAML		07 03 07.4	
	comp=E,431nm,0.5s						
GRAC				IAML		07 03 10.6	
	comp=N,449nm,0.7s						
CJV	**Casa Juvan**	**1.28**	**202**		Pg	07 02 47.0	+0.1
CJV					Sb	07 03 04.6	+0.3
HOLC	**Holcomb Ridge**	**1.29**	**190**		Pg	07 02 46.0	-0.9
HOLC					Sb	07 03 04.4	0.0
WCT	**Wildcat Mounta**	**1.31**	**35**		Pg	07 02 46.5	-0.8
WCT				IAML		07 03 06.1	
	comp=N,150nm,1.0s						
WCT				IAML		07 03 09.3	
	comp=E,176nm,0.7s						
JNH	**Juniper Hills**	**1.32**	**194**		Pg	07 02 46.5	-1.0
SGV	**South Grapevin**	**1.32**	**19**		Pg	07 02 46.7	-1.0
DSCC	**Desert Studies**	**1.33**	**116**		Pg	07 02 46.8	-0.9
DSCC					Sb	07 03 05.4	0.0
HEC	**Hector,Ludlow**	**1.35**	**131**		Sg	07 03 05.5	0.0
TUQ	**Turquoise Moun**	**1.37**	**102**		Pg	07 02 47.6	-0.9
CHFC	**Chilao Flat St**	**1.44**	**195**		Pn	07 02 48.8	-0.9
OSI	**Osito Audit: C**	**1.46**	**221**		Pb	07 02 50.2	-0.1
BFSC	**Mount Baldy Ra**	**1.49**	**183**		Pn	07 02 49.1	-1.1
SIL	**Silver Peak**	**1.50**	**156**		Pn	07 02 50.3	-0.2
LCH	**Last Change Ra**	**1.50**	**358**		Pn	07 02 49.8	-0.7
SSK	**Sunset Peak**	**1.52**	**184**		Pn	07 02 49.8	-0.9
BBRC	**Big Bear Solar**	**1.55**	**160**		Pg	07 02 52.1	0.0
GMN	**Gold Mountain**	**1.59**	**9**		Pn	07 02 51.2	-0.5
DECC	**Green Verdugo**	**1.60**	**203**		Pb	07 02 52.6	0.0
TPNV	**Topopah Spring**	**1.62**	**41**		Pn	07 02 51.4	-0.6
TPNV				IAML		07 03 17.1	
	comp=E,280nm,0.9s						
TPNV				IAML		07 03 21.6	
	comp=E,207nm,0.7s						
PASC	**Pasadena Art C**	**1.63**	**198**		Pn	07 02 51.3	-0.8
PASC				IAML		07 03 17.1	
	comp=E,163nm,1.0s						
PSRC	**Puddingstone R**	**1.64**	**187**		Pn	07 02 52.0	-0.3
MTPC	**Mountain Pass**	**1.66**	**98**		Pn	07 02 51.1	-1.5
SVD	**Seven Oaks Dam**	**1.66**	**167**		Pg	07 02 54.4	+0.2
SVD					Sg	07 03 15.6	-0.1
DSP	**Deep Springs**	**1.67**	**349**		Pn	07 02 52.2	-0.4
DSP				IAML		07 03 19.4	
	comp=E,106nm,0.7s						
BCW	**Bitter Crk WRg**	**1.70**	**243**		Pn	07 02 52.5	-0.7
POCCA	**Poleta Canyon**	**1.73**	**341**		Pb	07 02 54.7	-0.2
BHPR	**Bishop**	**1.74**	**335**		Pb	07 02 55.2	+0.1
GTM	**Goat Mountain**	**1.74**	**145**		Pb	07 02 55.0	0.0
DJJ	**Donna J Jenkin**	**1.77**	**205**		Pg	07 02 56.3	0.0
MTUM	**Tungsten Hills**	**1.81**	**334**		Pb	07 02 56.3	0.0
CRGC	**Crocker Grade**	**1.83**	**255**		Pb	07 02 56.4	-0.1
BLAC	**Blackrock camp**	**1.92**	**149**		Pg	07 02 58.7	-0.3
TPC	**Twentynine Pal**	**2.04**	**142**		Pn	07 02 56.8	-1.0
HMTC	**Hemet**	**2.06**	**167**		Pg	07 03 01.4	-0.5
ELS	**Elsinore Mount**	**2.08**	**177**		Pn	07 02 57.4	-0.9
ELS				IAML		07 03 36.3	
	comp=N,75nm,0.6s						
SHPR	**Sheep Range**	**2.10**	**68**		Pn	07 02 58.2	-0.4
SHPR				IAML		07 03 32.2	
	comp=N,69nm,0.6s						
POB	**Polly Butte**	**2.10**	**165**		Pn	07 02 57.9	-0.8
MURC	**Murrieta**	**2.14**	**172**		Pn	07 02 58.4	-0.8
BENR	**Benton**	**2.14**	**338**		Pb	07 03 02.2	+0.2
MCSM	**Casa Diablo Ho**	**2.21**	**331**		Pb	07 03 03.5	+0.4
V12A	**Nelson**	**2.21**	**89**		Pn	07 02 58.3	-1.8
V12A				IAML		07 03 35.0	
	comp=N,91nm,1.0s						
V12A				IAML		07 03 44.0	
	comp=E,81nm,0.5s						
PMD	**Palm Desert**	**2.29**	**154**		Pb	07 03 05.1	+0.7
PFO	**Pinyon Flats O**	**2.30**	**156**		Pn	07 03 00.3	-1.1
PFO				IAML		07 03 36.0	
	comp=E,69nm,0.6s						
SNDA	**J Saunders Pla**	**2.31**	**160**		Pb	07 03 05.6	+0.8
TPH	**Tonopah**	**2.36**	**7**		Pn	07 03 01.8	-0.5
TPH				IAML		07 03 55.0	
	comp=E,146nm,0.7s						
PRN	**Pahroc Range**	**2.63**	**50**		Pn	07 03 06.3	+0.3
LHV	**Little Huntoon**	**2.63**	**344**		Pn	07 03 06.2	+0.4
LHV				IAML		07 03 58.8	
	comp=N,38nm,0.8s						
NV11	**Mina Array Sit**	**2.74**	**350**		Pn	07 03 07.3	-0.2
NVAR	**Mina Array Bea**	**2.76**	**348**		Pn	07 03 07.7	-0.1
RYN	**Ryan**	**3.00**	**345**		Pn	07 03 11.2	+0.1
R11B	**Troy Canyon, C**	**3.06**	**31**		Pn	07 03 12.3	+0.4
W13A	**Hualapai Mount**	**3.07**	**101**		Pn	07 03 10.8	-1.3
W13A				IAML		07 04 10.5	
	comp=N,31nm,0.6s						
BLYC	**Blythe**	**3.19**	**127**		Pn	07 03 12.4	-1.1
SAO	**San Andreas Ge**	**3.31**	**289**		Pn	07 03 15.1	0.0
CBX	**Cerro Bola**	**3.49**	**167**		Pn	07 03 17.3	-0.4
LCMT	**Little Creek M**	**3.71**	**69**		Pn	07 03 21.2	+0.3
ESJX	**Sierra Juarez**	**3.95**	**160**		Pn	07 03 23.8	-0.4
ESJX				IAML		07 04 31.9	
	comp=E,20nm,0.8s						
ESJX				IAML		07 04 33.8	
	comp=N,13nm,1.0s						
KNB	**Kanab**	**4.04**	**70**		Pn	07 03 25.4	0.0
KNB				IAML		07 04 31.7	
	comp=E,18nm,1.1s						
KNB				IAML		07 04 38.1	
	comp=N,17nm,0.9s						
Y14A	**Wickenburg**	**4.15**	**114**		Pn	07 03 26.0	-0.9
Y14A				IAML		07 04 41.2	
	comp=E,26nm,0.8s						
PAHR	**Pah Rah Range**	**4.23**	**341**		Pn	07 03 27.4	-0.5
WUAZ	**Wupatki**	**5.05**	**91**		Pn	07 03 38.9	-0.3
X16A	**Lo Mia Camp, P**	**5.19**	**103**		Pn	07 03 40.7	-0.4
X16A				IAML		07 05 14.0	
	comp=E,8.4nm,1.1s						
X16A				IAML		07 05 16.8	
	comp=N,7.4nm,1.6s						
ELK	**Elko**	**5.33**	**19**		Pn	07 03 42.5	-0.8
ELK				IAML		07 05 13.0	
	comp=N,5.4nm,0.8s						
214A	**Organ Pipe Nat**	**5.46**	**132**	Pn	Pn	07 03 42.8	-1.9
X18A	**Snowflake**	**6.35**	**99**		Pn	07 03 57.7	+0.5

*IDC **05** 07:23:38.4±0.8, 3°.11S×129°.97E, h0km, mb4.0/10, mbtmp4.1/14, ML4.1/3, MS3.4/4, Error ellipse: s-maj=30.6km s-min=16.1km az=68.0*

*DJA **05** 07:23:42.0±0.6, 3°.5S×13°.0E±°, h11km±5km, MLv4.1/13*

ISC 05 07:23:42.1±0.6, 3°.06S±0°.05×130°.04E±0°.05, h25km, n27, σ2=.83/30, mb4.0/9, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.14**	**256**	P	**Pb**	**07 24 05.0**	**+1.8**
MSAI				S	**Sb**	**07 24 21.3**	**+3.7**
BNDI	**Bandanaira**	**1.46**	**185**	P	**Pb**	**07 24 10.7**	**+2.1**
BNDI				S	**Sb**	**07 24 34.0**	**+7.3**
AAI	**Ambon**	**1.94**	**251**	P	**Pb**	**07 24 16.0**	**-0.8**
FAKI	**Fak Fak**	**2.21**	**86**	P	**Pn**	**07 24 18.1**	**+0.9**
SWI	**Sorong**	**2.50**	**29**	P	**Pn**	**07 24 20.2**	**-1.0**
NLAI	**Namlea**	**2.94**	**266**	P	**Pn**	**07 24 29.3**	**+2.1**
KMPI	**Kaimana, Papua**	**3.71**	**99**	P	**Pn**	**07 24 39.9**	**+2.1**
SANI	**Sanana**	**4.17**	**284**	P	**Pn**	**07 24 43.9**	**-0.2**
RKPI	**Ransiki, Papua**	**4.41**	**70**	P	**Pn**	**07 24 47.9**	**+0.4**
BAKI	**Biak**	**6.34**	**73**	P	**Pn**	**07 25 15.3**	**+1.3**
BATI	**Baumata**	**9.51**	**221**	LR	LR	07 29 45.7	
	comp=Z,449nm,19.3s,baz=64,slow=39						
KAPI	**Kappang**	**10.44**	**259**	Pn	**Pn**	**07 26 09.6**	**-0.7**
	4.4nm,0.7s,baz=299,slow=5.7,SNR=1.6						
KAPI				LR	LR	07 31 05.7	
	comp=Z,132nm,18.6s,baz=89,slow=43						
JAY	**Jayapura**	**10.67**	**87**	Pn	**Pn**	**07 26 14.2**	**+0.7**
	0.7nm,0.3s,baz=305,slow=5.0,SNR=3.7						
	11nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.56**	**196**	Pn	**Pn**	**07 27 17.9**	**-1.9**
	0.8nm,0.3s,baz=42,slow=8.1,SNR=19						
FITZ				Sn	**Sn**	**07 30 05.1**	**-6.5**
	0.2nm,0.3s,baz=65,slow=20,SNR=1.7						
	2.7nm,0.8s						
WRA	**Warramunga Arr**	**17.30**	**166**	P	**Pn**	**07 27 40.8**	**-1.2**
	0.8nm,0.3s,baz=347,slow=12,SNR=32						
WRA				S	**Sn**	**07 30 45.5**	**-8.4**
	1.7nm,0.6s,baz=334,slow=22,SNR=4.8						
WRA				LR	LR	07 35 19.7	
	comp=Z,106nm,21.8s,baz=24,slow=41						
	3.3nm,0.5s						
ASAR	**Alice Springs**	**20.82**	**170**	P	**P**	**07 28 22.3**	**+0.3**
	15nm,0.6s,baz=351,slow=10,SNR=129						
ASAR				S	**S**	**07 32 10.8**	**-2.5**
	3.8nm,0.7s,baz=349,slow=18,SNR=9.1						
	15nm,0.6s						
STKA	**Stephens Creek**	**30.66**	**160**	P	**P**	**07 29 53.4**	**-1.3**
	1.7nm,0.5s,baz=355,slow=9.8,SNR=4.2						
	1.7nm,0.5s						
JNU	**Nakatsue**	**35.99**	**1**	LR	LR	07 46 42.4	
	comp=Z,42nm,18.1s,baz=192,slow=38						
CMAR	**Chiang Mai Arr**	**37.35**	**306**	P	**P**	**07 30 52.0**	**-0.9**
	1.4nm,0.3s,baz=135,slow=8.0,SNR=5.2						
	1.4nm,0.3s						
SONM	**Songino Array**	**54.75**	**341**	P	**P**	**07 33 10.3**	**+0.6**
	0.7nm,0.7s,baz=159,slow=6.2,SNR=2.1						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**64.99**	**326**	P	**P**	**07 34 20.3**	**+0.4**
	0.5nm,0.6s,baz=128,slow=8.0,SNR=4.4						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**69.20**	**328**	P	**P**	**07 34 46.9**	**+0.3**
	1.3nm,0.6s,baz=126,slow=5.8,SNR=19						
	1.3nm,0.6s						
VNDA	**Vanda**	**76.33**	**173**	P	**P**	**07 35 28.6**	**+0.1**
	0.5nm,0.7s,baz=308,slow=5.0,SNR=4.2						
	0.5nm,0.7s						
MAW	**Mawson**	**78.61**	**201**	P	**P**	**07 35 41.4**	**0.0**
	1.3nm,0.7s,baz=84,slow=9.2,SNR=2.2						
	1.3nm,0.7s						
QSPA	**South Pole Qui**	**86.89**	**180**	P	**P**	**07 36 24.9**	**+0.3**
	0.7nm,0.7s,baz=301,slow=0.9,SNR=2.2						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**89.79**	**25**	P	**P**	**07 36 39.0**	**+0.8**
	0.2nm,0.6s,baz=245,slow=3.9,SNR=2.5						
	0.2nm,0.6s						
LPAZ	**La Paz**	**153.69**	**137**	PKPbc	**PKiKP**	**07 43 41.2**	**+0.4**
	0.3nm,0.4s,baz=342,slow=2.9,SNR=1.9						

*NEIC **05** 07:27:36.3±2.4, 35°.755N±0°.009×117°.56W±0°.01, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.6km az=294.0*

PAS 05 07:27:37.0±2.4, 35°.750N±0°.009×117°.56W±0°.01, h3km±2km, Mwr3.7/4, ML3.6/106(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=216.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.16**	**249**		Pg	07 27 40.8	+0.6
CCCA	**Chr Cany lake**	**0.28**	**144**		Pg	07 27 43.0	+0.6
CCCA					Sg	07 27 47.5	+1.5
WVPM	**Volcano Peak E**	**0.29**	**314**		Pg	07 27 42.7	+0.1
WVPM					Sg	07 27 47.3	+0.9
WNMM	**Nine Mile Cany**	**0.29**	**289**		Pg	07 27 42.9	+0.2
WNMM					Sg	07 27 47.6	+1.1
WRVM	**Rose V. Centra**	**0.37**	**314**		Pg	07 27 44.2	0.0
MFS	**McCloud Flat S**	**0.44**	**327**		Pg	07 27 45.4	0.0
MFS					Sg	07 27 51.9	+0.7
WBSM	**Bird Springs**	**0.51**	**246**		Pg	07 27 46.8	-0.1
WBSM					Sg	07 27 54.0	+0.4
DTP	**Desert Tortois**	**0.53**	**206**		Pg	07 27 46.9	-0.3
DTP					Sg	07 27 54.6	+0.4
WORM	**Onyx Ranch**	**0.56**	**265**		Pg	07 27 47.4	-0.3
WORM					Sg	07 27 54.9	0.0
QSM	**Queen of Sheba**	**0.60**	**69**		Sg	07 27 56.7	+0.2
QSM	**Queen of Sheba**	**0.60**	**69**		Pg	07 27 48.1	-0.5
QSM				IAML		07 27 56.8	
	comp=N,5μm,0.5s						
QSM				IAML		07 27 56.8	
	comp=E,7μm,0.3s						
WHFM	**Hanning Flat**	**0.64**	**265**		Pg	07 27 49.0	-0.3
WHFM					Sg	07 27 57.7	+0.1
CCAC	**Calif City Air**	**0.70**	**212**		Pg	07 27 50.0	-0.5
CCAC				IAML		07 28 00.3	
	comp=E,5μm,0.6s						
ISA	**Isabella, Lake**	**0.75**	**264**		Sg	07 28 01.2	+0.2
ISA	**Isabella, Lake**	**0.75**	**264**		Pg	07 27 50.8	-0.5
ISA				IAML		07 28 01.4	
	comp=N,3μm,0.3s						
ISA				IAML		07 28 01.6	
	comp=E,3μm,0.5s						
GSC	**Goldstone, Bar**	**0.76**	**126**		Sg	07 28 01.8	+0.2
GSC	**Goldstone, Bar**	**0.76**	**126**		Pg	07 27 51.1	-0.5
CWC	**Cottonwood Cre**	**0.81**	**329**		Pg	07 27 52.7	+0.2
CWC					Sg	07 28 03.4	+0.4

WASM	**Alta Sierra Ca**	**0.81**	**269**			Sg	07 28 03.0	0.0
CGO	**Cerro Gordo**	**0.82**	**346**			Pg	07 27 52.3	-0.5
GWY	**Greenwater Val**	**0.85**	**59**			Pg	07 27 52.9	-0.4
GWY					IAML		07 28 12.1	
	comp=N,4μm,0.5s							
HYS	**Haystack Butte**	**0.88**	**180**			Pg	07 27 53.3	-0.7
HYS						Sg	07 28 05.7	+0.3
FURC	**Furnace Creek,**	**0.91**	**38**			Sb	07 28 07.4	-0.6
EDW2	**Edwards Air Fo**	**0.94**	**202**			Pg	07 27 54.1	-0.9
RRX	**Edison Barstow**	**0.99**	**152**			Pg	07 27 55.5	-0.5
TPO	**Tropico Hills**	**1.02**	**212**			Pg	07 27 55.9	-0.7
TPO						Sg	07 28 10.0	+0.1
TEJ	**El Tejon**	**1.05**	**241**			Pg	07 27 56.0	-1.2
SHOC	**Shoshone, Teco**	**1.06**	**82**			Pg	07 27 57.2	-0.1
SPG2	**Springville 2**	**1.07**	**295**			Pg	07 27 56.7	-0.9
SPG2						Sg	07 28 11.2	-0.3
SBB	**Saddle Back Bu**	**1.08**	**191**			Pg	07 27 56.8	-0.9
SBB						Sb	07 28 12.7	-0.2
ADO	**Adelanto Recei**	**1.20**	**175**			Pg	07 28 00.1	0.0
VTV	**Victorville**	**1.20**	**171**			Pg	07 27 59.8	-0.2
VTV						Sb	07 28 16.2	-0.2
TJR	**Tejon Ranch**	**1.20**	**234**			Sg	07 28 14.7	-1.0
ARVC	**Arvin**	**1.21**	**239**			Pg	07 28 00.1	0.0
ALPC	**Antelope**	**1.22**	**210**			Pg	07 28 00.4	0.0
THC	**Tehachapi Micr**	**1.23**	**227**			Pg	07 28 00.1	-0.5
VES	**Vestal, Richgr**	**1.24**	**275**			Pg	07 28 00.0	-0.8
AMDNV	**Amargosa**	**1.25**	**56**			Pg	07 27 59.5	-1.6
GRAC	**Grapevine Rang**	**1.25**	**7**			Pg	07 28 00.2	-0.9
GRAC					IAML		07 28 23.4	
	comp=N,2μm,0.8s							
GRAC					IAML		07 28 32.4	
	comp=E,1μm,0.7s							
LEOC	**Leona Valley**	**1.27**	**209**			Pg	07 28 00.1	-1.3
LRRC	**Littlerock Res**	**1.28**	**197**			Pg	07 28 00.1	-1.4
WCT	**Wildcat Mounta**	**1.29**	**36**			Pg	07 28 00.6	-1.1
WCT					IAML		07 28 19.9	
	comp=N,1μm,0.7s							
WCT					IAML		07 28 21.1	
	comp=E,1μm,0.6s							
SGV	**South Grapevin**	**1.30**	**19**			Pg	07 28 00.9	-1.1
CJV	**Casa Juvan**	**1.31**	**201**			Pb	07 28 02.5	+0.2
HOLC	**Holcomb Ridge**	**1.31**	**190**			Pg	07 28 00.6	-1.6
BAKC	**Calstate**	**1.32**	**253**			Pn	07 28 01.6	-0.7
DSCC	**Desert Studies**	**1.34**	**117**			Pn	07 28 00.3	-2.3
JNH	**Juniper Hills**	**1.34**	**194**			Pg	07 28 01.1	-1.6
TUQ	**Turquoise Moun**	**1.37**	**103**			Pn	07 28 01.1	-2.1
TIN	**Tinemaha, Big**	**1.41**	**338**			Pn	07 28 03.4	-0.2
CHFC	**Chilao Flat St**	**1.46**	**195**			Pn	07 28 02.7	-1.7
OSI	**Osito Audit: C**	**1.48**	**220**			Pn	07 28 04.2	-0.3
LCH	**Last Change Ra**	**1.48**	**358**			Pn	07 28 03.6	-1.1
BFSC	**Mount Baldy Ra**	**1.51**	**183**			Pn	07 28 03.5	-1.5
SIL	**Silver Peak**	**1.52**	**156**			Pn	07 28 05.2	-0.1
SSK	**Sunset Peak**	**1.54**	**184**			Pn	07 28 04.2	-1.3
GMN	**Gold Mountain**	**1.57**	**9**			Pn	07 28 04.9	-1.1
BBRC	**Big Bear Solar**	**1.57**	**160**			Pn	07 28 06.1	+0.1
MWC	**Mount Wilson**	**1.58**	**195**			Pb	07 28 06.8	-0.1
TPNV	**Topopah Spring**	**1.60**	**41**			Pn	07 28 04.9	-1.4
TPNV					IAML		07 28 30.9	
	comp=E,1μm,0.7s							
TPNV					IAML		07 28 32.1	
	comp=E,1μm,0.9s							
DECC	**Green Verdugo**	**1.62**	**203**			Pn	07 28 05.3	-1.2
OAT	**Oat Mountain**	**1.65**	**212**			Pg	07 28 08.7	+0.1
DSP	**Deep Springs**	**1.65**	**349**			Pn	07 28 05.9	-0.9
PASC	**Pasadena Art C**	**1.66**	**198**			Pn	07 28 05.7	-1.2
PASC					IAML		07 28 33.8	
	comp=E,927nm,0.6s							
PASC					IAML		07 28 34.2	
	comp=N,624nm,0.7s							
MTPC	**Mountain Pass**	**1.66**	**99**			Pn	07 28 05.3	-1.9
CLTC	**Calectric**	**1.67**	**173**			Pg	07 28 09.0	+0.1
PSRC	**Puddingstone R**	**1.67**	**187**			Pn	07 28 06.2	-0.9
SVD	**Seven Oaks Dam**	**1.68**	**167**			Pg	07 28 09.0	-0.3
POCCA	**Poleta Canyon**	**1.71**	**341**			Pb	07 28 08.6	-0.6
BCW	**Bitter Crk WRg**	**1.71**	**242**			Pn	07 28 06.5	-1.4
BCW					IAML		07 28 40.8	
	comp=E,1μm,0.8s							
BHPR	**Bishop**	**1.72**	**335**			Pn	07 28 07.3

SPR3				IAML		07 29 47.3		
	comp=E,98nm,0.8s							
SPR3				IAML		07 29 52.9		
	comp=N,79nm,1.0s							
Y14A	**Wickenburg**	**4.16**	**114**		Pn	07 28 39.0	-2.5	
Y14A				IAML		07 29 56.3		
	comp=E,116nm,0.5s							
PAHR	**Pah Rah Range**	**4.21**	**340**		Pn	07 28 42.2	+0.1	
VTX	**Valle De La Tr**	**4.59**	**161**		Pn	07 28 46.8	-0.6	
VTX				IAML		07 30 03.7		
	comp=N,56nm,0.8s							
VTX				IAML		07 30 05.8		
	comp=E,74nm,0.9s							
WUAZ	**Wupatki**	**5.05**	**91**		Pn	07 28 53.7	0.0	
WUAZ				IAML		07 29 30.3		
	comp=E,57nm,0.9s							
WUAZ				IAML		07 30 16.9		
	comp=E,62nm,1.0s							
MVU	**Marysvale**	**5.08**	**56**	Pn	Pn	07 28 55.4	+1.1	
MVU				IAML		07 30 32.7		
	comp=E,45nm,1.3s							
X16A	**Lo Mia Camp, P**	**5.19**	**103**	Pn	Pn	07 28 54.9	-0.9	
X16A				IAML		07 30 34.6		
	comp=N,27nm,1.4s							
X16A				IAML		07 30 41.8		
	comp=E,30nm,0.8s							
ELK	**Elko**	**5.31**	**19**		Pn	07 28 56.7	-0.8	
ELK				IAML		07 30 27.5		
	comp=E,21nm,0.7s							
HMU	**Henry Mountain**	**5.89**	**66**	Pn	Pn	07 29 05.4	0.0	
TMUT	**Trail Mountain**	**6.17**	**53**	Pn	Pn	07 29 10.2	+1.0	
X18A	**Snowflake**	**6.36**	**99**	Pn	Pn	07 29 11.6	-0.2	
TUC	**Tucson**	**6.59**	**119**	Pn	Pn	07 29 14.4	-0.5	
PV23	**Carpenter Ridg**	**7.35**	**66**	Pn	Pn	07 29 26.0	+0.6	
PV04	**Paradox Valley**	**7.41**	**67**	Pn	Pn	07 29 27.1	+0.9	
PV12	**Saucer Basin,**	**7.46**	**67**	Pn	Pn	07 29 27.3	+0.3	

*SOME **05** 07:31:53.5, 44.67N × 82.02E, h15km*
*NNC **05** 07:31:54.5±0.9, 44.71N × 81.87E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=9.8km s-min=3.7km az=126.0, Suspected Mining explosion.*
ISC 05 07:31:53.0±2.2, 44.61N±0.09 × 82.0E±0.2, h0km, n9, g0 6/46/12, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**1.97**	**291**	Pg	**Pb**	**07 32 29.8**	**-0.1**
	2.7nm,0.1s						
KAPS				Lg	Lg	07 32 55.7	
	29nm,0.2s						
KNOS	**Konyrlen**	**2.01**	**264**	Pg	**Pb**	**07 32 30.8**	**+0.2**
	10nm,0.2s						
KNOS				Lg	Lg	07 32 57.8	
	9.4nm,0.3s						
MK31	**Makanchi Array**	**2.19**	**6**	Pn	**Pn**	**07 32 30.9**	**+0.1**
	4.0nm,0.3s,baz=188,slow=15,SNR=177						
MK31				⇓Sn	**Sn**	**07 32 58.7**	**+0.1**
	7.3nm,0.5s,baz=189,slow=27,SNR=10						
MAKZ	**Makanchi**	**2.20**	**0**	⇑Pn	**Pn**	**07 32 30.7**	**-0.1**
	2.8nm,0.3s						
MAKZ				⇑Sn	**Sn**	**07 32 58.8**	**0.0**
	5.3nm,0.3s						
PDGK	**Podgornoye**	**2.20**	**235**	⇓Pn	**Pb**	**07 32 33.5**	**-0.2**
	4.2nm,0.4s						
PDGK				⇓Lg	Lg	07 33 03.5	
	20nm,0.8s						
SHLS	**Shalkode**	**2.32**	**232**	Pg	**Pn**	**07 32 33.3**	**+0.7**
	18nm,0.3s						
SHLS				Lg	Lg	07 33 02.0	
	25nm,0.3s						
SHLS	**Shalkode**	**2.32**	**232**	*e*P	**Pn**	**07 32 33.0**	**+0.4**
	18nm,0.1s						
SHLS				*e*S	**Sn**	**07 33 01.1**	**-0.9**
	24nm,0.2s						
BLB	**Baldybastay**	**2.56**	**260**	Pg	**Pb**	**07 32 39.3**	**-0.6**
	18nm,0.2s						
BLB				Lg	Lg	07 33 12.1	
	20nm,0.3s						
KTBS	**Karatobe**	**3.91**	**259**	Pg	**Pb**	**07 33 03.1**	**+0.2**
	2.0nm,0.6s						
KTBS				Lg	Lg	07 33 52.8	
	6.6nm,0.6s						

*HEL **05** 07:38:36.2±0.1, 64.00N × 28.03E, h0km, ML1.7, Suspected explosion Hypocentre not reviewed by the ISC*
IDC 05 07:38:37.5±1.4, 63.97N × 27.91E, h0km, mbtmp3.1/3, ML1.8/3, Error ellipse: s-maj=26.3km s-min=9.3km az=100.0, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.59**	**184**	PG		07 38 47.3	
	baz=13						
NIF				SG		07 38 55.3	
RMF	**Romuvaara**	**0.92**	**74**	PG		07 38 51.9	
RMF				MSG		07 39 02.9	
	comp=Z,8.9nm,0.2s						
RMF				SB		07 39 05.7	
OUL	**Oulu**	**1.42**	**323**	PN		07 39 03.2	
OUF	**Merijarvi**	**1.45**	**287**	PN		07 39 03.9	
OUF				MSG		07 39 21.0	
	comp=Z,7.5nm,0.2s						
OUF				SN		07 39 24.1	
OBF4	**Vikkela, Lumij**	**1.48**	**306**	PN		07 39 04.5	
OBF4				MSG		07 39 21.6	
	comp=Z,6.5nm,0.2s						
SUF	**Sumiainen**	**1.49**	**213**	PG		07 39 04.2	
SUF				MSG		07 39 22.3	
	comp=Z,3.6nm,0.2s						
OBF0	**Syolatti, Pyha**	**1.69**	**290**	PG		07 39 08.3	
OBF0				MSG		07 39 27.8	
	comp=Z,6.5nm,0.2s						
KU1	**Kurvinen**	**1.75**	**23**	PN		07 39 07.3	
KU2	**Taivalkoski**	**1.75**	**4**	PG		07 39 07.2	
	baz=186						
OBF8	**Ulkokalla**	**1.99**	**282**	PG		07 39 12.9	
	baz=95						
OBF8				MSG		07 39 36.6	
	comp=Z,4.1nm,0.2s						
MSF	**Maaselka**	**2.00**	**13**	PG		07 39 11.0	
	baz=195						
MSF				SG		07 39 37.0	
KAF	**Kangasniemi**	**2.01**	**202**	PG		07 39 13.0	
KAF				MSG		07 39 37.1	
	comp=Z,5.6nm,0.2s						
KAF				SG		07 39 40.7	
RANF	**Ranua**	**2.10**	**347**	PG		07 39 13.8	
	baz=167						
RANF				SG		07 39 41.3	
KU6	**Riekki**	**2.23**	**21**	PG		07 39 15.1	
	baz=205						
KU6				MSG		07 39 40.7	
	comp=Z,2.4nm,0.2s						
KU6				SG		07 39 42.8	
KEF	**Keuruu**	**2.28**	**219**	PG		07 39 18.0	
	baz=38						
KEF				MSG		07 39 45.4	
	comp=Z,4.5nm,0.2s						
KEF				SG		07 39 47.8	
OLKF	**Oulanka, Finla**	**2.44**	**14**	PG		07 39 19.0	
OLKF				MSG		07 39 47.2	
	comp=Z,2.4nm,0.2s						
OLKF				SG		07 39 49.5	
RUF	**Ruokolahti**	**2.60**	**169**	PB		07 39 21.7	
RUF				MSG		07 39 53.4	
	comp=Z,3.3nm,0.2s						
RUF				SG		07 39 55.5	
TOF	**Tornio**	**2.60**	**326**	PB		07 39 20.8	
TOF				MSG		07 39 53.2	
	comp=Z,1.5nm,0.2s						
TOF				SG		07 39 57.1	
FIA0	**FINESS Array S**	**2.68**	**199**	PB		07 39 22.9	
	baz=22						
FIA0				MSG		07 39 56.3	
	comp=Z,2.6nm,0.2s						
FIA0				SG		07 39 58.1	
FINES	**FINESS Array B**	**2.68**	**199**	Pn	Pn	07 39 23.2	+1.4
	comp=Z,0.4nm,0.3s,baz=19,slow=14,SNR=8.9						
FINES				Sn	Sb	07 39 57.7	-1.8
	comp=Z,0.9nm,0.3s,baz=22,slow=26,SNR=14						
	comp=Z,1.2nm,0.5s						
KALU	**Kalix**	**2.71**	**316**	PB		07 39 22.6	
KALU				SB		07 39 56.8	
RNF	**Rovaniemi**	**2.76**	**344**	PG		07 39 24.6	
RNF				SG		07 39 59.9	
UMAU	**Umeaa**	**3.19**	**272**	PN		07 39 28.5	
UMAU				SG		07 40 14.6	
ERTU	**Ertsjaerv**	**3.53**	**320**	PN		07 39 33.8	
ERTU				SB		07 40 17.8	
PAJU	**Pajala**	**3.66**	**329**	PN		07 39 35.5	
PAJU				SN		07 40 18.3	
KLF	**Kolari**	**3.66**	**335**	PN		07 39 35.2	
KLF				SN		07 40 18.4	
NUR	**Nurmijarvi**	**3.80**	**205**	SN		07 40 19.4	
RAF	**Rauma**	**4.11**	**227**	SG		07 40 46.0	
ARCES	**ARCESS Array B**	**5.67**	**351**	Pn	Pn	07 40 02.0	-0.9
	comp=Z,0.1nm,0.3s,baz=171,slow=14,SNR=12						
ARCES				Sn	Sn	07 41 04.2	-4.3
	comp=Z,0.1nm,0.3s,baz=170,slow=25,SNR=5.0						
ARCES				Lg	Lg	07 41 29.1	
	comp=Z,0.1nm,0.3s,baz=167,slow=29,SNR=5.4						
	comp=Z,2.9nm,1.0s						
I37NO	**I37NO**	**6.32**	**328**	I	I	08 15 10.0	
	baz=140,slow=323,SNR=5.6						
HFS	**Hagfors**	**7.70**	**246**	Pn	Pn	07 40 29.6	-1.2
	comp=Z,0.1nm,0.3s,baz=64,slow=13,SNR=1.5						
HFS				Lg	Lg	07 42 36.3	
	comp=Z,0.1nm,0.3s,baz=51,slow=32,SNR=1.9						
	comp=Z,2.6nm,0.8s						
NOA	**NORSAR Array B**	**8.26**	**257**	Lg	Lg	07 42 52.9	
	baz=62,slow=22,SNR=2.2						

*NEIC **05** 07:39:12.7±2.8, 35.68N±0.01 × 117.47W±0.01, h11km±6km, Error ellipse: s-maj=1.8km s-min=1.5km az=55.0*
PAS 05 07:39:13.5±3.0, 35.69N±0.01 × 117.48W±0.01, h9km±7km, ML3.6/18, ML3.3/94(NEIC), Error ellipse: s-maj=1.7km s-min=1.5km az=56.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.19**	**150**		Pg	07 39 17.8	+0.3
CCCA					Sg	07 39 21.3	+1.2
SRTC	**Snort**	**0.22**	**272**		Pg	07 39 18.4	+0.3
TOW	**Tower One**	**0.26**	**298**		Pg	07 39 19.1	+0.3
TOW					Sb	07 39 24.1	-0.9
LRMC	**Laurel Mtn Rad**	**0.26**	**219**		Pg	07 39 18.7	-0.2
WVPM	**Volcano Peak E**	**0.38**	**314**		Pg	07 39 20.8	-0.3
WVPM					Sg	07 39 26.6	+0.5
WRVM	**Rose V. Centra**	**0.46**	**314**		Pg	07 39 22.2	-0.4
WRVM					Sg	07 39 29.0	+0.3
DTP	**Desert Tortois**	**0.51**	**216**		Pg	07 39 22.9	-0.6
DTP					Sg	07 39 29.9	-0.4
MFS	**McCloud Flat S**	**0.53**	**325**		Sg	07 39 30.9	+0.1
WBSM	**Bird Springs**	**0.56**	**255**		Sg	07 39 31.6	-0.2
QSM	**Queen of Sheba**	**0.57**	**61**		Sg	07 39 31.9	-0.2
QSM	**Queen of Sheba**	**0.57**	**61**		Pg	07 39 24.1	-0.5
QSM				IAML		07 39 32.1	
	comp=E,6μm,0.3s						
QSM				IAML		07 39 32.3	
	comp=N,6μm,0.5s						
WORM	**Onyx Ranch**	**0.62**	**271**		Sg	07 39 33.5	-0.2
GSC	**Goldstone, Bar**	**0.67**	**125**		Pg	07 39 26.0	-0.6
GSC	**Goldstone, Bar**	**0.67**	**125**		Sg	07 39 35.2	-0.1
CCAC	**Calif City Air**	**0.69**	**220**		Pg	07 39 26.3	-0.6
CCAC				IAML		07 39 36.3	
	comp=E,2μm,0.4s						
CCAC				IAML		07 39 37.3	
	comp=N,3μm,0.2s						
WHFM	**Hanning Flat**	**0.71**	**271**		Sg	07 39 36.2	-0.3
ISA	**Isabella, Lake**	**0.81**	**269**		Pg	07 39 28.3	-0.8
ISA				IAML		07 39 42.1	
	comp=N,902nm,0.3s						
ISA				IAML		07 39 42.5	
	comp=E,926nm,0.3s						
HYS	**Haystack Butte**	**0.82**	**185**		Pg	07 39 28.6	-0.8
HYS					Sg	07 39 39.6	-0.6
GWY	**Greenwater Val**	**0.83**	**53**		Pg	07 39 28.8	-0.7
GWY	**Greenwater Val**	**0.83**	**53**		Sg	07 39 39.8	-0.5
WASM	**Alta Sierra Ca**	**0.88**	**274**		Pg	07 39 29.7	-0.8
RRX	**Edison Barstow**	**0.90**	**154**		Pg	07 39 30.2	-0.6
CGO	**Cerro Gordo**	**0.90**	**343**		Pg	07 39 29.9	-1.1
EDW2	**Edwards Air Fo**	**0.91**	**208**		Pg	07 39 29.9	-1.1
FURC	**Furnace Creek,**	**0.93**	**32**		Sb	07 39 43.8	-0.3
SHOC	**Shoshone, Teco**	**1.00**	**77**		Pg	07 39 32.7	-0.1
SHOC					Sb	07 39 46.2	-0.2
TPO	**Tropico Hills**	**1.01**	**217**		Pg	07 39 32.1	-0.9
TPO					Sg	07 39 46.1	0.0
SBB	**Saddle Back Bu**	**1.03**	**196**		Pg	07 39 32.3	-1.1
SBB					Sg	07 39 46.9	0.0
TEJ	**El Tejon**	**1.09**	**246**		Pg	07 39 32.9	-1.5
VTV	**Victorville**	**1.13**	**174**		Pb	07 39 34.4	-0.9
ADO	**Adelanto Recei**	**1.13**	**178**		Pb	07 39 34.6	-0.8
SPG2	**Springville 2**	**1.16**	**297**		Pb	07 39 34.6	-1.2
SPG2					Sb	07 39 50.4	-0.6
MAGC	**SCE Magundon P**	**1.22**	**255**		Pn	07 39 36.0	-0.7
TJR	**Tejon Ranch**	**1.22**	**238**		Pn	07 39 35.5	-1.2
ARVC	**Arvin**	**1.24**	**244**		Pn	07 39 36.0	-1.0
AMDNV	**Amargosa**	**1.24**	**51**		Pn	07 39 35.3	-1.7
THC	**Tehachapi Micr**	**1.24**	**232**		Pn	07 39 36.2	-1.0
LRRC	**Littlerock Res**	**1.24**	**201**		Pn	07 39 35.6	-1.4
DSCC	**Desert Studies**	**1.25**	**115**		Pn	07 39 36.0	-1.1
LEOC	**Leona Valley**	**1.25**	**213**		Pn	07 39 35.7	-1.5
HOLC	**Holcomb Ridge**	**1.26**	**194**		Pn	07 39 35.9	-1.5
HEC	**Hector,Ludlow**	**1.27**	**132**		Pn	07 39 36.9	-0.6
HEC					Sb	07 39 53.9	-0.2
CJV	**Casa Juvan**	**1.27**	**205**		Pn	07 39 37.1	-0.5
TUQ	**Turquoise Moun**	**1.29**	**101**		Pn	07 39 36.6	-1.3
JNH	**Juniper Hills**	**1.29**	**198**		Pn	07 39 36.4	-1.5
WCT	**Wildcat Mounta**	**1.30**	**32**		Pn	07 39 36.4	-1.5
WCT				IAML		07 39 56.0	
	comp=E,745nm,0.6s						
WCT				IAML		07 39 57.6	
	comp=N,599nm,0.4s						
GRAC	**Grapevine Rang**	**1.31**	**4**		Pn	07 39 37.1	-0.9
GRAC				IAML		07 40 03.2	
	comp=E,814nm,0.5s						
GRAC				IAML		07 40 06.4	
	comp=N,573nm,0.7s						
VES	**Vestal, Richgr**	**1.31**	**277**		Pn	07 39 37.6	-0.4
SGV	**South Grapevin**	**1.34**	**15**		Pn	07 39 37.4	-1.2
BAKC	**Calstate**	**1.37**	**256**		Pn	07 39 38.7	-0.1
CHFC	**Chilao Flat St**	**1.42**	**199**		Pn	07 39 38.1	-1.5
SIL	**Silver Peak**	**1.44**	**158**		Pn	07 39 40.0	+0.1
BFSC	**Mount Baldy Ra**	**1.45**	**186**		Pn	07 39 38.7	-1.3
OSI	**Osito Audit: C**	**1.48**	**224**		Pn	07 39 40.7	+0.4
SSK	**Sunset Peak**	**1.48**	**187**		Pn	07 39 39.4	-1.1
MWC	**Mount Wilson**	**1.53**	**198**		Pn	07 39 40.2	-1.0
LCH	**Last Change Ra**	**1.55**	**355**		Pn	07 39 40.5	-0.9
DECC	**Green Verdugo**	**1.59**	**206**		Pb	07 39 43.2	+0.1
CLTC	**Calectric**	**1.59**	**175**		Pn	07 39 40.3	-1.6
TPNV	**Topopah Spring**	**1.60**	**38**	Pn	Pn	07 39 41.0	-1.2
TPNV				IAML		07 40 06.6	
	comp=N,660nm,0.4s						
TPNV				IAML		07 40 06.6	
	comp=N,692nm,0.6s						
SVD	**Seven Oaks Dam**	**1.61**	**169**		Pb	07 39 43.2	-0.1
PSRC	**Puddingstone R**	**1.61**	**190**		Pn	07 39 41.4	-0.7
PASC	**Pasadena Art C**	**1.62**	**201**		Pn	07 39 41.0	-1.2
PASC				IAML		07 40 06.6	
	comp=N,523nm,0.6s						
PASC				IAML		07 40 09.6	
	comp=E,533nm,0.8s						
GMN	**Gold Mountain**	**1.62**	**6**		Pn	07 39 41.5	-1.0
GMN				IAML		07 39 49.0	
	comp=N,304nm,0.5s						
GTM	**Goat Mountain**	**1.67**	**146**		Pn	07 39 41.4	-1.6
VOG	**Valley Oaks Go**	**1.67**	**293**		Pb	07 39 43.7	-0.6
RVR	**Riverside**	**1.69**	**177**		Pn	07 39 42.1	-1.1
GVRC	**Garvey Reservo**	**1.71**	**198**		Pn	07 39 43.0	-0.5
DSP	**Deep Springs**	**1.73**	**347**		Pn	07 39 43.0	-0.7
RHC	**Rose Hills Cem**	**1.74**	**195**		Pn	07 39 43.1	-0.7
BCW	**Bitter Crk WRg**	**1.75**	**245**		Pn	07 39 42.5	-1.6
BCW				IAML		07 40 14.0	
	comp=N,480nm,1.0s						
BCW				IAML		07 40 27.9	
	comp=E,429nm,0.7s						
DJJ	**Donna J Jenkin**	**1.77**	**207**		Pn	07 39 43.2	-1.1
POCCA	**Poleta Canyon**	**1.79**	**339**		Pb	07 39 46.3	-0.3
BHPR	**Bishop**	**1.80**	**334**		Pb	07 39 46.8	0.0
BBSC	**Beaumont Base**	**1.81**	**167**		Pn	07 39 44.3	-0.5
BBSC					Pg	07 39 48.0	-0.2
BLAC	**Blackrock camp**	**1.84**	**151**		Pn	07 39 44.1	-1.3
BLAC					Pg	07 39 48.3	-0.7
MTUM	**Tungsten Hills**	**1.88**	**333**		Pb	07 39 47.8	-0.3
CRGC	**Crocker Grade**	**1.89**	**257**		Pb	07 39 47.9	-0.2
EW2	**E Wide Canyon**	**1.95**	**153**		Pn	07 39 45.6	-1.2
EW2					Pb	07 39 50.1	+0.8
TPC	**Twentynine Pal**	**1.97**	**143**		Pn	07 39 45.6	-1.5
HMTC	**Hemet**	**2.01**	**169**		Pn	07 39 46.6	-1.1
MZP	**Montezuma Peak**	**2.01**	**2**		Pn	07 39 47.2	-0.6
ELS	**Elsinore Mount**	**2.03**	**179**		Pn	07 39 46.9	-1.1
ELS				IAML		07 40 21.1	
	comp=E,147nm,0.4s						
POB	**Polly Butte**	**2.05**	**167**		Pn	07 39 47.3	-0.9
SHPR	**Sheep Range**	**2.05**	**66**		Pn	07 39 47.3	-1.0
SHPR				IAML		07 40 19.9	
	comp=N,150nm,0.6s						
DGR	**Domenigoni Val**	**2.07**	**169**		Pn	07 39 47.5	-0.9
MURC	**Murrieta**	**2.09**	**173**		Pn	07 39 47.8	-0.9
BACC	**Bachelor Mtn.**	**2.10**	**170**		Pn	07 39 47.8	-1.1
V12A	**Nelson**	**2.14**	**88**		Pn	07 39 47.9	-1.6
V12A				IAML		07 40 29.1	
	comp=N,143nm,0.4s						
CRY	**Cary Ranch**	**2.20**	**164**		Pn	07 39 49.5	-0.9
PMD	**Palm Desert**	**2.23**	**156**		Pn	07 39 49.0	-1.6
PMD					Pb	07 39 55.0	+1.0
PFO	**Pinyon Flats O**	**2.23**	**158**		Pn	07 39 49.4	-1.4
PFO				IAML		07 40 26.7	
	comp=N,134nm,0.9s						
PFO	**Pinyon Flats O**	**2.23**	**158**		Pn	07 39 49.4	-1.4
XPFO	**Pinon Flat**	**2.24**	**158**		Pn	07 39 49.4	-1.4
TPH	**Tonopah**	**2.39**	**5**		Pn	07 39 52.5	-0.6
TPH				IAML		07 40 47.0	
	comp=E,318nm,0.8s						
CTW	**Cottonwood Mou**	**2.40**	**146**		Pg	07 39 59.0	-0.6
PRN	**Pahroc Range**	**2.60**	**48**		Pn	07 39 55.4	-0.5
LHV	**Little Huntoon**	**2.69**	**343**		Pn	07 39 57.2	+0.3
LHV				IAML		07 40 13.7	
	comp=N,100nm,0.7s						
LHV				IAML		07 40 19.3	
	comp=E,76nm,0.7s						
NV11	**Mina Array Sit**	**2.79**	**349**		Pn	07 39 58.2	-0.3
NVAR	**Mina Array Bea**	**2.82**	**347**		Pn	07 39 58.4	-0.5
W13A	**Hualapai Mount**	**3.00**	**100**		Pn	07 39 59.6	-1.7
W13A				IAML		07 40 50.5	
	comp=N,90nm,0.5s						
W13A				IAML		07 40 50.8	
	comp=E,58nm,0.5s						
RYN	**Ryan**	**3.05**	**344**		Pn	07 40 01.8	-0.3
BLYC	**Blythe**	**3.11**	**128**		Pn	07 40 01.2	-1.5
YUH	**Yuha Desert**	**3.29**	**156**	Pn	Pn	07 40 03.5	-1.7
SAO	**San Andreas Ge**	**3.38**	**290**		Pn	07 40 08.1	+1.6
GLA	**Glamis**	**3.42**	**139**	Pn	Pn	07 40 04.7	-2.4
CBX	**Cerro Bola**	**3.43**	**168**		Pn	07 40 06.9	-0.4
LCMT	**Little Creek M**	**3.67**	**68**		Pn	07 40 10.2	-0.3
CCUT	**Cedar City**	**3.80**	**59**		Pn	07 40 12.3	-0.1
ESJX	**Sierra Juarez**	**3.89**	**160**		Pn	07 40 12.9	-0.7
ESJX				IAML		07 41 16.0	
	comp=E,34nm,0.3s						
ESJX				IAML		07 41 18.1	
	comp=N,32nm,0.4s						
KNB	**Kanab**	**3.99**	**69**		Pn	07 40 14.9	0.0
KNB				IAML		07 41 23.2	
	comp=E,25nm,0.8s						
KNB				IAML		07 41 25.3	
	comp=N,24nm,1.4s						
SZCU	**Shurtz Canyon**	**4.01**	**60**		Pn	07 40 14.9	-0.5
SZCU				IAML		07 41 30.6	
	comp=E,33nm,0.3s						
PSUT	**Pine Spring**	**4.06**	**44**		Pn	07 40 14.4	-1.6
PSUT				IAML		07 41 31.9	
	comp=E,46nm,1.2s						
PSUT				IAML		07 41 34.5	
	comp=N,35nm,1.4s						
Y14A	**Wickenburg**	**4.07**	**114**		Pn	07 40 14.3	-1.7
SPR3	**Spring Creek 3**	**4.15**	**36**		Pn	07 40 16.5	-0.8
SPR3				IAML		07 41 27.4	
	comp=N,38nm,0.6s						
SPR3				IAML		07 41 30.5	
	comp=E,43nm,1.1s						
PAHR	**Pah Rah Range**	**4.29**	**340**		Pn	07 40 18.7	-0.3
WUAZ	**Wupatki**	**4.98**	**90**		Pn	07 40 28.3	-0.3
WUAZ				IAML		07 41 52.8	
	comp=E,33nm,0.4s						
WUAZ				IAML		07 41 54.6	
	comp=E,25nm,0.9s						
MVU	**Marysvale**	**5.06**	**55**		Pn	07 40 30.3	+0.5
MVU				IAML		07 42 00.3	
	comp=E,19nm,1.2s						
X16A	**Lo Mia Camp, P**	**5.11**	**103**		Pn	07 40 30.0	-0.4
X16A				IAML		07 42 01.3	
	comp=N,15nm,0.6s						
X16A				IAML		07 42 05.9	
	comp=E,16nm,1.0s						
TMUT	**Trail Mountain**	**6.15**	**52**		Pn	07 40 43.7	-1.1
X18A	**Snowflake**	**6.28**	**98**		Pn	07 40 47.1	+0.7

KRSC 05 07:41:27.8±0.9, 56.03N × 164.28E, h14km±13km, MI4.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.83**	**283**	*e*P	Pg	07 41 43.2	-0.7
KBTR				*e*S	Sg	07 41 53.3	-1.6
KBG	**Krutoberegovo**	**0.91**	**285**	*e*P	Pb	07 41 44.6	-0.7
KBG				*e*S	Sg	07 41 57.0	-0.2
BKI	**Bering**	**1.27**	**130**	*e*P	Pb	07 41 51.5	+0.1
BKI				*e*S	Sg	07 42 08.4	-0.3
SMKR	**Semkarok**	**1.66**	**291**	*e*P	Pn	07 41 56.6	0.0
ZLN	**Zelenaya**	**1.95**	**271**	*e*P	Pb	07 42 02.3	-0.9
BZGR	**Bezymyannyi-Gr**	**2.01**	**269**	*e*P	Pb	07 42 03.2	-1.0
KLY	**Klyuchi**	**2.05**	**279**	*e*P	Pn	07 42 01.3	-0.5
MKZ	**Mys Kozlova**	**2.08**	**226**	*e*P	Pn	07 42 03.6	+1.4
BZWR	**Bezymyannyi-We**	**2.12**	**270**	*e*P	Pb	07 42 04.7	-1.5
KIRR	**Kirishev**	**2.21**	**270**	*e*P	Pb	07 42 06.7	-0.9
KPT	**Kopyto**	**2.28**	**270**	*e*P	Pb	07 42 07.2	-1.5
KMNR	**Kamenistaya**	**2.29**	**265**	*e*P	Pb	07 42 07.1	-1.8
TUMD	**Tumrok D**	**2.35**	**251**	*e*P	Pb	07 42 08.1	-1.8
KOZ	**Kozyrevsk**	**2.47**	**272**	*e*P	Pn	07 42 09.5	+1.9
SRDR	**Sredinnyy**	**2.56**	**278**	*e*P	Pn	07 42 11.0	+2.0
SPN	**Mys Shipunski**	**3.84**	**222**	*e*S	Sn	07 43 16.5	+5.1
SDLR	**Sedlovina**	**4.17**	**231**	*e*P	Pn	07 42 34.3

3.4nm,1.0s,baz=25,slow=3.7,SNR=6.7

*TAP **05** 07:58:07.7,24˚.89N×122˚.40E,h129km,ML3.1,D*
*JMA **05** 07:58:08.2±0.1,25˚.N±2˚×122˚.4E±0˚.3,h131km±1km,*
MV2.4/10,NW OFF ISHIGAKIJIMA IS

ISC 05 07:58:08.2±1.8,**24˚.85N**±0˚.07×**122˚.41E**±0˚.03,
h126km±10km,**n54**,σ0**71**/101,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.41**	**293**	*eP*		**Pn**		**07 58 26.5**	**+0.1**
SXI1	**Grass Mountain**	**0.54**	**297**	P		**Pn**		**07 58 26.9**	**-0.3**
SXI1				S		**Sn**		**07 58 42.0**	**+0.5**
TIPB	**Shuangxi**	**0.54**	**284**	*eP*		**Pn**		**07 58 27.1**	**0.0**
TIPB				*eS*		**Sn**		**07 58 41.1**	**-0.4**
TWC	**Suao**	**0.56**	**245**	*eP*		**Pn**		**07 58 27.0**	**-0.2**
TWC				*eS*		**Sn**		**07 58 39.8**	**-1.7**
EOS3	**EOS3**	**0.56**	**188**	*eP*		**Pn**		**07 58 28.0**	**+1.0**
EOS3				*eS*		**Sn**		**07 58 42.4**	**+1.1**
ILA	**Ilan**	**0.60**	**263**	*eP*		**Pn**		**07 58 28.8**	**+1.4**
JYNG	**Yonaguni jima**	**0.63**	**129**	*eP*		**Pn**		**07 58 27.8**	**+0.2**
JYNG				S		**Sn**		**07 58 42.8**	**+0.4**
NDS	**Dongshan**	**0.66**	**252**	*eP*		**Pn**		**07 58 27.2**	**-0.7**
YOJ	**Yonaguni jima**	**0.67**	**125**	*eP*		**Pn**		**07 58 28.0**	**+0.1**
YOJ				*eS*		**Sn**		**07 58 43.2**	**+0.4**
YOJ	**Yonaguni jima**	**0.67**	**125**	*eP*		**Pn**		**07 58 27.8**	**-0.1**
YOJ				*eS*		**Sn**		**07 58 43.2**	**+0.4**
TWE	**Neicheng**	**0.69**	**260**	*eP*		**Pn**		**07 58 27.8**	**-0.2**
EWUT	**Wuta**	**0.70**	**235**	*eP*		**Pn**		**07 58 28.2**	**+0.1**
EWUT				*eS*		**Sn**		**07 58 43.0**	**-0.2**
EOS4	**EOS4**	**0.73**	**186**	*eP*		**Pn**		**07 58 28.1**	**+0.2**
EOS4				*eS*		**Sn**		**07 58 43.5**	**+0.6**
ENA	**Nanau**	**0.73**	**236**	*eP*		**Pn**		**07 58 28.5**	**+0.1**
ENA				*eS*		**Sn**		**07 58 43.5**	**-0.2**
FUSB	**Fushanzhiwuyua**	**0.75**	**264**	*eP*		**Pn**		**07 58 28.4**	**-0.2**
FUSB				*eS*		**Sn**		**07 58 43.4**	**-0.7**
ENTT	**Nioudou**	**0.79**	**255**	P		**Pn**		**07 58 29.7**	**+0.8**
ENTT				*eS*		**Sn**		**07 58 45.5**	**+0.9**
NWLT	**Wulai**	**0.82**	**265**	*eP*		**Pn**		**07 58 28.9**	**-0.3**
NWLT				*eS*		**Sn**		**07 58 44.4**	**-0.8**
LATG	**Datong**	**0.86**	**249**	P		**Pn**		**07 58 30.0**	**+0.4**
LATG				S		**Sn**		**07 58 46.4**	**+0.6**
YHNB	**Yeheng**	**0.95**	**260**	P		**Pn**		**07 58 30.4**	**0.0**
YHNB				*eS*		**Sn**		**07 58 46.5**	**-0.7**
NSK	**Sanguang**	**0.97**	**260**	P		**Pn**		**07 58 30.4**	**-0.1**
NSK				*eS*		**Sn**		**07 58 46.8**	**-0.7**
NACB	**Ninganchiao**	**1.00**	**228**	P		**Pn**		**07 58 30.6**	**-0.2**
NACB				*eS*		**Sn**		**07 58 47.4**	**-0.4**
NNSB	**Datong**	**1.02**	**246**	*i* P		**Pn**		**07 58 31.5**	**+0.4**
NNSB				S		**Sn**		**07 58 48.6**	**+0.2**
NNS	**Nan Shan**	**1.02**	**247**	P		**Pn**		**07 58 31.6**	**+0.4**
NNS				*eS*		**Sn**		**07 58 48.8**	**+0.3**
ETLH	**Xiulin Townshi**	**1.06**	**233**	*eP*		**Pn**		**07 58 31.3**	**-0.1**
ETLH				*eS*		**Sn**		**07 58 48.7**	**-0.2**
TWD	**Chiawan**	**1.06**	**224**	P		**Pn**		**07 58 31.2**	**-0.2**
TWD				*eS*		**Sn**		**07 58 48.5**	**-0.4**
KSHI	**Guanxi Townshi**	**1.12**	**267**	*eP*		**Pn**		**07 58 32.0**	**+0.1**
KSHI				*eS*		**Sn**		**07 58 50.3**	**+0.3**
NFF	**Wufeng Townshi**	**1.19**	**260**	*eP*		**Pn**		**07 58 32.6**	**-0.2**
NFF				*eS*		**Sn**		**07 58 50.4**	**-0.9**
ETM	**Tongmen**	**1.21**	**224**	*eP*		**Pn**		**07 58 32.3**	**-0.6**
ETM				*eS*		**Sn**		**07 58 50.2**	**-1.4**
FUSS	**Fushou**	**1.22**	**241**	*eP*		**Pn**		**07 58 33.3**	**+0.1**
FUSS				*eS*		**Sn**		**07 58 52.0**	**-0.1**
TEYL	**Yanliau Villag**	**1.22**	**217**	*eS*		**Sn**		**07 58 51.4**	**-0.4**
LXIB	**Xiulin Townshi**	**1.22**	**228**	*eP*		**Pn**		**07 58 32.5**	**-0.7**
LXIB				*eS*		**Sn**		**07 58 51.0**	**-1.1**
WHF	**Hehuan Shan**	**1.25**	**236**	P		**Pn**		**07 58 33.9**	**+0.2**
WHF				*eS*		**Sn**		**07 58 52.8**	**-0.4**
LIOB	**Emei**	**1.28**	**261**	*eP*		**Pn**		**07 58 33.4**	**-0.2**
LIOB				*eS*		**Sn**		**07 58 52.5**	**-0.4**
NSTT	**Nanjuang**	**1.30**	**261**	*eP*		**Pn**		**07 58 33.5**	**-0.3**
NSTT				*eS*		**Sn**		**07 58 52.5**	**-0.7**
SHUL	**Shoufeng**	**1.30**	**216**	*eP*		**Pn**		**07 58 33.8**	**-0.1**
SHUL				*eS*		**Sn**		**07 58 53.3**	**-0.1**
IRIF	**Iriomote-Funau**	**1.31**	**113**	P		**Pn**		**07 58 33.9**	**0.0**
IRIF				*eS*		**Sn**		**07 58 53.6**	**+0.3**
OWD	**Renai**	**1.43**	**232**	*eP*		**Pn**		**07 58 35.4**	**0.0**
OWD				*eS*		**Sn**		**07 58 55.4**	**-0.7**
WHP	**Taichung City**	**1.45**	**247**	P		**Pn**		**07 58 36.0**	**+0.4**
WHP				*eS*		**Sn**		**07 58 56.3**	**0.0**
WUSB	**Renai**	**1.45**	**234**	*eP*		**Pn**		**07 58 36.2**	**+0.6**
WUSB				*eS*		**Sn**		**07 58 56.5**	**0.0**
WARBT	**Fenglin Townsh**	**1.46**	**220**	P		**Pn**		**07 58 34.5**	**-1.1**
WARBT				*eS*		**Sn**		**07 58 54.0**	**-2.5**
WCS	**Beigang Elemen**	**1.57**	**240**	*eP*		**Pn**		**07 58 37.5**	**+0.7**
WCS				*eS*		**Sn**		**07 58 59.2**	**+0.5**
JKRS	**Kuro-shima**	**1.58**	**112**	*eP*		**Pn**		**07 58 37.2**	**+0.3**
JKRS				*eS*		**Sn**		**07 58 58.9**	**+0.1**
VWDT	**VWDT**	**1.59**	**227**	*eP*		**Pn**		**07 58 37.1**	**+0.1**
VWDT				*eS*		**Sn**		**07 58 58.5**	**-0.5**
HGSD	**Ruisui**	**1.62**	**214**	*eP*		**Pn**		**07 58 37.2**	**-0.2**
HGSD				*eS*		**Sn**		**07 58 59.2**	**-0.5**
JIJ	**Ishigaki jima**	**1.65**	**107**	*eP*		**Pn**		**07 58 37.8**	**+0.1**
JIJ				S		**Sn**		**07 58 59.6**	**-0.7**
SMLT	**Sun Moon Lake**	**1.68**	**235**	*eP*		**Pn**		**07 58 38.4**	**+0.6**
SMLT				*eS*		**Sn**		**07 59 02.3**	**+1.2**
SSLB	**Suanglung**	**1.69**	**232**	P		**Pn**		**07 58 39.0**	**+0.7**
SSLB				*eS*		**Sn**		**07 59 02.1**	**+0.9**
TYC	**Yuchr**	**1.70**	**237**	*eP*		**Pn**		**07 58 38.8**	**+0.5**
TYC				*eS*		**Sn**		**07 59 02.8**	**+1.5**
JISG	**Ishigakijimahi**	**1.75**	**98**	P		**Pn**		**07 58 39.1**	**+0.2**
JISG				*eS*		**Sn**		**07 59 01.8**	**-0.6**
YULB	**Yu-li**	**1.77**	**215**	*eP*		**Pn**		**07 58 38.4**	**-0.8**
WHYT	**Xinyi Township**	**1.82**	**231**	P		**Pn**		**07 58 40.5**	**+0.6**
WHYT				S		**Sn**		**07 59 05.9**	**+1.9**
ALS	**Alishan**	**1.98**	**228**	P		**Pn**		**07 58 42.4**	**+0.4**
ALS				*eS*		**Sn**		**07 59 10.1**	**+2.3**
ELDTW	**Lidau**	**2.08**	**218**	*eP*		**Pn**		**07 58 42.4**	**-0.7**
ELDTW				*eS*		**Sn**		**07 59 08.8**	**-1.0**
JTJ	**Tarama**	**2.10**	**95**	*eS*		**Sn**		**07 59 09.3**	**-0.6**

*ASRS **05** 08:10:36.0±1.3,53˚.37N×87˚.50E,h0km,M2.3,The*
earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p +
CD-ROM, 2021.

IDC 05 08:10:40.5±3.3,**53˚.41N**×**87˚.42E**,**h0**km,**mbtmp2.7**/2,
ML2.1/2,**Error ellipse: s-maj=33.1km s-min=16.4km**
az=60.0,**Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.64**	**290**			Pn		08 11 10.7	+0.1
	0.5nm,0.3s,baz=108,slow=14,SNR=10.0								
ZALV						Lg	Lg	08 11 31.7	
	0.5nm,0.3s,baz=108,slow=28,SNR=4.2								
I46RU	**ZALESOVO INFRA**	**1.64**	**290**	I		I		08 21 10.0	
	0.1nm,0.8s,baz=108,slow=318,SNR=6.2								
KURBB	**Kurchatov Arra**	**6.15**	**247**	Pn		Pn		08 12 13.5	+0.9
	baz=62,slow=14,SNR=4.9								
	0.5nm,0.6s								
MKAR	**Makanchi Array**	**7.39**	**209**	Pn		Pn		08 12 30.6	+0.9
	0.1nm,0.3s,baz=27,slow=11,SNR=4.7								
	0.2nm,0.3s								

*IDC **05** 08:15:14.0±13.0,6˚.27S×107˚.71E,h279km±139km,*
mb2.9/6,mbtmp3.5/6,Error ellipse: s-maj=136.8km
s-min=20.1km az=53.0

ISC 05 08:15:06.5±3.4,**6˚.3S**±0˚.7×**107˚.7E**±0˚.9,**h198**km,**n6**,
σ0**85**/6,**mb3.4**/6,**Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**26.02**	**341**	P		**P**		**08 20 22.5**	**+0.9**
	0.8nm,0.5s,baz=160,slow=9.0,SNR=5.0								
	0.8nm,0.5s								
WRA	**Warramunga Arr**	**29.27**	**120**	P		**P**		**08 20 50.0**	**-0.5**
	0.1nm,0.3s,baz=311,slow=9.1,SNR=4.8								
	0.1nm,0.3s								
ASAR	**Alice Springs**	**30.60**	**127**	P		**P**		**08 21 02.8**	**+0.5**
	0.1nm,0.4s,baz=300,slow=8.1,SNR=5.6								
	0.1nm,0.4s								
SONM	**Songino Array**	**53.88**	**359**	P		**P**		**08 24 09.6**	**+0.2**
	0.4nm,0.4s,baz=188,slow=7.1,SNR=1.5								
	0.4nm,0.4s								
MKAR	**Makanchi Array**	**57.42**	**340**	P		**P**		**08 24 33.7**	**-0.9**
	0.6nm,0.5s,baz=147,slow=8.1,SNR=9.8								
	0.6nm,0.5s								
KURBB	**Kurchatov Arra**	**61.99**	**339**	P		**P**		**08 25 05.1**	**-0.4**
	0.2nm,0.3s,baz=152,slow=5.5,SNR=4.3								
	0.2nm,0.3s								

*NEIC **05** 08:21:04.4±2.0,35˚.597N±0˚.008×117˚.60W±0˚.01,*
h4km±3km,Error ellipse: s-maj=1.4km s-min=1.2km
az=103.0

PAS 05 08:21:04.8±1.9,**35˚.601N**±0˚.007×**117˚.60W**±0˚.01,
h4km±3km,**ML3.5**/19,**ML3.2**/92(NEIC),**Error ellipse:**
s-maj=1.4km s-min=1.0km az=104.0,**Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mtn Rad**	**0.14**	**208**				Pg	08 21 07.7	+0.1
LRMC							Sg	08 21 10.0	+0.5
SRTC	**Snort**	**0.15**	**307**				Pg	08 21 08.3	+0.5
CCCA	**Chr Cany lake**	**0.21**	**111**				Pg	08 21 09.4	+0.5
CLC	**China Lake**	**0.21**	**1**				Pg	08 21 09.1	0.0
CLC							Sg	08 21 12.5	+0.6
TOW	**Tower One**	**0.24**	**328**				Pg	08 21 10.1	+0.4
WNMM	**Nine Mile Cany**	**0.34**	**315**				Pg	08 21 11.5	0.0
DTP	**Desert Tortois**	**0.39**	**211**				Pg	08 21 12.2	-0.2
WVPM	**Volcano Peak E**	**0.39**	**334**				Pg	08 21 12.2	-0.2
WVPM							Sg	08 21 18.3	+0.7
WBSM	**Bird Springs**	**0.44**	**262**				Pg	08 21 13.3	-0.1
WBSM							Sg	08 21 19.6	+0.4
MPMC	**Manual Prospec**	**0.47**	**12**				Pg	08 21 13.6	-0.2
MPMC							Sg	08 21 20.3	+0.3
WRVM	**Rose V. Centra**	**0.47**	**330**				Pg	08 21 13.5	-0.4
WORM	**Onyx Ranch**	**0.53**	**280**				Pg	08 21 14.7	-0.3
WORM							Sg	08 21 21.8	-0.1
MFS	**McCloud Flat S**	**0.55**	**338**				Pg	08 21 15.2	-0.3
CCAC	**Calif City Air**	**0.56**	**217**				Pg	08 21 15.5	-0.1
CCAC				IAML				08 21 23.6	
	comp=E,2μm,0.7s								
CCAC				IAML				08 21 23.9	
	comp=N,2μm,0.4s								
CCAC	**Calif City Air**	**0.56**	**217**				Sg	08 21 23.4	+0.5
WHFM	**Hanning Flat**	**0.61**	**279**				Pg	08 21 16.3	-0.3
WHFM							Sg	08 21 24.9	+0.3
QSM	**Queen of Sheba**	**0.70**	**59**				Pg	08 21 17.8	-0.5
QSM	**Queen of Sheba**	**0.70**	**59**				Sg	08 21 27.5	+0.1
ISA	**Isabella, Lake**	**0.71**	**275**				Pg	08 21 18.0	-0.5
ISA				IAML				08 21 32.3	
	comp=E,784nm,0.2s								
ISA	**Isabella, Lake**	**0.71**	**275**				Sg	08 21 27.6	-0.1
GSC	**Goldstone, Bar**	**0.72**	**114**				Pg	08 21 18.2	-0.4
GSC				IAML				08 21 31.5	
	comp=N,1μm,0.2s								
HYS	**Haystack Butte**	**0.74**	**178**				Pg	08 21 18.5	-0.5
EDW2	**Edwards Air Fo**	**0.79**	**204**				Pg	08 21 19.3	-0.6
WASM	**Alta Sierra Ca**	**0.79**	**280**				Pg	08 21 19.5	-0.4
WASM							Sg	08 21 30.1	-0.2
RRX	**Edison Barstow**	**0.88**	**145**				Pg	08 21 21.4	-0.3
RRX							Sg	08 21 33.3	+0.2
TPO	**Tropico Hills**	**0.88**	**216**				Pg	08 21 21.4	-0.4
TPO							Sg	08 21 33.6	+0.4
CWC	**Cottonwood Cre**	**0.92**	**335**				Sg	08 21 34.4	-0.1
SBB	**Saddle Back Bu**	**0.93**	**191**				Pg	08 21 21.9	-0.7
SBB							Sb	08 21 36.3	0.0
GWY	**Greenwater Val**	**0.96**	**52**				Pg	08 21 22.8	-0.5
GWY	**Greenwater Val**	**0.96**	**52**				Sg	08 21 35.4	-0.3
CGO	**Cerro Gordo**	**0.96**	**350**				Pg	08 21 22.6	-0.8
TEJ	**El Tejon**	**0.96**	**248**				Pg	08 21 22.2	-1.0
VTV	**Victorville**	**1.06**	**168**				Sb	08 21 40.8	+0.7
TJR	**Tejon Ranch**	**1.09**	**239**				Sg	08 21 39.8	-0.2
ARVC	**Arvin**	**1.11**	**245**				Pg	08 21 25.2	-0.9
THC	**Tehachapi Micr**	**1.11**	**232**				Pg	08 21 25.4	-0.7
SPG2	**Springville 2**	**1.12**	**303**				Pg	08 21 25.3	-1.0
SPG2							Sg	08 21 39.9	-0.9
SHOC	**Shoshone, Teco**	**1.12**	**74**				Sg	08 21 41.2	+0.3
LEOC	**Leona Valley**	**1.12**	**211**				Pg	08 21 25.7	-0.7
LEOC							Sb	08 21 42.2	+0.3
LRRC	**Littlerock Res**	**1.13**	**198**				Pg	08 21 25.5	-1.0
LRRC							Sb	08 21 42.4	+0.6
CJV	**Casa Juvan**	**1.16**	**203**				Pg	08 21 27.6	+0.2
CJV							Sb	08 21 42.9	0.0
HOLC	**Holcomb Ridge**	**1.16**	**190**				Pg	08 21 26.2	-0.9
HOLC							Sb	08 21 43.0	+0.2
JNH	**Juniper Hills**	**1.19**	**194**				Pg	08 21 26.7	-0.9
VES	**Vestal, Richgr**	**1.23**	**282**				Pg	08 21 27.5	-0.9
VES							Sg	08 21 44.4	+0.1
BAKC	**Calstate**	**1.25**	**259**				Pg	08 21 28.1	-0.7
HEC	**Hector,Ludlow**	**1.29**	**126**				Pg	08 21 28.2	-1.4
DSCC	**Desert Studies**	**1.31**	**110**				Pn	08 21 28.7	-1.2
DSCC							Sb	08 21 47.2	+0.1
CHFC	**Chilao Flat St**	**1.31**	**195**				Pg	08 21 29.4	-0.6
CHFC							Sg	08 21 47.1	+0.2
OSI	**Osito Audit: C**	**1.35**	**223**				Sn	08 21 49.1	+0.4
BFSC	**Mount Baldy Ra**	**1.36**	**182**				Pn	08 21 29.7	-1.0
BFSC							Sb	08 21 48.9	+0.2
AMDNV	**Amargosa**	**1.37**	**51**				Pn	08 21 29.0	-1.6
TUQ	**Turquoise Moun**	**1.38**	**96**				Pn	08 21 29.9	-1.1
SSK	**Sunset Peak**	**1.39**	**183**				Pn	08 21 30.4	-0.7
SIL	**Silver Peak**	**1.40**	**153**				Pn	08 21 31.0	-0.4
GRAC	**Grapevine Rang**	**1.41**	**8**				Pn	08 21 30.5	-0.8
GRAC				IAML				08 21 52.6	
	comp=E,542nm,0.6s								
GRAC				IAML				08 21 59.3	
	comp=N,505nm,0.6s								
MWC	**Mount Wilson**	**1.42**	**195**				Pb	08 21 32.0	-0.1
WCT	**Wildcat Mounta**	**1.43**	**33**				Sb	08 21 50.5	-0.1
WCT	**Wildcat Mounta**	**1.43**	**33**				Pn	08 21 30.2	-1.4
WCT				IAML				08 21 52.2	
	comp=N,288nm,0.7s								
WCT				IAML				08 21 52.5	
	comp=E,312nm,0.4s								
BBRC	**Big Bear Solar**	**1.45**	**157**				Pn	08 21 31.8	-0.2
SGV	**South Grapevin**	**1.45**	**18**				Pn	08 21 30.9	-1.1
SGV							Sb	08 21 51.4	-0.1
DECC	**Green Verdugo**	**1.47**	**204**				Pn	08 21 32.4	+0.2
DECC							Sg	08 21 52.7	+0.6
PASC	**Pasadena Art C**	**1.50**	**199**				Pn	08 21 31.7	-0.9
PASC				IAML				08 21 55.9	
	comp=E,282nm,0.6s								
PASC				IAML				08 21 56.8	
	comp=N,192nm,0.4s								
PSRC	**Puddingstone R**	**1.52**	**186**				Pg	08 21 33.9	+0.1
SVD	**Seven Oaks Dam**	**1.55**	**164**				Pb	08 21 34.3	+0.2
SVD							Sg	08 21 55.0	+0.4
GR2C	**Griffith Obs.**	**1.59**	**201**				Sg	08 21 56.1	+0.3
VOG	**Valley Oaks Go**	**1.61**	**297**				Pn	08 21 34.3	+0.3
VOG							Sn	08 21 55.5	+0.2
BLCC	**Black Canyon**	**1.61**	**213**				Pn	08 21 33.5	-0.6
BCW	**Bitter Crk WRg**	**1.62**	**247**				Pn	08 21 32.8	-1.4
BCW				IAML				08 21 57.0	
	comp=N,347nm,0.6s								
BCW				IAML				08 21 59.8	
	comp=E,290nm,0.6s								
LCH	**Last Change Ra**	**1.63**	**359**				Pn	08 21 33.6	-0.8
DJJ	**Donna J Jenkin**	**1.65**	**205**				Sg	08 21 57.3	-0.5
GTM	**Goat Mountain**	**1.66**	**141**				Pn	08 21 37.3	+0.5
GTM							Sb	08 21 57.5	+0.3
MTPC	**Mountain Pass**	**1.68**	**93**				Pn	08 21 33.6	-1.5
TPNV	**Topopah Spring**	**1.73**	**39**				Pn	08 21 34.6	-1.3
TPNV				IAML				08 22 02.4	
	comp=E,335nm,0.5s								
TPNV				IAML				08 22 03.9	
	comp=E,335nm,0.5s								
CRGC	**Crocker Grade**	**1.77**	**259**				Pb	08 21 37.3	-0.6
DSP	**Deep Springs**	**1.79**	**351**				Pn	08 21 35.7	-0.8
BLAC	**Blackrock camp**	**1.83**	**146**				Pb	08 21 38.8	0.0
BHPR	**Bishop**	**1.84**	**337**				Pn	08 21 36.9	-0.5
MTUM	**Tungsten Hills**	**1.91**	**336**				Pb	08 21 40.1	-0.3
EW2	**E Wide Canyon**	**1.93**	**149**				Pn	08 21 37.1	-1.0
ELS	**Elsinore Mount**	**1.95**	**176**				Pn	08 21 37.9	-0.9
TPC	**Twentynine Pal**	**1.96**	**139**				Pn	08 21 37.9	-1.1
POB	**Polly Butte**	**1.99**	**163**				Pn	08 21 38.7	-0.7
MURC	**Murrieta**	**2.02**	**170**				Pn	08 21 39.2	-0.5
MZP	**Montezuma Peak**	**2.10**	**5**				Pn	08 21 40.3	-0.7
SHPR	**Sheep Range**	**2.18**	**65**	Pn		Pn		08 21 41.6	-0.4
SHPR				IAML				08 22 15.1	
	comp=N,116nm,0.8s								
PFO	**Pinyon Flats O**	**2.20**	**154**			Pn		08 21 40.6	-1.6
PFO				IAML				08 22 17.5	
	comp=N,82nm,0.9s								
V12A	**Nelson**	**2.25**	**86**			Pn		08 21 41.2	-1.6
V12A				IAML				08 22 16.7	
	comp=N,91nm,0.5s								
V12A				IAML				08 22 19.4	
	comp=E,135nm,0.5s								
BENR	**Benton**	**2.25**	**340**				Pb	08 21 46.3	+0.1
MLAC	**Mammoth, Mammo**	**2.25**	**334**				Pb	08 21 46.7	+0.5
FRD	**Ford Ranch, An**	**2.26**	**158**				Pn	08 21 42.1	-0.9
PSMM	**Smith Mountain**	**2.48**	**282**				Pn	08 21 45.7	-0.3
TPH	**Tonopah**	**2.49**	**7**				Pn	08 21 45.7	-0.6
S11A	**Rachel**	**2.53**	**36**				Pn	08 21 45.9	-0.9
PRN	**Pahroc Range**	**2.73**	**48**				Pn	08 21 48.9	-0.7
PRN				IAML				08 22 40.2	
	comp=E,126nm,0.6s								
PRN				IAML				08 22 41.5	
	comp=N,128nm,0.6s								
LHV	**Little Huntoon**	**2.74**	**345**				Pn	08 21 49.5	-0.1
LHV				IAML				08 22 39.0	
	comp=E,64nm,0.8s								
LHV				IAML				08 22 46.7	
	comp=N,51nm,0.9s								
NV11	**Mina Array Sit**	**2.86**	**351**	Pn		Pn		08 21 51.1	-0.2
NVAR	**Mina Array Bea**	**2.88**	**349**			Pn		08 21 51.0	-0.7
BBGB	**Big Mountain B**	**2.95**	**290**			Pn		08 21 52.5	0.0
RYN	**Ryan**	**3.11**	**347**	Pn		Pn		08 21 54.7	-0.1
TKX	**Tecate**	**3.14**	**164**	Pn		Pn		08 21 55.7	+0.7
TKX				IAML				08 22 36.3	
	comp=N,52nm,0.1s								
TKX				IAML				08 22 44.4	
	comp=E,48nm,0.2s								
BLYC	**Blythe**	**3.14**	**125**			Pn		08 21 52.9	-2.2
BLYC				IAML				08 22 48.0	
	comp=E,49nm,0.5s								
BLYC				IAML				08 22 52.5	
	comp=N,51nm,0.8s								
R11B	**Troy Canyon, C**	**3.18**	**30**			Pn		08 21 54.9	-0.9
R11B				IAML				08 22 47.2	
	comp=E,41nm,1.0s								
Q09A	**Carvers**	**3.24**	**6**			Pn		08 21 56.4	-0.2
Q09A				IAML				08 23 01.8	
	comp=N,93nm,1.0s								
YUH	**Yuha Desert**	**3.26**	**154**	Pn		Pn		08 21 55.7	-1.0
SAO	**San Andreas Ge**	**3.32**	**292**			Pn		08 21 57.1	-0.4
CBX	**Cerro Bola**	**3.37**	**166**			Pn		08 21 58.7	+0.3
GLA	**Glamis**	**3.43**	**137**			Pn		08 21 57.0	-2.1
LCMT	**Little Creek M**	**3.79**	**67**			Pn		08 22 04.5	+0.3
ESJX	**Sierra Juarez**	**3.84**	**159**			Pn		08 22 04.5	-0.4
ESJX				IAML				08 23 07.9	
	comp=E,26nm,1.0s								
CCUT	**Cedar City**	**3.93**	**59**			Pn		08 22 06.3	+0.2
CCUT				IAML				08 23 12.1	
	comp=N,18nm,0.7s								
KNB	**Kanab**	**4.11**	**69**			Pn		08 22 07.6	-1.0
KNB				IAML				08 23 18.6	
	comp=N,25nm,1.5s								
KNB				IAML				08 23 20.5	
	comp=E,17nm,1.1s								
Y14A	**Wickenburg**	**4.13**	**112**			Pn		08 22 07.2	-1.5
Y14A				IAML				08 23 19.9	
	comp=E,34nm,0.4s								
PSUT	**Pine Spring**	**4.19**	**45**			Pn		08 22 08.7	-1.0
PSUT				IAML				08 23 21.6	
	comp=N,25nm,0.8s								
PSUT				IAML				08 23 23.2	
	comp=E,29nm,0.9s								
SPR3	**Spring Creek 3**	**4.28**	**37**			Pn		08 22 09.4	-1.6
SPR3				IAML				08 23 21.5	
	comp=E,29nm,1.3s								
SPR3				IAML				08 23 25.7	
	comp=N,21nm,0.8s								
PAHR	**Pah Rah Range**	**4.33**	**342**	Pn		Pn		08 22 11.7	+0.1
WUAZ	**

CCCA					Sg		08 46 57.8	+1.4
SRTC	**Snort**	**0.21**	**270**		Pg		08 46 54.4	+0.4
LRMC	**Laurel Mtn Rad**	**0.26**	**216**		Pg		08 46 54.9	-0.1
MPMC	**Manual Prospec**	**0.36**	**0**		Pg		08 46 56.6	-0.4
MPMC					Sg		08 47 02.1	+0.3
WNMM	**Nine Mile Cany**	**0.37**	**294**		Sg		08 47 02.4	+0.6
WVPM	**Volcano Peak E**	**0.37**	**314**		Pg		08 46 56.9	-0.1
WRVM	**Rose V. Centra**	**0.45**	**314**		Pg		08 46 58.3	-0.2
WRVM					Sg		08 47 04.7	+0.3
DTP	**Desert Tortois**	**0.51**	**214**		Pg		08 46 59.1	-0.5
MFS	**McCloud Flat S**	**0.52**	**325**		Pg		08 46 59.5	-0.3
WBSM	**Bird Springs**	**0.55**	**254**		Pg		08 47 00.1	-0.3
QSM	**Queen of Sheba**	**0.57**	**62**		Pg		08 47 00.4	-0.4
QSM	**Queen of Sheba**	**0.57**	**62**		Sg		08 47 08.3	0.0
WORM	**Onyx Ranch**	**0.61**	**270**		Pg		08 47 00.8	-0.7
GSC	**Goldstone, Bar**	**0.68**	**125**		Pg		08 47 02.3	-0.5
GSC				IAML			08 47 12.2	
	comp=N,223nm,0.2s							
GSC				IAML			08 47 14.7	
	comp=E,464nm,0.5s							
GSC	**Goldstone, Bar**	**0.68**	**125**		Sg		08 47 12.1	+0.3
CCAC	**Calif City Air**	**0.69**	**219**		Pg		08 47 02.5	-0.5
CCAC				IAML			08 47 13.6	
	comp=E,338nm,0.4s							
CCAC	**Calif City Air**	**0.69**	**219**		Sg		08 47 12.3	+0.3
WHFM	**Hanning Flat**	**0.70**	**271**		Pg		08 47 02.7	-0.5
WHFM					Sg		08 47 11.9	-0.4
ISA	**Isabella, Lake**	**0.80**	**268**		Pg		08 47 04.4	-0.7
ISA	**Isabella, Lake**	**0.80**	**268**		Sg		08 47 15.1	-0.5
GWY	**Greenwater Val**	**0.83**	**53**		Pg		08 47 04.9	-0.8
GWY				IAML			08 47 18.8	
	comp=N,350nm,0.4s							
GWY	**Greenwater Val**	**0.83**	**53**		Sg		08 47 16.8	+0.3
HYS	**Haystack Butte**	**0.83**	**184**		Pg		08 47 04.9	-0.8
HYS					Sg		08 47 16.3	-0.2
WASM	**Alta Sierra Ca**	**0.87**	**273**		Pg		08 47 05.8	-0.6
WASM					Sg		08 47 17.5	-0.3
CWC	**Cottonwood Cre**	**0.89**	**328**		Pg		08 47 06.7	0.0
CGO	**Cerro Gordo**	**0.89**	**344**		Pg		08 47 06.4	-0.6
EDW2	**Edwards Air Fo**	**0.91**	**207**		Pg		08 47 06.2	-1.0
RRX	**Edison Barstow**	**0.91**	**153**		Pg		08 47 06.7	-0.5
RRX					Sb		08 47 20.4	+0.3
SHOC	**Shoshone, Teco**	**1.01**	**78**		Pg		08 47 08.3	-0.8
SHOC					Sg		08 47 22.6	+0.4
TPO	**Tropico Hills**	**1.01**	**217**		Pg		08 47 08.3	-0.8
TPO					Sb		08 47 23.0	-0.2
SBB	**Saddle Back Bu**	**1.04**	**195**		Pg		08 47 08.6	-1.0
TEJ	**El Tejon**	**1.08**	**245**		Pg		08 47 10.2	-0.3
VTV	**Victorville**	**1.14**	**173**		Sg		08 47 26.0	-0.4
SPG2	**Springville 2**	**1.15**	**296**		Pg		08 47 10.7	-1.2
SPG2					Sg		08 47 26.3	-0.5
TJR	**Tejon Ranch**	**1.22**	**237**		Pg		08 47 12.4	-0.7
AMDNV	**Amargosa**	**1.24**	**52**		Pb		08 47 11.6	-1.8
AMDNV					Sg		08 47 29.2	-0.4
LRRC	**Littlerock Res**	**1.25**	**201**		Pb		08 47 13.5	0.0
LEOC	**Leona Valley**	**1.25**	**212**		Pb		08 47 12.3	-1.4
DSCC	**Desert Studies**	**1.26**	**115**		Pn		08 47 12.5	-1.2
DSCC					Sg		08 47 30.4	+0.1
HOLC	**Holcomb Ridge**	**1.27**	**193**		Pn		08 47 12.3	-1.6
CJV	**Casa Juvan**	**1.28**	**205**		Pn		08 47 13.8	-0.3
CJV					Sn		08 47 31.6	+0.1
HEC	**Hector,Ludlow**	**1.28**	**132**		Pn		08 47 13.3	-0.8
HEC					Sg		08 47 30.9	+0.1
JNH	**Juniper Hills**	**1.30**	**197**		Pn		08 47 13.0	-1.4
JNH					Sg		08 47 31.6	+0.1
WCT	**Wildcat Mounta**	**1.30**	**32**		Pn		08 47 12.8	-1.7
TUQ	**Turquoise Moun**	**1.30**	**101**		Pn		08 47 13.4	-1.1
TUQ					Sb		08 47 31.2	-0.4
VES	**Vestal, Richgr**	**1.30**	**277**		Sb		08 47 31.1	-0.5
GRAC	**Grapevine Rang**	**1.30**	**4**		Pn		08 47 13.4	-1.0
GRAC				IAML			08 47 39.6	
	comp=E,144nm,0.3s							
SGV	**South Grapevin**	**1.34**	**16**		Pn		08 47 13.7	-1.3
BAKC	**Calstate**	**1.36**	**256**		Sb		08 47 33.1	-0.1
CHFC	**Chilao Flat St**	**1.43**	**198**		Pn		08 47 16.3	+0.1
SIL	**Silver Peak**	**1.45**	**158**		Pn		08 47 14.4	-0.1
BFSC	**Mount Baldy Ra**	**1.46**	**185**		Pb		08 47 17.1	-0.1
BFSC					Sn		08 47 35.7	-0.3
OSI	**Osito Audit: C**	**1.48**	**224**		Sg		08 47 37.0	-0.2
SSK	**Sunset Peak**	**1.49**	**186**		Pb		08 47 17.8	0.0
BBRC	**Big Bear Solar**	**1.50**	**162**		Pn		08 47 17.4	+0.1
BBRC					Sg		08 47 37.9	-0.2
MWC	**Mount Wilson**	**1.54**	**198**		Pb		08 47 18.7	0.0
LCH	**Last Change Ra**	**1.54**	**355**		Pn		08 47 16.8	-1.0
LCH					Sn		08 47 38.3	+0.1
DECC	**Green Verdugo**	**1.59**	**206**		Sg		08 47 40.9	-0.1
TPNV	**Topopah Spring**	**1.60**	**38**		Pn		08 47 17.4	-1.3
TPNV				IAML			08 47 42.7	
	comp=E,58nm,0.5s							
TPNV				IAML			08 47 44.7	
	comp=E,63nm,0.3s							
GMN	**Gold Mountain**	**1.61**	**7**		Pn		08 47 18.0	-0.9
PSRC	**Puddingstone R**	**1.62**	**189**		Pb		08 47 20.0	+0.1
PASC	**Pasadena Art C**	**1.62**	**201**		Pn		08 47 17.3	-1.4
PASC				IAML			08 47 47.3	
	comp=E,43nm,0.6s							
OAT	**Oat Mountain**	**1.63**	**215**		Pg		08 47 20.9	-0.2
GTM	**Goat Mountain**	**1.68**	**146**		Pb		08 47 20.6	-0.4
GTM					Sb		08 47 42.3	0.0
DSP	**Deep Springs**	**1.72**	**347**		Pn		08 47 19.1	-1.0
DSP				IAML			08 47 45.0	
	comp=N,48nm,0.5s							
BCW	**Bitter Crk WRg**	**1.74**	**245**		Pn		08 47 19.3	-1.2
BCW				IAML			08 47 54.0	
	comp=E,89nm,0.7s							
BCW				IAML			08 47 56.9	
	comp=N,97nm,0.7s							
POCCA	**Poleta Canyon**	**1.78**	**339**		Pg		08 47 23.5	-0.5
BHPR	**Bishop**	**1.79**	**334**		Pb		08 47 23.3	+0.2
BLAC	**Blackrock camp**	**1.86**	**150**		Pn		08 47 21.0	-1.1
MTUM	**Tungsten Hills**	**1.87**	**333**		Pb		08 47 24.4	0.0
DEVC	**Devers**	**1.91**	**157**		Pn		08 47 22.6	-0.1
EW2	**E Wide Canyon**	**1.96**	**153**		Pn		08 47 22.4	-1.0
TPC	**Twentynine Pal**	**1.98**	**143**		Pn		08 47 22.2	-1.5
MZP	**Montezuma Peak**	**2.01**	**2**		Pn		08 47 23.7	-0.6
ELS	**Elsinore Mount**	**2.04**	**179**		Pn		08 47 23.7	-0.9
ELS				IAML			08 47 56.8	
	comp=N,32nm,0.4s							
ELS				IAML			08 48 00.5	
	comp=E,49nm,0.6s							
SHPR	**Sheep Range**	**2.05**	**66**		Pn		08 47 23.8	-1.1
POB	**Polly Butte**	**2.06**	**167**		Pn		08 47 24.0	-0.8
DGR	**Domenigoni Val**	**2.08**	**169**		Pn		08 47 24.5	-0.6
V12A	**Nelson**	**2.15**	**88**		Pn		08 47 24.5	-1.6
V12A				IAML			08 48 03.5	
	comp=N,46nm,0.5s							
V12A				IAML			08 48 03.9	
	comp=E,36nm,0.4s							
CRY	**Cary Ranch**	**2.21**	**163**		Pn		08 47 26.2	-0.7
MLAC	**Mammoth, Mammo**	**2.22**	**331**		Pb		08 47 30.8	+0.5
PMD	**Palm Desert**	**2.24**	**155**		Pb		08 47 31.4	+0.9
PFO	**Pinyon Flats O**	**2.24**	**157**		Pn		08 47 26.0	-1.4
PFO				IAML			08 48 03.4	
	comp=E,28nm,0.8s							
FRD	**Ford Ranch, An**	**2.31**	**161**		Pb		08 47 32.1	+0.3
TPH	**Tonopah**	**2.39**	**5**		Pn		08 47 28.9	-0.6
LHV	**Little Huntoon**	**2.68**	**343**		Pn		08 47 33.4	+0.1
LHV				IAML			08 48 18.8	
	comp=E,23nm,0.5s							
LHV				IAML			08 48 19.6	
	comp=N,21nm,0.6s							
NV11	**Mina Array Sit**	**2.79**	**349**		Pn		08 47 34.3	-0.6
NVAR	**Mina Array Bea**	**2.81**	**347**		Pn		08 47 34.4	-0.9
BBGB	**Big Mountain B**	**3.00**	**288**	Pn	Pn		08 47 36.9	-1.0
W13A	**Hualapai Mount**	**3.00**	**100**		Pn		08 47 36.2	-1.7
W13A				IAML			08 48 27.9	
	comp=E,17nm,0.8s							
W13A				IAML			08 48 28.0	
	comp=N,13nm,1.2s							
RYN	**Ryan**	**3.04**	**345**		Pn		08 47 37.8	-0.7
BLYC	**Blythe**	**3.12**	**128**		Pn		08 47 36.9	-2.4
BLYC				IAML			08 48 29.2	
	comp=N,20nm,0.6s							
BLYC				IAML			08 48 29.3	
	comp=E,17nm,0.5s							
YUH	**Yuha Desert**	**3.30**	**156**	Pn	Pn		08 47 41.3	-0.6
YUH				IAML			08 48 21.6	
	comp=E,15nm,4.5s							
YUH				IAML			08 49 22.9	
	comp=N,9.9nm,4.5s							
CBX	**Cerro Bola**	**3.44**	**168**	Pn	Pn		08 47 43.5	-0.4
LCMT	**Little Creek M**	**3.67**	**68**	Pn	Pn		08 47 46.4	-0.7
CCUT	**Cedar City**	**3.80**	**60**	Pn	Pn		08 47 48.5	-0.5
CCUT				IAML			08 48 52.1	
	comp=E,6.2nm,4.9s							
CCUT				IAML			08 49 09.7	
	comp=N,5.8nm,4.1s							
KNB	**Kanab**	**3.99**	**69**	Pn	Pn		08 47 50.7	-0.8
KNB				IAML			08 49 36.9	
	comp=N,7.7nm,4.1s							
KNB				IAML			08 50 05.3	
	comp=E,5.9nm,4.3s							
AFDM	**Forest Hills D**	**4.27**	**321**	Pn	Pn		08 47 54.2	-1.0
AFDM				IAML			08 48 36.4	
	comp=N,4.9nm,3.7s							
AFDM				IAML			08 49 03.1	
	comp=E,5.1nm,3.2s							
214A	**Organ Pipe Nat**	**5.39**	**132**	Pn	Pn		08 48 10.0	-0.6
214A				IAML			08 49 33.0	
	comp=E,4.9nm,4.0s							
214A				IAML			08 50 56.7	
	comp=N,5.5nm,4.0s							
X18A	**Snowflake**	**6.29**	**98**	Pn	Pn		08 48 22.6	-0.4

*NEIC **05** 08:54:01.7±2.3, 35°.702N×0°.009×117°.483W±0°.003, h7km±4km, Error ellipse: s-maj=1.3km s-min=0.3km az=192.0*

PAS 05 08:54:02.5±2.4, 35°.704N±0°.009×117°.50W±0°.01, h7km±4km, ML3.6/15, ML3.1/86(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=76.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.14**	**325**		Pg	08 54 05.5	0.0
SRTC	**Snort**	**0.20**	**267**		Pg	08 54 07.0	+0.4
CCCA	**Chr Cany lake**	**0.21**	**148**		Pg	08 54 07.2	+0.4
TOW	**Tower One**	**0.24**	**296**		Pg	08 54 07.6	+0.4
TOW					Sg	08 54 12.6	+2.2
LRMC	**Laurel Mtn Rad**	**0.27**	**213**		Pg	08 54 07.7	-0.1
LRMC					Sg	08 54 11.6	+0.2
WVPM	**Volcano Peak E**	**0.35**	**314**		Pg	08 54 09.3	-0.2
WNMM	**Nine Mile Cany**	**0.35**	**293**		Sg	08 54 14.7	+0.5
MFS	**McCloud Flat S**	**0.50**	**325**		Pg	08 54 12.0	-0.3
MFS					Sg	08 54 19.1	+0.3
DTP	**Desert Tortois**	**0.52**	**213**		Pg	08 54 12.0	-0.6
QSM	**Queen of Sheba**	**0.58**	**63**		Pg	08 54 13.1	-0.6
QSM	**Queen of Sheba**	**0.58**	**63**		Sg	08 54 21.2	0.0
WORM	**Onyx Ranch**	**0.60**	**269**		Pg	08 54 13.6	-0.6
WORM					Sg	08 54 21.5	-0.5
WHFM	**Hanning Flat**	**0.69**	**270**		Pg	08 54 15.2	-0.6
WHFM					Sg	08 54 24.4	-0.4
CCAC	**Calif City Air**	**0.69**	**217**		Sg	08 54 25.1	+0.2
CCAC	**Calif City Air**	**0.69**	**217**		Pg	08 54 15.2	-0.7
CCAC				IAML		08 54 25.4	
	comp=E,1μm,0.3s						
CCAC				IAML		08 54 25.9	
	comp=N,1μm,0.3s						
GSC	**Goldstone, Bar**	**0.70**	**125**		Pg	08 54 15.3	-0.6
GSC				IAML		08 54 27.8	
	comp=N,1μm,0.3s						
ISA	**Isabella, Lake**	**0.79**	**267**		Sg	08 54 27.9	-0.1
ISA	**Isabella, Lake**	**0.79**	**267**		Pg	08 54 16.9	-0.9
GWY	**Greenwater Val**	**0.83**	**54**		Sg	08 54 29.2	-0.1
GWY	**Greenwater Val**	**0.83**	**54**		Pg	08 54 17.7	-0.8
HYS	**Haystack Butte**	**0.84**	**184**		Pg	08 54 17.8	-0.8
WASM	**Alta Sierra Ca**	**0.86**	**273**		Pg	08 54 18.4	-0.7
CWC	**Cottonwood Cre**	**0.87**	**328**		Sg	08 54 30.6	0.0
CGO	**Cerro Gordo**	**0.88**	**344**		Pg	08 54 18.6	-0.8
CGO					Sg	08 54 31.0	+0.1
FURC	**Furnace Creek,**	**0.92**	**34**		Pg	08 54 20.1	-0.1
RRX	**Edison Barstow**	**0.93**	**153**		Pg	08 54 19.7	-0.6
RRX					Sb	08 54 33.0	-0.3
TPO	**Tropico Hills**	**1.01**	**216**		Pg	08 54 21.1	-0.9
SHOC	**Shoshone, Teco**	**1.02**	**79**		Sb	08 54 35.6	-0.4
SBB	**Saddle Back Bu**	**1.05**	**195**		Pg	08 54 21.5	-1.1
TEJ	**El Tejon**	**1.08**	**244**		Pg	08 54 21.9	-1.3
TEJ					Sg	08 54 36.8	-0.4
SPG2	**Springville 2**	**1.14**	**296**		Pg	08 54 23.2	-1.2
VTV	**Victorville**	**1.15**	**173**		Pg	08 54 23.7	-0.9
ADO	**Adelanto Recei**	**1.15**	**177**		Pg	08 54 24.2	-0.4
ALPC	**Antelope**	**1.21**	**213**		Pg	08 54 25.3	-0.3
ALPC					Sb	08 54 42.0	+0.5
TJR	**Tejon Ranch**	**1.22**	**237**		Pb	08 54 24.5	-1.3
TJR					Sg	08 54 40.4	-1.3
ARVC	**Arvin**	**1.23**	**242**		Pb	08 54 25.4	-0.7
THC	**Tehachapi Micr**	**1.24**	**230**		Pg	08 54 24.9	-1.3
AMDNV	**Amargosa**	**1.24**	**53**		Pn	08 54 24.5	-1.7
LRRC	**Littlerock Res**	**1.25**	**200**		Pn	08 54 24.9	-1.4
LEOC	**Leona Valley**	**1.26**	**212**		Pn	08 54 25.0	-1.6
DSCC	**Desert Studies**	**1.27**	**116**		Pn	08 54 24.6	-2.1
HOLC	**Holcomb Ridge**	**1.27**	**193**		Pn	08 54 25.2	-1.6
CJV	**Casa Juvan**	**1.28**	**204**		Pn	08 54 26.5	-0.4
GRAC	**Grapevine Rang**	**1.29**	**5**		Pn	08 54 26.1	-0.9
GRAC				IAML		08 54 55.0	
	comp=E,449nm,0.7s						
HEC	**Hector,Ludlow**	**1.29**	**132**		Pn	08 54 25.3	-1.8
VES	**Vestal, Richgr**	**1.29**	**277**		Pn	08 54 26.3	-0.7
WCT	**Wildcat Mounta**	**1.30**	**33**		Pn	08 54 25.6	-1.5
WCT				IAML		08 54 45.3	
	comp=N,211nm,0.4s						
WCT				IAML		08 54 46.6	
	comp=E,254nm,0.5s						
JNH	**Juniper Hills**	**1.31**	**197**		Pn	08 54 25.7	-1.6
TUQ	**Turquoise Moun**	**1.31**	**101**		Pn	08 54 25.5	-1.9
SGV	**South Grapevin**	**1.33**	**16**		Pn	08 54 26.4	-1.3
CHFC	**Chilao Flat St**	**1.43**	**198**		Pn	08 54 27.8	-1.3
SIL	**Silver Peak**	**1.46**	**158**		Pn	08 54 29.5	0.0
BFSC	**Mount Baldy Ra**	**1.47**	**185**		Pn	08 54 28.3	-1.2
OSI	**Osito Audit: C**	**1.48**	**223**		Pn	08 54 28.4	-1.1
SSK	**Sunset Peak**	**1.50**	**186**		Pn	08 54 28.8	-1.1
BBRC	**Big Bear Solar**	**1.52**	**161**		Pn	08 54 30.4	+0.2
LCH	**Last Change Ra**	**1.53**	**356**		Pn	08 54 29.4	-1.0
PDE	**Pardee, Santa**	**1.54**	**215**		Pb	08 54 31.4	+0.1
MWC	**Mount Wilson**	**1.55**	**197**		Pn	08 54 29.7	-0.9
DECC	**Green Verdugo**	**1.60**	**205**		Pb	08 54 32.5	+0.2
TPNV	**Topopah Spring**	**1.60**	**39**		Pn	08 54 30.4	-1.0
TPNV				IAML		08 54 57.6	
	comp=E,215nm,0.5s						
TPNV				IAML		08 54 58.0	
	comp=E,249nm,0.6s						
MTPC	**Mountain Pass**	**1.60**	**97**		Pn	08 54 29.7	-1.7
GMN	**Gold Mountain**	**1.60**	**7**		Pn	08 54 30.4	-1.1
GMN				IAML		08 54 56.8	
	comp=N,152nm,0.5s						
SVD	**Seven Oaks Dam**	**1.63**	**168**		Pb	08 54 32.9	0.0
PASC	**Pasadena Art C**	**1.63**	**200**		Pn	08 54 30.4	-1.2
PASC				IAML		08 54 59.3	
	comp=E,212nm,0.7s						
PASC				IAML		08 55 00.3	
	comp=N,124nm,0.7s						
OAT	**Oat Mountain**	**1.64**	**214**		Pg	08 54 33.7	-0.2
VOG	**Valley Oaks Go**	**1.64**	**293**		Pn	08 54 32.3	+0.6
GTM	**Goat Mountain**	**1.69**	**146**		Pb	08 54 33.4	-0.6
DSP	**Deep Springs**	**1.71**	**347**		Pn	08 54 31.8	-0.8
DSP				IAML		08 54 57.5	
	comp=E,140nm,0.4s						
DSP				IAML		08 54 57.6	
	comp=N,126nm,0.6s						
BCW	**Bitter Crk WRg**	**1.74**	**245**		Pn	08 54 31.7	-1.5
BCW				IAML		08 55 15.8	
	comp=E,285nm,0.9s						
BLCC	**Black Canyon**	**1.75**	**214**		Pb	08 54 34.6	-0.2
POCCA	**Poleta Canyon**	**1.77**	**340**		Pb	08 54 35.0	-0.4
DJJ	**Donna J Jenkin**	**1.78**	**206**		Pb	08 54 35.4	+0.1
BHPR	**Bishop**	**1.78**	**334**		Pb	08 54 35.7	+0.1
PEC	**Perris**	**1.83**	**171**		Pn	08 54 33.6	-0.8
MTUM	**Tungsten Hills**	**1.85**	**333**		Pb	08 54 36.9	0.0
BLAC	**Blackrock camp**	**1.87**	**150**		Pb	08 54 37.1	+0.1
EW2	**E Wide Canyon**	**1.98**	**153**		Pn	08 54 35.2	-1.2
TPC	**Twentynine Pal**	**1.99**	**143**		Pn	08 54 35.1	-1.6
MZP	**Montezuma Peak**	**2.00**	**3**		Pn	08 54 36.1	-0.8
HMTC	**Hemet**	**2.03**	**168**		Pn	08 54 36.2	-1.0
DANC	**Danby, Needles**	**2.04**	**121**		Pb	08 54 39.7	-0.1
ELS	**Elsinore Mount**	**2.05**	**178**		Pn	08 54 36.2	-1.2
ELS				IAML		08 55 13.6	
	comp=E,149nm,0.6s						
ELS				IAML		08 55 14.5	
	comp=N,114nm,0.5s						
SHPR	**Sheep Range**	**2.06**	**66**		Pn	08 54 37.0	-0.6
POB	**Polly Butte**	**2.07**	**166**		Pn	08 54 36.9	-0.8
DGR	**Domenigoni Val**	**2.09**	**169**		Pn	08 54 37.0	-0.9
MURC	**Murrieta**	**2.11**	**173**		Pn	08 54 37.4	-0.9
BACC	**Bachelor Mtn.**	**2.12**	**170**		Pn	08 54 37.4	-1.0
V12A	**Nelson**	**2.16**	**89**		Pn	08 54 37.3	-1.6
V12A				IAML		08 55 13.2	
	comp=N,112nm,1.0s						
V12A				IAML		08 55 16.7	
	comp=E,89nm,0.5s						
KCC	**Kaiser Creek**	**2.18**	**318**		Pb	08 54 42.2	-0.1
MLAC	**Mammoth, Mammo**	**2.20**	**331**		Pb	08 54 43.2	+0.5
CRY	**Cary Ranch**	**2.23**	**163**		Pn	08 54 39.1	-0.8
PMD	**Palm Desert**	**2.25**	**155**		Pn	08 54 38.6	-1.5
PFO	**Pinyon Flats O**	**2.26**	**157**		Pn	08 54 38.8	-1.5
PFO				IAML		08 55 16.6	
	comp=E,101nm,0.7s						
FRD	**Ford Ranch, An**	**2.33**	**161**		Pn	08 54 40.4	-0.8
TPH	**Tonopah**	**2.38**	**5**		Pn	08 54 41.2	-0.8
PLM	**Palomar**	**2.40**	**167**		Pn	08 54 41.6	-0.8
CIAC	**Catalina I. Ai**	**2.42**	**198**		Pn	08 54 41.3	-1.1
CTW	**Cottonwood Mou**	**2.43**	**146**		Pn	08 54 41.1	-1.5
PRN	**Pahroc Range**	**2.60**	**49**		Pn	08 54 44.2	-1.0
PRN				IAML		08 55 28.2	
	comp=E,131nm,0.8s						
PRN				IAML		08 55 29.0	
	comp=N,109nm,0.5s						
LHV	**Little Huntoon**	**2.67**	**343**		Pn	08 54 45.8	0.0
LHV				IAML		08 55 30.5	
	comp=E,70nm,0.6s						
LHV				IAML		08 55 30.8	
	comp=N,74nm,0.7s						
NV11	**Mina Array Sit**	**2.77**	**349**		Pn	08 54 46.9	-0.5
NVAR	**Mina Array Bea**	**2.79**	**347**		Pn	08 54 47.1	-0.7
W13A	**Hualapai Mount**	**3.02**	**100**		Pn	08 54 49.4	-1.5
W13A				IAML		08 55 41.1	
	comp=N,39nm,1.0s						
RYN	**Ryan**	**3.03**	**345**		Pn	08 54 50.4	-0.6
BLYC	**Blythe**	**3.13**	**128**		Pn	08 54 49.9	-2.3
BLYC				IAML		08 55 44.3	
	comp=E,46nm,0.3s						
BLYC				IAML		08 55 44.9	
	comp=N,52nm,0.5s						
YUH	**Yuha Desert**	**3.32**	**156**		Pn	08 54 52.5	-2.3
YUH				IAML		08 55 49.0	
	comp=N,25nm,0.7s						
SAO	**San Andreas Ge**	**3.36**	**290**		Pn	08 54 54.8	-0.6
GLA	**Glamis**	**3.45**	**139**		Pn	08 54 55.0	-1.6
LCMT	**Little Creek M**	**3.68**	**68**		Pn	08 54 59.6	-0.2
CCUT	**Cedar City**	**3.81**	**60**		Pn	08 55 02.1	+0.4
ESJX	**Sierra Juarez**	**3.91**	**160**		Pn	08 55 01.6	-1.5
ESJX				IAML		08 56 08.2	
	comp=E,35nm,0.5s						
ESJX				IAML		08 56 08.3	
	comp=N,20nm,0.9s						
KNB	**Kanab**	**4.00**	**70**		Pn	08 55 03.8	-0.6
KNB				IAML		08 56 12.0	
	comp=E,16nm,1.1s						
KNB				IAML		08 56 17.4	
	comp=N,14nm,1.6s						
PSUT	**Pine Spring**	**4.06**	**45**		Pn	08 55 05.7	+0.5
PSUT				IAML		08 56 15.3	
	comp=N,18nm,0.7s						
PSUT				IAML		08 56 17.9	
	comp=E,14nm,1.9s						
Y14A	**Wickenburg**	**4.10**	**114**		Pn	08 55 03.8	-1.8
Y14A				IAML		08 56 17.6	
	comp=N,32nm,0.6s						
WUAZ	**Wupatki**	**5.00**	**90**		Pn	08 55 17.7	-0.4
WUAZ				IAML		08 56 40.9	
	comp=N,16nm,1.7s						
X16A	**Lo Mia Camp, P**	**5.13**	**103**		Pn	08 55 19.7	-0.2
ELK	**Elko**	**5.34**	**19**	Pn	Pn	08 55 22.5	-0.3
X18A	**Snowflake**	**6.30**	**99**		Pn	08 55 35.0	-1.0
TUC	**Tucson**	**6.53**	**119**		Pn	08 55 37.5	-1.4
PV19	**Morning Glory**	**7.29**	**67**		Pn	08 55 48.5	-1.2

*ASRS **05** 09:05:03.0±1.0, 54°.19N×87°.06E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 09:05:03.6±3.4, 54°.29N×87°.47E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=26.9km s-min=18.1km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.60**	**259**	I	I	09 13 50.0	
	baz=78,slow=320,SNR=3.3						
ZALV	**Zalesovo Beam**	**1.60**	**259**	Pg	Pn	09 05 30.9	-2.2
	1.3nm,0.3s,baz=78,slow=

833A	**Chaparral WMA,**	**11.15**	**29**		**Pn**	**09 10 51.5**	**+0.7**
KVTX	**Kingsville**	**11.30**	**37**	Pn	**Pn**	**09 10 53.4**	**+0.6**
SAND	**Sanderson**	**11.68**	**15**	Pn	**Pn**	**09 10 59.9**	**+1.8**
OZNA	**Ozona**	**12.86**	**17**		**Pn**	**09 11 15.5**	**+1.3**
JCT	**Junction City**	**12.88**	**23**	Pn	**Pn**	**09 11 14.7**	**+0.2**
319A	**Douglas**	**13.12**	**346**	Pn	**Pn**	**09 11 18.6**	**+0.8**
BRDY	**Brady**	**13.90**	**24**	Pn	**Pn**	**09 11 29.4**	**+1.0**
POST	**Post**	**14.81**	**13**	Pn	**Pn**	**09 11 40.9**	**0.0**
ABTX	**Abilene, Hawle**	**14.89**	**20**	Pn	**Pn**	**09 11 42.3**	**+0.3**
SN07	**Snyder 07**	**14.97**	**15**	Pn	**Pn**	**09 11 44.5**	**+1.4**
HNVL	**Huntsville, TX**	**15.12**	**35**	Pn	**Pn**	**09 11 46.3**	**+1.3**
WHTX	**Lake Whitney,**	**15.15**	**27**	Pn	**Pn**	**09 11 45.8**	**+0.4**
APMT	**Aspermont**	**15.40**	**17**	Pn	**Pn**	**09 11 50.3**	**+1.5**
APMT				IAmb	IAmb	09 11 57.8	
	comp=Z,4.2nm,0.6s						
MSTX	**Muleshoe**	**15.46**	**9**	Pn	**Pn**	**09 11 50.6**	**+1.1**
BNM	**Barren Site**	**15.47**	**357**	Pn	**Pn**	**09 11 51.5**	**+1.6**
FW13	**Cleburne**	**15.47**	**27**	Pn	**Pn**	**09 11 49.8**	**+0.2**
DKNS	**Dickens**	**15.51**	**14**		**Pn**	**09 11 51.0**	**+0.7**
PLPT	**Palo Pinto**	**15.52**	**23**		**Pn**	**09 11 51.3**	**+1.0**
PLPT				IAmb	IAmb	09 11 56.9	
	comp=Z,16nm,0.9s						
FW07	**Weatherford**	**15.63**	**25**		**Pn**	**09 11 53.4**	**+1.6**
FW07				IAmb	IAmb	09 11 58.1	
	comp=Z,16nm,0.8s						
FW03	**Perrin-Whitt E**	**15.82**	**24**		**Pn**	**09 11 55.4**	**+1.2**
FW03				IAmb	IAmb	09 12 01.4	
	comp=Z,12nm,0.6s						
X18A	**Snowflake**	**16.30**	**347**	Pn	**Pn**	**09 12 01.3**	**+0.7**
WTFS	**Witchita Falls**	**16.33**	**21**		**Pn**	**09 12 02.2**	**+1.4**
WTFS				IAmb	IAmb	09 12 07.2	
	comp=Z,20nm,0.7s						
TREL	**Terrell**	**16.39**	**29**	Pn	**Pn**	**09 12 02.3**	**+0.8**
Z35A	**Perchaven, San**	**16.39**	**25**		**Pn**	**09 12 03.1**	**+1.5**
441A	**DeRidder**	**16.44**	**41**	Pn	**Pn**	**09 12 02.3**	**+0.1**
AMTX	**Amarillo**	**16.53**	**11**		**Pn**	**09 12 04.7**	**+1.3**
AMTX				IAmb	IAmb	09 12 09.1	
	comp=Z,11nm,0.9s						
X16A	**Lo Mia Camp, P**	**16.57**	**343**	Pn	**Pn**	**09 12 05.4**	**+1.4**
GLA	**Glamis**	**16.59**	**332**	Pn	**Pn**	**09 12 05.1**	**+0.9**
GLA				IAmb	IAmb	09 12 33.8	
	comp=Z,8.0nm,0.7s						
CBX	**Cerro Bola**	**16.90**	**326**	Pn	**Pn**	**09 12 09.0**	**+0.9**
CBX				IAmb	IAmb	09 12 37.4	
	comp=Z,33nm,1.5s						
BLYC	**Blythe**	**17.05**	**334**	Pn	**Pn**	**09 12 10.3**	**+0.3**
WMOK	**Wichita Mounta**	**17.11**	**19**	Pn	**Pn**	**09 12 11.1**	**+0.4**
X34A	**Smith Ranch, M**	**17.30**	**22**		**Pn**	**09 12 13.9**	**+0.8**
X34A				IAmb	IAmb	09 12 17.9	
	comp=Z,20nm,1.0s						
RTBA	**Rita Blanca**	**17.89**	**7**	P	**Pn**	**09 12 21.8**	**+1.3**
OKCSW	**OKLAHOMA CITY**	**18.17**	**22**	P	**Pn**	**09 12 24.9**	**+1.1**
OKCSW				IAmb	IAmb	09 12 47.5	
	comp=Z,34nm,1.4s						
T25A	**Trinidad**	**18.45**	**3**		**P**	**09 12 27.2**	**-0.2**
Z41A	**Richland Creek**	**18.48**	**36**	P	**P**	**09 12 26.6**	**-1.0**
Z41A				IAmb	IAmb	09 12 29.1	
	comp=Z,8.0nm,0.7s						
OK029	**Liberty Lake**	**18.52**	**21**	P	**P**	**09 12 27.7**	**-0.3**
OK029				IAmb	IAmb	09 12 31.1	
	comp=Z,11nm,0.7s						
CRIN	**San Cristobal**	**18.74**	**106**	P	**P**	**09 12 30.6**	**0.0**
DEOK	**Depew**	**18.90**	**23**		**P**	**09 12 32.9**	**+0.8**
DEOK				IAmb	IAmb	09 12 35.4	
	comp=Z,12nm,0.9s						
OK052	**Battle Ridge R**	**18.92**	**22**	P	**P**	**09 12 33.0**	**+0.6**
OK052				IAmb	IAmb	09 12 37.6	
	comp=Z,14nm,0.8s						
SDCO	**Great Sand Dun**	**19.03**	**0**	P	**P**	**09 12 34.1**	**+0.3**
MIAR	**Mount Ida**	**19.08**	**32**	P	**P**	**09 12 33.5**	**-0.6**
TUL3	**Leonard**	**19.23**	**25**		**P**	**09 12 36.4**	**+0.6**
PV01	**Paradox Valley**	**19.60**	**353**	P	**P**	**09 12 40.0**	**0.0**
KAN01	**Argonia South**	**19.66**	**19**	P	**P**	**09 12 41.7**	**+1.3**
KAN01				IAmb	IAmb	09 12 42.1	
	comp=Z,12nm,0.9s						
PV02	**Paradox Valley**	**19.69**	**352**	P	**P**	**09 12 40.6**	**-0.5**
PV02				IAmb	IAmb	09 12 49.9	
	comp=Z,8.0nm,1.1s						
PV03	**Paradox Valley**	**19.75**	**352**	P	**P**	**09 12 42.0**	**+0.4**
PV18	**Skein Mesa, Pa**	**19.75**	**352**	P	**P**	**09 12 41.5**	**-0.2**
RLO	**Rose Lookout**	**19.76**	**26**	P	**P**	**09 12 42.1**	**+0.5**
PV15	**Paradox Valley**	**19.79**	**353**	P	**P**	**09 12 42.7**	**+0.5**
PV19	**Morning Glory**	**19.82**	**352**	P	**P**	**09 12 43.6**	**+1.1**
PV20	**West Nyswonger**	**19.85**	**352**	P	**P**	**09 12 42.7**	**0.0**
PV20				IAmb	IAmb	09 13 06.7	
	comp=Z,8.6nm,1.3s						
T35A	**Sooner Cattle**	**19.85**	**22**	P	**P**	**09 12 43.0**	**+0.5**
T35A				IAmb	IAmb	09 12 44.7	
	comp=Z,19nm,1.2s						
PV07	**Paradox Valley**	**19.91**	**353**	P	**P**	**09 12 42.2**	**-1.1**
PV22	**Blue Mesa, Par**	**20.02**	**353**	P	**P**	**09 12 45.5**	**+0.8**
U38A	**Gravette**	**20.26**	**27**	P	**P**	**09 12 47.4**	**+0.4**
U38A				IAmb	IAmb	09 12 48.3	
	comp=Z,8.6nm,0.7s						
HHAR	**Hobbs**	**20.32**	**28**	P	**P**	**09 12 48.1**	**+0.4**
HHAR				IAmb	IAmb	09 12 49.0	
	comp=Z,11nm,0.8s						
R32A	**Long Quarter,**	**20.58**	**15**		**P**	**09 12 51.0**	**+0.5**
CBKS	**Cedar Bluff**	**20.72**	**13**	P	**P**	**09 12 53.1**	**+1.1**
CBKS				IAmb	IAmb	09 12 58.5	
	comp=Z,13nm,0.8s						
Y45A	**Yeager Farm, C**	**20.82**	**40**		**P**	**09 12 54.1**	**+1.0**
Y45A				IAmb	IAmb	09 12 54.7	
	comp=Z,13nm,0.7s						
FCAR	**Ozark Folk Cen**	**20.86**	**32**	P	**P**	**09 12 54.5**	**+0.9**
FCAR				IAmb	IAmb	09 12 54.8	
	comp=Z,5.9nm,1.0s						
ISCO	**Idaho Springs**	**21.08**	**360**		**P**	**09 12 57.6**	**+1.4**
TMUT	**Trail Mountain**	**21.16**	**348**		**P**	**09 12 57.5**	**+0.4**
Z47A	**Carrollton**	**21.32**	**44**		**P**	**09 12 59.3**	**+0.8**
Z47A				IAmb	IAmb	09 13 03.0	
	comp=Z,8.4nm,0.7s						
LCAR	**Lake Charles**	**21.50**	**33**	IAmb	IAmb	09 13 05.9	
	comp=Z,6.3nm,0.9s						
O20A	**White River Ci**	**21.54**	**354**	P	**P**	**09 12 59.7**	**-1.3**
250A	**Grady**	**21.85**	**49**	IAmb	IAmb	09 13 05.9	
	comp=Z,16nm,1.3s						
R40A	**Maddies Statio**	**22.73**	**28**	IAmb	IAmb	09 13 16.2	
	comp=Z,4.5nm,0.7s						
Y49A	**Blount Mountai**	**22.82**	**45**	IAmb	IAmb	09 13 21.4	
	comp=Z,6.0nm,1.0s						
CCM	**Cathedral Cave**	**23.01**	**30**	P	**P**	**09 13 15.8**	**-0.8**
CCM				IAmb	IAmb	09 13 18.6	
	comp=Z,4.5nm,0.8s						
P38A	**Dawn**	**23.34**	**24**		**P**	**09 13 19.9**	**0.0**
P38A				IAmb	IAmb	09 13 26.9	
	comp=Z,4.0nm,0.9s						
FPAL	**Fort Paine**	**23.76**	**44**	P	**P**	**09 13 23.5**	**-0.7**
FPAL				IAmb	IAmb	09 13 25.6	
	comp=Z,4.9nm,1.1s						
P40A	**Paris**	**23.86**	**26**		**P**	**09 13 24.9**	**-0.1**
P40A				IAmb	IAmb	09 13 27.5	
	comp=Z,5.6nm,0.7s						
CLTN	**Cedars of Leba**	**24.27**	**40**	IAmb	IAmb	09 13 30.5	
	comp=Z,4.2nm,1.1s						
X51A	**Calhoun**	**24.27**	**45**	IAmb	IAmb	09 13 29.5	
	comp=Z,6.2nm,0.8s						
W50A	**Signal Mountai**	**24.35**	**43**	P	**P**	**09 13 29.5**	**-0.3**
T47A	**Sharon Grove**	**24.40**	**38**		**P**	**09 13 30.4**	**+0.2**
T47A				IAmb	IAmb	09 13 31.0	
	comp=Z,7.1nm,1.1s						
CPCT	**Cooper Cave**	**25.02**	**44**		**P**	**09 13 35.9**	**+0.2**
CPCT				IAmb	IAmb	09 13 36.7	
	comp=Z,5.4nm,1.1s						
P43A	**Skaggs, Pawnee**	**25.08**	**30**	P	**P**	**09 13 35.9**	**-0.3**
OLIL	**Olney**	**25.10**	**34**	P	**P**	**09 13 37.5**	**+1.1**
OLIL				IAmb	IAmb	09 13 38.1	
	comp=Z,3.9nm,0.6s						
SNOW	**Snow King Moun**	**25.13**	**351**	P	**P**	**09 13 36.7**	**-0.2**
SNOW				IAmb	IAmb	09 13 49.0	
	comp=Z,3.6nm,1.0s						
W52A	**Murphy**	**25.20**	**45**	P	**P**	**09 13 37.9**	**+0.5**
W52A				IAmb	IAmb	09 13 39.6	
	comp=Z,4.3nm,0.8s						
N41A	**Harden Midland**	**25.34**	**27**	P	**P**	**09 13 39.0**	**+0.4**
TKL	**Tuckaleechee C**	**25.63**	**44**	P	**P**	**09 13 39.8**	**-1.5**
TKL				IAmb	IAmb	09 13 42.8	
	comp=Z,3.3nm,0.8s						
BG3	**Lake Jocassee**	**25.82**	**46**	P	**P**	**09 13 43.0**	**-0.1**
HODGE	**Hodges**	**25.89**	**49**	P	**P**	**09 13 43.6**	**0.0**
HODGE				IAmb	IAmb	09 13 46.4	
	comp=Z,4.5nm,0.9s						
V53A	**Saluda**	**26.28**	**45**	P	**P**	**09 13 46.2**	**-1.1**
V53A				IAmb	IAmb	09 13 48.4	
	comp=Z,4.0nm,0.9s						
L40A	**Anamosa**	**26.33**	**25**	P	**P**	**09 13 49.3**	**+1.8**
L40A				IAmb	IAmb	09 13 50.4	
	comp=Z,5.9nm,0.7s						
PAULI	**Pauline**	**26.51**	**48**	P	**P**	**09 13 49.8**	**+0.6**
EYMN	**Ely**	**31.38**	**18**		**P**	**09 14 32.4**	**-0.1**
GBN	**Guysborough**	**45.10**	**44**	P	**P**	**09 16 28.0**	**+0.1**
S31K	**Pelican**	**45.29**	**337**	P	**P**	**09 16 28.6**	**-0.7**
P33M	**Teslin, Yukon**	**45.88**	**341**	P	**P**	**09 16 34.7**	**+0.7**
P33M				IAmb	IAmb	09 16 36.3	
	comp=Z,3.6nm,1.5s						
ILON	**Igloolik, Nuna**	**52.78**	**10**	P	**P**	**09 17 26.5**	**+0.1**
ILON				IAmb	IAmb	09 17 27.1	
	comp=Z,2.9nm,0.9s						
F28M	**Old Crow**	**53.60**	**344**	P	**P**	**09 17 32.8**	**+0.3**
F28M				IAmb	IAmb	09 17 35.7	
	comp=Z,5.0nm,1.4s						

*IDC **05** 09:20:17.2±13.0, 21.61N×142.95E, h340km±122km, mb3.2/6, mbtmp3.9/6, Error ellipse: s-maj=146.7km s-min=20.4km az=78.0*

ISC 05 09:20:14.0±2.6, 21.6N±0.2×143.1E±0.8, h311km, n6, σ0s56/6, mb3.9/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.52**	**324**	P	**P**	**P**	**09 24 29.6**	**+0.3**
	0.6nm,0.5s,baz=148,slow=7.8,SNR=4.3							
	0.6nm,0.5s							
WRA	**Warramunga Arr**	**42.20**	**192**	P		**P**	**09 27 37.3**	**+0.1**
	0.5nm,1.0s,baz=14,slow=7.4,SNR=7.0							
	0.5nm,1.0s							
KURBB	**Kurchatov Arra**	**57.52**	**317**	P		**P**	**09 29 31.1**	**-0.3**
	0.5nm,0.4s,baz=96,slow=7.5,SNR=4.0							
	0.5nm,0.4s							
BVAR	**Borovoye Array**	**62.67**	**320**	P		**P**	**09 30 06.3**	**+0.3**
	1.0nm,0.3s,baz=99,slow=8.4,SNR=4.2							
	1.0nm,0.3s							
ARCES	**ARCESS Array B**	**78.96**	**341**	P		**P**	**09 31 43.5**	**+0.3**
	3.6nm,1.0s,baz=56,slow=5.7,SNR=1.9							
	3.6nm,1.0s							
FINES	**FINESS Array B**	**83.21**	**334**	P		**P**	**09 32 04.8**	**-0.8**
	2.8nm,1.0s,baz=55,slow=4.7,SNR=5.1							
	2.8nm,1.0s							

ASRS 05 09:24:42.0±0.7, 54.31N×87.08E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

ASRS 05 09:24:58.0±0.7, 54.12N×86.43E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*NOU **05** 09:29:40.0, 35.99S×176.40E, h420km, mb4.0/5, Off E. Coast of N. Island, N.Z.*
*WEL **05** 09:30:12.2±0.8, 38.8°S×17.6°E±, h186km, M2.2/5, MLv2.2/5, Error ellipse: s-maj=12.6km s-min=8.9km az=118.9, confirmed*

ISC 05 09:30:12.4±3.6, 37.8S±0.1×176.19E±0.09, h189km±24km, n25, σ0s47/28, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PRRZ	**Plateau Road**	**0.69**	**167**	P		**Pn**	**09 30 39.4**	**+0.3**
MUGZ	**Murupara**	**0.79**	**145**	P		**Pn**	**09 30 39.6**	**-0.1**
URZ	**Urewera**	**0.84**	**121**	P		**Pn**	**09 30 39.9**	**0.0**
URZ	**Urewera**	**0.84**	**121**	P		**Pn**	**09 30 39.8**	**-0.2**
MRHZ	**Matea Rd**	**1.02**	**170**	P		**Pn**	**09 30 40.9**	**-0.3**
MRHZ				S		**Sn**	**09 31 03.5**	**-0.2**
MTHZ	**Maungataniwha**	**1.14**	**154**	P		**Pn**	**09 30 41.9**	**-0.2**
MTHZ				S		**Sn**	**09 31 05.3**	**+0.1**
MWZ	**Matawai**	**1.17**	**116**	P		**Pn**	**09 30 42.2**	**-0.2**
RUGZ	**Raukumara Rang**	**1.18**	**97**	P		**Pn**	**09 30 41.6**	**-0.9**
HIZ	**Hauiti**	**1.26**	**237**	P		**Pn**	**09 30 43.2**	**+0.2**
HIZ	**Hauiti**	**1.26**	**237**	P		**Pn**	**09 30 43.1**	**+0.2**
HAZ	**Te Kaha**	**1.26**	**87**	S		**Sn**	**09 31 06.8**	**+0.1**
RAHZ	**Arahi**	**1.29**	**147**	P		**Pn**	**09 30 43.5**	**+0.2**
RAHZ				S		**Sn**	**09 31 08.2**	**+0.7**
SNGZ	**Shannon Statio**	**1.31**	**137**	P		**Pn**	**09 30 43.6**	**+0.1**
NMHZ	**Naumai**	**1.36**	**159**	P		**Pn**	**09 30 44.3**	**+0.4**
NMHZ				S		**Sn**	**09 31 09.7**	**+1.2**
BKZ	**Black Stump Fm**	**1.36**	**170**	P		**Pn**	**09 30 43.2**	**-0.7**
BKZ				S		**Sn**	**09 31 07.7**	**-0.8**
TKGZ	**Te Karaka**	**1.44**	**116**	P		**Pn**	**09 30 44.6**	**0.0**
TWGZ	**Tauwhareparae**	**1.46**	**104**	P		**Pn**	**09 30 44.9**	**+0.2**
PKGZ	**Pakihiroa**	**1.50**	**92**	P		**Pn**	**09 30 44.9**	**-0.2**
RIGZ	**Rimuhau**	**1.52**	**126**	P		**Pn**	**09 30 45.4**	**+0.1**
KWHZ	**Kaweka Forest**	**1.60**	**174**	P		**Pn**	**09 30 45.8**	**-0.3**
KWHZ				S		**Sn**	**09 31 11.9**	**-0.6**
MCHZ	**McNeill Hill**	**1.66**	**166**	P		**Pn**	**09 30 46.5**	**-0.1**
CNGZ	**Carnagh Statio**	**1.72**	**113**	P		**Pn**	**09 30 47.5**	**+0.4**
QRZ	**Quartz Range**	**4.13**	**222**	P		Pn	09 31 10.1	-5.2
KHZ	**Kahutara**	**5.01**	**203**	P		Pn	09 31 21.7	-4.9
RPZ	**Rata Peaks**	**7.05**	**212**	P		Pn	09 31 43.4	-10

*IDC **05** 09:31:16.8±5.1, 5.07S×144.87E, h86km±42km, mb3.5/8, mbtmp3.9/10, Error ellipse: s-maj=42.6km s-min=19.3km az=86.0*

ISC 05 09:31:12.5±1.0, 5.1S±0.1×145.2E±0.1, h54km, n10, σ1s60/11, mb3.7/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**5.21**	**300**	P		**Pn**	**09 32 28.2**	**+0.2**
	3.3nm,0.3s,baz=145,slow=5.2,SNR=9.1							
JAY				S		**Sn**	**09 33 28.9**	**+2.1**
	11nm,0.6s,baz=350,slow=5.6,SNR=3.5							
WRA	**Warramunga Arr**	**18.16**	**215**	P		**Pn**	**09 35 21.3**	**+0.2**
	2.5nm,0.7s,baz=40,slow=12,SNR=34							
ASAR	**Alice Springs**	**21.44**	**210**	P		**P**	**09 35 56.9**	**+0.4**
	2.1nm,0.9s,baz=35,slow=11,SNR=24							
	2.1nm,0.9s							
FITZ	**Fitzroy Crossi**	**23.10**	**234**	P		**P**	**09 36 10.9**	**-3.0**
	2.0nm,0.5s,baz=50,slow=11,SNR=7.3							
	2.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**51.29**	**298**	P		**P**	**09 40 10.2**	**-1.3**
	1.5nm,0.6s,baz=115,slow=7.7,SNR=5.4							
	1.5nm,0.6s							
VNDA	**Vanda**	**72.90**	**176**	P		**P**	**09 42 37.4**	**+1.9**
	0.5nm,0.5s,baz=330,slow=7.0,SNR=6.1							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**75.70**	**321**	P		**P**	**09 42 51.7**	**-0.7**
	0.2nm,0.5s,baz=104,slow=6.1,SNR=2.2							
	0.2nm,0.5s							
QSPA	**South Pole Qui**	**84.85**	**180**	P		**P**	**09 43 42.0**	**+0.7**
	1.0nm,0.6s,baz=314,slow=1.1,SNR=8.3							
	1.0nm,0.6s							
BVAR	**Borovoye Array**	**85.02**	**324**	P		**P**	**09 43 42.2**	**-0.1**
	0.9nm,0.5s,baz=110,slow=5.7,SNR=5.1							
	0.9nm,0.5s							
ILAR	**Eielson Array**	**85.36**	**23**	P		**P**	**09 43 43.5**	**-0.2**
	0.4nm,0.7s,baz=246,slow=5.1,SNR=5.9							
	0.4nm,0.7s							

*IDC **05** 09:33:53.8±3.4, 54.19N×87.43E, h0km, mbtmp2.5/2, ML2.0/2, Error ellipse: s-maj=27.8km s-min=19.2km az=50.0*

ASRS 05 09:33:52.0±1.2, 54.14N×87.11E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.36**	**263**	I		I	09 43 00.0	
	0.1nm,0.7s,baz=81,slow=320,SNR=22							
ZALV	**Zalesovo Beam**	**1.36**	**263**	Pg		Pb	09 34 20.7	+2.3
	1.3nm,0.3s,baz=83,slow=18,SNR=12							
ZALV				Lg		Lg	09 34 44.2	
	0.8nm,0.3s,baz=83,slow=26,SNR=6.7							
KURBB	**Kurchatov Arra**	**6.32**	**240**	Pn		Pn	09 35 31.0	+4.6
	baz=58,slow=14,SNR=2.6							
KURBB				Lg		Lg	09 37 19.7	
	baz=56,slow=30,SNR=2.1							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**7.97**	**205**	Pn		Pn	09 35 54.3	+5.3
	baz=24,slow=14,SNR=2.1							
MKAR				Lg		Lg	09 38 13.3	
	baz=23,slow=31,SNR=4.0							
	0.1nm,0.4s							

*IDC **05** 09:35:04.9±0.6, 1.71N×126.63E, h0km, mb4.2/12, mbtmp4.2/14, ML4.2/2, MS3.1/2, Error ellipse: s-maj=36.0km s-min=11.4km az=75.0*
*NEIC **05** 09:35:06.3±0.8, 1.75N±0.08×126.54E±0.07, h10km±1km, mb4.5/26, Error ellipse: s-maj=14.8km s-min=10.1km az=39.0*
*DJA **05** 09:35:09.0±0.2, 2.7N×3.12°×126.6E±, h10km, M4.1/1, MLv4.3/14, MLv4.1/1*

ISC 05 09:35:11.2±0.4, 1.62N±0.05×126.48E±0.07, h47km, n81, σ1s50/84, mb4.4/28, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.22**	**133**			**Pn**	**09 35 30.3**	**-1.6**
TNTI	**Ternate**	**1.22**	**133**	P		**Pn**	**09 35 31.7**	**-0.2**
TNTI	**Ternate**	**1.22**	**133**	P		**Pn**	**09 35 31.5**	**-0.4**
SGSI	**Sangihe**	**2.26**	**335**	P		**Pn**	**09 35 45.0**	**-1.2**
KMSI	**Cibinong**	**2.70**	**247**	P		**Pn**	**09 35 52.3**	**+0.1**
SANI	**Sanana**	**3.68**	**188**	P		**Pn**	**09 36 06.4**	**+0.8**
SANI	**Sanana**	**3.68**	**188**	S		**Sn**	**09 36 46.5**	**-1.2**
SANI	**Sanana**	**3.68**	**188**	P		**Pn**	**09 36 06.0**	**+0.4**
LUWI	**Luwuk**	**4.55**	**235**			**Pn**	**09 36 16.8**	**-0.7**
LUWI	**Luwuk**	**4.55**	**235**	P		**Pn**	**09 36 18.9**	**+1.3**
MRSI	**Marisa**	**4.67**	**256**	P		**Pn**	**09 36 19.7**	**+0.4**
NLAI	**Namlea**	**4.87**	**173**	P		**Pn**	**09 36 23.3**	**+1.4**
AAI	**Ambon**	**5.54**	**162**	P		**Pn**	**09 36 33.7**	**+2.5**
TOLI2	**Tolitoli**	**5.71**	**265**			**Pn**	**09 36 31.4**	**-2.2**
TOLI2	**Tolitoli**	**5.71**	**265**	P		**Pn**	**09 36 33.0**	**-0.6**
MPSI	**Mapaga**	**6.70**	**259**	P		**Pn**	**09 36 47.8**	**+0.7**
FAKI	**Fak Fak**	**7.32**	**128**	Pn		**Pn**	**09 36 52.0**	**-3.6**
TTSI	**Tana Toraja**	**8.11**	**235**	P		**Pn**	**09 37 06.6**	**+0.2**
SPSI	**Sidrap Palu**	**8.70**	**230**	P		**Pn**	**09 37 16.0**	**+1.5**
MYLDM	**Lahad Datu**	**8.71**	**294**	Pn		**Pn**	**09 37 12.1**	**-2.6**
MYLDM	**Lahad Datu**	**8.71**	**294**	P		**Pn**	**09 37 17.1**	**+2.4**
KAPI	**Kappang**	**9.41**	**226**	Pn		**Pn**	**09 37 24.4**	**+0.1**
KAPI	**Kappang**	**9.41**	**226**	Pn		**Pn**	**09 37 26.0**	**+1.7**
	2.3nm,0.3s,baz=78,slow=1.3,SNR=6.5							
KAPI				Sn		**Sn**	**09 39 05.8**	**-3.0**
	baz=267,slow=22							
	10nm,0.5s							
KKM	**Kota Kinabalu**	**11.14**	**294**	Pn		**Pn**	**09 37 44.9**	**-3.1**
SBUM	**Sibu**	**14.27**	**274**	Pn		**Pn**	**09 38 28.8**	**-1.9**
JAY	**Jayapura**	**14.80**	**106**	LR		LR	09 44 08.5	
	comp=Z,76nm,18.5s,baz=262,slow=37							
MTN	**Manton Dam**	**15.09**	**162**	Pn		**Pn**	**09 38 40.2**	**-1.3**
MTN				IAmb		IAmb	09 38 47.9	
	comp=Z,14nm,0.8s							
KNRA	**Kununurra**	**17.33**	**173**			**Pn**	**09 39 09.5**	**-0.4**
KNRA				IAmb		IAmb	09 39 22.7	
	comp=Z,31nm,1.5s							
FITZ	**Fitzroy Crossi**	**19.61**	**182**	P		**P**	**09 39 35.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**19.61**	**182**	P		**P**	**09 39 34.9**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=2.6,slow=9.3,SNR=7.7							
	comp=Z,2.2nm,0.5s							
TPUB	**Ta-pu**	**22.29**	**346**	P		**P**	**09 40 02.6**	**-2.0**
TPUB	**Ta-pu**	**22.29**	**346**	P		**P**	**09 40 07.0**	**+2.3**
WB0	**Warramunga Arr**	**22.63**	**160**			**P**	**09 40 07.5**	**-0.9**
WB0				IAmb		IAmb	09 40 09.8	
	comp=Z,14nm,0.5s							
COEN	**Coen**	**22.66**	**134**	P		**P**	**09 40 07.9**	**-0.8**
COEN	**Coen**	**22.66**	**134**	P		**P**	**09 40 09.9**	**+1.2**
WRAB	**Tennant Creek**	**22.77**	**161**	P		**P**	**09 40 09.2**	**-0.6**
WRAB				IAmb		IAmb	09 40 11.2	
	comp=Z,14nm,0.8s							
WRA	**Warramunga Arr**	**22.77**	**161**	P		**P**	**09 40 07.8**	**-2.0**
WRA	**Warramunga Arr**	**22.77**	**161**	P		**P**	**09 40 08.8**	**-1.1**
	comp=Z,12nm,0.6s,baz=342,slow=11,SNR=76							
WRA				PcP		**PcP**	**09 44 01.1**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=324,slow=2.2,SNR=4.0							
WRA				S		**S**	**09 44 15.1**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=344,slow=16,SNR=3.6							
	comp=Z,12nm,0.6s							
WR8	**Warramunga Arr**	**22.84**	**160**			**P**	**09 40 10.1**	**-0.5**
WR8				IAmb		IAmb	09 40 13.2	
	comp=Z,12nm,0.5s							
MBWA	**Marble Bar**	**23.58**	**196**	P		**P**	**09 40 17.2**	**-0.6**
MBWA				IAmb		IAmb	09 40 58.2	
	comp=Z,29nm,1.4s							
MBWA	**Marble Bar**	**23.58**	**196**	P		**P**	**09 40 16.9**	**-0.9**
QIS	**Mount Isa**	**25.52**	**150**	P		**P**	**09 40 37.1**	**+1.5**
AS31	**

J17K					IAmb	IAmb	09 47 41.4		
	comp=Z,8.9nm,1.4s								
J18K	**Innoko River**	**82.67**	**26**	P	**P**		**09 47 28.7**	**-0.9**	
J18K					IAmb	IAmb	09 47 32.5		
	comp=Z,7.6nm,1.5s								
J19K	**Poorman**	**83.25**	**26**	P	**P**		**09 47 32.0**	**-0.5**	
J19K					IAmb	IAmb	09 47 36.3		
	comp=Z,3.2nm,1.0s								
IMAR	**Indian Mountai**	**84.36**	**24**	P	**P**		**09 47 37.6**	**-0.6**	
BMAR	**Burnt Mountain**	**88.11**	**23**	P	**P**		**09 47 55.9**	**-0.8**	
FINES	**FINESS Array B**	**93.56**	**332**	P	**P**		**09 48 24.2**	**+2.2**	
	comp=Z,1.4nm,0.7s,baz=48,slow=2.1,SNR=5.1								
	comp=Z,1.4nm,0.7s								
BURAR	**Bucovina Array**	**96.40**	**318**	P	**P**		**09 48 34.6**	**-0.9**	
BURAR					IAmb	IAmb	09 48 42.6		
	comp=Z,1.4nm,0.8s								

ASRS 05 09:39:20.0±1.1, 54˚21N×87˚07E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

ASRS 05 09:39:41.0±0.4, 53˚45N×87˚25E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*IDC **05** 09:40:49.7±0.9, 39˚29N×99˚57W, h0km, mbtmp3.5/5, ML3.4/5, Error ellipse: s-maj=13.3km s-min=10.0km az=103.0*
*NEIC **05** 09:40:50.0±1.1, 39˚28N±0˚03×99˚43W±0˚04, h4km±2km, mb_Lg3.1/145, Error ellipse: s-maj=5.1km s-min=4.4km az=143.0*

ISC 05 09:40:49.1±0.7, 39˚33N±0˚05×99˚41W±0˚05, h10km, n127, σ1§28/104, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CBKS	**Cedar Bluff**	**0.57**	**207**			**Pg**	**09 40 58.8**	**-1.4**
CBKS				Sg		**Sg**	**09 41 06.7**	**-1.1**
R32A	**Long Quarter,**	**1.05**	**149**	Pg		**Pg**	**09 41 08.2**	**-1.1**
R32A				Sg		**Sg**	**09 41 21.7**	**-1.4**
KSU1	**Kansas State U**	**2.19**	**95**	Pn		**Pn**	**09 41 27.3**	**+1.8**
KSU1						**Sn**	**09 41 55.8**	**+3.2**
BGNE	**Belgrade**	**2.29**	**24**	Pn		**Pn**	**09 41 29.7**	**+2.7**
KAN12	**Harper NE Stat**	**2.31**	**151**			**Pn**	**09 41 28.0**	**+0.8**
KAN08	**Anthony NE Sta**	**2.38**	**151**			**Pn**	**09 41 29.3**	**+1.1**
KAN08					IAmb_Lg		09 42 09.3	
	comp=Z,110nm,0.7s							
KSCO	**Kaye Shedlock'**	**2.52**	**264**	Pn		**Pn**	**09 41 31.1**	**+0.8**
KSCO					IAmb_Lg		09 42 15.6	
	comp=Z,102nm,0.7s							
KAN01	**Argonia South**	**2.53**	**149**	Pn		**Pn**	**09 41 30.5**	**+0.3**
OGNE	**Ogallala**	**2.58**	**310**	Pn		**Pn**	**09 41 31.7**	**+0.7**
KAN09	**Caldwell North**	**2.60**	**147**			**Pn**	**09 41 31.9**	**+0.7**
KAN17	**Caldwell West**	**2.62**	**150**			**Pn**	**09 41 32.2**	**+0.7**
KAN17					IAmb_Lg		09 42 17.3	
	comp=Z,89nm,0.8s							
KAN14	**Manchester OK**	**2.63**	**154**	Pn		**Pn**	**09 41 32.1**	**+0.5**
KAN14					IAmb_Lg		09 42 18.6	
	comp=Z,79nm,0.7s							
GC02	**Grant County #**	**2.76**	**153**			**Pn**	**09 41 34.4**	**+1.0**
KAN13	**South Haven SW**	**2.77**	**146**	Pn		**Pn**	**09 41 34.4**	**+0.9**
OK038	**West end E0370**	**2.89**	**169**			**Pn**	**09 41 35.9**	**+0.7**
CROK	**Carrier**	**3.03**	**158**			**Pn**	**09 41 38.9**	**+1.7**
ELIS	**Ellis County**	**3.26**	**180**	Pn		**Pn**	**09 41 41.1**	**+0.9**
N35A	**Tabor**	**3.27**	**61**	Pn		**Pn**	**09 41 40.3**	**-0.1**
T35A	**Sooner Cattle**	**3.32**	**136**			**Pn**	**09 41 41.6**	**+0.6**
T35A					IAmb_Lg		09 42 36.1	
	comp=Z,42nm,0.8s							
K30B	**Basset**	**3.35**	**357**	Pn		**Pn**	**09 41 42.7**	**+1.2**
OK051	**E0350 and S346**	**3.48**	**143**			**Pn**	**09 41 43.9**	**+0.7**
OK048	**Pawnee Station**	**3.50**	**145**	Pn		**Pn**	**09 41 44.3**	**+0.7**
L34A	**Svendsen Farm,**	**3.50**	**40**			**Pn**	**09 41 45.5**	**+1.9**
L34A					IAmb_Lg		09 42 41.7	
	comp=Z,61nm,0.9s							
CSTR	**Hydro, Custer**	**3.72**	**171**	Pn		**Pn**	**09 41 47.8**	**+1.2**
QUOK	**Quay**	**3.81**	**145**			**Pn**	**09 41 48.5**	**+0.8**
RTBA	**Rita Blanca**	**3.91**	**223**	Pn		**Pn**	**09 41 49.0**	**-0.3**
RTBA					IAmb_Lg		09 42 58.9	
	comp=Z,57nm,0.9s							
OK052	**Battle Ridge R**	**3.92**	**147**	Pn		**Pn**	**09 41 48.7**	**-0.6**
ADOK	**Arcadia Dam**	**4.01**	**156**	Pn		**Pn**	**09 41 50.0**	**-0.6**
DEOK	**Depew**	**4.18**	**145**	Pn		**Pn**	**09 41 53.2**	**+0.3**
DEOK					IAmb_Lg		09 43 12.3	
	comp=Z,29nm,0.9s							
OKCSW	**OKLAHOMA CITY**	**4.22**	**158**	Pn		**Pn**	**09 41 53.1**	**-0.4**
OKCSW					IAmb_Lg		09 43 13.7	
	comp=Z,65nm,0.7s							
SMWD	**Samnorwood**	**4.27**	**189**			**Pn**	**09 41 53.5**	**-0.7**
SMWD					IAmb_Lg		09 43 07.1	
	comp=Z,47nm,1.0s							
FNO	**Franklin**	**4.37**	**158**	Pn		**Pn**	**09 41 55.8**	**+0.3**
TUL3	**Leonard**	**4.46**	**139**			**Pn**	**09 41 55.5**	**-1.2**
TUL3					IAmb_Lg		09 43 17.1	
	comp=Z,63nm,0.7s							
Q24A	**Divide**	**4.48**	**267**	Pn		**Pn**	**09 41 57.9**	**+0.6**
Q24A					IAmb_Lg		09 43 13.1	
	comp=Z,40nm,0.8s							
T25A	**Trinidad**	**4.50**	**243**			**Pn**	**09 41 57.6**	**0.0**
P38A	**Dawn**	**4.56**	**84**	Pn		**Pn**	**09 41 59.7**	**+1.6**
P38A					IAmb_Lg		09 43 25.2	
	comp=Z,42nm,0.8s							
WMOK	**Wichita Mounta**	**4.61**	**174**			**Pn**	**09 41 59.3**	**+0.5**
WMOK					IAmb_Lg		09 43 16.0	
	comp=Z,30nm,0.7s							
RLO	**Rose Lookout**	**4.69**	**131**	Pn		**Pn**	**09 42 00.2**	**+0.2**
RLO					IAmb_Lg		09 43 20.1	
	comp=Z,31nm,0.8s							
AMTX	**Amarillo**	**4.79**	**203**			**Pn**	**09 42 01.4**	**0.0**
ISCO	**Idaho Springs**	**4.82**	**278**			**Pn**	**09 42 03.4**	**+1.4**
ECSD	**EROS Data Cent**	**4.88**	**25**			**Pn**	**09 42 05.0**	**+2.5**
ECSD					IAmb_Lg		09 43 24.9	
	comp=Z,41nm,1.0s							
X34A	**Smith Ranch, M**	**4.88**	**165**	Pn		**Pn**	**09 42 03.2**	**+0.6**
U38A	**Gravette**	**4.91**	**124**			**Pn**	**09 42 03.3**	**+0.4**
U38A					IAmb_Lg		09 43 35.5	
	comp=Z,30nm,0.8s							
SDCO	**Great Sand Dun**	**5.03**	**254**			**Pn**	**09 42 05.0**	**+0.2**
SDCO					IAmb_Lg		09 43 32.5	
	comp=Z,25nm,0.7s							
S39A	**Bolivar**	**5.04**	**107**	Pn		**Pn**	**09 42 02.2**	**-2.6**
SUSD	**Miller**	**5.12**	**4**	Pn		**Pn**	**09 42 06.6**	**+0.7**
SUSD					IAmb_Lg		09 43 34.8	
	comp=Z,38nm,0.8s							
HHAR	**Hobbs**	**5.29**	**123**			**Pn**	**09 42 08.6**	**+0.4**
SCIA	**State Center**	**5.37**	**59**	Pn		**Pn**	**09 42 10.7**	**+1.5**
SCIA					IAmb_Lg		09 43 44.2	
	comp=Z,42nm,0.8s							
WTFS	**Witchita Falls**	**5.60**	**172**	Pn		**Pn**	**09 42 11.0**	**-1.5**
R40A	**Maddies Statio**	**5.67**	**98**	Pn		**Pn**	**09 42 14.3**	**+0.9**
R40A					IAmb_Lg		09 43 49.2	
	comp=Z,30nm,0.8s							
P40A	**Paris**	**5.70**	**86**	Pn		**Pn**	**09 42 14.9**	**+1.1**
DKNS	**Dickens**	**5.78**	**193**	Pn		**Pn**	**09 42 14.3**	**-0.6**
DKNS					IAmb_Lg		09 43 55.9	
	comp=Z,41nm,1.1s							
RSSD	**Black Hills**	**5.91**	**326**	Pn		**Pn**	**09 42 17.7**	**+0.8**
RSSD					IAmb_Lg		09 44 05.2	
	comp=Z,30nm,1.0s							
MSTX	**Muleshoe**	**5.99**	**208**	Pn		**Pn**	**09 42 16.5**	**-1.4**
MSTX					IAmb_Lg		09 44 06.5	
	comp=Z,30nm,0.8s							
APMT	**Aspermont**	**6.02**	**186**			**Pn**	**09 42 17.7**	**-0.5**
K22A	**Casper**	**6.32**	**304**	Pn		**Pn**	**09 42 23.9**	**+1.4**
SN07	**Snyder 07**	**6.34**	**191**	Pn		**Pn**	**09 42 21.4**	**-1.2**
SN07					IAmb_Lg		09 44 11.9	
	comp=Z,34nm,0.8s							
FW03	**Perrin-Whitt E**	**6.37**	**170**		IAmb_Lg		09 44 23.9	
	comp=Z,34nm,1.2s							
POST	**Post**	**6.47**	**196**	Pn		**Pn**	**09 42 24.4**	**-0.1**
POST					IAmb_Lg		09 44 27.7	
	comp=Z,19nm,0.8s							
I37A	**Lemond, Waseca**	**6.49**	**42**			**Pn**	**09 42 26.1**	**+1.4**
I37A					IAmb_Lg		09 44 21.7	
	comp=Z,33nm,0.7s							
CCM	**Cathedral Cave**	**6.51**	**99**			**Pn**	**09 42 25.6**	**+0.6**
CCM					IAmb_Lg		09 44 25.0	
	comp=Z,25nm,0.8s							
FW06	**Azle**	**6.51**	**166**		IAmb_Lg		09 44 14.8	
	comp=Z,24nm,0.9s							
SN05	**Snyder 5**	**6.54**	**191**		IAmb_Lg		09 44 16.9		
	comp=Z,36nm,0.9s								
PLPT	**Palo Pinto**	**6.56**	**172**	Pn		**Pn**	**09 42 24.7**	**-0.9**	
MIAR	**Mount Ida**	**6.68**	**134**	Pn		**Pn**	**09 42 27.6**	**+0.4**	
MIAR					IAmb_Lg		09 44 33.4		
	comp=Z,21nm,0.9s								
ABTX	**Abilene, Hawle**	**6.69**	**182**	Pn		**Pn**	**09 42 25.9**	**-1.6**	
ABTX					IAmb_Lg		09 44 22.6		
	comp=Z,20nm,0.8s								
FCAR	**Ozark Folk Cen**	**6.72**	**118**			**Pn**	**09 42 28.2**	**+0.3**	
FCAR					IAmb_Lg		09 44 25.0		
	comp=Z,18nm,0.8s								
FW07	**Weatherford**	**6.74**	**168**		IAmb_Lg		09 44 38.4		
	comp=Z,20nm,0.9s								
L40A	**Anamosa**	**6.79**	**64**	Pn		**Pn**	**09 42 30.8**	**+2.0**	
L40A					IAmb_Lg		09 44 42.1		
	comp=Z,29nm,0.8s								
O20A	**White River Ci**	**6.86**	**280**	Pn		**Pn**	**09 42 29.8**	**-0.1**	
F33A	**5 Mile Ranch,**	**6.90**	**18**	Pn		**Pn**	**09 42 32.2**	**+1.9**	
F33A					IAmb_Lg		09 44 31.3		
	comp=Z,18nm,0.8s								
WHAR	**Wooly Hollow**	**6.96**	**123**		IAmb_Lg		09 44 33.2		
	comp=Z,28nm,1.1s								
ANMO	**Albuquerque**	**7.13**	**234**	Pn		**Pn**	**09 42 33.2**	**-0.3**	
	comp=Z,0.2nm,0.3s,baz=148,slow=15,SNR=6.8								
ANMO				Pg		**Pb**	**09 42 57.5**	**+4.4**	
	comp=Z,0.3nm,0.3s,baz=152,slow=15,SNR=6.3								
ANMO				Lg		Lg	09 44 26.8		
	comp=Z,2.6nm,0.3s,baz=55,slow=23,SNR=11								
	comp=Z,0.3nm,0.4s								
FW13	**Cleburne**	**7.14**	**166**		IAmb_Lg		09 44 44.0		
	comp=Z,15nm,0.8s								
PV15	**Paradox Valley**	**7.15**	**265**		IAmb_Lg		09 44 40.0		
	comp=Z,16nm,0.9s								
UALR	**University of**	**7.25**	**127**		IAmb_Lg		09 44 50.4		
	comp=Z,22nm,0.8s								
E28A	**Huff**	**7.30**	**353**		IAmb_Lg		09 44 54.3		
	comp=Z,30nm,0.8s								
LCAR	**Lake Charles**	**7.31**	**114**	Pn		**Pn**	**09 42 36.1**	**+0.3**	
LCAR					IAmb_Lg		09 44 42.9		
	comp=Z,15nm,0.8s								
PV02	**Paradox Valley**	**7.37**	**264**	Pn		**Pn**	**09 42 36.2**	**-0.8**	
PV13	**Radium Mtn., P**	**7.45**	**264**	Pn		**Pn**	**09 42 36.5**	**-1.6**	
PV13					IAmb_Lg		09 44 49.8		
	comp=Z,16nm,1.1s								
MVCO	**Mesa Verde**	**7.46**	**256**	Pn		**Pn**	**09 42 36.9**	**-1.2**	
PV11	**David Mesa, Pa**	**7.46**	**265**	IAmb_Lg			09 44 52.8		
	comp=Z,27nm,0.9s								
PV04	**Paradox Valley**	**7.47**	**266**	IAmb_Lg			09 44 50.9		
	comp=Z,20nm,1.1s								
WHTX	**Lake Whitney,**	**7.49**	**167**	IAmb_Lg			09 45 04.1		
	comp=Z,15nm,0.9s								
PV20	**West Nyswonger**	**7.53**	**265**	IAmb_Lg			09 45 04.9		
	comp=Z,26nm,0.9s								
PBMO	**Poplar Bluff**	**7.53**	**107**	Pn		**Pn**	**09 42 38.6**	**-0.3**	
SGCY	**Sterling City**	**7.53**	**191**	IAmb_Lg			09 44 51.3		
	comp=Z,24nm,0.9s								
PV23	**Carpenter Ridg**	**7.54**	**266**	Pn		**Pn**	**09 42 39.1**	**-0.2**	
PV23					IAmb_Lg		09 44 57.2		
	comp=Z,25nm,0.9s								
PV19	**Morning Glory**	**7.54**	**265**	IAmb_Lg			09 44 56.9		
	comp=Z,28nm,1.3s								
ODSA	**Odessa**	**7.63**	**200**	Pn		**Pn**	**09 42 39.5**	**-0.9**	
SPMN	**Marine on St.**	**7.66**	**38**			**Pn**	**09 42 42.0**	**+1.4**	
SPMN					IAmb_Lg		09 45 06.2		
	comp=Z,16nm,0.8s								
BNM	**Barren Site**	**7.76**	**231**	Pn		**Pn**	**09 42 41.7**	**-0.6**	
JFWS	**Jewell Farm**	**7.79**	**60**	Pn		**Pn**	**09 42 42.1**	**-0.3**	
237A	**Washetta, Mont**	**7.87**	**157**	IAmb_Lg			09 45 12.1		
	comp=Z,24nm,0.9s								
HBAR	**Harrisburg**	**7.91**	**116**	IAmb_Lg			09 45 15.2		
	comp=Z,30nm,0.7s								
CGM3	**Cape Girardeau**	**7.93**	**102**	IAmb_Lg			09 45 02.0		
	comp=Z,21nm,0.9s								
I40A	**Norwalk**	**8.01**	**52**	IAmb_Lg			09 45 18.6		
	comp=Z,14nm,0.7s								
BRDY	**Brady**	**8.03**	**177**			**Pn**	**09 42 44.8**	**-1.0**	
BRDY					IAmb_Lg		09 45 21.9		
	comp=Z,16nm,0.9s								
Z41A	**Richland Creek**	**8.07**	**137**	Pn		**Pn**	**09 42 45.1**	**-1.2**	
Z41A					IAmb_Lg		09 45 19.1		
	comp=Z,17nm,0.8s								
PDAR	**Pinedale Array**	**8.40**	**297**	Pn		**Pn**	**09 42 52.8**	**+1.7**	
	comp=Z,0.4nm,0.3s,baz=112,slow=16,SNR=9.4								
PDAR				Pg		Pb	09 43 21.8	+7.0	
	comp=Z,0.5nm,0.3s,baz=109,slow=17,SNR=8.2								
PDAR				Lg		Lg	09 45 06.9		
	comp=Z,1.1nm,0.3s,baz=112,slow=33,SNR=6.5								
	comp=Z,0.7nm,0.4s								
NATX	**Nacogdoches**	**8.48**	**151**	IAmb_Lg			09 45 41.4		
	comp=Z,20nm,0.8s								
MDND	**Maddock**	**8.52**	**359**	IAmb_Lg			09 45 23.7		
	comp=Z,20nm,0.8s								
LAO	**LASA Array**	**8.89**	**328**	IAmb_Lg			09 45 43.4		
	comp=Z,18nm,1.0s								
MNTX	**Cornudas Mount**	**9.03**	**214**	IAmb_Lg			09 45 39.7		
	comp=Z,11nm,0.8s								
143A	**Socs Landing,**	**9.26**	**133**	IAmb_Lg			09 45 56.2		
	comp=Z,15nm,0.8s								
E38A	**The Farm, Brul**	**9.27**	**36**	IAmb_Lg			09 45 58.4		
	comp=Z,11nm,0.9s								
RLMT	**Red Lodge**	**9.32**	**312**	IAmb_Lg			09 45 59.8		
	comp=Z,15nm,1.2s								
AGMN	**Agassiz Nation**	**9.33**	**15**	Pn		**Pn**	**09 43 05.3**	**+1.8**	
LOHW	**Long Hollow**	**9.43**	**301**	Pn		**Pn**	**09 43 05.0**	**-0.1**	
AHID	**Auburn Hatcher**	**9.48**	**295**	Pn		**Pn**	**09 43 04.6**	**-1.2**	
SAND	**Sanderson**	**9.61**	**194**			**Pn**	**09 43 05.4**	**-2.1**	
Y45A	**Yeager Farm, C**	**9.62**	**121**	IAmb_Lg			09 45 59.2		
	comp=Z,12nm,0.8s								
TX31	**Lajitas Ar. Si**	**10.57**	**201**	Pn		**Pn**	**09 43 20.0**	**-0.7**	
TXAR	**Lajitas Array**	**10.57**	**201**	Pn		**Pn**	**09 43 20.1**	**-0.6**	
TXAR	**Lajitas Array**	**10.57**	**201**	Pn		**Pn**	**09 43 19.6**	**-1.0**	
	comp=Z,0.3nm,0.3s,baz=19,slow=14,SNR=30								
TXAR				Pg			09 43 58.5		
	comp=Z,0.3nm,0.3s,baz=20,slow=15,SNR=5.9								
TXAR				Lg		Lg	09 46 15.2		
	comp=Z,0.2nm,0.3s,baz=19,slow=32,SNR=4.2								
	comp=Z,0.5nm,0.4s								
EPLO	**Experimental L**	**11.11**	**20**			**Pn**	**09 43 28.2**	**+0.3**	
ULM	**Lac du Bonnet**	**11.21**	**12**	Pn		**Pn**	**09 43 29.1**	**0.0**	
	comp=Z,0.5nm,0.3s,baz=191,slow=14,SNR=6.4								
ULM				Sn		**Sn**	**09 45 29.7**	**-4.8**	
	comp=Z,0.4nm,0.3s,baz=100,slow=22,SNR=3.7								
ULM				Lg		Lg	09 46 38.8		
	comp=Z,0.7nm,0.3s,baz=289,slow=19,SNR=3.9								
	comp=Z,1.7nm,0.4s								
PSUT	**Pine Spring**	**11.28**	**271**	Pn		**Pn**	**09 43 28.9**	**-1.6**	
SWET	**Sewanee**	**11.49**	**107**	Pn		**Pn**	**09 43 34.2**	**+0.9**	
CPCT	**Cooper Cave**	**12.46**	**103**	Pn		**Pn**	**09 43 47.1**	**+0.7**	
S51A	**Beattyville**	**12.51**	**93**	Pn		**Pn**	**09 43 47.7**	**+0.6**	
TZTN	**Tazewell**	**12.83**	**98**	Pn		**Pn**	**09 43 51.4**	**-0.1**	
TKL	**Tuckaleechee C**	**12.95**	**102**	Pn		**Pn**	**09 43 53.0**	**0.0**	
TKL	**Tuckaleechee C**	**12.95**	**102**	Pn		**Pn**	**09 43 52.7**	**-0.4**	
	comp=Z,0.3nm,0.3s,baz=287,slow=14,SNR=6.8								
TKL				Lg		Lg	09 47 32.8		
	comp=Z,0.5nm,0.3s,baz=19,slow=23,SNR=5.6								
	comp=Z,1.8nm,0.6s								
P52A	**Corning**	**13.35**	**83**	Pn		**Pn**	**09 43 58.2**	**-0.4**	
V53A	**Saluda**	**13.67**	**100**	Pn		**Pn**	**09 44 02.8**	**-0.2**	
SADO	**Sadowa**	**15.99**	**64**	Lg		Lg	09 49 08.5		
	comp=Z,0.3nm,0.3s,baz=186,slow=17,SNR=3.6								

*IDC **05** 09:40:51.9±1.0, 3˚00S×101˚05E, h0km, mb4.2/13, mbtmp4.2/15, ML4.1/2, MS3.6/19, Error ellipse: s-maj=41.6km s-min=14.2km az=50.0*
*NEIC **05** 09:40:55.2±1.6, 3˚27S±0˚08×100˚71E±0˚08, h26km±5km, mb4.6/32, Error ellipse: s-maj=14.5km s-min=7.9km az=224.0*
*DJA **05** 09:40:59.2±0.2, 3˚S±2˚×10˚1E±˚, h53km±4km, M5.7/1, mb4.6/26, MLv5.7/1*

ISC 05 09:40:57.7±0.5, 3˚17S±0˚07×100˚91E±0˚06, h46km, n122, σ1§46/99, mb4.5/31, MS3.5/17, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KSI	**Kapahiang**	**1.75**	**106**	P		**Pn**	**09 41 24.8**	**-0.8**
KSI				S		**Sn**	**09 41 45.7**	**-1.1**
MNAI	**Manna**	**2.36**	**120**			**Pn**	**09 41 33.6**	**-0.4**
MNAI						**Sn**	**09 42 05.0**	**+3.2**
MNAI	**Manna**	**2.36**	**120**	P		**Pn**	**09 41 34.0**	**0.0**
SISI	**Saibi**	**2.58**	**315**	P		**Pn**	**09 41 38.1**	**+1.1**
SISI				S		**Sn**	**09 42 10.3**	**+3.1**
LHSI	**Lahat**	**2.69**	**104**	P		**Pn**	**09 41 38.7**	**+0.2**
PPI	**Padang Panjang**	**2.75**	**349**	P		**Pn**	**09 41 38.0**	**-1.3**
PPI					S	**Sn**	**09 42 09.6**	**-1.7**
BKNI	**Bangkinang**	**3.48**	**2**	Pn		**Pn**	**09 41 50.1**	**+0.7**
BKNI	**Bangkinang**	**3.48**	**2**	P		**Pn**	**09 41 49.7**	**+0.3**
MDSI	**Maura Dua**	**3.52**	**112**	P		**Pn**	**09 41 50.4**	**+0.6**
LWLI	**Liwa**	**3.64**	**120**	P		**Pn**	**09 41 52.7**	**+1.0**
PMBI	**Palembang**	**3.87**	**86**	Pn		**Pn**	**09 41 55.0**	**+0.3**
PMBI	**Palembang**	**3.87**	**86**	P		**Pn**	**09 41 53.7**	**-1.0**
PBSI	**Pulau Batu**	**4.06**	**320**	P		**Pn**	**09 41 59.9**	**+2.5**
MNSI	**Mandailing Nat**	**4.16**	**341**	P		**Pn**	**09 41 58.0**	**-0.7**
KLI	**Kotabumi**	**4.28**	**113**	P		**Pn**	**09 42 02.6**	**+2.2**
GSI	**Gunungsitoli**	**5.56**	**323**			**Pn**	**09 42 14.2**	**-3.7**
GSI	**Gunungsitoli**	**5.56**	**323**	P		**Pn**	**09 42 17.4**	**-0.5**
	75nm,0.5s							
MYKOM	**Kota Tinggi**	**5.74**	**31**			**Pn**	**09 42 20.2**	**-0.3**
CGJI	**Cibinong**	**5.87**	**126**	P		**Pn**	**09 42 21.8**	**-0.3**
	62nm,0.6s							
RPSI	**Rantau Prapat**	**6.16**	**341**			**Pn**	**09 42 24.6**	**-1.6**
RPSI	**Rantau Prapat**	**6.16**	**341**			**Pn**	**09 42 23.4**	**-2.8**
PSI	**Prapat**	**6.26**	**342**	Pn		**Pn**	**09 42 23.4**	**-4.3**
	3.5nm,0.3s,baz=148,slow=9.5,SNR=5.6							
PSI				Lg		Lg	09 44 01.2	
	0.2nm,0.3s,baz=126,slow=8.4,SNR=3.7							
PSI				LR		LR	09 45 08.9	
	comp=Z,1μm,18.4s,baz=136,slow=42							
	2.3nm,0.4s							
DBJI	**Dramaga**	**6.72**	**120**	P		**Pn**	**09 42 34.9**	**+1.0**
	65nm,0.7s							
TPI	**Tanjungpandan**	**6.75**	**87**	P		**Pn**	**09 42 31.5**	**-2.8**
SNSI	**Sinabang, Aceh**	**7.19**	**320**	P		**Pn**	**09 42 39.5**	**-0.8**
CNJI	**Cibinong**	**7.43**	**124**	P		**Pn**	**09 42 43.5**	**-0.2**
	35nm,1.2s							
IPM	**Ipoh**	**7.60**	**1**			**Pn**	**09 42 45.5**	**-0.5**
LEM	**Lembang**	**7.61**	**119**	P		**Pn**	**09 42 48.1**	**+1.9**
	71nm,1.0s							
KULM	**Kulim**	**8.41**	**358**			**Pn**	**09 42 56.4**	**-0.7**
UGM	**Wanagama**	**10.66**	**117**	Pn		**Pn**	**09 43 27.5**	**-0.5**
UGM	**Wanagama**	**10.66**	**117**	P		**Pn**	**09 43 28.6**	**+0.6**
	84nm,2.2s							
PCJI	**Pacitan**	**11.37**	**116**	P		**Pn**	**09 43 36.9**	**-0.7**
	43nm,1.2s							
SBUM	**Sibu**	**12.61**	**64**			**Pn**	**09 43 54.8**	**+0.2**
GMJI	**Gumukmas**	**13.46**	**113**	P		**Pn**	**09 44 06.6**	**+0.4**
	22nm,1.1s							
JAGI	**Jajag, Banyuwa**	**14.19**	**112**			**Pn**	**09 44 14.3**	**-1.7**
JAGI	**Jajag, Banyuwa**	**14.19**	**112**	P		**Pn**	**09 44 13.9**	**-2.1**
	55nm,0.8s							
TWSI	**Taliwang, Sumb**	**16.82**	**110**	P		**P**	**09 44 50.8**	**-0.9**
	21nm,1.0s							
PLAI	**Plampang**	**17.69**	**109**	P		**P**	**09 45 01.0**	**-0.3**
	40nm,0.9s							
KKM	**Kota Kinabalu**	**17.82**	**59**			**P**	**09 45 03.0**	**+0.2**
KAPI	**Kappang**	**18.89**	**96**			**Pn**	**09 45 15.5**	**+0.1**
KAPI					IAmb	IAmb	09 45 17.9	
	comp=Z,36nm,1.2s							
KAPI	**Kappang**	**18.89**	**96**	Pn		**P**	**09 45 14.8**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=220,slow=12,SNR=5.6							
KAPI					LR	LR	09 52 56.7	
	comp=Z,166nm,19.7s,baz=282,slow=39							
	comp=Z,21nm,0.9s							
TTSI	**Tana Toraja**	**18.89**	**90**	P		**P**	**09 45 13.8**	**-0.7**
	comp=Z,22nm,1.4s							
MPSI	**Mapaga**	**19.30**	**80**	P		**P**	**09 45 17.8**	**-1.2**
	comp=Z,16nm,0.9s							
WBSI	**Waikabubak, Su**	**19.45**	**110**	P		**P**	**09 45 19.0**	**-1.7**
	comp=Z,59nm,0.7s							
TOLI2	**Tolitoli**	**20.32**	**78**	P		**P**	**09 45 31.2**	**+1.1**
TOLI2					IAmb	IAmb	09 45 41.7	
	comp=Z,16nm,

ARSB				IAmb	IAmb	09 50 07.7	
	comp=Z,20nm,1.4s						
MKAR	**Makanchi Array**	**52.40**	**344**	P	**P**	**09 50 04.9**	**-0.5**
MKAR	**Makanchi Array**	**52.40**	**344**	P	**P**	**09 50 05.2**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=161,slow=9.0,SNR=12						
	comp=Z,1.8nm,0.7s						
MAKZ	**Makanchi**	**52.50**	**344**	P	**P**	**09 50 06.0**	**-0.1**
KK31	**Karatay Array**	**53.60**	**333**	P	**P**	**09 50 13.1**	**-1.2**
KKAR	**Karatay Array**	**53.60**	**333**	P	**P**	**09 50 13.0**	**-1.4**
CAN	**Canberra**	**54.76**	**132**	P	**P**	**09 50 23.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**54.77**	**27**	P	**P**	**09 50 21.4**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=211,slow=7.6,SNR=1.9						
	comp=Z,1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**56.93**	**343**	LR	LR	10 20 32.6	
	comp=Z,34nm,18.1s,baz=168,slow=42						
ZAA0	**Zalesovo Array**	**58.48**	**349**		**P**	**09 50 48.4**	**-0.6**
ZAA0				IAmb	IAmb	09 50 49.7	
	comp=Z,7.5nm,1.0s						
ZALV	**Zalesovo Beam**	**58.48**	**349**		**P**	**09 50 48.3**	**-0.7**
ZALV	**Zalesovo Beam**	**58.48**	**349**	P	**P**	**09 50 48.2**	**-0.8**
	comp=Z,3.2nm,0.6s,baz=163,slow=5.7,SNR=12						
	comp=Z,3.2nm,0.6s						
HNR	**Honiara**	**58.95**	**99**	LR	LR	10 17 31.6	
	comp=Z,22nm,21.4s,baz=58,slow=37						
H04N2	**CROZET ISLANDS**	**60.41**	**217**	T	T	10 56 20.0	
	baz=60,slow=75,SNR=362						
H04N1	**CROZET ISLANDS**	**60.42**	**217**	T	T	10 56 20.5	
	baz=60,slow=75,SNR=338						
H04N3	**CROZET ISLANDS**	**60.42**	**217**	T	T	10 56 22.5	
	baz=60,slow=75,SNR=304						
H04S1	**CROZET ISLANDS**	**60.68**	**216**	T	T	10 56 27.3	
	baz=59,slow=75,SNR=79						
H04S3	**CROZET ISLANDS**	**60.69**	**216**	T	T	10 56 26.1	
	baz=59,slow=75,SNR=114						
H04S2	**CROZET ISLANDS**	**60.70**	**216**	T	T	10 56 38.0	
	baz=59,slow=75,SNR=69						
AB31	**Akbulak array**	**63.10**	**331**		**P**	**09 51 20.4**	**-0.1**
AB31				IAmb	IAmb	09 51 22.0	
	comp=Z,3.7nm,1.0s						
ABKAR	**Akbulak array**	**63.10**	**331**		**P**	**09 51 20.4**	**-0.1**
GNI	**Garni**	**67.00**	**316**	LR	LR	10 22 10.5	
	comp=Z,31nm,21.7s,baz=160,slow=37						
KBZ	**Khabaz**	**69.78**	**319**	P	**P**	**09 52 04.6**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=75,slow=8.8,SNR=2.4						
	comp=Z,1.0nm,0.5s						
ASF	**Jabal al Asfar**	**70.00**	**306**	LR	LR	10 24 31.9	
	comp=Z,63nm,18.0s,baz=110,slow=37						
EIL	**Elat**	**70.91**	**303**	LR	LR	10 23 09.1	
	comp=Z,83nm,19.2s,baz=66,slow=36						
MMAI	**Mount Meron Ar**	**71.46**	**306**	LR	LR	10 24 44.6	
	comp=Z,74nm,19.0s,baz=124,slow=37						
BRTR	**Keskin Array B**	**74.78**	**313**	P	**P**	**09 52 34.2**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=103,slow=6.1,SNR=4.2						
	comp=Z,0.7nm,0.5s						
FINES	**FINESS Array B**	**85.56**	**332**	P	**P**	**09 53 31.6**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=121,slow=5.2,SNR=3.7						
FINES				LR	LR	10 36 03.6	
	comp=Z,32nm,20.1s,baz=64,slow=39						
	comp=Z,2.2nm,0.8s						
ARCES	**ARCESS Array B**	**87.88**	**340**	P	**P**	**09 53 43.0**	**+1.1**
ARCES	**ARCESS Array B**	**87.88**	**340**	P	**P**	**09 53 42.3**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=111,slow=5.7,SNR=4.5						
	comp=Z,0.7nm,0.5s						
VRAC	**Vranov**	**88.67**	**319**	LR	LR	10 38 16.7	
	comp=Z,19nm,20.0s,baz=124,slow=39						
SPITS	**Spitsbergen Ar**	**91.96**	**348**	LR	LR	10 42 28.8	
	comp=Z,41nm,19.5s,baz=121,slow=40						
NOA	**NORSAR Array B**	**92.60**	**331**	LR	LR	10 40 25.5	
	comp=Z,16nm,18.7s,baz=10.0,slow=39						
H19K	**Roundabout Mou**	**98.11**	**24**	P	Pdif	09 54 29.6	+0.4
H19K				IAmb	IAmb	09 54 40.0	
	comp=Z,3.0nm,1.0s						
IMAR	**Indian Mountai**	**99.11**	**24**		**Pdif**	**09 54 33.6**	**-0.1**
PAL	**Palisades**	**142.05**	**354**	PKPdf	**PKPdf**	**10 00 23.8**	**-1.4**
BRNJ	**Basking Ridge**	**142.44**	**354**	PKPdf	**PKPdf**	**10 00 25.3**	**-0.5**

*IDC **05** 09:44:32.4±2.0, 1.94N×127.05E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=188.1km s-min=23.3km az=67.0*

*DJA **05** 09:44:37.5±0.3, 2.7N±3.4×12.6E±.7, h10km, M3.4/2, MLv3.6/8, MLv3.4/2*

ISC 05 09:44:39.5±1.2, 1.68N±0.08×126.6E±0.1, h47km, n9, σ0°60/9, mb3.7/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.19**	**139**	P	**Pn**	**09 44 59.6**	**-0.1**
SGSI	**Sangihe**	**2.26**	**332**	P	**Pn**	**09 45 14.6**	**+0.2**
SANI	**Sanana**	**3.75**	**189**	P	**Pn**	**09 45 34.3**	**-0.6**
LUWI	**Luwuk**	**4.68**	**235**	P	**Pn**	**09 45 47.8**	**+0.2**
NLAI	**Namlea**	**4.91**	**174**	P	**Pn**	**09 45 51.7**	**+0.9**
WRA	**Warramunga Arr**	**22.79**	**161**	P	**P**	**09 49 37.7**	**-0.6**
	1.5nm,0.5s,baz=341,slow=11,SNR=6.3						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**26.18**	**165**	P	**P**	**09 50 10.4**	**+0.6**
	0.6nm,0.5s,baz=346,slow=9.5,SNR=4.6						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**59.16**	**326**	P	**P**	**09 54 35.2**	**-0.4**
	0.3nm,0.3s,baz=120,slow=8.7,SNR=4.2						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**63.39**	**328**	P	**P**	**09 55 04.0**	**0.0**
	0.4nm,0.5s,baz=118,slow=7.1,SNR=1.8						
	0.4nm,0.5s						

IDC 05 09:45:29.1±2.7, 53.79N×86.40E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=21.8km s-min=13.0km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**280**	I	I	09 50 40.0	
	baz=99,slow=325,SNR=9.9						
ZALV	**Zalesovo Beam**	**0.95**	**280**	Pg	Pg	09 45 46.1	-1.2
	0.7nm,0.3s,baz=87,slow=11,SNR=5.9						
ZALV				Lg	Lg	09 46 01.4	
	1.3nm,0.3s,baz=99,slow=28,SNR=8.1						
KURBB	**Kurchatov Arra**	**5.79**	**240**	Pn	Pn	09 46 56.7	+0.7
	0.1nm,0.3s,baz=55,slow=13,SNR=4.3						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.48**	**202**	Pn	Pn	09 47 21.2	+1.8
	0.1nm,0.3s,baz=25,slow=14,SNR=1.6						
MKAR				Lg	Lg	09 49 22.6	
	0.1nm,0.3s,baz=21,slow=30,SNR=4.8						
	0.2nm,0.6s						

*IDC **05** 09:45:59.9±3.4, 53.55N×87.82E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=31.5km s-min=18.2km az=51.0*

ASRS 05 09:45:59.0±1.0, 53.53N×87.67E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**285**	I	I	09 57 10.0	
	0.1nm,0.8s,baz=101,slow=316,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.75**	**285**	Pg	Pg	09 46 33.3	+0.9
	1.5nm,0.3s,baz=103,slow=17,SNR=8.5						
ZALV				Lg	Lg	09 46 58.1	
	3.4nm,0.3s,baz=103,slow=31,SNR=8.4						
KURBB	**Kurchatov Arra**	**6.34**	**246**	Pn	Pn	09 47 35.8	+2.1
	0.1nm,0.3s,baz=62,slow=14,SNR=4.5						
KURBB				Lg	Lg	09 49 24.6	
	0.3nm,0.3s,baz=60,slow=32,SNR=4.9						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**7.58**	**209**	Pn	Pn	09 47 54.0	+3.4
	0.1nm,0.3s,baz=30,slow=14,SNR=2.6						
	0.2nm,0.4s						

*NEIC **05** 09:46:28.4±2.6, 35.652N±0.009×117.53W±0.01, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.6km az=295.0*

*PAS **05** 09:46:29.3±2.8, 35.648N±0.009×117.55W±0.01, h4km±2km, ML3.5/21, ML3.3/118(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=221.0*

*IDC **05** 09:46:29.3±0.8, 35.67N×117.43W, h0km, mbtmp3.1/5, ML3.5/5, Error ellipse: s-maj=18.4km s-min=5.7km az=75.0*

ISC 05 09:46:29.0±1.0, 35.65N±0.02×117.51W±0.02, h8km±8km, n155, σ0°73/181, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.17**	**137**		**Pg**	**09 46 33.6**	**+1.1**
SRTC	**Snort**	**0.20**	**282**		**Pg**	**09 46 31.9**	**-1.2**
SRTC					**Sg**	**09 46 36.5**	**+0.6**
LRMC	**Laurel Mtn Rad**	**0.22**	**220**		**Pg**	**09 46 33.2**	**-0.3**
TOW	**Tower One**	**0.26**	**307**		**Pg**	**09 46 34.4**	**+0.1**
WNMM	**Nine Mile Cany**	**0.38**	**301**		**Pg**	**09 46 36.1**	**-0.2**
WVPM	**Volcano Peak E**	**0.39**	**320**		**Pg**	**09 46 36.4**	**-0.3**
DTP	**Desert Tortois**	**0.47**	**216**		**Pg**	**09 46 37.7**	**-0.5**
DTP					**Sg**	**09 46 44.1**	**-0.3**
WRVM	**Rose V. Centra**	**0.47**	**319**		**Pg**	**09 46 37.8**	**-0.4**
WBSM	**Bird Springs**	**0.53**	**258**		**Pg**	**09 46 38.8**	**-0.5**
MFS	**McCloud Flat S**	**0.54**	**329**		**Pg**	**09 46 39.4**	**-0.2**
WORM	**Onyx Ranch**	**0.60**	**274**		**Pg**	**09 46 39.1**	**-1.6**
WORM					**Sg**	**09 46 47.9**	**-0.6**
QSM	**Queen of Sheba**	**0.61**	**59**		**Pg**	**09 46 41.3**	**+0.5**
QSM				Sg	**Sb**	**09 46 49.9**	**-0.8**
CCAC	**Calif City Air**	**0.65**	**220**		**Sg**	**09 46 49.9**	**-0.1**
CCAC	**Calif City Air**	**0.65**	**220**		**Pg**	**09 46 41.1**	**-0.4**
CCAC				IAML		09 46 50.3	
	comp=E,3μm,0.3s						
CCAC				IAML		09 46 50.3	
	comp=N,3μm,0.6s						
GSC	**Goldstone, Bar**	**0.67**	**121**		**Pb**	**09 46 42.4**	**-0.7**
GSC				Sg	**Sb**	**09 46 52.0**	**-0.6**
GSC				IAML		09 46 55.7	
	comp=N,2μm,0.5s						
WHFM	**Hanning Flat**	**0.69**	**274**		**Pg**	**09 46 40.5**	**-1.8**
WHFM					**Sg**	**09 46 50.8**	**-0.5**
HYS	**Haystack Butte**	**0.79**	**184**		**Pg**	**09 46 43.8**	**-0.4**
HYS					**Sg**	**09 46 54.3**	**-0.1**
ISA	**Isabella, Lake**	**0.79**	**271**		**Pg**	**09 46 43.4**	**-0.8**
ISA				Sg	**Sg**	**09 46 53.8**	**-0.7**
ISA				IAML		09 46 57.9	
	comp=E,1μm,0.4s						
WASM	**Alta Sierra Ca**	**0.86**	**276**		**Pg**	**09 46 44.8**	**-0.8**
WASM					**Sg**	**09 46 56.3**	**-0.4**
EDW2	**Edwards Air Fo**	**0.86**	**208**		**Pg**	**09 46 44.9**	**-0.8**
GWY	**Greenwater Val**	**0.86**	**52**		**Pg**	**09 46 45.8**	**+0.1**
GWY					**Sb**	**09 46 57.8**	**-0.5**
GWY				IAML		09 47 03.6	
	comp=N,2μm,0.5s						
RRX	**Edison Barstow**	**0.88**	**151**		**Pb**	**09 46 46.1**	**-0.5**
CWC	**Cottonwood Cre**	**0.91**	**330**		**Pg**	**09 46 46.7**	**+0.1**
CGO	**Cerro Gordo**	**0.93**	**345**		**Pg**	**09 46 46.3**	**-0.6**
TPO	**Tropico Hills**	**0.97**	**218**		**Pb**	**09 46 48.5**	**+0.4**
SBB	**Saddle Back Bu**	**0.99**	**195**		**Pg**	**09 46 47.4**	**-0.8**
TEJ	**El Tejon**	**1.05**	**247**		**Pg**	**09 46 47.8**	**-1.4**
VTV	**Victorville**	**1.10**	**172**		**Pb**	**09 46 50.5**	**+0.1**
VTV					**Sn**	**09 47 06.1**	**-0.1**
ADO	**Adelanto Recei**	**1.10**	**177**		**Pn**	**09 46 50.9**	**0.0**
SPG2	**Springville 2**	**1.16**	**299**		**Pg**	**09 46 50.1**	**-1.2**
TJR	**Tejon Ranch**	**1.19**	**239**		**Pg**	**09 46 51.2**	**-0.6**
ARVC	**Arvin**	**1.20**	**245**		**Pg**	**09 46 51.6**	**-0.4**
LRRC	**Littlerock Res**	**1.20**	**201**		**Pg**	**09 46 51.3**	**-0.8**
LRRC					**Sb**	**09 47 08.0**	**+0.3**
THC	**Tehachapi Micr**	**1.20**	**232**		**Pg**	**09 46 51.4**	**-0.7**
LEOC	**Leona Valley**	**1.21**	**213**		**Pg**	**09 46 51.4**	**-0.9**
LEOC					**Sb**	**09 47 08.8**	**+0.7**
HOLC	**Holcomb Ridge**	**1.22**	**193**		**Pg**	**09 46 51.7**	**-0.8**
HOLC					**Sb**	**09 47 08.9**	**+0.4**
CJV	**Casa Juvan**	**1.23**	**205**		**Pg**	**09 46 51.8**	**-1.0**
CJV					**Sb**	**09 47 09.1**	**+0.3**
DSCC	**Desert Studies**	**1.25**	**113**		**Pg**	**09 46 52.1**	**-1.0**
JNH	**Juniper Hills**	**1.26**	**197**		**Pg**	**09 46 52.1**	**-1.0**
JNH					**Sb**	**09 47 10.1**	**+0.6**
HEC	**Hector,Ludlow**	**1.26**	**130**		**Pg**	**09 46 52.5**	**-0.7**
HEC					**Sn**	**09 47 11.1**	**+0.8**
AMDNV	**Amargosa**	**1.28**	**51**		**Pg**	**09 46 52.7**	**-0.8**
VES	**Vestal, Richgr**	**1.30**	**279**		**Pg**	**09 46 53.4**	**-0.5**
VES					**Sg**	**09 47 10.4**	**-0.3**
TUQ	**Turquoise Moun**	**1.31**	**99**		**Pg**	**09 46 53.4**	**-0.7**
BAKC	**Calstate**	**1.34**	**257**		**Pn**	**09 46 54.0**	**0.0**
WCT	**Wildcat Mounta**	**1.34**	**32**		**Pg**	**09 46 53.9**	**-0.9**
WCT				IAML		09 47 19.2	
	comp=E,436nm,0.5s						
WCT				IAML		09 47 19.2	
	comp=N,288nm,0.6s						
GRAC	**Grapevine Rang**	**1.35**	**5**		**Pn**	**09 46 54.3**	**+0.1**
SGV	**South Grapevin**	**1.38**	**16**		**Pn**	**09 46 54.6**	**-0.2**
CHFC	**Chilao Flat St**	**1.38**	**198**		**Pn**	**09 46 53.9**	**-0.9**
CHFC					**Sb**	**09 47 13.5**	**+0.4**
BFSC	**Mount Baldy Ra**	**1.41**	**185**		**Pn**	**09 46 54.6**	**-0.7**
BFSC					**Sn**	**09 47 14.6**	**+0.4**
SIL	**Silver Peak**	**1.42**	**157**		**Pb**	**09 46 56.2**	**+0.3**
OSI	**Osito Audit: C**	**1.44**	**224**		**Pb**	**09 46 56.1**	**0.0**
OSI					**Sb**	**09 47 15.0**	**+0.4**
SSK	**Sunset Peak**	**1.45**	**186**		**Pn**	**09 46 55.3**	**-0.5**
BBRC	**Big Bear Solar**	**1.47**	**161**		**Pg**	**09 46 56.7**	**-0.5**
MWC	**Mount Wilson**	**1.49**	**198**		**Pn**	**09 46 56.0**	**-0.4**
MWC					**Sn**	**09 47 17.0**	**+0.8**
PSRC	**Puddingstone R**	**1.57**	**189**		**Pn**	**09 46 57.3**	**-0.1**
SVD	**Seven Oaks Dam**	**1.58**	**168**		**Pg**	**09 46 59.6**	**+0.3**
SVD					**Sg**	**09 47 19.9**	**+0.2**
PASC	**Pasadena Art C**	**1.58**	**201**		**Pn**	**09 46 56.5**	**-0.9**
PASC				IAML		09 47 22.2	
	comp=N,324nm,0.9s						
LCH	**Last Change Ra**	**1.58**	**356**		**Pn**	**09 46 57.5**	**-0.1**
MTPC	**Mountain Pass**	**1.60**	**95**		**Pn**	**09 46 57.4**	**-0.5**
TPNV	**Topopah Spring**	**1.65**	**38**		**Pn**	**09 46 58.5**	**0.0**
TPNV				IAML		09 47 26.4	
	comp=N,354nm,0.5s						
TPNV				IAML		09 47 32.1	
	comp=N,378nm,0.8s						
GTM	**Goat Mountain**	**1.65**	**145**		**Pb**	**09 46 59.9**	**+0.1**
GMN	**Gold Mountain**	**1.66**	**7**		**Pn**	**09 46 58.8**	**+0.1**
GMN				IAML		09 47 31.8	
	comp=N,281nm,0.7s						
VOG	**Valley Oaks Go**	**1.66**	**294**		**Pn**	**09 46 59.4**	**+0.9**
VOG					**Sn**	**09 47 20.8**	**+0.7**
BLCC	**Black Canyon**	**1.70**	**215**		**Pn**	**09 46 58.9**	**-0.2**
BCW	**Bitter Crk WRg**	**1.71**	**246**		**Pn**	**09 46 58.2**	**-1.2**
BCW				IAML		09 47 29.6	
	comp=E,464nm,0.6s						
BCW				IAML		09 47 34.4	
	comp=N,422nm,0.8s						
DJJ	**Donna J Jenkin**	**1.73**	**207**		**Pn**	**09 46 58.8**	**-0.6**
GMRC	**Granite Mounta**	**1.74**	**119**		**Pn**	**09 46 58.6**	**-1.2**
DSP	**Deep Springs**	**1.75**	**348**		**Pn**	**09 46 60.0**	**+0.2**
DSP				IAML		09 47 30.0	
	comp=E,183nm,1.3s						
POCCA	**Poleta Canyon**	**1.82**	**340**		**Pb**	**09 47 02.8**	**0.0**
BHPR	**Bishop**	**1.82**	**335**		**Pn**	**09 47 01.1**	**+0.1**
BLAC	**Blackrock camp**	**1.83**	**149**		**Pn**	**09 47 00.8**	**-0.1**
CRGC	**Crocker Grade**	**1.86**	**258**		**Pn**	**09 47 01.5**	**+0.2**
MTUM	**Tungsten Hills**	**1.90**	**334**		**Pb**	**09 47 04.4**	**+0.3**
EW2	**E Wide Canyon**	**1.93**	**152**		**Pn**	**09 47 02.0**	**-0.3**
TPC	**Twentynine Pal**	**1.95**	**142**		**Pn**	**09 47 02.0**	**-0.6**
HMTC	**Hemet**	**1.98**	**168**		**Pn**	**09 47 02.7**	**-0.3**
ELS	**Elsinore Mount**	**2.00**	**178**		**Pn**	**09 47 02.9**	**-0.4**
ELS				IAML		09 47 35.1	
	comp=E,299nm,0.6s						
ELS				IAML		09 47 40.9	
	comp=N,195nm,0.6s						
DANC	**Danby, Needles**	**2.02**	**120**		**Pn**	**09 47 02.6**	**-0.8**
POB	**Polly Butte**	**2.02**	**166**		**Pn**	**09 47 03.4**	**-0.1**
DGR	**Domenigoni Val**	**2.04**	**168**		**Pn**	**09 47 03.6**	**-0.2**
MZP	**Montezuma Peak**	**2.05**	**3**		**Pn**	**09 47 04.3**	**+0.2**
MZP				IAML		09 47 39.3	
	comp=N,178nm,0.7s						
MURC	**Murrieta**	**2.06**	**173**		**Pn**	**09 47 03.9**	**-0.2**
BACC	**Bachelor Mtn.**	**2.07**	**169**		**Pn**	**09 47 03.9**	**-0.3**
SHPR	**Sheep Range**	**2.08**	**65**		**Pn**	**09 47 04.9**	**+0.4**
V12A	**Nelson**	**2.16**	**87**		**Pn**	**09 47 05.2**	**-0.3**
V12A				IAML		09 47 39.9	
	comp=N,209nm,0.5s						
V12A				IAML		09 47 45.8	
	comp=E,180nm,0.6s						
CRY	**Cary Ranch**	**2.18**	**163**		**Pn**	**09 47 05.7**	**0.0**
PMD	**Palm Desert**	**2.21**	**155**		**Pn**	**09 47 05.3**	**-0.6**
PFO	**Pinyon Flats O**	**2.21**	**157**		**Pn**	**09 47 05.7**	**-0.5**
PFO				IAML		09 47 40.9	
	comp=E,156nm,0.6s						
PFO				IAML		09 47 43.8	
	comp=E,109nm,0.6s						
PFO	**Pinyon Flats O**	**2.21**	**157**	Pn	**Pn**	**09 47 05.7**	**-0.5**
	comp=E,5.7nm,0.3s,baz=338,slow=15,SNR=53						
PFO				Pg	**Pg**	**09 47 10.8**	**-0.6**
	comp=E,18nm,0.3s,baz=336,slow=15,SNR=32						
PFO				Lg	Lg	09 47 38.5	
	comp=E,22nm,0.3s,baz=60,slow=22,SNR=17						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=E,23nm,0.4s						
XPFO	**Pinon Flat**	**2.21**	**157**		**Pn**	**09 47 05.7**	**-0.5**
SNDA	**J Saunders Pla**	**2.22**	**160**		**Pn**	**09 47 06.3**	**-0.1**
BENR	**Benton**	**2.23**	**338**		**Pn**	**09 47 07.2**	**+0.5**
MLAC	**Mammoth, Mammo**	**2.25**	**332**		**Pb**	**09 47 10.6**	**+0.6**
BZNA	**Buzz No.'s Pla**	**2.26**	**162**		**Pn**	**09 47 06.9**	**0.0**
FRD	**Ford Ranch, An**	**2.28**	**161**		**Pn**	**09 47 07.0**	**-0.1**
FRD	**Ford Ranch, An**	**2.28**	**161**		**Pn**	**09 47 07.0**	**-0.1**
MCSM	**Casa Diablo Ho**	**2.29**	**331**		**Pb**	**09 47 11.4**	**+0.5**
TSCN	**Private Proper**	**2.32**	**268**		**Pn**	**09 47 07.4**	**-0.2**
PLM	**Palomar**	**2.35**	**167**		**Pn**	**09 47 08.2**	**0.0**
CTW	**Cottonwood Mou**	**2.39**	**145**		**Pn**	**09 47 08.1**	**-0.4**
TPH	**Tonopah**	**2.43**	**5**		**Pn**	**09 47 09.7**	**+0.4**
S11A	**Rachel**	**2.44**	**35**		**Pn**	**09 47 09.8**	**+0.4**
IRM	**Iron Mountain**	**2.45**	**127**		**Pn**	**09 47 08.3**	**-1.1**
HAY	**Hayfield**	**2.45**	**142**		**Pn**	**09 47 09.2**	**-0.3**
PRN	**Pahroc Range**	**2.64**	**48**		**Pn**	**09 47 12.7**	**+0.5**
PRN				IAML		09 48 01.9	
	comp=E,145nm,0.6s						
PRN				IAML		09 48 02.0	
	comp=N,177nm,0.6s						
JUEM	**Julian Eagle M**	**2.67**	**163**		**Pn**	**09 47 12.7**	**+0.2**
LHV	**Little Huntoon**	**2.71**	**343**		**Pn**	**09 47 13.8**	**+0.8**
LHV				IAML		09 48 04.4	
	comp=E,125nm,1.0s						
LHV				IAML		09 48 06.6	
	comp=N,77nm,1.6s						
PMPB	**Monarch Peak**	**2.73**	**283**		**Pn**	**09 47 12.1**	**-1.3**
PMPB				IAML		09 48 01.8	
	comp=N,166nm,0.7s						
PMPB				IAML		09 48 02.0	
	comp=E,163nm,0.8s						
NV11	**Mina Array Sit**	**2.82**	**350**		**Pn**	**09 47 14.9**	**+0.3**
NVAR	**Mina Array Bea**	**2.84**	**347**		**Pn**	**09 47 14.9**	**-0.1**
NVAR	**Mina Array Bea**	**2.84**	**347**	Pn	**Pn**	**09 47 15.5**	**+0.5**
	comp=E,5.3nm,0.3s,baz=165,slow=14,SNR=67						
NVAR				Pg	**Pb**	**09 47 21.5**	**+1.2**
	comp=E,17nm,0.3s,baz=166,slow=19,SNR=65						
NVAR				Lg	Lg	09 47 59.4	
	comp=E,9.9nm,0.3s,baz=184,slow=32,SNR=7.0						
	comp=E,4.0nm,0.3s						
MYLM	**Yosemite Lake**	**2.92**	**307**		**Pb**	**09 47 20.6**	**-0.7**
BBGB	**Big Mountain B**	**3.01**	**289**	Pn	**Pn**	**09 47 16.0**	**-1.1**
W13A	**Hualapai Mount**	**3.01**	**99**		**Pn**	**09 47 17.0**	**-0.3**
W13A				IAML		09 48 07.8	
	comp=N,56nm,0.5s						
RYN	**Ryan**	**3.08**	**345**		**Pn**	**09 47 18.7**	**+0.5**
R11B	**Troy Canyon, C**	**3.10**	**29**		**Pn**	**09 47 18.4**	**-0.1**
BLYC	**Blythe**	**3.10**	**127**		**Pn**	**09 47 17.2**	**-1.2**
BLYC				IAML		09 48 12.1	
	comp=E,82nm,0.6s						
BLYC				IAML		09 48 15.9	
	comp=N,104nm,0.7s						
TJX	**Tijuana**	**3.16**	**173**	Pn	**Pn**	**09 47 18.4**	**-0.6**
TKX	**Tecate**	**3.16**	**166**		**Pn**	**09 47 19.1**	**-0.1**
TKX				IAML		09 48 09.4	
	comp=E,119nm,0.5s						
TKX				IAML		09 48 16.4	
	comp=N,67nm,0.2s						
Q09A	**Carvers**	**3.19**	**5**	Pn	**Pn**	**09 47 19.8**	**+0.1**
WAKR	**Walker**	**3.24**	**332**	Pn	**Pn**	**09 47 20.5**	**+0.1**
YUH	**Yuha Desert**	**3.27**	**156**	Pn	**Pn**	**09 47 19.2**	**-1.4**
CMB	**Columbia Colle**	**3.31**	**317**	Pn	**Pn**	**09 47 20.5**	**-0.8**
CMB				IAML		09 48 15.4	
	comp=N,46nm,0.8s						
CMB				IAML		09 48 22.9	
	comp=E,50nm,0.8s						
SAO	**San Andreas Ge**	**3.37**	**290**	Pn	**Pn**	**09 47 22.1**	**0.0**
CBX	**Cerro Bola**	**3.40**	**168**		**Pn**	**09 47 22.1**	**-0.5**
GLA	**Glamis**	**3.41**	**139**		**Pn**	**09 47 21.5**	**-1.1**
LCMT	**Little Creek M**	**3.70**	**67**		**Pn**	**09 47 28.1**	**+1.4**
CCUT	**Cedar City**	**3.84**	**59**		**Pn**	**09 47 29.4**	**+0.7**
CCX	**Cicese**	**3.84**	**169**	Pn	**Pn**	**09 47 28.9**	**+0.5**
ESJX	**Sierra Juarez**	**3.86**	**160**		**Pn**	**09 47 30.0**	**+1.0**
ESJX				IAML		09 48 36.4	
	comp=E,43nm,1.1s						
ESJX				IAML		09 48 36.4	
	comp=N,34nm,0.9s						
KNB	**Kanab**	**4.02**	**69**	Pn	**Pn**	**09 47 30.7**	**-0.4**
KNB				IAML		09 48 41.0	
	comp=E,26nm,0.9s						
KNB				IAML		09

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Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.69**	**353**	P	**Pn**	**09 52 59.1**	**+0.6**
PPI				S	**Sn**	**09 53 19.2**	**+0.1**
SISI	**Saibi**	**1.71**	**299**	P	**Pn**	**09 52 59.7**	**+1.0**
KSI	**Kapahiang**	**2.49**	**127**	P	**Pn**	**09 53 13.3**	**+3.9**
BKNI	**Bangkinang**	**2.50**	**10**	Pn	**Pn**	**09 53 10.6**	**+1.1**
BKNI	**Bangkinang**	**2.50**	**10**	P	**Pn**	**09 53 10.3**	**+0.8**
MNSI	**Mandailing Nat**	**3.10**	**341**	P	**Pn**	**09 53 19.2**	**+1.5**
PBSI	**Pulau Batu**	**3.11**	**312**	P	**Pn**	**09 53 19.4**	**+1.5**
MNAI	**Manna**	**3.22**	**133**	Pn	**Pn**	**09 53 18.5**	**-0.8**
MNAI				Sn	**Sn**	**09 53 51.9**	**-4.6**
MNAI	**Manna**	**3.22**	**133**	P	**Pn**	**09 53 21.8**	**+2.5**
LHSI	**Lahat**	**3.36**	**120**	P	**Pn**	**09 53 24.5**	**+3.2**
MDSI	**Maura Dua**	**4.26**	**123**	P	**Pn**	**09 53 36.3**	**+2.7**
LWLI	**Liwa**	**4.48**	**130**	P	**Pn**	**09 53 39.9**	**+3.2**
GSI	**Gunungsitoli**	**4.57**	**319**		**Pn**	**09 53 38.0**	**+0.1**
GSI				Sn	**Sn**	**09 54 25.6**	**-4.1**
GSI	**Gunungsitoli**	**4.57**	**319**	P	**Pn**	**09 53 38.5**	**+0.6**
GSI	**Gunungsitoli**	**4.57**	**319**	P	**Pn**	**09 53 38.5**	**+0.6**
TPRI	**Tanjung Pinang**	**4.97**	**52**	P	**Pn**	**09 53 44.0**	**+0.6**
MYKOM	**Kota Tinggi**	**5.09**	**40**		**Pn**	**09 53 46.1**	**+1.1**
MYKOM	**Kota Tinggi**	**5.09**	**40**	P	**Pn**	**09 53 45.9**	**+0.9**
RPSI	**Rantau Prapat**	**5.10**	**341**		**Pn**	**09 53 43.9**	**-1.1**
RPSI	**Rantau Prapat**	**5.10**	**341**		**Pn**	**09 53 45.8**	**+0.7**
RPSI					**Sn**	**09 54 44.3**	**+1.7**
PSI	**Prapat**	**5.20**	**341**	P	**Pn**	**09 53 45.8**	**-0.8**
	50nm,0.7s,baz=144,slow=10,SNR=32						
PSI				S	**Sn**	**09 54 44.3**	**-1.0**
	16nm,0.5s,baz=280,slow=21,SNR=1.0						
PSI				LR	LR	09 56 11.7	
	comp=Z,498nm,19.9s,baz=139,slow=44						
PSI	**Prapat**	**5.20**	**341**	P	**Pn**	**09 53 48.8**	**+2.3**
SNSI	**Sinabang, Aceh**	**6.22**	**317**	P	**Pn**	**09 54 01.9**	**+1.4**
	0.5nm86nm,0.5s						
IPM	**Ipoh**	**6.60**	**4**		**Pn**	**09 54 04.8**	**-0.9**
IPM	**Ipoh**	**6.60**	**4**	P	**Pn**	**09 54 09.2**	**+3.5**
CGJI	**Cibinong**	**6.74**	**131**	P	**Pn**	**09 54 10.4**	**+2.8**
	0.3nm55nm,0.8s						
TPI	**Tanjungpandan**	**7.08**	**95**	P	**Pn**	**09 54 13.1**	**+0.9**
	0.2nm22nm,0.8s						
KULM	**Kulim**	**7.39**	**0**		**Pn**	**09 54 15.5**	**-1.0**
KULM	**Kulim**	**7.39**	**0**	P	**Pn**	**09 54 19.6**	**+3.1**
MLSI	**Meulaboh, Aceh**	**7.63**	**327**	P	**Pn**	**09 54 21.3**	**+1.5**
CNJI	**Cibinong**	**8.28**	**128**	P	**Pn**	**09 54 29.3**	**+0.6**
	26nm,1.1s						
CMJI	**Cimerak**	**9.62**	**126**	P	**Pn**	**09 54 48.8**	**+1.8**
	65nm,1.2s						
KSM	**Kuching**	**10.36**	**70**	Pn	**Pn**	**09 54 56.1**	**-1.0**
COCO	**West Island**	**10.65**	**200**	Pn	**Pn**	**09 54 58.8**	**-2.3**
SRIT	**Nakonsritamara**	**10.72**	**355**		**Pn**	**09 55 01.5**	**-0.6**
SRIT	**Nakonsritamara**	**10.72**	**355**	P	**Pn**	**09 55 05.2**	**+3.1**
SBUM	**Sibu**	**12.49**	**69**		**Pn**	**09 55 24.7**	**-1.5**
SBUM	**Sibu**	**12.49**	**69**	P	**Pn**	**09 55 29.2**	**+3.0**
GMJI	**Gumukmas**	**14.16**	**116**	P	**Pn**	**09 55 50.2**	**+1.3**
	25nm,1.2s						
TWSI	**Taliwang, Sumb**	**17.48**	**113**	P	**P**	**09 56 33.4**	**+1.8**
KKM	**Kota Kinabalu**	**17.59**	**62**		**Pn**	**09 56 31.6**	**-1.1**
UBPT	**Khong Chiam**	**17.98**	**15**	P	**P**	**09 56 37.6**	**+0.5**
TTSI	**Tana Toraja**	**19.22**	**93**	P	**Pn**	**09 56 52.6**	**+0.3**
MYLDM	**Lahad Datu**	**19.31**	**68**	P	**P**	**09 56 50.5**	**-1.3**
KAPI	**Kappang**	**19.33**	**99**	P	**P**	**09 56 51.4**	**-0.5**
	17nm,0.8s,baz=278,slow=8.9,SNR=4.9						
KAPI				LR	LR	10 04 56.9	
	comp=Z,97nm,20.1s,baz=249,slow=39						
MPSI	**Mapaga**	**19.46**	**83**	P	**Pn**	**09 56 55.4**	**+0.3**
	964nm15nm,1.0s						
BNSI	**Bone**	**19.61**	**97**	P	**Pn**	**09 56 57.3**	**+0.5**
	47nm,1.0s						
TOLI2	**Tolitoli**	**20.44**	**81**		**P**	**09 57 04.5**	**+0.4**
TOLI2				IAmb	IAmb	09 57 06.1	
	comp=Z,36nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.54**	**356**	P	**P**	**09 57 05.1**	**-0.1**
	comp=Z,3.8nm,0.6s,baz=187,slow=10.0,SNR=15						
CMAR				LR	LR	10 05 31.7	
	comp=Z,70nm,19.1s,baz=165,slow=38						
	comp=Z,3.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.54**	**356**	*i* P	**P**	**09 57 05.8**	**+0.6**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHTO	**Chiang Mai**	**20.90**	**356**	P	**P**	**09 57 08.3**	**-0.6**
APSI	**Ampana**	**21.08**	**87**	P	**P**	**09 57 13.2**	**+2.2**
	comp=Z,33nm,0.9s						
MRSI	**Marisa**	**21.50**	**83**	P	**P**	**09 57 16.5**	**+1.0**
	comp=Z,58nm,0.9s						
PALK	**Pallekele**	**21.95**	**295**	LR	LR	10 04 37.1	
	comp=Z,78nm,21.9s,baz=117,slow=33						
PALK	**Pallekele**	**21.95**	**295**	⇑*i* P	**P**	**09 57 23.8**	**+3.5**
PALK				pmax	pmax		
	comp=Z,12nm,1.1s						
SLVN	**Son La**	**23.57**	**8**		**P**	**09 57 36.6**	**-0.2**
DAV	**Davao City (W)**	**26.56**	**70**	LR	LR	10 09 41.6	
	comp=Z,78nm,20.3s,baz=258,slow=39						
KMI	**Kunming**	**27.19**	**4**	P	**P**	**09 58 15.7**	**+5.8**
KMI				pmax	pmax		
	comp=Z,16nm,0.8s						
PZH	**PanZhiHua**	**28.51**	**2**	P	**P**	**09 58 24.9**	**+3.4**
H08S2	**Diego Garcia H**	**28.52**	**258**	T	T	10 27 27.3	
	baz=81,slow=76,SNR=308						
H08S3	**Diego Garcia H**	**28.52**	**258**	T	T	10 27 29.5	
	baz=81,slow=76,SNR=433						
H08S1	**Diego Carcia H**	**28.53**	**258**	T	T	10 27 30.4	
	baz=81,slow=76,SNR=246						
FITZ	**Fitzroy Crossi**	**29.23**	**124**	P	**P**	**09 58 26.7**	**-1.2**
KNRA	**Kununurra**	**30.84**	**117**	P	**P**	**09 58 41.3**	**-0.9**
KNRA				IAmb	IAmb	09 59 22.6	
	comp=Z,35nm,1.6s						
MTN	**Manton Dam**	**32.04**	**111**	P	**P**	**09 58 51.6**	**-1.2**
MTN				IAmb	IAmb	09 59 07.5	
	comp=Z,32nm,1.4s						
EVN	**Everest**	**32.74**	**337**		**P**	**09 58 58.1**	**-1.3**
EVN				IAmb	IAmb	09 59 03.8	
	comp=Z,12nm,0.7s						
KMPI	**Kaimana, Papua**	**33.10**	**93**	P	**P**	**09 59 02.2**	**+0.2**
NACB	**Ninganchiao**	**33.19**	**37**	P	**P**	**09 59 02.2**	**-0.4**
NWAO	**Narrogin (SRO)**	**34.37**	**155**	LR	LR	10 11 53.6	
	comp=Z,59nm,19.7s,baz=172,slow=34						
H01W3	**Cape Leeuwin H**	**34.92**	**160**	T	T	10 35 56.2	
	baz=337,slow=76,SNR=19						
H01W2	**Cape Leeuwin H**	**34.93**	**160**	T	T	10 36 14.7	
	baz=337,slow=76,SNR=21						
H01W1	**Cape Leeuwin H**	**34.94**	**160**	T	T	10 36 10.6	
	baz=337,slow=76,SNR=23						
XAN	**Xi'an**	**36.84**	**12**	⇓P	**P**	**09 59 32.7**	**-1.4**
XAN				pP	pP	09 59 50.9	+2.4
XAN				S	**S**	**10 05 13.4**	**-1.2**
XAN				pmax	pmax		
	comp=Z,35nm,0.6s						
XAN				pmax	pmax		
	comp=Z,340nm,3.6s						
WB0	**Warramunga Arr**	**37.38**	**120**	P	**P**	**09 59 37.8**	**-1.1**
WRA	**Warramunga Arr**	**37.40**	**121**	P	**P**	**09 59 37.8**	**-1.3**
WRA	**Warramunga Arr**	**37.40**	**121**	P	**P**	**09 59 38.5**	**-0.5**
	comp=Z,4.0nm,0.7s,baz=302,slow=9.1,SNR=34						
WRA				PcP	**PcP**	**10 01 57.0**	**0.0**
	comp=Z,1.1nm,0.7s,baz=313,slow=2.4,SNR=4.3						
	comp=Z,4.0nm,0.7s						
WRAB	**Tennant Creek**	**37.41**	**121**	P	**P**	**09 59 38.5**	**-0.6**
WRAB	**Tennant Creek**	**37.41**	**121**	*i* P	**P**	**09 59 38.6**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,26nm,1.9s						
WB2	**Warramunga Arr**	**37.41**	**121**	P	**P**	**09 59 38.8**	**-0.3**
WB2				IAmb	IAmb	10 00 04.0	
	comp=Z,23nm,1.5s						
WR8	**Warramunga Arr**	**37.55**	**121**		**P**	**09 59 38.9**	**-1.3**
WR0	**Warramunga Arr**	**37.58**	**121**	P	**P**	**09 59 39.8**	**-0.8**
NJ2	**Nanjing**	**38.17**	**25**	*e*P	**P**	**09 59 47.2**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AS31	**Alice Springs**	**38.68**	**126**		**P**	**09 59 50.0**	**+0.2**
ASAR	**Alice Springs**	**38.68**	**126**	P	**P**	**09 59 50.1**	**+0.4**
	comp=Z,14nm,0.7s,baz=301,slow=7.9,SNR=204						
ASAR				PcP	**PcP**	**10 02 01.4**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=300,slow=2.4,SNR=7.4						
	comp=Z,14nm,0.7s						
GTA	**Gaotai**	**41.37**	**359**	*e*P	P	10 00 18.2	+6.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**43.95**	**12**	*e*P	**P**	**10 00 36.0**	**+3.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,67nm,4.1s						
NIL	**Nilore**	**43.96**	**326**		**P**	**10 00 33.6**	**+0.7**
JNU	**Nakatsue**	**45.26**	**37**	P	**P**	**10 00 43.6**	**+0.3**
JNU				IAmb	IAmb	10 00 44.3	
	comp=Z,13nm,1.0s						
JNU	**Nakatsue**	**45.26**	**37**	LR	LR	10 18 45.0	
	comp=Z,39nm,21.7s,baz=228,slow=35						
GUMO	**Guam**	**46.60**	**69**	LR	LR	10 23 36.2	
	comp=Z,9.9nm,18.6s,baz=200,slow=40						
KSAR	**Wonju Array Be**	**46.82**	**30**	P	**P**	**10 00 54.4**	**-1.0**
KSRS	**Korea Array**	**46.85**	**30**	P	**P**	**10 00 55.2**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=228,slow=8.1,SNR=17						
	comp=Z,2.8nm,0.8s						
KS19	**Wonju Array Si**	**46.86**	**30**	P	**P**	**10 00 54.9**	**-0.8**
KS19				IAmb	IAmb	10 01 14.6	
	comp=Z,12nm,1.4s						
KBL	**Kabul**	**47.01**	**324**	P	**P**	**10 00 56.7**	**-0.5**
KBL				IAmb	IAmb	10 01 41.2	
	comp=Z,14nm,1.4s						
WMQ	**Urumqi**	**47.21**	**347**	*e*P	**P**	**10 00 59.6**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,31nm,1.3s						
KSH	**Kashi**	**47.23**	**334**	P	**P**	**10 00 58.4**	**-0.3**
KSH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
JMN	**Monobe**	**47.50**	**38**	P	**P**	**10 01 00.2**	**-0.6**
XLT	**XiLinHaoTe**	**47.90**	**15**	*e*P	**P**	**10 01 03.5**	**-0.3**
XLT				sP	sP	10 01 32.4	+7.0
XLT				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CTAO	**Charters Tower**	**47.99**	**115**	P	**P**	**10 01 04.6**	**-0.3**
CTAO				IAmb	IAmb	10 01 48.4	
	comp=Z,32nm,1.6s						
TARG	**Taragay, Kyrgy**	**48.33**	**337**		**P**	**10 01 08.7**	**+1.1**
TARG				IAmb	IAmb	10 01 10.0	
	comp=Z,11nm,0.9s						
STKA	**Stephens Creek**	**48.60**	**132**	P	**P**	**10 01 10.5**	**+1.1**
STKA	**Stephens Creek**	**48.60**	**132**	P	**P**	**10 01 11.3**	**+2.0**
	comp=Z,4.1nm,0.6s,baz=303,slow=8.5,SNR=13						
	comp=Z,4.1nm,0.6s						
STKA	**Stephens Creek**	**48.60**	**132**	⇑*i* P	**P**	**10 01 10.3**	**+0.9**
PRZ	**Przheval'sk**	**48.75**	**338**	P	**P**	**10 01 12.6**	**+2.1**
NRN	**Naryn**	**48.80**	**335**		**P**	**10 01 12.2**	**+1.0**
NRN				IAmb	IAmb	10 01 13.0	
	comp=Z,13nm,1.0s						
KDJ	**Kajisay**	**48.91**	**337**	P	**P**	**10 01 13.3**	**+1.5**
DRK	**Karamyk**	**49.15**	**330**	P	**P**	**10 01 15.6**	**+1.9**
GAR	**Garm**	**49.53**	**329**	P	**P**	**10 01 17.1**	**+0.7**
GAR				IAmb	IAmb	10 01 40.5	
	comp=Z,12nm,0.9s						
BOOM	**Boomskoye usch**	**49.71**	**336**	P	**P**	**10 01 19.2**	**+1.3**
BOOM				IAmb	IAmb	10 01 19.7	
	comp=Z,10nm,0.8s						
ARSB	**Arslanbob**	**50.03**	**333**	P	**P**	**10 01 21.3**	**+1.1**
ARSB				IAmb	IAmb	10 01 22.4	
	comp=Z,20nm,0.9s						
SONM	**Songino Array**	**50.04**	**5**		**P**	**10 01 20.5**	**+0.4**
SONM				PcP	**PcP**	**10 02 39.6**	**+0.2**
SONM	**Songino Array**	**50.04**	**5**	P	**P**	**10 01 20.4**	**+0.2**
	comp=Z,3.0nm,0.5s,baz=188,slow=8.8,SNR=20						
SONM				PcP	**PcP**	**10 02 38.8**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=194,slow=4.1,SNR=3.9						
	comp=Z,3.0nm,0.5s						
BTK	**Batken**	**50.07**	**330**	P	**P**	**10 01 21.3**	**+0.7**
BTK				IAmb	IAmb	10 01 53.5	
	comp=Z,8.4nm,0.9s						
UCH	**Uchtor**	**50.09**	**335**	P	**P**	**10 01 22.3**	**+1.3**
	SNR=6.2						
ULN	**Ulaanbaatar**	**50.13**	**6**	P	**P**	**10 01 20.7**	**-0.2**
ULN				IAmb	IAmb	10 01 23.2	
	comp=Z,5.2nm,0.6s						
ULN	**Ulaanbaatar**	**50.13**	**6**	⇑*i* P	**P**	**10 01 20.1**	**-0.8**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TKM2	**Tokmak 2**	**50.21**	**336**	P	**P**	**10 01 22.7**	**+1.1**
	SNR=19						
AML	**Almayashu**	**50.36**	**334**	P	**P**	**10 01 24.3**	**+1.3**
	SNR=6.4						
AAK	**Ala-Archa**	**50.43**	**335**	*e*P	**P**	**10 01 23.9**	**+0.6**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
EKS2	**Erkin-Say**	**50.75**	**335**	P	**P**	**10 01 27.2**	**+1.6**
	SNR=9.7						
CN2	**Changchun**	**50.89**	**23**	P	**P**	**10 01 25.6**	**-0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
USP	**Ospenovka**	**50.95**	**336**	P	**P**	**10 01 27.9**	**+0.9**
	SNR=7.6						
MK31	**Makanchi Array**	**51.34**	**344**	*c* iP	**P**	**10 01 30.0**	**+0.2**
MKAR	**Makanchi Array**	**51.34**	**344**	P	**P**	**10 01 29.9**	**+0.1**
	comp=Z,22nm,0.7s,baz=148,slow=8.0,SNR=198						
	comp=Z,22nm,0.7s						
MKAR	**Makanchi Array**	**51.34**	**344**	P	**P**	**10 01 30.0**	**+0.1**
MAKZ	**Makanchi**	**51.44**	**344**		**P**	**10 01 30.4**	**-0.2**
MAKZ				IAmb	IAmb	10 01 31.4	
	comp=Z,10.0nm,0.8s						
MAKZ	**Makanchi**	**51.44**	**344**	P	**P**	**10 01 30.4**	**-0.2**
MAKZ				pP	**pP**	**10 01 41.0**	**-4.6**
MAJO	**Matsushiro**	**52.02**	**39**	P	**P**	**10 01 34.4**	**-0.7**
MAJO				IAmb	IAmb	10 03 15.5	
	comp=Z,24nm,1.6s						
MJB9	**Matsu-Tunnel**	**52.02**	**39**	P	**P**	**10 01 34.7**	**-0.5**
MJB9				IAmb	IAmb	10 03 15.5	
	comp=Z,24nm,1.7s						
MJAR	**Matsushiro Arr**	**52.02**	**39**	P	**P**	**10 01 34.3**	**-0.9**
MJAR	**Matsushiro Arr**	**52.02**	**39**	P	**P**	**10 01 34.2**	**-0.9**
	comp=Z,3.4nm,0.9s,baz=213,slow=7.3,SNR=10						
	comp=Z,3.4nm,0.9s						
BNX	**BinXian**	**53.27**	**23**	⇑P	**P**	**10 01 44.0**	**-0.2**
BNX				pmax	pmax		
	comp=Z,11nm,0.6s						
EIDS	**Eidsvold**	**53.76**	**120**	P	**P**	**10 01 47.1**	**-1.1**
USA0B	**Ussuriysk Arra**	**54.01**	**28**		**P**	**10 01 49.3**	**-0.3**
USA0B				IAmb	IAmb	10 01 50.3	
	comp=Z,14nm,0.8s						
USRK	**Ussuriysk Ar.**	**54.01**	**28**	P	**P**	**10 01 49.3**	**-0.3**
	comp=Z,14nm,0.7s,baz=220,slow=5.9,SNR=25						
USRK				LR	LR	10 26 49.5	
	comp=Z,45nm,18.2s,baz=213,slow=38						
	comp=Z,14nm,0.7s						
KURBB	**Kurchatov Arra**	**55.86**	**343**	P	**P**	**10 02 02.8**	**-0.1**
	comp=Z,9.3nm,0.8s,baz=160,slow=7.0,SNR=72						
KURBB				PcP	**PcP**	**10 03 01.2**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=151,slow=3.8,SNR=4.0						
	comp=Z,9.3nm,0.8s						
KURK	**Kurchatov**	**55.92**	**343**		**P**	**10 02 03.7**	**+0.5**
KURK				IAmb	IAmb	10 02 04.2	
	comp=Z,18nm,0.9s						
KURK	**Kurchatov**	**55.92**	**343**	*c* iP	**P**	**10 02 02.9**	**-0.4**
KURK				*i* *PP	**pP**	**10 02 20.4**	**+1.9**
KURK				pmax	pmax		
	comp=Z,19nm,0.8s						
KURK	**Kurchatov**	**55.92**	**343**	P	**P**	**10 02 03.2**	**-0.1**
KURK				pP	**pP**	**10 02 13.6**	**-4.9**
JTM	**Tenmabayashi**	**56.43**	**36**	P	**P**	**10 02 06.5**	**-0.6**
HEH	**HeiHe**	**57.05**	**20**	*e*P	**P**	**10 02 11.0**	**-0.3**
ZAA0	**Zalesovo Array**	**57.43**	**349**		**P**	**10 02 13.3**	**-0.6**
ZALV	**Zalesovo Beam**	**57.43**	**349**	P	**P**	**10 02 13.6**	**-0.3**
	comp=Z,33nm,0.8s,baz=157,slow=7.4,SNR=59						
	comp=Z,33nm,0.8s						
KLR	**Kul'dur**	**57.83**	**24**	LR	LR	10 29 18.1	
	comp=Z,39nm,18.0s,baz=212,slow=38						
KLR	**Kul'dur**	**57.83**	**24**	*c* iP	**P**	**10 02 16.1**	**-0.7**
KLR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ASAJ	**Asahikawa**	**59.40**	**34**	LR	LR	10 28 18.9	
	comp=Z,18nm,19.5s,baz=192,slow=36						
JKA	**Kamikawa-asahi**	**59.40**	**34**	P	**P**	**10 02 27.0**	**-0.9**
JKA				IAmb	IAmb	10 02 58.2	
	comp=Z,17nm,1.3s						
ZEA	**Zeya**	**59.96**	**18**	*e*P	**P**	**10 02 32.1**	**+0.6**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BVAR	**Borovoye Array**	**60.53**	**340**	P	**P**	**10 02 34.8**	**-0.6**
	comp=Z,6.4nm,0.6s,baz=142,slow=9.4,SNR=28						
	comp=Z,6.4nm,0.6s						
BRVK	**Borovoye**	**60.60**	**340**		**P**	**10 02 35.8**	**-0.1**
BRVK	**Borovoye**	**60.60**	**340**	*c*eP	**P**	**10 02 35.2**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
H04N2	**CROZET ISLANDS**	**61.03**	**217**	T	T	11 08 19.5	
	baz=58,slow=75,SNR=624						
H04N1	**CROZET ISLANDS**	**61.04**	**217**	T	T	11 08 11.0	
	baz=58,slow=75,SNR=740						
H04N3	**CROZET ISLANDS**	**61.05**	**217**	T	T	11 08 24.2	
	baz=58,slow=75,SNR=602						
YSS	**Yuzhno-Sakhali**	**61.30**	**32**	P	**P**	**10 02 40.5**	**-0.2**
YSS				IAmb	IAmb	10 02 41.0	
	comp=Z,7.9nm,0.9s						
YSS	**Yuzhno-Sakhali**	**61.30**	**32**	*e*P	**P**	**10 02 40.4**	**-0.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
H04S1	**CROZET ISLANDS**	**61.31**	**216**	T	T	11 08 41.5	
	baz=57,slow=75,SNR=236						
H04S3	**CROZET ISLANDS**	**61.33**	**216**	T	T	11 08 39.6	
	baz=57,slow=75,SNR=358						
H04S2	**CROZET ISLANDS**	**61.33**	**216**	T	T	11 08 44.1	
	baz=57,slow=75,SNR=222						
AB31	**Akbulak array**	**62.06**	**331**	P	**P**	**10 02 45.6**	**-0.2**
AB31				IAmb	IAmb	10 02 46.5	
	comp=Z,14nm,0.8s						
ABKAR	**Akbulak array**	**62.06**	**331**		**P**	**10 02 45.8**	**0.0**
AKTO	**Aktyubinsk**	**63.77**	**331**	P	**P**	**10 02 56.8**	**-0.4**
	comp=Z,5.2nm,0.7s,baz=124,slow=5.0,SNR=11						
	comp=Z,5.2nm,0.7s						
GNI	**Garni**	**66.05**	**316**	P	**P**	**10 03 10.8**	**-1.6**
GNI				IAmb	IAmb	10 03 14.9	
	comp=Z,9.4nm,0.9s						
GNI	**Garni**	**66.05**	**316**	⇑*i* P	**P**	**10 03 13.8**	**+1.4**
GNI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NOUC	**Port Laguerre**	**66.72**	**113**	P	**P**	**10 03 13.8**	**-3.1**
ARTI	**Arti**	**67.63**	**336**	*d* iP	**P**	**10 03 21.5**	**-0.4**
ARTI						10 05 48.7	
ARTI				S	**S**	**10 12 14.7**	**+0.1**
ARTI				SS	**SS**	**10 16 29.6**	**-6.9**
ARTI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YAK	**Yakutsk**	**67.74**	**14**	LR	LR	10 34 30.4	
	comp=Z,44nm,18.9s,baz=248,slow=37						
YAK	**Yakutsk**	**67.74**	**14**	*e*P	**P**	**10 03 20.7**	**-1.8**
YAK				pmax	pmax		
	comp=Z,14nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
KBZ	**Khabaz**	**68.81**	**319**	P	**P**	**10 03 30.6**	**+1.0**
	comp=E,6.8nm,0.8s,baz=136,slow=5.8,SNR=16						
	comp=E,6.8nm,0.8s						
KBZ	**Khabaz**	**68.81**	**319**	*c* iP	**P**	**10 03 30.5**	**+1.0**
KBZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SHA1	**Shidzhatmaz**	**68.97**	**319**	*c* iP	**P**	**10 03 32.0**	**+1.1**
KIV	**Kislovodsk**	**69.05**	**319**	*e*P	**P**	**10 03 30.8**	**-0.4**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BELG	**Belogornoye**	**70.17**	**329**	*i* P	**P**	**10 03 37.3**	**-0.4**
BELG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARPR	**Arapgir-MALATY**	**70.21**	**313**	P	**P**	**10 03 37.3**	**-1.3**
ARPR				IAmb	IAmb	10 04 02.3	
	comp=Z,9.4nm,0.7s						
MMAI	**Mount Meron Ar**	**70.61**	**306**	P	**P**	**10 03 43.5**	**+2.5**
	comp=Z,2.4nm,0.6s,baz=107,slow=6.8,SNR=5.3						
	comp=Z,2.4nm,0.6s						
NRIK	**Noril'sk**	**71.90**	**355**	P	**P**	**10 03 47.7**	**-0.3**
NRIK				IAmb	IAmb	10 03 48.2	
	comp=Z,16nm,1.2s						
NRIK	**Noril'sk**	**71.90**	**355**	P	**P**	**10 03 47.4**	**-0.6**
	comp=Z,3.5nm,0.5s,baz=148,slow=5.5,SNR=3.5						
	comp=Z,3.5nm,0.5s						
PEA0B	**Petropavlovsk-**	**72.69**	**32**	P	**P**	**10 03 51.7**	**-1.3**
PEA0B				IAmb	IAmb	10 05 02.5	
	comp=Z,24nm,1.6s						
PETK	**Petropavlovsk-**	**72.69**	**32**	P	**P**	**10 03 51.7**	**-1.3**
PETK	**Petropavlovsk-**	**72.69**	**32**	P	**P**	**10 03 51.6**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=222,slow=7.7,SNR=2.8						
PETK				LR	LR	10 36 55.9	
	comp=Z,27nm,19.6s,baz=242,slow=37						
	comp=Z,1.4nm,0.8s						
VRH	**Novokhopyorsk**	**72.78**	**326**	*e*P	**P**	**10 03 53.1**	**-0.4**
VRH				pmax	pmax		
	comp=Z,22nm,0.9s						
BR131	**Keskin Array S**	**73.86**	**312**		**P**	**10 04 00.6**	**+0.3**
BRTR	**Keskin Array B**	**73.86**	**312**	P	**P**	**10 04 00.7**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=107,slow=6.8,SNR=14						
	comp=Z,2.8nm,0.6s						
VORR	**Voronezh**	**74.41**	**325**	*e*P	**P**	**10 04 02.9**	**-0.1**
VORR				pmax	pmax		
	comp=Z,27nm

J16K	Anvik River	95.88	27		P	10 05 52.3	+0.9
H17K	Granite Mounta	95.97	25	P	P	10 05 52.2	+0.5
H17K				IAmb	IAmb	10 09 22.7	
	comp=Z,5.2nm,0.9s						
J17K	VABM Dome	96.54	26	P	P	10 05 55.1	+0.7
J17K				IAmb	IAmb	10 09 25.4	
	comp=Z,6.7nm,1.1s						
H18K	Honhosa River	96.58	25	P	P	10 05 54.8	+0.2
H19K	Roundabout Mou	97.31	24	P	Pdif	10 05 58.6	+0.8
J19K	Poorman	97.96	26	P	P	10 06 01.4	+0.6
J19K				IAmb	IAmb	10 09 47.2	
	comp=Z,5.2nm,1.1s						
G21K	Allakaket	98.27	23	P	P	10 06 02.0	-0.1
G21K				IAmb	IAmb	10 06 03.0	
	comp=Z,4.7nm,0.9s						
IMAR	Indian Mountai	98.30	23	P	P	10 06 02.5	+0.2
J20K	Nowinta River	98.55	25	P	Pdif	10 06 04.3	+0.8
J20K				IAmb	IAmb	10 09 44.6	
	comp=Z,4.1nm,1.0s						
H21K	Melozitna Rive	98.76	24	P	P	10 06 05.0	+0.7
ULM	Lac du Bonnet	130.08	14	PKP	PKPdf	10 11 34.9	0.0
	comp=Z,0.5nm,0.4s,baz=233,slow=0.2,SNR=3.2						
X34A	Smith Ranch, M	143.43	26	PKPdf	PKPdf	10 12 00.2	+0.3
SGCY	Sterling City	144.01	32		PKPab	10 11 58.4	-0.1
ABTX	Abilene, Hawle	144.22	30	PKPdf	PKPab	10 11 59.6	+0.4
VA03	San Esteban	144.28	193	PKPdf	PKPab	10 12 00.5	+0.9
BDFB	Brasilia	144.28	239	PKP	PKPbc	10 12 01.9	+1.5
	comp=Z,2.0nm,0.5s,baz=327,slow=6.9,SNR=3.3						
R58B	Mineral	144.33	358	PKPdf	PKPab	10 11 59.4	0.0
FCAR	Ozark Folk Cen	144.42	18	PKPdf	PKPab	10 12 00.1	+0.3
TX31	Lajitas Ar. Si	144.46	38		PKPbc	10 12 01.4	+0.8
TXAR	Lajitas Array	144.46	38		PKPbc	10 12 01.3	+0.7
TXAR	Lajitas Array	144.46	38	PKP	PKPab	10 12 01.1	+0.8
	comp=Z,6.0nm,0.8s,baz=277,slow=1.2,SNR=72						
S51A	Beattyville	144.47	19	PKPdf	PKPab	10 11 59.5	-0.5
LCAR	Lake Charles	144.54	17	PKPdf	PKPab	10 12 00.6	+0.3
CPUP	Villa Florida	144.55	216	PKP	PKPdf	10 12 02.9	+0.8
	comp=Z,1.5nm,0.8s,baz=302,slow=1.3,SNR=8.3						
S57A	Dark Hollow, R	144.56	359	PKPdf	PKPab	10 12 00.1	-0.2
T47A	Sharon Grove	144.61	11	PKPdf	PKPab	10 12 00.6	0.0
Z35A	Perchaven, San	144.76	26	PKPdf	PKPab	10 12 00.8	-0.4
HPIG		144.77	43		PKPab	10 12 02.4	+0.7
OZNA	Ozona	144.77	33	PKPdf	PKPab	10 12 01.1	-0.3
WHAR	Wooly Hollow	144.92	19		PKPab	10 12 01.1	-0.6
SAND	Sanderson	144.94	36	PKPbc	PKPab	10 11 59.6	-2.4
T50A	Nancy	144.94	8	PKPbc	PKPab	10 12 01.3	-0.4
FW07	Weatherford	145.04	28	PKPbc	PKPab	10 12 02.3	0.0
MIAR	Mount Ida	145.17	21		PKPbc	10 12 02.5	-0.1
WVT	Waverly	145.30	12		PKPbc	10 12 02.5	-0.5
U49A	Red Boiling Sp	145.30	9	PKPbc	PKPbc	10 12 02.0	-1.0
T59A	Double "B" Far	145.31	357	PKPbc	PKPbc	10 12 01.9	-1.0
T57A	Hurt	145.32	360		PKPbc	10 12 02.6	-0.4
UALR	University of	145.38	19		PKPbc	10 12 02.8	-0.4
X40A	Basin Creek Fa	145.48	20		PKPbc	10 12 02.7	-0.8
FW13	Cleburne	145.50	28	PKPdf	PKPbc	10 12 03.1	-0.6
TZTN	Tazewell	145.56	6	PKPdf	PKPdf	10 12 03.0	-0.6
BRDY	Brady	145.61	31	PKPbc	PKPdf	10 12 04.0	+0.1
CLTN	Cedars of Leba	145.62	10	PKPdf	PKPdf	10 12 03.2	-0.5
U54A	Nelsons Funny	145.73	3	PKPbc	PKPdf	10 12 04.1	+0.1
JCT	Junction City	145.84	32	PKPbc	PKPdf	10 12 05.0	+0.8
V48A	Smith Brothers	145.88	11	PKPbc	PKPdf	10 12 03.8	-0.3
U56A	King	145.96	1	PKPbc	PKPdf	10 12 05.0	+0.7
WLAR	White Oak Lake	146.10	21	PKPbc	PKPdf	10 12 04.5	-0.1
DRIO	Del Rio	146.20	35	PKPbc	PKPdf	10 12 05.8	+0.9
PLAL	Pickwick Lake	146.35	13	PKPbc	PKPdf	10 12 05.2	+0.2
TKL	Tuckaleechee C	146.41	6	PKPbc	PKPdf	10 12 04.6	-0.5
V58A	Windy Hill, Pi	146.52	360	PKPbc	PKPdf	10 12 06.3	+1.0
CPCT	Cooper Cave	146.53	7	PKPbc	PKPdf	10 12 06.3	+1.0
435B	Jarrell	146.73	29	PKPbc	PKPbc	10 12 07.5	+0.1
W52A	Murphy	146.96	7	PKPbc	PKPdf	10 12 07.8	+1.8
X48A	Hartselle	147.08	12	PKPbc	PKPdf	10 12 07.3	+1.1
KMSC	Kings Mountain	147.13	3	PKPbc	PKPbc	10 12 08.4	-0.1
BG3	Lake Jocassee	147.16	5	PKPbc	PKPdf	10 12 08.1	+1.8
FPAL	Fort Paine	147.26	9	PKPbc	PKPdf	10 12 08.0	+1.5
Y49A	Blount Mountai	147.78	11	PKPbc	PKPdf	10 12 09.6	+2.1
Z47A	Carrollton	148.06	14	PKPbc	PKPdf	10 12 10.3	+2.4
Y52A	Lilburn	148.15	7	PKPbc	PKPbc	10 12 10.7	-0.6
AC02	Maricunga	149.52	198	PKPab	PKiKP	10 12 18.2	+1.6

IDC 05 09:58:02.8±3.0, 62°.11N×34°.22E, h0km, mbtmp3.4/3, ML1.8/3, Error ellipse: s-maj=35.9km s-min=15.8km az=146.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FINES	FINESS Array B	3.92	264	Pn	Pn	09 59 03.1	-1.1
	0.1nm,0.3s,baz=81,slow=12,SNR=6.6						
FINES				Pg	Pb	09 59 12.4	-0.4
	0.3nm,0.3s,baz=78,slow=16,SNR=7.5						
FINES				Sn	Sn	09 59 49.3	-1.6
	0.4nm,0.3s,baz=74,slow=22,SNR=5.4						
FINES				Lg	Lg	10 00 06.5	
	1.0nm,0.3s,baz=79,slow=26,SNR=15						
	2.3nm,0.9s						
ARCES	ARCESS Array B	8.26	338	Pn	Pn	09 59 59.6	-4.0
	baz=144,slow=9.4,SNR=2.1						
	2.7nm,1.0s						
I37NO	I37NO	9.49	324	I	I	10 52 20.0	
	baz=130,slow=320,SNR=1.4						
HFS	Hagfors	10.11	268	Pn	Pn	10 00 26.0	-3.0
	0.1nm,0.3s,baz=96,slow=12,SNR=1.6						
HFS				Lg	Lg	10 03 18.9	
	0.1nm,0.3s,baz=69,slow=28,SNR=1.3						
	3.1nm,1.0s						

*UPP **05** 09:59:48.2±2.6, 64°.27N×30°.72E, h0km, ML1.7*
*KOLA **05** 09:59:50.1, 64°.53N×30°.92E, h0km, ML2.3, Karelia*
*HEL **05** 09:59:50.2±0.3, 64°.69N×30°.67E, h0km, ML1.9, Suspected explosion Hypocentre not reviewed by the ISC*
*IDC **05** 09:59:52.1±2.9, 64°.70N×30°.77E, h0km, mbtmp3.2/3, ML2.1/3, Error ellipse: s-maj=44.1km s-min=9.2km az=103.0*

ISC 05 09:59:52.7±1.2, 64°.79N±0°.05×30°.29E±0°.06, h0km, n13, σ1s47/22, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RMF	Romuvaara	0.60	195	PG		10 00 00.3	
RMF				SG		10 00 03.9	
RMF				MSG		10 00 08.6	
	comp=Z,22nm,0.2s						
KU1	Kurvinen	0.84	339	PG		10 00 08.2	
MSF	Maaselka	1.24	336	PG		10 00 15.5	
MSF				SN		10 00 35.9	
KU6	Riekki	1.25	352	PG		10 00 15.0	
KU6				MSG		10 00 31.7	
	comp=Z,9.5nm,0.2s						
KU6				SB		10 00 33.8	
KU2	Taivalkoski	1.27	318	PG		10 00 16.5	
OLKF	Oulanka, Finla	1.58	347	PG		10 00 20.9	
OLKF				MSG		10 00 41.5	
	comp=Z,8.2nm,0.2s						
NIF	Nilsia	1.78	219	PG		10 00 23.0	
	baz=39						
OUL	Oulu	1.90	281	PG		10 00 27.3	
RANF	Ranua	1.91	312	PG		10 00 27.6	
KVDA	Kovda	2.19	28	P	Pn	10 00 29.1	-1.1
KVDA				S	Sn	10 00 57.1	-0.9
OUF	Merijarvi	2.44	262	PG		10 00 38.0	
	baz=78						
OUF				MSG		10 01 06.6	
	comp=Z,8.6nm,0.2s						
SUF	Sumiainen	2.78	223	PG		10 00 41.7	
SUF				MSG		10 01 13.4	
	comp=Z,2.5nm,0.2s						
OBF8	Ulkokalla	2.99	264	PG		10 00 46.3	
OBF8				MSG		10 01 22.4	
	comp=Z,2.9nm,0.2s						
APA0	Apatity Array	3.03	20	P	Pn	10 00 42.8	+0.8
APA0				S	Sn	10 01 18.9	0.0
APA	Apatity	3.06	23	S	Sn	10 01 19.9	+0.2
KALU	Kalix	3.10	293	P	Pn	10 00 43.5	+0.7
KALU				S	Sb	10 01 26.2	-0.8
KALU	Kalix	3.10	293	PN		10 00 42.6	
RUF	Ruokolahti	3.43	191	PG		10 00 50.3	
KLF	Kolari	3.56	316	PG		10 00 56.0	
PAJU	Pajala	3.70	311	P	Pn	10 00 52.8	+1.7
PAJU				S	Sb	10 01 41.9	-2.4
PAJU	Pajala	3.70	311	PB		10 00 56.6	
SJUU	Sjulsmark	3.74	285	P	Pn	10 00 51.0	-0.5
SJUU				S	Sn	10 01 38.9	+2.6
ERTU	Ertsjaerv	3.79	301	P	Pn	10 00 53.8	+1.5
ERTU	Ertsjaerv	3.79	301	PB		10 00 57.5	
FIA0	FINESS Array S	3.87	212	SG		10 01 50.1	
FINES	FINESS Array B	3.87	212	Pn	Pn	10 00 53.6	+0.2
	comp=Z,0.3nm,0.3s,baz=30,slow=16,SNR=4.4						
FINES				Pg	Pb	10 01 03.1	+1.4
	comp=Z,0.3nm,0.3s,baz=31,slow=16,SNR=1.7						
FINES				Sn	Sn	10 01 39.9	+0.6
	comp=Z,0.2nm,0.3s,baz=34,slow=23,SNR=1.3						
FINES				Lg	Lg	10 01 52.4	
	comp=Z,1.0nm,0.3s,baz=41,slow=26,SNR=9.7						
	comp=Z,0.9nm,0.6s						
UMAU	Umeaa	4.28	262	P	Pn	10 00 56.2	-2.8
VJF	Virojoki	4.45	198	SG		10 02 04.3	
ARCES	ARCESS Array B	5.12	341	Pn	Pn	10 01 08.8	-1.7
	comp=Z,0.1nm,0.3s,baz=154,slow=14,SNR=10						
ARCES				Sn	Sn	10 02 10.0	-0.2
	comp=Z,0.1nm,0.3s,baz=156,slow=24,SNR=2.3						
ARCES				Lg	Lg	10 02 31.9	
	comp=Z,0.3nm,0.3s,baz=138,slow=36,SNR=2.0						
	comp=Z,2.8nm,0.9s						
ARCES	ARCESS Array B	5.12	341	P	Pn	10 01 10.7	+0.1
ARCES				S	Sn	10 02 12.1	+1.9
I37NO	I37NO	6.29	318	I	I	10 36 00.0	
	baz=128,slow=320,SNR=1.5						
HFS	Hagfors	8.98	246	Pn	Pn	10 02 02.1	-1.4
	comp=Z,0.1nm,0.3s,baz=60,slow=13,SNR=3.7						
HFS				Sn	Sn	10 03 44.9	-0.3
	comp=Z,0.1nm,0.3s,baz=67,slow=22,SNR=1.2						
	comp=Z,5.5nm,1.1s						

*AEIC **05** 10:05:57.2±2.5, 52°.43N±0°.05×172°.74W±0°.08, h96km±6km, Error ellipse: s-maj=7.9km s-min=5.4km az=132.0*
*IDC **05** 10:05:58.1±0.7, 52°.58N×172°.83W, h109km±5km, mb3.6/18, mbtmp4.0/20, MS2.9/1, Error ellipse: s-maj=18.1km s-min=11.1km az=1.0*
*NEIC **05** 10:05:58.3±2.1, 52°.44N±0°.10×172°.75W±0°.08, h107km±7km, mb4.0/115, ML4.3/20, ML4.2(AEIC), Error ellipse: s-maj=14.2km s-min=6.5km az=166.0*

ISC 05 10:05:57.8±0.6, 52°.48N±0°.09×172°.70W±0°.04, h108km±4km, n249, σ1s20/263, mb4.1/49, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATKA	Atka Island	0.96	254		Pn	10 06 17.5	-0.9
ATKA				Sn	Sn	10 06 32.3	-1.6
ATKA				IAML		10 06 32.7	
	comp=N,6μm,0.6s						
GSIG	Igitkin Island	2.05	257		Pn	10 06 30.4	-0.9
GSIG					Sn	10 06 55.0	-1.9
GSTR	Great Sitkin T	2.10	261		Pn	10 06 31.4	-0.6
GSTR				Sn	Sn	10 06 59.3	+1.1
GSTR				IAML		10 07 03.5	
	comp=E,2μm,0.4s						
GSMY	Great Sitkin M	2.11	259		Pn	10 06 31.3	-0.8
GSMY					Sn	10 06 59.9	+1.6
GSTD	Great Sitkin T	2.16	260		Pn	10 06 31.9	-0.9
GSTD					Sn	10 06 59.7	+0.1
GSSP	Great Sitkin S	2.17	261		Pn	10 06 32.2	-0.7
GSSP					Sn	10 06 59.9	+0.2
GSCK	Great Sitkin C	2.18	259		Pn	10 06 32.2	-0.8
GSCK					Sn	10 07 00.2	+0.2
ETKA	Kagalaska Isla	2.37	256		Pn	10 06 34.7	-0.7
ETKA					Sn	10 07 03.9	-0.3
NIKH	Nikolski High	2.39	77		Pn	10 06 35.9	+0.2
NIKH				Sn	Sn	10 07 03.9	-0.8
NIKH	Nikolski High	2.39	77	P	Pn	10 06 36.1	+0.5
ADAG	Mount Adagdak	2.45	260		Pn	10 06 36.6	+0.1
ADK	Adak	2.53	258		Pn	10 06 36.6	-0.8
ADK				Sn	Sn	10 07 07.7	-0.2
ADK				IAML		10 07 12.5	
	comp=E,1μm,0.3s						
ADK				IAML		10 07 13.3	
	comp=E,1μm,0.3s						
ADK	Adak	2.53	258	P	Pn	10 06 36.8	-0.6
KIRH	Kanaga Island	2.77	260		Pn	10 06 40.0	-0.6
OKSP	Okmok Steeple	2.78	72		Pn	10 06 41.7	+0.9
KIWB	Kanaga Island	2.81	259		Pn	10 06 41.4	+0.2
KIWB				IAML		10 07 28.7	
	comp=N,929nm,0.5s						
KIWB				IAML		10 07 29.1	
	comp=E,976nm,0.5s						
KIWB	Kanaga Island	2.81	259		Sn	10 07 14.8	+0.2
KIKV	Kanaga Island	2.82	259		Pn	10 06 40.8	-0.6
KIMD	Kanaga Island	2.89	257		Pn	10 06 42.0	-0.2
OKCE	Okmok Cone E	2.90	69		Pn	10 06 43.4	+1.0
OKNC	Okmok New Cone	2.93	69		Pn	10 06 43.9	+1.1
OKTU	Okmok Mt. Tuli	2.96	70		Pn	10 06 44.4	+1.2
OKMG	Magazine Ridge	3.04	70		Pn	10 06 45.4	+1.2
TASE	Tanaga Southea	3.35	261		Pn	10 06 48.5	+0.1
MAPS	Pakushin South	3.71	67		Pn	10 06 54.0	+0.8
MGOD	Makushin Gods	3.75	67		Pn	10 06 54.6	+0.9
GANE	Gareloi Northe	3.80	262		Pn	10 06 54.3	-0.2
GALAA	Gareloi Lava P	3.81	262		Pn	10 06 54.4	-0.2
MREP	Makushin Rep't	3.82	67		Pn	10 06 55.8	+1.1
MTBL	Makushin Table	3.91	65		Pn	10 06 56.9	+1.0
UNV	Unalaska Valle	3.97	67		Pn	10 06 57.6	+1.0
UNV	Unalaska Valle	3.97	67	P	Pn	10 06 57.9	+1.3
AKRB	Akutan Reef Bi	4.30	65		Pn	10 07 02.6	+1.5
AKMO	Akutan Morgan	4.33	65		Pn	10 07 02.9	+1.5
LVA	Lava Point	4.33	64		Pn	10 07 03.1	+1.5
LVA				IAML		10 08 21.6	
	comp=E,317nm,0.8s						
AKGG	Akutan Green G	4.37	64		Pn	10 07 03.7	+1.6
AKUT	Akutan	4.47	65		Pn	10 07 04.9	+1.6
AKUT				IAML		10 08 13.2	
	comp=E,185nm,1.0s						
AKUT	Akutan	4.47	65	P	Pn	10 07 05.0	+1.6
P08K	Saint George I	4.52	23		Pn	10 07 05.6	+1.6
P08K				IAML		10 07 59.1	
	comp=N,280nm,1.2s						
CEPE	Semis' Perret	4.74	267		Pn	10 07 07.1	+0.1
SPIA	Saint Paul Isl	4.92	16	Pn	Pn	10 07 11.1	+1.8
SPIA				IAML		10 08 11.2	
	comp=N,143nm,0.7s						
AMKA	Amchitka	5.07	261		Pn	10 07 11.1	-0.4
WEBT	Westdahl Beart	5.19	63		Pn	10 07 14.3	+1.2
LSSE	Little Sitkin	5.40	268		Pn	10 07 16.4	+0.5
LSNW	Little Sitkin	5.43	268		Pn	10 07 16.8	+0.6
SSBA	Shishaldin	5.59	62		Pn	10 07 19.6	+1.0
ISLZ	Isanotski Laza	5.80	64		Pn	10 07 22.6	+1.2
ISNN	Isanotski Nort	5.80	63		Pn	10 07 22.9	+1.5
PN7A	Pavlof North-7	6.97	61		Pn	10 07 38.6	+1.4
HAG	Hague Volcano	6.98	62		Pn	10 07 38.5	+1.1
PS4A	Pavlof South-4	7.02	62		Pn	10 07 39.0	+1.2
S12K	Black Hills	7.04	58		Pn	10 07 39.3	+1.2
PS1A	Pavlof South-1	7.10	61		Pn	10 07 40.5	+1.5
SDPT	Sand Point	7.77	63		Pn	10 07 47.5	-0.5
SDPT	Sand Point	7.77	63	P	Pn	10 07 47.5	-0.5
SMY	Shemya	8.05	277	Pn	Pn	10 07 50.2	-1.5
CNBA	Chernabura Isl	8.13	68		Pn	10 07 51.4	-1.5
CHNA	Chernabura Isl	8.14	68	P	Pn	10 07 51.4	-1.5
VNFG	Fog Glacier, M	8.56	58		Pn	10 08 00.1	+1.3
VNFG	Fog Glacier, M	8.56	58		Pn	10 08 01.0	+2.2
CHGN	Chignik	9.17	60		Pn	10 08 06.3	-0.6
O14K	Tigyukauivet M	9.34	39	Pn	Pn	10 08 11.8	+2.5
ANPB	Aniakchak Plen	9.41	57		Pn	10 08 11.6	+1.4
N14K	Kuskokwak Cree	9.65	35		Pn	10 08 16.5	+3.1
O15K	Ungalikthiuk R	9.86	42		Pn	10 08 19.0	+2.7
M14K	Bethel	10.17	31		Pn	10 08 21.2	+0.7
N15K	Kwethluk River	10.39	37		Pn	10 08 25.3	+1.7
L14K	Kuka Creek	10.42	28	Pn	Pn	10 08 22.4	-1.4
K13K	Kusilvak Mount	10.42	21	Pn	Pn	10 08 24.2	+0.2
P16K	Nushagak River	10.56	46		Pn	10 08 28.2	+2.5
PLK4	Peulik 4	10.69	55		Pn	10 08 27.5	-0.1
O16K	Kokwok River B	10.82	43		Pn	10 08 31.1	+1.8
M16K	Timber Creek	11.38	36		Pn	10 08 38.1	+1.2
ACHA	Angle Creek He	11.42	53		Pn	10 08 37.0	-0.4
L16K	Owhat River	11.69	33		Pn	10 08 41.8	+0.9
N17K	Nushagak Hills	11.74	41		Pn	10 08 43.9	+2.3
P18K	Big Mountain,	11.97	48		Pn	10 08 46.1	+1.4
M17K	Holitna River	12.19	37		Pn	10 08 47.9	+0.4
O18K	Koktuh Hills	12.20	46		Pn	10 08 48.5	+0.8
N18K	Kilae Creek	12.35	42		Pn	10 08 52.0	+2.4
Q19K	Cape Douglas,	12.51	51		Pn	10 08 50.9	-0.9
KDAK	Kodiak Island	12.65	57	P	Pn	10 08 50.3	-3.3
	comp=N,6.1nm,0.3s,baz=116,slow=2.0,SNR=66						
KDAK				S	Sn	10 11 05.8	-6.8
	comp=N,1.8nm,0.5s,baz=40,slow=22,SNR=1.3						
O19K	Port Alsworth	12.76	46	Pn	Pn	10 08 53.3	-1.6
K17K	Iditarod	12.80	31		Pn	10 08 55.8	+0.3
L18K	Granite Mounta	12.99	35		Pn	10 08 58.8	+0.7
N19K	Bonanza Creek	13.00	43	Pn	Pn	10 08 59.6	+1.4
J17K	VABM Dome	13.08	28	Pn	Pn	10 09 00.6	+1.4
L19K	White Mountain	13.63	38		Pn	10 09 06.9	+0.5
M19K	Big River Lodg	13.64	39	Pn	Pn	10 09 07.3	+0.7
HOM	Homer	13.74	50	Pn	Pn	10 09 09.0	+1.3
CNPM	China Poot	13.88	51		Pn	10 09 08.2	-1.5
M20K	Styx River	14.13	41	Pn	Pn	10 09 13.2	+0.4
BRLK	Bradley Lake	14.13	50	Pn	Pn	10 09 11.2	-1.7
K20K	Telida	14.65	35	Pn	Pn	10 09 19.9	+0.4
H18K	Honhosa River	14.66	24	Pn	Pn	10 09 19.5	0.0
SLKM	Skilak Lake	14.72	48	Pn	Pn	10 09 20.1	-0.3
SKT	Skwentna	14.82	42		Pn	10 09 22.1	+0.5
PPLA	Purkeypile	15.06	38	Pn	Pn	10 09 23.9	-0.8
F17K	Baldwin Pennin	15.12	18	Pn	Pn	10 09 24.4	-0.9
F17K				IAmb	IAmb	10 09 32.6	
	comp=Z,7.6nm,0.8s						
G18K	Tagagawik	15.20	22	Pn	Pn	10 09 26.8	+0.5
CAST	Castle Rocks	15.40	37		Pn	10 09 29.1	+0.2
CAST				IAmb	IAmb	10 09 58.8	
	comp=Z,13nm,1.2s						
PWL	Port Wells	15.72	48		Pn	10 09 31.8	-1.1
PWL				IAmb	IAmb	10 10 00.6	
	comp=Z,8.7nm,1.1s						
GHO	Glory Hole Cre	15.82	45		Pn	10 09 33.9	-0.3
GHO				IAmb	IAmb	10 10 00.2	
	comp=Z,9.6nm,1.1s						
P23K	Montague Islan	15.87	52	Pn	Pn	10 09 33.5	-1.3
KTH	Kantishna Hill	15.90	37		Pn	10 09 35.3	+0.1
TRF	Thorofare Moun	16.08	38	Pn	Pn	10 09 37.2	-0.3
TRF				IAmb	IAmb	10 10 08.4	
	comp=Z,7.1nm,1.0s						
BPAW	Bear Paw Mtn.	16.19	36		Pn	10 09 39.5	+0.8
BPAW				IAmb	IAmb	10 10 07.2	
	comp=Z,7.5nm,0.9s						
HIN	Hinchinbrook I	16.42	51	Pn	Pn	10 09 41.4	-0.1
SCM	Sheep Creek Mo	16.54	46	P	Pn	10 09 43.3	+0.2
SCM				IAmb	IAmb	10 09 45.5	
	comp=Z,10nm,0.7s						
FID	Port Fidalgo	16.54	50	Pn	Pn	10 09 41.5	-1.5
FID				IAmb	IAmb	10 10 12.0	
	comp=Z,14nm,1.3s						
H21K	Melozitna Rive	16.59	30		Pn	10 09 44.3	+0.7
MCK	McKinley	16.75	38	Pn	Pn	10 09 44.9	-0.6
MCK				IAmb	IAmb	10 10 11.6	
	comp=Z,6.1nm,0.8s						
EYAK	Cordova Ski Ar	16.82	51		Pn	10 09 46.9	+0.6
MLY	Manley	16.84	33		Pn	10 09 47.8	+1.1
KLU	Klutina	17.04	48		Pn	10 09 48.4	-0.7
DHY	Denali Highway	17.04	42		Pn	10 09 48.9	-0.4
M24K	Tolsona, Glenn	17.14	45	P	P	10 09 50.1	-0.3
M24K				IAmb	IAmb	10 10 17.3	
	comp=Z,9.1nm,0.8s						
NEA2	Nenana	17.16	36	P	P	10 09 50.5	0.0
RAGM	Ragged Mountai	17.29	52	P	P	10 09 51.3	-0.7
RAGM				IAmb	IAmb	10 10 00.8	
	comp=Z,7.6nm,0.7s						
I23K	Minto, Yukon-K	17.38	34	P	Pn	10 09 54.4	+1.3
I23K				IAmb	IAmb	10 09 56.9	
	comp=Z,15nm,1.2s						
WRH	Wood River Hil	17.45	37	P	P	10 09 53.2	-0.4
HMT	Hamilton	17.47	52	P	P	10 09 53.5	-0.5
HMT				IAmb	IAmb	10 09 57.5	
	comp=Z,8.0nm,0.8s						
BMRM	Bremner River	17.48	50	P	P	10 09 53.9	-0.2
BMRM				IAmb	IAmb	10 10 11.5	
	comp=Z,8.3nm,1.2s						
SUCK	Suckling Hills	17.65	53	P	P	10 09 55.1	-0.8
CCB	Clear Creek Bu	17.65	37	P	P	10 09 55.3	-0.6
BERG	Berg Lake	17.76	52	P	P	10 09 58.2	+1.1
BERG				IAmb	IAmb	10 10 17.6	
	comp=Z,11nm,0.9s						
HDA	Harding Lake	17.84	38	P	P	10 09 58.9	+0.9
PETK	Petropavlovsk-	17.86	284	P	Pn	10 09 59.0	-0.2
	comp=Z,1.6nm,0.7s,baz=79,slow=12,SNR=6.7						
GLB	Gilahina Butte	17.98	49	P	P	10 09 59.3	-0.3
K24K	Donnelly Dome	18.01	41	P	P	10 10 00.1	+0.2
K24K				IAmb	IAmb	10 10 24.7	
	comp=Z,6.6nm,0.7s						
IL31		18.05	37	P	P	10 10 00.8	+0.6
ILAR	Eielson Array	18.05	37	P	P	10 10 01.3	+1.1
ILAR	Eielson Array	18.05	37	P	P	10 09 59.0	-1.2
	comp=Z,1.3nm,0.3s,baz=236,slow=9.7,SNR=54						
ILAR		

comp=Z,2.4nm,0.7s
J05D Fort Rock, OR 35.04 84 P **P** **10 12 42.4 +2.3**
I07A Izee 35.65 82 P **P** **10 12 46.5 +1.3**
I07A IAmb IAmb 10 13 13.7
comp=Z,2.6nm,0.9s
H11N2 WAKE ISLAND Hy 36.34 214 T T 10 51 09.7
baz=21,slow=76,SNR=47
H11N3 WAKE ISLAND Hy 36.35 214 T T 10 51 10.3
baz=21,slow=76,SNR=29
H11N1 WAKE ISLAND Hy 36.36 214 T T 10 51 11.2
baz=21,slow=76,SNR=32
J08A Circle Bar Ran 36.67 82 P **P** **10 12 55.6 +1.7**
J08A IAmb IAmb 10 13 22.4
comp=Z,4.9nm,1.2s
USRK Ussuriysk Ar. 36.87 280 PcP **PcP** **10 15 14.0 -0.8**
comp=Z,1.9nm,0.5s,baz=64,slow=3.4,SNR=4.3
WVOR Wild Horse Val 37.10 84 P **P** **10 12 59.4 +1.8**
WVOR IAmb IAmb 10 13 24.9
comp=Z,2.9nm,0.8s
H11S1 WAKE ISLAND Hy 37.54 213 T T 10 52 39.5
baz=20,slow=76,SNR=70
H11S2 WAKE ISLAND Hy 37.56 213 T T 10 52 32.7
baz=20,slow=76,SNR=17
H11S3 WAKE ISLAND Hy 37.56 213 T T 10 52 22.3
baz=20,slow=76,SNR=11
MAJO Matsushiro 37.67 265 P **P** **10 13 02.5 +0.1**
MJAR Matsushiro Arr 37.67 265 P **P** **10 13 02.3 -0.1**
comp=Z,1.5nm,0.5s,baz=51,slow=8.1,SNR=6.4
comp=Z,1.5nm,0.5s
MJB9 Matsu-Tunnel 37.67 265 P **P** **10 13 02.3 -0.1**
OVMT Ovando 37.97 74 P **P** **10 13 05.6 +0.8**
BPMT Black Pine Rid 38.03 75 P **P** **10 13 06.1 +0.6**
PAHR Pah Rah Range 38.25 88 P **P** **10 13 09.2 +1.8**
PAHR IAmb IAmb 10 13 35.3
comp=Z,3.3nm,0.8s
LYMT Lyon Mountain 38.43 73 P **P** **10 13 09.7 +0.8**
MCMT McKenzie Canyo 39.24 77 P **P** **10 13 16.8 +1.1**
RYN Ryan 39.44 88 P **P** **10 13 19.4 +2.1**
RYN IAmb IAmb 10 13 44.8
comp=Z,3.9nm,1.1s
BOZ Bozeman (W) 39.55 75 P **P** **10 13 19.4 +1.3**
NVAR Mina Array Bea 39.70 88 P **P** **10 13 21.1 +1.6**
NVAR Mina Array Bea 39.70 88 P **P** **10 13 21.3 +1.8**
comp=Z,1.3nm,0.7s,baz=305,slow=7.6,SNR=13
NVAR pP **pP** **10 13 45.0 +1.0**
comp=Z,2.4nm,0.8s,baz=294,slow=8.4,SNR=12
comp=Z,1.3nm,0.7s
ELK Elko 40.15 83 P **P** **10 13 24.5 +1.3**
ELK IAmb IAmb 10 13 50.4
comp=Z,1.9nm,0.8s
YHL Hebgen Lake 40.22 76 P **P** **10 13 25.1 +1.2**
YHL IAmb IAmb 10 13 51.8
comp=Z,4.2nm,1.2s
DSP Deep Springs 40.58 90 P **P** **10 13 28.9 +2.4**
DSP IAmb IAmb 10 13 29.7
comp=Z,3.8nm,1.1s
HVU Hansel Valley 41.02 80 P **P** **10 13 32.1 +1.8**
HVU IAmb IAmb 10 13 58.9
comp=Z,1.9nm,0.9s
R11B Troy Canyon, C 41.41 87 P **P** **10 13 35.3 +1.7**
R11B IAmb IAmb 10 13 35.6
comp=Z,2.0nm,0.9s
SPR3 Spring Creek 3 41.77 85 P **P** **10 13 38.2 +1.6**
SPR3 IAmb IAmb 10 13 38.9
comp=Z,1.3nm,0.7s
TPNV Topopah Spring 41.90 89 **P** **10 13 39.2 +1.6**
DUG Dugway, Tooele 41.95 82 P **P** **10 13 39.6 +1.6**
DUG IAmb IAmb 10 14 05.9
comp=Z,3.4nm,0.9s
PRN Pahroc Range 42.34 87 **P** **10 13 43.2 +2.1**
BW06 Boulder Array 42.37 77 P **P** **10 13 42.5 +1.1**
BW06 IAmb IAmb 10 14 09.2
comp=Z,2.6nm,0.9s
PD31 Pinedale Array 42.37 77 P **P** **10 13 42.1 +0.7**
PD31 IAmb IAmb 10 14 09.2
comp=Z,2.6nm,0.9s
PDAR Pinedale Array 42.37 77 P **P** **10 13 42.3 +0.9**
comp=Z,1.3nm,0.7s,baz=309,slow=3.8,SNR=12
PDAR pP **pP** **10 14 07.5 +1.4**
comp=Z,2.2nm,0.8s,baz=302,slow=6.1,SNR=7.9
comp=Z,1.3nm,0.7s
GSC Goldstone, Bar 42.63 91 P **P** **10 13 45.3 +1.9**
BSUT Blindstream Ca 42.99 81 P **P** **10 13 49.1 +2.6**
BSUT IAmb IAmb 10 13 51.4
comp=Z,2.3nm,1.0s
ELS Elsinore Mount 43.37 93 P **P** **10 13 50.4 +1.1**
MVU Marysvale 43.37 84 P **P** **10 13 50.6 +1.1**
MVU IAmb IAmb 10 14 16.3
comp=Z,2.1nm,1.0s
V12A Nelson 43.55 89 P **P** **10 13 52.0 +1.2**
V12A IAmb IAmb 10 13 53.3
comp=Z,3.4nm,1.2s
LCMT Little Creek M 43.69 86 P **P** **10 13 53.6 +1.6**
LCMT IAmb IAmb 10 13 54.6
comp=Z,3.2nm,0.9s
P18A Preston Nutter 43.86 81 P **P** **10 13 54.8 +1.3**
P18A IAmb IAmb 10 14 24.0
comp=Z,2.6nm,0.9s
SRU San Rafael Swe 44.01 82 P **P** **10 13 56.5 +1.9**
SRU IAmb IAmb 10 14 00.4
comp=Z,2.2nm,0.8s
JNU Nakatsue 44.43 267 P **P** **10 13 57.9 +0.1**
JNU Nakatsue 44.43 267 P **P** **10 13 57.2 -0.5**
comp=Z,2.8nm,0.8s,baz=274,slow=16,SNR=1.6
comp=Z,2.8nm,0.8s
W13A Hualapai Mount 44.55 89 P **P** **10 14 00.7 +1.7**
W13A IAmb IAmb 10 14 00.8
comp=Z,2.7nm,0.6s
HMU Henry Mountain 44.62 83 P **P** **10 14 01.4 +1.8**
O20A White River Ci 44.75 79 P **P** **10 14 01.3 +0.9**
YUH Yuha Desert 44.97 93 P **P** **10 14 03.0 +1.1**
PV17 East Wray Mesa 45.49 82 P **P** **10 14 07.6 +1.3**
PV17 IAmb IAmb 10 14 31.9
comp=Z,2.2nm,0.7s
PV13 Radium Mtn., P 45.65 82 P **P** **10 14 08.1 +0.5**
PV02 Paradox Valley 45.67 82 P **P** **10 14 08.7 +1.0**
WUAZ Wupatki 45.81 86 P **P** **10 14 09.4 +0.6**
PV01 Paradox Valley 45.81 82 P **P** **10 14 09.9 +1.0**
PV01 IAmb IAmb 10 14 38.7
comp=Z,2.1nm,0.9s
HHC Hu-ho-hao-te 50.97 289 *e*P **P** **10 14 49.4 +1.2**
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,120nm,5.4s
MNTX Cornudas Mount 52.06 86 **P** **10 14 57.3 +0.9**
MNTX IAmb IAmb 10 14 58.5
comp=Z,1.9nm,0.7s
VHRN Van Horn 52.95 86 **P** **10 15 04.0 +1.0**
TX31 Lajitas Ar. Si 54.78 86 **P** **10 15 17.4 +1.0**
TXAR Lajitas Array 54.78 86 P **P** **10 15 17.3 +0.9**
TXAR Lajitas Array 54.78 86 P **P** **10 15 17.1 +0.8**
comp=Z,2.7nm,0.7s,baz=304,slow=6.0,SNR=30
TXAR pP **pP** **10 15 41.9 -0.1**
comp=Z,0.6nm,0.6s,baz=312,slow=5.0,SNR=3.7
TXAR PcP **PcP** **10 16 18.4 +0.9**
comp=Z,0.4nm,0.6s,baz=313,slow=4.8,SNR=1.9
TXAR ScP **ScP** **10 20 05.8 +0.1**
comp=Z,0.2nm,0.7s,baz=318,slow=3.6,SNR=3.4
comp=Z,2.7nm,0.7s
ARCES ARCESS Array B 57.57 353 P **P** **10 15 34.4 -1.1**
comp=Z,4.0nm,1.1s,baz=12,slow=6.4,SNR=2.0
comp=Z,4.0nm,1.1s
KURBB Kurchatov Arra 61.02 316 P **P** **10 15 59.0 -0.5**
comp=Z,0.7nm,0.7s,baz=44,slow=6.9,SNR=6.4
comp=Z,0.7nm,0.7s
MKAR Makanchi Array 62.23 311 P **P** **10 16 09.1 +1.3**
MKAR Makanchi Array 62.23 311 P **P** **10 16 06.2 -1.5**
comp=Z,0.2nm,0.6s,baz=61,slow=6.8,SNR=2.5
comp=Z,0.2nm,0.6s
BVAR Borovoye Array 62.40 323 P **P** **10 16 08.5 -0.2**
comp=Z,1.0nm,0.5s,baz=47,slow=6.6,SNR=4.8
comp=Z,1.0nm,0.5s
FINES FINESS Array B 65.44 350 P **P** **10 16 27.2 -1.3**
comp=Z,3.7nm,1.0s,baz=18,slow=5.8,SNR=2.0
FINES pP **pP** **10 16 55.8 +1.2**
comp=Z,1.8nm,0.7s,baz=8.6,slow=6.6,SNR=1.7
comp=Z,3.7nm,1.0s
NOA NORSAR Array B 66.79 358 P **P** **10 16 36.5 -0.7**
comp=Z,0.4nm,0.5s,baz=3.3,slow=7.4,SNR=2.5
comp=Z,0.4nm,0.5s
PZH PanZhiHua 66.82 284 P **P** **10 16 38.2 +0.2**
HFS Hagfors 67.62 357 P **P** **10 16 41.7 -0.7**
comp=Z,3.1nm,0.8s,baz=11,slow=4.3,SNR=7.5
comp=Z,3.1nm,0.8s
AB31 Akbulak array 69.24 326 P **P** **10 16 52.4 -0.2**
AB31 IAmb IAmb 10 16 53.3
comp=Z,2.9nm,1.3s
ABKAR Akbulak array 69.24 326 P **P** **10 16 52.3 -0.3**
KKAR Karatay Array 70.32 316 P **P** **10 16 59.8 +0.4**
BRTR Keskin Array B 85.36 340 P **P** **10 18 22.6 -0.3**
comp=Z,0.7nm,0.6s,baz=16,slow=5.3,SNR=4.1
comp=Z,0.7nm,0.6s
WRA Warramunga Arr 85.51 229 P **P** **10 18 22.4 -1.1**
comp=Z,0.2nm,0.4s,baz=27,slow=5.4,SNR=2.1
comp=Z,0.2nm,0.4s
PSI Prapat 86.81 270 P **P** **10 18 30.0 -0.3**
comp=Z,2.7nm,0.3s,baz=28,slow=10.0,SNR=4.3
comp=Z,2.7nm,0.3s
RPSI Rantau Prapat 86.89 270 P **P** **10 18 30.0 -0.5**
ASAR Alice Springs 88.94 227 P **P** **10 18 40.2 +0.3**
comp=Z,1.3nm,0.7s,baz=29,slow=4.8,SNR=19
ASAR pP **pP** **10 19 07.9 0.0**
comp=Z,1.2nm,1.0s,baz=36,slow=4.3,SNR=4.1
comp=Z,1.3nm,0.7s
MAW Mawson 149.69 219 PKPbc **PKPbc** **10 25 33.8 +0.6**
comp=Z,3.3nm,1.0s,baz=191,slow=1.3,SNR=4.3
BOSA Boshof 152.68 324 PKPbc **PKPbc** **10 25 40.6 -1.0**
comp=Z,4.4nm,0.7s,baz=28,slow=2.8,SNR=11

*NEIC **05** 10:16:34.4±2.0,35.680N±0.009×117.503W±0.005, h7km±2km, Error ellipse: s-maj=1.3km s-min=0.7km az=179.0*
PAS 05 10:16:34.5±1.9,35.663N±0.009×117.503W±0.004, h6km±4km, ML3.1/22, ML2.7/90(NEIC), Error ellipse: s-maj=1.4km s-min=0.5km az=173.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.17**	**333**		Pg	10 16 37.7	-0.3
CLC					Sg	10 16 40.8	+0.5
CCCA	**Chr Cany lake**	**0.18**	**141**		Pg	10 16 38.6	+0.5
CCCA					Sg	10 16 41.9	+1.4
SRTC	**Snort**	**0.20**	**278**		Pg	10 16 39.0	+0.4
LRMC	**Laurel Mtn Rad**	**0.23**	**219**		Pg	10 16 39.1	0.0
TOW	**Tower One**	**0.26**	**304**		Pg	10 16 40.0	+0.4
TOW					Sg	10 16 44.6	+1.6
WNMM	**Nine Mile Cany**	**0.37**	**299**		Pg	10 16 41.7	0.0
WVPM	**Volcano Peak E**	**0.38**	**318**		Pg	10 16 41.9	-0.1
WVPM					Sg	10 16 47.4	+0.3
WRVM	**Rose V. Centra**	**0.47**	**318**		Pg	10 16 43.3	-0.2
DTP	**Desert Tortois**	**0.48**	**215**		Pg	10 16 43.5	-0.4
DTP					Sg	10 16 50.0	-0.1
WBSM	**Bird Springs**	**0.53**	**257**		Pg	10 16 44.5	-0.3
WBSM					Sg	10 16 52.0	+0.2
MFS	**McCloud Flat S**	**0.54**	**328**		Pg	10 16 44.7	-0.2
QSM	**Queen of Sheba**	**0.60**	**60**		Pg	10 16 45.8	-0.2
QSM				Sg	Sg	10 16 53.8	0.0
WORM	**Onyx Ranch**	**0.60**	**273**		Pg	10 16 45.6	-0.5
CCAC	**Calif City Air**	**0.66**	**220**		Pg	10 16 47.1	-0.1
CCAC				Sg	Sg	10 16 56.3	+0.5
CCAC				IAML		10 16 56.5	
	comp=E,613nm,0.4s						
CCAC				IAML		10 16 56.5	
	comp=N,644nm,0.4s						
GSC	**Goldstone, Bar**	**0.67**	**122**		Pg	10 16 47.2	-0.2
GSC				Sg	Sg	10 16 56.7	+0.4
WHFM	**Hanning Flat**	**0.69**	**273**		Sg	10 16 56.4	-0.3
ISA	**Isabella, Lake**	**0.79**	**270**		Pg	10 16 49.3	-0.4
ISA				Sg	Sg	10 16 59.6	-0.4
ISA				IAML		10 17 00.5	
	comp=E,216nm,0.2s						
HYS	**Haystack Butte**	**0.80**	**184**		Pg	10 16 49.2	-0.7
HYS					Sg	10 16 59.8	-0.4
GWY	**Greenwater Val**	**0.85**	**52**		Pg	10 16 50.7	-0.2
GWY				Sg	Sg	10 17 02.0	-0.1
WASM	**Alta Sierra Ca**	**0.86**	**275**		Pg	10 16 50.5	-0.6
EDW2	**Edwards Air Fo**	**0.88**	**207**		Pg	10 16 50.5	-0.9
RRX	**Edison Barstow**	**0.89**	**152**		Pg	10 16 51.1	-0.4
CGO	**Cerro Gordo**	**0.92**	**345**		Pg	10 16 51.4	-0.8
CGO					Sb	10 17 05.0	-0.6
TPO	**Tropico Hills**	**0.98**	**217**		Pg	10 16 53.1	-0.2
TPO					Sg	10 17 06.2	+0.1
SBB	**Saddle Back Bu**	**1.01**	**195**		Pg	10 16 52.9	-0.9
SBB					Sg	10 17 07.3	+0.4
TEJ	**El Tejon**	**1.06**	**246**		Pg	10 16 53.6	-1.3
SPG2	**Springville 2**	**1.16**	**298**		Pg	10 16 55.6	-1.1
ALPC	**Antelope**	**1.17**	**214**		Sb	10 17 12.9	+0.2
LRRC	**Littlerock Res**	**1.21**	**201**		Pg	10 16 57.7	0.0
LRRC					Sb	10 17 14.2	+0.5
HOLC	**Holcomb Ridge**	**1.23**	**193**		Pg	10 16 57.1	-1.1
CJV	**Casa Juvan**	**1.25**	**205**		Sg	10 17 14.7	+0.1
DSCC	**Desert Studies**	**1.25**	**114**		Pg	10 16 57.4	-1.2
DSCC					Sg	10 17 14.6	-0.2
AMDNV	**Amargosa**	**1.27**	**51**		Pn	10 16 57.1	-1.6
AMDNV					Sg	10 17 15.0	-0.2
HEC	**Hector,Ludlow**	**1.27**	**131**		Pg	10 16 58.0	-0.8
HEC					Sg	10 17 14.4	-0.8
JNH	**Juniper Hills**	**1.27**	**197**		Pg	10 16 58.1	-0.7
VES	**Vestal, Richgr**	**1.30**	**278**		Pn	10 16 58.6	-0.5
VES					Sb	10 17 15.7	-0.5
TUQ	**Turquoise Moun**	**1.31**	**100**		Pn	10 16 58.1	-1.4
TUQ					Sg	10 17 16.4	-0.2
GRAC	**Grapevine Rang**	**1.33**	**5**		Pn	10 16 59.2	-0.5
GRAC				IAML		10 17 22.6	
	comp=E,188nm,0.3s						
GRAC				IAML		10 17 23.5	
	comp=N,241nm,1.1s						
SGV	**South Grapevin**	**1.37**	**16**		Pn	10 16 58.6	-1.7
CHFC	**Chilao Flat St**	**1.39**	**198**		Pb	10 17 00.9	-0.2
CHFC					Sb	10 17 19.0	-0.2
SIL	**Silver Peak**	**1.43**	**157**		Pn	10 17 00.8	-0.2
BFSC	**Mount Baldy Ra**	**1.43**	**185**		Sb	10 17 20.0	0.0
SSK	**Sunset Peak**	**1.46**	**186**		Pb	10 17 02.0	-0.1
BBRC	**Big Bear Solar**	**1.48**	**161**		Pn	10 17 01.9	+0.1
BBRC					Sg	10 17 22.1	+0.1
MWC	**Mount Wilson**	**1.51**	**198**		Sn	10 17 22.1	-0.2
DECC	**Green Verdugo**	**1.56**	**206**		Sg	10 17 24.6	-0.1
LCH	**Last Change Ra**	**1.57**	**356**		Pn	10 17 02.2	-0.9
PSRC	**Puddingstone R**	**1.59**	**189**		Pb	10 17 03.9	-0.4
SVD	**Seven Oaks Dam**	**1.59**	**168**		Pb	10 17 04.0	-0.2
SVD					Sb	10 17 24.8	+0.2
TPNV	**Topopah Spring**	**1.63**	**38**		Pn	10 17 03.2	-0.8
TPNV				IAML		10 17 30.3	
	comp=N,120nm,0.9s						
TPNV				IAML		10 17 35.9	
	comp=N,126nm,0.7s						
GMN	**Gold Mountain**	**1.65**	**7**		Pn	10 17 03.4	-0.8
GMN				IAML		10 17 29.9	
	comp=N,65nm,0.5s						
CHNC	**Chino**	**1.67**	**185**		Pn	10 17 01.4	-2.8
DSP	**Deep Springs**	**1.74**	**348**	Pn	Pn	10 17 04.7	-0.6
POCCA	**Poleta Canyon**	**1.81**	**340**		Pb	10 17 08.0	-0.2
BHPR	**Bishop**	**1.81**	**334**		Pb	10 17 08.3	+0.1
MTUM	**Tungsten Hills**	**1.89**	**333**		Pb	10 17 09.6	+0.1
ELS	**Elsinore Mount**	**2.01**	**178**	Pn	Pn	10 17 08.5	-0.6
ELS				IAML		10 17 40.8	
	comp=E,51nm,0.3s						
MZP	**Montezuma Peak**	**2.04**	**3**	Pn	Pn	10 17 08.9	-0.7
CRY	**Cary Ranch**	**2.19**	**163**		Pb	10 17 14.9	+0.4
PFO	**Pinyon Flats O**	**2.22**	**157**		Pn	10 17 11.1	-0.9
PFO				IAML		10 17 46.8	
	comp=E,33nm,0.4s						
BENR	**Benton**	**2.22**	**338**		Pb	10 17 15.7	+0.5
MLAC	**Mammoth, Mammo**	**2.24**	**332**		Pb	10 17 15.9	+0.5
MCSM	**Casa Diablo Ho**	**2.29**	**331**		Pb	10 17 16.8	+0.5
TPH	**Tonopah**	**2.42**	**5**		Pn	10 17 14.2	-0.5
PRN	**Pahroc Range**	**2.63**	**48**	Pn	Pn	10 17 16.8	-0.9
PRN				IAML		10 18 01.1	
	comp=N,45nm,0.7s						
PRN				IAML		10 18 13.4	
	comp=E,54nm,0.6s						
LHV	**Little Huntoon**	**2.71**	**343**		Pn	10 17 18.5	+0.1
LHV				IAML		10 18 15.0	
	comp=N,22nm,1.6s						
LHV				IAML		10 18 15.7	
	comp=E,22nm,1.3s						
PMPB	**Monarch Peak**	**2.73**	**283**	Pn	Pn	10 17 18.6	-0.4
PMPB				IAML		10 18 06.7	
	comp=N,49nm,0.9s						
PMPB				IAML		10 18 09.6	
	comp=E,49nm,0.6s						
NV11	**Mina Array Sit**	**2.81**	**349**		Pn	10 17 19.8	-0.4
NVAR	**Mina Array Bea**	**2.83**	**347**		Pn	10 17 20.3	-0.2
BBGB	**Big Mountain B**	**3.00**	**289**		Pn	10 17 22.4	-0.4
W13A	**Hualapai Mount**	**3.01**	**100**	Pn	Pn	10 17 21.4	-1.5
W13A				IAML		10 18 11.8	
	comp=N,19nm,0.7s						
W13A				IAML		10 18 13.5	
	comp=E,14nm,0.6s						
RYN	**Ryan**	**3.07**	**345**		Pn	10 17 23.4	-0.2
R11B	**Troy Canyon, C**	**3.09**	**29**	Pn	Pn	10 17 23.6	-0.3
R11B				IAML		10 18 13.7	
	comp=E,18nm,0.6s						
BLYC	**Blythe**	**3.11**	**127**	Pn	Pn	10 17 22.3	-1.8
BLYC				IAML		10 18 15.4	
	comp=N,33nm,0.4s						
BLYC				IAML		10 18 16.9	
	comp=E,31nm,0.6s						
WAKR	**Walker**	**3.23**	**332**	Pn	Pn	10 17 26.2	+0.3
YUH	**Yuha Desert**	**3.28**	**156**	Pn	Pn	10 17 26.2	-0.2
YUH				IAML		10 18 08.9	
	comp=E,11nm,4.4s						
CMB	**Columbia Colle**	**3.31**	**317**	Pn	Pn	10 17 27.5	+0.6
CMB				IAML		10 18 20.7	
	comp=N,20nm,0.7s						
CMB				IAML		10 18 27.2	
	comp=E,22nm,0.8s						
SAO	**San Andreas Ge**	**3.37**	**290**	Pn	Pn	10 17 28.6	+0.9
CBX	**Cerro Bola**	**3.41**	**168**	Pn	Pn	10 17 26.8	-1.5
GLA	**Glamis**	**3.42**	**139**	Pn	Pn	10 17 26.9	-1.5
LCMT	**Little Creek M**	**3.69**	**67**	Pn	Pn	10 17 32.2	0.0
CCUT	**Cedar City**	**3.83**	**59**	Pn	Pn	10 17 33.8	-0.4
CCX	**Cicese**	**3.85**	**169**	Pn	Pn	10 17 34.1	-0.1
ESJX	**Sierra Juarez**	**3.87**	**160**	Pn	Pn	10 17 33.8	-0.9
ESJX				IAML		10 19 25.4	
	comp=N,8.6nm,4.2s						
ESJX				IAML		10 19 53.9	
	comp=E,11nm,4.0s						
KNB	**Kanab**	**4.01**	**69**	Pn	Pn	10 17 36.5	-0.2
KNB				IAML		10 18 37.6	
	comp=N,7.9nm,4.2s						
KNB				IAML		10 19 09.9	
	comp=E,7.1nm,4.1s						
Y14A	**Wickenburg**	**4.08**	**114**	Pn	Pn	10 17 36.9	-0.6
Y14A				IAML		10 18 48.2	
	comp=E,14nm,0.7s						
Y14A				IAML		10 18 51.7	
	comp=N,18nm,0.6s						
PSUT	**Pine Spring**	**4.09**	**44**	Pn	Pn	10 17 36.9	-0.9
PSUT				IAML		10 18 54.7	
	comp=E,8.8nm,1.5s						
PSUT				IAML		10 19 06.0	
	comp=N,7.6nm,1.4s						
SPR3	**Spring Creek 3**	**4.18**	**36**	Pn	Pn	10 17 38.3	-0.8
SPR3				IAML		10 18 46.5	
	comp=E,11nm,1.3s						
SPR3				IAML		10 18 46.5	
	comp=N,8.2nm,1.2s						
PAHR	**Pah Rah Range**	**4.30**	**340**	Pn	Pn	10 17 40.1	-0.5
PAHR				IAML		10 20 19.8	
	comp=N,6.6nm,4.3s						
WUAZ	**Wupatki**	**5.00**	**90**	Pn	Pn	10 17 48.7	-1.4
WUAZ				IAML		10 19 03.4	
	comp=N,7.7nm,3.3s						
WUAZ				IAML		10 19 14.6	
	comp=N,7.2nm,1.4s						
X18A	**Snowflake**	**6.29**	**98**	Pn	Pn	10 18 07.7	-0.4

*IDC **05** 10:25:20.7±1.0,32.11N×94.76E,h0km,mb3.6/7, mbtmp3.7/8,ML4.2/1,MS2.9/5,Error ellipse: s-maj=44.2km s-min=18.0km az=59.0*
ISC 05 10:25:26.4±0.9,32.2N±0.1×94.8E±0.2,h35km,n12, σ1§10/9,mb3.6/7,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.21**	**164**	Pn	**Pn**	**10 28 45.8**	**+0.6**
	0.4nm,0.3s,baz=360,slow=12,SNR=1.3						
CMAR				LR	LR	10 34 40.3	
	comp=Z,30nm,21.5s,baz=350,slow=40						
SONM	**Songino Array**	**17.92**	**26**	P	**Pn**	**10 29 32.4**	**-0.4**
	0.8nm,0.3s,baz=215,slow=9.8,SNR=4.0						
SONM				LR	LR	10 36 54.3	
	comp=Z,35nm,20.7s,baz=44,slow=38						
	0.7nm,0.4s						
AAK	**Ala-Archa**	**19.13**	**309**	LR	LR	10 37 35.9	
	comp=Z,28nm,20.4s,baz=104,slow=38						
KURBB	**Kurchatov Arra**	**21.97**	**332**	P	**P**	**10 30 15.8**	**-1.2**
	1.7nm,0.7s,baz=137,slow=11,SNR=16						
	1.7nm,0.7s						
ZALV	**Zalesovo Beam**	**22.86**	**345**	P	**P**	**10 30 28.2**	**+1.8**
	0.5nm,0.3s,baz=151,slow=12,SNR=3.9						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**27.23**	**327**	P	**P**	**10 31 06.3**	**-0.6**
	1.2nm,0.6s,baz=130,slow=10.0,SNR=3.4						
	1.2nm,0.6s						
USRK	**Ussuriysk Ar.**	**31.33**	**57**	LR	LR	10 44 30.6	
	comp=Z,47nm,20.6s,baz=111,slow=37						
KBZ	**Khabaz**	**41.86**	**301**	LR	LR	10 53 45.7	
	comp=Z,30nm,18.8s,baz=94,slow=41						
BRTR	**Keskin Array B**	**49.21**	**297**	P	**P**	**10 34 11.6**	**+0.2**
	0.5nm,0.9s,baz=77,slow=6.5,SNR=1.7						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**64.22**	**138**	P	**P**	**10 35 57.1**	**-0.8**
	0.9nm,0.9s,baz=323,slow=8.3,SNR=9.6						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**66.97**	**141**	P	**P**	**10 36 14.9**	**-0.8**
	1.1nm,0.6s,baz=325,slow=6.5,SNR=28						
	1.1nm,0.6s						
ILAR	**Eielson Array**	**72.12**	**23**	P	**P**	**10 36 47.4**	**+0.5**
	0.3nm,0.8s,baz=272,slow=6.8,SNR=4.4						
	0.3nm,0.8s						

DJA 05 10:29:52.1±0.7,5.S±6.×10.2E±.,h43km±9km,M3.4/2, MLv3.5/6,MLv3.4/2,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.13**	**31**	P	Pn	10 30 12.0	+0.5
LWLI	**Liwa**	**1.70**	**79**	P	Pn	10 30 19.7	+0.3
LHSI	**Lahat**	**1.89**	**37**	P	Pn	10 30 21.2	-0.7
MDSI	**Maura Dua**	**1.98**	**65**	P	Pn	10 30 23.5	+0.3
MDSI				S	Sn	10 30 47.1	+0.3
CGJI	**Cibinong**	**3.53**	**111**	P	Pn	10 30 44.0	-0.4

*IDC **05** 10:30:42.0±1.0,62.18S×157.31W,h0km,mb3.9/6, mbtmp4.0/6,MS4.6/30,Error ellipse: s-maj=33.8km s-min=25.3km az=49.0*
*GCMT **05** 10:30:54.0±0.1,62.87S±0.01×158.33W±0.02,h12km, MW5.3/144,Moment Tensor Solution. s100,c162; s144,c248; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.17±.02; $M_{\theta\theta}$1.29±.02; $M_{\phi\phi}$-1.12±.01; $M_{r\theta}$0.14±.04; $M_{\theta\phi}$0.41±.01; M_{rr}0.01±.04; Best double couple: $M_0$1.27900×10^{17} NP1:ϕ_s36.00000°,δ86.00000°, λ177.00000°. NP2:ϕ_s126.00000°,δ87.00000°,λ4.00000°. Principal axes: T 1.3700, Plg5.0000°, Azm351.0000°; N -0.1820, Plg85.0000°, Azm163.0000°; P -1.1880, Plg1.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 05 10:30:42.8±0.7,61.97S±0.09×157.9W±0.1,h10km,n52, σ1§78/21,mb4.3/7,MS4.6/30,4C,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.16**	**204**	P	**P**	**10 35 17.6**	**+0.8**
	1.6nm,0.5s,baz=71,slow=16,SNR=25						
VNDA				LR	LR	10 40 45.0	
	comp=Z,2μm,20.9s,baz=64,slow=30						
	1.6nm,0.5s						
RPZ	**Rata Peaks**	**25.79**	**301**	LR	LR	10 45 44.3	
	comp=Z,623nm,18.2s,baz=132,slow=34						
QSPA	**South Pole Qui**	**28.15**	**180**	P	**P**	**10 36 33.4**	**-1.5**
	7.1nm,1.1s,baz=61,slow=3.7,SNR=9.4						
QSPA				LR	LR	10 45 29.3	

6µm,33.0s
TBI eLR LR 10 49 04.7
14µm,27.5s
TBI eLR LR 10 49 05.9
3µm,26.8s
RAR Rarotonga 40.75 357 LR LR 10 51 20.8
comp=Z,987nm,19.6s,baz=198,slow=30
USHA Ushuaia 43.82 123 LR LR 10 53 00.7
comp=Z,381nm,18.7s,baz=228,slow=31
PPT2 Papeete2 44.72 11 eS **S 10 45 32.1 -0.5**
588nm,25.8s
PPT2 eSS **ScS 10 48 53.8 +0.1**
350nm,27.5s
PPT2 eLR LR 10 51 38.0
4µm,27.5s
PPT2 eLR LR 10 51 45.5
3µm,27.5s
PPT Papeete 44.74 11 LR LR 10 53 11.4
comp=Z,906nm,21.1s,baz=187,slow=30
VNA3 Neumayer Olymp 45.24 166 ⇑P **P 10 38 59.2 -0.4**
comp=Z,4.8nm,0.9s
SNAA Sanae 45.52 169 ⇑P **P 10 39 00.8 -1.1**
comp=Z,54nm,1.0s
SNAA Sanae 45.52 169 P **P 10 39 00.4 -1.5**
comp=Z,4.7nm,1.2s,baz=209,slow=6.7,SNR=5.2
SNAA LR LR 10 56 02.1
comp=Z,805nm,21.7s,baz=218,slow=34
comp=Z,4.7nm,1.2s
TROLL Troll, Antarti 45.62 172 ⇑P **P 10 39 02.2 -0.4**
comp=Z,69nm,0.8s
VNA1 Neumayer--Stat 45.96 166 ⇑P **P 10 39 05.0 -0.1**
comp=Z,9.3nm,1.0s
DZM Mont Dzumac 46.74 312 eS **S 10 45 59.3 -2.5**
comp=Z,93nm,27.4s
DZM eSS **SS 10 49 23.4 -4.5**
comp=Z,396nm,24.6s
DZM eLR LR 10 52 10.9
comp=Z,2µm,22.6s
DZM Mont Dzumac 46.74 312 LR LR 10 55 31.8
comp=Z,1µm,20.6s,baz=157,slow=32
MSVF Nonsavu 47.32 328 LR LR 10 55 22.3
comp=Z,330nm,21.9s,baz=173,slow=31
MAW Mawson 47.39 200 LR LR 10 57 07.2
comp=Z,579nm,19.4s,baz=150,slow=34
STKA Stephens Creek 48.62 279 LR LR 10 57 17.5
comp=Z,747nm,18.0s,baz=144,slow=33
PLCA Paso Flores 53.87 110 LR LR 10 58 36.4
comp=Z,371nm,19.1s,baz=212,slow=31
TAOE Nuku Hiva Isla 54.59 22 eS S 10 47 40.4 -10
comp=Z,398nm,30.1s
TAOE eLR LR 10 56 23.4
comp=Z,1µm,24.4s
H03S2 Juan Fernandez 55.68 98 T T 11 41 09.4
baz=211,slow=74,SNR=764
H03S1 Juan Fernandez 55.69 98 T T 11 41 13.0
baz=211,slow=74,SNR=819
H03S3 Juan Fernandez 55.70 98 T T 11 41 16.8
baz=211,slow=74,SNR=1140
H03N3 Juan Fernandez 56.00 98 T T 11 41 30.3
baz=215,slow=72,SNR=272
H03N2 Juan Fernandez 56.01 98 T T 11 41 32.4
baz=215,slow=72,SNR=302
H03N1 Juan Fernandez 56.02 98 T T 11 41 31.6
baz=215,slow=72,SNR=199
H01W1 Cape Leeuwin H 58.95 254 T T 11 44 38.0
baz=147,slow=76,SNR=73
H01W2 Cape Leeuwin H 58.96 253 T T 11 44 38.2
baz=147,slow=76,SNR=103
H01W3 Cape Leeuwin H 58.97 254 T T 11 44 39.2
baz=147,slow=76,SNR=71
ASAR Alice Springs 59.16 277 P **P 10 40 46.2 +2.6**
comp=Z,0.7nm,0.9s,baz=151,slow=6.7,SNR=5.4
ASAR LR LR 11 02 15.5
comp=Z,1µm,21.3s,baz=147,slow=32
comp=Z,0.7nm,0.9s
NWAO Narrogin (SRO) 59.18 257 LR LR 11 00 42.7
comp=Z,540nm,18.1s,baz=121,slow=30
HNR Honiara 60.73 311 LR LR 11 02 34.7
comp=Z,275nm,21.6s,baz=142,slow=31
WRA Warramunga Arr 62.16 280 P **P 10 41 06.8 +2.8**
comp=Z,1.4nm,1.1s,baz=162,slow=6.2,SNR=4.8
WRA LR LR 11 05 04.0
comp=Z,574nm,18.5s,baz=164,slow=33
comp=Z,1.4nm,1.1s
FITZ Fitzroy Crossi 67.84 273 LR LR 11 09 16.4
comp=Z,325nm,18.2s,baz=134,slow=34
CPUP Villa Florida 71.87 112 LR LR 11 09 27.2
comp=Z,100nm,20.1s,baz=68,slow=32
JAY Jayapura 74.68 295 LR LR 11 14 19.7
comp=Z,278nm,18.2s,baz=192,slow=35
LPAZ La Paz 75.67 98 P **P 10 42 27.7 -1.1**
comp=Z,0.8nm,1.0s,baz=169,slow=16,SNR=1.6
LPAZ LR LR 11 08 16.3
comp=Z,142nm,20.4s,baz=162,slow=30
comp=Z,0.8nm,1.0s
SIV San Ignacio 79.20 104 LR LR 11 12 24.8
comp=Z,221nm,20.5s,baz=296,slow=32
KAPI Kappang 80.00 274 LR LR 11 16 26.1
comp=Z,440nm,20.3s,baz=143,slow=33
BOSA Boshof 89.70 183 LR LR 11 19 03.7
comp=Z,536nm,21.6s,baz=184,slow=32
LBTB Lobatse 93.28 183 LR LR 11 20 49.3
comp=Z,489nm,21.8s,baz=174,slow=32
MATP Matopo 97.73 186 LR LR 11 23 48.6
comp=Z,310nm,21.3s,baz=178,slow=33
PSI Prapat 98.65 260 LR LR 11 21 08.6
comp=Z,107nm,21.1s,baz=158,slow=31
TSUM Tsumeb 99.02 176 LR LR 11 27 29.3
comp=Z,264nm,18.0s,baz=148,slow=34
ILAR Eielson Array 126.70 6 PKP **PKiKP 10 49 46.9 +1.8**
comp=Z,0.4nm,0.8s,baz=274,slow=1.9,SNR=2.7
MKAR Makanchi Array 143.30 274 PKP **PKPdf 10 50 16.2 +0.1**
comp=Z,0.5nm,0.8s,baz=146,slow=2.0,SNR=3.6
KURBB Kurchatov Arra 147.77 276 PKPbc **PKPbc 10 50 27.6 +1.2**
comp=Z,1.1nm,0.8s,baz=125,slow=2.0,SNR=5.3
ESDC Sonseca Array 152.61 132 PKPab **PKPab 10 50 48.6 -0.7**
comp=Z,0.3nm,0.5s,baz=192,slow=3.1,SNR=1.4
BVAR Borovoye Array 153.17 273 PKPbc **PKiKP 10 50 40.4 +0.9**
comp=Z,0.7nm,0.6s,baz=110,slow=3.8,SNR=1.7

*NEIC **05** 10:59:38.4±1.7,35.598N±0.007×117.575W±0.009, h3km±2km, Error ellipse: s-maj=1.4km s-min=0.8km az=225.0*

PAS 05 10:59:38.9±1.9, 35.604N±0.009×117.59W±0.01, h2km±2km, Mwr3.5/6, ML3.6/130(NEIC), **Error ellipse: s-maj=1.4km s-min=1.2km az=222.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mtn Rad**	**0.14**	**210**		Pg	10 59 42.0	+0.3
LRMC					Sg	10 59 44.2	+0.6
SRTC	**Snort**	**0.15**	**305**		Pg	10 59 42.2	+0.4
SRTC					Sg	10 59 46.0	+2.1
CCCA	**Chr Cany lake**	**0.20**	**113**		Sg	10 59 47.1	+1.7
TOW	**Tower One**	**0.25**	**326**		Sg	10 59 49.3	+2.4
WNMM	**Nine Mile Cany**	**0.35**	**313**		Pg	10 59 45.9	+0.4
WVPM	**Volcano Peak E**	**0.39**	**332**		Pg	10 59 46.5	+0.1
DTP	**Desert Tortois**	**0.39**	**212**		Pg	10 59 46.4	0.0
WBSM	**Bird Springs**	**0.45**	**262**		Pg	10 59 47.7	+0.2
WRVM	**Rose V. Centra**	**0.47**	**329**		Pg	10 59 47.9	0.0
WORM	**Onyx Ranch**	**0.54**	**280**		Pg	10 59 49.2	0.0
WORM					Sg	10 59 56.4	+0.2
MFS	**McCloud Flat S**	**0.55**	**337**		Pg	10 59 49.5	0.0
CCAC	**Calif City Air**	**0.57**	**218**		Pg	10 59 49.9	+0.1
CCAC				Sg	Sg	10 59 57.8	+0.7
CCAC				IAML		10 59 58.1	
	comp=E,3µm,0.7s						
CCAC				IAML		10 59 58.2	
	comp=N,3µm,0.3s						
WHFM	**Hanning Flat**	**0.62**	**279**		Sg	10 59 59.1	+0.2
QSM	**Queen of Sheba**	**0.69**	**58**		Pg	10 59 52.1	0.0
QSM				Sg	Sg	11 00 01.4	+0.4
GSC	**Goldstone, Bar**	**0.71**	**115**		Pg	10 59 52.4	-0.1
GSC				Sg	Sg	11 00 01.8	+0.1
GSC				IAML		11 00 06.3	
	comp=E,3µm,0.3s						
ISA	**Isabella, Lake**	**0.72**	**275**		Pg	10 59 52.6	-0.1
ISA				Sg	Sg	11 00 02.1	+0.1
ISA				IAML		11 00 02.8	
	comp=N,4µm,0.3s						
ISA				IAML		11 00 03.5	
	comp=E,3µm,0.2s						
HYS	**Haystack Butte**	**0.74**	**178**		Sg	11 00 02.8	+0.2
EDW2	**Edwards Air Fo**	**0.79**	**205**		Pg	10 59 53.5	-0.5
WASM	**Alta Sierra Ca**	**0.80**	**280**		Pg	10 59 54.0	-0.1
WASM					Sg	11 00 04.7	+0.3
RRX	**Edison Barstow**	**0.88**	**146**		Pg	10 59 55.5	-0.1
RRX					Sg	11 00 07.5	+0.5
TPO	**Tropico Hills**	**0.89**	**216**		Pg	10 59 55.6	-0.4
TPO					Sg	11 00 07.9	+0.4
SBB	**Saddle Back Bu**	**0.93**	**192**		Pg	10 59 56.1	-0.6
GWY	**Greenwater Val**	**0.95**	**52**		Pg	10 59 56.7	-0.3
GWY				Sg	Sg	11 00 09.2	-0.2
CGO	**Cerro Gordo**	**0.96**	**350**		Pg	10 59 56.8	-0.5
TEJ	**El Tejon**	**0.97**	**248**		Pg	10 59 56.7	-0.8
ADO	**Adelanto Recei**	**1.06**	**173**		Pg	10 59 58.9	-0.3
ADO					Sg	11 00 13.6	+0.7
VTV	**Victorville**	**1.06**	**168**		Pg	10 59 58.7	-0.5
ALPC	**Antelope**	**1.08**	**213**		Pn	11 00 01.1	-0.1
ALPC					Sb	11 00 15.4	+0.4
TJR	**Tejon Ranch**	**1.10**	**239**		Pg	10 59 59.6	-0.4
SHOC	**Shoshone, Teco**	**1.11**	**74**		Pg	10 59 59.6	-0.6
SHOC					Sb	11 00 16.1	+0.4
THC	**Tehachapi Micr**	**1.12**	**232**		Pg	10 59 59.8	-0.5
ARVC	**Arvin**	**1.12**	**245**		Pg	10 59 59.6	-0.6
SPG2	**Springville 2**	**1.12**	**302**		Pg	10 59 59.8	-0.6
LEOC	**Leona Valley**	**1.13**	**211**		Pg	10 59 59.9	-0.6
LRRC	**Littlerock Res**	**1.13**	**198**		Pg	10 59 59.8	-0.7
LRRC					Sb	11 00 16.3	-0.1
HOLC	**Holcomb Ridge**	**1.16**	**190**		Pg	11 00 00.4	-0.7
HOLC					Sb	11 00 17.5	+0.2
CJV	**Casa Juvan**	**1.16**	**203**		Pg	11 00 00.7	-0.4
CJV					Sb	11 00 17.6	+0.2
JNH	**Juniper Hills**	**1.19**	**195**		Pg	11 00 01.0	-0.7
JNH					Sb	11 00 18.2	0.0
VES	**Vestal, Richgr**	**1.24**	**281**		Pg	11 00 02.3	-0.3
HEC	**Hector,Ludlow**	**1.29**	**127**		Pg	11 00 02.3	-1.3
DSCC	**Desert Studies**	**1.30**	**110**		Pg	11 00 02.0	-1.7
CHFC	**Chilao Flat St**	**1.32**	**196**		Pg	11 00 03.0	-1.1
AMDNV	**Amargosa**	**1.36**	**51**		Pn	11 00 03.2	-1.6
BFSC	**Mount Baldy Ra**	**1.36**	**182**		Pg	11 00 03.9	-1.1
TUQ	**Turquoise Moun**	**1.37**	**97**		Pg	11 00 03.2	-1.9
SSK	**Sunset Peak**	**1.39**	**183**		Pn	11 00 04.6	-0.9
GRAC	**Grapevine Rang**	**1.40**	**7**		Pn	11 00 04.9	-0.6
GRAC				Sg	Sb	11 00 24.1	-0.1
GRAC				IAML		11 00 31.3	
	comp=N,1µm,0.8s						
GRAC				IAML		11 00 31.5	
	comp=E,1µm,0.8s						
SIL	**Silver Peak**	**1.40**	**153**		Pn	11 00 05.4	-0.2
WCT	**Wildcat Mounta**	**1.42**	**33**		Pn	11 00 04.5	-1.3
WCT				Sg	Sg	11 00 24.5	0.0
WCT				IAML		11 00 26.6	
	comp=E,885nm,0.4s						
WCT				IAML		11 00 27.6	
	comp=N,526nm,0.6s						
MWC	**Mount Wilson**	**1.43**	**196**		Pn	11 00 05.3	-0.7
SGV	**South Grapevin**	**1.45**	**18**		Pn	11 00 05.2	-1.0
BBRC	**Big Bear Solar**	**1.45**	**157**		Pn	11 00 05.8	-0.5
DECC	**Green Verdugo**	**1.48**	**205**		Pn	11 00 06.2	-0.3
PASC	**Pasadena Art C**	**1.51**	**199**		Pn	11 00 06.1	-0.8
PASC				IAML		11 00 30.1	
	comp=E,593nm,0.5s						
PASC				IAML		11 00 32.2	
	comp=N,476nm,0.7s						
OAT	**Oat Mountain**	**1.51**	**214**		Pg	11 00 08.2	+0.4
PSRC	**Puddingstone R**	**1.52**	**187**		Pn	11 00 06.7	-0.4
TIN	**Tinemaha, Big**	**1.54**	**341**		Pb	11 00 08.2	0.0
SVD	**Seven Oaks Dam**	**1.55**	**165**		Pn	11 00 07.6	+0.1
CHNC	**Chino**	**1.60**	**183**		Pg	11 00 09.7	+0.1
GVRC	**Garvey Reservo**	**1.61**	**196**		Pb	11 00 09.4	+0.1
CFT	**Crafton Hills**	**1.61**	**166**		Pg	11 00 09.6	-0.2
RVR	**Riverside**	**1.62**	**174**		Pb	11 00 09.2	-0.2
VOG	**Valley Oaks Go**	**1.62**	**297**		Pn	11 00 08.4	0.0
BLCC	**Black Canyon**	**1.62**	**213**		Pn	11 00 08.1	-0.4
LCH	**Last Change Ra**	**1.63**	**359**		Pn	11 00 08.0	-0.7
BCW	**Bitter Crk WRg**	**1.63**	**247**		Pn	11 00 08.4	-0.3
BCW				IAML		11 00 33.6	
	comp=N,832nm,0.8s						
BCW				IAML		11 00 37.0	
	comp=E,715nm,0.7s						
GTM	**Goat Mountain**	**1.66**	**142**		Pn	11 00 09.5	+0.5
MTPC	**Mountain Pass**	**1.67**	**94**		Pn	11 00 07.5	-1.7
GMN	**Gold Mountain**	**1.71**	**9**		Pn	11 00 09.3	-0.6
TPNV	**Topopah Spring**	**1.73**	**39**		Pn	11 00 09.1	-0.9
TPNV				IAML		11 00 37.7	
	comp=E,598nm,0.6s						
TPNV				IAML		11 00 43.5	
	comp=E,659nm,0.6s						
PEC	**Perris**	**1.75**	**168**		Pn	11 00 10.9	+0.7
CRGC	**Crocker Grade**	**1.78**	**259**		Pb	11 00 12.0	-0.3
GMRC	**Granite Mounta**	**1.78**	**117**		Pn	11 00 08.5	-2.3
DSP	**Deep Springs**	**1.79**	**350**		Pn	11 00 10.3	-0.4
BREC	**Barre Substati**	**1.82**	**190**		Pg	11 00 13.8	+0.1
BLAC	**Blackrock camp**	**1.82**	**147**		Pn	11 00 10.1	-1.3
BHPR	**Bishop**	**1.84**	**337**		Pn	11 00 11.3	-0.4
POCCA	**Poleta Canyon**	**1.84**	**343**		Pb	11 00 13.3	-0.1
MTUM	**Tungsten Hills**	**1.91**	**336**		Pn	11 00 12.4	-0.3
EW2	**E Wide Canyon**	**1.93**	**149**		Pn	11 00 11.5	-1.2
HMTC	**Hemet**	**1.95**	**165**		Pn	11 00 12.1	-0.9
ELS	**Elsinore Mount**	**1.96**	**176**		Pn	11 00 12.5	-0.6
ELS				IAML		11 00 42.8	
	comp=E,474nm,0.3s						
ELS				IAML		11 00 49.5	
	comp=N,472nm,0.6s						
TPC	**Twentynine Pal**	**1.96**	**139**		Pn	11 00 11.6	-1.6
RPV	**Rancho Palos V**	**1.97**	**200**		Pn	11 00 13.1	-0.2
POB	**Polly Butte**	**1.99**	**164**		Pn	11 00 12.8	-0.9
DGR	**Domenigoni Val**	**2.01**	**166**		Pn	11 00 13.1	-0.7
BACC	**Bachelor Mtn.**	**2.04**	**167**		Pb	11 00 15.6	-1.1
DANC	**Danby, Needles**	**2.05**	**117**		Pn	11 00 12.4	-2.1
MZP	**Montezuma Peak**	**2.10**	**5**		Pn	11 00 14.9	-0.4
CRY	**Cary Ranch**	**2.15**	**161**		Pn	11 00 15.1	-0.8
SHPR	**Sheep Range**	**2.17**	**65**		Pn	11 00 15.2	-1.0
SHPR				IAML		11 00 49.5	
	comp=N,285nm,0.8s						
PMD	**Palm Desert**	**2.19**	**152**		Pn	11 00 14.9	-1.5
PFO	**Pinyon Flats O**	**2.20**	**154**		Pn	11 00 15.2	-1.3
PFO	**Pinyon Flats O**	**2.20**	**154**		Pn	11 00 15.3	-1.2
PFO				IAML		11 00 50.2	
	comp=N,277nm,1.1s						
PFO				IAML		11 00 53.6	
	comp=N,197nm,0.9s						
SNDA	**J Saunders Pla**	**2.20**	**158**		Pn	11 00 15.7	-0.8
V12A	**Nelson**	**2.24**	**86**		Pn	11 00 15.5	-1.5
V12A				IAML		11 00 54.2	
	comp=N,222nm,0.6s						
V12A				IAML		11 00 59.2	
	comp=E,218nm,0.7s						
BZNA	**Buzz No.'s Pla**	**2.24**	**160**		Pn	11 00 16.4	-0.8
FRD	**Ford Ranch, An**	**2.26**	**158**		Pn	11 00 16.5	-0.8
PLM	**Palomar**	**2.33**	**165**		Pn	11 00 17.3	-1.1
CTW	**Cottonwood Mou**	**2.39**	**143**		Pn	11 00 17.4	-1.7
HAY	**Hayfield**	**2.46**	**140**		Pn	11 00 18.9	-1.2
IRM	**Iron Mountain**	**2.48**	**125**		Pn	11 00 18.1	-2.2
TPH	**Tonopah**	**2.48**	**7**		Pn	11 00 19.9	-0.6
S11A	**Rachel**	**2.52**	**36**	Pn	Pn	11 00 20.4	-0.6
S11A				IAML		11 01 04.6	
	comp=N,423nm,1.3s						
PMPB	**Monarch Peak**	**2.67**	**284**	Pn	Pn	11 00 22.4	-0.6
PRN	**Pahroc Range**	**2.73**	**48**	Pn	Pn	11 00 23.0	-0.8
PRN				IAML		11 01 15.0	
	comp=N,293nm,0.5s						
PRN				IAML		11 01 19.6	
	comp=E,306nm,0.8s						
LHV	**Little Huntoon**	**2.74**	**345**		Pn	11 00 24.2	+0.3
LHV				IAML		11 01 26.5	
	comp=E,128nm,0.8s						
NV11	**Mina Array Sit**	**2.86**	**351**		Pn	11 00 25.4	-0.3
NVAR	**Mina Array Bea**	**2.88**	**349**	Pn	Pn	11 00 25.9	-0.1
BBGB	**Big Mountain B**	**2.96**	**290**	Pn	Pn	11 00 26.8	-0.1
W13A	**Hualapai Mount**	**3.07**	**98**		Pn	11 00 27.1	-1.5
W13A				IAML		11 01 22.4	
	comp=E,96nm,0.8s						
RYN	**Ryan**	**3.11**	**346**		Pn	11 00 29.2	+0.1
TJX	**Tijuana**	**3.12**	**172**	Pn	Pn	11 00 27.1	-2.0
BLYC	**Blythe**	**3.13**	**125**		Pn	11 00 26.8	-2.4
BLYC				IAML		11 01 22.1	
	comp=N,248nm,0.7s						
BLYC				IAML		11 01 22.6	
	comp=E,176nm,1.1s						
TKX	**Tecate**	**3.14**	**165**		Pn	11 00 28.5	-0.8
TKX				IAML		11 01 17.1	
	comp=E,170nm,0.3s						
TKX				IAML		11 01 17.9	
	comp=N,164nm,0.3s						
R11B	**Troy Canyon, C**	**3.18**	**30**	Pn	Pn	11 00 29.6	-0.4
WAKR	**Walker**	**3.25**	**334**	Pn	Pn	11 00 29.2	-1.8
WAKR				IAML		11 01 39.0	
	comp=N,80nm,1.2s						
YUH	**Yuha Desert**	**3.26**	**154**		Pn	11 00 30.1	-0.9
CMB	**Columbia Colle**	**3.30**	**318**	Pn	Pn	11 00 29.2	-2.5
CMB				IAML		11 01 24.8	
	comp=N,162nm,0.9s						
CMB				IAML		11 01 27.3	
	comp=E,173nm,0.9s						
SAO	**San Andreas Ge**	**3.33**	**291**		Pn	11 00 29.5	-2.4
CBX	**Cerro Bola**	**3.37**	**167**		Pn	11 00 32.2	-0.5
GLA	**Glamis**	**3.42**	**137**	Pn	Pn	11 00 31.4	-1.9
CPBX	**Cerro Prieto**	**3.70**	**148**	Pn	Pn	11 00 34.9	-2.1
LCMT	**Little Creek M**	**3.78**	**67**		Pn	11 00 38.5	+0.1
CCX	**Cicese**	**3.81**	**168**		Pn	11 00 37.9	-0.6
CCX				IAML		11 01 43.7	
	comp=N,110nm,0.5s						
ESJX	**Sierra Juarez**	**3.84**	**159**		Pn	11 00 38.4	-0.8
ESJX				IAML		11 01 42.1	
	comp=E,90nm,0.8s						
ESJX				IAML		11 01 42.2	
	comp=N,62nm,0.6s						
CCUT	**Cedar City**	**3.92**	**59**	Pn	Pn	11 00 39.3	-1.0
KNB	**Kanab**	**4.10**	**69**	Pn	Pn	11 00 40.7	-2.1
KNB				IAML		11 01 52.1	
	comp=E,48nm,1.2s						
KNB				IAML		11 02 00.1	
	comp=N,42nm,1.5s						
Y14A	**Wickenburg**	**4.13**	**112**		Pn	11 00 41.2	-1.8
Y14A				IAML		11 02 45.2	
	comp=E,103nm,0.0s						
SZCU	**Shurtz Canyon**	**4.13**	**60**	Pn	Pn	11 00 42.2	-1.0
SZCU				IAML		11 01 49.7	
	comp=E,43nm,0.3s						
MPK	**Martis Peak**	**4.16**	**333**	Pn	Pn	11 00 42.6	-1.1
PSUT	**Pine Spring**	**4.18**	**45**	Pn	Pn	11 00 42.1	-1.8
PSUT				IAML		11 02 05.2	
	comp=N,55nm,1.3s						
PSUT				IAML		11 02 06.9	
	comp=E,61nm,1.0s						
113A	**Mohawk Valley,**	**4.25**	**131**	Pn	Pn	11 00 41.8	-2.8
113A				IAML		11 01 58.7	
	comp=N,38nm,1.2s						
SPR3	**Spring Creek 3**	**4.27**	**37**	Pn	Pn	11 00 44.0	-1.2
SPR3				IAML		11 01 53.4	
	comp=E,49nm,0.9s						
SPR3				IAML		11 02 03.8	
	comp=N,44nm,0.7s						
AFDM	**Forest Hills D**	**4.29**	**322**	Pn	Pn	11 00 43.5	-1.7
AFDM				IAML		11 01 57.7	
	comp=E,107nm,0.6s						
AFDM				IAML		11 02 00.9	
	comp=N,62nm,0.9s						
PAHR	**Pah Rah Range**	**4.33**	**341**	Pn	Pn	11 00 45.5	-0.5
VTX	**Valle De La Tr**	**4.46**	**160**	Pn	Pn	11 00 46.4	-1.3
BEKR	**Beckworth**	**4.79**	**334**	Pn	Pn	11 00 50.9	-1.2
BEKR				IAML		11 02 19.8	
	comp=N,54nm,0.9s						
WUAZ	**Wupatki**	**5.07**	**89**		Pn	11 00 54.3	-1.8
WUAZ				IAML		11 02 23.0	
	comp=N,40nm,0.6s						
WUAZ				IAML		11 02 33.6	
	comp=N,36nm,1.6s						
MVU	**Marysvale**	**5.18**	**54**	Pn	Pn	11 00 55.2	-2.5
MVU				IAML		11 02 25.5	
	comp=E,24nm,1.4s						
MVU				IAML		11 02 33.8	
	comp=N,48nm,0.8s						
X16A	**Lo Mia Camp, P**	**5.18**	**101**		Pn	11 00 55.0	-2.6
X16A				IAML		11 02 27.9	
	comp=E,19nm,1.6s						
214A	**Organ Pipe Nat**	**5.39**	**131**	Pn	Pn	11 00 57.9	-2.5
214A				IAML		11 02 39.1	
	comp=N,22nm,1.0s						
214A				IAML		11 02 43.7	
	comp=E,20nm,0.8s						
ELK	**Elko**	**5.46**	**19**	Pn	Pn	11 00 59.6	-1.8
HMU	**Henry Mountain**	**5.97**	**65**	Pn	Pn	11 01 08.8	+0.3
Q16A	**Castle Valley**	**6.09**	**55**	Pn	Pn	11 01 06.6	-3.6
X18A	**Snowflake**	**6.36**	**98**		Pn	11 01 12.4	-1.4
W18A	**Petrified Fore**	**6.44**	**92**	Pn	Pn	11 01 14.6	-0.3

*IDC **05** 11:06:54.0±0.8,57.03S×24.95W, h0km, mb4.2/7, mbtmp4.1/8, ML3.9/1, Error ellipse: s-maj=38.0km s-min=18.1km az=64.0*

*NEIC **05** 11:07:01.3±1.4,57.3S±0.1×25.6W±0.2, h35km±1km, mb4.7/34, Error ellipse: s-maj=24.4km s-min=14.6km az=46.0*

ISC 05 11:06:59.7±0.6,57.18S±0.09×25.27W±0.10, h35km, n67, σ0.76/67, mb4.5/20, 5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.97**	**290**	Pn	**Pn**	**11 08 37.4**	**-1.7**
VNA1	**Neumayer--Stat**	**15.35**	**158**	⇓P	**Pn**	**11 10 32.8**	**-0.4**
	comp=Z,2.8nm,0.3s						
VNA3	**Neumayer Olymp**	**15.57**	**161**	⇓P	**Pn**	**11 10 35.0**	**-1.2**
	comp=Z,1.3nm,0.2s						
VNA2	**Neumayer--Watz**	**15.74**	**158**	⇓P	**Pn**	**11 10 38.5**	**+0.1**
	comp=Z,2.8nm,0.3s,baz=318,slow=9.9						
ESPZ	**Base Esperanza**	**16.78**	**235**	Pn	**Pn**	**11 10 49.9**	**-1.6**
SNAA	**Sanae**	**17.27**	**156**	⇓P	**Pn**	**11 10 57.9**	**+0.1**
	comp=Z,20nm,0.3s						
SNAA	**Sanae**	**17.27**	**156**		**P**	**11 10 58.3**	**-0.7**
SNAA	**Sanae**	**17.27**	**156**	P	**Pn**	**11 10 57.6**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=304,slow=13,SNR=17						
	comp=Z,3.3nm,0.6s						
TROLL	**Troll, Antarti**	**18.75**	**153**	⇓P	**Pn**	**11 11 17.1**	**+1.2**
	comp=Z,21nm,0.2s						
EFI	**East Falkland**	**19.73**	**272**	P	**Pn**	**11 11 27.1**	**-0.5**
EFI				IAmb	IAmb	11 11 41.1	
	comp=Z,66nm,1.4s						
PMSA	**Palmer Station**	**19.99**	**232**	P	**P**	**11 11 28.6**	**-0.2**
BELA	**Belgrano 2**	**21.04**	**185**	P	**P**	**11 11 40.1**	**+0.1**
MG02	**Cerro Sombrero**	**25.26**	**261**	P	**P**	**11 12 22.8**	**+0.6**
GO09	**Cerro Castillo**	**27.68**	**262**	P	**P**	**11 12 44.1**	**+0.1**
TRQA	**Tornquist**	**30.74**	**293**	P	**P**	**11 13 12.3**	**+1.0**
TRQA				IAmb	IAmb	11 13 27.2	
	comp=Z,19nm,1.2s						
PLTB	**Pedras Altas**	**32.04**	**310**	P	**P**	**11 13 22.9**	**0.0**
PLTB				IAmb	IAmb	11 13 57.4	
	comp=Z,28nm,1.3s						
LL02	**Futaleuf**	**32.25**	**275**	P	**P**	**11 13 24.6**	**+0.1**
LL02				IAmb	IAmb	11 13 45.4	
	comp=Z,17nm,1.5s						
QSPA	**South Pole Qui**	**33.06**	**180**	P	**P**	**11 13 32.6**	**+1.0**
QSPA				IAmb	IAmb	11 14 01.9	
	comp=Z,8.9nm,1.4s						
QSPA	**South Pole Qui**	**33.06**	**180**	P	**P**	**11 13 32.3**	**+0.6**
	comp=Z,2.8nm,0.5s,baz=202,slow=2.6,SNR=38						
	comp=Z,2.8nm,0.5s						
GO07	**Milladeo Hill,**	**33.29

PB01	**IPOC Station P**	**48.40**	**299**	P	**P**	**11 15 38.6**	**+0.3**
PB01				IAmb	IAmb	11 15 38.6	
	comp=Z,4.1nm,0.8s						
PTLB	**Pontes e Lacer**	**48.85**	**314**	P	**P**	**11 15 42.3**	**+0.7**
PTLB				IAmb	IAmb	11 15 53.1	
	comp=Z,4.2nm,1.0s						
PB08	**IPOC Station P**	**49.02**	**300**	P	**P**	**11 15 43.8**	**+0.4**
PB08				IAmb	IAmb	11 16 13.3	
	comp=Z,4.8nm,1.0s						
GO01	**Chusmiza**	**49.44**	**301**	P	**P**	**11 15 47.0**	**+0.3**
GO01				IAmb	IAmb	11 15 47.8	
	comp=Z,16nm,1.4s						
PB16	**IPOC Station P**	**50.74**	**301**	P	**P**	**11 15 57.3**	**+0.6**
LPAZ	**La Paz**	**51.90**	**304**		**P**	**11 16 06.3**	**+0.9**
LPAZ				IAmb	IAmb	11 16 07.7	
	comp=Z,10nm,0.7s						
LPAZ	**La Paz**	**51.90**	**304**	P	**P**	**11 16 05.5**	**+0.1**
	comp=Z,11nm,0.6s,baz=156,slow=4.2,SNR=40						
	comp=Z,11nm,0.6s						
BOAV	**Boa Vista**	**65.83**	**321**	P	**P**	**11 17 41.5**	**+0.2**
BOAV				IAmb	IAmb	11 18 22.4	
	comp=Z,8.6nm,1.0s						
TORD	**Torodi Ar. Bea**	**73.55**	**27**	P	**P**	**11 18 27.5**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=205,slow=5.6,SNR=4.1						
	comp=Z,0.7nm,0.4s						
TGUH	**Tegucigalpa,Un**	**87.39**	**301**	P	**P**	**11 19 43.4**	**+0.3**
STKA	**Stephens Creek**	**90.59**	**169**	P	**P**	**11 19 58.2**	**+0.1**
ASAR	**Alice Springs**	**97.58**	**161**	P	**P**	**11 20 29.3**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=186,slow=3.8,SNR=5.4						
	comp=Z,0.3nm,0.7s						
WRA	**Warramunga Arr**	**101.29**	**160**	P	**Pdif**	**11 20 46.9**	**0.0**
	comp=Z,0.7nm,1.1s,baz=192,slow=5.1,SNR=2.5						
YKA	**Yellowknife Ar**	**137.72**	**316**	PKP	**PKPdf**	**11 26 18.6**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=125,slow=2.3,SNR=5.0						
A36M	**Sachs Harbour**	**145.74**	**327**	PKPdf	**PKPab**	**11 26 34.4**	**+0.9**
N30M	**Aishikik Lake**	**146.40**	**306**	PKPbc	**PKPab**	**11 26 36.8**	**+0.3**
M30M	**Minto, Yukon**	**146.71**	**308**	PKPbc	**PKPab**	**11 26 37.4**	**-0.2**
YKU2	**Yakutat**	**146.74**	**302**	PKPbc	**PKPab**	**11 26 37.5**	**-0.2**
H31M	**Peel River**	**146.88**	**315**	PKPbc	**PKPab**	**11 26 37.9**	**-0.3**
F31M	**Tsiigehtchic**	**147.18**	**318**	PKPbc	**PKiKP**	**11 26 39.3**	**-0.4**
G31M	**Satah River**	**147.22**	**317**	PKPbc	**PKPab**	**11 26 39.2**	**-0.1**
INK	**Inuvik**	**147.36**	**319**	PKPbc	**PKiKP**	**11 26 40.7**	**+0.6**
M29M	**Somme Creek**	**147.38**	**308**	PKPbc	**PKiKP**	**11 26 41.6**	**+1.2**
L29M	**L29M**	**147.48**	**309**	PKPbc	**PKPab**	**11 26 41.2**	**+0.6**
K29M	**Barlow Dome**	**147.49**	**310**	PKPbc	**PKPab**	**11 26 40.4**	**-0.3**
I30M	**Mount Dempster**	**147.49**	**313**	PKPbc	**PKiKP**	**11 26 40.1**	**-0.5**
TABL	**Table Mountain**	**147.80**	**303**	PKPdf	**PKPdf**	**11 26 36.5**	**-0.2**
G30M	**tAoh Zraii Nji**	**147.97**	**316**	PKPbc	**PKiKP**	**11 26 40.3**	**-1.1**
H29M	**Whitestone**	**148.57**	**314**	PKPbc	**PKiKP**	**11 26 42.7**	**+0.1**
BCAR	**Beaver Creek A**	**149.03**	**308**	PKPab	**PKPab**	**11 26 47.8**	**+0.9**
SONM	**Songino Array**	**149.73**	**87**	PKPbc	**PKPbc**	**11 26 44.3**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=212,slow=4.6,SNR=2.2						
ILAR	**Eielson Array**	**151.66**	**310**	PKPbc	**PKPbc**	**11 26 48.0**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=112,slow=1.4,SNR=10						

ECX 05 11:07:39.2±0.7, 32°.38N×115°.25W, h10^{km}±2^{km}, MD1.6, ML1.8, 1C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
MBIG	**Mexicali**	**0.06**	**57**	⇓*i*	*e*	P	11 07 41.5	+0.2
MBIG					*e*	S	11 07 43.7	+0.9
CPBX	**Cerro Prieto**	**0.06**	**315**	*e*	*e*	P	11 07 42.8	+1.4
CPBX					*e*	S	11 07 44.9	+2.0
CPBX				IAML			11 07 48.5	
	comp=E,1μm,0.4s							
CPBX				⇓*e*			11 07 48.5	
CPBX				*e*			11 07 49.6	
CPBX				IAML			11 07 49.6	
	comp=N,1μm,0.3s							
AGSX	**Ej. Aguas Cali**	**0.14**	**144**	*e*	P		Pb	11 07 44.3	+0.5
AGSX				*e*	S		Sg	11 07 47.8	+3.3
GUVIX	**Guadalupe Vict**	**0.17**	**116**	*e*	P		Pb	11 07 44.7	+0.3
GUVIX				*i*	S		Sg	11 07 48.6	+3.2
GUVIX				IAML				11 07 48.9	
	comp=E,676nm,0.2s							
GUVIX				⇑*e*				11 07 48.9	
RHX	**Rio Hardy**	**0.24**	**186**	*e*	P		Pb	11 07 45.9	+0.3
RHX				*e*	S		Sg	11 07 50.0	+2.5
YUCAX	**Ej. Yucatιn**	**0.27**	**31**	*e*	S		Sb	11 07 51.3	+0.6
ALAMX	**Rancho Alamar**	**0.53**	**226**	⇓*e*	P		Pb	11 07 51.7	+1.1
ALAMX				*e*	S		Sb	11 07 60.0	+1.6
ALAMX				⇓*e*				11 08 01.9	
SJX	**San Joaquin**	**0.86**	**225**	*e*	P		Pg	11 07 54.7	-1.0

*NEIC **05** 11:07:52.6±1.7, 35°.762N×0°.010×117°.56W±0°.01, h7^{km}±2^{km}, Error ellipse: s-maj=1.5km s-min=1.5km az=98.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.30; $M_{\theta\theta}$=0.77; $M_{\phi\phi}$=1.07; $M_{r\theta}$=0.41; $M_{\theta\phi}$=0.18; $M_{\phi r}$=0.27; Fault plane solution: $M_0$1.09000×10^{17} NP1: ϕ_s313.59000°, δ78.44000°, λ-148.99000°. NP2: ϕ_s216.72000°, δ59.69000°, λ-13.43000°. Principal axes: T 1.1591, Plg12.0000°, Azm82.0000°; N -0.1495, Plg57.0000°, Azm332.0000°; P -1.0095, Plg30.0000°, Azm179.0000°;*

*IDC **05** 11:07:52.8±0.4, 35°.72N×117°.49W, h0^{km}, mb4.8/28, mbtmp4.7/35, ML4.6/7, MS4.8/70 Error ellipse: s-maj=9.8km s-min=4.9km az=74.0*

*NEIC **05** 11:07:53, 35°.76N×117°.58W, h14^{km}, Moment Tensor Solution. Duration: 2^{s}6 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.34; $M_{\theta\theta}$=1.23; $M_{\phi\phi}$1.57; $M_{r\theta}$0.51; $M_{\theta\phi}$=0.26; $M_{\phi r}$=0.41; Fault plane solution: $M_0$1.60000×10^{17} NP1: ϕ_s218.60000°, δ63.40000°, λ-8.09000°. NP2:ϕ_s312.24000°, δ82.77000°, λ-153.17000°. Principal axes: T 1.7009, Plg13.0000°, Azm83.0000°; N -0.2354, Plg62.0000°, Azm326.0000°; P -1.4655, Plg24.0000°, Azm179.0000°;*

*MOS **05** 11:07:53.8±1.1, 35°.73N×117°.50W, h18^{km}, mb5.5/64, MS5.2/13 Error ellipse: s-maj=6.0km s-min=3.9km az=96.9*

*NEIC **05** 11:07:53, 35°.76N×117°.58W, h7^{km}*

*NEIC **05** 11:07:53, 35°.76N×117°.58W, h14^{km}*

*PAS **05** 11:07:53.0±1.6, 35°.760N±0°.010×117°.58W±0°.01, h7^{km}±3^{km}, Mwr5.4/6, mb5.3/139(NEIC), ML5.4/114(NEIC), Mwr5.3/153(NEIC), Mww5.4/115(NEIC), Error ellipse: s-maj=1.5km s-min=1.5km az=95.0*

*GCMT **05** 11:07:57.0±0.1, 35°.78N±0°.01×117°.57W±0°.01, h16^{km}, MW5.4/156, Moment Tensor Solution. s94,c141; s156,c287; Duration: 1^{s}3 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.42±.02; $M_{\theta\theta}$-1.28±.02; $M_{\phi\phi}$1.70±.02; $M_{r\theta}$0.81±.07; $M_{\theta\phi}$-0.19±.02; $M_{\phi r}$-0.28±.06; Best double couple: $M_0$1.76900×10^{17} NP1:ϕ_s217.00000°, δ61.00000°, λ-17.00000°. NP2:ϕ_s315.00000°, δ75.00000°, λ-150.00000°. Principal axes: T 1.7650, Plg9.0000°, Azm84.0000°; N 0.0020, Plg57.0000°, Azm339.0000°; P -1.7730, Plg31.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **05** 11:08:00.2, 36°.12N×117°.96W, h10^{km}±12^{km}, mb5.3, Ms5.3*

ISC 05 11:07:54.7±0.5, 35°.72N±0°.01×117°.57W±0°.02, h12^{km}±2^{km}, n952, σ2^{s}67/955, mb5.2/205, MS5.0/95, 11C-17D, Central California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
CLC	**China Lake**	**0.10**	**349**			**Pg**	**11 07 55.9**	**-1.7**
CLC	**China Lake**	**0.10**	**349**	P		**Pg**	**11 07 55.9**	**-1.7**
SRTC	**Snort**	**0.14**	**258**			**Pg**	**11 07 56.7**	**-1.6**
SRTC						**Sg**	**11 08 00.0**	**-0.8**
LRMC	**Laurel Mtn Rad**	**0.26**	**200**			**Pg**	**11 07 58.7**	**-1.5**
LRMC						**Sg**	**11 08 03.6**	**-0.2**
CCCA	**Chr Cany lake**	**0.26**	**139**			**Pg**	**11 08 04.0**	**+0.1**
WNMM	**Nine Mile Cany**	**0.29**	**294**			**Pg**	**11 07 58.6**	**-2.2**
WVPM	**Volcano Peak E**	**0.30**	**319**			**Pg**	**11 07 58.4**	**-2.6**
WVPM						**Sg**	**11 08 02.9**	**-2.2**
WCSM	**Coso Springs S**	**0.34**	**333**			**Pg**	**11 07 59.0**	**-2.8**
WCSM						**Sg**	**11 08 03.6**	**-2.8**
MPMC	**Manual Prospec**	**0.34**	**12**			**Pg**	**11 07 59.0**	**-2.8**
MPMC						**Sg**	**11 08 04.0**	**-2.5**
WRVM	**Rose V. Centra**	**0.38**	**318**			**Pg**	**11 07 59.9**	**-2.6**
WRVM						**Sg**	**11 08 05.2**	**-2.4**
MFS	**McCloud Flat S**	**0.46**	**330**			**Pg**	**11 08 01.1**	**-2.7**
MFS						**Sg**	**11 08 08.3**	**-1.6**
WBSM	**Bird Springs**	**0.50**	**248**			**Pg**	**11 08 02.6**	**-1.9**
WBSM						**Sg**	**11 08 09.9**	**-1.2**
DTP	**Desert Tortois**	**0.51**	**206**			**Pg**	**11 08 02.4**	**-2.3**
DTP						**Sg**	**11 08 10.6**	**-0.8**
WORM	**Onyx Ranch**	**0.54**	**267**			**Pg**	**11 08 03.1**	**-2.3**
WORM						**Sg**	**11 08 10.8**	**-1.9**
QSM	**Queen of Sheba**	**0.62**	**67**			**Pg**	**11 08 04.4**	**-2.5**
QSM					Sg	**Sg**	**11 08 12.4**	**-2.7**
WHFM	**Hanning Flat**	**0.63**	**268**			**Pg**	**11 08 04.8**	**-2.2**
WHFM						**Sg**	**11 08 14.5**	**-0.9**
CCAC	**Calif City Air**	**0.67**	**213**			**Pg**	**11 08 06.1**	**-1.7**
CCAC					Sg	**Sg**	**11 08 16.0**	**-0.7**
CCAC					IAML		11 08 25.0	
	comp=E,250μm,1.5s							
ISA	**Isabella, Lake**	**0.73**	**266**			**Pg**	**11 08 06.7**	**-2.3**
ISA					Sg	**Sg**	**11 08 16.2**	**-2.4**
ISA	**Isabella, Lake**	**0.73**	**266**	P		**Pg**	**11 08 06.7**	**-2.3**
ISA							11 08 16.2	
GSC	**Goldstone, Bar**	**0.75**	**124**			**Pg**	**11 08 07.4**	**-2.0**
GSC					Sg	**Sg**	**11 08 18.0**	**-1.3**
GSC					IAML		11 08 22.8	
	comp=N,193μm,0.5s							
GSC	**Goldstone, Bar**	**0.75**	**124**	P		**Pg**	**11 08 07.4**	**-2.0**
GSC							11 08 18.0	
WASM	**Alta Sierra Ca**	**0.80**	**271**			**Pg**	**11 08 07.9**	**-2.3**
WASM						**Sg**	**11 08 19.4**	**-1.4**
CWC	**Cottonwood Cre**	**0.82**	**330**			**Pg**	**11 08 08.5**	**-2.3**
CWC						**Sg**	**11 08 19.8**	**-1.8**
CGO	**Cerro Gordo**	**0.85**	**347**			**Pg**	**11 08 07.9**	**-3.3**
CGO						**Sg**	**11 08 20.2**	**-2.1**
HYS	**Haystack Butte**	**0.86**	**180**			**Pg**	**11 08 09.4**	**-1.9**
HYS						**Sb**	**11 08 23.1**	**+0.1**
GWY	**Greenwater Val**	**0.87**	**58**			**Pg**	**11 08 08.9**	**-2.6**
GWY						**Sg**	**11 08 21.0**	**-2.0**
GWY					IAML		11 08 27.6	
	comp=E,175μm,0.8s							
GWY					IAML		11 08 27.0	
	comp=N,167μm,0.7s							
EDW2	**Edwards Air Fo**	**0.91**	**202**			**Pg**	**11 08 10.1**	**-2.2**
EDW2						**Sg**	**11 08 23.7**	**-0.4**
FURC	**Furnace Creek,**	**0.94**	**38**			**Pg**	**11 08 10.9**	**-2.0**
FURC						**Sg**	**11 08 23.3**	**-1.9**
RRX	**Edison Barstow**	**0.97**	**151**			**Pg**	**11 08 11.7**	**-1.7**
TPO	**Tropico Hills**	**1.00**	**213**			**Pb**	**11 08 11.9**	**-2.1**
TPO						**Sb**	**11 08 27.2**	**+0.2**
TEJ	**El Tejon**	**1.03**	**242**			**Pb**	**11 08 11.8**	**-2.7**
TEJ						**Sb**	**11 08 26.5**	**-1.6**
SBB	**Saddle Back Bu**	**1.05**	**191**			**Pb**	**11 08 12.9**	**-2.0**
SBB						**Sg**	**11 08 28.6**	**-0.1**
SHOC	**Shoshone, Teco**	**1.07**	**80**			**Pb**	**11 08 13.4**	**-1.8**
SPG2	**Springville 2**	**1.08**	**297**			**Pb**	**11 08 12.4**	**-3.0**
SPG2						**Sb**	**11 08 27.2**	**-2.2**
MAGC	**SCE Magundon P**	**1.16**	**252**			**Pb**	**11 08 14.6**	**-2.1**
MAGC						**Sb**	**11 08 30.6**	**-1.0**
ADO	**Adelanto Recei**	**1.18**	**174**			**Pb**	**11 08 15.4**	**-1.6**
VTV	**Victorville**	**1.18**	**170**			**Pb**	**11 08 15.2**	**-1.8**
VTV						**Sg**	**11 08 32.7**	**0.0**
VTV	**Victorville**	**1.18**	**170**	P		**Pb**	**11 08 15.2**	**-1.8**
VTV							11 08 32.7	
TJR	**Tejon Ranch**	**1.18**	**234**			**Pb**	**11 08 14.6**	**-2.5**
TJR						**Sb**	**11 08 31.4**	**-0.9**
ARVC	**Arvin**	**1.19**	**240**			**Pn**	**11 08 14.9**	**-2.2**
ALPC	**Antelope**	**1.19**	**210**			**Pn**	**11 08 15.4**	**-1.8**
THC	**Tehachapi Micr**	**1.21**	**228**			**Pn**	**11 08 15.1**	**-2.4**
VES	**Vestal, Richgr**	**1.23**	**276**			**Pn**	**11 08 15.7**	**-2.0**
VES						**Sb**	**11 08 33.0**	**-0.8**
LEOC	**Leona Valley**	**1.24**	**209**			**Pn**	**11 08 16.0**	**-2.0**
LRRC	**Littlerock Res**	**1.25**	**197**			**Pn**	**11 08 16.1**	**-1.8**
LRRC						**Sb**	**11 08 34.3**	**0.0**
AMDNV	**Amargosa**	**1.28**	**55**			**Pn**	**11 08 15.5**	**-2.9**
AMDNV						**Sb**	**11 08 33.8**	**-1.2**
CJV	**Casa Juvan**	**1.28**	**202**			**Pn**	**11 08 16.6**	**-2.0**
CJV						**Sb**	**11 08 35.1**	**-0.1**
HOLC	**Holcomb Ridge**	**1.28**	**190**			**Pn**	**11 08 16.6**	**-1.9**
HOLC						**Sg**	**11 08 35.9**	**-0.1**
GRAC	**Grapevine Rang**	**1.28**	**7**			**Pn**	**11 08 16.2**	**-2.3**
GRAC					IAML		11 08 41.4	
	comp=E,113μm,1.1s							
GRAC					IAML		11 08 41.8	
	comp=N,123μm,1.1s							
BAKC	**Calstate**	**1.30**	**254**			**Pn**	**11 08 17.2**	**-1.5**
JNH	**Juniper Hills**	**1.31**	**194**			**Pn**	**11 08 17.0**	**-1.9**
WCT	**Wildcat Mounta**	**1.31**	**35**			**Pn**	**11 08 16.3**	**-2.7**
WCT						**Sb**	**11 08 33.9**	**-2.4**
WCT					IAML		11 08 36.9	
	comp=N,66μm,1.1s							
WCT					IAML		11 08 38.6	
	comp=E,79μm,1.4s							
SGV	**South Grapevin**	**1.33**	**19**			**Pn**	**11 08 16.7**	**-2.6**
SGV						**Sb**	**11 08 34.8**	**-2.0**
DSCC	**Desert Studies**	**1.33**	**115**			**Pn**	**11 08 16.4**	**-2.7**
HEC	**Hector,Ludlow**	**1.35**	**131**			**Pn**	**11 08 17.2**	**-2.2**
TUQ	**Turquoise Moun**	**1.38**	**102**			**Pn**	**11 08 17.2**	**-2.6**
TIN	**Tinemaha, Big**	**1.43**	**338**			**Pn**	**11 08 18.6**	**-1.9**
TIN	**Tinemaha, Big**	**1.43**	**338**	P		**Pn**	**11 08 18.7**	**-1.9**
CHFC	**Chilao Flat St**	**1.43**	**195**			**Pn**	**11 08 18.8**	**-1.9**
OSI	**Osito Audit: C**	**1.45**	**221**			**Pn**	**11 08 19.2**	**-1.6**
BFSC	**Mount Baldy Ra**	**1.48**	**183**			**Pn**	**11 08 19.6**	**-1.7**
SIL	**Silver Peak**	**1.50**	**156**			**Pn**	**11 08 19.7**	**-1.9**
LCH	**Last Change Ra**	**1.51**	**358**			**Pn**	**11 08 19.4**	**-2.3**
SSK	**Sunset Peak**	**1.51**	**184**			**Pn**	**11 08 20.3**	**-1.5**
PDE	**Pardee, Santa**	**1.52**	**213**			**Pn**	**11 08 20.6**	**-1.1**
MWC	**Mount Wilson**	**1.55**	**195**			**Pn**	**11 08 20.8**	**-1.5**
MWC	**Mount Wilson**	**1.55**	**195**	P		**Pn**	**11 08 20.8**	**-1.5**
BBRC	**Big Bear Solar**	**1.55**	**160**			**Pn**	**11 08 20.5**	**-1.9**
VOG	**Valley Oaks Go**	**1.58**	**293**			**Pn**	**11 08 21.6**	**-0.9**
DECC	**Green Verdugo**	**1.59**	**203**			**Pn**	**11 08 21.4**	**-1.4**
GMN	**Gold Mountain**	**1.59**	**9**			**Pn**	**11 08 20.8**	**-2.2**
GMN					IAML		11 08 46.2	
	comp=N,33μm,0.8s							
GMN					IAML		11 08 51.2	
	comp=E,34μm,1.1s							
PASC	**Pasadena Art C**	**1.63**	**198**			**Pn**	**11 08 21.8**	**-1.4**
PASC					IAML		11 08 51.6	
	comp=E,58μm,1.1s							
PASC					IAML		11 08 53.6	
	comp=N,32μm,1.4s							
TPNV	**Topopah Spring**	**1.63**	**41**			**Pn**	**11 08 20.9**	**-2.4**
TPNV					IAML		11 08 47.5	
	comp=N,59μm,1.1s							
TPNV	**Topopah Spring**	**1.63**	**41**	P		**Pn**	**11 08 21.0**	**-2.4**
PSRC	**Puddingstone R**	**1.64**	**187**			**Pn**	**11 08 22.2**	**-1.1**
CLTC	**Calectric**	**1.64**	**173**			**Pn**	**11 08 23.5**	**+0.2**
CACC	**Caltech Cellar**	**1.64**	**196**			**Pn**	**11 08 23.7**	**+0.3**
SVD	**Seven Oaks Dam**	**1.66**	**166**			**Pn**	**11 08 22.1**	**-1.5**
MTPC	**Mountain Pass**	**1.66**	**98**			**Pn**	**11 08 21.4**	**-2.5**
HLLC	**North Hollywoo**	**1.67**	**203**			**Pn**	**11 08 23.8**	**0.0**
DSP	**Deep Springs**	**1.68**	**349**			**Pn**	**11 08 21.8**	**-2.1**
BCW	**Bitter Crk WRg**	**1.69**	**243**			**Pn**	**11 08 22.2**	**-2.0**
BCW					IAML		11 09 04.6	
	comp=N,67μm,1.4s							
BCW					IAML		11 09 14.4	
	comp=E,71μm,1.9s							
GR2C	**Griffith Obs.**	**1.71**	**201**			**Pn**	**11 08 23.5**	**-0.8**
MLSC	**Mira Loma**	**1.71**	**180**			**Pn**	**11 08 23.0**	**-1.3**
CHNC	**Chino**	**1.72**	**183**			**Pn**	**11 08 23.5**	**-1.0**
CFT	**Crafton Hills**	**1.73**	**167**			**Pn**	**11 08 23.3**	**-1.3**
GVRC	**Garvey Reservo**	**1.73**	**195**			**Pn**	**11 08 25.3**	**+0.7**
POCCA	**Poleta Canyon**	**1.73**	**341**			**Pn**	**11 08 23.6**	**-1.3**
RVR	**Riverside**	**1.73**	**175**			**Pn**	**11 08 23.1**	**-1.5**
RVR	**Riverside**	**1.73**	**175**	P		**Pn**	**11 08 23.1**	**-1.5**
BHPR	**Bishop**	**1.74**	**335**			**Pn**	**11 08 23.0**	**-1.9**
RHC	**Rose Hills Cem**	**1.75**	**192**			**Pn**	**11 08 25.5**	**+0.5**
MTUM	**Tungsten Hills**	**1.81**	**334**			**Pn**	**11 08 24.1**	**-1.8**
PEC	**Perris**	**1.86**	**169**			**Pn**	**11 08 25.1**	**-1.2**
PEC	**Perris**	**1.86**	**169**	P		**Pn**	**11 08 25.2**	**-1.2**
BBSC	**Beaumont Base**	**1.86**	**165**			**Pn**	**11 08 25.4**	**-1.1**
BLAC	**Blackrock camp**	**1.92**	**149**			**Pn**	**11 08 25.4**	**-1.8**
BREC	**Barre Substati**	**1.94**	**190**			**Pn**	**11 08 28.3**	**+0.9**
MZP	**Montezuma Peak**	**1.98**	**4**			**Pn**	**11 08 26.3**	**-2.0**
HMTC	**Hemet**	**2.06**	**167**			**Pn**	**11 08 27.7**	**-1.5**
ELS	**Elsinore Mount**	**2.07**	**177**			**Pn**	**11 08 27.9**	**-1.5**
DANC	**Danby, Needles**	**2.10**	**120**			**Pn**	**11 08 28.4**	**-1.3**
SHPR	**Sheep Range**	**2.10**	**68**			**Pn**	**11 08 27.8**	**-2.1**
DGR	**Domenigoni Val**	**2.12**	**167**			**Pn**	**11 08 28.8**	**-1.2**
V12A	**Nelson**	**2.22**	**89**			**Pn**	**11 08 28.9**	**-2.5**
V12A					IAML		11 09 07.2	
	comp=N,31μm,1.1s							
PFO	**Pinyon Flats O**	**2.30**	**156**			**Pn**	**11 08 30.7**	**-1.9**
PFO					IAML		11 09 13.4	
	comp=N,29μm,2.0s							
PFO					IAML		11 09 15.5	
	comp=N,16μm,1.1s							
PFO	**Pinyon Flats O**	**2.30**	**156**	Pn		**Pn**	**11 08 30.7**	**-1.9**
	comp=N,86nm,0.3s,baz=340,slow=12,SNR=328							
PFO					Pg	**Pb**	**11 08 35.4**	**-0.7**
	comp=N,513nm,0.3s,baz=338,slow=18,SNR=51							
PFO					LR	LR	11 09 06.6	
	comp=N,6μm,18.1s,baz=293,slow=32							
PFO					Lg	Lg	11 09 07.1	
	comp=N,1μm,0.3s,baz=284,slow=4.2,SNR=13							
	comp=N,252nm,0.3s							
I57US	**PINON FLAT INF**	**2.31**	**156**	Pn		**Pn**	**11 08 33.4**	**+0.8**
	baz=344,slow=25							
TPH	**Tonopah**	**2.37**	**7**			**Pn**	**11 08 31.3**	**-2.3**
TPH	**Tonopah**	**2.37**	**7**	P		**Pn**	**11 08 31.3**	**-2.3**
S11A	**Rachel**	**2.42**	**37**			**Pn**	**11 08 32.2**	**-1.9**
LHV	**Little Huntoon**	**2.63**	**344**			**Pn**	**11 08 35.9**	**-1.0**
LHV				IAML			11 09 30.9	
	comp=N,13μm,1.6s							
LHV				IAML			11 09 43.0	
	comp=E,14μm,1.2s							
PRN	**Pahroc Range**	**2.64**	**50**			**Pn**	**11 08 35.2**	**-2.0**
PMPB	**Monarch Peak**	**2.66**	**282**			**Pn**	**11 08 35.3**	**-2.2**
NV11	**Mina Array Sit**	**2.74**	**350**			**Pn**	**11 08 37.1**	**-1.6**
NVAR	**Mina Array Bea**	**2.77**	**348**			**Pn**	**11 08 37.2**	**-1.9**
NVAR	**Mina Array Bea**	**2.77**	**348**	Pn		**Pn**	**11 08 37.4**	**-1.7**
	comp=E,127nm,0.3s,baz=170,slow=13,SNR=498							
NVAR					Pg	**Pb**	**11 08 44.3**	**+0.1**
	comp=E,959nm,0.3s,baz=168,slow=12,SNR=92							
NVAR					LR	LR	11 09 17.1	
	comp=E,6μm,20.6s,baz=246,slow=31							
NVAR					Lg	Lg	11 09 21.4	
	comp=E,488nm,0.3s,baz=175,slow=30,SNR=6.4							
	comp=E,341nm,0.7s							
BBGB	**Big Mountain B**	**2.93**	**288**			**Pn**	**11 08 39.5**	**-1.7**
RYN	**Ryan**	**3.00**	**346**			**Pn**	**11 08 40.6**	**-1.6**
R11B	**Troy Canyon, C**	**3.07**	**31**			**Pn**	**11 08 41.4**	**-1.8**
R11B				IAML			11 09 29.9	
	comp=E,9μm,1.3s							
W13A	**Hualapai Mount**	**3.08**	**101**			**Pn**	**11 08 41.0**	**-2.4**
W13A				IAML			11 09 35.3	
	comp=N,18μm,2.2s							
Q09A	**Carvers**	**3.12**	**6**			**Pn**	**11 08 42.7**	**-1.2**
WAKR	**Walker**	**3.15**	**332**			**Pn**	**11 08 43.4**	**-1.0**
BLYC	**Blythe**	**3.19**	**127**			**Pn**	**11 08 42.2**	**-2.5**
BLYC				IAML			11 09 38.5	
	comp=E,13μm,2.4s							
CMB	**Columbia Colle**	**3.23**	**316**			**Pn**	**11 08 44.2**	**-1.0**
CMB				IAML			11 09 41.4	
	comp=E,6μm,2.7s							
CMB	**Columbia Colle**	**3.23**	**316**	P		**Pn**	**11 08 44.2**	**-1.0**
TJX	**Tijuana**	**3.23**	**172**			**Pn**	**11 08 44.9**	**-0.4**
TKX	**Tecate**	**3.25**	**165**			**Pn**	**11 08 44.2**	**-1.3**
SAO	**San Andreas Ge**	**3.30**	**290**			**Pn**	**11 08 44.6**	**-1.6**
SAO	**San Andreas Ge**	**3.30**	**290**	P		**Pn**	**11 08 44.6**	**-1.6**
YUH	**Yuha Desert**	**3.36**	**155**			**Pn**	**11 08 44.6**	**-2.4**
YUH				IAML			11 09 46.0	
	comp=E,7μm,1.4s							
CBX	**Cerro Bola**	**3.48**	**167**			**Pn**	**11 08 48.1**	**-0.8**
GLA	**Glamis**	**3.50**	**139**			**Pn**	**11 08 46.9**	**-2.1**
GLA	**Glamis**	**3.50**	**139**	P		**Pn**	**11 08 46.9**	**-2.1**
CCUT	**Cedar City**	**3.85**	**60**	IAML			11 10 02.8	
	comp=E,6μm,2.0s		

baz=37,slow=10
LPIG LR LR 11 15 35.9
comp=E,2µm,19.6s,baz=343,slow=35
C03A Quillayute Air 13.27 339 Pn 11 11 00.7 -2.1
RSSD Black Hills 13.34 47 Pn 11 11 02.5 -1.5
RSSD Black Hills 13.34 47 P **Pn 11 11 02.5 -1.5**
TXAR Lajitas Array 13.35 115 Pn 11 11 03.4 -0.7
TXAR Lajitas Array 13.35 115 Pn **Pn 11 11 04.5 +0.5**
comp=E,2.2nn,0.3s,baz=301,slow=15,SNR=168
TXAR Lg Lg 11 14 49.7
comp=E,0.8nn,0.3s,baz=290,slow=30,SNR=7.9
TXAR LR LR 11 16 48.6
comp=E,4µm,19.3s,baz=296,slow=40
comp=E,4.5nn,0.4s
HPIG 13.42 127 Pn **Pn 11 11 03.8 -1.4**
SMWD Samnorwood 14.15 87 Pn 11 11 13.7 -1.3
ABTX Abilene, Hawle 15.16 97 Pn 11 11 27.9 -0.8
LLLB Lillooet 15.20 349 Pn 11 11 28.7 -0.5
CBB Campbell River 15.39 341 Pn 11 11 30.8 -0.8
WMOK Wichita Mounta 15.39 88 Pn 11 11 30.8 -1.0
WMOK Wichita Mounta 15.39 88 P **Pn 11 11 30.8 -1.0**
WMOK pmax pmax
comp=Z,27nm,1.3s
JCT Junction City 15.78 104 Pn 11 11 37.2 +0.4
JCT IAmb IAmb 11 11 40.4
comp=Z,291nm,1.9s
JCT Junction City 15.78 104 P **Pn 11 11 37.2 +0.4**
JCT pmax pmax
comp=Z,291nm,1.9s
KAN12 Harper NE Stat 15.82 79 Pn 11 11 36.9 -0.4
GC02 Grant County # 15.94 80 Pn 11 11 37.9 -1.0
DGMT Dagmar 16.12 34 Pn 11 11 38.9 -2.2
KSU1 Kansas State U 16.99 72 Pn 11 11 51.5 -0.7
KSU1 IAmb IAmb 11 11 57.6
comp=Z,328nm,1.2s
ECSD EROS Data Cent 17.97 57 P **Pn 11 12 02.8 -1.5**
BBB Bella Bella 18.09 339 P **P 11 12 08.3 +2.3**
comp=Z,21nm,1.1s,baz=155,slow=11,SNR=6.4
BBB LR LR 11 19 37.5
comp=Z,6µm,18.7s,baz=161,slow=39
ZAIG Zacatecas 18.36 131 Pn 11 12 07.1 -2.4
HHAR Hobbs 19.12 81 P **11 12 16.8 -0.8**
HHAR IAmb IAmb 11 12 20.4
comp=Z,139nm,1.1s
HKT Hockley 19.14 101 *c iP* **Pn 11 12 18.9 +0.3**
SCIA State Center 19.93 65 P **P 11 12 24.5 -1.8**
SCIA IAmb IAmb 11 12 34.0
comp=Z,126nm,1.1s
AGMN Agassiz Nation 20.36 45 P **P 11 12 29.5 -1.5**
AGMN IAmb IAmb 11 12 34.7
comp=Z,168nm,0.9s
DIB Dawson Inlet, 20.39 334 P **P 11 12 29.4 -1.7**
H02S1 DAWSON INLET T 20.39 334 P Pn 11 12 33.7 +0.5
SNR=5.4
WHAR Wooly Hollow 20.58 84 P **P 11 12 32.5 -1.0**
WHAR IAmb IAmb 11 12 38.5
comp=Z,375nm,1.5s
FCAR Ozark Folk Cen 20.63 82 P **P 11 12 33.0 -1.0**
FCAR IAmb IAmb 11 12 38.8
comp=Z,216nm,1.1s
CCM Cathedral Cave 21.17 76 P **P 11 12 39.1 -0.7**
CCM IAmb IAmb 11 12 44.9
comp=Z,167nm,1.1s
CCM Cathedral Cave 21.17 76 P **P 11 12 39.1 -0.7**
CCM pmax pmax
comp=Z,167nm,1.1s
JRQG Juriquilla Cam 21.20 130 P **P 11 12 40.5 0.0**
ULM Lac du Bonnet 21.40 41 P **P 11 12 40.2 -2.0**
ULM Lac du Bonnet 21.40 41 P **P 11 12 41.2 -1.0**
comp=Z,127nm,1.0s,baz=235,slow=13,SNR=111
ULM S **S 11 16 40.0 +0.6**
comp=Z,2.4nn,0.8s,baz=247,slow=13,SNR=1.1
ULM Lg Lg 11 19 09.8
baz=300,slow=16,SNR=2.3
ULM LR LR 11 20 44.5
comp=Z,3µm,18.3s,baz=238,slow=36
comp=Z,127nm,1.0s
MOIG Morelia 21.53 134 P **P 11 12 43.8 -0.3**
MOIG IAmb IAmb 11 13 00.8
comp=Z,366nm,1.6s
FFC Flin Flon 21.86 25 P **P 11 12 45.5 -1.5**
FFC Flin Flon 21.86 25 P **P 11 12 45.5 -1.5**
FFC pmax pmax
comp=Z,220nm,1.0s
V35K Ketchikan 21.86 338 P **P 11 12 51.9 +4.9**
baz=148,SNR=30
HBAR Harrisburg 21.86 83 P **P 11 12 45.3 -1.9**
HBAR IAmb IAmb 11 13 03.8
comp=Z,114nm,1.0s
U35K Hyder 21.91 341 P **P 11 12 52.6 +5.1**
baz=152
JFWS Jewell Farm 22.27 63 P **P 11 12 50.5 -1.1**
JFWS IAmb IAmb 11 12 59.0
comp=Z,71nm,0.9s
JFWS Jewell Farm 22.27 63 P **P 11 12 50.5 -1.1**
JFWS pmax pmax
comp=Z,71nm,1.0s
EPLO Experimental L 22.27 44 P **P 11 12 50.4 -1.1**
CRAG Craig 22.45 336 P **P 11 12 58.4 +5.1**
CRAG Craig 22.45 336 P **P 11 12 58.1 +4.7**
baz=145,SNR=11
HDIL Hopedale 22.71 69 P **P 11 12 55.4 -0.9**
EYMN Ely 22.83 50 P **P 11 12 55.3 -2.2**
EYMN IAmb IAmb 11 13 01.2
comp=Z,109nm,1.4s
T35M Bob Quinn 22.92 342 P **P 11 13 03.8 +5.4**
baz=153,SNR=25
U33K Whale Pass 22.98 337 P **P 11 13 03.9 +5.0**
baz=146,SNR=14
WRAK Wrangell Islan 23.00 339 P **P 11 13 04.2 +5.0**
baz=148,SNR=39
T33K Petersburg 23.52 339 P **P 11 13 08.7 +4.3**
baz=147
TOAD Toad River Com 23.68 350 P **P 11 13 08.9 +2.8**
baz=164,SNR=71
COWI Conover 23.74 55 P **P 11 13 05.5 -1.3**
COWI IAmb IAmb 11 13 10.8
comp=Z,119nm,1.1s
S34M Telegraph Cree 23.97 342 P **P 11 13 12.8 +4.1**
baz=152,SNR=8.9
WVT Waverly 24.05 80 P **P 11 13 08.3 -1.4**
WVT IAmb IAmb 11 13 14.4
comp=Z,62nm,1.1s
WVT Waverly 24.05 80 P **P 11 13 08.3 -1.4**
WVT pmax pmax
comp=Z,62nm,1.2s
DLBC Dease Lake 24.18 344 LR LR 11 23 26.2
comp=Z,1µm,18.1s,baz=145,slow=39
DLBC Dease Lake 24.18 344 P **P 11 13 14.7 +3.9**
baz=155,SNR=35
LIRD Liard River Hi 24.35 349 P **P 11 13 16.6 +4.4**
baz=163,SNR=29
TBO Thunder Bay 24.39 49 P **P 11 13 11.4 -1.3**
SIT Sitka 24.46 336 P **P 11 13 17.6 +4.4**
SIT Sitka 24.46 336 P **P 11 13 16.8 +3.6**
baz=143,SNR=10.0
S32K Killisnoo 24.55 338 P **P 11 13 18.0 +3.9**
baz=145,SNR=7.1
TLIG Tlapa 24.73 132 P **P 11 13 13.9 -2.3**
TLIG IAmb IAmb 11 13 23.6
comp=Z,62nm,1.3s
KOTAN Kotaneelee Air 24.78 352 P **P 11 13 19.6 +3.4**
baz=167,SNR=36
WCI Wyandotte Cave 25.06 75 P **P 11 13 17.9 -0.9**
WCI Wyandotte Cave 25.06 75 P **P 11 13 17.9 -0.9**
WCI pmax pmax
comp=Z,108nm,1.0s
JIS Juneau Island 25.16 339 P **P 11 13 24.2 +4.6**
Q32M Nakina River 25.18 342 P **P 11 13 24.5 +4.6**
baz=151,SNR=23
R32K Eaglecrest 25.20 339 P **P 11 13 24.1 +4.2**
baz=146,SNR=17
R33M Jennings River 25.25 344 P **P 11 13 24.7 +4.1**
baz=154,SNR=76
LRAL Lakeview Retre 25.33 87 P **P 11 13 20.0 -1.4**
LRAL IAmb IAmb 11 13 25.2
comp=Z,58nm,1.2s
WTLY Watson Lake, Y 25.47 347 P **P 11 13 26.0 +3.6**
baz=158,SNR=56
S31K Pelican 25.48 337 P **P 11 13 26.7 +4.3**
baz=143,SNR=7.4
P32M Atlin 26.09 341 P **P 11 13 32.0 +3.9**
baz=149,SNR=26
FPAL Fort Paine 26.11 83 P **P 11 13 26.5 -2.0**
250A Grady 26.21 89 P **P 11 13 27.7 -1.7**
250A IAmb IAmb 11 13 53.6
comp=Z,73nm,1.3s
P33M Teslin, Yukon 26.41 343 P **P 11 13 34.1 +3.1**
baz=151,SNR=14
SKAG Skagway 26.43 340 P **P 11 13 35.3 +4.3**
SKAG Skagway 26.43 340 P **P 11 13 35.1 +4.1**
baz=146,SNR=12
TGTN Hyland Airport 26.70 349 P **P 11 13 36.9 +3.3**
baz=160,SNR=9.6
PLBC Pleasant Camp 26.73 339 P **P 11 13 37.7 +4.0**
baz=144,SNR=15
YKA Yellowknife Ar 26.86 3 P **P 11 13 35.6 +0.7**
comp=Z,9.3nn,0.9s,baz=185,slow=7.9,SNR=53
YKA S S 11 18 26.0 +15
comp=Z,0.3nn,0.7s,baz=168,slow=16,SNR=0.8
YKA Lg Lg 11 22 05.4
baz=181,slow=24,SNR=2.7
YKA LR LR 11 25 26.7
comp=Z,2µm,18.5s,baz=188,slow=39
comp=Z,9.3nn,0.9s
YKA Yellowknife Ar 26.86 3 P **P 11 13 35.5 +0.6**
YKAW3 Yellowknife Wh 26.93 3 P **P 11 13 35.1 -0.4**
YKAW3 IAmb IAmb 11 13 41.8
comp=Z,268nm,1.8s
AAM Ann Arbor 27.04 66 P **P 11 13 34.6 -2.1**
AAM Ann Arbor 27.04 66 P **P 11 13 34.6 -2.1**
AAM pmax pmax
comp=Z,39nm,1.1s
P29M Windy Craggy 27.28 338 P **P 11 13 43.3 +4.5**
baz=142,SNR=9.4
N32M Quiet Lake 27.30 344 P **P 11 13 43.0 +4.1**
baz=152
WHY Whitehorse 27.32 341 P **P 11 13 43.1 +3.9**
baz=148,SNR=21
CMIG Matias Romero 27.41 127 LR LR 11 23 33.0
comp=Z,4µm,20.6s,baz=236,slow=34
P30M Million Dollar 27.44 339 P **P 11 13 44.4 +4.1**
baz=144
ACSO Alum Creek Sta 27.53 70 P **P 11 13 39.4 -1.7**
ACSO IAmb IAmb 11 13 45.0
comp=Z,54nm,1.1s
O30N Mendenhall 27.73 340 P **P 11 13 46.9 +4.0**
baz=146,SNR=18
WRGLY Wrigley 27.77 354 P **P 11 13 46.6 +3.5**
baz=170
PNL Peninsula 27.84 336 P **P 11 13 48.5 +4.7**
PNL Peninsula 27.84 336 P **P 11 13 47.5 +3.7**
baz=140
O29M Mount Kennedy 28.07 338 P **P 11 13 49.5 +3.5**
baz=142,SNR=5.7
GOGA Godfrey 28.10 85 P **P 11 13 44.9 -1.4**
GOGA Godfrey 28.10 85 P **P 11 13 44.9 -1.4**
GOGA pmax pmax
comp=Z,16nm,0.9s
HYT Haines Junctio 28.17 339 P **P 11 13 51.1 +4.3**
baz=144,SNR=12
MMPY Sheldon Lake, 28.24 347 P **P 11 13 51.7 +4.3**
baz=156,SNR=29
N31M Braeburn, Yuko 28.25 342 P **P 11 13 51.1 +3.7**
baz=148,SNR=18
FARO Faro, Yukon 28.32 344 P **P 11 13 51.8 +3.7**
baz=152,SNR=15
PINM Pinnacle 28.45 336 P **P 11 13 53.4 +4.1**
baz=139
YUK6 Outpost Mounta 28.52 339 P **P 11 13 54.1 +4.0**
baz=143,SNR=14
M31M Drury Creek, Y 28.53 344 P **P 11 13 53.8 +4.0**
baz=150,SNR=21
N30M Aishikik Lake 28.57 340 P **P 11 13 54.5 +4.1**
baz=145,SNR=16
HODGE Hodges 28.88 83 P **P 11 13 53.0 -0.3**
YUK4 Talbot Arm 28.92 339 P P 11 13 58.5 +4.9
baz=143,SNR=20
O28M Mount Upton 28.94 337 P **P 11 13 58.3 +4.4**
baz=140,SNR=18
MESA MESA 29.08 335 P **P 11 13 59.8 +4.7**
baz=136,SNR=6.1
YUK8 Steele Glacier 29.21 338 P **P 11 14 00.8 +4.5**
baz=141,SNR=13
GRNC Granite Creek 29.42 336 P **P 11 13 57.2 -0.9**
GRNC IAmb IAmb 11 14 04.9
comp=Z,76nm,1.4s
M30M Minto, Yukon 29.43 342 P **P 11 14 01.6 +3.7**
baz=147,SNR=9.6
CTG Chitna Glacier 29.46 336 P **P 11 14 03.0 +4.7**
baz=138,SNR=8.5
ALLY Allegheny Colle 29.64 67 P **P 11 13 58.8 -1.2**
M29M Somme Creek 29.76 340 P **P 11 14 05.2 +4.4**
baz=144,SNR=30
KAIM Kayak Island 29.79 333 P **P 11 14 05.8 +4.7**
baz=132
YUK3 Moose Creek 29.80 338 P **P 11 14 05.6 +4.2**
baz=140,SNR=13
CCIG Comitan 29.81 124 P **P 11 14 00.1 -1.8**
CRQE Cirque 29.89 335 P **P 11 14 06.3 +4.2**
baz=135
MCWV Mont Chateau 29.97 71 P **P 11 14 01.0 -1.8**
TEIG Tepich 29.98 113 P **P 11 14 00.8 -2.4**
HMT Hamilton 30.02 333 P **P 11 14 01.3 -1.8**
HMT IAmb IAmb 11 14 10.0
comp=Z,48nm,1.3s
MAYO Mayo, Yukon 30.08 344 P **P 11 14 07.9 +4.3**
baz=149,SNR=7.2
Q23K Middleton Isla 30.21 331 P **P 11 14 09.1 +4.3**
baz=129
L29M L29M 30.21 342 P P 11 14 09.8 +4.9
baz=145,SNR=22
MCARA McCarthy VSAT 30.32 336 P P 11 14 10.6 +4.8
baz=136,SNR=8.4
BUKO Buck Lake 30.33 60 P **P 11 14 04.0 -2.0**
BUKO IAmb IAmb 11 14 08.8
comp=Z,63nm,1.7s
BVCY Beaver Creek 30.41 339 P **P 11 14 11.1 +4.5**
baz=141,SNR=27
SADO Sadowa 30.46 61 P **P 11 14 05.3 -1.8**
SADO IAmb IAmb 11 14 09.8
comp=Z,81nm,1.9s
BMRM Bremner River 30.57 334 P **P 11 14 12.4 +4.4**
baz=133,SNR=5.8
K29M Barlow Dome 30.68 343 P **P 11 14 13.3 +4.3**
baz=147,SNR=27
M27K Edge Creek, AK 30.68 338 P **P 11 14 13.5 +4.4**
baz=139,SNR=33
EYAK Cordova Ski Ar 30.70 333 P P 11 14 14.3 +5.2
EYAK Cordova Ski Ar 30.70 333 P P 11 14 14.0 +4.9
baz=131,SNR=9.1
WVNY West Valley, N 30.78 66 P **P 11 14 07.9 -2.1**
WVNY IAmb IAmb 11 14 13.5
comp=Z,58nm,1.3s
HIN Hinchinbrook I 30.89 332 P **P 11 14 09.3 -1.6**
PETF Flores 30.94 120 P **P 11 14 10.6 -1.0**
PETF IAmb IAmb 11 14 16.9
comp=Z,48nm,1.6s
P23K Montague Islan 30.99 331 P **P 11 14 15.8 +4.2**
baz=128
N25K Chitina, Valde 31.01 335 P **P 11 14 16.6 +4.7**
baz=134,SNR=18
J30M Hart River 31.03 344 P **P 11 14 16.6 +4.5**
baz=150,SNR=46
M26K Nabesna, AK 31.06 337 P **P 11 14 16.7 +4.4**
baz=137,SNR=17
BCAR Beaver Creek A 31.19 339 P **P 11 14 12.6 -0.9**
L27K Beaver Creek, 31.20 339 P **P 11 14 17.5 +4.0**
baz=140,SNR=15
DAWY Dawson 31.32 342 P **P 11 14 14.7 +0.1**
DAWY Dawson 31.32 342 P **P 11 14 18.7 +4.1**
baz=144,SNR=25
J29N Bondike Camp 31.35 343 P **P 11 14 19.6 +4.6**
baz=147
SSPA Standing Stone 31.39 69 P **P 11 14 13.2 -2.3**
SSPA IAmb IAmb 11 14 19.1
comp=Z,53nm,1.4s
KLU Klutina 31.40 334 P **P 11 14 19.8 +4.4**
baz=132,SNR=10
GLI Glacier Island 31.42 332 P **P 11 14 19.9 +4.4**
baz=130,SNR=13
BLKN Baker Lake 31.47 18 P **P 11 14 14.4 -1.4**
BLKN IAmb IAmb 11 14 19.5
comp=Z,26nm,0.9s
I30M Mount Dempster 31.60 345 P **P 11 14 20.7 +3.6**
baz=150,SNR=23
L26K Log Cabin Wild 31.63 338 P **P 11 14 21.7 +4.4**
baz=138,SNR=24
MENT Mentasta 31.68 337 P **P 11 14 22.1 +4.3**
H31M Peel River 31.71 347 P **P 11 14 21.8 +3.8**
baz=154,SNR=20
HARP HAARP 31.76 336 P **P 11 14 23.2 +4.7**
baz=134,SNR=6.1
SEW Seward 31.87 330 P **P 11 14 23.7 +4.3**
baz=126,SNR=14
PWL Port Wells 31.88 332 P P **11 14 23.8 +4.2**
baz=128,SNR=13
M24K Tolsona, Glenn 31.90 335 P P 11 14 25.4 +5.6
baz=132,SNR=6.2
VLDQ Val d'Or 31.96 55 P **P 11 14 16.9 -3.4**
K27K Chicken 32.02 340 P **P 11 14 20.9 +0.3**
K27K IAmb IAmb 11 14 27.6
comp=Z,62nm,1.4s
K27K Chicken 32.02 340 P **P 11 14 25.3 +4.7**
baz=140
KDAK Kodiak Island 32.02 325 LR LR 11 25 14.3
comp=Z,2µm,19.5s,baz=123,slow=32
KDAK Kodiak Island 32.02 325 *eP* **P 11 14 22.5 +1.8**
KDAK pmax pmax
comp=Z,70nm,1.8s
KDAK Kodiak Island 32.02 325 P P 11 14 25.6 +4.9
baz=118
OHAK Old Harbor 32.10 323 P **P 11 14 20.3 -1.1**
OHAK IAmb IAmb 11 14 34.3
comp=Z,30nm,1.2s
OHAK Old Harbor 32.10 323 P P 11 14 26.7 +5.3
OHAK Old Harbor 32.10 323 P **P 11 14 26.2 +4.8**
baz=117
SCM Sheep Creek Mo 32.13 334 P **P 11 14 26.0 +4.3**
baz=131,SNR=17
I29M Ogilvie Camp, 32.14 344 P **P 11 14 25.5 +3.8**
baz=147,SNR=26
O22K Cooper Landing 32.20 330 P **P 11 14 26.8 +4.5**
baz=126
M23K Glacier View 32.24 333 P **P 11 14 26.8 +4.1**
baz=130,SNR=7.7
SII Sitkinak Islan 32.26 322 P **P 11 14 27.4 +4.6**
baz=115
PAX Paxson 32.26 336 P **P 11 14 26.3 +3.4**
baz=134,SNR=17
KNK Knik Glacier 32.27 332 P **P 11 14 27.7 +4.7**
baz=129,SNR=8.2
Q20K Shuyak Island 32.34 326 P **P 11 14 27.7 +4.2**
baz=120
SCRK Sand Creek 32.53 339 P **P 11 14 29.6 +4.3**
baz=138,SNR=50
HOM Homer 32.54 328 P **P 11 14 29.8 +4.5**
baz=122
RC01 Rabbit Creek A 32.57 331 P **P 11 14 30.0 +4.5**
baz=126,SNR=8.3
I28M Miner Creek 32.59 343 P **P 11 14 29.3 +3.5**
baz=145,SNR=35
RIDG Independent Ri 32.61 338 P **P 11 14 29.5 +3.5**
baz=136,SNR=13
PMR Palmer 32.64 332 P **P 11 14 26.6 +0.5**
PMR Palmer 32.64 332 P **P 11 14 30.5 +4.4**
PMR Palmer 32.64 332 P **P 11 14 26.6 +0.5**
PMR pmax pmax
comp=Z,115nm,1.3s
PMR Palmer 32.64 332 P **P 11 14 30.2 +4.1**
baz=128,SNR=32
EPYK Eagle Plains 32.67 346 P **P 11 14 30.1 +3.8**
baz=150,SNR=23
G31M Satah River 32.71 348 P **P 11 14 30.1 +3.5**
baz=154,SNR=23
WAT6 Susitna Watana 32.76 335 P **P 11 14 31.5 +4.1**
baz=131,SNR=35
J26L Joseph Creek 32.80 340 P **P 11 14 32.0 +4.4**
baz=139,SNR=24
R18K Karluk 32.82 323 P **P 11 14 32.2 +4.5**
baz=116
H29M Whitestone 32.88 345 P **P 11 14 31.7 +3.5**
baz=148,SNR=20
K24K Donnelly Dome 32.95 337 P **P 11 14 33.2 +4.3**
baz=135,SNR=7.7
DHY Denali Highway 32.97 335 P **P 11 14 28.6 -0.6**
DHY IAmb IAmb 11 14 35.5
comp=Z,50nm,1.2s
DHY Denali Highway 32.97 335 P **P 11 14 33.1 +4.0**
baz=132,SNR=35
Q19K Cape Douglas, 33.06 326 P **P 11 14 34.4 +4.5**
baz=119
F31M Tsiigehtchic 33.09 349 P **P 11 14 29.9 -0.1**
F31M Tsiigehtchic 33.09 349 P **P 11 14 33.8 +3.8**
baz=156,SNR=24
G30M tAoh Zraii Nji 33.11 347 P **P 11 14 33.3 +3.0**
baz=152,SNR=13
M22K Willow 33.11 332 P **P 11 14 34.2 +3.9**
baz=127,SNR=12
I27K Kandik River 33.13 342 P **P 11 14 34.5 +4.0**
baz=143,SNR=8.8
SUA Susitna One 33.18 331 P **P 11 14 35.6 +4.5**
baz=126
O20K Slope Mountain 33.19 328 P **P 11 14 35.4 +4.3**
baz=121
WAT1 Susitna Watana 33.21 334 P **P 11 14 35.2 +4.1**
baz=130
P19K Oil Pt 33.23 327 P **P 11 14 36.0 +4.6**
baz=120
I26K Coal Creek Min 33.30 341 P **P 11 14 36.4 +4.5**
baz=140
G29M Pine Creek 33.40 346 P **P 11 14 36.0 +3.3**
baz=149,SNR=24
J25K Salcha River, 33.41 339 P **P 11 14 36.8 +4.0**
baz=136,SNR=37
Q18K Katmai Hardscr 33.56 325 P **P 11 14 38.2 +3.9**
baz=116,SNR=9.9
CUT Chulitna 33.56 333 P **P 11 14 38.3 +4.1**
baz=127,SNR=8.4
F30M Barrier River 33.59 348 P **P 11 14 38.1 +3.7**
baz=153,SNR=24
H27K Steamboat Moun 33.61 343 P **P 11 14 38.4 +3.8**
baz=143,SNR=25
N20K Mount Spurr 33.62 330 P **P 11 14 38.8 +4.1**
baz=123
SPCR Spurr Chakacha 33.62 330 P **P 11 14 39.1 +4.3**
baz=123
HDA Harding Lake 33.74 337 P **P 11 14 39.9 +4.1**
baz=134,SNR=12
TRQ Mont Tremblant 33.76 58 P **P 11 14 34.5 -1.6**
TRQ IAmb IAmb 11 14 39.2
comp=Z,29nm,1.1s
J59A Piesco 33.77 63 P **P 11 14 35.0 -1.3**
J59A IAmb IAmb 11 14 39.6
comp=Z,78nm,1.9s
R17L Mt. Peulik Vol 33.78 323 P **P 11 14 40.5 +4.3**
baz=114,SNR=10.0
SKT Skwentna 33.79 332 P **P 11 14 40.0 +3.8**
baz=125,SNR=14
Q17K Contact Creek 33.81 324 P **P 11 14 40.3 +3.8**
baz=115,SNR=16
INK Inuvik 33.85 349 P **P 11 14 36.2 -0.3**
INK Inuvik 33.85 349 LR LR 11 30 43.5
comp=Z,2µm,20.2s,baz=164,slow=40
INK Inuvik 33.85 349 P **P 11 14 36.3 -0.3**
INK pmax pmax
comp=Z,165nm,1.5s
INK Inuvik 33.85 349 P **P 11 14 40.2 +3.6**
baz=156,SNR=23
MCK McKinley 33.93 335 P **P 11 14 35.6 -1.7**
MCK IAmb IAmb 11 14 43.8
comp=Z,74nm,1.3s
MCK McKinley 33.93 335 P **P 11 14 35.7 -1.7**
MCK pmax pmax
comp=Z,74nm,1.3s
MCK McKinley 33.93 335 P **P 11 14 41.4 +4.0**
baz=131,SNR=17
ILAR Eielson Array 33.98 338 P **P 11 14 36.1 -1.6**
ILAR Eielson Array 33.98 338 P **P 11 14 39.9 +2.1**
comp=Z,13nm,1.0s,baz=135,slow=7.9,SNR=45
ILAR PcP **PcP 11 17 16.7 +1.2**
comp=Z,2.4nn,1.0s,baz=157,slow=0.5,SNR=4.1
ILAR LR LR 11 30 14.4
comp=Z,2µm,20.1s,baz=132,slow=40
comp=Z,13nm,1.0s
O19K Port Alsworth 33.98 328 P **P 11 14 41.7 +4.0**
baz=119
P18K Big Mountain, 34.00 326 P **P 11 14 41.8 +3.7**
baz=117,SNR=10
G27K Doyon Strip 34.11 343 P **P 11 14 42.5 +3.5**
baz=144,SNR=40
PRP Porcupine Dome 34.11 340 P **P 11 14 43.6 +4.5**
baz=137,SNR=19
CCB Clear Creek Bu 34.17 337 P **P 11 14 37.8 -1.7**
O18K Koktuh Hills 34.20 327 P **P 11 14 43.7 +3.9**
baz=118,SNR=9.9
TRF Thorofare Moun 34.22 334 P **P 11 14 38.3 -1.8**
TRF Thorofare Moun 34.22 334 P **P 11 14 43.8 +3.8**
baz=129,SNR=40
CHGN Chignik 34.34 320 P **P 11 14 44.9 +4.0**

baz=109,SNR=13
COLA College 34.34 338 P **P** 11 14 45.0 +4.1
COLA College 34.34 338 *e*P **P** 11 14 43.1 +2.2
COLA pmax pmax
comp=Z,62nm,1.4s
COLA College 34.34 338 P **P** 11 14 44.2 +3.3
baz=133
Q16K King Salmon 34.35 324 P **P** 11 14 44.6 +3.6
baz=115,SNR=7.3
N19K Bonanza Creek 34.35 329 P **P** 11 14 44.9 +3.7
baz=120,SNR=17
M20K Styx River 34.36 331 P **P** 11 14 45.1 +3.8
baz=123,SNR=18
F28M Old Crow 34.38 345 P **P** 11 14 44.6 +3.3
baz=147,SNR=22
POKR Poker Plat Res 34.39 338 P **P** 11 14 45.5 +4.2
baz=134,SNR=51
BWN Browne 34.39 336 P **P** 11 14 39.2 -2.2
FRNY Flat Rock 34.41 61 P **P** 11 14 39.6 -2.2
TRY Troy 34.42 65 P **P** 11 14 40.4 -1.4
TRY IAmb IAmb 11 15 56.0
comp=Z,55nm,1.7s
P17K Kvichak River 34.47 325 P **P** 11 14 45.6 +3.6
baz=116
CHNA Chernabura Isl 34.52 317 P **P** 11 14 46.7 +4.1
CHNA Chernabura Isl 34.52 317 P **P** 11 14 46.4 +3.8
baz=106
NEA2 Nenana 34.54 337 P **P** 11 14 46.2 +3.6
baz=131,SNR=56
PPLA Purkeypile 34.57 333 P **P** 11 14 47.0 +3.9
baz=126,SNR=28
KSCT Kent School, K 34.62 66 P **P** 11 14 41.9 -1.7
E29M Blow River 34.66 347 P **P** 11 14 47.4 +3.7
baz=150,SNR=44
TGUH Tegucigalpa,Un 34.71 121 P **P** 11 14 43.6 -1.1
TGUH IAmb IAmb 11 14 55.4
comp=Z,37nm,1.0s
G26K Porcupine Rive 34.74 342 P **P** 11 14 48.8 +4.5
baz=141,SNR=98
H25L Birch Creek 34.75 340 P **P** 11 14 48.8 +4.4
baz=138,SNR=38
CAST Castle Rocks 34.84 334 P **P** 11 14 48.4 +3.1
baz=126,SNR=22
BPAW Bear Paw Mtn. 34.86 335 P **P** 11 14 44.0 -1.5
BPAW IAmb IAmb 11 14 51.4
comp=Z,93nm,1.3s
BPAW Bear Paw Mtn. 34.86 335 P **P** 11 14 49.2 +3.7
baz=128,SNR=58
M19K Big River Lodg 34.88 330 P **P** 11 14 49.4 +3.8
baz=122,SNR=9.5
N18K Kilae Creek 34.89 328 P **P** 11 14 49.7 +4.0
baz=118,SNR=15
S14K Fog Glacier 34.93 319 P **P** 11 14 49.9 +3.7
baz=108
L20K Farewell, AK 34.98 331 P **P** 11 14 50.2 +3.6
baz=123,SNR=36
I23K Minto, Yukon-K 35.00 337 P **P** 11 14 50.5 +3.9
baz=132,SNR=30
O17K Koliganek Bris 35.02 326 P **P** 11 14 50.8 +4.0
baz=116,SNR=6.0
H24K Noodor Dome 35.02 339 P **P** 11 14 50.8 +3.9
baz=134,SNR=41
P16K Nushagak River 35.13 324 P **P** 11 14 49.9 +2.2
baz=114
E28M Babbage River 35.15 346 P **P** 11 14 51.6 +3.7
baz=148,SNR=64
SDPT Sand Point 35.16 318 P P 11 14 53.1 +5.0
SDPT Sand Point 35.16 318 P **P** 11 14 51.9 +3.8
baz=106,SNR=5.8
G25K Bearman Lake 35.19 341 P **P** 11 14 52.9 +4.7
baz=138,SNR=29
CHUM Lake Minchumin 35.20 334 P **P** 11 14 52.0 +3.7
baz=126,SNR=30
L19K White Mountain 35.21 330 P **P** 11 14 52.6 +4.1
baz=121,SNR=25
E27K Coleen River 35.22 345 P **P** 11 14 52.6 +4.1
baz=145,SNR=33
M18K Stony River 35.26 329 P **P** 11 14 52.7 +3.9
baz=119,SNR=18
BMAR Burnt Mountain 35.31 342 P **P** 11 14 49.2 -0.1
MLY Manley 35.37 336 P **P** 11 14 54.0 +4.1
baz=130,SNR=37
N17K Nushagak Hills 35.39 327 P **P** 11 14 54.3 +4.3
baz=116,SNR=17
O16K Kokwok River B 35.40 325 P **P** 11 14 53.8 +3.6
baz=114,SNR=9.0
F26K Sheenjek River 35.41 343 P P 11 14 55.0 +4.9
baz=141,SNR=100
H23K Yukon River 35.51 338 P **P** 11 14 54.9 +3.8
baz=132,SNR=32
G24K Hadweenzic Riv 35.52 340 P **P** 11 14 55.1 +3.9
baz=136,SNR=19
K20K Telida 35.53 333 P **P** 11 14 55.0 +3.8
baz=124,SNR=61
LBNH Lisbon 35.61 62 P **P** 11 14 50.0 -2.2
LBNH IAmb IAmb 11 14 56.4
comp=Z,66nm,1.5s
LBNH Lisbon 35.61 62 P **P** 11 14 50.0 -2.2
LBNH pmax pmax
comp=Z,66nm,1.5s
D28M Stokes Point 35.62 347 P **P** 11 14 56.1 +4.2
baz=150
F25K Christian Rive 35.70 342 P **P** 11 14 57.4 +4.7
baz=139,SNR=51
M17K Holitna River 35.90 328 P **P** 11 14 58.3 +4.0
baz=117,SNR=18
L18K Granite Mounta 35.97 330 P **P** 11 14 59.0 +4.0
baz=119,SNR=26
D27M Malcolm River 35.97 346 P **P** 11 14 59.0 +4.0
baz=147,SNR=20
J20K Nowinta River 36.02 334 P **P** 11 14 54.7 -0.7
J20K IAmb IAmb 11 15 01.4
comp=Z,115nm,1.4s
J20K Nowinta River 36.02 334 P **P** 11 14 59.2 +3.8
baz=124,SNR=36
O15K Ungalikthiuk R 36.06 324 P **P** 11 14 59.3 +3.6
baz=112
N16K Nishlik Lake 36.08 326 P **P** 11 14 60.0 +4.0
baz=114,SNR=13
E25K Arctic Village 36.08 343 P P 11 15 00.7 +4.8
baz=140,SNR=42
LDAQ Lac Daran 36.09 56 P **P** 11 14 54.5 -1.9
LDAQ IAmb IAmb 11 15 00.8
comp=Z,112nm,1.9s
S12K Black Hills 36.12 318 P **P** 11 14 60.0 +3.6
baz=105
H22K Ishtalitna Cre 36.13 337 P **P** 11 15 00.9 +4.6
baz=130,SNR=66
CNGN Cerro Negro 36.19 122 P **P** 11 14 54.8 -2.6
F24K Squaw Lake 36.22 341 P P 11 15 02.0 +4.8
baz=136,SNR=12
G23K Bananza Creek 36.26 339 P **P** 11 15 01.3 +3.9
baz=132,SNR=12
M16K Timber Creek 36.39 327 P **P** 11 15 03.2 +4.6
baz=115,SNR=14
H21K Melozitna Rive 36.44 336 P **P** 11 15 03.3 +4.3
baz=128,SNR=79
J19K Poorman 36.46 333 P **P** 11 14 58.3 -0.9
J19K Poorman 36.46 333 P **P** 11 15 02.9 +3.8
baz=122,SNR=48
I20K Naaghedeneel 36.50 334 P **P** 11 15 03.2 +3.8
baz=125,SNR=17
A36M Sachs Harbour 36.55 356 P **P** 11 15 03.6 +3.8
baz=170
N15K Kwethluk River 36.56 325 P **P** 11 15 03.9 +3.8
baz=113,SNR=8.2
G62A West of Eustis 36.57 60 P **P** 11 14 58.4 -1.9
L17K Donlin 36.59 329 P **P** 11 15 04.1 +3.8
baz=117,SNR=18
J18K Innoko River 36.60 332 P **P** 11 15 04.3 +3.9
baz=120,SNR=53
COLD Coldfoot 36.66 339 P **P** 11 15 00.2 -0.6
COLD Coldfoot 36.66 339 P **P** 11 15 05.0 +4.2
baz=133,SNR=14
O14K Tigyukauivet M 36.77 324 P **P** 11 15 05.0 +3.1
baz=110
E24K Your Creek 36.78 341 P **P** 11 15 06.5 +4.5
baz=136,SNR=31
G22K Bettles 36.84 338 P **P** 11 15 06.2 +3.9
baz=131
C27K Jago River 36.84 345 P **P** 11 15 06.9 +4.5
baz=143,SNR=37
K17K Iditarod 36.87 330 P **P** 11 15 06.3 +3.7
baz=118,SNR=46
L16K Owhat River 36.91 328 P **P** 11 15 06.9 +3.9
baz=115,SNR=19
IMAR Indian Mountai 36.95 336 P **P** 11 15 03.5 +0.2

M15K Kasigluk River 37.03 326 P **P** 11 15 08.0 +3.9
baz=113,SNR=6.0
H20K Anotleneega Mo 37.03 335 P **P** 11 15 07.9 +3.8
baz=125,SNR=58
E23K Chandalar 37.07 341 P P 11 15 09.3 +4.8
baz=134,SNR=31
D25K Kavik River 37.19 344 P **P** 11 15 09.7 +4.3
baz=140,SNR=18
G21K Allakaket 37.19 337 P **P** 11 15 09.3 +3.9
baz=128,SNR=31
N14K Kuskokwak Cree 37.21 325 P **P** 11 15 08.7 +3.1
baz=110
C26K Camden Bay 37.33 345 P **P** 11 15 10.7 +4.2
baz=142,SNR=14
GCSA Galena City Sc 37.33 333 P **P** 11 15 10.6 +4.1
baz=122,SNR=42
F22K John River 37.42 339 P **P** 11 15 12.0 +4.7
baz=130
TOLK Toolik Lake Re 37.47 341 P **P** 11 15 12.2 +4.4
baz=135,SNR=15
J17K VABM Dome 37.50 331 P **P** 11 15 11.1 +3.1
baz=118,SNR=6.7
H19K Roundabout Mou 37.60 335 P **P** 11 15 12.5 +3.8
baz=123,SNR=30
F21K Alatna River 37.62 338 P **P** 11 15 13.2 +4.2
baz=129,SNR=12
M14K Bethel 37.63 326 P **P** 11 15 12.5 +3.4
baz=111,SNR=11
D24K Happy Valley 37.65 342 P **P** 11 15 13.1 +3.9
baz=136,SNR=11
E22K Anaktuvuk Pass 37.73 340 P **P** 11 15 14.0 +4.1
baz=132,SNR=29
L15K Ungalak Mounta 37.77 327 P **P** 11 15 13.9 +3.6
baz=113,SNR=12
D23K Nanushuk River 37.99 341 P **P** 11 15 16.6 +4.6
baz=134,SNR=18
KIP Kipapa 37.99 259 *i*P **P** 11 15 14.6 +2.0
KIP pmax pmax
comp=Z,52nm,1.3s
C24K Franklin Bluff 38.03 343 P **P** 11 15 16.5 +4.1
baz=137,SNR=21
K15K Wolf Creek Mou 38.03 328 P **P** 11 15 16.3 +3.8
baz=114,SNR=7.1
J16K Anvik River 38.06 330 P **P** 11 15 16.4 +3.7
baz=116,SNR=12
ESPN Las Esperanzas 38.08 120 P **P** 11 15 12.4 -1.0
ESPN IAmb IAmb 11 15 20.4
comp=Z,70nm,1.4s
H18K Honhosa River 38.08 333 P **P** 11 15 16.4 +3.5
baz=120,SNR=15
G19K Purcell Mounta 38.15 335 P **P** 11 15 16.7 +3.1
baz=123,SNR=22
M13K Dall Lake 38.16 325 P **P** 11 15 16.8 +3.2
baz=109
L14K Kuka Creek 38.18 326 P **P** 11 15 16.9 +3.2
baz=111
F20K Avaraart Lake 38.22 337 P **P** 11 15 18.0 +4.0
baz=126,SNR=16
UNV Unalaska Valle 38.28 314 P **P** 11 15 18.6 +3.9
baz=98
I17K Unalakleet 38.36 331 P **P** 11 15 19.6 +4.3
baz=116,SNR=11
D22K Ayikyak River 38.46 340 P **P** 11 15 20.2 +4.1
baz=135,SNR=9.2
H17K Granite Mounta 38.55 333 P **P** 11 15 20.0 +3.2
baz=118,SNR=12
G18K Tagagawik 38.56 334 P **P** 11 15 20.2 +3.2
baz=121,SNR=9.6
C23K Itkillik River 38.58 342 P **P** 11 15 21.0 +4.0
baz=135,SNR=8.7
F19K Shaleruckik Mo 38.76 336 P **P** 11 15 22.1 +3.5
baz=123,SNR=37
ICQ Pointe Anglais 38.78 53 P **P** 11 15 18.0 -0.9
ICQ IAmb IAmb 11 15 22.1
comp=Z,80nm,1.3s
E19K Redstone River 38.93 337 P **P** 11 15 24.0 +3.9
baz=124,SNR=35
JTS Las Juntas de 38.96 122 P **P** 11 15 19.7 -1.1
JTS Las Juntas de 38.96 122 LR LR 11 32 34.5
comp=Z,2µm,21.2s,baz=303,slow=38
JTS Las Juntas de 38.96 122 P **P** 11 15 19.7 -1.1
JTS pmax pmax
comp=Z,16nm,1.1s
J14K Nanvaranak Lak 39.08 328 P **P** 11 15 25.8 +4.5
baz=112,SNR=8.0
E20K Nigu River 39.08 338 P **P** 11 15 25.4 +4.1
baz=126,SNR=21
G17K Kiwalik Mounta 39.09 333 P **P** 11 15 25.3 +3.9
baz=118,SNR=19
KUQ Kuujjuuaa 39.19 39 P **P** 11 15 21.2 -1.0
KUQ IAmb IAmb 11 15 28.3
comp=Z,44nm,0.9s
C21K Knifeblade Hcl 39.22 340 P **P** 11 15 26.9 +4.5
baz=125,SNR=9.0
K13K Kusilvak Mount 39.27 327 P **P** 11 15 26.0 +3.2
baz=110
F18K Selawik 39.27 335 P **P** 11 15 26.2 +3.4
baz=120,SNR=8.7
CHIV Chivirico 39.32 102 P **P** 11 15 22.4 -1.4
CHIV IAmb IAmb 11 15 30.9
comp=Z,56nm,1.3s
SCHQ Schefferville 39.46 45 P **P** 11 15 24.5 -0.1
comp=Z,28nm,1.1s,baz=266,slow=12,SNR=12
SCHQ LR LR 11 33 43.4
comp=Z,805nm,18.5s,baz=261,slow=39
comp=Z,28nm,1.1s
B21K Ikpikpuk River 39.47 341 P **P** 11 15 27.2 +2.7
baz=130,SNR=5.7
D20K Etivluk River 39.47 339 P **P** 11 15 28.0 +3.5
baz=126,SNR=8.3
M11K Mekoryuk 39.50 324 P **P** 11 15 28.4 +3.6
baz=106
NIKH Nikolski High 39.58 312 P **P** 11 15 28.3 +2.7
baz=95
B22K Teshekpuk Lake 39.63 342 P **P** 11 15 29.5 +3.8
baz=132
G16K Koyuk River 39.67 332 P **P** 11 15 30.2 +4.0
baz=116,SNR=7.9
F17K Baldwin Pennin 39.75 334 P **P** 11 15 30.9 +4.1
baz=118
LCR2 La Lucha 2 40.00 122 P **P** 11 15 27.3 -2.4
E18K Tukpahlearik C 40.01 336 P **P** 11 15 32.7 +3.7
baz=120,SNR=16
G15K Niukluk 40.15 331 P **P** 11 15 34.1 +4.0
baz=114,SNR=8.9
E17K Hotham Inlet 40.26 335 P **P** 11 15 35.1 +4.0
baz=118,SNR=5.6
P08K Saint George I 40.40 318 P **P** 11 15 35.9 +3.5
baz=98
B20K Meade River 40.40 340 P **P** 11 15 36.2 +4.0
baz=127,SNR=8.8
A22K Sinclair Lake 40.46 342 P **P** 11 15 36.7 +4.1
baz=130
ANM Nome 40.51 330 P **P** 11 15 37.0 +3.8
baz=112
RES Resolute Bay 40.55 9 P **P** 11 15 32.1 -1.1
RES IAmb IAmb 11 15 37.4
comp=Z,131nm,1.8s
RES Resolute Bay 40.55 9 LR LR 11 33 00.5
comp=Z,3µm,18.4s,baz=172,slow=37
RES Resolute Bay 40.55 9 P **P** 11 15 32.2 -1.1
RES pmax pmax
comp=Z,131nm,1.8s
C19K Lookout Ridge 40.58 338 P **P** 11 15 37.4 +3.6
baz=123
F15K North Star Dit 40.67 332 P **P** 11 15 38.6 +4.1
baz=114
FRB Frobisher Bay 40.72 31 LR LR 11 31 48.0
comp=Z,3µm,18.0s,baz=254,slow=35
C18K Utukok River 40.83 337 P **P** 11 15 39.1 +3.2
baz=121,SNR=8.9
SPIA Saint Paul Isl 40.87 319 P **P** 11 15 39.2 +3.0
baz=98
D17K Noatak River 40.98 335 P **P** 11 15 40.7 +3.7
baz=118,SNR=9.4
A21K Barrow 41.07 342 P **P** 11 15 41.5 +3.9
baz=129
RDOG Red Dog Mine 41.09 336 P **P** 11 15 41.6 +3.6
baz=118
F14K Arctic Creek 41.22 332 P **P** 11 15 42.7 +3.6
baz=112
C17K DeLong Mountai 41.38 336 P **P** 11 15 43.6 +3.3
baz=118
B18K Kokolik River 41.39 338 P **P** 11 15 43.5 +3.1
baz=121
A19K Wainwright 41.62 339 P **P** 11 15 46.1 +3.9
baz=122
TNA Tin City 41.88 331 P **P** 11 15 47.6 +3.3

baz=110
C16K Lisburne Hills 42.00 336 P **P** 11 15 48.7 +3.3
baz=116
POIN Pond Inlet 42.08 17 P **P** 11 15 45.8 -0.2
GAMB Gambell 42.90 328 P **P** 11 15 56.4 +3.7
baz=104
TULEG Thule 46.31 14 *i*P **P** 11 16 22.1 +2.4
TULEG IAmb IAmb 11 16 25.5
comp=Z,9.5nm,0.8s
UPNV Upernavik 47.87 21 *i*P **P** 11 16 34.9 +2.9
UPNV IAmb IAmb 11 16 36.6
comp=Z,80nm,1.7s
NUUK Nuuk 48.06 32 *i*P **P** 11 16 36.5 +2.9
NUUK IAmb IAmb 11 16 38.2
comp=Z,139nm,1.5s
KULLO Kullorsuaq 48.10 18 *i*P **P** 11 16 36.2 +2.5
KULLO IAmb IAmb 11 16 37.2
comp=Z,54nm,1.4s
NUUG Nuugaatsiaq 48.46 23 *i*P **P** 11 16 37.4 +0.8
NUUG IAmb IAmb 11 16 41.0
comp=Z,5.6nm,0.8s
SJG San Juan 48.53 97 LR LR 11 40 47.5
comp=Z,1µm,18.7s,baz=282,slow=41
UMMG Uummannaq 48.65 24 *i*P **P** 11 16 39.8 +1.7
UMMG IAmb IAmb 11 16 42.3
comp=Z,164nm,1.9s
SFJD Kangerlussuaq 48.72 29 P **P** 11 16 38.5 -0.1
SFJD Kangerlussuaq 48.72 29 LR LR 11 39 11.6
comp=Z,546nm,21.6s,baz=264,slow=39
SFJD Kangerlussuaq 48.72 29 P **P** 11 16 38.5 -0.1
SFJD pmax pmax
comp=Z,202nm,1.4s
SFJD Kangerlussuaq 48.72 29 *i*P **P** 11 16 40.6 +2.0
SFJD IAmb IAmb 11 16 43.1
comp=Z,259nm,1.5s
ILULI Ilulissat 48.78 26 P **P** 11 16 38.2 -0.8
ILULI Ilulissat 48.78 26 P **P** 11 16 38.2 -0.8
ILULI pmax pmax
comp=Z,97nm,1.6s
ILULI Ilulissat 48.78 26 *i*P **P** 11 16 40.6 +1.6
ILULI IAmb IAmb 11 16 42.8
comp=Z,168nm,1.9s
TAOE Nuku Hiva Isla 49.18 210 *e*S **S** 11 23 44.3 -4.1
comp=Z,355nm,26.3s
TAOE *e*SS **SS** 11 27 20.3 +0.3
comp=Z,529nm,28.4s
TAOE *e*LR LR 11 30 34.5
comp=Z,1µm,24.4s
IVI Ivigtut 49.67 36 *i*P **P** 11 16 48.1 +2.1
IVI IAmb IAmb 11 16 50.2
comp=Z,82nm,1.5s
ROSC El Rosal 50.26 117 P **P** 11 16 49.9 -1.6
comp=Z,7.7nm,0.4s,baz=359,slow=13,SNR=5.0
ROSC LR LR 11 41 43.2
comp=Z,1µm,18.9s,baz=302,slow=40
comp=Z,7.7nm,0.4s
SDV Santo Domingo 50.34 110 LR LR 11 39 47.3
comp=Z,2µm,21.4s,baz=304,slow=38
SDV Santo Domingo 50.34 110 *e*P **P** 11 16 53.3 +1.4
NEEM North Greenlan 50.35 15 *i*P **P** 11 16 52.0 +0.7
NEEM IAmb IAmb 11 16 55.9
comp=Z,65nm,1.1s
RUSC La Rusia 50.45 115 P **P** 11 16 51.1 -2.0
OTAV Otavalo 50.68 125 P **P** 11 16 52.8 -1.9
OTAV Otavalo 50.68 125 P **P** 11 16 52.8 -1.9
OTAV pmax pmax
comp=Z,24nm,1.3s
OTAV Otavalo 50.68 125 *e*P **P** 11 16 55.4 +0.6
BILL Bilibino 52.28 333 *d*i**P** **P** 11 17 06.2 +0.7
BILL pmax pmax
comp=Z,37nm,1.3s
BAUV El Baul 52.30 108 P **P** 11 17 04.8 -1.6
BAUV IAmb IAmb 11 17 18.1
comp=Z,86nm,1.7s
SUMG Summit 53.09 22 P **P** 11 17 10.9 -1.1
SUMG IAmb IAmb 11 17 15.3
comp=Z,66nm,1.5s
SUMG Summit 53.09 22 P **P** 11 17 10.9 -1.1
SUMG pmax pmax
comp=Z,66nm,1.5s
SUMG Summit 53.09 22 *i*P **P** 11 17 13.0 +1.0
SUMG IAmb IAmb 11 17 15.7
comp=Z,330nm,2.3s
ISOG Isortoq, Green 53.45 31 *i*P **P** 11 17 16.5 +2.3
ISOG IAmb IAmb 11 17 17.4
comp=Z,70nm,1.4s
ATAH Atahualpa 56.34 131 LR LR 11 38 43.7
comp=Z,501nm,21.2s,baz=336,slow=33
NOR Nord 56.47 10 *i*P **P** 11 17 37.2 +1.4
NOR IAmb IAmb 11 17 39.9
comp=Z,163nm,1.9s
DAG Danmarks Havn 57.55 16 *i*P **P** 11 17 43.8 +0.3
DAG IAmb IAmb 11 17 46.6
comp=Z,150nm,1.8s
DBG Daneborg 57.93 19 *i*P **P** 11 17 46.5 +0.3
DBG IAmb IAmb 11 17 49.9
comp=Z,78nm,1.7s
SCO Scoresbysund 58.62 23 P **P** 11 17 50.0 -1.1
SCO Scoresbysund 58.62 23 P **P** 11 17 50.0 -1.1
SCO pmax pmax
comp=Z,105nm,1.6s
SCO Scoresbysund 58.62 23 *i*P **P** 11 17 52.1 +1.0
SCO IAmb IAmb 11 17 55.0
comp=Z,109nm,1.6s
SEY Seymchan 58.90 328 LR LR 11 42 59.8
comp=Z,735nm,19.3s,baz=86,slow=36
SEY Seymchan 58.90 328 *e*P **P** 11 17 53.8 +0.7
SEY pmax pmax
comp=Z,48nm,1.8s
PET Petropavlovsk 58.90 315 P **P** 11 17 52.2 -1.1
PET IAmb IAmb 11 17 58.2
comp=Z,15nm,0.8s
PET Petropavlovsk 58.90 315 P **P** 11 17 57.8 +4.5
PET Petropavlovsk 58.90 315 *e*P **P** 11 17 51.0 -2.3
PET *e*S **S** 11 25 52.6 -6.2
PET pmax pmax
comp=Z,23nm,0.9s
PET MLR MLR
comp=Z,300nm,18.0s
PET MLR MLR
comp=Z,300nm,13.0s
PET Petropavlovsk 58.90 315 P **P** 11 17 56.5 +3.2
comp=Z,21nm,1.3s
PEA0B Petropavlovsk- 59.41 316 P **P** 11 17 56.0 -0.9
PEA0B IAmb IAmb 11 18 01.8
comp=Z,40nm,1.1s
PEA0B Petropavlovsk- 59.41 316 *e*P **P** 11 17 57.9 +1.0
PETK Petropavlovsk- 59.41 316 P **P** 11 17 56.0 -0.9
PETK Petropavlovsk- 59.41 316 P **P** 11 17 56.0 -0.9
comp=Z,6.2nm,0.8s,baz=68,slow=12,SNR=18
PETK LR LR 11 41 05.5
comp=Z,262nm,20.8s,baz=84,slow=34
comp=Z,6.2nm,0.8s
TBTG Tabatinga, AM 59.71 121 P **P** 11 17 57.7 -1.7
CZSB Cruzeiro do Su 60.41 126 P **P** 11 18 02.5 -1.7
CZSB IAmb IAmb 11 18 08.4
comp=Z,44nm,1.3s
CZSB Cruzeiro do Su 60.41 126 *e*P **P** 11 18 05.0 +0.8
MA2 Magadan 60.77 324 P **P** 11 18 05.1 -0.9
MA2 Magadan 60.77 324 LR LR 11 43 41.7
comp=Z,737nm,19.3s,baz=68,slow=35
MA2 Magadan 60.77 324 P **P** 11 18 10.1 +4.0
MA2 Magadan 60.77 324‖ *e*P **P** 11 18 07.3 +1.2
MA2 pmax pmax
comp=Z,54nm,1.7s
MA2 Magadan 60.77 324 P **P** 11 18 09.1 +3.0
comp=Z,36nm,1.6s
BORG Borgarnes 60.85 29 LR LR 11 44 46.5
comp=Z,2µm,18.0s,baz=294,slow=36
PPT Papeete 61.06 215 LR LR 11 38 06.1
comp=Z,609nm,19.6s,baz=14,slow=30
PPT2 Papeete2 61.08 215 *e*P P 11 17 55.7 -13
comp=Z,50nm,24.8s
PPT2 *e*S **S** 11 26 22.9 -4.7
comp=Z,130nm,26.0s
PPT2 *e*SS **SS** 11 30 18.5 -9.4
comp=Z,562nm,29.5s
PPT2 *e*LQ LQ 11 33 26.0
comp=Z,1µm,28.0s
PPT2 *e*LR LR 11 35 59.5
comp=Z,708nm,21.5s
PPT2 *e*LR LR 11 36 02.3
comp=Z,666nm,26.0s
KBS Kingsbay 61.95 10 *e*P **P** 11 18 15.0 +1.2
KBS pmax pmax
comp=Z,40nm,1.7s

BOAV Boa Vista 62.20 109 P P 11 18 15.1 -1.4
BOAV IAmb IAmb 11 18 33.7
comp=Z,17nm,1.2s
BOAV Boa Vista 62.20 109 eP P 11 18 16.6 +0.2
JMIC Jan Mayen 62.48 20 LR LR 11 43 56.7
comp=Z,951nm,18.6s,baz=308,slow=35
TEFE Tefe 62.99 117 eP P 11 18 23.6 +2.0
SPITS Spitsbergen Ar 63.11 10 LR LR 11 46 19.2
comp=Z,2µm,19.7s,baz=316,slow=37
TIXI Tiksi 63.36 341 LR LR 11 47 33.3
comp=Z,831nm,19.9s,baz=77,slow=38
TIXI Tiksi 63.36 341 ⇑iP P 11 18 23.3 0.0
TIXI pmax pmax
comp=Z,41nm,2.5s
MACA Manacapuru-AM 65.67 113 P P 11 18 37.4 -1.8
MACA IAmb IAmb 11 18 42.3
comp=Z,24nm,0.9s
MACA Manacapuru-AM 65.67 113 eP P 11 18 39.1 -0.1
TBI Tubuai 66.05 212 eS S 11 27 24.7 -4.5
comp=Z,638nm,30.2s
TBI eSS **SS 11 31 43.7 -1.6**
comp=Z,2µm,41.0s
TBI eLQ LQ 11 35 33.6
comp=Z,7µm,33.0s
TBI eLR LR 11 38 21.2
comp=Z,3µm,22.5s
TBI eLR LR 11 38 29.6
comp=Z,1µm,23.2s
MDP Montagnes des 66.75 101 LR LR 11 50 23.3
comp=Z,546nm,20.8s,baz=308,slow=38
YAK Yakutsk 68.64 332 LR LR 11 48 09.2
comp=Z,671nm,20.1s,baz=52,slow=35
YAK Yakutsk 68.64 332 eP P 11 19 00.4 +3.1
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.5s
TYV Tymovskoe 68.77 318 eP P 11 19 00.6 +2.2
TYV eS **S 11 28 03.8 +2.3**
TYV pmax pmax
comp=Z,22nm,1.1s
TYV pmax pmax
comp=Z,200nm,5.2s
TYV smax smax
comp=N,300nm,5.8s
TYV smax smax
comp=E,200nm,5.8s
RAR Rarotonga 69.31 222 LR LR 11 42 29.4
comp=E,485nm,19.7s,baz=38,slow=30
LPAZ La Paz 69.75 129 P P 11 19 03.5 -2.1
LPAZ La Paz 69.75 129 P P 11 19 04.9 -0.7
comp=E,8.8nm,1.0s,baz=320,slow=14,SNR=10.0
LPAZ LR LR 11 49 38.6
comp=E,628nm,20.5s,baz=329,slow=36
comp=E,8.8nm,1.0s
LPAZ La Paz 69.75 129 eP P 11 19 06.5 +0.9
PB18 Visviri 69.89 131 P P 11 19 04.8 -1.5
PB18 IAmb IAmb 11 19 45.4
comp=Z,38nm,1.0s
ITTB Itaituba 70.19 111 eP P 11 19 09.6 +2.0
YSS Yuzhno-Sakhali 70.74 314 P P 11 19 09.8 -0.8
YSS IAmb IAmb 11 19 15.1
comp=Z,19nm,0.8s
YSS Yuzhno-Sakhali 70.74 314 P P 11 19 14.8 +4.2
YSS Yuzhno-Sakhali 70.74 314 eP P 11 19 10.4 -0.2
YSS pmax pmax
comp=Z,20nm,0.8s
YSS pmax pmax
comp=Z,100nm,3.7s
YSS MLR MLR
comp=N,400nm,15.0s
YSS MLR MLR
comp=Z,400nm,15.0s
YSS MLR MLR
comp=E,200nm,18.0s
PB11 IPOC Station P 71.44 132 P P 11 19 14.1 -1.2
ARCES ARCESS Array B 71.62 13 P P 11 19 15.6 +0.1
comp=E,9.0nm,1.2s,baz=334,slow=6.0,SNR=4.8
ARCES LR LR 11 52 33.1
comp=E,1µm,19.6s,baz=319,slow=37
comp=E,9.0nm,1.2s
PB08 IPOC Station P 72.03 132 P P 11 19 16.8 -2.3
PB08 IAmb IAmb 11 19 29.5
comp=Z,25nm,1.0s
NPGB Novo Progresso 72.20 113 eP P 11 19 19.7 -0.2
PB01 IPOC Station P 72.53 133 P P 11 19 20.8 -0.9
PB01 IAmb IAmb 11 19 29.3
comp=Z,46nm,1.2s
VILB Vilhena 72.65 121 P P 11 19 20.7 -1.7
VILB IAmb IAmb 11 19 38.3
comp=Z,24nm,0.9s
VILB Vilhena 72.65 121 eP P 11 19 23.3 +0.8
JEM Erimo 73.14 310 P P 11 19 29.6 +4.5
ERM Erimo 73.14 310 P P 11 19 29.5 +4.4
DSB Dublin 73.28 36 P P 11 19 24.7 -1.0
EKB Eskdalemuir 73.44 33 P P 11 19 24.6 -2.0
EKA Eskdalemuir Ar 73.45 33 P P 11 19 27.3 +0.6
comp=Z,11nm,1.1s,baz=314,slow=6.7,SNR=10
comp=Z,11nm,1.1s
NRIK Noril'sk 73.62 351 P P 11 19 26.9 -0.5
NRIK IAmb IAmb 11 19 31.2
comp=Z,67nm,1.5s
NRIK Noril'sk 73.62 351 P P 11 19 27.6 +0.2
comp=Z,22nm,1.1s,baz=39,slow=7.2,SNR=14
NRIK LR LR 11 54 28.8
comp=Z,601nm,20.0s,baz=32,slow=38
comp=Z,22nm,1.1s
NRIK Noril'sk 73.62 351 ⇑iP P 11 19 27.0 -0.5
NRIK pmax pmax
comp=Z,12nm,0.9s
SIV San Ignacio 74.17 124 LR LR 11 53 56.0
comp=Z,379nm,18.7s,baz=304,slow=37
PDRB Porto dos Gac 74.21 117 eP P 11 19 33.9 +2.2
CLDB Colider 74.39 116 eP P 11 19 33.2 +0.4
LVZ Lovozero 74.60 11 ceP P 11 19 32.7 -0.5
LVZ pmax pmax
comp=Z,96nm,1.6s
APA Apatity 74.71 11 eP P 11 19 33.9 +0.1
APA e 11 19 45.5
APA iS **S 11 29 08.2 -1.2**
APA MLR MLR
comp=Z,2µm,19.7s
ZEA Zeya 74.81 326 eP P 11 19 38.9 +4.2
ZEA pmax pmax
comp=Z,30nm,0.5s
NB2 NORSAR Subarra 74.95 23 P P 11 19 36.4 +1.0
comp=Z,81nm,1.7s,baz=319,slow=5.9
NB2 NORSAR Subarra 74.95 23 P P 11 19 36.4 +1.0
baz=319,slow=5.9
NOA NORSAR Array B 74.95 23 P P 11 19 36.0 +0.6
comp=Z,7.3nm,1.0s,baz=319,slow=5.9,SNR=8.4
NOA LR LR 11 52 53.1
comp=Z,678nm,18.0s,baz=305,slow=36
comp=Z,7.3nm,1.0s
NOA NORSAR Array B 74.95 23 P P 11 19 36.0 +0.6
PTLB Pontes e Lacer 75.12 122 eP P 11 19 37.9 +1.0
BBSD Serra de San D 75.33 124 eP P 11 19 37.7 -0.4
KONO Kongsberg 75.46 25 ⇓iP P 11 19 39.6 +1.3
KONO pmax pmax
comp=Z,98nm,1.6s
KLR Kul'dur 75.49 321 LR LR 11 52 30.6
comp=Z,321nm,20.4s,baz=53,slow=36
KLR Kul'dur 75.49 321 ⇑iP P 11 19 38.5 -0.1
KLR pmax pmax
comp=Z,18nm,1.8s
PRPB Paraupebas 75.87 108 eP P 11 19 42.5 +1.2
HFS Hagfors 76.43 23 P P 11 19 44.7 +0.9
comp=Z,17nm,1.1s,baz=320,slow=3.8,SNR=7.4
HFS LR LR 11 52 26.0
comp=Z,1µm,18.2s,baz=316,slow=35
comp=Z,17nm,1.1s
HEH HeiHe 77.01 323 eP P 11 19 47.2 0.0
HEH pP **pP 11 19 49.7 -1.8**
HEH S **S 11 29 36.2 +0.9**
HEH pmax pmax
comp=Z,11nm,1.3s
HEH pmax pmax
comp=Z,130nm,5.5s
HEH LR LR
comp=Z,220nm,18.0s
HEH LR LR
comp=Z,510nm,17.8s
HEH LR LR
comp=Z,400nm,19.2s

SALV Santo Antonio 77.83 120 eP P 11 19 53.5 +1.3
SNDB Serra Nova Dou 78.44 114 eP P 11 19 57.7 +2.0
USA0B Ussuriysk Ara 78.49 317 diP P 11 19 56.0 +0.4
USRK Ussuriysk Ar. 78.49 317 P P 11 19 55.4 -0.2
comp=Z,11nm,0.9s,baz=46,slow=4.2,SNR=11
USRK LR LR 11 51 24.8
comp=Z,220nm,21.2s,baz=42,slow=33
comp=Z,11nm,0.9s
FINES FINESS Array B 78.76 17 P P 11 19 57.5 +0.7
comp=Z,4.6nm,1.1s,baz=340,slow=10,SNR=4.1
FINES LR LR 11 57 35.2
comp=Z,1µm,18.2s,baz=22,slow=38
comp=Z,4.6nm,1.1s
PGAV Gavieira, Arco 79.24 46 eP P 11 20 03.2 +3.2
PGAV eLR LR 11 46 10.9
PGAV i IAMs_20 IAMs_20 11 58 32.1
comp=Z,895nm,16.0s
MJAR Matsushiro Arr 79.42 307 P P 11 19 59.9 -1.0
comp=Z,2.8nm,1.0s,baz=56,slow=4.6,SNR=4.9
MJAR LR LR 11 48 22.6
comp=Z,176nm,21.6s,baz=61,slow=31
comp=Z,2.8nm,1.0s
MAJO Matsushiro 79.42 307 P P 11 20 04.6 +3.7
MAJO Matsushiro 79.42 307 ⇑iP P 11 20 01.1 +0.2
MAJO pmax pmax
comp=Z,10.0nm,0.9s
PCAB Cabril 79.55 46 eP P 11 20 03.4 +1.9
PCAB i IAmb IAmb 11 20 06.3
comp=Z,51nm,1.8s
UCC Uccle 79.86 33 P P 11 20 01.7 -1.3
UCC Uccle 79.86 33 P P 11 20 01.7 -1.3
UCC pmax pmax
comp=Z,28nm,1.3s
UCC Uccle 79.86 33 dP P 11 20 03.2 +0.3
POLO Lamas de Olo 79.89 46 eP P 11 20 04.1 +0.6
POLO i IAmb IAmb 11 20 08.6
comp=Z,27nm,1.5s
BNX BinXian 79.98 320 ⇑P P 11 20 03.7 -0.1
BNX PcP **PcP 11 20 10.5 -0.7**
BNX S **SKSac 11 30 12.7 -8.1**
BNX pmax pmax
comp=Z,8.0nm,1.2s
BNX pmax pmax
comp=Z,100nm,3.8s
BNX LR LR
comp=Z,330nm,14.7s
BNX LR LR
comp=Z,340nm,15.1s
BNX LR LR
comp=Z,430nm,22.8s
PVRL Vila Real 80.00 46 eP P 11 20 07.0 +3.0
PVRL i IAmb IAmb 11 20 09.0
comp=Z,65nm,1.6s
BSEG Bad Segeberg 80.02 28 eP P 11 20 07.3 +3.5
comp=Z,47nm,1.3s,baz=321,slow=5.2
BDQN Bodoquena, MS 80.21 124 eP P 11 20 05.5 +0.3
IBBN Ibbenburen 80.22 31 eP P 11 20 08.4 +3.5
comp=Z,75nm,1.6s,baz=321,slow=5.2
PBRG Braganca 80.23 45 eP P 11 20 08.5 +3.2
PBRG i IAmb IAmb 11 20 11.3
comp=Z,37nm,1.8s
PVIS Viseu 80.25 47 eP P 11 20 07.7 +2.3
COI Coimbra 80.26 47 eP P 11 20 07.8 +2.4
PCAS Casmilo, Conde 80.30 47 eP P 11 20 05.5 -0.1
PCAS i IAmb IAmb 11 20 10.6
comp=Z,51nm,1.7s
BMRD Maredsous 80.39 33 dP P 11 20 04.4 -1.5
comp=Z,14nm,1.3s
PSBE So Bento 80.46 48 eP P 11 20 07.8 +1.3
PSBE i IAmb IAmb 11 20 12.5
comp=Z,87nm,2.2s
DOU Dourbes 80.47 34 dP P 11 20 07.7 +1.4
comp=Z,13nm,1.3s
MURT Porto Murtinho 80.47 125 eP P 11 20 06.6 0.0
MVO Moncorvo 80.47 46 eP P 11 20 07.8 +1.3
MVO i IAmb IAmb 11 20 12.8
comp=Z,69nm,1.8s
MVO eLQ LQ 11 40 37.5
MVO eLR LR 11 45 25.5
MVO i IAMs_20 IAMs_20 11 58 60.0
comp=Z,954nm,18.0s
BGES Gesves 80.48 33 dP P 11 20 07.4 +1.0
comp=Z,13nm,1.3s
ARAG Araguaiana, MT 80.48 117 eP P 11 20 09.2 +2.4
BSTI Sart Tilman 80.55 33 dP P 11 20 08.8 +2.1
comp=Z,4.3nm,1.4s
BCLA Clavier 80.55 33 dP P 11 20 07.2 +0.5
comp=Z,12nm,1.2s
RETH Rethem/Aller, 80.55 30 eP P 11 20 10.4 +3.8
comp=Z,38nm,1.4s,baz=321,slow=5.2
MTE Manteigas 80.65 47 P P 11 20 06.2 -1.3
MTE IAmb IAmb 11 20 11.7
comp=Z,67nm,1.6s
MTE Manteigas 80.65 47 eP P 11 20 09.0 +1.4
MTE i IAmb IAmb 11 20 14.3
comp=Z,67nm,1.7s
MTE eLQ LQ 11 43 53.3
MTE eLR LR 11 46 11.3
MTE i IAMs_20 IAMs_20 11 51 26.6
comp=Z,563nm,18.0s
BUG Bochum--Univer 80.66 31 eP P 11 20 10.3 +3.0
comp=Z,52nm,1.5s,baz=321,slow=5.2
MEM Membach 80.72 33 dPcP PcP 11 20 12.0 -2.4
PSARD Sardoal 80.79 48 eP P 11 20 08.6 +0.4
PSARD i IAmb IAmb 11 20 14.0
comp=Z,58nm,1.7s
BTNL Ternell 80.79 32 dPcP PcP 11 20 12.0 -2.7
MSVF Nonsavu 80.83 241 LR LR 11 50 13.9
comp=Z,440nm,18.6s,baz=25,slow=31
BHOU Houvegnez 80.91 33 dP P 11 20 10.0 +1.3
comp=Z,7.0nm,1.5s
AQDB Aquidauana 80.94 123 eP P 11 20 11.8 +2.7
NRDL Niedersach Rie 81.03 29 eP P 11 20 12.7 +3.5
comp=Z,36nm,1.3s,baz=321,slow=5.2
PCBR Castelo Branco 81.05 47 eP P 11 20 10.4 +0.9
PCBR i IAmb IAmb 11 20 15.1
comp=Z,62nm,1.6s
PMTG Montargil 81.08 48 eP P 11 20 08.6 -1.2
PMTG i IAmb IAmb 11 20 15.4
comp=Z,53nm,1.8s
KASTN Kahler Asten 81.32 31 eP P 11 20 14.0 +3.1
comp=Z,24nm,1.5s,baz=321,slow=5.2
PMRV Marv??o 81.36 47 eP P 11 20 11.8 +0.5
PMRV i IAmb IAmb 11 20 16.9
comp=Z,78nm,1.6s
PMRV eLR LR 11 45 24.8
PMRV i IAMs_20 IAMs_20 11 54 54.9
comp=Z,827nm,18.0s
WLF Walferdange 81.47 33 P P 11 20 11.2 -0.5
WLF IAmb IAmb 11 20 16.7
comp=Z,54nm,1.5s
WLF Walferdange 81.47 33 P P 11 20 11.2 -0.5
WLF pmax pmax
comp=Z,55nm,1.5s
WLF Walferdange 81.47 33 dP P 11 20 13.8 +2.2
WLF Walferdange 81.47 33 eP P 11 20 15.6 +4.0
comp=Z,47nm,1.4s,baz=321,slow=5.2
ASSE Asse, Remlinge 81.54 29 eP P 11 20 15.3 +3.5
comp=Z,28nm,1.1s,baz=321,slow=5.2
EVO Evora 81.55 48 eP P 11 20 12.7 +0.4
EVO i IAmb IAmb 11 20 18.1
comp=Z,35nm,1.6s
PESTR Estremoz 81.59 48 eP P 11 20 11.9 -0.6
PESTR i IAmb IAmb 11 20 18.0
comp=Z,39nm,1.6s
FLTG Flechtingen 81.61 29 eP P 11 20 15.7 +3.4
comp=Z,31nm,1.3s,baz=321,slow=5.2
CLZ Clausthal 81.64 30 eP P 11 20 16.1 +3.6
comp=Z,32nm,1.2s,baz=321,slow=5.2
PTEO Sao Teotonio 81.73 49 eP P 11 20 16.6 +3.3
PTEO i IAmb IAmb 11 20 19.1
comp=Z,64nm,1.6s
MESJ Messejana 81.86 49 eP P 11 20 13.2 -0.8
MESJ eS **S 11 30 27.6 +0.3**
MESJ IAMs_20 IAMs_20 11 55 47.4
comp=Z,2µm,13.8s
CIT Chita 81.87 331 eP P 11 20 16.6 +2.8
CIT e 11 20 26.4
CIT pmax pmax
comp=Z,47nm,1.9s
MORF Marmelete 81.93 50 eP P 11 20 13.6 -0.8
MORF eS **SKSac 11 30 28.5 -6.1**
MORF IAMs_20 IAMs_20 11 54 32.2
comp=E,1µm,20.4s
MORF Marmelete 81.93 50 P P 11 20 12.9 -1.5
MORF IAmb IAmb 11 20 18.8
comp=Z,61nm,1.4s
MORF Marmelete 81.93 50 eP P 11 20 15.6 +1.2
MORF i IAmb IAmb 11 20 19.5
comp=Z,56nm,1.5s
MORF Marmelete 81.93 50 P P 11 20 12.9 -1.5
MORF pmax pmax
comp=Z,61nm,1.4s
KLMR Klimovskoe 81.96 11 eP P 11 20 13.7 -0.3
KLMR pmax pmax
comp=Z,92nm,1.4s
PBEJ Beja 81.96 49 eP P 11 20 17.1 +2.6
PBEJ i IAmb IAmb 11 20 19.3
comp=Z,24nm,1.9s
TNS Taunus Mts 82.06 32 eP P 11 20 18.1 +3.3
comp=Z,6.7nm,0.9s,baz=321,slow=5.2
PCVE Castro Verde 82.10 49 eP P 11 20 18.2 +3.0
PCVE i IAmb IAmb 11 20 20.3
comp=Z,30nm,1.3s
UBBA Unterbreizbach 82.26 30 eP P 11 20 19.2 +3.6
comp=Z,44nm,1.7s,baz=321,slow=5.2
CN2 Changchun 82.32 319 P P 11 20 17.6 +1.4
CN2 S **S 11 30 29.9 -1.8**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,300nm,24.0s
PVAQ Vaqueiros 82.44 49 eP P 11 20 16.9 -0.1
PVAQ i IAmb IAmb 11 20 21.2
comp=Z,33nm,1.7s
PVAQ eLQ LQ 11 43 37.1
PVAQ eLR LR 11 47 15.9
PVAQ i IAMs_20 IAMs_20 11 56 29.8
comp=Z,1µm,18.0s
MOX Moxa 83.06 30 eP P 11 20 23.3 +3.3
comp=Z,56nm,1.4s,baz=321,slow=5.2
MOX eL L 11 56 12.3
comp=Z,912nm,19.2s
CLL Collm 83.09 29 P P 11 19 19.4 -0.7
CLL IAmb IAmb 11 20 24.7
comp=Z,32nm,1.3s
CLL Collm 83.09 29 eP P 11 20 21.0 +0.9
CLL i 11 20 23.1
CLL pmax pmax
comp=Z,42nm,1.4s
CLL MLR MLR
comp=Z,2µm,18.6s
CLL Collm 83.09 29 P P 11 20 21.0 +0.9
comp=Z,451nmcomp=Z,22nm,1.4s
CLL Collm 83.09 29 eP P 11 20 23.1 +3.0
comp=Z,37nm,1.3s,baz=321,slow=5.2
ESBB Sonseca Array 83.22 45 P P 11 20 20.0 -1.1
ESBB IAmb IAmb 11 20 26.7
comp=Z,23nm,1.4s
ESDC Sonseca Array 83.22 45 P P 11 20 19.6 -1.5
ESDC IAmb IAmb 11 20 26.8
comp=Z,25nm,1.5s
ESDC Sonseca Array 83.22 45 P P 11 20 21.6 +0.6
comp=Z,5.8nm,1.1s,baz=305,slow=5.6,SNR=17
comp=Z,5.8nm,1.1s
BDFB Brasilia 83.22 115 LR LR 12 02 34.9
comp=Z,405nm,18.7s,baz=309,slow=40
BFO Black Forest 83.43 33 eP P 11 20 24.9 +2.9
comp=Z,39nm,1.4s,baz=321,slow=5.2
STU Stuttgart 83.47 32 eP P 11 20 25.5 +3.3
comp=Z,276nm,1.9s,baz=321,slow=5.2
SDBA SAO DESIDERIO 83.53 110 eP P 11 20 23.5 +0.6
TANN Tannenbergstha 83.58 30 eP P 11 20 25.8 +3.1
comp=Z,44nm,1.5s,baz=321,slow=5.2
GRF Grafenberg Arr 83.63 31 eP P 11 20 26.6 +3.7
comp=Z,52nm,1.1s,baz=321,slow=5.2
GRF eL L 11 56 04.7
comp=Z,2µm,21.0s
MANZ Manzenberg 83.77 30 eP P 11 20 26.7 +3.1
comp=Z,5.8nm,1.2s,baz=321,slow=5.2
NBCL Cascavel-CE 83.78 100 eP P 11 20 25.0 +0.8
SJPY San Joaquin 83.78 127 eP P 11 20 25.8 +1.9
BRG Berggiesshubel 83.80 29 eP P 11 20 27.0 +3.2
comp=Z,62nm,1.4s,baz=321,slow=5.2
BRG Berggiesshubel 83.80 29 eP P 11 20 25.3 +1.5
BRG Amp 11 20 27.4
comp=Z,31nm,1.3s
SSB Saint Sauveur 83.90 37 P P 11 20 23.4 -1.1
SSB IAmb IAmb 11 20 28.9
comp=Z,34nm,1.5s
SSB Saint Sauveur 83.90 37 P P 11 20 23.4 -1.1
SSB pmax pmax
comp=Z,34nm,1.5s
CPUP Villa Florida 83.92 128 P P 11 20 22.8 -1.8
comp=Z,1.6nm,1.0s,baz=297,slow=10,SNR=4.4
CPUP LR LR 11 58 31.9
comp=Z,88nm,18.6s,baz=193,slow=36
comp=Z,1.6nm,1.0s
CPUP Villa Florida 83.92 128 eP P 11 20 27.1 +2.5
ROTZ Rotzenmuhle 83.98 30 eP P 11 20 27.9 +3.2
comp=Z,8.3nm,1.4s,baz=321,slow=5.2
RICC Richard 84.12 29 AMS AMS 11 59 10.0
comp=Z,2µm,18.4s
CEST Esterri de Car 84.13 41 P P 11 20 25.3 -0.5
PVCC Panska Ves 84.32 28 AMS AMS 11 59 20.0
comp=Z,1µm,16.6s
SUW Suwalki 84.42 22 ePKP P 11 20 29.4 +2.6
IPMB Ipameri, GO 84.57 117 eP P 11 20 30.3 +2.1
PRA Prague 84.63 29 AMS AMS 11 59 00.0
comp=Z,2µm,18.0s
KSP Ksiaz 84.72 27 ePKP P 11 20 30.4 +2.0
KSP Ksiaz 84.72 27 P P 11 20 30.4 +2.0
comp=Z,402nmcomp=Z,20nm,1.7s
PRU Pruhonice 84.74 29 eP P 11 20 30.2 +1.7
PRU AMS AMS 11 59 20.0
comp=Z,2µm,17.6s
PRU Pruhonice 84.74 29 eP P 11 20 30.2 +1.7
PRU MLR MLR
comp=Z,2µm,17.6s
UPC Upice 84.89 28 AMS AMS 12 01 30.0
comp=Z,1µm,16.4s
GOPC GO Pecny, Ondr 84.89 29 AMS AMS 11 59 30.0
comp=Z,2µm,17.5s
DAVA Damuels 84.90 33 ePcP PcP 11 20 33.5 +0.5
comp=Z,6.8nm,0.9s
OSTC Ostas 84.92 28 AMS AMS 11 53 30.0
comp=Z,1µm,22.7s
KHC Kasperske Hory 85.03 30 eP P 11 20 33.5 +3.4
KHC ePP **PP 11 23 46.9 +0.6**
KHC eS **S 11 30 58.6 -0.4**
KHC AMS AMS 11 57 00.0
comp=Z,2µm,18.9s
KHC Kasperske Hory 85.03 30 eP P 11 20 33.5 +3.4
KHC e 11 23 46.9
KHC eS **S 11 30 58.6 -0.4**
KHC MLR MLR
comp=Z,2µm,18.9s
KHC Kasperske Hory 85.03 30 P P 11 20 32.9 +2.8
comp=Z,269nmcomp=Z,13nm,1.9s
IRK Irkutsk 85.08 336 eP P 11 20 32.5 +2.2
IRK pmax pmax
comp=Z,67nm,2.2s
DPC Dobruska-Polom 85.13 28 eS S 11 31 00.1 +0.1
DPC AMS AMS 11 57 10.0
comp=Z,1µm,21.1s
DPC Dobruska-Polom 85.13 28 P P 11 20 32.8 +2.2
comp=Z,24nm,1.5s
RETA Reutte 85.13 32 ePcP PcP 11 20 34.5 +0.6
comp=Z,2.7nm,0.4s
KSRS Korea Array 85.22 313 P P 11 20 31.1 -0.1
comp=Z,3.5nm,0.9s,baz=55,slow=4.6,SNR=13
comp=Z,3.5nm,0.9s
KSAR Wonju Array Be 85.25 313 P P 11 20 30.5 -0.8
KSAR Wonju Array Be 85.25 313 P P 11 20 30.5 -0.8
AVE Averroes 85.25 52 P P 11 20 30.0 -1.5
TUE Stuetta 85.28 34 P P 11 20 34.3 +2.7
comp=Z,2µmcomp=Z,82nm,2.0s
GEC2 GERESS Array S 85.31 30 eP P 11 20 34.5 +3.0
comp=Z,24nm,1.4s,baz=321,slow=5.2
GERES GERESS Array B 85.31 30 P P 11 20 30.8 -0.8
GERES GERESS Array B 85.31 30 P P 11 20 30.0 -1.6
comp=Z,0.7nm,0.6s,baz=336,slow=2.2,SNR=16
GERES LR LR 11 57 51.0
comp=Z,1µm,21.6s,baz=322,slow=35
comp=Z,0.7nm,0.6s
GERES GERESS Array B 85.31 30 P P 11 20 30.8 -0.8
MNK Minsk 85.34 19 iP P 11 20 30.3 -1.2
MNK i 11 23 47.1

MNK *i* PPP PPP 11 25 40.5
MNK *i* S **SKSac** **11 30 54.6 -1.5**
MNK *i* SS **SS** **11 36 37.6 +2.8**
MNK *i* SSS SSS 11 40 09.7
MNK pmax pmax
comp=E,30nm,1.0s
MNK pmax pmax
comp=Z,38nm,1.2s
MNK pmax pmax
comp=N,23nm,1.0s
MNK MLR MLR
comp=N,743nm,18.0s
MNK MLR MLR
comp=E,882nm,19.0s
MNK MLR MLR
comp=Z,634nm,16.0s
MOTA Moosalm 85.39 32 *i* PcP **PcP** **11 20 36.2 +1.1**
comp=Z,21nm,1.5s,SNR=5.6
KIRV Kirov 85.42 7 LR LR 12 01 09.7
comp=Z,698nm,21.1s,baz=349,slow=37
FETA Feichten 85.48 33 *i* PcP **PcP** **11 20 36.6 +1.0**
comp=Z,5.7nm,1.1s,SNR=5.2
BEL Belsk 85.50 24 *e*PKP **P** **11 20 36.7 +4.4**
KRLC Kraliky 85.53 28 AMS AMS 11 57 10.0
comp=Z,1μm,21.9s
SQTA Sankt Quirin 85.53 32 *e*PcP **PcP** **11 20 36.5 +0.8**
comp=Z,12nm,1.1s
CKRC Cesky Krumlov 85.58 30 AMS AMS 11 59 20.0
comp=Z,1μm,17.6s
FUORN Ofenpass-Fuorn 85.58 33 P **P** **11 20 31.4 -1.7**
FUORN IAmb IAmb 11 20 38.3
comp=Z,43nm,1.8s
WATA Walderalm 85.60 32 *e*PcP **PcP** **11 20 37.1 +1.0**
comp=Z,12nm,1.2s
WTTA Wattenberg 85.68 32 *e*PcP **PcP** **11 20 37.4 +0.9**
comp=Z,9.6nm,1.1s
LESA Schwarzleotal 86.00 31 *e*PcP **PcP** **11 20 39.1 +1.4**
comp=Z,2.4nm,0.6s
RAO Raoul Island 86.03 230 LR LR 11 56 43.8
comp=Z,305nm,18.4s,baz=6.5,slow=34
MORC Moravsky Berou 86.06 27 P **P** **11 20 34.8 -0.4**
MORC IAmb IAmb 11 20 39.7
comp=Z,29nm,1.5s
MORC Moravsky Berou 86.06 27 *e*PCP **PcP** **11 20 36.6 -1.3**
MORC Moravsky Berou 86.06 27 P **P** **11 20 34.8 -0.4**
MORC pmax pmax
comp=Z,29nm,1.5s
VRAC Vranov 86.08 28 *e*PCP **P** **11 20 36.3 +1.0**
VRAC Vranov 86.08 28 LR LR 12 00 41.1
comp=Z,1μm,18.0s,baz=318,slow=37
BIOA Bad Ischl, Aus 86.19 31 *e*PcP **PcP** **11 20 39.8 +1.2**
comp=Z,9.1nm,1.0s
KRUC Moravsky 86.20 28 *e*PCP **PcP** **11 20 38.3 -0.2**
JNU Nakatsue 86.25 309 LR LR 11 52 19.3
comp=Z,205nm,21.9s,baz=65,slow=31
PTGB Pitanga 86.27 124 *e*P **P** **11 20 37.2 +0.7**
MOA Molln 86.33 30 *e*PcP **PcP** **11 20 40.0 +0.9**
comp=Z,13nm,1.4s
ABTA Abfaltersbach 86.46 32 *e*PcP **PcP** **11 20 40.7 +1.0**
comp=Z,3.7nm,0.9s
MOS Moscow 86.47 14 *e*P **P** **11 20 38.1 +1.1**
MOS pmax pmax
comp=Z,47nm,0.7s
MOS MLR MLR
comp=Z,1μm,20.0s
OJC Ojcow 86.51 26 *e*PKP **P** **11 20 39.0 +1.6**
OJC Ojcow 86.51 26 P **P** **11 20 36.9 -0.5**
OJC Ojcow 86.51 26 P **P** **11 20 36.9 -0.5**
KBA Koelnbreinsper 86.56 31 *e*PcP **PcP** **11 20 41.2 +0.9**
comp=Z,5.9nm,1.1s
RCBR Riachuelo 86.64 100 LR LR 12 05 12.4
comp=Z,112nm,18.9s,baz=300,slow=40
MOY Mondy 86.64 337 *e*P **P** **11 20 40.9 +2.8**
MOY pmax pmax
comp=Z,77nm,1.8s
OBN Obninsk 86.84 15 P **P** **11 20 38.2 -0.7**
OBN Obninsk 86.84 15 LR LR 12 01 43.1
comp=Z,2μm,18.4s,baz=268,slow=37
OBN Obninsk 86.84 15 *e*P **P** **11 20 40.2 +1.4**
OBN *e* 11 24 08.0
OBN *e*PPP PPP 11 25 55.4
OBN *e*S **S** **11 31 21.5 +5.1**
OBN pmax pmax
comp=Z,29nm,1.2s
OBN MLR MLR
comp=Z,2μm,18.0s
JAVC Velka Javorina 86.86 28 *e*PCP **PcP** **11 20 40.7 -0.7**
CONA Conrad Observa 86.91 29 *e*pP pP 11 20 42.9 -0.9
comp=Z,7.9nm,1.6s
XLT XiLinHaoTe 86.96 324 *e*P **P** **11 20 40.0 +0.2**
XLT sP sP 11 20 48.2 +2.5
XLT S **S** **11 31 24.5 +6.3**
XLT pmax pmax
comp=Z,15nm,1.5s
XLT pmax pmax
comp=Z,71nm,4.9s
XLT LR LR
comp=Z,300nm,17.0s
XLT LR LR
comp=Z,210nm,15.7s
ZAK Zakamensk 86.99 335 *e*P **P** **11 20 41.3 +1.5**
ZAK pmax pmax
comp=Z,22nm,1.5s
SMOL Smolenice 87.05 28 *e*P **P** **11 20 44.7 +4.7**
SMOL pmax pmax
comp=Z,11nm,1.2s
MODS Modra-Piesok 87.10 28 *e*P **P** **11 20 43.0 +2.7**
MODS pmax pmax
comp=Z,72nm,1.6s
MODS Modra-Piesok 87.10 28 *e*P **P** **11 20 43.0 +2.7**
MODS *e*PP **PP** **11 24 03.4 +0.4**
RONA Rosalia, Austr 87.27 29 *e*pP pP 11 20 44.2 -1.3
comp=Z,7.6nm,1.1s
LANS Liptovska Anna 87.28 27 *e*PP PP 11 24 08.1 +3.7
ARSA Arzberg 87.32 30 *e*pP pP 11 20 44.5 -1.3
comp=Z,2.3nm,1.1s
NIE Niedzica 87.36 26 *e*PKP **P** **11 20 45.1 +3.5**
NIE Niedzica 87.36 26 P **P** **11 20 44.9 +3.3**
comp=Z,3.9nm,1.8s
PLCA Paso Flores 87.50 146 P **P** **11 20 42.6 +0.5**
comp=Z,5.3nm,1.1s,baz=321,slow=7.8,SNR=4.6
PLCA LR LR 11 53 31.4
comp=Z,456nm,18.2s,baz=326,slow=31
comp=Z,5.3nm,1.1s
PLCA Paso Flores 87.50 146 *e*P **P** **11 20 43.1 +1.0**
RNPP9 Sopachiv 87.50 22 P **P** **11 20 45.5 +3.4**
OBKA Obir 87.51 31 *e*pP **P** **11 20 44.6 +2.1**
comp=Z,9.4nm,1.2s
VYHS Vyhne 87.59 27 *e*P **P** **11 20 46.5 +3.8**
VYHS pmax pmax
comp=Z,40nm,2.3s
VYHS Vyhne 87.59 27 *e*P **P** **11 20 46.5 +3.8**
VYHS *e*PP **PP** **11 24 09.0 +2.1**
RNPP5 Staryi Chortor 87.65 22 P **P** **11 20 46.2 +3.3**
STHS Stebnicka Huta 87.69 25 *e*P P 11 20 49.9 +6.7
STHS Stebnicka Huta 87.69 25 *e*P P 11 20 49.9 +6.7
ULN Ulaanbaatar 87.72 332 P **P** **11 20 41.9 -1.6**
ULN IAmb IAmb 11 20 48.3
comp=Z,36nm,1.5s
ULN Ulaanbaatar 87.72 332 P **P** **11 20 41.9 -1.6**
ULN pmax pmax
comp=Z,36nm,1.5s
SVE Sverdlovsk 87.80 1 *e*P **P** **11 20 45.6 +2.2**
SVE pmax pmax
comp=Z,45nm,1.5s
ITAB Concordia 87.91 126 *e*P **P** **11 20 46.8 +2.5**
SONM Songino Array 88.00 332 P **P** **11 20 43.4 -1.4**
SONM IAmb IAmb 11 20 49.8
comp=Z,39nm,1.6s
SONM Songino Array 88.00 332 P **P** **11 20 45.5 +0.7**
comp=Z,5.7nm,0.9s,baz=52,slow=2.4,SNR=21
SONM LR LR 12 02 04.4
comp=Z,509nm,18.5s,baz=31,slow=37
comp=Z,5.7nm,0.9s
SONM Songino Array 88.00 332 P **P** **11 20 43.4 -1.4**
SONM pmax pmax
comp=Z,39nm,1.6s
KWP Kalwaria Pacla 88.02 25 P **P** **11 20 46.7 +2.0**
comp=Z,9.2nm,1.9s
ARTI Arti 88.19 2 P **P** **11 20 44.1 -1.2**
ARTI Arti 88.19 2 LR LR 12 02 54.2
comp=Z,882nm,21.6s,baz=345,slow=37
ARTI Arti 88.19 2 *d* iP **P** **11 20 46.5 +1.2**
ARTI 11 24 08.6
ARTI S **SKSac** **11 31 14.8 +1.2**
ARTI SS **SS** **11 37 16.2 0.0**
ARTI pmax pmax
comp=Z,62nm,1.5s
ARTI MLR MLR
comp=Z,1μm,22.0s
GUMO Guam 88.19 285 LR LR 11 58 47.0
comp=Z,180nm,18.1s,baz=53,slow=35
MPLH Magyarpolny 88.19 29 P **P** **11 20 48.2 +2.7**
comp=Z,16nm,0.8s
KOLS Kolonicke sedl 88.46 25 *e*P **P** **11 20 50.4 +3.6**
KOLS Kolonicke sedl 88.46 25 *e*P **P** **11 20 50.4 +3.6**
PSZ Piszkesteto 88.47 27 P **P** **11 20 46.3 -0.6**
PSZ Piszkesteto 88.47 27 P **P** **11 20 46.3 -0.6**
PSZ pmax pmax
comp=Z,9.0nm,1.0s
ZAA0 Zalesovo Array 88.62 347 P **P** **11 20 47.6 +0.3**
ZALV Zalesovo Beam 88.62 347 P **P** **11 20 46.9 -0.5**
ZALV Zalesovo Beam 88.62 347 P **P** **11 20 47.7 +0.3**
comp=Z,8.2nm,0.6s,baz=18,slow=4.2,SNR=28
ZALV LR LR 12 07 05.3
comp=Z,525nm,18.8s,baz=11,slow=40
comp=Z,8.2nm,0.6s
ZALV Zalesovo Beam 88.62 347 *i* P **P** **11 20 50.2 +2.8**
ZALV pmax pmax
comp=Z,8.0nm,0.6s
HOLU Holmets 88.85 25 P **P** **11 20 51.4 +2.8**
AK21 Malin Array Si 88.98 20 P **P** **11 20 51.0 +1.8**
AK19 Malin Array Si 89.03 20 P **P** **11 20 50.8 +1.4**
AK18 Malin Array Si 89.04 20 P **P** **11 20 50.8 +1.4**
AK04 Malin Array Si 89.07 20 P **P** **11 20 50.9 +1.3**
AKASG Malin Array Be 89.10 20 P **P** **11 20 48.9 -0.8**
AKASG Malin Array Be 89.10 20 P **P** **11 20 50.0 +0.3**
comp=Z,1.4nm,0.6s,baz=334,slow=3.8,SNR=22
AKASG LR LR 12 01 43.2
comp=Z,1μm,19.7s,baz=338,slow=36
comp=Z,1.4nm,0.6s
AKASG Malin Array Be 89.10 20 *i* P **P** **11 20 52.2 +2.5**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 89.11 20 *c* iP **P** **11 20 51.4 +1.7**
AKBB pmax pmax
comp=Z,24nm,1.3s
AKBB Malin Array Si 89.11 20 P **P** **11 20 51.5 +1.7**
KIEV Kiev 89.11 20 P **P** **11 20 51.5 +1.8**
comp=Z,54nm,1.5s
AK11 Malin Array Si 89.11 20 P **P** **11 20 51.5 +1.7**
LUBAR Lubar, Ukraine 89.37 22 P **P** **11 20 53.1 +2.1**
LPSR Galich'ya Gora 89.69 14 *e*P **P** **11 20 54.6 +2.2**
LPSR pmax pmax
comp=Z,53nm,1.7s
KSV Kosov 89.94 24 P **P** **11 20 55.1 +1.4**
BBTS Babate 90.27 72 LR LR 12 01 27.8
comp=Z,601nm,18.1s,baz=192,slow=36
BURAR Bucovina Array 90.60 24 P **P** **11 20 56.2 -0.7**
VORR Voronezh 90.62 14 *e*P **P** **11 20 59.7 +2.9**
VORR pmax pmax
comp=Z,32nm,1.6s
BELG Belogornoye 91.30 9 LR LR 12 03 01.4
comp=Z,546nm,20.0s,baz=357,slow=36
BELG Belogornoye 91.30 9 *i* P **P** **11 21 01.2 +1.3**
BELG pmax pmax
comp=Z,8.0nm,1.5s
BRVK Borovoye 91.32 355 P **P** **11 21 00.1 0.0**
BRVK Borovoye 91.32 355 *d* iP **P** **11 21 01.6 +1.5**
BRVK pmax pmax
comp=Z,52nm,1.3s
BVAR Borovoye Array 91.35 355 P **P** **11 21 00.5 +0.3**
comp=Z,21nm,1.0s,baz=355,slow=3.5,SNR=43
BVAR LR LR 12 06 53.9
comp=Z,693nm,20.0s,baz=0.2,slow=39
comp=Z,21nm,1.0s
HHC Hu-ho-hao-te 91.44 325 *e*P **P** **11 20 58.2 -2.8**
HHC S **S** **11 31 54.1 -6.2**
HHC sS ScS 11 32 03.9 +0.7
HHC SS **SS** **11 38 07.6 +3.1**
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,150nm,4.9s
HHC LR LR
comp=Z,330nm,21.7s
HHC LR LR
comp=Z,440nm,21.4s
HHC LR LR
comp=Z,460nm,22.4s
VRH Novokhopyorsk 91.55 13 *e*P **P** **11 21 03.7 +2.6**
VRH pmax pmax
comp=Z,41nm,1.7s
DZM Mont Dzumac 91.97 244 *e*S S 11 31 52.0 -13
comp=Z,170nm,28.3s
DZM *e*SS SS 11 38 02.1 -12
comp=Z,196nm,28.5s
DZM *e*LQ LQ 11 46 15.5
comp=Z,623nm,32.5s
DZM *e*LR LR 11 50 25.4
comp=Z,718nm,29.9s
JOW Kunigami 92.09 305 LR LR 11 56 03.0
comp=Z,234nm,21.0s,baz=252,slow=31
KIS Kishinev 92.30 22 *e*P P 11 20 59.0 -5.7
KIS *e*L L 11 59 05.0
KIS LRM MLR 12 03 16.0
comp=Z,300nm,19.5s
KIS Kishinev 92.30 22 *e*P P 11 20 59.0 -5.7
KIS MLR MLR
comp=Z,300nm,19.5s
BTO Baotou 92.35 326 *e*P **P** **11 21 05.0 -0.2**
BTO pP **pP** **11 21 09.0 -0.5**
BTO sP **sP** **11 21 12.6 +1.5**
BTO S **S** **11 32 08.3 -0.2**
BTO pmax pmax
comp=Z,17nm,0.5s
BTO pmax pmax
comp=Z,230nm,5.6s
BTO LR LR
comp=Z,670nm,19.7s
BTO LR LR
comp=Z,860nm,18.3s
BTO LR LR
comp=Z,700nm,17.3s
MILM Milestii Mici 92.37 22 *e*P P 11 20 58.0 -7.0
MILM *e*L L 11 57 17.0
MILM LRM MLR 12 06 15.0
comp=Z,900nm,17.5s
MILM Milestii Mici 92.37 22 *e*P P 11 20 58.0 -7.0
MILM MLR MLR
comp=Z,900nm,17.5s
MLR Muntele Rosu 92.70 25 LR LR 12 06 28.3
comp=Z,1μm,19.1s,baz=331,slow=38
KURK Kurchatov 92.75 350 P **P** **11 21 06.4 -0.3**
KURK IAmb IAmb 11 21 11.3
comp=Z,19nm,1.1s
KURK Kurchatov 92.75 350 *c* iP **P** **11 21 09.1 +2.4**
KURK pmax pmax
comp=Z,22nm,1.2s
KURBB Kurchatov Arra 92.86 350 P **P** **11 21 07.6 +0.4**
comp=Z,11nm,1.1s,baz=14,slow=4.4,SNR=37
KURBB PP **PP** **11 24 50.0 +1.5**
comp=Z,1.0nm,0.9s,baz=10,slow=7.3,SNR=5.5
KURBB LR LR 12 06 33.0
comp=Z,460nm,21.7s,baz=292,slow=38
comp=Z,11nm,1.1s
KEST Kesra 93.42 41 P **P** **11 21 10.6 +0.4**
comp=Z,8.1nm,1.1s,baz=315,slow=2.9,SNR=5.5
comp=Z,8.1nm,1.1s
NJ2 Nanjing 94.31 315 *e*P **P** **11 21 13.2 -1.0**
NJ2 pmax pmax
comp=Z,12nm,0.6s
NJ2 LR LR
comp=Z,370nm,15.2s
NJ2 LR LR
comp=Z,240nm,13.3s
NJ2 LR LR
comp=Z,630nm,15.6s
URZ Urewera 95.22 226 LR LR 11 56 36.8
comp=Z,438nm,19.9s,baz=38,slow=31
MK31 Makanchi Array 95.94 346 *i* P **P** **11 21 22.7 +1.2**
MKAR Makanchi Array 95.94 346 P **P** **11 21 21.6 +0.2**
MKAR Makanchi Array 95.94 346 P **P** **11 21 22.1 +0.7**
comp=Z,1.0nm,0.7s,baz=3.7,slow=4.5,SNR=12
MKAR PP **PP** **11 25 15.2 +2.6**
comp=Z,0.4nm,0.7s,baz=18,slow=6.1,SNR=3.5
MKAR LR LR 12 10 34.9
comp=Z,594nm,19.1s,baz=6.5,slow=39
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 95.94 346 P **P** **11 21 21.6 +0.2**
MAKZ Makanchi 95.98 347 P **P** **11 21 21.4 -0.3**
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
WMQ Urumqi 97.56 342 *e*P **P** **11 21 28.9 0.0**
WMQ LR LR
comp=Z,560nm,21.9s
WMQ LR LR
comp=Z,560nm,21.9s
WMQ LR LR
comp=Z,430nm,23.5s
SOC Sochi 98.40 16 *e*P Pdif 11 21 33.3 +0.7
SOC *e* 11 25 31.9
SOC *e*PPP PPP 11 27 37.3
SOC *e*S **SKSac** **11 32 11.3 +0.9**
SOC *e*SS **SS** **11 39 46.2 +3.5**
SOC *e*SSS SSS 11 43 28.3
SOC MLR MLR
comp=Z,1μm,17.0s
KIV Kislovodsk 98.69 14 *e*P **P** **11 21 32.2 -1.8**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,607nm,20.0s
KVAR Kislovodsk Arr 98.69 14 LR LR 12 08 52.1
comp=Z,616nm,18.4s,slow=37
KBZ Khabaz 98.95 14 P **P** **11 21 34.0 -1.0**
comp=Z,1.0nm,0.5s,baz=297,slow=2.3,SNR=3.7
KBZ LR LR 12 09 05.6
comp=Z,709nm,18.3s,baz=342,slow=37
comp=Z,1.0nm,0.5s
KBZ Khabaz 98.95 14 *i* P **P** **11 21 34.4 -0.6**
KBZ pmax pmax
comp=Z,7.0nm,1.8s
BRTR Keskin Array B 100.37 22 PP **PP** **11 25 48.1 +1.3**
comp=Z,0.4nm,0.5s,baz=353,slow=10,SNR=2.2
QIZ Qiongzhong 109.42 312 Pdif **Pdif** **11 22 21.4 -0.7**
QIZ PP **PP** **11 26 53.6 -1.0**
QIZ S **Sdif** **11 34 32.8 -0.8**
QIZ SS **SS** **11 42 15.1 -0.6**
QIZ LR LR
comp=Z,310nm,18.6s
QIZ LR LR
comp=Z,320nm,16.5s
WRA Warramunga Arr 115.77 263 PKP **PKPdf** **11 26 37.0 -0.5**
comp=Z,0.5nm,0.8s,baz=57,slow=2.0,SNR=4.9
ASAR Alice Springs 117.97 260 PKP **PKPdf** **11 26 39.9 -1.7**
comp=Z,1.1nm,1.0s,baz=64,slow=2.3,SNR=6.6
VNDA Vanda 122.57 195 PKP **PKPdf** **11 26 47.6 -1.2**
comp=Z,1.1nm,0.9s,baz=34,slow=3.6,SNR=5.2
QSPA South Pole Qui 125.55 180 PKP **PKPdf** **11 26 53.7 -1.3**
comp=Z,4.1nm,1.1s,baz=84,slow=0.6,SNR=7.9
SNAA Sanae 131.23 158 PKP **PKiKP** **11 27 06.4 -0.1**
comp=Z,1.9nm,0.9s,baz=180,slow=3.0,SNR=4.1
SNAA Sanae 131.23 158 *c* iPKIKP **PKiKP** **11 27 09.1 +2.5**
SNAA pmax pmax
comp=Z,4.0nm,1.2s
BOSA Boshof 147.89 88 PKPbc **PKPbc** **11 27 39.7 -0.4**
comp=Z,17nm,1.3s,baz=299,slow=2.6,SNR=5.1
MAW Mawson 148.07 180 PKPbc **PKPbc** **11 27 39.0 -0.1**
comp=Z,18nm,1.0s,baz=181,slow=4.2,SNR=15
MAW Mawson 148.07 180 PKP2 **PKPbc** **11 27 39.0 -0.1**

*NEIC **05** 11:10:08.9±1.7,35.749N±0.010×117.60W±0.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.6km az=163.0*

PAS 05 11:10:09.6±1.5**,35.747N**±0.005×**117.59W**±0.01**, h6**km±5km**, ML3.4**/3**, ML3.6**/14(NEIC), **Error ellipse: s-maj=1.4km s-min=0.7km az=104.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRTC	**Snort**	**0.14**	**247**		Pg	11 10 12.8	+0.3
TOW	**Tower One**	**0.15**	**294**		Pg	11 10 13.0	+0.3
LRMC	**Laurel Mtn Rad**	**0.28**	**195**		Pg	11 10 14.9	-0.2
LRMC					Sg	11 10 19.6	+0.9
CCCA	**Chr Cany lake**	**0.29**	**140**		Pg	11 10 15.6	+0.3
CCCA					Sg	11 10 20.3	+1.2
WRVM	**Rose V. Centra**	**0.35**	**317**		Pg	11 10 16.4	-0.2
WBSM	**Bird Springs**	**0.49**	**245**		Pg	11 10 18.8	-0.3
WBSM					Sg	11 10 25.8	+0.2
WORM	**Onyx Ranch**	**0.53**	**265**		Pg	11 10 19.5	-0.3
WORM					Sg	11 10 26.8	0.0
QSM	**Queen of Sheba**	**0.63**	**69**	Pg	Pg	11 10 21.3	-0.4
QSM				IAML		11 10 26.1	
	comp=N,2μm,1.1s						
QSM				Sg	Sg	11 10 29.8	-0.1
CCAC	**Calif City Air**	**0.69**	**210**	Pg	Pg	11 10 22.5	-0.3
CCAC				Sg	Sg	11 10 31.1	-0.6
CCAC				IAML		11 10 38.6	
	comp=N,3μm,1.1s						
CCAC				IAML		11 10 43.8	
	comp=E,3μm,1.1s						
ISA	**Isabella, Lake**	**0.72**	**264**	Pg	Pg	11 10 22.3	-1.2
GSC	**Goldstone, Bar**	**0.78**	**124**	Pg	Pg	11 10 24.4	-0.2
GSC				IAML		11 10 47.1	
	comp=N,2μm,1.1s						
GWY	**Greenwater Val**	**0.87**	**59**	Pg	Pg	11 10 24.7	-1.6
GWY				IAML		11 10 29.5	
	comp=N,2μm,1.2s						
GWY				IAML		11 10 34.9	
	comp=E,2μm,1.2s						
GRAC	**Grapevine Rang**	**1.26**	**8**		Pn	11 10 32.0	-1.7
GRAC				Sg	Sg	11 10 49.4	-0.7
WCT	**Wildcat Mounta**	**1.30**	**37**		Pn	11 10 33.4	-1.0
WCT				IAML		11 10 45.1	
	comp=E,944nm,0.8s						
WCT				IAML		11 10 53.1	
	comp=N,947nm,1.1s						
GMN	**Gold Mountain**	**1.57**	**10**		Pn	11 10 37.3	-1.0
TPNV	**Topopah Spring**	**1.62**	**42**		Pn	11 10 38.2	-0.6
PASC	**Pasadena Art C**	**1.65**	**197**		Pn	11 10 38.0	-1.0
DSP	**Deep Springs**	**1.65**	**350**		Pn	11 10 38.3	-0.7
BCW	**Bitter Crk WRg**	**1.69**	**242**		Pn	11 10 39.1	-0.6
MZP	**Montezuma Peak**	**1.96**	**5**	Pn	Pn	11 10 43.2	-0.3
ELS	**Elsinore Mount**	**2.10**	**176**	Pn	Pn	11 10 44.3	-1.0
SHPR	**Sheep Range**	**2.11**	**68**	Pn	Pn	11 10 44.7	-0.8
V12A	**Nelson**	**2.23**	**90**	Pn	Pn	11 10 45.8	-1.3
PFO	**Pinyon Flats O**	**2.33**	**156**	Pn	Pn	11 10 46.6	-1.9
TPH	**Tonopah**	**2.34**	**7**	Pn	Pn	11 10 46.6	-2.1
S11A	**Rachel**	**2.41**	**38**	Pn	Pn	11 10 48.6	-1.0
LHV	**Little Huntoon**	**2.60**	**344**	Pn	Pn	11 10 51.6	-0.5
PRN	**Pahroc Range**	**2.63**	**50**	Pn	Pn	11 10 51.6	-1.1
PMPB	**Monarch Peak**	**2.64**	**281**	Pn	Pn	11 10 52.0	-0.7
NV11	**Mina Array Sit**	**2.72**	**351**	Pn	Pn	11 10 53.2	-0.7
NVAR	**Mina Array Bea**	**2.74**	**348**	Pn	Pn	11 10 52.9	-1.3
BBGB	**Big Mountain B**	**2.91**	**288**	Pn	Pn	11 10 55.3	-1.2
RYN	**Ryan**	**2.97**	**346**	Pn	Pn	11 10 57.0	-0.3
R11B	**Troy Canyon, C**	**3.05**	**31**	Pn	Pn	11 10 57.2	-1.3
W13A	**Hualapai Mount**	**3.10**	**101**	Pn	Pn	11 10 58.2	-1.0
WAKR	**Walker**	**3.12**	**332**	Pn	Pn	11 10 59.1	-0.4
CMB	**Columbia Colle**	**3.20**	**316**	Pn	Pn	11 10 59.8	-0.6
ESJX	**Sierra Juarez**	**3.98**	**159**	Pn	Pn	11 11 10.3	-0.9
KNB	**Kanab**	**4.05**	**70**	Pn	Pn	11 11 09.5	-2.8
SZCU	**Shurtz Canyon**	**4.07**	**62**	Pn	Pn	11 11 11.3	-1.2
PSUT	**Pine Spring**	**4.08**	**46**	Pn	Pn	11 11 11.9	-0.8
SPR3	**Spring Creek 3**	**4.16**	**38**	Pn	Pn	11 11 12.4	-1.4
113A	**Mohawk Valley,**	**4.34**	**132**	Pn	Pn	11 11 15.5	-0.6
WUAZ	**Wupatki**	**5.07**	**91**	Pn	Pn	11 11 24.7	-1.5
MVU	**Marysvale**	**5.10**	**56**	Pn	Pn	11 11 24.7	-2.1

*NEIC **05** 11:11:31.3±1.3,35.741N±0.009×117.58W±0.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.5km az=95.0*

PAS 05 11:11:31.8±1.1**,35.750N**±0.009×**117.57W**±0.01**, h4**km±2km**, ML3.0**/7**, ML2.9**/35(NEIC), **Error ellipse: s-maj=1.3km s-min=1.2km az=66.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.07**	**341**		Pg	11 11 35.0	+1.6
SRTC	**Snort**	**0.16**	**248**		Pg	11 11 35.4	+0.4
SRTC					Sg	11 11 38.5	+1.5
TOW	**Tower One**	**0.17**	**291**		Pg	11 11 35.6	+0.5
CCCA	**Chr Cany lake**	**0.28**	**143**		Pg	11 11 37.8	+0.5
WVPM	**Volcano Peak E**	**0.28**	**315**		Pg	11 11 37.4	0.0
LRMC	**Laurel Mtn Rad**	**0.28**	**199**		Pg	11 11 37.3	-0.1
LRMC					Sg	11 11 41.7	+0.6
WNMM	**Nine Mile Cany**	**0.29**	**289**		Pg	11 11 37.5	+0.1
WRVM	**Rose V. Centra**	**0.37**	**315**		Pg	11 11 38.9	-0.1
WBSM	**Bird Springs**	**0.51**	**246**		Pg	11 11 41.5	-0.2

WBSM					Sg		11 11 48.6	+0.3
WORM	**Onyx Ranch**	**0.55**	**265**		Pg		11 11 42.0	-0.4
QSM	**Queen of Sheba**	**0.61**	**69**	Pg	Pg		11 11 43.5	0.0
QSM				Sg	Sg		11 11 51.9	+0.4
QSM				IAML			11 11 52.2	
	comp=E,848nm,1.0s							
QSM				IAML			11 11 56.7	
	comp=N,680nm,1.1s							
WHFM	**Hanning Flat**	**0.64**	**265**		Pg		11 11 43.8	-0.3
CCAC	**Calif City Air**	**0.70**	**212**	Pg	Pg		11 11 45.1	-0.1
CCAC				Sg	Sg		11 11 54.8	+0.5
CCAC				IAML			11 11 58.9	
	comp=N,812nm,0.9s							
CCAC				IAML			11 12 04.4	
	comp=E,573nm,1.1s							
ISA	**Isabella, Lake**	**0.74**	**264**		Sg		11 11 55.9	+0.2
ISA	**Isabella, Lake**	**0.74**	**264**	Pg	Pg		11 11 45.8	-0.3
GSC	**Goldstone, Bar**	**0.77**	**125**	Pg	Pg		11 11 46.5	-0.1
GSC				IAML			11 11 54.2	
	comp=N,438nm,1.1s							
GSC				Sg	Sg		11 11 56.7	+0.2
GSC				IAML			11 11 58.4	
	comp=E,510nm,1.1s							
CWC	**Cottonwood Cre**	**0.80**	**329**		Pg		11 11 47.7	+0.4
WASM	**Alta Sierra Ca**	**0.80**	**269**		Pg		11 11 46.9	-0.3
GWY	**Greenwater Val**	**0.85**	**59**	Pg	Pg		11 11 48.5	+0.4
GWY				Sg	Sg		11 11 59.6	+0.4
GWY				IAML			11 12 03.5	
	comp=N,628nm,1.2s							
GWY				IAML			11 12 05.7	
	comp=E,535nm,0.9s							
GRAC	**Grapevine Rang**	**1.25**	**7**	Pg	Pg		11 11 55.7	-0.2
GRAC				IAML			11 12 37.6	
	comp=N,300nm,1.1s							
WCT	**Wildcat Mounta**	**1.29**	**36**	Pg	Pg		11 11 56.2	-0.4
WCT				IAML			11 12 11.1	
	comp=N,215nm,1.0s							
WCT				IAML			11 12 21.6	
	comp=E,145nm,1.2s							
GMN	**Gold Mountain**	**1.57**	**9**	Pg	Pb		11 12 01.7	+0.2
GMN				IAML			11 12 23.2	
	comp=N,112nm,1.1s							
TPNV	**Topopah Spring**	**1.60**	**41**		Pn		11 11 59.8	-1.3
TPNV				IAML			11 12 25.9	
	comp=N,215nm,0.9s							
PASC	**Pasadena Art C**	**1.65**	**198**		Pn		11 12 00.7	-0.9
POCCA	**Poleta Canyon**	**1.71**	**341**		Pb		11 12 03.7	-0.2
BCW	**Bitter Crk WRg**	**1.71**	**242**		Pn		11 12 01.7	-0.8
MZP	**Montezuma Peak**	**1.95**	**4**	Pn	Pn		11 12 05.3	-0.7
MZP				IAML			11 13 10.7	
	comp=E,88nm,1.1s							
SHPR	**Sheep Range**	**2.09**	**68**	Pn	Pn		11 12 07.3	-0.4
SHPR				IAML			11 12 56.1	
	comp=N,64nm,1.0s							
ELS	**Elsinore Mount**	**2.10**	**177**	Pn	Pn		11 12 07.2	-0.7
ELS				IAML			11 12 21.4	
	comp=E,144nm,1.1s							
ELS				IAML			11 13 15.6	
	comp=N,51nm,1.1s							
PFO	**Pinyon Flats O**	**2.32**	**156**	Pn	Pn		11 12 10.0	-0.9
PMPB	**Monarch Peak**	**2.66**	**281**	Pn	Pn		11 12 15.3	-0.2
NV11	**Mina Array Sit**	**2.72**	**350**	Pn	Pn		11 12 15.0	-1.4
NVAR	**Mina Array Bea**	**2.74**	**348**	Pn	Pn		11 12 15.3	-1.5
Q09A	**Carvers**	**3.09**	**6**	Pn	Pn		11 12 19.5	-2.1
CBX	**Cerro Bola**	**3.51**	**167**	Pn	Pn		11 12 26.1	-1.1
LCMT	**Little Creek M**	**3.71**	**69**	Pn	Pn		11 12 28.8	-1.2
CPBX	**Cerro Prieto**	**3.82**	**150**	Pn	Pn		11 12 29.3	-2.0
CCUT	**Cedar City**	**3.83**	**61**	Pn	Pn		11 12 30.9	-0.9

NCEDC ***05*** *11:12:33.5±0.6,37˚.40N±0˚.02×118˚.52W±0˚.01,h9km±7km, Md3.3/27,ML2.7/31(NEIC),ML3.3/1(REN), Error ellipse: s-maj=2.6km s-min=1.5km az=204.0*
REN ***05*** *11:12:33.5±0.6,37˚.40N±0˚.02×118˚.52W±0˚.01,h10km±6km, Error ellipse: s-maj=2.5km s-min=1.4km az=206.0*
NEIC 05 11:12:33.2±0.7,37˚.38N±0˚.01×118˚.528W±0˚.007, h12km±7km, Error ellipse: s-maj=1.9km s-min=0.7km az=170.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUM	**Tungsten Hills**	**0.04**	**229**		Pg	11 12 35.7	+0.1
BHPR	**Bishop**	**0.09**	**157**		Pg	11 12 36.4	+0.3
MFBM	**Five Bridges**	**0.09**	**57**		Pg	11 12 36.2	+0.1
POCCA	**Poleta Canyon**	**0.20**	**94**		Pg	11 12 37.8	+0.2
MCVM	**Convict Lake**	**0.32**	**312**		Pg	11 12 39.8	0.0
BENR	**Benton**	**0.34**	**354**		Pg	11 12 39.7	-0.4
MLAC	**Mammoth, Mammo**	**0.35**	**316**		Pg	11 12 40.5	+0.2
MLAC	**Mammoth, Mammo**	**0.35**	**316**		Sg	11 12 45.9	+0.8
MDRNC	**Doe Ridge**	**0.36**	**317**		Pg	11 12 40.7	+0.3
MLHH	**Little Hot Cre**	**0.38**	**323**		Pg	11 12 41.1	+0.3
MGPM	**Gravel Pit**	**0.39**	**310**		Pg	11 12 41.1	+0.1
MLCM	**Laurel Creek C**	**0.39**	**307**		Pg	11 12 41.0	0.0
MCBM	**Casa Benchmark**	**0.40**	**312**		Pg	11 12 41.4	+0.3
TIN	**Tinemaha, Big**	**0.40**	**144**		Pb	11 12 42.0	-0.3
TIN	**Tinemaha, Big**	**0.40**	**144**		Sb	11 12 48.5	+0.1
MCSM	**Casa Diablo Ho**	**0.41**	**313**		Pg	11 12 41.6	+0.2
MEMM	**East Mammoth H**	**0.44**	**311**		Pg	11 12 42.1	+0.2
DSP	**Deep Springs**	**0.45**	**91**		Pg	11 12 42.2	+0.2
DSP					Sg	11 12 48.2	+0.4
DSP				IAML		11 12 48.9	
	comp=N,322nm,1.2s						
DSP				IAML		11 12 50.9	
	comp=E,420nm,1.1s						
MGNR	**McGee Canyon**	**0.46**	**343**		Pg	11 12 42.1	-0.1
MMLB	**Mammoth Lakes**	**0.46**	**308**		Pg	11 12 42.4	+0.2
MMPM	**Mammoth Pass**	**0.46**	**300**		Pg	11 12 42.3	0.0
MLIM	**Lincoln Peak**	**0.47**	**304**		Pg	11 12 42.7	+0.2
MDYM	**Dry Creek**	**0.48**	**306**		Pg	11 12 42.8	+0.2
MDYM					Sg	11 12 49.7	+0.7
MRDM	**Red Cones**	**0.48**	**298**		Pg	11 12 42.7	+0.1
LMCR	**Lookout Mounta**	**0.48**	**317**		Pg	11 12 43.2	+0.5
MINS	**Minaret Summit**	**0.51**	**303**		Pg	11 12 43.1	-0.1
MDCM	**Deadman Creek**	**0.53**	**309**		Pg	11 12 43.5	0.0
KCC	**Kaiser Creek**	**0.63**	**265**		Sg	11 12 53.8	0.0
KCC	**Kaiser Creek**	**0.63**	**265**		Pg	11 12 45.5	+0.1
LCH	**Last Change Ra**	**0.72**	**101**		Pb	11 12 47.4	-0.3
LCH					Sg	11 12 56.7	+0.1
LHV	**Little Huntoon**	**0.87**	**1**		Pg	11 12 49.9	-0.1
LHV				IAML		11 12 55.9	
	comp=N,310nm,1.1s						
LHV					Sg	11 13 01.3	-0.1
LHV				IAML		11 13 01.8	
	comp=E,338nm,1.0s						
MZP	**Montezuma Peak**	**0.96**	**70**		Pg	11 12 51.2	-0.6
MMIM	**Miami Mountain**	**0.97**	**273**		Pg	11 12 51.6	-0.3
GRAC	**Grapevine Rang**	**1.00**	**112**	Pg	Pg	11 12 51.2	-1.2
GRAC				IAML		11 13 04.5	
	comp=E,132nm,0.6s						
GMN	**Gold Mountain**	**1.01**	**94**	Pg	Pg	11 12 50.5	-2.2
FRI	**Friant**	**1.02**	**248**		Pb	11 12 52.5	-0.2
NV08	**Mina Array Sit**	**1.04**	**9**		Pg	11 12 52.7	-0.5
NVAR	**Mina Array Bea**	**1.06**	**10**		Pg	11 12 53.7	0.0
NV09	**Mina Array Sit**	**1.07**	**8**		Pb	11 12 53.2	-0.5
NV11	**Mina Array Sit**	**1.09**	**16**		Pb	11 12 53.8	-0.3
MHDM	**Hidden Dam**	**1.12**	**257**		Pb	11 12 54.5	0.0
TPH	**Tonopah**	**1.25**	**56**		Pg	11 12 57.9	+0.8
RYN	**Ryan**	**1.25**	**0**		Pg	11 12 57.1	-0.1
RYN				IAML		11 13 18.4	
	comp=N,128nm,1.1s						
RYN				IAML		11 13 22.2	
	comp=E,137nm,1.2s						
WAKR	**Walker**	**1.33**	**328**		Pn	11 12 57.3	-0.6
WAKR				IAML		11 13 05.9	
	comp=N,122nm,1.1s						
CMB	**Columbia Colle**	**1.61**	**295**	Pn	Pb	11 13 02.5	-0.4
CMB				IAML		11 13 22.9	
	comp=E,101nm,1.1s						
CMB				IAML		11 13 28.8	
	comp=N,40nm,0.3s						
WCT	**Wildcat Mounta**	**1.63**	**110**	Pn	Pn	11 13 01.5	-0.2
WCT				IAML		11 13 27.7	
	comp=E,63nm,0.5s						
WCT				IAML		11 13 48.5	
	comp=N,50nm,1.2s						
BAVM	**Antelope Valle**	**2.13**	**251**		Pn	11 13 08.9	+0.3
BBGB	**Big Mountain B**	**2.16**	**249**	Pn	Pn	11 13 09.1	0.0
MPK	**Martis Peak**	**2.25**	**329**	Pn	Pn	11 13 10.3	-0.2
MPK				IAML		11 13 51.6	
	comp=N,71nm,1.1s						
SAO	**San Andreas Ge**	**2.41**	**256**	Pn	Pn	11 13 13.7	+1.2
AFDM	**Forest Hills D**	**2.48**	**310**	Pn	Pn	11 13 13.4	-0.1
AFDM				IAML		11 13 55.4	
	comp=N,46nm,1.1s						
PASC	**Pasadena Art C**	**3.21**	**175**	Pn	Pn	11 13 24.1	+0.6
PASC				IAML		11 13 55.2	
	comp=N,35nm,1.0s						
PASC				IAML		11 14 55.2	
	comp=E,14nm,1.1s						
V12A	**Nelson**	**3.39**	**118**	Pn	Pn	11 13 26.6	+0.6
V12A				IAML		11 14 39.1	
	comp=E,32nm,1.1s						
CCUT	**Cedar City**	**4.11**	**86**	Pn	Pn	11 13 34.3	-1.7

GCG 05 11:18:31.7±2.8, 15˚.69N×91˚.08W, h1km±18km, MD4.0, ML3.4, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUEH	**Huehuetenango**	**0.55**	**227**	*e*S	Sb	11 18 51.1	-1.6
HUEH				IAML		11 18 59.9	
	comp=E,3μm,0.5s						
SOKI	**Kika Raxquin**	**0.92**	**200**	IAML		11 19 13.9	
	comp=E,680nm,0.6s						
CCIG	**Comitan**	**1.17**	**300**	*i* P	Pn	11 18 55.7	+0.3
CCIG				*i* S	Sn	11 19 14.0	+1.9
CCIG				IAML		11 19 20.1	
	comp=N,332nm,0.5s						
STG8	**El Palmar, Qui**	**1.26**	**192**	*i* P	Pg	11 18 51.5	-4.4
SMCA	**Catarina**	**1.27**	**229**	*i* P	Pb	11 18 56.2	-0.2
STG0	**El Palmar, Qui**	**1.28**	**191**	*i* P	Pg	11 18 52.2	-4.1
PETF	**Flores**	**1.69**	**44**	*e*P	Pn	11 19 00.4	-1.9
PETF				*i* S	Sn	11 19 23.1	-1.4
PETF				IAML		11 19 26.6	
	comp=N,1μm,0.5s						
NUBE	**Las Nubes**	**2.18**	**145**	*e*P	Pn	11 19 09.5	+0.2
TGIG		**2.24**	**299**	*i* P	Pn	11 19 10.6	+0.7
TGIG				*i* S	Sb	11 19 41.7	+0.5
TGIG				IAML		11 19 45.0	
	comp=E,112nm,0.5s						
SARH	**Santa Rosa de**	**2.42**	**112**	*e*P	Pn	11 19 13.9	+1.4
SARH				*i* S	Sg	11 19 48.0	-1.5

IDC ***05*** *11:26:04.7±0.5,37˚.20N×142˚.16E,h0km,mb4.5/25, mbtmp4.4/30,ML3.8/5,MS3.9/3,Error ellipse: s-maj=14.8km s-min=13.4km az=96.0*
JMA ***05*** *11:26:05.9±0.3,37˚.2N±0˚.7×14˚.2E±˚,h22km±4km, MD4.7/40,MV5.0/40,E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
NIED ***05*** *11:26:05.9,37˚.20N×142˚.26E,h22km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr5.54; Mθθ-0.55; Mφφ-4.99; Mrθ0.12; Mθφ0.67; Mφr3.76; Fault plane solution: M₀6.51000×10¹⁵ NP1: ϕs167.00000°,δs28.00000°,λ81.00000°. NP2: ϕs357.00000°,δ63.00000°,λ95.00000°.*
BJI ***05*** *11:26:07.4,37˚.24N×142˚.17E,h36km,mB4.8/15,mb4.8/59, Ms4.3/38,Ms7 4.2/37*
MOS ***05*** *11:26:08.4±1.1,37˚.23N×142˚.09E,h37km,mb5.0/59,Error ellipse: s-maj=6.7km s-min=4.3km az=117.5*
NEIC ***05*** *11:26:09.7,37˚.27N×142˚.10E,h26km*
NEIC ***05*** *11:26:10.9±1.9,37˚.28N±0˚.06×142˚.08E±0˚.09,h35km±1km, mb4.7/192,Mwr4.4/12,Error ellipse: s-maj=13.3km s-min=9.5km az=117.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.91; Mθθ1.25; Mφφ-3.16; Mrθ-1.10; Mθφ-0.54; Mφr3.49; Fault plane solution: M₀4.61000×10¹⁵ NP1:ϕs218.82000°,δ25.39000°, λ142.47000°. NP2:ϕs343.59000°,δ74.86000°,λ69.38000°. Principal axes: T 4.1947, Plg55.0000°, Azm228.0000°; N 0.7393, Plg20.0000°, Azm349.0000°; P -4.9340, Plg27.0000°, Azm90.0000°;*
BGR ***05*** *11:26:13.8,38˚.07N×142˚.87E,h33km,mb4.8*
ISC 05 11:26:09.3±0.6,37˚.25N±0˚.04×142˚.13E±0˚.04,h30km±3km, h30km:pP-P,n749,σ1§47/681,mb4.7/191,MS4.2/14, 14C-21D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.01**	**277**	⇓*i* P	**Pn**	**11 26 26.0**	**-1.5**
JFK				⇓*e*S	**Sn**	**11 26 40.8**	**+0.2**
JFK	**Kawauchi**	**1.01**	**277**	A	A	11 26 26.0	
	comp=N,9.0nm,0.7s,comp=E,20nm,0.8s						
ONAJ	**Iwakimizuishiy**	**1.07**	**263**	⇓P	**Pn**	**11 26 26.7**	**-1.7**
ONAJ				⇓*e*S	**Sb**	**11 26 43.4**	**+0.4**
ONAJ	**Iwakimizuishiy**	**1.07**	**263**	A	A	11 26 26.7	
	comp=N,26nm,0.3s,comp=E,48nm,0.4s						
JMST	**Minamisoumatoc**	**1.10**	**296**	⇓*i*P	**Pn**	**11 26 27.4**	**-1.2**
JMST	**Minamisoumatoc**	**1.10**	**296**	A	A	11 26 27.4	
	comp=N,11nm,1.7s,comp=E,14nm,1.9s						
JIKH	**Ishinomakikobu**	**1.18**	**334**	⇓*i*P	**Pn**	**11 26 28.5**	**-1.3**
JMM	**Marumori**	**1.23**	**301**		**Pn**	**11 26 29.5**	**-1.0**
JMM	**Marumori**	**1.23**	**301**	P	**Pn**	**11 26 29.6**	**-0.8**
JMM	**Marumori**	**1.23**	**301**	S	**Sn**	**11 26 44.6**	**-1.4**
JMM	**Marumori**	**1.23**	**301**	⇓*i*P	**Pn**	**11 26 29.4**	**-1.0**
JMM	**Marumori**	**1.23**	**301**	A	A	11 26 29.4	
	comp=N,19nm,0.6s,comp=E,25nm,0.3s						
JFFD	**Fukushimafurud**	**1.26**	**263**	A	A	11 26 29.9	
	comp=N,12nm,0.7s,comp=E,19nm,0.7s						
JIO	**Ouri**	**1.35**	**333**	⇓*i*P	**Pn**	**11 26 31.2**	**-1.0**
JIO	**Ouri**	**1.35**	**333**	A	A	11 26 31.2	
	comp=N,7.0nm,0.7s,comp=E,14nm,3.5s						
JHO	**Hitachi**	**1.40**	**244**	A	A	11 26 31.6	
	comp=N,10.0nm,0.8s,comp=E,12nm,0.8s						
JOTO	**OTAMA OYAMA**	**1.46**	**283**	*i* P	**Pn**	**11 26 33.6**	**-0.1**
JOTO	**OTAMA OYAMA**	**1.46**	**283**	A	A	11 26 33.6	
	comp=N,39nm,1.2s,comp=E,44nm,0.4s						
JHYU	**Hitachinakayam**	**1.53**	**234**	A	A	11 26 33.4	
	comp=N,9.0nm,2.1s,comp=E,9.0nm,0.9s						
JOU	**Okura**	**1.61**	**314**	⇓*i*P	**Pn**	**11 26 35.6**	**-0.1**
JOU	**Okura**	**1.61**	**314**	A	A	11 26 35.6	
	comp=N,40nm,2.5s,comp=E,40nm,0.7s						
JKMT	**Kesennumamotoy**	**1.64**	**342**	A	A	11 26 35.2	
	comp=N,8.0nm,0.6s,comp=E,6.0nm,4.1s						
JOFO	**Osakifurukawao**	**1.66**	**325**	A	A	11 26 35.9	
	comp=N,55nm,1.6s,comp=E,70nm,1.6s						
JYAR	**Yonezawaarcadi**	**1.71**	**293**	A	A	11 26 36.8	
	comp=N,78nm,1.2s,comp=E,50nm,1.0s						
JSB	**Shiboa**	**1.79**	**262**	A	A	11 26 37.6	
	comp=N,38nm,0.9s,comp=E,46nm,1.3s						
JIHU	**Itakohorinouch**	**1.82**	**226**	A	A	11 26 37.2	
	comp=N,29nm,2.2s,comp=E,35nm,4.7s						
JMK	**Ichinoseki**	**1.85**	**337**	*i* P	**Pn**	**11 26 38.7**	**-0.2**
JMK				*e*S	**Sn**	**11 27 02.6**	**+1.3**
JMK	**Ichinoseki**	**1.85**	**337**	A	A	11 26 38.7	
	comp=N,6.0nm,0.5s,comp=E,8.0nm,3.3s						
JYT	**Yasato**	**1.86**	**237**	A	A	11 26 38.1	
	comp=N,11nm,0.6s,comp=E,9.0nm,0.4s						
OFUJ	**Ofunato**	**1.86**	**349**	A	A	11 26 38.5	
	comp=N,4.0nm,0.6s,comp=E,6.0nm,2.1s						
JYS	**Shirataka**	**1.90**	**301**	P	**Pn**	**11 26 40.2**	**+0.5**
JYS	**Shirataka**	**1.90**	**301**	A	A	11 26 40.2	
	comp=N,24nm,1.0s,comp=E,29nm,0.8s						
JFY	**Yanaizu**	**1.94**	**275**	P	**Pn**	**11 26 40.2**	**0.0**
JFY				*e*S	**Sn**	**11 27 04.8**	**+1.3**
JFY	**Yanaizu**	**1.94**	**275**	A	A	11 26 40.2	
	comp=N,6.0nm,1.9s,comp=E,6.0nm,1.9s						
JSMT	**Sammumatsuo**	**2.10**	**221**	A	A	11 26 41.1	
	comp=N,26nm,3.1s,comp=E,22nm,2.3s						
JYK	**Kaneyama**	**2.17**	**321**	⇓*i*P	**Pn**	**11 26 43.6**	**+0.1**
JYK	**Kaneyama**	**2.17**	**321**	A	A	11 26 43.6	
	comp=N,6.0nm,2.4s,comp=E,5.0nm,2.6s						
JAG	**Ashikaga**	**2.30**	**250**	⇓*i*P	**Pn**	**11 26 44.2**	**-0.9**
JAG	**Ashikaga**	**2.30**	**250**	A	A	11 26 44.2	
	comp=N,5.0nm,1.4s,comp=E,4.0nm,0.8s						
JNS	**Sasagawa**	**2.31**	**285**	A	A	11 26 45.4	
	comp=N,4.0nm,2.7s,comp=E,4.0nm,2.3s						
JOM	**Ohasama**	**2.32**	**344**	A	A	11 26 45.1	
	comp=N,4.0nm,1.8s,comp=E,8.0nm,0.5s						
JYA	**Atsumi**	**2.33**	**306**	A	A	11 26 45.9	
	comp=N,8.0nm,0.6s,comp=E,11nm,0.7s						
JKT	**Katashina**	**2.35**	**259**	A	A	11 26 45.8	
	comp=N,6.0nm,2.7s,comp=E,5.0nm,2.4s						
JRG	**Rokugo**	**2.45**	**332**	A	A	11 26 47.1	
	comp=N,13nm,1.3s,comp=E,10.0nm,0.8s						
TOK	**Tokyo**	**2.46**	**232**	A	A	11 26 46.8	
	comp=N,20nm,0.9s,comp=E,18nm,1.6s						
JYYZ	**Yamagatayuza**	**2.47**	**316**	A	A	11 26 47.6	
	comp=N,19nm,1.6s,comp=E,17nm,2.4s						
JKUC	**kamogawauchiur**	**2.60**	**217**	A	A	11 26 48.4	
	comp=N,13nm,2.5s,comp=E,9.0nm,5.0s						
JSZI	**Iwateshizukuis**	**2.66**	**340**	A	A	11 26 50.0	
	comp=N,13nm,2.4s,comp=E,11nm,3.7s						
JIZZ	**Izumozaki**	**2.74**	**277**	A	A	11 26 51.6	
	comp=N,13nm,2.2s,comp=E,16nm,4.0s						
JYW	**Yuwa**	**2.74**	**327**	A	A	11 26 51.5	
	comp=N,15nm,2.2s,comp=E,14nm,1.9s						
JYO	**Yokosk**	**2.84**	**225**	A	A	11 26 51.9	
	comp=N,11nm,3.5s,comp=E,16nm,2.0s						
TATJ	**Tateyama 2**	**2.86**	**220**	A	A	11 26 52.1	
	comp=N,15nm,3.6s,comp=E,15nm,3.5s						
JSGW	**Sagamiharawaka**	**2.87**	**236**	A	A	11 26 52.6	
	comp=N,9.0nm,1.6s,comp=E,9.0nm,1.5s						
JGK	**Kuni**	**2.88**	**257**	A	A	11 26 53.3	
	comp=N,5.0nm,3.8s,comp=E,8.0nm,3.3s						
JKEN	**Kujiedanarisaw**	**2.97**	**354**	A	A	11 26 54.1	
	comp=N,11nm,0.7s,comp=E,11nm,1.2s						
JOD2	**Odawara 2**	**3.15**	**232**	A	A	11 26 56.6	
	comp=N,10.0nm,1.6s,comp=E,6.0nm,2.0s						
JJN	**Nakama**	**3.17**	**269**	A	A	11 26 57.6	
	comp=N,5.0nm,2.2s,comp=E,7.0nm,2.2s						
JSD	**Sado**	**3.17**	**286**	P	**Pn**	**11 26 58.5**	**+1.4**
MJAR	**Matsushiro Arr**	**3.22**	**259**		**Pn**	**11 26 58.7**	**+0.8**
MJAR	**Matsushiro Arr**	**3.22**	**259**	Pn	**Pn**	**11 26 58.2**	**+0.4**
	comp=E,4.2nm,0.3s,baz=81,slow=15,SNR=150						
MJAR				Sn	**Sn**	**11 27 37.9**	**+2.7**
	comp=E,6.8nm,0.3s,baz=81,slow=26,SNR=5.6						
MJAR				LR	LR	11 28 28.5	
	comp=E,3μm,18.9s,baz=122,slow=44 comp=E,92nm,0.6s						
MAJO	**Matsushiro**	**3.22**	**259**		**Pn**	**11 26 58.7**	**+0.9**
MAJO	**Matsushiro**	**3.22**	**259**	P	**Pn**	**11 26 58.8**	**+0.9**
MAJO	**Matsushiro**	**3.22**	**259**	*d* iP	**Pn**	**11 26 58.7**	**+0.9**
MJB9	**Matsu-Tunnel**	**3.22**	**259**		**Pn**	**11 26 58.9**	**+1.0**
JIM2	**Oshima 3**	**3.34**	**222**	A	A	11 26 59.0	
	comp=N,8.0nm,3.5s,comp=E,6.0nm,2.7s						
JYN	**Shimob**	**3.38**	**240**	A	A	11 26 60.0	
	comp=N,10.0nm,2.1s,comp=E,11nm,1.4s						
JNTW	**Noshirotokiwa**	**3.39**	**334**	A	A	11 27 00.5	
	comp=N,13nm,2.4s,comp=E,16nm,1.9s						
JHTM	**Izuhatsuma**	**3.41**	**229**	A	A	11 27 00.1	
	comp=N,14nm,1.1s,comp=E,11nm,2.6s						
JFNN	**Fujinakano**	**3.46**	**235**	A	A	11 27 00.9	
	comp=N,9.0nm,1.5s,comp=E,7.0nm,1.8s						
JOG3	**Oga3**	**3.58**	**319**	A	A	11 26 58.4	
	comp=N,5.0nm,4.5s,comp=E,5.0nm,2.3s						
JTM	**Tenmabayashi**	**3.63**	**347**		**Pn**	**11 27 04.2**	**+0.7**
JTM	**Tenmabayashi**	**3.63**	**347**	P	**Pn**	**11 27 06.6**	**+3.2**
JTM	**Tenmabayashi**	**3.63**	**347**	S	**Sn**	**11 27 48.1**	**+2.9**
SHZ3	**Shizuoka 3**	**3.85**	**237**	A	A	11 27 06.5	
	comp=N,7.0nm,1.3s,comp=E,6.0nm,1.1s						
JTT	**Ttatey**	**3.90**	**262**	A	A	11 27 07.8	
	comp=N,4.0nm,4.0s,comp=E,7.0nm,1.9s						
JNY	**Yasuok**	**3.93**	**243**	A	A	11 27 07.8	
	comp=N,9.0nm,1.6s,comp=E,7.0nm,2.8s						
JSI2	**Shiura 2**	**4.03**	**341**	A	A	11 27 09.4	
	comp=N,3.0nm,3.8s,comp=E,3.0nm,2.4s						
JAHD	**Aomorihigashid**	**4.06**	**352**	A	A	11 27 09.6	
	comp=N,7.0nm,0.8s,comp=E,7.0nm,0.9s						
JSG	**Sagara**	**4.10**	**232**		**Pn**	**11 27 10.6**	**+0.7**
JSG	**Sagara**	**4.10**	**232**	P	**Pn**	**11 27 13.1**	**+3.2**
JSG	**Sagara**	**4.10**	**232**	A	A	11 27 09.9	
	comp=N,6.0nm,3.3s,comp=E,7.0nm,2.5s						
JGF	**Kuroka**	**4.18**	**248**		**Pn**	**11 27 12.7**	**+1.6**
JGF	**Kuroka**	**4.18**	**248**	P	**Pn**	**11 27 13.5**	**+2.4**
JAO	**Obara**	**4.40**	**245**	A	A	11 27 14.6	
	comp=N,3.0nm,3.2s,comp=E,3.0nm,2.9s						
JHJ2	**Mitsune**	**4.54**	**205**	Pn	**Pn**	**11 27 16.3**	**+0.4**
INU	**Inuyama**	**4.54**	**247**		**Pn**	**11 27 16.2**	**+0.2**
INU	**Inuyama**	**4.54**	**247**	P	**Pn**	**11 27 18.3**	**+2.3**
ERM	**Erimo**	**4.83**	**9**		**Pn**	**11 27 19.3**	**-0.6**
ERM	**Erimo**	**4.83**	**9**	P	**Pn**	**11 27 23.4**	**+3.5**
ERM	**Erimo**	**4.83**	**9**	*e*P	**Pn**	**11 27 19.2**	**-0.6**
ERM				pmax	pmax		
	comp=Z,78nm,1.3s						
JEM	**Erimo**	**4.83**	**9**	P	**Pn**	**11 27 23.5**	**+3.6**
NMR	**Nemuro--Hokkai**	**6.71**	**23**	⇓*i*P	**Pn**	**11 27 42.6**	**-3.0**
ASAJ	**Asahikawa**	**6.87**	**3**	Pn	**Pn**	**11 27 47.2**	**-0.7**
	comp=Z,5.5nm,0.3s,baz=171,slow=6.3,SNR=59						
ASAJ				Sn	**Sn**	**11 29 02.5**	**-2.6**
	comp=Z,6.4nm,0.3s,baz=122,slow=19,SNR=6.7 comp=Z,13nm,0.3s						
ASAJ	**Asahikawa**	**6.87**	**3**	P	**Pn**	**11 27 46.6**	**-1.4

TYV smax smax
comp=E,7.0nm,1.2s
TYV smax smax
comp=N,400nm,5.5s
TYV smax smax
comp=E,300nm,5.5s
BNX BinXian 13.90 312 ⇑P **Pn 11 29 23.6 -0.6**
BNX pmax pmax
comp=E,5.0nm,1.3s
KLR Kul'dur 14.15 331 Pn **Pn 11 29 27.5 0.0**
comp=E,0.3nm,0.3s,baz=141,slow=16,SNR=4.0
comp=E,1.1nm,0.4s
CN2 Changchun 14.27 302 P **Pn 11 29 32.2 +3.1**
CN2 pmax pmax
comp=E,10.0nm,0.6s
CN2 LR LR
comp=E,200nm,14.0s
CN2 LR LR
comp=E,400nm,14.0s
CN2 LR LR
comp=E,300nm,16.0s
DL2 Dalian 16.23 282 P **Pn 11 29 53.0 -2.0**
DL2 S **Sn 11 32 49.2 -4.9**
DL2 pmax pmax
comp=E,57nm,0.8s
DL2 pmax pmax
comp=E,360nm,8.1s
DL2 LR LR
comp=E,430nm,13.3s
DL2 LR LR
comp=E,510nm,13.6s
DL2 LR LR
comp=E,530nm,14.1s
SKR Severo-Kuril's 16.75 32 *e*P Pn 11 29 54.1 -7.4
SKR *e*S **Sn 11 32 57.9 -8.5**
HEH HeiHe 16.75 326 *e*P **Pn 11 29 58.6 -3.0**
SSE Sheshan 18.37 257 P **P 11 30 20.7 -0.8**
SSE S **Sn 11 33 44.7 -1.3**
SSE pmax pmax
comp=E,9.0nm,0.6s
SSE pmax pmax
comp=E,67nm,3.5s
SSE LR LR
comp=E,140nm,14.1s
SSE LR LR
comp=E,240nm,14.9s
PEA0B Petropavlovsk- 19.22 29 P **P 11 30 31.2 +0.5**
PEA0B Petropavlovsk- 19.22 29 ⇓*i*P **P 11 30 31.2 +0.5**
PETK Petropavlovsk- 19.22 29 P **P 11 30 29.3 -1.5**
PETK Petropavlovsk- 19.22 29 P **P 11 30 31.2 +0.4**
comp=E,0.3nm,0.3s,baz=216,slow=12,SNR=6.9
comp=E,3.1nm,0.8s
PETK Petropavlovsk- 19.22 29 P **P 11 30 29.3 -1.5**
ZEA Zeya 19.44 333 *e*P **P 11 30 32.9 -0.3**
ZEA pmax pmax
comp=Z,20nm,0.6s
ZEA MLR MLR
comp=N,200nm,15.0s
ZEA MLR MLR
comp=E,100nm,15.0s
ZEA MLR MLR
comp=Z,200nm,18.0s
PET Petropavlovsk 19.54 31 *i*P **P 11 30 34.2 0.0**
PET pmax pmax
comp=Z,6.0nm,0.7s
TIA Tai'an 20.06 275 P **P 11 30 38.8 -1.2**
TIA pmax pmax
comp=Z,20nm,1.6s
TIA LR LR
comp=Z,520nm,13.4s
TIA LR LR
comp=Z,420nm,17.5s
TIA LR LR
comp=Z,660nm,14.7s
BJT Baijiatuau 20.45 286 P **P 11 30 43.0 -1.2**
BJT Baijiatuau 20.45 286 P **P 11 30 43.0 -1.2**
BJT pmax pmax
comp=Z,12nm,0.9s
YOJ Yonaguni jima 20.73 237 P **P 11 30 46.1 -1.2**
YOJ Yonaguni jima 20.73 237 P **P 11 30 46.2 -1.2**
YOJ pmax pmax
comp=Z,148nm,1.2s
XLT XiLinHaoTe 20.82 297 *e*P **P 11 30 45.7 -2.7**
XLT pP pP 11 30 54.6 -1.7
XLT sP sP 11 31 00.7 +0.7
XLT PP **PnPn 11 31 07.2 +0.2**
XLT pmax pmax
comp=Z,49nm,1.0s
XLT LR LR
comp=Z,39nm,12.8s
XLT LR LR
comp=Z,260nm,14.9s
XLT LR LR
comp=Z,380nm,15.7s
HNS HongShan 21.78 279 ⇓P **P 11 30 56.1 -2.5**
HNS pmax pmax
comp=Z,45nm,0.9s
HNS LR LR
comp=Z,500nm,15.3s
HNS LR LR
comp=Z,570nm,11.9s
SSLB Suanglung 22.58 240 P **P 11 31 05.8 -1.5**
YULB Yu-li 22.61 238 P **P 11 31 07.2 -0.4**
YULB IAmb IAmb 11 31 16.5
comp=Z,43nm,1.3s
MA2 Magadan 23.03 11 P **P 11 31 11.3 -0.4**
MA2 Magadan 23.03 11 *e*P **P 11 31 11.1 -0.6**
MA2 pmax pmax
comp=Z,6.0nm,0.8s
TPUB Ta-pu 23.12 239 P **P 11 31 11.6 -1.3**
TWG Pinlang 23.14 237 P **P 11 31 13.4 +0.3**
TWG IAmb IAmb 11 31 32.9
comp=Z,30nm,0.8s
HHC Hu-ho-hao-te 23.95 288 *e*P **P 11 31 20.7 -0.2**
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,62nm,6.1s
HHC LR LR
comp=Z,230nm,10.9s
HHC LR LR
comp=Z,290nm,10.8s
HHC LR LR
comp=Z,420nm,14.9s
WHN Wuhan 23.96 262 P **P 11 31 19.4 -1.5**
WHN S **S 11 35 27.7 -8.0**
WHN pmax pmax
comp=Z,72nm,0.6s
WHN LR LR
comp=Z,900nm,4.0s
WHN LR LR
comp=Z,1μm,12.5s
WHN LR LR
comp=Z,1μm,19.2s
LYN LuoYang 24.13 273 P **P 11 31 22.2 -0.4**
LYN pmax pmax
comp=Z,66nm,0.7s
CIT Chita 24.92 315 *e*P **P 11 31 30.5 +0.9**
CIT *e* 11 31 40.8
CIT *e* 11 32 06.4
CIT pmax pmax
comp=Z,135nm,1.5s
YAK Yakutsk 25.99 347 P **P 11 31 39.1 0.0**
YAK Yakutsk 25.99 347 *e*P **P 11 31 38.2 -0.9**
YAK *e**PP **pP 11 31 47.6 +0.1**
YAK *e*PPP PPP 11 32 25.7
YAK *e* 11 35 03.6
YAK *e*S **S 11 36 07.5 -0.1**
YAK *e**SS **sS 11 36 23.6 +1.9**
YAK *e*SS **SnSn 11 37 06.9 +0.9**
YAK *e*SSS SSS 11 37 23.5
YAK pmax pmax
comp=Z,32nm,0.9s
YAK pmax pmax
comp=N,13nm,2.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,125nm,4.3s
YAK pmax pmax
comp=N,105nm,3.3s
YAK pmax pmax
comp=E,117nm,5.2s
YAK smax smax
comp=E,166nm,4.3s
YAK smax smax
comp=N,111nm,4.2s
SEY Seymchan 26.47 11 ⇓*i*P **P 11 31 45.1 +1.6**
SEY pmax pmax
comp=Z,20nm,1.5s
SMY Shemya 27.11 45 P **P 11 31 49.9 +0.6**
SMY Shemya 27.11 45 P **P 11 31 49.9 +0.6**
SMY pmax pmax
comp=Z,85nm,1.3s
ULN Ulaanbaatar 27.71 304 **P 11 31 55.7 +0.7**
ULN IAmb IAmb 11 31 56.5
comp=Z,29nm,1.4s
ULN Ulaanbaatar 27.71 304 *c i*P **P 11 31 55.5 +0.5**
ULN pmax pmax
comp=Z,23nm,1.5s
H11N2 WAKE ISLAND Hy 27.77 122 T T 12 01 06.0
baz=315,slow=75,SNR=646
H11N1 WAKE ISLAND Hy 27.78 122 T T 12 01 07.3
baz=315,slow=75,SNR=671
H11N3 WAKE ISLAND Hy 27.79 122 T T 12 01 10.6
baz=315,slow=75,SNR=714
ENH Enshi 27.92 265 **P 11 31 56.5 -0.4**
SONM Songino Array 28.14 303 **P 11 31 59.4 +0.6**
SONM IAmb IAmb 11 32 00.5
comp=Z,20nm,0.8s
SONM Songino Array 28.14 303 P **P 11 31 59.3 +0.5**
comp=Z,18nm,0.8s,baz=101,slow=8.8,SNR=62
SONM PcP **PcP 11 35 13.3 +1.1**
comp=Z,0.8nm,0.6s,baz=126,slow=2.5,SNR=2.0
comp=Z,18nm,0.8s
H11S1 WAKE ISLAND Hy 28.50 124 T T 12 02 01.4
baz=316,slow=76,SNR=495
H11S3 WAKE ISLAND Hy 28.50 124 T T 12 02 01.4
baz=316,slow=76,SNR=522
H11S2 WAKE ISLAND Hy 28.52 124 T T 12 02 07.2
baz=316,slow=76,SNR=548
ZAK Zakamensk 30.59 308 *e*P **P 11 32 20.1 -0.3**
ZAK pmax pmax
comp=Z,15nm,1.2s
LZH Lanzhou 30.59 280 *e*P **P 11 32 20.6 -0.1**
LZH pP pP 11 32 26.7 -2.5
LZH pmax pmax
comp=Z,20nm,1.1s
LZH LR LR
comp=Z,260nm,15.5s
LZH LR LR
comp=Z,460nm,15.5s
LZH LR LR
comp=Z,510nm,16.2s
MOY Mondy 32.24 310 *e*P **P 11 32 35.1 +0.1**
MOY pmax pmax
comp=Z,16nm,1.5s
GTA Gaotai 33.05 287 *e*P **P 11 32 42.7 +0.5**
GTA sP pP 11 32 52.0 +1.3
GTA PcP **PcP 11 35 26.8 +1.5**
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA LR LR
comp=Z,190nm,14.9s
GTA LR LR
comp=Z,220nm,16.7s
GTA LR LR
comp=Z,240nm,16.0s
BILL Bilibino 33.66 16 *c e*P **P 11 32 47.5 +0.5**
BILL pmax pmax
comp=Z,9.0nm,1.2s
TIXI Tiksi 35.15 353 P **P 11 32 59.9 +0.1**
TIXI IAmb IAmb 11 33 25.4
comp=Z,11nm,1.2s
TIXI Tiksi 35.15 353 P **P 11 32 59.9 +0.1**
TIXI pmax pmax
comp=Z,11nm,1.2s
KMI Kunming 35.56 262 ⇓P **P 11 33 04.3 +0.1**
KMI pP pP 11 33 12.2 -0.5
KMI pmax pmax
comp=Z,35nm,0.8s
KMI LR LR
comp=Z,210nm,11.3s
KMI LR LR
comp=Z,270nm,13.5s
KMI LR LR
comp=Z,270nm,14.8s
PZH PanZhiHua 35.69 264 P **P 11 33 06.7 +1.5**
SPIA Saint Paul Isl 37.02 42 P **P 11 33 16.5 +0.5**
baz=258
NIKH Nikolski High 37.20 49 P **P 11 33 17.5 -0.1**
baz=265
GAMB Gambell 38.24 31 P **P 11 33 26.3 +0.1**
baz=248
KKM Kota Kinabalu 39.03 224 P **P 11 33 32.5 -0.9**
KKM IAmb IAmb 11 33 50.1
comp=Z,12nm,1.1s
UBPT Khong Chiam 39.14 246 P **P 11 33 32.6 -1.7**
UBPT IAmb IAmb 11 33 46.0
comp=Z,14nm,1.0s
M11K Mekoryuk 39.75 38 P **P 11 33 39.9 +1.1**
baz=258
TOLI2 Tolitoli 41.00 214 P **P 11 33 48.7 -1.0**
S12K Black Hills 41.35 45 P **P 11 33 53.1 +0.9**
baz=268
J14K Nanvaranak Lak 41.47 34 P **P 11 33 54.3 +1.2**
baz=258
G15K Niukluk 41.78 31 P **P 11 33 56.3 +0.7**
baz=255
M14K Bethel 41.87 38 P **P 11 33 57.2 +0.8**
baz=262
CHTO Chiang Mai 41.90 256 **P 11 33 56.8 -0.3**
CHTO Chiang Mai 41.90 256 P **P 11 33 56.8 -0.3**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
N14K Kuskokwak Cree 41.90 39 P **P 11 33 57.3 +0.7**
baz=263
CMAR Chiang Mai Arr 42.10 256 P **P 11 33 58.0 -0.8**
CMAR Chiang Mai Arr 42.10 256 P **P 11 33 58.7 -0.1**
comp=Z,1.8nm,0.6s,baz=54,slow=7.2,SNR=10
CMAR PcP **PcP 11 35 54.2 +1.1**
comp=Z,0.8nm,0.4s,baz=65,slow=4.8,SNR=2.4
comp=Z,1.8nm,0.6s
CMAR Chiang Mai Arr 42.10 256 P **P 11 33 58.0 -0.8**
ZAA0 Zalesovo Array 42.19 312 **P 11 33 59.6 +0.5**
ZAA0 IAmb IAmb 11 34 00.4
comp=Z,14nm,0.9s
ZALV Zalesovo Beam 42.19 312 P **P 11 33 59.6 +0.5**
comp=Z,13nm,0.9s,baz=85,slow=7.2,SNR=31
ZALV PcP **PcP 11 35 53.2 +0.4**
comp=Z,1.2nm,0.6s,baz=118,slow=2.1,SNR=1.9
comp=Z,13nm,0.9s
C16K Lisburne Hills 42.26 26 P **P 11 34 01.2 +1.7**
K15K Wolf Creek Mou 42.31 35 P **P 11 34 01.9 +1.9**
K15K Wolf Creek Mou 42.31 35 P **P 11 34 00.2 +0.2**
baz=261
M15K Kasigluk River 42.48 38 P **P 11 34 02.0 +0.6**
baz=263
ZSN Zaisan 42.65 303 *e*P **P 11 34 02.8 -0.1**
ZSN Zaisan 42.65 303 *e*P **P 11 34 02.9 -0.1**
N15K Kwethluk River 42.72 39 P **P 11 34 04.7 +1.4**
O15K Ungalikthiuk R 42.77 40 P **P 11 34 04.9 +1.2**
O15K IAmb IAmb 11 34 15.3
comp=Z,14nm,1.2s
O15K Ungalikthiuk R 42.77 40 P **P 11 34 04.1 +0.4**
baz=266
D17K Noatak River 42.89 27 P **P 11 34 05.2 +0.6**
baz=253
RDOG Red Dog Mine 43.06 27 P **P 11 34 06.3 +0.4**
baz=253
C17K DeLong Mountai 43.09 26 P **P 11 34 06.3 +0.1**
baz=252
L16K Owhat River 43.19 36 P **P 11 34 08.0 +0.9**
L16K Owhat River 43.19 36 P **P 11 34 07.9 +0.8**
baz=263
F17K Baldwin Pennin 43.26 29 P **P 11 34 08.5 +1.0**
baz=257
G17K Kiwalik Mounta 43.29 31 P **P 11 34 08.4 +0.6**
baz=258
NRIK Noril'sk 43.31 335 P **P 11 34 07.5 -0.5**
NRIK Noril'sk 43.31 335 P **P 11 34 07.5 -0.5**
NRIK pmax pmax
comp=Z,8.0nm,0.9s
M16K Timber Creek 43.36 37 P **P 11 34 10.2 +1.7**
M16K Timber Creek 43.36 37 P **P 11 34 09.8 +1.3**
baz=264
N16K Nishlik Lake 43.41 38 P **P 11 34 09.6 +0.7**
baz=265
CHGN Chignik 43.41 44 P **P 11 34 10.0 +1.1**
baz=270
J17K VABM Dome 43.59 34 P **P 11 34 12.4 +2.1**
J17K VABM Dome 43.59 34 P **P 11 34 11.7 +1.3**
baz=262
O16K Kokwok River B 43.68 40 P **P 11 34 12.9 +1.8**
O16K Kokwok River B 43.68 40 P **P 11 34 12.5 +1.4**
baz=267
P16K Nushagak River 43.70 40 P **P 11 34 12.8 +1.6**
baz=268
E18K Tukpahlearik C 43.73 28 P **P 11 34 12.7 +1.3**
E18K Tukpahlearik C 43.73 28 P **P 11 34 13.5 +2.0**
baz=256
L17K Donlin 43.79 36 P **P 11 34 12.9 +1.0**
baz=264
C18K Utukok River 43.83 26 P **P 11 34 13.5 +1.2**
baz=254
K17K Iditarod 43.85 35 P **P 11 34 14.9 +2.5**
K17K Iditarod 43.85 35 P **P 11 34 13.3 +0.9**
baz=263
F18K Selawik 43.91 29 P **P 11 34 13.2 +0.4**
baz=258
SHL Shillong 43.98 270 **P 11 34 11.5 -2.6**
SHL IAmb IAmb 11 34 15.7
comp=Z,10nm,0.7s
SHL Shillong 43.98 270 P **P 11 34 11.5 -2.6**
SHL pmax pmax
comp=Z,10.0nm,0.7s
M17K Holitna River 44.13 37 P **P 11 34 15.5 +0.8**
M17K Holitna River 44.13 37 P **P 11 34 14.5 -0.2**
baz=266
H18K Honhosa River 44.17 32 P **P 11 34 15.9 +0.9**
baz=261
G18K Tagagawik 44.17 30 P **P 11 34 15.7 +0.7**
G18K Tagagawik 44.17 30 P **P 11 34 16.6 +1.7**
baz=260
N17K Nushagak Hills 44.19 38 P **P 11 34 16.8 +1.6**
baz=267
O17K Koliganek Bris 44.20 39 P **P 11 34 16.8 +1.6**
baz=268
A19K Wainwright 44.32 24 P **P 11 34 17.4 +1.4**
baz=253
Q16K King Simon 44.39 41 P **P 11 34 18.0 +1.3**
baz=269
MK31 Makanchi Array 44.49 302 *c e*P **P 11 34 18.1 +0.3**
MKAR Makanchi Array 44.49 302 **P 11 34 18.0 +0.2**
MKAR Makanchi Array 44.49 302 P **P 11 34 18.0 +0.2**
comp=Z,13nm,0.8s,baz=82,slow=9.6,SNR=52
comp=Z,13nm,0.8s
MKAR Makanchi Array 44.49 302 P **P 11 34 18.0 +0.2**
P17K Kvichak River 44.51 40 P **P 11 34 19.0 +1.3**
baz=269
C19K Lookout Ridge 44.52 26 P **P 11 34 18.6 +0.8**
baz=256
R17L Mt. Peulik Vol 44.54 42 P **P 11 34 18.4 +0.4**
baz=270
PLK4 Peulik 4 44.54 42 P **P 11 34 18.7 +0.6**
PLK4 IAmb IAmb 11 34 39.6
comp=Z,8.7nm,0.8s
L18K Granite Mounta 44.55 36 P **P 11 34 19.6 +1.6**
baz=265
J18K Innoko River 44.65 34 P **P 11 34 20.1 +1.3**
baz=264
F19K Shaleruckik Mo 44.69 29 P **P 11 34 20.4 +1.4**
baz=260
MAKZ Makanchi 44.70 302 **P 11 34 20.0 +0.5**
MAKZ Makanchi 44.70 302 P **P 11 34 20.0 +0.5**
MAKZ pmax pmax
comp=Z,20nm,1.0s
GCSA Galena City Sc 44.73 32 P **P 11 34 20.8 +1.4**
baz=263
Q17K Contact Creek 44.79 41 P **P 11 34 21.0 +0.9**
baz=270
N18K Kilae Creek 44.84 38 **P 11 34 22.8 +2.5**
N18K IAmb IAmb 11 34 32.4
comp=Z,4.9nm,0.7s
N18K Kilae Creek 44.84 38 P **P 11 34 21.8 +1.5**
baz=268
G19K Purcell Mounta 44.85 30 P **P 11 34 22.1 +1.7**
G19K Purcell Mounta 44.85 30 P **P 11 34 22.3 +2.0**
baz=261
M18K Stony River 44.91 37 P **P 11 34 22.1 +1.2**
baz=267
H19K Roundabout Mou 45.02 31 **P 11 34 23.7 +2.0**
H19K IAmb IAmb 11 34 32.7
comp=Z,11nm,1.2s
H19K Roundabout Mou 45.02 31 P **P 11 34 23.0 +1.3**
baz=262
ACHA Angle Creek He 45.08 42 P **P 11 34 22.8 +0.3**
P18K Big Mountain, 45.13 40 P **P 11 34 23.9 +1.1**
P18K IAmb IAmb 11 34 34.4
comp=Z,21nm,1.4s
P18K Big Mountain, 45.13 40 P **P 11 34 23.7 +1.0**
baz=270
O18K Koktuh Hills 45.15 39 P **P 11 34 23.4 +0.6**
O18K IAmb IAmb 11 34 34.9
comp=Z,15nm,1.3s
O18K Koktuh Hills 45.15 39 P **P 11 34 24.4 +1.6**
baz=269
J19K Poorman 45.19 33 **P 11 34 24.5 +1.4**
J19K Poorman 45.19 33 P **P 11 34 24.3 +1.2**
baz=265
Q18K Katmai Hardscr 45.25 41 P **P 11 34 25.2 +1.4**
baz=270
SEM Semipalatinsk 45.27 307 *e*P **P 11 34 23.7 -0.5**
SEM pmax pmax
comp=Z,9.0nm,0.8s
SEM Semipalatinsk 45.27 307 *e*P **P 11 34 23.7 -0.5**
comp=Z,9.3nm,0.8s
L19K White Mountain 45.41 36 P **P 11 34 26.9 +2.1**
L19K White Mountain 45.41 36 P **P 11 34 26.4 +1.5**
baz=267
D20K Etivluk River 45.48 27 P **P 11 34 27.2 +1.9**
baz=259
F20K Avaraart Lake 45.52 29 P **P 11 34 27.3 +1.7**
baz=261
N19K Bonanza Creek 45.53 38 P **P 11 34 27.4 +1.5**
baz=269
E20K Nigu River 45.55 27 P **P 11 34 27.9 +1.9**
baz=260
B20K Meade River 45.56 25 P **P 11 34 27.2 +1.3**
baz=257
O19K Port Alsworth 45.60 39 P **P 11 34 28.0 +1.6**
baz=270
M19K Big River Lodg 45.61 36 P **P 11 34 27.7 +1.2**
baz=268
H20K Anotleneega Mo 45.66 31 P **P 11 34 28.9 +2.1**
baz=264
SII Sitkinak Islan 45.76 44 P **P 11 34 29.5 +1.8**
baz=273
I20K Naaghedeneel 45.76 32 P **P 11 34 29.4 +1.9**
baz=265
K20K Telida 45.83 34 **P 11 34 29.5 +1.3**
K20K Telida 45.83 34 P **P 11 34 29.9 +1.7**
baz=267,SNR=5.7
J20K Nowinta River 45.85 33 **P 11 34 30.4 +2.1**
J20K Nowinta River 45.85 33 P **P 11 34 29.9 +1.6**
baz=266
L20K Farewell, AK 45.87 36 P **P 11 34 30.4 +1.9**
baz=268
Q19K Cape Douglas, 45.95 41 P **P 11 34 30.0 +0.8**
baz=271
A21K Barrow 46.04 23 P **P 11 34 31.8 +2.2**
baz=256
KSM Kuching 46.11 227 **P 11 34 32.2 +1.3**
KSM IAmb IAmb 11 34 33.0
comp=Z,11nm,0.8s
P19K Oil Pt 46.15 40 P **P 11 34 32.4 +1.6**
baz=271
M20K Styx River 46.20 36 P **P 11 34 32.7 +1.5**
baz=269
C21K Knifeblade Rid 46.21 26 P **P 11 34 33.1 +2.0**
baz=260
OHAK Old Harbor 46.21 43 P **P 11 34 33.1 +1.9**
baz=273
KURK Kurchatov 46.25 308 **P 11 34 31.8 +0.2**
KURK Kurchatov 46.25 308 *c e*P **P 11 34 31.6 0.0**
KURK pmax pmax
comp=Z,43nm,0.8s
KURBB Kurchatov Arra 46.32 308 P **P 11 34 32.2 0.0**
comp=Z,20nm,0.5s,baz=82,slow=8.3,SNR=95
comp=Z,20nm,0.5s
G21K Allakaket 46.33 30 P **P 11 34 33.9 +1.8**
baz=264
B21K Ikpikpuk River 46.35 26 P **P 11 34 34.4 +2.3**
baz=260
F21K Alatna River 46.41 29 P **P 11 34 34.9 +2.2**
baz=263
O20K Slope Mountain 46.45 39 P **P 11 34 34.9 +1.7**
baz=271
A22K Sinclair Lake 46.49 24 P **P 11 34 35.6 +2.4**

baz=258
H21K **Melozitna Rive** 46.53 31 P P 11 34 35.6 +1.9
baz=266
KDAK **Kodiak Island** 46.56 42 LR LR 11 53 30.3
comp=Z,214nm,19.3s,baz=48,slow=35
KDAK **Kodiak Island** 46.56 42 *i* P P 11 34 34.6 +0.7
KDAK pmax pmax
comp=Z,5.0nm,0.9s
KDAK **Kodiak Island** 46.56 42 P P 11 34 35.8 +1.9
baz=273
Q20K **Shuyak Island** 46.62 41 P P 11 34 36.3 +1.9
baz=273
CHUM **Lake Minchumin** 46.64 34 P P 11 34 36.2 +1.7
baz=268
N20K **Mount Spurr** 46.64 37 P P 11 34 36.7 +2.0
baz=270
SPCR **Spurr Chakacha** 46.64 37 P P 11 34 36.5 +1.8
baz=270
PPLA **Purkeypile** 46.67 35 P P 11 34 35.8 +0.8
PPLA IAmb IAmb 11 34 46.5
comp=Z,8.8nm,1.1s
PPLA **Purkeypile** 46.67 35 P P 11 34 36.6 +1.6
baz=269
SPU **Mount Spurr** 46.72 37 P P 11 34 36.8 +1.6
SPU IAmb IAmb 11 34 51.6
comp=Z,6.1nm,1.0s
CAST **Castle Rocks** 46.73 34 P 11 34 36.5 +1.2
CAST **Castle Rocks** 46.73 34 P P 11 34 36.9 +1.7
baz=268
B22K **Teshekpuk Lake** 46.88 25 P P 11 34 37.8 +1.6
baz=261
D22K **Ayikyak River** 46.92 27 P P 11 34 38.6 +1.9
baz=263
EVN **Everest** 46.94 275 P 11 34 36.3 -1.8
KAPI **Kappang** 46.94 211 P P 11 34 38.0 +0.6
KAPI **Kappang** 46.94 211 *c i* P P 11 34 37.8 +0.4
KAPI pmax pmax
comp=Z,40nm,1.5s
F22K **John River** 46.95 29 P P 11 34 38.8 +1.9
baz=264
HOM **Homer** 46.96 39 P P 11 34 38.2 +1.2
baz=272
SKT **Skwentna** 46.96 36 P P 11 34 38.4 +1.3
baz=270
H22K **Ishtalitna Cre** 47.14 31 P P 11 34 40.7 +2.2
baz=267
E22K **Anaktuvuk Pass** 47.15 28 P 11 34 40.0 +1.5
E22K IAmb IAmb 11 34 55.5
comp=Z,6.6nm,0.9s
E22K **Anaktuvuk Pass** 47.15 28 P P 11 34 40.2 +1.7
baz=264
G22K **Bettles** 47.16 30 P P 11 34 40.1 +1.6
baz=266
CAPN **Captain Cook N** 47.16 38 P P 11 34 40.2 +1.6
baz=272
BPAW **Bear Paw Mtn.** 47.23 33 P P 11 34 40.7 +1.5
BPAW **Bear Paw Mtn.** 47.23 33 P P 11 34 40.7 +1.5
baz=269
SHLS **Shalkode** 47.24 298 *e*P P 11 34 37.2 -2.5
SHLS **Shalkode** 47.24 298 *e*P P 11 34 37.2 -2.5
KTH **Kantishna Hill** 47.25 34 IAmb IAmb 11 34 49.1
comp=Z,11nm,1.3s
SUA **Susitna One** 47.34 37 P P 11 34 41.7 +1.5
baz=271
MLY **Manley** 47.37 32 P P 11 34 40.5 +0.2
MLY **Manley** 47.37 32 P P 11 34 42.1 +1.8
baz=268
TDK **Taldyqorghan** 47.52 300 *e*P P 11 34 41.7 +0.1
TDK pmax pmax
comp=Z,11nm,0.7s
TDK **Taldyqorghan** 47.52 300 *e*P P 11 34 41.8 +0.1
comp=Z,11nm,0.7s
TRF **Thorofare Moun** 47.53 34 P P 11 34 43.5 +1.8
baz=270
CUT **Chulitna** 47.55 36 P P 11 34 43.3 +1.7
baz=271
D23K **Nanushuk River** 47.65 27 P P 11 34 43.9 +1.6
baz=264
COLD **Coldfoot** 47.69 29 P P 11 34 44.2 +1.6
baz=267
G23K **Bananza Creek** 47.73 30 P P 11 34 44.9 +1.9
baz=267
C23K **Itkillik River** 47.76 26 P P 11 34 44.7 +1.5
baz=264
RC01 **Rabbit Creek A** 47.84 37 P P 11 34 45.8 +1.9
baz=273
O22K **Cooper Landing** 47.88 38 P P 11 34 46.1 +1.9
baz=273
H23K **Yukon River** 47.89 31 IAmb IAmb 11 34 55.9
comp=Z,9.5nm,1.2s
H23K **Yukon River** 47.89 31 P P 11 34 46.0 +1.8
baz=268,SNR=5.2
I23K **Minto, Yukon-K** 47.95 32 P P 11 34 46.3 +1.6
baz=269
E23K **Chandalar** 47.96 28 IAmb IAmb 11 34 57.6
comp=Z,9.2nm,1.0s
E23K **Chandalar** 47.96 28 P P 11 34 46.4 +1.5
baz=266,SNR=7.1
TOLK **Toolik Lake Re** 48.02 27 P P 11 34 46.5 +1.2
baz=266
SEW **Seward** 48.04 39 P P 11 34 46.2 +0.8
baz=274
NEA2 **Nenana** 48.07 33 P P 11 34 45.5 -0.1
NEA2 IAmb IAmb 11 34 57.4
comp=Z,5.7nm,1.0s
NEA2 **Nenana** 48.07 33 P P 11 34 47.2 +1.6
baz=270
PMR **Palmer** 48.11 37 P P 11 34 45.9 -0.1
PMR IAmb IAmb 11 34 55.9
comp=Z,6.8nm,1.1s
PMR **Palmer** 48.11 37 P P 11 34 45.9 -0.1
PMR pmax pmax
comp=Z,7.0nm,1.1s
PMR **Palmer** 48.11 37 P P 11 34 46.8 +0.8
baz=273
MCK **McKinley** 48.14 34 P P 11 34 47.2 +0.9
baz=271
GHO **Glory Hole Cre** 48.20 37 IAmb IAmb 11 34 59.1
comp=Z,7.7nm,0.8s
D24K **Happy Valley** 48.33 27 P P 11 34 47.5 -0.1
D24K IAmb IAmb 11 35 02.5
comp=Z,7.1nm,0.9s
D24K **Happy Valley** 48.33 27 P P 11 34 49.1 +1.6
baz=266
WAT1 **Susitna Watana** 48.33 35 P P 11 34 49.1 +1.4
baz=272
E24K **Your Creek** 48.39 28 P P 11 34 47.2 -0.9
E24K IAmb IAmb 11 35 00.9
comp=Z,10nm,1.4s
E24K **Your Creek** 48.39 28 P P 11 34 50.0 +1.8
baz=267
C24K **Franklin Bluff** 48.41 26 P P 11 34 48.4 +0.3
C24K **Franklin Bluff** 48.41 26 P P 11 34 49.6 +1.4
baz=266
KNK **Knik Glacier** 48.44 37 P P 11 34 49.9 +1.3
baz=273
WRH **Wood River Hil** 48.50 33 P P 11 34 50.1 +1.2
WRH PcP PcP 11 36 14.3 -0.2
PWL **Port Wells** 48.54 38 P P 11 34 50.8 +1.5
baz=274
H24K **Noodor Dome** 48.58 31 P P 11 34 50.9 +1.3
H24K **Noodor Dome** 48.58 31 P P 11 34 51.1 +1.5
baz=270
COLA **College** 48.59 32 P P 11 34 51.2 +1.5
baz=271
F24K **Squaw Lake** 48.60 29 P P 11 34 51.0 +1.3
baz=268
CCB **Clear Creek Bu** 48.62 33 P P 11 34 49.5 -0.3
WAT6 **Susitna Watana** 48.72 35 P P 11 34 51.3 +0.4
baz=273
G24K **Hadweenzic Riv** 48.74 30 P P 11 34 51.6 +0.8
baz=270
POKR **Poker Plat Res** 48.77 32 P P 11 34 52.2 +1.2
baz=271
M23K **Glacier View** 48.77 36 P P 11 34 52.0 +0.9
baz=274
DHY **Denali Highway** 48.86 35 P P 11 34 52.9 +1.0
baz=273
SCM **Sheep Creek Mo** 48.96 36 P P 11 34 52.9 +0.3
baz=274
HDA **Harding Lake** 48.99 33 P P 11 34 53.2 +0.4
baz=272
IL31 **49.01** 32 P P 11 34 53.3 +0.5
IL31 IAmb IAmb 11 35 03.6
comp=Z,4.3nm,0.8s
ILAR **Eielson Array** 49.01 32 P P 11 34 53.6 +0.7
comp=Z,1.7nm,0.8s,baz=275,slow=7.9,SNR=25
comp=Z,1.7nm,0.8s
AAA **Alma-Ata** 49.02 298 *e*P P 11 34 53.2 -0.1
AAA **Alma-Ata** 49.02 298 *e*P P 11 34 53.3 -0.1
TNSS **Tian-Shan** 49.05 298 *e*P P 11 34 53.3 -0.7
TNSS **Tian-Shan** 49.05 298 *e*P P 11 34 53.3 -0.7
KDJ **Kajisay** 49.15 297 P P 11 34 54.4 -0.1
KDJ IAmb IAmb 11 35 08.0
comp=Z,5.9nm,0.6s
KDJ **Kajisay** 49.15 297 P P 11 34 54.4 -0.1
KDJ pmax pmax
comp=Z,6.0nm,0.6s
D25K **Kavik River** 49.21 26 IAmb IAmb 11 35 08.8
comp=Z,9.6nm,0.9s
D25K **Kavik River** 49.21 26 P P 11 34 55.7 +1.3
baz=268
G25K **Bearman Lake** 49.29 30 P P 11 34 56.5 +1.6
baz=271
H25L **Birch Creek** 49.41 30 P P 11 34 57.7 +1.8
baz=272
F25K **Christian Rive** 49.46 29 P P 11 34 58.2 +1.8
baz=270
M24K **Tolsona, Glenn** 49.48 36 P P 11 34 57.8 +1.2
baz=275
E25K **Arctic Village** 49.48 28 IAmb IAmb 11 35 22.9
comp=Z,5.6nm,1.1s
E25K **Arctic Village** 49.48 28 P P 11 34 57.9 +1.4
baz=270
K24K **Donnelly Dome** 49.54 34 P P 11 34 57.7 +0.7
baz=274
PRP **Porcupine Dome** 49.56 31 P P 11 34 57.8 +0.6
baz=272
KLU **Klutina** 49.65 37 P P 11 34 59.3 +1.4
baz=276
Q23K **Middleton Isla** 49.66 39 P P 11 34 58.0 +0.1
baz=277
J25K **Salcha River,** 49.67 33 P P 11 34 59.0 +1.1
baz=273
C26K **Camden Bay** 49.73 26 P P 11 34 60.0 +1.7
baz=269
PAX **Paxson** 49.73 35 P P 11 34 59.7 +1.2
baz=275
IPM **Ipoh** 49.74 239 P P 11 34 57.9 -1.2
DIV **Divide** 49.76 37 P P 11 34 59.8 +1.0
EYAK **Cordova Ski Ar** 49.83 38 P P 11 35 00.7 +1.5
baz=276
BMAR **Burnt Mountain** 49.87 29 P P 11 35 00.4 +1.0
BOOM **Boomskoye usch** 49.92 298 P P 11 34 59.2 -1.1
BOOM IAmb IAmb 11 35 12.6
comp=Z,7.4nm,0.7s
BOOM **Boomskoye usch** 49.92 298 P P 11 34 59.2 -1.1
BOOM pmax pmax
comp=Z,7.0nm,0.7s
RIDG **Independent Ri** 49.95 34 P P 11 35 01.0 +0.9
baz=274
F26K **Sheenjek River** 50.03 29 IAmb IAmb 11 35 14.4
comp=Z,5.8nm,0.9s
F26K **Sheenjek River** 50.03 29 P P 11 35 02.3 +1.6
baz=272,SNR=7.9
BRZS **Berezniki** 50.13 308 *e*P P 11 35 01.4 -0.2
BRZS **Berezniki** 50.13 308 *e*P P 11 35 01.5 -0.2
C27K **Jago River** 50.15 26 IAmb IAmb 11 35 14.6
comp=Z,11nm,1.4s
C27K **Jago River** 50.15 26 P P 11 35 03.4 +1.9
baz=271
G26K **Porcupine Rive** 50.20 30 IAmb IAmb 11 35 16.0
comp=Z,9.5nm,1.5s
G26K **Porcupine Rive** 50.20 30 P P 11 35 03.4 +1.6
baz=273
N25K **Chitina, Valde** 50.27 37 P P 11 35 03.8 +1.2
baz=276
SCRK **Sand Creek** 50.31 33 P 11 35 03.5 +0.5
SCRK IAmb IAmb 11 35 21.0
comp=Z,10nm,1.5s
SCRK **Sand Creek** 50.31 33 P P 11 35 03.9 +1.0
baz=275
BMRM **Bremner River** 50.34 37 P P 11 35 04.2 +1.1
baz=277
J26L **Joseph Creek** 50.45 33 P P 11 35 04.8 +0.8
baz=275
BTLS **Baital** 50.49 302 *e*P P 11 35 04.3 -0.1
BTLS pmax pmax
comp=Z,5.0nm,0.6s
BTLS **Baital** 50.49 302 *e*P P 11 35 04.3 -0.1
comp=Z,4.6nm,0.6s
MENT **Mentasta** 50.53 35 P P 11 35 05.6 +1.1
MENT IAmb IAmb 11 35 24.1
comp=Z,4.8nm,0.8s
SGDS **Sogindy** 50.55 299 *e*P P 11 35 05.0 0.0
I26K **Coal Creek Min** 50.56 32 P P 11 35 05.9 +1.3
baz=275
L26K **Log Cabin Wild** 50.69 35 IAmb IAmb 11 35 17.6
comp=Z,6.3nm,0.8s
L26K **Log Cabin Wild** 50.69 35 P P 11 35 07.3 +1.6
baz=276
KSH **Kashi** 50.84 294 P P 11 35 11.6 +4.3
KSH pP sP 11 35 18.3 -1.4
KSH pmax pmax
comp=Z,9.0nm,1.0s
KSH LR LR
comp=Z,240nm,15.1s
KSH LR LR
comp=Z,240nm,15.8s
KSH LR LR
comp=Z,360nm,15.1s
BVAR **Borovoye Array** 50.85 312 P P 11 35 07.0 0.0
comp=Z,3.2nm,0.6s,baz=77,slow=8.3,SNR=14
BVAR PcP PcP 11 36 23.9 +0.5
comp=Z,2.9nm,0.7s,baz=82,slow=3.1,SNR=2.2
comp=Z,3.2nm,0.6s
VRDI **Verde Repeater** 50.87 37 P P 11 35 08.1 +0.9
VRDI IAmb IAmb 11 35 20.1
comp=Z,4.7nm,0.9s
AAK **Ala-Archa** 50.89 298 P P 11 35 06.7 -1.0
AAK IAmb IAmb 11 35 12.6
comp=Z,5.1nm,0.7s
AAK **Ala-Archa** 50.89 298 ⇑ *i* P P 11 35 09.1 +1.4
AAK pmax pmax
comp=Z,5.0nm,0.7s
BRVK **Borovoye** 50.91 312 P 11 35 08.0 +0.5
BRVK IAmb IAmb 11 35 08.9
comp=Z,8.3nm,1.1s
BRVK **Borovoye** 50.91 312 *c i* P P 11 35 07.7 +0.3
BRVK pmax pmax
comp=Z,9.0nm,1.1s
M26K **Nabesna, AK** 50.93 35 IAmb IAmb 11 35 22.4
comp=Z,6.4nm,1.1s
M26K **Nabesna, AK** 50.93 35 P P 11 35 08.7 +1.2
baz=277
E27K **Coleen River** 50.97 28 IAmb IAmb 11 35 37.7
comp=Z,13nm,1.5s
E27K **Coleen River** 50.97 28 P P 11 35 09.3 +1.6
baz=274
G27K **Doyon Strip** 51.05 30 P P 11 35 10.1 +1.8
baz=275
MCARA **McCarthy VSAT** 51.05 37 P P 11 35 10.4 +2.0
baz=278
D27M **Malcolm River** 51.13 26 P P 11 35 11.5 +2.5
baz=273
K27K **Chicken** 51.15 33 P P 11 35 10.9 +1.8
baz=277
H27K **Steamboat Moun** 51.15 30 IAmb IAmb 11 35 22.6
comp=Z,8.2nm,1.4s
H27K **Steamboat Moun** 51.15 30 P P 11 35 11.4 +2.2
baz=275
I27K **Kandik River** 51.17 31 P P 11 35 11.1 +1.8
baz=276
L27K **Beaver Creek,** 51.38 34 P P 11 35 11.4 +0.5
L27K IAmb IAmb 11 35 22.9
comp=Z,7.6nm,1.1s
L27K **Beaver Creek,** 51.38 34 P P 11 35 12.3 +1.4
baz=278
BCAR **Beaver Creek A** 51.40 34 P 11 35 10.7 -0.3
M27K **Edge Creek, AK** 51.45 35 P P 11 35 12.8 +1.3
baz=278
F28M **Old Crow** 51.66 29 P P 11 35 14.9 +2.0
F28M **Old Crow** 51.66 29 P P 11 35 14.7 +1.8
baz=276
E28M **Babbage River** 51.70 27 P P 11 35 15.0 +1.8
baz=275
MESA **MESA** 51.76 38 P P 11 35 13.7 -0.2
baz=280
I28M **Miner Creek** 51.89 31 P P 11 35 16.4 +1.7
baz=277
BVCY **Beaver Creek** 51.91 35 P P 11 35 16.4 +1.5
baz=279
CTG **Chitna Glacier** 51.92 37 P P 11 35 16.0 +0.9
baz=280
YUK3 **Moose Creek** 52.20 36 P P 11 35 18.1 +0.8
baz=280
DAWY **Dawson** 52.31 33 P P 11 35 19.9 +2.1
baz=279
E29M **Blow River** 52.32 27 IAmb IAmb 11 35 30.3
comp=Z,7.5nm,1.1s
E29M **Blow River** 52.32 27 P P 11 35 19.6 +1.8
baz=277
ARSB **Arslanbob** 52.38 297 IAmb IAmb 11 35 36.6
comp=Z,9.7nm,0.7s
H29M **Whitestone** 52.42 30 P P 11 35 20.0 +1.5
baz=278
G29M **Pine Creek** 52.46 29 P P 11 35 20.7 +1.8
baz=278
I29M **Ogilvie Camp,** 52.57 31 P P 11 35 21.5 +1.8
baz=279
YUK8 **Steele Glacier** 52.62 36 P P 11 35 22.2 +1.8
baz=281
M29M **Somme Creek** 53.01 35 P P 11 35 24.7 +1.6
baz=281
DZA **Taraz** 53.02 300 *e*P P 11 35 23.3 0.0
DZA pmax pmax
comp=Z,8.0nm,0.7s
DZA **Taraz** 53.02 300 *e*P P 11 35 23.4 0.0
comp=Z,8.3nm,0.7s
L29M **L29M** 53.03 34 IAmb IAmb 11 35 35.8
comp=Z,12nm,0.9s
L29M **L29M** 53.03 34 P P 11 35 25.4 +2.2
baz=281,SNR=6.2
EPYK **Eagle Plains** 53.06 30 P P 11 35 25.2 +1.9
baz=280,SNR=5.6
PNL **Peninsula** 53.12 38 P P 11 35 24.8 +1.0
baz=282
YUK4 **Talbot Arm** 53.13 36 P P 11 35 25.5 +1.4
baz=282
G30M **tAoh Zraii Nji** 53.15 29 IAmb IAmb 11 35 41.1
comp=Z,12nm,1.1s
G30M **tAoh Zraii Nji** 53.15 29 P P 11 35 26.1 +2.1
baz=279
K29M **Barlow Dome** 53.16 33 IAmb IAmb 11 35 36.4
comp=Z,5.3nm,0.9s
K29M **Barlow Dome** 53.16 33 P P 11 35 26.1 +1.9
baz=281
F30M **Barrier River** 53.22 28 P P 11 35 25.8 +1.4
baz=279
YUK6 **Outpost Mounta** 53.35 37 P P 11 35 26.8 +1.0
baz=282
O29M **Mount Kennedy** 53.38 38 P P 11 35 27.1 +1.2
baz=282
I30M **Mount Dempster** 53.40 31 P P 11 35 27.7 +1.8
baz=281,SNR=8.9
KK31 **Karatay Array** 53.51 300 P 11 35 26.8 -0.2
KK31 IAmb IAmb 11 35 32.1
comp=Z,9.4nm,0.7s
KK31 **Karatay Array** 53.51 300 P P 11 35 26.8 -0.2
KK31 pmax pmax
comp=Z,9.0nm,0.7s
KKAR **Karatay Array** 53.51 300 P 11 35 27.0 0.0
KKAR **Karatay Array** 53.51 300 P P 11 35 27.0 0.0
J30M **Hart River** 53.54 32 P P 11 35 28.9 +2.0
baz=281
M30M **Minto, Yukon** 53.74 35 P P 11 35 30.6 +2.3
M30M **Minto, Yukon** 53.74 35 P P 11 35 30.4 +2.1
baz=282
HYT **Haines Junctio** 53.79 37 P 11 35 29.9 +1.1
HYT IAmb IAmb 11 35 41.6
comp=Z,17nm,1.3s
HYT **Haines Junctio** 53.79 37 P P 11 35 30.4 +1.6
baz=283
N30M **Aishikik Lake** 53.84 36 P P 11 35 31.0 +1.8
baz=283
G31M **Satah River** 53.92 29 P P 11 35 30.6 +1.1
baz=281
MAYO **Mayo, Yukon** 53.92 33 P P 11 35 31.0 +1.4
baz=282
INK **Inuvik** 53.94 27 P P 11 35 30.4 +0.8
INK IAmb IAmb 11 35 31.8
comp=Z,12nm,1.4s
INK **Inuvik** 53.94 27 P P 11 35 30.4 +0.8
INK pmax pmax
comp=Z,12nm,1.4s
INK **Inuvik** 53.94 27 P P 11 35 31.0 +1.4
baz=281,SNR=5.3
P29M **Windy Craggy** 53.95 38 P P 11 35 31.2 +1.3
baz=284
BRLS **Boroldav** 54.00 300 *e*P P 11 35 32.0 +1.4
BRLS **Boroldav** 54.00 300 *e*P P 11 35 32.0 +1.4
F31M **Tsiigehtchic** 54.02 28 P P 11 35 30.1 -0.1
F31M **Tsiigehtchic** 54.02 28 P P 11 35 31.5 +1.3
baz=281
H31M **Peel River** 54.11 30 P P 11 35 32.9 +1.9
baz=282,SNR=7.6
KNRA **Kununurra** 54.12 196 P P 11 35 31.2 -0.4
IUG **Iuzhnay** 54.17 299 *e*P P 11 35 31.7 -0.2
IUG pmax pmax
comp=Z,10.0nm,1.1s
IUG **Iuzhnay** 54.17 299 *e*P P 11 35 31.8 -0.2
comp=Z,9.8nm,1.1s
P30M **Million Dollar** 54.21 38 P P 11 35 33.2 +1.3
baz=284
BTK **Batken** 54.37 297 P P 11 35 33.3 -0.1
BTK IAmb IAmb 11 35 39.6
comp=Z,14nm,1.4s
BTK **Batken** 54.37 297 P P 11 35 33.3 -0.1
BTK pmax pmax
comp=Z,14nm,1.5s
GSI **Gunungsitoli** 54.40 240 P P 11 35 34.3 +0.6
CHM **Chimkent** 54.41 300 *e*P P 11 35 33.5 0.0
CHM **Chimkent** 54.41 300 *e*P P 11 35 33.6 0.0
N31M **Braeburn, Yuko** 54.45 36 P P 11 35 34.5 +1.0
baz=284
O30N **Mendenhall** 54.47 37 P P 11 35 34.0 +0.2
O30N **Mendenhall** 54.47 37 P P 11 35 35.4 +1.7
baz=284
MDSI **Maura Dua** 54.51 229 P P 11 35 35.6 +1.1
comp=Z,24nm,1.2s
PLBC **Pleasant Camp** 54.67 38 P P 11 35 36.1 +1.0
baz=285
M31M **Drury Creek, Y** 54.91 35 P P 11 35 38.6 +1.7
baz=284
WHY **Whitehorse** 55.08 37 P P 11 35 40.0 +1.8
baz=285
NIL **Nilore** 55.09 288 P 11 35 37.8 -0.8
NIL **Nilore** 55.09 288 P P 11 35 37.8 -0.8
NIL pmax pmax
comp=Z,14nm,1.1s
GAR **Garm** 55.12 296 P 11 35 39.2 +0.3
S31K **Pelican** 55.13 40 P P 11 35 40.2 +1.8
baz=286
R31K **City Hall, Gus** 55.25 39 P P 11 35 40.3 +1.0
baz=286
SVE **Sverdlovsk** 55.37 319 *e*P P 11 35 41.4 +1.2
SVE pmax pmax
comp=Z,23nm,0.9s
FARO **Faro, Yukon** 55.38 35 P P 11 35 40.7 +0.4
baz=285
A36M **Sachs Harbour** 55.85 22 P P 11 35 44.5 +1.1
baz=286
SIT **Sitka** 55.85 41 P P 11 35 44.9 +1.2
baz=287
R32K **Eaglecrest** 55.91 39 P P 11 35 45.7 +1.6
baz=287
P32M **Atlin** 55.93 38 P P 11 35 46.3 +2.0
baz=287
S32K **Killisnoo** 56.12 40 P P 11 35 47.3 +1.8
baz=287
P33M **Teslin, Yukon** 56.18 37 IAmb IAmb 11 35 58.4
comp=Z,17nm,1.4s
P33M **Teslin, Yukon** 56.18 37 P P 11 35 48.5 +2.4
baz=287,SNR=5.7
MMPY **Sheldon Lake,** 56.20 34 P P 11 35 47.5 +1.3
baz=287
ARTI **Arti** 56.69 319 P 11 35 49.4 -0.2
ARTI **Arti** 56.69 319 *c i* P P 11 35 49.9 +0.3
ARTI 11 36 45.3
ARTI S S 11 43 42.1 +2.2
ARTI SS SS 11 47 28.7 +1.4
ARTI pmax pmax
comp=Z,19nm,0.8s
Q32M **Nakina River** 56.83 38 P P 11 35 52.7 +1.8
baz=288
WB0 **Warramunga Arr** 57.17 189 P 11 35 52.8 -0.7
U33K **Whale Pass** 57.30 42 P P 11 35 55.7 +1.7
baz=289
R33M **Jennings River** 57.33 37 P P 11 35 54.4 +0.1
R33M **Jennings River** 57.33 37 P P 11 35 55.5 +1.2
baz=289

WRAB Tennant Creek 57.34 189 P P 11 35 53.5 -1.1
WRAB IAmb IAmb 11 35 54.8
comp=Z,9.7nm,0.8s
WRAB Tennant Creek 57.34 189 P P 11 35 53.5 -1.1
WRAB pmax pmax
comp=Z,10.0nm,0.9s
WR8 Warramunga Arr 57.35 189 P 11 35 54.0 -0.7
WRA Warramunga Arr 57.35 189 P 11 35 53.7 -1.0
WRA Warramunga Arr 57.35 189 P P 11 35 53.8 -0.9
comp=Z,8.4nm,0.7s,baz=7.2,slow=7.1,SNR=107
WRA PcP **PcP 11 36 48.8 +0.3**
comp=Z,2.8nm,0.6s,baz=3.7,slow=5.0,SNR=6.9
comp=Z,8.4nm,0.7s
S34M Telegraph Cree 57.73 39 P P 11 35 59.1 +2.1
baz=290
KBL Kabul 57.87 291 P 11 35 57.9 -0.7
KBL IAmb IAmb 11 35 59.3
comp=Z,14nm,1.1s
KBL Kabul 57.87 291 P P 11 35 57.9 -0.7
KBL pmax pmax
comp=Z,14nm,1.2s
TGTN Hyland Airport 57.88 34 P P 11 36 00.1 +2.0
baz=290
DLBC Dease Lake 58.10 38 P P 11 36 00.9 +1.2
baz=290
WTLY Watson Lake, Y 58.12 36 P P 11 36 01.0 +1.3
baz=290
AB31 Akbulak array 58.24 310 P 11 36 00.8 +0.1
ABKAR Akbulak array 58.24 310 P 11 36 00.6 0.0
V35K Ketchikan 58.38 42 P P 11 36 01.7 +0.2
baz=291
T35M Bob Quinn 58.50 40 P P 11 36 04.3 +1.9
baz=291
WRGLY Wrigley 59.37 32 P P 11 36 11.5 +3.2
baz=292
LIRD Liard River Hi 59.65 36 P P 11 36 13.0 +2.7
baz=292
TOAD Toad River Com 60.28 37 P P 11 36 17.6 +2.9
baz=294
AS31 Alice Springs 61.08 189 P 11 36 20.3 -0.2
ASAR Alice Springs 61.08 189 P P 11 36 20.0 -0.5
comp=Z,4.9nm,0.8s,baz=9.0,slow=7.1,SNR=46
comp=Z,4.9nm,0.8s
ASAR Alice Springs 61.08 189 P P 11 36 20.0 -0.5
YKA Yellowknife Ar 63.34 30 P P 11 36 35.4 +0.2
comp=Z,1.3nm,0.9s,baz=303,slow=7.3,SNR=7.6
comp=Z,1.3nm,0.9s
KLMR Klimovskoe 63.88 328 *eP* **P 11 36 36.8 -1.9**
KLMR *e**PP **pP 11 36 47.5 -0.3**
KLMR pmax pmax
comp=Z,26nm,1.7s
ARCES ARCESS Array B 64.00 340 P P 11 36 39.9 +0.5
comp=Z,3.2nm,0.8s,baz=61,slow=6.3,SNR=4.1
comp=Z,3.2nm,0.8s
BELG Belogornoye 64.03 317*c i*P P **11 36 40.0 +0.1**
BELG pmax pmax
comp=Z,5.0nm,1.0s
NEEM North Greenlan 65.28 3 *i*P P **11 36 48.1 0.0**
NEEM IAmb IAmb 11 36 49.2
comp=Z,6.1nm,0.9s
DAG Danmarks Havn 65.61 355 *i*P P **11 36 50.0 +0.3**
DAG IAmb IAmb 11 36 50.3
comp=Z,4.7nm,1.0s
VRH Novokhopyorsk 67.80 318 *eP* P **11 37 02.3 -1.9**
VRH pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 68.27 323‖ *eP* P **11 37 06.9 -0.1**
OBN *e* 11 37 35.2
OBN *e* 11 39 38.8
OBN *eS* **S 11 46 06.4 +1.0**
OBN pmax pmax
comp=Z,15nm,0.7s
OBN MLR MLR
comp=Z,354nm,17.0s
LPSR Galich'ya Gora 68.50 320 *eP* P **11 37 05.5 -3.0**
LPSR pmax pmax
comp=Z,20nm,0.8s
STKA Stephens Creek 68.77 180 P P 11 37 10.1 -0.2
comp=Z,0.9nm,0.3s,baz=348,slow=14,SNR=3.3
comp=Z,0.9nm,0.3s
FINES FINESS Array B 68.89 332 P P 11 37 10.9 +0.1
comp=Z,13nm,0.8s,baz=56,slow=6.1,SNR=23
comp=Z,13nm,0.8s
BLKN Baker Lake 68.97 23 P 11 37 12.0 +0.8
VSR Storozhevoye 69.15 319 *eP* P **11 37 10.4 -2.2**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 69.22 319 *eP* P **11 37 11.4 -1.6**
VORD pmax pmax
comp=Z,10.0nm,1.0s
AKT Akhty 69.41 307 *eP* P **11 37 14.1 -0.4**
AKT *e* 11 39 49.1
AKT pmax pmax
comp=Z,13nm,0.8s
AKT MLR MLR
comp=Z,1μm,19.0s
UPNV Upernavik 69.53 6 *i*P P 11 37 09.4 -5.2
UPNV IAmb IAmb 11 37 10.9
comp=Z,21nm,0.9s
PINE Pine Mountain 69.76 50 P 11 37 18.0 +1.2
PINE IAmb IAmb 11 37 29.1
comp=Z,7.1nm,0.7s
J05D Fort Rock, OR 69.86 51 P P **11 37 17.1 -0.2**
J05D IAmb IAmb 11 37 29.1
comp=Z,4.4nm,1.0s
K05A Summer Lake 70.37 51 P 11 37 20.5 0.0
K05A IAmb IAmb 11 37 32.8
comp=Z,7.9nm,1.0s
SUMG Summit 70.47 0 P 11 37 21.5 +0.6
SUMG IAmb IAmb 11 37 22.5
comp=Z,5.0nm,0.7s
SUMG Summit 70.47 0 P P **11 37 21.5 +0.6**
SUMG pmax pmax
comp=Z,5.0nm,0.7s
SUMG Summit 70.47 0 *i*P P **11 37 22.1 +1.2**
SUMG IAmb IAmb 11 37 22.6
comp=Z,4.6nm,0.7s
KBZ Khabaz 71.20 311 P P **11 37 25.9 +0.7**
comp=Z,8.7nm,0.8s,baz=72,slow=3.2,SNR=16
comp=Z,8.7nm,0.8s
KIV Kislovodsk 71.20 311 P 11 37 26.3 +0.9
KIV Kislovodsk 71.20 311 *eP* P **11 37 26.1 +0.7**
KIV pmax pmax
comp=Z,25nm,1.0s
BMO Blue Mountains 71.36 48 P 11 37 27.3 +0.9
BMO Blue Mountains 71.36 48 P P **11 37 27.3 +0.9**
BMO pmax pmax
comp=Z,3.0nm,1.0s
J08A Circle Bar Ran 71.50 49 P 11 37 28.9 +1.6
SCO Scoresbysund 71.96 354 *i*P P **11 37 30.4 +1.0**
SCO IAmb IAmb 11 37 30.8
comp=Z,3.3nm,0.8s
MNK Minsk 72.64 326 *i*P P **11 37 32.7 -1.0**
MNK *i* 11 40 13.7
MNK *i* PPP PPP 11 41 58.5
MNK *eS* **S 11 46 56.3 -0.2**
MNK *i* SS **SS 11 51 37.2 +2.2**
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=E,23nm,0.8s
MNK pmax pmax
comp=Z,15nm,0.9s
MNK MLR MLR
comp=Z,350nm,18.0s
MNK MLR MLR
comp=E,809nm,20.0s
MNK MLR MLR
comp=N,747nm,18.0s
FFC Flin Flon 73.22 33 P 11 37 37.7 +0.6
FFC IAmb IAmb 11 37 48.3
comp=Z,10.0nm,0.8s
FFC Flin Flon 73.22 33 P P **11 37 37.7 +0.6**
FFC pmax pmax
comp=Z,10.0nm,0.8s
DLMT Dillon 73.79 45 IAmb IAmb 11 37 52.5
comp=Z,5.2nm,0.8s
ANN Anapa 73.79 314 *eP* P **11 37 38.2 -2.5**
ANN *e**PP **pP 11 37 47.9 -1.9**
ANN *eS* **SKiKP 11 47 06.5 -1.1**
ANN pmax pmax
comp=Z,29nm,0.9s
ANN MLR MLR
comp=N,397nm,14.0s
ANN MLR MLR
comp=Z,718nm,16.0s
ANN MLR MLR
comp=E,270nm,16.0s
HFS Hagfors 74.13 336 P P 11 37 42.4 0.0
comp=E,7.2nm,0.7s,baz=33,slow=3.4,SNR=17
comp=E,7.2nm,0.7s
NC204 NORSAR Array S 74.16 338 P 11 37 43.1 +0.4
BOZ Bozeman (W) 74.19 44 IAmb IAmb 11 37 54.8
comp=Z,5.0nm,0.8s
NB2 NORSAR Subarra 74.21 338 P P 11 37 43.6 +0.7
comp=Z,2.9nm,0.6s,baz=39,slow=6.2
NOA NORSAR Array B 74.21 338 P P 11 37 42.8 -0.1
comp=Z,4.0nm,0.6s,baz=39,slow=5.9,SNR=20
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 74.48 323 P P 11 37 45.0 +0.4
AKASG IAmb IAmb 11 37 45.4
comp=Z,4.5nm,0.8s
AKASG Malin Array Be 74.48 323 P P 11 37 44.8 +0.2
comp=Z,7.2nm,0.5s,baz=47,slow=6.3,SNR=42
comp=Z,7.2nm,0.5s
AKBB Malin Array Si 74.48 323*c i*P P **11 37 44.7 +0.1**
AKBB pmax pmax
comp=Z,12nm,0.6s
KIEV Kiev 74.49 323 P 11 37 44.2 -0.4
KIEV Kiev 74.49 323 P P **11 37 44.2 -0.4**
KIEV pmax pmax
comp=Z,12nm,0.6s
H17A Grant Village 75.52 45 IAmb IAmb 11 38 04.5
comp=Z,8.0nm,0.8s
HWUT Hardware Ranch 76.66 48 P P **11 37 57.1 -0.4**
HWUT IAmb IAmb 11 38 09.7
comp=Z,5.7nm,1.1s
FABU Falkenberg 76.87 334 *i*P P **11 37 57.8 -0.3**
DEL Delary 76.87 333 *i*P P **11 37 55.7 -2.4**
BW06 Boulder Array 77.11 46 P P 11 38 00.5 +0.4
PD31 Pinedale Array 77.11 46 P P 11 38 00.8 +0.7
PDAR Pinedale Array 77.11 46 P P 11 38 00.6 +0.5
comp=Z,0.8nm,0.7s,baz=306,slow=4.0,SNR=7.9
comp=Z,0.8nm,0.7s
BJUU Bjuv 77.48 334 *i*P P **11 37 59.2 -2.3**
ILGA Ilgaz 78.25 313 P P **11 38 07.0 +0.6**
BUR08 Bucovina Ar. S 78.48 322 P 11 38 08.3 +0.8
BUR08 IAmb IAmb 11 38 09.3
comp=Z,8.2nm,0.8s
BURAR Bucovina Array 78.50 322 P 11 38 08.5 +0.9
BURAR IAmb IAmb 11 38 09.2
comp=Z,6.7nm,0.8s
SRU San Rafael Swe 78.84 49 IAmb IAmb 11 38 21.3
comp=Z,7.0nm,0.7s
KOLS Kolonicke sedl 78.98 324 *eP* P **11 38 11.5 +1.4**
KOLS pmax pmax
comp=Z,8.0nm,1.1s
KOLS Kolonicke sedl 78.98 324 *eP* P **11 38 11.5 +1.4**
ULM Lac du Bonnet 79.01 34 P P **11 38 10.7 +0.6**
comp=Z,1.0nm,0.5s,baz=315,slow=5.9,SNR=2.4
comp=Z,1.0nm,0.5s
STHS Stebnicka Huta 79.11 325 *eP* P **11 38 11.6 +0.8**
STHS pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 79.11 325 *eP* P **11 38 11.6 +0.8**
BR131 Keskin Array S 79.14 312 P P **11 38 11.8 +0.6**
BR131 IAmb IAmb 11 38 12.9
comp=Z,4.8nm,0.9s
BR131 Keskin Array S 79.14 312 P P **11 38 11.8 +0.6**
BR131 pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 79.14 312 P 11 38 11.4 +0.2
BRTR Keskin Array B 79.14 312 P P **11 38 10.9 -0.3**
comp=Z,4.9nm,1.1s,baz=98,slow=4.4,SNR=11
comp=Z,4.9nm,1.1s
OJC Ojcow 79.18 326 *eP* P **11 38 11.9 +0.7**
OJC Ojcow 79.18 326 P 11 38 11.8 +0.7
OJC Ojcow 79.18 326 P P **11 38 11.8 +0.7**
RSSD Black Hills 79.29 42 P P **11 38 11.3 -0.8**
RSSD Black Hills 79.29 42 P P **11 38 11.3 -0.8**
RSSD pmax pmax
comp=Z,5.0nm,1.0s
HMU Henry Mountain 79.45 50 IAmb IAmb 11 38 24.8
comp=Z,8.1nm,0.6s
NIE Niedzica 79.54 326 *eP* P **11 38 14.4 +1.3**
LANS Liptovska Anna 80.11 326 *eP* P **11 38 17.8 +1.6**
LANS pmax pmax
comp=Z,5.0nm,0.8s
LANS Liptovska Anna 80.11 326 *eP* P **11 38 17.8 +1.6**
PV23 Carpenter Ridg 80.17 49 P P **11 38 16.9 -0.2**
PV10 Paradox Valley 80.20 49 P P **11 38 16.2 -1.0**
KSP Ksiaz 80.22 329 *eP* P **11 38 17.8 +1.1**
PV22 Blue Mesa, Par 80.25 49 P P **11 38 16.9 -0.6**
PV22 IAmb IAmb 11 38 29.2
comp=Z,4.7nm,0.9s
STEB Steborice 80.27 327 *eP* P **11 38 18.2 +1.1**
PV16 Nyswonger Mesa 80.32 49 IAmb IAmb 11 38 29.7
comp=Z,5.5nm,0.8s
EPLO Experimental L 80.38 33 IAmb IAmb 11 38 28.2
comp=Z,10nm,0.9s
PV12 Saucer Basin, 80.38 49 IAmb IAmb 11 38 30.4
comp=Z,11nm,0.9s
PV03 Paradox Valley 80.40 49 IAmb IAmb 11 38 30.0
comp=Z,5.8nm,0.8s
PV13 Radium Mtn., P 80.47 49 IAmb IAmb 11 38 30.6
comp=Z,7.7nm,0.8s
MORC Moravsky Berou 80.49 327 P 11 38 17.9 -0.4
MORC IAmb IAmb 11 38 20.3
comp=Z,12nm,1.1s
MORC Moravsky Berou 80.49 327 *eP* P **11 38 18.8 +0.5**
MORC Moravsky Berou 80.49 327 P P **11 38 17.9 -0.4**
MORC pmax pmax
comp=Z,12nm,1.1s
PV02 Paradox Valley 80.49 49 IAmb IAmb 11 38 31.3
comp=Z,7.4nm,0.7s
DPC Dobruska-Polom 80.58 328 *eP* P **11 38 19.8 +1.0**
DPC Dobruska-Polom 80.58 328 *eP* P **11 38 19.8 +1.0**
VYHS Vyhne 80.87 326 *eP* P **11 38 21.4 +1.1**
VYHS pmax pmax
comp=Z,9.0nm,1.4s
VYHS Vyhne 80.87 326 *eP* P **11 38 21.4 +1.1**
FLTG Flechtingen 81.07 332 *eP* P **11 38 21.5 +0.3**
comp=Z,7.7nm,0.8s,baz=36,slow=5.2
RAYN Ar Rayn 81.10 293 P P **11 38 21.2 -0.8**
RAYN IAmb IAmb 11 38 23.1
comp=Z,6.2nm,1.1s
RAYN Ar Rayn 81.10 293 P P **11 38 21.2 -0.8**
RAYN pmax pmax
comp=Z,6.0nm,1.2s
JAVC Velka Javorina 81.12 327 *eP* P **11 38 23.5 +1.8**
BRG Berggiesshubel 81.16 330 *eP* P **11 38 22.6 +0.9**
BRG Amp 11 38 23.4
comp=Z,6.6nm,0.8s
CLL Collm 81.19 330 P 11 38 22.8 +0.9
CLL IAmb IAmb 11 38 23.2
comp=Z,10.0nm,0.8s
CLL Collm 81.19 330 *i*P P **11 38 22.4 +0.5**
CLL pmax pmax
comp=Z,13nm,1.0s
CLL Collm 81.19 330 *i*P P **11 38 22.4 +0.5**
comp=Z,13nm,1.0s
CLL Collm 81.19 330 *eP* P **11 38 22.4 +0.5**
comp=Z,9.9nm,0.8s,baz=36,slow=5.2
VRAC Vranov 81.25 327 *eP* P **11 38 23.2 +0.9**
MVCO Mesa Verde 81.28 50 IAmb IAmb 11 38 34.8
comp=Z,5.2nm,0.8s
KRUC Moravsky 81.52 327 *eP* P **11 38 24.5 +0.8**
GOPC GO Pecny, Ondr 81.55 329 *eP* P **11 38 25.1 +1.2**
GOPC GO Pecny, Ondr 81.55 329 *eP* P **11 38 25.1 +1.2**
PRU Pruhonice 81.60 329 *eP* P **11 38 24.9 +0.8**
PRU Pruhonice 81.60 329 *eP* P **11 38 24.9 +0.8**
MODS Modra-Piesok 81.66 326 *eP* P **11 38 24.5 0.0**
MODS pmax pmax
comp=Z,23nm,1.3s
MODS Modra-Piesok 81.66 326 *eP* P **11 38 24.5 0.0**
F33A 5 Mile Ranch, 82.02 37 IAmb IAmb 11 38 37.3
comp=Z,6.9nm,1.0s
Q24A Divide 82.12 47 IAmb IAmb 11 39 02.0
comp=Z,6.6nm,0.8s
MMAI Mount Meron Ar 82.31 306 P P **11 38 28.8 +0.5**
comp=Z,2.2nm,0.6s,baz=37,slow=9.9,SNR=4.0
comp=Z,2.2nm,0.6s
IBBN Ibbenburen 82.35 334 *eP* P **11 38 28.6 +0.6**
comp=Z,14nm,0.6s,baz=36,slow=5.2
MANZ Manzenberg 82.58 330 *eP* P **11 38 30.0 +0.7**
comp=Z,1.1nm,0.8s,baz=36,slow=5.2
CKRC Cesky Krumlov 82.59 328 *eP* P **11 38 30.1 +0.7**
CKRC Cesky Krumlov 82.59 328 *eP* P **11 38 30.1 +0.7**
RONA Rosalia, Austr 82.60 326 *i*P P **11 38 30.5 +1.0**
comp=Z,7.4nm,0.7s
CONA Conrad Observa 82.61 327 *eP* P **11 38 30.3 +0.6**
comp=Z,5.2nm,0.7s
EYMN Ely 82.65 33 P 11 38 29.7 0.0
EYMN IAmb IAmb 11 38 40.5
comp=Z,6.2nm,0.9s
KHC Kasperske Hory 82.66 329 *eP* P **11 38 30.4 +0.6**
KHC Kasperske Hory 82.66 329 *eP* P **11 38 30.4 +0.6**
ROTZ Rotzenmuhle 82.72 330 *eP* P **11 38 30.9 +0.9**
comp=Z,1.1nm,0.8s,baz=36,slow=5.2
GEC2 GERESS Array S 82.83 329 IAmb IAmb 11 38 31.9
comp=Z,4.7nm,0.8s
GEC2 GERESS Array S 82.83 329 *eP* P **11 38 30.9 +0.2**
baz=36,slow=5.2
GERES GERESS Array B 82.83 329 P P **11 38 30.6 -0.1**
GERES GERESS Array B 82.83 329 P P **11 38 30.9 +0.2**
comp=Z,3.8nm,0.7s,baz=37,slow=7.0,SNR=20
comp=Z,3.8nm,0.7s
GERES GERESS Array B 82.83 329 P P **11 38 30.6 -0.1**
WET Wettzell 82.94 329 *eP* P **11 38 32.0 +0.8**
comp=Z,4.2nm,0.9s,baz=36,slow=5.2
TBO Thunder Bay 83.00 32 P P **11 38 31.3 -0.2**
TBO IAmb IAmb 11 38 42.1
comp=Z,4.5nm,0.8s
EKA Eskdalemuir Ar 83.12 341 P P **11 38 33.1 +1.1**
comp=Z,2.0nm,0.9s,baz=27,slow=6.4,SNR=3.1
comp=Z,2.0nm,0.9s
ARSA Arzberg 83.28 327 *i*P P **11 38 33.7 +0.7**
comp=Z,3.1nm,0.9s
BIOA Bad Ischl, Aus 83.75 328 *i*P P **11 38 35.9 +0.5**
comp=Z,4.8nm,0.5s
T25A Trinidad 83.78 48 IAmb IAmb 11 38 47.7
comp=Z,4.3nm,0.8s
TNS Taunus Mts 83.81 332 *eP* P **11 38 36.0 +0.4**
comp=Z,4.9nm,0.7s,baz=36,slow=5.2
PERS Pernice 83.93 326 *i*P P **11 38 36.8 +0.4**
SOKA Soboth 83.93 326 *i*P P **11 38 36.7 +0.3**
comp=Z,8.4nm,1.1s
RJOB Jochberg 84.07 328 *eP* P **11 38 38.0 +0.9**
comp=Z,8.3nm,0.9s,baz=36,slow=5.2
GOLS Golise 84.18 326 *i*P P **11 38 37.8 +0.2**
OBKA Obir 84.28 327 *eP* P **11 38 38.6 +0.4**
comp=Z,1.6nm,0.7s
KBA Koelnbreinsper 84.36 328 *i*P P **11 38 39.0 +0.3**
comp=Z,1.0nm,0.6s
LESA Schwarzleotal 84.37 328 *eP* P **11 38 39.1 +0.5**
comp=Z,8.2nm,1.2s
MYKA Terra Mystica 84.58 327 *i*P P **11 38 39.0 -0.7**
comp=Z,1.2nm,0.4s
PRED Cave del Predi 84.76 327 IAmb IAmb 11 38 40.9
comp=Z,3.1nm,0.7s
BCLA Clavier 84.78 334 *d*P P **11 38 40.6 0.0**
comp=Z,4.5nm,1.1s
BMRD Maredsous 85.07 334 *d*P P **11 38 42.2 +0.3**
BMRD *dp*P **pP 11 38 50.1 -1.0**
MOTA Moosalm 85.08 329 *i*P P **11 38 41.8 -0.6**
comp=Z,6.9nm,1.2s
RETA Reutte 85.11 329 *i*P P **11 38 42.5 +0.1**
comp=Z,8.2nm,0.8s
STAL STALIGIAL 85.27 327 IAmb IAmb 11 38 43.0
comp=Z,4.9nm,0.7s
BFO Black Forest 85.39 331 P 11 38 43.5 -0.2
BFO Black Forest 85.39 331 P P **11 38 43.5 -0.2**
BFO pmax pmax
comp=Z,14nm,0.9s
BFO Black Forest 85.39 331 *eP* P **11 38 44.1 +0.4**
comp=Z,12nm,0.9s,baz=36,slow=5.2
FETA Feichten 85.50 329 *i*P P **11 38 44.1 -0.3**
comp=Z,2.1nm,0.8s
DAVA Damuels 85.63 330 *i*P P **11 38 44.8 -0.2**
comp=Z,5.7nm,0.8s
FDMO Fiordimonte 87.63 325 IAmb IAmb 11 38 56.2
comp=Z,7.7nm,1.1s
NRCA Norcia 87.78 325 IAmb IAmb 11 38 56.4
comp=Z,5.5nm,0.9s
TXAR Lajitas Array 89.54 53 P P **11 39 04.6 +0.5**
comp=Z,0.9nm,0.9s,baz=314,slow=4.7,SNR=8.4
comp=Z,0.9nm,0.9s
FCAR Ozark Folk Cen 91.54 41 IAmb IAmb 11 39 23.6
comp=Z,5.2nm,1.0s
ESDC Sonseca Array 97.35 334 P Pdif 11 39 41.3 +1.5
comp=Z,0.2nm,0.4s,baz=35,slow=3.4,SNR=1.2
comp=Z,0.2nm,0.4s
TORD Torodi Ar. Bea 117.58 316 PKP **PKPdf 11 44 52.0 -0.8**
comp=Z,0.5nm,0.5s,baz=8.5,slow=2.4,SNR=6.2
PB18 Visviri 146.02 63 PKPbc **PKPab 11 45 47.8 0.0**
LPAZ La Paz 146.09 60 PKPbc **PKPbc 11 45 47.7 +0.2**
LPAZ La Paz 146.09 60 PKPbc **PKPbc 11 45 47.5 0.0**
comp=Z,6.1nm,0.9s,baz=333,slow=2.3,SNR=16
H03N2 Juan Fernandez 146.48 96 T T 14 29 38.3
baz=291,slow=76,SNR=13
H03N3 Juan Fernandez 146.49 96 T T 14 29 35.1
baz=291,slow=76,SNR=12
PB16 IPOC Station P 146.49 64 PKPbc **PKPbc 11 45 49.1 +0.4**
H03N1 Juan Fernandez 146.49 96 T T 14 29 31.4
baz=291,slow=76,SNR=14
VA04 Juan Fernndez 146.62 96 PKPbc **PKPab 11 45 48.9 -0.1**
GO01 Chusmiza 147.57 66 PKPdf **PKPdf 11 45 47.8 -1.1**
GO01 PKPab **PKiKP 11 45 53.0 -0.6**
PATCX Punta Patache 147.57 69 PKPdf **PKPdf 11 45 46.7 -1.7**
PATCX PKPab **PKPab 11 45 54.9 +1.7**
PB08 IPOC Station P 147.90 67 PKPdf **PKPdf 11 45 47.2 -2.1**
PMSA Palmer Station 148.37 159 PKPdf **PKPdf 11 45 47.9 -0.3**
RCBR Riachuelo 148.68 356 PKPdf **PKPdf 11 45 47.7 -2.7**
RCBR Riachuelo 148.68 356 PKHKP PKPpre 11 45 47.7
PB05 IPOC Station P 148.73 72 PKPdf **PKPdf 11 45 48.3 -1.9**
PB14 IPOC Station P 149.55 75 PKPdf **PKPdf 11 45 50.7 -1.1**
PB14 PKPbc **PKPbc 11 45 56.6 +0.2**
PTLB Pontes e Lacer 151.24 47 PKPdf **PKPdf 11 45 52.8 -1.4**
PTLB **PKiKP 11 46 00.9 +0.2**
PTLB PKPab **PKPab 11 46 08.5 +0.4**

NEIC ***05*** *11:29:14.7±2.1,35.779N±0.009×117.544W±0.009, h8km±9km, Error ellipse: s-maj=1.4km s-min=1.0km az=203.0*

PAS 05 11:29:14.8±1.9,35.772N±0.009×117.57W±0.01, h4km±2km, ML3.1/19, ML2.7/106(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=54.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	
TOW	**Tower One**	**0.16**	**283**			Pg 11 29 18.6	+0.6
TOW						Sg 11 29 21.9	+1.8
SRTC	**Snort**	**0.17**	**241**			Pg 11 29 18.6	+0.5
WVPM	**Volcano Peak E**	**0.27**	**311**			Pg 11 29 20.2	+0.2
WNMM	**Nine Mile Cany**	**0.28**	**285**			Pg 11 29 20.4	+0.2
LRMC	**Laurel Mtn Rad**	**0.31**	**198**			Pg 11 29 20.7	0.0
LRMC						Sg 11 29 25.3	+0.5
WRVM	**Rose V. Centra**	**0.35**	**312**			Pg 11 29 21.6	0.0
WRVM						Sg 11 29 26.5	+0.3
MFS	**McCloud Flat S**	**0.42**	**326**			Pg 11 29 22.8	-0.1
MFS						Sg 11 29 28.7	+0.4
WBSM	**Bird Springs**	**0.52**	**243**			Sg 11 29 31.8	+0.2
DTP	**Desert Tortois**	**0.55**	**204**			Pg 11 29 25.0	-0.4
DTP						Sg 11 29 32.8	+0.2
QSM	**Queen of Sheba**	**0.60**	**71**			Pg 11 29 26.1	-0.2
QSM						Sg 11 29 34.2	0.0
QSM				IAML		11 29 34.8	
	comp=E,475nm,0.3s						
QSM				IAML		11 29 36.2	
	comp=N,575nm,0.2s						
WHFM	**Hanning Flat**	**0.64**	**263**			Pg 11 29 26.7	-0.3
WHFM						Sg 11 29 35.7	+0.3
CCAC	**Calif City Air**	**0.72**	**211**			Sg 11 29 38.2	+0.3
CCAC	**Calif City Air**	**0.72**	**211**			Pg 11 29 28.3	-0.3
CCAC				IAML		11 29 38.6	
	comp=E,491nm,0.3s						
ISA	**Isabella, Lake**	**0.74**	**262**			Sg 11 29 39.1	+0.4
ISA	**Isabella, Lake**	**0.74**	**262**			Pg 11 29 28.7	-0.4
ISA				IAML		11 29 39.3	
	comp=N,474nm,0.4s						
GSC	**Goldstone, Bar**	**0.78**	**127**			Pg 11 29 29.4	-0.3
CGO	**Cerro Gordo**	**0.80**	**346**			Pg 11 29 29.6	-0.6
WASM	**Alta Sierra Ca**	**0.81**	**268**			Pg 11 29 29.8	-0.4
WASM						Sg 11 29 40.8	+0.1
GWY	**Greenwater Val**	**0.84**	**60**			Pg 11 29 30.6	-0.3
GWY						Sg 11 29 41.7	-0.1
GWY				IAML		11 29 48.5	
	comp=N,341nm,0.5s						
HYS	**Haystack Butte**	**0.91**	**180**			Pg 11 29 31.4	-0.7
EDW2	**Edwards Air Fo**	**0.95**	**201**			Pg 11 29 32.4	-0.7
RRX	**Edison Barstow**	**1.01**	**152**			Pg 11 29 33.7	-0.5
TPO	**Tropico Hills**	**1.04**	**211**			Pg 11 29 34.1	-0.7
TPO						Sg 11 29 48.4	+0.1
SHOC	**Shoshone, Teco**	**1.06**	**83**			Pg 11 29 34.7	-0.4
SPG2	**Springville 2**	**1.06**	**294**			Sg 11 29 48.2	-0.7

TEJ	**El Tejon**	**1.06**	**240**			Pg	11 29 34.2	-1.0
SBB	**Saddle Back Bu**	**1.10**	**191**			Pg	11 29 35.3	-0.6
ADO	**Adelanto Recei**	**1.22**	**175**			Pg	11 29 38.4	+0.1
VTV	**Victorville**	**1.22**	**171**			Sb	11 29 54.7	0.0
GRAC	**Grapevine Rang**	**1.23**	**8**			Pg	11 29 37.9	-0.6
GRAC					IAML		11 29 58.1	
	comp=E,226nm,0.7s							
VES	**Vestal, Richgr**	**1.23**	**274**			Pg	11 29 37.7	-0.7
THC	**Tehachapi Micr**	**1.24**	**226**			Pg	11 29 38.0	-0.6
AMDNV	**Amargosa**	**1.25**	**57**			Pg	11 29 37.2	-1.5
WCT	**Wildcat Mounta**	**1.27**	**37**			Pg	11 29 38.0	-1.2
WCT					Sg	Sg	11 29 55.3	-0.4
WCT					IAML		11 29 57.2	
	comp=N,119nm,0.7s							
WCT					IAML		11 29 58.0	
	comp=E,138nm,0.3s							
SGV	**South Grapevin**	**1.28**	**20**			Pg	11 29 38.4	-1.0
SGV						Sg	11 29 56.1	+0.1
LEOC	**Leona Valley**	**1.29**	**208**			Pg	11 29 38.1	-1.4
LRRC	**Littlerock Res**	**1.30**	**197**			Pg	11 29 39.1	-0.5
LRRC						Sb	11 29 57.1	+0.4
CJV	**Casa Juvan**	**1.32**	**201**			Pb	11 29 40.5	+0.2
CJV						Sg	11 29 57.5	+0.1
HOLC	**Holcomb Ridge**	**1.33**	**190**			Pn	11 29 38.6	-1.7
HOLC						Sb	11 29 58.1	+0.3
DSCC	**Desert Studies**	**1.35**	**117**			Pn	11 29 38.4	-2.1
DSCC						Sg	11 29 57.4	-0.8
JNH	**Juniper Hills**	**1.36**	**194**			Pg	11 29 40.8	0.0
TUQ	**Turquoise Moun**	**1.38**	**104**			Pn	11 29 39.4	-1.7
TIN	**Tinemaha, Big**	**1.39**	**338**			Pn	11 29 40.8	-0.3
LCH	**Last Change Ra**	**1.46**	**358**			Pn	11 29 41.6	-0.5
CHFC	**Chilao Flat St**	**1.48**	**195**			Pn	11 29 41.6	-0.9
CHFC						Sg	11 30 02.5	+0.1
BFSC	**Mount Baldy Ra**	**1.53**	**183**			Pn	11 29 43.0	0.0
GMN	**Gold Mountain**	**1.55**	**9**			Pn	11 29 42.6	-0.8
GMN					IAML		11 30 06.5	
	comp=N,94nm,0.5s							
SSK	**Sunset Peak**	**1.56**	**184**			Pn	11 29 42.4	-1.2
VOG	**Valley Oaks Go**	**1.57**	**291**			Sb	11 30 04.5	-0.1
TPNV	**Topopah Spring**	**1.58**	**42**			Pn	11 29 42.7	-1.1
TPNV					IAML		11 30 08.5	
	comp=N,138nm,0.7s							
TPNV					IAML		11 30 29.3	
	comp=N,137nm,0.5s							
BBRC	**Big Bear Solar**	**1.60**	**160**			Pn	11 29 44.3	+0.2
DSP	**Deep Springs**	**1.63**	**349**			Pn	11 29 43.7	-0.5
MTPC	**Mountain Pass**	**1.67**	**99**			Pn	11 29 43.1	-1.8
PASC	**Pasadena Art C**	**1.68**	**198**			Pn	11 29 43.5	-1.4
PASC					IAML		11 30 12.5	
	comp=N,60nm,0.5s							
PASC					IAML		11 30 12.7	
	comp=E,68nm,0.8s							
POCCA	**Poleta Canyon**	**1.69**	**340**			Pb	11 29 46.0	-0.5
PSRC	**Puddingstone R**	**1.69**	**187**			Pn	11 29 44.5	-0.6
BHPR	**Bishop**	**1.69**	**334**			Pb	11 29 46.4	-0.3
SVD	**Seven Oaks Dam**	**1.71**	**167**			Pb	11 29 47.1	+0.3
BCW	**Bitter Crk WRg**	**1.72**	**242**			Pn	11 29 45.5	-0.1
BCW					IAML		11 30 15.2	
	comp=E,105nm,0.6s							
BCW					IAML		11 30 15.4	
	comp=N,101nm,0.6s							
MTUM	**Tungsten Hills**	**1.77**	**333**			Pb	11 29 47.7	-0.2
BLCC	**Black Canyon**	**1.77**	**211**			Pg	11 29 48.7	0.0
GTM	**Goat Mountain**	**1.78**	**146**			Pb	11 29 47.7	-0.3
GMRC	**Granite Mounta**	**1.85**	**122**			Pn	11 29 45.0	-2.4
MZP	**Montezuma Peak**	**1.93**	**4**			Pn	11 29 47.9	-0.8
SHPR	**Sheep Range**	**2.08**	**69**			Pn	11 29 49.9	-0.8
BENR	**Benton**	**2.10**	**338**			Pb	11 29 53.4	-0.2
HMTC	**Hemet**	**2.11**	**167**			Pn	11 29 50.0	-0.9
MLAC	**Mammoth, Mammo**	**2.12**	**332**			Pb	11 29 54.0	+0.1
ELS	**Elsinore Mount**	**2.12**	**177**			Pn	11 29 50.2	-1.0
POB	**Polly Butte**	**2.15**	**165**			Pn	11 29 50.7	-0.8
MCSM	**Casa Diablo Ho**	**2.17**	**331**			Pb	11 29 54.9	+0.2
DGR	**Domenigoni Val**	**2.17**	**168**			Pn	11 29 50.8	-0.9
MURC	**Murrieta**	**2.19**	**172**			Pb	11 29 55.2	+0.2
V12A	**Nelson**	**2.21**	**90**			Pn	11 29 51.0	-1.3
V12A					IAML		11 30 32.3	
	comp=N,30nm,1.1s							
TPH	**Tonopah**	**2.32**	**7**	Pn	Pn	Pn	11 29 53.6	-0.4
TPH					IAML		11 30 30.9	
	comp=E,38nm,0.9s							
TPH					IAML		11 30 31.7	
	comp=N,33nm,0.5s							
PFO	**Pinyon Flats O**	**2.34**	**157**	Pn	Pn		11 29 53.0	-1.2
S11A	**Rachel**	**2.37**	**38**	Pn	Pn		11 29 53.8	-0.9
S11A					IAML		11 30 35.3	
	comp=N,62nm,0.8s							
FRD	**Ford Ranch, An**	**2.41**	**160**			Pb	11 29 59.3	+0.5
LHV	**Little Huntoon**	**2.58**	**343**	Pn	Pn		11 29 56.6	-0.8
LHV					IAML		11 31 05.7	
	comp=E,23nm,0.9s							
PRN	**Pahroc Range**	**2.60**	**50**	Pn	Pn	Pn	11 29 57.0	-0.8
PRN					IAML		11 30 42.8	
	comp=N,42nm,0.5s							
PRN					IAML		11 30 53.2	
	comp=E,45nm,0.6s							
PMPB	**Monarch Peak**	**2.66**	**281**	Pn	Pn	Pn	11 29 56.8	-1.7
PMPB					IAML		11 30 45.2	
	comp=E,44nm,0.9s							
NV11	**Mina Array Sit**	**2.70**	**350**	Pn	Pn		11 29 58.3	-0.8
NVAR	**Mina Array Bea**	**2.72**	**348**	Pn	Pn		11 29 59.0	-0.5
BBGB	**Big Mountain B**	**2.92**	**287**	Pn	Pn		11 30 01.0	-1.2
RYN	**Ryan**	**2.95**	**345**	Pn	Pn		11 30 01.4	-1.3
R11B	**Troy Canyon, C**	**3.02**	**31**	Pn	Pn		11 30 02.2	-1.4
R11B					IAML		11 30 50.6	
	comp=E,16nm,0.9s							
W13A	**Hualapai Mount**	**3.08**	**102**	Pn	Pn		11 30 03.3	-1.1
WAKR	**Walker**	**3.11**	**332**	Pn	Pn		11 30 02.3	-2.5
CMB	**Columbia Colle**	**3.19**	**316**	Pn	Pn		11 30 04.7	-1.2
CMB					IAML		11 31 04.8	
	comp=N,12nm,1.3s							
BLYC	**Blythe**	**3.22**	**128**	Pn	Pn		11 30 04.9	-1.2
BLYC					IAML		11 30 59.9	
	comp=N,28nm,0.5s							
SAO	**San Andreas Ge**	**3.29**	**289**	Pn	Pn		11 30 06.7	-0.4
TKX	**Tecate**	**3.29**	**166**	Pn	Pn		11 30 06.9	-0.3
YUH	**Yuha Desert**	**3.40**	**156**	Pn	Pn		11 30 07.6	-1.1
YUH					IAML		11 30 48.3	
	comp=E,18nm,5.0s							
YUH					IAML		11 31 18.6	
	comp=N,10nm,3.8s							
CBX	**Cerro Bola**	**3.53**	**167**	Pn	Pn		11 30 10.2	-0.4
GLA	**Glamis**	**3.54**	**139**	Pn	Pn		11 30 09.8	-0.7
LCMT	**Little Creek M**	**3.70**	**69**		Pn		11 30 12.4	-0.6
CCUT	**Cedar City**	**3.82**	**61**	Pn	Pn		11 30 14.8	+0.1
CCUT					IAML		11 31 42.9	
	comp=E,8.4nm,4.6s							
CCUT					IAML		11 31 43.6	
	comp=N,8.5nm,3.5s							
CCX	**Cicese**	**3.97**	**169**	Pn	Pn		11 30 15.9	-0.6
ESJX	**Sierra Juarez**	**3.99**	**160**	Pn	Pn		11 30 16.5	-0.5
ESJX					IAML		11 31 25.3	
	comp=E,13nm,4.0s							
ESJX					IAML		11 31 46.5	
	comp=N,10nm,4.9s							
MPK	**Martis Peak**	**4.03**	**332**	Pn	Pn		11 30 16.5	-1.0
MPK					IAML		11 32 00.3	
	comp=N,16nm,1.1s							
KNB	**Kanab**	**4.03**	**71**	Pn	Pn		11 30 17.2	-0.2
KNB					IAML		11 31 52.1	
	comp=N,9.1nm,4.3s							
KNB					IAML		11 32 07.3	
	comp=E,11nm,5.0s							
PSUT	**Pine Spring**	**4.05**	**46**	Pn	Pn		11 30 16.3	-1.4
PSUT					IAML		11 31 32.5	
	comp=E,8.5nm,2.0s							
PSUT					IAML		11 31 35.5	
	comp=N,9.2nm,2.0s							
SPR3	**Spring Creek 3**	**4.13**	**38**	Pn	Pn		11 30 18.3	-0.6
SPR3					IAML		11 31 29.4	
	comp=N,10nm,3.9s							
SPR3					IAML		11 31 46.6	
	comp=E,8.4nm,3.2s							
AFDM	**Forest Hills D**	**4.17**	**320**	Pn	Pn		11 30 18.5	-0.8
AFDM					IAML		11 31 34.2	
	comp=E,9.8nm,1.0s							
AFDM					IAML		11 31 56.4	
	comp=N,6.3nm,2.1s							
Y14A	**Wickenburg**	**4.17**	**115**	Pn	Pn		11 30 17.8	-1.6
Y14A					IAML		11 31 33.9	
	comp=E,12nm,0.8s							
Y14A					IAML		11 31 52.2	
	comp=N,15nm,1.5s							
PAHR	**Pah Rah Range**	**4.18**	**340**	Pn	Pn		11 30 19.4	-0.2
PAHR					IAML		11 32 00.6	
	comp=E,7.7nm,4.5s							

NEIC ***05*** *11:36:03.6±1.4,35.775N±0.010×117.585W±0.008, h9km±6km, Error ellipse: s-maj=1.5km s-min=0.8km az=178.0*

PAS 05 11:36:03.9±1.6,35.763N±0.010×117.58W±0.01, h8km±4km, ML3.2/277, ML2.9/96(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=213.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.05**	**348**		Pg	11 36 05.6	-0.1
CLC					Sg	11 36 07.2	+0.1
SRTC	**Snort**	**0.15**	**242**		Pg	11 36 07.4	+0.2
SRTC					Sg	11 36 10.6	+1.2
TOW	**Tower One**	**0.15**	**287**		Pg	11 36 07.6	+0.4
TOW					Sg	11 36 10.9	+1.5
WVPM	**Volcano Peak E**	**0.27**	**315**		Pg	11 36 09.2	-0.1
WNMM	**Nine Mile Cany**	**0.27**	**287**		Pg	11 36 09.3	-0.1
LRMC	**Laurel Mtn Rad**	**0.29**	**196**		Sg	11 36 13.9	+0.2
CCCA	**Chr Cany lake**	**0.30**	**143**		Pg	11 36 10.2	+0.3
CCCA					Sg	11 36 14.7	+0.9
WCSM	**Coso Springs S**	**0.30**	**331**		Pg	11 36 09.7	-0.3
WCSM					Sg	11 36 14.0	0.0
MPMC	**Manual Prospec**	**0.30**	**15**		Pg	11 36 09.8	-0.3
WRVM	**Rose V. Centra**	**0.35**	**315**		Pg	11 36 10.6	-0.2
WRVM					Sg	11 36 15.7	+0.2
WBSM	**Bird Springs**	**0.51**	**244**		Pg	11 36 13.3	-0.4
WBSM					Sg	11 36 20.3	-0.1
DTP	**Desert Tortois**	**0.54**	**203**		Pg	11 36 14.4	0.0
WORM	**Onyx Ranch**	**0.54**	**263**		Pg	11 36 13.8	-0.5
WORM					Sg	11 36 21.1	-0.4
QSM	**Queen of Sheba**	**0.61**	**71**		Pg	11 36 15.0	-0.8
QSM					Sg	11 36 23.7	-0.2
QSM					IAML	11 36 25.9	
	comp=N,986nm,0.2s						
WHFM	**Hanning Flat**	**0.63**	**264**		Pg	11 36 15.6	-0.4
WHFM					Sg	11 36 24.2	0.0
CCAC	**Calif City Air**	**0.70**	**210**		Sg	11 36 26.6	-0.1
CCAC	**Calif City Air**	**0.70**	**210**	Pg	Pg	11 36 16.7	-0.8
CCAC					IAML	11 36 27.4	
	comp=E,611nm,0.4s						
ISA	**Isabella, Lake**	**0.73**	**262**	Pg	Pg	11 36 16.9	-1.1
ISA					IAML	11 36 28.1	
	comp=E,655nm,0.4s						
GSC	**Goldstone, Bar**	**0.78**	**126**		Sg	11 36 28.9	-0.3
GSC	**Goldstone, Bar**	**0.78**	**126**	Pg	Pg	11 36 18.4	-0.6
CWC	**Cottonwood Cre**	**0.79**	**329**		Pg	11 36 19.1	0.0
WASM	**Alta Sierra Ca**	**0.79**	**268**		Pg	11 36 18.6	-0.6
WASM					Sg	11 36 29.1	-0.5
GWY	**Greenwater Val**	**0.85**	**60**	Pg	Pg	11 36 20.1	-0.2
GWY					Sg	11 36 31.4	-0.1
HYS	**Haystack Butte**	**0.90**	**179**		Pg	11 36 21.3	+0.1
EDW2	**Edwards Air Fo**	**0.94**	**201**		Pg	11 36 21.8	-0.2
SPG2	**Springville 2**	**1.05**	**295**		Pg	11 36 23.2	-1.0
SBB	**Saddle Back Bu**	**1.09**	**191**		Pg	11 36 24.4	-0.4
ADO	**Adelanto Recei**	**1.22**	**174**		Pb	11 36 26.9	-0.4
ADO					Sn	11 36 43.9	-0.1
VTV	**Victorville**	**1.22**	**170**		Sb	11 36 43.4	+0.3
GRAC	**Grapevine Rang**	**1.24**	**8**		Pn	11 36 27.2	-0.5
GRAC					IAML	11 36 47.7	
	comp=E,280nm,0.6s						
GRAC					IAML	11 36 50.7	
	comp=N,238nm,0.9s						
LRRC	**Littlerock Res**	**1.29**	**197**		Pb	11 36 28.3	-0.1
WCT	**Wildcat Mounta**	**1.29**	**37**		Pn	11 36 28.0	-0.3
WCT					IAML	11 36 46.5	
	comp=N,142nm,0.7s						
WCT					IAML	11 36 46.6	
	comp=E,159nm,0.4s						
JNH	**Juniper Hills**	**1.35**	**193**		Pg	11 36 29.7	-0.1
DSCC	**Desert Studies**	**1.36**	**117**		Pn	11 36 28.4	-0.8
HEC	**Hector,Ludlow**	**1.38**	**132**		Pn	11 36 29.3	-0.3
HEC					Sb	11 36 47.7	-0.2
TUQ	**Turquoise Moun**	**1.39**	**103**		Pn	11 36 29.1	-0.7
CHFC	**Chilao Flat St**	**1.47**	**194**		Pn	11 36 31.3	+0.4
BFSC	**Mount Baldy Ra**	**1.52**	**182**		Pb	11 36 32.4	-0.1
BFSC					Sg	11 36 52.4	-0.4
SSK	**Sunset Peak**	**1.55**	**183**		Pb	11 36 33.1	+0.1
GMN	**Gold Mountain**	**1.56**	**10**		Pn	11 36 30.4	-1.8
GMN					IAML	11 36 41.1	
	comp=N,93nm,0.5s						
MWC	**Mount Wilson**	**1.58**	**194**		Pb	11 36 33.6	+0.1
TPNV	**Topopah Spring**	**1.60**	**42**		Pn	11 36 31.9	-0.8
TPNV					IAML	11 36 57.2	
	comp=N,165nm,0.5s						
TPNV					IAML	11 36 59.2	
	comp=N,196nm,0.6s						
DSP	**Deep Springs**	**1.63**	**349**		Pn	11 36 32.1	-0.8
PSRC	**Puddingstone R**	**1.68**	**186**		Pg	11 36 35.6	-0.5
MTUM	**Tungsten Hills**	**1.77**	**334**		Pb	11 36 36.8	0.0
MZP	**Montezuma Peak**	**1.94**	**5**	Pn	Pn	11 36 36.9	-0.6
BENR	**Benton**	**2.10**	**338**		Pb	11 36 42.9	+0.4
ELS	**Elsinore Mount**	**2.11**	**176**	Pn	Pn	11 36 38.7	-0.9
ELS					IAML	11 37 14.0	
	comp=E,62nm,0.4s						
MLAC	**Mammoth, Mammo**	**2.12**	**332**		Pb	11 36 43.1	+0.4
MCSM	**Casa Diablo Ho**	**2.17**	**331**		Pb	11 36 44.1	+0.5
TPH	**Tonopah**	**2.33**	**7**		Pn	11 36 42.2	-0.5
TPH					IAML	11 37 20.1	
	comp=E,89nm,0.8s						
S11A	**Rachel**	**2.39**	**38**	Pn	Pn	11 36 42.8	-0.7
S11A					IAML	11 37 24.7	
	comp=N,99nm,0.6s						
CTCC	**Cactus City**	**2.48**	**148**		Pb	11 36 49.1	+0.3
LHV	**Little Huntoon**	**2.59**	**344**	Pn	Pn	11 36 45.2	-0.9
LHV					IAML	11 37 31.6	
	comp=N,35nm,0.5s						
LHV					IAML	11 37 33.0	
	comp=E,34nm,0.9s						
PRN	**Pahroc Range**	**2.62**	**50**	Pn	Pn	11 36 45.5	-1.1
PRN					IAML	11 37 33.0	
	comp=N,75nm,0.5s						
PRN					IAML	11 37 35.7	
	comp=E,76nm,0.7s						
PMPB	**Monarch Peak**	**2.65**	**281**	Pn	Pn	11 36 46.4	-0.6
PMPB					IAML	11 37 36.8	
	comp=N,70nm,1.1s						
NV11	**Mina Array Sit**	**2.70**	**350**	Pn	Pn	11 36 46.6	-1.3
NVAR	**Mina Array Bea**	**2.72**	**348**	Pn	Pn	11 36 47.3	-0.9
BBGB	**Big Mountain B**	**2.91**	**287**	Pn	Pn	11 36 49.9	-0.8
RYN	**Ryan**	**2.96**	**346**	Pn	Pn	11 36 49.9	-1.4
R11B	**Troy Canyon, C**	**3.04**	**31**	Pn	Pn	11 36 51.9	-0.5
W13A	**Hualapai Mount**	**3.09**	**101**	Pn	Pn	11 36 51.7	-1.5
WAKR	**Walker**	**3.11**	**332**	Pn	Pn	11 36 53.0	-0.5
CMB	**Columbia Colle**	**3.19**	**316**	Pn	Pn	11 36 54.2	-0.2
CMB					IAML	11 37 47.9	
	comp=N,22nm,0.8s						
CMB					IAML	11 37 49.4	
	comp=E,19nm,0.7s						
BLYC	**Blythe**	**3.22**	**128**	Pn	Pn	11 36 54.8	0.0
BLYC					IAML	11 37 49.1	
	comp=E,41nm,0.9s						
SAO	**San Andreas Ge**	**3.28**	**289**	Pn	Pn	11 36 55.5	-0.1
TKX	**Tecate**	**3.29**	**165**	Pn	Pn	11 36 55.0	-0.7
YUH	**Yuha Desert**	**3.40**	**156**	Pn	Pn	11 36 56.4	-0.9
CBX	**Cerro Bola**	**3.52**	**167**		Pn	11 36 58.5	-0.6
GLA	**Glamis**	**3.54**	**139**	Pn	Pn	11 36 58.3	-0.9
LCMT	**Little Creek M**	**3.72**	**69**	Pn	Pn	11 37 00.5	-1.2
CCUT	**Cedar City**	**3.83**	**61**	Pn	Pn	11 37 03.9	+0.4
CCUT					IAML	11 38 08.3	
	comp=N,15nm,1.2s						
CCX	**Cicese**	**3.96**	**169**	Pn	Pn	11 37 04.4	-0.5
ESJX	**Sierra Juarez**	**3.99**	**160**	Pn	Pn	11 37 04.9	-0.6
ESJX					IAML	11 38 15.0	
	comp=E,14nm,4.6s						
ESJX					IAML	11 38 39.5	
	comp=N,9.3nm,4.5s						
MPK	**Martis Peak**	**4.03**	**332**	Pn	Pn	11 37 05.0	-1.1
MPK					IAML	11 38 24.9	
	comp=E,23nm,1.0s						
MPK					IAML	11 38 26.8	
	comp=N,25nm,1.4s						
SZCU	**Shurtz Canyon**	**4.05**	**62**	Pn	Pn	11 37 05.4	-1.0
PSUT	**Pine Spring**	**4.06**	**46**	Pn	Pn	11 37 05.6	-1.0
PSUT					IAML	11 38 24.9	
	comp=N,11nm,1.6s						
PSUT					IAML	11 38 27.3	
	comp=E,11nm,1.0s						
AFDM	**Forest Hills D**	**4.17**	**321**	Pn	Pn	11 37 05.8	-2.1
AFDM					IAML	11 38 17.6	
	comp=N,13nm,0.8s						
AFDM					IAML	11 38 22.3	
	comp=E,16nm,0.9s						
Y14A	**Wickenburg**	**4.18**	**114**	Pn	Pn	11 37 06.1	-2.0
Y14A					IAML	11 38 23.6	
	comp=E,14nm,0.5s						
113A	**Mohawk Valley,**	**4.35**	**132**	Pn	Pn	11 37 08.2	-2.1
113A					IAML	11 38 19.2	
	comp=N,9.3nm,4.4s						
113A					IAML	11 38 25.9	
	comp=E,7.7nm,2.5s						
VTX	**Valle De La Tr**	**4.61**	**160**	Pn	Pn	11 37 11.7	-2.3
VTX					IAML	11 38 11.6	
	comp=E,14nm,1.3s						
VTX					IAML	11 39 30.1	
	comp=N,12nm,0.1s						
BEKR	**Beckworth**	**4.65**	**333**	Pn	Pn	11 37 13.1	-1.6
BEKR					IAML	11 38 38.9	
	comp=E,9.4nm,0.7s						
BEKR					IAML	11 38 51.2	
	comp=N,6.9nm,1.8s						
X16A	**Lo Mia Camp, P**	**5.21**	**103**	Pn	Pn	11 37 20.6	-1.8
X16A					IAML	11 38 36.4	
	comp=N,4.7nm,3.5s						
X16A					IAML	11 40 02.9	
	comp=E,5.0nm,5.0s						
214A	**Organ Pipe Nat**	**5.49**	**132**	Pn	Pn	11 37 25.9	-0.2
MPU	**Maple Canyon**	**6.34**	**46**	Pn	Pn	11 37 36.3	-1.5
PV02	**Paradox Valley**	**7.49**	**68**	Pn	Pn	11 37 53.4	-0.3

SOME ***05*** *11:50:18.4,44.32N×81.63E,h15km*
NNC ***05*** *11:50:19.4±2.5,44.09N×81.71E,h0km,mb2.7,mpv2.4, Error ellipse: s-maj=36.3km s-min=5.6km az=124.0*

ISC 05 11:50:19.2±3.5,44.0N±0.1×81.7E±0.1,h7km±18km,n7, σ1§68/14,4C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.11**	**242**	*e*P	**Pn**	**11 50 41.6**	**+0.2**
KTMS	0.3nm,0.2s			*e*S	**Sn**	**11 50 58.1**	**+1.0**
	5.4nm,0.3s						
PDGK	**Podgornoye**	**1.73**	**249**	⇑Pn	**Pb**	**11 50 50.9**	**-0.5**
PDGK	2.9nm,0.3s			⇓Sn	**Sg**	**11 51 16.4**	**+1.6**
	46nm,0.7s						
SHLS	**Shalkode**	**1.82**	**244**	*e*P	**Pn**	**11 50 50.0**	**-1.1**
SHLS	4.8nm,0.1s			*e*S	**Sn**	**11 51 12.6**	**-2.0**
	15nm,0.3s						
MAKZ	**Makanchi**	**2.83**	**4**	⇑Pn	**Pn**	**11 51 05.1**	**+0.1**
MAKZ	0.7nm,0.5s			⇑Sn	**Sn**	**11 51 38.6**	**-0.8**
	1.9nm,0.4s						
MK31	**Makanchi Array**	**2.84**	**8**	⇑Pn	**Pn**	**11 51 04.8**	**-0.3**
MK31	0.3nm,0.3s,baz=231,slow=13,SNR=27			⇓Sn	**Sn**	**11 51 39.5**	**-0.1**
	3.9nm,0.5s,baz=192,slow=30,SNR=15						
CHKK	**Chushkaly**	**3.41**	**269**	*e*P	**Pb**	**11 51 19.7**	**-0.2**
CHKK	7.1nm,0.1s			*e*S	**Sb**	**11 52 03.3**	**+1.8**
	6.0nm,0.0s						
KST	**Kastek**	**4.28**	**259**	*e*P	**Pb**	**11 51 37.0**	**+2.2**
KST	0.8nm,0.2s			*e*S	**Sg**	**11 52 33.3**	**-3.2**
	4.2nm,0.4s						

IDC ***05*** *11:56:37.3±0.5,48.95S×127.40E,h0km,mb4.8/14, mbtmp4.8/15,ML2.7/1,MS4.1/14,Error ellipse: s-maj=31.4km s-min=13.2km az=98.0*
BJI ***05*** *11:56:37.0,49.00S×127.50E,h5km,mB5.5/3,mb4.9/20, Ms4.8/1,Ms7 4.6/1*
NEIC ***05*** *11:56:39.4±1.8,48.95S±0.08×127.4E±0.2,h10km±1km, mb5.1/49,Error ellipse: s-maj=17.1km s-min=14.2km az=273.0*
GCMT ***05*** *11:56:41.4±0.3,48.91S±0.02×127.41E±0.03,h24km±2km, MW5.0/77,Moment Tensor Solution. s21,c23; s77,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.31±.26; Mθθ-2.03±.25; Mφφ2.34±.26; Mrθ-1.18±.29; Mθφ-3.17±.13; Mφr0.35±.24; Best double couple: Mo4.04500×10^16 NP1:φs17.00000°,δ72.00000°,λ-2.00000°. NP2: φs108.00000°,δ88.00000°,λ-162.00000°. Principal axes: T 4.1750, Plg11.0000°, Azm241.0000°; N -0.2600, Plg72.0000°, Azm114.0000°; P -3.9150, Plg14.0000°, Azm334.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 11:56:39.5±0.3,48.98S±0.05×127.39E±0.08,h13km,n193, σ1§10/174,mb5.0/48,MS4.2/15,7C-2D,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**15.12**	**74**		**Pn**	**12 00 11.9**	**-0.6**
TAU	**Tasmania Unive**	**15.12**	**74**	P	**Pn**	**12 00 14.8**	**+2.3**
MOO	**Moorlands**	**15.28**	**72**	P	**P**	**12 00 17.9**	**-1.6**
CORO	**Coronation Par**	**15.80**	**69**	P	**P**	**12 00 26.0**	**+0.7**
GEXS	**Deakin Univers**	**16.27**	**55**	P	**P**	**12 00 30.1**	**-0.4**
BRAT	**Ballarat**	**16.56**	**53**	P	**P**	**12 00 32.6**	**-1.2**
H01W1	**Cape Leeuwin H**	**17.14**	**320**	T	T	12 18 07.4	
	baz=146,slow=74,SNR=646						
H01W2	**Cape Leeuwin H**	**17.14**	**320**	T	T	12 18 05.6	
	baz=146,slow=74,SNR=776						
H01W3	**Cape Leeuwin H**	**17.15**	**320**	T	T	12 18 06.5	
	baz=146,slow=74,SNR=591						
TOO	**Toolangi**	**17.38**	**56**		**Pn**	**12 00 40.5**	**-1.0**
**

WRAB IAmb IAmb 12 02 43.6
comp=Z,37nm,1.2s
WR8 Warramunga Arr 29.51 14 P **P** **12 02 42.2 -1.2**
WR8 IAmb IAmb 12 02 44.2
comp=Z,20nm,0.8s
WB0 Warramunga Arr 29.68 13 P **P** **12 02 43.6 -1.3**
WB0 IAmb IAmb 12 02 45.0
comp=Z,37nm,1.5s
QIS Mount Isa 30.00 23 P **P** **12 02 47.2 -0.5**
FITZ Fitzroy Crossi 30.83 357 P **P** **12 02 54.6 -0.5**
VNDA Vanda 31.53 166 P **P** **12 03 01.1 +0.4**
VNDA IAmb IAmb 12 03 03.6
comp=Z,18nm,0.9s
VNDA Vanda 31.53 166 P **P** **12 03 00.9 +0.2**
comp=Z,13nm,0.8s,baz=316,slow=11,SNR=44
VNDA LR LR 12 14 31.6
comp=Z,479nm,20.1s,baz=339,slow=34
comp=Z,13nm,0.8s
SBA Scott Base 32.53 166 P **P** **12 03 10.6 +1.1**
SBA IAmb IAmb 12 03 20.5
comp=Z,27nm,1.2s
CTAO Charters Tower 32.56 34 P **P** **12 03 10.5 +0.2**
CTAO IAmb IAmb 12 03 55.4
comp=Z,51nm,1.7s
KNRA Kununurra 33.23 2 **P** **12 03 15.1 -1.0**
KNRA IAmb IAmb 12 03 16.0
comp=Z,20nm,1.0s
MTSU Mount Surprise 33.68 30 P **P** **12 03 20.3 +0.2**
MTN Manton Dam 36.16 6 P **P** **12 03 40.8 -0.7**
MTN IAmb IAmb 12 03 41.5
comp=Z,33nm,0.9s
MTN Manton Dam 36.16 6 P **P** **12 03 40.5 -1.0**
KDU Kakadu 36.42 8 P **P** **12 03 42.6 -1.1**
MAW Mawson 36.54 216 P **P** **12 03 43.9 -0.4**
comp=Z,5.6nm,1.0s,baz=87,slow=13,SNR=6.6
comp=Z,5.6nm,1.0s
URZ Urewera 36.95 92 LR LR 12 17 53.8
comp=Z,270nm,18.8s,baz=250,slow=35
BATI Baumata 38.77 354 LR LR 12 18 33.9
comp=Z,471nm,21.5s,baz=168,slow=34
EDFI Ende, Flores 40.38 351 P **P** **12 04 17.4 +0.3**
comp=Z,28nm,1.4s
DZM Mont Dzumac 40.92 63 *e*LR LR 12 15 34.5
comp=Z,586nm,28.3s
QSPA South Pole Qui 41.15 180 P **P** **12 04 23.7 +0.6**
QSPA IAmb IAmb 12 04 26.4
comp=Z,34nm,1.1s
QSPA South Pole Qui 41.15 180 P **P** **12 04 23.1 0.0**
comp=Z,25nm,1.1s,baz=340,slow=5.7,SNR=27
comp=Z,25nm,1.1s
KAPI Kappang 44.28 349 P **P** **12 04 49.2 +0.4**
KAPI IAmb IAmb 12 04 51.3
comp=Z,48nm,1.2s
KAPI Kappang 44.28 349 LR LR 12 23 44.0
comp=Z,87nm,18.1s,baz=124,slow=37
KAPI Kappang 44.28 349 P **P** **12 04 49.7 +0.9**
SYO Syowa Base 44.70 211⇓*e*P **P** **12 04 50.7 -0.8**
SYO Syowa Base 44.70 211⇑*e*pP pP 12 04 53.8 -0.4
SPSI Sidrap Palu 45.32 349 P **P** **12 04 58.3 +1.3**
comp=Z,30nm,1.2s
GENI Genyem 47.49 17 P **P** **12 05 14.9 +0.8**
GENI Genyem 47.49 17 P **P** **12 05 15.9 +1.8**
HNR Honiara 47.90 46 LR LR 12 24 54.2
comp=Z,364nm,18.2s,baz=194,slow=35
MDSI Maura Dua 48.53 328 P **P** **12 05 23.3 +1.1**
MPSI Mapaga 49.54 350 P **P** **12 05 30.5 +0.6**
comp=Z,15nm,0.9s
MANU Manus Island 49.80 27 P **P** **12 05 32.1 +0.2**
MANU IAmb IAmb 12 05 34.5
comp=Z,16nm,0.9s
TOLI2 Tolitoli 50.22 351 P **P** **12 05 35.0 +0.1**
TOLI2 Tolitoli 50.22 351 P **P** **12 05 35.1 +0.1**
STKI Sintang 50.74 339 P **P** **12 05 40.3 +1.3**
MSVF Nonsavu 51.26 71 P **P** **12 05 42.5 -0.5**
MSVF IAmb IAmb 12 05 46.3
comp=Z,39nm,1.2s
MSVF Nonsavu 51.26 71 LR LR 12 22 14.7
comp=Z,191nm,21.7s,baz=179,slow=30
KSM Kuching 52.38 338 P **P** **12 05 51.7 +0.4**
KSM IAmb IAmb 12 05 53.3
comp=Z,23nm,0.9s
KSM Kuching 52.38 338 P **P** **12 05 52.6 +1.3**
SBUM Sibu 52.88 341 P **P** **12 05 55.2 +0.2**
SBUM Sibu 52.88 341 P **P** **12 05 56.1 +1.1**
BELA Belgrano 2 52.93 185 P **P** **12 05 54.9 +0.2**
TROLL Troll, Antarti 53.28 199 ⇑P **P** **12 05 57.3 -0.2**
comp=Z,442nm,0.8s
MYKOM Kota Tinggi 54.52 331 P **P** **12 06 07.4 +0.5**
MYKOM Kota Tinggi 54.52 331 P **P** **12 06 08.2 +1.2**
SNAA Sanae 54.62 197 ⇑P **P** **12 06 07.2 0.0**
comp=Z,524nm,1.0s
SNAA Sanae 54.62 197 P **P** **12 06 07.0 -0.2**
SNAA Sanae 54.62 197 P **P** **12 06 06.9 -0.2**
comp=Z,26nm,1.0s,baz=141,slow=9.8,SNR=56
SNAA LR LR 12 28 17.9
comp=Z,234nm,19.9s,baz=213,slow=35
comp=Z,26nm,1.0s
KKM Kota Kinabalu 55.66 347 P **P** **12 06 14.7 -0.6**
VNA2 Neumayer--Watz 56.09 196 ⇑P **P** **12 06 17.6 -0.1**
comp=Z,10nm,0.7s,baz=129,slow=7.7
VNA3 Neumayer Olymp 56.24 195 ⇑P **P** **12 06 18.4 -0.4**
comp=Z,8.3nm,0.8s
VNA1 Neumayer--Stat 56.48 196 ⇑P **P** **12 06 20.7 +0.2**
comp=Z,27nm,1.1s
RPSI Rantau Prapat 57.08 325 **P** **12 06 25.1 -0.2**
RPSI IAmb IAmb 12 06 26.2
comp=Z,17nm,0.9s
PSI Prapat 57.18 325 P **P** **12 06 25.3 -0.9**
IPM Ipoh 57.98 329 P **P** **12 06 32.3 +0.6**
IPM Ipoh 57.98 329 P **P** **12 06 32.3 +0.6**
KULM Kulim 58.86 328 P **P** **12 06 38.6 +0.7**
KULM Kulim 58.86 328 P **P** **12 06 38.4 +0.5**
FUNA Funafuti 59.09 65 P **P** **12 06 40.5 +1.0**
H08S2 Diego Garcia H 61.64 293 T T 13 13 44.8
baz=142,slow=76,SNR=23
H08S1 Diego Garcia H 61.65 293 T T 13 13 45.6
baz=142,slow=76,SNR=20
H08S3 Diego Garcia H 61.66 293 T T 13 13 50.8
baz=142,slow=76,SNR=47
SMAI San Martin Ant 62.71 174 **P** **12 07 04.3 +0.9**
GUMO Guam 64.19 19 P **P** **12 07 13.2 -0.5**
GUMO Guam 64.19 19 P **P** **12 07 14.7 +1.0**
PMSA Palmer Station 66.24 175 LR LR 12 34 37.2
comp=Z,151nm,21.5s,baz=314,slow=34
ESPZ Base Esperanza 67.92 178 P **P** **12 07 37.9 +0.7**
TBI Tubuai 68.37 101 *e*LR LR 12 28 07.8
comp=Z,708nm,23.8s
OPO Ambohidratompo 69.85 265 LR LR 12 33 23.8
comp=Z,176nm,18.5s,baz=190,slow=32
CMAR Chiang Mai Arr 71.75 332 P **P** **12 08 01.7 +0.4**
CMAR Chiang Mai Arr 71.75 332 P **P** **12 08 02.2 +0.9**
comp=Z,7.6nm,0.7s,baz=159,slow=5.9,SNR=41
CMAR LR LR 12 37 46.8
comp=Z,59nm,20.2s,baz=175,slow=34
comp=Z,7.6nm,0.7s
CHTO Chiang Mai 72.08 332 P **P** **12 08 03.8 +0.5**
CHTO IAmb IAmb 12 08 05.3
comp=Z,15nm,1.1s
CHTO Chiang Mai 72.08 332 P **P** **12 08 05.1 +1.8**
PPT2 Papeete2 72.41 97 *e*LR LR 12 30 13.6
comp=Z,94nm,23.2s
PPT Papeete 72.43 97 LR LR 12 32 42.3
comp=Z,99nm,21.9s,baz=308,slow=30
SLVN Son La 73.06 337 P **P** **12 08 11.6 +2.5**
HOPE Hope Point 76.22 190 P **P** **12 08 27.3 +0.2**
BOSA Boshof 76.31 242 P **P** **12 08 27.5 -0.7**
BOSA Boshof 76.31 242 P **P** **12 08 27.6 -0.7**
comp=Z,2.4nm,0.8s,baz=162,slow=3.2,SNR=3.1
comp=Z,2.4nm,0.8s
KMI Kunming 76.98 337 P **P** **12 08 34.0 +2.1**
KMI pmax pmax
comp=Z,10.0nm,1.4s
PZH PanZhiHua 78.56 337 P **P** **12 08 42.7 +2.2**
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,120nm,4.9s
MAKGR Makgori 78.68 244 P **P** **12 08 41.5 +0.1**
MAKGR IAmb IAmb 12 08 42.7
comp=Z,18nm,0.8s
MREMI Moremi 79.52 248 P **P** **12 08 45.0 -1.1**
MREMI IAmb IAmb 12 09 56.5
comp=Z,36nm,1.4s
NJ2 Nanjing 81.02 353 *e*P **P** **12 08 56.6 +3.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s

JNU Nakatsue 81.79 3 P **P** **12 08 57.2 -0.5**
comp=Z,7.2nm,1.1s,baz=133,slow=8.3,SNR=2.8
comp=Z,7.2nm,1.1s
XAN Xi'an 84.27 345 ⇑P **P** **12 09 11.1 +0.6**
XAN pmax pmax
comp=Z,13nm,0.9s
XAN Xi'an 84.27 345 ⇓P **P** **12 09 12.5 +2.0**
XAN pmax pmax
comp=Z,8.0nm,0.5s
LSZ Lusaka 84.53 253 P **P** **12 09 12.0 -0.5**
LSZ IAmb IAmb 12 09 15.1
comp=Z,12nm,1.1s
EVN Everest 84.72 325 P **P** **12 09 12.3 -1.4**
EVN IAmb IAmb 12 09 23.4
comp=Z,15nm,1.1s
QNGWA Qangwa 85.62 245 P **P** **12 09 17.1 -0.8**
MAJO Matsushiro 85.69 9 P **P** **12 09 18.5 +1.0**
MJAR Matsushiro Arr 85.69 9 P **P** **12 09 17.0 -0.5**
comp=Z,7.7nm,0.9s,baz=189,slow=7.0,SNR=9.5
comp=Z,7.7nm,0.9s
KSAR Wonju Array Be 86.04 0 P **P** **12 09 19.5 +0.3**
KSRS Korea Array 86.05 0 P **P** **12 09 19.1 -0.1**
comp=Z,2.6nm,0.8s,baz=180,slow=4.3,SNR=14
KSRS LR LR 12 48 09.0
comp=Z,12μm,21.4s,baz=335,slow=36
comp=Z,2.6nm,0.8s
LZH Lanzhou 87.24 341 *e*P **P** **12 09 27.4 +2.1**
LZH sP pwP 12 09 35.8 +2.1
LZH pmax pmax
comp=Z,29nm,0.9s
LL01 San Ignacio de 87.37 165 P **P** **12 09 24.9 -1.1**
PLCA Paso Flores 89.28 166 P **P** **12 09 34.9 -0.3**
PLCA IAmb IAmb 12 09 38.1
comp=Z,12nm,1.2s
PLCA Paso Flores 89.28 166 P **P** **12 09 35.8 +0.5**
comp=Z,4.8nm,1.1s,baz=186,slow=9.2,SNR=5.4
PLCA LR LR 12 45 23.0
comp=Z,91nm,20.5s,baz=33,slow=33
comp=Z,4.8nm,1.1s
HHC Hu-ho-hao-te 90.53 348 *e*P **P** **12 09 42.2 +1.5**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,180nm,4.8s
GTA Gaotai 91.33 339 *e*P **P** **12 09 46.0 +1.5**
GTA pP pwP 12 09 54.4 +1.6
GTA sP sP 12 09 59.9 +11
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA LR LR
comp=Z,180nm,17.8s
GTA LR LR
comp=Z,110nm,20.0s
GTA LR LR
comp=Z,220nm,17.4s
CN2 Changchun 92.41 359 P **P** **12 09 50.0 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
XLT XiLinHaoTe 93.02 352 *e*P **P** **12 09 52.1 0.0**
XLT sP pwP 12 09 59.7 -0.7
XLT pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 98.13 346 P **P** **12 10 15.4 0.0**
comp=Z,0.4nm,0.4s,baz=153,slow=4.8,SNR=3.9
comp=Z,0.4nm,0.4s
WMQ Urumqi 98.75 332 *e*P Pdif 12 10 19.8 +1.6
TORD Torodi Ar. Bea 122.99 251 PKP **PKPdf** **12 15 35.2 -0.4**
comp=Z,0.6nm,0.8s,baz=169,slow=1.4,SNR=3.5
ILAR Eielson Array 131.19 35 PKP **PKPdf** **12 15 49.2 -0.5**
comp=Z,0.2nm,0.8s,baz=259,slow=5.3,SNR=2.0
NVAR Mina Array Bea 132.74 77 PKP **PKiKP** **12 15 55.0 0.0**
comp=Z,0.4nm,0.6s,baz=235,slow=3.4,SNR=2.9
TXAR Lajitas Array 136.74 98 PKhKP PKPpre 12 15 55.2
comp=Z,0.3nm,0.8s,baz=246,slow=1.5,SNR=3.9
TXAR PKP **PKiKP** **12 16 02.7 -0.5**
comp=Z,0.3nm,0.6s,baz=224,slow=1.9,SNR=4.5
PDAR Pinedale Array 140.68 77 PKP **PKPdf** **12 16 08.5 +0.1**
comp=Z,0.2nm,0.5s,baz=260,slow=3.8,SNR=1.8
YKA Yellowknife Ar 144.09 44 **PKPdf** **12 16 12.7 -0.8**
YKA Yellowknife Ar 144.09 44 PKP PKPbc 12 16 11.5 0.0
comp=Z,2.5nm,1.0s,baz=262,slow=3.8,SNR=12
YKAW1 Yellowknife Wh 144.14 44 PKPdf **PKPdf** **12 16 14.8 +1.2**
ESDC Sonseca Array 144.52 273 PKPbc 12 16 14.1 +0.3
ESDC Sonseca Array 144.52 273 PKP **PKPab** **12 16 13.5 0.0**
comp=Z,2.2nm,0.9s,baz=98,slow=1.1,SNR=12
FNO Franklin 144.59 96 PKPdf **PKPdf** **12 16 15.0 -0.2**
PAB San Pablo 144.70 273 **PKPab** **12 16 14.5 +0.3**
RSSD Black Hills 144.86 78 PKPbc 12 16 15.2 +0.3
NOR Nord 145.34 351 *i* P **PKPbc** **12 16 15.2 +0.1**
KAN12 Harper NE Stat 145.38 92 PKPbc **PKPbc** **12 16 15.5 -1.0**
OK052 Battle Ridge R 145.41 95 PKPbc **PKPdf** **12 16 16.9 +0.3**
KAN01 Argonia South 145.45 93 PKPdf **PKPdf** **12 16 15.6 -1.1**
DEOK Depew 145.53 96 PKPdf **PKPdf** **12 16 15.8 -1.0**
R32A Long Quarter, 145.53 90 PKPdf **PKPdf** **12 16 16.2 -0.6**
KAN13 South Haven SW 145.56 93 PKPdf **PKPab** **12 16 17.5 +0.1**
OK048 Pawnee Station 145.57 95 PKPdf **PKPdf** **12 16 16.2 -0.7**
QUOK Quay 145.58 95 PKPdf **PKPdf** **12 16 16.2 -0.8**
CAMR Camarioca 145.59 128 PKPdf **PKPdf** **12 16 16.2 -1.1**
OK051 E0350 and S346 145.69 94 PKPdf **PKPdf** **12 16 16.0 -1.1**
TUL3 Leonard 146.03 96 PKPdf **PKPbc** **12 16 18.6 0.0**
T35A Sooner Cattle 146.14 94 PKPdf **PKPdf** **12 16 17.8 -0.1**
WLAR White Oak Lake 146.41 102 PKPdf **PKPdf** **12 16 19.1 +0.7**
DGMT Dagmar 146.50 71 PKPdf **PKPdf** **12 16 18.8 +0.7**
RLO Rose Lookout 146.68 97 PKPdf **PKPdf** **12 16 18.3 -0.5**
K30B Basset 147.08 83 PKPdf **PKPdf** **12 16 17.9 -1.4**
U38A Gravette 147.26 97 PKPbc **PKPbc** **12 16 21.5 -0.7**
HHAR Hobbs 147.46 97 PKPbc **PKPbc** **12 16 22.9 +0.2**
EMPR Esperanza - Ma 147.56 155 PKPdf **PKPdf** **12 16 18.8 -2.0**
WHAR Wooly Hollow 147.94 100 PKPbc **PKPbc** **12 16 24.6 +0.6**
FCAR Ozark Folk Cen 148.41 100 PKPdf **PKPdf** **12 16 19.1 -2.6**
FCAR PKPab **PKiKP** **12 16 27.3 +0.5**
RES Resolute Bay 148.73 20 PKPdf **PKPdf** **12 16 19.4 -1.6**
DAG Danmarks Havn 149.08 346 *i* P **PKPbc** **12 16 25.3 -0.4**
LCAR Lake Charles 149.15 100 PKPdf **PKPdf** **12 16 20.5 -2.3**
LCAR PKPab **PKPab** **12 16 31.4 0.0**
EKA Eskdalemuir Ar 149.55 301 PKPbc **PKPbc** **12 16 27.1 -0.3**
comp=Z,1.5nm,0.6s,baz=119,slow=2.5,SNR=6.1
LRAL Lakeview Retre 149.87 109 PKPdf **PKPdf** **12 16 22.5 -1.6**
LRAL PKPab **pPKPab** **12 16 36.3 -1.2**
FVM French Village 150.73 98 PKPdf **PKPdf** **12 16 22.7 -2.6**
FVM **PKPab** **12 16 37.0 -1.0**
CGM3 Cape Girardeau 150.84 100 PKPdf **PKPdf** **12 16 23.7 -1.8**
CGM3 **PKPab** **12 16 38.0 -0.4**
DBG Daneborg 151.08 342 *i* P **PKPbc** **12 16 29.8 -0.8**
WVT Waverly 151.33 103 **PKPab** **12 16 39.4 -1.1**
NEEM North Greenlan 151.41 359 *i* P **PKiKP** **12 16 32.1 -0.1**
ULM Lac du Bonnet 152.23 71 PKPbc **PKPbc** **12 16 34.2 +0.3**
comp=Z,5.2nm,1.0s,baz=324,slow=3.2,SNR=3.7
EYMN Ely 154.38 77 **PKPab** **12 16 54.2 +1.1**

*IDC **05** 12:14:38.5±1.0,58.19S×25.59W, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=35.0km s-min=31.2km az=57.0*
*NEIC **05** 12:14:44.4±1.5,58.2S±0.2×25.6W±0.3, h35km±2km, mb4.6/18, Error ellipse: s-maj=36.2km s-min=16.2km az=43.0*
ISC 05 12:14:44.2±0.7, 58.32S±0.10×25.7W±0.1, h38km, n61, σ1.971/58, mb4.5/12, 3C-7D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.25**	**299**		**Pn**	**12 16 26.5**	**-0.9**
VNA1	**Neumayer--Stat**	**14.37**	**156**	⇓P	**P**	**12 18 08.5**	**-2.5**
VNA1	comp=Z,15nm,0.3s			⇓S	**Sn**	**12 20 40.7**	**-1.6**
VNA3	**Neumayer Olymp**	**14.57**	**159**	⇓P	**Pn**	**12 18 09.3**	**+2.0**
VNA3	comp=Z,28nm,0.3s			⇑S	**Sn**	**12 20 42.6**	**-4.6**
VNA2	**Neumayer--Watz**	**14.77**	**156**	⇓P	**Pn**	**12 18 12.8**	**+2.8**
VNA2	comp=Z,9.1nm,0.2s,baz=324,slow=13 baz=336,slow=13			⇑S	**Sn**	**12 20 47.5**	**-4.6**
SNAA	**Sanae**	**16.32**	**154**	⇓P	**P**	**12 18 34.4**	**+1.6**
SNAA	comp=Z,391nm,0.6s			⇑S	**Sn**	**12 21 25.8**	**-4.1**
SNAA	**Sanae**	**16.32**	**154**	P	**P**	**12 18 34.6**	**+1.9**
TROLL	**Troll, Antarti**	**17.84**	**151**	⇓P	**P**	**12 18 52.2**	**+2.7**
TROLL	comp=Z,256nm,0.5s			⇓S	**Sn**	**12 22 02.1**	**-4.6**
EFI	**East Falkland**	**19.60**	**276**	P	**Pn**	**12 19 09.7**	**-0.6**
EFI	comp=Z,54nm,1.2s			IAmb	IAmb	12 19 41.2	

BELA Belgrano 2 19.88 186 P **Pn** **12 19 13.6 +0.2**
TRQA Tornquist 31.01 295 P **P** **12 20 56.8 -1.1**
TRQA IAmb IAmb 12 21 19.9
comp=Z,14nm,1.2s
QSPA South Pole Qui 31.92 180 P **P** **12 21 08.3 +2.5**
QSPA IAmb IAmb 12 21 31.3
comp=Z,7.7nm,1.5s
PLCA Paso Flores 33.26 282 P **P** **12 21 18.4 +0.8**
PLCA IAmb IAmb 12 21 19.0
comp=Z,7.2nm,1.2s
PLCA Paso Flores 33.26 282 P **P** **12 21 18.0 +0.4**
comp=Z,1.3nm,0.4s,baz=140,slow=6.0,SNR=11
comp=Z,1.3nm,0.4s
LR04 Corral 35.37 280 P **P** **12 21 35.3 -0.5**
BI05 Punta Hualpn 37.61 284 P **P** **12 21 55.6 +0.7**
BO02 Sierra Bellavi 37.91 288 P **P** **12 21 57.0 -0.6**
BO02 IAmb IAmb 12 22 05.5
comp=Z,14nm,1.1s
MT09 Talagante 38.83 289 P **P** **12 22 05.5 +0.2**
MT01 Popeta 38.89 289 P **P** **12 22 05.5 -0.2**
MT01 IAmb IAmb 12 22 49.0
comp=Z,18nm,1.2s
MT02 Curacav 39.31 289 P **P** **12 22 10.0 +0.7**
VNDA Vanda 44.34 182 P **P** **12 22 52.4 +2.7**
VNDA Vanda 44.34 182 P **P** **12 22 52.2 +2.5**
comp=Z,0.6nm,0.7s,baz=180,slow=3.0,SNR=2.2
comp=Z,0.6nm,0.7s
H04S2 CROZET ISLANDS 45.90 111 T T 13 13 32.6
baz=225,slow=75,SNR=24
H04S3 CROZET ISLANDS 45.91 111 T T 13 13 36.0
baz=225,slow=75,SNR=32
H04S1 CROZET ISLANDS 45.92 111 T T 13 13 33.7
baz=225,slow=75,SNR=30
GO01 Chusmiza 49.86 302 P **P** **12 23 33.3 -0.7**
GO01 IAmb IAmb 12 24 15.5
comp=Z,5.4nm,1.4s
H10S2 ASCENSION HYDR 49.97 14 T T 13 18 10.9
baz=188,slow=74,SNR=7.0
H10S3 ASCENSION HYDR 49.98 14 T T 13 18 11.0
baz=32,slow=74,SNR=6.6
H10N1 ASCENSION HYDR 51.09 14 T T 13 19 29.6
baz=181,slow=71,SNR=4.5
H10N3 ASCENSION HYDR 51.09 14 T T 13 19 30.5
baz=181,slow=71,SNR=3.8
H10N2 ASCENSION HYDR 51.11 14 T T 13 19 33.0
baz=181,slow=71,SNR=5.8
PB16 IPOC Station P 51.16 302 P **P** **12 23 43.2 -0.7**
PB16 IAmb IAmb 12 24 03.8
comp=Z,11nm,1.5s
CASY Casey 51.48 159 P **P** **12 23 45.2 +0.2**
CASY IAmb IAmb 12 23 52.3
comp=Z,8.3nm,1.1s
LPAZ La Paz 52.37 305 P **P** **12 23 52.3 -0.7**
LPAZ La Paz 52.37 305 P **P** **12 23 52.3 -0.7**
comp=Z,1.4nm,0.5s,baz=156,slow=18,SNR=5.0
comp=Z,1.4nm,0.5s
BOAV Boa Vista 66.59 322 P **P** **12 25 29.5 -0.8**
BOAV IAmb IAmb 12 25 37.6
comp=Z,6.4nm,1.2s
TORD Torodi Ar. Bea 74.66 28 P **P** **12 26 19.8 +0.4**
comp=Z,1.1nm,0.5s,baz=198,slow=5.6,SNR=9.3
comp=Z,1.1nm,0.5s
ASAR Alice Springs 96.57 161 P **P** **12 28 08.7 -1.1**
comp=Z,0.3nm,0.8s,baz=199,slow=2.5,SNR=1.4
comp=Z,0.3nm,0.8s
FITZ Fitzroy Crossi 100.25 152 Pdif **Pdif** **12 28 28.1 +1.8**
ARCES ARCESS Array B 132.75 22 PKP **PKPdf** **12 33 52.0 -1.1**
comp=Z,1.5nm,0.8s,baz=224,slow=3.8,SNR=1.5
YKA Yellowknife Ar 138.40 316 PKP **PKPdf** **12 34 02.8 -1.0**
comp=Z,0.6nm,0.6s,baz=120,slow=1.7,SNR=11
O30N Mendenhall 146.15 304 PKPdf **PKPbc** **12 34 18.8 0.0**
A36M Sachs Harbour 146.58 326 PKPbc **PKPbc** **12 34 18.7 -1.0**
N30M Aishikik Lake 146.89 305 PKPbc **PKPbc** **12 34 21.3 +0.3**
M30M Minto, Yukon 147.25 307 PKPdf **PKPbc** **12 34 20.7 -1.2**
H31M Peel River 147.52 313 PKPdf **PKPbc** **12 34 21.7 -0.9**
J30M Hart River 147.85 311 PKPbc **PKPbc** **12 34 23.5 -0.1**
F31M Tsiigehtchic 147.87 316 PKPdf **PKPdf** **12 34 21.3 +1.0**
G31M Satah River 147.89 315 PKPdf **PKPbc** **12 34 22.3 -1.1**
K29M Barlow Dome 148.05 309 PKPbc **PKPbc** **12 34 23.8 -0.4**
INK Inuvik 148.07 318 PKPdf **PKPbc** **12 34 22.3 -1.5**
EPYK Eagle Plains 148.63 314 PKPbc **PKPbc** **12 34 24.7 -0.7**
F30M Barrier River 148.67 316 PKPdf **PKPdf** **12 34 23.1 +1.4**
H29M Whitestone 149.21 313 PKPbc **PKPbc** **12 34 26.2 -0.7**
G29M Pine Creek 149.29 314 PKPbc **PKPbc** **12 34 26.6 -0.5**
M27K Edge Creek, AK 149.33 305 PKPbc **PKPbc** **12 34 27.3 -0.2**
BCAR Beaver Creek A 149.55 306 PKPbc **PKPbc** **12 34 27.3 -0.5**
VRDI Verde Repeater 149.59 302 PKPbc **PKPbc** **12 34 28.4 +0.2**
RAGM Ragged Mountai 149.81 300 PKPbc **PKPbc** **12 34 28.8 +0.2**
K27K Chicken 150.00 308 PKPbc **PKPbc** **12 34 29.0 +0.1**
H27K Steamboat Moun 150.44 312 PKPbc **PKPbc** **12 34 29.8 -0.2**
ILAR Eielson Array 152.22 308 PKPbc **PKPbc** **12 34 33.0 -1.0**
comp=Z,1.4nm,0.4s,baz=126,slow=1.2,SNR=40

*NEIC **05** 12:23:57.7±1.9, 35.740N±0.007×117.53W±0.01, h3km±2km, Error ellipse: s-maj=1.6km s-min=0.9km az=65.0*
PAS 05 12:23:58.0±1.8, 35.723N±0.009×117.529W±0.008, h3km±3km, ML3.3/18, ML3.0/120(NEIC), Error ellipse: s-maj=1.3km s-min=0.9km az=169.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.11**	**329**		Pg	12 24 00.3	+0.1
TOW	**Tower One**	**0.21**	**294**		Pg	12 24 02.7	+0.6
TOW					Sg	12 24 06.8	+1.9
CCCA	**Chr Cany lake**	**0.24**	**146**		Pg	12 24 03.2	+0.6
LRMC	**Laurel Mtn Rad**	**0.27**	**207**		Pg	12 24 03.5	+0.2
WVPM	**Volcano Peak E**	**0.33**	**314**		Pg	12 24 04.5	+0.1
WNMM	**Nine Mile Cany**	**0.33**	**291**		Pg	12 24 04.5	+0.2
WCSM	**Coso Springs S**	**0.36**	**327**		Pg	12 24 05.2	+0.3
WCSM					Sg	12 24 10.6	+0.9
WRVM	**Rose V. Centra**	**0.41**	**314**		Pg	12 24 05.9	0.0
MFS	**McCloud Flat S**	**0.47**	**326**		Pg	12 24 07.0	-0.1
MFS					Sg	12 24 13.9	+0.6
DTP	**Desert Tortois**	**0.52**	**210**		Pg	12 24 07.7	-0.3
WBSM	**Bird Springs**	**0.53**	**250**		Pg	12 24 08.0	-0.2
QSM	**Queen of Sheba**	**0.59**	**66**		Pg	12 24 09.1	-0.2
QSM				IAML		12 24 19.9	
QSM	comp=E,687nm,0.2s			IAML		12 24 21.9	
WHFM	**Hanning Flat**	**0.67**	**268**		Pg	12 24 10.5	-0.3
CCAC	**Calif City Air**	**0.69**	**215**		Pg	12 24 11.0	-0.3
CCAC	comp=E,1μm,0.7s			IAML		12 24 20.9	
CCAC	comp=N,1μm,0.4s			IAML		12 24 22.0	
CCAC	**Calif City Air**	**0.69**	**215**		Sg	12 24 20.8	+0.5
GSC	**Goldstone, Bar**	**0.72**	**125**	Pg	Pg	12 24 11.6	-0.3
ISA	**Isabella, Lake**	**0.77**	**266**	Pg	Pg	12 24 12.4	-0.4
ISA				IAML		12 24 23.8	
ISA	comp=E,703nm,0.2s			IAML		12 24 26.7	
ISA	**Isabella, Lake**	**0.77**	**266**		Sg	12 24 23.1	+0.2
GWY	**Greenwater Val**	**0.84**	**56**		Pg	12 24 13.7	-0.4
GWY	comp=E,900nm,0.4s			IAML		12 24 30.8	
WASM	**Alta Sierra Ca**	**0.84**	**271**		Pg	12 24 13.7	-0.4
WASM					Sg	12 24 24.8	-0.1
HYS	**Haystack Butte**	**0.86**	**182**		Pb	12 24 15.2	-0.4
EDW2	**Edwards Air Fo**	**0.92**	**205**		Pb	12 24 16.6	-0.1
RRX	**Edison Barstow**	**0.95**	**153**		Pg	12 24 15.8	-0.4
TPO	**Tropico Hills**	**1.02**	**214**		Pg	12 24 17.7	+0.2
SHOC	**Shoshone, Teco**	**1.03**	**80**		Pg	12 24 17.8	0.0
SBB	**Saddle Back Bu**	**1.06**	**193**		Pg	12 24 18.4	+0.1
TEJ	**El Tejon**	**1.07**	**243**		Pg	12 24 17.2	-1.2
SPG2	**Springville 2**	**1.11**	**296**		Pg	12 24 18.5	-0.8
SPG2					Sg	12 24 33.0	-0.8
TJR	**Tejon Ranch**	**1.21**	**235**		Pg	12 24 19.9	-1.3
ARVC	**Arvin**	**1.22**	**241**		Pg	12 24 21.2	-0.2
THC	**Tehachapi Micr**	**1.23**	**229**		Pg	12 24 20.4	-1.2
AMDNV	**Amargosa**	**1.25**	**54**		Pg	12 24 20.6	-1.3
AMDNV					Sg	12 24 38.1	+0.1
LEOC	**Leona Valley**	**1.26**	**210**		Pg	12 24 22.3	+0.1
VES	**Vestal, Richgr**	**1.27**	**276**		Pg	12 24 21.6	-0.8
VES					Sg	12 24 38.7	-0.1
GRAC	**Grapevine Rang**	**1.28**	**6**	Pg	Pg	12 24 21.9	-0.6
HOLC	**Holcomb Ridge**	**1.29**	**192**		Pg	12 24 21.4	-1.3
HOLC					Sg	12 24 39.5	+0.1
CJV	**Casa Juvan**	**1.29**	**203**		Pg	12 24 22.6	-0.1
CJV					Sb	12 24 39.9	-0.1

WCT	**Wildcat Mounta**	**1.29**	**34**	Pg	Pg	12 24 21.6	-1.2		
WCT				IAML		12 24 41.9			
	comp=N,171nm,0.5s								
WCT				IAML		12 24 43.6			
	comp=E,191nm,0.9s								
DSCC	**Desert Studies**	**1.30**	**116**		Pg	12 24 21.8	-1.1		
DSCC					Sg	12 24 39.8	+0.1		
TUQ	**Turquoise Moun**	**1.34**	**102**		Pg	12 24 22.4	-1.2		
BAKC	**Calstate**	**1.34**	**254**		Pn	12 24 22.9	-0.6		
SIL	**Silver Peak**	**1.49**	**157**		Pn	12 24 25.8	0.0		
BBRC	**Big Bear Solar**	**1.54**	**161**		Pn	12 24 26.4	-0.1		
GMN	**Gold Mountain**	**1.59**	**8**		Pn	12 24 26.8	-0.5		
GMN				IAML		12 24 53.1			
	comp=N,140nm,0.6s								
GMN				IAML		12 24 54.4			
	comp=E,120nm,0.8s								
TPNV	**Topopah Spring**	**1.60**	**40**		Pn	12 24 26.2	-1.1		
TPNV				IAML		12 24 51.3			
	comp=E,206nm,0.5s								
TPNV				IAML		12 24 51.5			
	comp=E,176nm,0.7s								
PASC	**Pasadena Art C**	**1.64**	**199**		Pn	12 24 26.5	-1.2		
PASC				IAML		12 24 55.1			
	comp=N,158nm,0.8s								
PASC				IAML		12 24 56.5			
	comp=E,176nm,0.6s								
DSP	**Deep Springs**	**1.68**	**348**		Pn	12 24 27.6	-0.7		
GTM	**Goat Mountain**	**1.72**	**146**		Pn	12 24 29.6	+0.7		
BCW	**Bitter Crk WRg**	**1.73**	**244**		Pn	12 24 27.7	-1.3		
BCW				IAML		12 24 56.7			
	comp=N,196nm,0.7s								
BCW				IAML		12 25 11.3			
	comp=E,209nm,1.2s								
POCCA	**Poleta Canyon**	**1.75**	**340**		Pb	12 24 30.5	-0.3		
BHPR	**Bishop**	**1.75**	**334**		Pb	12 24 30.7	-0.3		
GMRC	**Granite Mounta**	**1.79**	**121**		Pn	12 24 27.5	-2.4		
MTUM	**Tungsten Hills**	**1.83**	**333**		Pb	12 24 32.0	-0.2		
CRGC	**Crocker Grade**	**1.86**	**256**		Pb	12 24 32.1	-0.5		
BLAC	**Blackrock camp**	**1.90**	**150**		Pn	12 24 30.2	-1.1		
MZP	**Montezuma Peak**	**1.98**	**3**		Pn	12 24 30.2	-2.5		
MZP				IAML		12 25 04.9			
	comp=E,72nm,0.5s								
EW2	**E Wide Canyon**	**2.00**	**152**		Pn	12 24 31.4	-1.3		
SHPR	**Sheep Range**	**2.07**	**67**		Pn	12 24 33.0	-0.8		
ELS	**Elsinore Mount**	**2.07**	**178**		Pn	12 24 32.8	-0.9		
ELS				IAML		12 25 07.2			
	comp=E,75nm,0.5s								
POB	**Polly Butte**	**2.09**	**166**		Pn	12 24 33.2	-0.8		
MURC	**Murrieta**	**2.13**	**173**		Pb	12 24 37.4	+0.1		
BENR	**Benton**	**2.16**	**337**		Pb	12 24 37.6	-0.2		
MLAC	**Mammoth, Mammo**	**2.17**	**331**		Pb	12 24 38.3	+0.1		
V12A	**Nelson**	**2.18**	**89**	Pn	Pn	12 24 33.9	-1.3		
V12A				IAML		12 25 09.7			
	comp=N,88nm,1.1s								
V12A				IAML		12 25 11.5			
	comp=E,68nm,0.5s								
MCSM	**Casa Diablo Ho**	**2.22**	**331**		Pb	12 24 39.2	+0.2		
CRY	**Cary Ranch**	**2.25**	**163**		Pb	12 24 39.6	+0.3		
PMD	**Palm Desert**	**2.28**	**155**		Pn	12 24 34.8	-1.6		
PFO	**Pinyon Flats O**	**2.28**	**157**		Pn	12 24 35.4	-1.3		
SNDA	**J Saunders Pla**	**2.29**	**161**		Pb	12 24 40.5	+0.4		
FRD	**Ford Ranch, An**	**2.35**	**161**		Pb	12 24 41.4	+0.4		
TPH	**Tonopah**	**2.36**	**6**	Pn	Pn	12 24 36.5	-1.3		
TPH				IAML		12 25 15.5			
	comp=E,118nm,1.1s								
TPH				IAML		12 25 17.4			
	comp=N,84nm,0.8s								
S11A	**Rachel**	**2.39**	**36**	Pn	Pn	12 24 37.6	-0.6		
S11A				IAML		12 25 23.0			
	comp=E,128nm,0.7s								
PLM	**Palomar**	**2.43**	**167**		Pb	12 24 42.7	+0.3		
CTW	**Cottonwood Mou**	**2.46**	**146**		Pn	12 24 37.2	-1.7		
PRN	**Pahroc Range**	**2.61**	**49**	Pn	Pn	12 24 40.0	-1.1		
PRN				IAML		12 25 30.8			
	comp=N,81nm,0.6s								
PRN				IAML		12 25 33.0			
	comp=E,89nm,0.7s								
LHV	**Little Huntoon**	**2.64**	**343**	Pn	Pn	12 24 40.3	-1.2		
LHV				IAML		12 25 29.2			
	comp=E,54nm,0.9s								
PMPB	**Monarch Peak**	**2.70**	**281**		Pn	12 24 40.8	-1.6		
NV11	**Mina Array Sit**	**2.75**	**350**		Pn	12 24 42.0	-1.1		
NVAR	**Mina Array Bea**	**2.77**	**347**	Pn	Pn	12 24 43.5	0.0		
BBGB	**Big Mountain B**	**2.97**	**288**	Pn	Pn	12 24 45.0	-1.1		
RYN	**Ryan**	**3.01**	**345**	Pn	Pn	12 24 45.3	-1.4		
W13A	**Hualapai Mount**	**3.04**	**101**	Pn	Pn	12 24 45.8	-1.4		
W13A				IAML		12 25 38.2			
	comp=N,43nm,0.6s								
W13A				IAML		12 25 40.2			
	comp=E,26nm,0.8s								
R11B	**Troy Canyon, C**	**3.05**	**30**	Pn	Pn	12 24 46.4	-0.9		
Q09A	**Carvers**	**3.12**	**5**	Pn	Pn	12 24 46.8	-1.4		
BLYC	**Blythe**	**3.16**	**128**	Pn	Pn	12 24 49.1	+0.5		
BLYC				IAML		12 25 42.1			
	comp=N,66nm,0.5s								
WAKR	**Walker**	**3.17**	**332**		Pn	12 24 47.4	-1.6		
WAKR				IAML		12 25 55.6			
	comp=N,25nm,0.8s								
CMB	**Columbia Colle**	**3.25**	**316**	Pn	Pn	12 24 48.0	-2.0		
CMB				IAML		12 25 45.3			
	comp=E,46nm,0.8s								
CMB				IAML		12 25 45.3			
	comp=N,38nm,0.7s								
YUH	**Yuha Desert**	**3.34**	**156**	Pn	Pn	12 24 50.2	-1.0		
CBX	**Cerro Bola**	**3.48**	**168**	Pn	Pn	12 24 52.3	-0.8		
GLA	**Glamis**	**3.48**	**139**	Pn	Pn	12 24 51.2	-1.8		
LCMT	**Little Creek M**	**3.69**	**68**		Pn	12 24 56.6	-0.4		
CCUT	**Cedar City**	**3.81**	**60**		Pn	12 24 56.9	-0.9		
ESJX	**Sierra Juarez**	**3.94**	**160**	Pn	Pn	12 24 57.9	-1.6		
ESJX				IAML		12 25 57.6			
	comp=N,27nm,0.1s								
KNB	**Kanab**	**4.01**	**70**		Pn	12 24 59.4	-1.1		
SZCU	**Shurtz Canyon**	**4.03**	**61**	Pn	Pn	12 24 58.8	-2.0		
PSUT	**Pine Spring**	**4.06**	**45**	Pn	Pn	12 24 59.5	-1.7		
PSUT				IAML		12 26 10.6			
	comp=N,17nm,0.8s								
PSUT				IAML		12 26 21.3			
	comp=E,26nm,1.2s								
MPK	**Martis Peak**	**4.08**	**332**	Pn	Pn	12 25 00.2	-1.4		
Y14A	**Wickenburg**	**4.12**	**114**		Pn	12 25 01.3	-0.6		
SPR3	**Spring Creek 3**	**4.14**	**37**	Pn	Pn	12 25 01.9	-0.6		
SPR3				IAML		12 26 08.8			
	comp=N,15nm,0.9s								
SPR3				IAML		12 26 11.6			
	comp=E,20nm,0.7s								
AFDM	**Forest Hills D**	**4.23**	**321**	Pn	Pn	12 25 02.2	-1.2		
AFDM				IAML		12 26 18.8			
	comp=N,15nm,0.4s								
AFDM				IAML		12 26 20.7			
	comp=E,26nm,0.6s								
PAHR	**Pah Rah Range**	**4.24**	**340**	Pn	Pn	12 25 01.5	-2.1		
113A	**Mohawk Valley,**	**4.29**	**132**	Pn	Pn	12 25 02.2	-1.9		
113A				IAML		12 26 21.1			
	comp=N,15nm,0.8s								
113A				IAML		12 26 31.6			
	comp=E,11nm,1.6s								
VTX	**Valle De La Tr**	**4.56**	**161**	Pn	Pn	12 25 08.4	+0.4		
VTX				IAML		12 27 01.9			
	comp=E,14nm,0.1s								
VTX				IAML		12 27 26.0			
	comp=N,13nm,0.1s								
BEKR	**Beckworth**	**4.71**	**332**	Pn	Pn	12 25 08.1	-2.0		
BEKR				IAML		12 26 35.6			
	comp=E,18nm,0.6s								
ORV	**Oroville**	**4.96**	**322**	Pn	Pn	12 25 12.7	-0.6		
ORV				IAML		12 26 38.8			
	comp=E,10.0nm,0.8s								
ORV				IAML		12 26 43.2			
	comp=N,6.9nm,0.8s								
WUAZ	**Wupatki**	**5.02**	**91**	Pn	Pn	12 25 12.4	-1.9		
WUAZ				IAML		12 26 39.3			
	comp=N,16nm,1.2s								
MVU	**Marysvale**	**5.08**	**55**	Pn	Pn	12 25 13.7	-1.5		
MVU				IAML		12 26 41.8			
	comp=N,9.3nm,0.7s								
MVU				IAML		12 26 56.3			
	comp=E,7.7nm,2.0s								
X16A	**Lo Mia Camp, P**	**5.16**	**103**	Pn	Pn	12 25 14.9	-1.4		
X16A				IAML		12 26 46.8			
	comp=E,7.6nm,0.8s								
X16A				IAML		12 26 47.1			
	comp=N,7.4nm,1.3s								
ELK	**Elko**	**5.33**	**19**	Pn	Pn	12 25 18.1	-0.5		
ELK				IAML		12 26 48.5			
	comp=N,4.6nm,0.8s								
ELK				IAML		12 26 48.9			
	comp=N,6.4nm,0.8s								
214A	**Organ Pipe Nat**	**5.43**	**132**	Pn	Pn	12 25 17.4	-2.5		
DUG	**Dugway, Tooele**	**5.81**	**38**	Pn	Pn	12 25 23.9	-1.4		
HMU	**Henry Mountain**	**5.88**	**66**	Pn	Pn	12 25 26.3	+0.1		

*IDC **05** 12:38:29.9±0.7,35°.80N×117°.42W,h0km,mb3.7/4, mbtmp3.5/11,ML3.6/5,MS3.2/2,Error ellipse: s-maj=15.8km s-min=5.5km az=73.0*

*NEIC **05** 12:38:29.0±1.9,35°.776N±0°.009×117°.56W±0°.01, h5km±1km,Error ellipse: s-maj=2.3km s-min=1.6km az=309.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.09; Mθθ-1.30; Mϕϕ1.21; Mrθ-0.22; Mθϕ0.68; Mϕr-0.32; Fault plane solution: M₀1.48000×1015 NP1:ϕs148.47000°,δ76.13000°,λ173.06000°. NP2: ϕs240.14000°,δ83.26000°,λ13.97000°. Principal axes: T 1.4788, Plg15.0000°, Azm105.0000°; N 0.0096, Plg75.0000°, Azm265.0000°; P -1.4885, Plg5.0000°, Azm14.0000°;*

*NEIC **05** 12:38:30,35°.77N×117°.57W,h7km*

*PAS **05** 12:38:30.0±1.9,35°.772N±0°.009×117°.57W±0°.01, h7km±2km,Mwr4.1/6,mb3.9/22(NEIC),ML4.2/114(NEIC), Mwr4.0/71(NEIC),Error ellipse: s-maj=1.5km s-min=1.3km az=58.0*

ISC 05 12:38:30.2±0.8,35°.76N±0°.02×117°.57W±0°.02,h10km±5km, n194,σ1§04/216,mb4.0/9,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.06**	**340**		**Pg**	**12 38 31.7**	**-0.7**
CLC					**Sg**	**12 38 33.1**	**-0.8**
SRTC	**Snort**	**0.16**	**245**		**Pg**	**12 38 33.8**	**+0.1**
SRTC					**Sg**	**12 38 37.2**	**+1.1**
TOW	**Tower One**	**0.16**	**288**		**Pg**	**12 38 33.8**	**0.0**
WVPM	**Volcano Peak E**	**0.28**	**314**		**Pg**	**12 38 35.3**	**-0.5**
WVPM					**Sg**	**12 38 39.4**	**-0.2**
WNMM	**Nine Mile Cany**	**0.28**	**287**		**Pg**	**12 38 35.6**	**-0.3**
WNMM					**Sg**	**12 38 40.1**	**+0.4**
CCCA	**Chr Cany lake**	**0.29**	**144**		**Pg**	**12 38 36.2**	**+0.2**
CCCA					**Sg**	**12 38 41.1**	**+1.2**
LRMC	**Laurel Mtn Rad**	**0.29**	**198**		**Pn**	**12 38 40.4**	**-0.4**
JRC2	**Joshua Ridge**	**0.29**	**319**		**Pn**	**12 38 40.0**	**-0.9**
MPMC	**Manual Prospec**	**0.31**	**13**		**Pg**	**12 38 35.7**	**-0.8**
MPMC					**Sg**	**12 38 40.2**	**-0.4**
WCSM	**Coso Springs S**	**0.31**	**329**		**Pg**	**12 38 35.9**	**-0.6**
WRVM	**Rose V. Centra**	**0.36**	**314**		**Pg**	**12 38 36.8**	**-0.6**
MFS	**McCloud Flat S**	**0.42**	**327**		**Pg**	**12 38 38.0**	**-0.6**
MFS					**Sg**	**12 38 43.8**	**-0.5**
WBSM	**Bird Springs**	**0.51**	**245**		**Pg**	**12 38 39.8**	**-0.5**
WBSM					**Sg**	**12 38 46.8**	**-0.2**
DTP	**Desert Tortois**	**0.54**	**204**		**Pg**	**12 38 40.2**	**-0.5**
WORM	**Onyx Ranch**	**0.55**	**264**		**Pg**	**12 38 40.3**	**-0.6**
WORM					**Sg**	**12 38 47.7**	**-0.5**
QSM	**Queen of Sheba**	**0.61**	**70**		**Pg**	**12 38 41.2**	**-0.8**
QSM					**Sg**	**12 38 49.5**	**-0.5**
QSM				IAML		12 38 50.1	
	comp=E,14μm,0.5s						
QSM				IAML		12 38 53.2	
	comp=N,16μm,0.6s						
WHFM	**Hanning Flat**	**0.64**	**265**		**Pg**	**12 38 41.9**	**-0.6**
WHFM					**Sg**	**12 38 50.5**	**-0.4**
CCAC	**Calif City Air**	**0.70**	**211**		**Sg**	**12 38 53.5**	**+0.4**
CCAC	**Calif City Air**	**0.70**	**211**	Pg	**Pg**	**12 38 43.4**	**-0.5**
CCAC				IAML		12 38 54.2	
	comp=E,11μm,0.7s						
CCAC				IAML		12 38 54.2	
	comp=N,16μm,0.4s						
ISA	**Isabella, Lake**	**0.74**	**263**		**Sg**	**12 38 53.7**	**-0.5**
ISA	**Isabella, Lake**	**0.74**	**263**	Pg	**Pg**	**12 38 43.8**	**-0.7**
ISA				IAML		12 38 54.7	
	comp=E,16μm,0.4s						
GSC	**Goldstone, Bar**	**0.77**	**126**		**Sg**	**12 38 55.2**	**-0.1**
GSC	**Goldstone, Bar**	**0.77**	**126**	Pg	**Pg**	**12 38 44.5**	**-0.7**
GSC				IAML		12 38 57.8	
	comp=N,14μm,0.5s						
CWC	**Cottonwood Cre**	**0.79**	**329**		**Pg**	**12 38 45.0**	**-0.6**
CWC					**Sg**	**12 38 55.3**	**-0.6**
WASM	**Alta Sierra Ca**	**0.80**	**269**		**Pg**	**12 38 45.0**	**-0.7**
CGO	**Cerro Gordo**	**0.81**	**347**		**Pg**	**12 38 44.7**	**-1.2**
CGO					**Sg**	**12 38 56.0**	**-0.6**
GWY	**Greenwater Val**	**0.85**	**60**		**Pg**	**12 38 45.7**	**-0.9**
GWY					**Sg**	**12 38 56.6**	**-1.0**
HYS	**Haystack Butte**	**0.89**	**180**		**Pg**	**12 38 46.6**	**-0.8**
FURC	**Furnace Creek,**	**0.91**	**39**		**Pg**	**12 38 47.2**	**-0.6**
EDW2	**Edwards Air Fo**	**0.94**	**202**		**Pg**	**12 38 47.3**	**-1.0**
RRX	**Edison Barstow**	**1.00**	**152**		**Pg**	**12 38 48.9**	**-0.5**
RRX					**Sg**	**12 39 02.5**	**0.0**
TPO	**Tropico Hills**	**1.03**	**212**		**Pg**	**12 38 49.1**	**-0.9**
TEJ	**El Tejon**	**1.05**	**240**		**Pg**	**12 38 49.0**	**-1.5**
TEJ					**Sg**	**12 39 03.3**	**-0.9**
SHOC	**Shoshone, Teco**	**1.06**	**82**		**Pg**	**12 38 50.2**	**-0.5**
SPG2	**Springville 2**	**1.06**	**295**		**Pg**	**12 38 49.3**	**-1.4**
SPG2					**Sg**	**12 39 02.9**	**-1.6**
SBB	**Saddle Back Bu**	**1.09**	**191**		**Pg**	**12 38 50.1**	**-1.0**
SBB					**Sb**	**12 39 06.0**	**+0.5**
MAGC	**SCE Magundon P**	**1.17**	**251**		**Pb**	**12 38 51.7**	**-0.9**
TJR	**Tejon Ranch**	**1.20**	**233**		**Pn**	**12 38 51.8**	**-1.4**
ARVC	**Arvin**	**1.21**	**239**		**Pn**	**12 38 52.5**	**-0.7**
ARVC					**Sb**	**12 39 08.8**	**0.0**
ADO	**Adelanto Recei**	**1.21**	**175**		**Pn**	**12 38 52.9**	**-0.4**
VTV	**Victorville**	**1.21**	**170**		**Pn**	**12 38 52.3**	**-1.1**
ALPC	**Antelope**	**1.22**	**209**		**Pn**	**12 38 52.5**	**-1.1**
THC	**Tehachapi Micr**	**1.23**	**227**		**Pn**	**12 38 52.3**	**-1.4**
VES	**Vestal, Richgr**	**1.23**	**274**		**Pn**	**12 38 52.8**	**-0.8**
GRAC	**Grapevine Rang**	**1.25**	**8**	Pg	**Pn**	**12 38 53.0**	**-0.8**
GRAC				IAML		12 39 16.0	
	comp=E,5μm,0.8s						
GRAC				IAML		12 39 16.7	
	comp=N,4μm,0.7s						
AMDNV	**Amargosa**	**1.25**	**56**		**Pn**	**12 38 52.3**	**-1.5**
LEOC	**Leona Valley**	**1.27**	**208**		**Pn**	**12 38 53.1**	**-1.1**
WCT	**Wildcat Mounta**	**1.28**	**36**		**Pn**	**12 38 53.1**	**-1.3**
WCT				IAML		12 39 12.4	
	comp=N,5μm,0.8s						
WCT				IAML		12 39 13.0	
	comp=E,4μm,0.5s						
LRRC	**Littlerock Res**	**1.29**	**197**		**Pn**	**12 38 53.3**	**-1.0**
SGV	**South Grapevin**	**1.29**	**20**		**Pn**	**12 38 53.4**	**-1.2**
CJV	**Casa Juvan**	**1.31**	**201**		**Pn**	**12 38 53.6**	**-1.2**
BAKC	**Calstate**	**1.32**	**252**		**Pn**	**12 38 54.2**	**-0.5**
HOLC	**Holcomb Ridge**	**1.32**	**190**		**Pn**	**12 38 53.7**	**-1.1**
JNH	**Juniper Hills**	**1.34**	**194**		**Pn**	**12 38 54.1**	**-1.1**
DSCC	**Desert Studies**	**1.35**	**117**		**Pn**	**12 38 53.3**	**-1.8**
HEC	**Hector,Ludlow**	**1.37**	**132**		**Pn**	**12 38 54.1**	**-1.5**
TUQ	**Turquoise Moun**	**1.38**	**103**		**Pn**	**12 38 54.1**	**-1.7**
TIN	**Tinemaha, Big**	**1.40**	**338**		**Pn**	**12 38 54.6**	**-1.3**
CHFC	**Chilao Flat St**	**1.47**	**195**		**Pn**	**12 38 55.9**	**-1.1**
LCH	**Last Change Ra**	**1.47**	**358**		**Pn**	**12 38 56.2**	**-0.9**
OSI	**Osito Audit: C**	**1.48**	**220**		**Pn**	**12 38 57.4**	**+0.4**
BFSC	**Mount Baldy Ra**	**1.52**	**183**		**Pb**	**12 38 58.8**	**+0.2**
SIL	**Silver Peak**	**1.54**	**156**		**Pb**	**12 38 58.6**	**-0.3**
SSK	**Sunset Peak**	**1.55**	**184**		**Pn**	**12 38 57.4**	**-0.7**
GMN	**Gold Mountain**	**1.56**	**9**		**Pn**	**12 38 57.4**	**-0.9**
GMN				IAML		12 39 07.2	
	comp=N,2μm,0.5s						
VOG	**Valley Oaks Go**	**1.57**	**291**		**Pn**	**12 38 58.5**	**+0.3**
MWC	**Mount Wilson**	**1.58**	**195**		**Pb**	**12 39 00.0**	**+0.3**
BBRC	**Big Bear Solar**	**1.59**	**160**		**Pb**	**12 38 59.5**	**-0.3**
TPNV	**Topopah Spring**	**1.60**	**42**		**Pn**	**12 38 57.8**	**-0.9**
TPNV				IAML		12 39 23.5	
	comp=N,4μm,0.7s						
DECC	**Green Verdugo**	**1.63**	**203**		**Pn**	**12 38 58.4**	**-0.6**
DSP	**Deep Springs**	**1.64**	**349**		**Pn**	**12 38 58.6**	**-0.6**
OAT	**Oat Mountain**	**1.65**	**211**		**Pn**	**12 38 59.0**	**-0.4**
PASC	**Pasadena Art C**	**1.66**	**198**		**Pn**	**12 38 58.8**	**-0.7**
PASC				IAML		12 39 24.8	
	comp=N,2μm,0.5s						
PASC				IAML		12 39 26.1	
	comp=E,2μm,0.7s						
MTPC	**Mountain Pass**	**1.67**	**99**		**Pn**	**12 38 58.3**	**-1.5**
PSRC	**Puddingstone R**	**1.67**	**187**		**Pn**	**12 38 59.4**	**-0.3**
SVD	**Seven Oaks Dam**	**1.69**	**167**		**Pb**	**12 39 01.5**	**0.0**
POCCA	**Poleta Canyon**	**1.70**	**341**		**Pn**	**12 39 00.0**	**-0.2**
BHPR	**Bishop**	**1.71**	**335**		**Pn**	**12 38 59.8**	**-0.5**
BCW	**Bitter Crk WRg**	**1.71**	**242**	Pn	**Pn**	**12 38 59.5**	**-0.8**
GR2C	**Griffith Obs.**	**1.74**	**200**		**Pb**	**12 39 02.8**	**+0.4**
CHNC	**Chino**	**1.76**	**183**		**Pg**	**12 39 03.4**	**-0.5**
BLCC	**Black Canyon**	**1.76**	**211**		**Pn**	**12 39 00.6**	**-0.3**
GTM	**Goat Mountain**	**1.77**	**145**		**Pb**	**12 39 03.0**	**+0.1**
MTUM	**Tungsten Hills**	**1.78**	**334**		**Pn**	**12 39 00.9**	**-0.4**
DJJ	**Donna J Jenkin**	**1.80**	**204**		**Pn**	**12 39 00.7**	**-0.7**
GMRC	**Granite Mounta**	**1.84**	**121**		**Pn**	**12 39 00.0**	**-2.1**
MZP	**Montezuma Peak**	**1.94**	**4**	Pn	**Pn**	**12 39 03.0**	**-0.6**
BLAC	**Blackrock camp**	**1.95**	**150**		**Pn**	**12 39 02.6**	**-0.9**
EW2	**E Wide Canyon**	**2.05**	**152**		**Pn**	**12 39 04.0**	**-0.8**
SHPR	**Sheep Range**	**2.09**	**68**	Pn	**Pn**	**12 39 04.5**	**-1.0**
SHPR				IAML		12 39 36.0	
	comp=N,948nm,0.9s						
SHPR				IAML		12 39 38.0	
	comp=E,935nm,0.6s						
HMTC	**Hemet**	**2.10**	**167**		**Pn**	**12 39 05.1**	**-0.4**
ELS	**Elsinore Mount**	**2.11**	**177**	Pn	**Pn**	**12 39 05.0**	**-0.7**
ELS				IAML		12 39 40.5	
	comp=E,1μm,0.7s						
ELS				IAML		12 39 45.0	
	comp=N,985nm,0.9s						
POB	**Polly Butte**	**2.13**	**165**		**Pn**	**12 39 05.7**	**-0.4**
DGR	**Domenigoni Val**	**2.15**	**167**		**Pn**	**12 39 06.0**	**-0.3**
V12A	**Nelson**	**2.21**	**90**	Pn	**Pn**	**12 39 06.3**	**-0.8**
V12A				IAML		12 39 50.8	
	comp=E,854nm,0.6s						
TPH	**Tonopah**	**2.33**	**7**	Pn	**Pn**	**12 39 08.5**	**-0.4**
PFO	**Pinyon Flats O**	**2.33**	**157**	Pn	**Pn**	**12 39 08.1**	**-0.7**
PFO				IAML		12 39 48.5	
	comp=E,728nm,0.8s						
PFO				IAML		12 39 54.8	
	comp=E,1μm,0.9s						
PFO	**Pinyon Flats O**	**2.33**	**157**	Pn	**Pn**	**12 39 07.9**	**-0.9**
	comp=E,40nm,0.7s,baz=336,slow=16,SNR=31						
PFO				Pg	**Pb**	**12 39 12.8**	**+0.4**
	comp=E,60nm,0.3s,baz=334,slow=15,SNR=16						
PFO				Lg	Lg	12 39 43.8	
	comp=E,275nm,0.3s,baz=246,slow=20,SNR=14						
LHV	**Little Huntoon**	**2.60**	**344**	Pn	**Pn**	**12 39 12.6**	**+0.3**
LHV				IAML		12 39 58.8	
	comp=E,895nm,1.0s						
PRN	**Pahroc Range**	**2.61**	**50**	Pn	**Pn**	**12 39 12.1**	**-0.6**
PRN				IAML		12 40 02.8	
	comp=E,2μm,1.3s						
PMPB	**Monarch Peak**	**2.66**	**281**	Pn	**Pn**	**12 39 13.2**	**-0.1**
NV11	**Mina Array Sit**	**2.71**	**350**	Pn	**Pn**	**12 39 13.8**	**-0.3**
NVAR	**Mina Array Bea**	**2.73**	**348**	Pn	**Pn**	**12 39 14.2**	**-0.2**
NVAR	**Mina Array Bea**	**2.73**	**348**	Pn	**Pn**	**12 39 13.8**	**-0.6**
	comp=E,21nm,0.3s,baz=168,slow=12,SNR=54						
NVAR				Pg	**Pb**	**12 39 20.3**	**+1.0**
	comp=E,97nm,0.3s,baz=172,slow=13,SNR=48						
NVAR				Lg	Lg	12 39 55.5	
	comp=E,48nm,0.3s,baz=172,slow=31,SNR=4.3						
NVAR				LR	LR	12 40 34.7	
	comp=E,327nm,18.4s,baz=38,slow=46						
	comp=E,30nm,0.5s						
BBGB	**Big Mountain B**	**2.92**	**287**	Pn	**Pn**	**12 39 16.9**	**0.0**
RYN	**Ryan**	**2.96**	**345**	Pn	**Pn**	**12 39 17.4**	**-0.2**
R11B	**Troy Canyon, C**	**3.04**	**31**	Pn	**Pn**	**12 39 18.1**	**-0.4**
W13A	**Hualapai Mount**	**3.08**	**101**	Pn	**Pn**	**12 39 17.9**	**-1.3**
Q09A	**Carvers**	**3.08**	**6**		**Pn**	**12 39 19.1**	**-0.1**
Q09A				IAML		12 40 28.4	
	comp=E,980nm,1.3s						
BLYC	**Blythe**	**3.21**	**128**	Pn	**Pn**	**12 39 19.1**	**-1.6**
BLYC				IAML		12 40 12.4	
	comp=N,699nm,0.7s						
BLYC				IAML		12 40 15.6	
	comp=E,869nm,0.9s						
TJX	**Tijuana**	**3.27**	**172**	Pn	**Pn**	**12 39 21.4**	**-0.2**
TKX	**Tecate**	**3.28**	**166**	Pn	**Pn**	**12 39 21.3**	**-0.5**
TKX				IAML		12 40 13.0	
	comp=E,654nm,0.7s						
TKX				IAML		12 40 14.1	
	comp=N,345nm,0.4s						
SAO	**San Andreas Ge**	**3.29**	**289**	Pn	**Pn**	**12 39 21.2**	**-0.6**
YUH	**Yuha Desert**	**3.39**	**156**	Pn	**Pn**	**12 39 22.5**	**-0.7**
YUH				IAML		12 40 24.5	
	comp=E,298nm,0.9s						
CBX	**Cerro Bola**	**3.52**	**167**	Pn	**Pn**	**12 39 25.8**	**+0.6**
GLA	**Glamis**	**3.53**	**139**	Pn	**Pn**	**12 39 25.8**	**+0.6**
LCMT	**Little Creek M**	**3.71**	**69**	Pn	**Pn**	**12 39 27.6**	**-0.2**
CPBX

PV04	Paradox Valley	7.41	67	Pn	Pn	12 40 16.9	-1.8
K05A	Summer Lake	7.42	341	Pn	Pn	12 40 17.0	-1.7
PV07	Paradox Valley	7.62	67	Pn	Pn	12 40 20.4	-1.1
DUN6	Lazy B Ranch	7.72	112		Pn	12 40 22.5	-0.4
319A	Douglas	8.18	120		Pn	12 40 28.6	-0.6
ANMO	Albuquerque	9.12	92	Pn	Pn	12 40 43.4	+1.3
	comp=E,0.1nm,0.3s,baz=301,slow=5.9,SNR=2.2						
ANMO				Pg		12 41 15.4	
	comp=E,0.6nm,0.3s,baz=16,slow=15,SNR=17						
ANMO				Lg	Lg	12 43 13.1	
	comp=E,0.2nm,0.3s,baz=285,slow=19,SNR=6.4						
ANMO				LR	LR	12 43 49.1	
	comp=E,139nm,18.7s,baz=66,slow=36						
	comp=E,1.1nm,0.7s						
PDAR	Pinedale Array	9.36	39	Pn	Pn	12 40 47.4	+2.0
	comp=E,0.1nm,0.3s,baz=244,slow=15,SNR=5.5						
PDAR				Lg	Lg	12 43 18.6	
	comp=E,0.2nm,0.3s,baz=225,slow=27,SNR=5.5						
	comp=E,0.6nm,0.7s						
NEW	Newport	12.50	1	Pn	Pn	12 41 28.4	+0.2
	comp=E,0.1nm,0.3s,baz=172,slow=7.1,SNR=2.2						
NEW				Lg	Lg	12 45 05.9	
	comp=E,0.1nm,0.3s,baz=229,slow=20,SNR=1.7						
	comp=E,0.6nm,0.5s						
ALPN	Alpine	12.86	111		Pn	12 41 32.6	-0.6
ODSA	Odessa	12.99	102	Pn	Pn	12 41 32.4	-2.6
TX31	Lajitas Ar. Si	13.36	115	Pn	Pn	12 41 38.5	-1.5
TXAR	Lajitas Array	13.36	115	Pn	Pn	12 41 41.2	+1.2
	comp=E,0.3nm,0.3s,baz=302,slow=14,SNR=15						
TXAR				Lg	Lg	12 45 29.9	
	comp=E,0.1nm,0.3s,baz=291,slow=28,SNR=7.8						
	comp=E,0.5nm,0.4s						
SAND	Sanderson	14.21	110	Pn	Pn	12 41 51.2	-0.5
BRDY	Brady	16.11	101		P	12 42 21.7	+1.5
PLPT	Palo Pinto	16.18	95	P	P	12 42 19.7	-1.4
PLPT				IAmb	IAmb	12 42 23.6	
	comp=Z,16nm,1.5s						
833A	Chaparral WMA,	17.09	111	P	Pn	12 42 28.2	-1.1
833A				IAmb	IAmb	12 42 33.5	
	comp=Z,16nm,1.2s						
TUL3	Leonard	17.66	83	P	Pn	12 42 36.3	-0.1
TUL3				IAmb	IAmb	12 42 39.3	
	comp=Z,7.5nm,0.9s						
N35A	Tabor	17.93	67	P	P	12 42 39.6	-0.7
735A	Kenedy	18.05	107	P	P	12 42 41.3	-0.4
RLO	Rose Lookout	18.26	82	P	P	12 42 44.0	+0.1
U38A	Gravette	18.75	81	P	Pn	12 42 49.1	-0.6
S39A	Bolivar	19.52	77	P	P	12 42 56.8	-1.0
MIAR	Mount Ida	19.65	87	P	P	12 42 57.3	-2.0
AGMN	Agassiz Nation	20.34	45	P	P	12 43 05.2	-1.4
AGMN				IAmb	IAmb	12 43 11.4	
	comp=Z,4.6nm,0.9s						
FCAR	Ozark Folk Cen	20.62	82	P	P	12 43 08.6	-1.1
FCAR				IAmb	IAmb	12 43 14.3	
	comp=Z,4.7nm,1.0s						
441A	DeRidder	20.97	97	P	P	12 43 13.4	-0.2
ULM	Lac du Bonnet	21.37	41	P	P	12 43 14.6	-3.1
ULM				IAmb	IAmb	12 43 22.6	
	comp=Z,3.8nm,0.8s						
ULM	Lac du Bonnet	21.37	41	P	P	12 43 17.8	+0.1
	comp=Z,3.5nm,0.8s,baz=229,slow=9.9,SNR=6.1						
	comp=Z,3.5nm,0.8s						
FFC	Flin Flon	21.82	25	P	P	12 43 21.3	-1.2
FFC				IAmb	IAmb	12 43 23.6	
	comp=Z,6.8nm,1.1s						
CGM3	Cape Girardeau	22.46	78	P	P	12 43 29.1	-0.4
CGM3				IAmb	IAmb	12 43 53.1	
	comp=Z,4.6nm,0.9s						
YKA	Yellowknife Ar	26.82	3	P	P	12 44 12.9	+2.4
	comp=Z,0.8nm,0.8s,baz=183,slow=9.2,SNR=6.5						
	comp=Z,0.8nm,0.8s						
ILAR	Eielson Array	33.94	338	P	P	12 45 16.0	+2.6
	comp=Z,0.6nm,0.9s,baz=128,slow=7.6,SNR=4.4						
	comp=Z,0.6nm,0.9s						
J20K	Nowinta River	35.99	334	P	P	12 45 31.1	+0.1
J20K				IAmb	IAmb	12 46 03.7	
	comp=Z,4.2nm,1.4s						
J19K	Poorman	36.43	333	P	P	12 45 36.4	+1.5
J19K				IAmb	IAmb	12 45 42.3	
	comp=Z,2.1nm,1.0s						
A36M	Sachs Harbour	36.52	356	P	P	12 45 35.7	+0.3
IMAR	Indian Mountai	36.91	336	P	P	12 45 40.6	+1.7
N14K	Kuskokwak Cree	37.18	325	P	P	12 45 42.0	+0.8
ROSC	El Rosal	50.28	117	P	P	12 47 27.3	-0.2
	comp=Z,11nm,0.5s,baz=294,slow=16,SNR=2.1						
PETK	Petropavlovsk-	59.39	316	P	P	12 48 33.8	+1.2
	comp=Z,1.0nm,0.9s,baz=69,slow=7.9,SNR=2.5						
	comp=Z,1.0nm,0.9s						

*IDC **05** 12:51:36.0±0.6,51°.19N×130°.67W,h0km,mb4.1/20, mbtmp4.1/28,ML3.5/8, Error ellipse: s-maj=10.8km s-min=8.5km az=38.0*

*PGC **05** 12:51:36.2±2.1,51°.20N×130°.73W,h10km,MLSn4.4/40, Mw4.7,ML4.5(PMR),Mw4.7(NEIC),208km southwest of Bella Bella, Bc Haida Gwaii Region*

*NEIC **05** 12:51:38.6±1.5,51°.41N±0°.06×130°.5W±0°.1,h10km±1km, mb4.6/273,Mwr4.7/10,Error ellipse: s-maj=13.2km s-min=6.1km az=228.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=0.03; Mθθ=0.31; Mφφ=0.34; Mrθ=0.28; Mθφ=0.98; Mφr=0.69; Fault plane solution: Mo1.28000×10¹⁶ NP1:φs=171.32000°,δ85.96000°, λ=-145.48000°. NP2:φs=78.55000°,δ55.58000°,λ=-4.89000°. Principal axes: T 1.2006, Plg20.0000°, Azm300.0000°; N 0.1399, Plg55.0000°, Azm177.0000°; P -1.3405, Plg27.0000°, Azm41.0000°;*

*NEIC **05** 12:51:38.8,51°.39N×130°.52W,h10km*

*PMR **05** 12:51:40.0,51°.39N×130°.48W,h12km*

ISC 05 12:51:37.2±1.4,51°.30N±0°.04×130°.61W±0°.04,h6km±9km, n838,σ1°§42/795,mb4.6/67,1D,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HG4B	Hotspring	1.06	340		Pg	12 51 56.4	-1.2
JEDB	Jedway, Haida	1.06	340	P	Pg	12 51 55.6	-2.0
JEDB				S	Sg	12 52 09.6	-1.8
BAIB	Barry Inlet	1.47	331	Pn	Pn	12 52 01.6	-2.6
BAIB				Sn	Sn	12 52 18.9	-4.9
HOLB	Holberg	1.70	112		Pn	12 52 04.9	-2.5
HOLB	Holberg	1.70	112	Pn	Pn	12 52 04.5	-2.9
HOLB				Sn	Sn	12 52 25.1	-4.3
BBB	Bella Bella	1.79	59	Pn	Pn	12 52 07.8	-0.8
	58nm,0.3s,baz=245,slow=16,SNR=578						
BBB				Sn	Sn	12 52 30.8	-0.8
	1µm,0.3s,baz=241,slow=19,SNR=13						
BBB	Bella Bella	1.79	59	Pn	Pn	12 52 07.8	-0.8
BBB				Sn	Sn	12 52 29.0	-2.5
HG1B	Mitchell Dam	1.89	331	Pn	Pn	12 52 07.1	-2.9
HG1B				Sn	Sn	12 52 29.5	-4.6
MOBC	Moresby Island	2.03	336	Pn	Pn	12 52 10.3	-1.7
MOBC	Moresby Island	2.03	336	Pn	Pn	12 52 10.1	-1.9
MOBC				Sn	Sn	12 52 33.8	-4.0
PHC	Port Hardy	2.09	105	Pn	Pn	12 52 09.8	-2.9
PHC				Sn	Sn	12 52 33.8	-5.2
PACB	Port Alice, BC	2.15	112	Pn	Pn	12 52 11.0	-2.5
PACB				Sn	Sn	12 52 35.5	-5.1
BNAB	Bonilla	2.20	359	Pn	Pn	12 52 13.3	-1.0
BNAB				Sn	Sn	12 52 41.0	-0.8
BUTB	Butedale	2.21	36	Pn	Pn	12 52 14.1	-0.3
BUTB				Sn	Sn	12 52 40.6	-1.5
DIB	Dawson Inlet,	2.23	330		Pn	12 52 12.2	-2.4
DIB	Dawson Inlet,	2.23	330	Pn	Pn	12 52 12.0	-2.6
DIB				Sn	Sn	12 52 37.8	-4.7
H02S1	DAWSON INLET T	2.23	330	Pn	Pn	12 52 12.4	-2.3
H02S1				Sn	Sn	12 52 38.8	-3.7
GRIB	Gribbell Islan	2.23	23	Pn	Pn	12 52 13.8	-1.0
GRIB				Sn	Sn	12 52 41.4	-1.3
MAYB	Maynard	2.35	111	Pn	Pn	12 52 13.9	-2.6
MAYB				Sn	Sn	12 52 41.6	-4.1
GRNB	Grenville Isla	2.58	9	Pn	Pn	12 52 19.0	-0.6
GRNB				Sn	Sn	12 52 49.3	-2.1
EDB	Eliza Dome	2.64	121	Pn	Pn	12 52 17.1	-3.2
EDB				Sn	Sn	12 52 47.6	-5.0
PCLB	Port Clements	2.69	335	Pn	Pn	12 52 19.4	-1.7
PCLB				Sn	Sn	12 52 50.5	-3.4
WOSB	Woss	2.80	112	Pn	Pn	12 52 20.6	-2.0
WOSB				Sn	Sn	12 52 51.7	-5.1
MBLB	Minette Bay Lo	3.00	23	Pn	Pn	12 52 25.0	-0.1
NCSB	Newcastle Ridg	3.02	105	Pn	Pn	12 52 23.8	-1.8
NCSB				Sn	Sn	12 52 57.5	-4.7
NCRB	Newcastle Ridg	3.02	105	Pn	Pg	12 52 35.8	+0.8
NDB	Naden	3.02	333	Pn	Pn	12 52 25.2	-0.4
KITB	Kitimat	3.03	22	Pn	Pn	12 52 25.4	-0.2
KITB				Sn	Sn	12 53 01.9	-0.4
RUBB	Prince Rupert	3.04	4		Pn	12 52 25.5	-0.3
RUBB	Prince Rupert	3.04	4	Pn	Pn	12 52 25.5	-0.3
RUBB				Sn	Sn	12 53 02.3	-0.2
NTKA	Nootka	3.07	122	Pn	Pn	12 52 23.1	-3.1
ETB	Estevan Point	3.24	125	Pn	Pn	12 52 25.5	-3.0
GDR	Gold River	3.29	116	Pn	Pn	12 52 27.0	-2.2
SHPB	Sharp Point	3.40	123	Pn	Pn	12 52 28.4	-2.3
CBB	Campbell River	3.56	109		Pn	12 52 31.5	-1.6
CBB	Campbell River	3.56	109	Pn	Pn	12 52 31.4	-1.6
CBB				Sn	Sn	12 53 12.7	-2.8
NC89	ODP889	3.58	136	Pn	Pn	12 52 30.7	-2.2
NC89				Sn	Sn	12 53 11.8	-3.7
B012	Ucluelet	4.03	124	Pn	Pn	12 52 37.4	-2.0
OZB	Mount Ozzard	4.04	123	Pn	Pn	12 52 37.4	-2.2
OZB				Sn	Sn	12 53 22.7	-4.4
V35K	Ketchikan	4.08	352		Pn	12 52 39.6	-0.5
V35K	Ketchikan	4.08	352	Pn	Pn	12 52 40.0	-0.1
V35K				Sn	Sn	12 53 26.5	-1.7
V35K	Ketchikan	4.08	352	P	Pn	12 52 39.9	-0.2
	baz=170,SNR=18						
TXB	Texada	4.25	110	Pn	Pn	12 52 40.9	-1.6
B927	Port Alberni	4.26	117	Pn	Pn	12 52 40.6	-1.9
PABB	Port Alberni	4.26	117	Pn	Pn	12 52 40.7	-1.8
BFSB	Bamfield	4.30	123	Pn	Pn	12 52 40.2	-2.9
B928	Bamfield	4.30	123	Pn	Pn	12 52 40.2	-2.9
MGRB	Mount Grey	4.44	119	Pn	Pn	12 52 42.5	-2.6
CRAG	Craig	4.44	341		Pn	12 52 44.0	-1.0
CRAG	Craig	4.44	341	P	Pn	12 52 44.8	-0.2
	baz=158,SNR=13						
U35K	Hyder	4.64	4	Pn	Pn	12 52 46.3	-1.4
NLLB	Nanaimo Lost L	4.72	113	Pn	Pn	12 52 46.9	-2.0
B926	Mesachie Lake	4.85	118	Pn	Pn	12 52 48.8	-1.8
CLRS	Cowichan Lake	4.85	118		Pn	12 52 49.4	-1.3
CLRS	Cowichan Lake	4.85	118	Pn	Pn	12 52 48.6	-2.0
PTRF	Port Renfrew	4.86	122	Pn	Pn	12 52 48.7	-2.1
FSJB	Fort St James	4.96	48	Pn	Pn	12 52 53.5	+1.2
FSJB				Sn	Sn	12 53 48.6	-1.4
WSLR	Whistler	5.02	100	Pn	Pn	12 52 52.8	-0.3
U33K	Whale Pass	5.05	344		Pn	12 52 51.9	-1.5
U33K	Whale Pass	5.05	344	Pn	Pn	12 52 53.3	-0.1
U33K				Sn	Sn	12 53 50.2	-1.9
U33K	Whale Pass	5.05	344	P	Pn	12 52 53.6	+0.2
	baz=161,SNR=6.1						
C03A	Quillayute Air	5.16	128	Pn	Pn	12 52 54.5	-0.4
SYMB	Survey Mountai	5.18	119	Pn	Pn	12 52 53.5	-1.8
WRAK	Wrangell Islan	5.24	349		Pn	12 52 56.4	+0.5
WRAK	Wrangell Islan	5.24	349	Pn	Pn	12 52 56.0	+0.1
WRAK				Sn	Sn	12 53 55.8	-0.7
WRAK	Wrangell Islan	5.24	349	P	Pn	12 52 56.5	+0.5
	baz=167,SNR=17						
B010	North Saanich	5.32	117	Pn	Pn	12 52 55.3	-1.8
B010				Sn	Sn	12 53 54.8	-3.9
PGC	Sidney	5.32	117		Pn	12 52 56.8	-0.3
PGC	Sidney	5.32	117	Pn	Pn	12 52 55.6	-1.5
B009	North Saanich	5.32	117	Pn	Pn	12 52 55.8	-1.3
B011	North Saanich	5.32	117	Pn	Pn	12 52 55.6	-1.5
SNB	Saturna Island	5.41	115	Pn	Pn	12 52 58.6	+0.2
STW	Striped Peak	5.49	122	Pn	Pn	12 52 58.5	-0.9
VGZ	Gonzales	5.52	119	Pn	Pn	12 52 59.3	-0.6
LLLB	Lillooet	5.56	94		Pn	12 53 00.9	+0.4
LLLB	Lillooet	5.56	94	Pn	Pn	12 53 00.5	0.0
OSD	Olympics--Snow	5.68	125	Pn	Pn	12 53 01.1	-1.1
T33K	Petersburg	5.70	347	Sn	Sn	12 54 05.9	-2.0
T35M	Bob Quinn	5.70	2		Pn	12 53 02.4	0.0
T35M	Bob Quinn	5.70	2	Pn	Pn	12 53 02.6	+0.2
T35M	Bob Quinn	5.70	2	P	Pn	12 53 03.0	+0.6
	baz=182,SNR=18						
A04D	Lummi Island	5.71	114		Pn	12 53 03.2	+0.8
NLWA	Neilton Lookou	5.88	129		Pn	12 53 04.8	-0.1
HDW	Hoodsport	6.13	124	Pn	Pn	12 53 07.8	-0.5
WISH	Wishkah	6.13	130		Pn	12 53 08.4	+0.3
WISH	Wishkah	6.13	130	Pn	Pn	12 53 07.3	-0.9
GNW	Green Mountain	6.30	123		Pn	12 53 11.6	+1.0
GNW	Green Mountain	6.30	123	Pn	Pn	12 53 11.1	+0.6
SIT	Sitka	6.40	336	Pn	Pn	12 53 12.4	+0.5
SIT	Sitka	6.40	336	P	Pn	12 53 12.7	+0.8
	baz=152						
JCW	Jim Creek	6.42	116	Pn	Pn	12 53 12.0	-0.3
CPW	Capitol Peak	6.54	129	Pn	Pn	12 53 13.0	-0.9
S32K	Killisnoo	6.61	341	Pn	Pn	12 53 14.1	-0.6
S32K	Killisnoo	6.61	341	Pn	Pn	12 53 14.7	0.0
S32K				Sn	Sn	12 54 28.6	-1.6
S32K	Killisnoo	6.61	341	P	Pn	12 53 15.6	+0.9
	baz=157						
RADR	Rader Ridge	6.63	135		Pn	12 53 16.1	+0.9
S34M	Telegraph Cree	6.64	358	Pn	Pn	12 53 13.2	-2.0
S34M	Telegraph Cree	6.64	358	Pn	Pn	12 53 17.1	+1.9
S34M	Telegraph Cree	6.64	358	P	Pn	12 53 15.8	+0.6
	baz=176						
E03A	Lebam	6.64	133		Pn	12 53 15.2	0.0
E03A	Lebam	6.64	133	Pn	Pn	12 53 14.6	-0.6
BMTB	Bullhead Mount	6.92	43	Pn	Pn	12 53 21.1	+1.9
BMTB				Sn	Sn	12 54 37.3	-1.0
D05A	Enumclaw	6.98	123		Pn	12 53 20.2	+0.4
D05A	Enumclaw	6.98	123	Pn	Pn	12 53 19.7	-0.2
D05A				Sn	Sn	12 54 33.8	-5.8
F03A	Seaside	7.11	136		Pn	12 53 22.8	+1.0
DLBC	Dease Lake	7.17	2	Pn	Pn	12 53 24.8	+2.3
	0.1nm,0.3s,baz=174,slow=17,SNR=13						
DLBC				Sn	Sn	12 54 46.8	+2.7
	0.1nm,0.3s,baz=199,slow=18,SNR=1.8						
DLBC				Lg	Lg	12 55 20.1	
	0.1nm,0.3s,baz=177,slow=17,SNR=3.0						
DLBC	Dease Lake	7.17	2	P	Pn	12 53 23.6	+1.1
	baz=182						
F04D	Rainier, OR	7.24	133		Pn	12 53 24.9	+1.4
FMW	Mount Fremont	7.31	123	Pn	Pn	12 53 24.6	-0.1
RCS	Mount Rainier-	7.32	124		Pn	12 53 25.0	+0.1
R32K	Eaglecrest	7.35	344	Pn	Pn	12 53 24.8	-0.1
R32K	Eaglecrest	7.35	344	Pn	Pn	12 53 26.7	+1.7
R32K	Eaglecrest	7.35	344	P	Pn	12 53 25.7	+0.8
	baz=160						
LON	Longmire	7.36	125	Pn	Pn	12 53 25.8	+0.7
LON	Longmire	7.36	125		Pn	12 53 26.0	+0.9
LON	Longmire	7.36	125	Pn	Pn	12 53 25.5	+0.4
KOSW	Kosmos	7.36	128		Pn	12 53 26.5	+1.3
S31K	Pelican	7.43	336	Pn	Pn	12 53 27.3	+1.2
S31K	Pelican	7.43	336	P	Pn	12 53 28.2	+2.1
	baz=151						
JRO	Jston Ridge Ob	7.48	129		Pn	12 53 27.5	+0.7
HEBO	Mount Hebo	7.61	140	Pn	Pn	12 53 29.7	+1.0
LTY	Liberty	7.65	118		Pn	12 53 29.9	+0.7
LTY	Liberty	7.65	118	Pn	Pn	12 53 28.7	-0.5
Q32M	Nakina River	7.74	354		Pn	12 53 30.9	+0.4
Q32M	Nakina River	7.74	354	Pn	Pn	12 53 31.9	+1.4
Q32M	Nakina River	7.74	354	P	Pn	12 53 31.8	+1.3
	baz=172						
G03D	McMinnville, O	7.81	138		Pn	12 53 32.7	+1.3
B08A	Colville Reser	7.86	108		Pn	12 53 31.9	-0.1
B08A	Colville Reser	7.86	108	Pn	Pn	12 53 33.2	+1.2
BDMTA	Bald Mountain	7.87	59	Pn	Pn	12 53 34.7	+2.5
BDMTA				Sn	Sn	12 55 00.6	-1.0
WTMTA	White Mountain	8.08	53	Pn	Pn	12 53 36.9	+1.8
R33M	Jennings River	8.12	359	Pn	Pn	12 53 37.3	+1.7
R33M	Jennings River	8.12	359	P	Pn	12 53 37.1	+1.4
	baz=178,SNR=9.2						
G04A	Mulino	8.15	135		Pn	12 53 37.3	+1.3
TOAD	Toad River Com	8.17	20	Pn	Pn	12 53 37.8	+1.6
TOAD	Toad River Com	8.17	20	P	Pn	12 53 36.7	+0.5
	baz=204						
MXC	Moxie City	8.27	121		Pn	12 53 38.3	+0.7
COR	Corvallis	8.31	141		Pn	12 53 39.7	+1.5
HOOD	Mount Hood Mea	8.44	132	Pn	Pn	12 53 42.0	+1.8
BRLDA	Berland Lookou	8.49	66	Pn	Pn	12 53 41.7	+1.0
P32M	Atlin	8.50	349		Pn	12 53 41.8	+1.1
P32M	Atlin	8.50	349	Pn	Pn	12 53 40.9	+0.2
P32M				Sn	Sn	12 55 15.9	-1.0
P32M	Atlin	8.50	349	P	Pn	12 53 42.2	+1.5
	baz=166						
I02E	Swisshome, OR	8.51	145	Pn	Pn	12 53 42.4	+1.5
E07A	Sunnyside	8.52	120		Pn	12 53 41.3	+0.3
WAH2	Wahluke Slope	8.56	118		Pn	12 53 41.4	-0.1
H04D	Lebanon	8.59	139		Pn	12 53 43.7	+1.8
SKAG	Skagway	8.61	344		Pn	12 53 41.1	-1.1
SKAG	Skagway	8.61	344	P	Pn	12 53 43.4	+1.2
	baz=159						
G05A	Wamic	8.66	131	Pn	Pn	12 53 44.6	+1.7
H04A	Detroit Lake	8.69	136		Pn	12 53 44.7	+1.2
C09A	Chrisman Ranch	8.75	109	Pn	Pn	12 53 44.5	+0.3
C09A	Chrisman Ranch	8.75	109	Pn	Pn	12 53 43.4	-0.8
D08A	Wollman Farm,	8.75	114		Pn	12 53 44.0	-0.2
BUCK	Buck Mountain	8.76	141		Pn	12 53 46.4	+2.0
FNSB	Fort Nelson	8.77	28	Pn	Pn	12 53 45.4	+1.0
HAWA	Hanford	8.79	120		Pn	12 53 45.0	+0.2
PLBC	Pleasant Camp	8.81	340	Pn	Pn	12 53 46.0	+1.1
PLBC	Pleasant Camp	8.81	340	P	Pn	12 53 46.5	+1.6
	baz=155						
WTLY	Watson Lake, Y	8.90	6	Pn	Pn	12 53 45.2	-1.0
WTLY	Watson Lake, Y	8.90	6	Pn	Pn	12 53 47.8	+1.6
WTLY	Watson Lake, Y	8.90	6	P	Pn	12 53 47.2	+1.0
	baz=187						
F07A	Phinny Hill Vi	8.90	123		Pn	12 53 46.8	+0.6
G06A	Carlson Farm,	8.99	129		Pn	12 53 48.6	+1.0
E08A	Dider Farm, El	8.99	118		Pn	12 53 47.1	-0.5
P33M	Teslin, Yukon	9.02	353		Pn	12 53 48.1	+0.1
P33M	Teslin, Yukon	9.02	353	Pn	Pn	12 53 49.7	+1.7
P33M				Sn	Sn	12 55 29.2	-0.6
P33M	Teslin, Yukon	9.02	353	P	Pn	12 53 49.6	+1.7
	baz=171,SNR=9.4						
NBC6	NorthernBC 6	9.04	32	Pn	Pn	12 53 49.5	+1.4
I03D	Drain, OR	9.05	144		Pn	12 53 50.0	+1.8
PRLK	Prince Lake	9.17	137		Pn	12 53 51.1	+1.1
NEW	Newport	9.24	104		Pn	12 53 51.5	+0.6
NEW	Newport	9.24	104	Pn	Pn	12 53 50.8	-0.1
	0.4nm,0.3s,baz=295,slow=17,SNR=8.3						
NEW				Lg	Lg	12 56 20.0	
	0.1nm,0.3s,baz=270,slow=19,SNR=3.0						
	1.8nm,0.6s						
P29M	Windy Craggy	9.28	337	Pn	Pn	12 53 51.5	+0.2
P29M	Windy Craggy	9.28	337	P	Pn	12 53 52.9	+1.5
	baz=150						
J01E	Myrtle Point	9.31	148		Pn	12 53 53.9	+2.0
YPT	Yellepit	9.32	120	Pn	Pn	12 53 54.2	+2.2
I05D	Terrebonne, OR	9.34	135		Pn	12 53 53.1	+0.8
E09A	Wood Farm, Sta	9.49	115		Pn	12 53 54.2	-0.1
P30M	Million Dollar	9.54	340	Pn	Pn	12 53 55.4	+0.4
P30M	Million Dollar	9.54	340	P	Pn	12 53 55.8	+0.8
	baz=155						
KOTAN	Kotaneelee Air	9.59	20	P	Pn	12 53 56.7	+1.1
	baz=205,SNR=7.2						
WHY	Whitehorse	9.68	347		Pn	12 53 57.0	0.0
WHY	Whitehorse	9.68	347	Pn	Pn	12 53 58.4	+1.4
WHY				Sn	Sn	12 55 44.1	-2.0
WHY	Whitehorse	9.68	347	P	Pn	12 53 58.8	+1.7
	baz=163,SNR=23						
PNL	Peninsula	9.75	333	Pn	Pn	12 53 59.5	+1.5
PNL	Peninsula	9.75	333	P	Pn	12 54 00.3	+2.4
	baz=145						
LNOR	Lincton Mounta	9.80	119		Pn	12 53 59.0	+0.4
G08A	Pilot Rock	9.81	123		Pn	12 53 59.8	+1.0
K02D	Willamette Mer	9.82	149		Pn	12 54 01.5	+2.6
STPRA	Salt Prairie L	9.83	58	Pn	Pn	12 54 00.4	+1.5
STPRA				Sn	Sn	12 55 48.9	-0.7
J04A	Umpqua Nationa	9.91	141		Pn	12 54 02.4	+2.1
PINE	Pine Mountain	9.95	135		Pn	12 54 01.6	+0.8
N32M	Quiet Lake	9.97	353	Pn	Pn	12 54 00.6	-0.4
N32M	Quiet Lake	9.97	353	Pn	Pn	12 54 02.8	+1.8
N32M	Quiet Lake	9.97	353	P	Pn	12 54 02.3	+1.3
	baz=170						
O30N	Mendenhall	9.98	344		Pn	12 54 01.5	+0.6
O30N	Mendenhall	9.98	344	Pn	Pn	12 54 02.2	+1.2
O30N				Sn	Sn	12 55 52.9	-0.3
O30N	Mendenhall	9.98	344	P	Pn	12 54 02.2	+1.2
	baz=159,SNR=5.7						
BBOR	Butler Butte	9.99	144		Pn	12 54 03.8	+2.4
BCPM	Bancas Point	10.06	333	Pn	Pn	12 54 01.2	-0.8
J05D	Fort Rock, OR	10.23	138		Pn	12 54 06.2	+1.6
HYT	Haines Junctio	10.29	341	Pn	Pn	12 54 06.4	+1.0
HYT	Haines Junctio	10.29	341	Pn	Pn	12 54 07.1	+1.7
HYT				Sn	Sn	12 55 58.6	-2.5
HYT	Haines Junctio	10.29	341	P	Pn	12 54 06.6	+1.2
	baz=154						
F10A	Beach Ranch, E	10.33	116		Pn	12 54 05.9	0.0
TGTN	Hyland Airport	10

baz=148
PTPK Patty Peak 11.88 331 Pn Pn 12 54 29.6 +2.4
M29M Somme Creek 11.96 342 Pn 12 54 27.1 -1.0
M29M Somme Creek 11.96 342 Pn Pn 12 54 30.4 +2.2
M29M Somme Creek 11.96 342 P Pn 12 54 28.1 0.0
baz=155
RAGM Ragged Mountai 12.03 325 Pn Pn 12 54 29.3 +0.2
WVOR Wild Horse Val 12.05 133 Pn Pn 12 54 29.1 -0.4
KMRM Mail Ridge 12.07 154 Pn 12 54 30.7 +1.0
Q23K Middleton Isla 12.08 318 P Pn 12 54 30.7 +1.0
baz=125
MCARA McCarthy VSAT 12.21 331 12 54 29.9 -1.6
MCARA McCarthy VSAT 12.21 331 P Pn 12 54 32.8 +1.3
baz=140
HATC Hat Creek Radi 12.24 145 Pn 12 54 32.8 +0.7
OVMT Ovando 12.27 103 Pn 12 54 31.6 -0.9
BPMT Black Pine Rid 12.29 107 Pn 12 54 30.9 -2.0
O02D Mt. Diablo Mer 12.38 151 Pn 12 54 33.4 -0.5
BMRM Bremner River 12.41 327 Pn Pn 12 54 32.7 -1.7
BMRM Bremner River 12.41 327 P Pn 12 54 35.4 +1.1
baz=135
BVCY Beaver Creek 12.46 337 Pn Pn 12 54 36.6 +1.8
BVCY Beaver Creek 12.46 337 P Pn 12 54 35.7 +0.8
baz=148
GLB Gilahina Butte 12.50 330 Pn Pn 12 54 33.7 -1.7
L29M L29M 12.51 344 Pn Pn 12 54 33.3 -2.4
L29M L29M 12.51 344 Pn Pn 12 54 37.2 +1.6
L29M L29M 12.51 344 P Pn 12 54 36.6 +1.0
baz=157
EYAK Cordova Ski Ar 12.54 324 Pn Pn 12 54 35.5 -0.4
EYAK Cordova Ski Ar 12.54 324 P Pn 12 54 37.4 +1.5
baz=130
WRGLY Wrigley 12.56 15 P Pn 12 54 36.7 +0.5
baz=201
M27K Edge Creek, AK 12.66 335 Pn Pn 12 54 36.3 -1.5
M27K Edge Creek, AK 12.66 335 Pn Pn 12 54 39.6 +1.8
M27K Edge Creek, AK 12.66 335 P Pn 12 54 39.3 +1.5
baz=146,SNR=5.5
HIN Hinchinbrook I 12.73 322 Pn 12 54 38.0 -0.6
MFID Camas Ranch 12.73 123 Pn 12 54 40.3 +1.5
LYMT Lyon Mountain 12.74 103 Pn Pn 12 54 40.4 +1.3
P23K Montague Islan 12.85 319 P Pn 12 54 41.5 +1.4
baz=125
N25K Chitina, Valde 12.87 329 Pn 12 54 41.0 +0.3
N25K Chitina, Valde 12.87 329 Pn Pn 12 54 41.9 +1.3
N25K Chitina, Valde 12.87 329 P Pn 12 54 41.5 +0.9
baz=137,SNR=5.3
FID Port Fidalgo 12.94 323 Pn 12 54 41.6 +0.1
M26K Nabesna, AK 13.00 334 Pn 12 54 41.9 -0.4
M26K Nabesna, AK 13.00 334 P Pn 12 54 42.7 +0.4
baz=143
K29M Barlow Dome 13.10 346 Pn 12 54 42.7 -1.1
K29M Barlow Dome 13.10 346 Pn Pn 12 54 45.7 +1.9
K29M Barlow Dome 13.10 346 P Pn 12 54 43.7 -0.1
baz=160
HRY Holter Researc 13.14 103 Pn 12 54 43.8 -0.6
LRM Limekiln Ridge 13.20 107 Pn 12 54 45.9 +0.6
BCAR Beaver Creek A 13.24 337 Pn 12 54 44.6 -0.9
KLU Klutina 13.24 326 Pn 12 54 45.8 +0.2
KLU Klutina 13.24 326 P Pn 12 54 46.9 +1.3
baz=133,SNR=7.4
L27K Beaver Creek, 13.24 337 Pn Pn 12 54 46.5 +0.9
L27K Beaver Creek, 13.24 337 P Pn 12 54 46.5 +0.9
baz=147,SNR=5.8
GLI Glacier Island 13.26 323 P Pn 12 54 46.6 +0.8
baz=128
DLMT Dillon 13.36 109 Pn 12 54 47.8 +0.5
HLID Hailey 13.40 119 Pn 12 54 48.3 +0.4
BEKR Beckworth 13.48 144 Pn 12 54 51.0 +2.0
L26K Log Cabin Wild 13.60 335 P Pn 12 54 51.8 +1.3
baz=144
DAWY Dawson 13.62 343 Pn 12 54 51.0 +0.4
DAWY Dawson 13.62 343 Pn Pn 12 54 51.6 +0.9
DAWY Dawson 13.62 343 P Pn 12 54 50.6 -0.1
baz=156,SNR=6.4
HARP HAARP 13.64 330 P Pn 12 54 51.4 +0.5
baz=138
J30M Hart River 13.65 349 Pn Pn 12 54 51.6 +0.4
J30M Hart River 13.65 349 Pn Pn 12 54 52.2 +1.0
J30M Hart River 13.65 349 P Pn 12 54 51.1 -0.1
baz=164
PWL Port Wells 13.73 321 Pn 12 54 52.0 -0.2
PWL Port Wells 13.73 321 P Pn 12 54 52.6 +0.5
baz=126,SNR=6.6
M24K Tolsona, Glenn 13.75 328 Pn Pn 12 54 51.5 -1.1
M24K Tolsona, Glenn 13.75 328 P Pn 12 54 53.3 +0.7
baz=134
SEW Seward 13.76 317 Pn 12 54 52.4 -0.3
SEW Seward 13.76 317 P Pn 12 54 52.7 0.0
baz=121
BOZ Bozeman (W) 13.81 107 Pn 12 54 54.1 +0.6
EGMT Eagleton 13.89 95 Pn 12 54 55.1 +0.5
SCM Sheep Creek Mo 13.96 326 Pn 12 54 55.9 +0.4
SCM Sheep Creek Mo 13.96 326 P Pn 12 54 56.5 +1.1
baz=131
PAHR Pah Rah Range 13.99 142 Pn 12 54 57.2 +1.2
O22K Cooper Landing 14.08 318 Pn Pn 12 54 56.0 -0.9
O22K Cooper Landing 14.08 318 P Pn 12 54 57.9 +1.0
baz=122
AFDM Forest Hills D 14.08 148 Pn 12 54 57.7 +0.6
M23K Glacier View 14.08 325 P Pn 12 54 58.1 +1.1
baz=130
MPK Martis Peak 14.10 144 Pn Pn 12 54 57.5 -0.2
KNK Knik Glacier 14.11 323 Pn 12 54 57.9 +0.5
KNK Knik Glacier 14.11 323 P Pn 12 54 58.6 +1.2
baz=127
K27K Chicken 14.13 339 Pn Pn 12 54 59.5 +1.8
K27K Chicken 14.13 339 P Pn 12 54 58.4 +0.7
baz=149
PAX Paxson 14.16 331 Pn 12 54 58.4 +0.2
PAX Paxson 14.16 331 P Pn 12 54 58.8 +0.6
baz=138
YKA Yellowknife Ar 14.17 32 Pn 12 54 57.5 -0.7
YKA Yellowknife Ar 14.17 32 Pn Pn 12 54 57.7 -0.5
1.2nm,0.3s,baz=226,slow=12,SNR=57
YKA Sn Sn 12 57 29.1 -6.4
0.2nm,0.3s,baz=222,slow=23,SNR=2.4
YKA Lg Lg 12 59 05.1
0.1nm,0.3s,baz=221,slow=27,SNR=4.7
4.6nm,0.7s
YKAW1 Yellowknife Wh 14.20 32 Pn 12 54 58.3 -0.3
YKAW1 Yellowknife Wh 14.20 32 Pn Pn 12 54 58.0 -0.6
YKAW3 Yellowknife Wh 14.22 31 Pn 12 54 58.6 -0.2
YKAW3 Yellowknife Wh 14.22 31 Pn Pn 12 54 57.3 -1.5
BRLK Bradley Lake 14.22 314 Pn 12 55 00.0 +1.1
CNPM China Poot 14.27 313 Pn 12 54 59.8 +0.2
KDAK Kodiak Island 14.27 306 Pn 12 54 59.7 +0.1
KDAK Kodiak Island 14.27 306 Pn Pn 12 54 58.6 -1.0
0.1nm,0.3s,baz=90,slow=4.0,SNR=5.8
6.1nm,1.0s
KDAK Kodiak Island 14.27 306 P Pn 12 55 01.3 +1.7
baz=107
I30M Mount Dempster 14.28 350 Pn Pn 12 54 58.4 -1.4
I30M Mount Dempster 14.28 350 Pn Pn 12 55 03.5 +3.6
I30M Mount Dempster 14.28 350 P Pn 12 54 59.9 0.0
baz=165
DOT Dot Lake 14.30 335 Pn P 12 55 03.6 -3.7
SLKM Skilak Lake 14.30 318 Pn 12 54 59.5 -0.6
RC01 Rabbit Creek A 14.42 320 Pn 12 55 01.4 -0.2
RC01 Rabbit Creek A 14.42 320 P Pn 12 55 02.5 +0.9
baz=124
Q20K Shuyak Island 14.45 309 P Pn 12 55 03.6 +1.5
baz=110
PMR Palmer 14.47 323 Pn 12 55 03.6 +1.3
PMR Palmer 14.47 323 P Pn 12 55 03.1 +0.7
baz=127,SNR=7.7
YHL Hebgen Lake 14.47 109 Pn 12 55 03.0 +0.3
OHAK Old Harbor 14.48 303 P Pn 12 55 04.1 +1.6
baz=104
HOM Homer 14.52 313 Pn Pn 12 55 03.4 +0.4
HOM Homer 14.52 313 P Pn 12 55 04.0 +1.1
baz=116
SCRK Sand Creek 14.54 336 Pn Pn 12 55 02.0 -1.4
SCRK Sand Creek 14.54 336 P Pn 12 55 05.8 +2.4
baz=144,SNR=9.3
RIDG Independent Ri 14.58 334 Pn Pn 12 55 04.0 +0.2
RIDG Independent Ri 14.58 334 P Pn 12 55 04.7 +0.8
baz=142
WAT6 Susitna Watana 14.61 327 P Pn 12 55 06.1 +1.7
baz=132,SNR=6.9
H31M Peel River 14.68 354 Pn Pn 12 55 04.2 -0.9
H31M Peel River 14.68 354 Pn Pn 12 55 08.0 +2.8
H31M Peel River 14.68 354 P Pn 12 55 05.4 +0.2
baz=170

YHH Holmes Hill 14.71 109 Pn 12 55 06.6 +0.6
SII Sitkinak Islan 14.82 300 P Pn 12 55 08.6 +1.5
baz=100
CAPN Captain Cook N 14.83 318 P Pn 12 55 08.3 +1.1
baz=120
DHY Denali Highway 14.83 329 Pn 12 55 08.3 +0.9
DHY Denali Highway 14.83 329 P Pn 12 55 07.9 +0.5
baz=135
YNR Norris Junctio 14.85 109 Pn Pn 12 55 08.5 +0.7
J26L Joseph Creek 14.88 338 P Pn 12 55 09.3 +1.4
baz=146,SNR=26
K24K Donnelly Dome 14.89 333 Pn Pn 12 55 08.6 +0.6
K24K Donnelly Dome 14.89 333 P Pn 12 55 08.6 +0.6
baz=140
M22K Willow 14.95 322 Pn 12 55 08.7 -0.1
M22K Willow 14.95 322 P Pn 12 55 10.5 +1.7
baz=125,SNR=14
ELK Elko 14.98 129 Pn 12 55 10.2 +0.7
ELK IAmb IAmb 12 55 18.3
comp=Z,16nm,1.1s
ELK Elko 14.98 129 Pn Pn 12 55 09.6 0.0
comp=Z,0.1nm,0.3s,baz=320,slow=9.8,SNR=17
comp=Z,7.0nm,1.1s
I28M Miner Creek 14.98 345 Pn Pn 12 55 11.9 +2.6
I28M Miner Creek 14.98 345 P Pn 12 55 10.5 +1.2
baz=156
WAKR Walker 15.02 144 IAmb IAmb 12 55 18.4
comp=Z,24nm,0.8s
SUA Susitna One 15.03 320 P Pn 12 55 10.9 +0.9
baz=123
WAT1 Susitna Watana 15.05 327 P Pn 12 55 10.9 +0.6
baz=131
H17A Grant Village 15.09 109 IAmb IAmb 12 55 21.0
comp=Z,38nm,1.2s
YNE Yellowstone No 15.09 107 IAmb IAmb 12 55 20.2
comp=Z,35nm,1.0s
CMB Columbia Colle 15.10 147 Pn 12 55 12.0 +1.0
CMB IAmb IAmb 12 55 19.1
comp=Z,23nm,1.1s
O20K Slope Mountain 15.15 314 P Pn 12 55 13.2 +1.7
baz=115,SNR=7.7
YMP Mirror Lake Pl 15.15 108 Pn 12 55 10.9 -1.0
YMP IAmb IAmb 12 55 42.0
comp=Z,35nm,1.0s
Q19K Cape Douglas, 15.18 309 Pn Pn 12 55 12.2 +0.3
Q19K Cape Douglas, 15.18 309 P Pn 12 55 13.5 +1.6
baz=110
R18K Karluk 15.18 304 P Pn 12 55 13.8 +1.9
baz=104
P19K Oil Pt 15.25 312 Pn Pn 12 55 13.2 +0.3
P19K Oil Pt 15.25 312 P Pn 12 55 14.9 +2.1
baz=113,SNR=8.6
RYN Ryan 15.26 141 Pn 12 55 14.4 +1.2
FXWY Fox Creek 15.27 112 Pn Pn 12 55 14.1 +0.7
ILSW Iliamna Southw 15.34 313 Pn Pn 12 55 13.6 -0.5
ILSW IAmb IAmb 12 55 23.9
comp=Z,46nm,1.0s
RED Redoubt Volcan 15.36 315 Pn Pn 12 55 13.7 -0.7
CUT Chulitna 15.40 324 Pn Pn 12 55 14.4 -0.3
CUT Chulitna 15.40 324 P Pn 12 55 16.2 +1.5
baz=127
J25K Salcha River, 15.42 336 Pn Pn 12 55 14.8 -0.3
J25K IAmb IAmb 12 55 26.1
comp=Z,26nm,1.1s
J25K Salcha River, 15.42 336 Pn P 12 55 17.9 -1.9
J25K Salcha River, 15.42 336 P Pn 12 55 16.6 +1.5
baz=143,SNR=17
SPU Mount Spurr 15.42 318 Pn Pn 12 55 15.2 +0.1
SPU IAmb IAmb 12 55 24.5
comp=Z,44nm,1.1s
I27K Kandik River 15.42 343 P Pn 12 55 16.5 +1.4
I27K Kandik River 15.42 343 P Pn 12 55 16.3 +1.2
baz=153,SNR=8.2
EPYK Eagle Plains 15.43 351 Pn Pn 12 55 14.3 -0.9
EPYK IAmb IAmb 12 55 37.0
comp=Z,31nm,1.1s
EPYK Eagle Plains 15.43 351 P Pn 12 55 16.7 +1.4
EPYK Eagle Plains 15.43 351 P Pn 12 55 16.6 +1.4
baz=165,SNR=7.9
I26K Coal Creek Min 15.47 340 P P 12 55 19.0 -1.2
I26K Coal Creek Min 15.47 340 P Pn 12 55 16.8 +1.2
baz=149
H29M Whitestone 15.48 348 IAmb IAmb 12 55 40.5
comp=Z,33nm,1.0s
H29M Whitestone 15.48 348 P P 12 55 21.2 +0.8
H29M Whitestone 15.48 348 P Pn 12 55 15.8 0.0
baz=161
RLMT Red Lodge 15.48 105 Pn 12 55 16.7 +0.5
RLMT IAmb IAmb 12 55 26.1
comp=Z,53nm,1.2s
HVU Hansel Valley 15.49 121 Pn 12 55 17.5 +1.2
HVU IAmb IAmb 12 55 19.4
comp=Z,44nm,1.2s
STLK Strandline Lak 15.49 319 Pn 12 55 16.4 +0.3
STLK IAmb IAmb 12 55 24.8
comp=Z,54nm,1.3s
N20K Mount Spurr 15.49 318 P Pn 12 55 17.3 +1.2
baz=120
SPCR Spurr Chakacha 15.49 318 P Pn 12 55 17.2 +1.1
baz=120
NVAR Mina Array Bea 15.51 141 Pn 12 55 18.2 +1.6
NVAR Mina Array Bea 15.51 141 Pn Pn 12 55 17.6 +1.0
comp=Z,0.3nm,0.3s,baz=321,slow=13,SNR=54
comp=Z,6.7nm,0.8s
LOHW Long Hollow 15.53 112 Pn Pn 12 55 17.6 +0.8
LOHW IAmb IAmb 12 55 25.4
comp=Z,72nm,1.3s
RND Reindeer 15.55 328 IAmb IAmb 12 55 25.8
comp=Z,33nm,0.9s
NV11 Mina Array Sit 15.57 141 Pn 12 55 18.7 +1.4
LHV Little Huntoon 15.59 142 Pn 12 55 19.3 +2.0
Q09A Carvers 15.62 138 Pn 12 55 19.5 +1.5
SKT Skwentna 15.63 321 P Pn 12 55 19.7 +1.8
baz=123,SNR=12
HDA Harding Lake 15.69 333 P Pn 12 55 20.4 +1.8
baz=139,SNR=11
Q18K Katmai Hardscr 15.76 307 P P 12 55 21.7 -2.0
baz=107,SNR=8.3
AHID Auburn Hatcher 15.76 115 IAmb IAmb 12 55 27.7
comp=Z,44nm,1.1s
G31M Satah River 15.78 355 Pn Pn 12 55 19.1 -0.6
G31M IAmb IAmb 12 55 43.3
comp=Z,50nm,1.4s
G31M Satah River 15.78 355 P P 12 55 23.6 -0.1
G31M Satah River 15.78 355 P Pn 12 55 20.1 +0.3
baz=171,SNR=7.5
MCK McKinley 15.80 329 IAmb IAmb 12 55 28.4
comp=Z,57nm,1.0s
MCK McKinley 15.80 329 P Pn 12 55 21.3 +1.3
baz=133,SNR=15
SAO San Andreas Ge 15.93 152 Pn Pn 12 55 23.0 +1.2
SAO IAmb IAmb 12 56 07.4
comp=Z,35nm,0.7s
ILAR Eielson Array 15.95 334 Pn Pn 12 55 22.3 +0.4
ILAR Eielson Array 15.95 334 Pn Pn 12 55 23.0 +1.1
comp=Z,0.1nm,0.3s,baz=148,slow=10,SNR=43
comp=Z,1.1nm,1.0s
BGU Big Grassy Mou 15.96 124 Pn 12 55 22.3 -0.1
O19K Port Alsworth 15.97 313 P Pn 12 55 23.8 +1.6
baz=113,SNR=13
H27K Steamboat Moun 15.97 344 P P 12 55 26.5 +0.6
H27K Steamboat Moun 15.97 344 P Pn 12 55 23.3 +1.0
baz=154,SNR=9.1
G30M tAoh Zraii Nji 15.98 352 P P 12 55 26.6 +0.6
G30M tAoh Zraii Nji 15.98 352 P Pn 12 55 23.3 +0.9
baz=167
TRF Thorofare Moun 16.06 327 P Pn 12 55 24.5 +1.0
baz=130,SNR=36
WRH Wood River Hil 16.06 332 IAmb IAmb 12 55 31.1
comp=Z,47nm,1.2s
Q17K Contact Creek 16.10 305 P Pn 12 55 25.4 +1.4
baz=104,SNR=14
G29M Pine Creek 16.10 349 IAmb IAmb 12 55 33.9
comp=Z,37nm,1.0s
G29M Pine Creek 16.10 349 P P 12 55 26.2 -1.1
G29M Pine Creek 16.10 349 P Pn 12 55 24.8 +0.9
baz=163,SNR=22
P18K Big Mountain, 16.10 310 P P 12 55 25.8 -1.6
baz=109,SNR=8.2
PRP Porcupine Dome 16.19 337 Pn 12 55 26.3 +1.2
PRP Porcupine Dome 16.19 337 P Pn 12 55 26.6 +1.5
baz=144,SNR=15
PLK4 Peulik 4 16.19 303 IAmb IAmb 12 55 31.9
comp=Z,76nm,1.1s
R17L Mt. Peulik Vol 16.20 303 P Pn 12 55 26.6 +1.4
baz=102,SNR=15

M20K Styx River 16.22 319 Pn 12 55 25.6 +0.1
M20K Styx River 16.22 319 P Pn 12 55 26.7 +1.2
baz=120,SNR=18
O18K Koktuh Hills 16.25 311 P P 12 55 27.6 -1.4
baz=110,SNR=34
F31M Tsiigehtchic 16.27 356 P Pn 12 55 26.6 +0.6
F31M Tsiigehtchic 16.27 356 P Pn 12 55 27.2 +1.2
baz=173,SNR=5.1
BWN Browne 16.27 330 IAmb IAmb 12 55 32.8
comp=Z,74nm,1.0s
COLA College 16.29 333 Pn Pn 12 55 26.5 +0.2
COLA College 16.29 333 P Pn 12 55 27.1 +0.8
baz=138
N19K Bonanza Creek 16.30 315 Pn 12 55 25.6 -0.9
N19K IAmb IAmb 12 55 32.9
comp=Z,31nm,1.0s
N19K Bonanza Creek 16.30 315 P Pn 12 55 27.5 +1.0
baz=115,SNR=8.7
KTH Kantishna Hill 16.34 326 Pn 12 55 27.0 -0.1
KTH IAmb IAmb 12 55 34.2
comp=Z,86nm,1.1s
POKR Poker Plat Res 16.36 334 P P 12 55 28.9 -1.2
baz=140,SNR=5.0
PPLA Purkeypile 16.40 323 Pn 12 55 28.4 +0.5
PPLA Purkeypile 16.40 323 P P 12 55 29.5 -1.3
baz=125,SNR=20
NEA2 Nenana 16.45 331 IAmb IAmb 12 55 35.3
comp=Z,61nm,1.2s
NEA2 Nenana 16.45 331 P P 12 55 30.7 -0.4
baz=135,SNR=33
MZP Montezuma Peak 16.51 140 Pn 12 55 30.8 +1.3
G27K Doyon Strip 16.52 345 IAmb IAmb 12 55 39.4
comp=Z,63nm,1.4s
G27K Doyon Strip 16.52 345 P P 12 55 32.6 +0.7
G27K Doyon Strip 16.52 345 P P 12 55 30.8 -1.1
baz=155,SNR=41
F30M Barrier River 16.57 353 P P 12 55 33.4 +1.0
F30M Barrier River 16.57 353 P Pn 12 55 30.7 +0.9
baz=168
Q16K King Salmon 16.59 307 P P 12 55 32.4 -0.4
baz=105,SNR=5.8
DUG Dugway, Tooele 16.61 125 IAmb IAmb 12 55 36.1
comp=Z,43nm,1.0s
P17K Kvichak River 16.63 308 P P 12 55 32.5 -0.6
baz=107,SNR=11
BW06 Boulder Array 16.65 113 P 12 55 33.3 -0.4
BW06 IAmb IAmb 12 55 37.9
comp=Z,44nm,1.0s
PD31 Pinedale Array 16.65 113 IAmb IAmb 12 55 37.9
comp=Z,44nm,1.0s
PDAR Pinedale Array 16.65 113 P 12 55 32.8 -0.9
PDAR Pinedale Array 16.65 113 Pn P 12 55 33.0 -0.7
comp=Z,0.6nm,0.3s,baz=309,slow=14,SNR=102
CAST Castle Rocks 16.67 325 Pn 12 55 31.3 +0.1
CAST IAmb IAmb 12 55 37.4
comp=Z,63nm,1.1s
CAST Castle Rocks 16.67 325 P P 12 55 32.5 -1.2
baz=126,SNR=57
TCUT Toone Canyon 16.69 120 Pn Pn 12 55 32.9 +1.1
BPAW Bear Paw Mtn. 16.72 328 P 12 55 33.2 -1.0
BPAW IAmb IAmb 12 55 38.0
comp=Z,40nm,1.0s
BPAW Bear Paw Mtn. 16.72 328 P P 12 55 33.8 -0.3
baz=130,SNR=51
R11B Troy Canyon, C 16.72 135 Pn 12 55 33.1 +0.9
R11B IAmb IAmb 12 56 04.4
comp=Z,46nm,0.8s
M19K Big River Lodg 16.75 319 Pn 12 55 32.7 +0.6
M19K IAmb IAmb 12 55 41.6
comp=Z,57nm,1.5s
M19K Big River Lodg 16.75 319 P P 12 55 34.4 -0.1
baz=118,SNR=10.0
L20K Farewell, AK 16.83 321 P P 12 55 35.3 0.0
baz=121,SNR=15
H25L Birch Creek 16.87 339 P P 12 55 35.8 0.0
baz=145,SNR=14
N18K Kilae Creek 16.87 314 P Pn 12 55 34.0 +0.2
baz=112,SNR=11
I23K Minto, Yukon-K 16.93 332 P Pn 12 55 35.2 +0.8
baz=136,SNR=32
FYU Fort Yukon 16.99 340 IAmb IAmb 12 55 42.7
comp=Z,51nm,1.0s
F28M Old Crow 17.00 348 P P 12 55 36.5 -0.7
F28M Old Crow 17.00 348 P P 12 55 36.4 -0.7
baz=159,SNR=12
G26K Porcupine Rive 17.03 342 Pn 12 55 35.9 +0.3
G26K Porcupine Rive 17.03 342 P P 12 55 37.2 -0.2
G26K Porcupine Rive 17.03 342 P P 12 55 37.3 -0.2
baz=150,SNR=23
JLU Jordanelle 17.03 121 Pn Pn 12 55 36.6 +0.5
CHUM Lake Minchumin 17.04 326 P P 12 55 36.9 -0.7
baz=127,SNR=29
H24K Noodor Dome 17.04 335 P 12 55 37.1 -0.6
H24K IAmb IAmb 12 55 42.5
comp=Z,61nm,1.4s
H24K Noodor Dome 17.04 335 P P 12 55 37.9 +0.2
baz=140,SNR=28
L19K White Mountain 17.07 319 Pn 12 55 36.6 +0.3
L19K IAmb IAmb 12 55 42.2
comp=Z,61nm,1.2s
L19K White Mountain 17.07 319 P Pn 12 55 36.8 +0.5
baz=118,SNR=31
CHGN Chignik 17.11 298 Pn 12 55 36.8 +0.2
CHGN IAmb IAmb 12 55 43.5
comp=Z,45nm,1.1s
CHGN Chignik 17.11 298 P P 12 55 37.8 -0.7
baz=95,SNR=7.9
O17K Koliganek Bris 17.12 310 P P 12 55 39.5 +0.9
baz=108,SNR=16
INK Inuvik 17.12 356 P P 12 55 37.9 -0.6
comp=Z,0.1nm,0.3s,baz=175,slow=8.8,SNR=8.8
comp=Z,4.6nm,1.0s
INK Inuvik 17.12 356 P P 12 55 40.5 +1.9
INK Inuvik 17.12 356 P Pn 12 55 37.6 +0.8
baz=174
M18K Stony River 17.17 316 P P 12 55 38.5 -0.6
baz=115,SNR=15
MLY Manley 17.26 331 P P 12 55 40.9 +0.7
baz=133,SNR=55
G25K Bearman Lake 17.35 339 P P 12 55 41.1 0.0
G25K Bearman Lake 17.35 339 P P 12 55 42.4 +1.3
baz=145,SNR=16
P16K Nushagak River 17.36 307 IAmb IAmb 12 55 47.4
comp=Z,71nm,1.1s
P16K Nushagak River 17.36 307 P P 12 55 41.0 -0.2
baz=104
PSUT Pine Spring 17.37 131 IAmb IAmb 12 56 24.1
comp=Z,27nm,0.6s
K20K Telida 17.37 323 IAmb IAmb 12 55 46.0
comp=Z,58nm,1.0s
K20K Telida 17.37 323 P P 12 55 41.3 -0.1
baz=123,SNR=61
N17K Nushagak Hills 17.41 312 Pn 12 55 41.2 +0.7
N17K IAmb IAmb 12 55 46.1
comp=Z,93nm,1.4s
N17K Nushagak Hills 17.41 312 P P 12 55 42.7 +0.9
baz=110,SNR=22
BSUT Blindstream Ca 17.45 120 Pn Pn 12 55 41.2 -0.2
BSUT IAmb IAmb 12 56 00.1
comp=Z,58nm,1.4s
H23K Yukon River 17.48 334 P 12 55 42.0 -0.5
H23K Yukon River 17.48 334 P P 12 55 43.2 +0.6
baz=137,SNR=12
FFC Flin Flon 17.51 68 Pn 12 55 41.0 -0.7
FFC Flin Flon 17.51 68 P Pn 12 55 40.9 -0.8
E29M Blow River 17.51 351 P P 12 55 42.4 -0.4
E29M Blow River 17.51 351 P P 12 55 42.7 -0.1
baz=164,SNR=20
O16K Kokwok River B 17.55 309 P P 12 55 44.2 +0.8
baz=106,SNR=12
G24K Hadweenzic Riv 17.62 338 P P 12 55 45.3 +1.2
baz=143,SNR=15
CHNA Chernabura Isl 17.71 293 P P 12 55 46.7 +1.5
baz=89
S14K Fog Glacier 17.74 298 P P 12 55 46.5 +1.0
baz=94
F26K Sheenjek River 17.75 343 P P 12 55 45.6 +0.1
F26K Sheenjek River 17.75 343 P P 12 55 46.9 +1.4
baz=151,SNR=14
E27K Coleen River 17.77 346 P P 12 55 46.3 +0.5
E27K Coleen River 17.77 346 P P 12 55 46.2 +0.5
baz=157,SNR=14
M17K Holitna River 17.85 315 P 12 55 46.6 0.0
M17K IAmb IAmb 12 55 53.6
comp=Z,96nm,1.4s
M17K Holitna River 17.85 315 P P 12 55 47.1 +0.5
baz=112,SNR=15

L18K Granite Mounta 17.86 318 P P 12 55 47.5 +0.8
baz=116,SNR=11
J20K Nowinta River 17.86 325 Pn 12 55 46.0 0.0
J20K IAmb IAmb 12 55 50.7
comp=Z,50nm,1.1s
J20K Nowinta River 17.86 325 P P 12 55 47.4 +0.7
baz=125,SNR=42
E28M Babbage River 17.89 349 P P 12 55 49.3 +2.2
E28M Babbage River 17.89 349 P P 12 55 47.9 +0.8
baz=161,SNR=28
F25K Christian Rive 17.95 341 P 12 55 47.7 -0.1
F25K Christian Rive 17.95 341 P P 12 55 48.6 +0.8
F25K Christian Rive 17.95 341 P P 12 55 49.1 +1.3
baz=148,SNR=23
H22K Ishtalitna Cre 18.05 332 P P 12 55 49.5 +0.6
baz=134,SNR=34
N16K Nishlik Lake 18.14 311 P P 12 55 51.1 +1.2
baz=108,SNR=13
SDPT Sand Point 18.22 295 Pn 12 55 50.4 -0.1
SDPT IAmb IAmb 12 55 52.1
comp=Z,76nm,1.2s
SDPT Sand Point 18.22 295 P P 12 55 51.6 +0.9
baz=90,SNR=7.4
KUKN Kugluktuk,NWT 18.24 19 P P 12 55 52.2 +1.3
G23K Bananza Creek 18.27 335 P P 12 55 53.1 +1.8
baz=138,SNR=31
J19K Poorman 18.30 324 P 12 55 52.2 +0.6
J19K IAmb IAmb 12 55 55.2
comp=Z,34nm,1.1s
J19K Poorman 18.30 324 P P 12 55 52.7 +1.2
baz=122,SNR=46
O15K Ungalikthiuk R 18.31 307 IAmb IAmb 12 55 55.7
comp=Z,52nm,1.2s
O15K Ungalikthiuk R 18.31 307 P P 12 55 52.7 +1.0
baz=102,SNR=10
H21K Melozitna Rive 18.33 330 IAmb IAmb 12 55 58.5
comp=Z,71nm,1.4s
H21K Melozitna Rive 18.33 330 P P 12 55 52.9 +1.0
baz=131,SNR=31
I20K Naaghedeneel 18.34 327 P P 12 55 52.7 +0.7
baz=126,SNR=19
F24K Squaw Lake 18.37 339 P P 12 55 53.4 +1.0
baz=143,SNR=15
CCUT Cedar City 18.39 132 P P 12 55 53.6 +0.7
CCUT IAmb IAmb 12 56 22.2
comp=Z,40nm,1.0s
E25K Arctic Village 18.39 342 P Pn 12 55 51.6 -0.9
E25K Arctic Village 18.39 342 P P 12 55 53.4 +0.8
E25K Arctic Village 18.39 342 P P 12 55 53.4 +0.8
baz=149,SNR=8.8
M16K Timber Creek 18.40 313 IAmb IAmb 12 55 57.7
comp=Z,87nm,1.3s
M16K Timber Creek 18.40 313 P P 12 55 53.7 +1.0
baz=109,SNR=22
J18K Innoko River 18.45 321 Pn 12 55 53.4 +0.2
J18K IAmb IAmb 12 55 57.2
comp=Z,86nm,1.2s
J18K Innoko River 18.45 321 P Pn 12 55 54.3 +1.1
baz=119,SNR=70
K22A Casper 18.50 108 Pn 12 55 55.1 +0.9
K22A IAmb IAmb 12 55 55.8
comp=Z,42nm,0.9s
D28M Stokes Point 18.50 351 P Pn 12 55 55.2 +1.4
D28M Stokes Point 18.50 351 P P 12 55 53.7 0.0
baz=164
L17K Donlin 18.51 317 P Pn 12 55 56.0 +2.0
baz=113,SNR=13
SRU San Rafael Swe 18.60 123 P Pn 12 55 56.6 +1.1
SRU IAmb IAmb 12 56 04.0
comp=Z,32nm,1.1s
D27M Malcolm River 18.67 348 IAmb IAmb 12 56 04.7
comp=Z,39nm,1.2s
D27M Malcolm River 18.67 348 P Pn 12 55 57.1 +1.1
D27M Malcolm River 18.67 348 P Pn 12 55 56.5 +0.6
baz=159,SNR=16
N15K Kwethluk River 18.68 310 IAmb IAmb 12 56 22.6
comp=Z,36nm,1.2s
N15K Kwethluk River 18.68 310 P Pn 12 55 57.8 +1.7
baz=105,SNR=5.2
COLD Coldfoot 18.70 336 P P 12 55 55.7 -0.3
COLD IAmb IAmb 12 56 01.4
comp=Z,35nm,1.3s
COLD Coldfoot 18.70 336 P Pn 12 55 58.3 +2.0
COLD Coldfoot 18.70 336 P Pn 12 55 57.8 +1.5
baz=139,SNR=28
K17K Iditarod 18.75 318 P 12 55 56.5 0.0
K17K Iditarod 18.75 318 P Pn 12 55 58.5 +1.6
baz=114,SNR=13
G22K Bettles 18.82 334 P Pn 12 55 58.5 +0.8
baz=136
IMAR Indian Mountai 18.84 330 P Pn 12 55 59.7 +1.8
L16K Owhat River 18.87 315 P Pn 12 55 59.7 +1.4
baz=110,SNR=23
LCMT Little Creek M 18.88 132 P Pn 12 55 59.8 +1.0
LCMT IAmb IAmb 12 56 26.8
comp=Z,32nm,0.7s
H20K Anotleneega Mo 18.89 328 P Pn 12 55 60.0 +1.3
baz=127,SNR=22
E24K Your Creek 18.96 339 P Pn 12 56 01.6 +2.2
baz=143,SNR=17
O14K Tigyukauivet M 19.05 307 P Pn 12 56 01.6 +1.0
baz=101
KNB Kanab 19.07 132 IAmb IAmb 12 56 27.6
comp=Z,45nm,0.8s
M15K Kasigluk River 19.11 311 P Pn 12 56 03.0 +1.8
baz=106,SNR=16
G21K Allakaket 19.11 332 P Pn 12 56 02.9 +1.6
baz=131
O20A White River Ci 19.11 117 IAmb IAmb 12 56 04.2
comp=Z,42nm,1.1s
S12K Black Hills 19.13 296 P Pn 12 56 02.9 +1.3
baz=90
GCSA Galena City Sc 19.16 325 P Pn 12 56 03.0 +1.2
baz=122,SNR=21
RSSD Black Hills 19.19 102 Pn 12 56 03.1 +0.4
E23K Chandalar 19.20 338 P Pn 12 56 03.0 +0.5
baz=141,SNR=12
J17K VABM Dome 19.36 320 P Pn 12 56 05.1 +0.9
J17K IAmb IAmb 12 56 06.5
comp=Z,57nm,1.2s
J17K VABM Dome 19.36 320 P Pn 12 56 05.4 +1.2
baz=115,SNR=34
HMU Henry Mountain 19.37 126 P P 12 56 04.2 +0.5
HMU IAmb IAmb 12 56 09.9
comp=Z,36nm,1.0s
N14K Kuskokwak Cree 19.40 308 P Pn 12 56 05.8 +1.1
baz=102,SNR=7.6
C27K Jago River 19.41 346 P Pn 12 56 04.9 +0.1
C27K Jago River 19.41 346 P Pn 12 56 05.0 +0.3
baz=154
F22K John River 19.43 335 P Pn 12 56 05.8 +0.8
baz=136
H19K Roundabout Mou 19.44 327 IAmb IAmb 12 56 09.4
comp=Z,43nm,0.9s
H19K Roundabout Mou 19.44 327 P Pn 12 56 06.0 +0.8
baz=124,SNR=34
D25K Kavik River 19.58 343 P Pn 12 56 07.0 +0.1
baz=149
F21K Alatna River 19.59 333 IAmb IAmb 12 56 14.6
comp=Z,36nm,1.1s
F21K Alatna River 19.59 333 P Pn 12 56 08.0 +1.1
baz=133,SNR=33
TOLK Toolik Lake Re 19.65 339 Pn 12 56 07.7 -0.1
TOLK IAmb IAmb 12 56 16.8
comp=Z,61nm,1.5s
TOLK Toolik Lake Re 19.65 339 P Pn 12 56 08.7 +0.9
baz=142,SNR=13
M14K Bethel 19.73 311 Pn 12 56 09.3 +0.7
M14K IAmb IAmb 12 56 11.1
comp=Z,44nm,1.1s
M14K Bethel 19.73 311 P Pn 12 56 09.6 +1.0
baz=104,SNR=9.4
L15K Ungalak Mounta 19.76 314 P Pn 12 56 10.0 +0.9
baz=107,SNR=28
E22K Anaktuvuk Pass 19.79 336 IAmb IAmb 12 56 14.9
comp=Z,56nm,1.4s
E22K Anaktuvuk Pass 19.79 336 P Pn 12 56 10.9 +1.5
baz=138,SNR=30
PV21 Cone Mtn., Par 19.82 122 P Pn 12 56 09.8 -0.4
C26K Camden Bay 19.85 345 P P 12 56 08.9 +0.5
C26K Camden Bay 19.85 345 P Pn 12 56 10.5 +0.4
baz=152
PV23 Carpenter Ridg 19.88 122 P Pn 12 56 10.5 -0.5
D24K Happy Valley 19.91 341 IAmb IAmb 12 56 14.2
comp=Z,36nm,1.5s
D24K Happy Valley 19.91 341 P Pn 12 56 11.4 +0.7
baz=144,SNR=5.7

H18K Honhosa River 19.91 325 P Pn 12 56 11.1 +0.2
baz=120
PV14 Lion Creek, Pa 19.94 122 P Pn 12 56 11.1 -0.5
PV14 IAmb IAmb 12 56 11.9
comp=Z,32nm,0.7s
J16K Anvik River 19.94 318 P Pn 12 56 12.0 +0.9
baz=113,SNR=30
PV22 Blue Mesa, Par 19.94 121 P 12 56 10.7 +0.7
PV22 IAmb IAmb 12 56 16.7
comp=Z,18nm,0.8s
K15K Wolf Creek Mou 19.98 315 P Pn 12 56 12.8 +1.2
baz=109,SNR=27
PV04 Paradox Valley 19.98 122 IAmb IAmb 12 56 34.0
comp=Z,42nm,1.2s
PV19 Morning Glory 20.00 122 P Pn 12 56 11.7 -0.7
G19K Purcell Mounta 20.01 328 IAmb IAmb 12 56 18.5
comp=Z,28nm,0.9s
G19K Purcell Mounta 20.01 328 P Pn 12 56 12.4 +0.4
baz=125,SNR=28
PV16 Nyswonger Mesa 20.04 122 IAmb IAmb 12 56 16.2
comp=Z,27nm,0.9s
PV17 East Wray Mesa 20.04 122 P P 12 56 11.7 +0.7
PV17 IAmb IAmb 12 56 16.1
comp=Z,36nm,0.9s
PV11 David Mesa, Pa 20.07 122 IAmb IAmb 12 56 18.7
comp=Z,30nm,0.8s
PV18 Skein Mesa, Pa 20.09 122 P 12 56 12.5 +0.9
PV05 Paradox Valley 20.11 123 IAmb IAmb 12 56 17.1
comp=Z,31nm,0.9s
PV03 Paradox Valley 20.12 122 IAmb IAmb 12 56 13.6
comp=Z,12nm,0.6s
F20K Avaraart Lake 20.13 331 P Pn 12 56 12.9 -0.4
F20K Avaraart Lake 20.13 331 P Pn 12 56 14.2 +0.9
baz=129,SNR=90
E28A Huff 20.13 92 IAmb IAmb 12 56 35.7
comp=Z,23nm,0.8s
D23K Nanushuk River 20.16 339 P Pn 12 56 14.2 +0.4
baz=141
PV13 Raiden Mtn., P 20.20 122 IAmb IAmb 12 56 18.1
comp=Z,55nm,1.2s
PV02 Paradox Valley 20.21 122 IAmb IAmb 12 56 17.4
comp=Z,53nm,1.3s
L14K Kuka Creek 20.22 312 Pn 12 56 14.9 +0.4
L14K Kuka Creek 20.22 312 P Pn 12 56 15.0 +0.6
baz=105,SNR=20
I17K Unalakleet 20.22 320 P Pn 12 56 15.2 +0.8
baz=114,SNR=18
PV15 Paradox Valley 20.25 121 P P 12 56 13.9 +0.6
PV15 IAmb IAmb 12 56 18.5
comp=Z,34nm,1.1s
M13K Dall Lake 20.32 309 P Pn 12 56 15.9 +0.3
baz=102,SNR=7.2
C24K Franklin Bluff 20.35 342 P Pn 12 56 15.6 -0.3
baz=146
PV01 Paradox Valley 20.35 122 P P 12 56 15.4 +1.0
PV01 IAmb IAmb 12 56 16.2
comp=Z,18nm,0.7s
H17K Granite Mounta 20.38 323 P Pn 12 56 16.5 +0.1
H17K Granite Mounta 20.38 323 P Pn 12 56 16.8 +0.4
baz=118,SNR=65
G18K Tagagawik 20.41 326 P P 12 56 15.1 +0.5
G18K Tagagawik 20.41 326 P Pn 12 56 16.9 +0.2
baz=122,SNR=35
D22K Ayikyak River 20.56 337 P 12 56 16.1 -0.1
D22K IAmb IAmb 12 56 25.3
comp=Z,37nm,1.3s
D22K Ayikyak River 20.56 337 P Pn 12 56 18.4 0.0
baz=139
F19K Shaleruckik Mo 20.64 329 IAmb IAmb 12 56 23.3
comp=Z,42nm,0.9s
F19K Shaleruckik Mo 20.64 329 P Pn 12 56 19.3 0.0
baz=125,SNR=39
ISCO Idaho Springs 20.83 114 P 12 56 20.1 +0.4
C23K Itkillik River 20.83 341 IAmb IAmb 12 56 23.7
comp=Z,33nm,1.2s
C23K Itkillik River 20.83 341 P Pn 12 56 21.2 -0.4
baz=143,SNR=6.8
E19K Redstone River 20.84 331 P Pn 12 56 21.9 +0.2
baz=127
A36M Sachs Harbour 20.90 5 P Pn 12 56 22.1 -0.2
baz=189
G17K Kiwalik Mounta 20.92 324 P Pn 12 56 22.5 -0.2
baz=118,SNR=33
J14K Nanvaranak Lak 21.01 316 P 12 56 21.6 +0.5
J14K Nanvaranak Lak 21.01 316 P P 12 56 23.6 +2.4
baz=108,SNR=6.6
E20K Nigu River 21.05 333 P P 12 56 23.4 +1.8
baz=131
MVCO Mesa Verde 21.08 123 P 12 56 23.0 +0.7
MVCO IAmb IAmb 12 56 24.1
comp=Z,26nm,0.8s
F18K Selawik 21.13 327 P P 12 56 24.7 +2.4
baz=122,SNR=36
K13K Kusilvak Mount 21.28 313 P P 12 56 24.8 +0.8
K13K Kusilvak Mount 21.28 313 P P 12 56 26.0 +2.0
baz=104
C21K Knifeblade Rid 21.29 336 P P 12 56 25.1 +1.0
baz=135,SNR=11
D20K Etivluk River 21.47 334 P P 12 56 27.6 +1.6
baz=131
G16K Koyuk River 21.51 323 P 12 56 26.5 +0.1
G16K IAmb IAmb 12 56 54.3
comp=Z,40nm,1.5s
G16K Koyuk River 21.51 323 P P 12 56 28.3 +1.8
baz=115
B21K Ikpikpuk River 21.58 337 IAmb IAmb 12 56 34.2
comp=Z,23nm,0.9s
B21K Ikpikpuk River 21.58 337 P P 12 56 28.5 +1.4
baz=136
F17K Baldwin Pennin 21.59 326 P P 12 56 29.4 +2.0
baz=119
M11K Mekoryuk 21.70 309 P P 12 56 31.1 +2.6
baz=98
D19K Kuna River 21.75 333 P P 12 56 28.1 -1.0
D19K IAmb IAmb 12 56 34.7
comp=Z,34nm,0.9s
D19K Kuna River 21.75 333 P P 12 56 31.1 +2.1
baz=128
UNV Unalaska Valle 21.82 291 P P 12 56 32.2 +2.3
baz=82
B22K Teshekpuk Lake 21.83 339 P P 12 56 32.0 +2.2
baz=139,SNR=7.4
ULM Lac du Bonnet 21.87 79 P 12 56 30.1 -0.4
ULM Lac du Bonnet 21.87 79 P P 12 56 30.3 -0.1
comp=Z,8.6nm,0.7s,baz=286,slow=12,SNR=16
comp=Z,8.6nm,0.7s
ULM Lac du Bonnet 21.87 79 P P 12 56 29.9 -0.6
E18K Tukpahlearik C 21.89 329 P P 12 56 32.3 +1.8
baz=122
G15K Niukluk 21.99 321 P P 12 56 33.7 +2.1
baz=112
E17K Hotham Inlet 22.11 327 P P 12 56 34.8 +1.8
baz=120,SNR=22
SUSD Miller 22.19 96 IAmb IAmb 12 56 35.3
comp=Z,36nm,1.0s
BLKN Baker Lake 22.22 41 P 12 56 34.5 +0.5
BLKN IAmb IAmb 12 57 03.2
comp=Z,23nm,1.1s
SDCO Great Sand Dun 22.31 118 P P 12 56 36.1 +0.6
SDCO IAmb IAmb 12 56 42.8
comp=Z,22nm,1.4s
ANM Nome 22.37 320 P P 12 56 37.1 +1.4
baz=110
X18A Snowflake 22.45 130 P P 12 56 38.2 +1.2
X18A IAmb IAmb 12 56 44.6
comp=Z,36nm,1.1s
B20K Meade River 22.48 336 P P 12 56 38.3 +1.5
baz=132
AGMN Agassiz Nation 22.50 84 P 12 56 37.0 -0.2
AGMN IAmb IAmb 12 57 04.4
comp=Z,22nm,1.1s
F15K North Star Dit 22.51 323 IAmb IAmb 12 56 40.5
comp=Z,41nm,1.2s
F15K North Star Dit 22.51 323 P P 12 56 38.4 +1.2
baz=113,SNR=6.0
C19K Lookout Ridge 22.55 333 IAmb IAmb 12 56 40.8
comp=Z,46nm,1.4s
C19K Lookout Ridge 22.55 333 P P 12 56 38.7 +1.1
baz=127
A22K Sinclair Lake 22.68 339 P P 12 56 40.1 +1.2
baz=138
K30B Basset 22.69 100 P P 12 56 40.1 +0.8
K30B IAmb IAmb 12 57 15.1
comp=Z,31nm,0.9s
C18K Utukok River 22.75 331 P P 12 56 40.9 +1.1
baz=124,SNR=12
D17K Noatak River 22.84 328 P P 12 56 41.5 +0.8
baz=120
RDOG Red Dog Mine 22.97 329 P P 12 56 42.7 +0.7
baz=120
F14K Arctic Creek 23.07 322 P P 12 56 43.9 +0.9
baz=110
F33A 5 Mile Ranch, 23.21 90 P 12 56 44.9 +0.2
F33A IAmb IAmb 12 56 47.2
comp=Z,21nm,1.1s
C17K DeLong Mountai 23.27 330 P P 12 56 46.6 +1.5
baz=121
P08K Saint George I 23.29 298 P P 12 56 47.3 +2.0
baz=86
B18K Kokolik River 23.34 332 P P 12 56 47.2 +1.4
baz=125
214A Organ Pipe Nat 23.35 139 P P 12 56 48.1 +1.9
T25A Trinidad 23.35 117 P 12 56 47.0 +0.6
NIKH Nikolski High 23.36 289 P P 12 56 47.9 +1.8
baz=78
EPLO Experimental L 23.37 79 P 12 56 46.2 0.0
EPLO IAmb IAmb 12 57 01.1
comp=Z,15nm,0.9s
EPLO Experimental L 23.37 79 P P 12 56 46.0 -0.3
A19K Wainwright 23.63 334 P P 12 56 49.9 +1.2
baz=127
SPIA Saint Paul Isl 23.64 300 P P 12 56 50.7 +1.8
baz=87
TNA Tin City 23.72 321 P P 12 56 50.7 +1.1
baz=109
C16K Lisburne Hills 23.87 328 P P 12 56 51.8 +0.8
baz=118
ANMO Albuquerque 23.87 124 P P 12 56 52.4 +0.9
ECSD EROS Data Cent 24.00 95 P 12 56 53.5 +1.0
ECSD IAmb IAmb 12 56 54.4
comp=Z,16nm,0.8s
SOLO Sioux Lookout 24.27 78 P P 12 56 55.2 +0.3
BNM Barren Site 24.40 125 P P 12 56 57.3 +0.8
CRNM Carthage 24.50 126 P 12 56 57.9 +0.5
RTBA Rita Blanca 24.79 116 P P 12 57 00.3 +0.4
RTBA IAmb IAmb 12 57 03.4
comp=Z,19nm,1.0s
GAMB Gambell 24.84 316 P P 12 57 01.2 +1.3
baz=100
PKLO Pickle Lake 24.90 74 P P 12 57 01.9 +1.3
CBKS Cedar Bluff 24.92 108 P 12 57 02.4 +1.4
ATKO Atikokan Iron 24.96 80 P P 12 57 02.6 +1.4
EYMN Ely 25.35 82 P 12 57 06.2 +1.4
EYMN Ely 25.35 82 P P 12 57 05.5 +0.7
SPMN Marine on St. 25.68 89 P P 12 57 08.0 +0.3
SPMN IAmb IAmb 12 57 29.2
comp=Z,10nm,1.0s
E38A The Farm, Brul 25.85 85 IAmb IAmb 12 57 34.2
comp=Z,21nm,1.4s
EPT El Paso 26.36 128 P P 12 57 15.2 +1.0
TBO Thunder Bay 26.38 79 P 12 57 14.9 +0.9
TBO IAmb IAmb 12 57 17.7
comp=Z,15nm,0.7s
TBO Thunder Bay 26.38 79 P P 12 57 16.8 +2.8
AMTX Amarillo 26.50 117 P 12 57 16.4 +1.0
AMTX IAmb IAmb 12 57 18.4
comp=Z,13nm,0.9s
HSIG 26.68 139 IAmb IAmb 12 57 19.2
comp=Z,29nm,1.4s
MNTX Cornudas Mount 26.98 127 IAmb IAmb 12 57 21.9
comp=Z,13nm,1.1s
SMWD Samnorwood 27.16 115 P P 12 57 21.5 +0.3
G40A Rib Lake 27.29 87 IAmb IAmb 12 57 24.0
comp=Z,8.9nm,1.1s
KAN13 South Haven SW 27.45 108 P P 12 57 24.7 +0.9
KAN13 IAmb IAmb 12 57 33.5
comp=Z,8.0nm,0.9s
COWI Conover 27.58 84 P P 12 57 25.1 +0.2
COWI IAmb IAmb 12 57 49.1
comp=Z,10nm,1.0s
RES Resolute Bay 27.64 20 P P 12 57 26.4 +1.3
VHRN Van Horn 27.92 127 IAmb IAmb 12 57 30.6
comp=Z,20nm,1.5s
P38A Dawn 28.20 100 IAmb IAmb 12 57 50.4
comp=Z,7.9nm,0.7s
WMOK Wichita Mounta 28.26 113 IAmb IAmb 12 57 49.4
comp=Z,12nm,1.1s
F42A Maple Grove Fa 28.36 84 P P 12 57 33.0 +1.2
TX31 Lajitas Ar. Si 29.76 127 IAmb IAmb 12 57 46.9
comp=Z,20nm,1.4s
TXAR Lajitas Array 29.76 127 P P 12 57 45.4 +0.9
comp=Z,4.2nm,0.8s,baz=329,slow=8.7,SNR=50
TXAR PcP PcP 13 00 47.6 -0.6
comp=Z,0.4nm,0.8s,baz=312,slow=3.1,SNR=3.0
comp=Z,4.2nm,0.8s
JCT Junction City 30.86 120 IAmb IAmb 12 57 56.5
comp=Z,11nm,1.2s
FCAR Ozark Folk Cen 31.42 104 P P 12 57 58.9 -0.1
FCAR IAmb IAmb 12 58 08.3
comp=Z,7.8nm,1.1s
MIAR Mount Ida 31.45 108 IAmb IAmb 12 58 09.7
comp=Z,7.2nm,1.1s
SFIN Lafayette 31.77 93 P P 12 58 02.9 +0.9
SFIN IAmb IAmb 12 58 03.5
comp=Z,6.4nm,0.8s
BUKO Buck Lake 33.93 79 IAmb IAmb 12 58 22.9
comp=Z,6.7nm,0.9s
SADO Sadowa 34.42 80 IAmb IAmb 12 58 48.6
comp=Z,11nm,1.3s
PLAL Pickwick Lake 34.50 101 P P 12 58 26.0 +0.1
R50A Paris 34.74 94 IAmb IAmb 12 58 29.3
comp=Z,11nm,1.1s
S51A Beattyville 35.59 94 IAmb IAmb 12 58 36.5
comp=Z,5.1nm,0.8s
250A Grady 37.64 103 IAmb IAmb 12 58 53.7
comp=Z,9.1nm,0.7s
SEY Seymchan 40.83 317 P P 12 59 20.2 +1.1
comp=Z,2.1nm,0.7s,baz=69,slow=15,SNR=4.5
comp=Z,2.1nm,0.7s
PETK Petropavlovsk- 42.28 302 P P 12 59 30.9 -0.3
comp=Z,10.0nm,0.8s,baz=63,slow=17,SNR=6.1
comp=Z,10.0nm,0.8s
TEIG Tepich 45.30 117 P P 12 59 56.5 +0.7
YAK Yakutsk 50.47 323 P P 13 00 35.0 -0.3
comp=Z,14nm,0.6s,baz=43,slow=0.4,SNR=2.8
comp=Z,14nm,0.6s
BOAB BOACO BROADBAND 48.07 120 P 13 00 55.7 +0.4
YSS Yuzhno-Sakhali 53.68 302 P P 13 00 59.4 0.0
NRIK Noril'sk 56.46 345 P P 13 01 17.8 -1.4
comp=Z,5.8nm,0.7s,baz=27,slow=9.0,SNR=4.1
comp=Z,5.8nm,0.7s
H11N2 WAKE ISLAND Hy 57.70 261 T T 14 04 16.3
baz=41,slow=75,SNR=520
H11N3 WAKE ISLAND Hy 57.70 261 T T 14 03 50.2
baz=41,slow=75,SNR=536
H11N1 WAKE ISLAND Hy 57.72 261 T T 14 03 52.2
baz=41,slow=75,SNR=522
KLR Kul'dur 57.79 310 P P 13 01 29.1 +0.2
comp=Z,1.9nm,0.8s,baz=23,slow=11,SNR=4.7
comp=Z,1.9nm,0.8s
H11S1 WAKE ISLAND Hy 58.74 261 T T 14 05 21.2
baz=40,slow=75,SNR=62
H11S2 WAKE ISLAND Hy 58.75 261 T T 14 05 20.4
baz=40,slow=75,SNR=43
H11S3 WAKE ISLAND Hy 58.76 261 T T 14 05 27.8
baz=40,slow=75,SNR=36
HEH HeiHe 59.13 313 eP P 13 01 37.9 -0.3
HEH pmax pmax
comp=Z,24nm,0.9s
USRK Ussuriysk Ar. 61.15 305 P 13 01 52.4 +0.2
USRK Ussuriysk Ar. 61.15 305 P P 13 01 51.1 -1.1
comp=Z,5.1nm,1.0s,baz=44,slow=7.0,SNR=7.1
comp=Z,5.1nm,1.0s
BNX BinXian 62.34 309 ⇓P P 13 02 00.1 0.0
BNX pmax pmax
comp=Z,5.0nm,1.1s
RUSC La Rusia 65.50 113 P P 13 02 21.3 -0.6
FINES FINESS Array B 66.07 12 P P 13 02 24.9 +0.5
comp=Z,1.8nm,0.9s,baz=339,slow=3.6,SNR=1.3
comp=Z,1.8nm,0.9s
OTAV Otavalo 67.14 121 P 13 02 32.9 +0.5
FLOC Florencia 67.56 118 P 13 02 35.0 +0.4
KSRS Korea Array 68.17 303 P P 13 02 37.8 -0.3
comp=Z,0.4nm,0.6s,baz=54,slow=6.2,SNR=2.4
comp=Z,0.4nm,0.6s
SONM Songino Array 69.83 323 P P 13 02 49.0 +0.6
SONM Songino Array 69.83 323 P P 13 02 48.3 -0.2
comp=Z,0.4nm,0.3s,baz=46,slow=6.2,SNR=6.8
comp=Z,0.4nm,0.3s
ZAA0 Zalesovo Array 71.01 339 P P 13 02 55.6 +0.3
ZAA0 IAmb IAmb 13 03 11.6
comp=Z,5.9nm,1.3s
ZALV Zalesovo Beam 71.01 339 P P 13 02 55.6 +0.2
comp=Z,0.4nm,0.4s,baz=20,slow=4.6,SNR=1.8

comp=Z,0.4nm,0.4s
HHC Hu-ho-hao-te 73.45 316 *e*P **P 13 03 09.6 -0.8**
HHC pmax pmax
comp=Z,27nm,0.6s
HHC pmax pmax
comp=Z,140nm,4.3s
BRVK Borovoye 74.54 347 P **P 13 03 16.7 +0.3**
BVAR Borovoye Array 74.56 347 P **P 13 03 16.5 +0.1**
comp=Z,0.6nm,0.4s,baz=27,slow=4.8,SNR=4.9
comp=Z,0.6nm,0.4s
KURK Kurchatov 75.38 341 P **P 13 03 21.5 +0.3**
KURBB Kurchatov Arra 75.48 341 P **P 13 03 21.8 0.0**
comp=Z,1.2nm,0.6s,baz=20,slow=5.1,SNR=9.8
comp=Z,1.2nm,0.6s
GERES GERESS Array B 75.67 23 P **P 13 03 24.8 +1.8**
comp=Z,0.2nm,0.5s,baz=354,slow=6.3,SNR=1.5
comp=Z,0.2nm,0.5s
AKASG Malin Array Be 76.94 13 P **P 13 03 30.9 +0.8**
comp=Z,0.2nm,0.3s,baz=352,slow=5.8,SNR=4.8
comp=Z,0.2nm,0.3s
NJ2 Nanjing 77.06 305 *e*P **P 13 03 32.0 +0.9**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
ESDC Sonseca Array 78.13 39 P **P 13 03 37.3 +0.3**
comp=Z,0.4nm,0.7s,baz=324,slow=6.3,SNR=4.6
comp=Z,0.4nm,0.7s
MKAR Makanchi Array 78.27 338 P **P 13 03 37.8 +0.1**
MKAR Makanchi Array 78.27 338 P **P 13 03 37.3 -0.4**
comp=Z,0.9nm,0.8s,baz=38,slow=2.6,SNR=6.8
comp=Z,0.9nm,0.8s
SABO M.te Sabotino 78.30 25 P **P 13 03 37.5 -0.4**
SABO IAmb IAmb 13 03 55.2
comp=Z,9.9nm,1.2s
MAKZ Makanchi 78.33 338 P **P 13 03 38.4 +0.4**
MAKZ IAmb IAmb 13 03 39.1
comp=Z,5.0nm,1.1s
AB31 Akbulak array 79.42 353 P **P 13 03 44.2 +0.3**
ABKAR Akbulak array 79.42 353 P **P 13 03 44.5 +0.6**
XAN Xi'an 80.25 313 P **P 13 03 48.3 -0.4**
XAN pmax pmax
comp=Z,5.0nm,0.4s
LZH Lanzhou 80.75 318 *e*P P 13 03 57.8 +6.3
LZH sP PcP 13 04 03.4 +5.2
LZH pmax pmax
comp=Z,35nm,1.0s
KKAR Karatay Array 84.20 345 P **P 13 04 09.3 +0.1**
LPAZ La Paz 86.46 121 P **P 13 04 20.4 -1.1**
comp=Z,1.1nm,0.6s,baz=334,slow=5.6,SNR=2.3
comp=Z,1.1nm,0.6s
BRTR Keskin Array B 88.31 12 P **P 13 04 29.9 +0.2**
comp=Z,0.4nm,0.5s,baz=329,slow=2.5,SNR=1.8
comp=Z,0.4nm,0.5s
PZH PanZhiHua 89.90 315 P **P 13 04 37.4 +0.1**
SNAA Sanae 149.32 151 PKPbc **PKPbc 13 11 25.1 -0.4**
comp=Z,1.8nm,0.8s,baz=284,slow=4.2,SNR=5.0

*NEIC **05** 12:53:10.0±1.3, 47.12N±0.03×122.98W±0.04, h37km±19km, Error ellipse: s-maj=4.7km s-min=2.7km az=145.0*
SEA 05 12:53:11.1±1.2, 47.10N±0.04×122.88W±0.03, h41km±9km, ML2.1/14, ML1.7/10(NEIC), Error ellipse: s-maj=5.4km s-min=3.1km az=174.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRHS	**Rochester High**	**0.32**	**200**		Pn	12 53 19.2	-0.4
B941	**Kapowsin**	**0.47**	**104**		Pn	12 53 20.8	-0.6
B941					Sn	12 53 28.2	-0.4
GNW	**Green Mountain**	**0.47**	**4**	Pn	Pn	12 53 21.6	+0.1
KNEL	**Kent Elementar**	**0.51**	**56**		Pn	12 53 18.8	-3.2
D05A	**Enumclaw**	**0.61**	**81**	Pn	Pn	12 53 21.9	-1.5
D05A					Sn	12 53 29.1	-3.1
D05A				IAML		12 53 33.7	
	comp=E,40nm,1.4s						
D05A				IAML		12 53 49.3	
	comp=N,24nm,1.0s						
B019	**Raymond**	**0.69**	**230**		Sn	12 53 30.9	-3.1
NLWA	**Neilton Lookou**	**0.73**	**294**	Pn	Pn	12 53 23.1	-1.9
NLWA				IAML		12 53 45.0	
	comp=N,22nm,1.4s						
NLWA				IAML		12 53 50.0	
	comp=N,22nm,1.1s						
OBSR	**Observation Ro**	**0.76**	**105**		Pn	12 53 25.3	-0.3
REMR	**Mount Rainier-**	**0.76**	**111**		Pn	12 53 24.8	-0.8
RCM	**Mount Rainier-**	**0.83**	**108**		Pn	12 53 25.9	-0.8
FMW	**Mount Fremont**	**0.84**	**101**		Pn	12 53 25.9	-0.8
PANH	**Panhandle Gap,**	**0.88**	**105**		Pn	12 53 26.7	-0.6
RADR	**Rader Ridge**	**0.93**	**223**	Pn	Pn	12 53 26.2	-1.5
RADR				IAML		12 53 34.3	
	comp=E,36nm,0.8s						
RADR				IAML		12 53 49.6	
	comp=N,31nm,1.4s						
B202	**Windy Ridge, M**	**0.99**	**149**		Pn	12 53 28.6	-0.1
SOSW	**Source of Smit**	**1.00**	**149**		Pn	12 53 28.8	+0.1
SHW	**Mount Saint He**	**1.01**	**154**		Pn	12 53 28.8	-0.1
SWF2	**Southwest Flan**	**1.03**	**153**		Pn	12 53 29.1	-0.1
C03A	**Quillayute Air**	**1.42**	**307**	Pn	Pn	12 53 32.0	-2.4
F05D	**White Salmon**	**1.56**	**141**		Pn	12 53 31.9	-4.4
A04D	**Lummi Island**	**1.63**	**4**	Pn	Pn	12 53 34.5	-2.7
SHRK	**Shell Rock**	**1.88**	**150**		Pn	12 53 41.0	+0.1
CLRS	**Cowichan Lake**	**1.92**	**334**	Pn	Pn	12 53 39.2	-2.0
HEBO	**Mount Hebo**	**1.98**	**198**	Pn	Pn	12 53 41.3	-0.9
HAWA	**Hanford**	**2.41**	**106**	Pn	Pn	12 53 47.6	-0.4
H04D	**Lebanon**	**2.58**	**178**	Pn	Pn	12 53 49.0	-1.4
I02E	**Swisshome, OR**	**3.07**	**193**	Pn	Pn	12 53 56.0	-1.1
CBB	**Campbell River**	**3.37**	**332**	Pn	Pn	12 54 00.1	-1.1
J01E	**Myrtle Point**	**4.01**	**191**	Pn	Pn	12 54 07.8	-2.1
NEW	**Newport**	**4.06**	**71**	Pn	Pn	12 54 08.2	-2.5

*NEIC **05** 12:55:04.1±2.0, 35.752N±0.007×117.552W±0.009, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.4km az=1.0*
PAS 05 12:55:04.8±2.3, 35.751N±0.007×117.56W±0.01, h7km±4km, Mwr3.7/4, ML3.6/94(NEIC), Error ellipse: s-maj=1.3km s-min=0.9km az=120.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.07**	**337**		Pg	12 55 06.8	0.0
SRTC	**Snort**	**0.16**	**249**		Pg	12 55 08.6	+0.4
SRTC					Sg	12 55 11.9	+1.5
TOW	**Tower One**	**0.17**	**290**		Pg	12 55 08.8	+0.4
CCCA	**Chr Cany lake**	**0.28**	**144**		Sg	12 55 15.2	+1.2
WVPM	**Volcano Peak E**	**0.29**	**314**		Pg	12 55 10.4	-0.1
WVPM					Sg	12 55 14.8	+0.5
LRMC	**Laurel Mtn Rad**	**0.29**	**200**		Pg	12 55 10.4	-0.1
WNMM	**Nine Mile Cany**	**0.29**	**288**		Pg	12 55 10.6	0.0
WNMM					Sg	12 55 15.3	+0.8
WCSM	**Coso Springs S**	**0.32**	**329**		Pg	12 55 11.0	-0.2
WCSM					Sg	12 55 15.7	+0.2
WRVM	**Rose V. Centra**	**0.37**	**314**		Pg	12 55 11.9	-0.2
MFS	**McCloud Flat S**	**0.44**	**327**		Pg	12 55 13.2	-0.2
MFS					Sg	12 55 19.3	+0.3
WBSM	**Bird Springs**	**0.52**	**246**		Pg	12 55 14.5	-0.3
WBSM					Sg	12 55 21.6	0.0
DTP	**Desert Tortois**	**0.53**	**206**		Pg	12 55 14.7	-0.5
DTP					Sg	12 55 22.4	+0.2
WORM	**Onyx Ranch**	**0.56**	**265**		Pg	12 55 15.1	-0.5
WORM					Sg	12 55 22.5	-0.3
QSM	**Queen of Sheba**	**0.60**	**69**		Pg	12 55 16.1	-0.4
QSM				Sg	Sg	12 55 24.3	-0.1
QSM				IAML		12 55 24.5	
	comp=N,4μm,0.5s						
WHFM	**Hanning Flat**	**0.64**	**265**		Pg	12 55 16.7	-0.5
WHFM					Sg	12 55 25.4	-0.2
CCAC	**Calif City Air**	**0.70**	**212**		Pg	12 55 17.9	-0.5
CCAC				Sg	Sg	12 55 27.5	+0.1
CCAC				IAML		12 55 28.0	
	comp=E,3μm,0.7s						
ISA	**Isabella, Lake**	**0.75**	**264**		Pg	12 55 18.7	-0.5
ISA				Sg	Sg	12 55 28.4	-0.5
ISA				IAML		12 55 29.3	
	comp=E,3μm,0.5s						
ISA				IAML		12 55 29.3	
	comp=N,4μm,0.3s						
GSC	**Goldstone, Bar**	**0.76**	**126**		Pg	12 55 19.0	-0.5
GSC				Sg	Sg	12 55 29.4	0.0
CWC	**Cottonwood Cre**	**0.81**	**329**		Pg	12 55 20.5	+0.1
WASM	**Alta Sierra Ca**	**0.81**	**269**		Pg	12 55 19.9	-0.5
WASM					Sg	12 55 31.5	+0.6
CGO	**Cerro Gordo**	**0.82**	**346**		Pg	12 55 19.9	-0.7
CGO					Sg	12 55 31.8	+0.4
GWY	**Greenwater Val**	**0.85**	**59**		Pg	12 55 20.6	-0.5
GWY					Sg	12 55 31.8	-0.3
HYS	**Haystack Butte**	**0.89**	**180**		Pg	12 55 21.0	-0.8
HYS					Sg	12 55 33.3	0.0
EDW2	**Edwards Air Fo**	**0.94**	**202**		Pg	12 55 21.8	-1.0
RRX	**Edison Barstow**	**0.99**	**152**		Pg	12 55 23.3	-0.5
TPO	**Tropico Hills**	**1.03**	**212**		Pg	12 55 23.6	-0.9
TEJ	**El Tejon**	**1.06**	**241**		Pg	12 55 23.9	-1.2
TEJ					Sg	12 55 38.0	-0.8
SHOC	**Shoshone, Teco**	**1.06**	**82**		Pg	12 55 24.2	-0.9
SHOC					Sg	12 55 39.0	+0.1
SPG2	**Springville 2**	**1.07**	**295**		Pg	12 55 24.4	-1.1
SPG2					Sg	12 55 38.8	-0.6
SBB	**Saddle Back Bu**	**1.08**	**192**		Pg	12 55 24.5	-1.1
SBB					Sg	12 55 40.5	+0.2
VTV	**Victorville**	**1.20**	**171**		Pg	12 55 27.6	-0.3
TJR	**Tejon Ranch**	**1.20**	**234**		Pg	12 55 27.2	-0.7
TJR					Sg	12 55 42.3	-1.2
ARVC	**Arvin**	**1.21**	**239**		Pg	12 55 27.8	-0.2
ALPC	**Antelope**	**1.22**	**210**		Pg	12 55 28.1	-0.2
THC	**Tehachapi Micr**	**1.23**	**227**		Pg	12 55 27.7	-0.7
VES	**Vestal, Richgr**	**1.24**	**275**		Pb	12 55 27.7	-0.9
VES					Sg	12 55 44.5	-0.2
AMDNV	**Amargosa**	**1.25**	**56**		Pn	12 55 27.2	-1.5
GRAC	**Grapevine Rang**	**1.25**	**7**		Pn	12 55 28.1	-0.7
GRAC				IAML		12 55 51.1	
	comp=N,1μm,0.8s						
GRAC				IAML		12 55 51.3	
	comp=E,1μm,0.6s						
LEOC	**Leona Valley**	**1.27**	**209**		Pn	12 55 27.7	-1.4
LRRC	**Littlerock Res**	**1.28**	**197**		Pn	12 55 27.8	-1.3
WCT	**Wildcat Mounta**	**1.29**	**36**		Pn	12 55 28.0	-1.4
WCT				Sg	Sb	12 55 45.8	-0.4
WCT				IAML		12 55 47.5	
	comp=N,950nm,0.7s						
WCT				IAML		12 55 48.2	
	comp=E,1μm,0.5s						
SGV	**South Grapevin**	**1.30**	**19**		Pn	12 55 28.5	-1.1
CJV	**Casa Juvan**	**1.31**	**202**		Pn	12 55 28.2	-1.5
HOLC	**Holcomb Ridge**	**1.31**	**190**		Pn	12 55 28.2	-1.5
DSCC	**Desert Studies**	**1.34**	**117**		Pn	12 55 28.0	-2.0
JNH	**Juniper Hills**	**1.34**	**194**		Pn	12 55 28.7	-1.4
HEC	**Hector,Ludlow**	**1.36**	**132**		Pn	12 55 28.7	-1.6
TUQ	**Turquoise Moun**	**1.37**	**103**		Pn	12 55 28.7	-1.8
TIN	**Tinemaha, Big**	**1.41**	**338**		Pn	12 55 31.1	+0.1
CHFC	**Chilao Flat St**	**1.46**	**195**		Pn	12 55 30.5	-1.4
OSI	**Osito Audit: C**	**1.48**	**220**		Pn	12 55 32.0	0.0
LCH	**Last Change Ra**	**1.48**	**357**		Pn	12 55 31.2	-0.8
BFSC	**Mount Baldy Ra**	**1.51**	**183**		Pn	12 55 31.2	-1.2
SIL	**Silver Peak**	**1.52**	**156**		Pb	12 55 33.1	-0.4
SSK	**Sunset Peak**	**1.54**	**184**		Pn	12 55 32.1	-0.8
GMN	**Gold Mountain**	**1.57**	**9**		Pn	12 55 32.5	-0.8
BBRC	**Big Bear Solar**	**1.58**	**160**		Pn	12 55 33.9	+0.5
MWC	**Mount Wilson**	**1.58**	**195**		Pn	12 55 33.0	-0.4
VOG	**Valley Oaks Go**	**1.58**	**292**		Pn	12 55 33.6	+0.3
TPNV	**Topopah Spring**	**1.60**	**41**		Pn	12 55 32.6	-1.1
TPNV				IAML		12 55 59.8	
	comp=E,1μm,0.8s						
TPNV				IAML		12 56 00.5	
	comp=E,994nm,1.1s						
DECC	**Green Verdugo**	**1.62**	**203**		Pb	12 55 35.3	+0.2
DSP	**Deep Springs**	**1.65**	**349**		Pn	12 55 33.2	-1.0
PASC	**Pasadena Art C**	**1.66**	**198**		Pn	12 55 33.5	-0.9
PASC				IAML		12 56 01.1	
	comp=N,373nm,0.8s						
PASC				IAML		12 56 01.5	
	comp=E,586nm,0.6s						
MTPC	**Mountain Pass**	**1.66**	**99**		Pn	12 55 32.9	-1.6
PSRC	**Puddingstone R**	**1.67**	**187**		Pn	12 55 33.9	-0.6
POCCA	**Poleta Canyon**	**1.71**	**340**		Pb	12 55 33.8	-0.4
BCW	**Bitter Crk WRg**	**1.71**	**242**	Pn	Pn	12 55 34.3	-1.0
BCW				IAML		12 56 08.8	
	comp=E,997nm,1.1s						
BHPR	**Bishop**	**1.71**	**335**		Pb	12 55 36.8	-0.1
BLCC	**Black Canyon**	**1.76**	**212**		Pn	12 55 35.2	-0.6
GTM	**Goat Mountain**	**1.76**	**145**		Pb	12 55 37.5	0.0
MTUM	**Tungsten Hills**	**1.79**	**334**		Pb	12 55 37.9	-0.2
DJJ	**Donna J Jenkin**	**1.80**	**204**		Pn	12 55 35.3	-1.0
GMRC	**Granite Mounta**	**1.83**	**121**		Pn	12 55 34.5	-2.3
CRGC	**Crocker Grade**	**1.83**	**255**		Pb	12 55 38.5	-0.3
BLAC	**Blackrock camp**	**1.94**	**150**		Pn	12 55 37.4	-0.9
MZP	**Montezuma Peak**	**1.95**	**4**	Pn	Pn	12 55 38.1	-0.6
MZP				IAML		12 55 56.0	
	comp=N,97nm,0.7s						
MZP				IAML		12 56 15.3	
	comp=E,83nm,1.0s						
TPC	**Twentynine Pal**	**2.06**	**142**		Pn	12 55 38.6	-1.3
SHPR	**Sheep Range**	**2.09**	**68**		Pn	12 55 39.7	-0.7
HMTC	**Hemet**	**2.09**	**167**		Pn	12 55 39.7	-0.6
ELS	**Elsinore Mount**	**2.10**	**177**		Pn	12 55 39.5	-1.0
KCC	**Kaiser Creek**	**2.11**	**319**		Pb	12 55 43.4	-0.1
RPV	**Rancho Palos V**	**2.12**	**199**		Pn	12 55 40.4	-0.3
BENR	**Benton**	**2.12**	**338**		Pb	12 55 43.8	0.0
POB	**Polly Butte**	**2.13**	**165**		Pn	12 55 40.1	-0.8
MLAC	**Mammoth, Mammo**	**2.14**	**332**		Pb	12 55 44.4	+0.4
DGR	**Domenigoni Val**	**2.15**	**168**		Pn	12 55 40.5	-0.6
MURC	**Murrieta**	**2.17**	**172**		Pn	12 55 40.7	-0.6
V12A	**Nelson**	**2.21**	**90**		Pn	12 55 40.4	-1.6
CRY	**Cary Ranch**	**2.28**	**162**		Pn	12 55 42.4	-0.7
PMD	**Palm Desert**	**2.31**	**155**		Pn	12 55 42.0	-1.4
PFO	**Pinyon Flats O**	**2.32**	**157**		Pn	12 55 42.3	-1.2
PFO				IAML		12 56 22.9	
	comp=E,189nm,0.8s						
PFO				IAML		12 56 23.2	
	comp=E,335nm,1.3s						
PFO	**Pinyon Flats O**	**2.32**	**157**		Pn	12 55 42.5	-1.1
SNDA	**J Saunders Pla**	**2.33**	**160**		Pn	12 55 42.6	-1.1
TPH	**Tonopah**	**2.34**	**7**	Pn	Pn	12 55 43.3	-0.6
TPH				IAML		12 56 24.7	
	comp=N,610nm,1.0s						
TPH				IAML		12 56 30.6	
	comp=E,555nm,0.8s						
FRD	**Ford Ranch, An**	**2.39**	**160**		Pn	12 55 41.9	-2.6
FRD	**Ford Ranch, An**	**2.39**	**160**		Pn	12 55 43.7	-0.8
LHV	**Little Huntoon**	**2.61**	**343**	Pn	Pn	12 55 47.8	+0.5
LHV				IAML		12 56 34.4	
	comp=E,169nm,1.4s						
PMPB	**Monarch Peak**	**2.67**	**281**	Pn	Pn	12 55 48.5	+0.2
PMPB				IAML		12 56 35.5	
	comp=E,358nm,0.7s						
PMPB				IAML		12 56 36.9	
	comp=N,379nm,1.2s						
NV11	**Mina Array Sit**	**2.72**	**350**	Pn	Pn	12 55 49.0	-0.1
NVAR	**Mina Array Bea**	**2.74**	**348**	Pn	Pn	12 55 49.0	-0.5
BBGB	**Big Mountain B**	**2.93**	**287**	Pn	Pn	12 55 50.6	-1.3
RYN	**Ryan**	**2.97**	**345**	Pn	Pn	12 55 51.1	-1.5
W13A	**Hualapai Mount**	**3.07**	**101**		Pn	12 55 52.5	-1.5
Q09A	**Carvers**	**3.09**	**6**	Pn	Pn	12 55 53.9	-0.3
Q09A				IAML		12 57 00.0	
	comp=E,264nm,1.0s						
Q09A				IAML		12 57 06.6	
	comp=N,207nm,1.1s						
BLYC	**Blythe**	**3.20**	**128**		Pn	12 55 53.4	-2.2
TKX	**Tecate**	**3.27**	**166**	Pn	Pn	12 55 55.9	-0.7
SAO	**San Andreas Ge**	**3.30**	**289**	Pn	Pn	12 55 56.5	-0.4
YUH	**Yuha Desert**	**3.38**	**156**	Pn	Pn	12 55 57.5	-0.5
YUH				IAML		12 56 58.5	
	comp=E,81nm,1.0s						
CBX	**Cerro Bola**	**3.51**	**167**		Pn	12 55 59.8	-0.1
CCX	**Cicese**	**3.94**	**169**	Pn	Pn	12 56 06.0	+0.2
CCX				IAML		12 57 08.8	
	comp=E,92nm,1.0s						
CCX				IAML		12 57 10.5	
	comp=N,95nm,0.6s						
ESJX	**Sierra Juarez**	**3.97**	**160**	Pn	Pn	12 56 06.1	-0.2
ESJX				IAML		12 57 12.5	
	comp=E,74nm,0.6s						
ESJX				IAML		12 57 18.5	
	comp=N,47nm,0.8s						
MPK	**Martis Peak**	**4.04**	**332**	Pn	Pn	12 56 06.1	-1.4
MPK				IAML		12 57 31.9	
	comp=N,108nm,1.0s						
SPR3	**Spring Creek 3**	**4.14**	**37**	Pn	Pn	12 56 08.0	-0.8
SPR3				IAML		12 57 14.9	
	comp=E,78nm,0.8s						
SPR3				IAML		12 57 20.6	
	comp=N,66nm,1.0s						
Y14A	**Wickenburg**	**4.16**	**114**		Pn	12 56 07.3	-1.5
Y14A				IAML		12 57 24.3	
	comp=E,85nm,0.4s						
AFDM	**Forest Hills D**	**4.19**	**321**	Pn	Pn	12 56 07.2	-2.0
AFDM				IAML		12 57 19.3	
	comp=N,49nm,0.8s						
AFDM				IAML		12 57 25.0	
	comp=E,91nm,0.7s						
113A	**Mohawk Valley,**	**4.33**	**132**	Pn	Pn	12 56 10.6	-0.5
113A				IAML		12 57 23.7	
	comp=E,42nm,0.7s						
113A				IAML		12 57 30.8	
	comp=N,49nm,0.8s						
MVU	**Marysvale**	**5.08**	**56**	Pn	Pn	12 56 22.0	+0.3
MVU				IAML		12 57 50.7	
	comp=N,57nm,0.8s						
MVU				IAML		12 58 00.3	
	comp=E,34nm,1.2s						
X16A	**Lo Mia Camp, P**	**5.19**	**103**		Pn	12 56 23.0	-0.1
X16A				IAML		12 58 04.5	
	comp=N,19nm,1.2s						
X16A				IAML		12 58 09.5	
	comp=E,22nm,1.0s						
SFX	**San Felipe**	**5.22**	**153**	Pn	Pn	12 56 22.9	-0.4
SFX				IAML		12 57 53.5	
	comp=N,28nm,0.8s						
SFX				IAML		12 57 55.2	
	comp=E,36nm,0.8s						
ELK	**Elko**	**5.31**	**19**	Pn	Pn	12 56 25.1	+0.3
ELK				IAML		12 57 56.6	
	comp=E,17nm,0.7s						
214A	**Organ Pipe Nat**	**5.47**	**132**	Pn	Pn	12 56 25.8	-1.1
HATC	**Hat Creek Radi**	**5.91**	**330**	Pn	Pn	12 56 31.2	-1.7
TMUT	**Trail Mountain**	**6.17**	**53**	Pn	Pn	12 56 35.3	-1.4
TUC	**Tucson**	**6.59**	**119**		Pn	12 56 41.8	-0.4
HVU	**Hansel Valley**	**7.09**	**30**	Pn	Pn	12 56 48.2	-0.9
BSUT	**Blindstream Ca**	**7.18**	**46**	Pn	Pn	12 56 51.7	+1.2
TCUT	**Toone Canyon**	**7.21**	**40**	Pn	Pn	12 56 52.0	+1.1
PV10	**Paradox Valley**	**7.30**	**66**	Pn	Pn	12 56 51.3	-0.9
PV14	**Lion Creek, Pa**	**7.31**	**67**	Pn	Pn	12 56 53.4	+1.1
PV17	**East Wray Mesa**	**7.33**	**67**	Pn	Pn	12 56 50.4	-2.1
PV18	**Skein Mesa, Pa**	**7.36**	**68**	Pn	Pn	12 56 52.9	-0.1
PV16	**Nyswonger Mesa**	**7.37**	**67**	Pn	Pn	12 56 52.9	-0.2
PV02	**Paradox Valley**	**7.48**	**68**	Pn	Pn	12 56 54.6	+0.1

*NEIC **05** 12:57:33.8±1.8, 56.64N±0.07×164.3E±0.1, h10km±1km, mb4.5/16, Error ellipse: s-maj=16.3km s-min=5.2km az=317.0*
*IDC **05** 12:57:35.5±1.2, 56.34N×164.22E, h0km, mb3.9/10, mbtmp3.9/12, ML3.3/2, Error ellipse: s-maj=30.4km s-min=23.6km az=99.0*
*KRSC **05** 12:57:36.3±1.5, 56.24N×164.48E, h50km±20km, Mc4.3, Ml4.2*
*MOS **05** 12:57:39.2±0.9, 56.16N×164.40E, h34km, mb4.4/6, Error ellipse: s-maj=8.1km s-min=5.3km az=53.1*
ISC 05 12:57:34.7±0.5, 56.41N±0.04×164.50E±0.03, h10km, n130, σ1.278/135, mb4.2/23, 1C, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.95**	**259**	PN	**Pg**	**12 57 52.8**	**-0.2**
KBTR				S	**Sg**	**12 58 04.4**	**-1.0**
KBTR	**Krutoberegovo**	**0.95**	**259**	*e*P	**Pg**	**12 57 52.9**	**-0.2**
KBTR				*e*S	**Sg**	**12 58 04.5**	**-1.0**
KBG	**Krutoberegovo**	**1.01**	**262**	PN	**Pg**	**12 57 53.7**	**-0.3**
KBG				S	**Sg**	**12 58 07.0**	**-0.1**
KBG	**Krutoberegovo**	**1.01**	**262**	*e*P	**Pg**	**12 57 53.8**	**-0.3**
KBG				*e*S	**Sg**	**12 58 07.1**	**-0.1**
BKI	**Bering**	**1.47**	**145**	PN	**Pb**	**12 58 01.2**	**-0.7**
BKI				S	**Sn**	**12 58 18.6**	**-1.7**
BKI	**Bering**	**1.47**	**145**	*e*P	**Pb**	**12 58 01.3**	**-0.7**
BKI				*e*S	**Sn**	**12 58 18.6**	**-1.7**
SMKR	**Semkarok**	**1.69**	**277**	PN	**Pb**	**12 58 05.9**	**+0.1**
SMKR	**Semkarok**	**1.69**	**277**	*e*P	**Pb**	**12 58 05.9**	**+0.1**
BDR	**Baidarnaya**	**1.83**	**276**	*e*S	**Sb**	**12 58 32.0**	**+0.8**
ZLN	**Zelenaya**	**2.10**	**261**	PN	**Pb**	**12 58 12.0**	**-0.8**
ZLN				S	**Sb**	**12 58 37.9**	**-1.1**
ZLN	**Zelenaya**	**2.10**	**261**	*e*P	**Pb**	**12 58 12.0**	**-0.8**
ZLN				*e*S	**Sb**	**12 58 37.9**	**-1.1**
KLY	**Klyuchi**	**2.14**	**269**	PN	**Pn**	**12 58 10.7**	**+0.3**
KLY				S	**Sn**	**12 58 35.9**	**-1.1**
KLY	**Klyuchi**	**2.14**	**269**	*e*P	**Pn**	**12 58 10.8**	**+0.3**
KLY				*e*S	**Sn**	**12 58 35.9**	**-1.1**
LGNR	**Loginova**	**2.15**	**263**	PN	**Pb**	**12 58 13.3**	**-0.5**
LGNR	**Loginova**	**2.15**	**263**	*e*P	**Pb**	**12 58 13.4**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**2.17**	**259**	PN	**Pb**	**12 58 12.5**	**-1.6**
BZGR	**Bezymyannyi-Gr**	**2.17**	**259**	*e*P	**Pb**	**12 58 12.6**	**-1.6**
BZMR	**Bezymyannaya**	**2.29**	**260**	PN	**Pb**	**12 58 14.4**	**-1.7**
BZMR	**Bezymyannaya**	**2.29**	**260**	*e*P	**Pb**	**12 58 14.4**	**-1.7**
KIRR	**Kirishev**	**2.37**	**261**	PN	**Pb**	**12 58 15.7**	**-1.7**
KIRR	**Kirishev**	**2.37**	**261**	*e*P	**Pb**	**12 58 15.8**	**-1.7**
KPT	**Kopyto**	**2.43**	**261**	PN	**Pb**	**12 58 16.8**	**-1.7**
KPT	**Kopyto**	**2.43**	**261**	*e*P	**Pb**	**12 58 16.8**	**-1.7**
MKZ	**Mys Kozlova**	**2.43**	**221**	PN	**Pn**	**12 58 13.2**	**-1.2**
MKZ	**Mys Kozlova**	**2.43**	**221**	*e*P	**Pn**	**12 58 13.2**	**-1.2**
KMNR	**Kamenistaya**	**2.47**	**257**	PN	**Pb**	**12 58 17.1**	**-2.1**
KMNR	**Kamenistaya**	**2.47**	**257**	*e*P	**Pb**	**12 58 17.2**	**-2.1**
KOZ	**Kozyrevsk**	**2.60**	**264**	PN	**Pb**	**12 58 19.5**	**-1.9**
KOZ	**Kozyrevsk**	**2.60**	**264**	*e*P	**Pb**	**12 58 19.6**	**-1.9**
TUMD	**Tumrok D**	**2.61**	**244**	PN	**Pn**	**12 58 18.0**	**+1.2**
TUMD				S	**Sn**	**12 58 48.6**	**0.0**
TUMD	**Tumrok D**	**2.61**	**244**	*e*P	**Pn**	**12 58 18.1**	**+1.2**
TUMD				*e*

TYV pmax pmax
comp=Z,100nm,3.7s
YSS Yuzhno-Sakhali 16.40 244 *e*P **Pn 13 01 21.7 -3.1**
YSS pmax pmax
comp=Z,10.0nm,0.9s
YAK Yakutsk 18.51 302 *i* P **Pn 13 01 55.3 +4.4**
YAK pmax pmax
comp=Z,5.0nm,0.6s
JKA Kamikawa-asahi 18.53 238 P **P 13 01 50.0 -1.1**
ASAJ Asahikawa 18.53 238 P **Pn 13 01 51.1 -0.2**
comp=Z,0.4nm,0.3s,baz=51,slow=3.8,SNR=9.5
comp=Z,9.9nm,0.8s
N15K Kwethluk River 18.84 64 P **P 13 01 52.3 -2.2**
O15K Ungalikthiuk R 19.07 67 P **P 13 01 56.0 -1.0**
ERM Erimo 19.92 233 P **P 13 02 05.5 -0.8**
ERM IAmb IAmb 13 02 12.1
comp=Z,5.7nm,0.7s
ERM Erimo 19.92 233 P **P 13 02 05.5 -0.8**
ERM pmax pmax
comp=Z,6.0nm,0.7s
KLR Kul'dur 20.90 264 *i* P **P 13 02 15.4 -1.5**
KLR pmax pmax
comp=Z,8.0nm,1.7s
TIXI Tiksi 21.32 330 *i* P P 13 02 30.4 +9.2
TIXI pmax pmax
comp=Z,7.0nm,1.8s
P18K Big Mountain, 21.38 65 P **P 13 02 20.1 -2.0**
P18K IAmb IAmb 13 02 28.4
comp=Z,43nm,0.9s
JTM Tenmabayashi 21.84 234 P **P 13 02 26.5 -0.5**
JTM IAmb IAmb 13 02 33.6
comp=Z,12nm,0.9s
G23K Bananza Creek 23.41 46 P **P 13 02 43.5 0.0**
D23K Nanushuk River 23.43 40 P **P 13 02 42.5 -1.1**
USA0B Ussuriysk Arra 23.84 253 *e*P **P 13 02 48.7 +1.0**
PWL Port Wells 24.52 60 P **P 13 02 51.6 -2.3**
PWL IAmb IAmb 13 02 52.2
comp=Z,8.1nm,0.7s
MSHR Mys Shultsa 25.39 251 *i* P **P 13 03 02.0 +0.1**
MJA0 Matsu Arr-Jizo 26.58 233 *e*P **P 13 03 14.6 +1.8**
MJA0 pmax pmax
comp=Z,3.0nm,0.6s
HMT Hamilton 26.59 60 P **P 13 03 11.9 -0.8**
HMT IAmb IAmb 13 03 20.4
comp=Z,11nm,0.9s
MJAR Matsushiro Arr 26.60 233 P **P 13 03 14.4 +1.4**
comp=Z,2.8nm,0.6s,baz=34,slow=7.2,SNR=6.9
comp=Z,2.8nm,0.6s
MAJO Matsushiro 26.60 233 *i* P **P 13 03 14.3 +1.4**
MAJO pmax pmax
comp=Z,9.0nm,0.9s
I28M Miner Creek 27.56 48 P **P 13 03 19.8 -1.6**
I28M IAmb IAmb 13 03 26.5
comp=Z,8.5nm,0.9s
TABL Table Mountain 28.06 59 P **P 13 03 23.8 -2.2**
TABL IAmb IAmb 13 03 24.7
comp=Z,18nm,0.9s
PCA Pinnacle 28.58 59 P **P 13 03 30.0 -0.5**
F30M Barrier River 28.93 43 P **P 13 03 32.5 -1.0**
KSRS Korea Array 30.84 248 P **P 13 03 51.5 +0.9**
comp=Z,0.6nm,0.7s,baz=38,slow=8.9,SNR=4.5
comp=Z,0.6nm,0.7s
FARO Faro, Yukon 31.12 53 P **P 13 03 51.2 -1.8**
XLT XiLinHaoTe 32.74 268 *e*P **P 13 04 04.4 -3.1**
XLT pP pP 13 04 08.3 -1.0
XLT sP sP 13 04 11.0 +0.9
XLT pmax pmax
comp=Z,4.0nm,0.8s
XLT pmax pmax
comp=Z,130nm,7.2s
NRIK Noril'sk 34.74 323 *i* P P 13 04 31.0 +6.6
NRIK pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 35.69 281 P **P 13 04 35.2 +2.2**
comp=Z,0.7nm,0.5s,baz=64,slow=6.6,SNR=2.9
comp=Z,0.7nm,0.5s
H11N2 WAKE ISLAND Hy 36.66 176 T T 13 43 34.4
baz=357,slow=76,SNR=178
H11N3 WAKE ISLAND Hy 36.68 176 T T 13 43 32.3
baz=357,slow=76,SNR=114
H11N1 WAKE ISLAND Hy 36.68 176 T T 13 43 35.4
baz=357,slow=76,SNR=130
KBS Kingsbay 43.93 353 P **P 13 05 36.5 -4.5**
KBS IAmb IAmb 13 05 42.6
comp=Z,9.0nm,0.9s
KBS Kingsbay 43.93 353 P **P 13 05 36.5 -4.5**
KBS pmax pmax
comp=Z,9.0nm,0.9s
KURK Kurchatov 48.16 302 ⇑ *i*P P 13 06 19.5 +4.9
KURK pmax pmax
comp=Z,3.0nm,1.4s
KURBB Kurchatov Arra 48.26 302 P **P 13 06 17.5 +2.1**
comp=Z,0.3nm,0.4s,baz=55,slow=8.0,SNR=4.1
comp=Z,0.3nm,0.4s
MK31 Makanchi Array 49.02 296 *i* P P 13 06 26.7 +5.4
MKAR Makanchi Array 49.02 296 P **P 13 06 22.2 +0.8**
comp=Z,0.4nm,0.6s,baz=43,slow=9.1,SNR=2.3
comp=Z,0.4nm,0.6s
BVAR Borovoye Array 50.33 308 P **P 13 06 32.7 +1.6**
comp=Z,1.4nm,0.7s,baz=45,slow=13,SNR=5.7
comp=Z,1.4nm,0.7s
BRVK Borovoye 50.35 309 *i* P P 13 06 37.1 +5.8
BRVK pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 61.32 260 P **P 13 07 49.9 -0.5**
comp=Z,0.9nm,0.3s,baz=31,slow=7.3,SNR=4.9
comp=Z,0.9nm,0.3s
CMAR Chiang Mai Arr 61.32 260 *e*P **P 13 07 51.9 +1.5**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
BRTR Keskin Array B 75.60 323 P **P 13 09 22.2 +2.6**
comp=Z,0.4nm,0.5s,baz=23,slow=11,SNR=1.9
comp=Z,0.4nm,0.5s
WRA Warramunga Arr 80.19 209 P **P 13 09 46.5 +1.5**
comp=Z,1.2nm,0.8s,baz=16,slow=5.8,SNR=8.5
comp=Z,1.2nm,0.8s
WRA Warramunga Arr 80.19 209 *e*P **P 13 09 46.9 +1.9**
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 83.86 208 P **P 13 10 06.6 +2.3**
comp=Z,1.6nm,0.9s,baz=16,slow=5.1,SNR=9.6
comp=Z,1.6nm,0.9s
DBIC Dimbokro 116.53 348 PKP **PKiKP 13 16 21.4 +2.5**
comp=Z,55nm,0.7s,baz=27,slow=4.5,SNR=49
PLCA Paso Flores 141.48 90 *e*PKiKP **PKiKP 13 17 10.0 +2.0**
PLCA pmax pmax
comp=Z,3.0nm,1.1s
QSPA South Pole Qui 146.16 180 PKPbc **PKPab 13 17 15.0 +0.7**
comp=Z,1.5nm,0.5s,baz=41,slow=1.1,SNR=16

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*PGC **05** 12:58:24.5±1.3,51°.02N×130°.99W,h10km,MLSn5.1/38, Mw5.5,234km southwest of Bella Bella, Bc Haida Gwaii Region*
*IDC **05** 12:58:26.7±0.4,51°.24N×130°.66W,h0km,mb4.7/34, mbtmp4.6/41,ML3.9/7,MS5.2/84,Error ellipse: s-maj=10.1km s-min=7.5km az=26.0*
*MOS **05** 12:58:26.8±1.2,51°.28N×130°.51W,h10km,mb5.4/59, MS5.4/40,Error ellipse: s-maj=8.6km s-min=3.9km az=109.9*
*BJI **05** 12:58:26.0,51°.30N×130°.60W,h5km,mB5.5/36,mb4.9/65, Ms5.7/73,Ms7 5.6/70*
*NEIC **05** 12:58:26.9,51°.32N×130°.60W,h1km*
*NEIC **05** 12:58:28.0±1.5,51°.34N±0°.05×130°.6W±0°.1,h9km±1km, mb5.3/601,Ms_20 5.4/662,Mwb5.5/37,Mww5.6/55,Error ellipse: s-maj=12.0km s-min=6.1km az=236.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr0.50; Mθθ-1.78; Mϕϕ 1.29; Mrθ0.01; Mθϕ 1.85; Mϕr-0.24; Fault plane solution: M0 2.45000×10^{17} NP1: ϕs250.30000°,δ83.32000°,λ3.68000°. NP2:ϕs159.88000°, δ86.34000°,λ173.31000°. Principal axes: T 2.1794, Plg7.0000°, Azm115.0000°; N 0.4725, Plg82.0000°, Azm311.0000°; P -2.6519, Plg2.0000°, Azm205.0000°;*
*NEIC **05** 12:58:28.3,51°.34N×130°.57W,h12km*
*NEIC **05** 12:58:28.3,51°.34N×130°.57W,h12km,Moment Tensor Solution. Duration: 3⁄2 Moment tensor: Scale 10^{17}Nm; Mrr-0.11; Mθθ-1.63; Mϕϕ 1.74; Mrθ 0.57; Mθϕ 2.21; Mϕr 0.52; Fault plane solution: M0 2.89000×10^{17} NP1: ϕs340.72000°,δ76.31000°,λ175.14000°. NP2: ϕs71.88000°,δ85.27000°,λ13.73000°. Principal axes: T 3.0004, Plg13.0000°, Azm297.0000°; N -0.2435, Plg75.0000°, Azm91.0000°; P -2.7569, Plg6.0000°, Azm206.0000°;*
*IPGP **05** 12:58:28.0,51°.34N×130°.57W,h10km,Mw5.5,Fault plane solution: NP1:ϕs69.00000°,δ82.00000°,λ29.00000°. NP2:ϕs335.00000°,δ61.00000°,λ171.00000°.*
*GCMT **05** 12:58:29.0±0.1,51°.13N±0°.01×130°.78W±0°.01,h12km, MW5.6/166,Moment Tensor Solution. s130,c230; s166,c355; Duration: 1⁄6 Moment tensor: Scale 10^{17} Nm; Mrr0.15±.03; Mθθ-1.96±.03; Mϕϕ 1.81±.03; Mrθ0.43±.09; Mθϕ2.69±.03; Mθr-0.75±.09; Best double couple: M0 3.39200×10^{17} NP1:ϕs252.00000°,δ76.00000°, λ-2.00000°. NP2:ϕs343.00000°,δ88.00000°, λ-166.00000°. Principal axes: T 3.2810, Plg9.0000°, Azm117.0000°; N 0.2280, Plg76.0000°, Azm350.0000°; P -3.5040, Plg11.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 12:58:27.7±0.5,51°.12N±0°.03×130°.68W±0°.03,h10km±2km, h10km:pP-P,n1716,σ1978/1368,mb5.2/348,MS5.4/423, 28C-13D,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HG4B	**Hotspring**	**1.22**	**345**		**Pn**	**12 58 46.4**	**-4.4**
JEDB	**Jedway, Haida**	**1.22**	**345**	P	**Pn**	**12 58 46.4**	**-4.4**
JEDB				S	**Sb**	**12 59 01.0**	**-5.6**
BAIB	**Barry Inlet**	**1.60**	**336**	Pn	**Pn**	**12 58 51.8**	**-4.4**
BAIB				Sn	**Sn**	**12 59 09.9**	**-7.0**
HOLB	**Holberg**	**1.68**	**106**	Pn	**Pn**	**12 58 54.5**	**-2.7**
HOLB	**Holberg**	**1.68**	**106**	Pn	**Pn**	**12 58 54.4**	**-2.7**
HOLB				Sn	**Sn**	**12 59 15.1**	**-3.6**
BBB	**Bella Bella**	**1.92**	**55**	Pn	**Pn**	**12 58 58.0**	**-2.4**
BBB	**Bella Bella**	**1.92**	**55**	Pn	**Pn**	**12 58 57.9**	**-2.5**
	181nm,0.3s,baz=236,slow=9.3,SNR=134						
BBB				Sn	**Sn**	**12 59 22.2**	**-2.4**
	1µm,0.3s,baz=264,slow=16,SNR=9.2						
BBB				LR	LR	12 59 32.6	
	comp=Z,7µm,19.2s,baz=243,slow=36						
BBB	**Bella Bella**	**1.92**	**55**	Pn	**Pn**	**12 58 57.9**	**-2.5**
BBB				Sn	**Sn**	**12 59 23.8**	**-0.7**
HG1B	**Mitchell Dam**	**2.03**	**334**	Pn	**Pn**	**12 58 57.3**	**-4.5**
BPEB	**Brooks Peninsu**	**2.09**	**116**	Sn	**Sn**	**12 59 24.0**	**-4.8**
PHC	**Port Hardy**	**2.10**	**100**	Pn	**Pn**	**12 59 00.1**	**-2.7**
PHC				Sn	**Sn**	**12 59 25.1**	**-3.8**
PACB	**Port Alice, BC**	**2.13**	**107**	Pn	**Pn**	**12 59 00.8**	**-2.5**
PACB				Sn	**Sn**	**12 59 25.4**	**-4.4**
MOBC	**Moresby Island**	**2.18**	**339**		**Pn**	**12 59 00.2**	**-3.8**
MOBC	**Moresby Island**	**2.18**	**339**	Pn	**Pn**	**12 59 00.2**	**-3.8**
MOBC				Sn	**Sn**	**12 59 25.4**	**-5.7**
MAYB	**Maynard**	**2.34**	**107**	Pn	**Pn**	**12 59 03.9**	**-2.3**
MAYB				Sn	**Sn**	**12 59 30.7**	**-4.4**
DI2B	**Dawson Inlet**	**2.36**	**333**	Pn	**Pn**	**12 59 02.1**	**-4.3**
DIB	**Dawson Inlet,**	**2.36**	**333**	Pn	**Pn**	**12 59 02.2**	**-4.2**
DIB	**Dawson Inlet,**	**2.36**	**333**	Pn	**Pn**	**12 59 02.2**	**-4.2**
H02S1	**DAWSON INLET T**	**2.36**	**333**	Pn	**Pn**	**12 59 02.7**	**-3.7**
BNAB	**Bonilla**	**2.38**	**1**	Pn	**Pn**	**12 59 03.4**	**-3.3**
BNAB				Sn	**Sn**	**12 59 31.1**	**-4.7**
BUTB	**Butedale**	**2.38**	**34**	Pn	**Pn**	**12 59 04.3**	**-2.5**
GRIB	**Gribbell Islan**	**2.42**	**22**	Pn	**Pn**	**12 59 04.2**	**-3.0**
EDB	**Eliza Dome**	**2.59**	**117**	Pn	**Pn**	**12 59 06.8**	**-2.8**
EDB				Sn	**Sn**	**12 59 36.7**	**-4.4**
GRNB	**Grenville Isla**	**2.77**	**9**	Pn	**Pn**	**12 59 09.1**	**-2.9**
GRNB				Sn	**Sn**	**12 59 42.5**	**-3.0**
WOSB	**Woss**	**2.79**	**109**	Pn	**Pn**	**12 59 10.4**	**-1.9**
PCLB	**Port Clements**	**2.83**	**337**	Pn	**Pn**	**12 59 09.7**	**-3.3**
PCLB				Sn	**Sn**	**12 59 40.8**	**-6.4**
MASB	**Masset**	**3.01**	**345**	Pn	**Pn**	**12 59 13.8**	**-1.6**
NTKA	**Nootka**	**3.02**	**119**	Pn	**Pn**	**12 59 12.9**	**-2.5**
NCSB	**Newcastle Ridg**	**3.02**	**102**	Pn	**Pn**	**12 59 13.6**	**-2.1**
NCSB				Sn	**Sn**	**12 59 50.0**	**-1.9**
NDB	**Naden**	**3.16**	**335**	Pn	**Pn**	**12 59 14.1**	**-3.3**
MBLB	**Minette Bay Lo**	**3.18**	**22**	Pn	**Pn**	**12 59 15.6**	**-2.0**
ETB	**Estevan Point**	**3.18**	**122**	Pn	**Pn**	**12 59 15.2**	**-2.5**
KITB	**Kitimat**	**3.21**	**22**	Pn	**Pn**	**12 59 15.7**	**-2.4**
RUBB	**Prince Rupert**	**3.22**	**4**		**Pn**	**12 59 14.9**	**-3.3**
RUBB	**Prince Rupert**	**3.22**	**4**	Pn	**Pn**	**12 59 15.5**	**-2.8**
RUBB				Sn	**Sn**	**12 59 54.2**	**-2.4**
GDR	**Gold River**	**3.26**	**112**	Pn	**Pn**	**12 59 16.7**	**-2.0**
NCHR	**NEPTUNE Canada**	**3.32**	**161**	Pn	Pn	12 59 14.2	-5.1
NCHR				Sn	**Sn**	**12 59 52.5**	**-6.0**
SHPB	**Sharp Point**	**3.35**	**120**	Pn	**Pn**	**12 59 17.6**	**-2.3**
SHPB				Sn	**Sn**	**12 59 56.5**	**-3.2**
NC89	**ODP889**	**3.48**	**133**	Pn	**Pn**	**12 59 20.1**	**-1.6**
CBB	**Campbell River**	**3.56**	**106**		**Pn**	**12 59 21.2**	**-1.7**
CBB	**Campbell River**	**3.56**	**106**	Pn	**Pn**	**12 59 21.1**	**-1.8**
CBB				Sn	**Sn**	**13 00 01.0**	**-3.9**
B012	**Ucluelet**	**3.97**	**122**	Pn	**Pn**	**12 59 26.8**	**-1.8**
OZB	**Mount Ozzard**	**3.98**	**121**	Pn	**Pn**	**12 59 26.4**	**-2.3**
B927	**Port Alberni**	**4.22**	**115**	Pn	**Pn**	**12 59 30.6**	**-1.4**
PABB	**Port Alberni**	**4.22**	**115**	Pn	**Pn**	**12 59 30.2**	**-1.8**
TXB	**Texada**	**4.24**	**107**	Pn	**Pn**	**12 59 30.7**	**-1.6**
B928	**Bamfield**	**4.25**	**120**	Pn	**Pn**	**12 59 30.1**	**-2.2**
BFSB	**Bamfield**	**4.25**	**120**	Pn	**Pn**	**12 59 30.0**	**-2.3**
V35K	**Ketchikan**	**4.25**	**353**		**Pn**	**12 59 30.0**	**-2.4**
V35K	**Ketchikan**	**4.25**	**353**	Pn	**Pn**	**12 59 30.3**	**-2.1**
V35K	**Ketchikan**	**4.25**	**353**	P	**Pn**	**12 59 30.0**	**-2.4**
	baz=171,SNR=26						
MGRB	**Mount Grey**	**4.40**	**117**	Pn	**Pn**	**12 59 32.4**	**-2.2**
MGRB				Sn	**Sn**	**13 00 23.6**	**-2.3**
CRAG	**Craig**	**4.60**	**342**		**Pn**	**12 59 34.5**	**-2.6**
CRAG	**Craig**	**4.60**	**342**	P	**Pn**	**12 59 34.9**	**-2.2**
CRAG	**Craig**	**4.60**	**342**	P	**Pn**	**12 59 35.2**	**-1.9**
	baz=159,SNR=23						
NLLB	**Nanaimo Lost L**	**4.70**	**111**	Pn	**Pn**	**12 59 36.9**	**-1.6**
PTRF	**Port Renfrew**	**4.80**	**120**	Pn	**Pn**	**12 59 38.0**	**-2.0**
B926	**Mesachie Lake**	**4.81**	**116**	Pn	**Pn**	**12 59 38.6**	**-1.5**
B926				Sn	**Sn**	**13 00 31.6**	**-4.2**
CLRS	**Cowichan Lake**	**4.81**	**116**		**Pn**	**12 59 39.7**	**-0.4**
CLRS	**Cowichan Lake**	**4.81**	**116**	Pn	**Pn**	**12 59 38.4**	**-1.7**
U35K	**Hyder**	**4.82**	**4**		**Pn**	**12 59 36.9**	**-3.3**
U35K	**Hyder**	**4.82**	**4**	P	**Pn**	**12 59 38.6**	**-1.6**
	baz=184,SNR=14						
WSLR	**Whistler**	**5.04**	**98**	Pn	**Pn**	**12 59 41.8**	**-1.5**
C03A	**Quillayute Air**	**5.09**	**126**		**Pn**	**12 59 43.2**	**-0.7**
FSJB	**Fort St James**	**5.12**	**47**	Pn	**Pn**	**12 59 43.5**	**-0.8**
SYMB	**Survey Mountai**	**5.14**	**117**	Pn	**Pn**	**12 59 42.8**	**-1.8**
U33K	**Whale Pass**	**5.21**	**345**		**Pn**	**12 59 41.8**	**-3.8**
U33K	**Whale Pass**	**5.21**	**345**	Pn	**Pn**	**12 59 42.7**	**-2.8**
U33K	**Whale Pass**	**5.21**	**345**	P	**Pn**	**12 59 43.9**	**-1.7**
	baz=161,SNR=22						
B010	**North Saanich**	**5.29**	**115**	Pn	**Pn**	**12 59 45.5**	**-1.0**
PGC	**Sidney**	**5.29**	**115**		**Pn**	**12 59 45.1**	**-1.5**
PGC	**Sidney**	**5.29**	**115**	Pn	**Pn**	**12 59 45.3**	**-1.3**
B009	**North Saanich**	**5.29**	**115**	Pn	**Pn**	**12 59 46.0**	**-0.6**
B011	**North Saanich**	**5.29**	**115**	Pn	**Pn**	**12 59 45.6**	**-1.0**
SNB	**Saturna Island**	**5.38**	**113**	Pn	**Pn**	**12 59 46.8**	**-1.2**
WRAK	**Wrangell Islan**	**5.40**	**350**		**Pn**	**12 59 44.1**	**-4.1**
WRAK	**Wrangell Islan**	**5.40**	**350**	Pn	**Pn**	**12 59 46.4**	**-1.8**
WRAK	**Wrangell Islan**	**5.40**	**350**	P	**Pn**	**12 59 46.0**	**-2.2**
	baz=168,SNR=16						
STW	**Striped Peak**	**5.44**	**120**	Pn	**Pn**	**12 59 48.0**	**-0.7**
VGZ	**Gonzales**	**5.48**	**117**	Pn	**Pn**	**12 59 49.2**	**-0.1**
LLLB	**Lillooet**	**5.59**	**92**		**Pn**	**12 59 50.1**	**-0.8**
LLLB	**Lillooet**	**5.59**	**92**	Pn	**Pn**	**12 59 51.0**	**+0.1**
OSD	**Olympics--Snow**	**5.62**	**123**	Pn	**Pn**	**12 59 50.2**	**-1.2**
A04D	**Lummi Island**	**5.68**	**112**		**Pn**	**12 59 52.3**	**+0.3**
NLWA	**Neilton Lookou**	**5.81**	**127**		**Pn**	**12 59 54.1**	**+0.2**
T33K	**Petersburg**	**5.86**	**348**	Pn	**Pn**	**12 59 53.6**	**-0.8**
T33K	**Petersburg**	**5.86**	**348**	P	**Pn**	**12 59 53.2**	**-1.2**
	baz=165						
T35M	**Bob Quinn**	**5.88**	**2**	Pn	**Pn**	**12 59 52.1**	**-2.7**
T35M	**Bob Quinn**	**5.88**	**2**	Pn	**Pn**	**12 59 54.2**	**-0.6**
T35M	**Bob Quinn**	**5.88**	**2**	P	**Pn**	**12 59 53.2**	**-1.6**
	baz=182,SNR=26						
WISH	**Wishkah**	**6.05**	**129**		**Pn**	**12 59 57.4**	**+0.3**
WISH	**Wishkah**	**6.05**	**129**	Pn	**Pn**	**12 59 56.5**	**-0.6**
HDW	**Hoodsport**	**6.07**	**122**	Pn	**Pn**	**12 59 57.4**	**-0.1**
GNW	**Green Mountain**	**6.24**	**122**		**Pn**	**12 59 59.7**	**0.0**
GNW	**Green Mountain**	**6.24**	**122**	Pn	**Pn**	**12 59 59.9**	**+0.1**
JCW	**Jim Creek**	**6.39**	**114**	Pn	**Pn**	**13 00 01.7**	**-0.1**
CPW	**Capitol Peak**	**6.46**	**127**	Pn	**Pn**	**13 00 02.7**	**-0.2**
RADR	**Rader Ridge**	**6.54**	**133**		**Pn**	**13 00 04.6**	**+0.7**
SIT	**Sitka**	**6.54**	**337**		**Pn**	**13 00 01.2**	**-2.7**
SIT	**Sitka**	**6.54**	**337**	P	**Pn**	**13 00 01.5**	**-2.4**
SIT	**Sitka**	**6.54**	**337**	P	**Pn**	**13 00 01.2**	**-2.7**
SIT	**Sitka**	**6.54**	**337**	P	**Pn**	**13 00 01.6**	**-2.3**
	baz=152						
E03A	**Lebam**	**6.56**	**132**	Pn	**Pn**	**13 00 04.3**	**+0.2**
E03A	**Lebam**	**6.56**	**132**	Pn	**Pn**	**13 00 04.1**	**+0.1**
S32K	**Killisnoo**	**6.76**	**342**		**Pn**	**13 00 05.0**	**-1.8**
S32K	**Killisnoo**	**6.76**	**342**	Pn	**Pn**	**13 00 04.6**	**-2.2**
S32K	**Killisnoo**	**6.76**	**342**	P	**Pn**	**13 00 05.7**	**-1.1**
	baz=158						
S34M	**Telegraph Cree**	**6.81**	**358**		**Pn**	**13 00 05.6**	**-1.9**
S34M	**Telegraph Cree**	**6.81**	**358**	Pn	**Pn**	**13 00 07.2**	**-0.4**
S34M	**Telegraph Cree**	**6.81**	**358**	P	**Pn**	**13 00 06.0**	**-1.5**
	baz=177						
D05A	**Enumclaw**	**6.92**	**121**		**Pn**	**13 00 09.8**	**+0.6**
D05A	**Enumclaw**	**6.92**	**121**	Pn	**Pn**	**13 00 08.9**	**-0.2**
F03A	**Seaside**	**7.02**	**135**		**Pn**	**13 00 11.7**	**+1.2**
BM1B	**Bullhead Mount**	**7.08**	**43**	Pn	**Pn**	**13 00 10.9**	**-0.5**
F04D	**Rainier, OR**	**7.16**	**132**		**Pn**	**13 00 14.0**	**+1.7**
FMW	**Mount Fremont**	**7.25**	**122**	Pn	**Pn**	**13 00 14.0**	**+0.2**
LON	**Longmire**	**7.29**	**123**		**Pn**	**13 00 15.2**	**+0.9**
LON	**Longmire**	**7.29**	**123**	Pn	**Pn**	**13 00 14.6**	**+0.3**
LON	**Longmire**	**7.29**	**123**	P	**Pn**	**13 00 15.2**	**+0.9**
DLBC	**Dease Lake**	**7.34**	**3**	Pn	**Pn**	**13 00 14.6**	**-0.3**
	0.4nm,0.3s,baz=175,slow=14,SNR=16						
DLBC				Lg	Lg	13 02 10.4	
	0.3nm,0.3s,baz=126,slow=19,SNR=2.0						
DLBC				LR	LR	13 02 59.6	
	comp=Z,3µm,20.9s,baz=168,slow=38						
DLBC	**Dease Lake**	**7.34**	**3**	P	**Pn**	**13 00 12.9**	**-2.0**
	baz=183						
JIS	**Juneau Island**	**7.49**	**345**	P	**Pn**	**13 00 16.1**	**-0.6**
HEBO	**Mount Hebo**	**7.50**	**139**		**Pn**	**13 00 19.0**	**+1.8**
R32K	**Eaglecrest**	**7.51**	**344**		**Pn**	**13 00 14.5**	**-2.6**
R32K	**Eaglecrest**	**7.51**	**344**	Pn	**Pn**	**13 00 14.5**	**-2.6**
R32K	**Eaglecrest**	**7.51**	**344**	P	**Pn**	**13 00 14.4**	**-2.6**
	baz=160						
S31K	**Pelican**	**7.58**	**337**		**Pn**	**13 00 15.6**	**-2.4**
S31K	**Pelican**	**7.58**	**337**	Pn	**Pn**	**13 00 15.8**	**-2.1**
S31K	**Pelican**	**7.58**	**337**	P	**Pn**	**13 00 16.1**	**-1.9**
	baz=151						
LTY	**Liberty**	**7.61**	**117**	Pn	**Pn**	**13 00 19.2**	**+0.6**
LTY	**Liberty**	**7.61**	**117**	Pn	**Pn**	**13 00 19.1**	**+0.5**
G03D	**McMinnville, O**	**7.71**	**137**		**Pn**	**13 00 21.9**	**+1.9**
B08A	**Colville Reser**	**7.85**	**106**	Pn	**Pn**	**13 00 22.7**	**+0.8**
B08A	**Colville Reser**	**7.85**	**106**	Pn	**Pn**	**13 00 21.2**	**-0.7**
R31K	**City Hall, Gus**	**7.87**	**340**	Pn	**Pn**	**13 00 20.2**	**-1.8**
R31K	**City Hall, Gus**	**7.87**	**340**	P	**Pn**	**13 00 19.9**	**-2.2**
	baz=155						
Q32M	**Nakina River**	**7.91**	**354**	Pn	**Pn**	**13 00 21.2**	**-1.7**
Q32M	**Nakina River**	**7.91**	**354**	Pn	**Pn**	**13 00 21.6**	**-1.2**
Q32M	**Nakina River**	**7.91**	**354**	P	**Pn**	**13 00 20.7**	**-2.1**
	baz=172						
BDMTA	**Bald Mountain**	**8.01**	**58**	Pn	**Pn**	**13 00 24.7**	**+0.7**
BDMTA				Sn	**Sn**	**13 01 50.6**	**-3.9**
G04A	**Mulino**	**8.06**	**134**		**Pn**	**13 00 27.0**	**+2.2**
COR	**Corvallis**	**8.20**	**140**		**Pn**	**13 00 28.2**	**+1.6**
COR	**Corvallis**	**8.20**	**140**	P	**Pn**	**13 00 28.2**	**+1.6**
MXC	**Moxie City**	**8.22**	**120**		**Pn**	**13 00 27.1**	**+0.2**
WTMTA	**White Mountain**	**8.22**	**52**	Pn	**Pn**	**13 00 26.9**	**-0.2**
R33M	**Jennings River**	**8.30**	**359**	Pn	**Pn**	**13 00 27.8**	**-0.2**
R33M	**Jennings River**	**8.30**	**359**	Pn	**Pn**	**13 00 27.9**	**-0.1**
R33M	**Jennings River**	**8.30**	**359**	P	**Pn**	**13 00 25.6**	**-2.4**
	baz=178						
TOAD	**Toad River Com**	**8.35**	**20**	Pn	**Pn**	**13 00 28.2**	**-0.5**
TOAD	**Toad River Com**	**8.35**	**20**	P	**Pn**	**13 00 27.2**	**-1.5**
	baz=204,SNR=17						
HOOD	**Mount Hood Mea**	**8.36**	**130**		**Pn**	**13 00 30.9**	**+1.9**
I02E	**Swisshome, OR**	**8.39**	**144**		**Pn**	**13 00 31.1**	**+1.9**
E07A	**Sunnyside**	**8.47**	**118**		**Pn**	**13 00 30.2**	**-0.1**
H04D	**Lebanon**	**8.49**	**138**		**Pn**	**13 00 33.1**	**+2.5**
WAH2	**Wahluke Slope**	**8.52**	**117**		**Pn**	**13 00 30.6**	**-0.3**
G05A	**Wamic**	**8.58**	**130**		**Pn**	**13 00 33.9**	**+2.0**
H04A	**Detroit Lake**	**8.60**	**135**		**Pn**	**13 00 34.1**	**+2.0**
BRLDA	**Berland Lookou**	**8.61**	**65**	Pn	**Pn**	**13 00 32.4**	**+0.1**
BUCK	**Buck Mountain**	**8.65**	**140**		**Pn**	**13 00 35.5**	**+2.6**
P32M	**Atlin**	**8.66**	**350**	Pn	**Pn**	**13 00 32.2**	**-0.8**
P32M	**Atlin**	**8.66**	**350**	Pn	**Pn**	**13 00 31.8**	**-1.2**
P32M	**Atlin**	**8.66**	**350**	P	**Pn**	**13 00 31.7**	**-1.2**
	baz=166,SNR=14						
LIRD	**Liard River Hi**	**8.71**	**16**	Pn	**Pn**	**13 00 33.4**	**-0.1**
LIRD	**Liard River Hi**	**8.71**	**16**	P	**Pn**	**13 00 31.7**	**-1.8**
	baz=199,SNR=10						
D08A	**Wollman Farm,**	**8.72**	**113**		**Pn**	**13 00 34.0**	**+0.3**
C09A	**Chrisman Ranch**	**8.73**	**108**		**Pn**	**13 00 35.0**	**+1.1**
C09A	**Chrisman Ranch**	**8.73**	**108**	Pn	**Pn**	**13 00 33.2**	**-0.7**
HAWA	**Hanford**	**8.75**	**118**		**Pn**	**13 00 34.3**	**+0.1**
SKAG	**Skagway**	**8.77**	**344**		**Pn**	**13 00 32.4**	**-2.0**
SKAG	**Skagway**	**8.77**	**344**	P	**Pn**	**13 00 34.5**	**+0.2**
SKAG	**Skagway**	**8.77**	**344**	P	**Pn**	**13 00 33.2**	**-1.2**
	baz=160						
F07A	**Phinny Hill Vi**	**8.84**	**122**		**Pn**	**13 00 35.9**	**+0.5**
G06A	**Carlson Farm,**	**8.92**	**127**		**Pn**	**13 00 38.0**	**+1.4**
I03D	**Drain, OR**	**8.93**	**143**		**Pn**	**13 00 39.5**	**+2.9**
FNSB	**Fort Nelson**	**8.95**	**28**	Pn	**Pn**	**13 00 36.7**	**-0.1**
E08A	**Dider Farm, El**	**8.96**	**117**		**Pn**	**13 00 36.4**	**-0.6**
PLBC

L04D	Klamath Falls	10.59 144			Pn	13 01 03.0	+3.4
SAMH	Samovar Hills	10.67 332	Pn		Pn	13 00 59.7	-0.8
KRMB	Red Mountain	10.67 151			Pn	13 01 02.9	+2.3
K05A	Summer Lake	10.73 138			Pn	13 01 04.0	+2.6
YUK6	Outpost Mounta	10.73 339	Pn		Pn	13 00 59.5	-2.0
YUK6	Outpost Mounta baz=152	10.73 339	P		Pn	13 00 59.9	-1.6
N31M	Braeburn, Yuko	10.77 347	Pn		Pn	13 00 59.6	-2.1
N31M	Braeburn, Yuko	10.77 347	Pn		Pn	13 01 00.8	-1.0
N31M	Braeburn, Yuko baz=162	10.77 347	P		Pn	13 00 58.9	-2.9
YUK5	Granite Creek	10.80 341	Pn		Pn	13 01 00.6	-1.7
YBH	Yreka Blue Hor 4.5nm,0.9s,baz=349,slow=14,SNR=57	10.87 147	Pn		Pn	13 01 07.2	+3.8
YBH	comp=Z,1µm,19.4s,baz=312,slow=34		LR		LR	13 04 41.8	
BMO	Blue Mountains	10.93 120			Pn	13 01 05.5	+1.4
BMO	Blue Mountains	10.93 120	P		Pn	13 01 05.5	+1.4
N30M	Aishikik Lake	10.95 344	Pn		Pn	13 01 02.5	-1.8
N30M	Aishikik Lake	10.95 344	Pn		Pn	13 01 02.5	-1.8
N30M	Aishikik Lake baz=158	10.95 344	P		Pn	13 01 02.1	-2.2
KRPM	Rodgers	10.97 153	Pn		Pn	13 01 07.2	+2.5
RKAV	Rock Avalanche	10.98 331	Pn		Pn	13 01 02.0	-2.7
TABL	Table Mountain	11.03 332			Pn	13 01 03.7	-1.8
TABL	Table Mountain	11.03 332	Pn		Pn	13 01 03.2	-2.2
O28M	Mount Upton	11.03 335			Pn	13 01 04.2	-1.4
O28M	Mount Upton	11.03 335	Pn		Pn	13 01 06.6	+1.0
O28M	Mount Upton baz=146	11.03 335	P		Pn	13 01 03.2	-2.4
HSPGA	Hill Springs,	11.05 93	Pn		Pn	13 01 06.0	+0.2
MESA	MESA	11.07 329			Pn	13 01 03.7	-2.4
MESA	MESA	11.07 329	Pn		Pn	13 01 03.4	-2.7
MESA	MESA baz=139	11.07 329	P		Pn	13 01 05.1	-1.0
YAH	Yahtse	11.15 330			Pn	13 01 06.5	-0.7
YUK4	Talbot Arm	11.16 340	Pn		Pn	13 01 05.9	-1.3
YUK4	Talbot Arm baz=153	11.16 340	P		Pn	13 01 05.3	-1.9
FARO	Faro, Yukon	11.23 354	Pn		Pn	13 01 05.8	-2.4
FARO	Faro, Yukon	11.23 354	Pn		Pn	13 01 07.8	-0.3
FARO	Faro, Yukon baz=171	11.23 354	P		Pn	13 01 06.5	-1.7
BRWY	Burwash Landin	11.27 339	Pn		Pn	13 01 07.1	-1.4
JCC	Jacoby Creek,	11.29 153			Pn	13 01 11.4	+2.5
M31M	Drury Creek, Y	11.29 351	Pn		Pn	13 01 07.3	-1.6
M31M	Drury Creek, Y	11.29 351	Pn		Pn	13 01 08.9	-0.1
M31M	Drury Creek, Y baz=168	11.29 351	P		Pn	13 01 06.7	-2.2
LOGN	Logan Glacier	11.30 333			Pn	13 01 07.7	-1.5
LOGN	Logan Glacier	11.30 333	Pn		Pn	13 01 05.8	-3.4
KHMM	Horse Mountain	11.32 152			Pn	13 01 12.8	+3.3
J08A	Circle Bar Ran	11.35 128			Pn	13 01 11.8	+2.0
YUK8	Steele Glacier	11.36 337	Pn		Pn	13 01 07.7	-2.4
YUK8	Steele Glacier baz=149,SNR=5.3	11.36 337	P		Pn	13 01 08.4	-1.7
GRNC	Granite Creek	11.44 332			Pn	13 01 09.9	-1.2
GRNC	Granite Creek	11.44 332	Pn		Pn	13 01 11.1	-0.1
BGLC	Bering Glacier baz=135	11.47 327	P		Pn	13 01 09.7	-1.7
CTGM	Chitina Glacie	11.51 333			Pn	13 01 10.9	-1.1
CTGM	Chitina Glacie	11.51 333	Pn		Pn	13 01 11.9	0.0
CTG	Chitna Glacier baz=144,SNR=9.1	11.51 333	P		Pn	13 01 10.8	-1.2
PLID	Pearl Lake	11.51 116	Pn		Pn	13 01 12.4	+0.2
ISLE	Juniper Island	11.52 330			Pn	13 01 10.7	-1.5
MMPY	Sheldon Lake,	11.53 359	Pn		Pn	13 01 10.3	-2.0
MMPY	Sheldon Lake,	11.53 359	Pn		Pn	13 01 13.1	+0.8
MMPY	Sheldon Lake, baz=178	11.53 359	P		Pn	13 01 09.6	-2.7
WAX	Waxell Ridge	11.57 329			Pn	13 01 11.2	-1.6
SUCK	Suckling Hills	11.61 326	Pn		Pn	13 01 10.7	-2.6
KMPM	Mount Pierce	11.63 154			Pn	13 01 16.3	+2.5
BARN	Barnard Glacie	11.68 333			Pn	13 01 13.2	-1.2
KAIM	Kayak Island	11.74 324			Pn	13 01 13.5	-1.5
KAIM	Kayak Island baz=132	11.74 324	P		Pn	13 01 12.5	-2.5
KIAG	Kiagna River	11.78 331	Pn		Pn	13 01 14.8	-0.9
TGL	Tana Glacier	11.79 330			Pn	13 01 13.6	-2.3
MSO	Missoula	11.80 105			Pn	13 01 15.8	-0.2
BERG	Berg Lake	11.81 327			Pn	13 01 14.7	-1.3
BALM	Baldy	11.86 331	Pn		Pn	13 01 16.1	-0.7
CRQE	Cirque baz=138,SNR=14	11.88 329	P		Pn	13 01 16.2	-0.8
CRQM	Cirque	11.89 329			Pn	13 01 15.5	-1.8
KMRM	Mail Ridge	11.93 153			Pn	13 01 20.9	+3.1
M30M	Minto, Yukon	11.96 346	Pn		Pn	13 01 16.6	-1.4
M30M	Minto, Yukon baz=160	11.96 346	P		Pn	13 01 15.2	-2.8
YUK3	Moose Creek	11.96 337	Pn		Pn	13 01 16.4	-1.8
YUK3	Moose Creek baz=148	11.96 337	P		Pn	13 01 15.8	-2.3
HMT	Hamilton	11.97 326			Pn	13 01 16.3	-1.9
WVOR	Wild Horse Val	11.97 132			Pn	13 01 20.3	+1.9
WVOR	Wild Horse Val	11.97 132	P		Pn	13 01 20.3	+1.9
PTPK	Patty Peak	12.02 332	Pn		Pn	13 01 18.8	-0.2
YUK2	White River	12.06 336	Pn		Pn	13 01 19.0	-0.5
M29M	Somme Creek	12.12 343	Pn		Pn	13 01 19.2	-1.0
M29M	Somme Creek	12.12 343	Pn		Pn	13 01 20.5	+0.3
M29M	Somme Creek baz=155	12.12 343	P		Pn	13 01 17.6	-2.6
HATC	Hat Creek Radi	12.12 145			Pn	13 01 23.1	+2.6
RAGM	Ragged Mountai	12.15 325			Pn	13 01 19.3	-1.4
Q23K	Middleton Isla	12.18 319	Pn		Pn	13 01 19.9	-1.1
Q23K	Middleton Isla baz=125	12.18 319	P		Pn	13 01 19.9	-1.1
O02D	Mt. Diablo Mer	12.25 150			Pn	13 01 25.7	+3.6
OVMT	Ovando	12.28 102			Pn	13 01 23.4	+0.8
OVMT	Ovando	12.28 102	Pn		Pn	13 01 24.1	+1.5
BPMT	Black Pine Rid	12.29 106			Pn	13 01 22.2	-0.6
MKRVA	Milk River, Al	12.29 92	Pn		Pn	13 01 24.6	+2.0
MCARA	McCarthy VSAT	12.34 331			Pn	13 01 21.7	-1.5
MCARA	McCarthy VSAT	12.34 331	Pn		Pn	13 01 21.8	-1.4
MCARA	McCarthy VSAT baz=140	12.34 331	P		Pn	13 01 22.2	-1.0
VRDI	Verde Repeater	12.35 330			Pn	13 01 21.7	-1.8
KCPM	Cahto Peak	12.46 154			Pn	13 01 28.3	+3.2
BMRM	Bremner River	12.54 327			Pn	13 01 23.8	-2.2
BMRM	Bremner River baz=135	12.54 327	P		Pn	13 01 24.7	-1.3
BVCY	Beaver Creek baz=149	12.60 338	P		Pn	13 01 24.6	-2.2
GLB	Gilahina Butte	12.63 330			Pn	13 01 25.4	-1.8
EYAK	Cordova Ski Ar	12.65 324			Pn	13 01 25.4	-2.1
EYAK	Cordova Ski Ar baz=131,SNR=18	12.65 324	P		Pn	13 01 26.7	-0.8
L29M	L29M	12.67 344			Pn	13 01 24.8	-2.9
L29M	L29M	12.67 344	Pn		Pn	13 01 26.5	-1.2
L29M	L29M baz=158	12.67 344	P		Pn	13 01 25.8	-2.0
MFID	Camas Ranch	12.68 122			Pn	13 01 28.9	+0.9
WRGLY	Wrigley	12.74 15			Pn	13 01 25.9	-2.8
WRGLY	Wrigley baz=201	12.74 15	P		Pn	13 01 26.6	-2.1
LYMT	Lyon Mountain	12.75 102			Pn	13 01 29.2	+0.1
LYMT	Lyon Mountain	12.75 102	Pn		Pn	13 01 29.3	+0.1
M27K	Edge Creek, AK	12.81 336			Pn	13 01 27.1	-2.6
M27K	Edge Creek, AK	12.81 336	Pn		Pn	13 01 28.0	-1.7
M27K	Edge Creek, AK baz=146	12.81 336	P		Pn	13 01 28.0	-1.7
MAYO	Mayo, Yukon	12.81 349	Pn		Pn	13 01 27.9	-1.8
MAYO	Mayo, Yukon	12.81 349	Pn		Pn	13 01 28.6	-1.1
MAYO	Mayo, Yukon baz=165	12.81 349	P		Pn	13 01 28.1	-1.6
HIN	Hinchinbrook I	12.84 322			Pn	13 01 27.5	-2.6
P23K	Montague Islan	12.95 320			Pn	13 01 30.4	-1.1
P23K	Montague Islan baz=125	12.95 320	P		Pn	13 01 30.4	-1.1
N25K	Chitina, Valde	13.00 329			Pn	13 01 30.7	-1.6
N25K	Chitina, Valde	13.00 329	Pn		Pn	13 01 31.1	-1.3
N25K	Chitina, Valde baz=137,SNR=21	13.00 329	P		Pn	13 01 31.3	-1.0
DIV	Divide	13.06 326			Pn	13 01 32.3	-0.7
DIV	Divide	13.06 326	Pn		Pn	13 01 30.7	-2.3
FID	Port Fidalgo	13.06 324			Pn	13 01 31.9	-1.1
M26K	Nabesna, AK	13.14 334			Pn	13 01 31.9	-2.2
M26K	Nabesna, AK	13.14 334	Pn		Pn	13 01 32.8	-1.4
M26K	Nabesna, AK baz=143	13.14 334	P		Pn	13 01 32.7	-1.4
HRY	Holter Researc	13.15 102			Pn	13 01 33.4	-1.0
LRM	Limekiln Ridge	13.19 107			Pn	13 01 34.6	-0.6
ORV	Oroville	13.23 147			Pn	13 01 37.8	+2.3
ORV	Oroville	13.23 147	P		Pn	13 01 37.8	+2.3
HOPS	Hopland Field	13.25 153			Pn	13 01 39.6	+3.8
K29M	Barlow Dome	13.27 347			Pn	13 01 33.5	-2.5
K29M	Barlow Dome	13.27 347	Pn		Pn	13 01 36.5	+0.6
K29M	Barlow Dome baz=160	13.27 347	P		Pn	13 01 33.9	-2.0
DLMT	Dillon	13.34 109	Pn		Pn	13 01 37.4	+0.3
HLID	Hailey	13.35 118			Pn	13 01 39.0	+1.7
KLU	Klutina	13.36 327			Pn	13 01 35.4	-1.8
KLU	Klutina baz=134,SNR=26	13.36 327	P		Pn	13 01 36.3	-0.9
BEKR	Beckworth	13.36 143			Pn	13 01 41.1	+3.6
GLI	Glacier Island	13.37 323			Pn	13 01 35.3	-2.0
GLI	Glacier Island baz=129,SNR=14	13.37 323	P		Pn	13 01 36.1	-1.2
BCAR	Beaver Creek A	13.38 338			Pn	13 01 34.9	-2.6
L27K	Beaver Creek,	13.39 338			Pn	13 01 35.7	-1.8
L27K	Beaver Creek,	13.39 338	Pn		Pn	13 01 36.9	-0.6
L27K	Beaver Creek, baz=148	13.39 338	P		Pn	13 01 35.1	-2.4
MCMT	McKenzie Canyo	13.48 111			Pn	13 01 39.4	+0.2
GDXM	Geysers	13.51 153			Pn	13 01 40.6	+1.3
L26K	Log Cabin Wild	13.74 335	Pn		Pn	13 01 41.0	-1.4
L26K	Log Cabin Wild baz=144	13.74 335	P		Pn	13 01 39.8	-2.6
HARP	HAARP baz=138	13.77 331	P		Pn	13 01 41.2	-1.5
DAWY	Dawson	13.77 344			Pn	13 01 40.5	-2.2
DAWY	Dawson	13.77 344	Pn		Pn	13 01 43.1	+0.3
DAWY	Dawson baz=156	13.77 344	P		Pn	13 01 40.6	-2.2
BOZ	Bozeman (W)	13.80 106			Pn	13 01 43.0	-0.4
BOZ	Bozeman (W)	13.80 106	P		Pn	13 01 43.0	-0.4
J30M	Hart River	13.81 350			Pn	13 01 41.0	-2.4
J30M	Hart River	13.81 350	Pn		Pn	13 01 42.9	-0.6
J30M	Hart River baz=164	13.81 350	P		Pn	13 01 41.6	-1.8
PWL	Port Wells	13.84 322			Pn	13 01 42.3	-1.3
PWL	Port Wells baz=126,SNR=13	13.84 322	P		Pn	13 01 42.9	-0.7
SEW	Seward	13.86 318			Pn	13 01 42.2	-1.8
SEW	Seward baz=121,SNR=20	13.86 318	P		Pn	13 01 42.6	-1.3
PAHR	Pah Rah Range	13.88 141			Pn	13 01 47.8	+3.3
M24K	Tolsona, Glenn	13.88 328			Pn	13 01 42.3	-2.0
M24K	Tolsona, Glenn baz=135	13.88 328	P		Pn	13 01 43.5	-0.8
EGMT	Eagleton	13.92 95	Pn		Pn	13 01 43.8	-1.1
J29N	Klondike Camp	13.94 346	Pn		Pn	13 01 42.1	-3.0
J29N	Klondike Camp baz=160	13.94 346	P		Pn	13 01 42.5	-2.6
AFDM	Forest Hills D	13.96 147			Pn	13 01 47.6	+2.2
MPK	Martis Peak	13.98 144			Pn	13 01 49.4	+3.4
SCM	Sheep Creek Mo	14.08 326			Pn	13 01 45.5	-1.6
SCM	Sheep Creek Mo	14.08 326	P		Pn	13 01 45.5	-1.6
SCM	Sheep Creek Mo baz=131,SNR=24	14.08 326	P		Pn	13 01 45.7	-1.3
O22K	Cooper Landing	14.18 319			Pn	13 01 47.6	-0.7
O22K	Cooper Landing baz=122	14.18 319	P		Pn	13 01 46.8	-1.5
M23K	Glacier View baz=130,SNR=11	14.20 325	P		Pn	13 01 47.3	-1.3
KNK	Knik Glacier	14.22 323			Pn	13 01 46.4	-2.6
KNK	Knik Glacier baz=128	14.22 323	P		Pn	13 01 48.0	-1.0
K27K	Chicken baz=149	14.28 339	P		Pn	13 01 48.1	-1.6
PAX	Paxson baz=139,SNR=9.6	14.30 332	P		Pn	13 01 48.8	-1.2
BRLK	Bradley Lake	14.31 315			Pn	13 01 49.0	-1.2
KDAK	Kodiak Island	14.34 306			Pn	13 01 49.0	-1.6
KDAK	Kodiak Island 0.2nm,0.3s,baz=108,slow=9.0,SNR=17	14.34 306	Pn		Pn	13 01 50.1	-0.4
KDAK	comp=Z,32µm,20.1s,baz=156,slow=32 13nm,0.9s		LR		LR	13 06 01.0	
KDAK	Kodiak Island	14.34 306	*c i*	P	Pn	13 01 49.7	-0.8
KDAK	Kodiak Island baz=108	14.34 306	P		Pn	13 01 49.5	-1.0
YKA	Yellowknife Ar 3.7nm,0.3s,baz=226,slow=12,SNR=57	14.35 31	Pn		Pn	13 01 47.3	-3.2
YKA	0.1nm,0.3s,baz=221,slow=22,SNR=1.2		Sn		Sn	13 04 17.2	-12
YKA	0.5nm,0.3s,baz=226,slow=26,SNR=3.7 24nm,0.8s		Lg		Lg	13 05 50.3	
CNPM	China Poot	14.36 314			Pn	13 01 49.1	-1.7
YKAW1	Yellowknife Wh	14.38 31			Pn	13 01 47.8	-3.2
YKAW1	Yellowknife Wh	14.38 31	Pn		Pn	13 01 48.9	-2.1
YKAW3	Yellowknife Wh	14.39 31	Pn		Pn	13 01 48.1	-3.1
YKAW3	Yellowknife Wh	14.39 31	Pn		Pn	13 01 48.4	-2.8
I30M	Mount Demster baz=165,SNR=5.6	14.45 350	P		Pn	13 01 50.4	-1.7
RC01	Rabbit Creek A baz=124	14.53 321	P		Pn	13 01 51.4	-1.6
Q20K	Shuyak Island baz=111	14.53 309	P		Pn	13 01 52.2	-0.9
OHAK	Old Harbor	14.54 304			Pn	13 01 52.1	-1.1
OHAK	Old Harbor	14.54 304	P		Pn	13 01 50.9	-2.4
OHAK	Old Harbor baz=104,SNR=10	14.54 304	P		Pn	13 01 52.1	-1.1
PMR	Palmer baz=127,SNR=24	14.59 323	P		Pn	13 01 52.8	-1.0
HOM	Homer	14.61 314			Pn	13 01 52.0	-2.2
HOM	Homer baz=116	14.61 314	P		Pn	13 01 53.6	-0.5
SCRK	Sand Creek baz=144	14.69 336	P		Pn	13 01 54.9	-0.5
YHH	Holmes Hill	14.70 108	Pn		Pn	13 01 56.4	+0.6
RIDG	Independent Ri baz=142,SNR=25	14.72 335	P		Pn	13 01 54.2	-1.5
WAT6	Susitna Watana baz=133,SNR=51	14.73 328	P		Pn	13 01 55.1	-1.0
I29M	Ogilvie Camp, baz=160,SNR=17	14.82 347	P		Pn	13 01 55.9	-1.1
H31M	Peel River baz=171	14.85 354	P		Pn	13 01 55.3	-2.1
SII	Sitkinak Islan	14.87 301			Pn	13 01 58.4	+0.6
SII	Sitkinak Islan baz=101	14.87 301	P		Pn	13 01 56.7	-1.0
YFT	Old Faithful	14.89 109			Pn	13 01 57.8	-0.5
ELK	Elko 0.2nm,0.3s,baz=325,slow=9.8,SNR=27	14.90 128	Pn		Pn	13 02 00.0	+1.5
ELK	0.1nm,0.3s,baz=326,slow=12,SNR=3.0		Lg		Lg	13 06 13.2	
CAPN	Captain Cook N baz=120	14.93 318	P		Pn	13 01 58.2	-0.3
DHY	Denali Highway	14.96 330			Pn	13 01 58.0	-1.1
DHY	Denali Highway baz=135,SNR=41	14.96 330	P		Pn	13 01 58.0	-1.1
CMB	Columbia Colle	14.98 147			Pn	13 02 01.9	+2.6
CMB	Columbia Colle	14.98 147	P		Pn	13 02 01.9	+2.6
CMB	comp=Z,31nm,1.2s		pmax		pmax		
J26L	Joseph Creek baz=147,SNR=16	15.02 338	P		Pn	13 01 57.5	-2.3
K24K	Donnelly Dome	15.03 334			Pn	13 01 57.2	-2.6
K24K	Donnelly Dome baz=140	15.03 334	P		Pn	13 01 58.6	-1.2
M22K	Willow	15.06 322			Pn	13 01 58.2	-2.0
M22K	Willow baz=126,SNR=19	15.06 322	P		Pn	13 01 58.8	-1.4
YNE	Yellowstone No	15.09 106			Pn	13 02 00.9	-0.1
YNE	comp=Z,257nm,1.7s		IAmb		IAmb	13 02 06.3	
YMP	Mirror Lake Pl comp=Z,277nm,1.5s	15.14 107	IAmb		IAmb	13 02 05.3	
SUA	Susitna One	15.14 321			Pn	13 01 59.7	-1.8
SUA	comp=Z,134nm,1.4s		IAmb		IAmb	13 02 05.5	
SUA	Susitna One baz=123	15.14 321	P		Pn	13 01 60.0	-1.5
I28M	Miner Creek	15.14 345	Pn		Pn	13 01 59.6	-1.8
I28M	Miner Creek	15.14 345	P		Pn	13 02 01.8	+0.3
I28M	Miner Creek baz=157,SNR=11	15.14 345	P		Pn	13 01 59.7	-1.8
RYN	Ryan	15.15 141			Pn	13 02 03.5	+1.8
RYN	comp=Z,252nm,1.1s		IAmb		IAmb	13 02 10.7	
WAT1	Susitna Watana baz=132	15.18 327	P		Pn	13 02 00.6	-1.3
O20K	Slope Mountain baz=116,SNR=5.3	15.24 315	P		Pn	13 02 01.7	-1.1
FXWY	Fox Creek	15.24 112			Pn	13 02 04.2	+1.1
FXWY	comp=Z,202nm,1.7s		IAmb		IAmb	13 02 08.4	
R18K	Karluk baz=104,SNR=7.2	15.24 304	P		Pn	13 02 01.5	-1.2
Q19K	Cape Douglas, comp=Z,210nm,1.8s	15.25 310	IAmb		IAmb	13 02 08.8	
Q19K	Cape Douglas, baz=110,SNR=10	15.25 310	P		Pn	13 02 01.7	-1.2
P19K	Oil Pt	15.33 313			Pn	13 02 03.8	-0.2
P19K	Oil Pt baz=113,SNR=15	15.33 313	P		Pn	13 02 02.6	-1.4
TPAW	Teton Pass comp=Z,197nm,1.2s	15.37 112	IAmb		IAmb	13 02 10.1	
NVAR	Mina Array Bea	15.40 141			Pn	13 02 06.5	+1.3
NVAR	Mina Array Bea comp=Z,0.5nm,0.3s,baz=326,slow=13,SNR=136	15.40 141	Pn		Pn	13 02 07.3	+2.1
NVAR	comp=Z,17µm,19.6s,baz=328,slow=40 comp=Z,24nm,0.9s		LR		LR	13 08 47.8	
ILSW	Iliamna Southw	15.43 314			Pn	13 02 04.7	-0.6
HVU	Hansel Valley	15.44 120			Pn	13 02 05.9	+0.3
HVU	comp=Z,209nm,1.2s		IAmb		IAmb	13 02 09.4	
HVU	Hansel Valley	15.44 120	P		Pn	13 02 05.9	+0.3
HVU	comp=Z,209nm,1.2s		pmax		pmax		
RED	Redoubt Volcan comp=Z,188nm,1.9s	15.46 316	IAmb		IAmb	13 02 07.0	
NV11	Mina Array Sit	15.46 140			Pn	13 02 07.9	+2.0
LHV	Little Huntoon	15.48 142			P	13 02 08.8	-1.6
RLMT	Red Lodge comp=Z,84nm,1.2s	15.48 104	IAmb		IAmb	13 02 14.2	
LOHW	Long Hollow comp=Z,133nm,1.2s	15.50 111	IAmb		IAmb	13 02 11.8	
SNOW	Snow King Moun comp=Z,133nm,1.1s	15.50 112	IAmb		IAmb	13 02 11.3	
CUT	Chulitna comp=Z,434nm,1.9s	15.51 324	IAmb		IAmb	13 02 11.1	
CUT	Chulitna baz=127	15.51 324	P		Pn	13 02 05.3	-0.9
SPU	Mount Spurr	15.52 319			Pn	13 02 04.9	-1.5
J25K	Salcha River,	15.56 336	P		Pn	13 02 07.7	+0.8
J25K	Salcha River, baz=143,SNR=11	15.56 336	P		Pn	13 02 05.8	-1.1
I27K	Kandik River	15.58 343	P		Pn	13 02 08.3	+1.2
I27K	Kandik River baz=153,SNR=12	15.58 343	P		Pn	13 02 06.0	-1.1
SPCR	Spurr Chakacha baz=120	15.60 319	P		Pn	13 02 06.3	-1.1
STLK	Strandline Lak	15.60 320			Pn	13 02 05.2	-2.2
EPYK	Eagle Plains	15.60 351	P		Pn	13 02 09.0	+1.6
EPYK	Eagle Plains baz=165,SNR=7.9	15.60 351	P		Pn	13 02 05.7	-1.7
I26K	Coal Creek Min	15.62 340	P		Pn	13 02 08.9	+1.3
I26K	Coal Creek Min baz=149	15.62 340	P		Pn	13 02 07.1	-0.5
H29M	Whitestone	15.64 348	P		P	13 02 10.2	-1.9
H29M	Whitestone baz=161,SNR=32	15.64 348	P		Pn	13 02 05.8	-2.1
AHID	Auburn Hatcher comp=Z,181nm,1.1s	15.73 114	P		P	13 02 12.3	-1.1
AHID			IAmb		IAmb	13 02 17.8	
SKT	Skwentna	15.74 322			Pn	13 02 07.6	-1.7
SKT	Skwentna baz=124,SNR=46	15.74 322	P		Pn	13 02 08.8	-0.4
HDA	Harding Lake baz=139,SNR=16	15.82 333	P		Pn	13 02 10.0	-0.3
Q18K	Katmai Hardscr baz=107,SNR=27	15.83 308	P		Pn	13 02 09.9	-0.6
BGU	Big Grassy Mou comp=Z,402nm,1.8s	15.90 123	P		Pn	13 02 13.3	+1.7
BGU			IAmb		IAmb	13 02 20.5	
MCK	McKinley comp=Z,145nm,1.2s	15.93 329	P		P	13 02 13.7	-1.6
MCK			IAmb		IAmb	13 02 18.0	
MCK	McKinley comp=Z,145nm,1.2s	15.93 329	P		P	13 02 13.7	-1.6
MCK			pmax		pmax		
MCK	McKinley baz=133,SNR=38	15.93 329	P		Pn	13 02 10.5	-1.1
G31M	Satah River	15.95 355	P		P	13 02 13.8	-1.7
G31M	Satah River	15.95 355	P		P	13 02 15.7	+0.3
G31M	Satah River baz=171,SNR=23	15.95 355	P		Pn	13 02 10.9	-1.0
O19K	Port Alsworth comp=Z,144nm,0.9s	16.05 314	IAmb		IAmb	13 02 19.4	
O19K	Port Alsworth baz=113,SNR=33	16.05 314	P		Pn	13 02 12.1	-1.1
ILAR	Eielson Array	16.09 334	P		Pn	13 02 14.1	+0.5
ILAR	Eielson Array comp=Z,0.1nm,0.3s,baz=141,slow=10,SNR=18	16.09 334	Pn		Pn	13 02 13.3	-0.3
ILAR	baz=120,slow=29		Lg		Lg	13 06 57.6	
ILAR	comp=Z,14µm,18.7s,baz=130,slow=36 comp=Z,2.2nm,0.9s		LR		LR	13 08 02.0	
BBGB	Big Mountain B comp=Z,366nm,1.3s	16.09 151	IAmb		IAmb	13 02 22.6	
H27K	Steamboat Moun	16.13 344	P		Pn	13 02 15.8	+1.6
H27K	Steamboat Moun	16.13 344	P		Pn	13 02 15.8	+1.6
H27K	Steamboat Moun baz=154,SNR=32	16.13 344	P		Pn	13 02 11.9	-2.3
TPH	Tonopah	16.15 139	P		P	13 02 17.6	-0.4
TPH	Tonopah comp=Z,2µm,1.4s	16.15 139	P		P	13 02 17.6	-0.4
TPH			pmax		pmax		
G30M	tAoh Zraii Nji	16.15 352	P		P	13 02 17.1	-0.6
G30M	tAoh Zraii Nji baz=167,SNR=6.5	16.15 352	P		Pn	13 02 12.8	-1.7
Q17K	Contact Creek baz=105,SNR=45	16.16 306	P		Pn	13 02 13.7	-1.1
P18K	Big Mountain, baz=109,SNR=21	16.18 310	P		Pn	13 02 13.2	-1.7
TRF	Thorofare Moun	16.18 327	P		Pn	13 02 15.0	-0.1
TRF	Thorofare Moun baz=130,SNR=56	16.18 327	P		Pn	13 02 14.5	-0.6
HWUT	Hardware Ranch	16.22 118	P		P	13 02 17.7	-1.2
CCB	Clear Creek Bu	16.25 333	P		Pn	13 02 17.0	+1.3
R17L	Mt. Peulik Vol baz=102,SNR=64	16.25 304	P		Pn	13 02 14.8	-1.1
G29M	Pine Creek	16.26 350	P		Pn	13 02 16.0	+0.1
G29M	Pine Creek baz=163,SNR=24	16.26 350	P		Pn	13 02 15.6	-0.3
M20K	Styx River baz=120,SNR=35	16.32 320	P		Pn	13 02 15.0	-1.8
O18K	Koktuh Hills comp=Z,174nm,1.0s	16.33 312	IAmb		IAmb	13 02 22.6	
O18K	Koktuh Hills baz=111,SNR=145	16.33 312	P		Pn	13 02 15.3	-1.5
PRP	Porcupine Dome baz=144,SNR=15	16.33 338	P		Pn	13 02 15.4	-1.5
N19K	Bonanza Creek comp=Z,768nm,1.9s	16.39 315	IAmb		IAmb	13 02 24.6	
N19K	Bonanza Creek baz=115,SNR=48	16.39 315	P		Pn	13 02 16.5	-1.1
BWN	Browne	16.40 330	P		Pn	13 02 18.7	+1.0
BWN	comp=Z,291nm,1.3s		IAmb		IAmb	13 02 23.0	
COLA	College	16.43 334	P		Pn	13 02 18.8	+0.8
COLA	College	16.43 334	P		Pn

PDAR Pinedale Array 16.62 112 P **P** **13 02 22.8 -0.5**
PDAR Pinedale Array 16.62 112 Pn **P** **13 02 23.2 -0.1**
comp=Z,1.8nm,0.3s,baz=310,slow=14,SNR=269
PDAR Lg Lg 13 07 08.7
baz=329,slow=28
PDAR LR LR 13 08 47.2
comp=Z,11µm,18.5s,baz=305,slow=37
R11B Troy Canyon, C 16.63 134 IAmb IAmb 13 02 27.5
comp=Z,341nm,1.9s
LAO LASA Array 16.65 96 IAmb IAmb 13 02 23.1
comp=Z,179nm,1.1s
Q16K King Salmon 16.66 307 P **Pn** **13 02 20.3 -0.7**
baz=105,SNR=12
G27K Doyon Strip 16.68 345 P **Pn** **13 02 20.6 -0.6**
G27K Doyon Strip 16.68 345 P **Pn** **13 02 20.2 -0.9**
baz=155,SNR=50
SPR3 Spring Creek 3 16.69 130 P **P** **13 02 23.9 -0.4**
SPR3 IAmb IAmb 13 02 31.3
comp=Z,519nm,2.0s
P17K Kvichak River 16.70 309 P **Pn** **13 02 21.1 -0.5**
baz=107,SNR=26
F30M Barrier River 16.73 353 P **Pn** **13 02 22.4 +0.5**
F30M Barrier River 16.73 353 P **Pn** **13 02 20.4 -1.5**
baz=168
CTU Camp Tracy 16.75 121 IAmb IAmb 13 02 30.5
comp=Z,400nm,1.9s
CAST Castle Rocks 16.79 325 IAmb IAmb 13 02 29.9
comp=Z,477nm,1.4s
CAST Castle Rocks 16.79 325 P **Pn** **13 02 21.5 -1.1**
baz=127,SNR=72
GMN Gold Mountain 16.80 140 P **P** **13 02 26.4 +1.2**
BPAW Bear Paw Mtn. 16.84 328 IAmb IAmb 13 02 30.6
comp=Z,474nm,1.4s
BPAW Bear Paw Mtn. 16.84 328 P **Pn** **13 02 22.3 -1.0**
baz=130,SNR=72
M19K Big River Lodg 16.85 319 P **Pn** **13 02 21.9 -1.5**
M19K Big River Lodg 16.85 319 P **Pn** **13 02 22.7 -0.7**
baz=118,SNR=32
L20K Farewell, AK 16.94 321 P **Pn** **13 02 23.2 -1.3**
baz=121,SNR=116
N18K Kilae Creek 16.96 314 P **Pn** **13 02 23.5 -1.3**
baz=112,SNR=34
JLU Jordanelle 16.98 121 P **Pn** **13 02 26.3 +0.9**
JLU IAmb IAmb 13 02 34.3
comp=Z,300nm,1.5s
GRAC Grapevine Rang 17.02 141 P **P** **13 02 28.1 +0.5**
GRAC IAmb IAmb 13 02 32.8
comp=Z,440nm,1.4s
H25L Birch Creek 17.02 339 P **Pn** **13 02 25.1 -0.4**
baz=145,SNR=21
I23K Minto, Yukon-K 17.07 333 IAmb IAmb 13 02 31.1
comp=Z,474nm,1.9s
I23K Minto, Yukon-K 17.07 333 P **Pn** **13 02 25.2 -0.9**
baz=136,SNR=8.7
S11A Rachel 17.14 136 IAmb IAmb 13 02 35.8
comp=Z,338nm,1.1s
FYU Fort Yukon 17.14 340 IAmb IAmb 13 02 32.4
comp=Z,233nm,1.2s
CHGN Chignik 17.15 298 IAmb IAmb 13 02 33.2
comp=Z,320nm,1.2s
CHGN Chignik 17.15 298 P **Pn** **13 02 25.8 -1.4**
baz=95,SNR=44
CHUM Lake Minchumin 17.16 326 P **Pn** **13 02 26.6 -0.5**
baz=128,SNR=84
F28M Old Crow 17.16 348 P **Pn** **13 02 27.3 +0.1**
F28M Old Crow 17.16 348 P **Pn** **13 02 25.5 -1.7**
F28M Old Crow 17.16 348 P **Pn** **13 02 25.2 -2.1**
baz=160,SNR=9.7
H24K Noodor Dome 17.18 336 IAmb IAmb 13 02 32.8
comp=Z,349nm,1.6s
H24K Noodor Dome 17.18 336 P **Pn** **13 02 26.7 -0.9**
baz=140,SNR=20
L19K White Mountain 17.18 319 IAmb IAmb 13 02 34.8
comp=Z,627nm,1.6s
L19K White Mountain 17.18 319 P **Pn** **13 02 26.4 -1.2**
baz=118,SNR=44
G26K Porcupine Rive 17.18 342 P **Pn** **13 02 27.3 -0.2**
G26K Porcupine Rive 17.18 342 P **Pn** **13 02 26.1 -1.4**
baz=151,SNR=33
O17K Koliganek Bris 17.20 310 P **Pn** **13 02 26.9 -0.9**
baz=108,SNR=77
DGMT Dagmar 17.27 88 P **P** **13 02 29.8 -0.4**
DGMT IAmb IAmb 13 02 36.2
comp=Z,169nm,1.1s
M18K Stony River 17.27 317 P **Pn** **13 02 27.7 -0.9**
baz=115,SNR=60
PSUT Pine Spring 17.29 130 P **P** **13 02 30.7 0.0**
MPU Maple Canyon 17.30 123 P **P** **13 02 30.5 -0.3**
INK Inuvik 17.30 356 P **Pn** **13 02 29.4 +0.5**
comp=Z,0.2nm,0.3s,baz=177,slow=9.9,SNR=13
INK S **Sn** **13 05 40.2 -0.9**
comp=Z,7.9nm,1.1s,baz=308,slow=12,SNR=1.8
INK Lg Lg 13 07 29.0
baz=165,slow=12,SNR=2.0
INK LR LR 13 08 43.2
comp=Z,6µm,18.0s,baz=178,slow=36
comp=Z,23nm,1.2s
INK Inuvik 17.30 356 P **Pn** **13 02 29.0 +0.1**
INK Inuvik 17.30 356 P **Pn** **13 02 26.7 -2.2**
baz=174,SNR=23
MLY Manley 17.39 331 P **Pn** **13 02 29.7 -0.5**
baz=133,SNR=82
P16K Nushagak River 17.43 308 P **Pn** **13 02 30.6 0.0**
baz=104,SNR=28
K20K Telida 17.48 323 IAmb IAmb 13 02 37.6
comp=Z,441nm,1.5s
K20K Telida 17.48 323 P **Pn** **13 02 30.4 -0.9**
baz=123,SNR=162
G25K Bearman Lake 17.50 339 P **Pn** **13 02 30.8 -0.6**
G25K Bearman Lake 17.50 339 P **Pn** **13 02 30.6 -0.9**
baz=146,SNR=30
N17K Nushagak Hills 17.50 313 P **Pn** **13 02 31.4 -0.1**
N17K Nushagak Hills 17.50 313 P **Pn** **13 02 31.5 0.0**
baz=110,SNR=85
H23K Yukon River 17.62 334 P **Pn** **13 02 31.5 -1.4**
baz=137,SNR=10
FFC Flin Flon 17.62 67 P **Pn** **13 02 31.1 -1.8**
FFC IAmb IAmb 13 02 38.7
comp=Z,182nm,1.2s
FFC Flin Flon 17.62 67 P **Pn** **13 02 31.2 -1.8**
FFC pmax pmax
comp=Z,182nm,1.2s
O16K Kokwok River B 17.63 309 P **Pn** **13 02 33.3 +0.1**
O16K Kokwok River B 17.63 309 P **Pn** **13 02 32.9 -0.3**
baz=106,SNR=47
PRN Pahroc Range 17.64 135 IAmb IAmb 13 02 41.3
comp=Z,223nm,1.1s
E29M Blow River 17.68 351 IAmb IAmb 13 02 40.6
comp=Z,469nm,1.6s
E29M Blow River 17.68 351 P **Pn** **13 02 33.3 -0.3**
E29M Blow River 17.68 351 P **Pn** **13 02 32.4 -1.2**
baz=165,SNR=61
CHNA Chernabura Isl 17.74 293 P **Pn** **13 02 33.7 -0.8**
baz=89,SNR=7.4
CNBA Chernabura Isl 17.74 293 P **Pn** **13 02 34.2 -0.3**
BMAR Burnt Mountain 17.75 342 P **Pn** **13 02 33.5 -1.1**
G24K Hadweenzic Riv 17.76 338 P **Pn** **13 02 32.7 -2.0**
baz=143,SNR=21
S14K Fog Glacier 17.78 298 P **Pn** **13 02 35.2 0.0**
baz=94
F26K Sheenjek River 17.91 343 P **Pn** **13 02 35.7 -0.8**
F26K Sheenjek River 17.91 343 P **Pn** **13 02 34.8 -1.8**
baz=151,SNR=35
E27K Coleen River 17.93 347 P **Pn** **13 02 35.8 -1.0**
E27K IAmb IAmb 13 02 43.7
comp=Z,547nm,2.0s
E27K Coleen River 17.93 347 P **Pn** **13 02 36.0 -0.8**
E27K Coleen River 17.93 347 P **Pn** **13 02 35.8 -1.0**
baz=157,SNR=46
M17K Holitna River 17.94 315 P **Pn** **13 02 36.4 -0.5**
M17K Holitna River 17.94 315 P **Pn** **13 02 36.2 -0.7**
baz=112,SNR=28
L18K Granite Mounta 17.96 318 IAmb IAmb 13 02 43.7
comp=Z,575nm,1.8s
L18K Granite Mounta 17.96 318 P **Pn** **13 02 36.5 -0.6**
baz=116,SNR=71
J20K Nowinta River 17.98 326 P **Pn** **13 02 37.0 -0.4**
J20K IAmb IAmb 13 02 44.0
comp=Z,471nm,1.6s
J20K Nowinta River 17.98 326 P **Pn** **13 02 37.0 -0.4**
baz=125,SNR=86
TMUT Trail Mountain 18.04 123 P **P** **13 02 40.2 +1.0**
TMUT IAmb IAmb 13 02 47.7
comp=Z,242nm,1.7s
E28M Babbage River 18.06 349 P **Pn** **13 02 38.2 -0.2**
E28M IAmb IAmb 13 02 45.7
comp=Z,181nm,1.2s
E28M Babbage River 18.06 349 P **Pn** **13 02 36.9 -1.4**
E28M Babbage River 18.06 349 P **Pn** **13 02 38.4 +0.1**
baz=161,SNR=77
F25K Christian Rive 18.10 341 P **Pn** **13 02 34.7 -4.2**
F25K Christian Rive 18.10 341 P **Pn** **13 02 36.9 -2.1**
baz=148,SNR=42
MVU Marysvale 18.12 127 P **P** **13 02 41.4 +1.5**
MVU IAmb IAmb 13 02 49.6
comp=Z,230nm,1.5s
H22K Ishtalitna Cre 18.19 332 P **Pn** **13 02 39.9 -0.1**
baz=134,SNR=45
N16K Nishlik Lake 18.22 312 P **P** **13 02 41.0 +0.4**
baz=108,SNR=75
SDPT Sand Point 18.25 295 P **Pn** **13 02 40.7 -0.1**
SDPT IAmb IAmb 13 02 45.4
comp=Z,328nm,1.1s
SDPT Sand Point 18.25 295 P **Pn** **13 02 39.8 -1.0**
SDPT Sand Point 18.25 295 P **Pn** **13 02 40.6 -0.1**
baz=90,SNR=37
CCUT Cedar City 18.30 131 P **P** **13 02 43.2 +1.3**
P18A Preston Nutter 18.32 121 IAmb IAmb 13 02 49.9
comp=Z,250nm,1.6s
O15K Ungalikthiuk R 18.38 307 P **Pn** **13 02 41.9 -0.5**
O15K IAmb IAmb 13 02 47.3
comp=Z,466nm,1.9s
O15K Ungalikthiuk R 18.38 307 P **Pn** **13 02 42.1 -0.3**
baz=102,SNR=24
SZCU Shurtz Canyon 18.40 130 IAmb IAmb 13 02 50.7
comp=Z,305nm,1.4s
G23K Bananza Creek 18.41 335 P **P** **13 02 42.6 -0.1**
baz=138,SNR=36
J19K Poorman 18.41 324 IAmb IAmb 13 02 49.2
comp=Z,475nm,1.6s
J19K Poorman 18.41 324 P **P** **13 02 42.1 -0.6**
baz=122,SNR=113
KUKN Kugluktuk,NWT 18.43 19 P **P** **13 02 40.0 -2.8**
H21K Melozitna Rive 18.46 330 P **P** **13 02 43.0 -0.2**
H21K IAmb IAmb 13 02 50.1
comp=Z,553nm,1.6s
H21K Melozitna Rive 18.46 330 P **Pn** **13 02 43.7 +0.4**
baz=131,SNR=98
I20K Naaghedeneel 18.46 327 P **P** **13 02 43.1 -0.1**
baz=126,SNR=85
M16K Timber Creek 18.49 313 P **Pn** **13 02 44.1 +0.4**
baz=109,SNR=69
K22A Casper 18.49 108 P **Pn** **13 02 44.3 +0.3**
K22A IAmb IAmb 13 02 52.1
comp=Z,271nm,1.1s
F24K Squaw Lake 18.52 339 P **P** **13 02 43.4 -0.5**
baz=143,SNR=23
SRU San Rafael Swe 18.54 123 IAmb IAmb 13 02 49.8
comp=Z,129nm,0.9s
E25K Arctic Village 18.54 342 P **P** **13 02 40.8 -3.3**
E25K Arctic Village 18.54 342 P **P** **13 02 43.6 -0.5**
baz=149,SNR=20
J18K Innoko River 18.55 322 P **P** **13 02 44.2 -0.1**
baz=119,SNR=90
L17K Donlin 18.61 317 P **P** **13 02 44.5 -0.3**
baz=113,SNR=50
D28M Stokes Point 18.67 351 P **P** **13 02 42.9 -2.5**
D28M Stokes Point 18.67 351 P **P** **13 02 44.2 -1.3**
baz=164,SNR=7.8
N15K Kwethluk River 18.76 310 P **P** **13 02 46.6 +0.1**
N15K IAmb IAmb 13 02 54.3
comp=Z,497nm,1.9s
N15K Kwethluk River 18.76 310 P **Pn** **13 02 47.9 +1.0**
baz=105,SNR=24
LCMT Little Creek M 18.80 132 IAmb IAmb 13 02 55.8
comp=Z,473nm,1.6s
D27M Malolm River 18.84 349 IAmb IAmb 13 02 55.6
comp=Z,209nm,1.4s
D27M Malcolm River 18.84 349 P **P** **13 02 45.4 -2.0**
D27M Malcolm River 18.84 349 P **P** **13 02 47.3 -0.1**
baz=159,SNR=29
COLD Coldfoot 18.85 336 IAmb IAmb 13 02 55.6
comp=Z,489nm,1.9s
COLD Coldfoot 18.85 336 P **P** **13 02 44.6 -2.8**
COLD Coldfoot 18.85 336 P **Pn** **13 02 48.2 +0.2**
baz=139,SNR=40
K17K Iditarod 18.85 319 IAmb IAmb 13 02 55.1
comp=Z,346nm,1.2s
K17K Iditarod 18.85 319 P **Pn** **13 02 47.8 -0.2**
baz=115,SNR=50
L16K Owhat River 18.96 315 P **Pn** **13 02 49.0 -0.3**
L16K IAmb IAmb 13 02 55.2
comp=Z,158nm,1.1s
L16K Owhat River 18.96 315 P **Pn** **13 02 50.4 +1.0**
baz=110,SNR=38
G22K Bettles 18.96 334 P **Pn** **13 02 49.8 +0.5**
baz=136
IMAR Indian Mountai 18.97 330 P **P** **13 02 47.8 -1.0**
KNB Kanab 18.99 131 IAmb IAmb 13 02 58.2
comp=Z,294nm,1.5s
H20K Anotleneega Mo 19.02 328 P **Pn** **13 02 50.1 +0.1**
baz=127,SNR=46
O20A White River Ci 19.07 116 P **Pn** **13 02 51.6 +0.5**
O20A IAmb IAmb 13 02 54.2
comp=Z,197nm,1.1s
E24K Your Creek 19.11 339 IAmb IAmb 13 02 58.2
comp=Z,327nm,1.9s
E24K Your Creek 19.11 339 P **Pn** **13 02 51.7 +0.6**
baz=144,SNR=43
O14K Tigyukauivet M 19.12 307 P **Pn** **13 02 51.5 +0.2**
baz=101,SNR=8.1
S12K Black Hills 19.16 296 P **Pn** **13 02 51.8 0.0**
S12K Black Hills 19.16 296 P **Pn** **13 02 52.0 +0.2**
baz=90
M15K Kasigluk River 19.19 312 P **Pn** **13 02 53.0 +0.9**
baz=106,SNR=61
RSSD Black Hills 19.20 101 P **P** **13 02 51.3 -0.5**
RSSD IAmb IAmb 13 02 55.5
comp=Z,255nm,1.6s
RSSD Black Hills 19.20 101 P **P** **13 02 51.3 -0.5**
RSSD pmax pmax
comp=Z,255nm,1.7s
G21K Allakaket 19.25 332 IAmb IAmb 13 02 56.9
comp=Z,184nm,1.1s
G21K Allakaket 19.25 332 P **Pn** **13 02 53.6 +0.8**
baz=132
GCSA Galena City Sc 19.28 325 P **Pn** **13 02 53.3 +0.2**
baz=122,SNR=80
HMU Henry Mountain 19.30 125 IAmb IAmb 13 03 02.6
comp=Z,150nm,1.1s
E23K Chandalar 19.35 338 IAmb IAmb 13 03 01.1
comp=Z,545nm,1.9s
E23K Chandalar 19.35 338 P **Pn** **13 02 55.2 +1.1**
baz=142,SNR=63
J17K VABM Dome 19.46 320 IAmb IAmb 13 02 59.7
comp=Z,191nm,1.1s
J17K VABM Dome 19.46 320 P **Pn** **13 02 55.3 -0.1**
baz=115,SNR=76
N14K Kuskokwak Cree 19.47 309 P **P** **13 02 53.9 -0.4**
N14K IAmb IAmb 13 03 01.4
comp=Z,360nm,1.2s
N14K Kuskokwak Cree 19.47 309 P **Pn** **13 02 55.9 +0.3**
baz=102,SNR=22
C27K Jago River 19.57 346 IAmb IAmb 13 03 06.6
comp=Z,289nm,1.8s
C27K Jago River 19.57 346 P **P** **13 02 52.6 -2.7**
C27K Jago River 19.57 346 P **Pn** **13 02 56.2 -0.4**
baz=155,SNR=21
H19K Roundabout Mou 19.57 327 IAmb IAmb 13 03 02.0
comp=Z,194nm,1.1s
H19K Roundabout Mou 19.57 327 P **Pn** **13 02 56.1 -0.5**
baz=125,SNR=67
F22K John River 19.57 335 P **Pn** **13 02 57.4 +0.8**
baz=136
F21K Alatna River 19.72 333 IAmb IAmb 13 03 04.2
comp=Z,159nm,1.3s
F21K Alatna River 19.72 333 P **Pn** **13 02 59.0 +0.6**
baz=133,SNR=38
D25K Kavik River 19.73 343 P **P** **13 02 56.0 -1.2**
D25K Kavik River 19.73 343 P **P** **13 02 53.4 -3.8**
D25K Kavik River 19.73 343 P **P** **13 02 57.6 +0.5**
baz=149,SNR=25
TOLK Toolik Lake Re 19.80 340 P **Pn** **13 02 59.3 -0.2**
baz=143,SNR=28
M14K Bethel 19.81 311 P **P** **13 02 56.2 -1.8**
M14K Bethel 19.81 311 P **Pn** **13 02 59.9 +0.4**
baz=104,SNR=44
L15K Ungalak Mounta 19.85 314 P **Pn** **13 03 00.5 +0.5**
baz=108,SNR=76
PV22 Blue Mesa, Par 19.89 121 P **Pn** **13 03 00.7 -0.3**
PV22 IAmb IAmb 13 03 06.8
comp=Z,100nm,1.0s
PV04 Paradox Valley 19.93 121 P **P** **13 02 59.9 +0.2**
PV04 IAmb IAmb 13 03 07.5
comp=Z,271nm,1.4s
PV20 West Nyswonger 19.93 121 P **P** **13 02 59.7 0.0**
E22K Anaktuvuk Pass 19.94 337 P **Pn** **13 03 01.3 +0.3**
baz=138,SNR=62
C26K Camden Bay 20.01 346 P **P** **13 02 56.4 -3.7**
C26K Camden Bay 20.01 346 P **Pn** **13 03 01.3 -0.5**
baz=153,SNR=35
PV11 David Mesa, Pa 20.02 121 IAmb IAmb 13 03 08.4
comp=Z,211nm,1.1s
H18K Honhosa River 20.03 325 P **Pn** **13 03 01.6 -0.5**
baz=121
PV18 Skein Mesa, Pa 20.04 122 P **P** **13 03 00.9 +0.1**
PV07 Paradox Valley 20.04 121 IAmb IAmb 13 03 16.0
comp=Z,190nm,1.5s
J16K Anvik River 20.04 319 P **Pn** **13 03 01.8 -0.4**
baz=113,SNR=123
D24K Happy Valley 20.06 341 IAmb IAmb 13 03 10.0
comp=Z,409nm,1.6s
D24K Happy Valley 20.06 341 P **Pn** **13 03 01.7 -0.7**
baz=145,SNR=22
K15K Wolf Creek Mou 20.07 316 P **Pn** **13 03 03.0 +0.3**
baz=109,SNR=62
G19K Purcell Mounta 20.14 328 IAmb IAmb 13 03 11.1
comp=Z,230nm,1.1s
G19K Purcell Mounta 20.14 328 P **Pn** **13 03 02.5 -0.9**
baz=125,SNR=39
E28A Huff 20.17 91 P **P** **13 03 01.4 -0.7**
E28A IAmb IAmb 13 03 15.0
comp=Z,191nm,1.0s
PV15 Paradox Valley 20.20 121 IAmb IAmb 13 03 08.6
comp=Z,125nm,0.9s
F20K Avaraart Lake 20.26 331 P **P** **13 03 01.8 -1.0**
F20K IAMs_20 IAMs_20 13 10 57.6
comp=Z,12µm,18.0s
F20K Avaraart Lake 20.26 331 P **Pn** **13 03 04.4 -0.4**
baz=129,SNR=150
L14K Kuka Creek 20.30 313 IAMs_20 IAMs_20 13 09 50.3
comp=Z,13µm,18.0s
L14K Kuka Creek 20.30 313 P **Pn** **13 03 04.9 -0.4**
baz=105,SNR=57
D23K Nanushuk River 20.31 339 P **Pn** **13 03 05.0 -0.3**
baz=141
I17K Unalakleet 20.33 320 P **P** **13 03 02.5 -1.1**
I17K Unalakleet 20.33 320 P **Pn** **13 03 05.1 -0.5**
baz=114,SNR=97
PFO Pinyon Flats O 20.34 144 P **Pn** **13 03 06.0 -0.2**
PFO IAmb IAmb 13 03 16.2
comp=Z,300nm,1.2s
PFO Pinyon Flats O 20.34 144 P **Pn** **13 03 06.2 0.0**
comp=Z,104nm,1.0s,baz=329,slow=11,SNR=17
comp=Z,104nm,1.0s
MDND Maddock 20.37 87 P **P** **13 03 02.4 -1.9**
M13K Dall Lake 20.39 310 IAMs_20 IAMs_20 13 09 44.9
comp=Z,17µm,19.0s
M13K Dall Lake 20.39 310 P **Pn** **13 03 05.9 -0.5**
baz=102,SNR=39
H17K Granite Mounta 20.50 324 P **P** **13 03 03.6 -1.8**
H17K Granite Mounta 20.50 324 P **Pn** **13 03 06.8 -0.8**
baz=118,SNR=128
C24K Franklin Bluff 20.51 342 P **P** **13 03 06.3 +0.8**
baz=146
G18K Tagagawik 20.53 327 P **P** **13 03 06.8 +1.0**
baz=122,SNR=81
D22K Ayikyak River 20.71 337 P **P** **13 03 06.2 -1.5**
D22K IAMs_20 IAMs_20 13 10 49.0
comp=Z,16µm,20.0s
D22K Ayikyak River 20.71 337 P **Pn** **13 03 09.4 -0.7**
baz=198,SNR=15
F19K Shaleruckik Mo 20.77 329 P **P** **13 03 06.1 -2.2**
F19K Shaleruckik Mo 20.77 329 P **P** **13 03 09.5 +1.1**
baz=126,SNR=74
ISCO Idaho Springs 20.80 113 P **P** **13 03 10.3 +1.0**
ISCO IAmb IAmb 13 03 19.4
comp=Z,142nm,1.2s
ISCO IAMs_20 IAMs_20 13 11 16.1
comp=Z,21µm,18.0s
ISCO Idaho Springs 20.80 113 P **P** **13 03 10.3 +1.0**
ISCO pmax pmax
comp=Z,142nm,1.3s
ISCO MLR MLR
comp=Z,21µm,18.0s
WUAZ Wupatki 20.89 131 P Pn 13 03 12.1 -0.5
E19K Redstone River 20.98 331 IAMs_20 IAMs_20 13 11 20.7
comp=Z,12µm,18.0s
E19K Redstone River 20.98 331 P **P** **13 03 11.9 +1.3**
baz=128
BLYC Blythe 20.98 140 P Pn 13 03 12.4 -1.1
C23K Itkillik River 20.99 341 P **P** **13 03 08.7 -1.9**
C23K IAMs_20 IAMs_20 13 11 02.1
comp=Z,14µm,21.0s
C23K Itkillik River 20.99 341 P **P** **13 03 11.3 +0.6**
baz=143,SNR=19
G17K Kiwalik Mounta 21.04 325 P **P** **13 03 12.5 +1.2**
baz=118,SNR=92
A36M Sachs Harbour 21.08 5 P P 13 03 04.3 -7.3
A36M Sachs Harbour 21.08 5 P **P** **13 03 11.2 -0.5**
baz=189
J14K Nanvaranak Lak 21.11 316 P **P** **13 03 12.0 0.0**
J14K Nanvaranak Lak 21.11 316 P **P** **13 03 13.4 +1.4**
baz=108,SNR=27
E20K Nigu River 21.18 334 P **P** **13 03 13.8 +0.9**
baz=131
TKX Tecate 21.23 145 IAmb IAmb 13 03 25.8
comp=Z,254nm,1.2s
F18K Selawik 21.25 328 P **P** **13 03 14.8 +1.3**
baz=122,SNR=37
K13K Kusilvak Mount 21.37 313 P **P** **13 03 14.5 -0.4**
K13K IAmb IAmb 13 03 21.9
comp=Z,304nm,2.0s
K13K IAMs_20 IAMs_20 13 10 25.3
comp=Z,11µm,19.0s
K13K Kusilvak Mount 21.37 313 P **P** **13 03 15.4 +0.5**
baz=104,SNR=9.4
AKUT Akutan 21.38 292 P **P** **13 03 14.1 -0.9**
C21K Knifeblade Rid 21.43 336 P **P** **13 03 16.6 +1.1**
baz=135,SNR=36
CBX Cerro Bola 21.44 146 P **P** **13 03 18.5 +2.5**
Y14A Wickenburg 21.46 136 IAmb IAmb 13 03 24.0
comp=Z,173nm,1.1s
LVA Lava Point 21.53 292 P **P** **13 03 15.9 -0.8**
D20K Etivluk River 21.61 334 IAmb IAmb 13 03 22.4
comp=Z,156nm,1.4s
D20K IAMs_20 IAMs_20 13 10 46.1
comp=Z,15µm,21.0s
D20K Etivluk River 21.61 334 P **P** **13 03 17.5 +0.1**
baz=131
G16K Koyuk River 21.62 323 P **P** **13 03 18.3 +0.7**
baz=116,SNR=23
Q24A Divide 21.63 114 P **P** **13 03 18.8 +0.7**
Q24A IAmb IAmb 13 03 23.4
comp=Z,346nm,1.9s
Q24A IAMs_20 IAMs_20 13 11 52.1
comp=Z,16µm,18.0s
F17K Baldwin Pennin 21.72 326 P **P** **13 03 19.5 +1.0**
baz=120,SNR=22
B21K Ikpikpuk River 21.72 337 IAmb IAmb 13 03 26.5
comp=Z,121nm,1.2s
B21K IAMs_20 IAMs_20 13 11 53.8
comp=Z,13µm,19.0s
B21K Ikpikpuk River 21.72 337 P **P** **13 03 19.0 +0.5**
baz=136,SNR=18
X16A Lo Mia Camp, P 21.76 133 IAmb IAmb 13 03 28.2
comp=Z,115nm,0.9s
M11K Mekoryuk 21.78 309 IAMs_20 IAMs_20 13 10 57.6
comp=Z,20µm,18.0s
M11K Mekoryuk 21.78 309 P **P** **13 03 20.0 +0.7**
baz=99
CPBX Cerro Prieto 21.84 143 P **P** **13 03 22.0 +1.9**
CPBX IAmb IAmb 13 03 29.5
comp=Z,253nm,1.3s
CCX Cicese 21.84 146 P **P** **13 03 22.7 +2.6**
UNV Unalaska Valle 21.84 291 IAmb IAmb 13 03 40.6
comp=Z,72nm,1.0s
UNV Unalaska Valle 21.84 291 P **P** **13 03 20.7 +0.7**
baz=82
D19K Kuna River 21.89 333 P **P** **13 03 20.2 -0.2**
D19K IAmb IAmb 13 03 31.6
comp=Z,193nm,1.2s
D19K Kuna River 21.89 333 P **P** **13 03 21.2 +0.8**
baz=128
ULM Lac du Bonnet 21.95 79 P **P** **13 03 19.9 -1.3**
ULM IAmb IAmb 13 03 25.5
comp=Z,108nm,1.1s
ULM Lac du Bonnet 21.95 79 P **P** **13 03 20.3 -0.9**
comp=Z,56nm,0.9s,baz=286,slow=12,SNR=48
ULM Lg Lg 13 09 52.2
comp=Z,0.1nm,0.3s,baz=292,slow=11,SNR=2.1

ULM LR LR 13 12 09.0
comp=Z,10µm,20.9s,baz=285,slow=38
comp=Z,56nm,0.9s
ULM Lac du Bonnet 21.95 79 P **P** **13 03 16.5 -4.7**
ESJX Sierra Juarez 21.97 145 IAMs_20 IAMs_20 13 12 42.1
comp=Z,10µm,18.0s
B22K Teshekpuk Lake 21.98 340 IAMs_20 IAMs_20 13 12 23.5
comp=Z,17µm,18.0s
B22K Teshekpuk Lake 21.98 340 P **P** **13 03 22.0 +0.7**
baz=139,SNR=38
W18A Petrified Fore 22.00 129 IAMs_20 IAMs_20 13 12 24.5
comp=Z,13µm,18.0s
E18K Tukpahlearik C 22.01 329 IAmb IAmb 13 03 28.8
comp=Z,280nm,1.4s
E18K IAMs_20 IAMs_20 13 11 43.2
comp=Z,11µm,19.0s
E18K Tukpahlearik C 22.01 329 P **P** **13 03 22.5 +0.8**
baz=122
G15K Niukluk 22.10 322 P **P** **13 03 23.6 +0.9**
baz=112,SNR=26
113A Mohawk Valley, 22.14 139 P **P** **13 03 24.2 +0.8**
113A IAmb IAmb 13 03 40.4
comp=Z,129nm,1.3s
OGNE Ogallala 22.21 106 IAMs_20 IAMs_20 13 12 14.6
comp=Z,15µm,18.0s
SUSD Miller 22.22 95 IAmb IAmb 13 03 25.4
comp=Z,165nm,1.0s
SUSD IAMs_20 IAMs_20 13 11 52.7
comp=Z,16µm,21.0s
E17K Hotham Inlet 22.24 328 P **P** **13 03 24.7 +0.6**
baz=120,SNR=28
SDCO Great Sand Dun 22.27 117 P **P** **13 03 25.9 +0.9**
SDCO IAmb IAmb 13 03 33.0
comp=Z,114nm,1.3s
SDCO IAMs_20 IAMs_20 13 12 07.3
comp=Z,19µm,22.0s
X18A Snowflake 22.37 130 P **P** **13 03 28.0 +1.9**
X18A IAMs_20 IAMs_20 13 12 37.4
comp=Z,12µm,20.0s
BLKN Baker Lake 22.38 41 P **P** **13 03 22.3 -3.4**
BLKN IAmb IAmb 13 03 31.8
comp=Z,159nm,1.1s
BLKN Baker Lake 22.38 41 P **P** **13 03 22.4 -3.3**
ANM Nome 22.48 320 IAmb IAmb 13 03 34.2
comp=Z,110nm,1.2s
ANM Nome 22.48 320 P **P** **13 03 27.6 +0.9**
baz=110,SNR=6.0
AGMN Agassiz Nation 22.56 83 IAmb IAmb 13 03 50.9
comp=Z,132nm,1.1s
VTX Valle De La Tr 22.59 145 IAmb IAmb 13 03 44.5
comp=Z,133nm,1.4s
F15K North Star Dit 22.62 323 P **P** **13 03 27.8 -0.5**
F15K North Star Dit 22.62 323 P **P** **13 03 29.4 +1.1**
baz=113,SNR=34
B20K Meade River 22.62 337 IAMs_20 IAMs_20 13 12 25.7
comp=Z,14µm,18.0s
B20K Meade River 22.62 337 P **P** **13 03 28.6 +0.3**
baz=133,SNR=27
C19K Lookout Ridge 22.68 333 IAMs_20 IAMs_20 13 11 32.4
comp=Z,16µm,19.0s
C19K Lookout Ridge 22.68 333 P **P** **13 03 29.1 +0.2**
baz=127
A22K Sinclair Lake 22.82 340 P **P** **13 03 29.5 -0.8**
baz=138
C18K Utukok River 22.88 331 IAMs_20 IAMs_20 13 12 43.9
comp=Z,12µm,18.0s
C18K Utukok River 22.88 331 P **P** **13 03 31.0 -0.1**
baz=124,SNR=30
D17K Noatak River 22.97 328 P **P** **13 03 32.0 +0.2**
baz=120,SNR=12
KSCO Kaye Shedlock' 23.06 111 P **P** **13 03 32.9 -0.4**
KSCO IAMs_20 IAMs_20 13 13 15.7
comp=Z,12µm,18.0s
RDOG Red Dog Mine 23.09 329 IAmb IAmb 13 03 38.9
comp=Z,135nm,1.3s
RDOG IAMs_20 IAMs_20 13 12 21.6
comp=Z,11µm,18.0s
RDOG Red Dog Mine 23.09 329 P **P** **13 03 33.4 +0.2**
baz=121,SNR=6.0
F14K Arctic Creek 23.18 322 P **P** **13 03 34.2 +0.2**
baz=111
214A Organ Pipe Nat 23.24 139 P **P** **13 03 36.8 +1.8**
SFX San Felipe 23.25 144 P **P** **13 03 36.9 +1.8**
F33A 5 Mile Ranch, 23.25 90 IAmb IAmb 13 03 41.9
comp=Z,119nm,1.1s
T25A Trinidad 23.31 117 IAMs_20 IAMs_20 13 12 51.9
comp=Z,21µm,19.0s
P08K Saint George I 23.33 299 P **P** **13 03 36.9 +1.2**
baz=86
NIKH Nikolski High 23.37 290 P **P** **13 03 36.9 +0.8**
NIKH Nikolski High 23.37 290 P **P** **13 03 35.2 -0.9**
NIKH Nikolski High 23.37 290 P **P** **13 03 38.3 +2.2**
baz=78
C17K DeLong Mountai 23.40 330 P **P** **13 03 36.6 +0.3**
baz=121
A21K Barrow 23.42 339 P **P** **13 03 37.0 +0.6**
baz=136
EPLO Experimental L 23.45 79 P **P** **13 03 35.4 -1.5**
EPLO IAmb IAmb 13 03 51.3
comp=Z,64nm,0.9s
EPLO Experimental L 23.45 79 P **P** **13 03 34.3 -2.6**
B18K Kokolik River 23.48 333 P **P** **13 03 37.7 +0.7**
baz=125,SNR=13
SPIA Saint Paul Isl 23.69 300 IAMs_20 IAMs_20 13 11 30.0
comp=Z,11µm,19.0s
SPIA Saint Paul Isl 23.69 300 P **P** **13 03 40.6 +1.4**
baz=87
A19K Wainwright 23.77 335 P **P** **13 03 41.2 +1.4**
baz=127
ANMO Albuquerque 23.81 123 P **P** **13 03 41.9 +1.1**
ANMO IAmb IAmb 13 03 48.0
comp=Z,98nm,1.4s
ANMO Albuquerque 23.81 123 LR LR 13 13 24.1
comp=Z,6µm,19.7s,baz=48,slow=38
ANMO Albuquerque 23.81 123 P **P** **13 03 41.9 +1.1**
ANMO pmax pmax
comp=Z,98nm,1.4s
ANMO MLR MLR
comp=Z,5µm,22.0s
TUC Tucson 23.82 134 P **P** **13 03 42.7 +2.0**
TUC IAmb IAmb 13 04 02.6
comp=Z,125nm,1.4s
TUC Tucson 23.82 134 P **P** **13 03 42.7 +2.0**
TUC pmax pmax
comp=Z,125nm,1.4s
TUC MLR MLR
comp=Z,8µm,20.0s
TNA Tin City 23.83 321 P **P** **13 03 38.4 -2.0**
TNA IAMs_20 IAMs_20 13 12 16.8
comp=Z,9µm,18.0s
TNA Tin City 23.83 321 P **P** **13 03 41.5 +1.0**
baz=109
C16K Lisburne Hills 24.00 329 P **P** **13 03 40.5 -1.5**
C16K IAMs_20 IAMs_20 13 12 42.5
comp=Z,9µm,18.0s
C16K Lisburne Hills 24.00 329 P **P** **13 03 42.9 +0.9**
baz=118,SNR=5.0
ECSD EROS Data Cent 24.03 95 P **P** **13 03 43.1 +0.5**
ECSD IAmb IAmb 13 03 52.5
comp=Z,153nm,1.1s
ECSD EROS Data Cent 24.03 95 IAMs_20 IAMs_20 13 12 57.7
comp=Z,16µm,18.0s
LENM Lemitar 24.15 125 P **P** **13 03 45.4 +1.5**
BGNE Belgrade 24.32 101 P **P** **13 03 45.9 +0.6**
BNM Barren Site 24.34 125 P **P** **13 03 47.2 +1.4**
SOLO Sioux Lookout 24.36 77 P **P** **13 03 44.6 -0.9**
DUN6 Lazy B Ranch 24.40 131 P **P** **13 03 48.4 +2.2**
CRNM Carthage 24.44 125 P **P** **13 03 48.1 +1.5**
RTBA Rita Blanca 24.75 116 P **P** **13 03 50.4 +1.0**
CBKS Cedar Bluff 24.91 108 P **P** **13 03 51.8 +1.1**
CBKS IAMs_20 IAMs_20 13 13 51.3
comp=Z,15µm,20.0s
CBKS Cedar Bluff 24.91 108 P **P** **13 03 51.8 +1.1**
CBKS pmax pmax
comp=Z,386nm,1.5s
CBKS MLR MLR
comp=Z,15µm,20.0s
GAMB Gambell 24.93 316 IAmb IAmb 13 03 54.5
comp=Z,114nm,1.2s
GAMB Gambell 24.93 316 P **P** **13 03 51.9 +1.3**
baz=101
PKLO Pickle Lake 24.99 73 P **P** **13 03 50.1 -1.1**
ATKO Atikokan Iron 25.04 80 P **P** **13 03 50.7 -1.0**
L34A Svendsen Farm, 25.11 98 P **P** **13 03 52.7 +0.3**
L34A IAMs_20 IAMs_20 13 13 42.5
comp=Z,15µm,20.0s
EYMN Ely 25.42 82 P **P** **13 03 55.7 +0.5**
EYMN Ely 25.42 82 IAMs_20 IAMs_20 13 13 57.1
comp=Z,17µm,19.0s
SPMN Marine on St. 25.73 88 P **P** **13 03 58.9 +0.9**
SPMN IAmb IAmb 13 04 21.8
comp=Z,55nm,1.0s
R32A Long Quarter, 25.78 107 P **P** **13 03 59.3 +0.7**
R32A IAmb IAmb 13 04 27.2
comp=Z,64nm,1.0s
R32A IAMs_20 IAMs_20 13 14 18.2
comp=Z,12µm,22.0s
E38A The Farm, Brul 25.91 85 P **P** **13 03 59.4 -0.3**
E38A IAmb IAmb 13 04 06.5
comp=Z,49nm,0.9s
I37A Lemond, Waseca 25.92 91 IAmb IAmb 13 04 26.8
comp=Z,93nm,1.0s
I37A IAMs_20 IAMs_20 13 13 54.3
comp=Z,8µm,18.0s
EPT El Paso 26.29 128 IAMs_20 IAMs_20 13 15 13.0
comp=Z,14µm,18.0s
TBO Thunder Bay 26.46 79 P **P** **13 04 05.1 +0.5**
TBO IAmb IAmb 13 04 12.6
comp=Z,101nm,0.9s
TBO IAMs_20 IAMs_20 13 13 14.3
comp=Z,10µm,19.0s
TBO Thunder Bay 26.46 79 P **P** **13 04 05.0 +0.3**
AMTX Amarillo 26.46 117 P **P** **13 04 06.2 +1.3**
MSTX Muleshoe 26.53 119 P **P** **13 04 06.6 +1.1**
MSTX IAmb IAmb 13 04 27.1
comp=Z,84nm,1.4s
HSIG 26.58 139 P **P** **13 04 06.4 +0.6**
HSIG IAmb IAmb 13 04 14.6
comp=Z,116nm,1.2s
HSIG IAMs_20 IAMs_20 13 15 37.6
comp=Z,10µm,19.0s
MNTX Cornudas Mount 26.91 126 P **P** **13 04 10.3 +1.5**
MNTX IAmb IAmb 13 04 17.2
comp=Z,164nm,1.5s
MNTX IAMs_20 IAMs_20 13 15 22.4
comp=Z,12µm,18.0s
KAN12 Harper NE Stat 26.94 108 P **P** **13 04 10.1 +1.0**
KAN08 Anthony NE Sta 27.00 108 P **P** **13 04 10.8 +1.2**
KAN08 IAmb IAmb 13 04 15.3
comp=Z,103nm,1.3s
OK038 West end E0370 27.04 110 P **P** **13 04 10.5 +0.5**
OK038 IAMs_20 IAMs_20 13 15 11.1
comp=Z,9µm,18.0s
SCIA State Center 27.12 95 IAmb IAmb 13 04 46.7
comp=Z,96nm,1.2s
SMWD Samnorwood 27.12 114 IAmb IAmb 13 04 18.6
comp=Z,153nm,1.8s
CLNB Carlsbad 27.24 123 P **P** **13 04 12.6 +0.7**
KAN17 Caldwell West 27.25 108 P **P** **13 04 12.1 +0.3**
KAN17 IAmb IAmb 13 04 49.5
comp=Z,82nm,1.4s
KAN13 South Haven SW 27.44 108 P **P** **13 04 14.3 +0.7**
KAN13 IAmb IAmb 13 04 23.8
comp=Z,61nm,1.1s
CROK Carrier 27.48 109 IAMs_20 IAMs_20 13 15 22.4
comp=Z,8µm,19.0s
SRIG Santa Rosalia 27.58 143 P **P** **13 04 17.1 +2.3**
GTOO Geraldton 27.58 76 P **P** **13 04 15.0 +0.3**
COWI Conover 27.64 84 IAmb IAmb 13 04 52.0
comp=Z,96nm,1.1s
N38A Joes South For 27.72 97 IAmb IAmb 13 04 37.9
comp=Z,76nm,1.0s
N38A IAMs_20 IAMs_20 13 15 15.7
comp=Z,12µm,20.0s
I40A Norwalk 27.73 89 P **P** **13 04 16.7 +0.6**
I40A IAmb IAmb 13 04 42.7
comp=Z,78nm,1.1s
I40A IAMs_20 IAMs_20 13 14 57.0
comp=Z,8µm,19.0s
DKNS Dickens 27.78 117 IAmb IAmb 13 04 19.2
comp=Z,121nm,1.9s
RES Resolute Bay 27.83 19 P **P** **13 04 15.7 -0.9**
RES IAmb IAmb 13 04 35.6
comp=Z,121nm,1.4s
RES IAMs_20 IAMs_20 13 15 05.0
comp=Z,13µm,18.0s
RES Resolute Bay 27.83 19 LR LR 13 15 47.4
comp=Z,17µm,19.6s,baz=240,slow=38
RES Resolute Bay 27.83 19 P **P** **13 04 16.9 +0.3**
RES Resolute Bay 27.83 19 P **P** **13 04 15.7 -0.9**
RES pmax pmax
comp=Z,121nm,1.4s
RES MLR MLR
comp=Z,13µm,18.0s
VHRN Van Horn 27.85 127 IAmb IAmb 13 04 29.4
comp=Z,74nm,1.3s
PECS Pecos 27.95 125 P **P** **13 04 19.3 +1.0**
ODSA Odessa 28.06 122 IAmb IAmb 13 04 28.0
comp=Z,118nm,1.5s
OK048 Pawnee Station 28.16 108 IAmb IAmb 13 04 25.6
comp=Z,56nm,1.0s
OK048 IAMs_20 IAMs_20 13 15 53.3
comp=Z,12µm,21.0s
OK051 E0350 and S346 28.16 108 IAmb IAmb 13 04 25.6
comp=Z,65nm,1.1s
OK051 IAMs_20 IAMs_20 13 16 16.4
comp=Z,15µm,20.0s
P38A Dawn 28.21 99 IAmb IAmb 13 04 43.7
comp=Z,61nm,1.1s
SN07 Snyder 07 28.23 118 P **P** **13 04 21.8 +1.1**
WMOK Wichita Mounta 28.23 113 P **P** **13 04 21.4 +0.8**
WMOK IAmb IAmb 13 04 32.2
comp=Z,62nm,1.1s
WMOK Wichita Mounta 28.23 113 IAMs_20 IAMs_20 13 15 55.7
comp=Z,13µm,20.0s
WMOK Wichita Mounta 28.23 113 P **P** **13 04 21.4 +0.8**
WMOK pmax pmax
comp=Z,62nm,1.1s
WMOK MLR MLR
comp=Z,13µm,20.0s
L40A Anamosa 28.29 93 P **P** **13 04 21.1 0.0**
L40A IAmb IAmb 13 04 56.4
comp=Z,122nm,1.4s
L40A IAMs_20 IAMs_20 13 15 40.2
comp=Z,11µm,19.0s
SN05 Snyder 5 28.39 118 P **P** **13 04 22.6 +0.4**
SN05 IAmb IAmb 13 04 29.7
comp=Z,118nm,1.5s
PNPO Pukaskwa Natio 28.41 77 P **P** **13 04 21.4 -0.7**
JFWS Jewell Farm 28.46 91 IAMs_20 IAMs_20 13 15 23.4
comp=Z,8µm,20.0s
JFWS Jewell Farm 28.46 91 IAmb IAmb 13 04 44.8
comp=Z,27nm,0.8s
QUOK Quay 28.46 108 IAmb IAmb 13 04 28.5
comp=Z,66nm,1.2s
QUOK IAMs_20 IAMs_20 13 16 34.4
comp=Z,12µm,20.0s
APMT Aspermont 28.48 117 IAmb IAmb 13 04 33.0
comp=Z,94nm,1.5s
OK052 Battle Ridge R 28.52 109 IAMs_20 IAMs_20 13 16 05.1
comp=Z,9µm,20.0s
OKCSW OKLAHOMA CITY 28.55 110 IAMs_20 IAMs_20 13 16 09.9
comp=Z,14µm,19.0s
KIWB Kanaga Island 28.57 290 IAmb IAmb 13 04 30.3
comp=Z,97nm,1.1s
FNO Franklin 28.67 111 P **P** **13 04 25.9 +1.4**
FNO IAmb IAmb 13 04 32.4
comp=Z,66nm,1.3s
I42A Draeger Farm, 28.81 88 P **P** **13 04 26.0 +0.3**
I42A IAmb IAmb 13 04 42.7
comp=Z,31nm,0.9s
I42A IAMs_20 IAMs_20 13 16 28.4
comp=Z,14µm,18.0s
DEOK Depew 28.81 109 IAmb IAmb 13 04 38.4
comp=Z,67nm,1.0s
ALPN Alpine 28.86 126 IAmb IAmb 13 04 34.8
comp=Z,71nm,1.7s
SGCY Sterling City 28.99 120 IAmb IAmb 13 04 35.0
comp=Z,100nm,1.7s
WTFS Witchita Falls 29.11 114 P **P** **13 04 27.3 -1.1**
WTFS IAmb IAmb 13 04 58.3
comp=Z,59nm,1.2s
TUL3 Leonard 29.18 108 P **P** **13 04 29.3 +0.2**
TUL3 IAmb IAmb 13 05 03.0
comp=Z,39nm,1.0s
TUL3 IAMs_20 IAMs_20 13 16 57.6
comp=Z,13µm,18.0s
ILON Igloolik, Nuna 29.20 33 IAmb IAmb 13 05 12.9
comp=Z,51nm,1.4s
ILON IAMs_20 IAMs_20 13 15 43.4
comp=Z,10µm,21.0s
P40A Paris 29.20 98 P **P** **13 04 28.8 -0.3**
P40A IAmb IAmb 13 04 59.3
comp=Z,61nm,1.1s
H43A Windswept, Lux 29.25 86 P **P** **13 04 27.9 -1.6**
H43A IAmb IAmb 13 04 46.2
comp=Z,27nm,0.8s
N41A Harden Midland 29.26 95 IAmb IAmb 13 04 59.2
comp=Z,57nm,1.0s
N41A IAMs_20 IAMs_20 13 16 10.3
comp=Z,14µm,18.0s
ABTX Abilene, Hawle 29.27 117 IAmb IAmb 13 04 34.5
comp=Z,154nm,1.9s
L42A Oliver, Polo 29.30 92 IAmb IAmb 13 04 39.9
comp=Z,78nm,1.2s
L42A IAMs_20 IAMs_20 13 16 22.8
comp=Z,10µm,19.0s
RLO Rose Lookout 29.48 107 IAmb IAmb 13 05 20.4
comp=Z,94nm,1.7s
U38A Gravette 29.68 105 IAmb IAmb 13 05 04.1
comp=Z,106nm,1.8s
TX31 Lajitas Ar. Si 29.69 127 P **P** **13 04 35.0 +1.3**
TX31 IAmb IAmb 13 04 42.3
comp=Z,101nm,1.5s
TXAR Lajitas Array 29.69 127 P **P** **13 04 34.9 +1.2**
TXAR Lajitas Array 29.69 127 P **P** **13 04 35.1 +1.4**
comp=Z,24nm,1.0s,baz=328,slow=8.9,SNR=125
TXAR PcP **PcP** **13 07 39.0 +1.3**
comp=Z,0.7nm,0.8s,baz=328,slow=1.5,SNR=3.7
TXAR LR LR 13 17 03.7
comp=Z,5µm,20.1s,baz=320,slow=38
comp=Z,24nm,1.0s
OZNA Ozona 29.75 121 P **P** **13 04 34.9 +0.7**
OZNA IAmb IAmb 13 04 41.9
comp=Z,93nm,1.6s
K43A Burlington 29.77 90 IAmb IAmb 13 05 21.8
comp=Z,31nm,0.9s
K43A IAMs_20 IAMs_20 13 15 32.1
comp=Z,7µm,20.0s
R40A Maddies Statio 29.81 100 P **P** **13 04 34.3 -0.3**
FW03 Perrin-Whitt E 29.86 115 IAMs_20 IAMs_20 13 16 58.2
comp=Z,12µm,18.0s
PLPT Palo Pinto 29.89 115 IAmb IAmb 13 05 41.7
comp=Z,98nm,1.7s
SAND Sanderson 29.99 124 IAmb IAmb 13 04 44.6
comp=Z,65nm,1.4s
HHAR Hobbs 30.06 105 P **P** **13 04 36.7 -0.1**
Z35A Perchaven, San 30.12 113 IAmb IAmb 13 04 49.2
comp=Z,83nm,1.1s
Z35A IAMs_20 IAMs_20 13 17 13.9
comp=Z,10µm,18.0s
FW06 Azle 30.20 114 P **P** **13 04 38.4 +0.2**
FW06 IAmb IAmb 13 04 58.7
comp=Z,45nm,1.1s
FW06 IAMs_20 IAMs_20 13 17 09.2
comp=Z,9µm,20.0s
FW07 Weatherford 30.27 115 IAMs_20 IAMs_20 13 17 11.0
comp=Z,11µm,18.0s
L44A Lake County Fo 30.31 90 IAMs_20 IAMs_20 13 15 50.5
comp=Z,9µm,18.0s
HDIL Hopedale 30.33 94 P **P** **13 04 39.6 +0.5**
HDIL IAmb IAmb 13 04 56.5
comp=Z,89nm,1.4s
HDIL IAMs_20 IAMs_20 13 17 45.4
comp=Z,12µm,18.0s
E46A Sault Ste Mari 30.54 81 IAmb IAmb 13 05 47.7
comp=Z,50nm,1.3s
E46A IAMs_20 IAMs_20 13 17 07.6
comp=Z,11µm,22.0s
HQIL Hanson Quary C 30.55 91 IAMs_20 IAMs_20 13 16 37.9
comp=Z,7µm,19.0s
CCM Cathedral Cave 30.59 100 P **P** **13 04 40.9 -0.6**
CCM Cathedral Cave 30.59 100 P **P** **13 04 40.9 -0.6**
CCM pmax pmax
comp=Z,27nm,1.1s
CCM MLR MLR
comp=Z,18µm,20.0s
BRDY Brady 30.64 118 P **P** **13 04 42.2 +0.2**
M44A Midewin, Midew 30.65 92 P **P** **13 04 41.6 -0.4**
M44A IAmb IAmb 13 05 29.3
comp=Z,94nm,1.3s
P43A Skaggs, Pawnee 30.71 96 IAmb IAmb 13 04 52.2
comp=Z,45nm,1.0s
P43A IAMs_20 IAMs_20 13 16 57.7
comp=Z,12µm,22.0s
HPIG 30.72 132 IAmb IAmb 13 04 51.5
comp=Z,46nm,1.2s
JCT Junction City 30.82 120 P **P** **13 04 44.3 +0.7**
JCT IAmb IAmb 13 04 51.0
comp=Z,120nm,1.7s
JCT IAMs_20 IAMs_20 13 17 30.0
comp=Z,13µm,20.0s
JCT Junction City 30.82 120 P **P** **13 04 44.3 +0.7**
JCT pmax pmax
comp=Z,120nm,1.7s
JCT MLR MLR
comp=Z,13µm,20.0s
AMKA Amchitka 30.82 290 P **P** **13 04 43.3 0.0**
FW14 Alvarado 30.83 114 IAMs_20 IAMs_20 13 17 34.8
comp=Z,7µm,20.0s
WHTX Lake Whitney, 30.98 115 P **P** **13 04 45.4 +0.4**
WHTX IAmb IAmb 13 04 52.5
WHTX IAMs_20 IAMs_20 13 17 35.9
comp=Z,13µm,20.0s
FVM French Village 31.14 99 P **P** **13 04 46.1 -0.2**
FVM IAmb IAmb 13 05 36.3
comp=Z,31nm,1.1s
FVM French Village 31.14 99 P **P** **13 04 46.2 -0.2**
FVM pmax pmax
comp=Z,31nm,1.1s
FVM MLR MLR
comp=Z,17µm,21.0s
DRIO Del Rio 31.20 122 P **P** **13 04 47.4 +0.5**
DRIO IAmb IAmb 13 04 51.1
comp=Z,29nm,1.1s
LPIG La Paz 31.22 142 LR LR 13 18 21.8
comp=Z,2µm,18.2s,baz=332,slow=38
L46A Eue Claire 31.42 89 IAMs_20 IAMs_20 13 17 01.7
comp=Z,6µm,20.0s
FCAR Ozark Folk Cen 31.42 104 P **P** **13 04 48.9 +0.1**
FCAR IAmb IAmb 13 04 58.3
comp=Z,37nm,1.0s
MIAR Mount Ida 31.44 107 IAmb IAmb 13 05 07.0
comp=Z,57nm,1.4s
Q44A Meyer Farm, Va 31.46 96 P **P** **13 04 48.1 -1.1**
Q44A IAmb IAmb 13 05 58.2
comp=Z,45nm,1.1s
Z38A Mt. Pleasant 31.50 111 P **P** **13 04 49.5 0.0**
Z38A IAMs_20 IAMs_20 13 18 07.0
comp=Z,8µm,19.0s
J47A Sunmer 31.71 86 P **P** **13 04 51.3 0.0**
J47A IAmb IAmb 13 04 58.2
comp=Z,50nm,1.0s
WHAR Wooly Hollow 31.72 105 IAmb IAmb 13 04 59.9
comp=Z,94nm,1.8s
SLBS Sierra La Lagu 31.73 142 P **P** **13 04 53.2 +1.5**
SFIN Lafayette 31.81 92 IAmb IAmb 13 05 02.5
comp=Z,62nm,1.2s
SFIN IAMs_20 IAMs_20 13 17 50.5
comp=Z,8µm,21.0s
HNDO Hondo 31.84 121 IAmb IAmb 13 04 59.8
comp=Z,71nm,1.8s
LCAR Lake Charles 31.90 103 P **P** **13 04 52.5 -0.5**
LCAR IAmb IAmb 13 05 22.1
comp=Z,86nm,1.8s
237A Washetta, Mont 31.92 113 IAMs_20 IAMs_20 13 18 21.6
comp=Z,9µm,19.0s
CGM3 Cape Girardeau 32.04 99 IAMs_20 IAMs_20 13 17 50.3
comp=Z,12µm,21.0s
S44A Carbondale 32.05 98 IAmb IAmb 13 05 59.5
comp=Z,57nm,1.5s
OLIL Olney 32.14 96 IAmb IAmb 13 05 04.8
comp=Z,60nm,1.1s
P46A Rosedale 32.18 94 IAmb IAmb 13 05 16.5
comp=Z,23nm,0.9s
P46A IAMs_20 IAMs_20 13 18 31.3
comp=Z,11µm,18.0s
WLAR White Oak Lake 32.31 108 P **P** **13 04 56.9 +0.3**
WLAR IAmb IAmb 13 05 01.9
comp=Z,44nm,1.0s
N47A Urbana 32.41 91 P **P** **13 04 57.1 -0.4**
N47A IAmb IAmb 13 05 24.2
comp=Z,27nm,1.1s
N47A IAMs_20 IAMs_20 13 17 43.2
comp=Z,8µm,18.0s
833A Chaparral WMA, 32.72 122 IAMs_20 IAMs_20 13 18 48.8
comp=Z,5µm,18.0s
NATX Nacogdoches 32.76 112 IAMs_20 IAMs_20 13 18 56.8
comp=Z,6µm,20.0s
BLO Bloomington 32.87 94 IAmb IAmb 13 06 05.0

comp=Z,31nm,0.9s
BLO IAMs_20 IAMs_20 13 18 22.6

comp=Z,11µm,20.0s
USIN University of 32.87 97 IAMs_20 IAMs_20 13 18 15.0
comp=Z,11µm,20.0s
O48B Farmland 33.10 91 IAmb IAmb 13 05 30.1
comp=Z,46nm,1.0s
O48B IAMs_20 IAMs_20 13 17 35.5
comp=Z,7µm,18.0s
MET Memphis--Engin 33.27 103 IAMs_20 IAMs_20 13 18 39.4
comp=Z,10µm,22.0s
N49A Columbus Grove 33.34 89 IAmb IAmb 13 05 32.1
comp=Z,32nm,1.3s
N49A IAMs_20 IAMs_20 13 18 22.0
comp=Z,6µm,21.0s
P48A Milroy 33.39 93 IAMs_20 IAMs_20 13 18 49.6
comp=Z,10µm,21.0s
HKT Hockley 33.43 116 P **P** **13 05 07.0 +0.6**
HKT Hockley 33.43 116*c i* P **P** **13 05 08.3 +1.9**
HKT pmax pmax
comp=Z,60nm,1.6s
WCI Wyandotte Cave 33.57 95 P **P** **13 05 07.2 -0.5**
WCI Wyandotte Cave 33.57 95 IAMs_20 IAMs_20 13 18 53.7
comp=Z,8µm,18.0s
WCI Wyandotte Cave 33.57 95 P **P** **13 05 07.2 -0.5**
WCI pmax pmax
comp=Z,16nm,0.9s
WCI MLR MLR
comp=Z,8µm,18.0s
O49A Covington 33.66 91 IAMs_20 IAMs_20 13 18 05.5
comp=Z,6µm,21.0s
T47A Sharon Grove 33.83 98 IAMs_20 IAMs_20 13 19 42.3
comp=Z,9µm,18.0s
WVT Waverly 33.92 99 P **P** **13 05 09.9 -0.8**
WVT Waverly 33.92 99 P **P** **13 05 09.9 -0.8**
WVT pmax pmax
comp=Z,15nm,1.0s
WVT MLR MLR
comp=Z,13µm,21.0s
VLDQ Val d'Or 33.99 74 P **P** **13 05 08.6 -2.6**
VLDQ IAmb IAmb 13 05 40.0
comp=Z,32nm,1.2s
VLDQ IAMs_20 IAMs_20 13 17 11.0
comp=Z,7µm,18.0s
BUKO Buck Lake 34.01 79 IAmb IAmb 13 05 17.7
comp=Z,51nm,1.0s
BUKO IAMs_20 IAMs_20 13 18 43.2
comp=Z,9µm,19.0s
KVTX Kingsville 34.15 121 IAMs_20 IAMs_20 13 20 52.3
comp=Z,8µm,18.0s
BILL Bilibino 34.23 323*c i* P **P** **13 05 13.8 +0.8**
BILL pmax pmax
comp=Z,86nm,2.0s
R49A Shelbyville 34.24 94 IAmb IAmb 13 05 48.5
comp=Z,79nm,1.8s
FRB Frobisher Bay 34.27 44 LR LR 13 18 19.0
comp=Z,3µm,19.5s,baz=280,slow=35
Y45A Yeager Farm, C 34.35 104 IAmb IAmb 13 05 44.7
comp=Z,87nm,1.4s
441A DeRidder 34.36 112 IAMs_20 IAMs_20 13 20 25.9
comp=Z,5µm,18.0s
ACSO Alum Creek Sta 34.49 89 IAMs_20 IAMs_20 13 19 07.9
comp=Z,6µm,20.0s
SADO Sadowa 34.50 80 IAmb IAmb 13 05 21.5
comp=Z,42nm,1.0s
SADO Sadowa 34.50 80 LR LR 13 19 08.4
comp=Z,6µm,18.2s,baz=314,slow=36
PLAL Pickwick Lake 34.51 101 IAmb IAmb 13 05 32.2
comp=Z,26nm,1.0s
R50A Paris 34.78 93 IAmb IAmb 13 05 19.4
comp=Z,39nm,1.0s
R50A IAMs_20 IAMs_20 13 19 31.1
comp=Z,8µm,20.0s
P51A Williamsport 34.87 91 IAmb IAmb 13 05 24.1
comp=Z,24nm,0.8s
P51A IAMs_20 IAMs_20 13 19 09.2
comp=Z,7µm,19.0s
CLTN Cedars of Leba 34.88 98 IAMs_20 IAMs_20 13 19 50.1
comp=Z,9µm,22.0s
VBMS Vicksburg 34.89 107 IAMs_20 IAMs_20 13 20 04.6
comp=Z,5µm,18.0s
Q51A Peebles 34.95 91 IAmb IAmb 13 05 21.8
comp=Z,34nm,1.0s
Q51A IAMs_20 IAMs_20 13 18 44.5
comp=Z,5µm,20.0s
SSFO Shawnee State 35.24 92 P **P** **13 05 22.1 0.0**
O52A Adamsville 35.28 89 IAMs_20 IAMs_20 13 19 31.1
comp=Z,6µm,19.0s
ERPA Erie 35.33 85 IAMs_20 IAMs_20 13 19 57.7
comp=Z,10µm,20.0s
P52A Corning 35.37 90 IAMs_20 IAMs_20 13 18 54.9
comp=Z,6µm,21.0s
146A Union 35.49 105 IAMs_20 IAMs_20 13 21 12.1
comp=Z,7µm,20.0s
ALLY Alegheny Colle 35.49 85 IAmb IAmb 13 05 49.6
comp=Z,32nm,1.1s
X48A Hartselle 35.49 101 P **P** **13 05 23.7 -0.6**
N53A Lisbon 35.52 87 IAmb IAmb 13 05 51.5
comp=Z,25nm,0.8s
KUQ Kuujjuuaa 35.55 54 IAmb IAmb 13 05 30.7
comp=Z,42nm,1.1s
DELO Deloro Mine 35.56 79 IAmb IAmb 13 05 30.9
comp=Z,25nm,0.9s
DELO IAMs_20 IAMs_20 13 19 39.4
comp=Z,8µm,19.0s
S51A Beattyville 35.63 94 IAMs_20 IAMs_20 13 19 58.6
comp=Z,8µm,19.0s
Q52A Bidwell 35.67 91 IAmb IAmb 13 05 27.9
comp=Z,42nm,1.4s
Q52A IAMs_20 IAMs_20 13 19 42.4
comp=Z,7µm,19.0s
Z47A Carrollton 35.70 103 IAmb IAmb 13 06 39.9
comp=Z,55nm,1.6s
ZAIG Zacatecas 35.72 132 IAmb IAmb 13 05 35.8
comp=Z,70nm,1.1s
ZAIG IAMs_20 IAMs_20 13 21 36.1
comp=Z,10µm,19.0s
MEDO Medina 35.74 82 IAMs_20 IAMs_20 13 19 39.2
comp=Z,6µm,21.0s
P53A Whipple 35.92 89 IAMs_20 IAMs_20 13 19 51.8
comp=Z,6µm,18.0s
WVNY West Valley, N 36.04 83 P **P** **13 05 28.5 -0.5**
WVNY IAmb IAmb 13 05 34.8
comp=Z,39nm,0.8s
J55A Hilton 36.08 81 IAmb IAmb 13 05 35.1
comp=Z,35nm,0.8s
J55A IAMs_20 IAMs_20 13 19 24.3
comp=Z,9µm,21.0s
346A Big Creek Wild 36.11 107 IAMs_20 IAMs_20 13 21 03.9
comp=Z,7µm,19.0s
O54A Avella 36.16 88 IAMs_20 IAMs_20 13 18 49.9
comp=Z,8µm,18.0s
PECO Prince Edward 36.25 80 IAmb IAmb 13 05 55.1
comp=Z,83nm,1.7s
PECO IAMs_20 IAMs_20 13 20 01.5
comp=Z,7µm,18.0s
Y49A Blount Mountai 36.28 101 IAmb IAmb 13 06 52.0
comp=Z,87nm,2.0s
MMNY Mt. Morris Dam 36.31 82 IAmb IAmb 13 05 55.2
comp=Z,41nm,1.2s
FPAL Fort Paine 36.33 99 IAMs_20 IAMs_20 13 20 42.7
comp=Z,7µm,20.0s
TZTN Tazewell 36.33 95 P **P** **13 05 31.6 +0.1**
TZTN IAmb IAmb 13 05 56.8
comp=Z,92nm,1.6s
KIP Kipapa 36.53 226*ce* P **P** **13 05 37.3 +4.1**
KIP pmax pmax
comp=Z,65nm,1.3s
Q54A Coxs Mills 36.56 90 IAmb IAmb 13 05 38.9
comp=Z,58nm,1.5s
Q54A IAMs_20 IAMs_20 13 20 13.9
comp=Z,5µm,20.0s
TRQ Mont Tremblant 36.61 75 P **P** **13 05 33.8 -0.1**
TRQ IAmb IAmb 13 05 40.2
comp=Z,26nm,0.8s
TRQ IAMs_20 IAMs_20 13 19 21.8
comp=Z,6µm,18.0s
TKL Tuckaleechee C 36.75 96 LR LR 13 20 56.2
comp=Z,12µm,18.0s,baz=314,slow=37
WBO Williamsburg 36.77 77 IAMs_20 IAMs_20 13 19 59.1
comp=Z,9µm,18.0s
X51A Calhoun 36.78 99 IAmb IAmb 13 05 52.2
comp=Z,45nm,1.1s
MCWV Mont Chateau 36.79 88 IAMs_20 IAMs_20 13 20 27.8
comp=Z,7µm,18.0s
L56A Greenwood 36.84 83 IAMs_20 IAMs_20 13 19 27.6
comp=Z,7µm,18.0s
POHA Pohakuloa 36.92 221 IAMs_20 IAMs_20 13 16 24.1
comp=Z,4µm,19.0s
S54A Dingess, Beckl 36.97 92 IAmb IAmb 13 05 39.6
comp=Z,85nm,1.6s
S54A IAMs_20 IAMs_20 13 20 25.8
comp=Z,6µm,18.0s
W52A Murphy 37.02 97 P **P** **13 05 37.2 -0.1**
HUH Hualalai 37.11 222 IAMs_20 IAMs_20 13 16 27.6
comp=Z,5µm,21.0s
J57A Williamstown 37.14 80 IAMs_20 IAMs_20 13 20 24.1
comp=Z,7µm,19.0s
K57A Scipio Center 37.17 81 P **P** **13 05 37.8 -0.8**
K57A IAMs_20 IAMs_20 13 19 59.2
comp=Z,7µm,19.0s
MWH Mokuaweoweo 37.19 221 IAMs_20 IAMs_20 13 17 02.7
comp=Z,5µm,19.0s
AIN Ainahou 37.23 221 IAMs_20 IAMs_20 13 15 58.8
comp=Z,7µm,20.0s
HLP Hilina Pali 37.24 221 IAMs_20 IAMs_20 13 15 57.0
comp=Z,7µm,18.0s
KULLO Kullorsuaq 37.24 25 *i* P **P** **13 05 40.2 +1.4**
KULLO IAmb IAmb 13 05 45.7
comp=Z,22nm,1.1s
V53A Saluda 37.35 96 IAmb IAmb 13 06 05.6
comp=Z,32nm,0.9s
LONY Lake Ozonia 37.39 77 IAMs_20 IAMs_20 13 20 18.4
comp=Z,7µm,19.0s
KHU Kahuku 37.41 221 IAMs_20 IAMs_20 13 16 17.5
comp=Z,5µm,20.0s
R55A Marlinton 37.43 90 IAmb IAmb 13 05 44.2
comp=Z,106nm,1.7s
R55A IAMs_20 IAMs_20 13 20 50.8
comp=Z,5µm,19.0s
U54A Nelsons Funny 37.43 94 IAmb IAmb 13 06 14.0
comp=Z,137nm,1.8s
U54A IAMs_20 IAMs_20 13 21 05.4
comp=Z,6µm,21.0s
SCHQ Schefferville 37.44 59 P **P** **13 05 40.2 -0.5**
comp=Z,8.6nm,0.8s,baz=297,slow=11,SNR=7.5
SCHQ LR LR 13 21 35.1
comp=Z,5µm,20.4s,baz=294,slow=37
comp=Z,8.6nm,0.8s
SSPA Standing Stone 37.47 85 P **P** **13 05 39.7 -1.4**
MNTQ Montreal, Queb 37.53 76 IAMs_20 IAMs_20 13 19 53.1
comp=Z,6µm,21.0s
M57A Sunshine Farm, 37.55 84 IAmb IAmb 13 05 57.5
comp=Z,29nm,0.8s
Q56A Snyder Ridge, 37.57 88 IAMs_20 IAMs_20 13 22 07.3
comp=Z,5µm,21.0s
UPNV Upernavik 37.70 28 *i* P **P** **13 05 42.6 -0.1**
UPNV IAmb IAmb 13 05 45.4
comp=Z,18nm,0.9s
BG3 Lake Jocassee 37.70 96 P **P** **13 05 43.2 0.0**
BG3 IAmb IAmb 13 06 00.3
comp=Z,50nm,1.3s
BRAL Brewton 37.73 105 IAMs_20 IAMs_20 13 21 41.4
comp=Z,9µm,19.0s
Y52A Lilburn 37.74 99 P **P** **13 05 43.5 0.0**
LDAQ Lac Daran 37.79 71 IAmb IAmb 13 06 04.4
comp=Z,78nm,1.4s
LDAQ IAMs_20 IAMs_20 13 20 30.1
comp=Z,7µm,20.0s
BINY Binghamton 37.79 82 IAMs_20 IAMs_20 13 20 27.4
comp=Z,9µm,21.0s
BLA Blacksburg 37.89 92 IAmb IAmb 13 05 52.7
comp=Z,40nm,0.9s
BLA IAMs_20 IAMs_20 13 20 39.1
comp=Z,5µm,20.0s
P57A Homestead Farm 38.05 87 IAmb IAmb 13 05 47.1
comp=Z,42nm,1.2s
N58A Sunbury 38.09 84 P **P** **13 05 45.8 -0.6**
N58A IAmb IAmb 13 05 51.7
comp=Z,36nm,0.9s
152A Waverly Hall 38.13 101 P **P** **13 05 46.5 -0.3**
152A IAmb IAmb 13 06 03.3
comp=Z,32nm,0.9s
V55A Taylorsville 38.23 94 IAmb IAmb 13 05 56.7
comp=Z,50nm,1.4s
V55A IAMs_20 IAMs_20 13 21 30.5
comp=Z,8µm,18.0s
KSPA Keystone Colle 38.28 82 P **P** **13 05 47.6 -0.4**
KSPA IAMs_20 IAMs_20 13 20 52.4
comp=Z,8µm,22.0s
L59A Walton 38.38 81 IAMs_20 IAMs_20 13 20 43.1
comp=Z,5µm,19.0s
U56A King 38.45 93 IAMs_20 IAMs_20 13 21 49.0
comp=Z,9µm,22.0s
S57A Dark Hollow, R 38.48 90 IAmb IAmb 13 05 56.0
comp=Z,67nm,1.7s
S57A IAMs_20 IAMs_20 13 21 24.5
comp=Z,6µm,18.0s
JRQG Juriquilla Cam 38.49 131 IAmb IAmb 13 05 59.0
comp=Z,86nm,1.4s
NEEM North Greenlan 38.52 20 IAmb IAmb 13 05 56.3
comp=Z,49nm,0.9s
NEEM North Greenlan 38.52 20 *i* P **P** **13 05 51.6 +1.7**
PAULI Pauline 38.52 96 P **P** **13 05 48.9 -1.1**
LMQ La Malbaie 38.53 71 IAMs_20 IAMs_20 13 20 54.8
comp=Z,6µm,18.0s
KMSC Kings Mountain 38.61 95 P **P** **13 05 50.5 -0.3**
HODGE Hodges 38.62 97 P **P** **13 05 50.6 -0.3**
VT1 Waterbury 38.66 77 IAMs_20 IAMs_20 13 19 54.1
comp=Z,5µm,18.0s
T57A Hurt 38.75 91 IAMs_20 IAMs_20 13 21 30.9
comp=Z,6µm,20.0s
NUUG Nuugaatsiaq 38.79 30 *i* P **P** **13 05 51.6 -0.2**
NUUG IAmb IAmb 13 05 53.9
comp=Z,16nm,1.0s
MVL Millersville 38.79 85 P **P** **13 05 51.6 -0.7**
LUPA Lehigh Univers 39.06 83 IAMs_20 IAMs_20 13 20 50.1
comp=Z,6µm,18.0s
CBN Corbin Frederi 39.20 88 IAMs_20 IAMs_20 13 21 53.6
comp=Z,6µm,20.0s
LBNH Lisbon 39.22 76 IAmb IAmb 13 06 15.7
comp=Z,100nm,1.9s
LBNH IAMs_20 IAMs_20 13 20 41.3
comp=Z,8µm,21.0s
HNH Hanover 39.27 77 IAMs_20 IAMs_20 13 21 04.0
comp=Z,5µm,18.0s
J61A Chester 39.30 78 IAMs_20 IAMs_20 13 20 01.7
comp=Z,5µm,21.0s
UMMG Uummannaq 39.31 31 *i* P **P** **13 05 57.2 +1.0**
UMMG IAmb IAmb 13 06 01.6
comp=Z,35nm,1.2s
ICQ Pointe Anglais 39.40 67 P **P** **13 05 55.0 -2.2**
ICQ IAmb IAmb 13 06 07.4
comp=Z,77nm,1.3s
W57A Gilead 39.45 94 IAMs_20 IAMs_20 13 22 18.4
comp=Z,8µm,21.0s
E62A Clayton Lake 39.46 72 IAMs_20 IAMs_20 13 21 44.7
comp=Z,8µm,18.0s
H62A Milan 39.51 75 IAMs_20 IAMs_20 13 23 01.0
comp=Z,6µm,19.0s
D62A Allapoint, All 39.51 71 P **P** **13 05 56.3 -1.9**
G62A West of Eustis 39.56 74 P **P** **13 05 57.6 -1.1**
V58A Windy Hill, Pi 39.59 92 P **P** **13 05 56.9 -2.1**
V58A IAMs_20 IAMs_20 13 21 29.1
comp=Z,5µm,22.0s
KSCT Kent School, K 39.61 81 IAmb IAmb 13 06 05.4
comp=Z,76nm,0.9s
PAL Palisades 39.75 82 IAMs_20 IAMs_20 13 19 52.0
comp=Z,5µm,21.0s
I62A Tamworth 39.77 77 IAMs_20 IAMs_20 13 21 07.0
comp=Z,6µm,19.0s
K62A Royalston 39.87 79 IAMs_20 IAMs_20 13 20 19.8
comp=Z,5µm,19.0s
P61A Hammonton 39.96 84 IAMs_20 IAMs_20 13 21 58.9
comp=Z,6µm,22.0s
ILULI Ilulissat 40.01 33 *i* P **P** **13 06 02.2 +0.1**
ILULI IAmb IAmb 13 06 08.0
comp=Z,8.8nm,0.8s
N62A Caumsett State 40.06 82 IAMs_20 IAMs_20 13 20 00.4
comp=Z,4µm,19.0s
UNM Universidad Na 40.28 130 IAMs_20 IAMs_20 13 24 00.7
comp=Z,8µm,19.0s
PKME Peaks-Kenny Pk 40.28 74 P **P** **13 06 03.5 -1.2**
UCCT U. Connecticut 40.35 80 IAMs_20 IAMs_20 13 19 53.8
comp=Z,5µm,22.0s
HRV Adam Dziewonsk 40.37 78 IAMs_20 IAMs_20 13 20 33.1
comp=Z,5µm,22.0s
WVL Waterville 40.43 75 P **P** **13 06 04.5 -1.3**
F64A Sherman 40.54 72 IAmb IAmb 13 06 26.5
comp=Z,83nm,1.4s
WES Weston 40.58 78 IAMs_20 IAMs_20 13 20 39.7
comp=Z,5µm,20.0s
S61A Accomac 40.59 87 IAMs_20 IAMs_20 13 22 45.0
comp=Z,5µm,18.0s
M63A Gales Ferry 40.68 80 IAMs_20 IAMs_20 13 23 46.5
comp=Z,5µm,19.0s
BCX Boston College 40.70 78 IAMs_20 IAMs_20 13 22 08.9
comp=Z,5µm,19.0s
SFJD Kangerlussuaq 40.83 36 LR LR 13 23 36.7
comp=Z,10µm,18.1s,baz=296,slow=37
SEY Seymchan 40.93 317 P **P** **13 06 09.6 -0.1**
comp=Z,5.0nm,0.8s,baz=66,slow=18,SNR=11
SEY LR LR 13 23 37.5
comp=Z,6µm,18.2s,baz=54,slow=37
comp=Z,5.0nm,0.8s
SEY Seymchan 40.93 317*c i* P **P** **13 06 10.5 +0.8**
SEY pmax pmax
comp=Z,66nm,1.6s
L64A Middleborough 41.13 79 IAMs_20 IAMs_20 13 21 07.3
comp=Z,5µm,20.0s
V61A Roper 41.19 90 IAMs_20 IAMs_20 13 22 55.2
comp=Z,5µm,18.0s
Y60A Bolivia 41.30 94 IAMs_20 IAMs_20 13 23 36.6
comp=Z,6µm,20.0s
NUUK Nuuk 41.33 41 *i* P **P** **13 06 16.4 +3.4**
NUUK IAmb IAmb 13 06 20.8
comp=Z,41nm,1.3s
M65A Busby, Falmout 41.46 79 IAMs_20 IAMs_20 13 21 07.0
comp=Z,5µm,21.0s
656A Willston 41.76 103 IAMs_20 IAMs_20 13 23 53.8
comp=Z,8µm,20.0s
GGN Saint George 41.84 72 IAmb IAmb 13 06 37.4
comp=Z,70nm,1.4s
GGN IAMs_20 IAMs_20 13 21 11.2
comp=Z,5µm,18.0s
PET Petropavlovsk 41.86 301 P **P** **13 06 17.6 +0.1**
PET Petropavlovsk 41.86 301 *eP* **P** **13 06 18.5 +1.0**
PET *e* 13 07 56.5
PET *eS* **S** **13 12 39.1 +4.0**
PET pmax pmax
comp=Z,700nm,3.7s
PET pmax pmax
comp=Z,112nm,1.1s
PET pmax pmax
comp=Z,300nm,4.6s
PET pmax pmax
comp=Z,700nm,10.0s
PET MLR MLR
comp=Z,1µm,16.0s
PET MLR MLR
comp=Z,1µm,15.0s
TLIG Tlapa 42.09 131 P **P** **13 06 20.2 +0.4**
TLIG IAmb IAmb 13 06 30.2
comp=Z,76nm,1.3s
PEA0B Petropavlovsk- 42.34 302 P **P** **13 06 21.5 +0.1**
PEA0B Petropavlovsk- 42.34 302*c i* P **P** **13 06 21.8 +0.4**
PETK Petropavlovsk- 42.34 302 P **P** **13 06 21.1 -0.3**
PETK Petropavlovsk- 42.34 302 P **P** **13 06 21.8 +0.3**
comp=Z,26nm,0.9s,baz=74,slow=11,SNR=56
PETK LR LR 13 22 05.4
comp=Z,3µm,20.7s,baz=55,slow=34
comp=Z,26nm,0.9s
LMN Caledonia Moun 42.66 70 P **P** **13 06 22.4 -1.8**
LMN IAMs_20 IAMs_20 13 22 00.8
comp=Z,5µm,19.0s
SUMG Summit 42.87 26 P **P** **13 06 24.4 -1.5**
SUMG IAmb IAmb 13 06 41.1
comp=Z,67nm,1.3s
SUMG IAMs_20 IAMs_20 13 24 49.0
comp=Z,7µm,18.0s
SUMG Summit 42.87 26 P **P** **13 06 24.4 -1.5**
SUMG pmax pmax
comp=Z,67nm,1.3s
SUMG MLR MLR
comp=Z,7µm,18.0s
SUMG Summit 42.87 26 *i* P **P** **13 06 26.0 +0.1**
SUMG IAmb IAmb 13 06 34.8
comp=Z,23nm,1.0s
MA2 Magadan 42.95 313 P **P** **13 06 26.2 -0.1**
MA2 IAmb IAmb 13 06 31.6
comp=Z,87nm,1.3s
MA2 IAMs_20 IAMs_20 13 23 11.9
comp=Z,5µm,21.0s
MA2 Magadan 42.95 313 P **P** **13 06 27.4 +1.1**
comp=Z,27nm,1.0s,baz=61,slow=11,SNR=11
MA2 LR LR 13 23 23.3
comp=Z,5µm,21.6s,baz=54,slow=35
comp=Z,27nm,1.0s
MA2 Magadan 42.95 313*c i* P **P** **13 06 27.5 +1.2**
MA2 pmax pmax
comp=Z,86nm,1.4s
NOR Nord 43.09 11 *i* P **P** **13 06 28.5 +1.3**
NOR IAmb IAmb 13 06 35.9
comp=Z,16nm,1.3s
IVI Ivigtut 44.02 44 IAMs_20 IAMs_20 13 25 03.4
comp=Z,4µm,19.0s
IVI Ivigtut 44.02 44 *i* P **P** **13 06 38.0 +3.1**
IVI IAmb IAmb 13 06 44.0
comp=Z,12nm,0.7s
HAL Halifax 44.04 71 P **P** **13 06 32.7 -2.6**
HAL Halifax 44.04 71 P **P** **13 06 32.7 -2.6**
HAL pmax pmax
comp=Z,161nm,0.7s
CMIG Matias Romero 44.30 127 LR LR 13 28 04.1
comp=Z,2µm,18.2s,baz=310,slow=40
GBN Guysborough 44.85 69 P **P** **13 06 40.8 -0.9**
GBN IAmb IAmb 13 06 48.1
comp=Z,80nm,1.3s
DRLN Deer Lake 45.08 62 P **P** **13 06 42.9 -0.7**
DRLN IAmb IAmb 13 06 56.5
comp=Z,44nm,0.9s
NRS Narsarsuaq 45.23 43 IAMs_20 IAMs_20 13 24 26.3
comp=Z,4µm,18.0s
TEIG Tepich 45.26 117 P **P** **13 06 45.6 +0.4**
DAG Danmarks Havn 45.48 17 *i* P **P** **13 06 47.0 +0.6**
DAG IAmb IAmb 13 06 50.4
comp=Z,22nm,1.0s
TIXI Tiksi 45.56 334 IAMs_20 IAMs_20 13 28 45.9
comp=Z,4µm,18.0s
TIXI Tiksi 45.56 334 P **P** **13 06 48.3 +1.3**
comp=Z,2.7nm,0.3s,baz=52,slow=8.2,SNR=4.5
TIXI LR LR 13 28 57.2
comp=Z,3µm,18.5s,baz=69,slow=40
comp=Z,2.7nm,0.3s
TIXI Tiksi 45.56 334 *i* P **P** **13 06 49.1 +2.1**
TIXI pmax pmax
comp=Z,38nm,1.8s
ISOG Isortoq, Green 45.72 36 *i* P **P** **13 06 48.4 0.0**
ISOG IAmb IAmb 13 06 54.7
comp=Z,22nm,1.0s
ANGG Ammassalik, Gr 46.18 35 P **P** **13 06 51.5 -0.4**
ANGG IAmb IAmb 13 07 06.3
comp=Z,60nm,1.4s
ANGG IAMs_20 IAMs_20 13 26 21.9
comp=Z,6µm,19.0s
ANGG Ammassalik, Gr 46.18 35 *i* P **P** **13 06 53.4 +1.4**
ANGG IAmb IAmb 13 06 58.0
comp=Z,33nm,1.3s
CCIG Comitan 46.39 124 P **P** **13 06 55.0 +0.6**
CCIG IAmb IAmb 13 07 02.3
comp=Z,46nm,1.3s
DBG Daneborg 46.60 21 *i* P **P** **13 06 55.5 +0.3**
DBG IAmb IAmb 13 06 59.5
comp=Z,25nm,0.9s
SOEG Soedalen 46.99 30 *i* P **P** **13 06 58.0 -0.3**
SOEG IAmb IAmb 13 07 03.4
comp=Z,63nm,1.5s
CAMR Camarioca 47.09 108 P **P** **13 06 59.9 +0.3**
CAMR IAmb IAmb 13 07 01.9
comp=Z,143nm,0.9s
CAMR IAMs_20 IAMs_20 13 29 11.6
comp=Z,8µm,18.0s
KBS Kingsbay 48.32 9 IAMs_20 IAMs_20 13 28 16.5
comp=Z,6µm,18.0s
SCO Scoresbysund 48.45 25 *i* P **P** **13 07 12.6 +3.0**
SCO IAmb IAmb 13 07 15.4
comp=Z,4.6nm,1.0s
ESQI Esquipulas 49.30 122 P **P** **13 07 16.9 +0.1**
SPITS Spitsbergen Ar 49.41 8 LR LR 13 29 12.3
comp=Z,4µm,18.2s,baz=332,slow=37
MTO3 Montecristo 49.42 123 P **P** **13 07 17.9 0.0**
MTO3 IAmb IAmb 13 07 29.0
comp=Z,28nm,1.0s
YAK Yakutsk 50.59 323 P **P** **13 07 25.2 -0.7**
YAK IAmb IAmb 13 07 46.3
comp=Z,27nm,0.8s
YAK Yakutsk 50.59 323 IAMs_20 IAMs_20 13 28 47.7
comp=Z,5µm,20.0s
YAK Yakutsk 50.59 323 P **P** **13 07 25.2 -0.7**
comp=Z,13nm,0.4s,baz=60,slow=13,SNR=8.1
YAK LR LR 13 29 14.9
comp=Z,5µm,19.2s,baz=46,slow=37

comp=Z,13nm,0.4s
YAK Yakutsk 50.59 323 *e*P **P** **13 07 25.1 -0.9**
YAK *e**PP **pwP** **13 07 31.1 -0.2**
YAK *e* 13 08 42.4
YAK *e* 13 09 19.8
YAK *e*PPP PPP 13 10 15.9
YAK *e*S **S** **13 14 40.5 +0.6**
YAK *e* 13 17 10.8
YAK *e*SSS SSS 13 19 44.9
YAK pmax pmax
comp=Z,32nm,1.2s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK pmax pmax
comp=Z,681nm,11.1s
YAK pmax pmax
comp=N,404nm,9.4s
YAK pmax pmax
comp=E,498nm,9.1s
YAK smax smax
comp=E,1µm,10.1s
YAK smax smax
comp=N,268nm,6.6s
YAK MLR MLR
comp=Z,5µm,23.0s
YAK MLR MLR
comp=N,3µm,22.0s
YAK MLR MLR
comp=E,4µm,23.0s
BBSR BB Station 50.89 85 P **P** **13 07 27.5 -1.2**
BBSR BB Station 50.89 85 IAMs_20 IAMs_20 13 29 12.6
comp=Z,5µm,19.0s
TYV Tymovskoe 51.41 306 *e*P **P** **13 07 32.4 +0.1**
TYV *e*S **S** **13 14 51.1 -0.5**
TYV pmax pmax
comp=Z,29nm,1.4s
TYV pmax pmax
comp=Z,100nm,2.3s
TYV smax smax
comp=N,300nm,4.8s
TYV smax smax
comp=E,300nm,4.8s
JMIC Jan Mayen 51.43 21 LR LR 13 29 50.7
comp=E,3µm,18.7s,baz=318,slow=37
HERN Volcan Telica 52.26 121 IAMs_20 IAMs_20 13 34 10.2
comp=Z,2µm,19.0s
BORG Borgarnes 52.28 31 IAMs_20 IAMs_20 13 30 12.3
comp=Z,5µm,18.0s
BORG Borgarnes 52.28 31 LR LR 13 30 03.7
comp=Z,4µm,18.5s,baz=327,slow=36
CHIV Chivirico 52.42 106 P **P** **13 07 39.7 -0.5**
CHIV IAmb IAmb 13 07 42.3
comp=Z,83nm,1.0s
CNGN Cerro Negro 52.42 121 P **P** **13 07 39.4 -1.0**
NMDO Nuevo Mundo 52.85 104 P **P** **13 07 43.1 -0.3**
NMDO IAmb IAmb 13 07 50.6
comp=Z,68nm,1.1s
NMDO IAMs_20 IAMs_20 13 31 07.8
comp=Z,6µm,19.0s
BOAB BOACO BROADBAN 53.02 120 IAMs_20 IAMs_20 13 31 13.3
comp=Z,3µm,21.0s
MTDJ Mount Denham 53.08 108 P **P** **13 07 44.7 -0.6**
ACON Acoyapa 53.69 120 P **P** **13 07 49.7 +0.1**
ACON Acoyapa 53.69 120 P **P** **13 07 50.6 +1.0**
comp=Z,65nm,1.4s
YSS Yuzhno-Sakhali 53.74 302 P **P** **13 07 48.5 -1.1**
YSS IAmb IAmb 13 07 53.6
comp=Z,70nm,1.4s
YSS Yuzhno-Sakhali 53.74 302⇓ *e*P **P** **13 07 50.1 +0.5**
YSS *e*S **S** **13 15 22.1 -1.5**
YSS pmax pmax
comp=Z,30nm,1.4s
YSS pmax pmax
comp=Z,400nm,9.0s
XMAS Kiritimati 53.85 214 IAMs_20 IAMs_20 13 25 51.3
comp=Z,4µm,22.0s
YUK Yuzh-Kuril'sk 53.87 297⇓ *i*P **P** **13 07 50.1 -0.6**
ESPN Las Esperanzas 53.98 119 P **P** **13 07 51.3 -0.4**
BLUN Bluefields 54.42 119 P **P** **13 07 57.0 +2.0**
comp=Z,720nmcomp=Z,50nm,1.3s
GRTK Grand Turk 54.51 100 IAMs_20 IAMs_20 13 31 23.4
comp=Z,5µm,20.0s
GRNR Gornyy 54.58 309⇑ *i*P **P** **13 07 55.9 +0.1**
GRNR pmax pmax
comp=Z,20nm,1.0s
SOCE Pocosol 55.30 120 P **P** **13 08 00.9 -0.5**
SOCE IAmb IAmb 13 08 07.5
comp=Z,56nm,1.4s
JKA Kamikawa-asahi 55.63 299 IAmb IAmb 13 08 07.3
comp=Z,64nm,1.4s
ASAJ Asahikawa 55.63 299 P **P** **13 08 05.0 +1.6**
comp=Z,19nm,1.2s,baz=36,slow=8.1,SNR=7.2
ASAJ LR LR 13 29 56.5
comp=Z,909nm,21.5s,baz=50,slow=34
comp=Z,19nm,1.2s
SDDR Presa de Saban 56.31 102 P **P** **13 08 07.8 -0.8**
SDDR IAmb IAmb 13 08 10.1
comp=Z,32nm,1.0s
SDDR IAMs_20 IAMs_20 13 31 47.2
comp=Z,3µm,22.0s
NRIK Noril'sk 56.62 345 P **P** **13 08 09.5 -0.7**
NRIK IAmb IAmb 13 08 48.8
comp=Z,39nm,1.2s
NRIK Noril'sk 56.62 345 P **P** **13 08 09.8 -0.4**
comp=Z,15nm,1.0s,baz=26,slow=6.1,SNR=8.1
NRIK LR LR 13 35 03.2
comp=Z,2µm,18.2s,baz=48,slow=39
comp=Z,15nm,1.0s
ERM Erimo 56.69 297 P **P** **13 08 10.1 -0.9**
ERM Erimo 56.69 297 *i*P **P** **13 08 13.2 +2.2**
ERM pmax pmax
comp=Z,67nm,1.6s
ZEA Zeya 56.89 316 *e*P **P** **13 08 12.1 -0.2**
ZEA *e*S **S** **13 16 05.7 +0.1**
ZEA pmax pmax
comp=Z,200nm,4.2s
ZEA pmax pmax
comp=Z,20nm,1.3s
ZEA smax smax
comp=E,500nm,14.7s
BANI BANI 57.33 101 P **P** **13 08 15.6 -0.4**
H11N2 WAKE ISLAND Hy 57.63 261 T T 14 10 40.7
baz=41,slow=75,SNR=246
H11N3 WAKE ISLAND Hy 57.63 261 T T 14 10 40.7
baz=41,slow=75,SNR=878
H11N1 WAKE ISLAND Hy 57.65 261 T T 14 10 42.7
baz=41,slow=75,SNR=300
KLR Kul'dur 57.87 310 P **P** **13 08 19.1 -0.2**
comp=E,5.9nm,0.9s,baz=49,slow=8.0,SNR=14
KLR LR LR 13 32 33.1
comp=E,3µm,19.9s,baz=34,slow=35
comp=E,5.9nm,0.9s
KEV Kevo 58.34 9 IAMs_20 IAMs_20 13 34 55.9
comp=Z,3µm,19.0s
ARCES ARCESS Array B 58.40 10 P **P** **13 08 23.5 +0.8**
comp=Z,3.6nm,0.6s,baz=340,slow=7.7,SNR=9.9
ARCES LR LR 13 34 18.9
comp=Z,2µm,21.0s,baz=334,slow=37
comp=Z,3.6nm,0.6s
H11S1 WAKE ISLAND Hy 58.67 261 T T 14 12 13.3
baz=40,slow=74,SNR=47
H11S2 WAKE ISLAND Hy 58.68 261 T T 14 12 03.7
baz=40,slow=74,SNR=55
H11S3 WAKE ISLAND Hy 58.69 261 T T 14 12 19.9
baz=40,slow=74,SNR=39
BCIP Isla Barro Col 58.95 117 P **P** **13 08 26.6 -0.5**
BCIP Isla Barro Col 58.95 117 P **P** **13 08 26.6 -0.5**
BCIP pmax pmax
comp=Z,80nm,0.9s
BCIP MLR MLR
comp=Z,1µm,20.0s
HEH HeiHe 59.22 313 *e*P **P** **13 08 27.9 -0.7**
HEH pP **pP** **13 08 31.1 -0.1**
HEH S **S** **13 16 38.4 +2.3**
HEH pmax pmax
comp=Z,52nm,0.9s
HEH pmax pmax
comp=Z,550nm,3.9s
HEH LR LR
comp=Z,2µm,19.4s
HEH LR LR
comp=Z,2µm,18.0s
HEH LR LR
comp=Z,4µm,18.8s
GMAL Guarumal, Vera 59.32 119 P **P** **13 08 31.1 +1.4**
comp=Z,63nm,1.2s
PRSN Puerto Rico Se 59.45 99 IAMs_20 IAMs_20 13 34 38.1
comp=Z,2µm,20.0s
EMPR Esperanza - Ma 59.64 98 IAMs_20 IAMs_20 13 36 30.0
comp=Z,4µm,19.0s
UUPR Utuado, UPR, P 59.69 99 P **P** **13 08 31.9 -0.5**
CELP Cerrillos 59.91 99 P **P** **13 08 33.4 -0.5**
OBIP Obispado Ponce 59.92 99 P **P** **13 08 33.4 -0.4**
GCPR Guaynabo City 60.05 98 IAMs_20 IAMs_20 13 30 16.7
comp=Z,2µm,20.0s
SJG San Juan 60.15 98 P **P** **13 08 34.2 -1.2**
SJG San Juan 60.15 98 IAMs_20 IAMs_20 13 36 41.6
comp=Z,2µm,18.0s
SJG San Juan 60.15 98 LR LR 13 35 25.6
comp=Z,2µm,21.3s,baz=326,slow=37
SJG San Juan 60.15 98 P **P** **13 08 34.2 -1.2**
SJG pmax pmax
comp=Z,81nm,1.4s
SJG MLR MLR
comp=Z,2µm,18.0s
TAOE Nuku Hiva Isla 60.29 191 *e*LQ LQ 13 23 47.7
comp=Z,2µm,28.4s
TAOE *e*LR LR 13 26 26.6
comp=Z,5µm,25.4s
PDPR Patillas Dam, 60.30 98 IAMs_20 IAMs_20 13 32 45.5
comp=Z,2µm,22.0s
HUMP Col San Antoni 60.32 98 P **P** **13 08 36.3 -0.3**
HUMP IAMs_20 IAMs_20 13 35 25.9
comp=Z,3µm,19.0s
LVZ Lovozero 60.80 6 IAMs_20 IAMs_20 13 36 33.9
comp=Z,3µm,18.0s
LVZ Lovozero 60.80 6⇑ *i*P **P** **13 08 41.6 +2.3**
LVZ pmax pmax
comp=Z,49nm,1.5s
JMM Marumori 60.83 295 P **P** **13 08 40.5 +0.6**
APA Apatity 61.03 7 *e*P **P** **13 08 37.2 -3.6**
APA *e* 13 09 18.2
APA *e*S **S** **13 17 01.9 +3.0**
APA MLR MLR
comp=Z,2µm,14.3s
USA0B Ussuriysk Arra 61.21 306 P **P** **13 08 42.7 +0.3**
USA0B Ussuriysk Arra 61.21 306*c i*P **P** **13 08 41.6 -0.8**
USRK Ussuriysk Ar. 61.21 306 P **P** **13 08 42.2 -0.2**
USRK Ussuriysk Ar. 61.21 306 P **P** **13 08 41.3 -1.1**
comp=Z,21nm,1.1s,baz=48,slow=6.4,SNR=21
USRK LR LR 13 35 44.0
comp=Z,2µm,19.2s,baz=47,slow=37
comp=Z,21nm,1.1s
USRK Ussuriysk Ar. 61.21 306 P **P** **13 08 42.2 -0.2**
APAC Apartado, Choc 61.83 114 P **P** **13 08 49.4 +2.5**
comp=Z,80nm,1.0s
MDJ Mudanjiang 62.14 307 IAMs_20 IAMs_20 13 33 21.8
comp=Z,4µm,22.0s
MDJ Mudanjiang 62.14 307 P **P** **13 08 49.3 +0.7**
MDJ S **S** **13 17 18.0 +4.4**
MDJ SS **SS** **13 21 23.1 +7.5**
MDJ pmax pmax
comp=Z,13nm,1.7s
MDJ pmax pmax
comp=Z,240nm,4.5s
MDJ LR LR
comp=Z,2µm,24.7s
MDJ LR LR
comp=Z,2µm,21.3s
MDJ LR LR
comp=Z,5µm,18.5s
SABA Saba 62.34 96 P **P** **13 08 50.3 0.0**
SABA IAMs_20 IAMs_20 13 34 30.2
comp=Z,4µm,22.0s
BNX BinXian 62.41 309⇑ P **P** **13 08 49.7 -0.8**
BNX S **S** **13 17 16.1 -0.9**
BNX pmax pmax
comp=Z,24nm,1.4s
BNX pmax pmax
comp=Z,310nm,9.7s
BNX LR LR
comp=Z,2µm,18.9s
BNX LR LR
comp=Z,2µm,17.7s
BNX LR LR
comp=Z,2µm,19.6s
UREC San Jos de Ur 62.55 114 P **P** **13 08 52.5 +0.8**
comp=Z,26nm,0.8s
SEUS St. Eustatius 62.60 96 IAMs_20 IAMs_20 13 35 02.1
comp=Z,3µm,22.0s
ANWB Willy Bob 63.22 95 IAMs_20 IAMs_20 13 36 00.4
comp=Z,3µm,20.0s
MJAR Matsushiro Arr 63.23 296 P **P** **13 08 55.2 -0.8**
MJAR IAmb IAmb 13 08 58.4
comp=Z,40nm,1.8s
MJAR Matsushiro Arr 63.23 296 P **P** **13 08 54.9 -1.2**
comp=Z,2.7nm,0.9s,baz=44,slow=5.9,SNR=7.9
MJAR LR LR 13 32 10.9
comp=Z,1µm,21.9s,baz=40,slow=32
comp=Z,2.7nm,0.9s
MJAR Matsushiro Arr 63.23 296 P **P** **13 08 55.2 -0.8**
MJAR pmax pmax
comp=Z,40nm,1.8s
MJB9 Matsu-Tunnel 63.23 296 P **P** **13 08 55.2 -0.8**
MJB9 IAmb IAmb 13 08 58.4
comp=Z,31nm,1.3s
MAJO Matsushiro 63.23 296 P **P** **13 08 55.0 -1.1**
MAJO IAmb IAmb 13 08 58.4
comp=Z,33nm,1.4s
MAJO Matsushiro 63.23 296 *i*P **P** **13 08 57.6 +1.5**
MAJO pmax pmax
comp=Z,51nm,2.3s
HIA Hailar 63.37 316 P **P** **13 08 56.3 -0.5**
HIA IAmb IAmb 13 09 00.3
comp=Z,27nm,1.2s
HIA Hailar 63.37 316 IAMs_20 IAMs_20 13 36 55.3
comp=Z,3µm,20.0s
HIA Hailar 63.37 316 P **P** **13 08 56.3 -0.5**
HIA pmax pmax
comp=Z,27nm,1.2s
HIA MLR MLR
comp=Z,2µm,20.0s
NB2 NORSAR Subarra 64.09 20 P **P** **13 09 01.2 -0.2**
comp=Z,44nm,1.7s,baz=336,slow=6.9
NB2 NORSAR Subarra 64.09 20 P **P** **13 09 01.2 -0.2**
baz=336,slow=6.9
NOA NORSAR Array B 64.09 20 P **P** **13 09 01.2 -0.2**
comp=Z,8.5nm,1.1s,baz=334,slow=6.5,SNR=8.0
NOA LR LR 13 37 18.9
comp=Z,3µm,20.1s,baz=335,slow=36
comp=Z,8.5nm,1.1s
NAO01 NORSAR Array S 64.20 20 P **P** **13 09 00.9 -1.2**
GDHS Morne Mazeau, 64.28 96 IAMs_20 IAMs_20 13 36 15.3
comp=Z,3µm,20.0s
ABD La Joyeuse, An 64.30 96 IAMs_20 IAMs_20 13 36 37.1
comp=Z,3µm,21.0s
SDV Santo Domingo 64.53 108 P **P** **13 09 05.6 +0.6**
SDV IAMs_20 IAMs_20 13 39 45.8
comp=Z,2µm,20.0s
SDV Santo Domingo 64.53 108 LR LR 13 39 56.9
comp=Z,2µm,19.9s,baz=334,slow=39
SDV Santo Domingo 64.53 108 *e*P **P** **13 09 06.0 +0.9**
SDV Santo Domingo 64.53 108 P **P** **13 09 05.9 +0.9**
comp=Z,36nm,1.3s
GDSD La Dsirade Is 64.69 95 IAMs_20 IAMs_20 13 37 06.3
comp=Z,2µm,19.0s
GUY2C Guyana, Caldas 64.70 115 P **P** **13 09 08.1 +1.6**
comp=Z,579nmcomp=Z,52nm,1.5s
CN2 Changchun 64.78 309 P **P** **13 09 05.5 -0.6**
CN2 PP **PP** **13 11 28.3 +0.2**
CN2 S **S** **13 17 43.5 -3.1**
CN2 SS **SS** **13 21 54.8 -2.1**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,2µm,18.0s
CN2 LR LR
comp=Z,2µm,18.0s
CN2 LR LR
comp=Z,2µm,18.0s
MAGL Barre de l'ile 64.83 96 IAMs_20 IAMs_20 13 35 58.1
comp=Z,4µm,22.0s
BARC Barichara 64.85 112 P **P** **13 09 08.8 +1.6**
KONO Kongsberg 65.00 21 IAMs_20 IAMs_20 13 38 52.1
comp=Z,3µm,18.0s
KONO Kongsberg 65.00 21 *e*P **P** **13 09 06.9 -0.3**
KONO pmax pmax
comp=Z,14nm,1.3s
ESK Eskdalemuir 65.30 30 IAMs_20 IAMs_20 13 37 06.5
comp=Z,3µm,19.0s
EKA Eskdalemuir Ar 65.30 30 P **P** **13 09 08.9 -0.4**
comp=Z,2.5nm,0.6s,baz=313,slow=5.6,SNR=10
comp=Z,2.5nm,0.6s
HFS Hagfors 65.43 19 P **P** **13 09 10.1 0.0**
comp=Z,19nm,1.1s,baz=336,slow=3.2,SNR=7.3
HFS LR LR 13 38 19.7
comp=Z,4µm,19.1s,baz=335,slow=37
comp=Z,19nm,1.1s
RUSC La Rusia 65.47 113 P **P** **13 09 11.2 -0.3**
ROSC El Rosal 65.61 114 P **P** **13 09 14.1 +1.8**
comp=Z,31nm,0.8s,baz=342,slow=10,SNR=15
ROSC LR LR 13 42 42.5
comp=Z,664nm,18.5s,baz=288,slow=40
comp=Z,31nm,0.8s
TAMC Tame, Arauca 65.79 111 P **P** **13 09 14.7 +1.7**
comp=Z,149nm,1.3s
FDF Fort de France 65.83 97 IAMs_20 IAMs_20 13 36 28.7
comp=Z,4µm,22.0s
ORTC Ortega, Tolima 65.84 116 P **P** **13 09 15.0 +1.7**
comp=Z,67nm,1.1s
ILAM Ilet Lapin Mar 65.97 96 IAMs_20 IAMs_20 13 37 07.4
comp=Z,4µm,22.0s
BAUV El Baul 66.04 106 P **P** **13 09 14.3 -0.3**
BIM Bigot 66.04 97 IAMs_20 IAMs_20 13 36 34.4
comp=Z,4µm,22.0s
FINES FINESS Array B 66.26 12 P **P** **13 09 14.7 -0.6**
comp=Z,3.9nm,0.7s,baz=354,slow=7.0,SNR=7.9
FINES LR LR 13 38 30.0
comp=Z,3µm,18.4s,baz=347,slow=36
comp=Z,3.9nm,0.7s
FINES FINESS Array B 66.26 12 *i*P **P** **13 09 17.1 +1.8**
FINES pmax pmax
comp=Z,4.0nm,0.7s
BBAC Balboa, Cauca 66.27 119 P **P** **13 09 18.9 +2.6**
comp=Z,691nmcomp=Z,47nm,1.4s
IRK Irkutsk 67.06 327 *e*P **P** **13 09 19.2 -1.5**
IRK pmax pmax
comp=Z,99nm,1.4s
OTAV Otavalo 67.09 121 P **P** **13 09 22.7 +0.9**
OTAV Otavalo 67.09 121 P **P** **13 09 22.7 +0.9**
OTAV pmax pmax
comp=Z,164nm,1.4s
OTAV MLR MLR
comp=Z,900nm,20.0s
OTAV Otavalo 67.09 121 *e*P **P** **13 09 22.7 +0.9**
OTAV Otavalo 67.09 121 P **P** **13 09 24.5 +2.6**
comp=Z,890nmcomp=Z,77nm,1.4s
GARC Garzon, Huila 67.11 117 P **P** **13 09 23.2 +1.5**
comp=Z,760nmcomp=Z,62nm,1.3s
PCRV Puerto La Cruz 67.16 103 LR LR 13 39 24.9
comp=Z,3µm,21.0s,slow=37
SNY Shenyang 67.17 309⇓ P **P** **13 09 21.7 +0.2**
SNY S **S** **13 18 19.1 +3.4**
SNY pmax pmax
comp=Z,29nm,1.2s
SNY pmax pmax
comp=Z,310nm,3.7s
SNY LR LR
comp=Z,1µm,21.6s
SNY LR LR
comp=Z,1µm,21.0s
SNY LR LR
comp=Z,3µm,21.8s
GRGR Grenville 67.49 99 IAMs_20 IAMs_20 13 38 51.2
comp=Z,2µm,22.0s
FLOC Florencia 67.52 118 P **P** **13 09 24.4 +0.4**
KLMR Klimovskoe 68.10 5 *e*P **P** **13 09 24.2 -2.8**
KLMR *e* 13 09 52.6
KLMR pmax pmax
comp=Z,84nm,1.4s
KLMR MLR MLR
comp=Z,1µm,15.0s
KSRS Korea Array 68.22 303 P **P** **13 09 28.5 +0.3**
comp=Z,2.4nm,0.9s,baz=41,slow=7.7,SNR=12
comp=Z,2.4nm,0.9s
PIAT Ana Tenorio 68.23 121 P **P** **13 09 31.1 +2.2**
comp=Z,636nmcomp=Z,51nm,1.2s
KSAR Wonju Array Be 68.25 303 P **P** **13 09 27.4 -1.0**
KSAR Wonju Array Be 68.25 303 P **P** **13 09 27.4 -1.0**
MOY Mondy 68.65 328 *e*P **P** **13 09 31.7 +0.9**
MOY pmax pmax
comp=Z,79nm,2.7s
ZAK Zakamensk 68.96 326 *e*P **P** **13 09 31.8 -1.0**
ZAK pmax pmax
comp=Z,11nm,1.9s
XLT XiLinHaoTe 69.10 315 *e*P **P** **13 09 33.6 -0.1**
XLT pP sP 13 09 36.9 -0.4
XLT PcP **PcP** **13 10 03.1 +5.4**
XLT PP **PP** **13 12 06.2 +0.4**
XLT S **S** **13 18 35.7 -3.2**
XLT sS sS 13 18 45.9 +2.7
XLT SS **SS** **13 23 04.6 +0.6**
XLT pmax pmax
comp=Z,20nm,1.6s
XLT pmax pmax
comp=Z,360nm,4.8s
XLT LR LR
comp=Z,2µm,17.4s
XLT LR LR
comp=Z,2µm,15.3s
TJN Taejon 69.32 302 IAMs_20 IAMs_20 13 38 22.9
comp=Z,3µm,20.0s
ULN Ulaanbaatar 69.67 323 P **P** **13 09 35.0 -2.3**
ULN Ulaanbaatar 69.67 323*ce*P **P** **13 09 37.2 -0.1**
ULN pmax pmax
comp=Z,10.0nm,1.1s
JNU Nakatsue 69.84 298 P **P** **13 09 37.1 -1.3**
JNU IAmb IAmb 13 10 00.2
comp=Z,43nm,1.4s
JNU Nakatsue 69.84 298 LR LR 13 37 11.1
comp=Z,1µm,21.6s,baz=42,slow=33
SONM Songino Array 69.95 323 P **P** **13 09 39.0 +0.1**
SONM IAmb IAmb 13 09 43.5
comp=Z,64nm,1.8s
SONM Songino Array 69.95 323 P **P** **13 09 39.2 +0.3**
comp=Z,6.2nm,1.1s,baz=38,slow=5.4,SNR=14
SONM LR LR 13 40 56.5
comp=Z,4µm,19.6s,baz=26,slow=36
comp=Z,6.2nm,1.1s
MCRA Macar, Loja 70.18 125 P **P** **13 09 41.7 +1.1**
comp=Z,32nm,1.3s
PPT Papeete 70.37 199 LR LR 13 32 30.3
comp=Z,1µm,21.9s,baz=360,slow=29
PPT2 Papeete2 70.39 199 *e*P **P** **13 09 43.3 +1.5**
comp=Z,74nm,24.2s
PPT2 *e*S **S** **13 18 51.1 -3.2**
comp=Z,326nm,24.8s
PPT2 *e*SS **SS** **13 23 19.9 -5.8**
comp=Z,373nm,26.0s
PPT2 *e*LR LR 13 30 56.7
comp=Z,4µm,27.0s
PPT2 *e*LR LR 13 31 06.8
comp=Z,3µm,25.0s
RGN Rugen 70.49 21 IAMs_20 IAMs_20 13 43 04.4
comp=Z,3µm,19.0s
KIRV Kirov 70.66 360 LR LR 13 43 30.4
comp=Z,1µm,21.2s,baz=358,slow=38
KIRV Kirov 70.66 360 *e*P **P** **13 09 42.0 -0.8**
ZAA0 Zalesovo Array 71.16 339 P **P** **13 09 45.3 -0.7**
ZALV Zalesovo Beam 71.16 339 P **P** **13 09 45.3 -0.8**
ZALV Zalesovo Beam 71.16 339 P **P** **13 09 45.9 -0.2**
comp=Z,1.0nm,0.3s,baz=28,slow=6.5,SNR=9.6
ZALV LR LR 13 46 17.0
comp=Z,1µm,18.6s,baz=10,slow=40
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 71.16 339 *i*P **P** **13 09 49.0 +3.0**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
PABE Paberze 71.67 15 IAMs_20 IAMs_20 13 41 19.3
comp=Z,2µm,19.0s
SVE Sverdlovsk 72.01 353 *e*P **P** **13 09 51.2 +0.1**
SVE *e*S **S** **13 19 13.3 +1.1**
SVE pmax pmax
comp=Z,41nm,1.2s
BMRD Maredsous 72.08 28 *d*P **P** **13 09 52.9 +1.3**
BGES Gesves 72.10 28 *d*P **P** **13 09 54.0 +2.3**
BJT Baijiatuau 72.12 312 IAMs_20 IAMs_20 13 42 37.7
comp=Z,2µm,20.0s
BCLA Clavier 72.13 28 *d*P **P** **13 09 51.2 -0.7**
comp=Z,9.3nm,1.2s
MEM Membach 72.17 27 *d*P **P** **13 09 55.7 +3.5**
comp=Z,10nm,1.5s
DOU Dourbes 72.21 28 *d*P **P** **13 09 53.7 +1.3**
comp=Z,6.9nm,1.5s
BTNL Ternell 72.22 27 *d*P **P** **13 09 53.7 +1.2**
comp=Z,7.5nm,1.4s
ARTI Arti 72.60 355 P **P** **13 09 53.2 -1.4**

ARTI IAmb IAmb 13 10 15.2
comp=Z,27nm,1.0s
ARTI Arti 72.60 355 LR LR 13 42 58.4
comp=Z,1μm,21.1s,baz=10.0,slow=37
ARTI Arti 72.60 355*d* *i*P **P** **13 09 54.5 -0.1**
ARTI S **S** **13 19 19.7 +0.8**
ARTI SS **SS** **13 23 54.4 -2.2**
ARTI pmax pmax
comp=Z,26nm,1.3s
ARTI MLR MLR
comp=Z,2μm,21.0s
SUW Suwalki 72.97 16 IAMs_20 IAMs_20 13 41 46.7
comp=Z,2μm,20.0s
MOS Moscow 73.07 7 *e*P **P** **13 09 59.6 +2.2**
MOS *e* 13 10 16.6
MOS *e*S **SKiKP** **13 19 26.9 -2.5**
MOS pmax pmax
comp=Z,43nm,0.8s
MOS MLR MLR
comp=Z,1μm,16.0s
MNK Minsk 73.23 13 *i*P **P** **13 09 58.1 -0.3**
MNK *i* 13 12 39.1
MNK *i* PPP PPP 13 14 25.8
MNK *i* S **S** **13 19 26.0 -0.2**
MNK *i* SS **SS** **13 24 08.0 +1.6**
MNK pmax pmax
comp=Z,19nm,1.0s
MNK pmax pmax
comp=E,36nm,0.8s
MNK pmax pmax
comp=N,30nm,1.0s
MNK MLR MLR
comp=N,1μm,18.0s
CLF Chambon-Foret 73.31 31 P **P** **13 09 57.4 -1.6**
ATAH Atahualpa 73.33 125 LR LR 13 42 25.9
comp=N,1μm,18.0s,baz=349,slow=36
CLL Collm 73.40 23 P **P** **13 09 58.2 -1.3**
CLL IAMs_20 IAMs_20 13 43 56.4
comp=Z,3μm,18.0s
CLL Collm 73.40 23 *i*P **P** **13 10 00.5 +1.0**
CLL pmax pmax
comp=Z,23nm,1.8s
CLL MLR MLR
comp=Z,3μm,18.1s
HHC Hu-ho-hao-te 73.55 316 *e*P **P** **13 10 00.2 -0.5**
HHC PP **PP** **13 12 43.3 -0.7**
HHC S S 13 19 21.0 -10
HHC ScS **ScS** **13 20 09.0 -0.8**
HHC SS **SS** **13 24 10.8 -1.4**
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,210nm,4.6s
HHC LR LR
comp=Z,2μm,15.5s
HHC LR LR
comp=Z,2μm,15.9s
HHC LR LR
comp=Z,4μm,16.2s
OBN Obninsk 73.60 8 IAMs_20 IAMs_20 13 43 15.3
comp=Z,2μm,20.0s
OBN Obninsk 73.60 8 LR LR 13 43 16.7
comp=Z,2μm,21.0s,baz=308,slow=37
OBN Obninsk 73.60 8⇑ *e*P **P** **13 10 02.2 +1.6**
OBN *e* 13 10 13.1
OBN *e* 13 12 42.1
OBN *e*S S 13 19 55.6 +25
OBN pmax pmax
comp=Z,26nm,1.4s
OBN MLR MLR
comp=Z,2μm,16.0s
BRG Berggiesshubel 74.03 22 *e*P **P** **13 10 05.3 +2.1**
BRG Amp 13 10 08.2
comp=Z,7.2nm,1.1s
BRG Berggiesshubel 74.03 22 SS SS 13 24 08.0 -11
RICC Richard 74.38 22 AMS AMS 13 44 10.0
comp=Z,2μm,17.5s
BTO Baotou 74.42 316 *e*P **P** **13 10 05.9 +0.1**
BTO pP **pwP** **13 10 10.7 -0.5**
BTO sP **sP** **13 10 13.4 +4.0**
BTO S **S** **13 19 40.4 0.0**
BTO SS **SS** **13 24 29.7 +4.2**
BTO pmax pmax
comp=Z,16nm,0.6s
BTO pmax pmax
comp=Z,270nm,6.6s
BTO LR LR
comp=Z,2μm,19.5s
BTO LR LR
comp=Z,2μm,18.5s
BTO LR LR
comp=Z,2μm,23.0s
GRA1 Grafenberg Arr 74.44 25 IAMs_20 IAMs_20 13 42 09.8
comp=Z,2μm,22.0s
GRFO Grafenberg 74.44 25 IAMs_20 IAMs_20 13 42 09.8
comp=Z,2μm,21.0s
PVCC Panska Ves 74.50 22 AMS AMS 13 43 40.0
comp=Z,2μm,18.3s
KSP Ksiaz 74.61 21 *e*P **P** **13 10 08.0 +1.4**
PGAV Gavieira, Arco 74.61 41 *e*LR LR 13 33 21.8
PGAV *i* IAMs_20 IAMs_20 13 42 38.5
comp=Z,2μm,18.0s
ECH Echery 74.65 28 P **P** **13 10 05.4 -1.5**
ECH IAMs_20 IAMs_20 13 42 26.5
comp=Z,2μm,21.0s
ECH Echery 74.65 28 P **P** **13 10 05.4 -1.5**
ECH pmax pmax
comp=Z,17nm,1.3s
ECH MLR MLR
comp=Z,2μm,21.0s
TIA Tai'an 74.69 309 P **P** **13 10 07.1 -0.2**
TIA S **S** **13 19 50.7 +7.5**
TIA pmax pmax
comp=Z,20nm,1.4s
TIA pmax pmax
comp=Z,350nm,5.3s
TIA LR LR
comp=Z,920nm,18.6s
TIA LR LR
comp=Z,2μm,22.1s
TIA LR LR
comp=Z,4μm,20.1s
BRVK Borovoye 74.70 347 P **P** **13 10 05.5 -1.6**
BRVK IAmb IAmb 13 10 24.6
comp=Z,18nm,0.9s
BRVK Borovoye 74.70 347 IAMs_20 IAMs_20 13 49 07.3
comp=Z,1μm,18.0s
BRVK Borovoye 74.70 347*c* *i*P **P** **13 10 06.8 -0.3**
BRVK pmax pmax
comp=Z,15nm,1.2s
BVAR Borovoye Array 74.72 347 P **P** **13 10 06.7 -0.5**
comp=Z,5.0nm,1.0s,baz=19,slow=4.9,SNR=11
BVAR LR LR 13 47 53.8
comp=Z,698nm,18.3s,baz=18,slow=40
comp=Z,5.0nm,1.0s
CHVC Chvalec 74.79 21 AMS AMS 13 44 00.0
comp=Z,3μm,19.1s
OSTC Ostas 74.86 21 AMS AMS 13 44 00.0
comp=Z,3μm,18.6s
UPC Upice 74.86 21 AMS AMS 13 44 10.0
comp=Z,3μm,17.8s
BFO Black Forest 74.88 27 P **P** **13 10 07.6 -0.7**
BFO IAmb IAmb 13 10 25.7
comp=Z,32nm,1.4s
BFO Black Forest 74.88 27 P **P** **13 10 07.6 -0.7**
BFO pmax pmax
comp=Z,32nm,1.4s
BFO MLR MLR
comp=Z,5μm,20.0s
PRA Prague 74.89 22 AMS AMS 13 44 40.0
comp=Z,3μm,17.4s
HNS HongShan 74.90 311 ⇓P **P** **13 10 07.8 -0.6**
HNS S **S** **13 19 48.6 +3.1**
HNS pmax pmax
comp=Z,24nm,1.2s
HNS pmax pmax
comp=Z,370nm,4.1s
HNS LR LR
comp=Z,3μm,18.8s
HNS LR LR
comp=Z,3μm,19.1s
PRU Pruhonice 75.00 22 AMS AMS 13 44 40.0
comp=Z,3μm,16.7s
DPC Dobruska-Polom 75.08 21 *e*P **P** **13 10 12.4 +3.1**
DPC *ex* x 13 10 22.7
DPC AMS AMS 13 44 10.0
comp=Z,3μm,18.6s
DPC Dobruska-Polom 75.08 21 *e*P **P** **13 10 12.4 +3.1**
DPC *e* 13 10 22.7
DPC MLR MLR
comp=Z,3μm,18.6s
GOPC GO Pecny, Ondr 75.12 22 AMS AMS 13 43 50.0
comp=Z,2μm,18.0s
POLO Lamas de Olo 75.30 41 *e*P **P** **13 10 10.2 -0.7**
POLO *i* IAmb IAmb 13 10 32.3
comp=Z,28nm,1.8s
PBRG Braganca 75.37 40 *e*P **P** **13 10 11.5 +0.3**
PBRG *i* IAmb IAmb 13 10 28.6
comp=Z,36nm,1.9s
ZVC Zvikov 75.42 23 AMS AMS 13 44 50.0
comp=Z,2μm,17.1s
TBTG Tabatinga, AM 75.48 116 *e*P **P** **13 10 12.9 +0.8**
KURK Kurchatov 75.53 341 P **P** **13 10 11.4 -0.5**
KURK IAmb IAmb 13 10 40.5
comp=Z,52nm,1.6s
KURK Kurchatov 75.53 341 IAMs_20 IAMs_20 13 48 32.5
comp=Z,1μm,18.0s
KURK Kurchatov 75.53 341*c* *i*P **P** **13 10 10.5 -1.3**
KURK pmax pmax
comp=Z,16nm,1.6s
KHC Kasperske Hory 75.56 23 *e*P **P** **13 10 09.5 -2.6**
KHC *e*pP **P** **13 10 15.0 +2.9**
KHC *e*S **S** **13 19 59.2 +6.6**
KHC AMS AMS 13 48 00.0
comp=Z,2μm,14.0s
KHC Kasperske Hory 75.56 23 *e*P **P** **13 10 15.0 +2.9**
KHC *e*S **S** **13 19 59.2 +6.6**
KHC MLR MLR
comp=Z,2μm,14.0s
KURBB Kurchatov Arra 75.63 341 P **P** **13 10 11.6 -0.8**
comp=Z,3.2nm,0.7s,baz=18,slow=5.7,SNR=21
KURBB LR LR 13 48 46.8
comp=Z,1μm,18.1s,baz=350,slow=40
comp=Z,3.2nm,0.7s
BOAV Boa Vista 75.76 104 P **P** **13 10 14.0 +0.3**
BOAV IAmb IAmb 13 10 20.8
comp=Z,43nm,1.2s
BOAV IAMs_20 IAMs_20 13 45 37.9
comp=Z,2μm,20.0s
BOAV Boa Vista 75.76 104 *e*P **P** **13 10 14.5 +0.9**
STEB Steborice 75.79 20 *e*P P 13 10 18.6 +5.2
MVO Moncorvo 75.79 40 *e*S **S** **13 20 04.4 +8.9**
MVO *e*LQ LQ 13 29 49.3
MVO *e*LR LR 13 34 31.7
MVO *i* IAMs_20 IAMs_20 13 43 24.3
comp=Z,2μm,16.0s
GEC2 GERESS Array S 75.85 23 P **P** **13 10 12.2 -1.7**
GERES GERESS Array B 75.85 23 P **P** **13 10 12.5 -1.4**
GERES GERESS Array B 75.85 23 P **P** **13 10 14.2 +0.3**
comp=Z,1.5nm,0.6s,baz=339,slow=5.2,SNR=7.0
GERES LR LR 13 45 35.6
comp=Z,1μm,18.0s,baz=338,slow=37
comp=Z,1.5nm,0.6s
TREC Trest 75.87 22 AMS AMS 13 44 30.0
comp=Z,2μm,17.7s
MORC Moravsky Berou 75.89 21 P **P** **13 10 12.9 -1.1**
MORC IAMs_20 IAMs_20 13 43 25.0
comp=Z,2μm,21.0s
MORC Moravsky Berou 75.89 21 *e*P **P** **13 10 13.5 -0.5**
MORC Moravsky Berou 75.89 21 P **P** **13 10 12.9 -1.1**
MORC pmax pmax
comp=Z,10.0nm,1.2s
MORC MLR MLR
comp=Z,2μm,21.0s
OJC Ojcow 75.95 19 *e*P **P** **13 10 15.2 +0.9**
OJC Ojcow 75.95 19 P **P** **13 10 13.2 -1.1**
OJC Ojcow 75.95 19 P **P** **13 10 13.2 -1.1**
OKC Ostrava-Krasne 75.96 20 AMS AMS 13 45 40.0
comp=Z,2μm,17.4s
TBI Tubuai 75.97 198 *e*P P 13 10 03.4 -11
comp=Z,594nm,34.2s
TBI *e*S **S** **13 19 51.6 -5.6**
TBI comp=Z,2μm,31.2s *e*SS **SS** **13 24 45.5 -5.1**
TBI comp=Z,2μm,36.2s *e*LQ LQ 13 30 12.4
TBI comp=Z,1μm,31.5s *e*LR LR 13 33 41.0
TBI comp=Z,14μm,30.0s *e*LR LR 13 33 42.8
comp=Z,3μm,28.8s
COI Coimbra 76.02 42 P **P** **13 10 13.4 -1.4**
COI IAMs_20 IAMs_20 13 42 54.9
comp=Z,2μm,18.0s
COI Coimbra 76.02 42 P **P** **13 10 13.4 -1.4**
COI pmax pmax
comp=Z,85nm,1.6s
COI MLR MLR
comp=Z,2μm,18.0s
CKRC Cesky Krumlov 76.03 23 *e*P **P** **13 10 18.1 +3.3**
CKRC *e*S **S** **13 20 02.8 +5.1**
CKRC AMS AMS 13 45 30.0
comp=Z,2μm,17.0s
CKRC Cesky Krumlov 76.03 23 *e*P **P** **13 10 18.1 +3.3**
CKRC *e*S **S** **13 20 02.8 +5.1**
CKRC MLR MLR
comp=Z,2μm,17.0s
JOW Kunigami 76.07 295 LR LR 13 40 48.8
comp=Z,322nm,21.8s,baz=130,slow=33
GUMO Guam 76.08 274 IAMs_20 IAMs_20 13 36 44.1
comp=Z,1μm,20.0s
GUMO Guam 76.08 274 LR LR 13 37 06.2
comp=Z,1μm,21.3s,baz=45,slow=30
PCAS Casmilo, Conde 76.11 42 *e*P **P** **13 10 16.7 +1.3**
PCAS *i* IAmb IAmb 13 10 41.6
comp=Z,56nm,1.7s
VRAC Vranov 76.11 21 *e*P **P** **13 10 16.6 +1.3**
VRAC Vranov 76.11 21 LR LR 13 45 36.6
comp=Z,3μm,18.9s,baz=338,slow=37
MTE Manteigas 76.22 41 P **P** **13 10 15.6 -0.5**
MTE IAmb IAmb 13 10 32.7
comp=Z,28nm,1.3s
MTE IAMs_20 IAMs_20 13 42 53.2
comp=Z,2μm,18.0s
MTE Manteigas 76.22 41 *e*P **P** **13 10 18.6 +2.5**
MTE *i* IAmb IAmb 13 10 21.8
comp=Z,31nm,1.6s
MTE *e*S **S** **13 20 03.9 +3.6**
MTE *e*LQ LQ 13 30 13.5
MTE *e*LR LR 13 34 25.2
MTE *i* IAMs_20 IAMs_20 13 44 07.6
comp=Z,2μm,16.0s
DAVA Damuels 76.27 26 *e*pP pP 13 10 18.3 -0.6
comp=Z,22nm,1.2s
LPSR Galich'ya Gora 76.28 7 *e*P **P** **13 10 16.3 +0.2**
LPSR pmax pmax
comp=Z,20nm,0.9s
KRUC Moravsky 76.30 22 *e*P **P** **13 10 17.2 +0.9**
RETA Reutte 76.33 26 *i*pP **P** **13 10 17.8 +1.2**
comp=Z,3.4nm,0.6s
SENIN Lac Senin/Sane 76.36 28 P **P** **13 10 15.6 -1.3**
SENIN IAmb IAmb 13 10 54.9
comp=Z,35nm,1.8s
RAR Rarotonga 76.43 208 LR LR 13 35 43.5
comp=Z,2μm,21.8s,baz=358,slow=29
MOTA Moosalm 76.56 26 *i*pP pP 13 10 19.4 -1.3
comp=Z,16nm,1.2s
PSARD Sardoal 76.63 42 *e*P **P** **13 10 21.6 +3.2**
PSARD *i* IAmb IAmb 13 10 32.3
comp=Z,38nm,1.2s
SSE Sheshan 76.66 303 P **P** **13 10 19.0 +0.4**
SSE S **S** **13 20 07.3 +2.2**
SSE pmax pmax
comp=Z,13nm,0.6s
SSE pmax pmax
comp=Z,190nm,4.5s
SSE LR LR
comp=Z,300nm,24.4s
SSE LR LR
comp=Z,460nm,24.4s
WATA Walderalm 76.69 25 *e*pP **P** **13 10 19.9 +1.2**
comp=Z,12nm,1.0s
SQTA Sankt Quirin 76.70 26 *e*pP pP 13 10 20.4 -1.0
comp=Z,3.3nm,0.5s
PCBR Castelo Branco 76.72 41 *e*P **P** **13 10 21.5 +2.6**
PCBR *i* IAmb IAmb 13 10 40.6
comp=Z,24nm,1.4s
DAVOX Davos/Dischmat 76.73 27 LR LR 13 46 16.5
comp=Z,3μm,18.9s,baz=272,slow=38
FETA Feichten 76.75 26 *i*pP **P** **13 10 18.7 -0.4**
comp=Z,7.9nm,1.0s
WTTA Wattenberg 76.77 25 *i*pP **P** **13 10 20.5 +1.2**
comp=Z,18nm,1.1s
JAVC Velka Javorina 76.78 21 *e*P **P** **13 10 20.0 +0.9**
NIE Niedzica 76.82 19 *e*P **P** **13 10 21.1 +1.8**
CZSB Cruzeiro do Su 76.85 120 P **P** **13 10 20.0 +0.2**
CZSB Cruzeiro do Su 76.85 120 *e*P **P** **13 10 20.7 +0.9**
CZSB Cruzeiro do Su 76.85 120 P **P** **13 10 21.4 +1.6**
BELG Belogornoye 76.85 1 LR LR 13 47 04.1
comp=Z,1μm,20.8s,baz=356,slow=38
BELG Belogornoye 76.85 1 *i*P **P** **13 10 19.3 0.0**
BELG pmax pmax
comp=Z,9.0nm,1.3s
LESA Schwarzleotal 76.90 25 *i*pP **P** **13 10 21.1 +1.2**
comp=Z,2.0nm,0.7s
BIOA Bad Ischl, Aus 76.91 24 *e*pP **P** **13 10 21.0 +1.2**
comp=Z,8.5nm,1.1s
FUORN Ofenpass-Fuorn 76.99 26 P **P** **13 10 18.6 -1.9**
FUORN IAmb IAmb 13 10 48.9
comp=Z,71nm,1.9s
STHS Stebnicka Huta 77.01 18 *e*P **P** **13 10 23.2 +2.9**
STHS *e* 13 10 29.7
STHS Stebnicka Huta 77.01 18 *e*P **P** **13 10 23.2 +2.9**
STHS *e* 13 10 29.7
PMRV Marv??o 77.10 42 *e*LQ LQ 13 30 36.8
PMRV *e*LR LR 13 34 56.2
PMRV *i* IAMs_20 IAMs_20 13 43 53.4
comp=Z,2μm,16.0s
NJ2 Nanjing 77.12 305 ⇑P **P** **13 10 22.1 +0.9**
NJ2 S **S** **13 20 11.5 +1.4**
NJ2 pmax pmax
comp=Z,13nm,0.8s
NJ2 LR LR
comp=Z,1μm,16.1s
NJ2 LR LR
comp=Z,850nm,14.7s
NJ2 LR LR
comp=Z,2μm,15.6s
AKASG Malin Array Be 77.13 13 P **P** **13 10 19.6 -1.3**
AKASG Malin Array Be 77.13 13 P **P** **13 10 21.0 +0.1**
comp=Z,1.5nm,0.6s,baz=347,slow=5.6,SNR=16
AKASG LR LR 13 44 58.1
comp=Z,2μm,18.4s,baz=348,slow=36
comp=Z,1.5nm,0.6s
AKASG Malin Array Be 77.13 13 *i*P **P** **13 10 20.7 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 77.13 13 P **P** **13 10 19.4 -1.5**
AKBB IAmb IAmb 13 10 41.7
comp=Z,40nm,1.1s
AKBB Malin Array Si 77.13 13*c* *e*P **P** **13 10 21.7 +0.8**
AKBB pmax pmax
comp=Z,22nm,1.2s
KIEV Kiev 77.13 13 P **P** **13 10 19.6 -1.3**
KIEV IAmb IAmb 13 10 41.7
comp=Z,36nm,1.1s
KIEV Kiev 77.13 13 IAMs_20 IAMs_20 13 44 46.6
comp=Z,3μm,19.0s
KIEV Kiev 77.13 13 P **P** **13 10 19.6 -1.3**
KIEV pmax pmax
comp=Z,36nm,1.2s
KIEV MLR MLR
comp=Z,3μm,19.0s
FUTU Fugatoga 77.14 227 IAMs_20 IAMs_20 13 35 54.3
comp=Z,3μm,21.0s
MODS Modra-Piesok 77.15 21 *e*P **P** **13 10 24.5 +3.4**
MODS *e* 13 10 33.4
MODS Modra-Piesok 77.15 21 *e*P **P** **13 10 24.5 +3.4**
MODS *e* 13 10 33.4
VORR Voronezh 77.23 6 *e*P **P** **13 10 22.5 +1.1**
VORR pmax pmax
comp=Z,44nm,1.5s
CONA Conrad Observa 77.23 22 *i*pP pP 13 10 23.2 -1.2
comp=Z,8.5nm,0.9s
BRZS Berezniki 77.33 345 *e*P **P** **13 10 24.1 +2.0**
BRZS Berezniki 77.33 345 *e*P **P** **13 10 24.1 +2.0**
VYHS Vyhne 77.38 20 *e*P **P** **13 10 25.5 +3.1**
VYHS *e* 13 10 35.3
VYHS Vyhne 77.38 20 *e*P **P** **13 10 25.5 +3.1**
VYHS *e* 13 10 35.3
KBA Koelnbreinsper 77.40 24 *e*pP pP 13 10 24.4 -1.0
comp=Z,9.9nm,1.0s
ABTA Abfaltersbach 77.48 25 *e*P **P** **13 10 21.5 -1.7**
comp=Z,1.1nm,0.5s
PESTR Estremoz 77.49 42 IAMs_20 IAMs_20 13 44 06.8
comp=Z,2μm,18.0s
PESTR Estremoz 77.49 42 *e*P **P** **13 10 26.1 +2.8**
PESTR *i* IAmb IAmb 13 10 44.2
comp=Z,36nm,1.5s
RONA Rosalia, Austr 77.55 22 *e*pP **P** **13 10 23.7 +0.3**
comp=Z,6.4nm,1.1s
VSR Storozhevoye 77.68 7 *e*P **P** **13 10 24.7 +0.7**
VSR pmax pmax
comp=Z,9.0nm,1.2s
CEST Esterri de Car 77.72 34 P **P** **13 10 23.4 -1.2**
CEST IAmb IAmb 13 10 46.1
comp=Z,34nm,1.2s
ARSA Arzberg 77.79 23 P **P** **13 10 23.8 -0.9**
ARSA IAMs_20 IAMs_20 13 45 51.3
comp=Z,3μm,19.0s
ARSA Arzberg 77.79 23 *i*pP pP 13 10 26.4 -1.0
comp=Z,5.7nm,0.9s
VRH Novokhopyorsk 77.85 5 *e*P **P** **13 10 23.7 -1.2**
VRH pmax pmax
comp=Z,50nm,1.6s
MYKA Terra Mystica 77.89 24 *i*pP **P** **13 10 26.4 +1.0**
comp=Z,4.0nm,1.0s
TEFE Tefe 77.98 111 *e*P **P** **13 10 25.8 -0.3**
PMOZ Porto Moniz, M 78.03 52 *e*LR LR 13 35 20.2
PMOZ *i* IAMs_20 IAMs_20 13 40 56.8
comp=Z,1μm,18.0s
MESJ Messejana 78.08 43 *e*P **P** **13 10 27.2 +0.7**
MESJ *e*PP **PP** **13 13 22.7 +0.6**
MESJ *e*S **S** **13 20 21.5 +1.1**
MESJ IAMs_20 IAMs_20 13 42 33.1
comp=Z,3μm,15.8s
MESJ Messejana 78.08 43 *e*P **P** **13 10 27.2 +0.7**
MESJ *e* 13 13 22.7
MESJ *e*S **S** **13 20 21.5 +1.1**
PSZ Piszkesteto 78.16 20 P **P** **13 10 24.6 -2.2**
PSZ IAmb IAmb 13 10 59.5
comp=Z,24nm,1.2s
PSZ Piszkesteto 78.16 20 P **P** **13 10 24.7 -2.2**
PSZ pmax pmax
comp=Z,25nm,1.2s
SOKA Soboth 78.20 23 *i*pP **P** **13 10 28.3 +1.2**
comp=Z,18nm,1.6s
OBKA Obir 78.23 24 *i*pP **P** **13 10 28.0 +0.7**
comp=Z,7.3nm,0.8s
NNA Nana 78.25 126 IAMs_20 IAMs_20 13 45 01.6
comp=Z,2μm,18.0s
NNA Nana 78.25 126 LR LR 13 44 55.7
comp=Z,1μm,18.2s,baz=332,slow=36
NNA Nana 78.25 126*c* *e*P **P** **13 10 31.3 +3.7**
NNA pmax pmax
comp=Z,85nm,1.5s
PAB San Pablo 78.25 40 IAMs_20 IAMs_20 13 48 39.7
comp=Z,2μm,19.0s
LYN LuoYang 78.27 311 P **P** **13 10 30.1 +2.5**
LYN pmax pmax
comp=Z,56nm,0.8s
ESDC Sonseca Array 78.29 39 P **P** **13 10 26.9 -0.8**
ESDC Sonseca Array 78.29 39 P **P** **13 10 28.3 +0.6**
comp=Z,2.2nm,0.8s,baz=330,slow=4.5,SNR=14
comp=Z,2.2nm,0.8s
PCVE Castro Verde 78.33 43 *e*P **P** **13 10 30.6 +2.7**
PCVE *i* IAmb IAmb 13 10 46.1
comp=Z,28nm,1.8s
MORF Marmelete 78.34 44 *e*PP **PP** **13 13 24.9 +0.5**
MORF *e*S **S** **13 20 24.3 +0.9**
MORF IAMs_20 IAMs_20 13 44 52.7
comp=E,2μm,17.6s
MORF Marmelete 78.34 44 P **P** **13 10 25.9 -2.0**
MORF IAmb IAmb 13 10 49.9
comp=Z,20nm,1.0s
MORF IAMs_20 IAMs_20 13 45 03.6
comp=Z,2μm,19.0s
MORF Marmelete 78.34 44 *e*P **P** **13 10 25.6 -2.5**
MORF *i* IAmb IAmb 13 10 46.2
comp=Z,45nm,1.5s
MORF Marmelete 78.34 44 P **P** **13 10 26.0 -2.0**
MORF pmax pmax
comp=Z,20nm,1.0s
MORF MLR MLR
comp=Z,2μm,19.0s
PFVI Vila Bisbo 78.41 44 P **P** **13 10 27.3 -1.1**
PFVI IAMs_20 IAMs_20 13 50 50.4

comp=Z,2µm,19.0s
MK31 Makanchi Array 78.42 338 P **P** **13 10 27.2 -1.0**
MK31 IAmb IAmb 13 10 41.8
comp=Z,47nm,1.9s
MK31 Makanchi Array 78.42 338*c iP* **P** **13 10 27.5 -0.7**
MKAR Makanchi Array 78.42 338 P **P** **13 10 26.9 -1.4**
MKAR Makanchi Array 78.42 338 P **P** **13 10 27.8 -0.5**
comp=Z,3.3nm,0.7s,baz=23,slow=4.9,SNR=15
MKAR LR LR 13 49 55.5
comp=Z,3µm,18.6s,baz=3.5,slow=39
comp=Z,3.3nm,0.7s
MAKZ Makanchi 78.48 338 P **P** **13 10 27.9 -0.7**
MAKZ IAmb IAmb 13 11 03.6
comp=Z,24nm,1.1s
MAKZ IAMs_20 IAMs_20 13 49 57.8
comp=Z,3µm,18.0s
MAKZ Makanchi 78.48 338 P **P** **13 10 27.9 -0.7**
MAKZ pmax pmax
comp=Z,24nm,1.1s
MAKZ MLR MLR
comp=Z,2µm,18.0s
SABO M.te Sabotino 78.48 25 IAMs_20 IAMs_20 13 46 31.8
comp=Z,2µm,20.0s
MDP Montagnes des 78.54 96 LR LR 13 47 26.2
comp=Z,751nm,19.4s,baz=334,slow=37
AKTO Aktyubinsk 78.55 354 LR LR 13 49 52.9
comp=Z,1µm,18.0s,baz=16,slow=39
PVAQ Vaqueiros 78.67 43 P **P** **13 10 29.5 -0.3**
PVAQ Vaqueiros 78.67 43 *eP* **P** **13 10 29.6 -0.1**
PVAQ *i* IAmb IAmb 13 10 48.1
comp=Z,53nm,1.7s
PVAQ *eS* **S** **13 20 30.5 +3.9**
PVAQ *e*LQ LQ 13 30 57.6
PVAQ *e*LR LR 13 35 25.8
PVAQ *i* IAMs_20 IAMs_20 13 43 30.7
comp=Z,2µm,18.0s
PBDV Barranco-do-Ve 78.71 43 *eP* **P** **13 10 31.8 +1.8**
PBDV *i* IAmb IAmb 13 10 43.4
comp=Z,20nm,1.5s
TRI Trieste 78.78 25 IAMs_20 IAMs_20 13 48 00.6
comp=Z,2µm,18.0s
BUR08 Bucovina Ar. S 79.45 16 P **P** **13 10 32.3 -1.7**
BURAR Bucovina Array 79.48 16 P **P** **13 10 32.5 -1.7**
AB31 Akbulak array 79.59 353 P **P** **13 10 33.5 -1.1**
AB31 IAmb IAmb 13 10 52.0
comp=Z,36nm,1.2s
ABKAR Akbulak array 79.59 353 P **P** **13 10 33.9 -0.7**
GTA Gaotai 79.61 323 *eP* **P** **13 10 37.6 +2.5**
GTA S **S** **13 20 34.3 -2.7**
GTA SKS **SKSac** **13 20 50.8 -1.0**
GTA SS **SS** **13 25 50.0 +6.2**
GTA pmax pmax
comp=Z,11nm,1.3s
GTA LR LR
comp=Z,2µm,17.8s
GTA LR LR
comp=Z,2µm,19.3s
GTA LR LR
comp=Z,4µm,20.4s
WMQ Urumqi 79.74 333 *eP* **P** **13 10 36.7 +1.1**
WMQ S **S** **13 20 40.6 +2.5**
WMQ SS **SS** **13 25 45.2 -0.1**
WMQ pmax pmax
comp=Z,56nm,0.9s
WMQ LR LR
comp=Z,2µm,18.1s
WMQ LR LR
comp=Z,2µm,22.7s
WMQ LR LR
comp=Z,980nm,20.5s
MACA Manacapuru-AM 80.05 108 IAMs_20 IAMs_20 13 47 54.2
comp=Z,3µm,20.0s
MACA Manacapuru-AM 80.05 108 *eP* **P** **13 10 38.6 +1.1**
OSSC Osservatorio P 80.10 27 IAMs_20 IAMs_20 13 46 19.8
comp=Z,3µm,21.0s
XAN Xi'an 80.34 313 ⇑P **P** **13 10 38.1 -0.9**
XAN pP pP 13 10 40.8 -0.8
XAN S **S** **13 20 44.4 -0.3**
XAN pmax pmax
comp=Z,32nm,1.7s
XAN pmax pmax
comp=Z,320nm,3.7s
XAN LR LR
comp=Z,2µm,14.4s
XAN LR LR
comp=Z,2µm,16.5s
XAN LR LR
comp=Z,4µm,17.9s
WHN Wuhan 80.62 308 P **P** **13 10 42.8 +2.4**
WHN S **S** **13 20 49.6 +2.1**
WHN LR LR
comp=Z,2µm,13.4s
WHN LR LR
comp=Z,2µm,13.3s
WHN LR LR
comp=Z,6µm,29.4s
LZH Lanzhou 80.85 318 *eP* **P** **13 10 42.2 +0.4**
LZH sP PcP 13 10 50.3 +1.9
LZH PP **PP** **13 13 51.1 +5.7**
LZH S **S** **13 20 47.9 -2.3**
LZH SS **SS** **13 26 06.0 +3.5**
LZH pmax pmax
comp=Z,26nm,1.2s
LZH LR LR
comp=Z,3µm,17.0s
LZH LR LR
comp=Z,2µm,16.8s
LZH LR LR
comp=Z,3µm,17.7s
TDK Taldyqorghan 81.00 340 *eP* **P** **13 10 44.5 +2.2**
TDK pmax pmax
comp=Z,27nm,1.6s
TDK Taldyqorghan 81.00 340 *eP* **P** **13 10 44.5 +2.2**
comp=Z,27nm,1.6s
FDMO Fiordimonte 81.07 26 P **P** **13 10 41.2 -1.5**
GUMA Gualdo di Mace 81.11 26 IAMs_20 IAMs_20 13 49 18.5
comp=Z,2µm,19.0s
MAHO Mahon 81.17 33 IAMs_20 IAMs_20 13 44 37.5
comp=Z,2µm,22.0s
CART Cartagena 81.26 38 IAMs_20 IAMs_20 13 46 46.3
comp=Z,2µm,18.0s
NRCA Norcia 81.27 26 P **P** **13 10 42.4 -1.4**
NRCA IAMs_20 IAMs_20 13 50 59.5
comp=Z,2µm,20.0s
CESX Cesi 81.32 27 IAMs_20 IAMs_20 13 47 31.2
comp=Z,3µm,20.0s
CAMP Campotosto 81.62 26 IAMs_20 IAMs_20 13 48 59.0
comp=Z,3µm,20.0s
MLR Muntele Rosu 81.67 16 LR LR 13 47 46.4
comp=Z,5µm,20.6s,baz=1.0,slow=36
BTLS Baital 81.86 343 *eP* **P** **13 10 48.7 +1.9**
BTLS Baital 81.86 343 *eP* **P** **13 10 48.8 +1.9**
ARXS Arharly 81.88 340 *eP* **P** **13 10 46.6 -0.4**
MSVF Nonsavu 81.91 229 IAMs_20 IAMs_20 13 38 40.7
comp=Z,2µm,21.0s
MSVF Nonsavu 81.91 229 LR LR 13 39 23.7
comp=Z,2µm,20.8s,baz=20,slow=30
MACI Morro de la Ar 82.07 54 IAMs_20 IAMs_20 13 42 54.5
comp=Z,2µm,22.0s
SSLB Suanglung 82.56 299 IAMs_20 IAMs_20 13 51 38.0
comp=Z,1µm,19.0s
AAA Alma-Ata 83.03 340 *eP* **P** **13 10 54.8 +1.7**
AAA pmax pmax
comp=Z,16nm,0.7s
AAA Alma-Ata 83.03 340 *eP* **P** **13 10 54.9 +1.7**
comp=Z,16nm,0.7s
TIRR Tirgusor 83.09 15 IAMs_20 IAMs_20 13 47 07.4
comp=Z,1µm,22.0s
MAL2 Monte Alegre, 83.11 102 IAMs_20 IAMs_20 13 50 35.5
comp=Z,1µm,20.0s
TNSS Tian-Shan 83.19 340 *eP* **P** **13 10 55.5 +1.2**
TNSS Tian-Shan 83.19 340 *eP* **P** **13 10 55.6 +1.2**
ENH Enshi 83.21 311 IAMs_20 IAMs_20 13 48 57.3
comp=Z,2µm,20.0s
ERBR Yeremizino-Bor 83.24 6 *eP* **P** **13 10 53.8 -0.2**
ERBR *e**PP **pP** **13 10 57.1 +0.5**
ERBR *eS* **S** **13 21 13.4 -0.7**
ERBR pmax pmax
comp=Z,18nm,0.5s
ERBR MLR MLR
comp=N,830nm,15.0s
ERBR MLR MLR
comp=N,5µm,17.0s
ERBR MLR MLR
comp=E,632nm,10.0s
SGDS Sogindy 83.27 342 *eP* **P** **13 10 56.2 +1.9**

SIM Simferopol' 83.41 11 *eP* **P** **13 10 55.1 +0.2**
SIM *eS* **S** **13 21 11.1 -4.7**
SIM pmax pmax
comp=Z,11nm,0.7s
SIM smax smax
comp=N,329nm,22.2s
SIM MLR MLR
comp=Z,2µm,17.8s
FRU1 Bishkek 83.89 342 IAMs_20 IAMs_20 13 52 03.6
comp=Z,2µm,20.0s
MDT Midelt 83.90 43 LR LR 13 47 10.6
comp=Z,1µm,18.4s,baz=352,slow=35
ANN Anapa 83.91 8 *eP* **P** **13 10 56.0 -1.4**
ANN *e**PP **pP** **13 10 59.4 -0.6**
ANN *eS* **S** **13 21 17.3 -3.5**
ANN pmax pmax
comp=Z,19nm,0.8s
BOOM Boomskoye usch 83.93 341 P **P** **13 10 56.4 -1.4**
BOOM Boomskoye usch 83.93 341 P **P** **13 10 56.4 -1.4**
ITTB Itaituba 84.00 104 *eP* **P** **13 10 58.4 +0.1**
KDJ Kajisay 84.01 340 P **P** **13 10 56.8 -1.5**
KDJ Kajisay 84.01 340 P **P** **13 10 56.8 -1.5**
KDJ pmax pmax
comp=Z,12nm,1.2s
KDJ MLR MLR
comp=Z,3µm,19.0s
GOF Gofitskoye 84.05 4*c eP* **P** **13 11 00.9 +2.8**
AAK Ala-Archa 84.08 342 IAMs_20 IAMs_20 13 53 07.8
comp=Z,2µm,21.0s
AAK Ala-Archa 84.08 342 LR LR 13 53 37.8
comp=Z,1µm,18.9s,baz=19,slow=39
AAK Ala-Archa 84.08 342*c eP* **P** **13 10 58.1 -0.5**
AAK pmax pmax
comp=Z,3.0nm,1.0s
TARG Taragay, Kyrgy 84.25 339 IAMs_20 IAMs_20 13 53 21.4
comp=Z,2µm,19.0s
GOMU GeErMu 84.31 325 P **P** **13 11 01.8 +1.7**
GOMU pP pwP 13 11 06.7 +1.1
GOMU sP PcP 13 11 10.9 +7.0
GOMU pmax pmax
comp=Z,6.0nm,1.5s
GOMU LR LR
comp=Z,2µm,18.3s
GOMU LR LR
comp=Z,2µm,20.4s
GOMU LR LR
comp=Z,3µm,17.9s
LABN Labinsk 84.33 6 *eP* **P** **13 10 58.8 -0.8**
LABN *e**PP **pP** **13 11 01.9 -0.3**
LABN *eS* **SKSac** **13 21 21.1 -2.0**
LABN pmax pmax
comp=Z,17nm,0.6s
KK31 Karatay Array 84.36 345 P **P** **13 10 59.6 -0.2**
KK31 IAmb IAmb 13 11 30.5
comp=Z,25nm,1.9s
KK31 Karatay Array 84.36 345 P **P** **13 10 59.6 -0.2**
KK31 pmax pmax
comp=Z,25nm,1.9s
KKAR Karatay Array 84.36 345 P **P** **13 10 59.2 -0.6**
KKAR Karatay Array 84.36 345 P **P** **13 10 59.2 -0.6**
WUS Wushi 84.43 338 P **P** **13 10 59.5 -0.9**
WUS IAmb IAmb 13 11 50.6
comp=Z,20nm,1.3s
DZA Taraz 84.43 344 *eP* **P** **13 11 01.9 +1.8**
DZA Taraz 84.43 344 *eP* **P** **13 11 02.0 +1.8**
BRLS Borolday 84.55 345 *eP* **P** **13 11 03.8 +3.1**
BRLS Borolday 84.55 345 *eP* **P** **13 11 03.9 +3.1**
CUC Castrocucco 84.65 25 IAMs_20 IAMs_20 13 50 38.0
comp=Z,2µm,19.0s
NRN Naryn 84.93 340 P **P** **13 11 03.4 +0.3**
NRN IAmb IAmb 13 11 38.9
comp=Z,24nm,1.6s
NRN IAMs_20 IAMs_20 13 53 00.7
comp=Z,2µm,20.0s
NRN Naryn 84.93 340 P **P** **13 11 03.4 +0.3**
NRN pmax pmax
comp=Z,24nm,1.6s
KIV Kislovodsk 85.13 5 IAMs_20 IAMs_20 13 50 35.3
comp=Z,2µm,20.0s
KIV Kislovodsk 85.13 5 *eP* **P** **13 11 05.6 +1.8**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,1µm,20.0s
KVAR Kislovodsk Arr 85.13 5 LR LR 13 50 40.4
comp=Z,879nm,21.0s,slow=37
FNA Florina 85.27 21 P **P** **13 11 03.7 -0.8**
FNA Florina 85.27 21 P **P** **13 11 03.7 -0.8**
FNA pmax pmax
comp=Z,11nm,1.2s
FNA MLR MLR
comp=Z,3µm,18.0s
CHM Chimkent 85.28 345 *eP* **P** **13 11 06.0 +1.6**
CHM Chimkent 85.28 345 *eP* **P** **13 11 06.1 +1.6**
CD2 Chengdu 85.31 315 P **P** **13 11 04.7 -0.1**
CD2 S **S** **13 21 34.9 -0.5**
CD2 pmax pmax
comp=Z,270nm,4.4s
CD2 LR LR
comp=Z,2µm,15.7s
CD2 LR LR
comp=Z,2µm,18.0s
CD2 LR LR
comp=Z,2µm,16.1s
SOC Sochi 85.31 7 *eP* **P** **13 11 03.7 -0.8**
SOC *e* 13 14 22.5
SOC *e*PPP PPP 13 16 17.1
SOC *eS* **SKSac** **13 21 27.4 -1.9**
SOC MLR MLR
comp=Z,1µm,19.0s
KBZ Khabaz 85.37 5 P **P** **13 11 05.7 +1.0**
comp=Z,4.8nm,0.9s,baz=323,slow=3.9,SNR=6.1
comp=Z,4.8nm,0.9s
IUG Iuzhnay 85.37 345 *eP* **P** **13 11 06.6 +1.6**
IUG pmax pmax
comp=Z,32nm,1.6s
IUG Iuzhnay 85.37 345 *eP* **P** **13 11 06.6 +1.6**
comp=Z,32nm,1.6s
RDO Rodhopi 85.79 18 P **P** **13 11 06.4 -0.6**
RDO IAmb IAmb 13 11 24.9
comp=Z,27nm,1.3s
RDO IAMs_20 IAMs_20 13 52 22.0
comp=Z,2µm,19.0s
KEK Kerkira 85.92 22 IAMs_20 IAMs_20 13 51 51.7
comp=Z,2µm,20.0s
ALN Alexandroupoli 86.13 17 IAMs_20 IAMs_20 13 50 48.3
comp=Z,2µm,21.0s
MAK Makhachkala 86.29 1*d iP* **P** **13 11 05.0 -4.4**
MAK pmax pmax
comp=Z,40nm,0.4s
NPGB Novo Progresso 86.33 106 *eP* **P** **13 11 08.2 -1.8**
LPAZ La Paz 86.41 121 P **P** **13 11 10.2 -0.7**
LPAZ IAmb IAmb 13 11 34.8
comp=Z,20nm,1.4s
LPAZ La Paz 86.41 121 P **P** **13 11 10.0 -1.0**
comp=Z,2.2nm,0.6s,baz=340,slow=15,SNR=7.2
LPAZ LR LR 13 53 05.4
comp=Z,750nm,18.2s,baz=318,slow=38
comp=Z,2.2nm,0.6s
LPAZ La Paz 86.41 121 P **P** **13 11 10.2 -0.7**
LPAZ pmax pmax
comp=Z,20nm,1.4s
LPAZ La Paz 86.41 121 *eP* **P** **13 11 10.2 -0.7**
VAE Valguarnera 86.60 27 LR LR 13 51 30.4
comp=Z,3µm,18.6s,baz=356,slow=37
KEST Kesra 86.65 32 P **P** **13 11 12.0 +0.5**
comp=Z,3.9nm,0.8s,baz=316,slow=14,SNR=4.6
KEST LR LR 13 51 15.2
comp=Z,2µm,18.4s,baz=356,slow=37
comp=Z,3.9nm,0.8s
PB18 Visviri 86.77 123 P **P** **13 11 12.0 -0.5**
PB18 IAMs_20 IAMs_20 13 50 43.9
comp=Z,1µm,18.0s
KSH Kashi 86.77 340 P **P** **13 11 14.4 +2.4**
KSH pmax pmax
comp=Z,10.0nm,1.0s
KSH LR LR
comp=Z,2µm,17.2s
KSH LR LR
comp=Z,3µm,17.9s
KSH LR LR
comp=Z,3µm,17.9s
TMAB Tom-Au,PA,Br 87.17 97 *eP* **P** **13 11 14.9 +0.9**
ILGA Ilgaz 87.20 12 P **P** **13 11 13.1 -1.1**
ILGA IAmb IAmb 13 11 32.8
comp=Z,33nm,1.0s
ILGA IAMs_20 IAMs_20 13 51 46.1
comp=Z,2µm,22.0s
BTK Batken 87.27 344 P **P** **13 11 13.4 -1.0**
BTK IAmb IAmb 13 11 45.3
comp=Z,15nm,1.1s
BTK Batken 87.27 344 P **P** **13 11 13.4 -1.0**
BTK pmax pmax
comp=Z,15nm,1.2s
PB16 IPOC Station P 87.37 124 P **P** **13 11 14.8 -0.8**
PB16 IAmb IAmb 13 11 24.9
comp=Z,24nm,1.4s
HKPS Hong Kong Po S 87.46 303 IAMs_20 IAMs_20 13 51 57.2
comp=Z,1µm,19.0s
DRK Karamyk 87.65 343 IAMs_20 IAMs_20 13 54 29.1
comp=Z,2µm,20.0s
GYA Guiyang 87.75 311 ⇑P P 13 11 22.6 +5.6
GYA pmax pmax
comp=Z,7.0nm,1.0s
AKT Akhty 87.77 1 *eP* **P** **13 11 16.4 -0.4**
AKT *e* 13 14 40.6
AKT pmax pmax
comp=Z,23nm,1.2s
AKT MLR MLR
comp=Z,2µm,18.0s
BORA Eskisehir 87.88 14 IAMs_20 IAMs_20 13 52 07.3
comp=Z,2µm,20.0s
VILB Vilhena 88.14 113 P **P** **13 11 18.1 -0.6**
VILB IAmb IAmb 13 11 32.9
comp=Z,18nm,0.8s
VILB IAMs_20 IAMs_20 13 53 43.3
comp=Z,1µm,20.0s
VILB Vilhena 88.14 113 *eP* **P** **13 11 19.1 +0.4**
ANTO Ankara 88.24 13 IAMs_20 IAMs_20 13 55 55.7
comp=Z,1µm,19.0s
GAR Garm 88.39 344 P **P** **13 11 19.1 -0.7**
PB11 IPOC Station P 88.47 124 P **P** **13 11 20.2 -0.1**
PB11 IAmb IAmb 13 11 38.8
comp=Z,19nm,1.1s
BRTR Keskin Array B 88.50 12 P **P** **13 11 19.3 -1.0**
BRTR Keskin Array B 88.50 12 P **P** **13 11 21.5 +1.2**
comp=Z,1.9nm,0.9s,baz=5.2,slow=3.2,SNR=7.5
BRTR LR LR 13 53 58.2
comp=Z,746nm,19.9s,baz=346,slow=38
comp=Z,1.9nm,0.9s
BRTR Keskin Array B 88.50 12 *i* P **P** **13 11 22.7 +2.4**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
ITM Ithomi 88.84 22 IAMs_20 IAMs_20 13 51 45.8
comp=Z,3µm,22.0s
KOPT Kop Dagi 88.91 7 IAMs_20 IAMs_20 13 53 36.4
comp=Z,2µm,21.0s
MANT Manisa 88.92 16 IAMs_20 IAMs_20 13 52 37.8
comp=Z,2µm,20.0s
GNI Garni 89.02 4 IAMs_20 IAMs_20 13 53 57.3
comp=Z,1µm,18.0s
GNI Garni 89.02 4 LR LR 13 55 11.6
comp=Z,935nm,20.4s,baz=2.5,slow=38
PRPB Parauapebas 89.05 101 *eP* **P** **13 11 23.5 +0.5**
CLDB Colider 89.09 108 *eP* **P** **13 11 23.9 +0.7**
PDRB Porto dos Gac 89.11 110 *eP* **P** **13 11 22.2 -1.1**
ARPR Arapgir-MALATY 89.65 9 IAMs_20 IAMs_20 13 55 37.2
comp=Z,1µm,18.0s
ISP Isparta 89.91 15 IAMs_20 IAMs_20 13 53 31.2
comp=Z,2µm,22.0s
PZH PanZhiHua 89.99 315 P **P** **13 11 29.9 +2.4**
PZH SKS **SKSac** **13 22 01.4 +2.8**
PZH S **S** **13 22 19.8 -0.7**
PZH pmax pmax
comp=Z,10.0nm,2.0s
PZH pmax pmax
comp=Z,130nm,5.3s
PZH LR LR
comp=Z,1µm,18.0s
PZH LR LR
comp=Z,1µm,16.5s
PZH LR LR
comp=Z,2µm,17.1s
SIV San Ignacio 90.08 116 LR LR 13 56 49.0
comp=Z,792nm,18.9s,baz=339,slow=39
RAO Raoul Island 90.20 220 LR LR 13 44 27.9
comp=Z,620nm,20.7s,baz=342,slow=31
TGY Tagaytay City 90.28 293 LR LR 13 53 09.7
comp=Z,345nm,18.0s,baz=47,slow=36
PTLB Pontes e Lacer 90.75 114 P **P** **13 11 31.2 +0.4**
PTLB IAmb IAmb 13 11 41.5
comp=Z,12nm,0.9s
PTLB Pontes e Lacer 90.75 114 *eP* **P** **13 11 31.4 +0.6**
JAY Jayapura 91.07 267 LR LR 13 46 10.8
comp=Z,1µm,19.6s,baz=25,slow=31
IDI Anoyia 91.31 20 LR LR 13 56 32.0
comp=Z,893nm,18.8s,baz=332,slow=38
DZM Mont Dzumac 91.35 236 *e*PP **PP** **13 15 04.2 -7.2**
comp=Z,90nm,33.2s
DZM *e*S **S** **13 22 29.5 -3.1**
comp=Z,224nm,24.9s
DZM *e*SS **SS** **13 28 33.2 -5.3**
comp=Z,726nm,29.6s
DZM *e*LQ LQ 13 36 04.4
comp=Z,1µm,29.7s
DZM *e*LR LR 13 40 50.5
comp=Z,1µm,25.1s
LSA Lhasa 91.48 325 IAMs_20 IAMs_20 13 54 31.7
comp=Z,2µm,20.0s
KARP Karpathos 91.53 18 IAMs_20 IAMs_20 13 54 09.8
comp=Z,2µm,22.0s
QIZ Qiongzhong 92.39 304 P **P** **13 11 38.0 -0.6**
QIZ PP **PP** **13 15 20.1 +1.3**
QIZ SKS **SKSac** **13 22 16.3 +4.1**
QIZ S **S** **13 22 41.1 -1.2**
QIZ SS **SS** **13 28 54.2 +2.2**
QIZ LR LR
comp=Z,860nm,22.0s
QIZ LR LR
comp=Z,900nm,16.5s
SMTB Santa Maria do 92.52 101 *eP* **P** **13 11 40.0 +0.9**
TNCH TengChong 92.69 317 *eP* **P** **13 11 40.8 +0.7**
TNCH SKS **SKSac** **13 22 12.8 -1.3**
TNCH S **S** **13 22 41.7 -3.5**
TNCH SS **SS** **13 28 55.8 -0.4**
TNCH pmax pmax
comp=Z,15nm,0.5s
TNCH LR LR
comp=Z,730nm,13.0s
TNCH LR LR
comp=Z,1µm,17.1s
TNCH LR LR
comp=Z,2µm,17.9s
NIL Nilore 93.00 340 P **P** **13 11 40.3 -0.9**
NIL IAmb IAmb 13 12 09.7
comp=Z,15nm,1.1s
NIL Nilore 93.00 340 IAMs_20 IAMs_20 13 59 01.9
comp=Z,1µm,18.0s
NIL Nilore 93.00 340 P **P** **13 11 40.3 -0.9**
NIL pmax pmax
comp=Z,15nm,1.1s
DAV Davao City (W) 93.08 285 IAMs_20 IAMs_20 13 45 16.5
comp=Z,1µm,22.0s
DAV Davao City (W) 93.08 285 LR LR 13 45 50.9
comp=Z,656nm,21.1s,baz=58,slow=31
BBTS Babate 93.11 62 LR LR 13 49 46.1
comp=Z,2µm,21.1s,baz=199,slow=33
CSS Mathiatis 93.14 13 IAMs_20 IAMs_20 13 55 39.6
comp=Z,1µm,21.0s
SLVN Son La 93.42 310 IAMs_20 IAMs_20 13 58 60.0
comp=Z,1µm,20.0s
EVN Everest 94.60 327 IAMs_20 IAMs_20 13 56 54.8
comp=Z,1µm,20.0s
MMAI Mount Meron Ar 95.33 12 LR LR 13 58 25.2
comp=Z,588nm,21.0s,baz=331,slow=38
ASF Jabal al Asfar 96.35 11 LR LR 14 00 01.0
comp=Z,687nm,18.5s,baz=27,slow=38
FAKI Fak Fak 96.71 274 IAMs_20 IAMs_20 13 48 26.4
comp=Z,1µm,20.0s
TAM Tamanrasset 96.94 40 IAMs_20 IAMs_20 13 59 22.9
comp=Z,864nm,18.0s
BDFB Brasilia 97.50 105 LR LR 13 59 40.4
comp=Z,945nm,18.8s,baz=329,slow=38
RCBR Riachuelo 97.50 90 IAMs_20 IAMs_20 13 51 24.4
comp=Z,2µm,22.0s
RCBR Riachuelo 97.50 90 LR LR 13 53 54.9
comp=Z,586nm,19.2s,baz=327,slow=34
BRDH Bariadhala 97.63 321 LR LR 14 00 11.4
comp=Z,2µm,19.5s,baz=4.5,slow=38
CHTO Chiang Mai 97.92 313 IAMs_20 IAMs_20 14 03 14.7
comp=Z,1µm,18.0s
CMAR Chiang Mai Arr 98.23 313 P **P** **13 12 04.5 -0.7**
CMAR Chiang Mai Arr 98.23 313 P Pdif 13 12 05.7 +0.4

comp=Z,1.2nm,0.8s,baz=30,slow=5.1,SNR=6.1
CMAR LR LR 14 00 37.5
comp=Z,984nm,18.1s,baz=50,slow=38
comp=Z,1.2nm,0.8s
VA06 Catapilco 98.33 133 IAMs_20 IAMs_20 13 54 05.1
comp=Z,1µm,19.0s
MT05 Renca 99.28 133 IAMs_20 IAMs_20 13 54 22.2
comp=Z,1µm,19.0s
MT08 Bocatoma Ro 99.65 132 IAMs_20 IAMs_20 13 54 03.2
comp=Z,1µm,19.0s
BO04 La Punta 99.83 133 IAMs_20 IAMs_20 13 54 02.9
comp=Z,1µm,19.0s
HIZ Hauiti 101.19 221 IAMs_20 IAMs_20 13 45 36.1
comp=Z,818nm,18.0s
UOSS Minazif 104.03 354 Pdif **Pdif 13 12 29.1 -1.9**
UOSS Minazif 104.03 354 IAMs_20 IAMs_20 14 07 19.1
comp=Z,855nm,20.0s
LR05 Currie 104.39 138 IAMs_20 IAMs_20 13 57 06.1
comp=Z,1µm,21.0s
RAYN Ar Rayn 105.61 4 IAMs_20 IAMs_20 14 06 07.8
comp=Z,918nm,21.0s
LL01 San Ignacio de 106.01 139 IAMs_20 IAMs_20 13 56 26.9
comp=Z,830nm,19.0s
SOEI Soe 106.98 276 IAMs_20 IAMs_20 13 53 13.5
comp=Z,1µm,21.0s
HYB Hyderabad 107.10 331 *e*PKiKP **PKiKP 13 16 54.0 -0.1**
TRQA Tornquist 107.21 130 IAMs_20 IAMs_20 13 59 36.0
comp=Z,1µm,20.0s
IPM Ipoh 109.22 304 IAMs_20 IAMs_20 14 04 50.4
comp=Z,1µm,20.0s
BKNI Bangkinang 112.71 302 IAMs_20 IAMs_20 14 11 02.3
comp=Z,1000nm,18.0s
FURI Furi 119.52 12 IAMs_20 IAMs_20 14 13 27.3
comp=Z,701nm,20.0s
LODK Lodwar 124.37 17 IAMs_20 IAMs_20 14 15 36.8
comp=Z,962nm,20.0s
MBAR Mbarara 127.26 24 IAMs_20 IAMs_20 14 15 05.8
comp=Z,964nm,20.0s
KMBO Kilima Mbogo 129.15 16 IAMs_20 IAMs_20 14 19 44.5
comp=Z,746nm,20.0s
KIBK Kibwezi 130.47 15 IAMs_20 IAMs_20 14 20 12.0
comp=Z,656nm,19.0s
TSUM Tsumeb 139.50 50 IAMs_20 IAMs_20 14 26 02.9
comp=Z,1µm,20.0s
QSPA South Pole Qui 140.92 180 PKhKP PKPpre 13 17 50.5
comp=Z,3.5nm,1.1s,baz=62,slow=1.4,SNR=4.7
KGCAE Kacgae 144.81 47 PKPbc 13 18 04.0 +0.1
KGCAE Kacgae 144.81 47 *i* P PKPbc 13 18 04.1 +0.2
LKGWB Lokgwabe 145.43 49 PKPdf **PKPbc 13 18 05.0 -0.8**
BROLN Tlhalogang 145.44 38 *i* P **PKPbc 13 18 05.6 -0.3**
KDWAN Kaudwane 146.37 44 PKPdf **PKPdf 13 18 06.0 -1.5**
KDWAN Kaudwane 146.37 44 *i* P **PKPdf 13 18 07.5 +0.1**
CASY Casey 146.39 220 PKPdf **PKPbc 13 18 06.7 -0.6**
CASY Casey 146.39 220 IAMs_20 IAMs_20 14 19 24.4
comp=Z,923nm,20.0s
LPHEP Lephephe 146.87 42 PKPdf **PKPdf 13 18 07.3 -1.1**
LPHEP Lephephe 146.87 42 *i* P **PKPdf 13 18 09.2 +0.9**
VNA3 Neumayer Olymp 147.11 149 ⇑P **PKPbc 13 18 09.1 -0.2**
comp=Z,9.7nm,0.7s
VNA1 Neumayer--Stat 147.63 148 ⇑P **PKPbc 13 18 11.0 +0.3**
comp=Z,23nm,1.0s
VNA2 Neumayer--Watz 147.88 149 ⇑P **PKPbc 13 18 10.2 -1.2**
comp=Z,2.2nm,0.3s,baz=290,slow=8.4
MAKGR Makgori 148.55 46 PKPdf **PKPdf 13 18 10.3 -0.7**
SNAA Sanae 149.19 151 ⇑P **PKPdf 13 18 09.5 -1.1**
comp=Z,156nm,1.0s
SNAA Sanae 149.19 151 **PKPdf 13 18 10.5 -0.1**
SNAA IAMs_20 IAMs_20 14 28 04.0
comp=Z,792nm,20.0s
SNAA Sanae 149.19 151 PKPbc **PKPbc 13 18 15.2 +0.4**
comp=Z,11nm,1.1s,baz=269,slow=4.2,SNR=14
SNAA Sanae 149.19 151 PKP2 **PKPbc 13 18 15.2 +0.4**
SNAA Sanae 149.19 151 PKIKP **PKPdf 13 18 10.5 -0.1**
TROLL Troll, Antarti 150.70 152 ⇑P **PKPdf 13 18 13.1 +0.1**
comp=Z,424nm,1.0s
BOSA Boshof 151.15 48 PKPdf **PKPdf 13 18 13.8 -1.3**
BOSA Boshof 151.15 48 PKPbc **PKPbc 13 18 21.1 +0.1**
comp=Z,10nm,1.0s,baz=332,slow=3.8,SNR=7.0
BOSA Boshof 151.15 48 PKIKP **PKPdf 13 18 13.8 -1.3**
SUR Sutherland 151.93 59 PKPdf **PKPdf 13 18 16.0 -0.2**
SUR PKPbc **PKPbc 13 18 22.6 -0.2**
SUR PKPab **PKPab 13 18 31.3 -0.7**
NVL N'lazarevskaya 153.93 153 *e*PKP2 **PKPab 13 18 37.3 -1.8**
NVL *e* 13 25 54.0
NVL pmax pmax
comp=Z,7.0nm,0.7s
NVL pmax pmax
comp=E,183nm,12.5s
SYO Syowa Base 161.45 169 ⇓*e*PKPdf **PKPdf 13 18 29.0 +2.0**

*PGC **05** 13:02:14.6±3.1,51.08N×130.94W,h10km,MLSn4.3/20, Mw4.7,mb4.6(NEIC),228km southwest of Bella Bella, Bc Haida Gwaii Region*
*IDC **05** 13:02:16.1±0.9,51.22N×130.66W,h0km,mb4.0/8, mbtmp4.2/15,ML3.5/6,Error ellipse: s-maj=14.8km s-min=12.0km az=53.0*
*NEIC **05** 13:02:16.5±2.0,51.30N±0.07×130.6W±0.1,h10km±1km, mb4.6/36,Error ellipse: s-maj=14.9km s-min=7.8km az=218.0*

ISC 05 13:02:17.5±0.5,51.14N±0.05×130.66W±0.05,h12km, n462,σ1.89/440,mb4.5/15,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HG4B	**Hotspring**	**1.20**	**344**	Pn	Pn	13 02 36.1	-4.0
JEDB	**Jedway, Haida**	**1.20**	**344**	P	Pn	13 02 36.0	-4.0
JEDB				S	Sn	13 02 50.3	-6.0
BAIB	**Barry Inlet**	**1.59**	**335**	Pn	Pn	13 02 41.1	-4.4
BAIB				Sn	Sn	13 02 58.9	-7.0
HOLB	**Holberg**	**1.68**	**106**	Pn	**Pn**	**13 02 44.1**	**-2.5**
HOLB	**Holberg**	**1.68**	**106**	Pn	**Pn**	**13 02 44.0**	**-2.6**
HOLB				Sn	**Sn**	**13 03 06.3**	**-1.8**
BBB	**Bella Bella**	**1.90**	**56**	Pn	**Pn**	**13 02 47.8**	**-1.8**
	304nm,0.3s,baz=240,slow=15,SNR=6.7						
BBB				Sn	**Sn**	**13 03 11.5**	**-1.9**
	306nm,0.3s,baz=255,slow=15,SNR=4.6						
BBB	**Bella Bella**	**1.90**	**56**	Pn	**Pn**	**13 02 47.5**	**-2.1**
HG1B	**Mitchell Dam**	**2.01**	**334**	Pn	Pn	13 02 46.9	-4.3
BPEB	**Brooks Peninsu**	**2.08**	**117**	Pn	**Pn**	**13 02 49.3**	**-3.0**
PHC	**Port Hardy**	**2.09**	**101**	Pn	**Pn**	**13 02 49.9**	**-2.3**
PACB	**Port Alice, BC**	**2.13**	**108**	Pn	**Pn**	**13 02 50.1**	**-2.7**
PACB				Sn	**Sn**	**13 03 18.4**	**-0.7**
MOBC	**Moresby Island**	**2.16**	**339**	Pn	Pn	13 02 49.6	-3.7
MOBC	**Moresby Island**	**2.16**	**339**	Pn	Pn	13 02 49.3	-4.0
MOBC				Sn	Sn	13 03 14.5	-5.6
MAYB	**Maynard**	**2.33**	**107**	Pn	**Pn**	**13 02 53.5**	**-2.3**
DIB	**Dawson Inlet,**	**2.35**	**332**	Pn	Pn	13 02 52.8	-3.0
DIB	**Dawson Inlet,**	**2.35**	**332**	Pn	Pn	13 02 51.1	-4.7
H02S1	**DAWSON INLET T**	**2.35**	**332**	Pn	Pn	13 02 53.1	-2.7
BUTB	**Butedale**	**2.35**	**34**	Pn	**Pn**	**13 02 54.0**	**-2.0**
BNAB	**Bonilla**	**2.35**	**0**	Pn	Pn	13 02 52.7	-3.2
GRIB	**Gribbell Islan**	**2.39**	**22**	Pn	**Pn**	**13 02 54.6**	**-1.8**
EDB	**Eliza Dome**	**2.59**	**118**	Pn	**Pn**	**13 02 56.3**	**-2.9**
WOSB	**Woss**	**2.78**	**109**	Pn	**Pn**	**13 02 59.6**	**-2.2**
PCLB	**Port Clements**	**2.82**	**337**	Sn	Sn	13 03 30.9	-5.3
NCSB	**Newcastle Ridg**	**3.01**	**102**	Pn	**Pn**	**13 03 04.1**	**-0.9**
NTKA	**Nootka**	**3.02**	**119**	Pn	**Pn**	**13 03 02.4**	**-2.6**
NDB	**Naden**	**3.14**	**335**	Pn	Pn	13 03 03.5	-3.3
MBLB	**Minette Bay Lo**	**3.15**	**22**	Pn	Pn	13 03 04.8	-2.1
ETB	**Estevan Point**	**3.18**	**122**	Pn	**Pn**	**13 03 05.0**	**-2.2**
KITB	**Kitimat**	**3.19**	**22**	Pn	**Pn**	**13 03 05.5**	**-1.9**
KITB				Sn	**Sn**	**13 03 42.2**	**-3.0**
RUBB	**Prince Rupert**	**3.20**	**4**	Pn	Pn	13 03 05.5	-2.0
RUBB	**Prince Rupert**	**3.20**	**4**	Pn	Pn	13 03 04.9	-2.6
GDR	**Gold River**	**3.25**	**113**	Pn	**Pn**	**13 03 06.4**	**-1.9**
SHPB	**Sharp Point**	**3.35**	**121**	Pn	**Pn**	**13 03 07.6**	**-1.9**
CBB	**Campbell River**	**3.55**	**106**	Pn	**Pn**	**13 03 11.3**	**-1.0**
CBB	**Campbell River**	**3.55**	**106**	Pn	**Pn**	**13 03 11.2**	**-1.2**
B012	**Ucluelet**	**3.98**	**122**	Pn	**Pn**	**13 03 16.4**	**-1.8**
OZB	**Mount Ozzard**	**3.98**	**121**	Pn	**Pn**	**13 03 16.6**	**-1.7**
B927	**Port Alberni**	**4.22**	**115**	Pn	**Pn**	**13 03 20.1**	**-1.5**
PABB	**Port Alberni**	**4.22**	**115**	Pn	**Pn**	**13 03 20.0**	**-1.5**
V35K	**Ketchikan**	**4.23**	**353**	Pn	**Pn**	**13 03 20.1**	**-1.6**
V35K	**Ketchikan**	**4.23**	**353**	Pn	**Pn**	**13 03 19.7**	**-2.0**
V35K	**Ketchikan**	**4.23**	**353**	P	**Pn**	**13 03 24.4**	**+2.7**
	baz=175						
TXB	**Texada**	**4.23**	**108**	Pn	**Pn**	**13 03 20.6**	**-1.1**
BFSB	**Bamfield**	**4.25**	**121**	Pn	**Pn**	**13 03 20.1**	**-1.7**
B928	**Bamfield**	**4.25**	**121**	Pn	**Pn**	**13 03 20.3**	**-1.5**
MGRB	**Mount Grey**	**4.40**	**117**	Pn	**Pn**	**13 03 22.4**	**-1.7**
CRAG	**Craig**	**4.58**	**342**	Pn	Pn	13 03 24.1	-2.3
CRAG	**Craig**	**4.58**	**342**	P	**Pn**	**13 03 28.7**	**+2.2**
	baz=163						
NLLB	**Nanaimo Lost L**	**4.69**	**112**	Pn	**Pn**	**13 03 26.7**	**-1.3**
U35K	**Hyder**	**4.80**	**4**	P	**Pn**	**13 03 32.9**	**+3.4**
	baz=187						
PTRF	**Port Renfrew**	**4.80**	**120**	Pn	**Pn**	**13 03 28.3**	**-1.3**
B926	**Mesachie Lake**	**4.81**	**116**	Pn	**Pn**	**13 03 28.2**	**-1.4**
CLRS	**Cowichan Lake**	**4.81**	**116**		**Pn**	**13 03 28.9**	**-0.8**
CLRS	**Cowichan Lake**	**4.81**	**116**	Pn	**Pn**	**13 03 28.7**	**-0.9**
WPB	**Watts Point**	**4.99**	**104**	Pn	**Pn**	**13 03 31.9**	**-0.2**
WSLR	**Whistler**	**5.03**	**99**	Pn	**Pn**	**13 03 32.6**	**-0.1**
FSJB	**Fort St James**	**5.09**	**47**	Pn	**Pn**	**13 03 33.1**	**-0.4**
C03A	**Quillayute Air**	**5.09**	**127**	Pn	**Pn**	**13 03 34.2**	**+0.7**
SYMB	**Survey Mountai**	**5.13**	**118**	Pn	**Pn**	**13 03 34.0**	**-0.2**
U33K	**Whale Pass**	**5.19**	**345**	Pn	Pn	13 03 32.4	-2.5
U33K	**Whale Pass**	**5.19**	**345**	Pn	**Pn**	**13 03 33.2**	**-1.7**
U33K					Sn	**13 04 30.8**	**-3.8**
U33K	**Whale Pass**	**5.19**	**345**	P	**Pn**	**13 03 37.4**	**+2.6**
	baz=165						
B010	**North Saanich**	**5.28**	**115**	Pn	**Pn**	**13 03 36.0**	**-0.1**
B009	**North Saanich**	**5.28**	**115**	Pn	**Pn**	**13 03 35.9**	**-0.3**
PGC	**Sidney**	**5.28**	**115**	Pn	**Pn**	**13 03 35.7**	**-0.4**
PGC	**Sidney**	**5.28**	**115**	Pn	**Pn**	**13 03 35.6**	**-0.5**
B011	**North Saanich**	**5.29**	**115**	Pn	**Pn**	**13 03 36.2**	**+0.1**
SNB	**Saturna Island**	**5.38**	**113**	Pn	**Pn**	**13 03 38.0**	**+0.5**
WRAK	**Wrangell Islan**	**5.38**	**350**	Pn	**Pn**	**13 03 38.0**	**+0.6**
WRAK					Sn	**13 04 35.7**	**-3.5**
WRAK	**Wrangell Islan**	**5.38**	**350**	P	**Pn**	**13 03 40.1**	**+2.6**
	baz=171						
STW	**Striped Peak**	**5.44**	**121**	Pn	**Pn**	**13 03 38.1**	**-0.1**
VGZ	**Gonzales**	**5.48**	**117**	Pn	**Pn**	**13 03 38.9**	**+0.1**
LLLB	**Lillooet**	**5.58**	**92**	Pn	**Pn**	**13 03 40.6**	**+0.3**
OSD	**Olympics--Snow**	**5.62**	**124**	Pn	**Pn**	**13 03 41.0**	**0.0**
A04D	**Lummi Island**	**5.68**	**112**	Pn	**Pn**	**13 03 41.1**	**-0.4**
NLWA	**Neilton Lookou**	**5.81**	**128**	Pn	**Pn**	**13 03 44.1**	**+0.6**
T33K	**Petersburg**	**5.84**	**347**	P	**Pn**	**13 03 45.8**	**+2.0**
	baz=168						
T35M	**Bob Quinn**	**5.86**	**2**	Pn	Pn	13 03 41.0	-3.0
T35M	**Bob Quinn**	**5.86**	**2**	P	**Pn**	**13 03 47.3**	**+3.3**
	baz=184						
SVOH	**Skagit Valley**	**5.94**	**116**	Pn	**Pn**	**13 03 42.5**	**-2.6**
WISH	**Wishkah**	**6.05**	**129**	Pn	**Pn**	**13 03 47.8**	**+1.1**
WISH	**Wishkah**	**6.05**	**129**	Pn	**Pn**	**13 03 47.4**	**+0.7**
HDW	**Hoodsport**	**6.07**	**122**	Pn	**Pn**	**13 03 46.9**	**-0.2**
JCW	**Jim Creek**	**6.39**	**114**	Pn	**Pn**	**13 03 51.6**	**+0.2**
SIT	**Sitka**	**6.53**	**337**	P	**Pn**	**13 03 55.1**	**+2.0**
	baz=156						
RADR	**Rader Ridge**	**6.54**	**134**	Pn	**Pn**	**13 03 54.5**	**+0.9**
E03A	**Lebam**	**6.56**	**132**	Pn	**Pn**	**13 03 54.6**	**+0.9**
E03A	**Lebam**	**6.56**	**132**	Pn	**Pn**	**13 03 54.2**	**+0.5**
S32K	**Killisnoo**	**6.74**	**342**	P	**Pn**	**13 03 58.5**	**+2.5**
	baz=161						
S34M	**Telegraph Cree**	**6.79**	**358**	P	**Pn**	**13 03 59.8**	**+3.0**
	baz=179						
D05A	**Enumclaw**	**6.92**	**122**	Pn	**Pn**	**13 04 01.1**	**+2.5**
D05A	**Enumclaw**	**6.92**	**122**	Pn	**Pn**	**13 04 00.8**	**+2.2**
F03A	**Seaside**	**7.03**	**135**	Pn	**Pn**	**13 04 01.2**	**+1.1**
BMTB	**Bullhead Mount**	**7.06**	**43**	Pn	**Pn**	**13 04 02.4**	**+1.8**
FMW	**Mount Fremont**	**7.25**	**122**	Pn	**Pn**	**13 04 04.7**	**+1.3**
LON	**Longmire**	**7.30**	**124**	Pn	**Pn**	**13 04 04.5**	**+0.6**
LON	**Longmire**	**7.30**	**124**	Pn	**Pn**	**13 04 04.7**	**+0.9**
DLBC	**Dease Lake**	**7.32**	**3**	Pn	**Pn**	**13 04 04.6**	**+0.5**
	0.2nm,0.3s,baz=166,slow=17,SNR=1.2						
	26nm,1.3s						
DLBC	**Dease Lake**	**7.32**	**3**	P	**Pn**	**13 04 07.4**	**+3.3**
	baz=184						
R32K	**Eaglecrest**	**7.49**	**344**	P	**Pn**	**13 04 09.0**	**+2.7**
	baz=163						
HEBO	**Mount Hebo**	**7.51**	**139**	Pn	**Pn**	**13 04 08.6**	**+1.7**
S31K	**Pelican**	**7.56**	**337**	P	**Pn**	**13 04 09.3**	**+2.0**
	baz=154						
LTY	**Liberty**	**7.61**	**117**	Pn	**Pn**	**13 04 09.6**	**+1.4**
LTY	**Liberty**	**7.61**	**117**	Pn	**Pn**	**13 04 08.9**	**+0.8**
G03D	**McMinnville, O**	**7.72**	**137**	Pn	**Pn**	**13 04 09.9**	**+0.3**
R31K	**City Hall, Gus**	**7.85**	**340**	P	**Pn**	**13 04 13.7**	**+2.3**
	baz=158						
Q32M	**Nakina River**	**7.89**	**354**	P	**Pn**	**13 04 14.9**	**+2.9**
	baz=174						
BDMTA	**Bald Mountain**	**7.98**	**58**	Pn	**Pn**	**13 04 14.4**	**+1.2**
G04A	**Mulino**	**8.07**	**134**	Pn	**Pn**	**13 04 14.7**	**+0.3**
COR	**Corvallis**	**8.21**	**140**	Pn	**Pn**	**13 04 18.4**	**+2.0**
R33M	**Jennings River**	**8.27**	**359**	P	**Pn**	**13 04 20.1**	**+2.8**
	baz=180						
TOAD	**Toad River Com**	**8.33**	**20**	P	**Pn**	**13 04 21.4**	**+3.5**
	baz=205						
HOOD	**Mount Hood Mea**	**8.37**	**131**	Pn	**Pn**	**13 04 19.7**	**+1.1**
I02E	**Swisshome, OR**	**8.40**	**144**	Pn	**Pn**	**13 04 19.3**	**+0.4**
H04D	**Lebanon**	**8.49**	**138**	Pn	**Pn**	**13 04 20.4**	**+0.2**
G05A	**Wamic**	**8.59**	**130**	Pn	**Pn**	**13 04 22.2**	**+0.7**
H04A	**Detroit Lake**	**8.61**	**135**	Pn	**Pn**	**13 04 23.6**	**+1.8**
P32M	**Atlin**	**8.64**	**350**	Sn	**Sn**	**13 05 57.7**	**-1.9**
P32M	**Atlin**	**8.64**	**350**	P	**Pn**	**13 04 24.6**	**+2.3**
	baz=169						
BUCK	**Buck Mountain**	**8.66**	**140**	Pn	**Pn**	**13 04 23.0**	**+0.5**
LIRD	**Liard River Hi**	**8.68**	**16**	Sn	**Sn**	**13 05 58.7**	**-1.7**
LIRD	**Liard River Hi**	**8.68**	**16**	P	**Pn**	**13 04 26.8**	**+4.0**
	baz=200						
SKAG	**Skagway**	**8.75**	**344**	P	**Pn**	**13 04 25.7**	**+2.1**
	baz=162						
PLBC	**Pleasant Camp**	**8.94**	**341**	P	**Pn**	**13 04 29.0**	**+2.7**
	baz=158						
WTLY	**Watson Lake, Y**	**9.05**	**6**	P	**Pn**	**13 04 31.7**	**+3.9**
	baz=188						
P33M	**Teslin, Yukon**	**9.17**	**353**	P	**Pn**	**13 04 33.0**	**+3.5**
	baz=173						
I05D	**Terrebonne, OR**	**9.25**	**134**	Pn	**Pn**	**13 04 32.5**	**+1.8**
YPT	**Yellepit**	**9.27**	**119**	Pn	**Pn**	**13 04 33.6**	**+2.7**
P29M	**Windy Craggy**	**9.41**	**337**	P	**Pn**	**13 04 35.1**	**+2.4**
	baz=153						
K02D	**Willamette Mer**	**9.71**	**148**	Pn	Pn	13 04 40.3	+3.4
KOTAN	**Kotaneelee Air**	**9.74**	**20**	P	**Pn**	**13 04 41.0**	**+3.8**
	baz=206						
WHY	**Whitehorse**	**9.83**	**348**	P	**Pn**	**13 04 40.9**	**+2.3**
	baz=166						
PNL	**Peninsula**	**9.88**	**333**	P	**Pn**	**13 04 40.8**	**+1.7**
	baz=148						
O30N	**Mendenhall**	**10.12**	**345**	P	**Pn**	**13 04 44.5**	**+2.1**
	baz=162						
N32M	**Quiet Lake**	**10.12**	**353**	P	**Pn**	**13 04 45.6**	**+3.1**
	baz=172						
O29M	**Mount Kennedy**	**10.20**	**337**	P	**Pn**	**13 04 45.6**	**+2.0**
	baz=152						
HYT	**Haines Junctio**	**10.43**	**341**	P	**Pn**	**13 04 48.4**	**+1.7**
	baz=157						
PINM	**Pinnacle**	**10.47**	**333**	P	**Pn**	**13 04 49.1**	**+1.8**
	baz=146						
TGTN	**Hyland Airport**	**10.49**	**6**	P	**Pn**	**13 04 51.1**	**+3.5**
	baz=189						
YUK6	**Outpost Mounta**	**10.72**	**339**	P	**Pn**	**13 04 52.8**	**+2.0**
	baz=154						
YBH	**Yreka Blue Hor**	**10.89**	**147**	Pn	Pn	13 04 56.0	+3.0
	baz=351,slow=13,SNR=4.5						
N30M	**Aishikik Lake**	**10.93**	**344**	P	**Pn**	**13 04 56.3**	**+2.7**
	baz=159						
O28M	**Mount Upton**	**11.02**	**335**	P	**Pn**	**13 04 56.9**	**+1.9**
	baz=148						
MESA	**MESA**	**11.06**	**329**	P	**Pn**	**13 04 56.9**	**+1.5**
	baz=141						
YUK8	**Steele Glacier**	**11.35**	**337**	P	**Pn**	**13 05 01.3**	**+1.8**
	baz=151						
CTG	**Chitna Glacier**	**11.49**	**333**	P	**Pn**	**13 05 01.3**	**0.0**
	baz=146						
MMPY	**Sheldon Lake,**	**11.51**	**359**	P	**Pn**	**13 05 02.7**	**+1.2**
	baz=179						
KAIM	**Kayak Island**	**11.73**	**324**	P	**Pn**	**13 05 03.9**	**-0.5**
	baz=134						
CRQE	**Cirque**	**11.86**	**329**	P	**Pn**	**13 05 07.9**	**+1.5**
	baz=140						
M30M	**Minto, Yukon**	**11.94**	**346**	P	**Pn**	**13 05 08.5**	**+1.2**
	baz=162						
M29M	**Somme Creek**	**12.10**	**342**	P	**Pn**	**13 05 11.1**	**+1.5**
	baz=157						
MCARA	**McCarthy VSAT**	**12.32**	**331**	P	**Pn**	**13 05 14.1**	**+1.5**
	baz=142						
BMRM	**Bremner River**	**12.53**	**327**	P	**Pn**	**13 05 16.8**	**+1.4**
	baz=137						
BVCY	**Beaver Creek**	**12.59**	**338**	P	**Pn**	**13 05 18.4**	**+2.3**
	baz=150						
EYAK	**Cordova Ski Ar**	**12.64**	**324**	P	**Pn**	**13 05 17.5**	**+0.6**
	baz=133						
L29M	**L29M**	**12.65**	**344**	P	**Pn**	**13 05 19.8**	**+2.8**
	baz=159						
MFID	**Camas Ranch**	**12.68**	**122**		**Pn**	**13 05 16.1**	**-1.5**
WRGLY	**Wrigley**	**12.72**	**15**	P	**Pn**	**13 05 22.0**	**+4.1**
	baz=202						
M27K	**Edge Creek, AK**	**12.79**	**336**	P	**Pn**	**13 05 19.8**	**+0.7**
	baz=148						
MAYO	**Mayo, Yukon**	**12.79**	**349**	P	Pn	**13 05 21.7**	**+2.8**
	baz=166						
P23K	**Montague Islan**	**12.94**	**320**	P	**Pn**	**13 05 21.4**	**+0.4**
	baz=127						
N25K	**Chitina, Valde**	**12.99**	**329**	P	**Pn**	**13 05 23.1**	**+1.4**
	baz=139						
M26K	**Nabesna, AK**	**13.12**	**334**	P	**Pn**	**13 05 25.4**	**+1.9**
	baz=145						
K29M	**Barlow Dome**	**13.25**	**347**	P	**Pn**	**13 05 27.8**	**+2.6**
	baz=162						
KLU	**Klutina**	**13.35**	**327**	P	**Pn**	**13 05 27.9**	**+1.3**
	baz=135						
HLID	**Hailey**	**13.35**	**118**	Pn	**Pn**	**13 05 29.9**	**+3.1**
GLI	**Glacier Island**	**13.36**	**323**	P	**Pn**	**13 05 28.0**	**+1.3**
	baz=131						
L27K	**Beaver Creek,**	**13.37**	**338**	Pn	Pn	13 05 33.2	+6.3
L27K	**Beaver Creek,**	**13.37**	**338**	P	**Pn**	**13 05 29.6**	**+2.7**
	baz=149						
L26K	**Log Cabin Wild**	**13.73**	**335**	P	**Pn**	**13 05 33.8**	**+2.1**
	baz=145						
DAWY	**Dawson**	**13.76**	**344**	Pn	**P**	**13 05 41.0**	**+0.3**
DAWY	**Dawson**	**13.76**	**344**	P	**Pn**	**13 05 34.1**	**+2.0**
	baz=157						
HARP	**HAARP**	**13.76**	**331**	P	**Pn**	**13 05 33.6**	**+1.5**
	baz=140						
J30M	**Hart River**	**13.79**	**350**		**Pn**	**13 05 34.0**	**+1.3**
J30M	**Hart River**	**13.79**	**350**	Pn	**P**	**13 05 39.6**	**-1.6**
J30M	**Hart River**	**13.79**	**350**	P	**Pn**	**13 05 34.8**	**+2.1**
	baz=166						
PWL	**Port Wells**	**13.83**	**322**	P	**Pn**	**13 05 32.9**	**-0.1**
	baz=128						
SEW	**Seward**	**13.86**	**318**	P	**Pn**	**13 05 33.0**	**-0.3**
	baz=123						
M24K	**Tolsona, Glenn**	**13.87**	**328**	P	**Pn**	**13 05 34.6**	**+1.0**
	baz=136						
J29N	**Klondike Camp**	**13.93**	**346**	P	**Pn**	**13 05 36.9**	**+2.5**
	baz=161						
SCM	**Sheep Creek Mo**	**14.07**	**326**	P	**Pn**	**13 05 37.3**	**+0.8**
	baz=133						
O22K	**Cooper Landing**	**14.17**	**319**	P	**Pn**	**13 05 38.6**	**+0.8**
	baz=124						
M23K	**Glacier View**	**14.19**	**325**	P	**Pn**	**13 05 38.9**	**+0.9**
	baz=132						
KNK	**Knik Glacier**	**14.21**	**323**	P	**Pn**	**13 05 40.2**	**+1.9**
	baz=130,SNR=5.3						
K27K	**Chicken**	**14.26**	**339**	P	**Pn**	**13 05 41.2**	**+2.2**
	baz=151						
PAX	**Paxson**	**14.28**	**332**	P	**Pn**	**13 05 41.6**	**+2.3**
	baz=140						
YKA	**Yellowknife Ar**	**14.32**	**31**	Pn	Pn	13 05 37.4	-2.4
	1.4nm,0.3s,baz=205,slow=18,SNR=11						
	3.4nm,0.5s						
KDAK	**Kodiak Island**	**14.34**	**306**	Pn	**Pn**	**13 05 39.7**	**-0.3**
	0.1nm,0.3s,baz=104,slow=4.2,SNR=3.8						
	7.1nm,0.9s						
KDAK	**Kodiak Island**	**14.34**	**306**	P	**Pn**	**13 05 40.4**	**+0.4**
	baz=109						
I30M	**Mount Dempster**	**14.43**	**350**	P	**Pn**	**13 05 44.5**	**+3.2**
	baz=166						
RC01	**Rabbit Creek A**	**14.52**	**321**	P	**Pn**	**13 05 43.7**	**+1.2**
	baz=126						
Q20K	**Shuyak Island**	**14.53**	**309**	P	**Pn**	**13 05 43.0**	**+0.5**
	baz=113						
OHAK	**Old Harbor**	**14.54**	**304**	P	**Pn**	**13 05 42.7**	**-0.1**
	baz=106						
PMR	**Palmer**	**14.58**	**323**	P	**Pn**	**13 05 45.2**	**+1.9**
	baz=129,SNR=8.8						
HOM	**Homer**	**14.60**	**314**	P	**Pn**	**13 05 44.4**	**+0.8**
	baz=118						
SCRK	**Sand Creek**	**14.67**	**336**		**Pn**	**13 05 48.0**	**+3.3**
SCRK	**Sand Creek**	**14.67**	**336**	P	**Pn**	**13 05 46.8**	**+2.1**
	baz=146						
YHH	**Holmes Hill**	**14.69**	**108**		**P**	**13 05 48.9**	**-2.6**
RIDG	**Independent Ri**	**14.71**	**335**	P	**Pn**	**13 05 47.2**	**+2.1**
	baz=144						
WAT6	**Susitna Watana**	**14.72**	**328**	P	**Pn**	**13 05 47.0**	**+1.6**
	baz=134						
I29M	**Ogilvie Camp,**	**14.80**	**347**	P	**Pn**	**13 05 49.6**	**+3.3**
	baz=162						
H31M	**Peel River**	**14.83**	**354**	P	**Pn**	**13 05 50.0**	**+3.3**
	baz=172						
SII	**Sitkinak Islan**	**14.87**	**301**	P	**Pn**	**13 05 47.2**	**-0.1**
	baz=102						
GCMT	**Greycliff**	**14.90**	**103**	P	**P**	**13 05 56.5**	**+2.9**
ELK	**Elko**	**14.91**	**128**	Pn	**P**	**13 05 50.5**	**-3.

comp=Z,80nm,1.2s
H27K Steamboat Moun 16.11 344 P Pn 13 06 06.7 +3.2
baz=156
G30M tAoh Zraii Nji 16.13 352 P Pn 13 06 07.6 +3.8
baz=168
Q17K Contact Creek 16.16 306 P Pn 13 06 04.6 +0.4
baz=106
TRF Thorofare Moun 16.17 327 P Pn 13 06 06.4 +2.0
baz=132
P18K Big Mountain, 16.18 310 P Pn 13 06 05.3 +0.9
baz=111
HWUT Hardware Ranch 16.22 119 Pn 13 06 05.1 -0.1
G29M Pine Creek 16.24 350 Pn P 13 06 10.1 +1.9
G29M Pine Creek 16.24 350 P Pn 13 06 08.9 +3.7
baz=164
PLK4 Peulik 4 16.25 304 Pn 13 06 04.0 -1.4
PLK4 IAmb IAmb 13 06 11.1
comp=Z,57nm,0.9s
R17L Mt. Peulik Vol 16.25 304 P Pn 13 06 06.2 +0.9
baz=104,SNR=8.4
M20K Styx River 16.32 320 P Pn 13 06 08.3 +2.1
baz=122,SNR=6.4
PRP Porcupine Dome 16.32 338 P Pn 13 06 09.3 +3.0
baz=146
O18K Koktuh Hills 16.33 312 Pn 13 06 06.2 -0.2
O18K IAmb IAmb 13 06 11.8
comp=Z,67nm,1.0s
O18K Koktuh Hills 16.33 312 P Pn 13 06 08.2 +1.9
baz=112,SNR=11
N19K Bonanza Creek 16.38 315 P Pn 13 06 08.5 +1.5
baz=117
COLA College 16.42 333 P Pn 13 06 10.6 +3.3
baz=140
F31M Tsiigehtchic 16.42 356 P Pn 13 06 11.1 +3.7
baz=174
POKR Poker Plat Res 16.49 335 P Pn 13 06 11.1 +2.8
baz=141
PPLA Purkeypile 16.51 324 P Pn 13 06 11.0 +2.3
baz=126
DUG Dugway, Tooele 16.55 125 Pn 13 06 09.5 +0.1
NEA2 Nenana 16.56 331 P Pn 13 06 12.0 +2.7
baz=137,SNR=7.1
PD31 Pinedale Array 16.62 112 Pn 13 06 10.6 +0.3
PDAR Pinedale Array 16.62 112 Pn 13 06 10.5 +0.1
PDAR Pinedale Array 16.62 112 Pn P 13 06 13.5 +0.7
comp=Z,19nm,0.8s,baz=308,slow=14,SNR=10
G27K Doyon Strip 16.66 345 Pn P 13 06 15.5 +2.7
G27K Doyon Strip 16.66 345 P Pn 13 06 13.6 +3.1
baz=156
Q16K King Salmon 16.66 307 P Pn 13 06 11.2 +0.7
baz=107
P17K Kvichak River 16.70 309 P Pn 13 06 12.1 +1.1
baz=108
F30M Barrier River 16.71 353 Pn P 13 06 15.5 +2.1
F30M Barrier River 16.71 353 P Pn 13 06 14.5 +3.4
baz=170
CAST Castle Rocks 16.78 325 P Pn 13 06 14.1 +2.1
baz=128,SNR=8.7
BPAW Bear Paw Mtn. 16.83 328 P Pn 13 06 14.6 +1.9
baz=132
M19K Big River Lodg 16.84 319 P Pn 13 06 14.1 +1.3
baz=120
L20K Farewell, AK 16.93 321 P Pn 13 06 15.9 +2.0
baz=122,SNR=6.3
N18K Kilae Creek 16.96 314 P Pn 13 06 15.1 +0.8
baz=114
H25L Birch Creek 17.00 339 P Pn 13 06 17.4 +2.6
baz=147
I23K Minto, Yukon-K 17.05 332 P Pn 13 06 17.4 +2.0
baz=137
F28M Old Crow 17.14 348 Pn Pn 13 06 19.0 +2.5
F28M Old Crow 17.14 348 P P 13 06 19.9 +1.8
baz=161
CHUM Lake Minchumin 17.14 326 P Pn 13 06 18.5 +1.9
baz=129
CHGN Chignik 17.15 298 P Pn 13 06 17.0 +0.3
baz=97
H24K Noodor Dome 17.16 336 P Pn 13 06 19.3 +2.4
baz=142
G26K Porcupine Rive 17.16 342 Pn Pn 13 06 19.3 +2.5
G26K Porcupine Rive 17.16 342 P P 13 06 20.1 +1.8
baz=152
L19K White Mountain 17.17 319 P Pn 13 06 18.4 +1.4
baz=120
O17K Koliganek Bris 17.20 310 P Pn 13 06 18.2 +1.0
baz=109
M18K Stony River 17.26 317 P Pn 13 06 19.4 +1.4
baz=116
INK Inuvik 17.28 356 Pn Pn 13 06 20.7 +2.6
INK Inuvik 17.28 356 P P 13 06 21.9 +2.3
baz=175
MLY Manley 17.38 331 Pn 13 06 17.2 -2.3
MLY Manley 17.38 331 P Pn 13 06 22.1 +2.5
baz=134
P16K Nushagak River 17.42 308 P Pn 13 06 20.9 +0.8
baz=106
K20K Telida 17.47 323 P Pn 13 06 22.3 +1.6
baz=124
G25K Bearman Lake 17.48 339 Pn Pn 13 06 22.3 +1.5
G25K Bearman Lake 17.48 339 P P 13 06 23.6 +1.7
baz=147
N17K Nushagak Hills 17.49 313 Pn 13 06 18.2 -2.8
N17K IAmb IAmb 13 06 25.4
comp=Z,67nm,1.4s
N17K Nushagak Hills 17.49 313 P Pn 13 06 22.3 +1.3
baz=112,SNR=7.9
WCT Wildcat Mounta 17.50 140 P 13 06 20.5 -1.9
H23K Yukon River 17.60 334 P Pn 13 06 24.4 +2.1
baz=138
O16K Kokwok River B 17.63 309 P Pn 13 06 23.5 +0.9
baz=108
E29M Blow River 17.66 351 Pn Pn 13 06 24.9 +2.0
E29M Blow River 17.66 351 P P 13 06 25.9 +2.1
baz=166
CHNA Chernabura Isl 17.74 293 P Pn 13 06 24.1 0.0
baz=91
G24K Hadweenzic Riv 17.75 338 P Pn 13 06 26.4 +2.4
baz=144
S14K Fog Glacier 17.78 298 P Pn 13 06 24.6 0.0
baz=96
F26K Sheenjek River 17.89 343 Pn P 13 06 28.4 +2.0
F26K Sheenjek River 17.89 343 P Pn 13 06 28.3 +2.5
baz=152
E27K Coleen River 17.91 347 Pn Pn 13 06 28.5 +2.4
E27K Coleen River 17.91 347 P Pn 13 06 28.5 +2.4
baz=158
M17K Holitna River 17.93 315 P Pn 13 06 27.6 +1.3
baz=114
L18K Granite Mounta 17.95 318 P Pn 13 06 27.7 +1.1
baz=117
J20K Nowinta River 17.97 326 P Pn 13 06 28.3 +1.5
baz=126
E28M Babbage River 18.04 349 Pn P 13 06 30.2 +2.1
E28M Babbage River 18.04 349 P P 13 06 30.6 +2.6
baz=162
F25K Christian Rive 18.09 341 Pn Pn 13 06 29.9 +1.6
F25K Christian Rive 18.09 341 P Pn 13 06 30.6 +2.3
baz=149
H22K Ishtalitna Cre 18.18 332 P P 13 06 31.6 +2.0
baz=135
N16K Nishlik Lake 18.21 312 P Pn 13 06 30.5 +0.7
baz=109
SDPT Sand Point 18.26 295 P Pn 13 06 30.8 +0.4
baz=92,SNR=6.4
O15K Ungalikthiuk R 18.38 307 IAmb IAmb 13 06 34.4
comp=Z,47nm,1.2s
O15K Ungalikthiuk R 18.38 307 P P 13 06 32.3 +0.5
baz=104
G23K Bananza Creek 18.39 335 P Pn 13 06 34.5 +2.4
baz=139,SNR=5.4
J19K Poorman 18.40 324 P P 13 06 33.1 +1.0
baz=124
H21K Melozitna Rive 18.45 330 P P 13 06 33.9 +1.3
baz=132
I20K Naaghedeneel 18.45 327 P P 13 06 34.1 +1.5
baz=127
M16K Timber Creek 18.48 313 P P 13 06 33.6 +0.7
baz=110
F24K Squaw Lake 18.50 339 P Pn 13 06 35.4 +2.0
baz=145
E25K Arctic Village 18.52 342 Pn P 13 06 35.5 +2.0
E25K Arctic Village 18.52 342 P P 13 06 35.4 +1.9
baz=150
J18K Innoko River 18.55 322 P Pn 13 06 35.5 +1.7
baz=120,SNR=8.6
L17K Donlin 18.60 317 P P 13 06 35.1 +0.9
baz=114

D28M Stokes Point 18.65 351 P Pn 13 06 37.8 +2.8
baz=165
N15K Kwethluk River 18.75 310 P P 13 06 36.8 +0.8
baz=106
D27M Malcolm River 18.82 349 P Pn 13 06 40.3 +3.1
baz=160
COLD Coldfoot 18.83 336 P P 13 06 39.0 +2.2
baz=140,SNR=5.5
K17K Iditarod 18.84 319 P P 13 06 38.7 +1.8
baz=116
G22K Bettles 18.95 334 P Pn 13 06 40.6 +1.9
baz=137
L16K Owhat River 18.95 315 P P 13 06 37.2 -0.9
L16K IAmb IAmb 13 06 47.0
comp=Z,31nm,1.1s
L16K Owhat River 18.95 315 P P 13 06 39.6 +1.4
baz=112,SNR=6.6
H20K Anotleneega Mo 19.01 328 P P 13 06 40.6 +1.8
baz=128
E24K Your Creek 19.09 339 P Pn 13 06 42.4 +1.9
baz=145
O14K Tigyukauivet M 19.12 307 P P 13 06 40.5 +0.5
baz=102
S12K Black Hills 19.16 296 P P 13 06 40.7 +0.2
baz=91
M15K Kasigluk River 19.18 311 P Pn 13 06 42.6 +1.0
baz=107,SNR=5.1
G21K Allakaket 19.23 332 P P 13 06 43.4 +2.2
baz=133
GCSA Galena City Sc 19.27 325 P P 13 06 43.3 +1.7
baz=123
E23K Chandalar 19.33 338 P P 13 06 44.5 +2.2
baz=143
J17K VABM Dome 19.45 320 P P 13 06 42.8 -0.9
J17K IAmb IAmb 13 06 45.8
comp=Z,75nm,1.4s
J17K VABM Dome 19.45 320 P P 13 06 45.2 +1.6
baz=117,SNR=6.2
N14K Kuskokwak Cree 19.47 309 P P 13 06 44.9 +1.1
baz=104,SNR=5.6
C27K Jago River 19.55 346 P Pn 13 06 47.5 +1.6
baz=156
F22K John River 19.55 335 P P 13 06 47.1 +2.4
baz=137
H19K Roundabout Mou 19.55 327 P P 13 06 46.3 +1.6
baz=126
F21K Alatna River 19.71 333 P 13 06 42.8 -3.6
F21K Alatna River 19.71 333 P P 13 06 48.6 +2.2
baz=134
D25K Kavik River 19.71 343 P P 13 06 49.2 +2.7
baz=150
TOLK Toolik Lake Re 19.79 339 P P 13 06 49.9 +2.6
baz=144
M14K Bethel 19.80 311 P P 13 06 48.4 +1.0
baz=106
L15K Unalak Mounta 19.85 314 P P 13 06 49.0 +1.1
baz=109,SNR=8.9
E22K Anaktuvuk Pass 19.92 337 P P 13 06 51.4 +2.7
baz=139
C26K Camden Bay 19.99 346 P P 13 06 52.3 +2.9
baz=154
H18K Honhosa River 20.02 325 P P 13 06 51.6 +1.8
baz=122
J16K Anvik River 20.03 319 P P 13 06 51.7 +1.8
baz=114,SNR=7.8
D24K Happy Valley 20.04 341 P P 13 06 52.4 +2.4
baz=146
K15K Wolf Creek Mou 20.07 316 P Pn 13 06 52.8 +0.7
baz=110,SNR=8.1
G19K Purcell Mounta 20.13 328 P P 13 06 53.1 +2.2
baz=126
F20K Avaraart Lake 20.25 331 P 13 06 49.8 -2.4
F20K Avaraart Lake 20.25 331 P P 13 06 55.0 +2.8
baz=130,SNR=16
D23K Nanushuk River 20.29 339 P Pn 13 06 55.9 +1.2
baz=142
L14K Kuka Creek 20.30 313 P P 13 06 51.4 -1.4
L14K IAmb IAmb 13 06 57.9
comp=Z,43nm,1.1s
L14K Kuka Creek 20.30 313 P P 13 06 54.3 +1.5
baz=106
I17K Unalakleet 20.32 320 P P 13 06 50.7 -2.3
I17K IAmb IAmb 13 06 55.7
comp=Z,37nm,1.1s
I17K Unalakleet 20.32 320 P P 13 06 55.0 +2.1
baz=116,SNR=6.9
PFO Pinyon Flats O 20.36 144 P 13 06 52.3 -1.5
PFO IAmb IAmb 13 07 04.8
comp=Z,24nm,1.1s
PFO Pinyon Flats O 20.36 144 P Pn 13 06 56.4 +0.6
comp=Z,12nm,0.9s,baz=333,slow=9.0,SNR=5.3
comp=Z,12nm,0.9s
M13K Dall Lake 20.39 310 P 13 06 52.2 -1.5
M13K Dall Lake 20.39 310 P P 13 06 54.8 +1.0
baz=103
H17K Granite Mounta 20.48 323 P 13 06 52.2 -2.6
H17K Granite Mounta 20.48 323 P P 13 06 56.6 +1.8
baz=119,SNR=13
C24K Franklin Bluff 20.49 342 P P 13 06 56.8 +2.0
baz=147
G18K Tagagawik 20.52 327 P P 13 06 56.2 +1.0
baz=123
D22K Ayikyak River 20.69 337 P P 13 06 58.9 +1.8
baz=139
F19K Shaleruckik Mo 20.75 329 P 13 06 59.7 +2.0
F19K IAmb IAmb 13 07 02.6
comp=Z,29nm,0.8s
F19K Shaleruckik Mo 20.75 329 P P 13 06 59.4 +1.7
baz=127
WUAZ Wupatki 20.89 131 Pn 13 07 00.2 -2.0
WUAZ IAmb IAmb 13 07 02.9
comp=Z,31nm,0.9s
E19K Redstone River 20.96 331 P P 13 07 01.4 +1.4
baz=129
C23K Itkillik River 20.97 341 P P 13 07 02.0 +2.0
baz=144
G17K Kiwalik Mounta 21.03 324 P P 13 07 01.8 +1.1
baz=119,SNR=12
A36M Sachs Harbour 21.06 5 P P 13 07 03.9 +2.9
baz=190
J14K Nanvaranak Lak 21.10 316 P P 13 07 02.0 +0.6
baz=109
E20K Nigu River 21.17 334 P P 13 07 03.5 +1.2
baz=132
F18K Selawik 21.24 328 P P 13 07 04.7 +1.7
baz=123,SNR=10
K13K Kusilvak Mount 21.36 313 P P 13 07 04.7 +0.4
baz=106
C21K Knifeblade Rid 21.41 336 P P 13 07 06.4 +1.5
baz=136
CBX Cerro Bola 21.45 146 P 13 07 05.5 -0.1
D20K Etivluk River 21.59 334 P P 13 07 08.3 +1.6
baz=132
G16K Koyuk River 21.61 323 P P 13 07 07.8 +0.8
baz=117
F17K Baldwin Pennin 21.70 326 P 13 07 07.0 -0.9
F17K Baldwin Pennin 21.70 326 P P 13 07 09.0 +1.1
baz=121
B21K Ikpikpuk River 21.71 337 P P 13 07 09.6 +1.7
baz=137
M11K Mekoryuk 21.77 309 P P 13 07 08.6 -0.1
baz=100
UNV Unalaska Valle 21.85 291 P P 13 07 08.5 -1.1
baz=83
D19K Kuna River 21.87 333 P P 13 07 11.9 +2.1
baz=130
ULM Lac du Bonnet 21.93 79 P P 13 07 10.2 -0.3
comp=Z,10nm,0.8s,baz=288,slow=14,SNR=3.0
comp=Z,10nm,0.8s
ULM Lac du Bonnet 21.93 79 Pn P 13 07 09.5 -1.0
B22K Teshekpuk Lake 21.97 340 P P 13 07 12.5 +1.8
baz=140
E18K Tukpahlearik C 22.00 329 P P 13 07 12.4 +1.3
baz=124
G15K Niukluk 22.09 322 P P 13 07 13.0 +0.9
baz=114
E17K Hotham Inlet 22.23 328 P P 13 07 14.9 +1.4
baz=121
ANM Nome 22.47 320 P P 13 07 16.8 +0.7
baz=111
AGMN Agaaiz Nation 22.55 84 Pn P 13 07 16.0 -1.1
B20K Meade River 22.61 336 P P 13 07 19.1 +1.5
baz=134
F15K North Star Dit 22.61 323 P P 13 07 18.6 +0.9
baz=114
C19K Lookout Ridge 22.67 333 P P 13 07 19.5 +1.2
baz=128
A22K Sinclair Lake 22.81 340 P P 13 07 21.3 +1.7
baz=139
C18K Utukok River 22.87 331 P P 13 07 21.7 +1.3
baz=125,SNR=5.2
D17K Noatak River 22.96 328 P P 13 07 22.1 +0.8
baz=121
RDOG Red Dog Mine 23.08 329 P P 13 07 24.2 +1.6
baz=122
F14K Arctic Creek 23.17 322 P P 13 07 23.8 +0.4
baz=112
P08K Saint George I 23.33 299 P P 13 07 24.0 -1.1
baz=88
NIKH Nikolski High 23.38 290 P P 13 07 24.1 -1.6
baz=80
C17K DeLong Mountai 23.39 330 P P 13 07 26.2 +0.5
baz=122
A21K Barrow 23.41 339 P P 13 07 27.2 +1.5
baz=137
EPLO Experimental L 23.43 79 P P 13 07 24.8 -1.5
EPLO IAmb IAmb 13 07 50.8
comp=Z,31nm,1.3s
EPLO Experimental L 23.43 79 Pn P 13 07 25.0 -1.3
B18K Kokolik River 23.46 333 P P 13 07 27.6 +1.2
baz=126
SPIA Saint Paul Isl 23.69 300 P P 13 07 28.3 -0.4
baz=88
A19K Wainwright 23.76 335 P P 13 07 30.8 +1.6
baz=128
TNA Tin City 23.82 321 P P 13 07 30.6 +0.7
baz=110
C16K Lisburne Hills 23.98 329 P P 13 07 32.7 +1.3
baz=119
GAMB Gambell 24.93 316 P P 13 07 40.6 +0.6
baz=102
ATKO Atikokan Iron 25.02 80 Pn P 13 07 41.9 +0.8
EYMN Ely 25.40 82 Pn P 13 07 44.9 +0.3
TXAR Lajitas Array 29.70 127 P P 13 08 24.8 +1.6
comp=Z,27nm,0.8s,baz=327,slow=9.1,SNR=6.7
comp=Z,27nm,0.8s
I63A Otisfield 40.12 76 P P 13 09 49.3 -3.5
PEA0B Petropavlovsk- 42.33 302 P P 13 10 10.6 -0.3
PEA0B IAmb IAmb 13 10 12.4
comp=Z,14nm,1.0s
PETK Petropavlovsk- 42.33 302 P P 13 10 11.0 +0.1
PETK Petropavlovsk- 42.33 302 P P 13 10 10.8 -0.1
comp=Z,7.4nm,0.8s,baz=63,slow=9.4,SNR=12
comp=Z,7.4nm,0.8s
LMN Caledonia Moun 42.64 70 P P 13 10 12.0 -1.5
H11N2 WAKE ISLAND Hy 57.65 261 T T 14 14 39.3
baz=41,slow=76,SNR=16
H11N3 WAKE ISLAND Hy 57.65 261 T T 14 14 40.1
baz=41,slow=76,SNR=17
H11N1 WAKE ISLAND Hy 57.66 261 T T 14 14 42.9
baz=41,slow=76,SNR=21
HEH HeiHe 59.21 313 eP P 13 12 17.4 -0.6
HEH pmax pmax
comp=Z,21nm,1.0s
TAOE Nuku Hiva Isla 60.31 191 P P 13 12 26.9 +0.8
XLT XiLinHaoTe 69.10 315 eP P 13 13 23.3 +0.1
XLT sP pwP 13 13 30.5 +1.4
XLT PcP PcP 13 13 46.8 -0.3
XLT S S 13 22 26.4 -1.7
XLT ScS SKiKP 13 23 17.5 +4.3
XLT XiLinHaoTe 69.10 315 SS SS 13 26 48.0 -5.1
XLT pmax pmax
comp=Z,5.0nm,1.2s
XLT pmax pmax
comp=Z,94nm,4.7s
XLT LR LR
comp=N,180nm,18.3s
XLT LR LR
comp=E,1μm,15.3s
XLT LR LR
comp=Z,2μm,18.3s
HHC Hu-ho-hao-te 73.54 316 eP P 13 13 50.1 0.0
HHC pmax pmax
comp=Z,28nm,0.7s
HHC pmax pmax
comp=Z,100nm,5.1s
BVAR Borovoye Array 74.70 347 P P 13 13 54.9 -1.7
comp=Z,0.4nm,0.4s,baz=18,slow=0.5,SNR=1.7
comp=Z,0.4nm,0.4s
KURBB Kurchatov Arra 75.62 341 P P 13 14 01.0 -0.8
comp=Z,0.9nm,0.7s,baz=22,slow=5.0,SNR=2.9
comp=Z,0.9nm,0.7s
FUORN Ofenpass-Fuorn 76.96 26 P P 13 14 07.3 -2.6
FUORN IAmb IAmb 13 14 43.5
comp=Z,4.2nm,0.9s
AKASG Malin Array Be 77.10 13 P P 13 14 09.7 -0.6
comp=Z,0.4nm,0.4s,baz=354,slow=5.6,SNR=1.3
comp=Z,0.4nm,0.4s
NJ2 Nanjing 77.12 305 eP P 13 14 10.2 -0.4
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
ESDC Sonseca Array 78.27 39 P P 13 14 18.8 +1.7
comp=Z,0.2nm,0.6s,baz=325,slow=5.4,SNR=1.0
comp=Z,0.2nm,0.6s
WMQ Urumqi 79.73 333 eP P 13 14 25.7 +0.7
WMQ pP PcP 13 14 33.5 +0.8
WMQ pmax pmax
comp=Z,27nm,0.7s
WMQ LR LR
comp=N,2μm,22.7s
WMQ LR LR
comp=E,2μm,20.3s
WMQ LR LR
comp=Z,890nm,17.1s
PZH PanZhiHua 89.98 315 P P 13 15 17.8 +0.9

*UCR **05** 13:21:07.5±1.1,8˚.30N×82˚.82W,h21km±3km,MW3.5*
*CATAC **05** 13:21:07.9±1.1,8˚N±10˚×8˚3W±˚,h18km±4km,M3.6/7,*
MLv3.6/7,Error ellipse: s-maj=22.1km s-min=9.2km
az=179.9,confirmed
*UPA **05** 13:21:08.7±1.3,8˚.41N×82˚.79W,h27km±3km,MW3.4*
ISC 05 13:21:07.9±1.1,**8˚.37N**±0˚.04×**82˚.82W**±0˚.02,**h33**km±2km,
n74,σ1°37/95,4C-5D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.04**	**41**	**eP**	**Pb**		**13 21 13.0**	**-0.5**
LESP3				eS	**Sb**		**13 21 17.1**	**-0.2**
LPPC	**Paso Canoas**	**0.16**	**353**	**eP**	**Pb**		**13 21 13.8**	**-0.4**
LPPC				eS	**Sb**		**13 21 18.8**	**+0.3**
CDITO	**Canoas**	**0.21**	**345**	P	**Pb**		**13 21 14.4**	**-0.3**
NELY	**Ciudad Neily**	**0.30**	**336**	**eP**	**Pb**		**13 21 15.5**	**-0.3**
NELY				eS	**Sn**		**13 21 21.9**	**+1.1**
DVD	**David**	**0.37**	**80**	**iP**	**Pb**		**13 21 16.3**	**-0.4**
DVD				eS	**Sb**		**13 21 22.6**	**0.0**
CSTBL	**De las Acacias**	**0.38**	**84**	**eP**	**Pb**		**13 21 16.3**	**-0.5**
PEDE3	**Pedregal, Chir**	**0.39**	**88**	**iP**	**Pb**		**13 21 16.4**	**-0.5**
PEDE3				eS	**Sb**		**13 21 23.1**	**0.0**
LOCO3	**Loma Colorada,**	**0.40**	**85**	**eP**	**Pb**		**13 21 16.6**	**-0.5**
LOCO3				eS	**Sb**		**13 21 23.4**	**+0.1**
FITO	**Golfito**	**0.41**	**307**	**eP**	**Pb**		**13 21 16.2**	**-1.1**
FITO				eS	**Sb**		**13 21 22.9**	**-0.8**
MLIR3	**Monte Lirio, C**	**0.42**	**359**	**eP**	**Pn**		**13 21 17.6**	**-0.2**
MLIR3				eS	**Sb**		**13 21 23.6**	**-0.4**
BRU2	**Volcan**	**0.44**	**17**	**eP**	**Pb**		**13 21 17.5**	**-0.2**
BRU2				eS	**Sn**		**13 21 25.1**	**+0.2**
BRU2	**Volcan**	**0.44**	**17**	**iP**	**Pb**		**13 21 17.6**	**-0.2**
BRU2				*i* S	**Sn**		**13 21 25.2**	**+0.2**
BRU2	**Volcan**	**0.44**	**17**	P	**Pb**		**13 21 17.6**	**-0.2**
EDAD	**Golfito**	**0.44**	**309**	**eP**	**Pb**		**13 21 16.8**	**-0.9**
EDAD				eS	**Sb**		**13 21 23.5**	**-1.0**
PTAR3	**Potrerillos Ar**	**0.45**	**45**	**eP**	**Pb**		**13 21 17.8**	**-0.1**
PTAR3				eS	**Sn**		**13 21 25.4**	**+0.2**
SCLRA	**Santa Clara, W**	**0.46**	**5**	**eP**	**Pb**		**13 21 18.1**	**0.0**
VITO	**San Vito**	**0.47**	**341**	**eP**	**Pb**		**13 21 18.2**	**+0.1**
CHIR3	**Chiriqui UPA,**	**0.48**	**87**	**eP**	**Pb**		**13 21 17.7**	**-0.6**
CHIR3				eS	**Sb**		**13 21 25.6**	**+0.2**
BC3P	**Paso Ancho**	**0.49**	**25**	**iP**	**Pb**		**13 21 18.1**	**-0.5**
BC3P				eS	**Sn**		**13 21 26.0**	**-0.2**
PTJ1	**Puerto Jimnez**	**0.50**	**289**	**eP**	**Pb**		**13 21 17.6**	**-1.0**
PTJ1	**Puerto Jimnez**	**0.50**	**289**	**eP**	**Pb**		**13 21 18.3**	**-0.4**
PTJ1				eS	**Sn**		**13 21 27.6**	**+1.2**
PTJ1	**Puerto Jimnez**	**0.50**	**289**	P	**Pb**		**13 21 18.4**	**-0.2**
BQTLY	**Boquete Panama**	**0.52**	**43**	**eP**	**Pb**		**13 21 18.6**	**-0.4**
BQSF3	**Alto Boquete,**	**0.53**	**46**	**iP**	**Pb**		**13 21 18.6**	**-0.6**
BQSF3				eS	**Sb**		**13 21 26.5**	**-0.3**
ALCO	**Alturas Coton,**	**0.57**	**359**	**eP**	**Pb**		**13 21 19.0**	**-0.9**
PSOM3	**Paja de Sombre**	**0.58**	**58**	**eP**	**Pb**		**13 21 19.1**	**-0.8**
PSOM3				eS	**Sb**		**13 21 27.0**	**-1.1**
EDP2	**Potrero Grande**	**0.73**	**331**	**eP**	**Pb**		**13 21 22.1**	**-0.3**
PBNVO	**Pueblo Nuevo,**	**0.81**	**50**	**eP**	**Pb**		**13 21 22.4**	**-1.2**

RBALA	Bur	0.83	53	eP		Pb	13 21 22.9	-1.0
PANP	Palmar Norte	0.86	313	eP		Pb	13 21 22.8	-1.7
BURE	Buenos Aires	0.95	327	eP		Pb	13 21 24.9	-1.1
DRK0	Durika	0.98	335	eP		Pb	13 21 25.4	-1.2
DRK0	Durika	0.98	335	eP		Pb	13 21 25.4	-1.2
DRK0				eS		Sb	13 21 38.9	-0.4
DRK0	Durika	0.98	335	P		Pb	13 21 25.5	-1.2
RMDIO	Remedios, Chir	0.99	98	eP		Pb	13 21 25.3	-1.3
EDPE	Pejibaye, P	1.08	316	eP		Pn	13 21 26.9	+0.1
OCHAL	Ojochal	1.09	311	P		Pn	13 21 27.2	+0.3
SAJE	San Jernim	1.18	325	eP		Pn	13 21 28.2	-0.1
VERH	Veragua Rainfo	1.59	347	eP		Pn	13 21 35.0	+1.2
LLNJ	Naranjito	1.67	311	eP		Pn	13 21 36.7	+1.8
PIEC	Cerro El Cedra	1.68	318	eP		Pn	13 21 36.0	+0.8
GMAL	Guarumal, Vera	1.68	111	eP		Pn	13 21 34.4	-0.7
GMAL	Guarumal, Vera	1.68	111	eP		Pn	13 21 34.9	-0.2
GMAL				eS		Sn	13 21 54.9	-0.6
VINA	Juan Vinas	1.77	329	eP		Pn	13 21 38.1	+1.7
VERB	Verbena	1.79	331	eP		Pn	13 21 38.1	+1.5
RVSTA	Santa Teresita	1.79	333	eP		Pn	13 21 38.5	+1.8
LCR2	La Lucha 2	1.79	319	eP		Pn	13 21 37.3	+0.5
LCR2	La Lucha 2	1.79	319	P		Pn	13 21 37.6	+0.8
PISJ	San Jernim	1.79	314	eP		Pn	13 21 38.0	+1.2
ABE2	San Pablo	1.80	317	eP		Pb	13 21 39.4	-1.1
RESJ	San Isidro (Tu	1.84	334	eP		Pn	13 21 39.2	+2.0
PICV	PH. Pirrs	1.84	313	eP		Pn	13 21 38.5	+1.1
ABRB	Las Abras (San	1.85	331	eP		Pn	13 21 39.4	+1.8
CVTV	Tajo	1.86	331	eP		Pn	13 21 39.5	+1.7
PAR1A	Puntarenas Pro	1.87	311	eP		Pn	13 21 39.3	+1.7
CVTQ	Turrialba Volc	1.87	330	eP		Pn	13 21 39.7	+1.7
VTLA	Turrialba Volc	1.87	330	eP		Pn	13 21 39.6	+1.6
VTR0	Volcan Turrial	1.88	330	eP		Pn	13 21 39.7	+1.6
RVLA	Villa Bonita	1.89	336	eP		Pn	13 21 39.5	+1.7
VICA	Volcano Irazu	1.90	328	eP		Pn	13 21 39.9	+1.5
ACOS	Acosta	1.94	317	eP		Pn	13 21 41.0	+2.3
VBV1	V. Barva	2.14	324	eP		Pn	13 21 44.1	+2.5
AZU	Azuero	2.59	103	eP		Pn	13 21 50.0	+2.6
AZU				eS		Sn	13 22 19.5	+1.8
FORC	Fortuna	2.77	319	eP		Pb	13 21 54.1	-2.7
VACR	Volcan Arenal	2.78	319	eP		Pb	13 21 53.9	-3.0
ARE1	Arenal 1	2.80	318	eP		Pn	13 21 53.9	+3.5
VARE2	V. Arenal	2.80	318	eP		Pn	13 21 53.2	+2.7
CEDE	Laguna Cedeo	2.81	319	eP		Pn	13 21 54.2	+3.6
JTS	Las Juntas de	2.84	312	eP		Pn	13 21 50.7	-0.3
JTS	Las Juntas de	2.84	312	eP		Pn	13 21 52.4	+1.4
JTS				eS		Sn	13 22 25.8	+1.7
JTS	Las Juntas de	2.84	312	P		Pn	13 21 53.4	+2.4
INDI	Punta indio, G	3.04	299	P		Pn	13 21 54.8	+1.1
BCIP	Isla Barro Col	3.05	75	P		Pn	13 21 55.4	+1.5
LAPC	Finca la Perla	3.51	313	eP		Pn	13 22 04.0	+3.8

IDC 05 13:23:26.5±9.1, 15°.21S×167°.27E, h130km±59km, mb3.5/4, mbtmp3.9/5, Error ellipse: s-maj=78.4km s-min=30.8km az=35.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.87**	**186**	P	Pn	13 25 05.4	+0.5
	6.2nm,0.5s,baz=17,slow=17,SNR=20						
DZM				S	Sn	13 26 21.6	-0.3
	7.3nm,0.3s,baz=349,slow=10,SNR=13						
STKA	**Stephens Creek**	**28.69**	**230**	P	P	13 29 12.6	+1.3
	1.0nm,0.5s,baz=60,slow=8.1,SNR=1.8						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**31.71**	**257**	P	P	13 29 37.6	-0.6
	0.2nm,0.6s,baz=85,slow=9.5,SNR=5.1						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**32.51**	**250**	P	P	13 29 44.9	-0.2
	0.9nm,0.4s,baz=86,slow=8.5,SNR=33						
	0.9nm,0.4s						
QSPA	**South Pole Qui**	**74.83**	**180**	P	P	13 34 52.4	0.0
	2.6nm,0.9s,baz=27,slow=2.3,SNR=8.2						
	2.6nm,0.9s						

*ISK **05** 13:42:41.8, 41°.19N×39°.69E, h5km, ML2.8/4*
*AFAD **05** 13:42:44.2, 40°.93N×39°.74E, h19km±1km, ML2.1*
ISC 05 13:42:42.9±1.1, 41°.07N±0°.06×39°.71E±0°.03, h15km, n13, σ0964/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTUT	**Trabzon**	**0.09**	**151**	Pg	**Pg**	**13 42 46.8**	**+0.8**
MACK	**Trabzon**	**0.13**	**160**	P	**Pb**	**13 42 47.9**	**+0.8**
MACK				*i* IAML		13 42 50.0	
	comp=E,7μm,0.2s						
MACK				S	**Sb**	**13 42 50.3**	**+0.4**
GUMT	**Gumushane**	**0.63**	**196**	Pg	**Pn**	**13 42 57.5**	**+0.1**
GUMT				Sg	**Sn**	**13 43 08.4**	**+1.2**
IZDR	**Rize**	**0.70**	**113**	P	**Pg**	**13 42 56.8**	**+0.2**
IZDR				S	**Sg**	**13 43 05.5**	**-0.5**
IZDR				*i* IAML		13 43 06.0	
	comp=N,62nm,0.3s						
ESPY	**Espiye-Giresun**	**0.76**	**259**	Pg	**Pg**	**13 42 57.8**	**+0.2**
CHOM	**Cayeli-Rize**	**0.80**	**87**	Pg	**Pb**	**13 42 58.9**	**+0.5**
CHOM				Sg	**Sn**	**13 43 10.7**	**-0.5**
BAYB	**BAYBURT**	**0.91**	**152**	P	**Pb**	**13 43 00.2**	**-0.3**
BAYB				*i* IAML		13 43 11.0	
	comp=E,63nm,0.2s						
BAYB				S	**Sg**	**13 43 11.1**	**-1.3**
KELT	**Kelkit**	**0.98**	**201**	P	**Pb**	**13 43 01.4**	**-0.2**
KELT				S	**Sb**	**13 43 13.1**	**-1.4**
KELT				*i* IAML		13 43 14.0	
	comp=E,81nm,0.1s						
ALUC	**Giresun/Alucra**	**1.01**	**225**	P	**Pb**	**13 43 02.2**	**0.0**
ALUC				S	**Sb**	**13 43 14.7**	**-0.8**
ALUC				*i* IAML		13 43 18.0	
	comp=E,118nm,0.4s						
KRIK	**Erzurum-spir**	**1.18**	**128**	P	**Pn**	**13 43 05.2**	**+0.2**
KRIK				S	**Sb**	**13 43 20.1**	**-0.1**
KRIK				*i* IAML		13 43 26.0	
	comp=E,13nm,0.8s						
SUSE	**Susehri**	**1.43**	**234**	P	**Pb**	**13 43 09.3**	**0.0**
SUSE				S	**Sb**	**13 43 27.9**	**+0.5**
SUSE				*i* IAML		13 43 29.0	
	comp=E,48nm,0.3s						
DDEM	**Demirkent**	**1.56**	**96**	P	**Pb**	**13 43 11.4**	**0.0**
DDEM				S	**Sn**	**13 43 30.3**	**+0.2**
DDEM				*i* IAML		13 43 33.0	
	comp=E,148nm,0.4s						
DAGI	**Agillar**	**1.67**	**89**	P	**Pb**	**13 43 12.9**	**-0.4**
DAGI				S	**Sb**	**13 43 34.0**	**-0.2**
DAGI				*i* IAML		13 43 35.0	
	comp=E,9.0nm,0.2s						

*PRE **05** 13:57:59.7±0.8, 25°.50S×28°.76E, h0km, ML2.6, Suspected explosion*
*BGSI **05** 13:58:16.1±1.3, 24°.77S×28°.25E, h102km±52km, ML2.6*
ISC 05 13:58:00.0±0.9, 25°.53S±0°.04×28°.75E±0°.03, h0km, n24, σ1911/45, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRAO	**HartRAO**	**1.02**	**249**	eP	**Pg**	**13 58 19.8**	**+0.2**
HRAO				eS	**Sb**	**13 58 34.0**	**-0.7**
HRAO				IAML		13 58 36.4	
	comp=Z,127nm,0.4s						
CRLN	**Carolina, Mapu**	**1.24**	**112**	eP	**Pg**	**13 58 23.5**	**-0.3**
CRLN				eS	**Sg**	**13 58 40.4**	**+0.5**
CRLN				IAML		13 58 50.3	
	comp=Z,63nm,0.8s						
WDLM	**Western Deep L**	**1.49**	**233**	eP	**Pg**	**13 58 28.7**	**+0.2**
WDLM				eS	**Sn**	**13 58 50.1**	**+1.7**
WDLM				IAML		13 58 50.9	
	comp=Z,254nm,0.2s						
PRYS	**Parys**	**1.86**	**222**	eP	**Pn**	**13 58 34.1**	**+0.7**
PRYS				eS	**Sb**	**13 58 59.3**	**+0.2**
PRYS				IAML		13 59 06.0	
	comp=Z,40nm,0.6s						
PILG	**Pilgrimsrest,**	**1.88**	**72**	eP	**Pn**	**13 58 33.5**	**-0.1**
PILG				eS	**Sn**	**13 58 58.3**	**+0.2**
PILG				IAML		13 59 00.8	
	comp=Z,151nm,0.4s						
LEPH	**Lephalale, Lim**	**1.88**	**332**	eP	**Pn**	**13 58 32.9**	**-0.6**
LEPH				eS	**Sn**	**13 58 58.0**	**+0.1**
LEPH				IAML		13 59 00.1	
	comp=Z,87nm,0.4s						
NWCL	**Newcastle**	**2.42**	**155**	eP	**Pn**	**13 58 41.5**	**+0.4**
NWCL				eS	**Sn**	**13 59 12.1**	**+0.6**
NWCL				IAML		13 59 16.8	
	comp=Z,58nm,0.3s						

SNKL	**Senekal, Frees**	**2.87**	**197**	eP		Pn	**13 58 47.9**	**+0.7**
SNKL				eS		Sn	**13 59 23.5**	**+1.0**
SNKL				IAML			13 59 39.4	
	comp=Z,42nm,0.5s							
LBTB	**Lobatse**	**2.90**	**280**	eP		Pn	**13 58 48.9**	**+1.4**
LBTB				eS		Sn	**13 59 23.6**	**+0.4**
LBTB				IAML			13 59 35.3	
	comp=Z,28nm,1.0s							
MOPA	**Mopani**	**3.14**	**51**	eP		Pn	**13 58 51.3**	**+0.6**
MOPA				eS		Sn	**13 59 28.1**	**-0.8**
MOPA				IAML			13 59 41.6	
	comp=Z,68nm,0.7s							
MREMI	**Moremi**	**3.18**	**338**	*i* P		Pn	**13 58 51.8**	**+0.5**
MREMI				*i* S		Sn	13 59 17.4	-13
MREMI				IAML			13 59 39.9	
	comp=E,153nm,0.4s							
POGA	**Pongola**	**3.21**	**125**	eP		Pn	**13 58 52.7**	**+1.0**
POGA				eS		Sn	**13 59 31.3**	**+0.5**
POGA				eS		Sb	**13 59 35.9**	**-1.7**
POGA				IAML			13 59 43.0	
	comp=Z,51nm,0.5s							
MUSN	**Musina, Limpop**	**3.39**	**18**	eP		Pn	**13 58 53.9**	**-0.2**
MUSN				eS		Sn	**13 59 34.2**	**-0.9**
MUSN				IAML			13 59 48.7	
	comp=Z,32nm,0.5s							
LPHEP	**Lephephe**	**3.40**	**309**	*i* P		Pn	**13 58 54.0**	**-0.5**
LPHEP				*i* S		Sn	13 59 24.4	-11
LPHEP				IAML			13 59 49.1	
	comp=E,32nm,0.8s							
SWZ	**Schweizer**	**3.48**	**241**	eP		Pn	**13 58 56.4**	**+0.9**
SWZ				eS		Sn	**13 59 38.4**	**+0.9**
SWZ				IAML			13 59 59.8	
	comp=Z,22nm,0.4s							
TEMBE	**Tembe Elephant**	**3.63**	**115**	eP		Pn	**13 58 58.3**	**+0.8**
TEMBE				eS		Sn	**13 59 40.6**	**-0.4**
TEMBE				IAML			14 00 07.9	
	comp=Z,50nm,0.6s							
PMBG	**Pietermaritzbu**	**4.26**	**159**	eP		Pn	**13 59 06.8**	**+0.5**
PMBG				eS		Sn	**13 59 55.4**	**-1.4**
PMBG				IAML			14 00 14.0	
	comp=Z,26nm,0.5s							
KDWAN	**Kaudwane**	**4.29**	**299**	*i* P		Pn	**13 59 07.8**	**+1.1**
KDWAN				*i* S		Sn	13 59 45.5	-12
KDWAN				IAML			14 00 17.5	
	comp=N,43nm,0.8s							
BOSA	**Boshof**	**4.37**	**225**	eP		Pn	**13 59 08.2**	**+0.4**
BOSA				eS		Sn	**13 59 59.5**	**-0.1**
BOSA				IAML			14 00 17.2	
	comp=Z,10nm,0.7s							
BROLN	**Tlhalogang**	**4.60**	**343**	*i* P		Pn	**13 59 10.4**	**-0.5**
BROLN				*i* S		Sn	13 59 49.7	-15
BROLN				IAML			14 00 03.8	
	comp=N,12nm,0.5s							
KSTD	**Kokstad**	**5.09**	**175**	eP		Pn	**13 59 18.8**	**+1.1**
KSTD				eS		Sn	**14 00 16.8**	**-0.5**
KSTD				IAML			14 00 45.3	
	comp=Z,8.2nm,0.6s							
BRAK	**Brakfontein**	**8.07**	**218**	eP		Pn	**13 59 59.3**	**+0.6**
BRAK				eS		Sn	**14 01 28.2**	**-2.4**
BRAK				IAML			14 01 41.6	
	comp=Z,2.1nm,0.3s							
ARMS	**Ukamas**	**8.43**	**251**	eP		Pn	**14 00 04.3**	**+0.8**
ARMS				eS		Sn	**14 01 36.2**	**-3.2**
FRAZ	**Fraserburg**	**9.06**	**224**	eP		Pn	**14 00 13.6**	**+1.4**
FRAZ				eS		Sn	**14 01 52.0**	**-3.0**
FRAZ				IAML			14 02 52.7	
	comp=N,4.1nm,0.5s							

RSNC 05 13:58:09.7±0.0, 4°.N±1°.×7°.3W±°, h0km±2km, M2.7, mb4.0, ML2.5, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIC	**Chingaza**	**0.53**	**292**	P	Pg	13 58 17.6	-2.3
CHIC				S	Sg	13 58 24.3	-2.4
VILC	**Villavicencio,**	**0.55**	**235**	P	Pg	13 58 19.0	-1.3
VILC				S	Sg	13 58 28.3	+0.8
CVER	**Cruz Verde, Cu**	**0.84**	**276**	P	Pg	13 58 24.3	-1.5
CVER				S	Sg	13 58 36.9	+0.3
PTGC	**Puerto Gaitan,**	**1.13**	**102**	P	Pg	13 58 29.4	-1.9
PTGC				S	Sg	13 58 45.5	-0.5
ROSC	**El Rosal**	**1.15**	**291**	P	Pg	13 58 30.9	-0.9
ROSC				S	Sn	13 58 50.3	+0.2
RUSC	**La Rusia**	**1.46**	**6**	P	Pg	13 58 34.5	-3.3
RUSC				S	Sg	13 58 56.2	-0.5
SPBC	**San Pablo de B**	**1.47**	**326**	P	Pn	13 58 34.8	-2.8
SPBC				S	Sg	13 58 55.2	-1.8
URMC	**La Uribe, Meta**	**1.64**	**224**	P	Pn	13 58 38.0	-1.8
URMC				S	Sn	13 59 01.7	+0.1
PRAC	**Prado**	**1.79**	**247**	P	Pn	13 58 41.3	-0.6
PRAC				S	Sg	13 59 07.4	+0.1
GUVC	**San Jose del G**	**1.97**	**162**	P	Pn	13 58 43.0	-1.4
GUVC				S	Sn	13 59 10.0	+0.2
NORC	**Norcasia**	**1.98**	**305**	P	Pn	13 58 42.4	-2.1
NORC				S	Sn	13 59 09.6	-0.4
ORTC	**Ortega, Tolima**	**2.07**	**256**	P	Pn	13 58 44.9	-0.8
ORTC				S	Sb	13 59 14.6	+0.2
BARC	**Barichara**	**2.15**	**2**	P	Pn	13 58 45.4	-1.6
BARC				P	Pn	13 58 45.4	-1.6
BARC				S	Sn	13 59 15.3	+0.7
BARC				S	Sb	13 59 15.4	-1.6
ANIL	**Santa Ana**	**2.16**	**272**	P	Pn	13 58 47.0	-0.2
ANIL				S	Sg	13 59 19.0	-0.1
RECRC	**Villamaria, Ca**	**2.17**	**284**	P	Pn	13 58 46.3	-1.3
RECRC				S	Sn	13 59 14.7	-0.8
GUY2C	**Guyana, Caldas**	**2.26**	**291**	P	Pn	13 58 47.6	-1.2
GUY2C				S	Sn	13 59 18.3	+0.7
MACC	**Macarena, Meta**	**2.35**	**195**	P	Pn	13 58 49.0	-0.6
MACC				S	Sn	13 59 18.6	-0.6
PTBC	**PUERTO BERRIO,**	**2.42**	**330**	P	Pn	13 58 47.4	-3.2
PTBC				S	Sn	13 59 22.3	+1.3
TAMC	**Tame, Arauca**	**2.46**	**36**	P	Pn	13 58 51.6	+0.4
TAMC				S	Sn	13 59 22.6	+0.6
BRJC	**Barrancabermej**	**2.58**	**349**	P	Pn	13 58 52.8	+0.1
BRJC				S	Sn	13 59 26.4	+1.6
BETC	**Betania**	**2.80**	**232**	P	Pb	13 58 58.4	-2.3
BETC				S	Sb	13 59 36.1	+0.5
HELC	**Santa Helena**	**2.87**	**308**	P	Pn	13 58 55.2	-1.9
HELC				S	Sn	13 59 33.1	+0.5
PAMC	**Pamplona, Colo**	**2.94**	**11**	P	Pn	13 58 55.8	-2.4
PAMC				S	Sb	13 59 39.3	-0.7
CBOC	**Ciudad Bolivar**	**3.11**	**297**	P	Pn	13 58 59.2	-1.0
CBOC				S	Sb	13 59 41.4	-3.1
GARC	**Garzon, Huila**	**3.17**	**225**	P	Pn	13 59 01.2	+0.1
GARC				S	Sb	13 59 43.7	-2.6
ZARC	**Zaragoza, Cauc**	**3.44**	**332**	P	Pn	13 59 01.5	-3.1
ZARC				S	Sn	13 59 46.8	+0.6
JAMC	**Jamundi, Valle**	**3.63**	**251**	P	Pn	13 59 06.5	-1.0
DBBC	**Dabeiba**	**3.92**	**311**	P	Pn	13 59 10.0	-1.2
SJCC	**San Jacinto, C**	**5.76**	**341**	P	Pn	13 59 32.8	-3.8

*IDC **05** 14:18:57.3±0.9, 32°.49N×30°.85E, h0km, mb4.0/20, mbtmp4.0/30, ML4.1/9, MS4.2/1, Error ellipse: s-maj=19.9km s-min=12.5km az=14.0*
*MOS **05** 14:18:58.2±1.1, 32°.42N×30°.85E, h19km, mb4.6/13, Error ellipse: s-maj=9.4km s-min=4.3km az=93.7*
*NEIC **05** 14:18:59.8±1.2, 32°.28N±0°.09×30°.76E±0°.09, h21km±6km, mb4.4/13, Error ellipse: s-maj=14.0km s-min=10.0km az=216.0*
*HLW **05** 14:19:00.9, 32°.38N×31°.01E, h7km±2km, Md4.2, Ml4.3*
*GII **05** 14:19:03.3±0.0, 32°.360N±0°.003×31°.064E±0°.001, h60km, Mws4.1, confirmed*
*GRAL **05** 14:19:03.9±0.7, 32°.57N×30°.86E, h50km±999km, MD4.4*
*NIC **05** 14:19:06.3, 32°.80N×30°.82E, h33km±31km, Ml4.1/11*
*AFAD **05** 14:19:07.0, 33°.03N×30°.71E, h8km±5km, MW4.0*
*NAO **05** 14:19:40.8, 37°.33N×31°.26E, h33km, mb3.7*
ISC 05 14:19:02.4±0.4, 32°.45N±0°.03×30°.83E±0°.03, h35km, n283, σ2502/340, mb4.2/42, MS3.8/3, 11C-7D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DB3	**El Dabaa**	**2.40**	**235**	P	**Pn**	**14 19 41.2**	**+2.0**
HMYD	**Mayadein**	**2.65**	**181**	P	**Pn**	**14 19 43.8**	**+1.1**
KOT	**Kottamia**	**2.66**	**161**	P	**Pn**	**14 19 42.9**	**+0.1**
HHAG	**Hagoal**	**2.72**	**156**	S	**Sn**	**14 20 13.0**	**-2.3**
NATA	**Nata**	**2.74**	**32**	P	**Pn**	**14 19 44.7**	**+0.8**
NATA				S	**Sn**	**14 20 13.7**	**-2.0**
NATA				AML	AML	14 20 25.0	
	8.2nm,0.4s						
NATA				AML	AML	14 20 27.1	
	9.7nm,0.8s						
APOL	**The Sanctuary**	**2.79**	**37**	P	**Pn**	**14 19 45.1**	**+0.6**
APOL				S	**Sn**	**14 20 17.1**	**+0.2**
APOL				AML	AML	14 20 27.8	
	2.6nm,0.6s						
APOL				AML	AML	14 20 28.4	
	2.6nm,0.4s						
HNAT	**Natroun**	**2.82**	**184**	P	**Pn**	**14 19 46.0**	**+1.0**
HNAT				S	**Sn**	**14 20 17.5**	**-0.2**
AKMS	**Akamas**	**2.85**	**26**	⇑ *i*P	**Pn**	**14 19 45.0**	**-0.4**
AKMS				S	**Sn**	**14 20 15.2**	**-3.3**
AKMS				AML	AML	14 20 19.6	
	4.0nm,0.3s						
AKMS				AML	AML	14 20 23.6	
	2.8nm,0.3s						
TROD	**Troodos**	**3.01**	**34**	⇑ eP	**Pn**	**14 19 47.8**	**0.0**
TROD				S	**Sn**	**14 20 20.0**	**-2.7**
TROD				AML	AML	14 20 24.5	
	2.0nm,0.4s						
TROD				AML	AML	14 20 29.4	
	1.7nm,0.3s						
ALFC	**Alefka**	**3.07**	**28**	⇑ *i*P	**Pn**	**14 19 48.2**	**-0.3**
ALFC				S	**Sn**	**14 20 21.7**	**-2.3**
ALFC				AML	AML	14 20 29.2	
	2.7nm,0.5s						
ALFC				AML	AML	14 20 30.9	
	3.9nm,0.4s						
ASGA	**Asgata**	**3.08**	**40**	⇑ eP	**Pn**	**14 19 49.0**	**+0.5**
ASGA				S	**Sn**	**14 20 23.5**	**-0.6**
ASGA				AML	AML	14 20 29.6	
	3.3nm,0.4s						
ASGA				AML	AML	14 20 34.1	
	2.9nm,0.5s						
XYLS	**Xyliatos**	**3.15**	**35**	⇑ *i*P	**Pn**	**14 19 49.9**	**+0.3**
XYLS				S	**Sn**	**14 20 25.9**	**-0.2**
XYLS				AML	AML	14 20 28.4	
	3.8nm,0.3s						
XYLS				AML	AML	14 20 29.6	
	2.9nm,0.3s						
CSS	**Mathiatis**	**3.26**	**39**	P	**Pn**	**14 19 51.8**	**+0.8**
CSS	**Mathiatis**	**3.26**	**39**		**Pn**	**14 19 51.3**	**+0.4**
CSS	**Mathiatis**	**3.26**	**39**	P	**Pn**	**14 19 51.3**	**+0.4**
CSS	**Mathiatis**	**3.26**	**39**	P	**Pn**	**14 19 51.5**	**+0.5**
CSS				S	**Sn**	**14 20 28.5**	**0.0**
CSS				AML	AML	14 20 37.8	
	1.5nm,0.6s						
CSS				AML	AML	14 20 41.4	
	1.6nm,0.8s						
AKIN	**Akıncılar- Kıb**	**3.37**	**40**	eP	**Pn**	**14 19 53.6**	**+1.1**
RYAN	**Fayoum**	**3.40**	**188**	P	**Pn**	**14 19 53.6**	**+0.7**
KZIT	**Kziot**	**3.41**	**116**	P	**Pn**	**14 19 51.6**	**-1.5**
KZIT	**Kziot**	**3.41**	**116**	P	**Pn**	**14 19 51.6**	**-1.5**
KZIT				S	**Sn**	**14 20 28.4**	**-4.0**
ATHAL	**Athalassa**	**3.43**	**38**	P	**Pn**	**14 19 55.6**	**+2.4**
ATHAL				S	**Sn**	**14 20 34.2**	**+1.5**
ATHAL				AML	AML	14 20 51.0	
	2.8nm,0.6s						
ATHAL				AML	AML	14 20 51.7	
	3.6nm,0.5s						
MVOU	**Mavrovouni**	**3.46**	**42**	P	**Pn**	**14 19 54.7**	**+0.9**
MVOU				S	**Sn**	**14 20 33.9**	**+0.4**
MVOU				AML	AML	14 20 43.0	
	0.7nm,0.4s						
MVOU				AML	AML	14 20 45.6	
	0.8nm,0.3s						
ZAF	**Zafarana**	**3.49**	**154**	S	**Sn**	**14 20 32.3**	**-2.0**
OFRI	**`Ofer**	**3.52**	**86**	S	**Sn**	**14 20 30.9**	**-4.0**
OFRI	**`Ofer**	**3.52**	**86**	P	**Pn**	**14 19 52.1**	**-2.5**
ZNM	**Zenema**	**3.54**	**150**	P	**Pn**	**14 19 54.9**	**+0.1**
SLTI	**Sal'it**	**3.57**	**92**	S	**Sn**	**14 20 32.2**	**-4.1**
SLTI	**Sal'it**	**3.57**	**92**	P	**Pn**	**14 19 53.6**	**-1.7**
AMAZ	**Amatzia**	**3.59**	**104**	P	**Pn**	**14 19 54.0**	**-1.6**
AMAZ	**Amatzia**	**3.59**	**104**	P	**Pn**	**14 19 54.0**	**-1.6**
AMAZ				S	**Sn**	**14 20 33.1**	**-3.7**
LFK	**Lefkose**	**3.60**	**38**	P	**Pn**	**14 19 57.9**	**+2.1**
PARAL	**Paralimni**	**3.69**	**46**	P	**Pn**	**14 19 57.5**	**+0.7**
PARAL				S	**Sn**	**14 20 36.6**	**-2.4**
PARAL				AML	AML	14 20 51.4	
	0.8nm,0.6s						
PARAL				AML	AML	14 20 59.4	
	1.2nm,0.6s						
HNTI	**Hanita**	**3.71**	**79**	S	**Sn**	**14 20 37.0**	**-2.8**
HNTI	**Hanita**	**3.71**	**79**	P	**Pn**	**14 19 55.9**	**-1.3**
YTIR	**Yattir**	**3.81**	**105**	S	**Sn**	**14 20 39.0**	**-3.1**
YTIR	**Yattir**	**3.81**	**105**	P	**Pn**	**14 19 56.8**	**-1.8**
KSL	**Kastellorizon**	**3.83**	**345**	P	**Pn**	**14 19 58.0**	**-0.8**
KSL	**Kastellorizon**	**3.83**	**345**	P	**Pn**	**14 19 59.6**	**+0.8**
KSL				S	**Sn**	**14 20 39.4**	**-3.1**
NBNS	**Bani Suef**	**3.84**	**174**	P	**Pn**	**14 19 59.2**	**+0.2**
MMLI	**Mount Malkishu**	**3.88**	**89**	S	**Sn**	**14 20 40.3**	**-3.7**
MMLI	**Mount Malkishu**	**3.88**	**89**	P	**Pn**	**14 19 57.8**	**-1.8**
MMLI	**Mount Malkishu**	**3.88**	**89**	P	**Pn**	**14 19 57.8**	**-1.8**
MMLI				S	**Sn**	**14 20 39.3**	**-4.7**
MMA0B	**Mount Meron ar**	**3.90**	**81**	S	**Sn**	**14 20 41.1**	**-3.2**
MMA0B	**Mount Meron ar**	**3.90**	**81**	P	**Pn**	**14 19 58.4**	**-1.4**
MMAI	**Mount Meron Ar**	**3.90**	**81**	Pn	**Pn**	**14 19 58.4**	**-1.4**
	32nm,0.3s,baz=251,slow=12,SNR=100						
MMAI				Sn	**Sn**	**14 20 41.3**	**-3.0**
	40nm,0.3s,baz=269,slow=17,SNR=6.1						
	12nm,0.3s						
AKAS	**Kas**	**3.90**	**345**		**Pn**	**14 20 00.2**	**+0.3**
DSI	**Dead Sea**	**3.97**	**102**	S	**Sn**	**14 20 43.2**	**-2.8**
DSI	**Dead Sea**	**3.97**	**102**	P	**Pn**	**14 19 59.2**	**-1.5**
GAZI	**Gazipasa**	**3.97**	**18**	P	**Pn**	**14 20 01.1**	**+0.4**
GAZI	**Gazipasa**	**3.97**	**18**	P	**Pn**	**14 20 00.6**	**-0.1**
GAZI				S	**Sn**	**14 20 42.1**	**-3.9**
GAZI				*i* IAML		14 20 46.0	

BERE Bereket-Mersin 4.36 26 *eP* **Pn 14 20 07.0 +0.8**
ARG Arkhangelos 4.37 330 P **Pn 14 20 06.5 +0.3**
ARG Arkhangelos 4.37 330 P **Pn 14 20 06.6 +0.4**
ARG S **Sn 14 20 52.9 -3.0**
TEPK Tepekoy-MERSIN 4.38 30 *eP* **Pn 14 20 07.6 +1.2**
YESI Yesilovacik-Me 4.40 31 *eP* **Pn 14 20 07.8 +1.2**
FETY Fethiye 4.41 341 P **Pn 14 20 05.8 -1.0**
FETY Fethiye 4.41 341 P **Pn 14 20 07.3 +0.5**
FETY S **Sn 14 20 54.6 -2.4**
KARG Kargicak-Mersi 4.43 32 *eP* **Pn 14 20 08.5 +1.4**
IKL Isikli 4.45 31 *eP* **Pn 14 20 08.4 +1.0**
ZAHL Zahle 4.47 70 *eP* **Pn 14 20 07.2 -0.5**
EIL Elat 4.50 127 Pn **Pn 14 20 06.0 -2.0**
1.8nm,0.3s,baz=298,slow=3.5,SNR=28
EIL Sn **Sn 14 20 54.8 -4.3**
30nm,0.3s,baz=355,slow=5.9,SNR=13
6.0nm,0.4s
EIL Elat 4.50 127 P **Pn 14 20 06.2 -1.8**
GRB Gharib 4.50 157 P **Pn 14 20 07.8 -0.3**
KNIK Mula-Seydike 4.50 347 P **Pn 14 20 08.5 +0.3**
KNIK S **Sn 14 20 53.6 -5.8**
KNIK *i* IAML 14 21 00.0
comp=N,90nm,0.4s
ERMK Ermenek 4.52 22 P **Pn 14 20 10.4 +1.9**
ERMK S **Sn 14 20 57.1 -2.7**
ERMK *i* IAML 14 21 10.0
comp=E,405nm,0.4s
TEVE Tevekalti-Mers 4.52 28 *eP* **Pn 14 20 09.4 +1.0**
SABU Mula-Dalaman 4.62 341 P **Pn 14 20 09.3 -0.4**
SABU S Sn 14 20 54.0 -8.1
SABU *i* IAML 14 21 05.0
comp=N,119nm,0.4s
KEBE Keben-Mersin 4.64 30 *eP* **Pn 14 20 11.2 +1.2**
HWQ Hawqa 4.65 66 *eP* **Pn 14 20 09.2 -1.0**
HWQ *eS* **Sn 14 20 57.6 -5.5**
HBST Basata 4.66 133 P **Pn 14 20 09.4 -0.8**
SILI Silifke-Mersin 4.67 32 *eP* **Pn 14 20 11.7 +1.4**
ZKR Zakros 4.67 306 P **Pn 14 20 12.6 +2.2**
SLFK Silifke-Mersin 4.70 32 *eP* **Pn 14 20 12.1 +1.4**
NUB Nuweiba 4.74 135 P **Pn 14 20 11.4 +0.1**
TAMRE El Minia 4.76 179 P **Pn 14 20 11.7 +0.2**
TR2 Tor 2 4.76 148 P **Pn 14 20 11.0 -0.7**
HKAT Jabal Katrina 4.78 144 P **Pn 14 20 11.3 -0.7**
TURN Turunc 4.81 334 P **Pn 14 20 12.6 +0.4**
TURN S **Sn 14 21 00.1 -6.6**
TURN *i* IAML 14 21 07.0
comp=E,165nm,0.3s
CAEL Denizli, Camel 4.82 346 P **Pn 14 20 12.0 -0.6**
CAEL S **Sn 14 21 03.9 -3.3**
CAEL *i* IAML 14 21 17.0
comp=E,270nm,0.8s
KIZK Mersin 4.86 33 *eP* **Pn 14 20 13.9 +0.9**
KIZK Mersin 4.86 33 P **Pn 14 20 14.2 +1.3**
KIZK S **Sn 14 21 06.4 -1.6**
KIZK *i* IAML 14 21 10.0
comp=E,176nm,0.7s
GOLH Golhisar 4.88 348 P **Pn 14 20 14.6 +1.2**
GOLH S **Sn 14 21 03.6 -5.2**
GOLH *i* IAML 14 21 20.0
comp=E,132nm,0.5s
BEIL Beino 4.94 64 *eP* **Pn 14 20 13.4 -0.6**
HDHB Dhahab 4.95 138 P **Pn 14 20 13.3 -0.9**
FKH Fakeheh 5.00 68 *eP* **Pn 14 20 14.6 -0.5**
YAZI Mula-Dat§a- 5.05 327 P **Pn 14 20 16.5 +0.9**
YAZI S **Sn 14 21 07.8 -4.9**
YAZI *i* IAML 14 21 11.0
comp=E,143nm,0.5s
KRMN Karaman 5.12 22 *eP* **Pn 14 20 17.7 +1.1**
ASF Jabal al Asfar 5.15 92 Pn **Pn 14 20 16.4 -0.7**
3.4nm,0.3s,baz=271,slow=5.8,SNR=16
ASF Sn **Sn 14 21 11.7 -3.5**
9.0nm,0.3s,baz=86,slow=20,SNR=6.7
6.8nm,0.3s
MULA Mugla, Merkez- 5.21 337 P **Pn 14 20 18.3 +0.4**
MULA S **Sn 14 21 10.1 -6.8**
MULA *i* IAML 14 21 16.0
comp=N,155nm,0.5s
TAVA DENIZLI_Tavas 5.24 343 P **Pn 14 20 18.8 +0.5**
TAVA S **Sn 14 21 12.4 -5.1**
TAVA *i* IAML 14 21 19.0
comp=N,122nm,0.5s
INCE Denizli-Bozkur 5.34 349 P **Pn 14 20 19.8 +0.1**
INCE S **Sn 14 21 15.6 -4.4**
INCE *i* IAML 14 21 22.0
comp=E,216nm,1.0s
MERS Mersin 5.35 34 *eP* **Pn 14 20 21.0 +1.2**
ISP Isparta 5.36 357 Pn **Pn 14 20 22.2 +2.2**
ISP Isparta 5.36 357 *eP* **Pn 14 20 22.4 +2.4**
ISP pmax pmax
comp=Z,100nm,0.6s
DNIZ Denizli-Tavas- 5.36 345 P **Pn 14 20 20.0 0.0**
DNIZ S Sn 14 21 11.9 -8.7
DNIZ *i* IAML 14 21 25.0
comp=Z,299nm,0.7s
BDRM Kayabasi 5.38 330 P **Pn 14 20 18.2 -1.9**
BDRM S **Sn 14 21 15.6 -5.1**
BDRM *i* IAML 14 21 21.0
comp=Z,130nm,0.3s
BODT Bodrum 5.43 329 P **Pn 14 20 20.3 -0.5**
DED Mersin 5.56 35 P **Pn 14 20 22.7 +0.1**
DED S **Sn 14 21 22.5 -2.8**
ASUZ Hatay-Arsuz 5.61 46 P **Pn 14 20 21.9 -1.3**
ASUZ S **Sn 14 21 23.4 -2.9**
KONT Konya--Tatoy 5.62 12 P **Pn 14 20 25.2 +1.7**
KONT S **Sn 14 21 22.5 -4.3**
KONT *i* IAML 14 21 37.0
comp=Z,112nm,0.6s
KERG Konya-Eregli 5.64 28 P **Pn 14 20 26.4 +2.6**
KERG S **Sn 14 21 25.9 -1.5**
IDI Anoyia 5.69 301 Pn **Pn 14 20 24.1 -0.3**
comp=Z,19nm,0.5s,baz=22,slow=18,SNR=24
IDI Sn **Sn 14 21 24.9 -3.7**
comp=Z,38nm,0.3s,baz=19,slow=23,SNR=22
ESEN Aydn-Nazilli 5.71 340 P **Pn 14 20 24.6 0.0**
ESEN S Sn 14 21 21.5 -7.3
ESEN *i* IAML 14 21 31.0
comp=Z,102nm,0.6s
HFRF Wahat Farafira 5.72 203 P **Pn 14 20 25.5 +0.6**
HHRG Al Ghardaqah 5.73 155 P **Pn 14 20 26.7 +1.6**
GULE Gulek 5.81 33 P **Pn 14 20 28.0 +1.9**
GULE S **Sn 14 21 28.0 -3.6**
GULE *i* IAML 14 21 42.0
comp=Z,294nm,0.6s
GCAM G?zelcaml? 6.01 332 P **Pn 14 20 29.0 +0.3**
GCAM S **Sn 14 21 30.1 -6.1**
GCAM *i* IAML 14 21 35.0
comp=Z,164nm,0.3s
KIRA zmir-Kiraz 6.06 342 P **Pn 14 20 28.9 -0.7**
KIRA S Sn 14 21 29.5 -8.3
KIRA *i* IAML 14 21 36.0
comp=Z,74nm,0.4s
IZMR zmir-demi 6.14 338 P **Pn 14 20 30.4 -0.1**
IZMR S Sn 14 21 32.2 -7.3
IZMR *i* IAML 14 21 37.0
comp=Z,73nm,0.5s
MANT Manisa 6.30 344 **Pn 14 20 32.6 -0.4**
MANT Manisa 6.30 344 P **Pn 14 20 31.3 -1.7**
MANT S **Sn 14 21 37.0 -6.8**
MANT *i* IAML 14 21 44.0
comp=Z,40nm,0.4s
APE Apeiranthos 6.34 318 *eP* **Pn 14 20 32.4 -0.9**
NIDE Nigde/Merkez-G 6.41 29 P **Pn 14 20 35.1 +0.7**
NIDE S **Sn 14 21 44.8 -1.6**
NIDE *i* IAML 14 21 50.0
comp=Z,100nm,0.5s
DGB zmir 6.45 331 P **Pn 14 20 33.2 -1.6**
DGB S Sn 14 21 38.5 -8.7
DGB *i* IAML 14 21 46.0
comp=Z,36nm,0.3s
URLA Izmir 6.83 331 P **Pn 14 20 39.1 -0.9**
URLA S Sn 14 21 48.0 -8.6
URLA *i* IAML 14 21 54.0
comp=Z,49nm,0.8s
GTR Jabal at Tayr 6.92 182 P **Pn 14 20 41.1 -0.2**
AKRG Al Kharijah 6.93 182 P **Pn 14 20 41.2 -0.3**
HDK1 Dakhla 7.00 191 P **Pn 14 20 43.1 +0.7**
GAZ Gaziantep 7.05 46 Pn **Pn 14 20 43.3 +0.2**
CHOS Chios island 7.08 328 P **Pn 14 20 41.6 -2.0**
ANKY Antikythira Is 7.11 301 P **Pn 14 20 43.1 -0.7**
BORA Eskisehir 7.42 358 **Pn 14 20 49.0 +0.8**
BNN Bunyan 7.58 31 **Pn 14 20 51.1 +0.7**
BRTR Keskin Array B 7.60 17 Pn **Pn 14 20 51.6 +0.9**
comp=Z,4.2nm,0.3s,baz=188,slow=15,SNR=71
BRTR Sn Sn 14 22 06.7 -9.1
comp=Z,0.8nm,0.3s,baz=197,slow=24,SNR=3.6
comp=Z,15nm,0.5s
BR131 Keskin Array S 7.60 17 **Pn 14 20 52.1 +1.3**
BR131 Keskin Array S 7.60 17 *d iP* **Pn 14 20 52.0 +1.2**
MDUB Mudurnu 8.01 2 **Pn 14 20 58.1 +1.9**
ITM Ithomi 8.70 305 Pn **Pn 14 21 04.5 -1.3**
ITM Ithomi 8.70 305 P **Pn 14 21 03.3 -2.5**
ILGA Ilgaz 8.89 14 **Pn 14 21 10.0 +1.5**
FNA Florina 11.25 320 Pn **Pn 14 21 42.1 +1.4**
FNA Florina 11.25 320 P **Pn 14 21 42.1 +1.4**
SOC Sochi 13.12 30 *eP* **Pn 14 22 05.2 -1.0**
SOC *e* 14 24 34.5
SOC MLR MLR
comp=Z,114nm,14.0s
CEL Celeste 13.49 300 Pn **Pn 14 22 08.9 -2.4**
MLR Muntele Rosu 13.56 345 Pn **Pn 14 22 12.4 +0.2**
comp=Z,0.3nm,0.3s,baz=168,slow=14,SNR=6.2
MLR Sn **Sn 14 24 35.2 -6.4**
comp=Z,0.9nm,0.3s,baz=161,slow=14,SNR=3.6
comp=Z,2.1nm,0.5s
CUC Castrocucco 14.25 306 Pn 14 22 18.5 -3.1
KBZ Khabaz 14.71 37 Pn **Pn 14 22 28.4 +0.6**
comp=Z,0.1nm,0.3s,baz=228,slow=8.1,SNR=13
comp=Z,1.2nm,0.7s
KBZ Khabaz 14.71 37 ‖ *iP* **Pn 14 22 28.2 +0.4**
KIV Kislovodsk 14.77 36 *eP* **Pn 14 22 27.1 -1.6**
KIV pmax pmax
comp=Z,6.0nm,1.1s
PSZ Piszkesteto 17.53 335 **Pn 14 23 03.3 -0.7**
PSZ IAmb IAmb 14 23 07.5
comp=Z,27nm,1.3s
PSZ Piszkesteto 17.53 335 P **Pn 14 23 03.3 -0.7**
PSZ pmax pmax
comp=Z,27nm,1.3s
KOLS Kolonicke sedl 17.67 341 *eP* **P 14 23 08.7 +2.4**
KOLS Kolonicke sedl 17.67 341 *eP* **P 14 23 08.7 +2.4**
KEST Kesra 18.09 286 P **Pn 14 23 11.9 +1.0**
comp=Z,0.2nm,0.3s,baz=93,slow=12,SNR=2.4
comp=Z,2.2nm,0.8s
AKASG Malin Array Be 18.27 357 P **P 14 23 10.3 -2.5**
comp=Z,2.2nm,0.3s,baz=177,slow=10,SNR=13
comp=Z,1.2nm,0.4s
AKASG Malin Array Be 18.27 357 *ceP* **P 14 23 11.8 -1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 18.27 357 *eP* **P 14 23 11.7 -1.1**
AKBB pmax pmax
comp=Z,10.0nm,0.8s
VYHS Vyhne 18.40 334 *eP* **P 14 23 16.3 +2.0**
VYHS Vyhne 18.40 334 *eP* **P 14 23 16.3 +2.0**
STHS Stebnicka Huta 18.40 340 *eP* **Pn 14 23 16.5 +1.9**
STHS Stebnicka Huta 18.40 340 *eP* **Pn 14 23 16.5 +1.9**
SOKA Soboth 18.66 324 *iP* **P 14 23 17.9 +0.7**
comp=Z,0.7nm,0.6s
RONA Rosalia, Austr 18.80 328 *iP* **P 14 23 19.3 +0.5**
comp=Z,4.0nm,0.7s
MODS Modra-Piesok 18.91 331 *eP* **P 14 23 19.6 -0.4**
MODS Modra-Piesok 18.91 331 *eP* **P 14 23 19.5 -0.4**
CONA Conrad Observa 19.17 328 *iP* **P 14 23 23.8 +1.0**
comp=Z,0.7nm,0.7s
VORD Divnogorie 19.52 16 *eP* **P 14 23 24.7 -1.8**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 19.73 16 *eP* **P 14 23 28.1 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.8s
KBA Koelnbreinsper 19.78 323 *eP* **P 14 23 31.1 +1.5**
comp=Z,3.9nm,0.7s
KRUC Moravsky 19.81 331 *eP* **P 14 23 29.5 -0.2**
VRAC Vranov 19.93 332 *eP* **P 14 23 32.1 +1.1**
VRAC Vranov 19.93 332 P **P 14 23 29.9 -1.1**
comp=Z,0.3nm,0.3s,baz=138,slow=8.4,SNR=9.9
comp=Z,9.0nm,1.0s
ABTA Abfaltersbach 20.00 321 *eP* **P 14 23 32.9 +0.9**
comp=Z,1.2nm,0.7s
BIOA Bad Ischl, Aus 20.05 324 *eP* **Pn** 14 23 37.9 +3.6
comp=Z,0.9nm,0.7s
VORR Voronezh 20.16 15 P **P 14 23 34.9 +1.4**
VORR pmax pmax
comp=Z,47nm,0.9s
LESA Schwarzleotal 20.35 323 *eP* **P 14 23 36.3 +0.6**
comp=Z,2.0nm,0.6s
VRH Novokhopyorsk 20.38 20 *eP* **P 14 23 36.4 +0.6**
VRH pmax pmax
comp=Z,32nm,0.8s
WTTA Wattenberg 20.80 321 *iP* **P 14 23 40.9 +0.3**
comp=Z,3.8nm,0.9s
GERES GERESS Array B 20.82 327 P **P 14 23 40.5 -0.3**
comp=Z,2.1nm,0.6s,baz=134,slow=11,SNR=12
comp=Z,2.1nm,0.6s
DPC Dobruska-Polom 20.86 333 *eP* **P 14 23 42.3 +1.1**
DPC Dobruska-Polom 20.86 333 *eP* **P 14 23 42.3 +1.1**
WATA Walderalm 20.87 321 *iP* **P 14 23 42.7 +1.3**
comp=Z,2.2nm,0.5s
LPSR Galich'ya Gora 20.98 14 *eP* **P 14 23 43.3 +1.0**
LPSR pmax pmax
comp=Z,156nm,0.8s
SQTA Sankt Quirin 21.00 320 *eP* **P 14 23 43.4 +0.7**
comp=Z,1.7nm,0.5s
OSTC Ostas 21.07 333 *eP* **P 14 23 43.6 +0.2**
OSTC Ostas 21.07 333 *eP* **P 14 23 43.6 +0.2**
KHC Kasperske Hory 21.09 327 *eP* **P 14 23 44.4 +0.8**
KHC Kasperske Hory 21.09 327 *ciP* **P 14 23 43.9 +0.3**
KHC pmax pmax
comp=Z,3.0nm,0.6s
UPC Upice 21.11 333 *eP* **P 14 23 45.3 +1.5**
UPC Upice 21.11 333 *eP* **P 14 23 45.3 +1.5**
MOTA Moosalm 21.13 320 *iP* **P 14 23 45.2 +1.0**
comp=Z,4.4nm,0.7s
FETA Feichten 21.14 319 *iP* **P 14 23 44.9 +0.6**
comp=Z,8.4nm,0.9s
PRU Pruhonice 21.30 330 *eP* **P 14 23 47.7 +1.9**
PRU Pruhonice 21.30 330 *eP* **P 14 23 47.7 +1.9**
RETA Reutte 21.40 320 *iP* **P 14 23 47.9 +0.9**
comp=Z,6.4nm,0.6s
DAVOX Davos/Dischmat 21.48 318 P **P 14 23 47.2 -0.8**
comp=Z,3.3nm,0.7s,baz=144,slow=8.3,SNR=5.9
comp=Z,3.3nm,0.7s
DAVA Damuels 21.76 319 *eP* **P 14 23 52.3 +1.3**
comp=Z,7.1nm,0.9s
MNK Minsk 22.14 355 *iP* **P 14 23 51.9 -2.9**
comp=E,16nm,0.8s
MNK *iP* **P 14 23 51.9 -2.9**
comp=N,10.0nm,0.8s
MNK *iP* **P 14 23 51.9 -2.9**
comp=Z,7.0nm,0.8s,baz=174
MNK *iPP* **sP 14 24 13.3 +5.7**
MNK *iPPP* PPP 14 24 22.1
MNK *iS* **S 14 27 56.7 +0.2**
MNK *iSS* **SnSn 14 28 24.9 +0.4**
MNK *iSSS* SSS 14 28 37.9
MNK *iLQ* LQ 14 30 37.8
MNK *iLR* LR 14 32 45.2
MNK *iLRM* MLR 14 34 07.3
comp=N,328nm,19.5s
MNK *iLRM* MLR 14 34 09.6
comp=E,295nm,20.7s
MNK Minsk 22.14 355 *iP* **P 14 23 51.9 -2.9**
MNK *iPPP* PPP 14 24 22.0
MNK *iS* **S 14 27 56.7 +0.2**
MNK *iSSS* SSS 14 28 37.8
MNK pmax pmax
comp=N,10.0nm,0.8s
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=E,16nm,0.8s
MNK MLR MLR
comp=N,328nm,19.0s
MNK MLR MLR
comp=E,295nm,21.0s
MNK MLR MLR
comp=Z,117nm,17.0s
NACGM Naroch 22.62 354 *eP* **P 14 24 03.1 +3.1**
comp=Z,16nm,0.8s,baz=171
SENIN Lac Senin/Sane 22.77 314 **P 14 24 02.2 +0.4**
SENIN IAmb IAmb 14 24 04.2
comp=Z,8.7nm,0.6s
CLL Collm 22.93 330 *eP* **P 14 24 02.0 -1.3**
OBN Obninsk 23.01 8 ‖ *eP* **P 14 24 04.6 +0.6**
OBN *e* 14 24 28.6
OBN *eS* S 14 28 01.5 -10
OBN pmax pmax
comp=Z,36nm,1.3s
OBN MLR MLR
comp=Z,99nm,15.0s
BFO Black Forest 23.22 320 P **P 14 24 06.6 +0.4**
BFO IAmb IAmb 14 24 08.6
comp=Z,6.3nm,0.9s
BFO Black Forest 23.22 320 P **P 14 24 06.6 +0.4**
BFO pmax pmax
comp=Z,6.0nm,0.9s
BELG Belogornoye 23.36 27 *diP* **P 14 24 07.1 -0.4**
BELG pmax pmax
comp=Z,5.0nm,0.7s
MOS Moscow 23.76 10 *eP* P 14 23 58.3 -13
ECH Echery 23.81 318 P **P 14 24 12.6 +0.7**
ECH Echery 23.81 318 P **P 14 24 12.6 +0.7**
ECH pmax pmax
comp=Z,6.0nm,0.9s
VSU Vasula 26.16 355 ⇑ *iP* **P 14 24 33.3 +0.2**
VSU pmax pmax
comp=Z,38nm,1.3s
AB31 Akbulak array 27.45 44 P **P 14 24 45.5 +0.6**
ABKAR Akbulak array 27.45 44 P **P 14 24 45.5 +0.6**
ESDC Sonseca Array 28.90 294 P **P 14 24 59.3 +1.3**
comp=Z,0.4nm,0.6s,baz=87,slow=9.9,SNR=4.2
comp=Z,0.4nm,0.6s
KLMR Klimovskoe 28.98 9 *eP* **P 14 24 57.3 -1.0**
KLMR *e* 14 25 48.4
KLMR pmax pmax
comp=Z,24nm,0.9s
FINES FINESS Array B 29.17 355 P **P 14 25 00.5 +0.5**
FINES FINESS Array B 29.17 355 P **P 14 24 59.2 -0.7**
comp=Z,1.8nm,0.4s,baz=164,slow=10,SNR=15
comp=Z,1.8nm,0.4s
FINES FINESS Array B 29.17 355 *iP* **P 14 25 00.6 +0.6**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FIA1 FINESS Array S 29.17 355 P **P 14 25 00.5 +0.5**
HFS Hagfors 29.92 343 P **P 14 25 06.1 -0.6**
comp=Z,4.9nm,1.0s,baz=163,slow=11,SNR=2.4
comp=Z,4.9nm,1.0s
ARTI Arti 30.61 30 *ciP* **P 14 25 13.0 +0.2**
ARTI 14 26 12.7
ARTI S **S 14 30 15.5 +3.1**
ARTI SS **SnSn 14 31 49.4 -1.6**
ARTI pmax pmax
comp=Z,3.0nm,0.6s
KONO Kongsberg 30.65 339 P **P 14 25 13.0 -0.2**
KONO Kongsberg 30.65 339 P **P 14 25 13.0 -0.2**
KONO pmax pmax
comp=Z,15nm,1.2s
NC405 NORSAR Array S 31.27 342 P **P 14 25 17.8 -0.8**
NC405 IAmb IAmb 14 25 55.9
comp=Z,14nm,1.2s
NB2 NORSAR Sudbarra 31.34 342 P **P 14 25 18.0 -1.2**
comp=Z,0.6nm,0.5s,baz=143,slow=9.3
NOA NORSAR Array B 31.34 342 P **P 14 25 18.4 -0.8**
comp=Z,2.0nm,0.3s,baz=144,slow=8.8,SNR=4.7
comp=Z,2.0nm,0.3s
TORD Torodi Ar. Bea 32.85 241 P **P 14 25 33.6 +0.7**
comp=Z,0.8nm,0.7s,baz=57,slow=7.8,SNR=5.5
comp=Z,0.8nm,0.7s
EKA Eskdalemuir Ar 32.98 324 P **P 14 25 33.0 -0.7**
comp=Z,0.5nm,0.4s,baz=131,slow=10,SNR=4.2
comp=Z,0.5nm,0.4s
EKA Eskdalemuir Ar 32.98 324 P **P 14 25 33.0 -0.7**
BRVK Borovoye 34.93 42 ‖ *iP* **P 14 25 51.6 +0.9**
BRVK pmax pmax
comp=Z,2.0nm,1.1s
BVAR Borovoye Array 34.98 42 P **P 14 25 51.8 +0.7**
comp=Z,1.1nm,0.7s,baz=240,slow=8.4,SNR=7.1
comp=Z,1.1nm,0.7s
ARCES ARCESS Array B 37.25 357 P **P 14 26 09.4 -0.8**
comp=Z,2.4nm,0.5s,baz=169,slow=8.3,SNR=17
ARCES PcP **PcP 14 28 29.7 +0.5**
comp=Z,2.9nm,1.0s,baz=204,slow=2.0,SNR=3.9
comp=Z,2.4nm,0.5s
KURBB Kurchatov Arra 39.27 48 P **P 14 26 28.9 +1.4**
comp=Z,1.6nm,0.2s,baz=265,slow=8.5,SNR=13
KURBB PcP **PcP 14 28 34.1 -1.8**
comp=Z,0.8nm,0.4s,baz=235,slow=3.3,SNR=1.8
comp=Z,1.6nm,0.2s
KURK Kurchatov 39.35 48 *diP* **P 14 26 29.2 +1.1**
KURK pmax pmax
comp=Z,5.0nm,1.0s
MK31 Makanchi Array 41.41 54 ⇑ *iP* **P 14 26 46.0 +0.7**
MKAR Makanchi Array 41.41 54 P **P 14 26 45.7 +0.3**
MKAR Makanchi Array 41.41 54 P **P 14 26 45.9 +0.6**
comp=Z,1.3nm,0.6s,baz=260,slow=7.0,SNR=10
comp=Z,1.3nm,0.6s
MKAR Makanchi Array 41.41 54 *ceP* **P 14 26 46.2 +0.8**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 43.57 44 P **P 14 27 02.7 0.0**
comp=Z,1.8nm,0.4s,baz=260,slow=9.7,SNR=7.3
comp=Z,1.8nm,0.4s
LSZ Lusaka 47.53 183 LR LR 14 48 53.0
comp=Z,285nm,20.4s,baz=135,slow=38
GTA Gaotai 55.07 62 *eP* **P 14 28 31.0 +0.1**
GTA pP pP 14 28 38.0 -3.0
GTA pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 57.55 51 P **P 14 28 48.2 -0.3**
comp=Z,1.0nm,0.7s,baz=296,slow=7.6,SNR=5.8
comp=Z,1.0nm,0.7s
TIXI Tiksi 62.02 21 P **P 14 29 19.2 +0.6**
TIXI Tiksi 62.02 21 P **P 14 29 19.2 +0.6**
TIXI pmax pmax
comp=Z,8.0nm,1.1s
CMAR Chiang Mai Arr 62.15 85 P **P 14 29 19.7 -0.6**
comp=Z,1.4nm,0.7s,baz=294,slow=9.2,SNR=9.4
comp=Z,1.4nm,0.7s
SCHQ Schefferville 68.26 322 P **P 14 29 59.5 0.0**
comp=Z,3.6nm,0.9s,baz=52,slow=12,SNR=2.6
comp=Z,3.6nm,0.9s
USRK Ussuriysk Ar. 75.33 47 P **P 14 30 41.8 -0.3**
comp=Z,1.3nm,0.5s,baz=266,slow=7.3,SNR=2.0
comp=Z,1.3nm,0.5s
E29M Blow River 79.11 356 P **P 14 31 03.1 +0.3**
E29M IAmb IAmb 14 31 38.3
comp=Z,3.2nm,1.1s
E19K Redstone River 80.21 3 P **P 14 31 09.3 +0.5**
E19K IAmb IAmb 14 31 10.7
comp=Z,5.1nm,0.8s
G31M Satah River 80.28 354 P **P 14 31 09.8 +0.6**
G31M IAmb IAmb 14 31 10.5
comp=Z,3.7nm,1.0s
YKA Yellowknife Ar 81.39 345 P **P 14 31 15.7 +0.6**
comp=Z,0.5nm,0.6s,baz=322,slow=6.2,SNR=5.5
comp=Z,0.5nm,0.6s
IMAR Indian Mountai 81.82 2 P **P 14 31 18.3 +0.9**
ILAR Eielson Array 83.08 359 P **P 14 31 23.9 -0.1**
ILAR Eielson Array 83.08 359 P **P 14 31 23.5 -0.5**
comp=Z,0.3nm,0.6s,baz=327,slow=3.9,SNR=5.1
comp=Z,0.3nm,0.6s
ILAR Eielson Array 83.08 359 P **P 14 31 23.9 -0.1**
MJAR Matsushiro Arr 83.50 51 P **P 14 31 26.8 0.0**
comp=Z,0.9nm,0.5s,baz=281,slow=4.8,SNR=2.5
comp=Z,0.9nm,0.5s

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*IDC **05** 14:25:17.5±1.0,54.°11N×35.°16W,h0km,mb3.6/7, mbtmp3.6/7,Error ellipse: s-maj=37.2km s-min=23.6km az=11.0*

ISC 05 14:25:19.5±0.9,54.°1N±0.°2×35.°1W±0.°2,h14km,n8,σ1§02/8, mb3.5/6,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**25.47**	**112**	P	**P**		**14 30 48.1**	**+1.1**
	1.0nm,1.0s,baz=315,slow=8.9,SNR=5.6							
	1.0nm,1.0s							
PDAR	**Pinedale Array**	**48.45**	**289**	P	**P**		**14 34 00.6**	**-0.9**
	0.1nm,0.3s,baz=27,slow=5.1,SNR=4.6							
	0.1nm,0.3s							
TORD	**Torodi Ar. Bea**	**50.08**	**130**	P	**P**		**14 34 12.9**	**-0.9**
	1.5nm,0.8s,baz=334,slow=8.2,SNR=4.3							
	1.5nm,0.8s							
TXAR	**Lajitas Array**	**54.40**	**272**	P	**P**		**14 34 47.0**	**+1.0**
	0.1nm,0.6s,baz=59,slow=5.8,SNR=2.7							
	0.1nm,0.6s							
BVAR	**Borovoye Array**	**56.70**	**44**	P	**P**		**14 35 02.5**	**+0.4**
	0.3nm,0.3s,baz=336,slow=9.7,SNR=2.1							
	0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**61.79**	**41**	P	**P**		**14 35 38.2**	**+0.9**
	0.6nm,0.2s,baz=318,slow=7.9,SNR=1.7							
	0.6nm,0.2s							
MKAR	**Makanchi Array**	**66.36**	**42**	P	**P**		**14 36 06.8**	**-0.6**
	0.3nm,0.7s,baz=320,slow=4.3,SNR=3.5							

0.3nm,0.7s
ASAR Alice Springs 148.49 19 PKPbc **PKPbc 14 45 05.7 +0.2**
1.0nm,0.8s,baz=349,slow=2.8,SNR=14

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*IDC **05** 14:26:45.2±1.5,54˚.07N×35˚.00W,h0km,mb3.8/6, mbtmp3.7/7,ML3.9/1, Error ellipse: s-maj=39.1km s-min=28.4km az=28.0*

ISC 05 14:26:47.3±1.2,54˚.1N±0˚.2×35˚.0W±0˚.2,h14km,n7,σ0s88/7, mb3.7/5,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**18.34**	**73**	P		**P**	**Pn**	**14 31 00.2**	**-0.7**
	baz=277,slow=14								
	0.9nm,0.8s								
ESDC	**Sonseca Array**	**25.36**	**112**	P		**P**		**14 32 14.9**	**+1.1**
	1.5nm,0.9s,baz=306,slow=8.9,SNR=7.5								
	1.5nm,0.9s								
PDAR	**Pinedale Array**	**48.56**	**289**	P		**P**		**14 35 30.1**	**-0.1**
	0.2nm,0.5s,baz=32,slow=6.0,SNR=1.4								
	0.2nm,0.5s								
TORD	**Torodi Ar. Bea**	**49.97**	**131**	P		**P**		**14 35 40.2**	**-0.6**
	1.0nm,0.3s,baz=331,slow=9.3,SNR=4.6								
	1.0nm,0.3s								
BVAR	**Borovoye Array**	**56.66**	**44**	P		**P**		**14 36 30.5**	**+0.8**
	0.5nm,0.5s,baz=305,slow=5.1,SNR=2.9								
	0.5nm,0.5s								
KURBB	**Kurchatov Arra**	**61.77**	**42**	P		**P**		**14 37 04.5**	**-0.4**
	0.9nm,0.2s,baz=328,slow=6.5,SNR=4.2								
	0.9nm,0.2s								
MKAR	**Makanchi Array**	**66.33**	**42**	P		**P**		**14 37 35.1**	**+0.1**
	0.2nm,0.4s,baz=319,slow=8.0,SNR=1.9								
	0.2nm,0.4s								

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*IDC **05** 14:27:19.6±0.6,54˚.04N×35˚.14W,h0km,mb3.9/15, mbtmp3.9/17,ML3.2/2,MS3.7/2, Error ellipse: s-maj=21.3km s-min=13.4km az=5.0*

*NEIC **05** 14:27:21.7±0.8,54˚.0N±0˚.1×35˚.1W±0˚.2,h10km±1km, mb4.4/67, Error ellipse: s-maj=22.4km s-min=16.4km az=179.0*

ISC 05 14:27:21.9±0.4,54˚.0N±0˚.1×35˚.12W±0˚.06,h14km,n92, σ0s70/92,mb4.3/48,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.39**	**285**	P		**P**		**14 31 34.8**	**-1.4**
	0.1nm,0.3s,baz=82,slow=11,SNR=4.0								
	4.4nm,0.9s								
EKA	**Eskdalemuir Ar**	**18.45**	**73**	P		**P**		**14 31 34.8**	**-1.9**
	baz=282,slow=10								
	1.9nm,0.9s								
BATG	**Bathurst New B**	**20.63**	**264**			**P**		**14 32 00.8**	**+0.2**
BATG				IAmb		IAmb		14 32 05.0	
	comp=Z,14nm,1.0s								
LMN	**Caledonia Moun**	**20.66**	**259**	P		**P**		**14 32 01.3**	**+0.4**
HAL	**Halifax**	**20.66**	**255**	P		**P**		**14 32 01.2**	**+0.2**
GGN	**Saint George**	**22.25**	**259**	P		**P**		**14 32 18.7**	**+0.7**
GGN				IAmb		IAmb		14 32 22.5	
	comp=Z,15nm,0.9s								
G65A	**Princeton**	**22.62**	**260**	P		**P**		**14 32 22.6**	**+0.6**
G65A				IAmb		IAmb		14 32 27.2	
	comp=Z,12nm,1.0s								
F64A	**Sherman**	**22.71**	**263**			**P**		**14 32 23.4**	**+0.4**
F64A				IAmb		IAmb		14 32 27.2	
	comp=Z,15nm,1.2s								
MTE	**Manteigas**	**22.97**	**115**	P		**P**		**14 32 26.0**	**+0.2**
MTE				IAmb		IAmb		14 33 06.5	
	comp=Z,13nm,1.2s								
E62A	**Clayton Lake**	**23.00**	**265**	P		**P**		**14 32 26.1**	**+0.1**
E62A				IAmb		IAmb		14 32 32.8	
	comp=Z,11nm,1.0s								
PAB	**San Pablo**	**25.31**	**112**	P		**P**		**14 32 47.1**	**-0.8**
ESBB	**Sonseca Array**	**25.43**	**112**	P		**P**		**14 32 48.1**	**-0.9**
ESDC	**Sonseca Array**	**25.43**	**112**	P		**P**		**14 32 48.3**	**-0.6**
ESDC	**Sonseca Array**	**25.43**	**112**	P		**P**		**14 32 49.3**	**+0.3**
	comp=Z,3.9nm,0.9s,baz=314,slow=9.7,SNR=16								
	comp=Z,3.9nm,0.9s								
TRQ	**Mont Tremblant**	**26.17**	**269**	P		**P**		**14 32 55.8**	**+0.1**
TRQ				IAmb		IAmb		14 33 06.2	
	comp=Z,5.5nm,0.9s								
HNH	**Hanover**	**26.25**	**262**	P		**P**		**14 32 57.2**	**+0.9**
HNH				IAmb		IAmb		14 33 01.4	
	comp=Z,10nm,1.3s								
CEST	**Esterri de Car**	**26.45**	**101**	P		**P**		**14 32 59.0**	**+0.6**
CLL	**Collm**	**28.87**	**75**	*eP*		**P**		**14 33 22.0**	**+2.3**
	comp=Z,22nm,2.0s								
MDT	**Midelt**	**30.28**	**122**	LR		LR		14 42 44.5	
	comp=Z,75nm,19.1s,baz=52,slow=30								
GEC2	**GERESS Array S**	**30.37**	**80**	P		**P**		**14 33 33.1**	**-0.1**
OJC	**Ojcow**	**33.22**	**74**	P		**P**		**14 33 58.6**	**+0.6**
S57A	**Dark Hollow, R**	**33.93**	**260**	P		**P**		**14 34 04.6**	**+0.2**
S57A				IAmb		IAmb		14 34 10.7	
	comp=Z,4.4nm,1.0s								
P52A	**Corning**	**34.55**	**265**	P		**P**		**14 34 10.5**	**+0.8**
P52A				IAmb		IAmb		14 34 14.4	
	comp=Z,8.0nm,1.1s								
EYMN	**Ely**	**35.18**	**284**	P		**P**		**14 34 14.2**	**-0.9**
EYMN				IAmb		IAmb		14 34 27.7	
	comp=Z,4.9nm,0.8s								
P51A	**Williamsport**	**35.19**	**266**	P		**P**		**14 34 15.9**	**+0.7**
P51A				IAmb		IAmb		14 34 21.3	
	comp=Z,5.7nm,0.8s								
V58A	**Windy Hill, Pi**	**35.39**	**257**	P		**P**		**14 34 17.9**	**+1.0**
V58A				IAmb		IAmb		14 34 27.5	
	comp=Z,8.5nm,1.3s								
KEST	**Kesra**	**35.70**	**102**	P		**P**		**14 34 19.8**	**0.0**
KEST				IAmb		IAmb		14 34 21.7	
	comp=Z,7.7nm,1.0s								
KEST	**Kesra**	**35.70**	**102**	P		**P**		**14 34 20.5**	**+0.7**
	comp=Z,4.7nm,0.9s,baz=356,slow=4.7,SNR=4.3								
	comp=Z,4.7nm,0.9s								
G40A	**Rib Lake**	**35.89**	**279**	P		**P**		**14 34 21.3**	**+0.1**
VAE	**Valguarnera**	**37.45**	**96**	LR		LR		14 48 28.1	
	comp=Z,166nm,18.8s,baz=162,slow=34								
BURAR	**Bucovina Array**	**37.62**	**74**	P		**P**		**14 34 36.7**	**+0.7**
CEL	**Celeste**	**37.80**	**93**	P		**P**		**14 34 37.1**	**-0.5**
CEL				IAmb		IAmb		14 34 57.0	
	comp=Z,11nm,1.5s								
AKASG	**Malin Array Be**	**38.23**	**68**	P		**P**		**14 34 40.4**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=312,slow=8.3,SNR=8.2								
	comp=Z,0.4nm,0.4s								
Q44A	**Meyer Farm, Va**	**39.08**	**270**	P		**P**		**14 34 48.7**	**+0.5**
SWET	**Sewanee**	**39.76**	**263**	P		**P**		**14 34 54.3**	**+0.3**
V48A	**Smith Brothers**	**39.91**	**264**	P		**P**		**14 34 56.0**	**+0.7**
S44A	**Carbondale**	**40.02**	**269**	P		**P**		**14 34 56.8**	**+0.7**
S44A				IAmb		IAmb		14 34 57.3	
	comp=Z,9.3nm,0.7s								
YKA	**Yellowknife Ar**	**40.09**	**315**	P		**P**		**14 34 55.8**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=76,slow=8.3,SNR=2.7								
YKA				PcP		**PcP**		**14 36 59.1**	**-1.5**
	comp=Z,0.9nm,0.9s,baz=50,slow=4.1,SNR=4.1								
	comp=Z,0.3nm,0.7s								
ECSD	**EROS Data Cent**	**40.51**	**281**			**P**		**14 35 00.9**	**+0.8**
P38A	**Dawn**	**41.27**	**274**	P		**P**		**14 35 06.9**	**+0.5**
P38A				IAmb		IAmb		14 35 20.0	
	comp=Z,6.7nm,1.1s								
R40A	**Maddies Statio**	**41.40**	**272**	P		**P**		**14 35 07.3**	**-0.1**
SUSD	**Miller**	**41.43**	**284**	P		**P**		**14 35 08.0**	**+0.3**
LCAR	**Lake Charles**	**42.24**	**268**	P		**P**		**14 35 14.0**	**-0.3**
LCAR				IAmb		IAmb		14 35 15.6	
	comp=Z,4.4nm,0.6s								
WHAR	**Wooly Hollow**	**43.44**	**268**	P		**P**		**14 35 24.5**	**+0.3**
HHAR	**Hobbs**	**43.74**	**271**	P		**P**		**14 35 26.7**	**+0.2**
HHAR				IAmb		IAmb		14 35 28.2	
	comp=Z,6.5nm,1.1s								
ILAM	**Ilet Lapin Mar**	**44.04**	**217**	P		**P**		**14 35 29.0**	**-0.1**
X40A	**Basin Creek Fa**	**44.32**	**268**	P		**P**		**14 35 30.3**	**-0.9**
X40A				IAmb		IAmb		14 35 42.3	
	comp=Z,4.6nm,1.0s								
VBMS	**Vicksburg**	**44.57**	**264**	P		**P**		**14 35 32.9**	**-0.2**
MIAR	**Mount Ida**	**44.72**	**269**			**P**		**14 35 34.5**	**+0.1**
MIAR				IAmb		IAmb		14 35 40.8	
	comp=Z,7.4nm,1.0s								
TUL3	**Leonard**	**45.08**	**272**	P		**P**		**14 35 37.3**	**0.0**
F30M	**Barrier River**	**45.27**	**328**	P		**P**		**14 35 38.6**	**+0.3**
F30M				IAmb		IAmb		14 35 46.2	
	comp=Z,6.7nm,0.8s								
KAN14	**Manchester OK**	**45.65**	**275**	P		**P**		**14 35 41.4**	**-0.4**
E28M	**Babbage River**	**45.81**	**330**	P		**P**		**14 35 42.9**	**+0.3**
E28M				IAmb		IAmb		14 35 52.1	
	comp=Z,3.6nm,1.1s								
EPYK	**Eagle Plains**	**46.30**	**327**	P		**P**		**14 35 46.8**	**+0.3**
EPYK				IAmb		IAmb		14 35 59.5	
	comp=Z,9.2nm,1.4s								
BRTR	**Keskin Array B**	**47.25**	**78**			**P**		**14 35 54.5**	**0.0**
BRTR	**Keskin Array B**	**47.25**	**78**	P		**P**		**14 35 55.6**	**+1.2**
	comp=Z,1.9nm,0.8s,baz=302,slow=7.1,SNR=6.7								
	comp=Z,1.9nm,0.8s								
I29M	**Ogilvie Camp,**	**47.43**	**326**	P		**P**		**14 35 55.8**	**+0.4**
I29M				IAmb		IAmb		14 36 04.1	
	comp=Z,2.5nm,0.8s								
I28M	**Miner Creek**	**47.91**	**327**			**P**		**14 35 59.1**	**-0.1**
I28M				IAmb		IAmb		14 36 08.9	
	comp=Z,3.2nm,0.9s								
BPMT	**Black Pine Rid**	**48.27**	**295**	P		**P**		**14 36 02.6**	**+0.2**
PDAR	**Pinedale Array**	**48.49**	**289**	P		**P**		**14 36 03.6**	**-0.6**
PDAR	**Pinedale Array**	**48.49**	**289**	P		**P**		**14 36 03.4**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=72,slow=6.4,SNR=4.6								
	comp=Z,0.3nm,0.5s								
AMTX	**Amarillo**	**49.26**	**275**			**P**		**14 36 09.9**	**-0.1**
ARTI	**Arti**	**49.40**	**47**			**P**		**14 36 11.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**50.00**	**130**	P		**P**		**14 36 15.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**50.00**	**130**	P		**P**		**14 36 14.9**	**-0.8**
	comp=Z,3.4nm,0.9s,baz=332,slow=7.7,SNR=8.0								
	comp=Z,3.4nm,0.9s								
HWUT	**Hardware Ranch**	**50.38**	**289**			**P**		**14 36 18.6**	**+0.1**
HWUT				IAmb		IAmb		14 36 24.2	
	comp=Z,5.4nm,0.9s								
ILAR	**Eielson Array**	**50.54**	**329**	P		**P**		**14 36 19.2**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=34,slow=6.7,SNR=5.9								
ILAR				PcP		**PcP**		**14 37 36.4**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=11,slow=3.0,SNR=6.6								
	comp=Z,0.4nm,0.8s								
PV03	**Paradox Valley**	**51.10**	**284**	P		**P**		**14 36 24.4**	**+0.4**
PV03				IAmb		IAmb		14 36 38.2	
	comp=Z,5.1nm,1.0s								
PV10	**Paradox Valley**	**51.13**	**284**	P		**P**		**14 36 25.9**	**+1.7**
PV18	**Skein Mesa, Pa**	**51.14**	**284**			**P**		**14 36 25.1**	**+0.8**
E19K	**Redstone River**	**51.40**	**335**	P		**P**		**14 36 26.0**	**+0.4**
E19K				IAmb		IAmb		14 36 35.8	
	comp=Z,5.5nm,1.1s								
IMAR	**Indian Mountai**	**51.62**	**333**	P		**P**		**14 36 27.5**	**+0.2**
F19K	**Shaleruckik Mo**	**52.02**	**335**	P		**P**		**14 36 30.0**	**-0.2**
F19K				IAmb		IAmb		14 36 30.5	
	comp=Z,4.4nm,1.1s								
ELK	**Elko**	**53.00**	**290**	P		**P**		**14 36 38.9**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=252,slow=3.2,SNR=2.2								
	comp=Z,0.5nm,0.6s								
SAND	**Sanderson**	**53.05**	**271**	P		**P**		**14 36 38.2**	**-0.2**
SAND				IAmb		IAmb		14 36 51.0	
	comp=Z,2.8nm,0.7s								
TIXI	**Tiksi**	**54.13**	**6**	P		**P**		**14 36 46.5**	**+0.9**
	comp=Z,5.6nm,0.8s,baz=38,slow=7.9,SNR=4.3								
	comp=Z,5.6nm,0.8s								
TXAR	**Lajitas Array**	**54.41**	**272**	P		**P**		**14 36 48.6**	**+0.2**
TXAR	**Lajitas Array**	**54.41**	**272**	P		**P**		**14 36 48.1**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=57,slow=11,SNR=5.3								
TXAR				PcP		**PcP**		**14 37 52.2**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=30,slow=4.5,SNR=2.7								
	comp=Z,0.5nm,0.7s								
ABKAR	**Akbulak array**	**54.85**	**53**	P		**P**		**14 36 51.9**	**+0.7**
MZP	**Montezuma Peak**	**56.32**	**289**	P		**P**		**14 37 02.4**	**+0.1**
MZP				IAmb		IAmb		14 37 16.4	
	comp=Z,2.4nm,0.6s								
BRVK	**Borovoye**	**56.70**	**44**	P		**P**		**14 37 05.1**	**+0.7**
BRVK				IAmb		IAmb		14 37 11.7	
	comp=Z,4.7nm,1.1s								
BVAR	**Borovoye Array**	**56.77**	**44**	P		**P**		**14 37 05.4**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=336,slow=3.3,SNR=4.9								
	comp=Z,0.7nm,0.5s								
ROSC	**El Rosal**	**58.44**	**228**	P		**P**		**14 37 18.5**	**+0.9**
	comp=Z,23nm,0.7s,baz=255,slow=12,SNR=6.3								
KURBB	**Kurchatov Arra**	**61.87**	**41**	P		**P**		**14 37 40.0**	**-0.2**
	comp=Z,0.6nm,0.2s,baz=324,slow=7.2,SNR=4.8								
	comp=Z,0.6nm,0.2s								
MKAR	**Makanchi Array**	**66.43**	**42**	P		**P**		**14 38 10.7**	**+0.4**
MKAR	**Makanchi Array**	**66.43**	**42**	P		**P**		**14 38 10.2**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=332,slow=4.9,SNR=5.7								
	comp=Z,1.2nm,0.9s								
SONM	**Songino Array**	**73.42**	**26**	P		**P**		**14 38 53.8**	**+0.4**
SONM	**Songino Array**	**73.42**	**26**	P		**P**		**14 38 51.7**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=332,slow=5.9,SNR=3.8								
	comp=Z,0.4nm,0.4s								
ULN	**Ulaanbaatar**	**73.57**	**26**	P		**P**		**14 38 55.1**	**+0.8**
ULN				IAmb		IAmb		14 39 03.7	
	comp=Z,9.6nm,1.5s								
SNAA	**Sanae**	**127.44**	**168**	PKP		**PKPdf**		**14 46 23.4**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=338,slow=5.4,SNR=3.8								
QSPA	**South Pole Qui**	**143.90**	**180**	PKP		PKPbc		14 46 52.7	-0.4
	comp=Z,1.6nm,0.8s,baz=170,slow=4.0,SNR=3.7								
ASAR	**Alice Springs**	**148.59**	**20**	PKPbc		**PKPbc**		**14 47 07.5**	**-0.7**
	comp=Z,2.7nm,0.7s,baz=355,slow=3.6,SNR=4.3								

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*BGR **05** 14:33:49.3,55˚.11N×164˚.18E,h23km±3km,mb4.8*

*IDC **05** 14:33:49.4±0.4,56˚.22N×164˚.15E,h0km,mb4.7/41, mbtmp4.7/45,ML4.6/3,MS4.4/54, Error ellipse: s-maj=11.9km s-min=8.4km az=166.0*

*KRSC **05** 14:33:49.7±1.1,56˚.20N×164˚.41E,h56km±19km,Mc5.8, Ml5.2*

*BJI **05** 14:33:51.2,56˚.50N×163˚.37E,h10km,mB4.9/10,mb4.8/39, Ms5.1/32,Ms7 4.9/31*

*NEIC **05** 14:33:51.4±1.6,56˚.15N±0˚.07×164˚.23E±0˚.08,h10km±1km, mb4.9/490, Error ellipse: s-maj=12.1km s-min=6.5km az=202.0*

*MOS **05** 14:33:53.4±1.1,56˚.17N×164˚.14E,h45km,mb5.2/45, MS4.5/26, Error ellipse: s-maj=5.1km s-min=3.6km az=74.8*

*GCMT **05** 14:33:54.4±0.2,56˚.24N±0˚.02×164˚.40E±0˚.03,h12km, MW5.0/110, Moment Tensor Solution. s34,c41; s110,c173; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.36±.10; Mθθ-1.52±.10; Mϕϕ-1.84±.08; Mrθ-0.57±.38; Mθϕ-2.71±.07; Mϕr0.93±.33; Best double couple: Mo4.08900×10¹⁶ NP1:ϕs243.00000°,δ47.00000°, λ119.00000°. NP2:ϕs24.00000°,δ51.00000°,λ62.00000°. Principal axes: T 3.7730, Plg69.0000°, Azm228.0000°; N 0.6320, Plg21.0000°, Azm42.0000°; P -4.0050, Plg2.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 14:33:51.0±0.6,56˚.19N±0˚.04×164˚.19E±0˚.03,h11km±3km, h12km:pP-P,n1069,σ1s29/843,mb5.0/336,MS4.7/81, 43C-15D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.76**	**272**	PN		**Pg**		**14 34 05.3**	**-0.4**
KBTR	**Krutoberegovo**	**0.76**	**272**	*eP*		**Pg**		**14 34 05.3**	**-0.4**
KBG	**Krutoberegovo**	**0.83**	**275**	PN		**Pg**		**14 34 06.4**	**-0.5**
KBG				S		**Sb**		**14 34 19.5**	**+1.0**
KBG	**Krutoberegovo**	**0.83**	**275**	*i* P		**Pg**		**14 34 06.5**	**-0.5**
KBG				*e*S		**Sb**		**14 34 19.6**	**+1.0**
BKI	**Bering**	**1.41**	**133**	PN		**Pn**		**14 34 14.0**	**-2.5**
BKI				S		**Sn**		**14 34 31.9**	**-3.2**
BKI	**Bering**	**1.41**	**133**	*i* P		**Pn**		**14 34 14.0**	**-2.5**
BKI				*e*S		**Sn**		**14 34 31.9**	**-3.2**
SMKR	**Semkarok**	**1.56**	**286**	PN		**Pn**		**14 34 18.4**	**-0.3**
SMKR	**Semkarok**	**1.56**	**286**	*eP*		**Pn**		**14 34 18.5**	**-0.3**
BDR	**Baidarnaya**	**1.70**	**284**	PN		**Pn**		**14 34 21.5**	**+0.9**
BDR	**Baidarnaya**	**1.70**	**284**	*eP*		**Pn**		**14 34 21.6**	**+0.9**
SRKR	**Sorokina**	**1.74**	**287**	PN		**Pn**		**14 34 21.6**	**+0.4**
SRKR	**Sorokina**	**1.74**	**287**	*eP*		**Pn**		**14 34 21.7**	**+0.4**
ZLN	**Zelenaya**	**1.90**	**266**	PN		**Pn**		**14 34 24.5**	**+1.1**
ZLN	**Zelenaya**	**1.90**	**266**	*eP*		**Pn**		**14 34 24.5**	**+1.1**
CIRR	**Tsirk**	**1.93**	**269**	PN		**Pn**		**14 34 24.7**	**+0.9**
CIRR	**Tsirk**	**1.93**	**269**	*eP*		**Pn**		**14 34 24.7**	**+0.9**
LGNR	**Loginova**	**1.96**	**268**	PN		**Pn**		**14 34 25.4**	**+1.0**
LGNR	**Loginova**	**1.96**	**268**	*eP*		**Pn**		**14 34 25.4**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**1.97**	**264**	PN		**Pn**		**14 34 25.3**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**1.97**	**264**	*eP*		**Pn**		**14 34 25.4**	**+0.9**
KLY	**Klyuchi**	**1.98**	**275**	PN		**Pn**		**14 34 23.2**	**-1.1**
KLY				S		**Sn**		**14 34 47.9**	**-1.1**
KLY	**Klyuchi**	**1.98**	**275**	*i* P		**Pn**		**14 34 23.2**	**-1.1**
KLY				*e*S		**Sn**		**14 34 48.0**	**-1.1**
BZWR	**Bezymyannyi-We**	**2.08**	**265**	PN		**Pn**		**14 34 26.9**	**+1.0**
BZWR	**Bezymyannyi-We**	**2.08**	**265**	*eP*		**Pn**		**14 34 27.0**	**+1.0**
BZMR	**Bezymyannaya**	**2.09**	**265**	PN		**Pn**		**14 34 27.0**	**+1.0**
BZMR	**Bezymyannaya**	**2.09**	**265**	*eP*		**Pn**		**14 34 27.0**	**+1.0**
MKZ	**Mys Kozlova**	**2.15**	**222**	PN		**Pn**		**14 34 25.9**	**-0.8**
MKZ	**Mys Kozlova**	**2.15**	**222**	*eP*		**Pn**		**14 34 26.0**	**-0.8**
KIRR	**Kirishev**	**2.17**	**265**	PN		**Pn**		**14 34 27.9**	**+0.8**
KIRR	**Kirishev**	**2.17**	**265**	*eP*		**Pn**		**14 34 28.0**	**+0.8**
KPT	**Kopyto**	**2.23**	**266**	PN		**Pn**		**14 34 29.0**	**+1.0**
KPT	**Kopyto**	**2.23**	**266**	*eP*		**Pn**		**14 34 29.0**	**+1.0**
KMNR	**Kamenistaya**	**2.26**	**261**	PN		**Pn**		**14 34 29.5**	**+1.2**
KMNR	**Kamenistaya**	**2.26**	**261**	*eP*		**Pn**		**14 34 29.5**	**+1.2**
TUMD	**Tumrok D**	**2.36**	**247**	PN		**Pn**		**14 34 30.5**	**+0.9**
TUMD				S		**Sn**		**14 35 00.2**	**+1.7**
TUMD	**Tumrok D**	**2.36**	**247**	*eP*		**Pn**		**14 34 30.5**	**+0.9**
TUMD				*e*S		**Sn**		**14 35 00.2**	**+1.7**
KOZ	**Kozyrevsk**	**2.42**	**269**	PN		**Pn**		**14 34 32.0**	**+1.6**
KOZ	**Kozyrevsk**	**2.42**	**269**	*eP*		**Pn**		**14 34 32.0**	**+1.6**
SRDR	**Sredinnyy**	**2.50**	**275**	PN		**Pn**		**14 34 32.6**	**+1.0**
SRDR	**Sredinnyy**	**2.50**	**275**	*eP*		**Pn**		**14 34 32.6**	**+1.0**
ESO	**Esso**	**3.09**	**267**	PN		**Pn**		**14 34 39.7**	**+0.1**
ESO	**Esso**	**3.09**	**267**	*eP*		**Pn**		**14 34 39.8**	**+0.1**
OSSR	**Ossora**	**3.13**	**349**	PN		**Pn**		**14 34 38.3**	**-1.9**
OSSR	**Ossora**	**3.13**	**349**	*eP*		**Pn**		**14 34 38.4**	**-1.9**
KII	**Karymskiy**	**3.47**	**234**	PN		**Pn**		**14 34 45.6**	**+0.7**
KII	**Karymskiy**	**3.47**	**234**	*eP*		**Pn**		**14 34 45.6**	**+0.7**
PALN	**Palana**	**3.69**	**324**	PN		**Pn**		**14 34 48.2**	**+0.4**
PALN	**Palana**	**3.69**	**324**	*eP*		**Pn**		**14 34 48.3**	**+0.4**
SPN	**Mys Shipunski**	**3.93**	**220**	PN		**Pn**		**14 34 50.5**	**-0.6**
SPN	**Mys Shipunski**	**3.93**	**220**	*eP*		**Pn**		**14 34 50.6**	**-0.6**
NLC	**Nalytchevo**	**4.12**	**225**	PN		**Pn**		**14 34 54.7**	**+0.9**
NLC	**Nalytchevo**	**4.12**	**225**	*eP*		**Pn**		**14 34 54.8**	**+0.9**
SDLR	**Sedlovina**	**4.23**	**229**	PN		**Pn**		**14 34 56.5**	**+1.0**
SDLR	**Sedlovina**	**4.23**	**229**	*eP*		**Pn**		**14 34 56.5**	**+1.0**
KRER	**Koryakskii**	**4.27**	**230**	PN		**Pn**		**14 34 57.5**	**+1.4**
KRER	**Koryakskii**	**4.27**	**230**	*eP*		**Pn**		**14 34 57.6**	**+1.4**
KRX	**Arik**	**4.28**	**231**	PN		**Pn**		**14 34 57.5**	**+1.4**
KRX	**Arik**	**4.28**	**231**	*eP*		**Pn**		**14 34 57.6**	**+1.4**
SMAR	**Somma**	**4.28**	**229**	PN		**Pn**		**14 34 57.1**	**+0.9**
SMAR	**Somma**	**4.28**	**229**	*eP*		**Pn**		**14 34 57.1**	**+0.9**
AVH	**Avacha**	**4.30**	**229**	PN		**Pn**		**14 34 57.7**	**+1.3**
AVH	**Avacha**	**4.30**	**229**	*eP*		**Pn**		**14 34 57.8**	**+1.3**
UGLR	**Uglovaya**	**4.31**	**228**	PN		**Pn**		**14 34 57.5**	**+1.0**
UGLR	**Uglovaya**	**4.31**	**228**	*eP*		**Pn**		**14 34 57.6**	**+1.0**
KOK	**Koryaka**	**4.33**	**230**	PN		**Pn**		**14 34 58.4**	**+1.7**
KOK	**Koryaka**	**4.33**	**230**	*eP*		**Pn**		**14 34 58.5**	**+1.7**
GNL	**Ganaly**	**4.38**	**238**	PN		**Pn**		**14 34 59.2**	**+1.7**
GNL	**Ganaly**	**4.38**	**238**	*eP*		**Pn**		**14 34 59.2**	**+1.7**
TILK	**Tilichiki**	**4.40**	**13**	PN		**Pn**		**14 34 56.2**	**-1.4**
TILK	**Tilichiki**	**4.40**	**13**	*eP*		**Pn**		**14 34 56.2**	**-1.4**
DALK	**Dalny**	**4.47**	**227**	PN		**Pn**		**14 34 59.1**	**+0.6**
DALK	**Dalny**	**4.47**	**227**	*eP*		**Pn**		**14 34 59.1**	**+0.6**
INSR	**Institute**	**4.50**	**228**	PN		**Pn**		**14 35 00.4**	**+1.4**
INSR	**Institute**	**4.50**	**228**	*eP*		**Pn**		**14 35 00.4**	**+1.4**
PET	**Petropavlovsk**	**4.51**	**228**			**Pn**		**14 34 60.0**	**+0.8**
PET	**Petropavlovsk**	**4.51**	**228**	P		**Pn**		**14 34 59.7**	**+0.5**
PET	**Petropavlovsk**	**4.51**	**228**	*e*PN		**Pn**		**14 35 00.0**	**+0.8**
PET				*e*S		**Sn**		**14 35 54.0**	**+2.4**
PET				pmax		pmax	

NIKH IAmb IAmb 14 37 40.5
comp=Z,58nm,0.8s
NIKH Nikolski High 15.91 90 P **Pn 14 37 35.8 +1.2**
NIKH Nikolski High 15.91 90 P **P 14 37 37.4 -0.9**
baz=292
M11K Mekoryuk 16.05 63 P **P 14 37 38.1 -1.6**
baz=268
YSS Yuzhno-Sakhali 16.15 244 Pn **Pn 14 37 37.2 -0.5**
YSS Yuzhno-Sakhali 16.15 244 *eP* **Pn 14 37 39.0 +1.3**
YSS pmax pmax
comp=Z,400nm,5.9s
YSS pmax pmax
comp=Z,40nm,0.8s
YSS MLR MLR
comp=Z,1μm,12.0s
TNA Tin City 16.36 44 P **P 14 37 41.5 -1.6**
baz=248
YUK Yuzh-Kuril'sk 16.84 231 *eP* **Pn 14 37 42.1 -4.4**
YUK S **Sn 14 40 55.3 +1.8**
YUK pmax pmax
comp=Z,207nm,0.8s
YUK pmax pmax
comp=N,80nm,0.9s
YUK pmax pmax
comp=E,118nm,0.9s
YUK MLR MLR
comp=Z,1μm,12.0s
K13K Kusilvak Mount 16.91 57 Pn 14 37 47.6 +0.4
K13K Kusilvak Mount 16.91 57 P **P 14 37 49.7 +0.5**
baz=264
UNV Unalaska Valle 16.91 86 P 14 37 49.8 +0.5
UNV Unalaska Valle 16.91 86 P **P 14 37 49.7 +0.3**
baz=290,SNR=6.1
F14K Arctic Creek 16.95 45 P **P 14 37 49.3 -0.3**
baz=251
ANM Nome 17.07 48 P **P 14 37 51.7 +0.7**
baz=255
LVA Lava Point 17.07 84 P **P 14 37 51.7 +0.6**
AKUT Akutan 17.22 84 P **P 14 37 53.6 +0.8**
GRNR Gornyy 17.32 263 ⇓*iP* **Pn 14 37 53.1 +0.6**
GRNR pmax pmax
comp=Z,3.0nm,0.7s
GRNR MLR MLR
comp=E,1μm,16.0s
GRNR MLR MLR
comp=N,1μm,12.0s
GRNR MLR MLR
comp=Z,240nm,17.0s
M13K Dall Lake 17.46 63 P 14 37 56.3 +0.9
M13K Dall Lake 17.46 63 P **P 14 37 56.3 +0.9**
baz=270
J14K Nanvaranak Lak 17.51 55 P **P 14 37 56.8 +1.0**
J14K Nanvaranak Lak 17.51 55 P **P 14 37 56.7 +0.8**
baz=263
F15K North Star Dit 17.68 45 P **P 14 37 58.6 +0.8**
F15K North Star Dit 17.68 45 P **P 14 37 59.0 +1.1**
baz=252
G15K Niukluk 17.73 47 P **P 14 37 59.6 +1.3**
baz=255
L14K Kuka Creek 17.80 60 P **P 14 38 01.0 +1.9**
L14K Kuka Creek 17.80 60 P **P 14 38 00.3 +1.1**
baz=266
M14K Bethel 18.15 61 P **P 14 38 03.5 +0.6**
M14K Bethel 18.15 61 P **P 14 38 04.4 +1.5**
baz=270
JKA Kamikawa-asahi 18.27 238 P **Pn 14 38 04.5 +0.3**
JKA IAmb IAmb 14 38 07.1
comp=Z,142nm,0.9s
ASAJ Asahikawa 18.27 238 P **Pn 14 38 04.3 +0.1**
comp=Z,3.3nm,0.3s,baz=38,slow=7.0,SNR=81
ASAJ LR LR 14 45 51.2
comp=Z,1μm,18.9s,baz=50,slow=40
comp=Z,144nm,0.9s
N14K Kuskokwak Cree 18.31 64 P **P 14 38 06.3 +1.6**
baz=273
L15K Ungalak Mounta 18.39 58 P **P 14 38 07.4 +1.8**
baz=268,SNR=11
C16K Lisburne Hills 18.39 37 P 14 38 07.5 +1.9
C16K Lisburne Hills 18.39 37 P **P 14 38 06.6 +1.0**
baz=244
K15K Wolf Creek Mou 18.40 57 P 14 38 06.4 +0.6
K15K Wolf Creek Mou 18.40 57 P **P 14 38 06.3 +0.6**
baz=266,SNR=9.6
YAK Yakutsk 18.49 303 Pn 14 38 07.6 +0.9
YAK IAmb IAmb 14 38 15.9
comp=Z,65nm,0.8s
YAK Yakutsk 18.49 303 P **Pn 14 38 07.0 +0.3**
comp=Z,4.5nm,0.3s,baz=109,slow=13,SNR=15
YAK S **Sn 14 41 29.9 -3.1**
comp=Z,4.3nm,0.5s,baz=172,slow=18,SNR=1.3
YAK LR LR 14 45 35.4
comp=Z,2μm,19.8s,baz=81,slow=38
comp=Z,48nm,0.7s
YAK Yakutsk 18.49 303 *eP* **P 14 38 05.9 -0.7**
YAK *eS* **Sn 14 41 33.1 +0.1**
YAK pmax pmax
comp=Z,43nm,0.8s
YAK pmax pmax
comp=N,1.0nm,0.9s
YAK pmax pmax
comp=E,25nm,1.5s
YAK pmax pmax
comp=Z,79nm,1.0s
YAK pmax pmax
comp=N,72nm,2.1s
YAK pmax pmax
comp=E,148nm,2.5s
YAK smax smax
comp=N,561nm,6.5s
YAK smax smax
comp=E,345nm,7.3s
YAK MLR MLR
comp=Z,2μm,26.0s
YAK MLR MLR
comp=N,206nm,11.0s
YAK MLR MLR
comp=E,1μm,25.0s
G16K Koyuk River 18.52 47 P **Pn 14 38 07.8 +0.7**
baz=256
O14K Tigyukauivet M 18.58 66 P **Pn 14 38 08.8 +0.9**
baz=275
M15K Kasigluk River 18.77 62 P **Pn 14 38 10.9 +0.7**
baz=272,SNR=8.2
S12K Black Hills 18.81 77 IAmb IAmb 14 38 14.8
comp=Z,83nm,0.8s
S12K Black Hills 18.81 77 P **Pn 14 38 12.4 +1.7**
baz=285
J16K Anvik River 18.91 54 P **Pn 14 38 12.7 +0.8**
baz=264
I17K Unalakleet 18.94 52 IAmb IAmb 14 38 24.0
comp=Z,123nm,1.6s
I17K Unalakleet 18.94 52 P **Pn 14 38 13.5 +1.3**
baz=262,SNR=12
D17K Noatak River 18.94 39 P **Pn 14 38 13.7 +1.5**
baz=248,SNR=9.8
N15K Kwethluk River 19.09 63 P **Pn 14 38 15.3 +1.1**
baz=274,SNR=10
RDOG Red Dog Mine 19.14 39 P **Pn 14 38 14.8 +0.2**
RDOG IAmb IAmb 14 38 27.4
comp=Z,98nm,1.6s
RDOG Red Dog Mine 19.14 39 P **Pn 14 38 15.4 +0.8**
baz=248
E17K Hotham Inlet 19.19 42 P **Pn 14 38 16.3 +1.0**
baz=252,SNR=11
C17K DeLong Mountai 19.21 37 P **Pn 14 38 15.9 +0.4**
baz=246
F17K Baldwin Pennin 19.22 44 P **Pn 14 38 16.7 +1.0**
baz=254
G17K Kiwalik Mounta 19.23 47 P **Pn 14 38 16.0 +0.2**
baz=258
O15K Ungalikthiuk R 19.32 66 P **Pn 14 38 17.2 +0.3**
baz=277,SNR=14
L16K Owhat River 19.35 58 P **Pn 14 38 17.4 +0.2**
baz=270
H17K Granite Mounta 19.43 49 IAmb IAmb 14 38 29.6
comp=Z,78nm,1.5s
H17K Granite Mounta 19.43 49 P **Pn 14 38 18.6 +0.4**
baz=260,SNR=17
J17K VABM Dome 19.60 53 P **Pn 14 38 21.6 +1.4**
baz=265,SNR=17
M16K Timber Creek 19.61 60 P **Pn 14 38 20.5 +0.1**
baz=272,SNR=10
JEM Erimo 19.65 233 P **P 14 38 20.1 +0.6**
ERM Erimo 19.65 233 P 14 38 16.8 -2.7
ERM IAmb IAmb 14 38 32.2
comp=Z,38nm,0.6s
ERM Erimo 19.65 233 P **P 14 38 19.5 0.0**
ERM Erimo 19.65 233 P **P 14 38 16.8 -2.7**
ERM pmax pmax
comp=Z,38nm,0.6s
N16K Nishlik Lake 19.73 62 P **Pn 14 38 22.4 +0.5**
baz=274,SNR=11
E18K Tukpahlearik C 19.75 41 P **Pn 14 38 22.1 +0.1**
baz=252
SDPT Sand Point 19.77 78 P **P 14 38 20.6 -0.2**
SDPT IAmb IAmb 14 38 28.4
comp=Z,50nm,0.8s
SDPT Sand Point 19.77 78 P **P 14 38 21.2 +0.5**
SDPT Sand Point 19.77 78 P **P 14 38 20.4 -0.3**
baz=287,SNR=10
F18K Selawik 19.88 44 P **Pn 14 38 22.5 -1.0**
baz=256,SNR=9.1
L17K Donlin 19.91 57 P **Pn 14 38 23.5 -0.3**
baz=270
K17K Iditarod 19.92 55 P **Pn 14 38 24.2 +0.2**
baz=268,SNR=19
C18K Utukok River 19.95 38 P **Pn 14 38 23.9 -0.4**
baz=248
S14K Fog Glacier 20.01 75 P **Pn 14 38 25.6 +0.4**
baz=285,SNR=17
B18K Kokolik River 20.02 35 P **Pn 14 38 24.1 -1.0**
baz=246
H18K Honhosa River 20.12 48 IAmb IAmb 14 38 37.7
comp=Z,79nm,1.4s
H18K Honhosa River 20.12 48 P Pn 14 38 26.2 -0.1
baz=261
G18K Tagagawik 20.12 46 P Pn 14 38 26.0 -0.4
baz=259,SNR=18
O16K Kokwok River B 20.15 65 P Pn 14 38 26.1 -0.7
baz=277,SNR=7.5
P16K Nushagak River 20.28 66 P Pn 14 38 27.1 -1.2
P16K IAmb IAmb 14 38 39.9
comp=Z,42nm,0.8s
P16K Nushagak River 20.28 66 P Pn 14 38 27.6 -0.6
baz=278
M17K Holitna River 20.33 59 IAmb IAmb 14 38 40.1
comp=Z,55nm,0.9s
M17K Holitna River 20.33 59 P Pn 14 38 28.1 -0.7
baz=272,SNR=15
CHNA Chernabura Isl 20.41 79 P Pn 14 38 28.8 -1.0
CHNA Chernabura Isl 20.41 79 P **P 14 38 28.1 +0.3**
baz=289
CNBA Chernabura Isl 20.42 79 P **P 14 38 27.2 -0.6**
CNBA IAmb IAmb 14 38 32.5
comp=Z,48nm,1.0s
N17K Nushagak Hills 20.51 62 P **P 14 38 29.5 +0.8**
baz=275
TEY Ternei 20.61 249⇑ *eP* P 14 38 22.1 -7.8
TEY pmax pmax
comp=E,10.0nm,0.7s
TEY pmax pmax
comp=Z,10.0nm,0.7s
A19K Wainwright 20.61 33 P **P 14 38 30.3 +0.6**
baz=245
CHGN Chignik 20.62 74 IAmb IAmb 14 38 41.8
comp=Z,96nm,1.1s
CHGN Chignik 20.62 74 P **P 14 38 30.8 +0.8**
baz=285,SNR=21
O17K Koliganek Bris 20.63 64 P **P 14 38 31.0 +0.9**
baz=277,SNR=14
C19K Lookout Ridge 20.66 37 P Pn 14 38 31.3 -1.3
C19K Lookout Ridge 20.66 37 P Pn 14 38 31.7 -1.0
baz=249,SNR=28
L18K Granite Mounta 20.66 57 P **P 14 38 31.1 +0.7**
baz=271,SNR=15
F19K Shaleruckik Mo 20.66 44 P Pn 14 38 31.4 -1.3
baz=257,SNR=32
J18K Innoko River 20.67 53 IAmb IAmb 14 38 41.1
comp=Z,38nm,0.8s
J18K Innoko River 20.67 53 P Pn 14 38 31.5 -1.3
baz=267,SNR=36
GCSA Galena City Sc 20.69 50 P **P 14 38 31.3 +0.6**
baz=264,SNR=28
KLR Kul'dur 20.70 264 P **P 14 38 31.0 0.0**
comp=Z,8.8nm,0.8s,baz=56,slow=12,SNR=19
KLR S **S 14 42 12.6 -9.2**
comp=Z,1.6nm,0.9s,baz=286,slow=1.9,SNR=1.9
KLR PcP **PcP 14 42 41.2 +1.0**
comp=Z,1.6nm,0.7s,baz=14,slow=4.2,SNR=2.4
KLR LR LR 14 46 48.7
comp=Z,917nm,19.6s,baz=66,slow=38
comp=Z,8.6nm,0.8s
KLR Kul'dur 20.70 264 *i P* **P 14 38 30.9 0.0**
KLR pmax pmax
comp=Z,7.0nm,0.7s
KLR MLR MLR
comp=Z,2μm,16.0s
G19K Purcell Mounta 20.80 46 P **P 14 38 32.8 +1.0**
baz=260,SNR=14
H19K Roundabout Mou 20.96 48 P Pn 14 38 34.9 -1.3
baz=262,SNR=17
D19K Kuna River 20.97 39 IAmb IAmb 14 38 45.6
comp=Z,56nm,0.9s
D19K Kuna River 20.97 39 P **P 14 38 34.6 +0.9**
baz=253
E19K Redstone River 21.01 42 P **P 14 38 34.9 +0.8**
baz=256
P17K Kvichak River 21.05 65 P **P 14 38 35.8 +1.3**
baz=279,SNR=10
M18K Stony River 21.10 59 P **P 14 38 36.3 +1.1**
baz=273,SNR=14
N18K Kilae Creek 21.13 61 P **P 14 38 36.7 +1.1**
baz=275,SNR=9.7
J19K Poorman 21.18 52 IAmb IAmb 14 38 49.7
comp=Z,60nm,1.4s
J19K Poorman 21.18 52 P **P 14 38 37.2 +1.3**
baz=267,SNR=20
ZEA Zeya 21.18 279 *eP* **P 14 38 34.2 -1.9**
ZEA *e* 14 42 29.0
ZEA *e* 14 43 12.2
ZEA pmax pmax
comp=E,20nm,0.5s
ZEA pmax pmax
comp=N,10.0nm,1.2s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA MLR MLR
comp=N,600nm,12.0s
ZEA MLR MLR
comp=E,1μm,12.0s
ZEA MLR MLR
comp=Z,1μm,13.0s
R17L Mt. Peulik Vol 21.39 70 P **P 14 38 38.9 +0.7**
baz=283,SNR=33
TIXI Tiksi 21.42 330 P **P 14 38 39.6 +1.1**
TIXI Tiksi 21.42 330 P **P 14 38 39.1 +0.7**
comp=Z,27nm,0.8s,baz=119,slow=9.0,SNR=18
TIXI PcP **PcP 14 42 39.9 -1.3**
comp=Z,4.6nm,0.6s,baz=115,slow=4.6,SNR=2.9
TIXI LR LR 14 47 53.9
comp=Z,1μm,20.2s,baz=128,slow=40
comp=Z,27nm,0.8s
TIXI Tiksi 21.42 330 ⇓*iP* **P 14 38 39.4 +0.9**
TIXI pmax pmax
comp=Z,27nm,0.8s
TIXI MLR MLR
comp=Z,2μm,13.0s
Q17K Contact Creek 21.50 68 P **P 14 38 40.8 +1.2**
baz=282,SNR=24
F20K Avaraart Lake 21.50 44 P **P 14 38 40.5 +1.2**
baz=259,SNR=9.8
L19K White Mountain 21.52 57 IAmb IAmb 14 38 54.9
comp=Z,76nm,1.9s
L19K White Mountain 21.52 57 P **P 14 38 40.9 +1.2**
baz=272,SNR=11
D20K Etivluk River 21.56 39 IAmb IAmb 14 38 49.6
comp=Z,67nm,1.1s
D20K Etivluk River 21.56 39 P **P 14 38 40.3 +0.3**
baz=254
O18K Koktuh Hills 21.57 63 IAmb IAmb 14 38 55.2
comp=Z,47nm,1.2s
O18K Koktuh Hills 21.57 63 P **P 14 38 41.1 +0.9**
baz=278
JTM Tenmabayashi 21.57 234 P **P 14 38 37.4 -2.9**
JTM IAmb IAmb 14 38 51.5
comp=Z,65nm,1.0s
JTM Tenmabayashi 21.57 234 P **P 14 38 40.9 +0.6**
E20K Nigu River 21.59 40 P **P 14 38 41.3 +0.9**
baz=256
H20K Anotleneega Mo 21.61 48 P **P 14 38 41.4 +0.8**
baz=264,SNR=21
P18K Big Mountain, 21.63 65 P **P 14 38 41.9 +1.0**
baz=279,SNR=9.5
I20K Naaghedeneel 21.72 50 IAmb IAmb 14 39 00.0
comp=Z,49nm,1.0s
I20K Naaghedeneel 21.72 50 P **P 14 38 42.5 +0.8**
baz=266
M19K Big River Lodg 21.75 58 P **P 14 38 43.1 +0.9**
baz=274
B20K Meade River 21.77 35 P **P 14 38 42.6 +0.4**
baz=250
N19K Bonanza Creek 21.80 61 P **P 14 38 44.3 +1.5**
baz=276
J20K Nowinta River 21.83 52 P **P 14 38 44.1 +1.1**
baz=268,SNR=20
K20K Telida 21.86 54 P **P 14 38 44.2 +1.0**
baz=270
Q18K Katmai Hardscr 21.87 67 P **P 14 38 44.5 +0.9**
baz=281,SNR=11
O19K Port Alsworth 21.96 62 P **P 14 38 45.3 +0.9**
baz=278
L20K Farewell, AK 21.96 56 P **P 14 38 45.9 +1.4**
baz=272
IMAR Indian Mountai 22.13 47 P **P 14 38 46.5 +0.3**
CHIR Chirikof Islan 22.26 74 P **P 14 38 48.9 +1.3**
G21K Allakaket 22.29 45 P **P 14 38 48.7 +0.9**
baz=263
C21K Knifeblade Rid 22.31 38 P **P 14 38 49.5 +1.4**
baz=255,SNR=7.7
M20K Styx River 22.35 58 P **P 14 38 50.1 +1.5**
baz=274
F21K Alatna River 22.39 44 P **P 14 38 49.8 +0.8**
baz=261,SNR=15
R18K Karluk 22.40 69 P **P 14 38 49.8 +0.7**
baz=284
A21K Barrow 22.41 32 P **P 14 38 49.1 0.0**
baz=248
H21K Melozitna Rive 22.48 48 P **P 14 38 50.6 +0.6**
baz=266,SNR=17
B21K Ikpikpuk River 22.49 37 P **P 14 38 51.1 +1.1**
B21K IAmb IAmb 14 39 01.8
comp=Z,69nm,0.9s
B21K Ikpikpuk River 22.49 37 P **P 14 38 50.3 +0.3**
baz=254,SNR=20
Q19K Cape Douglas, 22.51 65 IAmb IAmb 14 38 58.6
comp=Z,46nm,0.8s
Q19K Cape Douglas, 22.51 65 P **P 14 38 50.9 +0.5**
baz=281,SNR=12
P19K Oil Pt 22.59 63 P **P 14 38 52.4 +1.2**
baz=280
HEH HeiHe 22.60 270 *eP* **P 14 38 47.3 -4.0**
HEH pP **pP 14 38 49.8 -3.9**
HEH S **S 14 42 55.1 -3.5**
HEH pmax pmax
comp=Z,42nm,0.6s
HEH LR LR
comp=Z,2μm,17.3s
HEH LR LR
comp=Z,2μm,18.6s
HEH LR LR
comp=Z,5μm,16.7s
CHUM Lake Minchumin 22.64 52 P **P 14 38 51.8 +0.2**
baz=270
PPLA Purkeypile 22.72 55 IAmb IAmb 14 39 03.8
comp=Z,88nm,1.7s
PPLA Purkeypile 22.72 55 P **P 14 38 52.6 0.0**
baz=273
CAST Castle Rocks 22.75 54 IAmb IAmb 14 39 03.6
comp=Z,55nm,1.8s
CAST Castle Rocks 22.75 54 P **P 14 38 54.3 +1.5**
baz=272,SNR=14
A22K Sinclair Lake 22.80 34 P **P 14 38 53.8 +0.6**
baz=251
SII Sitkinak Islan 22.81 72 P **P 14 38 54.2 +0.7**
SII Sitkinak Islan 22.81 72 P **P 14 38 54.4 +0.9**
baz=286
O20K Slope Mountain 22.82 62 P **P 14 38 54.4 +0.8**
baz=279
SPCR Spurr Chakacha 22.86 59 P **P 14 38 54.7 +0.7**
baz=277
F22K John River 22.93 43 P **P 14 38 55.6 +0.9**
baz=262,SNR=9.9
D22K Ayikyak River 22.98 39 P **P 14 38 55.2 0.0**
baz=258,SNR=14
B22K Teshekpuk Lake 23.09 36 P **P 14 38 56.4 +0.2**
baz=254
H22K Ishtalitna Cre 23.09 47 P **P 14 38 56.2 -0.1**
baz=266,SNR=8.7
SKT Skwentna 23.10 57 P **P 14 38 56.8 +0.4**
baz=276
OHAK Old Harbor 23.10 70 P **P 14 38 54.9 -1.6**
OHAK Old Harbor 23.10 70 P **P 14 38 56.2 -0.2**
baz=285,SNR=8.2
G22K Bettles 23.12 45 P **P 14 38 56.6 0.0**
baz=264
E22K Anaktuvuk Pass 23.16 41 IAmb IAmb 14 39 22.6
comp=Z,50nm,1.2s
E22K Anaktuvuk Pass 23.16 41 P **P 14 38 56.7 -0.4**
baz=261,SNR=20
BPAW Bear Paw Mtn. 23.22 52 IAmb IAmb 14 39 09.6
comp=Z,68nm,1.6s
BPAW Bear Paw Mtn. 23.22 52 P **P 14 38 57.4 -0.2**
baz=271,SNR=11
Q20K Shuyak Island 23.22 66 P **P 14 38 56.8 -0.9**
baz=283
SYI Shuyak Island 23.22 66 IAmb IAmb 14 39 22.9
comp=Z,28nm,0.8s
KTH Kantishna Hill 23.26 53 IAmb IAmb 14 39 19.4
comp=Z,80nm,1.6s
KDAK Kodiak Island 23.32 68 P **P 14 38 58.1 -0.6**
KDAK IAmb IAmb 14 39 07.0
comp=Z,21nm,0.8s
KDAK Kodiak Island 23.32 68 P **P 14 38 57.6 -1.1**
comp=Z,12nm,0.8s,baz=300,slow=6.9,SNR=32
KDAK PcP **PcP 14 42 44.7 -0.6**
comp=Z,2.8nm,0.9s,baz=315,slow=1.4,SNR=2.1
comp=Z,12nm,0.8s
KDAK Kodiak Island 23.32 68*c iP* **P 14 38 58.4 -0.3**
KDAK pmax pmax
comp=Z,17nm,1.0s
KDAK Kodiak Island 23.32 68 P **P 14 38 57.9 -0.7**
baz=285
MLY Manley 23.32 49 P **P 14 38 58.6 -0.2**
baz=269,SNR=18
SUA Susitna One 23.53 58 IAmb IAmb 14 39 27.9
comp=Z,23nm,0.8s
SUA Susitna One 23.53 58 P **P 14 39 00.4 -0.5**
baz=277
TRF Thorofare Moun 23.55 53 IAmb IAmb 14 39 25.5
comp=Z,40nm,1.1s
TRF Thorofare Moun 23.55 53 P **P 14 39 01.2 0.0**
baz=273,SNR=15
USA0B Ussuriysk Arra 23.61 253 *eP* **P 14 39 01.6 0.0**
USRK Ussuriysk Ar. 23.61 253 P **P 14 38 60.0 -1.7**
USRK Ussuriysk Ar. 23.61 253 P **P 14 38 59.5 -2.1**
comp=Z,5.0nm,0.8s,baz=57,slow=10,SNR=4.9
USRK LR LR 14 48 22.0
comp=Z,441nm,19.1s,baz=51,slow=37
USRK Ussuriysk Ar. 23.61 253 P **P 14 39 00.0 -1.7**
CNPM China Poot 23.61 63 IAmb IAmb 14 39 26.9
comp=Z,22nm,0.8s
CUT Chulitna 23.64 56 IAmb IAmb 14 39 13.2
comp=Z,38nm,1.0s
CUT Chulitna 23.64 56 P **P 14 39 01.3 -0.6**
baz=276
COLD Coldfoot 23.66 44 P **P 14 39 01.7 -0.3**
baz=264,SNR=14
G23K Bananza Creek 23.69 45 P **P 14 39 01.8 -0.6**
baz=266,SNR=11
D23K Nanushuk River 23.71 40 P **P 14 39 02.6 +0.1**
baz=260
BRLK Bradley Lake 23.74 63 IAmb IAmb 14 39 25.2
comp=Z,24nm,0.7s
M22K Willow 23.79 58 P **P 14 39 03.2 -0.1**
baz=277
H23K Yukon River 23.84 47 IAmb IAmb 14 39 18.0
comp=Z,25nm,0.9s
H23K Yukon River 23.84 47 P **P 14 39 04.6 +0.8**
baz=268,SNR=18
BWN Browne 23.88 52 IAmb IAmb 14 39 31.8
comp=Z,52nm,1.1s
C23K Itkillik River 23.90 37 P **P 14 39 05.1 +0.9**
C23K IAmb IAmb 14 39 18.5
comp=Z,33nm,0.9s
C23K Itkillik River 23.90 37 P **P 14 39 04.7 +0.5**
baz=258,SNR=9.4
I23K Minto, Yukon-K 23.91 49 IAmb IAmb 14 39 15.4
comp=Z,88nm,1.6s
I23K Minto, Yukon-K 23.91 49 P **P 14 39 04.9 +0.6**
baz=270,SNR=21
E23K Chandalar 23.97 42 IAmb IAmb 14 39 16.9
comp=Z,35nm,1.1s
E23K Chandalar 23.97 42 P **P 14 39 05.2 +0.2**

	baz=263,SNR=33							
NEA2	**Nenana**	**24.04**	**50**	IAmb	IAmb	14 39 33.8		
	comp=Z,45nm,1.6s							
NEA2	**Nenana**	**24.04**	**50**	P	**P**	**14 39 05.9**	**+0.3**	
	baz=272,SNR=13							
TOLK	**Toolik Lake Re**	**24.06**	**40**	IAmb	IAmb	14 39 16.0		
	comp=Z,34nm,0.8s							
TOLK	**Toolik Lake Re**	**24.06**	**40**	P	**P**	**14 39 06.3**	**+0.5**	
	baz=262,SNR=18							
RC01	**Rabbit Creek A**	**24.06**	**59**	P	**P**	**14 39 06.1**	**+0.3**	
	baz=279							
JMM	**Marumori**	**24.09**	**230**	IAmb	IAmb	14 39 16.9		
	comp=Z,41nm,0.9s							
MCK	**McKinley**	**24.14**	**53**	IAmb	IAmb	14 39 31.4		
	comp=Z,29nm,1.0s							
MCK	**McKinley**	**24.14**	**53**	P	**P**	**14 39 06.6**	**0.0**	
	baz=274,SNR=6.1							
O22K	**Cooper Landing**	**24.17**	**61**	P	**P**	**14 39 06.5**	**-0.4**	
	baz=280							
RND	**Reindeer**	**24.20**	**53**	IAmb	IAmb	14 39 31.3		
	comp=Z,25nm,1.0s							
PMR	**Palmer**	**24.28**	**58**	P	**P**	**14 39 07.4**	**-0.4**	
	baz=278							
SEW	**Seward**	**24.38**	**61**	P	**P**	**14 39 08.7**	**0.0**	
	baz=281							
WAT1	**Susitna Watana**	**24.39**	**55**	P	**P**	**14 39 08.6**	**-0.3**	
	baz=276							
E24K	**Your Creek**	**24.39**	**42**	IAmb	IAmb	14 39 19.0		
	comp=Z,36nm,0.8s							
E24K	**Your Creek**	**24.39**	**42**	P	**P**	**14 39 08.6**	**-0.3**	
	baz=264,SNR=50							
D24K	**Happy Valley**	**24.40**	**39**	IAmb	IAmb	14 39 19.2		
	comp=Z,36nm,0.9s							
D24K	**Happy Valley**	**24.40**	**39**	P	**P**	**14 39 09.7**	**+0.8**	
	baz=262,SNR=16							
WRH	**Wood River Hil**	**24.47**	**51**	IAmb	IAmb	14 39 20.6		
	comp=Z,35nm,1.0s							
H24K	**Noodor Dome**	**24.52**	**47**	P	**P**	**14 39 10.3**	**+0.2**	
	baz=270,SNR=11							
C24K	**Franklin Bluff**	**24.53**	**38**	IAmb	IAmb	14 39 20.2		
	comp=Z,41nm,0.8s							
C24K	**Franklin Bluff**	**24.53**	**38**	P	**P**	**14 39 10.5**	**+0.4**	
	baz=260							
COLA	**College**	**24.55**	**50**	P	**P**	**14 39 10.7**	**+0.4**	
COLA				IAmb	IAmb	14 39 21.2		
	comp=Z,22nm,0.9s							
COLA	**College**	**24.55**	**50**	*e*P	**P**	**14 39 09.1**	**-1.2**	
COLA				pmax	pmax			
	comp=Z,6.0nm,0.7s							
COLA	**College**	**24.55**	**50**	P	**P**	**14 39 10.9**	**+0.6**	
	baz=272							
F24K	**Squaw Lake**	**24.58**	**43**	P	**P**	**14 39 10.9**	**+0.3**	
	baz=266,SNR=10							
CCB	**Clear Creek Bu**	**24.58**	**50**	IAmb	IAmb	14 39 20.9		
	comp=Z,42nm,1.0s							
KNK	**Knik Glacier**	**24.62**	**58**	IAmb	IAmb	14 39 37.2		
	comp=Z,38nm,1.2s							
KNK	**Knik Glacier**	**24.62**	**58**	P	**P**	**14 39 10.4**	**-0.6**	
	baz=279							
G24K	**Hadweenzic Riv**	**24.70**	**45**	IAmb	IAmb	14 39 23.2		
	comp=Z,40nm,0.9s							
G24K	**Hadweenzic Riv**	**24.70**	**45**	P	**P**	**14 39 11.2**	**-0.4**	
	baz=268,SNR=32							
POKR	**Poker Plat Res**	**24.72**	**49**	IAmb	IAmb	14 39 22.5		
	comp=Z,69nm,1.8s							
POKR	**Poker Plat Res**	**24.72**	**49**	P	**P**	**14 39 12.2**	**+0.3**	
	baz=272							
PWL	**Port Wells**	**24.78**	**59**	P	**P**	**14 39 11.9**	**-0.5**	
	baz=280,SNR=16							
WAT6	**Susitna Watana**	**24.79**	**55**	P	**P**	**14 39 12.0**	**-0.7**	
	baz=277							
DHY	**Denali Highway**	**24.90**	**54**	IAmb	IAmb	14 39 38.2		
	comp=Z,30nm,1.2s							
DHY	**Denali Highway**	**24.90**	**54**	P	**P**	**14 39 13.1**	**-0.6**	
	baz=276,SNR=5.8							
M23K	**Glacier View**	**24.91**	**57**	P	**P**	**14 39 13.3**	**-0.3**	
	baz=279							
HDA	**Harding Lake**	**24.97**	**51**	P	**P**	**14 39 13.3**	**-0.8**	
	baz=274,SNR=12							
IL31		**24.97**	**50**	IAmb	IAmb	14 39 26.4		
	comp=Z,18nm,0.8s							
ILAR	**Eielson Array**	**24.97**	**50**	P	**P**	**14 39 13.1**	**-1.0**	
ILAR	**Eielson Array**	**24.97**	**50**	P	**P**	**14 39 13.3**	**-0.8**	
	comp=Z,8.6nm,0.9s,baz=267,slow=8.4,SNR=41							
ILAR				PcP	**PcP**	**14 42 48.0**	**-0.8**	
	comp=Z,0.6nm,0.5s,baz=292,slow=2.9,SNR=4.9							
ILAR				LR	LR	14 49 06.5		
	comp=Z,392nm,20.0s,baz=252,slow=37							
	comp=Z,8.6nm,0.9s							
ILAR	**Eielson Array**	**24.97**	**50**	P	**P**	**14 39 13.1**	**-1.0**	
JSD	**Sado**	**25.07**	**235**	P	**P**	**14 39 16.1**	**+0.9**	
SCM	**Sheep Creek Mo**	**25.09**	**57**	P	**P**	**14 39 14.6**	**-0.7**	
	baz=279,SNR=11							
BNX	**BinXian**	**25.12**	**261**	⇑P	**P**	**14 39 14.2**	**-1.4**	
BNX				PcP	**PcP**	**14 42 49.8**	**+0.4**	
BNX				S	**S**	**14 43 36.5**	**-3.4**	
BNX				pmax	pmax			
	comp=Z,25nm,1.0s							
BNX				LR	LR			
	comp=Z,1μm,13.7s							
BNX				LR	LR			
	comp=Z,1μm,14.5s							
BNX				LR	LR			
	comp=Z,2μm,12.3s							
G25K	**Bearman Lake**	**25.25**	**45**	P	**P**	**14 39 15.4**	**-1.2**	
	baz=270							
D25K	**Kavik River**	**25.29**	**39**	IAmb	IAmb	14 39 32.2		
	comp=Z,29nm,0.8s							
D25K	**Kavik River**	**25.29**	**39**	P	**P**	**14 39 15.8**	**-1.2**	
	baz=264,SNR=19							
H25L	**Birch Creek**	**25.36**	**46**	P	**P**	**14 39 16.7**	**-0.9**	
	baz=271							
GLI	**Glacier Island**	**25.37**	**59**	P	**P**	**14 39 17.7**	**0.0**	
	baz=281							
P23K	**Montague Islan**	**25.41**	**61**	IAmb	IAmb	14 39 47.0		
	comp=Z,34nm,1.1s							
P23K	**Montague Islan**	**25.41**	**61**	P	**P**	**14 39 17.0**	**-1.1**	
	baz=283							
F25K	**Christian Rive**	**25.44**	**43**	IAmb	IAmb	14 39 38.1		
	comp=Z,18nm,0.9s							
F25K	**Christian Rive**	**25.44**	**43**	P	**P**	**14 39 18.7**	**+0.3**	
	baz=268,SNR=19							
E25K	**Arctic Village**	**25.49**	**42**	P	**P**	**14 39 17.9**	**-1.0**	
	baz=267,SNR=12							
PRP	**Porcupine Dome**	**25.51**	**48**	IAmb	IAmb	14 39 35.2		
	comp=Z,23nm,1.0s							
PRP	**Porcupine Dome**	**25.51**	**48**	P	**P**	**14 39 18.1**	**-1.0**	
	baz=273,SNR=10							
K24K	**Donnelly Dome**	**25.53**	**52**	IAmb	IAmb	14 39 45.7		
	comp=Z,20nm,0.8s							
K24K	**Donnelly Dome**	**25.53**	**52**	P	**P**	**14 39 18.6**	**-0.6**	
	baz=276							
M24K	**Tolsona, Glenn**	**25.58**	**56**	P	**P**	**14 39 18.8**	**-0.9**	
	baz=279							
FYU	**Fort Yukon**	**25.59**	**46**	IAmb	IAmb	14 39 55.1		
	comp=Z,30nm,0.9s							
J25K	**Salcha River,**	**25.63**	**50**	P	**P**	**14 39 18.7**	**-1.5**	
	baz=275,SNR=9.0							
PAX	**Paxson**	**25.77**	**54**	P	**P**	**14 39 20.7**	**-0.8**	
	baz=278							
KLU	**Klutina**	**25.81**	**57**	IAmb	IAmb	14 39 44.7		
	comp=Z,18nm,0.7s							
KLU	**Klutina**	**25.81**	**57**	P	**P**	**14 39 20.5**	**-1.3**	
	baz=281							
BMAR	**Burnt Mountain**	**25.85**	**44**	P	**P**	**14 39 22.6**	**+0.5**	
C26K	**Camden Bay**	**25.86**	**38**	P	**P**	**14 39 21.7**	**-0.4**	
	baz=264,SNR=10							
RIDG	**Independent Ri**	**25.95**	**52**	IAmb	IAmb	14 39 45.8		
	comp=Z,19nm,0.9s							
RIDG	**Independent Ri**	**25.95**	**52**	P	**P**	**14 39 22.1**	**-1.0**	
	baz=277							
DIV	**Divide**	**25.95**	**58**	IAmb	IAmb	14 39 48.2		
	comp=Z,23nm,1.1s							
F26K	**Sheenjek River**	**26.02**	**43**	P	**P**	**14 39 23.3**	**-0.3**	
	baz=269							
EYAK	**Cordova Ski Ar**	**26.09**	**60**	P	**P**	**14 39 22.7**	**-1.5**	
	baz=283							
G26K	**Porcupine Rive**	**26.16**	**45**	IAmb	IAmb	14 39 37.6		
	comp=Z,16nm,0.8s							
G26K	**Porcupine Rive**	**26.16**	**45**	P	**P**	**14 39 23.8**	**-1.0**	
	baz=271,SNR=15							
C27K	**Jago River**	**26.25**	**39**	IAmb	IAmb	14 39 37.8		
	comp=Z,24nm,0.8s							
C27K	**Jago River**	**26.25**	**39**	P	**P**	**14 39 24.9**	**-0.8**	
	baz=266,SNR=13							
SCRK	**Sand Creek**	**26.30**	**52**	IAmb	IAmb	14 39 37.8		
	comp=Z,18nm,0.9s							
SCRK	**Sand Creek**	**26.30**	**52**	P	**P**	**14 39 25.0**	**-1.3**	
	baz=277,SNR=17							
MAJO	**Matsushiro**	**26.33**	**233**	P	**P**	**14 39 26.8**	**+0.2**	
MAJO	**Matsushiro**	**26.33**	**233**	P	**P**	**14 39 26.8**	**+0.2**	
MAJO	**Matsushiro**	**26.33**	**233**	P	**P**	**14 39 26.8**	**+0.2**	
MAJO				pmax	pmax			
	comp=Z,88nm,0.8s							
MJAR	**Matsushiro Arr**	**26.33**	**233**	P	**P**	**14 39 26.8**	**+0.1**	
MJAR	**Matsushiro Arr**	**26.33**	**233**	P	**P**	**14 39 26.7**	**+0.1**	
	comp=Z,55nm,0.9s,baz=22,slow=8.6,SNR=79							
MJAR				LR	LR	14 49 45.3		
	comp=Z,714nm,21.6s,baz=38,slow=36							
	comp=Z,55nm,0.9s							
N25K	**Chitina, Valde**	**26.41**	**57**	P	**P**	**14 39 26.2**	**-1.1**	
	baz=281							
J26L	**Joseph Creek**	**26.42**	**50**	P	**P**	**14 39 26.7**	**-0.6**	
	baz=276							
I26K	**Coal Creek Min**	**26.51**	**48**	P	**P**	**14 39 28.4**	**+0.4**	
	baz=275							
BMRM	**Bremner River**	**26.54**	**58**	IAmb	IAmb	14 39 56.1		
	comp=Z,34nm,0.9s							
BMRM	**Bremner River**	**26.54**	**58**	P	**P**	**14 39 27.4**	**-1.1**	
	baz=283							
RAGM	**Ragged Mountai**	**26.64**	**60**	IAmb	IAmb	14 39 45.6		
	comp=Z,17nm,0.8s							
HMT	**Hamilton**	**26.85**	**60**	IAmb	IAmb	14 39 58.7		
	comp=Z,27nm,1.0s							
KAIM	**Kayak Island**	**26.88**	**61**	P	**P**	**14 39 31.6**	**+0.2**	
	baz=285							
E27K	**Coleen River**	**26.98**	**42**	P	**P**	**14 39 31.2**	**-1.0**	
	baz=271							
M26K	**Nabesna, AK**	**26.99**	**55**	IAmb	IAmb	14 40 01.4		
	comp=Z,29nm,1.1s							
M26K	**Nabesna, AK**	**26.99**	**55**	P	**P**	**14 39 33.0**	**+0.5**	
	baz=281,SNR=6.5							
G27K	**Doyon Strip**	**27.01**	**45**	P	**P**	**14 39 33.1**	**+0.6**	
	baz=273,SNR=8.1							
H27K	**Steamboat Moun**	**27.10**	**46**	IAmb	IAmb	14 39 45.2		
	comp=Z,18nm,0.9s							
H27K	**Steamboat Moun**	**27.10**	**46**	P	**P**	**14 39 33.7**	**+0.4**	
	baz=275,SNR=19							
I27K	**Kandik River**	**27.12**	**48**	P	**P**	**14 39 33.4**	**-0.2**	
	baz=276							
K27K	**Chicken**	**27.12**	**51**	IAmb	IAmb	14 39 45.5		
	comp=Z,22nm,0.8s							
K27K	**Chicken**	**27.12**	**51**	P	**P**	**14 39 33.0**	**-0.5**	
	baz=276							
MCARA	**McCarthy VSAT**	**27.19**	**57**	P	**P**	**14 39 34.1**	**-0.1**	
	baz=283							
D27M	**Malcolm River**	**27.20**	**40**	IAmb	IAmb	14 39 46.3		
	comp=Z,16nm,0.7s							
D27M	**Malcolm River**	**27.20**	**40**	P	**P**	**14 39 34.2**	**-0.1**	
	baz=269,SNR=8.4							
CRQM	**Cirque**	**27.29**	**58**	IAmb	IAmb	14 40 03.5		
	comp=Z,31nm,0.8s							
CRQE	**Cirque**	**27.31**	**58**	P	**P**	**14 39 36.1**	**+0.6**	
	baz=284							
BGLC	**Bering Glacier**	**27.38**	**60**	P	**P**	**14 39 36.0**	**+0.2**	
	baz=285							
L27K	**Beaver Creek,**	**27.40**	**53**	IAmb	IAmb	14 40 06.8		
	comp=Z,28nm,1.1s							
L27K	**Beaver Creek,**	**27.40**	**53**	P	**P**	**14 39 36.5**	**+0.4**	
	baz=281,SNR=13							
BCAR	**Beaver Creek A**	**27.42**	**53**	P	**P**	**14 39 36.0**	**-0.2**	
JGF	**Kuroka**	**27.49**	**233**	P	**P**	**14 39 37.6**	**+0.5**	
JGF	**Kuroka**	**27.49**	**233**	P	**P**	**14 39 37.9**	**+0.8**	
M27K	**Edge Creek, AK**	**27.51**	**55**	IAmb	IAmb	14 40 07.6		
	comp=Z,30nm,1.1s							
M27K	**Edge Creek, AK**	**27.51**	**55**	P	**P**	**14 39 37.1**	**-0.1**	
	baz=282,SNR=12							
F28M	**Old Crow**	**27.65**	**43**	P	**P**	**14 39 38.4**	**+0.1**	
	baz=273,SNR=7.6							
E28M	**Babbage River**	**27.73**	**41**	P	**P**	**14 39 38.6**	**-0.4**	
	baz=272,SNR=6.6							
I28M	**Miner Creek**	**27.84**	**48**	P	**P**	**14 39 39.9**	**-0.2**	
	baz=278							
BVCY	**Beaver Creek**	**27.96**	**54**	P	**P**	**14 39 41.2**	**+0.1**	
	baz=282,SNR=6.7							
D28M	**Stokes Point**	**28.00**	**39**	P	**P**	**14 39 41.3**	**0.0**	
	baz=271							
CTG	**Chitna Glacier**	**28.09**	**57**	P	**P**	**14 39 43.2**	**+0.8**	
	baz=285							
DAWY	**Dawson**	**28.28**	**51**	P	**P**	**14 39 44.2**	**+0.2**	
	baz=280							
YUK3	**Moose Creek**	**28.30**	**56**	P	**P**	**14 39 44.8**	**+0.4**	
	baz=284							
E29M	**Blow River**	**28.34**	**41**	P	**P**	**14 39 44.5**	**+0.1**	
	baz=274,SNR=9.1							
H29M	**Whitestone**	**28.37**	**46**	IAmb	IAmb	14 40 10.0		
	comp=Z,30nm,1.2s							
H29M	**Whitestone**	**28.37**	**46**	P	**P**	**14 39 45.2**	**+0.4**	
	baz=277,SNR=8.5							
G29M	**Pine Creek**	**28.43**	**45**	IAmb	IAmb	14 40 20.9		
	comp=Z,20nm,0.9s							
G29M	**Pine Creek**	**28.43**	**45**	P	**P**	**14 39 45.7**	**+0.5**	
	baz=276,SNR=12							
I29M	**Ogilvie Camp,**	**28.52**	**48**	IAmb	IAmb	14 40 11.4		
	comp=Z,19nm,1.2s							
I29M	**Ogilvie Camp,**	**28.52**	**48**	P	**P**	**14 39 46.2**	**+0.1**	
	baz=279							
O28M	**Mount Upton**	**28.68**	**58**	P	**P**	**14 39 48.3**	**+0.5**	
	baz=286							
YUK8	**Steele Glacier**	**28.74**	**56**	P	**P**	**14 39 48.2**	**-0.2**	
	baz=285							
PINM	**Pinnacle**	**28.84**	**59**	P	**P**	**14 39 49.1**	**+0.1**	
	baz=287							
EPYK	**Eagle Plains**	**29.01**	**45**	P	**P**	**14 39 51.2**	**+0.7**	
	baz=278							
L29M	**L29M**	**29.03**	**52**	IAmb	IAmb	14 40 03.8		
	comp=Z,21nm,0.8s							
L29M	**L29M**	**29.03**	**52**	P	**P**	**14 39 51.6**	**+0.9**	
	baz=283,SNR=12							
M29M	**Somme Creek**	**29.04**	**54**	P	**P**	**14 39 51.5**	**+0.6**	
	baz=284,SNR=10							
G30M	**tAoh Zraii Nji**	**29.12**	**44**	P	**P**	**14 39 52.0**	**+0.6**	
	baz=278,SNR=5.7							
K29M	**Barlow Dome**	**29.14**	**51**	P	**P**	**14 39 51.5**	**-0.2**	
	baz=282							
F30M	**Barrier River**	**29.21**	**43**	IAmb	IAmb	14 40 27.4		
	comp=Z,17nm,0.9s							
F30M	**Barrier River**	**29.21**	**43**	P	**P**	**14 39 53.0**	**+0.8**	
	baz=277,SNR=6.7							
YUK4	**Talbot Arm**	**29.25**	**56**	P	**P**	**14 39 53.1**	**+0.4**	
	baz=286							
I30M	**Mount Dempster**	**29.34**	**48**	P	**P**	**14 39 53.2**	**-0.3**	
	baz=281,SNR=12							
PNL	**Peninsula**	**29.39**	**60**	P	**P**	**14 39 53.9**	**+0.1**	
PNL	**Peninsula**	**29.39**	**60**	P	**P**	**14 39 53.9**	**+0.1**	
	baz=288							
YUK6	**Outpost Mounta**	**29.49**	**57**	P	**P**	**14 39 55.7**	**+0.7**	
	baz=287							
J30M	**Hart River**	**29.49**	**49**	P	**P**	**14 39 55.2**	**+0.4**	
	baz=282							
O29M	**Mount Kennedy**	**29.58**	**58**	P	**P**	**14 39 56.2**	**+0.5**	
	baz=288							
M30M	**Minto, Yukon**	**29.76**	**53**	P	**P**	**14 39 57.8**	**+0.7**	
	baz=285							
G31M	**Satah River**	**29.89**	**44**	P	**P**	**14 39 58.3**	**+0.2**	
	baz=279							
HYT	**Haines Junctio**	**29.93**	**57**	P	**P**	**14 39 59.8**	**+1.1**	
	baz=287,SNR=6.4							
N30M	**Aishikik Lake**	**29.93**	**55**	P	**P**	**14 39 59.9**	**+1.2**	
	baz=287							
INK	**Inuvik**	**29.96**	**41**	IAmb	IAmb	14 40 08.7		
	comp=Z,18nm,1.1s							
INK	**Inuvik**	**29.96**	**41**	P	**P**	**14 39 58.1**	**-0.7**	
	comp=Z,8.5nm,0.7s,baz=272,slow=8.8,SNR=9.1							
	comp=Z,8.5nm,0.7s							
INK	**Inuvik**	**29.96**	**41**	P	**P**	**14 39 59.0**	**+0.3**	
	baz=278							
F31M	**Tsiigehtchic**	**30.01**	**43**	P	**P**	**14 39 59.6**	**+0.4**	
	baz=279							
H31M	**Peel River**	**30.07**	**46**	P	**P**	**14 39 60.0**	**+0.2**	
	baz=281							
P29M	**Windy Craggy**	**30.20**	**59**	P	**P**	**14 40 01.9**	**+1.0**	
	baz=289							
P30M	**Million Dollar**	**30.40**	**58**	P	**P**	**14 40 04.3**	**+1.5**	
	baz=289							
N31M	**Braeburn, Yuko**	**30.52**	**55**	P	**P**	**14 40 05.3**	**+1.5**	
	baz=287							
KS19	**Wonju Array Si**	**30.58**	**248**	P	**P**	**14 40 04.1**	**-0.5**	
KSRS	**Korea Array**	**30.59**	**248**	P	**P**	**14 40 03.5**	**-1.0**	
	comp=Z,5.4nm,0.8s,baz=36,slow=8.3,SNR=28							
KSRS				PcP	**PcP**	**14 43 04.2**	**+1.4**	
	comp=Z,6.0nm,1.0s,baz=13,slow=1.8,SNR=16							
	comp=Z,5.4nm,0.8s							
O30N	**Mendenhall**	**30.60**	**56**	P	**P**	**14 40 05.8**	**+1.2**	
	baz=288							
KSAR	**Wonju Array Be**	**30.62**	**248**	P	**P**	**14 40 04.4**	**-0.5**	
	baz=263,SNR=33							
KSAR	**Wonju Array Be**	**30.62**	**248**	P	**P**	**14 40 04.4**	**-0.5**	
M31M	**Drury Creek, Y**	**30.94**	**53**	P	**P**	**14 40 08.1**	**+0.6**	
	baz=287							
WHY	**Whitehorse**	**31.20**	**56**	IAmb	IAmb	14 40 38.4		
	comp=Z,25nm,1.1s							
WHY	**Whitehorse**	**31.20**	**56**	P	**P**	**14 40 10.7**	**+0.8**	
	baz=289,SNR=7.6							
FARO	**Faro, Yukon**	**31.40**	**53**	P	**P**	**14 40 12.9**	**+1.4**	
	baz=288							
SKAG	**Skagway**	**31.41**	**59**	IAmb	IAmb	14 40 14.9		
	comp=Z,15nm,1.2s							
SKAG	**Skagway**	**31.41**	**59**	P	**P**	**14 40 13.0**	**+1.4**	
	baz=291							
S31K	**Pelican**	**31.53**	**62**	P	**P**	**14 40 14.4**	**+1.7**	
	baz=293							
N32M	**Quiet Lake**	**31.86**	**55**	P	**P**	**14 40 16.3**	**+0.6**	
	baz=290							
P32M	**Atlin**	**32.12**	**58**	P	**P**	**14 40 18.2**	**+0.3**	
	baz=292							
MMPY	**Sheldon Lake,**	**32.20**	**52**	P	**P**	**14 40 19.2**	**+0.6**	
	baz=289,SNR=8.6							
R32K	**Eaglecrest**	**32.24**	**60**	IAmb	IAmb	14 40 22.1		
	comp=Z,9.1nm,0.8s							
R32K	**Eaglecrest**	**32.24**	**60**	P	**P**	**14 40 20.6**	**+1.6**	
	baz=293,SNR=11							
P33M	**Teslin, Yukon**	**32.32**	**56**	P	**P**	**14 40 20.9**	**+1.2**	
	baz=291,SNR=7.2							
SIT	**Sitka**	**32.34**	**63**	P	**P**	**14 40 20.3**	**+0.5**	
	baz=294							
JNU	**Nakatsue**	**32.54**	**239**	LR	LR	14 52 57.0		
	comp=Z,219nm,21.1s,baz=43,slow=35							
JNU	**Nakatsue**	**32.54**	**239**	P	**P**	**14 40 22.3**	**+0.5**	
S32K	**Killisnoo**	**32.54**	**62**	P	**P**	**14 40 22.6**	**+1.1**	
	baz=294							
XLT	**XiLinHaoTe**	**32.57**	**269**	*e*P	**P**	**14 40 22.1**	**+0.1**	
XLT				pP	pwP	14 40 28.0	-0.6	
XLT				sP	sP	14 40 30.8	+5.3	
XLT				pmax	pmax			
	comp=Z,9.0nm,0.8s							
XLT				LR	LR			
	comp=Z,2μm,17.9s							
XLT				LR	LR			
	comp=Z,1μm,12.3s							
Q32M	**Nakina River**	**33.05**	**58**	IAmb	IAmb	14 41 05.9		
	comp=Z,19nm,1.4s							
Q32M	**Nakina River**	**33.05**	**58**	P	**P**	**14 40 27.1**	**+0.8**	
	baz=293,SNR=6.3							
R33M	**Jennings River**	**33.49**	**57**	IAmb	IAmb	14 41 17.5		
	comp=Z,14nm,1.2s							
R33M	**Jennings River**	**33.49**	**57**	P	**P**	**14 40 31.4**	**+1.3**	
	baz=293,SNR=10							
U33K	**Whale Pass**	**33.85**	**63**	P	**P**	**14 40 34.1**	**+1.1**	
	baz=297							
TGTN	**Hyland Airport**	**33.90**	**53**	P	**P**	**14 40 35.1**	**+1.6**	
	baz=292							
S34M	**Telegraph Cree**	**34.03**	**60**	P	**P**	**14 40 35.5**	**+0.9**	
	baz=295							
WRAK	**Wrangell Islan**	**34.10**	**62**	IAmb	IAmb	14 40 46.1		
	comp=Z,12nm,0.8s							
WRAK	**Wrangell Islan**	**34.10**	**62**	P	**P**	**14 40 37.7**	**+2.6**	
	baz=297,SNR=5.1							
CRAG	**Craig**	**34.15**	**64**	P	**P**	**14 40 36.9**	**+1.4**	
	baz=298							
WTLY	**Watson Lake, Y**	**34.21**	**55**	IAmb	IAmb	14 41 07.8		
	comp=Z,13nm,1.1s							
WTLY	**Watson Lake, Y**	**34.21**	**55**	P	**P**	**14 40 37.0**	**+0.8**	
	baz=294							
DLBC	**Dease Lake**	**34.34**	**58**	P	**P**	**14 40 38.9**	**+1.6**	
	baz=295,SNR=12							
NRIK	**Noril'sk**	**34.81**	**323**	P	**P**	**14 40 38.3**	**-2.9**	
	comp=Z,4.7nm,0.8s,baz=50,slow=5.6,SNR=3.9							
NRIK				PcP	**PcP**	**14 43 15.1**	**+1.1**	
	comp=Z,3.7nm,0.6s,baz=104,slow=4.2,SNR=2.4							
T35M	**Bob Quinn**	**34.87**	**61**	IAmb	IAmb	14 40 46.3		
	comp=Z,20nm,1.1s							
T35M	**Bob Quinn**	**34.87**	**61**	P	**P**	**14 40 43.5**	**+1.6**	
	baz=297,SNR=11							
V35K	**Ketchikan**	**34.97**	**64**	P	**P**	**14 40 44.2**	**+1.5**	
	baz=298							
ULN	**Ulaanbaatar**	**35.19**	**281**	P	**P**	**14 40 44.1**	**-0.7**	
ULN				IAmb	IAmb	14 40 52.3		
	comp=Z,15nm,1.1s							
ULN	**Ulaanbaatar**	**35.19**	**281**	P	**P**	**14 40 45.4**	**+0.6**	
ULN	**Ulaanbaatar**	**35.19**	**281**	⇑P	**P**	**14 40 43.6**	**-1.3**	
ULN				pmax	pmax			
	comp=Z,13nm,1.1s							
SONM	**Songino Array**	**35.56**	**281**	P	**P**	**14 40 48.0**	**-0.1**	
SONM				IAmb	IAmb	14 40 49.8		
	comp=Z,15nm,1.0s							
SONM	**Songino Array**	**35.56**	**281**	P	**P**	**14 40 47.6**	**-0.5**	
	comp=Z,12nm,0.8s,baz=66,slow=8.5,SNR=40							
SONM				PcP	**PcP**	**14 43 17.0**	**+0.3**	
	comp=Z,6.8nm,0.9s,baz=66,slow=2.0,SNR=7.5							
	comp=Z,12nm,0.8s							
LIRD	**Liard River Hi**	**35.75**	**55**	P	**P**	**14 40 50.4**	**+1.1**	
	baz=296							
ZAK	**Zakamensk**	**35.81**	**287**	*e*P	**P**	**14 40 49.5**	**-0.6**	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
MOY	**Mondy**	**36.32**	**290**	*e*P	**P**	**14 40 54.9**	**+0.4**	
KOTAN	**Kotaneelee Air**	**36.36**	**53**	P	**P**	**14 40 55.5**	**+0.9**	
	baz=296							
TOAD	**Toad River Com**	**36.40**	**56**	P	**P**	**14 40 56.0**	**+1.0**	
	baz=297,SNR=17							
H11N2	**WAKE ISLAND Hy**	**36.45**	**176**	T	T	15 19 40.9		
	baz=357,slow=76,SNR=5033							
H11N3	**WAKE ISLAND Hy**	**36.47**	**176**	T	T	15 19 54.9		
	baz=357,slow=76,SNR=3722							
H11N1	**WAKE ISLAND Hy**	**36.47**	**176**	T	T	15 19 45.5		
	baz=357,slow=76,SNR=3394							
H11S1	**WAKE ISLAND Hy**	**37.66**	**176**	T	T	15 21 28.3		
	baz=312,slow=71,SNR=53							
H11S3	**WAKE ISLAND Hy**	**37.67**	**176**	T	T	15

GTA	**Gaotai**	**44.63**	**276**		P	**P**	**14 42 02.3**	**-1.1**
GTA					pP	pP	14 42 06.0	+0.2
GTA					sP	pwP	14 42 08.8	-1.2
GTA					SS	SS	14 51 49.0	-10
GTA					pmax	pmax		
	comp=Z,25nm,0.9s							
GTA					LR	LR		
	comp=Z,1µm,20.0s							
GTA					LR	LR		
	comp=Z,1µm,20.0s							
GTA					LR	LR		
	comp=Z,2µm,18.2s							
LZH	**Lanzhou**	**44.74**	**270**	*eP*		**P**	**14 42 02.0**	**-2.3**
LZH					pmax	pmax		
	comp=Z,52nm,1.1s							
LZH					LR	LR		
	comp=Z,2µm,14.1s							
LZH					LR	LR		
	comp=Z,1µm,14.9s							
LZH					LR	LR		
	comp=Z,2µm,14.4s							
NEEM	**North Greenlan**	**44.84**	**10**	*i* P		**P**	**14 42 04.4**	**-0.3**
NEEM					IAmb	IAmb	14 42 13.3	
	comp=Z,44nm,0.9s							
GUMO	**Guam**	**45.04**	**207**		LR	LR	14 58 54.9	
	comp=Z,146nm,19.4s,baz=22,slow=33							
B08A	**Colville Reser**	**45.18**	**66**		IAmb	IAmb	14 42 09.9	
	comp=Z,18nm,1.1s							
BLKN	**Baker Lake**	**45.19**	**37**		P	**P**	**14 42 06.7**	**-0.6**
MXC	**Moxie City**	**45.84**	**69**		IAmb	IAmb	14 42 14.7	
	comp=Z,16nm,1.4s							
HOOD	**Mount Hood Mea**	**45.95**	**71**		IAmb	IAmb	14 42 16.4	
	comp=Z,18nm,0.8s							
ILON	**Igloolik, Nuna**	**45.99**	**27**		P	**P**	**14 42 14.4**	**+0.9**
ILON					IAmb	IAmb	14 42 21.7	
	comp=Z,13nm,0.9s							
C09A	**Chrisman Ranch**	**46.08**	**66**		IAmb	IAmb	14 42 16.8	
	comp=Z,23nm,1.3s							
WAH2	**Wahluke Slope**	**46.10**	**68**		IAmb	IAmb	14 42 17.0	
	comp=Z,28nm,1.3s							
HAWA	**Hanford**	**46.35**	**68**		IAmb	IAmb	14 42 48.0	
	comp=Z,11nm,1.1s							
NEW	**Newport**	**46.36**	**65**		P	**P**	**14 42 17.2**	**+0.4**
	comp=Z,5.8nm,0.9s,baz=311,slow=7.0,SNR=7.3							
	comp=Z,5.8nm,0.9s							
F07A	**Phinny Hill Vi**	**46.48**	**69**		IAmb	IAmb	14 42 19.8	
	comp=Z,25nm,1.2s							
E08A	**Dider Farm, EI**	**46.54**	**68**		IAmb	IAmb	14 42 25.7	
	comp=Z,12nm,1.2s							
KULLO	**Kullorsuaq**	**46.63**	**14**	*i* P		**P**	**14 42 17.7**	**-0.8**
KULLO					IAmb	IAmb	14 42 27.1	
	comp=Z,34nm,0.9s							
I05D	**Terrebonne, OR**	**46.78**	**72**		IAmb	IAmb	14 42 22.1	
	comp=Z,18nm,1.3s							
BBOR	**Butler Butte**	**47.05**	**74**		IAmb	IAmb	14 42 27.7	
	comp=Z,23nm,1.4s							
ZSN	**Zaisan**	**47.22**	**295**	*eP*		**P**	**14 42 22.7**	**-0.8**
ZSN					pmax	pmax		
	comp=Z,5.0nm,0.8s							
ZSN	**Zaisan**	**47.22**	**295**	*eP*		**P**	**14 42 22.8**	**-0.8**
	comp=Z,5.5nm,0.8s							
DAG	**Danmarks Havn**	**47.30**	**1**	*i* P		**P**	**14 42 23.2**	**-0.5**
DAG					IAmb	IAmb	14 42 31.8	
	comp=Z,20nm,1.0s							
LNOR	**Lincton Mounta**	**47.35**	**68**		IAmb	IAmb	14 42 26.4	
	comp=Z,18nm,1.5s							
SEM	**Semipalatinsk**	**47.55**	**300**	*eP*		**P**	**14 42 25.5**	**-0.8**
SEM	**Semipalatinsk**	**47.55**	**300**	*eP*		**P**	**14 42 25.6**	**-0.8**
YBH	**Yreka Blue Hor**	**47.82**	**75**		IAmb	IAmb	14 43 38.1	
	comp=Z,13nm,1.2s							
YBH	**Yreka Blue Hor**	**47.82**	**75**		P	**P**	**14 42 29.5**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=359,slow=6.7,SNR=8.2							
KURK	**Kurchatov**	**48.13**	**302**		P	**P**	**14 42 30.2**	**-0.2**
KURK	**Kurchatov**	**48.13**	**302**	*d* iP		**P**	**14 42 30.5**	**0.0**
KURK					pmax	pmax		
	comp=Z,7.0nm,0.8s							
KURBB	**Kurchatov Arra**	**48.23**	**302**		P	**P**	**14 42 31.4**	**+0.1**
	comp=Z,5.3nm,0.8s,baz=55,slow=7.9,SNR=11							
KURBB					PP	**PP**	**14 44 21.9**	**-1.4**
	comp=Z,2.8nm,0.7s,baz=48,slow=11,SNR=5.2							
	comp=Z,5.3nm,0.8s							
MSO	**Missoula**	**48.93**	**64**		IAmb	IAmb	14 42 44.4	
	comp=Z,16nm,1.1s							
MK31	**Makanchi Array**	**48.96**	**296**	*eP*		**P**	**14 42 36.0**	**-1.0**
MKAR	**Makanchi Array**	**48.96**	**296**		P	**P**	**14 42 36.0**	**-1.1**
	comp=Z,3.5nm,0.7s,baz=48,slow=7.8,SNR=8.2							
	comp=Z,3.5nm,0.7s							
MAKZ	**Makanchi**	**49.11**	**296**		P	**P**	**14 42 37.5**	**-0.6**
MAKZ	**Makanchi**	**49.11**	**296**		P	**P**	**14 42 37.5**	**-0.6**
MAKZ					pmax	pmax		
	comp=Z,9.0nm,1.2s							
FFC	**Flin Flon**	**49.18**	**50**		P	**P**	**14 42 39.3**	**+0.7**
FFC	**Flin Flon**	**49.18**	**50**		P	**P**	**14 42 39.3**	**+0.7**
FFC					pmax	pmax		
	comp=Z,7.0nm,0.9s							
GOMU	**GeErMu**	**49.70**	**277**		P	**P**	**14 42 41.7**	**-1.5**
GOMU					pP	pwP	14 42 48.2	-1.6
GOMU					pmax	pmax		
	comp=Z,22nm,1.0s							
DBG	**Daneborg**	**49.75**	**2**	*i* P		**P**	**14 42 44.0**	**+1.3**
DBG					IAmb	IAmb	14 42 50.4	
	comp=Z,14nm,0.8s							
BVAR	**Borovoye Array**	**50.33**	**308**		P	**P**	**14 42 46.6**	**-0.7**
	comp=Z,20nm,0.8s,baz=54,slow=8.6,SNR=53							
BVAR					PcP	**PcP**	**14 44 06.3**	**+0.5**
	comp=Z,2.8nm,0.5s,baz=46,slow=4.2,SNR=5.5							
BVAR					PP	**PP**	**14 44 40.4**	**-1.9**
	comp=Z,8.0nm,0.8s,baz=51,slow=7.6,SNR=4.3							
BVAR					LR	LR	15 06 53.7	
	comp=Z,1µm,19.5s,baz=41,slow=40							
	comp=Z,20nm,0.8s							
BRVK	**Borovoye**	**50.35**	**309**		P	**P**	**14 42 47.4**	**-0.1**
BRVK	**Borovoye**	**50.35**	**309**		P	**P**	**14 42 47.5**	**+0.1**
BRVK	**Borovoye**	**50.35**	**309**	*ce*	P	**P**	**14 42 46.9**	**-0.6**
BRVK					pmax	pmax		
	comp=Z,26nm,0.8s							
SUMG	**Summit**	**50.57**	**9**		P	**P**	**14 42 50.5**	**+1.1**
SUMG					IAmb	IAmb	14 42 59.7	
	comp=Z,18nm,1.0s							
SUMG	**Summit**	**50.57**	**9**		P	**P**	**14 42 50.5**	**+1.1**
SUMG					pmax	pmax		
	comp=Z,18nm,1.0s							
SUMG	**Summit**	**50.57**	**9**	*i* P		**P**	**14 42 49.0**	**-0.4**
SUMG					IAmb	IAmb	14 42 59.9	
	comp=Z,15nm,0.9s							
ARCES	**ARCESS Array B**	**51.06**	**343**		P	**P**	**14 42 52.5**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=34,slow=6.9,SNR=5.1							
ARCES					PcP	**PcP**	**14 44 06.7**	**-1.6**
	comp=Z,9.2nm,1.1s,baz=47,slow=5.4,SNR=3.9							
ARCES					LR	LR	15 08 39.1	
	comp=Z,147nm,18.3s,baz=39,slow=41							
	comp=Z,3.9nm,0.8s							
BRZS	**Berezniki**	**51.41**	**304**	*eP*		**P**	**14 42 55.0**	**-0.5**
BRZS	**Berezniki**	**51.41**	**304**	*eP*		**P**	**14 42 55.1**	**-0.5**
SVE	**Sverdlovsk**	**51.64**	**317**	*eP*		**P**	**14 42 57.9**	**+0.8**
SVE					pmax	pmax		
	comp=Z,30nm,1.5s							
SVE					MLR	MLR		
	comp=Z,1µm,18.0s							
YHL	**Hebgen Lake**	**51.69**	**64**		IAmb	IAmb	14 42 59.9	
	comp=Z,12nm,1.1s							
YHB	**Horse Butte**	**51.75**	**65**		IAmb	IAmb	14 43 00.2	
	comp=Z,14nm,0.9s							
YFT	**Old Faithful**	**52.14**	**65**		IAmb	IAmb	14 43 04.8	
	comp=Z,14nm,0.9s							
TDK	**Taldyqorghan**	**52.16**	**296**	*eP*		**P**	**14 43 00.8**	**-0.3**
TDK					pmax	pmax		
	comp=Z,8.0nm,0.7s							
TDK	**Taldyqorghan**	**52.16**	**296**	*eP*		**P**	**14 43 00.8**	**-0.3**
	comp=Z,7.5nm,0.7s							
YNE	**Yellowstone No**	**52.17**	**64**		IAmb	IAmb	14 43 03.3	
	comp=Z,12nm,0.9s							
YMP	**Mirror Lake Pl**	**52.28**	**64**		IAmb	IAmb	14 43 05.3	
	comp=Z,16nm,1.1s							
H17A	**Grant Village**	**52.31**	**65**		IAmb	IAmb	14 43 06.5	
	comp=Z,17nm,1.1s							
RLMT	**Red Lodge**	**52.45**	**63**		IAmb	IAmb	14 43 06.3	
	comp=Z,23nm,0.9s							
DGMT	**Dagmar**	**52.53**	**57**		IAmb	IAmb	14 43 05.4	
	comp=Z,15nm,0.9s							
NVAR	**Mina Array Bea**	**52.54**	**75**		P	**P**	**14 43 05.3**	**+0.9**
	comp=Z,4.0nm,0.6s,baz=318,slow=7.1,SNR=1.5							
	comp=Z,4.0nm,0.6s							
TPAW	**Teton Pass**	**52.77**	**66**		IAmb	IAmb	14 43 10.3	
	comp=Z,13nm,1.0s							
ARTI	**Arti**	**52.81**	**318**		P	**P**	**14 43 05.8**	**0.0**
ARTI	**Arti**	**52.81**	**318**		P	**P**	**14 43 05.5**	**-0.3**
	comp=Z,15nm,0.6s,baz=39,slow=3.8,SNR=20							
ARTI					LR	LR	15 08 29.5	
	comp=Z,756nm,18.1s,baz=40,slow=39							
	comp=Z,15nm,0.6s							
ARTI	**Arti**	**52.81**	**318**		P	**P**	**14 43 05.8**	**0.0**
ARTI					pmax	pmax		
	comp=Z,23nm,0.6s							
LOHW	**Long Hollow**	**52.86**	**65**		IAmb	IAmb	14 43 08.9	
	comp=Z,11nm,0.9s							
SHLS	**Shalkode**	**52.94**	**294**	*eP*		**P**	**14 43 04.9**	**-2.2**
SHLS					pmax	pmax		
	comp=Z,10.0nm,0.7s							
SHLS	**Shalkode**	**52.94**	**294**	*eP*		**P**	**14 43 04.9**	**-2.2**
	comp=Z,10nm,0.7s							
PZH	**PanZhiHua**	**53.15**	**263**		P	**P**	**14 43 08.4**	**-0.4**
PZH					pmax	pmax		
	comp=Z,7.0nm,0.8s							
PZH					pmax	pmax		
	comp=Z,130nm,5.2s							
PZH					LR	LR		
	comp=Z,700nm,17.1s							
PZH					LR	LR		
	comp=Z,820nm,17.3s							
PZH					LR	LR		
	comp=Z,630nm,18.4s							
SCO	**Scoresbysund**	**53.55**	**3**	*i* P		**P**	**14 43 12.2**	**+1.2**
SCO					IAmb	IAmb	14 43 19.9	
	comp=Z,9.0nm,1.0s							
FRB	**Frobisher Bay**	**53.70**	**26**		P	**P**	**14 43 10.9**	**-1.3**
	comp=Z,6.6nm,0.6s,baz=336,slow=9.2,SNR=6.8							
	comp=Z,6.6nm,0.6s							
BW06	**Boulder Array**	**54.00**	**65**		IAmb	IAmb	14 43 16.8	
	comp=Z,9.3nm,0.8s							
PD31	**Pinedale Array**	**54.00**	**65**		IAmb	IAmb	14 43 16.8	
	comp=Z,9.3nm,0.8s							
PDAR	**Pinedale Array**	**54.00**	**65**		P	**P**	**14 43 16.0**	**+1.0**
PDAR	**Pinedale Array**	**54.00**	**65**		P	**P**	**14 43 15.8**	**+0.8**
	comp=Z,8.4nm,0.9s,baz=333,slow=3.1,SNR=30							
PDAR					LR	LR	15 07 20.2	
	comp=Z,117nm,18.2s,baz=331,slow=37							
	comp=Z,8.4nm,0.9s							
AAA	**Alma-Ata**	**54.19**	**296**	*eP*		**P**	**14 43 15.4**	**-0.8**
AAA	**Alma-Ata**	**54.19**	**296**	*eP*		**P**	**14 43 15.5**	**-0.8**
BTLS	**Baital**	**54.28**	**299**	*eP*		**P**	**14 43 16.4**	**-0.4**
BTLS	**Baital**	**54.28**	**299**	*eP*		**P**	**14 43 16.4**	**-0.4**
KIRV	**Kirov**	**54.30**	**324**		LR	LR	15 08 51.5	
	comp=Z,632nm,19.7s,baz=36,slow=39							
KIRV	**Kirov**	**54.30**	**324**	*c*	*i* P	**P**	**14 43 17.6**	**+1.0**
TNSS	**Tian-Shan**	**54.30**	**296**	*eP*		**P**	**14 43 16.5**	**-0.9**
TNSS	**Tian-Shan**	**54.30**	**296**	*eP*		**P**	**14 43 16.5**	**-0.9**
SFJD	**Kangerlussuaq**	**54.41**	**16**		LR	LR	15 09 04.0	
	comp=Z,188nm,18.2s,baz=345,slow=39							
WUS	**Wushi**	**54.48**	**293**		IAmb	IAmb	14 43 20.4	
	comp=Z,14nm,0.8s							
KDJ	**Kajisay**	**54.84**	**295**		IAmb	IAmb	14 43 29.1	
	comp=Z,10nm,0.9s							
ULM	**Lac du Bonnet**	**54.99**	**51**		IAmb	IAmb	14 43 23.3	
	comp=Z,15nm,0.8s							
ULM	**Lac du Bonnet**	**54.99**	**51**		P	**P**	**14 43 21.8**	**0.0**
	comp=Z,16nm,0.9s,baz=309,slow=7.6,SNR=19							
	comp=Z,16nm,0.9s							
ULM	**Lac du Bonnet**	**54.99**	**51**	*c*	*i* P	**P**	**14 43 21.9**	**+0.1**
TKM2	**Tokmak 2**	**55.06**	**296**		P	**P**	**14 43 22.2**	**-0.5**
	SNR=6.7							
SGDS	**Sogindy**	**55.16**	**297**	*eP*		**P**	**14 43 22.5**	**-0.7**
BOOM	**Boomskoye usch**	**55.20**	**296**		IAmb	IAmb	14 43 33.8	
	comp=Z,8.4nm,0.9s							
USP	**Osenovka**	**55.36**	**297**		P	**P**	**14 43 24.4**	**-0.2**
	SNR=15							
KLMR	**Klimovskoe**	**55.44**	**331**	*eP*		**P**	**14 43 23.6**	**-1.3**
KLMR				*e*			14 44 23.9	
KLMR					pmax	pmax		
	comp=Z,37nm,1.0s							
KLMR					MLR	MLR		
	comp=Z,536nm,14.0s							
K22A	**Casper**	**55.61**	**63**		IAmb	IAmb	14 43 34.1	
	comp=Z,17nm,1.3s							
RSSD	**Black Hills**	**55.76**	**61**		P	**P**	**14 43 27.6**	**-0.1**
RSSD					IAmb	IAmb	14 43 29.2	
	comp=Z,11nm,0.8s							
RSSD	**Black Hills**	**55.76**	**61**		P	**P**	**14 43 27.6**	**-0.1**
RSSD					pmax	pmax		
	comp=Z,11nm,0.8s							
AAK	**Ala-Archa**	**55.82**	**297**		P	**P**	**14 43 27.9**	**-0.2**
	SNR=5.2							
AAK	**Ala-Archa**	**55.82**	**297**		P	**P**	**14 43 27.9**	**-0.2**
AAK					IAmb	IAmb	14 43 37.2	
	comp=Z,13nm,0.8s							
AAK	**Ala-Archa**	**55.82**	**297**		P	**P**	**14 43 27.9**	**-0.2**
	comp=Z,9.6nm,0.7s,baz=132,slow=5.1,SNR=12							
AAK					LR	LR	15 09 24.3	
	comp=Z,288nm,19.4s,baz=20,slow=38							
	comp=Z,9.6nm,0.7s							
AAK	**Ala-Archa**	**55.82**	**297**		P	**P**	**14 43 27.8**	**-0.4**
AAK	**Ala-Archa**	**55.82**	**297**	*d*	*i* P	**P**	**14 43 27.8**	**-0.4**
AAK					pmax	pmax		
	comp=Z,9.0nm,0.8s							
AAK	**Ala-Archa**	**55.82**	**297**		P	**P**	**14 43 27.9**	**-0.2**
SLVN	**Son La**	**56.06**	**257**		P	**P**	**14 43 29.8**	**-0.1**
SLVN					IAmb	IAmb	14 43 33.1	
	comp=Z,8.2nm,0.8s							
EKS2	**Erkin-Say**	**56.16**	**297**		P	**P**	**14 43 30.4**	**-0.1**
	SNR=18							
EPLO	**Experimental L**	**56.34**	**50**		IAmb	IAmb	14 43 33.3	
	comp=Z,18nm,1.0s							
AGMN	**Agassiz Nation**	**56.45**	**52**		IAmb	IAmb	14 43 34.2	
	comp=Z,18nm,1.0s							
LSA	**Lhasa**	**56.59**	**274**		P	**P**	**14 43 34.4**	**+0.3**
LSA	**Lhasa**	**56.59**	**274**		P	**P**	**14 43 34.4**	**+0.3**
LSA					pmax	pmax		
	comp=Z,26nm,0.7s							
LSA	**Lhasa**	**56.59**	**274**	*i*	P	**P**	**14 43 34.3**	**+0.3**
	SNR=7.1							
AML	**Almayashu**	**56.59**	**297**		P	**P**	**14 43 34.0**	**0.0**
	SNR=9.9							
PFO	**Pinyon Flats O**	**57.11**	**78**		LR	LR	15 06 29.8	
	comp=Z,154nm,18.9s,baz=304,slow=34							
DZA	**Taraz**	**57.19**	**299**	*eP*		**P**	**14 43 37.4**	**-0.3**
DZA					pmax	pmax		
	comp=Z,6.0nm,0.7s							
DZA	**Taraz**	**57.19**	**299**	*eP*		**P**	**14 43 37.5**	**-0.3**
	comp=Z,6.4nm,0.7s							
KSH	**Kashi**	**57.39**	**293**		P	**P**	**14 43 40.5**	**+1.2**
KSH					sP	pwP	14 43 48.8	+2.8
KSH					pmax	pmax		
	comp=Z,6.0nm,1.0s							
KSH					LR	LR		
	comp=Z,460nm,17.2s							
KSH					LR	LR		
	comp=Z,680nm,17.2s							
KSH					LR	LR		
	comp=Z,950nm,15.1s							
KKAR	**Karatay Array**	**57.43**	**300**		P	**P**	**14 43 38.8**	**-0.6**
KKAR	**Karatay Array**	**57.43**	**300**		IAmb	IAmb	14 43 41.5	
	comp=Z,40nm,1.2s							
KKAR	**Karatay Array**	**57.43**	**300**		P	**P**	**14 43 38.8**	**-0.6**
AKTO	**Aktyubinsk**	**57.46**	**313**		P	**P**	**14 43 40.0**	**+0.6**
	comp=Z,13nm,0.8s,baz=34,slow=4.7,SNR=32							
AKTO					LR	LR	15 10 53.2	
	comp=Z,837nm,18.5s,baz=60,slow=39							
	comp=Z,13nm,0.8s							
ARSB	**Arslanbob**	**57.55**	**297**		IAmb	IAmb	14 43 49.1	
	comp=Z,12nm,0.8s							
ABKAR	**Akbulak array**	**57.57**	**311**		P	**P**	**14 43 40.3**	**0.0**
ABKAR	**Akbulak array**	**57.57**	**311**		IAmb	IAmb	14 43 49.3	
	comp=Z,24nm,0.9s							
BRLS	**Borolday**	**57.82**	**300**	*eP*		**P**	**14 43 43.4**	**+1.3**
BRLS	**Borolday**	**57.82**	**300**	*eP*		**P**	**14 43 43.5**	**+1.3**
F33A	**5 Mile Ranch,**	**58.12**	**54**		IAmb	IAmb	14 43 46.1	
	comp=Z,18nm,1.0s							
FINES	**FINESS Array B**	**58.19**	**338**		P	**P**	**14 43 43.9**	**-0.5**
	comp=Z,3.8nm,0.8s,baz=45,slow=7.2,SNR=7.2							
FINES					LR	LR	15 12 43.7	
	comp=Z,304nm,18.2s,baz=33,slow=40							
	comp=Z,3.8nm,0.8s							
ISCO	**Idaho Springs**	**58.19**	**65**		IAmb	IAmb	14 43 47.8	
	comp=Z,11nm,1.0s							
IUG	**Iuzhnay**	**58.39**	**299**	*eP*		**P**	**14 43 45.6**	**-0.6**
IUG					pmax	pmax		
	comp=Z,11nm,0.9s							
IUG	**Iuzhnay**	**58.39**	**299**	*eP*		**P**	**14 43 45.7**	**-0.6**
	comp=Z,11nm,0.9s							
CHM	**Chimkent**	**58.47**	**300**	*eP*		**P**	**14 43 46.1**	**-0.5**
CHM	**Chimkent**	**58.47**	**300**	*eP*		**P**	**14 43 46.2**	**-0.5**
TBO	**Thunder Bay**	**58.95**	**48**		IAmb	IAmb	14 43 51.2	
	comp=Z,19nm,1.2s							
SHL	**Shillong**	**59.38**	**271**		P	**P**	**14 43 50.9**	**-2.5**
BELG	**Belogornoye**	**59.87**	**321**		LR	LR	15 12 21.1	
	comp=Z,542nm,18.6s,baz=41,slow=39							
BELG	**Belogornoye**	**59.87**	**321**	⇑	*i* P	**P**	**14 43 55.8**	**-0.3**
BELG					pmax	pmax		
	comp=Z,19nm,1.1s							
BELG					MLR	MLR		
	comp=Z,83nm,19.0s							
MOS	**Moscow**	**60.30**	**328**	*e*	P	**P**	**14 43 59.8**	**+0.7**
MOS				*e*			14 44 21.1	
MOS				*e*			14 52 17.2	
GAR	**Garm**	**60.64**	**297**		P	**P**	**14 44 02.6**	**+0.7**
BGNE	**Belgrade**	**60.65**	**59**		P	**P**	**14 44 02.4**	**+0.7**
CHTO	**Chiang Mai**	**60.82**	**260**		P	**P**	**14 44 03.0**	**-0.1**
CHTO	**Chiang Mai**	**60.82**	**260**		P	**P**	**14 44 03.2**	**+0.1**
CHTO	**Chiang Mai**	**60.82**	**260**		P	**P**	**14 44 03.4**	**+0.3**
CHTO	**Chiang Mai**	**60.82**	**260**		P	**P**	**14 44 03.0**	**-0.1**
CHTO					pmax	pmax		
	comp=Z,20nm,0.8s							
CM31	**Chiang Mai Arr**	**61.11**	**260**		P	**P**	**14 44 06.6**	**+1.5**
CMAR	**Chiang Mai Arr**	**61.11**	**260**		P	**P**	**14 44 06.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**61.11**	**260**		P	**P**	**14 44 05.4**	**+0.3**
	comp=Z,17nm,0.9s,baz=21,slow=7.1,SNR=62							
CMAR					LR	LR	15 12 19.6	
	comp=Z,295nm,18.1s,baz=25,slow=38							
	comp=Z,17nm,0.9s							
OBN	**Obninsk**	**61.15**	**329**		LR	LR	15 13 12.9	
	comp=Z,314nm,18.8s,baz=340,slow=39							
OBN	**Obninsk**	**61.15**	**329**	⇑	*eP*	**P**	**14 44 05.2**	**+0.4**
OBN				*e*			14 44 43.6	
OBN				*e*			14 46 20.6	
OBN					pmax	pmax		
	comp=Z,8.0nm,0.9s							
OBN					MLR	MLR		
	comp=Z,419nm,16.0s							
NB2	**NORSAR Subarra**	**61.19**	**345**		P	**P**	**14 44 05.5**	**+0.4**
	comp=Z,21nm,0.9s,baz=17,slow=6.9							
NB2	**NORSAR Subarra**	**61.19**	**345**		P	**P**	**14 44 05.5**	**+0.4**
	comp=Z,21nm,0.9s,baz=17,slow=6.9							
NOA	**NORSAR Array B**	**61.19**	**345**		P	**P**	**14 44 04.2**	**-0.9**
	comp=Z,2.6nm,0.3s,baz=18,slow=6.8,SNR=14							
NOA					LR	LR	15 16 01.4	
	comp=Z,88nm,18.0s,baz=15,slow=41							
	comp=Z,2.6nm,0.3s							
ANMO	**Albuquerque**	**61.45**	**69**		P	**P**	**14 44 08.7**	**+1.2**
	comp=Z,3.6nm,0.8s,baz=14,slow=7.6,SNR=2.4							
	comp=Z,3.6nm,0.8s							
HFS	**Hagfors**	**61.69**	**344**		P	**P**	**14 44 06.7**	**-1.7**
	comp=Z,3.1nm,0.7s,baz=34,slow=5.7,SNR=14							
HFS					LR	LR	15 12 02.7	
	comp=Z,205nm,20.6s,baz=26,slow=37							
	comp=Z,3.1nm,0.7s							
SCHQ	**Schefferville**	**61.79**	**31**		P	**P**	**14 44 07.8**	**-1.4**
	comp=Z,9.4nm,0.6s,baz=348,slow=7.6,SNR=18							
SCHQ					LR	LR	15 12 33.3	
	comp=Z,124nm,21.1s,baz=287,slow=38							
	comp=Z,9.4nm,0.6s							
BRDH	**Bariadhala**	**61.79**	**269**		LR	LR	15 14 47.2	
	comp=Z,716nm,18.3s,baz=137,slow=40							
I40A	**Norwalk**	**62.17**	**52**		IAmb	IAmb	14 44 13.2	
	comp=Z,11nm,1.0s							
RTBA	**Rita Blanca**	**62.22**	**66**		IAmb	IAmb	14 44 13.8	
	comp=Z,8.9nm,0.8s							
LPSR	**Galich'ya Gora**	**62.60**	**326**	*eP*		**P**	**14 44 12.9**	**-1.8**
LPSR					pmax	pmax		
	comp=Z,20nm,0.9s							
E46A	**Sault Ste Mari**	**62.86**	**46**		IAmb	IAmb	14 44 26.5	
	comp=Z,9.2nm,0.9s							
VRH	**Novokhopyorsk**	**62.89**	**323**	*eP*		**P**	**14 44 15.2**	**-1.4**
VRH					pmax	pmax		
	comp=Z,10.0nm,0.9s							
I42A	**Draeger Farm,**	**62.92**	**51**		IAmb	IAmb	14 44 17.6	
	comp=Z,8.7nm,0.9s							
NIL	**Nilore**	**63.28**	**291**		P	**P**	**14 44 19.2**	**-0.3**
NIL	**Nilore**	**63.28**	**291**		P	**P**	**14 44 17.3**	**-2.2**
NIL	**Nilore**	**63.28**	**291**		P	**P**	**14 44 19.2**	**-0.3**
NIL					pmax	pmax		
	comp=Z,29nm,1.4s							
VORR	**Voronezh**	**63.31**	**325**	*eP*		**P**	**14 44 18.7**	**-0.7**
VORR					pmax	pmax		
	comp=Z,10.0nm,0.8s							
L40A	**Anamosa**	**63.35**	**54**		IAmb	IAmb	14 44 19.9	
	comp=Z,7.6nm,0.8s							
VSR	**Storozhevoye**	**63.72**	**325**	*eP*		**P**	**14 44 21.0**	**-1.1**
VSR					pmax	pmax		
	comp=Z,20nm,0.9s							
VORD	**Divnogorie**	**63.89**	**325**	*eP*		**P**	**14 44 22.3**	**-0.9**
VORD					pmax	pmax		
	comp=Z,10.0nm,0.9s							
MNK	**Minsk**	**64.04**	**333**	*i* P		**P**	**14 44 22.9**	**-1.3**
MNK				*i*			14 46 43.9	
MNK				*i*	PPP	PPP	14 48 14.1	
MNK				*i*	S	**S**	**14 53 00.3**	**+0.3**
MNK				*i*	SS	**SS**	**14 57 11.0**	**+3.3**
MN

TXAR **Lajitas Array** 67.31 71 P P 14 44 46.1 +0.3
TXAR **Lajitas Array** 67.31 71 P P 14 44 45.9 +0.2
comp=Z,12nm,0.8s,baz=315,slow=3.9,SNR=80
TXAR LR LR 15 12 57.3
comp=Z,65nm,20.6s,baz=334,slow=35
comp=Z,12nm,0.8s
N49A **Columbus Grove** 67.37 50 IAmb IAmb 14 44 46.3
comp=Z,11nm,0.9s
SAND **Sanderson** 67.63 69 IAmb IAmb 14 44 49.3
comp=Z,10nm,1.1s
GOF **Gofitskoye** 67.67 319 *ce*P P 14 44 49.5 +1.8
MAK **Makhachkala** 67.75 315 *e*P P 14 44 42.5 -5.7
MAK *e*S S 14 53 37.1 -8.4
MAK pmax pmax
comp=Z,68nm,0.9s
MAK MLR MLR
comp=Z,603nm,14.0s
ERBR **Yeremizino-Bor** 68.02 321 *e*P P 14 44 48.4 -1.5
ERBR *e*S S 14 53 48.5 -0.3
ERBR pmax pmax
comp=Z,20nm,0.8s
ERBR MLR MLR
comp=Z,442nm,15.0s
ERBR MLR MLR
comp=N,981nm,12.0s
P48A **Milroy** 68.04 51 IAmb IAmb 14 44 50.0
comp=Z,9.4nm,0.8s
BRDY **Brady** 68.18 66 IAmb IAmb 14 44 52.1
comp=Z,5.7nm,0.8s
MIAR **Mount Ida** 68.27 60 IAmb IAmb 14 44 52.8
comp=Z,12nm,0.8s
EKA **Eskdalemuir Ar** 68.36 352 P P 14 44 51.8 -0.1
comp=Z,8.1nm,0.7s,baz=17,slow=5.7,SNR=24
comp=Z,8.1nm,0.7s
ESK **Eskdalemuir** 68.38 352 P P 14 44 52.3 +0.3
ESK **Eskdalemuir** 68.38 352 P P 14 44 52.3 +0.3
ESK pmax pmax
comp=Z,28nm,0.9s
BATG **Bathurst New B** 68.67 34 IAmb IAmb 14 44 54.9
comp=Z,11nm,1.0s
X40A **Basin Creek Fa** 68.68 60 IAmb IAmb 14 44 54.6
comp=Z,11nm,1.0s
KVAR **Kislovodsk Arr** 68.74 319 LR LR 15 18 32.0
comp=Z,622nm,19.9s,baz=264,slow=39
KIV **Kislovodsk** 68.75 319 *e*P P 14 44 55.9 +1.3
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,327nm,17.0s
KBZ **Khabaz** 68.86 318 P P 14 44 55.9 +0.7
comp=Z,16nm,0.9s,baz=308,slow=0.5,SNR=23
KBZ LR LR 15 18 42.2
comp=Z,937nm,20.5s,baz=20,slow=39
comp=Z,16nm,0.9s
LABN **Labinsk** 68.87 320 *e*P P 14 44 53.2 -2.0
LABN *e*S S 14 53 57.0 -1.8
LABN pmax pmax
comp=Z,13nm,0.5s
LABN MLR MLR
comp=E,185nm,14.0s
LABN MLR MLR
comp=Z,355nm,14.0s
LABN MLR MLR
comp=N,614nm,14.0s
AKT **Akhty** 68.90 314 *e*P P 14 44 53.7 -1.9
AKT *e* 14 45 18.2
AKT *e*PPP PPP 14 49 02.4
AKT pmax pmax
comp=Z,34nm,0.9s
AKT MLR MLR
comp=Z,750nm,15.0s
G62A **West of Eustis** 69.00 38 P P 14 44 56.5 +0.4
G62A IAmb IAmb 14 44 57.7
comp=Z,14nm,1.0s
J59A **Piesco** 69.10 42 IAmb IAmb 14 45 02.2
comp=Z,5.6nm,0.9s
F64A **Sherman** 69.18 36 P P 14 44 56.1 -1.0
F64A IAmb IAmb 14 44 57.7
comp=Z,11nm,0.8s
T47A **Sharon Grove** 69.32 54 IAmb IAmb 14 44 59.6
comp=Z,18nm,1.2s
LBNH **Lisbon** 69.37 40 IAmb IAmb 14 45 19.6
comp=Z,14nm,1.2s
PKME **Peaks-Kenny Pk** 69.39 37 IAmb IAmb 14 44 59.3
comp=Z,9.3nm,1.1s
R50A **Paris** 69.49 51 IAmb IAmb 14 44 59.8
comp=Z,8.7nm,0.9s
WVT **Waverly** 69.70 55 P P 14 45 00.1 -0.4
WVT IAmb IAmb 14 45 01.5
comp=Z,11nm,0.7s
WVT **Waverly** 69.70 55 P P 14 45 00.1 -0.4
WVT pmax pmax
comp=Z,11nm,0.7s
SORM **Soroca** 69.70 330 ⇑P P 14 44 59.4 -0.9
SORM **Soroca** 69.70 330 ⇑P P 14 44 59.4 -0.9
P53A **Whipple** 69.75 49 IAmb IAmb 14 45 01.1
comp=Z,11nm,1.2s
KWP **Kalwaria Pacla** 69.79 334 *e*P P 14 45 01.9 +1.1
Q52A **Bidwell** 69.81 50 IAmb IAmb 14 45 01.3
comp=Z,17nm,1.2s
ANN **Anapa** 69.88 323 *e*P P 14 44 58.6 -2.8
ANN *e* 14 47 35.3
ANN *e*S S 14 54 07.5 -3.2
ANN pmax pmax
comp=Z,16nm,0.7s
ANN MLR MLR
comp=Z,370nm,13.0s
ANN MLR MLR
comp=N,507nm,19.0s
WVL **Waterville** 69.88 38 IAmb IAmb 14 45 02.9
comp=Z,5.8nm,0.8s
I62A **Tamworth** 69.90 39 IAmb IAmb 14 45 03.8
comp=Z,9.5nm,1.1s
OJC **Ojcow** 69.91 337 *e*P P 14 45 02.3 +0.7
L59A **Walton** 69.99 43 IAmb IAmb 14 45 02.2
comp=Z,8.0nm,0.8s
I63A **Otisfield** 70.01 39 IAmb IAmb 14 45 04.1
comp=Z,12nm,1.1s
KSP **Ksiaz** 70.07 339 *e*P P 14 45 03.3 +0.8
SOC **Sochi** 70.15 320 *e*P P 14 45 00.4 -2.7
SOC *e* 14 47 35.5
SOC *e*PPP PPP 14 49 17.2
SOC *e*S S 14 54 11.1 -2.8
SOC MLR MLR
comp=Z,269nm,15.0s
CLZ **Clausthal** 70.19 343 *e*P P 14 45 05.4 +2.1
comp=Z,24nm,1.2s,baz=16,slow=5.9
CLZ *e*pP pwP 14 45 10.9 +0.4
baz=16,slow=5.9
SSPA **Standing Stone** 70.21 46 P P 14 45 03.2 -0.4
SSPA IAmb IAmb 14 45 03.7
comp=Z,9.2nm,1.1s
CLL **Collm** 70.25 341 IAmb IAmb 14 45 12.0
comp=Z,13nm,1.0s
CLL **Collm** 70.25 341 *i* P P 14 45 03.4 -0.2
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL MLR MLR
comp=Z,300nm,18.4s
CLL **Collm** 70.25 341 *e*P P 14 45 03.9 +0.3
comp=Z,14nm,1.0s,baz=16,slow=5.9
CLL *e*pP pwP 14 45 10.5 -0.4
baz=16,slow=5.9
T50A **Nancy** 70.31 53 IAmb IAmb 14 45 04.9
comp=Z,9.0nm,1.0s
U49A **Red Boiling Sp** 70.31 54 IAmb IAmb 14 45 05.0
comp=Z,13nm,1.3s
GGN **Saint George** 70.33 36 IAmb IAmb 14 45 04.9
comp=Z,11nm,0.8s
STHS **Stebnicka Huta** 70.34 335 *e*P P 14 45 05.5 +1.3
STHS **Stebnicka Huta** 70.34 335 *e*P P 14 45 05.5 +1.3
STHS *e* 14 45 12.2
S51A **Beattyville** 70.35 51 IAmb IAmb 14 45 05.5
comp=Z,8.1nm,1.0s
OSTC **Ostas** 70.36 339 AMS AMS 15 19 50.0
comp=Z,400nm,16.0s
Q54A **Coxs Mills** 70.40 49 IAmb IAmb 14 45 05.8
comp=Z,11nm,0.9s
CLTN **Cedars of Leba** 70.41 54 IAmb IAmb 14 45 05.8
comp=Z,6.0nm,0.7s
UPC **Upice** 70.44 339 AMS AMS 15 20 00.0
comp=Z,400nm,18.4s
BRG **Berggiesshubel** 70.49 341 *e*P P 14 45 05.7 +0.6
BRG Amp 14 45 07.7
comp=Z,4.2nm,1.0s
BRG **Berggiesshubel** 70.49 341 P P 14 45 12.8 +7.7
BRG Amp 14 45 14.5
comp=Z,13nm,1.4s
N58A **Sunbury** 70.50 45 IAmb IAmb 14 45 05.2
comp=Z,8.8nm,0.8s
DPC **Dobruska-Polom** 70.53 339 *e*P P 14 45 06.7 +1.3
DPC AMS AMS 15 20 10.0
comp=Z,400nm,16.2s
DPC **Dobruska-Polom** 70.53 339 *e*P P 14 45 06.7 +1.3
DPC MLR MLR
comp=Z,400nm,16.2s
NIE **Niedzica** 70.55 336 *e*P P 14 45 05.9 +0.3
STEB **Steborice** 70.62 338 *e*P P 14 45 06.7 +0.8
OKC **Ostrava-Krasne** 70.64 337 AMS AMS 15 19 50.0
comp=Z,300nm,13.8s
MORC **Moravsky Berou** 70.82 338 IAmb IAmb 14 45 16.4
comp=Z,12nm,0.9s
MORC **Moravsky Berou** 70.82 338 *e*P P 14 45 08.0 +0.8
MORC **Moravsky Berou** 70.82 338 ⇑P P 14 45 08.3 +1.1
MORC **Moravsky Berou** 70.82 338 ⇑P P 14 45 08.3 +1.1
LANS **Liptovska Anna** 70.99 336 *e*P P 14 45 11.0 +2.7
LANS **Liptovska Anna** 70.99 336 *e*P P 14 45 11.0 +2.7
LANS *e* 14 45 17.6
BUR08 **Bucovina Ar. S** 71.00 332 IAmb IAmb 14 45 17.5
comp=Z,9.0nm,0.8s
BURAR **Bucovina Array** 71.02 332 P P 14 45 08.4 -0.2
BURAR IAmb IAmb 14 45 17.9
comp=Z,9.3nm,0.8s
BURAR **Bucovina Array** 71.02 332 ⇑P P 14 45 09.9 +1.4
BURAR **Bucovina Array** 71.02 332 ⇑P P 14 45 09.9 +1.4
MOX **Moxa** 71.13 342 *e*P P 14 45 10.1 +1.0
comp=Z,12nm,1.1s,baz=16,slow=5.9
MOX *e*pP pwP 14 45 16.3 0.0
baz=16,slow=5.9
PRA **Prague** 71.17 340 AMS AMS 15 20 40.0
comp=Z,400nm,16.0s
TANN **Tannenbergstha** 71.20 341 *e*P P 14 45 10.6 +1.1
baz=16,slow=5.9
PRU **Pruhonice** 71.22 340 AMS AMS 15 20 50.0
GNI **Garni** 71.23 315 LR LR 15 20 20.4
comp=Z,1μm,21.1s,baz=26,slow=39
GOPC **GO Pecny, Ondr** 71.25 340 AMS AMS 15 20 30.0
comp=Z,400nm,17.7s
TZTN **Tazewell** 71.28 52 IAmb IAmb 14 45 10.7
comp=Z,6.3nm,0.8s
R55A **Marlinton** 71.29 48 IAmb IAmb 14 45 11.5
comp=Z,12nm,1.0s
SWET **Sewanee** 71.32 54 IAmb IAmb 14 45 10.8
comp=Z,12nm,0.7s
X48A **Hartselle** 71.44 56 IAmb IAmb 14 45 11.6
comp=Z,12nm,1.1s
VRAC **Vranov** 71.46 338 *e*P P 14 45 12.1 +1.0
VRAC **Vranov** 71.46 338 LR LR 15 20 33.1
comp=Z,201nm,18.3s,baz=25,slow=39
VRAC **Vranov** 71.46 338 ⇑P P 14 45 12.4 +1.3
VRAC **Vranov** 71.46 338 ⇑P P 14 45 12.4 +1.3
IPM **Ipoh** 71.58 250 IAmb IAmb 14 45 20.2
comp=Z,10nm,0.9s
W50A **Signal Mountai** 71.61 54 IAmb IAmb 14 45 12.8
comp=Z,10nm,1.0s
TESR **Tescani** 71.65 331 ⇓P P 14 45 13.3 +1.0
JAVC **Velka Javorina** 71.66 337 *e*P P 14 45 13.1 +0.8
MANZ **Manzenberg** 71.68 341 *e*P P 14 45 13.2 +0.8
comp=Z,3.5nm,1.2s,baz=16,slow=5.9
MANZ *e*pP pwP 14 45 19.8 +0.1
baz=16,slow=5.9
TREC **Trest** 71.70 339 AMS AMS 15 19 20.0
comp=Z,400nm,17.2s
KRUC **Moravsky** 71.74 338 *e*P P 14 45 13.7 +1.0
VYHS **Vyhne** 71.75 337 *e*P P 14 45 13.8 +1.0
VYHS **Vyhne** 71.75 337 *e*P P 14 45 13.8 +1.0
VYHS *e* 14 45 20.0
CPCT **Cooper Cave** 71.76 53 IAmb IAmb 14 45 13.7
comp=Z,11nm,1.1s
ZVC **Zvikov** 71.82 340 AMS AMS 15 21 00.0
comp=Z,500nm,17.5s
ROTZ **Rotzenmuhle** 71.87 341 *e*P P 14 45 14.0 +0.5
comp=Z,3.5nm,1.2s,baz=16,slow=5.9
ROTZ *e*pP pwP 14 45 21.1 +0.3
baz=16,slow=5.9
TKL **Tuckaleechee C** 71.92 53 LR LR 15 18 22.5
comp=Z,291nm,19.2s,baz=336,slow=37
FPAL **Fort Paine** 72.03 55 IAmb IAmb 14 45 15.4
comp=Z,10nm,1.0s
U54A **Nelsons Funny** 72.05 51 IAmb IAmb 14 45 15.7
comp=Z,12nm,1.0s
GRF **Grafenberg Arr** 72.12 342 *e*P P 14 45 16.3 +1.3
baz=16,slow=5.9
MODS **Modra-Piesok** 72.21 338 *e*P P 14 45 16.9 +1.3
MODS **Modra-Piesok** 72.21 338 *e*P P 14 45 16.9 +1.3
MODS *e* 14 45 23.7
S57A **Dark Hollow, R** 72.22 48 IAmb IAmb 14 45 16.7
comp=Z,16nm,1.0s
Y49A **Blount Mountai** 72.23 56 IAmb IAmb 14 45 16.4
comp=Z,14nm,0.7s
KHC **Kasperske Hory** 72.23 340 *e*P P 14 45 16.4 +0.7
KHC AMS AMS 15 21 30.0
comp=Z,400nm,14.3s
KHC **Kasperske Hory** 72.23 340 *e*P P 14 45 16.4 +0.7
KHC MLR MLR
comp=Z,400nm,14.3s
PLOR **Plostina** 72.26 330 ⇓P P 14 45 16.4 +0.5
PLOR **Plostina** 72.26 330 ⇓P P 14 45 16.4 +0.5
V53A **Saluda** 72.34 52 IAmb IAmb 14 45 27.5
comp=Z,6.8nm,0.9s
WET **Wettzell** 72.35 341 *e*P P 14 45 17.3 +0.9
comp=Z,16nm,1.1s,baz=16,slow=5.9
WET *e*pP pwP 14 45 24.1 +0.4
baz=16,slow=5.9
X51A **Calhoun** 72.35 54 IAmb IAmb 14 45 17.3
comp=Z,9.4nm,0.9s
CKRC **Cesky Krumlov** 72.39 340 AMS AMS 15 21 10.0
comp=Z,600nm,17.4s
HOMI **Horasan** 72.42 317 ⇑P P 14 45 19.7 +2.5
MARR **Marisel-Cluj** 72.44 333 ⇑P P 14 45 17.9 +0.9
CFR **Carcaliu** 72.46 329 ⇓P P 14 45 18.2 +1.2
CFR **Carcaliu** 72.46 329 ⇓P P 14 45 18.2 +1.2
GEC2 **GERESS Array S** 72.48 340 IAmb IAmb 14 45 26.1
comp=Z,13nm,1.2s
GEC2 **GERESS Array S** 72.48 340 *e*P P 14 45 18.1 +0.8
baz=16,slow=5.9
GEC2 *e*pP pwP 14 45 24.6 0.0
baz=16,slow=5.9
GERES **GERESS Array B** 72.48 340 P P 14 45 18.5 +1.2
GERES **GERESS Array B** 72.48 340 P P 14 45 17.7 +0.4
comp=Z,4.4nm,1.0s,baz=33,slow=5.1,SNR=14
GERES LR LR 15 21 45.9
comp=Z,360nm,18.6s,baz=26,slow=40
comp=Z,4.4nm,1.0s
TPGR **Topolog** 72.67 329 ⇑P P 14 45 17.7 -0.7
T57A **Hurt** 72.74 49 IAmb IAmb 14 45 30.5
comp=Z,7.3nm,1.0s
MLR **Muntele Rosu** 72.79 331 IAmb IAmb 14 45 28.9
comp=Z,10nm,0.9s
MLR **Muntele Rosu** 72.79 331 LR LR 15 19 29.6
comp=Z,488nm,21.1s,baz=28,slow=38
MLR **Muntele Rosu** 72.79 331 ⇓P P 14 45 21.1 +1.9
OZAP **Van, Ozalp-Mer** 72.80 315 ⇑P P 14 45 21.7 +2.2
U56A **King** 72.82 50 IAmb IAmb 14 45 20.2
comp=Z,11nm,1.0s
BG3 **Lake Jocassee** 72.85 52 IAmb IAmb 14 45 20.5
comp=Z,11nm,0.7s
V55A **Taylorsville** 72.88 51 IAmb IAmb 14 45 20.5
comp=Z,8.1nm,1.0s
CONA **Conrad Observa** 72.93 338 *i* pP P 14 45 20.5 +0.6
comp=Z,18nm,1.0s
HARR **Harsova** 72.96 329 ⇑P P 14 45 21.4 +1.3
HARR **Harsova** 72.96 329 ⇑P P 14 45 21.4 +1.3
TIRR **Tirgusor** 73.03 329 IAmb IAmb 14 45 29.6
comp=Z,16nm,0.9s
TIRR **Tirgusor** 73.03 329 ⇑P P 14 45 18.5 -2.0
TIRR **Tirgusor** 73.03 329 ⇑P P 14 45 18.5 -2.0
RONA **Rosalia, Austr** 73.05 338 *i* pP pP 14 45 21.8 -1.4
comp=Z,14nm,1.0s
VOIR 73.08 331 ⇑P P 14 45 22.0 +1.1
VOIR 73.08 331 ⇑P P 14 45 22.0 +1.1
ZAIG **Zacatecas** 73.15 74 IAmb IAmb 14 45 24.0
comp=Z,7.6nm,0.8s
SIRR **Siria** 73.18 334 ⇓P P 14 45 22.1 +0.7
Y52A **Lilburn** 73.30 54 IAmb IAmb 14 45 23.6
comp=Z,7.6nm,0.6s
MOA **Molln** 73.32 339 *i* pP pP 14 45 23.3 -1.5
comp=Z,14nm,1.5s
DIKM **Dikmen** 73.40 323 ⇑P P 14 45 27.1 +4.3
KMSC **Kings Mountain** 73.43 51 IAmb IAmb 14 45 23.5
comp=Z,9.5nm,0.6s
ICOR **Ion Corvin** 73.52 329 ⇓P P 14 45 24.4 +1.0
SURR **Surduc** 73.55 333 ⇑P P 14 45 24.3 +0.8
KDU **Kakadu** 73.55 212 P P 14 45 23.7 0.0
comp=Z,51nm,0.8s
KDU **Kakadu** 73.55 212 P P 14 45 24.5 +0.8
ARSA **Arzberg** 73.64 338 IAmb IAmb 14 45 33.6
comp=Z,10.0nm,1.0s
ARSA **Arzberg** 73.64 338 *e*pP P 14 45 24.7 +0.6
comp=Z,9.5nm,1.0s
GURO **Guroymak-BITLI** 73.66 316 IAmb IAmb 14 45 34.5
comp=Z,22nm,1.6s
RJOB **Jochberg** 73.72 340 *e*P P 14 45 25.8 +1.3
comp=Z,14nm,0.9s,baz=16,slow=5.9
RJOB *e*pP pwP 14 45 33.5 +1.7
baz=16,slow=5.9
GZR **Gura Zlata** 73.72 333 ⇑P P 14 45 24.2 -0.4
GZR **Gura Zlata** 73.72 333 ⇑P P 14 45 24.2 -0.4
HODGE **Hodges** 73.79 52 IAmb IAmb 14 45 25.9
comp=Z,12nm,0.7s
V58A **Windy Hill, Pi** 73.83 49 IAmb IAmb 14 45 26.8
comp=Z,21nm,1.1s
BFO **Black Forest** 73.92 343 P P 14 45 26.8 +1.1
BFO IAmb IAmb 14 45 34.0
comp=Z,11nm,1.1s
BFO **Black Forest** 73.92 343 P P 14 45 26.8 +1.1
BFO pmax pmax
comp=Z,11nm,1.1s
BFO **Black Forest** 73.92 343 *e*P P 14 45 26.1 +0.4
comp=Z,11nm,1.1s,baz=16,slow=5.9
BFO *e*pP pwP 14 45 32.6 -0.4
baz=16,slow=5.9
152A **Waverly Hall** 74.00 55 IAmb IAmb 14 45 26.9
comp=Z,17nm,1.1s
W57A **Gilead** 74.00 50 IAmb IAmb 14 45 26.9
comp=Z,12nm,0.8s
LESA **Schwarzleotal** 74.04 340 *e*pP P 14 45 26.6 +0.1
comp=Z,9.8nm,1.3s
MTN **Manton Dam** 74.10 214 P P 14 45 27.2 +0.2
comp=Z,36nm,0.8s
MTN **Manton Dam** 74.10 214 P P 14 45 28.3 +1.3
ECH **Echery** 74.21 344 IAmb IAmb 14 45 36.4
comp=Z,12nm,1.1s
BIRD **Birdtown, Kers** 74.23 51 IAmb IAmb 14 45 28.3
comp=Z,14nm,0.9s
KBA **Koelnbreinsper** 74.24 340 *e*pP pP 14 45 29.5 -0.7
comp=Z,18nm,1.0s
HERR **Herculane** 74.29 333 ⇓P P 14 45 28.8 +1.0
SOKA **Soboth** 74.29 338 *i* pP pP 14 45 29.2 -1.3
comp=Z,6.0nm,1.0s
RETA **Reutte** 74.33 342 *i* pP pP 14 45 29.5 -1.0
comp=Z,3.8nm,0.6s
WATA **Walderalm** 74.33 341 *i* pP P 14 45 29.2 +1.0
comp=Z,15nm,0.9s
WTTA **Wattenberg** 74.39 341 *i* pP pP 14 45 29.9 -1.1
comp=Z,15nm,0.9s
MOTA **Moosalm** 74.40 341 *i* pP P 14 45 29.0 +0.3
comp=Z,18nm,1.0s
SQTA **Sankt Quirin** 74.50 341 *e*pP P 14 45 29.7 +0.5
comp=Z,0.1nm,0.2s
OBKA **Obir** 74.55 339 *e*pP P 14 45 29.7 +0.2
comp=Z,24nm,0.8s
MSVF **Nonsavu** 74.55 166 LR LR 15 10 14.6
comp=Z,220nm,21.6s,baz=27,slow=29
MYKA **Terra Mystica** 74.61 339 *e*pP P 14 45 30.0 +0.2
comp=Z,3.2nm,0.7s
ABTA **Abfaltersbach** 74.72 340 *e*pP pP 14 45 31.7 -1.2
comp=Z,18nm,1.1s
FETA **Feichten** 74.78 342 *i* P P 14 45 29.4 -1.5
comp=Z,14nm,1.0s
PRED **Cave del Predi** 74.81 339 IAmb IAmb 14 45 40.1
comp=Z,16nm,0.9s
CADS **Cadrg** 74.98 339 *i* P P 14 45 32.5 +0.6
CADS *i* 14 45 39.2
FUORN **Ofenpass-Fuorn** 75.25 342 IAmb IAmb 14 45 43.0
comp=Z,14nm,1.1s
BOJS **Bojanci** 75.37 338 *e*P P 14 45 35.2 +1.2
BOJS *i* 14 45 41.9
TUE **Stuetta** 75.55 342 IAmb IAmb 14 45 44.5
comp=Z,20nm,1.3s
CTI **Castel Tesino** 75.56 341 IAmb IAmb 14 45 43.6
comp=Z,14nm,1.0s
BOVS **Bovan** 75.63 333 ⇑P P 14 45 35.6 0.0
BR131 **Keskin Array S** 75.67 323 IAmb IAmb 14 45 44.9
comp=Z,15nm,1.1s
BR131 **Keskin Array S** 75.67 323 P P 14 45 37.5 +1.4
SNR=5.2
BRTR **Keskin Array B** 75.67 323 P P 14 45 37.1 +1.0
BRTR **Keskin Array B** 75.67 323 P P 14 45 37.0 +0.9
comp=Z,2.8nm,0.6s,baz=46,slow=4.3,SNR=14
BRTR LR LR 15 21 55.4
comp=Z,270nm,21.9s,baz=358,slow=38
comp=Z,2.8nm,0.6s
ANTO **Ankara** 75.83 323 P P 14 45 38.6 +1.6
KIRS **Kirsehir-Merke** 76.11 322 ⇑P P 14 45 39.4 +0.8
RDO **Rodhopi** 76.91 329 IAmb IAmb 14 45 51.9
comp=Z,19nm,1.1s
BNI **Bardonecchia** 77.37 344 IAmb IAmb 14 46 01.0
comp=Z,16nm,1.3s
JASK **Jask - Hormozg** 77.39 298 P P 14 45 46.9 +1.0
CTAO **Charters Tower** 77.47 197 P P 14 45 47.7 +1.5
KNRA **Kununurra** 77.51 215 IAmb IAmb 14 45 48.3
comp=Z,17nm,0.9s
KNRA **Kununurra** 77.51 215 P P 14 45 46.9 +0.4
comp=Z,25nm,1.5s
DZM **Mont Dzumac** 77.97 178 *e*LR LR 15 09 58.0
comp=Z,327nm,27.9s
SHME **Shamm** 78.09 299 P P 14 45 49.5 -0.3
SHME **Shamm** 78.09 299 *i* P P 14 45 49.4 -0.4
SNR=8.3
MDH **Madha** 78.64 299 P P 14 45 52.1 -0.8
MDH **Madha** 78.64 299 *i* P P 14 45 51.5 -1.4
SNR=6.6
MASF **Masafi** 78.65 299 P P 14 45 53.2 +0.2
MSFE **Esma-Masafi** 78.66 299 *i* P P 14 45 51.8 -1.2
SNR=8.5
UOSS **Minazif** 78.98 298 P P 14 45 54.3 -0.4
UOSS **Minazif** 78.98 298 P P 14 45 54.3 -0.4
UOSS **Minazif** 78.98 298 *i* P P 14 45 53.5 -1.2
SNR=13
INTR **Introdacqua** 78.99 338 IAmb IAmb 14 46 04.5
comp=Z,14nm,0.9s
HATD **Hatta, Dubai** 79.12 298 P P 14 45 55.5 0.0
SNR=10
HATD **Hatta, Dubai** 79.12 298 *i* P P 14 45 54.6 -0.9
SNR=11
NAZ **Nazwa, Dubai** 79.22 299 P P 14 45 56.6 +0.6
SNR=5.4
NAZ **Nazwa, Dubai** 79.22 299 P P 14 45 56.7 +0.7
BIDO **Bidbid** 79.22 296 P P 14 45 54.8 -1.3
QIS **Mount Isa** 79.22 203 P P 14 45 55.6 -0.2
comp=Z,15nm,1.0s
ASHO **Ashiyiah** 79.28 298 P P 14 45 56.6 +0.1
ASHO **Ashiyiah** 79.28 298 *i* P P 14 45 56.5 +0.1
SNR=11
TAOE **Nuku Hiva Isla** 79.35 124 *e*LR LR 15 10 45.4
comp=Z,1μm,24.7s
KBD **Kabd** 79.40 307 P P 14 45 56.2 -0.7
FAQ **Al Faqa, Dubai** 79.45 299 P P 14 45 57.7 +0.4
SOHO **SOHO** 79.50 298 P P 14 45 56.9 -0.6
SOHO **SOHO** 79.50 298 *i* P P 14 45 57.0 -0.6
SNR=8.6
WBK **Wadi Bani Khal** 79.55 295 P P 14 45 58.5 +0.6
HOQ **Hoqain** 79.58 297 P P 14 45 58.4 +0.4
SMDO **Samad** 79.64 296 P P 14 45 58.8 +0.3
ASUD **Al Ashush, Dub** 79.68 299 P P 14 45 59.2 +0.6
ASUD **Al Ashush, Dub** 79.68 299 P P 14 45 58.8 +0.3
JLN **Jalan Bani Buh** 79.71 294 P P 14 45 59.2 +0.5
WR8 **Warramunga Arr** 79.89 208 IAmb IAmb 14 46 01.7
comp=Z,16nm,0.9s
WRAB **Tennant Creek** 79.90 208 P P 14 45 59.9 +0.4
WRAB IAmb IAmb 14 46 01.4
comp=Z,19nm,0.9s
WRAB **Tennant Creek** 79.90 208 P P 14 45 59.9 +0.4
WRAB pmax pmax
comp=Z,19nm,0.9s
WRA **Warramunga Arr** 79.92 208 P P 14 45 59.6 0.0
WRA **Warramunga Arr** 79.92 208 P P 14 45 59.4 -0.2
comp=Z,17nm,0.9s,baz=21,slow=5.7,SNR=60
comp=Z,17nm,0.9s
WRA **Warramunga Arr** 79.92 208 *i* P P 14 45 59.9 +0.3
WRA pmax pmax
comp=Z,17nm,0.9s
ALNE **Al Ain** 79.95 298 P P 14 45 59.6 -0.4
ALNE **Al Ain** 79.95 298 *i* P P 14 45 59.4 -0.6
SNR=5.9
ARQ **Araqi** 80.17 297 P P 14 46 01.3 +0.1
JMDO **Jabal Madar** 80.19 295 P P 14 46 00.9 -0.4

BSY	**Bisya**	**80.33**	**296**	P	**P**	**14 46 02.8**	**+0.7**
PALK	**Pallekele**	**80.37**	**269**	P	**P**	**14 46 03.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**80.80**	**217**	P	**P**	**14 46 05.0**	**+0.6**
MMAI	**Mount Meron Ar**	**81.06**	**318**	P	**P**	**14 46 07.0**	**+1.1**
	comp=Z,6.3nm,0.7s,baz=37,slow=7.6,SNR=9.1						
MMAI				LR	LR	15 28 01.0	
	comp=Z,409nm,18.7s,baz=24,slow=40						
	comp=Z,6.3nm,0.7s						
ASF	**Jabal al Asfar**	**81.25**	**317**	LR	LR	15 27 52.2	
	comp=Z,400nm,19.8s,baz=43,slow=40						
UMZA	**Um Al Zommool**	**81.37**	**298**	P	**P**	**14 46 07.8**	**+0.1**
MHTO	**MHTO**	**81.41**	**295**	P	**P**	**14 46 07.7**	**-0.2**
	SNR=9.3						
SMRA	**Abu-Samra**	**81.75**	**302**	P	**P**	**14 46 09.9**	**+0.3**
CMIG	**Matias Romero**	**81.91**	**72**	LR	LR	15 23 22.4	
	comp=Z,70nm,18.0s,baz=340,slow=36						
MZR	**Muzera**	**81.95**	**299**	P	**P**	**14 46 10.0**	**-0.7**
MZR	**Muzera**	**81.95**	**299**	*i* P	**P**	**14 46 09.7**	**-1.0**
	SNR=6.5						
PBRG	**Bragança**	**82.08**	**353**	*e*P	**P**	**14 46 14.0**	**+2.9**
BBSR	**BB Station**	**82.49**	**40**	P	**P**	**14 46 14.0**	**+0.6**
IDI	**Anoyia**	**82.53**	**327**	LR	LR	15 28 09.9	
	comp=Z,180nm,18.7s,baz=7.5,slow=40						
POLO	**Lamas de Olo**	**82.57**	**354**	*e*P	**P**	**14 46 15.7**	**+1.9**
PVRL	**Vila Real**	**82.67**	**354**	*e*P	**P**	**14 46 15.9**	**+1.7**
MVO	**Moncorvo**	**82.73**	**353**	*e*P	**P**	**14 46 15.9**	**+1.3**
RAR	**Rarotonga**	**82.90**	**146**	LR	LR	15 20 38.7	
	comp=Z,60nm,18.3s,baz=332,slow=34						
PPT	**Papeete**	**83.10**	**136**	LR	LR	15 14 04.7	
	comp=Z,211nm,21.8s,baz=310,slow=29						
PPT2	**Papeete2**	**83.12**	**136**	*e*LR	LR	15 11 54.1	
	comp=Z,494nm,32.2s						
PPT2				*e*LR	LR	15 12 18.0	
	comp=Z,772nm,30.2s						
PVIS	**Viseu**	**83.23**	**354**	*e*P	**P**	**14 46 18.3**	**+1.1**
MTE	**Manteigas**	**83.53**	**354**	*e*P	**P**	**14 46 19.7**	**+1.0**
ASAR	**Alice Springs**	**83.58**	**208**	P	**P**	**14 46 19.4**	**+0.4**
ASAR	**Alice Springs**	**83.58**	**208**	P	**P**	**14 46 19.2**	**+0.3**
	comp=Z,15nm,0.9s,baz=15,slow=4.7,SNR=72						
	comp=Z,15nm,0.9s						
PCAS	**Casmilo, Conde**	**83.93**	**354**	*e*P	**P**	**14 46 20.6**	**-0.1**
ESBB	**Sonseca Array**	**83.98**	**351**	IAmb	IAmb	14 47 46.3	
	comp=Z,13nm,1.4s						
ESDC	**Sonseca Array**	**83.98**	**351**	P	**P**	**14 46 21.6**	**+0.6**
ESDC	**Sonseca Array**	**83.98**	**351**	P	**P**	**14 46 20.5**	**-0.5**
	comp=Z,3.5nm,0.7s,baz=1.3,slow=5.4,SNR=29						
	comp=Z,3.5nm,0.7s						
PCBR	**Castelo Branco**	**84.08**	**354**	*e*P	**P**	**14 46 22.9**	**+1.4**
PCBR				*i* IAmb	IAmb	14 46 30.3	
	comp=Z,22nm,1.1s						
QLP	**Quilpie**	**84.17**	**198**	P	**P**	**14 46 22.5**	**+0.7**
	comp=Z,42nm,1.4s						
EIL	**Elat**	**84.23**	**317**	LR	LR	15 30 05.0	
	comp=Z,320nm,18.2s,baz=67,slow=40						
PSARD	**Sardoal**	**84.36**	**354**	*e*P	**P**	**14 46 24.6**	**+1.6**
PMTG	**Montargil**	**84.89**	**354**	*e*P	**P**	**14 46 26.0**	**+0.4**
PMTG				*i* IAmb	IAmb	14 46 34.1	
	comp=Z,24nm,1.0s						
PESTR	**Estremoz**	**85.06**	**354**	*e*P	**P**	**14 46 27.7**	**+1.2**
PESTR				*i* IAmb	IAmb	14 46 35.1	
	comp=Z,26nm,1.1s						
RAYN	**Ar Rayn**	**85.25**	**306**	P	**P**	**14 46 27.2**	**-0.5**
RAYN	**Ar Rayn**	**85.25**	**306**	P	**P**	**14 46 27.2**	**-0.5**
RAYN				pmax	pmax		
	comp=Z,16nm,1.0s						
RAYN	**Ar Rayn**	**85.25**	**306**	*i* P	**P**	**14 46 26.5**	**-1.2**
	SNR=12						
DOK	**Doka**	**85.34**	**297**	P	**P**	**14 46 28.1**	**0.0**
EVO	**Evora**	**85.42**	**354**	*e*P	**P**	**14 46 29.5**	**+1.3**
EVO				*i* IAmb	IAmb	14 46 37.0	
	comp=Z,25nm,1.1s						
MBWA	**Marble Bar**	**85.70**	**221**	P	**P**	**14 46 29.2**	**-0.5**
	comp=Z,59nm,1.1s						
PBAR	**Barrancos**	**85.71**	**353**	*e*P	**P**	**14 46 31.2**	**+1.5**
PBAR				*i* IAmb	IAmb	14 46 38.6	
	comp=Z,44nm,1.1s						
PBEJ	**Beja**	**85.91**	**354**	*e*P	**P**	**14 46 32.3**	**+1.6**
KEST	**Kesra**	**85.97**	**340**	P	**P**	**14 46 31.8**	**+0.7**
	comp=Z,2.5nm,0.5s,baz=108,slow=3.2,SNR=2.7						
	comp=Z,2.5nm,0.5s						
WHFO	**Wadi Hawf**	**86.11**	**297**	P	**P**	**14 46 30.7**	**-1.3**
PCVE	**Castro Verde**	**86.31**	**354**	*e*P	**P**	**14 46 34.5**	**+1.8**
PCVE				*i* IAmb	IAmb	14 46 41.7	
	comp=Z,27nm,1.3s						
WRKA	**Warakurna**	**86.45**	**212**	P	**P**	**14 46 34.2**	**+0.9**
	comp=Z,16nm,1.0s						
RAO	**Raoul Island**	**86.45**	**164**	LR	LR	15 19 15.0	
	comp=Z,248nm,20.6s,baz=74,slow=32						
PVAQ	**Vaqueiros**	**86.52**	**354**	*e*P	**P**	**14 46 35.6**	**+1.9**
MORF	**Marmelete**	**86.67**	**354**	*e*P	**P**	**14 46 36.3**	**+1.8**
TBI	**Tubuai**	**88.40**	**138**	*e*LR	LR	15 14 31.4	
	comp=Z,957nm,24.8s						
CMSA	**Cobar Meteorol**	**88.79**	**196**	P	**P**	**14 46 45.2**	**+0.9**
	comp=Z,19nm,1.0s						
STKA	**Stephens Creek**	**89.80**	**199**	P	**P**	**14 46 50.5**	**+1.5**
	comp=Z,115nm,2.2s						
STKA	**Stephens Creek**	**89.80**	**199**	P	**P**	**14 46 49.7**	**+0.6**
	comp=Z,12nm,1.0s,baz=339,slow=6.8,SNR=11						
	comp=Z,12nm,1.0s						
URZ	**Urewera**	**94.72**	**170**	LR	LR	15 24 17.2	
	comp=Z,98nm,19.1s,baz=204,slow=32						
SJG	**San Juan**	**94.77**	**47**	LR	LR	15 31 20.8	
	comp=Z,69nm,20.1s,baz=156,slow=36						
ATD	**Arta Tunnel**	**96.91**	**303**	LR	LR	15 36 14.7	
	comp=Z,16nm,18.8s,baz=14,slow=39						
TEFE	**Tefe**	**114.70**	**56**	*e*P	**Pdif**	**14 48 41.3**	**-0.3**
PRPB	**Parauapebas**	**123.33**	**42**	*e*P	**PKPdf**	**14 52 47.6**	**-0.5**
DVLD	**Doverlandia**	**131.88**	**50**	*e*P	**PKPdf**	**14 53 04.0**	**-0.3**
VNDA	**Vanda**	**133.45**	**181**	PKP	**PKPdf**	**14 53 05.5**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=322,slow=4.1,SNR=5.2						
BOSA	**Boshof**	**139.96**	**296**	PKhKP	PKPpre	14 53 13.1	
	comp=Z,3.7nm,0.9s,baz=90,slow=7.1,SNR=2.9						
PLCA	**Paso Flores**	**141.65**	**90**	PKhKP	PKPpre	14 53 15.3	
	comp=Z,1.9nm,0.9s,baz=270,slow=8.1,SNR=2.1						
PLCA				PKP	**PKPdf**	**14 53 22.6**	**+0.9**
	comp=Z,2.3nm,0.9s,baz=93,slow=3.4,SNR=3.4						
MAW	**Mawson**	**143.89**	**220**	PKP	PKPbc	14 53 23.4	+0.9
	comp=Z,11nm,0.9s,baz=50,slow=3.1,SNR=14						
PLTB	**Pedras Altas**	**144.16**	**63**	*e*P	**PKPdf**	**14 53 26.2**	**-0.1**
QSPA	**South Pole Qui**	**145.94**	**180**	PKPbc	**PKPdf**	**14 53 27.5**	**-0.8**
	comp=Z,20nm,0.8s,baz=315,slow=4.3,SNR=4.2						
TROLL	**Troll, Antarti**	**162.36**	**199**	⇑P	**PKPab**	**14 54 38.1**	**-0.7**
	comp=Z,271nm,0.6s						
SNAA	**Sanae**	**163.51**	**194**	⇑P	**PKPab**	**14 54 42.6**	**-1.1**
	comp=Z,54nm,0.8s						
SNAA	**Sanae**	**163.51**	**194**	PKPab	**PKPab**	**14 54 42.3**	**-1.4**
	comp=Z,2.9nm,0.9s,baz=187,slow=4.3,SNR=7.3						
VNA3	**Neumayer Olymp**	**164.65**	**188**	⇑P	**PKPab**	**14 54 48.0**	**-0.7**
	comp=Z,6.0nm,0.8s						
VNA2	**Neumayer--Watz**	**164.76**	**191**	⇑P	**PKPab**	**14 54 48.9**	**-0.2**
	comp=Z,9.0nm,0.7s,baz=196,slow=5.0						
VNA1	**Neumayer--Stat**	**165.11**	**190**	⇑P	**PKPab**	**14 54 50.0**	**-0.7**
	comp=Z,5.8nm,0.8s						

*SOME **05** 14:37:24.2,42°.03N×82°.75E,h10km*
*NNC **05** 14:37:25.3±3.6,41°.96N×82°.56E,h0km,mb3.7,mpv3.3,*
Error ellipse: s-maj=27.4km s-min=15.4km az=156.0
ISC 05 14:37:27.0±2.5,41°.9N±0°.1×82°.48E±0°.08,h13km,n21,
σ2ˢ14/30,2C-6D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**2.54**	**300**	Pg	**Pn**	**14 38 07.9**	**-0.2**
	30nm,0.4s						
SHLS				Lg	Lg	14 38 39.4	
	125nm,1.1s						
SHLS	**Shalkode**	**2.54**	**300**	*e*P	**Pn**	**14 38 07.8**	**-0.2**
	14nm,0.2s						
SHLS				*e*S	**Sn**	**14 38 39.2**	**+0.2**
	124nm,0.5s						
PDGK	**Podgornoye**	**2.61**	**303**	⇓Pn	**Pb**	**14 38 12.1**	**-1.7**
	13nm,0.8s						
PDGK				⇑Sn	**Sb**	**14 38 47.3**	**+1.6**
	72nm,0.8s						
KNOS	**Konyrlen**	**3.42**	**316**	Pg	**Pb**	**14 38 28.8**	**+1.3**
	3.1nm,0.5s						
KNOS				Lg	Lg	14 39 15.1	
	11nm,1.0s						
BLB	**Baldybastay**	**3.65**	**308**	Pg	**Pb**	**14 38 31.8**	**+0.4**
	16nm,0.5s						
BLB				Lg	Lg	14 39 20.9	
	18nm,0.7s						
KAPS	**Kapalarasan**	**4.04**	**327**	Pg	**Pb**	**14 38 39.2**	**+1.1**
	3.3nm,0.3s						
KAPS				Lg	Lg	14 39 33.2	
	14nm,1.0s						
ARXS	**Arharly**	**4.10**	**305**	Pg	**Pb**	**14 38 39.3**	**+0.3**
	4.4nm,0.7s						
ARXS				Lg	Lg	14 39 33.6	
	14nm,0.7s						
KOTS	**Kotyrbulak**	**4.17**	**290**	Pg	**Pb**	**14 38 37.5**	**-2.8**
	4.7nm,1.0s						
KOTS				Lg	Lg	14 39 30.5	
	20nm,0.9s						
KOTS	**Kotyrbulak**	**4.17**	**290**	*e*P	**Pb**	**14 38 43.4**	**+3.0**
	5.5nm,0.3s						
KOTS				*e*S	**Sg**	**14 39 40.4**	**-0.6**
	34nm,0.4s						
TNSS	**Tian-Shan**	**4.24**	**287**	Pg	**Pb**	**14 38 41.7**	**+0.1**
	1.6nm,0.9s						
TNSS				Lg	Lg	14 39 37.2	
	3.5nm,1.3s						
TNSS	**Tian-Shan**	**4.24**	**287**	*e*P	**Pg**	**14 38 45.6**	**-2.6**
	1.1nm,0.2s						
TNSS				*e*S	**Sg**	**14 39 44.0**	**+0.9**
	4.8nm,0.7s						
KTBS	**Karatobe**	**4.62**	**295**	Pg	**Pb**	**14 38 49.1**	**+1.2**
	2.9nm,0.5s						
KTBS				Lg	Lg	14 39 50.4	
	20nm,1.4s						
MTBS	**Maitube**	**4.63**	**287**	*e*P	**Pb**	**14 38 51.7**	**+3.6**
	1.3nm,0.1s						
MTBS				*e*S	**Sg**	**14 39 54.5**	**-1.1**
	2.2nm,0.1s						
MK31	**Makanchi Array**	**4.86**	**358**	⇓Pn	**Pn**	**14 38 39.8**	**0.0**
	0.4nm,0.3s,baz=189,slow=13,SNR=18						
MK31				⇓Pg	**Pb**	**14 38 52.3**	**+0.4**
	1.3nm,0.4s,baz=171,slow=16,SNR=4.6						
MK31				⇓Lg	Lg	14 39 55.9	
	5.6nm,0.6s,baz=175,slow=28,SNR=6.6						
MAKZ	**Makanchi**	**4.88**	**356**	⇓Pg	**Pb**	**14 38 53.1**	**+0.7**
	1.3nm,0.5s						
MAKZ				⇑Sn	**Sn**	**14 39 37.5**	**+1.0**
	2.5nm,0.5s						
MAKZ				⇓Lg	Lg	14 39 58.5	
	7.7nm,0.7s						
KUU	**Kurty**	**4.92**	**295**	Pg	**Pb**	**14 38 57.0**	**+4.0**
	3.6nm,0.2s						
KUU				Lg	Lg	14 40 04.0	
	14nm,0.6s						
KUU	**Kurty**	**4.92**	**295**	*e*P	**Pb**	**14 38 56.9**	**+4.0**
	1.6nm,0.1s						
KUU				*e*S	**Sg**	**14 40 03.6**	**-1.2**
	19nm,0.2s						
KST	**Kastek**	**4.95**	**285**	Pg	**Pb**	**14 38 51.0**	**-2.5**
KST				Lg	Lg	14 39 53.9	
KST	**Kastek**	**4.95**	**285**	*e*P	**Pb**	**14 38 58.0**	**+4.5**
	1.1nm,0.3s						
KST				*e*S	**Sg**	**14 40 05.8**	**0.0**
	7.1nm,0.3s						
KRBS	**Karabastau**	**5.31**	**292**	Pg	**Pb**	**14 39 03.1**	**+3.5**
	1.0nm,0.6s						
KRBS				Lg	Lg	14 40 14.5	
	2.5nm,0.8s						
ZSN	**Zaisan**	**5.77**	**16**	Pg	**Pb**	**14 39 08.4**	**+0.9**
	3.9nm,0.4s						
ZSN				Lg	Lg	14 40 23.7	
	13nm,1.3s						

*NEIC **05** 14:39:32.9±1.5,35°.749N±0°.004×117°.57W±0°.01,*
h5km±1km,Error ellipse: s-maj=2.7km s-min=1.7km
az=24.0
*IDC **05** 14:39:33.6±0.7,35°.74N×117°.51W,h0km,mb3.6/5,*
mbtmp3.5/10,ML3.5/5,MS2.7/1,Error ellipse:
s-maj=15.8km s-min=5.5km az=72.0
*PAS **05** 14:39:33.4±1.6,35°.743N±0°.010×117°.568W±0°.007,*
h2km±2km,Mwr3.9/6,ML3.8/110(NEIC),Error ellipse:
s-maj=1.6km s-min=0.6km az=203.0
ISC 05 14:39:34.3±0.6,35°.72N±0°.02×117°.57W±0°.02,h10km,n82,
σ1ˢ39/75,mb3.9/5,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.10**	**346**		**Pg**	**14 39 35.3**	**-1.8**
CCCA	**Chr Cany lake**	**0.25**	**139**		**Pb**	**14 39 39.3**	**-1.6**
CCCA					**Sb**	**14 39 43.9**	**-1.5**
WNMM	**Nine Mile Cany**	**0.30**	**295**		**Pg**	**14 39 39.3**	**-1.1**
WVPM	**Volcano Peak E**	**0.31**	**319**		**Pg**	**14 39 39.2**	**-1.4**
WCSM	**Coso Springs S**	**0.35**	**332**		**Pg**	**14 39 39.9**	**-1.5**
WCSM					**Sg**	**14 39 44.6**	**-1.4**
WRVM	**Rose V. Centra**	**0.39**	**318**		**Pg**	**14 39 40.7**	**-1.4**
WRVM					**Sg**	**14 39 46.4**	**-1.0**
MFS	**McCloud Flat S**	**0.47**	**330**		**Pg**	**14 39 42.0**	**-1.4**
WBSM	**Bird Springs**	**0.50**	**249**		**Pg**	**14 39 43.2**	**-0.9**
DTP	**Desert Tortois**	**0.50**	**207**		**Pg**	**14 39 43.3**	**-0.8**
DTP					**Sb**	**14 39 51.2**	**-1.5**
WORM	**Onyx Ranch**	**0.55**	**268**		**Pg**	**14 39 43.9**	**-1.2**
WORM					**Sg**	**14 39 51.3**	**-1.0**
QSM	**Queen of Sheba**	**0.62**	**66**		**Pg**	**14 39 45.0**	**-1.3**
QSM					**Sg**	**14 39 52.9**	**-1.6**
QSM				IAML		14 39 53.6	
	comp=N,6μm,0.6s						
QSM				IAML		14 39 54.2	
	comp=E,8μm,0.5s						
WHFM	**Hanning Flat**	**0.64**	**269**		**Sb**	**14 39 54.6**	**-2.0**
CCAC	**Calif City Air**	**0.67**	**213**		**Pb**	**14 39 46.6**	**-1.6**
CCAC				IAML		14 39 56.7	
	comp=E,6μm,0.6s						
CCAC				IAML		14 39 58.2	
	comp=N,7μm,0.6s						
ISA	**Isabella, Lake**	**0.74**	**266**		**Pg**	**14 39 47.5**	**-1.2**
ISA				IAML		14 39 58.2	
	comp=E,5μm,0.6s						
ISA				IAML		14 40 02.0	
	comp=N,3μm,0.8s						
ISA	**Isabella, Lake**	**0.74**	**266**		**Sb**	**14 39 58.1**	**-1.5**
GSC	**Goldstone, Bar**	**0.74**	**123**		**Pg**	**14 39 47.8**	**-0.9**
CWC	**Cottonwood Cre**	**0.83**	**330**		**Pb**	**14 39 49.6**	**-1.4**
GWY	**Greenwater Val**	**0.87**	**57**		**Pg**	**14 39 49.5**	**-1.5**
SPG2	**Springville 2**	**1.09**	**297**		**Pg**	**14 39 53.3**	**-2.0**
ADO	**Adelanto Recei**	**1.17**	**175**		**Pn**	**14 39 56.4**	**-0.4**
GRAC	**Grapevine Rang**	**1.29**	**7**		**Pn**	**14 39 57.0**	**-1.4**
GRAC				IAML		14 40 17.8	
	comp=N,2μm,0.7s						
GRAC				IAML		14 40 20.4	
	comp=E,2μm,0.7s						
WCT	**Wildcat Mounta**	**1.32**	**35**		**Pn**	**14 39 57.5**	**-1.4**
DSCC	**Desert Studies**	**1.32**	**115**		**Pn**	**14 39 57.1**	**-1.8**
OSI	**Osito Audit: C**	**1.45**	**221**		**Pn**	**14 39 59.7**	**-1.0**
VOG	**Valley Oaks Go**	**1.59**	**293**		**Pb**	**14 40 02.5**	**-1.3**
GMN	**Gold Mountain**	**1.60**	**9**		**Pn**	**14 40 01.9**	**-1.0**
OAT	**Oat Mountain**	**1.62**	**212**		**Pb**	**14 40 02.6**	**-1.7**
PASC	**Pasadena Art C**	**1.62**	**198**		**Pn**	**14 40 02.4**	**-0.6**
PASC				IAML		14 40 29.3	
	comp=E,1μm,0.8s						
PASC				IAML		14 40 33.7	
	comp=N,843nm,0.6s						
TPNV	**Topopah Spring**	**1.63**	**40**		**Pn**	**14 40 02.1**	**-1.1**
TPNV				IAML		14 40 28.0	
	comp=N,2μm,0.9s						
TPNV				IAML		14 40 32.4	
	comp=N,1μm,0.8s						
DSP	**Deep Springs**	**1.68**	**349**		**Pn**	**14 40 02.9**	**-0.9**
DSP				IAML		14 40 31.0	
	comp=E,794nm,1.0s						
BCW	**Bitter Crk WRg**	**1.70**	**243**		**Pn**	**14 40 03.0**	**-1.1**
MZP	**Montezuma Peak**	**1.99**	**4**		**Pn**	**14 40 07.5**	**-0.8**
SMMC	**Simmler**	**2.02**	**259**		**Pb**	**14 40 09.7**	**-1.5**
ELS	**Elsinore Mount**	**2.07**	**177**		**Pn**	**14 40 08.6**	**-0.6**
ELS				IAML		14 40 46.5	
	comp=E,581nm,0.7s						
ELS				IAML		14 40 47.2	
	comp=N,494nm,1.4s						
DANC	**Danby, Needles**	**2.09**	**120**		**Pn**	**14 40 07.7**	**-1.7**
SHPR	**Sheep Range**	**2.10**	**67**		**Pn**	**14 40 08.7**	**-1.0**
SHPR				IAML		14 40 42.2	
	comp=N,539nm,0.6s						
V12A	**Nelson**	**2.21**	**89**		**Pn**	**14 40 09.7**	**-1.5**
V12A				IAML		14 40 46.9	
	comp=N,568nm,0.9s						
V12A				IAML		14 40 54.9	
	comp=E,536nm,0.8s						
PFO	**Pinyon Flats O**	**2.29**	**156**		**Pn**	**14 40 11.3**	**-0.9**
PFO				IAML		14 40 51.7	
	comp=E,422nm,0.8s						
PFO				IAML		14 40 54.4	
	comp=E,647nm,1.1s						
PFO	**Pinyon Flats O**	**2.29**	**156**	Pn	**Pn**	**14 40 11.0**	**-1.3**
	comp=E,4.4nm,0.3s,baz=341,slow=12,SNR=27						
PFO				Pg	**Pg**	**14 40 16.4**	**-1.8**
	comp=E,23nm,0.3s,baz=333,slow=16,SNR=47						
PFO				Lg	Lg	14 40 45.6	
	comp=E,169nm,0.3s,baz=76,slow=9.7,SNR=22						
	comp=E,12nm,0.3s						
TPH	**Tonopah**	**2.37**	**7**		**Pn**	**14 40 12.6**	**-0.9**
S11A	**Rachel**	**2.42**	**37**		**Pn**	**14 40 14.8**	**+0.8**
S11A				IAML		14 41 06.3	
	comp=N,776nm,1.0s						
IRM	**Iron Mountain**	**2.52**	**127**		**Pn**	**14 40 13.5**	**-1.9**
NEE2	**Needles Airpor**	**2.59**	**111**		**Pn**	**14 40 14.6**	**-1.7**
PRN	**Pahroc Range**	**2.64**	**49**		**Pn**	**14 40 16.3**	**-0.8**
PRN				IAML		14 41 17.1	
	comp=N,672nm,1.0s						
PMPB	**Monarch Peak**	**2.67**	**282**		**Pn**	**14 40 17.9**	**+0.4**
NV11	**Mina Array Sit**	**2.75**	**350**		**Pn**	**14 40 18.2**	**-0.5**
NVAR	**Mina Array Bea**	**2.77**	**348**		**Pn**	**14 40 18.6**	**-0.5**
NVAR	**Mina Array Bea**	**2.77**	**348**	Pn	**Pn**	**14 40 17.5**	**-1.5**
	comp=N,2.7nm,0.3s,baz=170,slow=15,SNR=49						
NVAR				Pg	**Pg**	**14 40 25.0**	**-2.5**
	comp=N,21nm,0.3s,baz=157,slow=14,SNR=42						
NVAR				LR	LR	14 40 54.0	
	comp=N,115nm,18.9s,baz=357,slow=29						
NVAR				Lg	Lg	14 40 59.9	
	comp=N,16nm,0.3s,baz=171,slow=18,SNR=7.3						
	comp=N,7.3nm,0.5s						
RYN	**Ryan**	**3.01**	**346**		**Pn**	**14 40 21.9**	**-0.3**
R11B	**Troy Canyon, C**	**3.07**	**30**		**Pn**	**14 40 22.6**	**-0.5**
W13A	**Hualapai Mount**	**3.07**	**100**	IAML		14 41 17.1	
	comp=N,214nm,0.9s						
BLYC	**Blythe**	**3.18**	**127**		**Pn**	**14 40 22.5**	**-1.9**
SAO	**San Andreas Ge**	**3.31**	**290**		**Pn**	**14 40 26.2**	**+0.1**
YUH	**Yuha Desert**	**3.35**	**156**		**Pn**	**14 40 25.6**	**-1.1**
YUH				IAML		14 41 22.2	
	comp=N,168nm,0.8s						
YUH				IAML		14 41 30.0	
	comp=E,166nm,1.2s						
CBX	**Cerro Bola**	**3.48**	**167**		**Pn**	**14 40 29.1**	**+0.5**
GLA	**Glamis**	**3.49**	**139**		**Pn**	**14 40 27.1**	**-1.7**
CCUT	**Cedar City**	**3.84**	**60**	IAML		14 41 39.0	
	comp=N,172nm,1.4s						
CCUT				IAML		14 41 41.9	
	comp=E,110nm,1.7s						
ESJX	**Sierra Juarez**	**3.94**	**160**	IAML		14 41 41.3	
	comp=N,97nm,1.0s						
ESJX				IAML		14 41 43.5	
	comp=E,138nm,0.9s						
KNB	**Kanab**	**4.04**	**70**	IAML		14 41 48.0	
	comp=E,158nm,1.0s						
KNB				IAML		14 41 49.1	
	comp=N,144nm,1.1s						
MPK	**Martis Peak**	**4.08**	**332**	IAML		14 41 56.0	
	comp=E,211nm,1.0s						
PSUT	**Pine Spring**	**4.09**	**45**	IAML		14 41 47.7	
	comp=E,193nm,0.9s						
PSUT				IAML		14 41 59.6	
	comp=N,155nm,1.4s						
Y14A	**Wickenburg**	**4.15**	**114**	IAML		14 42 00.8	
	comp=E,166nm,0.7s						
SPR3	**Spring Creek 3**	**4.17**	**37**	IAML		14 41 48.6	
	comp=E,113nm,1.0s						
SPR3				IAML		14 41 50.0	
	comp=N,121nm,0.9s						
AFDM	**Forest Hills D**	**4.22**	**321**	IAML		14 41 50.0	
	comp=N,93nm,1.5s						
AFDM				IAML		14 41 54.4	
	comp=E,101nm,1.3s						
113A	**Mohawk Valley,**	**4.31**	**132**	IAML		14 41 58.1	
	comp=N,94nm,0.8s						
113A				IAML		14 42 15.0	
	comp=E,78nm,1.2s						
VTX	**Valle De La Tr**	**4.56**	**160**	IAML		14 42 01.1	
	comp=N,142nm,0.8s						
VTX				IAML		14 42 06.4	
	comp=E,146nm,1.0s						
BEKR	**Beckworth**	**4.70**	**333**	IAML		14 42 10.7	
	comp=E,113nm,0.8s						
ORV	**Oroville**	**4.94**	**322**	IAML		14 42 19.5	
	comp=E,58nm,1.1s						
WUAZ	**Wupatki**	**5.05**	**90**		**Pn**	**14 40 50.1**	**-0.1**
X16A	**Lo Mia Camp, P**	**5.19**	**103**	IAML		14 42 24.8	
	comp=E,51nm,1.2s						
X16A				IAML		14 42 46.2	
	comp=N,42nm,1.1s						
ELK	**Elko**	**5.34**	**19**	Pn	**Pn**	**14 40 54.5**	**+0.2**
	comp=N,0.8nm,0.3s,baz=203,slow=10,SNR=14						
ELK				Pg	Pg	14 41 11.2	-5.5
	comp=N,3.1nm,0.3s,baz=222,slow=17,SNR=25						
ELK				Lg	Lg	14 42 20.7	
	comp=N,4.2nm,0.3s,baz=118,slow=23,SNR=15						
	comp=N,2.1nm,0.4s						
TUC	**Tucson**	**6.58**	**119**		**Pn**	**14 41 10.2**	**-1.0**
YBH	**Yreka Blue Hor**	**7.23**	**328**	Pn	**Pn**	**14 41 22.1**	**+2.0**
	baz=151,slow=5.3,SNR=4.1						
YBH				Lg	Lg	14 43 19.8	
	baz=64,slow=4.3,SNR=3.5						
319A	**Douglas**	**8.16**	**120**	Pn	**Pn**	**14 41 33.4**	**+0.5**
ANMO	**Albuquerque**	**9.11**	**92**	Pg	Pn	14 42 20.5	+34
	comp=N,0.3nm,0.3s,baz=15,slow=15,SNR=12					

PETK	**Petropavlovsk-**	**5.03**	**233**	Pn	**Pn**	**14 43 39.4**	**+1.8**
	0.7nm,0.3s,baz=76,slow=16,SNR=11						
PETK				Sn	**Sn**	**14 44 36.1**	**+1.7**
	0.2nm,0.3s,baz=65,slow=32,SNR=1.7						
	2.3nm,0.5s						
KRMR	**Karymshinskiy**	**5.03**	**229**	*eP*	**Pn**	**14 43 39.4**	**+1.7**
GRL	**Gorelyy**	**5.26**	**227**	*eP*	**Pn**	**14 43 41.3**	**+0.4**
MTVR	**Mutnovka**	**5.27**	**226**	*eP*	**Pn**	**14 43 40.6**	**-0.4**
ASAK	**Asacha**	**5.46**	**227**	*eP*	**Pn**	**14 43 44.5**	**+0.9**
ASAJ	**Asahikawa**	**18.43**	**238**	P	**Pn**	**14 46 37.5**	**+0.4**
	0.1nm,0.3s,baz=174,slow=24,SNR=1.9						
	4.8nm,1.1s						
KLR	**Kul'dur**	**20.82**	**264**	P	**P**	**14 47 02.8**	**-0.2**
	0.4nm,0.3s,baz=15,slow=12,SNR=1.4						
	0.4nm,0.3s						
TIXI	**Tiksi**	**21.38**	**330**	P	**P**	**14 47 09.8**	**+1.1**
	2.2nm,0.6s,baz=120,slow=9.3,SNR=1.7						
KDAK	**Kodiak Island**	**23.17**	**68**	P	**P**	**14 47 27.8**	**0.0**
	1.9nm,0.8s,baz=270,slow=7.1,SNR=1.5						
	1.9nm,0.8s						
ILAR	**Eielson Array**	**24.81**	**50**	P	**P**	**14 47 43.8**	**+0.6**
	0.6nm,0.7s,baz=270,slow=8.8,SNR=4.8						
	0.6nm,0.7s						
SONM	**Songino Array**	**35.65**	**281**	P	**P**	**14 49 18.7**	**-0.5**
	0.4nm,0.5s,baz=75,slow=11,SNR=1.5						
	0.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**36.56**	**176**	T	T	15 28 13.7	
	baz=357,slow=76,SNR=32						
H11N3	**WAKE ISLAND Hy**	**36.58**	**176**	T	T	15 28 12.3	
	baz=357,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**36.58**	**176**	T	T	15 28 21.2	
	baz=357,slow=76,SNR=21						
KURBB	**Kurchatov Arra**	**48.27**	**302**	P	**P**	**14 51 00.8**	**-1.0**
	0.2nm,0.5s,baz=52,slow=8.0,SNR=2.4						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**49.01**	**296**	P	**P**	**14 51 05.8**	**-1.9**
	0.2nm,0.6s,baz=60,slow=8.5,SNR=2.1						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**50.34**	**308**	P	**P**	**14 51 17.3**	**-0.4**
	1.2nm,0.7s,baz=60,slow=8.5,SNR=5.6						
	1.2nm,0.7s						
NVAR	**Mina Array Bea**	**52.41**	**75**	P	**P**	**14 51 35.3**	**+1.7**
	0.2nm,0.6s,baz=317,slow=11,SNR=1.5						
	0.2nm,0.6s						
PDAR	**Pinedale Array**	**53.85**	**65**	P	**P**	**14 51 45.6**	**+1.4**
	0.3nm,0.6s,baz=311,slow=1.0,SNR=5.1						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**67.16**	**71**	P	**P**	**14 53 16.2**	**+1.2**
	0.4nm,0.6s,baz=299,slow=6.7,SNR=7.7						
	0.4nm,0.6s						
QSPA	**South Pole Qui**	**146.05**	**180**	PKPbc	**PKPdf**	**15 01 58.8**	**+0.3**
	0.5nm,0.5s,baz=286,slow=5.3,SNR=7.1						

*CATAC **05** 15:01:56.1±0.8, 13°N±5°×8°9W±°, h23km±4km, M3.9/14, MLv3.9/14, Error ellipse: s-maj=9.9km s-min=5.5km az=8.7, confirmed*
*GCG **05** 15:01:57.9±0.5, 13°.13N×89°.54W, h38km±14km, MD3.8, ML3.5*
*SNET **05** 15:01:58.1±1.2, 13°.15N×89°.41W, h41km, ML3.7*

ISC 05 15:01:58.0±2.1, 13°.09N±0°.10×89°.44W±0°.04, h35km±4km, n40, σ1§08/47, 1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.41**	**16**	*eP*	**Pb**	**15 02 07.1**	**-0.3**
LALI	**Alcalda de L**	**0.41**	**16**	*iP*	**Pb**	**15 02 07.3**	**-0.1**
LALI				*iS*	**Sb**	**15 02 14.3**	**+0.4**
LALI	**Alcalda de L**	**0.41**	**16**	P	**Pb**	**15 02 07.1**	**-0.3**
JAYA	**Jayaque - finc**	**0.56**	**359**	*eP*	**Pb**	**15 02 08.9**	**-0.8**
JAYA				*eS*	**Sb**	**15 02 17.8**	**0.0**
JAYA	**Jayaque - finc**	**0.56**	**359**	⇑*iP*	**Pb**	**15 02 09.0**	**-0.8**
JAYA				*iS*	**Sb**	**15 02 17.7**	**-0.2**
JAYA	**Jayaque - finc**	**0.56**	**359**	P	**Pb**	**15 02 08.8**	**-0.9**
JAYA	**Jayaque - finc**	**0.56**	**359**	S	**Sb**	**15 02 18.0**	**+0.2**
PANCS	**Alcalda de**	**0.58**	**26**	P	**Pb**	**15 02 09.2**	**-0.8**
PANCS	**Alcalda de**	**0.58**	**26**	S	**Sb**	**15 02 18.7**	**+0.5**
PMON	**Piamonte**	**0.63**	**11**	P	**Pb**	**15 02 10.0**	**-0.8**
UEES	**Universidad Ev**	**0.65**	**17**	P	**Pb**	**15 02 10.4**	**-0.8**
UEES	**Universidad Ev**	**0.65**	**17**	S	**Sb**	**15 02 21.2**	**+1.0**
BOQS	**Boqueron**	**0.66**	**13**	*eP*	**Pb**	**15 02 10.7**	**-0.7**
IGN	**Direccin Gen**	**0.67**	**23**	P	**Pb**	**15 02 10.7**	**-0.8**
IGN	**Direccin Gen**	**0.67**	**23**	S	**Sb**	**15 02 21.8**	**+1.1**
LBRS	**Las Brisas**	**0.75**	**31**	*eP*	**Pn**	**15 02 12.1**	**-0.1**
CEVE	**Cerro Verde**	**0.76**	**346**	*eP*	**Pn**	**15 02 11.8**	**-0.6**
CEVE				*eS*	**Sn**	**15 02 23.9**	**+1.1**
CEVE	**Cerro Verde**	**0.76**	**346**	P	**Pn**	**15 02 11.8**	**-0.6**
TECO	**Alcaldia de Te**	**0.78**	**55**	P	**Pn**	**15 02 11.5**	**-1.0**
TECO	**Alcaldia de Te**	**0.78**	**55**	S	**Sb**	**15 02 23.5**	**-0.1**
PAVA	**Las Pavas**	**0.79**	**38**	P	**Pn**	**15 02 12.4**	**-0.4**
PAVA	**Las Pavas**	**0.79**	**38**	S	**Sb**	**15 02 24.7**	**+0.7**
UESV	**Universidad de**	**0.83**	**49**	P	**Pn**	**15 02 12.7**	**-0.6**
UESV	**Universidad de**	**0.83**	**49**	S	**Sn**	**15 02 25.1**	**+0.7**
NUBE	**Las Nubes**	**0.87**	**338**	*iP*	**Pn**	**15 02 12.9**	**-1.1**
NUBE				*iS*	**Sb**	**15 02 25.2**	**-1.1**
NUBE	**Las Nubes**	**0.87**	**338**	P	**Pn**	**15 02 12.8**	**-1.1**
UNIC	**Universidad Ca**	**0.89**	**353**	P	**Pn**	**15 02 13.7**	**-0.4**
SCLA	**Alcaldia de Sa**	**0.92**	**49**	P	**Pn**	**15 02 14.3**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.92**	**49**	S	**Sn**	**15 02 27.8**	**+1.2**
FAME	**Alcaldia de Sa**	**0.94**	**323**	P	**Pn**	**15 02 13.5**	**-1.2**
LOAL	**Lomas de Alarc**	**0.96**	**340**	P	**Pn**	**15 02 15.3**	**+0.2**
PQRS	**Presa 15 de Se**	**1.01**	**58**	P	**Pn**	**15 02 15.1**	**-0.5**
PACA	**Pacayal**	**1.15**	**71**	P	**Pn**	**15 02 17.7**	**0.0**
MTO3	**Montecristo**	**1.30**	**3**	*iP*	**Pn**	**15 02 19.6**	**-0.3**
MTO3	**Montecristo**	**1.30**	**3**	P	**Pn**	**15 02 19.6**	**-0.3**
CAHU	**Cacacuatique**	**1.37**	**60**	*eP*	**Pn**	**15 02 20.5**	**-0.4**
ESQI	**Esquipulas**	**1.46**	**4**	*eP*	**Pn**	**15 02 22.1**	**+0.1**
LCND	**La Caada**	**1.52**	**82**	*eP*	**Pn**	**15 02 22.6**	**-0.2**
FG16	**Alotenango, Sa**	**1.57**	**319**	*iP*	**Pb**	**15 02 27.6**	**+0.9**
FG16				*iS*	**Sb**	**15 02 51.2**	**+4.9**
ESSG	**Sabana Grande**	**1.87**	**314**	*iP*	**Pn**	**15 02 26.4**	**-1.2**
ESSG				*iS*	**Sn**	**15 02 48.1**	**-1.9**

IDC 05 15:08:40.2±21.0, 37°.52N×70°.95E, h227km±67km, mb3.7/1, mbtmp3.5/5, Error ellipse: s-maj=304.8km s-min=55.8km az=168.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.79**	**27**	P	Pn	15 10 05.4	+0.1
	2.8nm,0.3s,baz=202,slow=7.1,SNR=2.2						
MKAR	**Makanchi Array**	**12.51**	**39**	P	Pn	15 11 30.3	-0.2
	0.2nm,0.5s,baz=219,slow=11,SNR=3.0						
KURBB	**Kurchatov Arra**	**14.18**	**20**	P	Pn	15 11 50.6	-0.5
	0.2nm,0.5s,baz=208,slow=11,SNR=4.1						
ZALV	**Zalesovo Beam**	**19.01**	**26**	P	P	15 12 45.1	+0.2
	0.4nm,0.3s,baz=203,slow=6.3,SNR=2.5						
FINES	**FINESS Array B**	**36.62**	**325**	P	P	15 15 24.4	-0.1
	5.4nm,1.2s,baz=100,slow=7.9,SNR=1.3						
	5.4nm,1.2s						

*BGSI **05** 15:34:38.1±1.4, 25°.08S×29°.21E, h410km±268km, ML3.2*
*PRE **05** 15:35:10.9±0.9, 24°.98S×27°.08E, h2km, ML2.3*
*IDC **05** 15:35:11.4±8.0, 25°.35S×27°.69E, h0km, mbtmp2.7/1, ML2.5/1, Error ellipse: s-maj=77.9km s-min=54.5km az=123.0*

ISC 05 15:35:12.0±1.4, 24°.98S±0°.04×27°.07E±0°.04, h10km±10km, n24, σ1§26/39, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HRAO	**HartRAO**	**1.06**	**148**	*eP*	**Pg**	**15 35 31.0**	**-1.5**
HRAO				*eS*	**Sg**	**15 35 45.6**	**-0.7**
HRAO				IAML		15 35 52.6	
	comp=Z,72nm,0.4s						
LEPH	**Lephalale, Lim**	**1.30**	**31**	*eP*	**Pn**	**15 35 36.0**	**-0.3**
LEPH				*eS*	**Sn**	**15 35 53.2**	**-0.7**
LEPH				IAML		15 35 53.5	
	comp=Z,24nm,0.4s						
LBTB	**Lobatse**	**1.33**	**268**	*eP*	**Pn**	**15 35 36.6**	**-0.2**
LBTB				*eS*	**Sg**	**15 35 56.0**	**+1.0**
LBTB				IAML		15 36 04.7	
	comp=Z,104nm,0.7s						
WDLM	**Western Deep L**	**1.47**	**168**	*eP*	**Pn**	**15 35 39.0**	**+0.3**
WDLM				*eS*	**Sg**	**15 35 59.7**	**+0.3**
WDLM				IAML		15 36 01.6	
	comp=Z,99nm,0.4s						
PRYS	**Parys**	**1.95**	**172**	*eP*	**Pn**	**15 35 46.7**	**+1.4**
PRYS				*eS*	**Sn**	**15 36 11.1**	**+1.1**
PRYS				IAML		15 36 16.3	
	comp=Z,30nm,0.4s						
LPHEP	**Lephephe**	**1.96**	**325**	*iP*	**Pn**	**15 35 46.1**	**+0.8**
MAKGR	**Makgori**	**2.21**	**248**	*iP*	**Pb**	**15 35 52.0**	**-0.1**
MAKGR				IAML		15 36 21.1	
	comp=N,310nm,0.4s						
MREMI	**Moremi**	**2.43**	**8**	*iP*	Pn	15 35 41.7	-10
MREMI				IAML		15 36 28.3	
	comp=N,55nm,0.3s						
SWZ	**Schweizer**	**2.69**	**215**	*eP*	**Pn**	**15 35 56.1**	**+0.6**
SWZ				*eS*	**Sn**	**15 36 29.2**	**+1.1**
SWZ				IAML		15 36 44.4	
	comp=Z,18nm,0.3s						
KDWAN	**Kaudwane**	**2.72**	**305**	*iP*	**Pn**	**15 35 56.9**	**+1.1**
KDWAN				IAML		15 36 44.3	
	comp=N,23nm,1.2s						
CRLN	**Carolina, Mapu**	**2.85**	**111**	*eP*	**Pn**	**15 35 57.6**	**-0.1**
CRLN				*eS*	**Sn**	**15 36 33.2**	**+1.0**
CRLN				IAML		15 36 33.5	
	comp=Z,4.8nm,0.1s						
SKOMA	**Sekoma**	**2.89**	**279**	*iP*	**Pn**	**15 35 58.8**	**+0.6**
SKOMA				IAML		15 36 50.3	
	comp=N,51nm,0.4s						
SNKL	**Senekal, Frees**	**3.34**	**169**	*eP*	**Pn**	**15 36 05.8**	**+1.4**
SNKL				*eS*	**Sn**	**15 36 45.0**	**+0.8**
SNKL				IAML		15 37 01.3	
	comp=Z,14nm,0.4s						
MUSN	**Musina, Limpop**	**3.71**	**44**	*eP*	**Pn**	**15 36 09.2**	**-0.1**
MUSN				*eS*	**Sn**	**15 36 53.5**	**+0.3**
MUSN				IAML		15 37 07.6	
	comp=Z,16nm,0.6s						
BOSA	**Boshof**	**3.96**	**204**	Pn	**Pn**	**15 36 12.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=31,slow=13,SNR=1.9						
BOSA				Pg	**Pb**	**15 36 24.5**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=29,slow=16,SNR=4.5						
BOSA				Sn	**Sn**	**15 36 58.0**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=168,slow=9.3,SNR=3.7						
BOSA				Lg	Lg	15 37 14.8	
	comp=Z,1.9nm,0.3s,baz=298,slow=20,SNR=9.9						
	comp=Z,0.8nm,0.3s						
BOSA	**Boshof**	**3.96**	**204**	*eP*	**Pn**	**15 36 13.7**	**+0.8**
BOSA				*eS*	**Sn**	**15 37 00.4**	**+0.9**
BOSA				IAML		15 37 47.6	
	comp=Z,4.0nm,0.7s						
I47ZA	**BOSHOF INFRASO**	**3.98**	**204**	I	I	16 01 40.0	
	baz=36,slow=328,SNR=2.0						
MOPA	**Mopani**	**4.21**	**71**	*eP*	**Pn**	**15 36 16.8**	**+0.5**
MOPA				*eS*	**Sn**	**15 37 04.7**	**-0.9**
MOPA				IAML		15 37 21.0	
	comp=Z,10nm,0.4s						
PMBG	**Pietermaritzbu**	**5.45**	**147**	*eP*	**Pn**	**15 36 34.5**	**+1.1**
PMBG				*eS*	**Sn**	**15 37 35.1**	**-1.1**
PMBG				IAML		15 38 12.2	
	comp=Z,4.7nm,0.7s						
ALKP	**Alkanpan, Nort**	**6.54**	**220**	*eP*	**Pn**	**15 36 48.8**	**+0.5**
ALKP				*eS*	**Sn**	**15 38 01.1**	**-1.9**
ALKP				IAML		15 38 44.1	
	comp=Z,4.2nm,0.3s						
ARMS	**Ukamas**	**7.24**	**244**	*eP*	**Pn**	**15 36 58.1**	**+0.2**
ARMS				*eS*	**Sn**	**15 38 18.0**	**-2.1**
BRAK	**Brakfontein**	**7.70**	**208**	*eP*	**Pn**	**15 37 05.7**	**+1.4**
BRAK				*eS*	**Sn**	**15 38 29.0**	**-2.7**
BRAK				IAML		15 39 20.4	
	comp=Z,3.4nm,0.9s						
FRAZ	**Fraserburg**	**8.52**	**214**	*eP*	**Pn**	**15 37 17.1**	**+1.5**
FRAZ				*eS*	**Sn**	**15 38 49.2**	**-2.7**
FRAZ				IAML		15 39 43.1	
	comp=Z,2.1nm,0.5s						
I35NA	**TSUMEB INFRASO**	**10.52**	**301**	I	I	16 40 00.0	
	baz=124,slow=314,SNR=4.3						

*NEIC **05** 15:46:03.6±1.1, 35°.72N±0°.01×117°.47W±0°.01, h4km±5km, Error ellipse: s-maj=1.7km s-min=1.4km az=214.0*

PAS 05 15:46:03.9±0.7, 35°.70N±0°.02×117°.48W±0°.02, h1km, ML3.0/22, ML2.7/48(NEIC), Error ellipse: s-maj=2.5km s-min=2.0km az=169.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.15**	**321**		Pg	15 46 07.0	+0.2
CLC					Sg	15 46 09.2	+0.5
CCCA	**Chr Cany lake**	**0.20**	**151**		Pg	15 46 08.5	+0.8
SRTC	**Snort**	**0.22**	**268**		Pg	15 46 08.8	+0.7
LRMC	**Laurel Mtn Rad**	**0.27**	**217**		Pg	15 46 09.4	+0.3
MPMC	**Manual Prospec**	**0.36**	**359**		Pg	15 46 10.9	+0.1
MPMC					Sg	15 46 16.1	+0.7
WVPM	**Volcano Peak E**	**0.37**	**313**		Pg	15 46 11.3	+0.4
WNMM	**Nine Mile Cany**	**0.37**	**293**		Pg	15 46 11.4	+0.4
WRVM	**Rose V. Centra**	**0.45**	**313**		Pg	15 46 12.8	+0.2
DTP	**Desert Tortois**	**0.52**	**215**		Pg	15 46 13.8	0.0
QSM	**Queen of Sheba**	**0.57**	**62**		Pg	15 46 15.0	+0.3
QSM				IAML		15 46 23.1	
	comp=E,680nm,0.5s						
QSM				IAML		15 46 24.0	
	comp=N,650nm,0.5s						
GSC	**Goldstone, Bar**	**0.68**	**125**		Pg	15 46 17.0	+0.1
GSC				IAML		15 46 26.9	
	comp=E,468nm,0.3s						
ISA	**Isabella, Lake**	**0.81**	**268**		Pg	15 46 19.2	-0.1
GWY	**Greenwater Val**	**0.82**	**53**		Pg	15 46 19.6	0.0
SBB	**Saddle Back Bu**	**1.05**	**196**		Pg	15 46 23.4	-0.5
AMDNV	**Amargosa**	**1.23**	**52**		Pg	15 46 27.5	0.0
DSCC	**Desert Studies**	**1.26**	**116**		Pg	15 46 27.2	-0.8
WCT	**Wildcat Mounta**	**1.29**	**32**		Pg	15 46 28.0	-0.6
WCT				IAML		15 46 47.5	
	comp=N,133nm,0.5s						
WCT				IAML		15 46 48.1	
	comp=E,109nm,0.4s						
GRAC	**Grapevine Rang**	**1.30**	**4**		Pg	15 46 28.2	-0.6
TUQ	**Turquoise Moun**	**1.30**	**101**		Pg	15 46 28.1	-0.6
MWC	**Mount Wilson**	**1.55**	**198**		Pb	15 46 33.5	+0.1
TPNV	**Topopah Spring**	**1.60**	**38**		Pn	15 46 32.6	-0.8
TPNV				IAML		15 46 59.6	
	comp=E,129nm,0.5s						
GMN	**Gold Mountain**	**1.61**	**6**		Pn	15 46 33.0	-0.6
PASC	**Pasadena Art C**	**1.63**	**201**		Pb	15 46 34.7	0.0
PASC				IAML		15 47 01.0	
	comp=N,55nm,0.5s						
DSP	**Deep Springs**	**1.71**	**347**		Pn	15 46 35.3	+0.5
DSP				IAML		15 46 59.8	
	comp=N,48nm,0.6s						
DSP				IAML		15 47 00.0	
	comp=E,58nm,0.4s						
BCW	**Bitter Crk WRg**	**1.75**	**245**		Pn	15 46 34.3	-1.2
BCW				IAML		15 47 02.2	
	comp=N,96nm,0.6s						
BCW				IAML		15 47 13.3	
	comp=E,86nm,0.9s						
HMTC	**Hemet**	**2.02**	**169**		Pn	15 46 38.4	-0.7
ELS	**Elsinore Mount**	**2.05**	**179**		Pn	15 46 38.9	-0.6
ELS				IAML		15 47 10.1	
	comp=E,39nm,0.4s						
ELS				IAML		15 47 11.9	
	comp=N,33nm,0.9s						
POB	**Polly Butte**	**2.06**	**167**		Pn	15 46 39.1	-0.5
V12A	**Nelson**	**2.14**	**89**		Pn	15 46 39.6	-1.3
V12A				IAML		15 47 21.1	
	comp=N,34nm,0.4s						
PRN	**Pahroc Range**	**2.60**	**48**		Pn	15 46 45.3	-1.9
PRN				IAML		15 47 38.6	
	comp=N,39nm,0.6s						
PRN				IAML		15 47 39.0	
	comp=E,45nm,0.7s						
LHV	**Little Huntoon**	**2.67**	**343**		Pg	15 46 54.9	-0.3
LHV				IAML		15 47 34.3	
	comp=N,21nm,1.0s						
LHV				IAML		15 47 37.1	
	comp=E,26nm,0.7s						
NV11	**Mina Array Sit**	**2.78**	**349**		Pn	15 46 48.2	-1.5
NVAR	**Mina Array Bea**	**2.80**	**347**		Pg	15 46 56.8	-0.8
MYLM	**Yosemite Lake**	**2.90**	**306**		Pb	15 46 55.9	-0.5
W13A	**Hualapai Mount**	**3.00**	**100**		Pn	15 46 51.7	-1.1
R11B	**Troy Canyon, C**	**3.05**	**29**		Pg	15 47 00.7	-1.6
BLYC	**Blythe**	**3.12**	**128**	Pn	Pn	15 46 51.7	-2.5
BLYC				IAML		15 47 44.1	
	comp=E,28nm,0.5s						
BLYC				IAML		15 47 47.1	
	comp=N,27nm,0.6s						
YUH	**Yuha Desert**	**3.31**	**157**	Pg	Pg	15 47 06.2	-1.0
YUH				IAML		15 48 16.7	
	comp=E,10nm,4.7s						
AFDM	**Forest Hills D**	**4.27**	**320**	Pn	Pn	15 47 08.9	-1.1
AFDM				IAML		15 48 26.1	
	comp=E,10nm,1.4s						
AFDM				IAML		15 48 28.9	
	comp=N,6.7nm,0.6s						

*IDC **05** 15:46:26.0±0.9, 1°.02N×126°.10E, h0km, mb3.7/6, mbtmp3.7/7, ML3.8/1, Error ellipse: s-maj=54.9km s-min=17.3km az=73.0*
*DJA **05** 15:46:31.4±0.8, 1°.N±3°×12°6E±°, h11km±7km, MLv3.8/13*

ISC 05 15:46:32.3±0.8, 1°.04N±0°.06×126°.26E±0°.06, h39km, n16, σ1§55/18, mb3.7/6, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.14**	**104**	P	**Pn**	**15 46 53.8**	**+2.1**
KMSI	**Cibinong**	**2.32**	**259**	P	**Pn**	**15 47 08.5**	**+0.5**
KMSI				S	**Sn**	**15 47 36.3**	**+1.0**
SGSI	**Sangihe**	**2.73**	**345**	P	**Pn**	**15 47 12.9**	**-0.7**
SGSI				S	**Sn**	**15 47 47.1**	**+1.8**
SANI	**Sanana**	**3.08**	**185**	P	**Pn**	**15 47 18.9**	**+0.4**
LUWI	**Luwuk**	**4.05**	**239**	P	**Pn**	**15 47 35.0**	**+3.2**
NLAI	**Namlea**	**4.33**	**169**	P	**Pn**	**15 47 37.4**	**+1.7**
MRSI	**Marisa**	**4.35**	**263**	P	Pn	15 47 50.4	+14
APSI	**Ampana**	**5.00**	**247**	P	**Pn**	**15 47 45.6**	**+0.8**
SPSI	**Sidrap Palu**	**8.17**	**232**	P	**Pn**	**15 48 30.0**	**+1.6**
FITZ	**Fitzroy Crossi**	**19.03**	**182**	P	**P**	**15 50 49.9**	**-1.2**
	0.2nm,0.3s,baz=4.9,slow=13,SNR=5.7						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**22.31**	**160**	P	**P**	**15 51 25.0**	**-1.6**
	1.4nm,0.5s,baz=340,slow=11,SNR=18						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**25.66**	**164**	P	**P**	**15 51 58.9**	**+0.2**
	0.4nm,0.3s,baz=346,slow=12,SNR=30						
ASAR				PcP	**PcP**	**15 55 27.3**	**-1.5**
	0.6nm,1.1s,baz=0.0,slow=2.8,SNR=2.0						
	0.6nm,0.3s						
PETK	**Petropavlovsk-**	**58.08**	**22**	P	**P**	**15 56 22.2**	**+0.7**
	0.5nm,0.6s,baz=200,slow=3.0,SNR=5.6						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**59.50**	**326**	P	**P**	**15 56 30.0**	**-1.6**
	0.2nm,0.4s,baz=129,slow=6.5,SNR=7.0						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**62.77**	**334**	P	**P**	**15 56 52.8**	**-0.7**
	0.6nm,0.4s,baz=117,slow=8.6,SNR=2.4						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**63.75**	**328**	P	**P**	**15 56 59.3**	**-0.8**
	0.6nm,0.6s,baz=129,slow=6.3,SNR=9.5						
	0.6nm,0.6s						

*SJA **05** 15:50:45.7±0.8, 23°.88S×69°.89W, h80km, ML3.5, MW3.6*
*GUC **05** 15:50:47.0±0.5, 23°.88S×69°.79W, h73km±3km, ML3.5*

ISC 05 15:50:48.1±1.7, 23°.85S±0°.03×69°.87W±0°.07, h68km±23km, n18, σ1§51/31, 3C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB10	**IPOC Station P**	**0.71**	**298**	⇑*iP*	**Pn**	**15 51 02.8**	**-0.1**
PB10				*iS*	**Sn**	**15 51 14.6**	**+0.7**
PB10				IAML		15 51 16.1	
	comp=N,1µm,0.4s						
PB10	**IPOC Station P**	**0.71**	**298**	*eP*	**Pn**	**15 51 02.2**	**-0.7**
PB10				*eS*	**Sn**	**15 51 15.3**	**+1.4**
PB10				IAML		15 51 15.8	
	comp=Z,1µm,0.4s						
PB14	**IPOC Station P**	**0.91**	**212**	⇑*iP*	**Pn**	**15 51 04.9**	**-0.9**
PB14				*iS*	**Sn**	**15 51 18.8**	**0.0**
PB14				IAML		15 51 20.5	
	comp=N,1µm,0.5s						
PB14	**IPOC Station P**	**0.91**	**212**	*eP*	**Pn**	**15 51 04.9**	**-0.9**
PB14				*eS*	**Sn**	**15 51 19.1**	**+0.3**
PB14				IAML		15 51 20.2	
	comp=Z,2µm,0.3s						
PB05	**IPOC Station P**	**1.04**	**343**	⇓*iP*	**Pn**	**15 51 06.7**	**-0.4**
PB05				*iS*	**Sn**	**15 51 21.9**	**+0.8**
PB05				IAML		15 51 23.6	
	comp=E,1µm,0.3s						
PB05	**IPOC Station P**	**1.04**	**343**	*eP*	**Pn**	**15 51 06.5**	**-0.6**
PB05				*eS*	**Sn**	**15 51 22.6**	**+1.4**
PB05				IAML		15 51 24.3	
	comp=Z,568nm,0.6s						
PB06	**IPOC Station P**	**1.17**	**14**	⇑*iP*	**Pn**	**15 51 07.9**	**-1.0**
PB06				*eS*	**Sn**	**15 51 24.1**	**-0.3**
PB06				IAML		15 51 25.6	
	comp=N,881nm,0.4s						
PB06	**IPOC Station P**	**1.17**	**14**	*eP*	**Pn**	**15 51 08.2**	**-0.6**
PB06				*eS*	**Sn**	**15 51 24.8**	**+0.5**
PB06				IAML		15 51 27.5	
	comp=Z,394nm,0.2s						
GO02	**Mina Guanaco**	**1.33**	**169**	*eP*	**Pn**	**15 51 10.1**	**-1.0**
GO02				*iS*	**Sn**	**15 51 27.8**	**-0.6**
GO02	**Mina Guanaco**	**1.33**	**169**	*eP*	**Pn**	**15 51 10.2**	**-0.9**
GO02				*eS*	**Sn**	**15 51 28.2**	**-0.1**
GO02				IAML		15 51 30.6	
	comp=Z,740nm,0.1s						
AF01	**San Pedro de A**	**1.79**	**61**	*eP*	**Pn**	**15 51 17.7**	**+0.4**
AF01				*iS*	**Sn**	**

BZMR	**Bezymyannaya**	**2.18**	**265**	*e*P		**Pn**	**16 14 36.7**	**0.0**
MKZ	**Mys Kozlova**	**2.22**	**223**	PN		**Pn**	**16 14 35.6**	**-1.4**
MKZ	**Mys Kozlova**	**2.22**	**223**	*e*P		**Pn**	**16 14 35.6**	**-1.4**
KIRR	**Kirishev**	**2.26**	**266**	PN		**Pn**	**16 14 38.0**	**+0.3**
KIRR	**Kirishev**	**2.26**	**266**	*e*P		**Pn**	**16 14 38.0**	**+0.3**
KPT	**Kopyto**	**2.32**	**266**	PN		**Pn**	**16 14 39.4**	**+0.9**
KPT	**Kopyto**	**2.32**	**266**	*e*P		**Pn**	**16 14 39.5**	**+0.9**
KMNR	**Kamenistaya**	**2.35**	**261**	PN		**Pn**	**16 14 39.7**	**+0.8**
KMNR	**Kamenistaya**	**2.35**	**261**	*e*P		**Pn**	**16 14 39.7**	**+0.8**
TUMD	**Tumrok D**	**2.44**	**248**	PN		**Pn**	**16 14 40.1**	**0.0**
TUMD				S		**Sn**	**16 15 09.8**	**+0.1**
TUMD	**Tumrok D**	**2.44**	**248**	*e*P		**Pn**	**16 14 40.2**	**0.0**
TUMD				*e*S		**Sn**	**16 15 09.9**	**+0.1**
KOZ	**Kozyrevsk**	**2.51**	**269**	PN		**Pn**	**16 14 41.9**	**+0.9**
KOZ	**Kozyrevsk**	**2.51**	**269**	*e*P		**Pn**	**16 14 41.9**	**+0.9**
SRDR	**Sredinnyy**	**2.59**	**275**	PN		**Pn**	**16 14 42.9**	**+0.8**
SRDR	**Sredinnyy**	**2.59**	**275**	*e*P		**Pn**	**16 14 43.0**	**+0.8**
OSSR	**Ossora**	**3.14**	**348**	PN		**Pn**	**16 14 48.9**	**-0.7**
OSSR				S		**Sn**	**16 15 25.0**	**-1.7**
OSSR	**Ossora**	**3.14**	**348**	*e*P		**Pn**	**16 14 48.9**	**-0.7**
OSSR				*e*S		**Sn**	**16 15 25.0**	**-1.7**
ESO	**Esso**	**3.18**	**267**	PN		**Pn**	**16 14 51.6**	**+1.4**
ESO	**Esso**	**3.18**	**267**	*e*P		**Pn**	**16 14 51.6**	**+1.4**
KII	**Karymskiy**	**3.55**	**234**	PN		**Pn**	**16 14 55.9**	**+0.6**
KII	**Karymskiy**	**3.55**	**234**	*e*P		**Pn**	**16 14 55.9**	**+0.6**
PALN	**Palana**	**3.74**	**323**	PN		**Pn**	**16 14 59.9**	**+2.1**
PALN	**Palana**	**3.74**	**323**	*e*P		**Pn**	**16 14 59.9**	**+2.1**
SPN	**Mys Shipunski**	**3.99**	**221**	PN		**Pn**	**16 15 00.1**	**-1.2**
SPN	**Mys Shipunski**	**3.99**	**221**	*e*P		**Pn**	**16 15 00.2**	**-1.2**
NLC	**Nalytchevo**	**4.20**	**226**	PN		**Pn**	**16 15 04.3**	**+0.2**
NLC	**Nalytchevo**	**4.20**	**226**	*e*P		**Pn**	**16 15 04.3**	**+0.2**
SDLR	**Sedlovina**	**4.31**	**230**	PN		**Pn**	**16 15 06.0**	**+0.2**
SDLR	**Sedlovina**	**4.31**	**230**	*e*P		**Pn**	**16 15 06.1**	**+0.2**
KRER	**Koryakskii**	**4.35**	**231**	PN		**Pn**	**16 15 07.3**	**+0.9**
KRER	**Koryakskii**	**4.35**	**231**	*e*P		**Pn**	**16 15 07.3**	**+0.9**
KRX	**Arik**	**4.35**	**232**	PN		**Pn**	**16 15 06.8**	**+0.3**
KRX	**Arik**	**4.35**	**232**	*e*P		**Pn**	**16 15 06.8**	**+0.3**
SMAR	**Somma**	**4.35**	**230**	PN		**Pn**	**16 15 06.8**	**+0.3**
SMAR	**Somma**	**4.35**	**230**	*e*P		**Pn**	**16 15 06.8**	**+0.3**
AVH	**Avacha**	**4.38**	**230**	PN		**Pn**	**16 15 07.7**	**+1.0**
AVH	**Avacha**	**4.38**	**230**	*e*P		**Pn**	**16 15 07.8**	**+1.0**
UGLR	**Uglovaya**	**4.38**	**229**	PN		**Pn**	**16 15 07.3**	**+0.5**
UGLR	**Uglovaya**	**4.38**	**229**	*e*P		**Pn**	**16 15 07.3**	**+0.5**
KOK	**Koryaka**	**4.41**	**231**	PN		**Pn**	**16 15 07.8**	**+0.7**
KOK	**Koryaka**	**4.41**	**231**	*e*P		**Pn**	**16 15 07.9**	**+0.7**
GNL	**Ganaly**	**4.46**	**239**	PN		**Pn**	**16 15 08.8**	**+0.9**
GNL	**Ganaly**	**4.46**	**239**	*e*P		**Pn**	**16 15 08.8**	**+0.9**
DALK	**Dalny**	**4.54**	**228**	PN		**Pn**	**16 15 08.8**	**-0.1**
DALK	**Dalny**	**4.54**	**228**	*e*P		**Pn**	**16 15 08.8**	**-0.1**
INSR	**Institute**	**4.58**	**229**	PN		**Pn**	**16 15 10.9**	**+1.5**
INSR	**Institute**	**4.58**	**229**	*e*P		**Pn**	**16 15 11.0**	**+1.5**
PET	**Petropavlovsk**	**4.59**	**229**			**Pn**	**16 15 09.9**	**+0.4**
PET	**Petropavlovsk**	**4.59**	**229**	*e*PN		**Pn**	**16 15 08.7**	**-0.8**
PET				pmax	pmax			
	comp=Z,113nm,0.6s							
PET				MLR	MLR			
	comp=Z,200nm,10.0s							
PET	**Petropavlovsk**	**4.59**	**229**	*e*P		**Pn**	**16 15 09.4**	**-0.1**
PEA0B	**Petropavlovsk-**	**4.95**	**234**			**Pn**	**16 15 15.6**	**+1.1**
PEA0B	**Petropavlovsk-**	**4.95**	**234**	PN		**Pn**	**16 15 14.9**	**+0.4**
PETK	**Petropavlovsk-**	**4.95**	**234**			**Pn**	**16 15 15.6**	**+1.1**
PETK	**Petropavlovsk-**	**4.95**	**234**	Pn		**Pn**	**16 15 14.9**	**+0.4**
	comp=Z,8.5nm,0.7s,baz=68,slow=18,SNR=23							
PETK				Sn		**Sn**	**16 16 13.2**	**+1.9**
	baz=15,slow=13							
KRMR	**Karymshinskiy**	**4.95**	**230**	PN		**Pn**	**16 15 16.1**	**+1.7**
KRMR	**Karymshinskiy**	**4.95**	**230**	*e*P		**Pn**	**16 15 16.2**	**+1.7**
GRL	**Gorelyy**	**5.17**	**228**	PN		**Pn**	**16 15 19.1**	**+1.4**
GRL	**Gorelyy**	**5.17**	**228**	*e*P		**Pn**	**16 15 19.2**	**+1.4**
MTVR	**Mutnovka**	**5.18**	**227**	PN		**Pn**	**16 15 18.6**	**+0.8**
MTVR	**Mutnovka**	**5.18**	**227**	*e*P		**Pn**	**16 15 18.6**	**+0.8**
APC	**Apacha**	**5.31**	**235**	PN		**Pn**	**16 15 21.0**	**+1.6**
APC	**Apacha**	**5.31**	**235**	*e*P		**Pn**	**16 15 21.1**	**+1.6**
ASAK	**Asacha**	**5.37**	**227**	PN		**Pn**	**16 15 21.8**	**+1.5**
ASAK	**Asacha**	**5.37**	**227**	*e*P		**Pn**	**16 15 21.9**	**+1.5**
SKR	**Severo-Kuril's**	**7.39**	**225**	*e*PN		**Pn**	**16 15 47.9**	**-0.1**
SEY	**Seymchan**	**9.07**	**323**	*i* PN		**Pn**	**16 16 09.1**	**-1.9**
BILL	**Bilibino**	**11.92**	**4**	*i* PN		**Pn**	**16 16 50.0**	**0.0**
TYV	**Tymovskoe**	**13.93**	**257**	*e*P		**Pn**	**16 17 19.8**	**+2.3**
TYV				pmax	pmax			
	comp=Z,4μm,1.1s							
TYV				pmax	pmax			
	comp=Z,5μm,2.1s							
YSS	**Yuzhno-Sakhali**	**16.24**	**244**	*e*P		**Pn**	**16 17 47.4**	**-0.7**
YSS				pmax	pmax			
	comp=Z,10.0nm,0.9s							
JKA	**Kamikawa-asahi**	**18.35**	**238**			**Pn**	**16 18 15.7**	**+1.2**
JKA				IAmb	IAmb		16 18 22.9	
	comp=Z,39nm,1.0s							
ASAJ	**Asahikawa**	**18.35**	**238**	P		**P**	**16 18 14.1**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=34,slow=5.7,SNR=8.4							
	comp=Z,8.0nm,0.8s							
YAK	**Yakutsk**	**18.56**	**303**			**P**	**16 18 16.4**	**-0.2**
YAK				IAmb	IAmb		16 18 25.2	
	comp=Z,14nm,0.7s							
YAK	**Yakutsk**	**18.56**	**303**	P		**P**	**16 18 16.2**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=86,slow=1.6,SNR=7.2							
	comp=Z,3.1nm,0.6s							
YAK	**Yakutsk**	**18.56**	**303**	*e*P		**Pn**	**16 18 22.3**	**+5.4**
YAK				pmax	pmax			
	comp=Z,13nm,0.9s							
YAK				pmax	pmax			
	comp=N,5.0nm,2.2s							
YAK				pmax	pmax			
	comp=E,8.0nm,1.1s							
H17K	**Granite Mounta**	**19.36**	**49**	P		**P**	**16 18 22.8**	**-2.6**
E18K	**Tukpahlearik C**	**19.68**	**41**			**Pn**	**16 18 31.8**	**+1.4**
K17K	**Iditarod**	**19.84**	**55**			**Pn**	**16 18 35.0**	**+2.7**
M17K	**Holitna River**	**20.25**	**59**			**Pn**	16 18 39.7	+2.5
CNBA	**Chernabura Isl**	**20.33**	**79**			Pn	16 18 41.2	+3.1
CNBA				IAmb	IAmb		16 18 47.3	
	comp=Z,8.3nm,0.8s							
J18K	**Innoko River**	**20.59**	**53**			Pn	16 18 43.2	+2.1
J18K				IAmb	IAmb		16 18 50.0	
	comp=Z,5.8nm,0.8s							
C19K	**Lookout Ridge**	**20.59**	**37**			Pn	16 18 43.3	+2.1
KLR	**Kul'dur**	**20.79**	**264**	P		**P**	**16 18 41.2**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=115,slow=9.1,SNR=3.9							
	comp=Z,0.5nm,0.4s							
ZEA	**Zeya**	**21.27**	**279**	*e*P		**P**	**16 18 52.3**	**+6.1**
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PLK4	**Peulik 4**	**21.30**	**70**			**P**	**16 18 44.8**	**-1.8**
PLK4				IAmb	IAmb		16 18 58.9	
	comp=Z,17nm,0.8s							
TIXI	**Tiksi**	**21.46**	**330**	*i* P		**P**	**16 18 47.9**	**-0.2**
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.0s							
HEH	**HeiHe**	**22.69**	**270**	*e*P		**P**	**16 18 58.6**	**-2.9**
HEH				sP		**pP**	**16 19 05.3**	**+0.3**
HEH				pmax	pmax			
	comp=Z,3.0nm,0.8s							
HEH				LR	LR			
	comp=N,360nm,16.3s							
HEH				LR	LR			
	comp=E,260nm,17.5s							
HEH				LR	LR			
	comp=Z,310nm,15.1s							
KDAK	**Kodiak Island**	**23.23**	**68**	*i* P		**P**	**16 19 09.7**	**+2.7**
KDAK				pmax	pmax			
	comp=Z,3.0nm,0.9s							
USA0B	**Ussuriysk Arar**	**23.70**	**253**	*i* P		**P**	**16 19 11.9**	**+0.2**
USRK	**Ussuriysk Ar.**	**23.70**	**253**	P		**P**	**16 19 11.3**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=58,slow=9.3,SNR=2.5							
	comp=Z,0.4nm,0.5s							
E24K	**Your Creek**	**24.33**	**42**	P		**P**	**16 19 18.8**	**+1.3**
E24K				IAmb	IAmb		16 19 27.3	
	comp=Z,6.1nm,0.7s							
WRH	**Wood River Hil**	**24.39**	**51**			**P**	**16 19 19.7**	**+1.7**
WRH				IAmb	IAmb		16 19 39.1	
	comp=Z,4.5nm,0.8s							
ILAR	**Eielson Array**	**24.89**	**50**	P		**P**	**16 19 23.8**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=260,slow=10,SNR=9.8							
	comp=Z,0.6nm,0.8s							
SCM	**Sheep Creek Mo**	**25.01**	**57**	P		**P**	**16 19 24.8**	**+1.0**
SCM	**Sheep Creek Mo**	**25.01**	**57**	P		**P**	**16 19 24.8**	**+1.0**
SCM				pmax	pmax			
	comp=Z,8.0nm,0.7s							
D25K	**Kavik River**	**25.22**	**39**	P		**P**	**16 19 24.1**	**-1.5**
D25K				IAmb	IAmb		16 19 44.3	
	comp=Z,5.2nm,0.9s							
MJB9	**Matsu-Tunnel**	**26.40**	**233**	P		**P**	**16 19 34.7**	**-1.8**
MJAR	**Matsushiro Arr**	**26.40**	**233**	P		**P**	**16 19 36.7**	**+0.2**
	comp=Z,3.4nm,0.9s,baz=14,slow=8.4,SNR=6.9							
	comp=Z,3.4nm,0.9s							
MAJO	**Matsushiro**	**26.40**	**233**	⇑*i*P		**P**	**16 19 36.7**	**+0.2**
KSRS	**Korea Array**	**30.68**	**248**	P		**P**	**16 20 13.1**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=35,slow=9.5,SNR=6.1							
	comp=Z,0.5nm,0.8s							
SONM	**Songino Array**	**35.65**	**282**	P		**P**	**16 20 56.3**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=69,slow=8.1,SNR=3.5							
SONM				PcP		**PcP**	**16 23 26.5**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=51,slow=2.0,SNR=3.6							
	comp=Z,0.6nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**36.46**	**176**	T		T	16 59 55.8	
	baz=357,slow=76,SNR=336							
H11N3	**WAKE ISLAND Hy**	**36.47**	**176**	T		T	17 00 02.3	
	baz=357,slow=76,SNR=252							
H11N1	**WAKE ISLAND Hy**	**36.47**	**176**	T		T	17 00 02.6	
	baz=357,slow=76,SNR=260							
HHC	**Hu-ho-hao-te**	**37.18**	**268**	*e*P		**P**	**16 21 11.8**	**+0.7**
HHC				pmax	pmax			
	comp=Z,21nm,0.5s							
HHC				pmax	pmax			
	comp=Z,59nm,4.2s							
HHC				LR	LR			
	comp=N,200nm,15.0s							
HHC				LR	LR			
	comp=E,180nm,15.2s							
HHC				LR	LR			
	comp=Z,110nm,13.7s							
YKA	**Yellowknife Ar**	**39.22**	**47**	P		**P**	**16 21 27.1**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=304,slow=16,SNR=8.0							
	comp=Z,0.5nm,0.7s							
NJ2	**Nanjing**	**39.59**	**252**	*e*P		**P**	**16 21 30.1**	**-1.1**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
ZALV	**Zalesovo Beam**	**43.21**	**302**	PcP		**PcP**	**16 23 50.0**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=337,slow=7.1,SNR=4.1							
XAN	**Xi'an**	**43.50**	**263**	P		**P**	**16 22 02.7**	**-0.7**
XAN				pmax	pmax			
	comp=Z,12nm,0.4s							
SPITS	**Spitsbergen Ar**	**44.47**	**351**	P		**P**	**16 22 11.1**	**+0.5**
	comp=Z,7.0nm,0.8s,baz=96,slow=7.4,SNR=6.2							
	comp=Z,7.0nm,0.8s							
LZH	**Lanzhou**	**44.83**	**270**	*e*P		**P**	**16 22 12.4**	**-1.8**
LZH				sP		sP	16 22 19.2	-0.3
LZH				pmax	pmax			
	comp=Z,16nm,1.1s							
LZH				LR	LR			
	comp=N,250nm,14.3s							
LZH				LR	LR			
	comp=E,260nm,14.6s							
LZH				LR	LR			
	comp=Z,190nm,15.8s							
KURK	**Kurchatov**	**48.20**	**302**	P		**P**	**16 22 40.1**	**-0.1**
KURK							16 24 07.3	
KURBB	**Kurchatov Arra**	**48.30**	**302**	P		**P**	**16 22 40.1**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=55,slow=7.7,SNR=6.1							
KURBB				PcP		**PcP**	**16 24 07.3**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=64,slow=6.2,SNR=4.9							
	comp=Z,0.2nm,0.3s							
MK31	**Makanchi Array**	**49.04**	**296**	*ce*P		**P**	**16 22 44.0**	**-2.8**
MKAR	**Makanchi Array**	**49.04**	**296**	P		**P**	**16 22 46.4**	**-0.4**
MKAR	**Makanchi Array**	**49.04**	**296**	P		**P**	**16 22 44.4**	**-2.4**
	comp=Z,0.3nm,0.7s,baz=60,slow=7.2,SNR=3.8							
	comp=Z,0.3nm,0.7s							
MKAR	**Makanchi Array**	**49.04**	**296**	*i* P		**P**	**16 22 48.2**	**+1.4**
MKAR				pmax	pmax			
	comp=Z,1.0nm,1.0s							
BVAR	**Borovoye Array**	**50.39**	**309**	P		**P**	**16 22 56.9**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=54,slow=7.5,SNR=8.2							
	comp=Z,1.5nm,0.8s							
BRVK	**Borovoye**	**50.42**	**309**	*ce*P		**P**	**16 22 57.9**	**+0.8**
BRVK				pmax	pmax			
	comp=Z,7.0nm,0.8s							
ARCES	**ARCESS Array B**	**51.08**	**343**	P		**P**	**16 23 01.2**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=6.8,slow=7.1,SNR=1.3							
ARCES				PcP		**PcP**	**16 24 20.1**	**+2.7**
	comp=Z,6.5nm,1.2s,baz=3.5,slow=4.0,SNR=4.0							
	comp=Z,1.6nm,0.8s							
NVAR	**Mina Array Bea**	**52.45**	**75**	P		**P**	**16 23 15.4**	**+2.6**
	comp=Z,0.2nm,0.4s,baz=316,slow=6.2,SNR=4.0							
	comp=Z,0.2nm,0.4s							
ARTI	**Arti**	**52.87**	**318**	*d i*P		P	16 23 22.3	+6.9
ARTI							16 25 19.8	
ARTI				S		S	16 30 57.7	+15
ARTI				pmax	pmax			
	comp=Z,9.0nm,1.5s							
PZH	**PanZhiHua**	**53.24**	**263**	P		**P**	**16 23 19.8**	**+1.2**
PDAR	**Pinedale Array**	**53.91**	**65**	P		**P**	**16 23 24.4**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=295,slow=4.2,SNR=4.8							
	comp=Z,0.4nm,0.6s							
KLMR	**Klimovskoe**	**55.48**	**331**	*e*P		**P**	**16 23 32.6**	**-1.7**
KLMR				pmax	pmax			
	comp=Z,15nm,1.4s							
KKAR	**Karatay Array**	**57.51**	**300**			**P**	**16 23 48.8**	**-0.3**
KKAR	**Karatay Array**	**57.51**	**300**	P		**P**	**16 23 48.8**	**-0.3**
ABKAR	**Akbulak array**	**57.63**	**311**	P		**P**	**16 23 50.2**	**+0.4**
FINES	**FINESS Array B**	**58.21**	**338**	P		**P**	**16 23 53.2**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=18,slow=8.6,SNR=3.8							
FINES				PcP		**PcP**	**16 24 45.5**	**+0.7**
	comp=Z,6.4nm,1.2s,baz=26,slow=5.9,SNR=1.7							
	comp=Z,1.2nm,0.8s							
BELG	**Belogornoye**	**59.92**	**321**	*i* P		**P**	**16 24 06.8**	**+1.2**
BELG				pmax	pmax			
	comp=Z,2.0nm,1.5s							
CMAR	**Chiang Mai Arr**	**61.20**	**260**	P		**P**	**16 24 15.1**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=19,slow=6.6,SNR=6.7							
CMAR				PcP		**PcP**	**16 24 57.9**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=12,slow=3.2,SNR=7.5							
	comp=Z,1.2nm,0.7s							
CMAR	**Chiang Mai Arr**	**61.20**	**260**	*i* P		**P**	**16 24 15.3**	**+0.5**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
NB2	**NORSAR Subarra**	**61.20**	**345**	P		P	16 24 21.1	+6.7
	comp=Z,5.3nm,1.1s,baz=15,slow=6.9							
NOA	**NORSAR Array B**	**61.20**	**345**	P		**P**	**16 24 14.2**	**-0.1**
	comp=Z,0.9nm,0.2s,baz=18,slow=6.9,SNR=5.4							
	comp=Z,0.9nm,0.2s							
HFS	**Hagfors**	**61.70**	**344**	P		**P**	**16 24 17.2**	**-0.5**
	comp=Z,3.7nm,1.1s,baz=91,slow=8.2,SNR=4.2							
	comp=Z,3.7nm,1.1s							
SCHQ	**Schefferville**	**61.73**	**31**	P		P	16 24 24.8	+6.8
	comp=Z,3.3nm,0.6s,baz=342,slow=7.0,SNR=6.2							
AKASG	**Malin Array Be**	**67.17**	**331**	P		**P**	**16 24 52.8**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=30,slow=6.2,SNR=8.7							
	comp=Z,0.2nm,0.3s							
TXAR	**Lajitas Array**	**67.22**	**71**	P		**P**	**16 24 55.6**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=306,slow=4.3,SNR=7.3							
	comp=Z,0.6nm,0.8s							
EKA	**Eskdalemuir Ar**	**68.37**	**352**	P		**P**	**16 25 01.1**	**+0.1**
	comp=Z,2.3nm,1.0s,baz=27,slow=5.6,SNR=7.0							
	comp=Z,2.3nm,1.0s							
KIV	**Kislovodsk**	**68.80**	**319**	*e*P		**P**	**16 25 01.2**	**-2.8**
KIV				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,24nm,17.0s							
KBZ	**Khabaz**	**68.92**	**318**	P		**P**	**16 25 05.7**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=90,slow=4.0,SNR=10							
	comp=Z,1.3nm,0.7s							
KBZ	**Khabaz**	**68.92**	**318**	*i* P		**P**	**16 25 03.4**	**-1.2**
KAPI	**Kappang**	**71.06**	**228**	P		**P**	**16 25 19.3**	**+1.2**
	comp=Z,17nm,0.4s,baz=68,slow=5.4,SNR=5.5							
BFO	**Black Forest**	**73.93**	**344**	*i* P		**P**	**16 25 33.8**	**-1.1**
BRTR	**Keskin Array B**	**75.72**	**323**	P		**P**	**16 25 45.3**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=45,slow=3.9,SNR=5.7							
	comp=Z,0.6nm,0.8s							
WRA	**Warramunga Arr**	**79.97**	**209**	P		**P**	**16 26 09.1**	**+0.1**
	comp=Z,1.4nm,1.0s,baz=21,slow=5.6,SNR=5.8							
	comp=Z,1.4nm,1.0s							
ASAR	**Alice Springs**	**83.63**	**208**	P		**P**	**16 26 27.9**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=19,slow=5.1,SNR=7.2							
	comp=Z,1.0nm,0.9s							
ASAR	**Alice Springs**	**83.63**	**208**	P		**P**	**16 26 28.0**	**-0.3**
ESDC	**Sonseca Array**	**83.98**	**351**	P		**P**	**16 26 30.7**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=360,slow=4.8,SNR=7.6							
	comp=Z,0.1nm,0.3s							
QSPA	**South Pole Qui**	**145.95**	**180**	PKPbc		**PKPdf**	**16 33 37.2**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=287,slow=3.8,SNR=3.2							

IDC ***05*** *16:16:08.6±1.1, 4.°53N×124.°98E, h0km, mb3.7/6, mbtmp3.8/7, MS3.0/2, Error ellipse: s-maj=53.1km s-min=16.9km az=79.0*

ISC 05 16:16:14.9±1.0, 4.°56N±0.°08×125.°1E±0.°3, h50km, n9, σ0§85/8, mb3.7/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC

DAV	**Davao City (W)**	**2.54**	**12**	Pn		**Pn**	**16 16 53.7**	**0.0**
	87nm,0.4s,baz=239,slow=23,SNR=4.3							
DAV				Sn		**Sn**	**16 17 23.2**	**-0.3**
	72nm,0.3s,baz=269,slow=23,SNR=5.8							
KAPI	**Kappang**	**10.89**	**209**	LR		LR	16 23 24.6	
	comp=Z,75nm,19.6s,baz=98,slow=40							
BATI	**Baumata**	**14.74**	**185**	LR		LR	16 25 19.7	
	comp=Z,73nm,19.5s,baz=108,slow=38							
FITZ	**Fitzroy Crossi**	**22.52**	**179**	P		**P**	**16 21 09.3**	**-1.4**
	1.0nm,0.7s,baz=5.7,slow=10,SNR=1.4							
	1.0nm,0.7s							
WRA	**Warramunga Arr**	**26.00**	**160**	P		**P**	**16 21 42.8**	**-0.6**
	4.2nm,1.0s,baz=341,slow=9.2,SNR=16							
	4.2nm,1.0s							
ASAR	**Alice Springs**	**29.35**	**163**	P		**P**	**16 22 14.1**	**+0.7**
	0.5nm,0.7s,baz=347,slow=6.6,SNR=8.4							
	0.5nm,0.7s							
STKA	**Stephens Creek**	**39.51**	**158**	P		**P**	**16 23 41.2**	**+0.3**
	2.5nm,0.8s,baz=340,slow=9.5,SNR=3.9							
	2.5nm,0.8s							
MKAR	**Makanchi Array**	**55.93**	**326**	P		**P**	**16 25 48.7**	**+0.7**
	0.3nm,0.7s,baz=120,slow=8.5,SNR=1.8							
	0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**60.15**	**328**	P		**P**	**16 26 17.0**	**-0.5**
	0.3nm,0.2s,baz=126,slow=6.3,SNR=2.1							
	0.3nm,0.2s							

TEH ***05*** *16:16:13.8, 34.°41N×45.°81E, h10km±545km*
ISN ***05*** *16:16:15.5±1.2, 34.°44N×45.°79E, h23km±30km, ML2.5*

ISC 05 16:16:14.3±1.2, 34.°43N±0.°05×45.°80E±0.°05, h12km±14km, n6, σ0§79/9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.19**	**293**	Pg		**Pg**	**16 16 18.0**	**-0.5**
KGS1				Sg		**Sg**	**16 16 22.1**	**+0.8**
GLG1	**Gilan-e-Gharb**	**0.33**	**164**	Pg		**Pg**	**16 16 20.1**	**-0.9**
IDHR	**Dehrash**	**0.55**	**61**	Pg		**Pg**	**16 16 24.6**	**-0.6**
IGHG	**Ghaleghazi**	**0.64**	**99**	Pg		**Pg**	**16 16 26.8**	**-0.1**
IBDR	**Badra**	**1.32**	**175**	*e*Pg		**Pb**	**16 16 39.0**	**-0.1**
	baz=355							
IBDR				*e*Sg		**Sg**	**16 16 58.0**	**+1.1**
IKRK	**Kirkuk**	**1.54**	**309**	*e*Pn		**Pb**	**16 16 43.0**	**+0.2**
IKRK				*e*Sn		**Sg**	**16 17 04.0**	**+0.1**
IKRK				AML	AML		16 17 20.0	
	comp=N,5.5nm,0.6s							

IDC ***05*** *16:19:31.5±0.5, 56.°21N×164.°38E, h0km, mb3.8/25, mbtmp3.9/28, ML4.0/2, MS3.4/19, Error ellipse: s-maj=17.0km s-min=11.1km az=150.0*
KRSC ***05*** *16:19:32.6±1.1, 56.°17N×164.°40E, h48km±18km, Mc4.8, Ml4.4*
NEIC ***05*** *16:19:33.9±2.8, 56.°3N±0.°1×164.°1E±0.°2, h10km±1km, mb4.2/32, Error ellipse: s-maj=31.3km s-min=13.1km az=139.0*
MOS ***05*** *16:19:34.6±0.8, 56.°19N×164.°38E, h33km, mb4.5/5, MS3.3/4, Error ellipse: s-maj=8.3km s-min=4.6km az=58.9*

ISC 05 16:19:34.2±0.4, 56.°17N±0.°04×164.°40E±0.°03, h16km, n189, σ1§47/168, mb4.1/42, MS3.4/17, 3C-2D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res

RUS	**Russkaya**	**5.09**	**225**	*e*P		**Pn**	**16 20 49.4**	**-0.4**
GRL	**Gorelyy**	**5.18**	**228**	PN		**Pn**	**16 20 52.2**	**+1.1**
GRL	**Gorelyy**	**5.18**	**228**	*e*P		**Pn**	**16 20 52.2**	**+1.1**
MTVR	**Mutnovka**	**5.19**	**227**	PN		**Pn**	**16 20 51.7**	**+0.5**
MTVR	**Mutnovka**	**5.19**	**227**	*e*P		**Pn**	**16 20 51.8**	**+0.5**
APC	**Apacha**	**5.33**	**235**	PN		**Pn**	**16 20 53.7**	**+0.8**
APC	**Apacha**	**5.33**	**235**	*e*P		**Pn**	**16 20 53.8**	**+0.8**
ASAK	**Asacha**	**5.38**	**228**	PN		**Pn**	**16 20 54.8**	**+1.1**
ASAK	**Asacha**	**5.38**	**228**	*e*P		**Pn**	**16 20 54.9**	**+1.1**
KMSK	**Kamenskaya**	**6.38**	**8**	PN		**Pn**	**16 21 07.3**	**-0.1**
KMSK	**Kamenskaya**	**6.38**	**8**	*e*P		**Pn**	**16 21 07.4**	**-0.1**
SKR	**Severo-Kuril's**	**7.39**	**225**	*e*PN		Pn	16 21 13.8	-7.6
SKR					MLR	MLR		
	comp=Z,500nm,14.0s							
MA2	**Magadan**	**8.03**	**301**	LR		LR	16 24 47.3	
	comp=Z,301nm,19.4s,baz=110,slow=40							
MA2	**Magadan**	**8.03**	**301**	*i* PN		Pn	16 21 40.1	+10
SEY	**Seymchan**	**9.11**	**323**	LR		LR	16 24 59.2	
	comp=Z,274nm,21.9s,baz=100,slow=36							
SEY	**Seymchan**	**9.11**	**323**	*i* PN		Pn	16 21 54.5	+10
BILL	**Bilibino**	**11.94**	**3**	*i* PN		Pn	16 22 33.6	+10
YSS	**Yuzhno-Sakhali**	**16.25**	**245**	Pn		**Pn**	**16 23 18.8**	**-2.8**
YSS					IAmb	IAmb	16 23 32.7	
	comp=Z,17nm,1.1s							
YSS	**Yuzhno-Sakhali**	**16.25**	**245**	*e*P		**P**	**16 23 27.7**	**+3.1**
YSS					pmax	pmax		
	comp=Z,10.0nm,1.0s							
YSS					MLR	MLR		
	comp=Z,300nm,14.0s							
M13K	**Dall Lake**	**17.36**	**63**	Pn		**Pn**	**16 23 35.4**	**-0.1**
JKA	**Kamikawa-asahi**	**18.36**	**238**			**Pn**	**16 23 47.6**	**-0.3**
ASAJ	**Asahikawa**	**18.36**	**238**	P		**Pn**	**16 23 47.6**	**-0.4**
ASAJ	comp=Z,0.4nm,0.3s,baz=87,slow=12,SNR=8.2				LR	LR	16 30 43.8	
	comp=Z,100nm,20.9s,baz=26,slow=37							
	comp=Z,8.6nm,0.8s							
ASAJ	**Asahikawa**	**18.36**	**238**	P		**Pn**	**16 23 47.6**	**-0.4**
ASAJ					pmax	pmax		
	comp=Z,44nm,1.1s							
YAK	**Yakutsk**	**18.60**	**303**	P		**Pn**	**16 23 51.1**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=134,slow=18,SNR=4.7							
YAK					LR	LR	16 31 06.9	
	comp=Z,83nm,21.0s,baz=82,slow=38							
	comp=Z,3.9nm,0.4s							
YAK	**Yakutsk**	**18.60**	**303**	*c*eP		**Pn**	**16 23 57.7**	**+7.1**
YAK					pmax	pmax		
	comp=Z,11nm,0.8s							
O15K	**Ungalikthiuk R**	**19.22**	**66**	P		**P**	**16 23 58.0**	**+0.8**
H17K	**Granite Mounta**	**19.35**	**49**	P		**P**	**16 23 59.8**	**+1.1**
E18K	**Tukpahlearik C**	**19.68**	**41**	P		**Pn**	**16 24 04.9**	**+1.2**
E18K					IAmb	IAmb	16 24 15.5	
	comp=Z,13nm,1.1s							
CHGN	**Chignik**	**20.51**	**74**	P		Pn	16 24 14.2	+0.7
J18K	**Innoko River**	**20.58**	**53**	P		**P**	**16 24 13.6**	**+1.6**
F19K	**Shaleruckik Mo**	**20.59**	**44**	P		**P**	**16 24 14.0**	**+1.9**
F19K					IAmb	IAmb	16 24 22.4	
	comp=Z,11nm,1.1s							
G19K	**Purcell Mounta**	**20.72**	**46**	P		Pn	16 24 16.1	+0.2
KLR	**Kul'dur**	**20.82**	**264**	LR		LR	16 31 43.6	
	comp=Z,54nm,20.3s,baz=67,slow=35							
E19K	**Redstone River**	**20.94**	**42**	P		**P**	**16 24 17.8**	**+1.9**
E19K					IAmb	IAmb	16 24 27.3	
	comp=Z,17nm,1.4s							
PLK4	**Peulik 4**	**21.28**	**70**			**P**	**16 24 20.5**	**+0.8**
ZEA	**Zeya**	**21.30**	**279**	*e*P		P	16 24 27.7	+7.8
ZEA				*e*			16 28 51.8	
ZEA					MLR	MLR		
	comp=E,100nm,14.0s							
ZEA					MLR	MLR		
	comp=N,100nm,12.0s							
ZEA					MLR	MLR		
	comp=Z,100nm,13.0s							
F20K	**Avaraart Lake**	**21.42**	**43**	P		**P**	**16 24 21.7**	**+0.7**
L19K	**White Mountain**	**21.43**	**57**	P		**P**	**16 24 22.9**	**+1.7**
TIXI	**Tiksi**	**21.50**	**330**	P		**P**	**16 24 22.0**	**+0.2**
	comp=Z,2.1nm,0.3s,baz=108,slow=9.8,SNR=2.1							
TIXI					LR	LR	16 33 36.4	
	comp=Z,111nm,18.9s,baz=145,slow=39							
	comp=Z,2.1nm,0.3s							
P18K	**Big Mountain,**	**21.52**	**65**			**P**	**16 24 25.1**	**+2.9**
P18K					IAmb	IAmb	16 24 35.1	
	comp=Z,10nm,1.1s							
JTM	**Tenmabayashi**	**21.66**	**235**	P		P	16 24 17.0	-6.8
IMAR	**Indian Mountai**	**22.05**	**47**	P		**P**	**16 24 29.7**	**+1.9**
HEH	**HeiHe**	**22.72**	**271**	*e*P		**P**	**16 24 35.9**	**+0.8**
E22K	**Anaktuvuk Pass**	**23.09**	**41**			**P**	**16 24 39.0**	**+0.2**
E22K					IAmb	IAmb	16 24 48.2	
	comp=Z,9.3nm,1.2s							
BPAW	**Bear Paw Mtn.**	**23.13**	**52**			**P**	**16 24 37.8**	**-1.4**
BPAW					IAmb	IAmb	16 24 48.8	
	comp=Z,14nm,1.5s							
KDAK	**Kodiak Island**	**23.21**	**68**	P		**P**	**16 24 40.3**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=297,slow=6.8,SNR=5.0							
KDAK					LR	LR	16 32 25.9	
	comp=Z,109nm,19.5s,baz=273,slow=33							
	comp=Z,2.6nm,0.7s							
MLY	**Manley**	**23.24**	**49**	P		**P**	**16 24 41.9**	**+1.5**
USRK	**Ussuriysk Ar.**	**23.72**	**253**	LR		LR	16 34 00.4	
	comp=Z,102nm,20.1s,baz=54,slow=37							
H23K	**Yukon River**	**23.76**	**47**	P		**P**	**16 24 46.8**	**+1.4**
H23K					IAmb	IAmb	16 25 27.8	
	comp=Z,6.2nm,1.1s							
E24K	**Your Creek**	**24.32**	**42**	IAmb		IAmb	16 25 12.4	
	comp=Z,7.1nm,0.9s							
D24K	**Happy Valley**	**24.33**	**39**	P		**P**	**16 24 51.3**	**+0.5**
WRH	**Wood River Hil**	**24.38**	**51**			**P**	**16 24 51.3**	**+0.1**
WRH					IAmb	IAmb	16 25 03.5	
	comp=Z,7.0nm,1.0s							
CCB	**Clear Creek Bu**	**24.50**	**50**	P		**P**	**16 24 50.9**	**-1.4**
CCB					IAmb	IAmb	16 25 04.4	
	comp=Z,5.4nm,0.8s							
DHY	**Denali Highway**	**24.81**	**54**			**P**	**16 24 55.3**	**0.0**
ILAR	**Eielson Array**	**24.89**	**50**	P		**P**	**16 24 56.0**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=266,slow=9.3,SNR=8.0							
ILAR					LR	LR	16 35 09.6	
	comp=Z,95nm,19.7s,baz=266,slow=38							
	comp=Z,1.1nm,0.9s							
D25K	**Kavik River**	**25.22**	**39**	P		**P**	**16 24 58.0**	**-0.8**
D25K					IAmb	IAmb	16 25 11.6	
	comp=Z,5.9nm,0.8s							
F25K	**Christian Rive**	**25.37**	**43**	IAmb		IAmb	16 25 29.9	
	comp=Z,6.3nm,1.2s							
E25K	**Arctic Village**	**25.42**	**42**	IAmb		IAmb	16 25 31.2	
	comp=Z,6.4nm,1.1s							
PRP	**Porcupine Dome**	**25.42**	**48**	IAmb		IAmb	16 25 12.8	
	comp=Z,4.1nm,0.8s							
BMAR	**Burnt Mountain**	**25.77**	**44**	P		**P**	**16 25 04.5**	**+0.7**
MJA0	**Matsu Arr-Jizo**	**26.40**	**233**	*e*P		**P**	**16 25 11.9**	**+2.1**
MJA0					pmax	pmax		
	comp=Z,5.0nm,0.9s							
MAJO	**Matsushiro**	**26.42**	**233**	P		**P**	**16 25 11.3**	**+1.4**
MAJO	**Matsushiro**	**26.42**	**233**	⇓ *i* P		**P**	**16 25 11.7**	**+1.8**
MAJO					pmax	pmax		
	comp=Z,5.0nm,0.8s							
MJAR	**Matsushiro Arr**	**26.42**	**233**	P		**P**	**16 25 10.2**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=29,slow=7.9,SNR=7.1							
	comp=Z,2.5nm,0.7s							
BERG	**Berg Lake**	**27.01**	**59**	P		**P**	**16 25 15.4**	**+0.4**
BCAR	**Beaver Creek A**	**27.33**	**53**			**P**	**16 25 17.6**	**-0.3**
M27K	**Edge Creek, AK**	**27.42**	**55**	P		**P**	**16 25 20.4**	**+1.5**
M27K					IAmb	IAmb	16 25 48.6	
	comp=Z,6.7nm,1.2s							
INK	**Inuvik**	**29.89**	**41**	LR		LR	16 37 16.4	
	comp=Z,77nm,19.6s,baz=258,slow=36							
JNU	**Nakatsue**	**32.64**	**239**	LR		LR	16 38 29.8	
	comp=Z,72nm,20.7s,baz=52,slow=35							
XLT	**XiLinHaoTe**	**32.69**	**269**	*e*P		**P**	**16 26 10.2**	**+4.6**
XLT				pP		pwP	16 26 15.1	+0.9
XLT				sP		sP	16 26 20.3	+9.4
XLT					pmax	pmax		
	comp=Z,68nm,3.2s							
XLT					LR	LR		
	comp=N,18nm,15.7s							
XLT					LR	LR		
	comp=E,240nm,16.6s							
XLT					LR	LR		
	comp=Z,230nm,11.5s							
DLBC	**Dease Lake**	**34.24**	**58**	LR		LR	16 40 41.2	
	comp=Z,17nm,18.9s,baz=292,slow=37							
NRIK	**Noril'sk**	**34.90**	**323**	LR		LR	16 41 21.4	
	comp=Z,97nm,18.7s,baz=63,slow=38							
ULN	**Ulaanbaatar**	**35.31**	**281**	⇓ *i* P		P	16 26 33.8	+5.4
ULN					pmax	pmax		
	comp=Z,5.0nm,1.6s							
SONM	**Songino Array**	**35.69**	**282**	P		**P**	**16 26 29.6**	**-2.0**
	comp=Z,0.7nm,0.4s,baz=66,slow=9.0,SNR=5.9							
	comp=Z,0.7nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**36.43**	**176**	T		T	17 05 23.8	
	baz=356,slow=74							
H11N3	**WAKE ISLAND Hy**	**36.45**	**176**	T		T	17 05 33.5	
	baz=356							
H11N1	**WAKE ISLAND Hy**	**36.45**	**176**	T		T	17 05 28.7	
	baz=356,slow=74							
BBB	**Bella Bella**	**38.27**	**67**	LR		LR	16 40 41.2	
	comp=Z,106nm,18.0s,baz=220,slow=33							
YKA	**Yellowknife Ar**	**39.21**	**47**	P		**P**	**16 27 01.0**	**0.0**
	comp=Z,0.6nm,0.7s,baz=292,slow=15,SNR=5.7							
	comp=Z,0.6nm,0.7s							
YKA	**Yellowknife Ar**	**39.21**	**47**	P		**P**	**16 27 01.0**	**0.0**
ZALV	**Zalesovo Beam**	**43.25**	**302**	LR		LR	16 47 40.5	
	comp=Z,52nm,18.7s,baz=16,slow=39							
SPITS	**Spitsbergen Ar**	**44.49**	**351**	P		**P**	**16 27 44.0**	**-0.1**
	comp=Z,8.4nm,0.8s,baz=101,slow=15,SNR=2.8							
	comp=Z,8.4nm,0.8s							
SPITS	**Spitsbergen Ar**	**44.49**	**351**	P		**P**	**16 27 44.0**	**-0.1**
GTA	**Gaotai**	**44.76**	**276**	*e*P		**P**	**16 27 51.4**	**+4.6**
GTA					pmax	pmax		
	comp=Z,2.0nm,1.3s							
GTA					LR	LR		
	comp=N,180nm,16.4s							
GTA					LR	LR		
	comp=E,190nm,17.8s							
GTA					LR	LR		
	comp=Z,130nm,16.0s							
NEW	**Newport**	**46.26**	**65**	LR		LR	16 48 49.4	
	comp=Z,62nm,18.1s,baz=322,slow=38							
KURK	**Kurchatov**	**48.24**	**302**	P		**P**	**16 28 13.8**	**0.0**
KURBB	**Kurchatov Arra**	**48.34**	**302**	P		**P**	**16 28 13.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=53,slow=7.8,SNR=6.9							
KURBB					LR	LR	16 50 01.5	
	comp=Z,87nm,18.9s,baz=169,slow=38							
	comp=Z,0.1nm,0.3s							
MK31	**Makanchi Array**	**49.08**	**296**	⇓ *i* P		P	16 28 25.7	+5.4
MKAR	**Makanchi Array**	**49.08**	**296**	P		**P**	**16 28 20.3**	**0.0**
	comp=Z,0.3nm,0.6s,baz=60,slow=7.0,SNR=5.3							
	comp=Z,0.3nm,0.6s							
BVAR	**Borovoye Array**	**50.43**	**309**	P		**P**	**16 28 30.5**	**0.0**
	comp=Z,0.5nm,0.6s,baz=54,slow=7.5,SNR=8.3							
	comp=Z,0.5nm,0.6s							
BRVK	**Borovoye**	**50.45**	**309**	*e*P		P	16 28 35.7	+5.0
BRVK					pmax	pmax		
	comp=Z,8.0nm,1.9s							
NVAR	**Mina Array Bea**	**52.43**	**75**	P		**P**	**16 28 45.0**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=308,slow=4.7,SNR=1.7							
	comp=Z,0.2nm,0.6s							
ARTI	**Arti**	**52.91**	**318**	*c i* P		P	16 28 55.6	+6.7
ARTI							16 30 53.0	
ARTI					S	S	16 36 28.1	+11
ARTI					pmax	pmax		
	comp=Z,6.0nm,1.1s							
PDAR	**Pinedale Array**	**53.89**	**65**	P		**P**	**16 28 56.5**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=341,slow=2.6,SNR=6.7							
	comp=Z,0.6nm,0.7s							
ULM	**Lac du Bonnet**	**54.90**	**51**	P		**P**	**16 29 02.7**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=313,slow=15,SNR=3.0							
	comp=Z,2.3nm,0.8s							
FINES	**FINESS Array B**	**58.24**	**338**	LR		LR	17 01 23.6	
	comp=Z,28nm,18.7s,baz=46,slow=43							
CMAR	**Chiang Mai Arr**	**61.23**	**260**	P		**P**	**16 29 48.7**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=19,slow=6.8,SNR=13							
	comp=Z,0.6nm,0.7s							
NOA	**NORSAR Array B**	**61.23**	**345**	P		**P**	**16 29 47.0**	**-0.8**
NOA	**NORSAR Array B**	**61.23**	**345**	P		**P**	**16 29 47.0**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=351,slow=7.5,SNR=2.2							
	comp=Z,1.3nm,0.3s							
NOA	**NORSAR Array B**	**61.23**	**345**	P		**P**	**16 29 47.0**	**-0.8**
JAY	**Jayapura**	**61.61**	**207**	P		**P**	**16 29 50.6**	**-0.2**
	comp=Z,9.8nm,1.0s,baz=3.6,slow=16,SNR=5.8							
	comp=Z,9.8nm,1.0s							
SCHQ	**Schefferville**	**61.73**	**31**	P		**P**	**16 29 50.8**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=9.5,slow=12,SNR=2.2							
	comp=Z,2.0nm,0.8s							
SADO	**Sadowa**	**66.15**	**44**	P		**P**	**16 30 20.2**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=193,slow=22,SNR=26							
	comp=Z,1.2nm,0.3s							
TXAR	**Lajitas Array**	**67.19**	**71**	P		**P**	**16 30 28.1**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=296,slow=3.8,SNR=7.9							
	comp=Z,0.5nm,0.7s							
AKASG	**Malin Array Be**	**67.20**	**331**	P		**P**	**16 30 26.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=29,slow=6.5,SNR=4.5							
	comp=Z,0.2nm,0.3s							
EKA	**Eskdalemuir Ar**	**68.39**	**352**	P		**P**	**16 30 32.4**	**-2.0**
	comp=Z,1.4nm,0.8s,baz=35,slow=3.1,SNR=4.6							
	comp=Z,1.4nm,0.8s							
GERES	**GERESS Array B**	**72.53**	**340**	P		**P**	**16 31 00.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=59,slow=8.0,SNR=5.3							
	comp=Z,0.1nm,0.3s							
WRA	**Warramunga Arr**	**79.96**	**209**	P		**P**	**16 31 42.1**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=20,slow=5.6,SNR=8.7							
	comp=Z,0.4nm,0.8s							
ASAR	**Alice Springs**	**83.63**	**208**	P		**P**	**16 32 02.1**	**+0.5**
	comp=Z,0.3nm,0.9s,baz=16,slow=4.5,SNR=4.8							
	comp=Z,0.3nm,0.9s							
ESDC	**Sonseca Array**	**84.01**	**351**	P		**P**	**16 32 02.7**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=352,slow=7.0,SNR=4.8							
	comp=Z,0.2nm,0.5s							
QSPA	**South Pole Qui**	**145.93**	**180**	PKPbc		**PKPdf**	**16 39 10.2**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=280,slow=1.9,SNR=6.1							

*KRSC **05** 16:21:25.2±1.4,56°.18N×164°.38E, h50km±18km, Ml4.1*
*IDC **05** 16:21:26.2±0.8,55°.93N×164°.68E, h0km, mb3.5/10, mbtmp3.5/12, ML3.6/1, MS3.5/2, Error ellipse: s-maj=29.4km s-min=15.9km az=150.0*

ISC 05 16:21:26.9±0.6, 56°.15N±0°.05×164°.35E±0°.05, h16km, n46, σ1§85/44, mb3.4/10, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.86**	**275**	*e*P	**Pb**	**16 21 41.1**	**-2.2**
KBTR				*e*S	**Sb**	**16 21 52.7**	**-1.9**
KBG	**Krutoberegovo**	**0.92**	**277**	*i* P	**Pb**	**16 21 42.8**	**-1.6**
KBG				*e*S	**Sb**	**16 21 55.2**	**-1.2**
BKI	**Bering**	**1.32**	**135**	*i* P	**Pg**	**16 21 49.2**	**-3.1**
BKI				*e*S	**Sg**	**16 22 06.1**	**-3.4**
SMKR	**Semkarok**	**1.66**	**286**	*e*P	**Pn**	**16 21 54.1**	**-1.2**
ZLN	**Zelenaya**	**1.99**	**268**	*e*P	**Pn**	**16 22 00.3**	**+0.4**
CIRR	**Tsirk**	**2.01**	**271**	*e*P	**Pn**	**16 21 59.9**	**-0.4**
KLY	**Klyuchi**	**2.07**	**276**	*e*P	**Pn**	**16 21 59.2**	**-1.7**
KLY				*e*S	**Sn**	**16 22 23.4**	**-2.9**
MKZ	**Mys Kozlova**	**2.19**	**224**	*e*P	**Pn**	**16 22 01.6**	**-0.9**
KIRR	**Kirishev**	**2.25**	**267**	*e*P	**Pn**	**16 22 04.8**	**+1.2**
KMNR	**Kamenistaya**	**2.34**	**262**	*e*P	**Pn**	**16 22 05.9**	**+1.1**
KOZ	**Kozyrevsk**	**2.51**	**270**	*e*P	**Pn**	**16 22 06.3**	**-0.6**
SRDR	**Sredinnyy**	**2.59**	**276**	*e*P	**Pn**	**16 22 08.9**	**+0.8**
OSSR	**Ossora**	**3.19**	**348**	*e*S	**Sn**	**16 22 50.1**	**-3.7**
SPN	**Mys Shipunski**	**3.96**	**221**	*e*S	**Sn**	**16 23 09.0**	**-3.9**
SDLR	**Sedlovina**	**4.28**	**230**	*e*P	**Pn**	**16 22 31.8**	**+0.5**
KRER	**Koryakskii**	**4.32**	**231**	*e*P	**Pn**	**16 22 33.4**	**+1.4**
KRX	**Arik**	**4.32**	**232**	*e*P	**Pn**	**16 22 32.5**	**+0.5**
SMAR	**Somma**	**4.32**	**230**	*e*P	**Pn**	**16 22 32.5**	**+0.4**
AVH	**Avracha**	**4.35**	**231**	*e*P	**Pn**	**16 22 34.0**	**+1.7**
UGLR	**Uglovaya**	**4.35**	**230**	*e*P	**Pn**	**16 22 33.1**	**+0.7**
KOK	**Koryaka**	**4.38**	**232**	*e*P	**Pn**	**16 22 34.7**	**+2.0**
GNL	**Ganaly**	**4.44**	**239**	*e*P	**Pn**	**16 22 34.2**	**+0.6**
DALK	**Dalny**	**4.51**	**228**	*e*P	**Pn**	**16 22 35.3**	**+0.9**
PET	**Petropavlovsk**	**4.56**	**229**	*e*P	**Pn**	**16 22 34.8**	**-0.3**
KRMR	**Karymshinskiy**	**4.92**	**230**	*e*P	**Pn**	**16 22 42.2**	**+2.1**
PETK	**Petropavlovsk-**	**4.92**	**234**	Pn	**Pn**	**16 22 41.2**	**+1.1**
	6.2nm,0.8s,baz=57,slow=9.5,SNR=0.8						
PETK				Sn	**Sn**	**16 23 38.2**	**+1.7**
	baz=66,slow=18						
GRL	**Gorelyy**	**5.14**	**228**	*e*P	**Pn**	**16 22 45.0**	**+1.7**
MTVR	**Mutnovka**	**5.15**	**227**	*e*P	**Pn**	**16 22 44.6**	**+1.3**
ASAK	**Asacha**	**5.34**	**228**	*e*P	**Pn**	**16 22 47.3**	**+1.4**
ASAJ	**Asahikawa**	**18.32**	**238**	P	**Pn**	**16 25 41.3**	**+1.2**
	0.4nm,0.3s,baz=27,slow=4.9,SNR=4.0						
	4.6nm,0.7s						
ILAR	**Eielson Array**	**24.93**	**50**	P	**P**	**16 26 50.5**	**+1.6**
	0.6nm,0.8s,baz=262,slow=10,SNR=1.2						
	0.6nm,0.8s						
MJAR	**Matsushiro Arr**	**26.38**	**233**	P	**P**	**16 27 02.7**	**+0.5**
	0.6nm,0.5s,baz=23,slow=9.0,SNR=5.5						
	0.6nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**36.41**	**176**	T	T	17 07 15.7	
	baz=357,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**36.42**	**176**	T	T	17 07 21.9	
	baz=357,slow=76,SNR=87						
H11N1	**WAKE ISLAND Hy**	**36.43**	**176**	T	T	17 07 23.3	
	baz=357,slow=76,SNR=16						
YKA	**Yellowknife Ar**	**39.25**	**46**	P	**P**	**16 28 56.3**	**+2.2**
	0.3nm,0.7s,baz=300,slow=16,SNR=4.4						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**48.33**	**302**	P	P	16 30 11.3	+4.2
	1.7nm,1.1s,baz=50,slow=9.1,SNR=4.6						
	1.7nm,1.1s						
MKAR	**Makanchi Array**	**49.06**	**296**	P	**P**	**16 30 16.2**	**+3.3**
	0.2nm,0.6s,baz=56,slow=7.8,SNR=2.0						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**50.42**	**309**	P	P	16 30 27.4	+4.3
	0.5nm,0.7s,baz=61,slow=9.3,SNR=4.0						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**53.93**	**65**	P	**P**	**16 30 50.4**	**+0.8**
	0.1nm,0.3s,baz=271,slow=3.8,SNR=2.3						
	0.1nm,0.3s						
KIRV	**Kirov**	**54.38**	**324**	LR	LR	16 55 27.6	
	comp=Z,50nm,19.7s,baz=32,slow=37						
BELG	**Belogornoye**	**59.95**	**321**	LR	LR	17 00 26.8	
	comp=Z,39nm,19.0s,baz=52,slow=39						
TXAR	**Lajitas Array**	**67.23**	**71**	P	**P**	**16 32 20.4**	**0.0**
	0.2nm,0.6s,baz=298,slow=4.6,SNR=6.2						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**79.93**	**209**	P	**P**	**16 33 37.2**	**+2.4**
	0.3nm,0.9s,baz=24,slow=5.8,SNR=4.7						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**83.59**	**208**	P	**P**	**16 33 56.0**	**+1.9**
	0.6nm,1.0s,baz=17,slow=4.6,SNR=6.1						
	0.6nm,1.0s						
QSPA	**South Pole Qui**	**145.90**	**180**	PKPbc	**PKiKP**	**16 41 05.7**	**-1.7**
	1.9nm,0.8s,baz=330,slow=2.8,SNR=6.9						

*IDC **05** 16:22:21.8±2.0, 9°.72S×119°.53E, h0km, mb3.4/1, mbtmp3.4/6, ML3.3/5, Error ellipse: s-maj=50.7km s-min=22.7km az=50.0*
*DJA **05** 16:22:26.3±0.5, 10°.5±5°×12°.0E±°, h28km±6km, M3.5/1, MLv3.6/8, MLv3.5/1*

ISC 05 16:22:26.4±0.8, 9°.59S±0°.05×119°.77E±0°.04, h35km, n26, σ2§00/29, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.38**	**262**	P	**Pn**	**16 22 35.8**	**+0.3**
WSI	**Waingapu**	**0.52**	**99**	P	**Pn**	**16 22 38.0**	**+0.6**
BASI	**Baing, Sumba**	**1.01**	**128**	P	**Pn**	**16 22 45.0**	**+0.9**
EDFI	**Ende, Flores**	**2.07**	**66**	P	**Pn**	**16 22 58.4**	**-0.4**
PLAI	**Plampang**	**2.11**	**291**	P	**Pn**	**16 23 00.1**	**+0.8**
PLAI	**Plampang**	**2.11**	**291**	P	**Pn**	**16 23 00.1**	**+0.8**
PLAI				S	**Sn**	**16 23 24.2**	**-0.2**
MMRI	**Maumere**	**2.61**	**69**	P	**Pn**	**16 23 06.1**	**-0.1**
MMRI	**Maumere**	**2.61**	**69**	S	**Sn**	**16 23 36.4**	**-0.3**
MMRI	**Maumere**	**2.61**	**69**	P	**Pn**	**16 23 05.8**	**-0.4**
MMRI				S	**Sn**	**16 23 35.5**	**-1.2**
TWSI	**Taliwang, Sumb**	**2.98**	**286**	P	**Pn**	**16 23 12.7**	**+1.5**
BSSI	**Bau Bau, Buton**	**3.50**	**12**	P	**Pn**	**16 23 17.6**	**-0.8**
BSSI				S	**Sn**	**16 23 57.9**	**-0.7**
BATI	**Baumata**	**3.88**	**99**	Pn	**Pn**	**16 23 27.2**	**+3.6**
	5.4nm,0.3s,baz=278,slow=9.7,SNR=4.0						
BATI					**Sn**	**16 24 13.8**	**+5.7**
	3.7nm,0.3s,baz=255,slow=20,SNR=1.6						
	14nm,0.3s						
BATI	**Baumata**	**3.88**	**99**	P	**Pn**	**16 23 26.4**	**+2.7**
SOEI	**Soe**	**4.43**	**93**	P	**Pn**	**16 23 34.5**	**+3.1**
KAPI	**Kappang**	**4.54**	**360**	Pn	**Pn**	**16 23 34.3**	**+1.5**
	2.8nm,0.3s,baz=185,slow=11,SNR=4.1						
KAPI					**Sn**	**16 24 25.1**	**+0.7**
	3.1nm,0.3s,baz=201,sl

NLC	**Nalytchevo**	**4.22**	**226**	*e*P		**Pn**		**16 49 23.3**	**+1.1**
SDLR	**Sedlovina**	**4.33**	**230**	PN		**Pn**		**16 49 24.8**	**+0.9**
SDLR	**Sedlovina**	**4.33**	**230**	*e*P		**Pn**		**16 49 24.9**	**+0.9**
TILK	**Tilichiki**	**4.35**	**12**	PN		**Pn**		**16 49 25.1**	**+1.1**
TILK	**Tilichiki**	**4.35**	**12**	*e*P		**Pn**		**16 49 25.2**	**+1.1**
KRER	**Koryakskii**	**4.37**	**231**	PN		**Pn**		**16 49 25.9**	**+1.3**
KRER	**Koryakskii**	**4.37**	**231**	*e*P		**Pn**		**16 49 25.9**	**+1.3**
KRX	**Arik**	**4.38**	**232**	PN		**Pn**		**16 49 25.6**	**+1.0**
KRX	**Arik**	**4.38**	**232**	*e*P		**Pn**		**16 49 25.7**	**+1.0**
SMAR	**Somma**	**4.38**	**230**	PN		**Pn**		**16 49 25.2**	**+0.6**
SMAR	**Somma**	**4.38**	**230**	*e*P		**Pn**		**16 49 25.3**	**+0.6**
AVH	**Avacha**	**4.40**	**230**	PN		**Pn**		**16 49 25.9**	**+1.0**
AVH	**Avacha**	**4.40**	**230**	*e*P		**Pn**		**16 49 25.9**	**+1.0**
UGLR	**Uglovaya**	**4.41**	**229**	PN		**Pn**		**16 49 25.9**	**+0.9**
UGLR	**Uglovaya**	**4.41**	**229**	*e*P		**Pn**		**16 49 25.9**	**+0.9**
KOK	**Koryaka**	**4.43**	**231**	PN		**Pn**		**16 49 26.1**	**+0.8**
KOK	**Koryaka**	**4.43**	**231**	*e*P		**Pn**		**16 49 26.1**	**+0.8**
GNL	**Ganaly**	**4.49**	**239**	PN		**Pn**		**16 49 27.3**	**+1.3**
GNL	**Ganaly**	**4.49**	**239**	*e*P		**Pn**		**16 49 27.4**	**+1.3**
DALK	**Dalny**	**4.56**	**228**	PN		**Pn**		**16 49 27.4**	**+0.4**
DALK	**Dalny**	**4.56**	**228**	*e*P		**Pn**		**16 49 27.5**	**+0.4**
INSR	**Institute**	**4.60**	**229**	PN		**Pn**		**16 49 29.8**	**+2.3**
INSR	**Institute**	**4.60**	**229**	*e*P		**Pn**		**16 49 29.9**	**+2.3**
PET	**Petropavlovsk**	**4.61**	**229**			**Pn**		**16 49 28.2**	**+0.5**
PET	**Petropavlovsk**	**4.61**	**229**	*e*PN		**Pn**		**16 49 27.8**	**+0.2**
PET				pmax	pmax				
	comp=Z,76nm,0.6s								
PET				MLR	MLR				
	comp=Z,300nm,10.0s								
PET	**Petropavlovsk**	**4.61**	**229**	*e*P		**Pn**		**16 49 28.4**	**+0.7**
PEA0B	**Petropavlovsk-**	**4.97**	**234**			**Pn**		**16 49 34.0**	**+1.3**
PEA0B	**Petropavlovsk-**	**4.97**	**234**	*e*PN		**Pn**		**16 49 33.9**	**+1.3**
PETK	**Petropavlovsk-**	**4.97**	**234**			**Pn**		**16 49 33.7**	**+1.1**
PETK	**Petropavlovsk-**	**4.97**	**234**	Pn		**Pn**		**16 49 33.1**	**+0.5**
	comp=Z,4.3nm,0.4s,baz=60,slow=17,SNR=34								
PETK				Sn		**Sn**		**16 50 31.3**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=80,slow=24,SNR=4.1								
PETK	**Petropavlovsk-**	**4.97**	**234**	PN		**Pn**		**16 49 33.7**	**+1.1**
KRMR	**Karymshinskiy**	**4.97**	**230**	PN		**Pn**		**16 49 34.0**	**+1.4**
KRMR	**Karymshinskiy**	**4.97**	**230**	*e*P		**Pn**		**16 49 34.1**	**+1.4**
RUS	**Russkaya**	**5.11**	**225**	PN		**Pn**		**16 49 34.9**	**+0.4**
RUS	**Russkaya**	**5.11**	**225**	*i* P		**Pn**		**16 49 34.9**	**+0.4**
GRL	**Gorelyy**	**5.20**	**228**	PN		**Pn**		**16 49 37.8**	**+2.0**
GRL	**Gorelyy**	**5.20**	**228**	*e*P		**Pn**		**16 49 37.9**	**+2.0**
MTVR	**Mutnovka**	**5.20**	**227**	PN		**Pn**		**16 49 37.3**	**+1.4**
MTVR	**Mutnovka**	**5.20**	**227**	*e*P		**Pn**		**16 49 37.3**	**+1.4**
APC	**Apacha**	**5.34**	**235**	PN		**Pn**		**16 49 39.0**	**+1.4**
APC	**Apacha**	**5.34**	**235**	*e*P		**Pn**		**16 49 39.0**	**+1.4**
ASAK	**Asacha**	**5.39**	**227**	PN		**Pn**		**16 49 40.2**	**+1.7**
ASAK	**Asacha**	**5.39**	**227**	*e*P		**Pn**		**16 49 40.3**	**+1.7**
MIPR	**Malaya Ipel'ka**	**5.96**	**232**	PN		**Pn**		**16 49 48.0**	**+1.9**
MIPR	**Malaya Ipel'ka**	**5.96**	**232**	*e*P		**Pn**		**16 49 48.1**	**+1.9**
PAU	**Pauzhetka**	**6.53**	**227**	PN		**Pn**		**16 49 54.9**	**+1.0**
PAU	**Pauzhetka**	**6.53**	**227**	*e*P		**Pn**		**16 49 54.9**	**+1.0**
SKR	**Severo-Kuril's**	**7.41**	**225**	*e*PN		Pn		16 50 00.0	-6.1
SKR				MLR	MLR				
	comp=Z,300nm,19.0s								
MA2	**Magadan**	**8.00**	**301**	Pn		**Pn**		**16 50 14.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=113,slow=13,SNR=2.5								
MA2				LR		LR		16 53 32.4	
	comp=Z,206nm,20.0s,baz=112,slow=40								
	comp=Z,3.9nm,0.8s								
BILL	**Bilibino**	**11.91**	**3**	*ce*PN		**Pn**		**16 51 10.7**	**+3.1**
BILL				pmax	pmax				
	comp=Z,4.0nm,1.0s								
TYV	**Tymovskoe**	**13.96**	**257**	*e*P		**Pn**		**16 51 36.9**	**+1.3**
TYV				*e*S		**Sn**		**16 54 10.9**	**-0.2**
TYV				pmax	pmax				
	comp=Z,10.0nm,1.4s								
TYV				pmax	pmax				
	comp=Z,100nm,3.2s								
TYV				smax	smax				
	comp=N,200nm,4.8s								
TYV				smax	smax				
	comp=N,5.0nm,1.7s								
TYV				smax	smax				
	comp=E,11nm,1.7s								
YSS	**Yuzhno-Sakhali**	**16.26**	**244**	*e*P		**Pn**		**16 52 07.4**	**+1.1**
YSS				pmax	pmax				
	comp=Z,10.0nm,1.0s								
YSS				MLR	MLR				
	comp=Z,100nm,11.0s								
JKA	**Kamikawa-asahi**	**18.37**	**238**			**Pn**		**16 52 30.7**	**-2.1**
JKA				IAmb	IAmb			16 52 41.1	
	comp=Z,31nm,1.0s								
ASAJ	**Asahikawa**	**18.38**	**238**	P		**Pn**		**16 52 32.1**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=18,slow=7.0,SNR=15								
	comp=Z,20nm,0.9s								
ASAJ	**Asahikawa**	**18.38**	**238**	P		**Pn**		**16 52 30.7**	**-2.1**
ASAJ				pmax	pmax				
	comp=Z,31nm,1.0s								
YAK	**Yakutsk**	**18.57**	**303**			**P**		**16 52 34.4**	**-0.4**
YAK				IAmb	IAmb			16 52 36.8	
	comp=Z,21nm,0.8s								
YAK	**Yakutsk**	**18.57**	**303**	P		**P**		**16 52 34.5**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=89,slow=4.0,SNR=10								
YAK				LR	LR			17 00 02.3	
	comp=Z,90nm,18.8s,baz=87,slow=38								
	comp=Z,16nm,0.6s								
YAK	**Yakutsk**	**18.57**	**303**	*e*P		**P**		**16 52 34.5**	**-0.4**
YAK				pmax	pmax				
	comp=Z,16nm,0.9s								
YAK				pmax	pmax				
	comp=N,3.0nm,1.0s								
YAK				pmax	pmax				
	comp=E,7.0nm,1.0s								
CNBA	**Chernabura Isl**	**20.30**	**79**	P		**P**		**16 52 55.0**	**+1.2**
F19K	**Shaleruckim Mo**	**20.57**	**44**	P		**P**		**16 52 57.9**	**+1.2**
F19K				IAmb	IAmb			16 53 08.0	
	comp=Z,13nm,1.1s								
KLR	**Kul'dur**	**20.82**	**264**	P		**P**		**16 52 58.2**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=41,slow=16,SNR=4.5								
KLR				LR	LR			17 00 56.0	
	comp=Z,67nm,18.9s,baz=65,slow=37								
	comp=Z,1.8nm,0.7s								
E19K	**Redstone River**	**20.92**	**42**	P		**P**		**16 53 00.7**	**+0.2**
PLK4	**Peulik 4**	**21.27**	**70**			**P**		**16 53 07.0**	**+2.5**
PLK4				IAmb	IAmb			16 53 15.6	
	comp=Z,20nm,1.1s								
ZEA	**Zeya**	**21.29**	**279**	*e*P		**P**		**16 53 03.7**	**-0.9**
ZEA				*e*				16 57 03.0	
ZEA				pmax	pmax				
	comp=Z,10.0nm,0.8s								
ZEA				MLR	MLR				
	comp=Z,100nm,9.0s								
TIXI	**Tiksi**	**21.46**	**330**	P		**P**		**16 53 04.3**	**-1.9**
	comp=Z,2.3nm,0.3s,baz=126,slow=8.5,SNR=7.4								
TIXI				LR	LR			17 02 20.7	
	comp=Z,90nm,18.8s,baz=134,slow=40								
	comp=Z,2.3nm,0.3s								
TIXI	**Tiksi**	**21.46**	**330**	*e*P		**P**		**16 53 07.8**	**+1.5**
TIXI				pmax	pmax				
	comp=Z,8.0nm,0.8s								
IMAR	**Indian Mountai**	**22.03**	**47**	P		**P**		**16 53 13.2**	**+0.8**
F21K	**Alatna River**	**22.30**	**44**	P		**P**		**16 53 11.4**	**-3.9**
H21K	**Melozitna Rive**	**22.39**	**48**	P		**P**		**16 53 14.6**	**-1.7**
B21K	**Ikpikpuk River**	**22.41**	**37**	P		**P**		**16 53 13.6**	**-2.8**
B21K				IAmb	IAmb			16 53 27.1	
	comp=Z,17nm,1.1s								
HEH	**HeiHe**	**22.71**	**270**	*e*P		**P**		**16 53 16.0**	**-3.8**
HEH				LR	LR				
	comp=N,130nm,12.7s								
HEH				LR	LR				
	comp=E,140nm,13.6s								
HEH				LR	LR				
	comp=Z,200nm,11.8s								
MLY	**Manley**	**23.22**	**49**	P		**P**		**16 53 22.9**	**-2.2**
TRF	**Thorofare Moun**	**23.45**	**53**			**P**		**16 53 27.7**	**+0.2**
TRF				IAmb	IAmb			16 53 39.7	
	comp=Z,7.3nm,1.0s								
USRK	**Ussuriysk Ar.**	**23.72**	**253**	P		**P**		**16 53 30.8**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=36,slow=10,SNR=4.4								
	comp=Z,1.3nm,0.7s								
E23K	**Chandalar**	**23.88**	**42**	IAmb		IAmb		16 53 41.9	
	comp=Z,8.5nm,0.8s								
TOLK	**Toolik Lake Re**	**23.97**	**40**	P		**P**		**16 53 32.0**	**-0.5**
TOLK				IAmb	IAmb			16 53 42.5	
	comp=Z,6.5nm,0.8s								
E24K	**Your Creek**	**24.30**	**42**	IAmb		IAmb		16 53 45.5	
	comp=Z,9.4nm,0.8s								
D24K	**Happy Valley**	**24.31**	**39**			**P**		**16 53 35.6**	**+0.1**
D24K				IAmb	IAmb			16 53 45.6	
	comp=Z,6.7nm,0.8s								
WRH	**Wood River Hil**	**24.37**	**51**			**P**		**16 53 37.4**	**+1.3**
WRH				IAmb	IAmb			16 53 45.6	
	comp=Z,8.6nm,1.0s								
C24K	**Franklin Bluff**	**24.45**	**38**	P		**P**		**16 53 38.3**	**+1.5**
C24K				IAmb	IAmb			16 53 46.2	
	comp=Z,11nm,0.9s								
CCB	**Clear Creek Bu**	**24.48**	**50**	P		**P**		**16 53 36.4**	**-0.7**
CCB				IAmb	IAmb			16 53 57.6	
	comp=Z,8.6nm,1.2s								
DHY	**Denali Highway**	**24.79**	**54**			**P**		**16 53 39.6**	**-0.5**
ILAR	**Eielson Array**	**24.87**	**50**	P		**P**		**16 53 40.8**	**+0.2**
	comp=Z,11nm,0.9s,baz=267,slow=8.1,SNR=9.4								
	comp=Z,1.1nm,0.9s								
SCM	**Sheep Creek Mo**	**24.98**	**57**	IAmb		IAmb		16 54 03.9	
	comp=Z,13nm,1.0s								
D25K	**Kavik River**	**25.20**	**39**	IAmb		IAmb		16 53 53.9	
	comp=Z,6.2nm,0.9s								
E25K	**Arctic Village**	**25.40**	**42**	IAmb		IAmb		16 53 56.3	
	comp=Z,8.5nm,1.1s								
BMAR	**Burnt Mountain**	**25.75**	**44**	P		**P**		**16 53 50.4**	**+1.7**
MJA0	**Matsu Arr-Jizo**	**26.41**	**233**	*e*P		**P**		**16 53 55.5**	**+0.6**
MJA0				pmax	pmax				
	comp=Z,9.0nm,1.0s								
MJB9	**Matsu-Tunnel**	**26.43**	**233**	P		**P**		**16 53 55.0**	**0.0**
MAJO	**Matsushiro**	**26.43**	**233**			**P**		**16 53 55.2**	**+0.2**
MAJO	**Matsushiro**	**26.43**	**233**	*i* P		**P**		**16 53 55.1**	**+0.1**
MAJO				pmax	pmax				
	comp=Z,13nm,0.9s								
MJAR	**Matsushiro Arr**	**26.43**	**233**			**P**		**16 53 54.2**	**-0.8**
MJAR				IAmb	IAmb			16 54 03.5	
	comp=Z,13nm,1.3s								
MJAR	**Matsushiro Arr**	**26.43**	**233**	P		**P**		**16 53 54.5**	**-0.5**
	comp=Z,8.8nm,1.0s,baz=15,slow=8.6,SNR=12								
MJAR				LR		LR		17 05 12.9	
	comp=Z,49nm,18.4s,baz=102,slow=38								
	comp=Z,8.8nm,1.0s								
MJAR	**Matsushiro Arr**	**26.43**	**233**	P		**P**		**16 53 54.2**	**-0.8**
MJAR				pmax	pmax				
	comp=Z,13nm,1.3s								
K27K	**Chicken**	**27.02**	**51**	IAmb		IAmb		16 54 09.3	
	comp=Z,5.0nm,0.9s								
D27M	**Malcolm River**	**27.12**	**40**	P		**P**		**16 54 00.9**	**-0.1**
D27M				IAmb	IAmb			16 54 10.5	
	comp=Z,4.5nm,0.8s								
BCAR	**Beaver Creek A**	**27.31**	**53**			**P**		**16 54 03.2**	**+0.4**
G29M	**Pine Creek**	**28.33**	**45**	IAmb		IAmb		16 54 22.1	
	comp=Z,4.8nm,0.8s								
INK	**Inuvik**	**29.88**	**41**	P		**P**		**16 54 26.1**	**+0.7**
	comp=Z,4.4nm,0.3s,baz=329,slow=5.9,SNR=2.7								
	comp=Z,4.4nm,0.3s								
KSRS	**Korea Array**	**30.70**	**248**	P		**P**		**16 54 31.9**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=46,slow=8.9,SNR=4.9								
KSRS				PcP		**PcP**		**16 57 30.8**	**0.0**
	comp=Z,0.2nm,0.7s,baz=29,slow=2.9,SNR=5.1								
	comp=Z,0.5nm,0.5s								
M31M	**Drury Creek, Y**	**30.84**	**53**	IAmb		IAmb		16 54 45.1	
	comp=Z,5.5nm,1.2s								
XLT	**XiLinHaoTe**	**32.68**	**269**	*e*P		**P**		**16 54 49.6**	**-0.9**
XLT				pP				16 54 59.1	
XLT				sP				16 55 05.0	
XLT				pmax	pmax				
	comp=Z,4.0nm,0.8s								
XLT				pmax	pmax				
	comp=Z,130nm,5.4s								
DLBC	**Dease Lake**	**34.23**	**58**	P		**P**		**16 55 04.5**	**+0.7**
	comp=Z,0.1nm,0.8s,baz=281,slow=11,SNR=4.5								
NRIK	**Noril'sk**	**34.87**	**323**	LR		LR		17 09 42.5	
	comp=Z,50nm,21.8s,baz=94,slow=37								
ULN	**Ulaanbaatar**	**35.30**	**281**	*ce*P		**P**		**16 55 11.9**	**-1.3**
ULN				pmax	pmax				
	comp=Z,3.0nm,0.8s								
SONM	**Songino Array**	**35.67**	**282**	P		**P**		**16 55 15.5**	**-1.0**
	comp=Z,2.8nm,0.8s,baz=61,slow=8.4,SNR=11								
SONM				PcP		**PcP**		**16 57 44.4**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=79,slow=2.4,SNR=3.6								
SONM				LR		LR		17 11 24.2	
	comp=Z,89nm,18.5s,baz=46,slow=39								
	comp=Z,2.8nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**36.47**	**176**	T		T		17 34 11.6	
	baz=357,slow=76,SNR=1382								
H11N3	**WAKE ISLAND Hy**	**36.48**	**176**	T		T		17 34 16.4	
	baz=357,slow=76,SNR=653								
H11N1	**WAKE ISLAND Hy**	**36.48**	**176**	T		T		17 34 14.2	
	baz=357,slow=76,SNR=545								
HHC	**Hu-ho-hao-te**	**37.20**	**268**	*e*P		**P**		**16 55 28.6**	**-1.0**
HHC				pmax	pmax				
	comp=Z,13nm,0.6s								
HHC				pmax	pmax				
	comp=Z,91nm,4.0s								
HHC				LR	LR				
	comp=N,87nm,11.5s								
HHC				LR	LR				
	comp=E,140nm,11.8s								
HHC				LR	LR				
	comp=Z,93nm,15.1s								
H11S1	**WAKE ISLAND Hy**	**37.67**	**176**	T		T		17 35 36.5	
	baz=7.7,slow=71,SNR=15								
H11S3	**WAKE ISLAND Hy**	**37.69**	**176**	T		T		17 35 35.7	
	baz=7.7,slow=71,SNR=14								
H11S2	**WAKE ISLAND Hy**	**37.69**	**176**	T		T		17 35 48.5	
	baz=7.7,slow=71								
YKA	**Yellowknife Ar**	**39.19**	**47**	P		**P**		**16 55 46.8**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=301,slow=8.3,SNR=5.4								
	comp=Z,1.3nm,0.8s								
RES	**Resolute Bay**	**39.48**	**24**	P		**P**		**16 55 48.9**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=316,slow=7.5,SNR=4.2								
	comp=Z,2.9nm,0.9s								
ZALV	**Zalesovo Beam**	**43.22**	**302**	PcP		**PcP**		**16 58 08.0**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=46,slow=4.3,SNR=3.6								
SPITS	**Spitsbergen Ar**	**44.46**	**351**	P		**P**		**16 56 29.4**	**+0.5**
	comp=Z,16nm,0.9s,baz=120,slow=12,SNR=4.8								
	comp=Z,16nm,0.9s								
GTA	**Gaotai**	**44.74**	**276**	P		**P**		**16 56 30.7**	**-1.0**
GTA				sP				16 56 37.7	
GTA				pmax	pmax				
	comp=Z,5.0nm,1.0s								
GTA				LR	LR				
	comp=N,170nm,16.7s								
GTA				LR	LR				
	comp=E,120nm,16.4s								
GTA				LR	LR				
	comp=Z,130nm,14.5s								
LZH	**Lanzhou**	**44.85**	**270**	*e*P		**P**		**16 56 34.5**	**+1.8**
LZH				pP				16 56 40.3	
LZH				pmax	pmax				
	comp=Z,20nm,1.1s								
LZH				LR	LR				
	comp=N,240nm,16.5s								
LZH				LR	LR				
	comp=E,300nm,15.8s								
LZH				LR	LR				
	comp=Z,420nm,18.4s								
BLKN	**Baker Lake**	**45.11**	**37**			**P**		**16 56 32.7**	**-1.4**
NEW	**Newport**	**46.25**	**65**	LR		LR		17 15 54.3	
	comp=Z,53nm,18.0s,baz=312,slow=36								
KURK	**Kurchatov**	**48.21**	**302**	*ce*P		**P**		**16 56 57.6**	**-1.0**
KURK				pmax	pmax				
	comp=Z,3.0nm,1.0s								
KURBB	**Kurchatov Arra**	**48.32**	**302**	P		**P**		**16 56 57.8**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=56,slow=8.0,SNR=11								
	comp=Z,1.2nm,0.7s								
MK31	**Makanchi Array**	**49.05**	**296**	*c* *i* P		**P**		**16 57 04.3**	**-0.9**
MKAR	**Makanchi Array**	**49.05**	**296**	P		**P**		**16 57 03.6**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=54,slow=6.2,SNR=12								
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**49.05**	**296**	*e*P		**P**		**16 57 04.1**	**-1.1**
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
BPMT	**Black Pine Rid**	**49.33**	**65**	P		**P**		**16 57 08.3**	**+0.7**
BVAR	**Borovoye Array**	**50.41**	**309**	P		**P**		**16 57 15.1**	**-0.3**
	comp=Z,6.7nm,0.7s,baz=52,slow=7.7,SNR=40								
	comp=Z,6.7nm,0.7s								
BRVK	**Borovoye**	**50.43**	**309**			**P**		**16 57 15.0**	**-0.6**
BRVK	**Borovoye**	**50.43**	**309**	*c* *i* P		**P**		**16 57 15.4**	**-0.1**
BRVK				pmax	pmax				
	comp=Z,9.0nm,0.7s								
YNE	**Yellowstone No**	**52.05**	**64**	IAmb		IAmb		16 57 38.4	
	comp=Z,3.9nm,1.0s								
NVAR	**Mina Array Bea**	**52.43**	**75**	P		**P**		**16 57 30.8**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=304,slow=7.8,SNR=4.5								
	comp=Z,0.5nm,0.6s								
ARTI	**Arti**	**52.88**	**318**			**P**		**16 57 33.8**	**0.0**
ARTI	**Arti**	**52.88**	**318**	*c* *i* P		**P**		**16 57 34.1**	**+0.3**
ARTI								16 58 43.6	
ARTI								16 59 28.6	
ARTI				S		**S**		**17 05 04.2**	**+1.0**
ARTI				SS		**SS**		**17 08 37.8**	**-3.3**
ARTI				pmax	pmax				
	comp=Z,7.0nm,0.8s								
PZH	**PanZhiHua**	**53.26**	**263**	P		**P**		**16 57 38.7**	**+1.5**
PDAR	**Pinedale Array**	**53.89**	**65**	P		**P**		**16 57 41.8**	**0.0**
	comp=Z,0.7nm,0.7s,baz=307,slow=5.2,SNR=7.3								
	comp=Z,0.7nm,0.7s								
KIRV	**Kirov**	**54.35**	**324**	*d* *i* P		**P**		**16 57 45.7**	**+1.2**
KLMR	**Klimovskoe**	**55.48**	**331**	*e*P		**P**		**16 57 51.3**	**-1.4**
KLMR				pmax	pmax				
	comp=Z,8.0nm,1.2s								
AAK	**Ala-Archa**	**55.91**	**297**	*ce*P		**P**		**16 57 56.4**	**+0.1**
AAK				pmax	pmax				
	comp=Z,4.0nm,0.9s								
LSA	**Lhasa**	**56.70**	**275**			**P**		**16 58 01.6**	**-0.9**
LSA	**Lhasa**	**56.70**	**275**	P		**P**		**16 58 01.6**	**-0.9**
LSA				pmax	pmax				
	comp=Z,7.0nm,0.7s								
HMU	**Henry Mountain**	**56.82**	**70**	P		**P**		**16 58 04.3**	**+1.3**
HMU				IAmb	IAmb			16 58 14.4	
	comp=Z,5.2nm,0.7s								
PFO	**Pinyon Flats O**	**57.00**	**78**	P		**P**		**16 58 05.4**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=296,slow=14,SNR=2.2								
	comp=Z,1.5nm,0.5s								
KK31	**Karatay Array**	**57.52**	**300**			**P**		**16 58 06.1**	**-1.4**
KK31	**Karatay Array**	**57.52**	**300**	P		**P**		**16 58 06.1**	**-1.4**
KK31				pmax	pmax				
	comp=Z,6.0nm,0.8s								
KKAR	**Karatay Array**	**57.52**	**300**			**P**		**16 58 06.7**	**-0.9**
KKAR	**Karatay Array**	**57.52**	**300**	P		**P**		**16 58 06.7**	**-0.9**
EYMN	**Ely**	**58.52**	**50**	P		**P**		**16 58 14.3**	**-0.1**
NB2	**NORSAR Subarra**	**61.20**	**345**	P		**P**		**16 58 32.8**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=14,slow=6.9								
NOA	**NORSAR Array B**	**61.20**	**345**	P		**P**		**16 58 32.8**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=16,slow=6.8,SNR=5.1								
NOA				LR		LR		17 26 06.0	
	comp=Z,8.4nm,19.9s,baz=95,slow=37								
	comp=Z,1.2nm,0.3s								
CMAR	**Chiang Mai Arr**	**61.22**	**260**	P		**P**		**16 58 33.9**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=19,slow=7.1,SNR=11								
	comp=Z,2.6nm,0.7s								
HFS	**Hagfors**	**61.70**	**344**	P		**P**		**16 58 35.9**	**-0.2**
	comp=Z,2.7nm,0.9s,baz=65,slow=8.7,SNR=4.0								
	comp=Z,2.7nm,0.9s								
SCHQ	**Schefferville**	**61.71**	**31**	P		**P**		**16 58 36.4**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=26,slow=5.3,SNR=5.2								
	comp=Z,3.3nm,0.7s								
MNK	**Minsk**	**64.08**	**333**	*i* P		**P**		**16 58 52.6**	**+0.7**
MNK				*i*				17 01 12.7	
MNK				*i* PPP		PPP		17 02 43.8	
MNK				*i* S		**S**		**17 07 30.1**	**+1.1**
MNK				*i* SS		**SS**		**17 11 40.5**	**+3.8**
MNK				pmax	pmax				
	comp=N,14nm,0.8s								
MNK				pmax	pmax				
	comp=E,12nm,0.8s								
MNK				MLR	MLR				
	comp=N,49nm,17.0s								
MNK				MLR	MLR				
	comp=Z,36nm,16.0s								
MNK				MLR	MLR				
	comp=E,49nm,22.0s								
HNR	**Honiara**	**65.50**	**185**	LR		LR		17 21 02.2	
	comp=E,33nm,21.7s,baz=10,slow=30								
AKASG	**Malin Array Be**	**67.17**	**331**	P		**P**		**16 59 11.6**	**-0.4**
	comp=E,2.6nm,0.7s,baz=30,slow=6.3,SNR=6.4								
	comp=E,2.6nm,0.7s								
AKASG	**Malin Array Be**	**67.17**	**331**	*e*P		**P**		**16 59 12.1**	**+0.1**
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.6s								
TX31	**Lajitas Ar. Si**	**67.19**	**71**			**P**		**16 59 12.8**	**+0.3**
TX31				IAmb	IAmb			16 59 15.2	
	comp=Z,2.8nm,0.8s								
TXAR	**Lajitas Array**	**67.19**	**71**	P		**P**		**16 59 13.9**	**+1.4**
	comp=Z,1.9nm,0.8s,baz=296,slow=4.6,SNR=22								
	comp=Z,1.9nm,0.8s								
SBUM	**Sibu**	**

*IDC **05** 16:59:56.4±0.7,12°.92S×45°.38E,h0km,mb3.8/10, mbtmp3.9/12,ML4.6/3,Error ellipse: s-maj=24.2km s-min=19.1km az=101.0*

*NEIC **05** 16:59:57.6±1.5,12°.84S±0°.09×45°.5E±0°.1,h10km±1km, mb4.4/11,Error ellipse: s-maj=21.2km s-min=14.2km az=259.0*

ISC 05 16:59:56.9±0.5,**12°.92S**±0°.06×**45°.39E**±0°.07,**h10**km,**n32,** σ**2§09/35,mb4.1**/16,**Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.88**	**163**	Pn	**Pn**	**17 01 25.8**	**+1.6**
	6.8nm,0.3s,baz=336,slow=12,SNR=586						
OPO				Sn	**Sn**	**17 02 28.3**	**-3.5**
	1.4nm,0.3s,baz=65,slow=21,SNR=7.5						
ABPO	**Ambohimpanom**	**6.31**	**164**		**Pn**	**17 01 31.9**	**+1.6**
ABPO				Sn	**Sn**	**17 02 38.1**	**-4.4**
VOI	**Vohitsoka**	**9.04**	**172**		**Pn**	**17 02 08.9**	**+1.3**
KIBK	**Kibwezi**	**12.78**	**325**	Pn	**Pn**	**17 02 56.3**	**-2.6**
RER	**Riviere de l'E**	**12.85**	**131**		**Pn**	**17 03 00.1**	**+0.4**
MSEY	**Mahe Island**	**12.90**	**51**	Pn	**Pn**	**17 02 57.3**	**-3.2**
LSZ	**Lusaka**	**16.85**	**260**	P	**Pn**	**17 03 53.4**	**+0.2**
LSZ	**Lusaka**	**16.85**	**260**	Pn	**Pn**	**17 03 53.5**	**+0.3**
	0.7nm,0.3s,baz=87,slow=9.9,SNR=6.9						
LSZ				Sn	**Sn**	**17 06 54.8**	**-5.9**
	0.3nm,0.3s,baz=138,slow=16,SNR=1.7						
	6.6nm,0.7s						
MATP	**Matopo**	**17.81**	**243**	P	**Pn**	**17 04 06.0**	**+0.9**
	0.2nm,0.3s,baz=60,slow=14,SNR=7.0						
	1.3nm,0.6s						
MBAR	**Mbarara**	**18.99**	**309**		**P**	**17 04 19.7**	**+0.7**
LPHEP	**Lephephe**	**21.24**	**238**	P	**P**	**17 04 45.0**	**+1.7**
LPHEP				IAmb	IAmb	17 04 47.0	
	comp=Z,34nm,1.4s						
LBTB	**Lobatse**	**22.21**	**234**	P	**P**	**17 04 54.4**	**+0.5**
LBTB				IAmb	IAmb	17 05 12.1	
	comp=Z,20nm,1.4s						
KDWAN	**Kaudwane**	**22.25**	**239**	P	**P**	**17 04 55.3**	**+1.1**
KDWAN				IAmb	IAmb	17 05 03.4	
	comp=Z,20nm,1.1s						
BOSA	**Boshof**	**24.40**	**227**	P	**P**	**17 05 16.7**	**+0.9**
BOSA	**Boshof**	**24.40**	**227**	P	**P**	**17 05 15.8**	**0.0**
	comp=Z,2.0nm,0.4s,baz=55,slow=9.4,SNR=12						
	comp=Z,2.0nm,0.4s						
LKGWB	**Lokgwabe**	**25.44**	**241**	P	**P**	**17 05 21.9**	**-3.3**
SUR	**Sutherland**	**29.70**	**225**	P	**P**	**17 06 03.0**	**-0.4**
BRTR	**Keskin Array B**	**53.51**	**349**	P	**P**	**17 09 19.5**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=163,slow=8.6,SNR=1.9						
	comp=Z,0.3nm,0.5s						
AB31	**Akbulak array**	**63.23**	**11**		**P**	**17 10 25.2**	**-0.1**
AB31				IAmb	IAmb	17 10 33.8	
	comp=Z,4.2nm,1.3s						
ABKAR	**Akbulak array**	**63.23**	**11**		**P**	**17 10 25.3**	**0.0**
ABKAR				IAmb	IAmb	17 10 33.8	
	comp=Z,4.2nm,1.3s						
MKAR	**Makanchi Array**	**68.02**	**26**	P	**P**	**17 10 57.3**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=197,slow=4.5,SNR=2.5						
	comp=Z,0.2nm,0.5s						
BVAR	**Borovoye Array**	**69.10**	**16**	P	**P**	**17 11 04.6**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=270,slow=1.5,SNR=4.0						
	comp=Z,0.3nm,0.3s						
ESDC	**Sonseca Array**	**69.58**	**321**	P	**P**	**17 11 07.9**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=121,slow=4.7,SNR=4.7						
	comp=Z,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**69.59**	**22**	P	**P**	**17 11 07.0**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=260,slow=11,SNR=2.1						
	comp=Z,0.3nm,0.6s						
FINES	**FINESS Array B**	**75.68**	**351**	P	**P**	**17 11 41.5**	**-0.6**
	comp=Z,2.9nm,0.9s,baz=164,slow=14,SNR=2.2						
	comp=Z,2.9nm,0.9s						
QSPA	**South Pole Qui**	**77.17**	**180**	P	**P**	**17 11 54.4**	**+3.6**
QSPA				IAmb	IAmb	17 11 54.9	
	comp=Z,4.5nm,1.1s						
QSPA	**South Pole Qui**	**77.17**	**180**	P	**P**	**17 11 52.6**	**+1.8**
	comp=Z,3.5nm,1.1s,baz=252,slow=3.5,SNR=4.9						
	comp=Z,3.5nm,1.1s						
ASAR	**Alice Springs**	**83.58**	**113**	P	**P**	**17 12 24.4**	**-1.7**
ASAR	**Alice Springs**	**83.58**	**113**	P	**P**	**17 12 27.4**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=265,slow=4.8,SNR=15						
	comp=Z,0.9nm,0.7s						
AS31	**Alice Springs**	**83.58**	**113**	P	**P**	**17 12 25.8**	**-0.2**
AS31				IAmb	IAmb	17 12 40.9	
	comp=Z,0.9nm,1.1s						
WRA	**Warramunga Arr**	**84.71**	**109**	P	**P**	**17 12 32.3**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=261,slow=4.3,SNR=7.3						
	comp=Z,1.1nm,0.9s						
TXAR	**Lajitas Array**	**146.98**	**305**	PKPbc	**PKPab**	**17 19 42.3**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=103,slow=3.8,SNR=2.3						

*NEIC **05** 17:02:36.0±1.4,35°.622N±0°.004×117°.59W±0°.01, h10km±2km,Error ellipse: s-maj=3.0km s-min=2.0km az=264.0*

*IDC **05** 17:02:35.4±0.6,35°.62N×117°.47W,h0km,mb3.9/5, mbtmp3.7/11,ML3.7/6,MS3.0/3,Error ellipse: s-maj=13.3km s-min=5.1km az=73.0*

*PAS **05** 17:02:36.5±1.5,35°.618N±0°.010×117°.58W±0°.01, h10km±6km,Mwr3.8/4,ML3.9/136(NEIC),Error ellipse: s-maj=1.6km s-min=1.4km az=88.0*

ISC 05 17:02:36.4±0.8,**35°.62N**±0°.02×**117°.58W**±0°.02,**h13**km±5km, **n116,** σ**1§03/130,mb4.0**/5,**Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LRMC	**Laurel Mtn Rad**	**0.16**	**211**		**Pg**	**17 02 40.1**	**-0.3**
LRMC					**Sg**	**17 02 42.9**	**-0.2**
CLC	**China Lake**	**0.20**	**356**		**Pg**	**17 02 40.7**	**-0.2**
CLC					**Sg**	**17 02 44.0**	**+0.1**
CCCA	**Chr Cany lake**	**0.20**	**118**		**Pg**	**17 02 41.0**	**+0.1**
CCCA					**Sg**	**17 02 44.5**	**+0.6**
TOW	**Tower One**	**0.24**	**322**		**Sg**	**17 02 46.3**	**+1.1**
WVPM	**Volcano Peak E**	**0.38**	**330**		**Pg**	**17 02 43.8**	**-0.3**
WVPM					**Sg**	**17 02 49.2**	**-0.1**
WBSM	**Bird Springs**	**0.46**	**260**		**Sg**	**17 02 51.7**	**-0.2**
WRVM	**Rose V. Centra**	**0.46**	**327**		**Pg**	**17 02 45.2**	**-0.4**
MFS	**McCloud Flat S**	**0.55**	**336**		**Pg**	**17 02 46.8**	**-0.4**
CCAC	**Calif City Air**	**0.59**	**218**	Pg	**Pg**	**17 02 47.5**	**-0.4**
QSM	**Queen of Sheba**	**0.67**	**59**		**Pg**	**17 02 49.0**	**-0.6**
QSM					**Sg**	**17 02 58.1**	**-0.3**
GSC	**Goldstone, Bar**	**0.71**	**116**		**Pg**	**17 02 49.5**	**-0.7**
GSC				Sg	**Sg**	**17 02 59.1**	**-0.3**
GSC				IAML		17 03 02.8	
	comp=N,5μm,0.4s						
ISA	**Isabella, Lake**	**0.73**	**274**		**Pg**	**17 02 49.8**	**-0.9**
ISA				Sg	**Sg**	**17 02 58.5**	**-1.7**
ISA				IAML		17 03 03.2	
	comp=E,3μm,0.3s						
HYS	**Haystack Butte**	**0.75**	**179**		**Pg**	**17 02 50.3**	**-0.7**
HYS					**Sg**	**17 03 00.6**	**-0.3**
EDW2	**Edwards Air Fo**	**0.81**	**205**		**Pg**	**17 02 51.2**	**-1.0**
RRX	**Edison Barstow**	**0.88**	**147**		**Pg**	**17 02 52.9**	**-0.5**
RRX					**Sb**	**17 03 05.5**	**+0.2**
GWY	**Greenwater Val**	**0.93**	**52**		**Pg**	**17 02 53.6**	**-0.9**
GWY					**Sg**	**17 03 05.8**	**-0.8**
SHOC	**Shoshone, Teco**	**1.10**	**75**		**Pg**	**17 02 56.9**	**-0.6**
SPG2	**Springville 2**	**1.12**	**301**		**Pb**	**17 02 56.9**	**-0.9**
MAGC	**SCE Magundon P**	**1.13**	**257**		**Pb**	**17 02 57.2**	**-0.6**
VES	**Vestal, Richgr**	**1.25**	**281**		**Pn**	**17 02 59.1**	**-0.4**
GRAC	**Grapevine Rang**	**1.39**	**7**		**Pn**	**17 03 01.1**	**-0.4**
GRAC				IAML		17 03 25.5	
	comp=N,2μm,0.7s						
GRAC				IAML		17 03 26.0	
	comp=E,2μm,0.6s						
WCT	**Wildcat Mounta**	**1.40**	**33**		**Pn**	**17 03 00.7**	**-1.1**
WCT				IAML		17 03 22.2	
	comp=E,2μm,0.8s						
WCT				IAML		17 03 23.7	
	comp=N,1μm,0.6s						
PASC	**Pasadena Art C**	**1.53**	**199**		**Pn**	**17 03 02.7**	**-0.8**
PASC				IAML		17 03 27.4	
	comp=N,1μm,0.3s						
PASC				IAML		17 03 28.9	
	comp=E,2μm,0.4s						
VOG	**Valley Oaks Go**	**1.62**	**296**		**Pb**	**17 03 05.8**	**-0.5**
BCW	**Bitter Crk WRg**	**1.65**	**246**		**Pn**	**17 03 04.1**	**-1.1**
BCW				IAML		17 03 39.1	
	comp=E,2μm,0.9s						
BCW				IAML		17 03 40.0	
	comp=N,2μm,0.8s						
MTPC	**Mountain Pass**	**1.66**	**94**		**Pn**	**17 03 04.0**	**-1.4**
GMN	**Gold Mountain**	**1.70**	**9**		**Pn**	**17 03 05.5**	**-0.6**
TPNV	**Topopah Spring**	**1.71**	**39**		**Pn**	**17 03 05.2**	**-0.8**
TPNV				IAML		17 03 34.8	
	comp=N,2μm,0.6s						
TPNV				IAML		17 03 35.6	
	comp=N,2μm,0.6s						
DSP	**Deep Springs**	**1.78**	**350**		**Pn**	**17 03 06.5**	**-0.3**
ELS	**Elsinore Mount**	**1.97**	**176**		**Pn**	**17 03 09.1**	**-0.5**
ELS				IAML		17 03 40.9	
	comp=E,718nm,0.8s						
ELS				IAML		17 03 42.3	
	comp=N,977nm,0.7s						
POB	**Polly Butte**	**2.00**	**164**		**Pn**	**17 03 09.5**	**-0.5**
MURC	**Murrieta**	**2.04**	**171**		**Pn**	**17 03 10.2**	**-0.4**
MZP	**Montezuma Peak**	**2.08**	**4**		**Pn**	**17 03 11.1**	**-0.3**
SHPR	**Sheep Range**	**2.15**	**65**		**Pn**	**17 03 11.4**	**-0.7**
SHPR				IAML		17 03 46.0	
	comp=N,622nm,0.7s						
PFO	**Pinyon Flats O**	**2.21**	**155**		**Pn**	**17 03 11.7**	**-1.2**
PFO				IAML		17 03 47.6	
	comp=N,614nm,1.1s						
PFO				IAML		17 03 51.9	
	comp=N,575nm,0.8s						
PFO	**Pinyon Flats O**	**2.21**	**155**	Pn	**Pn**	**17 03 11.9**	**-1.0**
	comp=N,5.9nm,0.3s,baz=335,slow=14,SNR=101						
PFO				Pg	**Pb**	**17 03 16.3**	**0.0**
	comp=N,26nm,0.3s,baz=331,slow=14,SNR=55						
PFO				Sn	**Sn**	**17 03 38.8**	**-1.3**
	comp=N,48nm,0.3s,baz=298,slow=17,SNR=8.4						
PFO				LR	LR	17 03 39.4	
	comp=N,22nm,21.9s,baz=38,slow=29						
PFO				Lg	Lg	17 03 45.2	
	comp=N,218nm,0.3s,baz=53,slow=20,SNR=26						
	comp=N,20nm,0.4s						
V12A	**Nelson**	**2.22**	**86**		**Pn**	**17 03 11.9**	**-1.3**
TPH	**Tonopah**	**2.47**	**7**		**Pn**	**17 03 16.4**	**-0.2**
S11A	**Rachel**	**2.50**	**36**		**Pn**	**17 03 16.7**	**-0.3**
PMPB	**Monarch Peak**	**2.68**	**284**		**Pn**	**17 03 19.5**	**+0.1**
PMPB				IAML		17 04 10.2	
	comp=E,836nm,1.1s						
LHV	**Little Huntoon**	**2.73**	**345**		**Pn**	**17 03 20.4**	**+0.5**
NV11	**Mina Array Sit**	**2.85**	**351**		**Pn**	**17 03 22.1**	**+0.3**
NVAR	**Mina Array Bea**	**2.87**	**349**		**Pn**	**17 03 22.1**	**0.0**
NVAR	**Mina Array Bea**	**2.87**	**349**	Pn	**Pn**	**17 03 22.2**	**+0.1**
	comp=E,10nm,0.3s,baz=182,slow=16,SNR=126						
NVAR				Pg	**Pg**	**17 03 29.2**	**-2.2**
	comp=E,53nm,0.3s,baz=165,slow=18,SNR=70						
NVAR				Sn	**Sb**	**17 04 00.3**	**-2.3**
	comp=E,7.5nm,0.3s,baz=137,slow=16,SNR=1.4						
NVAR				Lg	Lg	17 04 06.7	
	comp=E,18nm,0.3s,baz=122,slow=19,SNR=4.1						
NVAR				LR	LR	17 04 18.9	
	comp=E,40nm,21.3s,baz=102,slow=36						
	comp=E,10nm,0.5s						
BBGB	**Big Mountain B**	**2.96**	**290**		**Pn**	**17 03 23.6**	**+0.3**
W13A	**Hualapai Mount**	**3.06**	**99**		**Pn**	**17 03 23.6**	**-1.1**
RYN	**Ryan**	**3.10**	**346**		**Pn**	**17 03 25.4**	**+0.2**
BLYC	**Blythe**	**3.13**	**126**		**Pn**	**17 03 23.6**	**-2.0**
BLYC				IAML		17 04 18.4	
	comp=N,449nm,0.7s						
BLYC				IAML		17 04 18.7	
	comp=E,408nm,0.5s						
TJX	**Tijuana**	**3.13**	**172**		**Pn**	**17 03 25.5**	**-0.1**
TKX	**Tecate**	**3.15**	**165**		**Pn**	**17 03 25.2**	**-0.6**
TKX				IAML		17 04 14.4	
	comp=N,334nm,0.3s						
R11B	**Troy Canyon, C**	**3.16**	**30**		**Pn**	**17 03 25.3**	**-0.8**
R11B				IAML		17 04 20.8	
	comp=E,206nm,0.6s						
Q09A	**Carvers**	**3.23**	**6**		**Pn**	**17 03 27.7**	**+0.7**
WAKR	**Walker**	**3.24**	**333**		**Pn**	**17 03 28.3**	**+1.0**
WAKR				IAML		17 04 33.5	
	comp=E,216nm,0.6s						
YUH	**Yuha Desert**	**3.27**	**155**		**Pn**	**17 03 26.0**	**-1.3**
YUH				IAML		17 04 20.6	
	comp=E,177nm,1.7s						
YUH				IAML		17 04 21.3	
	comp=N,228nm,0.7s						
CMB	**Columbia Colle**	**3.30**	**318**		**Pn**	**17 03 27.0**	**-0.9**
CMB				IAML		17 04 22.8	
	comp=E,392nm,0.9s						
CMB				IAML		17 04 27.0	
	comp=N,263nm,0.7s						
SAO	**San Andreas Ge**	**3.33**	**291**		**Pn**	**17 03 27.6**	**-0.7**
CBX	**Cerro Bola**	**3.38**	**167**		**Pn**	**17 03 28.6**	**-0.5**
GLA	**Glamis**	**3.43**	**138**		**Pn**	**17 03 27.8**	**-1.8**
CPBX	**Cerro Prieto**	**3.71**	**149**		**Pn**	**17 03 34.1**	**+0.7**
LCMT	**Little Creek M**	**3.77**	**67**		**Pn**	**17 03 34.5**	**+0.1**
CCX	**Cicese**	**3.82**	**168**		**Pn**	**17 03 34.6**	**-0.4**
CCX				IAML		17 04 38.3	
	comp=N,194nm,0.5s						
ESJX	**Sierra Juarez**	**3.85**	**159**		**Pn**	**17 03 35.1**	**-0.4**
ESJX				IAML		17 04 37.4	
	comp=E,326nm,1.0s						
ESJX				IAML		17 04 37.8	
	comp=N,203nm,1.3s						
CCUT	**Cedar City**	**3.90**	**59**		**Pn**	**17 03 36.5**	**+0.2**
CCUT				IAML		17 04 42.3	
	comp=N,104nm,0.8s						
KNB	**Kanab**	**4.09**	**69**		**Pn**	**17 03 38.9**	**+0.1**
KNB				IAML		17 04 59.1	
	comp=N,91nm,1.6s						
SZCU	**Shurtz Canyon**	**4.12**	**60**		**Pn**	**17 03 38.9**	**-0.3**
Y14A	**Wickenburg**	**4.12**	**113**		**Pn**	**17 03 37.8**	**-1.4**
Y14A				IAML		17 04 51.6	
	comp=E,184nm,0.6s						
Y14A				IAML		17 04 52.4	
	comp=N,192nm,0.9s						
MPK	**Martis Peak**	**4.16**	**333**		**Pn**	**17 03 38.3**	**-1.5**
PSUT	**Pine Spring**	**4.16**	**45**		**Pn**	**17 03 38.8**	**-1.1**
PSUT				IAML		17 04 58.1	
	comp=E,170nm,1.2s						
PSUT				IAML		17 05 00.7	
	comp=N,147nm,1.5s						
113A	**Mohawk Valley,**	**4.25**	**131**		**Pn**	**17 03 38.5**	**-2.4**
113A				IAML		17 04 56.5	
	comp=E,109nm,0.9s						
113A				IAML		17 04 57.0	
	comp=N,110nm,1.0s						
SPR3	**Spring Creek 3**	**4.25**	**37**		**Pn**	**17 03 38.5**	**-2.7**
SPR3				IAML		17 04 53.1	
	comp=N,91nm,0.8s						
SPR3				IAML		17 04 54.2	
	comp=E,105nm,1.2s						
AFDM	**Forest Hills D**	**4.29**	**322**		**Pn**	**17 03 39.9**	**-1.5**
AFDM				IAML		17 04 55.6	
	comp=E,203nm,1.1s						
AFDM				IAML		17 04 60.0	
	comp=N,144nm,1.1s						
PAHR	**Pah Rah Range**	**4.33**	**341**		**Pn**	**17 03 41.0**	**-1.0**
VTX	**Valle De La Tr**	**4.47**	**160**		**Pn**	**17 03 42.3**	**-1.8**
VTX				IAML		17 05 01.7	
	comp=N,169nm,1.0s						
VTX				IAML		17 05 04.7	
	comp=E,157nm,0.9s						
BEKR	**Beckworth**	**4.78**	**333**		**Pn**	**17 03 46.7**	**-1.6**
BEKR				IAML		17 05 19.9	
	comp=N,98nm,0.8s						
MCCM	**Marconi Confer**	**4.94**	**302**	Pn	**Pn**	**17 03 49.5**	**-0.8**
MCCM				IAML		17 05 35.9	
	comp=E,85nm,1.3s						
MCCM				IAML		17 05 53.6	
	comp=N,71nm,2.3s						
ORV	**Oroville**	**5.01**	**323**		**Pn**	**17 03 50.3**	**-1.1**
ORV				IAML		17 05 18.3	
	comp=E,96nm,1.0s						
ORV				IAML		17 05 23.0	
	comp=N,60nm,1.3s						
WUAZ	**Wupatki**	**5.06**	**89**		**Pn**	**17 03 51.6**	**-0.6**
WUAZ				IAML		17 05 23.8	
	comp=N,95nm,0.8s						
WUAZ				IAML		17 05 30.4	
	comp=N,76nm,0.8s						
SFX	**San Felipe**	**5.11**	**153**	Pn	**Pn**	**17 03 52.6**	**-0.1**
SFX				IAML		17 05 22.1	
	comp=E,94nm,1.2s						
MVU	**Marysvale**	**5.17**	**55**		**Pn**	**17 03 53.4**	**-0.3**
MVU				IAML		17 05 25.3	
	comp=N,109nm,0.8s						
MVU				IAML		17 05 26.5	
	comp=E,74nm,1.1s						
X16A	**Lo Mia Camp, P**	**5.18**	**102**		**Pn**	**17 03 53.3**	**-0.5**
GDXM	**Geysers**	**5.24**	**309**	Pn	**Pn**	**17 03 54.2**	**-0.4**
214A	**Organ Pipe Nat**	**5.39**	**131**		**Pn**	**17 03 54.4**	**-2.3**
214A				IAML		17 05 15.1	
	comp=E,106nm,0.1s						
214A				IAML		17 05 40.7	
	comp=N,60nm,0.9s						
ELK	**Elko**	**5.44**	**19**		**Pn**	**17 03 57.5**	**0.0**
ELK	**Elko**	**5.44**	**19**	Pn	**Pn**	**17 03 57.9**	**+0.4**
	comp=N,1.4nm,0.3s,baz=180,slow=15,SNR=20						
ELK				Sn	**Sn**	**17 04 59.1**	**-0.9**
	baz=270,slow=20						
ELK				Lg	Lg	17 05 26.6	
	baz=210,slow=1.7						
	comp=N,2.8nm,0.3s						
HOPS	**Hopland Field**	**5.52**	**309**	Pn	**Pn**	**17 03 59.7**	**+1.3**
DUG	**Dugway, Tooele**	**5.92**	**38**		**Pn**	**17 04 03.0**	**-1.0**
HMU	**Henry Mountain**	**5.96**	**65**		**Pn**	**17 04 03.5**	**-1.1**
HATC	**Hat Creek Radi**	**6.02**	**331**		**Pn**	**17 04 04.0**	**-1.3**
Q16A	**Castle Valley**	**6.08**	**55**		**Pn**	**17 04 04.8**	**-1.4**
O02D	**Mt. Diablo Mer**	**6.14**	**319**	Pn	**Pn**	**17 04 05.8**	**-1.1**
X18A	**Snowflake**	**6.35**	**98**		**Pn**	**17 04 10.0**	**+0.1**
BGU	**Big Grassy Mou**	**6.39**	**33**		**Pn**	**17 04 10.8**	**+0.3**
MPU	**Maple Canyon**	**6.43**	**45**		**Pn**	**17 04 12.2**	**+1.1**
SRU	**San Rafael Swe**	**6.61**	**56**		**Pn**	**17 04 15.4**	**+1.9**
HVU	**Hansel Valley**	**7.21**	**30**		**Pn**	**17 04 23.1**	**+1.5**
BSUT	**Blindstream Ca**	**7.28**	**46**		**Pn**	**17 04 22.7**	**-0.2**
YBH	**Yreka Blue Hor**	**7.30**	**328**	Pn	**Pn**	**17 04 25.0**	**+2.1**
	baz=211,slow=7.3,SNR=1.7						
YBH				Sn	**Sn**	**17 05 47.5**	**+1.7**
	baz=176,slow=12,SNR=2.1						
YBH				Lg	Lg	17 06 17.1	
	baz=217,slow=5.1,SNR=4.0						
PV10	**Paradox Valley**	**7.37**	**66**		**Pn**	**17 04 22.4**	**-1.5**
PV19	**Morning Glory**	**7.39**	**66**		**Pn**	**17 04 25.6**	**+1.4**
PV17	**East Wray Mesa**	**7.39**	**66**		**Pn**	**17 04 24.4**	**+0.1**
PV20	**West Nyswonger**	**7.41**	**66**		**Pn**	**17 04 24.1**	**-0.4**
PV18	**Skein Mesa, Pa**	**7.42**	**67**		**Pn**	**17 04 24.9**	**+0.2**
PV13	**Radium Mtn., P**	**7.46**	**68**		**Pn**	**17 04 24.6**	**-0.7**
MVCO	**Mesa Verde**	**7.49**	**75**		**Pn**	**17 04 24.6**	**-1.1**
319A	**Douglas**	**8.12**	**119**		**Pn**	**17 04 33.1**	**-1.1**
ANMO	**Albuquerque**	**9.12**	**91**	Pn	**Pn**	**17 04 47.7**	**-0.2**
	comp=N,0.1nm,0.3s,baz=285,slow=3.6,SNR=1.3						
ANMO				Pg		17 05 22.2	
	comp=N,0.2nm,0.3s,baz=1.0,slow=13,SNR=16						
ANMO				Lg	Lg	17 07 19.5	
	comp=N,0.1nm,0.3s,baz=274,slow=16,SNR=4.8						
	comp=N,0.7nm,0.4s						
PDAR	**Pinedale Array**	**9.47**	**39**	Pn	**Pn**	**17 04 55.5**	**+2.8**
	comp=N,0.1nm,0.3s,baz=245,slow=12,SNR=2.9						
PDAR				Pg		17 05 21.4	
	comp=N,0.1nm,0.3s,baz=227,slow=14,SNR=3.1						
PDAR				Lg	Lg	17 07 30.3	
	comp=N,0.1nm,0.3s,baz=292,slow=20,SNR=2.4						
	comp=N,0.3nm,0.6s						
TX31	**Lajitas Ar. Si**	**13.30**	**114**		**Pn**	**17 05 46.1**	**+1.0**
TXAR	**Lajitas Array**	**13.31**	**114**	Pn	**Pn**	**17 05 46.2**	**+1.0**
	comp=N,0.4nm,0.3s,baz=293,slow=13,SNR=23						
TXAR				Pg	P	17 06 35.1	+40
	baz=308,slow=12						
TXAR				Lg	Lg	17 09 32.0	
	baz=276,slow=27,SNR=5.8						
TXAR				LR	LR	17 10 40.8	
	comp=N,21nm,18.9s,baz=324,slow=37						
	comp=N,0.6nm,0.4s						
YKA	**Yellowknife Ar**	**26.96**	**3**	LR	LR	17 18 36.5	
	comp=N,24nm,20.8s,baz=68,slow=36						
ILAR	**Eielson Array**	**34.07**	**338**	P	**P**	**17 09 21.5**	**+1.3**
	comp=N,0.4nm,0.7s,baz=135,slow=8.7,SNR=5.3						
	comp=N,0.4nm,0.7s						
SCHQ	**Schefferville**	**39.54**	**45**	P	**P**	**17 10 07.8**	**+0.9**
	comp=N,3.7nm,0.9s,baz=325,slow=7.2,SNR=3.6						
	comp=N,3.7nm,0.9s						
ASAJ	**Asahikawa**	**72.42**	**312**	LR	LR	17 45 38.8	
	comp=N,38nm,18.8s,baz=250,slow=36						
KSRS	**Korea Array**	**85.28**	**313**	P	**P**	**17 15 14.6**	**+1.5**
	comp=N,1.4nm,0.8s,baz=45,slow=8.7,SNR=5.1						
	comp=N,1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**88.72**	**347**	P	**P**	**17 15 29.7**	**+0.2**
	comp=N,0.5nm,0.4s,baz=92,slow=7.4,SNR=2.3						
	comp=N,0.5nm,0.4s						
BVAR	**Borovoye Array**	**91.45**	**355**	P	**P**	**17 15 42.9**	**+0.6**
	comp=N,0.2nm,0.5s,baz=354,slow=10,SNR=1.6						
	comp=N,0.2nm,0.5s						

KRSC 05 17:03:08.5±1.3,**56°.08N×164°.37E,h22**km±20km,**MI3.8, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.88**	**279**	*eP*	Pb	17 03 24.5	-0.4
KBTR				*eS*	Sb	17 03 35.9	-0.4
KBG	**Krutoberegovo**	**0.94**	**281**	*eP*	Pb	17 03 25.9	-0.3
KBG				*eS*	Sb	17 03 38.5	+0.2
BKI	**Bering**	**1.27**	**133**	*eP*	Pb	17 03 32.6	+1.0
BKI				*eS*	Sb	17 03 49.8	+2.3
SMKR	**Semkarok**	**1.69**	**289**	*eP*	Pn	17 03 37.7	+0.9
SMKR				*eS*	Sn	17 03 58.5	+0.7
BDR	**Baidarnaya**	**1.82**	**287**	*eS*	Sb	17 04 03.7	+0.1
ZLN	**Zelenaya**	**2.00**	**270**	*eP*	Pb	17 03 43.8	-0.4
BZGR	**Bezymyannyi-Gr**	**2.06**	**268**	*eP*	Pb	17 03 44.8	-0.5
KLY	**Klyuchi**	**2.09**	**278**	*eP*	Pn	17 03 42.4	+0.3
MKZ	**Mys Kozlova**	**2.15**	**226**	*eP*	Pb

comp=Z,1.9nm,0.8s,baz=54,slow=9.3,SNR=60
comp=Z,1.9nm,0.8s
STKA Stephens Creek 27.28 197 P **P** **17 09 01.2 -0.9**
STKA Stephens Creek 27.28 197 P **P** **17 09 00.8 -1.3**
comp=Z,1.3nm,0.5s,baz=41,slow=9.3,SNR=3.6
comp=Z,1.3nm,0.5s
FITZ Fitzroy Crossi 27.30 241 P **P** **17 09 02.6 +0.1**
FITZ IAmb IAmb 17 09 31.5
comp=Z,2.9nm,1.4s
MBWA Marble Bar 33.62 240 P **P** **17 09 59.0 +0.6**
MBWA IAmb IAmb 17 10 34.1
comp=Z,8.9nm,1.1s
JNU Nakatsue 43.04 335 P **P** **17 11 16.9 -0.6**
CASY Casey 66.43 197 P **P** **17 14 05.5 -0.9**
CASY IAmb IAmb 17 14 07.1
comp=Z,10nm,1.5s
QSPA South Pole Qui 84.15 180 P **P** **17 15 46.8 -1.5**
comp=Z,1.2nm,0.8s,baz=356,slow=1.0,SNR=3.0
comp=Z,1.2nm,0.8s

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*BGR **05** 17:08:22.1, 7.˚94N×87.˚80E, h23km, mb4.9*
*MOS **05** 17:08:24.7±0.9, 9.˚34N×87.˚10E, h9km, mb5.1/50, MS4.0/8, Error ellipse: s-maj=6.8km s-min=4.1km az=114.8*
*IDC **05** 17:08:25.0±0.4, 9.˚26N×87.˚09E, h0km, mb4.7/31, mbtmp4.7/34, ML4.7/3, MS4.0/43, Error ellipse: s-maj=14.4km s-min=10.8km az=49.0*
*NEIC **05** 17:08:27.1±1.5, 9.˚38N±0.˚07×87.˚11E±0.˚06, h10km±1km, mb5.0/212, Error ellipse: s-maj=11.9km s-min=9.9km az=172.0*
*BJI **05** 17:08:27.0, 9.˚53N×87.˚04E, h5km, mB5.0/20, mb4.7/53, Ms4.2/45, Ms7 4.1/43*
*NDI **05** 17:08:28.1±1.2, 9.˚28N×87.˚10E, h26km, mb5.0, ML5.0*
*GCMT **05** 17:08:29.1±0.3, 9.˚33N±0.˚02×87.˚06E±0.˚02, h36km±1km, MW4.9/74, Moment Tensor Solution. s47,c47; s74,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.55±.19; $M_{\theta\theta}$-2.82±.11; $M_{\phi\phi}$0.27±.11; $M_{r\theta}$-1.39±.12; $M_{\theta\phi}$-0.60±.07; $M_{r\phi}$0.34±.12; Best double couple: $M_0$3.10200×10^{16} NP1:ϕs66.00000°, δ34.00000°, λ68.00000°. NP2: ϕs271.00000°, δ59.00000°, λ104.00000°. Principal axes: T 2.9720, Plg72.0000°, Azm215.0000°; N 0.2610, Plg12.0000°, Azm84.0000°; P -3.2320, Plg13.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 17:08:27.4±0.6, 9.˚36N±0.˚04×86.˚99E±0.˚03, h15km±3km, h16km:pP-P, n651, σ1§62/625, mb5.0/254, MS4.1/63, 23C-20D, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**6.56**	**252**			**Pn**	**17 10 04.5**	**+1.1**
PALK				Sn	Sn	Sn	17 11 10.3	-7.8
PALK	**Pallekele**	**6.56**	**252**	Pn		**Pn**	**17 10 04.2**	**+0.7**
	34nm,0.3s,baz=65,slow=13,SNR=109							
PALK				Sn		**Sn**	**17 11 13.1**	**-5.0**
	139nm,0.3s,baz=142,slow=22,SNR=21							
PALK				LR		LR	17 12 31.5	
	comp=Z,1μm,21.0s,baz=75,slow=37							
	83nm,0.3s							
PALK	**Pallekele**	**6.56**	**252**	*i* P		**Pn**	**17 10 04.8**	**+1.4**
DGPR	**DIGLIPUR**	**6.95**	**56**	*e*P		**Pn**	**17 10 07.0**	**-1.7**
DGPR				*e*S		**Sn**	**17 11 19.3**	**-8.3**
MDRS	**Chennai**	**7.57**	**300**	*e*P		**Pn**	**17 10 18.5**	**+1.1**
MDRS				*e*S		**Sn**	**17 11 37.7**	**-5.3**
MDRS				IAML			17 11 43.2	
	comp=E,2μm,0.3s							
MDRS				IAML			17 11 44.9	
	comp=E,2μm,0.2s							
SALM	**Salem**	**8.94**	**286**	*e*P		**Pn**	**17 10 37.4**	**+1.4**
SALM				*e*S		**Sn**	**17 12 11.8**	**-4.8**
SALM				IAML			17 12 19.4	
	comp=N,812nm,0.4s							
VIS	**Vishakhapatnam**	**9.04**	**337**	*e*P		**Pn**	**17 10 37.7**	**+0.2**
VIS				*e*S		**Sn**	**17 12 12.2**	**-6.9**
VIS				IAML			17 12 15.9	
	comp=E,711nm,0.6s							
VIS				IAML			17 12 16.4	
	comp=E,548nm,0.3s							
VJD	**Vijayawada**	**9.42**	**320**	*e*P		**Pn**	**17 10 43.2**	**+0.6**
VJD				*e*S		**Sn**	**17 12 21.8**	**-6.6**
VJD				IAML			17 12 28.4	
	comp=N,581nm,0.3s							
VJD				IAML			17 12 29.2	
	comp=E,552nm,0.3s							
KOD	**Kodaikanal**	**9.43**	**276**	*e*P		**Pn**	**17 10 43.3**	**+0.3**
KOD				*e*S		**Sn**	**17 12 22.1**	**-6.9**
KOD				IAML			17 12 23.7	
	comp=N,481nm,0.3s							
KOD				IAML			17 12 29.0	
	comp=E,473nm,0.5s							
TRD	**Trivandrum**	**9.95**	**266**	*e*P		**Pn**	**17 10 50.3**	**+0.4**
TRD				*e*S		**Sn**	**17 12 34.0**	**-7.4**
TRD				IAML			17 12 37.7	
	comp=E,1μm,0.2s							
MLSI	**Meulaboh, Aceh**	**10.62**	**118**	P		**Pn**	**17 11 02.9**	**+3.7**
	comp=E,78nm,0.7s							
LHMI	**Lhok Sumawe**	**10.69**	**112**	P		**Pn**	**17 11 02.8**	**+2.7**
	comp=E,57nm,0.8s							
HYB	**Hyderabad**	**11.47**	**315**	*e*P		**Pn**	**17 11 11.9**	**+1.2**
HYB				*e*			17 13 07.8	
MNGI	**Mangalore**	**12.46**	**288**	*e*P		**Pn**	**17 11 23.8**	**-0.5**
MNGI				*e*S		Sn	17 13 32.0	-11
MNGI				IAML			17 13 38.6	
	comp=E,661nm,0.3s							
MNGI				IAML			17 13 39.0	
	comp=N,660nm,0.3s							
SRIT	**Nakonsritamara**	**12.48**	**92**	Pn		**Pn**	**17 11 22.5**	**-2.1**
JHSG	**JHARSUGUGA**	**12.71**	**346**	*e*P		**Pn**	**17 11 27.3**	**-0.4**
JHSG				IAmb		IAmb	17 11 33.5	
	comp=N,454nm,0.7s							
JHSG				*e*S		Sn	17 13 38.1	-11
TSI	**Tuntungan**	**12.88**	**116**	P		P	17 11 34.8	-6.1
GSI	**Gunungsitoli**	**13.22**	**127**			**Pn**	**17 11 32.8**	**-2.0**
GSI	**Gunungsitoli**	**13.22**	**127**	P		**Pn**	**17 11 36.3**	**+1.5**
	comp=N,38nm,0.9s							
BLSP	**Bilaspur**	**13.53**	**340**	*e*P		**Pn**	**17 11 38.0**	**-0.9**
PSI	**Prapat**	**13.53**	**118**	Pn		**Pn**	**17 11 38.0**	**-1.1**
	comp=N,1.7nm,0.3s,baz=336,slow=8.9,SNR=4.7							
PSI				Sn		Sn	17 13 59.2	-10
	comp=N,1.2nm,0.3s,baz=323,slow=20,SNR=5.5							
PSI				LR		LR	17 17 00.0	
	comp=N,1μm,19.4s,baz=303,slow=38							
	comp=N,6.9nm,0.4s							
PSI	**Prapat**	**13.53**	**118**	P		**P**	**17 11 50.0**	**+1.8**
PSI	**Prapat**	**13.53**	**118**	P		**Pn**	**17 11 38.0**	**-1.1**
RPSI	**Rantau Prapat**	**13.58**	**118**			**Pn**	**17 11 38.0**	**-1.7**
RPSI						Sn	17 13 59.2	-11
RPSI	**Rantau Prapat**	**13.58**	**118**			**Pn**	**17 11 37.0**	**-2.7**
KNTI	**KHUNTI**	**13.72**	**353**	*e*P		**P**	**17 11 47.8**	**-2.3**
HMDM	**Hanimaadhoo**	**13.91**	**260**	Pn		**Pn**	**17 11 45.8**	**+1.7**
BRDH	**Bariadhala**	**13.97**	**18**	Pn		**Pn**	**17 11 44.8**	**-0.1**
	comp=N,66nm,0.3s,baz=232,slow=17,SNR=3.9							
BRDH				Sn		Sn	17 14 08.0	-12
	comp=N,65nm,0.3s,baz=231,slow=20,SNR=1.8							
BRDH				LR		LR	17 17 29.4	
	comp=N,764nm,20.8s,baz=204,slow=39							
KULM	**Kulim**	**14.13**	**106**	Pn		**Pn**	**17 11 46.9**	**-0.3**
SAIH	**SAIHA**	**14.27**	**23**	*e*P		**Pn**	**17 11 47.4**	**-1.7**
SAIH				IAmb		IAmb	17 11 53.7	
	comp=Z,75nm,0.5s							
SAIH				*e*S		Sn	17 14 15.3	-12
BOK	**Bokaro**	**14.39**	**356**	*e*P		**Pn**	**17 11 50.0**	**-0.8**
CM31	**Chiang Mai Arr**	**14.70**	**51**			**Pn**	**17 11 52.4**	**-2.6**
CMAR	**Chiang Mai Arr**	**14.70**	**51**			**Pn**	**17 11 53.3**	**-1.6**
CMAR	**Chiang Mai Arr**	**14.70**	**51**	Pn		**Pn**	**17 11 55.0**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=239,slow=15,SNR=69							
CMAR				Sn		Sn	17 14 28.1	-10
	comp=Z,0.6nm,0.3s,baz=242,slow=28,SNR=5.3							
CMAR				LR		LR	17 17 44.9	
	comp=Z,374nm,21.0s,baz=235,slow=38							
	comp=Z,23nm,0.8s							
CMAR	**Chiang Mai Arr**	**14.70**	**51**	*i* P		**Pn**	**17 11 55.0**	**+0.1**
CMAR				pmax		pmax		
	comp=Z,25nm,0.8s							
IPM	**Ipoh**	**14.75**	**108**			**Pn**	**17 11 52.1**	**-3.6**
IPM	**Ipoh**	**14.75**	**108**	P		**P**	**17 12 01.6**	**0.0**
KAD	**Karad**	**14.75**	**304**	*e*P		**Pn**	**17 11 55.6**	**-0.1**
KAD				*e*S		Sn	17 14 26.9	-12
AKL	**Akola**	**14.82**	**321**	*e*S		Sn	17 14 28.4	-12
CHTO	**Chiang Mai**	**14.91**	**50**			**Pn**	**17 11 56.1**	**-1.8**
CHTO	**Chiang Mai**	**14.91**	**50**	P		**Pn**	**17 11 58.4**	**+0.5**
CHTO	**Chiang Mai**	**14.91**	**50**	P		**Pn**	**17 11 56.1**	**-1.8**
MNSI	**Mandailing Nat**	**15.14**	**123**	P		P	17 12 14.4	+8.4
MNSI	**Mandailing Nat**	**15.14**	**123**	P		**P**	**17 12 10.1**	**+4.1**
AZL	**Aizawl**	**15.30**	**20**	*e*P		**Pn**	**17 12 01.4**	**-1.7**
AZL				IAmb		IAmb	17 12 05.3	
	comp=Z,102nm,0.8s							
AZL				*e*S		Sn	17 14 39.4	-13
POO	**Poona**	**15.67**	**307**	*e*P		**Pn**	**17 12 07.9**	**+0.1**
POO				IAmb		IAmb	17 12 24.0	
	comp=Z,67nm,1.0s							
POO				*e*S		Sn	17 14 48.2	-13
PHRA	**Phrae**	**15.72**	**53**	Pn		**Pn**	**17 12 06.0**	**-2.5**
SISI	**Saibi**	**16.06**	**131**	P		**P**	**17 12 21.8**	**+5.6**
NRDN	**NARMADA NAGAR**	**16.29**	**326**	*e*P		**Pn**	**17 12 16.0**	**+0.3**
NRDN				IAmb		IAmb	17 12 27.2	
	comp=Z,64nm,0.7s							
PPI	**Padang Panjang**	**16.53**	**125**	P		P	17 12 30.7	+9.3
PPI	**Padang Panjang**	**16.53**	**125**	P		P	17 12 29.2	+7.8
BHPL	**Bhopal**	**16.57**	**328**	*e*P		**Pn**	**17 12 19.7**	**+0.4**
BHPL				IAmb		IAmb	17 12 26.8	
	comp=Z,122nm,0.9s							
BHPL				*e*S		Sn	17 15 08.7	-14
ALBI	**Allahabad**	**16.61**	**343**	*e*P		**Pn**	**17 12 20.0**	**+0.2**
ALBI				IAmb		IAmb	17 12 32.6	
	comp=Z,171nm,0.6s							
IMP	**Imphal**	**16.75**	**22**	*e*P		**Pn**	**17 12 20.8**	**-0.9**
IMP				IAmb		IAmb	17 12 35.1	
	comp=Z,117nm,1.2s							
IMP				*e*S		Sn	17 15 10.4	-17
SHL	**Shillong**	**16.78**	**15**			**Pn**	**17 12 15.5**	**-6.6**
SHL				IAmb		IAmb	17 12 31.1	
	comp=Z,100nm,0.7s							
SHL	**Shillong**	**16.78**	**15**	*e*P		**Pn**	**17 12 21.6**	**-0.5**
SHL				IAML			17 12 24.3	
	comp=Z,77nm,0.7s							
SHL				*e*S		Sn	17 15 12.1	-16
SHL	**Shillong**	**16.78**	**15**	P		**Pn**	**17 12 15.5**	**-6.6**
SHL				pmax		pmax		
	comp=Z,100nm,0.7s							
JHNI	**Jhansi**	**17.92**	**334**	*e*P		**P**	**17 12 37.0**	**+0.3**
JHNI				IAmb		IAmb	17 12 50.1	
	comp=Z,53nm,0.6s							
GTK	**Tadong**	**17.93**	**5**	*e*P		**P**	**17 12 37.0**	**+0.1**
GTK				IAmb		IAmb	17 12 37.9	
	comp=Z,79nm,0.7s							
GTK				*e*S		Sn	17 15 38.7	-18
TEZP	**TEZPUR**	**18.02**	**17**	*e*P		**P**	**17 12 37.9**	**+0.1**
MYKOM	**Kota Tinggi**	**18.38**	**113**			**Pn**	**17 12 39.6**	**-2.2**
MYKOM	**Kota Tinggi**	**18.38**	**113**	P		**P**	**17 12 46.8**	**+5.0**
EVN	**Everest**	**18.50**	**360**			**P**	**17 12 43.0**	**-0.7**
EVN				IAmb		IAmb	17 12 53.3	
	comp=Z,73nm,0.5s							
TAWA	**Tawang**	**18.71**	**14**	*e*P		**Pn**	**17 12 47.2**	**+1.0**
TAWA				IAmb		IAmb	17 12 50.9	
	comp=Z,65nm,1.0s							
TAWA				*e*S		Sn	17 15 58.7	-17
UBPT	**Khong Chiam**	**18.98**	**70**	P		**P**	**17 12 47.8**	**-0.6**
TNCH	**TengChong**	**19.06**	**34**	P		**Pn**	**17 12 51.7**	**+1.4**
TNCH				sP		pwP	17 12 57.7	+0.2
TNCH				PP		**PnPn**	**17 13 07.9**	**+4.9**
TNCH				S		**Sn**	**17 16 21.6**	**-2.1**
TNCH				SS		**SnSn**	**17 16 47.0**	**+9.0**
TNCH				pmax		pmax		
	comp=Z,110nm,1.3s							
TNCH				pmax		pmax		
	comp=Z,520nm,4.6s							
TNCH				LR		LR		
	comp=Z,300nm,17.0s							
TNCH				LR		LR		
	comp=Z,420nm,14.3s							
TNCH				LR		LR		
	comp=Z,720nm,17.5s							
ZIRO	**ZIRO**	**19.20**	**19**	*e*P		**Pn**	**17 12 53.6**	**+1.8**
ZIRO				IAmb		IAmb	17 12 56.1	
	comp=Z,48nm,0.7s							
ZIRO				*e*S		Sn	17 16 10.0	-17
SLVN	**Son La**	**20.17**	**52**			**P**	**17 13 01.5**	**0.0**
SLVN	**Son La**	**20.17**	**52**	P		Pn	17 13 03.2	-0.2
LSA	**Lhasa**	**20.61**	**10**			**P**	**17 13 06.7**	**0.0**
LSA	**Lhasa**	**20.61**	**10**	P		Pn	17 13 09.5	+0.6
LSA	**Lhasa**	**20.61**	**10**	P		**P**	**17 13 06.7**	**0.0**
LSA				pmax		pmax		
	comp=Z,88nm,0.6s							
LGTI	**Lohaghat**	**20.96**	**343**	*e*P		P	17 13 18.2	+8.3
LHSI	**Lahat**	**21.05**	**128**	P			17 13 12.8	
	comp=Z,87nm,1.0s							
LHSI	**Lahat**	**21.05**	**128**	P		**P**	**17 13 11.4**	**+0.4**
	comp=Z,87nm,1.0s							
PTH	**Pithoragarh**	**21.07**	**343**	IAmb		IAmb	17 13 34.4	
	comp=Z,81nm,0.8s							
PTH				*e*S		S	17 16 53.3	-12
KUDL	**Kundal**	**21.14**	**333**	IAmb		IAmb	17 13 30.7	
	comp=Z,18nm,0.8s							
KUDL				*e*S		S	17 16 54.6	-12
NDI	**New Delhi**	**21.31**	**336**	IAmb		IAmb	17 13 24.8	
	comp=Z,36nm,0.7s							
KMI	**Kunming**	**21.69**	**42**	P		**P**	**17 13 21.0**	**+2.9**
KMI				S		**S**	**17 17 18.6**	**+0.6**
KMI				pmax		pmax		
	comp=Z,19nm,0.9s							
KMI				LR		LR		
	comp=Z,460nm,20.8s							
KMI				LR		LR		
	comp=Z,320nm,19.9s							
KMI				LR		LR		
	comp=Z,330nm,17.7s							
MDSI	**Maura Dua**	**21.97**	**128**	P		**P**	**17 13 21.9**	**+1.0**
	comp=Z,2μmcomp=Z,50nm,1.0s							
MDSI	**Maura Dua**	**21.97**	**128**	P		**P**	**17 13 20.9**	**0.0**
	comp=Z,52nm,1.1s							
PZH	**PanZhiHua**	**22.04**	**37**	P		**P**	**17 13 23.0**	**+1.2**
PZH				S		**S**	**17 17 21.3**	**-3.4**
PZH				pmax		pmax		
	comp=Z,20nm,1.2s							
PZH				pmax		pmax		
	comp=Z,90nm,4.8s							
PZH				LR		LR		
	comp=Z,310nm,20.2s							
PZH				LR		LR		
	comp=Z,290nm,21.8s							
DDI	**Dehra Dun**	**22.46**	**339**	IAmb		IAmb	17 13 47.8	
	comp=Z,88nm,0.7s							
TPI	**Tanjungpandan**	**23.85**	**119**	P		**P**	**17 13 41.7**	**+1.4**
	comp=Z,932nmcomp=Z,52nm,0.9s							
TPI	**Tanjungpandan**	**23.85**	**119**	P		**P**	**17 13 40.4**	**+0.1**
QIZ	**Qiongzhong**	**24.12**	**64**	P		**P**	**17 13 43.0**	**+0.1**
QIZ				S		**S**	**17 18 00.5**	**+0.2**
QIZ				LR		LR		
	comp=Z,260nm,15.1s							
QIZ				LR		LR		
	comp=Z,310nm,14.4s							
CGJI	**Cibinong**	**24.48**	**130**	P		P	17 13 55.8	+10
KSM	**Kuching**	**24.48**	**107**			**P**	**17 13 43.4**	**-2.8**
KSM				IAmb		IAmb	17 13 48.9	
	comp=Z,67nm,1.8s							
KSM	**Kuching**	**24.48**	**107**	P		**P**	**17 13 47.8**	**+1.6**
GYA	**Guiyang**	**25.23**	**45**	⇑P		**P**	**17 13 59.0**	**+6.0**
GYA				pmax		pmax		
	comp=Z,26nm,1.1s							
SBUM	**Sibu**	**26.00**	**104**			**P**	**17 13 58.9**	**-1.1**
STKI	**Sintang**	**26.07**	**109**	P		**P**	**17 14 03.3**	**+2.7**
	comp=Z,23nm,1.0s							
CD2	**Chengdu**	**26.53**	**34**	P		**P**	**17 14 05.5**	**+0.9**
CD2				pmax		pmax		
	comp=Z,20nm,0.5s							
NIL	**Nilore**	**27.28**	**334**	P		**P**	**17 14 12.2**	**+0.8**
NIL				IAmb		IAmb	17 14 57.6	
	comp=Z,30nm,0.7s							
NIL	**Nilore**	**27.28**	**334**	P		**P**	**17 14 12.2**	**+0.8**
NIL				pmax		pmax		
	comp=Z,31nm,0.7s							
GOMU	**GeErMu**	**27.65**	**14**	P		**P**	**17 14 17.2**	**+2.2**
GOMU				pP		sP	17 14 21.5	+1.4
GOMU				sP		pwP	17 14 24.2	+0.9
GOMU				S		**S**	**17 18 53.0**	**-3.7**
GOMU				pmax		pmax		
	comp=Z,7.0nm,1.2s							
GOMU				LR		LR		
	comp=Z,450nm,20.3s							
GOMU				LR		LR		
	comp=Z,190nm,17.8s							
GOMU				LR		LR		
	comp=Z,610nm,19.5s							
KKM	**Kota Kinabalu**	**29.14**	**94**			**P**	**17 14 26.8**	**-1.5**
KKM	**Kota Kinabalu**	**29.14**	**94**	P		**P**	**17 14 29.5**	**+1.2**
ENH	**Enshi**	**29.56**	**42**			**P**	**17 14 30.1**	**-1.6**
ENH	**Enshi**	**29.56**	**42**	P		**P**	**17 14 31.1**	**-0.7**
KBL	**Kabul**	**29.98**	**329**	P		**P**	**17 14 35.6**	**-0.1**
KBL				IAmb		IAmb	17 15 34.1	
	comp=Z,16nm,0.8s							
KBL	**Kabul**	**29.98**	**329**	P		**P**	**17 14 35.6**	**-0.1**
KBL				pmax		pmax		
	comp=Z,16nm,0.9s							
LZH	**Lanzhou**	**30.71**	**27**	*e*P		**P**	**17 14 42.4**	**+0.4**
LZH				sP		pwP	17 14 52.1	+1.8
LZH				pmax		pmax		
	comp=Z,24nm,1.2s							
LZH				LR		LR		
	comp=Z,240nm,15.3s							
LZH				LR		LR		
	comp=Z,300nm,13.9s							
LZH				LR		LR		
	comp=Z,420nm,17.7s							
KSH	**Kashi**	**31.60**	**344**	P		**P**	**17 14 50.1**	**+0.3**
KSH				sP		pwP	17 14 58.4	+0.3
KSH				pmax		pmax		
	comp=Z,17nm,1.2s							
KSH				pmax		pmax		
	comp=Z,110nm,5.5s							
KSH				LR		LR		
	comp=Z,330nm,16.8s							
KSH				LR		LR		
	comp=Z,400nm,17.2s							
KSH				LR		LR		
	comp=Z,420nm,22.7s							
XAN	**Xi'an**	**31.77**	**36**	⇓P		P	17 14 59.0	+7.8
XAN				pmax		pmax		
	comp=Z,26nm,0.4s							
GTA	**Gaotai**	**32.05**	**19**	P		**P**	**17 14 55.6**	**+1.9**
GTA				pP		pwP	17 15 01.6	-0.4
GTA				sP		sP	17 15 04.5	+5.7
GTA				PcP		**PcP**	**17 17 44.7**	**+1.5**
GTA				pmax		pmax		
	comp=Z,12nm,1.1s							
GTA				LR		LR		
	comp=Z,340nm,18.2s							
GTA				LR		LR		
	comp=Z,330nm,18.5s							
GTA				LR		LR		
	comp=Z,420nm,18.2s							
WUS	**Wushi**	**32.45**	**349**	P		**P**	**17 14 55.6**	**-1.6**
WUS				IAmb		IAmb	17 15 55.9	
	comp=Z,30nm,1.2s							
DRK	**Karamyk**	**32.92**	**338**	P		**P**	**17 15 00.4**	**-1.2**
DRK	**Karamyk**	**32.92**	**338**	P		**P**	**17 15 00.4**	**-1.2**
DRK				pmax		pmax		
	comp=Z,49nm,0.6s							
TARG	**Taragay, Kyrgy**	**33.24**	**347**	P		**P**	**17 15 03.8**	**-0.7**
TARG				IAmb		IAmb	17 16 10.4	
	comp=Z,15nm,0.8s							
TARG	**Taragay, Kyrgy**	**33.24**	**347**	P		**P**	**17 15 03.8**	**-0.7**
TARG				pmax		pmax		
	comp=Z,15nm,0.8s							
NRN	**Naryn**	**33.39**	**345**	P		**P**	**17 15 03.0**	**-2.7**
NRN	**Naryn**	**33.39**	**345**	P		**P**	**17 15 03.0**	**-2.7**
NRN				pmax		pmax		
	comp=Z,65nm,1.6s							
TGY	**Tagaytay City**	**33.55**	**79**	LR		LR	17 27 45.9	
	comp=Z,224nm,20.5s,baz=274,slow=35							
KDJ	**Kajisay**	**33.76**	**347**	P		**P**	**17 15 05.5**	**-3.3**
KDJ				IAmb		IAmb	17 16 14.8	
	comp=Z,17nm,0.9s							
KDJ	**Kajisay**	**33.76**	**347**	P		**P**	**17 15 05.5**	**-3.3**
KDJ				pmax		pmax		
	comp=Z,17nm,0.9s							
BTK	**Batken**	**33.80**	**337**			**P**	**17 15 06.5**	**-2.5**
BTK	**Batken**	**33.80**	**337**	P		**P**	**17 15 06.5**	**-2.5**
BTK				pmax		pmax		
	comp=Z,31nm,0.9s							
PRZ	**Przheval'sk**	**33.85**	**349**	P		**P**	**17 15 08.0**	**-1.5**
PRZ				IAmb		IAmb	17 16 15.1	
	comp=Z,20nm,0.8s							
PRZ	**Przheval'sk**	**33.85**	**349**	P		**P**	**17 15 08.0**	**-1.5**
PRZ				pmax		pmax		
	comp=Z,20nm,0.8s							
MPSI	**Mapaga**	**33.96**	**103**	P		**P**	**17 15 11.7**	**+1.2**
	comp=Z,34nm,1.0s							
ARSB	**Arslanbob**	**34.16**	**341**	P		**P**	**17 15 10.9**	**-1.3**
ARSB				IAmb		IAmb	17 16 21.3	
	comp=Z,26nm,0.7s							
ARSB	**Arslanbob**	**34.16**	**341**	P		**P**	**17 15 10.9**	**-1.3**
ARSB				pmax		pmax		
	comp=Z,26nm,0.7s							
SHLS	**Shalkode**	**34.30**	**350**	*e*P		**P**	**17 15 13.2**	**-0.1**
SHLS	**Shalkode**	**34.30**	**350**	*e*P		**P**	**17 15 13.3**	**-0.1**
WMQ	**Urumqi**	**34.34**	**1**	*e*P		**P**	**17 15 15.4**	**+1.8**
WMQ				S		**S**	**17 20 41.8**	**+1.2**
WMQ				pmax		pmax		
	comp=Z,39nm,0.9s							
WMQ				LR		LR		
	comp=Z,210nm,15.7s							
WMQ				LR		LR		
	comp=Z,240nm,18.9s							
WMQ				LR		LR		
	comp=Z,150nm,24.1s							
BOOM	**Boomskoye usch**	**34.40**	**345**	P		**P**	**17 15 12.5**	**-1.7**
BOOM				IAmb		IAmb	17 16 21.1	
	comp=Z,29nm,1.4s							
BOOM	**Boomskoye usch**	**34.40**	**345**	P		**P**	**17 15 12.5**	**-1.7**
BOOM				pmax		pmax		
	comp=Z,29nm,1.4s							
TOLI2	**Tolitoli**	**34.60**	**102**	P		**P**	**17 15 14.6**	**-1.5**
TOLI2						**PcP**	**17 17 49.5**	**-1.2**
TNSS	**Tian-Shan**	**34.68**	**347**	*e*P		**P**	**17 15 17.2**	**+0.3**
TNSS	**Tian-Shan**	**34.68**	**347**	*e*P		**P**	**17 15 17.3**	**+0.3**
AAA	**Alma-Ata**	**34.85**	**347**	*e*P		**P**	**17 15 18.7**	**+0.7**
AAA	**Alma-Ata**	**34.85**	**347**	*e*P		**P**	**17 15 18.7**	**+0.7**
AAK	**Ala-Archa**	**34.91**	**344**	P		**P**	**17 15 17.0**	**-1.7**
AAK	**Ala-Archa**	**34.91**	**344**	LR		LR	17 30 54.9	
	comp=Z,148nm,18.5s,baz=176,slow=38							
AAK	**Ala-Archa**	**34.91**	**344**	*ce*P		**P**	**17 15 19.8**	**+1.1**
AAK				pmax		pmax		
	comp=Z,4.0nm,1.3s							
SSLB	**Suanglung**	**35.45**	**62**	P		**P**	**17 15 21.1**	**-2.3**
SSLB				IAmb		IAmb	17 15 39.7	
	comp=Z,22nm,0.9s							
ARXS	**Arharly**	**35.62**	**349**	*e*P		**P**	**17 15 26.7**	**+2.0**
SGDS	**Sogindy**	**35.63**	**344**	*e*P		**P**	**17 15 25.6**	**+0.8**
	comp=Z,13nm,1.3s							
**KAP

BTO PP **PnPn** **17 17 07.0 +3.1**
BTO S **S** **17 21 28.7 +3.6**
BTO pmax pmax
comp=Z,22nm,0.6s
BTO pmax pmax
comp=Z,290nm,4.1s
BTO LR LR
comp=Z,190nm,8.4s
BTO LR LR
comp=Z,330nm,15.3s
BTO LR LR
comp=Z,670nm,20.3s
BTLS Baital 37.27 345 *e*P **P** **17 15 39.5 +0.9**
BTLS Baital 37.27 345 *e*P **P** **17 15 39.5 +0.9**
MK31 Makanchi Array 37.52 355*d i*P **P** **17 15 42.3 +1.6**
MKAR Makanchi Array 37.52 355 **P** **17 15 41.4 +0.6**
MKAR Makanchi Array 37.52 355 P **P** **17 15 42.3 +1.6**
comp=Z,4.6nm,0.6s,baz=179,slow=8.6,SNR=64
MKAR PcP **PcP** **17 17 59.4 +0.6**
comp=Z,2.9nm,0.8s,baz=182,slow=3.6,SNR=5.2
MKAR LR LR 17 32 58.4
comp=Z,416nm,18.2s,baz=155,slow=39
MKAR P3KPbc 17 46 01.2
comp=Z,0.2nm,0.6s,baz=38,slow=4.8,SNR=3.6
comp=Z,4.6nm,0.6s
MKAR Makanchi Array 37.52 355 *i* P **P** **17 15 42.2 +1.5**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MAKZ Makanchi 37.56 354 **P** **17 15 42.2 +1.1**
MAKZ Makanchi 37.56 354 P **P** **17 15 42.2 +1.1**
MAKZ pmax pmax
comp=Z,20nm,1.4s
ZSN Zaisan 38.00 358 *e*P **P** **17 15 45.6 +0.8**
ZSN Zaisan 38.00 358 *e*P **P** **17 15 45.6 +0.8**
HHC Hu-ho-hao-te 38.18 31 *e*P **P** **17 15 48.0 +1.5**
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,65nm,4.0s
HHC LR LR
comp=Z,140nm,13.1s
HHC LR LR
comp=Z,120nm,13.5s
HHC LR LR
comp=Z,190nm,14.1s
SSE Sheshan 38.44 51 P **P** **17 15 47.2 -1.5**
SSE S **S** **17 21 44.8 +1.3**
SSE pmax pmax
comp=Z,8.0nm,0.7s
SSE pmax pmax
comp=Z,110nm,3.5s
SSE LR LR
comp=Z,150nm,24.0s
SSE LR LR
comp=Z,180nm,24.6s
SEM Semipalatinsk 41.30 353 *e*P **P** **17 16 12.9 +0.4**
SEM Semipalatinsk 41.30 353 *e*P **P** **17 16 12.9 +0.4**
BATI Baumata 41.35 117 LR LR 17 33 40.0
comp=Z,401nm,21.6s,baz=319,slow=37
SONM Songino Array 41.71 20 **P** **17 16 16.4 +0.6**
SONM IAmb IAmb 17 16 32.0
comp=Z,24nm,1.0s
SONM Songino Array 41.71 20 P **P** **17 16 17.2 +1.4**
comp=Z,6.1nm,0.8s,baz=205,slow=8.9,SNR=23
SONM LR LR 17 35 46.0
comp=Z,408nm,20.7s,baz=200,slow=39
comp=Z,6.1nm,0.8s
SONM Songino Array 41.71 20 P **P** **17 16 16.4 +0.6**
SONM pmax pmax
comp=Z,24nm,1.0s
KURBB Kurchatov Arra 41.73 352 P **P** **17 16 17.1 +1.4**
comp=Z,4.5nm,0.7s,baz=170,slow=7.6,SNR=46
KURBB PP **PP** **17 17 54.3 +2.1**
comp=Z,2.3nm,0.9s,baz=174,slow=10.0,SNR=4.7
KURBB PcP **PcP** **17 18 12.9 +0.9**
comp=Z,4.9nm,0.8s,baz=170,slow=2.9,SNR=11
KURBB LR LR 17 34 50.5
comp=Z,193nm,19.5s,baz=162,slow=38
comp=Z,4.5nm,0.7s
KURK Kurchatov 41.81 352 **P** **17 16 17.5 +1.2**
KURK Kurchatov 41.81 352 P **P** **17 16 17.5 +1.2**
KURK pmax pmax
comp=Z,14nm,0.9s
ULN Ulaanbaatar 41.96 20 P **P** **17 16 18.5 +0.7**
ULN Ulaanbaatar 41.96 20*ce*P **P** **17 16 19.5 +1.7**
ULN pmax pmax
comp=Z,4.0nm,0.6s
RAYN Ar Rayn 42.04 295 P **P** **17 16 19.6 +0.8**
RAYN IAmb IAmb 17 16 22.1
comp=Z,19nm,0.8s
RAYN Ar Rayn 42.04 295 P **P** **17 16 19.6 +0.8**
RAYN pmax pmax
comp=Z,19nm,0.9s
XLT XiLinHaoTe 42.69 31 *e*P **P** **17 16 26.0 +2.2**
XLT pP pwP 17 16 30.6 -1.6
XLT sP sP 17 16 33.3 +4.4
XLT PP **PP** **17 18 07.1 +4.2**
XLT S **S** **17 22 49.1 +2.3**
XLT pmax pmax
comp=Z,10.0nm,1.3s
XLT LR LR
comp=Z,21nm,15.7s
XLT LR LR
comp=Z,200nm,12.3s
XLT LR LR
comp=Z,220nm,18.7s
ATD Arta Tunnel 43.44 277 LR LR 17 31 32.2
comp=Z,6.1nm,20.8s,baz=97,slow=32
MBWA Marble Bar 44.21 134 P **P** **17 16 35.1 -1.0**
MBWA IAmb IAmb 17 18 01.4
comp=Z,70nm,1.8s
MBWA Marble Bar 44.21 134 P **P** **17 16 36.1 -0.1**
comp=Z,20nm,1.3s
ZAA0 Zalesovo Array 44.50 358 **P** **17 16 38.1 0.0**
ZAA0 IAmb IAmb 17 16 53.9
comp=Z,13nm,0.8s
ZALV Zalesovo Beam 44.50 358 P **P** **17 16 38.7 +0.6**
ZALV Zalesovo Beam 44.50 358 P **P** **17 16 39.8 +1.7**
comp=Z,4.9nm,0.7s,baz=188,slow=6.5,SNR=21
ZALV LR LR 17 37 13.2
comp=Z,266nm,18.7s,baz=182,slow=39
comp=Z,4.9nm,0.7s
TJN Taejon 45.40 47 **P** **17 16 45.2 -0.4**
TJN Taejon 45.40 47 *i* P **P** **17 16 45.5 0.0**
BVAR Borovoye Array 45.57 346 P **P** **17 16 48.2 +1.6**
comp=Z,0.6nm,0.3s,baz=151,slow=6.6,SNR=6.8
BVAR PcP **PcP** **17 18 26.0 +0.9**
comp=Z,1.7nm,0.6s,baz=144,slow=5.5,SNR=3.9
BVAR LR LR 17 36 53.7
comp=Z,535nm,21.4s,baz=157,slow=37
comp=Z,0.6nm,0.3s
BRVK Borovoye 45.63 346 **P** **17 16 48.5 +1.4**
BRVK Borovoye 45.63 346 *i* P **P** **17 16 47.8 +0.7**
BRVK pmax pmax
comp=Z,11nm,4.8s
AB31 Akbulak array 45.74 335 **P** **17 16 49.4 +1.4**
AB31 IAmb IAmb 17 17 04.8
comp=Z,12nm,0.8s
ABKAR Akbulak array 45.74 335 **P** **17 16 49.7 +1.7**
ABKAR Akbulak array 45.74 335 **P** **17 16 49.4 +1.4**
ABKAR IAmb IAmb 17 17 04.8
comp=Z,13nm,0.8s
KSAR Wonju Array Be 46.24 46 **P** **17 16 50.2 -2.0**
KSAR Wonju Array Be 46.24 46 P **P** **17 16 50.2 -2.0**
KSRS Korea Array 46.28 46 P **P** **17 16 51.5 -0.9**
comp=Z,1.6nm,0.8s,baz=244,slow=8.5,SNR=6.1
KSRS PcP **PcP** **17 18 27.8 +0.1**
comp=Z,0.4nm,0.5s,baz=236,slow=2.8,SNR=2.3
FITZ Fitzroy Crossi 46.91 126 **P** **17 16 56.2 -1.4**
FITZ Fitzroy Crossi 46.91 126 P **P** **17 16 56.6 -1.0**
comp=Z,5.0nm,0.9s
FITZ Fitzroy Crossi 46.91 126 P **P** **17 16 57.0 -0.6**
AKT Akhty 47.10 320 *e*P **P** **17 16 58.8 -0.2**
AKT *e* 17 18 32.0
AKT *e* 17 18 46.9
AKT pmax pmax
comp=Z,14nm,1.4s
AKT MLR MLR
comp=Z,176nm,17.0s
MEEK Meekatharra 47.15 140 P **P** **17 16 59.8 +0.4**
comp=Z,39nm,1.3s
MEEK Meekatharra 47.15 140 P **P** **17 17 00.2 +0.8**
MORW Morawa 47.38 145 P **P** **17 17 01.7 +0.5**
comp=Z,18nm,2.1s
AKTO Aktyubinsk 47.44 335 LR LR 17 38 10.1
comp=Z,78nm,21.8s,baz=205,slow=38

FURI Furi 47.67 274 P **P** **17 17 03.9 -0.2**
MAK Makhachkala 48.02 321*d i*P P 17 16 59.1 -6.9
MAK *e* 17 18 51.7
MAK pmax pmax
comp=Z,67nm,1.0s
MAK MLR MLR
comp=Z,168nm,21.0s
KNRA Kununurra 48.27 121 P **P** **17 17 06.9 -1.3**
KNRA IAmb IAmb 17 17 07.7
comp=Z,11nm,0.8s
KNRA Kununurra 48.27 121 P **P** **17 17 06.9 -1.3**
comp=Z,19nm,1.1s
ABPO Ambohimpanom 48.29 234 **P** **17 17 09.2 +0.6**
ABPO Ambohimpanom 48.29 234 P **P** **17 17 09.2 +0.6**
ABPO pmax pmax
comp=Z,34nm,1.2s
DRS Darwin Rock St 48.70 116 P **P** **17 17 11.4 -0.2**
GEVA Gevas 48.79 313 P **P** **17 17 11.3 -0.9**
MTN Manton Dam 49.08 116 **P** **17 17 13.1 -1.4**
MTN Manton Dam 49.08 116 P **P** **17 17 13.5 -1.0**
comp=Z,41nm,1.6s
MTN Manton Dam 49.08 116 P **P** **17 17 13.9 -0.6**
JMN Monobe 49.35 53 P **P** **17 17 14.7 -1.7**
GURO Guroymak-BITLI 49.62 313 P **P** **17 17 18.2 -0.4**
GURO PcP **PcP** **17 18 41.4 +1.4**
MUN Mundaring 49.70 147 P **P** **17 17 19.8 +0.8**
comp=Z,33nm,1.1s
BAKI Biak 50.02 99 P **P** **17 17 22.5 +0.7**
comp=Z,37nm,1.2s
KIBK Kibwezi 50.13 259 P **P** **17 17 23.6 +0.9**
KIBK PcP **PcP** **17 18 43.8 +1.5**
VOI Vohitsoka 50.20 231 P **P** **17 17 23.6 +0.5**
VOI IAmb IAmb 17 18 19.5
comp=Z,42nm,1.8s
KDU Kakadu 50.21 115 P **P** **17 17 22.3 -0.8**
comp=Z,27nm,1.2s
KDU Kakadu 50.21 115 P **P** **17 17 22.6 -0.5**
KLBR Kellerberrin 50.25 145 P **P** **17 17 23.5 +0.3**
comp=Z,33nm,0.8s
KMBO Kilima Mbogo 50.62 261 **P** **17 17 28.0 +1.4**
KMBO Kilima Mbogo 50.62 261 P **P** **17 17 28.0 +1.4**
KMBO pmax pmax
comp=Z,12nm,1.1s
MDJ Mudanjiang 50.81 39 P **P** **17 17 26.7 -0.6**
MDJ IAmb IAmb 17 17 43.0
comp=Z,22nm,1.1s
MDJ Mudanjiang 50.81 39 P **P** **17 17 28.0 +0.7**
MDJ S **S** **17 24 43.5 +0.8**
MDJ pmax pmax
comp=Z,6.0nm,1.3s
MDJ pmax pmax
comp=Z,150nm,6.5s
MDJ LR LR
comp=Z,230nm,15.1s
MDJ LR LR
comp=Z,130nm,15.8s
MDJ LR LR
comp=Z,210nm,15.8s
NWAO Narrogin (SRO) 50.98 147 P **P** **17 17 28.5 -0.1**
NWAO Narrogin (SRO) 50.98 147 P **P** **17 17 28.6 -0.1**
comp=Z,56nm,1.1s
NWAO Narrogin (SRO) 50.98 147 LR LR 17 36 53.6
comp=Z,247nm,18.8s,baz=309,slow=34
NWAO Narrogin (SRO) 50.98 147 P **P** **17 17 28.5 -0.1**
NWAO pmax pmax
comp=Z,82nm,1.5s
KBZ Khabaz 51.31 320 P **P** **17 17 30.3 -0.7**
comp=Z,4.0nm,0.8s,baz=100,slow=6.5,SNR=8.4
KBZ PcP **PcP** **17 18 47.5 +1.6**
comp=Z,7.9nm,0.8s,baz=136,slow=1.3,SNR=6.0
KBZ LR LR 17 41 24.4
comp=Z,72nm,22.0s,baz=103,slow=38
comp=Z,4.0nm,0.8s
SHA1 Shidzhatmaz 51.47 320*c i*P **P** **17 17 34.6 +2.1**
KIV Kislovodsk 51.55 320 **P** **17 17 33.6 +0.6**
KIV Kislovodsk 51.55 320 ⇓P **P** **17 17 34.8 +1.8**
KIV Kislovodsk 51.55 320 *e*P **P** **17 17 34.8 +1.8**
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,43nm,17.0s
LODK Lodwar 51.60 267 **P** **17 17 35.3 +1.5**
FOMA Nahampoana Res 51.82 228 P **P** **17 17 36.0 +0.9**
ARTI Arti 51.97 340 **P** **17 17 36.6 +0.9**
ARTI IAmb IAmb 17 17 51.7
comp=Z,14nm,0.7s
ARTI PcP **PcP** **17 18 48.4 +0.3**
ARTI Arti 51.97 340 LR LR 17 43 17.1
comp=Z,134nm,18.1s,baz=142,slow=40
ARTI Arti 51.97 340*c i*P **P** **17 17 37.4 +1.7**
ARTI 17 18 48.4
ARTI 17 19 32.1
ARTI S **S** **17 25 01.8 +3.5**
ARTI SS **SS** **17 28 36.9 +1.6**
ARTI pmax pmax
comp=Z,5.0nm,0.6s
ARTI MLR MLR
comp=Z,234nm,17.0s
GHAJ Ghor Haditha 52.39 302 P **P** **17 17 38.8 -0.5**
GHAJ IAmb IAmb 17 17 56.8
comp=Z,14nm,0.8s
ARPR Arapgir-MALATY 52.50 313 P **P** **17 17 40.0 -0.2**
BALJ Balqa 52.51 303 P **P** **17 17 40.6 +0.4**
BALJ IAmb IAmb 17 17 58.2
comp=Z,25nm,0.8s
GAZ Gaziantep 52.68 310 P **P** **17 17 42.1 +0.6**
GAZ IAmb IAmb 17 17 58.8
comp=Z,14nm,0.9s
WRKA Warakurna 52.81 131 P **P** **17 17 42.6 +0.1**
comp=Z,19nm,1.2s
MMAI Mount Meron Ar 52.93 304 P **P** **17 17 45.5 +2.1**
comp=Z,2.4nm,0.8s,baz=113,slow=6.5,SNR=3.6
MMAI PcP **PcP** **17 18 54.4 +2.1**
comp=Z,0.6nm,0.5s,baz=128,slow=3.7,SNR=3.8
MMAI LR LR 17 44 09.0
comp=Z,91nm,18.3s,baz=96,slow=40
comp=Z,2.4nm,0.8s
BELG Belogornoye 53.47 331 LR LR 17 45 06.6
comp=Z,100nm,19.2s,baz=129,slow=41
BELG Belogornoye 53.47 331 *i* P **P** **17 17 48.3 +1.4**
BELG pmax pmax
comp=Z,3.0nm,0.9s
MJB9 Matsu-Tunnel 53.59 51 P **P** **17 17 46.6 -1.5**
MJB9 IAmb IAmb 17 18 09.1
comp=Z,23nm,1.5s
MAJO Matsushiro 53.59 51 P **P** **17 17 46.8 -1.3**
MAJO IAmb IAmb 17 18 09.2
comp=Z,22nm,1.5s
MAJO Matsushiro 53.59 51 *i* P **P** **17 17 47.8 -0.3**
MAJO pmax pmax
comp=Z,19nm,1.8s
MJAR Matsushiro Arr 53.59 51 P **P** **17 17 46.7 -1.4**
MJAR **PcP** **17 18 53.6 -1.1**
MJAR Matsushiro Arr 53.59 51 P **P** **17 17 48.8 +0.7**
comp=Z,2.9nm,1.0s,baz=230,slow=7.8,SNR=4.2
MJAR PcP **PcP** **17 18 54.4 -0.3**
comp=Z,5.5nm,0.8s,baz=250,slow=4.2,SNR=6.8
MJAR LR LR 17 42 21.6
comp=Z,94nm,18.8s,baz=246,slow=38
comp=Z,2.9nm,1.0s
TOKA Tokat 54.27 313 P **P** **17 17 53.1 0.0**
KLR Kul'dur 54.45 35 *i* P **P** **17 17 54.1 -0.1**
KLR pmax pmax
comp=Z,4.0nm,1.3s
ZEA Zeya 54.73 28 *e*P P 17 18 03.4 +7.3
ZEA *e* 17 25 34.2
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA MLR MLR
comp=N,100nm,15.0s
ZEA MLR MLR
comp=Z,100nm,17.0s
WB0 Warramunga Arr 54.92 122 **P** **17 17 56.5 -1.5**
WB0 IAmb IAmb 17 17 58.4
comp=Z,17nm,1.1s
WRA Warramunga Arr 54.95 122 P **P** **17 17 57.0 -1.2**
WRA Warramunga Arr 54.95 122 P **P** **17 17 57.3 -1.0**
comp=Z,11nm,0.9s,baz=301,slow=7.9,SNR=70
WRA PcP **PcP** **17 18 59.5 -0.6**
comp=Z,0.7nm,0.5s,baz=298,slow=7.1,SNR=3.8
WRA PKP2bc 17 48 20.3
comp=Z,1.2nm,1.0s,baz=127,slow=1.5,SNR=5.3
comp=Z,11nm,0.9s
WRA Warramunga Arr 54.95 122 *i* P **P** **17 17 57.7 -0.6**

WRA pmax pmax
comp=Z,13nm,0.9s
WRAB Tennant Creek 54.96 122 P **P** **17 17 57.3 -1.0**
WRAB Tennant Creek 54.96 122⇑*i*P **P** **17 17 57.7 -0.6**
WRAB pmax pmax
comp=Z,32nm,1.4s
WR2 Warramunga Arr 54.97 122 P **P** **17 17 58.0 -0.4**
WR8 Warramunga Arr 55.09 122 **P** **17 17 58.3 -1.0**
WR8 IAmb IAmb 17 17 59.9
comp=Z,36nm,1.2s
ANN Anapa 55.31 319 *e*P **P** **17 17 58.2 -2.2**
ANN *e**PP **pP** **17 18 01.8 -2.4**
ANN *e* 17 20 03.6
ANN *e*S **S** **17 25 42.2 -1.7**
ANN pmax pmax
comp=Z,24nm,1.1s
KIRS Kirsehir-Merke 55.76 311⇑P **P** **17 18 05.8 +1.9**
VRH Novokhopyorsk 55.77 327 P **P** **17 18 04.5 +0.9**
VRH pmax pmax
comp=Z,26nm,1.1s
FORT Forrest 56.08 137 P **P** **17 18 04.0 -2.2**
BRTR Keskin Array B 56.14 312 **P** **17 18 06.5 -0.2**
BRTR PcP **PcP** **17 19 04.9 +0.3**
BRTR Keskin Array B 56.14 312 P **P** **17 18 07.0 +0.3**
comp=Z,3.9nm,0.9s,baz=117,slow=7.1,SNR=22
BRTR PcP **PcP** **17 19 05.5 +0.9**
comp=Z,1.7nm,0.9s,baz=143,slow=5.7,SNR=4.1
comp=Z,3.9nm,0.9s
BRTR Keskin Array B 56.14 312 *i* P **P** **17 18 07.5 +0.8**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BR131 Keskin Array S 56.14 312 **P** **17 18 06.9 +0.2**
BR131 PcP **PcP** **17 19 04.7 +0.1**
BR131 Keskin Array S 56.14 312 *e*P **P** **17 18 07.1 +0.3**
AS13 Alice Springs 56.37 126 P **P** **17 18 08.1 -0.3**
comp=Z,20nm,0.8s
AS31 Alice Springs 56.38 126 **P** **17 18 07.3 -1.2**
ASAR Alice Springs 56.38 126 P **P** **17 18 07.3 -1.2**
ASAR PcP **PcP** **17 19 03.9 -1.7**
ASAR Alice Springs 56.38 126 P **P** **17 18 07.7 -0.9**
comp=Z,16nm,0.7s,baz=300,slow=7.0,SNR=228
ASAR PcP **PcP** **17 19 04.9 -0.7**
comp=Z,3.3nm,0.8s,baz=310,slow=3.5,SNR=5.4
ASAR LR LR 17 45 13.7
comp=Z,100nm,18.5s,baz=310,slow=39
ASAR PKP2bc 17 48 17.6
comp=Z,0.4nm,0.8s,baz=89,slow=3.0,SNR=4.4
comp=Z,16nm,0.7s
AS01 Alice Springs 56.42 126 P **P** **17 18 08.8 0.0**
ANTO Ankara 56.81 312 P **P** **17 18 11.5 +0.1**
ANTO IAmb IAmb 17 18 13.2
comp=Z,14nm,1.1s
ANTO Ankara 56.81 312 P **P** **17 18 11.5 +0.1**
ANTO pmax pmax
comp=Z,14nm,1.1s
MBAR Mbarara 56.87 263*ce*P **P** **17 18 15.2 +2.8**
MBAR pmax pmax
comp=Z,5.0nm,1.7s
VSR Storozhevoye 57.16 326 *e*P **P** **17 18 10.9 -2.6**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 57.36 327 P **P** **17 18 15.4 +0.5**
VORR pmax pmax
comp=Z,17nm,0.8s
LPSR Galich'ya Gora 57.97 328 P **P** **17 18 20.4 +1.2**
LPSR pmax pmax
comp=Z,30nm,1.0s
ELL Elmali 58.20 308 P **P** **17 18 21.9 +0.6**
ELL Elmali 58.20 308 P **P** **17 18 21.9 +0.6**
ELL pmax pmax
comp=Z,65nm,0.8s
MANT Manisa 59.63 309 P **P** **17 18 31.5 +0.2**
MANT IAmb IAmb 17 18 33.3
comp=Z,18nm,1.2s
QIS Mount Isa 59.66 120 P **P** **17 18 31.4 -0.1**
comp=Z,23nm,1.1s
QIS Mount Isa 59.66 120 P **P** **17 18 31.6 +0.1**
NRIK Noril'sk 59.91 0 P **P** **17 18 32.1 -0.4**
NRIK Noril'sk 59.91 0 P **P** **17 18 33.0 +0.5**
comp=Z,2.3nm,0.5s,baz=190,slow=12,SNR=5.2
NRIK LR LR 17 46 19.1
comp=Z,240nm,21.3s,baz=169,slow=38
comp=Z,2.3nm,0.5s
YSS Yuzhno-Sakhali 60.13 41 P **P** **17 18 32.6 -1.7**
YSS IAmb IAmb 17 18 49.5
comp=Z,13nm,0.9s
YSS Yuzhno-Sakhali 60.13 41 *e*P **P** **17 18 36.1 +1.8**
YSS pmax pmax
comp=Z,10.0nm,0.9s
KARP Karpathos 60.14 306 P **P** **17 18 35.0 +0.4**
MOS Moscow 60.22 330 *e*P **P** **17 18 34.7 0.0**
MOS *e*S **S** **17 26 48.7 +0.8**
MOS pmax pmax
comp=Z,36nm,0.8s
COEN Coen 60.36 112 P **P** **17 18 35.6 -0.8**
COEN IAmb IAmb 17 18 52.1
comp=Z,14nm,0.9s
COEN Coen 60.36 112 P **P** **17 18 36.2 -0.2**
comp=Z,16nm,0.7s
OBN Obninsk 60.43 329⇓*e*P **P** **17 18 37.2 +1.0**
OBN *e* 17 19 21.1
OBN *e* 17 20 52.5
OBN *e*S S 17 27 08.1 +17
OBN pmax pmax
comp=Z,18nm,1.2s
OBN MLR MLR
comp=Z,117nm,17.0s
YAK Yakutsk 61.02 21 **P** **17 18 40.0 -0.1**
YAK Yakutsk 61.02 21 LR LR 17 47 47.6
comp=Z,283nm,19.4s,baz=224,slow=39
YAK Yakutsk 61.02 21 *e*P **P** **17 18 41.1 +1.0**
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,1.0s
MANU Manus Island 61.20 98 P **P** **17 18 41.2 -1.0**
MANU IAmb IAmb 17 18 57.7
comp=Z,13nm,0.9s
TIRR Tirgusor 61.24 316 P **P** **17 18 42.2 +0.3**
TIRR IAmb IAmb 17 18 43.4
comp=Z,8.1nm,0.9s
TIRR Tirgusor 61.24 316 ⇓P **P** **17 18 42.8 +0.8**
TIRR Tirgusor 61.24 316 P **P** **17 18 42.7 +0.8**
CFR Carcaliu 61.63 317⇑P **P** **17 18 45.3 +0.8**
CFR Carcaliu 61.63 317 P **P** **17 18 45.3 +0.8**
ALN Alexandroupoli 62.05 311 P **P** **17 18 48.0 +0.5**
ALN Alexandroupoli 62.05 311 P **P** **17 18 48.0 +0.5**
KLMR Klimovskoe 62.13 336 *e*P **P** **17 18 46.7 -0.9**
KLMR *e* 17 19 26.5
KLMR pmax pmax
comp=Z,24nm,1.1s
RDO Rodhopi 62.48 312 P **P** **17 18 50.7 +0.3**
AKASG Malin Array Be 62.65 323 P **P** **17 18 51.5 +0.2**
AKASG Malin Array Be 62.65 323 P **P** **17 18 51.6 +0.4**
comp=Z,6.5nm,0.9s,baz=99,slow=4.9,SNR=26
AKASG LR LR 17 50 33.8
comp=Z,62nm,18.5s,baz=112,slow=40
comp=Z,6.5nm,0.9s
AKBB Malin Array Si 62.65 323 **P** **17 18 51.3 0.0**
AKBB IAmb IAmb 17 18 53.2
comp=Z,12nm,1.1s
AKBB Malin Array Si 62.65 323⇑*i*P **P** **17 18 51.6 +0.3**
AKBB pmax pmax
comp=Z,10.0nm,0.9s
KIEV Kiev 62.66 323 **P** **17 18 51.1 -0.3**
KIEV IAmb IAmb 17 18 53.2
comp=Z,11nm,1.1s
KIEV Kiev 62.66 323⇑P **P** **17 18 51.3 0.0**
KIEV Kiev 62.66 323 P **P** **17 18 51.3 0.0**
VRI Vrincioaia 62.77 317⇓P **P** **17 18 52.9 +0.7**
VRI Vrincioaia 62.77 317 P **P** **17 18 52.9 +0.7**
BBOO Buckleboo 62.78 134 P **P** **17 18 51.1 -1.4**
BBOO Buckleboo 62.78 134 P **P** **17 18 51.2 -1.2**
comp=Z,23nm,2.0s
PLOR Plostina 62.82 317⇓P **P** **17 18 54.3 +1.7**
PLOR Plostina 62.82 317 P **P** **17 18 54.3 +1.7**
MTSU Mount Surprise 62.83 116 P **P** **17 18 53.3 +0.3**
comp=Z,8.4nm,1.0s
MTSU Mount Surprise 62.83 116 P **P** **17 18 53.5 +0.4**
TESR Tescani 62.99 318⇓P **P** **17 18 54.9 +1.2**
LSZ Lusaka 63.19 248 P **P** **17 18 56.0 +0.4**
LSZ IAmb IAmb 17 18 58.1
comp=Z,17nm,1.0s

LSZ Lusaka 63.19 248 LR LR 17 41 42.8
comp=Z,207nm,21.9s,baz=100,slow=32
LSZ Lusaka 63.19 248 P **P** **17 18 56.0 +0.4**
LSZ pmax pmax
comp=Z,17nm,1.0s
MLR Muntele Rosu 63.20 316 **P**
MLR IAmb IAmb 17 18 57.9
comp=Z,17nm,0.9s
MLR Muntele Rosu 63.20 316 LR LR 17 50 10.2
comp=Z,99nm,20.8s,baz=26,slow=40
MLR Muntele Rosu 63.20 316 ⇑P **P** **17 18 56.2 +1.0**
MLR Muntele Rosu 63.20 316 P **P** **17 18 56.2 +1.0**
DOPR Dopca 63.70 317 ⇑P **P** **17 18 58.7 +0.3**
VOIR 63.80 316 ⇓P **P** **17 18 59.3 +0.1**
VOIR 63.80 316 P **P** **17 18 59.2 +0.1**
WHYH Whyalla 63.98 134 P **P** **17 18 59.7 -0.6**
BURAR Bucovina Array 64.23 319 P **P** **17 19 02.4 +0.4**
BURAR IAmb IAmb 17 19 18.2
comp=Z,7.9nm,0.6s
BURAR Bucovina Array 64.23 319 ⇑P **P** **17 19 03.6 +1.6**
BURAR Bucovina Array 64.23 319 P **P** **17 19 03.5 +1.6**
BUR08 Bucovina Ar. S 64.25 319 **P** **17 19 02.5 +0.4**
BUR08 IAmb IAmb 17 19 18.1
comp=Z,7.0nm,0.7s
ITM Ithomi 64.56 307 P **P** **17 19 04.2 0.0**
MATP Matopo 64.68 242 LR LR 17 43 51.7
comp=Z,20nm,20.3s,baz=92,slow=33
MNK Minsk 64.74 326 *i* P **P** **17 19 04.0 -1.0**
MNK *i* 17 21 25.5
MNK *i* PPP PPP 17 22 57.0
MNK *i* S **S** **17 27 45.7 +0.8**
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax
comp=Z,20nm,1.0s
MNK pmax pmax
comp=E,21nm,1.0s
MNK MLR MLR
comp=Z,143nm,21.0s
MNK MLR MLR
comp=N,154nm,21.0s
CTAO Charters Tower 65.23 117 P **P** **17 19 08.2 -0.6**
CTAO IAmb IAmb 17 19 09.3
comp=Z,13nm,0.8s
CTAO Charters Tower 65.23 117 P **P** **17 19 08.2 -0.6**
CTAO pmax pmax
comp=Z,13nm,0.8s
MARR Marisel-Cluj 65.39 317 ⇑P **P** **17 19 10.7 +1.2**
NACGM Naroch 65.48 327 *e*P **P** **17 19 10.8 +1.0**
comp=Z,20nm,0.9s,baz=110
HERR Herculane 65.49 315 ⇑P **P** **17 19 11.2 +1.1**
FNA Florina 65.51 311 P **P** **17 19 09.7 -0.7**
FNA IAmb IAmb 17 19 10.2
comp=Z,17nm,2.0s
FNA Florina 65.51 311 P **P** **17 19 09.7 -0.7**
FNA pmax pmax
comp=Z,17nm,2.0s
SURR Surduc 65.87 316 ⇑P **P** **17 19 14.2 +1.6**
BROLN Tlhalogang 65.94 242 *i* P **P** **17 19 14.7 +1.2**
QLP Quilpie 66.03 124 P **P** **17 19 13.8 0.0**
comp=Z,50nm,1.0s
QLP Quilpie 66.03 124 P **P** **17 19 13.9 0.0**
RABL Rabaul 66.32 99 P **P** **17 19 14.5 -1.6**
RABL IAmb IAmb 17 20 06.8
comp=Z,19nm,1.1s
STKA Stephens Creek 66.33 131 **P** **17 19 14.5 -1.2**
STKA Stephens Creek 66.33 131 P **P** **17 19 14.6 -1.1**
comp=Z,91nm,1.0s
STKA Stephens Creek 66.33 131 P **P** **17 19 14.1 -1.6**
comp=Z,11nm,0.7s,baz=307,slow=5.9,SNR=18
STKA LR LR 17 47 35.4
comp=Z,72nm,21.2s,baz=254,slow=36
comp=Z,11nm,0.7s
STKA Stephens Creek 66.33 131 P **P** **17 19 15.1 -0.6**
STKA Stephens Creek 66.33 131 *c i*P **P** **17 19 14.8 -0.9**
MREMI Moremi 66.38 240 **P** **17 19 16.7 +0.4**
KOLS Kolonicke sedl 66.46 319 *e*P **P** **17 19 18.7 +2.4**
KOLS pmax pmax
comp=Z,13nm,0.9s
KOLS Kolonicke sedl 66.46 319 *e*P **P** **17 19 18.7 +2.4**
KSANE Kasane 66.75 246 **P** **17 19 19.7 +0.9**
STHS Stebnicka Huta 67.23 320 *e*P **P** **17 19 22.7 +1.5**
STHS Stebnicka Huta 67.23 320 *e*P **P** **17 19 22.7 +1.5**
TIXI Tiksi 67.29 13 P **P** **17 19 19.7 -1.4**
TIXI IAmb IAmb 17 19 35.8
comp=Z,18nm,1.1s
TIXI Tiksi 67.29 13 ⇓*i*P **P** **17 19 21.2 +0.1**
TIXI pmax pmax
comp=Z,17nm,1.1s
NIE Niedzica 67.83 320 *e*P **P** **17 19 27.0 +2.0**
LPHEP Lephephe 68.03 240 **P** **17 19 26.8 0.0**
LPHEP Lephephe 68.03 240 *i* P **P** **17 19 28.1 +1.4**
PHDHD Phuduhudu 68.09 244 P **P** **17 19 27.9 +0.7**
FIA1 FINESS Array S 68.15 333 P **P** **17 19 26.9 +0.2**
FINES FINESS Array B 68.15 333 P **P** **17 19 26.5 -0.1**
FINES FINESS Array B 68.15 333 P **P** **17 19 27.4 +0.7**
comp=Z,6.4nm,0.5s,baz=113,slow=6.6,SNR=56
FINES LR LR 17 52 40.6
comp=Z,97nm,20.9s,baz=112,slow=39
comp=Z,6.4nm,0.5s
FINES FINESS Array B 68.15 333 *i* P **P** **17 19 27.3 +0.6**
FINES pmax pmax
comp=Z,6.0nm,0.5s
OJC Ojcow 68.31 320 *e*P **P** **17 19 29.2 +1.2**
OJC Ojcow 68.31 320 **P** **17 19 27.5 -0.5**
OJC Ojcow 68.31 320 P **P** **17 19 27.5 -0.5**
MORH Mrgy, Hungar 68.34 316 ⇑P **P** **17 19 28.2 0.0**
VYHS Vyhne 68.60 318 *e*P **P** **17 19 30.8 +1.0**
VYHS pmax pmax
comp=Z,8.0nm,1.0s
VYHS Vyhne 68.60 318 *e*P **P** **17 19 30.8 +1.0**
MA2 Magadan 68.84 29 *ce*P **P** **17 19 30.9 -0.2**
MA2 pmax pmax
comp=Z,6.0nm,0.7s
LBTB Lobatse 68.86 239 **P** **17 19 32.6 +0.7**
LBTB Lobatse 68.86 239 LR LR 17 46 28.0
comp=Z,108nm,18.2s,baz=74,slow=33
LBTB Lobatse 68.86 239 P **P** **17 19 32.6 +0.7**
LBTB pmax pmax
comp=Z,18nm,0.8s
KDWAN Kaudwane 69.06 241 **P** **17 19 33.7 +0.5**
KDWAN Kaudwane 69.06 241 *i* P **P** **17 19 34.0 +0.7**
CMSA Cobar Meteorol 69.29 129 P **P** **17 19 33.7 -0.6**
comp=Z,77nm,0.9s
CMSA Cobar Meteorol 69.29 129 P **P** **17 19 34.0 -0.3**
JAVC Velka Javorina 69.42 319 *e*P **P** **17 19 36.5 +1.5**
CEL Celeste 69.43 307 **P** **17 19 35.6 +0.4**
CEL IAmb IAmb 17 19 38.8
comp=Z,19nm,0.9s
STEB Steborice 69.54 320 *e*P **P** **17 19 37.2 +1.6**
MODS Modra-Piesok 69.60 318 *e*P **P** **17 19 36.0 -0.1**
MODS pmax pmax
comp=Z,35nm,1.1s
MODS Modra-Piesok 69.60 318 *e*P **P** **17 19 36.0 -0.1**
ACER Acerenza 69.61 310 **P** **17 19 36.8 +0.5**
CUC Castrocucco 69.63 309 IAmb IAmb 17 19 40.2
comp=Z,8.8nm,0.8s
MORC Moravsky Berou 69.66 320 **P** **17 19 36.8 +0.3**
MORC Moravsky Berou 69.66 320 *e*P **P** **17 19 36.9 +0.5**
MORC Moravsky Berou 69.66 320 ⇓P **P** **17 19 37.6 +1.2**
MORC Moravsky Berou 69.66 320 P **P** **17 19 37.6 +1.2**
RMQ Roma 69.71 123 P **P** **17 19 37.3 +0.3**
comp=Z,22nm,0.9s
MAKGR Makgori 69.82 238 P **P** **17 19 38.5 +0.6**
MAKGR Makgori 69.82 238 *i* P **P** **17 19 38.5 +0.6**
SGRT San Giovanni R 69.84 311 P **P** **17 19 38.2 +0.5**
SGRT IAmb IAmb 17 19 39.2
comp=Z,16nm,0.8s
SKOMA Sekoma 70.09 240 *i* P **P** **17 19 40.5 +1.0**
KRLC Kraliky 70.19 320 *e*P **P** **17 19 41.4 +1.7**
KRLC Kraliky 70.19 320 *e*P **P** **17 19 41.4 +1.7**
VRAC Vranov 70.19 319 *e*P **P** **17 19 40.5 +0.8**
KRUC Moravsky 70.28 319 *e*P **P** **17 19 40.9 +0.7**
CONA Conrad Observa 70.47 318 *e*P **P** **17 19 42.2 +0.7**
comp=Z,2.2nm,1.0s
BOSA Boshof 70.50 235 **P** **17 19 42.7 +0.7**
BOSA Boshof 70.50 235 P **P** **17 19 41.8 -0.2**
comp=Z,12nm,0.8s,baz=78,slow=7.8,SNR=15
BOSA LR LR 17 47 31.5
comp=Z,89nm,19.3s,baz=15,slow=33
comp=Z,12nm,0.8s
BOSA Boshof 70.50 235 P **P** **17 19 42.7 +0.7**
BOSA pmax pmax
comp=Z,24nm,1.0s
DPC Dobruska-Polom 70.53 320 *e*P **P** **17 19 43.8 +2.1**
DPC *ex* x 17 19 58.1
DPC AMS AMS 17 55 10.0
comp=Z,100nm,15.5s
DPC Dobruska-Polom 70.53 320 *e*P **P** **17 19 43.8 +2.1**
DPC *e* 17 19 58.1
DPC MLR MLR
comp=Z,100nm,15.5s
BOJS Bojanci 70.59 315 *i* P **P** **17 19 42.9 +0.7**
ARSA Arzberg 70.61 317 **P** **17 19 42.6 +0.3**
ARSA IAmb IAmb 17 19 44.6
comp=Z,8.0nm,0.9s
ARSA Arzberg 70.61 317 *i* P **P** **17 19 43.7 +1.4**
comp=Z,3.1nm,0.7s,SNR=5.4
KSP Ksiaz 70.62 321 *e*P **P** **17 19 43.0 +0.7**
OSTC Ostas 70.63 320 *e*P **P** **17 19 44.1 +1.8**
OSTC Ostas 70.63 320 *e*P **P** **17 19 44.1 +1.8**
CHVC Chvalec 70.73 320 *e*P **P** **17 19 44.8 +1.8**
CHVC Chvalec 70.73 320 *e*P **P** **17 19 44.8 +1.8**
BRAT Ballarat 70.74 135 P **P** **17 19 43.4 +0.3**
UPC Upice 70.75 320 *e*P **P** **17 19 44.8 +1.8**
UPC Upice 70.75 320 *e*P **P** **17 19 44.8 +1.8**
PERS Pernice 70.81 316 *i* P **P** **17 19 44.2 +0.7**
QNGWA Qangwa 70.88 246 **P** **17 19 44.4 -0.1**
QNGWA IAmb IAmb 17 19 46.8
comp=Z,21nm,0.9s
QNGWA Qangwa 70.88 246 *i* P **P** **17 19 45.7 +1.2**
SOKA Soboth 70.88 316 *e*P **P** **17 19 45.1 +1.1**
comp=Z,3.2nm,0.8s,SNR=5.9
TREC Trest 70.91 319 AMS AMS 17 54 30.0
comp=Z,100nm,21.2s
PETK Petropavlovsk- 71.00 37 P **P** **17 19 43.2 -1.3**
PETK Petropavlovsk- 71.00 37 P **P** **17 19 42.8 -1.7**
comp=Z,1.0nm,0.6s,baz=255,slow=1.9,SNR=3.7
comp=Z,1.0nm,0.6s
PETK Petropavlovsk- 71.00 37 P **P** **17 19 43.2 -1.3**
KGCAE Kacgae 71.01 242 **P** **17 19 45.4 +0.2**
KGCAE Kacgae 71.01 242 *i* P **P** **17 19 46.3 +1.1**
LJU Ljubljana 71.15 315 *i* P **P** **17 19 46.5 +0.9**
OBKA Obir 71.19 316 *i* P **P** **17 19 46.3 +0.4**
comp=Z,2.5nm,0.8s
INTR Introdacqua 71.23 311 P **P** **17 19 46.6 +0.4**
PHPEN Phepeng 71.33 239 P **P** **17 19 47.6 +0.5**
GRTLG Ghanzi 71.40 244 **P** **17 19 48.5 +0.9**
GRTLG IAmb IAmb 17 19 49.8
comp=Z,12nm,0.8s
GRTLG Ghanzi 71.40 244 *i* P **P** **17 19 49.0 +1.3**
ARCES ARCESS Array B 71.52 341 P **P** **17 19 47.9 +0.5**
ARCES ARCESS Array B 71.52 341 P **P** **17 19 47.7 +0.3**
comp=Z,5.4nm,0.7s,baz=91,slow=4.9,SNR=11
comp=Z,5.4nm,0.7s
ARCES ARCESS Array B 71.52 341 P **P** **17 19 47.9 +0.5**
ARCES pmax pmax
comp=Z,82nm,1.7s
PET Petropavlovsk 71.56 37 P **P** **17 19 47.3 -0.5**
PET IAmb IAmb 17 20 02.9
comp=Z,8.8nm,0.9s
PRU Pruhonice 71.61 320 *e*P **P** **17 19 49.8 +1.6**
PRU Pruhonice 71.61 320 *e*P **P** **17 19 49.8 +1.6**
CKRC Cesky Krumlov 71.61 318 *e*P **P** **17 19 49.7 +1.4**
CKRC Cesky Krumlov 71.61 318 *e*P **P** **17 19 49.7 +1.4**
CADS Cadrg 71.72 316 *i* P **P** **17 19 49.2 +0.2**
GUMA Gualdo di Mace 71.73 312 P **P** **17 19 49.6 +0.4**
ZVC Zvikov 71.77 319 *e*P **P** **17 19 50.9 +1.7**
SABO M.te Sabotino 71.79 315 P **P** **17 19 49.3 -0.2**
MYKA Terra Mystica 71.82 316 *e*P **P** **17 19 50.5 +0.8**
comp=Z,4.2nm,0.7s,SNR=5.6
TOO Toolangi 71.84 135 **P** **17 19 49.4 -0.5**
TOO Toolangi 71.84 135 P **P** **17 19 49.6 -0.3**
comp=Z,8.2nm,1.2s
TOO Toolangi 71.84 135 P **P** **17 19 49.4 -0.5**
TOO pmax pmax
comp=Z,6.0nm,0.8s
PRED Cave del Predi 71.86 316 **P** **17 19 49.3 -0.6**
NRCA Norcia 71.88 312 P **P** **17 19 50.4 +0.2**
FDMO Fiordimonte 71.91 312 P **P** **17 19 50.4 +0.2**
BIOA Bad Ischl, Aus 71.93 317 *i* P **P** **17 19 51.1 +0.9**
comp=Z,2.9nm,0.7s
GEC2 GERESS Array S 72.02 318 IAmb IAmb 17 19 53.0
comp=Z,16nm,0.9s
GEC2 GERESS Array S 72.02 318 *e*P **P** **17 19 51.9 +1.0**
comp=Z,16nm,0.9s,baz=95,slow=5.8
GEC2 *e*pP **pwP** **17 19 58.3 -1.2**
baz=95,slow=5.8
GERES GERESS Array B 72.02 318 P **P** **17 19 51.2 +0.4**
GERES GERESS Array B 72.02 318 P **P** **17 19 51.9 +1.0**
comp=Z,7.8nm,0.8s,baz=102,slow=5.7,SNR=60
comp=Z,7.8nm,0.8s
BRG Berggiesshubel 72.10 320 *e*P **P** **17 19 52.5 +1.3**
comp=Z,16nm,1.3s,baz=95,slow=5.8
BRG Berggiesshubel 72.10 320 *e*P **P** **17 19 52.9 +1.7**
BRG Amp 17 19 54.6
comp=Z,6.0nm,0.9s
KHC Kasperske Hory 72.13 319 *e*P **P** **17 19 52.4 +1.0**
KHC Kasperske Hory 72.13 319 *e*P **P** **17 19 52.4 +1.0**
LKGWB Lokgwabe 72.28 241 **P** **17 19 50.8 -2.0**
RUE Ruedersdorf 72.41 322 *e*P **P** **17 19 54.3 +1.4**
comp=Z,18nm,0.5s,baz=95,slow=5.8
STAL STALIGIAL 72.43 316 P **P** **17 19 52.9 -0.4**
STAL IAmb IAmb 17 19 54.5
comp=Z,12nm,0.9s
LESA Schwarzleotal 72.56 317 *i* P **P** **17 19 54.6 +0.5**
comp=Z,5.4nm,0.7s
WET Wettzell 72.59 319 *e*P **P** **17 19 55.3 +1.2**
baz=95,slow=5.8
CIMO Cimolais 72.62 316 P **P** **17 19 54.8 +0.4**
CIMO IAmb IAmb 17 19 55.9
comp=Z,8.5nm,0.8s
CLL Collm 72.75 321 *i* P **P** **17 19 56.2 +1.2**
CLL pmax pmax
comp=Z,12nm,1.4s
CLL Collm 72.75 321 *i* P **P** **17 19 56.2 +1.2**
comp=Z,12nm,1.4s
CLL *e*PcP **PcP** **17 20 14.0 +1.7**
CLL AMS AMS 17 53 00.0
comp=Z,100nm,21.0s
CLL Collm 72.75 321 *e*P **P** **17 19 56.0 +1.0**
comp=Z,6.5nm,1.1s,baz=95,slow=5.8
KOOLE Kule 72.81 242 P **P** **17 19 56.2 +0.1**
KOOLE Kule 72.81 242 *i* P **P** **17 19 57.3 +1.2**
TANN Tannenbergstha 72.99 320 *e*P **P** **17 19 57.7 +1.1**
comp=Z,6.4nm,1.2s,baz=95,slow=5.8
ROTZ Rotzenmuhle 73.09 319 *e*P **P** **17 19 58.6 +1.5**
comp=Z,2.5nm,1.1s,baz=95,slow=5.8
ROTZ *e*pP **pwP** **17 20 05.4 -0.3**
baz=95,slow=5.8
CTI Castel Tesino 73.15 315 **P** **17 19 58.5 +0.8**
CTI IAmb IAmb 17 19 59.4
comp=Z,13nm,0.8s
CTI Castel Tesino 73.15 315 P **P** **17 19 58.5 +0.8**
CTI pmax pmax
comp=Z,13nm,0.8s
MANZ Manzenberg 73.17 319 *e*P **P** **17 19 59.2 +1.6**
comp=Z,4.5nm,1.1s,baz=95,slow=5.8
MANZ *e*pP **pwP** **17 20 05.9 -0.3**
baz=95,slow=5.8
WTTA Wattenberg 73.25 317 *i* P **P** **17 19 58.7 +0.4**
comp=Z,8.0nm,1.1s,SNR=5.3
WATA Walderalm 73.29 317 *i* P **P** **17 19 59.3 +0.7**
comp=Z,4.4nm,0.6s
CAN Canberra 73.39 131 P **P** **17 19 58.6 -0.6**
CAN IAmb IAmb 17 19 59.6
comp=Z,21nm,1.0s
CAN Canberra 73.39 131 P **P** **17 19 58.6 -0.6**
comp=Z,25nm,1.2s
CAN Canberra 73.39 131 P **P** **17 19 58.6 -0.6**
CAN pmax pmax
comp=Z,21nm,1.0s
ARMA Armidale 73.52 126 P **P** **17 20 00.1 +0.1**
comp=Z,19nm,1.0s
ZCCA Zocca 73.52 313 IAmb IAmb 17 20 02.9
comp=Z,13nm,0.8s
SQTA Sankt Quirin 73.54 316 *i* P **P** **17 20 00.4 +0.5**
comp=Z,5.5nm,0.7s
MOX Moxa 73.55 320 *e*P **P** **17 20 01.0 +1.2**
comp=Z,15nm,1.4s,baz=95,slow=5.8
FUR Furstenfeldbru 73.56 317 *e*P **P** **17 20 00.1 +0.2**
comp=Z,14nm,0.6s,baz=95,slow=5.8
MOTA Moosalm 73.62 317 *i* P **P** **17 20 00.6 +0.2**
comp=Z,12nm,1.0s,SNR=7.5
HFS Hagfors 73.63 330 P **P** **17 20 00.5 +0.5**
comp=Z,10nm,0.7s,baz=93,slow=5.9,SNR=14
HFS LR LR 17 56 10.3
comp=Z,81nm,20.6s,baz=90,slow=39
comp=Z,10nm,0.7s
CNB Canberra Magne 73.66 131 P **P** **17 20 00.1 -0.7**
comp=Z,23nm,1.6s
GRA1 Grafenberg Arr 73.72 319 P **P** **17 20 01.8 +1.0**
GRA1 IAmb IAmb 17 20 03.5
comp=Z,8.7nm,0.8s
GRF Grafenberg Arr 73.72 319 P **P** **17 20 01.8 +1.0**
GRF pmax pmax
comp=Z,9.0nm,0.8s
GRF Grafenberg Arr 73.72 319 *e*P **P** **17 20 02.3 +1.5**
comp=Z,8.6nm,0.8s,baz=95,slow=5.8
GRFO Grafenberg 73.72 319 P **P** **17 20 01.8 +1.0**
GRFO Grafenberg 73.72 319 P **P** **17 20 01.8 +1.0**
GRFO pmax pmax
comp=Z,10.0nm,0.9s
FETA Feichten 73.85 316 *i* P **P** **17 20 02.4 +0.6**
comp=Z,5.9nm,1.3s
RETA Reutte 73.86 317 *i* P **P** **17 20 02.1 +0.3**
comp=Z,5.5nm,1.0s,SNR=5.4
GORT1 Trebel 73.97 322 *e*P **P** **17 20 03.0 +0.9**
comp=Z,19nm,1.1s,baz=95,slow=5.8
TSUM Tsumeb 74.03 247 LR LR 17 49 54.2
comp=Z,118nm,19.5s,baz=60,slow=34
CLZ Clausthal 74.43 321 *e*P **P** **17 20 05.9 +0.9**
comp=Z,9.8nm,0.8s,baz=95,slow=5.8
DAVA Damuels 74.44 316 *e*P **P** **17 20 06.5 +1.2**
comp=Z,14nm,0.7s,SNR=11
MSSA Maissana 74.57 313 IAmb IAmb 17 20 06.9
comp=Z,27nm,1.0s
KEST Kesra 74.59 304 **P** **17 20 06.8 +0.5**
KEST IAmb IAmb 17 20 08.9
comp=Z,14nm,0.8s
KEST Kesra 74.59 304 P **P** **17 20 07.5 +1.3**
comp=Z,11nm,0.7s,baz=123,slow=0.6,SNR=13
comp=Z,11nm,0.7s
BSEG Bad Segeberg 74.65 323 *e*P **P** **17 20 06.6 +0.5**
comp=Z,8.6nm,0.8s,baz=95,slow=5.8
NRDL Niedersach Rie 74.65 322 *e*P **P** **17 20 07.8 +1.7**
comp=Z,20nm,1.4s,baz=95,slow=5.8
GTTG Gottingen 74.66 321 *e*P **P** **17 20 07.4 +1.2**
comp=Z,14nm,1.1s,baz=95,slow=5.8
NC405 NORSAR Array S 74.75 331 P **P** **17 20 06.6 0.0**
NC405 IAmb IAmb 17 20 07.9
comp=Z,15nm,0.7s
NC602 NORSAR Array S 74.78 330 P **P** **17 20 06.7 0.0**
NB2 NORSAR Subarra 74.98 331 P **P** **17 20 07.9 0.0**
comp=Z,8.8nm,0.8s,baz=96,slow=6.2
NOA NORSAR Array B 74.98 331 P **P** **17 20 08.0 0.0**
comp=Z,6.0nm,0.6s,baz=98,slow=6.2,SNR=21
NOA LR LR 17 57 22.2
comp=Z,91nm,19.1s,baz=100,slow=39
comp=Z,6.0nm,0.6s
NOA NORSAR Array B 74.98 331 P **P** **17 20 08.0 0.0**
HNR Honiara 74.98 102 LR LR 17 57 18.5
comp=Z,36nm,18.1s,baz=208,slow=39
BFO Black Forest 75.53 317 P **P** **17 20 11.6 +0.2**
BFO Black Forest 75.53 317 P **P** **17 20 11.6 +0.2**
BFO pmax pmax
comp=Z,8.0nm,0.9s
BFO Black Forest 75.53 317 *e*P **P** **17 20 12.0 +0.6**
comp=Z,7.2nm,0.9s,baz=95,slow=5.8
TNS Taunus Mts 75.54 319 *e*P **P** **17 20 12.5 +1.1**
comp=Z,8.5nm,0.8s,baz=95,slow=5.8
KASTN Kahler Asten 75.61 320 *e*P **P** **17 20 12.7 +0.9**
comp=Z,5.3nm,0.8s,baz=95,slow=5.8
IBBN Ibbenburen 76.07 322 *e*P **P** **17 20 15.3 +1.0**
comp=Z,20nm,1.0s,baz=95,slow=5.8
SENIN Lac Senin/Sane 76.18 315 IAmb IAmb 17 20 17.4
comp=Z,19nm,0.8s
SPITS Spitsbergen Ar 76.96 348 P **P** **17 20 20.1 +1.2**
comp=Z,2.7nm,0.6s,baz=134,slow=14,SNR=1.4
SPITS LR LR 17 58 45.9
comp=Z,267nm,19.7s,baz=103,slow=39
comp=Z,2.7nm,0.6s
WLF Walferdange 77.00 319 *d*P **P** **17 20 21.4 +1.7**
BTNL Ternell 77.03 320 *d*P **P** **17 20 20.9 +1.0**
comp=Z,9.5nm,0.9s
MEM Membach 77.11 320 *d*P **P** **17 20 20.9 +0.7**
comp=Z,8.1nm,1.1s
BSTI Sart Tilman 77.39 320 *d*P **P** **17 20 22.6 +0.8**
CASY Casey 77.39 170 **P** **17 20 21.6 +0.2**
CASY IAmb IAmb 17 20 23.4
comp=Z,14nm,0.9s
BCLA Clavier 77.56 320 *d*P **P** **17 20 23.6 +0.8**
comp=Z,4.2nm,1.2s
BGES Gesves 77.70 320 *d*P **P** **17 20 24.7 +1.2**
comp=Z,5.6nm,0.9s
BMRD Maredsous 77.90 319 *d*P **P** **17 20 24.9 +0.2**
comp=Z,4.8nm,1.0s
DOU Dourbes 78.01 319 *d*P **P** **17 20 26.6 +1.2**
comp=Z,3.5nm,0.8s
MAW Mawson 78.70 189 P **P** **17 20 29.6 +1.0**
comp=Z,2.4nm,1.6s
MAW Mawson 78.70 189 P **P** **17 20 28.8 +0.2**
comp=Z,6.9nm,0.9s,baz=349,slow=7.6,SNR=9.1
MAW LR LR 17 47 41.1
comp=Z,164nm,22.0s,baz=20,slow=30
comp=Z,6.9nm,0.9s
CLF Chambon-Foret 79.60 317 IAmb IAmb 17 20 36.4
comp=Z,15nm,0.8s
EKA Eskdalemuir Ar 82.47 325 P **P** **17 20 50.2 +1.0**
comp=Z,8.7nm,0.7s,baz=104,slow=6.3,SNR=30
comp=Z,8.7nm,0.7s
NOR Nord 82.79 352 *i* P **P** **17 20 50.2 -0.3**
NOR IAmb IAmb 17 20 51.7
comp=Z,8.2nm,0.9s
TORD Torodi Ar. Bea 83.38 282 **P** **17 20 55.4 +0.7**
TORD Torodi Ar. Bea 83.38 282 P **P** **17 20 56.0 +1.2**
comp=Z,4.2nm,0.6s,baz=58,slow=5.8,SNR=4.3
comp=Z,4.2nm,0.6s
DZM Mont Dzumac 83.84 113 *e*LR LR 17 47 12.8
comp=Z,120nm,28.5s
DAG Danmarks Havn 84.50 347 *i* P **P** **17 20 59.4 +0.2**
DAG IAmb IAmb 17 21 00.7
comp=Z,10nm,1.0s
ESBB Sonseca Array 84.83 309 IAmb IAmb 17 21 04.4
comp=Z,12nm,1.3s
ESDC Sonseca Array 84.83 309 **P** **17 21 02.6 +0.8**
ESDC IAmb IAmb 17 21 04.3
comp=Z,10nm,1.2s
ESDC Sonseca Array 84.83 309 P **P** **17 21 02.6 +0.8**
comp=Z,5.7nm,1.0s,baz=59,slow=4.7,SNR=34
comp=Z,5.7nm,1.0s
SYO Syowa Base 84.84 195 ⇑*i*P **P** **17 21 02.0 +1.1**
SYO Syowa Base 84.84 195 ⇑*e*PcP **PcP** **17 21 04.4 +0.1**
SYO Syowa Base 84.84 195 ⇑*es*P sP 17 21 09.1 +2.9
PAB San Pablo 85.15 309 P **P** **17 21 04.3 +0.9**
PAB San Pablo 85.15 309 P **P** **17 21 04.3 +0.9**
PAB pmax pmax
comp=Z,8.0nm,1.2s
DBG Daneborg 85.64 345 *i* P **P** **17 21 01.9 -3.1**
DBG IAmb IAmb 17 21 09.0
comp=Z,5.6nm,1.0s
MDT Midelt 86.33 302 LR LR 18 06 40.2
comp=Z,15nm,18.9s,baz=78,slow=40
PBRG Braganca 86.60 312 *e*P **P** **17 21 12.0 +1.5**
MVO Moncovo 86.92 311 *e*P **P** **17 21 13.8 +1.6**
PVRL Vila Real 87.41 311 *e*P **P** **17 21 16.8 +2.3**
PBAR Barrancos 87.43 308 *e*P **P** **17 21 16.1 +1.6**
MTE Manteigas 87.44 310 *e*P **P** **17 21 16.8 +2.2**
POLO Lamas de Olo 87.45 311 *e*P **P** **17 21 16.9 +2.2**
PCBR Castelo Branco 87.48 310 *e*P **P** **17 21 16.7 +1.9**
PMRV Marv??o 87.49 309 *e*P **P** **17 21 16.3 +1.5**
PVIS Viseu 87.64 311 *e*P **P** **17 21 17.7 +2.0**
PBEJ Beja 88.10 308 *e*P **P** **17 21 20.0 +2.2**
EVO Evora 88.13 309 *e*P **P** **17 21 20.2 +2.3**
PCAS Casmilo, Conde 88.22 310 *e*P **P** **17 21 19.4 +1.1**
BORG Borgarnes 89.26 336 LR LR 18 04 09.2
comp=Z,50nm,19.6s,baz=89,slow=37
NEEM North Greenlan 90.17 352 *i* P **P** **17 21 27.8 +0.7**
NEEM IAmb IAmb 17 21 35.4
comp=Z,8.8nm,0.8s
DBIC Dimbokro 90.74 277 P **P** **17 21 31.6 +0.9**
comp=Z,12nm,0.7s,baz=118,slow=4.0,SNR=10.0
comp=Z,12nm,0.7s
SUMG Summit 91.05 346 *i* P **P** **17 21 32.6 +1.2**
SUMG IAmb IAmb 17 21 33.6
comp=Z,20nm,1.2s
H17K Granite Mounta 91.07 23 IAmb IAmb 17 21 47.5
comp=Z,7.8nm,1.1s
J16K Anvik River 91.48 25 IAmb IAmb 17 21 35.3
comp=Z,14nm,1.0s
J17K VABM Dome 92.06 24 IAmb IAmb 17 21 52.1
comp=Z,9.9nm,1.0s
H19K Roundabout Mou 92.12 22 IAmb IAmb 17 21 37.9
comp=Z,7.9nm,1.1s
RPZ Rata Peaks 92.13 134 LR LR 17 56 38.6
comp=Z,57nm,21.6s,baz=215,slow=32

D23K	**Nanushuk River**	**92.28**	**18**	IAmb	IAmb	17 21 38.0		
	comp=Z,8.7nm,1.0s							
E22K	**Anaktuvuk Pass**	**92.39**	**19**	P	**P**	**17 21 37.2**	**0.0**	
E22K				IAmb	IAmb	17 21 57.2		
	comp=Z,17nm,1.8s							
K17K	**Iditarod**	**92.68**	**25**	IAmb	IAmb	17 21 40.6		
	comp=Z,10nm,1.0s							
G21K	**Allakaket**	**92.68**	**20**	IAmb	IAmb	17 21 39.0		
	comp=Z,4.0nm,0.8s							
TOLK	**Toolik Lake Re**	**92.80**	**18**	IAmb	IAmb	17 21 55.9		
	comp=Z,17nm,1.4s							
E23K	**Chandalar**	**93.12**	**18**	IAmb	IAmb	17 21 56.7		
	comp=Z,16nm,1.5s							
J19K	**Poorman**	**93.16**	**23**	IAmb	IAmb	17 21 57.0		
	comp=Z,5.1nm,0.9s							
H21K	**Melozitna Rive**	**93.37**	**21**	IAmb	IAmb	17 21 43.4		
	comp=Z,7.8nm,1.1s							
E24K	**Your Creek**	**93.46**	**18**	IAmb	IAmb	17 21 58.1		
	comp=Z,5.7nm,1.1s							
J20K	**Nowinta River**	**93.63**	**23**	IAmb	IAmb	17 21 58.8		
	comp=Z,5.1nm,0.8s							
G23K	**Bananza Creek**	**93.75**	**20**	IAmb	IAmb	17 21 45.1		
	comp=Z,6.7nm,1.1s							
I21K	**Tanana**	**93.91**	**21**	IAmb	IAmb	17 22 00.2		
	comp=Z,5.4nm,0.8s							
K20K	**Telida**	**94.08**	**23**	IAmb	IAmb	17 22 01.3		
	comp=Z,8.0nm,0.9s							
N17K	**Nushagak Hills**	**94.14**	**27**	IAmb	IAmb	17 22 01.8		
	comp=Z,11nm,1.3s							
H23K	**Yukon River**	**94.41**	**20**	IAmb	IAmb	17 22 02.5		
	comp=Z,5.3nm,0.8s							
MLY	**Manley**	**94.44**	**21**	IAmb	IAmb	17 21 47.9		
	comp=Z,4.6nm,0.8s							
F25K	**Christian Rive**	**94.61**	**18**	IAmb	IAmb	17 21 49.6		
	comp=Z,6.0nm,1.0s							
BPAW	**Bear Paw Mtn.**	**94.86**	**22**		**P**	**17 21 48.3**	**-0.4**	
BPAW				IAmb	IAmb	17 22 04.2		
	comp=Z,7.7nm,0.8s							
D27M	**Malcolm River**	**94.86**	**15**	IAmb	IAmb	17 21 50.4		
	comp=Z,6.3nm,1.0s							
I23K	**Minto, Yukon-K**	**94.86**	**21**	P	**P**	**17 21 48.8**	**+0.2**	
I23K				IAmb	IAmb	17 22 05.3		
	comp=Z,3.9nm,0.8s							
BMAR	**Burnt Mountain**	**95.03**	**18**	P	**P**	**17 21 49.1**	**-0.3**	
NEA2	**Nenana**	**95.28**	**21**	IAmb	IAmb	17 21 51.8		
	comp=Z,4.1nm,0.8s							
O18K	**Koktuh Hills**	**95.33**	**27**	IAmb	IAmb	17 22 06.9		
	comp=Z,8.9nm,1.0s							
TRF	**Thorofare Moun**	**95.47**	**22**	IAmb	IAmb	17 23 13.7		
	comp=Z,5.5nm,1.2s							
G26K	**Porcupine Rive**	**95.58**	**18**	IAmb	IAmb	17 22 07.9		
	comp=Z,6.5nm,0.8s							
E28M	**Babbage River**	**95.67**	**16**	IAmb	IAmb	17 22 08.3		
	comp=Z,5.8nm,1.0s							
VNDA	**Vanda**	**95.83**	**168**	LR	LR	17 57 49.4		
	comp=Z,150nm,21.9s,baz=296,slow=31							
ILAR	**Eielson Array**	**95.93**	**20**	P	**P**	**17 21 51.5**	**-2.0**	
ILAR	**Eielson Array**	**95.93**	**20**	P	**P**	**17 21 52.5**	**-1.0**	
	comp=Z,2.0nm,0.7s,baz=293,slow=4.7,SNR=24							
	comp=Z,2.0nm,0.7s							
E29M	**Blow River**	**96.25**	**15**	IAmb	IAmb	17 21 56.4		
	comp=Z,5.8nm,1.0s							
F28M	**Old Crow**	**96.27**	**16**	P	**P**	**17 21 54.5**	**-0.5**	
F28M				IAmb	IAmb	17 21 56.4		
	comp=Z,4.6nm,1.1s							
J25K	**Salcha River,**	**96.55**	**20**	IAmb	IAmb	17 22 10.8		
	comp=Z,4.2nm,0.8s							
I26K	**Coal Creek Min**	**96.84**	**19**	IAmb	IAmb	17 22 13.3		
	comp=Z,5.7nm,1.0s							
J26L	**Joseph Creek**	**97.22**	**20**	IAmb	IAmb	17 22 14.9		
	comp=Z,4.0nm,1.0s							
G29M	**Pine Creek**	**97.28**	**16**	IAmb	IAmb	17 22 00.8		
	comp=Z,7.7nm,1.1s							
SCRK	**Sand Creek**	**97.42**	**20**		**P**	**17 21 59.7**	**-0.7**	
SCRK				IAmb	IAmb	17 22 15.9		
	comp=Z,5.4nm,0.9s							
H29M	**Whitestone**	**97.67**	**17**	IAmb	IAmb	17 22 02.0		
	comp=Z,3.9nm,0.8s							
I28M	**Miner Creek**	**97.75**	**18**	IAmb	IAmb	17 22 17.1		
	comp=Z,3.9nm,0.8s							
G31M	**Satah River**	**98.28**	**15**	IAmb	IAmb	17 22 04.4		
	comp=Z,5.1nm,0.9s							
SNAA	**Sanae**	**98.76**	**199**	P	**P**	**17 22 05.8**	**-0.3**	
	comp=Z,1.3nm,0.9s,baz=114,slow=3.9,SNR=4.2							
SNAA				LR	LR	18 01 46.0		
	comp=Z,81nm,18.5s,baz=42,slow=32							
	comp=Z,1.3nm,0.9s							
QSPA	**South Pole Qui**	**99.26**	**180**	LR	LR	18 02 54.7		
	comp=Z,133nm,18.5s,baz=315,slow=33							
MSO	**Missoula**	**121.03**	**17**		**PKPdf**	**17 27 18.8**	**-1.0**	
J05D	**Fort Rock, OR**	**121.64**	**24**		**PKPdf**	**17 27 20.5**	**-0.6**	
EYMN	**Ely**	**122.93**	**359**		**PKPdf**	**17 27 22.4**	**-0.9**	
E46A	**Sault Ste Mari**	**123.98**	**353**		**PKPdf**	**17 27 24.9**	**-0.4**	
F33A	**5 Mile Ranch,**	**124.97**	**3**		**PKPdf**	**17 27 26.2**	**-1.1**	
RSSD	**Black Hills**	**125.84**	**10**		**PKPdf**	**17 27 27.9**	**-1.4**	
RSSD	**Black Hills**	**125.84**	**10**	PKIKP	**PKPdf**	**17 27 27.9**	**-1.4**	
PDAR	**Pinedale Array**	**125.97**	**15**		**PKPdf**	**17 27 28.1**	**-1.5**	
PDAR	**Pinedale Array**	**125.97**	**15**	PKP	**PKPdf**	**17 27 29.2**	**-0.4**	
	comp=Z,2.9nm,0.8s,baz=48,slow=2.2,SNR=25							
NVAR	**Mina Array Bea**	**126.92**	**25**	PKP	**PKiKP**	**17 27 32.2**	**+0.2**	
	comp=Z,3.8nm,0.9s,baz=290,slow=1.7,SNR=19							
R11B	**Troy Canyon, C**	**128.07**	**23**		**PKPdf**	**17 27 32.7**	**-0.9**	
P40A	**Paris**	**131.35**	**359**		**PKPdf**	**17 27 37.1**	**-2.5**	
R40A	**Maddies Statio**	**132.59**	**359**		**PKPdf**	**17 27 40.2**	**-1.8**	
BDFB	**Brasilia**	**135.70**	**257**	PKP	**PKPdf**	**17 27 48.5**	**0.0**	
	comp=Z,6.1nm,0.8s,baz=88,slow=5.2,SNR=5.7							
TXAR	**Lajitas Array**	**140.18**	**15**	PKhKP	PKPpre	17 27 49.2		
	comp=Z,0.3nm,0.6s,baz=2.5,slow=2.9,SNR=3.6							
TXAR				PKP	**PKPdf**	**17 27 56.5**	**0.0**	
	comp=Z,1.7nm,0.9s,baz=184,slow=1.3,SNR=9.9							
CPUP	**Villa Florida**	**142.25**	**239**	PKhKP	PKPpre	17 27 55.0		
	comp=Z,1.8nm,0.8s,baz=44,slow=3.8,SNR=4.0							
AQDB	**Aquidauana**	**142.38**	**249**		**PKPdf**	**17 27 56.5**	**-3.9**	
PLCA	**Paso Flores**	**142.95**	**209**	PKhKP	PKPpre	17 27 57.4		
	comp=Z,1.7nm,0.6s,baz=60,slow=5.2,SNR=7.4							
VILB	**Vilhena**	**147.63**	**261**	PKPdf	**PKPdf**	**17 28 06.2**	**-3.4**	
VILB					**PKPbc**	**17 28 12.6**	**+0.2**	
LMEL	**Las Melosas**	**147.85**	**217**		**PKPbc**	**17 28 12.7**	**0.0**	
MT08	**Bocatoma Ro**	**148.02**	**218**	PKPdf	**PKPdf**	**17 28 08.3**	**-1.8**	
MT08					**pPKPdf**	**17 28 13.7**	**-0.5**	
LPAZ	**La Paz**	**154.80**	**252**	PKP	**PKPdf**	**17 28 21.4**	**+0.1**	
	comp=Z,2.4nm,0.7s,baz=128,slow=1.6,SNR=9.0							

*IDC **05** 17:20:52.8±0.9,22°.42N×125°.49E, h0km, mb3.9/9, mbtmp4.1/13, ML3.7/4, MS3.1/4, Error ellipse: s-maj=23.3km s-min=15.8km az=92.0*
*NEIC **05** 17:20:54.9±2.5,22°.33N±0°.08×125°.20E±0°.07, h21km±5km, mb4.3/33, Error ellipse: s-maj=11.9km s-min=9.7km az=163.0*
*NIED **05** 17:20:57.5,22°.64N×125°.33E, h83km, MW4.3, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.65; $M_{\theta\theta}$=1.47; $M_{\phi\phi}$=-0.82; $M_{r\theta}$=0.67; $M_{\theta\phi}$=-1.48; $M_{\phi r}$=2.19; Fault plane solution: $M_0$3.02000×10^{15} NP1:χ_{0s}76.00000°, δ39.00000°, λ-167.00000°. NP2:χ_{0s}336.00000°, δ82.00000°, λ-52.00000°.*
*JMA **05** 17:20:57.5±0.3,23°.N±1°×125°.3E±1°.0, h83km, MV4.0/18, FAR S OFF ISHIGAKIJIMA*

ISC 05 17:20:56.7±0.6,22°.42N±0°.06×125°.28E±0°.05, h38km, n78, σ1^{s}82/92, mb4.1/22, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**2.12**	**321**	S	**Sn**	**17 21 53.2**	**-1.6**
JKRS	**Kuro-shima**	**2.16**	**327**	*eP*	**Pn**	**17 21 30.3**	**+0.2**
JKRS				S	**Sn**	**17 21 54.9**	**-0.7**
JIJ	**Ishigaki jima**	**2.20**	**332**	P	**Pn**	**17 21 30.4**	**-0.3**
JIJ				*eS*	**Sn**	**17 21 54.6**	**-2.1**
JTJ	**Tarama**	**2.28**	**347**	P	**Pn**	**17 21 31.4**	**-0.3**
JTJ				S	**Sn**	**17 21 57.3**	**-1.3**
JMJ2	**Miyako jima3**	**2.31**	**1**	P	**Pn**	**17 21 31.0**	**-1.3**
JMJ2				*eS*	**Sn**	**17 21 56.5**	**-2.9**
JOGS	**Gusukube**	**2.34**	**3**	P	**Pn**	**17 21 31.5**	**-1.1**
JOGS				*eS*	**Sn**	**17 21 58.1**	**-1.9**
JISG	**Ishigakijimahi**	**2.34**	**338**	*eP*	**Pn**	**17 21 32.4**	**-0.2**
JISG				*eS*	**Sn**	**17 21 58.3**	**-1.8**
IRIF	**Iriomote-Funau**	**2.38**	**324**	P	**Pn**	**17 21 33.5**	**+0.3**
IRIF				*eS*	**Sn**	**17 22 00.1**	**-1.1**
JIRB	**Irabujima**	**2.40**	**358**	P	**Pn**	**17 21 32.3**	**-1.2**
JIRB				*eS*	**Sn**	**17 21 59.0**	**-2.7**
JIKM	**Ikemajima**	**2.50**	**359**	*eP*	**Pn**	**17 21 33.6**	**-1.2**
JIKM				*eS*	**Sn**	**17 22 01.5**	**-2.5**
YOJ	**Yonaguni jima**	**2.92**	**315**		**Pn**	**17 21 40.4**	**-0.1**
YOJ				Sn	**Sn**	**17 22 13.6**	**-0.7**
YOJ	**Yonaguni jima**	**2.92**	**315**	*eS*	**Sn**	**17 22 13.3**	**-1.0**
JYNG	**Yonagunijimaku**	**2.95**	**314**	*eP*	**Pn**	**17 21 41.1**	**0.0**
JYNG				*eS*	**Sn**	**17 22 14.1**	**-1.1**
YULB	**Yu-li**	**3.80**	**286**		**Pn**	**17 21 51.1**	**-1.6**
YULB				Sn	**Sn**	**17 22 32.4**	**-3.8**
NACB	**Ninganchiao**	**3.81**	**298**		**Pn**	**17 21 52.1**	**-0.8**
NACB				Sn	**Sn**	**17 22 32.8**	**-3.7**
TWG	**Pinlang**	**3.91**	**277**		**Pn**	**17 21 52.6**	**-1.6**
TWG				Sn	**Sn**	**17 22 35.4**	**-3.5**
SSLB	**Suanglung**	**4.21**	**290**		**Pn**	**17 21 57.9**	**-0.5**
SSLB				Sn	**Sn**	**17 22 43.2**	**-3.2**
YHNB	**Yeheng**	**4.23**	**303**	Pn	**Pn**	**17 21 59.3**	**+0.7**
TATO	**Taipei**	**4.31**	**307**	Pn	**Pn**	**17 21 59.2**	**-0.5**
TPUB	**Ta-pu**	**4.38**	**282**		**Pn**	**17 22 01.2**	**+0.5**
JOW	**Kunigami**	**5.17**	**31**	Pn	**Pn**	**17 22 09.2**	**-2.4**
JOW	**Kunigami**	**5.17**	**31**	Pn	**Pn**	**17 22 09.3**	**-2.3**
	13nm,0.3s,baz=169,slow=16,SNR=8.4						
JOW				Sn	Sn	17 23 01.8	-8.2
	6.6nm,0.3s,baz=131,slow=24,SNR=1.4						
JOW				LR	LR	17 23 36.3	
	comp=Z,118nm,20.5s,baz=314,slow=32 29nm,0.3s						
JMZ	**Minamidaito 2**	**6.40**	**57**	Pn	**Pn**	**17 22 25.5**	**-2.9**
JNU	**Nakatsue**	**11.76**	**24**	Pn	**Pn**	**17 23 38.8**	**-3.1**
JNU	**Nakatsue**	**11.76**	**24**	Pn	**Pn**	**17 23 39.1**	**-2.7**
	0.7nm,0.3s,baz=212,slow=11,SNR=8.9						
JNU				LR	LR	17 28 18.5	
	comp=Z,112nm,19.2s,baz=238,slow=38 6.3nm,0.7s						
KSAR	**Wonju Array Be**	**15.14**	**8**		**Pn**	**17 24 26.4**	**-1.5**
KSRS	**Korea Array**	**15.16**	**8**	Pn	**Pn**	**17 24 25.9**	**-2.1**
	0.1nm,0.3s,baz=185,slow=14,SNR=14 2.6nm,0.8s						
JGF	**Kuroka**	**16.84**	**36**	Pn	**Pn**	**17 24 49.2**	**-0.3**
JGF				IAmb	IAmb	17 25 14.3	
	comp=Z,38nm,1.4s						
MAJO	**Matsushiro**	**18.00**	**36**		**Pn**	**17 25 01.1**	**-2.8**
MAJO				IAmb	IAmb	17 25 07.5	
	comp=Z,18nm,0.9s						
MJAR	**Matsushiro Arr**	**18.00**	**36**		**Pn**	**17 25 01.9**	**-2.0**
MJAR	**Matsushiro Arr**	**18.00**	**36**	P	**P**	**17 25 04.8**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=217,slow=8.6,SNR=24 comp=Z,14nm,1.0s						
MJB9	**Matsu-Tunnel**	**18.00**	**36**	P	**Pn**	**17 25 01.6**	**-2.3**
MJB9				IAmb	IAmb	17 25 07.5	
	comp=Z,19nm,0.9s						
KKM	**Kota Kinabalu**	**18.48**	**210**	P	**P**	**17 25 07.5**	**-2.1**
JMM	**Marumori**	**20.38**	**37**	P	**P**	**17 25 28.8**	**-1.3**
JMM				IAmb	IAmb	17 26 03.5	
	comp=Z,21nm,1.1s						
GUMO	**Guam**	**20.57**	**112**	LR	LR	17 33 00.6	
	comp=Z,59nm,19.3s,baz=264,slow=36						
USA0B	**Ussuriysk Arra**	**22.42**	**13**	P	**P**	**17 25 51.5**	**-0.5**
USA0B				IAmb	IAmb	17 25 54.8	
	comp=Z,11nm,0.8s						
USRK	**Ussuriysk Ar.**	**22.42**	**13**	P	**P**	**17 25 52.8**	**+0.7**
	comp=Z,9.7nm,0.7s,baz=202,slow=11,SNR=14 comp=Z,9.7nm,0.7s						
JTM	**Tenmabayashi**	**22.66**	**32**	P	**P**	**17 25 53.8**	**-0.8**
SBUM	**Sibu**	**23.55**	**214**	P	**P**	**17 26 01.8**	**-2.0**
ERM	**Erimo**	**24.62**	**33**	P	**P**	**17 26 12.6**	**-0.8**
CHTO	**Chiang Mai**	**24.90**	**267**	P	**P**	**17 26 14.9**	**-1.3**
CHTO				IAmb	IAmb	17 26 50.4	
	comp=Z,6.5nm,1.2s						
CMAR	**Chiang Mai Arr**	**24.98**	**266**	P	**P**	**17 26 20.1**	**+3.2**
	comp=Z,1.9nm,0.7s,baz=70,slow=8.0,SNR=12						
CMAR				LR	LR	17 36 58.4	
	comp=Z,46nm,18.8s,baz=85,slow=38 comp=Z,1.9nm,0.7s						
JKA	**Kamikawa-asahi**	**25.94**	**29**	P	**P**	**17 26 26.0**	**+0.6**
JKA				IAmb	IAmb	17 26 37.4	
	comp=Z,11nm,1.0s						
YSS	**Yuzhno-Sakhali**	**28.25**	**26**	P	**P**	**17 26 46.6**	**+0.5**
SONM	**Songino Array**	**29.54**	**334**	P	**P**	**17 26 58.2**	**+0.5**
SONM	**Songino Array**	**29.54**	**334**	P	**P**	**17 26 59.5**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=158,slow=9.3,SNR=3.6 comp=Z,0.6nm,0.6s						
PETK	**Petropavlovsk-**	**39.34**	**31**	P	**P**	**17 28 21.8**	**-0.3**
PETK	**Petropavlovsk-**	**39.34**	**31**	P	**P**	**17 28 23.4**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=160,slow=4.7,SNR=4.9 comp=Z,1.8nm,0.9s						
YAK	**Yakutsk**	**39.71**	**3**	P	**P**	**17 28 25.9**	**+0.9**
YAK				IAmb	IAmb	17 28 27.5	
	comp=Z,11nm,1.0s						
BOXOZ	**Borroloola**	**39.73**	**163**	P	**P**	**17 28 24.5**	**-1.2**
COEN	**Coen**	**40.18**	**152**	P	**P**	**17 28 30.6**	**+1.1**
COEN				IAmb	IAmb	17 29 03.7	
	comp=Z,6.1nm,0.9s						
MKAR	**Makanchi Array**	**42.22**	**316**		**P**	**17 28 45.9**	**-0.2**
MKAR	**Makanchi Array**	**42.22**	**316**	P	**P**	**17 28 48.9**	**+2.8**
	comp=Z,1.7nm,0.8s,baz=101,slow=9.5,SNR=13 comp=Z,1.7nm,0.8s						
MAKZ	**Makanchi**	**42.43**	**316**		**P**	**17 28 47.8**	**0.0**
MAKZ				IAmb	IAmb	17 29 03.3	
	comp=Z,3.1nm,0.8s						
WB0	**Warramunga Arr**	**42.86**	**167**	P	**P**	**17 28 50.4**	**-1.0**
WRA	**Warramunga Arr**	**43.02**	**167**	P	**P**	**17 28 51.1**	**-1.6**
WRA	**Warramunga Arr**	**43.02**	**167**	P	**P**	**17 28 53.2**	**+0.5**
	comp=Z,2.6nm,0.6s,baz=347,slow=9.1,SNR=17 comp=Z,2.6nm,0.6s						
WR8	**Warramunga Arr**	**43.06**	**167**	P	**P**	**17 28 53.0**	**-0.1**
WR8				IAmb	IAmb	17 29 04.8	
	comp=Z,10.0nm,1.1s						
ZAA0	**Zalesovo Array**	**43.78**	**326**	P	**P**	**17 28 58.2**	**-0.3**
ZAA0				IAmb	IAmb	17 29 19.7	
	comp=Z,1.9nm,0.7s						
ZALV	**Zalesovo Beam**	**43.78**	**326**	P	**P**	**17 28 58.6**	**+0.1**
ZALV	**Zalesovo Beam**	**43.78**	**326**	P	**P**	**17 29 00.8**	**+2.3**
	comp=Z,1.2nm,0.6s,baz=96,slow=6.0,SNR=5.1 comp=Z,1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**45.88**	**320**	P	**P**	**17 29 17.8**	**+2.5**
	comp=Z,0.7nm,0.6s,baz=108,slow=8.2,SNR=4.8 comp=Z,0.7nm,0.6s						
AS31	**Alice Springs**	**46.57**	**169**	P	**P**	**17 29 20.5**	**-0.4**
AS31				IAmb	IAmb	17 29 56.3	
	comp=Z,2.5nm,1.4s						
ASAR	**Alice Springs**	**46.57**	**169**	P	**P**	**17 29 20.1**	**-0.8**
ASAR	**Alice Springs**	**46.57**	**169**	P	**P**	**17 29 22.4**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=350,slow=6.8,SNR=15 comp=Z,1.0nm,0.7s						
ABKAR	**Akbulak array**	**57.36**	**315**		**P**	**17 30 40.9**	**-0.2**
ABKAR	**Akbulak array**	**57.36**	**315**	P	**P**	**17 30 40.6**	**-0.4**
ABKAR				IAmb	IAmb	17 30 55.2	
	comp=Z,1.6nm,1.0s						
C18K	**Utukok River**	**63.33**	**23**	P	**P**	**17 31 23.0**	**+1.4**
M16K	**Timber Creek**	**63.77**	**32**	P	**P**	**17 31 25.8**	**+1.2**
D19K	**Kuna River**	**64.44**	**23**	P	**P**	**17 31 31.0**	**+2.1**
O18K	**Koktuh Hills**	**65.65**	**33**	P	**P**	**17 31 38.7**	**+1.8**
IMAR	**Indian Mountai**	**66.08**	**26**	P	**P**	**17 31 41.9**	**+2.4**
H21K	**Melozitna Rive**	**66.48**	**27**	P	**P**	**17 31 45.0**	**+2.9**
E24K	**Your Creek**	**68.02**	**24**	P	**P**	**17 31 55.2**	**+3.3**
E24K				IAmb	IAmb	17 31 56.0	
	comp=Z,2.8nm,0.8s						
F24K	**Squaw Lake**	**68.31**	**24**	P	**P**	**17 31 56.5**	**+2.8**
F24K				IAmb	IAmb	17 31 57.8	
	comp=Z,2.9nm,0.8s						
F25K	**Christian Rive**	**69.15**	**24**	P	**P**	**17 32 02.2**	**+3.3**
F25K				IAmb	IAmb	17 32 03.0	
	comp=Z,1.5nm,0.8s						
BMAR	**Burnt Mountain**	**69.58**	**24**	P	**P**	**17 32 04.6**	**+3.0**
M30M	**Minto, Yukon**	**73.92**	**29**	P	**P**	**17 32 30.3**	**+2.6**
M30M				IAmb	IAmb	17 32 35.0	
	comp=Z,3.6nm,1.4s						

*IDC **05** 17:21:19.1±1.2,11°.51S×118°.51E, h0km, mb3.7/4, mbtmp3.6/9, ML3.6/5, Error ellipse: s-maj=28.9km s-min=20.2km az=66.0*

ISC 05 17:21:20.8±1.1,11°.66S±0°.09×118°.6E±0°.1, h10km, n9, σ3^{s}20/12, mb3.8/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.15**	**74**	Pn	**Pn**	**17 22 40.0**	**+2.0**
	5.0nm,0.3s,baz=259,slow=18,SNR=7.4						
BATI				Sn	**Sn**	**17 23 40.5**	**+2.9**
	5.5nm,0.3s,baz=230,slow=23,SNR=6.0 15nm,0.3s						
KAPI	**Kappang**	**6.70**	**10**	Pn	**Pn**	**17 22 58.1**	**-1.2**
	6.5nm,0.3s,baz=185,slow=11,SNR=2.7 12nm,0.3s						
FITZ	**Fitzroy Crossi**	**9.32**	**134**	Pn	**Pn**	**17 23 36.5**	**+1.2**
	0.5nm,0.3s,baz=308,slow=11,SNR=31						
FITZ				Sn	**Sn**	**17 25 17.3**	**-3.0**
	0.9nm,0.3s,baz=322,slow=19,SNR=9.1 1.1nm,0.3s						
WRA	**Warramunga Arr**	**17.20**	**121**	P	**Pn**	**17 25 21.4**	**-0.1**
	0.1nm,0.3s,baz=294,slow=14,SNR=5.7						
WRA				S	**Sn**	**17 28 25.5**	**-7.4**
	0.2nm,0.5s,baz=323,slow=40,SNR=3.2 0.2nm,0.7s						
ASAR	**Alice Springs**	**18.80**	**131**	P	**Pn**	**17 25 42.9**	**+1.7**
	0.1nm,0.3s,baz=313,slow=12,SNR=8.7						
ASAR				S	Sn	17 29 01.5	-10
	0.2nm,0.4s,baz=296,slow=22,SNR=4.7 0.4nm,0.7s						
NWAO	**Narrogin (SRO)**	**21.21**	**183**	P	**P**	**17 26 08.6**	**+1.8**
	5.4nm,0.6s,baz=2.9,slow=12,SNR=8.1 5.4nm,0.6s						
MKAR	**Makanchi Array**	**66.66**	**334**	P	**P**	**17 32 10.1**	**-1.6**
	0.1nm,0.4s,baz=156,slow=5.9,SNR=2.0 0.1nm,0.4s						
VNDA	**Vanda**	**69.43**	**171**	P	**P**	**17 32 30.0**	**+1.3**
	0.3nm,0.5s,baz=12,slow=12,SNR=2.2 0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**71.39**	**340**	P	**P**	**17 32 39.3**	**-1.6**
	0.4nm,0.4s,baz=138,slow=6.8,SNR=2.3 0.4nm,0.4s						

*IDC **05** 17:36:00.1±1.2,54°.34N×34°.78W, h0km, mb3.6/9, mbtmp3.6/9, MS3.3/11, Error ellipse: s-maj=41.0km s-min=21.2km az=5.0*

ISC 05 17:36:01.4±1.2,54°.3N±0°.3×34°.8W±0°.1, h10km, n20, σ0^{s}92/10, mb3.7/9, MS3.3/8, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**12.46**	**28**	LR	LR	17 42 25.9	
	comp=Z,56nm,19.5s,baz=205,slow=31						
SFJD	**Kangerlussuaq**	**14.84**	**335**	LR	LR	17 44 14.8	
	comp=Z,65nm,20.4s,baz=138,slow=33						
FRB	**Frobisher Bay**	**19.55**	**312**	LR	LR	17 46 22.8	
	comp=Z,96nm,19.0s,baz=161,slow=32						
ESDC	**Sonseca Array**	**25.35**	**113**	P	**P**	**17 41 29.2**	**+0.8**
	0.6nm,0.7s,baz=318,slow=9.3,SNR=6.8						
ESDC				LR	LR	17 49 11.1	
	comp=Z,53nm,19.6s,baz=298,slow=31 0.6nm,0.7s						
DAVOX	**Davos/Dischmat**	**28.94**	**86**	LR	LR	17 53 14.3	
	comp=Z,51nm,18.2s,baz=81,slow=36						
SADO	**Sadowa**	**29.88**	**270**	LR	LR	17 53 06.0	
	comp=Z,110nm,18.2s,baz=134,slow=34						
ULM	**Lac du Bonnet**	**36.58**	**289**	LR	LR	17 56 07.9	
	comp=Z,39nm,21.4s,baz=112,slow=33						
BRTR	**Keskin Array B**	**46.99**	**79**	P	**P**	**17 44 31.1**	**-1.6**
	0.3nm,0.5s,baz=335,slow=6.4,SNR=2.5 0.3nm,0.5s						
PDAR	**Pinedale Array**	**48.59**	**289**	P	**P**	**17 44 44.3**	**-0.8**
	0.5nm,0.6s,baz=60,slow=8.8,SNR=5.2 0.5nm,0.6s						
ILAR	**Eielson Array**	**50.40**	**329**	P	**P**	**17 44 58.1**	**-0.2**
	0.3nm,0.8s,baz=67,slow=2.3,SNR=4.4 0.3nm,0.8s						
ANMO	**Albuquerque**	**52.17**	**279**	LR	LR	18 06 37.5	
	comp=Z,109nm,18.0s,baz=104,slow=35						
AKTO	**Aktyubinsk**	**52.79**	**53**	LR	LR	18 06 32.6	
	comp=Z,31nm,20.2s,baz=80,slow=35						
GNI	**Garni**	**52.97**	**71**	LR	LR	18 10 20.1	
	comp=Z,17nm,18.7s,baz=15,slow=39						
TXAR	**Lajitas Array**	**54.61**	**272**	P	**P**	**17 45 30.8**	**+0.7**
	0.3nm,0.8s,baz=70,slow=11,SNR=4.1 0.3nm,0.8s						
BVAR	**Borovoye Array**	**56.41**	**44**	P	**P**	**17 45 43.2**	**+0.6**
	1.0nm,0.9s,baz=295,slow=5.3,SNR=2.5 1.0nm,0.9s						
KURBB	**Kurchatov Arra**	**61.51**	**42**	P	**P**	**17 46 17.8**	**-0.3**
	1.0nm,0.3s,baz=233,slow=9.2,SNR=2.0 1.0nm,0.3s						
MKAR	**Makanchi Array**	**66.08**	**42**	P	**P**	**17 46 48.5**	**+0.3**
	0.5nm,0.8s,baz=16,slow=6.3,SNR=5.0 0.5nm,0.8s						
SONM	**Songino Array**	**73.07**	**26**	P	**P**	**17 47 32.5**	**+1.0**
	0.3nm,0.4s,baz=280,slow=8.6,SNR=1.2

ASAR				S	**S**	**18 00 22.0**	**-5.1**
	comp=Z,2.7nm,0.9s,baz=14,slow=28,SNR=4.3						
	comp=Z,7.7nm,0.5s						
EIDS	**Eidsvold**	**24.00**	**155**	P	**P**	**17 57 11.3**	**-0.4**
EIDS				IAmb	IAmb	17 57 16.1	
	comp=Z,14nm,0.7s						
KKM	**Kota Kinabalu**	**25.84**	**292**	P	**P**	**17 57 26.9**	**-1.9**
KKM				IAmb	IAmb	17 57 33.3	
	comp=Z,8.0nm,0.8s						
MBWA	**Marble Bar**	**26.48**	**227**	P	**P**	**17 57 35.2**	**+1.0**
MBWA				IAmb	IAmb	17 58 07.9	
	comp=Z,7.1nm,0.8s						
STKA	**Stephens Creek**	**28.12**	**178**	P	**P**	**17 57 49.8**	**+0.9**
SBUM	**Sibu**	**28.65**	**282**	P	**P**	**17 57 53.1**	**-0.6**
BBOO	**Buckleboo**	**29.29**	**187**	P	**P**	**17 57 59.9**	**+0.7**
FORT	**Forrest**	**29.35**	**202**	P	**P**	**17 58 01.1**	**+1.4**
CAN	**Canberra**	**32.56**	**167**	P	**P**	**17 58 30.7**	**+2.7**
TOO	**Toolangi**	**34.12**	**173**	P	**P**	**17 58 43.9**	**+2.4**
MORW	**Morawa**	**34.17**	**220**	P	**P**	**17 58 43.3**	**+1.2**
NWAO	**Narrogin (SRO)**	**36.23**	**214**	P	**P**	**17 59 00.7**	**+1.0**
KSRS	**Korea Array**	**42.45**	**345**	P	**P**	**17 59 49.9**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=164,slow=8.7,SNR=5.0						
	comp=Z,0.8nm,0.7s						
GSI	**Gunungsitoli**	**42.92**	**276**	P	**P**	**17 59 53.9**	**-1.6**
CMAR	**Chiang Mai Arr**	**46.22**	**300**	P	**P**	**18 00 21.4**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=108,slow=8.8,SNR=4.9						
	comp=Z,0.8nm,0.7s						
DSZ	**Denniston Nort**	**47.30**	**148**	P	**P**	**18 00 29.7**	**-0.2**
TUWZ	**Tuamarina**	**48.25**	**146**	P	**P**	**18 00 39.2**	**+2.1**
AFI	**Afiamalu**	**48.42**	**105**	P	**P**	**18 00 39.8**	**+0.9**
BNX	**BinXian**	**50.47**	**348**	⇓P	**P**	**18 00 54.4**	**+0.6**
BNX				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**51.45**	**332**	*e*P	**P**	**18 01 04.3**	**+2.9**
HHC				pmax	pmax		
	comp=Z,12nm,0.5s						
HHC				pmax	pmax		
	comp=Z,87nm,4.0s						
PETK	**Petropavlovsk-**	**58.41**	**12**	P	**P**	**18 01 50.2**	**-1.0**
PETK	**Petropavlovsk-**	**58.41**	**12**	P	**P**	**18 01 50.9**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=172,slow=6.0,SNR=5.1						
	comp=Z,1.2nm,0.8s						
SONM	**Songjino Array**	**59.20**	**334**	P	**P**	**18 01 56.0**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=167,slow=7.2,SNR=2.2						
	comp=Z,0.4nm,0.3s						
MKAR	**Makanchi Array**	**71.45**	**322**	P	**P**	**18 03 16.3**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=95,slow=8.6,SNR=21						
	comp=Z,0.8nm,0.4s						
MAKZ	**Makanchi**	**71.65**	**322**	P	**P**	**18 03 17.0**	**-0.1**
MAKZ				IAmb	IAmb	18 03 18.1	
	comp=Z,2.2nm,0.5s						
ZALV	**Zalesovo Beam**	**73.50**	**329**	P	**P**	**18 03 27.3**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=114,slow=6.6,SNR=3.7						
	comp=Z,0.6nm,0.4s						
BOOM	**Boomskoye usch**	**73.87**	**316**	P	**P**	**18 03 31.6**	**+1.0**
BOOM				IAmb	IAmb	18 03 31.9	
	comp=Z,2.2nm,0.6s						
KURK	**Kurchatov**	**75.34**	**325**	P	**P**	**18 03 38.6**	**-0.1**
KURBB	**Kurchatov Arra**	**75.36**	**325**	P	**P**	**18 03 38.4**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=116,slow=4.9,SNR=6.4						
	comp=Z,0.6nm,0.7s						
KKAR	**Karatay Array**	**77.85**	**315**	P	**P**	**18 03 53.2**	**+0.2**
M16K	**Timber Creek**	**79.51**	**26**	P	**P**	**18 04 02.2**	**+0.6**
M16K				IAmb	IAmb	18 04 03.5	
	comp=Z,5.3nm,0.9s						
M17K	**Holitna River**	**80.33**	**26**	P	**P**	**18 04 07.6**	**+1.5**
M17K				IAmb	IAmb	18 04 15.0	
	comp=Z,9.5nm,1.3s						
K17K	**Iditarod**	**80.57**	**24**	P	**P**	**18 04 08.2**	**+0.9**
K17K				IAmb	IAmb	18 04 10.0	
	comp=Z,8.5nm,1.1s						
BVAR	**Borovoye Array**	**80.94**	**325**	P	**P**	**18 04 09.9**	**+0.4**
	comp=Z,2.3nm,0.4s,baz=109,slow=7.8,SNR=21						
	comp=Z,2.3nm,0.4s						
BRVK	**Borovoye**	**81.01**	**325**	P	**P**	**18 04 09.4**	**-0.5**
E22K	**Anaktuvuk Pass**	**85.30**	**20**	P	**P**	**18 04 32.3**	**+0.6**
E22K				IAmb	IAmb	18 05 06.3	
	comp=Z,6.1nm,1.2s						
CCB	**Clear Creek Bu**	**85.62**	**24**	P	**P**	**18 04 32.3**	**-1.0**
CCB				IAmb	IAmb	18 04 33.1	
	comp=Z,1.8nm,0.8s						
ILAR	**Eielson Array**	**86.04**	**24**	P	**P**	**18 04 34.1**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=264,slow=4.7,SNR=12						
	comp=Z,0.9nm,0.7s						
ABKAR	**Akbulak array**	**86.41**	**320**	P	**P**	**18 04 36.8**	**-0.7**

DJA 05 17:56:15.2±0.6,5°N±5°×9°6E±°,h10km,MLv4.0/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**0.85**	**149**	P	Pg	17 56 30.3	-1.3
LHMI	**Lhok Sumawe**	**1.00**	**77**	P	Pn	17 56 35.1	-0.2
TSI	**Tuntungan**	**2.98**	**120**	P	Pn	17 57 02.5	-0.1
GSI	**Gunungsitoli**	**4.01**	**156**	P	Pn	17 57 17.6	+0.9

*NEIC **05** 17:59:55.5±1.2,35°.787N±0°.005×117°.61W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.8km az=325.0*

PAS 05 17:59:56.2±1.2,35°.793N±0°.010×117°.62W±0°.01, h3km±3km, ML3.4/21,**ML3.2**/128(NEIC), **Error ellipse: s-maj=1.5km s-min=1.4km az=206.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.03**	**32**		Pg	17 59 57.3	+0.2
SRTC	**Snort**	**0.15**	**227**		Pg	17 59 59.6	+0.5
WVPM	**Volcano Peak E**	**0.23**	**314**		Pg	18 00 00.8	+0.2
WVPM					Sg	18 00 04.5	+0.9
WNMM	**Nine Mile Cany**	**0.24**	**282**		Pg	18 00 01.1	+0.2
WRVM	**Rose V. Centra**	**0.31**	**314**		Pg	18 00 02.3	0.0
WRVM					Sg	18 00 06.9	+0.6
LRMC	**Laurel Mtn Rad**	**0.32**	**190**		Pg	18 00 02.3	0.0
LRMC					Sg	18 00 06.7	+0.2
MFS	**McCloud Flat S**	**0.38**	**329**		Pg	18 00 03.6	0.0
MFS					Sg	18 00 09.1	+0.6
WBSM	**Bird Springs**	**0.50**	**239**		Pg	18 00 05.7	-0.1
DTP	**Desert Tortois**	**0.56**	**200**		Pg	18 00 06.6	-0.3
QSM	**Queen of Sheba**	**0.63**	**74**		Pg	18 00 07.9	-0.4
QSM				Sg	Sg	18 00 15.7	-0.8
QSM				IAML		18 00 17.2	
	comp=E,1μm,0.5s						
QSM				IAML		18 00 19.0	
	comp=N,1μm,0.6s						
ISA	**Isabella, Lake**	**0.71**	**260**		Pg	18 00 09.5	-0.4
ISA				Sg	Sg	18 00 18.9	-0.2
ISA				IAML		18 00 20.0	
	comp=N,940nm,0.2s						
ISA				IAML		18 00 20.0	
	comp=E,915nm,0.4s						
CCAC	**Calif City Air**	**0.72**	**207**		Pg	18 00 09.6	-0.3
CCAC				Sg	Sg	18 00 19.4	+0.1
CCAC				IAML		18 00 20.2	
	comp=E,2μm,0.7s						
CCAC				IAML		18 00 20.4	
	comp=N,2μm,0.4s						
CWC	**Cottonwood Cre**	**0.75**	**330**		Sg	18 00 20.9	+0.6
WASM	**Alta Sierra Ca**	**0.77**	**266**		Pg	18 00 10.7	-0.2
CGO	**Cerro Gordo**	**0.77**	**349**		Pg	18 00 10.5	-0.5
GSC	**Goldstone, Bar**	**0.82**	**126**		Pg	18 00 11.5	-0.5
GSC				Sg	Sg	18 00 22.5	-0.1
GSC				IAML		18 00 25.7	
	comp=N,905nm,0.5s						
GSC				IAML		18 00 26.6	
	comp=E,1μm,0.6s						
GWY	**Greenwater Val**	**0.86**	**63**		Pg	18 00 12.3	-0.5
GWY				Sg	Sg	18 00 23.9	-0.1
FURC	**Furnace Creek,**	**0.91**	**42**		Sg	18 00 26.1	+0.7
HYS	**Haystack Butte**	**0.93**	**178**		Pg	18 00 13.4	-0.6
SPG2	**Springville 2**	**1.02**	**294**		Pg	18 00 14.9	-0.9
GRAC	**Grapevine Rang**	**1.22**	**9**		Pg	18 00 18.9	-0.6
GRAC				Sg	Sg	18 00 35.1	-0.3
GRAC				IAML		18 00 39.1	
	comp=N,761nm,0.4s						
GRAC				IAML		18 00 44.0	
	comp=E,838nm,0.5s						
WCT	**Wildcat Mounta**	**1.28**	**38**		Pg	18 00 19.7	-1.0
WCT					Sg	18 00 36.1	-1.3
WCT				IAML		18 00 39.1	
	comp=E,441nm,0.7s						
WCT				IAML		18 00 41.7	
	comp=N,403nm,0.7s						
DSCC	**Desert Studies**	**1.39**	**117**		Pn	18 00 21.7	-0.9
TUQ	**Turquoise Moun**	**1.42**	**104**		Pn	18 00 21.8	-1.3
VOG	**Valley Oaks Go**	**1.53**	**291**		Pn	18 00 24.4	+0.1
GMN	**Gold Mountain**	**1.53**	**11**		Pn	18 00 23.6	-1.0
GMN				IAML		18 00 47.7	
	comp=E,200nm,0.4s						
GMN				IAML		18 00 48.1	
	comp=N,288nm,0.5s						
TPNV	**Topopah Spring**	**1.60**	**43**		Pn	18 00 24.6	-0.8
TPNV				IAML		18 00 51.3	
	comp=N,432nm,0.5s						
DSP	**Deep Springs**	**1.60**	**350**		Pn	18 00 24.7	-0.6
DSP				IAML		18 00 48.5	
	comp=E,300nm,0.5s						
PASC	**Pasadena Art C**	**1.68**	**196**		Pn	18 00 25.8	-0.7
PASC				IAML		18 00 56.2	
	comp=E,156nm,0.4s						
BCW	**Bitter Crk WRg**	**1.70**	**240**		Pn	18 00 26.8	-0.1
CRGC	**Crocker Grade**	**1.81**	**253**		Pb	18 00 29.7	-0.3
MZP	**Montezuma Peak**	**1.91**	**6**		Pn	18 00 29.3	-0.7
SHPR	**Sheep Range**	**2.11**	**70**		Pn	18 00 31.6	-1.0
SHPR				IAML		18 01 05.2	
	comp=N,116nm,0.7s						
ELS	**Elsinore Mount**	**2.15**	**176**		Pn	18 00 32.1	-0.9
ELS				IAML		18 01 12.0	
	comp=E,98nm,0.7s						
POB	**Polly Butte**	**2.18**	**165**		Pn	18 00 32.9	-0.5
V12A	**Nelson**	**2.25**	**91**		Pn	18 00 33.3	-1.1
V12A				IAML		18 01 13.7	
	comp=N,94nm,0.6s						
TPH	**Tonopah**	**2.30**	**8**		Pn	18 00 34.5	-0.7
PFO	**Pinyon Flats O**	**2.38**	**156**		Pn	18 00 35.3	-0.8
PFO				IAML		18 01 17.8	
	comp=N,85nm,1.8s						
S11A	**Rachel**	**2.38**	**39**		Pn	18 00 35.6	-0.6
S11A				IAML		18 01 25.0	
	comp=N,212nm,0.9s						
LHV	**Little Huntoon**	**2.56**	**344**		Pn	18 00 38.8	+0.3
LHV				IAML		18 01 24.2	
	comp=E,74nm,1.1s						
PMPB	**Monarch Peak**	**2.62**	**280**		Pn	18 00 38.9	-0.6
PMPB				IAML		18 01 21.8	
	comp=E,180nm,0.7s						
PRN	**Pahroc Range**	**2.62**	**51**		Pn	18 00 39.2	-0.3
PRN				IAML		18 01 33.9	
	comp=N,136nm,0.8s						
RAMR	**Ramage Ranch**	**2.65**	**268**		Pn	18 00 41.5	+1.6
NV11	**Mina Array Sit**	**2.67**	**351**		Pn	18 00 39.9	-0.3
NVAR	**Mina Array Bea**	**2.69**	**348**		Pn	18 00 40.2	-0.3
MYLM	**Yosemite Lake**	**2.76**	**306**		Pb	18 00 45.4	-0.7
JUEM	**Julian Eagle M**	**2.83**	**162**		Pb	18 00 46.5	-1.0
BBGB	**Big Mountain B**	**2.88**	**287**		Pn	18 00 42.7	-0.3
RYN	**Ryan**	**2.92**	**346**		Pn	18 00 42.6	-1.1
R11B	**Troy Canyon, C**	**3.02**	**32**		Pn	18 00 44.4	-0.7
R11B				IAML		18 01 33.1	
	comp=E,45nm,1.2s						
Q09A	**Carvers**	**3.06**	**6**		Pn	18 00 46.1	+0.6
Q09A				IAML		18 01 42.1	
	comp=N,116nm,0.9s						
Q09A				IAML		18 02 09.1	
	comp=E,117nm,0.9s						
WAKR	**Walker**	**3.07**	**332**		Pn	18 00 45.9	0.0
W13A	**Hualapai Mount**	**3.12**	**102**		Pn	18 00 45.2	-1.3
CMB	**Columbia Colle**	**3.15**	**316**		Pn	18 00 46.6	-0.2
CMB				IAML		18 01 39.5	
	comp=N,47nm,0.8s						
CMB				IAML		18 01 40.1	
	comp=E,66nm,0.6s						
SAO	**San Andreas Ge**	**3.24**	**289**		Pn	18 00 46.8	-1.2
BLYC	**Blythe**	**3.26**	**128**		Pn	18 00 46.1	-2.1
BLYC				IAML		18 01 42.7	
	comp=E,63nm,0.9s						
BLYC				IAML		18 01 42.7	
	comp=N,67nm,1.0s						
TJX	**Tijuana**	**3.31**	**172**	Pn	Pn	18 00 49.1	+0.3
TKX	**Tecate**	**3.32**	**165**	Pn	Pn	18 00 49.1	0.0
YUH	**Yuha Desert**	**3.44**	**155**		Pn	18 00 50.5	-0.1
CBX	**Cerro Bola**	**3.56**	**167**		Pn	18 01 51.8	-0.6
GLA	**Glamis**	**3.58**	**139**		Pn	18 00 51.1	-1.4
LCMT	**Little Creek M**	**3.73**	**70**		Pn	18 00 53.1	-1.7
CCUT	**Cedar City**	**3.84**	**62**		Pn	18 00 54.7	-1.7
MPK	**Martis Peak**	**3.99**	**332**	Pn	Pn	18 00 56.3	-2.1
CCX	**Cicese**	**3.99**	**168**	Pn	Pn	18 00 56.2	-2.1
ESJX	**Sierra Juarez**	**4.02**	**159**	Pn	Pn	18 00 56.5	-2.4
ESJX				IAML		18 02 08.0	
	comp=E,33nm,1.2s						
KNB	**Kanab**	**4.05**	**71**		Pn	18 00 57.1	-2.2
KNB				IAML		18 02 13.1	
	comp=N,26nm,1.1s						
KNB				IAML		18 02 17.0	
	comp=E,22nm,0.9s						
SZCU	**Shurtz Canyon**	**4.06**	**62**		Pn	18 00 57.6	-1.8
PSUT	**Pine Spring**	**4.06**	**47**		Pn	18 00 58.1	-1.3
PSUT				IAML		18 02 07.7	
	comp=N,34nm,0.8s						
PSUT				IAML		18 02 12.3	
	comp=E,35nm,0.8s						
AFDM	**Forest Hills D**	**4.13**	**321**		Pn	18 00 57.9	-2.3
AFDM				IAML		18 02 11.1	
	comp=N,36nm,0.6s						
AFDM				IAML		18 02 14.3	
	comp=E,36nm,0.6s						
SPR3	**Spring Creek 3**	**4.13**	**38**		Pn	18 00 58.1	-2.4
SPR3				IAML		18 02 10.0	
	comp=E,36nm,0.7s						
SPR3				IAML		18 02 12.0	
	comp=N,40nm,0.8s						
PAHR	**Pah Rah Range**	**4.15**	**341**		Pn	18 00 58.5	-2.1
Y14A	**Wickenburg**	**4.22**	**115**		Pn	18 00 59.2	-2.2
Y14A				IAML		18 02 15.0	
	comp=E,18nm,0.8s						
Y14A				IAML		18 02 15.1	
	comp=N,34nm,0.9s						
BEKR	**Beckworth**	**4.61**	**333**		Pn	18 01 05.2	-1.8
BEKR				IAML		18 02 31.8	
	comp=E,28nm,0.7s						
BEKR				IAML		18 02 43.1	
	comp=N,15nm,0.7s						
MCCM	**Marconi Confer**	**4.83**	**301**	Pn	Pn	18 01 07.6	-2.0
ORV	**Oroville**	**4.86**	**322**	Pn	Pn	18 01 08.8	-1.4
ORV				IAML		18 02 32.7	
	comp=N,12nm,0.9s						
ORV				IAML		18 02 34.5	
	comp=E,13nm,0.8s						
WUAZ	**Wupatki**	**5.09**	**91**		Pn	18 01 12.4	-1.1
WUAZ				IAML		18 02 39.6	
	comp=E,23nm,0.9s						
WUAZ				IAML		18 02 41.1	
	comp=E,27nm,1.7s						
MVU	**Marysvale**	**5.09**	**56**		Pn	18 01 12.7	-0.9
MVU				IAML		18 02 47.7	
	comp=N,20nm,1.4s						
MVU				IAML		18 02 53.4	
	comp=E,15nm,2.2s						
X16A	**Lo Mia Camp, P**	**5.24**	**103**		Pn	18 01 13.1	-2.5
ELK	**Elko**	**5.29**	**20**		Pn	18 01 16.5	+0.2
ELK				IAML		18 02 46.9	
	comp=E,7.8nm,0.8s						
HOPS	**Hopland Field**	**5.39**	**308**	Pn	Pn	18 01 16.1	-1.4
214A	**Organ Pipe Nat**	**5.53**	**132**	Pn	Pn	18 01 15.4	-4.1
DUG	**Dugway, Tooele**	**5.80**	**39**		Pn	18 01 20.4	-3.0
HMU	**Henry Mountain**	**5.91**	**67**		Pn	18 01 22.9	-2.0
KCPM	**Cahto Peak**	**6.12**	**311**	Pn	Pn	18 01 25.1	-2.6
TMUT	**Trail Mountain**	**6.18**	**54**		Pn	18 01 27.4	-1.2
X18A	**Snowflake**	**6.40**	**99**	Pn	Pn	18 01 28.7	-2.9
W18A	**Petrified Fore**	**6.47**	**94**	Pn	Pn	18 01 29.6	-2.9
PV19	**Morning Glory**	**7.34**	**67**		Pn	18 01 42.4	-2.2
PV20	**West Nyswonger**	**7.37**	**67**		Pn	18 01 41.8	-3.0
PV18	**Skein Mesa, Pa**	**7.38**	**68**		Pn	18 01 43.7	-1.3
PV13	**Radium Mtn., P**	**7.42**	**69**	Pn	Pn	18 01 42.1	-3.5
PV04	**Paradox Valley**	**7.43**	**67**		Pn	18 01 42.0	-3.7
PV03	**Paradox Valley**	**7.43**	**68**		Pn	18 01 42.1	-3.6
MVCO	**Mesa Verde**	**7.48**	**76**		Pn	18 01 42.6	-3.7
PV02	**Paradox Valley**	**7.50**	**69**		Pn	18 01 44.4	-2.3

*SNET **05** 18:03:33.1±1.1, 12°.94N×88°.83W, h44km, ML3.6*
*CATAC **05** 18:03:33.5±0.7, 13°.N±7°×.8°.9W±°, h33km±8km, M3.6/13, MLv3.6/13, Error ellipse: s-maj=14.6km s-min=6.3km az=19.2, confirmed*

ISC 05 18:03:33.9±1.7,12°.99N±0°.09×88°.86W±0°.05,h55km,n33, σ0°50/35, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**0.44**	**39**	P	**Pn**	**18 03 44.9**	**+0.1**
ALJI	**Alcalda de J**	**0.44**	**39**	S	**Sn**	**18 03 53.5**	**+0.8**
TECO	**Alcaldia de Te**	**0.55**	**7**	P	**Pn**	**18 03 45.2**	**-0.9**
TECO	**Alcaldia de Te**	**0.55**	**7**	S	**Sn**	**18 03 54.8**	**-0.1**
UESV	**Universidad de**	**0.65**	**6**	P	**Pn**	**18 03 46.9**	**-0.4**
UESV	**Universidad de**	**0.65**	**6**	S	**Sn**	**18 03 57.5**	**+0.5**
LFRS	**El Faro**	**0.66**	**342**	*e*P	**Pn**	**18 03 47.0**	**-0.6**
LALI	**Alcalda de L**	**0.68**	**318**	*e*P	**Pn**	**18 03 47.1**	**-0.5**
LALI	**Alcalda de L**	**0.68**	**318**	P	**Pn**	**18 03 47.1**	**-0.5**
PQSS	**Presa 15 de Se**	**0.70**	**24**	P	**Pn**	**18 03 47.9**	**0.0**
PQSS	**Presa 15 de Se**	**0.70**	**24**	S	**Sn**	**18 03 59.2**	**+1.2**
PACA	**Pacayal**	**0.71**	**47**	P	**Pn**	**18 03 48.0**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.72**	**10**	P	**Pn**	**18 03 48.1**	**-0.1**
LOMA	**Loma Larga**	**0.72**	**335**	*e*P	**Pn**	**18 03 47.8**	**-0.5**
LOMA	**Loma Larga**	**0.72**	**335**	P	**Pn**	**18 03 47.8**	**-0.5**
PAVA	**Las Pavas**	**0.73**	**354**	P	**Pn**	**18 03 48.2**	**-0.2**
BLLM	**Bellamira**	**0.75**	**53**	*e*P	**Pn**	**18 03 48.3**	**-0.3**
IGN	**Direccin Gen**	**0.79**	**337**	P	Pn	18 03 59.5	+10
LFU	**La Fuente**	**0.80**	**342**	*e*S	**Sn**	**18 04 00.4**	**0.0**
PMON	**Piamonte**	**0.85**	**328**	P	**Pn**	**18 03 50.0**	**+0.1**
BOQS	**Boqueron**	**0.85**	**331**	*e*P	**Pn**	**18 03 49.7**	**-0.4**
JAYA	**Jayaque - finc**	**0.88**	**319**	*e*P	**Pn**	**18 03 49.9**	**-0.4**
JAYA				*e*S	**Sn**	**18 04 02.7**	**+0.3**
JAYA	**Jayaque - finc**	**0.88**	**319**	P	**Pn**	**18 03 50.0**	**-0.4**
LCND	**La Caada**	**0.99**	**71**	*e*P	**Pn**	**18 03 51.3**	**-0.4**
LCND				*e*S	**Sn**	**18 04 04.6**	**-0.2**
LCND	**La Caada**	**0.99**	**71**	P	**Pn**	**18 03 51.3**	**-0.4**
CNCH	**Conchagua**	**1.04**	**74**	*e*P	**Pn**	**18 03 51.6**	**-0.7**
CNCH				*e*S	**Sn**	**18 04 05.8**	**-0.1**
CNCH	**Conchagua**	**1.04**	**74**	P	**Pn**	**18 03 51.6**	**-0.7**
CEVE	**Cerro Verde**	**1.12**	**318**	*e*P	**Pn**	**18 03 53.7**	**+0.1**
NUBE	**Las Nubes**	**1.28**	**315**	P	**Pn**	**18 03 55.0**	**0.0**
POTN	**Potosi Cosigui**	**1.31**	**89**	P	**Pn**	**18 03 55.7**	**-0.3**
MTO3	**Montecristo**	**1.49**	**341**	*e*P	**Pn**	**18 03 58.4**	**-0.2**
PKGN	**Cerro Pekin**	**1.86**	**100**	P	**Pn**	**18 04 02.6**	**-0.7**
COPN	**Copaltepe**	**2.35**	**110**	P	**Pn**	**18 04 10.8**	**+0.7**

*KRSC **05** 18:08:59.8±1.1,56°.14N×164°.42E,h49km±19km,Mc5.4, Ml4.7*
*IDC **05** 18:08:59.1±0.5,56°.15N×164°.15E,h0km,mb3.9/30, mbtmp4.0/34,ML4.3/3,MS4.1/60,Error ellipse: s-maj=13.6km s-min=10.5km az=158.0*
*BJI **05** 18:09:00.3,55°.95N×164°.09E,h10km,mB4.8/14,mb4.4/35, Ms4.8/32,Ms7 4.5/33*
*NEIC **05** 18:09:00.4±1.8,56°.08N±0°.08×164°.1E±0°.1,h10km±1km, mb4.9/232,Error ellipse: s-maj=13.0km s-min=10.8km az=184.0*
*MOS **05** 18:09:03.0±1.1,56°.11N×164°.22E,h44km,mb5.0/42, MS4.2/12,Error ellipse: s-maj=5.8km s-min=3.8km az=67.5*
*GCMT **05** 18:09:04.4±0.2,56°.20N±0°.01×164°.38E±0°.02,h13km±1km, MW4.8/116,Moment Tensor Solution. s30,c34; s116,c184; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.25±.07; Mθθ-0.32±.07; Mφφ0.07±.05; Mrθ0.01±.15; Mθφ-2.15±.07; Mφr-0.36±.14; Best double couple: Mo2.19000×10¹⁶ NP1:φ±92.00000°,δ80.00000°, λ178.00000°. NP2:φ±183.00000°,δ88.00000°,λ10.00000°. Principal axes: T 2.0760, Plg9.0000°, Azm48.0000°; N 0.2280, Plg80.0000°, Azm196.0000°; P -2.3040, Plg5.0000°, Azm317.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 18:09:01.9±0.3,56°.10N±0°.04×164°.28E±0°.03,h19km,n746, σ1°28/636,mb4.8/175,MS4.2/73,8C-2D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.82**	**278**	PN	**Pb**	**18 09 15.4**	**-2.1**
KBTR	**Krutoberegovo**	**0.82**	**278**	*e*P	**Pb**	**18 09 15.5**	**-2.1**
KBG	**Krutoberegovo**	**0.89**	**280**	PN	**Pb**	**18 09 17.1**	**-1.6**
KBG				S	**Sb**	**18 09 29.3**	**-0.9**
KBG	**Krutoberegovo**	**0.89**	**280**	*i* P	**Pb**	**18 09 17.2**	**-1.6**
KBG				*e*S	**Sb**	**18 09 29.4**	**-0.9**
BKI	**Bering**	**1.32**	**132**	PN	**Pn**	**18 09 23.6**	**-1.6**
BKI				S	**Sn**	**18 09 40.6**	**-1.6**
BKI	**Bering**	**1.32**	**132**	*i* P	**Pn**	**18 09 23.7**	**-1.6**
BKI				*e*S	**Sn**	**18 09 40.7**	**-1.6**
SMKR	**Semkarok**	**1.64**	**288**	PN	**Pn**	**18 09 29.0**	**-0.7**
SMKR	**Semkarok**	**1.64**	**288**	*e*P	**Pn**	**18 09 29.0**	**-0.7**
BDR	**Baidarnaya**	**1.77**	**287**	PN	**Pn**	**18 09 31.7**	**+0.2**
BDR	**Baidarnaya**	**1.77**	**287**	*e*P	**Pn**	**18 09 31.8**	**+0.2**
SRKR	**Sorokina**	**1.82**	**289**	PN	**Pb**	**18 09 33.1**	**-1.4**
SRKR	**Sorokina**	**1.82**	**289**	*e*P	**Pb**	**18 09 33.2**	**-1.4**
ZLN	**Zelenaya**	**1.95**	**269**	PN	**Pn**	**18 09 34.8**	**+0.8**
ZLN	**Zelenaya**	**1.95**	**269**	*e*P	**Pn**	**18 09 34.8**	**+0.8**
CIRR	**Tsirk**	**1.98**	**272**	PN	**Pn**	**18 09 35.4**	**+1.0**
CIRR	**Tsirk**	**1.98**	**272**	*e*P	**Pn**	**18 09 35.5**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**2.02**	**267**	PN	**Pn**	**18 09 35.6**	**+0.6**
BZGR				S	**Sb**	**18 10 01.3**	**-1.4**
BZGR	**Bezymyannyi-Gr**	**2.02**	**267**	*e

comp=N,328nm,1.0s
PET smax smax
comp=E,264nm,0.8s
PET MLR MLR
comp=Z,3µm,9.0s
PET Petropavlovsk 4.50 229 *e*P **Pn 18 10 09.9 +0.9**
KRMR Karymshinskiy 4.86 230 PN **Pn 18 10 16.3 +2.4**
KRMR Karymshinskiy 4.86 230 *e*P **Pn 18 10 16.3 +2.4**
PEA0B Petropavlovsk- 4.86 235 P **Pn 18 10 13.4 -0.5**
PEA0B Petropavlovsk- 4.86 235 *e*PN **Pn 18 10 15.6 +1.7**
PETK Petropavlovsk- 4.86 235 Pn **Pn 18 10 13.4 -0.5**
PETK Petropavlovsk- 4.86 235 Pn **Pn 18 10 14.1 +0.2**
comp=Z,11nm,0.6s,baz=66,slow=17,SNR=95
PETK Sn **Sn 18 11 11.4 +1.8**
baz=81,slow=20
PETK LR LR 18 12 21.9
comp=Z,4µm,20.9s,baz=42,slow=42
RUS Russkaya 4.99 225 PN **Pn 18 10 16.8 +1.1**
RUS Russkaya 4.99 225 *e*P **Pn 18 10 16.9 +1.1**
GRL Gorelyy 5.08 228 PN **Pn 18 10 19.7 +2.6**
GRL Gorelyy 5.08 228 *e*P **Pn 18 10 19.8 +2.6**
MTVR Mutnovka 5.09 227 PN **Pn 18 10 18.8 +1.6**
MTVR Mutnovka 5.09 227 *e*P **Pn 18 10 18.8 +1.6**
APC Apacha 5.23 235 PN **Pn 18 10 19.0 +0.1**
APC Apacha 5.23 235 *e*P **Pn 18 10 19.1 +0.1**
ASAK Asacha 5.28 228 PN **Pn 18 10 21.9 +2.2**
ASAK Asacha 5.28 228 *e*P **Pn 18 10 22.0 +2.2**
MIPR Malaya Ipel'ka 5.84 232 PN **Pn 18 10 30.1 +2.7**
MIPR Malaya Ipel'ka 5.84 232 *e*P **Pn 18 10 30.1 +2.7**
PAU Pauzhetka 6.41 227 PN **Pn 18 10 36.3 +1.1**
PAU Pauzhetka 6.41 227 *e*P **Pn 18 10 36.3 +1.1**
KMSK Kamenskaya 6.46 8 PN **Pn 18 10 35.0 -0.8**
KMSK Kamenskaya 6.46 8 *e*P **Pn 18 10 35.0 -0.8**
SMY Shemya 6.65 116 Pn **Pn 18 10 38.8 +0.3**
SMY Shemya 6.65 116 PN **Pn 18 10 38.8 +0.3**
SKR Severo-Kuril's 7.30 225 *e*PN **Pn 18 10 48.1 +0.8**
SKR *e*S Sn 18 12 18.8 +9.3
SKR smax smax
comp=N,163nm,0.8s
SKR smax smax
comp=E,155nm,0.7s
SKR MLR MLR
comp=Z,3µm,15.0s
SKR Severo-Kuril's 7.30 225 *e*P **Pn 18 10 48.8 +1.5**
MA2 Magadan 8.00 301 Pn **Pn 18 10 57.2 +0.2**
MA2 Magadan 8.00 301 Pn **Pn 18 10 55.2 -1.8**
comp=Z,0.2nm,0.3s,baz=150,slow=20,SNR=2.0
MA2 LR LR 18 14 15.9
comp=Z,2µm,20.1s,baz=118,slow=40
comp=Z,2.3nm,0.5s
MA2 Magadan 8.00 301 *i* PN **Pn 18 10 54.6 -2.4**
SEY Seymchan 9.12 324 Pn **Pn 18 11 11.8 -0.5**
comp=Z,0.1nm,0.3s,baz=130,slow=17,SNR=2.0
SEY LR LR 18 14 38.6
comp=Z,2µm,21.4s,baz=116,slow=38
SEY Seymchan 9.12 324 *e*PN **Pn 18 11 13.2 +0.9**
KIWB Kanaga Island 11.72 104 Pn **Pn 18 11 47.3 -0.7**
ADK Adak 11.96 103 Pn **Pn 18 11 49.7 -1.5**
ADK Adak 11.96 103 PN **Pn 18 11 49.7 -1.5**
BILL Bilibino 12.02 4*ce*PN **Pn 18 11 55.6 +3.7**
BILL pmax pmax
comp=Z,17nm,1.8s
OKH Okha 12.56 267 *de*PN **Pn 18 11 57.1 -2.2**
OKH MLR MLR
comp=E,1µm,15.0s
OKH MLR MLR
comp=N,2µm,14.0s
OKH MLR MLR
comp=Z,900nm,15.0s
ATKA Atka Island 13.19 98 Pn **Pn 18 12 06.3 -1.6**
TYV Tymovskoe 13.88 257 *e*P Pn 18 12 12.2 -5.1
TYV *e*S **Sn 18 14 42.7 -8.0**
TYV pmax pmax
comp=Z,100nm,3.8s
TYV pmax pmax
comp=Z,8.0nm,1.4s
TYV smax smax
comp=N,11nm,1.3s
TYV smax smax
comp=E,8.0nm,1.3s
TYV smax smax
comp=N,200nm,4.4s
TYV smax smax
comp=E,300nm,4.4s
SPIA Saint Paul Isl 14.03 75 P **Pn 18 12 19.3 -0.2**
baz=276
GAMB Gambell 14.20 47 P **Pn 18 12 21.8 +0.1**
baz=248
P08K Saint George I 14.49 77 P **Pn 18 12 25.3 -0.4**
baz=273
NIKH Nikolski High 15.86 90 Pn **18 12 44.8 +0.9**
NIKH IAmb IAmb 18 12 52.2
comp=Z,83nm,1.2s
NIKH Nikolski High 15.86 90 P **Pn 18 12 44.6 +0.7**
baz=292
M11K Mekoryuk 16.04 62 P **Pn 18 12 46.6 +0.5**
baz=268
YSS Yuzhno-Sakhali 16.16 245 **Pn 18 12 45.4 -2.4**
YSS Yuzhno-Sakhali 16.16 245 *e*P **P 18 12 49.2 -1.7**
YSS pmax pmax
comp=Z,20nm,1.2s
YSS pmax pmax
comp=Z,200nm,6.4s
YSS MLR MLR
comp=Z,2µm,14.0s
TNA Tin City 16.38 43 P **Pn 18 12 50.9 +0.5**
baz=248
UNV Unalaska Valle 16.87 85 P **Pn 18 12 57.3 +0.6**
UNV Unalaska Valle 16.87 85 P **Pn 18 12 56.7 +0.1**
baz=289
K13K Kusilvak Mount 16.91 57 P **P 18 12 58.5 -0.5**
K13K Kusilvak Mount 16.91 57 P **P 18 12 58.5 -0.5**
baz=264,SNR=5.6
F14K Arctic Creek 16.97 45 P **Pn 18 12 58.8 +0.9**
baz=250
LVA Lava Point 17.03 84 **P 18 13 00.1 -0.4**
ANM Nome 17.08 48 P **P 18 13 00.7 -0.3**
ANM Nome 17.08 48 P **P 18 13 00.7 -0.3**
ANM pmax pmax
comp=Z,24nm,1.2s
ANM Nome 17.08 48 P **Pn 18 12 59.8 +0.5**
baz=255
AKUT Akutan 17.18 84 P **P 18 13 02.7 +0.6**
AKUT IAmb IAmb 18 13 10.5
comp=Z,151nm,1.9s
GRNR Gornyy 17.36 264 *e*P **P 18 13 08.0 +3.8**
GRNR MLR MLR
comp=E,1µm,19.0s
GRNR MLR MLR
comp=N,1µm,20.0s
GRNR MLR MLR
comp=Z,280nm,17.0s
M13K Dall Lake 17.46 62 P **Pn 18 13 04.4 +0.4**
M13K Dall Lake 17.46 62 P **Pn 18 13 03.9 -0.1**
baz=270
J14K Nanvaranak Lak 17.51 55 P **Pn 18 13 05.1 +0.5**
J14K Nanvaranak Lak 17.51 55 P **P 18 13 05.5 -0.2**
baz=262
F15K North Star Dit 17.71 45 P **P 18 13 07.8 0.0**
F15K North Star Dit 17.71 45 P **Pn 18 13 07.3 +0.2**
baz=252
G15K Niukluk 17.75 47 P **Pn 18 13 07.8 +0.2**
baz=255
L14K Kuka Creek 17.80 59 P **Pn 18 13 08.4 +0.2**
L14K Kuka Creek 17.80 59 P **Pn 18 13 08.1 -0.1**
baz=268
M14K Bethel 18.14 61 **P 18 13 13.9 +1.3**
M14K Bethel 18.14 61 P **Pn 18 13 12.4 0.0**
baz=270
JKA Kamikawa-asahi 18.27 238 **Pn 18 13 13.2 -0.8**
ASAJ Asahikawa 18.27 238 P **Pn 18 13 13.6 -0.5**
comp=Z,1.4nm,0.3s,baz=56,slow=5.9,SNR=19
ASAJ LR LR 18 21 01.7
comp=Z,1µm,18.2s,baz=48,slow=40
comp=Z,16nm,0.8s
ASAJ Asahikawa 18.27 238 P **Pn 18 13 13.2 -0.9**
ASAJ pmax pmax
comp=Z,40nm,1.0s
N14K Kuskokwak Cree 18.30 64 P **Pn 18 13 13.5 -0.9**
N14K Kuskokwak Cree 18.30 64 P **P 18 13 14.7 +0.3**
baz=273
L15K Ungalak Mounta 18.39 58 P **Pn 18 13 15.6 +0.2**
baz=268
K15K Wolf Creek Mou 18.40 56 P **P 18 13 14.2 -1.3**
K15K Wolf Creek Mou 18.40 56 P **Pn 18 13 15.8 +0.2**
baz=266,SNR=9.9
C16K Lisburne Hills 18.43 37 P **P 18 13 15.8 0.0**
baz=244
G16K Koyuk River 18.54 46 P **P 18 13 16.7 -0.2**
baz=256
O14K Tigyukauivet M 18.56 66 P **P 18 13 17.3 0.0**
baz=275
YAK Yakutsk 18.57 303 **P 18 13 14.1 -3.3**
YAK Yakutsk 18.57 303 P **P 18 13 16.9 -0.5**
comp=Z,1.4nm,0.3s,baz=37,slow=23,SNR=5.1
YAK LR LR 18 20 25.1
comp=Z,590nm,20.5s,baz=92,slow=37
comp=Z,7.3nm,0.5s
YAK Yakutsk 18.57 303 *e*P **Pn 18 13 17.5 -0.2**
YAK *e*S **Sn 18 16 43.4 -1.1**
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK pmax pmax
comp=N,3.0nm,1.9s
YAK pmax pmax
comp=Z,77nm,2.5s
YAK pmax pmax
comp=N,78nm,3.9s
YAK pmax pmax
comp=E,201nm,4.9s
YAK smax smax
comp=N,110nm,4.1s
YAK smax smax
comp=E,63nm,2.5s
YAK MLR MLR
comp=Z,851nm,27.0s
YAK MLR MLR
comp=N,210nm,16.0s
YAK MLR MLR
comp=E,742nm,27.0s
M15K Kasigluk River 18.77 61 P **P 18 13 19.7 +0.2**
baz=271
S12K Black Hills 18.77 77 **Pn 18 13 20.3 +0.1**
S12K Black Hills 18.77 77 P **Pn 18 13 20.2 0.0**
baz=285
J16K Anvik River 18.91 53 P **P 18 13 20.9 -0.2**
J16K Anvik River 18.91 53 P **P 18 13 21.5 +0.4**
baz=264
I17K Unalakleet 18.95 51 **P 18 13 22.0 +0.5**
I17K Unalakleet 18.95 51 P **P 18 13 21.9 +0.5**
baz=262
D17K Noatak River 18.97 39 P **Pn 18 13 22.5 0.0**
baz=248
N15K Kwethluk River 19.09 63 IAmb IAmb 18 13 35.9
comp=Z,90nm,1.6s
N15K Kwethluk River 19.09 63 P **P 18 13 23.7 +0.6**
baz=273
RDOG Red Dog Mine 19.17 38 P **P 18 13 23.3 -0.6**
RDOG IAmb IAmb 18 13 35.7
comp=Z,90nm,1.6s
RDOG Red Dog Mine 19.17 38 P **Pn 18 13 24.7 -0.1**
baz=248
E17K Hotham Inlet 19.22 42 P **Pn 18 13 25.5 +0.1**
baz=252
C17K DeLong Mountai 19.24 37 P **Pn 18 13 25.4 -0.3**
baz=246
F17K Baldwin Pennin 19.25 44 P **Pn 18 13 25.8 +0.1**
baz=254
G17K Kivalik Mounta 19.25 47 P **P 18 13 25.2 +0.4**
baz=258
O15K Ungalikthiuk R 19.31 66 P **P 18 13 24.8 -0.7**
O15K IAmb IAmb 18 13 37.5
comp=Z,75nm,1.4s
O15K Ungalikthiuk R 19.31 66 P **P 18 13 26.0 +0.5**
baz=276
L16K Owhat River 19.35 58 **P 18 13 24.7 -1.2**
L16K Owhat River 19.35 58 P **P 18 13 26.5 +0.6**
baz=270
H17K Granite Mounta 19.45 48 IAmb IAmb 18 13 40.4
comp=Z,107nm,1.6s
H17K Granite Mounta 19.45 48 P **Pn 18 13 27.8 -0.4**
baz=260,SNR=6.3
M16K Timber Creek 19.61 60 IAmb IAmb 18 13 43.5
comp=Z,116nm,1.8s
M16K Timber Creek 19.61 60 P **P 18 13 29.1 +0.4**
baz=272
J17K VABM Dome 19.61 53 IAmb IAmb 18 13 43.7
comp=Z,101nm,1.6s
J17K VABM Dome 19.61 53 P **P 18 13 29.3 +0.6**
baz=265
ERM Erimo 19.64 233 **P 18 13 25.1 -4.0**
ERM IAmb IAmb 18 13 41.3
comp=Z,33nm,0.5s
ERM Erimo 19.64 233 *i* P **P 18 13 29.4 +0.2**
ERM pmax pmax
comp=Z,36nm,1.3s
N16K Nishlik Lake 19.73 62 P **P 18 13 30.7 +0.7**
baz=274
SDPT Sand Point 19.74 77 P **P 18 13 29.9 -0.3**
SDPT IAmb IAmb 18 13 39.0
comp=Z,55nm,0.9s
SDPT Sand Point 19.74 77 P **P 18 13 30.9 +0.7**
baz=287
E18K Tukpahlearik C 19.78 41 IAmb IAmb 18 13 44.3
comp=Z,94nm,1.4s
E18K Tukpahlearik C 19.78 41 P **P 18 13 31.2 +0.7**
baz=252
F18K Selawik 19.91 44 P **P 18 13 32.4 +0.5**
baz=256
L17K Donlin 19.91 57 P **P 18 13 32.8 +0.8**
baz=269,SNR=5.4
K17K Iditarod 19.92 55 P **P 18 13 33.1 +0.9**
baz=268
C18K Utukok River 19.98 37 P **P 18 13 30.8 -2.0**
C18K IAmb IAmb 18 13 45.9
comp=Z,66nm,1.4s
C18K Utukok River 19.98 37 P **P 18 13 33.2 +0.4**
baz=248
S14K Fog Glacier 19.98 74 P **P 18 13 33.8 +0.8**
baz=285,SNR=11
B18K Kokolik River 20.06 35 P **P 18 13 34.4 +0.8**
baz=246
H18K Honhosa River 20.13 48 IAmb IAmb 18 13 48.5
comp=Z,122nm,1.8s
H18K Honhosa River 20.13 48 P **P 18 13 35.3 +0.9**
baz=261
O16K Kokwok River B 20.14 64 P Pn 18 13 35.8 -0.6
baz=276
G18K Tagagawik 20.14 46 IAmb IAmb 18 13 48.5
comp=Z,80nm,1.6s
G18K Tagagawik 20.14 46 P **P 18 13 35.6 +1.0**
baz=259
P16K Nushagak River 20.27 66 P **P 18 13 37.0 +1.1**
P16K Nushagak River 20.27 66 P **P 18 13 36.8 +0.9**
baz=278
M17K Holitna River 20.33 59 IAmb IAmb 18 13 51.0
comp=Z,101nm,1.5s
M17K Holitna River 20.33 59 P **P 18 13 37.5 +0.9**
baz=272,SNR=6.1
CHNA Chernabura Isl 20.38 78 P **P 18 13 37.7 +0.5**
baz=288
CNBA Chernabura Isl 20.39 78 **P 18 13 37.8 +0.6**
N17K Nushagak Hills 20.50 62 IAmb IAmb 18 13 53.1
comp=Z,56nm,1.3s
N17K Nushagak Hills 20.50 62 P **P 18 13 39.6 +1.1**
baz=275,SNR=9.0
CHGN Chignik 20.59 74 P **P 18 13 39.5 0.0**
CHGN Chignik 20.59 74 P Pn 18 13 40.9 -0.9
baz=285
O17K Koliganek Bris 20.62 64 P **P 18 13 40.8 +1.0**
baz=277
A19K Wainwright 20.65 33 P **P 18 13 41.1 +1.1**
baz=245
L18K Granite Mounta 20.66 57 P **P 18 13 41.1 +0.9**
baz=271,SNR=6.4
J18K Innoko River 20.68 53 IAmb IAmb 18 13 51.4
comp=Z,51nm,1.2s
J18K Innoko River 20.68 53 P **P 18 13 41.7 +1.3**
baz=267,SNR=18
F19K Shaleruckik Mo 20.69 44 P **P 18 13 41.2 +0.8**
baz=257
C19K Lookout Ridge 20.69 37 IAmb IAmb 18 13 51.3
comp=Z,72nm,1.1s
C19K Lookout Ridge 20.69 37 P Pn 18 13 41.9 -1.0
baz=249
GCSA Galena City Sc 20.70 50 P **P 18 13 41.5 +0.9**
baz=264
KLR Kul'dur 20.74 264 P **P 18 13 40.9 -0.3**
comp=Z,0.5nm,0.5s,baz=94,slow=10,SNR=4.9
comp=Z,0.5nm,0.5s
G19K Purcell Mounta 20.82 46 P **P 18 13 43.0 +1.1**
baz=260
H19K Roundabout Mou 20.98 47 IAmb IAmb 18 13 58.4
comp=Z,100nm,1.9s
H19K Roundabout Mou 20.98 47 P **P 18 13 44.4 +0.8**
baz=262,SNR=7.8
D19K Kuna River 21.00 39 IAmb IAmb 18 13 57.1
comp=Z,63nm,1.2s
D19K Kuna River 21.00 39 P **P 18 13 45.0 +1.2**
baz=253
P17K Kvichak River 21.03 65 P **P 18 13 45.3 +1.1**
baz=279
E19K Redstone River 21.04 42 P **P 18 13 46.7 +2.5**
E19K IAmb IAmb 18 13 59.4
comp=Z,101nm,1.6s
E19K Redstone River 21.04 42 P **P 18 13 46.0 +1.8**
baz=256
M18K Stony River 21.10 59 P **P 18 13 46.6 +1.7**
baz=273
N18K Kilae Creek 21.13 61 P **P 18 13 46.6 +1.4**
baz=275
J19K Poorman 21.19 52 P **P 18 13 47.2 +1.3**
baz=267
ZEA Zeya 21.25 279 *e*P **P 18 13 46.9 +0.4**
ZEA *e* 18 17 44.8
ZEA pmax pmax
comp=E,10.0nm,1.2s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA MLR MLR
comp=E,600nm,13.0s
ZEA MLR MLR
comp=N,400nm,11.0s
ZEA MLR MLR
comp=Z,600nm,13.0s
R17L Mt. Peulik Vol 21.37 69 P **P 18 13 49.3 +1.5**
baz=283
PLK4 Peulik 4 21.37 69 P **P 18 13 49.0 +1.1**
Q17K Contact Creek 21.48 68 P **P 18 13 50.2 +1.1**
baz=281
TIXI Tiksi 21.52 330 **P 18 13 49.2 -0.1**
TIXI IAmb IAmb 18 14 00.8
comp=Z,83nm,1.6s
TIXI Tiksi 21.52 330 P **P 18 13 48.7 -0.6**
comp=Z,3.5nm,0.3s,baz=132,slow=8.3,SNR=6.4
TIXI LR LR 18 22 22.8
comp=Z,571nm,20.8s,baz=132,slow=38
comp=Z,3.5nm,0.3s
TIXI Tiksi 21.52 330 *i* P **P 18 13 51.9 +2.6**
TIXI pmax pmax
comp=Z,21nm,1.1s
F20K Avaraart Lake 21.52 43 P **P 18 13 50.5 +1.1**
baz=259
L19K White Mountain 21.52 57 P **P 18 13 50.2 +0.7**
baz=272
O18K Koktuh Hills 21.56 63 **P 18 13 50.0 +0.2**
O18K IAmb IAmb 18 14 02.6
comp=Z,51nm,1.3s
O18K Koktuh Hills 21.56 63 P **P 18 13 50.6 +0.7**
baz=278
JTM Tenmabayashi 21.57 234 P **P 18 13 47.0 -3.0**
JTM IAmb IAmb 18 14 04.2
comp=Z,50nm,1.2s
D20K Etivluk River 21.59 39 P **P 18 13 50.8 +0.7**
D20K IAmb IAmb 18 14 01.2
comp=Z,55nm,1.2s
D20K Etivluk River 21.59 39 P **P 18 13 50.6 +0.5**
baz=254
P18K Big Mountain, 21.62 64 IAmb IAmb 18 14 03.0
comp=Z,70nm,1.5s
P18K Big Mountain, 21.62 64 P **P 18 13 51.6 +1.1**
baz=279
E20K Nigu River 21.62 40 P **P 18 13 51.5 +1.0**
baz=256
H20K Anotleneega Mo 21.63 48 P **P 18 13 51.8 +1.2**
baz=264,SNR=17
I20K Naaghedeneel 21.73 50 IAmb IAmb 18 14 08.2
comp=Z,87nm,1.6s
I20K Naaghedeneel 21.73 50 P **P 18 13 53.0 +1.4**
baz=266
M19K Big River Lodg 21.75 58 **P 18 13 53.1 +1.1**
M19K Big River Lodg 21.75 58 P **P 18 13 53.0 +1.1**
baz=273
N19K Bonanza Creek 21.80 60 P **P 18 13 53.4 +0.9**
baz=276
B20K Meade River 21.81 35 P **P 18 13 53.6 +1.3**
baz=250
J20K Nowinta River 21.84 51 P **P 18 13 53.7 +0.8**
baz=268
Q18K Katmai Hardscr 21.86 66 P **P 18 13 53.8 +0.6**
baz=281
K20K Telida 21.86 54 P **P 18 13 54.0 +0.9**
baz=270
L20K Farewell, AK 21.97 56 P **P 18 13 54.8 +0.6**
baz=272
IMAR Indian Mountai 22.14 47 P **P 18 13 56.3 +0.2**
CHIR Chirikof Islan 22.23 74 P **P 18 13 57.5 +0.4**
baz=288
G21K Allakaket 22.31 45 IAmb IAmb 18 14 08.8
comp=Z,73nm,1.9s
G21K Allakaket 22.31 45 P **P 18 13 58.6 +0.8**
baz=263
C21K Knifeblade Rid 22.34 38 P **P 18 13 59.2 +1.0**
baz=255
M20K Styx River 22.35 57 P **P 18 13 58.7 +0.2**
baz=274
R18K Karluk 22.38 69 P **P 18 13 59.6 +0.9**
baz=284
F21K Alatna River 22.41 43 P **P 18 13 59.3 +0.3**
baz=261
A21K Barrow 22.45 32 P **P 18 13 59.9 +0.7**
baz=248
E21K Killik River 22.46 40 P **P 18 13 60.0 +0.5**
baz=258
Q19K Cape Douglas, 22.50 65 **P 18 13 59.6 -0.4**
Q19K IAmb IAmb 18 14 16.3
comp=Z,68nm,1.2s
Q19K Cape Douglas, 22.50 65 P **P 18 14 01.0 +1.0**
baz=281
H21K Melozitna Rive 22.50 48 P **P 18 14 00.6 +0.7**
baz=266,SNR=11
B21K Ikpikpuk River 22.53 37 P **P 18 14 00.8 +0.7**
baz=254
ILSW Iliamna Southw 22.57 62 P **P 18 14 01.4 +0.6**
ILSW IAmb IAmb 18 14 11.6
comp=Z,76nm,1.4s
P19K Oil Pt 22.58 63 **P 18 14 01.6 +0.8**
P19K Oil Pt 22.58 63 P **P 18 14 01.6 +0.8**
baz=280
CHUM Lake Minchumin 22.64 52 P **P 18 14 02.5 +1.1**
baz=270
HEH HeiHe 22.65 271 *e*P **P 18 13 59.3 -2.3**
HEH sP **pP 18 14 05.7 -0.4**
HEH S **S 18 18 07.0 -1.5**
HEH pmax pmax
comp=Z,2.0nm,0.7s
HEH LR LR
comp=Z,2µm,17.3s
HEH LR LR
comp=Z,1µm,16.1s
HEH LR LR
comp=Z,2µm,12.9s
RED Redoubt Volcan 22.69 61 P **P 18 14 03.0 +0.9**
RED IAmb IAmb 18 14 13.1
comp=Z,64nm,1.5s
PPLA Purkeypile 22.73 55 P **P 18 14 02.7 +0.2**
PPLA Purkeypile 22.73 55 P **P 18 14 03.8 +1.3**
baz=273
CAST Castle Rocks 22.75 53 **P 18 14 04.1 +1.5**
CAST IAmb IAmb 18 14 12.5
comp=Z,56nm,1.9s
CAST Castle Rocks 22.75 53 P **P 18 14 03.9 +1.2**
baz=272
SII Sitkinak Islan 22.79 71 P **P 18 14 04.3 +1.2**
baz=286
O20K Slope Mountain 22.81 62 P **P 18 14 04.5 +1.2**
baz=279
I21K Tanana 22.82 49 IAmb IAmb 18 14 18.8
comp=Z,73nm,1.9s
I21K Tanana 22.82 49 P **P 18 14 04.7 +1.5**
baz=268
A22K Sinclair Lake 22.84 33 P **P 18 14 04.6 +1.3**
baz=251
SPCR Spurr Chakacha 22.86 59 P **P 18 14 05.0 +1.2**
baz=277
N20K Mount Spurr 22.86 59 P **P 18 14 05.1 +1.3**
baz=277
SPU Mount Spurr 22.93 59 P **P 18 14 06.2 +1.6**

F22K John River 22.96 43 P P 18 14 05.2 +0.5
baz=262
STLK Strandline Lak 23.00 58 P P 18 14 05.4 +0.1
STLK IAmb IAmb 18 14 16.3
comp=Z,56nm,1.7s
D22K Ayikyak River 23.02 39 P P 18 14 05.8 +0.5
baz=258
OHAK Old Harbor 23.08 69 P P 18 14 06.2 +0.2
baz=285
SKT Skwentna 23.10 57 P P 18 14 07.0 +0.8
SKT Skwentna 23.10 57 P P 18 14 07.0 +0.8
baz=275
H22K Ishtalitna Cre 23.11 47 P P 18 14 06.8 +0.5
baz=266
B22K Teshekpuk Lake 23.12 35 P P 18 14 06.2 -0.1
baz=254
G22K Bettles 23.14 44 P P 18 14 06.7 +0.1
baz=264
E22K Anaktuvuk Pass 23.19 41 P P 18 14 06.5 -0.6
baz=261
Q20K Shuyak Island 23.20 66 P P 18 14 07.3 0.0
baz=283
BPAW Bear Paw Mtn. 23.23 52 IAmb IAmb 18 14 16.8
comp=Z,55nm,1.6s
BPAW Bear Paw Mtn. 23.23 52 P P 18 14 08.1 +0.6
baz=271
KDAK Kodiak Island 23.30 68 P 18 14 09.4 +1.1
KDAK IAmb IAmb 18 14 17.9
comp=Z,49nm,1.4s
KDAK Kodiak Island 23.30 68 LR LR 18 23 02.6
comp=Z,377nm,18.0s,baz=268,slow=36
KDAK Kodiak Island 23.30 68 *i* P P 18 14 08.3 +0.1
KDAK pmax pmax
comp=Z,4.0nm,0.6s
KDAK Kodiak Island 23.30 68 P P 18 14 08.3 +0.1
baz=284
MLY Manley 23.34 49 P P 18 14 09.1 +0.5
baz=269
HOM Homer 23.37 63 P P 18 14 09.6 +0.7
baz=281
CAPN Captain Cook N 23.43 60 P P 18 14 10.2 +0.7
baz=278
SUA Susitna One 23.53 58 P P 18 14 10.8 +0.2
baz=277
TRF Thorofare Moun 23.56 53 IAmb IAmb 18 14 23.1
comp=Z,39nm,1.3s
TRF Thorofare Moun 23.56 53 P P 18 14 11.1 +0.1
baz=273
CNPM China Poot 23.60 63 IAmb IAmb 18 14 20.6
comp=Z,53nm,1.5s
USRK Ussuriysk Ar. 23.63 253 LR LR 18 23 27.5
comp=Z,452nm,21.5s,baz=50,slow=37
COLD Coldfoot 23.68 44 P P 18 14 12.3 +0.3
baz=264
G23K Bananza Creek 23.71 45 P P 18 14 12.3 +0.1
baz=266
D23K Nanushuk River 23.74 39 P P 18 14 12.1 -0.4
baz=260
H23K Yukon River 23.86 47 P P 18 14 14.0 +0.3
baz=268
BWN Browne 23.89 51 P P 18 14 13.9 0.0
BWN IAmb IAmb 18 14 41.1
comp=Z,34nm,1.0s
I23K Minto, Yukon-K 23.92 49 P P 18 14 14.5 +0.3
baz=270
C23K Ikkilik River 23.93 37 P P 18 14 14.4 +0.1
baz=258
E23K Chandalar 24.00 42 P P 18 14 15.2 +0.2
baz=263
NEA2 Nenana 24.05 50 IAmb IAmb 18 14 26.6
comp=Z,36nm,1.6s
NEA2 Nenana 24.05 50 P P 18 14 16.1 +0.7
baz=272
RC01 Rabbit Creek A 24.06 59 P P 18 14 15.9 +0.3
baz=279
TOLK Toolik Lake Re 24.09 40 P P 18 14 16.1 +0.3
baz=262
MCK McKinley 24.15 52 IAmb IAmb 18 14 27.4
comp=Z,46nm,1.6s
MCK McKinley 24.15 52 P P 18 14 16.4 0.0
baz=274
RND Reindeer 24.21 53 P 18 14 17.1 +0.1
RND Reindeer 24.21 53 P P 18 14 17.1 +0.1
RND pmax pmax
comp=Z,20nm,1.2s
PMR Palmer 24.28 58 P P 18 14 18.7 +1.1
baz=278
SEW Seward 24.37 61 P P 18 14 18.6 +0.2
SEW Seward 24.37 61 P P 18 14 19.5 +1.1
baz=281
WAT1 Susitna Watana 24.40 55 P P 18 14 19.6 +0.9
baz=276
E24K Your Creek 24.42 42 P P 18 14 19.8 +0.9
baz=264
D24K Happy Valley 24.43 39 P P 18 14 19.8 +0.9
baz=262
H24K Noodor Dome 24.54 47 P P 18 14 21.0 +1.0
baz=270
C24K Franklin Bluff 24.56 38 P P 18 14 21.2 +1.2
baz=260
F24K Squaw Lake 24.60 43 P P 18 14 21.7 +1.2
baz=266
KNK Knik Glacier 24.62 58 P P 18 14 21.9 +1.2
baz=268
G24K Hadweenzic Riv 24.72 45 P P 18 14 22.6 +1.1
baz=268
PWL Port Wells 24.77 59 P P 18 14 22.7 +0.6
baz=280
WAT6 Susitna Watana 24.80 55 P P 18 14 22.6 +0.1
baz=277
DHY Denali Highway 24.90 54 IAmb IAmb 18 14 39.3
comp=Z,32nm,1.6s
DHY Denali Highway 24.90 54 P P 18 14 23.9 +0.5
baz=276
M23K Glacier View 24.91 57 P P 18 14 24.4 +1.1
baz=279
HDA Harding Lake 24.98 51 P P 18 14 24.7 +0.8
HDA Harding Lake 24.98 51 P P 18 14 24.2 +0.3
baz=274
ILAR Eielson Array 24.98 50 P P 18 14 24.1 +0.1
ILAR Eielson Array 24.98 50 P P 18 14 23.7 -0.2
comp=Z,3.1nm,1.0s,baz=271,slow=9.5,SNR=12
ILAR LR LR 18 24 16.9
comp=Z,541nm,20.6s,baz=256,slow=37
comp=Z,3.1nm,1.0s
SCM Sheep Creek Mo 25.09 57 IAmb IAmb 18 14 44.4
comp=Z,26nm,0.8s
SCM Sheep Creek Mo 25.09 57 P P 18 14 25.7 +0.7
baz=279
BNX BinXian 25.16 261 ⇓P P 18 14 31.1 +5.5
BNX pmax pmax
comp=Z,8.0nm,1.2s
G25K Bearman Lake 25.27 45 P P 18 14 27.3 +0.8
baz=269
D25K Kavik River 25.32 39 P P 18 14 27.0 0.0
baz=264
GLI Glacier Island 25.37 59 P P 18 14 27.9 +0.4
baz=281
H25L Birch Creek 25.38 46 P P 18 14 28.1 +0.6
baz=271
P23K Montague Islan 25.40 61 IAmb IAmb 18 14 54.9
comp=Z,40nm,1.4s
P23K Montague Islan 25.40 61 P P 18 14 28.5 +0.8
baz=283
F25K Christian Rive 25.46 43 P P 18 14 28.9 +0.6
baz=268
E25K Arctic Village 25.52 42 P P 18 14 29.0 +0.2
baz=267
PRP Porcupine Dome 25.52 48 P P 18 14 28.5 -0.5
baz=273
K24K Donnelly Dome 25.54 52 P P 18 14 28.4 -0.6
baz=276
M24K Tolsona, Glenn 25.59 56 P P 18 14 29.6 +0.1
baz=279
J25K Salcha River, 25.64 50 P P 18 14 30.0 0.0
baz=275
PAX Paxson 25.78 54 P P 18 14 31.3 +0.1
baz=278
KLU Klutina 25.81 57 P P 18 14 31.5 0.0
baz=281
C26K Camden Bay 25.89 38 P P 18 14 31.8 -0.3
baz=264
RIDG Independent Ri 25.96 52 P P 18 14 32.1 -0.7
baz=277
HARP HAARP 26.01 55 P P 18 14 33.0 -0.2
baz=279
F26K Sheenjek River 26.04 43 P P 18 14 33.3 -0.2
baz=269

Q23K Middleton Isla 26.05 62 P P 18 14 32.8 -0.8
baz=284
EYAK Cordova Ski Ar 26.08 59 P P 18 14 32.9 -1.0
baz=283
G26K Porcupine Rive 26.18 45 P P 18 14 34.1 -0.6
baz=271
C27K Jago River 26.28 39 P P 18 14 34.6 -1.0
baz=266
SCRK Sand Creek 26.31 51 P P 18 14 35.3 -0.8
baz=277
MJB9 Matsu-Tunnel 26.32 233 P P 18 14 35.1 -1.2
MJB9 IAmb IAmb 18 14 54.3
comp=Z,37nm,1.2s
MAJO Matsushiro 26.32 233 P P 18 14 35.1 -1.2
MAJO IAmb IAmb 18 14 54.3
comp=Z,42nm,1.3s
MAJO Matsushiro 26.32 233 *i* P P 18 14 36.7 +0.4
MAJO pmax pmax
comp=Z,28nm,2.3s
MJAR Matsushiro Arr 26.32 233 P P 18 14 35.6 -0.7
comp=Z,4.2nm,0.6s,baz=35,slow=7.9,SNR=11
MJAR PcP PcP 18 18 02.8 +0.9
comp=Z,1.3nm,0.3s,baz=47,slow=22,SNR=8.1
MJAR LR LR 18 25 28.8
comp=Z,607nm,21.5s,baz=38,slow=38
comp=Z,4.2nm,0.6s
N25K Chitina, Valde 26.41 57 P P 18 14 36.2 -0.7
baz=281
J26L Joseph Creek 26.43 50 P P 18 14 36.4 -0.7
baz=276
I26K Coal Creek Min 26.53 48 P P 18 14 37.1 -0.7
baz=275
BMRM Bremner River 26.54 58 IAmb IAmb 18 14 51.9
comp=Z,21nm,1.2s
BMRM Bremner River 26.54 58 P P 18 14 37.4 -0.7
baz=283
GLB Gilahina Butte 26.81 57 P 18 14 40.6 0.0
GLB IAmb IAmb 18 14 50.4
comp=Z,34nm,1.6s
KAIM Kayak Island 26.88 60 P P 18 14 40.2 -0.9
baz=285
M26K Nabesna, AK 27.00 55 IAmb IAmb 18 14 52.6
comp=Z,27nm,1.4s
M26K Nabesna, AK 27.00 55 P P 18 14 41.2 -1.0
baz=281
E27K Coleen River 27.00 42 P P 18 14 41.4 -0.8
baz=271
G27K Doyon Strip 27.03 45 P P 18 14 41.5 -1.0
baz=273
H27K Steamboat Moun 27.12 46 P P 18 14 42.7 -0.5
baz=275
K27K Chicken 27.14 51 P P 18 14 42.7 -0.7
baz=278
I27K Kandik River 27.14 48 P P 18 14 42.3 -1.1
baz=276
MCARA McCarthy VSAT 27.20 57 P P 18 14 42.4 -1.5
baz=283
D27M Malcolm River 27.23 40 P P 18 14 43.3 -1.0
baz=269
CRQE Cirque 27.31 58 P P 18 14 43.8 -1.3
baz=284
BGLC Bering Glacier 27.38 60 P P 18 14 44.4 -1.1
baz=285
L27K Beaver Creek, 27.41 53 IAmb IAmb 18 14 55.9
comp=Z,26nm,1.4s
L27K Beaver Creek, 27.41 53 P P 18 14 44.7 -1.1
baz=280
BCAR Beaver Creek A 27.42 53 P 18 14 46.0 0.0
JGF Kuroka 27.48 233 P P 18 14 45.1 -1.7
JGF IAmb IAmb 18 15 06.2
comp=Z,42nm,1.3s
M27K Edge Creek, AK 27.52 55 IAmb IAmb 18 14 59.0
comp=Z,20nm,1.3s
M27K Edge Creek, AK 27.52 55 P P 18 14 46.1 -0.8
baz=282
F28M Old Crow 27.68 43 P P 18 14 47.7 -0.5
baz=273
E28M Babbage River 27.76 41 P P 18 14 48.7 -0.2
baz=272
I28M Miner Creek 27.85 48 P P 18 14 49.9 0.0
baz=277
BVCY Beaver Creek 27.97 54 P P 18 14 50.9 -0.1
baz=282
MESA MESA 28.00 59 P P 18 14 51.5 +0.1
baz=286
D28M Stokes Point 28.03 39 P P 18 14 51.5 +0.2
baz=271
YAH Yahtse 28.05 59 P P 18 14 53.1 +1.2
YAH IAmb IAmb 18 15 02.1
comp=Z,37nm,1.4s
CTG Chitna Glacier 28.09 57 P P 18 14 51.4 -0.7
baz=285
DAWY Dawson 28.30 51 P P 18 14 54.3 +0.5
DAWY Dawson 28.30 51 P P 18 14 53.3 -0.5
baz=280
YUK3 Moose Creek 28.30 55 P P 18 14 53.2 -0.8
baz=284
E29M Blow River 28.37 41 P P 18 14 53.8 -0.6
baz=274
G29M Pine Creek 28.45 44 P P 18 14 54.6 -0.6
baz=276
I29M Ogilvie Camp, 28.54 48 P P 18 14 55.5 -0.4
baz=279
O28M Mount Upton 28.68 57 P P 18 14 57.2 -0.4
baz=286
YUK8 Steele Glacier 28.74 56 P P 18 14 57.5 -0.6
baz=285
PINM Pinnacle 28.84 59 P P 18 14 57.9 -0.9
baz=287
L29M L29M 29.04 52 IAmb IAmb 18 15 10.8
comp=Z,24nm,1.3s
L29M L29M 29.04 52 P P 18 14 59.1 -1.4
baz=283,SNR=5.3
M29M Somme Creek 29.05 54 P P 18 15 00.4 -0.2
baz=284
G30M tAoh Zraii Nji 29.14 44 P P 18 15 01.1 -0.2
baz=278
K29M Barlow Dome 29.15 51 P P 18 15 01.2 -0.3
baz=282
F30M Barrier River 29.23 43 P P 18 15 02.1 +0.1
baz=277
YUK4 Talbot Arm 29.25 56 P P 18 15 02.4 -0.1
baz=286
I30M Mount Dempster 29.36 48 P P 18 15 03.0 -0.3
baz=281
PNL Peninsula 29.38 59 P P 18 15 03.4 -0.1
baz=288
YUK6 Outpost Mounta 29.49 57 P P 18 15 04.5 -0.2
baz=287
J30M Hart River 29.51 49 P P 18 15 04.3 -0.3
baz=282
O29M Mount Kennedy 29.58 58 P P 18 15 05.1 -0.2
baz=288
M30M Minto, Yukon 29.77 53 P P 18 15 06.7 -0.2
G31M Satah River 29.91 44 P P 18 15 06.9 -1.1
baz=279
HYT Haines Junctio 29.93 57 P 18 15 08.0 -0.4
HYT IAmb IAmb 18 15 18.7
comp=Z,20nm,1.4s
HYT Haines Junctio 29.93 57 P P 18 15 07.5 -0.9
baz=287
N30M Aishikik Lake 29.94 55 P P 18 15 08.1 -0.3
baz=287
INK Inuvik 29.99 41 IAmb IAmb 18 15 19.6
comp=Z,24nm,1.4s
INK Inuvik 29.99 41 LR LR 18 28 03.7
comp=Z,321nm,20.9s,baz=268,slow=38
INK Inuvik 29.99 41 P P 18 15 08.7 0.0
baz=278
F31M Tsiigehtchic 30.04 43 P P 18 15 08.9 -0.1
baz=279
H31M Peel River 30.08 46 P P 18 15 09.3 -0.3
baz=281
P29M Windy Craggy 30.19 59 P P 18 15 10.4 -0.2
baz=289
N31M Braeburn, Yuko 30.53 55 P P 18 15 13.4 -0.2
baz=287
O30N Mendenhall 30.61 56 P P 18 15 13.5 -0.8
baz=288
KSRS Korea Array 30.61 248 P P 18 15 13.1 -1.3
comp=Z,0.7nm,0.6s,baz=30,slow=9.2,SNR=5.2
KSRS PcP PcP 18 18 11.7 -0.7
comp=Z,2.3nm,1.1s,baz=4.4,slow=2.5,SNR=7.8
comp=Z,0.7nm,0.6s
PLBC Pleasant Camp 30.91 59 P P 18 15 15.8 -1.1
baz=290
M31M Drury Creek, Y 30.95 53 IAmb IAmb 18 15 27.1
comp=Z,18nm,1.4s

M31M Drury Creek, Y 30.95 53 P P 18 15 16.4 -0.9
baz=287
WHY Whitehorse 31.20 56 P P 18 15 18.5 -1.1
baz=289
FARO Faro, Yukon 31.41 53 IAmb IAmb 18 15 31.7
comp=Z,15nm,1.3s
SKAG Skagway 31.41 58 P P 18 15 22.9 +1.6
SKAG IAmb IAmb 18 15 32.2
comp=Z,21nm,1.4s
S31K Pelican 31.52 61 P P 18 15 20.5 -1.7
baz=293
N32M Quiet Lake 31.87 55 P P 18 15 23.8 -1.7
baz=290
P32M Atlin 32.12 58 P 18 15 27.7 0.0
P32M IAmb IAmb 18 15 38.5
comp=Z,18nm,1.6s
P32M Atlin 32.12 58 P P 18 15 26.0 -1.7
baz=292
MMPY Sheldon Lake, 32.21 52 P 18 15 29.3 +0.9
MMPY IAmb IAmb 18 15 38.9
comp=Z,16nm,1.5s
MMPY Sheldon Lake, 32.21 52 P P 18 15 27.1 -1.3
baz=288
R32K Eaglecrest 32.24 60 P P 18 15 27.5 -1.2
baz=293
P33M Teslin, Yukon 32.32 56 IAmb IAmb 18 15 40.0
comp=Z,29nm,1.8s
P33M Teslin, Yukon 32.32 56 P P 18 15 28.2 -1.3
baz=291
SIT Sitka 32.33 63 P P 18 15 28.3 -1.1
baz=294
S32K Killisnoo 32.53 62 P P 18 15 32.2 +1.0
S32K IAmb IAmb 18 15 42.2
comp=Z,13nm,1.1s
S32K Killisnoo 32.53 62 P P 18 15 30.1 -1.1
baz=294
JNU Nakatsue 32.54 239 LR LR 18 29 58.4
comp=Z,375nm,18.3s,baz=44,slow=39
Q32M Nakina River 33.05 58 IAmb IAmb 18 15 49.3
comp=Z,15nm,1.3s
Q32M Nakina River 33.05 58 P P 18 15 34.6 -1.3
baz=293
R33M Jennings River 33.50 57 IAmb IAmb 18 15 51.1
comp=Z,28nm,1.6s
R33M Jennings River 33.50 57 P P 18 15 38.2 -1.5
baz=293,SNR=6.1
U33K Whale Pass 33.84 63 P P 18 15 41.5 -1.1
baz=297
S34M Telegraph Cree 34.03 59 P P 18 15 43.6 -0.7
baz=295
WRAK Wrangell Islan 34.09 62 P P 18 15 44.5 -0.2
baz=297
CRAG Craig 34.13 64 P P 18 15 44.7 -0.4
baz=298
DLBC Dease Lake 34.34 58 LR LR 18 30 37.6
comp=Z,63nm,18.6s,baz=279,slow=38
DLBC Dease Lake 34.34 58 P P 18 15 47.1 +0.1
baz=295
T35M Bob Quinn 34.87 61 IAmb IAmb 18 16 03.7
comp=Z,29nm,1.4s
T35M Bob Quinn 34.87 61 P P 18 15 51.3 -0.2
baz=297
NRIK Noril'sk 34.91 323 P 18 15 51.3 -0.4
NRIK IAmb IAmb 18 15 59.9
comp=Z,21nm,1.4s
NRIK Noril'sk 34.91 323 P P 18 15 50.0 -1.7
comp=Z,1.4nm,0.4s,baz=156,slow=8.5,SNR=0.9
NRIK LR LR 18 30 50.0
comp=Z,592nm,18.6s,baz=72,slow=38
comp=Z,1.4nm,0.4s
NRIK Noril'sk 34.91 323 P P 18 15 50.0 -1.7
V35K Ketchikan 34.96 64 P P 18 15 52.6 +0.3
baz=298
ULN Ulaanbaatar 35.25 281 P 18 15 54.1 -1.0
ULN IAmb IAmb 18 16 04.0
comp=Z,23nm,1.5s
ULN Ulaanbaatar 35.25 281 *ce* P P 18 15 54.3 -0.8
ULN pmax pmax
comp=Z,14nm,1.3s
SONM Songino Array 35.63 282 P P 18 15 57.0 -1.3
SONM Songino Array 35.63 282 P P 18 15 57.3 -1.0
comp=Z,0.9nm,0.6s,baz=54,slow=9.4,SNR=5.2
SONM LR LR 18 31 58.6
comp=Z,525nm,19.7s,baz=58,slow=39
comp=Z,0.9nm,0.6s
SONM Songino Array 35.63 282 P P 18 15 57.1 -1.3
SONM pmax pmax
comp=Z,9.0nm,1.4s
H11N2 WAKE ISLAND Hy 36.37 176 T T 18 54 50.2
baz=357,slow=76,SNR=2534
H11N3 WAKE ISLAND Hy 36.38 176 T T 18 54 53.7
baz=357,slow=76,SNR=1335
H11N1 WAKE ISLAND Hy 36.39 176 T T 18 54 54.2
baz=357,slow=76,SNR=1643
TOAD Toad River Com 36.40 56 P P 18 16 05.2 +0.5
baz=297
HHC Hu-ho-hao-te 37.14 269 *eP* P 18 16 12.1 +0.8
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,72nm,3.6s
HHC LR LR
comp=Z,940nm,14.1s
HHC LR LR
comp=Z,600nm,15.3s
H11S1 WAKE ISLAND Hy 37.58 176 T T 18 56 25.1
baz=351
H11S3 WAKE ISLAND Hy 37.59 176 T T 18 56 31.2
baz=351
H11S2 WAKE ISLAND Hy 37.59 176 T T 18 56 32.8
baz=351
BBB Bella Bella 38.36 67 LR LR 18 31 38.9
comp=Z,188nm,18.5s,baz=301,slow=35
JOW Kunigami 39.02 237 LR LR 18 34 43.7
comp=Z,283nm,18.1s,baz=26,slow=40
YKA Yellowknife Ar 39.31 46 P P 18 16 29.5 +0.4
comp=Z,1.0nm,0.7s,baz=221,slow=22,SNR=6.9
YKA LR LR 18 34 12.0
comp=Z,315nm,18.9s,baz=302,slow=38
comp=Z,1.0nm,0.7s
NJ2 Nanjing 39.52 252 *eP* P 18 16 32.3 +1.1
NJ2 pmax pmax
comp=Z,17nm,0.5s
NJ2 LR LR
comp=Z,590nm,13.3s
NJ2 LR LR
comp=Z,510nm,14.2s
NJ2 LR LR
comp=Z,410nm,12.8s
RES Resolute Bay 39.60 24 LR LR 18 35 41.7
comp=Z,99nm,19.4s,baz=270,slow=40
LLLB Lillooet 42.46 65 P 18 16 54.8 -0.4
LLLB IAmb IAmb 18 17 07.5
comp=Z,30nm,1.5s
ZAA0 Zalesovo Array 43.22 302 P P 18 16 59.7 -1.7
ZALV Zalesovo Beam 43.22 302 P P 18 16 59.2 -2.2
ZALV Zalesovo Beam 43.22 302 PcP PcP 18 18 48.5 -1.7
comp=Z,1.1nm,0.6s,baz=52,slow=9.6,SNR=5.3
ZALV Zalesovo Beam 43.22 302 P P 18 16 59.2 -2.2
XAN Xi'an 43.45 263 P P 18 17 06.7 +3.2
XAN pmax pmax
comp=Z,5.0nm,0.3s
SPITS Spitsbergen Ar 44.55 351 P P 18 17 11.0 -0.8
comp=Z,9.2nm,0.8s,baz=109,slow=9.8,SNR=4.1
comp=Z,9.2nm,0.8s
GTA Gaotai 44.69 276 *eP* P 18 17 12.9 -0.6
GTA pP pP 18 17 17.5 -0.8
GTA sP sP 18 17 20.4 +0.4
GTA pmax pmax
comp=Z,3.0nm,1.1s
GTA LR LR
comp=Z,830nm,19.6s
GTA LR LR
comp=Z,830nm,17.4s
GUMO Guam 44.99 207 LR LR 18 34 26.8
comp=Z,83nm,19.5s,baz=25,slow=34
LTY Liberty 45.18 68 IAmb IAmb 18 17 27.6
comp=Z,29nm,1.8s
BLKN Baker Lake 45.23 37 P 18 17 17.3 0.0
HAWA Hanford 46.34 68 P P 18 17 27.5 +1.3
HAWA IAmb IAmb 18 17 36.6
comp=Z,23nm,1.5s
NEW Newport 46.35 65 P P 18 17 27.8 +1.4
NEW IAmb IAmb 18 17 35.7
comp=Z,11nm,1.2s
NEW Newport 46.35 65 LR LR 18 38 09.3
comp=Z,281nm,18.1s,baz=304,slow=38

NEW Newport 46.35 65 P **P** 18 17 27.8 +1.4
NEW pmax pmax
comp=Z,11nm,1.2s
PINE Pine Mountain 47.34 72 P **P** 18 17 34.3 -0.1
PINE IAmb IAmb 18 17 44.5
comp=Z,14nm,1.0s
KURK Kurchatov 48.21 302 P **P** 18 17 40.4 -0.4
KURK IAmb IAmb 18 18 19.3
comp=Z,15nm,1.6s
KURK Kurchatov 48.21 302 *ce*P **P** 18 17 41.3 +0.5
WMQ Urumqi 48.27 289 *e*P P 18 17 46.4 +5.0
WMQ pP sP 18 17 49.2 +1.3
WMQ PcP **PcP** 18 19 08.3 +0.2
WMQ pmax pmax
comp=Z,15nm,1.3s
WMQ LR LR
comp=Z,550nm,21.9s
WMQ LR LR
comp=Z,210nm,21.9s
KURBB Kurchatov Arra 48.32 302 P **P** 18 17 40.3 -1.3
comp=Z,0.4nm,0.5s,baz=55,slow=7.9,SNR=7.0
KURBB LR LR 18 39 30.0
comp=Z,358nm,18.1s,baz=149,slow=38
comp=Z,0.4nm,0.5s
BMO Blue Mountains 48.53 68 IAmb IAmb 18 17 53.0
comp=Z,9.6nm,1.2s
MK31 Makanchi Array 49.04 296 *ce*P **P** 18 17 47.3 0.0
MKAR Makanchi Array 49.04 296 P **P** 18 17 46.7 -0.6
MKAR Makanchi Array 49.04 296 P **P** 18 17 45.9 -1.4
comp=Z,0.4nm,0.6s,baz=52,slow=7.9,SNR=7.1
MKAR LR LR 18 40 16.2
comp=Z,213nm,18.7s,baz=30,slow=38
comp=Z,0.4nm,0.6s
MKAR Makanchi Array 49.04 296 *i*P **P** 18 17 46.4 -0.9
MAKZ Makanchi 49.19 296 P **P** 18 17 47.8 -0.6
MAKZ IAmb IAmb 18 17 56.7
comp=Z,11nm,1.2s
MAKZ Makanchi 49.19 296 P **P** 18 17 47.8 -0.6
MAKZ pmax pmax
comp=Z,11nm,1.2s
FFC Flin Flon 49.20 50 P **P** 18 17 49.2 +1.0
FFC IAmb IAmb 18 17 57.1
comp=Z,14nm,1.4s
FFC Flin Flon 49.20 50 P **P** 18 17 49.3 +1.0
FFC pmax pmax
comp=Z,14nm,1.5s
GOMU GeErMu 49.76 277 P **P** 18 17 57.7 +4.4
GOMU pP pwP 18 18 04.0 +1.1
GOMU sP sP 18 18 07.1 +7.3
GOMU S S 18 24 52.3 -9.3
GOMU pmax pmax
comp=Z,6.0nm,1.0s
GOMU LR LR
comp=Z,660nm,14.2s
GOMU LR LR
comp=Z,330nm,13.7s
GOMU LR LR
comp=Z,500nm,14.4s
BVAR Borovoye Array 50.42 309 P **P** 18 17 57.2 -0.4
comp=Z,2.0nm,0.6s,baz=51,slow=7.8,SNR=12
BVAR LR LR 18 42 04.4
comp=Z,657nm,18.7s,baz=42,slow=39
comp=Z,2.0nm,0.6s
BRVK Borovoye 50.44 309 **P** 18 17 57.8 -0.1
BRVK IAmb IAmb 18 18 06.7
comp=Z,8.5nm,0.8s
BRVK Borovoye 50.44 309⇑ *i*P **P** 18 17 58.9 +1.1
BRVK pmax pmax
comp=Z,11nm,1.9s
SUMG Summit 50.65 9 P **P** 18 18 00.1 +0.5
SUMG Summit 50.65 9 P **P** 18 18 00.1 +0.5
SUMG pmax pmax
comp=Z,49nm,1.7s
LVZ Lovozero 50.84 338 *i*P **P** 18 18 03.2 +2.5
LVZ pmax pmax
comp=Z,19nm,1.2s
ARCES ARCESS Array B 51.16 343 LR LR 18 43 59.7
comp=Z,92nm,18.5s,baz=40,slow=41
SVE Sverdlovsk 51.74 317 *e*P P 18 18 14.9 +7.4
SVE pmax pmax
comp=Z,34nm,1.5s
SVE MLR MLR
comp=Z,604nm,15.0s
YNE Yellowstone No 52.16 64 P **P** 18 18 12.0 +0.9
NVAR Mina Array Bea 52.52 75 P **P** 18 18 15.3 +1.5
NVAR Mina Array Bea 52.52 75 P **P** 18 18 14.9 +1.1
comp=Z,0.3nm,0.4s,baz=296,slow=7.0,SNR=14
comp=Z,0.3nm,0.4s
TPAW Teton Pass 52.76 66 IAmb IAmb 18 18 26.5
comp=Z,27nm,1.7s
ARTI Arti 52.91 318 P **P** 18 18 16.5 +0.3
ARTI Arti 52.91 318 P **P** 18 18 16.5 +0.3
ARTI pmax pmax
comp=Z,29nm,1.3s
PZH PanZhiHua 53.19 263 P **P** 18 18 20.4 +1.6
PZH S **S** 18 25 48.5 -0.1
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,5.8s
PZH LR LR
comp=Z,410nm,17.1s
PZH LR LR
comp=Z,580nm,15.5s
PZH LR LR
comp=Z,350nm,17.0s
TGY Tagaytay City 53.42 236 LR LR 18 42 00.6
comp=Z,68nm,20.5s,baz=30,slow=37
DSP Deep Springs 53.47 76 **P** 18 18 20.7 +0.2
FRB Frobisher Bay 53.75 26 LR LR 18 43 51.7
comp=Z,117nm,19.8s,baz=318,slow=39
BW06 Boulder Array 53.99 65 IAmb IAmb 18 18 34.0
comp=Z,11nm,1.1s
PD31 Pinedale Array 53.99 65 IAmb IAmb 18 18 34.1
comp=Z,12nm,1.1s
PDAR Pinedale Array 53.99 65 **P** 18 18 24.6 0.0
PDAR Pinedale Array 53.99 65 P **P** 18 18 24.2 -0.4
comp=Z,1.2nm,0.8s,baz=333,slow=0.3,SNR=8.2
PDAR LR LR 18 42 31.0
comp=Z,105nm,18.4s,baz=318,slow=37
comp=Z,1.2nm,0.8s
SPR3 Spring Creek 3 54.23 72 P **P** 18 18 27.4 +0.9
KIRV Kirov 54.39 324 LR LR 18 44 01.7
comp=Z,320nm,19.2s,baz=35,slow=39
KIRV Kirov 54.39 324 *i*P **P** 18 18 28.1 +1.1
SFJD Kangerlussuaq 54.48 16 LR LR 18 43 58.1
comp=Z,94nm,18.1s,baz=342,slow=38
WUS Wushi 54.55 293 P **P** 18 18 28.1 -0.6
WUS IAmb IAmb 18 18 36.6
comp=Z,12nm,1.2s
TPNV Topopah Spring 54.71 75 **P** 18 18 30.1 +0.3
TPNV Topopah Spring 54.71 75 P **P** 18 18 30.1 +0.3
TPNV pmax pmax
comp=Z,9.0nm,1.1s
QIZ Qiongzhong 54.78 250 P **P** 18 18 30.2 -0.1
QIZ S **S** 18 26 13.3 +3.3
QIZ LR LR
comp=Z,320nm,10.3s
QIZ LR LR
comp=Z,320nm,14.7s
TARG Taragay, Kyrgy 54.90 294 P **P** 18 18 30.8 -0.6
TARG Taragay, Kyrgy 54.90 294 P **P** 18 18 30.8 -0.6
TARG pmax pmax
comp=Z,10.0nm,1.6s
KDJ Kajisay 54.92 295 P **P** 18 18 30.8 -0.5
KDJ Kajisay 54.92 295 P **P** 18 18 30.8 -0.5
KDJ pmax pmax
comp=Z,7.0nm,1.0s
BSUT Blindstream Ca 54.99 68 IAmb IAmb 18 18 43.1
comp=Z,25nm,1.5s
ULM Lac du Bonnet 55.00 51 P **P** 18 18 31.9 +0.4
comp=Z,1.7nm,0.5s,baz=320,slow=9.5,SNR=7.5
ULM LR LR 18 44 05.8
comp=Z,192nm,18.7s,baz=321,slow=38
comp=Z,1.7nm,0.5s
ULM Lac du Bonnet 55.00 51 *i*P **P** 18 18 34.2 +2.7
PRN Pahroc Range 55.02 74 IAmb IAmb 18 18 42.4
comp=Z,12nm,1.0s
GWY Greenwater Val 55.04 76 P **P** 18 18 32.3 0.0
GWY IAmb IAmb 18 18 42.4
comp=Z,10nm,1.0s
BOOM Boomskoye usch 55.29 296 P **P** 18 18 32.9 -1.1
BOOM IAmb IAmb 18 18 44.2
comp=Z,13nm,1.3s
BOOM Boomskoye usch 55.29 296 P **P** 18 18 32.9 -1.1
BOOM pmax pmax
comp=Z,13nm,1.3s
KLMR Klimovskoe 55.54 331 *e*P P 18 18 19.7 -16
KLMR pmax pmax
comp=Z,25nm,1.9s
KLMR MLR MLR
comp=Z,359nm,16.0s
TMUT Trail Mountain 55.66 69 IAmb IAmb 18 18 47.0
comp=Z,8.4nm,0.9s
RSSD Black Hills 55.75 61 P **P** 18 18 37.1 -0.2
RSSD Black Hills 55.75 61 P **P** 18 18 37.1 -0.2
RSSD pmax pmax
comp=Z,29nm,1.7s
AAK Ala-Archa 55.90 297 P **P** 18 18 36.2 -2.2
AAK IAmb IAmb 18 18 48.5
comp=Z,16nm,1.5s
AAK Ala-Archa 55.90 297 LR LR 18 43 56.2
comp=Z,154nm,18.1s,baz=40,slow=38
AAK Ala-Archa 55.90 297 P **P** 18 18 36.2 -2.2
AAK pmax pmax
comp=Z,16nm,1.5s
SRU San Rafael Swe 56.16 69 IAmb IAmb 18 18 50.4
comp=Z,16nm,0.9s
LCMT Little Creek M 56.28 73 IAmb IAmb 18 18 52.2
comp=Z,18nm,1.6s
EPLO Experimental L 56.36 50 **P** 18 18 40.3 -1.0
AGMN Agassiz Nation 56.46 52 IAmb IAmb 18 18 50.9
comp=Z,17nm,1.2s
PFO Pinyon Flats O 57.08 78 LR LR 18 42 01.2
comp=Z,115nm,18.5s,baz=346,slow=35
KSH Kashi 57.47 293 P P 18 18 58.4 +8.9
KSH pP pwP 18 19 02.5 +3.4
KSH pmax pmax
comp=Z,4.0nm,1.4s
KSH LR LR
comp=Z,340nm,12.4s
KSH LR LR
comp=Z,290nm,13.1s
KSH LR LR
comp=Z,330nm,18.5s
PV22 Blue Mesa, Par 57.49 68 P **P** 18 18 49.5 -0.2
PV22 IAmb IAmb 18 18 59.6
comp=Z,18nm,1.3s
KK31 Karatay Array 57.52 300 P **P** 18 18 47.1 -2.5
KK31 Karatay Array 57.52 300 P **P** 18 18 47.2 -2.5
KK31 pmax pmax
comp=Z,39nm,1.8s
KKAR Karatay Array 57.52 300 P **P** 18 18 47.5 -2.1
KKAR Karatay Array 57.52 300 **P** 18 18 48.2 -1.4
KKAR Karatay Array 57.52 300 P **P** 18 18 47.5 -2.1
KKAR pmax pmax
comp=Z,40nm,1.8s
PV16 Nyswonger Mesa 57.59 68 IAmb IAmb 18 19 00.4
comp=Z,13nm,1.2s
DAV Davao City (W) 57.64 227 LR LR 18 44 18.4
comp=Z,58nm,19.3s,baz=12,slow=37
AB31 Akbulak array 57.67 311 **P** 18 18 49.3 -1.3
ABKAR Akbulak array 57.67 311 **P** 18 18 49.5 -1.0
PV03 Paradox Valley 57.67 68 IAmb IAmb 18 19 00.8
comp=Z,13nm,1.1s
PV13 Radium Mtn., P 57.76 69 P **P** 18 18 51.5 -0.2
PV13 IAmb IAmb 18 19 01.6
comp=Z,14nm,1.0s
F33A 5 Mile Ranch, 58.12 54 P **P** 18 18 55.0 +1.1
F33A IAmb IAmb 18 19 03.5
comp=Z,17nm,1.2s
ISCO Idaho Springs 58.18 65 IAmb IAmb 18 19 05.1
comp=Z,11nm,1.1s
FINES FINESS Array B 58.28 338 P **P** 18 18 54.4 -0.3
comp=Z,1.3nm,0.8s,baz=51,slow=6.1,SNR=4.3
comp=Z,1.3nm,0.8s
BTK Batken 59.67 297 P **P** 18 19 02.2 -2.5
BTK IAmb IAmb 18 19 14.5
comp=Z,7.9nm,0.9s
BTK Batken 59.67 297 P **P** 18 19 02.3 -2.5
BTK pmax pmax
comp=Z,8.0nm,1.0s
SDCO Great Sand Dun 59.79 67 P **P** 18 19 06.8 +1.0
BELG Belogornoye 59.97 321 *i*P **P** 18 19 07.8 +1.4
BELG pmax pmax
comp=Z,2.0nm,0.9s
UBPT Khong Chiam 60.20 252 P **P** 18 19 07.4 -1.1
MOS Moscow 60.40 329 *e*P P 18 19 16.8 +7.4
MOS pmax pmax
comp=Z,34nm,0.6s
PHRA Phrae 60.40 259 P **P** 18 19 09.1 -0.8
EVN Everest 60.40 277 P **P** 18 19 08.7 -1.9
GAR Garm 60.73 297 P **P** 18 19 10.0 -2.1
VSU Vasula 60.83 336 *ce*P **P** 18 19 14.7 +2.4
VSU pmax pmax
comp=Z,49nm,1.3s
CHTO Chiang Mai 60.86 260 P **P** 18 19 12.2 -0.8
CHTO Chiang Mai 60.86 260 P **P** 18 19 12.2 -0.8
CHTO pmax pmax
comp=Z,23nm,1.6s
CMAR Chiang Mai Arr 61.15 260 P **P** 18 19 14.9 0.0
comp=Z,1.0nm,0.7s,baz=18,slow=7.6,SNR=7.6
CMAR PcP **PcP** 18 19 58.6 +0.9
comp=Z,2.1nm,0.6s,baz=12,slow=4.8,SNR=7.4
CMAR LR LR 18 47 13.6
comp=Z,277nm,18.1s,baz=80,slow=38
comp=Z,1.0nm,0.7s
OBN Obninsk 61.24 329 *ce*P **P** 18 19 18.1 +3.0
OBN *e* 18 21 34.2
OBN *e*S **S** 18 27 28.0 -5.6
OBN *e*SS **SS** 18 31 35.8 +2.9
OBN pmax pmax
comp=Z,5.0nm,0.5s
OBN MLR MLR
comp=Z,259nm,16.0s
NB2 NORSAR Subarra 61.28 345 P **P** 18 19 15.3 -0.1
comp=Z,24nm,1.7s,baz=17,slow=6.9
NOA NORSAR Array B 61.28 345 P **P** 18 19 15.0 -0.4
comp=Z,1.0nm,0.2s,baz=18,slow=6.7,SNR=5.9
comp=Z,1.0nm,0.2s
HFS Hagfors 61.78 344 P **P** 18 19 18.3 -0.4
comp=Z,0.9nm,0.4s,baz=23,slow=4.8,SNR=11
comp=Z,0.9nm,0.4s
SCHQ Schefferville 61.83 31 P **P** 18 19 18.9 -0.2
comp=Z,2.0nm,0.7s,baz=350,slow=4.4,SNR=8.6
SCHQ LR LR 18 47 44.1
comp=Z,130nm,21.2s,baz=287,slow=38
comp=Z,2.0nm,0.7s
BRDH Bariadhala 61.84 269 LR LR 18 48 10.4
comp=Z,338nm,18.6s,baz=64,slow=38
LPSR Galich'ya Gora 62.70 326 *e*P **P** 18 19 23.2 -1.7
LPSR pmax pmax
comp=Z,10.0nm,1.2s
VRH Novokhopyorsk 62.99 323 *e*P P 18 19 34.2 +7.3
VRH pmax pmax
comp=Z,28nm,1.5s
NIL Nilore 63.35 291 P **P** 18 19 28.8 -0.9
NIL IAmb IAmb 18 19 44.7
comp=Z,13nm,1.2s
NIL Nilore 63.35 291 P **P** 18 19 28.8 -0.9
NIL pmax pmax
comp=Z,13nm,1.2s
VORR Voronezh 63.41 325 *e*P P 18 19 37.2 +7.5
VORR pmax pmax
comp=Z,16nm,1.5s
VSR Storozhevoye 63.81 325 *e*P **P** 18 19 35.3 +3.0
VSR pmax pmax
comp=Z,10.0nm,1.2s
VORD Divnogorie 63.99 325 *e*P **P** 18 19 36.1 +2.6
VORD pmax pmax
comp=Z,10.0nm,1.3s
MNK Minsk 64.14 333 *i*P **P** 18 19 33.2 -1.2
MNK *i* 18 21 55.1
MNK *i*PPP PPP 18 23 23.7
MNK *i*S **S** 18 28 12.1 +2.1
MNK *i*SS **SS** 18 32 23.5 +5.4
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK MLR MLR
comp=N,89nm,15.0s
MNK MLR MLR
comp=E,202nm,17.0s
MNK MLR MLR
comp=Z,325nm,17.0s
P38A Dawn 64.23 57 **P** 18 19 35.6 +0.4
KBL Kabul 64.83 295 P **P** 18 19 38.4 -1.1
KBL Kabul 64.83 295 P **P** 18 19 38.4 -1.1
KBL pmax pmax
comp=Z,18nm,1.5s
P40A Paris 65.00 56 P **P** 18 19 40.2 -0.1
P40A IAmb IAmb 18 19 48.6
comp=Z,6.6nm,0.8s
HNR Honiara 65.39 185 LR LR 18 46 14.3
comp=Z,81nm,18.2s,baz=7.0,slow=34
APMT Aspermont 65.97 66 **P** 18 19 48.2 +1.4
APMT IAmb IAmb 18 19 55.4
comp=Z,10nm,0.9s
SADO Sadowa 66.25 44 LR LR 18 51 13.3
comp=Z,114nm,18.2s,baz=314,slow=38
CCM Cathedral Cave 66.55 56 P **P** 18 19 52.8 +2.4
CCM IAmb IAmb 18 19 58.5
comp=Z,7.1nm,0.9s
CCM Cathedral Cave 66.55 56 P **P** 18 19 52.8 +2.4
CCM pmax pmax
comp=Z,7.0nm,1.0s
TRQ Mont Tremblant 66.75 40 P **P** 18 19 52.7 +1.1
AKASG Malin Array Be 67.23 331 P **P** 18 19 54.2 -0.1
comp=Z,0.6nm,0.3s,baz=28,slow=6.9,SNR=4.4
AKASG LR LR 18 52 48.3
comp=Z,227nm,18.0s,baz=21,slow=39
comp=Z,0.6nm,0.3s
AKASG Malin Array Be 67.23 331 *i*P **P** 18 19 54.5 +0.1
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 67.23 331 *ce*P **P** 18 19 54.4 0.0
AKBB pmax pmax
comp=Z,15nm,1.7s
KIEV Kiev 67.24 331 P **P** 18 19 56.1 +1.6
KIEV Kiev 67.24 331 P **P** 18 19 56.1 +1.6
KIEV pmax pmax
comp=Z,22nm,1.7s
TXAR Lajitas Array 67.28 71 P **P** 18 19 55.8 +0.5
TXAR Lajitas Array 67.28 71 P **P** 18 19 55.5 +0.3
comp=Z,0.6nm,0.6s,baz=300,slow=5.4,SNR=11
comp=Z,0.6nm,0.6s
SBUM Sibu 67.71 238 P **P** 18 19 57.8 -0.1
SBUM IAmb IAmb 18 20 08.3
comp=Z,7.7nm,1.0s
EKA Eskdalemuir Ar 68.45 352 P **P** 18 20 01.6 -0.5
comp=Z,1.5nm,0.7s,baz=359,slow=5.8,SNR=5.3
comp=Z,1.5nm,0.7s
KIV Kislovodsk 68.84 319 *e*P **P** 18 20 07.6 +2.8
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,159nm,17.0s
KBZ Khabaz 68.96 318 P **P** 18 20 06.5 +1.2
comp=Z,2.4nm,0.8s,baz=8.6,slow=3.5,SNR=11
comp=Z,2.4nm,0.8s
AKT Akhty 69.00 314 *e*P **P** 18 20 08.8 +3.0
AKT *e* 18 20 28.9
AKT *e* 18 22 36.7
AKT pmax pmax
comp=Z,44nm,1.7s
AKT MLR MLR
comp=Z,411nm,17.0s
G62A West of Eustis 69.04 38 P **P** 18 20 07.0 +1.1
G62A IAmb IAmb 18 20 14.4
comp=Z,14nm,1.3s
F64A Sherman 69.22 36 P **P** 18 20 08.2 +1.2
WVT Waverly 69.70 55 **P** 18 20 10.1 0.0
WVT Waverly 69.70 55 P **P** 18 20 10.1 0.0
WVT pmax pmax
comp=Z,17nm,1.3s
OXF Oxford 70.29 57 P **P** 18 20 14.9 +1.2
OXF Oxford 70.29 57 P **P** 18 20 14.9 +1.2
OXF pmax pmax
comp=Z,44nm,1.3s
CLL Collm 70.34 341 *e*P **P** 18 20 16.0 +2.2
CLL Collm 70.34 341 *e*P **P** 18 20 16.0 +2.2
CLL *i* x x 18 20 20.7
comp=Z,23nm,1.5s
CLL *e*PP **PP** 18 22 50.0 +1.2
CLL AMS AMS 18 52 00.0
comp=Z,100nm,21.2s
BRG Berggiesshubel 70.59 341 *e*P P 18 20 23.9 +8.5
BRG Amp 18 20 25.4
comp=Z,22nm,1.7s
KOLS Kolonicke sedl 70.64 335 *e*P P 18 20 24.2 +8.5
KOLS Kolonicke sedl 70.64 335 *e*P P 18 20 24.2 +8.5
MORC Morasky Berou 70.92 338 *e*P **P** 18 20 20.6 +3.2
LANS Liptovska Anna 71.09 336 *e*P P 18 20 27.3 +8.8
LANS Liptovska Anna 71.09 336 *e*P P 18 20 27.3 +8.8
GNI Garni 71.32 315 LR LR 18 56 03.6
comp=Z,481nm,19.8s,baz=27,slow=40
VRAC Vranov 71.56 338 *e*P **P** 18 20 23.9 +2.6
VRAC Vranov 71.56 338 LR LR 18 55 43.6
comp=Z,114nm,18.3s,baz=24,slow=39
JAVC Velka Javorina 71.76 337 *e*P **P** 18 20 25.9 +3.4
CPCT Cooper Cave 71.77 53 P **P** 18 20 23.8 +1.1
CPCT IAmb IAmb 18 20 30.9
comp=Z,12nm,1.4s
KRUC Moravsky 71.83 338 *e*P **P** 18 20 26.6 +3.7
VYHS Vyhne 71.85 337 *e*P P 18 20 30.5 +7.5
VYHS Vyhne 71.85 337 *e*P P 18 20 30.5 +7.5
TKL Tuckaleechee C 71.93 53 LR LR 18 53 24.0
comp=Z,428nm,19.4s,baz=337,slow=37
MODS Modra-Piesok 72.30 338 *e*P P 18 20 33.8 +8.1
MODS Modra-Piesok 72.30 338 *e*P P 18 20 33.8 +8.1
GERES GERESS Array B 72.58 340 P **P** 18 20 26.8 -0.7
GERES GERESS Array B 72.58 340 P **P** 18 20 28.1 +0.7
comp=Z,0.1nm,0.3s,baz=57,slow=4.9,SNR=8.7
GERES LR LR 18 56 16.5
comp=Z,122nm,18.3s,baz=20,slow=39
comp=Z,0.1nm,0.3s
GERES GERESS Array B 72.58 340 P **P** 18 20 26.8 -0.7
MLR Muntele Rosu 72.88 331 **P** 18 20 29.3 -0.1
MLR Muntele Rosu 72.88 331 LR LR 18 54 40.9
comp=Z,207nm,20.6s,baz=27,slow=38
MLR Muntele Rosu 72.88 331 P **P** 18 20 29.3 -0.1
MLR pmax pmax
comp=Z,30nm,1.7s
CONA Conrad Observa 73.02 338 *ep*P pP 18 20 33.7 -1.3
comp=Z,5.9nm,1.4s
KOPT Kop Dagi 73.06 318 P **P** 18 20 31.7 +1.0
KOPT IAmb IAmb 18 20 49.3
comp=Z,6.1nm,0.8s
RONA Rosalia, Austr 73.15 338 *ep*P pP 18 20 34.2 -1.5
comp=Z,9.7nm,1.6s
MOA Molln 73.42 339 *ep*P pP 18 20 36.4 -0.9
comp=Z,9.3nm,1.5s
BIOA Bad Ischl, Aus 73.69 340 *ep*P pP 18 20 38.4 -0.5
comp=Z,7.6nm,1.3s
ARSA Arzberg 73.74 338 *i*pP pP 18 20 38.4 -0.8
comp=Z,3.9nm,1.4s
MTN Manton Dam 74.06 214 P **P** 18 20 35.5 -0.8
MTN IAmb IAmb 18 20 58.1
comp=Z,15nm,1.2s
PSI Prapat 74.12 251 LR LR 18 54 55.8
comp=Z,135nm,19.3s,baz=3.0,slow=37
LESA Schwarzleotal 74.13 340 *ep*P pP 18 20 40.5 -1.0
comp=Z,12nm,1.7s
KBA Koelnbreinsper 74.34 340 *i*pP pP 18 20 42.4 -0.5
comp=Z,15nm,1.7s
SOKA Soboth 74.39 339 *ep*P pP 18 20 42.2 -0.8
comp=Z,8.0nm,1.5s
RETA Reutte 74.42 342 *i*pP pP 18 20 41.8 -1.4
comp=Z,0.6nm,0.6s
WATA Walderalm 74.42 341 *ep*P pP 18 20 41.4 -1.9
comp=Z,15nm,1.4s
WTTA Wattenberg 74.48 341 *ep*P pP 18 20 41.9 -1.8
comp=Z,9.0nm,1.6s
MOTA Moosalm 74.50 341 *i*pP pP 18 20 43.5 -0.3
comp=Z,17nm,1.8s
SQTA Sankt Quirin 74.60 341 *ep*P pP 18 20 43.4 -1.0
comp=Z,7.6nm,0.9s
OBKA Obir 74.64 339 *ep*P pP 18 20 42.9 -1.7
comp=Z,24nm,1.5s
MYKA Terra Mystica 74.71 339 *ep*P pP 18 20 43.5 -1.4
comp=Z,10nm,1.3s
DAVA Damuels 74.77 342 *i*pP pP 18 20 44.6 -0.8
comp=Z,0.8nm,0.5s
ABTA Abfaltersbach 74.81 340 *ep*P pP 18 20 43.9 -1.6
comp=Z,9.1nm,1.1s
FETA Feichten 74.88 342 *ep*P pP 18 20 45.5 -0.6
comp=Z,12nm,1.6s
DAVOX Davos/Dischmat 75.26 342 LR LR 18 57 27.6
comp=Z,109nm,20.6s,baz=76,slow=39
CTI Castel Tesino 75.65 341 **P** 18 20 46.0 +0.6
CTI IAmb IAmb 18 20 54.5
comp=Z,15nm,1.4s
CTI Castel Tesino 75.65 341 P **P** 18 20 46.0 +0.6
CTI pmax pmax
comp=Z,15nm,1.4s

BRTR	**Keskin Array B**	**75.77**	**323**	P	**P**	**18 20 47.1**	**+0.8**
BRTR	**Keskin Array B**	**75.77**	**323**	P	**P**	**18 20 47.0**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=48,slow=1.8,SNR=10						
BRTR				LR	LR	18 58 12.8	
	comp=Z,84nm,18.2s,baz=336,slow=39						
	comp=Z,0.7nm,0.8s						
KNRA	**Kununurra**	**77.47**	**215**	P	**P**	**18 20 55.0**	**-0.8**
DZM	**Mont Dzumac**	**77.88**	**178**	*e*LR	LR	18 44 59.8	
	comp=Z,83nm,23.2s						
NRCA	**Norcia**	**78.46**	**339**	P	**P**	**18 21 01.6**	**+0.3**
UOSS	**Minazif**	**79.07**	**298**		**P**	**18 21 03.0**	**-1.8**
TAOE	**Nuku Hiva Isla**	**79.26**	**124**	*e*LR	LR	18 45 35.6	
	comp=Z,351nm,25.3s						
WR8	**Warramunga Arr**	**79.84**	**208**	P	**P**	**18 21 08.2**	**-0.6**
WR8				IAmb	IAmb	18 21 18.1	
	comp=Z,13nm,1.1s						
WRAB	**Tennant Creek**	**79.86**	**208**	P	**P**	**18 21 07.1**	**-1.8**
WRAB				IAmb	IAmb	18 21 18.1	
	comp=Z,11nm,1.1s						
WRAB	**Tennant Creek**	**79.86**	**208**	P	**P**	**18 21 07.1**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**79.87**	**208**	P	**P**	**18 21 07.8**	**-1.2**
WRA	**Warramunga Arr**	**79.87**	**208**	P	**P**	**18 21 09.3**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=4.8,slow=6.1,SNR=6.9						
	comp=Z,1.3nm,0.8s						
WRA	**Warramunga Arr**	**79.87**	**208**	*i* P	**P**	**18 21 11.0**	**+2.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
FITZ	**Fitzroy Crossi**	**80.76**	**217**	P	**P**	**18 21 13.8**	**0.0**
MMAI	**Mount Meron Ar**	**81.16**	**319**	P	**P**	**18 21 16.8**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=32,slow=8.1,SNR=4.8						
MMAI				LR	LR	19 03 20.1	
	comp=Z,147nm,18.5s,baz=21,slow=40						
	comp=Z,0.6nm,0.6s						
ASF	**Jabal al Asfar**	**81.35**	**317**	LR	LR	19 03 11.9	
	comp=Z,218nm,18.3s,baz=52,slow=40						
CMIG	**Matias Romero**	**81.88**	**72**	LR	LR	18 57 06.0	
	comp=Z,51nm,18.4s,baz=2.5,slow=35						
RAR	**Rarotonga**	**82.81**	**146**	LR	LR	18 48 20.2	
	comp=Z,49nm,21.4s,baz=8.0,slow=28						
PPT	**Papeete**	**83.00**	**136**	LR	LR	18 51 12.1	
	comp=Z,98nm,21.4s,baz=336,slow=30						
PPT2	**Papeete2**	**83.02**	**136**	*e*LR	LR	18 47 01.8	
	comp=Z,195nm,35.0s						
PPT2				*e*LR	LR	18 47 27.2	
	comp=Z,164nm,22.8s						
VAE	**Valguarnera**	**83.32**	**336**	LR	LR	19 07 12.1	
	comp=Z,141nm,18.4s,baz=327,slow=42						
AS31	**Alice Springs**	**83.53**	**208**		**P**	**18 21 28.1**	**-0.1**
ASAR	**Alice Springs**	**83.53**	**208**	P	**P**	**18 21 27.4**	**-0.9**
ASAR	**Alice Springs**	**83.53**	**208**	P	**P**	**18 21 29.0**	**+0.7**
	comp=Z,1.4nm,0.9s,baz=16,slow=4.5,SNR=18						
ASAR				LR	LR	18 56 49.9	
	comp=Z,38nm,21.8s,baz=350,slow=34						
	comp=Z,1.4nm,0.9s						
ASAR	**Alice Springs**	**83.53**	**208**	P	**P**	**18 21 27.4**	**-0.9**
ESDC	**Sonseca Array**	**84.07**	**351**		**P**	**18 21 30.6**	**-0.5**
ESDC	**Sonseca Array**	**84.07**	**351**	P	**P**	**18 21 32.4**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=356,slow=5.4,SNR=4.7						
	comp=Z,0.3nm,0.5s						
EIL	**Elat**	**84.32**	**317**	LR	LR	19 05 05.5	
	comp=Z,142nm,18.4s,baz=64,slow=40						
RAYN	**Ar Rayn**	**85.34**	**306**	P	**P**	**18 21 36.5**	**-1.2**
RAYN	**Ar Rayn**	**85.34**	**306**	P	**P**	**18 21 36.6**	**-1.2**
RAYN				pmax	pmax		
	comp=Z,23nm,1.7s						
KEST	**Kesra**	**86.06**	**340**	LR	LR	19 06 28.7	
	comp=Z,102nm,18.1s,baz=25,slow=40						
TBI	**Tubuai**	**88.30**	**138**	*e*LR	LR	18 49 58.1	
	comp=Z,1μm,33.8s						
STKA	**Stephens Creek**	**89.74**	**199**	LR	LR	18 58 56.8	
	comp=Z,36nm,19.3s,baz=22,slow=33						
SJG	**San Juan**	**94.79**	**47**	LR	LR	19 07 20.3	
	comp=Z,92nm,20.0s,baz=139,slow=37						
ATD	**Arta Tunnel**	**97.00**	**303**	LR	LR	19 12 43.2	
	comp=Z,6.2nm,19.5s,baz=359,slow=40						
NWAO	**Narrogin (SRO)**	**97.30**	**218**	LR	LR	19 11 19.7	
	comp=Z,15nm,18.2s,baz=317,slow=38						
QSPA	**South Pole Qui**	**145.86**	**180**		**PKPdf**	**18 28 36.9**	**-0.8**
QSPA	**South Pole Qui**	**145.86**	**180**	PKPbc	**PKPdf**	**18 28 37.5**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=324,slow=0.7,SNR=17						

ROM 05 18:18:45.4*±0.1, *42°.186N*±0°.003×*13°.451E*±0°.004, *h11km*, *ML1.3*/27, *2C-1D*, *Error ellipse: s-maj=0.3km s-min=0.1km az=263.0*, *Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAGN	**Fagnano**	**0.13**	**51**	⇑P	Pg	18 18 49.0	+0.5
FAGN				S	Sg	18 18 51.9	+1.1
FAGN				AML	AML		
	comp=E,830μm,0.3s						
FAGN				AML	AML		
	comp=N,372μm,0.4s						
FAGN				AML	AML		
	comp=E,830μm,0.3s						
FAGN				AML	AML		
	comp=N,366μm,0.6s						
FAGN				AML	AML		
	comp=N,366μm,1.4s						
FAGN				AML	AML		
	comp=E,830μm,1.7s						
PTQR	**Pietraquaria**	**0.17**	**193**	⇓P	Pg	18 18 49.8	+0.6
PTQR				S	Sg	18 18 52.8	+1.0
PTQR				AML	AML		
	comp=E,144μm,0.2s						
PTQR				AML	AML		
	comp=N,211μm,1.0s						
PTQR				AML	AML		
	comp=E,139μm,0.1s						
PTQR				AML	AML		
	comp=N,185μm,0.1s						
AQU	**L'Aquila**	**0.17**	**348**	P	Pg	18 18 49.7	+0.5
AQU				S	Sg	18 18 52.7	+0.8
T0110	**Collepietro**	**0.25**	**80**	⇑P	Pg	18 18 51.0	+0.5
T0110				S	Sg	18 18 55.4	+1.4
T0110				AML	AML		
	comp=E,176μm,0.4s						
T0110				AML	AML		
	comp=N,238μm,0.3s						
T0110				AML	AML		
	comp=E,175μm,0.3s						
T0110				AML	AML		
	comp=N,237μm,0.3s						
T0110				AML	AML		
	comp=E,175μm,1.7s						
FIAM	**Fiamignano**	**0.26**	**288**	P	Pg	18 18 51.1	+0.3
FIAM				S	Sg	18 18 55.4	+1.0
FIAM				AML	AML		
	comp=E,58μm,1.3s						
FIAM				AML	AML		
	comp=N,77μm,1.3s						
FIAM				AML	AML		
	comp=E,52μm,0.1s						
FIAM				AML	AML		
	comp=N,118μm,0.2s						
FIAM				AML	AML		
	comp=N,65μm,0.2s						
GIGS	**Gran Sasso**	**0.28**	**18**	P	Pg	18 18 51.6	+0.5
GIGS				S	Sg	18 18 56.1	+1.1
GIGS				AML	AML		
	comp=E,31μm,1.5s						
GIGS				AML	AML		
	comp=N,28μm,0.5s						
GIGS				AML	AML		
	comp=E,22μm,0.4s						
VVLD	**Villa Vallelon**	**0.34**	**158**	P	Pg	18 18 52.6	+0.4
VVLD				S	Sg	18 18 57.8	+1.1
VVLD				AML	AML		
	comp=E,34μm,0.4s						
VVLD				AML	AML		
	comp=N,37μm,0.4s						
VVLD				AML	AML		
	comp=E,29μm,0.2s						
VVLD				AML	AML		
	comp=N,32μm,0.3s						
CAMP	**Campotosto**	**0.35**	**355**	P	Pg	18 18 53.0	+0.6
CAMP				S	Sb	18 18 58.8	-0.6
CAMP				AML	AML		
	comp=E,58μm,1.1s						
CAMP				AML	AML		
	comp=N,104μm,0.6s						
CAMP				AML	AML		
	comp=E,53μm,0.3s						
CAMP				AML	AML		
	comp=N,104μm,0.6s						
CAMP				AML	AML		
	comp=E,53μm,1.7s						
VCEL	**Villa Celiera**	**0.36**	**54**	P	Pb	18 18 53.2	-0.6
VCEL				S	Sb	18 18 58.9	-0.7
RM33	**Pellescritta (**	**0.37**	**332**	P	Pg	18 18 52.8	+0.1
RM33				S	Sb	18 18 59.0	-0.9
RM33				AML	AML		
	comp=E,78μm,0.6s						
RM33				AML	AML		
	comp=N,85μm,0.2s						
RM33				AML	AML		
	comp=E,70μm,0.3s						
RM33				AML	AML		
	comp=N,85μm,0.2s						
INTR	**Introdacqua**	**0.38**	**117**	P	Pg	18 18 53.1	+0.2
INTR				S	Sg	18 18 58.9	+0.9
INTR				AML	AML		
	comp=E,81μm,0.8s						
INTR				AML	AML		
	comp=N,175μm,0.4s						
INTR				AML	AML		
	comp=E,63μm,0.3s						
INTR				AML	AML		
	comp=N,152μm,0.3s						
INTR				AML	AML		
	comp=N,175μm,0.4s						
CERT	**Cerreto**	**0.42**	**236**	P	Pb	18 18 54.4	-0.5
CERT				S	Sb	18 19 00.8	-0.6
CERT				AML	AML		
	comp=E,46μm,0.8s						
CERT				AML	AML		
	comp=N,55μm,0.7s						
CERT				AML	AML		
	comp=N,52μm,0.3s						
CERT				AML	AML		
	comp=E,41μm,0.1s						
TERO	**Teramo**	**0.45**	**15**	P	Pg	18 18 54.5	+0.2
TERO				S	Sg	18 19 01.2	+0.9
TERO				AML	AML		
	comp=E,46μm,0.5s						
TERO				AML	AML		
	comp=N,44μm,0.2s						
TERO				AML	AML		
	comp=N,44μm,0.2s						
TERO				AML	AML		
	comp=E,39μm,0.2s						
SMA1	**SAN MARTINO**	**0.45**	**349**	P	Pg	18 18 54.7	+0.4
SMA1				S	Sb	18 19 01.4	-1.0
SMA1				AML	AML		
	comp=E,62μm,0.3s						
SMA1				AML	AML		
	comp=N,62μm,0.5s						
SMA1				AML	AML		
	comp=E,62μm,0.3s						
SMA1				AML	AML		
	comp=N,62μm,0.5s						
POFI	**Posta Fibreno**	**0.51**	**157**	P	Pg	18 18 55.4	0.0
POFI				S	Sb	18 19 03.4	-0.4
GAVE	**Gavelli**	**0.65**	**321**	P	Pg	18 18 58.5	+0.3
GAVE				S	Sg	18 19 07.0	+0.3
GAVE				AML	AML		
	comp=E,36μm,1.1s						
GAVE				AML	AML		
	comp=N,45μm,0.5s						
GAVE				AML	AML		
	comp=E,35μm,0.2s						
GAVE				AML	AML		
	comp=N,45μm,0.5s						
GAVE				AML	AML		
	comp=N,45μm,1.5s						

*NEIC **05** 18:24:12.2±1.9, 55°.9N±0°.1×164°.3E±0°.1, h10km±1km, mb4.2/109, Error ellipse: s-maj=18.1km s-min=12.0km az=154.0*

*KRSC **05** 18:24:13.3±1.4, 56°.16N×164°.44E, h50km±21km, Mc4.7, Ml4.3*

*MOS **05** 18:24:16.2±1.1, 56°.13N×164°.29E, h47km, mb4.5/17, Error ellipse: s-maj=7.1km s-min=4.5km az=60.2*

*IDC **05** 18:24:19.6±0.6, 56°.23N×164°.16E, h0km, mb4.2/27, mbtmp4.2/28, ML4.5/1, MS3.4/13, Error ellipse: s-maj=18.2km s-min=12.0km az=154.0*

ISC 05 18:24:13.1**±0.7, **55°.89N**±0°.03×**164°.24E**±0°.02, **h11**km±5km, **n296**, σ1§**97**/233, **mb4.2**/83, **MS3.4**/9, **6C-2D**, **Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.86**	**293**	PN	**Pg**	**18 24 29.0**	**-0.6**
KBTR	**Krutoberegovo**	**0.86**	**293**	*e*P	**Pg**	**18 24 29.1**	**-0.6**
KBG	**Krutoberegovo**	**0.94**	**294**	PN	**Pg**	**18 24 30.2**	**-0.9**
KBG				S	**Sb**	**18 24 43.5**	**-0.1**
KBG	**Krutoberegovo**	**0.94**	**294**	*e*P	**Pg**	18 24 30.3	-0.9
KBG				*e*S	**Sb**	**18 24 43.6**	**-0.1**
BKI	**Bering**	**1.20**	**124**	PN	**Pg**	**18 24 37.0**	**+0.9**
BKI				S	**Sn**	**18 24 54.1**	**+2.1**
BKI	**Bering**	**1.20**	**124**	*i* P	**Pg**	18 24 37.0	+0.9
BKI				*e*S	**Sn**	**18 24 54.1**	**+2.1**
SMKR	**Semkarok**	**1.70**	**295**	PN	**Pn**	**18 24 42.7**	**0.0**
SMKR	**Semkarok**	**1.70**	**295**	*e*P	**Pn**	**18 24 42.7**	**0.0**
SRKR	**Sorokina**	**1.88**	**295**	PN	**Pn**	**18 24 45.7**	**+0.6**
SRKR	**Sorokina**	**1.88**	**295**	*e*P	**Pn**	**18 24 45.8**	**+0.6**
ZLN	**Zelenaya**	**1.94**	**275**	PN	**Pb**	**18 24 48.3**	**-0.1**
ZLN	**Zelenaya**	**1.94**	**275**	*e*P	**Pb**	**18 24 48.4**	**-0.1**
MKZ	**Mys Kozlova**	**1.96**	**228**	PN	**Pb**	**18 24 49.4**	**+0.7**
MKZ				S	**Sg**	**18 25 15.6**	**-0.4**
MKZ	**Mys Kozlova**	**1.96**	**228**	*e*P	**Pb**	**18 24 49.4**	**+0.7**
MKZ				*e*S	**Sg**	**18 25 15.7**	**-0.4**
CIRR	**Tsirk**	**1.97**	**278**	PN	**Pb**	**18 24 48.9**	**-0.1**
CIRR	**Tsirk**	**1.97**	**278**	*e*P	**Pb**	**18 24 49.0**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**1.99**	**273**	PN	**Pb**	**18 24 49.3**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**1.99**	**273**	*e*P	**Pb**	**18 24 49.3**	**-0.1**
KLY	**Klyuchi**	**2.05**	**284**	PN	**Pn**	**18 24 46.9**	**-0.6**
KLY				S	**Sn**	**18 25 13.0**	**-0.1**
KLY	**Klyuchi**	**2.05**	**284**	*e*P	**Pn**	**18 24 47.0**	**-0.6**
KLY				*e*S	**Sn**	**18 25 13.0**	**-0.1**
BZWR	**Bezymyannyi-We**	**2.11**	**274**	PN	**Pb**	**18 24 51.0**	**-0.4**
BZWR	**Bezymyannyi-We**	**2.11**	**274**	*e*P	**Pb**	**18 24 51.0**	**-0.4**
BZMR	**Bezymyannaya**	**2.11**	**273**	PN	**Pb**	**18 24 51.2**	**-0.2**
BZMR	**Bezymyannaya**	**2.11**	**273**	*e*P	**Pb**	**18 24 51.3**	**-0.2**
KIRR	**Kirishev**	**2.19**	**273**	PN	**Pb**	**18 24 52.0**	**-0.8**
KIRR	**Kirishev**	**2.19**	**273**	*e*P	**Pb**	**18 24 52.1**	**-0.8**
KMNR	**Kamenistaya**	**2.26**	**268**	PN	**Pb**	**18 24 53.9**	**0.0**
KMNR	**Kamenistaya**	**2.26**	**268**	*e*P	**Pb**	**18 24 54.0**	**0.0**
KPT	**Kopyto**	**2.26**	**274**	PN	**Pb**	**18 24 53.2**	**-0.7**
KPT	**Kopyto**	**2.26**	**274**	*e*P	**Pb**	**18 24 53.3**	**-0.7**
TUMD	**Tumrok D**	**2.29**	**254**	PN	**Pb**	**18 24 53.9**	**-0.4**
TUMD				S	**Sb**	**18 25 24.6**	**+2.0**
TUMD	**Tumrok D**	**2.29**	**254**	*e*P	**Pb**	**18 24 53.9**	**-0.4**
TUMD				*e*S	**Sb**	**18 25 24.6**	**+2.0**
KOZ	**Kozyrevsk**	**2.46**	**276**	PN	**Pb**	**18 24 56.4**	**-0.9**
KOZ	**Kozyrevsk**	**2.46**	**276**	*e*P	**Pb**	**18 24 56.4**	**-0.9**
SRDR	**Sredinnyy**	**2.57**	**282**	PN	**Pn**	**18 24 56.6**	**+2.0**
SRDR	**Sredinnyy**	**2.57**	**282**	*e*P	**Pn**	**18 24 56.7**	**+2.0**
ESO	**Esso**	**3.12**	**273**	PN	**Pb**	**18 25 06.1**	**-2.4**
ESO	**Esso**	**3.12**	**273**	*e*P	**Pb**	**18 25 06.1**	**-2.4**
KII	**Karymskiy**	**3.33**	**238**	PN	**Pb**	**18 25 09.9**	**-2.2**
KII	**Karymskiy**	**3.33**	**238**	*e*P	**Pb**	**18 25 09.9**	**-2.2**
OSSR	**Ossora**	**3.43**	**350**	PN	Pn	18 25 01.6	-4.8
OSSR	**Ossora**	**3.43**	**350**	*e*P	Pn	18 25 01.6	-4.8
SPN	**Mys Shipunski**	**3.72**	**223**	PN	**Pn**	**18 25 14.3**	**+3.9**
SPN	**Mys Shipunski**	**3.72**	**223**	*e*P	**Pn**	**18 25 14.4**	**+3.9**
SPN				*e*S	**Sn**	**18 25 57.8**	**+3.7**
NLC	**Nalytchevo**	**3.94**	**228**	PN	Pb	18 25 18.1	-4.3
NLC	**Nalytchevo**	**3.94**	**228**	*e*P	Pb	18 25 18.2	-4.3
PALN	**Palana**	**3.95**	**326**	PN	**Pn**	**18 25 14.4**	**+0.8**
PALN	**Palana**	**3.95**	**326**	*e*P	**Pn**	**18 25 14.4**	**+0.8**
SDLR	**Sedlovina**	**4.07**	**232**	PN	Pb	18 25 20.1	-4.6
SDLR	**Sedlovina**	**4.07**	**232**	*e*P	Pb	18 25 20.1	-4.6
KRER	**Koryakskii**	**4.11**	**233**	PN	Pb	18 25 21.0	-4.5
KRER	**Koryakskii**	**4.11**	**233**	*e*P	Pb	18 25 21.0	-4.5
SMAR	**Somma**	**4.11**	**233**	PN	Pn	18 25 20.7	+4.7
SMAR	**Somma**	**4.11**	**233**	*e*P	Pn	18 25 20.7	+4.7
KRX	**Arik**	**4.12**	**234**	PN	**Pb**	**18 25 21.4**	**-4.2**
KRX	**Arik**	**4.12**	**234**	*e*P	**Pb**	**18 25 21.5**	**-4.2**
UGLR	**Uglovaya**	**4.14**	**232**	PN	Pn	18 25 21.1	+4.8
UGLR	**Uglovaya**	**4.14**	**232**	*e*P	Pb	18 25 21.1	-4.8
AVH	**Avacha**	**4.14**	**233**	PN	Pb	18 25 21.5	-4.4
AVH	**Avacha**	**4.14**	**233**	*e*P	Pb	18 25 21.5	-4.4
KOK	**Koryaka**	**4.17**	**234**	PN	Pb	18 25 21.8	-4.6
KOK	**Koryaka**	**4.17**	**234**	*e*P	Pb	18 25 21.8	-4.6
GNL	**Ganaly**	**4.25**	**242**	PN	Pb	18 25 23.0	-4.9
GNL	**Ganaly**	**4.25**	**242**	*e*P	Pb	18 25 23.0	-4.9
DALK	**Dalny**	**4.29**	**230**	PN	Pn	18 25 23.0	+4.8
DALK	**Dalny**	**4.29**	**230**	*e*P	Pn	18 25 23.1	+4.8
PET	**Petropavlovsk**	**4.34**	**231**		**Pn**	**18 25 20.6**	**+1.7**
PET	**Petropavlovsk**	**4.34**	**231**	*e*PN	Pn	18 25 23.6	+4.7
PET				*e*S	**Sn**	**18 26 13.8**	**+4.4**
PET				pmax	pmax		
	comp=Z,38nm,0.4s						
PET				smax	smax		
	comp=N,112nm,0.9s						
PET				smax	smax		
	comp=E,76nm,0.9s						
PET	**Petropavlovsk**	**4.34**	**231**	*e*P	**Pn**	**18 25 23.5**	**+4.5**
KRMR	**Karymshinskiy**	**4.70**	**232**	PN	Pb	18 25 30.0	-5.5
KRMR	**Karymshinskiy**	**4.70**	**232**	*e*P	Pb	18 25 30.1	-5.4
PEA0B	**Petropavlovsk-**	**4.72**	**237**		**Pn**	**18 25 22.4**	**-1.8**
PEA0B	**Petropavlovsk-**	**4.72**	**237**	PN	Pn	18 25 29.4	+5.2
PETK	**Petropavlovsk-**	**4.72**	**237**		**Pn**	**18 25 22.2**	**-1.9**
PETK	**Petropavlovsk-**	**4.72**	**237**	Pn	Pn	18 25 29.7	+5.6
	comp=E,1.4nm,0.3s,baz=76,slow=18,SNR=7.3						
PETK				Sn	**Sb**	**18 26 27.4**	**-5.1**
	comp=E,0.4nm,0.3s,baz=199,slow=27,SNR=1.2						
PETK				LR	LR	18 27 44.2	
	comp=E,563nm,19.1s,baz=35,slow=42						
PETK	**Petropavlovsk-**	**4.72**	**237**	PN	**Pn**	**18 25 22.2**	**-1.9**
RUS	**Russkaya**	**4.82**	**227**	PN	Pn	18 25 30.4	+4.8
RUS	**Russkaya**	**4.82**	**227**	*e*P	Pn	18 25 30.5	+4.9
GRL	**Gorelyy**	**4.92**	**230**	PN	Pb	18 25 33.2	-6.1
GRL	**Gorelyy**	**4.92**	**230**	*e*P	Pb	18 25 33.2	-6.1
MTVR	**Mutnovka**	**4.92**	**229**	PN	Pn	18 25 32.5	+5.4
MTVR	**Mutnovka**	**4.92**	**229**	*e*P	Pn	18 25 32.6	+5.5
APC	**Apacha**	**5.09**	**237**	PN	Pn	18 25 35.2	+6.0
APC	**Apacha**	**5.09**	**237**	*e*P	Pn	18 25 35.2	+6.0
ASAK	**Asacha**	**5.12**	**229**	PN	Pn	18 25 35.7	+6.0
ASAK	**Asacha**	**5.12**	**229**	*e*P	Pn	18 25 35.7	+6.0
MIPR	**Malaya Ipel'ka**	**5.70**	**234**	PN	Pn	18 25 43.6	+6.0
MIPR	**Malaya Ipel'ka**	**5.70**	**234**	*e*P	Pn	18 25 43.6	+6.1
PAU	**Pauzhetka**	**6.25**	**228**	PN	Pn	18 25 52.3	+7.2
PAU	**Pauzhetka**	**6.25**	**228**	*e*P	Pn	18 25 52.4	+7.3
KMSK	**Kamenskaya**	**6.68**	**8**	PN	**Pn**	**18 25 48.1**	**-2.9**
KMSK	**Kamenskaya**	**6.68**	**8**	*e*P	**Pn**	**18 25 48.1**	**-2.9**
SKR	**Severo-Kuril's**	**7.13**	**226**	*e*PN	**Pn**	**18 26 01.5**	**+4.3**
SKR				*e*S	Sb	18 27 31.0	-11
SKR				smax	smax		
	comp=N,179nm,0.9s						
SKR				smax	smax		
	comp=E,53nm,0.7s						
SKR				MLR	MLR		
	comp=Z,700nm,17.0s						
SKR	**Severo-Kuril's**	**7.13**	**226**	*e*P	Pn	18 26 02.1	+4.9
MA2	**Magadan**	**8.10**	**303**	LR	LR	18 29 08.0	
	comp=Z,227nm,18.4s,baz=128,slow=37						
MA2	**Magadan**	**8.10**	**303**	*e*PN	**Pn**	**18 26 11.0**	**+0.5**
SEY	**Seymchan**	**9.28**	**324**	LR	LR	18 29 50.9	
	comp=Z,192nm,18.8s,baz=109,slow=37						
SEY	**Seymchan**	**9.28**	**324**	*i* PN	**Pn**	**18 26 27.6**	**+0.9**
KIWB	**Kanaga Island**	**11.70**	**102**	Pn	**Pn**	**18 27 00.7**	**+0.9**
BILL	**Bilibino**	**12.23**	**4**	Pn	**Pn**	**18 27 04.9**	**-2.2**
BILL	**Bilibino**	**12.23**	**4**	*e*PN	**Pn**	**18 27 08.6**	**+1.6**
ATKA	**Atka Island**	**13.18**	**97**	Pn	**Pn**	**18 27 21.3**	**+1.3**
YSS	**Yuzhno-Sakhali**	**16.05**	**245**		**Pn**	**18 27 55.5**	**-3.0**
YSS	**Yuzhno-Sakhali**	**16.05**	**245**	*e*P	**Pn**	**18 27 58.0**	**-0.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				MLR	MLR		
	comp=Z,300nm,11.0s						
K13K	**Kusilvak Mount**	**17.04**	**56**	P	**Pn**	**18 28 09.2**	**-1.9**
LVA	**Lava Point**	**17.07**	**83**		**P**	**18 28 11.4**	**-1.8**
LVA				IAmb	IAmb	18 28 19.4	
	comp=Z,33nm,0.9s						
ANM	**Nome**	**17.25**	**47**	P	**Pn**	**18 28 12.8**	**-0.8**
ANM				IAmb	IAmb	18 28 28.4	
	comp=Z,31nm,1.3s						
ANM	**Nome**	**17.25**	**47**	P	**Pn**	**18 28 12.8**	**-0.8**
ANM				pmax	pmax		
	comp=Z,31nm,1.3s						
F15K	**North Star Dit**	**17.88**	**44**	P	**Pn**	**18 28 19.6**	**-1.8**
L14K	**Kuka Creek**	**17.93**	**59**	P	**Pn**	**18 28 19.2**	**-2.8**
JKA	**Kamikawa-asahi**	**18.13**	**239**		**Pn**	**18 28 23.1**	**-1.6**
JKA				IAmb	IAmb	18 28 37.3	
	comp=Z,26nm,0.9s						
ASAJ	**Asahikawa**	**18.14**	**239**	P	**P**	**18 28 30.3**	**+5.3**
	comp=Z,22nm,0.8s,baz=30,slow=6.9,SNR=20						
ASAJ				LR	LR	18 34 36.5	
	comp=Z,225nm,21.4s,baz=12,slow=34						
ASAJ	**Asahikawa**	**18.14**	**239**	P	**Pn**	**18 28 23.1**	**-1.6**
ASAJ				pmax	pmax		
	comp=Z,27nm,0.9s						
M14K	**Bethel**	**18.27**	**61**	P	**Pn**	**18 28 23.9**	**-2.3**
K15K	**Wolf Creek Mou**	**18.54**	**56**	P	**P**	**18 28 27.2**	**-2.2**
YAK	**Yakutsk**	**18.67**	**303**		**P**	**18 28 27.8**	**-3.0**
YAK				IAmb	IAmb	18 28 39.4	
	comp=Z,17nm,0.8s						
YAK	**Yakutsk**	**18.67**	**303**	P	**Pn**	**18 28 36.3**	**+5.1**
	comp=Z,1.1nm,0.3s,baz=86,slow=1.6,SNR=11						
YAK				LR	LR	18 36 40.0	
	comp=Z,79nm,18.4s,baz=96,slow=40						
	comp=Z,15nm,0.7s						
YAK	**Yakutsk**	**18.67**	**303**	*e*P	**Pn**	**18 28 35.5**	**+4.4**
YAK				pmax	pmax		
	comp=Z,15nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.4s						
G16K	**Koyuk River**	**18.70**	**46**	P	**P**	**18 28 27.7**	**-3.5**
S12K	**Black Hills**	**18.85**	**77**	P	**P**	**18 28 30.8**	**-2.0**
S12K				IAmb	IAmb	18 29 09.7	
	comp=Z,27nm,1.2s						
I17K	**Unalakleet**	**19.10**	**51**		**P**	**18 28 33.2**	**-2.3**
N15K	**Kwethluk River**	**19.21**	**62**	P	**Pn**	**18 28 35.9**	**-1.8**
N15K				IAmb	IAmb	18 28 55.6	
	comp=

ZEA	**Zeya**	**21.26**	**280**	*e*P		P		18 29 05.9	+6.9	
ZEA				pmax		pmax				
	comp=E,10.0nm,1.2s									
ZEA				pmax		pmax				
	comp=Z,10.0nm,0.9s									
ZEA				MLR		MLR				
	comp=Z,100nm,14.0s									
JTM	**Tenmabayashi**	**21.42**	**235**	P		**P**		**18 29 00.3**	**-0.5**	
PLK4	**Peulik 4**	**21.47**	**69**	P		**P**		**18 29 00.7**	**-0.6**	
PLK4				IAmb		IAmb		18 29 12.9		
	comp=Z,13nm,0.8s									
L19K	**White Mountain**	**21.66**	**56**	P		**P**		**18 29 01.8**	**-1.6**	
O18K	**Koktuh Hills**	**21.68**	**63**	P		**P**		**18 29 02.5**	**-1.0**	
O18K				IAmb		IAmb		18 29 39.1		
	comp=Z,8.6nm,1.1s									
TIXI	**Tiksi**	**21.70**	**330**	P		**P**		**18 29 01.6**	**-1.9**	
TIXI	**Tiksi**	**21.70**	**330**	P		**P**		**18 29 06.9**	**+3.3**	
	comp=Z,2.1nm,0.3s,baz=132,slow=11,SNR=13									
TIXI				LR		LR		18 37 24.6		
	comp=Z,94nm,18.2s,baz=170,slow=37									
	comp=Z,2.1nm,0.3s									
TIXI	**Tiksi**	**21.70**	**330**	*ce*P		**P**		**18 29 05.9**	**+2.4**	
TIXI				pmax		pmax				
	comp=Z,10.0nm,1.4s									
P18K	**Big Mountain,**	**21.73**	**64**	P		**P**		**18 29 03.6**	**-0.4**	
P18K				IAmb		IAmb		18 29 16.8		
	comp=Z,8.1nm,0.9s									
M19K	**Big River Lodg**	**21.89**	**57**	P		**P**		**18 29 04.4**	**-1.4**	
IMAR	**Indian Mountai**	**22.31**	**46**	P		**P**		**18 29 09.1**	**-1.1**	
CHIR	**Chirikof Islan**	**22.32**	**73**	P		**P**		**18 29 09.7**	**-0.6**	
M20K	**Styx River**	**22.49**	**57**	P		**P**		**18 29 11.2**	**-1.1**	
F21K	**Alatna River**	**22.59**	**43**	P		**P**		**18 29 12.1**	**-1.1**	
F21K				IAmb		IAmb		18 29 23.1		
	comp=Z,8.7nm,1.2s									
Q19K	**Cape Douglas,**	**22.61**	**65**	P		**P**		**18 29 12.2**	**-1.3**	
Q19K				IAmb		IAmb		18 29 21.4		
	comp=Z,12nm,0.7s									
HEH	**HeiHe**	**22.63**	**271**	*e*P		**P**		**18 29 18.8**	**+5.1**	
HEH				pmax		pmax				
	comp=Z,6.0nm,0.8s									
H21K	**Melozitna Rive**	**22.67**	**47**	P		**P**		**18 29 12.1**	**-1.9**	
ILSW	**Iliamna Southw**	**22.69**	**62**	P		**P**		**18 29 12.9**	**-1.5**	
ILSW				IAmb		IAmb		18 29 24.3		
	comp=Z,10nm,1.2s									
CAST	**Castle Rocks**	**22.90**	**53**	P		**P**		**18 29 13.8**	**-2.7**	
SKT	**Skwentna**	**23.24**	**57**	P		**P**		**18 29 18.2**	**-1.8**	
SYI	**Shuyak Island**	**23.32**	**65**	P		**P**		**18 29 19.2**	**-1.6**	
SYI				IAmb		IAmb		18 29 52.0		
	comp=Z,16nm,1.1s									
E22K	**Anaktuvuk Pass**	**23.37**	**41**			**P**		**18 29 19.8**	**-1.5**	
E22K				IAmb		IAmb		18 29 29.0		
	comp=Z,5.6nm,0.9s									
BPAW	**Bear Paw Mtn.**	**23.38**	**51**			**P**		**18 29 20.0**	**-1.5**	
BPAW				IAmb		IAmb		18 29 59.6		
	comp=Z,8.3nm,1.2s									
KDAK	**Kodiak Island**	**23.41**	**67**	P		**P**		**18 29 19.9**	**-1.8**	
KDAK				IAmb		IAmb		18 29 38.5		
	comp=Z,12nm,1.4s									
KDAK	**Kodiak Island**	**23.41**	**67**	*e*P		**P**		**18 29 21.8**	**+0.2**	
KDAK				pmax		pmax				
	comp=Z,3.0nm,0.9s									
KTH	**Kantishna Hill**	**23.42**	**53**	P		**P**		**18 29 20.5**	**-1.4**	
KTH				IAmb		IAmb		18 29 30.2		
	comp=Z,9.4nm,1.2s									
MLY	**Manley**	**23.50**	**49**			**P**		**18 29 21.4**	**-1.2**	
MLY				IAmb		IAmb		18 29 50.1		
	comp=Z,9.4nm,1.4s									
USA0B	**Ussuriysk Arra**	**23.55**	**254**	*i* P		**P**		**18 29 23.5**	**+0.3**	
USRK	**Ussuriysk Ar.**	**23.55**	**254**	LR		LR		18 38 16.8		
	comp=Z,123nm,18.4s,baz=45,slow=36									
SUA	**Susitna One**	**23.66**	**58**	P		**P**		**18 29 22.6**	**-1.7**	
SUA				IAmb		IAmb		18 30 01.6		
	comp=Z,4.7nm,0.8s									
TRF	**Thorofare Moun**	**23.71**	**53**	P		**P**		**18 29 23.1**	**-1.7**	
TRF				IAmb		IAmb		18 29 53.0		
	comp=Z,7.8nm,1.0s									
COLD	**Coldfoot**	**23.86**	**43**	P		**P**		**18 29 24.0**	**-2.0**	
COLD				IAmb		IAmb		18 29 43.6		
	comp=Z,5.7nm,0.9s									
JMM	**Marumori**	**23.92**	**231**	P		**P**		**18 29 24.2**	**-2.6**	
H23K	**Yukon River**	**24.02**	**47**	P		**P**		**18 29 26.5**	**-1.1**	
H23K				IAmb		IAmb		18 30 06.8		
	comp=Z,10nm,1.1s									
SLKM	**Skilak Lake**	**24.05**	**60**	P		**P**		**18 29 26.4**	**-1.5**	
I23K	**Minto, Yukon-K**	**24.08**	**49**	P		**P**		**18 29 26.9**	**-1.2**	
I23K				IAmb		IAmb		18 30 00.2		
	comp=Z,7.8nm,1.1s									
NEA2	**Nenana**	**24.21**	**50**	P		**P**		**18 29 28.1**	**-1.3**	
TOLK	**Toolik Lake Re**	**24.27**	**40**			**P**		**18 29 28.8**	**-1.1**	
TOLK				IAmb		IAmb		18 29 37.6		
	comp=Z,18nm,1.4s									
RND	**Reindeer**	**24.36**	**53**	P		**P**		**18 29 28.8**	**-2.0**	
RND	**Reindeer**	**24.36**	**53**	P		**P**		**18 29 28.8**	**-2.0**	
RND				pmax		pmax				
	comp=Z,4.0nm,0.9s									
WRH	**Wood River Hil**	**24.64**	**50**			**P**		**18 29 32.1**	**-1.1**	
WRH				IAmb		IAmb		18 29 40.7		
	comp=Z,7.0nm,1.0s									
CCB	**Clear Creek Bu**	**24.75**	**50**	P		**P**		**18 29 32.9**	**-1.3**	
CCB				IAmb		IAmb		18 29 43.8		
	comp=Z,6.4nm,0.9s									
PWL	**Port Wells**	**24.91**	**59**	P		**P**		**18 29 33.7**	**-2.0**	
PWL				IAmb		IAmb		18 29 58.0		
	comp=Z,13nm,1.2s									
DHY	**Denali Highway**	**25.05**	**53**			**P**		**18 29 36.1**	**-1.0**	
HDA	**Harding Lake**	**25.13**	**50**	P		**P**		**18 29 36.2**	**-1.5**	
HDA				IAmb		IAmb		18 29 48.5		
	comp=Z,3.3nm,0.8s									
IL31		**25.14**	**49**	P		**P**		**18 29 35.5**	**-2.2**	
IL31				IAmb		IAmb		18 29 56.8		
	comp=Z,3.5nm,0.8s									
ILAR	**Eielson Array**	**25.14**	**49**	P		**P**		**18 29 43.6**	**+5.9**	
	comp=Z,1.8nm,0.9s,baz=262,slow=8.6,SNR=13									
ILAR				LR		LR		18 39 28.7		
	comp=Z,114nm,18.2s,baz=204,slow=36									
	comp=Z,1.8nm,0.9s									
SCM	**Sheep Creek Mo**	**25.23**	**56**	P		**P**		**18 29 38.6**	**-0.1**	
SCM	**Sheep Creek Mo**	**25.23**	**56**	P		**P**		**18 29 38.6**	**-0.1**	
SCM				pmax		pmax				
	comp=Z,14nm,1.0s									
PRP	**Porcupine Dome**	**25.69**	**48**	P		**P**		**18 29 41.3**	**-1.6**	
PRP				IAmb		IAmb		18 29 50.4		
	comp=Z,7.4nm,1.2s									
E25K	**Arctic Village**	**25.69**	**42**	P		**P**		**18 29 41.2**	**-1.6**	
E25K				IAmb		IAmb		18 29 51.9		
	comp=Z,5.4nm,1.1s									
M24K	**Tolsona, Glenn**	**25.73**	**56**	P		**P**		**18 29 41.6**	**-1.5**	
BMAR	**Burnt Mountain**	**26.04**	**43**	P		**P**		**18 29 44.5**	**-1.4**	
MJB9	**Matsu-Tunnel**	**26.17**	**233**	P		**P**		**18 29 46.5**	**-0.8**	
MAJO	**Matsushiro**	**26.17**	**233**			**P**		**18 29 47.0**	**-0.3**	
MAJO	**Matsushiro**	**26.17**	**233**	P		**P**		**18 29 47.0**	**-0.3**	
MAJO				pmax		pmax				
	comp=Z,14nm,0.8s									
MJAR	**Matsushiro Arr**	**26.17**	**233**	P		**P**		**18 29 45.6**	**-1.7**	
MJAR	**Matsushiro Arr**	**26.17**	**233**	P		P		18 29 56.9	+10	
	comp=Z,8.6nm,0.9s,baz=23,slow=8.7,SNR=14									
MJAR				LR		LR		18 39 17.7		
	comp=Z,138nm,21.8s,baz=36,slow=34									
	comp=Z,8.6nm,0.9s									
MJAR	**Matsushiro Arr**	**26.17**	**233**	P		**P**		**18 29 45.6**	**-1.7**	
MJAR				pmax		pmax				
	comp=Z,4.0nm,1.0s									
EYAK	**Cordova Ski Ar**	**26.21**	**59**	P		**P**		**18 29 46.9**	**-0.5**	
SCRK	**Sand Creek**	**26.46**	**51**	P		**P**		**18 29 49.2**	**-0.7**	
DOT	**Dot Lake**	**26.47**	**52**	P		**P**		**18 29 49.2**	**-0.7**	
K27K	**Chicken**	**27.29**	**51**	P		**P**		**18 29 55.7**	**-1.5**	
K27K				IAmb		IAmb		18 30 27.1		
	comp=Z,6.3nm,1.1s									
BCAR	**Beaver Creek A**	**27.57**	**53**	P		**P**		**18 29 58.3**	**-1.4**	
F28M	**Old Crow**	**27.85**	**43**	P		**P**		**18 30 01.8**	**-0.4**	
G29M	**Pine Creek**	**28.62**	**44**	P		**P**		**18 30 07.2**	**-1.9**	
G29M				IAmb		IAmb		18 30 17.9		
	comp=Z,7.7nm,1.2s									
KSRS	**Korea Array**	**30.50**	**248**	P		P		18 30 33.3	+7.4	
	comp=Z,1.2nm,0.8s,baz=35,slow=8.6,SNR=6.9									
	comp=Z,1.2nm,0.8s									
N31M	**Braeburn, Yuko**	**30.67**	**55**	P		**P**		**18 30 26.7**	**-0.6**	
N31M				IAmb		IAmb		18 31 11.4		
	comp=Z,2.0nm,0.6s									
O30N	**Mendenhall**	**30.75**	**56**	P		**P**		**18 30 28.0**	**0.0**	
INCN	**Inchon**	**31.16**	**250**	P		**P**		**18 30 31.4**	**-0.4**	
INCN	**Inchon**	**31.16**	**250**	P		**P**		**18 30 31.4**	**-0.4**	
INCN				pmax		pmax				
	comp=Z,28nm,1.5s									
WHY	**Whitehorse**	**31.34**	**56**			**P**		**18 30 32.9**	**-0.4**	

FARO	**Faro, Yukon**	**31.55**	**52**	P		**P**		**18 30 35.1**	**+0.1**	
DLBC	**Dease Lake**	**34.47**	**58**	LR		LR		18 44 49.8		
	comp=Z,17nm,18.4s,baz=272,slow=36									
NRIK	**Noril'sk**	**35.07**	**323**	LR		LR		18 47 58.1		
	comp=Z,59nm,20.2s,baz=76,slow=41									
NRIK	**Noril'sk**	**35.07**	**323**	*j* P		**P**		**18 31 05.0**	**-0.5**	
NRIK				pmax		pmax				
	comp=Z,4.0nm,0.9s									
ULN	**Ulaanbaatar**	**35.27**	**281**	*e*P		**P**		**18 31 07.3**	**-0.4**	
ULN				pmax		pmax				
	comp=Z,1.0nm,1.3s									
SONM	**Songino Array**	**35.65**	**282**	P		P		18 31 17.9	+7.0	
	comp=Z,2.2nm,0.8s,baz=66,slow=9.5,SNR=12									
SONM				PcP		PcP		18 33 46.7	+7.5	
	comp=Z,1.1nm,0.8s,baz=72,slow=2.5,SNR=4.2									
SONM				LR		LR		18 47 21.4		
	comp=Z,151nm,18.3s,baz=126,slow=39									
	comp=Z,2.2nm,0.8s									
H11N2	**WAKE ISLAND Hy**	**36.15**	**176**	T		T		19 10 16.5		
	baz=357,slow=76,SNR=13									
H11N3	**WAKE ISLAND Hy**	**36.17**	**176**	T		T		19 10 21.4		
	baz=357,slow=76,SNR=10									
H11N1	**WAKE ISLAND Hy**	**36.17**	**176**	T		T		19 10 17.8		
	baz=357,slow=76,SNR=11									
HHC	**Hu-ho-hao-te**	**37.11**	**269**	*e*P		**P**		**18 31 22.5**	**-0.9**	
HHC				pmax		pmax				
	comp=Z,11nm,0.8s									
HHC				pmax		pmax				
	comp=Z,84nm,6.7s									
H11S1	**WAKE ISLAND Hy**	**37.36**	**176**	T		T		19 11 36.8		
	baz=351,slow=76									
H11S3	**WAKE ISLAND Hy**	**37.37**	**176**	T		T		19 11 43.0		
	baz=351,slow=76									
H11S2	**WAKE ISLAND Hy**	**37.38**	**176**	T		T		19 11 43.9		
	baz=351,slow=76									
YKA	**Yellowknife Ar**	**39.47**	**46**	P		P		18 31 49.5	+6.6	
	comp=Z,1.8nm,0.7s,baz=267,slow=13,SNR=11									
	comp=Z,1.8nm,0.7s									
ZALV	**Zalesovo Beam**	**43.32**	**302**	PcP		**PcP**		**18 34 09.8**	**+6.6**	
	comp=Z,0.6nm,0.4s,baz=15,slow=6.2,SNR=3.6									
GTA	**Gaotai**	**44.70**	**277**	*e*P		P		18 32 33.6	+7.6	
GTA				sP		pwP		18 32 47.1	+13	
GTA				pmax		pmax				
	comp=Z,7.0nm,1.4s									
SPITS	**Spitsbergen Ar**	**44.76**	**351**	P		P		18 32 31.7	+5.8	
	comp=Z,19nm,0.8s,baz=355,slow=10,SNR=8.1									
	comp=Z,19nm,0.8s									
SPITS	**Spitsbergen Ar**	**44.76**	**351**	P		**P**		**18 32 26.5**	**+0.6**	
SPITS				pmax		pmax				
	comp=Z,22nm,0.9s									
LZH	**Lanzhou**	**44.77**	**270**	*e*P		**P**		**18 32 24.1**	**-2.5**	
LZH				pmax		pmax				
	comp=Z,21nm,1.3s									
BLKN	**Baker Lake**	**45.41**	**37**			**P**		**18 32 31.2**	**+0.1**	
KURK	**Kurchatov**	**48.31**	**302**			**P**		**18 32 54.8**	**+0.8**	
KURK				IAmb		IAmb		18 33 02.0		
	comp=Z,2.1nm,0.8s									
KURK	**Kurchatov**	**48.31**	**302**	*i* P		**P**		**18 32 53.6**	**-0.4**	
KURK				pmax		pmax				
	comp=Z,1.0nm,0.9s									
KURBB	**Kurchatov Arra**	**48.41**	**302**	P		P		18 33 01.6	+6.8	
	comp=Z,1.5nm,0.8s,baz=55,slow=7.9,SNR=12									
KURBB				PcP		**PcP**		**18 34 28.1**	**+7.1**	
	comp=Z,0.1nm,0.4s,baz=46,slow=5.3,SNR=4.4									
	comp=Z,1.5nm,0.8s									
MK31	**Makanchi Array**	**49.12**	**296**	*i* P		**P**		**18 33 00.3**	**0.0**	
MKAR	**Makanchi Array**	**49.12**	**296**	P		P		18 33 07.1	+6.8	
	comp=Z,0.8nm,0.7s,baz=54,slow=6.3,SNR=9.7									
	comp=Z,0.8nm,0.7s									
BVAR	**Borovoye Array**	**50.54**	**309**	P		P		18 33 18.2	+7.2	
	comp=Z,5.3nm,0.7s,baz=46,slow=8.5,SNR=21									
BVAR				PcP		PcP		18 34 36.0	+7.3	
	comp=Z,0.8nm,0.5s,baz=4.3,slow=5.8,SNR=3.1									
	comp=Z,5.3nm,0.7s									
BRVK	**Borovoye**	**50.56**	**309**	*j* P		**P**		**18 33 10.9**	**-0.3**	
BRVK				pmax		pmax				
	comp=Z,1.0nm,0.7s									
ILULI	**Ilulissat**	**52.58**	**15**	P		**P**		**18 33 24.8**	**-1.2**	
ILULI	**Ilulissat**	**52.58**	**15**	P		**P**		**18 33 24.8**	**-1.2**	
ILULI				pmax		pmax				
	comp=Z,23nm,0.6s									
ARTI	**Arti**	**53.06**	**318**	P		**P**		**18 33 30.1**	**+0.4**	
ARTI	**Arti**	**53.06**	**318**	*c* P		**P**		**18 33 30.5**	**+0.8**	
ARTI								18 35 28.7		
ARTI				S		**S**		**18 41 01.4**	**+2.2**	
ARTI				SS		**SS**		**18 44 35.9**	**-1.7**	
ARTI				pmax		pmax				
	comp=Z,4.0nm,1.0s									
PZH	**PanZhiHua**	**53.14**	**263**	P		P		18 33 21.7	-9.2	
PD31	**Pinedale Array**	**54.10**	**65**	P		**P**		**18 33 37.8**	**-0.1**	
PDAR	**Pinedale Array**	**54.10**	**65**	P		P		18 33 45.1	+7.2	
	comp=Z,0.9nm,0.7s,baz=338,slow=2.4,SNR=8.8									
	comp=Z,0.9nm,0.7s									
KDJ	**Kajisay**	**54.99**	**295**	P		**P**		**18 33 43.9**	**-0.4**	
KDJ				IAmb		IAmb		18 33 52.7		
	comp=Z,3.6nm,0.9s									
KDJ	**Kajisay**	**54.99**	**295**	P		**P**		**18 33 43.9**	**-0.4**	
KDJ				pmax		pmax				
	comp=Z,4.0nm,0.9s									
ULM	**Lac du Bonnet**	**55.16**	**50**	P		P		18 33 52.0	+6.9	
	comp=Z,3.3nm,0.7s,baz=333,slow=7.6,SNR=3.7									
	comp=Z,3.3nm,0.7s									
ULM	**Lac du Bonnet**	**55.16**	**50**	*e*P		**P**		**18 33 45.4**	**+0.3**	
BOOM	**Boomskoye usch**	**55.36**	**296**	P		**P**		**18 33 47.8**	**+0.8**	
BOOM				IAmb		IAmb		18 33 57.4		
	comp=Z,3.9nm,1.1s									
BOOM	**Boomskoye usch**	**55.36**	**296**	P		**P**		**18 33 47.8**	**+0.8**	
BOOM				pmax		pmax				
	comp=Z,4.0nm,1.1s									
KLMR	**Klimovskoe**	**55.71**	**331**	*e*P		**P**		**18 33 49.4**	**+0.4**	
KLMR				pmax		pmax				
	comp=Z,15nm,1.2s									
RSSD	**Black Hills**	**55.88**	**60**	P		**P**		**18 33 49.4**	**-1.3**	
RSSD				IAmb		IAmb		18 33 60.0		
	comp=Z,2.3nm,0.9s									
RSSD	**Black Hills**	**55.88**	**60**	P		**P**		**18 33 49.4**	**-1.3**	
RSSD				pmax		pmax				
	comp=Z,2.0nm,1.0s									
AAK	**Ala-Archa**	**55.98**	**297**	*e*P		**P**		**18 33 52.1**	**+0.7**	
AAK				pmax		pmax				
	comp=Z,1.0nm,0.8s									
AGMN	**Agassiz Nation**	**56.61**	**52**	P		**P**		**18 33 55.0**	**-0.6**	
AGMN				IAmb		IAmb		18 34 03.7		
	comp=Z,3.0nm,0.8s									
LSA	**Lhasa**	**56.64**	**275**	P		**P**		**18 33 54.6**	**-1.9**	
LSA	**Lhasa**	**56.64**	**275**	P		**P**		**18 33 54.7**	**-1.9**	
LSA				pmax		pmax				
	comp=Z,6.0nm,0.8s									
O20A	**White River Ci**	**56.69**	**66**	P		**P**		**18 33 55.3**	**-1.2**	
PV22	**Blue Mesa, Par**	**57.60**	**68**	P		**P**		**18 34 02.2**	**-0.8**	
PV22				IAmb		IAmb		18 34 20.4		
	comp=Z,3.1nm,1.0s									
KK31	**Karatay Array**	**57.61**	**300**	P		**P**		**18 34 02.6**	**-0.2**	
KK31	**Karatay Array**	**57.61**	**300**	P		**P**		**18 34 02.6**	**-0.2**	
KK31				pmax		pmax				
	comp=Z,4.0nm,0.6s									
KKAR	**Karatay Array**	**57.61**	**300**	P		**P**		**18 34 02.2**	**-0.5**	
KKAR	**Karatay Array**	**57.61**	**300**	P		**P**		**18 34 02.6**	**-0.2**	
KKAR				IAmb		IAmb		18 34 10.7		
	comp=Z,3.7nm,0.6s									
KKAR	**Karatay Array**	**57.61**	**300**	P		**P**		**18 34 02.2**	**-0.5**	
PV12	**Saucer Basin,**	**57.75**	**68**	P		**P**		**18 34 03.8**	**-0.3**	
AB31	**Akbulak array**	**57.79**	**311**	P		**P**		**18 34 03.8**	**-0.1**	
ABKAR	**Akbulak array**	**57.79**	**311**	P		**P**		**18 34 03.2**	**-0.7**	
ABKAR	**Akbulak array**	**57.79**	**311**	P		**P**		**18 34 03.4**	**-0.5**	
PV13	**Radium Mtn., P**	**57.86**	**68**	P		**P**		**18 34 04.3**	**-0.6**	
PV13				IAmb		IAmb		18 34 15.9		
	comp=Z,4.0nm,1.0s									
FINES	**FINESS Array B**	**58.48**	**338**	P		P		18 34 14.3	+5.8	
	comp=Z,3.9nm,0.9s,baz=336,slow=4.2,SNR=4.7									
FINES				PcP		**PcP**		**18 35 04.5**	**+5.6**	
	comp=Z,2.8nm,0.8s,baz=57,slow=6.5,SNR=3.8									
	comp=Z,3.9nm,0.9s									
EYMN	**Ely**	**58.79**	**50**	P		**P**		**18 34 10.1**	**-0.8**	
BELG	**Belogornoye**	**60.12**	**321**	*e*P		**P**		**18 34 20.8**	**+0.8**	
BELG				pmax		pmax				
	comp=Z,1.0nm,0.9s									
CHTO	**Chiang Mai**	**60.80**	**260**	P		**P**		**18 34 23.9**	**-1.2**	
CHTO	**Chiang Mai**	**60.80**	**260**	P		**P**		**18 34 23.9**	**-1.2**	
CHTO				pmax		pmax				
	comp=Z,4.0nm,0.8s									
T25A	**Trinidad**	**60.92**	**66**	P		**P**		**18 34 24.9**	**-1.0**	
CMAR	**Chiang Mai Arr**	**61.09**	**260**	P		P		18 34 35.5	+8.4	
	comp=Z,3.5nm,1.0s,baz=20,slow=6.8,SNR=15									
CMAR				PcP		PcP		18 35 18.9	+8.8	
	comp=Z,1.7nm,0.8s,baz=14,slow=3.1,SNR=7.2									

	comp=Z,3.5nm,1.0s									
NB2	**NORSAR Subarra**	**61.49**	**345**	P		P		18 34 35.6	+6.4	
	comp=Z,0.7nm,0.7s,baz=17,slow=6.9									
NOA	**NORSAR Array B**	**61.49**	**345**	P		P		18 34 34.5	+5.2	
	comp=Z,1.2nm,0.3s,baz=16,slow=6.9,SNR=5.6									
	comp=Z,1.2nm,0.3s									
SCHQ	**Schefferville**	**62.03**	**31**	P		P		18 34 39.1	+6.2	
	comp=Z,4.3nm,0.6s,baz=332,slow=7.2,SNR=7.3									
	comp=Z,4.3nm,0.6s									
TXAR	**Lajitas Array**	**67.38**	**71**	P		P		18 35 15.9	+7.5	
	comp=Z,1.2nm,0.7s,baz=298,slow=4.0,SNR=14									
	comp=Z,1.2nm,0.7s									
AKASG	**Malin Array Be**	**67.41**	**331**	P		P		18 35 13.7	+5.7	
	comp=Z,3.1nm,0.7s,baz=29,slow=6.4,SNR=10									
	comp=Z,3.1nm,0.7s									
AKBB	**Malin Array Si**	**67.41**	**331**	*e*P		**P**		**18 35 09.3**	**+1.3**	
AKBB				pmax		pmax				
	comp=Z,4.0nm,1.5s									
EKA	**Eskdalemuir Ar**	**68.66**	**352**	P		P		18 35 22.2	+6.4	
	comp=Z,2.6nm,0.7s,baz=18,slow=5.6,SNR=7.7									
	comp=Z,2.6nm,0.7s									
ESK	**Eskdalemuir**	**68.68**	**352**	*i* P		**P**		**18 35 19.4**	**+3.4**	
KBZ	**Khabaz**	**69.11**	**318**	P		P		18 35 25.7	+6.9	
	comp=Z,5.9nm,0.9s,baz=346,slow=8.3,SNR=9.2									
	comp=Z,5.9nm,0.9s									
KBZ	**Khabaz**	**69.11**	**318**	*e*P		**P**		**18 35 19.2**	**+0.4**	
KBZ				pmax		pmax				
	comp=Z,3.0nm,1.4s									
GERES	**GERESS Array B**	**72.77**	**340**	P		P		18 35 47.9	+6.8	
	comp=Z,0.6nm,0.7s,baz=343,slow=4.2,SNR=4.6									
	comp=Z,0.6nm,0.7s									
BRTR	**Keskin Array B**	**75.93**	**323**	P		P		18 36 06.8	+7.0	
	comp=Z,1.3nm,0.7s,baz=77,slow=3.1,SNR=7.4									
	comp=Z,1.3nm,0.7s									
WRA	**Warramunga Arr**	**79.67**	**208**	P		P		18 36 30.0	+10	
	comp=Z,1.6nm,1.1s,baz=341,slow=7.0,SNR=1.4									
	comp=Z,1.6nm,1.1s									
MMAI	**Mount Meron Ar**	**81.30**	**319**	P		P		18 36 35.9	+6.5	
	comp=Z,1.8nm,0.7s,baz=37,slow=6.3,SNR=4.1									
	comp=Z,1.8nm,0.7s									
ASAR	**Alice Springs**	**83.33**	**208**	P		P		18 36 50.7	+11	
	comp=Z,1.6nm,0.9s,baz=23,slow=5.1,SNR=8.8									
	comp=Z,1.6nm,0.9s									
ESDC	**Sonseca Array**	**84.28**	**351**	P		P		18 36 52.0	+7.3	
	comp=Z,0.8nm,0.6s,baz=358,slow=5.4,SNR=10									
	comp=Z,0.8nm,0.6s									

MOS ***05*** *18:40:58.9± 1.5, 51°58N× 16°19E, h10km, mb4.8/19, Error ellipse: s-maj=6.0km s-min=3.5km az=84.0*
IPEC ***05*** *18:41:00.3± 0.2, 51°52N× 16°15E, h1km, ML4.3/6, Error ellipse: s-maj=2.5km s-min=1.3km az=68.0*
IDC ***05*** *18:41:00.6± 0.4, 51°43N× 16°18E, h0km, mb4.2/17, mbtmp4.1/30, ML3.5/13, MS3.8/1, Error ellipse: s-maj=7.2km s-min=4.7km az=107.0*
NAO ***05*** *18:41:00.4, 51°54N× 16°10E, h10km, mb3.3*
NEIC ***05*** *18:41:00.1± 1.5, 51°53N± 0°04× 16°17E± 0°05, h10km± 1km, mb4.6/92, ML3.9/17(VIE), Error ellipse: s-maj=7.1km s-min=5.5

comp=Z,5µm,4.1s
PRU Pruhonice 1.86 214 *e*P **Pn** **18 41 32.4 +0.6**
PRU *e* 18 42 00.0
PRU smax smax
comp=N,2µm,1.3s
PRU MLR MLR
comp=Z,5µm,4.1s
STEB Steborice 1.91 147 *e*PG **Pg** **18 41 35.6 +0.4**
STEB *e*SG **Sg** **18 42 01.1 +1.2**
MORC Moravsky Berou 1.98 153 *e*Pn **Pn** **18 41 34.2 +0.9**
MORC Sn **Sn** **18 41 55.7 -3.2**
MORC Moravsky Berou 1.98 153 *e*PN **Pn** **18 41 34.4 +1.0**
MORC *e*SG **Sb** **18 42 01.7 +1.1**
MORC Moravsky Berou 1.98 153 *e*Pn **Pn** **18 41 34.3 +0.9**
baz=334
MORC *e*Sg **Sb** **18 42 01.6 +1.0**
comp=Z,1µm,1.8s,baz=334
MORC Moravsky Berou 1.98 153 ⇑P **Pn** **18 41 34.7 +1.2**
MORC ⇑S **Sb** **18 42 00.9 +0.3**
MORC Moravsky Berou 1.98 153 P **Pn** **18 41 34.6 +1.2**
MORC Moravsky Berou 1.98 153 *e*Pn **Pn** **18 41 34.3 +0.9**
MORC *e*Sg **Sg** **18 42 02.1 0.0**
MORC Moravsky Berou 1.98 153 *e*Pn **Pn** **18 41 34.3 +0.9**
MORC *e*Sg **Sg** **18 42 02.1 0.0**
CLL Collm 1.99 264 Pn **Pn** **18 41 33.8 +0.3**
CLL Sn **Sn** **18 41 58.5 -0.5**
CLL Collm 1.99 264 *i* P **Pn** **18 41 34.2 +0.7**
CLL *e* 18 42 02.0
CLL Collm 1.99 264 *e*Pn **Pn** **18 41 34.3 +0.7**
CLL *e*Pg **Pg** **18 41 37.9 +1.2**
CLL *e*Sg **Sg** **18 42 03.7 +1.3**
CLL Collm 1.99 264 *i* Pn **Pn** **18 41 34.2 +0.7**
CLL *e*Pg **Pg** **18 41 38.0 +1.3**
CLL *ex* x 18 41 41.0
CLL *ex* x 18 41 52.0
CLL *ex* x 18 41 54.0
CLL *e*Sg **Sb** **18 42 02.0 +1.1**
comp=Z,764nm,0.9s
CLL Collm 1.99 264 *e*Pn **Pn** **18 41 34.3 +0.7**
CLL *e*Pg **Pg** **18 41 37.9 +1.2**
CLL *e*Sg **Sg** **18 42 03.7 +1.3**
OKC Ostrava-Krasne 2.12 143 *e*Pn **Pn** **18 41 35.9 +0.5**
OKC *e*Pg **Pg** **18 41 40.6 +1.2**
OKC *e*Sg **Sg** **18 42 06.6 -0.3**
OKC Ostrava-Krasne 2.12 143 *e*Pn **Pn** **18 41 35.9 +0.5**
OKC *e*Pg **Pg** **18 41 40.6 +1.2**
OKC *e*Sg **Sg** **18 42 06.6 -0.3**
VRAC Vranov 2.25 173 Pn **Pn** **18 41 36.4 -0.8**
comp=Z,8.2nm,0.3s,baz=338,slow=14,SNR=55
VRAC Pg **Pb** **18 41 39.3 -0.9**
comp=Z,8.2nm,0.3s,baz=353,slow=14,SNR=55
VRAC Lg Lg 18 42 08.3
comp=Z,14nm,0.3s,baz=257,slow=13,SNR=6.3
comp=Z,123nm,0.9s
VRAC Vranov 2.25 173 *e*Pn **Pn** **18 41 38.1 +0.9**
baz=353
VRAC *e*Sg **Sb** **18 42 10.0 +1.4**
comp=Z,1µm,1.4s,baz=353
VRAC Vranov 2.25 173 ⇓P **Pn** **18 41 38.9 +1.7**
VRAC ⇑S **Sb** **18 42 08.4 -0.2**
TREC Trest 2.29 191 *e*PG **Pg** **18 41 42.9 +0.4**
TREC *e*SG **Sg** **18 42 11.9 -0.2**
TREC Trest 2.29 191 *e*P **Pg** **18 41 42.9 +0.4**
TREC *e* 18 42 11.9
KRUC Moravsky 2.49 176 *e*PN **Pn** **18 41 41.5 +1.1**
KRUC *e*SG **Sb** **18 42 17.3 +1.9**
KRUC Moravsky 2.49 176 *e*Pn **Pn** **18 41 41.4 +1.1**
baz=356
KRUC *e*Sg **Sb** **18 42 17.2 +1.9**
comp=Z,1µm,1.6s,baz=356
TANN Tannenbergstha 2.59 246 *e*Pn **Pn** **18 41 43.9 +2.0**
TANN *e*Pg **Pg** **18 41 49.6 +1.4**
TANN *e*Sg **Sg** **18 42 22.0 +0.2**
TANN Tannenbergstha 2.59 246 *e*Pn **Pn** **18 41 43.9 +2.0**
TANN *e*Pg **Pg** **18 41 49.6 +1.4**
TANN *e*Sg **Sg** **18 42 22.0 +0.2**
OJC Ojcow 2.66 118 *e*Pn **Pn** **18 41 42.6 -0.2**
OJC *e*Pg **Pg** **18 41 51.4 +1.7**
OJC *e*Sg **Sg** **18 42 26.2 +2.2**
OJC Ojcow 2.66 118 **Pn** **18 41 42.5 -0.3**
OJC Ojcow 2.66 118 P **Pn** **18 41 42.5 -0.3**
OJC Ojcow 2.66 118 *e*Pn **Pn** **18 41 42.8 0.0**
OJC *e*Pg **Pg** **18 41 51.7 +2.1**
OJC *e*Sg **Sg** **18 42 26.3 +2.2**
OJC Ojcow 2.66 118 *e*Pn **Pn** **18 41 42.8 0.0**
OJC *e*Pg **Pg** **18 41 51.7 +2.1**
OJC *e*Sg **Sg** **18 42 26.3 +2.2**
WERD Werda 2.67 247 *e*Pn **Pn** **18 41 44.5 +1.6**
WERD *e*Pg **Pg** **18 41 51.3 +1.6**
WERD *e*Sg **Sg** **18 42 24.5 +0.3**
WERD Werda 2.67 247 *e*Pn **Pn** **18 41 44.5 +1.6**
WERD *e*Pg **Pg** **18 41 51.3 +1.6**
WERD *e*Sg **Sg** **18 42 24.5 +0.3**
NKC Novy Kostel 2.69 242 *e*SG **Sg** **18 42 26.0 +1.1**
comp=Z,1µm,0.9s
NKC AMS AMS 18 42 40.0
comp=Z,3µm,4.8s
JAVC Velka Javorina 2.86 159 *e*Pn **Pn** **18 41 46.7 +1.2**
baz=340
JAVC *e*Sg **Sg** **18 42 29.2 -1.2**
comp=Z,1µm,1.1s,baz=340
KHC Kasperske Hory 2.92 215 *e*PN **Pn** **18 41 47.0 +0.6**
KHC *e*PG **Pg** **18 41 53.7 -0.9**
KHC *e*SG **Sg** **18 42 33.2 +0.7**
comp=Z,457nm,0.8s
KHC AMS AMS 18 42 50.0
comp=Z,2µm,4.9s
KHC Kasperske Hory 2.92 215 *e*P **Pn** **18 41 47.0 +0.6**
KHC *e* 18 42 33.2
KHC smax smax
comp=N,457nm,0.8s
KHC MLR MLR
comp=Z,2µm,4.9s
CKRC Cesky Krumlov 2.97 204 *e*PN **Pn** **18 41 48.0 +1.0**
CKRC *e*PG **Pb** **18 41 54.4 +2.0**
CKRC *e*SG **Sg** **18 42 32.7 -1.3**
comp=Z,671nm,0.9s
CKRC AMS AMS 18 42 50.0
comp=Z,2µm,5.2s
CKRC Cesky Krumlov 2.97 204 *e*P **Pn** **18 41 48.0 +1.0**
CKRC *e* 18 42 32.7
CKRC smax smax
comp=N,671nm,0.9s
CKRC MLR MLR
comp=Z,2µm,5.2s
MOX Moxa 3.00 254 *e*Pn **Pn** **18 41 49.2 +1.7**
MOX *e*Pg **Pg** **18 41 58.0 +1.9**
MOX *e*Sg **Sg** **18 42 34.9 0.0**
MOX Moxa 3.00 254 *e*Pn **Pn** **18 41 49.2 +1.7**
MOX *e*Pg **Pg** **18 41 58.0 +1.9**
MOX *e*Sg **Sg** **18 42 34.9 0.0**
MANZ Manzenberg 3.00 240 *e*Pn **Pn** **18 41 49.0 +1.5**
MANZ *e*Pg **Pg** **18 41 58.6 +2.4**
MANZ *e*Sg **Sg** **18 42 34.6 -0.5**
MANZ Manzenberg 3.00 240 *e*Pn **Pn** **18 41 49.0 +1.5**
MANZ *e*Pg **Pg** **18 41 58.6 +2.4**
MANZ *e*Sg **Sg** **18 42 34.6 -0.5**
ROTZ Rotzenmuhle 3.08 236 *e*Pn **Pn** **18 41 49.8 +1.3**
ROTZ *e*Pg **Pg** **18 41 58.3 +0.7**
ROTZ *e*Sg **Sg** **18 42 37.5 +0.1**
ROTZ Rotzenmuhle 3.08 236 *e*Pn **Pn** **18 41 49.8 +1.3**
ROTZ *e*Pg **Pg** **18 41 58.3 +0.7**
ROTZ *e*Sg **Sg** **18 42 37.5 +0.1**
I26DE FREYUNG INFRAS 3.12 211 I I 18 58 40.0
baz=28,slow=322,SNR=5.3
GEC2 GERESS Array S 3.12 211 **Pn** **18 41 49.7 +0.5**
GEC2 GERESS Array S 3.12 211 *e*Pn **Pn** **18 41 50.4 +1.1**
GEC2 *e*Pg **Pg** **18 41 58.6 +0.1**
GEC2 *e*Sg **Sg** **18 42 37.8 -1.2**
GEC2 GERESS Array S 3.12 211 *e*Pn **Pn** **18 41 50.4 +1.1**
GEC2 *e*Pg **Pg** **18 41 58.6 +0.1**
GEC2 *e*Sg **Sg** **18 42 37.8 -1.2**
GERES GERESS Array B 3.12 211 **Pn** **18 41 49.6 +0.4**
GERES GERESS Array B 3.12 211 Pn **Pn** **18 41 50.1 +0.9**
comp=Z,1.0nm,0.3s,baz=30,slow=12,SNR=146
GERES Pg **Pb** **18 41 57.1 +2.0**
comp=Z,2.7nm,0.3s,baz=30,slow=16,SNR=77
GERES Sn **Sn** **18 42 28.1 +0.8**
comp=Z,1.7nm,0.3s,baz=30,slow=25,SNR=5.7
GERES Lg Lg 18 42 37.6
comp=Z,2.8nm,0.3s,baz=36,slow=30,SNR=7.5
comp=Z,16nm,0.5s
SMOL Smolenice 3.14 164 *e*P **Pg** **18 41 59.9 +1.1**

R9F13 Warsaw-Wawer 3.17 76 *e*Pnd 18 41 53.6
R9F13 *e*Pg **Pg** **18 42 02.0 +2.7**
R9F13 *e*Sn **Sb** **18 42 32.4 -2.4**
R9F13 *i* Sg **Sg** **18 42 46.9 +6.6**
WET Wettzell 3.19 222 *e*Pn **Pn** **18 41 51.4 +1.3**
WET *e*Pg **Pg** **18 42 00.2 +0.5**
WET *e*Sg **Sg** **18 42 40.3 -0.6**
WET Wettzell 3.19 222 *e*Pn **Pn** **18 41 51.4 +1.3**
WET *e*Pg **Pg** **18 42 00.2 +0.5**
WET *e*Sg **Sg** **18 42 40.3 -0.6**
LANS Liptovska Anna 3.20 137 *e*P **Pn** **18 41 52.3 +2.0**
LANS Liptovska Anna 3.20 137 *e*PN **Pn** **18 41 52.2 +2.0**
LANS *e*PG **Pg** **18 42 01.0 +1.1**
LANS *e*SG **Sg** **18 42 43.0 +1.6**
MODS Modra-Piesok 3.25 167 *e*P **Pn** **18 41 52.3 +1.4**
MODS Modra-Piesok 3.25 167 *e*PN **Pn** **18 41 52.3 +1.4**
MODS *e*PG **Pg** **18 42 00.5 -0.5**
MODS *e*SG **Sg** **18 42 43.7 +0.6**
NIE Niedzica 3.40 127 *e*Pn **Pn** **18 41 54.0 +1.1**
NIE *e*Pg **Pg** **18 42 05.0 +1.3**
NIE *e*Sg **Sg** **18 42 50.1 +2.4**
RGN Rugen 3.46 332 Pn **Pn** **18 41 54.0 +0.2**
VYHS Vyhne 3.51 149 *e*P **Pn** **18 41 55.2 +0.8**
VYHS Vyhne 3.51 149 *e*PN **Pn** **18 41 55.2 +0.8**
VYHS *e*PG **Pg** **18 42 07.3 +1.5**
CLZ Clausthal 3.61 277 *e*Pn **Pn** **18 41 58.2 +2.3**
CLZ *e*Sg **Sg** **18 42 54.0 -0.5**
CLZ Clausthal 3.61 277 *e*Pn **Pn** **18 41 58.2 +2.3**
CLZ *e*Sg **Sg** **18 42 54.0 -0.5**
CONA Conrad Observa 3.62 183 *i* Pn **Pn** **18 41 57.4 +1.4**
comp=Z,10nm,0.3s,SNR=62
CONA Sg **Sg** **18 42 54.7 -0.2**
comp=Z,6.6nm,0.2s
GRA1 Grafenberg Arr 3.65 241 **Pn** **18 41 56.9 +0.6**
GRF Grafenberg Arr 3.65 241 P **Pn** **18 41 56.9 +0.6**
GRF Grafenberg Arr 3.65 241 *e*Pn **Pn** **18 41 58.0 +1.7**
GRF *e*Pg **Pg** **18 42 10.3 +1.8**
GRF *e*Sg **Sg** **18 42 55.1 -0.6**
GRF Grafenberg Arr 3.65 241 *e*Pn **Pn** **18 41 58.0 +1.7**
GRF *e*Pg **Pg** **18 42 10.3 +1.8**
GRF *e*Sg **Sg** **18 42 55.1 -0.6**
GRFO Grafenberg 3.65 241 **Pn** **18 41 57.5 +1.2**
GRFO Grafenberg 3.65 241 P **Pn** **18 41 57.5 +1.2**
BSD Bornholm Skovb 3.66 349 *e*P **Pn** **18 41 58.2 +1.8**
BSD Bornholm Skovb 3.66 349 *i* P **Pn** **18 41 58.3 +1.9**
BSD *i* S **Sn** **18 42 38.9 -1.3**
BSD IAML 18 42 43.0
comp=Z,11nm,0.2s
RONA Rosalia, Austr 3.85 179 *e*Pn **Pn** **18 42 00.1 +1.0**
comp=Z,6.1nm,0.7s,SNR=16
RONA Sg **Sg** **18 42 59.7 -2.5**
comp=Z,106nm,0.6s
NRDL Niedersach Rie 3.85 287 Pn **Pn** **18 42 01.6 +2.5**
STHS Stebnicka Huta 3.88 121 *e*P **Pn** **18 42 00.5 +0.9**
STHS Stebnicka Huta 3.88 121 *e*PN **Pn** **18 42 00.5 +0.9**
STHS *e*PG **Pg** **18 42 14.2 +1.1**
STHS *e*SG **Sg** **18 43 09.9 +6.5**
MOA Molln 3.89 199 *i* Pn **Pn** **18 42 01.1 +1.3**
comp=Z,432nm,1.4s,SNR=98
MOA Sg **Sg** **18 43 03.5 -0.2**
comp=Z,332nm,0.7s
KECS Kecovo 4.14 136 *e*P **Pn** **18 42 04.6 +1.5**
KECS Kecovo 4.14 136 *e*PN **Pn** **18 42 04.6 +1.5**
KECS *e*PG **Pg** **18 42 21.2 +3.2**
KECS *e*SG **Sg** **18 43 16.0 +4.3**
BIOA Bad Ischl, Aus 4.18 204 *i* Pn **Pn** **18 42 05.0 +1.2**
comp=Z,60nm,1.0s,SNR=38
BIOA Sg **Sg** **18 43 14.2 +1.2**
comp=Z,31nm,0.3s
ARSA Arzberg 4.31 186 **Pn** **18 42 06.6 +1.1**
ARSA Arzberg 4.31 186 *i* Pn **Pn** **18 42 07.4 +1.9**
comp=Z,118nm,1.4s,SNR=18
ARSA *e*Sg **Sg** **18 43 20.7 +3.6**
comp=Z,62nm,0.6s
PSZ Piszkesteto 4.36 145 **Pn** **18 42 06.8 +0.6**
PSZ Piszkesteto 4.36 145 ⇑P **Pn** **18 42 08.0 +1.8**
PSZ Piszkesteto 4.36 145 P **Pn** **18 42 08.0 +1.8**
PSZ Piszkesteto 4.36 145 *e*P **Pn** **18 42 08.3 +2.1**
KWP Kalwaria Pacla 4.59 112 *e*Pn **Pn** **18 42 10.5 +1.2**
KWP *e*Pg **Pg** **18 42 24.9 -1.8**
KWP *e*Sg **Sg** **18 43 36.1 +10**
FUR Furstenfeldbru 4.62 225 Pn **Pn** **18 42 11.8 +2.1**
LESA Schwarzleotal 4.70 210 *e*Pn **Pn** **18 42 11.6 +0.8**
comp=Z,15nm,0.9s,SNR=22
KOLS Kolonicke sedl 4.71 121 *e*P **Pn** **18 42 12.4 +1.4**
KOLS Kolonicke sedl 4.71 121 *e*PN **Pn** **18 42 12.4 +1.4**
KOLS *e*PG **Pg** **18 42 32.3 +3.3**
BLEU Blekinge 4.78 358 P **Pn** **18 42 13.6 +1.8**
BLEU Blekinge 4.78 358 Pn **Pn** **18 42 13.6 +1.8**
BLEU *i* P **Pb** 18 42 14.1 -9.0
BLEU *i* S **Sn** **18 43 06.0 -1.8**
KBA Koelnbreinsper 4.83 203 *i* Pn **Pn** **18 42 15.1 +2.4**
comp=Z,24nm,0.6s
KBA *e*Sg **Sg** **18 43 38.0 +4.3**
comp=Z,307nm,0.7s
KASTN Kahler Asten 4.86 269 Pn **Pn** **18 42 14.1 +1.1**
BJUU Bjuv 4.91 339 P **Pn** **18 42 13.9 +0.3**
BJUU S **Sn** **18 43 07.4 -3.6**
BJUU Bjuv 4.91 339 P **Pn** **18 42 13.9 +0.3**
BJUU *i* P **Pb** 18 42 15.1 -10
BJUU S **Sn** **18 43 07.4 -3.6**
BJUU *i* S Sb 18 43 09.5 -15
SOKA Soboth 4.92 189 *i* Pn **Pn** **18 42 15.6 +1.7**
comp=Z,32nm,0.8s,SNR=11
SOKA *e*Sg **Sg** **18 43 38.5 +1.8**
comp=Z,162nm,1.3s
SUW Suwalki 4.93 57 **Pn** **18 42 14.0 +0.1**
SUW Suwalki 4.93 57 P **Pn** **18 42 14.0 +0.1**
SUW Suwalki 4.93 57 *e*P **Pn** **18 42 16.8 +2.8**
TNS Taunus Mts 5.05 258 Pn **Pn** **18 42 17.0 +1.3**
TNS Sg **Sg** **18 43 41.5 +0.6**
BEHE Becsehely 5.09 175 **Pn** **18 42 15.6 -0.5**
DEL Delary 5.12 346 P **Pn** **18 42 17.5 +1.0**
DEL S **Sn** **18 43 14.7 -1.5**
DEL Delary 5.12 346 P **Pn** **18 42 17.5 +1.0**
DEL *i* P Pb 18 42 18.3 -11
DEL *i* S **Sn** **18 43 13.1 -3.1**
DEL S Sb 18 43 14.7 -16
OBKA Obir 5.14 192 *e*Pn **Pn** **18 42 18.5 +1.5**
OBKA Obir 5.14 192 *e*Pn **Pn** **18 42 18.4 +1.4**
comp=Z,145nm,1.3s,SNR=15
OBKA Sg **Sg** **18 43 46.4 +2.5**
comp=Z,250nm,1.2s
WATA Walderalm 5.16 217 *i* Pn **Pn** **18 42 19.2 +1.9**
comp=Z,33nm,0.6s,SNR=35
WATA *e*Sn **Sn** **18 43 16.6 -1.0**
comp=Z,53nm,0.6s
MYKA Terra Mystica 5.18 200 *i* Pn **Pn** **18 42 18.6 +1.1**
comp=Z,41nm,1.2s
MYKA Sg **Sg** **18 43 48.8 +3.6**
comp=Z,150nm,1.0s
WTTA Wattenberg 5.20 216 *e*Pn **Pn** **18 42 19.9 +2.1**
comp=Z,0.7nm,0.1s,SNR=35
IBBN Ibbenburen 5.25 282 Pn **Pn** **18 42 20.6 +2.2**
STU Stuttgart 5.26 241 **Pn** **18 42 18.8 +0.3**
STU Stuttgart 5.26 241 P **Pn** **18 42 18.8 +0.3**
STU Stuttgart 5.26 241 *e*P **Pn** **18 42 22.5 +4.0**
MOTA Moosalm 5.34 220 *e*Pn **Pn** **18 42 21.2 +1.5**
comp=Z,99nm,1.1s,SNR=16
MOTA *e*Sn **Sn** **18 43 24.3 +2.4**
comp=Z,33nm,0.6s
ABTA Abfaltersbach 5.36 208 *e*Pn **Pn** **18 42 21.4 +1.5**
comp=Z,122nm,0.9s,SNR=44
RETA Reutte 5.36 223 *e*Pn **Pn** **18 42 20.9 +0.9**
comp=Z,20nm,0.6s,SNR=14
PRED Cave del Predi 5.38 199 **Pn** **18 42 20.4 +0.2**
SQTA Sankt Quirin 5.39 219 *e*Pn **Pn** **18 42 22.6 +2.1**
comp=Z,112nm,1.3s,SNR=26
SQTA Sg **Sg** **18 43 56.5 +4.6**
comp=Z,228nm,1.2s
VXJU Vaexsjoe 5.44 353 P **Pn** **18 42 22.7 +1.8**
VXJU Vaexsjoe 5.44 353 P **Pn** **18 42 22.7 +1.8**
BUG Bochum--Univer 5.55 272 Pn **Pn** **18 42 24.4 +2.0**
MORH Mrgy, Hungar 5.58 162 ⇑P **Pn** **18 42 25.1 +2.3**
PBUR Paburge 5.65 35 *e*P **Pn** **18 42 25.1 +1.4**
OSKU Oskarshamn 5.67 360 P **Pn** **18 42 25.8 +1.8**
OSKU Oskarshamn 5.67 360 P **Pn** **18 42 25.8 +1.8**
CRES Cresnjevec Ost 5.74 185 *e*Pn **Pn** **18 42 26.9 +1.8**
FETA Feichten 5.75 220 *i* Pn **Pn** **18 42 27.0 +1.7**
comp=Z,4.4nm,0.5s,SNR=9.8
FETA *e*Sn **Sn** **18 43 35.0 +3.0**
comp=Z,22nm,0.6s
STAL STALIGIAL 5.75 205 **Pn** **18 42 25.8 +0.5**

CIMO Cimolais 5.78 206 **Pn** **18 42 26.8 +1.2**
BYXU Byxelkrok 5.78 5 P **Pn** **18 42 27.9 +2.2**
BYXU Byxelkrok 5.78 5 P **Pn** **18 42 27.9 +2.2**
SABO M.te Sabotino 5.81 198 **Pn** **18 42 26.5 +0.4**
FABU Falkenberg 5.83 341 P **Pn** **18 42 26.9 +0.7**
FABU Falkenberg 5.83 341 P **Pn** **18 42 26.9 +0.7**
FABU *i* P Pb 18 42 28.3 -13
FABU *i* S **Sn** **18 43 30.5 -3.2**
DAVA Damuels 5.91 226 *e*Pn **Pn** **18 42 28.1 +0.6**
comp=Z,62nm,0.9s,SNR=11
DAVA *e*Sg **Sg** **18 44 14.7 +6.4**
comp=Z,119nm,0.9s
CEY Cerknica 5.92 192 *e*Pn **Pn** **18 42 28.5 +1.0**
BFO Black Forest 5.99 241 **Pn** **18 42 28.5 0.0**
BFO Black Forest 5.99 241 P **Pn** **18 42 28.5 0.0**
BFO Black Forest 5.99 241 Pn **Pn** **18 42 27.3 -1.2**
TRI Trieste 6.05 196 **Pn** **18 42 29.1 -0.1**
TRI Trieste 6.05 196 P **Pn** **18 42 29.2 -0.1**
EKSU Eksjoe 6.07 356 P **Pn** **18 42 31.2 +1.7**
EKSU S **Sn** **18 43 39.0 -0.6**
EKSU Eksjoe 6.07 356 P **Pn** **18 42 31.2 +1.7**
EKSU S **Sn** **18 43 39.0 -0.6**
BOJS Bojanci 6.07 186 *e*Pn **Pn** **18 42 31.5 +1.9**
BOJS Bojanci 6.07 186 *i* Pn **Pn** **18 42 31.3 +1.7**
BOJS *e*Pg **Pg** **18 42 55.5 +0.6**
BOJS *e*Sn **Sn** **18 43 48.1 +8.4**
BOJS *i* 18 44 04.2
BOJS IAML 18 44 29.4
comp=Z,290nm,1.5s
PABE Paberze 6.12 47 **Pn** **18 42 30.6 +0.3**
PABE Paberze 6.12 47 *e*P **Pn** **18 42 32.8 +2.5**
SKDS Skadanscina 6.16 194 *e*Pn **Pn** **18 42 33.4 +2.5**
CTI Castel Tesino 6.25 210 **Pn** **18 42 33.3 +1.2**
CTI Castel Tesino 6.25 210 P **Pn** **18 42 33.3 +1.2**
FUORN Ofenpass-Fuorn 6.26 220 **Pn** **18 42 32.8 +0.3**
DAVOX Davos/Dischmat 6.29 223 Pn **Pn** **18 42 32.7 -0.2**
comp=Z,1.4nm,0.3s,baz=27,slow=13,SNR=19
DAVOX Sn **Sn** **18 43 44.4 -1.1**
comp=Z,0.9nm,0.3s,baz=12,slow=18,SNR=3.1
DAVOX Lg Lg 18 44 19.2
comp=Z,1.0nm,0.3s,baz=1.2,slow=13,SNR=4.6
comp=Z,11nm,0.5s
ONAU Onsala 6.37 339 *i* P **Pn** **18 42 36.1 +2.6**
ONAU *i* S **Sn** **18 43 43.3 -3.6**
BTNL Ternell 6.39 265 *d*P **Pn** **18 42 36.0 +2.0**
comp=Z,41nm,1.0s
DRGR 6.41 135 ⇑P **Pn** **18 42 36.2 +1.8**
DRGR 6.41 135 P **Pn** **18 42 36.1 +1.8**
BORU Boraas 6.42 343 P **Pn** **18 42 35.8 +1.5**
BORU Boraas 6.42 343 P **Pn** **18 42 35.8 +1.5**
BORU *i* P Pb 18 42 36.4 -15
BORU *i* S **Sn** **18 43 47.3 -0.8**
MEM Membach 6.46 266 *d*P **Pn** **18 42 37.0 +2.0**
comp=Z,45nm,1.0s
BHOU Houvegnez 6.52 263 *d*P **Pn** **18 42 37.9 +2.1**
comp=Z,37nm,1.2s
A051A Mrakovica 6.55 175 *e*Pn **Pn** **18 42 37.7 +1.4**
WLF Walferdange 6.64 257 **Pn** **18 42 37.6 +0.2**
WLF Walferdange 6.64 257 P **Pn** **18 42 37.6 +0.2**
WLF Walferdange 6.64 257 *d*P **Pn** **18 42 38.9 +1.6**
comp=Z,36nm,1.1s
WLF Walferdange 6.64 257 Pn **Pn** **18 42 40.9 +3.6**
WLF Lg **Sg** **18 44 31.9 +0.2**
comp=Z,59nm,1.1s
MARR Marisel-Cluj 6.68 134 ⇓P **Pn** **18 42 39.7 +1.6**
ECH Echery 6.70 244 **Pn** **18 42 37.5 -0.7**
ECH Echery 6.70 244 P **Pn** **18 42 37.5 -0.7**
LNKU Linkoeping 6.71 357 P **Pn** **18 42 39.8 +1.5**
LNKU S **Sn** **18 43 53.3 -2.1**
LNKU Linkoeping 6.71 357 P **Pn** **18 42 39.8 +1.5**
LNKU S **Sn** **18 43 53.3 -2.1**
BSTI Sart Tilman 6.74 266 *d*P **Pn** **18 42 41.2 +2.4**
TUE Stuetta 6.76 224 **Pn** **18 42 39.5 +0.2**
BLY Banja Luka 6.83 174 *e*Pn **Pn** **18 42 41.2 +1.2**
FRGS Fruska Gora 6.83 158 *e*Pn **Pn** **18 42 41.6 +1.5**
TEOL Teolo 6.86 207 **Pn** **18 42 40.1 -0.4**
BCLA Clavier 6.94 265 *d*P **Pn** **18 42 41.6 +0.1**
comp=Z,24nm,1.1s
BZS Buzias 6.95 146 ⇑P **Pn** **18 42 43.2 +1.5**
BZS Buzias 6.95 146 P **Pn** **18 42 43.1 +1.5**
VIKU Vikbolandet 6.98 2 P **Pn** **18 42 43.9 +1.8**
VIKU Vikbolandet 6.98 2 P **Pn** **18 42 43.9 +1.8**
SURR Surduc 7.01 143 ⇑P **Pn** **18 42 43.8 +1.3**
BUR08 Bucovina Ar. S 7.05 120 **Pn** **18 42 43.7 +0.5**
A050A Klekovaca 7.07 178 *e*Pn **Pn** **18 42 44.3 +0.9**
BURAR Bucovina Array 7.08 120 **Pn** **18 42 44.0 +0.5**
BURAR Bucovina Array 7.08 120 ⇓P **Pn** **18 42 45.6 +2.0**
BURAR Bucovina Array 7.08 120 P **Pn** **18 42 45.5 +2.0**
BGES Gesves 7.09 265 *d*P **Pn** **18 42 44.4 +0.9**
comp=Z,30nm,1.1s
ISAL Salakas 7.18 52 *e*P **Pn** **18 42 46.9 +2.1**
NACGM Naroch 7.21 58 ⇓*i*P **Pn** **18 42 47.8 +2.6**
comp=Z,63nm,1.3s,baz=246
BMRD Maredsous 7.30 265 *d*P **Pn** **18 42 46.6 +0.1**
comp=Z,14nm,0.8s
TEKS Tekeris 7.35 161 *e*Pn **Pn** **18 42 50.5 +3.3**
IDID Didziasalis 7.37 55 *e*P **Pn** **18 42 49.5 +2.2**
UCC Uccle 7.45 269 **Pn** **18 42 49.4 +0.8**
UCC Uccle 7.45 269 P **Pn** **18 42 49.4 +0.8**
UCC Uccle 7.45 269 *d*P **Pn** **18 42 50.5 +2.0**
DOU Dourbes 7.46 263 *d*P **Pn** **18 42 50.8 +2.1**
comp=Z,16nm,1.0s
GZR Gura Zlata 7.56 142 ⇓P **Pn** **18 42 52.9 +2.8**
GZR Gura Zlata 7.56 142 P **Pn** **18 42 52.9 +2.8**
MNK Minsk 7.67 63 *i* P **Pn** **18 42 48.8 -2.7**
MNK *i* P **Pn** **18 42 48.8 -2.7**
MNK *i* P **Pn** **18 42 48.8 -2.7**
baz=251
MNK *i* PP **PnPn** **18 42 55.4 -3.5**
MNK *i* PPP PPP 18 43 03.4
MNK *i* S **Sn** **18 44 15.7 -3.3**
MNK *i* SS **SnSn** **18 44 28.3 -1.8**
MNK *i* SSS SSS 18 44 39.2
MNK *i* LR LR 18 45 33.4
MNK *i* LRM MLR 18 45 53.6
comp=Z,255nm,1.2s
MNK *i* LRM MLR 18 45 56.9
comp=E,924nm,1.4s
MNK *i* LRM MLR 18 45 57.8
comp=N,1µm,1.4s
MNK Minsk 7.67 63 *i* P **Pn** **18 42 48.8 -2.7**
MNK *i* S **Sn** **18 44 15.7 -3.3**
MNK MLR MLR
comp=Z,255nm,1.0s
MNK MLR MLR
comp=E,924nm,1.0s
MNK MLR MLR
comp=N,1µm,1.0s
MDVR Moldovita 7.71 149 ⇑P **Pn** **18 42 54.5 +2.3**
SENIN Lac Senin/Sane 7.79 232 **Pn** **18 42 53.3 -0.2**
PRMA PARMA 7.82 212 Pn **Pn** **18 42 53.8 +0.1**
HERR Herculane 7.87 145 ⇑P **Pn** **18 42 56.7 +2.5**
BBLS Lazi&#263i 7.99 163 *e*Pn **Pn** **18 42 58.4 +2.4**
ZCCA Zocca 7.99 208 Pn **Pn** **18 42 55.5 -0.5**
STRU Stroemstad 8.03 341 *i* P **Pn** **18 42 57.2 +0.8**
STRU *i* S **Sn** **18 44 21.8 -6.0**
HOMB Homborsund 8.05 330 *i* P **Pn** **18 43 00.1 +3.4**
HOMB *i* S **Sn** **18 44 23.5 -4.8**
KIEV Kiev 8.26 91 **Pn** **18 42 59.8 +0.2**
KIEV Kiev 8.26 91 ⇑P **Pn** **18 43 00.5 +0.8**
KIEV Kiev 8.26 91 P **Pn** **18 43 00.4 +0.8**
AKASG Malin Array Be 8.27 91 **Pn** **18 42 59.6 -0.2**
AKASG Malin Array Be 8.27 91 Pn **Pn** **18 42 59.1 -0.6**
comp=N,2.5nm,0.3s,baz=282,slow=12,SNR=28
AKASG Sn **Sn** **18 44 26.5 -7.3**
comp=N,3.2nm,0.3s,baz=310,slow=7.5,SNR=7.1
AKASG Lg Lg 18 45 21.7
comp=N,1.2nm,0.3s,baz=274,slow=27,SNR=4.1
comp=N,16nm,0.6s
AKASG Malin Array Be 8.27 91 P **Pn** **18 42 59.6 -0.2**
AKBB Malin Array Si 8.27 91 **Pn** **18 43 00.1 +0.3**
AKBB Malin Array Si 8.27 91*c* *i*P **Pn** **18 43 00.0 +0.3**
MSSA Maissana 8.49 214 **Pn** **18 43 02.9 +0.1**
SNART Snartemo 8.53 326 *i* P **Pn** **18 43 07.3 +3.9**
SNART *i* S **Sn** **18 44 36.0 -4.2**
TESR Tescani 8.53 122 ⇑P **Pn** **18 43 05.9 +2.4**
MURB Monte Urbino 8.64 198 **Pn** **18 43 03.6 -1.3**
OSSC Osservatorio P 8.68 204 Pn **Pn** **18 43 04.6 -0.8**
GUMA Gualdo di Mace 8.69 194 Pn **Pn** **18 43 03.6 -2.1**
HFS Hagfors 8.72 352 Pn **Pn** **18 43 06.9 +1.0**
comp=N,0.5nm,0.3s,baz=167,slow=11,SNR=18
HFS Sn **Sn** **18 44 42.6 -2.3**

comp=N,0.8nm,0.3s,baz=168,slow=24,SNR=5.9
HFS Lg Lg 18 45 41.5
comp=N,0.7nm,0.3s,baz=173,slow=28,SNR=5.5
comp=N,5.8nm,0.7s
FDMO Fiordimonte 8.76 195 Pn Pn 18 43 05.3 -1.2
MLR Muntele Rosu 8.88 129 Pn Pn 18 43 07.3 -0.9
MLR Muntele Rosu 8.88 129 Pn Pn 18 43 11.3 +3.1
comp=N,0.8nm,0.3s,baz=352,slow=18,SNR=3.2
comp=N,1.8nm,0.4s
KONO Kongsberg 8.93 338 *eP* **Pn 18 43 11.6 +2.8**
NRCA Norcia 8.95 195 Pn 18 43 08.3 -0.9
BNI Bardonecchia 9.05 228 Pn 18 43 10.4 -0.2
BNI Bardonecchia 9.05 228 P Pn 18 43 10.4 -0.2
CAMP Campotosto 9.20 193 Pn 18 43 12.2 -0.5
VSU Vasula 9.21 37⇑ *eP* **Pn 18 43 12.5 -0.1**
VSU Vasula 9.21 37 *eP* **Pn 18 43 13.9 +1.2**
CESX Cesi 9.26 197 Pn Pn 18 43 12.9 -0.5
NC602 NORSAR Array S 9.57 346 Pn 18 43 17.4 -0.1
CLF Chambon-Foret 9.65 254 Pn 18 43 17.8 -0.9
INTR Introdacqua 9.66 190 Pn 18 43 16.5 -2.4
NAO01 NORSAR Array S 9.77 345 Pn 18 43 18.9 -1.4
NB201 NORSAR Array S 9.90 346 Pn Pn 18 43 21.4 -0.8
NC405 NORSAR Array S 9.90 347 Pn Pn 18 43 21.8 -0.4
NB2 NORSAR Subarra 9.91 346 Pn Pn 18 43 22.0 -0.2
comp=Z,4.5nm,1.0s,baz=162,slow=14
NOA NORSAR Array B 9.91 346 Pn Pn 18 43 22.3 +0.1
comp=Z,0.1nm,0.3s,baz=222,slow=20,SNR=12
NOA Sn **Sn 18 45 06.6 -7.4**
baz=163,slow=20,SNR=4.0
NOA Lg Lg 18 46 17.5
comp=Z,0.1nm,0.3s,baz=102,slow=16,SNR=4.4
comp=Z,1.4nm,0.4s
NBO00 NORSAR Array S 9.97 345 Pn Pn 18 43 21.0 -2.0
NC303 NORSAR Array S 10.06 347 Pn 18 43 22.8 -1.4
NC204 NORSAR Array S 10.20 345 Pn Pn 18 43 24.6 -1.6
FINES FINESS Array B 11.32 25 Pn 18 43 40.7 -0.8
FINES FINESS Array B 11.32 25 Pn Pn 18 43 40.8 -0.7
comp=Z,0.7nm,0.3s,baz=196,slow=9.8,SNR=26
FINES Sn **Sn 18 45 40.0 -8.6**
comp=Z,1.5nm,0.3s,baz=210,slow=20,SNR=7.5
FINES Lg Lg 18 46 58.8
comp=Z,0.4nm,0.3s,baz=222,slow=16,SNR=1.4
comp=Z,9.1nm,0.6s
FIA1 FINESS Array S 11.32 25 Pn 18 43 40.6 -0.9
EKA Eskdalemuir Ar 12.12 296 Pn Pn 18 43 48.4 -4.0
baz=98,slow=14
EKA Sn Sn 18 45 58.6 -10
baz=103,slow=26
EKB Eskdalemuir 12.14 296 Pn Pn 18 43 49.9 -2.8
ESK Eskdalemuir 12.14 296 Pn Pn 18 43 49.4 -3.3
ESK Eskdalemuir 12.14 296 P Pn 18 43 49.4 -3.3
OBN Obninsk 12.71 66 Pn 18 43 57.3 -3.1
OBN Obninsk 12.71 66 Pn Pn 18 43 55.3 -5.1
comp=Z,0.8nm,0.3s,baz=186,slow=19,SNR=7.8
OBN Sn Sn 18 46 13.1 -9.4
comp=Z,1.4nm,0.3s,baz=198,slow=20,SNR=5.7
OBN Lg Lg 18 47 43.6
comp=Z,2.4nm,0.3s,baz=332,slow=22,SNR=1.5
comp=Z,20nm,0.7s
OBN Obninsk 12.71 66*ceP* **Pn 18 43 57.9 -2.5**
OBN pmax pmax
comp=Z,47nm,1.3s
OBN MLR MLR
comp=Z,336nm,16.0s
VSL Villasalto 12.94 204 Pn Pn 18 44 01.2 -2.5
MOS Moscow 13.40 63 *eP* **Pn 18 44 06.7 -3.1**
MOS *eS* **Sn 18 46 34.1 -5.2**
LPSR Galich'ya Gora 14.04 77 *eP* **Pn 18 44 15.7 -2.9**
LPSR pmax pmax
comp=Z,58nm,1.1s
VORR Voronezh 14.32 80 *eP* **Pn 18 44 19.0 -3.5**
VORR pmax pmax
comp=Z,55nm,1.3s
VSR Storozhevoye 14.37 82 *eP* Pn 18 44 17.0 -6.1
VSR pmax pmax
comp=Z,10.0nm,1.0s
ANN Anapa 15.69 107 *eP* **Pn 18 44 35.4 -5.4**
ANN *eS* **Sn 18 47 27.0 -8.1**
ANN pmax pmax
comp=Z,9.0nm,0.9s
ANN MLR MLR
comp=E,155nm,15.0s
ANN MLR MLR
comp=Z,198nm,14.0s
ANN MLR MLR
comp=N,433nm,13.0s
KLMR Klimovskoe 15.91 45 *eP* **Pn 18 44 40.8 -2.9**
KLMR pmax pmax
comp=Z,30nm,1.2s
VRH Novokhopyorsk 15.95 81 *eP* **Pn 18 44 39.9 -4.3**
VRH pmax pmax
comp=Z,78nm,1.2s
KEST Kesra 16.54 200 Pn 18 44 51.1 -0.9
KEST Kesra 16.54 200 Pn P 18 44 53.9 -0.8
comp=Z,0.3nm,0.3s,baz=34,slow=3.6,SNR=9.1
comp=Z,8.4nm,1.0s
BRTR Keskin Array B 16.95 127 Pn 18 44 55.3 -2.0
BRTR Keskin Array B 16.95 127 Pn Pn 18 44 57.6 +0.3
comp=Z,0.2nm,0.3s,baz=338,slow=9.5,SNR=4.1
comp=Z,0.5nm,0.6s
SOC Sochi 17.73 107 *eP* **Pn 18 45 03.6 -3.1**
SOC *e* 18 48 19.3
SOC MLR MLR
comp=Z,154nm,16.0s
AKAS Kas 18.07 143 P Pn 18 45 09.8 -1.3
ESBB Sonseca Array 18.34 238 Pn 18 45 11.9 -2.4
ESDC Sonseca Array 18.34 238 Pn 18 45 12.5 -1.8
ESDC Sonseca Array 18.34 238 P P 18 45 15.7 +1.2
comp=Z,0.1nm,0.3s,baz=48,slow=9.8,SNR=17
comp=Z,3.1nm,1.0s
ARCES ARCESS Array B 18.59 10 P P 18 45 15.8 -1.1
ARCES ARCESS Array B 18.59 10 Pn P 18 45 15.9 -1.1
comp=Z,0.6nm,0.3s,baz=192,slow=11,SNR=21
comp=Z,7.8nm,0.7s
ARCES ARCESS Array B 18.59 10 P P 18 45 15.9 -1.1
ARCES pmax pmax
comp=Z,19nm,1.1s
BNN Bunyan 18.73 125 P P 18 45 16.3 -2.6
LVZ Lovozero 18.73 22 P P 18 45 16.1 -2.5
LVZ IAmb IAmb 18 45 49.3
comp=Z,54nm,1.4s
LVZ Lovozero 18.73 22 P P 18 45 16.1 -2.5
LVZ pmax pmax
comp=Z,54nm,1.4s
KEV Kevo 18.98 12 P P 18 45 20.0 -1.2
KEV IAmb IAmb 18 45 56.0
comp=Z,84nm,1.5s
KEV Kevo 18.98 12 P P 18 45 20.0 -1.2
KEV pmax pmax
comp=Z,84nm,1.5s
KIV Kislovodsk 19.31 103 *eP* **P 18 45 23.5 -1.7**
KIV *eS* **Sn 18 49 00.2 -3.0**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,99nm,14.0s
BELG Belogornoye 19.34 75 P P 18 45 22.5 -2.8
comp=Z,28nm,1.1s,baz=313,slow=2.3,SNR=6.5
BELG Belogornoye 19.34 75*c iP* **P 18 45 21.7 -3.6**
BELG pmax pmax
comp=Z,11nm,0.9s
KBZ Khabaz 19.56 103 P P 18 45 26.6 -1.2
comp=Z,3.6nm,0.9s,baz=253,slow=11,SNR=5.6
KBZ Khabaz 19.56 103 *i P* **P 18 45 26.2 -1.6**
KBZ pmax pmax
comp=Z,1.0nm,0.8s
KIRV Kirov 20.14 57 P P 18 45 33.6 -0.4
comp=Z,18nm,0.6s,baz=276,slow=13,SNR=6.5
GAZ Gaziantep 20.70 126 P 18 45 37.7 -2.7
KARS Kars 21.51 110 P 18 45 48.2 -0.9
KARS Kars 21.51 110 P P 18 45 48.2 -0.9
PVAQ Vaqueiros 22.00 239 P 18 45 52.7 -1.5
PVAQ IAmb IAmb 18 45 58.0
comp=Z,34nm,1.2s
GEVA Gevas 23.03 115 P 18 46 04.5 -1.0
MMAI Mount Meron Ar 23.23 135 P P 18 46 08.9 +1.5
comp=Z,3.1nm,0.8s,baz=340,slow=7.1,SNR=4.2
comp=Z,3.1nm,0.8s
AKT Akhty 23.77 103 *eP* **P 18 46 11.9 -0.9**
AKT *e* 18 46 39.3
AKT *eS* **S 18 50 25.5 -3.7**
AKT pmax pmax
comp=Z,12nm,1.2s
AKT MLR MLR
comp=Z,176nm,11.0s

GHAJ Ghor Haditha 24.77 137 P P 18 46 21.6 -0.3
ARTI Arti 25.01 62 P 18 46 23.5 -0.4
ARTI IAmb IAmb 18 46 28.5
comp=Z,17nm,0.9s
ARTI Arti 25.01 62*d iP* **P 18 46 25.1 +1.2**
ARTI 18 47 01.5
ARTI S **S 18 50 51.3 +2.8**
ARTI SS **SnSn 18 51 37.4 +1.3**
ARTI pmax pmax
comp=Z,23nm,1.1s
SCO Scoresbysund 25.75 331 P P 18 46 30.0 -0.4
SCO IAmb IAmb 18 46 36.3
comp=Z,17nm,1.1s
SCO Scoresbysund 25.75 331 P P 18 46 30.0 -0.4
SCO pmax pmax
comp=Z,17nm,1.1s
SVE Sverdlovsk 26.19 61 *eP* **P 18 46 37.2 +2.6**
SVE pmax pmax
comp=Z,40nm,1.5s
AB31 Akbulak array 27.70 77 P P 18 46 48.4 +0.2
ABKAR Akbulak array 27.70 77 P P 18 46 48.5 +0.3
ABKAR Akbulak array 27.70 77 P P 18 46 48.8 +0.5
ABKAR IAmb IAmb 18 47 10.9
comp=Z,7.6nm,0.9s
TAM Tamanrasset 29.86 200 P 18 47 07.7 -0.1
TAM Tamanrasset 29.86 200 P P 18 47 07.7 -0.1
TAM pmax pmax
comp=Z,25nm,0.3s
ANGG Ammassalik, Gr 30.27 318 P P 18 47 10.8 0.0
SUMG Summit 31.38 332 P 18 47 21.4 +0.2
SUMG Summit 31.38 332 P P 18 47 21.4 +0.2
SUMG pmax pmax
comp=Z,7.0nm,1.2s
BRVK Borovoye 32.48 66 P P 18 47 30.6 +0.1
BRVK IAmb IAmb 18 47 34.6
comp=Z,10nm,1.0s
BRVK Borovoye 32.48 66*ceP* **P 18 47 30.2 -0.3**
BRVK pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 32.55 66 P P 18 47 33.2 +2.0
comp=Z,5.3nm,0.7s,baz=289,slow=6.0,SNR=24
comp=Z,5.3nm,0.7s
KK31 Karatay Array 37.03 81 P 18 48 09.9 0.0
KK31 IAmb IAmb 18 48 15.0
comp=Z,15nm,1.4s
KK31 Karatay Array 37.03 81 P P 18 48 09.9 0.0
KK31 pmax pmax
comp=Z,15nm,1.4s
KKAR Karatay Array 37.03 81 P 18 48 09.7 -0.3
KKAR Karatay Array 37.03 81 P 18 48 09.4 -0.5
KKAR IAmb IAmb 18 48 15.0
comp=Z,16nm,1.4s
KKAR Karatay Array 37.03 81 P P 18 48 09.7 -0.3
KURBB Kurchatov Arra 38.14 66 P P 18 48 20.8 +1.6
comp=Z,4.8nm,0.9s,baz=298,slow=9.0,SNR=40
KURBB PP **PP 18 49 44.9 -1.1**
comp=Z,3.9nm,1.1s,baz=293,slow=12,SNR=8.0
comp=Z,4.8nm,0.9s
KURK Kurchatov 38.15 66 P 18 48 18.9 -0.4
KURK Kurchatov 38.15 66*ceP* **P 18 48 17.4 -1.9**
KURK pmax pmax
comp=Z,2.0nm,1.3s
BTK Batken 38.93 85 P 18 48 25.2 -0.9
BTK IAmb IAmb 18 48 30.9
comp=Z,22nm,1.3s
BTK Batken 38.93 85 P P 18 48 25.2 -0.9
BTK pmax pmax
comp=Z,21nm,1.3s
ARSB Arslanbob 39.55 82 P P 18 48 31.0 -0.3
ARSB IAmb IAmb 18 48 36.4
comp=Z,27nm,1.5s
ARSB Arslanbob 39.55 82 P P 18 48 31.0 -0.3
ARSB pmax pmax
comp=Z,27nm,1.5s
AAK Ala-Archa 39.74 79*ceP* **P 18 48 32.4 -0.5**
AAK pmax pmax
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 40.04 202 P P 18 48 36.8 +1.4
comp=Z,4.0nm,0.4s,baz=7.8,slow=12,SNR=4.5
comp=Z,4.0nm,0.4s
ZAA0 Zalesovo Array 40.16 59 P 18 48 36.3 +0.3
ZALV Zalesovo Beam 40.16 59 P P 18 48 38.7 +2.7
comp=Z,5.2nm,1.0s,baz=297,slow=6.5,SNR=15
ZALV PP **PP 18 50 08.8 +0.8**
comp=Z,1.5nm,0.9s,baz=315,slow=15,SNR=3.6
comp=Z,5.2nm,1.0s
KDJ Kajisay 41.67 78 P 18 48 49.3 +0.4
KDJ Kajisay 41.67 78 P P 18 48 49.3 +0.4
KDJ pmax pmax
comp=Z,5.0nm,1.1s
MK31 Makanchi Array 42.18 69 *eP* **P 18 48 54.8 +2.0**
MKAR Makanchi Array 42.18 69 P 18 48 53.6 +0.8
MKAR Makanchi Array 42.18 69 P P 18 48 54.9 +2.1
comp=Z,1.8nm,0.8s,baz=301,slow=6.0,SNR=20
MKAR PP **PP 18 50 30.4 +0.3**
comp=Z,0.8nm,0.8s,baz=312,slow=7.6,SNR=5.7
comp=Z,1.8nm,0.8s
MKAR Makanchi Array 42.18 69 P P 18 48 53.6 +0.8
KSH Kashi 42.45 82 P P 18 48 58.5 +3.3
KSH pmax pmax
comp=Z,11nm,1.3s
WUS Wushi 43.45 78 P P 18 49 02.9 -0.4
WUS IAmb IAmb 18 49 08.5
comp=Z,15nm,1.2s
LODK Lodwar 50.58 155 P 18 49 58.1 -1.0
LODK IAmb IAmb 18 50 02.8
comp=Z,11nm,1.4s
BATG Bathurst New B 50.98 300 P 18 50 01.3 -0.5
BATG IAmb IAmb 18 50 05.9
comp=Z,7.6nm,1.0s
ZAK Zakamensk 51.68 55 *eP* **P 18 50 10.4 +3.3**
ZAK pmax pmax
comp=Z,6.0nm,1.6s
BLKN Baker Lake 53.11 330 P P 18 50 17.0 -0.3
SONM Songino Array 54.88 55 P P 18 50 33.5 +2.8
comp=Z,3.4nm,1.0s,baz=291,slow=7.9,SNR=16
comp=Z,3.4nm,1.0s
YAK Yakutsk 55.16 32 P 18 50 32.3 0.0
YAK Yakutsk 55.16 32*ceP* **P 18 50 33.7 +1.3**
YAK pmax pmax
comp=Z,16nm,0.7s
ULN Ulaanbaatar 55.19 55 *eP* **P 18 50 33.6 +0.6**
ULN pmax pmax
comp=Z,4.0nm,1.5s
LSA Lhasa 58.29 81 P P 18 50 54.0 -1.6
LSA Lhasa 58.29 81 P P 18 50 54.0 -1.6
LSA pmax pmax
comp=Z,23nm,1.5s
BILL Bilibino 58.67 13*ceP* **P 18 50 58.5 +1.3**
BILL pmax pmax
comp=Z,6.0nm,1.1s
D25K Kavik River 58.77 353 IAmb IAmb 18 51 04.6
comp=Z,6.3nm,1.2s
E29M Blow River 58.84 349 P P 18 50 58.1 -0.2
YKAW3 Yellowknife Wh 59.78 336 P 18 51 04.5 -0.5
YKAW3 IAmb IAmb 18 51 09.4
comp=Z,24nm,1.4s
F28M Old Crow 59.81 350 P 18 51 05.7 +0.6
F28M IAmb IAmb 18 51 09.4
comp=Z,5.3nm,1.2s
YKAW1 Yellowknife Wh 59.82 336 P 18 51 05.8 +0.6
YKAW1 IAmb IAmb 18 51 10.2
comp=Z,7.1nm,1.0s
YKA Yellowknife Ar 59.84 336 P P 18 51 07.2 +1.9
comp=Z,3.6nm,0.8s,baz=29,slow=7.0,SNR=16
comp=Z,3.6nm,0.8s
F26K Sheenjek River 60.17 351 P P 18 51 07.3 -0.3
E23K Chandalar 60.25 354 IAmb IAmb 18 51 18.6
comp=Z,9.8nm,1.4s
G29M Pine Creek 60.27 349 P P 18 51 08.4 +0.2
ZEA Zeya 60.35 40 *eP* **P 18 51 12.7 +3.7**
G26K Porcupine Rive 60.86 351 P P 18 51 11.8 -0.4
G26K IAmb IAmb 18 51 17.5
comp=Z,6.1nm,1.2s
H29M Whitestone 60.97 348 IAmb IAmb 18 51 17.5
comp=Z,7.0nm,1.2s
H27K Steamboat Moun 61.33 350 IAmb IAmb 18 51 19.8
comp=Z,8.0nm,1.4s
J30M Hart River 62.27 347 P P 18 51 21.5 -0.4
FFC Flin Flon 62.27 325 P P 18 51 22.8 +0.9
FFC IAmb IAmb 18 51 26.2
comp=Z,7.0nm,1.3s
FFC Flin Flon 62.27 325 P P 18 51 22.8 +0.9
FFC pmax pmax
comp=Z,7.0nm,1.3s

HHC Hu-ho-hao-te 62.34 59 *eP* **P 18 51 22.3 -0.5**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,84nm,7.5s
HEH HeiHe 63.03 42 *eP* **P 18 51 29.2 +2.1**
HEH pmax pmax
comp=Z,9.0nm,1.4s
I23K Minto, Yukon-K 63.11 353 IAmb IAmb 18 51 33.7
comp=Z,4.9nm,1.3s
K29M Barlow Dome 63.13 347 IAmb IAmb 18 51 32.5
comp=Z,4.8nm,1.1s
DAWY Dawson 63.16 348 P 18 51 28.6 +0.7
EYMN Ely 63.20 314 P 18 51 29.1 +0.8
ILAR Eielson Array 63.28 352 P P 18 51 31.5 +3.0
comp=Z,0.5nm,0.7s,baz=0.2,slow=5.6,SNR=9.2
comp=Z,0.5nm,0.7s
MLY Manley 63.32 354 P 18 51 30.5 +1.6
MLY IAmb IAmb 18 51 33.8
comp=Z,7.5nm,1.5s
ULM Lac du Bonnet 63.36 318 P P 18 51 31.9 +2.7
comp=Z,1.8nm,0.5s,baz=64,slow=13,SNR=3.6
comp=Z,1.8nm,0.5s
ULM Lac du Bonnet 63.36 318 P P 18 51 32.0 +2.7
L27K Beaver Creek, 64.43 349 P P 18 51 37.0 +0.9
L27K IAmb IAmb 18 51 41.9
comp=Z,4.4nm,1.1s
G40A Rib Lake 64.61 311 IAmb IAmb 18 51 41.7
comp=Z,7.2nm,1.1s
CAST Castle Rocks 65.01 354 P 18 51 39.8 -0.2
K20K Telida 65.19 355 IAmb IAmb 18 51 45.7
comp=Z,6.2nm,1.3s
J18K Innoko River 65.20 356 P P 18 51 41.7 +0.5
KLR Kul'dur 65.61 40⇑ *iP* **P 18 51 44.8 +0.8**
KLR pmax pmax
comp=Z,6.0nm,1.3s
XAN Xi'an 65.79 65 P P 18 51 48.3 +2.8
XAN pmax pmax
comp=Z,15nm,0.3s
O30N Mendenhall 65.84 345 IAmb IAmb 18 51 49.1
comp=Z,4.7nm,1.1s
L19K White Mountain 66.40 355 P P 18 51 48.4 -0.6
PZH PanZhiHua 67.06 76 P P 18 51 54.7 +0.9
ECSD EROS Data Cent 68.73 314 P 18 52 03.3 -0.7
O18K Koktuh Hills 68.74 355 IAmb IAmb 18 52 08.6
comp=Z,8.0nm,1.3s
ENH Enshi 68.88 68 P P 18 52 04.6 -0.5
USRK Ussuriysk Ar. 69.70 44 P P 18 52 12.7 +2.8
comp=Z,2.6nm,0.9s,baz=347,slow=5.9,SNR=7.4
comp=Z,2.6nm,0.9s
CHTO Chiang Mai 71.06 83 P P 18 52 22.6 +4.0
PET Petropavlovsk 71.15 23⇑ *eP* **P 18 52 18.9 +0.3**
PET pmax pmax
comp=Z,3.0nm,1.1s
CMAR Chiang Mai Arr 71.33 84 P P 18 52 22.1 +1.9
comp=Z,3.2nm,1.0s,baz=316,slow=7.3,SNR=12
comp=Z,3.2nm,1.0s
YSS Yuzhno-Sakhali 71.71 35 *eP* **P 18 52 25.7 +3.6**
YSS pmax pmax
comp=Z,10.0nm,1.3s
LRAL Lakeview Retre 72.28 301 IAmb IAmb 18 52 29.2
comp=Z,12nm,1.4s
NJ2 Nanjing 72.79 60 *eP* **P 18 52 29.1 +0.3**
NJ2 pmax pmax
comp=Z,11nm,0.7s
NEW Newport 72.84 329 P 18 52 28.3 -0.6
NEW IAmb IAmb 18 52 33.3
comp=Z,6.7nm,1.2s
NEW Newport 72.84 329 P P 18 52 28.3 -0.6
NEW pmax pmax
comp=Z,7.0nm,1.2s
MSO Missoula 73.04 327 P 18 52 30.0 -0.2
KSRS Korea Array 73.22 51 P P 18 52 33.6 +2.4
comp=Z,1.5nm,0.9s,baz=303,slow=4.5,SNR=6.4
comp=Z,1.5nm,0.9s
451A Vernon 73.46 298 P P 18 52 31.7 -1.1
K22A Casper 73.83 320 P 18 52 34.8 -0.3
K22A IAmb IAmb 18 52 38.0
comp=Z,8.4nm,1.0s
E09A Wood Farm, Sta 74.72 329 P P 18 52 39.5 -0.4
F10A Beach Ranch, E 74.90 328 IAmb IAmb 18 52 45.1
comp=Z,6.8nm,1.2s
BW06 Boulder Array 74.93 322 P P 18 52 41.8 +0.2
BW06 IAmb IAmb 18 52 45.6
comp=Z,7.3nm,1.2s
PD31 Pinedale Array 74.93 322 IAmb IAmb 18 52 45.6
comp=Z,7.0nm,1.2s
PDAR Pinedale Array 74.93 322 P P 18 52 43.9 +2.3
comp=Z,1.2nm,0.7s,baz=45,slow=5.0,SNR=11
comp=Z,1.2nm,0.7s
HAWA Hanford 75.26 330 P 18 52 43.4 +0.4
HAWA IAmb IAmb 18 52 48.7
comp=Z,10.0nm,1.2s
PLID Pearl Lake 75.27 327 IAmb IAmb 18 52 47.4
comp=Z,8.7nm,1.1s
BMO Blue Mountains 75.91 328 P 18 52 47.4 +0.5
BMO Blue Mountains 75.91 328 P P 18 52 47.4 +0.5
BMO pmax pmax
comp=Z,17nm,1.1s
HLID Hailey 76.05 325 P 18 52 48.6 +0.8
HLID IAmb IAmb 18 52 53.4
comp=Z,5.4nm,0.9s
G08A Pilot Rock 76.06 329 P 18 52 49.8 +1.9
MFID Camas Ranch 76.68 326 P 18 52 53.1 +1.8
PV22 Blue Mesa, Par 78.23 319 P 18 53 01.2 +1.0
PV22 IAmb IAmb 18 53 04.2
comp=Z,6.8nm,0.9s
SRU San Rafael Swe 78.44 320 IAmb IAmb 18 53 04.9
comp=Z,6.1nm,0.9s
MJAR Matsushiro Arr 78.69 44 P P 18 53 04.3 +1.8
comp=Z,2.3nm,1.0s,baz=339,slow=6.6,SNR=4.6
comp=Z,2.3nm,1.0s
BBOR Butler Butte 79.39 331 IAmb IAmb 18 53 10.2
comp=Z,13nm,1.5s
BOSA Boshof 80.21 172 LR LR 19 32 39.5
comp=Z,56nm,19.1s,baz=31,slow=39
R11B Troy Canyon, C 81.05 324 P 18 53 15.7 +0.2
R11B IAmb IAmb 18 53 20.6
comp=Z,8.6nm,1.4s
NVAR Mina Array Bea 81.96 326 P P 18 53 23.3 +2.9
comp=Z,2.2nm,1.0s,baz=53,slow=3.4,SNR=8.8
comp=Z,2.2nm,1.0s
PECS Pecos 82.11 312 IAmb IAmb 18 53 26.7
comp=Z,6.0nm,0.9s
MNTX Cornudas Mount 82.53 313 P 18 53 23.3 +0.1
W13A Hualapai Mount 83.25 321 P P 18 53 26.5 -0.6
W13A IAmb IAmb 18 53 32.8
comp=Z,4.4nm,1.1s
TXAR Lajitas Array 83.71 310 P P 18 53 32.2 +2.8
comp=Z,0.7nm,0.7s,baz=57,slow=4.6,SNR=11
comp=Z,0.7nm,0.7s
TX31 Lajitas Ar. Si 83.72 310 P 18 53 29.4 -0.1
TX31 IAmb IAmb 18 53 33.5
comp=Z,7.7nm,1.5s
TUC Tucson 84.40 317 P P 18 53 37.3 +4.4
WRA Warramunga Arr 122.84 81 PKP **PKiKP 18 59 57.4 +0.6**
comp=Z,0.9nm,1.0s,baz=334,slow=1.8,SNR=5.1
ASAR Alice Springs 125.34 84 PKP **PKPdf 19 00 01.6 +0.3**
comp=Z,0.6nm,0.8s,baz=343,slow=1.8,SNR=5.4
QSPA South Pole Qui 141.40 180 PKP **PKPdf 19 00 30.5 +0.5**
comp=Z,1.0nm,1.0s,baz=294,slow=4.2,SNR=3.5
VNDA Vanda 150.99 165 PKPbc **PKiKP 19 00 53.1 +0.9**
comp=Z,0.6nm,0.5s,baz=201,slow=15,SNR=9.6

IDC ***05*** *18:44:11.1± 1.2, 1.7′ 7S× 24.′ 19W, h0km, mb4.0/8, mbtmp4.1/9, ML4.0/1, MS3.3/9, Error ellipse: s-maj=43.8km s-min=25.5km az=154.0*

ISC 05 18:44:12.2± 1.1, 1.1′ 9S× 0.′ 3, 24.′ 1W× 0.′ 2, h10km, n22, σ1↟04/11, mb4.0/7, MS3.4/8, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**1.29**	**122**			T	T	18 59 06.7	
	baz=304,slow=74,SNR=251								
H10N2	**ASCENSION HYDR**	**1.29**	**122**			T	T	18 59 06.3	
	baz=304,slow=74,SNR=328								
H10N1	**ASCENSION HYDR**	**1.31**	**122**			T	T	18 59 07.7	
	baz=304,slow=74,SNR=311								
H10S3	**ASCENSION HYDR**	**1.77**	**127**			T	T	18 59 44.3	
	baz=309,slow=74,SNR=133								
H10S2	**ASCENSION HYDR**	**1.78**	**127**			T	T	18 59 48.4	
	baz=271,slow=74,SNR=77								
RCBR	**Riachuelo**	**12.37**	**251**	Pn		**Pn**		**18 47 08.9 +0.3**	
	0.9nm,0.3s,baz=66,slow=20,SNR=16								
RCBR				Sn		Sn		18 49 15.7	-11

0.1nm,0.3s,baz=30,slow=14,SNR=1.7
RCBR LR LR 18 50 50.3
comp=Z,41nm,20.8s,baz=60,slow=32
1.9nm,0.3s
DBIC Dimbokro 21.04 66 P **P 18 48 55.6 -0.9**
5.2nm,0.7s,baz=273,slow=13,SNR=4.2
DBIC LR LR 18 55 34.3
comp=Z,55nm,18.2s,baz=208,slow=32
5.2nm,0.7s
BDFB Brasilia 27.22 238 LR LR 19 00 11.4
comp=Z,112nm,20.6s,baz=83,slow=35
TORD Torodi Ar. Bea 29.66 59 P **P 18 50 19.8 +1.4**
2.0nm,0.3s,baz=273,slow=5.5,SNR=1.7
2.0nm,0.3s
MDT Midelt 39.13 26 LR LR 19 06 35.1
comp=Z,100nm,18.7s,baz=258,slow=34
CPUP Villa Florida 40.09 230 LR LR 19 08 22.2
comp=Z,16nm,18.4s,baz=250,slow=36
ESDC Sonseca Array 45.30 22 P **P 18 52 30.4 -0.1**
1.2nm,1.0s,baz=215,slow=7.4,SNR=7.3
1.2nm,1.0s
VRAC Vranov 61.89 29 LR LR 19 20 31.8
comp=Z,26nm,20.1s,baz=74,slow=35
MLR Muntele Rosu 64.66 37 LR LR 19 23 13.5
comp=Z,56nm,19.7s,baz=268,slow=36
BRTR Keskin Array B 67.03 45 P **P 18 55 04.7 -1.2**
0.4nm,0.5s,baz=232,slow=9.0,SNR=2.4
0.4nm,0.5s
NOA NORSAR Array B 68.39 18 P **P 18 55 12.7 -1.2**
1.4nm,0.3s,baz=220,slow=6.9,SNR=2.4
NOA LR LR 19 24 11.1
comp=Z,6.6nm,19.2s,baz=150,slow=35
1.4nm,0.3s
AKASG Malin Array Be 69.26 33 P **P 18 55 20.5 +1.0**
1.5nm,0.7s,baz=240,slow=6.4,SNR=4.2
1.5nm,0.7s
ARCES ARCESS Array B 78.63 16 P **P 18 56 15.2 +1.2**
2.2nm,0.9s,baz=306,slow=2.9,SNR=1.5
2.2nm,0.9s
TXAR Lajitas Array 81.79 300 P **P 18 56 31.5 -0.5**
0.6nm,0.9s,baz=120,slow=8.9,SNR=5.3
0.6nm,0.9s
ANMO Albuquerque 84.76 305 LR LR 19 28 20.8
comp=Z,41nm,20.7s,baz=162,slow=31
ASAR Alice Springs 146.82 141 PKPbc **PKPbc 19 03 55.5 -0.2**
1.3nm,1.0s,baz=206,slow=2.3,SNR=8.7
DAV Davao City (W) 149.39 79 PKPbc **PKiKP 19 04 03.5 -0.3**
202nm,0.4s,baz=3.4,slow=6.2,SNR=4.1

*UCR **05** 19:14:22.9±0.4, 12°.34N×88°.02W, h0km±10km, MW4.2*
*SNET **05** 19:14:23.6±3.0, 12°.40N×88°.23W, h40km, ML4.0*
*CATAC **05** 19:14:25.1±0.3, 13°.N±5°×.8°.8W±°, h45km±13km, M4.0/27, MLv4.0/27, Error ellipse: s-maj=12.4km s-min=3.0km az=25.5, confirmed*
ISC 05 19:14:25.6±1.3, 12°.54N±0°.05×88°.17W±0°.04, h50km, n62, σ1§17/71, 3C-6D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POTN	**Potosi Cosigui**	**0.79**	**55**	*eP*	**Pn**	**19 14 39.7**	**-1.0**
POTN				*eS*	**Sn**	**19 14 51.6**	**+0.1**
POTN	**Potosi Cosigui**	**0.79**	**55**	P	**Pn**	**19 14 39.3**	**-1.3**
POTN				S	**Sn**	**19 14 51.5**	**-0.1**
CNCH	**Conchagua**	**0.80**	**24**	*eP*	**Pn**	**19 14 40.2**	**-0.7**
CNCH				*eP*		19 14 46.9	
CNCH				*eS*	**Sn**	**19 14 54.2**	**+2.2**
CNCH	**Conchagua**	**0.80**	**24**	S	**Sn**	**19 14 53.8**	**+1.8**
CNCH	**Conchagua**	**0.80**	**24**	↓P	**Pn**	**19 14 40.2**	**-0.7**
LCND	**La Caada**	**0.81**	**20**	*eP*	**Pn**	**19 14 40.1**	**-0.8**
LCND				*eS*	**Sn**	**19 14 52.4**	**+0.4**
LCND	**La Caada**	**0.81**	**20**	↓P	**Pn**	**19 14 40.0**	**-0.8**
ALJI	**Alcalda de J**	**0.88**	**334**	P	**Pn**	**19 14 41.5**	**-0.2**
ALJI	**Alcalda de J**	**0.88**	**334**	S	**Sn**	**19 14 54.3**	**+0.9**
LCY	**Lacayo**	**0.89**	**352**	*eP*	**Pn**	**19 14 41.5**	**-0.5**
CNRM	**Centro Naciona**	**0.93**	**0**	*eS*	**Sn**	**19 14 56.3**	**+1.6**
CNRM	**Centro Naciona**	**0.93**	**0**	P	**Pn**	**19 14 41.7**	**-0.8**
CNRM	**Centro Naciona**	**0.93**	**0**	S	**Sn**	**19 14 55.9**	**+1.1**
PACA	**Pacayal**	**0.94**	**351**	*eP*	**Pn**	**19 14 42.2**	**-0.5**
PACA	**Pacayal**	**0.94**	**351**	↑P	**Pn**	**19 14 42.2**	**-0.5**
CRIN	**San Cristobal**	**1.11**	**82**	*eP*	**Pn**	**19 14 43.8**	**-1.0**
CRIN				*eS*	**Sn**	**19 14 59.2**	**+0.1**
CRIN	**San Cristobal**	**1.11**	**82**	↓P	**Pn**	**19 14 43.9**	**-1.0**
TECO	**Alcaldia de Te**	**1.16**	**329**	S	**Sn**	**19 14 59.4**	**-0.9**
TECO	**Alcaldia de Te**	**1.16**	**329**	P	**Pn**	**19 14 44.1**	**-1.4**
PKGN	**Cerro Pekin**	**1.17**	**84**	P	**Pn**	**19 14 44.4**	**-1.4**
PKGN				S	**Sn**	**19 14 59.4**	**-1.3**
CAHU	**Cacacuatique**	**1.23**	**358**	*eP*	**Pn**	**19 14 46.6**	**0.0**
UESV	**Universidad de**	**1.25**	**331**	↑P	**Pn**	**19 14 46.1**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.28**	**335**	↓P	**Pn**	**19 14 46.9**	**-0.3**
POLN	**Al Sur del Vol**	**1.33**	**85**	P	**Pn**	**19 14 46.5**	**-1.3**
LFRS	**El Faro**	**1.38**	**321**	*eP*	**Pn**	**19 14 47.6**	**-1.1**
PAVA	**Las Pavas**	**1.39**	**327**	*eP*	**Pn**	**19 14 48.2**	**-0.6**
PAVA				*eS*	**Sn**	**19 15 07.0**	**+1.0**
PAVA	**Las Pavas**	**1.39**	**327**	↓P	**Pn**	**19 14 48.1**	**-0.6**
CNGA	**Al SSO del Vol**	**1.44**	**92**	P	**Pn**	**19 14 49.1**	**-0.3**
CNGN	**Cerro Negro**	**1.44**	**91**	*eP*	**Pn**	**19 14 47.2**	**-2.1**
CNGN	**Cerro Negro**	**1.44**	**91**	P	**Pn**	**19 14 49.0**	**-0.4**
LBRS	**Las Brisas**	**1.46**	**325**	*eP*	**Pn**	**19 14 49.6**	**-0.2**
LOMA	**Loma Larga**	**1.47**	**319**	*eP*	**Pn**	**19 14 49.0**	**-0.9**
LOMA				*eS*	**Sn**	**19 15 07.7**	**-0.4**
LOMA				*eS*		19 15 08.3	
LOMA	**Loma Larga**	**1.47**	**319**	↑P	**Pn**	**19 14 48.9**	**-1.0**
LFU	**La Fuente**	**1.51**	**323**	*eS*	**Sn**	**19 15 09.6**	**+0.5**
COPN	**Copaltepe**	**1.58**	**103**	*eP*	**Pn**	**19 14 49.1**	**-2.2**
COPN	**Copaltepe**	**1.58**	**103**	P	**Pn**	**19 14 49.3**	**-2.0**
MOMN	**Momotombo**	**1.60**	**94**	↓P	**Pn**	**19 14 49.4**	**-2.1**
PIC2	**El Picacho**	**1.60**	**319**	*eP*	**Pn**	**19 14 51.5**	**-0.2**
BOQS	**Boqueron**	**1.61**	**318**	*eP*	**Pn**	**19 14 51.8**	**-0.1**
PMON	**Piamonte**	**1.61**	**316**	*eP*	**Pn**	**19 14 51.1**	**-0.7**
PMON	**Piamonte**	**1.61**	**316**	P	**Pn**	**19 14 51.2**	**-0.6**
MOM2	**El Cardon**	**1.65**	**93**	P	**Pn**	**19 14 52.3**	**+0.1**
JAYA	**Jayaque - finc**	**1.67**	**312**	*eP*	**Pn**	**19 14 51.2**	**-1.4**
JAYA	**Jayaque - finc**	**1.67**	**312**	P	**Pn**	**19 14 51.3**	**-1.3**
SAPS	**Ciudad Sandino**	**1.77**	**102**	P	**Pn**	**19 14 53.3**	**-0.5**
CEVE	**Cerro Verde**	**1.91**	**312**	*eP*	**Pn**	**19 14 55.5**	**-0.5**
CEVE	**Cerro Verde**	**1.91**	**312**	P	**Pn**	**19 14 57.1**	**+1.1**
NUBE	**Las Nubes**	**2.07**	**311**	*eP*	**Pn**	**19 14 57.2**	**-0.9**
NUBE				*eS*	**Sn**	**19 15 22.1**	**-0.7**
NUBE	**Las Nubes**	**2.07**	**311**	P	**Pn**	**19 14 57.3**	**-0.8**
NANN	**Nandasmo**	**2.09**	**106**	P	**Pn**	**19 14 58.9**	**+0.6**
MTO3	**Montecristo**	**2.18**	**328**	*eP*	**Pn**	**19 14 59.3**	**-0.4**
MTO3				*eP*		19 14 59.4	
MTO3	**Montecristo**	**2.18**	**328**	P	**Pn**	**19 14 59.4**	**-0.4**
RCVN	**Varillal2**	**2.19**	**61**	P	**Pn**	**19 14 59.4**	**-0.3**
FAME	**Alcaldia de Sa**	**2.21**	**306**	P	**Pn**	**19 14 59.0**	**-0.9**
MATN	**Matagalpa**	**2.23**	**80**	P	**Pn**	**19 14 59.7**	**-0.5**
RCPN	**Sur Rio San Ju**	**2.25**	**64**	P	**Pn**	**19 14 59.3**	**-1.3**
ESQI	**Esquipulas**	**2.31**	**331**	*eP*	**Pn**	**19 15 00.4**	**-0.9**
BOAB	**BOACO BROADBAN**	**2.45**	**92**	P	**Pn**	**19 15 01.5**	**-1.7**
GPS3	**Bodega del ICE**	**3.27**	**123**	*eP*	**Pn**	**19 15 14.6**	**+0.1**
INDI	**Punta indio, G**	**3.73**	**135**	P	**Pn**	**19 15 19.1**	**-1.6**
SOCE	**Pocosol**	**4.09**	**121**	P	**Pn**	**19 15 30.3**	**+4.6**
LCR2	**La Lucha 2**	**4.94**	**124**	P	**Pn**	**19 15 38.9**	**+1.2**

*IDC **05** 19:16:45.5±4.4, 29°.63N×98°.75E, h56km±47km, mb3.5/6, mbtmp3.6/8, ML3.2/1, MS3.0/5, Error ellipse: s-maj=39.3km s-min=16.6km az=65.0*
ISC 05 19:16:43.8±1.1, 29°.7N±0°.1×98°.9E±0°.2, h35km, n11, σ0§61/8, mb3.6/6, MS3.1/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.20**	**180**	P	**Pn**	**19 19 22.1**	**+0.6**
	0.1nm,0.3s,baz=346,slow=12,SNR=4.7						
CMAR				LR	LR	19 23 21.3	
	comp=Z,18nm,21.3s,baz=190,slow=36						
	0.7nm,0.8s						
SONM	**Songino Array**	**19.01**	**16**	P	**Pn**	**19 21 03.7**	**+0.2**
	0.6nm,0.8s,baz=192,slow=13,SNR=1.3						
SONM				LR	LR	19 28 54.4	
	comp=Z,42nm,18.4s,baz=192,slow=38						
MKAR	**Makanchi Array**	**21.38**	**327**	P	**P**	**19 21 27.9**	**-0.3**
	2.0nm,0.8s,baz=131,slow=11,SNR=12						
	2.0nm,0.8s						
KSRS	**Korea Array**	**25.34**	**65**	P	**P**	**19 22 07.9**	**+0.5**
	0.5nm,0.6s,baz=256,slow=9.2,SNR=2.7						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**25.87**	**330**	P	**P**	**19 22 12.1**	**0.0**
	1.8nm,0.7s,baz=144,slow=9.5,SNR=19						
	1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**26.28**	**341**	P	**P**	**19 22 15.9**	**+0.2**
	1.0nm,0.7s,baz=150,slow=12,SNR=4.9						
ASAJ	**Asahikawa**	**37.36**	**55**	LR	LR	19 40 24.9	
	comp=Z,32nm,18.2s,baz=301,slow=38						
ARTI	**Arti**	**38.93**	**325**	LR	LR	19 41 49.4	
	comp=Z,32nm,20.8s,baz=214,slow=39						
GNI	**Garni**	**44.97**	**298**	LR	LR	19 47 19.3	
	comp=Z,24nm,20.1s,baz=295,slow=41						
WRA	**Warramunga Arr**	**60.05**	**141**	P	**P**	**19 26 46.5**	**-0.9**
	1.5nm,0.7s,baz=323,slow=8.4,SNR=9.3						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**62.86**	**144**	P	**P**	**19 27 05.8**	**-0.6**
	0.3nm,0.6s,baz=324,slow=6.9,SNR=4.4						
	0.3nm,0.6s						

*KRSC **05** 19:28:41.1±1.2, 56°.13N×164°.35E, h47km±18km, Ml4.0*
*IDC **05** 19:28:44.5±0.8, 56°.49N×163°.11E, h0km, mb3.6/9, mbtmp3.7/12, ML4.3/2, MS2.9/3, Error ellipse: s-maj=30.3km s-min=15.1km az=152.0*
ISC 05 19:28:45.4±0.7, 56°.39N±0°.05×163°.32E±0°.07, h10km, n53, σ1§49/47, mb3.6/9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.33**	**238**	*eP*	**Pn**	**19 28 56.4**	**+0.1**
KBG	**Krutoberegovo**	**0.37**	**250**	*eP*	**Pn**	**19 28 57.5**	**+0.8**
KBG				*eS*	Sb	19 29 10.9	+11
SMKR	**Semkarok**	**1.05**	**282**	*eP*	Pn	19 29 09.5	+3.3
SRKR	**Sorokina**	**1.22**	**284**	*eP*	Pn	19 29 13.1	+4.5
ZLN	**Zelenaya**	**1.46**	**256**	*eP*	**Pg**	**19 29 15.5**	**+2.2**
CIRR	**Tsirk**	**1.46**	**260**	*eP*	Pg	19 29 15.7	+2.3
KLY	**Klyuchi**	**1.49**	**268**	*eP*	**Pg**	**19 29 14.4**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**1.54**	**254**	*eP*	**Pg**	**19 29 16.6**	**+1.8**
BZWR	**Bezymyannyi-We**	**1.64**	**256**	*eP*	**Pg**	**19 29 18.2**	**+1.4**
BZMR	**Bezmyannaya**	**1.65**	**255**	*eP*	**Pg**	**19 29 18.1**	**+1.1**
KIRR	**Kirishey**	**1.72**	**257**	*eP*	**Pg**	**19 29 19.3**	**+1.0**
KMNR	**Kamenistaya**	**1.84**	**251**	*eP*	**Pg**	**19 29 20.5**	**-0.2**
BKI	**Bering**	**1.91**	**127**	*eP*	Pn	19 29 04.4	-13
BKI				*eS*	Sn	19 29 21.2	-21
SRDR	**Sredinnyy**	**2.01**	**270**	*eP*	**Pg**	**19 29 24.1**	**+0.2**
TUMD	**Tumrok D**	**2.03**	**236**	*eP*	**Pb**	**19 29 21.2**	**-1.2**
TUMD				*eS*	**Sg**	**19 29 49.7**	**-0.9**
MKZ	**Mys Kozlova**	**2.04**	**207**	*eP*	**Pn**	**19 29 16.8**	**-3.0**
ESO	**Esso**	**2.63**	**262**	*eP*	**Pg**	**19 29 32.4**	**-3.3**
OSSR	**Ossora**	**2.88**	**357**	*eP*	**Pn**	**19 29 30.4**	**-0.8**
KII	**Karymskiy**	**3.23**	**225**	*eP*	**Pn**	**19 29 37.2**	**+1.0**
PALN	**Palana**	**3.25**	**328**	*eP*	**Pb**	**19 29 41.6**	**-1.6**
SPN	**Mys Shipunski**	**3.81**	**211**	*eP*	**Pn**	**19 29 41.3**	**-2.8**
SPN				*eS*	**Sn**	**19 30 25.2**	**-3.7**
NLC	**Nalytchevo**	**3.96**	**217**	*eP*	**Pn**	**19 29 45.6**	**-0.5**
SDLR	**Sedlovina**	**4.03**	**221**	*eP*	**Pn**	**19 29 47.5**	**+0.2**
KRK	**Arik**	**4.06**	**224**	*eP*	**Pn**	**19 29 48.6**	**+0.9**
KRER	**Kozyakskii**	**4.06**	**222**	*eP*	**Pn**	**19 29 48.3**	**+0.5**
SMAR	**Somma**	**4.08**	**222**	*eP*	**Pn**	**19 29 47.8**	**-0.2**
AVH	**Avacha**	**4.10**	**222**	*eP*	**Pn**	**19 29 48.8**	**+0.6**
GNL	**Ganaly**	**4.10**	**231**	*eP*	**Pn**	**19 29 50.1**	**+1.9**
UGLR	**Uglovaya**	**4.11**	**221**	*eP*	**Pn**	**19 29 48.4**	**+0.1**
KOK	**Koryaka**	**4.12**	**223**	*eP*	**Pn**	**19 29 49.1**	**+0.7**
PET	**Petropavlovsk**	**4.32**	**221**	*eP*	**Pn**	**19 29 51.3**	**+0.2**
PETK	**Petropavlovsk-**	**4.62**	**227**	Pn	**Pn**	**19 29 55.5**	**+0.2**
	0.9nm,0.3s,baz=73,slow=18,SNR=16						
PETK				Sn	**Sn**	**19 30 51.2**	**+2.2**
	0.9nm,0.3s,baz=5.0,slow=25,SNR=4.1						
PETK				LR	LR	19 32 04.0	
	comp=Z,82nm,18.0s,baz=10,slow=43						
RUS	**Russkaya**	**4.85**	**217**	*eP*	**Pn**	**19 29 58.1**	**-0.3**
GRL	**Gorelyy**	**4.91**	**221**	*eP*	**Pn**	**19 30 00.4**	**+1.1**
MTVR	**Mutnovka**	**4.93**	**220**	*eP*	**Pn**	**19 29 59.9**	**+0.3**
APC	**Apacha**	**4.98**	**228**	*eP*	**Pn**	**19 30 02.8**	**+2.6**
ASAK	**Asacha**	**5.11**	**221**	*eP*	**Pn**	**19 30 03.3**	**+1.3**
SEY	**Seymchan**	**8.58**	**324**	LR	LR	19 34 41.7	
	comp=Z,99nm,18.6s,baz=271,slow=42						
YAK	**Yakutsk**	**17.97**	**302**	P	**P**	**19 32 54.4**	**-1.1**
	2.6nm,0.3s,baz=190,slow=1.3,SNR=5.2						
	6.0nm,0.4s						
ASAJ	**Asahikawa**	**17.98**	**236**	P	**P**	**19 32 55.6**	**-0.1**
	0.5nm,0.3s,baz=24,slow=6.3,SNR=5.8						
	2.1nm,0.5s						
TIXI	**Tiksi**	**21.01**	**330**	LR	LR	19 42 13.3	
	comp=Z,44nm,18.4s,baz=49,slow=39						
ILAR	**Eielson Array**	**25.21**	**50**	P	**P**	**19 34 11.8**	**+0.9**
	0.7nm,0.7s,baz=263,slow=6.2,SNR=8.3						
	0.7nm,0.7s						
MJAR	**Matsushiro Arr**	**26.07**	**231**	P	**P**	**19 34 17.9**	**-1.0**
	1.0nm,0.6s,baz=15,slow=7.2,SNR=4.4						
	1.0nm,0.6s						
SONM	**Songino Array**	**35.05**	**281**	P	**P**	**19 35 38.0**	**-0.3**
	0.2nm,0.3s,baz=59,slow=5.6,SNR=2.3						
	0.2nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**36.70**	**174**	T	T	20 14 26.9	
	baz=357,slow=76,SNR=90						
H11N3	**WAKE ISLAND Hy**	**36.71**	**174**	T	T	20 14 37.1	
	baz=357,slow=76,SNR=64						
H11N1	**WAKE ISLAND Hy**	**36.71**	**174**	T	T	20 14 36.6	
	baz=357,slow=76,SNR=55						
YKA	**Yellowknife Ar**	**39.50**	**46**	P	**P**	**19 36 17.2**	**+1.6**
	0.4nm,0.5s,baz=299,slow=9.4,SNR=6.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**48.44**	**295**	P	**P**	**19 37 26.4**	**-1.2**
	0.3nm,0.7s,baz=52,slow=7.8,SNR=3.0						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**49.83**	**308**	P	**P**	**19 37 37.2**	**-0.8**
	0.9nm,0.7s,baz=23,slow=4.7,SNR=3.5						
	0.9nm,0.7s						
PDAR	**Pinedale Array**	**54.35**	**65**	P	**P**	**19 38 12.3**	**+0.2**
	0.5nm,0.7s,baz=314,slow=6.8,SNR=4.1						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**67.69**	**70**	P	**P**	**19 39 43.6**	**+0.8**
	0.7nm,0.8s,baz=290,slow=3.3,SNR=8.0						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**83.54**	**207**	P	**P**	**19 41 16.0**	**+2.7**
	0.9nm,1.0s,baz=4.9,slow=3.3,SNR=4.2						
	0.9nm,1.0s						

*IDC **05** 19:36:02.7±1.4, 63°.11N×150°.42W, h119km±24km, mb3.4/8, mbtmp3.8/11, Error ellipse: s-maj=51.6km s-min=11.0km az=115.0*
*NEIC **05** 19:36:04.4±0.9, 63°.22N±0°.04×150°.53W±0°.08, h125km±5km, Error ellipse: s-maj=5.7km s-min=5.1km az=177.0*
*AEIC **05** 19:36:05.1±0.9, 63°.20N±0°.04×150°.52W±0°.08, h118km±5km, ML3.3, ML3.5/266(NEIC), Error ellipse: s-maj=5.4km s-min=5.1km az=167.0*
ISC 05 19:36:04.2±0.7, 63°.21N±0°.03×150°.55W±0°.03, h126km±5km, n248, σ0§78/257, mb3.8/8, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRF	**Thorofare Moun**	**0.27**	**26**		**Pn**	**19 36 22.3**	**+0.3**
TRF				Sn	**Sn**	**19 36 34.7**	**-0.7**
TRF				IAML		19 36 36.2	
	comp=E,3μm,0.6s						
TRF				IAML		19 36 36.3	
	comp=N,2μm,0.5s						
KTH	**Kantishna Hill**	**0.38**	**334**		**Pn**	**19 36 22.7**	**+0.4**
KTH				Sn	**Sn**	**19 36 35.3**	**-0.7**
KTH				IAML		19 36 36.4	
	comp=E,1μm,1.0s						
KTH				IAML		19 36 36.6	
	comp=N,912nm,1.1s						
CAST	**Castle Rocks**	**0.72**	**287**		**Pn**	**19 36 24.6**	**+0.2**
CAST				Sn	**Sn**	**19 36 38.3**	**-1.4**
CAST				IAML		19 36 39.6	
	comp=E,693nm,0.7s						
CAST				IAML		19 36 40.0	
	comp=N,552nm,0.7s						
RND	**Reindeer**	**0.79**	**75**		**Pn**	**19 36 25.1**	**+0.2**
PPLA	**Purkeypile**	**0.81**	**248**		**Pn**	**19 36 25.6**	**+0.4**
PPLA				Sn	**Sn**	**19 36 41.1**	**0.0**
PPLA				IAML		19 36 42.2	
	comp=E,856nm,0.5s						
PPLA				IAML		19 36 43.4	
	comp=N,991nm,0.6s						
CUT	**Chulitna**	**0.82**	**171**		**Pn**	**19 36 25.3**	**+0.2**
CUT				Sn	**Sn**	**19 36 40.7**	**-0.2**
WAT7	**Susitna Watana**	**0.86**	**115**		**Pn**	**19 36 25.6**	**-0.1**
WAT7					**Sn**	**19 36 41.1**	**-0.7**
MCK	**McKinley**	**0.89**	**53**		**Pn**	**19 36 26.1**	**+0.3**
MCK				Sn	**Sn**	**19 36 41.3**	**-0.9**
BPAW	**Bear Paw Mtn.**	**0.91**	**348**		**Pn**	**19 36 26.1**	**+0.1**
WAT1	**Susitna Watana**	**0.99**	**112**		**Sn**	**19 36 43.1**	**-0.6**
CHUM	**Lake Minchumin**	**1.04**	**311**		**Pn**	**19 36 27.8**	**+0.7**
CHUM					**Sn**	**19 36 44.1**	**-0.4**
BWN	**Browne**	**1.08**	**26**		**Pn**	**19 36 28.4**	**+0.9**
BWN				IAML		19 36 47.3	
	comp=N,330nm,0.7s						
SKT	**Skwentna**	**1.32**	**201**		**Pn**	**19 36 29.9**	**0.0**
SKT				Sn	**Sn**	**19 36 48.8**	**-0.8**
SKT				IAML		19 36 50.9	
	comp=E,1μm,0.5s						
WAT6	**Susitna Watana**	**1.43**	**115**		**Sn**	**19 36 51.4**	**-0.7**
DHY	**Denali Highway**	**1.45**	**94**		**Pn**	**19 36 31.9**	**+0.3**
DHY				IAML		19 36 54.3	
	comp=E,336nm,0.6s						
DHY				IAML		19 36 54.3	
	comp=N,449nm,0.3s						
DHY	**Denali Highway**	**1.45**	**94**		**Sn**	**19 36 52.4**	**0.0**
M22K	**Willow**	**1.48**	**172**		**Pn**	**19 36 31.9**	**+0.2**
M22K	**Willow**	**1.48**	**172**		**Sn**	**19 36 53.4**	**+0.8**
NEA2	**Nenana**	**1.54**	**25**		**Pn**	**19 36 32.4**	**0.0**
NEA2				IAML		19 36 52.8	
	comp=E,186nm,0.8s						
NEA2	**Nenana**	**1.54**	**25**		**Sn**	**19 36 52.5**	**-1.3**
K20K	**Telida**	**1.60**	**277**		**Pn**	**19 36 33.4**	**+0.3**
K20K				IAML		19 36 55.2	
	comp=N,391nm,0.7s						
K20K				IAML		19 36 55.9	
	comp=E,339nm,1.0s						
K20K	**Telida**	**1.60**	**277**		**Sn**	**19 36 54.2**	**-1.0**
GHO	**Glory Hole Cre**	**1.63**	**152**		**Pn**	**19 36 33.9**	**+0.3**
GHO	**Glory Hole Cre**	**1.63**	**152**		**Sn**	**19 36 56.1**	**+0.2**
WRH	**Wood River Hil**	**1.67**	**40**		**Sn**	**19 36 56.1**	**-0.6**
WRH	**Wood River Hil**	**1.67**	**40**		**Pn**	**19 36 34.1**	**+0.2**
L20K	**Farewell, AK**	**1.69**	**246**		**Sn**	**19 36 56.5**	**-0.8**
PMR	**Palmer**	**1.75**	**157**		**Pn**	**19 36 34.7**	**-0.2**
PMR				IAML		19 36 58.9	
	comp=N,657nm,0.4s						
PMR	**Palmer**	**1.75**	**157**		**Sn**	**19 36 57.7**	**-0.7**
PMR	**Palmer**	**1.75**	**157**	P	**Pn**	**19 36 34.9**	**0.0**
SUA	**Susitna One**	**1.76**	**183**		**Pn**	**19 36 35.3**	**+0.2**
SUA				IAML		19 37 02.5	
	comp=E,573nm,0.6s						
SUA				IAML		19 37 04.1	
	comp=N,591nm,0.5s						
M20K	**Styx River**	**1.79**	**223**		**Pn**	**19 36 35.4**	**-0.1**
M20K				IAML		19 37 02.5	
	comp=E,260nm,0.3s						
M20K				IAML		19 37 05.0	
	comp=N,195nm,0.3s						
M20K	**Styx River**	**1.79**	**223**		**Sn**	**19 36 59.7**	**+0.3**
STLK	**Strandline Lak**	**1.82**	**200**		**Pn**	**19 36 35.9**	**+0.1**
STLK				IAML		19 37 03.3	
	comp=E,437nm,0.5s						
STLK				IAML		19 37 04.6	
	comp=N,516nm,0.3s						
STLK	**Strandline Lak**	**1.82**	**200**		**Sn**	**19 36 59.7**	**-0.2**
MLY	**Manley**	**1.83**	**357**		**Pn**	**19 36 36.2**	**+0.4**
MLY				IAML		19 37 00.8	
	comp=N,182nm,0.9s						
MLY	**Manley**	**1.83**	**357**		**Sn**	**19 36 59.0**	**-1.2**
J20K	**Nowinta River**	**1.87**	**303**		**Pn**	**19 36 36.6**	**+0.3**
CCB	**Clear Creek Bu**	**1.88**	**39**		**Pn**	**19 36 36.5**	**+0.1**
CCB				IAML		19 37 01.9	
	comp=N,156nm,0.6s						
CCB	**Clear Creek Bu**	**1.88**	**39**		**Sn**	**19 36 59.7**	**-1.4**
M23K	**Glacier View**	**1.93**	**136**		**Sn**	**19 37 02.7**	**+0.4**
HDA	**Harding Lake**	**2.00**	**51**		**Pn**	**19 36 37.6**	**-0.3**
HDA				IAML		19 37 03.7	
	comp=E,341nm,0.7s						
HDA				IAML		19 37 07.7	
	comp=N,375nm,0.5s						
HDA	**Harding Lake**	**2.00**	**51**		**Sn**	**19 37 02.8**	**-0.9**
I23K	**Minto, Yukon-K**	**2.01**	**14**		**Pn**	**19 36 38.4**	**+0.4**
I23K				IAML		19 37 04.8	
	comp=N,156nm,0.8s						
I23K	**Minto, Yukon-K**	**2.01**	**14**		**Sn**	**19 37 03.1**	**-0.9**
SCM	**Sheep Creek Mo**	**2.04**	**131**		**Pn**	**19 36 38.2**	**-0.2**
SCM				IAML		19 37 12.5	
	comp=E,548nm,0.6s						
SCM				IAML		19 37 12.8	
	comp=N,580nm,0.5s						
COLA	**College**	**2.05**	**34**		**Pn**	**19 36 38.7**	**+0.3**
COLA				IAML		19 37 06.0	
	comp=N,276nm,0.6s						
COLA				IAML		19 37 10.7	
	comp=N,225nm,0.6s						
COLA	**College**	**2.05**	**34**	P	**Pn**	**19 36 39.1**	**+0.7**
COLA	**College**	**2.05**	**34**	S	**Sn**	**19 37 05.3**	**+0.6**
KNK	**

comp=E,92nm,1.1s
DFR Drift River 2.82 202 Pn 19 36 48.8 +0.5
GLI Glacier Island 2.85 144 Pn 19 36 48.0 -0.7
H24K Noodor Dome 2.88 22 Pn 19 36 49.4 +0.3
NCT North Crescent 2.89 204 Pn 19 36 50.0 +0.7
RDWB Redoubt West 2.94 203 Pn 19 36 50.8 +0.8
DOT Dot Lake 2.95 79 Pn 19 36 49.9 0.0
DOT IAML 19 37 24.4
comp=E,191nm,0.6s
DOT IAML 19 37 24.8
comp=N,118nm,0.6s
RDSO Redoubt South 2.96 202 Pn 19 36 51.4 +1.2
H20K Anotleneega Mo 2.97 322 Pn 19 36 50.5 +0.4
RED Redoubt Volcan 2.99 202 Pn 19 36 51.3 +0.7
RED IAML 19 37 40.9
comp=N,67nm,0.7s
RED IAML 19 37 54.4
comp=E,73nm,0.7s
L18K Granite Mounta 3.00 253 Pn 19 36 51.1 +0.6
M18K Stony River 3.00 237 Pn 19 36 50.6 0.0
SCRK Sand Creek 3.03 72 Pn 19 36 51.1 0.0
SCRK IAML 19 37 29.2
comp=N,123nm,1.0s
SCRK IAML 19 37 32.5
comp=E,92nm,0.8s
N19K Bonanza Creek 3.04 219 Pn 19 36 51.7 +0.6
N19K IAML 19 37 53.8
comp=E,61nm,0.8s
N19K IAML 19 37 56.1
comp=N,62nm,0.8s
DIV Divide 3.06 131 Pn 19 36 50.5 -1.0
IMAR Indian Mountai 3.11 335 Pn 19 36 52.2 +0.3
MENT Mentasta 3.12 92 Pn 19 36 52.4 +0.2
MENT IAML 19 37 38.9
comp=N,118nm,0.4s
MENT IAML 19 37 46.4
comp=E,188nm,0.4s
MENT Mentasta 3.12 92 P **Pn 19 36 52.8 +0.6**
FID Port Fidalgo 3.13 140 Pn 19 36 51.8 -0.4
WACK Wrangell Chich 3.13 110 Pn 19 36 52.5 +0.1
SEW Seward 3.16 170 Pn 19 36 52.6 -0.1
SEW IAML 19 37 31.3
comp=N,158nm,0.9s
PRP Porcupine Dome 3.18 41 Pn 19 36 53.3 +0.2
PRP IAML 19 37 35.0
comp=E,75nm,0.7s
PRP IAML 19 37 36.4
comp=N,89nm,0.5s
GCSA Galena City Sc 3.19 302 Pn 19 36 53.5 +0.5
N25K Chitina, Valde 3.20 118 Pn 19 36 53.3 -0.1
N25K IAML 19 37 44.5
comp=E,106nm,0.8s
N25K IAML 19 37 46.4
comp=N,113nm,0.7s
L26K Log Cabin Wild 3.28 90 Pn 19 36 54.0 -0.3
L26K IAML 19 37 39.4
comp=N,185nm,0.5s
L26K IAML 19 37 47.5
comp=E,166nm,0.4s
O20K Slope Mountain 3.29 198 Pn 19 36 55.4 +0.9
J26L Joseph Creek 3.35 64 Pn 19 36 55.7 +0.4
J26L IAML 19 37 38.8
comp=E,202nm,0.6s
J26L IAML 19 37 39.6
comp=N,223nm,0.5s
HIN Hinchinbrook I 3.42 144 Pn 19 36 55.6 -0.5
IVE Iliamna Volcan 3.42 201 Pn 19 36 57.2 +1.1
H19K Roundabout Mou 3.46 315 Pn 19 36 56.9 +0.3
BRLK Bradley Lake 3.46 183 Pn 19 36 57.3 +0.6
BRLK IAML 19 37 38.9
comp=E,133nm,0.2s
BRLK IAML 19 37 51.4
comp=N,170nm,0.7s
ILSW Iliamna Southw 3.47 202 Pn 19 36 58.1 +1.3
ILSW IAML 19 37 48.7
comp=N,52nm,0.9s
ILSW IAML 19 37 50.3
comp=E,46nm,0.8s
EYAK Cordova Ski Ar 3.51 137 Pn 19 36 57.0 -0.2
EYAK IAML 19 37 39.7
comp=E,174nm,0.6s
EYAK IAML 19 37 39.8
comp=N,177nm,0.6s
EYAK Cordova Ski Ar 3.51 137 P **Pn 19 36 58.0 +0.8**
EYAK Cordova Ski Ar 3.51 137 S **Sn 19 37 39.1 +0.9**
O19K Port Alsworth 3.52 212 Pn 19 36 58.0 +0.6
O19K IAML 19 37 44.0
comp=N,131nm,0.4s
O19K IAML 19 38 08.6
comp=E,160nm,0.5s
G23K Bananza Creek 3.52 3 Pn 19 36 57.7 +0.3
G23K IAML 19 37 39.0
comp=E,121nm,0.8s
G23K IAML 19 37 40.6
comp=N,81nm,0.6s
G21K Allakaket 3.55 341 Pn 19 36 58.1 +0.3
P23K Montague Islan 3.56 154 Pn 19 36 57.6 -0.3
M26K Nabesna, AK 3.56 100 Pn 19 36 57.5 -0.5
M26K IAML 19 37 59.1
comp=E,52nm,0.4s
M26K IAML 19 38 02.5
comp=N,65nm,0.6s
K17K Iditarod 3.58 265 Pn 19 36 58.5 +0.4
K17K IAML 19 37 55.6
comp=E,59nm,0.9s
K17K IAML 19 38 04.3
comp=N,40nm,0.9s
N18K Kilae Creek 3.58 227 Pn 19 36 58.3 +0.1
N18K IAML 19 37 40.2
comp=E,42nm,0.9s
N18K IAML 19 37 42.0
comp=N,49nm,1.0s
BMRM Bremner River 3.59 126 Pn 19 36 57.4 -0.9
HOM Homer 3.60 189 Pn **Pn 19 36 58.9 +0.4**
GLB Gilahina Butte 3.61 116 Pn 19 36 58.0 -0.7
GLB IAML 19 37 57.2
comp=N,98nm,0.8s
GLB IAML 19 38 02.2
comp=E,68nm,0.9s
M17K Holitna River 3.69 244 Pn 19 36 59.7 0.0
M17K IAML 19 37 59.0
comp=N,87nm,1.0s
M17K IAML 19 38 02.8
comp=E,86nm,0.9s
CNPM China Poot 3.71 185 Pn 19 37 00.0 +0.1
G24K Hadweenzic Riv 3.74 19 Pn 19 37 00.1 -0.2
P19K Oil Pt 3.80 201 Pn 19 37 02.1 +1.0
P19K IAML 19 38 20.4
comp=N,126nm,0.6s
GOAT Goat Mountain 3.81 131 Pn 19 37 00.7 -0.6
I26K Coal Creek Min 3.85 54 Pn 19 37 01.4 -0.3
I26K IAML 19 37 51.9
comp=E,73nm,0.8s
I26K IAML 19 37 52.8
comp=N,92nm,0.7s
J17K VABM Dome 3.85 277 Pn 19 37 02.0 +0.2
K27K Chicken 3.87 74 Pn 19 37 01.6 -0.4
K27K IAML 19 37 47.1
comp=N,93nm,0.4s
K27K IAML 19 37 52.2
comp=E,77nm,0.5s
VRDI Verde Repeater 3.87 118 Pn 19 37 01.9 -0.4
VRDI IAML 19 38 04.0
comp=N,68nm,0.7s
VRDI IAML 19 38 07.1
comp=E,45nm,0.8s
H18K Honhosa River 3.94 303 Pn 19 37 03.0 +0.2
L27K Beaver Creek, 3.96 88 Pn 19 37 02.8 -0.4
MCARA McCarthy VSAT 3.96 114 Pn 19 37 02.8 -0.5
MCARA IAML 19 38 17.1
comp=E,130nm,0.7s
RAGM Ragged Mountai 3.97 133 Pn 19 37 02.4 -1.0
BCAR Beaver Creek A 3.98 88 Pn 19 37 02.7 -0.8
COLD Coldfoot 4.04 2 Pn 19 37 04.2 0.0
G25K Bearman Lake 4.04 26 Pn 19 37 04.9 +0.7
O18K Koktuh Hills 4.04 216 Pn 19 37 04.7 +0.4
O18K IAML 19 38 06.6
comp=E,35nm,1.1s
O18K IAML 19 38 11.7
comp=N,28nm,0.8s
FYU Fort Yukon 4.06 32 Pn 19 37 04.3 -0.2
FYU IAML 19 37 54.3
comp=N,32nm,1.1s
FYU IAML 19 38 10.2
comp=E,30nm,0.9s

G19K Purcell Mounta 4.07 319 Pn 19 37 04.4 -0.2
M27K Edge Creek, AK 4.07 98 Pn 19 37 04.0 -0.8
M27K IAML 19 38 21.8
comp=N,36nm,1.1s
AU22 Augustine Moun 4.08 201 Pn 19 37 06.3 +1.5
AUCH Augustine Cone 4.11 201 Pn 19 37 06.7 +1.4
N17K Nushagak Hills 4.14 232 Pn 19 37 05.7 +0.1
N17K IAML 19 37 53.5
comp=E,32nm,1.0s
N17K IAML 19 38 08.4
comp=N,36nm,0.8s
HMT Hamilton 4.15 131 Pn 19 37 05.0 -0.8
F21K Alatna River 4.21 344 Pn 19 37 07.2 +0.7
F21K IAML 19 37 56.6
comp=N,23nm,1.0s
CRQM Cirque 4.28 122 Pn 19 37 07.0 -0.6
PTPK Patty Peak 4.30 115 Pn 19 37 08.2 +0.3
BERG Berg Lake 4.31 128 Pn 19 37 07.2 -0.7
TGL Tana Glacier 4.39 121 Pn 19 37 08.2 -0.9
KAIM Kayak Island 4.41 136 Pn 19 37 08.4 -0.8
KAIM Kayak Island 4.41 136 IAML 19 38 27.4
comp=N,102nm,0.7s
L16K Owhat River 4.41 254 Pn 19 37 09.8 +0.6
G18K Tagagawik 4.41 311 Pn 19 37 09.9 +0.6
F20K Avaraart Lake 4.43 333 Pn 19 37 09.8 +0.5
P18K Big Mountain, 4.45 213 Pn 19 37 10.2 +0.5
P18K IAML 19 38 01.2
comp=E,19nm,1.1s
H17K Granite Mounta 4.46 297 Pn 19 37 10.4 +0.5
SUCK Suckling Hills 4.51 131 Pn 19 37 10.1 -0.5
M16K Timber Creek 4.52 245 Pn 19 37 11.0 +0.4
M16K IAML 19 38 03.8
comp=E,33nm,0.9s
M16K IAML 19 38 04.9
comp=N,36nm,1.0s
GRIN Grindle Hills 4.52 127 Pn 19 37 10.6 -0.1
J16K Anvik River 4.54 275 Pn 19 37 11.3 +0.4
Q19K Cape Douglas, 4.55 201 Pn 19 37 11.2 0.0
I27K Kandik River 4.56 54 Pn 19 37 11.5 +0.3
WAX Waxell Ridge 4.58 124 Pn 19 37 10.4 -1.1
I17K Unalakleet 4.59 283 Pn 19 37 12.5 +0.9
O17K Koliganek Bris 4.66 225 Pn 19 37 13.1 +0.6
ISLE Juniper Island 4.68 120 Pn 19 37 12.3 -0.7
BARN Barnard Glacie 4.70 113 Pn 19 37 12.4 -0.8
BARN IAML 19 38 30.1
comp=E,39nm,0.5s
BARN IAML 19 38 33.0
comp=N,56nm,0.8s
SYI Shuyak Island 4.70 192 Pn 19 37 13.5 +0.4
SYI IAML 19 38 12.2
comp=N,70nm,0.4s
F19K Shaleruckik Mo 4.75 323 Pn 19 37 13.9 +0.2
GRNC Granite Creek 4.84 117 Pn 19 37 14.1 -1.0
GRNC IAML 19 38 31.7
comp=E,26nm,0.7s
GRNC IAML 19 38 36.9
comp=N,40nm,0.7s
BAGL Bagley Icefiel 4.85 120 Pn 19 37 14.7 -0.3
F25K Christian Rive 4.85 23 Pn **Pn 19 37 16.1 +1.0**
F25K IAML 19 38 13.4
comp=N,19nm,0.9s
CTGM Chitina Glacie 4.88 113 Pn 19 37 15.3 -0.4
CTGM IAML 19 38 37.4
comp=N,28nm,0.5s
CTGM IAML 19 38 42.4
comp=E,22nm,0.9s
H27K Steamboat Moun 4.91 48 Pn 19 37 16.0 0.0
H27K IAML 19 38 27.8
comp=E,16nm,1.0s
H27K IAML 19 38 33.4
comp=N,14nm,0.8s
BMAR Burnt Mountain 4.92 28 Pn **Pn 19 37 15.7 -0.3**
G17K Kiwalik Mounta 4.95 302 Pn 19 37 17.2 +0.7
E24K Your Creek 4.96 9 Pn **Pn 19 37 15.8 -0.8**
E24K IAML 19 38 14.9
comp=N,16nm,0.7s
E22K Anaktuvuk Pass 4.97 355 Pn 19 37 13.1 -3.7
DAWY Dawson 5.05 75 Pn 19 37 17.1 -0.6
DAWY IAML 19 38 35.7
comp=E,50nm,0.6s
DAWY IAML 19 38 36.2
comp=N,29nm,0.5s
YAH Yahtse 5.06 120 Pn 19 37 17.4 -0.7
YAH IAML 19 38 37.0
comp=E,42nm,0.9s
KAHC Katmai Hardscr 5.07 207 Pn 19 37 18.6 +0.5
LOGN Logan Glacier 5.09 114 Pn **Pn 19 37 17.9 -0.6**
LOGN IAML 19 38 38.7
comp=N,35nm,0.8s
LOGN IAML 19 38 43.9
comp=E,34nm,0.8s
E19K Redstone River 5.10 330 Pn 19 37 18.9 +0.5
MESA MESA 5.10 123 Pn 19 37 17.8 -0.8
KAHG Katmai Hook Gl 5.12 204 Pn 19 37 19.8 +1.0
O16K Kokwok River B 5.13 228 Pn 19 37 18.8 0.0
O16K IAML 19 38 20.7
comp=N,12nm,1.1s
O16K IAML 19 38 30.0
comp=E,13nm,1.0s
K15K Wolf Creek Mou 5.13 265 Pn 19 37 19.6 +0.8
I28M Miner Creek 5.13 59 Pn 19 37 19.8 +0.8
I28M Miner Creek 5.13 59 IAML 19 38 19.3
comp=N,23nm,1.1s
I28M IAML 19 38 22.9
comp=E,44nm,0.9s
TABL Table Mountain 5.25 118 Pn 19 37 19.5 -1.2
TABL IAML 19 38 45.1
comp=N,26nm,0.7s
TABL IAML 19 38 52.2
comp=E,30nm,0.7s
L15K Ungalak Mounta 5.31 258 Pn 19 37 22.0 +0.8
M15K Kasigluk River 5.41 247 Pn 19 37 23.0 +0.4
O28M Mount Upton 5.46 112 Pn 19 37 23.2 -0.3
N15K Kwethluk River 5.47 240 Pn 19 37 24.2 +0.8
ACHA Angle Creek He 5.54 207 Pn 19 37 24.3 -0.1
KDAK Kodiak Island 5.54 191 Pn 19 37 23.8 -0.5
KDAK Kodiak Island 5.54 191 P **Pn 19 37 23.5 -0.8**
comp=E,6.4nm,0.2s,baz=45,slow=4.1,SNR=59
KDAK S **Sn 19 38 22.1 -4.7**
comp=E,14nm,0.3s,baz=285,slow=16,SNR=12
ANCK Angle Creek 5.58 208 Pn 19 37 26.0 +1.1
SAMH Samovar Hills 5.58 119 Pn 19 37 25.4 +0.4
G16K Koyuk River 5.58 298 Pn 19 37 25.5 +0.7
M29M Somme Creek 5.59 92 Pn 19 37 25.3 +0.2
CNTC Contact Creek 5.61 210 Pn 19 37 26.4 +1.0
L29M L29M 5.63 85 Pn 19 37 25.8 +0.2
CAHL Cahill 5.68 206 Pn 19 37 27.4 +1.1
I29M Ogilvie Camp, 5.75 63 Pn 19 37 25.8 -1.3
PCA Pinnacle 5.81 118 Pn 19 37 26.6 -1.5
K29M Barlow Dome 5.86 78 Pn 19 37 28.4 -0.4
D19K Kuna River 6.14 333 Pn 19 37 33.7 +1.3
BCPM Bancas Point 6.15 117 Pn 19 37 31.7 -0.8
OHAK Old Harbor 6.16 194 Pn 19 37 31.3 -1.4
YUK6 Outpost Mounta 6.16 106 Pn 19 37 32.7 -0.2
G15K Niukluk 6.17 293 Pn 19 37 34.0 +1.2
PLK4 Peulik 4 6.29 210 Pn 19 37 35.1 +0.6
M30M Minto, Yukon 6.32 90 Pn 19 37 34.8 -0.1
PNL Peninsula 6.42 119 Pn 19 37 35.9 -0.3
PNL Peninsula 6.42 119 P **Pn 19 37 36.2 0.0**
I30M Mount Dempster 6.50 66 Pn 19 37 36.9 -0.5
N30M Aishikik Lake 6.51 100 Pn 19 37 36.9 -0.5
HYT Haines Junctio 6.59 105 Pn 19 37 36.4 -2.2
SII Sitkinak Islan 6.92 197 P **Pn 19 37 44.0 +1.1**
C18K Utukok River 6.97 326 Pn 19 37 44.1 +0.5
H31M Peel River 7.46 62 Pn 19 37 48.2 -1.9
M31M Drury Creek, Y 7.50 91 Pn 19 37 49.0 -1.7
G31M Satah River 7.81 54 Pn 19 37 53.2 -1.6
WHY Whitehorse 7.82 102 Pn **Pn 19 37 54.5 -0.6**
CHIR Chirikof Islan 7.84 201 P **Pn 19 37 56.1 +0.7**
INK Inuvik 8.65 46 P **Pn 19 38 06.7 +0.6**
comp=E,1.4nm,0.4s,baz=236,slow=11,SNR=3.4
S31K Pelican 8.78 120 Pn **Pn 19 38 07.7 -0.2**
MMPY Sheldon Lake, 8.81 85 Pn **Pn 19 38 08.3 -0.2**
R32K Eaglecrest 9.27 115 Pn **Pn 19 38 13.7 -0.7**
SIT Sitka 9.77 122 Pn **Pn 19 38 20.5 -0.7**
SIT Sitka 9.77 122 P **Pn 19 38 23.0 +1.8**
S32K Killisnoo 9.77 119 Pn **Pn 19 38 21.1 -0.1**
Q32M Nakina River 9.81 107 Pn **Pn 19 38 21.3 -0.7**
U33K Whale Pass 11.29 121 Pn **Pn 19 38 43.8 +2.2**
ARCES ARCESS Array B 47.51 2 P **P 19 44 26.3 +0.5**
comp=E,1.7nm,0.7s,baz=0.0,slow=8.4,SNR=4.3
comp=E,1.7nm,0.7s
ZALV Zalesovo Beam 55.47 324 P **P 19 45 25.4 +0.3**

comp=E,0.5nm,0.3s,baz=23,slow=7.8,SNR=2.5
comp=E,0.5nm,0.3s
FINES FINESS Array B 55.64 2 P **P 19 45 26.0 -0.2**
comp=E,4.2nm,1.1s,baz=352,slow=8.6,SNR=4.1
comp=E,4.2nm,1.1s
EKA Eskdalemuir Ar 59.10 21 P **P 19 45 50.4 -0.2**
comp=E,0.1nm,0.3s,baz=333,slow=5.5,SNR=4.2
comp=E,0.1nm,0.3s
BVAR Borovoye Array 59.76 333 P **P 19 45 55.4 +0.3**
comp=E,0.6nm,0.4s,baz=42,slow=12,SNR=5.0
comp=E,0.6nm,0.4s
KURBB Kurchatov Arra 60.12 326 P **P 19 45 57.5 -0.1**
comp=E,0.3nm,0.4s,baz=26,slow=6.8,SNR=4.5
comp=E,0.3nm,0.4s
MKAR Makanchi Array 62.63 322 P **P 19 46 14.6 0.0**
comp=E,0.3nm,0.5s,baz=32,slow=6.6,SNR=7.3
comp=E,0.3nm,0.5s
AKASG Malin Array Be 66.43 0 P **P 19 46 39.0 -0.2**
comp=E,0.3nm,0.3s,baz=8.2,slow=6.7,SNR=2.7
comp=E,0.3nm,0.3s

*JMA **05** 19:37:16.4±0.2,24°.1N±0°.8×122°.7E±0°.5,h14km±2km,*
MV3.0/13,NW OFF ISHIGAKIJIMA IS
*TAP **05** 19:37:16.1,24°.11N×122°.64E,h13km,ML3.0,C*
ISC 05 19:37:16.1±1.0,24°.08N±0°.02×122°.65E±0°.02,h14km±8km,
n126,σ0°80/223,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.31**	**279**	P		**Pg**		**19 37 22.6**	**+0.4**
EOS4				*i* S		**Sb**		**19 37 28.0**	**+0.1**
EOS3	**EOS3**	**0.37**	**305**	P		**Pb**		**19 37 24.0**	**-0.4**
EOS3				S		**Sb**		**19 37 30.0**	**0.0**
JYNG	**Yonaguni jima**	**0.46**	**36**	*i* P		**Pg**		**19 37 25.4**	**+0.2**
JYNG				eS		**Sg**		**19 37 31.9**	**+0.4**
YOJ	**Yonaguni jima**	**0.51**	**41**	P		**Pg**		**19 37 26.3**	**+0.2**
YOJ				eS		**Sg**		**19 37 32.9**	**0.0**
YOJ	**Yonaguni jima**	**0.51**	**41**	P		**Pb**		**19 37 26.3**	**+0.2**
YOJ				eS		**Sb**		**19 37 33.4**	**-0.7**
EOS2	**EOS2**	**0.51**	**312**	P		**Pb**		**19 37 26.6**	**-0.2**
EOS2				eS		**Sn**		**19 37 36.3**	**-1.2**
EAHA	**Aohua**	**0.87**	**287**	*e*P		**Pg**		**19 37 32.6**	**-0.3**
EAHA				S		**Sb**		**19 37 45.1**	**+0.6**
EWUT	**Wuta**	**0.88**	**295**	*e*P		**Pg**		**19 37 32.4**	**-0.7**
EWUT				eS		**Sg**		**19 37 44.1**	**-0.5**
ESAO	**Su ao**	**0.89**	**304**	*e*P		**Pg**		**19 37 32.6**	**-0.7**
ESAO				eS		**Sg**		**19 37 43.9**	**-1.0**
ENA	**Nanau**	**0.90**	**293**	*e*P		**Pg**		**19 37 32.7**	**-0.9**
ENA				eS		**Sg**		**19 37 44.8**	**-0.5**
TWC	**Suao**	**0.90**	**306**	P		**Pg**		**19 37 32.8**	**-0.8**
TWC				eS		**Sg**		**19 37 44.4**	**-1.0**
TWD	**Chiawan**	**0.96**	**270**	P		**Pb**		**19 37 34.8**	**+0.2**
TWD				S		**Sg**		**19 37 48.0**	**+0.7**
NAOB	**Ninganchiao**	**0.97**	**276**	*e*P		**Pg**		**19 37 35.0**	**+0.2**
NACB				S		**Sn**		**19 37 48.7**	**-0.2**
TEYL	**Yanliau Villag**	**0.98**	**258**	P		**Pg**		**19 37 35.4**	**+0.3**
TEYL				eS		**Sn**		**19 37 49.9**	**+0.7**
EGS		**1.01**	**320**	P		**Pb**		**19 37 35.3**	**-0.1**
EGS				S		**Sg**		**19 37 48.7**	**0.0**
NDS	**Dongshan**	**1.02**	**303**	*e*P		**Pb**		**19 37 34.6**	**-0.9**
NDS				eS		**Sb**		**19 37 48.0**	**-0.8**
IRIF	**Iriomote-Funau**	**1.02**	**75**	P		**Pb**		**19 37 35.3**	**-0.2**
IRIF				eS		**Sb**		**19 37 48.7**	**-0.2**
SHUL	**Shoufeng**	**1.03**	**254**	*e*P		**Pb**		**19 37 35.6**	**-0.2**
SHUL				S		**Sn**		**19 37 51.1**	**+0.6**
HATJ	**Hateruma jima**	**1.06**	**91**	*e*P		**Pb**		**19 37 36.2**	**0.0**
ETM	**Tongmen**	**1.06**	**264**	*e*P		**Pb**		**19 37 35.9**	**-0.5**
ETM				S		**Sg**		**19 37 51.0**	**+0.5**
ILA	**Ilan**	**1.07**	**310**	eS		**Sn**		**19 37 51.2**	**-0.3**
ETLH	**Xiulin Townshi**	**1.07**	**277**	*i* P		**Pb**		**19 37 36.6**	**0.0**
ETLH				S		**Sn**		**19 37 51.9**	**+0.3**
NTC	**Toucheng**	**1.08**	**316**	*e*P		**Pb**		**19 37 34.6**	**-1.9**
TEGC	**Jichi Village**	**1.08**	**250**	P		**Pn**		**19 37 37.1**	**+0.3**
TEGC				eS		**Sb**		**19 37 50.6**	**0.0**
TWE	**Neicheng**	**1.10**	**306**	P		**Pb**		**19 37 36.8**	**-0.2**
TWE				*i* S		**Sg**		**19 37 51.7**	**0.0**
TWB1	**Santiao Chiao**	**1.11**	**327**	*e*P		**Pg**		**19 37 37.8**	**+0.3**
LATG	**Datong**	**1.12**	**294**	P		**Pb**		**19 37 37.0**	**-0.4**
LATG				eS		**Sg**		**19 37 52.4**	**0.0**
LXIB	**Xiulin Townshi**	**1.13**	**268**	P		**Pb**		**19 37 37.3**	**-0.3**
LXIB				eS		**Sn**		**19 37 55.1**	**+1.9**
ENTT	**Nioudou**	**1.14**	**300**	*i* P		**Pb**		**19 37 37.4**	**-0.2**
ENTT				S		**Sb**		**19 37 52.1**	**-0.1**
ESL	**Shilin**	**1.14**	**257**	*e*P		**Pb**		**19 37 36.5**	**-1.1**
ESL				eS		**Sb**		**19 37 52.1**	**-0.3**
TIPB	**Shuangxi**	**1.17**	**320**	*i* P		**Pg**		**19 37 38.9**	**+0.3**
TIPB				eS		**Sb**		**19 37 52.9**	**-0.2**
FUSB	**Fushanzhiwuyua**	**1.18**	**305**	*e*P		**Pg**		**19 37 38.8**	**-0.2**
FUSB				eS		**Sg**		**19 37 54.2**	**-0.1**
EGFH	**Guangfu**	**1.19**	**250**	*e*P		**Pb**		**19 37 38.8**	**+0.3**
EGFH				eS		**Sb**		**19 37 53.8**	**+0.1**
NNSB	**Datong**	**1.21**	**287**	*e*P		**Pb**		**19 37 39.0**	**+0.1**
NNSB				*i* S		**Sg**		**19 37 55.4**	**+0.3**
NNSH	**Datong**	**1.21**	**287**	P		**Pn**		**19 37 38.8**	**0.0**
NNSH				S		**Sn**		**19 37 55.0**	**0.0**
WARBT	**Fenglin Townsh**	**1.21**	**253**	*e*P		**Pn**		**19 37 37.6**	**-1.1**
WARBT				eS		**Sb**		**19 37 54.1**	**-0.2**
NNS	**Nan Shan**	**1.22**	**288**	*e*P		**Pb**		**19 37 39.4**	**+0.3**
NNS				eS		**Sb**		**19 37 54.9**	**+0.2**
SXI1	**Grass Mountain**	**1.23**	**325**	*e*P		**Pn**		**19 37 39.1**	**0.0**
SXI1				S		**Sn**		**19 37 55.4**	**-0.2**
JKRS	**Kuro-shima**	**1.25**	**82**	P		**Pb**		**19 37 39.6**	**0.0**
NWLT	**Wulai**	**1.26**	**304**	*e*P		**Pn**		**19 37 38.1**	**-1.2**
NWLT				eS		**Sb**		**19 37 53.4**	**-2.3**
HGSD	**Ruisui**	**1.26**	**243**	*e*P		**Pn**		**19 37 39.2**	**-0.2**
HGSD				eS		**Sb**		**19 37 54.7**	**-1.2**
WHF	**Hehuan Shan**	**1.27**	**273**	*e*P		**Pn**		**19 37 39.7**	**-0.1**
WHF				eS		**Sn**		**19 37 57.0**	**+0.1**
NWF	**Wu-fen Shan**	**1.27**	**322**	*e*P		**Pg**		**19 37 40.6**	**+0.1**
NWF				S		**Sg**		**19 37 57.0**	**-0.1**
WFSB	**Wu-fen Shan**	**1.27**	**322**	eS		**Sg**		**19 37 58.9**	**+1.9**
FUSS	**Fushou**	**1.29**	**278**	*e*P		**Pb**		**19 37 40.7**	**+0.3**
YHNB	**Yeheng**	**1.30**	**297**	*e*P		**Pb**		**19 37 40.8**	**+0.3**
YHNB				S		**Sb**		**19 37 57.0**	**-0.1**
NSK	**Sanguang**	**1.32**	**297**	*e*P		**Pb**		**19 37 40.8**	**0.0**
NSK				*i* S		**Sb**		**19 37 57.3**	**-0.3**
TWA	**Mucha**	**1.32**	**313**	*e*P		**Pg**		**19 37 41.8**	**+0.2**
EHYH	**Wanrong**	**1.33**	**244**	*e*P		**Pn**		**19 37 39.9**	**-0.4**
EHYH				eS		**Sb**		**19 37 57.4**	**-0.3**
ECBN	**Changbin**	**1.33**	**236**	*e*P		**Pn**		**19 37 39.6**	**-0.7**
ECBN				eS		**Sb**		**19 37 56.4**	**-1.5**
TNOU	**National Taiwa**	**1.33**	**323**	P		**Pb**		**19 37 41.2**	**+0.2**
TNOU				S		**Sb**		**19 37 57.7**	**-0.3**
EHY	**Hungye**	**1.34**	**245**	*e*P		**Pn**		**19 37 39.8**	**-0.7**
EHY				eS		**Sb**		**19 37 57.1**	**-1.0**
OWD	**Renai**	**1.35**	**265**	*e*P		**Pn**		**19 37 40.7**	**0.0**
OWD				eS		**Sb**		**19 37 58.2**	**-0.4**
TWT	**Tachien**	**1.36**	**278**	P		**Pb**		**19 37 41.9**	**+0.5**
TWT				S		**Sg**		**19 38 00.1**	**+0.1**
TDCB	**Techi**	**1.37**	**278**	P		**Pn**		**19 37 40.9**	**-0.2**
TDCB				S		**Sn**		**19 37 59.3**	**+0.2**
TATO	**Taipei**	**1.39**	**311**	*e*P		**Pg**		**19 37 42.8**	**+0.1**
TATO				S		**Sn**		**19 37 59.2**	**0.0**
JIJ	**Ishigaki jima**	**1.39**	**78**	*e*P		**Pn**		**19 37 41.0**	**-0.1**
JIJ				eS		**Sn**		**19 37 58.5**	**-0.9**
WUSB	**Renai**	**1.40**	**267**	*i* P		**Pn**		**19 37 41.6**	**+0.2**
WUSB				S		**Sn**		**19 38 00.1**	**+0.3**
YULB	**Yu-li**	**1.41**	**242**	*i* P		**Pn**		**19 37 40.8**	**-0.6**
YULB				eS		**Sn**		**19 37 58.7**	**-1.2**
VWDT	**VWDT**	**1.42**	**257**	*e*P		**Pn**		**19 37 41.6**	**+0.1**
VWDT				S		**Sn**		**19 38 00.2**	**+0.3**
TWF1	**Yuli**	**1.43**	**240**	*e*P		**Pn**		**19 37 41.3**	**-0.5**
TWF1				eS		**Sn**		**19 38 00.0**	**-0.4**
CHKH	**Chenggong**	**1.45**	**233**	*e*P		**Pn**		**19 37 41.1**	**-0.8**
YM01	**YM01**	**1.45**	**318**	*e*P		**Pg**		**19 37 44.4**	**+0.4**
YM01				*i* S		**Sb**		**19 38 01.8**	**+0.5**
ZUZH	**Zhuzihu**	**1.48**	**317**	*e*P		**Pg**		**19 37 44.8**	**+0.3**
NFF	**Wufeng Townshi**	**1.50**	**292**	*e*P		**Pg**		**19 37 44.7**	**-0.3**
NFF				eS		**Sg**		**19 38 03.9**	**-0.7**
KSHI	**Guanxi Townshi**	**1.51**	**298**	*e*P		**Pg**		**19 37 45.3**	**+0.1**
TWS1	**Kuangyinshan**	**1.52**	**313**	*e*P		**Pb**		**19 37 43.9**	**-0.1**
TWS1				eS		**Sg**		**19 38 04.0**	**-1.0**
FULB	**Fuli**	**1.52**	**235**	*e*P		**Pn**		**19 37 42.4**	**-0.6**
FULB				eS		**Sn**		**19 38 00.9**	**-1.6**
CHKT	**Chengkung**	**1.53**	**231**	*e*P		**Pn**		**19 37 42.0**	**-1.0**
WHP	**Taichung City**	**1.57**	**278**	*e*P		**Pg**		**19 37 46.9**	**+0.6**
DPDB	**Guoxing**	**1.57**	**269**	P		**Pb**		**19 37 44.8**	**-0.3**
DPDB				S		**Sn**		**19 38 04.7**	**+0.7**
SSLB	**Suanglung**	**1.58**	**260**	*e*P		**Pn**		**19 37 44.3**	**+0.6**
SSLB				S		**Sb**		**19 38 05.1**	**+0.2**

WCS	**Beigang Elemen**	**1.59 270**	*e*P	**Pn**	**19 37 44.7**	**+0.8**
LIOB	**Emei**	**1.59 291**	*e*P	**Pg**	**19 37 46.2**	**-0.5**
LIOB			*e*S	**Sg**	**19 38 07.7**	**+0.2**
JISG	**Ishigakijimahi**	**1.60 71**	P	**Pn**	**19 37 43.7**	**-0.3**
JISG			*e*S	**Sn**	**19 38 04.1**	**-0.4**
NSTT	**Nanjuang**	**1.60 291**	*e*P	**Pb**	**19 37 45.3**	**-0.2**
NSTT			*e*S	**Sb**	**19 38 06.0**	**+0.4**
SMLT	**Sun Moon Lake**	**1.61 264**	*e*P	**Pb**	**19 37 45.9**	**+0.1**
EHD	**Haiduan**	**1.61 235**	*e*P	**Pn**	**19 37 43.6**	**-0.6**
EHD			*e*S	**Sn**	**19 38 02.5**	**-2.3**
ECS	**Chishang**	**1.64 234**	P	**Pn**	**19 37 45.5**	**+1.0**
ECS			S	**Sn**	**19 38 06.0**	**+0.6**
TYC	**Yuchr**	**1.65 264**	P	**Pn**	**19 37 45.1**	**+0.5**
TYC			S	**Sb**	**19 38 06.6**	**-0.3**
EDH	**Donghe**	**1.65 229**	*e*P	**Pn**	**19 37 43.0**	**-1.7**
YUS	**Yu-Shan**	**1.66 250**	P	**Pn**	**19 37 45.5**	**+0.2**
YUS			S	**Sn**	**19 38 06.0**	**-0.7**
WHYT	**Xinyi Township**	**1.69 257**	*e*P	**Pb**	**19 37 46.9**	**-0.1**
WHYT			*e*S	**Sb**	**19 38 08.4**	**+0.2**
TWQ1	**Liyutan**	**1.73 279**	*e*P	**Pb**	**19 37 48.7**	**+0.9**
TWQ1			*e*S	**Sg**	**19 38 11.3**	**-0.7**
ELDTW	**Lidau**	**1.74 240**	*e*P	**Pn**	**19 37 45.1**	**-0.9**
LDUT	**Ludao**	**1.77 218**	P	**Pn**	**19 37 47.0**	**+0.7**
WJS	**Zhushan**	**1.78 262**	P	**Pn**	**19 37 47.3**	**+0.9**
ALS	**Alishan**	**1.78 252**	P	**Pn**	**19 37 46.8**	**0.0**
ALS			S	**Sn**	**19 38 10.0**	**+0.6**
WWF	**Wufeng**	**1.78 269**	*e*P	**Pb**	**19 37 48.9**	**+0.3**
TCU	**Taichung**	**1.80 273**	*e*P	**Pb**	**19 37 48.8**	**-0.1**
WNT	**Mingjian**	**1.81 264**	*e*P	**Pb**	**19 37 49.0**	**0.0**
LONT	**Longtian**	**1.82 230**	*e*P	**Pn**	**19 37 46.7**	**-0.3**
LONT			*e*S	**Sn**	**19 38 08.7**	**-1.1**
CHN5	**Tsauling**	**1.87 256**	*e*P	**Pb**	**19 37 50.2**	**+0.1**
CHN5			*e*S	**Sb**	**19 38 13.6**	**+0.3**
TWGBT	**Beinan**	**1.91 229**	P	**Pn**	**19 37 48.4**	**+0.2**
TWG	**Pinlang**	**1.91 230**	*e*P	**Pn**	**19 37 47.8**	**-0.5**
STYH	**Taoyuan**	**1.94 243**	P	**Pn**	**19 37 49.3**	**+0.6**
STYH			S	**Sn**	**19 38 14.1**	**+1.2**
JTJ	**Tarama**	**1.96 73**	*e*P	**Pn**	**19 37 49.4**	**+0.5**
JTJ			*e*S	**Sn**	**19 38 13.6**	**+0.3**
STYT	**Tauyuan**	**1.96 243**	P	**Pn**	**19 37 50.1**	**+1.1**
STYT			S	**Sn**	**19 38 13.9**	**+0.4**
WDLH	**Douliu**	**1.97 259**	*e*P	**Pb**	**19 37 52.4**	**+0.6**
WCKO	**Fanlu**	**1.98 252**	*e*P	**Pb**	**19 37 51.8**	**-0.2**
WCKO			*e*S	**Sb**	**19 38 17.7**	**+1.2**
TPUB	**Ta-pu**	**2.00 248**	*e*P	**Pb**	**19 37 51.6**	**-0.8**
TPUB			*e*S	**Sb**	**19 38 17.0**	**-0.3**
CHN4	**Tsaushan**	**2.02 249**	*e*P	**Pb**	**19 37 52.1**	**-0.5**
WTP	**Ta-pu**	**2.04 247**	P	**Pn**	**19 37 51.3**	**+1.2**
WTP			*e*S	**Sb**	**19 38 18.9**	**+0.6**
RLNB	**Erlin**	**2.10 265**	P	**Pn**	**19 37 51.9**	**+0.9**
RLNB			*e*S	**Sb**	**19 38 20.6**	**+0.6**
WTK	**Tuku**	**2.10 260**	*e*P	**Pb**	**19 37 54.0**	**-0.1**
WTK			*e*S	**Sb**	**19 38 20.7**	**+0.6**
CHN1	**Nanshi**	**2.14 246**	*e*P	**Pn**	**19 37 53.0**	**+1.5**
CHN1			*e*S	**Sb**	**19 38 20.9**	**-0.2**
SGST	**Jiashian**	**2.14 243**	*e*P	**Pn**	**19 37 52.7**	**+1.2**
SGST			*e*S	**Sn**	**19 38 19.8**	**+2.0**
TWK	**Hsinying**	**2.14 248**	P	**Pn**	**19 37 52.7**	**+1.2**
TWK			*e*S	**Sn**	**19 38 19.3**	**+1.4**
ECL	**Taimali**	**2.14 227**	P	**Pn**	**19 37 52.5**	**+1.0**
ECL			*e*S	**Sn**	**19 38 16.5**	**-1.4**
SNST	**Tainan City**	**2.15 247**	*e*P	**Pb**	**19 37 53.5**	**-1.3**
SNST			*e*S	**Sb**	**19 38 21.8**	**+0.4**
WSF	**Szhu**	**2.26 259**	*e*P	**Pb**	**19 37 56.0**	**-0.8**
WSF			*e*S	**Sb**	**19 38 24.4**	**-0.3**
SSD	**Sandimen**	**2.28 235**	*e*P	**Pb**	**19 37 55.7**	**-1.3**
SSD			S	**Sn**	**19 38 28.6**	**+1.0**
WSL	**Shuilin Townsh**	**2.29 257**	P	**Pn**	**19 37 54.8**	**+1.4**
WSL			*e*S	**Sn**	**19 38 21.1**	**-0.3**
TSMG	**Majia**	**2.29 234**	P	**Pn**	**19 37 55.4**	**+1.8**
TSMG			*e*S	**Sn**	**19 38 23.8**	**+2.2**
SCST	**Cishan**	**2.31 240**	*e*P	**Pb**	**19 37 57.2**	**-0.3**
TAW	**Tawu**	**2.35 224**	*e*P	**Pn**	**19 37 54.0**	**-0.4**
MASBT	**Mashibuluo**	**2.36 232**	*e*P	**Pb**	**19 37 57.2**	**-1.2**
MASBT			*e*S	**Sn**	**19 38 22.9**	**-0.3**
TAWH	**Dawu Township**	**2.37 224**	*e*P	**Pn**	**19 37 53.6**	**-1.0**
TWM1	**Shoushan**	**2.40 239**	P	**Pn**	**19 37 56.5**	**+1.6**
TWM1			*e*S	**Sn**	**19 38 23.0**	**-1.2**
SLIU	**Shizi**	**2.52 223**	*e*P	**Pb**	**19 37 59.7**	**-1.4**
SLIU			S	**Sn**	**19 38 28.6**	**+1.4**
JMJ	**Miyako jima 2**	**2.52 72**	P	**Pn**	**19 37 57.2**	**+0.5**
JMJ			S	**Sn**	**19 38 28.2**	**+1.0**
SCZT	**Fangliau**	**2.52 228**	P	**Pn**	**19 37 58.4**	**+1.7**
SCZT			S	**Sn**	**19 38 28.6**	**+1.4**
TSCK	**Chigu Township**	**2.53 249**	P	**Pn**	**19 37 57.9**	**+1.2**
TSCK			*e*S	**Sn**	**19 38 29.6**	**+2.3**
VWUC	**VWUC**	**3.05 288**	P	**Pn**	**19 38 05.2**	**+1.2**
VWUC			*e*S	**Sn**	**19 38 39.9**	**-0.5**
PTMZ	**Houxiangcun**	**3.35 287**	*e*P	**Pn**	**19 38 08.8**	**+0.7**
PTMZ			*e*S	**Sn**	**19 38 46.7**	**-1.1**
ZPLA	**Ao Xicun**	**4.48 269**	P	**Pn**	**19 38 25.2**	**+1.6**
ZPLA			S	**Sn**	**19 39 14.4**	**-1.3**

*BJI **05** 19:59:09.5, 6˚.39S×131˚.20E, h113km, mB5.2/41, mb5.2/85*
*NEIC **05** 19:59:12.9, 5˚.99S×130˚.87E, h100km*
*NEIC **05** 19:59:12.9, 5˚.89S×130˚.97E, h100km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10¹⁶Nm; Mrr1.15; Mθθ-1.19; Mφφ0.04; Mrθ0.76; Mθφ3.83; Mφr6.52; Fault plane solution: M₀7.69000×10¹⁶ NP1:φ₁94.09000°, δ31.59000°, λ8.71000°. NP2:φ₂356.65000°, δ85.45000°, λ121.30000°. Principal axes: T 8.2333, Plg41.0000°, Azm296.0000°; N -1.2372, Plg31.0000°, Azm174.0000°; P -6.9961, Plg33.0000°, Azm61.0000°;*
*MOS **05** 19:59:12.4±0.8, 5.99S×130.91E, h107km, mb5.1/41 Error ellipse: s-maj=9.0km s-min=5.3km az=114.3*
*NEIC **05** 19:59:13.7±1.7, 5.98S±0.05×130.85E±0.06, h101km±4km, mb5.2/139, Mww5.2/31, Error ellipse: s-maj=8.4km s-min=7.0km az=101.0*
*GCMT **05** 19:59:15.9±0.1, 5.99S±0.01×130.92E±0.01, h122km±1km, MW5.2/153, Moment Tensor Solution. s107,c164; s153,c263; Duration: 1s0 Moment tensor: Scale 10¹⁶ Nm; Mrr0.38±.16; Mθθ-1.16±.16; Mφφ0.78±.18; Mrθ0.84±.10; Mθφ-1.98±.17; Mφr8.78±.11; Best double couple: M₀9.07700×10¹⁶ NP1:φ₁276.00000°, δ14.00000°, λ179.00000°. NP2:φ₂7.00000°, δ90.00000°, λ76.00000°. Principal axes: T 9.4300, Plg44.0000°, Azm264.0000°; N -0.7030, Plg14.0000°, Azm7.0000°; P -8.7240, Plg43.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **05** 19:59:15.5±1.2, 6.05S×130.93E, h120km±10km, mb4.5/24, mbtmp4.9/28, MS3.8/34 Error ellipse: s-maj=13.6km s-min=8.6km az=92.0*
*DJA **05** 19:59:15.2±0.1, 6˚S±2˚×13˚1E±˚, h122km±2km, M5.3/110, mb5.5/110, mB5.8/78, MLv5.8/17, Mw(mB)5.3/78, MwMwp4.8/16, Mwp5.1/16*
ISC 05 19:59:15.2±0.3, 6˚01S±0˚03×130˚89E±0˚03, h122km±2km, h122km:pP-P, n685, σ1951/721, mb5.2/181, 23C-11D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.77**	**326**	P	**Pn**	**19 59 46.9**	**+0.9**
BNDI	**Bandanaira**	**1.77**	**326**	P	**Pn**	**19 59 46.7**	**+0.7**
BNDI				S	**Sn**	**20 00 11.1**	**+1.6**
SAUI	**Saumlaki**	**2.00**	**168**		**Pn**	**19 59 48.8**	**0.0**
SAUI				Sn	**Sn**	**20 00 09.1**	**-5.5**
SAUI	**Saumlaki**	**2.00**	**168**	P	**Pn**	**19 59 49.4**	**+0.6**
SAUI	**Saumlaki**	**2.00**	**168**	S	**Sn**	**20 00 15.7**	**+1.2**
SAUI	**Saumlaki**	**2.00**	**168**	P	**Pn**	**19 59 48.9**	**0.0**
MSAI	**Masohi**	**3.29**	**323**	P	**Pn**	**20 00 05.8**	**+0.4**
FAKI	**Fak Fak**	**3.36**	**24**		**Pn**	**20 00 04.2**	**-2.1**
FAKI				Sn	**Sn**	**20 00 40.4**	**-5.4**
FAKI	**Fak Fak**	**3.36**	**24**	P	**Pn**	**20 00 04.9**	**-1.3**
FAKI	**Fak Fak**	**3.36**	**24**	P	**Pn**	**20 00 05.0**	**-1.3**
AAI	**Ambon**	**3.54**	**311**	P	**Pn**	**20 00 09.8**	**+1.1**
KMPI	**Kaimana, Papua**	**3.65**	**50**	P	**Pn**	**20 00 08.9**	**-1.2**
NLAI	**Namlea**	**4.67**	**306**	P	**Pn**	**20 00 25.4**	**+1.6**
SWI	**Sorong**	**5.12**	**4**	P	**Pn**	**20 00 28.3**	**-1.6**
RKPI	**Ransiki, Papua**	**5.54**	**36**	P	**Pn**	**20 00 35.0**	**-0.6**
SANI	**Sanana**	**6.27**	**309**	P	**Pn**	**20 00 46.7**	**+1.3**
SANI	**Sanana** 4µm4µm219nm,0.5s	**6.27**	**309**	P	**Pn**	**20 00 46.1**	**+0.7**
DRS	**Darwin Rock St**	**6.38**	**180**	P	**Pn**	**20 00 46.4**	**-0.5**
SRPI	**Serui, Papua**	**6.74**	**53**	P	**Pn**	**20 00 49.9**	**-1.8**

	2.8nm4µm200nm,0.5s					
MTN	**Manton Dam**	**6.80**	**178**	**Pn**	**20 00 50.7**	**-1.7**
MTN				Sn	**Sn**	**20 02 01.9**	**-6.6**
MTN	**Manton Dam**	**6.80**	**178**	P	**Pn**	**20 00 51.8**	**-0.6**
	comp=Z,0.0nmcomp=Z,1µm,0.4s					
MTN	**Manton Dam**	**6.80**	**178**	P	**Pn**	**20 00 51.5**	**-1.0**
KDU	**Kakadu**	**6.82**	**167**	P	**Pn**	**20 00 50.4**	**-2.4**
KDU	**Kakadu**	**6.82**	**167**	P	**Pn**	**20 00 50.2**	**-2.5**
BAKI	**Biak**	**7.07**	**48**	P	**Pn**	**20 00 56.3**	**+0.1**
SOEI	**Soe**	**7.54**	**240**		**Pn**	**20 01 01.2**	**-1.4**
SOEI				Sn	**Sn**	**20 02 23.0**	**-3.7**
SOEI	**Soe**	**7.54**	**240**	P	**Pn**	**20 01 03.1**	**+0.5**
SOEI	**Soe**	**7.54**	**240**	S	**Sn**	**20 02 26.1**	**-0.6**
SOEI	**Soe**	**7.54**	**240**	P	**Pn**	**20 01 02.8**	**+0.2**
TNTI	**Ternate**	**7.60**	**332**		**Pn**	**20 01 00.6**	**-2.7**
TNTI	**Ternate**	**7.60**	**332**	P	**Pn**	**20 01 04.3**	**+1.0**
TNTI	**Ternate**	**7.60**	**332**	P	**Pn**	**20 01 03.1**	**-0.2**
WAMI	**Wamena**	**8.07**	**75**	P	**Pn**	**20 01 11.4**	**+1.6**
	comp=Z,3µmcomp=Z,11µmcomp=Z,715nm,1.0s						
BATI	**Baumata**	**8.28**	**239**	P	**Pn**	**20 01 13.2**	**+0.6**
	comp=Z,2µm,0.4s,baz=100,slow=4.2,SNR=162						
BATI				S	**Sn**	**20 02 40.0**	**-4.5**
	comp=Z,2µm,0.6s,baz=87,slow=21,SNR=9.8						
BATI	**Baumata**	**8.28**	**239**	P	**Pn**	**20 01 12.3**	**-0.2**
BBSI	**Bau Bau**	**8.29**	**273**	P	**Pn**	**20 01 16.3**	**+3.6**
	comp=Z,3µmcomp=Z,6µmcomp=Z,494nm,1.1s						
SMPI	**Sarmi**	**8.76**	**63**	P	**Pn**	**20 01 18.0**	**-1.1**
	comp=Z,3µmcomp=Z,3µmcomp=Z,144nm,0.9s						
MMRI	**Maumere**	**8.97**	**253**		**Pn**	**20 01 19.6**	**-2.2**
MMRI	**Maumere**	**8.97**	**253**	P	**Pn**	**20 01 23.7**	**+1.9**
MMRI	**Maumere**	**8.97**	**253**	P	**Pn**	**20 01 22.5**	**+0.7**
LUWI	**Luwuk**	**9.48**	**301**		**Pn**	**20 01 26.1**	**-2.7**
LUWI	**Luwuk**	**9.48**	**301**	P	**Pn**	**20 01 29.7**	**+0.9**
LUWI	**Luwuk**	**9.48**	**301**	P	**Pn**	**20 01 29.9**	**+1.1**
	comp=Z,341nm,1.2s						
KMSI	**Cibinong**	**9.50**	**313**	P	**Pn**	**20 01 30.1**	**+1.0**
	comp=Z,4µmcomp=Z,277nm,1.1s						
EDFI	**Ende, Flores**	**9.52**	**253**	P	**Pn**	**20 01 29.2**	**-0.2**
	comp=Z,7µmcomp=Z,840nm,0.8s						
KNRA	**Kununurra**	**9.83**	**192**		**Pn**	**20 01 30.6**	**-2.8**
KNRA	**Kununurra**	**9.83**	**192**	P	**Pn**	**20 01 30.7**	**-2.8**
	comp=Z,730nm,0.6s						
GENI	**Genyem**	**9.86**	**70**	P	**Pn**	**20 01 33.4**	**-0.4**
GENI	**Genyem**	**9.86**	**70**	P	**Pn**	**20 01 33.2**	**-0.6**
	comp=Z,4µmcomp=Z,336nm,1.8s						
BSSI	**Bau Bau, Buton**	**10.34**	**269**	P	**Pn**	**20 01 42.5**	**+2.1**
	comp=Z,4µmcomp=Z,305nm,0.9s						
JAY	**Jayapura**	**10.38**	**71**	P	**Pn**	**20 01 39.5**	**-1.5**
	comp=Z,91nm,0.9s,baz=249,slow=5.2,SNR=28						
JAY				S	**Sn**	**20 03 31.4**	**-4.2**
	comp=Z,432nm,1.3s,baz=333,slow=21,SNR=7.0						
JAY	**Jayapura**	**10.38**	**71**	P	**Pn**	**20 01 40.2**	**-0.8**
APSI	**Ampana**	**10.52**	**298**	P	**Pn**	**20 01 44.6**	**+1.8**
	comp=Z,3µmcomp=Z,279nm,1.1s						
BKSI	**Bulukumba**	**10.73**	**273**	P	**Pn**	**20 01 46.9**	**+1.2**
	comp=Z,2µmcomp=Z,212nm,1.0s						
BNSI	**Bone**	**10.86**	**278**	P	**Pn**	**20 01 48.9**	**+1.6**
	comp=Z,3µmcomp=Z,227nm,1.0s						
MRSI	**Marisa**	**11.01**	**306**	P	**Pn**	**20 01 49.6**	**+0.2**
	comp=Z,2µmcomp=Z,156nm,1.0s						
BASI	**Baing, Sumba**	**11.03**	**247**	P	**Pn**	**20 01 48.6**	**-1.0**
WSI	**Waingapu**	**11.10**	**250**	P	**Pn**	**20 01 49.5**	**-1.1**
KAPI	**Kappang**	**11.13**	**275**		**Pn**	**20 01 47.3**	**-3.6**
KAPI	**Kappang**	**11.13**	**275**	P	**Pn**	**20 01 52.8**	**+1.9**
	comp=Z,9.6nm,0.3s,baz=101,slow=13,SNR=6.1						
KAPI				LR	LR	20 07 03.4	
	comp=Z,564nm,18.6s,baz=78,slow=42						
KAPI	**Kappang**	**11.13**	**275**	P	**P**	**20 02 01.5**	**+1.1**
KAPI	**Kappang**	**11.13**	**275**	P	**Pn**	**20 01 51.3**	**+0.4**
KAPI	**Kappang**	**11.13**	**275**	*c*	*i*P	**Pn**	**20 01 52.0**	**+1.1**
SPSI	**Sidrap Palu**	**11.26**	**280**	P	**Pn**	**20 01 55.0**	**+2.3**
	comp=Z,2µmcomp=Z,83nm,0.6s						
BOXOZ	**Borroloola**	**11.31**	**152**	Pn	**Pn**	**20 01 49.7**	**-3.6**
TTSI	**Tana Toraja**	**11.42**	**284**	P	**Pn**	**20 01 57.9**	**+3.1**
	comp=Z,4µmcomp=Z,99nm,0.9s						
WBSI	**Waikabubak, Su**	**11.95**	**252**	P	**Pn**	**20 02 00.1**	**-1.7**
PCI	**Palu**	**12.14**	**294**	P	**Pn**	**20 02 06.7**	**+2.4**
	comp=Z,3µmcomp=Z,233nm,0.9s						
TOLI2	**Tolitoli**	**12.32**	**305**		**Pn**	**20 02 04.3**	**-2.3**
TOLI2	**Tolitoli**	**12.32**	**305**	P	**Pn**	**20 02 08.5**	**+1.8**
MPSI	**Mapaga**	**12.65**	**300**	P	**Pn**	**20 02 12.0**	**+1.0**
	comp=Z,3µmcomp=Z,111nm,1.0s						
FITZ	**Fitzroy Crossi**	**13.06**	**203**	Pn	**Pn**	20 02 11.5	-4.8
FITZ	**Fitzroy Crossi**	**13.06**	**203**	P	**Pn**	**20 02 12.2**	**-4.1**
	comp=Z,95nm,0.4s,baz=29,slow=9.2,SNR=286						
FITZ				S	Sn	20 04 26.1	-14
	comp=Z,1µm,0.6s,baz=304,slow=12,SNR=14						
FITZ				LR	LR	20 09 03.5	
	comp=Z,617nm,18.1s,baz=22,slow=45						
PLAI	**Plampang**	**13.30**	**257**	P	**Pn**	**20 02 18.2**	**-1.2**
PLAI	**Plampang**	**13.30**	**257**	P	**Pn**	**20 02 18.0**	**-1.4**
DAV	**Davao City (W)**	**14.03**	**338**	P	**P**	**20 02 30.9**	**-1.9**
	comp=Z,97nm,0.4s,baz=229,slow=6.3,SNR=6.1						
DAV	**Davao City (W)**	**14.03**	**338**	*j*	*i*P	**P**	**20 02 34.0**	**+1.2**
WB0	**Warramunga Arr**	**14.09**	**166**			Pn	20 02 23.4	-6.2
WRAB	**Tennant Creek**	**14.24**	**167**			Pn	20 02 25.7	-5.8
WRAB	**Tennant Creek**	**14.24**	**167**	*d*	*i*P	Pn	20 02 25.5	-6.0
WRA	**Warramunga Arr**	**14.25**	**167**	P		Pn	20 02 26.3	-5.3
	comp=Z,68nm,0.6s,baz=345,slow=13,SNR=143						
WRA				S		Sn	20 04 53.4	-16
	comp=Z,181nm,0.7s,baz=356,slow=20,SNR=7.1						
WRA				LR		LR	20 08 31.4	
	comp=Z,617nm,20.9s,baz=40,slow=39						
COEN	**Coen**	**14.44**	**124**			**Pn**	**20 02 29.7**	**-4.4**
COEN	**Coen**	**14.44**	**124**	P		**Pn**	**20 02 31.6**	**-2.5**
	comp=Z,571nm,0.9s						
COEN	**Coen**	**14.44**	**124**	P		**Pn**	**20 02 32.9**	**-1.2**
BKB	**Balikpapan**	**14.73**	**288**			**Pn**	**20 02 37.2**	**-0.6**
BKB	**Balikpapan**	**14.73**	**288**	P		**P**	**20 02 40.5**	**-0.1**
BKB	**Balikpapan**	**14.73**	**288**	P		**P**	**20 02 41.5**	**+0.9**
	comp=Z,3µmcomp=Z,5µmcomp=Z,245nm,0.9s						
SRBI	**Singaraja**	**15.69**	**262**	P		**Pn**	**20 02 50.0**	**+0.3**
	comp=Z,3µmcomp=Z,862nm,0.9s						
QIS	**Mount Isa**	**16.75**	**150**	P		**Pn**	**20 02 59.8**	**-3.0**
	comp=Z,485nm,0.8s						
QIS	**Mount Isa**	**16.75**	**150**	P		**P**	**20 03 03.8**	**+0.8**
JAGI	**Jajag, Banyuwa**	**16.78**	**261**	P		**Pn**	**20 02 59.3**	**-3.8**
JAGI	**Jajag, Banyuwa**	**16.78**	**261**	P		**Pn**	**20 03 01.2**	**-1.9**
JAGI	**Jajag, Banyuwa**	**16.78**	**261**	P		**Pn**	**20 03 00.0**	**-3.1**
	comp=Z,4µmcomp=Z,327nm,0.8s						
KMMI	**Kalianget**	**16.84**	**266**	P		**P**	**20 03 06.8**	**+2.8**
	comp=Z,1µmcomp=Z,1µm,1.1s						
MANU	**Manus Island**	**16.90**	**77**	P		**Pn**	**20 03 02.2**	**-2.4**
GMJI	**Gumukmas**	**17.45**	**262**	P		**P**	**20 03 09.6**	**-1.1**
	comp=Z,3µmcomp=Z,281nm,0.9s						
AS31	**Alice Springs**	**17.79**	**171**	P		**P**	**20 03 12.5**	**-1.9**
AS31	**Alice Springs**	**17.79**	**171**	P		**P**	**20 03 13.2**	**-1.2**
	comp=Z,156nm,0.7s						
ASAR	**Alice Springs**	**17.80**	**171**	P		**P**	**20 03 12.5**	**-1.9**
ASAR	**Alice Springs**	**17.80**	**171**	P		**P**	**20 03 14.7**	**+0.3**
	comp=Z,219nm,0.7s,baz=348,slow=9.2,SNR=471						
ASAR				S		S	20 06 21.0	-12
	comp=Z,204nm,0.9s,baz=356,slow=27,SNR=9.1						
AS01	**Alice Springs**	**17.80**	**171**	P		**P**	**20 03 14.0**	**-0.5**
MTSU	**Mount Surprise**	**17.80**	**134**	P		**P**	**20 03 14.4**	**-0.1**
	comp=Z,303nm,0.9s						
MTSU	**Mount Surprise**	**17.80**	**134**	P		**Pn**	**20 03 15.9**	**+0.4**
BWJI	**Bawean**	**18.13**	**270**	P		**P**	**20 03 17.8**	**-0.4**
	comp=Z,1µm,1.3s						
GRJI	**Gresik**	**18.31**	**266**	P		**Pn**	**20 03 22.1**	**+0.5**
	comp=Z,14µmcomp=Z,1µm,1.0s						
MBWA	**Marble Bar**	**18.54**	**215**	P		**P**	**20 03 21.6**	**-1.0**
MBWA	**Marble Bar**	**18.54**	**215**	P		**P**	**20 03 22.5**	**0.0**
	comp=Z,338nm,0.9s						
MBWA	**Marble Bar**	**18.54**	**215**	P		**P**	**20 03 23.5**	**+1.0**
MBWA				S		S	20 06 37.2	-11
MBWA	**Marble Bar**	**18.54**	**215**	P		**P**	**20 03 23.3**	**+0.8**
KKM	**Kota Kinabalu**	**18.92**	**309**	P		**P**	**20 03 26.6**	**-0.2**
KKM	**Kota Kinabalu**	**18.92**	**309**	P		**P**	**20 03 28.1**	**+1.3**
TBJI	**Tambak Boyo**	**18.94**	**267**	P		**P**	**20 03 28.1**	**+1.2**
	comp=Z,12µmcomp=Z,1µm,1.2s						
WRKA	**Warakurna**	**19.08**	**187**	P		**P**	**20 03 29.1**	**+0.6**
	comp=Z,57nm,0.8s						
PCJI	**Pacitan**	**19.68**	**263**	P		**P**	**20 03 33.0**	**-2.0**
	comp=Z,278nm,0.6s						
WOJI	**Wonogiri, Jawa**	**19.90**	**264**	P		**P**	**20 03 35.8**	**-1.6**
	comp=Z,233nm,0.7s						
STKI	**Sintang**	**20.29**	**287**	P		**P**	**20 03 42.1**	**+0.5**
	comp=Z,224nm,1.1s						
UGM	**Wanagama**	**20.30**	**263**	P		**P**	**20 03 40.9**	**-0.8**
UGM	**Wanagama**	**20.30**	**263**	P		**P**	**20 03 43.1**	**+1.3**
UGM	**Wanagama**	**20.30**	**263**	P		**P**	**20 03 41.7**	**-0.1**
	comp=Z,205nm,0.9s						
SMRI	**Semarang**	**20.34**	**266**	P		**P**	**20 03 40.8**	**-1.4**
SMRI	**Semarang**	**20.34**	**266**	P		**P**	**20 03 43.0**	**+0.8**
SMRI	**Semarang**	**20.34**	**266**	P		**P**	**20 03 43.3**	**+1.1**
	comp=Z,161nm,0.8s						
SBUM	**Sibu**	**20.45**	**294**	P		**P**	**20 03 43.2**	**-0.1**
SBUM	**Sibu**	**20.45**	**294**	P		**P**	**20 03 44.7**	**+1.4**
CTAO	**Charters Tower**	**20.46**	**135**	P		**P**	**20 03 44.0**	**+0.6**
CTAO	**Charters Tower**	**20.46**	**135**	P		**P**	**20 03 44.5**	**+1.1**
CTAO	**Charters Tower**	**20.46**	**135**	P		**P**	**20 03 44.0**	**+0.6**
RABL	**Rabaul**	**21.27**	**86**	P		**P**	**20 03 52.1**	**0.0**
KSM	**Kuching**	**21.85**	**289**			**P**	**20 03 56.7**	**-1.6**
KSM	**Kuching**	**21.85**	**289**	P		**P**	**20 03 59.1**	**+0.8**
JCJI	**Jatiwangi**	**22.49**	**268**	P		**P**	**20 04 05.4**	**+0.6**
	comp=Z,541nm,1.2s						
BBJI	**Bungbulang**	**23.12**	**265**	P		**P**	**20 04 09.9**	**-1.1**
LEM	**Lembang**	**23.14**	**267**	P		**P**	**20 04 11.2**	**-0.1**
	comp=Z,4µmcomp=Z,423nm,1.3s						
TPI	**Tanjungpandan**	**23.39**	**277**	P		**P**	**20 04 13.1**	**-0.3**
	comp=Z,3µmcomp=Z,208nm,1.0s						
MEEK	**Meekatharra**	**23.62**	**208**	P		**P**	**20 04 15.1**	**-0.3**
	comp=Z,152nm,0.7s						
MEEK	**Meekatharra**	**23.62**	**208**	P		**P**	**20 04 15.4**	**0.0**
CNJI	**Cibinong**	**23.63**	**266**	P		**P**	**20 04 15.0**	**-0.6**
GUMO	**Guam**	**23.91**	**35**	P		**P**	**20 04 17.1**	**-0.9**
GUMO	**Guam**	**23.91**	**35**	LR		LR	20 15 36.1	
	comp=Z,85nm,18.1s,baz=200,slow=41						
GUMO	**Guam**	**23.91**	**35**	P		**P**	**20 04 17.1**	**-0.9**
DBJI	**Dramaga**	**24.00**	**267**	P		**P**	**20 04 18.6**	**-0.3**
	comp=Z,4µmcomp=Z,406nm,1.1s						
QLP	**Quilpie**	**24.10**	**150**	P		**P**	**20 04 19.7**	**0.0**
	comp=Z,324nm,0.8s						
QLP	**Quilpie**	**24.10**	**150**	P		**P**	**20 04 20.4**	**+0.8**
SKJI	**Sukabumi**	**24.20**	**266**	P		**P**	**20 04 19.0**	**-1.7**
	comp=Z,6µmcomp=Z,635nm,0.8s						
SBJI	**Serang**	**24.62**	**268**	P		**P**	**20 04 24.8**	**+0.3**
	comp=Z,3µmcomp=Z,163nm,0.7s						
FORT	**Forrest**	**24.78**	**186**	P		**P**	**20 04 25.1**	**-0.7**
FORT	**Forrest**	**24.78**	**186**	P		**P**	**20 04 26.4**	**+0.5**
	comp=Z,73nm,0.8s						
CGJI	**Cibinong**	**25.05**	**267**	P		**P**	**20 04 27.9**	**-0.5**
	comp=Z,3µmcomp=Z,291nm,1.2s						
XMI	**Christmas Isla**	**25.32**	**258**	P		**P**	**20 04 32.2**	**+1.3**
PMBI	**Palembang**	**26.21**	**276**	P		**P**	**20 04 39.2**	**+0.2**
PMBI	**Palembang**	**26.21**	**276**	P		**P**	**20 04 40.7**	**+1.7**
PMBI	**Palembang**

PSI	**Prapat**	**33.10**	**284**	P	**P**		**20 05 37.6**	**-2.4**			
PSI				pmax	pmax						
	comp=Z,126nm,0.8s										
SYDH	**Sydney Hard Ro**	**33.19**	**149**	P	**P**		**20 05 40.7**	**+0.3**			
BRAT	**Ballarat**	**33.57**	**161**	P	**P**		**20 05 44.4**	**+0.8**			
CAN	**Canberra**	**33.60**	**153**	P	**P**		**20 05 42.9**	**-1.2**			
CAN	**Canberra**	**33.60**	**153**	P	**P**		**20 05 44.8**	**+0.7**			
	comp=Z,166nm,0.9s										
CAN	**Canberra**	**33.60**	**153**	P	**P**		**20 05 45.5**	**+1.4**			
CAN	**Canberra**	**33.60**	**153**	P	**P**		**20 05 42.9**	**-1.2**			
CAN				pmax	pmax						
	comp=Z,99nm,0.8s										
CAN	**Canberra**	**33.60**	**153**	P	**P**		**20 05 45.3**	**+1.3**			
CNB	**Canberra Magne**	**33.77**	**152**	P	**P**		**20 05 46.1**	**+0.6**			
	comp=Z,114nm,1.2s										
CNB	**Canberra Magne**	**33.77**	**152**	P	**P**		**20 05 46.9**	**+1.4**			
WOLH	**Wollongong Har**	**33.77**	**149**	P	**P**		**20 05 46.9**	**+1.5**			
GSI	**Gunungsitoli**	**34.05**	**281**		**P**		**20 05 46.0**	**-2.1**			
GSI	**Gunungsitoli**	**34.05**	**281**	P	**P**		**20 05 48.0**	**-0.1**			
GSI	**Gunungsitoli**	**34.05**	**281**	P	**P**		**20 05 45.6**	**-2.5**			
TOO	**Toolangi**	**34.12**	**159**	P	**P**		**20 05 48.7**	**+0.2**			
TOO				IAmb	IAmb		20 05 51.4				
	comp=Z,28nm,0.9s										
TOO	**Toolangi**	**34.12**	**159**	P	**P**		**20 05 49.9**	**+1.4**			
	comp=Z,36nm,1.0s										
TOO	**Toolangi**	**34.12**	**159**	P	**P**		**20 05 48.7**	**+0.2**			
TOO				pmax	pmax						
	comp=Z,29nm,1.0s										
GEXS	**Deakin Univers**	**34.28**	**161**	P	**P**		**20 05 52.2**	**+2.4**			
SRIT	**Nakonsritamara**	**34.40**	**295**		**P**		**20 05 50.5**	**-0.6**			
SRIT	**Nakonsritamara**	**34.40**	**295**	P	**P**		**20 05 52.4**	**+1.2**			
LHMI	**Lhok Sumawe**	**35.68**	**288**		**P**		**20 06 00.2**	**-1.9**			
LHMI	**Lhok Sumawe**	**35.68**	**288**	P	**P**		**20 06 01.9**	**-0.2**			
LHMI	**Lhok Sumawe**	**35.68**	**288**	P	**P**		**20 06 01.4**	**-0.7**			
	comp=Z,3µmcomp=Z,265nm,0.8s										
MLSI	**Meulaboh, Aceh**	**35.91**	**286**	P	**P**		**20 06 02.0**	**-2.2**			
SANVU	**Saraoutou**	**36.84**	**108**	P	**P**		**20 06 13.1**	**+1.2**			
GULI	**GuiLin**	**36.96**	**328**	P	**P**		**20 06 14.9**	**+2.0**			
GULI				S	**S**		**20 11 47.6**	**-1.7**			
GULI				pmax	pmax						
	comp=Z,34nm,1.1s										
GULI				LR	LR						
	comp=Z,240nm,11.9s										
GULI				LR	LR						
	comp=Z,230nm,13.0s										
GULI				LR	LR						
	comp=Z,250nm,18.4s										
VLAKA	**Lakatoro**	**37.17**	**109**	P	**P**		**20 06 15.5**	**+0.7**			
DZM	**Mont Dzumac**	**37.87**	**119**	P	**P**		**20 06 20.2**	**-0.6**			
DZM				IAmb	IAmb		20 06 22.6				
	comp=Z,82nm,1.1s										
DZM	**Mont Dzumac**	**37.87**	**119**	*e*P	**P**		**20 06 20.5**	**-0.2**			
	comp=Z,174nm,1.2s										
DZM				*e*S	**S**		**20 12 06.7**	**+3.3**			
	comp=Z,161nm,28.3s										
DZM				*e*SS	**SS**		**20 14 53.6**	**-1.2**			
	comp=Z,528nm,25.9s										
DZM				*e*LR	LR		20 16 45.2				
	comp=Z,620nm,27.7s										
DZM	**Mont Dzumac**	**37.87**	**119**	P	**P**		**20 06 21.9**	**+1.2**			
SLVN	**Son La**	**37.94**	**317**	P	**P**		**20 06 20.9**	**-0.4**			
SLVN				IAmb	IAmb		20 06 23.6				
	comp=Z,107nm,1.6s										
SLVN	**Son La**	**37.94**	**317**	P	**P**		**20 06 22.6**	**+1.4**			
GLAD	**Gladstone**	**38.04**	**159**	P	**P**		**20 06 23.6**	**+1.8**			
CNSH	**ChangSha**	**38.15**	**334**	P	**P**		**20 06 24.0**	**+1.2**			
CNSH				pmax	pmax						
	comp=Z,23nm,0.8s										
CORO	**Coronation Par**	**38.16**	**160**	P	**P**		**20 06 23.9**	**+1.2**			
JNU	**Nakatsue**	**38.91**	**360**	P	**P**		**20 06 29.7**	**+0.5**			
	comp=Z,13nm,1.0s,baz=162,slow=7.2,SNR=4.4										
JNU				LR	LR		20 22 14.6				
	comp=Z,148nm,19.1s,baz=172,slow=35										
	comp=Z,13nm,1.0s										
MOO	**Moorlands**	**39.06**	**161**	P	**P**		**20 06 31.7**	**+1.5**			
	comp=Z,94nm,0.9s										
MOO	**Moorlands**	**39.06**	**161**	P	**P**		**20 06 32.3**	**+2.1**			
TAU	**Tasmania Unive**	**39.52**	**161**	P	**P**		**20 06 34.5**	**+0.5**			
TAU				IAmb	IAmb		20 06 36.7				
	comp=Z,56nm,1.1s										
TAU	**Tasmania Unive**	**39.52**	**161**	P	**P**		**20 06 35.9**	**+1.9**			
TAU	**Tasmania Unive**	**39.52**	**161**	P	**P**		**20 06 34.5**	**+0.5**			
TAU				pmax	pmax						
	comp=Z,56nm,1.1s										
NJ2	**Nanjing**	**39.55**	**344**	⇓P	**P**		**20 06 36.1**	**+1.7**			
NJ2				S	**S**		**20 12 26.2**	**-1.8**			
NJ2				ScS	**ScS**		**20 16 29.7**	**-0.2**			
NJ2				pmax	pmax						
	comp=Z,21nm,0.7s										
WHN	**Wuhan**	**39.65**	**337**	P	**P**		**20 06 37.0**	**+1.7**			
WHN				S	**S**		**20 12 30.6**	**+1.0**			
WHN				pmax	pmax						
	comp=Z,210nm,1.1s										
CM31	**Chiang Mai Arr**	**39.79**	**308**	P	**P**		**20 06 37.1**	**+0.4**			
CM31	**Chiang Mai Arr**	**39.79**	**308**	P	**P**		**20 06 38.1**	**+1.4**			
	SNR=18										
CMAR	**Chiang Mai Arr**	**39.79**	**308**	P	**P**		**20 06 36.9**	**+0.2**			
CMAR	**Chiang Mai Arr**	**39.79**	**308**	P	**P**		**20 06 37.6**	**+0.9**			
	comp=Z,46nm,0.9s,baz=138,slow=7.6,SNR=191										
CMAR				PcP	**PcP**		**20 08 42.6**	**+1.9**			
	comp=Z,5.1nm,0.9s,baz=178,slow=2.6,SNR=4.7										
CMAR				ScP	**ScP**		**20 12 19.5**	**+1.0**			
	comp=Z,9.5nm,0.8s,baz=156,slow=3.0,SNR=24										
CMAR				LR	LR		20 23 43.5				
	comp=Z,95nm,21.7s,baz=110,slow=37										
	comp=Z,46nm,0.9s										
GYA	**Guiyang**	**39.91**	**325**	⇑P	**P**		**20 06 38.7**	**+1.0**			
GYA				pmax	pmax						
	comp=Z,76nm,0.8s										
CHTO	**Chiang Mai**	**40.00**	**309**	P	**P**		**20 06 38.6**	**+0.3**			
CHTO	**Chiang Mai**	**40.00**	**309**	P	**P**		**20 06 39.4**	**+1.0**			
CHTO	**Chiang Mai**	**40.00**	**309**	P	**P**		**20 06 39.4**	**+1.0**			
CHTO	**Chiang Mai**	**40.00**	**309**	P	**P**		**20 06 38.6**	**+0.3**			
CHTO				pmax	pmax						
	comp=Z,117nm,0.9s										
CHTO	**Chiang Mai**	**40.00**	**309**	P	**P**		**20 06 39.6**	**+1.3**			
CHTO				sP	**pwP**		**20 07 09.8**	**+4.5**			
CHTO				ScP	**ScP**		**20 12 20.6**	**+1.2**			
KMI	**Kunming**	**41.32**	**320**	⇑P	**P**		**20 06 50.5**	**+1.1**			
KMI				ScP	**ScP**		**20 12 25.7**	**+1.0**			
KMI				S	**S**		**20 12 54.5**	**-0.6**			
KMI				pmax	pmax						
	comp=Z,74nm,1.1s										
KMI	**Kunming**	**41.32**	**320**	P	**P**		**20 06 50.9**	**+1.5**			
KMI				ScP	**ScP**		**20 12 26.0**	**+1.3**			
ENH	**Enshi**	**41.50**	**332**	P	**P**		**20 06 50.0**	**-0.6**			
ENH				IAmb	IAmb		20 06 51.9				
	comp=Z,60nm,0.8s										
ENH	**Enshi**	**41.50**	**332**	P	**P**		**20 06 51.1**	**+0.5**			
ENH	**Enshi**	**41.50**	**332**	P	**P**		**20 06 50.9**	**+0.3**			
ENH				ScP	**ScP**		**20 12 25.1**	**+0.1**			
TJN	**Taejon**	**42.29**	**356**	P	**P**		**20 06 57.9**	**+1.1**			
TJN	**Taejon**	**42.29**	**356***c i*	P	**P**		**20 06 57.8**	**+1.0**			
MJAR	**Matsushiro Arr**	**42.88**	**9**	P	**P**		**20 07 01.4**	**-0.2**			
MJAR	**Matsushiro Arr**	**42.88**	**9**	P	**P**		**20 07 01.5**	**-0.2**			
	comp=Z,9.1nm,1.0s,baz=190,slow=9.4,SNR=12										
MJAR				LR	LR		20 23 33.9				
	comp=Z,95nm,19.8s,baz=188,slow=34										
	comp=Z,9.1nm,1.0s										
MAJO	**Matsushiro**	**42.88**	**9**	P	**P**		**20 07 00.8**	**-0.8**			
MAJO	**Matsushiro**	**42.88**	**9**	*e*P	**P**		**20 06 59.7**	**-1.9**			
MAJO				pmax	pmax						
	comp=Z,11nm,0.8s										
MJB9	**Matsu-Tunnel**	**42.88**	**9**	P	**P**		**20 07 00.7**	**-1.0**			
PZH	**PanZhiHua**	**42.92**	**320**	P	**P**		**20 07 02.5**	**+0.2**			
PZH				pmax	pmax						
	comp=Z,10.0nm,0.7s										
PZH				pmax	pmax						
	comp=Z,110nm,5.4s										
KSAR	**Wonju Array Be**	**43.32**	**357**	P	**P**		**20 07 05.3**	**+0.2**			
KSAR	**Wonju Array Be**	**43.32**	**357**	P	**P**		**20 07 05.3**	**+0.2**			
KSRS	**Korea Array**	**43.33**	**357**	P	**P**		**20 07 06.0**	**+0.8**			
	comp=Z,3.1nm,0.6s,baz=175,slow=8.4,SNR=18										
KSRS				ScP	**ScP**		**20 12 32.3**	**+0.2**			
	comp=Z,1.8nm,0.9s,baz=183,slow=4.1,SNR=4.1										
KSRS				LR	LR		20 24 11.1				
	comp=Z,59µm,21.3s,baz=170,slow=34										
	comp=Z,3.1nm,0.6s										
KSRS	**Korea Array**	**43.33**	**357**	P	**P**		**20 07 06.0**	**+0.8**			
LYN	**LuoYang**	**43.93**	**338**	P	**P**		**20 07 11.3**	**+1.2**			
LYN				pmax	pmax						
	comp=Z,68nm,0.8s										
LYN				pmax	pmax						
	comp=Z,230nm,4.8s										
TNCH	**TengChong**	**44.08**	**316**	⇑P	**P**		**20 07 12.3**	**+0.6**			
TNCH				pP	pP		20 07 37.5	-1.2			
TNCH				sP	sP		20 07 47.2	-4.9			
TNCH				PcP	**PP**		**20 08 56.6**	**-0.3**			
TNCH				ScP	**ScP**		**20 12 36.8**	**+1.0**			
TNCH				S	**S**		**20 13 37.4**	**+1.9**			
TNCH				SS	**SS**		**20 16 49.3**	**-8.3**			
TNCH				pmax	pmax						
	comp=Z,74nm,1.2s										
TNCH				pmax	pmax						
	comp=Z,340nm,5.0s										
XAN	**Xi'an**	**44.93**	**334**	⇓P	**P**		**20 07 18.6**	**+0.5**			
XAN				pP	pwP		20 07 48.2	-1.7			
XAN				pmax	pmax						
	comp=Z,99nm,1.2s										
XAN				pmax	pmax						
	comp=Z,170nm,3.5s										
CD2	**Chengdu**	**44.96**	**326**	P	**P**		**20 07 18.6**	**+0.2**			
CD2				pmax	pmax						
	comp=Z,50nm,0.5s										
HNS	**HongShan**	**45.75**	**342**	⇑P	**P**		**20 07 25.0**	**+0.6**			
HNS				S	**S**		**20 13 56.2**	**-2.5**			
HNS				pmax	pmax						
	comp=Z,37nm,1.2s										
TIY	**Taiyuan**	**46.77**	**340**	*e*P	**P**		**20 07 33.4**	**+0.8**			
TIY				S	**S**		**20 14 11.7**	**-1.9**			
TIY				ScS	**ScS**		**20 17 17.0**	**+2.0**			
TIY				pmax	pmax						
	comp=Z,24nm,0.6s										
TIY				pmax	pmax						
	comp=Z,110nm,4.8s										
MSVF	**Nonsavu**	**47.47**	**108**	P	**P**		**20 07 37.8**	**-0.5**			
MSVF				IAmb	IAmb		20 07 40.7				
	comp=Z,53nm,1.1s										
MSVF	**Nonsavu**	**47.47**	**108**	LR	LR		20 26 49.0				
	comp=Z,144nm,18.8s,baz=177,slow=35										
MSVF	**Nonsavu**	**47.47**	**108**	P	**P**		**20 07 39.5**	**+1.2**			
MSVF	**Nonsavu**	**47.47**	**108**	*i* P	**P**		**20 07 38.2**	**-0.1**			
MSVF				pmax	pmax						
	comp=Z,59nm,1.0s										
BJT	**Baijiatuan**	**47.77**	**345**	P	**P**		**20 07 40.3**	**+0.2**			
BJT				IAmb	IAmb		20 07 41.8				
	comp=Z,21nm,0.7s										
BJT	**Baijiatuan**	**47.77**	**345**	P	**P**		**20 07 41.4**	**+1.3**			
BJT	**Baijiatuan**	**47.77**	**345**	P	**P**		**20 07 40.3**	**+0.2**			
BJT				pmax	pmax						
	comp=Z,21nm,0.7s										
BJT	**Baijiatuan**	**47.77**	**345**	P	**P**		**20 07 41.1**	**+1.0**			
BJI	**Beijing**	**47.79**	**345**	P	**P**		**20 07 40.9**	**+0.7**			
BJI				sP	**sP**		**20 08 22.7**	**+3.5**			
BJI				S	**S**		**20 14 24.1**	**-3.6**			
BJI				ScS	**ScS**		**20 17 20.2**	**-1.2**			
BJI				pmax	pmax						
	comp=Z,14nm,0.7s										
SNY	**Shenyang**	**48.07**	**353**	⇓P	**P**		**20 07 43.2**	**+0.8**			
SNY				S	**S**		**20 14 29.5**	**-2.1**			
SNY				pmax	pmax						
	comp=Z,18nm,0.8s										
SNY				pmax	pmax						
	comp=Z,83nm,3.5s										
SNY				LR	LR						
	comp=Z,130nm,7.9s										
SNY				LR	LR						
	comp=Z,150nm,12.6s										
SNY				LR	LR						
	comp=Z,160nm,21.8s										
LZH	**Lanzhou**	**48.96**	**331**	⇑P	**P**		**20 07 50.9**	**+1.3**			
LZH				pP	pP		20 08 13.9	-2.6			
LZH				ScP	**ScP**		**20 12 57.1**	**+1.2**			
LZH				S	**S**		**20 14 42.4**	**-2.3**			
LZH				pmax	pmax						
	comp=Z,56nm,1.2s										
LZH				pmax	pmax						
	comp=Z,250nm,4.0s										
SHL	**Shillong**	**49.20**	**311**	P	**P**		**20 07 47.8**	**-3.8**			
SHL	**Shillong**	**49.20**	**311**	P	**P**		**20 07 47.8**	**-3.8**			
SHL				pmax	pmax						
	comp=Z,200nm,1.0s										
CN2	**Changchun**	**49.82**	**355**	P	**P**		**20 07 56.3**	**+0.6**			
CN2				S	**S**		**20 14 55.8**	**-0.3**			
CN2				pmax	pmax						
	comp=Z,10.0nm,0.6s										
HHC	**Hu-ho-hao-te**	**49.89**	**341**	*e*P	**P**		**20 07 57.7**	**+1.2**			
HHC				S	**S**		**20 14 58.0**	**+0.6**			
HHC				ScS	**ScS**		**20 17 34.0**	**-1.8**			
HHC				SS	**SS**		**20 18 28.8**	**-3.2**			
HHC				pmax	pmax						
	comp=Z,31nm,0.8s										
HHC				pmax	pmax						
	comp=Z,86nm,5.7s										
USA0B	**Ussuriysk Arra**	**49.99**	**1**	⇑*i* P	**P**		**20 07 57.8**	**+0.8**			
USRK	**Ussuriysk Ar.**	**49.99**	**1**		**P**		**20 07 56.7**	**-0.2**			
USRK	**Ussuriysk Ar.**	**49.99**	**1**	P	**P**		**20 07 57.9**	**+0.9**			
	comp=Z,3.6nm,0.6s,baz=166,slow=7.0,SNR=8.5										
	comp=Z,3.6nm,0.6s										
BTO	**Baotou**	**50.20**	**339**	*e*P	**P**		**20 08 00.8**	**+2.0**			
BTO				pP	**pP**		**20 08 27.8**	**+2.1**			
BTO				sP	**sP**		**20 08 40.7**	**+2.1**			
BTO				S	**S**		**20 15 07.0**	**+5.3**			
BTO				SS	**SS**		**20 18 31.3**	**-5.5**			
BTO				pmax	pmax						
	comp=Z,28nm,0.5s										
BTO				pmax	pmax						
	comp=Z,300nm,5.3s										
BTO				LR	LR						
	comp=Z,180nm,4.8s										
BTO				LR	LR						
	comp=Z,200nm,4.7s										
BTO				LR	LR						
	comp=Z,210nm,7.8s										
JCZ	**Jackson Bay**	**50.37**	**145**	P	**P**		**20 08 01.9**	**+1.8**			
MDJ	**Mudanjiang**	**50.41**	**359**	P	**P**		**20 08 01.0**	**+0.9**			
MDJ				sP	pwP		20 08 35.6	-0.1			
MDJ				S	**S**		**20 15 03.5**	**-0.7**			
MDJ				ScS	**ScS**		**20 17 39.3**	**+0.4**			
MDJ				pmax	pmax						
	comp=Z,16nm,1.5s										
MDJ	**Mudanjiang**	**50.41**	**359**	P	**P**		**20 08 01.5**	**+1.4**			
QRZ	**Quartz Range**	**50.82**	**139**	P	**P**		**20 08 03.1**	**-0.2**			
ASAJ	**Asahikawa**	**51.00**	**11**	P	**P**		**20 08 05.2**	**+0.6**			
	comp=Z,2.8nm,0.6s,baz=234,slow=8.7,SNR=8.0										
ASAJ				LR	LR		20 29 40.0				
	comp=Z,92nm,20.5s,baz=194,slow=36										
	comp=Z,2.8nm,0.6s										
WHZ	**Wether Hill Ro**	**51.04**	**147**	P	**P**		**20 08 04.4**	**-0.6**			
WHZ				IAmb	IAmb		20 08 06.2				
	comp=Z,63nm,1.1s										
KUZ	**Kuaotunu**	**51.06**	**133**	P	**P**		**20 08 06.9**	**+1.6**			
HIZ	**Hauiti**	**51.24**	**136**	P	**P**		**20 08 07.7**	**+1.1**			
TOZ	**Tahuroa Road**	**51.34**	**135**	P	**P**		**20 08 07.7**	**+0.4**			
LBZ	**Lake Benmore**	**51.37**	**144**	P	**P**		**20 08 07.8**	**+0.4**			
XLT	**XiLinHaoTe**	**51.45**	**346**	*e*P	**P**		**20 08 08.6**	**+0.5**			
XLT				pP	pP		20 08 37.6	+2.8			
XLT				sP	sP		20 08 48.8	+1.2			
XLT				PcP	**PcP**		**20 09 19.8**	**-1.0**			
XLT				PP	**PP**		**20 10 07.7**	**+1.1**			
XLT				ScP	**ScP**		**20 13 09.3**	**+3.0**			
XLT				S	**S**		**20 15 14.3**	**-4.5**			
XLT				ScS	**ScS**		**20 17 42.6**	**-3.8**			
XLT				pmax	pmax						
	comp=Z,15nm,0.8s										
XLT				pmax	pmax						
	comp=Z,88nm,4.4s										
RPZ	**Rata Peaks**	**51.48**	**143**	LR	LR		20 30 56.4				
	comp=Z,281nm,18.6s,baz=305,slow=37										
BNX	**BinXian**	**51.61**	**357**	⇓P	**P**		**20 08 09.4**	**+0.3**			
BNX				sP	**sP**		**20 08 50.0**	**+2.0**			
BNX				S	**S**		**20 15 17.0**	**-3.7**			
BNX				pmax	pmax						
	comp=Z,9.0nm,1.4s										
PALK	**Pallekele**	**51.78**	**284**	P	**P**		**20 08 10.8**	**-0.2**			
PALK	**Pallekele**	**51.78**	**284**	LR	LR		20 31 01.5				
	comp=Z,97nm,20.9s,baz=118,slow=37										
PALK	**Pallekele**	**51.78**	**284**	P	**P**		**20 08 11.0**	**0.0**			
PALK	**Pallekele**	**51.78**	**284**	P	**P**		**20 08 10.8**	**-0.2**			
PALK				pmax	pmax						
	comp=Z,116nm,1.3s										
TUWZ	**Tuamarina**	**52.05**	**139**	P	**P**		**20 08 13.2**	**+0.8**			
LSA	**Lhasa**	**52.11**	**315**	P	**P**		**20 08 14.9**	**+1.2**			
LSA				pmax	pmax						
	comp=Z,93nm,0.7s										
LSA	**Lhasa**	**52.11**	**315**	*i* P	**P**		**20 08 15.1**	**+1.4**			
	SNR=38										
LSA	**Lhasa**	**52.11**	**315**	P	**P**		**20 08 15.4**	**+1.7**			
BKZ	**Black Stump Fm**	**52.67**	**136**		**P**		**20 08 16.9**	**-0.4**			
BKZ	**Black Stump Fm**	**52.67**	**136**	P	**P**		**20 08 18.3**	**+1.0**			
RTZ	**Ruatahuna**	**52.77**	**135**	P	**P**		**20 08 17.6**	**-0.5**			
GTA	**Gaotai**	**53.55**	**330**	P	**P**		**20 08 25.5**	**+1.8**			
GTA				pP	pwP		20 08 58.0	+2.6			
GTA				ScP	**ScP**		**20 13 16.7**	**+1.1**			
GTA				S	**S**		**20 15 46.6**	**-1.0**			
GTA				ScS	**ScS**		**20 18 01.2**	**-0.2**			
GTA				pmax	pmax						
	comp=Z,45nm,1.3s										
GTA				pmax	pmax						
	comp=Z,200nm,4.5s										
YSS	**Yuzhno-Sakhali**	**53.77**	**10**	*e*P	**P**		**20 08 26.0**	**+1.0**			
YSS				*e*S	**S**		**20 15 50.7**	**+0.6**			
YSS				pmax	pmax						
	comp=Z,100nm,4.7s										
YSS				MLR	MLR						
	comp=Z,100nm,15.0s										
GOMU	**GeErMu**	**53.91**	**324**	P	**P**		**20 08 27.3**	**+0.6**			
GOMU				pmax	pmax						
	comp=Z,11nm,0.8s										
EVN	**Everest**	**54.29**	**311**	P	**P**		**20 08 30.1**	**+0.1**			
KLR	**Kul'dur**	**55.01**	**1**	P	**P**		**20 08 35.1**	**+1.2**			
	comp=Z,3.6nm,0.8s,baz=202,slow=3.8,SNR=8.8										
KLR				LR	LR		20 31 47.2				
	comp=Z,60nm,20.5s,baz=178,slow=35										
	comp=Z,3.6nm,0.8s										
KLR	**Kul'dur**	**55.01**	**1***d i*	P	**P**		**20 08 35.2**	**+1.2**			
KLR				pmax	pmax						
	comp=Z,11nm,1.4s										
HIA	**Hailar**	**55.90**	**351**	*i* P	**P**		**20 08 41.2**	**+0.9**			
HIA				pmax	pmax						
	comp=Z,5.0nm,0.9s										
HEH	**HeiHe**	**56.11**	**357**	*e*P	**P**		**20 08 41.7**	**-0.1**			
HEH				S	**S**		**20 16 19.1**	**-2.1**			
HEH				ScS	**ScS**		**20 18 15.8**	**-3.1**			
HEH				pmax	pmax						
	comp=Z,10.0nm,1.3s										
HEH				pmax	pmax						
	comp=Z,88nm,4.6s										
HYB	**Hyderabad**	**56.68**	**295**	*e*P	**P**		**20 08 46.3**	**-0.2**			
HYB				*e*pP	**pP**		**20 09 09.2**	**-5.3**			
HYB				*e*PcP	**PcP**		**20 09 41.8**	**+0.4**			
HYB				*e*ScP	**ScP**		**20 13 31.2**	**+1.5**			
HYB				*e*PcS	**PcS**		**20 13 41.8**	**-0.7**			
HYB				*e*S	**S**		**20 16 30.4**	**+0.4**			
HYB				*e*ScS	**ScS**		**20 18 27.2**	**+2.7**			
AFI	**Afiamalu**	**56.90**	**103**	P	**P**		**20 08 48.2**	**+0.1**			
AFI	**Afiamalu**	**56.90**	**103**	P	**P**		**20 08 49.4**	**+1.3**			
AFI	**Afiamalu**	**56.90**	**103**	P	**P**		**20 08 48.2**	**+0.1**			
AFI				pmax	pmax						
	comp=Z,255nm,1.1s										
ULN	**Ulaanbaatar**	**57.61**	**341**	P	**P**		**20 08 53.5**	**+0.9**			
ULN				IAmb	IAmb		20 08 55.2				
	comp=Z,24nm,0.8s										
ULN	**Ulaanbaatar**	**57.61**	**341**	P	**P**		**20 08 53.9**	**+1.3**			
ULN				S	**S**		**20 16 41.7**	**+0.3**			
ULN	**Ulaanbaatar**	**57.61**	**341**	*i* P	**P**		**20 08 53.9**	**+1.3**			
ULN				pmax	pmax						
	comp=Z,21nm,0.9s										
SONM	**Songino Array**	**57.80**	**341**	P	**P**		**20 08 54.7**	**+0.8**			
SONM				IAmb	IAmb		20 08 56.4				
	comp=Z,34nm,1.4s										
SONM	**Songino Array**	**57.80**	**341**	P	**P**		**20 08 55.4**	**+1.5**			
	comp=Z,9.8nm,0.7s,baz=162,slow=6.6,SNR=47										
	comp=Z,9.8nm,0.7s										
KAAM	**Kaadhehdhoo**	**58.15**	**274**	P	**P**		**20 08 56.4**	**-0.4**			
ZEA	**Zeya**	**59.60**	**357**	*e*P	**P**		**20 09 07.1**	**+1.0**			
ZEA				*e*			20 09 43.3				
ZEA				*e*			20 17 04.6				
ZEA				pmax	pmax						
	comp=Z,10.0nm,1.0s										
CIT	**Chita**	**59.67**	**348**	*e*P	**P**		**20 09 07.4**	**+0.7**			
CIT				*e*			20 09 43.4				
CIT				*e*			20 09 54.4				
DRV	**Dumont d'Urv

MK31 Makanchi Array 67.89 326 *ce*P **P 20 10 01.8 +1.1**
MKAR Makanchi Array 67.89 326 P **P 20 10 01.8 +1.1**
comp=N,24nm,0.4s,baz=113,slow=8.4,SNR=418
comp=N,24nm,0.4s
KSH Kashi 67.89 317 P **P 20 10 02.9 +1.9**
KSH S **S 20 18 54.5 +4.4**
KSH ScS **ScS 20 19 49.8 +1.0**
KSH pmax pmax
comp=N,41nm,0.9s
MAKZ Makanchi 68.07 326 P **P 20 10 02.5 +0.7**
MAKZ IAmb IAmb 20 10 04.1
comp=Z,75nm,1.1s
MAKZ Makanchi 68.07 326 P **P 20 10 02.5 +0.7**
MAKZ pmax pmax
comp=Z,75nm,1.2s
MAKZ Makanchi 68.07 326 P **P 20 10 02.8 +1.0**
KDJ Kajisay 68.38 320 IAmb IAmb 20 10 06.9
comp=Z,98nm,1.5s
RAR Rarotonga 68.60 110 LR LR 20 34 39.3
comp=Z,30nm,21.6s,baz=274,slow=31
NRN Naryn 68.80 319 P **P 20 10 07.6 +0.7**
NRN IAmb IAmb 20 10 09.2
comp=Z,45nm,1.2s
NRN Naryn 68.80 319 P **P 20 10 07.6 +0.7**
NRN pmax pmax
comp=Z,45nm,1.2s
TNSS Tian-Shan 68.99 321 *e*P **P 20 10 08.5 +0.4**
TNSS Tian-Shan 68.99 321 *e*P **P 20 10 08.5 +0.4**
ULHL Ulahol 69.04 320 P **P 20 10 09.8 +1.6**
SNR=18
AAA Alma-Ata 69.10 321 *e*P **P 20 10 09.0 +0.7**
AAA pmax pmax
comp=Z,12nm,0.6s
AAA Alma-Ata 69.10 321 *e*P **P 20 10 09.1 +0.7**
comp=Z,12nm,0.6s
TDK Taldyqorghan 69.12 323 *e*P **P 20 10 09.2 +0.8**
TDK pmax pmax
comp=Z,21nm,0.9s
TDK Taldyqorghan 69.12 323 *e*P **P 20 10 09.2 +0.8**
comp=Z,21nm,0.9s
CCD Concordia, Ant 69.18 182 P **P 20 10 10.3 +1.6**
TKM2 Tokmak 2 69.79 320 P **P 20 10 14.2 +1.4**
SNR=34
KUU Kurty 69.81 321 *e*P **P 20 10 13.5 +0.9**
KUU pmax pmax
comp=Z,29nm,1.4s
KUU Kurty 69.81 321 *e*P **P 20 10 13.5 +0.9**
comp=Z,29nm,1.4s
KBK Karagaybulak 70.08 319 P **P 20 10 16.7 +2.1**
SNR=7.6
UCH Uchtor 70.16 319 P **P 20 10 17.1 +1.8**
SNR=52
AAK Ala-Archa 70.36 319 P **P 20 10 18.2 +2.0**
SNR=11
AAK Ala-Archa 70.36 319 P **P 20 10 17.5 +1.2**
AAK IAmb IAmb 20 10 19.2
comp=Z,92nm,1.5s
AAK Ala-Archa 70.36 319 LR LR 20 45 09.4
comp=Z,50nm,20.0s,baz=116,slow=39
AAK Ala-Archa 70.36 319 P **P 20 10 18.2 +2.0**
AAK Ala-Archa 70.36 319 *ce*P **P 20 10 17.8 +1.6**
AAK pmax pmax
comp=Z,37nm,1.3s
AAK Ala-Archa 70.36 319 *i* P **P 20 10 17.8 +1.6**
SNR=14
AML Almayashu 70.65 318 P **P 20 10 20.4 +2.1**
SNR=19
USP Ospenovka 70.66 320 P **P 20 10 19.2 +1.3**
SNR=40
SGDS Sogindy 70.67 320 *e*P **P 20 10 18.5 +0.5**
comp=Z,27nm,1.6s
SEY Seymchan 70.68 10 LR LR 20 40 01.8
comp=Z,57nm,21.7s,baz=175,slow=35
SEY Seymchan 70.68 10 *i* P **P 20 10 18.6 +1.2**
SEY pmax pmax
comp=Z,9.0nm,0.7s
ARSB Arslanbob 70.76 317 P **P 20 10 19.6 +1.0**
ARSB Arslanbob 70.76 317 P **P 20 10 19.6 +1.0**
ARSB pmax pmax
comp=Z,213nm,1.4s
KBL Kabul 70.81 310 P **P 20 10 19.4 +0.2**
KBL IAmb IAmb 20 10 21.2
comp=Z,86nm,1.1s
KBL Kabul 70.81 310 P **P 20 10 20.3 +1.1**
SNR=28
KBL S **S 20 19 20.5 -4.3**
KBL Kabul 70.81 310 P **P 20 10 19.4 +0.2**
KBL pmax pmax
comp=Z,86nm,1.1s
EKS2 Erkin-Say 70.84 319 P **P 20 10 21.0 +1.9**
SNR=35
ZAA0 Zalesovo Array 71.09 333 IAmb IAmb 20 10 21.4
comp=Z,28nm,1.1s
ZALV Zalesovo Beam 71.09 333 P **P 20 10 19.8 -0.3**
ZALV Zalesovo Beam 71.09 333 P **P 20 10 20.3 +0.2**
comp=Z,14nm,0.8s,baz=137,slow=5.6,SNR=59
comp=Z,14nm,0.8s
ZALV Zalesovo Beam 71.09 333 *i* P **P 20 10 20.2 0.0**
ZALV pmax pmax
comp=Z,14nm,0.8s
BTK Batken 71.69 316 IAmb IAmb 20 10 26.8
comp=Z,153nm,1.6s
BTLS Baital 71.80 321 *c i*P **P 20 10 25.4 +0.8**
BTLS pmax pmax
comp=Z,26nm,1.4s
BTLS Baital 71.80 321 ⇑ *i*P **P 20 10 25.4 +0.8**
comp=Z,26nm,1.4s
KURBB Kurchatov Arra 72.14 328 P **P 20 10 27.1 +0.6**
comp=Z,14nm,0.7s,baz=127,slow=4.9,SNR=131
comp=Z,14nm,0.7s
KURK Kurchatov 72.14 328 P **P 20 10 26.8 +0.3**
KURK IAmb IAmb 20 10 28.5
comp=Z,28nm,1.0s
KURK Kurchatov 72.14 328 P **P 20 10 27.2 +0.6**
KURK S **S 20 19 32.7 -6.2**
KURK Kurchatov 72.14 328 P **P 20 10 27.1 +0.6**
DZA Taraz 72.55 318 *e*P **P 20 10 29.9 +0.7**
DZA pmax pmax
comp=Z,18nm,1.3s
DZA Taraz 72.55 318 *e*P **P 20 10 29.1 -0.1**
comp=Z,18nm,1.3s
IUG Iuzhnay 73.10 317 *e*P **P 20 10 33.0 +0.5**
IUG pmax pmax
comp=Z,38nm,1.5s
IUG Iuzhnay 73.10 317 *e*P **P 20 10 33.0 +0.5**
comp=Z,38nm,1.5s
KK31 Karatay Array 73.19 318 IAmb IAmb 20 10 35.2
comp=Z,56nm,1.4s
KKAR Karatay Array 73.19 318 P **P 20 10 33.5 +0.6**
KKAR Karatay Array 73.19 318 **P 20 10 33.3 +0.4**
KKAR IAmb IAmb 20 10 35.2
comp=Z,59nm,1.4s
KKAR Karatay Array 73.19 318 P **P 20 10 33.5 +0.6**
VNDA Vanda 73.32 173 **P 20 10 33.8 +0.7**
VNDA Vanda 73.32 173 P **P 20 10 33.2 +0.2**
comp=Z,7.7nm,0.9s,baz=320,slow=6.9,SNR=51
VNDA LR LR 20 43 14.3
comp=Z,84nm,18.8s,baz=342,slow=36
comp=Z,7.7nm,0.9s
VNDA Vanda 73.32 173 P **P 20 10 33.8 +0.7**
VNDA pmax pmax
comp=Z,14nm,1.0s
CHM Chimkent 73.46 317 *e*P **P 20 10 35.4 +0.9**
CHM Chimkent 73.46 317 *e*P **P 20 10 35.5 +0.9**
BRLS Boroldav 73.60 318 *e*P **P 20 10 36.1 +0.8**
BRLS pmax pmax
comp=Z,13nm,1.0s
BRLS Boroldav 73.60 318 *e*P **P 20 10 36.2 +0.8**
comp=Z,13nm,1.0s
SBA Scott Base 74.20 173 P **P 20 10 39.5 +1.4**
SBA Scott Base 74.20 173 P **P 20 10 39.5 +1.4**
SBA pmax pmax
comp=Z,14nm,1.0s
NGCH Negor - Chabah 74.51 298 P **P 20 10 41.2 +0.3**
KIP Kipapa 74.78 66 *ce*P **P 20 10 44.0 +1.4**
KIP pmax pmax
comp=Z,100nm,1.6s
BRZS Berezniki 75.00 325 *e*P **P 20 10 44.0 +0.7**
BRZS Berezniki 75.00 325 *e*P **P 20 10 44.0 +0.7**
JLN Jalan Bani Buh 75.29 295 P **P 20 10 46.8 +1.3**
WBK Wadi Bani Khal 75.79 295 P **P 20 10 48.5 +0.1**
MAW Mawson 76.19 201 P **P 20 10 50.0 +0.3**
comp=Z,4.5nm,1.3s
MAW Mawson 76.19 201 P **P 20 10 50.9 +1.1**
comp=Z,14nm,0.8s,baz=77,slow=5.4,SNR=20
MAW LR LR 20 41 37.6
comp=Z,129nm,19.7s,baz=60,slow=33
comp=Z,14nm,0.8s
MHTO MHTO 76.35 293 P **P 20 10 51.8 +0.2**
JMDO Jabal Madar 76.52 295 P **P 20 10 53.2 +0.7**
DQM DQM 76.53 292 P **P 20 10 53.1 +0.5**
SMDO Samad 76.72 295 P **P 20 10 54.5 +0.8**
HMH Humu'ula Sheep 76.73 68 P **P 20 10 55.4 +1.3**
BIDO Bidbid 76.75 296 P **P 20 10 55.0 +1.2**
SNR=10.0
MLH Mauna Loa 76.80 68 P **P 20 10 55.8 +1.4**
MLH IAmb IAmb 20 10 57.3
comp=Z,113nm,1.1s
BSY Bisya 77.41 295 P **P 20 10 58.2 +0.6**
HOQ Hoqain 77.49 296 P **P 20 10 58.7 +0.7**
SNR=7.5
JASK Jask - Hormozg 77.49 298 P **P 20 10 58.8 +0.9**
TIXI Tiksi 77.51 359 P **P 20 10 57.1 +0.1**
TIXI Tiksi 77.51 359 LR LR 20 43 59.7
comp=Z,71nm,21.8s,baz=186,slow=35
TIXI Tiksi 77.51 359 *i* P **P 20 10 57.4 +0.4**
TIXI pmax pmax
comp=Z,11nm,0.7s
BVAR Borovoye Array 77.70 327 P **P 20 10 59.0 +0.5**
comp=Z,11nm,0.7s,baz=120,slow=6.0,SNR=52
comp=Z,11nm,0.7s
BRVK Borovoye 77.78 327 P **P 20 10 59.2 +0.3**
BRVK Borovoye 77.78 327 P **P 20 10 59.1 +0.2**
BRVK S **S 20 20 38.5 -2.9**
BRVK Borovoye 77.78 327 *ce*P **P 20 10 59.4 +0.5**
BRVK pmax pmax
comp=Z,20nm,0.9s
ARQ Araqi 78.15 295 P **P 20 11 02.1 +0.5**
TBI Tubuai 78.16 113 *e*P **P 20 11 00.4 -1.2**
comp=Z,716nm,33.0s
TBI Tubuai 78.16 113 *e*LR LR 20 35 13.5
comp=Z,1μm,36.2s
TBI *e*LR LR 20 35 14.5
comp=Z,1μm,29.5s
PPT2 Papeete2 78.26 107 *e*PKIKP **P 20 11 06.4 +4.0**
comp=Z,76nm,24.0s
PPT2 *e*S **S 20 20 42.4 -5.6**
comp=Z,195nm,31.5s
PPT2 *e*SS **SS 20 25 53.8 +0.8**
comp=Z,71nm,30.0s
PPT2 *e*LQ LQ 20 32 12.2
comp=Z,193nm,26.0s
PPT2 *e*LR LR 20 35 27.3
comp=Z,401nm,40.8s
PPT2 *e*LR LR 20 35 31.7
comp=Z,175nm,42.5s
SOHO SOHO 78.30 296 P **P 20 11 03.0 +0.6**
SOHO SOHO 78.30 296 *i* P **P 20 11 03.0 +0.6**
SNR=27
DMTO DMTO 78.53 289 P **P 20 11 04.0 +0.3**
MDH Madha 78.75 297 P **P 20 11 04.7 -0.2**
UOSS Minazif 78.76 297 P **P 20 11 04.7 -0.2**
UOSS IAmb IAmb 20 11 06.3
comp=Z,22nm,0.8s
UOSS Minazif 78.76 297 P **P 20 11 05.3 +0.4**
UOSS S **S** 20 20 44.0 -9.1
UOSS Minazif 78.76 297 *i* P **P 20 11 05.1 +0.2**
SNR=11
HATD Hatta, Dubai 78.80 297 P **P 20 11 05.9 +0.7**
SNR=7.0
HATD Hatta, Dubai 78.80 297 *i* P **P 20 11 05.9 +0.7**
SNR=10.0
ASHO Ashiyiah 78.84 297 P **P 20 11 06.2 +0.8**
SNR=7.6
ASHO S **S 20 20 49.9 -4.0**
ASHO Ashiyiah 78.84 297 *i* P **P 20 11 06.0 +0.6**
SNR=15
MSFE Esma-Masafi 78.89 297 *i* P **P 20 11 06.4 +0.8**
SNR=21
MASF Masafi 78.89 297 P **P 20 11 07.0 +1.4**
SNR=9.4
MASF S **S 20 20 51.2 -3.3**
ALNE Al Ain 78.98 296 P **P 20 11 07.1 +1.0**
SNR=6.7
ALNE Al Ain 78.98 296 *i* P **P 20 11 06.8 +0.7**
SNR=20
SHME Shamm 79.05 298 P **P 20 11 07.7 +1.2**
SNR=5.2
SHME Shamm 79.05 298 *i* P **P 20 11 07.6 +1.2**
SNR=17
RBK Rabkut 79.19 289 P **P 20 11 08.0 +0.6**
UMZA Um Al Zommool 79.25 294 P **P 20 11 08.0 +0.3**
NAZ Nazwa, Dubai 79.25 297 P **P 20 11 08.3 +0.7**
SNR=5.8
NAZ Nazwa, Dubai 79.25 297 *i* P **P 20 11 08.3 +0.7**
SNR=8.9
FAQ Al Faqa, Dubai 79.27 296 P **P 20 11 08.1 +0.5**
SNR=6.3
FAQ Al Faqa, Dubai 79.27 296 *i* P **P 20 11 08.4 +0.7**
SNR=11
DOK Doka 79.45 290 P **P 20 11 09.0 +0.2**
ASUD Al Ashush, Dub 79.48 296 P **P 20 11 09.9 +1.1**
ASUD Al Ashush, Dub 79.48 296 *i* P **P 20 11 10.0 +1.1**
SNR=7.6
WHFO Wadi Hawf 79.67 289 P **P 20 11 09.8 -0.2**
AJN Ajban 79.77 296 P **P 20 11 10.8 +0.4**
ABTO Aybut 80.02 289 P **P 20 11 11.9 0.0**
NRIK Noril'sk 80.82 346 IAmb IAmb 20 11 17.1
comp=Z,36nm,1.2s
NRIK Noril'sk 80.82 346 P **P 20 11 15.7 +0.7**
comp=Z,13nm,0.7s,baz=138,slow=5.9,SNR=9.9
NRIK LR LR 20 54 05.3
comp=Z,24nm,18.7s,baz=146,slow=41
comp=Z,13nm,0.7s
NRIK Noril'sk 80.82 346 *c i*P **P 20 11 16.1 +1.1**
NRIK pmax pmax
comp=Z,23nm,1.1s
MZR Muzera 80.83 294 P **P 20 11 16.8 +0.7**
MZR Muzera 80.83 294 *i* P **P 20 11 16.8 +0.7**
SNR=10
ABPO Ambohimpanom 82.09 252 P **P 20 11 22.6 -0.5**
ABPO Ambohimpanom 82.09 252 P **P 20 11 22.6 -0.5**
ABPO pmax pmax
comp=Z,29nm,1.5s
AB31 Akbulak array 82.29 321 P **P 20 11 23.1 -0.1**
ABKAR Akbulak array 82.29 321 **P 20 11 23.3 +0.1**
ABKAR Akbulak array 82.29 321 P **P 20 11 23.1 -0.1**
VOI Vohitsoka 82.32 249 P **P 20 11 23.9 -0.3**
VOI IAmb IAmb 20 11 25.9
comp=Z,49nm,1.2s
VOI Vohitsoka 82.32 249 P **P 20 11 24.7 +0.6**
TRNA Tuyyna 83.18 296 P **P 20 11 28.5 +0.1**
SMRA Abu-Samra 83.53 296 P **P 20 11 30.4 +0.2**
AKTO Aktyubinsk 83.84 322 LR LR 20 53 51.5
comp=Z,35nm,18.4s,baz=182,slow=39
QSPA South Pole Qui 83.96 180 P **P 20 11 31.8 +0.1**
QSPA South Pole Qui 83.96 180 P **P 20 11 31.9 +0.3**
comp=Z,16nm,0.8s,baz=314,slow=1.8,SNR=59
comp=Z,16nm,0.8s
SVE Sverdlovsk 84.38 329 *e*P **P 20 11 34.0 +0.2**
SVE pmax pmax
comp=Z,68nm,1.7s
ARTI Arti 85.42 328 P **P 20 11 38.4 -0.6**
ARTI IAmb IAmb 20 11 39.7
comp=Z,16nm,0.6s
ARTI Arti 85.42 328 *c i*P **P 20 11 38.3 -0.6**
ARTI 20 14 57.3
ARTI S **SKSac 20 21 53.1 +0.4**
ARTI SS **SS 20 27 35.8 -2.0**
ARTI pmax pmax
comp=Z,24nm,1.3s
P16K Nushagak River 85.56 29 IAmb IAmb 20 12 23.6
comp=Z,48nm,1.2s
O16K Kokwok River B 85.70 29 P **P 20 11 40.7 +0.4**
L16K Owhat River 85.79 27 P **P 20 11 41.1 +0.4**
L16K IAmb IAmb 20 12 25.1
comp=Z,23nm,1.2s
J16K Anvik River 85.88 25 IAmb IAmb 20 12 26.7
comp=Z,17nm,0.9s
N17K Nushagak Hills 86.43 28 P **P 20 11 44.6 +0.8**
J17K VABM Dome 86.56 25 IAmb IAmb 20 12 30.5
comp=Z,18nm,1.0s
M17K Holitna River 86.60 27 IAmb IAmb 20 12 29.1
comp=Z,21nm,1.2s
K17K Iditarod 86.65 26 IAmb IAmb 20 12 31.0
comp=Z,20nm,1.0s
H17K Granite Mounta 86.77 24 P **P 20 11 46.5 +1.1**
KBD Kabd 86.98 300 P **P 20 11 47.7 +0.5**
N18K Kilae Creek 87.09 28 IAmb IAmb 20 12 27.2
comp=Z,34nm,1.7s
L18K Granite Mounta 87.20 27 IAmb IAmb 20 12 33.1
comp=Z,12nm,0.7s
OHAK Old Harbor 87.41 32 IAmb IAmb 20 12 33.2
comp=Z,15nm,0.7s
J18K Innoko River 87.58 25 P **P 20 11 49.8 +0.4**
N19K Bonanza Creek 87.79 28 IAmb IAmb 20 12 34.9
comp=Z,28nm,1.2s
KDAK Kodiak Island 87.92 31 P **P 20 11 51.7 +0.6**
KDAK IAmb IAmb 20 12 40.6
comp=Z,24nm,1.1s
KDAK Kodiak Island 87.92 31 LR LR 20 46 49.9
comp=Z,43nm,21.8s,baz=241,slow=32
KDAK Kodiak Island 87.92 31 ⇓ *i*P **P 20 11 51.1 0.0**
KDAK pmax pmax
comp=Z,8.0nm,0.9s
L19K White Mountain 88.01 27 IAmb IAmb 20 12 31.4
comp=Z,20nm,1.1s
RAYN Ar Rayn 88.16 294 P **P 20 11 52.7 -0.4**
RAYN IAmb IAmb 20 11 54.6
comp=Z,41nm,1.1s
RAYN Ar Rayn 88.16 294 P **P 20 11 53.2 +0.1**
RAYN Ar Rayn 88.16 294 P **P 20 11 52.7 -0.4**
RAYN pmax pmax
comp=Z,41nm,1.1s
RAYN Ar Rayn 88.16 294 *i* P **P 20 11 53.2 +0.1**
SNR=28
AKT Akhty 88.83 312 *e*P **P 20 11 56.1 +0.2**
AKT *e**PP **pP 20 12 25.4 -0.1**
AKT *e**SP **sP 20 12 36.9 -0.8**
AKT *e* 20 15 24.3
AKT *e*S **SKSac 20 22 17.3 +2.8**
AKT pmax pmax
comp=Z,27nm,1.6s
J20K Nowinta River 88.88 25 P **P 20 11 55.7 +0.3**
ATD Arta Tunnel 89.27 282 P **P 20 12 01.3 +2.8**
MLY Manley 90.52 25 P **P 20 12 03.0 -0.2**
G23K Bananza Creek 91.18 23 P **P 20 12 05.9 -0.3**
COLD Coldfoot 91.22 22 P **P 20 12 05.7 -0.6**
COLD IAmb IAmb 20 12 51.1
comp=Z,11nm,1.2s
WRH Wood River Hil 91.52 25 P **P 20 12 07.1 -0.6**
E23K Chandalar 91.62 22 P **P 20 12 08.3 +0.1**
GEVA Gevas 91.98 308 **P 20 12 09.9 -0.8**
GEVA IAmb IAmb 20 12 12.9
comp=Z,31nm,1.0s
ILAR Eielson Array 92.08 25 P **P 20 12 09.7 -0.7**
comp=Z,0.4nm,0.5s,baz=260,slow=4.2,SNR=6.1
ILAR LR LR 20 50 21.4
comp=Z,27nm,20.9s,baz=238,slow=33
comp=Z,0.4nm,0.5s
F24K Squaw Lake 92.16 22 IAmb IAmb 20 12 55.8
comp=Z,12nm,1.4s
KBZ Khabaz 92.66 314 P **P 20 12 13.6 +0.1**
comp=Z,1.6nm,0.7s,baz=109,slow=4.9,SNR=4.1
comp=Z,1.6nm,0.7s
GURO Guroymak-BITLI 92.81 308 IAmb IAmb 20 12 16.8
comp=Z,18nm,1.0s
KVAR Kislovodsk Arr 92.82 314 LR LR 20 58 45.2
comp=Z,32nm,20.6s,baz=270,slow=38
KIV Kislovodsk 92.83 314 *e*P **P 20 12 13.9 -0.5**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,26nm,20.0s
E25K Arctic Village 93.12 22 P **P 20 12 16.0 +0.9**
BMAR Burnt Mountain 93.40 23 P **P 20 12 17.0 +0.5**
KMBO Kilima Mbogo 93.50 269 P **P 20 12 16.2 -2.1**
KMBO IAmb IAmb 20 12 23.6
comp=Z,28nm,1.9s
KMBO Kilima Mbogo 93.50 269 P **P 20 12 19.7 +1.3**
KMBO Kilima Mbogo 93.50 269 P **P 20 12 16.2 -2.1**
KMBO pmax pmax
comp=Z,28nm,1.9s
G26K Porcupine Rive 93.65 23 P **P 20 12 17.8 +0.3**
G26K IAmb IAmb 20 12 57.3
comp=Z,10nm,1.2s
K27K Chicken 94.06 26 IAmb IAmb 20 13 10.2
comp=Z,7.3nm,1.1s
BCAR Beaver Creek A 94.10 27 P **P 20 12 20.0 +0.2**
KOPT Kop Dagi 94.12 310 IAmb IAmb 20 12 28.3
comp=Z,44nm,1.9s
H27K Steamboat Moun 94.48 24 IAmb IAmb 20 13 01.3
comp=Z,17nm,1.4s
E27K Coleen River 94.61 22 P **P 20 12 22.8 +0.9**
E27K IAmb IAmb 20 13 01.3
comp=Z,8.5nm,1.2s
I28M Miner Creek 95.08 25 IAmb IAmb 20 13 14.2
comp=Z,6.7nm,0.9s
DAWY Dawson 95.24 26 P **P 20 12 24.7 -0.3**
TROLL Troll, Antarti 95.33 194 ⇑ P **P 20 12 26.1 +0.7**
comp=Z,223nm,0.6s
E28M Babbage River 95.40 22 IAmb IAmb 20 13 14.8
comp=Z,9.2nm,1.3s
LODK Lodwar 95.84 273 P **P 20 12 29.7 +0.8**
BELA Belgrano 2 95.85 183 IAmb IAmb 20 12 31.4
comp=Z,3.9nm,0.6s
KLMR Klimovskoe 95.87 331 *e*P **P 20 12 24.4 -3.4**
KLMR *e**SP **pwP 20 13 02.5 -2.6**
KLMR pmax pmax
comp=Z,26nm,1.3s
G29M Pine Creek 95.91 23 IAmb IAmb 20 13 06.9
comp=Z,10nm,1.1s
ASF Jabal al Asfar 96.53 302 LR LR 21 00 37.8
comp=Z,30nm,21.0s,baz=88,slow=38
J30M Hart River 96.58 26 P **P 20 12 31.2 +0.1**
J30M IAmb IAmb 20 13 11.3
comp=Z,10nm,1.4s
ANN Anapa 96.64 314 *e*P **P 20 12 30.1 -1.6**
ANN *e**PP **pP 20 12 56.7 -4.8**
ANN *e* 20 16 26.5
ANN *e*S **SKSac 20 22 57.6 +0.3**
ANN *e*SS **SS 20 30 21.8 +1.9**
ANN pmax pmax
comp=Z,15nm,0.7s
SNAA Sanae 96.83 193 ⇑ P **P 20 12 32.6 +0.5**
comp=Z,82nm,0.7s
SNAA Sanae 96.83 193 IAmb IAmb 20 12 44.9
comp=Z,20nm,1.7s
SNAA Sanae 96.83 193 P **P 20 12 32.5 +0.4**
comp=Z,3.2nm,0.7s,baz=162,slow=6.8,SNR=17
SNAA LR LR 20 54 16.8
comp=Z,97nm,21.9s,baz=56,slow=34
comp=Z,3.2nm,0.7s
SNAA Sanae 96.83 193 *ce*P **P 20 12 32.8 +0.7**
SNAA pmax pmax
comp=Z,4.0nm,0.8s
OBN Obninsk 97.36 325 *de*P **P 20 12 33.5 -1.2**
OBN *e* 20 16 31.5
OBN pmax pmax
comp=Z,19nm,0.9s
MMAI Mount Meron Ar 97.83 302 P **P 20 12 37.5 0.0**
comp=Z,1.2nm,0.6s,baz=138,slow=4.1,SNR=3.7
MMAI LR LR 21 01 14.0
comp=Z,25nm,21.9s,baz=98,slow=38
comp=Z,1.2nm,0.6s
EIL Elat 98.09 299 LR LR 21 04 04.5
comp=Z,27nm,18.1s,baz=67,slow=40
BR131 Keskin Array S 99.38 309 ⇓ *e*P **Pdif 20 12 43.5 -0.8**
BRTR Keskin Array B 99.38 309 P **Pdif 20 12 43.9 -0.5**
comp=Z,1.3nm,0.8s,baz=111,slow=6.8,SNR=6.8
comp=Z,1.3nm,0.8s
MATP Matopo 99.44 248 LR LR 20 52 54.2
comp=Z,19nm,18.4s,baz=76,slow=32
AKASG Malin Array Be 102.01 320 PP **PP 20 17 10.8 +2.5**
comp=Z,1.8nm,0.8s,baz=78,slow=6.8,SNR=5.3
FINES FINESS Array B 102.32 332 P **Pdif 20 12 55.6 -1.1**
comp=Z,1.9nm,0.9s,baz=30,slow=8.8,SNR=5.2
FINES PP **PP 20 17 12.7 +2.4**
comp=Z,3.7nm,1.1s,baz=102,slow=5.8,SNR=4.9
FINES FINESS Array B 102.32 332 *i* P **Pdif 20 12 57.0 +0.4**
FINES pmax pmax
comp=Z,2.0nm,0.9s
MNK Minsk 102.42 324 *i* P **Pdif 20 12 56.3 -0.9**
MNK *i* 20 17 08.5
MNK *i* S **SKSac 20 23 26.4 +1.0**
MNK *i* SS **SS 20 31 39.9 +0.2**
MNK *i* SSS SSS 20 35 30.6
MNK pmax pmax
comp=E,9.0nm,0.8s
MNK pmax pmax
comp=Z,13nm,1.0s
MNK MLR MLR
comp=N,199nm,21.0s
MNK MLR MLR
comp=Z,31nm,21.0s
NB2 NORSAR Subarra 109.30 333 P **Pdif 20 13 27.2 -0.6**
comp=Z,0.8nm,0.7s,baz=71,slow=4.4
NOA NORSAR Array B 109.30 333 Pdiff **Pdif 20 13 26.9 -0.9**

comp=Z,0.9nm,0.8s,baz=68,slow=4.5,SNR=4.0
STEB Steborice 109.37 321 *e*PKP **PKiKP 20 17 32.3 +1.1**
MAUC Maruska 109.47 320 *e*PKP **PKiKP 20 17 32.9 +1.4**
KRLC Kraliky 109.95 321 *e*PKP **PKiKP 20 17 33.1 +0.7**
CHVC Chvalec 110.27 322 *e*PKP **PKiKP 20 17 34.2 +1.3**
CHVC Chvalec 110.27 322 *e*PKiKP **PKiKP 20 17 34.2 +1.3**
CONA Conrad Observa 111.09 319 *e*PKiKP **PKiKP 20 17 34.4 -0.3**
comp=Z,0.9nm,1.1s
ZVC Zvikov 111.74 321 *e*PKP **PKiKP 20 17 36.3 +0.6**
CKRC Cesky Krumlov 111.85 320 *e*PKP **PKiKP 20 17 36.6 +0.6**
CKRC Cesky Krumlov 111.85 320 *e*PKiKP **PKiKP 20 17 36.6 +0.6**
CLL Collm 111.90 323 *e*PKiKP **PKiKP 20 17 36.0 +0.1**
CLL *e* 20 18 21.0
CLL pmax pmax
comp=Z,3.0nm,0.9s
SOKA Soboth 111.97 318 *e*PKiKP **PKiKP 20 17 36.4 0.0**
comp=Z,8.6nm,1.3s
BOJS Bojanci 112.12 317 *i* PKiKP **PKiKP 20 17 37.3 +0.7**
BOJS *e*PP **PP 20 18 28.0 +5.6**
KHC Kasperske Hory 112.22 321 *e*PKP **PKiKP 20 17 37.2 +0.5**
KHC Kasperske Hory 112.22 321 *e*PKiKP **PKiKP 20 17 37.2 +0.5**
GERES GERESS Array B 112.22 321 PKiKP **PKiKP 20 17 37.2 +0.4**
comp=Z,2.4nm,0.6s,baz=68,slow=1.8,SNR=27
GERES PP **PP 20 18 25.5 +2.3**
comp=Z,0.6nm,0.6s,baz=66,slow=5.0,SNR=4.0
GERES SKP 20 20 59.7
comp=Z,0.9nm,0.8s,baz=350,slow=1.6,SNR=4.3
OBKA Obir 112.33 318 *e*PKiKP **PKiKP 20 17 37.8 +0.8**
comp=Z,9.5nm,1.4s
LJU Ljubljana 112.47 318 *i* PKiKP **PKiKP 20 17 38.0 +0.8**
BIOA Bad Ischl, Aus 112.60 319 *e*PKiKP **PKiKP 20 17 37.7 +0.3**
comp=Z,1.2nm,0.9s
CEY Cerknica 112.62 317 *i* PKiKP **PKiKP 20 17 38.0 +0.5**
MYKA Terra Mystica 112.90 318 *e*PKiKP **PKiKP 20 17 38.9 +0.8**
comp=Z,1.4nm,0.6s
KBA Koelnbreinsper 112.97 319 *e*PKiKP **PKiKP 20 17 39.1 +0.7**
comp=Z,2.2nm,0.6s
LESA Schwarzleotal 113.30 319 *e*PKiKP **PKiKP 20 17 38.7 -0.2**
comp=Z,2.9nm,0.7s
ABTA Abfaltersbach 113.61 319 *i* PKiKP **PKiKP 20 17 39.4 -0.1**
comp=Z,3.9nm,0.7s,SNR=6.8
WTTA Wattenberg 114.03 319 *i* PKiKP **PKiKP 20 17 41.1 +0.7**
comp=Z,8.4nm,0.6s,SNR=21
WATA Walderalm 114.04 320 *e*PKP PKPdf 20 17 40.5 +0.2
comp=Z,5.1nm,1.1s,SNR=5.8
SQTA Sankt Quirin 114.32 319 *i* PKP **PKiKP 20 17 41.3 +0.5**
comp=Z,3.0nm,0.6s
MOTA Moosalm 114.34 320 *i* PKP PKPdf 20 17 41.0 +0.1
comp=Z,4.5nm,0.9s,SNR=6.1
RETA Reutte 114.52 320 *i* PKP **PKiKP 20 17 41.5 +0.3**
comp=Z,1.8nm,0.6s
FETA Feichten 114.69 319 *i* PKP **PKiKP 20 17 41.8 +0.2**
comp=Z,2.3nm,0.8s
DAVA Damuels 115.15 320 *i* PKP **PKPdf 20 17 42.9 +0.4**
comp=Z,5.3nm,0.6s,SNR=7.4
PDAR Pinedale Array 115.57 45 PKP **PKPdf 20 17 44.0 +0.4**
comp=Z,0.3nm,0.6s,baz=295,slow=1.6,SNR=2.3
TUE Stuetta 115.77 319 PKPdf 20 17 43.6 -0.2
BMRD Maredsous 117.11 324 *d*PKPdf **PKiKP 20 17 46.8 +0.8**
EKA Eskdalemuir Ar 118.71 332 PKP **PKiKP 20 17 49.3 +0.3**
comp=Z,1.0nm,0.5s,baz=36,slow=3.8,SNR=7.6
KEST Kesra 118.93 308 PKiKP 20 17 50.6 +0.5
KEST PP **PP 20 19 07.1 -3.6**
KEST Kesra 118.93 308 PKP **PKiKP 20 17 50.7 +0.5**
comp=Z,5.3nm,0.9s,baz=96,slow=1.5,SNR=6.0
TXAR Lajitas Array 123.66 59 PKP **PKiKP 20 18 00.0 +0.4**
comp=Z,0.8nm,0.9s,baz=302,slow=3.3,SNR=5.7
ESDC Sonseca Array 127.41 316 PKPdf 20 18 06.0 -0.1
ESDC Sonseca Array 127.41 316 PKP **PKiKP 20 18 07.2 +0.4**
comp=Z,1.2nm,0.7s,baz=18,slow=2.0,SNR=10
ESDC PP **PP 20 20 08.2 +0.8**
comp=Z,4.4nm,1.0s,baz=61,slow=6.6,SNR=14
P38A Dawn 127.93 43 PKPdf 20 18 06.7 -0.4
PBRG Braganca 128.20 320 *e*PKPdf **PKiKP 20 18 08.8 +0.6**
MVO Moncorvo 128.72 320 *e*PKPdf **PKiKP 20 18 10.6 +1.3**
MVO *i* x x 20 21 16.8
PCAB Cabril 129.07 321 *e*PKPdf **PKiKP 20 18 11.3 +1.4**
PCAB *i* x x 20 21 19.5
PGAV Gavieira, Arco 129.08 321 *e*PKPdf **PKiKP 20 18 11.3 +1.3**
PGAV *i* x x 20 21 19.4
POLO Lamas de Olo 129.10 320 *e*PKPdf **PKiKP 20 18 11.6 +1.5**
POLO *i* x x 20 21 19.4
PVRL Vila Real 129.10 320 *e*PKPdf **PKiKP 20 18 11.5 +1.5**
PVRL *i* x x 20 21 19.6
MTE Manteigas 129.45 319 *e*PKPdf **PKiKP 20 18 12.3 +1.5**
MTE *i* x x 20 21 21.4
TORD Torodi Ar. Bea 129.48 282 PKPdf 20 18 09.2 -1.4
TORD Torodi Ar. Bea 129.48 282 PKP **PKiKP 20 18 11.5 0.0**
comp=Z,5.0nm,0.6s,baz=58,slow=2.2,SNR=4.8
TORD SKPbc SKPab 20 21 21.1 +0.2
comp=Z,7.3nm,0.7s,baz=58,slow=5.6,SNR=4.5
PLCA Paso Flores 129.49 159 PKP **PKPdf 20 18 10.5 +0.3**
comp=Z,0.9nm,0.6s,baz=318,slow=17,SNR=3.0
PLCA SKPbc SKPab 20 21 20.8 +0.5
comp=Z,7.8nm,0.8s,baz=199,slow=5.0,SNR=14
PVIS Viseu 129.51 320 *e*PKPdf **PKiKP 20 18 11.9 +1.0**
PVIS *i* x x 20 21 21.3
PCBR Castelo Branco 129.69 318 *e*PKPdf **PKiKP 20 18 12.5 +1.3**
PCBR *i* x x 20 21 21.9
PMV Marv??o 129.85 318 *e*PKPdf **PKiKP 20 18 12.6 +1.0**
PMRV *i* x x 20 21 22.3
COI Coimbra 130.12 319 *i* x x 20 21 23.9
PBAR Barrancos 130.23 316 *i* x x 20 21 24.0
PCAS Casmilo, Conde 130.25 319 *e*PKPdf **PKPdf 20 18 12.1 +0.6**
PCAS *i* x x 20 21 22.9
PESTR Estremoz 130.26 317 *i* x x 20 21 24.0
PSARD Sardoal 130.27 318 *i* x x 20 21 24.3
PMTG Montargil 130.59 318 *i* x x 20 21 25.0
EVO Evora 130.72 317 *i* x x 20 21 25.9
PSBE So Bento 130.73 319 *i* x x 20 21 26.1
PBEJ Beja 130.87 316 *e*PKPdf **PKiKP 20 18 14.9 +1.3**
PBEJ *i* x x 20 21 26.7
PVAQ Vaqueiros 131.07 316 *i* x x 20 21 27.4
PCVE Castro Verde 131.19 316 *e*PKPdf **PKiKP 20 18 15.4 +1.2**
PCVE *i* x x 20 21 27.8
MESJ Messejana 131.21 316 *e*PKPdf **PKPdf 20 18 13.3 -0.1**
MESJ *e*SKPab **SKPbc 20 21 27.9 +0.7**
PBDV Barranco-do-Ve 131.30 316 *i* x x 20 21 28.5
PTEO Sao Teotonio 131.70 316 *i* x x 20 21 30.1
MORF Marmelete 131.77 316 *e*PKPdf **PKPdf 20 18 14.7 +0.1**
MORF *e*SKPab **SKPbc 20 21 30.1 +0.8**
MORF Marmelete 131.77 316 *e*PKPdf **PKiKP 20 18 17.3 +1.7**
MORF *i* x x 20 21 28.7
PFVI Vila Bisbo 131.98 316 *e*PKPdf **PKiKP 20 18 17.4 +1.5**
PFVI *i* x x 20 21 30.8
DBIC Dimbokro 136.02 273 PKP **PKPdf 20 18 23.7 +0.7**
comp=Z,6.7nm,0.8s,baz=108,slow=3.2,SNR=4.6
DBIC SKPbc **SKPbc 20 21 43.0 -1.0**
comp=Z,10.0nm,0.7s,baz=124,slow=2.9,SNR=12
JTS Las Juntas de 144.28 81 PKP PKPbc 20 18 37.4 +0.8
comp=Z,20nm,0.8s,baz=329,slow=5.0,SNR=12
PB05 IPOC Station P 144.67 145 PKPbc 20 18 37.8 +0.2
CPUP Villa Florida 146.88 166 PKPbc **PKPdf 20 18 42.5 +0.4**
comp=Z,3.5nm,1.0s,baz=228,slow=4.4,SNR=8.1
GO01 Chusmiza 147.72 143 PKPdf 20 18 43.2 -1.1
PB16 IPOC Station P 148.54 141 PKPdf 20 18 43.3 -2.5
LPAZ La Paz 150.93 140 PKPbc **PKiKP 20 18 56.6 +0.5**
comp=Z,3.5nm,0.4s,baz=19,slow=2.5,SNR=17
FLOC Florencia 153.16 98 PKPdf 20 18 51.0 -1.4

AUST 05 20:01:56.5±0.4, 34°S±3°×13°6E±°, h10km, mb4.0/1, ML2.3/8, Error ellipse: s-maj=7.4km s-min=5.1km az=129.0, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUCAS	**Cummins Area S**	**0.39**	**206**	P	Pg	20 02 03.7	-0.5
WHYH	**Whyalla**	**1.63**	**58**	P	Pn	20 02 25.0	-0.2
WHYH				S	Sn	20 02 46.2	-0.1
NAPP	**Napperby**	**1.99**	**69**	P	Pn	20 02 30.4	+0.2
KELC	**Kelly Hill Cav**	**2.21**	**159**	P	Pn	20 02 34.1	+0.8
KELC				S	Sn	20 03 02.2	+1.5
HTT	**Hallett**	**2.54**	**80**	P	Pn	20 02 38.0	+0.1
HTT				S	Sn	20 03 09.3	+0.3
YAPP	**Yappala Statio**	**2.86**	**45**	P	Pn	20 02 42.5	+0.4
YAPP				S	Sn	20 03 17.4	+0.7
SDAN	**Sedan**	**2.89**	**103**	P	Pn	20 02 42.2	-0.3
SDAN				S	Sn	20 03 17.6	+0.3
STKA	**Stephens Creek**	**5.18**	**69**	P	Pn	20 03 14.9	+0.8
	comp=Z,0.7nmcomp=Z,40nm,2.6s						
FORT	**Forrest**	**7.35**	**293**	P	Pn	20 03 43.9	0.0

IDC 05 20:20:03.3±2.3, 4.78N×122.98E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=322.1km s-min=27.0km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.98**	**156**	P	P	20 25 47.0	-0.1
	0.3nm,0.3s,baz=334,slow=9.7,SNR=21						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**30.21**	**160**	P	P	20 26 15.9	+0.1
	0.2nm,0.3s,baz=341,slow=6.8,SNR=5.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**54.60**	**327**	P	P	20 29 33.6	-0.1
	0.1nm,0.3s,baz=122,slow=7.4,SNR=4.6						
	0.1nm,0.3s						

IDC 05 20:38:43.9±3.0, 32.81S×178.31W, h0km, mb3.6/2, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=70.7km s-min=36.3km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.59**	**213**	Pn	Pn	20 40 22.2	+0.2
	1.1nm,0.3s,baz=273,slow=4.7,SNR=6.5						
URZ				Sn	Sn	20 41 36.3	-1.6
	1.3nm,0.3s,baz=218,slow=22,SNR=7.3						
	2.6nm,0.3s						
ASAR	**Alice Springs**	**42.77**	**270**	P	P	20 46 43.8	+0.4
	0.4nm,0.6s,baz=113,slow=8.2,SNR=10						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**43.98**	**275**	P	P	20 46 52.8	-0.4
	0.5nm,0.4s,baz=114,slow=7.7,SNR=12						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**147.29**	**338**	PKPbc	PKPbc	20 58 27.6	-0.9
	8.1nm,1.2s,baz=58,slow=3.4,SNR=6.6						

*NEIC **05** 21:51:29.1±0.7, 14.5S±0.1×167.4E±0.2, h108km±6km, mb4.4/10, Error ellipse: s-maj=28.2km s-min=14.2km az=106.0*
*IDC **05** 21:51:32.6±4.4, 14.78S×167.25E, h127km±36km, mb3.5/8, mbtmp3.9/9, MS4.0/1, Error ellipse: s-maj=30.3km s-min=25.2km az=62.0*
*NOU **05** 21:51:34.4, 14.75S×167.29E, h108km, MLv4.7/8, Vanuatu Islands*
ISC 05 21:51:30.3±1.0, 14.62S±0.09×167.0E±0.2, h100km, n28, σ1s65/18, mb4.2/12, 2C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**1.54**	**165**	P	**Pn**	**21 51 59.4**	**+2.4**
VLAKA	**Lakatoro**	**1.54**	**165**	P	**Sn**	**21 52 19.1**	**+1.8**
DVP	**Devils Point**	**3.30**	**160**	P	**Pn**	**21 52 21.4**	**+1.4**
DZM	**Mont Dzumac**	**7.43**	**184**	Pn	**Pn**	**21 53 17.4**	**+1.2**
DZM				Sn	**Sn**	**21 54 38.8**	**-0.2**
DZM	**Mont Dzumac**	**7.43**	**184**	P	**Pn**	**21 53 17.4**	**+1.2**
	5.6nm,0.3s,baz=0.0,slow=17,SNR=15						
DZM				S	**Sn**	**21 54 36.8**	**-2.2**
	9.5nm,0.5s,baz=314,slow=21,SNR=5.6						
RAO	**Raoul Island**	**20.16**	**139**	LR	LR	22 01 43.7	
	comp=Z,447nm,21.6s,baz=152,slow=31						
BKZ	**Black Stump Fm**	**25.85**	**163**	P	**P**	**21 56 50.3**	**-2.2**
LTZ	**Lake Taylor**	**28.43**	**172**	P	P	21 57 13.3	-2.3
STKA	**Stephens Creek**	**28.87**	**229**	P	**P**	**21 57 20.7**	**+1.2**
STKA				IAmb	IAmb	21 57 22.3	
	comp=Z,15nm,0.9s						
STKA	**Stephens Creek**	**28.87**	**229**	P	**P**	**21 57 21.3**	**+1.8**
	comp=Z,3.0nm,0.7s,baz=53,slow=9.7,SNR=6.0						
	comp=Z,3.0nm,0.7s						
WR0	**Warramunga Arr**	**31.41**	**256**	P	P	21 57 43.3	+1.1
WB0	**Warramunga Arr**	**31.53**	**256**	P	P	21 57 44.2	+1.0
WB0				IAmb	IAmb	21 57 45.1	
	comp=Z,8.9nm,1.4s						
WRA	**Warramunga Arr**	**31.60**	**256**	P	P	21 57 44.9	+1.1
	comp=Z,0.2nm,0.6s,baz=83,slow=8.8,SNR=1.4						
	comp=Z,0.2nm,0.6s						
ASAR	**Alice Springs**	**32.47**	**249**	P	P	21 57 52.2	+0.7
	comp=Z,0.5nm,0.7s,baz=78,slow=8.3,SNR=7.6						
	comp=Z,0.5nm,0.7s						
VNDA	**Vanda**	**62.97**	**181**	P	**P**	**22 01 44.6**	**-1.3**
VNDA	**Vanda**	**62.97**	**181**	P	**P**	**22 01 44.6**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=2.3,slow=7.3,SNR=6.6						
	comp=Z,0.7nm,0.7s						
SBA	**Scott Base**	**63.25**	**180**	P	**P**	**22 01 47.0**	**-0.7**
SBA				IAmb	IAmb	22 01 48.4	
	comp=Z,2.7nm,0.8s						
QSPA	**South Pole Qui**	**75.41**	**180**	P	**P**	**22 03 01.8**	**-1.3**
QSPA				IAmb	IAmb	22 03 04.2	
	comp=Z,3.6nm,0.8s						
QSPA	**South Pole Qui**	**75.41**	**180**	P	**P**	**22 03 01.7**	**-1.3**
	comp=Z,3.5nm,0.7s,baz=7.4,slow=0.7,SNR=16						
	comp=Z,3.5nm,0.7s						
STLK	**Strandline Lak**	**82.56**	**19**	P	P	22 03 38.2	-3.6
STLK				IAmb	IAmb	22 03 39.7	
	comp=Z,8.8nm,0.9s						
RIDG	**Independent Ri**	**86.41**	**19**	P	P	22 03 55.0	-6.2
RIDG				IAmb	IAmb	22 03 56.4	
	comp=Z,5.3nm,0.7s						
ILAR	**Eielson Array**	**86.50**	**18**	P	**P**	**22 04 01.4**	**-0.2**
	comp=Z,2nm,0.6s,baz=206,slow=5.2,SNR=6.8						
	comp=Z,0.2nm,0.6s						
TROLL	**Troll, Antarti**	**92.95**	**185**	⇑P	P	22 04 30.4	-1.7
	comp=Z,146nm,0.7s						
SNAA	**Sanae**	**93.65**	**183**	⇑P	P	22 04 32.7	-2.5
	comp=Z,23nm,0.7s						
SNAA	**Sanae**	**93.65**	**183**	P	P	22 04 32.6	-2.6
	comp=Z,0.7nm,0.7s,baz=197,slow=13,SNR=7.5						
	comp=Z,0.7nm,0.7s						
MKAR	**Makanchi Array**	**96.94**	**316**	P	P	22 04 50.7	+0.1
	comp=Z,0.4nm,0.8s,baz=106,slow=3.1,SNR=3.0						
	comp=Z,0.4nm,0.8s						
ARCES	**ARCESS Array B**	**120.08**	**345**	PKP	**PKPdf**	**22 10 07.5**	**-1.3**
	comp=Z,2.5nm,0.9s,baz=48,slow=1.8,SNR=4.2						
NRCA	**Norcia**	**144.02**	**327**		**PKPab**	**22 10 54.2**	**+2.2**

KRSC 05 22:00:19.1±0.8, 56.00N×164.24E, h12km±8km, Ml3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.82**	**285**	*e*P	Pg	22 00 34.2	-0.7
KBTR				*e*S	Sb	22 00 46.1	-0.1
KBG	**Krutoberegovo**	**0.90**	**287**	*e*P	Pg	22 00 36.0	-0.3
KBG				*e*S	Sb	22 00 48.4	0.0
BKI	**Bering**	**1.27**	**128**	*e*P	Pb	22 00 42.7	-0.1
BKI				*e*S	Sg	22 00 59.7	-0.2
BDR	**Baidarnaya**	**1.78**	**290**	*e*S	Sn	22 01 13.1	+0.8
KLY	**Klyuchi**	**2.03**	**280**	*e*P	Pn	22 00 52.2	-0.8
KLY				*e*S	Sn	22 01 17.9	-0.4
MKZ	**Mys Kozlova**	**2.04**	**226**	*e*P	Pb	22 00 54.8	-1.2
BZMR	**Bezymyannaya**	**2.11**	**270**	*e*P	Pb	22 00 56.4	-0.9
KIRR	**Kirishev**	**2.19**	**270**	*e*P	Pb	22 00 57.7	-1.0
KPT	**Kopyto**	**2.26**	**271**	*e*P	Pb	22 00 58.8	-1.0
KMNR	**Kamenistaya**	**2.27**	**265**	*e*P	Pb	22 00 59.2	-0.8
TUMD	**Tumrok D**	**2.32**	**251**	*e*P	Pn	22 00 58.5	+1.5
SRDR	**Sredinnyy**	**2.55**	**279**	*e*S	Sn	22 01 33.5	+2.3
SDLR	**Sedlovina**	**4.14**	**231**	*e*P	Pn	22 01 25.4	+3.3
SMAR	**Somma**	**4.19**	**231**	*e*P	Pn	22 01 26.0	+3.2
UGLR	**Uglovaya**	**4.21**	**231**	*e*P	Pn	22 01 26.4	+3.3
KOK	**Koryaka**	**4.24**	**232**	*e*P	Pn	22 01 27.3	+3.8
GRL	**Gorelyy**	**5.00**	**229**	*e*P	Pn	22 01 38.3	+4.3
MTVR	**Mutnovka**	**5.00**	**228**	*e*P	Pn	22 01 37.9	+3.9
ASAK	**Asacha**	**5.20**	**228**	*e*P	Pn	22 01 40.9	+4.2

*IDC **05** 22:08:22.3±13.0, 16.95N×60.43E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=258.3km s-min=115.4km az=136.0*
*OMAN **05** 22:08:36.7±0.1, 17.85N×59.80E, h28km±3km, ml3.6/4, Error ellipse: s-maj=5.0km s-min=0.8km az=305.0*
ISC 05 22:08:31.3±1.8, 17.74N±0.09×59.9E±0.1, h10km, n22, σ1s23/39, mb3.6/3, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQM	**DQM**	**3.15**	**314**	P	**Pn**	**22 09 22.1**	**+1.1**
DQM				S	**Sn**	**22 09 59.5**	**+0.8**
MHTO	**MHTO**	**3.73**	**330**	P	**Pn**	**22 09 29.0**	**0.0**
	SNR=30						
MHTO				S	**Sn**	**22 10 12.1**	**-0.9**
	SNR=9.0						
JLN	**Jalan Bani Buh**	**4.42**	**354**	P	**Pn**	**22 09 39.3**	**+0.9**
	SNR=9.1						
DMTO	**DMTO**	**4.76**	**270**	P	**Pn**	**22 09 44.0**	**+0.9**
	SNR=13						
DMTO				S	**Sn**	**22 10 37.3**	**-1.2**
JMDO	**Jabal Madar**	**4.92**	**340**	P	**Pn**	**22 09 46.3**	**+0.9**
	SNR=33						
JMDO				S	**Sn**	**22 10 42.6**	**+0.2**
WBK	**Wadi Bani Khal**	**4.93**	**349**	P	**Pn**	**22 09 47.7**	**+2.2**
WBK				S	**Sn**	**22 10 43.0**	**+0.3**
RBK	**Rabkut**	**5.48**	**268**	P	**Pn**	**22 09 54.6**	**+1.6**
RBK				S	**Sn**	**22 10 55.8**	**-0.4**
SMDO	**Samad**	**5.58**	**342**	P	**Pn**	**22 09 55.4**	**+0.8**
SMDO				S	**Sn**	**22 10 58.2**	**-0.7**
	SNR=7.6						
DOK	**Doka**	**5.60**	**280**	P	**Pn**	**22 09 56.3**	**+1.6**
DOK				S	**Sn**	**22 10 58.9**	**-0.2**
	SNR=6.8						
BSY	**Bisya**	**5.61**	**333**	P	**Pn**	**22 09 55.9**	**+1.0**
BSY				S	**Sn**	**22 10 59.4**	**+0.1**
WHFO	**Wadi Hawf**	**5.88**	**273**	P	**Pn**	**22 09 59.7**	**+1.0**
WHFO				S	**Sn**	**22 11 06.3**	**+0.1**
BIDO	**Bidbid**	**6.00**	**344**	P	**Pn**	**22 10 01.6**	**+1.4**
BIDO				S	**Sn**	**22 11 09.0**	**0.0**
HOQ	**Hoqain**	**6.32**	**337**	P	**Pn**	**22 10 05.1**	**+0.6**
HOQ				S	**Sn**	**22 11 16.4**	**-0.4**
ABTO	**Aybut**	**6.35**	**268**	P	**Pn**	**22 10 07.0**	**+1.9**
	SNR=5.0						
ABTO				S	**Sn**	**22 11 17.8**	**0.0**
ARQ	**Araqi**	**6.43**	**331**	P	**Pn**	**22 10 07.9**	**+1.9**
ARQ				S	**Sn**	**22 11 19.2**	**-0.3**
SOHO	**SOHO**	**7.12**	**334**	P	**Pn**	**22 10 18.0**	**+2.5**
SOHO				S	**Sn**	**22 11 35.9**	**-0.6**
ALNE	**Al Ain**	**7.41**	**329**	P	**Pn**	**22 10 21.8**	**+2.3**
ASHO	**Ashiyiah**	**7.80**	**333**	P	**Pn**	**22 10 27.2**	**+2.2**
ASHO				S	**Sn**	**22 11 52.4**	**-1.1**
MZR	**Muzera**	**8.01**	**312**	P	**Pn**	**22 10 28.9**	**+1.0**
MZR				S	**Sn**	**22 11 56.9**	**-1.7**
BRTR	**Keskin Array B**	**31.61**	**319**	P	**P**	**22 14 55.0**	**+0.4**
	0.3nm,0.6s,baz=144,slow=10,SNR=2.5						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**49.77**	**339**	P	**P**	**22 17 23.0**	**-0.8**
	1.0nm,0.7s,baz=143,slow=7.5,SNR=6.0						
	1.0nm,0.7s						
ESDC	**Sonseca Array**	**58.93**	**306**	P	**P**	**22 18 29.4**	**-1.6**
	0.3nm,0.6s,baz=92,slow=6.5,SNR=5.0						
	0.3nm,0.6s						

*IDC **05** 22:08:32.4±1.1, 54.90N×160.67E, h0km, mb3.7/10, mbtmp3.7/10, ML2.4/1, MS3.2/2, Error ellipse: s-maj=31.6km s-min=19.1km az=158.0*
*KRSC **05** 22:08:40.1±0.5, 54.21N×160.86E, h73km±8km, Ml4.1, Felt [II] at kordon Kronoki.*
ISC 05 22:08:40.5±0.8, 54.22N±0.04×160.86E±0.05, h83km±7km, n59, σ1s62/63, mb3.6/10, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.61**	**56**	*e*P	**Pn**	**22 08 56.0**	**+0.6**
MKZ				*e*S	**Sn**	**22 09 06.9**	**+0.3**
KII	**Karymskiy**	**0.85**	**258**	*i* P	**Pn**	**22 08 57.8**	**-0.3**
TUMD	**Tumrok D**	**1.02**	**345**	*i* P	**Pn**	**22 08 59.9**	**0.0**
TUMD				*e*S	**Sn**	**22 09 13.8**	**-0.8**
SPN	**Mys Shipunski**	**1.23**	**204**	*i* P	**Pn**	**22 09 02.5**	**0.0**
SPN				*e*S	**Sn**	**22 09 18.7**	**-0.3**
NLC	**Nalytchevo**	**1.39**	**221**	*e*P	**Pn**	**22 09 04.9**	**+0.5**
NLC				*e*S	**Sn**	**22 09 22.8**	**+0.3**
SDLR	**Sedlovina**	**1.51**	**232**	*e*P	**Pn**	**22 09 06.7**	**+0.6**
KRER	**Koryakskii**	**1.56**	**235**	*e*P	**Pn**	**22 09 07.7**	**+0.9**
SMAR	**Somma**	**1.56**	**233**	*e*P	**Pn**	**22 09 07.2**	**+0.4**
KRX	**Arik**	**1.57**	**238**	*e*P	**Pn**	**22 09 07.7**	**+0.8**
KMNR	**Kamenistaya**	**1.58**	**347**	*e*P	**Pn**	**22 09 08.4**	**+1.4**
UGLR	**Uglovaya**	**1.58**	**231**	*e*P	**Pn**	**22 09 08.0**	**+0.9**
AVH	**Avacha**	**1.58**	**234**	*e*P	**Pn**	**22 09 08.0**	**+1.0**
KOK	**Koryaka**	**1.62**	**236**	*e*P	**Pn**	**22 09 08.3**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**1.73**	**357**	*e*P	**Pn**	**22 09 10.3**	**+1.4**
BZMR	**Bezymyannaya**	**1.73**	**353**	*e*P	**Pn**	**22 09 10.3**	**+1.3**
DALK	**Dalny**	**1.73**	**227**	*e*P	**Pn**	**22 09 09.8**	**+0.9**
DALK				*e*S	**Sn**	**22 09 31.5**	**+1.1**
BZWR	**Bezymyannyi-We**	**1.76**	**353**	*e*P	**Pn**	**22 09 11.2**	**+1.8**
KIRR	**Kirishev**	**1.76**	**350**	*e*P	**Pn**	**22 09 10.8**	**+1.4**
INSR	**Institute**	**1.77**	**230**	*e*P	**Pn**	**22 09 11.0**	**+1.6**
INSR				*e*S	**Sn**	**22 09 33.2**	**+1.8**
PET	**Petropavlovsk**	**1.78**	**229**	*i* P	**Pn**	**22 09 10.4**	**+0.8**
PET				*e*S	**Sn**	**22 09 32.3**	**+0.8**
KPT	**Kopyto**	**1.79**	**348**	*e*P	**Pn**	**22 09 11.1**	**+1.4**
ZLN	**Zelenaya**	**1.80**	**359**	*e*P	**Pn**	**22 09 11.8**	**+2.0**
ZLN				*e*S	**Sn**	**22 09 35.0**	**+2.8**
GNL	**Ganaly**	**1.81**	**254**	*e*P	**Pn**	**22 09 10.8**	**+0.8**
CIRR	**Tsirk**	**1.90**	**358**	*e*P	**Pn**	**22 09 13.0**	**+1.8**
KOZ	**Kozyrevsk**	**1.93**	**343**	*e*P	**Pn**	**22 09 12.4**	**+1.0**
KLY	**Klyuchi**	**2.10**	**357**	*e*P	**Pn**	**22 09 15.1**	**+1.4**
KLY				*e*S	**Sn**	**22 09 41.2**	**+2.1**
ESO	**Esso**	**2.11**	**325**	*e*P	**Pn**	**22 09 14.4**	**+0.5**
KRMR	**Karymshinskiy**	**2.15**	**231**	*e*P	**Pn**	**22 09 16.0**	**+1.7**
KRMR				*e*S	**Sn**	**22 09 42.3**	**+2.1**
PETK	**Petropavlovsk-**	**2.19**	**241**	Pn	**Pn**	**22 09 15.0**	**+0.1**
	3.5nm,0.3s,baz=67,slow=18,SNR=27						
PETK				Sn	**Sn**	**22 09 45.6**	**+4.4**
	10.0nm,0.3s,baz=80,slow=27,SNR=13						
SRDR	**Sredinnyy**	**2.20**	**343**	*e*P	**Pn**	**22 09 15.8**	**+0.6**
RUS	**Russkaya**	**2.28**	**219**	*e*P	**Pn**	**22 09 16.8**	**+0.7**
RUS				*e*S	**Sn**	**22 09 43.3**	**-0.1**
**KB

mb5.0/33,Error ellipse: s-maj=18.7km s-min=16.7km az=166.0
*IDC **05** 22:09:55.0±0.5,21°.93S×174°.57W,h0km,mb4.5/20, mbtmp4.5/21,ML3.9/1,MS4.2/42,Error ellipse: s-maj=19.0km s-min=14.8km az=106.0*
*BJI **05** 22:09:56.9,21°.55S×174°.37W,h11km,mB5.4/9,mb5.0/22, Ms4.8/4, Ms7 4.5/4*
*GCMT **05** 22:09:59.8±0.3,22°.06S±0°.03×174°.02W±0°.02,h14km±1km, MW4.9/105,Moment Tensor Solution. s36,c44; s105,c148; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.53±.16; Mθθ-0.14±.10; Mφφ-2.39±.11; Mrθ1.21±.29; Mθφ-1.30±.06; Mφr1.04±.21; Best double couple: M03.19900×10^16^ NP1:φs189.00000°,δ33.00000°, λ65.00000°. NP2:φs38.00000°,δ60.00000°,λ105.00000°. Principal axes: T 3.0500, Plg71.0000°, Azm342.0000°; N 0.2990, Plg13.0000°, Azm210.0000°; P -3.3490, Plg14.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 22:09:54.8±0.4,**21°.83S**±0°.07×**173°.97W**±0°.06,**h10**km, **n398,σ2°68**/120,**mb4.8**/46,**MS4.4**/54,**4C-6D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.68**	**55**	Pn	**Pn**	**22 11 03.1**	**-2.4**
NIUE				Sn	**Sn**	**22 11 54.9**	**-5.0**
AFI	**Afiamalu**	**8.15**	**15**	Pn	**Pn**	**22 11 51.1**	**-2.1**
MSVF	**Nonsavu**	**8.54**	**297**	Pn	Pn	22 12 02.0	+3.3
MSVF	**Nonsavu**	**8.54**	**297**	Pn	Pn	22 12 00.8	+2.1
	3.1nm,0.3s,baz=128,slow=9.4,SNR=23						
MSVF				LR	LR	22 14 55.6	
	comp=Z,3μm,19.5s,baz=123,slow=37						
RAR	**Rarotonga**	**13.23**	**90**	Pn	**Pn**	**22 13 01.0**	**-1.9**
RAR	**Rarotonga**	**13.23**	**90**	Pn	**Pn**	**22 13 00.5**	**-2.3**
	13nm,0.3s,baz=273,slow=8.1,SNR=9.2						
RAR				Sn	Sn	22 15 18.1	-12
	5.2nm,0.3s,baz=134,slow=23,SNR=1.5						
URZ	**Urewera**	**18.09**	**203**	P	**Pn**	**22 14 02.5**	**-3.6**
	0.4nm,0.3s,baz=309,slow=9.1,SNR=1.8						
URZ				S	Sn	22 17 06.7	-21
	2.6nm,0.3s,baz=94,slow=8.2,SNR=1.3						
URZ				LR	LR	22 19 46.5	
	comp=Z,711nm,18.4s,baz=0.5,slow=33 6.9nm,0.7s						
DZM	**Mont Dzumac**	**18.17**	**266**		**P**	**22 14 06.4**	**-1.3**
DZM				IAmb	IAmb	22 14 15.2	
	comp=Z,108nm,1.9s						
DZM	**Mont Dzumac**	**18.17**	**266**	*e*P	**P**	**22 14 13.2**	**+5.5**
	comp=Z,167nm,24.7s						
DZM				*e*S	**Sn**	**22 17 30.7**	**+0.3**
	comp=Z,2μm,26.1s						
DZM				*e*LR	LR	22 18 19.9	
	comp=Z,783nm,23.9s						
TBI	**Tubuai**	**22.68**	**99**	*e*S	Sn	22 19 14.9	-3.9
	comp=Z,3μm,26.0s						
TBI				*e*LR	LR	22 20 20.2	
	comp=Z,2μm,27.2s						
TBI				*e*LR	LR	22 20 24.2	
	comp=Z,4μm,24.8s						
THZ	**Tophouse**	**22.74**	**206**	P	**P**	**22 14 58.3**	**+1.2**
PPT2	**Papeete2**	**23.34**	**84**	*e*P	**P**	**22 15 02.1**	**-1.4**
	comp=Z,75nm,26.0s						
PPT2				*e*S	Sn	22 19 28.5	-6.4
	comp=Z,1μm,24.8s						
PPT2				*e*LR	LR	22 20 32.4	
	comp=Z,892nm,25.5s						
PPT2				*e*LR	LR	22 20 38.9	
	comp=Z,901nm,23.5s						
PPT	**Papeete**	**23.35**	**84**	LR	LR	22 22 44.4	
	comp=Z,766nm,18.8s,baz=262,slow=32						
HNR	**Honiara**	**27.92**	**292**	LR	LR	22 24 55.5	
	comp=Z,293nm,21.7s,baz=166,slow=33						
EIDS	**Eidsvold**	**32.16**	**257**	P	**P**	**22 16 20.4**	**-2.5**
TAOE	**Nuku Hiva Isla**	**34.98**	**74**	*e*LR	LR	22 25 51.5	
	comp=Z,798nm,26.7s						
CTAO	**Charters Tower**	**37.11**	**265**	P	**P**	**22 17 03.6**	**-2.2**
CTAO				IAmb	IAmb	22 17 38.3	
	comp=Z,59nm,1.8s						
TAU	**Tasmania Unive**	**38.42**	**228**	P	**P**	**22 17 16.0**	**-0.5**
TAU				IAmb	IAmb	22 17 47.0	
	comp=Z,35nm,1.4s						
STKA	**Stephens Creek**	**40.64**	**246**	P	**P**	**22 17 33.6**	**-1.7**
STKA	**Stephens Creek**	**40.64**	**246**	P	**P**	**22 17 32.2**	**-3.1**
	comp=Z,1.9nm,0.8s,baz=114,slow=14,SNR=4.7						
STKA				LR	LR	22 33 06.3	
	comp=Z,488nm,19.2s,baz=66,slow=35 comp=Z,1.9nm,0.8s						
COEN	**Coen**	**41.41**	**274**	P	**P**	**22 17 38.8**	**-3.0**
AS31	**Alice Springs**	**47.88**	**257**		**P**	**22 18 30.8**	**-2.6**
ASAR	**Alice Springs**	**47.88**	**257**	P	**P**	**22 18 30.4**	**-3.1**
	comp=Z,6.9nm,0.9s,baz=89,slow=8.4,SNR=31						
ASAR				PcP	**PcP**	**22 20 01.3**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=99,slow=4.4,SNR=4.3						
ASAR				LR	LR	22 37 25.2	
	comp=Z,352nm,18.3s,baz=95,slow=35 comp=Z,6.9nm,0.9s						
WR0	**Warramunga Arr**	**47.95**	**262**	P	**P**	**22 18 32.7**	**-1.3**
WR0				IAmb	IAmb	22 18 46.5	
	comp=Z,28nm,1.6s						
WR8	**Warramunga Arr**	**47.99**	**262**		**P**	**22 18 32.0**	**-2.3**
WR8				IAmb	IAmb	22 18 34.0	
	comp=Z,14nm,1.2s						
WB0	**Warramunga Arr**	**48.13**	**263**	P	**P**	**22 18 32.6**	**-2.8**
WB0				IAmb	IAmb	22 18 36.1	
	comp=Z,8.3nm,0.8s						
WB2	**Warramunga Arr**	**48.13**	**262**	P	**P**	**22 18 32.9**	**-2.5**
WRAB	**Tennant Creek**	**48.14**	**262**	P	**P**	**22 18 33.8**	**-1.6**
WRAB				IAmb	IAmb	22 18 35.8	
	comp=Z,20nm,1.2s						
WRA	**Warramunga Arr**	**48.14**	**262**	P	**P**	**22 18 32.6**	**-2.8**
WRA	**Warramunga Arr**	**48.14**	**262**	P	**P**	**22 18 31.1**	**-4.4**
	comp=Z,5.9nm,0.9s,baz=94,slow=8.0,SNR=31						
WRA				PcP	**PcP**	**22 20 02.9**	**-0.1**
	comp=Z,3.2nm,1.0s,baz=102,slow=4.2,SNR=2.5						
WRA				LR	LR	22 37 33.8	
	comp=Z,153nm,19.6s,baz=283,slow=35 comp=Z,5.9nm,0.9s						
FORT	**Forrest**	**52.24**	**247**	P	**P**	**22 19 04.1**	**-2.3**
FORT				IAmb	IAmb	22 19 05.4	
	comp=Z,13nm,0.7s						
MTN	**Manton Dam**	**52.93**	**270**	P	**P**	**22 19 09.3**	**-2.4**
MTN				IAmb	IAmb	22 19 09.4	
	comp=Z,34nm,1.4s						
GUMO	**Guam**	**53.56**	**307**	LR	LR	22 41 08.9	
	comp=Z,50nm,19.7s,baz=120,slow=35						
KNRA	**Kununurra**	**54.32**	**266**	P	**P**	**22 19 19.6**	**-2.2**
KNRA				IAmb	IAmb	22 19 20.0	
	comp=Z,20nm,1.2s						
FAKI	**Fak Fak**	**55.45**	**282**	P	**P**	**22 19 27.3**	**-2.8**
FITZ	**Fitzroy Crossi**	**56.57**	**262**	P	**P**	**22 19 36.9**	**-1.2**
SBA	**Scott Base**	**56.83**	**185**	P	**P**	**22 19 43.2**	**+4.2**
VNDA	**Vanda**	**56.96**	**186**		**P**	**22 19 42.4**	**+2.5**
VNDA	**Vanda**	**56.96**	**186**	P	**P**	**22 19 41.4**	**+1.5**
	comp=Z,2.6nm,1.0s,baz=9.8,slow=7.7,SNR=10						
VNDA				LR	LR	22 39 56.5	
	comp=Z,96nm,20.6s,baz=18,slow=32 comp=Z,2.6nm,1.0s						
BATI	**Baumata**	**60.70**	**270**	LR	LR	22 46 16.4	
	comp=Z,255nm,18.2s,baz=151,slow=36						
NWAO	**Narrogin (SRO)**	**61.14**	**244**	LR	LR	22 45 51.1	
	comp=Z,264nm,18.1s,baz=136,slow=36						
MBWA	**Marble Bar**	**61.23**	**257**	P	**P**	**22 20 07.6**	**-2.8**
MORW	**Morawa**	**62.80**	**248**	P	**P**	**22 20 18.6**	**-2.3**
JCJ	**Chichijima**	**64.53**	**317**	LR	LR	22 43 35.4	
	comp=Z,125nm,21.6s,baz=314,slow=32						
KAPI	**Kappang**	**66.14**	**274**	LR	LR	22 50 40.2	
	comp=Z,89nm,18.0s,baz=94,slow=37						
TOLI2	**Tolitoli**	**67.55**	**281**	P	**P**	**22 20 49.6**	**-2.3**
TOLI2				IAmb	IAmb	22 20 55.0	
	comp=Z,7.4nm,0.7s						
QSPA	**South Pole Qui**	**68.25**	**180**	P	**P**	**22 20 57.5**	**+1.8**
	comp=Z,8.0nm,1.0s,baz=34,slow=3.5,SNR=13						
QSPA				LR	LR	22 46 29.3	
	comp=Z,205nm,20.5s,baz=41,slow=32 comp=Z,8.0nm,1.0s						
MJAR	**Matsushiro Arr**	**73.54**	**322**	P	**P**	**22 21 28.0**	**0.0**
MJAR	**Matsushiro Arr**	**73.54**	**322**	P	**P**	**22 21 28.0**	**0.0**
	comp=Z,4.2nm,0.7s,baz=153,slow=5.5,SNR=8.7						
MJAR				LR	LR	22 54 04.4	
	comp=Z,38nm,18.2s,baz=152,slow=36 comp=Z,4.2nm,0.7s						
JOW	**Kunigami**	**73.92**	**308**	LR	LR	22 49 03.0	
	comp=Z,104nm,20.3s,baz=202,slow=32						

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NIKH	**Nikolski High**	**74.62**	**3**	P	P	22 21 37.3	+3.4
	baz=186						
UNV	**Unalaska Valle**	**75.63**	**5**	P	P	22 21 42.6	+2.9
	baz=188						
ASAJ	**Asahikawa**	**76.73**	**329**	P	**P**	**22 21 47.9**	**+1.8**
	comp=Z,2.0nm,0.4s,baz=214,slow=4.4,SNR=5.4						
ASAJ				LR	LR	22 51 36.3	
	comp=Z,258nm,20.0s,baz=170,slow=33 comp=Z,2.0nm,0.4s						
LPIG	**La Paz**	**76.91**	**57**	LR	LR	22 49 18.7	
	comp=Z,280nm,19.1s,baz=208,slow=30						
CHNA	**Chernabura Isl**	**77.34**	**8**	P	P	22 21 53.2	+3.9
	baz=194						
PFO	**Pinyon Flats O**	**77.72**	**46**	LR	LR	22 49 45.9	
	comp=Z,126nm,18.5s,baz=230,slow=31						
SDPT	**Sand Point**	**77.73**	**8**	P	P	22 21 54.6	+3.1
	baz=193						
S12K	**Black Hills**	**77.89**	**7**	P	P	22 21 55.5	+3.1
	baz=192						
CMB	**Columbia Colle**	**77.95**	**41**	P	P	22 21 57.7	+4.4
CMB				IAmb	IAmb	22 21 59.9	
	comp=Z,8.0nm,0.9s						
P08K	**Saint George I**	**78.21**	**2**	P	P	22 21 57.6	+3.5
	baz=185						
PMSA	**Palmer Station**	**78.56**	**156**	LR	LR	22 50 18.1	
	comp=Z,163nm,18.2s,baz=264,slow=31						
PETK	**Petropavlovsk-**	**78.57**	**343**	P	**P**	**22 21 57.5**	**+1.2**
	comp=Z,7.5nm,0.8s,baz=121,slow=8.3,SNR=15						
PETK				LR	LR	22 52 19.9	
	comp=Z,174nm,20.1s,baz=148,slow=32 comp=Z,7.5nm,0.8s						
S14K	**Fog Glacier**	**78.76**	**8**	P	P	22 22 01.2	+3.9
	baz=194						
SPIA	**Saint Paul Isl**	**78.76**	**2**	P	P	22 22 00.6	+3.4
	baz=184						
QSM	**Queen of Sheba**	**78.86**	**44**	P	P	22 22 03.2	+5.0
CHIR	**Chirikof Islan**	**78.90**	**10**	P	P	22 22 02.1	+4.1
	baz=198						
YBH	**Yreka Blue Hor**	**79.05**	**36**	LR	LR	22 50 19.8	
	comp=Z,17nm,20.4s,baz=239,slow=30						
NVAR	**Mina Array Bea**	**79.47**	**41**	P	P	22 22 06.7	+4.8
	comp=Z,9.1nm,0.9s,baz=221,slow=8.4,SNR=34 comp=Z,9.1nm,0.9s						
SII	**Sitkinak Islan**	**79.85**	**11**	P	P	22 22 07.5	+4.3
	baz=193						
KSRS	**Korea Array**	**80.39**	**317**	P	**P**	**22 22 07.3**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=141,slow=6.8,SNR=10 comp=Z,2.6nm,0.9s						
R17L	**Mt. Peulik Vol**	**80.52**	**9**	P	P	22 22 10.8	+4.1
	baz=197						
OHAK	**Old Harbor**	**80.64**	**11**	P	P	22 22 11.3	+4.0
	baz=200						
R18K	**Karluk**	**80.76**	**11**	P	P	22 22 12.0	+3.9
	baz=199						
Q17K	**Contact Creek**	**81.20**	**10**	P	P	22 22 14.3	+3.8
	baz=198,SNR=13						
KDAK	**Kodiak Island**	**81.30**	**11**	P	P	22 22 14.9	+4.1
	baz=201						
O14K	**Tigyukauivet M**	**81.46**	**7**	P	P	22 22 15.3	+3.6
	baz=192						
Q16K	**King Salmon**	**81.48**	**9**	P	P	22 22 15.8	+4.0
	baz=197						
O15K	**Ungalikthiuk R**	**81.55**	**7**	P	P	22 22 15.7	+3.5
	baz=194						
MAW	**Mawson**	**81.56**	**199**	P	**P**	**22 22 13.2**	**+0.8**
	comp=Z,2.5nm,0.9s,baz=204,slow=3.7,SNR=4.4						
MAW				LR	LR	22 56 51.7	
	comp=Z,261nm,19.2s,baz=117,slow=35 comp=Z,2.5nm,0.9s						
P16K	**Nushagak River**	**81.64**	**8**	P	P	22 22 16.9	+4.3
	baz=196,SNR=5.3						
Q18K	**Katmai Hardscr**	**81.70**	**10**	P	P	22 22 16.5	+3.3
	baz=198,SNR=9.9						
WVOR	**Wild Horse Val**	**81.80**	**38**	P	P	22 22 18.5	+4.4
WVOR				IAmb	IAmb	22 22 20.7	
	comp=Z,7.2nm,1.1s						
P17K	**Kvichak River**	**82.01**	**9**	P	P	22 22 18.6	+4.0
	baz=197,SNR=5.4						
N14K	**Kuskokwak Cree**	**82.07**	**6**	P	P	22 22 19.7	+4.8
	baz=192						
Q20K	**Shuyak Island**	**82.11**	**11**	P	P	22 22 19.6	+4.5
	baz=201						
H03S2	**Juan Fernandez**	**82.13**	**123**	T	T	23 54 18.8	
	baz=247,slow=74,SNR=6.2						
H03S1	**Juan Fernandez**	**82.15**	**123**	T	T	23 54 19.9	
	baz=247,slow=74,SNR=5.4						
H03S3	**Juan Fernandez**	**82.15**	**123**	T	T	23 54 18.6	
	baz=247,slow=74,SNR=5.7						
M11K	**Mekoryuk**	**82.16**	**4**	P	P	22 22 19.4	+4.1
	baz=188						
O16K	**Kokwok River B**	**82.17**	**8**	P	P	22 22 19.5	+4.1
	baz=195						
Q19K	**Cape Douglas,**	**82.19**	**10**	P	P	22 22 19.3	+3.7
	baz=200						
USRK	**Ussuriysk Ar.**	**82.20**	**324**	P	**P**	**22 22 17.8**	**+1.8**
	comp=Z,2.9nm,0.9s,baz=116,slow=6.6,SNR=4.5						
USRK				LR	LR	22 55 44.0	
	comp=Z,141nm,19.4s,baz=129,slow=34 comp=Z,2.9nm,0.9s						
P18K	**Big Mountain,**	**82.38**	**10**	P	P	22 22 19.6	+3.0
	baz=198						
M13K	**Dall Lake**	**82.40**	**5**	P	P	22 22 20.5	+3.9
	baz=190						
O17K	**Koliganek Bris**	**82.47**	**9**	P	P	22 22 20.8	+3.8
	baz=196						
N15K	**Kwethluk River**	**82.48**	**7**	P	P	22 22 21.0	+3.9
	baz=194						
ELK	**Elko**	**82.76**	**41**	LR	LR	22 55 58.8	
	comp=Z,189nm,18.7s,baz=232,slow=33						
O18K	**Koktuh Hills**	**82.83**	**9**	P	P	22 22 23.0	+4.1
	baz=198						
M14K	**Bethel**	**82.86**	**6**	P	P	22 22 22.9	+3.9
	baz=192						
M15K	**Kasigluk River**	**82.93**	**7**	P	P	22 22 23.4	+4.0
	baz=193						
N16K	**Nishlik Lake**	**82.94**	**8**	P	P	22 22 23.6	+4.1
	baz=195						
P19K	**Oil Pt**	**82.95**	**10**	P	P	22 22 23.5	+3.9
	baz=200						
N17K	**Nushagak Hills**	**83.19**	**8**	P	P	22 22 25.0	+4.3
	baz=196						
HOM	**Homer**	**83.23**	**11**	P	P	22 22 24.7	+3.7
	baz=201						
O19K	**Port Alsworth**	**83.29**	**10**	P	P	22 22 25.2	+3.9
	baz=199						
L14K	**Kuk Creek**	**83.38**	**5**	P	P	22 22 26.0	+4.3
	baz=191						
M16K	**Timber Creek**	**83.45**	**7**	P	P	22 22 26.8	+4.7
	baz=194						
O20K	**Slope Mountain**	**83.46**	**11**	P	P	22 22 26.2	+3.9
	baz=200						
N18K	**Kilae Creek**	**83.52**	**9**	P	P	22 22 26.2	+3.7
	baz=197						
NJ2	**Nanjing**	**83.64**	**308**	*e*P	**P**	**22 22 25.0**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
K13K	**Kusilvak Mount**	**83.80**	**4**	P	P	22 22 27.8	+3.9
	baz=189						
L15K	**Ungalak Mounta**	**83.82**	**6**	P	P	22 22 27.7	+3.7
	baz=192						
N19K	**Bonanza Creek**	**83.85**	**9**	P	P	22 22 27.9	+3.6
	baz=199						
BBB	**Bella Bella**	**83.85**	**26**	LR	LR	22 55 37.8	
	comp=Z,106nm,18.4s,baz=197,slow=33						
M17K	**Holitna River**	**84.00**	**8**	P	P	22 22 29.0	+4.1
	baz=196						
SEW	**Seward**	**84.06**	**12**	P	P	22 22 29.3	+4.1
	baz=203						
L16K	**Owhat River**	**84.06**	**7**	P	P	22 22 29.3	+4.1
	baz=194,SNR=5.9						
M18K	**Stony River**	**84.30**	**9**	P	P	22 22 30.6	+4.2
	baz=197						
P23K	**Montague Islan**	**84.38**	**13**	P	P	22 22 31.0	+4.2
	baz=205						
K15K	**Wolf Creek Mou**	**84.42**	**6**	P	P	22 22 31.0	+4.0
	baz=192						
CRAG	**Craig**	**84.47**	**22**	P	P	22 22 32.5	+5.1
	baz=218						
L17K	**Donlin**	**84.61**	**7**	P	P	22 22 32.3	+4.3
	baz=195						
TXAR	**Lajitas Array**	**84.65**	**56**	P	P	22 22 33.0	+3.9
	comp=Z,7.3nm,1.0s,baz=211,slow=7.1,SNR=40 comp=Z,7.3nm,1.0s						
J14K	**Nanvaranak Lak**	**84.69**	**5**	P	P	22 22 33.2	+4.8
	baz=190						
L18K	**Granite Mounta**	**84.89**	**8**	P	P	22 22 33.9	+4.6
	baz=197						
V35K	**Ketchikan**	**84.89**	**23**	P	P	22 22 34.5	+5.0
	baz=219						

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M19K	**Big River Lodg**	**84.91**	**9**	P	P	22 22 33.8	+4.3
	baz=199						
RC01	**Rabbit Creek A**	**84.92**	**12**	P	P	22 22 34.0	+4.4
	baz=203						
KAIM	**Kayak Island**	**84.97**	**14**	P	P	22 22 34.8	+5.0
	baz=208						
PWL	**Port Wells**	**84.97**	**12**	P	P	22 22 34.5	+4.7
	baz=204,SNR=5.8						
U33K	**Whale Pass**	**84.99**	**22**	P	P	22 22 34.8	+4.9
	baz=218						
SIT	**Sitka**	**85.02**	**20**	P	P	22 22 35.0	+4.9
	baz=216						
M20K	**Styx River**	**85.08**	**10**	P	P	22 22 34.9	+4.5
	baz=200						
SUA	**Susitna One**	**85.08**	**11**	P	P	22 22 35.0	+4.5
	baz=202						
L19K	**White Mountain**	**85.10**	**9**	P	P	22 22 34.9	+4.4
	baz=198						
K17K	**Iditarod**	**85.17**	**7**	P	P	22 22 35.5	+4.7
	baz=195						
EYAK	**Cordova Ski Ar**	**85.23**	**14**	P	P	22 22 36.0	+4.9
	baz=207						
GLI	**Glacier Island**	**85.24**	**13**	P	P	22 22 35.8	+4.6
	baz=205						
GAMB	**Gambell**	**85.34**	**1**	P	P	22 22 35.6	+4.1
	baz=183						
ANMO	**Albuquerque**	**85.35**	**50**	LR	LR	22 54 47.7	
	comp=Z,306nm,18.9s,baz=334,slow=31						
SKT	**Skwentna**	**85.43**	**10**	P	P	22 22 36.5	+4.4
	baz=201						
KNK	**Knik Glacier**	**85.46**	**12**	P	P	22 22 36.6	+4.3
	baz=204						
S31K	**Pelican**	**85.48**	**19**	P	P	22 22 37.5	+5.1
	baz=215						
J16K	**Anvik River**	**85.48**	**6**	P	P	22 22 36.9	+4.6
	baz=193						
WRAK	**Wrangell Islan**	**85.49**	**22**	P	P	22 22 38.0	+5.5
	baz=219						
PMR	**Palmer**	**85.50**	**12**	P	P	22 22 36.3	+3.9
	baz=204						
L20K	**Farewell, AK**	**85.53**	**9**	P	P	22 22 37.2	+4.5
	baz=199						
S32K	**Killisnoo**	**85.59**	**20**	P	P	22 22 38.1	+5.2
	baz=217						
KLR	**Kul'dur**	**85.61**	**328**	P	**P**	**22 22 32.8**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=139,slow=19,SNR=3.2						
KLR				LR	LR	22 56 46.1	
	comp=Z,162nm,20.0s,baz=160,slow=33 comp=Z,1.4nm,0.8s						
PLCA	**Paso Flores**	**85.62**	**132**	P	**P**	**22 22 35.6**	**+1.7**
	comp=Z,3.0nm,1.0s,baz=222,slow=7.9,SNR=4.4						
PLCA				LR	LR	22 55 16.0	
	comp=Z,161nm,18.1s,baz=245,slow=32 comp=Z,3.0nm,1.0s						
CN2	**Changchun**	**85.67**	**321**	P	**P**	**22 22 34.8**	**+1.1**
CN2				S	**S**	**22 33 05.8**	**-0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BNX	**BinXian**	**85.70**	**323**	⇓P	**P**	**22 22 36.4**	**+2.6**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.8s						
J17K	**VABM Dome**	**85.75**	**7**	P	P	22 22 38.1	+4.5
	baz=194						
MESA	**MESA**	**85.78**	**15**	P	P	22 22 38.6	+4.5
	baz=210						
BMRM	**Bremner River**	**85.86**	**14**	P	P	22 22 38.9	+4.6
	baz=208						
PNL	**Peninsula**	**86.00**	**17**	P	P	22 22 39.6	+4.6
	baz=212						
CRQE	**Cirque**	**86.01**	**15**	P	P	22 22 39.6	+4.4
	baz=209						
KLU	**Klutina**	**86.04**	**13**	P	P	22 22 39.7	+4.4
	baz=206						
I17K	**Unalakleet**	**86.06**	**6**	P	P	22 22 39.5	+4.4
	baz=193						
SCM	**Sheep Creek Mo**	**86.06**	**12**	P	P	22 22 39.3	+4.0
	baz=205,SNR=5.6						
J18K	**Innoko River**	**86.09**	**8**	P	P	22 22 39.8	+4.5
	baz=197						
PINM	**Pinnacle**	**86.14**	**16**	P	P	22 22 39.6	+3.9
	baz=212						
PPLA	**Purkeypile**	**86.18**	**10**	P	P	22 22 39.9	+3.9
	baz=201						
R32K	**Eaglecrest**	**86.26**	**20**	P	P	22 22 41.6	+5.3
	baz=217						
NEW	**Newport**	**86.31**	**34**	LR	LR	22 56 19.5	
	comp=Z,452nm,19.2s,baz=206,slow=32						
K20K	**Telida**	**86.34**	**9**	P	P	22 22 41.0	+4.4
	baz=199						
ANM	**Nome**	**86.37**	**4**	P	P	22 22 41.2	+4.5
	baz=188						
TROLL	**Troll, Antarti**	**86.38**	**179**	⇑P	**P**	**22 22 37.8**	**+0.7**
	comp=Z,204nm,0.8s						
P29M	**Windy Craggy**	**86.42**	**18**	P	P	22 22 42.1	+5.0
	baz=214						
N25K	**Chitina, Valde**	**86.43**	**14**	P	P	22 22 41.8	+4.7
	baz=208						
M24K	**Tolsona, Glenn**	**86.54**	**13**	P	P	22 22 42.4	+4.7
	baz=206						
SNAA	**Sanae**	**86.55**	**177**	⇑P	**P**	**22 22 39.0**	**+1.1**
	comp=Z,92nm,1.0s						
SNAA				⇑x	x	22 22 40.3	
	comp=E,26nm,0.9s						
SNAA	**Sanae**	**86.55**	**177**	P	**P**	**22 22 38.8**	**+0.9**
	comp=E,6.1nm,1.1s,baz=184,slow=6.0,SNR=10						
SNAA				LR	LR	22 57 35.0	
	comp=E,190nm,20.6s,baz=222,slow=33 comp=E,6.1nm,1.1s						
CMIG	**Matias Romero**	**86.55**	**70**	LR	LR	22 53 02.1	
	comp=E,168nm,19.4s,baz=242,slow=30						
MCARA	**McCarthy VSAT**	**86.58**	**14**	P	P	22 22 41.8	+4.0
	baz=209						
CTG	**Chitna Glacier**	**86.62**	**15**	P	P	22 22 42.6	+4.4
	baz=211						
T35M	**Bob Quinn**	**86.66**	**22**	P	P	22 22 43.0	+4.7
	baz=220						
WAT6	**Susitna Watana**	**86.67**	**12**	P	P	22 22 41.9	+3.5
	baz=205,SNR=8.9						
PLBC	**Pleasant Camp**	**86.67**	**18**	P	P	22 22 42.8	+4.6
	baz=215						
CAST	**Castle Rocks**	**86.69**	**10**	P	P	22 22 41.7	+3.3
	baz=201,SNR=9.6						
J19K	**Poorman**	**86.73**	**8**	P	P	22 22 42.5	+4.0
	baz=198						
O28M	**Mount Upton**	**86.74**	**16**	P	P	22 22 43.2	+4.2
	baz=212						
WAT1	**Susitna Watana**	**86.74**	**11**	P	P	22 22 42.9	+4.3
	baz=204						
O29M	**Mount Kennedy**	**86.76**	**17**	P	P	22 22 42.7

MCK McKinley 87.51 11 P P 22 22 46.4 +4.1
baz=204,SNR=6.2
Q32M Nakina River 87.52 20 P P 22 22 47.0 +4.3
baz=219
H18K Honhosa River 87.53 7 P P 22 22 46.3 +3.9
baz=195
YUK3 Moose Creek 87.53 15 P P 22 22 47.0 +4.2
baz=211
F15K North Star Dit 87.55 4 P P 22 22 45.9 +3.5
baz=189
P32M Atlin 87.57 19 P P 22 22 47.3 +4.5
baz=217
YUK4 Talbot Arm 87.62 16 P P 22 22 47.7 +4.5
baz=213
G17K Kiwalik Mounta 87.65 6 P P 22 22 47.0 +4.1
baz=193
I20K Naaghedeneel 87.65 8 P P 22 22 46.9 +4.0
baz=199
M27K Edge Creek, AK 87.70 14 P P 22 22 47.6 +4.2
baz=210
O30N Mendenhall 87.83 18 P P 22 22 48.2 +4.3
baz=215
DLBC Dease Lake 87.85 21 LR LR 22 57 16.1
comp=E,7.7nm,18.1s,baz=212,slow=32
DLBC Dease Lake 87.85 21 P P 22 22 48.6 +4.4
baz=221
L26K Log Cabin Wild 87.96 13 P P 22 22 48.2 +3.7
baz=209
BVCY Beaver Creek 87.99 15 P P 22 22 49.1 +4.4
baz=211
WHY Whitehorse 88.08 18 P P 22 22 49.3 +4.1
baz=216
H19K Roundabout Mou 88.11 7 P P 22 22 49.0 +4.0
baz=197
N30M Aishikik Lake 88.13 17 P P 22 22 49.4 +4.0
baz=214
K24K Donnelly Dome 88.16 12 P P 22 22 49.1 +3.7
baz=207
G18K Tagagawik 88.22 6 P P 22 22 50.3 +4.7
baz=195
H20K Anotleneega Mo 88.27 8 P P 22 22 50.0 +4.1
baz=198
NEA2 Nenana 88.28 10 P P 22 22 50.4 +4.5
baz=204
R33M Jennings River 88.28 20 P P 22 22 50.7 +4.4
baz=220
RIDG Independent Ri 88.28 13 P P 22 22 50.0 +4.0
baz=207
L27K Beaver Creek, 88.33 14 P P 22 22 50.7 +4.4
baz=210
P33M Teslin, Yukon 88.34 19 P P 22 22 51.0 +4.6
P33M IAmb IAmb 22 23 12.3
comp=Z,17nm,1.9s
P33M Teslin, Yukon 88.34 19 P P 22 22 50.8 +4.3
baz=218
PSI Prapat 88.34 274 LR LR 23 05 33.4
comp=Z,163nm,18.2s,baz=136,slow=38
MLY Manley 88.41 10 P P 22 22 50.9 +4.2
baz=202
HEH HeiHe 88.44 327 *e*P **P** **22 22 48.2 +1.2**
HEH pP pwP 22 22 50.8 -8.2
HEH S **S** **22 33 36.1 +3.5**
HEH pmax pmax
comp=Z,12nm,1.2s
HEH pmax pmax
comp=Z,99nm,6.9s
HEH LR LR
comp=Z,99nm,18.7s
HEH LR LR
comp=Z,120nm,17.4s
HEH LR LR
comp=Z,220nm,16.7s
HDA Harding Lake 88.48 11 P P 22 22 51.6 +4.7
baz=206
N31M Braeburn, Yuko 88.51 17 P P 22 22 51.8 +4.7
baz=216
F17K Baldwin Pennin 88.52 5 P P 22 22 51.3 +4.3
baz=192
M29M Somme Creek 88.60 16 P P 22 22 52.5 +4.9
baz=213
G19K Purcell Mounta 88.63 7 P P 22 22 52.4 +4.8
baz=196
SCRK Sand Creek 88.67 13 P P 22 22 51.9 +3.9
baz=208
H21K Melozitna Rive 88.70 9 P P 22 22 52.2 +4.3
baz=200
I23K Minto, Yukon-K 88.74 10 P P 22 22 52.2 +4.1
baz=203
F18K Selawik 88.82 6 P P 22 22 52.4 +4.0
baz=194
ILAR Eielson Array 88.82 11 P **P** **22 22 51.0 +2.4**
comp=Z,4.1nm,0.9s,baz=225,slow=4.3,SNR=25
comp=Z,4.1nm,0.9s
J25K Salcha River, 88.96 12 P P 22 22 54.1 +4.9
baz=207
E17K Hotham Inlet 89.11 5 P P 22 22 54.4 +4.6
baz=192
K27K Chicken 89.12 13 P P 22 22 54.8 +4.9
baz=210
H22K Ishtalitna Cre 89.13 9 P P 22 22 54.4 +4.5
baz=201
M30M Minto, Yukon 89.14 16 P P 22 22 54.3 +4.2
baz=215
J26L Joseph Creek 89.22 13 P P 22 22 55.2 +4.7
baz=209
F19K Shaleruckik Mo 89.23 6 P P 22 22 54.8 +4.5
baz=196
L29M L29M 89.24 15 P P 22 22 55.4 +4.9
baz=213
H23K Yukon River 89.34 10 P P 22 22 55.6 +4.6
baz=203
G21K Allakaket 89.42 8 P P 22 22 55.4 +4.1
baz=200
M31M Drury Creek, Y 89.47 17 P P 22 22 56.6 +4.9
baz=217
BJI Beijing 89.49 314 P P 22 22 57.2 +5.0
BJI S **S** **22 33 48.3 +5.4**
BJI pmax pmax
comp=Z,7.0nm,0.8s
E18K Tukpahlearik C 89.54 5 P P 22 22 56.2 +4.4
baz=193
WTLY Watson Lake, Y 89.54 21 P P 22 22 57.3 +5.3
baz=222
H24K Noodor Dome 89.62 10 P P 22 22 56.9 +4.6
baz=205
D17K Noatak River 89.63 4 P P 22 22 56.9 +4.7
baz=191
F20K Avaraart Lake 89.66 7 P P 22 22 57.0 +4.7
baz=197
PRP Porcupine Dome 89.75 11 P P 22 22 57.1 +4.1
baz=207
DAWY Dawson 89.75 14 P P 22 22 57.6 +4.7
baz=212
FARO Faro, Yukon 89.79 18 P P 22 22 58.2 +5.0
baz=218
TOAD Toad River Com 89.84 23 P P 22 22 58.4 +4.9
baz=225
E19K Redstone River 89.89 6 P P 22 22 58.3 +4.9
baz=196
LIRD Liard River Hi 89.94 22 P P 22 22 58.7 +4.8
baz=224
RDOG Red Dog Mine 89.99 4 P P 22 22 58.4 +4.5
baz=191
K29M Barlow Dome 90.01 15 P P 22 22 59.1 +4.9
baz=214
I26K Coal Creek Min 90.02 12 P P 22 22 58.5 +4.4
baz=209
G22K Bettles 90.07 9 P P 22 22 58.8 +4.5
baz=201
G23K Bananza Creek 90.09 9 P P 22 22 58.4 +4.0
baz=203
F21K Alatna River 90.09 8 P P 22 22 58.6 +4.2
baz=200
G24K Hadweenzic Riv 90.48 10 P P 22 23 00.9 +4.6
baz=205
F22K John River 90.53 8 P P 22 23 00.9 +4.4
baz=201
COLD Coldfoot 90.54 9 P P 22 23 01.1 +4.6
baz=202
I27K Kandik River 90.59 13 P P 22 23 01.1 +4.3
baz=210
MMPY Sheldon Lake, 90.70 18 P P 22 23 02.6 +5.2
baz=220
C18K Utukok River 90.70 5 P P 22 23 01.6 +4.4
baz=192
E20K Nigu River 90.77 7 P P 22 23 02.5 +4.9
baz=197
G25K Bearman Lake 90.77 11 P P 22 23 03.0 +5.5
baz=206
TGTN Hyland Airport 90.77 20 P P 22 23 02.6 +4.8
baz=222
D19K Kuna River 90.81 6 P P 22 23 02.6 +4.9
baz=195
I28M Miner Creek 90.81 14 P P 22 23 02.8 +4.9
baz=212
J30M Hart River 90.91 15 P P 22 23 03.1 +4.7
baz=215
H27K Steamboat Moun 91.15 13 P P 22 23 04.5 +5.1
baz=210
F24K Squaw Lake 91.16 10 P P 22 23 04.4 +5.0
baz=205
D20K Etivluk River 91.17 6 P P 22 23 04.4 +5.0
baz=197
E22K Anaktuvuk Pass 91.17 8 P P 22 23 04.2 +4.7
baz=201
KOTAN Kotaneelee Air 91.18 23 P P 22 23 04.9 +5.2
baz=226
E21K Killik River 91.19 7 P P 22 23 04.1 +4.6
baz=199
C19K Lookout Ridge 91.27 5 P P 22 23 04.8 +4.8
baz=194
G26K Porcupine Rive 91.35 11 P P 22 23 04.8 +4.6
baz=208
E23K Chandalar 91.40 9 P P 22 23 05.3 +4.7
baz=203
I30M Mount Dempster 91.43 15 P P 22 23 05.5 +4.7
baz=215
XLT XiLinHaoTe 91.44 317 *e*P **P** **22 23 01.5 +0.2**
XLT pP pwP 22 23 06.6 -6.8
XLT pmax pmax
comp=Z,4.0nm,0.8s
XLT pmax pmax
comp=Z,120nm,5.4s
E24K Your Creek 91.58 9 P P 22 23 06.2 +4.8
baz=204
F25K Christian Rive 91.60 10 P P 22 23 06.2 +4.8
baz=207
G27K Doyon Strip 91.63 12 P P 22 23 05.7 +4.0
baz=210
D22K Ayikyak River 91.76 8 P P 22 23 06.4 +4.3
baz=200
C21K Knifeblade Rid 91.78 7 P P 22 23 06.9 +4.7
baz=198
H29M Whitestone 91.81 14 P P 22 23 06.8 +4.3
baz=213
XAN Xi'an 91.94 306 P **P** **22 23 06.0 +2.2**
XAN S **S** **22 34 09.5 +3.8**
XAN pmax pmax
comp=Z,16nm,0.9s
XAN pmax pmax
comp=Z,230nm,5.0s
F26K Sheenjek River 91.95 11 P P 22 23 07.5 +4.5
baz=208
TOLK Toolik Lake Re 91.95 9 P P 22 23 07.5 +4.5
baz=203
E25K Arctic Village 92.09 10 P P 22 23 08.0 +4.3
baz=207
NNA Nana 92.10 104 LR LR 22 57 26.3
comp=Z,138nm,18.2s,baz=236,slow=31
D23K Nanushuk River 92.10 8 P P 22 23 08.2 +4.5
baz=202
EPYK Eagle Plains 92.31 14 P P 22 23 09.5 +4.8
baz=215
B20K Meade River 92.36 6 P P 22 23 09.6 +4.7
baz=196
H31M Peel River 92.40 15 P P 22 23 10.1 +4.9
baz=217
G29M Pine Creek 92.47 13 P P 22 23 10.1 +4.6
baz=214
ATAH Atahualpa 92.52 99 LR LR 22 56 28.7
comp=Z,278nm,18.7s,baz=258,slow=30
D24K Happy Valley 92.53 9 P P 22 23 10.4 +4.8
baz=204
F28M Old Crow 92.68 12 P P 22 23 11.3 +4.8
baz=212
E27K Coleen River 92.84 12 P P 22 23 12.2 +5.0
baz=210
JTS Las Juntas de 92.87 80 LR LR 22 57 30.8
comp=Z,76nm,18.1s,baz=272,slow=31
C23K Itkillik River 92.92 8 P P 22 23 11.9 +4.4
baz=202
G30M tAoh Zraii Nji 92.92 14 P P 22 23 12.5 +5.0
baz=215
HHC Hu-ho-hao-te 92.98 313 *e*P P 22 23 11.9 +3.3
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,55nm,6.0s
HHC LR LR
comp=Z,130nm,17.3s
HHC LR LR
comp=Z,130nm,17.1s
HHC LR LR
comp=Z,140nm,19.0s
D25K Kavik River 93.04 9 P P 22 23 12.8 +4.7
baz=206
B22K Teshekpuk Lake 93.06 7 P P 22 23 13.4 +5.3
baz=200
C24K Franklin Bluff 93.07 9 P P 22 23 12.9 +4.8
baz=204
KMI Kunming 93.30 296 P **P** **22 23 13.0 +2.4**
KMI pmax pmax
comp=Z,9.0nm,0.9s
KMI LR LR
comp=Z,130nm,17.6s
KMI LR LR
comp=Z,200nm,15.1s
KMI LR LR
comp=Z,240nm,21.0s
G31M Satah River 93.32 15 IAmb IAmb 22 23 15.7
comp=Z,6.3nm,0.8s
G31M Satah River 93.32 15 P P 22 23 14.2 +4.8
baz=217
A22K Sinclair Lake 93.53 6 P P 22 23 15.1 +4.9
baz=198
F30M Barrier River 93.54 14 P P 22 23 15.3 +5.0
baz=216
E28M Babbage River 93.60 12 P P 22 23 15.4 +4.8
baz=212
A21K Barrow 93.68 6 P P 22 23 15.1 +4.2
baz=197
E29M Blow River 93.74 13 P P 22 23 16.2 +5.0
baz=214
C27K Jago River 93.74 10 P P 22 23 16.0 +4.8
baz=208
F31M Tsiigehtchic 93.86 14 P 22 23 16.1 +4.3
F31M Tsiigehtchic 93.86 14 P P 22 23 16.5 +4.7
baz=218
D27M Malcolm River 93.88 11 P P 22 23 16.1 +4.1
baz=211
CMAR Chiang Mai Arr 94.10 288 **P** **22 23 14.5 +0.4**
CMAR Chiang Mai Arr 94.10 288 P **P** **22 23 14.8 +0.7**
comp=Z,1.3nm,0.3s,baz=109,slow=2.4,SNR=14
CMAR LR LR 23 06 20.9
comp=Z,28nm,18.6s,baz=190,slow=36
comp=Z,1.3nm,0.3s
CHTO Chiang Mai 94.23 288 **P** **22 23 14.8 +0.1**
CHTO IAmb IAmb 22 23 16.8
comp=Z,8.5nm,1.1s
PZH PanZhiHua 94.66 297 P **P** **22 23 18.7 +2.1**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.1s
YAK Yakutsk 94.78 337 LR LR 23 02 06.9
comp=Z,70nm,19.3s,baz=125,slow=33
YKA Yellowknife Ar 96.18 24 P **P** **22 23 23.6 +1.1**
comp=Z,1.2nm,0.8s,baz=248,slow=3.7,SNR=6.5
YKA LR LR 23 03 50.6
comp=Z,78nm,18.0s,baz=248,slow=34
comp=Z,1.2nm,0.8s
F33A 5 Mile Ranch, 97.22 44 P Pdif 22 23 31.2 +3.4
F33A IAmb IAmb 22 23 33.5
comp=Z,6.5nm,1.0s
LPAZ La Paz 98.08 111 LR LR 23 01 37.0
comp=Z,254nm,18.0s,baz=238,slow=32
ULM Lac du Bonnet 99.23 40 LR LR 23 05 22.9
comp=Z,228nm,18.9s,baz=272,slow=33
SONM Songino Array 99.24 318 LR LR 23 08 31.1
comp=Z,35nm,18.3s,baz=179,slow=36
MKAR Makanchi Array 114.85 313 PKP **PKiKP** **22 28 37.1 +1.3**
comp=Z,0.3nm,0.8s,baz=114,slow=1.7,SNR=2.9
BVAR Borovoye Array 122.51 320 PKP **PKiKP** **22 28 49.7 -0.7**
comp=Z,1.4nm,0.9s,baz=95,slow=3.3,SNR=6.2
EKA Eskdalemuir Ar 145.84 9 PKPbc **PKiKP** **22 29 37.4 -0.2**
comp=Z,4.5nm,0.9s,baz=344,slow=2.6,SNR=6.4
AKASG Malin Array Be 145.94 333 PKPbc **PKiKP** **22 29 35.0 -2.9**
comp=Z,6.4nm,0.9s,baz=41,slow=3.7,SNR=11
BEL Belsk 147.93 343 *e*PKP **PKPab** **22 29 42.6 -0.1**
KWP Kalwaria Pacla 149.27 339 *e*PKP **PKPab** **22 29 47.2 -1.0**
KSP Ksiaz 149.94 347 *e*PKP **PKPab** **22 29 49.7 -1.2**
NIE Niedzica 150.23 341 *e*PKP **PKPab** **22 29 48.3 -3.8**
OSTC Ostas 150.23 347 *e*PKPAB **PKPab** **22 29 51.2 -0.9**
OSTC AMS AMS 23 41 10.0
comp=Z,200nm,22.5s
CHVC Chvalec 150.24 347 AMS AMS 23 40 40.0
comp=Z,200nm,21.0s
UPC Upice 150.32 347 AMS AMS 23 41 00.0
comp=Z,200nm,18.9s
BRG Berggiesshubel 150.35 350 *e*PKP **PKPab** **22 29 50.4 -2.1**
BRG Amp 22 29 52.0
comp=Z,6.2nm,0.9s
BRG Berggiesshubel 150.35 350 P **PKPab** **22 29 56.5 +4.0**
BRG Amp 22 29 58.0
comp=Z,5.9nm,1.0s
DPC Dobruska-Polom 150.40 347 *e*PKPAB **PKPab** **22 29 51.6 -1.2**
DPC AMS AMS 23 41 10.0
comp=Z,200nm,18.4s
STEB Steborice 150.46 345 *e*PKPAB **PKPab** **22 29 51.3 -1.7**
BRTR Keskin Array B 150.49 313 PKPbc **PKiKP** **22 29 48.4 +0.5**
comp=Z,2.6nm,1.0s,baz=126,slow=2.1,SNR=11
KRLC Kraliky 150.56 346 *e*PKPAB **PKPab** **22 29 50.2 -3.3**
PVCC Panska Ves 150.58 349 *e*PKPAB **PKPab** **22 29 52.0 -1.4**
MORC Moravsky Berou 150.66 345 *e*PKP **PKPab** **22 29 50.6 -3.3**
LANS Liptovska Anna 150.72 342 *e*PKP **PKPab** **22 29 51.8 -2.3**
MAUC Maruska 150.97 344 *e*PKP **PKPab** **22 29 53.1 -2.0**
PRU Pruhonice 151.10 349 *e*PKPAB **PKPab** **22 29 53.1 -2.5**
PRU AMS AMS 23 47 30.0
comp=Z,100nm,13.6s
NKC Novy Kostel 151.20 351 AMS AMS 23 45 00.0
comp=Z,200nm,23.3s
MEM Membach 151.28 0 *d*PKP **PKiKP** **22 29 50.9 +2.0**
BTNL Ternell 151.30 360 *d*PKP **PKPab** **22 29 51.1 -5.3**
VRAC Vranov 151.32 346 *e*PKP **PKPab** **22 29 51.8 -4.8**
JAVC Velka Javorina 151.47 344 *e*PKP **PKPab** **22 29 53.7 -3.6**
VYHS Vyhne 151.49 342 *e*PKP **PKPab** **22 29 53.5 -3.8**
BGES Gesves 151.49 1 *d*PKP **PKPab** **22 29 52.2 -5.0**
TREC Trest 151.58 347 AMS AMS 23 39 40.0
comp=Z,100nm,22.8s
KRUC Moravsky 151.60 346 *e*PKP **PKPab** **22 29 52.7 -5.0**
ZVC Zvikov 151.69 349 *e*PKPAB **PKPab** **22 29 54.1 -4.0**
ZVC AMS AMS 23 44 50.0
comp=Z,200nm,24.6s
MMAI Mount Meron Ar 151.73 300 PKPbc **PKiKP** **22 29 51.2 +0.7**
comp=Z,5.7nm,1.0s,baz=79,slow=8.6,SNR=6.1
DOU Dourbes 151.77 2 *d*PKP **PKiKP** **22 29 51.7 +1.8**
MODS Modra-Piesok 152.02 344 *e*PKP **PKPab** **22 29 54.1 -5.4**
MODS *e* 22 30 02.4
KHC Kasperske Hory 152.10 349 *e*PKPAB **PKPab** **22 29 54.5 -5.4**
KHC AMS AMS 23 50 10.0
comp=Z,100nm,16.7s
WLF Walferdange 152.22 360 *d*PKP **PKPab** **22 29 55.0 -5.2**
CKRC Cesky Krumlov 152.27 348 *e*PKPAB **PKPab** **22 29 55.8 -4.8**
CKRC AMS AMS 23 40 10.0
comp=Z,100nm,19.7s
GERES GERESS Array B 152.35 349 PKPbc **PKiKP** **22 29 53.2 +1.8**
comp=Z,1.4nm,0.8s,baz=304,slow=1.0,SNR=10
CONA Conrad Observa 152.78 345 *i* pPKP **PKPbc** **22 29 50.0 -2.1**
comp=Z,0.9nm,0.5s
RONA Rosalia, Austr 152.90 345 *e*pPKP **PKiKP** **22 29 52.0 -0.4**
comp=Z,1.9nm,0.9s
MOA Molln 153.21 348 *i* PKiKP **PKiKP** **22 29 56.2 +3.1**
comp=Z,1.0nm,0.7s
BIOA Bad Ischl, Aus 153.48 348 *i* PKiKP **PKiKP** **22 29 57.7 +4.1**
comp=Z,0.3nm,0.5s
ARSA Arzberg 153.50 345 *i* PKP **PKiKP** **22 29 55.8 +2.2**
comp=Z,1.8nm,1.1s
LESA Schwarzleotal 153.91 350 *e*PKP **PKPab** **22 30 09.5 +1.9**
comp=Z,0.6nm,0.7s
RETA Reutte 154.12 353 *e*PKP **PKPab** **22 30 10.0 +1.5**
comp=Z,2.5nm,1.0s
KBA Koelnbreinsper 154.12 348 *e*PKiKP **PKiKP** **22 29 58.9 +3.8**
comp=Z,1.9nm,1.1s
SOKA Soboth 154.15 346 *e*PKiKP **PKiKP** **22 29 59.0 +3.9**
comp=Z,1.7nm,0.9s
MOTA Moosalm 154.22 352 *i* PKP **PKiKP** **22 29 57.5 +2.2**
comp=Z,2.1nm,1.1s
MYKA Terra Mystica 154.50 348 *e*PKP **PKPab** **22 30 10.7 +0.6**
comp=Z,1.2nm,0.8s
FETA Feichten 154.58 352 *i* PKP **PKPab** **22 30 11.0 +0.5**
comp=Z,1.9nm,1.0s
ABTA Abfaltersbach 154.59 350 *e*PKP **PKPab** **22 30 11.8 +1.2**
comp=Z,0.3nm,0.5s
ESDC Sonseca Array 160.27 23 PKPab **PKPab** **22 30 39.0 +3.8**
comp=Z,0.8nm,0.9s,baz=311,slow=3.5,SNR=6.6
TORD Torodi Ar. Bea 170.43 154 PKPab **PKPab** **22 31 23.5 +3.1**
comp=Z,2.9nm,1.0s,baz=214,slow=4.8,SNR=1.7

WEL ***05*** *22:30:50.1±0.7,33°S±6°×17°9W±1°,4,h12km,M5.2/12, mB5.8/11,ML5.0/19,MLv5.0/12,Mw(mB)5.3/11,Error ellipse: s-maj=18.6km s-min=4.6km az=109.4,confirmed*
NOU ***05*** *22:31:14.3,34°73S×179°58E,h245km,MLv4.6/8,South of Kermadec Islands*

ISC 05 22:30:49.0±1.5,33°14S±0°08×178°8W±0°2,h150km,n36, σ1°98/47,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.94**	**12**	P		**Pn**	**22 31 47.6**	**-1.0**
GLKZ				S		**Sn**	**22 32 34.3**	**-0.5**
MXZ	**Matakaoa Point**	**4.99**	**207**	P		**Pn**	**22 32 06.8**	**+4.5**
MXZ	**Matakaoa Point**	**4.99**	**207**	P		**Pn**	**22 32 03.5**	**+1.2**
MXZ				S		**Sn**	**22 32 59.1**	**-0.3**
WMGZ	**Waiomatatini S**	**5.18**	**205**	P		**Pn**	**22 32 07.2**	**+2.5**
WMGZ				S		**Sn**	**22 33 03.7**	**-0.2**
PKGZ	**Pakihiroa**	**5.35**	**207**	P		**Pn**	**22 32 08.7**	**+1.7**
PKGZ				S		**Sn**	**22 33 07.7**	**-0.2**
HAZ	**Te Kaha**	**5.37**	**210**	P		**Pn**	**22 32 09.3**	**+2.0**
HAZ				S		**Sn**	**22 33 08.6**	**+0.2**
PUZ	**Puketiti**	**5.46**	**205**	P		**Pn**	**22 32 10.1**	**+1.6**
PUZ				S		**Sn**	**22 33 09.9**	**-0.8**
RUGZ	**Raukumara Rang**	**5.59**	**210**	P		**Pn**	**22 32 11.4**	**+1.1**
RUGZ				S		**Sn**	**22 33 13.5**	**-0.4**
TWGZ	**Tauwhareparae**	**5.66**	**206**	P		**Pn**	**22 32 13.6**	**+2.5**
TWGZ				S		**Sn**	**22 33 15.9**	**+0.6**
KUZ	**Kuaotunu**	**5.74**	**230**	P		**Pn**	**22 32 14.7**	**+2.5**
CNGZ	**Carnagh Statio**	**5.85**	**203**	P		**Pn**	**22 32 15.7**	**+2.0**
TKGZ	**Te Karaka**	**5.94**	**206**	P		**Pn**	**22 32 17.5**	**+2.7**
MWZ	**Matawai**	**5.97**	**209**	P		**Pn**	**22 32 16.0**	**+0.7**
MWZ				S		**Sn**	**22 33 21.4**	**-1.4**
URZ	**Urewera**	**6.08**	**212**	P		**Pn**	**22 32 17.6**	**+0.9**
URZ	**Urewera**	**6.08**	**212**	P		**Pn**	**22 32 17.0**	**+0.3**
URZ				S		**Sn**	**22 33 24.7**	**-0.7**
WIAZ	**Waiheke Island**	**6.15**	**232**	P		**Pn**	**22 32 20.1**	**+2.5**
RAGZ	**Rawiri**	**6.15**	**209**	P		**Pn**	**22 32 20.0**	**+2.2**
RIGZ	**Rimuhau**	**6.20**	**206**	P		**Pn**	**22 32 21.1**	**+2.7**
WCZ	**Waipu Caves**	**6.29**	**242**	P		**Pn**	**22 32 20.1**	**+0.6**
MBAZ	**Motutapu North**	**6.29**	**233**	P		**Pn**	**22 32 21.0**	**+1.4**
MKAZ	**Mommakai**	**6.31**	**230**	P		**Pn**	**22 32 22.4**	**+2.6**
PRGZ	**Paritu Road**	**6.35**	**204**	P		**Pn**	**22 32 23.5**	**+3.0**
MUGZ	**Murupara**	**6.41**	**213**	P		**Pn**	**22 32 21.4**	**+0.2**
MUGZ				S		**Sn**	**22 33 29.8**	**-3.6**
SNGZ	**Shannon Statio**	**6.43**	**208**	P		**Pn**	**22 32 23.5**	**+2.1**
KNZ	**Kokohu**	**6.51**	**205**	P		**Pn**	**22 32 24.8**	**+2.3**
KNZ				S		**Sn**	**22 33 34.3**	**-1.4**
MHGZ	**Mahia Peninsul**	**6.55**	**203**	P		**Pn**	**22 32 24.6**	**+1.5**
TLZ	**Tolley Road**	**6.91**	**220**	P		**Pn**	**22 32 31.0**	**+3.1**
BKZ	**Black Stump Fm**	**7.10**	**211**	P		**Pn**	**22 32 31.6**	**+1.2**
BKZ	**Black Stump Fm**	**7.10**	**211**	P		**Pn**	**22 32 32.5**	**+2.1**
HIZ	**Hauiti**	**7.42**	**222**	P		**Pn**	**22 32 37.6**	**+3.0**
WAZ	**Wanganui**	**8.27**	**215**	P		**Pn**	**22 32 46.9**	**+1.0**
BFZ	**Birch Farm**	**8.49**	**206**	P		**Pn**	**22 32 48.0**	**-0.9**
SNZO	**South Karori**	**9.64**	**210**	P		**Pn**	**22 33 02.6**	**-1.6**
QRZ	**Quartz Range**	**10.32**	**220**	P		**Pn**	**22 33 10.7**	**-2.5**
CTZ	**Chatham Island**	**10.72**	**171**	P		Pn	22 33 34.1	+16
KHZ	**Kahutara**	**11.05**	**211**	P		**Pn**	**22 33 20.4**	**-2.3**

IDC ***05*** *22:31:49.6±3.5,4°07S×102°19E,h0km,mb3.5/5, mbtmp3.5/5,Error ellipse: s-maj=153.0km s-min=23.4km az=54.0*
DJA ***05*** *22:31:57.0±0.9,4°S±3°×10°2E±°,h24km±9km,M3.3/1, MLv3.6/9,MLv3.3/1*

ISC 05 22:31:55.0±1.1,4°37S±0°10×101°94E±0°08,h37km,n19, σ1°90/15,mb3.6/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC

KSI	**Kapahiang**	**0.97**	**43**	P	**Pn**	**22 32 12.3**	**+0.2**
MNAI	**Manna**	**1.02**	**90**	P	**Pn**	**22 32 14.1**	**+1.4**
LHSI	**Lahat**	**1.67**	**71**	P	**Pn**	**22 32 23.6**	**+1.9**
LHSI				S	**Sn**	**22 32 43.2**	**+1.3**
LWLI	**Liwa**	**2.21**	**107**	P	**Pn**	**22 32 31.4**	**+2.1**
LWLI				S	**Sn**	**22 32 57.0**	**+1.6**
MDSI	**Maura Dua**	**2.24**	**93**	P	**Pn**	**22 32 31.3**	**+1.8**
SISI	**Saibi**	**4.15**	**317**	P	**Pn**	**22 32 58.1**	**+2.3**
PPI	**Padang Panjang**	**4.18**	**338**	P	**Pn**	**22 32 59.3**	**+3.1**
CGJI	**Cibinong**	**4.36**	**121**	P	**Pn**	**22 32 59.9**	**+1.3**
H08S2	**Diego Garcia H** baz=84	**29.45**	**262**	T	T	23 08 01.0	
H08S3	**Diego Garcia H** baz=84	**29.46**	**262**	T	T	23 07 57.2	
H08S1	**Diego Carcia H** baz=84	**29.47**	**262**	T	T	23 08 00.6	
H01W3	**Cape Leeuwin H** baz=339	**32.40**	**161**	T	T	23 12 23.1	
H01W2	**Cape Leeuwin H** baz=339	**32.41**	**161**	T	T	23 12 25.9	
H01W1	**Cape Leeuwin H** baz=339	**32.42**	**161**	T	T	23 12 23.1	
WRA	**Warramunga Arr** 0.1nm,0.4s,baz=298,slow=8.4,SNR=1.7 0.1nm,0.4s	**35.15**	**119**	P	**P**	**22 38 45.3**	**-0.2**
ASAR	**Alice Springs** 0.5nm,1.0s,baz=300,slow=8.3,SNR=7.0 0.5nm,1.0s	**36.31**	**125**	P	**P**	**22 38 54.4**	**-1.1**
SONM	**Songino Array** 0.3nm,0.4s,baz=179,slow=10,SNR=2.4 0.3nm,0.4s	**52.13**	**4**	P	**P**	**22 41 00.8**	**-1.0**
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=160,slow=7.8,SNR=6.0 0.5nm,0.7s	**53.83**	**343**	P	**P**	**22 41 12.4**	**-1.7**
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=142,slow=7.2,SNR=4.3 0.7nm,0.4s	**59.85**	**348**	P	**P**	**22 41 54.5**	**-2.1**

*NEIC **05** 22:38:23.1±1.5,35.78N±0.02×117.59W±0.03,h8km±4km, Error ellipse: s-maj=4.2km s-min=2.1km az=128.0*

PAS 05 22:38:23.4±1.4,35.78N±0.03×117.60W±0.02,h2km±6km, ML3.0/21,ML2.7/92(NEIC),Error ellipse: s-maj=4.7km s-min=2.5km az=170.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.04**	**4**		Pg	22 38 24.4	+0.1
TOW	**Tower One**	**0.14**	**284**		Pg	22 38 26.7	+0.6
SRTC	**Snort**	**0.15**	**236**		Pg	22 38 26.8	+0.5
WVPM	**Volcano Peak E**	**0.25**	**315**		Pg	22 38 28.4	+0.2
WNMM	**Nine Mile Cany**	**0.26**	**285**		Pg	22 38 28.6	+0.3
WNMM					Sg	22 38 32.7	+1.0
WCSM	**Coso Springs S**	**0.28**	**332**		Pg	22 38 29.0	+0.1
WCSM					Sg	22 38 33.7	+1.0
MPMC	**Manual Prospec**	**0.30**	**18**		Pg	22 38 29.2	+0.1
MPMC					Sg	22 38 33.6	+0.6
CCCA	**Chr Cany lake**	**0.32**	**142**		Pg	22 38 30.1	+0.7
WHFM	**Hanning Flat**	**0.61**	**263**		Pg	22 38 35.1	-0.1
QSM	**Queen of Sheba**	**0.62**	**72**		Pg	22 38 35.2	-0.1
QSM	comp=N,567nm,0.5s			IAML		22 38 47.2	
QSM	comp=E,420nm,0.5s			IAML		22 38 49.9	
CCAC	**Calif City Air**	**0.71**	**209**		Pg	22 38 36.9	-0.1
CCAC	comp=N,324nm,0.3s			IAML		22 38 47.7	
ISA	**Isabella, Lake**	**0.72**	**261**		Pg	22 38 37.0	-0.2
ISA	comp=E,364nm,0.3s			IAML		22 38 48.4	
ISA	comp=N,353nm,0.3s			IAML		22 38 48.7	
GSC	**Goldstone, Bar**	**0.80**	**126**		Pg	22 38 38.6	-0.2
GSC	comp=N,434nm,0.5s			IAML		22 38 53.1	
GSC	comp=E,412nm,0.5s			IAML		22 38 53.6	
GWY	**Greenwater Val**	**0.86**	**61**		Pg	22 38 39.9	0.0
SPG2	**Springville 2**	**1.04**	**295**		Pg	22 38 42.5	-0.8
GRAC	**Grapevine Rang**	**1.23**	**9**		Pg	22 38 46.6	-0.5
WCT	**Wildcat Mounta**	**1.28**	**38**		Pg	22 38 47.4	-0.6
WCT	comp=N,134nm,0.4s			IAML		22 39 07.8	
WCT	comp=E,148nm,0.4s			IAML		22 39 07.9	
HOLC	**Holcomb Ridge**	**1.33**	**189**		Pg	22 38 47.7	-1.2
JNH	**Juniper Hills**	**1.36**	**192**		Pg	22 38 48.2	-1.2
DSCC	**Desert Studies**	**1.38**	**117**		Pn	22 38 48.7	-0.8
TUQ	**Turquoise Moun**	**1.41**	**103**		Pn	22 38 49.4	-0.7
GMN	**Gold Mountain**	**1.55**	**10**		Pn	22 38 51.8	-0.3
TPNV	**Topopah Spring**	**1.60**	**43**		Pn	22 38 52.0	-0.8
TPNV	comp=E,120nm,0.7s			IAML		22 39 17.6	
TPNV	comp=E,111nm,0.7s			IAML		22 39 19.6	
DSP	**Deep Springs**	**1.62**	**350**		Pn	22 38 52.1	-0.8
DSP	comp=E,121nm,0.5s			IAML		22 39 16.5	
PASC	**Pasadena Art C**	**1.67**	**197**		Pn	22 38 53.2	-0.4
PASC	comp=E,63nm,0.9s			IAML		22 39 19.6	
PASC	comp=N,73nm,0.7s			IAML		22 39 21.6	
BCW	**Bitter Crk WRg**	**1.70**	**241**		Pn	22 38 53.3	-0.9
MZP	**Montezuma Peak**	**1.93**	**5**		Pn	22 38 56.9	-0.6
TPC	**Twentynine Pal**	**2.10**	**142**		Pn	22 38 58.6	-0.9
SHPR	**Sheep Range**	**2.11**	**69**		Pn	22 38 59.6	-0.2
SHPR	comp=N,54nm,0.6s			IAML		22 39 32.7	
SHPR	comp=E,41nm,0.6s			IAML		22 39 32.7	
ELS	**Elsinore Mount**	**2.13**	**176**		Pn	22 38 58.4	-1.6
ELS	comp=E,63nm,0.4s			IAML		22 39 33.6	
ELS	comp=N,75nm,0.6s			IAML		22 39 38.3	
V12A	**Nelson**	**2.24**	**90**		Pn	22 39 02.0	+0.4
V12A	comp=N,45nm,0.6s			IAML		22 39 36.2	
V12A	comp=E,41nm,0.5s			IAML		22 39 38.4	
TPH	**Tonopah**	**2.32**	**7**		Pn	22 39 02.2	-0.5
PFO	**Pinyon Flats O**	**2.35**	**156**		Pn	22 39 03.5	+0.3
PFO	comp=E,32nm,0.8s			IAML		22 39 46.2	
S11A	**Rachel**	**2.39**	**38**		Pn	22 39 03.7	+0.1
S11A	comp=N,63nm,0.7s			IAML		22 39 51.0	
BZNA	**Buzz No.'s Pla**	**2.41**	**161**		Pn	22 39 04.4	+0.5
LHV	**Little Huntoon**	**2.58**	**344**		Pg	22 39 11.9	-0.9
LHV	comp=E,32nm,1.0s			IAML		22 39 52.4	
PRN	**Pahroc Range**	**2.62**	**51**		Pg	22 39 12.6	-1.0
PRN	comp=N,45nm,0.5s			IAML		22 39 49.2	
PRN	comp=E,43nm,0.7s			IAML		22 39 55.0	
PMPB	**Monarch Peak**	**2.63**	**281**		Pg	22 39 12.8	-1.0
NV11	**Mina Array Sit**	**2.69**	**351**		Pb	22 39 13.0	+0.7
NVAR	**Mina Array Bea**	**2.71**	**348**		Pb	22 39 13.2	+0.6
BBGB	**Big Mountain B**	**2.90**	**287**	Pn	Pn	22 39 11.0	+0.5
RYN	**Ryan**	**2.94**	**346**		Pg	22 39 18.8	-1.0
R11B	**Troy Canyon, C**	**3.03**	**32**		Pb	22 39 19.4	+1.3
WAKR	**Walker**	**3.09**	**332**	Pn	Pn	22 39 12.3	-1.1
WAKR				Pg	Pb	22 39 20.8	+1.5
W13A	**Hualapai Mount**	**3.11**	**101**		Pn	22 39 12.6	-1.0
W13A				Pg	Pg	22 39 22.6	-0.4
CMB	**Columbia Colle**	**3.17**	**316**		Pn	22 39 14.3	-0.1
CMB	comp=N,16nm,0.8s			IAML		22 40 10.1	
CMB	comp=E,14nm,0.6s			IAML		22 40 11.7	
BLYC	**Blythe**	**3.24**	**128**		Pb	22 39 23.0	+1.4
BLYC	comp=E,23nm,0.5s			IAML		22 40 09.2	
BLYC	comp=N,25nm,0.6s			IAML		22 40 13.6	
KNB	**Kanab**	**4.05**	**71**	IAML		22 40 36.0	
KNB	comp=E,9.0nm,1.3s			IAML		22 40 36.7	
PSUT	**Pine Spring** comp=N,8.8nm,0.8s	**4.07**	**46**	IAML		22 40 42.6	
PSUT	comp=N,11nm,0.7s			IAML		22 40 43.8	
	comp=E,10nm,1.1s						
SPR3	**Spring Creek 3** comp=E,8.8nm,0.6s	**4.14**	**38**	IAML		22 40 38.7	
SPR3	comp=N,6.9nm,1.1s			IAML		22 40 41.2	
Y14A	**Wickenburg** comp=E,12nm,0.1s	**4.20**	**115**	IAML		22 41 38.1	
BEKR	**Beckworth** comp=N,4.9nm,0.8s	**4.63**	**333**	IAML		22 41 01.1	
ELK	**Elko** comp=N,2.9nm,0.6s	**5.30**	**20**	IAML		22 41 14.3	

IDC 05 22:46:15.9±3.3,0.16S×128.96E,h0km,mb3.3/3, mbtmp3.4/3,Error ellipse: s-maj=262.1km s-min=28.8km az=69.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.9nm,0.6s,baz=345,slow=9.6,SNR=8.0 0.9nm,0.6s	**20.35**	**165**	P	P	22 50 54.1	-0.1
ASAR	**Alice Springs** 1.6nm,1.0s,baz=348,slow=9.0,SNR=8.6 1.6nm,1.0s	**23.85**	**169**	P	P	22 51 31.2	0.0
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=110,slow=6.9,SNR=1.7 0.1nm,0.4s	**62.00**	**326**	P	P	22 56 38.1	0.0

*NEIC **05** 22:51:55.6±1.9,19.09N±0.05×155.49W±0.03,h35km±2km, ML2.5/29,ML2.4/3(HVO),Error ellipse: s-maj=8.3km s-min=4.7km az=196.0*

HVO 05 22:51:55.4±1.7,19.06N±0.04×155.55W±0.03,h42km±2km, Error ellipse: s-maj=6.2km s-min=3.0km az=156.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.03**	**351**		Pn	22 51 57.8	-4.4
KHU	**Kahuku**	**0.20**	**342**		Pn	22 52 02.8	-0.4
KHU					Sn	22 52 09.8	+1.1
HTC	**Hot Caves**	**0.23**	**38**		Pn	22 52 02.3	-1.0
HTC					Sn	22 52 09.8	+1.1
AIN	**Ainahou**	**0.33**	**15**		Pn	22 52 03.2	-1.1
AIN					Sn	22 52 09.4	-1.2
HLP	**Hilina Pali**	**0.33**	**44**		Pn	22 52 02.7	-1.6
HLP					Sn	22 52 10.0	-0.5
HLP	comp=N,383nm,0.7s			IAML		22 52 16.5	
SDHHI	**Sand Hill**	**0.41**	**36**		Sn	22 52 11.6	-0.6
MWH	**Mokuaweoweo**	**0.43**	**354**		Pn	22 52 04.2	-1.7
MWH					Sn	22 52 10.9	-2.3
MWH	comp=N,381nm,0.4s			IAML		22 52 20.0	
UWE	**Uwekahuna**	**0.44**	**34**		Pn	22 52 04.3	-1.3
UWE					Sn	22 52 11.1	-1.6
UWE	comp=N,285nm,0.5s			IAML		22 52 19.7	
UWE	comp=E,395nm,0.5s			IAML		22 52 20.3	
PUH	**Pauahi**	**0.45**	**45**		Pn	22 52 04.8	-0.9
PUH	comp=N,296nm,0.6s			IAML		22 52 20.4	
BYL	**Byron's Ledge**	**0.45**	**38**	Pn	Pn	22 52 04.2	-1.5
BYL					Sn	22 52 11.3	-1.6
HATHI	**Halema'uma'u T**	**0.46**	**37**		Pn	22 52 04.1	-1.7
HATHI					Sn	22 52 09.7	-3.5
HATHI	comp=N,275nm,0.7s			IAML		22 52 19.9	
HATHI	comp=E,321nm,0.6s			IAML		22 52 21.7	
RSD	**Rainshed**	**0.48**	**32**		Sn	22 52 10.3	-3.4
KNHH	**Kane Nui o Ham**	**0.48**	**48**		Pn	22 52 04.4	-1.8
STCH	**Steam Cracks**	**0.52**	**51**		Pn	22 52 04.4	-2.2
HMH	**Humu'ula Sheep** comp=N,282nm,0.6s	**0.55**	**6**	IAML		22 52 21.1	

IDC 05 22:55:11.5±2.3,3.55S×128.43E,h0km,mb2.9/2, mbtmp3.1/3,ML3.2/1,Error ellipse: s-maj=155.0km s-min=30.5km az=67.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=340,slow=13,SNR=6.0 0.2nm,0.4s	**17.28**	**161**	P	Pn	22 59 12.6	-1.8
ASAR	**Alice Springs** 0.2nm,0.5s,baz=336,slow=9.3,SNR=5.0 0.2nm,0.5s	**20.69**	**166**	P	P	22 59 54.4	+1.1
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=123,slow=5.3,SNR=1.7 0.1nm,0.5s	**64.50**	**327**	P	P	23 05 50.0	-0.1

*IDC **05** 22:56:38.2±1.3,23.52S×179.91W,h540km±15km, mb3.4/11,mbtmp4.3/12,Error ellipse: s-maj=16.7km s-min=13.1km az=60.0*

*NEIC **05** 22:56:38.7±1.0,23.45±0.1×179.7W±0.1,h553km±6km, mb4.2/23,Error ellipse: s-maj=21.4km s-min=12.5km az=119.0*

ISC 05 22:56:37.1±0.5,23.57S±0.06×179.78W±0.08,h532km, n60,σ1s96/67,mb4.1/23,2C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.91**	**164**	P	**P**	**22 58 15.5**	**+1.6**
GLKZ				S	**S**	**22 59 32.9**	**-0.3**
MSVF	**Nonsavu**	**6.15**	**340**		**P**	**22 58 17.3**	**+0.8**
MSVF	**Nonsavu** 34nm,0.5s,baz=201,slow=7.1,SNR=25	**6.15**	**340**	P	**P**	**22 58 17.1**	**+0.6**
MSVF	5.4nm,0.7s,baz=209,slow=19,SNR=1.2			S	**S**	**22 59 37.8**	**+0.3**
FUTU	**Fugatoga**	**9.34**	**10**	P	**P**	**22 58 48.7**	**+0.6**
AFI	**Afiamalu**	**12.23**	**40**	P	**P**	**22 59 15.7**	**-2.5**
OUZ	**Omahuta**	**12.96**	**205**	P	**P**	**22 59 28.6**	**+3.1**
WCZ	**Waipu Caves**	**13.34**	**201**	P	**P**	**22 59 32.4**	**+3.0**
KUZ	**Kuaotunu**	**13.70**	**195**	P	**P**	**22 59 34.8**	**+1.7**
MBAZ	**Motutapu North**	**13.93**	**198**	P	**P**	**22 59 37.9**	**+2.4**
MKAZ	**Moumakai**	**14.18**	**197**	P	**P**	**22 59 39.9**	**+1.8**
AWAZ	**Awhitu Peninsu**	**14.28**	**198**	P	**P**	**22 59 41.0**	**+1.8**
HAZ	**Te Kaha**	**14.30**	**188**	P	**P**	**22 59 38.7**	**-0.6**
URZ	**Urewera** 11nm,0.5s,baz=278,slow=5.2,SNR=9.8	**14.88**	**190**	P	**P**	**22 59 43.0**	**-2.5**
URZ	14nm,0.9s,baz=237,slow=24,SNR=5.9			S	**S**	**23 02 13.3**	**-7.4**
URZ	**Urewera**	**14.88**	**190**	P	**P**	**22 59 43.7**	**-1.7**
MWZ	**Matawai**	**14.90**	**188**	P	**P**	**22 59 45.0**	**-0.7**
HIZ	**Hauiti**	**15.59**	**196**	P	**P**	**22 59 54.1**	**+1.3**
BKZ	**Black Stump Fm**	**15.87**	**191**	P	**P**	**22 59 53.1**	**-2.6**
BKZ				S	**S**	**23 02 33.8**	**-4.7**
OTVZ	**Oturere**	**16.02**	**193**	P	**P**	**22 59 55.8**	**-1.5**
TRVZ	**Turoa**	**16.18**	**193**	P	**P**	**22 59 59.2**	**+0.3**
QRZ	**Quartz Range**	**18.38**	**199**	P	**P**	**23 00 21.1**	**+1.9**
RPZ	**Rata Peaks** 20nm,0.6s,baz=303,slow=2.2,SNR=10.0 20nm,0.6s	**21.47**	**198**	P	**P**	**23 00 46.4**	**-0.7**
WHZ	**Wether Hill Ro**	**24.39**	**201**	P	**P**	**23 01 15.4**	**+2.3**
EIDS	**Eidsvold**	**26.56**	**260**	P	**P**	**23 01 34.1**	**+1.4**
CTAO	**Charters Tower**	**31.68**	**270**	P	**P**	**23 02 18.2**	**+1.1**
TOO	**Toolangi**	**32.80**	**237**	P	**P**	**23 02 27.9**	**+1.5**
TOO	comp=Z,4.2nm,1.2s			IAmb	IAmb	23 02 39.0	
STKA	**Stephens Creek**	**35.03**	**248**	P	**P**	**23 02 46.0**	**+0.8**
STKA	comp=Z,28nm,1.4s			IAmb	IAmb	23 03 01.4	
COEN	**Coen**	**36.26**	**279**	P	**P**	**23 02 55.9**	**+0.2**
COEN	comp=Z,14nm,1.4s			IAmb	IAmb	23 03 18.1	
AS31	**Alice Springs**	**42.28**	**260**	P	**P**	**23 03 44.6**	**+0.4**
ASAR	**Alice Springs**	**42.29**	**260**	P	**P**	**23 03 44.0**	**-0.2**
ASAR	**Alice Springs** comp=Z,2.1nm,0.5s,baz=98,slow=6.9,SNR=32	**42.29**	**260**	P	**P**	**23 03 44.5**	**+0.2**
ASAR	comp=Z,0.8nm,1.0s,baz=97,slow=13,SNR=4.0 comp=Z,2.1nm,0.5s			S	**S**	**23 09 23.8**	**-2.9**
WR8	**Warramunga Arr**	**42.48**	**266**	P	**P**	**23 03 45.6**	**-0.2**
WR8	comp=Z,8.1nm,1.4s			IAmb	IAmb	23 04 26.3	
WB0	**Warramunga Arr**	**42.62**	**266**	P	**P**	**23 03 46.7**	**-0.2**
WB0	comp=Z,5.0nm,0.7s			IAmb	IAmb	23 03 47.2	
WRA	**Warramunga Arr**	**42.63**	**266**		**P**	**23 03 46.5**	**-0.4**
WRA	**Warramunga Arr**	**42.63**	**266**	P	**P**	**23 03 46.5**	**-0.4**
WRA	comp=Z,3.4nm,0.5s,baz=102,slow=8.6,SNR=54			ScP	**ScP**	**23 08 27.9**	**+0.7**
WRA	comp=Z,0.6nm,0.8s,baz=96,slow=3.6,SNR=3.0			S	**S**	**23 09 25.0**	**-6.6**
JAY	**Jayapura** comp=Z,0.4nm,0.8s,baz=100,slow=12,SNR=2.6 comp=Z,3.4nm,0.5s	**43.57**	**293**	P	**P**	**23 03 53.8**	**-0.5**
FORT	**Forrest** comp=Z,6.1nm,0.5s,baz=141,slow=4.4,SNR=5.2 comp=Z,6.1nm,0.5s	**46.61**	**249**	P	**P**	**23 04 17.5**	**+0.1**
FORT	comp=Z,18nm,1.4s			IAmb	IAmb	23 04 54.2	
MTN	**Manton Dam**	**47.63**	**274**	P	**P**	**23 04 25.0**	**-0.3**
MTN	comp=Z,15nm,1.2s			IAmb	IAmb	23 05 06.7	
KNRA	**Kununurra** comp=Z,21nm,1.4s	**48.89**	**269**	P	**P**	**23 04 34.9**	**+0.2**
KNRA				IAmb	IAmb	23 05 12.8	
FITZ	**Fitzroy Crossi**	**51.05**	**265**	P	**P**	**23 04 50.9**	**+0.4**
FITZ	**Fitzroy Crossi** comp=Z,2.9nm,0.7s,baz=91,slow=5.2,SNR=10.0 comp=Z,2.9nm,0.7s	**51.05**	**265**	P	**P**	**23 04 51.0**	**+0.5**
SBA	**Scott Base**	**54.72**	**183**	P	**P**	**23 05 19.2**	**+3.5**
VNDA	**Vanda**	**54.73**	**185**	P	**P**	**23 05 17.9**	**+2.1**
VNDA	**Vanda** comp=Z,0.8nm,0.5s,baz=25,slow=6.9,SNR=10	**54.73**	**185**	P	**P**	**23 05 17.5**	**+1.8**
VNDA	comp=Z,0.8nm,0.7s,baz=351,slow=5.0,SNR=5.3 comp=Z,0.8nm,0.5s			PcP	**PcP**	**23 06 10.2**	**0.0**
MORW	**Morawa**	**57.18**	**250**	P	**P**	**23 05 33.7**	**+0.2**
MORW	comp=Z,15nm,1.4s			IAmb	IAmb	23 05 49.7	
CASY	**Casey** comp=Z,8.0nm,1.2s	**60.50**	**206**	P	**P**	**23 05 55.2**	**0.0**
CASY				IAmb	IAmb	23 06 31.2	
QSPA	**South Pole Qui**	**66.51**	**180**		**P**	**23 06 35.3**	**+1.5**
QSPA	comp=Z,18nm,1.4s			IAmb	IAmb	23 06 36.7	
QSPA	**South Pole Qui** comp=Z,3.7nm,0.7s,baz=27,slow=0.5,SNR=25 comp=Z,3.7nm,0.7s	**66.51**	**180**	P	**P**	**23 06 35.0**	**+1.1**
BELA	**Belgrano 2** comp=Z,3.3nm,0.7s	**76.74**	**173**	P	**P**	**23 07 33.2**	**+0.1**
BELA				IAmb	IAmb	23 07 34.0	
MAW	**Mawson** comp=Z,2.8nm,1.0s,baz=153,slow=4.5,SNR=2.9 comp=Z,2.8nm,1.0s	**78.13**	**200**	P	**P**	**23 07 41.8**	**+1.1**
PETK	**Petropavlovsk-** comp=Z,1.9nm,0.7s,baz=162,slow=5.2,SNR=5.6 comp=Z,1.9nm,0.7s	**78.82**	**346**	P	**P**	**23 07 44.4**	**-0.2**
TROLL	**Troll, Antarti** comp=Z,134nm,0.3s	**84.67**	**181**	⇑P	**P**	**23 08 13.7**	**-0.7**
TPH	**Tonopah**	**84.86**	**45**	P	**P**	**23 08 14.3**	**-1.7**
N15K	**Kwethluk River**	**84.97**	**10**	P	**P**	**23 08 15.5**	**-0.2**
N15K	comp=Z,3.2nm,0.7s			IAmb	IAmb	23 08 16.1	
SNAA	**Sanae** comp=Z,20nm,0.6s	**84.99**	**179**	⇑P	**P**	**23 08 14.9**	**-1.0**
SNAA	**Sanae** comp=Z,1.0nm,0.6s,baz=188,slow=6.6,SNR=6.7 comp=Z,1.0nm,0.6s	**84.99**	**179**	P	**P**	**23 08 15.3**	**-0.7**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.7s,baz=210,slow=4.2,SNR=4.2 comp=Z,0.3nm,0.7s	**90.09**	**58**	P	**P**	**23 08 41.4**	**+0.7**
HFS	**Hagfors** comp=Z,1.5nm,0.4s,baz=64,slow=3.4,SNR=22	**142.26**	**349**	PKhKP	PKPpre	23 15 03.4	
AKASG	**Malin Array Be** comp=Z,0.9nm,0.4s,baz=45,slow=4.1,SNR=7.7	**144.80**	**328**	PKP	**PKPdf**	**23 15 11.3**	**-1.8**
BRTR	**Keskin Array B** comp=Z,0.8nm,0.7s,baz=75,slow=5.3,SNR=4.7	**147.53**	**308**	PKPbc	**PKPbc**	**23 15 20.9**	**-1.0**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.3s,baz=196,slow=5.9,SNR=2.2	**169.54**	**188**	PKPab	**PKPab**	**23 17 01.1**	**0.0**

*TEH **05** 23:05:02.3,38.45N×49.30E,h17km±22km*

*AZER **05** 23:05:03.2,38.48N×49.08E,h14km,ml3.2*

ISC 05 23:05:03.2±1.2,38.48N±0.03×49.22E±0.04,h9km±9km, n46,σ1s13/78,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAS1	**Astara - Iran**	**0.31**	**253**	Pg	**Pg**	**23 05 09.7**	**+0.3**
GAS1				Sg	**Sg**	**23 05 14.7**	**+1.1**
ASTR	**Astara**	**0.35**	**284**	P	**Pg**	**23 05 10.3**	**+0.2**
ASTR				S	**Sb**	**23 05 15.8**	**-1.5**
LKRN	**Lenkeran, Azer**	**0.42**	**304**	P	**Pg**	**23 05 11.7**	**+0.3**
LKRN				S	**Sb**	**23 05 18.1**	**-1.2**
LRK	**Lerik**	**0.71**	**284**	P	**Pg**	**23 05 16.4**	**-0.5**
LRK				S	**Sb**	**23 05 26.9**	**-1.0**
YRD	**Yardimli**	**0.88**	**300**	P	**Pg**	**23 05 19.5**	**-0.7**
YRD				S	**Sg**	**23 05 31.6**	**-0.1**
CSN1	**Caspian**	**0.92**	**186**	Pg	**Pg**	**23 05 21.2**	**+0.3**
GLBA	**Clilabad**	**1.00**	**320**	P	**Pg**	**23 05 21.9**	**-0.6**
GLBA				S	**Sb**	**23 05 36.6**	**+0.6**
GRMI	**Germi**	**1.09**	**288**	Pg	**Pg**	**23 05 22.9**	**-1.3**
ALIB	**&Aumlli-Bayram**	**1.49**	**354**	Pn	**Pg**	**23 05 31.3**	**-0.4**
ALIB				Sn	**Sg**	**23 05 49.6**	**-1.4**
SAAT	**Saatly**	**1.51**	**336**	Pn	**Pb**	**23 05 31.3**	**-0.2**
SAAT				Sn	**Sn**	**23 05 54.0**	**+3.7**
IHRS	**Heris**	**1.72**	**265**	Pg	**Pn**	**23 05 34.0**	**+0.4**
QRD	**Qoradiz**	**1.78**	**304**	Pn	**Pn**	**23 05 33.8**	**-0.4**
QRD				Sn	**Sn**	**23 05 57.5**	**+0.5**
BLQ	**Beylaqan**	**1.79**	**314**	Pn	**Pn**	**23 05 34.4**	**0.0**
BLQ				Sn	**Sn**	**23 05 57.0**	**-0.3**
IHSH	**Hashtrud**	**1.94**	**234**	Pn	**Pn**	**23 05 37.5**	**+0.7**
KDMR	**Kurdemir**	**2.06**	**337**	Pn	**Pn**	**23 05 38.8**	**+0.8**
KDMR				Sn	**Sn**	**23 06 05.2**	**+1.4**
GBS	**Qobustan**	**2.06**	**354**	Pn	**Pn**	**23 05 39.6**	**+1.4**
GBS				Sn	**Sb**	**23 06 07.0**	**+0.2**
ZRD	**Zardab**	**2.16**	**327**	Pn	**Pn**	**23 05 39.7**	**+0.4**
ZRD				Sn	**Sb**	**23 06 09.2**	**-0.1**
IGZV	**Ghazvin**	**2.23**	**159**	Pn	**Pn**	**23 05 40.6**	**-0.1**
AGDM	**Agdam**	**2.31**	**315**	Pn	**Pn**	**23 05 41.8**	**+0.2**
AGDM				Sn	**Sn**	**23 06 10.5**	**+0.4**
PQL	**Pirkuli**	**2.36**	**348**	Pn	**Pn**	**23 05 43.1**	**+0.7**
PQL				Sn	**Sn**	**23 06 13.0**	**+1.5**
BRDA	**Brd**	**2.38**	**319**	Pn	**Pn**	**23 05 43.3**	**+0.8**
BRDA				Sn	**Sn**	**23 06 13.8**	**+2.0**
ATGJ	**Altiaghaj**	**2.39**	**355**	Pn	**Pn**	**23 05 44.2**	**+1.5**
ATGJ				Sn	**Sb**	**23 06 15.0**	**-1.2**
ITBZ	**Tabriz**	**2.43**	**265**	Pn	**Pn**	**23 05 44.6**	**+1.2**
KLST	**Kelardasht - M**	**2.44**	**143**	Pn	**Pn**	**23 05 43.5**	**-0.2**
IML	**Ismayilli**	**2.45**	**341**	Pn	**Pn**	**23 05 43.0**	**-0.4**
IML				Sn	**Sn**	**23 06 14.2**	**+0.7**
ORD	**Ordubad**	**2.56**	**281**	Pn	**Pn**	**23 05 46.5**	**+1.4**
ORD				Sn	**Sn**	**23 06 16.3**	**-0.2**
SIZA	**Siyzn**	**2.61**	**355**	Pn	**Pn**	**23 05 46.7**	**+1.0**
SIZA				Sn	**Sn**	**23 06 18.9**	**+1.4**
IAZR	**Azarshahr**	**2.68**	**254**	Pn	**Pn**	**23 05 48.6**	**+1.7**
QBL	**Gabala**	**2.69**	**337**	Pn	**Pn**	**23 05 46.8**	**+0.1**
QBL				Sn	**Sn**	**23 06 20.4**	**+1.0**
MZPU	**Pul - Mazandar**	**2.76**	**137**	Pn	**Pn**	**23 05 47.5**	**-0.5**
QABG	**Abgarm-Qazvin**	**2.78**	**174**	Pn	**Pn**	**23 05 48.0**	**-0.2**
XNQ	**Khinaliq**	**2.82**	**343**	Pn	**Pn**	**23 05 48.4**	**-0.3**
XNQ				Sn	**Sn**	**23 06 24.0**	**+1.1**
ISHB	**Shabestar**	**2.84**	**267**	Pn	**Pn**	**23 05 50.9**

ellipse: s-maj=5.0km s-min=2.8km az=78.0
*INMG **05** 23:08:22.4±1.7,39°.28N×11°.13W,h10km±5km, ML2.6, Error ellipse: s-maj=4.2km s-min=3.3km az=76.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Canhao da Nazare*
*CNRM **05** 23:08:24.7,38°.46N×10°.62W,h10km, ML2.7*

ISC 05 23:08:14.7±1.6,39°.27N±0°.03×11°.07W±0°.07,h10km,n91, σ2s80/149,23C-4D,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMAFR	**Mafra**	**1.42**	**102**	S		**Sg**	**23 09 00.0**	**-0.5**
PMAFR				P		**Pg**	**23 08 43.5**	**+1.5**
PMAFR	**Mafra**	**1.42**	**102**↓	**eP**		**Pg**	**23 08 43.7**	**+1.6**
PMAFR				*e*S		**Sb**	**23 08 59.5**	**-0.1**
PMAFR				*i* IAML			23 09 00.7	
PMAFR				*i* IAML			23 09 00.9	
PMAFR				*i* IAML			23 09 01.4	
LIS	**Lisbon**	**1.59**	**110**	*e*S		**Sb**	**23 09 04.8**	**+0.5**
LIS				*i* IAML			23 09 06.1	
LIS				*i* IAML			23 09 07.3	
LIS				*i* IAML			23 09 08.8	
PARRA	**Arraiolos**	**1.64**	**106**	*e*P		Pg	23 08 56.5	+10
PARRA				*e*S		Sg	23 09 22.6	+15
PARRA				*i* IAML			23 09 23.7	
PARRA				*i* IAML			23 09 24.1	
PARRA				*i* IAML			23 09 24.2	
PSBE	**So Bento**	**1.77**	**82**↑	*e*P		**Pb**	**23 08 48.2**	**+0.9**
PSBE				*e*S		**Sn**	**23 09 07.9**	**-0.3**
PSBE				*i* IAML			23 09 09.9	
PSBE				*i* IAML			23 09 11.2	
PSBE				*i* IAML			23 09 12.1	
PACT	**Alcochete**	**1.81**	**105**	*e*P		**Pb**	**23 08 49.0**	**+1.1**
PACT				*e*S		**Sn**	**23 09 09.7**	**+0.7**
PACT				*i* IAML			23 09 14.4	
PACT				*i* IAML			23 09 18.4	
PACT				*i* IAML			23 09 20.7	
PCAS	**Casmilo, Conde**	**2.13**	**68**↑	*i*P		**Pn**	**23 08 51.7**	**+1.3**
PCAS				*e*S		**Sn**	**23 09 14.7**	**-2.2**
PCAS				*i* IAML			23 09 15.7	
PCAS				*i* IAML			23 09 15.9	
PCAS				*i* IAML			23 09 33.3	
PMTG	**Montargil**	**2.22**	**94**	*e*P		**Pn**	**23 08 54.0**	**+2.5**
PMTG				*e*S		**Sn**	**23 09 17.7**	**-1.3**
PMTG				*i* IAML			23 09 19.1	
PMTG				*i* IAML			23 09 19.1	
PMTG				*i* IAML			23 09 21.1	
COI	**Coimbra**	**2.25**	**65**	*e*P		**Pn**	**23 08 54.3**	**+2.3**
COI				*e*S		**Sn**	**23 09 19.5**	**-0.3**
PSARD	**Sardoal**	**2.27**	**81**↑	*e*P		**Pn**	**23 08 55.0**	**+2.6**
PSARD				*e*S		**Sn**	**23 09 19.3**	**-1.1**
PSARD				*i* IAML			23 09 19.6	
PSARD				*i* IAML			23 09 21.1	
PSARD				*i* IAML			23 09 23.0	
EVO	**Evora**	**2.49**	**106**	P		**Pn**	**23 08 57.6**	**+2.3**
EVO				S		**Sn**	**23 09 24.4**	**-1.4**
EVO	**Evora**	**2.49**	**106**	*e*P		**Pn**	**23 08 57.8**	**+2.4**
EVO				*e*S		**Sn**	**23 09 24.9**	**-1.0**
EVO				*i* IAML			23 09 26.1	
EVO				*i* IAML			23 09 26.7	
EVO				*i* IAML			23 09 26.9	
PTEO	**Sao Teotonio**	**2.52**	**132**	*e*P		**Pn**	**23 08 57.9**	**+2.2**
PTEO				*e*S		**Sn**	**23 09 24.0**	**-2.5**
PTEO				*i* IAML			23 09 26.7	
PTEO				*i* IAML			23 09 27.4	
PTEO				*i* IAML			23 09 27.5	
MESJ	**Messejana**	**2.65**	**122**	*e*P		**Pn**	**23 08 59.8**	**+2.3**
MESJ				*e*S		**Sn**	**23 09 27.4**	**-2.3**
MESJ				IAML			23 09 31.4	
	comp=N,22nm,0.2s							
MORF	**Marmelete**	**2.73**	**135**	*e*P		**Pn**	**23 09 00.8**	**+2.1**
MORF				*e*S		**Sn**	**23 09 29.8**	**-2.0**
MORF				IAML			23 09 31.6	
	comp=N,46nm,0.2s							
MORF	**Marmelete**	**2.73**	**135**↓	*e*P		**Pn**	**23 09 00.8**	**+2.1**
MORF				*e*S		**Sn**	**23 09 28.8**	**-3.0**
MORF				*i* IAML			23 09 32.0	
MORF				*i* IAML			23 09 32.5	
MORF				*i* IAML			23 09 32.6	
PESTR	**Estremoz**	**2.74**	**97**	S		**Sn**	**23 09 30.2**	**-1.6**
PESTR				P		**Pn**	**23 09 00.9**	**+2.2**
PESTR	**Estremoz**	**2.74**	**97**	*e*P		**Pn**	**23 09 01.1**	**+2.4**
PESTR				*e*S		**Sn**	**23 09 30.4**	**-1.4**
PESTR				*i* IAML			23 09 32.5	
PESTR				*i* IAML			23 09 33.6	
PESTR				*i* IAML			23 09 33.8	
PESTR	**Estremoz**	**2.74**	**97**	P		**Pb**	**23 09 04.0**	**+0.3**
PESTR	**Estremoz**	**2.74**	**97**	S		**Sn**	**23 09 34.0**	**+2.2**
PFVI	**Vila Bisbo**	**2.77**	**140**	P		**Pn**	**23 09 01.2**	**+2.0**
PFVI				S		**Sn**	**23 09 29.4**	**-3.3**
PFVI	**Vila Bisbo**	**2.77**	**140**↑	*e*P		**Pn**	**23 09 01.4**	**+2.2**
PFVI				*e*S		**Sn**	**23 09 29.7**	**-3.0**
PFVI				*i* IAML			23 09 32.6	
PFVI				*i* IAML			23 09 34.1	
PFVI				*i* IAML			23 09 36.6	
PFVI	**Vila Bisbo**	**2.77**	**140**	P		**Pn**	**23 08 58.1**	**-1.1**
PFVI	**Vila Bisbo**	**2.77**	**140**	S		Sn	23 09 24.7	-7.9
PBEJ	**Beja**	**2.80**	**115**	*e*P		**Pn**	**23 09 02.0**	**+2.5**
PBEJ				*e*S		**Sn**	**23 09 31.5**	**-1.8**
PBEJ				*i* IAML			23 09 33.1	
PBEJ				*i* IAML			23 09 33.2	
PBEJ				*i* IAML			23 09 34.2	
PVIS	**Viseu**	**2.83**	**58**	*e*P		**Pn**	**23 09 02.4**	**+2.4**
PVIS				*e*S		**Sn**	**23 09 32.8**	**-1.4**
PCBR	**Castelo Branco**	**2.83**	**77**↑	*e*P		**Pn**	**23 09 02.3**	**+2.4**
PCBR				*e*S		**Sn**	**23 09 31.8**	**-2.3**
PCBR				*i* IAML			23 09 34.0	
PCBR				*i* IAML			23 09 34.5	
PCBR				*i* IAML			23 09 34.7	
PMRV	**Marv??o**	**2.85**	**86**↑	*i*P		**Pn**	**23 09 02.6**	**+2.2**
PMRV				*e*S		**Sn**	**23 09 32.7**	**-2.0**
PMRV				*i* IAML			23 09 34.7	
PMRV				*i* IAML			23 09 34.7	
PMRV				*i* IAML			23 09 35.6	
PCVE	**Castro Verde**	**2.89**	**124**	P		**Pn**	**23 09 02.2**	**+2.2**
PCVE				S		**Sn**	**23 09 33.4**	**-2.1**
PCVE	**Castro Verde**	**2.89**	**124**	*e*P		**Pn**	**23 09 03.1**	**+2.3**
PCVE				*e*S		**Sn**	**23 09 33.7**	**-1.8**
PCVE				*i* IAML			23 09 35.3	
PCVE				*i* IAML			23 09 35.7	
PCVE				*i* IAML			23 09 36.3	
MTE	**Manteigas**	**2.94**	**66**	*e*P		**Pn**	**23 09 03.7**	**+2.2**
MTE				*e*S		**Sn**	**23 09 35.2**	**-1.6**
MTE				*i* IAML			23 09 37.5	
MTE				*i* IAML			23 09 40.5	
MTE				*i* IAML			23 09 42.1	
PBDV	**Barranco-do-Ve**	**3.19**	**128**	*e*P		**Pn**	**23 09 07.9**	**+2.9**
PBDV				*e*S		**Sn**	**23 09 40.5**	**-2.6**
PBDV				*i* IAML			23 09 44.0	
PBDV				*i* IAML			23 09 44.4	
PBDV				*i* IAML			23 09 44.8	
EBAD	**Badajoz**	**3.20**	**98**	P		**Pn**	**23 09 07.0**	**+2.0**
EBAD				S		**Sn**	**23 09 41.5**	**-1.7**
EBAD	**Badajoz**	**3.20**	**98**	Pn		**Pn**	**23 09 07.0**	**+2.0**
EBAD				⇑*i*Vmb_VC			23 09 12.1	
	comp=N,268nm,SNR=5.6							
EBAD				Sn		**Sn**	**23 09 39.6**	**-3.6**
PVAQ	**Vaqueiros**	**3.23**	**124**	P		**Pn**	**23 09 07.8**	**+2.3**
PVAQ				S		**Sn**	**23 09 40.5**	**-3.4**
PVAQ	**Vaqueiros**	**3.23**	**124**↑	*e*P		**Pn**	**23 09 07.8**	**+2.3**
PVAQ				*e*S		**Sn**	**23 09 41.8**	**-2.2**
PVAQ				*i* IAML			23 09 43.5	
PVAQ				*i* IAML			23 09 43.7	
PVAQ				*i* IAML			23 09 45.9	
PVAQ	**Vaqueiros**	**3.23**	**124**	P		**Pn**	**23 09 07.1**	**+1.7**
PVAQ	**Vaqueiros**	**3.23**	**124**	S		**Sn**	**23 09 38.5**	**-5.4**
PVRL	**Vila Real**	**3.25**	**51**↓	*e*P		**Pn**	**23 09 08.1**	**+2.3**
PVRL				*e*S		**Sn**	**23 09 42.5**	**-2.1**
PVRL				*i* IAML			23 09 44.6	
PVRL				*i* IAML			23 09 47.5	
PVRL				*i* IAML			23 09 55.1	
POLO	**Lamas de Olo**	**3.26**	**49**	*e*P		**Pn**	**23 09 08.4**	**+2.4**
POLO				*e*S		**Sn**	**23 09 43.1**	**-1.9**
POLO				*i* IAML			23 09 45.5	
POLO				*i* IAML			23 09 46.0	
POLO				*i* IAML			23 09 46.4	
EGRO	**El Granado**	**3.31**	**121**	P		**Pn**	**23 09 08.7**	**+2.2**
EGRO				S		**Sn**	**23 09 43.3**	**-2.6**
EGRO	**El Granado**	**3.31**	**121**	Pn		**Pn**	**23 09 09.0**	**+2.4**
EGRO				⇑*i*Vmb_VC			23 09 09.4	
	comp=N,430nm,SNR=6.9							
EGRO				Sn		**Sn**	**23 09 43.6**	**-2.3**
PBAR	**Barrancos**	**3.33**	**108**	P		**Pn**	**23 09 09.3**	**+2.4**
PBAR				S		**Sn**	**23 09 44.1**	**-2.5**
PBAR	**Barrancos**	**3.33**	**108**	*e*P		**Pn**	**23 09 09.4**	**+2.5**
PBAR				*e*S		**Sn**	**23 09 44.2**	**-2.4**
PBAR				*i* IAML			23 09 45.5	
PBAR				*i* IAML			23 09 47.5	
PBAR				*i* IAML			23 09 48.2	
PCAB	**Cabril**	**3.36**	**43**	*e*P		**Pn**	**23 09 09.8**	**+2.5**
PCAB				*e*S		**Sn**	**23 09 45.0**	**-2.3**
PCAB				*i* IAML			23 09 46.7	
PCAB				*i* IAML			23 09 47.0	
PCAB				*i* IAML			23 09 47.1	
EZAM	**Zamans**	**3.39**	**31**	Pn		**Pn**	**23 09 09.5**	**+1.8**
EZAM				⇑*i*Vmb_VC			23 09 09.9	
	comp=N,440nm,SNR=2.8							
EZAM				Sn		**Sn**	**23 09 45.2**	**-2.8**
PGAV	**Gavieira, Arco**	**3.43**	**37**	*e*P		**Pn**	**23 09 10.6**	**+2.3**
PGAV				*e*S		**Sn**	**23 09 47.1**	**-1.9**
PGAV				*i* IAML			23 09 47.9	
PGAV				*i* IAML			23 09 48.0	
PGAV				*i* IAML			23 09 48.2	
ELOB	**Lobios**	**3.46**	**40**	Pn		**Pn**	**23 09 10.8**	**+2.2**
ELOB				⇑*i*Vmb_VC			23 09 12.7	
	comp=N,307nm,SNR=3.2							
ELOB				Sn		**Sn**	**23 09 47.4**	**-2.4**
MVO	**Moncorvo**	**3.62**	**57**↓	*e*P		**Pn**	**23 09 13.0**	**+2.0**
MVO				*e*S		**Sn**	**23 09 51.1**	**-2.7**
MVO				*i* IAML			23 09 52.9	
MVO				*i* IAML			23 09 59.0	
MVO				*i* IAML			23 10 00.9	
EMIN	**Mina Concepcio**	**3.76**	**112**	P		**Pn**	**23 09 15.3**	**+2.5**
EMIN				S		**Sn**	**23 09 53.3**	**-3.8**
EMIN	**Mina Concepcio**	**3.76**	**112**	Pn		**Pn**	**23 09 15.1**	**+2.4**
EMIN				⇑*i*Vmb_VC			23 09 15.5	
	comp=N,148nm,SNR=2.8							
EMIN				Sn		**Sn**	**23 09 52.6**	**-4.5**
EPLA	**Plasencia**	**3.93**	**77**	Pn		**Pn**	**23 09 17.7**	**+2.6**
EPLA				⇑*i*Vmb_VC			23 09 18.4	
	comp=N,339nm,SNR=5.5							
EPLA				Sn		**Sn**	**23 09 56.8**	**-4.5**
EMAZ	**Mazaricos**	**4.00**	**23**	Pn		**Pn**	**23 09 17.2**	**+1.2**
EMAZ				Sn		**Sn**	**23 09 59.1**	**-3.9**
PBRG	**Braganca**	**4.15**	**51**	*e*P		**Pn**	**23 09 20.5**	**+2.3**
PBRG				*e*S		**Sn**	**23 10 03.9**	**-3.0**
PBRG				*i* IAML			23 10 06.5	
PBRG				*i* IAML			23 10 06.5	
PBRG				*i* IAML			23 10 07.3	
EAGO	**Agolada(Pontev**	**4.18**	**32**	Pn		**Pn**	**23 09 20.2**	**+1.6**
EAGO				Sn		**Sn**	**23 10 03.7**	**-3.8**
ECAL	**Calabor**	**4.24**	**50**	P		**Pn**	**23 09 21.1**	**+1.7**
ECAL				S		**Sn**	**23 10 06.6**	**-2.4**
ECAL	**Calabor**	**4.24**	**50**	Pn		**Pn**	**23 09 21.6**	**+2.2**
ECAL				Sn		**Sn**	**23 10 06.5**	**-2.5**
ECAB	**El Cabril**	**4.58**	**103**	P		**Pn**	**23 09 26.2**	**+2.1**
ECAB				S		**Sn**	**23 10 14.6**	**-2.7**
ECAB	**El Cabril**	**4.58**	**103**	Pn		**Pn**	**23 09 26.4**	**+2.3**
ECAB				Sn		**Sn**	**23 10 14.4**	**-2.9**
ESPR	**Espera**	**4.76**	**119**	P		**Pn**	**23 09 29.7**	**+3.2**
ESPR				S		**Sn**	**23 10 19.8**	**-1.9**
ESPR	**Espera**	**4.76**	**119**	Pn		**Pn**	**23 09 29.8**	**+3.3**
ESPR				⇑*i*Vmb_VC			23 09 39.0	
	comp=N,97nm,SNR=1.7							
ESPR				Sn		**Sn**	**23 10 18.6**	**-3.1**
EPON	**Pontenova**	**5.01**	**35**	Pn		**Pn**	**23 09 31.7**	**+1.8**
EPON				⇑*i*Vmb_VC			23 09 32.7	
	comp=N,180nm,SNR=1.8							
EPON				Sn		**Sn**	**23 10 23.3**	**-4.6**
EADA	**Adamuz**	**5.19**	**100**	P		**Pn**	**23 09 34.5**	**+2.0**
EADA				S		**Sn**	**23 10 28.3**	**-4.2**
EADA	**Adamuz**	**5.19**	**100**	Pn		**Pn**	**23 09 34.7**	**+2.2**
EADA				⇑*i*Vmb_VC			23 09 39.6	
	comp=N,81nm,SNR=1.7							
EADA				Sn		**Sn**	**23 10 27.4**	**-5.0**
PAB	**San Pablo**	**5.21**	**85**	Pn		**Pn**	**23 09 34.9**	**+2.1**
PAB				⇑*i*Vmb_VC			23 09 35.6	
	comp=N,166nm,SNR=4.9							
PAB				Sn		**Sn**	**23 10 28.0**	**-5.0**
GUD	**Guadarrama**	**5.48**	**73**	Pn		**Pn**	**23 09 38.7**	**+2.1**
GUD				Sn		**Sn**	**23 10 35.6**	**-4.2**
ESDC	**Sonseca Array**	**5.51**	**84**	Pn		**Pn**	**23 09 39.0**	**+2.1**
ESDC				⇑*i*Vmb_VC			23 09 40.2	
	comp=N,121nm,SNR=3.4							
ESDC				Sn		**Sn**	**23 10 35.3**	**-5.1**
ESBB	**Sonseca Array**	**5.51**	**84**	Pn		**Pn**	**23 09 39.0**	**+2.1**
ESBB				⇑*i*Vmb_VC			23 09 40.2	
	comp=N,88nm,SNR=2.5							
ESBB				Sn		**Sn**	**23 10 34.2**	**-6.1**
EMIJ	**Mijas**	**5.66**	**117**	Pn		**Pn**	**23 09 41.5**	**+2.6**
EMIJ				⇑*i*Vmb_VC			23 09 44.0	
	comp=N,84nm,SNR=1.7							
EMIJ				Sn		**Sn**	**23 10 39.4**	**-4.6**
PSIM	**Granatula de C**	**5.71**	**92**	Pn		**Pn**	**23 09 41.9**	**+2.3**
PSIM				Sn		**Sn**	**23 10 39.9**	**-5.3**
EGOR	**Sierra Gorda,**	**5.89**	**109**	Sn		**Sn**	**23 10 47.2**	**-2.6**
EARI	**Arriondas**	**5.97**	**46**	Pn		**Pn**	**23 09 45.8**	**+2.6**
EARI				Sn		**Sn**	**23 10 46.2**	**-5.4**
UCM	**Universidad Co**	**6.11**	**78**	P		**Pn**	**23 09 47.5**	**+2.4**
UCM				S		**Sn**	**23 10 50.8**	**-4.3**
ELGU	**Los Guajares,**	**6.34**	**110**	Sn		**Sn**	**23 10 54.0**	**-6.8**
EQES	**Quesada**	**6.44**	**101**	Pn		**Pn**	**23 09 51.4**	**+1.7**
EQES				⇑*i*Vmb_VC			23 09 58.6	
	comp=N,60nm,SNR=1.4							
EQES				Sn		**Sn**	**23 10 56.6**	**-6.6**
ZHG	**ZHG**	**6.82**	**147**	P		**Pn**	**23 09 54.2**	**-0.7**
ZHG	**ZHG**	**6.82**	**147**	S		Sn	23 11 04.2	-8.5
ELAN	**Lanestosa**	**6.98**	**53**	Pn		**Pn**	**23 09 59.7**	**+2.8**
ELAN				⇑*i*Vmb_VC			23 10 02.1	
	comp=N,103nm,SNR=0.9							
ELAN				Sn		**Sn**	**23 11 11.7**	**-4.7**
ETOR	**Torete**	**7.08**	**75**	Pn		**Pn**	**23 10 00.9**	**+2.4**
ETOR				⇑*i*Vmb_VC			23 10 02.2	
	comp=N,50nm,SNR=1.2							
ETOR				Sn		**Sn**	**23 11 11.7**	**-7.4**
MD31	**MD31**	**8.18**	**139**	P		**Pn**	**23 10 12.8**	**-0.8**
MD31	**MD31**	**8.18**	**139**	S		Sn	23 11 35.7	-10
MDT	**Midelt**	**8.30**	**139**	P		**Pn**	**23 10 14.8**	**-0.4**
MDT	**Midelt**	**8.30**	**139**	S		Sn	23 11 40.5	-8.5
OUK	**Oukaimeden**	**8.46**	**161**	P		**Pn**	**23 10 16.5**	**-1.2**
OUK	**Oukaimeden**	**8.46**	**161**	S		Sn	23 11 42.4	-11
TIO	**Tiouine**	**8.89**	**158**	P		**Pn**	**23 10 22.3**	**-1.0**
TIO	**Tiouine**	**8.89**	**158**	S		Sn	23 11 53.2	-10
TTIG	**Tnine Tigouga,**	**8.97**	**165**	P		**Pn**	**23 10 22.0**	**-2.4**
TTIG	**Tnine Tigouga,**	**8.97**	**165**	S		Sn	23 11 53.2	-12
OUZM	**OUZ**	**9.06**	**156**	P		**Pn**	**23 10 25.0**	**-0.7**
OUZM	**OUZ**	**9.06**	**156**	S		Sn	23 11 59.2	-8.6

IDC 05 23:36:07.8±2.0,5°.83S×130°.35E,h0km,mb3.9/2, mbtmp3.6/5,ML3.6/3,MS2.7/1,Error ellipse: s-maj=96.0km s-min=25.6km az=78.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KAPI	**Kappang**	**10.59**	**274**	LR		LR	23 42 28.5	
	comp=Z,40nm,18.9s,baz=358,slow=96							
FITZ	**Fitzroy Crossi**	**13.04**	**200**	Pn		Pn	23 39 16.4	+1.9
	0.5nm,0.3s,baz=34,slow=11,SNR=23							
FITZ				Sn		Sn	23 41 27.9	-12
	0.7nm,0.3s,baz=192,slow=11,SNR=7.7							
	1.6nm,0.3s							
WRA	**Warramunga Arr**	**14.56**	**165**	Pn		Pn	23 39 34.0	-1.3
	0.3nm,0.3s,baz=345,slow=14,SNR=10							
WRA				Sn		Sn	23 42 04.3	-13
	0.5nm,0.3s,baz=280,slow=5.1,SNR=9.3							
	0.4nm,0.5s							
ASAR	**Alice Springs**	**18.07**	**169**	P		Pn	23 40 20.0	-0.5
	0.1nm,0.3s,baz=350,slow=9.4,SNR=6.4							
ASAR				S		Sn	23 43 30.8	-12
	0.3nm,0.5s,baz=1.7,slow=28,SNR=5.7							
	0.3nm,0.7s							
MKAR	**Makanchi Array**	**67.44**	**326**	P		P	23 47 05.8	+0.3
	1.3nm,0.6s,baz=117,slow=8.2,SNR=17							
	1.3nm,0.6s							
KURBB	**Kurchatov Arra**	**71.70**	**328**	P		P	23 47 31.1	-0.5
	0.3nm,0.5s,baz=124,slow=5.9,SNR=4.7							
	0.3nm,0.5s							

IDC 05 23:41:28.9±6.5,30°.53S×178°.89W,h0km,mb3.5/2, mbtmp3.5/2,Error ellipse: s-maj=256.8km s-min=62.0km az=155.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ASAR	**Alice Springs**	**42.34**	**267**	P		P	23 49 24.6	-0.3
	0.2nm,0.4s,baz=106,slow=7.1,SNR=5.2							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**43.34**	**273**	P		P	23 49 33.0	0.0
	0.3nm,0.4s,baz=113,slow=8.3,SNR=5.8							
	0.3nm,0.4s							
FINES	**FINESS Array B**	**145.00**	**339**	PKPbc		PKPbc	00 01 05.9	-0.8
	0.4nm,0.5s,baz=46,slow=6.5,SNR=3.8							

*MEX **05** 23:48:19.6±0.9, 16°.87N×95°.00W,h110km±6km, MD4.1*
*GCG **05** 23:48:21.5±2.6, 16°.31N×94°.77W,h88km±72km, MD4.2, ML3.0*

ISC 05 23:48:16.8±1.3,16°.94N±0°.04×95°.00W±0°.03,h121km±9km, n27,σ1s99/50,Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMIG	**Matias Romero**	**0.19**	**37**	*i* P		**Pn**	**23 48 34.4**	**+0.8**
CMIG				*e*S		**Sn**	**23 48 45.4**	**-0.9**
NILT	**Santiago Nilte**	**0.53**	**135**	*i* P		**Pn**	**23 48 35.8**	**+0.7**
NILT				*i* S		**Sn**	**23 48 48.2**	**-0.6**
NEUV	**Arroyo Zacate**	**1.08**	**315**	*e*P		**Pn**	**23 48 41.0**	**+1.2**
NEUV				*e*S		**Sn**	**23 48 57.5**	**+0.3**
TUIG	**Tuzandepetl**	**1.22**	**27**	*e*S		**Sn**	**23 49 00.7**	**+0.9**
HUIG	**Huatulco**	**1.58**	**222**	*e*P		**Pn**	**23 48 44.8**	**-0.4**
HUIG				*e*S		**Sn**	**23 49 05.9**	**-1.0**
HUIG	**Huatulco**	**1.58**	**222**	*i* P		**Pn**	**23 48 44.7**	**-0.6**
HUIG				*i* S		**Sn**	**23 49 06.2**	**-0.7**
HUIG				IAML			23 49 06.5	
	comp=E,228nm,0.3s							
PMUV	**Sontecomapan**	**1.60**	**356**	*e*P		**Pn**	**23 48 43.9**	**-1.7**
PMUV				*e*S		**Sn**	**23 49 03.8**	**-3.7**
VHO	**Vista Hermosa**	**1.66**	**275**	*e*P		**Pn**	**23 48 48.0**	**+1.6**
VHO				*e*S		**Sn**	**23 49 11.1**	**+2.1**
TGIG		**1.81**	**95**	*e*P		**Pn**	**23 48 49.2**	**+1.2**
TGIG				*e*S		**Sn**	**23 49 11.2**	**-0.6**
TGIG		**1.81**	**95**	*i* P		**Pn**	**23 48 49.2**	**+1.2**
TGIG				*i* S		**Sn**	**23 49 11.3**	**-0.6**
TGIG				IAML			23 49 13.6	
	comp=N,119nm,0.4s							
PCIG		**2.11**	**125**	*e*P		**Pn**	**23 48 52.4**	**+0.7**
PCIG				*e*S		**Sn**	**23 49 18.3**	**-0.1**
PEIG	**Puerto Escondi**	**2.26**	**246**	*e*P		**Pn**	**23 48 53.2**	**-0.4**
PEIG				*e*S		**Sn**	**23 49 20.1**	**-1.8**
TOIG	**Toxpalan**	**2.28**	**301**	*e*P		**Pn**	**23 48 56.7**	**+2.7**
TOIG				*e*S		**Sn**	**23 49 24.8**	**+2.4**
YOIG	**Yosondua**	**2.44**	**268**	*e*P		**Pn**	**23 48 57.6**	**+1.4**
YOIG				*e*S		**Sn**	**23 49 26.0**	**+0.3**
TXIG	**Tlaxiaco**	**2.66**	**277**	*e*P		**Pn**	**23 49 02.0**	**+3.0**
TXIG				*e*S		**Sn**	**23 49 29.9**	**-1.6**
TPIG	**Tehuac#an**	**2.69**	**304**	*e*P		**Pn**	**23 49 00.2**	**+0.9**
TPIG				*e*S		**Sn**	**23 49 28.4**	**-3.5**
CCIG	**Comitan**	**2.82**	**103**	*e*P		**Pn**	**23 49 03.2**	**+2.2**
CCIG				*e*S		**Sn**	**23 49 29.8**	**-5.2**
CCIG	**Comitan**	**2.82**	**103**	*i* P		**Pn**	**23 49 03.2**	**+2.2**
CCIG				*e*S		**Sn**	**23 49 31.3**	**-3.7**
CCIG				IAML			23 49 54.9	
	comp=N,43nm,0.4s							
JAUV	**Jalcomulco**	**2.96**	**325**	*e*P		**Pn**	**23 48 59.1**	**-3.5**
JAUV				*e*S		**Sn**	**23 49 37.4**	**-0.6**
PNIG	**Pinotepa**	**3.04**	**260**	*e*P		**Pn**	**23 49 04.2**	**+0.4**
PNIG				*e*S		**Sn**	**23 49 36.3**	**-3.7**
FTIG	**Fresnillo de T**	**3.14**	**288**	*e*P		**Pn**	**23 49 06.4**	**+1.3**
FTIG				*e*S		**Sn**	**23 49 41.9**	**-0.4**
PATR	**El Naranjo**	**3.22**	**124**	*e*P		**Pn**	**23 49 08.0**	**+1.7**
PAVE	**Pavencul**	**3.23**	**122**	*e*P		**Pn**	**23 49 08.0**	**+1.7**
PAVE				*e*S		**Sn**	**23 49 46.3**	**+1.7**
TLIG	**Tlapa**	**3.46**	**281**	*e*P		**Pn**	**23 49 09.9**	**+0.5**
TLIG				*e*S		Sn	23 49 43.1	-6.9
MGIG	**Malinaltepec**	**3.48**	**275**	*e*P		**Pn**	**23 49 11.3**	**+1.6**
MGIG				*e*S		Sn	23 49 42.0	-8.6
CRIG	**Cruz Grande**	**3.96**	**268**	*e*P		**Pn**	**23 49 15.4**	**-0.4**
CRIG				*e*S		**Sn**	**23 49 59.6**	**-2.0**
CXUV	**Coxquihui**	**4.04**	**323**	*e*P		**Pn**	**23 49 19.8**	**+2.8**
CXUV				*e*S		**Sn**	**23 50 05.0**	**+1.3**

*IDC **06** 00:10:38.8±0.3,30°.19S×177°.82W,h0km,mb4.9

PRGZ S **Sn** **00 14 31.7 -6.3**
MUGZ Murupara 9.27 208 P **Pn** **00 12 51.7 -3.3**
MUGZ S **Sn** **00 14 36.9 -1.4**
RTZ Ruatahuna 9.31 207 P **Pn** **00 12 52.7 -2.8**
RTZ S **Sn** **00 14 36.0 -3.2**
SNGZ Shannon Statio 9.32 205 P **Pn** **00 12 54.0 -1.6**
SNGZ S **Sn** **00 14 36.0 -3.4**
MHGZ Mahia Peninsul 9.46 201 P **Pn** **00 12 53.8 -3.7**
MHGZ S **Sn** **00 14 36.5 -6.4**
RAHZ Arahi 9.53 205 P **Pn** **00 12 56.8 -1.7**
RAHZ S **Sn** **00 14 42.0 -2.6**
MTHZ Maungataniwha 9.57 207 P **Pn** **00 12 58.2 -0.8**
MTHZ S **Sn** **00 14 43.7 -1.8**
NMHZ Naumai 9.79 206 P **Pn** **00 12 59.4 -2.7**
NMHZ S **Sn** **00 14 49.1 -2.0**
BKZ Black Stump Fm 9.97 207 P **Pn** **00 13 00.8 -3.8**
BKZ S **Sn** **00 14 53.3 -2.2**
MCHZ McNeill Hill 10.14 205 P **Pn** **00 13 04.1 -2.7**
MCHZ S **Sn** **00 14 55.7 -3.7**
KATZ Kakaramea 10.15 211 P **Pn** **00 13 10.7 +3.7**
KATZ S **Sn** **00 15 04.9 +5.1**
HIZ Hauiti 10.17 215 P **Pn** **00 13 10.0 +2.8**
OTVZ Oturere 10.31 210 P **Pn** **00 13 08.1 -1.3**
OTVZ S **Sn** **00 15 02.3 -1.7**
SNVZ South Ngauruho 10.34 210 P **Pn** **00 13 07.1 -2.7**
KAHZ Kahuranaki 10.38 204 P **Pn** **00 13 05.6 -4.6**
KAHZ S **Sn** **00 15 01.7 -3.8**
TUVZ Tukino 10.41 210 P **Pn** **00 13 10.6 0.0**
FWVZ Far West T-bar 10.44 210 P **Pn** **00 13 10.0 -1.1**
MAVZ Matarangi 10.45 210 P **Pn** **00 13 11.8 +0.5**
MAVZ S **Sn** **00 15 05.3 -2.1**
TRVZ Turoa 10.48 210 P **Pn** **00 13 14.7 +3.0**
MOVZ Moawhango 10.48 209 P **Pn** **00 13 08.6 -2.9**
MOVZ S **Sn** **00 15 03.8 -4.2**
WPHZ Waipukurau 10.78 205 P **Pn** **00 13 10.8 -4.7**
WPHZ S **Sn** **00 15 11.2 -4.0**
TSZ Takapari Road 10.95 206 P Pn 00 13 13.0 -5.0
TSZ S Sn 00 15 08.8 -11
DVHZ Dannevirke 11.08 205 P Pn 00 13 14.4 -5.3
DVHZ S **Sn** **00 15 15.7 -7.0**
POWZ Post Office Ro 11.31 206 P **Pn** **00 13 20.0 -2.9**
POWZ S **Sn** **00 15 21.6 -6.6**
BFZ Birch Farm 11.39 204 P Pn 00 13 18.4 -5.6
MRZ Mangatainoka R 11.62 206 P Pn 00 13 20.6 -6.5
HOWZ Holdsworth Sta 11.85 206 P Pn 00 13 23.2 -7.0
KIW Kapiti Island 12.05 208 P Pn 00 13 27.1 -5.9
MTW Mount Morrison 12.08 205 P Pn 00 13 26.3 -7.0
CAW Cannon Point 12.20 207 P Pn 00 13 27.8 -7.1
PAWZ Paruwai Farm 12.30 205 P Pn 00 13 31.6 -4.8
DUWZ D'Urville Isla 12.42 211 P Pn 00 13 32.6 -5.5
TCW Tory Channel 12.61 209 P Pn 00 13 34.0 -6.5
TUWZ Tuamarina 12.93 209 **Pn** **00 13 42.6 -2.3**
TUWZ Tuamarina 12.93 209 P Pn 00 13 37.7 -7.2
NNZ Nelson 13.00 211 P Pn 00 13 40.8 -5.1
QRZ Quartz Range 13.09 215 **Sn** **00 16 09.4 -2.3**
MSVF Nonsavu 13.17 342 **Pn** **00 13 48.5 +0.1**
MSVF Nonsavu 13.17 342 Pn **Pn** **00 13 44.3 -4.2**
0.8nm,0.3s,baz=183,slow=6.8,SNR=4.3
MSVF LR LR 00 18 02.3
comp=Z,3µm,20.5s,baz=170,slow=34
2.1nm,0.4s
MSVF Nonsavu 13.17 342 *i* P **Pn** **00 13 48.1 -0.4**
BSWZ Blackbirch Sta 13.19 209 P Pn 00 13 42.3 -6.2
CTZ Chatham Island 13.36 177 P **Pn** **00 13 51.0 +0.2**
MRNZ Matariki Terra 13.43 212 P **Pn** **00 13 47.5 -4.3**
THZ Tophouse 13.65 211 P Pn 00 13 47.6 -7.2
KHZ Kahutara 13.91 208 P Pn 00 13 52.3 -6.1
RPZ Rata Peaks 16.03 211 P **P** **00 14 29.1 -0.5**
RPZ Rata Peaks 16.03 211 Pn **Pn** **00 14 25.4 -1.1**
3.1nm,0.3s,baz=31,slow=3.3,SNR=9.3
RPZ Sn Sn 00 17 07.3 -16
4.8nm,0.3s,baz=120,slow=22,SNR=8.6
RPZ LR LR 00 20 40.4
comp=Z,1µm,20.1s,baz=41,slow=37
13nm,0.4s
DZM Mont Dzumac 16.44 296 **Pn** **00 14 31.0 -0.9**
DZM IAmb IAmb 00 14 38.9
comp=Z,145nm,1.3s
DZM Mont Dzumac 16.44 296 *e*Pn **Pn** **00 14 32.9 +0.9**
comp=Z,296nm,1.4s
DZM *e*LR LR 00 18 14.2
comp=Z,8µm,25.1s
DZM Mont Dzumac 16.44 296 Pn **P** **00 14 35.4 +1.0**
comp=Z,0.6nm,0.3s,baz=92,slow=17,SNR=7.8
DZM LR LR 00 19 32.3
comp=Z,4µm,20.3s,baz=168,slow=33
RAR Rarotonga 18.53 65 P **P** **00 14 56.5 -0.9**
comp=Z,3.2nm,0.3s,baz=273,slow=7.7,SNR=1.7
RAR S Sn 00 18 09.7 -14
comp=Z,27nm,0.9s,baz=281,slow=23,SNR=1.6
RAR LR LR 00 20 56.2
comp=Z,730nm,21.2s,baz=242,slow=33
comp=Z,27nm,0.7s
LHI Lord Howe Isla 19.95 261 P **Pn** **00 15 16.2 +1.4**
comp=Z,120nm,1.0s
TBI Tubuai 26.11 81 *e*P **P** **00 16 16.7 +2.1**
TBI *e*S **S** **00 20 45.2 +1.0**
comp=Z,3µm,22.5s
TBI *e*LR LR 00 22 41.7
comp=Z,4µm,26.5s
TBI *e*LR LR 00 22 47.4
comp=Z,17µm,27.5s
ARMA Armidale 26.41 262 **P** **00 16 20.3 +2.8**
ARMA IAmb IAmb 00 16 34.2
comp=Z,58nm,1.3s
ARMA Armidale 26.41 262 P **P** **00 16 19.8 +2.3**
comp=Z,20nm,0.7s
RIV Riverview 26.55 254 P **P** **00 16 20.5 +2.0**
comp=Z,82nm,1.2s
MGCD Mangrove Creek 26.61 256 P **P** **00 16 21.1 +2.1**
comp=Z,52nm,1.0s
EIDS Eidsvold 27.99 273 **P** **00 16 33.0 +1.5**
EIDS IAmb IAmb 00 16 34.0
comp=Z,26nm,0.7s
EIDS Eidsvold 27.99 273 P **P** **00 16 32.1 +0.6**
comp=Z,40nm,0.7s
CNB Canberra Magne 28.02 251 P **P** **00 16 33.2 +1.3**
comp=Z,36nm,1.0s
CAN Canberra 28.32 251 **P** **00 16 36.3 +1.8**
CAN IAmb IAmb 00 16 38.4
comp=Z,48nm,1.1s
CAN Canberra 28.32 251 P **P** **00 16 35.8 +1.4**
comp=Z,42nm,1.0s
CAN Canberra 28.32 251 P **P** **00 16 36.3 +1.8**
CAN pmax pmax
comp=Z,48nm,1.1s
PPT2 Papeete2 28.59 70 *e*P **P** **00 16 33.6 -3.4**
comp=Z,234nm,27.5s
PPT2 *e*S **S** **00 21 19.6 -4.1**
comp=Z,409nm,30.0s
PPT2 *e*LQ LQ 00 22 40.9
comp=Z,738nm,23.5s
PPT2 *e*LR LR 00 23 50.1
comp=Z,2µm,26.2s
PPT2 *e*LR LR 00 23 56.2
comp=Z,4µm,27.2s
PPT Papeete 28.60 70 LR LR 00 25 13.9
comp=Z,616nm,21.9s,baz=216,slow=31
YNG Young 28.83 253 P **P** **00 16 40.3 +1.4**
comp=Z,36nm,0.9s
HNR Honiara 29.48 310 LR LR 00 26 29.8
comp=Z,826nm,22.0s,baz=169,slow=32
MOO Moorlands 30.50 237 P **P** **00 16 55.4 +1.7**
TOO Toolangi 31.20 247 **P** **00 17 01.2 +1.2**
TOO Toolangi 31.20 247 P **P** **00 17 00.8 +0.8**
comp=Z,14nm,1.1s
TOO Toolangi 31.20 247 P **P** **00 17 01.2 +1.2**
TOO pmax pmax
comp=Z,25nm,1.4s
CMSA Cobar Meteorol 31.32 258 P **P** **00 17 01.8 +0.8**
comp=Z,54nm,1.0s
QLP Quilpie 33.56 267 P **P** **00 17 20.8 +0.1**
comp=Z,58nm,0.5s
CTAO Charters Tower 34.05 279 **P** **00 17 26.0 +1.0**
CTAO Charters Tower 34.05 279 P **P** **00 17 26.0 +1.0**
CTAO pmax pmax
comp=Z,74nm,1.2s
STKA Stephens Creek 34.73 257 **P** **00 17 31.7 +0.9**
STKA Stephens Creek 34.73 257 P **P** **00 17 31.7 +0.9**
comp=Z,655nm,0.9s
STKA Stephens Creek 34.73 257 P **P** **00 17 31.7 +0.9**
comp=Z,100nm,0.7s,baz=98,slow=9.9,SNR=137
STKA LR LR 00 30 02.9
comp=Z,2µm,20.6s,baz=88,slow=34
comp=Z,100nm,0.7s
MTSU Mount Surprise 36.54 281 P **P** **00 17 47.0 +0.5**
comp=Z,30nm,0.7s
HTT Hallett 36.75 254 P **P** **00 17 48.3 +0.2**
comp=Z,18nm,0.8s
COEN Coen 39.51 286 **P** **00 18 12.1 +0.6**
COEN IAmb IAmb 00 18 13.3
comp=Z,34nm,1.1s
COEN Coen 39.51 286 P **P** **00 18 11.6 0.0**
comp=Z,30nm,1.0s
QIS Mount Isa 39.56 274 P **P** **00 18 10.9 -1.1**
comp=Z,30nm,0.6s
TAOE Nuku Hiva Isla 41.07 66 *e*S **S** **00 24 31.0 -4.5**
comp=Z,210nm,34.5s
TAOE *e*LR LR 00 29 40.7
comp=Z,2µm,25.2s
AS17 Alice Springs 43.29 267 P **P** **00 18 41.3 -1.3**
comp=Z,56nm,0.7s
AS19 Alice Springs 43.30 267 P **P** **00 18 41.5 -1.1**
comp=Z,63nm,0.7s
AS31 Alice Springs 43.36 267 **P** **00 18 42.5 -0.7**
AS31 Alice Springs 43.36 267 P **P** **00 18 41.7 -1.4**
comp=Z,16nm,0.6s
ASAR Alice Springs 43.36 267 **P** **00 18 42.1 -1.0**
ASAR Alice Springs 43.36 267 P **P** **00 18 41.9 -1.3**
comp=Z,29nm,0.5s,baz=103,slow=7.3,SNR=254
ASAR PcP **PcP** **00 20 31.2 -0.3**
comp=Z,2.4nm,0.6s,baz=122,slow=3.9,SNR=4.8
ASAR ScP **ScP** **00 24 15.6 -5.1**
comp=Z,3.3nm,0.8s,baz=122,slow=4.2,SNR=8.3
ASAR S **S** **00 25 07.5 -1.8**
comp=Z,1.5nm,0.9s,baz=108,slow=14,SNR=4.1
ASAR PKiKP **PKiKP** **00 27 32.5 -1.7**
comp=Z,0.5nm,0.8s,baz=119,slow=1.1,SNR=4.1
ASAR LR LR 00 36 32.3
comp=Z,2µm,18.1s,baz=110,slow=36
comp=Z,29nm,0.5s
WR0 Warramunga Arr 44.17 272 P **P** **00 18 48.0 -1.6**
DRV Dumont d'Urvil 44.26 203 P **P** **00 18 50.1 +0.5**
DRV ScP **ScP** **00 24 23.0 -0.4**
WRAB Tennant Creek 44.34 272 P **P** **00 18 49.7 -1.3**
WRAB Tennant Creek 44.34 272 P **P** **00 18 49.7 -1.3**
WRAB pmax pmax
comp=Z,77nm,0.8s
WRA Warramunga Arr 44.35 272 **P** **00 18 49.4 -1.7**
WRA Warramunga Arr 44.35 272 P **P** **00 18 49.8 -1.3**
comp=Z,77nm,0.6s,baz=111,slow=8.1,SNR=359
WRA ScP **ScP** **00 24 19.8 -4.9**
comp=Z,2.1nm,0.9s,baz=115,slow=3.8,SNR=6.4
WRA S **S** **00 25 17.4 -6.2**
comp=Z,4.9nm,0.9s,baz=110,slow=14,SNR=6.7
WRA PKiKP **PKiKP** **00 27 33.7 -1.5**
comp=Z,0.6nm,0.6s,baz=104,slow=0.4,SNR=5.1
WRA LR LR 00 35 34.9
comp=Z,1µm,21.9s,baz=109,slow=34
WRA Warramunga Arr 44.35 272 P **P** **00 18 49.4 -1.7**
WRA pmax pmax
comp=Z,6.0nm,0.8s
FORT Forrest 46.30 255 IAmb IAmb 00 19 06.5
comp=Z,18nm,0.6s
FORT Forrest 46.30 255 P **P** **00 19 04.8 -1.6**
comp=Z,26nm,0.7s
WRKA Warakurna 47.73 263 P **P** **00 19 15.5 -2.2**
comp=Z,19nm,1.2s
SBA Scott Base 48.08 184 P **P** **00 19 23.5 +4.0**
SBA Scott Base 48.08 184 P **P** **00 19 23.5 +4.0**
SBA pmax pmax
comp=Z,72nm,1.2s
JAY Jayapura 48.12 297 LR LR 00 37 17.2
comp=Z,295nm,21.6s,baz=116,slow=33
VNDA Vanda 48.14 186 **P** **00 19 22.8 +2.7**
VNDA Vanda 48.14 186 P **P** **00 19 23.2 +3.1**
comp=Z,4.9nm,0.6s,baz=358,slow=7.3,SNR=25
VNDA ScP **ScP** **00 24 42.2 +2.7**
comp=Z,1.6nm,0.9s,baz=38,slow=3.5,SNR=4.0
VNDA LR LR 00 35 50.2
comp=Z,205nm,21.9s,baz=28,slow=31
comp=Z,4.9nm,0.6s
VNDA Vanda 48.14 186 P **P** **00 19 22.8 +2.7**
VNDA pmax pmax
comp=Z,22nm,1.5s
VNDA Vanda 48.14 186 P **P** **00 19 23.4 +3.4**
VNDA PcP **PcP** **00 20 48.4 +1.3**
VNDA ScP **ScP** **00 24 40.3 +0.8**
KDU Kakadu 49.16 280 P **P** **00 19 27.2 -1.5**
comp=Z,13nm,0.9s
MTN Manton Dam 50.23 279 IAmb IAmb 00 19 36.2
comp=Z,12nm,0.7s
MTN Manton Dam 50.23 279 P **P** **00 19 35.5 -1.3**
comp=Z,17nm,0.8s
KNRA Kununurra 50.96 274 IAmb IAmb 00 19 43.3
comp=Z,27nm,0.6s
KNRA Kununurra 50.96 274 P **P** **00 19 40.9 -1.4**
comp=Z,43nm,0.6s
KMBL Kambalda 51.27 252 P **P** **00 19 40.8 -3.8**
WAKE Wake Island 51.62 341 P **P** **00 19 46.0 -1.1**
FITZ Fitzroy Crossi 52.61 270 P **P** **00 19 54.1 -0.6**
FITZ Fitzroy Crossi 52.61 270 P **P** **00 19 53.4 -1.3**
FITZ Fitzroy Crossi 52.61 270 LR LR 00 40 55.5
comp=Z,1µm,20.3s,baz=104,slow=35
CCD Concordia, Ant 53.04 196 P **P** **00 19 58.7 +1.2**
CCD PcP **PcP** **00 21 05.9 +0.1**
CCD ScP **ScP** **00 25 01.9 +0.7**
KLBR Kellerberrin 54.59 251 P **P** **00 20 07.0 -2.1**
comp=Z,72nm,0.8s
NWAO Narrogin (SRO) 54.64 249 LR LR 00 41 13.0
comp=Z,564nm,19.9s,baz=90,slow=34
KIP Kipapa 54.88 23 *i* P **P** **00 20 11.2 +0.2**
KIP pmax pmax
comp=Z,30nm,1.0s
CASY Casey 55.27 208 **P** **00 20 13.6 +0.2**
CASY Casey 55.27 208 P **P** **00 20 13.2 -0.2**
MEEK Meekatharra 55.43 257 P **P** **00 20 13.6 -1.6**
comp=Z,23nm,1.3s
BLDU Ballidu 55.74 252 P **P** **00 20 14.8 -2.6**
comp=Z,30nm,1.6s
MUN Mundaring 55.74 250 P **P** **00 20 16.3 -1.1**
MBWA Marble Bar 56.48 264 P **P** **00 20 21.3 -1.5**
comp=Z,21nm,2.7s
GUMO Guam 56.65 315 LR LR 00 42 04.2
comp=Z,286nm,20.1s,baz=124,slow=33
MORW Morawa 56.78 253 P **P** **00 20 22.7 -2.1**
comp=Z,30nm,2.0s
BATI Baumata 57.90 277 LR LR 00 45 28.0
comp=Z,3µm,19.4s,baz=126,slow=36
QSPA South Pole Qui 59.73 180 **P** **00 20 48.0 +3.0**
QSPA South Pole Qui 59.73 180 P **P** **00 20 47.9 +3.0**
comp=Z,39nm,1.0s,baz=31,slow=1.2,SNR=87
QSPA LR LR 00 45 07.6
comp=Z,381nm,18.6s,baz=42,slow=34
QSPA PKPPKP **P'P'df** **00 50 12.9 -5.7**
comp=Z,2.1nm,0.9s,baz=282,slow=1.1,SNR=6.4
comp=Z,39nm,1.0s
QSPA South Pole Qui 59.73 180 P **P** **00 20 48.0 +3.0**
EDFI Ende, Flores 60.31 278 P **P** **00 20 48.2 -1.5**
KAPI Kappang 63.85 280 LR LR 00 47 16.2
comp=Z,292nm,21.3s,baz=114,slow=34
DAV Davao City (W) 65.85 295 LR LR 00 46 37.5
comp=Z,67nm,21.8s,baz=142,slow=33
BELA Belgrano 2 69.77 172 **P** **00 21 50.8 +0.7**
BELA IAmb IAmb 00 21 51.9
comp=Z,24nm,0.9s
PMSA Palmer Station 72.18 156 P **P** **00 22 06.7 +1.9**
PMSA IAmb IAmb 00 22 31.7
comp=Z,21nm,0.9s
PMSA Palmer Station 72.18 156 LR LR 00 46 41.0
comp=Z,210nm,20.0s,baz=254,slow=30
MAW Mawson 72.41 200 P **P** **00 22 05.4 -0.8**
MAW Mawson 72.41 200 P **P** **00 22 06.8 +0.6**
comp=Z,7.1nm,0.7s,baz=126,slow=7.4,SNR=17
MAW LR LR 00 52 19.8
comp=Z,453nm,20.6s,baz=112,slow=34
comp=Z,7.1nm,0.7s
KKM Kota Kinabalu 72.79 288 **P** **00 22 09.7 +0.2**
KKM IAmb IAmb 00 22 11.3
comp=Z,16nm,0.6s
MG05 Puerto Natales 75.36 142 IAmb IAmb 00 22 27.2
comp=Z,54nm,1.1s
ESPZ Base Esperanza 75.48 156 IAmb IAmb 00 22 27.2
comp=Z,43nm,0.9s
GO09 Cerro Castillo 75.66 141 P **P** **00 22 25.9 +0.4**
USHA Ushuaia 75.79 146 LR LR 00 46 46.1
comp=Z,450nm,20.6s,baz=206,slow=28
SYO Syowa Base 77.19 193 ⇑ *i* P **P** **00 22 34.6 +0.8**
SYO Syowa Base 77.19 193 ⇑ *e*PcP **PcP** **00 22 44.1 -0.4**
AY03 Cochrane 77.59 138 IAmb IAmb 00 22 40.7
comp=Z,25nm,0.9s
TROLL Troll, Antarti 77.89 180 ⇑ P **P** **00 22 39.3 +1.4**
comp=Z,2µm,1.0s
JGF Kuroka 78.06 324 IAmb IAmb 00 22 41.5
comp=Z,14nm,0.7s
SNAA Sanae 78.17 178 ⇑ P **P** **00 22 40.4 +1.0**
comp=Z,256nm,0.9s
SNAA Sanae 78.17 178 **P** **00 22 40.5 +1.2**
SNAA IAmb IAmb 00 22 58.5
comp=Z,41nm,1.2s
SNAA Sanae 78.17 178 P **P** **00 22 40.2 +0.9**
comp=Z,15nm,1.0s,baz=203,slow=5.4,SNR=30
SNAA LR LR 00 54 37.5
comp=Z,202nm,20.3s,baz=220,slow=34
comp=Z,15nm,1.0s
SNAA Sanae 78.17 178 *c i* P **P** **00 22 40.3 +0.9**
SNAA pmax pmax
comp=Z,5.0nm,1.0s
MJAR Matsushiro Arr 78.37 325 **P** **00 22 41.0 +0.2**
MJAR Matsushiro Arr 78.37 325 P **P** **00 22 40.4 -0.4**
comp=Z,4.0nm,0.6s,baz=152,slow=5.7,SNR=11
MJAR LR LR 00 52 25.1
comp=Z,94nm,22.0s,baz=136,slow=32
comp=Z,4.0nm,0.6s
MAJO Matsushiro 78.37 325 ⇑ *i* P **P** **00 22 41.9 +1.1**
MAJO pmax pmax
comp=Z,9.0nm,1.0s
VNA2 Neumayer--Watz 78.74 177 ⇑ P **P** **00 22 43.8 +1.4**
comp=Z,33nm,1.0s,baz=158,slow=5.7
COYC Coyhaique 78.77 136 **P** **00 22 45.2 +2.2**
VNA1 Neumayer--Stat 78.97 176 ⇑ P **P** **00 22 45.0 +1.4**
comp=Z,46nm,1.0s
JNU Nakatsue 79.71 318 P **P** **00 22 48.0 -0.3**
comp=Z,3.4nm,0.5s,baz=190,slow=23,SNR=1.6
JNU LR LR 00 55 32.8
comp=Z,64nm,19.0s,baz=120,slow=34
comp=Z,3.4nm,0.5s
LL02 Futaleuf 80.18 134 **P** **00 22 53.4 +2.6**
LL02 IAmb IAmb 00 22 54.7
comp=Z,32nm,1.1s
H03S2 Juan Fernandez 80.26 123 T T 01 52 06.2
baz=238,slow=74,SNR=155
H03S1 Juan Fernandez 80.28 123 T T 01 52 07.4
baz=238,slow=74,SNR=125
H03S3 Juan Fernandez 80.28 123 T T 01 52 06.3
baz=238,slow=74,SNR=139
H03N3 Juan Fernandez 80.45 123 T T 01 52 16.8
baz=242,slow=73,SNR=100
H03N2 Juan Fernandez 80.46 123 T T 01 52 19.5
baz=242,slow=73,SNR=110
H03N1 Juan Fernandez 80.47 123 T T 01 52 18.8
baz=242,slow=73,SNR=144
ERM Erimo 80.56 332 *i* P **P** **00 22 54.3 +1.8**
ERM pmax pmax
comp=Z,14nm,0.8s
LR05 Currie 81.68 132 IAmb IAmb 00 23 02.8
comp=Z,46nm,1.3s
PLCA Paso Flores 82.33 133 IAmb IAmb 00 23 06.3
comp=Z,42nm,1.2s
PLCA Paso Flores 82.33 133 P **P** **00 23 04.3 +1.9**
comp=Z,20nm,1.1s,baz=212,slow=4.3,SNR=20
comp=Z,20nm,1.1s
ASAJ Asahikawa 82.54 332 P **P** **00 23 02.7 -0.2**
comp=Z,5.9nm,0.4s,baz=213,slow=12,SNR=8.7
ASAJ LR LR 00 57 01.6
comp=Z,373nm,19.4s,baz=170,slow=34
comp=Z,5.9nm,0.4s
NIKH Nikolski High 83.36 5 P **P** **00 23 06.7 -0.3**
baz=188
BI02 San Fabin de 84.11 129 IAmb IAmb 00 23 14.3
comp=Z,14nm,0.8s
LPIG La Paz 84.31 58 LR LR 00 56 04.9
comp=Z,189nm,18.3s,baz=212,slow=32
UNV Unalaska Valle 84.44 7 P **P** **00 23 12.6 +0.2**
baz=190
KSRS Korea Array 84.50 319 P **P** **00 23 12.7 -0.5**
comp=Z,2.3nm,0.6s,baz=141,slow=5.7,SNR=13
KSRS LR LR 00 58 37.1
comp=Z,57µm,19.4s,baz=165,slow=34
comp=Z,2.3nm,0.6s
KSAR Wonju Array Be 84.51 319 **P** **00 23 13.9 +0.7**
KSAR Wonju Array Be 84.51 319 P **P** **00 23 14.0 +0.7**
YSS Yuzhno-Sakhali 84.84 334 **P** **00 23 17.7 +3.0**
YSS Yuzhno-Sakhali 84.84 334 *e*P **P** **00 23 17.5 +2.9**
YSS *e* 00 26 34.0
YSS *e*S **S** **00 33 43.9 +3.3**
YSS *e*SS **SS** **00 39 17.0 +2.8**
YSS pmax pmax
comp=Z,40nm,0.7s
YSS pmax pmax
comp=Z,100nm,3.7s
YSS MLR MLR
comp=Z,200nm,15.0s
YSS MLR MLR
comp=N,200nm,14.0s
YSS MLR MLR
comp=E,200nm,16.0s
ESJX Sierra Juarez 85.30 49 IAmb IAmb 00 23 38.2
comp=Z,18nm,1.3s
BO01 Tunca 85.50 127 IAmb IAmb 00 23 38.2
comp=Z,35nm,1.4s
PET Petropavlovsk 85.58 346 P **P** **00 23 20.4 +2.3**
PET IAmb IAmb 00 23 21.3
comp=Z,13nm,0.7s
PET Petropavlovsk 85.58 346 *e*P **P** **00 23 20.7 +2.5**
PET *e* 00 33 40.8
PET *e*S **S** **00 33 53.8 +6.2**
PET *e*PS **PnS** **00 34 49.8 +2.5**
PET *e*SSS SSS 00 42 51.8
PET pmax pmax
comp=Z,18nm,0.6s
PSI Prapat 85.69 276 LR LR 01 03 54.7
comp=Z,404nm,18.6s,baz=135,slow=37
PEA0B Petropavlovsk- 85.86 345 *c i* P **P** **00 23 21.4 +1.8**
PETK Petropavlovsk- 85.86 345 P **P** **00 23 18.7 -0.9**
PETK Petropavlovsk- 85.86 345 P **P** **00 23 19.3 -0.3**
comp=Z,24nm,0.7s,baz=121,slow=6.8,SNR=42
PETK LR LR 01 00 52.5
comp=Z,130nm,18.1s,baz=166,slow=35
comp=Z,24nm,0.7s
PETK Petropavlovsk- 85.86 345 P **P** **00 23 18.7 -0.9**
PFO Pinyon Flats O 86.01 47 **P** **00 23 23.5 +2.5**
PFO Pinyon Flats O 86.01 47 LR LR 00 53 16.0
comp=Z,218nm,21.8s,baz=228,slow=30
PFO Pinyon Flats O 86.01 47 *e*P **P** **00 23 22.1 +1.1**
PFO pmax pmax
comp=Z,20nm,1.3s
GSI Gunungsitoli 86.09 274 **P** **00 23 20.9 -0.9**
GSI Gunungsitoli 86.09 274 P **P** **00 23 20.9 -0.9**
CNBA Chernabura Isl 86.28 10 IAmb IAmb 00 23 23.3
comp=Z,35nm,1.2s
CHNA Chernabura Isl 86.29 10 P **P** **00 23 21.6 0.0**
baz=196,SNR=6.7
LMEL Las Melosas 86.41 127 IAmb IAmb 00 23 29.3
comp=Z,14nm,0.9s
NJ2 Nanjing 86.42 310 *e*P **P** **00 23 25.0 +2.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
CMB Columbia Colle 86.58 42 IAmb IAmb 00 23 43.2
comp=Z,18nm,1.1s
SDPT Sand Point 86.66 10 P **P** **00 23 23.4 0.0**
baz=195
MT08 Bocatoma Ro 86.76 127 IAmb IAmb 00 23 29.6
comp=Z,17nm,1.1s
S12K Black Hills 86.78 9 P **P** **00 23 24.0 -0.1**
baz=194,SNR=7.3
HSIG 86.80 54 IAmb IAmb 00 23 44.9
comp=Z,17nm,1.2s
GSC Goldstone, Bar 86.89 46 P **P** **00 23 26.3 +1.1**
GSC IAmb IAmb 00 23 45.5
comp=Z,26nm,1.3s
GSC Goldstone, Bar 86.89 46 P **P** **00 23 26.3 +1.1**
GSC pmax pmax
comp=Z,26nm,1.3s
ORV Oroville 87.00 40 P **P** **00 23 26.8 +1.3**
ORV Oroville 87.00 40 P **P** **00 23 26.8 +1.3**
ORV pmax pmax
comp=Z,8.0nm,1.0s
113A Mohawk Valley, 87.20 49 P **P** **00 23 28.0 +1.3**
113A IAmb IAmb 00 23 30.3
comp=Z,14nm,1.3s
QSM Queen of Sheba 87.28 45 P **P** **00 23 27.8 +0.7**
QSM IAmb IAmb 00 23 47.1
comp=Z,25nm,1.4s
USA0B Ussuriysk Arra 87.28 326 IAmb IAmb 00 23 29.9
comp=Z,30nm,1.4s
USRK Ussuriysk Ar. 87.28 326 **P** **00 23 27.3 +0.5**

USRK Ussuriysk Ar. 87.28 326 P P 00 23 25.8 -1.0
comp=Z,7.1nm,0.8s,baz=145,slow=4.7,SNR=11
USRK LR LR 00 59 27.7
comp=Z,110nm,19.6s,baz=148,slow=34
comp=Z,7.1nm,0.8s
KSXB Camp Six Broad 87.32 37 P P 00 23 26.1 -1.0
KSXB IAmb IAmb 00 23 48.7
comp=Z,17nm,1.2s
214A Organ Pipe Nat 87.33 50 P P 00 23 27.5 +0.1
214A IAmb IAmb 00 23 47.5
comp=Z,10nm,1.1s
CO02 Combarbal 87.33 125 P P 00 23 28.3 +0.5
BLYC Blythe 87.33 48 P P 00 23 27.2 -0.1
BLYC IAmb IAmb 00 23 31.1
comp=Z,19nm,1.4s
KBO Bosley Butte 87.41 37 P P 00 23 29.6 +2.0
SPIA Saint Paul Isl 87.44 4 P P 00 23 27.9 +0.7
baz=186
DSP Deep Springs 87.55 44 P P 00 23 29.2 +1.0
GWY Greenwater Val 87.55 45 P P 00 23 29.0 +0.4
GRAC Grapevine Rang 87.66 44 P P 00 23 30.5 +1.6
S14K Fog Glacier 87.70 10 P P 00 23 29.1 +0.5
baz=196,SNR=6.9
BEKR Beckworth 87.85 40 P P 00 23 30.6 +0.8
YBH Yreka Blue Hor 87.86 38 P 00 23 30.0 +0.2
YBH Yreka Blue Hor 87.86 38 LR LR 00 54 12.8
comp=Z,9.1nm,21.9s,baz=244,slow=30
YBH Yreka Blue Hor 87.86 38 P P 00 23 30.0 +0.2
YBH pmax pmax
comp=Z,8.0nm,1.1s
CHGN Chignik 87.89 11 P P 00 23 29.5 +0.2
baz=197
CHIR Chirikof Islan 87.91 12 P P 00 23 29.8 +0.3
baz=199
GMN Gold Mountain 87.92 44 P P 00 23 31.0 +0.6
WCT Wildcat Mounta 87.97 45 P 00 23 30.8 +0.4
NVAR Mina Array Bea 88.05 43 P P 00 23 32.2 +1.2
NVAR Mina Array Bea 88.05 43 P P 00 23 32.3 +1.4
comp=Z,3.7nm,0.7s,baz=221,slow=7.9,SNR=11
NVAR LR LR 01 00 01.2
comp=Z,366nm,18.0s,baz=215,slow=34
comp=Z,3.7nm,0.7s
MZP Montezuma Peak 88.11 44 P P 00 23 31.4 0.0
TYV Tymovskoe 88.14 336 eP P 00 23 33.5 +2.8
TYV pmax pmax
comp=Z,22nm,0.7s
TYV pmax pmax
comp=Z,100nm,4.8s
NV11 Mina Array Sit 88.14 43 P 00 23 31.9 +0.6
NV11 IAmb IAmb 00 23 50.4
comp=Z,9.0nm,1.0s
TPNV Topopah Spring 88.30 45 P P 00 23 32.7 +0.6
TPNV IAmb IAmb 00 23 51.7
comp=Z,8.0nm,0.8s
TPNV Topopah Spring 88.30 45 P P 00 23 32.7 +0.6
TPNV pmax pmax
comp=Z,8.0nm,0.9s
V12A Nelson 88.38 46 P P 00 23 32.6 +0.2
Y14A Wickenburg 88.43 49 P 00 23 34.6 +1.9
Y14A IAmb IAmb 00 23 53.1
comp=Z,13nm,0.9s
TPH Tonopah 88.45 43 P P 00 23 33.7 +0.9
TPH Tonopah 88.45 43 P P 00 23 33.7 +0.9
TPH pmax pmax
comp=Z,59nm,0.9s
W13A Hualapai Mount 88.59 47 P P 00 23 34.3 +0.7
W13A IAmb IAmb 00 23 53.5
comp=Z,9.1nm,1.0s
MDJ Mudanjiang 88.75 325 P P 00 23 35.5 +1.7
MDJ S S 00 34 18.8 +0.1
MDJ pmax pmax
comp=Z,13nm,0.9s
ZON Zonda 88.77 126 IAmb IAmb 00 23 55.5
comp=Z,22nm,1.5s
SII Sitkinak Islan 88.88 13 P P 00 23 34.3 +0.2
baz=200
TUC Tucson 88.90 51 P P 00 23 37.7 +2.8
TUC IAmb IAmb 00 23 39.1
comp=Z,24nm,1.2s
TUC Tucson 88.90 51 P P 00 23 37.7 +2.8
TUC pmax pmax
comp=Z,24nm,1.3s
J04A Umpqua Nationa 89.24 37 P P 00 23 36.8 +0.4
PRN Pahroc Range 89.33 45 P 00 23 37.5 +0.6
PRN IAmb IAmb 00 23 57.6
comp=Z,29nm,1.3s
319A Douglas 89.37 53 P P 00 23 37.5 +0.4
319A IAmb IAmb 00 23 58.1
comp=Z,15nm,1.1s
R17L Mt. Peulik Vol 89.50 11 P P 00 23 37.4 +0.4
baz=198,SNR=9.5
K05A Summer Lake 89.52 38 IAmb IAmb 00 23 40.6
comp=Z,32nm,1.4s
OHAK Old Harbor 89.67 13 IAmb IAmb 00 23 56.1
comp=Z,20nm,1.0s
OHAK Old Harbor 89.67 13 P P 00 23 38.1 +0.3
baz=201
J05D Fort Rock, OR 89.73 37 IAmb IAmb 00 23 58.4
comp=Z,21nm,1.2s
X16A Lo Mia Camp, P 89.75 49 IAmb IAmb 00 23 59.9
comp=Z,19nm,0.9s
R18K Karluk 89.77 12 P P 00 23 38.4 +0.2
baz=200
Q17K Contact Creek 90.18 11 P P 00 23 40.3 0.0
baz=199,SNR=11
CN2 Changchun 90.28 323 P P 00 23 42.3 +1.3
CN2 pmax pmax
comp=Z,10.0nm,0.9s
KDAK Kodiak Island 90.33 13 P 00 23 41.7 +0.9
KDAK IAmb IAmb 00 23 59.2
comp=Z,26nm,1.2s
KDAK Kodiak Island 90.33 13 LR LR 00 57 23.4
comp=Z,84nm,20.6s,baz=195,slow=31
KDAK Kodiak Island 90.33 13 P P 00 23 41.7 +0.9
KDAK pmax pmax
comp=Z,26nm,1.2s
KDAK Kodiak Island 90.33 13 P P 00 23 41.1 +0.3
baz=202
O14K Tigyukauivet M 90.34 8 P P 00 23 41.3 +0.5
baz=194
Q16K King Salmon 90.45 11 P P 00 23 42.0 +0.7
baz=198
O15K Ungalikthiuk R 90.45 9 P P 00 23 41.4 0.0
baz=195
CCUT Cedar City 90.46 46 P P 00 23 44.2 +1.9
WUAZ Wupatki 90.46 48 P 00 23 43.8 +1.5
WUAZ IAmb IAmb 00 24 02.9
comp=Z,12nm,1.1s
KNB Kanab 90.46 46 P P 00 23 43.2 +1.0
KNB IAmb IAmb 00 24 02.2
comp=Z,9.5nm,0.9s
KNB Kanab 90.46 46 P P 00 23 43.2 +1.0
KNB pmax pmax
comp=Z,10.0nm,0.9s
WVOR Wild Horse Val 90.54 39 P P 00 23 42.1 -0.3
WVOR Wild Horse Val 90.54 39 P P 00 23 42.1 -0.3
WVOR pmax pmax
comp=Z,8.0nm,1.1s
P16K Nushagak River 90.58 10 P P 00 23 42.4 +0.5
baz=197
BNX BinXian 90.64 325 ⇓P P 00 23 43.7 +1.1
BNX pmax pmax
comp=Z,13nm,1.1s
SZCU Shurtz Canyon 90.66 46 P P 00 23 45.2 +2.0
Q18K Katmai Hardscr 90.70 12 P P 00 23 42.3 -0.4
baz=200,SNR=9.5
PSUT Pine Spring 90.78 45 P P 00 23 45.0 +1.3
SPR3 Spring Creek 3 90.78 44 P P 00 23 43.8 0.0
SPR3 IAmb IAmb 00 24 03.1
comp=Z,10nm,1.3s
X18A Snowflake 90.79 50 P P 00 23 45.2 +1.4
X18A IAmb IAmb 00 24 04.6
comp=Z,9.9nm,1.0s
E03A Lebam 90.85 34 P 00 23 44.8 +1.3
M11K Mekoryuk 90.93 6 P P 00 23 43.5 -0.1
baz=190
HOOD Mount Hood Mea 90.93 36 P P 00 23 43.8 -0.4
HOOD IAmb IAmb 00 24 03.4
comp=Z,11nm,0.9s
N14K Kuskokwak Cree 90.94 8 P P 00 23 43.6 0.0
baz=194
P17K Kvichak River 90.97 11 P P 00 23 43.3 -0.4
baz=198
O16K Kokwok River B 91.10 10 P P 00 23 43.5 -0.9
baz=197
Q20K Shuyak Island 91.14 13 P P 00 23 44.2 -0.4
baz=202
KLR Kul'dur 91.15 330 P P 00 23 44.7 -0.1
comp=Z,5.8nm,0.7s,baz=160,slow=4.1,SNR=13
KLR LR LR 00 58 31.3
comp=Z,179nm,21.3s,baz=152,slow=32
comp=Z,5.8nm,0.7s
I07A Izee 91.19 38 IAmb IAmb 00 24 05.0
comp=Z,12nm,1.0s
Q19K Cape Douglas, 91.20 12 P P 00 23 44.3 -0.7
baz=201
M13K Dall Lake 91.23 7 P P 00 23 45.0 0.0
baz=192
W18A Petrified Fore 91.29 49 IAmb IAmb 00 23 49.6
comp=Z,18nm,1.3s
ELK Elko 91.36 42 LR LR 01 01 38.3
comp=Z,380nm,18.1s,baz=225,slow=34
P18K Big Mountain, 91.36 11 IAmb IAmb 00 24 02.9
comp=Z,18nm,0.9s
P18K Big Mountain, 91.36 11 P P 00 23 44.8 -0.9
baz=199,SNR=5.8
N15K Kwethluk River 91.38 9 P P 00 23 46.1 +0.4
baz=195,SNR=12
G06A Carlson Farm, 91.39 36 IAmb IAmb 00 24 05.5
comp=Z,18nm,1.0s
O17K Koliganek Bris 91.42 10 P P 00 23 46.0 +0.1
baz=198
M14K Bethel 91.71 8 IAmb IAmb 00 23 51.3
comp=Z,8.2nm,0.8s
M14K Bethel 91.71 8 P P 00 23 47.5 +0.4
baz=194
GO02 Mina Guanaco 91.76 120 P P 00 23 48.9 0.0
O18K Koktuh Hills 91.80 11 P P 00 23 47.3 -0.4
baz=199,SNR=15
M15K Kasigluk River 91.81 8 P P 00 23 47.6 0.0
baz=195,SNR=7.0
N16K Nishlik Lake 91.85 9 P P 00 23 48.0 +0.2
baz=196,SNR=7.5
P19K Oil Pt 91.96 12 P P 00 23 48.9 +0.5
baz=201
VHRN Van Horn 92.03 55 P 00 23 49.8 +0.2
N17K Nushagak Hills 92.13 10 P P 00 23 49.7 +0.5
baz=198
TXAR Lajitas Array 92.17 57 P 00 23 50.9 +0.7
TXAR Lajitas Array 92.17 57 P P 00 23 51.5 +1.3
comp=Z,2.6nm,1.1s,baz=203,slow=6.1,SNR=14
comp=Z,2.6nm,1.1s
TXAR Lajitas Array 92.17 57 P P 00 23 50.9 +0.7
L14K Kuka Creek 92.21 7 P P 00 23 50.2 +0.8
L14K IAmb IAmb 00 24 07.5
comp=Z,9.0nm,1.1s
L14K Kuka Creek 92.21 7 P P 00 23 49.5 0.0
baz=193
MNTX Cornudas Mount 92.26 54 P 00 23 50.9 +0.3
G08A Pilot Rock 92.29 37 P 00 23 50.7 +0.2
SBM South Baldy 92.32 52 P P 00 23 51.2 0.0
HMU Henry Mountain 92.33 47 P P 00 23 50.9 -0.1
M16K Timber Creek 92.35 9 P 00 23 50.7 +0.5
M16K IAmb IAmb 00 24 08.9
comp=Z,11nm,1.1s
M16K Timber Creek 92.35 9 P P 00 23 50.7 +0.5
baz=196,SNR=6.9
N18K Kilae Creek 92.47 11 P P 00 23 50.9 +0.1
baz=199
K13K Kusilvak Mount 92.59 6 P P 00 23 51.9 +0.7
baz=191
L15K Ungalak Mounta 92.67 8 P P 00 23 51.6 0.0
baz=194,SNR=5.5
MFID Camas Ranch 92.74 40 IAmb IAmb 00 24 11.9
comp=Z,8.8nm,0.9s
N19K Bonanza Creek 92.83 11 IAmb IAmb 00 24 09.5
comp=Z,7.0nm,1.1s
N19K Bonanza Creek 92.83 11 P P 00 23 52.8 +0.3
baz=200
TMUT Trail Mountain 92.87 45 IAmb IAmb 00 24 17.5
comp=Z,6.7nm,1.0s
M17K Holitna River 92.93 10 IAmb IAmb 00 24 11.5
comp=Z,13nm,1.1s
M17K Holitna River 92.93 10 P P 00 23 52.9 +0.1
baz=198,SNR=6.6
L16K Owhat River 92.95 9 IAmb IAmb 00 24 11.7
comp=Z,6.5nm,0.9s
L16K Owhat River 92.95 9 P P 00 23 53.4 +0.5
baz=196
BBB Bella Bella 92.96 28 LR LR 01 03 53.5
comp=Z,96nm,18.2s,baz=194,slow=34
NNA Nana 93.18 106 LR LR 00 55 58.5
comp=Z,274nm,21.8s,baz=244,slow=29
M18K Stony River 93.26 10 P P 00 23 54.7 +0.4
baz=199
K15K Wolf Creek Mou 93.27 7 IAmb IAmb 00 23 55.6
comp=Z,9.0nm,0.8s
K15K Wolf Creek Mou 93.27 7 P P 00 23 54.6 +0.3
baz=194
MA2 Magadan 93.34 345 LR LR 01 01 05.2
comp=Z,251nm,21.6s,baz=141,slow=32
ANMO Albuquerque 93.37 51 LR LR 01 02 33.6
comp=Z,194nm,18.2s,baz=322,slow=33
CAPN Captain Cook N 93.38 13 P P 00 23 55.3 +0.4
baz=203
O22K Cooper Landing 93.40 13 P P 00 23 55.8 +0.8
baz=204
P23K Montague Islan 93.45 15 P P 00 23 55.5 +0.2
baz=206
HVU Hansel Valley 93.45 43 IAmb IAmb 00 24 15.4
comp=Z,9.8nm,0.8s
J14K Nanvaranak Lak 93.50 6 P P 00 23 55.7 +0.3
baz=192
L17K Donlin 93.51 9 P P 00 23 56.0 +0.5
baz=197
N20K Mount Spurr 93.59 12 P P 00 23 56.2 +0.3
baz=202
CRAG Craig 93.62 24 P P 00 23 56.6 +0.4
baz=217
HLID Hailey 93.63 41 P 00 23 57.6 +0.9
HLID IAmb IAmb 00 24 16.4
comp=Z,6.3nm,0.9s
CMAR Chiang Mai Arr 93.63 289 P P 00 23 57.5 +0.4
comp=Z,1.0nm,0.4s,baz=143,slow=4.9,SNR=5.3
CMAR LR LR 01 02 04.9
comp=Z,33nm,21.6s,baz=120,slow=33
comp=Z,1.0nm,0.4s
F10A Beach Ranch, E 93.65 37 IAmb IAmb 00 23 60.0
comp=Z,6.6nm,0.8s
PV19 Morning Glory 93.67 47 IAmb IAmb 00 24 03.1
comp=Z,20nm,1.4s
PLID Pearl Lake 93.73 39 IAmb IAmb 00 24 16.2
comp=Z,9.8nm,1.0s
PV23 Carpenter Ridg 93.73 47 IAmb IAmb 00 24 00.0
comp=Z,7.8nm,1.0s
L18K Granite Mounta 93.82 10 IAmb IAmb 00 24 15.7
comp=Z,7.4nm,1.0s
L18K Granite Mounta 93.82 10 P P 00 23 57.6 +0.7
baz=198
HEH HeiHe 93.83 328 eP P 00 23 58.8 +1.6
HEH LR LR
comp=Z,210nm,18.8s
HEH LR LR
comp=Z,110nm,19.4s
HEH LR LR
comp=Z,300nm,17.6s
M19K Big River Lodg 93.87 11 P P 00 23 57.0 -0.2
baz=200
RC01 Rabbit Creek A 93.95 13 P P 00 23 57.2 -0.4
baz=204
GAMB Gambell 93.96 3 P P 00 23 57.8 +0.3
baz=185
PWL Port Wells 94.03 14 P P 00 23 58.1 +0.2
baz=205
V35K Ketchikan 94.04 24 P P 00 23 57.8 -0.3
baz=219
L19K White Mountain 94.06 11 IAmb IAmb 00 24 16.6
comp=Z,15nm,1.2s
L19K White Mountain 94.06 11 P P 00 23 57.9 -0.1
baz=200
M20K Styx River 94.06 11 P P 00 23 57.9 -0.2
baz=201
KAIM Kayak Island 94.07 16 P P 00 23 57.5 -0.6
baz=208
K17K Iditarod 94.07 9 P P 00 23 57.9 -0.2
baz=197
SUA Susitna One 94.10 13 IAmb IAmb 00 24 16.2
comp=Z,11nm,0.8s
SUA Susitna One 94.10 13 P P 00 23 57.9 -0.5
baz=203
U33K Whale Pass 94.14 23 P P 00 23 58.0 -0.5
baz=218
SIT Sitka 94.17 22 P P 00 23 58.1 -0.4
baz=216
GLI Glacier Island 94.31 14 IAmb IAmb 00 24 16.9
comp=Z,16nm,0.9s
GLI Glacier Island 94.31 14 P P 00 23 59.2 0.0
baz=206
EYAK Cordova Ski Ar 94.31 15 P P 00 23 58.9 -0.2
baz=207
J16K Anvik River 94.33 8 IAmb IAmb 00 24 17.4
comp=Z,10nm,1.1s
J16K Anvik River 94.33 8 P P 00 23 59.1 -0.2
baz=195
ATAH Atahualpa 94.40 101 LR LR 00 56 17.4
comp=Z,198nm,21.8s,baz=240,slow=29
SKT Skwentna 94.44 12 P P 00 23 59.7 0.0
baz=202
L20K Farewell, AK 94.50 11 P P 00 23 59.9 -0.2
baz=200
KNK Knik Glacier 94.50 14 P P 00 23 59.7 -0.4
baz=205
PMR Palmer 94.53 13 P P 00 24 00.1 -0.1
baz=204
S31K Pelican 94.62 21 P P 00 24 00.8 +0.1
baz=215
J17K VABM Dome 94.63 8 P P 00 24 00.6 0.0
baz=196
GHO Glory Hole Cre 94.74 13 IAmb IAmb 00 24 19.4
comp=Z,12nm,0.8s
S32K Killisnoo 94.74 22 P P 00 24 01.0 -0.2
baz=216
MESA MESA 94.90 17 P P 00 24 01.8 -0.3
baz=210
I17K Unalakleet 94.91 7 P P 00 24 02.0 +0.2
baz=195
BMRM Bremner River 94.94 16 P P 00 24 01.7 -0.5
baz=208
J18K Innoko River 95.00 9 IAmb IAmb 00 24 03.6
comp=Z,9.4nm,1.4s
J18K Innoko River 95.00 9 P P 00 24 02.4 +0.1
baz=198
AHID Auburn Hatcher 95.04 43 P P 00 24 04.4 +1.2
AHID IAmb IAmb 00 24 22.8
comp=Z,6.4nm,0.9s
SCM Sheep Creek Mo 95.12 14 IAmb IAmb 00 24 20.9
comp=Z,13nm,0.8s
SCM Sheep Creek Mo 95.12 14 P P 00 24 02.9 -0.1
baz=206
PNL Peninsula 95.13 18 P P 00 24 03.0 -0.1
baz=213
NEW Newport 95.21 36 LR LR 01 03 32.7
comp=Z,154nm,18.1s,baz=218,slow=33
K20K Telida 95.29 10 P P 00 24 03.7 0.0
baz=200
R32K Eaglecrest 95.41 21 P P 00 24 04.1 -0.2
baz=216
N25K Chitina, Valde 95.51 15 P P 00 24 04.6 -0.2
baz=208
PZH PanZhiHua 95.52 297 P P 00 24 08.0 +2.2
M24K Tolsona, Glenn 95.61 14 P P 00 24 04.7 -0.5
baz=207
G15K Niukluk 95.66 6 P P 00 24 04.8 -0.4
baz=192
J19K Poorman 95.66 10 P P 00 24 05.5 +0.2
baz=199
CAST Castle Rocks 95.67 11 P P 00 24 04.8 -0.7
baz=202
MCARA McCarthy VSAT 95.68 16 P P 00 24 04.6 -0.9
baz=210
WAT6 Susitna Watana 95.71 13 P P 00 24 04.8 -1.0
baz=206
CTG Chitna Glacier 95.73 17 P P 00 24 05.5 -0.4
baz=211
WAT1 Susitna Watana 95.78 13 P P 00 24 05.6 -0.4
baz=205
O28M Mount Upton 95.86 17 P P 00 24 06.3 -0.4
baz=212
O29M Mount Kennedy 95.89 18 P P 00 24 05.8 -0.8
baz=213
TNA Tin City 95.93 4 P P 00 24 06.1 -0.3
baz=188
PDAR Pinedale Array 95.95 43 P P 00 24 07.1 -0.3
comp=Z,0.7nm,0.2s,baz=202,slow=3.3,SNR=8.4
PDAR PKKPbc PKKPbc 00 40 56.0 -0.7
comp=Z,0.5nm,0.6s,baz=95,slow=3.4,SNR=4.9
PDAR LR LR 01 04 29.2
comp=Z,164nm,18.1s,baz=234,slow=34
comp=Z,0.7nm,0.2s
F14K Arctic Creek 95.95 5 P P 00 24 06.1 -0.5
baz=190
H17K Granite Mounta 96.02 8 P P 00 24 06.6 -0.3
baz=195
SEY Seymchan 96.02 347 P P 00 24 06.5 -0.5
comp=Z,3.4nm,0.6s,baz=110,slow=5.6,SNR=9.9
SEY LR LR 01 04 00.8
comp=Z,185nm,20.4s,baz=170,slow=33
comp=Z,3.4nm,0.6s
TRF Thorofare Moun 96.02 12 IAmb IAmb 00 24 24.7
comp=Z,8.8nm,0.9s
TRF Thorofare Moun 96.02 12 P P 00 24 06.8 -0.4
baz=204
J20K Nowinta River 96.05 10 P P 00 24 06.4 -0.7
baz=200
HARP HAARP 96.09 15 P P 00 24 06.4 -0.9
baz=208
SN07 Snyder 07 96.20 55 IAmb IAmb 00 24 30.5
comp=Z,4.3nm,0.7s
G16K Koyuk River 96.20 6 P P 00 24 07.0 -0.7
baz=193
DHY Denali Highway 96.23 13 P P 00 24 07.1 -1.0
baz=206
RND Reindeer 96.24 13 IAmb IAmb 00 24 25.7
comp=Z,9.7nm,0.9s
YHL Hebgen Lake 96.25 41 P P 00 24 09.7 +0.8
F15K North Star Dit 96.31 5 P P 00 24 07.7 -0.5
baz=191
YUK8 Steele Glacier 96.40 17 P P 00 24 07.8 -1.3
baz=212
HHC Hu-ho-hao-te 96.40 314 eP P 00 24 11.3 +1.9
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,83nm,4.6s
HHC LR LR
comp=Z,130nm,17.3s
HHC LR LR
comp=Z,130nm,16.7s
HHC LR LR
comp=Z,290nm,21.2s
H18K Honhosa River 96.41 8 P P 00 24 08.9 +0.2
baz=197
G17K Kiwalik Mounta 96.48 7 P P 00 24 08.6 -0.4
baz=195
YUK6 Outpost Mounta 96.48 18 P P 00 24 08.2 -1.3
baz=214
BPAW Bear Paw Mtn. 96.49 11 P P 00 24 08.7 -0.5
baz=203
MCK McKinley 96.52 12 P P 00 24 08.2 -1.0
baz=205
PAX Paxson 96.53 14 P P 00 24 07.9 -1.5
baz=208
I20K Naaghedeneel 96.59 10 P P 00 24 08.9 -0.6
baz=200
HYT Haines Junctio 96.62 19 P P 00 24 09.3 -0.6
baz=214
Q32M Nakina River 96.67 22 P P 00 24 09.2 -1.1
baz=218
P32M Atlin 96.72 21 P P 00 24 10.0 -0.3
baz=217
YUK4 Talbot Arm 96.75 18 P P 00 24 10.8 +0.2
baz=213
M27K Edge Creek, AK 96.80 16 IAmb IAmb 00 24 29.2
comp=Z,12nm,1.3s
M27K Edge Creek, AK 96.80 16 P P 00 24 10.4 -0.3
baz=211
O30N Mendenhall 96.97 19 P P 00 24 11.5 +0.1
baz=215
DLBC Dease Lake 97.00 23 LR LR 01 00 00.7
comp=Z,10nm,21.3s,baz=201,slow=31
H19K Roundabout Mou 97.01 9 IAmb IAmb 00 24 12.8
comp=Z,9.2nm,1.4s
H19K Roundabout Mou 97.01 9 P Pdif 00 24 11.5 +0.1
baz=198
G18K Tagagawik 97.09 8 P Pdif 00 24 12.0 +0.2
baz=197
H20K Anotleneega Mo 97.19 9 P Pdif 00 24 12.5 +0.1
baz=200
K24K Donnelly Dome 97.20 14 P Pdif 00 24 12.5 +0.1
baz=208
WHY Whitehorse 97.23 20 P Pdif 00 24 12.8 +0.1
baz=216

N30M	**Aishikik Lake**	**97.26**	**18**	P		Pdif	00 24 13.1	+0.3		
	baz=215									
NEA2	**Nenana**	**97.28**	**12**	P		**P**	**00 24 12.7**	**0.0**		
	baz=205									
F17K	**Baldwin Pennin**	**97.33**	**7**	P		Pdif	00 24 13.1	+0.2		
	baz=194									
RIDG	**Independent Ri**	**97.34**	**14**	P		Pdif	00 24 13.1	0.0		
	baz=208									
WRH	**Wood River Hil**	**97.35**	**12**			Pdif	00 24 13.3	+0.3		
WRH				IAmb		IAmb	00 24 30.9			
	comp=Z,8.8nm,1.0s									
MLY	**Manley**	**97.40**	**11**	P		Pdif	00 24 13.4	+0.1		
	baz=203									
L27K	**Beaver Creek,**	**97.42**	**16**	P		Pdif	00 24 13.9	+0.5		
	baz=211									
R33M	**Jennings River**	**97.43**	**22**	P		**P**	**00 24 13.5**	**-0.1**		
	baz=219									
JTS	**Las Juntas de**	**97.48**	**82**	LR		LR	00 59 36.7			
	comp=Z,148nm,19.6s,baz=280,slow=30									
P33M	**Teslin, Yukon**	**97.49**	**21**	P		Pdif	00 24 14.2	+0.4		
	baz=218									
G19K	**Purcell Mounta**	**97.51**	**8**	P		Pdif	00 24 14.7	+1.0		
	baz=198									
HDA	**Harding Lake**	**97.51**	**13**	P		Pdif	00 24 14.4	+0.6		
	baz=206									
CCB	**Clear Creek Bu**	**97.56**	**13**	P		Pdif	00 24 14.4	+0.5		
N31M	**Braeburn, Yuko**	**97.64**	**19**	P		Pdif	00 24 15.1	+0.7		
	baz=216									
H21K	**Melozitna Rive**	**97.65**	**10**	P		Pdif	00 24 15.3	+0.9		
	baz=202									
M29M	**Somme Creek**	**97.72**	**17**	P		Pdif	00 24 15.6	+0.7		
	baz=214									
SCRK	**Sand Creek**	**97.73**	**14**			**P**	**00 24 14.7**	**-0.1**		
SCRK	**Sand Creek**	**97.73**	**14**	P		Pdif	00 24 15.8	+0.9		
	baz=209									
I23K	**Minto, Yukon-K**	**97.74**	**12**	P		Pdif	00 24 15.5	+0.8		
	baz=204									
COLA	**College**	**97.76**	**12**	P		**P**	**00 24 14.3**	**-0.5**		
COLA	**College**	**97.76**	**12**	P		**P**	**00 24 14.3**	**-0.5**		
COLA				pmax		pmax				
	comp=Z,28nm,0.3s									
ILAR	**Eielson Array**	**97.85**	**13**	P		**P**	**00 24 14.4**	**-0.8**		
	comp=Z,0.8nm,0.7s,baz=219,slow=5.8,SNR=9.5									
ILAR				PKKPbc		**PKKPbc**	**00 40 48.3**	**-3.7**		
	comp=Z,0.5nm,0.8s,baz=330,slow=3.2,SNR=5.7									
	comp=Z,0.8nm,0.7s									
LPAZ	**La Paz**	**97.92**	**114**	P		Pdif	00 24 18.9	+1.2		
	comp=Z,1.0nm,0.7s,baz=180,slow=6.1,SNR=4.5									
LPAZ				LR		LR	00 59 47.8			
	comp=Z,125nm,21.2s,baz=230,slow=30									
	comp=Z,1.0nm,0.7s									
J25K	**Salcha River,**	**98.01**	**13**	P		Pdif	00 24 16.3	+0.3		
	baz=208									
H22K	**Ishtalitna Cre**	**98.09**	**11**	P		Pdif	00 24 16.6	+0.2		
	baz=203									
F19K	**Shaleruckim Mo**	**98.09**	**8**	P		Pdif	00 24 17.3	+1.0		
	baz=197									
K27K	**Chicken**	**98.20**	**15**	P		Pdif	00 24 17.4	+0.6		
	baz=211									
M30M	**Minto, Yukon**	**98.26**	**18**	P		Pdif	00 24 17.2	0.0		
	baz=215									
J26L	**Joseph Creek**	**98.28**	**14**			Pdif	00 24 18.3	+1.0		
J26L				IAmb		IAmb	00 24 35.7			
	comp=Z,9.3nm,0.8s									
J26L	**Joseph Creek**	**98.28**	**14**	P		Pdif	00 24 17.4	+0.1		
	baz=209									
H23K	**Yukon River**	**98.33**	**11**	P		Pdif	00 24 18.0	+0.6		
	baz=204									
G21K	**Allakaket**	**98.35**	**10**	P		Pdif	00 24 17.9	+0.5		
	baz=201									
E18K	**Tukpahlearik C**	**98.35**	**7**	P		Pdif	00 24 17.6	+0.2		
	baz=195									
L29M	**L29M**	**98.36**	**17**	P		Pdif	00 24 17.6	0.0		
	baz=214									
D17K	**Noatak River**	**98.39**	**6**	P		Pdif	00 24 17.8	+0.2		
	baz=193									
F20K	**Avaraart Lake**	**98.55**	**9**	P		Pdif	00 24 18.7	+0.4		
	baz=199									
H24K	**Noodor Dome**	**98.63**	**12**	P		Pdif	00 24 18.8	+0.1		
	baz=206									
E19K	**Redstone River**	**98.75**	**8**	P		Pdif	00 24 19.8	+0.6		
	baz=198									
RDOG	**Red Dog Mine**	**98.76**	**6**	P		Pdif	00 24 19.4	+0.2		
	baz=193									
PRP	**Porcupine Dome**	**98.78**	**13**	P		**P**	**00 24 19.4**	**-0.2**		
	baz=208									
CPUP	**Villa Florida**	**99.80**	**128**	PKKPbc		PKKPbc	00 40 43.3	-1.3		
	comp=Z,1.1nm,1.0s,baz=338,slow=2.6,SNR=3.5									
CPUP				LR		LR	01 01 22.4			
	comp=Z,63nm,21.8s,baz=98,slow=30									
E22K	**Anaktuvuk Pass**	**100.10**	**10**	P		**Pdif**	**00 24 25.9**	**+0.6**		
	baz=203									
B18K	**Kokolik River**	**100.13**	**6**	P		**Pdif**	**00 24 26.3**	**+1.0**		
	baz=194									
C21K	**Knifeblade Rid**	**100.66**	**8**	P		**Pdif**	**00 24 28.6**	**+0.9**		
	baz=200									
D22K	**Ayikyak River**	**100.67**	**9**	P		**Pdif**	**00 24 28.9**	**+1.1**		
	baz=202									
G27K	**Doyon Strip**	**100.68**	**14**	P		**Pdif**	**00 24 28.9**	**+1.1**		
	baz=211									
H29M	**Whitestone**	**100.89**	**15**	P		**Pdif**	**00 24 29.7**	**+1.0**		
	baz=214									
TOLK	**Toolik Lake Re**	**100.90**	**10**	P		**Pdif**	**00 24 29.9**	**+1.1**		
	baz=205									
F26K	**Sheenjek River**	**100.97**	**12**	P		**Pdif**	**00 24 30.0**	**+0.8**		
	baz=209									
A19K	**Wainwright**	**101.01**	**6**	P		**Pdif**	**00 24 30.7**	**+1.6**		
	baz=195									
D23K	**Nanushuk River**	**101.03**	**10**	P		**Pdif**	**00 24 30.5**	**+1.1**		
	baz=204									
B21K	**Ikpikpuk River**	**101.12**	**8**	P		**Pdif**	**00 24 30.6**	**+1.0**		
	baz=200									
B20K	**Meade River**	**101.20**	**7**	P		**Pdif**	**00 24 30.9**	**+0.9**		
	baz=198									
EPYK	**Eagle Plains**	**101.40**	**16**	P		**Pdif**	**00 24 32.4**	**+1.4**		
	baz=215									
H31M	**Peel River**	**101.51**	**17**	P		**Pdif**	**00 24 32.6**	**+1.0**		
	baz=217									
G29M	**Pine Creek**	**101.55**	**15**	P		**Pdif**	**00 24 33.0**	**+1.3**		
	baz=214									
F28M	**Old Crow**	**101.74**	**14**	P		**Pdif**	**00 24 33.5**	**+0.9**		
	baz=213									
C23K	**Itkillik River**	**101.84**	**9**	P		**Pdif**	**00 24 33.9**	**+1.0**		
	baz=204									
E27K	**Coleen River**	**101.88**	**13**	P		**Pdif**	**00 24 34.0**	**+0.8**		
	baz=211									
B22K	**Teshekpuk Lake**	**101.94**	**8**	P		**Pdif**	**00 24 34.0**	**+0.7**		
	baz=201									
G30M	**tAoh Zraii Nji**	**102.01**	**15**	P		**Pdif**	**00 24 34.2**	**+0.4**		
	baz=216									
C24K	**Franklin Bluff**	**102.01**	**10**	P		**Pdif**	**00 24 34.9**	**+1.3**		
	baz=205									
D25K	**Kavik River**	**102.02**	**11**	P		**Pdif**	**00 24 34.4**	**+0.6**		
	baz=207									
A22K	**Sinclair Lake**	**102.39**	**7**	P		**Pdif**	**00 24 36.4**	**+1.2**		
	baz=200									
C27K	**Jago River**	**102.73**	**12**	P		**Pdif**	**00 24 37.8**	**+0.9**		
	baz=210									
SONM	**Songino Array**	**103.30**	**318**	Pdiff		**Pdif**	**00 24 40.8**	**+0.7**		
	comp=Z,0.4nm,0.5s,baz=128,slow=2.9,SNR=2.4									
YKA	**Yellowknife Ar**	**105.32**	**25**	PKKPbc		PKKPbc	00 40 28.3	-1.6		
	comp=Z,0.5nm,0.6s,baz=34,slow=3.5,SNR=5.2									
WMQ	**Urumqi**	**113.41**	**308**	*e*PKP		**PKiKP**	**00 29 19.1**	**+0.9**		
WMQ				LR		LR				
	comp=Z,150nm,23.3s									
BOSA	**Boshof**	**117.38**	**203**	PKP		**PKiKP**	**00 29 26.6**	**0.0**		
	comp=Z,2.0nm,0.5s,baz=195,slow=2.7,SNR=12									
MK31	**Makanchi Array**	**117.95**	**310**	*i* PKIKP		**PKPdf**	**00 29 25.2**	**-1.5**		
MK31				*i*			00 29 28.1			
MKAR	**Makanchi Array**	**117.95**	**310**			**PKPdf**	**00 29 24.9**	**-1.9**		
MKAR	**Makanchi Array**	**117.95**	**310**	PKP		**PKPdf**	**00 29 25.2**	**-1.5**		
	comp=Z,3.5nm,0.5s,baz=109,slow=1.0,SNR=25									
MKAR	**Makanchi Array**	**117.95**	**310**	*c* PKIKP		**PKiKP**	**00 29 27.3**	**+0.5**		
MKAR				pmax		pmax				
	comp=Z,4.0nm,0.5s									
MAKZ	**Makanchi**	**118.17**	**310**			**PKPdf**	**00 29 26.0**	**-1.2**		
MAKZ	**Makanchi**	**118.17**	**310**	PKIKP		**PKPdf**	**00 29 26.0**	**-1.2**		
ZALV	**Zalesovo Beam**	**118.19**	**318**	PKP		**PKPdf**	**00 29 25.4**	**-1.5**		
	comp=Z,3.2nm,0.7s,baz=254,slow=1.1,SNR=5.1									
NRIK	**Noril'sk**	**119.72**	**336**	PKP		**PKPdf**	**00 29 28.2**	**-1.2**		
	comp=Z,5.1nm,0.7s,baz=163,slow=14,SNR=4.1									
MAKGR	**Makgori**	**120.11**	**204**	*i* P		**PKiKP**	**00 29 32.2**	**+0.3**		
KSH	**Kashi**	**120.45**	**301**	PKP		**PKiKP**	**00 29 35.1**	**+3.1**		
LBTB	**Lobatse**	**120.56**	**205**			**PKiKP**	**00 29 33.0**	**+0.2**		
LBTB	**Lobatse**	**120.56**	**205**	PKIKP		**PKiKP**	**00 29 33.0**	**+0.2**		
KURK	**Kurchatov**	**121.22**	**314**			**PKPdf**	**00 29 31.4**	**-1.4**		
KURK	**Kurchatov**	**121.22**	**314**	*c* PKIKP		**PKPdf**	**00 29 31.1**	**-1.7**		
KURK				*i*			00 29 34.7			
KURK				pmax		pmax				
	comp=Z,12nm,0.6s									
KURBB	**Kurchatov Arra**	**121.26**	**314**	PKP		**PKPdf**	**00 29 31.8**	**-1.1**		
	comp=Z,13nm,0.6s,baz=105,slow=1.8,SNR=36									
KURBB				PKKPbc		**PKKPab**	**00 39 34.5**	**+0.7**		
	comp=Z,0.6nm,0.9s,baz=291,slow=4.7,SNR=4.6									
SKOMA	**Sekoma**	**121.60**	**203**	*i* P		**PKiKP**	**00 29 35.2**	**+0.3**		
AAK	**Ala-Archa**	**122.31**	**304**	PKP		**PKPdf**	**00 29 34.9**	**-0.5**		
	comp=Z,6.3nm,0.6s,baz=60,slow=18,SNR=5.4									
AAK	**Ala-Archa**	**122.31**	**304**	*c* PKIKP		**PKPdf**	**00 29 35.0**	**-0.5**		
AAK				*i*			00 29 37.5			
AAK				pmax		pmax				
	comp=Z,4.0nm,0.4s									
KDWAN	**Kaudwane**	**122.39**	**204**	*i* P		**PKiKP**	**00 29 36.6**	**+0.2**		
BROLN	**Tlhalogang**	**123.43**	**208**	*i* P		**PKPdf**	**00 29 38.2**	**0.0**		
KGCAE	**Kacgae**	**123.72**	**202**			**PKiKP**	**00 29 39.5**	**+0.5**		
KGCAE	**Kacgae**	**123.72**	**202**	*i* P		**PKiKP**	**00 29 39.3**	**+0.2**		
KOOLE	**Kule**	**124.22**	**200**			**PKiKP**	**00 29 40.4**	**+0.3**		
SOOWA	**Sowa**	**124.37**	**207**	*i* P		**PKiKP**	**00 29 40.5**	**+0.2**		
KBL	**Kabul**	**124.45**	**293**			**PKiKP**	**00 29 40.1**	**0.0**		
KBL	**Kabul**	**124.45**	**293**	PKIKP		**PKiKP**	**00 29 40.1**	**0.0**		
KKAR	**Karatay Array**	**125.27**	**304**			**PKPdf**	**00 29 39.5**	**-1.4**		
KKAR	**Karatay Array**	**125.27**	**304**	PKIKP		**PKPdf**	**00 29 39.5**	**-1.4**		
BATG	**Bathurst New B**	**125.84**	**51**			**PKPdf**	**00 29 41.8**	**-0.1**		
SCHQ	**Schefferville**	**126.06**	**42**	PKP		**PKPdf**	**00 29 41.1**	**-0.9**		
	comp=Z,3.9nm,1.0s,baz=176,slow=1.5,SNR=5.8									
LMN	**Caledonia Moun**	**126.51**	**53**			**PKPdf**	**00 29 43.0**	**-0.1**		
BVAR	**Borovoye Array**	**126.57**	**316**	PKP		**PKPdf**	**00 29 42.3**	**-0.8**		
	comp=Z,16nm,0.5s,baz=108,slow=2.0,SNR=40									
BRVK	**Borovoye**	**126.63**	**316**			**PKPdf**	**00 29 42.8**	**-0.4**		
BRVK	**Borovoye**	**126.63**	**316**	*c* PKIKP		**PKPdf**	**00 29 42.2**	**-1.0**		
BRVK				*i*			00 29 44.0			
KSANE	**Kasane**	**127.28**	**208**	*i* P		**PKiKP**	**00 29 46.7**	**+0.5**		
LSZ	**Lusaka**	**128.21**	**212**			**PKiKP**	**00 29 48.1**	**0.0**		
LSZ	**Lusaka**	**128.21**	**212**	PKIKP		**PKiKP**	**00 29 48.1**	**0.0**		
GBN	**Guysborough**	**128.75**	**54**			**PKiKP**	**00 29 47.9**	**-0.2**		
SPITS	**Spitsbergen Ar**	**131.70**	**356**	PKP		**PKPdf**	**00 29 51.2**	**-0.9**		
	comp=Z,5.0nm,0.5s,baz=69,slow=5.4,SNR=12									
SVE	**Sverdlovsk**	**132.04**	**321**	*e* PKIKP		**PKPdf**	**00 29 53.8**	**+0.5**		
SVE				pmax		pmax				
	comp=Z,10.0nm,0.9s									
UOSS	**Minazif**	**132.31**	**277**			**PKPdf**	**00 29 54.6**	**-0.3**		
ABKAR	**Akbulak array**	**133.09**	**311**			**PKPdf**	**00 29 55.5**	**0.0**		
ARTI	**Arti**	**133.34**	**321**			**PKPdf**	**00 29 54.9**	**-0.9**		
ARTI	**Arti**	**133.34**	**321**	PKP		**PKPdf**	**00 29 55.8**	**0.0**		
	comp=Z,14nm,0.5s,baz=90,slow=1.2,SNR=23									
ARTI	**Arti**	**133.34**	**321**	*i* PKIKP		**PKPdf**	**00 29 55.6**	**-0.2**		
AKTO	**Aktyubinsk**	**134.28**	**312**	PKP		**PKPdf**	**00 29 57.2**	**-0.5**		
	comp=Z,6.0nm,0.6s,baz=143,slow=1.3,SNR=14									
KIRV	**Kirov**	**137.45**	**325**	PKP		**PKPdf**	**00 30 03.2**	**-0.1**		
	comp=Z,19nm,0.4s,baz=97,slow=1.3,SNR=20									
ARCES	**ARCESS Array B**	**138.62**	**348**			PKPpre	00 30 00.9			
ARCES	**ARCESS Array B**	**138.62**	**348**	PKhKP		PKPpre	00 29 56.9			
	comp=Z,1.6nm,0.4s,baz=42,slow=2.0,SNR=3.5									
ARCES	**ARCESS Array B**	**138.62**	**348**	PKIKP		PKPpre	00 30 00.9			
JETT	**Jettan, Norway**	**139.44**	**350**	*e* PKPdf		**PKiKP**	**00 30 08.4**	**-0.8**		
KTK1	**Kautokeino**	**139.48**	**349**	*e* PKPdf		**PKPdf**	**00 30 07.5**	**+0.7**		
TRO	**Tromso**	**139.57**	**351**	*e* PKPdf		**PKiKP**	**00 30 08.8**	**-0.5**		
BELG	**Belogornoye**	**140.35**	**317**	PKhKP		PKPpre	00 30 02.1			
	comp=Z,6nm,0.5s,baz=30,slow=7.3,SNR=3.3									
KLMR	**Klimovskoe**	**140.86**	**332**	*e* PKIKP		**PKPdf**	**00 30 09.4**	**-0.1**		
KLMR				pmax		pmax				
	comp=Z,21nm,1.1s									
RAYN	**Ar Rayn**	**141.06**	**271**			**PKPdf**	**00 30 08.3**	**-2.9**		
RAYN	**Ar Rayn**	**141.06**	**271**	⇑PKHKP		PKPpre	00 30 03.4			
LOF	**Lofoten**	**141.64**	**353**	*e* PKPdf		**PKPdf**	**00 30 11.0**	**+0.3**		
STEI	**Steigen**	**141.65**	**352**	*e* PKPdf		**PKPdf**	**00 30 09.9**	**-0.8**		
AKT	**Akhty**	**141.97**	**300**	*e* PKIKP		**PKPdf**	**00 30 10.0**	**-2.3**		
AKT				pmax		pmax				
	comp=Z,12nm,0.9s									
FAUS	**Fauske**	**142.16**	**352**	*e* PKPdf		**PKPdf**	**00 30 08.0**	**-3.7**		
MORS	**Moi Rana**	**143.42**	**352**	*e* PKPdf		PKPbc	00 30 12.4	+1.2		
STOK	**Stokkvagen**	**143.43**	**353**	*e* PKPdf		PKPbc	00 30 11.6	+0.4		
LEIR	**Leirfjorden**	**143.63**	**353**	*e* PKPdf		**PKPdf**	**00 30 13.3**	**-1.0**		
VRH	**Novokhopyorsk**	**144.20**	**317**	*e* PKIKP		PKPbc	00 30 14.6	+0.6		
VRH				pmax		pmax				
	comp=Z,10.0nm,0.8s									
GNI	**Garni**	**144.29**	**298**	*c* PKIKP		**PKiKP**	**00 30 20.0**	**-0.1**		
GNI				pmax		pmax				
	comp=Z,27nm,1.7s									
MOS	**Moscow**	**144.46**	**326**	*i* PKIKP		**PKPdf**	**00 30 16.4**	**+0.3**		
OZAP	**Van, Ozalp-Mer**	**144.91**	**295**	⇑P		**PKPab**	**00 30 16.2**	**-0.7**		
GOF	**Gofitskoye**	**144.99**	**306**	*ce* PKHKP		PKPpre	00 29 55.7			
FINES	**FINESS Array B**	**145.21**	**340**			**PKPbc**	**00 30 15.2**	**-1.6**		
FINES	**FINESS Array B**	**145.21**	**340**	PKPbc		**PKPbc**	**00 30 15.8**	**-1.1**		
	comp=Z,67nm,0.5s,baz=59,slow=3.6,SNR=384									
FINES	**FINESS Array B**	**145.21**	**340**	PKP2		**PKPbc**	**00 30 15.3**	**-1.6**		
LPSR	**Galich'ya Gora**	**145.26**	**320**	*e* PKP2		**PKPbc**	**00 30 15.0**	**-2.3**		
LPSR				pmax		pmax				
	comp=Z,20nm,0.9s									
NSS	**Namsos**	**145.29**	**353**	*e* PKPbc		**PKPbc**	**00 30 15.9**	**-1.2**		
OBN	**Obninsk**	**145.30**	**325**			**PKPbc**	**00 30 16.3**	**-1.1**		
OBN	**Obninsk**	**145.30**	**325**	PKPbc		**PKPbc**	**00 30 16.8**	**-0.5**		
	comp=Z,42nm,0.4s,baz=7.6,slow=6.6,SNR=9.1									
OBN	**Obninsk**	**145.30**	**325**	*i* PKIKP		**PKPbc**	**00 30 16.8**	**-0.5**		
OBN				pmax		pmax				
	comp=Z,27nm,0.8s									
OBN				MLR		MLR				
	comp=Z,141nm,22.0s									
KBZ	**Khabaz**	**145.31**	**304**	PKPbc		**PKPbc**	**00 30 16.9**	**-0.8**		
	comp=Z,15nm,0.7s,baz=65,slow=2.1,SNR=18									
KIV	**Kislovodsk**	**145.43**	**304**			**PKPdf**	**00 30 17.5**	**-0.8**		
KIV	**Kislovodsk**	**145.43**	**304**	⇑P		**PKPdf**	**00 30 17.4**	**-0.8**		
KIV	**Kislovodsk**	**145.43**	**304**	*i* PKIKP		**PKiKP**	**00 30 22.8**	**+0.6**		
KIV				pmax		pmax				
	comp=Z,29nm,1.1s									
VORR	**Voronezh**	**145.49**	**319**	*e* PKP2		**PKPdf**	**00 30 16.4**	**-1.6**		
VORR				pmax		pmax				
	comp=Z,20nm,0.8s									
VSR	**Storozhevoye**	**145.69**	**318**	*e* PKHKP		PKPpre	00 30 15.1			
VSR				pmax		pmax				
	comp=Z,30nm,0.8s									
VORD	**Divnogorie**	**145.72**	**318**	*e* PKP2		**PKPdf**	**00 30 15.7**	**-2.7**		
VORD				pmax		pmax				
	comp=Z,20nm,0.9s									
HOMI	**Horasan**	**146.47**	**298**	⇑P		**PKPbc**	**00 30 21.6**	**-0.2**		
ERBR	**Yeremizino-Bor**	**146.61**	**308**	*ce* PKIKP		**PKPdf**	**00 30 19.5**	**-0.6**		
ERBR				*i*			00 30 24.0			
ERBR				*e*			00 37 28.7			
ERBR				pmax		pmax				
	comp=Z,77nm,1.3s									
ERBR				pmax		pmax				
	comp=Z,168nm,1.0s									
ERBR				MLR		MLR				
	comp=Z,175nm,22.0s									
LABN	**Labinsk**	**146.68**	**306**	*i* PKP2		**PKPbc**	**00 30 22.2**	**+0.2**		
LABN				*e*			00 37 28.6			
LABN				pmax		pmax				
	comp=Z,33nm,0.7s									
KOPT	**Kop Dagi**	**147.54**	**298**			**PKPbc**	**00 30 24.4**	**-0.5**		
SOC	**Sochi**	**147.61**	**304**	*e* PKHKP		PKPpre	00 30 19.8			
SOC				*e* PPP		PPP	00 37 13.2			
SOC				*e* SSS		SSS	00 58 29.7			
SOC				MLR		MLR				
	comp=Z,95nm,19.0s									
MOL	**Molde**	**147.62**	**355**	*e* PKPdf		**PKPdf**	**00 30 22.4**	**+1.2**		
DOMB	**Dombas**	**148.02**	**354**	*e* PKPdf		**PKPbc**	**00 30 23.8**	**-1.4**		
AKN	**Aaknes**	**148.05**	**356**	*e* PKPbc		**PKPbc**	**00 30 24.5**	**-0.6**		
FOO	**Floro**	**148.72**	**357**	*e* PKPdf		**PKPbc**	**00 30 25.8**	**-1.1**		
NB2	**NORSAR Subarra**	**148.77**	**352**	PKP		**PKPbc**	**00 30 26.2**	**-0.9**		
	comp=Z,23nm,0.7s,baz=13,slow=2.8									
NB2	**NORSAR Subarra**	**148.77**	**352**	PKPab		**PKPbc**	**00 30 26.2**	**-0.9**		
	baz=13,slow=2.8									
NOA	**NORSAR Array B**	**148.77**	**352**	PKPbc		**PKPbc**	**00 30 26.0**	**-1.1**		
	comp=Z,22nm,0.7s,baz=14,slow=4.2,SNR=50									
ANN	**Anapa**	**148.93**	**307**	*c* PKP2		**PKiKP**	**00 30 29.4**	**+0.1**		
ANN				*e*			00 37 31.9			
ANN				pmax		pmax				
	comp=Z,67nm,0.7s									
ANN				MLR		MLR				
	comp=Z,125nm,23.0s									
NC602	**NORSAR Array S**	**149.02**	**351**	*e* PKPdf		**PKPbc**	**00 30 26.1**	**-1.6**		
HYA	**Hoyanger**	**149.10**	**356**	*e* PKPdf		**PKPbc**	**00 30 26.0**	**-1.9**		
HFS	**Hagfors**	**149.28**	**349**	PKPbc		**PKPbc**	**00 30 26.9**	**-1.4**		
	comp=Z,30nm,0.5s,baz=64,slow=3.4,SNR=44									
SUE	**Sulen**	**149.28**	**358**	*e* PKPdf		**PKPbc**	**00 30 26.4**	**-1.9**		
MNK	**Minsk**	**149.69**	**330**	*i* PKP		**PKPbc**	**00 30 28.9**	**-0.6**		
	comp=E,9.0nm,0.9s									
MNK				*i* PKP		**PKPbc**	**00 30 28.9**	**-0.6**		
	comp=N,5.0nm,0.9s									
MNK				*i* PKP		**PKPbc**	**00 30 28.9**	**-0.6**		
	comp=Z,13nm,0.7s,baz=48									
MNK				*i* PP		PP	00 34 12.2	+9.4		
MNK				*i* PPP		PPP	00 37 23.8			
MNK				*i* SSS		SSS	00 59 25.2			
MNK				*i* LRM		MLR	01 36 03.6			
	comp=N,282nm,18.5s									
MNK				*i* LRM		MLR	01 36 06.6			
	comp=E,305nm,19.8s									
MNK				*i* LRM		MLR	01 37 12.7			
	comp=Z,185nm,18.3s									
MNK	**Minsk**	**149.69**	**330**	*i* PKP2		**PKPbc**	**00 30 28.9**	**-0.6**		
MNK				*i*			00 34 12.2			
MNK				*i* PPP		PPP	00 37 23.8			
MNK				*i* SS		SS	00 53 15.9	+0.3		
MNK				pmax		pmax				
	comp=Z,13nm,0.7s									
MNK				pmax		pmax				
	comp=E,9.0nm,0.9s									
MNK				pmax		pmax				
	comp=N,5.0nm,0.9s									
MNK				pmax		pmax				
	comp=Z,60nm,0.8s									
MNK				MLR		MLR				
	comp=N,282nm,19.0s									
MNK				MLR		MLR				
	comp=E,305nm,20.0s									
MNK				MLR		MLR				
	comp=Z,185nm,18.0s									
ASK	**Askoy**	**149.83**	**357**	*e* PKPdf		**PKPbc**	**00 30 27.5**	**-2.1**		
NACGM	**Naroch**	**149.88**	**332**	*i* PKIKP		**PKPbc**	**00 30 29.2**	**-0.8**		
	comp=Z,44nm,0.8s,baz=46									
BER	**Bergen**	**149.93**	**357**	*e*		**PKPbc**	**00 30 29.6**	**-0.3**		
KONO	**Kongsberg**	**150.32**	**353**			**PKPbc**	**00 30 30.5**	**-0.4**		
KONO	**Kongsberg**	**150.32**	**353**	⇑PKIKP		**PKPbc**	**00 30 30.3**	**-0.6**		
KONO	**Kongsberg**	**150.32**	**353**	*e*		**PKPbc**	**00 30 30.2**	**-0.7**		
ODD1	**Odda**	**150.32**	**356**	*e*		**PKPbc**	**00 30 30.8**	**-0.2**		
STRU	**Stroemstad**	**150.71**	**351**	*i* P		**PKPbc**	**00 30 31.5**	**-0.3**		
BLS5	**Blasjo**	**150.82**	**356**	*e*		**PKPbc**	**00 30 31.0**	**-1.2**		
KMY	**Karmoy**	**151.10**	**357**	*e*		**PKPbc**	**00 30 32.2**	**-0.5**		
SIM	**Simferopol'**	**151.13**	**309**	*i* PKIKP		**PKPbc**	**00 30 33.5**	**+0.2**		
SIM				pmax		pmax				
	comp=

	comp=Z,20nm,0.6s						
CLL	**Collm**	**157.63**	**342**	*e*PKPdf	**PKPdf**	**00 30 38.0**	**+1.7**
CLL				*e*PKPdif	**sPKPdf**	**00 30 52.0**	**+4.0**
	comp=Z,6.0nm,0.5s						
CLL				*i* PKPab	**PKPab**	**00 31 10.0**	**+1.6**
	comp=Z,20nm,0.6s						
CLL				*e*PP	**PP**	**00 34 49.0**	**+1.7**
CLL				*e*PPP	PPP	00 38 24.0	
CLL				*e*SKKSac	SKKSac	00 41 36.0	+1.5
CLL				*e*PPPrev		00 43 34.0	
CLL				*e*PSKS		00 45 13.0	
CLL				*e*PPS	PPS	00 47 59.0	
CLL				*e*SS	**SS**	**00 54 42.0**	**+0.4**
CLL				*e*SSS	SSS	01 00 48.0	
CLL				*e*SSSS		01 04 30.0	
BRG	**Berggiesshubel**	**157.75**	**340**	*e*PKP	PKPdf	00 30 51.4	+15
BRG				Amp		00 30 52.9	
	comp=Z,3.1nm,0.6s						
BRG	**Berggiesshubel**	**157.75**	**340**	P	**PKPab**	**00 31 11.6**	**+2.6**
BRG				Amp		00 31 12.7	
	comp=Z,12nm,0.6s						
PVCC	**Panska Ves**	**157.87**	**339**	*e*PKPAB	**PKPab**	**00 31 12.1**	**+2.6**
PVCC	**Panska Ves**	**157.87**	**339**	*e*PKP2	**PKPab**	**00 31 12.1**	**+2.6**
PSZ	**Piszkesteto**	**157.89**	**327**	⇑P	**PKPab**	**00 31 09.4**	**-0.4**
PSZ	**Piszkesteto**	**157.89**	**327**	⇑PKP2	**PKPab**	**00 31 09.4**	**-0.4**
VYHS	**Vyhne**	**157.94**	**330**	*e*PKP2	**PKPab**	**00 31 12.1**	**+2.2**
VYHS	**Vyhne**	**157.94**	**330**	*e*PKP	**PKPab**	**00 31 12.1**	**+2.2**
GZR	**Gura Zlata**	**158.05**	**319**	⇑P	PKPdf	00 30 49.7	+13
GZR	**Gura Zlata**	**158.05**	**319**	⇑PKIKP	PKPdf	00 30 49.7	+13
SIRR	**Siria**	**158.13**	**322**	⇑P	PKPdf	00 30 45.9	+8.8
JAVC	**Velka Javorina**	**158.15**	**332**	*e*PKP	**PKPab**	**00 31 11.8**	**+0.9**
VRAC	**Vranov**	**158.21**	**334**	*e*PKP	**PKPab**	**00 31 10.5**	**-0.6**
VRAC	**Vranov**	**158.21**	**334**	PKP	**PKPdf**	**00 30 36.9**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=93,slow=2.6,SNR=1.4						
VRAC				PKPab	**PKPab**	**00 31 10.0**	**-1.0**
	comp=Z,4.8nm,0.9s,baz=57,slow=5.1,SNR=6.6						
VRAC	**Vranov**	**158.21**	**334**	⇑P	**PKPab**	**00 31 05.4**	**-5.6**
VRAC	**Vranov**	**158.21**	**334**	⇑PKP2	**PKPab**	**00 31 05.4**	**-5.6**
PRA	**Prague**	**158.31**	**338**	*e*PKPAB	**PKPab**	**00 31 14.0**	**+2.6**
PRA				AMS	AMS	01 48 50.0	
	comp=Z,200nm,20.0s						
PRA	**Prague**	**158.31**	**338**	*e*PKP2	**PKPab**	**00 31 14.0**	**+2.6**
PRA				MLR	MLR		
	comp=Z,200nm,20.0s						
GOPC	**GO Pecny, Ondr**	**158.33**	**338**	AMS	AMS	01 37 30.0	
	comp=Z,200nm,31.6s						
PRU	**Pruhonice**	**158.35**	**338**	*e*PKPAB	**PKPab**	**00 31 14.0**	**+2.4**
PRU				AMS	AMS	01 45 50.0	
	comp=Z,200nm,23.5s						
PRU	**Pruhonice**	**158.35**	**338**	*e*PKP2	**PKPab**	**00 31 14.0**	**+2.4**
PRU				MLR	MLR		
	comp=Z,200nm,23.5s						
PRU				MLR	MLR		
	comp=E,100nm,16.7s						
KRUC	**Moravsky**	**158.48**	**334**	*e*PKP	**PKPab**	**00 31 12.0**	**-0.2**
MODS	**Modra-Piesok**	**158.69**	**332**	*e*PKIKP	**PKPdf**	**00 30 41.7**	**+4.0**
NKC	**Novy Kostel**	**158.75**	**342**	*e*PKPAB	**PKPab**	**00 31 15.2**	**+1.8**
NKC				AMS	AMS	01 53 30.0	
	comp=E,200nm,19.8s						
NKC	**Novy Kostel**	**158.75**	**342**	*e*PKP2	**PKPab**	**00 31 15.2**	**+1.8**
NKC				MLR	MLR		
	comp=Z,200nm,19.8s						
KHC	**Kasperske Hory**	**159.40**	**339**	*e*pPKP	**pPKPdf**	**00 30 54.5**	**+7.2**
KHC				*e*PKPAB	**PKPab**	**00 31 15.4**	**-0.9**
KHC	**Kasperske Hory**	**159.40**	**339**	*e*PKIKP	PKPdf	00 30 54.5	+16
KHC				*e*		00 31 15.4	
CKRC	**Cesky Krumlov**	**159.44**	**337**	AMS	AMS	01 41 50.0	
	comp=Z,200nm,20.3s						
BEBN	**Eben Emael**	**159.45**	**354**	*d*PKP	**PKPab**	**00 31 15.6**	**-0.7**
BEBN				*dp*PKP	**pPKPab**	**00 31 19.4**	**-5.5**
BTNL	**Ternell**	**159.61**	**353**	*d*PKP	**PKPab**	**00 31 16.3**	**-0.8**
CONA	**Conrad Observa**	**159.62**	**333**	*i* PKP	**PKPab**	**00 31 16.5**	**-0.8**
	comp=Z,2.2nm,0.7s						
GERES	**GERESS Array B**	**159.62**	**338**	PKP	**PKPdf**	**00 30 37.8**	**-1.0**
	comp=Z,0.7nm,0.9s,baz=222,slow=1.8,SNR=6.4						
GERES				PKPab	**PKPab**	**00 31 17.2**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=35,slow=4.7,SNR=18						
RONA	**Rosalia, Austr**	**159.63**	**332**	*i* PKP	**PKPab**	**00 31 19.2**	**+1.8**
	comp=Z,6.7nm,0.8s						
MORH	**Mrgy, Hungar**	**159.70**	**326**	⇑P	**PKPdf**	**00 30 37.0**	**-1.9**
BHOU	**Houvegnez**	**159.85**	**353**	*d*PKP	**PKPab**	**00 31 17.4**	**-0.7**
BHOU				*dp*PKP	**pPKPab**	**00 31 20.7**	**-6.0**
BCLA	**Clavier**	**159.86**	**354**	*d*PKP	**PKPab**	**00 31 16.9**	**-1.2**
BCLA				*dp*PKP	**pPKPab**	**00 31 20.6**	**-6.1**
BGES	**Gesves**	**159.91**	**355**	*d*PKP	**PKPab**	**00 31 17.4**	**-1.0**
BGES				*dp*PKP	**pPKPab**	**00 31 20.3**	**-6.6**
BMRD	**Maredsous**	**160.01**	**355**	*d*PKP	**PKPab**	**00 31 18.0**	**-0.7**
BMRD				*dp*PKP	**pPKPab**	**00 31 21.2**	**-6.1**
DOU	**Dourbes**	**160.23**	**356**	*d*PKPdf	**PKPdf**	**00 30 41.8**	**+2.4**
DOU				*d*PKP	**PKPab**	**00 31 18.5**	**-1.2**
DOU				*dp*PKP	**pPKPab**	**00 31 22.1**	**-6.2**
MOA	**Molln**	**160.28**	**336**	*i* PKP	**PKPab**	**00 31 22.2**	**+2.1**
	comp=Z,3.6nm,1.1s						
ARSA	**Arzberg**	**160.30**	**332**	*e*P	**PKPab**	**00 31 25.1**	**+4.9**
WLF	**Walferdange**	**160.52**	**352**	*dp*PKP	**PKPab**	**00 31 23.0**	**+2.0**
BIOA	**Bad Ischl, Aus**	**160.63**	**336**	*i* pPKP	**PKPab**	**00 31 24.1**	**+2.4**
	comp=Z,12nm,1.1s						
SOKA	**Soboth**	**160.96**	**332**	*i* PKP	**PKPab**	**00 31 24.4**	**+1.2**
	comp=Z,5.4nm,1.2s						
LESA	**Schwarzleotal**	**161.19**	**338**	*i* PKP	**PKPab**	**00 31 25.1**	**+0.9**
	comp=Z,4.3nm,0.8s						
KBA	**Koelnbreinsper**	**161.26**	**336**	*i* pPKP	**PKPab**	**00 31 27.9**	**+3.2**
	comp=Z,3.5nm,0.9s						
OBKA	**Obir**	**161.29**	**333**	*i* PKP	**PKPab**	**00 31 25.2**	**+0.6**
	comp=Z,3.4nm,1.4s						
MYKA	**Terra Mystica**	**161.54**	**335**	*i* PKP	**PKPab**	**00 31 26.6**	**+0.9**
	comp=Z,7.6nm,1.0s						
WATA	**Walderalm**	**161.62**	**340**	*i* PKP	**PKPab**	**00 31 27.3**	**+1.2**
	comp=Z,7.9nm,0.8s,SNR=4.9						
WTTA	**Wattenberg**	**161.66**	**339**	*i* PKP	**PKPab**	**00 31 28.3**	**+2.0**
	comp=Z,7.8nm,0.8s,SNR=5.2						
RETA	**Reutte**	**161.71**	**341**	*i* pPKP	**PKPab**	**00 31 29.0**	**+2.6**
	comp=Z,15nm,0.8s,SNR=13						
MOTA	**Moosalm**	**161.75**	**341**	*i* pPKP	**PKPab**	**00 31 29.1**	**+2.4**
	comp=Z,13nm,0.8s,SNR=6.8						
MOTA				*es*PKP		00 31 32.5	
	SNR=6.0						
SQTA	**Sankt Quirin**	**161.83**	**340**	*e*pPKP	**PKPab**	**00 31 29.5**	**+2.5**
	comp=Z,9.9nm,0.7s,SNR=5.5						
ABTA	**Abfaltersbach**	**161.84**	**337**	*i* PKP	**PKPab**	**00 31 28.4**	**+1.3**
	comp=Z,8.0nm,0.9s						
DAVA	**Damuels**	**162.13**	**343**	*i* PKP	**PKPab**	**00 31 30.2**	**+1.9**
	comp=Z,20nm,1.2s,SNR=10						
FETA	**Feichten**	**162.15**	**341**	*i* pPKP	**PKPab**	**00 31 30.8**	**+2.3**
	comp=Z,7.5nm,1.0s						
DAVOX	**Davos/Dischmat**	**162.60**	**342**	PKP	**PKPdf**	**00 30 40.7**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=38,slow=2.4,SNR=4.2						
DAVOX				PKPab	**PKPab**	**00 31 29.8**	**-0.7**
	comp=Z,17nm,0.6s,baz=12,slow=1.3,SNR=26						
TORD	**Torodi Ar. Bea**	**162.84**	**178**	PKP	**PKPdf**	**00 30 43.3**	**+0.1**
	comp=Z,2.2nm,1.1s,baz=114,slow=0.5,SNR=5.4						
TORD				PKPab	**PKPab**	**00 31 32.8**	**+0.8**
	comp=Z,16nm,0.9s,baz=176,slow=3.9,SNR=20						
PAB	**San Pablo**	**169.36**	**29**		**PKPdf**	**00 30 48.5**	**+0.7**
PAB	**San Pablo**	**169.36**	**29**	PKIKP	**PKPdf**	**00 30 48.5**	**+0.7**
ESDC	**Sonseca Array**	**169.41**	**27**	PKP	**PKPdf**	**00 30 48.0**	**+0.3**
	comp=Z,2.6nm,1.1s,baz=325,slow=2.0,SNR=12						
ESDC				PKPab	**PKPab**	**00 31 59.9**	**-0.6**
	comp=Z,0.7nm,1.0s,baz=323,slow=5.1,SNR=5.7						
ESDC				PP	**PP**	**00 35 49.2**	**-0.5**
	comp=Z,0.7nm,1.2s,baz=12,slow=7.9,SNR=4.1						

NEIC ***06*** *00:13:02.0±1.2,35.°726N±0.°010×117.°55W±0.°01, h6km±5km, Error ellipse: s-maj=1.6km s-min=1.4km az=115.0*

PAS 06 00:13:02.6±1.5,**35.°725N**±0.°005×**117.°56W**±0.°01, **h2**km±4km, **ML3.5**/17, **ML3.2**/110(NEIC), **Error ellipse: s-maj=1.6km s-min=0.4km az=65.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.10**	**339**		Pg	00 13 04.8	+0.3
SRTC	**Snort**	**0.16**	**258**		Pg	00 13 06.4	+0.7
TOW	**Tower One**	**0.19**	**296**		Sg	00 13 10.4	+1.7
CCCA	**Chr Cany lake**	**0.25**	**142**		Pg	00 13 07.2	-0.2
LRMC	**Laurel Mtn Rad**	**0.27**	**203**		Pg	00 13 07.7	+0.1
LRMC					Sg	00 13 11.5	+0.3
WNMM	**Nine Mile Cany**	**0.31**	**293**		Pg	00 13 08.7	+0.3
WVPM	**Volcano Peak E**	**0.31**	**317**		Pg	00 13 08.7	+0.2
WVPM					Sg	00 13 13.3	+0.7
MPMC	**Manual Prospec**	**0.34**	**9**		Sg	00 13 14.2	+0.6
WCSM	**Coso Springs S**	**0.35**	**330**		Pg	00 13 09.4	+0.1
WRVM	**Rose V. Centra**	**0.39**	**316**		Pg	00 13 10.2	+0.1
MFS	**McCloud Flat S**	**0.46**	**328**		Pg	00 13 11.6	+0.1
MFS					Sg	00 13 17.9	+0.5
WBSM	**Bird Springs**	**0.51**	**249**		Pg	00 13 12.4	+0.1
WBSM					Sg	00 13 19.5	+0.5
DTP	**Desert Tortois**	**0.51**	**207**		Pg	00 13 12.6	+0.2
DTP					Sg	00 13 19.6	+0.5
WORM	**Onyx Ranch**	**0.56**	**267**		Pg	00 13 13.2	-0.1
QSM	**Queen of Sheba**	**0.61**	**67**		Pg	00 13 14.1	-0.1
QSM				IAML		00 13 23.7	
	comp=E,2μm,0.2s						
QSM				IAML		00 13 26.1	
	comp=N,2μm,0.3s						
WHFM	**Hanning Flat**	**0.65**	**268**		Pg	00 13 14.9	-0.1
CCAC	**Calif City Air**	**0.68**	**214**		Pg	00 13 15.6	0.0
CCAC				IAML		00 13 25.5	
	comp=E,2μm,0.5s						
GSC	**Goldstone, Bar**	**0.74**	**124**		Pg	00 13 16.7	-0.1
ISA	**Isabella, Lake**	**0.75**	**266**	Pg	Pg	00 13 16.7	-0.2
ISA				IAML		00 13 28.5	
	comp=E,735nm,0.3s						
ISA				IAML		00 13 31.1	
	comp=N,2μm,0.3s						
GWY	**Greenwater Val**	**0.85**	**57**		Pg	00 13 18.8	-0.1
HYS	**Haystack Butte**	**0.86**	**181**		Pb	00 13 20.2	0.0
RRX	**Edison Barstow**	**0.96**	**152**		Pg	00 13 21.1	+0.1
SPG2	**Springville 2**	**1.09**	**296**		Pg	00 13 22.7	-0.8
THC	**Tehachapi Micr**	**1.22**	**228**		Pg	00 13 24.9	-1.1
VES	**Vestal, Richgr**	**1.25**	**276**		Pg	00 13 25.9	-0.6
GRAC	**Grapevine Rang**	**1.28**	**7**		Pg	00 13 26.6	-0.4
GRAC				IAML		00 13 49.3	
	comp=E,738nm,0.6s						
GRAC				IAML		00 13 52.3	
	comp=N,692nm,0.7s						
WCT	**Wildcat Mounta**	**1.30**	**35**	IAML		00 13 46.6	
	comp=E,343nm,0.3s						
WCT				IAML		00 13 49.0	
	comp=N,308nm,0.7s						
DSCC	**Desert Studies**	**1.32**	**116**		Pg	00 13 27.3	-0.5
TUQ	**Turquoise Moun**	**1.36**	**102**		Pg	00 13 26.9	-1.8
GMN	**Gold Mountain**	**1.59**	**9**		Pn	00 13 32.3	+0.4
VOG	**Valley Oaks Go**	**1.60**	**292**		Pn	00 13 32.0	+0.2
TPNV	**Topopah Spring**	**1.61**	**40**		Pn	00 13 31.5	-0.7
TPNV				IAML		00 13 59.0	
	comp=N,352nm,0.7s						
TPNV				IAML		00 14 07.1	
	comp=N,239nm,0.8s						
PASC	**Pasadena Art C**	**1.63**	**199**		Pn	00 13 31.7	-0.6
PASC				IAML		00 13 57.9	
	comp=N,199nm,0.5s						
PASC				IAML		00 13 59.7	
	comp=E,301nm,0.4s						
DSP	**Deep Springs**	**1.68**	**349**		Pn	00 13 32.6	-0.2
DSP					Sb	00 13 55.6	0.0
DSP				IAML		00 13 57.1	
	comp=E,180nm,0.3s						
DSP				IAML		00 13 57.2	
	comp=N,164nm,0.5s						
BCW	**Bitter Crk WRg**	**1.71**	**243**		Pn	00 13 33.5	0.0
BCW				IAML		00 13 58.9	
	comp=N,339nm,0.6s						
BCW				IAML		00 14 03.9	
	comp=E,391nm,0.8s						
PEC	**Perris**	**1.86**	**170**		Pn	00 13 34.8	-0.6
MZP	**Montezuma Peak**	**1.98**	**4**		Pn	00 13 37.3	0.0
EW2	**E Wide Canyon**	**2.02**	**152**		Pn	00 13 36.6	-1.0
PKM	**Mcpherson Peak**	**2.03**	**246**		Pb	00 13 39.6	-0.6
TPC	**Twentynine Pal**	**2.04**	**142**		Pn	00 13 36.6	-1.3
HMTC	**Hemet**	**2.06**	**167**		Pn	00 13 37.4	-0.9
ELS	**Elsinore Mount**	**2.08**	**177**		Pn	00 13 37.7	-0.7
SHPR	**Sheep Range**	**2.09**	**67**		Pn	00 13 38.9	+0.1
MURC	**Murrieta**	**2.14**	**172**		Pn	00 13 38.9	-0.5
V12A	**Nelson**	**2.20**	**89**		Pn	00 13 40.4	+0.2
V12A				IAML		00 14 17.0	
	comp=E,163nm,0.5s						
V12A				IAML		00 14 25.2	
	comp=N,156nm,0.7s						
PFO	**Pinyon Flats O**	**2.29**	**156**		Pn	00 13 40.5	-1.0
TPH	**Tonopah**	**2.36**	**6**		Pn	00 13 42.3	-0.2
TPH					Pg	00 13 47.2	-0.7
S11A	**Rachel**	**2.41**	**37**		Pn	00 13 42.2	-0.9
S11A				IAML		00 14 24.0	
	comp=E,223nm,0.6s						
S11A				IAML		00 14 27.9	
	comp=N,201nm,1.0s						
PRN	**Pahroc Range**	**2.62**	**49**		Pn	00 13 45.6	-0.5
PRN				IAML		00 14 36.8	
	comp=N,186nm,0.9s						
PRN				IAML		00 14 36.9	
	comp=E,192nm,0.7s						
LHV	**Little Huntoon**	**2.63**	**344**		Pn	00 13 46.0	0.0
LHV				IAML		00 14 35.9	
	comp=E,60nm,0.8s						
LHV				IAML		00 14 36.0	
	comp=N,62nm,0.9s						
PMPB	**Monarch Peak**	**2.68**	**281**		Pn	00 13 47.0	+0.2
PMPB				IAML		00 14 32.4	
	comp=N,175nm,1.2s						
NV11	**Mina Array Sit**	**2.74**	**350**		Pn	00 13 47.6	-0.2
NVAR	**Mina Array Bea**	**2.77**	**348**		Pn	00 13 48.0	-0.1
MYLM	**Yosemite Lake**	**2.84**	**307**		Pb	00 13 53.0	-1.0
BBGB	**Big Mountain B**	**2.95**	**288**		Pn	00 13 50.6	+0.2
RYN	**Ryan**	**3.00**	**345**		Pn	00 13 50.8	-0.5
R11B	**Troy Canyon, C**	**3.06**	**30**		Pn	00 13 52.6	+0.5
W13A	**Hualapai Mount**	**3.06**	**101**		Pn	00 13 51.0	-1.2
W13A				IAML		00 14 44.9	
	comp=E,43nm,0.4s						
W13A				IAML		00 14 53.3	
	comp=N,47nm,1.4s						
Q09A	**Carvers**	**3.12**	**5**		Pn	00 13 51.4	-1.5
WAKR	**Walker**	**3.16**	**332**		Pb	00 14 00.9	+1.5
CMB	**Columbia Colle**	**3.23**	**316**		Pn	00 13 54.7	+0.3
CMB				IAML		00 14 48.2	
	comp=N,51nm,1.0s						
CMB				IAML		00 14 49.5	
	comp=E,61nm,0.6s						
SAO	**San Andreas Ge**	**3.31**	**289**		Pn	00 13 54.6	-0.8
YUH	**Yuha Desert**	**3.35**	**156**		Pn	00 13 54.6	-1.3
CBX	**Cerro Bola**	**3.48**	**167**		Pn	00 13 57.6	-0.3
CBX				IAML		00 14 53.9	
	comp=N,94nm,1.1s						
GLA	**Glamis**	**3.49**	**139**		Pn	00 13 56.3	-1.7
LCMT	**Little Creek M**	**3.71**	**68**		Pn	00 14 01.0	0.0
CCUT	**Cedar City**	**3.83**	**60**		Pn	00 14 01.9	-0.8
ESJX	**Sierra Juarez**	**3.94**	**160**		Pn	00 14 04.9	+0.7
ESJX				IAML		00 16 41.5	
	comp=E,58nm,0.1s						
ESJX				IAML		00 16 41.5	
	comp=N,57nm,0.1s						
KNB	**Kanab**	**4.03**	**70**	IAML		00 15 11.7	
	comp=E,23nm,1.0s						
KNB				IAML		00 15 23.5	
	comp=N,21nm,1.0s						
PSUT	**Pine Spring**	**4.08**	**45**	IAML		00 15 16.4	
	comp=N,33nm,0.7s						
PSUT				IAML		00 15 17.2	
	comp=E,40nm,0.8s						
SPR3	**Spring Creek 3**	**4.16**	**37**	IAML		00 15 19.9	
	comp=N,25nm,0.8s						
SPR3				IAML		00 15 23.1	
	comp=E,22nm,1.3s						
AFDM	**Forest Hills D**	**4.21**	**321**	IAML		00 15 19.9	
	comp=E,33nm,0.5s						
AFDM				IAML		00 15 22.8	
	comp=N,30nm,0.8s						
113A	**Mohawk Valley,**	**4.31**	**132**	IAML		00 15 21.5	
	comp=E,20nm,0.6s						
113A				IAML		00 15 26.4	
	comp=N,23nm,1.1s						
BEKR	**Beckworth**	**4.69**	**333**	IAML		00 15 39.9	
	comp=E,30nm,0.7s						
BEKR				IAML		00 15 51.5	
	comp=N,14nm,0.8s						
X16A	**Lo Mia Camp, P**	**5.18**	**103**	IAML		00 15 55.4	
	comp=E,13nm,1.0s						
X16A				IAML		00 16 01.3	
	comp=N,11nm,0.9s						
ELK	**Elko**	**5.33**	**19**	IAML		00 15 53.5	
	comp=N,9.1nm,0.8s						

NEIC ***06*** *00:15:38.8±0.7,35.°77N±0.°01×117.°61W±0.°02, h4km±4km, Error ellipse: s-maj=2.3km s-min=1.8km az=223.0*

PAS 06 00:15:39.2±0.8,**35.°77N**±0.°01×**117.°60W**±0.°02, **h3**km±3km, **ML3.0**/21, **ML2.6**/36(NEIC), **Error ellipse: s-maj=2.2km s-min=1.9km az=202.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.04**	**5**		Pg	00 15 40.3	+0.1
TOW	**Tower One**	**0.14**	**285**		Pg	00 15 42.5	+0.6
TOW					Sg	00 15 45.5	+1.8
SRTC	**Snort**	**0.14**	**236**		Pg	00 15 42.5	+0.5
WVPM	**Volcano Peak E**	**0.25**	**315**		Pg	00 15 44.2	+0.2
WNMM	**Nine Mile Cany**	**0.26**	**286**		Pg	00 15 44.4	+0.3
WCSM	**Coso Springs S**	**0.29**	**332**		Pg	00 15 44.9	+0.1
MPMC	**Manual Prospec**	**0.30**	**18**		Pg	00 15 45.0	0.0
LRMC	**Laurel Mtn Rad**	**0.30**	**193**		Pg	00 15 44.0	-1.0
CCCA	**Chr Cany lake**	**0.32**	**142**		Pg	00 15 45.8	+0.5
WRVM	**Rose V. Centra**	**0.33**	**315**		Pg	00 15 45.7	+0.1
MFS	**McCloud Flat S**	**0.40**	**329**		Pg	00 15 47.0	+0.1
WBSM	**Bird Springs**	**0.50**	**242**		Pg	00 15 48.7	0.0
WORM	**Onyx Ranch**	**0.53**	**262**		Pg	00 15 49.2	-0.1
WHFM	**Hanning Flat**	**0.61**	**263**		Pg	00 15 50.8	-0.1
QSM	**Queen of Sheba**	**0.63**	**72**		Pg	00 15 51.1	-0.1
QSM				IAML		00 16 01.0	
	comp=N,472nm,0.6s						
QSM				IAML		00 16 01.5	
	comp=E,340nm,0.4s						
CCAC	**Calif City Air**	**0.71**	**209**	Pg	Pg	00 15 52.5	-0.2
CCAC				IAML		00 16 07.8	
	comp=N,220nm,0.5s						
ISA	**Isabella, Lake**	**0.72**	**261**		Pg	00 15 52.8	-0.1
ISA				IAML		00 16 04.2	
	comp=E,356nm,0.2s						
ISA				IAML		00 16 04.4	
	comp=N,260nm,0.3s						
GSC	**Goldstone, Bar**	**0.80**	**126**	Pg	Pg	00 15 54.3	-0.3
GSC				IAML		00 16 08.3	
	comp=N,322nm,0.4s						
GSC				IAML		00 16 09.9	
	comp=E,309nm,0.5s						
GWY	**Greenwater Val**	**0.86**	**61**		Pg	00 15 55.9	+0.1
HYS	**Haystack Butte**	**0.91**	**178**		Pg	00 15 56.0	-0.6
ARVC	**Arvin**	**1.19**	**238**		Pb	00 16 02.4	0.0
GRAC	**Grapevine Rang**	**1.23**	**9**	Pg	Pg	00 16 02.2	-0.6
GRAC				IAML		00 16 22.7	
	comp=N,174nm,0.8s						
GRAC				IAML		00 16 25.1	
	comp=E,188nm,0.5s						
AMDNV	**Amargosa**	**1.27**	**57**		Pg	00 16 02.5	-1.0
WCT	**Wildcat Mounta**	**1.29**	**38**		Pg	00 16 03.5	-0.3
WCT	**Wildcat Mounta**	**1.29**	**38**	IAML		00 16 23.6	
	comp=E,121nm,0.6s						
WCT				IAML		00 16 23.8	
	comp=N,84nm,0.5s						
TUQ	**Turquoise Moun**	**1.41**	**103**		Pn	00 16 05.1	-0.8
BFSC	**Mount Baldy Ra**	**1.53**	**182**		Pb	00 16 08.0	-0.3
GMN	**Gold Mountain**	**1.55**	**10**		Pn	00 16 07.8	-0.1
TPNV	**Topopah Spring**	**1.60**	**43**		Pn	00 16 08.3	-0.3
TPNV				IAML		00 16 31.9	
	comp=N,97nm,0.5s						
DSP	**Deep Springs**	**1.62**	**350**		Pn	00 16 08.9	+0.2
DSP				IAML		00 16 32.3	
	comp=E,77nm,0.6s						
PASC	**Pasadena Art C**	**1.67**	**197**		Pn	00 16 08.7	-0.7
BCW	**Bitter Crk WRg**	**1.70**	**241**		Pn	00 16 09.3	-0.5
MZP	**Montezuma Peak**	**1.93**	**5**		Pg	00 16 15.8	-0.5
ELS	**Elsinore Mount**	**2.12**	**176**	Pn	Pn	00 16 14.7	-1.0
ELS				IAML		00 16 53.8	
	comp=N,36nm,1.0s						
ELS				IAML		00 16 54.4	
	comp=E,34nm,1.1s						
TPH	**Tonopah**	**2.32**	**7**	Pg	Pb	00 16 22.7	+0.9
LHV	**Little Huntoon**	**2.58**	**344**	Pg	Pg	00 16 28.8	+0.2
LHV				IAML		00 17 08.1	
	comp=E,25nm,1.5s						

IDC 06 00:19:39.7±2.9,**27.°36S**×**135.°28E, h0km, mbtmp3.0**/3, **ML2.7**/2, **Error ellipse: s-maj=42.8km s-min=15.5km az=58.0, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**3.88**	**341**	Pn	Pn	00 20 42.5	+1.8
	0.2nm,0.3s,baz=165,slow=15,SNR=1.6						
ASAR				Sn	Sn	00 21 27.0	-0.1
	0.3nm,0.3s,baz=159,slow=23,SNR=0.9						
ASAR				Lg	Lg	00 21 42.4	
	0.5nm,0.3s,baz=161,slow=24,SNR=1.3						
	0.8nm,0.5s						
STKA	**Stephens Creek**	**7.10**	**131**	Pn	Pn	00 21 25.4	+0.6
	0.1nm,0.3s,baz=317,slow=20,SNR=1.1						
STKA				Sn	Sn	00 22 45.2	-1.1
	0.2nm,0.3s,baz=315,slow=19,SNR=2.1						
STKA				Lg	Lg	00 23 22.9	
	0.1nm,0.3s,baz=308,slow=17,SN

σ1ᵍ39/12, **2D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**0.40**	**199**	*eP*	**Pn**	**00 32 33.1**	**-0.1**
AP01				*eS*	**Sn**	**00 32 43.2**	**-1.5**
PB16	**IPOC Station P**	**0.75**	**118**	⇓*iP*	**Pn**	**00 32 35.5**	**-1.1**
PB16				*i* S	**Sn**	**00 32 48.0**	**-2.5**
PB16				IAML		00 32 48.7	
	comp=N,3μm,0.3s						
PB18	**Visviri**	**0.80**	**60**	⇓*iP*	**Pn**	**00 32 37.1**	**+0.1**
PB18				*eS*	**Sn**	**00 32 49.3**	**-2.0**
GO01	**Chusmiza**	**1.93**	**150**	*eP*	**Pn**	**00 32 50.9**	**+0.9**
GO01				*i* S	**Sn**	**00 33 15.3**	**+0.7**
GO01				IAML		00 33 20.1	
	comp=E,596nm,0.2s						
LPAZ	**La Paz**	**2.61**	**50**	P	**Pn**	**00 33 00.2**	**+1.1**
	comp=E,33nm,0.6s,baz=319,slow=2.6,SNR=88						
SIV	**San Ignacio**	**8.96**	**79**	P	Pn	00 34 21.8	-2.7
	comp=E,15nm,0.6s,baz=270,slow=14,SNR=72						
SIV				S	Sn	00 35 45.5	-18
	comp=E,1.2nm,0.5s,baz=274,slow=13,SNR=0.9						
BDFB	**Brasilia**	**21.37**	**87**	P	**P**	**00 36 58.1**	**+0.7**
	comp=E,2.2nm,0.5s,baz=246,slow=9.4,SNR=6.0						
	comp=E,2.2nm,0.5s						
DBIC	**Dimbokro**	**68.97**	**75**	P	**P**	**00 43 12.7**	**-0.1**
	comp=E,2.5nm,0.5s,baz=243,slow=6.8,SNR=4.1						
	comp=E,2.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**77.37**	**72**	P	**P**	**00 44 02.9**	**+0.7**
	comp=E,1.0nm,0.4s,baz=265,slow=5.4,SNR=6.1						
	comp=E,1.0nm,0.4s						

*IDC **06** 00:46:22.3±0.8, 29.°95S×178.°50W, h0ᵏᵐ, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=35.5km s-min=16.5km az=137.0*
*NEIC **06** 00:46:25.0±0.9, 30.°02S±0.°08×178.°4W±0.°1, h12ᵏᵐ±5ᵏᵐ, mb4.4/10, Error ellipse: s-maj=18.2km s-min=6.6km az=125.0*

ISC 06 00:46:23.8±0.7, 30.°0S±0.°1×178.°4W±0.°1, h10ᵏᵐ, n32, σ0ᵍ87/32, mb4.2/9, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.87**	**29**		**Pg**	**00 46 42.0**	**+1.3**
RAO					**Sn**	**00 46 55.6**	**+0.6**
RAO	**Raoul Island**	**0.87**	**29**	Pn	**Pb**	**00 46 42.2**	**+1.1**
	123nm,0.3s,baz=180,slow=20,SNR=1.9						
RAO				Sn	**Sn**	**00 46 55.2**	**+0.3**
	454nm,0.3s,baz=105,slow=20,SNR=6.9						
URZ	**Urewera**	**9.02**	**203**	Pn	Pn	00 48 28.9	-5.2
	0.4nm,0.3s,baz=94,slow=14,SNR=2.0						
URZ				Sn	Sn	00 50 07.8	-7.9
	1.4nm,0.3s,baz=185,slow=23,SNR=5.6						
NIUE	**Niue**	**13.34**	**37**	Pn	**Pn**	**00 49 30.6**	**-2.7**
THZ	**Tophouse**	**13.66**	**209**	Pn	**Pn**	**00 49 38.3**	**+0.6**
CTAO	**Charters Tower**	**33.40**	**279**	P	**P**	**00 53 02.5**	**-0.2**
STKA	**Stephens Creek**	**34.23**	**256**	P	**P**	**00 53 10.9**	**+1.0**
STKA	**Stephens Creek**	**34.23**	**256**	P	**P**	**00 53 09.7**	**-0.1**
	1.5nm,0.6s,baz=107,slow=12,SNR=4.1						
	1.5nm,0.6s						
COEN	**Coen**	**38.84**	**286**	P	**P**	**00 53 49.8**	**+0.5**
COEN				IAmb	IAmb	00 53 58.1	
	comp=Z,18nm,1.4s						
ASAR	**Alice Springs**	**42.78**	**267**	P	**P**	**00 54 21.2**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=104,slow=7.8,SNR=9.3						
	comp=Z,0.8nm,0.5s						
WR0	**Warramunga Arr**	**43.56**	**272**	P	**P**	**00 54 27.9**	**-0.3**
WR0				IAmb	IAmb	00 54 49.5	
	comp=Z,14nm,1.5s						
WR8	**Warramunga Arr**	**43.59**	**272**	P	**P**	**00 54 28.6**	**+0.1**
WR8				IAmb	IAmb	00 54 43.2	
	comp=Z,5.0nm,1.1s						
WB2	**Warramunga Arr**	**43.73**	**272**	P	**P**	**00 54 29.4**	**-0.2**
WB2				IAmb	IAmb	00 54 31.5	
	comp=Z,5.0nm,1.1s						
WRA	**Warramunga Arr**	**43.74**	**272**	P	**P**	**00 54 29.6**	**0.0**
WRA	**Warramunga Arr**	**43.74**	**272**	P	**P**	**00 54 28.8**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=110,slow=8.2,SNR=32						
	comp=Z,1.1nm,0.3s						
WB0	**Warramunga Arr**	**43.76**	**272**	P	**P**	**00 54 29.6**	**-0.2**
WB0				IAmb	IAmb	00 55 12.1	
	comp=Z,9.9nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.02**	**270**	P	**P**	**00 55 34.1**	**+0.4**
QSPA	**South Pole Qui**	**60.09**	**180**	P	**P**	**00 56 32.0**	**+0.9**
QSPA				IAmb	IAmb	00 56 56.5	
	comp=Z,5.0nm,1.4s						
QSPA	**South Pole Qui**	**60.09**	**180**	P	**P**	**00 56 31.6**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=104,slow=7.0,SNR=2.0						
	comp=Z,1.2nm,0.8s						
H03S2	**Juan Fernandez**	**80.96**	**124**	T	T	02 27 48.6	
	baz=238,slow=74,SNR=7.6						
H03S1	**Juan Fernandez**	**80.97**	**124**	T	T	02 27 44.3	
	baz=238,slow=74,SNR=7.5						
H03S3	**Juan Fernandez**	**80.98**	**124**	T	T	02 27 47.3	
	baz=238,slow=74,SNR=10						
KURBB	**Kurchatov Arra**	**120.58**	**314**	PKP	**PKPdf**	**01 05 14.7**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=111,slow=2.2,SNR=6.9						
BVAR	**Borovoye Array**	**125.89**	**316**	PKP	**PKPdf**	**01 05 25.6**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=131,slow=4.4,SNR=4.0						
FINES	**FINESS Array B**	**144.67**	**340**	PKP	**PKPab**	**01 05 58.6**	**-0.2**
	comp=Z,2.4nm,0.4s,baz=55,slow=2.7,SNR=20						
NB2	**NORSAR Subarra**	**148.32**	**351**	PKP	**PKPbc**	**01 06 09.6**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=12,slow=2.7						
NOA	**NORSAR Array B**	**148.32**	**351**	PKP	**PKPdf**	**01 06 05.8**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=14,slow=2.5,SNR=1.8						
NOA				PKPbc	**PKPbc**	**01 06 09.7**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=16,slow=4.3,SNR=3.7						
HFS	**Hagfors**	**148.81**	**348**	PKP	**PKPdf**	**01 06 06.8**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=20,slow=5.4,SNR=2.0						
HFS				PKPbc	**pPKPdf**	**01 06 11.1**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=55,slow=2.1,SNR=8.2						
AKASG	**Malin Array Be**	**150.79**	**323**	PKPbc	**PKPbc**	**01 06 15.9**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=50,slow=2.6,SNR=5.7						
MMAI	**Mount Meron Ar**	**151.10**	**285**	PKPbc	**PKPbc**	**01 06 16.4**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=82,slow=6.0,SNR=7.5						
BRTR	**Keskin Array B**	**152.11**	**299**	PKPbc	**PKPbc**	**01 06 17.7**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=108,slow=4.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**163.21**	**180**	PKPab	**PKPab**	**01 07 17.6**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=172,slow=2.0,SNR=1.2						

GCG 06 00:46:36.5±0.6, 13.°79N×90.°73W, h90ᵏᵐ±28ᵏᵐ, MD3.5, ML3.2, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG8	**Yepocapa, Chim**	**0.50**	**20**	*i* P	Pn	00 46 53.5	+2.1
FG8				*i* S	Sn	00 47 06.4	+3.9
FG16	**Alotenango, Sa**	**0.53**	**24**	*i* P	Pn	00 46 53.5	+1.8
FG16				*i* S	Sn	00 47 07.0	+3.9
FG16				IAML		00 47 17.7	
	comp=E,1μm,0.2s						
ESSG	**Sabana Grande**	**0.60**	**351**	*i* P	Pn	00 46 52.4	+0.2
ESSG				*i* S	Sn	00 47 04.2	+0.3
ESSG				IAML		00 47 07.7	
	comp=E,166nm,0.1s						
STG0	**El Palmar, Qui**	**0.87**	**317**	*eP*	Pn	00 46 59.5	+4.6
STG0				IAML		00 47 20.5	
	comp=E,413nm,0.2s						
STG8	**El Palmar, Qui**	**0.89**	**318**	*i* P	Pn	00 46 59.6	+4.3
STG8				IAML		00 47 22.0	
	comp=E,363nm,0.1s						
NUBE	**Las Nubes**	**0.93**	**83**	*eP*	Pn	00 46 56.1	+0.5
JAYA	**Jayaque - finc**	**1.26**	**96**	*i* P	Pn	00 46 58.9	-0.5

*IDC **06** 00:51:24.8±2.1, 35.°69N×117.°55W, h0ᵏᵐ, mbtmp2.8/3, ML3.4/3, Error ellipse: s-maj=29.2km s-min=12.3km az=55.0*
*NEIC **06** 00:51:25.0±1.7, 35.°741N±0.°007×117.°56W±0.°01, h8ᵏᵐ±4ᵏᵐ, Error ellipse: s-maj=1.5km s-min=1.1km az=106.0*
*PAS **06** 00:51:25.7±2.1, 35.°747N±0.°009×117.°58W±0.°02, h5ᵏᵐ±2ᵏᵐ, ML3.6, ML3.6/60(NEIC), Error ellipse: s-maj=1.8km s-min=1.3km az=81.0*

ISC 06 00:51:25.2±0.9, 35.°73N±0.°02×117.°54W±0.°02, h10ᵏᵐ±8ᵏᵐ, n76, σ1ᵍ05/86, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.10**	**333**		**Pg**	**00 51 27.5**	**-0.4**
SRTC	**Snort**	**0.17**	**258**		**Pg**	**00 51 29.1**	**+0.2**
TOW	**Tower One**	**0.20**	**294**		**Pg**	**00 51 29.4**	**0.0**
LRMC	**Laurel Mtn Rad**	**0.27**	**205**		**Sb**	**00 51 35.5**	**-1.6**
WVPM	**Volcano Peak E**	**0.31**	**315**		**Pg**	**00 51 31.1**	**-0.5**
WVPM					**Sg**	**00 51 35.5**	**-0.3**
WNMM	**Nine Mile Cany**	**0.32**	**291**		**Pg**	**00 51 31.2**	**-0.3**
WNMM					**Sg**	**00 51 35.6**	**-0.2**
MPMC	**Manual Prospec**	**0.33**	**8**		**Pg**	**00 51 31.8**	**-0.1**
WCSM	**Coso Springs S**	**0.35**	**329**		**Pg**	**00 51 31.7**	**-0.5**
WCSM					**Sg**	**00 51 36.3**	**-0.6**
WRVM	**Rose V. Centra**	**0.40**	**315**		**Pg**	**00 51 32.5**	**-0.5**
WRVM					**Sg**	**00 51 38.0**	**-0.3**
MFS	**McCloud Flat S**	**0.46**	**327**		**Pg**	**00 51 33.9**	**-0.5**
MFS					**Sg**	**00 51 40.3**	**-0.2**
QSM	**Queen of Sheba**	**0.60**	**67**		**Pb**	**00 51 37.3**	**-0.5**
QSM				IAML		00 51 49.6	
	comp=N,5μm,0.3s						
CCAC	**Calif City Air**	**0.69**	**214**	Pg	**Pb**	**00 51 38.8**	**-0.7**
CCAC				IAML		00 51 49.1	
	comp=N,3μm,0.4s						
CCAC				IAML		00 51 49.2	
	comp=E,2μm,0.4s						
GSC	**Goldstone, Bar**	**0.74**	**125**		**Pb**	**00 51 40.2**	**0.0**
ISA	**Isabella, Lake**	**0.76**	**265**	Pg	**Pg**	**00 51 39.3**	**-0.6**
ISA				Sg	**Sg**	**00 51 49.0**	**-0.8**
CWC	**Cottonwood Cre**	**0.83**	**329**		**Pb**	**00 51 41.1**	**-0.8**
CWC					**Sb**	**00 51 51.9**	**-1.3**
GWY	**Greenwater Val**	**0.84**	**57**		**Pb**	**00 51 41.6**	**-0.5**
CGO	**Cerro Gordo**	**0.85**	**346**		**Pg**	**00 51 40.8**	**-0.8**
HYS	**Hayshock Butte**	**0.86**	**181**		**Pb**	**00 51 41.9**	**-0.4**
SHOC	**Shoshone, Teco**	**1.04**	**80**		**Pn**	**00 51 46.1**	**+0.1**
TEJ	**El Tejon**	**1.06**	**242**		**Pg**	**00 51 44.4**	**-1.2**
SPG2	**Springville 2**	**1.10**	**296**		**Pg**	**00 51 45.1**	**-1.3**
TJR	**Tejon Ranch**	**1.20**	**235**		**Pg**	**00 51 47.1**	**-1.2**
ARVC	**Arvin**	**1.21**	**241**		**Pg**	**00 51 47.4**	**-1.0**
THC	**Tehachapi Micr**	**1.23**	**229**		**Pg**	**00 51 47.6**	**-1.2**
AMDNV	**Amargosa**	**1.25**	**54**		**Pn**	**00 51 48.4**	**-0.4**
VES	**Vestal, Richgr**	**1.26**	**276**		**Pb**	**00 51 48.4**	**-0.7**
LRRC	**Littlerock Res**	**1.26**	**198**		**Pn**	**00 51 48.5**	**-0.4**
GRAC	**Grapevine Rang**	**1.27**	**6**		**Pg**	**00 51 48.7**	**-1.0**
GRAC				IAML		00 52 07.3	
	comp=E,2μm,0.4s						
GRAC				IAML		00 52 10.5	
	comp=N,1μm,0.6s						
HOLC	**Holcomb Ridge**	**1.29**	**191**		**Pn**	**00 51 49.2**	**-0.3**
WCT	**Wildcat Mounta**	**1.29**	**35**		**Pg**	**00 51 49.4**	**-0.7**
WCT					**Sg**	**00 52 06.1**	**-0.9**
WCT				IAML		00 52 08.8	
	comp=N,768nm,0.8s						
WCT				IAML		00 52 09.1	
	comp=E,702nm,0.4s						
SGV	**South Grapevin**	**1.32**	**18**		**Pn**	**00 51 49.6**	**-0.3**
JNH	**Juniper Hills**	**1.32**	**195**		**Pn**	**00 51 49.6**	**-0.3**
HEC	**Hector,Ludlow**	**1.33**	**132**		**Pn**	**00 51 49.9**	**-0.2**
TUQ	**Turquoise Moun**	**1.35**	**102**		**Pn**	**00 51 50.0**	**-0.3**
TIN	**Tinemaha, Big**	**1.43**	**337**		**Pg**	**00 51 51.7**	**-1.1**
OSI	**Oaito Audit: C**	**1.47**	**221**		**Pg**	**00 51 52.6**	**-0.9**
SS2	**San Sevaine**	**1.52**	**179**		**Pb**	**00 51 53.0**	**-0.5**
GMN	**Gold Mountain**	**1.58**	**8**	Pg	**Pg**	**00 51 55.1**	**-0.6**
TPNV	**Topopah Spring**	**1.60**	**40**		**Pn**	**00 51 53.8**	**-0.1**
TPNV				IAML		00 52 20.1	
	comp=E,892nm,0.6s						
TPNV				IAML		00 52 20.2	
	comp=E,1μm,0.6s						
VOG	**Valley Oaks Go**	**1.60**	**292**		**Pb**	**00 51 54.2**	**-0.7**
MTPC	**Mountain Pass**	**1.64**	**98**		**Pn**	**00 51 54.1**	**-0.2**
PASC	**Pasadena Art C**	**1.64**	**199**		**Pn**	**00 51 54.2**	**0.0**
PASC				IAML		00 52 20.8	
	comp=E,440nm,0.8s						
SVD	**Seven Oaks Dam**	**1.66**	**167**		**Pg**	**00 51 57.5**	**+0.4**
DSP	**Deep Springs**	**1.67**	**348**		**Pn**	**00 51 54.2**	**-0.3**
DSP				IAML		00 52 19.2	
	comp=E,514nm,0.5s						
BCW	**Bitter Crk WRg**	**1.72**	**243**		**Pn**	**00 51 54.5**	**-0.8**
BCW				IAML		00 52 21.1	
	comp=E,950nm,0.5s						
POCCA	**Poleta Canyon**	**1.73**	**340**		**Pg**	**00 51 57.2**	**-1.3**
BHPR	**Bishop**	**1.74**	**334**		**Pg**	**00 51 57.6**	**-1.1**
BLCC	**Black Canyon**	**1.75**	**212**		**Pn**	**00 51 56.0**	**+0.3**
DJJ	**Donna J Jenkin**	**1.78**	**205**		**Pn**	**00 51 56.2**	**+0.1**
GMRC	**Granite Mounta**	**1.81**	**121**		**Pn**	**00 51 55.7**	**-0.8**
BLAC	**Blackrock camp**	**1.91**	**150**		**Pn**	**00 51 58.4**	**+0.5**
MZP	**Montezuma Peak**	**1.97**	**4**	Pn	**Pn**	**00 51 58.8**	**-0.2**
MZP				Pg	**Pg**	**00 52 02.5**	**-0.5**
TPC	**Twentynine Pal**	**2.03**	**142**		**Pn**	**00 51 59.6**	**0.0**
HMTC	**Hemet**	**2.06**	**167**		**Pn**	**00 52 00.4**	**+0.4**
ELS	**Elsinore Mount**	**2.08**	**177**	Pn	**Pn**	**00 51 59.9**	**-0.4**
ELS				Pg	**Pg**	**00 52 04.4**	**-0.7**
ELS				IAML		00 52 38.6	
	comp=E,353nm,0.7s						
POB	**Polly Butte**	**2.10**	**166**		**Pn**	**00 52 01.1**	**+0.6**
DGR	**Domenigoni Val**	**2.12**	**168**		**Pn**	**00 52 01.5**	**+0.7**
KCC	**Kaiser Creek**	**2.14**	**319**		**Pb**	**00 52 04.1**	**0.0**
BACC	**Bachelor Mtn.**	**2.15**	**169**		**Pn**	**00 52 01.6**	**+0.4**
V12A	**Nelson**	**2.19**	**89**	Pn	**Pn**	**00 52 01.3**	**-0.6**
V12A				Pg	**Pg**	**00 52 06.3**	**-0.9**
V12A				IAML		00 52 38.0	
	comp=N,239nm,0.5s						
CRY	**Cary Ranch**	**2.26**	**163**		**Pn**	**00 52 03.7**	**+0.9**
PFO	**Pinyon Flats O**	**2.29**	**157**		**Pn**	**00 52 03.7**	**+0.4**
PFO	**Pinyon Flats O**	**2.29**	**157**	Pg	**Pg**	**00 52 08.9**	**-0.3**
PFO				IAML		00 52 44.4	
	comp=N,215nm,1.9s						
PFO				IAML		00 52 48.8	
	comp=N,197nm,0.9s						
TPH	**Tonopah**	**2.36**	**6**	Pg	**Pg**	**00 52 09.0**	**-1.4**
FRD	**Ford Ranch, An**	**2.36**	**161**		**Pn**	**00 52 05.0**	**+0.8**
S11A	**Rachel**	**2.40**	**37**	Pg	**Pg**	**00 52 09.8**	**-1.3**
NVAR	**Mina Array Bea**	**2.76**	**348**	Pn	**Pn**	**00 52 10.4**	**+0.6**
	comp=N,2.2nm,0.3s,baz=168,slow=12,SNR=29						
NVAR				Pg	**Pg**	**00 52 16.8**	**-1.4**
	comp=N,2.2nm,0.3s,baz=169,slow=14,SNR=37						
NVAR				Lg	Lg	00 52 52.6	
	comp=N,25nm,0.3s,baz=170,slow=31,SNR=4.2						
	comp=N,2.9nm,0.5s						
SAO	**San Andreas Ge**	**3.32**	**289**		**Pn**	**00 52 18.6**	**+1.3**
KNB	**Kanab**	**4.02**	**70**	Pn	**Pn**	**00 52 28.3**	**+1.2**
KNB				IAML		00 53 39.4	
	comp=N,66nm,1.1s						
Y14A	**Wickenburg**	**4.14**	**114**	Pg	**Pg**	**00 52 41.7**	**-2.8**
Y14A				IAML		00 53 41.8	
	comp=E,67nm,0.5s						
Y14A				IAML		00 53 43.4	
	comp=N,64nm,0.8s						
SPR3	**Spring Creek 3**	**4.15**	**37**		**Pg**	**00 52 42.0**	**-2.7**
SPR3				IAML		00 53 38.6	
	comp=N,50nm,0.7s						
AFDM	**Forest Hills D**	**4.22**	**321**	Pg	**Pb**	**00 52 41.0**	**+1.4**
AFDM				IAML		00 53 42.0	
	comp=N,47nm,1.1s						
AFDM				IAML		00 53 42.1	
	comp=E,58nm,0.8s						
PV20	**West Nyswonger**	**7.34**	**67**		Pg	00 53 39.7	-6.0
PV23	**Carpenter Ridg**	**7.34**	**66**		Pg	00 53 39.9	-5.9
PDAR	**Pinedale Array**	**9.36**	**39**	Pn	**Pn**	**00 53 45.0**	**+4.5**
	comp=E,0.1nm,0.3s,baz=216,slow=13,SNR=2.3						
PDAR				Lg	Lg	00 56 18.1	
	comp=E,0.1nm,0.3s,baz=216,slow=22,SNR=1.8						
	comp=E,0.2nm,0.5s						
TXAR	**Lajitas Array**	**13.32**	**115**	Pn	**Pn**	**00 54 37.6**	**+3.0**
	comp=E,0.1nm,0.3s,baz=294,slow=13,SNR=4.6						
	comp=E,0.1nm,0.4s						

*IDC **06** 00:54:56.1±1.6, 30.°51S×176.°69W, h0ᵏᵐ, mb4.0/3, mbtmp4.0/4, ML3.8/1, MS3.0/2, Error ellipse: s-maj=35.1km s-min=29.3km az=81.0*

ISC 06 00:55:01.2±1.6, 30.°58S±0.°08×176.°8W±0.°2, h35ᵏᵐ, n10, σ1ᵍ03/10, mb4.2/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.65**	**323**	Pn	**Pn**	**00 55 26.7**	**-1.0**
	68nm,0.3s,baz=156,slow=23,SNR=1.4						
RAO				Sn	**Sn**	**00 55 47.4**	**-0.3**
	399nm,0.3s,baz=123,slow=22,SNR=8.4						
URZ	**Urewera**	**9.17**	**212**	Pn	**Pn**	**00 57 09.4**	**-1.5**
	0.9nm,0.3s,baz=37,slow=6.1,SNR=2.5						
URZ				Sn	**Sn**	**00 58 53.0**	**+0.1**
	1.6nm,0.3s,baz=80,slow=16,SNR=5.7						
	11nm,0.9s						
RPZ	**Rata Peaks**	**16.28**	**213**	LR	LR	01 05 49.0	
	comp=Z,25nm,19.3s,baz=294,slow=40						
DZM	**Mont Dzumac**	**17.25**	**295**	LR	LR	01 04 40.9	
	comp=Z,79nm,19.4s,baz=219,slow=34						
STKA	**Stephens Creek**	**35.46**	**257**	P	**P**	**01 01 56.2**	**+1.9**
	2.0nm,0.6s,baz=77,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**44.15**	**267**	P	**P**	**01 03 07.0**	**+0.4**
	0.4nm,0.5s,baz=101,slow=7.7,SNR=5.4						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**45.16**	**272**	P	**P**	**01 03 15.2**	**+0.5**
	2.7nm,0.7s,baz=112,slow=7.6,SNR=16						
	2.7nm,0.7s						
FINES	**FINESS Array B**	**145.67**	**341**	PKPbc	**PKPdf**	**01 14 35.4**	**+0.3**
	1.7nm,0.7s,baz=22,slow=3.0,SNR=7.6						
NOA	**NORSAR Array B**	**149.08**	**352**	PKPbc	**PKPbc**	**01 14 45.1**	**0.0**
	0.8nm,0.8s,baz=13,slow=4.2,SNR=3.6						
AKASG	**Malin Array Be**	**152.08**	**323**	PKPbc	**PKPbc**	**01 14 52.2**	**-0.1**
	0.8nm,0.6s,baz=52,slow=2.0,SNR=4.7						

*IDC **06** 00:58:25.2±2.0, 17.°36S×179.°13W, h535ᵏᵐ±18ᵏᵐ, mb3.0/6, mbtmp3.9/7, Error ellipse: s-maj=82.3km s-min=19.4km az=148.0*

ISC 06 00:58:26.1±1.4, 17.°2S±0.°5×179.°3W±0.°3, h550ᵏᵐ, n10, σ0ᵍ72/10, mb3.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.59**	**257**	P	**P**	**00 59 37.8**	**-1.0**
	17nm,0.5s,baz=123,slow=6.1,SNR=10						
STKA	**Stephens Creek**	**38.24**	**240**	P	**P**	**01 04 59.8**	**+0.2**
	1.2nm,0.4s,baz=101,slow=10,SNR=4.1						
	1.2nm,0.4s						
WRA	**Warramunga Arr**	**43.93**	**259**	P	**P**	**01 05 45.1**	**+0.2**
	0.2nm,0.5s,baz=96,slow=6.7,SNR=1.7						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**44.17**	**254**	P	**P**	**01 05 47.3**	**+0.6**
	2.3nm,0.5s,baz=89,slow=8.2,SNR=28						
	2.3nm,0.5s						
ILAR	**Eielson Array**	**85.38**	**13**	P	**P**	**01 10 05.3**	**+0.3**
	0.5nm,0.4s,baz=226,slow=4.9,SNR=11						
	0.5nm,0.4s						
TXAR	**Lajitas Array**	**86.33**	**58**	P	**P**	**01 10 11.1**	**+0.6**
	0.4nm,0.7s,baz=216,slow=6.2,SNR=6.4						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**87.42**	**44**	P	**P**	**01 10 15.1**	**-0.4**
	0.4nm,0.5s,baz=214,slow=3.3,SNR=5.0						
	0.4nm,0.5s						
BRTR	**Keskin Array B**	**143.67**	**315**	PKP	**PKPdf**	**01 16 59.2**	**+0.1**
	0.2nm,0.3s,baz=82,slow=1.7,SNR=4.9						
MMAI	**Mount Meron Ar**	**145.03**	**303**	PKPbc	**PKPab**	**01 17 04.0**	**+0.7**
	1.0nm,0.5s,baz=96,slow=3.4,SNR=6.3						
GERES	**GERESS Array B**	**146.69**	**344**	PKPbc	**PKiKP**	**01 17 07.5**	**-1.1**
	0.6nm,0.5s,baz=25,slow=3.5,SNR=7.6						

*IDC **06** 01:09:47.9±0.7, 30.°40S×177.°36W, h0ᵏᵐ, mb4.4/10, mbtmp4.4/12, ML4.2/2, MS3.9/19, Error ellipse: s-maj=26.6km s-min=13.9km az=81.0*
*NEIC **06** 01:09:54.8±2.4, 30.°31S±0.°09×177.°6W±0.°2, h37ᵏᵐ±7ᵏᵐ, mb4.8/22, Error ellipse: s-maj=27.3km s-min=11.1km az=72.0*

ISC 06 01:09:53.3±0.5, 30.°44S±0.°05×177.°51W±0.°09, h33ᵏᵐ, n101, σ1ᵍ43/83, mb4.8/20, MS4.0/17, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.23**	**343**		**Pn**	**01 10 13.4**	**-0.8**
RAO				Sn	**Sb**	**01 10 29.6**	**-2.1**
RAO	**Raoul Island**	**1.23**	**343**	Pn	**Pn**	**01 10 13.7**	**-0.6**
	1μm,0.3s,baz=161,slow=2.3,SNR=33						
RAO				Sn	**Sb**	**01 10 31.2**	**-0.5**
	2μm,0.3s,baz=60,slow=20,SNR=13						
RAO				LR	LR	01 10 41.9	
	comp=Z,2μm,21.7s,baz=130,slow=43						
URZ	**Urewera**	**8.98**	**208**	Pn	**Pn**	**01 11 58.4**	**-2.2**
	1.7nm,0.3s,baz=324,slow=0.1,SNR=6.2						
URZ				Sn	**Sn**	**01 13 35.8**	**-4.8**
	4.8nm,0.3s,baz=53,slow=20,SNR=11						
	4.3nm,0.3s						
MSVF	**Nonsavu**	**13.28**	**341**	LR	LR	01 16 48.3	
	comp=Z,145nm,20.6s,baz=178,slow=32						
RPZ	**Rata Peaks**	**16.07**	**211**	Pn	**Pn**	**01 13 35.4**	**-1.4**
	1.6nm,0.3s,baz=23,slow=4.8,SNR=6.5						
RPZ				Sn	Sn	01 16 18.4	-15
	0.8nm,0.3s,baz=64,slow=18,SNR=1.3						
	13nm,0.7s						
DZM	**Mont Dzumac**	**16.62**	**296**	*eP*	**Pn**	**01 13 43.6**	**-0.3**
	117nm,29.5s

GUMO	**Guam**	**56.81**	**315**	LR	LR	01 41 15.3		
	comp=Z,67nm,20.1s,baz=102,slow=33							
MORW	**Morawa**	**56.93**	**253**	P	**P**	**01 19 33.9**	**-1.6**	
BATI	**Baumata**	**58.08**	**277**	LR	LR	01 45 29.7		
	comp=Z,616nm,18.2s,baz=130,slow=37							
QSPA	**South Pole Qui**	**59.67**	**180**	P	**P**	**01 19 56.4**	**+2.2**	
QSPA	**South Pole Qui**	**59.67**	**180**	P	**P**	**01 19 55.0**	**+0.8**	
	comp=Z,5.4nm,0.8s,baz=40,slow=1.3,SNR=15							
	comp=Z,5.4nm,0.8s							
KAPI	**Kappang**	**64.03**	**280**	LR	LR	01 48 19.8		
	comp=Z,48nm,18.8s,baz=85,slow=36							
DAV	**Davao City (W)**	**66.03**	**294**	LR	LR	01 48 58.0		
	comp=Z,38nm,18.8s,baz=160,slow=36							
BELA	**Belgrano 2**	**69.69**	**172**	P	**P**	**01 21 00.8**	**+1.6**	
PMSA	**Palmer Station**	**72.05**	**156**	LR	LR	01 46 41.6		
	comp=Z,96nm,18.2s,baz=253,slow=31							
MAW	**Mawson**	**72.42**	**200**	P	**P**	**01 21 15.5**	**-0.3**	
	comp=Z,4.2nm,0.9s,baz=134,slow=10,SNR=5.0							
	comp=Z,4.2nm,0.9s							
SNAA	**Sanae**	**78.11**	**178**	P	**P**	**01 21 49.4**	**+0.8**	
SNAA				IAmb	IAmb	01 21 58.0		
	comp=Z,7.5nm,1.2s							
SNAA	**Sanae**	**78.11**	**178**	P	**P**	**01 21 48.2**	**-0.4**	
	comp=Z,2.4nm,1.0s,baz=173,slow=5.8,SNR=4.6							
	comp=Z,2.4nm,1.0s							
MJAR	**Matsushiro Arr**	**78.52**	**325**	P	**P**	**01 21 50.3**	**-0.9**	
	comp=Z,0.9nm,0.3s,baz=165,slow=6.8,SNR=1.3							
	comp=Z,0.9nm,0.3s							
JNU	**Nakatsue**	**79.87**	**318**	LR	LR	01 53 05.9		
	comp=Z,18nm,21.1s,baz=30,slow=32							
H03S2	**Juan Fernandez**	**80.09**	**123**	T	T	02 49 49.1		
	baz=236							
H03S1	**Juan Fernandez**	**80.10**	**123**	T	T	02 49 48.5		
	baz=236,slow=74							
H03S3	**Juan Fernandez**	**80.11**	**123**	T	T	02 49 47.4		
	baz=236,slow=74							
PLCA	**Paso Flores**	**82.17**	**133**	LR	LR	01 51 23.2		
	comp=Z,63nm,18.4s,baz=246,slow=30							
LPIG	**La Paz**	**84.19**	**58**	LR	LR	01 52 43.0		
	comp=Z,80nm,18.7s,baz=197,slow=31							
KSRS	**Korea Array**	**84.65**	**319**	P	**P**	**01 22 23.5**	**0.0**	
	comp=Z,0.9nm,0.6s,baz=126,slow=6.4,SNR=4.8							
	comp=Z,0.9nm,0.6s							
YSS	**Yuzhno-Sakhali**	**84.97**	**334**	P	**P**	**01 22 23.9**	**-0.9**	
PSI	**Prapat**	**85.86**	**276**	LR	LR	02 02 46.4		
	comp=Z,84nm,18.3s,baz=166,slow=37							
PEA0B	**Petropavlovsk-**	**85.96**	**345**	P	**P**	**01 22 30.0**	**+0.3**	
PEA0B				IAmb	IAmb	01 22 55.4		
	comp=Z,15nm,1.2s							
PETK	**Petropavlovsk-**	**85.96**	**345**	P	**P**	**01 22 30.2**	**+0.5**	
PETK	**Petropavlovsk-**	**85.96**	**345**	P	**P**	**01 22 29.9**	**+0.2**	
	comp=Z,2.4nm,0.7s,baz=151,slow=8.0,SNR=5.6							
	comp=Z,2.4nm,0.7s							
CPUP	**Villa Florida**	**99.63**	**128**	LR	LR	02 03 18.7		
	comp=Z,13nm,18.9s,baz=306,slow=32							
BVAR	**Borovoye Array**	**126.73**	**316**	PKP	**PKPdf**	**01 28 52.2**	**-0.7**	
	comp=Z,0.8nm,0.5s,baz=112,slow=2.4,SNR=7.1							
H10S3	**ASCENSION HYDR**	**137.51**	**154**	T	T	04 03 37.1		
	baz=204,slow=74							
H10S2	**ASCENSION HYDR**	**137.51**	**154**	T	T	04 03 38.3		
	baz=16,slow=74							
H10N3	**ASCENSION HYDR**	**138.59**	**154**	T	T	04 05 12.2		
	baz=203,slow=74,SNR=2.8							
H10N1	**ASCENSION HYDR**	**138.59**	**154**	T	T	04 05 08.8		
	baz=203,slow=74,SNR=3.8							
H10N2	**ASCENSION HYDR**	**138.61**	**154**	T	T	04 05 09.4		
	baz=203,slow=74,SNR=3.1							
ARCES	**ARCESS Array B**	**138.72**	**348**	PKP	**PKPdf**	**01 29 14.5**	**-0.5**	
	comp=Z,3.0nm,0.9s,baz=28,slow=2.9,SNR=1.8							
FIA1	**FINESS Array S**	**145.32**	**340**	PKPbc	**PKPbc**	**01 29 25.7**	**-1.1**	
FINES	**FINESS Array B**	**145.33**	**340**	PKPbc	**PKPbc**	**01 29 25.7**	**-1.1**	
	comp=Z,6.3nm,0.6s,baz=46,slow=4.0,SNR=21							
KBZ	**Khabaz**	**145.49**	**304**	PKPbc	**PKPdf**	**01 29 27.6**	**-0.2**	
	comp=Z,6.4nm,1.0s,baz=163,slow=3.0,SNR=7.2							
KIV	**Kislovodsk**	**145.60**	**304**	PKPdf	**PKPdf**	**01 29 27.0**	**-1.1**	
KARS	**Kars**	**145.71**	**298**	PKPdf	**PKPdf**	**01 29 27.7**	**-0.8**	
GURO	**Guroymak-BITLI**	**146.62**	**295**	PKPdf	**PKPdf**	**01 29 30.1**	**0.0**	
KOPT	**Kop Dagi**	**147.72**	**298**	PKPbc	**PKPbc**	**01 29 34.4**	**-0.6**	
NB2	**NORSAR Subarra**	**148.85**	**352**	PKP	**PKiKP**	**01 29 38.1**	**-0.2**	
	comp=Z,2.3nm,0.9s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**148.85**	**352**	PKPbc	**PKPbc**	**01 29 36.4**	**-0.5**	
	comp=Z,0.9nm,0.6s,baz=15,slow=4.3,SNR=6.8							
HFS	**Hagfors**	**149.36**	**349**	PKPbc	**PKPbc**	**01 29 38.3**	**+0.2**	
	comp=Z,2.8nm,0.7s,baz=35,slow=3.5,SNR=5.6							
BNN	**Bunyan**	**151.43**	**296**	PKPbc	**PKPbc**	**01 29 43.5**	**-0.5**	
AKASG	**Malin Array Be**	**151.59**	**323**	PKPbc	**PKPbc**	**01 29 42.4**	**-1.3**	
	comp=Z,1.5nm,0.6s,baz=50,slow=2.4,SNR=7.9							
MMAI	**Mount Meron Ar**	**151.95**	**284**	PKPbc	**PKiKP**	**01 29 45.7**	**+0.1**	
	comp=Z,1.5nm,0.5s,baz=94,slow=6.8,SNR=14							
ILGA	**Ilgaz**	**152.67**	**301**	PKPbc	**PKPbc**	**01 29 46.2**	**-0.7**	
BRTR	**Keskin Array B**	**152.99**	**299**	PKPbc	**PKPbc**	**01 29 47.2**	**-0.3**	
BRTR	**Keskin Array B**	**152.99**	**299**	PKPbc	**PKiKP**	**01 29 47.7**	**+0.1**	
	comp=Z,0.5nm,0.4s,baz=123,slow=2.9,SNR=5.4							
DPC	**Dobruska-Polom**	**157.56**	**336**	*e*PKPAB	PKPab	01 30 27.0	+9.1	
KHC	**Kasperske Hory**	**159.52**	**339**	*e*PKPAB	**PKPab**	**01 30 29.9**	**+3.5**	
KHC				*e*pPKP	**sPKPab**	**01 30 40.7**	**+1.8**	
CONA	**Conrad Observa**	**159.74**	**333**	*e*PKP	**PKPab**	**01 30 28.2**	**+0.7**	
	comp=Z,2.6nm,1.2s							
RONA	**Rosalia, Austr**	**159.76**	**332**	*e*PKP	**PKPab**	**01 30 28.0**	**+0.6**	
	comp=Z,2.7nm,1.1s							
MOA	**Molln**	**160.40**	**336**	*e*PKP	**PKPab**	**01 30 31.6**	**+1.4**	
	comp=Z,2.3nm,1.3s							
ARSA	**Arzberg**	**160.43**	**333**	*e*PKP	**PKPab**	**01 30 31.2**	**+0.8**	
	comp=Z,1.0nm,0.6s							
BIOA	**Bad Ischl, Aus**	**160.76**	**337**	*e*PKP	**PKPab**	**01 30 32.2**	**+0.4**	
	comp=Z,1.3nm,0.7s							
LESA	**Schwarzleotal**	**161.31**	**338**	*e*PKP	**PKPab**	**01 30 34.5**	**+0.3**	
	comp=Z,3.1nm,1.3s							
KBA	**Koelnbreinsper**	**161.38**	**336**	*e*PKP	**PKPab**	**01 30 35.7**	**+0.9**	
	comp=Z,1.4nm,1.4s							
WATA	**Walderalm**	**161.73**	**340**	*e*PKP	**PKPab**	**01 30 34.4**	**-1.8**	
	comp=Z,1.0nm,0.5s							
WTTA	**Wattenberg**	**161.78**	**340**	*e*PKP	**PKPab**	**01 30 37.1**	**+0.6**	
	comp=Z,3.8nm,1.5s							
RETA	**Reutte**	**161.82**	**342**	*e*PKP	**PKPab**	**01 30 36.2**	**-0.2**	
	comp=Z,3.4nm,1.5s							
MOTA	**Moosalm**	**161.86**	**341**	*e*PKP	**PKPab**	**01 30 37.3**	**+0.6**	
	comp=Z,1.5nm,0.9s							
SQTA	**Sankt Quirin**	**161.94**	**341**	*e*PKP	**PKPab**	**01 30 36.6**	**-0.5**	
	comp=Z,1.2nm,0.6s							
ABTA	**Abfaltersbach**	**161.96**	**337**	*e*PKP	**PKPab**	**01 30 37.7**	**+0.6**	
	comp=Z,2.2nm,1.1s							
DAVA	**Damuels**	**162.24**	**343**	*e*PKP	**PKPab**	**01 30 39.8**	**+1.4**	
	comp=Z,2.5nm,1.0s							
FETA	**Feichten**	**162.26**	**341**	*e*PKP	**PKPab**	**01 30 38.1**	**-0.4**	
	comp=Z,1.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**162.78**	**177**	PKPab	**PKPab**	**01 30 41.1**	**-0.2**	
	comp=Z,0.6nm,0.9s,baz=176,slow=3.4,SNR=2.8							

*MEX **06** 01:17:12.6±0.7, 14°.94N×93°.25W, h66km±19km, MD4.0*
*GCG **06** 01:17:14.7±1.4, 15°.12N×93°.02W, h33km±52km, MD4.0, ML3.2*

ISC 06 01:17:08.0±1.5, 14°.83N±0°.07×93°.20W±0°.04, h99km±13km, n20, σ2s40/38, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.87**	**359**	*i* P	**Pn**	**01 17 26.7**	**-0.4**
PCIG				*e*S	**Sn**	**01 17 37.1**	**-4.2**
THIG		**0.91**	**85**	*e*P	**Pn**	**01 17 28.7**	**+1.3**
THIG				*e*S	**Sn**	**01 17 42.0**	**+0.1**
PATR	**El Naranjo**	**0.98**	**73**	*e*P	**Pn**	**01 17 29.4**	**+1.0**
PATR				*e*S	**Sn**	**01 17 43.1**	**-0.6**
PAVE	**Pavencul**	**1.05**	**70**	*e*P	**Pn**	**01 17 30.6**	**+1.4**
PAVE				*e*S	**Sn**	**01 17 44.3**	**-0.8**
SMCA	**Catarina**	**1.09**	**88**	*i* P	**Pn**	**01 17 31.6**	**+2.2**
SMCA				*i* S	**Sn**	**01 17 45.5**	**0.0**
SMCA				IAML		01 17 46.7	
	comp=E,557nm,0.1s						
RTAL	**Retalhuleu**	**1.49**	**101**	*e*P	**Pn**	**01 17 35.0**	**+0.9**
RTAL				*e*S	**Sn**	**01 17 56.9**	**+3.0**
HUEH	**Huehuetenango**	**1.71**	**73**	*e*P	**Pn**	**01 17 38.6**	**+1.5**
HUEH				*e*S	**Sn**	**01 18 02.7**	**+3.5**
CCIG	**Comitan**	**1.77**	**35**	*e*P	**Pn**	**01 17 39.1**	**+1.3**
CCIG				*e*S	**Sn**	**01 18 01.4**	**+0.9**
CCIG	**Comitan**	**1.77**	**35**	*i* P	**Pn**	**01 17 39.7**	**+1.9**
CCIG				IAML		01 18 08.7	
	comp=N,67nm,0.3s						
STG8	**El Palmar, Qui**	**1.83**	**102**	*i* P	**Pn**	**01 17 38.4**	**-0.2**
STG8				*e*S	**Sn**	**01 17 57.5**	**-4.3**
STG8				IAML		01 17 58.9	
	comp=N,581nm,0.1s						
STG0	**El Palmar, Qui**	**1.84**	**102**	*e*P	**Pn**	**01 17 38.9**	**+0.2**
STG0				*e*S	**Sn**	**01 17 58.2**	**-3.9**
STG0				IAML		01 18 00.2	
	comp=E,2μm,0.2s						
TGIG		**1.94**	**2**	*e*P	**Pn**	**01 17 40.9**	**+1.0**
TGIG				*e*S	**Sn**	**01 18 00.3**	**-3.9**
TGIG		**1.94**	**2**	*i* P	**Pn**	**01 17 41.1**	**+1.1**
TGIG				IAML		01 18 13.2	
	comp=N,77nm,0.3s						
NILT	**Santiago Nilte**	**2.20**	**322**	*e*P	**Pn**	**01 17 43.8**	**+0.5**
NILT				*i* S	**Sn**	**01 18 08.7**	**-1.4**
UXUV	**UXUV**	**2.64**	**340**	*e*P	**Pn**	**01 17 50.7**	**+1.7**
UXUV				*e*S	**Sn**	**01 18 24.0**	**+3.6**
CMIG	**Matias Romero**	**2.77**	**324**	*e*P	**Pn**	**01 17 52.4**	**+1.6**
CMIG				*e*S	**Sn**	**01 18 21.7**	**-2.0**
HUIG	**Huatulco**	**2.96**	**289**	*e*P	**Pn**	**01 17 56.4**	**+3.2**
HUIG				*e*S	**Sn**	**01 18 22.6**	**-5.4**
NEUV	**Arroyo Zacate**	**3.81**	**319**	*e*P	**Pn**	**01 18 07.0**	**+2.4**
NEUV				*e*S	**Sn**	**01 18 49.8**	**+1.4**
PETF	**Flores**	**3.82**	**57**	*e*P	**Pn**	**01 18 03.6**	**-1.2**
PETF				*e*S	**Sn**	**01 18 45.5**	**-3.3**
JAUV	**Jalcomulco**	**5.68**	**323**	*e*P	**Pn**	**01 18 30.5**	**+0.5**
JAUV				*e*S	**Sn**	**01 19 32.4**	**-1.6**

*UUSS **06** 01:17:54.9±0.7, 42°.67N±0°.02×111°.47W±0°.03, h1km±2km, Error ellipse: s-maj=3.6km s-min=1.1km az=122.0*

NEIC 06 01:17:54.3±0.6, 42°.66N±0°.02×111°.46W±0°.03, h2km±5km, ML3.3/71, ML3.1/4(UUSS), Error ellipse: s-maj=3.2km s-min=2.1km az=111.0, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AHID	**Auburn Hatcher**	**0.29**	**69**	Pg	Pg	01 18 00.6	+0.8
AHID				Sg	Sg	01 18 04.9	+1.3
AHID				IAML		01 18 07.2	
	6μm,0.5s						
BEI	**Bear River Ran**	**0.59**	**203**		Pg	01 18 06.2	+0.5
BMUT	**Black Mountain**	**0.72**	**166**		Pg	01 18 08.5	+0.3
MLI	**Malad Range**	**0.80**	**218**		Pb	01 18 10.4	-0.7
HDU	**Hyde Park**	**0.89**	**195**		Pg	01 18 11.3	+0.1
TPAW	**Teton Pass**	**0.91**	**24**	Pg	Pg	01 18 11.7	0.0
TPAW				Sg	Sb	01 18 24.6	-1.0
TPAW				IAML		01 18 26.5	
	966nm,0.4s						
NPI	**North Pocatell**	**0.94**	**237**		Pg	01 18 12.6	+0.4
SNOW	**Snow King Moun**	**0.95**	**33**		Pg	01 18 12.8	+0.2
SNOW				Sg	Sg	01 18 25.9	+1.0
PTU	**Portage**	**0.97**	**221**		Pg	01 18 13.2	+0.4
RSUT	**Red Spur Mount**	**1.02**	**178**		Pg	01 18 14.4	+0.5
FXWY	**Fox Creek**	**1.03**	**18**		Pg	01 18 14.1	+0.1
FXWY				IAML		01 18 29.1	
	785nm,0.3s						
FXWY				IAML		01 18 29.2	
	707nm,0.3s						
HWUT	**Hardware Ranch**	**1.06**	**184**		Pg	01 18 14.7	+0.1
WVUT	**Wellsville**	**1.11**	**199**		Pg	01 18 16.0	+0.4
LOHW	**Long Hollow**	**1.14**	**33**		Pg	01 18 15.9	-0.2
LOHW	**Long Hollow**	**1.14**	**33**	IAML		01 18 35.0	
	471nm,0.6s						
LOHW				IAML		01 18 36.4	
	577nm,0.7s						
MCU	**Monte Cristo P**	**1.20**	**182**		Pb	01 18 17.6	-0.3
BCUT	**Brigham City**	**1.21**	**199**		Pg	01 18 17.7	+0.2
LTU	**Little Mountai**	**1.22**	**209**		Pg	01 18 17.2	-0.4
HVU	**Hansel Valley**	**1.31**	**228**		Pg	01 18 18.8	-0.7
BW06	**Boulder Array**	**1.41**	**85**		Pn	01 18 21.0	-0.1
EPU	**East Promontor**	**1.45**	**209**		Pn	01 18 21.2	-0.4
MCID	**Moose Creek**	**1.54**	**8**		Pn	01 18 22.8	-0.3
TCUT	**Toone Canyon**	**1.54**	**178**		Pb	01 18 23.6	-0.2
YFT	**Old Faithful**	**1.85**	**14**		Pb	01 18 28.8	-0.2
YFT				IAML		01 18 37.2	
	comp=N,248nm,0.9s						
YFT				IAML		01 18 37.6	
	comp=E,189nm,0.6s						
H17A	**Grant Village**	**1.85**	**20**		Pn	01 18 28.0	+0.8
H17A				IAML		01 18 55.4	
	comp=E,160nm,0.6s						
H17A				IAML		01 18 55.4	
	comp=N,202nm,0.6s						
CTU	**Camp Tracy**	**1.98**	**186**		Pn	01 18 29.6	+0.7
CTU				IAML		01 19 00.7	
	comp=E,199nm,0.9s						
CTU				IAML		01 19 01.3	
	comp=N,214nm,0.7s						
JLU	**Jordanelle**	**2.06**	**180**		Pn	01 18 31.0	+0.9
JLU				IAML		01 19 03.4	
	comp=N,361nm,0.7s						
JLU				IAML		01 19 06.9	
	comp=E,220nm,1.1s						
BGU	**Big Grassy Mou**	**2.09**	**215**	Pn	Pn	01 18 30.3	-0.3
BGU				IAML		01 19 02.1	
	comp=E,213nm,0.8s						
YHB	**Horse Butte**	**2.10**	**5**		Pn	01 18 31.7	+1.0
YHB				IAML		01 19 02.8	
	comp=E,130nm,0.8s						
YHB				IAML		01 19 04.4	
	comp=N,163nm,0.6s						
YNR	**Norris Junctio**	**2.13**	**15**		Pn	01 18 32.2	+1.0
YNM	**Yellowstone No**	**2.14**	**15**		Pb	01 18 33.0	-0.9
YNM				IAML		01 19 21.6	
	comp=N,169nm,0.3s						
YNM				IAML		01 19 23.5	
	comp=E,123nm,0.5s						
YHH	**Holmes Hill**	**2.17**	**12**		Pn	01 18 32.9	+1.1
YHL	**Hebgen Lake**	**2.20**	**5**		Pn	01 18 33.1	+1.0
YHL				IAML		01 19 08.5	
	comp=E,157nm,0.7s						
YHL				IAML		01 19 08.6	
	comp=N,133nm,0.7s						
YMP	**Mirror Lake Pl**	**2.28**	**24**		Pn	01 18 34.6	+1.3
MCMT	**McKenzie Canyo**	**2.39**	**336**		Pb	01 18 37.3	-0.8
YNE	**Yellowstone No**	**2.57**	**24**		Pn	01 18 37.2	0.0
DUG	**Dugway, Tooele**	**2.67**	**203**		Pn	01 18 37.2	-1.2
DUG				IAML		01 19 22.5	
	comp=N,79nm,0.7s						
DUG				IAML		01 19 29.3	
	comp=N,114nm,1.0s						
DLMT	**Dillon**	**2.82**	**344**		Pb	01 18 43.8	-1.7
DLMT				IAML		01 19 27.7	
	comp=N,85nm,1.2s						
DLMT				IAML		01 19 29.0	
	comp=N,95nm,1.1s						
P18A	**Preston Nutter**	**3.17**	**163**		Pn	01 18 44.6	-0.9
P18A				IAML		01 19 39.7	
	comp=E,126nm,0.9s						
LRM	**Limekiln Ridge**	**3.24**	**348**		Pn	01 18 49.2	+2.9
MFID	**Camas Ranch**	**3.29**	**285**	Pn	Pb	01 18 50.6	-2.8
MFID				IAML		01 19 45.1	
	comp=E,137nm,0.6s						
MFID				IAML		01 19 47.1	
	comp=E,107nm,0.8s						
TMUT	**Trail Mountain**	**3.37**	**177**		Pn	01 18 49.6	+1.4
GCMT	**Greycliff**	**3.38**	**22**		Pn	01 18 50.0	+1.7
ELK	**Elko**	**3.41**	**237**		Pn	01 18 50.3	+1.5
ELK				IAML		01 19 44.6	
	comp=E,43nm,0.8s						
O20A	**White River Ci**	**3.50**	**135**		Pn	01 18 51.2	+1.3
K22A	**Casper**	**3.64**	**89**		Pn	01 18 54.0	+2.1
K22A				IAML		01 19 59.3	
	comp=E,50nm,0.5s						
K22A				IAML		01 20 06.3	
	comp=E,53nm,0.5s						
HRY	**Holter Researc**	**4.06**	**356**		Pn	01 18 60.0	+2.5
PLID	**Pearl Lake**	**4.08**	**308**		Pn	01 18 59.0	+1.1
PLID				IAML		01 20 13.4	
	comp=E,29nm,0.8s						
OVMT	**Ovando**	**4.54**	**347**		Pn	01 19 05.5	+1.5
PV22	**Blue Mesa, Par**	**4.60**	**153**		Pn	01 19 05.7	+0.7
PV23	**Carpenter Ridg**	**4.60**	**155**		Pn	01 19 07.6	+2.5
PV14	**Lion Creek, Pa**	**4.67**	**156**		Pn	01 19 06.2	+0.1
PV04	**Paradox Valley**	**4.69**	**155**		Pn	01 19 07.3	+1.1
PV20	**West Nyswonger**	**4.72**	**155**		Pn	01 19 07.7	+1.1
PV07	**Paradox Valley**	**4.73**	**152**		Pn	01 19 07.4	+0.6
PV19	**Morning Glory**	**4.74**	**156**		Pn	01 19 07.1	+0.2
HMU	**Henry Mountain**	**4.75**	**173**		Pn	01 19 08.4	+1.2
PV16	**Nyswonger Mesa**	**4.76**	**155**		Pn	01 19 07.4	+0.2
BMO	**Blue Mountains**	**4.76**	**299**	IAML		01 20 36.5	
	comp=E,15nm,1.1s						
BMO				IAML		01 20 37.4	
	comp=E,18nm,1.5s						
PV17	**East Wray Mesa**	**4.78**	**156**		Pn	01 19 07.9	+0.5
PV11	**David Mesa, Pa**	**4.79**	**155**		Pn	01 19 08.3	+0.8
PV18	**Skein Mesa, Pa**	**4.82**	**155**		Pn	01 19 08.6	+0.5
PV03	**Paradox Valley**	**4.83**	**155**		Pn	01 19 09.7	+1.5
PV15	**Paradox Valley**	**4.88**	**151**		Pn	01 19 09.6	+0.7
PV02	**Paradox Valley**	**4.91**	**154**		Pn	01 19 09.3	0.0
PV05	**Paradox Valley**	**4.92**	**158**		Pn	01 19 10.6	+1.1
ISCO	**Idaho Springs**	**5.26**	**121**	Pn	Pn	01 19 13.1	-1.0
ISCO				IAML		01 20 44.0	
	comp=E,20nm,1.0s						
ISCO				IAML		01 20 44.1	
	comp=E,20nm,1.2s						
R11B	**Troy Canyon, C**	**5.33**	**217**		Pn	01 19 16.4	+1.4
LCMT	**Little Creek M**	**5.81**	**194**		Pn	01 19 22.7	+1.1
LNOR	**Lincton Mounta**	**5.85**	**306**		Pn	01 19 24.2	+2.1
I07A	**Izee**	**6.03**	**286**		Pn	01 19 26.2	+1.6

NNC 06 01:28:08.2±2.9, 51°.56N×75°.10E, h12km±34km, mb3.7, mpv3.4, 11C-3D, Error ellipse: s-maj=41.9km s-min=21.6km az=36.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.35**	**112**	⇑Pn	Pn	01 28 48.1	+1.4
	25nm,0.6s						
KURBB				⇓Sn	Sb	01 29 17.8	-1.7
	176nm,0.5s						
KURK	**Kurchatov**	**2.37**	**109**	⇓Pn	Pn	01 28 46.5	-0.4
	14nm,0.7s						
KURK				⇑Sn	Sn	01 29 15.0	-0.9
	57nm,0.7s						
BVA0	**Borovoye Array**	**3.25**	**299**	⇑Pg	Pb	01 29 06.6	+0.8
	4.6nm,0.4s,baz=110,slow=16,SNR=20						
BVA0				⇑Lg	Lg	01 29 50.8	
	43nm,1.0s,baz=14,slow=31,SNR=6.5						
BRVK	**Borovoye**	**3.32**	**299**	⇑Pg	Pb	01 29 08.7	+1.8
	9.5nm,0.6s						
BRVK				⇑Lg	Lg	01 29 53.8	
	25nm,0.5s						
MAKZ	**Makanchi**	**6.55**	**134**	⇑Pn	Pn	01 29 45.5	+1.2
	0.8nm,0.5s						
MAKZ				⇑Sn	Sn	01 30 59.4	+0.5
	3.9nm,0.5s						
MAKZ				⇑Lg	Lg	01 31 31.6	
	26nm,0.7s						
MK31	**Makanchi Array**	**6.70**	**133**	⇑Pn	Pn	01 29 46.9	+0.5
	0.7nm,0.3s,baz=313,slow=11,SNR=11						
MK31				⇓Sn	Sn	01 31 02.3	-0.4
	2.2nm,0.3s,baz=315,slow=18,SNR=6.5						
MK31				⇑Lg	Lg	01 31 38.6	
	15nm,0.6s,baz=326,slow=28,SNR=5.6						

IDC 06 01:31:49.5±4.4, 31°.45S×177°.50W, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=224.8km s-min=48.2km az=161.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.49**	**268**	P	P	01 39 54.9	+0.1
	1.6nm,0.7s,baz=103,slow=7.4,SNR=20						
	1.6nm,0.7s						
WRA	**Warramunga Arr**	**44.57**	**273**	P	P	01 40 03.1	-0.4
	1.2nm,0.8s,baz=115,slow=8.0,SNR=7.8						
	1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**122.12**	**313**	PKP	PKPdf	01 50 45.0	-0.7
	0.2nm,0.5s,baz=106,slow=3.3,SNR=2.3						
FINES	**FINESS Array B**	**146.27**	**340**	PKPbc	PKPbc	01 51 30.8	-0.5
	1.3nm,0.6s,baz=48,slow=2.1,SNR=8.9						

*IDC **06** 01:37:12.0±1.3, 40°.53N×20°.93E, h0km, mb3.6/6, mbtmp3.5/13, ML3.1/6, MS3.3/1, Error ellipse: s-maj=18.6km s-min=13.1km az=35.0*
*TIR **06** 01:37:12.6, 40°.41N×20°.87E, h28km±1km, Ml3.8/4*
*SKO **06** 01:37:12.6, 40°.34N×20°.80E, h2km, ML3.3*
*PDG **06** 01:37:13.6±0.4, 40°.49N×20°.77E, h9km±1km, ML3.2/12, Error ellipse: s-maj=0.8km s-min=1.4km az=0.0*
*THE **06** 01:37:13.0, 40°.N±1°.×2°.1E±°, h11km±3km, M3.2/10, MLh3.2/10*
*BEO **06** 01:37:14.2±0.3, 40°.44N×20°.87E, h8km±2km, ML3.0/11*
*ATH **06** 01:37:15.0, 40°.49N×20°.93E, h8km±1km, ML3.3/28, Manual Solution by A.Agalos First location: 2019/07/06 01:38:06, This location: 2019/07/06 02:09:30 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
*NAO **06** 01:37:21.8, 40°.48N×20°.75E, h10km, mb2.9*

ISC 06 01:37:13.2±0.8, 40°.48N±0°.01×20°.79E±0°.02, h9km±6km, n191, σ1s23/264, mb3.5/5, 28C-6D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBN	**Korca**	**0.14**	**1**	⇑*i*Pg	**Pg**	**01 37 16.4**	**0.0**
KBN				Sg	**Sg**	**01 37 18.5**	**0.0**
KBN				AML	AML	01 37 19.6	
	69nm,0.4s						
KBN	**Korca**	**0.14**	**1**	P	**Pg**	**01 37 16.2**	**-0.1**
KBN				S	**Sg**	**01 37 19.4**	**+0.8**
NEST	**Nest

TYRN	**Tyrnavos**	**1.35**	**124**	P		**Pn**	**01 37 38.1**	**-0.2**
GINA	**Giannouli**	**1.48**	**123**	P		**Pn**	**01 37 40.0**	**0.0**
LRSO	**Larissa Observ**	**1.48**	**123**	P		**Pn**	**01 37 40.2**	**+0.2**
SOFA	**Sofades**	**1.52**	**138**	P		**Pb**	**01 37 42.1**	**+0.4**
SKO	**Skopje**	**1.57**	**18**	*i* Pn		**Pb**	**01 37 43.2**	**+0.8**
SKO				*i* Sg		**Sg**	**01 38 06.5**	**+2.9**
VAY	**Valandovo**	**1.59**	**58**	*i* Pn		**Pb**	**01 37 42.5**	**-0.3**
VAY				*e*Sg		**Sg**	**01 38 06.1**	**+1.7**
VAY				*e*Lg		Lg	01 38 09.7	
	comp=E,304nm,0.5s							
VAY				*e*Lg		Lg	01 38 09.8	
	comp=N,480nm,0.7s							
TSLK	**Tsoukalades, L**	**1.66**	**184**	P		**Pg**	**01 37 45.2**	**+0.2**
THE	**Thessaloniki**	**1.67**	**84**	Pn		**Pn**	**01 37 42.9**	**+0.3**
THE				Sn		**Sn**	**01 38 04.0**	**-0.1**
THE	**Thessaloniki**	**1.67**	**84**	P		**Pn**	**01 37 42.6**	**0.0**
THE	**Thessaloniki**	**1.67**	**84**	*i* Pn		**Pn**	**01 37 43.1**	**+0.5**
THE	**Thessaloniki**	**1.67**	**84**	P		**Pn**	**01 37 43.0**	**+0.3**
LKD2	**Lefkada island**	**1.69**	**183**	P		**Pg**	**01 37 45.6**	**-0.1**
PUK	**Puka**	**1.70**	**337**	Pn		**Pb**	**01 37 44.6**	**-0.1**
PUK				Sn		**Sg**	**01 38 09.2**	**+1.5**
PUK				AML		AML	01 38 15.1	
	comp=N,4.2nm,0.7s							
KNT	**Kendrikon**	**1.74**	**66**	*i* Pn		**Pn**	**01 37 44.1**	**+0.5**
KNT	**Kendrikon**	**1.74**	**66**	P		**Pn**	**01 37 44.2**	**+0.5**
EVR	**Evrytania**	**1.75**	**153**	P		**Pb**	**01 37 45.7**	**+0.1**
HORT	**Hortiatis**	**1.77**	**86**	P		**Pn**	**01 37 43.9**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.77**	**182**	P		**Pb**	**01 37 46.6**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.80**	**144**	P		**Pb**	**01 37 46.0**	**-0.3**
EVGI	**Lefkada island**	**1.86**	**183**	P		**Pb**	**01 37 47.6**	**+0.2**
ULC	**Ulcinj**	**1.88**	**322**	*e*Pn		**Pb**	**01 37 48.0**	**+0.2**
ULC				*e*Sn		**Sg**	**01 38 13.7**	**0.0**
AGG	**Agios Georgios**	**1.88**	**140**	P		**Pn**	**01 37 46.4**	**+0.8**
PVO	**Paravola**	**1.95**	**163**	P		**Pb**	**01 37 48.1**	**-0.8**
SOH	**Sokhos**	**1.98**	**79**	*i* Pn		**Pn**	**01 37 48.0**	**+0.9**
SOH	**Sokhos**	**1.98**	**79**	P		**Pn**	**01 37 47.8**	**+0.8**
FSK	**Fiskardo**	**2.03**	**185**	P		**Pb**	**01 37 50.3**	**+0.1**
PLG	**Polygyros**	**2.03**	**92**	P		**Pn**	**01 37 48.4**	**+0.6**
ANX	**Ano Chora**	**2.08**	**155**	P		**Pb**	**01 37 50.6**	**-0.6**
DRME	**Dracevica, Mon**	**2.09**	**325**	*e*Pn		**Pb**	**01 37 50.8**	**-0.4**
DRME	**Dracevica, Mon**	**2.09**	**325**	⇓*i*Pn		**Pb**	**01 37 50.8**	**-0.4**
DRME				*e*Sn		**Sb**	**01 38 18.7**	**+1.4**
NEO	**Neokhori**	**2.21**	**121**	P		**Pn**	**01 37 50.2**	**+0.1**
SRS	**Serrai**	**2.22**	**73**	*i* Pn		**Pn**	**01 37 50.7**	**+0.4**
SRS	**Serrai**	**2.22**	**73**	*e*Pn		**Pn**	**01 37 50.8**	**+0.5**
SRS				*e*Sn		**Sn**	**01 38 18.1**	**+0.2**
SRS	**Serrai**	**2.22**	**73**	P		**Pn**	**01 37 50.9**	**+0.6**
KKB	**Krupnik**	**2.23**	**52**	*i* Pn		**Pn**	**01 37 51.9**	**+1.5**
AXAR	**Agios Charalam**	**2.24**	**139**	P		**Pn**	**01 37 51.3**	**+0.7**
PDG	**Podgorica**	**2.26**	**330**	*e*Pn		**Pn**	**01 37 53.0**	**+2.2**
PDG	**Podgorica**	**2.26**	**330**	⇑P		**Pn**	**01 37 52.1**	**+1.3**
PDG				⇑S		**Sn**	**01 38 20.6**	**+1.8**
PDG	**Podgorica**	**2.26**	**330**	*e*Pn		**Pb**	**01 37 53.2**	**-1.0**
PDG				*e*Sn		**Sb**	**01 38 21.3**	**-1.0**
PDG	**Podgorica**	**2.26**	**330**	*e*Pn		**Pn**	**01 37 52.9**	**+2.1**
PDG				*e*Sn		**Sb**	**01 38 23.0**	**+0.7**
BUM	**Brajici-Budva**	**2.31**	**323**	⇓*i*Pn		**Pn**	**01 37 53.2**	**+1.7**
BUM				*e*Sn		**Sb**	**01 38 24.5**	**+0.8**
VLS	**Valsamata**	**2.31**	**184**	P		**Pn**	**01 37 52.9**	**+1.4**
AXS	**Araxos**	**2.33**	**168**	P		**Pb**	**01 37 54.1**	**-1.3**
KALE	**Kalithea**	**2.34**	**153**	P		**Pb**	**01 37 54.2**	**-1.4**
PSDA	**Pessada-Kefalo**	**2.37**	**184**	P		**Pn**	**01 37 53.4**	**+1.1**
BOSS	**Bosilegrad**	**2.38**	**32**	*e*Pn		**Pn**	**01 37 53.1**	**+0.6**
BOSS				*e*Sn		**Sn**	**01 38 23.1**	**+1.3**
OUR	**Ouranopolis**	**2.44**	**92**	P		**Pn**	**01 37 53.8**	**+0.5**
BARS	**Barje**	**2.46**	**18**	⇓*i*Pn		**Pn**	**01 37 54.4**	**+0.9**
BARS	**Barje**	**2.46**	**18**	*e*Pn		**Pn**	**01 37 54.4**	**+0.9**
BARS				*e*Sn		**Sn**	**01 38 25.5**	**+1.8**
IVA	**Berane**	**2.48**	**345**	*e*Pn		**Pn**	**01 37 55.6**	**+1.7**
IVA				*i* Sn		**Sb**	**01 38 29.0**	**+0.3**
RLS	**Riolos of Patr**	**2.48**	**167**	P		**Pn**	**01 37 56.0**	**+2.2**
MMB	**Musomishta**	**2.48**	**64**	*i* Pn		**Pn**	**01 37 54.9**	**+1.1**
CEME	**Cevo**	**2.49**	**326**	⇓*i*Pn		**Pn**	**01 37 55.9**	**+1.8**
CEME				*e*Sn		**Sb**	**01 38 28.4**	**-0.7**
LKR	**Lokris**	**2.50**	**136**	P		**Pn**	**01 37 54.8**	**+0.6**
KOME	**Kolasin**	**2.55**	**339**	*e*Pn		**Pn**	**01 37 57.4**	**+2.5**
KOME				*e*Sn		**Sb**	**01 38 30.5**	**-0.2**
CLEM	**Kyllini,Ilia,G**	**2.60**	**174**	P		**Pn**	**01 37 57.0**	**+1.5**
HCY	**Herceg Novi**	**2.61**	**319**	*e*Pn		**Pn**	**01 37 55.7**	**+0.2**
HCY	**Herceg Novi**	**2.61**	**319**	⇓*i*Pn		**Pn**	**01 37 57.0**	**+1.4**
HCY				*i* Sn		**Sb**	**01 38 31.5**	**-0.9**
DRO	**Drossia**	**2.63**	**164**	P		**Pn**	**01 37 57.9**	**+2.0**
ORTH	**Orthonies,Zaky**	**2.63**	**182**	P		**Pn**	**01 37 57.8**	**+1.9**
KLV	**Kalavryta, Ach**	**2.66**	**156**	P		**Pn**	**01 37 58.0**	**+1.7**
NKME	**Niksic**	**2.66**	**330**	*e*Pn		**Pn**	**01 37 58.8**	**+2.4**
NKME				*e*Sn		**Sb**	**01 38 32.6**	**-1.4**
SELS	**Selova**	**2.75**	**5**	*e*Pn		**Pn**	**01 37 58.5**	**+1.0**
SELS				*e*Sn		**Sn**	**01 38 33.4**	**+2.6**
LTHK	**Lithakia**	**2.77**	**179**	P		**Pn**	**01 38 00.5**	**+2.7**
GUR	**Goura**	**2.82**	**154**	P		**Pn**	**01 37 59.9**	**+1.4**
SJES	**Sjenica**	**2.84**	**348**	*e*Pn		**Pn**	**01 38 00.8**	**+1.9**
SJES	**Sjenica**	**2.84**	**348**	*e*Pn		**Pn**	**01 38 00.8**	**+1.9**
SJES				*e*Sn		**Sb**	**01 38 37.1**	**-2.0**
KAVA	**Kavala**	**2.88**	**79**	P		**Pn**	**01 37 59.0**	**-0.3**
TREB	**Trebinje**	**2.88**	**322**	*e*Pn		**Pn**	**01 37 59.9**	**+0.5**
BRY	**Bratogost**	**2.94**	**326**	*e*Pn		**Pn**	**01 38 01.8**	**+1.5**
BRY	**Bratogost**	**2.94**	**326**	⇑*i*Pn		**Pn**	**01 38 00.1**	**+1.7**
BRY				*e*Sn		**Sb**	**01 38 40.1**	**-2.0**
THAS	**Thassos island**	**3.00**	**86**	P		**Pn**	**01 38 00.7**	**-0.2**
PLE	**Pljevlja**	**3.03**	**340**	*e*Pn		**Pb**	**01 38 05.4**	**-2.0**
PLE				*e*Sn		**Sb**	**01 38 42.1**	**-2.5**
UPM	**Unac-Piva**	**3.06**	**333**	*e*Pn		**Pn**	**01 38 05.1**	**+3.1**
UPM	**Unac-Piva**	**3.06**	**333**	⇑*i*Pn		**Pn**	**01 38 03.6**	**+1.6**
UPM				*i* Sn		**Sb**	**01 38 42.9**	**-2.6**
GOCS	**Kraljevo Serbi**	**3.08**	**1**	*e*Pn		**Pn**	**01 38 03.4**	**+1.3**
ZAPS	**Zavoj**	**3.11**	**26**	*e*Pn		**Pn**	**01 38 03.6**	**+1.1**
ZAPS				*e*Sn		**Sn**	**01 38 41.3**	**+1.4**
MATE	**Matera**	**3.11**	**274**	⇑P		**Pn**	**01 38 03.3**	**+0.8**
MATE				⇑S		**Sn**	**01 38 41.8**	**+2.0**
IVAS	**Ivanjica**	**3.13**	**352**	*e*Pn		**Pn**	**01 38 04.0**	**+1.2**
BOVS	**Bovan**	**3.22**	**12**	⇑P		**Pn**	**01 38 04.8**	**+0.8**
BOVS				⇑S		**Sn**	**01 38 43.7**	**+1.1**
BOVS	**Bovan**	**3.22**	**12**	*e*Pn		**Pn**	**01 38 04.7**	**+0.7**
BOVS				*e*Sn		**Sn**	**01 38 44.5**	**+1.9**
RUDO	**Rudo**	**3.31**	**342**	*e*Pn		**Pn**	**01 38 09.7**	**-2.3**
STON	**Ston**	**3.32**	**317**	*e*Pn		**Pn**	**01 38 05.3**	**-0.1**
GRUS	**Gruza**	**3.40**	**359**	*e*Pn		**Pn**	**01 38 07.8**	**+1.3**
BLKB	**Belogradchik**	**3.44**	**24**	⇑S		**Sn**	**01 38 47.9**	**-0.1**
ZAGS	**Zajecar**	**3.50**	**17**	*e*Pn		**Pn**	**01 38 08.6**	**+0.8**
BBLS	**Lazi&#263i**	**3.53**	**344**	*e*Pn		**Pn**	**01 38 10.6**	**+2.2**
BBLS	**Lazi&#263i**	**3.53**	**344**	*e*Pn		**Pn**	**01 38 11.2**	**+2.8**
DIVS	**Divibare**	**3.66**	**351**	*e*Pn		**Pn**	**01 38 11.2**	**+1.1**
BORS2	**Bor- Borsko je**	**3.72**	**14**	*e*Pn		**Pn**	**01 38 11.9**	**+1.0**
TRUS	**Trudelj**	**3.75**	**356**	*e*Pn		**Pn**	**01 38 12.3**	**+1.0**
KUBS	**Kucevo**	**3.98**	**9**	*e*Pn		**Pn**	**01 38 13.5**	**-1.0**
TEKS	**Tekeris**	**4.17**	**348**	*e*Pn		**Pn**	**01 38 18.2**	**+1.2**
TEKS	**Tekeris**	**4.17**	**348**	*e*Pn		**Pn**	**01 38 19.3**	**+2.3**
AVAS	**Avala Beograd**	**4.21**	**357**	*e*Pn		**Pn**	**01 38 18.6**	**+0.9**
MDVR	**Moldovita**	**4.35**	**9**	⇑P		**Pn**	**01 38 19.4**	**-0.1**
HERR	**Herculane**	**4.56**	**15**	⇑P		**Pn**	**01 38 23.2**	**+0.9**
HERR				⇑S		**Sn**	**01 39 16.3**	**+0.8**
VRSS	**Vrsac**	**4.65**	**5**	*e*Pn		**Pn**	**01 38 23.9**	**+0.2**
FRGS	**Fruska Gora**	**4.73**	**352**	*e*Pn		**Pn**	**01 38 21.4**	**-3.3**
FRGS	**Fruska Gora**	**4.73**	**352**	*e*Pn		**Pn**	**01 38 24.8**	**+0.1**
BLY	**Banja Luka**	**5.02**	**329**	*e*Pn		**Pn**	**01 38 30.4**	**+1.6**
SLATY	**Slatina**	**5.05**	**331**	*e*Pn		**Pn**	**01 38 30.1**	**+1.0**
A050A	**Klekovaca**	**5.08**	**323**	*e*Pn		**Pn**	**01 38 31.2**	**+1.5**
GZR	**Gura Zlata**	**5.12**	**16**	⇑P		**Pn**	**01 38 30.1**	**-0.1**
GZR				⇑S		**Sn**	**01 39 28.9**	**-0.5**
BZS	**Buzias**	**5.17**	**6**	⇑P		**Pn**	**01 38 30.7**	**0.0**
BZS				⇑S		**Sn**	**01 39 30.6**	**+0.1**
A051A	**Mrakovica**	**5.35**	**329**	*e*Pn		**Pn**	**01 38 34.8**	**+1.5**
SIRR	**Siria**	**5.82**	**6**	⇑P		**Pn**	**01 38 40.5**	**+0.8**
VOIR		**5.86**	**31**	⇑P		**Pn**	**01 38 40.3**	**+0.1**
MORH	**Mrgy, Hungar**	**5.94**	**345**	⇓P		**Pn**	**01 38 42.1**	**+0.8**
MORH				⇑S		**Sn**	**01 39 50.2**	**+0.8**
IDI	**Anoyia**	**6.12**	**147**	Pn		**Pn**	**01 38 43.8**	**0.0**
	comp=N,1.8nm,0.7s,baz=6.9,slow=18,SNR=1.4							
IDI				Sn		**Sn**	**01 39 54.4**	**+0.3**
	comp=N,0.6nm,0.3s,baz=295,slow=20,SNR=5.8							
MLR	**Muntele Rosu**	**6.27**	**35**	Pn		**Pn**	**01 38 44.9**	**-1.2**
	comp=N,0.3nm,0.3s,baz=202,slow=11,SNR=1.3							
MLR				Sn		**Sn**	**01 39 56.9**	**-1.0**
	comp=N,0.1nm,0.3s,baz=111,slow=18,SNR=1.2							
	comp=N,1.0nm,0.5s							
BOJS	**Bojanci**	**6.45**	**323**	*e*Pn		**Pn**	**01 38 48.6**	**+0.2**
CRES	**Cresnjevec Ost**	**6.61**	**326**	*e*Pn		**Pn**	**01 38 50.9**	**+0.4**
PLOR	**Plostina**	**6.87**	**37**	⇑P		**Pn**	**01 38 54.4**	**+0.3**
KNDS	**Knezji Dol**	**6.89**	**319**	*i* Pn		**Pn**	**01 38 54.6**	**+0.2**
VRI	**Vrincioaia**	**6.91**	**37**	⇑P		**Pn**	**01 38 55.3**	**+0.6**
CEY	**Cerknica**	**7.01**	**321**	*e*Pn		**Pn**	**01 38 56.3**	**+0.2**
SKDS	**Skadanscina**	**7.09**	**318**	*e*Pn		**Pn**	**01 38 56.1**	**-1.0**
SKDS	**Skadanscina**	**7.09**	**318**	*i* Pn		**Pn**	**01 38 56.7**	**-0.4**
CFR	**Carcaliu**	**7.15**	**47**	⇑P		**Pn**	**01 38 58.5**	**+0.5**
PSZ	**Piszkesteto**	**7.46**	**355**	⇑P		**Pn**	**01 39 02.9**	**+0.6**
PSZ				⇑S		**Sn**	**01 40 28.4**	**+1.4**
SOKA	**Soboth**	**7.47**	**328**	*i* Pn		**Pn**	**01 39 03.9**	**+1.5**
	comp=N,1.5nm,0.4s							
SOKA				*e*Sn		**Sn**	**01 40 25.8**	**-1.4**
	comp=N,1.4nm,0.6s							
VOJS	**Vojsko**	**7.49**	**320**	*i* Pn		**Pn**	**01 39 03.3**	**+0.6**
OBKA	**Obir**	**7.54**	**325**	*e*Pn		**Pn**	**01 39 04.5**	**+1.1**
OBKA	**Obir**	**7.54**	**325**	*i* Pn		**Pn**	**01 39 06.0**	**+2.7**
	comp=N,1.2nm,0.5s							
OBKA				*i* Sn		**Sn**	**01 40 30.7**	**+1.7**
	comp=N,6.4nm,0.7s							
ARSA	**Arzberg**	**7.76**	**332**	*e*Pn		**Pb**	**01 39 25.2**	**-2.7**
RONA	**Rosalia, Austr**	**7.90**	**337**	*e*Pn		Pb	01 39 24.4	-5.9
MYKA	**Terra Mystica**	**8.04**	**322**	*i* Pn		**Pn**	**01 39 09.6**	**-0.6**
	comp=N,1.1nm,0.4s							
MYKA				*i* Sn		**Sn**	**01 40 40.3**	**-0.9**
	comp=N,2.8nm,0.6s							
VYHS	**Vyhne**	**8.13**	**351**	*e*SN		**Sn**	**01 40 43.4**	**0.0**
VYHS				*e*SG		**Sn**	**01 40 43.4**	**0.0**
CONA	**Conrad Observa**	**8.24**	**336**	*i* Pn		**Pn**	**01 39 15.5**	**+2.6**
	comp=N,1.1nm,0.6s							
CONA				*e*Sn		**Sn**	**01 40 47.7**	**+1.5**
	comp=N,0.7nm,0.3s							
KBA	**Koelnbreinsper**	**8.51**	**323**	*i* Pn		**Pn**	**01 39 18.8**	**+2.0**
	comp=N,1.1nm,0.5s							
KBA				*e*Sn		**Sn**	**01 40 54.0**	**+1.1**
	comp=N,1.2nm,0.5s							
MOA	**Molln**	**8.72**	**330**	*i* Pn		**Pn**	**01 39 21.4**	**+1.8**
	comp=N,0.8nm,0.3s							
MOA				*i* Sn		**Sn**	**01 40 59.1**	**+1.1**
BIOA	**Bad Ischl, Aus**	**8.85**	**327**	*i* Pn		**Pn**	**01 39 22.9**	**+1.6**
	comp=N,1.0nm,0.3s							
BIOA				*e*Sn		**Sn**	**01 40 59.0**	**-2.1**
	comp=N,2.3nm,0.6s							
LESA	**Schwarzleotal**	**9.07**	**323**	*i* Pn		**Pn**	**01 39 25.7**	**+1.3**
	comp=N,1.9nm,0.4s							
LESA				*i* Sn		**Sn**	**01 41 05.1**	**-1.5**
	comp=N,1.8nm,0.5s							
WTTA	**Wattenberg**	**9.46**	**319**	*e*Pn		**Pn**	**01 39 31.5**	**+1.7**
	comp=N,2.7nm,0.5s							
WTTA				*i* Sn		**Sn**	**01 41 16.5**	**+0.1**
	comp=N,3.2nm,0.4s							
WATA	**Walderalm**	**9.54**	**319**	*i* Pn		**Pn**	**01 39 32.7**	**+1.9**
	comp=N,2.2nm,0.4s							
WATA				*i* Sn		**Sn**	**01 41 20.1**	**+1.8**
	comp=N,1.6nm,0.3s							
SQTA	**Sankt Quirin**	**9.65**	**317**	*i* Pn		**Pn**	**01 39 33.8**	**+1.4**
	comp=N,1.2nm,0.3s							
SQTA				*e*Sn		**Sn**	**01 41 18.7**	**-2.2**
	comp=N,2.9nm,0.5s							
GERES	**GERESS Array B**	**9.76**	**331**	Pn		**Pn**	**01 39 34.7**	**+0.9**
	baz=144,slow=14,SNR=5.6							
GERES				Sn		**Sn**	**01 41 23.0**	**-0.6**
	baz=149,slow=26,SNR=1.3							
	comp=N,0.3nm,0.5s							
FETA	**Feichten**	**9.78**	**315**	*i* Pn		**Pn**	**01 39 35.6**	**+1.5**
	comp=N,1.5nm,0.5s							
FETA				*i* Sn		**Sn**	**01 41 22.0**	**-2.0**
	comp=N,2.0nm,0.6s							
MOTA	**Moosalm**	**9.79**	**318**	*i* Pn		**Pn**	**01 39 35.4**	**+1.2**
	comp=N,6.9nm,0.7s							
MOTA				*i* Sn		**Sn**	**01 41 23.4**	**-0.9**
	comp=N,3.9nm,0.6s							
BRTR	**Keskin Array B**	**9.88**	**90**	Pn		**Pn**	**01 39 35.2**	**-0.3**
	comp=N,0.1nm,0.3s,baz=272,slow=11,SNR=1.4							
	comp=N,0.2nm,0.5s							
RETA	**Reutte**	**10.05**	**317**	*i* Pn		**Pn**	**01 39 38.4**	**+0.6**
	comp=N,0.2nm,0.2s							
RETA				*i* Sn		**Sn**	**01 41 29.6**	**-1.2**
	comp=N,2.1nm,0.5s							
DAVOX	**Davos/Dischmat**	**10.10**	**312**	Pn		**Pn**	**01 39 40.7**	**+2.1**
	comp=N,0.7nm,0.3s,baz=107,slow=12,SNR=5.7							
DAVOX				Sn		**Sn**	**01 41 29.9**	**-2.1**
	comp=N,0.2nm,0.3s,baz=289,slow=21,SNR=2.1							
	comp=N,2.2nm,0.4s							
DAVA	**Damuels**	**10.40**	**314**	*i* Pn		**Pn**	**01 39 44.1**	**+1.5**
	comp=N,3.1nm,0.4s							
DAVA				*i* Sn		**Sn**	**01 41 36.6**	**-2.7**
	comp=N,3.5nm,0.8s							
MMAI	**Mount Meron Ar**	**13.88**	**118**	Pn		**Pn**	**01 40 30.3**	**+0.1**
	comp=N,0.2nm,0.3s,baz=316,slow=12,SNR=1.4							
	comp=N,1.8nm,0.9s							
ESDC	**Sonseca Array**	**18.95**	**276**	P		**Pn**	**01 41 35.6**	**+0.4**
	baz=88,slow=9.0,SNR=4.4							
	comp=N,0.4nm,0.7s							
HFS	**Hagfors**	**20.16**	**350**	P		**P**	**01 41 47.0**	**-0.7**
	comp=N,1.0nm,0.5s,baz=165,slow=12,SNR=5.2							
	comp=N,1.0nm,0.5s							
FINES	**FINESS Array B**	**21.24**	**7**	P		**P**	**01 41 58.3**	**-1.0**
	comp=N,1.8nm,0.8s,baz=174,slow=13,SNR=5.6							
	comp=N,1.8nm,0.8s							
NB2	**NORSAR Subarra**	**21.41**	**347**	P		**P**	**01 42 00.9**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=160,slow=11							
NOA	**NORSAR Array B**	**21.41**	**347**	P		**P**	**01 42 01.1**	**-0.1**
	comp=Z,1.9nm,0.2s,baz=165,slow=11,SNR=3.4							
	comp=Z,1.9nm,0.2s							
EKA	**Eskdalemuir Ar**	**21.71**	**321**	P		**P**	**01 42 05.0**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=115,slow=8.7,SNR=2.3							
	comp=Z,0.6nm,0.6s							
ARCES	**ARCESS Array B**	**29.22**	**3**	P		**P**	**01 43 14.4**	**-0.5**
	comp=Z,5.1nm,1.1s,baz=189,slow=7.0,SNR=4.3							
	comp=Z,5.1nm,1.1s							
JMIC	**Jan Mayen**	**34.00**	**343**	LR		LR	01 56 21.9	
	comp=Z,57nm,20.8s,baz=341,slow=34							
MKAR	**Makanchi Array**	**43.95**	**60**	P		**P**	**01 45 19.3**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=285,slow=5.4,SNR=1.6							
	comp=Z,0.1nm,0.3s							

*IDC **06** 01:44:24.2±1.5, 33.09N×76.03E, h0km, mb3.8/8, mbtmp3.7/11, ML3.3/3, Error ellipse: s-maj=39.9km s-min=25.0km az=72.0*
*NNC **06** 01:44:29.7±10.0, 33.42N×76.19E, h0km, mb3.8, Error ellipse: s-maj=115.6km s-min=78.0km az=87.0*
ISC 06 01:44:26.1±1.3, 33.1N±0.1×76.1E±0.2, h10km, n14, σ1§24/19, mb4.0/7, 3C-3D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**9.59**	**353**	⇑P		**Pn**	**01 46 45.3**		**+1.1**
	1.2nm,0.6s								
AAK				⇓S		**Sn**	**01 48 32.3**		**+0.2**
	2.8nm,1.1s								
AAK	**Ala-Archa**	**9.59**	**353**	Pn		**Pn**	**01 46 46.3**		**+2.0**
	0.9nm,0.3s,baz=175,slow=6.5,SNR=3.9								
AAK				Sn		**Sn**	**01 48 32.6**		**+0.5**
	0.4nm,0.3s,baz=218,slow=12,SNR=1.5								
	2.1nm,0.3s								
TKM2	**Tokmak 2**	**9.79**	**358**	⇓P		**Pn**	**01 46 49.0**		**+1.8**
	2.2nm,0.9s								
TKM2				⇑S		**Sn**	**01 48 39.2**		**+1.9**
	3.1nm,0.7s								
KK31	**Karatay Array**	**10.88**	**338**	⇓P		**Pn**	**01 47 01.8**		**-0.1**
	0.8nm,0.5s,baz=148,slow=12,SNR=11								
KK31				⇑S		**Sn**	**01 49 01.8**		**-2.0**
	1.6nm,0.4s,baz=150,slow=24,SNR=6.5								
MKAR	**Makanchi Array**	**14.46**	**17**	Pn		**Pn**	**01 47 51.0**		**+0.1**
	0.1nm,0.3s,baz=200,slow=12,SNR=4.5								
MKAR				Sn		**Sn**	**01 50 29.2**		**-1.9**
	0.5nm,0.3s,baz=201,slow=18,SNR=4.3								
	0.2nm,0.4s								
KURBB	**Kurchatov Arra**	**17.59**	**5**	P		**Pn**	**01 48 29.5**		**-1.7**
	baz=190,slow=12,SNR=7.4								
	0.5nm,0.6s								
BVAR	**Borovoye Array**	**20.31**	**350**	P		**P**	**01 49 02.9**		**+0.8**
	1.0nm,0.4s,baz=160,slow=11,SNR=6.6								
	1.0nm,0.4s								
ZALV	**Zalesovo Beam**	**21.74**	**14**	P		**P**	**01 49 17.0**		**-0.4**
	0.6nm,0.4s,baz=220,slow=9.9,SNR=2.1								
	0.6nm,0.4s								
FINES	**FINESS Array B**	**42.60**	**327**	P		**P**	**01 52 22.0**		**0.0**
	3.7nm,1.1s,baz=131,slow=7.8,SNR=3.4								
	3.7nm,1.1s								
ARCES	**ARCESS Array B**	**45.85**	**338**	P		**P**	**01 52 47.2**		**-0.8**
	2.7nm,0.9s,baz=110,slow=7.9,SNR=4.8								
	2.7nm,0.9s								
HFS	**Hagfors**	**48.28**	**324**	P		**P**	**01 53 06.7**		**-0.3**
	2.5nm,1.0s,baz=95,slow=14,SNR=5.0								
	2.5nm,1.0s								
NOA	**NORSAR Array B**	**49.56**	**325**	P		**P**	**01 53 16.4**		**-0.6**
	0.7nm,0.2s,baz=93,slow=8.0,SNR=1.8								
	0.7nm,0.2s								
WRA	**Warramunga Arr**	**76.65**	**125**	P		**P**	**01 56 17.4**		**0.0**
	0.4nm,0.8s,baz=318,slow=6.3,SNR=2.6								
	0.4nm,0.8s								
ILAR	**Eielson Array**	**76.82**	**17**	P		**P**	**01 56 17.8**		**+0.1**
	0.2nm,0.5s,baz=313,slow=6.0,SNR=2.5								
	0.2nm,0.5s								

PRU 06 01:45:11.5, 50.25N×18.75E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.67**	**92**	*e*Pg		Pg	01 45 23.6		-0.8
OJC				*e*Sg		Sg	01 45 32.9		-0.2
STEB	**Steborice**	**0.70**	**244**	*e*PG		Pg	01 45 24.5		-0.5
STEB				*e*SG		Sg	01 45 34.8		+0.7
MORC	**Moravsky Berou**	**0.91**	**239**	*e*PG		Pg	01 45 28.2		-0.8
MORC				*e*SG		Sg	01 45 40.1		-0.7
MAUC	**Maruska**	**1.07**	**214**	*e*PG		Pg	01 45 31.6		-0.3
MAUC				*e*SG		Sg	01 45 45.8		0.0
	comp=Z,12nm,0.5s								
LANS	**Liptovska Anna**	**1.20**	**157**	*e*PG		Pg	01 45 33.2		-1.2
LANS				*e*SG		Sg	01 45 49.4		-0.5
LANS				*e*LG		Lg	01 45 52.8		
KRLC	**Kraliky**	**1.28**	**263**	*e*PG		Pg	01 45 33.9		-2.1
KRLC				*e*SG		Sg	01 45 52.1		-0.4
NIE	**Niedzica**	**1.30**	**129**	*e*Pg		Pg	01 45 35.3		-1.2
NIE				*e*Sg		Sg	01 45 53.1		-0.2
DPC	**Dobruska-Polom**	**1.56**	**275**	*e

LOCO3	**Loma Colorada,**	**0.61**	**64**	*eP*		**Pn**	**02 22 33.6**	**-0.5**
LOCO3				*eS*		**Sb**	**02 22 40.8**	**0.0**
MLIR3	**Monte Lirio, C**	**0.67**	**13**	*eP*		**Pb**	**02 22 33.7**	**+0.8**
MLIR3				AMP			02 22 33.9	
	comp=Z,5µm,0.1s							
MLIR3				*eS*		**Sg**	**02 22 40.0**	**0.0**
VITO	**San Vito**	**0.67**	**0**	*eP*		**Pb**	**02 22 34.0**	**+1.0**
CLLRA	**Cordillera,**	**0.70**	**31**	*eP*		**Pb**	**02 22 33.8**	**+0.3**
BRU2	**Volcan**	**0.71**	**23**	*eP*		**Pb**	**02 22 33.9**	**+0.4**
BRU2				*eS*		**Sg**	**02 22 41.4**	**0.0**
BRU2	**Volcan**	**0.71**	**23**	P		**Pb**	**02 22 33.8**	**+0.2**
SCLRA	**Santa Clara, W**	**0.71**	**15**	*eP*		**Pb**	**02 22 34.3**	**+0.6**
TBS2		**0.72**	**26**	*eP*		**Pb**	**02 22 35.0**	**+1.2**
BC3P	**Paso Ancho**	**0.76**	**28**	*eP*		**Pb**	**02 22 34.6**	**0.0**
BC3P				AMP			02 22 35.1	
BC3P				*eS*		**Sg**	**02 22 42.6**	**-0.5**
BQTLY	**Boquete Panama**	**0.80**	**40**	*eP*		**Pb**	**02 22 35.2**	**+0.1**
ALCO	**Alturas Coton,**	**0.81**	**10**	*eP*		**Pg**	**02 22 35.3**	**+1.0**
EDP2	**Potrero Grande**	**0.89**	**347**	*eP*		**Pn**	**02 22 37.7**	**-0.3**
PBNVO	**Pueblo Nuevo,**	**1.07**	**46**	*eP*		**Pg**	**02 22 39.0**	**-0.2**
BURE	**Buenos Aires**	**1.09**	**341**	*eP*		**Pn**	**02 22 40.6**	**0.0**
RBALA	**Bur**	**1.09**	**48**	*eP*		**Pg**	**02 22 39.7**	**+0.1**
DRK0	**Durika**	**1.15**	**347**	*eP*		**Pg**	**02 22 41.0**	**+0.4**
DRK0	**Durika**	**1.15**	**347**	*eP*		**Pb**	**02 22 41.2**	**+0.1**
DRK0				*eS*		**Sg**	**02 22 54.4**	**-1.1**
DRK0	**Durika**	**1.15**	**347**	P		**Pg**	**02 22 41.0**	**+0.4**
OCHAL	**Ojochal**	**1.16**	**325**	P		**Pn**	**02 22 43.0**	**+1.4**
OCHAL	**Ojochal**	**1.16**	**325**	S		**Sn**	**02 22 57.4**	**-0.6**
EDPE	**Pejibaye, P**	**1.17**	**330**	*eP*		**Pn**	**02 22 42.4**	**+0.6**
SAJE	**San Jerónim**	**1.31**	**336**	*eP*		**Pn**	**02 22 43.8**	**0.0**
KKNTU	**Kakinț**	**1.35**	**59**	*eP*		**Pn**	**02 22 43.5**	**-0.7**
GMAL	**Guarumal, Vera**	**1.77**	**102**	*eP*		**Pb**	**02 22 52.3**	**+0.8**
GMAL				*eS*		**Sn**	**02 23 12.8**	**0.0**
ABE2	**San Pablo**	**1.88**	**326**	*eP*		**Pg**	**02 22 54.6**	**-0.2**
LCR2	**La Lucha 2**	**1.89**	**327**	*eP*		**Pb**	**02 22 53.1**	**-0.6**
LCR2	**La Lucha 2**	**1.89**	**327**	P		**Pb**	**02 22 53.2**	**-0.6**
LCR2	**La Lucha 2**	**1.89**	**327**	S		**Sb**	**02 23 18.2**	**+0.4**
VERB	**Verbena**	**1.93**	**338**	*eP*		**Pb**	**02 22 53.9**	**-0.5**
RVSTA	**Santa Teresita**	**1.94**	**340**	*eP*		**Pb**	**02 22 54.1**	**-0.5**
RESJ	**San Isidro (Tu**	**1.99**	**341**	*eP*		**Pb**	**02 22 55.0**	**-0.5**
ABRB	**Las Abras (San**	**1.99**	**338**	*eP*		**Pb**	**02 22 55.2**	**-0.4**
CVTV	**Tajo**	**2.00**	**338**	*eP*		**Pb**	**02 22 55.2**	**-0.6**
CVTQ	**Turrialba Volc**	**2.01**	**337**	*eP*		**Pb**	**02 22 55.5**	**-0.4**
VTR0	**Volcan Turrial**	**2.02**	**337**	*eP*		**Pb**	**02 22 55.8**	**-0.4**
TCS1	**Tacares**	**2.30**	**325**	P		**Pb**	**02 23 00.6**	**-0.1**
TRT2	**Tortugero**	**2.52**	**343**	P		**Pn**	**02 23 02.4**	**+2.1**
TRT2	**Tortugero**	**2.52**	**343**	S		**Sb**	**02 23 35.7**	**0.0**
SOCE	**Pocosol**	**2.76**	**324**	S		**Sb**	**02 23 43.7**	**+1.0**
SOCE	**Pocosol**	**2.76**	**324**	P		**Pb**	**02 23 07.9**	**-0.6**
JTS	**Las Juntas de**	**2.89**	**318**	P		**Pb**	**02 23 09.8**	**-1.1**
JTS				S		**Sn**	**02 23 41.4**	**+0.6**
COVE	**Coope Vega, Sa**	**2.92**	**331**	P		**Pb**	**02 23 11.8**	**+0.5**

*DJA **06** 02:29:44.2±0.9,3˚N±3˚×9˚7E±˚, h24km±8km, M4.0/1, MLv3.9/10, MLv4.0/1*
*IDC **06** 02:29:45.1±6.5,3.5°50N×97.00E, h84km±47km, mb3.3/4, mbtmp3.6/5, ML3.4/1, MS3.4/1, Error ellipse: s-maj=97.2km s-min=20.9km az=54.0*
ISC 06 02:29:44.1±1.0,**3.39N**±0.06×**96.88E**±0.09,**h72**km,**n13,**
σ1§05/13,mb3.6/4,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.99**	**331**	P	**Pn**	**02 30 03.6**	**+1.0**
MLSI				S	**Sn**	**02 30 17.6**	**+1.2**
TSI	**Tuntungan**	**1.68**	**86**	P	**Pn**	**02 30 11.4**	**-0.2**
LHMI	**Lhok Sumawe**	**1.83**	**2**	P	**Pn**	**02 30 13.6**	**+0.1**
LHMI				S	**Sn**	**02 30 36.8**	**+1.0**
PSI	**Prapat**	**2.12**	**106**	P	**Pn**	**02 30 18.6**	**+1.0**
	12nm,0.3s,baz=292,slow=16,SNR=32						
PSI				S	**Sn**	**02 30 44.2**	**+1.1**
	67nm,0.5s,baz=238,slow=15,SNR=8.9						
	30nm,0.3s						
GSI	**Gunungsitoli**	**2.19**	**161**	P	**Pn**	**02 30 18.3**	**-0.1**
GSI				S	**Sn**	**02 30 46.0**	**+1.5**
H08S2	**Diego Garcia H**	**26.69**	**246**	T	T	03 01 43.3	
	baz=66						
H08S3	**Diego Garcia H**	**26.69**	**246**	T	T	03 01 47.4	
	baz=66,slow=74						
H08S1	**Diego Garcia H**	**26.71**	**246**	T	T	03 01 39.8	
	baz=66,slow=74						
WRA	**Warramunga Arr**	**43.48**	**124**	P	**P**	**02 37 40.0**	**-0.6**
	0.4nm,0.4s,baz=302,slow=9.1,SNR=10						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**44.98**	**129**	P	**P**	**02 37 52.3**	**-0.3**
	0.4nm,0.5s,baz=298,slow=7.6,SNR=8.2						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**45.05**	**346**	P	**P**	**02 37 51.3**	**-1.5**
	0.2nm,0.4s,baz=159,slow=9.2,SNR=3.0						
	0.2nm,0.4s						
USRK	**Ussuriysk Ar.**	**51.08**	**32**	LR	LR	03 03 02.0	
	comp=Z,32nm,18.5s,baz=45,slow=39						
ZALV	**Zalesovo Beam**	**51.36**	**351**	P	**P**	**02 38 40.6**	**-0.6**
	0.9nm,0.4s,baz=153,slow=6.4,SNR=5.8						
	0.9nm,0.4s						

*IDC **06** 02:36:19.6±0.9,30˚32S×177˚13W, h0km, mb4.0/6, mbtmp4.1/7, ML4.2/1, Error ellipse: s-maj=26.8km s-min=18.9km az=67.0*
*NEIC **06** 02:36:22.2±2.0,30˚51S±0˚07×177˚4W±0˚2, h10km±1km, mb4.4/7, Error ellipse: s-maj=26.8km s-min=12.0km az=97.0*
ISC 06 02:36:24.6±0.8,**30˚50S**±0˚07×**177˚4W**±0˚1,**h33**km,**n28,**
σ1§52/28,mb4.2/9,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.33**	**338**		**Pn**	**02 36 46.2**	**-0.7**
RAO	**Raoul Island**	**1.33**	**338**	Pn	**Pn**	**02 36 46.0**	**-0.8**
	402nm,0.3s,baz=94,slow=23,SNR=4.9						
RAO				Sn	**Sn**	**02 37 03.1**	**-0.3**
	287nm,0.3s,baz=105,slow=21,SNR=6.6						
URZ	**Urewera**	**8.99**	**209**	Pn	**Pn**	**02 38 30.4**	**-1.7**
	0.6nm,0.3s,baz=0.5,slow=23,SNR=1.4						
URZ				Sn	**Sn**	**02 40 09.6**	**-2.6**
	1.4nm,0.3s,baz=261,slow=23,SNR=8.7						
RTZ	**Ruatahuna**	**9.35**	**208**	Pn	**Pn**	**02 38 35.4**	**-1.6**
KHZ	**Kahutara**	**13.96**	**209**	Pn	**Pn**	**02 39 37.6**	**-2.4**
RPZ	**Rata Peaks**	**16.09**	**212**	Pn	**P**	**02 40 11.3**	**0.0**
	0.8nm,0.3s,baz=39,slow=13,SNR=2.0						
	11nm,0.7s						
STKA	**Stephens Creek**	**34.99**	**257**	P	**P**	**02 43 16.6**	**+2.6**
STKA	**Stephens Creek**	**34.99**	**257**	P	**P**	**02 43 16.5**	**+2.5**
	3.0nm,0.4s,baz=99,slow=10,SNR=13						
	3.0nm,0.4s						
ASAR	**Alice Springs**	**43.66**	**267**	P	**P**	**02 44 27.4**	**+0.9**
	0.7nm,0.5s,baz=106,slow=7.3,SNR=14						
ASAR				PcP	**PcP**	**02 46 13.5**	**+0.1**
	0.5nm,0.6s,baz=120,slow=3.8,SNR=4.6						
	0.7nm,0.5s						
WR8	**Warramunga Arr**	**44.51**	**272**	P	**P**	**02 44 33.8**	**+0.5**
WR8				IAmb	IAmb	02 44 52.4	
	comp=Z,13nm,1.3s						
WRA	**Warramunga Arr**	**44.65**	**272**	P	**P**	**02 44 35.0**	**+0.5**
WRA	**Warramunga Arr**	**44.65**	**272**	P	**P**	**02 44 34.6**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=112,slow=7.7,SNR=13						
	comp=Z,2.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.91**	**270**	P	**P**	**02 45 37.5**	**-0.3**
FITZ				IAmb	IAmb	02 45 42.6	
	comp=Z,2.6nm,1.5s						
CASY	**Casey**	**55.31**	**208**	P	**P**	**02 45 55.8**	**+1.2**
CASY				IAmb	IAmb	02 46 11.5	
	comp=Z,5.8nm,1.1s						
QSPA	**South Pole Qui**	**59.62**	**180**	P	**P**	**02 46 27.9**	**+2.7**
QSPA	**South Pole Qui**	**59.62**	**180**	P	**P**	**02 46 27.9**	**+2.7**
	comp=Z,1.3nm,0.6s,baz=62,slow=0.7,SNR=9.9						
	comp=Z,1.3nm,0.6s						
SNAA	**Sanae**	**78.04**	**178**	P	**P**	**02 48 20.2**	**+0.6**
SNAA				IAmb	IAmb	02 48 49.4	
	comp=Z,5.3nm,1.5s						
SNAA	**Sanae**	**78.04**	**178**	P	**P**	**02 48 19.2**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=186,slow=9.2,SNR=2.0						
	comp=Z,0.6nm,0.9s						
H03S2	**Juan Fernandez**	**79.95**	**123**	T	T	04 16 21.0	
	baz=239						
H03S1	**Juan Fernandez**	**79.96**	**123**	T	T	04 16 19.2	
	baz=239						
H03S3	**Juan Fernandez**	**79.97**	**123**	T	T	04 16 19.0	
	baz=239						
NVAR	**Mina Array Bea**	**87.94**	**42**	P	**P**	**02 49 09.3**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=246,slow=4.8,SNR=2.4						
	comp=Z,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**121.55**	**314**	PKP	**PKiKP**	**02 55 14.2**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=111,slow=1.8,SNR=6.4						
FIA1	**FINESS Array S**	**145.42**	**340**	PKPbc	**PKPdf**	**02 55 57.8**	**-0.6**
FINES	**FINESS Array B**	**145.42**	**340**	PKPbc	**PKPab**	**02 55 58.1**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=24,slow=2.7,SNR=16						
HFS	**Hagfors**	**149.44**	**349**	PKPbc	**PKiKP**	**02 56 09.7**	**-1.0**
	comp=Z,2.4nm,0.9s,baz=87,slow=3.2,SNR=2.0						
AKASG	**Malin Array Be**	**151.71**	**323**	PKPbc	**PKiKP**	**02 56 15.3**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=52,slow=1.8,SNR=4.5						
BRTR	**Keskin Array B**	**153.13**	**298**	PKPbc	**PKiKP**	**02 56 20.3**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=127,slow=3.8,SNR=1.9						

*IDC **06** 03:05:12.4±1.0,69˚74N×144˚40W, h0km, mb3.7/6, mbtmp3.7/10, ML3.2/5, MS2.5/1, Error ellipse: s-maj=27.2km s-min=16.3km az=58.0*
*AEIC **06** 03:05:12.1±1.5, 69˚50N±0˚04×144˚58W±0˚08, h12km±5km, ML3.5, ML3.6/130(NEIC), Error ellipse: s-maj=6.6km s-min=4.0km az=191.0*
*NEIC **06** 03:05:13.4±1.1, 69˚55N±0˚04×144˚51W±0˚08, h10km±5km, Error ellipse: s-maj=6.2km s-min=3.6km az=194.0*
ISC 06 03:05:12.7±0.6,**69˚60N**±0˚04×**144˚49W**±0˚02,**h14**km,
n118,σ1§55/97,mb3.9/7,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.28**	**84**		**Pg**	**03 05 18.6**	**+0.2**
C27K				IAML		03 05 25.9	
	comp=E,6µm,0.7s						
C27K				IAML		03 05 25.9	
	comp=N,6µm,0.4s						
C26K	**Camden Bay**	**0.35**	**336**		**Pb**	**03 05 21.4**	**+0.7**
C26K					**Sb**	**03 05 27.2**	**+1.1**
C26K	**Camden Bay**	**0.35**	**336**	IAML		03 05 29.5	
	comp=N,5µm,0.2s						
C26K				IAML		03 05 29.7	
	comp=E,3µm,0.4s						
D25K	**Kavik River**	**0.72**	**248**		**Pg**	**03 05 24.6**	**-2.0**
D25K	**Kavik River**	**0.72**	**248**		**Sg**	**03 05 34.6**	**-1.5**
D27M	**Malcolm River**	**1.30**	**104**		**Pn**	**03 05 35.7**	**-0.7**
D27M				IAML		03 05 58.9	
	comp=N,1µm,0.6s						
D27M	**Malcolm River**	**1.30**	**104**		**Sg**	**03 05 55.2**	**+0.8**
C24K	**Franklin Bluff**	**1.48**	**277**		**Pb**	**03 05 39.7**	**-0.1**
C24K					**Sg**	**03 06 00.6**	**+0.5**
C24K	**Franklin Bluff**	**1.48**	**277**	IAML		03 06 01.6	
	comp=N,1µm,1.0s						
C24K				IAML		03 06 03.7	
	comp=E,1µm,0.6s						
E25K	**Arctic Village**	**1.54**	**195**		**Sn**	**03 05 59.5**	**+0.2**
E25K	**Arctic Village**	**1.54**	**195**		**Pn**	**03 05 39.3**	**-0.3**
E25K				IAML		03 06 02.2	
	comp=N,860nm,0.8s						
D24K	**Happy Valley**	**1.60**	**256**		**Pn**	**03 05 41.3**	**+0.8**
D24K	**Happy Valley**	**1.60**	**256**		**Sg**	**03 06 03.2**	**-0.8**
E27K	**Coleen River**	**1.77**	**142**		**Pn**	**03 05 43.7**	**+0.9**
E27K	**Coleen River**	**1.77**	**142**		**Sb**	**03 06 06.9**	**+0.1**
F26K	**Sheenjek River**	**1.92**	**176**		**Pn**	**03 05 45.8**	**+1.0**
F26K				IAML		03 06 13.0	
	comp=E,761nm,0.7s						
F26K				IAML		03 06 13.9	
	comp=N,504nm,0.7s						
E28M	**Babbage River**	**2.04**	**117**	Pn	**Pb**	**03 05 48.2**	**-1.2**
E28M				IAML		03 06 19.0	
	comp=N,415nm,0.7s						
D28M	**Stokes Point**	**2.05**	**95**		**Pb**	**03 05 49.5**	**-0.1**
F25K	**Christian Rive**	**2.06**	**192**		**Pn**	**03 05 47.8**	**+1.0**
F25K				IAML		03 06 19.0	
	comp=N,429nm,0.9s						
F25K				IAML		03 06 20.6	
	comp=E,419nm,0.7s						
TOLK	**Toolik Lake Re**	**2.06**	**245**		**Pn**	**03 05 47.4**	**+0.6**
TOLK				IAML		03 06 21.5	
	comp=E,657nm,0.7s						
TOLK				IAML		03 06 23.1	
	comp=N,428nm,0.5s						
E24K	**Your Creek**	**2.11**	**225**		**Pn**	**03 05 48.4**	**+0.8**
E24K	**Your Creek**	**2.11**	**225**	IAML		03 06 22.1	
	comp=E,361nm,1.0s						
C23K	**Itkillik River**	**2.15**	**279**		**Pn**	**03 05 49.2**	**+1.3**
C23K					**Sg**	**03 06 19.8**	**-1.8**
BMAR	**Burnt Mountain**	**2.18**	**181**		**Pn**	**03 05 49.4**	**+1.0**
D23K	**Nanushuk River**	**2.29**	**257**		**Pn**	**03 05 50.9**	**+0.9**
D23K				IAML		03 06 33.2	
	comp=E,312nm,0.5s						
D23K				IAML		03 06 38.3	
	comp=N,293nm,0.7s						
E23K	**Chandalar**	**2.42**	**233**		**Pn**	**03 05 52.6**	**+0.8**
E23K				IAML		03 06 32.2	
	comp=E,383nm,0.7s						
E23K				IAML		03 06 32.5	
	comp=N,406nm,0.8s						
F24K	**Squaw Lake**	**2.43**	**212**	Pn	**Pn**	**03 05 52.8**	**+0.8**
F24K				IAML		03 06 29.2	
	comp=N,314nm,0.7s						
F24K				IAML		03 06 31.1	
	comp=E,285nm,0.5s						
F28M	**Old Crow**	**2.62**	**137**		**Pn**	**03 05 55.2**	**+0.7**
F28M				IAML		03 06 38.1	
	comp=N,239nm,0.5s						
F28M				IAML		03 06 38.3	
	comp=E,209nm,1.0s						
E29M	**Blow River**	**2.67**	**114**		**Pn**	**03 05 56.4**	**+1.3**
E29M				IAML		03 06 38.9	
	comp=E,205nm,0.7s						
E29M				IAML		03 06 43.9	
	comp=N,291nm,0.7s						
G26K	**Porcupine Rive**	**2.67**	**174**		**Pn**	**03 05 55.7**	**+0.5**
G27K	**Doyon Strip**	**3.00**	**158**		**Pn**	**03 06 00.5**	**+0.9**
D22K	**Ayikyak River**	**3.00**	**260**		**Pn**	**03 06 00.7**	**+0.9**
E22K	**Anaktuvuk Pass**	**3.03**	**244**	IAML		03 06 57.8	
	comp=E,158nm,0.8s						
FYU	**Fort Yukon**	**3.06**	**186**		**Pn**	**03 06 02.0**	**+1.5**
FYU				IAML		03 06 57.1	
	comp=E,214nm,1.3s						
G24K	**Hadweenzic Riv**	**3.12**	**202**		**Pn**	**03 06 01.4**	**+0.1**
G24K				IAML		03 06 54.2	
	comp=E,217nm,1.1s						
G24K				IAML		03 06 56.8	
	comp=N,191nm,0.7s						
B22K	**Teshekpuk Lake**	**3.16**	**288**		**Pn**	**03 06 03.5**	**+1.7**
COLD	**Coldfoot**	**3.18**	**224**		**Pn**	**03 06 02.9**	**+0.7**
COLD				IAML		03 06 59.2	
	comp=E,150nm,0.9s						
B21K	**Ikpikpuk River**	**3.54**	**275**		**Pn**	**03 06 08.3**	**+1.2**
G23K	**Bananza Creek**	**3.56**	**218**	IAML		03 07 11.2	
	comp=E,158nm,0.7s						
G23K				IAML		03 07 14.7	
	comp=N,132nm,1.0s						
H27K	**Steamboat Moun**	**3.56**	**160**		**Pn**	**03 06 08.2**	**+0.8**
E21K	**Killik River**	**3.60**	**256**	IAML		03 07 12.7	
	comp=N,138nm,0.8s						
E21K				IAML		03 07 27.1	
	comp=E,142nm,0.8s						
G29M	**Pine Creek**	**3.62**	**135**	IAML		03 07 12.3	
	comp=N,162nm,0.8s						
F30M	**Barrier River**	**3.76**	**118**		**Pn**	**03 06 12.6**	**+2.4**
F30M	**Barrier River**	**3.76**	**118**	IAML		03 07 17.7	
	comp=E,98nm,0.8s						
F30M				IAML		03 07 25.0	
	comp=N,103nm,0.8s						
A22K	**Sinclair Lake**	**3.82**	**297**		**Pn**	**03 06 12.7**	**+1.8**
H24K	**Noodor Dome**	**3.99**	**200**	IAML		03 07 20.8	
	comp=E,82nm,1.0s						
G30M	**tAoh Zraii Nji**	**4.04**	**127**	IAML		03 07 37.3	
	comp=N,79nm,1.0s						
F21K	**Alatna River**	**4.09**	**239**	IAML		03 07 28.1	
	comp=E,104nm,0.6s						
F21K				IAML		03 07 34.0	
	comp=N,98nm,0.8s						
H29M	**Whitestone**	**4.11**	**143**	IAML		03 07 11.9	
	comp=E,94nm,0.7s						
H29M				IAML		03 07 28.0	
	comp=N,74nm,0.7s						
PRP	**Porcupine Dome**	**4.12**	**186**	IAML		03 07 10.8	
	comp=N,73nm,0.6s						
INK	**Inuvik**	**4.16**	**103**		**Pn**	**03 06 17.4**	**+1.8**
INK	**Inuvik**	**4.16**	**103**	Pn	**Pn**	**03 06 17.2**	**+1.5**
	comp=N,1.1nm,0.3s,baz=291,slow=12,SNR=50						
INK				Sn	**Sn**	**03 07 04.2**	**+0.2**
	comp=N,3.6nm,0.3s,baz=51,slow=16,SNR=4.9						
	comp=N,4.0nm,0.3s						
H23K	**Yukon River**	**4.25**	**209**		**Pn**	**03 06 17.1**	**+0.2**
H23K	**Yukon River**	**4.25**	**209**	IAML		03 07 28.3	
	comp=E,71nm,1.1s						
H23K				IAML		03 07 33.6	
	comp=N,89nm,1.1s						
EPYK	**Eagle Plains**	**4.37**	**134**		**Pn**	**03 06 20.1**	**+1.6**
B20K	**Meade River**	**4.41**	**281**		**Pn**	**03 06 20.5**	**+1.5**
D20K	**Etivluk River**	**4.42**	**264**	IAML		03 07 52.1	
	comp=E,77nm,0.7s						
D20K				IAML		03 07 52.5	
	comp=N,84nm,0.8s						
I28M	**Miner Creek**	**4.52**	**155**		**Pn**	**03 06 21.9**	**+1.2**
I28M	**Miner Creek**	**4.52**	**155**	IAML		03 07 43.1	
	comp=E,51nm,1.1s						
G31M	**Satah River**	**4.65**	**120**	IAML		03 07 44.7	
	comp=E,54nm,0.7s						
G31M				IAML		03 07 45.5	
	comp=N,60nm,1.1s						
I23K	**Minto, Yukon-K**	**4.85**	**205**	IAML		03 07 47.7	
	comp=E,60nm,0.7s						
I29M	**Ogilvie Camp,**	**4.87**	**148**	IAML		03 07 52.1	
	comp=E,41nm,0.7s						
I29M				IAML		03 07 56.6	
	comp=N,39nm,0.5s						
F20K	**Avaraart Lake**	**4.88**	**244**	IAML		03 07 49.7	
	comp=N,58nm,1.4s						
F20K				IAML		03 08 10.6	
	comp=E,45nm,0.8s						
COLA	**College**	**4.92**	**197**		**Pn**	**03 06 26.4**	**+0.4**
IL31		**4.94**	**192**		**Pn**	**03 06 26.6**	**+0.4**
ILAR	**Eielson Array**	**4.94**	**192**		**Pn**	**03 06 26.7**	**+0.4**
ILAR	**Eielson Array**	**4.94**	**192**	Pn	**Pn**	**03 06 27.2**	**+0.9**
	comp=E,1.3nm,0.3s,baz=7.1,slow=14,SNR=92						
ILAR				Sn	**Sn**	**03 07 26.1**	**+3.0**
	comp=E,2.2nm,0.3s,baz=9.3,slow=25,SNR=6.8						
ILAR				Lg	Lg	03 07 42.2	
	comp=E,2.8nm,0.3s,baz=8.2,slow=33,SNR=5.2						
ILAR				LR	LR	03 08 58.6	
	comp=E,56nm,20.8s,baz=47,slow=44						
	comp=E,2.2nm,0.4s						
J25K	**Salcha River,**	**5.02**	**184**	IAML		03 07 59.6	
	comp=E,38nm,0.8s						
IMAR	**Indian Mountai**	**5.05**	**228**		**Pn**	**03 06 27.3**	**-0.5**
H21K	**Melozitna Rive**	**5.07**	**223**		**Pn**	**03 06 28.9**	**+0.8**
H21K	**Melozitna Rive**	**5.07**	**223**	IAML		03 07 59.2	
	comp=N,38nm,1.1s						
H21K				IAML		03 08 03.1	
	comp=E,55nm,1.2s						
E19K	**Redstone River**	**5.15**	**251**		**Pn**	**03 06 30.0**	**+0.9**
HDA	**Harding Lake**	**5.30**	**192**		**Pn**	**03 06 31.9**	**+0.6**
HDA	**Harding Lake**	**5.30**	**192**	IAML		03 08 09.5	
	comp=N,36nm,1.0s						
HDA				IAML		03 08 14.5	
	comp=E,39nm,0.9s						
WRH	**Wood River Hil**	**5.34**	**197**		**Pn**	**03 06 32.3**	**+0.5**
WRH				IAML		03 08 10.8	
	comp=E,34nm,1.2s						
C19K	**Lookout Ridge**	**5.36**	**272**	IAML		03 07 33.7	
	comp=N,40nm,0.4s						
I30M	**Mount Dempster**	**5.39**	**141**	IAML		03 07 41.6	
	comp=E,30nm,0.5s						
H31M	**Peel River**	**5.42**	**130**	IAML		03 08 14.3	
	comp=N,33nm,1.3s						
H31M				IAML		03 08 16.1	
	comp=E,29nm,1.6s						
SCRK	**Sand Creek**	**5.65**	**178**		**Pn**	**03 06 37.1**	**+0.9**
F19K	**Shaleruckik Mo**	**5.67**	**247**		**Pn**	**03 06 36.5**	**+0.3**
BWN	**Browne**	**5.79**	**202**		**Pn**	**03 06 37.7**	**-0.3**
K24K	**Donnelly Dome**	**5.84**	**186**		**Pn**	**03 06 40.2**	**+1.4**
RIDG	**Independent Ri**	**5.89**	**182**		**Pn**	**03 06 40.8**	**+1.4**
DAWY	**Dawson**	**5.91**	**158**		**Pn**	**03 06 41.8**	**+2.1**
J30M	**Hart River**	**5.96**	**144**		**Pn**	**03 06 41.2**	**+0.8**
DOT	**Dot Lake**	**5.98**	**178**		**Pn**	**03 06 42.1**	**+1.5**
MCK	**McKinley**	**6.15**	**199**		**Pn**	**03 06 43.2**	**+0.2**
I20K	**Naaghedeneel**	**6.18**	**224**		**Pn**	**03 06 44.5**	**+1.1**
K29M	**Barlow Dome**	**6.40**	**151**		**Pn**	**03 06 48.0**	**+1.5**
G18K	**Tagagawik**	**6.53**	**242**		**Pn**	**03 06 48.3**	**+0.2**
KTH	**Kantishna Hill**	**6.59**	**206**		**Pn**	**03 06 49.1**	**+0.2**
TRF	**Thorofare Moun**	**6.59**	**203**		**Pn**	**03 06 49.3**	**+0.2**
BCAR	**Beaver Creek A**	**6.65**	**169**		**Pn**	**03 06 51.0**	**+1.1**
L27K	**Beaver Creek,**	**6.65**	**169**		**Pn**	**03 06 50.5**	**+0.6**
PAX	**Paxson**	**6.67**	**184**		**Pn**	**03 06 51.4**	**+1.3**
A36M	**Sachs Harbour**	**6.77**	**60**	Pn	**Pn**	**03 06 52.1**	**+0.7**
L29M	**L29M**	**7.00**	**156**		**Pn**	**03 06 55.5**	**+0.9**
M27K	**Edge Creek, AK**	**7.35**	**170**		**Pn**	**03 07 01.0**	**+1.4**
PPLA	**Purkeypile**	**7.41**	**208**		**Pn**	**03 07 01.0**	**+0.7**
H17K	**Granite Mounta**	**7.57**	**239**		**Pn**	**03 07 03.3**	**+0.9**
M29M	**Somme Creek**	**7.59**	**158**		**Pn**	**03 07 04.0**	**+1.2**
YUK2	**White River**	**7.99**	**167**		**Pn**	**03 07 09.9**	**+

0.5nm,0.7s,baz=140,slow=6.2,SNR=3.7
0.5nm,0.7s
KURBB Kurchatov Arra 70.58 328 P P 03 17 48.5 +1.8
0.3nm,0.2s,baz=122,slow=5.1,SNR=1.6
0.3nm,0.2s

NEIC ***06*** *03:16:31.9±1.7,35°.725N±0°.009×117°.54W±0°.01, h2km±3km, Error ellipse: s-maj=1.5km s-min=1.3km az=73.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr-0.69; Mθθ-2.34; Mϕϕ3.03; Mrθ0.71; Mθϕ0.13; Mϕr-0.39; Fault plane solution: Mo2.87000×10¹⁶ NP1: ϕs318.44000°, δ79.66000°, λ-160.94000°. NP2: ϕs224.89000°, δ71.26000°, λ-10.93000°. Principal axes: T 3.0698, Plg6.0000°, Azm91.0000°; N -0.4510, Plg68.0000°, Azm346.0000°; P -2.6188, Plg21.0000°, Azm183.0000°;*

IDC ***06*** *03:16:32.6±0.5,35°.66N×117°.50W, h0km, mb4.5/21, mbtmp4.4/27, ML4.3/5 Error ellipse: s-maj=13.0km s-min=6.1km az=72.0*

NEIC ***06*** *03:16:32.3,35°.73N×117°.55W, h-1km*

PAS ***06*** *03:16:32.5±1.5,35°.725N±0°.010×117°.55W±0°.01, h1km±1km, Mwr5.0/6, mb4.7/65(NEIC), ML5.0/132(NEIC), Mwr4.9/164(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=70.0*

MOS ***06*** *03:16:32.4±1.3,35°.70N×117°.56W, h10km, mb4.9/21, Error ellipse: s-maj=10.6km s-min=5.1km az=95.0*

ISC 06 03:16:32.5±0.9, 35.71N±0.01×117.55W±0.02, h3km±5km, n494, σ1§38/470, mb4.6/60, 7D, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.11**	**339**		**Pg**	**03 16 34.7**	**0.0**
CLC					**Sg**	**03 16 36.6**	**+0.4**
CLC	**China Lake**	**0.11**	**339**	P	**Pg**	**03 16 34.7**	**0.0**
SRTC	**Snort**	**0.16**	**263**		**Pg**	**03 16 36.4**	**+0.7**
TOW	**Tower One**	**0.20**	**299**		**Pg**	**03 16 37.0**	**+0.6**
CCCA	**Chr Cany lake**	**0.24**	**141**		**Pb**	**03 16 38.2**	**+1.1**
LRMC	**Laurel Mtn Rad**	**0.26**	**205**		**Pg**	**03 16 37.8**	**+0.4**
WNMM	**Nine Mile Cany**	**0.32**	**295**		**Pg**	**03 16 39.0**	**+0.3**
WNMM					**Sg**	**03 16 44.1**	**+1.4**
WVPM	**Volcano Peak E**	**0.32**	**318**		**Pg**	**03 16 38.8**	**0.0**
WVPM					**Sg**	**03 16 43.6**	**+0.7**
MPMC	**Manual Prospec**	**0.35**	**8**		**Pg**	**03 16 39.2**	**-0.1**
MPMC					**Sg**	**03 16 44.4**	**+0.5**
WCSM	**Coso Springs S**	**0.36**	**331**		**Pg**	**03 16 39.4**	**0.0**
WCSM					**Sg**	**03 16 44.6**	**+0.4**
WRVM	**Rose V. Centra**	**0.41**	**317**		**Pg**	**03 16 40.2**	**-0.1**
WRVM					**Sg**	**03 16 46.1**	**+0.5**
MFS	**McCloud Flat S**	**0.48**	**329**		**Pg**	**03 16 41.6**	**-0.1**
MFS					**Sg**	**03 16 48.6**	**+0.7**
DTP	**Desert Tortois**	**0.50**	**209**		**Pg**	**03 16 42.3**	**+0.2**
DTP					**Sg**	**03 16 50.0**	**+1.3**
WBSM	**Bird Springs**	**0.51**	**250**		**Pg**	**03 16 42.5**	**+0.2**
WBSM					**Sg**	**03 16 50.4**	**+1.5**
WORM	**Onyx Ranch**	**0.56**	**269**		**Pg**	**03 16 43.3**	**0.0**
WORM					**Sg**	**03 16 51.5**	**+0.8**
QSM	**Queen of Sheba**	**0.61**	**65**		**Pb**	**03 16 44.2**	**-1.6**
QSM				IAML		03 16 59.1	
	comp=N,61μm,0.9s						
QSM	**Queen of Sheba**	**0.61**	**65**		**Sb**	**03 16 52.7**	**-2.1**
WHFM	**Hanning Flat**	**0.65**	**269**		**Pg**	**03 16 44.9**	**-0.1**
WHFM					**Sg**	**03 16 54.2**	**+0.8**
CCAC	**Calif City Air**	**0.68**	**215**		**Pg**	**03 16 45.7**	**+0.2**
CCAC				Sg	**Sb**	**03 16 55.7**	**-1.1**
CCAC				IAML		03 16 56.9	
	comp=E,83μm,0.4s						
CCAC				IAML		03 16 57.6	
	comp=N,91μm,0.6s						
GSC	**Goldstone, Bar**	**0.73**	**124**		**Pb**	**03 16 46.7**	**-1.2**
GSC				Sg	**Sb**	**03 16 56.8**	**-1.6**
GSC				IAML		03 16 58.8	
	comp=N,57μm,1.0s						
GSC				IAML		03 17 03.0	
	comp=E,108μm,0.7s						
ISA	**Isabella, Lake**	**0.76**	**267**		**Pg**	**03 16 46.9**	**-0.1**
ISA				IAML		03 16 58.2	
	comp=E,69μm,0.5s						
ISA				IAML		03 17 02.2	
	comp=N,64μm,0.4s						
ISA	**Isabella, Lake**	**0.76**	**267**	P	**Pg**	**03 16 46.9**	**-0.1**
ISA						03 16 57.5	
WASM	**Alta Sierra Ca**	**0.82**	**272**		**Pg**	**03 16 48.1**	**-0.1**
WASM					**Sb**	**03 17 00.1**	**-1.0**
HYS	**Haystack Butte**	**0.84**	**181**		**Pg**	**03 16 48.6**	**-0.1**
CWC	**Cottonwood Cre**	**0.85**	**330**		**Pg**	**03 16 48.9**	**+0.2**
CWC					**Sg**	**03 17 00.0**	**+0.3**
GWY	**Greenwater Val**	**0.86**	**56**		**Pb**	**03 16 48.7**	**-1.4**
GWY				Sg	**Sb**	**03 17 01.1**	**-1.0**
GWY				IAML		03 17 05.0	
	comp=E,97μm,0.5s						
CGO	**Cerro Gordo**	**0.86**	**346**		**Pg**	**03 16 48.5**	**-0.6**
CGO					**Sb**	**03 17 00.7**	**-1.7**
EDW2	**Edwards Air Fo**	**0.91**	**204**		**Pg**	**03 16 49.5**	**-0.3**
FURC	**Furnace Creek,**	**0.94**	**36**		**Pn**	**03 16 50.8**	**-1.7**
RRX	**Edison Barstow**	**0.95**	**151**		**Pb**	**03 16 50.9**	**-0.7**
TPO	**Tropico Hills**	**1.00**	**214**		**Pg**	**03 16 51.4**	**-0.2**
SBB	**Saddle Back Bu**	**1.04**	**193**		**Pg**	**03 16 52.1**	**-0.4**
TEJ	**El Tejon**	**1.05**	**243**		**Pg**	**03 16 51.8**	**-0.8**
TEJ					**Sg**	**03 17 06.3**	**+0.2**
SHOC	**Shoshone, Teco**	**1.05**	**79**		**Pn**	**03 16 52.8**	**-1.4**
SPG2	**Springville 2**	**1.10**	**297**		**Pb**	**03 16 52.9**	**-1.3**
SPG2					**Sb**	**03 17 07.5**	**-1.6**
ADO	**Adelanto Recei**	**1.16**	**175**		**Pg**	**03 16 54.8**	**0.0**
VTV	**Victorville**	**1.16**	**171**		**Pg**	**03 16 54.7**	**0.0**
VTV	**Victorville**	**1.16**	**171**	P	**Pg**	**03 16 54.7**	**0.0**
MAGC	**SCE Magundon P**	**1.17**	**253**		**Pb**	**03 16 54.6**	**-0.8**
TJR	**Tejon Ranch**	**1.19**	**235**		**Pn**	**03 16 54.3**	**-1.8**
ALPC	**Antelope**	**1.19**	**211**		**Pn**	**03 16 55.1**	**-1.0**
ARVC	**Arvin**	**1.20**	**241**		**Pn**	**03 16 54.8**	**-1.3**
THC	**Tehachapi Micr**	**1.21**	**229**		**Pn**	**03 16 54.9**	**-1.7**
LEOC	**Leona Valley**	**1.24**	**210**		**Pn**	**03 16 55.7**	**-1.1**
LRRC	**Littlerock Res**	**1.25**	**199**		**Pn**	**03 16 55.9**	**-0.9**
VES	**Vestal, Richgr**	**1.26**	**276**		**Pn**	**03 16 56.0**	**-0.9**
AMDNV	**Amargosa**	**1.27**	**54**		**Pb**	**03 16 55.8**	**-1.2**
HOLC	**Holcomb Ridge**	**1.27**	**191**		**Pn**	**03 16 56.3**	**-1.0**
CJV	**Casa Juvan**	**1.27**	**203**		**Pn**	**03 16 56.4**	**-1.0**
GRAC	**Grapevine Rang**	**1.29**	**6**		**Pb**	**03 16 56.5**	**-0.9**
JNH	**Juniper Hills**	**1.30**	**195**		**Pn**	**03 16 56.8**	**-1.0**
DSCC	**Desert Studies**	**1.31**	**115**		**Pn**	**03 16 56.2**	**-1.5**
WCT	**Wildcat Mounta**	**1.31**	**34**		**Pb**	**03 16 56.9**	**-0.9**
WCT				IAML		03 17 18.4	
	comp=E,16μm,0.6s						
BAKC	**Calstate**	**1.32**	**254**		**Pb**	**03 16 57.3**	**-0.6**
HEC	**Hector,Ludlow**	**1.33**	**131**		**Pn**	**03 16 56.9**	**-1.1**
SGV	**South Grapevin**	**1.33**	**18**		**Pb**	**03 16 57.3**	**-1.0**
TUQ	**Turquoise Moun**	**1.35**	**101**		**Pn**	**03 16 57.0**	**-1.4**
CHFC	**Chilao Flat St**	**1.43**	**196**		**Pn**	**03 16 58.5**	**-1.0**
TIN	**Tinemaha, Big**	**1.45**	**338**		**Pb**	**03 16 59.4**	**-0.8**
TIN	**Tinemaha, Big**	**1.45**	**338**	P	**Pb**	**03 16 59.4**	**-0.8**
OSI	**Osito Audit: C**	**1.46**	**222**		**Pn**	**03 16 59.1**	**-0.7**
BFSC	**Mount Baldy Ra**	**1.47**	**184**		**Pn**	**03 16 59.3**	**-0.8**
SIL	**Silver Peak**	**1.48**	**156**		**Pn**	**03 16 59.3**	**-0.9**
SS2	**San Sevaine**	**1.50**	**178**		**Pb**	**03 16 59.8**	**-1.2**
SSK	**Sunset Peak**	**1.50**	**185**		**Pn**	**03 16 59.9**	**-0.6**
LCH	**Last Change Ra**	**1.52**	**357**		**Pn**	**03 17 00.0**	**-0.8**
BBRC	**Big Bear Solar**	**1.53**	**160**		**Pn**	**03 17 00.2**	**-0.8**
MWC	**Mount Wilson**	**1.54**	**196**		**Pn**	**03 17 00.5**	**-0.5**
MWC	**Mount Wilson**	**1.54**	**196**	P	**Pn**	**03 17 00.5**	**-0.5**
MPI	**Mount Pinos, F**	**1.58**	**236**		**Pn**	**03 17 00.6**	**-1.2**
DECC	**Green Verdugo**	**1.59**	**204**		**Pn**	**03 17 01.1**	**-0.4**
GMN	**Gold Mountain**	**1.60**	**8**		**Pn**	**03 17 01.3**	**-0.7**
GMN				IAML		03 17 31.9	
	comp=N,12μm,1.0s						
VOG	**Valley Oaks Go**	**1.61**	**293**		**Pn**	**03 17 01.4**	**-0.3**
HLNC	**Highland**	**1.61**	**170**		**Pb**	**03 17 02.3**	**-0.5**
FON	**Fontana**	**1.61**	**177**		**Pb**	**03 17 01.5**	**-1.3**
CFSC	**Central Fire S**	**1.62**	**172**		**Pb**	**03 17 02.7**	**-0.2**
OAT	**Oat Mountain**	**1.62**	**213**		**Pn**	**03 17 01.8**	**-0.3**
TPNV	**Topopah Spring**	**1.62**	**40**		**Pn**	**03 17 01.2**	**-0.9**
TPNV				IAML		03 17 29.6	
	comp=N,30μm,1.0s						
TPNV				IAML		03 17 32.0	
	comp=N,21μm,1.0s						
TPNV	**Topopah Spring**	**1.62**	**40**	P	**Pn**	**03 17 01.2**	**-0.9**
PASC	**Pasadena Art C**	**1.62**	**199**		**Pn**	**03 17 01.4**	**-0.7**
PASC				IAML		03 17 29.1	
	comp=E,22μm,1.1s						
PASC				IAML		03 17 29.3	
	comp=N,15μm,1.0s						
PSRC	**Puddingstone R**	**1.63**	**188**		**Pb**	**03 17 02.0**	**-1.2**
CACC	**Caltech Cellar**	**1.64**	**197**		**Pb**	**03 17 02.2**	**-1.1**
MTPC	**Mountain Pass**	**1.64**	**97**		**Pn**	**03 17 01.2**	**-1.2**
SVD	**Seven Oaks Dam**	**1.64**	**167**		**Pn**	**03 17 01.8**	**-0.5**
HLLC	**North Hollywoo**	**1.67**	**204**		**Pb**	**03 17 02.6**	**-1.3**
DSP	**Deep Springs**	**1.69**	**349**		**Pn**	**03 17 02.5**	**-0.5**
DSP				IAML		03 17 29.5	
	comp=E,13μm,1.1s						
MLSC	**Mira Loma**	**1.70**	**180**		**Pn**	**03 17 02.7**	**-0.4**
GR2C	**Griffith Obs.**	**1.71**	**201**		**Pn**	**03 17 03.0**	**-0.1**
BCW	**Bitter Crk WRg**	**1.71**	**244**		**Pn**	**03 17 02.1**	**-1.1**
CFT	**Crafton Hills**	**1.71**	**168**		**Pn**	**03 17 02.9**	**-0.3**
CHNC	**Chino**	**1.71**	**184**		**Pb**	**03 17 03.4**	**-1.2**
GTM	**Goat Mountain**	**1.72**	**145**		**Pn**	**03 17 02.2**	**-1.2**
RVR	**Riverside**	**1.72**	**175**		**Pn**	**03 17 02.8**	**-0.5**
RVR	**Riverside**	**1.72**	**175**	P	**Pn**	**03 17 02.8**	**-0.5**
GVRC	**Garvey Reservo**	**1.72**	**196**		**Pb**	**03 17 03.5**	**-1.2**
BLCC	**Black Canyon**	**1.73**	**213**		**Pn**	**03 17 03.3**	**-0.2**
RSBC	**Riverside Bore**	**1.74**	**174**		**Pb**	**03 17 03.5**	**-1.6**
RHC	**Rose Hills Cem**	**1.75**	**193**		**Pn**	**03 17 03.4**	**-0.3**
POCCA	**Poleta Canyon**	**1.75**	**341**		**Pb**	**03 17 03.9**	**-1.5**
BHPR	**Bishop**	**1.76**	**335**		**Pn**	**03 17 03.5**	**-0.5**
DJJ	**Donna J Jenkin**	**1.77**	**205**		**Pn**	**03 17 03.4**	**-0.6**
DJJ	**Donna J Jenkin**	**1.77**	**205**		**Pn**	**03 17 03.4**	**-0.6**
GMRC	**Granite Mounta**	**1.80**	**120**		**Pn**	**03 17 02.8**	**-1.8**
MZP	**Montezuma Peak**	**1.99**	**4**		**Pn**	**03 17 06.7**	**-0.7**
EW2	**E Wide Canyon**	**2.00**	**152**		**Pn**	**03 17 06.6**	**-0.7**
ELS	**Elsinore Mount**	**2.06**	**177**		**Pn**	**03 17 07.5**	**-0.6**
RPV	**Rancho Palos V**	**2.09**	**200**		**Pn**	**03 17 08.7**	**+0.3**
SHPR	**Sheep Range**	**2.09**	**67**		**Pn**	**03 17 08.0**	**-0.6**
V12A	**Nelson**	**2.19**	**89**		**Pn**	**03 17 08.7**	**-1.2**
PFO	**Pinyon Flats O**	**2.28**	**156**		**Pn**	**03 17 10.2**	**-1.0**
PFO				IAML		03 17 53.4	
	comp=E,7μm,1.5s						
PFO	**Pinyon Flats O**	**2.28**	**156**	Pn	**Pn**	**03 17 10.3**	**-0.8**
	comp=E,47nm,0.3s,baz=339,slow=11,SNR=328						
PFO				Pg	**Pg**	**03 17 15.0**	**-1.2**
	comp=E,287nm,0.3s,baz=332,slow=15,SNR=48						
PFO				Lg	Lg	03 17 42.9	
	comp=E,693nm,0.3s,baz=64,slow=19,SNR=12						
	comp=E,181nm,0.3s						
PFO	**Pinyon Flats O**	**2.28**	**156**	*i* P	**Pn**	**03 17 09.9**	**-1.2**
TPH	**Tonopah**	**2.37**	**6**		**Pn**	**03 17 12.1**	**-0.4**
TPH	**Tonopah**	**2.37**	**6**	P	**Pn**	**03 17 12.1**	**-0.4**
S11A	**Rachel**	**2.41**	**36**		**Pn**	**03 17 12.7**	**-0.4**
PRN	**Pahroc Range**	**2.63**	**49**		**Pn**	**03 17 15.5**	**-0.5**
LHV	**Little Huntoon**	**2.65**	**343**		**Pn**	**03 17 16.5**	**+0.4**
LHV				IAML		03 18 09.9	
	comp=N,6μm,1.6s						
LHV				IAML		03 18 18.2	
	comp=E,5μm,1.3s						
PMPB	**Monarch Peak**	**2.69**	**282**		**Pn**	**03 17 15.9**	**-0.8**
NV11	**Mina Array Sit**	**2.76**	**350**		**Pn**	**03 17 17.8**	**0.0**
NVAR	**Mina Array Bea**	**2.78**	**348**	Pn	**Pn**	**03 17 18.0**	**-0.1**
	comp=E,30nm,0.3s,baz=179,slow=14,SNR=298						
NVAR				Pg	**Pg**	**03 17 24.5**	**-1.3**
	comp=E,435nm,0.3s,baz=164,slow=16,SNR=123						
NVAR				Lg	Lg	03 18 00.7	
	comp=E,379nm,0.3s,baz=124,slow=2.4,SNR=4.1						
	comp=E,46nm,0.5s						
BBGB	**Big Mountain B**	**2.96**	**288**		**Pn**	**03 17 20.3**	**-0.1**
RYN	**Ryan**	**3.01**	**345**		**Pn**	**03 17 21.4**	**+0.1**
W13A	**Hualapai Mount**	**3.05**	**100**	IAML		03 18 25.0	
	comp=N,3μm,0.9s						
BLYC	**Blythe**	**3.17**	**127**	IAML		03 18 17.4	
	comp=E,6μm,0.7s						
BLYC				IAML		03 18 19.3	
	comp=N,6μm,1.1s						
WAKR	**Walker**	**3.17**	**332**	IAML		03 18 27.2	
	comp=N,3μm,1.7s						
WAKR				IAML		03 18 27.2	
	comp=E,3μm,1.3s						
TKX	**Tecate**	**3.23**	**166**	IAML		03 18 16.9	
	comp=E,2μm,0.9s						
CMB	**Columbia Colle**	**3.25**	**316**	IAML		03 18 19.0	
	comp=N,4μm,1.2s						
CMB				IAML		03 18 22.7	
	comp=E,4μm,1.1s						
CCUT	**Cedar City**	**3.83**	**60**	IAML		03 18 39.9	
	comp=N,2μm,1.2s						
CCX	**Cicese**	**3.90**	**169**	IAML		03 18 39.4	
	comp=N,2μm,0.8s						
CCX				IAML		03 18 39.6	
	comp=E,2μm,0.9s						
ESJX	**Sierra Juarez**	**3.93**	**160**	IAML		03 18 41.2	
	comp=E,2μm,1.2s						
KNB	**Kanab**	**4.03**	**70**	IAML		03 18 42.2	
	comp=E,2μm,1.1s						
KNB				IAML		03 18 48.6	
	comp=N,2μm,1.0s						
PSUT	**Pine Spring**	**4.08**	**45**	IAML		03 18 45.1	
	comp=N,2μm,0.9s						
PSUT				IAML		03 18 47.3	
	comp=E,3μm,0.9s						
Y14A	**Wickenburg**	**4.13**	**114**	IAML		03 18 46.9	
	comp=E,2μm,0.9s						
SPR3	**Spring Creek 3**	**4.16**	**37**	IAML		03 18 47.7	
	comp=E,2μm,1.0s						
SPR3				IAML		03 18 47.8	
	comp=N,2μm,1.0s						
AFDM	**Forest Hills D**	**4.23**	**321**	IAML		03 18 49.9	
	comp=E,3μm,0.7s						
AFDM				IAML		03 18 57.2	
	comp=N,2μm,1.1s						
113A	**Mohawk Valley,**	**4.29**	**132**	IAML		03 18 56.2	
	comp=E,2μm,1.4s						
113A				IAML		03 18 58.2	
	comp=N,2μm,0.8s						
VTX	**Valle De La Tr**	**4.55**	**161**	IAML		03 19 00.8	
	comp=N,1μm,1.0s						
VTX				IAML		03 19 05.7	
	comp=E,2μm,1.0s						
MCCM	**Marconi Confer**	**4.91**	**301**	IAML		03 19 14.7	
	comp=E,1μm,1.4s						
MCCM				IAML		03 19 18.2	
	comp=N,1μm,1.2s						
ORV	**Oroville**	**4.96**	**322**	IAML		03 19 14.6	
	comp=N,866nm,0.9s						
ORV				IAML		03 19 19.6	
	comp=E,2μm,2.0s						
WUAZ	**Wupatki**	**5.03**	**90**	IAML		03 19 14.2	
	comp=E,2μm,1.2s						
X16A	**Lo Mia Camp, P**	**5.17**	**103**	IAML		03 19 25.1	
	comp=E,1μm,1.2s						
X16A				IAML		03 19 45.5	
	comp=N,751nm,1.1s						
SFX	**San Felipe**	**5.18**	**153**	IAML		03 19 36.9	
	comp=N,641nm,1.0s						
GDXM	**Geysers**	**5.20**	**308**	IAML		03 19 48.2	
	comp=E,528nm,1.7s						
GDXM				IAML		03 19 52.7	
	comp=N,602nm,1.8s						
ELK	**Elko**	**5.34**	**19**	IAML		03 19 23.0	
	comp=N,690nm,0.7s						
ELK				IAML		03 19 23.4	
	comp=N,629nm,0.7s						
ELK	**Elko**	**5.34**	**19**	Pn	**Pn**	**03 17 54.3**	**+0.9**
	comp=N,17nm,0.3s						
ELK				Pg	**Pb**	**03 18 08.9**	**+2.2**
	comp=N,36nm,0.3s,baz=215,slow=14,SNR=49						
ELK				Lg	Lg	03 19 20.5	
	comp=N,156nm,0.3s,baz=302,slow=22,SNR=19						
YBH	**Yreka Blue Hor**	**7.24**	**328**	Pn	Pn	03 18 23.4	+4.1
	baz=154,slow=8.5,SNR=21						
YBH				Lg	Lg	03 20 15.6	
	comp=N,0.1nm,0.3s,baz=43,slow=8.8,SNR=7.4						
ANMO	**Albuquerque**	**9.10**	**92**	Pn	**Pn**	**03 18 48.1**	**+3.2**
	comp=N,0.5nm,0.3s,baz=12,slow=11,SNR=17						
ANMO				Pg		03 19 20.8	
	comp=N,1.6nm,0.3s,baz=5.8,slow=15,SNR=22						
ANMO				Lg	Lg	03 21 18.2	
	comp=N,1.0nm,0.3s,baz=130,slow=21,SNR=9.6						
PDAR	**Pinedale Array**	**9.38**	**39**	Pn	Pn	03 18 52.9	+4.1
	comp=N,0.5nm,0.3s,baz=230,slow=13,SNR=45						
	comp=N,11nm,0.9s						
NEW	**Newport**	**12.55**	**1**	Pn		03 19 36.6	
	comp=N,0.1nm,0.3s,baz=182,slow=12,SNR=13						
	comp=N,8.2nm,0.9s						
TXAR	**Lajitas Array**	**13.32**	**115**	Pn	**Pn**	**03 19 44.7**	**+2.1**
	comp=N,1.3nm,0.3s,baz=292,slow=12,SNR=37						
	comp=N,2.7nm,0.5s						
LLLB	**Lillooet**	**15.22**	**349**	P	**Pn**	**03 20 08.9**	**+0.6**
CBB	**Campbell River**	**15.40**	**341**	P	**P**	**03 20 14.8**	**-0.6**
K30B	**Basset**	**15.53**	**58**	P	**Pn**	**03 20 12.4**	**-0.1**
K30B				IAmb	IAmb	03 20 19.0	
	comp=Z,37nm,1.1s						
DRIO	**Del Rio**	**15.58**	**109**	IAmb	IAmb	03 20 18.2	
	comp=Z,48nm,1.8s						
JCT	**Junction City**	**15.76**	**104**	IAmb	IAmb	03 20 20.4	
	comp=Z,86nm,1.6s						
KAN14	**Manchester OK**	**15.84**	**80**	P	**Pn**	**03 20 15.3**	**-1.1**
KAN14				IAmb	IAmb	03 20 22.2	
	comp=Z,48nm,1.4s						
PLPT	**Palo Pinto**	**16.16**	**95**	IAmb	IAmb	03 20 27.6	
	comp=Z,66nm,1.5s						
X34A	**Smith Ranch, M**	**16.17**	**88**	P	**P**	**03 20 22.6**	**-1.4**
X34A				IAmb	IAmb	03 20 26.8	
	comp=Z,119nm,1.6s						
FW03	**Perrin-Whitt E**	**16.31**	**94**	IAmb	IAmb	03 20 29.3	
	comp=Z,51nm,1.3s						
FW07	**Weatherford**	**16.62**	**95**	IAmb	IAmb	03 20 33.5	
	comp=Z,146nm,1.6s						
OK048	**Pawnee Station**	**16.68**	**82**	P	**P**	**03 20 27.0**	**-2.7**
OK048				IAmb	IAmb	03 20 34.9	
	comp=Z,41nm,1.2s						
OK052	**Battle Ridge R**	**16.82**	**83**	IAmb	IAmb	03 20 36.7	
	comp=Z,120nm,1.4s						
Z35A	**Perchaven, San**	**16.89**	**92**	IAmb	IAmb	03 20 37.8	
	comp=Z,58nm,1.1s						
T35A	**Sooner Cattle**	**17.00**	**80**	P	**Pn**	**03 20 30.2**	**-1.1**
WHTX	**Lake Whitney,**	**17.09**	**97**	IAmb	IAmb	03 20 40.3	
	comp=Z,81nm,1.1s						
F33A	**5 Mile Ranch,**	**18.96**	**51**	IAmb	IAmb	03 20 59.5	
	comp=Z,46nm,1.1s						
HKT	**Hockley**	**19.12**	**101**	*i* P	**Pn**	**03 20 58.0**	**+0.7**
HKT				pmax	pmax		
	comp=Z,32nm,1.5s						
X40A	**Basin Creek Fa**	**20.25**	**86**	P	Pn	03 21 08.8	-2.0
X40A				IAmb	IAmb	03 21 21.5	
	comp=Z,46nm,1.6s						
AGMN	**Agassiz Nation**	**20.36**	**45**	IAmb	IAmb	03 21 15.0	
	comp=Z,42nm,0.8s						
WHAR	**Wooly Hollow**	**20.56**	**84**	P	Pn	03 21 12.4	-2.1
LCAR	**Lake Charles**	**21.37**	**81**	P	**P**	**03 21 21.1**	**0.0**
LCAR				IAmb	IAmb	03 21 29.4	
	comp=Z,70nm,1.4s						
ULM	**Lac du Bonnet**	**21.40**	**41**	P	**P**	**03 21 21.3**	**+0.1**
ULM	**Lac du Bonnet**	**21.40**	**41**	P	**P**	**03 21 22.2**	**+1.0**
	comp=Z,87nm,1.0s,baz=230,slow=11,SNR=58						
	comp=Z,87nm,1.0s						
ULM	**Lac du Bonnet**	**21.40**	**41**	*i* P	**P**	**03 21 20.2**	**-1.0**
L40A	**Anamosa**	**21.41**	**65**	IAmb	IAmb	03 21 27.1	
	comp=Z,25nm,1.0s						
FFC	**Flin Flon**	**21.86**	**25**	P	**P**	**03 21 26.9**	**+0.8**
FFC	**Flin Flon**	**21.86**	**25**	P	**P**	**03 21 26.9**	**+0.8**
FFC				pmax	pmax		
	comp=Z,76nm,1.1s						
V35K	**Ketchikan**	**21.88**	**338**	P	**P**	**03 21 25.7**	**-0.6**
	baz=148,SNR=9.8						
I40A	**Norwalk**	**22.17**	**60**	IAmb	IAmb	03 21 35.0	
	comp=Z,24nm,0.7s						
JFWS	**Jewell Farm**	**22.25**	**63**	IAmb	IAmb	03 21 35.3	
	comp=Z,18nm,0.9s						
EPLO	**Experimental L**	**22.27**	**44**	P	**P**	**03 21 30.9**	**+0.3**
CRAG	**Craig**	**22.47**	**336**	P	**P**	**03 21 32.5**	**-0.1**
	baz=145						
EYMN	**Ely**	**22.82**	**50**	IAmb	IAmb	03 21 42.9	
	comp=Z,27nm,1.2s						
T35M	**Bob Quinn**	**22.94**	**342**	P	**P**	**03 21 36.4**	**-1.2**
	baz=153						
U33K	**Whale Pass**	**23.00**	**337**	P	**P**	**03 21 36.9**	**-1.3**
	baz=146						
WRAK	**Wrangell Islan**	**23.02**	**339**	P	**P**	**03 21 37.6**	**-0.8**
	baz=148,SNR=9.2						
I42A	**Draeger Farm,**	**23.38**	**61**	IAmb	IAmb	03 21 47.0	
	comp=Z,24nm,0.9s						
TOAD	**Toad River Com**	**23.70**	**350**	P	**P**	**03 21 45.1**	**-0.2**
	baz=164,SNR=11						
COWI	**Conover**	**23.73**	**55**	IAmb	IAmb	03 22 09.5	
	comp=Z,17nm,0.8s						
DLBC	**Dease Lake**	**24.19**	**344**	P	**P**	**03 21 54.1**	**+4.0**
	comp=Z,1.5nm,1.1s,baz=160,slow=6.9,SNR=20						
DLBC	**Dease Lake**	**24.19**	**344**	P	**P**	**03 21 49.7**	**-0.4**
	baz=155,SNR=21						
LIRD	**Liard River Hi**	**24.36**	**349**	P	**P**	**03 21 51.3**	**-0.3**
	baz=163,SNR=11						
TBO	**Thunder Bay**	**24.38**	**49**	IAmb	IAmb	03 21 57.1	
	comp=Z,20nm,0.8s						
SIT	**Sitka**	**24.48**	**336**	P	**P**	**03 21 51.8**	**-0.8**
	baz=143						
S32K	**Killisnoo**	**24.57**	**338**	P	**P**	**03 21 53.4**	**-0.1**
	baz=145,SNR=5.4						
KOTAN	**Kotaneelee Air**	**24.80**	**352**	P	**P**	**03 21 54.8**	**-0.7**
	baz=167,SNR=21						
**Q32M

BVCY **Beaver Creek** 30.43 339 P P 03 22 44.8 -1.1
baz=141
BMRM **Bremner River** 30.59 334 P P 03 22 46.3 -1.1
baz=133
K29M **Barlow Dome** 30.69 343 P P 03 22 47.5 -0.9
baz=147,SNR=11
M27K **Edge Creek, AK** 30.70 338 P P 03 22 47.2 -1.2
baz=139,SNR=8.0
EYAK **Cordova Ski Ar** 30.73 333 P P 03 22 47.5 -1.0
baz=131
P23K **Montague Islan** 31.01 331 P P 03 22 50.2 -0.8
baz=128
N25K **Chitina, Valde** 31.03 335 P P 03 22 50.2 -1.1
baz=134,SNR=6.2
J30M **Hart River** 31.04 344 P P 03 22 50.6 -0.9
baz=150,SNR=15
M26K **Nabesna, AK** 31.08 337 P P 03 22 50.6 -1.1
baz=137,SNR=5.3
L27K **Beaver Creek,** 31.22 339 P P 03 22 51.8 -1.1
baz=140
DAWY **Dawson** 31.34 342 P P 03 22 53.5 -0.5
baz=144,SNR=11
P57A **Homestead Farm** 31.38 71 P P 03 22 54.1 -0.4
P57A IAmb IAmb 03 22 59.5
comp=Z,11nm,1.0s
KLU **Klutina** 31.42 334 P P 03 22 53.9 -0.8
baz=132
GLI **Glacier Island** 31.44 332 P P 03 22 54.3 -0.5
baz=130
BLKN **Baker Lake** 31.47 18 IAmb IAmb 03 22 57.5
comp=Z,9.1nm,1.0s
I30M **Mount Dempster** 31.61 345 P P 03 22 55.8 -0.7
baz=150,SNR=7.6
L26K **Log Cabin Wild** 31.65 338 P P 03 22 55.7 -1.0
baz=138
H31M **Peel River** 31.73 347 P P 03 22 56.4 -0.9
baz=154,SNR=8.3
HARP **HAARP** 31.77 336 P P 03 22 56.7 -1.1
baz=134
SEW **Seward** 31.89 330 P P 03 22 57.9 -0.9
baz=126
PWL **Port Wells** 31.90 332 P P 03 22 58.5 -0.5
baz=128
M24K **Tolsona, Glenn** 31.92 335 P P 03 22 57.7 -1.4
baz=132
K27K **Chicken** 32.03 340 P P 03 22 58.7 -1.3
baz=140
KDAK **Kodiak Island** 32.04 325 *i* P P 03 22 57.8 -2.3
KDAK pmax pmax
comp=Z,8.0nm,1.1s
KDAK **Kodiak Island** 32.04 325 P P 03 22 58.4 -1.7
baz=118
OHAK **Old Harbor** 32.12 323 P P 03 22 59.2 -1.6
baz=117
SCM **Sheep Creek Mo** 32.15 334 P P 03 22 59.5 -1.7
baz=131,SNR=5.7
O22K **Cooper Landing** 32.22 330 P P 03 23 00.0 -1.7
baz=126
M23K **Glacier View** 32.26 333 P P 03 23 00.4 -1.7
baz=130
SII **Sitkinak Islan** 32.28 322 P P 03 22 59.8 -2.4
baz=115
PAX **Paxson** 32.28 336 P P 03 23 00.2 -2.1
baz=134
KNK **Knik Glacier** 32.29 332 P P 03 23 00.7 -1.6
baz=129
Q20K **Shuyak Island** 32.36 326 P P 03 23 01.0 -1.8
baz=120
SCRK **Sand Creek** 32.55 339 P P 03 23 03.2 -1.4
baz=138,SNR=17
RC01 **Rabbit Creek A** 32.59 331 P P 03 23 03.4 -1.5
baz=126
I28M **Miner Creek** 32.61 343 P P 03 23 03.9 -1.2
baz=145,SNR=18
RIDG **Independent Ri** 32.63 338 P P 03 23 04.1 -1.3
baz=136
PMR **Palmer** 32.66 332 P P 03 23 04.2 -1.3
baz=128,SNR=7.9
EPYK **Eagle Plains** 32.68 346 P P 03 23 05.1 -0.6
baz=150,SNR=11
G31M **Satah River** 32.72 348 P P 03 23 04.7 -1.3
baz=154,SNR=7.7
CHIR **Chirikof Islan** 32.73 320 P P 03 23 04.3 -1.9
baz=112
WAT6 **Susitna Watana** 32.78 335 P P 03 23 04.7 -2.1
baz=131,SNR=12
J26L **Joseph Creek** 32.81 339 P P 03 23 05.4 -1.5
baz=139,SNR=6.9
H29M **Whitestone** 32.90 345 P P 03 23 06.5 -1.0
baz=148,SNR=11
K24K **Donnelly Dome** 32.97 337 P P 03 23 06.7 -1.5
baz=135
DHY **Denali Highway** 32.99 335 P P 03 23 06.8 -1.8
baz=132,SNR=9.0
Q19K **Cape Douglas,** 33.08 326 P P 03 23 07.8 -1.5
baz=119
F31M **Tsiigehtchic** 33.11 349 P P 03 23 08.0 -1.3
baz=156
G30M **tAoh Zraii Nji** 33.12 347 P P 03 23 07.8 -1.8
baz=152
M22K **Willow** 33.13 332 P P 03 23 08.1 -1.5
baz=127
I27K **Kandik River** 33.15 342 P P 03 23 08.3 -1.5
baz=143
SUA **Susitna One** 33.20 331 P P 03 23 08.6 -1.8
baz=126
O20K **Slope Mountain** 33.21 328 P P 03 23 08.6 -1.8
baz=121
WAT1 **Susitna Watana** 33.23 334 P P 03 23 09.2 -1.3
baz=130
P19K **Oil Pt** 33.25 327 P P 03 23 09.5 -1.3
baz=120
I26K **Coal Creek Min** 33.32 341 P P 03 23 10.1 -1.1
baz=140
G29M **Pine Creek** 33.42 345 P P 03 23 10.3 -1.8
baz=149,SNR=9.8
J25K **Salcha River,** 33.42 339 P P 03 23 10.7 -1.5
baz=136,SNR=7.5
Q18K **Katmai Hardscr** 33.58 325 P P 03 23 12.8 -0.9
baz=116
F30M **Barrier River** 33.60 347 P P 03 23 12.9 -0.8
baz=153,SNR=17
H27K **Steamboat Moun** 33.63 343 P P 03 23 12.6 -1.4
baz=143,SNR=11
TRQ **Mont Tremblant** 33.75 58 IAmb IAmb 03 23 23.5
comp=Z,14nm,1.5s
HDA **Harding Lake** 33.76 337 P P 03 23 13.7 -1.4
baz=134
R17L **Mt. Peulik Vol** 33.80 323 P P 03 23 14.6 -0.9
baz=114
SKT **Skwentna** 33.81 332 P P 03 23 14.2 -1.3
baz=125
Q17K **Contact Creek** 33.83 324 P P 03 23 14.1 -1.8
baz=115,SNR=6.5
INK **Inuvik** 33.87 349 P P 03 23 14.7 -1.2
baz=156,SNR=8.3
MCK **McKinley** 33.95 335 P P 03 23 15.2 -1.5
baz=131,SNR=7.0
ILAR **Eielson Array** 33.99 338 P P 03 23 19.4 +2.3
comp=Z,6.9nm,1.1s,baz=153,slow=6.9,SNR=43
comp=Z,6.9nm,1.1s
P18K **Big Mountain,** 34.02 326 P P 03 23 15.9 -1.5
baz=117
G27K **Doyon Strip** 34.13 343 P P 03 23 16.9 -1.4
baz=144,SNR=11
PRP **Porcupine Dome** 34.13 340 P P 03 23 17.6 -0.9
baz=137
O18K **Koktuh Hills** 34.23 327 P P 03 23 18.2 -1.0
baz=118
TRF **Thorofare Moun** 34.23 334 P P 03 23 17.8 -1.6
baz=129,SNR=7.3
CHGN **Chignik** 34.36 320 P P 03 23 19.1 -1.3
baz=109
COLA **College** 34.36 338 *i* P P 03 23 22.4 +2.1
COLA pmax pmax
comp=Z,9.0nm,1.3s
N19K **Bonanza Creek** 34.38 329 P P 03 23 19.0 -1.6
baz=120,SNR=7.7
M20K **Styx River** 34.38 331 P P 03 23 18.7 -2.0
baz=123
F28M **Old Crow** 34.40 345 P P 03 23 19.5 -1.1
baz=147,SNR=8.9
P17K **Kvichak River** 34.49 325 P P 03 23 19.9 -1.5
baz=116
CHNA **Chernabura Isl** 34.55 317 P P 03 23 20.4 -1.6
baz=106
NEA2 **Nenana** 34.56 337 P P 03 23 20.6 -1.4
baz=131,SNR=10

PPLA **Purkeypile** 34.59 333 P P 03 23 20.3 -2.1
baz=126
E29M **Blow River** 34.67 347 P P 03 23 21.3 -1.7
baz=150,SNR=15
G26K **Porcupine Rive** 34.75 342 P P 03 23 21.9 -1.7
baz=141,SNR=26
H25L **Birch Creek** 34.77 340 P P 03 23 22.6 -1.1
baz=138
CAST **Castle Rocks** 34.86 333 P P 03 23 23.2 -1.5
baz=126,SNR=9.3
BPAW **Bear Paw Mtn.** 34.88 335 P P 03 23 24.0 -0.9
baz=128,SNR=23
M19K **Big River Lodg** 34.90 330 P P 03 23 23.9 -1.1
baz=122
N18K **Kilae Creek** 34.91 328 P P 03 23 23.7 -1.4
baz=118
S14K **Fog Glacier** 34.95 319 P P 03 23 24.3 -1.3
baz=108
L20K **Farewell, AK** 35.00 331 P P 03 23 24.6 -1.3
baz=123,SNR=11
I23K **Minto, Yukon-K** 35.02 337 P P 03 23 25.1 -0.9
baz=132
O17K **Koliganek Bris** 35.04 326 P P 03 23 25.2 -1.0
baz=116
H24K **Noodor Dome** 35.04 339 P P 03 23 25.2 -1.1
baz=134,SNR=6.2
E28M **Babbage River** 35.17 346 P P 03 23 26.4 -0.8
baz=148,SNR=9.6
SDPT **Sand Point** 35.18 318 P P 03 23 26.1 -1.3
baz=106
G25K **Bearman Lake** 35.21 341 P P 03 23 26.6 -1.0
baz=138,SNR=8.2
CHUM **Lake Minchumin** 35.22 334 P P 03 23 26.6 -1.1
baz=126,SNR=18
L19K **White Mountain** 35.23 330 P P 03 23 29.5 +1.6
L19K IAmb IAmb 03 23 33.2
comp=Z,20nm,1.4s
L19K **White Mountain** 35.23 330 P P 03 23 26.4 -1.4
baz=121,SNR=7.1
E27K **Coleen River** 35.24 345 P P 03 23 26.5 -1.4
baz=145,SNR=11
M18K **Stony River** 35.28 329 P P 03 23 26.3 -2.0
baz=119,SNR=9.9
MLY **Manley** 35.39 336 P P 03 23 27.7 -1.5
baz=136,SNR=12
N17K **Nushagak Hills** 35.41 327 P P 03 23 28.0 -1.4
baz=116,SNR=5.8
F26K **Sheenjek River** 35.42 343 P P 03 23 28.1 -1.4
baz=141,SNR=32
O16K **Kokwok River B** 35.42 325 P P 03 23 27.5 -2.0
baz=114
H23K **Yukon River** 35.53 338 P P 03 23 29.0 -1.5
baz=132,SNR=9.0
G24K **Hadweenzic Riv** 35.54 340 P P 03 23 28.9 -1.5
baz=136,SNR=10
K20K **Telida** 35.55 333 P P 03 23 29.7 -0.9
baz=124,SNR=31
F25K **Christian Rive** 35.71 342 P P 03 23 30.9 -1.1
baz=139,SNR=13
M17K **Holitna River** 35.92 328 P P 03 23 32.3 -1.4
baz=117,SNR=12
D27M **Malcolm River** 35.99 346 P P 03 23 32.5 -1.8
baz=147
L18K **Granite Mounta** 35.99 330 P P 03 23 33.1 -1.3
baz=119,SNR=9.0
J20K **Nowinta River** 36.04 334 P P 03 23 33.1 -1.7
baz=124,SNR=18
O15K **Ungalikthiuk R** 36.08 324 P P 03 23 32.9 -2.2
baz=112
E25K **Arctic Village** 36.10 343 P P 03 23 33.7 -1.6
baz=140,SNR=10
N16K **Nishlik Lake** 36.10 326 P P 03 23 33.2 -2.1
baz=114,SNR=10
S12K **Black Hills** 36.14 318 P P 03 23 34.2 -1.6
baz=105
H22K **Ishtalitna Cre** 36.15 337 P P 03 23 34.8 -0.9
baz=130,SNR=26
F24K **Squaw Lake** 36.24 341 P P 03 23 35.2 -1.3
baz=136,SNR=6.2
G23K **Bananza Creek** 36.27 339 P P 03 23 35.5 -1.3
baz=132,SNR=5.7
M16K **Timber Creek** 36.41 327 P P 03 23 36.7 -1.3
baz=115,SNR=5.9
H21K **Melozitna Rive** 36.46 336 P P 03 23 36.9 -1.5
baz=128,SNR=30
J19K **Poorman** 36.48 333 P P 03 23 37.5 -1.1
baz=122,SNR=15
I20K **Naaghedeneel** 36.52 334 P P 03 23 37.9 -0.9
baz=125,SNR=8.7
A36M **Sachs Harbour** 36.56 356 P P 03 23 37.2 -1.9
baz=170
N15K **Kwethluk River** 36.58 325 P P 03 23 37.8 -1.6
baz=113
L17K **Donlin** 36.62 329 P P 03 23 38.3 -1.4
baz=117,SNR=7.1
J18K **Innoko River** 36.62 332 P P 03 23 38.6 -1.2
baz=120,SNR=10
COLD **Coldfoot** 36.68 339 P P 03 23 39.0 -1.2
baz=133
O14K **Tigyukauivet M** 36.80 324 P P 03 23 39.5 -1.7
baz=110
E24K **Your Creek** 36.80 341 P P 03 23 39.9 -1.4
baz=136
G22K **Bettles** 36.85 338 P P 03 23 40.0 -1.7
baz=131,SNR=6.2
C27K **Jago River** 36.86 345 P P 03 23 40.1 -1.6
baz=143,SNR=5.7
K17K **Iditarod** 36.89 330 P P 03 23 40.5 -1.6
baz=118,SNR=14
L16K **Chuathbaluk River** 36.93 328 P P 03 23 40.2 -2.2
baz=115
M15K **Kasigluk River** 37.05 326 P P 03 23 41.7 -1.7
baz=113
H20K **Anotleneega Mo** 37.05 335 P P 03 23 41.8 -1.7
baz=125,SNR=19
E23K **Chandalar** 37.09 341 P P 03 23 42.5 -1.3
baz=134,SNR=12
D25K **Kavik River** 37.21 344 P P 03 23 43.0 -1.8
baz=140,SNR=8.1
G21K **Allakaket** 37.21 337 P P 03 23 43.0 -1.8
baz=128,SNR=9.7
N14K **Kuskokwak Cree** 37.23 325 P P 03 23 43.2 -1.7
baz=110
C26K **Camden Bay** 37.34 345 P P 03 23 44.0 -1.8
baz=142
GCSA **Galena City Sc** 37.35 333 P P 03 23 44.6 -1.3
baz=122
F22K **John River** 37.44 339 P P 03 23 44.8 -1.9
baz=130
TOLK **Toolik Lake Re** 37.49 341 P P 03 23 45.5 -1.6
baz=135,SNR=7.2
J17K **VABM Dome** 37.52 331 P P 03 23 45.7 -1.7
baz=118
H19K **Roundabout Mou** 37.62 335 P P 03 23 46.0 -2.1
baz=123,SNR=9.3
F21K **Alatna River** 37.64 338 P P 03 23 46.5 -1.9
baz=129
M14K **Bethel** 37.66 326 P P 03 23 46.6 -1.9
baz=111
D24K **Happy Valley** 37.67 342 P P 03 23 46.2 -2.3
baz=136
E22K **Anaktuvuk Pass** 37.74 340 P P 03 23 47.1 -2.2
baz=132
L15K **Ungalak Mounta** 37.79 327 P P 03 23 47.4 -2.3
baz=113
D23K **Nanushuk River** 38.01 341 P P 03 23 49.1 -2.3
baz=134
KIP **Kipapa** 38.01 259 *i* P P 03 23 50.1 -1.9
KIP pmax pmax
comp=Z,28nm,1.2s
C24K **Franklin Bluff** 38.05 343 P P 03 23 50.3 -1.4
baz=137
K15K **Wolf Creek Mou** 38.05 328 P P 03 23 49.4 -2.5
baz=114
J16K **Anvik River** 38.08 330 P P 03 23 50.1 -2.1
baz=116
H18K **Honhosa River** 38.10 333 P P 03 23 51.2 -1.1
baz=120,SNR=6.4
G19K **Purcell Mounta** 38.17 335 P P 03 23 51.3 -1.5
baz=123,SNR=7.3
M13K **Dall Lake** 38.18 325 P P 03 23 51.0 -2.0
baz=109
L14K **Kuka Creek** 38.20 326 P P 03 23 51.1 -1.9
baz=111
F20K **Avaraart Lake** 38.24 337 P P 03 23 51.3 -2.1
baz=126
UNV **Unalaska Valle** 38.30 314 P P 03 23 52.1 -2.0
baz=98

I17K **Unalakleet** 38.38 331 P P 03 23 52.3 -2.4
baz=116
D22K **Ayikyak River** 38.48 340 P P 03 23 53.4 -2.1
baz=131
E21K **Killik River** 38.56 339 P P 03 23 54.0 -2.1
baz=129
H17K **Granite Mounta** 38.57 333 P P 03 23 54.6 -1.6
baz=118
G18K **Tagagawik** 38.59 334 P P 03 23 54.9 -1.5
baz=121,SNR=6.3
C23K **Itkillik River** 38.60 342 P P 03 23 55.2 -1.2
baz=135
F19K **Shaleruckik Mo** 38.78 336 P P 03 23 56.0 -1.9
baz=123,SNR=16
E19K **Redstone River** 38.95 337 P P 03 23 57.5 -1.9
baz=124,SNR=12
E20K **Nigu River** 39.09 338 P P 03 23 59.3 -1.4
baz=126,SNR=9.3
J14K **Nanvaranak Lak** 39.10 328 P P 03 23 58.0 -2.6
baz=112
G17K **Kiwalik Mounta** 39.11 333 P P 03 23 58.5 -2.2
baz=118,SNR=7.2
C21K **Knifeblade Rid** 39.24 340 P P 03 23 60.0 -1.8
baz=129,SNR=6.5
K13K **Kusilvak Mount** 39.29 327 P P 03 23 59.9 -2.3
baz=110
SCHQ **Schefferville** 39.46 45 P P 03 24 04.1 +0.3
comp=Z,6.8nm,1.1s,baz=251,slow=14,SNR=3.6
comp=Z,6.8nm,1.1s
B21K **Ikpikpuk River** 39.49 341 P P 03 24 02.2 -1.6
baz=130
D20K **Etivluk River** 39.49 339 P P 03 24 02.2 -1.7
baz=126
M11K **Mekoryuk** 39.52 324 P P 03 24 02.3 -1.9
baz=106
NIKH **Nikolski High** 39.60 312 P P 03 24 02.9 -2.1
baz=95
B22K **Teshekpuk Lake** 39.65 342 P P 03 24 03.1 -2.0
baz=132,SNR=6.4
G16K **Koyuk River** 39.69 332 P P 03 24 04.0 -1.6
baz=116,SNR=5.4
F17K **Baldwin Pennin** 39.77 334 P P 03 24 04.1 -2.1
baz=118
D19K **Kuna River** 39.81 338 P P 03 24 05.0 -1.6
baz=124,SNR=7.8
E18K **Tukpahlearik C** 40.03 336 P P 03 24 07.2 -1.2
baz=120,SNR=7.9
G15K **Niukluk** 40.17 331 P P 03 24 07.6 -2.0
baz=114
E17K **Hotham Inlet** 40.28 335 P P 03 24 08.7 -1.7
baz=118
B20K **Meade River** 40.42 340 P P 03 24 09.6 -2.0
baz=127
A22K **Sinclair Lake** 40.47 342 P P 03 24 10.0 -2.0
baz=130
ANM **Nome** 40.53 330 P P 03 24 10.6 -1.9
baz=112
C19K **Lookout Ridge** 40.60 338 P P 03 24 11.5 -1.7
baz=123
F15K **North Star Dit** 40.69 332 P P 03 24 11.6 -2.3
baz=114
C18K **Utukok River** 40.85 337 P P 03 24 13.3 -1.9
baz=121
SPIA **Saint Paul Isl** 40.89 319 P P 03 24 13.6 -2.0
baz=98
D17K **Noatak River** 41.00 335 P P 03 24 14.2 -2.2
baz=118
A21K **Barrow** 41.09 342 P P 03 24 14.5 -2.5
baz=129
RDOG **Red Dog Mine** 41.11 336 P P 03 24 15.1 -2.2
baz=118
F14K **Arctic Creek** 41.24 332 P P 03 24 16.3 -2.1
baz=112
C17K **DeLong Mountai** 41.40 336 P P 03 24 17.1 -2.6
baz=118
B18K **Kokolik River** 41.41 338 P P 03 24 17.3 -2.4
baz=121
A19K **Wainwright** 41.64 339 P P 03 24 19.0 -2.6
baz=122
TNA **Tin City** 41.90 331 P P 03 24 21.2 -2.6
baz=110
C16K **Lisburne Hills** 42.02 336 P P 03 24 22.5 -2.2
baz=116
GAMB **Gambell** 42.92 328 P P 03 24 29.5 -2.5
baz=104
BILL **Bilibino** 52.30 333 *i* P P 03 25 43.3 -1.6
BILL pmax pmax
comp=Z,8.0nm,1.2s
SEY **Seymchan** 58.92 328 *i* P P 03 26 32.0 -0.5
SEY pmax pmax
comp=Z,9.0nm,1.1s
PEA0B **Petropavlovsk-** 59.44 316 *i* P P 03 26 35.7 -0.6
PETK **Petropavlovsk-** 59.44 316 P P 03 26 36.3 0.0
PETK **Petropavlovsk-** 59.44 316 P P 03 26 37.3 +1.0
comp=Z,6.4nm,0.8s,baz=80,slow=11,SNR=9.8
comp=Z,6.4nm,0.8s
MA2 **Magadan** 60.79 324 *i* P P 03 26 45.2 -0.3
MA2 pmax pmax
comp=Z,21nm,1.1s
TIXI **Tiksi** 63.38 341 *i* P P 03 27 03.9 +1.2
TIXI pmax pmax
comp=Z,8.0nm,1.1s
LPAZ **La Paz** 69.73 129 P P 03 27 44.8 0.0
comp=Z,1.7nm,0.7s,baz=306,slow=6.7,SNR=7.5
comp=Z,1.7nm,0.7s
YSS **Yuzhno-Sakhali** 70.77 314 *eP* P 03 27 46.9 -3.1
YSS pmax pmax
comp=Z,10.0nm,0.8s
EKA **Eskdalemuir Ar** 73.45 33 P P 03 28 05.8 -0.2
comp=Z,4.3nm,1.0s,baz=313,slow=5.1,SNR=3.5
comp=Z,4.3nm,1.0s
NRIK **Noril'sk** 73.64 351 *i* P P 03 28 05.9 -0.9
NRIK pmax pmax
comp=Z,8.0nm,1.0s
SIV **San Ignacio** 74.15 124 P P 03 28 10.9 +0.3
comp=Z,3.7nm,1.1s,baz=312,slow=6.5,SNR=7.6
comp=Z,3.7nm,1.1s
ZEA **Zeya** 74.83 326 *eP* P 03 28 16.0 +1.9
NB2 **NORSAR Subarra** 74.95 23 P P 03 28 16.3 +1.6
comp=Z,4.3nm,1.0s,baz=320,slow=5.9
NOA **NORSAR Array B** 74.95 23 P P 03 28 16.1 +1.4
comp=Z,0.7nm,0.4s,baz=318,slow=5.6,SNR=7.9
comp=Z,0.7nm,0.4s
KLR **Kul'dur** 75.51 321 *i* P P 03 28 17.7 -0.4
KLR pmax pmax
comp=Z,6.0nm,1.3s
HFS **Hagfors** 76.43 23 P P 03 28 24.1 +0.9
comp=Z,11nm,1.1s,baz=321,slow=5.5,SNR=5.6
comp=Z,11nm,1.1s
USA0B **Ussuriysk Arra** 78.52 317 *i* P P 03 28 34.5 -0.6
USRK **Ussuriysk Ar.** 78.52 317 P P 03 28 35.0 -0.1
USRK **Ussuriysk Ar.** 78.52 317 P P 03 28 35.6 +0.5
comp=Z,3.7nm,0.8s,baz=52,slow=5.1,SNR=7.6
comp=Z,3.7nm,0.8s
FINES **FINESS Array B** 78.77 17 P P 03 28 37.2 +1.1
comp=Z,1.5nm,0.7s,baz=342,slow=2.4,SNR=3.8
comp=Z,1.5nm,0.7s
BMRD **Maredsous** 80.39 33 *dP* P 03 28 47.3 +2.1
comp=Z,5.3nm,1.2s
DOU **Dourbes** 80.46 34 *dP* P 03 28 48.9 +3.3
comp=Z,2.7nm,1.1s
BGES **Gesves** 80.48 33 *dP* P 03 28 48.4 +2.7
comp=Z,4.5nm,1.1s
BCLA **Clavier** 80.55 33 *dP* P 03 28 47.9 +1.9
comp=Z,4.2nm,1.2s
MEM **Membach** 80.72 33 *dP* P 03 28 47.4 +0.5
comp=Z,5.8nm,1.1s
WLF **Walferdange** 81.47 33 *dP* P 03 28 53.4 +2.4
KLMR **Klimovskoe** 81.96 11 *eP* P 03 28 51.8 -1.5
KLMR pmax pmax
comp=Z,14nm,1.7s
CLL **Collm** 83.09 29 *eP* P 03 29 00.0 +0.6
CLL pmax pmax
comp=Z,7.0nm,1.3s
ESDC **Sonseca Array** 83.21 45 P P 03 29 00.6 +0.2
comp=Z,1.4nm,0.8s,baz=307,slow=4.8,SNR=12
comp=Z,1.4nm,0.8s
KSRS **Korea Array** 85.24 313 P P 03 29 11.9 +1.4
comp=Z,3.4nm,1.1s,baz=63,slow=4.6,SNR=5.6
comp=Z,3.4nm,1.1s
KSRS **Korea Array** 85.24 313 P P 03 29 12.0 +1.4
GERES **GERESS Array B** 85.31 30 P P 03 29 11.8 +0.9
comp=Z,1.5nm,1.1s,baz=315,slow=4.1,SNR=8.8
comp=Z,1.5nm,1.1s
OBN **Obninsk** 86.85 15 *i* P P 03 29 15.9 -2.3
OBN pmax pmax
comp=Z,4.0nm,1.0s
SONM **Songino Array** 88.02 332 P P 03 29 25.4 +1.2

comp=Z,2.0nm,0.9s,baz=25,slow=4.6,SNR=8.4
comp=Z,2.0nm,0.9s

ARTI	**Arti**	**88.20**	**2***d*	*i*P	**P**	**03 29 27.2**	**+2.5**
ARTI						03 32 55.6	
ARTI				S	**SKSac**	**03 39 55.9**	**+1.8**
ARTI				SS	**SS**	**03 46 03.9**	**+7.3**
ARTI				pmax	pmax		

comp=Z,10.0nm,1.2s

ZALV	**Zalesovo Beam**	**88.63**	**347**	P	**P**	**03 29 26.4**	**-0.3**
ZALV	**Zalesovo Beam**	**88.63**	**347**	P	**P**	**03 29 27.6**	**+0.8**

comp=Z,2.2nm,0.6s,baz=31,slow=5.2,SNR=8.5
comp=Z,2.2nm,0.6s

AKASG	**Malin Array Be**	**89.11**	**20**	P	**P**	**03 29 29.9**	**+0.8**

comp=Z,1.1nm,0.7s,baz=331,slow=4.3,SNR=6.7
comp=Z,1.1nm,0.7s

AKASG	**Malin Array Be**	**89.11**	**20**	*i*P	**P**	**03 29 30.7**	**+1.6**
AKASG				pmax	pmax		

comp=Z,1.0nm,0.6s

AKBB	**Malin Array Si**	**89.11**	**20**	*i*P	**P**	**03 29 29.1**	**0.0**
AKBB				pmax	pmax		

comp=Z,4.0nm,1.0s

BELG	**Belogornoye**	**91.31**	**9**	*i*P	**P**	**03 29 38.6**	**-0.7**
BELG				pmax	pmax		

comp=Z,1.0nm,0.9s

BRVK	**Borovoye**	**91.34**	**355**	*i*P	**P**	**03 29 39.6**	**+0.2**
BRVK				pmax	pmax		

comp=Z,8.0nm,1.1s

BVAR	**Borovoye Array**	**91.36**	**355**	P	**P**	**03 29 40.8**	**+1.2**

comp=Z,5.7nm,0.9s,baz=7.6,slow=4.3,SNR=15
comp=Z,5.7nm,0.9s

KURK	**Kurchatov**	**92.77**	**350**	*i*P	**P**	**03 29 45.6**	**-0.5**
KURK				pmax	pmax		

comp=Z,4.0nm,1.1s

KURBB	**Kurchatov Arra**	**92.87**	**350**	P	**P**	**03 29 46.6**	**+0.1**

comp=Z,2.8nm,0.9s,baz=13,slow=4.5,SNR=18
comp=Z,2.8nm,0.9s

MK31	**Makanchi Array**	**95.95**	**346**	*i*P	**P**	**03 30 00.1**	**-0.8**
MKAR	**Makanchi Array**	**95.95**	**346**	P	**P**	**03 30 01.6**	**+0.8**

comp=Z,0.6nm,0.8s,baz=26,slow=5.8,SNR=4.6
comp=Z,0.6nm,0.8s

MKAR	**Makanchi Array**	**95.95**	**346**	*i*P	**P**	**03 30 02.5**	**+1.6**
MKAR				pmax	pmax		

comp=Z,1.0nm,0.9s

WRA	**Warramunga Arr**	**115.79**	**263**	PKP	**PKiKP**	**03 35 17.3**	**+0.4**

comp=Z,0.6nm,0.8s,baz=38,slow=3.7,SNR=2.4

ASAR	**Alice Springs**	**117.99**	**260**	PKP	**PKiKP**	**03 35 21.2**	**+0.2**

comp=Z,1.1nm,1.0s,baz=65,slow=2.5,SNR=5.4

QSPA	**South Pole Qui**	**125.54**	**180**	PKP	**PKiKP**	**03 35 34.2**	**-0.4**

comp=Z,1.6nm,1.0s,baz=143,slow=5.7,SNR=2.4

MAW	**Mawson**	**148.06**	**180**	PKPbc	**PKiKP**	**03 36 19.0**	**-1.3**

comp=Z,4.1nm,0.8s,baz=221,slow=6.7,SNR=6.0

NEIC ***06*** *03:19:52.7±2.0,35.76N±0.02×117.58W±0.03,h10km±3km, Error ellipse: s-maj=3.1km s-min=2.5km az=122.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr=0.14; Mθθ=2.53; Mϕϕ=2.66; Mrθ=0.31; Mθϕ=0.71; Mϕr=0.14; Fault plane solution: M₀2.71000×10¹⁹ NP1: ϕs=232.49000°, δ=87.92000°, λ=-7.27000°. NP2: ϕs=322.75000°, δ=82.73000°, λ=-177.90000°. Principal axes: T 2.7701, Plg4.0000°, Azm278.0000°; N -0.1163, Plg82.0000°, Azm37.0000°; P -2.6538, Plg7.0000°, Azm187.0000°;*

IPGP ***06*** *03:19:52.0,35.77N×117.61W,h14km,Mw7.3, Fault plane solution: NP1:ϕs=228.00000°,δ=84.00000°,λ=-13.00000°. NP2:ϕs=320.00000°,δ=78.00000°,λ=-174.00000°.*

NEIC ***06*** *03:19:53,35.77N×117.60W,h12km, Moment Tensor Solution. Duration: 49s5 Moment tensor: Scale 10¹⁹Nm; Mrr=0.02; Mθθ=4.83; Mϕϕ=4.85; Mrθ=0.92; Mθϕ=0.91; Mϕr=0.24; Fault plane solution: M₀5.01000×10¹⁹ NP1: ϕs=229.85000°, δ=81.33000°, λ=-6.17000°. NP2:ϕs=320.79000°, δ=83.91000°, λ=-171.28000°. Principal axes: T 4.9381, Plg2.0000°, Azm95.0000°; N 0.1500, Plg79.0000°, Azm355.0000°; P -5.0881, Plg10.0000°, Azm185.0000°;*

NEIC ***06*** *03:19:53,35.77N×117.60W,h12km*

PAS ***06*** *03:19:53.0±1.8,35.77N±0.02×117.60W±0.05,h8km±1km, Mwr6.9/4,mb6.1/136(NEIC),ML6.5/52(NEIC), Ms_20 7.2/937(NEIC),Mwb6.9/85(NEIC), Mww7.1/126(NEIC),Error ellipse: s-maj=6.7km s-min=2.8km az=289.0*

NEIC ***06*** *03:19:53,35.77N×117.60W,h8km*

IDC ***06*** *03:19:53.6±0.3,35.73N×117.62W,h0km,mb5.5/35, mbtmp5.4/43,ML5.1/8,MS7.0/79,Error ellipse: s-maj=9.9km s-min=6.3km az=71.0*

MOS ***06*** *03:19:54.2±1.8,35.74N×117.59W,h10km,mb6.2/57, MS7.2/52,Error ellipse: s-maj=6.8km s-min=4.1km az=92.7 Broadband fault plane solution: P waves. NP1: ϕs=237.00000°,δ80.00000°,λ=-6.00000°. NP2:ϕs328.00000°, δ84.00000°,λ=-170.00000°. Principal axes: T Plg3.0000°, Azm103.0000°; N Plg78.0000°, Azm360.0000°; P Plg11.0000°, Azm193.0000°;*

BJI ***06*** *03:19:55.8,35.75N×117.64W,h10km,mB6.5/60, mb5.7/48,Ms7.1/75,Ms7 7.1/74*

OSUNB ***06*** *03:19:58.8±0.4,35.75N×117.56W,h16km±1km,mB6.6/40, Error ellipse: s-maj=3.8km s-min=4.0km az=0.0*

BGR ***06*** *03:20:03.4,36.00N×117.62W,h21km±1km,mb5.7,Ms7.5*

GCMT ***06*** *03:20:05.0±0.1,35.78N×117.58W,h12km,MW7.0/178, Moment Tensor Solution. s170,c464; s178,c855; Duration: 8s0 Moment tensor: Scale 10¹⁹Nm; Mrr=0.23±.01; Mθθ=4.11±.01; Mϕϕ4.34±.01; Mrθ0.51±.06; Mθϕ0.95±.01; Mϕr0.49±.06; Best double couple: M₀4.38700×10¹⁹ NP1:ϕs321.00000°,δ81.00000°, λ180.00000°. NP2:ϕs51.00000°,δ90.00000°,λ9.00000°. Principal axes: T 4.5080, Plg7.0000°, Azm277.0000°; N -0.2450, Plg81.0000°, Azm52.0000°; P -4.2660, Plg6.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 06 03:19:55.4±0.4,35.72N±0.02×117.62W±0.02,h9km±1km, h10km:pP-P,n1771,σ2s88/1855,mb5.9/331,MS7.2/631, 59C-44D,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.09**	**11**		**Pg**	**03 19 53.7**	**-4.3**
CLC					**Sg**	**03 19 56.0**	**-3.7**
SRTC	**Snort**	**0.11**	**253**		**Pg**	**03 19 56.3**	**-1.8**
SRTC					**Sg**	**03 19 59.5**	**-0.5**
TOW	**Tower One**	**0.14**	**306**		**Pg**	**03 19 56.1**	**-2.6**
TOW					**Sg**	**03 20 00.0**	**-0.9**
LRMC	**Laurel Mtn Rad**	**0.25**	**192**		**Pg**	**03 19 58.6**	**-1.9**
LRMC					**Sg**	**03 20 03.5**	**-0.4**
WNMM	**Nine Mile Cany**	**0.26**	**297**		**Pg**	**03 19 58.1**	**-2.6**
WVPM	**Volcano Peak E**	**0.28**	**325**		**Pg**	**03 19 57.9**	**-3.2**
CCCA	**Chr Cany lake**	**0.29**	**133**		**Pg**	**03 19 59.4**	**-1.8**
CCCA					**Sg**	**03 20 05.5**	**+0.4**
WCSM	**Coso Springs S**	**0.33**	**339**		**Pg**	**03 19 58.7**	**-3.3**
MPMC	**Manual Prospec**	**0.35**	**18**		**Pg**	**03 19 58.7**	**-3.8**
MPMC					**Sg**	**03 20 02.9**	**-4.2**
WRVM	**Rose V. Centra**	**0.36**	**322**		**Pg**	**03 19 59.4**	**-3.2**
WRVM					**Sg**	**03 20 05.3**	**-2.0**
MFS	**McCloud Flat S**	**0.44**	**334**		**Pg**	**03 20 00.8**	**-3.2**
MFS					**Sg**	**03 20 07.8**	**-2.0**
WBSM	**Bird Springs**	**0.46**	**246**		**Pg**	**03 20 02.5**	**-2.0**
DTP	**Desert Tortois**	**0.49**	**202**		**Pg**	**03 20 03.0**	**-2.0**
WORM	**Onyx Ranch**	**0.51**	**267**		**Pg**	**03 20 02.9**	**-2.4**
WORM					**Sg**	**03 20 10.1**	**-1.9**
WHFM	**Hanning Flat**	**0.59**	**268**		**Pg**	**03 20 04.6**	**-2.4**
WHFM					**Sg**	**03 20 14.5**	**-0.3**
CCAC	**Calif City Air**	**0.66**	**210**		**Pg**	**03 20 06.2**	**-1.9**
CCAC				IAML		03 20 30.1	

comp=N,1308μm,1.0s

QSM	**Queen of Sheba**	**0.66**	**68**		**Pg**	**03 20 04.7**	**-3.5**
QSM				IAML		03 20 20.3	

comp=N,1525μm,0.7s

QSM				IAML		03 20 22.9	

comp=E,1591μm,0.6s

WASM	**Alta Sierra Ca**	**0.76**	**271**		**Pg**	**03 20 07.7**	**-2.5**
GSC	**Goldstone, Bar**	**0.79**	**122**		**Pg**	**03 20 07.9**	**-2.7**
GSC				IAML		03 20 28.0	

comp=E,1616μm,1.1s

GSC				IAML		03 20 34.7	

comp=N,1136μm,1.1s

GSC	**Goldstone, Bar**	**0.79**	**122**	P	**Pg**	**03 20 07.9**	**-2.7**
CWC	**Cottonwood Cre**	**0.81**	**333**		**Pg**	**03 20 07.8**	**-3.2**
CGO	**Cerro Gordo**	**0.84**	**350**		**Pg**	**03 20 07.8**	**-3.8**
HYS	**Haystack Butte**	**0.86**	**177**		**Pg**	**03 20 09.7**	**-2.3**
EDW2	**Edwards Air Fo**	**0.89**	**200**		**Pg**	**03 20 10.3**	**-2.4**

GWY	**Greenwater Val**	**0.90**	**59**		**Pg**	**03 20 09.4**	**-3.4**
GWY				IAML		03 20 28.1	

comp=E,1386μm,1.6s

GWY				IAML		03 20 39.9	

comp=N,1408μm,1.1s

FURC	**Furnace Creek,**	**0.96**	**39**		**Pg**	**03 20 10.5**	**-3.5**
TPO	**Tropico Hills**	**0.98**	**211**		**Pg**	**03 20 12.0**	**-2.3**
TPO					**Sn**	**03 20 28.8**	**-0.6**
RRX	**Edison Barstow**	**0.99**	**149**		**Pg**	**03 20 12.2**	**-2.2**
TEJ	**El Tejon**	**1.00**	**241**		**Pg**	**03 20 11.8**	**-2.8**
TEJ					**Sg**	**03 20 27.6**	**-0.1**
SPG2	**Springville 2**	**1.04**	**297**		**Pg**	**03 20 12.0**	**-3.5**
SBB	**Saddle Back Bu**	**1.05**	**189**		**Pg**	**03 20 13.1**	**-2.4**
SHOC	**Shoshone, Teco**	**1.11**	**80**		**Pg**	**03 20 13.3**	**-3.4**
MAGC	**SCE Magundon P**	**1.12**	**252**		**Pb**	**03 20 14.7**	**-2.3**
TJR	**Tejon Ranch**	**1.15**	**233**		**Pb**	**03 20 14.5**	**-3.0**
ARVC	**Arvin**	**1.15**	**239**		**Pb**	**03 20 15.0**	**-2.5**
ALPC	**Antelope**	**1.17**	**208**		**Pb**	**03 20 15.4**	**-2.5**
THC	**Tehachapi Micr**	**1.18**	**227**		**Pb**	**03 20 15.0**	**-3.0**
ADO	**Adelanto Recei**	**1.18**	**173**		**Pb**	**03 20 15.9**	**-2.1**
VTV	**Victorville**	**1.18**	**168**		**Pb**	**03 20 15.7**	**-2.4**
VTV	**Victorville**	**1.18**	**168**	P	**Pb**	**03 20 15.7**	**-2.4**
VES	**Vestal, Richgr**	**1.20**	**276**		**Pb**	**03 20 15.4**	**-2.8**
LEOC	**Leona Valley**	**1.23**	**207**		**Pb**	**03 20 16.2**	**-2.6**
LRRC	**Littlerock Res**	**1.24**	**196**		**Pn**	**03 20 16.6**	**-2.3**
CJV	**Casa Juvan**	**1.27**	**200**		**Pn**	**03 20 17.0**	**-2.4**
BAKC	**Calstate**	**1.27**	**253**		**Pn**	**03 20 17.4**	**-1.9**
HOLC	**Holcomb Ridge**	**1.27**	**188**		**Pn**	**03 20 17.1**	**-2.4**
GRAC	**Grapevine Rang**	**1.29**	**9**	Pg	**Pn**	**03 20 15.5**	**-4.1**
GRAC				IAML		03 20 41.1	

comp=N,864μm,1.2s

GRAC				IAML		03 20 59.7	

comp=E,858μm,2.6s

BTPC	**Burnt Peak**	**1.30**	**217**		**Pn**	**03 20 17.4**	**-2.5**
JNH	**Juniper Hills**	**1.30**	**192**		**Pn**	**03 20 17.6**	**-2.3**
AMDNV	**Amargosa**	**1.31**	**56**		**Pn**	**03 20 15.8**	**-4.0**
WCT	**Wildcat Mounta**	**1.34**	**37**		**Pn**	**03 20 16.7**	**-3.7**
WCT				IAML		03 20 48.0	

comp=E,1716μm,1.1s

SGV	**South Grapevin**	**1.34**	**21**		**Pn**	**03 20 17.1**	**-3.4**
DSCC	**Desert Studies**	**1.37**	**115**		**Pn**	**03 20 17.2**	**-3.5**
GMN	**Gold Mountain**	**1.60**	**10**		**Pn**	**03 20 20.9**	**-3.2**
TPNV	**Topopah Spring**	**1.65**	**42**		**Pn**	**03 20 21.7**	**-3.0**
TPNV				IAML		03 21 06.1	

comp=E,764μm,1.6s

TPNV				IAML		03 21 07.9	

comp=E,503μm,2.8s

TPNV	**Topopah Spring**	**1.65**	**42**	P	**Pn**	**03 20 21.7**	**-3.0**
TPNV	**Topopah Spring**	**1.65**	**42**	⇑P	**Pn**	**03 20 23.6**	**-1.1**
BCW	**Bitter Crk WRg**	**1.66**	**242**		**Pn**	**03 20 22.9**	**-1.9**
BCW				IAML		03 21 09.1	

comp=N,771μm,1.8s

BCW				IAML		03 21 19.1	

comp=E,808μm,1.4s

DSP	**Deep Springs**	**1.67**	**350**		**Pn**	**03 20 21.9**	**-2.9**
CRGC	**Crocker Grade**	**1.78**	**255**		**Pn**	**03 20 26.7**	**+0.2**
WTT2	**Watts, South G**	**1.85**	**197**		**Pn**	**03 20 26.6**	**-0.7**
MZP	**Montezuma Peak**	**1.98**	**5**	Pn	**Pn**	**03 20 26.6**	**-2.8**
EW2	**E Wide Canyon**	**2.04**	**150**		**Pn**	**03 20 28.7**	**-1.2**
HMTC	**Hemet**	**2.07**	**166**		**Pn**	**03 20 28.4**	**-2.0**
ELS	**Elsinore Mount**	**2.08**	**176**	Pn	**Pn**	**03 20 28.4**	**-2.1**
ELS				IAML		03 21 16.4	

comp=E,237μm,1.9s

RPV	**Rancho Palos V**	**2.08**	**198**		**Pn**	**03 20 28.9**	**-1.5**
SHPR	**Sheep Range**	**2.14**	**68**	Pn	**Pn**	**03 20 29.0**	**-2.4**
SHPR				IAML		03 21 07.6	

comp=N,179μm,0.9s

V12A	**Nelson**	**2.25**	**89**	Pn	**Pn**	**03 20 30.8**	**-2.2**
V12A				IAML		03 21 20.0	

comp=N,242μm,1.5s

V12A				IAML		03 21 31.0	

comp=E,245μm,5.0s

PFO	**Pinyon Flats O**	**2.31**	**155**	Pn	**Pn**	**03 20 32.0**	**-1.8**
PFO				IAML		03 21 18.0	

comp=E,177μm,2.3s

PFO				IAML		03 21 21.5	

comp=E,403μm,4.1s

PFO	**Pinyon Flats O**	**2.31**	**155**	Pn	**Pn**	**03 20 32.4**	**-1.4**

comp=E,265nm,0.3s,baz=342,slow=13,SNR=34

PFO				LR	LR	03 21 05.2	

comp=E,873μm,18.9s,baz=80,slow=31
comp=E,4μm,0.6s

PFO	**Pinyon Flats O**	**2.31**	**155**	*d* *i*P	**Pn**	**03 20 32.6**	**-1.2**
I57US	**PINON FLAT INF**	**2.32**	**155**	Pn	**Pn**	**03 20 35.0**	**+1.1**

baz=334,slow=23

I57US				I	I	03 37 02.3	

baz=334,slow=317,SNR=1.8

TPH	**Tonopah**	**2.37**	**8**	Pn	**Pn**	**03 20 32.4**	**-2.3**
TPH	**Tonopah**	**2.37**	**8**	P	**Pn**	**03 20 32.4**	**-2.3**
S11A	**Rachel**	**2.44**	**38**	Pn	**Pn**	**03 20 33.4**	**-2.2**
LHV	**Little Huntoon**	**2.62**	**345**	Pn	**Pn**	**03 20 36.1**	**-1.8**
LHV				IAML		03 21 34.4	

comp=N,155μm,4.7s

LHV				IAML		03 21 47.2	

comp=E,235μm,3.0s

PMPB	**Monarch Peak**	**2.63**	**282**	Pn	**Pn**	**03 20 37.2**	**-0.8**
PMPB				IAML		03 21 43.3	

comp=E,395μm,2.9s

PRN	**Pahroc Range**	**2.67**	**50**	Pn	**Pn**	**03 20 36.8**	**-1.8**
PRN	**Pahroc Range**	**2.67**	**50**	⇑P	**Pn**	**03 20 38.7**	**0.0**
NV11	**Mina Array Sit**	**2.74**	**351**	Pn	**Pn**	**03 20 37.4**	**-2.3**
NVAR	**Mina Array Bea**	**2.76**	**349**	Pn	**Pn**	**03 20 37.4**	**-2.6**
NVAR	**Mina Array Bea**	**2.76**	**349**	Pn	**Pn**	**03 20 38.3**	**-1.7**

comp=E,518nm,0.3s,baz=172,slow=15,SNR=28

NVAR				LR	LR	03 21 10.7	

comp=E,1373μm,18.3s,baz=210,slow=28
comp=E,2μm,0.6s

SAO	**San Andreas Ge**	**3.26**	**290**	⇑P	**Pn**	**03 20 45.6**	**-1.1**
MCCM	**Marconi Confer**	**4.86**	**301**	⇑P	**Pn**	**03 21 07.8**	**-0.8**
WUAZ	**Wupatki**	**5.09**	**91**	⇑P	**Pn**	**03 21 13.8**	**+1.8**
ELK	**Elko**	**5.35**	**20**	Pn	**Pn**	**03 21 14.8**	**-0.9**

comp=E,75nm,0.3s,baz=193,slow=12,SNR=23

ELK				Pg	**Pb**	**03 21 30.2**	**+1.0**

comp=E,152nm,0.3s,baz=216,slow=17,SNR=12

ELK				Lg	Lg	03 22 41.0	

comp=E,1μm,0.3s,baz=82,slow=12,SNR=9.3

ELK				LR	LR	03 23 45.3	

comp=E,1159μm,19.3s,baz=202,slow=43
comp=E,433nm,0.4s

ELK	**Elko**	**5.35**	**20**	⇓P	**Pn**	**03 21 16.7**	**+1.0**
YBH	**Yreka Blue Hor**	**7.20**	**328**	Pn	**Pn**	**03 21 42.6**	**+1.7**

comp=E,0.4nm,0.3s,baz=156,slow=7.3,SNR=10

YBH				Lg	Lg	03 23 38.6	

comp=E,1.7nm,0.3s,baz=144,slow=7.0,SNR=4.7

YBH				LR	LR	03 24 13.1	

comp=E,86μm,18.7s,baz=176,slow=36

MVCO	**Mesa Verde**	**7.50**	**76**	⇑P	**Pn**	**03 21 47.8**	**+2.7**
HLID	**Hailey**	**8.21**	**17**	⇓P	**Pn**	**03 21 58.1**	**+3.3**
ANMO	**Albuquerque**	**9.15**	**92**	Pn	**Pn**	**03 22 09.0**	**+1.1**

comp=E,3.4nm,0.3s,baz=10.0,slow=7.5,SNR=11

ANMO				Pg		03 22 46.6	

comp=E,71nm,0.3s,baz=18,slow=12,SNR=31

ANMO				Lg	Lg	03 24 43.3	

comp=E,26nm,0.3s,baz=290,slow=21,SNR=6.5

ANMO				LR	LR	03 25 59.7	

comp=E,2873μm,18.8s,baz=26,slow=40
comp=E,69nm,1.0s

ANMO	**Albuquerque**	**9.15**	**92**	P	**Pn**	**03 22 09.0**	**+1.1**
PDAR	**Pinedale Array**	**9.41**	**39**	Pn	**Pn**	**03 22 12.1**	**+0.7**
PDAR	**Pinedale Array**	**9.41**	**39**	Pn	**Pn**	**03 22 12.7**	**+1.4**

comp=E,3.3nm,0.3s,baz=235,slow=10,SNR=21

PDAR				Lg	Lg	03 24 49.6	

comp=E,7.8nm,0.3s,baz=226,slow=34,SNR=3.1

PDAR				LR	LR	03 25 48.8	

comp=E,423μm,18.0s,baz=222,slow=38
comp=E,166nm,1.0s

SRIG	**Santa Rosalia**	**9.55**	**150**	⇓P	**Pn**	**03 22 16.9**	**+3.8**
I56US	**NEWPORT INFRAS**	**12.54**	**2**	Lg	Lg	03 26 35.0	

baz=193,slow=29

I56US				I	I	04 36 20.0	

baz=183,slow=300,SNR=3.9

NEW	**Newport**	**12.54**	**2**	Pn	**Pn**	**03 22 55.5**	**+1.6**

comp=E,2.3nm,0.3s,baz=184,slow=14,SNR=24

NEW				LR	LR	03 28 13.6	

comp=E,573μm,18.6s,baz=194,slow=40
comp=E,130nm,1.1s

NLWA	**Neilton Lookou**	**12.56**	**340**	⇓P	**Pn**	**03 22 55.3**	**+1.1**
LPIG	**La Paz**	**13.20**	**149**	Pn	**Pn**	**03 23 06.1**	**+3.1**

comp=E,5.3nm,0.3s,baz=66,slow=2.9,SNR=9.6

LPIG				Lg	Lg	03 26 52.8	

comp=E,1.6nm,0.3s,baz=255,slow=20,SNR=1.9

LPIG				LR	LR	03 27 42.4	

comp=E,576μm,20.7s,baz=345,slow=36

TXAR	**Lajitas Array**	**13.38**	**115**		**Pn**	**03 23 05.2**	**-0.4**
TXAR	**Lajitas Array**	**13.38**	**115**	Pn	**Pn**	**03 23 06.3**	**+0.8**

comp=E,8.5nm,0.3s,baz=294,slow=12,SNR=72

TXAR				Sn	**Sn**	**03 25 36.4**	**+1.9**

comp=E,2.3nm,0.3s,baz=288,slow=8.9,SNR=1.4

TXAR				Lg	Lg	03 26 55.1	

comp=E,8.7nm,0.3s,baz=282,slow=24,SNR=6.1
comp=E,30nm,0.4s

SHB	**Sechelt**	**14.60**	**344**	⇓P	**Pn**	**03 23 23.4**	**+1.2**
LLLB	**Lillooet**	**15.20**	**350**		**Pn**	**03 23 27.2**	**-2.9**
CBB	**Campbell River**	**15.37**	**341**		**Pn**	**03 23 31.1**	**-1.3**
JCT	**Junction City**	**15.82**	**104**		**Pn**	**03 23 36.4**	**-2.0**
JCT	**Junction City**	**15.82**	**104**	P	**Pn**	**03 23 36.4**	**-2.0**
JCT				pmax	pmax		

comp=E,296nm,1.5s

WTFS	**Witchita Falls**	**15.87**	**92**		**Pn**	**03 23 36.6**	**-2.4**
KAN08	**Anthony NE Sta**	**15.88**	**79**		**Pn**	**03 23 36.4**	**-2.7**
CROK	**Carrier**	**15.89**	**81**		**Pn**	**03 23 36.8**	**-2.5**
GC02	**Grant County #**	**15.98**	**80**		**Pn**	**03 23 38.7**	**-1.6**
DGMT	**Dagmar**	**16.14**	**34**		**Pn**	**03 23 39.3**	**-3.1**
KAN09	**Caldwell North**	**16.16**	**79**		**Pn**	**03 23 40.0**	**-2.7**
X34A	**Smith Ranch, M**	**16.22**	**88**	P	**Pn**	**03 23 44.1**	**+0.5**
KAN13	**South Haven SW**	**16.28**	**80**		**Pn**	**03 23 42.8**	**-1.5**
FW03	**Perrin-Whitt E**	**16.36**	**94**	IAmb	IAmb	03 23 49.4	

comp=Z,2μm,1.9s

OK029	**Liberty Lake**	**16.37**	**84**	P	**Pn**	**03 23 44.7**	**-0.8**
SUSD	**Miller**	**16.70**	**53**	IAmb	IAmb	03 23 54.8	

comp=Z,3μm,2.0s

OK048	**Pawnee Station**	**16.73**	**82**	IAmb	IAmb	03 23 53.9	

comp=Z,2μm,1.9s

HOLB	**Holberg**	**16.74**	**336**		**Pn**	**03 23 47.8**	**-2.2**
Z35A	**Perchaven, San**	**16.95**	**92**	IAmb	IAmb	03 23 57.7	

comp=Z,3μm,1.6s

WHTX	**Lake Whitney,**	**17.16**	**97**	IAmb	IAmb	03 24 01.7	

comp=Z,3μm,1.7s

H06N1	**SOCORRO T-PHAS**	**17.79**	**159**	P	**Pn**	**03 24 03.5**	**+0.2**

SNR=18

H06E1	**SOCORRO T-PHAS**	**17.89**	**159**	P	**P**	**03 24 08.2**	**+3.0**

SNR=12

H06S1	**SOCORRO T**	**17.92**	**159**	P	**P**	**03 24 08.6**	**+3.1**
BBB	**Bella Bella**	**18.07**	**339**	P	**P**	**03 24 07.6**	**+0.7**

comp=Z,0.6nm,0.3s,baz=152,slow=8.4,SNR=15

BBB				S	**Sn**	**03 27 28.8**	**+0.6**

comp=Z,80nm,1.2s,baz=242,slow=5.9,SNR=1.7
comp=Z,112nm,1.1s

HHAR	**Hobbs**	**19.16**	**81**	IAmb	IAmb	03 24 28.3	

comp=Z,2μm,1.4s

HKT	**Hockley**	**19.18**	**101**	P	**P**	**03 24 17.3**	**-1.

VBMS Vicksburg 22.72 91 IAMs_20 IAMs_20 03 34 30.9
comp=Z,1055µm,18.0s
HDIL Hopedale 22.75 69 P **P** **03 24 55.5 -2.3**
HDIL IAMs_20 IAMs_20 03 34 00.0
comp=Z,1013µm,19.0s
SIUC Southern Illin 22.82 77 P **P** **03 24 55.5 -3.0**
G40A Rib Lake 22.83 57 P **P** **03 24 56.4 -2.3**
G40A IAmb IAmb 03 25 14.9
comp=Z,622nm,1.1s
G40A IAMs_20 IAMs_20 03 33 30.1
comp=Z,772µm,19.0s
EYMN Ely 22.86 50 **P** **03 24 55.8 -3.1**
EYMN IAmb IAmb 03 25 11.9
comp=Z,487nm,1.0s
EYMN Ely 22.86 50 IAMs_20 IAMs_20 03 32 46.5
comp=Z,820µm,18.0s
HALT Halls 22.91 81 IAMs_20 IAMs_20 03 34 14.5
comp=Z,948µm,19.0s
T35M Bob Quinn 22.91 342 IAMs_20 IAMs_20 03 33 53.7
comp=Z,796µm,21.0s
T35M Bob Quinn 22.91 342 P **P** **03 25 00.3 +1.0**
baz=153,SNR=59
T35M S **S** **03 29 15.9 +6.7**
baz=153
Q44A Meyer Farm, Va 22.93 73 IAMs_20 IAMs_20 03 34 04.0
comp=Z,810µm,19.0s
U33K Whale Pass 22.97 337 P **P** **03 25 01.2 +1.3**
baz=146,SNR=93
U33K S Sn 03 29 20.5 -5.3
baz=146
WRAK Wrangell Islan 22.99 339 ⇑P **P** **03 25 01.3 +1.2**
WRAK Wrangell Islan 22.99 339 P **P** **03 25 01.6 +1.4**
baz=148,SNR=92
WRAK S **S** **03 29 17.5 +7.1**
baz=148
UNM Universidad Na 23.05 130 IAMs_20 IAMs_20 03 33 33.5
comp=Z,1117µm,21.0s
OXF Oxford 23.08 85 IAMs_20 IAMs_20 03 34 31.2
comp=Z,836µm,19.0s
T45A Paducah 23.33 78 IAMs_20 IAMs_20 03 34 25.7
comp=Z,1138µm,19.0s
I42A Draeger Farm, 23.43 61 IAmb IAmb 03 25 13.2
comp=Z,914nm,1.1s
T33K Petersburg 23.50 339 P **P** **03 25 07.3 +2.0**
baz=147
T33K S **S** **03 29 21.3 +2.4**
baz=147
OLIL Olney 23.65 74 IAMs_20 IAMs_20 03 34 28.1
comp=Z,862µm,19.0s
TOAD Toad River Com 23.68 350 P **P** **03 25 08.3 +1.2**
baz=164,SNR=208
TOAD S **S** **03 29 23.1 +1.3**
baz=164
M44A Midewin, Midew 23.75 67 IAMs_20 IAMs_20 03 34 49.4
comp=Z,1114µm,20.0s
COWI Conover 23.77 55 IAmb IAmb 03 25 22.2
comp=Z,1µm,1.2s
COWI IAMs_20 IAMs_20 03 34 22.9
comp=Z,962µm,18.0s
346A Big Creek Wild 23.82 92 IAMs_20 IAMs_20 03 34 43.1
comp=Z,853µm,20.0s
S34M Telegraph Cree 23.95 342 IAMs_20 IAMs_20 03 34 28.4
comp=Z,904µm,20.0s
S34M Telegraph Cree 23.95 342 P **P** **03 25 10.6 +0.9**
baz=152,SNR=60
S34M S **S** **03 29 31.3 +5.1**
baz=152
USIN University of 24.03 76 IAMs_20 IAMs_20 03 34 40.2
comp=Z,1103µm,21.0s
PLAL Pickwick Lake 24.07 83 P **P** **03 25 08.8 -2.3**
PLAL IAmb IAmb 03 25 21.3
comp=Z,1µm,1.4s
PLAL IAMs_20 IAMs_20 03 35 54.4
comp=Z,544µm,20.0s
WVT Waverly 24.09 80 IAMs_20 IAMs_20 03 34 49.8
comp=Z,1172µm,22.0s
DLBC Dease Lake 24.16 344 P **P** **03 25 12.6 +0.7**
comp=Z,9.3nm,1.0s,baz=149,slow=9.0,SNR=31
DLBC S **S** **03 29 33.3 +3.6**
comp=Z,2.4nm,1.2s,baz=189,slow=24,SNR=1.2
DLBC Lg Lg 03 32 42.0
baz=269,slow=26,SNR=1.0
DLBC LR LR 03 35 55.5
comp=Z,89µm,18.0s,baz=140,slow=40
DLBC Dease Lake 24.16 344 P **P** **03 25 12.5 +0.7**
baz=155,SNR=138
DLBC S **S** **03 29 37.1 +7.4**
baz=155
LIRD Liard River Hi 24.34 349 P **P** **03 25 13.8 +0.4**
baz=163,SNR=150
LIRD S **S** **03 29 36.4 +4.0**
baz=163
H43A Windswept, Lux 24.34 60 IAmb IAmb 03 25 22.4
comp=Z,569nm,0.9s
TBO Thunder Bay 24.41 49 IAMs_20 IAMs_20 03 33 40.7
comp=Z,981µm,19.0s
SIT Sitka 24.44 336 P **P** **03 25 15.4 +1.2**
comp=Z,531nm,2.1s
SIT Sitka 24.44 336 P **P** **03 25 14.3 +0.1**
baz=143,SNR=28
SIT S **S** **03 29 42.9 +8.9**
baz=143
S32K Killisnoo 24.54 338 P **P** **03 25 15.5 +0.4**
baz=145,SNR=62
S32K S **S** **03 29 43.7 +8.2**
baz=145
T47A Sharon Grove 24.56 78 IAMs_20 IAMs_20 03 35 05.3
comp=Z,1110µm,22.0s
TLIG Tlapa 24.76 132 P **P** **03 25 16.4 -1.2**
TLIG IAmb IAmb 03 25 24.6
comp=Z,928nm,1.3s
KOTAN Kotaneelee Air 24.78 352 P **P** **03 25 17.0 -0.3**
baz=167,SNR=218
KOTAN S **S** **03 29 45.9 +6.5**
baz=167
BLO Bloomington 24.87 73 IAMs_20 IAMs_20 03 35 24.2
comp=Z,860µm,18.0s
V48A Smith Brothers 24.95 81 IAMs_20 IAMs_20 03 35 27.7
comp=Z,963µm,20.0s
X48A Hartselle 25.01 84 IAMs_20 IAMs_20 03 35 50.2
comp=Z,604µm,20.0s
JIS Juneau Island 25.15 339 P **P** **03 25 21.7 +1.1**
comp=Z,229nm,1.2s
Q32M Nakina River 25.16 342 IAMs_20 IAMs_20 03 36 14.4
comp=Z,881µm,19.0s
Q32M Nakina River 25.16 342 P **P** **03 25 20.8 -0.2**
baz=151,SNR=50
Q32M S **S** **03 29 54.1 +8.1**
baz=151
R32K Eaglecrest 25.19 339 P **P** **03 25 21.5 +0.5**
baz=146
R32K S **S** **03 29 56.0 +10**
baz=146
R33M Jennings River 25.24 344 IAMs_20 IAMs_20 03 35 52.4
comp=Z,834µm,18.0s
R33M Jennings River 25.24 344 P **P** **03 25 21.8 +0.2**
baz=154,SNR=262
R33M S **S** **03 29 56.4 +9.3**
baz=154
CLTN Cedars of Leba 25.29 80 IAMs_20 IAMs_20 03 35 36.7
comp=Z,727µm,19.0s
I45A Fountain 25.36 61 IAMs_20 IAMs_20 03 35 18.9
comp=Z,971µm,22.0s
LRAL Lakeview Retre 25.37 87 IAMs_20 IAMs_20 03 35 53.8
comp=Z,1030µm,20.0s
WTLY Watson Lake, Y 25.46 347 IAMs_20 IAMs_20 03 36 14.1
comp=Z,851µm,18.0s
WTLY Watson Lake, Y 25.46 347 P **P** **03 25 24.3 +0.9**
baz=158
WTLY S **S** **03 29 56.8 +6.4**
baz=158
S31K Pelican 25.46 337 P **P** **03 25 24.4 +1.0**
baz=143,SNR=52
S31K S **S** **03 29 59.2 +8.9**
baz=143
N47A Urbana 25.49 69 IAmb IAmb 03 25 45.0
comp=Z,457nm,1.0s
N47A IAMs_20 IAMs_20 03 35 44.7
comp=Z,740µm,19.0s
Y49A Blount Mountai 25.65 85 IAMs_20 IAMs_20 03 36 19.2
comp=Z,777µm,19.0s
R31K City Hall, Gus 25.67 338 P **P** **03 25 27.4 +2.1**
baz=144
R31K S **S** **03 30 03.5 +10**
baz=144
SWET Sewanee 25.76 82 IAMs_20 IAMs_20 03 35 55.1
comp=Z,539µm,20.0s
BRAL Brewton 25.85 91 IAMs_20 IAMs_20 03 36 41.8
comp=Z,553µm,20.0s
R49A Shelbyville 25.97 75 IAMs_20 IAMs_20 03 35 49.4
comp=Z,804µm,20.0s
P32M Atlin 26.08 341 IAMs_20 IAMs_20 03 35 43.7
comp=Z,780µm,18.0s
P32M Atlin 26.08 341 P **P** **03 25 29.6 +0.4**
baz=149,SNR=296
P32M S **S** **03 30 07.2 +6.9**
baz=149
FPAL Fort Paine 26.15 83 IAmb IAmb 03 25 39.8
comp=Z,269nm,1.0s
W50A Signal Mountai 26.26 82 IAMs_20 IAMs_20 03 36 10.4
comp=Z,643µm,22.0s
P33M Teslin, Yukon 26.40 343 IAMs_20 IAMs_20 03 36 50.0
comp=Z,787µm,18.0s
P33M Teslin, Yukon 26.40 343 P **P** **03 25 32.4 +0.3**
baz=151,SNR=87
P33M S **S** **03 30 13.2 +7.9**
baz=151
SKAG Skagway 26.41 340 P **P** **03 25 33.4 +1.4**
comp=Z,412nm,1.3s
SKAG Skagway 26.41 340 ⇑P **P** **03 25 33.0 +0.9**
SKAG Skagway 26.41 340 P **P** **03 25 32.7 +0.7**
baz=146,SNR=48
SKAG S **S** **03 30 11.8 +6.4**
baz=146
R50A Paris 26.63 75 IAMs_20 IAMs_20 03 36 11.0
comp=Z,726µm,20.0s
N49A Columbus Grove 26.64 69 IAMs_20 IAMs_20 03 36 19.0
comp=Z,821µm,19.0s
TGTN Hyland Airport 26.69 349 P **P** **03 25 35.0 +0.4**
baz=160,SNR=36
TGTN S **S** **03 30 13.5 +3.6**
baz=160
PLBC Pleasant Camp 26.71 339 P **P** **03 25 35.7 +1.0**
baz=144,SNR=96
PLBC S **S** **03 30 17.6 +7.5**
baz=144
CPCT Cooper Cave 26.85 81 IAMs_20 IAMs_20 03 36 27.9
comp=Z,812µm,21.0s
YKAW1 Yellowknife Wh 26.86 3 **P** **03 25 34.7 -1.3**
YKAW1 IAmb IAmb 03 25 48.3
comp=Z,694nm,1.2s
YKA Yellowknife Ar 26.86 3 P **P** **03 25 35.7 -0.3**
comp=Z,133nm,1.0s,baz=230,slow=13,SNR=56
YKA S **S** **03 30 14.3 +2.0**
comp=Z,2.2nm,0.8s,baz=223,slow=31,SNR=2.2
YKA LR LR 03 36 50.9
comp=Z,387µm,19.3s,baz=199,slow=38
comp=Z,133nm,1.0s
YKAW3 Yellowknife Wh 26.93 3 P **P** **03 25 35.5 -1.2**
YKAW3 IAmb IAmb 03 25 58.8
comp=Z,1µm,1.5s
AAM Ann Arbor 27.07 66 IAMs_20 IAMs_20 03 36 55.4
comp=Z,834µm,19.0s
451A Vernon 27.09 92 IAMs_20 IAMs_20 03 38 05.6
comp=Z,569µm,19.0s
E46A Sault Ste Mari 27.10 57 IAMs_20 IAMs_20 03 36 00.9
comp=Z,601µm,21.0s
P29M Windy Craggy 27.27 338 P **P** **03 25 40.7 +0.8**
baz=142,SNR=47
P29M S **S** **03 30 26.6 +7.6**
baz=142
S51A Beattyville 27.27 76 IAMs_20 IAMs_20 03 36 30.0
comp=Z,702µm,22.0s
N32M Quiet Lake 27.29 344 P **P** **03 25 37.0 -3.0**
N32M IAmb IAmb 03 25 49.4
comp=Z,253nm,1.0s
N32M IAMs_20 IAMs_20 03 36 43.6
comp=Z,665µm,21.0s
N32M Quiet Lake 27.29 344 P **P** **03 25 40.6 +0.6**
baz=152
N32M S **S** **03 30 24.4 +5.1**
baz=152
WHY Whitehorse 27.30 341 IAMs_20 IAMs_20 03 37 53.0
comp=Z,735µm,20.0s
WHY Whitehorse 27.30 341 P **P** **03 25 40.7 +0.5**
baz=148,SNR=110
WHY S **S** **03 30 26.1 +6.4**
baz=148
152A Waverly Hall 27.31 87 IAMs_20 IAMs_20 03 37 05.4
comp=Z,818µm,18.0s
Q51A Peebles 27.34 73 IAMs_20 IAMs_20 03 36 44.7
comp=Z,930µm,22.0s
W52A Murphy 27.39 81 IAMs_20 IAMs_20 03 36 42.4
comp=Z,753µm,22.0s
TKL Tuckaleechee C 27.41 80 P **P** **03 25 38.9 -2.4**
TKL IAmb IAmb 03 25 56.5
comp=Z,583nm,1.1s
TKL Tuckaleechee C 27.41 80 LR LR 03 36 41.6
comp=Z,536µm,18.5s,baz=274,slow=37
TKL Tuckaleechee C 27.41 80 P **P** **03 25 38.9 -2.4**
TKL pmax pmax
comp=Z,583nm,1.1s
CMIG Matias Romero 27.43 127 LR LR 03 35 41.5
comp=Z,735µm,20.7s,baz=245,slow=34
M50A Fremont 27.50 68 P **P** **03 25 39.2 -2.9**
M50A IAmb IAmb 03 25 56.2
comp=Z,520nm,1.2s
M50A IAMs_20 IAMs_20 03 37 04.9
comp=Z,827µm,20.0s
P51A Williamsport 27.54 72 IAMs_20 IAMs_20 03 36 35.8
comp=Z,495µm,21.0s
Y52A Lilburn 27.55 84 IAMs_20 IAMs_20 03 37 08.5
comp=Z,621µm,20.0s
ACSO Alum Creek Sta 27.56 70 IAMs_20 IAMs_20 03 36 51.5
comp=Z,930µm,20.0s
O30N Mendenhall 27.72 340 P **P** **03 25 44.4 +0.6**
baz=146,SNR=95
O30N S **S** **03 30 32.2 +6.1**
baz=146
WRGLY Wrigley 27.77 354 P **P** **03 25 44.6 +0.5**
baz=170,SNR=95
WRGLY S **S** **03 30 28.6 +2.0**
baz=170
YKU2 Yakutat 27.80 336 IAMs_20 IAMs_20 03 36 56.2
comp=Z,410µm,18.0s
PNL Peninsula 27.83 336 P **P** **03 25 47.8 +3.0**
comp=Z,375nm,1.7s
PNL Peninsula 27.83 336 P **P** **03 25 46.0 +1.2**
baz=140,SNR=26
PNL S **S** **03 30 33.2 +5.4**
baz=140
K50A Casco 27.86 65 IAMs_20 IAMs_20 03 36 47.1
comp=Z,877µm,21.0s
N51A Ashland 28.01 69 IAMs_20 IAMs_20 03 37 22.3
comp=Z,782µm,19.0s
O29M Mount Kennedy 28.06 338 P **P** **03 25 47.6 +0.6**
baz=142,SNR=9.7
O29M S **S** **03 30 37.6 +6.0**
baz=142
GOGA Godfrey 28.14 85 IAMs_20 IAMs_20 03 37 27.2
comp=Z,590µm,19.0s
HYT Haines Junctio 28.16 339 IAMs_20 IAMs_20 03 38 08.7
comp=Z,450µm,18.0s
HYT Haines Junctio 28.16 339 P **P** **03 25 48.8 +0.9**
baz=144,SNR=65
HYT S **S** **03 30 38.5 +5.3**
baz=144
V53A Saluda 28.18 80 IAMs_20 IAMs_20 03 37 16.2
comp=Z,795µm,20.0s
Q52A Bidwell 28.18 73 IAMs_20 IAMs_20 03 36 32.0
comp=Z,742µm,22.0s
BG3 Lake Jocassee 28.22 81 IAMs_20 IAMs_20 03 37 20.1
comp=Z,880µm,21.0s
MMPY Sheldon Lake, 28.23 347 IAMs_20 IAMs_20 03 37 54.5
comp=Z,561µm,20.0s
MMPY Sheldon Lake, 28.23 347 P **P** **03 25 49.5 +1.0**
baz=156,SNR=111
MMPY S **S** **03 30 37.5 +3.4**
baz=156
N31M Braeburn, Yuko 28.24 342 IAMs_20 IAMs_20 03 36 33.7
comp=Z,470µm,21.0s
N31M Braeburn, Yuko 28.24 342 P **P** **03 25 48.8 +0.4**
baz=148,SNR=55
N31M S **S** **03 30 38.3 +4.1**
baz=148
FARO Faro, Yukon 28.30 344 IAMs_20 IAMs_20 03 38 05.4
comp=Z,685µm,18.0s
FARO Faro, Yukon 28.30 344 P **P** **03 25 49.1 0.0**
baz=152,SNR=52
FARO S **S** **03 30 40.6 +5.3**
baz=152
PINM Pinnacle 28.43 336 P **P** **03 25 49.9 -0.4**
baz=139,SNR=28
PINM S **S** **03 30 43.3 +5.9**
baz=139
YUK6 Outpost Mounta 28.50 339 P **P** **03 25 51.3 +0.2**
baz=143
YUK6 S **S** **03 30 45.5 +6.7**
baz=143
M31M Drury Creek, Y 28.52 344 P **P** **03 25 51.3 +0.4**
baz=150,SNR=72
M31M S S 03 30 48.0 +9.4
baz=150
N30M Aishikik Lake 28.56 340 P **P** **03 25 51.8 +0.4**
baz=145,SNR=47
N30M S **S** **03 30 46.0 +6.6**
baz=145
154A Montrose 28.64 86 IAMs_20 IAMs_20 03 37 34.4
comp=Z,633µm,22.0s
M52A Chesterland 28.77 67 IAMs_20 IAMs_20 03 36 59.4
comp=Z,513µm,21.0s
YUK4 Talbot Arm 28.91 339 P **P** **03 25 55.9 +1.2**
baz=143
YUK4 S **S** **03 30 52.6 +7.5**
baz=143
O53A New Philadelph 28.91 70 IAMs_20 IAMs_20 03 37 03.3
comp=Z,448µm,22.0s
HODGE Hodges 28.92 83 IAMs_20 IAMs_20 03 37 42.8
comp=Z,687µm,22.0s
O28M Mount Upton 28.93 337 IAmb IAmb 03 26 02.0
comp=Z,834nm,1.6s
O28M Mount Upton 28.93 337 P **P** **03 25 55.2 +0.3**
baz=140,SNR=76
O28M S **S** **03 30 50.8 +5.3**
baz=140
TABL Table Mountain 28.99 336 IAMs_20 IAMs_20 03 37 27.6
comp=Z,431µm,18.0s
S54A Dingess, Beckl 29.05 75 IAMs_20 IAMs_20 03 37 36.0
comp=Z,750µm,21.0s
MESA MESA 29.07 335 IAMs_20 IAMs_20 03 37 18.7
comp=Z,591µm,18.0s
MESA MESA 29.07 335 P **P** **03 25 57.2 +1.1**
baz=136,SNR=41
MESA S **S** **03 30 52.9 +5.3**
baz=136
YAH Yahtse 29.13 335 IAMs_20 IAMs_20 03 37 57.4
comp=Z,629µm,19.0s
PAULI Pauline 29.15 81 IAMs_20 IAMs_20 03 37 49.8
comp=Z,789µm,21.0s
N53A Lisbon 29.18 69 IAMs_20 IAMs_20 03 38 06.2
comp=Z,707µm,20.0s
YUK8 Steele Glacier 29.19 338 P **P** **03 25 57.7 +0.4**
baz=141
YUK8 S **S** **03 30 54.0 +4.3**
baz=141
Q54A Coxs Mills 29.30 73 IAMs_20 IAMs_20 03 37 40.5
comp=Z,517µm,21.0s
GRNC Granite Creek 29.41 336 IAMs_20 IAMs_20 03 36 55.7
comp=Z,387µm,20.0s
M30M Minto, Yukon 29.42 342 IAMs_20 IAMs_20 03 38 11.8
comp=Z,463µm,19.0s
M30M Minto, Yukon 29.42 342 P **P** **03 25 59.4 +0.5**
baz=147,SNR=23
M30M S **S** **03 30 55.9 +3.2**
baz=147
CTGM Chitina Glacie 29.44 336 IAMs_20 IAMs_20 03 36 57.6
comp=Z,414µm,21.0s
CTG Chitna Glacier 29.44 336 P **P** **03 26 00.2 +0.9**
baz=138,SNR=42
CTG S **S** **03 31 00.1 +6.8**
baz=138
KMSC Kings Mountain 29.47 80 IAMs_20 IAMs_20 03 37 59.3
comp=Z,724µm,22.0s
BGLC Bering Glacier 29.50 334 P **P** **03 26 00.8 +1.3**
baz=134
BGLC S **S** **03 30 57.5 +3.6**
baz=134
ISLE Juniper Island 29.51 335 IAMs_20 IAMs_20 03 37 51.4
comp=Z,639µm,18.0s
WAX Waxell Ridge 29.57 335 IAMs_20 IAMs_20 03 38 40.1
comp=Z,437µm,18.0s
BARN Barnard Glacie 29.62 336 IAMs_20 IAMs_20 03 37 03.3
comp=Z,402µm,20.0s
ALLY Alegheny Colle 29.68 67 IAMs_20 IAMs_20 03 37 27.4
comp=Z,720µm,20.0s
M29M Somme Creek 29.74 341 IAMs_20 IAMs_20 03 37 21.5
comp=Z,409µm,20.0s
M29M Somme Creek 29.74 341 P **P** **03 26 02.5 +0.6**
baz=144,SNR=137
M29M S **S** **03 31 02.0 +4.0**
baz=144
KAIM Kayak Island 29.78 333 P **P** **03 26 02.8 +0.7**
baz=132,SNR=6.6
KAIM S **S** **03 31 05.5 +7.2**
baz=132
YUK3 Moose Creek 29.78 338 P **P** **03 26 03.9 +1.4**
baz=140,SNR=43
YUK3 S S 03 31 07.9 +9.0
baz=140
TGL Tana Glacier 29.79 335 IAMs_20 IAMs_20 03 37 50.7
comp=Z,477µm,18.0s
ERPA Erie 29.79 66 IAMs_20 IAMs_20 03 38 28.4
comp=Z,440µm,21.0s
BERG Berg Lake 29.84 334 IAMs_20 IAMs_20 03 37 21.0
comp=Z,512µm,20.0s
CCIG Comitan 29.84 124 IAMs_20 IAMs_20 03 37 16.4
comp=Z,786µm,21.0s
CRQE Cirque 29.88 335 P **P** **03 26 04.2 +1.1**
baz=135,SNR=30
CRQE S **S** **03 31 06.3 +6.2**
baz=135
CRQM Cirque 29.89 335 IAMs_20 IAMs_20 03 37 54.1
comp=Z,459µm,18.0s
HMT Hamilton 30.00 334 IAMs_20 IAMs_20 03 37 15.3
comp=Z,443µm,20.0s
MCWV Mont Chateau 30.00 71 IAMs_20 IAMs_20 03 37 46.1
comp=Z,604µm,20.0s
TEIG Tepich 30.02 113 **P** **03 26 03.5 -1.1**
TEIG IAmb IAmb 03 26 08.9
comp=Z,371nm,1.4s
TEIG IAMs_20 IAMs_20 03 39 37.8
comp=Z,566µm,19.0s
TEIG Tepich 30.02 113 P **P** **03 26 07.7 +3.1**
comp=Z,32µmcomp=Z,472nm,2.5s
MAYO Mayo, Yukon 30.07 344 P **P** **03 26 05.3 +0.6**
baz=149
MAYO S **S** **03 31 05.7 +2.7**
baz=149
RAGM Ragged Mountai 30.18 333 IAMs_20 IAMs_20 03 39 28.2
comp=Z,482µm,18.0s
Q23K Middleton Isla 30.19 331 P **P** **03 26 06.8 +1.1**
baz=129
Q23K S **S** **03 31 09.9 +5.1**
baz=129
Q23K S **S** **03 31 09.9 +5.1**
baz=129
L29M L29M 30.20 342 IAMs_20 IAMs_20 03 38 47.6
comp=Z,441µm,20.0s
L29M L29M 30.20 342 P **P** **03 26 06.7 +0.8**
baz=146,SNR=75
L29M S **S** **03 31 09.2 +4.1**
baz=146
BIRD Birdtown, Kers 30.27 81 IAMs_20 IAMs_20 03 38 33.6
comp=Z,764µm,20.0s
MCARA McCarthy VSAT 30.31 336 IAMs_20 IAMs_20 03 38 19.4
comp=Z,363µm,18.0s
MCARA McCarthy VSAT 30.31 336 P **P** **03 26 07.8 +1.0**
baz=136,SNR=71
MCARA S **S** **03 31 12.5 +5.9**
baz=136
BUKO Buck Lake 30.36 60 IAmb IAmb 03 27 00.4
comp=Z,200nm,1.2s
BUKO IAMs_20 IAMs_20 03 38 01.2
comp=Z,872µm,22.0s
BVCY Beaver Creek 30.40 339 P **P** **03 26 08.3 +0.7**
baz=141,SNR=46
BVCY S **S** **03 31 14.1 +6.0**
baz=141
Y57A Sumter 30.48 82 IAMs_20 IAMs_20 03 38 40.0
comp=Z,812µm,21.0s
SADO Sadowa 30.49 61 LR LR 03 38 51.6
comp=Z,941µm,18.4s,baz=277,slow=37
257A Skidaway Islan 30.51 86 IAMs_20 IAMs_20 03 38 53.0
comp=Z,645µm,21.0s
W57A Gilead 30.54 80 IAMs_20 IAMs_20 03 38 27.6
comp=Z,652µm,21.0s
BMRM Bremner River 30.55 334 P **P** **03 26 10.0 +0.9**
baz=133,SNR=32
BMRM S **S** **03 31 14.7 +4.1**
baz=133
Q56A Snyder Ridge, 30.57 72 IAMs_20 IAMs_20 03 37 43.1
comp=Z,631µm,21.0s
GLB Gilahina Butte 30.61 335 IAMs_20 IAMs_20 03 38 54.6
comp=Z,373µm,18.0s

M27K	**Edge Creek, AK**	**30.66**	**338**	IAMs_20	IAMs_20	03 39 00.8		
	comp=Z,332µm,18.0s							
M27K	**Edge Creek, AK**	**30.66**	**338**	P	**P**	**03 26 10.9**	**+0.8**	
	baz=139,SNR=168							
M27K				S	**S**	**03 31 18.8**	**+6.3**	
	baz=139							
K29M	**Barlow Dome**	**30.66**	**343**	IAMs_20	IAMs_20	03 39 31.8		
	comp=Z,630µm,19.0s							
K29M	**Barlow Dome**	**30.66**	**343**	P	**P**	**03 26 10.6**	**+0.6**	
	baz=147,SNR=54							
K29M				S	**S**	**03 31 15.6**	**+3.2**	
	baz=147							
EYAK	**Cordova Ski Ar**	**30.69**	**333**	IAMs_20	IAMs_20	03 36 47.6		
	comp=Z,361µm,20.0s							
EYAK	**Cordova Ski Ar**	**30.69**	**333**	P	**P**	**03 26 12.2**	**+2.1**	
	comp=Z,301nm,1.5s							
EYAK	**Cordova Ski Ar**	**30.69**	**333**	P	**P**	**03 26 11.1**	**+1.0**	
	baz=131,SNR=39							
EYAK				S	**S**	**03 31 19.0**	**+6.5**	
	baz=131							
HIN	**Hinchinbrook I**	**30.87**	**332**	IAMs_20	IAMs_20	03 38 02.5		
	comp=Z,396µm,19.0s							
NHSC	**New Hope**	**30.88**	**84**	IAMs_20	IAMs_20	03 39 31.7		
	comp=Z,386µm,20.0s							
P23K	**Montague Islan**	**30.97**	**331**	IAMs_20	IAMs_20	03 36 31.0		
	comp=Z,388µm,20.0s							
P23K	**Montague Islan**	**30.97**	**331**	P	**P**	**03 26 14.0**	**+1.4**	
	baz=128							
P23K				S	**S**	**03 31 20.7**	**+3.7**	
	baz=128							
N25K	**Chitina, Valde**	**31.00**	**335**	IAMs_20	IAMs_20	03 38 38.7		
	comp=Z,360µm,18.0s							
N25K	**Chitina, Valde**	**31.00**	**335**	P	**P**	**03 26 14.2**	**+1.2**	
	baz=134,SNR=107							
N25K				S	**S**	**03 31 24.9**	**+7.3**	
	baz=134							
CSU	**Charleston Sou**	**31.00**	**84**	IAMs_20	IAMs_20	03 39 43.8		
	comp=Z,391µm,20.0s							
J30M	**Hart River**	**31.02**	**344**	P	**P**	**03 26 13.7**	**+0.5**	
	baz=150,SNR=229							
J30M				S	**S**	**03 31 22.7**	**+4.7**	
	baz=150							
M26K	**Nabesna, AK**	**31.04**	**337**	P	**P**	**03 26 14.0**	**+0.7**	
	baz=137,SNR=69							
M26K				S	**S**	**03 31 25.3**	**+7.0**	
	baz=137							
DIV	**Divide**	**31.08**	**334**	IAMs_20	IAMs_20	03 38 01.0		
	comp=Z,349µm,20.0s							
BCAR	**Beaver Creek A**	**31.18**	**339**	P	**P**	**03 26 12.4**	**-2.1**	
L27K	**Beaver Creek,**	**31.18**	**339**	IAMs_20	IAMs_20	03 40 13.6		
	comp=Z,501µm,19.0s							
L27K	**Beaver Creek,**	**31.18**	**339**	P	**P**	**03 26 15.2**	**+0.6**	
	baz=140,SNR=64							
L27K				S	**S**	**03 31 28.1**	**+7.7**	
	baz=140							
X58A	**Rowland**	**31.20**	**81**	IAMs_20	IAMs_20	03 39 02.0		
	comp=Z,597µm,21.0s							
DAWY	**Dawson**	**31.31**	**342**	IAMs_20	IAMs_20	03 40 09.9		
	comp=Z,584µm,18.0s							
DAWY	**Dawson**	**31.31**	**342**	P	**P**	**03 26 16.6**	**+1.0**	
	baz=144,SNR=136							
DAWY				S	**S**	**03 31 27.6**	**+5.2**	
	baz=144							
J29N	**Klondike Camp**	**31.34**	**343**	IAMs_20	IAMs_20	03 39 53.7		
	comp=Z,616µm,19.0s							
J29N	**Klondike Camp**	**31.34**	**343**	P	**P**	**03 26 17.1**	**+1.1**	
	baz=147,SNR=11							
J29N				S	**S**	**03 31 28.7**	**+5.8**	
	baz=147							
KLU	**Klutina**	**31.38**	**334**	P	**P**	**03 26 17.1**	**+0.8**	
	baz=132,SNR=59							
KLU				S	**S**	**03 31 27.5**	**+3.9**	
	baz=132							
J55A	**Hilton**	**31.39**	**64**	IAMs_20	IAMs_20	03 39 50.7		
	comp=Z,390µm,19.0s							
GLI	**Glacier Island**	**31.41**	**332**	P	**P**	**03 26 17.3**	**+0.8**	
	baz=130,SNR=81							
GLI				S	**S**	**03 31 26.1**	**+2.3**	
	baz=130							
SSPA	**Standing Stone**	**31.43**	**69**	IAMs_20	IAMs_20	03 38 57.7		
	comp=Z,507µm,22.0s							
BLKN	**Baker Lake**	**31.48**	**18**	IAmb	IAmb	03 26 26.9		
	comp=Z,155nm,0.9s							
BLKN				IAMs_20	IAMs_20	03 38 52.2		
	comp=Z,378µm,20.0s							
DWPF	**Disney Wildern**	**31.51**	**94**	IAMs_20	IAMs_20	03 40 07.6		
	comp=Z,477µm,20.0s							
DWPF	**Disney Wildern**	**31.51**	**94**	*e*P	**P**	**03 26 19.7**	**+2.0**	
DWPF				*e*S	**S**	**03 31 24.6**	**-1.5**	
DWPF				IAMs_20	IAMs_20	03 38 16.0		
	comp=Z,515µm,17.7s							
DWPF				IAMs_20	IAMs_20	03 38 23.8		
	comp=Z,412µm,18.4s							
I30M	**Mount Dempster**	**31.59**	**345**	P	**P**	**03 26 18.3**	**+0.1**	
	baz=150,SNR=140							
I30M				S	**S**	**03 31 34.0**	**+7.2**	
	baz=150							
L26K	**Log Cabin Wild**	**31.61**	**338**	IAMs_20	IAMs_20	03 40 17.0		
	comp=Z,337µm,19.0s							
L26K	**Log Cabin Wild**	**31.61**	**338**	P	**P**	**03 26 19.0**	**+0.7**	
	baz=138,SNR=95							
L26K				S	**S**	**03 31 32.7**	**+5.6**	
	baz=138							
MENT	**Mentasta**	**31.66**	**337**	P	**P**	**03 26 20.7**	**+1.9**	
	comp=Z,226nm,1.3s							
H31M	**Peel River**	**31.70**	**347**	IAMs_20	IAMs_20	03 40 12.2		
	comp=Z,451µm,20.0s							
H31M	**Peel River**	**31.70**	**347**	P	**P**	**03 26 19.5**	**+0.4**	
	baz=154,SNR=136							
H31M				S	**S**	**03 31 31.0**	**+2.6**	
	baz=154							
R58B	**Mineral**	**31.72**	**74**	IAMs_20	IAMs_20	03 39 33.7		
	comp=Z,638µm,18.0s							
HARP	**HAARP**	**31.74**	**336**	P	**P**	**03 26 19.9**	**+0.4**	
	baz=134,SNR=39							
HARP				S	**S**	**03 31 34.6**	**+5.5**	
	baz=134							
W59A	**Clinton**	**31.78**	**79**	IAMs_20	IAMs_20	03 39 29.4		
	comp=Z,699µm,19.0s							
SEW	**Seward**	**31.85**	**330**	P	**P**	**03 26 21.2**	**+0.9**	
	baz=126,SNR=56							
SEW				S	**S**	**03 31 35.6**	**+4.8**	
	baz=126							
PWL	**Port Wells**	**31.86**	**332**	P	**P**	**03 26 21.1**	**+0.6**	
	baz=128,SNR=45							
PWL				S	**S**	**03 31 34.1**	**+3.0**	
	baz=128							
M24K	**Tolsona, Glenn**	**31.88**	**335**	IAMs_20	IAMs_20	03 39 08.2		
	comp=Z,377µm,19.0s							
M24K	**Tolsona, Glenn**	**31.88**	**335**	P	**P**	**03 26 21.7**	**+0.9**	
	baz=133,SNR=28							
M24K				S	**S**	**03 31 37.4**	**+6.0**	
	baz=133							
KDAK	**Kodiak Island**	**32.00**	**325**	IAMs_20	IAMs_20	03 38 01.4		
	comp=Z,333µm,19.0s							
KDAK	**Kodiak Island**	**32.00**	**325**	LR	LR	03 38 12.7		
	comp=Z,318µm,18.7s,baz=116,slow=34							
KDAK	**Kodiak Island**	**32.00**	**325**	*i* P	**P**	**03 26 21.0**	**-0.7**	
KDAK				pmax	pmax			
	comp=Z,380nm,1.4s							
KDAK				MLR	MLR			
	comp=Z,201µm,17.0s							
KDAK	**Kodiak Island**	**32.00**	**325**	⇑P	**P**	**03 26 23.3**	**+1.6**	
KDAK	**Kodiak Island**	**32.00**	**325**	P	**P**	**03 26 22.4**	**+0.7**	
	baz=118							
KDAK				S	**S**	**03 31 35.3**	**+2.2**	
	baz=118							
K27K	**Chicken**	**32.00**	**340**	P	**P**	**03 26 22.5**	**+0.8**	
	baz=140							
K27K				S	**S**	**03 31 36.1**	**+3.0**	
	baz=140							
OHAK	**Old Harbor**	**32.08**	**323**	P	**P**	**03 26 24.2**	**+1.8**	
	comp=Z,289nm,1.3s							
OHAK	**Old Harbor**	**32.08**	**323**	P	**P**	**03 26 22.8**	**+0.5**	
	baz=117,SNR=56							
OHAK				S	**S**	**03 31 41.5**	**+7.2**	
	baz=117							
CBN	**Corbin Frederi**	**32.08**	**73**	IAMs_20	IAMs_20	03 39 32.2		
	comp=Z,658µm,21.0s							
SCM	**Sheep Creek Mo**	**32.11**	**334**	IAMs_20	IAMs_20	03 38 32.2		
	comp=Z,330µm,20.0s							
SCM	**Sheep Creek Mo**	**32.11**	**334**	P	**P**	**03 26 23.4**	**+0.6**	
	baz=131,SNR=81							
SCM				S	**S**	**03 31 40.2**	**+5.2**	
	baz=131							
I29M	**Ogilvie Camp,**	**32.13**	**344**	IAMs_20	IAMs_20	03 40 10.5		
	comp=Z,686µm,19.0s							
I29M	**Ogilvie Camp,**	**32.13**	**344**	P	**P**	**03 26 23.0**	**+0.2**	
	baz=147,SNR=51							
I29M				S	**S**	**03 31 37.9**	**+2.9**	
	baz=147							
O22K	**Cooper Landing**	**32.18**	**330**	IAMs_20	IAMs_20	03 38 06.2		
	comp=Z,316µm,18.0s							
O22K	**Cooper Landing**	**32.18**	**330**	P	**P**	**03 26 24.2**	**+0.9**	
	baz=126,SNR=13							
O22K				S	**S**	**03 31 36.1**	**+0.2**	
	baz=126							
M23K	**Glacier View**	**32.23**	**333**	P	**P**	**03 26 24.5**	**+0.7**	
	baz=130,SNR=71							
M23K				S	**S**	**03 31 42.0**	**+5.3**	
	baz=130							
SII	**Sitkinak Islan**	**32.23**	**322**	IAMs_20	IAMs_20	03 38 23.7		
	comp=Z,354µm,18.0s							
SII	**Sitkinak Islan**	**32.23**	**322**	P	**P**	**03 26 25.5**	**+1.7**	
	comp=Z,416nm,1.8s							
SII	**Sitkinak Islan**	**32.23**	**322**	P	**P**	**03 26 24.4**	**+0.6**	
	baz=115,SNR=19							
SII				S	**S**	**03 31 41.3**	**+4.5**	
	baz=115							
Y60A	**Bolivia**	**32.23**	**81**	IAMs_20	IAMs_20	03 39 43.4		
	comp=Z,755µm,21.0s							
PAX	**Paxson**	**32.24**	**336**	IAMs_20	IAMs_20	03 39 05.7		
	comp=Z,359µm,19.0s							
PAX	**Paxson**	**32.24**	**336**	P	**P**	**03 26 24.3**	**+0.4**	
	baz=135,SNR=98							
PAX				S	**S**	**03 31 42.2**	**+5.1**	
	baz=135							
KNK	**Knik Glacier**	**32.26**	**332**	P	**P**	**03 26 24.6**	**+0.6**	
	baz=129,SNR=55							
KNK				S	**S**	**03 31 41.5**	**+4.3**	
	baz=129							
DOT	**Dot Lake**	**32.29**	**338**	IAMs_20	IAMs_20	03 40 59.0		
	comp=Z,450µm,19.0s							
SYI	**Shuyak Island**	**32.31**	**326**	IAMs_20	IAMs_20	03 38 30.7		
	comp=Z,383µm,18.0s							
Q20K	**Shuyak Island**	**32.31**	**326**	P	**P**	**03 26 25.3**	**+0.9**	
	baz=120,SNR=16							
Q20K				S	**S**	**03 31 41.2**	**+3.2**	
	baz=120							
SDMD	**Soldier's Deli**	**32.34**	**71**	IAMs_20	IAMs_20	03 39 42.0		
	comp=Z,509µm,18.0s							
SCRK	**Sand Creek**	**32.51**	**339**	IAMs_20	IAMs_20	03 41 03.7		
	comp=Z,376nm,19.0s							
SCRK	**Sand Creek**	**32.51**	**339**	P	**P**	**03 26 27.0**	**+0.7**	
	baz=138,SNR=182							
SCRK				S	**S**	**03 31 42.9**	**+1.6**	
	baz=138							
HOM	**Homer**	**32.52**	**328**	P	**P**	**03 26 26.9**	**+0.6**	
	baz=122,SNR=7.3							
HOM				S	**S**	**03 31 39.9**	**-1.3**	
	baz=122							
RC01	**Rabbit Creek A**	**32.55**	**331**	P	**P**	**03 26 26.8**	**+0.3**	
	baz=126,SNR=34							
RC01				S	**S**	**03 31 40.1**	**-1.6**	
	baz=126							
I28M	**Miner Creek**	**32.58**	**343**	P	**P**	**03 26 26.7**	**-0.1**	
	baz=145,SNR=154							
I28M				S	**S**	**03 31 44.3**	**+2.0**	
	baz=145							
RIDG	**Independent Ri**	**32.60**	**338**	IAMs_20	IAMs_20	03 39 04.0		
	comp=Z,390µm,20.0s							
RIDG	**Independent Ri**	**32.60**	**338**	P	**P**	**03 26 26.9**	**-0.1**	
	baz=136,SNR=77							
RIDG				S	**S**	**03 31 39.7**	**-2.8**	
	baz=136							
PMR	**Palmer**	**32.62**	**332**	P	**P**	**03 26 28.2**	**+1.1**	
	comp=Z,517nm,1.3s							
PMR	**Palmer**	**32.62**	**332**	P	**P**	**03 26 27.6**	**+0.5**	
	baz=128,SNR=176							
PMR				S	**S**	**03 31 42.3**	**-0.4**	
	baz=128							
EPYK	**Eagle Plains**	**32.66**	**346**	IAMs_20	IAMs_20	03 40 28.4		
	comp=Z,670µm,21.0s							
EPYK	**Eagle Plains**	**32.66**	**346**	P	**P**	**03 26 27.2**	**-0.3**	
	baz=150,SNR=174							
EPYK				S	**S**	**03 31 44.1**	**+0.8**	
	baz=150							
CHIR	**Chirikof Islan**	**32.68**	**320**	P	**P**	**03 26 29.5**	**+1.8**	
	comp=Z,399nm,1.4s							
CHIR	**Chirikof Islan**	**32.68**	**320**	P	**P**	**03 26 26.1**	**-1.6**	
	baz=112							
CHIR				S	**S**	**03 31 46.0**	**+2.3**	
	baz=112							
G31M	**Satah River**	**32.70**	**348**	P	**P**	**03 26 27.9**	**+0.2**	
	baz=154,SNR=170							
G31M				S	**S**	**03 31 43.7**	**-0.1**	
	baz=154							
WAT6	**Susitna Watana**	**32.75**	**335**	P	**P**	**03 26 28.9**	**+0.5**	
	baz=131,SNR=95							
WAT6				S	**S**	**03 31 48.1**	**+3.1**	
	baz=131							
BINY	**Binghamton**	**32.76**	**66**	IAMs_20	IAMs_20	03 39 12.0		
	comp=Z,456µm,22.0s							
J26L	**Joseph Creek**	**32.78**	**340**	P	**P**	**03 26 29.3**	**+0.6**	
	baz=139,SNR=133							
J26L				S	**S**	**03 31 46.8**	**+1.4**	
	baz=139							
R18K	**Karluk**	**32.79**	**323**	P	**P**	**03 26 29.0**	**+0.3**	
	baz=116							
R18K				S	**S**	**03 31 51.0**	**+5.5**	
	baz=116							
060A	**Indiantown**	**32.81**	**95**	IAMs_20	IAMs_20	03 41 08.2		
	comp=Z,471µm,19.0s							
H29M	**Whitestone**	**32.87**	**345**	IAMs_20	IAMs_20	03 40 59.0		
	comp=Z,469µm,19.0s							
H29M	**Whitestone**	**32.87**	**345**	P	**P**	**03 26 29.0**	**-0.2**	
	baz=148,SNR=112							
H29M				S	**S**	**03 31 49.1**	**+2.6**	
	baz=148							
061Z	**Ochoppi**	**32.87**	**97**	IAMs_20	IAMs_20	03 42 06.8		
	comp=Z,406µm,19.0s							
CAPN	**Captain Cook N**	**32.93**	**330**	P	**P**	**03 26 30.0**	**+0.2**	
	baz=124							
CAPN				S	**S**	**03 31 55.2**	**+7.8**	
	baz=124							
K24K	**Donnelly Dome**	**32.93**	**337**	IAMs_20	IAMs_20	03 38 51.9		
	comp=Z,325µm,20.0s							
K24K	**Donnelly Dome**	**32.93**	**337**	P	**P**	**03 26 30.1**	**+0.2**	
	baz=135,SNR=26							
K24K				S	**S**	**03 31 51.3**	**+3.6**	
	baz=135							
DHY	**Denali Highway**	**32.95**	**335**	IAMs_20	IAMs_20	03 40 28.4		
	comp=Z,286µm,18.0s							
DHY	**Denali Highway**	**32.95**	**335**	P	**P**	**03 26 30.4**	**+0.2**	
	baz=132,SNR=94							
DHY				S	**S**	**03 31 49.1**	**+0.9**	
	baz=132							
Q19K	**Cape Douglas,**	**33.04**	**326**	P	**P**	**03 26 31.0**	**+0.1**	
	baz=119,SNR=29							
Q19K				S	**S**	**03 31 53.9**	**+4.5**	
	baz=119							
F31M	**Tsiigehtchic**	**33.08**	**349**	P	**P**	**03 26 31.5**	**+0.5**	
	baz=156,SNR=43							
F31M				S	**S**	**03 31 49.4**	**-0.4**	
	baz=156							
M22K	**Willow**	**33.09**	**332**	P	**P**	**03 26 31.9**	**+0.7**	
	baz=127,SNR=38							
M22K				S	**S**	**03 31 53.5**	**+3.5**	
	baz=127							
G30M	**tAoh Zrail Nji**	**33.10**	**347**	IAMs_20	IAMs_20	03 40 34.1		
	comp=Z,437µm,19.0s							
G30M	**tAoh Zrail Nji**	**33.10**	**347**	P	**P**	**03 26 30.9**	**-0.4**	
	baz=152,SNR=72							
G30M				S	**S**	**03 31 51.9**	**+1.7**	
	baz=152							
I27K	**Kandik River**	**33.12**	**342**	P	**P**	**03 26 31.7**	**+0.2**	
	baz=143,SNR=38							
I27K				S	**S**	**03 31 52.9**	**+2.3**	
	baz=143							
V61A	**Roper**	**33.13**	**78**	IAMs_20	IAMs_20	03 39 34.2		
	comp=Z,584µm,21.0s							
SUA	**Susitna One**	**33.16**	**331**	P	**P**	**03 26 32.6**	**+0.6**	
	baz=126							
SUA				S	**S**	**03 31 56.5**	**+5.0**	
	baz=126							
O20K	**Slope Mountain**	**33.17**	**328**	P	**P**	**03 26 31.4**	**-0.6**	
	baz=121,SNR=17							
O20K				S	**S**	**03 31 54.2**	**+2.7**	
	baz=121							
WAT1	**Susitna Watana**	**33.19**	**334**	P	**P**	**03 26 31.8**	**-0.3**	
	baz=130							
WAT1				S	**S**	**03 31 54.4**	**+2.6**	
	baz=130							
P19K	**Oil Pt**	**33.21**	**327**	P	**P**	**03 26 32.7**	**+0.4**	
	baz=120,SNR=72							
P19K				S	**S**	**03 31 58.5**	**+6.5**	
	baz=120							
WBO	**Williamsburg**	**33.24**	**61**	IAMs_20	IAMs_20	03 38 18.6		
	comp=Z,333µm,18.0s							
I26K	**Coal Creek Min**	**33.29**	**341**	IAMs_20	IAMs_20	03 39 30.1		
	comp=Z,348µm,21.0s							
I26K	**Coal Creek Min**	**33.29**	**341**	P	**P**	**03 26 33.2**	**+0.3**	
	baz=140							
I26K				S	**S**	**03 31 55.9**	**+2.9**	
	baz=140							
LUPA	**Lehigh Univers**	**33.34**	**69**	IAMs_20	IAMs_20	03 40 08.3		
	comp=Z,423µm,18.0s							
G29M	**Pine Creek**	**33.39**	**346**	IAMs_20	IAMs_20	03 40 59.8		
	comp=Z,708µm,21.0s							
G29M	**Pine Creek**	**33.39**	**346**	P	**P**	**03 26 33.7**	**-0.2**	
	baz=149,SNR=125							
G29M				S	**S**	**03 31 56.8**	**+2.2**	
	baz=149							
J25K	**Salcha River,**	**33.39**	**339**	IAMs_20	IAMs_20	03 39 30.0		
	comp=Z,354µm,20.0s							
J25K	**Salcha River,**	**33.39**	**339**	P	**P**	**03 26 34.3**	**+0.4**	
	baz=136,SNR=179							
J25K				S	**S**	**03 31 58.4**	**+3.6**	
	baz=136							
Q18K	**Katmai Hardscr**	**33.54**	**325**	P	**P**	**03 26 35.4**	**+0.1**	
	baz=117,SNR=52							
Q18K				S	**S**	**03 31 59.8**	**+2.5**	
	baz=117							
CUT	**Chulitna**	**33.54**	**333**	P	**P**	**03 26 35.7**	**+0.6**	
	baz=127,SNR=27							
CUT				S	**S**	**03 32 01.4**	**+4.3**	
	baz=127							
F30M	**Barrier River**	**33.58**	**348**	IAMs_20	IAMs_20	03 41 21.8		
	comp=Z,573µm,19.0s							
F30M	**Barrier River**	**33.58**	**348**	P	**P**	**03 26 35.9**	**+0.5**	
	baz=153,SNR=174							
F30M				S	**S**	**03 31 56.1**	**-1.5**	
	baz=153							
SPCR	**Spurr Chakacha**	**33.59**	**330**	P	**P**	**03 26 36.3**	**+0.5**	
	baz=123,SNR=18							
SPCR				S	**S**	**03 32 01.8**	**+3.8**	
	baz=123							
H27K	**Steamboat Moun**	**33.60**	**343**	P	**P**	**03 26 35.9**	**+0.2**	
	baz=143,SNR=132							
H27K				S	**S**	**03 32 00.2**	**+2.2**	
	baz=143							
R61A	**Willards**	**33.65**	**73**	IAMs_20	IAMs_20	03 39 39.6		
	comp=Z,506µm,22.0s							
RND	**Reindeer**	**33.67**	**335**	IAMs_20	IAMs_20	03 41 37.5		
	comp=Z,305µm,18.0s							
HDA	**Harding Lake**	**33.73**	**337**	P	**P**	**03 26 36.9**	**+0.1**	
	baz=134,SNR=30							
HDA				S	**S**	**03 32 04.5**	**+4.6**	
	baz=134							
LONY	**Lake Ozonia**	**33.73**	**61**	IAMs_20	IAMs_20	03 39 43.6		
	comp=Z,295µm,18.0s							
PLK4	**Peulik 4**	**33.75**	**323**	IAMs_20	IAMs_20	03 39 33.9		
	comp=Z,315µm,18.0s							
R17L	**Mt. Peulik Vol**	**33.75**	**323**	P	**P**	**03 26 37.2**	**+0.1**	
	baz=114,SNR=76							
R17L				S	**S**	**03 32 04.8**	**+4.3**	
	baz=114							
SKT	**Skwentna**	**33.77**	**332**	P	**P**	**03 26 37.4**	**+0.2**	
	baz=125,SNR=82							
SKT				S	**S**	**03 32 05.7**	**+5.0**	
	baz=125							
Q17K	**Contact Creek**	**33.78**	**324**	P	**P**	**03 26 37.6**	**+0.1**	
	baz=115,SNR=173							
Q17K				S	**S**	**03 32 06.7**	**+5.5**	
	baz=115							
CAMR	**Camarioca**	**33.82**	**102**	IAMs_20	IAMs_20	03 41 43.1		
	comp=Z,508µm,22.0s							
CAMR	**Camarioca**	**33.82**	**102**	*e*P	**P**	**03 26 40.2**	**+2.2**	
CAMR				*e*S	S	03 31 42.8	-19	
CAMR				IAmb	IAmb	03 32 27.5		
	comp=E,1µm,2.1s							
CAMR				IAmb	IAmb	03 32 29.1		
	comp=N,4µm,3.3s							
CAMR				IAMs_20	IAMs_20	03 41 53.8		
	comp=E,969µm,16.8s							
CAMR				IAMs_20	IAMs_20	03 44 30.2		
	comp=N,942µm,17.7s							
INK	**Inuvik**	**33.84**	**349**	LR	LR	03 42 27.5		
	comp=N,696µm,18.6s,baz=168,slow=40							
INK	**Inuvik**	**33.84**	**349**	⇓P	**P**	**03 26 37.9**	**+0.2**	
INK	**Inuvik**	**33.84**	**349**	P	**P**	**03 26 37.6**	**-0.1**	
	baz=156,SNR=149							
INK				S	**S**	**03 32 01.5**	**0.0**	
	baz=156							
MCK	**McKinley**	**33.91**	**336**	P	**P**	**03 26 38.3**	**-0.1**	
	baz=131,SNR=133							
MCK				S	**S**	**03 32 06.1**	**+3.3**	
	baz=131							
BRNJ	**Basking Ridge**	**33.94**	**68**	IAMs_20	IAMs_20	03 40 56.2		
	comp=Z,562µm,18.0s							
O19K	**Port Alsworth**	**33.95**	**328**	IAMs_20	IAMs_20	03 38 52.1		
	comp=Z,282µm,18.0s							
O19K	**Port Alsworth**	**33.95**	**328**	P	**P**	**03 26 38.8**	**+0.1**	
	baz=120,SNR=32							
O19K				S	**S**	**03 32 05.0**	**+1.5**	
	baz=120							
ILAR	**Eielson Array**	**33.96**	**338**	P	**P**	**03 26 38.3**	**-0.5**	
ILAR	**Eielson Array**	**33.96**	**338**	P	**P**	**03 26 39.4**	**+0.5**	
	comp=Z,94nm,1.1s,baz=153,slow=7.5,SNR=66							
ILAR				PcP	**PcP**	**03 29 18.9**	**+2.2**	
	comp=Z,21nm,1.0s,baz=166,slow=1.7,SNR=2.5							
ILAR				LR	LR	03 40 16.1		
	comp=Z,263µm,18.9s,baz=135,slow=36 comp=Z,94nm,1.1s							
P18K	**Big Mountain,**	**33.98**	**326**	IAMs_20	IAMs_20	03 39 32.7		
	comp=Z,282µm,18.0s							
P18K	**Big Mountain,**	**33.98**	**326**	P	**P**	**03 26 38.7**	**-0.3**	
	baz=117,SNR=91							
P18K				S	**S**	**03 32 05.2**	**+1.2**	
	baz=117							
G27K	**Doyon Strip**	**34.10**	**343**	P	**P**	**03 26 40.0**	**0.0**	
	baz=144,SNR=170							
G27K				S	**S**	**03 32 07.7**	**+2.0**	
	baz=144							
PRP	**Porcupine Dome**	**34.10**	**340**	IAMs_20	IAMs_20	03 40 46.6		
	comp=Z,290µm,18.0s							
PRP	**Porcupine Dome**	**34.10**	**340**	P	**P**	**03 26 40.6**	**+0.5**	
	baz=137,SNR=96							
PRP				S	**S**	**03 32 11.7**	**+5.8**	
	baz=137							
WRH	**Wood River Hil**	**34.13**	**337**	IAMs_20	IAMs_20	03 41 21.5		
	comp=Z,319µm,20.0s							
O18K	**Koktuh Hills**	**34.18**	**327**	IAMs_20	IAMs_20	03 39 58.1		
	comp=Z,289µm,18.0s							
O18K	**Koktuh Hills**	**34.18**	**327**	P	**P**	**03 26 40.9**	**+0.1**	
	baz=118,SNR=71							
O18K				S	**S**	**03 32 11.7**	**+4.6**	
	baz=118							
TRF	**Thorofare Moun**	**34.20**	**334**	IAMs_20	IAMs_20	03 39 02.4		
	comp=Z,329µm,20.0s							
TRF	**Thorofare Moun**

F28M **Old Crow** **34.37 345** IAMs_20 IAMs_20 03 42 03.7
comp=Z,522µm,18.0s
F28M **Old Crow** **34.37 345** P **P** **03 26 42.5 +0.2**
baz=147,SNR=99
F28M S **S** **03 32 10.8 +1.0**
baz=147
BWN **Browne** **34.38 336** IAMs_20 IAMs_20 03 42 30.6
comp=Z,331µm,20.0s
CPNY **Central Park** **34.39 68** IAMs_20 IAMs_20 03 40 23.1
comp=Z,466µm,19.0s
PAL **Palisades** **34.40 68** IAMs_20 IAMs_20 03 41 33.5
comp=Z,542µm,18.0s
MNTQ **Montreal, Queb** **34.42 60** IAMs_20 IAMs_20 03 39 59.7
comp=Z,546µm,20.0s
FRNY **Flat Rock** **34.44 61** IAMs_20 IAMs_20 03 39 24.3
comp=Z,469µm,22.0s
P17K **Kvichak River** **34.45 325** P **P** **03 26 43.3 +0.3**
baz=116
P17K S **S** **03 32 14.7 +3.7**
baz=116
KTH **Kantishna Hill** **34.48 334** IAMs_20 IAMs_20 03 39 12.0
comp=Z,334µm,20.0s
CNBA **Chernabura Isl** **34.49 317** IAMs_20 IAMs_20 03 37 14.8
comp=Z,291µm,20.0s
CHNA **Chernabura Isl** **34.50 317** P **P** **03 26 44.5 +1.0**
comp=Z,435nm,1.4s
CHNA **Chernabura Isl** **34.50 317** P **P** **03 26 43.7 +0.2**
baz=106,SNR=73
CHNA S **S** **03 32 16.8 +4.9**
baz=106
NEA2 **Nenana** **34.52 337** IAMs_20 IAMs_20 03 42 19.0
comp=Z,401µm,20.0s
NEA2 **Nenana** **34.52 337** P **P** **03 26 44.2 +0.5**
baz=132,SNR=239
NEA2 S **S** **03 32 15.4 +3.1**
baz=132
PPLA **Purkeypile** **34.55 333** P **P** **03 26 44.6 +0.5**
baz=126,SNR=160
PPLA S **S** **03 32 14.8 +1.9**
baz=126
E29M **Blow River** **34.65 347** P **P** **03 26 45.5 +0.8**
baz=150,SNR=169
E29M S **S** **03 32 15.6 +1.6**
baz=150
KSCT **Kent School, K** **34.66 66** IAMs_20 IAMs_20 03 41 17.1
comp=Z,396µm,18.0s
G26K **Porcupine Rive** **34.72 342** IAMs_20 IAMs_20 03 41 39.1
comp=Z,384µm,19.0s
G26K **Porcupine Rive** **34.72 342** P **P** **03 26 45.9 +0.6**
baz=141,SNR=304
G26K S **S** **03 32 17.9 +2.6**
baz=141
H25L **Birch Creek** **34.73 340** P **P** **03 26 46.0 +0.6**
baz=138,SNR=88
H25L S **S** **03 32 18.7 +3.4**
baz=138
N62A **Caumsett State** **34.74 68** IAMs_20 IAMs_20 03 41 35.5
comp=Z,447µm,22.0s
CAST **Castle Rocks** **34.82 334** IAMs_20 IAMs_20 03 40 06.8
comp=Z,343µm,20.0s
CAST **Castle Rocks** **34.82 334** P **P** **03 26 46.4 +0.2**
baz=126,SNR=107
CAST S **S** **03 32 18.7 +1.9**
baz=126
BPAW **Bear Paw Mtn.** **34.85 335** P **P** **03 26 46.9 +0.4**
baz=128,SNR=210
BPAW S **S** **03 32 19.7 +2.5**
baz=128
M19K **Big River Lodg** **34.86 330** P **P** **03 26 47.0 +0.4**
baz=122,SNR=74
M19K S **S** **03 32 23.0 +5.6**
baz=122
N18K **Kilae Creek** **34.87 328** P **P** **03 26 47.1 +0.3**
baz=118,SNR=145
N18K S **S** **03 32 21.6 +3.9**
baz=118
S14K **Fog Glacier** **34.91 319** P **P** **03 26 47.4 +0.2**
baz=108
S14K S **S** **03 32 22.7 +4.2**
baz=108
L20K **Farewell, AK** **34.96 331** P **P** **03 26 47.6 +0.1**
baz=123,SNR=147
L20K S **S** **03 32 23.9 +4.8**
baz=123
I23K **Minto, Yukon-K** **34.99 337** IAMs_20 IAMs_20 03 41 04.2
comp=Z,314µm,18.0s
I23K **Minto, Yukon-K** **34.99 337** P **P** **03 26 48.5 +0.8**
baz=132,SNR=135
I23K S **S** **03 32 20.1 +0.8**
baz=132
O17K **Koliganek Bris** **35.00 326** P **P** **03 26 48.3 +0.5**
baz=116
O17K S **S** **03 32 22.6 +3.1**
baz=116
H24K **Noodor Dome** **35.01 339** IAMs_20 IAMs_20 03 42 50.7
comp=Z,372µm,18.0s
H24K **Noodor Dome** **35.01 339** P **P** **03 26 48.9 +0.9**
baz=134,SNR=182
H24K S **S** **03 32 24.3 +4.5**
baz=134
VT1 **Waterbury** **35.05 62** IAMs_20 IAMs_20 03 39 26.4
comp=Z,286µm,20.0s
P16K **Nushagak River** **35.10 324** P **P** **03 26 48.6 -0.1**
baz=114
P16K S **S** **03 32 24.4 +3.2**
baz=114
SDPT **Sand Point** **35.13 318** P **P** **03 26 51.0 +2.0**
comp=Z,568nm,1.2s
SDPT **Sand Point** **35.13 318** P **P** **03 26 49.8 +0.8**
baz=106,SNR=14
SDPT S **S** **03 32 23.1 +1.4**
baz=106
E28M **Babbage River** **35.14 346** IAMs_20 IAMs_20 03 41 36.1
comp=Z,498µm,19.0s
E28M **Babbage River** **35.14 346** P **P** **03 26 48.8 -0.1**
baz=148,SNR=154
E28M S **S** **03 32 25.4 +3.7**
baz=148
CHUM **Lake Minchumin** **35.18 334** P **P** **03 26 49.7 +0.4**
baz=126,SNR=205
CHUM S **S** **03 32 21.8 -0.5**
baz=126
G25K **Bearman Lake** **35.18 341** P **P** **03 26 50.0 +0.7**
baz=138,SNR=109
G25K S **S** **03 32 25.7 +3.5**
baz=138
L19K **White Mountain** **35.19 330** P **P** **03 26 49.9 +0.4**
baz=121,SNR=179
L19K S **S** **03 32 25.8 +3.3**
baz=121
E27K **Coleen River** **35.21 345** IAMs_20 IAMs_20 03 41 42.9
comp=Z,311µm,19.0s
E27K **Coleen River** **35.21 345** P **P** **03 26 50.4 +0.8**
baz=145,SNR=163
E27K S **S** **03 32 26.0 +3.2**
baz=145
M18K **Stony River** **35.23 329** P **P** **03 26 49.6 -0.2**
baz=119,SNR=146
M18K S **S** **03 32 24.7 +1.5**
baz=119
BMAR **Burnt Mountain** **35.29 342** P **P** **03 26 51.2 +0.9**
MLY **Manley** **35.35 336** IAMs_20 IAMs_20 03 42 24.9
comp=Z,386µm,18.0s
MLY **Manley** **35.35 336** P **P** **03 26 50.6 -0.3**
baz=130,SNR=179
MLY S **S** **03 32 28.0 +3.0**
baz=130
N17K **Nushagak Hills** **35.37 327** P **P** **03 26 51.6 +0.5**
baz=116,SNR=157
N17K S **S** **03 32 29.8 +4.5**
baz=116
O16K **Kokwok River B** **35.38 325** IAMs_20 IAMs_20 03 40 17.9
comp=Z,286µm,18.0s
O16K **Kokwok River B** **35.38 325** P **P** **03 26 51.8 +0.7**
baz=114,SNR=96
O16K S **S** **03 32 29.1 +3.6**
baz=114
F26K **Sheenjek River** **35.39 343** P **P** **03 26 51.8 +0.6**
baz=141,SNR=395
F26K S **S** **03 32 28.3 +2.7**
baz=141
H23K **Yukon River** **35.50 338** IAMs_20 IAMs_20 03 40 53.7
comp=Z,318µm,21.0s
H23K **Yukon River** **35.50 338** P **P** **03 26 52.3 +0.2**
baz=132,SNR=145
H23K S **S** **03 32 30.8 +3.6**
baz=132
G24K **Hadweenzic Riv** **35.51 340** IAMs_20 IAMs_20 03 41 39.9
comp=Z,301µm,18.0s
G24K **Hadweenzic Riv** **35.51 340** P **P** **03 26 52.4 +0.3**
baz=136,SNR=121
G24K S **S** **03 32 33.3 +5.9**
baz=136
K20K **Telida** **35.52 333** IAMs_20 IAMs_20 03 40 20.3
comp=Z,282µm,20.0s
K20K **Telida** **35.52 333** P **P** **03 26 52.5 +0.3**
baz=124,SNR=323
K20K S **S** **03 32 29.4 +1.9**
baz=124
UCCT **U. Connecticut** **35.59 66** IAMs_20 IAMs_20 03 40 06.8
comp=Z,436µm,21.0s
D28M **Stokes Point** **35.62 347** P **P** **03 26 53.7 +0.7**
baz=150
D28M S **S** **03 32 30.2 +1.4**
baz=150
F25K **Christian Rive** **35.68 342** IAMs_20 IAMs_20 03 41 10.5
comp=Z,391µm,21.0s
F25K **Christian Rive** **35.68 342** P **P** **03 26 54.4 +0.7**
baz=139,SNR=214
F25K S **S** **03 32 34.0 +3.9**
baz=139
M63A **Gales Ferry** **35.76 67** IAMs_20 IAMs_20 03 41 03.4
comp=Z,441µm,19.0s
CRIN **San Cristobal** **35.84 122** P P 03 27 00.5 +4.9
comp=Z,208µmcomp=Z,14µmcomp=Z,304nm,1.8s
M17K **Holitna River** **35.88 328** IAMs_20 IAMs_20 03 40 03.9
comp=Z,259µm,18.0s
M17K **Holitna River** **35.88 328** P **P** **03 26 55.6 +0.3**
baz=117,SNR=138
M17K S **S** **03 32 37.3 +4.2**
baz=117
L18K **Granite Mounta** **35.95 330** IAMs_20 IAMs_20 03 43 26.8
comp=Z,268µm,18.0s
L18K **Granite Mounta** **35.95 330** P **P** **03 26 56.5 +0.5**
baz=119,SNR=197
L18K S **S** **03 32 37.1 +2.9**
baz=119
D27M **Malcolm River** **35.96 346** IAMs_20 IAMs_20 03 42 02.7
comp=Z,345µm,20.0s
D27M **Malcolm River** **35.96 346** P **P** **03 26 56.5 +0.4**
baz=147,SNR=23
D27M S **S** **03 32 34.7 +0.4**
baz=147
J20K **Nowinta River** **36.01 334** P **P** **03 26 56.5 +0.1**
baz=124,SNR=198
J20K S **S** **03 32 37.6 +2.6**
baz=124
O15K **Ungalikthiuk R** **36.03 324** P **P** **03 26 56.9 +0.2**
baz=112,SNR=77
O15K S **S** **03 32 37.9 +2.3**
baz=112
HERN **Volcan Telica** **36.05 122** IAMs_20 IAMs_20 03 42 44.0
comp=Z,1247µm,20.0s
N16K **Nishlik Lake** **36.05 326** P **P** **03 26 57.5 +0.5**
baz=114,SNR=200
N16K S **S** **03 32 41.2 +5.3**
baz=114
E25K **Arctic Village** **36.07 343** IAmb IAmb 03 27 06.8
comp=Z,385nm,1.1s
E25K **Arctic Village** **36.07 343** P **P** **03 26 57.7 +0.7**
baz=140,SNR=148
E25K S **S** **03 32 42.0 +6.1**
baz=140
S12K **Black Hills** **36.09 318** P **P** **03 26 56.7 -0.6**
S12K IAmb IAmb 03 27 14.7
comp=Z,420nm,1.1s
S12K **Black Hills** **36.09 318** P **P** **03 26 58.8 +1.5**
baz=105,SNR=13
S12K S **S** **03 32 40.8 +4.3**
baz=105
H22K **Ishtalitna Cre** **36.11 337** P **P** **03 26 58.5 +1.1**
baz=130,SNR=214
H22K S **S** **03 32 39.2 +2.6**
baz=130
LDAQ **Lac Daran** **36.12 56** IAMs_20 IAMs_20 03 42 27.7
comp=Z,424µm,19.0s
H62A **Milan** **36.18 61** IAMs_20 IAMs_20 03 41 05.4
comp=Z,437µm,18.0s
F24K **Squaw Lake** **36.21 341** IAMs_20 IAMs_20 03 42 36.4
comp=Z,279µm,18.0s
F24K **Squaw Lake** **36.21 341** P **P** **03 26 59.6 +1.4**
baz=136,SNR=55
F24K S **S** **03 32 40.8 +2.7**
baz=136
G23K **Bananza Creek** **36.24 339** IAMs_20 IAMs_20 03 41 28.3
comp=Z,391µm,19.0s
G23K **Bananza Creek** **36.24 339** P **P** **03 26 59.3 +0.8**
baz=132,SNR=72
G23K S **S** **03 32 42.7 +4.1**
baz=132
M16K **Timber Creek** **36.37 327** P **P** **03 27 00.3 +0.7**
baz=115,SNR=158
M16K S **S** **03 32 45.4 +4.8**
baz=115
H21K **Melozitna Rive** **36.42 336** IAMs_20 IAMs_20 03 43 17.1
comp=Z,342µm,18.0s
H21K **Melozitna Rive** **36.42 336** P **P** **03 27 00.3 +0.3**
baz=128,SNR=279
H21K S **S** **03 32 41.1 -0.3**
baz=128
J19K **Poorman** **36.45 333** IAMs_20 IAMs_20 03 41 06.8
comp=Z,361µm,19.0s
J19K **Poorman** **36.45 333** P **P** **03 27 00.8 +0.7**
baz=122,SNR=185
J19K S **S** **03 32 42.9 +1.2**
baz=122
I20K **Naaghedeneel** **36.48 334** P **P** **03 27 01.5 +1.1**
baz=125,SNR=148
I20K S **S** **03 32 44.7 +2.6**
baz=125
N15K **Kwethluk River** **36.53 325** P **P** **03 27 01.3 +0.3**
baz=113,SNR=74
N15K S **S** **03 32 48.4 +5.3**
baz=113
A36M **Sachs Harbour** **36.55 356** IAMs_20 IAMs_20 03 43 30.1
comp=Z,480µm,18.0s
A36M **Sachs Harbour** **36.55 356** P **P** **03 27 01.3 +0.3**
baz=170,SNR=14
A36M S **S** **03 32 41.3 -1.7**
baz=170
L17K **Donlin** **36.58 329** P **P** **03 27 01.1 -0.2**
baz=117,SNR=153
L17K S **S** **03 32 46.4 +2.7**
baz=117
J18K **Innoko River** **36.58 332** IAMs_20 IAMs_20 03 42 15.5
comp=Z,322µm,18.0s
J18K **Innoko River** **36.58 332** P **P** **03 27 01.1 -0.3**
baz=120,SNR=251
J18K S **S** **03 32 47.2 +3.4**
baz=120
COLD **Coldfoot** **36.65 339** P **P** **03 27 02.1 +0.3**
baz=133,SNR=82
COLD S **S** **03 32 46.1 +1.4**
baz=133
LMQ **La Malbaie** **36.73 56** IAMs_20 IAMs_20 03 42 53.8
comp=Z,474µm,19.0s
O14K **Tigyukauivet M** **36.75 324** IAMs_20 IAMs_20 03 41 37.2
comp=Z,264µm,19.0s
O14K **Tigyukauivet M** **36.75 324** P **P** **03 27 02.1 -0.7**
baz=110,SNR=27
O14K S **S** **03 32 49.5 +3.1**
baz=110
STCH **Steam Cracks** **36.76 254** IAMs_20 IAMs_20 03 38 19.8
comp=Z,279µm,20.0s
E24K **Your Creek** **36.77 341** IAMs_20 IAMs_20 03 43 46.2
comp=Z,301µm,18.0s
E24K **Your Creek** **36.77 341** P **P** **03 27 03.4 +0.4**
baz=136
E24K S **S** **03 32 50.3 +3.6**
baz=136
MGAN **Managua** **36.78 122** P **P** **03 27 07.0 +3.4**
comp=Z,11µmcomp=Z,276nm,1.5s
M65A **Busby, Falmout** **36.79 66** P **P** **03 27 03.7 +0.3**
baz=277
M65A S **S** **03 32 50.1 +2.7**
baz=277
G22K **Bettles** **36.82 338** P **P** **03 27 03.2 -0.2**
baz=131,SNR=118
G22K S **S** **03 32 52.4 +5.0**
baz=131
C27K **Jago River** **36.83 345** P **P** **03 27 03.7 +0.3**
baz=143,SNR=52
C27K S **S** **03 32 50.1 +2.6**
baz=143
PUH **Pauahi** **36.84 254** IAMs_20 IAMs_20 03 39 27.9
comp=Z,235µm,18.0s
K17K **Iditarod** **36.85 330** P **P** **03 27 03.5 -0.1**
baz=118,SNR=225
K17K S **S** **03 32 47.9 0.0**
baz=118
BYL **Byron's Ledge** **36.85 254** IAMs_20 IAMs_20 03 39 10.2
comp=Z,236µm,18.0s
UWE **Uwekahuna** **36.87 254** IAMs_20 IAMs_20 03 39 28.7
comp=Z,244µm,18.0s
POHA **Pohakuloa** **36.87 255** IAMs_20 IAMs_20 03 38 22.8
comp=Z,246µm,19.0s
POHA **Pohakuloa** **36.87 255** P **P** **03 27 08.6 +4.0**
comp=Z,118nm,1.4s
L16K **Owhat River** **36.89 328** P **P** **03 27 04.1 +0.2**
baz=115
L16K S **S** **03 32 52.2 +3.7**
baz=115
MLH **Mauna Loa** **36.90 254** IAMs_20 IAMs_20 03 38 24.6
comp=Z,284µm,18.0s
HMH **Humu'ula Sheep** **36.92 254** IAMs_20 IAMs_20 03 39 38.0
comp=Z,261µm,19.0s
IMAR **Indian Mountai** **36.93 336** P **P** **03 27 03.0 -1.3**
HLP **Hilina Pali** **36.95 254** IAMs_20 IAMs_20 03 38 53.9
comp=Z,239µm,18.0s
BOAB **BOACO BROADBAN** **36.98 121** P **P** **03 27 06.3 +1.1**
BOAB **BOACO BROADBAN** **36.98 121** ⇑P **P** **03 27 04.8 -0.4**
M15K **Kasigluk River** **37.01 326** P **P** **03 27 04.9 -0.2**
baz=113,SNR=75
M15K S **S** **03 32 53.3 +2.9**
baz=113
H20K **Anotleneega Mo** **37.02 335** P **P** **03 27 04.6 -0.4**
baz=125,SNR=214
H20K S **S** **03 32 52.5 +2.0**
baz=125
AIN **Ainahou** **37.03 254** IAMs_20 IAMs_20 03 39 33.9
comp=Z,258µm,18.0s
E23K **Chandalar** **37.06 341** IAMs_20 IAMs_20 03 42 31.8
comp=Z,261µm,19.0s
E23K **Chandalar** **37.06 341** P **P** **03 27 05.5 0.0**
baz=134,SNR=193
E23K S **S** **03 32 50.4 -0.7**
baz=134
HUH **Hualalai** **37.15 255** IAMs_20 IAMs_20 03 38 31.1
comp=Z,253µm,19.0s
D25K **Kavik River** **37.18 344** P **P** **03 27 07.2 +0.8**
baz=140,SNR=16
D25K S **S** **03 32 53.0 +0.1**
baz=140
G21K **Allakaket** **37.18 337** IAMs_20 IAMs_20 03 42 31.1
comp=Z,297µm,19.0s
G21K **Allakaket** **37.18 337** P **P** **03 27 06.5 +0.1**
baz=128,SNR=180
G21K S **S** **03 32 54.6 +1.8**
baz=128
N14K **Kuskokwak Cree** **37.19 325** IAMs_20 IAMs_20 03 41 17.7
comp=Z,256µm,19.0s
N14K **Kuskokwak Cree** **37.19 325** P **P** **03 27 06.5 0.0**
baz=110,SNR=74
N14K S **S** **03 32 54.0 +0.9**
baz=110
KHU **Kahuku** **37.22 254** IAMs_20 IAMs_20 03 39 38.0
comp=Z,242µm,18.0s
I59US **HAWAII INFRASO** **37.25 255** I I 06 56 50.0
baz=56,slow=317,SNR=1.1
WVL **Waterville** **37.25 61** IAMs_20 IAMs_20 03 42 55.6
comp=Z,526µm,20.0s
GCSA **Galena City Sc** **37.31 333** P **P** **03 27 07.3 -0.1**
baz=122,SNR=98
GCSA S **S** **03 32 57.3 +2.5**
baz=122
C26K **Camden Bay** **37.32 345** P **P** **03 27 07.8 +0.3**
baz=142,SNR=29
C26K S **S** **03 32 59.7 +4.9**
baz=142
F22K **John River** **37.40 339** P **P** **03 27 09.0 +0.7**
baz=130
F22K S **S** **03 32 59.7 +3.4**
baz=130
TOLK **Toolik Lake Re** **37.46 341** IAMs_20 IAMs_20 03 44 36.4
comp=Z,358µm,18.0s
TOLK **Toolik Lake Re** **37.46 341** P **P** **03 27 09.1 +0.3**
baz=135,SNR=70
TOLK S **S** **03 32 58.5 +1.4**
baz=135
J17K **VABM Dome** **37.48 331** IAMs_20 IAMs_20 03 41 52.1
comp=Z,271µm,19.0s
J17K **VABM Dome** **37.48 331** P **P** **03 27 08.1 -0.9**
baz=118,SNR=54
J17K S **S** **03 32 56.4 -1.1**
baz=118
H19K **Roundabout Mou** **37.58 335** IAMs_20 IAMs_20 03 41 09.7
comp=Z,269µm,20.0s
H19K **Roundabout Mou** **37.58 335** P **P** **03 27 09.5 -0.3**
baz=123,SNR=174
H19K S **S** **03 33 00.4 +1.5**
baz=123
F21K **Alatna River** **37.61 338** IAMs_20 IAMs_20 03 42 21.5
comp=Z,347µm,19.0s
F21K **Alatna River** **37.61 338** P **P** **03 27 09.7 -0.4**
baz=129,SNR=88
F21K S **S** **03 33 00.6 +1.2**
baz=129
M14K **Bethel** **37.61 326** P **P** **03 27 09.9 -0.2**
baz=111
M14K S **S** **03 33 01.5 +2.0**
baz=111
D24K **Happy Valley** **37.64 342** P **P** **03 27 10.4 +0.2**
baz=136,SNR=48
D24K S **S** **03 32 57.7 -2.1**
baz=136
ACON **Acoyapa** **37.65 121** P **P** **03 27 12.4 +1.4**
comp=Z,252µmcomp=Z,11µmcomp=Z,193nm,2.7s
E22K **Anaktuvuk Pass** **37.71 340** P **P** **03 27 11.5 +0.5**
baz=132
E22K S **S** **03 33 00.7 -0.3**
baz=132
L15K **Ungalak Mounta** **37.75 327** P **P** **03 27 10.9 -0.4**
baz=113,SNR=95
L15K S **S** **03 33 03.4 +1.9**
baz=113
KIP **Kipapa** **37.95 259** IAMs_20 IAMs_20 03 38 42.3
comp=Z,267µm,20.0s
KIP **Kipapa** **37.95 259** P **P** **03 27 17.8 +4.3**
comp=Z,101nm,1.8s
KIP **Kipapa** **37.95 259** P **P** **03 27 18.0 +4.5**
comp=Z,101nm,1.8s
KIP **Kipapa** **37.95 259***ce* P **P** **03 27 17.1 +3.6**
KIP pmax pmax
comp=Z,171nm,1.0s
KIP MLR MLR
comp=Z,73µm,16.0s
D23K **Nanushuk River** **37.97 341** IAMs_20 IAMs_20 03 45 02.0
comp=Z,389µm,18.0s
D23K **Nanushuk River** **37.97 341** P **P** **03 27 13.0 -0.1**
baz=134,SNR=155
D23K S **S** **03 33 03.7 -1.2**
baz=134
K15K **Wolf Creek Mou** **38.01 328** P **P** **03 27 13.5 0.0**
baz=114,SNR=105
K15K S **S** **03 33 08.8 +3.2**
baz=114
C24K **Franklin Bluff** **38.02 343** P **P** **03 27 13.7 +0.3**
baz=137
C24K S **S** **03 33 02.5 -3.0**
baz=137
J16K **Anvik River** **38.04 330** IAMs_20 IAMs_20 03 42 01.0
comp=Z,250µm,19.0s
J16K **Anvik River** **38.04 330** P **P** **03 27 13.5 -0.2**
baz=116,SNR=142
J16K S **S** **03 33 06.7 +0.7**
baz=116
H18K **Honhosa River** **38.06 333** P **P** **03 27 13.3 -0.6**
baz=120,SNR=124
H18K S **S** **03 33 03.7 -2.7**
baz=120
G19K **Purcell Mounta** **38.14 335** P **P** **03 27 13.8 -0.7**
baz=123,SNR=80
G19K S **S** **03 33 08.2 +0.8**
baz=123
M13K **Dall Lake** **38.14 325** P **P** **03 27 14.0 -0.5**
baz=109,SNR=47
M13K S **S** **03 33 09.1 +1.7**
baz=109
L14K **Kuka Creek** **38.15 326** P **P** **03 27 14.8 +0.2**
baz=111
L14K S **S** **03 33 08.4 +0.8**
baz=111
F20K **Avaraart Lake** **38.20 337** IAMs_20 IAMs_20 03 43 30.2
comp=Z,332µm,18.0s

F20K Avaraart Lake 38.20 337 P **P** **03 27 15.2 +0.2**
baz=126
F20K S **S** **03 33 11.2 +2.8**
baz=126
UNV Unalaska Valle 38.25 314 P **P** **03 27 15.9 +0.3**
baz=98,SNR=14
UNV S **S** **03 33 11.0 +1.6**
baz=98
I17K Unalakleet 38.34 331 IAMs_20 IAMs_20 03 42 37.0
comp=Z,255µm,19.0s
I17K Unalakleet 38.34 331 P **P** **03 27 16.6 +0.4**
baz=116
I17K S **S** **03 33 13.2 +2.7**
baz=116
D22K Ayikyak River 38.45 340 P **P** **03 27 17.1 0.0**
baz=131,SNR=73
D22K S **S** **03 33 10.0 -2.1**
baz=131
E21K Killik River 38.52 339 IAMs_20 IAMs_20 03 42 42.6
comp=Z,270µm,19.0s
E21K Killik River 38.52 339 P **P** **03 27 17.6 -0.2**
baz=129
E21K S **S** **03 33 14.6 +1.4**
baz=129
H17K Granite Mounta 38.53 333 IAMs_20 IAMs_20 03 42 30.9
comp=Z,261µm,19.0s
H17K Granite Mounta 38.53 333 P **P** **03 27 17.2 -0.6**
baz=118,SNR=79
H17K S **S** **03 33 12.3 -1.0**
baz=118
G18K Tagagawik 38.55 334 IAMs_20 IAMs_20 03 41 40.4
comp=Z,287µm,21.0s
G18K Tagagawik 38.55 334 P **P** **03 27 17.3 -0.7**
baz=121,SNR=90
G18K S **S** **03 33 11.7 -2.0**
baz=121
C23K Itkillik River 38.57 342 P **P** **03 27 18.2 +0.1**
baz=135
C23K S **S** **03 33 10.2 -3.5**
baz=135
PILO Pilon 38.61 103 *e*P P 03 27 12.9 -6.1
BLUN Bluefields 38.62 119 P **P** **03 27 19.8 +0.7**
comp=Z,46µmcomp=Z,13µmcomp=Z,553nm,1.5s
F19K Shaleruckik Mo 38.75 336 IAMs_20 IAMs_20 03 44 48.6
comp=Z,264µm,19.0s
F19K Shaleruckik Mo 38.75 336 P **P** **03 27 19.2 -0.4**
baz=123,SNR=224
F19K S **S** **03 33 18.1 +1.6**
baz=123
LMGC Las Mercedes 38.84 103 *e*P **P** **03 27 18.6 -2.4**
E19K Redstone River 38.92 337 IAMs_20 IAMs_20 03 44 47.1
comp=Z,293µm,18.0s
E19K Redstone River 38.92 337 P **P** **03 27 21.2 +0.1**
baz=124,SNR=248
E19K S **S** **03 33 21.1 +1.9**
baz=124
ILON Igloolik, Nuna 38.97 19 IAMs_20 IAMs_20 03 43 05.2
comp=Z,275µm,18.0s
JTS Las Juntas de 38.99 122 P **P** **03 27 21.1 -1.1**
JTS Las Juntas de 38.99 122 LR LR 03 44 42.5
comp=Z,598µm,21.2s,baz=304,slow=38
JTS Las Juntas de 38.99 122 P **P** **03 27 21.1 -1.1**
JTS pmax pmax
comp=Z,325nm,1.4s
JTS MLR MLR
comp=Z,591µm,21.0s
JTS Las Juntas de 38.99 122 ⇓P **P** **03 27 21.3 -1.0**
J14K Nanvaranak Lak 39.05 328 P **P** **03 27 22.0 -0.2**
baz=112,SNR=67
J14K S **S** **03 33 25.4 +4.2**
baz=112
E20K Nigu River 39.06 338 P **P** **03 27 22.1 -0.2**
baz=126,SNR=148
E20K S **S** **03 33 23.9 +2.4**
baz=126
G17K Kiwalik Mounta 39.07 333 P **P** **03 27 22.1 -0.2**
baz=118,SNR=153
G17K S **S** **03 33 22.4 +0.9**
baz=118
HLGC Holguin 39.16 101 *e*P **P** **03 27 21.6 -2.0**
YAR Yar 39.19 102 *e*P **P** **03 27 23.7 -0.2**
C21K Knifeblade Rid 39.21 340 P **P** **03 27 23.2 -0.3**
baz=129,SNR=78
C21K S **S** **03 33 23.5 0.0**
baz=129
KUQ Kuujjuuaa 39.21 39 IAMs_20 IAMs_20 03 42 46.9
comp=Z,528µm,22.0s
K13K Kusilvak Mount 39.24 327 IAMs_20 IAMs_20 03 43 16.0
comp=Z,236µm,18.0s
K13K Kusilvak Mount 39.24 327 P **P** **03 27 23.6 -0.2**
baz=110,SNR=29
K13K S **S** **03 33 27.0 +2.9**
baz=110
CHIV Chivirico 39.36 102 IAMs_20 IAMs_20 03 44 43.8
comp=Z,369µm,21.0s
CHIV Chivirico 39.36 102 *e*P **P** **03 27 26.8 +1.5**
MTDJ Mount Denham 39.43 106 *e*P **P** **03 27 26.6 +0.6**
B21K Ikpikpuk River 39.46 341 IAMs_20 IAMs_20 03 45 21.2
comp=Z,237µm,18.0s
B21K Ikpikpuk River 39.46 341 P **P** **03 27 25.2 -0.3**
baz=130,SNR=57
B21K S **S** **03 33 27.9 +0.8**
baz=130
D20K Etivluk River 39.46 339 IAMs_20 IAMs_20 03 46 30.3
comp=Z,349µm,20.0s
D20K Etivluk River 39.46 339 P **P** **03 27 25.8 +0.2**
baz=126,SNR=69
D20K S **S** **03 33 31.1 +3.8**
baz=126
M11K Mekoryuk 39.48 324 IAMs_20 IAMs_20 03 43 42.2
comp=Z,258µm,18.0s
M11K Mekoryuk 39.48 324 P **P** **03 27 27.3 +1.5**
baz=106
M11K S **S** **03 33 30.6 +3.0**
baz=106
SCHQ Schefferville 39.49 45 P **P** **03 27 25.3 -0.7**
comp=Z,76nm,0.9s,baz=266,slow=7.4,SNR=31
SCHQ S **S** **03 33 28.1 +0.1**
comp=Z,6.6nm,0.7s,baz=16,slow=14,SNR=1.3
SCHQ LR LR 03 42 35.8
comp=Z,207µm,21.8s,baz=260,slow=34
comp=Z,76nm,0.9s
NIKH Nikolski High 39.55 312 P **P** **03 27 28.9 +2.4**
comp=Z,396nm,1.9s
NIKH Nikolski High 39.55 312 P **P** **03 27 27.8 +1.3**
baz=95,SNR=5.7
NIKH S **S** **03 33 28.9 0.0**
baz=95
PINC Pinares de May 39.59 101 *e*P **P** **03 27 26.2 -0.9**
B22K Teshekpuk Lake 39.62 342 P **P** **03 27 27.7 +0.9**
baz=132,SNR=57
B22K S **S** **03 33 26.9 -2.6**
baz=132
BATG Bathurst New B 39.63 57 IAMs_20 IAMs_20 03 41 21.5
comp=Z,432µm,20.0s
G16K Koyuk River 39.66 332 IAMs_20 IAMs_20 03 43 07.7
comp=Z,226µm,18.0s
G16K Koyuk River 39.66 332 P **P** **03 27 28.0 +0.8**
baz=116,SNR=105
G16K S **S** **03 33 32.0 +1.8**
baz=116
F17K Baldwin Pennin 39.74 334 IAMs_20 IAMs_20 03 42 25.8
comp=Z,251µm,20.0s
F17K Baldwin Pennin 39.74 334 P **P** **03 27 28.8 +0.9**
baz=118,SNR=46
F17K S **S** **03 33 34.2 +2.8**
baz=118
MARVS Santiago de Cu 39.75 102 *e*P **P** **03 27 29.4 +0.9**
HDC Heredia 39.77 122 IAMs_20 IAMs_20 03 46 16.5
comp=Z,393µm,19.0s
HDC Heredia 39.77 122 *e*P **P** **03 27 30.1 +1.2**
D19K Kuna River 39.78 338 IAMs_20 IAMs_20 03 44 33.9
comp=Z,343µm,18.0s
D19K Kuna River 39.78 338 P **P** **03 27 28.7 +0.4**
baz=124,SNR=91
D19K S **S** **03 33 33.8 +1.6**
baz=124
RCC Rio Carpintero 39.92 102 *e*P **P** **03 27 28.6 -1.4**
E18K Tukpahlearik C 40.00 336 IAMs_20 IAMs_20 03 46 07.6
comp=Z,235µm,19.0s
E18K Tukpahlearik C 40.00 336 P **P** **03 27 30.2 +0.1**
baz=120,SNR=129
E18K S **S** **03 33 36.4 +1.0**
baz=120
LCR2 La Lucha 2 40.03 122 IAMs_20 IAMs_20 03 45 04.3
comp=Z,413µm,21.0s
STH Stony Hill 40.08 105 *e*P **P** **03 27 27.3 -4.1**
G15K Niukluk 40.13 331 P **P** **03 27 31.6 +0.4**
baz=114
G15K S **S** **03 33 39.9 +2.5**
baz=114
MOAC Moa 40.16 100 *e*P **P** **03 27 30.6 -1.4**
NMDO Nuevo Mundo 40.19 100 IAMs_20 IAMs_20 03 46 54.0
comp=Z,297µm,18.0s
NMDO Nuevo Mundo 40.19 100 *e*P **P** **03 27 31.7 -0.5**
E17K Hotham Inlet 40.24 335 P **P** **03 27 32.5 +0.4**
baz=119
E17K S **S** **03 33 37.6 -1.4**
baz=119
P08K Saint George I 40.38 318 P **P** **03 27 33.5 +0.2**
baz=98
P08K S **S** **03 33 44.4 +3.2**
baz=98
B20K Meade River 40.39 340 IAMs_20 IAMs_20 03 44 16.9
comp=Z,277µm,18.0s
B20K Meade River 40.39 340 P **P** **03 27 34.3 +1.0**
baz=127
B20K S **S** **03 33 42.8 +1.7**
baz=127
GTBY Guantanamo Bay 40.42 101 IAMs_20 IAMs_20 03 46 59.0
comp=Z,295µm,18.0s
GTBY Guantanamo Bay 40.42 101 *e*P **P** **03 27 30.3 -3.8**
A22K Sinclair Lake 40.44 342 P **P** **03 27 34.5 +0.8**
baz=130
A22K S **S** **03 33 41.6 -0.2**
baz=130
ANM Nome 40.49 331 IAMs_20 IAMs_20 03 43 54.7
comp=Z,214µm,18.0s
ANM Nome 40.49 331 P **P** **03 27 34.6 +0.4**
baz=112,SNR=21
ANM S **S** **03 33 46.0 +3.3**
baz=112
QMBU Quimbuelo 40.52 101 *e*P **P** **03 27 32.9 -2.0**
RES Resolute Bay 40.55 9 P **P** **03 27 32.5 -2.0**
RES IAMs_20 IAMs_20 03 44 24.9
comp=Z,329µm,19.0s
RES Resolute Bay 40.55 9 LR LR 03 43 55.6
comp=Z,274µm,21.8s,baz=220,slow=36
RES Resolute Bay 40.55 9 P **P** **03 27 32.5 -2.0**
RES pmax pmax
comp=Z,254nm,1.2s
RES MLR MLR
comp=Z,330µm,19.0s
RES Resolute Bay 40.55 9 ⇓P **P** **03 27 33.6 -0.9**
C19K Lookout Ridge 40.57 338 IAMs_20 IAMs_20 03 47 23.6
comp=Z,386µm,19.0s
C19K Lookout Ridge 40.57 338 P **P** **03 27 35.4 +0.5**
baz=123,SNR=36
C19K S **S** **03 33 44.2 +0.3**
baz=123
F15K North Star Dit 40.65 332 P **P** **03 27 36.7 +1.2**
baz=114,SNR=29
F15K S **S** **03 33 46.6 +1.4**
baz=114
FRB Frobisher Bay 40.74 31 LR LR 03 45 22.0
comp=Z,328µm,19.3s,baz=253,slow=38
C18K Utukok River 40.82 337 IAMs_20 IAMs_20 03 45 16.3
comp=Z,282µm,18.0s
C18K Utukok River 40.82 337 P **P** **03 27 37.2 +0.3**
baz=121,SNR=67
C18K S **S** **03 33 47.1 -0.6**
baz=121
SPIA Saint Paul Isl 40.84 319 P **P** **03 27 38.5 +1.4**
comp=Z,379nm,1.3s
SPIA Saint Paul Isl 40.84 319 P **P** **03 27 37.1 0.0**
baz=98
SPIA S **S** **03 33 48.2 +0.1**
baz=98
D17K Noatak River 40.97 335 P **P** **03 27 38.3 +0.3**
baz=118
D17K S **S** **03 33 50.7 +0.9**
baz=118
MASC Masc 40.99 100 *e*P **P** **03 27 37.6 -1.2**
A21K Barrow 41.06 342 P **P** **03 27 38.7 0.0**
baz=129
A21K S **S** **03 33 51.4 +0.4**
baz=129
RDOG Red Dog Mine 41.08 336 P **P** **03 27 38.8 -0.2**
baz=118,SNR=42
RDOG S **S** **03 33 54.0 +2.5**
baz=118
F14K Arctic Creek 41.20 332 P **P** **03 27 40.8 +0.7**
baz=112,SNR=34
F14K S **S** **03 33 54.3 +0.9**
baz=112
C17K DeLong Mountai 41.37 337 P **P** **03 27 41.2 -0.2**
baz=118,SNR=19
C17K S **S** **03 33 57.1 +1.4**
baz=118
B18K Kokolik River 41.38 338 P **P** **03 27 41.6 +0.2**
baz=121,SNR=15
B18K S **S** **03 33 58.0 +2.2**
baz=121
MLIR3 Monte Lirio, C 41.52 122 *e*P P 03 27 34.4 -9.0
MLIR3 Monte Lirio, C 41.52 122 *e*P **P** **03 27 42.5 -0.8**
A19K Wainwright 41.60 339 P **P** **03 27 43.2 0.0**
baz=122,SNR=9.5
A19K S **S** **03 34 01.4 +2.3**
baz=122
BRU2 Volcan 41.61 122 ⇑*i*P **P** **03 27 45.8 +1.7**
BRU2 Volcan 41.61 122 *e*P **P** **03 27 45.7 +1.5**
BRU2 Volcan 41.61 122 *e*P **P** **03 27 45.7 +1.5**
BRU2 Volcan 41.61 122 *e*P **P** **03 27 43.9 -0.3**
BRU2 Volcan 41.61 122 *e*P **P** **03 27 44.6 +0.4**
BC3P Paso Ancho 41.65 121 *e*P **P** **03 27 48.4 +3.9**
BC3P Paso Ancho 41.65 121 *e*P **P** **03 27 43.5 -1.0**
BC3P Paso Ancho 41.65 121 *e*P P 03 27 38.9 -5.7
LESP3 La Esperanza, 41.82 122 *e*P **P** **03 27 45.0 -0.7**
LESP3 La Esperanza, 41.82 122 *e*P P 03 27 50.9 +5.2
TNA Tin City 41.86 331 P **P** **03 27 44.4 -0.9**
baz=110
TNA S **S** **03 34 07.5 +4.5**
baz=110
PSOM3 Paja de Sombre 41.95 121 *e*P **P** **03 27 46.8 0.0**
C16K Lisburne Hills 41.99 336 IAMs_20 IAMs_20 03 47 41.2
comp=Z,195µm,18.0s
C16K Lisburne Hills 41.99 336 P **P** **03 27 46.4 0.0**
baz=116,SNR=20
C16K S **S** **03 34 10.1 +5.3**
baz=116
DVD David 42.03 122 *e*P **P** **03 27 48.8 +1.4**
DVD David 42.03 122 *e*P **P** **03 27 47.5 +0.1**
LOCO3 Loma Colorada, 42.07 122 *e*P **P** **03 27 43.1 -4.6**
LOCO3 Loma Colorada, 42.07 122 *e*P **P** **03 27 46.9 -0.8**
LOCO3 Loma Colorada, 42.07 122 *e*P **P** **03 27 51.4 +3.6**
LOMA3 Las Lomas, Chi 42.08 122 *e*P **P** **03 27 45.0 -2.7**
LOMA3 Las Lomas, Chi 42.08 122 *e*P **P** **03 27 47.6 -0.1**
LOMA3 Las Lomas, Chi 42.08 122 *e*P P 03 27 37.7 -10
ATKA Atka Island 42.78 311 P **P** **03 27 55.7 +2.7**
comp=Z,533nm,1.4s
ATKA Atka Island 42.78 311 ⇓P **P** **03 27 53.1 +0.1**
GRTK Grand Turk 42.81 96 IAMs_20 IAMs_20 03 47 45.2
comp=Z,270µm,20.0s
GRTK Grand Turk 42.81 96 *e*P **P** **03 27 50.3 -3.4**
GAMB Gambell 42.88 328 P **P** **03 27 53.8 +0.1**
baz=104,SNR=25
GAMB S **S** **03 34 22.9 +4.9**
baz=104
GBN Guysborough 42.93 59 P **P** **03 27 52.2 -2.2**
GBN IAmb IAmb 03 28 20.1
comp=Z,605nm,1.6s
MESA3 La Mesa, Verag 43.12 121 *e*P **P** **03 27 55.3 -0.9**
CALO3 Calobre, Verag 43.24 120 *e*P **P** **03 28 01.1 +3.9**
RSUS3 Rio de Jesus, 43.25 121 *e*P **P** **03 27 54.2 -3.1**
GMAL Guarumal, Vera 43.35 121 ⇑*i*P **P** **03 28 00.1 +1.9**
GMAL Guarumal, Vera 43.35 121 P **P** **03 28 00.7 +2.6**
comp=Z,11µmcomp=Z,162nm,1.9s
BCIP Isla Barro Col 43.37 118 P **P** **03 27 56.1 -2.1**
BCIP IAMs_20 IAMs_20 03 47 00.6
comp=Z,380µm,20.0s
BCIP Isla Barro Col 43.37 118 P **P** **03 27 56.1 -2.1**
BCIP pmax pmax
comp=Z,1µm,1.7s
BCIP MLR MLR
comp=Z,380µm,20.0s
BCIP Isla Barro Col 43.37 118 ⇑P **P** **03 27 59.1 +0.8**
BCIP Isla Barro Col 43.37 118 P **P** **03 28 01.0 +2.8**
comp=Z,13µmcomp=Z,379nm,2.0s
BBSR BB Station 43.54 79 P **P** **03 27 58.5 -1.0**
BBSR BB Station 43.54 79 IAMs_20 IAMs_20 03 45 57.9
comp=Z,222µm,21.0s
CHOR3 La Chorrera 43.60 118 ⇓*i*P **P** **03 28 02.8 +2.7**
CHOR3 La Chorrera 43.60 118 *e*P **P** **03 27 59.5 -0.6**
CHOR3 La Chorrera 43.60 118 *e*P **P** **03 28 00.7 +0.6**
CHOR3 La Chorrera 43.60 118 *e*P **P** **03 28 00.3 +0.2**
UPA Univ. de Panam 43.71 118 *e*P **P** **03 28 01.1 +0.1**
CHPO Chepo, Panama 43.88 118 *e*P **P** **03 28 05.1 +2.7**
CHPO Chepo, Panama 43.88 118 *e*P P 03 27 54.5 -7.9
CHPO Chepo, Panama 43.88 118 *e*P **P** **03 28 00.7 -1.7**
CHPO Chepo, Panama 43.88 118 *e*P **P** **03 28 06.9 +4.5**
CACAO El Cacao, Vera 43.91 121 P **P** **03 28 06.7 +4.1**
comp=Z,30nmcomp=Z,1.6nm,1.9s
SDDR Presa de Saban 43.98 100 P **P** **03 28 02.2 -1.0**
SDDR IAmb IAmb 03 28 44.6
comp=Z,322nm,1.5s
SDDR IAMs_20 IAMs_20 03 48 40.2
comp=Z,367µm,20.0s
SDDR Presa de Saban 43.98 100 *e*P **P** **03 28 00.1 -3.2**
AZU Azuero 44.01 120 *e*P **P** **03 28 04.0 +0.6**
AZU Azuero 44.01 120 *e*P **P** **03 27 59.6 -3.8**
AZU Azuero 44.01 120 *e*P P 03 27 57.5 -5.8
AZU Azuero 44.01 120 *e*P **P** **03 28 00.9 -2.4**
CNTA3 Canitas, Panam 44.01 117 *e*P **P** **03 28 05.0 +1.6**
ADK Adak 44.32 310 P **P** **03 28 04.1 -1.4**
ADK IAmb IAmb 03 28 09.4
comp=Z,350nm,1.0s
ADK Adak 44.32 310 P **P** **03 28 04.1 -1.4**
ADK pmax pmax
comp=Z,350nm,1.0s
KIWB Kanaga Island 44.61 310 P **P** **03 28 04.8 -3.1**
DRLN Deer Lake 45.19 53 P **P** **03 28 11.8 -0.7**
DRLN IAmb IAmb 03 28 20.2
comp=Z,312nm,1.2s
PTAC Punta Ardita, 46.20 118 P **P** **03 28 21.3 +0.4**
comp=Z,55µmcomp=Z,10µmcomp=Z,239nm,2.3s
SMRC Santa Marta, M 46.21 111 P **P** **03 28 23.7 +2.8**
SJCC San Jacinto, C 46.30 113 P **P** **03 28 22.8 +1.1**
comp=Z,70µmcomp=Z,11µmcomp=Z,285nm,2.5s
TULEG Thule 46.31 14 *i*P **P** **03 28 22.9 +1.9**
TULEG IAmb IAmb 03 29 09.7
comp=Z,258nm,1.6s
APAC Apartado, Choc 46.58 116 P **P** **03 28 25.3 +1.5**
comp=Z,59µmcomp=Z,12µmcomp=Z,324nm,1.4s
AMKA Amchitka 46.85 310 P **P** **03 28 23.8 -1.7**
ARGC Ariguani, Magd 47.02 112 P **P** **03 28 31.1 +3.8**
comp=Z,76µmcomp=Z,12µmcomp=Z,182nm,1.3s
CRJC Cerrejon, Guaj 47.32 110 P **P** **03 28 33.5 +3.7**
comp=Z,73µmcomp=Z,8µmcomp=Z,116nm,1.1s
UREC San Jos de Ur 47.44 116 P **P** **03 28 32.9 +2.3**
comp=Z,1µmcomp=Z,75nm,0.7s
DBBC Dabeiba 47.45 117 P **P** **03 28 33.8 +3.1**
URIC Uribia, Colomb 47.59 108 P **P** **03 28 35.7 +4.0**
comp=Z,74µmcomp=Z,10µmcomp=Z,180nm,1.6s
AGPR Aguadilla, PR 47.61 97 IAMs_20 IAMs_20 03 52 04.3
comp=Z,205µm,19.0s
PRSN Puerto Rico Se 47.71 98 IAMs_20 IAMs_20 03 52 05.1
comp=Z,227µm,20.0s
EMPR Esperanza - Ma 48.07 97 IAMs_20 IAMs_20 03 50 56.6
comp=Z,321µm,21.0s
ZARC Zaragoza, Cauc 48.11 115 P **P** **03 28 37.5 +1.7**
comp=Z,6µmcomp=Z,145nm,1.4s
CBOC Ciudad Bolivar 48.38 118 P **P** **03 28 39.5 +1.5**
comp=Z,63µmcomp=Z,13µmcomp=Z,231nm,1.3s
HELC Santa Helena 48.50 117 P **P** **03 28 42.1 +2.9**
comp=Z,59µmcomp=Z,9µmcomp=Z,154nm,1.9s
SJG San Juan 48.57 97 IAMs_20 IAMs_20 03 52 41.9
comp=Z,197µm,19.0s
SJG San Juan 48.57 97 P **P** **03 28 39.9 +0.6**
comp=Z,69nm,1.1s,baz=294,slow=6.9,SNR=9.3
SJG S **S** **03 35 41.5 +0.4**
comp=Z,3.8nm,0.5s,baz=295,slow=16,SNR=1.3
comp=Z,69nm,1.1s
SFJD Kangerlussuaq 48.74 29 IAMs_20 IAMs_20 03 50 52.5
comp=Z,196µm,20.0s
SFJD Kangerlussuaq 48.74 29 LR LR 03 48 29.8
comp=Z,100µm,18.1s,baz=262,slow=35
SFJD Kangerlussuaq 48.74 29 P **P** **03 28 39.3 -0.6**
SFJD S **S** **03 35 48.3 +5.9**
OCAC Ocana 48.76 113 P **P** **03 28 43.5 +2.5**
comp=Z,66µmcomp=Z,9µmcomp=Z,248nm,1.5s
ILULI Ilulissat 48.80 26 IAMs_20 IAMs_20 03 47 24.9
comp=Z,355µm,20.0s
PLMC San Jos del P 48.84 119 P **P** **03 28 42.0 +0.5**
comp=Z,54µmcomp=Z,6µmcomp=Z,186nm,1.4s
PTBC PUERTO BERRIO, 49.05 116 P **P** **03 28 43.5 +0.5**
comp=Z,1µmcomp=Z,95nm,1.1s
TAOE Huku Hisa Isla 49.17 210 *e*P P 03 28 33.6 -10
comp=Z,9µm,26.6s
TAOE *e*S **S** **03 35 44.3 -5.3**
comp=Z,111µm,26.2s
TAOE *e*SS **SS** **03 39 18.9 -2.3**
comp=Z,44µm,26.2s
TAOE *e*LQ LQ 03 40 37.8
comp=Z,505µm,27.4s
TAOE *e*LR LR 03 42 34.2
comp=Z,381µm,27.6s
GUY2C Guyana, Caldas 49.28 118 P **P** **03 28 45.7 +0.4**
comp=Z,59µmcomp=Z,11µmcomp=Z,284nm,1.7s
YOTC Yotoco, Valle 49.44 120 P **P** **03 28 46.4 +0.2**
comp=Z,57µmcomp=Z,7µmcomp=Z,132nm,1.4s
JOHN Johnston Islan 49.66 262 IAMs_20 IAMs_20 03 43 59.4
comp=Z,215µm,20.0s
JOHN Johnston Islan 49.66 262 P **P** **03 28 51.9 +4.3**
comp=Z,463nm,1.3s
IVI Ivigtut 49.69 36 IAMs_20 IAMs_20 03 49 35.8
comp=Z,329µm,22.0s
JAMC Jamundi, Valle 49.76 121 P **P** **03 28 49.3 +0.6**
comp=Z,56µmcomp=Z,8µmcomp=Z,185nm,1.0s
PAMC Pamplona, Colo 49.81 114 P **P** **03 28 49.4 0.0**
SMY Shemya 49.87 312 P **P** **03 28 49.9 +1.1**
comp=Z,122nm,1.4s
SPBC San Pablo de B 49.92 116 P **P** **03 28 54.2 +4.4**
comp=Z,61µmcomp=Z,6µmcomp=Z,95nm,1.1s
BARC Barichara 49.95 115 P **P** **03 28 50.8 +0.7**
BBAC Balboa, Cauca 50.22 123 P **P** **03 28 53.6 +1.5**
comp=Z,14µmcomp=Z,14µmcomp=Z,273nm,1.8s
ORTC Ortega, Tolima 50.27 119 P **P** **03 28 52.8 +0.4**
comp=Z,53µmcomp=Z,9µmcomp=Z,285nm,1.1s
ROSC El Rosal 50.30 117 P **P** **03 28 55.1 +2.1**
comp=Z,88nm,1.3s,baz=16,slow=3.6,SNR=16
ROSC S **S** **03 36 06.4 +0.2**
comp=Z,3.7nm,0.4s,baz=307,slow=22,SNR=1.5
ROSC LR LR 03 53 09.2
comp=Z,242µm,19.8s,baz=333,slow=40
ROSC El Rosal 50.30 117 P **P** **03 28 55.8 +2.8**
comp=Z,74µmcomp=Z,12µmcomp=Z,387nm,1.7s
NEEM North Greenlan 50.35 15 *i*P **P** **03 28 52.0 -0.5**
NEEM IAmb IAmb 03 29 00.0
comp=Z,51nm,1.3s
SDV Santo Domingo 50.38 110 P **P** **03 28 56.4 +3.0**
comp=Z,12nm,0.3s,baz=314,slow=8.2,SNR=14
SDV LR LR 03 51 54.9
comp=Z,519µm,21.9s,baz=299,slow=38
SDV Santo Domingo 50.38 110 P **P** **03 28 56.5 +3.1**
comp=Z,9µmcomp=Z,169nm,1.2s
SDV Santo Domingo 50.38 110 P **P** **03 28 55.5 +2.1**
SDV S **S** **03 36 09.7 +2.8**
PAC1 Pacto, Paraso 50.46 126 P **P** **03 28 54.4 +0.5**
comp=Z,48µmcomp=Z,9µmcomp=Z,213nm,1.7s
RUSC La Rusia 50.49 115 P **P** **03 28 58.2 +3.7**
comp=Z,60µmcomp=Z,10µmcomp=Z,291nm,1.4s
PPLP Puerto Lpez 50.55 129 P **P** **03 28 55.7 +1.2**
comp=Z,38µmcomp=Z,13µmcomp=Z,452nm,1.6s
MIDW Midway 50.57 279 IAMs_20 IAMs_20 03 45 07.6
comp=Z,224µm,21.0s
CMBC Cumbal 50.61 124 P **P** **03 29 00.1 +4.7**
PRAC Prado 50.67 119 P **P** **03 28 56.2 +0.8**
comp=Z,52µmcomp=Z,8µmcomp=Z,239nm,2.6s
CVER Cruz Verde, Cu 50.69 117 P **P** **03 28 57.7 +1.6**
comp=Z,12µmcomp=Z,478nm,1.4s
CUSE Cuicocha Este 50.70 125 P **P** **03 28 57.3 +1.3**
comp=Z,15µmcomp=Z,289nm,0.9s
OTAV Otavalo 50.71 125 IAMs_20 IAMs_20 03 49 18.5
comp=Z,213µm,20.0s
OTAV Otavalo 50.71 125 ⇑P **P** **03 28 59.6 +3.4**
OTAV Otavalo 50.71 125 *e*P **P** **03 28 57.1 +0.9**
OTAV Otavalo 50.71 125 P **P** **03 28 56.2 0.0**
OTAV S **S** **03 36 15.1 +3.1**
CRUC La Cruz 50.75 123 P **P** **03 28 58.2 +1.9**
TULM Tulcn-Chalpat 50.80 124 P **P** **03 28 58.2 +1.3**
comp=Z,57µmcomp=Z,11µmcomp=Z,236nm,1.2s
CHIC Chingaza 50.87 117 P **P** **03 29 01.4 +4.1**
comp=Z,59µmcomp=Z,11µmcomp=Z,294nm,1.1s
NRS Narsarsuaq 51.02 36 IAMs_20 IAMs_20 03 47 48.1
comp=Z,234µm,19.0s
TAMC Tame, Arauca 51.08 114 P **P** **03 28 59.1 +0.6**
comp=Z,63µmcomp=Z,14µmcomp=Z,348nm,0.8s
BONI La Bonita 51.17 124 P **P** **03 29 01.5 +2.1**
comp=Z,13µmcomp=Z,274nm,2.8s
SABA Saba 51.18 96 IAMs_20 IAMs_20 03 52 40.9
comp=Z,223µm,21.0s

VILC Villavicencio, 51.25 117 P **P** **03 29 03.6 +3.8**
comp=Z,239nmcomp=Z,2µmcomp=Z,106nm,1.0s
GARC Garzon, Huila 51.31 121 P **P** **03 29 01.1 +0.6**
comp=Z,48µmcomp=Z,8µmcomp=Z,154nm,1.9s
SEUS St. Eustatius 51.46 96 IAMs_20 IAMs_20 03 52 49.3
comp=Z,198µm,21.0s
FLOC Florencia 51.63 122 P **P** **03 29 04.0 +1.4**
comp=Z,47µmcomp=Z,9µmcomp=Z,147nm,1.8s
PIAT Ana Tenorio 51.76 126 P **P** **03 29 05.0 +1.1**
comp=Z,48µmcomp=Z,11µmcomp=Z,315nm,2.5s
COHC Cochancay 52.23 128 P **P** **03 29 07.0 +0.1**
comp=Z,39µmcomp=Z,9µmcomp=Z,229nm,2.5s
BILL Bilibino 52.26 333*ceP* **P** **03 29 05.1 -1.5**
BILL pmax pmax
comp=Z,364nm,1.8s
BILL MLR MLR
comp=Z,102µm,17.0s
ANWB Willy Bob 52.34 95 IAMs_20 IAMs_20 03 54 51.5
comp=Z,252µm,21.0s
MACC Macarena, Meta 52.50 119 P **P** **03 29 09.6 +0.6**
comp=Z,48µmcomp=Z,8µmcomp=Z,177nm,1.1s
GDHS Morne Mazeau, 53.09 96 IAMs_20 IAMs_20 03 53 50.3
comp=Z,192µm,22.0s
GUVC San Jose del G 53.09 118 P **P** **03 29 16.0 +2.6**
SUMG Summit 53.10 22 P **P** **03 29 12.1 -1.1**
SUMG IAmb IAmb 03 29 31.1
comp=Z,311nm,1.1s
SUMG IAMs_20 IAMs_20 03 53 02.6
comp=Z,278µm,19.0s
SUMG Summit 53.10 22 P **P** **03 29 12.1 -1.1**
SUMG pmax pmax
comp=Z,311nm,1.1s
SUMG MLR MLR
comp=Z,278µm,19.0s
ABD La Joyeuse, An 53.21 96 IAMs_20 IAMs_20 03 53 54.6
comp=Z,166µm,21.0s
MCRA Macar, Loja 53.25 130 P **P** **03 29 14.5 -0.1**
comp=Z,36µmcomp=Z,10µmcomp=Z,473nm,1.3s
CBE Ff, Capester 53.33 96 IAMs_20 IAMs_20 03 53 15.8
comp=Z,211µm,22.0s
TDBA Terre de Bas, 53.42 97 IAMs_20 IAMs_20 03 53 15.3
comp=Z,235µm,22.0s
H05N1 Guadeloupe/Mar 53.64 96 P **P** **03 29 17.3 -0.2**
MAGL Barre de l'ile 53.66 96 IAMs_20 IAMs_20 03 53 23.5
comp=Z,184µm,22.0s
PCRV Puerto La Cruz 54.25 104 P **P** **03 29 23.3 +1.4**
comp=Z,26nm,1.0s,baz=64,slow=4.0,SNR=5.3
PCRV LR LR 03 53 57.0
comp=Z,130µm,21.9s,slow=38
comp=Z,26nm,1.0s
SVN Savane Anatole 54.35 97 IAMs_20 IAMs_20 03 55 06.0
comp=Z,245µm,21.0s
FDF Fort de France 54.42 97 IAMs_20 IAMs_20 03 55 17.0
comp=Z,218µm,21.0s
BIM Bigot 54.61 98 IAMs_20 IAMs_20 03 56 56.8
comp=Z,167µm,20.0s
ILAM Ilet Lapin Mar 54.62 97 IAMs_20 IAMs_20 03 56 14.2
comp=Z,206µm,19.0s
MPOM Morne Pois Mar 54.82 98 IAMs_20 IAMs_20 03 57 21.3
comp=Z,219µm,19.0s
GRGR Grenville 55.48 100 IAMs_20 IAMs_20 03 55 31.9
comp=Z,277µm,20.0s
GRGR Grenville 55.48 100 P **P** **03 29 33.2 +2.4**
comp=Z,406nm,1.4s
ATAH Atahualpa 56.37 131 P **P** **03 29 38.6 +1.0**
comp=Z,101nm,1.0s,baz=337,slow=7.8,SNR=14
ATAH S **S** **03 37 30.2 +1.5**
comp=Z,2.3nm,0.7s,baz=19,slow=24,SNR=1.4
ATAH LR LR 03 51 34.2
comp=Z,165µm,18.0s,baz=332,slow=34
comp=Z,101nm,1.0s
NOR Nord 56.48 10 ⇓P **P** **03 29 36.3 -0.8**
NOR Nord 56.48 10 *i*P **P** **03 29 38.1 +1.0**
NOR IAmb IAmb 03 29 53.3
comp=Z,1µm,2.1s
NOR IAMs_20 IAMs_20 03 54 42.7
comp=Z,384µm,15.9s
NOR IVMs_BB IVMs_BB 03 54 47.1
comp=Z,151µm,15.1s
DAG Danmarks Havn 57.56 16 P **P** **03 29 43.5 -1.2**
DAG Danmarks Havn 57.56 16 ⇓P **P** **03 29 43.3 -1.4**
DAG Danmarks Havn 57.56 16 *i*P **P** **03 29 43.5 -1.2**
DAG IAmb IAmb 03 29 49.6
comp=Z,36nm,0.8s
PMOR Pomariorio Ree 58.02 215 *e*P **P** **03 29 47.1 -1.6**
comp=Z,463nm,1.4s
PMOR Pomariorio Ree 58.02 215 *e*PP **PP** **03 31 50.1 -7.4**
comp=Z,2µm,22.4s
PMOR *e*S **S** **03 37 46.4 -3.1**
comp=Z,44µm,25.2s
PMOR *e*SS **SS** **03 41 35.1 -6.1**
comp=Z,25µm,23.6s
PMOR *e*LQ LQ 03 44 15.0
comp=Z,39µm,23.6s
PMOR *e*LR LR 03 46 49.8
comp=Z,177µm,23.2s
VAH Vaihoa 58.10 215 *e*P **P** **03 29 50.3 +1.0**
comp=Z,343nm,1.3s
VAH Vaihoa 58.10 215 *e*PP **PP** **03 31 50.8 -7.4**
comp=Z,7µm,29.0s
VAH *e*S **S** **03 37 48.1 -2.5**
comp=Z,32µm,25.9s
VAH *e*SS **SS** **03 41 37.1 -5.3**
comp=Z,21µm,24.0s
VAH *e*LQ LQ 03 44 20.1
comp=Z,29µm,25.5s
VAH *e*LR LR 03 46 52.5
comp=Z,148µm,23.3s
SCO Scoresbysund 58.64 23 P **P** **03 29 51.4 -1.0**
SCO IAmb IAmb 03 30 28.1
comp=Z,278nm,1.3s
SCO IAMs_20 IAMs_20 03 57 42.9
comp=Z,174µm,20.0s
SCO Scoresbysund 58.64 23 P **P** **03 29 51.4 -1.0**
SCO pmax pmax
comp=Z,278nm,1.3s
SCO MLR MLR
comp=Z,174µm,20.0s
PET Petropavlovsk 58.87 315 P **P** **03 29 55.3 +1.0**
comp=Z,1µm,1.1s
PET Petropavlovsk 58.87 315 *e*P **P** **03 29 54.6 +0.3**
PET *e*S **S** **03 37 59.7 -0.2**
PET pmax pmax
comp=Z,259nm,1.1s
PET pmax pmax
comp=Z,3µm,6.6s
PET pmax pmax
comp=Z,5µm,6.3s
PET smax smax
comp=E,23µm,19.9s
PET smax smax
comp=N,27µm,20.6s
PET smax smax
comp=E,15µm,17.0s
PET MLR MLR
comp=Z,43µm,18.0s
PET MLR MLR
comp=Z,39µm,19.0s
PET Petropavlovsk 58.87 315 ⇑P **P** **03 29 53.7 -0.6**
SEY Seymchan 58.88 328 LR LR 03 55 44.7
comp=Z,119µm,19.4s,baz=79,slow=36
SEY Seymchan 58.88 328 *i*P **P** **03 29 53.2 -1.0**
SEY pmax pmax
comp=Z,286nm,1.6s
SEY MLR MLR
comp=Z,86µm,17.0s
SGC2 Sao Gabriel da 59.04 116 P **P** **03 29 56.3 +0.3**
PEA0B Petropavlovsk- 59.39 316*c iP* **P** **03 29 56.9 -1.0**
PETK Petropavlovsk- 59.39 316 P **P** **03 29 56.4 -1.5**
PETK Petropavlovsk- 59.39 316 P **P** **03 29 57.5 -0.4**
comp=Z,154nm,0.9s,baz=79,slow=11,SNR=54
PETK S **S** **03 38 08.8 +2.2**
comp=Z,0.4nm,0.5s,baz=25,slow=18,SNR=0.9
PETK LR LR 03 50 24.8
comp=Z,45µm,21.5s,baz=67,slow=31
comp=Z,154nm,0.9s
TBTG Tabatinga, AM 59.74 121 IAMs_20 IAMs_20 03 54 02.7
comp=Z,164µm,21.0s
TBTG Tabatinga, AM 59.74 121 P **P** **03 29 59.4 -1.4**
comp=Z,38µmcomp=Z,8µmcomp=Z,235nm,1.0s
TBTG Tabatinga, AM 59.74 121 P **P** **03 30 01.8 +1.0**
TBTG S **S** **03 38 11.5 -0.6**
CZSB Cruzeiro do Su 60.44 126 P **P** **03 30 05.2 -0.4**
comp=Z,38µmcomp=Z,11µmcomp=Z,355nm,2.9s
CZSB Cruzeiro do Su 60.44 126 P **P** **03 30 04.6 -1.0**
CZSB S **S** **03 38 24.2 +3.2**
MA2 Magadan 60.74 324 LR LR 03 55 36.5
comp=Z,92µm,20.6s,baz=64,slow=35
MA2 Magadan 60.74 324 P **P** **03 30 07.7 +0.6**
comp=Z,302nm,1.1s
MA2 Magadan 60.74 324*c iP* **P** **03 30 06.8 -0.3**
MA2 pmax pmax
comp=Z,124nm,0.7s
MA2 MLR MLR
comp=Z,66µm,17.0s
MA2 Magadan 60.74 324 ⇑P **P** **03 30 07.6 +0.5**
BORG Borgarnes 60.87 29 IAMs_20 IAMs_20 03 58 40.0
comp=Z,215µm,20.0s
BORG Borgarnes 60.87 29 LR LR 03 58 51.6
comp=Z,128µm,18.3s,baz=292,slow=38
PPT Papeete 61.04 215 P **P** **03 30 09.9 +0.4**
comp=Z,73nm,1.0s,baz=64,slow=18,SNR=1.9
PPT S **S** **03 38 30.8 +2.3**
comp=Z,22nm,1.0s,baz=263,slow=23,SNR=0.7
PPT LR LR 03 50 08.5
comp=Z,73µm,20.5s,baz=22,slow=30
comp=Z,73nm,1.0s
PPT2 Papeete2 61.06 215 *e*P **P** **03 30 13.8 +4.1**
comp=Z,222nm,1.4s
PPT2 Papeete2 61.06 215 *e*PP **PP** **03 32 19.4 -5.1**
comp=Z,4µm,26.0s
PPT2 *e*S **S** **03 38 28.1 -0.7**
comp=Z,56µm,30.0s
PPT2 *e*SS **SS** **03 42 29.5 +0.5**
comp=Z,28µm,25.2s
PPT2 *e*LQ LQ 03 45 25.3
comp=Z,254µm,32.0s
PPT2 *e*LR LR 03 48 06.6
comp=Z,207µm,29.2s
PPT2 *e*LR LR 03 48 14.0
comp=Z,287µm,26.8s
TVO Taravao 61.07 215 *e*P P 03 29 58.7 -11
comp=Z,988nm,24.2s
TVO Taravao 61.07 215 *e*PP PP 03 32 13.9 -11
comp=Z,588nm,23.4s
TVO *e*S **S** **03 38 20.5 -8.5**
comp=Z,6µm,25.0s
TVO *e*SS **SS** **03 42 19.0 -10**
comp=Z,4µm,25.2s
TVO *e*LQ LQ 03 45 30.2
comp=Z,7µm,27.1s
TVO *e*LR LR 03 48 14.0
comp=Z,35µm,23.4s
NNA Nana 61.12 133 IAMs_20 IAMs_20 03 54 48.7
comp=Z,142µm,19.0s
NNA Nana 61.12 133 P **P** **03 30 09.3 -0.9**
comp=Z,105nm,1.0s,baz=330,slow=9.5,SNR=24
NNA S **S** **03 38 32.2 +2.4**
comp=Z,2.3nm,0.3s,baz=68,slow=18,SNR=1.3
NNA LR LR 03 54 51.3
comp=Z,139µm,18.9s,baz=326,slow=34
comp=Z,105nm,1.0s
NNA Nana 61.12 133*ce*P **P** **03 30 09.3 -0.9**
NNA pmax pmax
comp=Z,301nm,1.1s
PAE Paea 61.12 215 *e*P **P** **03 30 14.7 +4.6**
comp=Z,155nm,1.4s
PAE Paea 61.12 215 *e*PP PP 03 32 15.1 -10
comp=Z,592nm,23.9s
PAE *e*S S 03 38 20.1 -9.4
comp=Z,6µm,25.0s
PAE *e*SS **SS** **03 42 22.7 -7.1**
comp=Z,4µm,23.3s
PAE *e*LQ LQ 03 45 30.9
comp=Z,5µm,23.6s
PAE *e*LR LR 03 48 14.1
comp=Z,34µm,23.5s
SKR Severo-Kuril's 61.17 314 *e*P **P** **03 30 10.8 +0.7**
SKR *e*S **S** **03 38 31.1 +1.6**
SKR pmax pmax
comp=Z,293nm,1.0s
SKR pmax pmax
comp=Z,4µm,5.3s
SKR MLR MLR
comp=Z,37µm,20.0s
PTCN Pitcairn Islan 61.61 193 IAMs_20 IAMs_20 03 49 57.1
comp=Z,211µm,22.0s
KBS Kingsbay 61.96 10 *e*P **P** **03 30 11.2 -3.8**
KBS IVmB_BB 03 30 31.5
comp=Z,5µm,2.8s
KBS *e*S **S** **03 38 35.6 -3.2**
KBS *e*SS **SS** **03 42 39.0 -1.2**
KBS Kingsbay 61.96 10 ⇓P **P** **03 30 16.5 +1.5**
BOAV Boa Vista 62.24 109 IAMs_20 IAMs_20 04 00 32.5
comp=Z,190µm,20.0s
BOAV Boa Vista 62.24 109 P **P** **03 30 17.0 -0.8**
BOAV Boa Vista 62.24 109 P **P** **03 30 18.8 +0.9**
BOAV S **S** **03 38 43.7 -0.4**
JMIC Jan Mayen 62.49 20 LR LR 03 58 53.2
comp=Z,139µm,18.7s,baz=308,slow=37
TEFE Tefe 63.02 117 P **P** **03 30 21.5 -1.6**
TEFE S **S** **03 38 53.3 -0.5**
SPITS Spitsbergen Ar 63.11 10 P **P** **03 30 23.8 +1.0**
comp=Z,49nm,1.1s,baz=137,slow=9.0,SNR=7.2
SPITS S **S** **03 38 51.7 -1.7**
comp=Z,8.7nm,1.0s,baz=77,slow=1.8,SNR=1.7
SPITS LR LR 03 56 23.0
comp=Z,263µm,20.0s,baz=317,slow=35
comp=Z,49nm,1.1s
SPB2 Spitsbergen Ar 63.12 10 P **P** **03 30 19.2 -3.6**
TIXI Tiksi 63.35 341 P **P** **03 30 21.4 -2.9**
TIXI IAmb IAmb 03 31 17.6
comp=Z,172nm,1.1s
TIXI IAMs_20 IAMs_20 03 59 05.8
comp=Z,118µm,21.0s
TIXI Tiksi 63.35 341 LR LR 04 00 23.4
comp=Z,106µm,18.6s,baz=74,slow=38
TIXI Tiksi 63.35 341*ce*P **P** **03 30 22.6 -1.8**
TIXI pmax pmax
comp=Z,312nm,1.9s
TIXI MLR MLR
comp=Z,101µm,19.0s
HSPB Hornsund (broa 63.88 11 *e*P **P** **03 30 29.7 +1.9**
HSPB *e*S **S** **03 39 08.2 +5.3**
HSPB *e*SS **SS** **03 43 06.9 -3.4**
HSPB *e*L L 03 55 33.0
comp=Z,299µm,22.0s
MACA Manacapuru-AM 65.71 113 P **P** **03 30 37.4 -3.2**
MACA Manacapuru-AM 65.71 113 P **P** **03 30 39.1 -1.5**
MACA S **S** **03 39 26.8 -0.3**
H07S1 FLORES T-PHASE 66.00 58 P **P** **03 30 44.0 +1.7**
SNR=8.1
H07S1 FLORES T-PHASE 66.00 58 *e*P **P** **03 30 45.5 +3.3**
H07S1 *i* IAmb IAmb 03 30 47.8
comp=Z,710nm,1.6s
TBI Tubuai 66.03 212 *e*P P 03 30 35.4 -7.0
comp=Z,22µm,29.0s
TBI *e*S **S** **03 39 29.0 -1.5**
comp=Z,162µm,31.0s
TBI *e*SS **SS** **03 43 46.0 -0.4**
comp=Z,168µm,32.0s
TBI *e*LQ LQ 03 47 33.1
comp=Z,1711µm,33.8s
TBI *e*LR LR 03 50 25.3
comp=Z,226µm,28.0s
TBI *e*LR LR 03 50 28.0
comp=Z,1064µm,28.8s
MDP Montagnes des 66.79 101 P **P** **03 30 47.8 +0.2**
comp=Z,16nm,0.9s,baz=4.2,slow=3.5,SNR=6.2
MDP LR LR 04 02 30.8
comp=Z,140µm,21.0s,baz=302,slow=38
comp=Z,16nm,0.9s
H11N3 WAKE ISLAND Hy 67.22 278 P **P** **03 30 50.8 +0.8**
baz=340,slow=74,SNR=13
H11N2 WAKE ISLAND Hy 67.22 278 P **P** **03 30 50.9 +0.8**
H11N1 WAKE ISLAND Hy 67.23 278 P **P** **03 30 50.9 +0.8**
baz=173,slow=74,SNR=11
WAKE Wake Island 67.65 278 P **P** **03 30 49.0 -3.9**
WAKE Wake Island 67.65 278 IAMs_20 IAMs_20 03 54 56.1
comp=Z,195µm,20.0s
H11S1 WAKE ISLAND Hy 68.01 277 P **P** **03 30 55.4 +0.3**
baz=317,slow=74,SNR=3.3
H11S2 WAKE ISLAND Hy 68.02 277 P **P** **03 30 55.7 +0.5**
baz=13,slow=74,SNR=3.0
H11S3 WAKE ISLAND Hy 68.03 277 P **P** **03 30 55.5 +0.3**
PCED Cedros 68.07 58 *e*P **P** **03 30 59.3 +3.9**
PCED *i* IAmb IAmb 03 31 08.3
comp=Z,444nm,1.6s
CALA Caldeira 68.10 58 *e*P **P** **03 30 53.0 -2.7**
CALA *i* IAmb IAmb 03 31 01.4
comp=Z,511nm,1.7s
CALA *e*LR LR 03 53 18.2
CALA *i* IAMs_20 IAMs_20 03 57 06.0
comp=Z,168µm,20.0s
HOR Horta 68.17 58 *e*P **P** **03 31 00.3 +4.3**
HOR *i* IAmb IAmb 03 31 01.6
comp=Z,434nm,1.4s
PCAN Candelaria 68.30 58 *e*P **P** **03 31 00.9 +4.0**
PCAN *i* IAmb IAmb 03 31 09.9
comp=Z,327nm,1.7s
PICO Pico 68.33 58 *e*P **P** **03 31 00.1 +3.0**
PICO *i* IAmb IAmb 03 31 20.2
comp=Z,408nm,1.4s
PICO *e*LR LR 03 52 04.3
PICO *i* IAMs_20 IAMs_20 03 57 05.0
comp=Z,190µm,20.0s
ROSA Rosais 68.34 57 *e*P **P** **03 30 56.9 -0.2**
ROSA *i* IAmb IAmb 03 31 06.7
comp=Z,427nm,1.9s
ROSA *e*LR LR 03 51 25.7
ROSA *i* IAMs_20 IAMs_20 03 57 05.8
comp=Z,180µm,20.0s
PPNO Prainha do Nor 68.45 58 *e*P **P** **03 31 01.7 +3.8**
PPNO *i* IAmb IAmb 03 31 10.7
comp=Z,429nm,1.8s
PMAN Manadas 68.49 57 *e*P **P** **03 31 01.8 +3.7**
PMAN *i* IAmb IAmb 03 31 02.8
comp=Z,351nm,1.5s
KUR Kuril'sk 68.53 311 *e*P **P** **03 30 58.8 +0.7**
KUR 03 31 27.5
KUR *e*S **S** **03 40 00.9 +0.6**
KUR *i* 03 40 42.5
KUR *e*SS **SS** **03 44 24.7 +1.2**
KUR pmax pmax
comp=Z,500nm,1.3s
KUR pmax pmax
comp=Z,5µm,5.7s
KUR MLR MLR
comp=Z,37µm,17.0s
KUR MLR MLR
comp=E,39µm,15.0s
PID Ribeirinha 68.56 58 *e*P **P** **03 31 02.0 +3.5**
PID *i* IAmb IAmb 03 31 11.3
comp=E,364nm,1.9s
NKL Nikolayevsk 68.61 321 *e*P **P** **03 30 56.2 -2.3**
NKL *e*S **S** **03 39 59.8 -1.2**
NKL pmax pmax
comp=E,89nm,1.0s
NKL pmax pmax
comp=N,134nm,1.5s
NKL pmax pmax
comp=Z,280nm,1.5s
NKL smax smax
comp=N,1µm,6.3s
NKL smax smax
comp=E,1µm,6.3s
NKL MLR MLR
comp=E,79µm,18.0s
NKL MLR MLR
comp=N,136µm,15.0s
NKL MLR MLR
comp=Z,147µm,17.0s
YAK Yakutsk 68.62 332 P **P** **03 30 55.0 -3.3**
YAK Yakutsk 68.62 332 IAMs_20 IAMs_20 04 01 23.2
comp=Z,138µm,19.0s
YAK Yakutsk 68.62 332 LR LR 04 01 30.7
comp=Z,128µm,19.1s,baz=48,slow=36
YAK Yakutsk 68.62 332 *e*P **P** **03 31 00.7 +2.3**
YAK *e* 03 31 23.6
YAK *e* 03 33 31.9
YAK *e*PPP PPP 03 35 11.3
YAK *e*S **S** **03 40 04.5 +3.7**
YAK *e**SS **SKiKP** **03 40 52.9 +1.6**
YAK *e*SS **SS** **03 44 30.3 +6.2**
YAK pmax pmax
comp=Z,254nm,2.0s
YAK pmax pmax
comp=N,47nm,2.0s
YAK pmax pmax
comp=E,74nm,2.3s
YAK pmax pmax
comp=Z,1µm,5.1s
YAK pmax pmax
comp=N,1µm,6.4s
YAK pmax pmax
comp=E,2µm,6.1s
YAK smax smax
comp=N,12µm,15.7s
YAK smax smax
comp=E,16µm,16.1s
TYV Tymovskoe 68.74 318 *e*P **P** **03 30 59.3 -0.1**
TYV *e*S **S** **03 40 04.6 +1.9**
TYV pmax pmax
comp=Z,174nm,1.3s
TYV pmax pmax
comp=Z,3µm,5.1s
TYV smax smax
comp=N,5µm,8.3s
TYV smax smax
comp=E,8µm,8.3s
PAGU Agualva, Azore 69.04 57 *e*LR LR 03 52 35.6
PAGU *i* IAMs_20 IAMs_20 04 00 59.1
comp=E,241µm,20.0s
ADH Angra Heroismo 69.06 57 *e*P **P** **03 31 01.0 -0.6**
ADH *i* IAmb IAmb 03 31 31.6
comp=E,215nm,1.9s
PSCM Serra do Cume 69.12 57 *e*P **P** **03 31 05.9 +3.9**
PSCM *i* IAmb IAmb 03 31 14.6
comp=E,368nm,1.7s
RAR Rarotonga 69.28 222 LR LR 03 53 15.3
comp=E,62µm,21.6s,baz=30,slow=29
LPAZ La Paz 69.78 129 P **P** **03 31 03.1 -3.8**
LPAZ IAmb IAmb 03 31 24.8
comp=Z,110nm,1.1s
LPAZ La Paz 69.78 129 P **P** **03 31 06.1 -0.9**
comp=Z,55nm,0.9s,baz=347,slow=9.2,SNR=32
LPAZ LR LR 04 00 58.7
comp=Z,140µm,19.5s,baz=326,slow=35
comp=Z,55nm,0.9s
LPAZ La Paz 69.78 129 P **P** **03 31 05.9 -1.1**
LPAZ S **S** **03 40 17.7 +0.8**
PB18 Visviri 69.92 131 P **P** **03 31 04.3 -3.4**
PB18 IAMs_20 IAMs_20 04 04 02.8
comp=Z,121µm,22.0s
MAL2 Monte Alegre, 69.92 108 P **P** **03 31 03.4 -3.8**
MAL2 IAmb IAmb 03 31 40.4
comp=Z,175nm,1.3s
MAL2 Monte Alegre, 69.92 108 P **P** **03 31 08.3 +1.1**
MAL2 S **S** **03 40 19.6 +2.0**
AP01 Chacalluta 69.99 132 IAMs_20 IAMs_20 03 57 35.7
comp=Z,136µm,20.0s
UGL Uglegorsk 69.99 316 *e*P P 03 31 00.0 -7.1
UGL *e*S S 03 40 07.6 -10
UGL pmax pmax
comp=Z,100nm,0.9s
UGL pmax pmax
comp=Z,4µm,6.4s
UGL smax smax
comp=E,11µm,11.0s
UGL smax smax
comp=N,14µm,16.0s
UGL MLR MLR
comp=E,69µm,19.0s
UGL MLR MLR
comp=N,24µm,14.0s
UGL MLR MLR
comp=Z,45µm,19.0s
ITTB Itaituba 70.22 111 P **P** **03 31 09.8 +0.8**
ITTB S **S** **03 40 21.8 +0.7**
LOF Lofoten 70.23 17 *e*P **P** **03 31 04.3 -4.0**
LOF IVmB_BB 03 31 23.2
comp=Z,3µm,2.9s
LOF *e*S **S** **03 40 15.6 -4.0**
LOF *e*SS **SS** **03 44 46.9 -1.8**
TRO Tromso 70.26 15 *e*P **P** **03 31 04.5 -3.9**
TRO IVmB_BB 03 31 18.6
comp=Z,3µm,2.9s
TRO *e*S **S** **03 40 16.0 -4.0**
TRO IVMs_BB IVMs_BB 04 03 43.0
comp=Z,40µm,17.1s
HAMF Hammerfest 70.35 13 *e*P **P** **03 31 05.4 -3.5**
HAMF IVmB_BB 03 31 23.4
comp=Z,4µm,2.8s
HAMF *e*S **S** **03 40 16.3 -4.7**
HAMF IVMs_BB IVMs_BB 04 03 30.7
comp=Z,64µm,18.2s
YUK Yuzh-Kuril'sk 70.36 310*c iP* **P** **03 31 08.5 -1.0**
YUK 03 33 44.4
YUK *i* S **S** **03 40 22.2 +0.2**
YUK *e*SS **SS** **03 44 56.9 +5.0**

YUK pmax pmax
comp=Z,1μm,1.4s
YUK pmax pmax
comp=N,626nm,1.0s
YUK pmax pmax
comp=E,756nm,1.1s
YUK MLR MLR
comp=Z,29μm,16.0s
PB16 IPOC Station P 70.47 131 P **P** **03 31 06.7 -4.4**
PB16 IAMs_20 IAMs_20 04 03 35.3
comp=Z,155μm,21.0s
PSET Sete Cidades 70.51 57 *e*LR LR 03 53 13.4
PSET *i* IAMs_20 IAMs_20 03 58 08.3
comp=Z,219μm,20.0s
JETT Jettan, Norway 70.63 14 *e*P **P** **03 31 06.8 -4.0**
JETT IVmB_BB 03 31 44.7
comp=Z,4μm,7.2s
JETT *e*S **S** **03 40 18.0 -6.4**
JETT IVMs_BB IVMs_BB 04 04 05.7
comp=Z,52μm,17.9s
CMLA Cha da Macela 70.68 57 *e*P **P** **03 31 15.6 +4.1**
CMLA *i* IAmb IAmb 03 31 24.5
comp=Z,264nm,1.8s
CMLA *e*LR LR 03 53 25.0
CMLA *i* IAMs_20 IAMs_20 03 58 13.7
comp=Z,209μm,18.0s
YSS Yuzhno-Sakhali 70.71 314 P **P** **03 31 08.3 -3.2**
YSS Yuzhno-Sakhali 70.71 314 P **P** **03 31 11.5 -0.1**
comp=Z,381nm,1.1s
YSS Yuzhno-Sakhali 70.71 314α *i*P **P** **03 31 10.4 -1.2**
YSS *e*S **S** **03 40 22.4 -3.6**
YSS *e*PPS PPS 03 40 58.4
YSS pmax pmax
comp=Z,290nm,1.1s
YSS pmax pmax
comp=Z,3μm,4.3s
YSS pmax pmax
comp=N,700nm,3.5s
YSS pmax pmax
comp=E,1μm,3.0s
YSS Yuzhno-Sakhali 70.71 314 ⇑P **P** **03 31 10.4 -1.2**
PGRON Lagoa das Cont 70.78 57 *e*P **P** **03 31 13.8 +1.5**
PGRON *i* IAmb IAmb 03 31 22.9
comp=E,366nm,1.6s
STEI Steigen 70.79 17 *e*P **P** **03 31 07.6 -4.0**
STEI *e*S **S** **03 40 22.8 -3.4**
BART Pico Bartolome 70.91 57 *e*P **P** **03 31 16.9 +3.8**
BART *i* IAmb IAmb 03 31 25.0
comp=E,264nm,1.5s
BIGH Upper Bighouse 71.16 31 *e*P **P** **03 31 16.3 +2.2**
VAGH Vaagaholmen 71.23 18 *e*P **P** **03 31 10.3 -4.0**
VAGH IVmB_BB 03 31 46.1
comp=Z,4μm,4.3s
VAGH *e*S **S** **03 40 29.0 -2.2**
VAGH *e*SS **SS** **03 45 03.0 -1.0**
FAUS Fauske 71.23 17 *e*P **P** **03 31 10.8 -3.6**
FAUS IVmB_BB 03 31 44.0
comp=Z,3μm,3.4s
FAUS *e*S **S** **03 40 27.8 -3.5**
PSMA Santa Maria 71.34 58 *e*P **P** **03 31 19.2 +3.6**
PSMA *i* IAmb IAmb 03 31 27.7
comp=Z,346nm,1.7s
KONS Konsvik 71.36 19 *e*P **P** **03 31 11.3 -3.8**
KONS IVmB_BB 03 32 19.1
comp=Z,3μm,6.7s
KONS *e*S **S** **03 40 27.9 -4.9**
KONS IVMs_BB IVMs_BB 04 04 47.5
comp=Z,67μm,17.0s
PSMN Pico do Norte, 71.38 58 *e*P **P** **03 31 18.9 +3.1**
PSMN *i* IAmb IAmb 03 31 28.1
comp=Z,390nm,1.7s
PSMN *e*LR LR 03 53 33.3
PSMN *i* IAMs_20 IAMs_20 03 58 33.0
comp=Z,149μm,20.0s
STOK Stokkvaagen 71.47 19 *e*P **P** **03 31 11.6 -4.2**
STOK IVmB_BB 03 31 47.8
comp=Z,4μm,4.5s
STOK *e*S **S** **03 40 29.8 -4.2**
STOK IVMs_BB IVMs_BB 04 05 09.5
comp=Z,72μm,17.4s
PB11 IPOC Station P 71.47 132 P **P** **03 31 13.0 -3.7**
PB11 IAMs_20 IAMs_20 03 58 31.9
comp=Z,116μm,22.0s
TA02 Huaiquique 71.58 133 P **P** **03 31 14.1 -3.0**
ARA0 ARCESS Array S 71.63 13 *e*P **P** **03 31 12.7 -4.1**
ARA0 IVmB_BB 03 31 50.3
comp=Z,3μm,8.2s
ARA0 *e*S **S** **03 40 30.4 -5.5**
ARA0 *e*SS **SS** **03 45 09.6 -0.5**
ARA0 IVMs_BB IVMs_BB 04 04 27.2
comp=Z,70μm,17.9s
ARCES ARCESS Array B 71.63 13 P **P** **03 31 13.5 -3.3**
ARCES IAmb IAmb 03 31 38.5
comp=Z,133nm,1.1s
ARCES ARCESS Array B 71.63 13 P **P** **03 31 17.2 +0.5**
comp=Z,18nm,0.8s,baz=326,slow=6.0,SNR=23
ARCES S **S** **03 40 36.8 +0.9**
comp=Z,2.3nm,0.9s,baz=5.2,slow=15,SNR=1.5
ARCES LR LR 04 04 40.5
comp=Z,195μm,19.5s,baz=330,slow=38
comp=Z,18nm,0.8s
KTK1 Kautokeino 71.65 14 *e*P **P** **03 31 12.9 -4.0**
KTK1 IVmB_BB 03 31 26.8
comp=Z,3μm,2.7s
KTK1 *e*S **S** **03 40 30.0 -6.1**
LEIR Leirfjorden 71.66 19 *e*P **P** **03 31 13.2 -3.8**
LEIR IVmB_BB 03 31 51.5
comp=Z,4μm,4.5s
LEIR *e*S **S** **03 40 33.0 -3.3**
GO01 Chusmiza 71.68 132 P **P** **03 31 15.0 -3.3**
GO01 IAmb IAmb 03 31 29.4
comp=Z,248nm,1.3s
KEV Kevo 71.70 12 IAMs_20 IAMs_20 04 00 43.8
comp=Z,181μm,22.0s
KEV Kevo 71.70 12 S **S** **03 40 37.4 +0.7**
IGLA Glengowla, Co 71.75 37 *e*P **P** **03 31 18.6 +0.9**
VADS Vadso 71.77 11 *e*P **P** **03 31 13.7 -3.8**
VADS IVmB_BB 03 31 38.4
comp=Z,4μm,1.4s
VADS *e*S **S** **03 40 33.2 -4.3**
VADS IVMs_BB IVMs_BB 04 04 41.5
comp=Z,84μm,17.3s
TA01 Diego Aracena 71.78 133 IAMs_20 IAMs_20 03 56 55.0
comp=Z,124μm,21.0s
LAWE Loch Awe, Argy 71.90 33 *e*P **P** **03 31 20.6 +2.0**
LAWE IAMs_20 IAMs_20 04 03 15.1
comp=Z,204μm,15.0s
JMP Maruseppu 71.92 311 P **P** **03 31 17.6 -1.4**
MOR8 Moi Rana 71.96 18 *e*P **P** **03 31 14.9 -3.9**
MOR8 IVmB_BB 03 31 47.8
comp=Z,3μm,4.5s
MOR8 *e*S **S** **03 40 35.1 -4.8**
MOR8 IVMs_BB IVMs_BB 04 03 50.7
comp=Z,67μm,17.9s
PATCX Punta Patache 71.99 134 P **P** **03 31 15.9 -3.8**
PATCX IAMs_20 IAMs_20 03 56 59.6
comp=Z,107μm,21.0s
PB08 IPOC Station P 72.06 132 P **P** **03 31 16.3 -4.2**
PB08 IAmb IAmb 03 31 36.0
comp=Z,280nm,1.2s
PB08 IAMs_20 IAMs_20 03 58 51.6
comp=Z,113μm,22.0s
JWK2 Keihoku 72.09 313 P **P** **03 31 22.6 +2.7**
GRNR Gornyy 72.12 320⇓ *i*P **P** **03 31 19.3 -0.8**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR MLR MLR
comp=N,20μm,17.0s
GRNR MLR MLR
comp=E,36μm,17.0s
GRNR MLR MLR
comp=Z,38μm,17.0s
ATM1 UHE Belo Monte 72.23 108 P **P** **03 31 22.2 +0.9**
ATM1 S **S** **03 40 44.3 -0.1**
NPGB Novo Progresso 72.24 113 P **P** **03 31 22.6 +1.3**
NPGB S **S** **03 40 43.7 -0.7**
CLGH Cloghs, Cushen 72.30 34 *e*P **P** **03 31 23.1 +2.1**
ASAJ Asahikawa 72.32 312 LR LR 04 03 54.5
comp=Z,26μm,18.2s,baz=65,slow=36
ASAJ Asahikawa 72.32 312 P **P** **03 31 21.3 -0.1**
BMO2 UHE Belo Monte 72.45 107 P **P** **03 31 23.5 +0.9**
BMO2 S **S** **03 40 46.8 -0.1**
FOO Floro 72.51 25 *e*P **P** **03 31 18.3 -3.8**
FOO IVmB_BB 03 32 40.0
comp=Z,2μm,4.3s

FOO *e*S **S** **03 40 42.4 -3.8**
NSS Namsos 72.55 20 *e*P **P** **03 31 18.3 -4.0**
NSS *ep*P **pP** **03 31 24.4 -1.2**
NSS IVmB_BB 03 31 55.7
comp=Z,3μm,10.0s
NSS *e*S **S** **03 40 42.4 -4.1**
NSS *e*SS **SS** **03 45 22.3 -2.0**
NSS *i* 03 49 07.6
NSS IVMs_BB IVMs_BB 04 02 38.0
comp=Z,69μm,17.8s
PB01 IPOC Station P 72.56 133 IAMs_20 IAMs_20 03 57 47.6
comp=Z,133μm,22.0s
PGBU Glenifferbraes 72.58 33 *e*P **P** **03 31 23.9 +1.2**
PGBU IAMs_20 IAMs_20 04 03 36.3
comp=Z,476μm,15.1s
MOL Molde 72.65 23 *e*P **P** **03 31 19.1 -3.9**
MOL *ep*P **pP** **03 31 25.2 -1.1**
MOL IVmB_BB 03 31 32.1
comp=Z,3μm,5.3s
MOL *e*S **S** **03 40 42.8 -5.0**
MOL *e*SS **SS** **03 45 23.4 -2.6**
MOL IVMs_BB IVMs_BB 04 06 29.0
comp=Z,52μm,17.9s
VILB Vilhena 72.68 121 P **P** **03 31 20.9 -3.0**
VILB Vilhena 72.68 121 P **P** **03 31 26.0 +2.1**
DRUM Mains of Drumt 72.75 31 *e*P **P** **03 31 26.0 +2.3**
DRUM IAMs_20 IAMs_20 04 03 34.0
comp=Z,228μm,17.6s
AKN Aaknes 72.75 24 *e*P **P** **03 31 19.5 -4.1**
AKN *ep*P **pP** **03 31 25.5 -1.5**
AKN IVmB_BB 03 31 27.4
comp=Z,2μm,1.5s
AKN *e*S **S** **03 40 43.8 -5.3**
AKN *e*SS **SS** **03 45 24.6 -3.1**
AKN IVMs_BB IVMs_BB 04 03 53.8
comp=Z,61μm,17.1s
SUE Sulen 72.79 25 *e*P **P** **03 31 19.1 -4.7**
SUE *ep*P **pP** **03 31 25.7 -1.4**
SUE IVmB_BB 03 31 27.3
comp=Z,3μm,2.5s
SUE *e*S **S** **03 40 46.0 -3.3**
SUE *e*SS **SS** **03 45 26.4 -1.6**
SUE IVMs_BB IVMs_BB 04 00 20.8
comp=Z,44μm,20.5s
GAL1 Galloway 73.07 34 *e*P **P** **03 31 26.5 +0.9**
GAL1 IAMs_20 IAMs_20 04 03 49.3
comp=Z,207μm,16.1s
EDI Edinburgh 73.08 32 *e*P **P** **03 31 26.8 +1.2**
EDI IAMs_20 IAMs_20 04 04 02.4
comp=Z,268μm,15.1s
JEM Erimo 73.11 310 P **P** **03 31 27.0 +0.9**
comp=Z,315nm,1.1s
JEM Erimo 73.11 310 P **P** **03 31 25.9 -0.2**
ERM Erimo 73.12 310 P **P** **03 31 22.3 -3.8**
ERM Erimo 73.12 310 P **P** **03 31 27.2 +1.1**
comp=Z,631nm,1.1s
ERM Erimo 73.12 310*c* *e*P **P** **03 31 24.1 -2.0**
ERM pmax pmax
comp=Z,544nm,1.2s
ERM MLR MLR
comp=Z,51μm,19.0s
ERM Erimo 73.12 310 P **P** **03 31 26.9 +0.8**
ERM S **S** **03 40 53.0 -0.8**
NEWG New Galloway 73.13 33 *e*P **P** **03 31 26.7 +0.8**
NEWG IAMs_20 IAMs_20 04 06 17.4
comp=Z,124μm,16.4s
HYA Hoyanger 73.20 25 *e*P **P** **03 31 21.5 -4.7**
HYA *ep*P **pP** **03 31 28.4 -1.1**
HYA IVmB_BB 03 31 35.4
comp=Z,4μm,4.9s
HYA *e*S **S** **03 40 51.0 -3.1**
HYA *e*SS **SS** **03 45 32.7 -1.8**
HYA IVMs_BB IVMs_BB 04 00 45.9
comp=Z,62μm,20.8s
PB09 IPOC Station P 73.28 133 P **P** **03 31 24.3 -3.2**
PB09 IAmb IAmb 03 31 47.2
comp=Z,361nm,1.4s
PB09 IAMs_20 IAMs_20 03 58 06.8
comp=Z,121μm,22.0s
DSB Dublin 73.30 36 IAMs_20 IAMs_20 04 04 27.0
comp=Z,110μm,19.0s
ESY Stoneypath 73.33 32 *e*P **P** **03 31 29.6 +2.4**
ASK Askoy 73.34 26 *e*P **P** **03 31 23.1 -4.0**
ASK *ep*P **pP** **03 31 29.6 -0.7**
ASK IVmB_BB 03 31 37.5
comp=Z,3μm,3.3s
ASK *e*S **S** **03 40 51.6 -4.0**
ASK *e*SS **SS** **03 45 34.6 -2.0**
ASK IVMs_BB IVMs_BB 04 04 22.3
comp=Z,90μm,14.8s
ESK Eskdalemuir 73.46 33 P **P** **03 31 24.5 -3.4**
ESK IAmb IAmb 03 31 45.0
comp=Z,152nm,1.2s
ESK Eskdalemuir 73.46 33 IAMs_20 IAMs_20 04 00 45.1
comp=Z,152μm,19.0s
ESK Eskdalemuir 73.46 33 *e*P **P** **03 31 28.9 +0.9**
ESK *e*P **pP** **03 31 29.1 -2.1**
ESK IAMs_20 IAMs_20 04 00 57.0
comp=Z,208μm,16.8s
ESK Eskdalemuir 73.46 33 P **P** **03 31 24.5 -3.4**
ESK pmax pmax
comp=Z,152nm,1.3s
BER Bergen 73.46 26 *e*P **P** **03 31 23.9 -3.9**
BER IVmB_BB 03 31 38.1
comp=Z,2μm,2.9s
BER *e*S **S** **03 40 51.2 -5.8**
BER *e*SS **SS** **03 45 35.1 -3.3**
BER *i* 03 50 52.7
BER IVMs_BB IVMs_BB 04 04 25.0
comp=Z,84μm,14.7s
EKA Eskdalemuir Ar 73.47 33 P **P** **03 31 27.1 -0.8**
comp=Z,32nm,0.9s,baz=305,slow=4.8,SNR=38
EKA S **S** **03 40 57.1 -0.3**
comp=Z,0.5nm,0.6s,baz=184,slow=26,SNR=1.6
comp=Z,32nm,0.9s
DOMB Dombas 73.53 23 *e*P **P** **03 31 24.1 -4.1**
DOMB *ep*P **pP** **03 31 30.2 -1.3**
DOMB IVmB_BB 03 31 31.8
comp=Z,2μm,2.5s
DOMB *e*S **S** **03 40 55.5 -2.4**
DOMB *e*SS **SS** **03 45 35.1 -4.4**
DOMB IVMs_BB IVMs_BB 04 04 29.3
comp=Z,64μm,17.6s
PB05 IPOC Station P 73.54 135 IAMs_20 IAMs_20 03 57 23.6
comp=Z,158μm,22.0s
NRIK Noril'sk 73.61 351 P **P** **03 31 25.6 -2.9**
NRIK IAmb IAmb 03 31 44.6
comp=Z,200nm,1.0s
NRIK Noril'sk 73.61 351 P **P** **03 31 27.6 -1.0**
comp=Z,23nm,0.8s,baz=32,slow=4.8,SNR=13
NRIK S **S** **03 40 57.7 -0.9**
comp=Z,2.9nm,0.5s,baz=4.5,slow=13,SNR=2.0
NRIK LR LR 04 08 27.8
comp=Z,87μm,18.3s,baz=34,slow=40
comp=Z,23nm,0.8s
NRIK Noril'sk 73.61 351*d* *i*P **P** **03 31 27.4 -1.2**
NRIK pmax pmax
comp=Z,207nm,1.9s
JEW Eniwo 73.72 311 P **P** **03 31 31.1 +1.4**
PB06 IPOC Station P 73.79 134 IAMs_20 IAMs_20 03 58 06.3
comp=Z,131μm,22.0s
PB10 IPOC Station P 73.85 136 IAMs_20 IAMs_20 03 57 51.9
comp=Z,149μm,22.0s
FUNA Funafuti 73.89 247 IAMs_20 IAMs_20 03 58 23.1
comp=Z,100μm,20.0s
KESW Keswick, Cumbr 73.97 33 *e*P **P** **03 31 31.9 +0.9**
KESW IAMs_20 IAMs_20 04 04 19.3
comp=Z,185μm,15.0s
WPS Cemaes, Angles 74.08 35 *e*P **P** **03 31 33.0 +1.5**
WPS IAMs_20 IAMs_20 04 05 39.6
comp=Z,214μm,16.3s
SIV San Ignacio 74.20 123 P **P** **03 31 31.9 -0.9**
comp=Z,72nm,1.1s,baz=319,slow=7.5,SNR=26
SIV LR LR 04 03 28.7
comp=Z,144μm,20.7s,baz=332,slow=35
comp=Z,72nm,1.1s
WLF1 Llynfaes 74.20 35 *e*P **P** **03 31 33.9 +1.7**
WLF1 IAMs_20 IAMs_20 04 05 43.5
comp=Z,436μm,16.6s
PDRB Porto dos Gac 74.24 117 P **P** **03 31 34.2 +1.2**
PDRB S **S** **03 41 06.9 -0.3**
ODD1 Odda 74.25 26 *e*P **P** **03 31 28.5 -4.1**
ODD1 *ep*P **pP** **03 31 34.9 -1.0**
ODD1 IVmB_BB 03 31 43.2
comp=Z,2μm,3.0s

ODD1 *e*S **S** **03 41 03.6 -2.5**
ODD1 *e*SS **SS** **03 45 48.9 -1.7**
ODD1 IVMs_BB IVMs_BB 04 04 50.7
comp=Z,73μm,15.5s
KMY Karmoy 74.26 27 *e*P **P** **03 31 28.5 -4.0**
KMY *ep*P **pP** **03 31 34.3 -1.4**
KMY IVmB_BB 03 31 35.8
comp=Z,2μm,1.9s
KMY *e*S **S** **03 41 03.1 -2.9**
KMY *e*SS **SS** **03 45 48.5 -2.0**
KMY IVMs_BB IVMs_BB 04 04 29.9
comp=Z,69μm,17.4s
SKAR Skarslia 74.27 24 *e*P **P** **03 31 28.5 -4.2**
SKAR *ep*P **pP** **03 31 34.8 -1.1**
SKAR IVmB_BB 03 31 36.5
comp=Z,2μm,2.1s
SKAR *e*S **SKiKP** **03 41 02.1 +2.2**
SKAR *e*SS **SS** **03 45 49.7 -1.2**
SKAR IVMs_BB IVMs_BB 04 01 30.0
comp=Z,61μm,20.5s
EDMD Edmundbyers 74.32 33 *e*P **P** **03 31 34.8 +1.9**
EDMD IAMs_20 IAMs_20 04 06 32.6
comp=Z,192μm,16.2s
CLDB Colider 74.43 116 P **P** **03 31 36.1 +2.0**
CLDB S **S** **03 41 08.8 -0.4**
BLS5 Blasjo 74.54 26 *e*P **P** **03 31 30.1 -4.2**
BLS5 *ep*P **pP** **03 31 36.5 -1.0**
BLS5 IVmB_BB 03 31 49.9
comp=Z,2μm,2.4s
BLS5 *e*S **S** **03 41 06.9 -2.4**
BLS5 *e*SS **SS** **03 45 51.5 -3.5**
BLS5 IVMs_BB IVMs_BB 04 04 49.2
comp=Z,69μm,15.0s
LVZ Lovozero 74.60 11 *i*P **P** **03 31 33.1 -1.3**
LVZ pmax pmax
comp=Z,158nm,1.3s
LVZ MLR MLR
comp=Z,228μm,17.0s
NC204 NORSAR Array S 74.64 23 P **P** **03 31 33.9 -0.9**
JSH Shimam 74.69 312 P **P** **03 31 33.9 -1.4**
APA Apatity 74.72 11⇓ *i*P **P** **03 31 33.7 -1.3**
APA *i* 03 31 53.9
APA *i* 03 34 18.0
APA *i*S **SKiKP** **03 41 01.6 +1.3**
APA *i*SS **SS** **03 45 58.9 +1.7**
APA MLR MLR
comp=Z,251μm,17.8s
ZEA Zeya 74.79 326 *e*P **P** **03 31 34.9 -0.8**
ZEA *e*S **S** **03 41 13.6 +1.3**
ZEA *e* 03 41 49.9
ZEA pmax pmax
comp=E,200nm,3.0s
ZEA pmax pmax
comp=Z,500nm,2.5s
ZEA pmax pmax
comp=N,40nm,2.4s
ZEA pmax pmax
comp=Z,90nm,2.0s
ZEA smax smax
comp=E,7μm,18.3s
AF01 San Pedro de A 74.79 133 IAMs_20 IAMs_20 03 58 53.9
comp=Z,109μm,22.0s
PB14 IPOC Station P 74.80 136 P **P** **03 31 32.9 -3.5**
PB14 IAmb IAmb 03 31 41.8
comp=Z,417nm,1.4s
PB14 IAMs_20 IAMs_20 03 57 45.2
comp=Z,125μm,22.0s
NBO00 NORSAR Array S 74.83 23 P **P** **03 31 32.1 -3.7**
NBO00 IAmb IAmb 03 31 53.6
comp=Z,126nm,1.0s
NC303 NORSAR Array S 74.87 23 P **P** **03 31 33.4 -2.6**
NC303 IAmb IAmb 03 31 54.4
comp=Z,182nm,1.2s
RSBS Rosebush, Pemb 74.88 36 *e*P **P** **03 31 38.1 +1.8**
TMAB Tom-Au,PA,Br 74.90 104 P **P** **03 31 39.0 +2.0**
NB2 NORSAR Subarra 74.96 23 P **P** **03 31 38.5 +1.9**
comp=Z,709nm,2.5s,baz=320,slow=5.9
NOA NORSAR Array B 74.96 23 P **P** **03 31 36.0 -0.7**
comp=Z,26nm,0.8s,baz=319,slow=5.8,SNR=55
NOA S **S** **03 41 16.4 +2.4**
comp=Z,0.5nm,0.8s,baz=329,slow=22,SNR=1.1
NOA LR LR 04 05 34.0
comp=Z,122μm,18.7s,baz=320,slow=37
comp=Z,26nm,0.8s
NOA NORSAR Array B 74.96 23 P **P** **03 31 36.0 -0.7**
NAO01 NORSAR Array S 75.00 23 P **P** **03 31 33.3 -3.5**
NAO01 IAmb IAmb 03 31 55.3
comp=Z,264nm,1.4s
FOEL Foel Wylfa 75.01 35 *e*P **P** **03 31 38.8 +1.7**
FOEL IAMs_20 IAMs_20 04 04 16.2
comp=Z,136μm,15.0s
GDLE Glaisdale, N Y 75.09 33 *e*P **P** **03 31 39.6 +2.1**
GDLE IAMs_20 IAMs_20 04 05 14.4
comp=Z,293μm,15.8s
PTLB Pontes e Lacer 75.15 122 P **P** **03 31 39.3 +1.1**
NC602 NORSAR Array S 75.30 23 *e*P **P** **03 31 34.5 -4.0**
NC602 *ep*P **pP** **03 31 41.2 -0.6**
NC602 IVmB_BB 03 31 50.6
comp=Z,2μm,2.8s
NC602 *e*S **S** **03 41 16.1 -1.5**
NC602 *e*SS **SS** **03 46 01.2 -5.1**
NC602 IVMs_BB IVMs_BB 04 05 21.9
comp=Z,61μm,16.1s
STNC Stoke 75.34 34 *e*P **P** **03 31 40.6 +1.7**
STNC IAMs_20 IAMs_20 04 06 29.7
comp=Z,207μm,15.4s
TEY Ternei 75.34 315⇑ *e*P P 03 31 29.2 -10
TEY pmax pmax
comp=E,10.0nm,0.7s
TEY pmax pmax
comp=Z,20nm,0.8s
TEY MLR MLR
comp=E,2μm,19.0s
TEY MLR MLR
comp=N,2μm,17.0s
TEY MLR MLR
comp=Z,1μm,19.0s
LBWR Ladybower, Pea 75.36 34 *e*P **P** **03 31 40.5 +1.5**
LBWR IAMs_20 IAMs_20 04 03 44.5
comp=Z,162μm,14.8s
HLM1 Long Mynd 75.40 35 *e*P **P** **03 31 40.5 +1.2**
HLM1 IAMs_20 IAMs_20 04 04 36.1
comp=Z,138μm,16.0s
KLR Kul'dur 75.46 321 LR LR 04 04 14.0
comp=Z,54μm,21.2s,baz=46,slow=35
KLR Kul'dur 75.46 321 *i*P **P** **03 31 38.2 -1.5**
KLR pmax pmax
comp=Z,142nm,1.4s
KLR MLR MLR
comp=Z,49μm,19.0s
KONO Kongsberg 75.47 25 P **P** **03 31 35.8 -3.8**
KONO IAmb IAmb 03 31 58.2
comp=Z,254nm,1.1s
KONO Kongsberg 75.47 25⇑ *i*P **P** **03 31 38.2 -1.3**
KONO pmax pmax
comp=Z,145nm,1.1s
KONO MLR MLR
comp=Z,157μm,18.0s
KONO Kongsberg 75.47 25 *e*P **P** **03 31 35.5 -4.0**
SNART Snartemo 75.60 27 *e*P **P** **03 31 36.2 -4.1**
HTL Hartland 75.61 37 *e*P **P** **03 31 42.2 +1.7**
HTL IAMs_20 IAMs_20 04 01 28.6
comp=Z,191μm,18.5s
OSL Oslo 75.64 24 *e*P **P** **03 31 36.5 -3.9**
GO02 Mina Guanaco 75.68 136 IAMs_20 IAMs_20 03 58 25.5
comp=Z,118μm,21.0s
MCH1 Michaelchurch 75.68 35 *e*P **P** **03 31 42.4 +1.6**
MCH1 IAMs_20 IAMs_20 04 06 10.4
comp=Z,145μm,16.9s
CCA1 Carnmenellis 75.76 38 *e*P **P** **03 31 42.7 +1.3**
CCA1 IAMs_20 IAMs_20 04 04 49.9
comp=Z,197μm,16.4s
MONM Monmouth 75.88 36 *e*P **P** **03 31 43.3 +1.3**
MONM IAMs_20 IAMs_20 04 06 16.0
comp=Z,132μm,15.8s
AC01 Pan de Azucar 75.89 137 IAMs_20 IAMs_20 03 58 35.0
comp=Z,132μm,22.0s
PRPB Parauapebas 75.91 108 P **P** **03 31 44.1 +1.4**
PRPB S **S** **03 41 27.4 +1.6**
CWF Charnwood Fore 75.98 34 *e*P **P** **03 31 44.5 +1.9**
CWF IAMs_20 IAMs_20 04 08 51.2
comp=Z,142μm,14.5s
OLDB Oldbury-Upon-S 76.11 36 *e*P **P** **03 31 44.5 +1.2**
OLDB IAMs_20 IAMs_20 04 04 19.7
comp=Z,140μm,16.6s

HOMB Homborsund 76.12 26 *e*P P **03 31 39.1 -4.1**
STRD Stroud 76.22 35 *e*P P **03 31 45.6 +1.6**
STRD IAMs_20 IAMs_20 04 05 49.0
comp=Z,217µm,16.3s
DYA Yadsworthy 76.24 37 *e*P P **03 31 45.4 +1.3**
DYA IAMs_20 IAMs_20 04 03 22.9
comp=Z,214µm,17.4s
HFS Hagfors 76.44 23 P P **03 31 44.7 -0.4**
comp=Z,50nm,0.9s,baz=324,slow=5.3,SNR=31
HFS S **S** **03 41 30.0 -0.3**
comp=Z,2.1nm,0.9s,baz=178,slow=18,SNR=1.9
HFS LR LR 04 07 47.8
comp=Z,145µm,18.1s,baz=315,slow=38
comp=Z,50nm,0.9s
SWN1 Swindon 76.56 35 *e*P P **03 31 47.4 +1.5**
SWN1 IAMs_20 IAMs_20 04 06 48.0
comp=Z,148µm,18.6s
WACR West Acre 76.87 33 *e*P P **03 31 49.5 +2.0**
WACR IAMs_20 IAMs_20 04 06 34.3
comp=Z,138µm,15.7s
JMM Marumori 76.94 307 P P **03 31 50.5 +2.2**
comp=Z,124nm,1.3s
JMM Marumori 76.94 307 P P **03 31 49.4 +1.2**
AC06 Mina Casimiro 76.97 138 IAMs_20 IAMs_20 04 02 22.7
comp=Z,81µm,21.0s
HEH HeiHe 76.98 323 *e*P P **03 31 46.6 -1.7**
HEH S **S** **03 41 36.3 -0.3**
HEH SS **SS** **03 46 41.9 +10**
HEH pmax pmax
comp=Z,32nm,0.9s
HEH pmax pmax
comp=Z,3µm,5.0s
HEH LR LR
comp=Z,91µm,19.6s
HEH LR LR
comp=Z,88µm,17.7s
HEH LR LR
comp=Z,95µm,18.2s
JYA Atsumi 77.22 308 P P **03 31 48.5 -1.3**
GO03 Copiapo 77.22 138 IAMs_20 IAMs_20 04 02 30.4
comp=Z,82µm,20.0s
AC02 Maricunga 77.24 137 P P **03 31 50.8 +0.3**
AC02 IAmb IAmb 03 31 56.6
comp=Z,327nm,1.6s
AC02 IAMs_20 IAMs_20 03 59 30.8
comp=Z,116µm,22.0s
AC04 Llanos de Chal 77.25 139 IAMs_20 IAMs_20 04 02 21.2
comp=Z,95µm,18.0s
ELMS Elmsett, Ipswi 77.46 34 *e*P P **03 31 52.3 +1.4**
ELMS IAMs_20 IAMs_20 04 07 14.8
comp=Z,209µm,14.6s
SALV Santo Antonio 77.87 120 P P **03 31 55.9 +2.2**
SALV S **S** **03 41 49.7 +2.8**
JSA Saint Aubin 77.92 37 *e*P P **03 31 54.5 +0.9**
JSA IAMs_20 IAMs_20 04 03 09.3
comp=Z,190µm,18.7s
PAL01 Palmeiras do T 77.94 107 P P **03 31 55.8 +1.6**
PAL01 S **S** **03 41 46.3 -1.7**
VA04 Juan Fernndez 77.96 148 IAMs_20 IAMs_20 04 00 50.0
comp=Z,83µm,21.0s
HMNX Herstmonceux 78.00 35 *e*P P **03 31 56.1 +2.2**
HMNX IAMs_20 IAMs_20 04 10 06.2
comp=Z,209µm,16.1s
LCO Las Campanas 78.09 139 IAMs_20 IAMs_20 04 02 37.4
comp=Z,111µm,19.0s
ELSH Elham, Standar 78.17 34 *e*P P **03 31 57.3 +2.4**
ELSH IAMs_20 IAMs_20 04 06 22.1
comp=Z,160µm,16.6s
PAL2 UHE Estreito - 78.19 107 P P **03 31 57.7 +2.2**
PAL2 S **S** **03 41 50.6 0.0**
JSD Sado 78.47 309 P P **03 31 58.9 +2.1**
comp=Z,72nm,1.7s
JSD Sado 78.47 309 P P **03 31 58.2 +1.4**
USA0B Ussuriysk Arra 78.47 317 *i* P P **03 31 55.3 -1.4**
USRK Ussuriysk Ar. 78.47 317 P P **03 31 52.8 -3.9**
USRK Ussuriysk Ar. 78.47 317 P P **03 31 55.8 -0.9**
comp=Z,140nm,0.9s,baz=52,slow=4.4,SNR=51
USRK PKiKP **PKiKP** **03 37 32.0 -0.7**
comp=Z,8.1nm,0.9s,baz=54,slow=3.7,SNR=4.7
comp=Z,140nm,0.9s
SNDB Serra Nova Dou 78.47 114 P P **03 31 59.2 +2.1**
SNDB S **S** **03 41 56.3 +2.7**
CO05 La Serena 78.53 140 IAMs_20 IAMs_20 04 00 19.9
comp=Z,130µm,20.0s
FINES FINESS Array B 78.77 17 P P 03 31 53.1 -4.9
FINES FINESS Array B 78.77 17 P P **03 31 57.5 -0.5**
comp=Z,12nm,1.0s,baz=0.0,slow=2.9,SNR=13
FINES S **S** **03 41 54.5 -0.9**
comp=Z,2.1nm,0.9s,baz=188,slow=12,SNR=1.2
FINES LR LR 04 09 49.7
comp=Z,150µm,18.2s,baz=326,slow=38
comp=Z,12nm,1.0s
HLG Helgoland 78.90 29 *e*S **ScS** **03 42 12.3 -8.4**
baz=323,slow=10
CO06 Fray Jorge 78.93 141 P P **03 31 55.5 -3.8**
CO06 IAmb IAmb 03 32 04.1
comp=Z,250nm,1.4s
GO04 Tololo Observa 78.96 140 IAMs_20 IAMs_20 04 00 34.4
comp=Z,111µm,20.0s
PMOZ Porto Moniz, M 79.07 58 *e*P P **03 32 03.9 +3.6**
PMOZ *i* IAmb IAmb 03 32 22.9
comp=Z,188nm,1.4s
PMOZ *e*S **S** **03 42 06.2 +6.4**
PMOZ *e*LQ LQ 03 52 24.0
PMOZ *e*LR LR 03 56 07.7
PMOZ *i* IAMs_20 IAMs_20 04 05 08.8
comp=Z,132µm,18.0s
CO01 Juntas del Tor 79.18 139 IAMs_20 IAMs_20 04 03 21.1
comp=Z,114µm,18.0s
JRY Ryogami san 79.25 307 P P **03 32 01.5 +0.3**
PGAV Gavieira, Arco 79.27 46 *e*P P **03 32 01.8 +0.5**
PGAV *i* IAmb IAmb 03 33 07.1
comp=Z,145nm,2.0s
PGAV *e*S **S** **03 41 58.6 -3.1**
PGAV *e*LQ LQ 03 52 07.2
PGAV *e*LR LR 03 57 53.9
PGAV *i* IAMs_20 IAMs_20 04 10 43.8
comp=Z,116µm,18.0s
SMTB Santa Maria do 79.30 109 P P **03 32 02.2 +0.6**
SMTB S **S** **03 42 04.8 +2.3**
PMAR Madeira 79.32 57 *e*P P **03 32 04.6 +2.8**
PMAR *i* IAmb IAmb 03 32 09.9
comp=Z,450nm,1.2s
FUL Funchal 79.38 57 *e*P P **03 32 05.0 +3.1**
FUL *i* IAmb IAmb 03 32 07.1
comp=Z,210nm,1.3s
MJAR Matsushiro Arr 79.39 307 P P **03 31 57.9 -4.1**
MJAR Matsushiro Arr 79.39 307 P P **03 32 00.4 -1.5**
comp=Z,58nm,1.1s,baz=36,slow=4.7,SNR=31
MJAR S **S** **03 42 06.2 +3.2**
comp=Z,0.3nm,0.3s,baz=327,slow=46,SNR=1.4
MJAR LR LR 04 01 00.3
comp=Z,36µm,21.9s,baz=60,slow=31
comp=Z,58nm,1.1s
MAJO Matsushiro 79.39 307 P P **03 31 57.9 -4.0**
MAJO IAmb IAmb 03 32 08.6
comp=Z,178nm,1.1s
MAJO Matsushiro 79.39 307 *i* P P **03 31 59.9 -2.0**
MAJO pmax pmax
comp=Z,188nm,1.1s
MAJO Matsushiro 79.39 307 P P **03 32 02.4 +0.4**
MAJO S **S** **03 42 02.2 -0.7**
MAT Matsushiro 79.39 307 P P **03 32 00.6 -1.3**
LAJE UHE Lajeado 79.44 110 P P **03 32 05.1 +2.6**
PMPST Porto Santo, M 79.51 57 *e*P P **03 32 05.5 +2.9**
PMPST *i* IAmb IAmb 03 32 07.3
comp=Z,223nm,1.3s
PMPS Porto Santo 79.52 57 *e*P P **03 32 06.4 +3.8**
PMPS *i* IAmb IAmb 03 32 08.0
comp=Z,218nm,1.5s
MDJ Mudanjiang 79.53 318 P P **03 32 02.1 -0.4**
MDJ Mudanjiang 79.53 318 P P **03 32 01.7 -0.8**
MDJ S **S** **03 42 01.4 -2.7**
MDJ sS sS 03 42 11.7 +2.1
MDJ pmax pmax
comp=Z,10.0nm,0.8s
MDJ pmax pmax
comp=Z,3µm,9.8s
MDJ LR LR
comp=Z,22µm,19.9s
MDJ LR LR
comp=Z,48µm,22.1s
MDJ LR LR
comp=Z,59µm,22.2s
MDJ Mudanjiang 79.53 318 P P **03 32 03.7 +1.2**
comp=Z,56nm,1.1s

CO03 El Pedregal 79.55 140 IAMs_20 IAMs_20 04 00 51.9
comp=Z,156µm,21.0s
PCAB Cabril 79.57 46 *e*P P **03 32 04.2 +1.3**
PCAB *i* IAmb IAmb 03 32 21.4
comp=Z,198nm,2.0s
CO02 Combarbal 79.68 141 IAMs_20 IAMs_20 04 00 45.3
comp=Z,158µm,21.0s
UCC Uccle 79.88 33 IAMs_20 IAMs_20 04 08 26.9
comp=Z,140µm,20.0s
UCC Uccle 79.88 33 *d*P P **03 32 06.3 +2.0**
comp=Z,25nm,1.4s
POLO Lamas de Olo 79.92 46 *e*P P **03 32 06.2 +1.4**
POLO *i* IAmb IAmb 03 32 10.0
comp=Z,162nm,1.5s
BNX BinXian 79.96 320 ⇓P P **03 32 04.0 -0.8**
BNX sP **PcP** **03 32 11.2 -1.1**
BNX S **S** **03 42 09.8 +1.2**
BNX pmax pmax
comp=Z,56nm,0.9s
BNX pmax pmax
comp=Z,4µm,8.0s
BNX LR LR
comp=Z,43µm,18.6s
BNX LR LR
comp=Z,50µm,19.1s
BNX LR LR
comp=Z,54µm,21.7s
MSHR Mys Shultsa 79.96 316 *c* *i*P P **03 32 03.5 -1.4**
MSHR pmax pmax
comp=Z,231nm,1.1s
MSHR MLR MLR
comp=Z,62µm,20.0s
PVRL Vila Real 80.03 46 *e*P P **03 32 08.2 +2.8**
PVRL *i* IAmb IAmb 03 32 18.7
comp=Z,316nm,1.5s
BSEG Bad Segeberg 80.04 28 *e*P P **03 32 08.5 +3.5**
comp=Z,112nm,1.1s,baz=321,slow=5.2
BSEG *e*S **ScS** **03 42 23.8 -6.1**
baz=323,slow=10
PSTR Posyet 80.12 316 ⇑*i*P P **03 32 03.9 -1.8**
JGN Niukaw 80.16 308 P P **03 32 07.3 +1.2**
IBBN Ibbenburen 80.24 31 *e*P P **03 32 09.5 +3.4**
comp=Z,129nm,1.2s,baz=321,slow=5.2
IBBN *e*S **ScS** **03 42 23.5 -8.1**
baz=323,slow=10
PBRG Braganca 80.26 45 *e*P P **03 32 07.5 +0.9**
PBRG *i* IAmb IAmb 03 32 20.0
comp=Z,220nm,1.8s
PVIS Viseu 80.27 47 *e*P P **03 32 08.3 +1.6**
COI Coimbra 80.28 47 P P **03 32 03.2 -3.5**
COI IAmb IAmb 03 32 10.7
comp=Z,322nm,1.5s
COI IAMs_20 IAMs_20 04 03 59.6
comp=Z,163µm,22.0s
COI Coimbra 80.28 47 *e*P P **03 32 07.8 +1.1**
COI *i* IAmb IAmb 03 32 18.8
comp=Z,288nm,1.5s
COI Coimbra 80.28 47 P P **03 32 03.2 -3.5**
COI pmax pmax
comp=Z,322nm,1.5s
PCAS Casmilo, Conde 80.33 47 *e*P P **03 32 06.5 -0.4**
PCAS *i* IAmb IAmb 03 32 12.0
comp=Z,212nm,1.5s
BMRD Maredsous 80.41 33 *d*P P **03 32 07.5 +0.3**
comp=Z,65nm,1.1s
BEBN Eben Emael 80.46 33 *d*PcP **PcP** **03 32 11.1 -3.2**
DOU Dourbes 80.48 34 *d*P P **03 32 07.9 +0.3**
comp=Z,68nm,1.1s
PSBE So Bento 80.49 48 *e*P P **03 32 09.9 +2.1**
PSBE *i* IAmb IAmb 03 32 13.4
comp=Z,334nm,2.1s
BGES Gesves 80.50 33 *d*P P **03 32 07.8 +0.2**
comp=Z,57nm,1.1s
MVO Moncorvo 80.50 46 *e*P P **03 32 09.2 +1.3**
MVO *i* IAmb IAmb 03 32 21.5
comp=Z,316nm,1.8s
MVO *e*S **S** **03 42 17.4 +2.8**
MVO *e*LQ LQ 03 52 38.8
MVO *e*LR LR 03 58 08.9
MVO *i* IAMs_20 IAMs_20 04 11 03.3
comp=Z,126µm,18.0s
JGF Kuroka 80.50 307 P P **03 32 05.1 -2.9**
JGF IAmb IAmb 03 33 02.3
comp=Z,201nm,1.7s
JGF Kuroka 80.50 307 P P **03 32 09.9 +1.9**
comp=Z,64nm,1.3s
JGF Kuroka 80.50 307 P P **03 32 09.2 +1.2**
BSTI Sart Tilman 80.57 33 *d*P P **03 32 06.8 -1.2**
comp=Z,22nm,1.0s
BCLA Clavier 80.57 33 *d*P P **03 32 07.9 -0.1**
comp=Z,67nm,1.1s
RETH Rethem/Aller, 80.57 29 *e*P P **03 32 11.7 +3.8**
comp=Z,91nm,1.2s,baz=321,slow=5.2
RETH *e*S **ScS** **03 42 30.5 -3.8**
baz=323,slow=10
BUG Bochum--Univer 80.67 31 *e*P P **03 32 11.6 +3.1**
comp=Z,74nm,1.2s,baz=321,slow=5.2
BUG *e*S **ScS** **03 42 29.9 -5.4**
baz=323,slow=10
MTE Manteigas 80.68 47 IAMs_20 IAMs_20 04 07 30.0
comp=Z,106µm,18.0s
MTE Manteigas 80.68 47 *e*P P **03 32 10.4 +1.5**
MTE *i* IAmb IAmb 03 32 16.0
comp=Z,249nm,1.5s
MTE *e*S **S** **03 42 17.9 +1.3**
MTE *e*LQ LQ 03 52 45.8
MTE *e*LR LR 03 58 12.8
MTE *i* IAMs_20 IAMs_20 04 08 02.3
comp=Z,79µm,16.0s
RGN Rugen 80.69 26 *e*S **ScS** **03 42 29.9 -5.4**
baz=323,slow=10
MEM Membach 80.74 33 *d*P P **03 32 08.7 -0.3**
comp=Z,70nm,1.0s
LIS Lisbon 80.77 49 *e*P P **03 32 08.7 -0.6**
LIS *e*S **S** **03 42 16.4 -0.9**
LIS IAMs_20 IAMs_20 03 59 35.0
comp=N,278µm,29.5s
LIS Lisbon 80.77 49 *e*P P **03 32 12.3 +3.0**
LIS *i* IAmb IAmb 03 32 16.0
comp=N,516nm,1.5s
LIS Lisbon 80.77 49 *e*P P **03 32 08.7 -0.6**
LIS *e*S **S** **03 42 16.4 -0.9**
BTNL Ternell 80.81 32 *d*P P **03 32 09.4 0.0**
comp=Z,35nm,1.1s
PSARD Sardoal 80.81 48 *e*P P **03 32 11.0 +1.5**
PSARD *i* IAmb IAmb 03 32 15.9
comp=Z,312nm,1.3s
INU Inuyama 80.88 307 P P **03 32 06.0 -3.9**
INU Inuyama 80.88 307 P P **03 32 11.4 +1.5**
comp=Z,70nm,1.5s
BHOU Houvegnez 80.93 33 *d*P P **03 32 10.3 +0.3**
comp=Z,29nm,1.2s
PACT Alcochete 80.93 49 *e*P P **03 32 13.1 +2.9**
PACT *i* IAmb IAmb 03 32 24.1
comp=Z,542nm,1.8s
NRDL Niedersach Rie 81.05 29 *e*P P **03 32 13.8 +3.3**
comp=Z,80nm,1.2s,baz=321,slow=5.2
NRDL *e*S **ScS** **03 42 33.6 -4.5**
baz=323,slow=10
PCBR Castelo Branco 81.07 47 *e*P P **03 32 12.8 +1.9**
PCBR *i* IAmb IAmb 03 32 15.8
comp=Z,258nm,1.6s
PMTG Montargil 81.11 48 *e*P P **03 32 12.4 +1.3**
PMTG *i* IAmb IAmb 03 32 17.1
comp=Z,254nm,1.8s
GORT1 Trebel 81.14 28 *e*P P **03 32 15.0 +4.1**
comp=Z,92nm,1.3s,baz=321,slow=5.2
GORT1 *e*S **ScS** **03 42 33.1 -5.9**
baz=323,slow=10
VA03 San Esteban 81.15 141 IAMs_20 IAMs_20 04 00 47.3
comp=Z,158µm,21.0s
ZON Zonda 81.16 139 IAMs_20 IAMs_20 04 02 08.5
comp=Z,90µm,20.0s
PATS Pohnpei 81.24 272 P P **03 32 15.6 +3.4**
comp=Z,323nm,1.6s
HIA Hailar 81.27 326 P P **03 32 11.8 -0.1**
comp=Z,93nm,2.2s
VA05 Santo Domingo 81.33 143 IAMs_20 IAMs_20 04 01 00.1
comp=Z,150µm,22.0s
KASTN Kahler Asten 81.33 31 *e*P P **03 32 15.2 +3.0**
comp=Z,53nm,1.1s,baz=321,slow=5.2
KASTN *e*S **ScS** **03 42 37.7 -3.1**
baz=323,slow=10
SSV2 Sao Salvador 81.33 113 P P **03 32 15.2 +2.6**
PMRV Marv??o 81.39 47 *e*P P **03 32 14.2 +1.6**
PMRV *i* IAmb IAmb 03 32 17.8
comp=Z,340nm,1.5s
PMRV *e*S **S** **03 42 23.2 -0.7**
PMRV *e*LQ LQ 03 53 13.4
PMRV *e*LR LR 03 58 31.2
PMRV *i* IAMs_20 IAMs_20 04 07 09.7
comp=Z,103µm,20.0s
WLF Walferdange 81.49 33 IAMs_20 IAMs_20 04 08 11.6
comp=Z,139µm,20.0s
WLF Walferdange 81.49 33 *d*P P **03 32 09.8 -3.2**
comp=Z,2.3nm,0.9s
WLF Walferdange 81.49 33 *e*P P **03 32 16.6 +3.6**
comp=Z,110nm,1.1s,baz=321,slow=5.2
WLF *e*S **ScS** **03 42 38.8 -3.3**
baz=323,slow=10
ASSE Asse, Remlinge 81.55 29 *e*P P **03 32 16.8 +3.7**
comp=Z,103nm,1.1s,baz=321,slow=5.2
ASSE *e*pP **PcP** **03 32 22.4 +3.4**
baz=321,slow=5.1
ASSE *e*S **ScS** **03 42 39.1 -3.2**
baz=323,slow=10
MT05 Renca 81.55 142 P P **03 32 10.9 -2.5**
EVO Evora 81.58 48 *e*P P **03 32 15.1 +1.5**
EVO *i* IAmb IAmb 03 32 19.0
comp=Z,190nm,1.3s
PESTR Estremoz 81.62 48 *e*P P **03 32 15.1 +1.2**
PESTR *i* IAmb IAmb 03 32 18.9
comp=Z,210nm,1.3s
FLTG Flechtingen 81.62 29 *e*P P **03 32 16.4 +2.8**
comp=Z,84nm,1.1s,baz=321,slow=5.2
FLTG *e*S **ScS** **03 42 39.1 -3.9**
baz=323,slow=10
CLZ Clausthal 81.65 30 *e*P P **03 32 17.2 +3.3**
comp=Z,93nm,1.1s,baz=321,slow=5.2
CLZ *e*pP **PcP** **03 32 23.5 +3.8**
baz=321,slow=5.1
CLZ *e*S **ScS** **03 42 40.3 -3.1**
baz=323,slow=10
MT01 Popeta 81.68 143 IAMs_20 IAMs_20 04 01 10.3
comp=Z,155µm,22.0s
GTTG Gottingen 81.72 30 *e*P P **03 32 17.4 +3.3**
comp=Z,61nm,1.3s,baz=321,slow=5.2
GTTG *e*S **ScS** **03 42 41.1 -2.7**
baz=323,slow=10
MT09 Talagante 81.74 142 IAMs_20 IAMs_20 04 01 12.9
comp=Z,153µm,22.0s
PTEO Sao Teotonio 81.76 49 *e*P P **03 32 16.4 +1.8**
PTEO *i* IAmb IAmb 03 32 20.0
comp=Z,472nm,1.4s
C2SB Chapadao do Su 81.80 120 S **S** **03 42 32.9 +4.4**
CIT Chita 81.85 331 *e*P P **03 32 15.8 +0.9**
CIT *e* 03 35 25.2
CIT pmax pmax
comp=Z,360nm,2.6s
MESJ Messejana 81.89 49 *e*P P **03 32 14.5 -0.8**
MESJ *e*S **S** **03 42 27.9 -1.1**
MESJ IAMs_20 IAMs_20 04 07 54.6
comp=Z,210µm,19.3s
MESJ Messejana 81.89 49 *e*P P **03 32 14.5 -0.8**
MESJ *e*S **S** **03 42 28.0 -1.1**
MORF Marmelete 81.96 50 *e*P P **03 32 15.1 -0.6**
MORF *e*S **S** **03 42 29.0 -0.9**
MORF IAMs_20 IAMs_20 04 00 50.2
comp=N,248µm,24.3s
MORF Marmelete 81.96 50 *e*P P **03 32 17.5 +1.8**
MORF *i* IAmb IAmb 03 32 21.2
comp=N,312nm,1.4s
MORF Marmelete 81.96 50 *e*P P **03 32 15.1 -0.6**
MORF *e*S **S** **03 42 29.0 -0.9**
PFVI Vila Bisbo 81.96 50 *e*P P **03 32 17.5 +1.9**
PFVI *i* IAmb IAmb 03 32 20.5
comp=N,294nm,1.5s
JWT Wachi 81.96 308 P P **03 32 17.3 +1.6**
MT08 Bocatoma Ro 81.96 141 P P **03 32 16.2 +0.4**
KLMR Klimovskoe 81.96 11 *d* *i*P P **03 32 12.9 -2.3**
KLMR S **S** **03 42 29.0 0.0**
KLMR SSS SSS 03 51 12.1
KLMR pmax pmax
comp=Z,277nm,1.5s
KLMR MLR MLR
comp=Z,121µm,18.0s
PBEJ Beja 81.99 49 *e*P P **03 32 18.0 +2.2**
PBEJ *i* IAmb IAmb 03 32 20.1
comp=Z,90nm,1.6s
TNS Taunus Mts 82.08 32 *e*P P **03 32 19.4 +3.3**
comp=Z,51nm,1.2s,baz=321,slow=5.2
TNS *e*S **ScS** **03 42 45.8 -1.2**
baz=323,slow=10
BO04 La Punta 82.09 142 IAMs_20 IAMs_20 04 01 24.4
comp=Z,149µm,21.0s
PCVE Castro Verde 82.13 49 *e*P P **03 32 18.1 +1.6**
PCVE *i* IAmb IAmb 03 32 21.3
comp=Z,210nm,1.4s
BO01 Tunca 82.18 143 IAMs_20 IAMs_20 04 01 24.6
comp=Z,135µm,22.0s
JCJ Chichijima 82.24 298 LR LR 04 02 23.6
comp=Z,21µm,21.6s,baz=315,slow=31
UBBA Unterbreizbach 82.28 30 *e*P P **03 32 21.0 +4.1**
comp=Z,286nm,1.9s,baz=321,slow=5.2
UBBA *e*S **ScS** **03 42 47.2 -1.1**
baz=323,slow=10
CN2 Changchun 82.29 319 P P **03 32 15.3 -2.0**
CN2 PP **PP** **03 35 25.2 0.0**
CN2 S **S** **03 42 27.5 -5.5**
CN2 pmax pmax
comp=Z,50nm,1.0s
CN2 pmax pmax
comp=Z,2µm,8.0s
CN2 LR LR
comp=Z,39µm,22.0s
CN2 LR LR
comp=Z,45µm,22.0s
CN2 LR LR
comp=Z,42µm,24.0s
PBAR Barrancos 82.39 48 *e*P P **03 32 19.6 +1.7**
PBAR *i* IAmb IAmb 03 32 36.9
comp=Z,130nm,1.7s
PBDV Barranco-do-Ve 82.44 49 *e*P P **03 32 20.3 +2.0**
PBDV *i* IAmb IAmb 03 32 25.2
comp=Z,154nm,1.4s
PVAQ Vaqueiros 82.47 49 *e*P P **03 32 19.9 +1.6**
PVAQ *i* IAmb IAmb 03 32 37.6
comp=Z,164nm,1.6s
PVAQ *e*S **SKSac** **03 42 39.4 -0.3**
PVAQ *e*LQ LQ 03 53 29.6
PVAQ *e*LR LR 03 59 18.0
PVAQ *i* IAMs_20 IAMs_20 04 08 31.9
comp=Z,136µm,18.0s
RUE Ruedersdorf 82.49 28 *e*P P **03 32 21.3 +3.2**
comp=Z,99nm,1.3s,baz=321,slow=5.2
RUE *e*S **ScS** **03 42 44.9 -5.1**
baz=323,slow=10
BO02 Sierra Bellavi 82.65 143 IAMs_20 IAMs_20 04 01 19.1
comp=Z,125µm,22.0s
NEUB Neuenburg 82.70 29 *e*P P **03 32 22.7 +3.5**
comp=Z,123nm,1.2s,baz=321,slow=5.2
NEUB *e*S **ScS** **03 42 48.6 -3.3**
baz=323,slow=10
JAD Aida 82.96 308 P P **03 32 20.7 -0.3**
ECH Echery 83.01 34 P P **03 32 16.6 -4.4**
ECH IAmb IAmb 03 32 42.0
comp=Z,184nm,1.8s
ECH Echery 83.01 34 P P **03 32 16.6 -4.4**
ECH pmax pmax
comp=Z,184nm,1.8s
MOX Moxa 83.08 30 *e*P P **03 32 24.7 +3.5**
comp=Z,125nm,1.3s,baz=321,slow=5.2
MOX *e*pP **PcP** **03 32 30.9 +5.0**
baz=321,slow=5.1
MOX *e*S **ScS** **03 42 57.8 +2.7**
baz=323,slow=10
MOX *e*L L 04 12 15.0
comp=Z,126µm,18.2s
BI05 Punta Hualpn 83.08 146 IAMs_20 IAMs_20 04 03 27.5
comp=Z,128µm,20.0s
PAB San Pablo 83.11 46 IAMs_20 IAMs_20 04 11 57.2
comp=Z,135µm,19.0s
PAB San Pablo 83.11 46 ⇑P P **03 32 23.8 +2.1**
CLL Collm 83.11 29 *e*P P **03 32 21.0 -0.4**
CLL *i* 03 35 33.9
CLL *e*S **SKSac** **03 42 43.0 -0.4**
CLL pmax pmax
comp=Z,121nm,1.2s
CLL pmax pmax
comp=Z,87nm,1.5s
CLL MLR MLR
comp=Z,145µm,19.2s

CLL	**Collm**	**83.11**	**29**	*e*P		**P**	**03 32 24.5**	**+3.1**	
	comp=Z,94nm,1.1s,baz=321,slow=5.2								
CLL				*e*pP		**PcP**	**03 32 30.4**	**+4.4**	
	baz=321,slow=5.1								
CLL				*e*S		**ScS**	**03 42 53.7**	**-1.5**	
	baz=323,slow=10								
ML02	**Panimavida**	**83.12**	**144**	IAMs_20	IAMs_20		04 04 10.5		
	comp=Z,117µm,19.0s								
ESBB	**Sonseca Array**	**83.24**	**45**	P		**P**	**03 32 19.4**	**-3.0**	
ESBB				IAmb	IAmb		03 33 24.6		
	comp=Z,145nm,1.6s								
ESDC	**Sonseca Array**	**83.24**	**45**	P		**P**	**03 32 19.0**	**-3.4**	
ESDC	**Sonseca Array**	**83.24**	**45**	P		**P**	**03 32 21.6**	**-0.8**	
	comp=Z,22nm,0.8s,baz=307,slow=5.4,SNR=80								
ESDC				S		**SKSac**	**03 42 43.4**	**-1.5**	
	comp=Z,1.1nm,1.3s,baz=284,slow=7.2,SNR=1.9								
ESDC				PKKPbc		**PKKPbc**	**03 50 45.0**	**+3.2**	
	comp=Z,1.4nm,1.0s,baz=106,slow=1.4,SNR=7.3								
ESDC				LR		LR	04 07 29.7		
	comp=Z,125µm,18.4s,baz=300,slow=34								
	comp=Z,22nm,0.8s								
BDFB	**Brasilia**	**83.26**	**115**	P		**P**	**03 32 24.2**	**+1.5**	
	comp=Z,24nm,1.1s,baz=311,slow=8.8,SNR=15								
BDFB				S		**S**	**03 42 41.7**	**-2.0**	
	comp=Z,3.4nm,1.0s,baz=332,slow=19,SNR=2.1								
BDFB				LR		LR	04 12 18.3		
	comp=Z,157µm,21.5s,baz=304,slow=38								
	comp=Z,24nm,1.1s								
BDFB	**Brasilia**	**83.26**	**115**	P		**P**	**03 32 24.3**	**+1.5**	
BFO	**Black Forest**	**83.45**	**33**	*e*P		**P**	**03 32 26.3**	**+3.1**	
	comp=Z,81nm,1.1s,baz=321,slow=5.2								
BFO				*e*pP		**sP**	**03 32 32.4**	**+4.6**	
	baz=321,slow=5.1								
BFO				*e*S		**ScS**	**03 43 01.8**	**+3.6**	
	baz=323,slow=10								
STU	**Stuttgart**	**83.49**	**32**	IAMs_20	IAMs_20		04 09 14.4		
	comp=Z,119µm,20.0s								
STU	**Stuttgart**	**83.49**	**32**	*e*P		**P**	**03 32 26.8**	**+3.4**	
	comp=Z,187nm,1.1s,baz=321,slow=5.2								
STU				*e*pP		**sP**	**03 32 33.1**	**+5.1**	
	baz=321,slow=5.1								
STU				*e*S		**ScS**	**03 43 01.8**	**+3.3**	
	baz=323,slow=10								
NBPB	**Pedra_Branca-C**	**83.56**	**101**	P		**P**	**03 32 25.3**	**+1.0**	
NBPB				S		**S**	**03 42 51.2**	**+4.4**	
SDBA	**SAO DESIDERIO**	**83.57**	**110**	P		**P**	**03 32 26.0**	**+1.6**	
SDBA				S		**S**	**03 42 49.6**	**+2.9**	
TANN	**Tannenbergstha**	**83.59**	**30**	*e*P		**P**	**03 32 27.3**	**+3.3**	
	comp=Z,110nm,1.3s,baz=321,slow=5.2								
TANN				*e*pP		**sP**	**03 32 33.3**	**+4.8**	
	baz=321,slow=5.1								
TANN				*e*S		**ScS**	**03 42 59.8**	**+0.4**	
	baz=323,slow=10								
GRF	**Grafenberg Arr**	**83.65**	**31**	*e*P		**P**	**03 32 28.0**	**+3.8**	
	comp=Z,279nm,1.3s,baz=321,slow=5.2								
GRF				*e*S		**ScS**	**03 43 02.7**	**+2.9**	
	baz=323,slow=10								
GRF				*e*L		L	04 08 19.7		
	comp=Z,244µm,19.6s								
NKC	**Novy Kostel**	**83.73**	**30**	*e*P		**P**	**03 32 27.4**	**+2.7**	
NKC				*e*S		**S**	**03 42 55.8**	**+8.3**	
NKC				AMS		AMS	04 11 40.0		
	comp=Z,214µm,16.4s								
NKC	**Novy Kostel**	**83.73**	**30**	*e*P		**P**	**03 32 27.4**	**+2.7**	
NKC				MLR		MLR			
	comp=Z,214µm,16.4s								
MANZ	**Manzenberg**	**83.79**	**30**	*e*P		**P**	**03 32 28.0**	**+3.0**	
	comp=Z,22nm,1.3s,baz=321,slow=5.2								
MANZ				*e*pP		**sP**	**03 32 34.0**	**+4.6**	
	baz=321,slow=5.1								
MANZ				*e*S		**ScS**	**03 43 03.3**	**+2.3**	
	baz=323,slow=10								
NBCL	**Cascavel-CE**	**83.81**	**100**	P		**P**	**03 32 28.1**	**+2.6**	
NBCL				S		**S**	**03 42 51.5**	**+2.2**	
BRG	**Berggiesshubel**	**83.82**	**28**	*e*P		**P**	**03 32 28.5**	**+3.4**	
	comp=Z,128nm,1.2s,baz=321,slow=5.2								
BRG				*e*S		**ScS**	**03 43 02.1**	**+1.0**	
	baz=323,slow=10								
JMN	**Monobe**	**83.91**	**307**	P		**P**	**03 32 29.1**	**+3.2**	
	comp=Z,191nm,1.7s								
JMN	**Monobe**	**83.91**	**307**	P		**P**	**03 32 28.4**	**+2.4**	
BI02	**San Fabin de**	**83.91**	**144**	P		**P**	**03 32 25.3**	**-0.3**	
BI02				IAMs_20	IAMs_20		04 04 25.5		
	comp=Z,121µm,20.0s								
SSB	**Saint Sauveur**	**83.92**	**37**	P		**P**	**03 32 24.9**	**-0.8**	
SSB	**Saint Sauveur**	**83.92**	**37**	P		**P**	**03 32 25.0**	**-0.8**	
SSB				pmax	pmax				
	comp=Z,58nm,1.1s								
SSB				MLR	MLR				
	comp=Z,200µm,18.0s								
CPUP	**Villa Florida**	**83.95**	**128**	P		**P**	**03 32 25.4**	**-0.6**	
	comp=Z,8.3nm,1.0s,baz=180,slow=6.4,SNR=14								
CPUP				S		**SKSac**	**03 42 46.1**	**-3.1**	
	comp=Z,0.9nm,1.1s,baz=46,slow=20,SNR=1.6								
CPUP				LR		LR	04 10 39.5		
	comp=Z,17µm,19.8s,baz=190,slow=36								
	comp=Z,8.3nm,1.0s								
CPUP	**Villa Florida**	**83.95**	**128**	P		**P**	**03 32 29.0**	**+3.1**	
CPUP				S		**S**	**03 42 52.5**	**+2.5**	
ROTZ	**Rotzenmuhle**	**84.00**	**30**	*e*P		**P**	**03 32 29.1**	**+3.1**	
	comp=Z,17nm,1.2s,baz=321,slow=5.2								
ROTZ				*e*S		**ScS**	**03 43 06.4**	**+3.8**	
	baz=323,slow=10								
RICC	**Richard**	**84.14**	**29**	*e*P		**P**	**03 32 29.9**	**+3.2**	
RICC				*e*S		S	03 43 00.8	+9.3	
RICC				AMS		AMS	04 11 20.0		
	comp=Z,161µm,17.1s								
CEST	**Esterri de Car**	**84.15**	**41**	P		**P**	**03 32 23.8**	**-3.3**	
CEST				IAMs_20	IAMs_20		04 08 58.5		
	comp=Z,96µm,18.0s								
ITRB	**Iturama**	**84.17**	**119**	P		P	03 32 32.7	+5.4	
ITRB				S		**S**	**03 42 56.9**	**+4.3**	
ITU3	**Corumbazu**	**84.28**	**117**	P		**P**	**03 32 29.9**	**+2.1**	
PVCC	**Panska Ves**	**84.33**	**28**	*e*P		**P**	**03 32 30.5**	**+2.8**	
PVCC				*e*S		**S**	**03 43 00.1**	**+6.7**	
PVCC				AMS		AMS	04 11 30.0		
	comp=Z,159µm,16.6s								
PVCC	**Panska Ves**	**84.33**	**28**	*e*P		**P**	**03 32 30.5**	**+2.8**	
PVCC				*e*			03 43 00.1		
PVCC				MLR		MLR			
	comp=Z,159µm,16.6s								
SUW	**Suwalki**	**84.43**	**22**	P		**P**	**03 32 25.5**	**-2.6**	
SUW	**Suwalki**	**84.43**	**22**	P		**P**	**03 32 25.5**	**-2.6**	
SUW				MLR		MLR			
	comp=Z,148µm,19.0s								
SENIN	**Lac Senin/Sane**	**84.45**	**35**	P		**P**	**03 32 28.1**	**-0.5**	
SENIN				IAmb		IAmb	03 32 50.0		
	comp=Z,173nm,1.9s								
SACV	**Santiago Islan**	**84.59**	**76**	IAMs_20	IAMs_20		04 17 28.1		
	comp=Z,105µm,18.0s								
IPMB	**Ipameri, GO**	**84.61**	**117**	S		**S**	**03 42 58.8**	**+1.8**	
TRCB	**Terra Rica**	**84.63**	**123**	IAMs_20	IAMs_20		04 10 18.3		
	comp=Z,96µm,21.0s								
TRCB	**Terra Rica**	**84.63**	**123**	P		**P**	**03 32 31.7**	**+2.1**	
TRCB				S		**S**	**03 42 58.4**	**+1.3**	
PRA	**Prague**	**84.65**	**29**	*e*P		**P**	**03 32 32.6**	**+3.3**	
PRA				AMS		AMS	04 12 10.0		
	comp=Z,204µm,16.5s								
PRA	**Prague**	**84.65**	**29**	*e*P		**P**	**03 32 32.6**	**+3.3**	
PRA				MLR		MLR			
	comp=Z,204µm,16.5s								
SNY	**Shenyang**	**84.65**	**319**	⇓P		**P**	**03 32 30.2**	**+0.8**	
SNY				PP		PP	03 35 52.7	+8.2	
SNY				pmax	pmax				
	comp=Z,80nm,0.9s								
SNY				pmax	pmax				
	comp=Z,3µm,11.0s								
SNY				LR		LR			
	comp=Z,29µm,15.2s								
SNY				LR		LR			
	comp=Z,57µm,36.0s								
PRU	**Pruhonice**	**84.75**	**29**	*e*P		**P**	**03 32 32.0**	**+2.2**	
PRU				*e*S		S	03 43 07.1	+9.5	
PRU				AMS		AMS	04 10 30.0		
PRU	**Pruhonice**	**84.75**	**29**	*e*P		**P**	**03 32 32.0**	**+2.2**	
PRU				MLR		MLR			
	comp=N,166µm,18.8s								
WET	**Wettzell**	**84.76**	**30**	*e*P		**P**	**03 32 32.8**	**+2.9**	
	comp=N,59nm,1.2s,baz=321,slow=5.2								
WET				*e*S		**ScS**	**03 43 13.4**	**+4.4**	
	baz=323,slow=10								
PCMB	**Pacaembu**	**84.79**	**121**	P		**P**	**03 32 33.0**	**+2.6**	
PCMB				S		**S**	**03 43 03.1**	**+4.5**	
FUR	**Furstenfeldbru**	**84.85**	**32**	*e*P		**P**	**03 32 33.8**	**+3.4**	
	comp=N,94nm,1.1s,baz=321,slow=5.2								
FUR				*e*S		**ScS**	**03 43 13.4**	**+3.6**	
	baz=323,slow=10								
CHVC	**Chvalec**	**84.85**	**28**	*e*P		**P**	**03 32 33.4**	**+3.0**	
CHVC				*e*S		**S**	**03 43 07.1**	**+8.4**	
CHVC				AMS		AMS	04 05 20.0		
	comp=N,137µm,23.8s								
CHVC	**Chvalec**	**84.85**	**28**	*e*P		**P**	**03 32 33.4**	**+3.0**	
CHVC				MLR		MLR			
	comp=Z,137µm,23.8s								
UPC	**Upice**	**84.90**	**28**	*e*S		S	03 43 08.6	+9.5	
UPC				AMS		AMS	04 11 00.0		
	comp=Z,120µm,16.9s								
GOPC	**GO Pecny, Ondr**	**84.91**	**29**	*e*P		**P**	**03 32 33.2**	**+2.6**	
GOPC				AMS		AMS	04 12 20.0		
	comp=Z,216µm,16.6s								
GOPC	**GO Pecny, Ondr**	**84.91**	**29**	*e*P		**P**	**03 32 33.2**	**+2.6**	
GOPC				MLR		MLR			
	comp=Z,216µm,16.6s								
DAVA	**Damuels**	**84.92**	**33**	*i* PcP		**PcP**	**03 32 34.2**	**-0.1**	
	comp=Z,28nm,1.1s,SNR=12								
DAVA	**Damuels**	**84.92**	**33**	*e*PKiKP		**PKKPbc**	**03 50 34.3**	**-4.0**	
	comp=Z,8.3nm,1.6s								
DAVA	**Damuels**	**84.92**	**33**	*i* PP		**P'P'df**	**03 58 44.1**	**-6.8**	
	comp=Z,4.9nm,1.1s								
OSTC	**Ostas**	**84.94**	**28**	*e*P		**P**	**03 32 33.2**	**+2.4**	
OSTC				AMS		AMS	04 05 20.0		
	comp=Z,149µm,24.1s								
OSTC	**Ostas**	**84.94**	**28**	*e*P		**P**	**03 32 33.2**	**+2.4**	
OSTC				MLR		MLR			
	comp=Z,149µm,24.1s								
SFA1	**Serra Facao**	**84.97**	**116**	S		**S**	**03 43 04.6**	**+3.9**	
KHC	**Kasperske Hory**	**85.05**	**30**	*e*P		**P**	**03 32 32.9**	**+1.5**	
KHC				*e*PP		PP	03 35 57.3	+10	
KHC				*e*S		**S**	**03 43 09.3**	**+8.6**	
KHC				AMS		AMS	04 12 20.0		
	comp=Z,215µm,17.3s								
KHC	**Kasperske Hory**	**85.05**	**30**	*e*P		**P**	**03 32 32.9**	**+1.5**	
KHC				*e*			03 35 57.3		
KHC				MLR		MLR			
	comp=Z,215µm,17.3s								
ZVC	**Zvikov**	**85.05**	**29**	*e*P		**P**	**03 32 33.0**	**+1.7**	
ZVC				*e*S		**S**	**03 43 08.6**	**+7.9**	
ZVC				AMS		AMS	04 08 50.0		
	comp=Z,166µm,19.4s								
IRK	**Irkutsk**	**85.07**	**336**	*e*P		**P**	**03 32 31.8**	**+0.4**	
IRK				*e*S		**S**	**03 43 04.6**	**+3.9**	
IRK				pmax	pmax				
	comp=Z,1µm,2.2s								
DPC	**Dobruska-Polom**	**85.15**	**28**	*e*P		**P**	**03 32 32.2**	**+0.3**	
DPC				AMS		AMS	04 11 10.0		
	comp=Z,108µm,17.0s								
DPC	**Dobruska-Polom**	**85.15**	**28**	*e*P		**P**	**03 32 32.2**	**+0.3**	
DPC				MLR		MLR			
	comp=Z,108µm,17.0s								
RETA	**Reutte**	**85.15**	**32**	*i* PcP		**PcP**	**03 32 35.5**	**+0.3**	
	comp=Z,48nm,1.3s,SNR=26								
RETA	**Reutte**	**85.15**	**32**	*e*PKiKP		**PKKPbc**	**03 50 35.1**	**-2.5**	
	comp=Z,6.4nm,1.9s								
RETA	**Reutte**	**85.15**	**32**	*i* PP		**P'P'df**	**03 58 42.6**	**-7.8**	
	comp=Z,6.3nm,1.5s								
KSRS	**Korea Array**	**85.19**	**313**	P		**P**	**03 32 31.9**	**-0.3**	
	comp=Z,57nm,0.9s,baz=57,slow=4.8,SNR=33								
KSRS				PP		**PP**	**03 35 52.5**	**+3.5**	
	comp=Z,12nm,1.1s,baz=46,slow=7.6,SNR=4.0								
KSRS				S		**SKSac**	**03 42 54.4**	**-2.8**	
	comp=Z,0.4nm,0.4s,baz=1.2,slow=38,SNR=1.0								
KSRS				LR		LR	04 04 51.8		
	comp=Z,14393µm,21.5s,baz=75,slow=32								
	comp=Z,57nm,0.9s								
KSAR	**Wonju Array Be**	**85.22**	**313**	P		**P**	**03 32 31.1**	**-1.3**	
KSAR	**Wonju Array Be**	**85.22**	**313**	P		**P**	**03 32 31.1**	**-1.3**	
TUE	**Stuetta**	**85.30**	**34**			**P**	**03 32 34.0**	**+1.1**	
R9F13	**Warsaw-Wawer**	**85.31**	**24**	*e*P		**P**	**03 32 34.5**	**+2.0**	
	comp=Z,4.2nm,1.1s								
R9F13				*e*PP		**PP**	**03 35 52.2**	**+2.8**	
R9F13				*e*S		**S**	**03 42 59.8**	**-3.2**	
GEC2	**GERESS Array S**	**85.33**	**30**	*e*P		**P**	**03 32 35.5**	**+2.6**	
	comp=Z,60nm,1.3s,baz=321,slow=5.2								
GEC2				*e*pP		**sP**	**03 32 41.8**	**+4.5**	
	baz=321,slow=5.1								
GEC2				*e*S		**ScS**	**03 43 17.1**	**+3.3**	
	baz=323,slow=10								
GERES	**GERESS Array B**	**85.33**	**30**	P		**P**	**03 32 32.7**	**-0.1**	
	comp=Z,20nm,1.0s,baz=328,slow=4.7,SNR=67								
GERES				S		**SKSac**	**03 42 55.0**	**-3.1**	
	comp=Z,0.2nm,0.4s,baz=281,slow=41,SNR=1.1								
GERES				PKKPbc		**PKKPbc**	**03 50 37.1**	**-0.1**	
	comp=Z,0.3nm,0.5s,baz=147,slow=37,SNR=4.8								
GERES				PKPPKP		**P'P'df**	**03 58 43.8**	**-6.4**	
	comp=Z,1.2nm,0.8s,baz=173,slow=2.3,SNR=8.6								
GERES				LR		LR	04 12 29.0		
	comp=Z,187µm,18.0s,baz=323,slow=37								
	comp=Z,20nm,1.0s								
MNK	**Minsk**	**85.35**	**19**	*i* P		**P**	**03 32 35.3**	**+2.6**	
MNK				*i*			03 32 40.8		
MNK				*i*			03 35 52.7		
MNK				*i* PPP		PPP	03 37 45.8		
MNK				*i* S		**S**	**03 43 01.2**	**-2.2**	
MNK				*i* SS		**SS**	**03 48 41.6**	**+5.1**	
MNK				pmax	pmax				
	comp=Z,105nm,0.8s								
MNK				pmax	pmax				
	comp=N,16nm,0.8s								
MNK				pmax	pmax				
	comp=E,38nm,0.7s								
MNK				MLR	MLR				
	comp=N,94µm,18.0s								
MNK				MLR	MLR				
	comp=Z,138µm,16.0s								
MNK				MLR	MLR				
	comp=E,116µm,19.0s								
MOTA	**Moosalm**	**85.41**	**32**	*e*PcP		**PcP**	**03 32 37.5**	**+1.1**	
	comp=E,56nm,1.6s,SNR=21								
MOTA	**Moosalm**	**85.41**	**32**	*i* PKiKP		**PKKPbc**	**03 50 34.8**	**-2.4**	
	comp=E,4.7nm,0.7s								
MOTA	**Moosalm**	**85.41**	**32**	*i* PP		**P'P'df**	**03 58 47.6**	**-2.4**	
	comp=E,8.5nm,1.3s								
KIRV	**Kirov**	**85.42**	**7**	LR		LR	04 14 57.9		
	comp=E,73µm,18.7s,baz=348,slow=39								
KIRV	**Kirov**	**85.42**	**7**	⇑*i*P		**P**	**03 32 31.8**	**-1.1**	
FETA	**Feichten**	**85.50**	**33**	*i* PcP		**PcP**	**03 32 37.4**	**+0.6**	
	comp=E,48nm,2.0s,SNR=21								
FETA	**Feichten**	**85.50**	**33**	*i* pPKiKP		**PKKPbc**	**03 50 36.9**	**-0.1**	
	comp=E,5.0nm,1.1s								
FETA	**Feichten**	**85.50**	**33**	*e*PP		**P'P'df**	**03 58 47.3**	**-2.5**	
	comp=E,4.1nm,1.4s								
KRLC	**Kraliky**	**85.54**	**27**	*e*P		**P**	**03 32 36.8**	**+3.0**	
KRLC				*e*SKS		**S**	**03 43 13.5**	**+7.9**	
KRLC				AMS		AMS	04 13 00.0		
	comp=E,131µm,17.4s								
KRLC	**Kraliky**	**85.54**	**27**	*e*P		**P**	**03 32 36.8**	**+3.0**	
KRLC				MLR		MLR			
	comp=Z,131µm,17.4s								
LR04	**Corral**	**85.54**	**147**	IAMs_20	IAMs_20		04 04 45.7		
	comp=Z,96µm,22.0s								
SQTA	**Sankt Quirin**	**85.55**	**32**	*i* PcP		**PcP**	**03 32 37.9**	**+0.9**	
	comp=Z,44nm,1.2s,SNR=19								
SQTA	**Sankt Quirin**	**85.55**	**32**	*i* PKiKP		**PKKPbc**	**03 50 35.5**	**-1.3**	
	comp=Z,4.2nm,0.9s								
SQTA	**Sankt Quirin**	**85.55**	**32**	*i* PP		P'P'df	03 58 41.6	-8.1	
	comp=Z,4.8nm,1.0s								
CKRC	**Cesky Krumlov**	**85.59**	**30**	*e*P		**P**	**03 32 37.0**	**+2.9**	
CKRC				*e*SKS		**S**	**03 43 12.1**	**+6.1**	
CKRC				AMS		AMS	04 10 00.0		
	comp=Z,160µm,18.1s								
CKRC	**Cesky Krumlov**	**85.59**	**30**	*e*P		**P**	**03 32 37.0**	**+2.9**	
CKRC				*e*			03 43 12.1		
CKRC				MLR		MLR			
	comp=Z,160µm,18.1s								
WATA	**Walderalm**	**85.62**	**32**	*i* PcP		**PcP**	**03 32 38.4**	**+1.1**	
	comp=Z,40nm,1.2s,SNR=16								
WATA	**Walderalm**	**85.62**	**32**	*i* PP		**P'P'df**	**03 58 46.3**	**-3.3**	
	comp=Z,9.1nm,1.5s								
JANB	**Januaria**	**85.66**	**112**	P		**P**	**03 32 39.3**	**+4.4**	
JANB				S		**S**	**03 43 11.1**	**+3.5**	
TREC	**Trest**	**85.68**	**29**	*e*P		**P**	**03 32 36.6**	**+2.1**	
TREC				*e*S		**S**	**03 43 13.5**	**+6.6**	
TREC				AMS		AMS	04 12 50.0		
	comp=Z,258µm,16.3s								
TREC	**Trest**	**85.68**	**29**	*e*P		**P**	**03 32 36.6**	**+2.1**	
TREC				*e*			03 43 13.5		
TREC				MLR		MLR			
	comp=Z,258µm,16.3s								
WTTA	**Wattenberg**	**85.70**	**32**	*i* PcP		**PcP**	**03 32 38.6**	**+0.8**	
	comp=Z,50nm,1.7s,SNR=17								
WTTA	**Wattenberg**	**85.70**	**32**	*e*PKiKP		**PKKPbc**	**03 50 35.5**	**-1.0**	
	comp=Z,8.3nm,1.7s								
WTTA	**Wattenberg**	**85.70**	**32**	*e*PP		**P'P'df**	**03 58 42.0**	**-7.5**	
	comp=Z,9.1nm,1.6s								
RJOB	**Jochberg**	**85.83**	**31**	*e*P		**P**	**03 32 38.6**	**+3.2**	
	comp=Z,25nm,1.2s,baz=321,slow=5.2								
RJOB				*e*pP		**sP**	**03 32 44.7**	**+4.9**	
	baz=321,slow=5.1								
RJOB				*e*S		**ScS**	**03 43 23.7**	**+5.8**	
	baz=323,slow=10								
INCN	**Inchon**	**85.93**	**314**	P		**P**	**03 32 38.6**	**+2.7**	
	comp=Z,101nm,2.4s								
LESA	**Schwarzleotal**	**86.02**	**31**	*e*PcP		**PcP**	**03 32 39.4**	**+0.4**	
	comp=Z,28nm,2.0s,SNR=12								
LESA	**Schwarzleotal**	**86.02**	**31**	*e*pPKiKP		**PKKPbc**	**03 50 37.6**	**+2.0**	
	comp=Z,4.0nm,1.1s								
LESA	**Schwarzleotal**	**86.02**	**31**	*i* PP		**P'P'df**	**03 58 46.5**	**-2.3**	
	comp=Z,1.0nm,0.6s								
STEB	**Steborice**	**86.03**	**27**	*e*P		**P**	**03 32 38.4**	**+2.2**	
MORC	**Moravsky Berou**	**86.07**	**27**	⇑P		**P**	**03 32 39.3**	**+2.8**	
VRAC	**Vranov**	**86.09**	**28**	LR		LR	04 11 33.4		
	comp=Z,74µm,18.6s,baz=315,slow=36								
VRAC	**Vranov**	**86.09**	**28**	⇑P		**P**	**03 32 37.1**	**+0.6**	
BIOA	**Bad Ischl, Aus**	**86.21**	**31**	*e*PcP		**PcP**	**03 32 40.4**	**+0.6**	
	comp=Z,42nm,1.7s,SNR=20								
BIOA	**Bad Ischl, Aus**	**86.21**	**31**	*e*PP		**P'P'df**	**03 58 48.2**	**-0.1**	
	comp=Z,1.9nm,0.9s								
JNU	**Nakatsue**	**86.22**	**309**	LR		LR	04 07 49.1		
	comp=Z,38µm,20.5s,baz=60,slow=33								
JNU	**Nakatsue**	**86.22**	**309**	P		P	03 32 43.0	+5.5	
	comp=Z,52nm,1.5s								
TJN	**Taejon**	**86.24**	**313**	IAMs_20	IAMs_20		04 14 45.7		
	comp=Z,112µm,20.0s								
TJN	**Taejon**	**86.24**	**313**	P		**P**	**03 32 37.4**	**-0.1**	
	comp=Z,312nm,1.3s								
TJN	**Taejon**	**86.24**	**313**	⇑*i*P		**P**	**03 32 36.4**	**-1.1**	
OKC	**Ostrava-Krasne**	**86.25**	**27**	*e*P		**P**	**03 32 40.8**	**+3.6**	
OKC				*e*S		**S**	**03 43 18.5**	**+6.2**	
OKC				AMS		AMS	04 16 20.0		
	comp=Z,113µm,15.5s								
OKC	**Ostrava-Krasne**	**86.25**	**27**	*e*P		**P**	**03 32 40.8**	**+3.6**	
OKC				*e*			03 43 18.5		
OKC				MLR		MLR			
	comp=Z,113µm,15.5s								
PTGB	**Pitanga**	**86.30**	**124**	P		**P**	**03 32 40.6**	**+2.8**	
PTGB				S		**S**	**03 43 15.8**	**+2.2**	
MOA	**Molln**	**86.35**	**30**	*e*PcP		**PcP**	**03 32 39.6**	**-0.7**	
	comp=Z,46nm,1.7s,SNR=22								
MOA	**Molln**	**86.35**	**30**	*e*PKiKP		**PKKPbc**	**03 50 35.7**	**+0.9**	
	comp=Z,4.1nm,1.1s								
MOA	**Molln**	**86.35**	**30**	*i* PP		**P'P'df**	**03 58 54.6**	**+6.5**	
	comp=Z,5.0nm,1.7s								
BB19B	**Bebedouro**	**86.36**	**119**	P		P	03 32 44.5	+6.3	
BB19B				S		**S**	**03 43 16.8**	**+2.6**	
CART	**Cartagena**	**86.36**	**45**	IAMs_20	IAMs_20		04 09 24.4		
	comp=Z,96µm,20.0s								
LR05	**Currie**	**86.46**	**147**	IAMs_20	IAMs_20		04 05 37.9		
	comp=Z,120µm,21.0s								
MOS	**Moscow**	**86.47**	**14**	*e*P		**P**	**03 32 37.2**	**-1.0**	
MOS				*e*PPP		PPP	03 37 53.9		
MOS				*e*S		**SKSac**	**03 43 00.8**	**-3.9**	
MOS				*e*			03 44 09.3		
MOS				*e*			03 44 34.0		
MOS				*e*SS		**SS**	**03 49 02.9**	**+10**	
MOS				*e*SSS		SSS	03 52 28.8		
MOS				pmax	pmax				
	comp=E,700nm,3.8s								
MOS				pmax	pmax				
	comp=Z,1µm,3.5s								
MOS				pmax	pmax				
	comp=N,124nm,1.3s								
MOS				pmax	pmax				
	comp=Z,165nm,1.3s								
MOS				pmax	pmax				
	comp=N,1µm,3.7s								
MOS				pmax	pmax				
	comp=E,32nm,0.8s								
MOS				smax	smax				
	comp=E,11µm,6.2s								
MOS				smax	smax				
	comp=N,10µm,7.5s								
MOS				MLR	MLR				
	comp=Z,75µm,17.0s								
MOS				MLR	MLR				
	comp=N,66µm,16.0s								
ABTA	**Abfaltersbach**	**86.48**	**32**	*i* PcP		**PcP**	**03 32 41.3**	**+0.3**	
	comp=N,16nm,1.5s,SNR=11								
MAUC	**Maruska**	**86.52**	**27**	*e*P		**P**	**03 32 41.6**	**+3.0**	
KBA	**Koel

comp=Z,24nm,1.1s,baz=326,slow=5.7,SNR=27
PLCA S **SKSac** **03 43 11.3 +0.1**
comp=Z,2.0nm,1.0s,baz=48,slow=24,SNR=1.7
PLCA LR LR 04 05 30.8
comp=Z,101μm,18.8s,baz=324,slow=31
comp=Z,24nm,1.1s
PLCA Paso Flores 87.52 146 P **P** **03 32 47.0 +3.6**
PLCA S **S** **03 43 27.4 +2.7**
OBKA Obir 87.53 31 *e*PcP **PcP** **03 32 45.6 -0.1**
comp=Z,35nm,0.9s,SNR=29
OBKA Obir 87.53 31 *e*PKiKP **PKKPbc** **03 50 36.3 +4.3**
comp=Z,3.7nm,1.5s
OBKA Obir 87.53 31 *i* PP P'P'df 03 59 00.4 +14
comp=Z,3.0nm,0.9s
SOKA Soboth 87.60 30 *e*PcP **PcP** **03 32 45.8 -0.2**
comp=Z,34nm,1.0s,SNR=30
SOKA Soboth 87.60 30 *i* PKiKP **PKKPbc** **03 50 34.5 +2.7**
comp=Z,5.4nm,1.5s
SOKA Soboth 87.60 30 *i* PP P'P'df 03 58 59.3 +13
comp=Z,3.9nm,1.2s
VYHS Vyhne 87.61 27 *e*P **P** **03 32 46.0 +2.0**
VYHS pmax pmax
comp=Z,82nm,1.9s
MAHO Mahon 87.67 41 IAMs_20 IAMs_20 04 15 49.6
comp=Z,107μm,18.0s
ULN Ulaanbaatar 87.70 332 **P** **03 32 44.1 -0.5**
ULN Ulaanbaatar 87.70 332 IAMs_20 IAMs_20 04 13 49.8
comp=Z,124μm,21.0s
ULN Ulaanbaatar 87.70 332 ⇑P **P** **03 32 46.1 +1.5**
STHS Stebnicka Huta 87.71 25 *e*P **P** **03 32 45.3 +0.9**
STHS pmax pmax
comp=Z,30nm,0.9s
DL2 Dalian 87.77 318 P **P** **03 32 47.5 +2.7**
DL2 S **S** **03 43 25.7 -1.7**
DL2 pmax pmax
comp=Z,190nm,1.1s
DL2 pmax pmax
comp=Z,2μm,10.2s
DL2 LR LR
comp=Z,68μm,19.8s
DL2 LR LR
comp=Z,58μm,21.0s
SVE Sverdlovsk 87.80 1 *e*P **P** **03 32 44.2 -0.4**
SVE *e* 03 36 12.5
SVE *e*S **SKSac** **03 43 09.8 -3.0**
SVE *e*SS **SS** **03 49 10.4 -1.6**
SVE *e*SSS SSS 03 52 42.9
SVE pmax pmax
comp=Z,145nm,1.5s
SVE MLR MLR
comp=Z,94μm,19.0s
SVE MLR MLR
comp=E,75μm,19.0s
LL07 Hotel Espejo d 87.95 149 IAMs_20 IAMs_20 04 07 00.4
comp=Z,93μm,21.0s
SRO Srobarova 87.98 28 *e*P **P** **03 32 48.8 +3.1**
SRO pmax pmax
comp=Z,29nm,1.0s
SONM Songino Array 87.98 332 P **P** **03 32 46.0 +0.1**
comp=Z,28nm,0.8s,baz=28,slow=4.8,SNR=31
SONM PP **PP** **03 36 14.8 +3.5**
comp=Z,14nm,1.1s,baz=34,slow=7.2,SNR=4.3
SONM S **SKSac** **03 43 15.8 +1.2**
comp=Z,0.4nm,0.6s,baz=103,slow=28,SNR=1.0
SONM PKKPbc **PKKPbc** **03 50 30.5 -0.5**
comp=Z,3.4nm,1.1s,baz=212,slow=3.7,SNR=8.6
SONM PKPPKP P'P'df 03 58 33.9 -11
comp=Z,0.4nm,0.5s,baz=256,slow=0.6,SNR=4.1
SONM LR LR 04 13 19.9
comp=Z,95μm,19.4s,baz=24,slow=36
comp=Z,28nm,0.8s
LL01 San Ignacio de 88.03 148 IAMs_20 IAMs_20 04 08 03.4
comp=Z,79nm,19.0s
GO07 Milladeo Hill, 88.10 149 IAMs_20 IAMs_20 04 07 06.5
comp=Z,118μm,19.0s
DIAM Diamantina, MG 88.14 114 P P 03 32 52.2 +5.2
DIAM S **S** **03 43 33.1 +1.4**
GUMO Guam 88.15 285 LR LR 04 05 07.7
comp=Z,37μm,20.9s,baz=55,slow=31
GUMO Guam 88.15 285 P **P** **03 32 48.4 +1.4**
comp=Z,128nm,1.2s
ARTI Arti 88.19 2 P P 03 32 40.2 -6.3
ARTI IAMs_20 IAMs_20 04 13 42.5
comp=Z,131μm,20.0s
ARTI Arti 88.19 2 LR LR 04 15 23.3
comp=Z,81μm,20.2s,baz=349,slow=38
ARTI Arti 88.19 2*c* *i*P **P** **03 32 45.9 -0.6**
ARTI 03 36 16.7
ARTI S **SKSac** **03 43 13.8 -1.4**
ARTI pmax pmax
comp=Z,31nm,0.8s
ARTI MLR MLR
comp=Z,158μm,22.0s
KECS Kecovo 88.23 26 *e*P **P** **03 32 50.4 +3.5**
KECS pmax pmax
comp=Z,27nm,0.9s
KOLS Kolonicke sedl 88.48 25 *e*P **P** **03 32 49.5 +1.4**
KOLS pmax pmax
comp=Z,19nm,1.0s
PSZ Piszkesteto 88.48 27 ⇓P **P** **03 32 51.1 +2.9**
ZALV Zalesovo Beam 88.61 347 P **P** **03 32 47.2 -1.3**
ZALV Zalesovo Beam 88.61 347 P **P** **03 32 47.6 -1.0**
comp=Z,20nm,0.6s,baz=27,slow=4.6,SNR=38
ZALV S **SKSac** **03 43 16.8 -0.9**
comp=Z,0.3nm,0.3s,baz=125,slow=31,SNR=0.9
ZALV LR LR 04 19 09.1
comp=Z,70μm,19.0s,baz=16,slow=40
comp=Z,20nm,0.6s
NBAN Anadia - AL 88.64 103 P **P** **03 32 50.4 +1.1**
NBAN S **S** **03 43 36.6 +0.2**
VABB Valinhos 88.71 120 S **S** **03 43 39.2 +2.5**
SPB Sao Paulo 88.76 120 IAMs_20 IAMs_20 04 13 06.7
comp=Z,145μm,22.0s
TIJ01 Guaruva-PR 88.78 123 P P 03 32 55.1 +5.3
TIJ01 S **S** **03 43 41.7 +4.3**
CASP Castiglione de 88.81 35 IAMs_20 IAMs_20 04 11 22.4
comp=Z,108μm,19.0s
LL02 Futaleuf 88.93 148 IAMs_20 IAMs_20 04 08 40.3
comp=Z,79μm,19.0s
BSCB Bom Sucesso 89.02 117 P **P** **03 32 53.8 +2.7**
BSCB S **S** **03 43 39.9 +0.1**
AKASG Malin Array Be 89.12 20 P **P** **03 32 50.1 -0.9**
comp=Z,29nm,0.9s,baz=329,slow=3.9,SNR=42
AKASG S **SKSac** **03 43 23.2 +2.3**
comp=Z,0.4nm,0.4s,baz=257,slow=33,SNR=1.0
AKASG PKKPbc **PKKPbc** **03 50 27.1 -1.1**
comp=Z,1.0nm,0.6s,baz=104,slow=1.5,SNR=4.7
AKASG PKPPKP 03 58 34.0
comp=Z,0.7nm,0.6s,baz=163,slow=1.5,SNR=5.6
AKASG LR LR 04 12 25.9
comp=Z,96μm,21.5s,baz=329,slow=35
comp=Z,29nm,0.9s
AKBB Malin Array Si 89.12 20 *e*P **P** **03 32 49.7 -1.3**
AKBB pmax pmax
comp=Z,67nm,1.1s
AKBB MLR MLR
comp=Z,183μm,17.0s
KIEV Kiev 89.12 20 ⇓P **P** **03 32 51.8 +0.8**
CPSB Cacapava Do Su 89.23 129 S **S** **03 43 42.5 +1.3**
PET01 Itanhaem-SP 89.31 121 P P 03 32 57.2 +5.0
PET01 S **S** **03 43 42.8 +0.6**
CMC01 Camacan, BA 89.49 109 P **P** **03 32 55.2 +2.0**
TRQA Tornquist 89.67 139 P **P** **03 32 55.9 +2.3**
TRQA S **S** **03 43 43.4 -1.7**
LPSR Galich'ya Gora 89.69 14 *e*P **P** **03 32 55.0 +1.3**
LPSR *e*S **S** **03 43 44.8 -0.3**
LPSR pmax pmax
comp=Z,60nm,0.9s
LPSR smax smax
comp=N,15μm,13.7s
LPSR MLR MLR
comp=Z,141μm,19.0s
CESX Cesi 89.75 34 IAMs_20 IAMs_20 04 11 57.3
comp=Z,111μm,18.0s
BJI Beijing 89.80 322 P **P** **03 32 53.5 -0.9**
BJI LR LR
comp=Z,14μm,22.0s
BJI LR LR
comp=Z,33μm,22.8s
BJI LR LR
comp=Z,37μm,29.9s
BJT Baijiatuau 89.82 322 P **P** **03 32 56.8 +2.3**
comp=Z,53nm,1.5s
PARB Paraibuna 89.88 119 S **S** **03 43 49.0 +1.3**
BMR Baia Mare 89.98 25 ⇑P **P** **03 32 58.1 +3.0**
GUA01 Guaratinga, BA 90.01 110 P **P** **03 32 57.8 +2.2**
GUA01 S **S** **03 43 48.7 -0.3**
PLTB Pedras Altas 90.05 130 P **P** **03 32 58.7 +3.1**
PLTB S **S** **03 43 49.0 +0.2**
MAJ01 Sao Joao Batis 90.13 124 S **S** **03 43 50.5 +0.8**
SJMB Sao Joao De Ma 90.25 113 P **P** **03 32 59.2 +2.5**
SJMB S **S** **03 43 51.0 -0.1**
BBTS Babate 90.30 72 LR LR 04 09 33.9
comp=Z,128μm,21.9s,baz=188,slow=33
VSL Villasalto 90.61 38 IAMs_20 IAMs_20 04 11 49.2
comp=Z,102μm,19.0s
BURAR Bucovina Array 90.61 24 ⇑P **P** **03 33 00.9 +2.7**
VORR Voronezh 90.63 14 P **P** **03 32 58.2 +0.2**
VORR pmax pmax
comp=Z,81nm,1.0s
COYC Coyhaique 90.77 150 IAMs_20 IAMs_20 04 06 16.0
comp=Z,109μm,20.0s
VAS01 Vassouras-RJ 90.78 117 S **S** **03 43 55.5 -0.4**
CJR Cluj-Napoca 90.84 26 ⇑P **P** **03 33 02.3 +3.1**
VSR Storozhevoye 91.06 14 *e*P **P** **03 33 01.3 +1.3**
VSR *e*S **S** **03 43 57.1 -0.6**
VSR pmax pmax
comp=Z,80nm,1.4s
VSR smax smax
comp=N,12μm,13.2s
VSR MLR MLR
comp=Z,128μm,19.0s
BZS Buzias 91.06 27 ⇑P **P** **03 33 02.5 +2.3**
SORM Soroca 91.15 22 ⇑P **P** **03 33 02.0 +1.5**
DEV Deva 91.31 26 ⇑P **P** **03 33 04.7 +3.4**
BELG Belogornoye 91.31 9 LR LR 04 16 29.7
comp=Z,134μm,18.5s,baz=341,slow=37
BELG Belogornoye 91.31 9 *i* P **P** **03 32 58.9 -2.3**
BELG pmax pmax
comp=Z,15nm,0.9s
BELG MLR MLR
comp=Z,20μm,17.0s
VORD Divnogorie 91.32 14 *e*P **P** **03 33 03.0 +1.8**
VORD *e*S **S** **03 44 00.0 -0.1**
VORD pmax pmax
comp=Z,50nm,1.3s
VORD smax smax
comp=N,2μm,7.4s
VORD MLR MLR
comp=Z,37μm,17.0s
BRVK Borovoye 91.32 355 IAMs_20 IAMs_20 04 18 03.4
comp=Z,109μm,22.0s
BRVK Borovoye 91.32 355*c**e*P **P** **03 33 00.5 -0.7**
BRVK pmax pmax
comp=Z,35nm,0.7s
BVA0 Borovoye Array 91.34 355 *i* P **P** **03 33 01.0 -0.4**
BVAR Borovoye Array 91.34 355 P **P** **03 33 01.2 -0.1**
comp=Z,17nm,0.6s,baz=2.8,slow=3.3,SNR=44
BVAR PP **PP** **03 36 38.9 +1.2**
comp=Z,16nm,1.1s,baz=10,slow=8.8,SNR=2.1
BVAR S **SKSac** **03 43 34.5 +0.7**
comp=Z,0.6nm,0.5s,baz=225,slow=39,SNR=1.3
BVAR PKKPbc **PKKPbc** **03 50 24.0 +1.3**
comp=Z,3.4nm,0.9s,baz=199,slow=3.1,SNR=8.4
BVAR PKPPKP **P'P'df** **03 58 33.0 -6.0**
comp=Z,0.5nm,0.3s,baz=186,slow=3.0,SNR=6.9
BVAR LR LR 04 19 16.5
comp=Z,90μm,19.2s,baz=2.7,slow=39
comp=Z,17nm,0.6s
HHC Hu-ho-hao-te 91.42 325 *e*P **P** **03 33 01.7 -0.4**
HHC pP sP 03 33 06.6 0.0
HHC SKS **SKSac** **03 43 31.5 -3.4**
HHC S **S** **03 43 57.6 -4.1**
HHC sS sS 03 44 09.5 +2.2
HHC SS **SS** **03 50 11.3 +5.6**
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,1μm,5.6s
HHC LR LR
comp=Z,41μm,18.8s
HHC LR LR
comp=Z,71μm,19.6s
DUB01 Friburgo-RJ 91.44 116 S **S** **03 43 59.8 -2.2**
VRH Novokhopyorsk 91.56 13 *e*P **P** **03 33 02.7 +0.4**
VRH *e*S **S** **03 44 08.6 +6.4**
VRH pmax pmax
comp=Z,60nm,0.9s
VRH smax smax
comp=E,8μm,13.4s
VRH MLR MLR
comp=Z,109μm,18.0s
GZR Gura Zlata 91.68 27 ⇓P **P** **03 33 04.8 +1.6**
ABR01 Abrolhos, BA 91.69 111 P P 03 33 08.7 +5.3
ABR01 S **S** **03 44 03.9 -0.3**
DZM Mont Dzumac 91.93 244 *e*P **P** **03 33 06.5 +1.9**
comp=Z,316nm,1.5s
DZM Mont Dzumac 91.93 244 *e*PP PP 03 36 26.5 -18
comp=Z,1μm,34.8s
DZM *e*S S 03 43 55.5 -11
comp=Z,36μm,27.4s
DZM *e*SS **SS** **03 50 05.4 -10**
comp=Z,23μm,28.6s
DZM *e*LQ LQ 03 58 20.3
comp=Z,144μm,35.6s
DZM *e*LR LR 04 02 16.3
comp=Z,88μm,32.8s
DZM Mont Dzumac 91.93 244 LR LR 04 07 04.9
comp=Z,38μm,20.6s,baz=57,slow=31
AY03 Cochrane 91.94 151 IAMs_20 IAMs_20 04 06 48.9
comp=Z,98μm,20.0s
JOW Kunigami 92.06 305 LR LR 04 06 41.3
comp=Z,30μm,21.8s,baz=62,slow=30
TIA Tai'an 92.17 319 P **P** **03 33 04.7 -0.9**
TIA S **S** **03 44 09.9 +1.5**
TIA pmax pmax
comp=Z,16nm,0.9s
TIA pmax pmax
comp=Z,2μm,10.3s
TIA LR LR
comp=Z,33μm,16.5s
TIA LR LR
comp=Z,77μm,17.9s
KIS Kishinev 92.31 22 *i* PS PS 03 45 24.0 +4.0
KIS *e*L L 04 03 35.0
KIS LRM MLR 04 18 26.0
comp=Z,48μm,17.0s
KIS Kishinev 92.31 22 *e*P **P** **03 33 04.0 -1.9**
KIS *i* PS PnS 03 45 24.0 +3.1
KIS MLR MLR
comp=Z,48μm,17.0s
BTO Baotou 92.32 326 *e*P **P** **03 33 06.4 +0.1**
BTO sP **sP** **03 33 12.5 +1.7**
BTO PP **PP** **03 36 48.2 +2.2**
BTO SKS **SKSac** **03 43 40.8 +0.8**
BTO S **S** **03 44 06.1 -3.7**
BTO SS **SS** **03 50 22.0 +3.3**
BTO pmax pmax
comp=Z,23nm,0.6s
BTO pmax pmax
comp=Z,2μm,8.8s
BTO LR LR
comp=Z,91μm,21.6s
BTO LR LR
comp=Z,115μm,23.7s
BTO LR LR
comp=Z,82μm,24.7s
MILM Milestii Mici 92.38 22 *i* PS PS 03 45 23.0 +2.3
MILM *e*L L 04 03 34.0
MILM LRM MLR 04 18 20.0
comp=Z,130μm,17.5s
MILM Milestii Mici 92.38 22 *e*P **P** **03 33 04.0 -2.2**
MILM *i* PS PnS 03 45 23.0 +1.4
MILM pmax pmax
comp=Z,430nm,3.1s
MILM MLR MLR
comp=Z,130μm,17.5s
VOIR 92.45 25 ⇓P **P** **03 33 08.6 +1.9**
HNS HongShan 92.55 321 ⇑P **P** **03 33 07.8 +0.6**
HNS SKS **SKSac** **03 43 40.9 -0.2**
HNS S **ScS** **03 44 13.1 -0.7**
HNS pmax pmax
comp=Z,51nm,1.0s
HNS pmax pmax
comp=Z,3μm,3.7s
HNS LR LR
comp=Z,80μm,21.6s
HNS LR LR
comp=Z,50μm,20.4s
RABL Rabaul 92.59 267 IAMs_20 IAMs_20 04 06 40.0
comp=Z,105μm,21.0s
PLOR Plostina 92.63 24 ⇓P **P** **03 33 10.8 +3.3**
VRI Vrincioaia 92.65 24 ⇑P **P** **03 33 06.7 -0.9**
MLR Muntele Rosu 92.71 25 LR LR 04 18 59.4
comp=Z,216μm,18.0s,baz=318,slow=38
MLR Muntele Rosu 92.71 25 ⇓P **P** **03 33 11.5 +3.5**
KURK Kurchatov 92.75 350 P **P** **03 33 06.4 -1.5**
KURK IAmb IAmb 03 33 23.9
comp=Z,122nm,1.4s
KURK Kurchatov 92.75 350 IAMs_20 IAMs_20 04 21 30.4
comp=Z,90μm,20.0s
KURK Kurchatov 92.75 350 *e*P **P** **03 33 06.0 -1.9**
KURK pmax pmax
comp=Z,72nm,2.5s
KURBB Kurchatov Arra 92.85 350 P **P** **03 33 07.5 -0.8**
comp=Z,9.0nm,0.8s,baz=12,slow=4.6,SNR=42
KURBB PP **PP** **03 36 49.7 +0.2**
comp=Z,12nm,1.0s,baz=10,slow=8.0,SNR=4.9
KURBB S **SKSac** **03 43 40.8 -1.5**
comp=Z,0.8nm,0.3s,baz=1.5,slow=33,SNR=1.9
KURBB PKKPbc **PKKPbc** **03 50 19.9 +1.0**
comp=Z,1.0nm,0.6s,baz=212,slow=2.7,SNR=6.5
KURBB PKPPKP 03 58 27.5
comp=Z,0.7nm,0.6s,baz=217,slow=2.2,SNR=5.4
KURBB LR LR 04 20 24.5
comp=Z,70μm,19.1s,baz=4.5,slow=39
comp=Z,9.0nm,0.8s
CUC Castrocucco 93.31 34 IAMs_20 IAMs_20 04 14 28.2
comp=Z,119μm,20.0s
KEST Kesra 93.45 41 P **P** **03 33 13.7 +2.2**
comp=Z,45nm,1.0s,baz=229,slow=1.1,SNR=45
KEST PP **PP** **03 36 54.9 -0.1**
comp=Z,19nm,1.1s,baz=309,slow=10,SNR=3.6
KEST LR LR 04 13 43.3
comp=Z,95μm,18.5s,baz=320,slow=35
SSE Sheshan 93.60 313 P **P** **03 33 12.7 +0.5**
SSE S **S** **03 44 20.2 -1.0**
SSE SS **SS** **03 50 41.9 +4.5**
SSE pmax pmax
comp=Z,7.0nm,0.5s
SSE pmax pmax
comp=Z,430nm,4.7s
CFR Carcaliu 93.72 24 ⇑P **P** **03 33 14.3 +1.9**
AKTO Aktyubinsk 94.13 3 LR LR 04 19 20.8
comp=Z,111μm,21.1s,baz=356,slow=38
AKTO Aktyubinsk 94.13 3 P **P** **03 33 14.0 -0.3**
BRZS Berezniki 94.18 353 *e*P **P** **03 33 14.2 -0.3**
BRZS Berezniki 94.18 353 *e*P **P** **03 33 14.3 -0.3**
NJ2 Nanjing 94.28 315 *e*P **P** **03 33 14.3 -1.0**
NJ2 SKS **SKSac** **03 43 45.3 -5.5**
NJ2 S **S** **03 44 26.1 -1.0**
NJ2 SS **SS** **03 50 50.6 +3.6**
NJ2 pmax pmax
comp=Z,40nm,1.0s
NJ2 pmax pmax
comp=Z,1μm,11.3s
NJ2 LR LR
comp=Z,31μm,21.8s
NJ2 LR LR
comp=Z,37μm,21.8s
NJ2 LR LR
comp=Z,37μm,22.6s
TIRR Tirgusor 94.45 24 ⇓P **P** **03 33 18.4 +2.6**
OHR Ohrid 94.54 30 *i* P **P** **03 33 19.5 +3.1**
OHR *e*S S 03 44 45.3 +16
VAE Valguarnera 94.66 36 LR LR 04 14 58.8
comp=Z,124μm,18.5s,baz=326,slow=35
CEL Celeste 94.74 35 IAMs_20 IAMs_20 04 19 41.2
comp=Z,97μm,21.0s
ZSN Zaisan 94.78 345 *e*P **P** **03 33 17.1 -0.2**
ZSN *e*S **SKSac** **03 43 52.2 -0.8**
ZSN Zaisan 94.78 345 *e*P **P** **03 33 17.2 -0.2**
ZSN *e*S **SKSac** **03 43 52.2 -0.8**
FNA Florina 95.05 30 IAMs_20 IAMs_20 04 17 10.3
comp=Z,106μm,22.0s
URZ Urewera 95.19 226 LR LR 04 09 29.9
comp=Z,35μm,19.5s,baz=42,slow=31
GO09 Cerro Castillo 95.31 153 IAMs_20 IAMs_20 04 07 45.2
comp=Z,85μm,22.0s
AB31 Akbulak array 95.37 2 P **P** **03 33 18.4 -1.5**
AB31 Akbulak array 95.37 2 *i* P **P** **03 33 19.3 -0.6**
CTZ Chatham Island 95.55 219 IAMs_20 IAMs_20 04 06 09.8
comp=Z,81μm,21.0s
MG05 Puerto Natales 95.59 154 IAMs_20 IAMs_20 04 10 18.4
comp=Z,68μm,19.0s
SIM Simferopol' 95.72 20 *e*P P 03 33 12.5 -9.1
SIM pmax pmax
comp=Z,500nm,15.5s
LYN LuoYang 95.90 320 ⇓*i*P **P** **03 33 20.6 -2.1**
LYN S S 03 44 31.9 -9.2
LYN pmax pmax
comp=Z,300nm,3.8s
LYN LR LR
comp=Z,52μm,26.8s
LYN LR LR
comp=Z,112μm,26.2s
MK31 Makanchi Array 95.93 346 *i* P **P** **03 33 21.6 -1.0**
MKAR Makanchi Array 95.93 346 P **P** **03 33 19.8 -2.8**
MKAR Makanchi Array 95.93 346 P **P** **03 33 22.4 -0.3**
comp=Z,2.5nm,0.7s,baz=349,slow=4.9,SNR=16
MKAR PP **PP** **03 37 15.4 +1.7**
comp=Z,4.6nm,0.9s,baz=15,slow=6.3,SNR=2.5
MKAR S **SKSac** **03 43 58.9 -0.3**
comp=Z,0.3nm,0.3s,baz=147,slow=17,SNR=7.7
MKAR PKKPbc **PKKPdf** **03 50 09.6 -0.2**
comp=Z,2.0nm,0.9s,baz=159,slow=2.1,SNR=6.8
MKAR PKPPKP 03 58 23.3
comp=Z,2.6nm,1.1s,baz=207,slow=1.4,SNR=6.6
MKAR LR LR 04 22 37.0
comp=Z,59μm,18.4s,baz=360,slow=39
comp=Z,2.5nm,0.7s
MAKZ Makanchi 95.97 347 P **P** **03 33 20.4 -2.4**
MAKZ IAmb IAmb 03 33 32.4
comp=Z,32nm,0.8s
MAKZ IAMs_20 IAMs_20 04 23 32.9
comp=Z,105μm,18.0s
MAKZ Makanchi 95.97 347 ⇑P **P** **03 33 21.6 -1.2**
WDD Wied Dalam 96.02 37 IAMs_20 IAMs_20 04 20 55.2
comp=Z,72nm,18.0s
ERBR Yeremizino-Bor 96.56 15 *e*P **P** **03 33 26.6 +1.2**
ERBR *e*S **SKSac** **03 43 53.5 -8.9**
ERBR *e*SSS SSS 03 55 05.5
ERBR pmax pmax
comp=E,16nm,1.5s
ERBR pmax pmax
comp=Z,136nm,1.6s
ERBR pmax pmax
comp=E,165nm,3.0s
ERBR pmax pmax
comp=N,242nm,2.7s
ERBR pmax pmax
comp=Z,718nm,2.8s
ERBR smax smax
comp=E,3μm,7.4s
ANN Anapa 96.72 18 *e*P **P** **03 33 26.7 +0.5**
ANN *e* 03 37 15.9
ANN *e*S **SKSac** **03 44 03.3 +0.1**
ANN *e*SS **SS** **03 51 14.4 -6.1**
ANN *e*SSS SSS 03 55 03.7
ANN pmax pmax
comp=E,8.0nm,0.8s
ANN pmax pmax
comp=Z,39nm,0.9s
ANN pmax pmax
comp=N,9.0nm,0.7s
ANN pmax pmax
comp=E,19nm,1.1s
ANN pmax pmax
comp=Z,494nm,4.5s
ANN pmax pmax
comp=N,113nm,2.7s
ANN smax smax
comp=N,2μm,8.9s
ANN MLR MLR
comp=Z,69μm,16.0s
ANN MLR MLR
comp=E,46μm,12.0s
ALN Alexandroupoli 96.77 27 IAMs_20 IAMs_20 04 19 41.6
comp=Z,102μm,20.0s
MG04 Isla Riesco 96.88 154 IAMs_20 IAMs_20 04 10 51.6
comp=Z,59μm,19.0s
WMQ Urumqi 97.55 342 P **P** **03 33 28.5 -1.6**
WMQ PP **PP** **03 37 33.7 +7.4**
WMQ SKS **SKSac** **03 44 08.0 +0.2**
WMQ pmax pmax
comp=Z,1μm,8.9s
WMQ LR LR

comp=Z,57µm,18.3s
WMQ LR LR
comp=Z,71µm,19.1s
WMQ LR LR
comp=Z,91µm,22.9s
LABN Labinsk 97.63 15 *e*P **P 03 33 29.8 -0.5**
LABN *e* 03 37 24.5
LABN *e*PPP PPP 03 39 31.1
LABN *e*S **SKSac 03 44 08.7 +0.7**
LABN *e*SS **SS 03 51 30.8 -2.5**
LABN pmax pmax
comp=Z,17nm,0.6s
LABN pmax pmax
comp=N,9.0nm,0.6s
LABN pmax pmax
comp=E,202nm,3.9s
LABN pmax pmax
comp=Z,667nm,4.3s
LABN pmax pmax
comp=N,142nm,2.5s
LABN smax smax
comp=E,3µm,6.9s
GTA Gaotai 97.64 332 *e*P Pdif 03 33 33.0 +2.3
GTA SKS **SKSac 03 44 12.9 +4.3**
GTA S **S 03 44 54.4 -1.9**
GTA pmax pmax
comp=E,4.0nm,1.3s
GTA pmax pmax
comp=E,600nm,8.7s
GTA LR LR
comp=E,50µm,20.0s
GTA LR LR
comp=E,76µm,23.3s
GOF Gofitskoye 97.71 14*c e*P Pdif 03 33 31.4 +0.7
EZN Ezine 97.81 27 ⇓P Pdif 03 33 32.6 +1.4
WHN Wuhan 97.96 317 P Pdif 03 33 33.8 +1.7
WHN sP sP 03 33 39.4 +2.8
WHN PP **PP 03 37 29.2 -0.8**
WHN pmax pmax
comp=E,2µm,5.4s
WHN LR LR
comp=E,32µm,15.0s
WHN LR LR
comp=E,38µm,19.1s
WHN LR LR
comp=E,64µm,18.8s
MG03 Isla Dawson 98.07 154 IAMs_20 IAMs_20 04 11 47.1
comp=Z,50µm,19.0s
XAN Xi'an 98.10 322 ⇓P Pdif 03 33 34.4 +1.7
XAN pP sP 03 33 41.8 +4.6
XAN PP **PP 03 37 31.9 +1.0**
XAN S **S 03 44 58.4 -1.8**
XAN pmax pmax
comp=Z,18nm,1.0s
XAN pmax pmax
comp=Z,890nm,9.1s
XAN LR LR
comp=Z,63µm,20.0s
XAN LR LR
comp=Z,97µm,19.6s
XAN LR LR
comp=Z,74µm,23.4s
NACB Ninganchiao 98.26 308 P Pdif 03 33 38.3 +4.8
comp=Z,63nm,0.7s
SOC Sochi 98.41 16*d i*P Pdif 03 33 36.0 +2.1
SOC *e* 03 37 31.5
SOC *e*PPP PPP 03 39 37.3
SOC *e*S **SKSac 03 44 14.5 +2.5**
SOC pmax pmax
comp=Z,44nm,0.9s
SOC MLR MLR
comp=Z,108µm,17.0s
KIV Kislovodsk 98.70 14 *e*P **P 03 33 32.9 -2.3**
KIV *e* 03 37 31.8
KIV *e* 03 44 10.9
KIV *e*SS SS 03 51 48.3 -0.2
KIV *e*SSS SSS 03 55 38.0
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV pmax pmax
comp=Z,28nm,4.8s
KIV Kislovodsk 98.70 14 P Pdif 03 33 37.5 +2.3
KVAR Kislovodsk Arr 98.70 14 LR LR 04 19 48.5
comp=Z,75µm,18.5s,baz=296,slow=36
BTLS Baital 98.92 352 *e*P **P 03 33 35.6 -0.5**
BTLS *e*S **SKSac 03 44 13.5 -1.0**
BTLS Baital 98.92 352 *e*P **P 03 33 35.6 -0.5**
BTLS *e*S **SKSac 03 44 13.5 -1.0**
KBZ Khabaz 98.96 14 P Pdif 03 33 37.0 +0.8
comp=Z,9.8nm,0.9s,baz=310,slow=4.6,SNR=20
KBZ PP **PP 03 37 38.2 +1.4**
comp=Z,4.8nm,0.8s,baz=321,slow=6.5,SNR=2.5
KBZ S **SKSac 03 44 17.6 +3.0**
comp=Z,0.5nm,0.5s,baz=240,slow=18,SNR=1.3
KBZ PKPPKP 03 58 18.5
comp=Z,0.7nm,0.5s,baz=99,slow=5.9,SNR=5.4
KBZ LR LR 04 20 02.5
comp=Z,60µm,19.6s,baz=330,slow=36
comp=Z,9.8nm,0.9s
ILGA Ilgaz 99.19 22 IAMs_20 IAMs_20 04 22 44.1
comp=Z,109µm,20.0s
BORA Eskisehir 99.22 24 IAMs_20 IAMs_20 04 17 22.0
comp=Z,85µm,22.0s
USHA Ushuaia 99.58 154 LR LR 04 11 23.8
comp=Z,52µm,21.1s,baz=333,slow=31
QZH Quanzhou 99.61 310 P **Pdif 03 33 39.7 +0.2**
QZH PP **PP 03 37 46.3 +3.5**
QZH SKS **SKSac 03 44 17.2 -1.4**
QZH S **S 03 45 08.2 -4.9**
QZH SS **SS 03 52 09.5 +6.8**
QZH LR LR
comp=Z,12µm,14.9s
QZH LR LR
comp=Z,54µm,22.1s
QZH LR LR
comp=Z,34µm,19.6s
MG01 Puerto William 99.95 153 IAMs_20 IAMs_20 04 10 18.8
comp=Z,69µm,22.0s
SHLS Shalkode 99.96 347 *e*P **Pdif 03 33 39.8 -1.1**
SHLS Shalkode 99.96 347 *e*P **Pdif 03 33 39.9 -1.1**
ANTO Ankara 99.99 23 P **Pdif 03 33 44.3 +3.2**
SATY Saty 100.24 348 *e*P **Pdif 03 33 41.3 -0.9**
SATY Saty 100.24 348 *e*P **Pdif 03 33 41.3 -0.9**
BRTR Keskin Array B 100.38 22 P **Pdif 03 33 44.2 +1.3**
comp=Z,2.3nm,0.9s,baz=346,slow=2.5,SNR=11
BRTR PP **PP 03 37 48.1 +0.1**
comp=Z,3.5nm,1.0s,baz=339,slow=7.9,SNR=3.9
BRTR PKKPbc **PKKPdf 03 50 00.3 -1.7**
comp=Z,1.8nm,0.8s,baz=156,slow=6.4,SNR=7.8
SGDS Sogindy 100.41 351 *e*P **Pdif 03 33 42.3 -0.6**
MAK Makhachkala 100.52 11 *e*P **Pdif 03 33 36.4 -6.8**
MAK *e*PS PS 03 46 46.9 -2.5
MAK *e*SS SS 03 52 09.9 -3.8
MAK pmax pmax
comp=Z,26nm,0.4s
MAK pmax pmax
comp=Z,524nm,3.2s
CNSH ChangSha 100.56 316 P **Pdif 03 33 51.0 +7.3**
CNSH LR LR
comp=Z,8µm,19.5s
CNSH LR LR
comp=Z,8µm,22.0s
CNSH LR LR
comp=Z,27µm,25.1s
TOKA Tokat 100.66 20 IAMs_20 IAMs_20 04 21 33.9
comp=Z,69µm,22.0s
PRZ Przheval'sk 100.80 348 IAMs_20 IAMs_20 04 22 30.1
comp=Z,111µm,21.0s
FRU1 Bishkek 101.04 351 IAMs_20 IAMs_20 04 25 28.8
comp=Z,58µm,21.0s
KK31 Karatay Array 101.20 354 *i* P **Pdif 03 33 46.1 -0.2**
AAK Ala-Archa 101.23 351 IAMs_20 IAMs_20 04 24 21.8
comp=Z,59µm,20.0s
BRLS Borolday 101.33 354 *e*P **Pdif 03 33 47.5 +0.6**
BRLS Borolday 101.33 354 *e*P **Pdif 03 33 47.5 +0.6**
DZA Taraz 101.33 353 *e*P **Pdif 03 33 46.2 -0.7**
DZA Taraz 101.33 353 *e*P **Pdif 03 33 46.2 -0.7**
EFI East Falkland 101.43 147 IAMs_20 IAMs_20 04 14 16.9
comp=Z,79µm,20.0s
ARG Arkhangelos 101.65 28 IAMs_20 IAMs_20 04 24 14.7
comp=Z,57µm,18.0s
KOPT Kop Dagi 101.98 17 IAMs_20 IAMs_20 04 21 57.8
comp=Z,91µm,22.0s
AKT Akhty 102.00 11 *e*P **Pdif 03 33 52.2 +2.2**
AKT *e* 03 37 59.4
AKT *e*S **SKSac 03 44 31.4 +1.4**
AKT pmax pmax
comp=Z,18nm,1.5s
AKT pmax pmax
comp=E,9.0nm,1.1s
AKT pmax pmax
comp=N,10.0nm,1.6s
AKT smax smax
comp=N,1µm,5.4s
AKT smax smax
comp=E,401nm,4.3s
AKT MLR MLR
comp=Z,116µm,18.0s
IUG luzhnay 102.19 354 *e*P **Pdif 03 33 50.0 -0.8**
IUG pmax pmax
comp=Z,81nm,1.8s
IUG luzhnay 102.19 354 *e*P **Pdif 03 33 50.0 -0.8**
comp=Z,81nm,1.8s
ARPR Arapgir-MALATY 102.31 19 IAMs_20 IAMs_20 04 24 28.6
comp=Z,73µm,18.0s
GNI Garni 102.77 14 IAMs_20 IAMs_20 04 23 45.6
comp=Z,88µm,21.0s
GURO Guroymak-BITLI 103.73 16 IAMs_20 IAMs_20 04 24 22.2
comp=Z,66µm,21.0s
BTK Batken 104.19 353 IAMs_20 IAMs_20 04 30 05.1
comp=Z,77µm,20.0s
GEVA Gevas 104.19 16 IAMs_20 IAMs_20 04 27 09.3
comp=Z,66µm,21.0s
DBIC Dimbokro 104.22 71 PP **PP 03 38 19.9 +1.8**
comp=Z,4.0nm,0.9s,baz=288,slow=7.3,SNR=1.7
GULI GuiLin 104.24 316 Pdif **Pdif 03 34 00.6 +0.4**
GULI PP **PP 03 38 19.7 +2.2**
GULI SS SS 03 53 08.1 +1.5
GULI LR LR
comp=Z,26µm,22.8s
GULI LR LR
comp=Z,27µm,21.2s
GULI LR LR
comp=Z,47µm,20.7s
CSS Mathiatis 104.63 24 IAMs_20 IAMs_20 04 27 00.5
comp=Z,90µm,20.0s
TORD Torodi Ar. Bea 104.88 62 Pdiff **Pdif 03 34 04.0 +0.9**
comp=Z,2.7nm,1.1s,baz=318,slow=3.5,SNR=6.4
TORD PKiKP **PKiKP 03 38 18.1 -0.2**
comp=Z,2.7nm,1.1s,baz=286,slow=3.5,SNR=2.3
EIDS Eidsvold 105.33 250 IAMs_20 IAMs_20 04 18 21.0
comp=Z,62µm,19.0s
COEN Coen 105.41 264 IAMs_20 IAMs_20 04 18 31.7
comp=Z,53µm,20.0s
DAV Davao City (W) 107.04 292 IAMs_20 IAMs_20 04 14 46.9
comp=Z,93µm,21.0s
MMAI Mount Meron Ar 107.10 24 PKKP 03 49 50.5
comp=Z,8.3nm,1.1s,baz=90,slow=9.3,SNR=6.4
ARMA Armidale 107.58 245 IAMs_20 IAMs_20 04 17 33.7
comp=Z,74µm,19.0s
PZH PanZhiHua 107.80 323 Pdif **Pdif 03 34 17.4 +1.3**
PZH PKP **PKiKP 03 38 26.0 +2.3**
PZH PP **PP 03 38 48.2 +4.5**
PZH SS SS 03 53 58.5 +3.5
PZH AMB AMB
comp=Z,3µm,10.0s
PZH LR LR
comp=Z,20µm,29.9s
PZH LR LR
comp=Z,23µm,24.5s
KMI Kunming 108.46 322 Pdif **Pdif 03 34 23.0 +3.8**
KMI PP PP 03 38 58.0 +9.3
KMI SS SS 03 54 09.2 +5.1
KMI AMB AMB
comp=Z,2µm,10.5s
KMI LR LR
comp=Z,29µm,23.1s
KMI LR LR
comp=Z,36µm,22.9s
GHAJ Ghor Haditha 108.73 24 IAMs_20 IAMs_20 04 27 25.8
comp=Z,59µm,20.0s
QIZ Qiongzhong 109.39 312 Pdif **Pdif 03 34 17.9 -5.2**
QIZ S **Sdif 03 46 29.8 -5.1**
QIZ LR LR
comp=Z,33µm,18.2s
QIZ LR LR
comp=Z,36µm,23.5s
LSA Lhasa 109.51 334 IAMs_20 IAMs_20 04 25 38.2
comp=Z,45µm,21.0s
LKP Lekhapani 109.78 329 IAMs_20 IAMs_20 03 49 07.4
comp=Z,4µm,19.7s
SMAI San Martin Ant 110.19 162 IAMs_20 IAMs_20 04 17 27.3
comp=Z,73µm,19.0s
NIL Nilore 110.24 350 IAMs_20 IAMs_20 04 30 40.2
comp=Z,89µm,19.0s
ZIRO ZIRO 110.43 330 *e*P **PKiKP 03 38 23.1 -5.6**
ZIRO IAmb IAmb 03 39 19.9
TNCH TengChong 110.58 325 Pdif **Pdif 03 34 26.6 -2.0**
TNCH PP **PP 03 39 06.3 +2.3**
TNCH SKS **SKSdf 03 45 35.7 -5.9**
TNCH S **Sdif 03 46 36.9 -8.2**
TNCH AMB AMB
comp=Z,3µm,9.6s
TNCH LR LR
comp=Z,21µm,20.9s
TNCH LR LR
comp=Z,36µm,21.0s
TNCH LR LR
comp=Z,93µm,24.0s
JMU Jammu 110.91 349 *e*P **PKiKP 03 38 23.9 -5.3**
SLVN Son La 110.96 319 IAMs_20 IAMs_20 04 28 60.0
comp=Z,51µm,21.0s
THN Thein Dam 111.06 348 *e*P **PKiKP 03 38 24.4 -5.0**
DHRM DHARAMSHALA 111.13 347 *e*P **PKiKP 03 38 24.2 -5.8**
TAWA Tawang 111.15 332 *e*P **PKiKP 03 38 24.2 -6.1**
TAWA IAMs_20 IAMs_20 03 49 13.0
comp=Z,4µm,20.0s
KLP Kalpa 111.46 345 *e*P **PKiKP 03 38 23.1 -7.6**
TEZP TEZPUR 111.66 331 *e*P PKiKP 03 38 22.8 -8.0
TEZP IAMs_20 IAMs_20 03 49 17.4
comp=Z,4µm,19.1s
SAUI Saumlaki 111.72 276 IAMs_20 IAMs_20 04 19 47.3
comp=Z,63µm,20.0s
BHK Bhakra 111.92 347 *e*P **PKiKP 03 38 25.8 -5.4**
KOHI KOHIMA 111.93 329 *e*P **PKiKP 03 38 25.6 -5.9**
KOHI IAMs_20 IAMs_20 03 49 18.3
comp=Z,3µm,18.9s
SMLA Simla 112.06 346 *e*P **PKiKP 03 38 26.2 -5.2**
SMLA IAMs_20 IAMs_20 03 49 32.6
comp=Z,4µm,20.1s
JOSI Joshimath 112.12 344 *e*P **PKiKP 03 38 26.1 -5.8**
GTK Tadong 112.59 335 *e*P **PKiKP 03 38 26.9 -5.8**
DDI Dehra Dun 112.67 345 *e*P **PKiKP 03 38 26.5 -6.2**
IMP Imphal 112.78 329 *e*P **PKiKP 03 38 25.5 -7.6**
IMP IAMs_20 IAMs_20 03 49 25.9
comp=Z,4µm,18.9s
PTH Pithoragarh 112.94 343 *e*P **PKiKP 03 38 29.1 -4.3**
SHL Shillong 112.96 331 IAMs_20 IAMs_20 04 29 04.9
comp=Z,68µm,19.0s
SHL Shillong 112.96 331 *e*P **PKiKP 03 38 27.6 -5.9**
SHL IAMs_20 IAMs_20 03 49 21.7
comp=Z,4µm,19.0s
JPG JALPAIGURI 113.25 334 *e*P **PKiKP 03 38 28.4 -5.4**
KKR Kurukshetra 113.27 346 *e*P **PKiKP 03 38 28.1 -5.6**
HOPE Hope Point 113.41 141 IAMs_20 IAMs_20 04 25 40.0
comp=Z,53µm,21.0s
SRGN SRI GANGA NAGA113.81 349 *e*P **PKiKP 03 38 30.7 -4.1**
GNR GANAUR 114.03 346 *e*P **PKiKP 03 38 28.1 -7.2**
MERT Meerut 114.04 345 *e*P **PKiKP 03 38 29.7 -5.5**
ASOR Ausora 114.24 345 *e*P **PKiKP 03 38 30.1 -5.5**
AZL Aizawl 114.27 330 *e*P **PKiKP 03 38 30.1 -5.8**
AZL IAMs_20 IAMs_20 03 47 32.2
comp=Z,3µm,19.1s
NDI New Delhi 114.43 346⇑ *e*P **PKiKP 03 38 30.4 -5.6**
BHGR Bahadurgarh 114.48 346 *e*P **PKiKP 03 38 31.6 -4.5**
NPLP NPLP New Delhi 114.48 346 *e*P **PKiKP 03 38 30.7 -5.4**
BRCI Bahraich 114.49 341 *e*P **PKiKP 03 38 32.2 -3.9**
JMIU JAMIA UNIVERSI 114.52 346⇑ *e*P **PKiKP 03 38 29.4 -6.8**
LDR Lodi Road 114.53 346 *e*P **PKiKP 03 38 29.4 -6.8**
MTN Manton Dam 114.58 272 IAMs_20 IAMs_20 04 19 31.4
comp=Z,78µm,20.0s
AYAN Aya Nagar 114.64 346⇑ *e*P **PKiKP 03 38 30.3 -6.1**
SONA Sohna 114.88 346 *e*P **PKiKP 03 38 29.9 -6.9**
KUDL Kundal 115.09 346 *e*P **PKiKP 03 38 35.6 -1.6**
FRKB FARRUKHABAD 115.16 343 *e*P **PKiKP 03 38 36.0 -1.4**
SAIH SAIHA 115.25 329 *e*P **PKiKP 03 38 33.9 -4.1**
SAIH IAMs_20 IAMs_20 03 48 21.9
comp=Z,2µm,20.3s
LKN LUCKNOW 115.44 342⇑ *e*P **PKiKP 03 38 33.4 -4.6**
WRA Warramunga Arr 115.73 263 PKP **PKPdf 03 38 37.9 -0.7**
comp=Z,4.6nm,0.8s,baz=58,slow=2.1,SNR=16
WRA PKKPbc **PKKPbc 03 49 11.1 +1.4**
comp=Z,1.8nm,0.9s,baz=242,slow=2.9,SNR=4.8
BKNR BIKANER 115.77 349 *e*P **PKiKP 03 38 33.4 -5.2**
STKA Stephens Creek 115.79 248 PKP **PKPdf 03 38 38.1 -0.2**
comp=Z,8.6nm,0.9s,baz=41,slow=5.7,SNR=8.5
STKA PKKPab **PKKPab 03 49 15.8 +2.0**
comp=Z,3.0nm,0.8s,baz=297,slow=6.5,SNR=5.0
CMAR Chiang Mai Arr 115.94 321 PKP **PKPdf 03 38 39.6 +0.5**
comp=Z,4.4nm,0.8s,baz=341,slow=2.4,SNR=14
VAR Varanasi 116.25 339 *e*P **PKiKP 03 38 34.7 -4.9**
ALBI Allahabad 116.58 340⇑ *e*P **PKPdf 03 38 34.9 -5.4**
SHEL Horse Pasture 116.77 91 IAMs_20 IAMs_20 04 28 55.0
comp=Z,53µm,22.0s
AJM Ajmer 117.06 348⇑ *e*P **PKPdf 03 38 35.4 -5.8**
JHNI Jhansi 117.25 344 *e*P **PKPdf 03 38 37.1 -4.4**
ASAR Alice Springs 117.93 260 PKP **PKPdf 03 38 41.0 -1.8**
comp=Z,6.5nm,0.9s,baz=75,slow=2.0,SNR=12
ASAR PKKPbc **PKKPbc 03 49 02.6 +0.6**
comp=Z,5.2nm,1.1s,baz=226,slow=1.6,SNR=6.0
ASAR SKKPbc SKKPbc 03 52 42.6 -6.5
comp=Z,2.4nm,1.2s,baz=251,slow=2.8,SNR=4.4
ASAR SKKP 03 53 07.8
comp=Z,2.1nm,1.0s,baz=225,slow=3.4,SNR=3.0
KNRA Kununurra 118.04 270 IAMs_20 IAMs_20 04 21 52.2
comp=Z,58µm,21.0s
GUNA GUNA 118.31 345 *e*P **PKPdf 03 38 40.7 -2.9**
SOEI Soe 118.41 279 IAMs_20 IAMs_20 04 26 14.4
comp=Z,52µm,20.0s
RAYN Ar Rayn 118.95 18 IAMs_20 IAMs_20 04 34 14.1
comp=Z,50µm,21.0s
UOSS Minazif 119.38 6 IAMs_20 IAMs_20 04 38 45.1
comp=Z,44µm,21.0s
BLSP Bilaspur 119.50 339⇑ *e*P **PKPdf 03 38 42.0 -3.9**
BHPL Bhopal 119.65 344 *e*P **PKPdf 03 38 42.5 -3.8**
NRDN NARMADA NAGAR120.21 344 *e*P **PKPdf 03 38 43.4 -3.9**
TRIS Tristan da Cun 121.38 115 IAMs_20 IAMs_20 04 30 02.4
comp=Z,44µm,20.0s
SBA Scott Base 121.69 194 IAMs_20 IAMs_20 04 18 25.3
comp=Z,59µm,22.0s
VNDA Vanda 122.56 195 PKP **PKPdf 03 38 49.7 -0.3**
comp=Z,16nm,1.1s,baz=355,slow=2.6,SNR=34
VNDA PP **PP 03 40 29.1 +1.4**
comp=Z,4.4nm,1.1s,baz=120,slow=5.9,SNR=14
VNDA PKKPbc **PKKPbc 03 48 45.1 -0.6**
comp=Z,0.9nm,0.9s,baz=253,slow=11,SNR=2.5
BELA Belgrano 2 123.17 165 IAMs_20 IAMs_20 04 27 58.4
comp=Z,50µm,19.0s
VIS Vishakhapatnam 123.26 336 *e*P **PKPdf 03 38 50.0 -3.2**
HYB Hyderabad 124.97 341 *e*PP **PP 03 40 41.1 -2.4**
VJD Vijayawada 125.24 338 *e*P **PKPdf 03 38 50.3 -6.7**
QSPA South Pole Qui 125.55 180 PKPdf **PKPdf 03 38 54.8 -1.3**
QSPA South Pole Qui 125.55 180 IAMs_20 IAMs_20 04 23 38.1
comp=Z,66µm,22.0s
QSPA South Pole Qui 125.55 180 PKhKP PKPpre 03 38 45.0
comp=Z,2.2nm,0.9s,baz=257,slow=5.1,SNR=2.9
QSPA PKP **PKPdf 03 38 55.9 -0.2**
comp=Z,50nm,1.0s,baz=113,slow=0.8,SNR=42
QSPA PP **PP 03 40 48.6 +0.6**
comp=Z,14nm,1.0s,baz=25,slow=2.0,SNR=1.9
QSPA SKKPbc SKKPbc 03 52 22.7 -5.8
comp=Z,5.0nm,1.0s,baz=191,slow=0.8,SNR=4.3
MBWA Marble Bar 128.19 270 IAMs_20 IAMs_20 04 30 25.2
comp=Z,49µm,20.0s
MDRS Chennai 128.61 338 *e*P **PKPdf 03 39 01.0 -2.5**
PMBI Palembang 129.03 300 IAMs_20 IAMs_20 04 27 05.6
comp=Z,37µm,22.0s
ATD Arta Tunnel 129.51 25 IAMs_20 IAMs_20 04 38 13.3
comp=Z,44µm,20.0s
FURI Furi 130.31 31 IAMs_20 IAMs_20 04 47 16.2
comp=Z,55µm,20.0s
GSI Gunungsitoli 130.66 311 IAMs_20 IAMs_20 04 41 19.9
comp=Z,41µm,22.0s
SNAA Sanae 131.25 158 IAMs_20 IAMs_20 04 43 25.0
comp=Z,35µm,21.0s
SNAA Sanae 131.25 158 PKP **PKPdf 03 39 07.3 +0.4**
comp=Z,29nm,1.1s,baz=276,slow=1.3,SNR=32
SNAA PP **PP 03 41 25.4 +0.1**
comp=Z,16nm,1.2s,baz=272,slow=6.6,SNR=3.8
LODK Lodwar 133.56 39 IAMs_20 IAMs_20 04 40 30.1
comp=Z,69µm,22.0s
PALK Pallekele 133.88 334 IAMs_20 IAMs_20 04 47 17.7
comp=Z,62µm,20.0s
NVL N'lazarevskaya 136.04 158 *e*PKHKP PKPpre 03 38 58.5
NVL pmax pmax
comp=Z,11nm,0.7s
NVL pmax pmax
comp=N,16µm,27.0s
HMDM Hanimaadhoo 136.53 344 IAMs_20 IAMs_20 04 47 10.9
comp=Z,46µm,21.0s
TSUM Tsumeb 137.37 79 **PKPdf 03 39 14.4 -5.6**
KIBK Kibwezi 139.85 40 IAMs_20 IAMs_20 04 50 26.2
comp=Z,62µm,20.0s
KOOLE Kule 141.39 83 **PKPdf 03 39 24.1 -3.1**
KAAM Kaadhehdhoo 142.63 342 IAMs_20 IAMs_20 04 49 21.0
comp=Z,32µm,22.0s
BOSA Boshof 147.93 88 **PKPdf 03 39 39.1 +0.7**
BOSA Boshof 147.93 88 PKPbc **PKPdf 03 39 39.7 +1.4**
comp=Z,76nm,1.1s,baz=304,slow=3.1,SNR=19
MAW Mawson 148.07 180 PKPbc **PKPbc 03 39 39.5 -0.8**
comp=Z,175nm,1.0s,baz=210,slow=2.8,SNR=25
MSEY Mahe Island 148.45 13 IAMs_20 IAMs_20 04 55 22.8
comp=Z,34µm,19.0s
OPO Ambohidratompo158.26 42 PKP **PKPdf 03 39 54.9 +1.2**
comp=Z,19nm,1.1s,baz=72,slow=1.7,SNR=11
OPO PP **PP 03 44 08.0 +1.1**
comp=Z,9.5nm,1.2s,baz=324,slow=6.1,SNR=3.0

NEIC ***06*** *03:22:03.2±0.7, 35°.929N±0°.010×117°.74W±0°.01, h9km±4km, Error ellipse: s-maj=1.6km s-min=1.1km az=151.0*
PAS 06 03:22:03.6±0.5, **35°.922N**±0°.006×**117°.73W**±0°.01, **h8**km±6km, **ML4.9**/15, **ML4.9**/16(NEIC), **Error ellipse: s-maj=1.4km s-min=0.9km az=72.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WVPM	**Volcano Peak E**	**0.08**	**291**		Pg	03 22 05.8	0.0
WVPM					Sg	03 22 07.6	+0.2
WCSM	**Coso Springs S**	**0.11**	**344**		Pg	03 22 06.2	-0.1
WCSM					Sg	03 22 07.7	-0.4
TOW	**Tower One**	**0.12**	**194**		Pg	03 22 06.5	+0.3
TOW					Sg	03 22 09.3	+1.2
CLC	**China Lake**	**0.15**	**135**		Pg	03 22 09.2	+2.4
WRVM	**Rose V. Centra**	**0.16**	**303**		Pg	03 22 07.0	0.0
WRVM					Sg	03 22 09.6	+0.3
WNMM	**Nine Mile Cany**	**0.16**	**241**		Pg	03 22 07.0	0.0
WNMM					Sg	03 22 09.7	+0.4
MFS	**McCloud Flat S**	**0.22**	**332**		Pg	03 22 08.2	+0.1
MFS					Sg	03 22 11.7	+0.5
SRTC	**Snort**	**0.23**	**184**		Pg	03 22 08.6	+0.4
MPMC	**Manual Prospec**	**0.24**	**55**		Pg	03 22 08.4	0.0
MPMC					Sg	03 22 11.7	0.0
LRMC	**Laurel Mtn Rad**	**0.44**	**175**		Pg	03 22 11.9	-0.4
WORM	**Onyx Ranch**	**0.47**	**242**		Pg	03 22 12.4	-0.4
WORM					Sg	03 22 18.7	-0.3
WBSM	**Bird Springs**	**0.51**	**221**		Pg	03 22 13.4	-0.1
WBSM					Sg	03 22 19.9	-0.3
WHFM	**Hanning Flat**	**0.55**	**246**		Pg	03 22 14.0	-0.3
WHFM					Sg	03 22 21.2	-0.3
ISA	**Isabella, Lake**	**0.66**	**247**		Sg	03 22 24.6	-0.3
ISA	**Isabella, Lake**	**0.66**	**247**	Pg	Pg	03 22 16.3	0.0
ISA				IAML		03 22 29.7	
	comp=N,27µm,1.4s						
ISA				IAML		03 22 31.6	
	comp=E,28µm,1.1s						
WASM	**Alta Sierra Ca**	**0.70**	**255**		Sg	03 22 25.9	-0.2
CCAC	**Calif City Air**	**0.80**	**197**	Pg	Pg	03 22 19.1	0.0
GWY	**Greenwater Val**	**0.90**	**73**	Pg	Pg	03 22 20.6	-0.2
GWY				IAML		03 22 48.9	
	comp=E,52µm,1.3s						
TEJ	**El Tejon**	**1.04**	**229**		Sg	03 22 35.9	-1.3
GRAC	**Grapevine Rang**	**1.11**	**15**	Pg	Pg	03 22 24.2	-0.8
GRAC				IAML		03 22 43.7	
	comp=N,34µm,1.3s						
GRAC				IAML		03 23 02.9	
	comp=E,34µm,1.1s						
VOG	**Valley Oaks Go**	**1.40**	**287**		Pn	03 22 27.5	-1.8
GMN	**Gold Mountain**	**1.43**	**15**		Pn	03 22 29.7	-0.3
GMN				IAML		03 22 37.5	
	comp=N,13µm,1.3s						
DSP	**Deep Springs**	**1.46**	**352**		Pn	03 22 29.9	-0.2
DSP				IAML		03 22 51.2	
	comp=N,18µm,1.4s						

TPNV	**Topopah Spring**	**1.57**	**49**			Pn	03 22 32.3	+0.3
TPNV					IAML		03 23 01.4	
	comp=N,20μm,1.2s							

*NEIC **06** 03:22:47.8±0.3,35°.895N±0°.009×117°.73W±0°.01, h10km±1km, Error ellipse: s-maj=2.7km s-min=1.7km az=13.0*

PAS 06 03:22:48.3±0.3,35°.891N±0°.007×117°.74W±0°.01, h9km±5km, ML4.6, ML5.0/10(NEIC), **Error ellipse: s-maj=1.4km s-min=0.7km az=128.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.09**	**195**		Pg	03 22 51.1	+0.4
WVPM	**Volcano Peak E**	**0.09**	**312**		Pg	03 22 50.7	0.0
WVPM					Sg	03 22 52.6	0.0
JRC2	**Joshua Ridge**	**0.11**	**327**		Pg	03 22 51.0	-0.1
JRC2					Sg	03 22 53.1	+0.1
CLC	**China Lake**	**0.14**	**124**		Pg	03 22 51.3	-0.1
CLC					Sg	03 22 53.6	+0.1
WCSM	**Coso Springs S**	**0.14**	**350**		Pg	03 22 51.2	-0.2
WCSM					Sg	03 22 53.7	0.0
WNMM	**Nine Mile Cany**	**0.14**	**251**		Pg	03 22 51.5	+0.1
WNMM					Sg	03 22 54.1	+0.5
WRVM	**Rose V. Centra**	**0.17**	**313**		Pg	03 22 51.9	-0.1
WRVM					Sg	03 22 54.6	+0.1
SRTC	**Snort**	**0.20**	**183**		Sg	03 22 56.6	+1.3
MFS	**McCloud Flat S**	**0.24**	**337**		Pg	03 22 53.5	+0.1
MFS					Sg	03 22 57.0	+0.2
MPMC	**Manual Prospec**	**0.26**	**50**		Pg	03 22 53.5	-0.1
MPMC					Sg	03 22 57.2	0.0
LRMC	**Laurel Mtn Rad**	**0.41**	**174**		Sg	03 23 02.1	+0.2
WORM	**Onyx Ranch**	**0.46**	**245**		Pg	03 22 56.7	-0.5
WORM					Sg	03 23 02.9	-0.3
CCCA	**Chr Cany lake**	**0.47**	**140**		Sg	03 23 04.6	+0.8
WBSM	**Bird Springs**	**0.48**	**223**		Pg	03 22 57.3	-0.4
WBSM					Sg	03 23 04.0	-0.1
WHFM	**Hanning Flat**	**0.54**	**249**		Pg	03 22 58.2	-0.5
WHFM					Sg	03 23 05.5	-0.3
CWC	**Cottonwood Cre**	**0.61**	**333**		Pg	03 23 00.1	-0.2
DTP	**Desert Tortois**	**0.63**	**188**		Sg	03 23 08.3	-0.4
ISA	**Isabella, Lake**	**0.64**	**249**		Sg	03 23 08.8	-0.4
WASM	**Alta Sierra Ca**	**0.68**	**257**		Sg	03 23 10.4	-0.1
CCAC	**Calif City Air**	**0.77**	**197**	Pg	Pg	03 23 02.8	-0.4
CCAC					IAML	03 23 07.7	
	comp=N,55μm,2.8s						
CCAC					IAML	03 23 07.7	
	comp=E,49μm,2.8s						
GSC	**Goldstone, Bar**	**0.96**	**128**	Pg	Pg	03 23 05.7	-1.1
GSC					IAML	03 23 22.3	
	comp=N,56μm,0.9s						
GRAC	**Grapevine Rang**	**1.14**	**15**		Pg	03 23 09.3	-1.0
GRAC					IAML	03 23 30.4	
	comp=N,45μm,3.5s						
WCT	**Wildcat Mounta**	**1.27**	**45**		Pn	03 23 10.9	-1.5
WCT					IAML	03 23 18.6	
	comp=E,27μm,3.7s						
WCT					IAML	03 23 29.4	
	comp=N,30μm,4.0s						

*NEIC **06** 03:23:50.3±0.8,35°.800N±0°.008×117°.60W±0°.01, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.0km az=130.0*

PAS 06 03:23:50.7±0.7,35°.80N±0°.01×117°.62W±0°.02, h11km±5km, ML5.2/52, **ML4.9**/28(NEIC), **Error ellipse: s-maj=2.0km s-min=1.5km az=72.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.02**	**53**		Pg	03 23 52.8	-0.1
CLC					Sg	03 23 54.1	-0.2
TOW	**Tower One**	**0.12**	**273**		Pg	03 23 54.1	+0.3
TOW					Sg	03 23 57.3	+1.3
SRTC	**Snort**	**0.15**	**224**		Pg	03 23 54.3	0.0
SRTC					Sg	03 23 57.8	+1.0
JRC2	**Joshua Ridge**	**0.24**	**319**		Pg	03 23 55.6	-0.2
JRC2					Sg	03 23 59.3	+0.1
WNMM	**Nine Mile Cany**	**0.24**	**280**		Sg	03 23 59.6	+0.6
WCSM	**Coso Springs S**	**0.25**	**331**		Sg	03 23 59.5	-0.1
MPMC	**Manual Prospec**	**0.28**	**22**		Pg	03 23 56.4	-0.1
MPMC					Sg	03 24 00.3	0.0
WRVM	**Rose V. Centra**	**0.30**	**313**		Pg	03 23 56.6	-0.3
WRVM					Sg	03 24 01.2	+0.1
LRMC	**Laurel Mtn Rad**	**0.33**	**189**		Pg	03 23 56.7	-0.7
LRMC					Sg	03 24 01.6	-0.3
CCCA	**Chr Cany lake**	**0.35**	**143**		Sg	03 24 02.7	+0.4
WBSM	**Bird Springs**	**0.50**	**238**		Pg	03 23 60.0	-0.6
WBSM					Sg	03 24 06.8	-0.4
WORM	**Onyx Ranch**	**0.52**	**258**		Pg	03 24 00.3	-0.6
WORM					Sg	03 24 07.2	-0.5
DTP	**Desert Tortois**	**0.57**	**199**		Pg	03 24 01.2	-0.6
DTP					Sg	03 24 09.0	-0.3
WHFM	**Hanning Flat**	**0.60**	**260**		Pg	03 24 01.9	-0.6
WHFM					Sg	03 24 09.9	-0.6
ISA	**Isabella, Lake**	**0.71**	**259**	Pg	Pb	03 24 05.2	+0.1
ISA	**Isabella, Lake**	**0.71**	**259**		Sg	03 24 13.1	-0.7
CCAC	**Calif City Air**	**0.73**	**207**		Pg	03 24 04.0	-0.8
CCAC					IAML	03 24 14.7	
	comp=E,88μm,0.6s						
CCAC					IAML	03 24 15.4	
	comp=N,68μm,1.4s						
CCAC	**Calif City Air**	**0.73**	**207**		Sg	03 24 14.2	-0.2
WASM	**Alta Sierra Ca**	**0.77**	**265**		Pg	03 24 04.8	-0.7
WASM					Sg	03 24 15.2	-0.5
GSC	**Goldstone, Bar**	**0.83**	**127**		Sg	03 24 17.4	-0.3
GSC	**Goldstone, Bar**	**0.83**	**127**	Pg	Pg	03 24 05.9	-0.8
GSC					IAML	03 24 18.2	
	comp=N,29μm,1.3s						
GSC					IAML	03 24 19.7	
	comp=E,50μm,1.1s						
HYS	**Haystack Butte**	**0.94**	**178**		Pg	03 24 07.6	-1.2
HYS					Sg	03 24 20.1	-0.9
EDW2	**Edwards Air Fo**	**0.97**	**199**		Pg	03 24 08.2	-1.3
EDW2					Sg	03 24 21.4	-0.7
SPG2	**Springville 2**	**1.01**	**293**		Pg	03 24 09.1	-1.1
SPG2					Sg	03 24 22.9	-0.5
TEJ	**El Tejon**	**1.04**	**237**		Sg	03 24 22.9	-1.6
TPO	**Tropico Hills**	**1.05**	**209**		Sg	03 24 24.2	-0.4
RRX	**Edison Barstow**	**1.06**	**151**		Sb	03 24 24.9	+0.1
VES	**Vestal, Richgr**	**1.19**	**272**		Sb	03 24 27.6	-1.1
GRAC	**Grapevine Rang**	**1.21**	**10**	Pg	Pn	03 24 12.9	-0.7
GRAC					IAML	03 24 34.3	
	comp=E,24μm,1.4s						
GRAC					IAML	03 24 37.0	
	comp=N,18μm,0.9s						
GMN	**Gold Mountain**	**1.52**	**11**	Pg	Pn	03 24 18.4	+0.3
TPNV	**Topopah Spring**	**1.59**	**44**	Pn	Pn	03 24 19.1	+0.2
TPNV					IAML	03 24 27.8	
	comp=N,12μm,1.5s						
TPNV					IAML	03 24 53.0	
	comp=N,10μm,1.2s						
PASC	**Pasadena Art C**	**1.69**	**196**		Pn	03 24 20.8	+0.6
PASC					IAML	03 24 46.7	
	comp=E,9μm,0.6s						
PASC					IAML	03 24 50.5	
	comp=N,9μm,1.0s						
BCW	**Bitter Crk WRg**	**1.70**	**240**		Pb	03 24 22.1	+0.1
MLSC	**Mira Loma**	**1.79**	**179**		Sb	03 24 47.1	+1.1
MZP	**Montezuma Peak**	**1.90**	**6**	Pn	Pn	03 24 23.6	+0.3
ELS	**Elsinore Mount**	**2.16**	**176**	Pn	Pn	03 24 27.7	+1.1
ELS					IAML	03 25 01.0	
	comp=E,8μm,0.6s						
ELS					IAML	03 25 01.6	
	comp=N,7μm,1.0s						
TPH	**Tonopah**	**2.29**	**8**	Pn	Pn	03 24 28.1	-0.5

*NEIC **06** 03:25:27.5±0.5,35°.861N±0°.004×117°.67W±0°.01, h10km±1km, Error ellipse: s-maj=2.7km s-min=1.7km az=25.0*

PAS 06 03:25:28.0±0.5,35°.861N±0°.005×117°.67W±0°.01, h10km±3km, ML4.9/30, **ML4.8**/32(NEIC), **Error ellipse: s-maj=1.5km s-min=0.7km az=96.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.07**	**127**		Pg	03 25 30.3	0.0
CLC					Sg	03 25 31.8	-0.3
TOW	**Tower One**	**0.09**	**236**		Sg	03 25 33.4	+1.0
WVPM	**Volcano Peak E**	**0.15**	**307**		Pg	03 25 31.3	-0.2
WVPM					Sg	03 25 33.9	0.0
JRC2	**Joshua Ridge**	**0.17**	**317**		Pg	03 25 31.7	-0.1
JRC2					Sg	03 25 34.4	0.0
SRTC	**Snort**	**0.18**	**201**		Sg	03 25 35.6	+1.1
WCSM	**Coso Springs S**	**0.18**	**335**		Pg	03 25 31.9	-0.1
WCSM					Sg	03 25 34.6	-0.2
WNMM	**Nine Mile Cany**	**0.19**	**265**		Pg	03 25 32.2	+0.2
WNMM					Sg	03 25 35.0	+0.2
WRVM	**Rose V. Centra**	**0.23**	**310**		Pg	03 25 32.6	-0.2
WRVM					Sg	03 25 36.1	0.0
MPMC	**Manual Prospec**	**0.25**	**37**		Pg	03 25 32.9	-0.2
MPMC					Sg	03 25 36.7	+0.1
MFS	**McCloud Flat S**	**0.30**	**330**		Pg	03 25 33.9	-0.2
MFS					Sg	03 25 38.2	+0.1
LRMC	**Laurel Mtn Rad**	**0.38**	**181**		Sg	03 25 40.4	-0.2
CCCA	**Chr Cany lake**	**0.42**	**143**		Pg	03 25 36.1	-0.1
CCCA					Sg	03 25 42.2	+0.5
WORM	**Onyx Ranch**	**0.49**	**251**		Sg	03 25 43.7	-0.5
WBSM	**Bird Springs**	**0.50**	**230**		Pg	03 25 37.4	-0.4
WBSM					Sg	03 25 44.3	-0.1
WHFM	**Hanning Flat**	**0.57**	**254**		Sg	03 25 46.2	-0.6
DTP	**Desert Tortois**	**0.61**	**194**		Pg	03 25 39.2	-0.6
DTP					Sg	03 25 47.5	-0.3
QSM	**Queen of Sheba**	**0.66**	**81**		Pg	03 25 40.8	0.0
QSM					Sg	03 25 48.8	-0.6
QSM					IAML	03 25 52.0	
	comp=N,52μm,0.8s						
QSM					IAML	03 25 52.7	
	comp=E,66μm,0.7s						
CWC	**Cottonwood Cre**	**0.67**	**330**		Pg	03 25 40.5	-0.4
CWC					Sg	03 25 50.2	+0.5
ISA	**Isabella, Lake**	**0.68**	**253**	Pg	Pg	03 25 40.6	-0.6
ISA					Sg	03 25 49.2	-0.9
ISA					IAML	03 25 49.9	
	comp=N,35μm,0.7s						
CGO	**Cerro Gordo**	**0.70**	**351**		Pg	03 25 40.8	-0.8
CGO					Sg	03 25 50.8	0.0
WASM	**Alta Sierra Ca**	**0.73**	**261**		Pg	03 25 41.5	-0.6
WASM					Sg	03 25 51.2	-0.5
CCAC	**Calif City Air**	**0.76**	**202**	Pg	Pg	03 25 41.4	-1.2
FURC	**Furnace Creek,**	**0.89**	**47**		Pg	03 25 45.0	-0.2
FURC					Sg	03 25 56.8	0.0
GSC	**Goldstone, Bar**	**0.90**	**128**		Pg	03 25 44.3	-1.0
GSC					IAML	03 25 58.8	
	comp=E,28μm,1.0s						
GSC					IAML	03 26 11.3	
	comp=N,20μm,1.0s						
HYS	**Haystack Butte**	**1.00**	**175**		Sg	03 25 59.1	-1.0
GRAC	**Grapevine Rang**	**1.16**	**12**		Sg	03 26 05.5	+0.2
GRAC	**Grapevine Rang**	**1.16**	**12**		Pb	03 25 49.3	-0.8
WCT	**Wildcat Mounta**	**1.26**	**42**	Pn	Pn	03 25 51.0	-0.6
WCT					IAML	03 26 11.1	
	comp=E,15μm,0.5s						
WCT					IAML	03 26 16.3	
	comp=N,11μm,1.4s						
GMN	**Gold Mountain**	**1.47**	**13**	Pn	Pn	03 25 54.1	-0.7
GMN					IAML	03 26 16.8	
	comp=N,10μm,0.5s						
DSP	**Deep Springs**	**1.52**	**351**		Pn	03 25 54.6	-0.6
DSP					IAML	03 26 19.0	
	comp=E,10μm,1.0s						
TPNV	**Topopah Spring**	**1.58**	**46**	Pn	Pn	03 25 55.5	-0.7
BCW	**Bitter Crk WRg**	**1.69**	**238**	Pn	Pn	03 25 55.9	-1.8
BCW					IAML	03 26 45.7	
	comp=E,14μm,1.5s						
NV08	**Mina Array Sit**	**2.59**	**349**		Pg	03 26 16.7	-1.0
PRN	**Pahroc Range**	**2.61**	**53**		Pn	03 26 11.2	+0.9
PRN					IAML	03 26 57.6	
	comp=N,5μm,0.6s						
PRN					IAML	03 26 58.4	
	comp=E,6μm,0.8s						
TVH1	**TV Hill, Hawth**	**2.74**	**342**		Pg	03 26 19.5	-0.9
CMB	**Columbia Colle**	**3.07**	**316**		Pb	03 26 21.0	-1.7
MPK	**Martis Peak**	**3.91**	**332**	Pn	Pb	03 26 35.8	-1.3
PAHR	**Pah Rah Range**	**4.07**	**341**		Pn	03 26 33.6	+3.2
SPR3	**Spring Creek 3**	**4.11**	**39**	Pn	Pn	03 26 32.7	+1.6
MCCM	**Marconi Confer**	**4.75**	**300**	Pn	Pn	03 26 41.8	+2.3
MCCM					IAML	03 27 25.5	
	comp=E,732nm,1.5s						
HATC	**Hat Creek Radi**	**5.78**	**330**	Pn	Pn	03 26 57.0	+3.2
Q16A	**Castle Valley**	**6.01**	**58**		Pn	03 26 56.5	-0.6
KMPM	**Mount Pierce**	**6.82**	**314**	Pn	Pn	03 27 10.0	+1.9
HVU	**Hansel Valley**	**7.04**	**31**	Pn	Pn	03 27 13.6	+2.4
J05D	**Fort Rock, OR**	**7.91**	**341**	Pn	Pn	03 27 28.6	+5.6
I05D	**Terrebonne, OR**	**8.92**	**343**	Pn	Pn	03 27 39.5	+2.6
H04A	**Detroit Lake**	**9.46**	**340**	Pn	Pn	03 27 48.7	+4.5
HRY	**Holter Researc**	**11.69**	**20**	Pn	Pn	03 28 17.8	+2.9

*NEIC **06** 03:27:06.0±2.0,35°.93N±0°.01×117°.68W±0°.02, h10km±1km, Error ellipse: s-maj=3.2km s-min=2.7km az=299.0*

PAS 06 03:27:07.0±1.0,35°.91N±0°.02×117°.73W±0°.02, h8km±5km, ML4.8/20, **ML4.5**/62(NEIC), **Error ellipse: s-maj=2.8km s-min=1.8km az=134.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.08**	**296**		Pg	03 27 09.3	0.0
WVPM					Sg	03 27 11.0	+0.1
JRC2	**Joshua Ridge**	**0.10**	**316**		Pg	03 27 09.5	0.0
JRC2					Sg	03 27 11.4	+0.2
TOW	**Tower One**	**0.11**	**197**		Pg	03 27 09.8	+0.3
TOW					Sg	03 27 13.1	+1.7
WCSM	**Coso Springs S**	**0.12**	**343**		Pg	03 27 11.2	+1.4
WCSM					Sg	03 27 11.6	-0.1
CLC	**China Lake**	**0.14**	**133**		Pg	03 27 12.5	+2.4
WNMM	**Nine Mile Cany**	**0.16**	**244**		Pg	03 27 10.3	0.0
WNMM					Sg	03 27 13.2	+0.5
WRVM	**Rose V. Centra**	**0.16**	**305**		Pg	03 27 10.2	-0.3
WRVM					Sg	03 27 13.0	+0.1
MFS	**McCloud Flat S**	**0.23**	**333**		Pg	03 27 14.5	+2.8
MFS					Sg	03 27 14.8	0.0
MPMC	**Manual Prospec**	**0.24**	**53**		Pg	03 27 11.7	-0.2
MPMC					Sg	03 27 15.7	+0.5
LRMC	**Laurel Mtn Rad**	**0.43**	**175**		Sg	03 27 20.8	-0.5
WORM	**Onyx Ranch**	**0.47**	**243**		Sg	03 27 22.0	-0.4
WBSM	**Bird Springs**	**0.50**	**222**		Pg	03 27 16.7	-0.1
WBSM					Sg	03 27 23.0	-0.5
WHFM	**Hanning Flat**	**0.55**	**247**		Pg	03 27 17.4	-0.3
WHFM					Sg	03 27 24.5	-0.4
CGO	**Cerro Gordo**	**0.64**	**354**		Sg	03 27 28.3	+0.4
ISA	**Isabella, Lake**	**0.66**	**248**		Pg	03 27 19.2	-0.5
ISA				Sg	Sg	03 27 27.6	-0.7
ISA					IAML	03 27 28.6	
	comp=N,32μm,0.5s						
ISA					IAML	03 27 28.6	
	comp=E,27μm,0.4s						
WASM	**Alta Sierra Ca**	**0.70**	**256**		Sg	03 27 29.8	+0.1
CCAC	**Calif City Air**	**0.80**	**197**	Pg	Pg	03 27 20.8	-1.6
CCAC					Sg	03 27 32.7	0.0
CCAC					IAML	03 27 37.0	
	comp=E,26μm,0.6s						
CCAC					IAML	03 27 43.4	
	comp=N,26μm,1.4s						
GWY	**Greenwater Val**	**0.90**	**72**	Pg	Pg	03 27 21.3	-3.0
GWY					IAML	03 27 43.1	
	comp=N,18μm,0.8s						
GWY					IAML	03 27 52.6	
	comp=E,16μm,0.7s						
GSC	**Goldstone, Bar**	**0.97**	**129**	Pg	Pg	03 27 22.2	-3.4
GSC					IAML	03 27 33.1	
	comp=N,23μm,1.0s						
GRAC	**Grapevine Rang**	**1.12**	**15**	Pg	Pg	03 27 27.2	-1.3
GRAC					IAML	03 28 00.1	
	comp=E,7μm,1.2s						
GRAC					IAML	03 28 02.7	
	comp=N,9μm,1.2s						
MAGC	**SCE Magundon P**	**1.12**	**241**		Sg	03 27 42.2	-0.8
TJR	**Tejon Ranch**	**1.21**	**223**		Sg	03 27 45.2	-0.9
SBB	**Saddle Back Bu**	**1.23**	**184**		Sg	03 27 44.5	-2.0
WCT	**Wildcat Mounta**	**1.25**	**45**		Pn	03 27 29.4	-1.5
WCT					IAML	03 27 49.7	
	comp=E,7μm,0.6s						
BAKC	**Calstate**	**1.26**	**244**		Sn	03 27 48.1	+0.1
GMN	**Gold Mountain**	**1.43**	**15**		Pn	03 27 32.3	-1.3
DSP	**Deep Springs**	**1.47**	**352**		Pn	03 27 33.0	-0.7
BCW	**Bitter Crk WRg**	**1.69**	**235**		Pb	03 27 37.8	-0.6
PASC	**Pasadena Art C**	**1.78**	**192**	Pn	Pn	03 27 38.6	+0.5
PASC					IAML	03 28 04.8	
	comp=E,6μm,1.0s						
PASC					IAML	03 28 05.2	
	comp=N,6μm,1.3s						
MZP	**Montezuma Peak**	**1.81**	**9**	Pn	Pn	03 27 39.2	+0.5
ELS	**Elsinore Mount**	**2.27**	**174**	Pn	Pn	03 27 44.6	-0.3
ELS					IAML	03 28 21.0	
	comp=E,3μm,1.0s						
ELS					IAML	03 28 23.7	
	comp=N,2μm,1.2s						
V12A	**Nelson**	**2.34**	**94**	Pn	Pn	03 27 44.8	-1.2
V12A					IAML	03 27 56.9	
	comp=E,2μm,1.1s						
V12A					IAML	03 28 18.2	
	comp=N,4μm,0.9s						
S11A	**Rachel**	**2.35**	**42**	Pn	Pn	03 27 46.5	+0.5
S11A					IAML	03 29 02.3	
	comp=N,4μm,1.1s						
LHV	**Little Huntoon**	**2.42**	**345**	Pn	Pn	03 27 48.0	+1.3
LHV					IAML	03 28 59.2	
	comp=N,2μm,1.4s						
LHV					IAML	03 29 01.9	
	comp=E,2μm,1.5s						
PMPB	**Monarch Peak**	**2.51**	**278**	Pn	Pn	03 27 47.9	-0.3
PMPB					IAML	03 28 28.6	
	comp=N,2μm,0.8s						
PFO	**Pinyon Flats O**	**2.52**	**155**	Pn	Pn	03 27 49.7	+1.3
PFO					IAML	03 28 27.8	
	comp=N,3μm,1.4s						
PFO					IAML	03 28 36.4	
	comp=N,1μm,1.3s						
NVAR	**Mina Array Bea**	**2.55**	**350**	Pn	Pn	03 27 48.9	0.0
PRN	**Pahroc Range**	**2.62**	**54**	Pn	Pn	03 27 49.8	+0.1
PRN					IAML	03 28 43.2	
	comp=N,3μm,0.7s						
PRN					IAML	03 28 48.1	
	comp=E,3μm,1.4s						
WAKR	**Walker**	**2.92**	**333**	Pn	Pn	03 27 54.5	+0.4
R11B	**Troy Canyon, C**	**2.97**	**34**	Pn	Pn	03 27 55.3	+0.6
SAO	**San Andreas Ge**	**3.12**	**287**	Pn	Pn	03 27 57.0	+0.5
W13A	**Hualapai Mount**	**3.24**	**103**	Pn	Pn	03 27 59.3	+1.0
W13A					IAML	03 28 52.6	
	comp=N,2μm,1.4s						
CBX	**Cerro Bola**	**3.70**	**166**	Pn	Pn	03 28 04.3	-0.2
LCMT	**Little Creek M**	**3.77**	**72**	Pn	Pn	03 28 06.1	+0.4
KNB	**Kanab**	**4.10**	**73**	Pn	Pn	03 28 09.3	-0.9
KNB					IAML	03 29 35.2	
	comp=N,365nm,0.8s						
KNB					IAML	03 29 39.8	
	comp=E,373nm,1.0s						
ESJX	**Sierra Juarez**	**4.17**	**159**	Pn	Pn	03 28 10.4	-0.7
ESJX					IAML	03 29 14.8	
	comp=E,491nm,1.5s						
ESJX					IAML	03 29 27.9	
	comp=N,355nm,0.8s						
X16A	**Lo Mia Camp, P**	**5.36**	**104**	Pn	Pn	03 28 26.7	-0.8
DUN6	**Lazy B Ranch**	**7.90**	**113**	Pn	Pn	03 29 02.8	+0.5

*NEIC **06** 03:28:46.3±0.7,35°.915N±0°.008×117°.728W±0°.008, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.5km az=355.0*

PAS 06 03:28:46.5±0.8,35°.903N±0°.009×117°.722W±0°.006, h5km±2km, ML4.4/34, **ML4.3**/20(NEIC), **Error ellipse: s-maj=1.4km s-min=0.5km az=197.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**301**		Pg	03 28 48.7	+0.1
WVPM					Sg	03 28 50.4	+0.5
TOW	**Tower One**	**0.10**	**200**		Pg	03 28 52.1	+3.5
JRC2	**Joshua Ridge**	**0.11**	**319**		Pg	03 28 48.9	0.0
JRC2					Sg	03 28 50.7	+0.3
WCSM	**Coso Springs S**	**0.13**	**344**		Pg	03 28 49.1	-0.1
WCSM					Sg	03 28 51.0	0.0
CLC	**China Lake**	**0.13**	**130**		Pg	03 28 49.1	-0.1
CLC					Sg	03 28 51.8	+0.7
WNMM	**Nine Mile Cany**	**0.16**	**248**		Pg	03 28 50.1	+0.4
WNMM					Sg	03 28 52.7	+0.9
WRVM	**Rose V. Centra**	**0.17**	**308**		Pg	03 28 50.0	0.0
WRVM					Sg	03 28 52.8	+0.5
SRTC	**Snort**	**0.21**	**186**		Pg	03 28 51.3	+0.6
SRTC					Sg	03 28 55.3	+1.8
MFS	**McCloud Flat S**	**0.24**	**333**		Pg	03 28 51.2	0.0
MFS					Sg	03 28 54.7	+0.2
MPMC	**Manual Prospec**	**0.24**	**51**		Pg	03 28 51.4	0.0
LRMC	**Laurel Mtn Rad**	**0.42**	**176**		Pg	03 28 54.7	-0.1
LRMC					Sg	03 29 00.3	0.0
WORM	**Onyx Ranch**	**0.47**	**244**		Pg	03 28 55.0	-0.7
WORM					Sg	03 29 01.6	-0.1
CCCA	**Chr Cany lake**	**0.48**	**142**		Pg	03 28 56.4	+0.7
CCCA					Sb	03 29 03.4	-1.4
WBSM	**Bird Springs**	**0.50**	**223**		Pg	03 28 55.8	-0.4
WBSM					Sg	03 29 03.1	+0.4
WHFM	**Hanning Flat**	**0.55**	**248**		Pg	03 28 57.0	-0.1
WHFM					Sg	03 29 04.3	0.0
CWC	**Cottonwood Cre**	**0.61**	**332**		Pg	03 28 58.2	-0.1
CWC					Sg	03 29 06.5	+0.2
DTP	**Desert Tortois**	**0.64**	**189**		Sg	03 29 07.3	+0.1
CGO	**Cerro Gordo**	**0.65**	**354**		Pg	03 28 59.0	-0.1
CGO					Sg	03 29 07.8	+0.2
ISA	**Isabella, Lake**	**0.66**	**249**	Pg	Pg	03 28 59.4	+0.2
ISA					IAML	03 29 08.3	
	comp=N,20μm,0.3s						
ISA					IAML	03 29 08.3	
	comp=E,13μm,0.3s						
ISA	**Isabella, Lake**	**0.66**	**249**		Sg	03 29 07.8	+0.1
QSM	**Queen of Sheba**	**0.70**	**85**	Pg	Pg	03 29 00.4	+0.5
QSM					IAML	03 29 13.4	
	comp=N,14μm,1.0s						
WASM	**Alta Sierra Ca**	**0.70**	**257**		Pg	03 28 59.6	-0.4
WASM					Sg	03 29 09.1	0.0
CCAC	**Calif City Air**	**0.79**	**198**	Pg	Pg	03 29 01.8	+0.2
CCAC					IAML	03 29 13.1	
	comp=E,9μm,0.4s						
CCAC					IAML	03 29 15.8	
	comp=N,8μm,0.6s						
FURC	**Furnace Creek,**	**0.90**	**51**		Sg	03 29 15.9	+0.6
SPG2	**Springville 2**	**0.90**	**290**		Pg	03 29 03.1	-0.7
SPG2					Sg	03 29 14.8	-0.6
GWY	**Greenwater Val**	**0.90**	**71**

MPMC					Sg	03 29 40.3	+0.4	
MFS	**McCloud Flat S**	**0.24**	**332**		Pg	03 29 37.2	+0.3	
MFS					Sg	03 29 40.8	+0.7	
LRMC	**Laurel Mtn Rad**	**0.42**	**177**		Pg	03 29 38.1	-2.1	
LRMC					Sg	03 29 46.2	+0.4	
WORM	**Onyx Ranch**	**0.48**	**245**		Pn	03 29 47.6	+1.7	
WORM					Sg	03 29 47.7	+0.2	
WHFM	**Hanning Flat**	**0.56**	**248**		Sg	03 29 50.3	+0.3	
DTP	**Desert Tortois**	**0.64**	**190**		Sg	03 29 52.9	+0.2	
ISA	**Isabella, Lake**	**0.67**	**249**	Sg	Sg	03 29 53.3	-0.1	
WASM	**Alta Sierra Ca**	**0.71**	**257**		Sg	03 29 55.1	+0.3	
GSC	**Goldstone, Bar**	**0.95**	**129**	Pg	Pg	03 29 49.7	-0.6	
GSC				IAML		03 30 04.7		
	comp=N,25μm,0.7s							
VES	**Vestal, Richgr**	**1.12**	**267**		Sg	03 30 08.3	+0.3	
MAGC	**SCE Magundon P**	**1.12**	**242**		Sg	03 30 08.0	-0.3	
GRAC	**Grapevine Rang**	**1.13**	**14**		Pg	03 29 53.3	-0.4	
GRAC				IAML		03 30 11.5		
	comp=N,14μm,0.9s							
GRAC				IAML		03 30 14.9		
	comp=E,15μm,0.9s							
TJR	**Tejon Ranch**	**1.21**	**224**		Pg	03 29 54.0	-1.4	
DSP	**Deep Springs**	**1.48**	**352**		Pn	03 29 59.6	0.0	
DSP				IAML		03 30 44.9		
	comp=N,3μm,4.9s							
NV11	**Mina Array Sit**	**2.55**	**352**	Pn	Pn	03 30 14.5	0.0	
WAKR	**Walker**	**2.94**	**333**	Pn	Pn	03 30 20.4	+0.5	
R11B	**Troy Canyon, C**	**2.98**	**34**	Pn	Pn	03 30 19.6	-0.8	

*NEIC **06** 03:30:24.7±1.4,35°.54N±0°.01×117°.352W±0°.005, h10km±1km, Error ellipse: s-maj=2.8km s-min=1.9km az=87.0*

PAS 06 03:30:25.1±1.1,**35°.557N**±0°.003×**117°.36W**±0°.01, **h9**km±4km,**ML4.8**/126,**ML4.5**/24(NEIC),**Error ellipse: s-maj=1.8km s-min=0.4km az=82.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.03**	**189**		Pg	03 30 27.1	+0.3
CCCA					Sg	03 30 28.7	+0.7
LRMC	**Laurel Mtn Rad**	**0.28**	**254**		Pn	03 30 34.1	-1.4
LRMC					Sg	03 30 34.5	+0.2
CLC	**China Lake**	**0.32**	**323**		Pg	03 30 31.4	-0.1
CLC					Sg	03 30 35.8	0.0
SRTC	**Snort**	**0.35**	**293**		Pg	03 30 31.6	-0.3
SRTC					Sg	03 30 37.5	+1.0
TOW	**Tower One**	**0.41**	**307**		Sg	03 30 39.8	+1.1
DTP	**Desert Tortois**	**0.49**	**234**		Pg	03 30 33.9	-0.7
DTP					Sg	03 30 40.7	-0.3
MPMC	**Manual Prospec**	**0.51**	**348**		Pg	03 30 34.4	-0.6
GSC	**Goldstone, Bar**	**0.52**	**119**		Sg	03 30 41.9	0.0
GSC	**Goldstone, Bar**	**0.52**	**119**	Pg	Pg	03 30 34.8	-0.3
GSC				IAML		03 30 42.1	
	comp=N,31μm,0.7s						
GSC				IAML		03 30 42.5	
	comp=E,44μm,0.6s						
WVPM	**Volcano Peak E**	**0.54**	**317**		Pn	03 30 42.8	+3.7
JRC2	**Joshua Ridge**	**0.56**	**319**		Pg	03 30 35.4	-0.6
JRC2					Sg	03 30 43.4	0.0
QSM	**Queen of Sheba**	**0.57**	**44**		Sg	03 30 43.5	-0.1
QSM	**Queen of Sheba**	**0.57**	**44**	Pg	Pg	03 30 36.1	0.0
QSM				IAML		03 30 43.7	
	comp=E,42μm,0.6s						
QSM				IAML		03 30 43.7	
	comp=N,48μm,0.9s						
WRVM	**Rose V. Centra**	**0.62**	**316**		Sg	03 30 45.0	-0.4
WBSM	**Bird Springs**	**0.64**	**268**		Pg	03 30 36.7	-0.7
WBSM					Sg	03 30 45.5	-0.3
CCAC	**Calif City Air**	**0.67**	**233**		Sg	03 30 46.7	-0.1
CCAC	**Calif City Air**	**0.67**	**233**	Pg	Pg	03 30 38.1	+0.1
CCAC				IAML		03 30 50.7	
	comp=N,59μm,0.5s						
CCAC				IAML		03 30 50.9	
	comp=E,59μm,0.5s						
MFS	**McCloud Flat S**	**0.69**	**324**		Sg	03 30 47.5	0.0
HYS	**Haystack Butte**	**0.71**	**194**		Pg	03 30 38.2	-0.6
HYS					Sg	03 30 48.1	+0.1
WORM	**Onyx Ranch**	**0.73**	**281**		Pg	03 30 38.3	-0.9
WORM					Sg	03 30 47.6	-1.2
RRX	**Edison Barstow**	**0.74**	**156**		Sg	03 30 48.6	-0.4
WHFM	**Hanning Flat**	**0.82**	**280**		Pg	03 30 40.0	-0.9
WHFM					Sg	03 30 51.0	-0.5
GWY	**Greenwater Val**	**0.84**	**42**		Sg	03 30 51.8	-0.5
GWY	**Greenwater Val**	**0.84**	**42**	Pg	Pg	03 30 41.4	+0.1
GWY				IAML		03 30 54.3	
	comp=E,27μm,0.7s						
GWY				IAML		03 30 55.5	
	comp=N,24μm,0.6s						
EDW2	**Edwards Air Fo**	**0.85**	**218**		Pg	03 30 40.6	-0.9
EDW2					Pn	03 30 51.6	+8.3
EDW2					Sg	03 30 51.9	-0.6
ISA	**Isabella, Lake**	**0.92**	**277**		Pn	03 30 53.6	+9.4
ISA	**Isabella, Lake**	**0.92**	**277**	Pg	Pg	03 30 41.7	-0.9
ISA	**Isabella, Lake**	**0.92**	**277**	IAML		03 30 56.3	
	comp=N,10μm,0.7s						
ISA				IAML		03 30 56.8	
	comp=E,10μm,0.8s						
SHOC	**Shoshone, Teco**	**0.94**	**68**		Pg	03 30 42.8	-0.5
SHOC					Sb	03 30 56.2	-0.1
SBB	**Saddle Back Bu**	**0.95**	**204**		Pn	03 30 54.5	+10
SBB					Sg	03 30 54.8	-0.8
TPO	**Tropico Hills**	**0.98**	**227**		Pg	03 30 42.7	-1.2
TPO					Pb	03 30 42.9	-1.4
TPO					Sb	03 30 57.4	0.0
FURC	**Furnace Creek,**	**0.99**	**24**		Pg	03 30 43.8	-0.4
WASM	**Alta Sierra Ca**	**0.99**	**281**		Pg	03 30 42.9	-1.2
VTV	**Victorville**	**0.99**	**179**		Pg	03 30 43.2	-1.0
VTV					Pb	03 30 43.3	-1.2
VTV					Sb	03 30 57.7	-0.1
ADO	**Adelanto Recei**	**1.01**	**184**		Pg	03 30 44.4	0.0
ADO					Sn	03 30 59.0	-0.8
CGO	**Cerro Gordo**	**1.05**	**340**		Pg	03 30 44.5	-0.9
CGO					Sg	03 30 59.2	+0.1
CWC	**Cottonwood Cre**	**1.06**	**327**		Sg	03 30 58.5	-0.7
DSCC	**Desert Studies**	**1.10**	**112**		Pg	03 30 44.7	-1.6
HEC	**Hector,Ludlow**	**1.11**	**131**		Pg	03 30 44.9	-1.4
HEC					Pb	03 30 45.2	-1.3
HEC					Sg	03 31 00.3	-0.5
TEJ	**El Tejon**	**1.14**	**254**		Pg	03 30 45.2	-1.7
ALPC	**Antelope**	**1.16**	**222**		Pg	03 30 46.7	-0.6
LRRC	**Littlerock Res**	**1.17**	**208**		Pb	03 30 46.3	-1.0
HOLC	**Holcomb Ridge**	**1.17**	**200**		Pg	03 30 46.2	-1.2
HOLC					Pb	03 30 46.8	-0.7
HOLC					Sb	03 31 02.7	0.0
TUQ	**Turquoise Moun**	**1.18**	**95**		Pg	03 30 46.5	-1.1
TUQ					Sg	03 31 02.3	-0.6
LEOC	**Leona Valley**	**1.21**	**220**		Pb	03 30 47.1	-1.0
CJV	**Casa Juvan**	**1.21**	**212**		Pb	03 30 47.0	-1.2
JNH	**Juniper Hills**	**1.21**	**204**		Pb	03 30 47.2	-1.0
THC	**Tehachapi Micr**	**1.25**	**239**		Pn	03 30 47.9	-1.0
AMDNV	**Amargosa**	**1.25**	**44**		Pn	03 30 47.6	-1.2
AMDNV					Sb	03 31 03.3	-1.8
TJR	**Tejon Ranch**	**1.25**	**245**		Pn	03 30 47.3	-1.5
SIL	**Silver Peak**	**1.28**	**160**		Pn	03 30 49.1	-0.2
MAGC	**SCE Magundon P**	**1.29**	**262**		Pn	03 30 48.9	-0.5
SPG2	**Springville 2**	**1.31**	**300**		Pn	03 30 48.8	-0.9
SPG2					Sb	03 31 05.6	-1.3
BTPC	**Burnt Peak**	**1.32**	**229**		Pn	03 30 49.7	-0.2
BFSC	**Mount Baldy Ra**	**1.34**	**191**		Pn	03 30 49.1	-1.0
CHFC	**Chilao Flat St**	**1.34**	**204**		Pn	03 30 49.4	-0.8
BBRC	**Big Bear Solar**	**1.34**	**164**		Pn	03 30 50.0	-0.2
WCT	**Wildcat Mounta**	**1.37**	**25**		Pn	03 30 49.2	-1.2
WCT				IAML		03 31 10.8	
	comp=E,5μm,1.1s						
VES	**Vestal, Richgr**	**1.43**	**282**		Pn	03 30 51.5	+0.2
GRAC	**Grapevine Rang**	**1.44**	**360**	Pn	Pn	03 30 50.9	-0.5
GRAC				IAML		03 31 03.6	
	comp=E,5μm,2.6s						
GRAC				IAML		03 31 15.7	
	comp=N,8μm,0.7s						
SVD	**Seven Oaks Dam**	**1.46**	**172**		Pg	03 30 53.1	0.0
PASC	**Pasadena Art C**	**1.54**	**206**		Pb	03 30 53.8	+0.1
PASC	**Pasadena Art C**	**1.54**	**206**		Pn	03 30 52.6	-0.2
PASC				IAML		03 31 17.7	
	comp=E,4μm,0.7s						
PASC				IAML		03 31 20.2	
	comp=N,5μm,2.3s						
TPNV	**Topopah Spring**	**1.65**	**32**	Pn	Pb	03 30 55.4	-0.4
GMN	**Gold Mountain**	**1.74**	**3**		Pn	03 30 55.7	-0.1

*NEIC **06** 03:31:57.3±0.9,35°.85N±0°.03×117°.71W±0°.01,h5km±1km, Error ellipse: s-maj=5.1km s-min=2.5km az=13.0*

PAS 06 03:31:58.3±0.5,**35°.89N**±0°.01×**117°.71W**±0°.01,**h6**km±2km, **ML4.1**/13,**ML4.0**/12(NEIC),**Error ellipse: s-maj=2.1km s-min=1.3km az=201.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.10**	**305**		Pg	03 32 00.8	+0.1
JRC2	**Joshua Ridge**	**0.12**	**320**		Pg	03 32 01.0	+0.1
JRC2					Sg	03 32 03.2	+0.4
WCSM	**Coso Springs S**	**0.14**	**342**		Pg	03 32 03.6	+2.3
WRVM	**Rose V. Centra**	**0.19**	**309**		Pg	03 32 02.0	0.0
WRVM					Sg	03 32 05.0	+0.5
MPMC	**Manual Prospec**	**0.25**	**47**		Pg	03 32 03.2	0.0
MPMC					Sg	03 32 06.9	+0.3
MFS	**McCloud Flat S**	**0.25**	**333**		Pg	03 32 03.0	-0.3
MFS					Sg	03 32 07.1	+0.4
WORM	**Onyx Ranch**	**0.47**	**246**		Sg	03 32 13.6	0.0
WBSM	**Bird Springs**	**0.49**	**225**		Sg	03 32 14.5	+0.2
WHFM	**Hanning Flat**	**0.55**	**250**		Sg	03 32 16.2	+0.1
ISA	**Isabella, Lake**	**0.66**	**250**		Sg	03 32 19.6	+0.1
ISA	**Isabella, Lake**	**0.66**	**250**	Pg	Pg	03 32 09.9	-1.0
CGO	**Cerro Gordo**	**0.66**	**354**		Sg	03 32 20.1	+0.4
QSM	**Queen of Sheba**	**0.69**	**84**	Pg	Pg	03 32 10.3	-1.2
QSM				IAML		03 32 26.2	
	comp=N,7μm,0.7s						
WASM	**Alta Sierra Ca**	**0.70**	**258**		Sg	03 32 20.6	-0.4
GWY	**Greenwater Val**	**0.90**	**70**	Pg	Pg	03 32 15.2	-0.3
GWY				IAML		03 32 32.8	
	comp=N,5μm,0.5s						
GWY				IAML		03 32 32.8	
	comp=E,5μm,0.6s						
GRAC	**Grapevine Rang**	**1.14**	**14**	Pg	Pg	03 32 19.5	-0.7
GRAC				IAML		03 32 25.3	
	comp=N,4μm,3.9s						
GRAC				IAML		03 32 45.9	
	comp=E,3μm,3.6s						
WCT	**Wildcat Mounta**	**1.26**	**44**		Pg	03 32 21.4	-1.0
WCT				IAML		03 32 32.5	
	comp=N,3μm,4.9s						
RYN	**Ryan**	**2.81**	**347**	Pn	Pn	03 32 43.2	-0.7

*NEIC **06** 03:32:46.3±0.9,35°.896N±0°.008×117°.747W±0°.008, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.4km az=29.0*

PAS 06 03:32:46.7±0.6,**35°.890N**±0°.010×**117°.73W**±0°.01, **h6**km±2km,**ML4.5**/24,**ML4.1**/18(NEIC),**Error ellipse: s-maj=1.6km s-min=1.0km az=138.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.09**	**199**		Pg	03 32 49.2	+0.5
WVPM	**Volcano Peak E**	**0.09**	**310**		Pg	03 32 48.9	+0.1
WVPM					Sg	03 32 50.6	+0.2
JRC2	**Joshua Ridge**	**0.11**	**325**		Pg	03 32 49.2	0.0
JRC2					Sg	03 32 51.0	+0.1
WCSM	**Coso Springs S**	**0.14**	**348**		Pg	03 32 49.5	-0.1
WCSM					Sg	03 32 51.5	-0.1
WNMM	**Nine Mile Cany**	**0.15**	**252**		Pg	03 32 50.0	+0.3
WNMM					Sg	03 32 52.6	+0.8
WRVM	**Rose V. Centra**	**0.17**	**312**		Pg	03 32 50.2	-0.1
WRVM					Sg	03 32 52.8	+0.1
SRTC	**Snort**	**0.20**	**184**		Pg	03 32 50.5	-0.1
MFS	**McCloud Flat S**	**0.25**	**336**		Pg	03 32 51.6	0.0
MFS					Sg	03 32 54.8	-0.1
MPMC	**Manual Prospec**	**0.26**	**49**		Pg	03 32 51.8	0.0
MPMC					Sg	03 32 55.4	+0.2
WORM	**Onyx Ranch**	**0.46**	**245**		Pg	03 32 55.5	-0.1
WORM					Sg	03 33 01.6	+0.1
CCCA	**Chr Cany lake**	**0.47**	**141**		Pg	03 32 55.0	-0.8
WBSM	**Bird Springs**	**0.48**	**223**		Pg	03 32 56.0	0.0
WBSM					Sg	03 33 02.8	+0.4
WHFM	**Hanning Flat**	**0.54**	**249**		Pg	03 32 56.9	-0.1
WHFM					Sg	03 33 04.2	+0.1
CWC	**Cottonwood Cre**	**0.62**	**333**		Pg	03 32 58.5	-0.1
CWC					Sg	03 33 06.5	-0.1
ISA	**Isabella, Lake**	**0.65**	**250**		Sg	03 33 07.5	0.0
ISA	**Isabella, Lake**	**0.65**	**250**	Pg	Pg	03 32 58.8	-0.3
ISA				IAML		03 33 07.8	
	comp=N,15μm,0.5s						
ISA				IAML		03 33 07.8	
	comp=E,10μm,0.4s						
CGO	**Cerro Gordo**	**0.66**	**355**		Pg	03 32 59.4	0.0
WASM	**Alta Sierra Ca**	**0.69**	**258**		Pg	03 32 59.6	-0.3
WASM					Sg	03 33 08.9	0.0
CCAC	**Calif City Air**	**0.77**	**198**	Pg	Pg	03 33 01.3	-0.2
CCAC				IAML		03 33 23.7	
	comp=E,5μm,1.2s						
SPG2	**Springville 2**	**0.90**	**291**		Pg	03 33 03.1	-0.7
GRAC	**Grapevine Rang**	**1.14**	**15**		Pg	03 33 08.2	-0.3
GRAC				IAML		03 33 44.1	
	comp=N,4μm,0.7s						
ARVC	**Arvin**	**1.18**	**230**		Pg	03 33 08.8	-0.5
WCT	**Wildcat Mounta**	**1.27**	**44**	Pg	Pg	03 33 10.9	0.0
WCT				IAML		03 33 52.6	
	comp=E,4μm,0.4s						
WCT				IAML		03 33 54.6	
	comp=N,3μm,0.9s						
VOG	**Valley Oaks Go**	**1.41**	**288**		Pn	03 33 11.4	-1.4
GMN	**Gold Mountain**	**1.46**	**15**		Pn	03 33 14.0	+0.3
GMN				IAML		03 34 05.3	
	comp=N,3μm,0.6s						
GMN				IAML		03 34 05.4	
	comp=E,3μm,0.9s						
DSP	**Deep Springs**	**1.49**	**353**		Pn	03 33 13.7	-0.3
PASC	**Pasadena Art C**	**1.75**	**192**	Pn	Pn	03 33 18.4	+0.8
GATR	**Gnd/Air Tx Cnt**	**2.63**	**240**		Pn	03 33 27.9	-1.8
BBGB	**Big Mountain B**	**2.76**	**285**	Pn	Pn	03 33 31.6	+0.1
WAKR	**Walker**	**2.94**	**333**	Pn	Pn	03 33 32.9	-1.2
SAO	**San Andreas Ge**	**3.12**	**287**	Pn	Pn	03 33 36.6	+0.1

*NEIC **06** 03:33:09.4±0.8,35°.712N±0°.008×117°.511W±0°.008, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.5km az=247.0*

PAS 06 03:33:09.8±0.8,**35°.715N**±0°.004×**117°.505W**±0°.009, **h2**km±1km,**ML4.4**/22,**ML4.3**/20(NEIC),**Error ellipse: s-maj=1.0km s-min=0.7km az=98.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.13**	**323**		Pg	03 33 12.6	+0.3
CCCA	**Chr Cany lake**	**0.22**	**149**		Pg	03 33 14.7	+0.6
CCCA					Sg	03 33 18.6	+1.6
LRMC	**Laurel Mtn Rad**	**0.28**	**212**		Pg	03 33 15.3	+0.2
LRMC					Sg	03 33 19.4	+0.7
MPMC	**Manual Prospec**	**0.34**	**2**		Pg	03 33 16.6	+0.1
WCSM	**Coso Springs S**	**0.38**	**326**		Sg	03 33 22.7	+0.6
WRVM	**Rose V. Centra**	**0.43**	**313**		Pg	03 33 18.2	+0.2
MFS	**McCloud Flat S**	**0.49**	**325**		Sg	03 33 26.9	+1.2
DTP	**Desert Tortois**	**0.53**	**212**		Sg	03 33 27.2	+0.5
WBSM	**Bird Springs**	**0.55**	**251**		Pg	03 33 20.3	0.0
WBSM					Sg	03 33 28.3	+0.9
QSM	**Queen of Sheba**	**0.57**	**64**	Pg	Pg	03 33 20.6	-0.3
QSM				IAML		03 33 40.4	
	comp=E,17μm,0.2s						
WORM	**Onyx Ranch**	**0.60**	**268**		Pn	03 33 29.2	+3.7
WHFM	**Hanning Flat**	**0.69**	**269**		Sg	03 33 32.2	+0.3
CCAC	**Calif City Air**	**0.70**	**217**		Sg	03 33 32.9	+0.6
GSC	**Goldstone, Bar**	**0.70**	**126**		Sg	03 33 32.8	+0.3
GSC	**Goldstone, Bar**	**0.70**	**126**	Pg	Pg	03 33 22.7	-0.7
GSC				IAML		03 33 33.1	
	comp=E,19μm,0.6s						
GSC				IAML		03 33 36.3	
	comp=N,16μm,0.4s						
ISA	**Isabella, Lake**	**0.79**	**267**		Sg	03 33 34.9	-0.4
ISA	**Isabella, Lake**	**0.79**	**267**	Pg	Pg	03 33 24.4	-0.6
GWY	**Greenwater Val**	**0.83**	**55**		Pg	03 33 26.1	+0.4
GWY				IAML		03 33 40.2	
	comp=E,11μm,0.5s						
GWY				IAML		03 33 51.0	
	comp=N,10μm,0.4s						
WASM	**Alta Sierra Ca**	**0.86**	**272**		Pg	03 33 26.3	0.0
WASM					Sg	03 33 37.3	-0.1
CGO	**Cerro Gordo**	**0.87**	**344**		Sb	03 33 39.0	-1.1
FURC	**Furnace Creek,**	**0.91**	**35**		Sb	03 33 40.2	-0.9
SBB	**Saddle Back Bu**	**1.06**	**194**		Sg	03 33 43.5	-0.3
VTV	**Victorville**	**1.16**	**173**		Sb	03 33 48.1	-0.1
ALPC	**Antelope**	**1.21**	**213**		Sb	03 33 49.9	+0.2
LRRC	**Littlerock Res**	**1.26**	**200**		Sg	03 33 50.4	+0.1
GRAC	**Grapevine Rang**	**1.28**	**5**	Pg	Pg	03 33 34.2	-0.3
HOLC	**Holcomb Ridge**	**1.28**	**193**		Sg	03 33 51.5	+0.4
WCT	**Wildcat Mounta**	**1.29**	**33**	Pg	Pg	03 33 33.7	-0.9
CJV	**Casa Juvan**	**1.29**	**204**		Sb	03 33 52.0	-0.1
JNH	**Juniper Hills**	**1.32**	**196**		Sb	03 33 52.6	-0.2
TPNV	**Topopah Spring**	**1.59**	**39**		Pn	03 33 38.1	-1.2
TPNV				IAML		03 34 01.7	
	comp=N,3μm,1.1s						
TPNV				IAML		03 34 04.3	
	comp=N,3μm,0.8s						
PRN	**Pahroc Range**	**2.60**	**49**	Pn	Pn	03 33 52.0	-1.0
PRN				IAML		03 34 55.0	
	comp=N,2μm,3.9s						
CBX	**Cerro Bola**	**3.46**	**168**	Pn	Pn	03 34 04.8	-0.1

*NEIC **06** 03:34:10.2±0.4,35°.887N±0°.007×117°.70W±0°.01, h5km±2km, Error ellipse: s-maj=3.1km s-min=1.5km az=321.0*

PAS 06 03:34:10.7±0.2,**35°.898N**±0°.009×**117°.71W**±0°.01, **h7**km±2km,**ML4.2**/14,**ML4.1**/8(NEIC),**Error ellipse: s-maj=1.6km s-min=1.2km az=116.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.10**	**300**		Pg	03 34 13.2	0.0
WVPM					Sg	03 34 15.2	+0.2
JRC2	**Joshua Ridge**	**0.12**	**315**		Pg	03 34 13.3	-0.1
JRC2					Sg	03 34 15.6	+0.2
WCSM	**Coso Springs S**	**0.14**	**339**		Pg	03 34 13.7	-0.1
WCSM					Sg	03 34 15.9	+0.1
WNMM	**Nine Mile Cany**	**0.17**	**251**		Sg	03 34 17.1	+0.6
WRVM	**Rose V. Centra**	**0.19**	**306**		Pg	03 34 14.6	0.0
WRVM					Sg	03 34 17.4	+0.2
MPMC	**Manual Prospec**	**0.24**	**48**		Pg	03 34 15.3	-0.2
MPMC					Sg	03 34 19.0	+0.2
MFS	**McCloud Flat S**	**0.25**	**331**		Pg	03 34 15.8	0.0
MFS					Sg	03 34 19.6	+0.4
LRMC	**Laurel Mtn Rad**	**0.42**	**177**		Sg	03 34 24.6	+0.3
WORM	**Onyx Ranch**	**0.48**	**245**		Sg	03 34 26.1	-0.2
WHFM	**Hanning Flat**	**0.56**	**249**		Sg	03 34 28.8	-0.1
CGO	**Cerro Gordo**	**0.66**	**353**		Sg	03 34 31.9	-0.1
QSM	**Queen of Sheba**	**0.68**	**84**		Pg	03 34 23.3	-0.5
QSM	**Queen of Sheba**	**0.68**	**84**	IAML		03 34 34.6	
	comp=N,10μm,0.6s						
QSM				IAML		03 34 35.1	
	comp=E,7μm,0.5s						
SPG2	**Springville 2**	**0.91**	**290**		Sg	03 34 38.5	-1.5
GSC	**Goldstone, Bar**	**0.94**	**129**	Pg	Pg	03 34 27.9	-0.9
GSC				IAML		03 34 43.3	
	comp=N,5μm,0.5s						
GRAC	**Grapevine Rang**	**1.13**	**14**	Pg	Pg	03 34 32.1	-0.3
GRAC				IAML		03 34 50.2	
	comp=N,4μm,1.4s						

*NEIC **06** 03:35:05.0±0.7,35°.654N±0°.009×117°.46W±0°.01, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.5km az=115.0*

PAS 06 03:35:05.4±0.9,**35°.652N**±0°.007×**117°.467W**±0°.008, **h2**km±5km,**ML4.3**/54,**ML4.0**/18(NEIC),**Error ellipse: s-maj=1.2km s-min=0.9km az=150.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.15**	**147**		Pg	03 35 09.1	+0.8
CCCA					Sg	03 35 11.9	+1.6
CLC	**China Lake**	**0.20**	**327**		Sg	03 35 12.6	+0.8
SRTC	**Snort**	**0.23**	**280**		Pg	03 35 10.1	+0.2
SRTC					Sg	03 35 14.2	+1.2
LRMC	**Laurel Mtn Rad**	**0.25**	**226**		Pg	03 35 10.4	+0.3
LRMC					Sg	03 35 14.1	+0.8
JRC2	**Joshua Ridge**	**0.43**	**320**		Sg	03 35 20.6	+1.2
DTP	**Desert Tortois**	**0.49**	**219**		Pg	03 35 14.9	0.0
DTP					Sg	03 35 21.6	+0.4
WRVM	**Rose V. Centra**	**0.49**	**316**		Pg	03 35 14.9	0.0
QSM	**Queen of Sheba**	**0.58**	**57**		Sg	03 35 24.7	+0.7
QSM	**Queen of Sheba**	**0.58**	**57**	Pg	Pg	03 35 15.7	-0.8
QSM				IAML		03 35 25.3	
	comp=N,6μm,0.7s						
QSM				IAML		03 35 26.4	
	comp=E,5μm,0.7s						
WORM	**Onyx Ranch**	**0.63**	**274**		Pg	03 35 17.5	0.0
WORM					Sg	03 35 26.2	+0.4
GSC	**Goldstone, Bar**	**0.64**	**123**		Sg	03 35 26.6	+0.5
GSC	**Goldstone, Bar**	**0.64**	**123**	Pg	Pg	03 35 17.9	+0.1
GSC				IAML		03 35 27.3	
	comp=N,12μm,0.5s						
GSC				IAML		03 35 36.4	
	comp=E,13μm,0.5s						
CCAC	**Calif City Air**	**0.67**	**222**		Pg	03 35 18.2	-0.1
CCAC					Sg	03 35 27.5	+0.6
CCAC	**Calif City Air**	**0.67**	**222**	IAML		03 35 30.1	
	comp=E,11μm,0.7s						
CCAC				IAML		03 35 36.5	
	comp=N,10μm,0.7s						
HYS	**Haystack Butte**	**0.79**	**186**		Sg	03 35 30.7	-0.1
ISA	**Isabella, Lake**	**0.82**	**271**	Pg	Pg	03 35 20.6	-0.6
ISA				IAML		03 35 37.2	
	comp=N,4μm,0.7s						
ISA				IAML		03 35 37.2	
	comp=E,5μm,0.4s						
RRX	**Edison Barstow**	**0.86**	**153**		Pg	03 35 21.2	-0.8
SBB	**Saddle Back Bu**	**1.00**	**197**		Sg

WVPM						Sg	03 36 20.5	-1.5
JRC2	**Joshua Ridge**	**0.13**	**320**			**Pg**	**03 36 18.9**	**-1.0**
JRC2						Sg	03 36 20.9	-1.5
WCSM	**Coso Springs S**	**0.15**	**341**			**Pg**	**03 36 19.2**	**-1.0**
WCSM						Sg	03 36 21.1	-1.7
WNMM	**Nine Mile Cany**	**0.17**	**256**			**Pg**	**03 36 19.7**	**-0.6**
WNMM						Sg	03 36 22.4	-0.5
SRTC	**Snort**	**0.19**	**190**			**Pg**	**03 36 21.1**	**+0.3**
SRTC						Sg	03 36 25.0	+1.2
WRVM	**Rose V. Centra**	**0.20**	**310**			**Pg**	**03 36 19.9**	**-1.0**
WRVM						Sg	03 36 22.5	-1.4
MPMC	**Manual Prospec**	**0.25**	**45**			**Pg**	**03 36 21.3**	**-0.5**
MPMC						Sg	03 36 25.0	-0.4
MFS	**McCloud Flat S**	**0.26**	**333**			**Pg**	**03 36 21.0**	**-1.1**
MFS						Sg	03 36 24.6	-1.2
LRMC	**Laurel Mtn Rad**	**0.40**	**177**			**Pb**	**03 36 24.5**	**-1.2**
LRMC						Sb	03 36 30.6	-1.3
CCCA	**Chr Cany lake**	**0.45**	**142**			**Pb**	**03 36 25.5**	**-0.9**
CCCA						Sb	03 36 33.0	-0.2
WORM	**Onyx Ranch**	**0.47**	**247**			**Pg**	**03 36 25.1**	**-0.8**
WORM						Sg	03 36 31.3	-0.9
WBSM	**Bird Springs**	**0.49**	**226**			**Pg**	**03 36 25.5**	**-0.8**
WBSM						Sg	03 36 32.5	-0.3
WHFM	**Hanning Flat**	**0.55**	**251**			**Pg**	**03 36 26.5**	**-0.9**
WHFM						Sg	03 36 33.8	-1.0
DTP	**Desert Tortois**	**0.62**	**190**			**Pb**	**03 36 28.3**	**-1.1**
CWC	**Cottonwood Cre**	**0.63**	**332**			**Pg**	**03 36 28.0**	**-0.9**
ISA	**Isabella, Lake**	**0.66**	**251**	Pg		**Pg**	**03 36 28.4**	**-1.0**
ISA					IAML		03 36 37.8	
	comp=N,19µm,0.6s							
CGO	**Cerro Gordo**	**0.67**	**353**			**Pg**	**03 36 28.7**	**-1.0**
QSM	**Queen of Sheba**	**0.69**	**83**	Pg		**Pb**	**03 36 29.3**	**-1.1**
QSM					IAML		03 36 42.5	
	comp=E,17µm,0.7s							
QSM					IAML		03 36 42.8	
	comp=N,16µm,0.8s							
WASM	**Alta Sierra Ca**	**0.71**	**258**			**Pg**	**03 36 29.3**	**-1.0**
WASM						Sg	03 36 38.1	-1.5
CCAC	**Calif City Air**	**0.77**	**199**	Pg		**Pg**	**03 36 30.8**	**-0.7**
CCAC				Sg		**Sb**	**03 36 41.5**	**-0.9**
CCAC					IAML		03 36 45.5	
	comp=E,20µm,0.7s							
GWY	**Greenwater Val**	**0.89**	**70**			**Pb**	**03 36 33.4**	**-0.6**
GWY				Sg		**Sb**	**03 36 45.3**	**-0.7**
GWY					IAML		03 36 49.3	
	comp=E,9µm,0.4s							
GWY					IAML		03 36 52.2	
	comp=N,8µm,0.6s							
FURC	**Furnace Creek,**	**0.90**	**49**			**Pb**	**03 36 33.6**	**-0.5**
SPG2	**Springville 2**	**0.92**	**291**			**Pg**	**03 36 32.6**	**-1.6**
GSC	**Goldstone, Bar**	**0.94**	**128**			**Pb**	**03 36 34.4**	**-0.4**
GSC	**Goldstone, Bar**	**0.94**	**128**			**Pn**	**03 36 34.6**	**-1.0**
GSC				Sg		**Sb**	**03 36 47.2**	**0.0**
GSC					IAML		03 36 49.4	
	comp=N,15µm,0.4s							
GSC					IAML		03 36 53.6	
	comp=E,19µm,0.5s							
HYS	**Haystack Butte**	**1.02**	**174**			**Pb**	**03 36 35.7**	**-0.5**
EDW2	**Edwards Air Fo**	**1.03**	**193**			**Pg**	**03 36 35.4**	**-0.9**
TEJ	**El Tejon**	**1.03**	**231**			**Pg**	**03 36 35.1**	**-1.3**
TPO	**Tropico Hills**	**1.09**	**203**			**Pg**	**03 36 36.4**	**-1.1**
MAGC	**SCE Magundon P**	**1.12**	**243**			**Pg**	**03 36 37.1**	**-1.0**
VES	**Vestal, Richgr**	**1.12**	**268**			**Pg**	**03 36 36.7**	**-1.4**
GRAC	**Grapevine Rang**	**1.15**	**14**			**Pb**	**03 36 37.4**	**-0.9**
GRAC	**Grapevine Rang**	**1.15**	**14**	Pg		**Pg**	**03 36 37.3**	**-1.3**
GRAC					IAML		03 36 53.7	
	comp=E,16µm,0.4s							
GRAC					IAML		03 36 54.7	
	comp=N,11µm,0.5s							
RRX	**Edison Barstow**	**1.16**	**150**			**Pn**	**03 36 38.9**	**+0.3**
SHOC	**Shoshone, Teco**	**1.16**	**89**			**Pg**	**03 36 37.3**	**-1.6**
ARVC	**Arvin**	**1.19**	**231**			**Pb**	**03 36 38.7**	**-0.3**
SBB	**Saddle Back Bu**	**1.20**	**185**			**Pb**	**03 36 38.7**	**-0.5**
TJR	**Tejon Ranch**	**1.20**	**225**			**Pg**	**03 36 38.5**	**-1.1**
SGV	**South Grapevin**	**1.22**	**26**			**Pb**	**03 36 39.0**	**-0.8**
TIN	**Tinemaha, Big**	**1.24**	**340**			**Pg**	**03 36 39.2**	**-1.3**
THC	**Tehachapi Micr**	**1.25**	**219**			**Pg**	**03 36 39.0**	**-1.5**
BAKC	**Calstate**	**1.26**	**245**			**Pg**	**03 36 39.6**	**-1.1**
WCT	**Wildcat Mounta**	**1.26**	**44**	Pg		**Pn**	**03 36 39.8**	**-0.3**
AMDNV	**Amargosa**	**1.29**	**63**			**Pg**	**03 36 39.3**	**-1.9**
ALPC	**Antelope**	**1.29**	**202**			**Pn**	**03 36 40.2**	**-0.2**
LEOC	**Leona Valley**	**1.34**	**202**			**Pn**	**03 36 38.9**	**-2.3**
LCH	**Last Change Ra**	**1.35**	**2**			**Pn**	**03 36 40.6**	**-0.7**
LRRC	**Littlerock Res**	**1.38**	**191**			**Pn**	**03 36 39.9**	**-1.6**
BTPC	**Burnt Peak**	**1.39**	**211**			**Pn**	**03 36 41.4**	**-0.5**
CJV	**Casa Juvan**	**1.40**	**195**			**Pn**	**03 36 40.8**	**-1.2**
VOG	**Valley Oaks Go**	**1.43**	**288**			**Pn**	**03 36 41.7**	**-0.5**
JNH	**Juniper Hills**	**1.45**	**188**			**Pn**	**03 36 42.6**	**0.0**
GMN	**Gold Mountain**	**1.46**	**14**			**Pg**	**03 36 43.6**	**-1.0**
DSP	**Deep Springs**	**1.50**	**352**			**Pn**	**03 36 42.7**	**-0.5**
DSCC	**Desert Studies**	**1.50**	**119**			**Pn**	**03 36 40.9**	**-2.4**
OSI	**Osito Audit: C**	**1.51**	**214**			**Pb**	**03 36 43.9**	**-0.7**
TUQ	**Turquoise Moun**	**1.52**	**107**			**Pn**	**03 36 42.9**	**-0.7**
HEC	**Hector,Ludlow**	**1.54**	**133**			**Pn**	**03 36 41.5**	**-2.3**
POCCA	**Poleta Canyon**	**1.55**	**343**			**Pb**	**03 36 44.4**	**-0.9**
CHFC	**Chilao Flat St**	**1.57**	**190**			**Pn**	**03 36 44.5**	**+0.1**
TPNV	**Topopah Spring**	**1.58**	**47**			**Pg**	**03 36 45.9**	**-1.1**
TPNV					IAML		03 37 09.2	
	comp=N,5µm,0.7s							
MPI	**Mount Pinos, F**	**1.59**	**228**			**Pn**	**03 36 43.8**	**-1.0**
MTUM	**Tungsten Hills**	**1.62**	**335**			**Pn**	**03 36 45.3**	**+0.1**
BFSC	**Mount Baldy Ra**	**1.64**	**179**			**Pn**	**03 36 45.4**	**+0.1**
SS2	**San Sevaine**	**1.68**	**174**			**Pn**	**03 36 45.5**	**-0.2**
MWC	**Mount Wilson**	**1.68**	**190**			**Pg**	**03 36 48.0**	**-0.8**
BCW	**Bitter Crk WRg**	**1.68**	**236**			**Pb**	**03 36 47.2**	**-0.3**
BCW					IAML		03 37 21.0	
	comp=N,5µm,1.1s							
SIL	**Silver Peak**	**1.69**	**155**			**Pn**	**03 36 45.2**	**-0.9**
DECC	**Green Verdugo**	**1.71**	**198**			**Pn**	**03 36 46.2**	**+0.1**
BBRC	**Big Bear Solar**	**1.74**	**158**			**Pn**	**03 36 46.0**	**-0.8**
CRGC	**Crocker Grade**	**1.77**	**249**			**Pn**	**03 36 46.1**	**-0.9**
MTPC	**Mountain Pass**	**1.80**	**102**			**Pn**	**03 36 46.7**	**-0.8**
HLNC	**Highland**	**1.80**	**167**			**Pb**	**03 36 48.6**	**-0.9**
CFSC	**Central Fire S**	**1.81**	**169**			**Pb**	**03 36 48.5**	**-1.1**
MZP	**Montezuma Peak**	**1.83**	**8**	Pn		**Pn**	**03 36 47.8**	**-0.3**
CARC	**Carrizo Plain**	**1.83**	**252**			**Pn**	**03 36 48.1**	**+0.1**
MLAC	**Mammoth, Mammo**	**1.97**	**333**			**Pb**	**03 36 52.1**	**-0.3**
MCSM	**Casa Diablo Ho**	**2.01**	**332**			**Pb**	**03 36 53.0**	**-0.3**
DEVC	**Devers**	**2.15**	**154**			**Pn**	**03 36 51.9**	**-0.3**
MURC	**Murrieta**	**2.31**	**169**			**Pg**	**03 36 59.7**	**-1.2**
PFO	**Pinyon Flats O**	**2.49**	**155**	Pn		**Pn**	**03 36 57.9**	**+0.9**
	comp=N,169nm,0.5s,baz=335,slow=15,SNR=0.8							
PFO				Pg		**Pg**	**03 37 03.0**	**-1.2**
	comp=N,150nm,0.3s,baz=336,slow=18,SNR=4.1							
PFO				Lg		Lg	03 37 34.8	
	comp=N,276nm,0.3s,baz=67,slow=18,SNR=5.9							
NVAR	**Mina Array Bea**	**2.59**	**350**	Pn		**Pn**	**03 36 58.4**	**0.0**
	comp=N,19nm,0.3s,baz=171,slow=13,SNR=1.8							
NVAR				Pg		**Pg**	**03 37 03.8**	**-2.3**
	comp=N,261nm,0.3s,baz=39,slow=19,SNR=20							
NVAR				Lg		Lg	03 37 36.0	
	comp=N,24nm,0.3s,baz=167,slow=20,SNR=1.2							
	comp=N,56nm,0.5s							
GATR	**Gnd/Air Tx Cnt**	**2.65**	**241**			**Pb**	**03 37 04.3**	**+0.4**
SAO	**San Andreas Ge**	**3.15**	**287**	Pn		**Pn**	**03 37 07.7**	**+1.8**
YUH	**Yuha Desert**	**3.55**	**155**			**Pg**	**03 37 21.5**	**-3.0**
YUH					IAML		03 38 09.7	
	comp=N,650nm,4.4s							
YUH					IAML		03 38 30.2	
	comp=E,592nm,4.7s							
LCMT	**Little Creek M**	**3.77**	**71**	Pn		**Pn**	**03 37 15.4**	**+0.7**
KNB	**Kanab**	**4.10**	**73**			**Pn**	**03 37 20.1**	**+0.9**
KNB					IAML		03 37 54.5	
	comp=E,616nm,4.8s							
KNB					IAML		03 37 56.4	
	comp=N,659nm,4.8s							
MCCM	**Marconi Confer**	**4.72**	**300**	Pn		**Pn**	**03 37 29.5**	**+2.0**
MCCM					IAML		03 38 46.9	
	comp=E,394nm,4.3s							
MCCM					IAML		03 39 17.4	
	comp=N,314nm,4.4s							
ELK	**Elko**	**5.23**	**21**			**Pn**	**03 37 34.7**	**-0.1**
ELK					IAML		03 38 59.8	
	comp=N,273nm,5.0s							
ELK					IAML		03 39 04.6	
	comp=N,231nm,3.8s							
ELK	**Elko**	**5.23**	**21**	Pn		**Pn**	**03 37 35.1**	**+0.3**
	comp=N,8.2nm,0.3s,baz=211,slow=14,SNR=1.3							
ELK				Pg		**Pb**	**03 37 50.6**	**+2.6**
	comp=N,6.7nm,0.3s,baz=224,slow=15,SNR=2.0							
ELK				Lg		Lg	03 38 58.7	
	comp=N,29nm,0.3s,baz=299,slow=18,SNR=11							
	comp=N,16nm,0.3s							

X16A	**Lo Mia Camp, P**	**5.34**	**104**			**Pn**	**03 37 37.0**	**+0.8**
HMU	**Henry Mountain**	**5.95**	**68**			**Pn**	**03 37 45.5**	**+0.8**
X18A	**Snowflake**	**6.49**	**100**			**Pn**	**03 37 52.7**	**+0.7**
TXAR	**Lajitas Array**	**13.51**	**115**	Pn		**Pn**	**03 39 30.3**	**+2.2**
	comp=N,0.3nm,0.3s,baz=302,slow=13,SNR=4.8								
	comp=N,0.8nm,0.5s								
YKA	**Yellowknife Ar**	**26.71**	**3**	P		**P**	**03 41 56.2**	**+0.8**	
	comp=N,3.6nm,0.8s,baz=187,slow=9.4,SNR=6.3								
	comp=N,3.6nm,0.8s								
ILAR	**Eielson Array**	**33.79**	**338**	P		**P**	**03 42 59.9**	**+1.9**	
	comp=N,1.1nm,0.9s,baz=155,slow=8.0,SNR=6.3								
	comp=N,1.1nm,0.9s								

NEIC ***06*** *03:37:04.9±0.6,35.742N±0.004×117.52W±0.01, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.7km az=315.0*

PAS 06 03:37:05.2±0.6, 35°733N±0.008×117°53W±0.01, h3km±5km, ML3.8/12, ML3.7/12(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=68.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.10**	**325**		Pg	03 37 07.4	+0.2
CLC					Sg	03 37 09.1	+0.5
SRTC	**Snort**	**0.18**	**257**		Pg	03 37 09.2	+0.4
SRTC					Sg	03 37 12.7	+1.5
CCCA	**Chr Cany lake**	**0.25**	**147**		Pg	03 37 10.5	+0.6
LRMC	**Laurel Mtn Rad**	**0.28**	**207**		Pg	03 37 10.7	+0.1
LRMC					Sg	03 37 14.8	+0.5
MPMC	**Manual Prospec**	**0.33**	**5**		Sg	03 37 16.3	+0.5
DTP	**Desert Tortois**	**0.53**	**209**		Pg	03 37 15.1	-0.3
DTP					Sg	03 37 22.6	+0.4
QSM	**Queen of Sheba**	**0.58**	**66**		Pg	03 37 16.3	-0.1
QSM					Sg	03 37 24.4	+0.5
QSM	**Queen of Sheba**	**0.58**	**66**	IAML		03 37 28.2	
	comp=E,5µm,0.3s						
QSM				IAML		03 37 28.2	
	comp=N,5µm,0.6s						
CCAC	**Calif City Air**	**0.70**	**215**		Sg	03 37 28.2	+0.4
GSC	**Goldstone, Bar**	**0.73**	**126**	Pg	Pg	03 37 19.0	-0.1
GSC				IAML		03 37 32.1	
	comp=N,3µm,0.3s						
GSC				IAML		03 37 32.5	
	comp=E,4µm,0.5s						
GWY	**Greenwater Val**	**0.83**	**57**	Pg	Pg	03 37 21.3	+0.2
SHOC	**Shoshone, Teco**	**1.03**	**80**		Pg	03 37 24.4	-0.6
SHOC					Sg	03 37 38.3	0.0
SBB	**Saddle Back Bu**	**1.07**	**193**		Sg	03 37 40.1	+0.5
VTV	**Victorville**	**1.18**	**172**		Sb	03 37 43.6	-0.4
AMDNV	**Amargosa**	**1.24**	**54**		Pg	03 37 28.4	-0.5
GMN	**Gold Mountain**	**1.58**	**8**		Pn	03 37 32.8	-1.6
GMN				IAML		03 37 41.5	
	comp=E,962nm,4.8s						
TPNV	**Topopah Spring**	**1.59**	**40**		Pn	03 37 34.6	+0.1

NEIC ***06*** *03:37:24.9±0.6,35.88N±0.01×117.70W±0.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=2.1km az=25.0*

PAS 06 03:37:25.3±0.5, 35°872N±0.006×117°70W±0.02, h6km±3km, ML3.7/8, ML3.6/8(NEIC), Error ellipse: s-maj=2.0km s-min=0.6km az=69.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.10**	**124**		Pg	03 37 27.6	+0.1
CLC					Sg	03 37 29.4	+0.3
WVPM	**Volcano Peak E**	**0.12**	**310**		Pg	03 37 28.0	+0.1
WVPM					Sg	03 37 30.1	+0.3
JRC2	**Joshua Ridge**	**0.14**	**322**		Pg	03 37 28.4	+0.1
JRC2					Sg	03 37 30.7	+0.4
WCSM	**Coso Springs S**	**0.16**	**341**		Pg	03 37 28.6	0.0
WCSM					Sg	03 37 31.0	+0.1
WRVM	**Rose V. Centra**	**0.20**	**312**		Pg	03 37 29.4	0.0
WRVM					Sg	03 37 32.3	+0.1
MPMC	**Manual Prospec**	**0.25**	**43**		Sg	03 37 34.0	+0.3
MFS	**McCloud Flat S**	**0.28**	**333**		Pg	03 37 30.7	0.0
MFS					Sg	03 37 34.7	+0.3
WHFM	**Hanning Flat**	**0.56**	**252**		Sg	03 37 43.1	-0.1
GMN	**Gold Mountain**	**1.47**	**14**		Pn	03 37 52.0	-0.5
GMN				IAML		03 37 58.5	
	comp=N,705nm,0.7s						
DSP	**Deep Springs**	**1.51**	**352**		Pn	03 37 52.6	-0.3
DSP				IAML		03 38 02.9	
	comp=N,790nm,4.7s						
PASC	**Pasadena Art C**	**1.74**	**193**	Pn	Pn	03 37 55.4	-0.6
PASC				IAML		03 38 06.1	
	comp=E,604nm,3.5s						
PASC				IAML		03 38 09.8	
	comp=N,577nm,3.5s						

NEIC ***06*** *03:38:22.6±0.6,35.906N±0.008×117.72W±0.01, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.5km az=11.0*

PAS 06 03:38:22.9±0.4, 35°91N±0.01×117°71W±0.01, h7km±2km, ML4.0/12, ML3.7/8(NEIC), Error ellipse: s-maj=1.7km s-min=1.1km az=214.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**293**		Pg	03 38 25.2	0.0
JRC2	**Joshua Ridge**	**0.10**	**312**		Pg	03 38 25.4	0.0
JRC2					Sg	03 38 27.4	+0.3
TOW	**Tower One**	**0.11**	**202**		Pg	03 38 25.7	+0.3
WCSM	**Coso Springs S**	**0.12**	**339**		Pg	03 38 25.6	0.0
WCSM					Sg	03 38 27.4	0.0
CLC	**China Lake**	**0.13**	**136**		Pg	03 38 25.9	+0.1
CLC					Sg	03 38 28.0	+0.2
WRVM	**Rose V. Centra**	**0.17**	**303**		Pg	03 38 26.5	0.0
WRVM					Sg	03 38 29.2	+0.3
MPMC	**Manual Prospec**	**0.23**	**51**		Pg	03 38 27.6	0.0
MPMC					Sg	03 38 30.9	+0.2
MFS	**McCloud Flat S**	**0.23**	**330**		Pg	03 38 27.6	-0.1
MFS					Sg	03 38 31.2	+0.4
WORM	**Onyx Ranch**	**0.48**	**243**		Pg	03 38 32.0	-0.3
WORM					Sg	03 38 38.4	-0.2
WHFM	**Hanning Flat**	**0.56**	**248**		Sg	03 38 41.0	-0.1
ISA	**Isabella, Lake**	**0.67**	**248**		Sg	03 38 44.4	-0.1
ISA	**Isabella, Lake**	**0.67**	**248**	Pg	Pg	03 38 35.3	-0.5
ISA				IAML		03 38 44.5	
	comp=N,8µm,0.4s						
ISA				IAML		03 38 44.6	
	comp=E,6µm,0.4s						
WASM	**Alta Sierra Ca**	**0.71**	**256**		Sg	03 38 45.8	-0.1
CCAC	**Calif City Air**	**0.80**	**198**	Pg	Pg	03 38 37.8	-0.4
CCAC				IAML		03 38 52.1	
	comp=N,2µm,0.6s						
FURC	**Furnace Creek,**	**0.88**	**51**		Sg	03 38 51.7	+0.4
GSC	**Goldstone, Bar**	**0.96**	**129**	Pg	Pg	03 38 40.4	-0.9
GSC				IAML		03 38 56.0	
	comp=N,2µm,0.6s						
GRAC	**Grapevine Rang**	**1.12**	**14**	Pg	Pg	03 38 44.1	-0.3
GRAC				IAML		03 39 02.8	
	comp=N,1µm,0.4s						
GMN	**Gold Mountain**	**1.43**	**15**		Pb	03 38 50.0	-0.1
DSP	**Deep Springs**	**1.47**	**352**		Pn	03 38 50.2	+0.3

NEIC ***06*** *03:39:13.9±1.6,35.62N±0.01×117.42W±0.01, h10km±1km, Error ellipse: s-maj=2.8km s-min=1.9km az=196.0*

PAS 06 03:39:14.7±1.4, 35°61N±0.01×117°43W±0.01, h10km±3km, ML4.0/61, ML3.9/44(NEIC), Error ellipse: s-maj=1.8km s-min=1.5km az=193.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.10**	**148**		Pg	03 39 17.7	+0.3
CCCA					Sg	03 39 20.1	+0.9
CLC	**China Lake**	**0.24**	**326**		Pg	03 39 19.3	-0.4
CLC					Sg	03 39 23.1	+0.1
LRMC	**Laurel Mtn Rad**	**0.24**	**237**		Pg	03 39 19.5	-0.2
LRMC					Sg	03 39 23.2	+0.1
SRTC	**Snort**	**0.27**	**287**		Pg	03 39 20.2	+0.1
SRTC					Sg	03 39 25.0	+1.2
MPMC	**Manual Prospec**	**0.45**	**354**		Pn	03 39 29.1	+1.7
MPMC					Sg	03 39 29.2	-0.2
JRC2	**Joshua Ridge**	**0.48**	**320**		Pg	03 39 23.7	-0.4
JRC2					Sg	03 39 30.6	+0.2
DTP	**Desert Tortois**	**0.48**	**224**		Sg	03 39 30.1	-0.4
WCSM	**Coso Springs S**	**0.49**	**327**		Sg	03 39 30.8	0.0
QSM	**Queen of Sheba**	**0.58**	**52**	Pg	Pg	03 39 24.5	-1.4
GSC	**Goldstone, Bar**	**0.60**	**121**	Pg	Pg	03 39 25.6	-0.7
GSC				IAML		03 39 34.6	
	comp=E,7µm,0.6s						
GSC				IAML		03 39 37.9	
	comp=N,7µm,0.3s						
GSC	**Goldstone, Bar**	**0.60**	**121**		Sg	03 39 34.1	-0.1
MFS	**McCloud Flat S**	**0.61**	**326**		Pg	03 39 26.0	-0.5
MFS					Sg	03 39 34.7	+0.1
CCAC	**Calif City Air**	**0.66**	**226**	Pg	Pg	03 39 24.1	-3.4
CCAC				IAML		03 39 41.4	
	comp=N,5µm,0.6s						
CCAC	**Calif City Air**	**0.66**	**226**		Sg	03 39 36.0	-0.2
WHFM	**Hanning Flat**	**0.75**	**277**		Pg	03 39 28.4	-0.8
HYS	**Haystack Butte**	**0.76**	**189**		Sg	03 39 38.8	-0.4
RRX	**Edison Barstow**	**0.82**	**154**		Pb	03 39 30.8	-0.2
RRX					Sn	03 39 43.5	-1.1
GWY	**Greenwater Val**	**0.84**	**47**	Pg	Pg	03 39 29.2	-1.7
GWY				IAML		03 39 46.9	
	comp=N,7µm,0.5s						
SHOC	**Shoshone, Teco**	**0.98**	**73**		Sg	03 39 46.3	-0.1
DSCC	**Desert Studies**	**1.18**	**113**		Pb	03 39 35.8	-1.5
DSCC					Pn	03 39 36.0	-1.3
HEC	**Hector,Ludlow**	**1.19**	**131**		Pb	03 39 35.8	-1.7
TUQ	**Turquoise Moun**	**1.24**	**98**		Pn	03 39 37.4	-0.9
WCT	**Wildcat Mounta**	**1.35**	**29**	Pn	Pn	03 39 38.0	-1.6
WCT					IAML	03 39 59.5	
	comp=E,2µm,3.0s						
VES	**Vestal, Richgr**	**1.36**	**280**		Pn	03 39 36.4	-3.4
GRAC	**Grapevine Rang**	**1.38**	**2**	Pn	Pn	03 39 37.9	-2.2
GRAC					IAML	03 40 04.5	
	comp=N,2µm,0.8s						
GRAC					IAML	03 40 07.1	
	comp=E,2µm,0.6s						
PASC	**Pasadena Art C**	**1.57**	**203**	Pn	Pn	03 39 42.3	-0.3
TPNV	**Topopah Spring**	**1.64**	**35**	Pn	Pn	03 39 42.3	-1.5
TPNV					IAML	03 40 10.3	
	comp=E,2µm,0.7s						
TPNV					IAML	03 40 11.1	
	comp=E,1µm,0.7s						
GMN	**Gold Mountain**	**1.69**	**5**	Pn	Pn	03 39 42.6	-1.9
GMN					IAML	03 40 32.9	
	comp=N,1µm,0.4s						
SHPR	**Sheep Range**	**2.04**	**64**	Pn	Pn	03 39 49.1	-0.3
V12A	**Nelson**	**2.10**	**86**	Pn	Pn	03 39 48.1	-2.0
W13A	**Hualapai Mount**	**2.94**	**99**	Pn	Pn	03 39 60.0	-1.8
W13A					IAML	03 40 24.9	
	comp=N,458nm,4.1s						
W13A					IAML	03 41 09.1	
	comp=E,555nm,4.9s						
BLYC	**Blythe**	**3.03**	**127**	Pn	Pn	03 40 00.4	-2.4
BLYC					IAML	03 40 52.0	
	comp=E,483nm,4.6s						
BLYC					IAML	03 40 52.3	
	comp=N,515nm,3.8s						
TJX	**Tijuana**	**3.11**	**174**	Pn	Pn	03 40 00.9	-3.0
TKX	**Tecate**	**3.11**	**167**	Pn	Pn	03 40 01.6	-2.3
TKX					IAML	03 40 25.7	
	comp=N,384nm,4.1s						
TKX					IAML	03 41 51.3	
	comp=E,385nm,4.2s						
YUH	**Yuha Desert**	**3.21**	**157**	Pn	Pn	03 40 03.2	-2.0
YUH					IAML	03 40 40.3	
	comp=E,370nm,4.3s						
YUH					IAML	03 41 21.8	
	comp=N,337nm,4.7s						
SAO	**San Andreas Ge**	**3.44**	**291**	Pn	Pn	03 40 04.2	-4.2
LCMT	**Little Creek M**	**3.66**	**66**	Pn	Pn	03 40 09.5	-2.0
LCMT					IAML	03 40 54.1	
	comp=N,153nm,4.2s						
LCMT					IAML	03 42 31.8	
	comp=E,167nm,4.4s						
CCX	**Cicese**	**3.79**	**170**	Pn	Pn	03 40 11.3	-1.9

NEIC ***06*** *03:40:03.8±0.9,35.914N±0.009×117.72W±0.01, h5km±1km, Error ellipse: s-maj=1.8km s-min=1.5km az=36.0*

PAS 06 03:40:04.1±0.5, 35°913N±0.010×117°703W±0.009, h7km±1km, ML3.8/18, ML3.6/22(NEIC), Error ellipse: s-maj=1.4km s-min=1.1km az=187.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.10**	**291**		Pg	03 40 06.6	0.0
WVPM					Sg	03 40 08.3	+0.1
TOW	**Tower One**	**0.12**	**205**		Pg	03 40 07.2	+0.5
WCSM	**Coso Springs S**	**0.12**	**335**		Pg	03 40 06.9	0.0
WCSM					Sg	03 40 08.8	0.0
CLC	**China Lake**	**0.13**	**139**		Pg	03 40 07.0	0.0
CLC					Sg	03 40 09.1	+0.2
WNMM	**Nine Mile Cany**	**0.18**	**247**		Pg	03 40 08.0	+0.2

h10km±1km, Error ellipse: s-maj=2.6km s-min=1.8km az=108.0

PAS 06 03:40:51.4±0.7, 35°.77N±0°.01×117°.612W±0°.004, h10km±3km, ML3.6/10, ML3.4/16(NEIC), Error ellipse: s-maj=1.6km s-min=0.5km az=170.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.04**	**16**		Pg	03 40 53.4	-0.1
CLC					Sg	03 40 55.1	+0.2
TOW	**Tower One**	**0.13**	**286**		Pg	03 40 54.7	+0.2
SRTC	**Snort**	**0.14**	**234**		Pg	03 40 54.8	+0.2
SRTC					Sg	03 40 58.0	+1.1
LRMC	**Laurel Mtn Rad**	**0.30**	**191**		Pg	03 40 57.2	-0.3
LRMC					Sg	03 41 01.6	+0.1
MFS	**McCloud Flat S**	**0.40**	**330**		Sg	03 41 04.5	-0.1
WBSM	**Bird Springs**	**0.49**	**241**		Pg	03 41 00.8	-0.3
WBSM					Sg	03 41 07.5	0.0
WORM	**Onyx Ranch**	**0.52**	**261**		Sg	03 41 07.6	-0.8
DTP	**Desert Tortois**	**0.54**	**201**		Pg	03 41 01.6	-0.4
DTP					Sg	03 41 08.7	-0.3
QSM	**Queen of Sheba**	**0.63**	**72**		Sb	03 41 13.0	-0.6
QSM	**Queen of Sheba**	**0.63**	**72**	Pg	Pg	03 41 03.8	+0.1
QSM				IAML		03 41 13.5	
	comp=E,3μm,0.3s						
QSM				IAML		03 41 15.1	
	comp=N,3μm,0.5s						
CCAC	**Calif City Air**	**0.70**	**208**		Sg	03 41 14.1	-0.1
CCAC	**Calif City Air**	**0.70**	**208**	Pg	Pg	03 41 04.7	-0.3
ISA	**Isabella, Lake**	**0.71**	**261**	Pg	Pg	03 41 04.3	-0.9
ISA				IAML		03 41 07.6	
	comp=E,2μm,0.2s						
ISA				IAML		03 41 16.4	
	comp=N,2μm,0.3s						
CWC	**Cottonwood Cre**	**0.77**	**330**		Sg	03 41 16.0	-0.3
GSC	**Goldstone, Bar**	**0.81**	**125**		Sg	03 41 17.2	-0.4
GSC	**Goldstone, Bar**	**0.81**	**125**	Pg	Pg	03 41 06.6	-0.5
GSC				IAML		03 41 19.3	
	comp=N,2μm,0.5s						
GWY	**Greenwater Val**	**0.87**	**61**	Pg	Pg	03 41 08.1	-0.1
FURC	**Furnace Creek,**	**0.92**	**41**		Sg	03 41 21.3	+0.2
SPG2	**Springville 2**	**1.03**	**295**		Sg	03 41 23.7	-0.9
GRAC	**Grapevine Rang**	**1.23**	**9**	Pn	Pn	03 41 14.3	-0.5
GRAC				IAML		03 41 36.5	
	comp=N,1μm,0.4s						
WCT	**Wildcat Mounta**	**1.29**	**38**	Pn	Pn	03 41 14.8	-0.8
WCT				IAML		03 41 35.8	
	comp=E,658nm,2.6s						

*NEIC **06** 03:41:38.2±0.7, 35°.889N±0°.006×117°.726W±0°.006, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.2km az=32.0*

PAS 06 03:41:38.6±0.5, 35°.892N±0°.008×117°.722W±0°.009, h8km±3km, ML4.2/67, ML4.1/44(NEIC), Error ellipse: s-maj=1.4km s-min=0.9km az=217.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.09**	**202**		Sg	03 41 43.7	+1.2
JRC2	**Joshua Ridge**	**0.11**	**322**		Pg	03 41 41.3	0.0
JRC2					Sg	03 41 43.4	+0.1
CLC	**China Lake**	**0.13**	**127**		Pg	03 41 41.4	-0.1
CLC					Sg	03 41 43.6	+0.2
WCSM	**Coso Springs S**	**0.14**	**345**		Pg	03 41 41.6	-0.1
WCSM					Sg	03 41 45.0	+1.1
WNMM	**Nine Mile Cany**	**0.16**	**252**		Pg	03 41 41.9	0.0
WNMM					Sg	03 41 44.6	+0.4
WRVM	**Rose V. Centra**	**0.18**	**310**		Pg	03 41 42.4	0.0
WRVM					Sg	03 41 45.1	+0.2
SRTC	**Snort**	**0.20**	**186**		Pg	03 41 42.9	+0.1
SRTC					Sg	03 41 46.8	+1.3
MFS	**McCloud Flat S**	**0.25**	**334**		Pg	03 41 43.8	+0.1
MPMC	**Manual Prospec**	**0.25**	**49**		Pg	03 41 43.7	0.0
MPMC					Sg	03 41 47.4	+0.2
LRMC	**Laurel Mtn Rad**	**0.41**	**175**		Pg	03 41 46.5	-0.2
LRMC					Sg	03 41 52.4	+0.2
WORM	**Onyx Ranch**	**0.47**	**245**		Pg	03 41 47.5	-0.2
WORM					Sg	03 41 53.5	-0.3
CCCA	**Chr Cany lake**	**0.47**	**141**		Pg	03 41 47.9	+0.2
CCCA					Sg	03 41 55.1	+1.2
WBSM	**Bird Springs**	**0.49**	**224**		Pg	03 41 48.0	-0.2
WBSM					Sg	03 41 54.6	0.0
WHFM	**Hanning Flat**	**0.55**	**249**		Pg	03 41 48.9	-0.3
WHFM					Sg	03 41 56.2	-0.2
CWC	**Cottonwood Cre**	**0.62**	**332**		Pg	03 41 50.7	+0.1
CWC					Sg	03 41 58.8	0.0
DTP	**Desert Tortois**	**0.63**	**189**		Pg	03 41 50.2	-0.6
ISA	**Isabella, Lake**	**0.65**	**250**		Pg	03 41 50.8	-0.4
ISA					Sg	03 41 59.4	-0.4
ISA	**Isabella, Lake**	**0.65**	**250**	IAML		03 41 59.8	
	comp=N,13μm,0.8s						
ISA				IAML		03 41 59.8	
	comp=E,8μm,0.6s						
CGO	**Cerro Gordo**	**0.66**	**354**		Pg	03 41 50.8	-0.6
QSM	**Queen of Sheba**	**0.70**	**84**	Pg	Pg	03 41 51.6	-0.5
QSM				IAML		03 42 04.2	
	comp=E,7μm,0.5s						
QSM				IAML		03 42 05.6	
	comp=N,11μm,1.1s						
QSM	**Queen of Sheba**	**0.70**	**84**		Sg	03 42 00.7	-0.4
CCAC	**Calif City Air**	**0.78**	**198**	Pg	Pg	03 41 53.2	-0.4
CCAC				IAML		03 42 07.3	
	comp=N,5μm,0.6s						
SPG2	**Springville 2**	**0.90**	**290**		Pg	03 41 55.0	-0.9
SPG2					Sg	03 42 06.9	-0.8
GWY	**Greenwater Val**	**0.90**	**71**		Sg	03 42 07.7	0.0
GWY	**Greenwater Val**	**0.90**	**71**	Pg	Pg	03 41 55.7	-0.3
GWY				IAML		03 42 14.3	
	comp=N,9μm,0.6s						
GWY				IAML		03 42 14.5	
	comp=E,9μm,0.5s						
GSC	**Goldstone, Bar**	**0.95**	**128**	Pg	Pg	03 41 56.2	-0.7
GSC				IAML		03 42 11.9	
	comp=N,7μm,1.0s						
TPO	**Tropico Hills**	**1.09**	**202**		Pg	03 41 58.7	-0.9
VES	**Vestal, Richgr**	**1.11**	**268**		Sg	03 42 13.4	-0.9
GRAC	**Grapevine Rang**	**1.14**	**14**	Pg	Pg	03 41 59.9	-0.6
GRAC				IAML		03 42 20.3	
	comp=E,4μm,0.4s						
GRAC				IAML		03 42 21.8	
	comp=N,4μm,0.8s						
WCT	**Wildcat Mounta**	**1.26**	**44**		Pn	03 42 02.1	-0.6
WCT				IAML		03 42 21.6	
	comp=N,2μm,0.9s						
WCT				IAML		03 42 23.1	
	comp=E,3μm,1.3s						
LCH	**Last Change Ra**	**1.34**	**3**		Pb	03 42 04.1	0.0
GMN	**Gold Mountain**	**1.45**	**15**		Pn	03 42 05.1	-0.4
DSP	**Deep Springs**	**1.49**	**352**		Pn	03 42 05.7	0.0
TPNV	**Topopah Spring**	**1.59**	**48**		Pb	03 42 08.1	-0.3
TPNV				IAML		03 42 31.7	
	comp=E,3μm,0.9s						
TPNV				IAML		03 42 31.9	
	comp=E,2μm,0.9s						
BCW	**Bitter Crk WRg**	**1.68**	**236**		Pb	03 42 09.1	-0.7
PASC	**Pasadena Art C**	**1.76**	**193**	Pn	Pn	03 42 09.1	-0.3
ELS	**Elsinore Mount**	**2.25**	**174**	Pn	Pn	03 42 15.3	-1.0
ELS				IAML		03 42 52.0	
	comp=N,695nm,2.0s						
ELS				IAML		03 43 01.9	
	comp=E,766nm,1.1s						
PMPB	**Monarch Peak**	**2.52**	**278**		Pn	03 42 20.9	+1.0
NV11	**Mina Array Sit**	**2.56**	**352**		Pn	03 42 22.7	+2.1
NVAR	**Mina Array Bea**	**2.58**	**350**		Pn	03 42 21.8	+0.9
Q09A	**Carvers**	**2.97**	**8**		Pn	03 42 26.0	-0.2
SAO	**San Andreas Ge**	**3.13**	**287**		Pn	03 42 26.4	-1.9
W13A	**Hualapai Mount**	**3.23**	**103**		Pn	03 42 29.2	-0.7
W13A				IAML		03 43 49.0	
	comp=E,299nm,4.8s						
YUH	**Yuha Desert**	**3.56**	**155**		Pn	03 42 33.6	-0.7
YUH				IAML		03 43 31.9	
	comp=N,339nm,4.7s						
YUH				IAML		03 44 04.4	
	comp=E,351nm,4.8s						

*NEIC **06** 03:42:52.1±1.0, 35°.883N±0°.010×117°.71W±0°.01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.7km az=1.0*

PAS 06 03:42:52.5±0.9, 35°.878N±0°.010×117°.70W±0°.01, h5km±2km, ML4.1/23, ML3.9/20(NEIC), Error ellipse: s-maj=1.7km s-min=1.5km az=101.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.10**	**126**		Pg	03 42 54.6	-0.1
CLC					Sg	03 42 56.7	+0.5
WVPM	**Volcano Peak E**	**0.12**	**307**		Pg	03 42 55.2	+0.2
JRC2	**Joshua Ridge**	**0.14**	**320**		Pg	03 42 55.5	+0.2
WCSM	**Coso Springs S**	**0.16**	**340**		Pg	03 42 55.8	0.0
WCSM					Sg	03 42 58.2	+0.3
SRTC	**Snort**	**0.19**	**192**		Pg	03 42 56.7	+0.4
WRVM	**Rose V. Centra**	**0.20**	**310**		Pg	03 42 56.6	+0.1
LRMC	**Laurel Mtn Rad**	**0.40**	**178**		Pg	03 43 00.1	-0.2
LRMC					Sg	03 43 06.0	+0.5
WORM	**Onyx Ranch**	**0.48**	**248**		Pg	03 43 01.5	-0.2
WORM					Sg	03 43 07.9	0.0
WBSM	**Bird Springs**	**0.49**	**226**		Pg	03 43 01.9	-0.1
WBSM					Sg	03 43 08.8	+0.4
WHFM	**Hanning Flat**	**0.56**	**251**		Pg	03 43 03.0	-0.2
WHFM					Sg	03 43 10.5	0.0
CWC	**Cottonwood Cre**	**0.64**	**331**		Pg	03 43 04.9	0.0
ISA	**Isabella, Lake**	**0.66**	**251**		Sg	03 43 13.9	0.0
ISA	**Isabella, Lake**	**0.66**	**251**	Pg	Pg	03 43 05.2	0.0
ISA				IAML		03 43 14.1	
	comp=N,8μm,0.3s						
ISA				IAML		03 43 15.7	
	comp=E,8μm,0.2s						
QSM	**Queen of Sheba**	**0.68**	**82**	Pg	Pg	03 43 06.1	+0.5
QSM				IAML		03 43 18.9	
	comp=N,5μm,1.0s						
QSM				IAML		03 43 19.0	
	comp=E,4μm,0.5s						
WASM	**Alta Sierra Ca**	**0.71**	**259**		Sg	03 43 15.4	0.0
CCAC	**Calif City Air**	**0.77**	**200**		Sg	03 43 17.5	+0.3
CCAC	**Calif City Air**	**0.77**	**200**	Pg	Pg	03 43 07.4	+0.2
CCAC				IAML		03 43 18.1	
	comp=E,7μm,0.4s						
CCAC				IAML		03 43 21.0	
	comp=N,6μm,0.4s						
SPG2	**Springville 2**	**0.92**	**291**		Sg	03 43 22.0	-0.2
GSC	**Goldstone, Bar**	**0.93**	**128**	Pg	Pg	03 43 09.6	-0.8
GSC				IAML		03 43 42.8	
	comp=E,5μm,0.5s						
TEJ	**El Tejon**	**1.03**	**232**		Pg	03 43 11.5	-0.9
TEJ					Sg	03 43 24.7	-1.0
TPO	**Tropico Hills**	**1.09**	**203**		Sg	03 43 27.7	+0.3
WCT	**Wildcat Mounta**	**1.26**	**43**	Pg	Pg	03 43 15.7	-1.0
GMN	**Gold Mountain**	**1.46**	**14**		Pn	03 43 19.8	-0.1
POCCA	**Poleta Canyon**	**1.55**	**343**		Pn	03 43 21.3	+0.3
MTUM	**Tungsten Hills**	**1.63**	**335**		Pb	03 43 22.9	-0.3
BCW	**Bitter Crk WRg**	**1.68**	**237**		Pn	03 43 23.2	+0.5
SIL	**Silver Peak**	**1.69**	**155**		Pb	03 43 24.3	+0.1
MCSM	**Casa Diablo Ho**	**2.02**	**332**		Pn	03 43 24.0	-3.6
NV11	**Mina Array Sit**	**2.58**	**352**	Pn	Pn	03 43 34.5	-0.6
NV11				IAML		03 44 35.5	
	comp=N,302nm,4.0s						

*NEIC **06** 03:43:08.6±0.4, 35°.89N±0°.01×117°.693W±0°.008, h10km±1km, Error ellipse: s-maj=2.9km s-min=1.9km az=86.0*

PAS 06 03:43:09.0±0.4, 35°.89N±0°.01×117°.69W±0°.01, h9km±4km, ML4.1/16, ML3.9/12(NEIC), Error ellipse: s-maj=1.9km s-min=1.5km az=128.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.10**	**216**		Sg	03 43 14.2	+0.8
CLC	**China Lake**	**0.10**	**132**		Pg	03 43 11.5	-0.2
CLC					Sg	03 43 13.5	-0.1
WVPM	**Volcano Peak E**	**0.12**	**302**		Pg	03 43 11.9	-0.1
WVPM					Sg	03 43 13.9	-0.1
WCSM	**Coso Springs S**	**0.15**	**337**		Pg	03 43 12.4	-0.1
WCSM					Sg	03 43 14.8	-0.1
WNMM	**Nine Mile Cany**	**0.18**	**256**		Sg	03 43 15.7	+0.3
SRTC	**Snort**	**0.20**	**193**		Pg	03 43 13.4	+0.2
SRTC					Sg	03 43 17.1	+1.1
WRVM	**Rose V. Centra**	**0.20**	**307**		Pg	03 43 13.2	0.0
WRVM					Sg	03 43 16.2	+0.1
MFS	**McCloud Flat S**	**0.27**	**330**		Pg	03 43 14.4	0.0
MFS					Sg	03 43 18.5	+0.4
LRMC	**Laurel Mtn Rad**	**0.41**	**179**		Sg	03 43 22.4	0.0
CCCA	**Chr Cany lake**	**0.45**	**143**		Pg	03 43 18.0	+0.2
WORM	**Onyx Ranch**	**0.48**	**247**		Pg	03 43 18.1	-0.4
WORM					Sg	03 43 24.4	-0.5
WBSM	**Bird Springs**	**0.50**	**226**		Pg	03 43 18.6	-0.3
WBSM					Sg	03 43 25.5	0.0
WHFM	**Hanning Flat**	**0.57**	**251**		Sg	03 43 27.1	-0.4
ISA	**Isabella, Lake**	**0.67**	**251**		Sg	03 43 30.3	-0.6
ISA	**Isabella, Lake**	**0.67**	**251**	Pg	Pg	03 43 21.8	-0.2
ISA				IAML		03 43 30.5	
	comp=N,7μm,0.4s						
ISA				IAML		03 43 31.6	
	comp=E,6μm,0.2s						
WASM	**Alta Sierra Ca**	**0.72**	**258**		Sg	03 43 31.9	-0.5
CCAC	**Calif City Air**	**0.78**	**200**		Sg	03 43 33.9	-0.3
GSC	**Goldstone, Bar**	**0.93**	**129**	Pg	Pg	03 43 26.2	-0.7
GSC				IAML		03 43 41.9	
	comp=N,4μm,0.9s						
TEJ	**El Tejon**	**1.04**	**231**		Sg	03 43 41.2	-1.4
GRAC	**Grapevine Rang**	**1.14**	**13**		Pb	03 43 30.8	-0.1
GRAC				IAML		03 43 40.0	
	comp=N,2μm,0.8s						
GRAC				IAML		03 43 47.1	
	comp=E,3μm,0.4s						
WCT	**Wildcat Mounta**	**1.25**	**43**		Pn	03 43 32.1	-0.7
WCT				IAML		03 43 51.7	
	comp=N,1μm,1.2s						
PRN	**Pahroc Range**	**2.61**	**54**	Pn	Pn	03 43 51.8	+0.3

*NEIC **06** 03:44:00.9±1.0, 35°.91N±0°.01×117°.721W±0°.009, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.5km az=1.0*

PAS 06 03:44:01.6±0.8, 35°.91N±0°.01×117°.73W±0°.01, h7km±1km, ML4.1/27, ML4.0/24(NEIC), Error ellipse: s-maj=1.6km s-min=1.2km az=174.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.08**	**296**		Pg	03 44 03.6	-0.1
WVPM					Sg	03 44 05.3	+0.1
TOW	**Tower One**	**0.11**	**196**		Pg	03 44 04.5	+0.4
WCSM	**Coso Springs S**	**0.12**	**344**		Pg	03 44 04.1	-0.1
WCSM					Sg	03 44 05.9	-0.2
WNMM	**Nine Mile Cany**	**0.16**	**244**		Pg	03 44 05.0	+0.1
WRVM	**Rose V. Centra**	**0.16**	**306**		Pg	03 44 05.5	+0.5
WRVM					Sg	03 44 07.2	-0.1
SRTC	**Snort**	**0.22**	**184**		Pg	03 44 06.4	+0.4
MFS	**McCloud Flat S**	**0.23**	**333**		Pg	03 44 06.1	-0.1
MFS					Sg	03 44 09.1	-0.2
WORM	**Onyx Ranch**	**0.47**	**243**		Pg	03 44 10.3	-0.4
WORM					Sg	03 44 16.7	-0.2
WBSM	**Bird Springs**	**0.50**	**222**		Pg	03 44 11.0	-0.3
WBSM					Sg	03 44 17.9	0.0
WHFM	**Hanning Flat**	**0.55**	**247**		Pg	03 44 11.9	-0.3
WHFM					Sg	03 44 19.2	-0.2
CWC	**Cottonwood Cre**	**0.60**	**332**		Pg	03 44 13.0	-0.2
CWC					Sg	03 44 20.8	-0.2
DTP	**Desert Tortois**	**0.65**	**188**		Pg	03 44 12.9	-1.3
DTP					Sg	03 44 22.6	-0.1
ISA	**Isabella, Lake**	**0.66**	**248**		Sg	03 44 22.5	-0.3
ISA	**Isabella, Lake**	**0.66**	**248**	Pg	Pg	03 44 13.9	-0.4
ISA				IAML		03 44 22.7	
	comp=N,6μm,0.4s						
ISA				IAML		03 44 22.8	
	comp=E,4μm,0.3s						
WASM	**Alta Sierra Ca**	**0.70**	**256**		Pg	03 44 14.6	-0.4
QSM	**Queen of Sheba**	**0.70**	**86**	Pg	Pg	03 44 14.7	-0.3
QSM				IAML		03 44 39.8	
	comp=N,9μm,0.7s						
QSM				IAML		03 44 40.3	
	comp=E,6μm,0.3s						
CCAC	**Calif City Air**	**0.80**	**197**	Pg	Pg	03 44 16.1	-0.8
CCAC				IAML		03 44 44.3	
	comp=E,6μm,0.3s						
CCAC				IAML		03 44 44.3	
	comp=N,6μm,0.7s						
SPG2	**Springville 2**	**0.89**	**289**		Pg	03 44 17.8	-0.9
GWY	**Greenwater Val**	**0.90**	**72**	Pg	Pg	03 44 18.5	-0.4
GSC	**Goldstone, Bar**	**0.97**	**129**	Pg	Pg	03 44 19.4	-0.7
GRAC	**Grapevine Rang**	**1.12**	**15**		Pg	03 44 22.6	-0.5
GRAC	**Grapevine Rang**	**1.12**	**15**	Pg	Pg	03 44 22.4	-0.7
GRAC				IAML		03 44 57.1	
	comp=N,5μm,1.1s						
GRAC				IAML		03 44 59.9	
	comp=E,4μm,0.8s						
VOG	**Valley Oaks Go**	**1.40**	**287**		Pn	03 44 27.3	-0.3
GMN	**Gold Mountain**	**1.43**	**15**		Pn	03 44 27.4	-0.9
DSP	**Deep Springs**	**1.47**	**352**		Pn	03 44 28.0	-0.5
DSP				IAML		03 45 06.4	
	comp=E,3μm,0.5s						
DSP				IAML		03 45 07.0	
	comp=N,2μm,0.5s						
MZP	**Montezuma Peak**	**1.81**	**9**	Pn	Pn	03 44 33.0	-0.4
TPH	**Tonopah**	**2.19**	**10**	Pn	Pn	03 44 38.4	-0.3
TPH				IAML		03 45 41.0	
	comp=E,548nm,4.5s						
Q09A	**Carvers**	**2.95**	**8**	Pn	Pn	03 44 47.8	-1.2
ESJX	**Sierra Juarez**	**4.17**	**159**	Pn	Pn	03 45 00.6	-5.2

*IDC **06** 03:44:17.9±0.9, 35°.96N×117°.52W, h0km, mb4.0/3, mbtmp4.0/5, ML4.0/2, Error ellipse: s-maj=29.3km s-min=7.8km az=71.0*

*PAS **06** 03:44:17.7±0.5, 35°.905N±0°.010×117°.693W±0°.008, h6km±2km, ML4.2/25, ML4.3/12(NEIC), Error ellipse: s-maj=1.5km s-min=0.8km az=196.0*

*NEIC **06** 03:44:17.2±0.7, 35°.894N±0°.008×117°.70W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.5km az=18.0*

ISC 06 03:44:18.5±0.8, 35°.89N±0°.02×117°.70W±0°.03, h8km±6km, n25, σ1°44/31, mb4.2/3, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.09**	**211**		Pg	03 44 23.5	+2.6
WVPM	**Volcano Peak E**	**0.11**	**303**		Pg	03 44 20.3	-0.9
CLC	**China Lake**	**0.11**	**130**		Pg	03 44 20.2	-1.0
CLC					Sg	03 44 22.1	-0.9
JRC2	**Joshua Ridge**	**0.13**	**318**		Pg	03 44 20.5	-1.0
WCSM	**Coso Springs S**	**0.15**	**340**		Pg	03 44 20.5	-1.2
WCSM					Sg	03 44 22.8	-1.2
WRVM	**Rose V. Centra**	**0.19**	**308**		Pg	03 44 21.6	-0.9
WRVM					Sg	03 44 24.6	-0.7
MPMC	**Manual Prospec**	**0.24**	**46**		Sg	03 44 25.5	-1.3
MFS	**McCloud Flat S**	**0.26**	**332**		Pg	03 44 22.6	-1.2
LRMC	**Laurel Mtn Rad**	**0.41**	**178**		Pg	03 44 25.3	-1.3
LRMC					Sg	03 44 31.8	-0.1
WORM	**Onyx Ranch**	**0.48**	**246**		Sg	03 44 33.6	-0.5
WBSM	**Bird Springs**	**0.50**	**225**		Pg	03 44 27.1	-1.1
WBSM					Sb	03 44 34.6	-2.5
DTP	**Desert Tortois**	**0.63**	**191**		Sb	03 44 39.0	-1.8
CGO	**Cerro Gordo**	**0.67**	**353**		Sg	03 44 39.7	-0.5
QSM	**Queen of Sheba**	**0.68**	**83**	Pg	Pg	03 44 31.0	-0.7
QSM				IAML		03 44 41.5	
	comp=E,11μm,0.5s						
QSM				IAML		03 44 45.2	
	comp=N,14μm,0.8s						
CCAC	**Calif City Air**	**0.78**	**199**		Pg	03 44 32.9	-0.6
CCAC				IAML		03 44 47.6	
	comp=N,6μm,0.8s						
GWY	**Greenwater Val**	**0.89**	**70**	Pg	Pg	03 44 34.7	-1.0
GWY				IAML		03 44 48.6	
	comp=N,8μm,0.6s						
GWY				IAML		03 44 49.4	
	comp=E,8μm,0.7s						
GSC	**Goldstone, Bar**	**0.94**	**128**	Pg	Pg	03 44 35.4	-1.1
GSC				IAML		03 44 50.1	
	comp=N,7μm,0.7s						
GSC				IAML		03 44 51.0	
	comp=E,14μm,0.9s						
PFO	**Pinyon Flats O**	**2.49**	**155**	Pg	**Pb**	**03 45 03.5**	**-0.1**
	comp=E,66nm,0.3s,baz=334,slow=16,SNR=3.6						
PFO				Lg	Lg	03 45 37.4	
	comp=E,146nm,0.3s,baz=224,slow=19,SNR=6.2						
NVAR	**Mina Array Bea**	**2.58**	**349**	Pg	**Pb**	**03 45 05.8**	**+0.7**
	comp=E,67nm,0.3s,baz=170,slow=15,SNR=5.6						
NVAR				Lg	Lg	03 45 38.1	
	comp=E,74nm,0.3s,baz=187,slow=31,SNR=3.4						
ELK	**Elko**	**5.22**	**21**	Pn	**Pn**	**03 45 36.0**	**-1.0**
	comp=E,6.6nm,0.3s,baz=257,slow=14,SNR=3.3						
ELK				Pg	**Pb**	**03 45 54.3**	**+4.1**
	comp=E,6.8nm,0.3s,baz=304,slow=15,SNR=2.7 comp=E,35nm,0.5s						
TXAR	**Lajitas Array**	**13.51**	**115**	Pn	**Pn**	**03 47 31.7**	**+1.1**
	comp=E,0.1nm,0.3s,baz=291,slow=12,SNR=4.6 comp=E,1.5nm,0.8s						
ILAR	**Eielson Array**	**33.78**	**338**	P	**P**	**03 51 01.9**	**+1.4**
	comp=E,0.6nm,0.8s,baz=156,slow=6.6,SNR=4.6 comp=E,0.6nm,0.8s						
PETK	**Petropavlovsk-**	**59.22**	**316**	P	**P**	**03 54 19.7**	**-0.2**
	comp=E,1.3nm,0.7s,baz=75,slow=7.6,SNR=3.7 comp=E,1.3nm,0.7s						
BVAR	**Borovoye Array**	**91.17**	**355**	P	**P**	**03 57 24.4**	**+0.6**
	comp=E,1.2nm,0.7s,baz=15,slow=6.2,SNR=5.4 comp=E,1.2nm,0.7s						
MAW	**Mawson**	**148.24**	**180**	PKPbc	**PKPbc**	**04 04 03.8**	**-0.2**
	comp=E,3.2nm,0.9s,baz=105,slow=12,SNR=4.1						

*NEIC **06** 03:46:26.3±1.1, 35°.692N±0°.009×117°.48W±0°.01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.6km az=216.0*

*PAS **06** 03:46:26.9±1.0, 35°.681N±0°.010×117°.470W±0°.007, h7km±2km, ML4.5/23, mb4.1/22(NEIC), ML4.7/92(NEIC), Error ellipse: s-maj=1.4km s-min=0.8km az=182.0*

*IDC **06** 03:46:27.5±0.7, 35°.62N×117°.40W, h0km, mb4.0/7, mbtmp4.0/13, ML4.4/4, Error ellipse: s-maj=19.3km s-min=6.1km az=71.0*

ISC 06 03:46:27.0±1.1, 35°.67N±0°.02×117°.47W±0°.02, h2km±8km, n142, σ0°98/164, mb4.1/16, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.17**	**150**		Pg	03 46 31.0	+0.7
CCCA					Sg	03 46 34.4	+1.8
CLC	**China Lake**	**0.18**	**324**		Pg	03 46 30.2	-0.3
CLC					Sg	03 46 32.7	-0.1
SRTC	**Snort**	**0.23**	**275**		Pg	03 46 31.8	+0.4
LRMC	**Laurel Mtn Rad**	**0.26**	**222**		Pg	03 46 32.0	0.0
LRMC					Sg	03 46 35.9	+0.5
TOW	**Tower One**	**0.28**	**300**		Pg	03 46 32.7	+0.4
MPMC	**Manual Prospec**	**0.39**	**358**		Pg	03 46 33.9	-0.5

RRX Sg 03 46 55.4 -0.1
WASM Alta Sierra Ca 0.89 275 Pg 03 46 43.3 -0.7
WASM Sg 03 46 55.1 -0.4
EDW2 Edwards Air Fo 0.90 209 Pg 03 46 43.1 -1.1
CGO Cerro Gordo 0.92 343 Pg 03 46 43.1 -1.5
SHOC Shoshone, Teco 1.00 77 Pg 03 46 46.2 0.0
VTV Victorville 1.11 174 Pg 03 46 48.2 -0.2
ARVC Arvin 1.24 244 Pg 03 46 50.7 0.0
HEC Hector,Ludlow 1.25 132 Pg 03 46 50.0 -1.1
WCT Wildcat Mounta 1.31 31 Pn 03 46 50.8 -1.6
WCT Sg Sn 03 47 09.4 -1.2
GRAC Grapevine Rang 1.32 4 Pg Pn 03 46 51.3 -1.3
GRAC IAML 03 47 14.1
comp=E,12µm,0.7s
GRAC IAML 03 47 16.2
comp=N,14µm,0.9s
CHFC Chilao Flat St 1.41 199 Pb 03 46 53.8 -0.4
BFSC Mount Baldy Ra 1.44 186 Pn 03 46 53.4 -0.9
MTPC Mountain Pass 1.57 96 Pn 03 46 53.7 -2.4
PASC Pasadena Art C 1.61 202 Pn 03 46 56.0 -0.5
TPNV Topopah Spring 1.61 37 Pb 03 46 56.9 -0.8
TPNV IAML 03 47 21.0
comp=N,5µm,0.8s
TPNV IAML 03 47 21.6
comp=N,4µm,0.6s
GMN Gold Mountain 1.63 6 Pn 03 46 56.1 -1.0
GTM Goat Mountain 1.65 146 Pb 03 46 57.9 -0.3
DSP Deep Springs 1.74 347 Pn 03 46 57.1 -1.1
DSP IAML 03 47 23.0
comp=E,4µm,0.4s
BCW Bitter Crk WRg 1.75 246 Pn Pn 03 46 56.9 -1.7
BCW IAML 03 47 26.7
comp=N,5µm,0.7s
BCW IAML 03 47 36.1
comp=E,5µm,0.8s
ELS Elsinore Mount 2.02 179 Pn 03 47 00.4 -1.8
MZP Montezuma Peak 2.03 2 Pn 03 47 01.1 -1.4
SHPR Sheep Range 2.05 65 Pn 03 47 00.1 -2.6
V12A Nelson 2.13 88 Pn 03 47 02.9 -0.9
PFO Pinyon Flats O 2.22 158 Pn 03 47 05.2 +0.2
PFO Pinyon Flats O 2.22 158 Pn Pn 03 47 03.9 -1.1
comp=E,159nm,0.3s,baz=332,slow=12,SNR=8.7
PFO Pg Pb 03 47 07.7 -0.2
comp=E,159nm,0.3s,baz=327,slow=14,SNR=7.4
PFO Lg Lg 03 47 35.0
comp=E,301nm,0.3s,baz=234,slow=23,SNR=8.3
comp=E,104nm,0.3s
MLAC Mammoth, Mammo 2.24 331 Pb 03 47 08.5 +0.1
TPH Tonopah 2.41 5 Pn 03 47 06.6 -1.0
S11A Rachel 2.41 35 Pn 03 47 07.7 +0.1
S11A IAML 03 47 47.2
comp=N,3µm,0.9s
S11A IAML 03 47 50.7
comp=E,3µm,1.1s
PRN Pahroc Range 2.61 48 Pn 03 47 10.4 +0.1
PRN IAML 03 48 50.4
comp=E,4µm,1.1s
PRN IAML 03 48 51.3
comp=N,6µm,0.7s
LHV Little Huntoon 2.70 342 Pn 03 47 11.2 -0.4
LHV IAML 03 48 48.4
comp=E,5µm,0.7s
PMPB Monarch Peak 2.76 282 Pn Pn 03 47 12.2 -0.1
NV11 Mina Array Sit 2.81 349 Pn 03 47 12.5 -0.6
NV11 IAML 03 48 43.9
comp=N,3µm,1.4s
NV11 IAML 03 48 46.2
comp=E,2µm,0.8s
NVAR Mina Array Bea 2.83 347 Pn 03 47 11.9 -1.7
NVAR Mina Array Bea 2.83 347 Pn Pn 03 47 14.9 +1.4
comp=E,174nm,0.3s,baz=164,slow=14,SNR=13
NVAR Pg Pg 03 47 20.3 -1.0
comp=E,174nm,0.3s,baz=170,slow=17,SNR=15
NVAR Lg Lg 03 47 59.0
comp=E,101nm,0.3s,baz=180,slow=27,SNR=3.1
comp=E,34nm,0.6s
W13A Hualapai Mount 2.98 100 Pn 03 47 13.2 -2.4
W13A IAML 03 48 58.4
comp=E,4µm,1.2s
W13A IAML 03 48 58.4
comp=N,2µm,0.8s
BBGB Big Mountain B 3.03 288 Pn Pn 03 47 15.6 -0.5
R11B Troy Canyon, C 3.07 29 Pn 03 47 15.5 -1.2
R11B IAML 03 48 53.1
comp=N,2µm,1.2s
R11B IAML 03 48 53.1
comp=E,1µm,0.9s
RYN Ryan 3.07 344 Pn 03 47 16.4 -0.3
RYN IAML 03 48 51.4
comp=N,3µm,1.1s
RYN IAML 03 48 59.6
comp=E,2µm,0.9s
BLYC Blythe 3.09 127 Pn Pn 03 47 15.5 -1.4
BLYC IAML 03 48 58.5
comp=N,2µm,1.4s
BLYC IAML 03 49 12.7
comp=E,2µm,0.9s
Q09A Carvers 3.16 4 Pn 03 47 17.4 -0.6
TJX Tijuana 3.17 174 Pn Pn 03 47 17.7 -0.3
TKX Tecate 3.18 167 Pn 03 47 16.1 -2.0
TKX IAML 03 48 55.8
comp=E,961nm,0.8s
TKX IAML 03 48 55.8
comp=N,3µm,0.8s
WAKR Walker 3.23 331 Pn 03 47 18.1 -0.9
WAKR IAML 03 48 52.2
comp=N,3µm,0.7s
WAKR IAML 03 48 54.8
comp=E,2µm,1.0s
YUH Yuha Desert 3.28 157 Pn 03 47 18.7 -0.7
YUH IAML 03 49 05.5
comp=N,1µm,0.8s
YUH IAML 03 49 17.8
comp=E,877nm,1.4s
SAO San Andreas Ge 3.40 290 Pn Pn 03 47 20.6 -0.4
GLA Glamis 3.41 139 Pn Pn 03 47 19.1 -2.1
CBX Cerro Bola 3.42 168 Pn 03 47 19.9 -1.5
LCMT Little Creek M 3.66 67 Pn 03 47 24.8 -0.1
LCMT IAML 03 49 13.9
comp=N,761nm,1.1s
LCMT IAML 03 49 42.8
comp=E,1µm,1.1s
MPK Martis Peak 4.15 331 Pn 03 47 31.7 0.0
AFDM Forest Hills D 4.30 321 Pn Pn 03 47 34.2 +0.7
ELK Elko 5.36 18 Pn Pn 03 47 49.6 +1.3
comp=E,19nm,0.6s,baz=38,slow=16,SNR=0.9
ELK Pg Pb 03 48 04.0 +2.4
comp=E,21nm,0.3s,baz=209,slow=13,SNR=8.2
X18A Snowflake 6.27 98 Pn Pn 03 47 59.5 -1.2
JLU Jordanelle 6.83 42 Pn Pn 03 48 09.4 +0.9
BSUT Blindstream Ca 7.18 45 Pn Pn 03 48 13.2 -0.2
PV18 Skein Mesa, Pa 7.32 67 Pn 03 48 14.4 -0.8
PV16 Nyswonger Mesa 7.33 66 Pn Pn 03 48 14.1 -1.3
PV07 Paradox Valley 7.58 66 Pn 03 48 16.3 -0.2
DUN6 Lazy B Ranch 7.61 112 Pn Pn 03 48 19.2 +0.1
319A Douglas 8.07 120 Pn Pn 03 48 25.4 +0.1
HSIG 8.62 138 Pn Pn 03 48 31.6 -1.3
ANMO Albuquerque 9.03 91 Pn Pn 03 48 40.3 +1.6
comp=E,3.6nm,0.6s,baz=200,slow=14,SNR=1.5
TPAW Teton Pass 9.29 31 Pn Pn 03 48 42.7 +0.5
PDAR Pinedale Array 9.37 39 Pn Pn 03 48 47.0 +3.7
comp=E,0.1nm,0.3s,baz=223,slow=14,SNR=2.2
comp=E,2.0nm,0.9s
PLID Pearl Lake 9.47 6 Pn Pn 03 48 44.0 -0.6
LOHW Long Hollow 9.53 32 Pn Pn 03 48 46.6 +1.1
ISCO Idaho Springs 10.25 63 Pn Pn 03 48 55.8 +0.3
F10A Beach Ranch, E 10.29 1 Pn Pn 03 48 56.3 -0.5
MNTX Cormudas Mount 10.82 108 Pn Pn 03 49 00.0 -3.0
ALPN Alpine 12.75 111 Pn Pn 03 49 30.0 +0.5
TXAR Lajitas Array 13.25 115 Pn Pn 03 49 36.9 +0.6
comp=E,0.5nm,0.3s,baz=291,slow=12,SNR=15
comp=E,1.1nm,0.5s
SAND Sanderson 14.10 110 P 03 49 53.5 -2.4
OZNA Ozona 14.46 104 Pn Pn 03 49 53.7 +0.9
WMOK Wichita Mounta 15.31 88 Pn Pn 03 50 05.7 +1.4
DRIO Del Rio 15.51 109 P 03 50 10.3 -1.1
BRDY Brady 16.02 101 P 03 50 16.0 -1.1
BRDY IAmb IAmb 03 50 20.5
comp=Z,10nm,0.8s
ECSD EROS Data Cent 17.92 57 P P 03 50 38.2 +0.1
HHAR Hobbs 19.05 81 P Pn 03 50 51.3 0.0
S39A Bolivar 19.46 77 Pn 03 50 56.0 -0.2
MIAR Mount Ida 19.57 86 P Pn 03 50 56.7 -0.9
R40A Maddies Statio 20.29 75 P P 03 51 03.7 -0.3
R40A IAmb IAmb 03 51 10.6
comp=Z,2.2nm,0.5s
P40A Paris 20.48 72 P P 03 51 06.6 +0.4
WHAR Wooly Hollow 20.50 84 P Pn 03 51 07.5 -1.0
FCAR Ozark Folk Cen 20.55 82 P P 03 51 06.1 -0.8
ULM Lac du Bonnet 21.39 40 P P 03 51 14.6 -1.2
ULM IAmb IAmb 03 51 27.6
comp=Z,5.5nm,0.8s
ULM Lac du Bonnet 21.39 40 P P 03 51 16.2 +0.5
comp=Z,12nm,0.7s,baz=233,slow=11,SNR=12
comp=Z,12nm,0.7s
FFC Flin Flon 21.87 25 P P 03 51 20.4 -0.5
EPLO Experimental L 22.25 44 P P 03 51 26.4 +1.3
Q44A Meyer Farm, Va 22.83 73 P P 03 51 32.9 +1.6
Q44A IAmb IAmb 03 51 38.4
comp=Z,20nm,1.1s
I42A Draeger Farm, 23.34 61 P P 03 51 36.4 -0.2
K43A Burlington 23.57 64 P P 03 51 38.3 -0.6
COWI Conover 23.70 55 P P 03 51 40.0 -0.2
WVT Waverly 23.98 80 P P 03 51 42.5 -0.4
TBO Thunder Bay 24.35 49 P P 03 51 46.7 +0.4
SWET Sewanee 25.64 82 P P 03 51 59.2 +1.1
SWET IAmb IAmb 03 51 59.9
comp=Z,3.1nm,0.8s
O48B Farmland 25.80 70 P P 03 51 59.3 -0.2
O48B IAmb IAmb 03 52 02.9
comp=Z,6.4nm,1.0s
W50A Signal Mountai 26.15 82 P P 03 52 03.5 +0.8
CPCT Cooper Cave 26.74 81 P P 03 52 08.8 +0.8
YKA Yellowknife Ar 26.91 3 P P 03 52 10.7 +1.5
comp=Z,1.3nm,0.9s,baz=187,slow=8.2,SNR=6.9
comp=Z,1.3nm,0.9s
S51A Beattyville 27.17 76 P P 03 52 12.2 +0.4
TKL Tuckaleechee C 27.30 80 P P 03 52 13.5 +0.4
TKL Tuckaleechee C 27.30 80 P P 03 52 13.9 +0.8
comp=Z,2.7nm,0.7s,baz=166,slow=13,SNR=3.8
comp=Z,2.7nm,0.7s
I28M Miner Creek 32.66 343 P P 03 53 00.5 +0.2
I26K Coal Creek Min 33.37 341 P P 03 53 06.7 +0.2
I26K IAmb IAmb 03 53 32.3
comp=Z,8.3nm,1.5s
ILAR Eielson Array 34.05 338 P P 03 53 13.8 +1.4
comp=Z,0.6nm,0.8s,baz=152,slow=7.8,SNR=6.5
comp=Z,0.6nm,0.8s
N19K Bonanza Creek 34.44 329 P P 03 53 15.7 -0.2
N19K IAmb IAmb 03 53 17.9
comp=Z,3.9nm,0.9s
G26K Porcupine Rive 34.81 342 P P 03 53 18.5 -0.3
G26K IAmb IAmb 03 53 28.0
comp=Z,2.1nm,0.9s
N18K Kilae Creek 34.98 328 P P 03 53 20.4 0.0
N18K IAmb IAmb 03 53 54.2
comp=Z,2.2nm,1.5s
F26K Sheenjek River 35.48 343 P P 03 53 25.5 +0.8
N17K Nushagak Hills 35.48 327 P P 03 53 25.2 +0.5
N17K IAmb IAmb 03 53 27.1
comp=Z,3.9nm,1.0s
O16K Kokwok River B 35.49 325 P P 03 53 24.8 -0.1
K20K Telida 35.62 333 P P 03 53 26.6 +0.7
K20K IAmb IAmb 03 53 27.9
comp=Z,4.4nm,0.8s
IMAR Indian Mountai 37.03 336 P 03 53 38.3 +0.5
PETK Petropavlovsk- 59.51 316 P P 03 56 31.9 +0.3
comp=Z,3.3nm,0.9s,baz=88,slow=14,SNR=5.8
comp=Z,3.3nm,0.9s
LPAZ La Paz 69.66 129 P P 03 57 37.3 -1.7
LPAZ La Paz 69.66 129 P P 03 57 39.2 +0.2
comp=Z,0.9nm,0.7s,baz=301,slow=4.5,SNR=4.7
comp=Z,0.9nm,0.7s
PB18 Visviri 69.80 131 P 03 57 39.6 -0.1
PB16 IPOC Station P 70.35 131 P P 03 57 42.8 -0.4
PB11 IPOC Station P 71.35 133 P P 03 57 48.2 -0.5
NOA NORSAR Array B 74.96 23 P P 03 58 10.3 +0.9
comp=Z,0.5nm,0.3s,baz=321,slow=5.6,SNR=2.5
comp=Z,0.5nm,0.3s
MAW Mawson 148.02 180 PKPbc **PKPbc** 04 06 13.2 +0.1
comp=Z,2.0nm,0.9s,baz=135,slow=5.7,SNR=4.0

*BJI **06** 03:47:51.0,35˚.90N×117˚.80W,h8km,mb5.0/16*
*NEIC **06** 03:47:52.9±1.4,35˚.903N±0˚.010×117˚.75W±0˚.02, h9km±4km,Error ellipse: s-maj=1.9km s-min=1.4km az=73.0*
*MOS **06** 03:47:52.6±1.1,35˚.81N×117˚.70W,h10km,mb5.1/28, Error ellipse: s-maj=7.2km s-min=4.8km az=103.4*
*IDC **06** 03:47:53.0±0.4,35˚.82N×117˚.67W,h0km,mb4.4/23, mbtmp4.4/31,ML4.5/5,Error ellipse: s-maj=11.9km s-min=5.8km az=74.0*
*PAS **06** 03:47:53.4±1.2,35˚.901N±0˚.004×117˚.75W±0˚.01, h5km±2km,Mwr5.5/4,mb5.0/117(NEIC),ML5.4/116(NEIC), Mww5.4/37(NEIC),Error ellipse: s-maj=1.7km s-min=0.5km az=101.0*
*NEIC **06** 03:47:53.4,35˚.90N×117˚.75W,h16km,Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^17^Nm; Mrr=0.22; Mθθ=1.02; Mϕϕ1.24; Mrθ0.30; Mθϕ0.91; Mϕr-0.42; Fault plane solution: M0 1.55000×10^17^ NP1: ϕ243.42000°,δ69.84000°,λ-6.65000°. NP2:ϕ335.72000°, δ83.76000°,λ-159.71000°. Principal axes: T 1.6107, Plg10.0000°, Azm108.0000°; N -0.1274, Plg69.0000°, Azm352.0000°; P -1.4834, Plg19.0000°, Azm201.0000°;*
*NEIC **06** 03:47:53.4,35˚.90N×117˚.75W,h16km*
ISC 06 03:47:54.1±0.7,35˚.89N±0˚.02×117˚.74W±0˚.02,h9km±4km, n556,σ1°54/518,mb4.9/90,9C-1D,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOW	**Tower One**	**0.08**	**195**		**Pg**	**03 47 55.9**	**-0.5**
TOW					**Sg**	**03 47 58.7**	**+0.7**
WVPM	**Volcano Peak E**	**0.09**	**312**		**Pg**	**03 47 55.4**	**-1.2**
JRC2	**Joshua Ridge**	**0.11**	**327**		**Pg**	**03 47 55.7**	**-1.2**
JRC2					**Sg**	**03 47 57.9**	**-0.9**
CLC	**China Lake**	**0.14**	**123**		**Pg**	**03 47 56.5**	**-0.7**
CLC					**Sg**	**03 47 59.1**	**-0.2**
CLC	**China Lake**	**0.14**	**123**	P	**Pg**	**03 47 56.5**	**-0.7**
WCSM	**Coso Springs S**	**0.14**	**350**		**Pg**	**03 47 56.0**	**-1.2**
WCSM					**Sg**	**03 47 58.5**	**-1.0**
WNMM	**Nine Mile Cany**	**0.14**	**251**		**Pg**	**03 47 56.4**	**-0.9**
WRVM	**Rose V. Centra**	**0.17**	**313**		**Pg**	**03 47 56.6**	**-1.2**
WRVM					**Sg**	**03 47 59.6**	**-0.7**
SRTC	**Snort**	**0.20**	**183**		**Pg**	**03 47 58.0**	**-0.3**
SRTC					**Sg**	**03 48 02.0**	**+1.0**
MFS	**McCloud Flat S**	**0.25**	**337**		**Pg**	**03 47 58.0**	**-1.2**
MFS					**Sg**	**03 48 01.7**	**-0.9**
MPMC	**Manual Prospec**	**0.26**	**50**		**Pg**	**03 47 58.0**	**-1.5**
MPMC					**Sg**	**03 48 02.5**	**-0.6**
LRMC	**Laurel Mtn Rad**	**0.41**	**174**		**Pg**	**03 48 01.3**	**-0.9**
WORM	**Onyx Ranch**	**0.46**	**245**		**Pg**	**03 48 01.7**	**-1.3**
WORM					**Sg**	**03 48 08.1**	**-0.9**
CCCA	**Chr Cany lake**	**0.47**	**140**		**Pg**	**03 48 03.1**	**-0.3**
CCCA					**Sg**	**03 48 10.3**	**+0.7**
WBSM	**Bird Springs**	**0.48**	**223**		**Pn**	**03 48 09.6**	**+2.1**
WHFM	**Hanning Flat**	**0.53**	**249**		**Pg**	**03 48 03.2**	**-1.3**
WHFM					**Sg**	**03 48 10.6**	**-0.9**
CWC	**Cottonwood Cre**	**0.61**	**333**		**Pg**	**03 48 04.8**	**-1.2**
CWC					**Sg**	**03 48 13.4**	**-0.8**
DTP	**Desert Tortois**	**0.63**	**188**		**Pg**	**03 48 05.3**	**-1.0**
DTP					**Sg**	**03 48 13.8**	**-0.7**
ISA	**Isabella, Lake**	**0.64**	**249**		**Pg**	**03 48 05.5**	**-1.0**
ISA				IAML		03 48 14.6	
comp=N,137µm,1.0s							
ISA	**Isabella, Lake**	**0.64**	**249**	P	**Pg**	**03 48 05.5**	**-1.0**
CGO	**Cerro Gordo**	**0.66**	**355**		**Pg**	**03 48 05.6**	**-1.4**
CGO					**Sg**	**03 48 15.9**	**+0.2**
WASM	**Alta Sierra Ca**	**0.68**	**257**		**Pg**	**03 48 06.0**	**-1.3**
WASM					**Sg**	**03 48 15.5**	**-0.8**
QSM	**Queen of Sheba**	**0.71**	**84**		**Pg**	**03 48 06.8**	**-1.0**
QSM				IAML		03 48 19.6	
comp=N,221µm,1.0s							
QSM				IAML		03 48 20.3	
comp=E,167µm,0.8s							
QSM	**Queen of Sheba**	**0.71**	**84**		**Sg**	**03 48 16.1**	**-0.9**
CCAC	**Calif City Air**	**0.77**	**197**		**Pg**	**03 48 08.0**	**-1.0**
CCAC				Sg	**Sg**	**03 48 17.9**	**-1.2**
SPG2	**Springville 2**	**0.89**	**291**		**Pg**	**03 48 09.6**	**-1.7**
SPG2					**Sg**	**03 48 21.8**	**-1.1**
FURC	**Furnace Creek,**	**0.91**	**51**		**Sg**	**03 48 23.2**	**-0.3**
GWY	**Greenwater Val**	**0.91**	**71**		**Sg**	**03 48 22.6**	**-1.1**
GWY	**Greenwater Val**	**0.91**	**71**		**Pg**	**03 48 10.7**	**-1.1**
GWY				IAML		03 48 29.2	
comp=N,117µm,1.5s							
GWY				IAML		03 48 29.2	
comp=E,88µm,1.6s
GSC Goldstone, Bar 0.96 127 Pg 03 48 11.3 -1.3
GSC Goldstone, Bar 0.96 127 Sg Sg 03 48 24.3 -0.7
GSC Goldstone, Bar 0.96 127 P Pg 03 48 11.3 -1.3
GSC 03 48 24.3
TEJ El Tejon 1.02 230 Pg 03 48 11.9 -1.8
TEJ Sg 03 48 25.5 -1.5
EDW2 Edwards Air Fo 1.03 192 Pg 03 48 12.3 -1.6
HYS Haystack Butte 1.03 172 Pg 03 48 12.7 -1.3
HYS Sg 03 48 26.4 -1.0
VES Vestal, Richgr 1.10 268 Pg 03 48 13.3 -1.9
GRAC Grapevine Rang 1.14 15 IAML 03 48 33.4
comp=N,52µm,0.9s
GRAC IAML 03 48 35.0
comp=E,50µm,0.7s
ARVC Arvin 1.17 230 Pb 03 48 15.3 -1.3
SGV South Grapevin 1.23 27 Pb 03 48 16.2 -1.4
TIN Tinemaha, Big 1.23 341 Pb 03 48 16.4 -1.2
TIN Tinemaha, Big 1.23 341 P Pb 03 48 16.4 -1.2
BAKC Calstate 1.24 244 Pn 03 48 16.8 -0.9
WCT Wildcat Mounta 1.27 45 Pn 03 48 16.8 -1.4
WCT IAML 03 48 39.4
comp=E,65µm,1.8s
WCT IAML 03 48 41.8
comp=N,42µm,2.2s
LCH Last Change Ra 1.34 3 Pn 03 48 19.4 +0.2
ADO Adelanto Recei 1.36 169 Pn 03 48 18.2 -1.2
VOG Valley Oaks Go 1.40 288 Pn 03 48 17.4 -2.4
DSP Deep Springs 1.49 353 Pn 03 48 20.1 -1.0
POCCA Poleta Canyon 1.53 344 Pn 03 48 21.9 0.0
TPNV Topopah Spring 1.60 48 Pn 03 48 21.5 -1.3
TPNV IAML 03 48 49.5
comp=N,47µm,0.8s
TPNV IAML 03 48 54.3
comp=N,30µm,1.0s
TPNV Topopah Spring 1.60 48 P Pn 03 48 21.5 -1.3
MTUM Tungsten Hills 1.60 336 Pn 03 48 22.3 -0.6
MFBM Five Bridges 1.63 340 Pn 03 48 24.2 +0.9
BCW Bitter Crk WRg 1.67 236 Pn 03 48 24.0 +0.3
MWC Mount Wilson 1.68 189 Pn 03 48 23.2 -0.8
MWC Mount Wilson 1.68 189 P Pn 03 48 23.2 -0.8
CRGC Crocker Grade 1.75 249 Pn 03 48 25.4 +0.6
CARC Carrizo Plain 1.81 252 Pn 03 48 26.3 +0.7
HLNC Highland 1.81 166 Pn 03 48 24.5 -1.1
CFSC Central Fire S 1.82 168 Pn 03 48 24.4 -1.3
MTPC Mountain Pass 1.82 102 Pn 03 48 23.8 -2.1
SVD Seven Oaks Dam 1.85 163 Pn 03 48 25.1 -1.1
CHNC Chino 1.89 179 Pn 03 48 25.8 -0.8
MCVM Convict Lake 1.91 333 Pn 03 48 28.4 +1.2
RVR Riverside 1.92 171 Pn 03 48 25.7 -1.3
RVR Riverside 1.92 171 P Pn 03 48 25.7 -1.3
BENR Benton 1.94 340 Pb 03 48 29.3 -0.6
RSBC Riverside Bore 1.94 170 Pn 03 48 26.1 -1.3
MLAC Mammoth, Mammo 1.95 333 Pb 03 48 29.3 -0.7
MDRNC Doe Ridge 1.96 333 Pb 03 48 29.7 -0.4
MLCM Laurel Creek C 1.96 332 Pn 03 48 29.4 +1.4
MCSM Casa Diablo Ho 2.00 332 Pb 03 48 30.2 -0.6
BBSC Beaumont Base 2.06 162 Pn 03 48 28.6 -0.5
TPH Tonopah 2.22 11 Pb 03 48 34.7 +0.1
TPH IAML 03 49 10.6
comp=E,30µm,0.9s
TPH Tonopah 2.22 11 P Pb 03 48 34.7 +0.1
ELS Elsinore Mount 2.25 173 IAML 03 49 11.0
comp=E,26µm,1.6s
ELS IAML 03 49 11.2
comp=N,17µm,1.0s
V12A Nelson 2.35 93 Pg Pb 03 48 37.6 +0.8
V12A IAML 03 49 09.4
comp=N,16µm,1.5s
V12A IAML 03 49 23.2
comp=E,13µm,1.0s
S11A Rachel 2.37 42 Pg Pg 03 48 38.7 -0.9
LHV Little Huntoon 2.44 346 IAML 03 49 15.1
comp=E,14µm,1.9s
PMPB Monarch Peak 2.50 278 Pn 03 48 35.8 +0.6
PMPB IAML 03 49 17.1
comp=E,24µm,1.4s
PMPB IAML 03 49 22.1
comp=N,22µm,1.5s
PFO Pinyon Flats O 2.50 155 Pn 03 48 34.6 -0.6
PFO IAML 03 49 16.9
comp=N,16µm,1.4s
PFO Pinyon Flats O 2.50 155 Pn Pn 03 48 34.0 -1.2
comp=N,184nm,0.3s,baz=328,slow=9.7,SNR=16
PFO Pg Pb 03 48 39.9 +0.5
comp=N,388nm,0.3s,baz=316,slow=9.9,SNR=12
PFO Lg Lg 03 49 12.0
comp=N,3µm,0.3s,baz=188,slow=9.4,SNR=21
PFO Pinyon Flats O 2.50 155 *i* P Pn 03 48 34.2 -1.0
NV11 Mina Array Sit 2.56 353 Pn 03 48 36.5 +0.5
NVAR Mina Array Bea 2.58 350 Pn 03 48 37.0 +0.7
NVAR Mina Array Bea 2.58 350 Pn Pn 03 48 36.8 +0.5
comp=N,519nm,0.5s,baz=175,slow=15,SNR=2.3
NVAR Pg Pb 03 48 41.8 +1.1
comp=N,711nm,0.3s,baz=168,slow=19,SNR=32
NVAR Lg Lg 03 49 16.3
comp=N,377nm,0.3s,baz=168,slow=32,SNR=5.9
BUCR Buckhorn Ranch 2.63 313 IAML 03 49 17.6
comp=N,15µm,1.8s
BUCR IAML 03 49 17.7
comp=E,14µm,1.8s
PRN Pahroc Range 2.64 54 Pn 03 48 36.5 -0.5
PRN IAML 03 49 24.1
comp=E,19µm,1.5s
BBGB Big Mountain B 2.76 285 Pn 03 48 39.7 +1.0
RYN Ryan 2.80 347 Pn 03 48 39.1 -0.3
WAKR Walker 2.94 333 Pb 03 48 47.9 +1.0
WAKR IAML 03 49 37.5
comp=E,7µm,2.2s
Q09A Carvers 2.97 8 Pn 03 48 41.8 +0.1
Q09A IAML 03 50 05.4
comp=E,16µm,2.1s
R11B Troy Canyon, C 3.00 34 Pn 03 48 42.4 +0.3
R11B IAML 03 49 29.2
comp=E,7µm,1.4s
CMB Columbia Colle 3.01 316 Pb 03 48 46.6 -1.4
CMB Columbia Colle 3.01 316 P Pb 03 48 46.6 -1.4
SAO San Andreas Ge 3.12 287 Pn 03 48 43.5 -0.1
SAO San Andreas Ge 3.12 287 P Pn 03 48 43.5 -0.1
W13A Hualapai Mount 3.24 103 Pn 03 48 43.9 -1.5
W13A IAML 03 49 39.9
comp=N,7µm,2.6s
BLYC Blythe 3.40 128 Pn 03 48 45.1 -2.3
BLYC IAML 03 49 44.7
comp=E,8µm,2.2s
BLYC IAML 03 49 45.8
comp=N,10µm,1.1s
TJX Tijuana 3.42 170 Pn 03 48 47.9 +0.3
TKX Tecate 3.44 164 IAML 03 49 43.3
comp=N,5µm,0.8s
TKX IAML 03 49 46.7
comp=E,9µm,1.1s
YUH Yuha Desert 3.57 155 Pn 03 48 48.0 -1.7
YUH IAML 03 49 48.6
comp=E,8µm,2.2s
YUH IAML 03 49 49.3
comp=N,5µm,2.0s
CBX Cerro Bola 3.68 166 Pn 03 48 50.5 -0.8
GLA Glamis 3.71 139 Pn 03 48 49.8 -2.0
GLA Glamis 3.71 139 P Pn 03 48 49.8 -2.0
LCMT Little Creek M 3.79 72 Pn 03 48 53.0 0.0
LCMT IAML 03 50 00.5
comp=N,4µm,1.5s
MPK Martis Peak 3.86 333 Pg Pb 03 49 05.5 +3.0
MPK IAML 03 50 07.1
comp=E,8µm,3.1s
MPK IAML 03 50 12.0
comp=N,7µm,2.4s
CCUT Cedar City 3.88 63 Pn 03 48 54.4 +0.1
CCUT IAML 03 50 04.4
comp=E,6µm,2.1s
CCUT IAML 03 50 06.5
comp=N,5µm,2.8s
AFDM Forest Hills D 3.99 321 Pg Pb 03 49 06.2 +1.5
AFDM IAML 03 50 06.3
comp=N,4µm,1.9s
AFDM IAML 03 50 16.4
comp=E,4µm,3.0s
PAHR Pah Rah Range 4.03 342 IAML 03 50 17.8
comp=E,3µm,4.6s
PSUT Pine Spring 4.07 48 IAML 03 50 11.2
comp=N,6µm,1.5s
PSUT IAML 03 50 13.2
comp=E,7µm,2.0s

CCX	Cicese	4.11	167	IAML			03 50 08.2		
	comp=N,6µm,1.7s								
KNB	Kanab	4.12	73	IAML			03 50 11.4		
KNB	comp=N,6µm,2.4s			IAML			03 50 17.6		
	comp=E,5µm,2.0s								
SPR3	Spring Creek 3	4.12	40			Pn	03 48 56.0	-1.6	
SPR3	comp=E,5µm,1.9s			IAML			03 50 05.8		
SPR3	comp=N,4µm,1.8s			IAML			03 50 06.9		
ESJX	Sierra Juarez	4.15	159			Pn	03 48 57.3	-0.6	
ESJX	comp=N,4µm,1.2s			IAML			03 50 05.3		
ESJX	comp=E,5µm,2.2s			IAML			03 50 11.2		
ELK	Elko	5.23	21			Pn	03 49 12.9	+0.2	
ELK	Elko	5.23	21	Pn		Pn	03 49 13.0	+0.2	
ELK	comp=E,28nm,0.3s,baz=191,slow=12,SNR=11			Pg		Pb	03 49 27.6	+1.7	
ELK	comp=E,33nm,0.3s,baz=184,slow=7.9,SNR=5.7			Lg		Lg	03 50 37.6		
	comp=E,89nm,0.3s,baz=300,slow=19,SNR=8.0 comp=E,83nm,0.4s								
X16A	Lo Mia Camp, P	5.36	104	IAML			03 51 04.2		
X16A	comp=E,2µm,2.6s			IAML			03 51 07.0		
	comp=N,2µm,2.5s								
TUC	Tucson	6.78	120			Pn	03 49 32.6	-1.4	
TUC	Tucson	6.78	120	P		Pn	03 49 32.6	-1.4	
YBH	Yreka Blue Hor	7.01	328	Pn		Pn	03 49 41.7	+4.7	
YBH	comp=N,0.1nm,0.3s,baz=146,slow=8.5,SNR=8.1			Lg		Lg	03 51 32.4		
	comp=N,0.1nm,0.3s,baz=13,slow=17,SNR=4.7								
HVU	Hansel Valley	7.04	32			Pn	03 49 39.4	+1.8	
HVU	Hansel Valley	7.04	32	P		Pn	03 49 39.4	+1.8	
PV19	Morning Glory	7.40	68			Pg	03 50 09.9	-5.9	
PV17	East Wray Mesa	7.41	69			Pg	03 50 09.8	-6.2	
K04D	Chiloquin, OR	7.41	336			Pn	03 49 43.6	+1.0	
PV18	Skein Mesa, Pa	7.44	69			Pg	03 50 13.3	-3.2	
PV16	Nyswonger Mesa	7.45	68			Pg	03 50 11.5	-5.3	
ANMO	Albuquerque	9.26	93	Pn		Pn	03 50 06.9	-1.1	
ANMO	comp=N,4.5nm,0.6s,baz=225,slow=22,SNR=1.0			Lg		Lg	03 52 42.1		
	comp=N,1.4nm,0.3s,baz=295,slow=22,SNR=10								
PDAR	Pinedale Array	9.34	40	Pn		Pn	03 50 11.8	+2.7	
PDAR	comp=N,1.0nm,0.3s,baz=224,slow=10,SNR=7.2			Lg		Lg	03 52 46.1		
	comp=N,1.3nm,0.3s,baz=238,slow=13,SNR=3.6 comp=N,8.4nm,0.8s								
NEW	Newport	12.37	2	Pn		Pn	03 50 54.5	+4.0	
NEW	comp=N,0.3nm,0.3s,baz=179,slow=15,SNR=5.7			Lg		Lg	03 54 25.2		
	comp=N,0.2nm,0.3s,baz=218,slow=4.9,SNR=4.4 comp=N,5.4nm,0.7s								
RSSD	Black Hills	13.32	48			Pn	03 51 04.4	+0.8	
RSSD	Black Hills	13.32	48	P		Pn	03 51 04.4	+0.8	
LPIG	La Paz	13.39	149	Lg		Lg	03 54 53.8		
TXAR	baz=142,slow=22 Lajitas Array	13.54	115	Pn		Pn	03 51 07.8	+1.3	
TXAR	comp=N,1.4nm,0.3s,baz=289,slow=12,SNR=37			Lg		Lg	03 54 57.4		
	comp=N,0.1nm,0.3s,baz=311,slow=34,SNR=3.5 comp=N,7.8nm,0.5s								
CBKS	Cedar Bluff	14.61	73			P	03 51 26.3	-1.3	
CBKS	Cedar Bluff	14.61	73	P		P	03 51 26.3	-1.3	
APMT	Aspermont	14.73	95	P		P	03 51 29.7	+0.7	
CBB	Campbell River	15.19	341	P		Pn	03 51 27.4	-1.3	
ABTX	Abilene, Hawle	15.31	97	IAmb		IAmb	03 51 36.9		
K30B	comp=Z,146nm,1.8s Basset	15.57	59			Pn	03 51 34.9	+1.1	
KAN14	Manchester OK	15.96	80	IAmb		IAmb	03 51 44.7		
WTFS	comp=Z,120nm,1.4s Witchita Falls	15.97	92			Pn	03 51 39.6	+0.5	
WTFS	comp=Z,139nm,1.2s			IAmb		IAmb	03 51 44.7		
X34A	Smith Ranch, M	16.31	89			P	03 51 46.3	-0.1	
FW03	Perrin-Whitt E	16.47	94	IAmb		IAmb	03 51 53.1		
E28A	comp=Z,150nm,1.4s Huff	16.65	45	IAmb		IAmb	03 51 51.9		
HNDO	comp=Z,163nm,1.3s Hondo	16.77	107	IAmb		IAmb	03 51 56.3		
FW07	comp=Z,149nm,1.5s Weatherford	16.79	95	IAmb		IAmb	03 51 57.0		
OK052	comp=Z,319nm,1.7s Battle Ridge R	16.95	83	IAmb		IAmb	03 51 59.1		
Z35A	comp=Z,164nm,1.2s Perchaven, San	17.05	93	IAmb		IAmb	03 52 01.0		
DEOK	comp=Z,77nm,1.0s Depew	17.22	84	IAmb		IAmb	03 52 01.9		
WHTX	comp=Z,114nm,1.1s Lake Whitney,	17.27	97	IAmb		IAmb	03 52 04.2		
FW14	comp=Z,82nm,0.9s Alvarado	17.36	96	IAmb		IAmb	03 52 04.2		
TUL3	comp=Z,88nm,1.1s Leonard	17.78	83	IAmb		IAmb	03 52 09.1		
BBB	comp=Z,335nm,1.8s Bella Bella	17.89	339	P		P	03 52 04.3	+0.7	
	comp=Z,0.3nm,0.3s,baz=337,slow=23,SNR=3.2 comp=Z,11nm,0.9s								
MDND	Maddock	17.98	43	IAmb		IAmb	03 52 10.5		
TREL	comp=Z,250nm,1.7s Terrell	18.16	94	IAmb		IAmb	03 52 13.5		
U38A	comp=Z,258nm,1.4s Gravette	18.86	81	IAmb		IAmb	03 52 19.3		
HKT	comp=Z,143nm,1.5s Hockley	19.30	102	*i* P		Pn	03 52 20.1	-0.3	
HKT	comp=Z,49nm,1.3s			pmax		pmax			
MIAR	Mount Ida	19.78	87	IAmb		IAmb	03 52 30.6		
I37A	comp=Z,149nm,1.1s Lemond, Waseca	20.29	59			P	03 52 31.0	+0.8	
WLAR	White Oak Lake	20.33	89	IAmb		IAmb	03 52 40.5		
WHAR	comp=Z,152nm,1.2s Wooly Hollow	20.69	84			P	03 52 34.9	+0.3	
WHAR	comp=Z,79nm,1.3s			IAmb		IAmb	03 52 41.8		
FCAR	Ozark Folk Cen	20.74	82	P		P	03 52 36.4	+1.3	
ULM	Lac du Bonnet	21.36	41	P		P	03 52 41.9	+0.2	
	comp=Z,19nm,0.8s,baz=231,slow=9.8,SNR=12 comp=Z,19nm,0.8s								
V35K	Ketchikan	21.65	338	P		P	03 52 46.7	+2.0	
FFC	baz=148 Flin Flon	21.76	25			P	03 52 45.6	-0.2	
FFC	Flin Flon	21.76	25	P		P	03 52 45.7	-0.2	
FFC	comp=Z,291nm,1.9s			pmax		pmax			
PBMO	Poplar Bluff	21.99	80	IAmb		IAmb	03 52 55.2		
CRAG	comp=Z,79nm,1.1s Craig	22.24	336	P		P	03 52 53.0	+2.0	
EPLO	baz=145 Experimental L	22.24	44	P		P	03 52 50.4	-0.7	
EPLO	comp=Z,52nm,1.1s			IAmb		IAmb	03 53 07.2		
JFWS	Jewell Farm	22.31	63	IAmb		IAmb	03 53 08.2		
E38A	comp=Z,58nm,1.1s The Farm, Brul	22.31	53	IAmb		IAmb	03 52 59.5		
L42A	comp=Z,67nm,1.1s Oliver, Polo	22.61	66	IAmb		IAmb	03 53 14.3		
T35M	comp=Z,47nm,1.0s Bob Quinn	22.72	342	P		P	03 52 58.0	+1.8	
U33K	baz=153 Whale Pass	22.78	337	P		P	03 52 58.8	+2.1	
WRAK	baz=146 Wrangell Islan	22.80	339	P		P	03 52 58.8	+1.9	
EYMN	baz=148 Ely	22.82	50			P	03 52 57.0	-0.3	
EYMN	comp=Z,46nm,1.2s			IAmb		IAmb	03 53 08.5		
OXF	Oxford	23.16	85			P	03 53 00.6	-0.3	
OXF	Oxford	23.16	85	P		P	03 53 00.6	-0.3	
OXF	comp=Z,219nm,1.2s			pmax		pmax			
I42A	Draeger Farm,	23.43	61	IAmb		IAmb	03 53 19.3		
TOAD	comp=Z,48nm,1.1s Toad River Com	23.50	350	P		P	03 53 06.1	+2.0	
S34M	baz=165 Telegraph Cree	23.77	342	P		P	03 53 08.7	+1.9	
DLBC	baz=152 Dease Lake	23.98	344	P		P	03 53 10.8	+2.0	
LIRD	baz=155 Liard River Hi	24.16	350	P		P	03 53 12.2	+1.7	
SIT	baz=163 Sitka	24.25	336	P		P	03 53 12.9	+1.7	
S32K	baz=143 Killisnoo	24.35	338	P		P	03 53 13.7	+1.6	
	baz=145								
KOTAN	Kotaneelee Air	24.60	352	P		P	03 53 16.3	+1.9	
Q32M	baz=168 Nakina River	24.98	342	P		P	03 53 19.5	+1.4	
R32K	baz=151 Eaglecrest	25.00	339	P		P	03 53 20.0	+1.9	
R33M	baz=146 Jennings River	25.05	344	P		P	03 53 20.4	+1.7	
S31K	baz=154 Pelican	25.27	337	P		P	03 53 22.2	+1.7	
WTLY	baz=143 Watson Lake, Y	25.27	347	P		P	03 53 22.7	+2.2	
P32M	baz=159 Atlin	25.89	341	IAmb		IAmb	03 53 35.7		
P32M	comp=Z,33nm,1.6s Atlin	25.89	341	P		P	03 53 28.0	+1.7	
P33M	baz=149 Teslin, Yukon	26.21	343	P		P	03 53 31.1	+1.9	
SKAG	baz=152 Skagway	26.22	340	P		P	03 53 31.1	+1.9	
W50A	baz=146 Signal Mountai	26.33	82	IAmb		IAmb	03 53 34.6		
TGTN	comp=Z,63nm,1.2s Hyland Airport	26.51	349	P		P	03 53 34.4	+2.6	
PLBC	baz=161 Pleasant Camp	26.52	339	P		P	03 53 34.5	+2.7	
YKAW1	baz=144 Yellowknife Wh	26.69	3			P	03 53 33.9	+0.5	
YKAW1	comp=Z,21nm,1.2s			IAmb		IAmb	03 53 49.7		
YKA	Yellowknife Ar	26.70	3	P		P	03 53 34.4	+1.0	
	comp=Z,11nm,1.0s,baz=190,slow=9.0,SNR=30 comp=Z,11nm,1.0s								
P29M	Windy Craggy	27.08	338	P		P	03 53 39.5	+2.6	
WHY	baz=142 Whitehorse	27.11	341	P		P	03 53 39.5	+2.2	
TKL	baz=148 Tuckaleechee C	27.48	80	P		P	03 53 40.3	-0.4	
	comp=Z,18nm,1.0s,baz=277,slow=5.2,SNR=11 comp=Z,18nm,1.0s								
O30N	Mendenhall	27.53	340	P		P	03 53 43.3	+2.4	
WRGLY	baz=146 Wrigley	27.59	354	P		P	03 53 43.8	+2.4	
CMIG	baz=170 Matias Romero	27.61	127	P		P	03 53 42.1	+0.1	
	comp=Z,4.1nm,0.9s,baz=322,slow=12,SNR=7.3 comp=Z,4.1nm,0.9s								
PNL	Peninsula	27.64	336	P		P	03 53 44.2	+2.3	
O29M	baz=140 Mount Kennedy	27.87	338	P		P	03 53 46.5	+2.4	
HYT	baz=142 Haines Junctio	27.97	339	P		P	03 53 47.5	+2.5	
N31M	baz=144 Braeburn, Yuko	28.05	342	P		P	03 53 48.0	+2.4	
MMPY	baz=148 Sheldon Lake,	28.05	347	P		P	03 53 47.7	+2.1	
FARO	baz=156 Faro, Yukon	28.12	344	P		P	03 53 48.5	+2.3	
PINM	baz=152 Pinnacle	28.24	336	P		P	03 53 49.9	+2.5	
YUK6	baz=139 Outpost Mounta	28.31	339	P		P	03 53 50.1	+1.9	
M31M	baz=143 Drury Creek, Y	28.33	344	P		P	03 53 50.1	+2.1	
N30M	baz=151 Aishikik Lake	28.37	340	P		P	03 53 50.3	+1.8	
YUK4	baz=146 Talbot Arm	28.72	339	P		P	03 53 53.4	+1.6	
O28M	baz=143 Mount Upton	28.74	337	P		P	03 53 53.4	+1.4	
M30M	baz=140 Minto, Yukon	29.23	342	P		P	03 53 58.1	+2.0	
CTG	baz=147 Chitna Glacier	29.25	336	P		P	03 53 57.7	+1.3	
M29M	baz=138 Somme Creek	29.55	341	P		P	03 54 00.9	+1.8	
CRQE	baz=144 Cirque	29.68	335	P		P	03 54 01.7	+1.5	
L29M	baz=135 L29M	30.01	342	P		P	03 54 04.9	+1.9	
MCARA	baz=146 McCarthy VSAT	30.11	336	P		P	03 54 05.8	+1.9	
BVCY	baz=136 Beaver Creek	30.21	339	P		P	03 54 07.1	+2.3	
BMRM	baz=141 Bremner River	30.36	334	P		P	03 54 08.3	+2.1	
M27K	baz=134 Edge Creek, AK	30.47	338	P		P	03 54 09.7	+2.5	
K29M	baz=139,SNR=5.7 Barlow Dome	30.48	343	P		P	03 54 09.2	+2.0	
EYAK	baz=147 Cordova Ski Ar	30.50	333	P		P	03 54 09.3	+2.1	
P23K	baz=131 Montague Islan	30.77	331	P		P	03 54 11.8	+2.0	
N25K	baz=128 Chitina, Valde	30.80	335	P		P	03 54 12.7	+2.7	
J30M	baz=134 Hart River	30.83	344	P		P	03 54 12.8	+2.5	
M26K	baz=150 Nabesna, AK	30.85	337	P		P	03 54 12.5	+2.0	
L27K	baz=138 Beaver Creek,	30.99	339	P		P	03 54 13.5	+1.8	
DAWY	baz=140 Dawson	31.12	342	P		P	03 54 15.0	+2.2	
J29N	baz=145 Klondike Camp	31.16	343	P		P	03 54 15.4	+2.3	
KLU	baz=147 Klutina	31.19	334	P		P	03 54 15.4	+2.0	
GLI	baz=132 Glacier Island	31.21	332	P		P	03 54 16.3	+2.7	
I30M	baz=130,SNR=6.0 Mount Dempster	31.40	345	P		P	03 54 17.1	+1.8	
L26K	baz=150 Log Cabin Wild	31.42	338	P		P	03 54 17.3	+1.8	
H31M	baz=138 Peel River	31.52	347	P		P	03 54 18.2	+1.9	
HARP	baz=154 HAARP	31.55	336	P		P	03 54 18.6	+2.0	
SEW	baz=134 Seward	31.66	330	P		P	03 54 19.4	+1.9	
PWL	baz=126 Port Wells	31.67	332	P		P	03 54 19.5	+1.9	
M24K	baz=128 Tolsona, Glenn	31.69	335	P		P	03 54 19.8	+2.0	
KDAK	baz=133 Kodiak Island	31.81	324	*i* P		P	03 54 19.4	+0.6	
KDAK	comp=Z,10.0nm,1.2s			pmax		pmax			
KDAK	Kodiak Island	31.81	324	P		P	03 54 20.9	+2.1	
K27K	baz=118 Chicken	31.81	340	P		P	03 54 20.8	+2.0	
OHAK	baz=141 Old Harbor	31.89	323	P		P	03 54 21.9	+2.4	
SCM	baz=117,SNR=5.3 Sheep Creek Mo	31.92	334	P		P	03 54 22.1	+2.3	
I29M	baz=131,SNR=7.0 Ogilvie Camp,	31.94	344	P		P	03 54 21.6	+1.6	
M23K	baz=147 Glacier View	32.04	333	P		P	03 54 22.8	+2.0	
SII	baz=130 Sitkinak Islan	32.04	322	P		P	03 54 22.4	+1.5	
PAX	baz=115 Paxson	32.05	336	P		P	03 54 22.8	+1.7	
KNK	baz=135 Knik Glacier	32.06	332	P		P	03 54 23.1	+2.0	
Q20K	baz=129 Shuyak Island	32.12	326	P		P	03 54 23.8	+2.2	
SCRK	baz=120 Sand Creek	32.32	339	P		P	03 54 25.5	+2.0	
HOM	baz=138,SNR=5.7 Homer	32.33	328	P		P	03 54 26.2	+2.8	
RC01	baz=122 Rabbit Creek A	32.36	331	P		P	03 54 25.6	+2.0	
I28M	baz=126 Miner Creek	32.39	343	IAmb		IAmb	03 54 31.8		
I28M	comp=Z,14nm,1.0s Miner Creek	32.39	343	P		P	03 54 25.7	+1.6	
RIDG	baz=145 Independent Ri	32.41	338	P		P	03 54 25.6	+1.5	
PMR	baz=136 Palmer	32.43	332	P		P	03 54 26.4	+2.2	
EPYK	baz=128,SNR=11 Eagle Plains	32.47	346	P		P	03 54 26.0	+1.4	
G31M	baz=151 Satah River	32.52	348	P		P	03 54 26.6	+1.7	
WAT6	baz=155 Susitna Watana	32.55	335	P		P	03 54 27.6	+2.0	
J26L	baz=131,SNR=8.6 Joseph Creek	32.59	340	P		P	03 54 27.4	+1.6	
	baz=139								
R18K	Karluk	32.60	323	P		P	03 54 27.6	+1.8	
H29M	baz=116 Whitestone	32.68	345	P		P	03 54 28.2	+1.7	
CAPN	baz=148 Captain Cook N	32.73	330	P		P	03 54 28.4	+1.5	
K24K	baz=124 Donnelly Dome	32.74	337	P		P	03 54 28.4	+1.4	
DHY	baz=135 Denali Highway	32.76	335	P		P	03 54 29.1	+1.7	
Q19K	baz=132,SNR=8.7 Cape Douglas,	32.85	326	P		P	03 54 29.8	+1.8	
F31M	baz=119 Tsiigehtchic	32.90	349	P		P	03 54 30.6	+2.3	
M22K	baz=156 Willow	32.90	332	P		P	03 54 30.4	+2.0	
G30M	baz=127 tAoh Zraii Nji	32.91	347	P		P	03 54 30.0	+1.5	
I27K	baz=152 Kandik River	32.93	342	P		P	03 54 30.5	+1.8	
SUA	baz=143 Susitna One	32.97	331	P		P	03 54 30.9	+1.7	
O20K	baz=126 Slope Mountain	32.97	328	P		P	03 54 30.2	+1.0	
WAT1	baz=122 Susitna Watana	33.00	334	P		P	03 54 30.8	+1.5	
P19K	baz=130 Oil Pt	33.02	327	P		P	03 54 31.1	+1.6	
I26K	baz=120 Coal Creek Min	33.10	341	P		P	03 54 31.8	+1.7	
J25K	baz=140 Salcha River,	33.20	339	P		P	03 54 32.8	+1.7	
G29M	baz=137,SNR=6.2 Pine Creek	33.20	346	P		P	03 54 32.6	+1.6	
Q18K	baz=149 Katmai Hardscr	33.35	325	P		P	03 54 33.7	+1.3	
CUT	baz=117 Chulitna	33.35	333	P		P	03 54 34.2	+1.9	
F30M	baz=128 Barrier River	33.40	348	P		P	03 54 34.4	+1.7	
SPCR	baz=153 Spurr Chakacha	33.40	330	P		P	03 54 34.1	+1.3	
H27K	baz=123 Steamboat Moun	33.41	343	IAmb		IAmb	03 54 47.9		
H27K	comp=Z,44nm,1.9s Steamboat Moun	33.41	343	P		P	03 54 34.5	+1.6	
HDA	baz=144 Harding Lake	33.54	337	P		P	03 54 35.7	+1.8	
R17L	baz=134 Mt. Peulik Vol	33.56	323	P		P	03 54 35.6	+1.3	
SKT	baz=114,SNR=5.2 Skwentna	33.58	332	P		P	03 54 35.9	+1.6	
Q17K	baz=125,SNR=5.8 Contact Creek	33.59	324	P		P	03 54 36.2	+1.6	
INK	baz=115,SNR=15 Inuvik	33.66	349	P		P	03 54 36.6	+1.7	
MCK	baz=156 McKinley	33.72	335	IAmb		IAmb	03 54 38.9		
MCK	comp=Z,26nm,1.1s McKinley	33.72	335	P		P	03 54 37.4	+1.8	
O19K	baz=131,SNR=7.7 Port Alsworth	33.76	328	P		P	03 54 37.3	+1.5	
IL31	baz=120	33.77	338	IAmb		IAmb	03 54 45.4		
ILAR	comp=Z,41nm,1.6s Eielson Array	33.77	338	P		P	03 54 36.7	+0.7	
ILAR	comp=Z,4.6nm,0.9s,baz=152,slow=7.2,SNR=32			PcP		PcP	03 57 14.9	-0.1	
	comp=Z,2.0nm,0.7s,baz=130,slow=2.2,SNR=9.4 comp=Z,4.6nm,0.9s								
P18K	Big Mountain,	33.79	326	IAmb		IAmb	03 54 38.3		
P18K	comp=Z,45nm,1.6s Big Mountain,	33.79	326	P		P	03 54 37.3	+1.1	
PRP	baz=117 Porcupine Dome	33.91	340	P		P	03 54 38.8	+1.5	
G27K	baz=137 Doyon Strip	33.91	343	P		P	03 54 38.8	+1.6	
WRH	baz=144 Wood River Hil	33.94	337	IAmb		IAmb	03 55 03.8		
CCB	comp=Z,15nm,1.1s Clear Creek Bu	33.97	337	IAmb		IAmb	03 54 46.1		
O18K	comp=Z,15nm,1.1s Koktuh Hills	33.99	327	P		P	03 54 39.3	+1.4	
TRF	baz=118 Thorofare Moun	34.01	334	P		P	03 54 39.6	+1.4	
CHGN	baz=129,SNR=9.4 Chignik	34.12	320	P		P	03 54 38.1	-1.0	
CHGN	Chignik	34.12	320	P		P	03 54 40.5	+1.5	
Q16K	baz=109,SNR=5.7 King Salmon	34.13	324	P		P	03 54 40.8	+1.6	
COLA	baz=115 College	34.14	338	*i* P		P	03 54 39.8	+0.7	
COLA	comp=Z,10.0nm,1.2s			pmax		pmax			
COLA	College	34.14	338	P		P	03 54 41.0	+1.9	
N19K	baz=134 Bonanza Creek	34.14	328	P		P	03 54 40.9	+1.5	
M20K	baz=120,SNR=14 Styx River	34.15	331	P		P	03 54 40.7	+1.3	
F28M	baz=123 Old Crow	34.18	345	P		P	03 54 41.0	+1.4	
P17K	baz=147 Kvichak River	34.25	325	P		P	03 54 41.4	+1.3	
CNBA	baz=116 Chernabura Isl	34.31	317			P	03 54 41.7	+1.0	
CHNA	Chernabura Isl	34.31	317	P		P	03 54 42.0	+1.3	
NEA2	baz=106 Nenana	34.33	337	P		P	03 54 42.3	+1.5	
PPLA	baz=132,SNR=10 Purkeypile	34.36	333	P		P	03 54 42.6	+1.4	
E29M	baz=126,SNR=8.7 Blow River	34.46	347	P		P	03 54 43.7	+1.8	
G26K	baz=150 Porcupine Rive	34.54	342	P		P	03 54 44.9	+2.4	
H25L	baz=141,SNR=8.9 Birch Creek	34.55	340	P		P	03 54 44.5	+1.9	
CAST	baz=138 Castle Rocks	34.63	333	P		P	03 54 44.0	+0.6	
BPAW	baz=126,SNR=6.1 Bear Paw Mtn.	34.66	335	P		P	03 54 45.0	+1.3	
M19K	baz=128,SNR=10 Big River Lodg	34.66	330	P		P	03 54 45.1	+1.4	
N18K	baz=122 Kilae Creek	34.68	328	IAmb		IAmb	03 54 46.5		
N18K	comp=Z,21nm,1.1s Kilae Creek	34.68	328	P		P	03 54 45.5	+1.6	
S14K	baz=118,SNR=11 Fog Glacier	34.72	319	P		P	03 54 45.8	+1.4	
L20K	baz=108 Farewell, AK	34.77	331	P		P	03 54 45.9	+1.2	
I23K	baz=123,SNR=8.7 Minto, Yukon-K	34.80	337	P		P	03 54 45.7	+0.9	
O17K	baz=132 Koliganek Bris	34.81	326	P		P	03 54 46.0	+1.0	
H24K	baz=116 Noodor Dome	34.82	339	IAmb		IAmb	03 54 47.5		
H24K	comp=Z,30nm,1.5s Noodor Dome	34.82	339	P		P	03 54 45.8	+0.7	
SDPT	baz=134 Sand Point	34.95	317	P		P	03 54 47.5	+1.3	
E28M	baz=106 Babbage River	34.96	346	P		P	03 54 47.2	+1.0	
CHUM	baz=148 Lake Minchumin	34.99	334	P		P	03 54 47.8	+1.4	
G25K	baz=126,SNR=12 Bearman Lake	34.99	341	P		P	03 54 48.4	+1.9	
L19K	baz=138,SNR=5.1 White Mountain	35.00	330	IAmb		IAmb	03 55 14.5		
L19K	comp=Z,48nm,1.8s White Mountain	35.00	330	P		P	03 54 48.5	+1.8	
E27K	baz=121,SNR=11 Coleen River	35.02	345	P		P	03 54 48.2	+1.4	
M18K	baz=145 Stony River	35.04	329	P		P	03 54 48.4	+1.4	
MLY	baz=119,SNR=7.3 Manley	35.16	336	IAmb		IAmb	03 55 09.4		
MLY	comp=Z,76nm,2.0s Manley	35.16	336	P		P	03 54 49.2	+1.2	
N17K	baz=130 Nushagak Hills	35.18	327	IAmb		IAmb	03 54 51.0		
N17K	comp=Z,49nm,1.4s Nushagak Hills	35.18	327	P		P	03 54 50.2	+2.0	
O16K	baz=116,SNR=13 Kokwok River B	35.19	325	P		P	03 54 49.7	+1.5	
F26K	baz=114,SNR=7.1 Sheenjek River	35.21	343	P		P	03 54 50.7	+2.3	
H23K	baz=141,SNR=8.7 Yukon River	35.31	338	P		P	03 54 50.9	+1.7	
	baz=132								

G24K Hadweenzic Riv 35.32 340 P P 03 54 51.5 +2.2
baz=136
K20K Telida 35.33 332 P P 03 54 50.6 +1.2
baz=124,SNR=16
D28M Stokes Point 35.43 347 P P 03 54 52.0 +1.8
baz=150
F25K Christian Rive 35.50 342 P P 03 54 52.8 +1.9
baz=139
M17K Holitna River 35.68 328 IAmb IAmb 03 54 55.7
comp=Z,27nm,1.0s
M17K Holitna River 35.68 328 P P 03 54 53.9 +1.4
baz=117,SNR=14
L18K Granite Mounta 35.76 330 IAmb IAmb 03 54 55.9
comp=Z,31nm,1.2s
L18K Granite Mounta 35.76 330 P P 03 54 54.6 +1.5
baz=119,SNR=17
J20K Nowinta River 35.81 334 IAmb IAmb 03 54 56.2
comp=Z,20nm,1.1s
J20K Nowinta River 35.81 334 P P 03 54 55.0 +1.4
baz=125,SNR=13
O15K Ungalikthiuk R 35.84 324 IAmb IAmb 03 54 55.9
comp=Z,64nm,1.8s
O15K Ungalikthiuk R 35.84 324 P P 03 54 54.7 +0.8
baz=112,SNR=5.3
N16K Nishlik Lake 35.86 326 P P 03 54 55.7 +1.6
baz=114,SNR=9.9
E25K Arctic Village 35.88 343 P P 03 54 56.3 +2.1
baz=140
S12K Black Hills 35.91 318 P P 03 54 56.3 +1.8
baz=105
H22K Ishtalitna Cre 35.92 337 P P 03 54 56.5 +2.0
baz=130,SNR=13
F24K Squaw Lake 36.02 341 P P 03 54 57.0 +1.6
baz=136
G23K Bananza Creek 36.05 339 P P 03 54 57.4 +1.7
baz=133
M16K Timber Creek 36.18 327 IAmb IAmb 03 55 00.0
comp=Z,49nm,1.4s
M16K Timber Creek 36.18 327 P P 03 54 58.6 +1.9
baz=115,SNR=8.8
H21K Melozitna Rive 36.23 336 P P 03 54 58.6 +1.4
baz=128,SNR=15
J19K Poorman 36.25 333 IAmb IAmb 03 54 59.9
comp=Z,18nm,0.8s
J19K Poorman 36.25 333 P P 03 54 58.5 +1.1
baz=123,SNR=10
I20K Naaghedeneel 36.29 334 P P 03 54 58.2 +0.6
I20K Naaghedeneel 36.29 334 P P 03 54 58.9 +1.3
baz=125,SNR=12
N15K Kwethluk River 36.34 325 IAmb IAmb 03 55 37.9
comp=Z,38nm,1.5s
N15K Kwethluk River 36.34 325 P P 03 54 59.8 +1.6
baz=113
A36M Sachs Harbour 36.38 356 P P 03 54 59.8 +1.5
baz=170
L17K Donlin 36.38 329 P P 03 54 59.7 +1.2
baz=117,SNR=11
J18K Innoko River 36.39 332 IAmb IAmb 03 55 00.8
comp=Z,49nm,1.4s
J18K Innoko River 36.39 332 P P 03 54 59.4 +0.9
baz=121,SNR=16
COLD Coldfoot 36.46 339 P P 03 55 00.7 +1.7
baz=133
E24K Your Creek 36.58 341 P P 03 55 02.1 +2.0
baz=136
G62A West of Eustis 36.60 60 P P 03 54 59.1 -1.5
G22K Bettles 36.63 338 P P 03 55 01.8 +1.2
baz=131
C27K Jago River 36.65 345 P P 03 55 02.5 +1.8
baz=144,SNR=5.2
K17K Iditarod 36.65 330 P P 03 55 01.6 +0.8
baz=118,SNR=16
L16K Owhat River 36.70 328 IAmb IAmb 03 55 04.1
comp=Z,49nm,1.4s
L16K Owhat River 36.70 328 P P 03 55 02.7 +1.6
baz=115
IMAR Indian Mountai 36.74 336 P P 03 55 02.9 +1.4
M15K Kasigluk River 36.82 326 P P 03 55 03.7 +1.5
baz=113
H20K Anotleneega Mo 36.83 335 P P 03 55 03.5 +1.2
baz=125,SNR=13
E23K Chandalar 36.87 341 P P 03 55 04.1 +1.4
baz=134,SNR=5.9
G21K Allakaket 36.99 337 P P 03 55 04.9 +1.3
baz=128,SNR=6.5
D25K Kavik River 36.99 344 P P 03 55 04.8 +1.2
baz=140
N14K Kuskokwak Cree 37.00 324 P P 03 55 05.0 +1.3
baz=111
GCSA Galena City Sc 37.12 333 P P 03 55 06.2 +1.5
baz=122,SNR=6.8
C26K Camden Bay 37.13 345 P P 03 55 07.0 +2.3
baz=142
F22K John River 37.22 339 P P 03 55 07.6 +2.1
baz=131
TOLK Toolik Lake Re 37.27 341 P P 03 55 07.7 +1.7
baz=135
J17K VABM Dome 37.28 331 P P 03 55 06.7 +0.5
baz=118
H19K Roundabout Mou 37.39 335 P P 03 55 08.3 +1.3
baz=123,SNR=9.5
F21K Alatna River 37.42 338 P P 03 55 08.9 +1.6
baz=129
M14K Bethel 37.42 326 P P 03 55 08.6 +1.3
baz=111
D24K Happy Valley 37.45 342 P P 03 55 09.1 +1.7
baz=136
E22K Anaktuvuk Pass 37.52 340 P P 03 55 09.8 +1.6
baz=132
L15K Ungalak Mounta 37.56 327 P P 03 55 09.7 +1.3
baz=113
D62A Allapoint, All 37.59 57 P P 03 55 11.4 +2.5
D23K Nanushuk River 37.79 341 P P 03 55 12.2 +1.9
baz=134
K15K Wolf Creek Mou 37.82 328 P P 03 55 11.7 +1.0
baz=114,SNR=5.3
C24K Franklin Bluff 37.83 343 P P 03 55 11.8 +1.1
baz=137
J16K Anvik River 37.85 330 P P 03 55 11.8 +0.8
baz=116,SNR=9.5
H18K Honhosa River 37.87 333 P P 03 55 12.5 +1.4
baz=121,SNR=6.5
G19K Purcell Mounta 37.95 335 P P 03 55 12.4 +0.7
baz=123,SNR=5.3
M13K Dall Lake 37.95 325 P P 03 55 11.9 +0.1
M13K Dall Lake 37.95 325 P P 03 55 12.8 +1.0
baz=109
L14K Kuka Creek 37.96 326 P P 03 55 12.8 +0.9
baz=111
F20K Avaraart Lake 38.01 337 P P 03 55 13.4 +1.2
baz=126
UNV Unalaska Valle 38.07 314 P P 03 55 14.1 +1.2
UNV Unalaska Valle 38.07 314 P P 03 55 14.1 +1.2
baz=98
F64A Sherman 38.11 59 P P 03 55 14.5 +1.2
I17K Unalakleet 38.15 331 P P 03 55 14.6 +1.2
baz=116
D22K Ayikyak River 38.26 340 P P 03 55 15.6 +1.3
baz=131
E21K Killik River 38.34 339 P P 03 55 15.8 +0.8
baz=129
H17K Granite Mounta 38.34 333 P P 03 55 15.9 +0.8
baz=118
G18K Tagagawik 38.36 334 P P 03 55 16.0 +0.9
baz=121
C23K Itkillik River 38.38 342 P P 03 55 16.3 +1.0
baz=135
F19K Shaleruckik Mo 38.56 336 IAmb IAmb 03 55 18.9
comp=Z,47nm,1.4s
F19K Shaleruckik Mo 38.56 336 P P 03 55 17.4 +0.6
baz=123,SNR=14
E19K Redstone River 38.73 337 P P 03 55 19.5 +1.2
baz=124,SNR=15
ILON Igloolik, Nuna 38.85 19 P P 03 55 18.6 -0.6
J14K Nanvaranak Lak 38.86 328 P P 03 55 20.9 +1.5
baz=112
E20K Nigu River 38.87 338 P P 03 55 20.9 +1.4
baz=126,SNR=6.5
G17K Kiwalik Mounta 38.88 333 P P 03 55 20.7 +1.2
baz=118,SNR=11
C21K Knifeblade Rid 39.02 340 P P 03 55 22.4 +1.7
baz=129
K13K Kusilvak Mount 39.05 327 P P 03 55 22.5 +1.5
baz=110
B21K Ikpikpuk River 39.27 341 P P 03 55 24.5 +1.7
baz=130
D20K Etivluk River 39.27 339 P P 03 55 24.2 +1.4
baz=126
B22K Teshekpuk Lake 39.43 342 P P 03 55 25.5 +1.4
baz=132
G16K Koyuk River 39.46 332 P P 03 55 25.4 +1.0
baz=116,SNR=6.4
F17K Baldwin Pennin 39.55 334 P P 03 55 26.4 +1.3
baz=119
D19K Kuna River 39.59 338 P P 03 55 26.7 +1.2
baz=124,SNR=5.9
E18K Tukpahlearik C 39.81 336 P P 03 55 28.2 +1.0
baz=120,SNR=9.7
G15K Niukluk 39.94 331 P P 03 55 30.0 +1.6
baz=114
E17K Hotham Inlet 40.05 335 P P 03 55 31.0 +1.6
baz=119
B20K Meade River 40.20 340 P P 03 55 32.4 +1.9
baz=127
A22K Sinclair Lake 40.26 342 P P 03 55 32.1 +1.2
baz=130
ANM Nome 40.30 330 P P 03 55 32.4 +1.0
baz=112
C19K Lookout Ridge 40.38 338 P P 03 55 33.3 +1.2
baz=123
F15K North Star Dit 40.46 332 P P 03 55 33.7 +1.0
baz=114
C18K Utukok River 40.63 337 P P 03 55 35.1 +1.0
baz=121
SPIA Saint Paul Isl 40.66 318 P P 03 55 35.2 +0.8
baz=98
D17K Noatak River 40.77 335 P P 03 55 36.6 +1.3
baz=118
A21K Barrow 40.87 342 P P 03 55 37.6 +1.6
baz=129
RDOG Red Dog Mine 40.88 336 P P 03 55 37.8 +1.6
baz=118
F14K Arctic Creek 41.01 332 P P 03 55 38.3 +1.0
baz=112
C17K DeLong Mountai 41.17 336 P P 03 55 39.5 +0.9
baz=118
TNA Tin City 41.66 331 P P 03 55 43.4 +0.8
baz=110
C16K Lisburne Hills 41.80 336 P P 03 55 44.5 +0.8
baz=116
GAMB Gambell 42.68 328 P P 03 55 51.7 +0.8
baz=104
BILL Bilibino 52.07 332 *ce*P P 03 57 02.9 -1.0
BILL pmax pmax
comp=Z,22nm,1.7s
SEY Seymchan 58.68 328 *i* P P 03 57 51.6 0.0
SEY pmax pmax
comp=Z,9.0nm,1.0s
PET Petropavlovsk 58.69 315 *i* P P 03 57 51.3 -0.5
PET pmax pmax
comp=Z,22nm,1.0s
PETK Petropavlovsk- 59.20 316 P P 03 57 56.0 +0.6
comp=Z,6.0nm,0.6s,baz=290,slow=6.1,SNR=4.2
comp=Z,6.0nm,0.6s
PETK Petropavlovsk- 59.20 316 P P 03 57 56.0 +0.6
MA2 Magadan 60.55 324 *ce*P P 03 58 05.0 +0.4
MA2 pmax pmax
comp=Z,17nm,1.3s
NNA Nana 61.30 133 *ce*P P 03 58 09.8 -0.5
NNA pmax pmax
comp=Z,39nm,1.7s
TIXI Tiksi 63.16 341 P 03 58 21.0 -0.9
TIXI IAmb IAmb 03 59 42.5
comp=Z,14nm,1.1s
TIXI Tiksi 63.16 341 *ce*P P 03 58 21.2 -0.7
TIXI pmax pmax
comp=Z,17nm,1.7s
YAK Yakutsk 68.42 332 *i* P P 03 58 55.0 -1.0
YAK pmax pmax
comp=Z,13nm,1.0s
LPAZ La Paz 69.96 129 P 03 59 04.5 -2.3
LPAZ IAmb IAmb 03 59 48.2
comp=Z,29nm,1.7s
LPAZ La Paz 69.96 129 P P 03 59 05.9 -0.9
comp=Z,2.8nm,0.9s,baz=347,slow=7.0,SNR=6.5
comp=Z,2.8nm,0.9s
YSS Yuzhno-Sakhali 70.53 314 P P 03 59 06.7 -2.6
YSS Yuzhno-Sakhali 70.53 314 *e*P P 03 59 08.3 -1.0
YSS pmax pmax
comp=Z,20nm,0.8s
ARCES ARCESS Array B 71.48 13 P P 03 59 14.6 -0.1
comp=Z,2.3nm,0.9s,baz=327,slow=5.3,SNR=3.7
comp=Z,2.3nm,0.9s
JKA Kamikawa-asahi 72.14 312 P 03 59 16.2 -2.9
JKA IAmb IAmb 03 59 19.9
comp=Z,15nm,1.0s
ASAJ Asahikawa 72.14 312 P P 03 59 16.2 -2.9
ASAJ pmax pmax
comp=Z,15nm,1.0s
VILB Vilhena 72.85 121 P P 03 59 22.3 -1.4
ERM Erimo 72.94 310 *ce*P P 03 59 23.7 -0.1
ERM pmax pmax
comp=Z,52nm,1.3s
NRIK Noril'sk 73.44 351 *i* P P 03 59 27.3 +1.0
NRIK pmax pmax
comp=Z,7.0nm,1.0s
SIV San Ignacio 74.37 123 P P 03 59 32.1 -0.5
comp=Z,5.1nm,0.8s,baz=293,slow=3.9,SNR=9.6
comp=Z,5.1nm,0.8s
ZEA Zeya 74.60 326 *e*P P 03 59 32.7 -0.7
ZEA pmax pmax
comp=Z,10.0nm,1.2s
NOA NORSAR Array B 74.85 23 P P 03 59 35.6 +0.8
comp=Z,0.7nm,0.4s,baz=319,slow=5.9,SNR=4.2
comp=Z,0.7nm,0.4s
KLR Kul'dur 75.27 321 *i* P P 03 59 37.1 -0.3
KLR pmax pmax
comp=Z,13nm,1.8s
HFS Hagfors 76.33 23 P P 03 59 44.3 +1.1
comp=Z,4.1nm,1.0s,baz=323,slow=6.1,SNR=5.3
comp=Z,4.1nm,1.0s
HEH HeiHe 76.79 323 *e*P P 03 59 45.2 -0.8
HEH pmax pmax
comp=Z,13nm,1.2s
USA0B Ussuriysk Arra 78.28 316 *i* P P 03 59 54.1 -0.4
USRK Ussuriysk Ar. 78.28 316 P 03 59 53.7 -0.8
USRK Ussuriysk Ar. 78.28 316 P P 03 59 54.2 -0.3
comp=Z,9.9nm,0.8s,baz=45,slow=5.7,SNR=10
comp=Z,9.9nm,0.8s
FINES FINESS Array B 78.64 17 P P 03 59 57.1 +1.0
comp=Z,2.0nm,0.8s,baz=335,slow=5.4,SNR=4.6
comp=Z,2.0nm,0.8s
BNX BinXian 79.77 320 ⇑P P 04 00 01.9 -0.7
BNX pmax pmax
comp=Z,20nm,1.0s
MSHR Mys Shultsa 79.78 316 *i* P P 04 00 03.6 +0.9
MSHR pmax pmax
comp=Z,31nm,1.2s
KLMR Klimovskoe 81.82 11 *e*P P 04 00 11.0 -2.2
KLMR *e* 04 00 18.4
KLMR *e* 04 03 16.8
KLMR pmax pmax
comp=Z,20nm,1.3s
CN2 Changchun 82.11 319 P P 04 00 15.2 +0.1
CN2 pmax pmax
comp=Z,10.0nm,0.7s
ESDC Sonseca Array 83.19 45 P P 04 00 21.4 +0.5
comp=Z,0.7nm,0.8s,baz=311,slow=5.7,SNR=6.0
comp=Z,0.7nm,0.8s
KSRS Korea Array 85.00 313 P P 04 00 30.1 +0.1
comp=Z,2.9nm,0.7s,baz=56,slow=5.1,SNR=9.9
comp=Z,2.9nm,0.7s
KSAR Wonju Array Be 85.03 313 P 04 00 29.5 -0.8
KSAR Wonju Array Be 85.03 313 P P 04 00 29.5 -0.8
RETA Reutte 85.06 32 *i* PP PP 04 03 48.6 +2.0
comp=Z,5.4nm,1.6s
GERES GERESS Array B 85.23 30 P P 04 00 31.8 +0.6
comp=Z,0.3nm,0.5s,baz=328,slow=4.6,SNR=2.0
comp=Z,0.3nm,0.5s
KIRV Kirov 85.27 7 *i* P P 04 00 31.5 +0.5
MOTA Moosalm 85.32 32 *e*PP PP 04 03 48.7 -0.1
comp=Z,6.4nm,1.4s
SQTA Sankt Quirin 85.46 32 *e*PP PP 04 03 52.6 +2.7
comp=Z,0.4nm,0.4s
BIOA Bad Ischl, Aus 86.12 31 *e*PP PP 04 03 54.2 -0.8
comp=Z,0.2nm,0.3s
MOA Molln 86.25 30 *i* PP PP 04 03 57.2 +1.1
comp=Z,4.8nm,1.3s
KBA Koelnbreinsper 86.48 31 *i* PP PP 04 03 55.9 -2.3
comp=Z,5.4nm,1.4s
OBN Obninsk 86.71 14 *e*P P 04 00 37.5 -0.7
OBN *i* 04 00 44.5
OBN pmax pmax
comp=Z,10.0nm,1.1s
XLT XiLinHaoTe 86.75 324 *e*P P 04 00 39.0 +0.2
XLT pmax pmax
comp=Z,14nm,1.1s
ZAK Zakamensk 86.78 335 *e*P P 04 00 38.6 -0.2
ZAK pmax pmax
comp=Z,7.0nm,1.8s
CONA Conrad Observa 86.83 29 *i* PP PP 04 03 58.1 -2.7
comp=Z,2.5nm,1.1s
MYKA Terra Mystica 86.96 31 *e*PP PP 04 03 57.5 -4.4
comp=Z,1.2nm,0.5s
RONA Rosalia, Austr 87.18 29 *e*PP PP 04 03 59.6 -4.1
comp=Z,3.1nm,1.1s
OBKA Obir 87.44 31 *e*PP PP 04 03 58.4 -7.4
comp=Z,3.2nm,0.8s
SOKA Soboth 87.50 30 *e*PP PP 04 04 06.0 -0.3
comp=Z,5.4nm,1.5s
ULN Ulaanbaatar 87.51 332 *ce*P P 04 00 42.9 +0.4
ULN pmax pmax
comp=Z,19nm,2.5s
STHS Stebnicka Huta 87.60 25 *e*P P 04 00 45.0 +2.3
PLCA Paso Flores 87.71 146 P P 04 00 43.7 +0.6
comp=Z,2.1nm,0.9s,baz=341,slow=3.7,SNR=3.4
comp=Z,2.1nm,0.9s
SONM Songino Array 87.79 332 P 04 00 43.7 -0.1
SONM Songino Array 87.79 332 P P 04 00 44.3 +0.6
comp=Z,1.9nm,0.7s,baz=34,slow=2.9,SNR=10
comp=Z,1.9nm,0.7s
SONM Songino Array 87.79 332 P P 04 00 43.7 -0.1
SONM pmax pmax
comp=Z,19nm,0.9s
ARTI Arti 88.02 2 *d* iP P 04 00 44.9 +0.4
ARTI 04 04 07.7
ARTI S SKSac 04 11 13.5 +0.4
ARTI SS SS 04 17 18.6 +4.4
ARTI pmax pmax
comp=Z,12nm,1.2s
KOLS Kolonicke sedl 88.37 25 *e*P P 04 00 51.4 +5.0
ZAA0 Zalesovo Array 88.42 347 IAmb IAmb 04 00 47.8
comp=Z,16nm,1.6s
ZALV Zalesovo Beam 88.42 347 P 04 00 45.8 -0.7
ZALV Zalesovo Beam 88.42 347 P P 04 00 46.2 -0.2
comp=Z,1.8nm,0.6s,baz=21,slow=5.5,SNR=6.8
comp=Z,1.8nm,0.6s
ZALV Zalesovo Beam 88.42 347 *i* P P 04 00 46.7 +0.2
ZALV pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 88.99 20 P P 04 00 50.2 +1.0
comp=Z,1.3nm,0.7s,baz=331,slow=3.5,SNR=5.1
comp=Z,1.3nm,0.7s
AKBB Malin Array Si 88.99 20 *i* P P 04 00 50.5 +1.3
AKBB pmax pmax
comp=Z,5.0nm,1.1s
BRVK Borovoye 91.14 355 P 04 00 59.0 -0.2
BRVK Borovoye 91.14 355 *ce*P P 04 00 58.5 -0.7
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BELG Belogornoye 91.16 9 *i* P P 04 00 58.4 -0.9
BELG pmax pmax
comp=Z,1.0nm,1.0s
BVAR Borovoye Array 91.17 355 P P 04 00 59.8 +0.4
comp=Z,6.0nm,0.7s,baz=2.9,slow=3.0,SNR=12
comp=Z,6.0nm,0.7s
HHC Hu-ho-hao-te 91.23 325 *e*P P 04 00 57.3 -2.7
HHC pmax pmax
comp=Z,7.0nm,0.6s
BTO Baotou 92.13 326 *e*P P 04 01 02.1 -2.1
BTO PP PP 04 04 48.2 +4.9
BTO S S 04 12 04.8 -2.2
BTO pmax pmax
comp=Z,9.0nm,0.5s
KURK Kurchatov 92.57 350 *ce*P P 04 01 04.5 -1.3
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURBB Kurchatov Arra 92.67 350 P P 04 01 06.7 +0.4
comp=Z,2.9nm,0.9s,baz=15,slow=4.7,SNR=8.7
comp=Z,2.9nm,0.9s
NJ2 Nanjing 94.10 315 *e*P P 04 01 12.0 -1.3
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
AB31 Akbulak array 95.20 2 P P 04 01 17.0 -1.0
ABKAR Akbulak array 95.20 2 P P 04 01 17.1 -0.9
MKAR Makanchi Array 95.74 346 P P 04 01 21.3 +0.7
comp=Z,6.0nm,0.8s,baz=11,slow=4.6,SNR=2.7
comp=Z,6.0nm,0.9s
WMQ Urumqi 97.36 342 *e*P Pdif 04 01 28.6 +0.5
KIV Kislovodsk 98.56 14 *e*P Pdif 04 01 34.2 +0.8
KIV pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 98.82 14 *i* P Pdif 04 01 35.2 +0.8
KBZ pmax pmax
comp=Z,2.0nm,1.0s
PZH PanZhiHua 107.61 323 PKP PKiKP 04 06 20.2 -1.9
WRA Warramunga Arr 115.66 263 PKP PKPdf 04 06 35.7 -1.6
comp=Z,0.8nm,0.7s,baz=66,slow=2.2,SNR=6.0
ASAR Alice Springs 117.87 260 PKP PKPdf 04 06 40.5 -1.0
comp=Z,0.6nm,0.7s,baz=62,slow=2.3,SNR=5.0
VNDA Vanda 122.70 195 PKP PKPdf 04 06 49.1 0.0
comp=Z,0.8nm,0.9s,baz=314,slow=8.3,SNR=6.1
QSPA South Pole Qui 125.72 180 PKP PKPdf 04 06 55.3 +0.1
comp=Z,3.0nm,1.0s,baz=328,slow=1.1,SNR=5.3
KDWAN Kaudwane 145.23 79 PKPbc 04 07 32.6 +0.2
LBTB Lobatse 146.76 81 PKPdf 04 07 36.0 +0.7
LBTB Lobatse 146.76 81 PKP2 PKPdf 04 07 36.0 +0.7
MREMI Moremi 147.03 76 PKPbc 04 07 37.7 -0.1
BOSA Boshof 148.01 88 PKPbc PKPbc 04 07 40.2 -0.3
comp=Z,6.3nm,0.9s,baz=330,slow=1.9,SNR=6.3
MAW Mawson 148.24 180 PKPbc PKPbc 04 07 39.7 +0.1
comp=Z,13nm,1.0s,baz=165,slow=2.2,SNR=13
SLR Silverton 149.24 80 PKHKP PKPdf 04 07 35.7 -3.7

*NEIC **06** 03:49:24.6±0.5, 35°.559N±0°.008×117°.38W±0°.01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.5km az=252.0*

PAS 06 03:49:25.0±0.5, 35°.557N±0°.007×117°.39W±0°.01, h4km±2km, ML4.0/5, ML4.1/14(NEIC), Error ellipse: s-maj=1.6km s-min=0.7km az=126.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCCA	**Chr Cany lake**	**0.04**	**152**		Pg	03 49 26.2	+0.2
CCCA					Sg	03 49 27.3	+0.7
LRMC	**Laurel Mtn Rad**	**0.25**	**252**		Pg	03 49 30.0	+0.1
LRMC					Sg	03 49 33.9	+0.7
CLC	**China Lake**	**0.31**	**326**		Pg	03 49 30.9	-0.1
CLC					Sg	03 49 35.9	+0.8
GSC	**Goldstone, Bar**	**0.54**	**118**	Pg	Pg	03 49 35.3	0.0
GSC				IAML		03 49 48.8	
comp=E,12μm,0.8s							
GSC	**Goldstone, Bar**	**0.54**	**118**		Sg	03 49 42.8	+0.5
CCAC	**Calif City Air**	**0.66**	**232**		Sg	03 49 46.4	+0.4
CCAC	**Calif City Air**	**0.66**	**232**	Pg	Pg	03 49 37.8	+0.2
CCAC				IAML		03 49 56.5	
comp=N,12μm,1.3s							
CCAC				IAML		03 49 58.5	
comp=E,10μm,1.4s							
GWY	**Greenwater Val**	**0.86**	**43**	Pg	Pg	03 49 41.6	+0.2
GWY				IAML		03 50 00.1	
comp=E,9μm,0.5s							
SBB	**Saddle Back Bu**	**0.94**	**203**		Sg	03 49 54.6	-0.6
WCT	**Wildcat Mounta**	**1.38**	**26**		Pn	03 49 50.3	-0.8
WCT				IAML		03 50 12.6	
comp=E,3μm,1.9s							
PASC	**Pasadena Art C**	**1.53**	**206**		Pb	03 49 53.7	-0.3
PASC				IAML		03 50 06.7	
comp=N,2μm,1.9s							
PASC				IAML		03 50 19.2	
comp=E,3μm,1.5s							

*NEIC **06** 03:49:52.0±1.2, 35°.833N±0°.008×117°.686W±0°.003, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.3km az=18.0*

PAS 06 03:49:52.4±0.7, 35°.826N±0°.007×117°.68W±0°.01, h7km±1km, ML4.0/23, ML4.1/14(NEIC), Error ellipse: s-maj=1.3km s-min=1.0km az=113.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOW	**Tower One**	**0.07**	**255**		Pg	03 49 54.8	+0.5
TOW					Sg	03 49 57.1	+1.5
CLC	**China Lake**	**0.07**	**98**		Pg	03 49 54.3	-0.1
CLC					Sg	03 49 55.9	+0.2
SRTC	**Snort**	**0.14**	**201**		Pg	03 49 55.9	+0.4
SRTC					Sg	03 49 58.1	+0.6
WVPM	**Volcano Peak E**	**0.16**	**319**		Pg	03 49 58.4	+2.5

WNMM	**Nine Mile Cany**	**0.18**	**275**			Pg	03 49 56.1	+0.1
WNMM						Sg	03 49 59.1	+0.5
JRC2	**Joshua Ridge**	**0.19**	**327**			Pg	03 49 56.3	0.0
JRC2						Sg	03 49 59.0	+0.2
WCSM	**Coso Springs S**	**0.21**	**341**			Sg	03 49 59.7	+0.1
WRVM	**Rose V. Centra**	**0.25**	**317**			Pg	03 49 57.2	-0.2
WRVM						Sg	03 50 01.0	+0.3
MPMC	**Manual Prospec**	**0.28**	**34**			Pg	03 49 57.8	-0.3
MPMC						Sg	03 50 01.7	-0.1
MFS	**McCloud Flat S**	**0.32**	**335**			Sg	03 50 03.3	+0.2
LRMC	**Laurel Mtn Rad**	**0.35**	**180**			Pg	03 49 59.0	-0.3
LRMC						Sg	03 50 04.2	+0.4
CCCA	**Chr Cany lake**	**0.40**	**139**			Sg	03 50 06.4	+1.0
WBSM	**Bird Springs**	**0.47**	**232**			Pg	03 50 01.3	-0.3
WBSM						Sg	03 50 07.8	+0.1
WORM	**Onyx Ranch**	**0.47**	**254**			Pg	03 50 01.2	-0.4
WORM						Sg	03 50 07.6	-0.2
WHFM	**Hanning Flat**	**0.56**	**257**			Pg	03 50 02.8	-0.4
DTP	**Desert Tortois**	**0.57**	**193**			Pg	03 50 03.1	-0.4
DTP						Sg	03 50 11.2	+0.2
ISA	**Isabella, Lake**	**0.66**	**256**	Pg		Pg	03 50 04.8	-0.4
ISA	**Isabella, Lake**	**0.66**	**256**			Sg	03 50 14.0	+0.2
QSM	**Queen of Sheba**	**0.68**	**78**	Pg		Pg	03 50 05.5	0.0
QSM				IAML			03 50 18.9	
	comp=E,8μm,0.7s							
QSM				IAML			03 50 19.0	
	comp=N,7μm,0.4s							
CWC	**Cottonwood Cre**	**0.69**	**332**			Pg	03 50 05.7	-0.1
CWC						Sg	03 50 14.5	-0.3
WASM	**Alta Sierra Ca**	**0.71**	**263**			Pg	03 50 05.8	-0.4
WASM						Sg	03 50 15.1	-0.5
CCAC	**Calif City Air**	**0.72**	**202**			Sg	03 50 15.8	0.0
GSC	**Goldstone, Bar**	**0.89**	**126**	Pg		Pb	03 50 09.9	-0.3
GSC				IAML			03 50 23.2	
	comp=E,7μm,1.2s							
GWY	**Greenwater Val**	**0.90**	**66**	Pg		Pg	03 50 09.0	-0.7
GWY				IAML			03 50 13.2	
	comp=E,7μm,1.3s							
GWY				IAML			03 50 31.3	
	comp=N,5μm,1.7s							
FURC	**Furnace Creek,**	**0.92**	**46**			Pg	03 50 09.9	-0.2
FURC						Sg	03 50 22.1	-0.1
SPG2	**Springville 2**	**0.95**	**293**			Pg	03 50 10.2	-0.5
SPG2						Sg	03 50 22.2	-0.9
HYS	**Haystack Butte**	**0.96**	**174**			Pb	03 50 11.6	+0.1
VES	**Vestal, Richgr**	**1.14**	**271**			Pg	03 50 14.1	-0.2
TJR	**Tejon Ranch**	**1.18**	**228**			Pg	03 50 14.1	-0.9
GRAC	**Grapevine Rang**	**1.20**	**12**			Sg	03 50 30.9	0.0
SGV	**South Grapevin**	**1.27**	**24**			Sg	03 50 32.8	-0.4
WCT	**Wildcat Mounta**	**1.29**	**41**	Pg		Pn	03 50 16.5	-0.4
WCT				IAML			03 50 21.3	
	comp=N,2μm,2.2s							
WCT				IAML			03 50 38.0	
	comp=E,3μm,1.7s							
TPNV	**Topopah Spring**	**1.61**	**46**			Pn	03 50 21.4	-0.1
V12A	**Nelson**	**2.31**	**92**	Pn		Pn	03 50 31.0	0.0
V12A				IAML			03 50 44.3	
	comp=N,2μm,2.2s							

*NEIC **06** 03:50:49.2±0.4, 35°.927N±0°.005×117°.73W±0°.01, h10km±1km, Error ellipse: s-maj=2.8km s-min=1.9km az=245.0*

PAS 06 03:50:49.4±0.4, **35°.910N**±0°.010×**117°.74W**±0°.02, **h11**km±3km, **ML4.0/9, Error ellipse: s-maj=2.1km s-min=1.5km az=97.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.07**	**302**		Pg	03 50 51.8	-0.1
WVPM					Sg	03 50 53.6	-0.1
JRC2	**Joshua Ridge**	**0.09**	**322**		Pg	03 50 52.0	-0.1
JRC2					Sg	03 50 54.0	-0.1
TOW	**Tower One**	**0.10**	**191**		Sg	03 50 55.0	+0.8
WCSM	**Coso Springs S**	**0.12**	**349**		Pg	03 50 52.3	-0.1
WCSM					Sg	03 50 54.4	-0.2
WNMM	**Nine Mile Cany**	**0.15**	**244**		Pb	03 50 55.2	+1.0
WRVM	**Rose V. Centra**	**0.16**	**309**		Pg	03 50 52.9	0.0
WRVM					Sg	03 50 55.5	0.0
MPMC	**Manual Prospec**	**0.25**	**54**		Pg	03 50 54.5	-0.1
MPMC					Sg	03 50 58.1	0.0
LRMC	**Laurel Mtn Rad**	**0.43**	**174**		Pg	03 50 57.6	-0.3
LRMC					Sg	03 51 03.7	0.0
QSM	**Queen of Sheba**	**0.71**	**85**	Pg	Pg	03 51 03.3	+0.2
CCAC	**Calif City Air**	**0.79**	**197**		Pg	03 51 04.8	+0.2
GWY	**Greenwater Val**	**0.91**	**72**	Pg	Pg	03 51 06.5	-0.4
GSC	**Goldstone, Bar**	**0.97**	**128**	Pg	Pg	03 51 07.5	-0.6
GRAC	**Grapevine Rang**	**1.12**	**15**		Pb	03 51 10.5	-0.4

*IDC **06** 03:50:59.0±0.5, 35°.88N×117°.59W, h0km, mb4.3/19, mbtmp4.3/22, ML4.5/3, Error ellipse: s-maj=16.2km s-min=7.9km az=73.0*

*NEIC **06** 03:50:59.2±0.8, 35°.90N±0°.01×117°.70W±0°.01, h9km±6km, Error ellipse: s-maj=1.6km s-min=1.6km az=59.0*

*PAS **06** 03:50:59.7±0.7, 35°.904N±0°.006×117°.70W±0°.01, h8km±6km, ML5.4/246, mb4.9/23(NEIC), ML5.0/102(NEIC), Error ellipse: s-maj=1.5km s-min=0.3km az=123.0*

ISC 06 03:51:00.4±0.6, **35°.84N**±0°.02×**117°.67W**±0°.02, **h12**km±3km, **n324**, σ1§**12**/334, **mb4.6**/32, **Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.07**	**113**		**Pg**	**03 51 02.4**	**-0.5**
CLC					**Sg**	**03 51 04.6**	**-0.1**
TOW	**Tower One**	**0.08**	**246**		**Pb**	**03 51 02.7**	**-0.3**
WVPM	**Volcano Peak E**	**0.16**	**312**		Pg	03 51 02.4	-1.8
WVPM					**Sg**	**03 51 04.5**	**-2.4**
SRTC	**Snort**	**0.16**	**203**		**Pb**	**03 51 04.4**	**-1.0**
JRC2	**Joshua Ridge**	**0.18**	**322**		Pg	03 51 02.6	-1.9
JRC2					**Sg**	**03 51 04.8**	**-2.5**
WNMM	**Nine Mile Cany**	**0.19**	**270**		**Pg**	**03 51 03.5**	**-1.0**
WNMM					**Sg**	**03 51 06.2**	**-1.2**
WCSM	**Coso Springs S**	**0.20**	**337**		Pg	03 51 02.6	-2.1
WCSM					**Sg**	**03 51 04.8**	**-3.0**
WRVM	**Rose V. Centra**	**0.24**	**313**		Pg	03 51 03.6	-1.9
MPMC	**Manual Prospec**	**0.26**	**35**		**Pg**	**03 51 04.3**	**-1.6**
MPMC					**Sg**	**03 51 07.8**	**-1.9**
MFS	**McCloud Flat S**	**0.31**	**332**		Pg	03 51 04.6	-2.2
MFS					**Sg**	**03 51 08.6**	**-2.5**
LRMC	**Laurel Mtn Rad**	**0.36**	**181**		**Pb**	**03 51 07.7**	**-1.1**
LRMC					**Sn**	**03 51 13.5**	**+1.0**
CCCA	**Chr Cany lake**	**0.40**	**142**		**Pb**	**03 51 08.2**	**-1.3**
CCCA					**Sn**	**03 51 15.4**	**+1.7**
WORM	**Onyx Ranch**	**0.49**	**253**		**Pb**	**03 51 08.8**	**-2.1**
WORM					**Sg**	**03 51 15.3**	**-1.1**
WBSM	**Bird Springs**	**0.49**	**231**		**Pg**	**03 51 09.3**	**-0.7**
WBSM					**Sg**	**03 51 16.4**	**-0.1**
WHFM	**Hanning Flat**	**0.57**	**255**		**Pb**	**03 51 10.4**	**-2.0**
WHFM					**Sb**	**03 51 17.9**	**-2.6**
DTP	**Desert Tortois**	**0.59**	**194**		**Pb**	**03 51 11.6**	**-1.1**
QSM	**Queen of Sheba**	**0.66**	**79**		**Pg**	**03 51 12.9**	**-0.3**
QSM					**Sg**	**03 51 21.8**	**-0.2**
QSM				IAML		03 51 24.7	
	comp=N,50μm,1.3s						
QSM				IAML		03 51 24.9	
	comp=E,27μm,0.6s						
ISA	**Isabella, Lake**	**0.68**	**255**		**Pb**	**03 51 12.4**	**-1.8**
ISA				IAML		03 51 21.6	
	comp=E,95μm,0.6s						
ISA	**Isabella, Lake**	**0.68**	**255**		**Sb**	**03 51 21.1**	**-2.5**
CWC	**Cottonwood Cre**	**0.68**	**331**		**Pb**	**03 51 11.9**	**-2.5**
CWC					**Sb**	**03 51 19.9**	**-3.9**
CGO	**Cerro Gordo**	**0.71**	**352**		Pb	03 51 11.8	-3.2
CGO					**Sb**	**03 51 20.9**	**-4.0**
CCAC	**Calif City Air**	**0.74**	**202**		**Sn**	**03 51 25.2**	**-2.9**
CCAC	**Calif City Air**	**0.74**	**202**		**Pg**	**03 51 14.2**	**-0.6**
CCAC				IAML		03 51 26.0	
	comp=E,53μm,0.5s						
CCAC				IAML		03 51 38.9	
	comp=N,48μm,1.1s						
GWY	**Greenwater Val**	**0.88**	**67**		**Pb**	**03 51 16.2**	**-1.5**
GWY					**Sb**	**03 51 27.9**	**-1.7**
GWY				IAML		03 51 31.7	
	comp=E,42μm,1.2s						
GWY				IAML		03 51 34.5	
	comp=N,49μm,1.3s						
GSC	**Goldstone, Bar**	**0.89**	**127**		**Pn**	**03 51 17.2**	**-1.6**
GSC				IAML		03 51 32.7	
	comp=N,46μm,1.2s						
GSC				IAML		03 51 41.4	
	comp=E,60μm,0.7s						
GSC	**Goldstone, Bar**	**0.89**	**127**		**Sn**	**03 51 30.1**	**-1.6**
FURC	**Furnace Creek,**	**0.90**	**46**		**Pb**	**03 51 16.5**	**-1.5**
FURC					Pg	03 51 27.7	+10
HYS	**Haystack Butte**	**0.98**	**175**		**Pn**	**03 51 18.4**	**-1.7**
HYS					**Sn**	**03 51 32.9**	**-1.1**
EDW2	**Edwards Air Fo**	**0.99**	**195**		**Pn**	**03 51 19.0**	**-1.2**
TEJ	**El Tejon**	**1.03**	**234**		**Pb**	**03 51 18.6**	**-1.6**
TEJ					**Sb**	**03 51 32.1**	**-1.6**
RRX	**Edison Barstow**	**1.11**	**150**		**Pg**	**03 51 21.5**	**-0.3**
GRAC	**Grapevine Rang**	**1.18**	**12**		**Pn**	**03 51 20.3**	**-2.4**
GRAC				IAML		03 51 42.5	
	comp=N,33μm,1.0s						
GRAC				IAML		03 51 53.2	
	comp=E,35μm,1.1s						
BAKC	**Calstate**	**1.27**	**247**		**Pn**	**03 51 23.5**	**-0.4**
WCT	**Wildcat Mounta**	**1.27**	**41**		**Pn**	**03 51 22.3**	**-1.8**
WCT				IAML		03 51 41.5	
	comp=N,18μm,1.4s						
WCT				IAML		03 51 44.6	
	comp=E,26μm,1.9s						
AMDNV	**Amargosa**	**1.28**	**61**		**Pn**	**03 51 23.6**	**-0.5**
TUQ	**Turquoise Moun**	**1.48**	**105**		**Pb**	**03 51 25.7**	**-2.2**
GMN	**Gold Mountain**	**1.49**	**13**		**Pn**	**03 51 25.9**	**-1.4**
DSP	**Deep Springs**	**1.54**	**351**		**Pn**	**03 51 26.7**	**-1.0**
DSP				IAML		03 51 49.9	
	comp=E,15μm,1.4s						
TPNV	**Topopah Spring**	**1.59**	**46**		**Pn**	**03 51 27.9**	**-0.7**
TPNV				IAML		03 51 54.1	
	comp=E,18μm,1.2s						
TPNV				IAML		03 52 00.2	
	comp=E,17μm,1.5s						
BCW	**Bitter Crk WRg**	**1.68**	**238**		**Pn**	**03 51 30.5**	**+0.8**
PASC	**Pasadena Art C**	**1.72**	**194**		**Pb**	**03 51 30.7**	**-1.2**
MTPC	**Mountain Pass**	**1.76**	**101**		**Pn**	**03 51 29.6**	**-1.2**
CRGC	**Crocker Grade**	**1.78**	**251**		**Pn**	**03 51 32.1**	**+1.0**
MZP	**Montezuma Peak**	**1.87**	**7**		**Pn**	**03 51 31.9**	**-0.6**
KCC	**Kaiser Creek**	**1.99**	**319**		**Pn**	**03 51 34.6**	**+0.7**
BENR	**Benton**	**2.00**	**339**		**Pn**	**03 51 34.3**	**-0.1**
PMRM	**Maxey Ranch**	**2.08**	**269**		**Pn**	**03 51 36.3**	**+1.1**
SHPR	**Sheep Range**	**2.14**	**71**	Pn	**Pn**	**03 51 36.1**	**+0.1**
ELS	**Elsinore Mount**	**2.20**	**175**		**Pb**	**03 51 37.4**	**-2.7**
ELS				IAML		03 52 18.1	
	comp=E,10μm,1.4s						
ELS				IAML		03 52 18.0	
	comp=N,8μm,1.2s						
TPH	**Tonopah**	**2.26**	**9**		**Pn**	**03 51 40.3**	**+2.5**
PFO	**Pinyon Flats O**	**2.44**	**155**		**Pg**	**03 51 43.4**	**-3.7**
PFO				IAML		03 52 23.8	
	comp=N,7μm,2.0s						
PFO	**Pinyon Flats O**	**2.44**	**155**	Pg	**Pg**	**03 51 46.4**	**-0.7**
	comp=N,239nm,0.3s,baz=7.9,slow=7.8,SNR=4.5						
PFO				Lg	Lg	03 52 18.5	
	comp=N,719nm,0.3s,baz=248,slow=17,SNR=8.8						
PMPB	**Monarch Peak**	**2.56**	**279**		**Pn**	**03 51 42.0**	**+0.2**
NV11	**Mina Array Sit**	**2.61**	**352**	Pn	**Pn**	**03 51 41.9**	**-0.7**
NV11				IAML		03 52 33.9	
	comp=E,4μm,2.1s						
PRN	**Pahroc Range**	**2.62**	**53**	Pn	**Pn**	**03 51 42.0**	**-0.7**
PRN				IAML		03 52 38.4	
	comp=N,8μm,1.1s						
PRN				IAML		03 52 52.9	
	comp=E,6μm,1.4s						
NVAR	**Mina Array Bea**	**2.63**	**349**		**Pn**	**03 51 42.8**	**-0.1**
NVAR	**Mina Array Bea**	**2.63**	**349**	Pn	**Pn**	**03 51 44.0**	**+1.1**
	comp=E,144nm,0.3s,baz=176,slow=13,SNR=6.1						
NVAR				Pg	**Pb**	**03 51 47.7**	**+0.1**
	comp=E,410nm,0.3s,baz=173,slow=15,SNR=15						
NVAR				Lg	Lg	03 52 20.5	
	comp=E,208nm,0.3s,baz=168,slow=33,SNR=4.4						
	comp=E,524nm,0.5s						
BBGB	**Big Mountain B**	**2.82**	**286**		**Pn**	**03 51 45.0**	**-0.4**
RYN	**Ryan**	**2.86**	**347**		**Pn**	**03 51 45.5**	**-0.6**
RYN				IAML		03 52 36.8	
	comp=E,4μm,2.2s						
WAKR	**Walker**	**3.01**	**333**		**Pn**	**03 51 46.5**	**-1.5**
WAKR				IAML		03 52 39.1	
	comp=E,5μm,1.8s						
WAKR				IAML		03 52 41.9	
	comp=N,4μm,1.3s						
CMB	**Columbia Colle**	**3.08**	**316**		**Pn**	**03 51 48.3**	**-0.7**
CMB				IAML		03 52 37.3	
	comp=E,4μm,0.9s						
CMB				IAML		03 52 48.2	
	comp=N,5μm,0.8s						
W13A	**Hualapai Mount**	**3.18**	**102**		**Pn**	**03 51 48.9**	**-1.5**
W13A				IAML		03 53 09.1	
	comp=N,2μm,2.0s						
SAO	**San Andreas Ge**	**3.19**	**288**		**Pn**	**03 51 49.7**	**-0.6**
TJX	**Tijuana**	**3.36**	**171**		Pb	03 51 54.3	-5.6
TKX	**Tecate**	**3.38**	**165**		**Pn**	**03 53.6**	**+0.6**
TKX				IAML		03 52 54.9	
	comp=E,4μm,1.0s						
TKX				IAML		03 53 04.6	
	comp=N,2μm,1.0s						
GLA	**Glamis**	**3.64**	**139**		**Pn**	**03 51 58.2**	**+1.5**
LCMT	**Little Creek M**	**3.76**	**71**	Pn	**Pn**	**03 51 58.0**	**-0.3**
CCUT	**Cedar City**	**3.86**	**63**	Pn	**Pn**	**03 51 59.3**	**-0.5**
CCUT				IAML		03 53 10.5	
	comp=E,2μm,2.3s						
CCUT				IAML		03 53 12.0	
	comp=N,2μm,3.2s						
PSUT	**Pine Spring**	**4.06**	**47**	Pn	**Pn**	**03 52 01.6**	**-1.0**
PSUT				IAML		03 53 16.5	
	comp=N,3μm,1.5s						
AFDM	**Forest Hills D**	**4.06**	**321**		Pn	03 51 58.8	-3.6
AFDM				IAML		03 53 14.1	
	comp=N,3μm,1.2s						
KNB	**Kanab**	**4.08**	**72**	Pn	**Pn**	**03 52 01.3**	**-1.5**
KNB				IAML		03 53 22.0	
	comp=N,2μm,1.9s						
KNB				IAML		03 53 23.5	
	comp=E,2μm,2.1s						
PAHR	**Pah Rah Range**	**4.09**	**341**		**Pn**	**03 52 01.4**	**-1.5**
PAHR				IAML		03 53 24.2	
	comp=E,1μm,3.0s						
SPR3	**Spring Creek 3**	**4.12**	**39**	Pn	**Pn**	**03 52 01.8**	**-1.7**
SPR3				IAML		03 53 15.5	
	comp=E,2μm,2.1s						
SPR3				IAML		03 53 16.4	
	comp=N,1μm,2.1s						
Y14A	**Wickenburg**	**4.28**	**115**	Pn	**Pn**	**03 52 04.2**	**-1.3**
Y14A				IAML		03 53 24.5	
	comp=E,2μm,1.1s						
Y14A				IAML		03 53 28.6	
	comp=N,2μm,0.9s						
113A	**Mohawk Valley,**	**4.46**	**132**	Pn	**Pn**	**03 52 06.6**	**-1.2**
113A				IAML		03 53 40.3	
	comp=N,1μm,1.5s						
113A				IAML		03 53 41.0	
	comp=E,1μm,2.2s						
BEKR	**Beckworth**	**4.55**	**333**		**Pn**	**03 52 07.5**	**-1.7**
BEKR				IAML		03 53 39.4	
	comp=N,1μm,1.3s						
ORV	**Oroville**	**4.79**	**322**	Pn	**Pn**	**03 52 12.5**	**+0.1**
ORV				IAML		03 53 32.4	
	comp=E,1μm,1.1s						
ORV				IAML		03 53 34.2	
	comp=N,1μm,1.4s						
GDXM	**Geysers**	**5.04**	**307**	Pn	**Pn**	**03 52 15.1**	**-0.9**
GDXM				IAML		03 53 41.2	
	comp=E,864nm,1.1s						
ELK	**Elko**	**5.25**	**21**		**Pn**	**03 52 18.9**	**-0.1**
ELK	**Elko**	**5.25**	**21**	Pn	**Pn**	**03 52 18.6**	**-0.4**
	comp=E,8.9nm,0.3s,baz=158,slow=2.4,SNR=1.2						
ELK				Pg	**Pb**	**03 52 35.4**	**+3.1**
	comp=E,38nm,0.3s,baz=210,slow=14,SNR=4.2						
ELK				Lg	Lg	03 53 41.1	
	comp=E,81nm,0.3s,baz=107,slow=21,SNR=7.1						
	comp=E,63nm,0.4s						
X16A	**Lo Mia Camp, P**	**5.30**	**104**	Pn	**Pn**	**03 52 19.7**	**+0.1**
X16A				IAML		03 54 23.9	
	comp=N,850nm,3.4s						
X16A				IAML		03 54 26.2	
	comp=E,729nm,5.0s						
HOPS	**Hopland Field**	**5.33**	**308**	Pn	**Pn**	**03 52 19.7**	**-0.1**
KCPM	**Cahto Peak**	**6.05**	**311**	Pn	**Pn**	**03 52 30.1**	**+0.3**
X18A	**Snowflake**	**6.46**	**99**	Pn	**Pn**	**03 52 36.5**	**+1.0**
YBH	**Yreka Blue Hor**	**7.08**	**328**	Lg	Lg	03 54 38.1	
	comp=E,0.2nm,0.3s,baz=208,slow=2.6,SNR=3.2						
ANMO	**Albuquerque**	**9.20**	**92**	Lg	Lg	03 55 44.8	
	comp=E,0.6nm,0.3s,baz=251,slow=19,SNR=1.9						
PDAR	**Pinedale Array**	**9.34**	**40**	Lg	Lg	03 55 50.2	
	comp=E,0.5nm,0.3s,baz=228,slow=31,SNR=2.3						
TXAR	**Lajitas Array**	**13.47**	**115**	Pn	**Pn**	**03 54 13.9**	**+2.5**
	comp=E,0.8nm,0.3s,baz=290,slow=13,SNR=5.4						
	comp=E,15nm,1.0s						
CBB	**Campbell River**	**15.25**	**341**		**Pn**	**03 54 37.4**	**+2.0**
MIAR	**Mount Ida**	**19.73**	**87**		**Pn**	**03 55 30.4**	**-0.9**
N38A	**Joes South For**	**19.78**	**68**	P	**Pn**	**03 55 31.3**	**-0.6**
N38A				IAmb	IAmb	03 55 42.7	
	comp=Z,68nm,1.3s						
ULM	**Lac du Bonnet**	**21.36**	**41**	P	**P**	**03 55 46.9**	**-0.6**
	comp=Z,7.6nm,0.7s,baz=231,slow=10,SNR=5.0						
	comp=Z,7.6nm,0.7s						
V35K	**Ketchikan**	**21.72**	**338**	P	**P**	**03 55 51.0**	**-0.1**
	baz=148						
FFC	**Flin Flon**	**21.78**	**25**		**P**	**03 55 51.2**	**-0.7**
FFC				IAmb	IAmb	03 56 00.0	
	comp=Z,168nm,1.9s						
PBMO	**Poplar Bluff**	**21.95**	**79**	P	**P**	**03 55 53.4**	**-0.5**
PBMO				IAmb	IAmb	03 56 01.3	
	comp=Z,57nm,1.1s						
I40A	**Norwalk**	**22.20**	**61**	P	**P**	**03 55 55.9**	**-0.6**
I40A				IAmb	IAmb	03 56 08.2	
	comp=Z,62nm,1.2s						
E38A	**The Farm, Brul**	**22.30**	**53**	P	**P**	**03 55 57.1**	**-0.5**
E38A				IAmb	IAmb	03 56 06.6	
	comp=Z,54nm,1.1s						
CRAG	**Craig**	**22.31**	**336**	P	**P**	**03 55 57.3**	**-0.2**
	baz=145						
PARMO	**Parma**	**22.50**	**80**	P	**P**	**03 56 00.1**	**+0.3**
PARMO				IAmb	IAmb	03 56 07.4	
	comp=Z,57nm,0.9s						
L42A	**Oliver, Polo**	**22.58**	**66**	P	**P**	**03 56 02.0**	**+1.4**
T35M	**Bob Quinn**	**22.78**	**342**	P	**P**	**03 56 02.2**	**-0.4**
	baz=153						
U33K	**Whale Pass**	**22.84**	**337**	P	**P**	**03 56 03.5**	**+0.3**
	baz=146						
WRAK	**Wrangell Islan**	**22.86**	**339**	P	**P**	**03 56 03.8**	**+0.4**
	baz=148						
T45A	**Paducah**	**23.35**	**78**	P	**P**	**03 56 09.8**	**+1.1**
T45A				IAmb	IAmb	03 56 15.2	
	comp=Z,37nm,0.9s						
K43A	**Burlington**	**23.65**	**64**	P	**P**	**03 56 13.1**	**+1.6**
M44A	**Midewin, Midew**	**23.74**	**68**	P	**P**	**03 56 12.0**	**-0.4**
M44A				IAmb	IAmb	03 56 19.8	
	comp=Z,77nm,1.3s						
S34M	**Telegraph Cree**	**23.83**	**342**	P	**P**	**03 56 13.3**	**+0.2**
	baz=152						
DLBC	**Dease Lake**	**24.04**	**344**	P	**P**	**03 56 15.7**	**+0.5**
	baz=155						
SIT	**Sitka**	**24.32**	**336**	P	**P**	**03 56 17.8**	**+0.2**
	baz=143						
S32K	**Killisnoo**	**24.41**	**338**	P	**P**	**03 56 18.4**	**-0.1**
	baz=145						
KOTAN	**Kotaneelee Air**	**24.65**	**352**	P	**P**	**03 56 21.3**	**+0.6**
	baz=168						
Q32M	**Nakina River**	**25.04**	**342**	P	**P**	**03 56 24.6**	**+0.2**
	baz=151						
R32K	**Eaglecrest**	**25.06**	**339**	P	**P**	**03 56 25.0**	**+0.6**
	baz=146						
R33M	**Jennings River**	**25.11**	**344**	P	**P**	**03 56 25.2**	**+0.2**
	baz=154						
CLTN	**Cedars of Leba**	**25.32**	**80**	IAmb	IAmb	03 56 31.6	
	comp=Z,38nm,1.5s						
S31K	**Pelican**	**25.34**	**337**	P	**P**	**03 56 27.3**	**+0.4**
	baz=143						
P32M	**Atlin**	**25.96**	**341**	P	**P**	**03 56 33.3**	**+0.7**
	baz=149						
P33M	**Teslin, Yukon**	**26.27**	**343**	P	**P**	**03 56 35.5**	**0.0**
	baz=151						
W50A	**Signal Mountai**	**26.29**	**82**	P	**P**	**03 56 35.5**	**-0.3**
W50A				IAmb	IAmb	03 56 46.4	
	comp=Z,38nm,1.1s						
PLBC	**Pleasant Camp**	**26.58**	**339**	P	**P**	**03 56 38.5**	**+0.4**
	baz=144						
YKAW1	**Yellowknife Wh**	**26.74**	**3**		**P**	**03 56 39.5**	**-0.1**
YKAW1				IAmb	IAmb	03 56 55.9	
	comp=Z,20nm,1.1s						
YKA	**Yellowknife Ar**	**26.74**	**3**	P	**P**	**03 56 39.7**	**+0.1**
	comp=Z,5.4nm,0.9s,baz=185,slow=8.8,SNR=7.7						
YKA				PcP	**PcP**	**04 00 03.7**	**+1.3**
	comp=Z,1.6nm,1.0s,baz=185,slow=2.1,SNR=4.3						
	comp=Z,5.4nm,0.9s						
P29M	**Windy Craggy**	**27.14**	**338**	P	**P**	**03 56 43.7**	**+0.5**
	baz=142						
TKL	**Tuckaleechee C**	**27.43**	**80**	P	**P**	**03 56 44.8**	**-1.3**
	comp=Z,6.3nm,1.1s,baz=199,slow=6.4,SNR=4.6						
	comp=Z,6.3nm,1.1s						
CMIG	**Matias Romero**	**27.54**	**127**	P	**P**	**03 56 45.9**	**-1.2**
	comp=Z,3.4nm,1.0s,baz=285,slow=23,SNR=1.9						
	comp=Z,3.4nm,1.0s						
WRGLY	**Wrigley**	**27.65**	**354**	P	**P**	**03 56 48.2**	**+0.5**
	baz=170						
PNL	**Peninsula**	**27.70**	**336**	P	**P**	**03 56 48.9**	**+0.6**
	baz=140						
HYT	**Haines Junctio**	**28.03**	**339**	P	**P**	**03 56 51.9**	**+0.5**
	baz=144						
MMPY	**Sheldon Lake,**	**28.11**	**347**	P	**P**	**03 56 52.5**	**+0.6**
	baz=156						
N31M	**Braeburn, Yuko**	**28.11**	**342**	P	**P**	**03 56 52.7**	**+0.7**
	baz=148						
FARO	**Faro, Yukon**	**28.18**	**344**	P	**P**	**03 56 53.0**	**+0.5**
	baz=152						
N30M	**Aishikik Lake**	**28.43**	**340**	P	**P**	**03 56 55.2**	**+0.4**
	baz=146						
O28M	**Mount Upton**	**28.80**	**337**	P	**P**	**03 56 58.3**	**0.0**
	baz=140						
M30M	**Minto, Yukon**	**29.29**	**342**	P	**P**	**03 57 02.7**	**+0.3**
**

baz=154
WAT6 **Susitna Watana** 32.62 335 P P 03 57 32.9 +1.0
baz=131
J26L **Joseph Creek** 32.66 339 P P 03 57 33.3 +1.2
baz=139
R18K **Karluk** 32.67 323 P P 03 57 33.5 +1.3
baz=116
H29M **Whitestone** 32.74 345 P P 03 57 33.8 +1.1
baz=148
K24K **Donnelly Dome** 32.81 337 P P 03 57 33.7 +0.3
baz=135
DHY **Denali Highway** 32.82 335 P P 03 57 34.4 +0.8
baz=132
F31M **Tsiigehtchic** 32.96 349 P P 03 57 35.0 +0.5
baz=156
M22K **Willow** 32.97 332 P P 03 57 35.2 +0.5
baz=127
I27K **Kandik River** 32.99 342 P P 03 57 35.3 +0.3
baz=143
SUA **Susitna One** 33.04 331 P P 03 57 35.2 -0.3
baz=126
O20K **Slope Mountain** 33.04 328 P P 03 57 35.3 -0.2
baz=121
WAT1 **Susitna Watana** 33.07 334 P P 03 57 35.9 +0.2
baz=130
P19K **Oil Pt** 33.09 327 P P 03 57 36.0 +0.1
baz=120
I26K **Coal Creek Min** 33.16 341 P P 03 57 36.6 +0.2
baz=140
G29M **Pine Creek** 33.26 346 P P 03 57 37.6 +0.3
baz=149
J25K **Salcha River,** 33.27 339 P P 03 57 37.5 +0.1
baz=136
Q18K **Katmai Hardscr** 33.42 325 P P 03 57 38.5 -0.3
baz=116
CUT **Chulitna** 33.42 333 P P 03 57 38.3 -0.3
baz=127
F30M **Barrier River** 33.45 348 P P 03 57 38.3 -0.7
baz=153
H27K **Steamboat Moun** 33.48 343 P P 03 57 39.0 -0.2
baz=144
R17L **Mt. Peulik Vol** 33.63 323 P P 03 57 39.9 -0.7
baz=114
SKT **Skwentna** 33.65 332 P P 03 57 40.0 -0.6
baz=125
Q17K **Contact Creek** 33.66 324 P P 03 57 40.3 -0.7
baz=115,SNR=10
INK **Inuvik** 33.72 349 P P 03 57 41.1 0.0
baz=156
MCK **McKinley** 33.79 335 P P 03 57 42.0 +0.1
baz=131
O19K **Port Alsworth** 33.83 328 P P 03 57 42.8 +0.5
baz=120
ILAR **Eielson Array** 33.84 338 P P 03 57 43.2 +1.0
comp=Z,2.2nm,0.8s,baz=137,slow=8.8,SNR=12
ILAR PcP PcP 04 00 22.2 +1.3
comp=Z,1.3nm,0.8s,baz=177,slow=1.8,SNR=5.0
comp=Z,2.2nm,0.8s
P18K **Big Mountain,** 33.85 326 P P 03 57 43.2 +0.7
baz=117
G27K **Doyon Strip** 33.97 343 P P 03 57 44.4 +0.9
baz=144
PRP **Porcupine Dome** 33.97 340 P P 03 57 44.4 +0.8
baz=137
O18K **Koktuh Hills** 34.06 327 P P 03 57 44.5 +0.2
baz=118
TRF **Thorofare Moun** 34.07 334 P P 03 57 44.7 +0.1
baz=129
CHGN **Chignik** 34.19 320 P P 03 57 45.6 +0.2
baz=109,SNR=5.4
N19K **Bonanza Creek** 34.21 329 P P 03 57 45.5 -0.1
baz=120,SNR=6.3
M20K **Styx River** 34.22 331 P P 03 57 46.4 +0.7
baz=123
F28M **Old Crow** 34.24 345 P P 03 57 46.6 +0.8
baz=147
P17K **Kvichak River** 34.32 325 P P 03 57 46.9 +0.4
baz=116
CHNA **Chernabura Isl** 34.38 317 P P 03 57 47.6 +0.5
baz=106,SNR=6.5
NEA2 **Nenana** 34.40 337 P P 03 57 47.9 +0.7
baz=132
PPLA **Purkeypile** 34.43 333 P P 03 57 47.6 0.0
baz=126
E29M **Blow River** 34.52 347 P P 03 57 48.6 +0.5
baz=150
G26K **Porcupine Rive** 34.60 342 P P 03 57 49.2 +0.4
baz=141
H25L **Birch Creek** 34.61 340 P P 03 57 48.6 -0.3
baz=138
CAST **Castle Rocks** 34.70 333 P P 03 57 49.5 -0.2
baz=126
BPAW **Bear Paw Mtn.** 34.72 335 P P 03 57 49.8 -0.2
baz=128
M19K **Big River Lodg** 34.73 330 P P 03 57 49.6 -0.5
baz=122
N18K **Kilae Creek** 34.75 328 P P 03 57 50.8 +0.6
baz=118
S14K **Fog Glacier** 34.79 319 P P 03 57 50.4 -0.3
baz=108
L20K **Farewell, AK** 34.84 331 P P 03 57 51.4 +0.4
baz=123
I23K **Minto, Yukon-K** 34.86 337 P P 03 57 51.6 +0.5
baz=132
O17K **Koliganek Bris** 34.88 326 P P 03 57 51.5 +0.2
baz=116
H24K **Noodor Dome** 34.88 339 P P 03 57 51.6 +0.2
baz=134
E28M **Babbage River** 35.02 346 P P 03 57 53.1 +0.6
baz=148
SDPT **Sand Point** 35.02 317 P P 03 57 52.7 +0.2
baz=106
G25K **Bearman Lake** 35.05 341 P P 03 57 53.5 +0.7
baz=138
L19K **White Mountain** 35.06 330 P P 03 57 53.6 +0.7
baz=121
M18K **Stony River** 35.11 329 P P 03 57 53.8 +0.5
baz=119,SNR=6.6
MLY **Manley** 35.23 336 P P 03 57 55.0 +0.6
baz=130
N17K **Nushagak Hills** 35.25 327 P P 03 57 55.1 +0.6
baz=116,SNR=5.1
O16K **Kokwok River B** 35.26 325 P P 03 57 56.5 +1.9
O16K **Kokwok River B** 35.26 325 P P 03 57 55.6 +1.0
baz=114
F26K **Sheenjek River** 35.27 343 P P 03 57 55.9 +1.2
baz=141
H23K **Yukon River** 35.37 338 P P 03 57 56.4 +0.9
baz=132
G24K **Hadweenzic Riv** 35.38 340 P P 03 57 56.6 +1.0
baz=136
K20K **Telida** 35.39 332 P P 03 57 56.5 +0.7
baz=124,SNR=8.9
F25K **Christian Rive** 35.56 342 P P 03 57 58.0 +0.8
baz=139
M17K **Holitna River** 35.75 328 P P 03 57 59.8 +1.0
baz=117
L18K **Granite Mounta** 35.83 330 P P 03 58 00.5 +1.0
baz=119
J20K **Nowinta River** 35.88 334 P P 03 58 01.4 +1.5
baz=124
O15K **Ungalikthiuk R** 35.91 324 P P 03 58 01.2 +0.9
baz=112
N16K **Nishlik Lake** 35.93 326 P P 03 58 01.4 +0.9
baz=114,SNR=5.5
E25K **Arctic Village** 35.94 343 P P 03 58 01.8 +1.3
baz=140
S12K **Black Hills** 35.98 318 P P 03 58 01.7 +0.9
baz=105
H22K **Ishtalitna Cre** 35.99 337 P P 03 58 01.9 +1.1
baz=130
M16K **Timber Creek** 36.25 327 P P 03 58 03.5 +0.4
baz=115
H21K **Melozitna Rive** 36.30 336 P P 03 58 04.5 +1.0
baz=128
J19K **Poorman** 36.32 333 P P 03 58 04.5 +0.8
baz=122
I20K **Naaghedeneel** 36.35 334 P P 03 58 04.7 +0.8
baz=125,SNR=6.3
N15K **Kwethluk River** 36.41 325 P P 03 58 05.2 +0.7
baz=113
L17K **Donlin** 36.45 329 P P 03 58 05.8 +1.0
baz=117
J18K **Innoko River** 36.46 332 P P 03 58 05.9 +1.0
baz=121
COLD **Coldfoot** 36.52 339 P P 03 58 06.6 +1.3
baz=133
O14K **Tigyukauivet M** 36.63 324 P P 03 58 07.7 +1.4
baz=110
G22K **Bettles** 36.70 338 P P 03 58 08.1 +1.2
baz=131
C27K **Jago River** 36.71 345 P P 03 58 08.2 +1.3
baz=143
K17K **Iditarod** 36.72 330 P P 03 58 08.1 +1.0
baz=118,SNR=6.2
L16K **Owhat River** 36.76 328 P P 03 58 08.3 +0.9
baz=115
M15K **Kasigluk River** 36.89 326 P P 03 58 09.4 +0.8
baz=113,SNR=5.8
H20K **Anotleneega Mo** 36.89 335 P P 03 58 09.4 +0.8
baz=125,SNR=5.2
E23K **Chandalar** 36.93 341 P P 03 58 09.8 +0.9
baz=134
D25K **Kavik River** 37.05 344 P P 03 58 10.6 +0.7
baz=140
G21K **Allakaket** 37.05 337 P P 03 58 10.9 +1.0
baz=128
N14K **Kuskokwak Cree** 37.07 325 P P 03 58 10.9 +0.9
baz=110
GCSA **Galena City Sc** 37.19 333 P P 03 58 12.1 +1.1
baz=122
C26K **Camden Bay** 37.19 345 P P 03 58 12.5 +1.5
baz=142
F22K **John River** 37.28 339 P P 03 58 13.1 +1.2
baz=131
TOLK **Tolik Lake Re** 37.33 341 P P 03 58 13.0 +0.7
baz=135
J17K **VABM Dome** 37.35 331 P P 03 58 13.5 +1.0
baz=118
H19K **Roundabout Mou** 37.45 335 P P 03 58 14.2 +0.9
baz=123
F21K **Alatna River** 37.48 338 P P 03 58 14.9 +1.4
baz=129
M14K **Bethel** 37.49 326 P P 03 58 14.5 +0.9
baz=111
E22K **Anaktuvuk Pass** 37.59 340 P P 03 58 15.9 +1.4
baz=132
L15K **Ungalak Mounta** 37.63 327 P P 03 58 15.6 +0.8
baz=113
D23K **Nanushuk River** 37.85 341 P P 03 58 17.8 +1.2
baz=134
K15K **Wolf Creek Mou** 37.89 328 P P 03 58 18.4 +1.3
baz=114
C24K **Franklin Bluff** 37.90 343 P P 03 58 18.4 +1.5
baz=137
J16K **Anvik River** 37.92 330 P P 03 58 18.8 +1.5
baz=116
H18K **Honhosa River** 37.94 333 P P 03 58 18.6 +1.2
baz=120
G19K **Purcell Mounta** 38.01 335 P P 03 58 19.3 +1.2
baz=123
M13K **Dall Lake** 38.02 325 P P 03 58 19.5 +1.4
baz=109
L14K **Kuka Creek** 38.03 326 P P 03 58 19.9 +1.8
baz=111
F20K **Avaraart Lake** 38.08 337 P P 03 58 20.3 +1.7
baz=126
I17K **Unalakleet** 38.22 331 P P 03 58 21.0 +1.2
baz=116
D22K **Ayikyak River** 38.32 340 P P 03 58 22.3 +1.7
baz=131
E21K **Killik River** 38.40 339 P P 03 58 22.3 +1.0
baz=129
G18K **Tagagawik** 38.42 334 P P 03 58 22.4 +0.8
baz=121
C23K **Itkillik River** 38.44 342 P P 03 58 22.5 +1.0
baz=135
F19K **Shaleruckik Mo** 38.62 336 P P 03 58 23.9 +0.8
baz=123
E19K **Redstone River** 38.79 337 P P 03 58 25.6 +1.0
baz=124,SNR=7.8
J14K **Nanvaranak Lak** 38.93 328 P P 03 58 26.9 +1.1
baz=112
E20K **Nigu River** 38.94 338 P P 03 58 27.2 +1.3
baz=126
G17K **Kiwalik Mounta** 38.95 333 P P 03 58 27.4 +1.6
baz=118
B22K **Teshekpuk Lake** 39.49 342 P P 03 58 31.3 +1.0
baz=132
G16K **Koyuk River** 39.53 332 P P 03 58 31.8 +1.1
baz=116
F17K **Baldwin Pennin** 39.61 334 P P 03 58 32.6 +1.2
baz=119
D19K **Kuna River** 39.66 338 P P 03 58 32.7 +0.9
baz=124
E18K **Tukpahlearik C** 39.87 336 P P 03 58 34.3 +0.7
baz=120
G15K **Niukluk** 40.01 331 P P 03 58 35.4 +0.7
baz=114
C18K **Utukok River** 40.69 337 P P 03 58 41.0 +0.5
baz=121
SPIA **Saint Paul Isl** 40.73 318 P P 03 58 41.3 +0.6
baz=98
D17K **Noatak River** 40.84 335 P P 03 58 42.3 +0.7
baz=118
RDOG **Red Dog Mine** 40.95 336 P P 03 58 42.8 +0.3
baz=118
C17K **DeLong Mountai** 41.24 336 P P 03 58 45.3 +0.5
baz=116
PEA0B **Petropavlovsk-** 59.27 316 P P 04 01 02.8 +1.1
PETK **Petropavlovsk-** 59.27 316 P P 04 01 01.0 -0.6
comp=Z,11nm,1.0s,baz=77,slow=12,SNR=9.2
comp=Z,11nm,1.0s
LPAZ **La Paz** 69.89 129 P P 04 02 13.2 +1.1
comp=Z,2.9nm,0.9s,baz=356,slow=8.7,SNR=3.6
comp=Z,2.9nm,0.9s
SIV **San Ignacio** 74.30 123 P P 04 02 38.4 +0.5
comp=Z,4.2nm,0.8s,baz=286,slow=7.7,SNR=4.3
comp=Z,4.2nm,0.8s
HFS **Hagfors** 76.35 23 P P 04 02 49.0 -0.1
comp=Z,2.1nm,0.8s,baz=328,slow=5.1,SNR=1.8
comp=Z,2.1nm,0.8s
USRK **Ussuriysk Ar.** 78.35 316 P P 04 03 00.1 -0.5
comp=Z,12nm,1.0s,baz=59,slow=5.6,SNR=8.2
comp=Z,12nm,1.0s
FINES **FINESS Array B** 78.67 17 P P 04 03 02.2 +0.2
comp=Z,3.3nm,1.0s,baz=332,slow=5.3,SNR=2.1
comp=Z,3.3nm,1.0s
MJAR **Matsushiro Arr** 79.28 307 P P 04 03 05.4 -0.4
comp=Z,1.2nm,0.7s,baz=58,slow=5.7,SNR=4.1
comp=Z,1.2nm,0.7s
ESDC **Sonseca Array** 83.19 45 P P 04 03 27.2 +0.5
comp=Z,0.4nm,0.9s,baz=308,slow=4.5,SNR=3.5
comp=Z,0.4nm,0.9s
KSRS **Korea Array** 85.08 313 P P 04 03 36.6 +0.4
comp=Z,4.5nm,0.9s,baz=57,slow=5.3,SNR=8.7
comp=Z,4.5nm,0.9s
GERES **GERESS Array B** 85.25 30 P P 04 03 37.0 0.0
comp=Z,0.2nm,0.5s,baz=305,slow=3.5,SNR=2.4
comp=Z,0.2nm,0.5s
ZALV **Zalesovo Beam** 88.48 347 P P 04 03 52.8 +0.4
comp=Z,0.9nm,0.5s,baz=29,slow=3.3,SNR=5.8
comp=Z,0.9nm,0.5s
AKASG **Malin Array Be** 89.02 20 P P 04 03 55.2 +0.1
comp=Z,0.2nm,0.3s,baz=334,slow=3.6,SNR=5.6
comp=Z,0.2nm,0.3s
BVAR **Borovoye Array** 91.22 355 P P 04 04 05.7 +0.4
comp=Z,4.9nm,0.9s,baz=27,slow=4.0,SNR=3.7
comp=Z,4.9nm,0.9s
KURK **Kurchatov** 92.62 350 P P 04 04 12.4 +0.6
KURK IAmb IAmb 04 04 17.3
comp=Z,6.3nm,1.2s
KURBB **Kurchatov Arra** 92.73 350 P P 04 04 12.2 -0.1
comp=Z,2.4nm,0.9s,baz=12,slow=4.1,SNR=8.7
comp=Z,2.4nm,0.9s
ABKAR **Akbulak array** 95.25 2 P P 04 04 24.8 +0.8
MKAR **Makanchi Array** 95.80 346 P P 04 04 29.4 +2.8
comp=Z,1.0nm,1.0s,baz=21,slow=4.0,SNR=3.8
WRA **Warramunga Arr** 115.70 263 PKP PKiKP 04 09 44.3 +1.2
comp=Z,0.8nm,0.9s,baz=60,slow=1.9,SNR=4.8
ASAR **Alice Springs** 117.91 260 PKP PKiKP 04 09 47.4 +0.1
comp=Z,1.4nm,1.1s,baz=75,slow=2.3,SNR=3.2
QSPA **South Pole Qui** 125.67 180 PKP PKiKP 04 10 01.8 +0.6
comp=Z,2.0nm,0.8s,baz=258,slow=5.2,SNR=3.3
SNAA **Sanae** 131.38 158 PKP PKiKP 04 10 11.9 -0.7
comp=Z,2.4nm,1.1s,baz=97,slow=1.2,SNR=3.7
BOSA **Boshof** 147.96 88 PKPbc PKiKP 04 10 47.0 -0.9
comp=Z,3.1nm,0.9s,baz=298,slow=3.8,SNR=4.3
MAW **Mawson** 148.19 180 PKPbc PKiKP 04 10 45.9 -1.0
comp=Z,11nm,0.9s,baz=248,slow=3.8,SNR=10

*NEIC **06** 03:52:54.4±0.6,35°.575N±0°.009×117°.41W±0°.01, h5km±1km, Error ellipse: s-maj=1.8km s-min=1.7km az=63.0*

PAS 06 03:52:54.8±0.8,**35°.577N**±0°.009×**117°.41W**±0°.01, **h4**km±2km,**ML3.8**/7,**ML3.7**/24(NEIC),**Error ellipse: s-maj=1.3km s-min=1.1km az=215.0,Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCCA	**Chr Cany lake**	**0.06**	**146**		Pg	03 52 56.5	+0.3
CCCA					Sg	03 52 58.1	+0.9
LRMC	**Laurel Mtn Rad**	**0.24**	**247**		Pg	03 52 59.6	+0.1
LRMC					Sg	03 53 03.4	+0.6
CLC	**China Lake**	**0.28**	**327**		Sg	03 53 04.7	+0.6
TOW	**Tower One**	**0.37**	**309**		Pg	03 53 01.9	-0.1
TOW					Sg	03 53 07.6	+0.7
DTP	**Desert Tortois**	**0.47**	**229**		Pg	03 53 03.8	-0.2
DTP					Sg	03 53 10.2	+0.1
GSC	**Goldstone, Bar**	**0.56**	**119**	Pg	Pg	03 53 05.7	0.0
GSC				IAML		03 53 13.7	
	comp=N,6μm,0.4s						
GSC	**Goldstone, Bar**	**0.56**	**119**		Sg	03 53 13.4	+0.5
QSM	**Queen of Sheba**	**0.58**	**48**		Pg	03 53 06.2	+0.1
WBSM	**Bird Springs**	**0.60**	**266**		Pg	03 53 06.2	-0.1
WBSM					Sg	03 53 14.6	+0.5
CCAC	**Calif City Air**	**0.65**	**230**		Sg	03 53 16.4	+0.5
CCAC	**Calif City Air**	**0.65**	**230**	Pg	Pg	03 53 07.2	-0.2
CCAC				IAML		03 53 21.0	
	comp=N,7μm,0.4s						
CCAC				IAML		03 53 21.1	
	comp=E,6μm,0.4s						
HYS	**Haystack Butte**	**0.72**	**191**		Pg	03 53 08.4	-0.3
HYS					Sg	03 53 17.9	-0.2
WHFM	**Hanning Flat**	**0.78**	**279**		Pg	03 53 09.2	-0.5
EDW2	**Edwards Air Fo**	**0.84**	**215**		Pg	03 53 10.4	-0.6
EDW2					Sg	03 53 21.9	-0.1
GWY	**Greenwater Val**	**0.85**	**44**	Pg	Pg	03 53 11.2	0.0
GWY				IAML		03 53 27.2	
	comp=E,4μm,0.3s						
GWY				IAML		03 53 28.4	
	comp=N,3μm,1.0s						
ISA	**Isabella, Lake**	**0.87**	**276**	Pg	Pg	03 53 11.4	-0.2
ISA				IAML		03 53 23.3	
	comp=N,3μm,0.2s						
ISA				IAML		03 53 26.6	
	comp=E,3μm,0.3s						
WASM	**Alta Sierra Ca**	**0.95**	**280**		Pg	03 53 12.2	-0.9
TPO	**Tropico Hills**	**0.97**	**224**		Pg	03 53 12.9	-0.5
WCT	**Wildcat Mounta**	**1.37**	**27**		Pn	03 53 20.1	-0.8
WCT				IAML		03 53 32.4	
	comp=E,927nm,1.6s						
WCT				IAML		03 53 33.5	
	comp=N,1μm,2.3s						
GRAC	**Grapevine Rang**	**1.42**	**1**		Pn	03 53 21.1	-0.4
GMN	**Gold Mountain**	**1.72**	**4**		Pn	03 53 26.6	+0.7
GMN				IAML		03 53 44.5	
	comp=N,725nm,1.3s						
DSP	**Deep Springs**	**1.85**	**346**	Pn	Pn	03 53 27.1	-0.2
DSP				IAML		03 53 36.1	
	comp=E,937nm,1.5s						
ELS	**Elsinore Mount**	**1.92**	**180**	Pn	Pn	03 53 27.9	-0.6
ELS				IAML		03 53 38.5	
	comp=N,595nm,1.6s						
SHPR	**Sheep Range**	**2.04**	**62**	Pn	Pn	03 53 29.3	-0.9
SHPR				IAML		03 53 50.6	
	comp=E,423nm,2.1s						

*NEIC **06** 03:53:39.1±2.1,35°.829N±0°.008×117°.66W±0°.01, h5km±1km, Error ellipse: s-maj=1.9km s-min=1.6km az=326.0*

PAS 06 03:53:40.3±1.0,**35°.870N**±0°.007×**117°.71W**±0°.01, **h6**km±2km,**ML3.8**/18,**ML3.6**/20(NEIC),**Error ellipse: s-maj=1.4km s-min=1.1km az=84.0,Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOW	**Tower One**	**0.07**	**216**		Pg	03 53 42.5	+0.4
CLC	**China Lake**	**0.11**	**120**		Pg	03 53 42.5	-0.1
CLC					Sg	03 53 44.4	+0.2
WVPM	**Volcano Peak E**	**0.12**	**313**		Pg	03 53 43.0	+0.1
WVPM					Sg	03 53 44.9	+0.3
WCSM	**Coso Springs S**	**0.16**	**344**		Pg	03 53 43.6	0.0
WCSM					Sg	03 53 46.1	+0.3
SRTC	**Snort**	**0.18**	**190**		Pg	03 53 44.2	+0.3
WRVM	**Rose V. Centra**	**0.20**	**314**		Pg	03 53 44.3	0.0
WRVM					Sg	03 53 47.4	+0.3
MPMC	**Manual Prospec**	**0.26**	**44**		Pg	03 53 45.5	+0.1
MPMC					Sg	03 53 49.3	+0.4
MFS	**McCloud Flat S**	**0.27**	**335**		Pg	03 53 45.7	0.0
MFS					Sg	03 53 49.7	+0.3
LRMC	**Laurel Mtn Rad**	**0.39**	**177**		Pg	03 53 45.6	-2.3
LRMC					Sg	03 53 49.5	-3.5
CCCA	**Chr Cany lake**	**0.45**	**141**		Pg	03 53 45.2	-3.6
WORM	**Onyx Ranch**	**0.47**	**248**		Sg	03 53 55.4	0.0
WBSM	**Bird Springs**	**0.48**	**227**		Pg	03 53 49.4	-0.2
WBSM					Sg	03 53 56.1	+0.2
WHFM	**Hanning Flat**	**0.55**	**252**		Pg	03 53 50.6	-0.3
WHFM					Sg	03 53 57.8	-0.1
DTP	**Desert Tortois**	**0.61**	**190**		Pg	03 53 51.6	-0.4
DTP					Sg	03 53 56.7	-3.3
CWC	**Cottonwood Cre**	**0.64**	**332**		Pg	03 53 53.4	+0.3
CWC					Sg	03 54 01.7	+0.6
ISA	**Isabella, Lake**	**0.65**	**252**	Pg	Pg	03 53 52.9	0.0
QSM	**Queen of Sheba**	**0.69**	**82**		Pg	03 53 52.0	-1.6
QSM				IAML		03 54 06.6	
	comp=N,4μm,0.6s						
WASM	**Alta Sierra Ca**	**0.70**	**259**		Pg	03 53 53.4	-0.4
WASM					Sg	03 54 03.0	+0.1
CCAC	**Calif City Air**	**0.76**	**199**		Sg	03 54 02.9	-1.8
CCAC	**Calif City Air**	**0.76**	**199**	Pg	Pg	03 53 53.4	-1.5
CCAC				IAML		03 54 08.8	
	comp=N,3μm,0.7s						
CCAC				IAML		03 54 09.8	
	comp=E,3μm,1.3s						
GWY	**Greenwater Val**	**0.90**	**69**		Pg	03 53 56.5	-1.1
GWY				IAML		03 54 12.6	
	comp=E,2μm,0.4s						
GWY				IAML		03 54 15.1	
	comp=N,2μm,0.6s						
SPG2	**Springville 2**	**0.92**	**291**		Pg	03 53 57.2	-0.7
SPG2					Sg	03 54 09.0	-0.8
TEJ	**El Tejon**	**1.02**	**232**		Sg	03 54 12.4	-0.8
VES	**Vestal, Richgr**	**1.12**	**269**		Pg	03 54 01.4	-0.3
GRAC	**Grapevine Rang**	**1.16**	**14**	Pg	Pg	03 54 02.2	-0.3
ARVC	**Arvin**	**1.18**	**231**		Pg	03 54 02.0	-0.8
TJR	**Tejon Ranch**	**1.19**	**225**		Sg	03 54 17.4	-1.2
BAKC	**Calstate**	**1.25**	**246**		Pg	03 54 03.9	-0.4
WCT	**Wildcat Mounta**	**1.27**	**43**		Pg	03 54 04.4	-0.3
WCT				IAML		03 54 23.3	
	comp=E,1μm,1.0s						
WCT				IAML		03 54 24.5	
	comp=N,947nm,1.3s						
VOG	**Valley Oaks Go**	**1.43**	**289**		Pn	03 54 04.9	-1.8
DSP	**Deep Springs**	**1.51**	**352**		Pb	03 54 08.4	-0.4
TPNV	**Topopah Spring**	**1.60**	**47**		Pn	03 54 09.5	+0.3
BLCC	**Black Canyon**	**1.80**	**206**		Pb	03 54 13.6	-0.1
PFO	**Pinyon Flats O**	**2.48**	**155**	Pn	Pn	03 54 20.0	-1.3
PFO				IAML		03 54 54.3	
	comp=N,277nm,4.1s						
PFO				IAML		03 55 02.8	
	comp=N,276nm,2.5s						

*NEIC **06** 03:54:46.6±0.8,35°.791N±0°.009×117°.59W±0°.01, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.8km az=247.0*

PAS 06 03:54:46.7±0.9,**35°.782N**±0°.007×**117°.59W**±0°.01, **h2**km±1km,**ML3.7**/23,**ML3.6**/20(NEIC),**Error ellipse: s-maj=1.4km s-min=0.8km az=57.0,Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LRMC	**Laurel Mtn Rad**	**0.31**	**194**		Pg	03 54 52.7	+0.1
CCCA	**Chr Cany lake**	**0.32**	**144**		Sg	03 54 58.4	+1.6
WRVM	**Rose V. Centra**	**0.33**	**313**		Pg	03 54 53.4	+0.3
WRVM					Sg	03 54 58.1	+0.7
MFS	**McCloud Flat S**	**0.40**	**327**		Pg	03 54 54.7	+0.3
WBSM	**Bird Springs**	**0.51**	**242**		Pg	03 54 56.5	0.0
WBSM					Sg	03 55 03.4	+0.3
QSM	**Queen of Sheba**	**0.61**	**72**	Pg	Pg	03 54 58.5	+0.1
QSM				IAML		03 55 07.9	
	comp=N,4μm,0.2s						
QSM				IAML		03 55 08.2	
	comp=E,5μm,0.2s						
QSM	**Queen of Sheba**	**0.61**	**72**		Sg	03 55 06.8	+0.3
WHFM	**Hanning Flat**	**0.62**	**262**		Pn	03 55 07.3	+4.6
CCAC	**Calif City Air**	**0.72**	**209**	Pg	Pg	03 55 00.2	-0.3

GSC	**Goldstone, Bar**	**0.80**	**127**			Pg	03 55 01.7	-0.3
GSC	**Goldstone, Bar**	**0.80**	**127**		IAML		03 55 14.7	
	comp=E,3μm,0.7s							
GSC					IAML		03 55 14.8	
	comp=N,2μm,0.7s							
GWY	**Greenwater Val**	**0.85**	**61**	Pg	Pg		03 55 02.9	-0.1
GWY					IAML		03 55 16.5	
	comp=N,2μm,0.3s							
GWY					IAML		03 55 17.4	
	comp=E,2μm,0.4s							
GWY	**Greenwater Val**	**0.85**	**61**			Sg	03 55 14.2	+0.2
HYS	**Haystack Butte**	**0.92**	**179**			Pg	03 55 04.3	+0.1
EDW2	**Edwards Air Fo**	**0.96**	**200**			Pg	03 55 05.2	+0.1
RRX	**Edison Barstow**	**1.03**	**152**			Pg	03 55 06.4	+0.1
GRAC	**Grapevine Rang**	**1.23**	**8**	Pg		Pg	03 55 09.9	-0.3
ADO	**Adelanto Recei**	**1.23**	**174**			Pg	03 55 09.9	-0.5
WCT	**Wildcat Mounta**	**1.27**	**37**	Pg		Pg	03 55 10.5	-0.6
WCT					IAML		03 55 46.3	
	comp=E,1μm,0.5s							
GMN	**Gold Mountain**	**1.54**	**10**			Pn	03 55 15.4	0.0
GMN					IAML		03 56 08.3	
	comp=E,1μm,0.8s							
POCCA	**Poleta Canyon**	**1.67**	**341**			Pn	03 55 17.7	+0.4
PASC	**Pasadena Art C**	**1.68**	**197**			Pb	03 55 17.8	-0.5
PASC					IAML		03 55 54.8	
	comp=N,512nm,0.7s							
PASC					IAML		03 56 18.8	
	comp=E,508nm,0.7s							
GATR	**Gnd/Air Tx Cnt**	**2.68**	**244**			Pb	03 55 35.3	-0.2

*NEIC **06** 03:55:19.6±1.0, 35°.900N±0°.009×117°.692W±0°.007, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.4km az=27.0*

PAS 06 03:55:20.0±0.6, 35°.906N±0°.010×117°.69W±0°.01, h8km±4km, ML4.3/34, ML4.0/32(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=216.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.11**	**293**		Pg	03 55 22.8	0.0
WVPM					Sg	03 55 25.0	+0.3
CLC	**China Lake**	**0.12**	**141**		Pg	03 55 22.7	0.0
CLC					Sg	03 55 24.8	+0.2
JRC2	**Joshua Ridge**	**0.12**	**308**		Pg	03 55 23.0	0.0
JRC2					Sg	03 55 25.2	+0.2
WCSM	**Coso Springs S**	**0.14**	**332**		Pg	03 55 23.0	-0.1
WCSM					Sg	03 55 25.2	-0.1
WNMM	**Nine Mile Cany**	**0.19**	**251**		Pg	03 55 23.9	+0.1
WRVM	**Rose V. Centra**	**0.19**	**302**		Pg	03 55 24.1	0.0
WRVM					Sg	03 55 27.0	+0.2
SRTC	**Snort**	**0.22**	**193**		Pg	03 55 24.8	+0.3
SRTC					Sg	03 55 28.9	+1.4
MPMC	**Manual Prospec**	**0.22**	**47**		Pg	03 55 24.4	-0.2
MPMC					Sg	03 55 27.7	0.0
MFS	**McCloud Flat S**	**0.25**	**327**		Pg	03 55 25.0	-0.1
MFS					Sg	03 55 28.6	0.0
LRMC	**Laurel Mtn Rad**	**0.42**	**179**		Pg	03 55 28.0	-0.3
LRMC					Sg	03 55 34.0	+0.1
CCCA	**Chr Cany lake**	**0.46**	**145**		Pg	03 55 29.1	+0.1
CCCA					Sg	03 55 35.9	+0.9
WORM	**Onyx Ranch**	**0.50**	**245**		Pg	03 55 29.3	-0.4
WORM					Sg	03 55 35.9	-0.4
WBSM	**Bird Springs**	**0.52**	**225**		Pg	03 55 29.8	-0.3
WBSM					Sg	03 55 36.8	-0.2
WHFM	**Hanning Flat**	**0.58**	**249**		Pg	03 55 30.8	-0.4
WHFM					Sg	03 55 38.4	-0.4
CWC	**Cottonwood Cre**	**0.62**	**329**		Pg	03 55 31.9	-0.2
CWC					Sg	03 55 40.3	+0.1
DTP	**Desert Tortois**	**0.65**	**191**		Pg	03 55 31.8	-0.8
DTP					Sg	03 55 40.8	-0.3
CGO	**Cerro Gordo**	**0.65**	**352**		Pg	03 55 32.2	-0.4
CGO					Sg	03 55 41.3	+0.1
QSM	**Queen of Sheba**	**0.67**	**85**		Pg	03 55 32.3	-0.6
QSM					Sg	03 55 41.5	-0.2
QSM				IAML		03 55 44.7	
	comp=E,7μm,0.5s						
QSM				IAML		03 55 45.3	
	comp=N,11μm,0.7s						
ISA	**Isabella, Lake**	**0.68**	**249**		Sg	03 55 42.2	0.0
ISA	**Isabella, Lake**	**0.68**	**249**		Pg	03 55 32.6	-0.6
ISA				IAML		03 55 46.1	
	comp=N,8μm,0.4s						
ISA				IAML		03 55 46.5	
	comp=E,12μm,0.5s						
WASM	**Alta Sierra Ca**	**0.73**	**257**		Pg	03 55 33.5	-0.5
WASM					Sg	03 55 43.1	-0.4
CCAC	**Calif City Air**	**0.80**	**200**		Sg	03 55 45.6	-0.1
CCAC	**Calif City Air**	**0.80**	**200**		Pg	03 55 34.5	-0.9
FURC	**Furnace Creek,**	**0.87**	**50**		Pg	03 55 36.6	-0.1
GWY	**Greenwater Val**	**0.87**	**71**		Sg	03 55 47.9	-0.3
GWY	**Greenwater Val**	**0.87**	**71**		Pg	03 55 35.9	-0.9
GWY				IAML		03 55 54.1	
	comp=E,8μm,0.6s						
SPG2	**Springville 2**	**0.92**	**289**		Sg	03 55 36.8	-0.9
GSC	**Goldstone, Bar**	**0.94**	**130**		Sg	03 55 49.8	-0.5
GSC	**Goldstone, Bar**	**0.94**	**130**		Pg	03 55 37.4	-0.6
HYS	**Haystack Butte**	**1.04**	**175**		Pg	03 55 39.3	-0.8
EDW2	**Edwards Air Fo**	**1.05**	**194**		Pg	03 55 40.3	+0.1
TEJ	**El Tejon**	**1.06**	**231**		Sg	03 55 52.7	-1.4
GRAC	**Grapevine Rang**	**1.12**	**13**		Pg	03 55 41.0	-0.5
GRAC				IAML		03 55 59.6	
	comp=N,5μm,0.6s						
VES	**Vestal, Richgr**	**1.14**	**267**		Pg	03 55 41.4	-0.5
VES					Sg	03 55 55.4	-1.2
TIN	**Tinemaha, Big**	**1.23**	**339**		Pb	03 55 43.2	-0.3
WCT	**Wildcat Mounta**	**1.23**	**44**		Pb	03 55 43.0	-0.6
WCT				IAML		03 56 01.7	
	comp=N,2μm,0.9s						
WCT				IAML		03 56 07.4	
	comp=E,2μm,0.7s						
THC	**Tehachapi Micr**	**1.27**	**219**		Pn	03 55 43.1	-1.2
ADO	**Adelanto Recei**	**1.37**	**171**		Sg	03 56 04.1	+0.1
GMN	**Gold Mountain**	**1.43**	**14**		Pn	03 55 46.4	-0.1
GMN				IAML		03 56 10.3	
	comp=N,2μm,0.5s						
VOG	**Valley Oaks Go**	**1.43**	**287**		Pn	03 55 46.3	0.0
DSP	**Deep Springs**	**1.48**	**351**		Pb	03 55 47.4	-0.3
DSP				IAML		03 56 09.7	
	comp=E,2μm,1.1s						
TPNV	**Topopah Spring**	**1.56**	**48**		Pb	03 55 49.2	0.0
TPH	**Tonopah**	**2.20**	**10**		Pb	03 56 01.1	+1.0
V12A	**Nelson**	**2.31**	**94**		Pn	03 55 58.9	+0.4
V12A				IAML		03 56 37.8	
	comp=N,667nm,2.1s						
LHV	**Little Huntoon**	**2.43**	**345**		Pn	03 56 00.4	+0.5
LHV				IAML		03 56 40.7	
	comp=E,644nm,0.5s						
LHV				IAML		03 56 50.1	
	comp=N,643nm,2.6s						
PFO	**Pinyon Flats O**	**2.50**	**156**	Pn	Pn	03 56 00.5	-0.6
PFO				IAML		03 56 44.1	
	comp=N,747nm,1.6s						
PFO				IAML		03 56 46.3	
	comp=N,519nm,0.8s						
NV11	**Mina Array Sit**	**2.55**	**352**	Pn	Pn	03 56 01.8	0.0
NVAR	**Mina Array Bea**	**2.57**	**349**		Pn	03 56 02.2	+0.1

*NEIC **06** 03:56:01.2±0.6, 35°.884N±0°.009×117°.67W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.4km az=10.0*

PAS 06 03:56:01.6±0.7, 35°.882N±0°.008×117°.67W±0°.01, h4km±1km, ML3.5/11, ML3.4/14(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=221.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.09**	**137**		Pg	03 56 03.7	+0.1
CLC					Sg	03 56 05.2	+0.3
TOW	**Tower One**	**0.10**	**225**		Pg	03 56 04.3	+0.5
WVPM	**Volcano Peak E**	**0.13**	**300**		Pg	03 56 04.4	0.0
JRC2	**Joshua Ridge**	**0.15**	**313**		Pg	03 56 04.7	0.0
WCSM	**Coso Springs S**	**0.16**	**332**		Pg	03 56 05.2	+0.3
WCSM					Sg	03 56 07.0	-0.1
WRVM	**Rose V. Centra**	**0.22**	**306**		Pg	03 56 06.0	+0.1
WRVM					Sg	03 56 09.2	+0.4
MFS	**McCloud Flat S**	**0.28**	**328**		Pg	03 56 07.2	+0.2
MFS					Sg	03 56 11.1	+0.4
WORM	**Onyx Ranch**	**0.50**	**248**		Pg	03 56 10.8	-0.5
WORM					Sg	03 56 17.7	0.0
WBSM	**Bird Springs**	**0.51**	**228**		Pg	03 56 11.5	0.0
WBSM					Sg	03 56 18.6	+0.4
CWC	**Cottonwood Cre**	**0.65**	**330**		Sg	03 56 22.8	+0.3
QSM	**Queen of Sheba**	**0.66**	**83**	Pg	Pg	03 56 14.1	-0.2
QSM				IAML		03 56 27.6	
	comp=N,2μm,0.8s						
CGO	**Cerro Gordo**	**0.68**	**351**		Sg	03 56 24.5	+1.1
ISA	**Isabella, Lake**	**0.69**	**252**	Pg	Pg	03 56 14.9	+0.1
ISA				IAML		03 56 25.5	
	comp=E,2μm,0.3s						
WASM	**Alta Sierra Ca**	**0.73**	**259**		Sg	03 56 25.4	+0.2
CCAC	**Calif City Air**	**0.78**	**201**	Pg	Pg	03 56 16.0	-0.6
CCAC				IAML		03 56 22.8	
	comp=N,1μm,1.1s						
CCAC				IAML		03 56 28.0	
	comp=E,2μm,1.3s						
GWY	**Greenwater Val**	**0.87**	**69**	Pg	Pg	03 56 18.2	-0.1
GWY				IAML		03 56 35.3	
	comp=N,1μm,0.8s						
HYS	**Haystack Butte**	**1.02**	**175**		Pg	03 56 19.8	-1.4
WCT	**Wildcat Mounta**	**1.24**	**43**	Pg	Pg	03 56 25.2	-0.3
WCT				IAML		03 56 29.6	
	comp=E,770nm,0.9s						
WCT				IAML		03 56 30.1	
	comp=N,463nm,0.6s						
GMN	**Gold Mountain**	**1.46**	**13**		Pb	03 56 29.3	-0.1
GMN				IAML		03 56 34.2	
	comp=N,475nm,1.1s						

*NEIC **06** 03:56:33.2±0.7, 35°.911N±0°.009×117°.732W±0°.007, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.5km az=305.0*

PAS 06 03:56:33.5±0.6, 35°.92N±0°.01×117°.74W±0°.01, h7km±1km, ML3.5/16, ML3.3/22(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=189.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.07**	**296**		Pg	03 56 35.5	0.0
WVPM					Sg	03 56 37.0	+0.1
JRC2	**Joshua Ridge**	**0.09**	**318**		Pg	03 56 35.7	0.0
JRC2					Sg	03 56 37.5	+0.2
WCSM	**Coso Springs S**	**0.11**	**347**		Pg	03 56 36.0	-0.1
WCSM					Sg	03 56 37.8	0.0
WRVM	**Rose V. Centra**	**0.15**	**306**		Pg	03 56 36.8	+0.1
WRVM					Sg	03 56 39.3	+0.3
WNMM	**Nine Mile Cany**	**0.16**	**241**		Pg	03 56 39.4	+2.7
SRTC	**Snort**	**0.23**	**183**		Pg	03 56 38.4	+0.4
MPMC	**Manual Prospec**	**0.24**	**55**		Pg	03 56 38.3	-0.1
MPMC					Sg	03 56 41.9	+0.2
LRMC	**Laurel Mtn Rad**	**0.44**	**174**		Sg	03 56 48.1	+0.3
WORM	**Onyx Ranch**	**0.47**	**242**		Sg	03 56 48.5	-0.2
CCCA	**Chr Cany lake**	**0.49**	**142**		Sg	03 56 50.4	+0.9
WHFM	**Hanning Flat**	**0.55**	**246**		Sg	03 56 43.6	-0.4
WHFM					Sg	03 56 51.2	0.0
CWC	**Cottonwood Cre**	**0.59**	**332**		Pg	03 56 44.9	-0.1
ISA	**Isabella, Lake**	**0.65**	**247**		Sg	03 56 54.5	0.0
ISA	**Isabella, Lake**	**0.65**	**247**	Pg	Pg	03 56 46.1	0.0
ISA				IAML		03 56 54.6	
	comp=N,2μm,0.3s						
ISA				IAML		03 56 55.7	
	comp=E,1μm,0.2s						
WASM	**Alta Sierra Ca**	**0.69**	**255**		Sg	03 56 55.8	0.0
QSM	**Queen of Sheba**	**0.71**	**86**	Pg	Pg	03 56 47.2	+0.1
QSM				IAML		03 56 51.8	
	comp=E,1μm,0.5s						
QSM				IAML		03 56 58.0	
	comp=N,940nm,0.2s						
CCAC	**Calif City Air**	**0.80**	**197**	Pg	Pg	03 56 49.0	+0.2
CCAC				IAML		03 56 53.3	
	comp=E,1μm,1.1s						
CCAC				IAML		03 57 02.9	
	comp=N,1μm,0.4s						
SPG2	**Springville 2**	**0.88**	**289**		Pg	03 56 49.5	-1.0
GSC	**Goldstone, Bar**	**0.98**	**129**		Sg	03 57 04.9	0.0
GSC	**Goldstone, Bar**	**0.98**	**129**	Pg	Pg	03 56 51.4	-0.8
GSC				IAML		03 57 07.7	
	comp=N,1μm,0.5s						
VES	**Vestal, Richgr**	**1.10**	**266**		Sg	03 57 08.2	-0.6
WCT	**Wildcat Mounta**	**1.25**	**45**		Pg	03 56 56.8	-0.7
WCT				IAML		03 57 24.5	
	comp=E,331nm,0.5s						
GMN	**Gold Mountain**	**1.43**	**15**		Pb	03 57 00.5	-0.2
GMN				IAML		03 57 15.1	
	comp=N,251nm,0.5s						
TPNV	**Topopah Spring**	**1.58**	**49**		Pb	03 57 02.7	-0.5
TPNV				IAML		03 57 17.1	
	comp=N,424nm,2.4s						
TPNV				IAML		03 57 17.6	
	comp=N,456nm,3.3s						
SHPR	**Sheep Range**	**2.16**	**74**	Pn	Pn	03 57 10.1	-0.2
SHPR				IAML		03 58 32.2	
	comp=E,159nm,1.0s						
ELS	**Elsinore Mount**	**2.28**	**174**	Pn	Pn	03 57 11.6	-0.1
V12A	**Nelson**	**2.35**	**94**	Pn	Pn	03 57 13.6	+0.8

*NEIC **06** 03:57:37.5±0.6, 35°.888N±0°.009×117°.70W±0°.01, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.5km az=8.0*

PAS 06 03:57:38.0±0.7, 35°.891N±0°.010×117°.700W±0°.009, h5km±2km, ML3.7/12, Error ellipse: s-maj=1.4km s-min=1.1km az=200.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.10**	**213**		Pg	03 57 40.5	+0.5
CLC	**China Lake**	**0.11**	**132**		Pg	03 57 40.2	-0.1
CLC					Sg	03 57 42.0	+0.2
WVPM	**Volcano Peak E**	**0.11**	**302**		Pg	03 57 40.4	0.0
JRC2	**Joshua Ridge**	**0.13**	**316**		Pg	03 57 40.8	+0.2
JRC2					Sg	03 57 42.9	+0.5
WCSM	**Coso Springs S**	**0.15**	**338**		Pg	03 57 41.0	+0.1
WCSM					Sg	03 57 43.4	+0.4
WNMM	**Nine Mile Cany**	**0.17**	**254**		Pg	03 57 41.5	+0.1
WNMM					Sg	03 57 44.5	+0.9
WRVM	**Rose V. Centra**	**0.19**	**307**		Pg	03 57 41.9	+0.1
SRTC	**Snort**	**0.20**	**191**		Pg	03 57 42.4	+0.4
MPMC	**Manual Prospec**	**0.24**	**46**		Pg	03 57 42.7	0.0
MPMC					Sg	03 57 46.3	+0.4
MFS	**McCloud Flat S**	**0.26**	**331**		Pg	03 57 43.2	+0.1
MFS					Sg	03 57 46.8	+0.2
LRMC	**Laurel Mtn Rad**	**0.41**	**178**		Sg	03 57 51.6	+0.3
WORM	**Onyx Ranch**	**0.48**	**246**		Pg	03 57 46.7	-0.6
WORM					Sg	03 57 53.6	+0.1
WBSM	**Bird Springs**	**0.50**	**226**		Pg	03 57 47.5	-0.2
WBSM					Sg	03 57 54.6	+0.4
WHFM	**Hanning Flat**	**0.56**	**250**		Pg	03 57 48.7	-0.1
WHFM					Sg	03 57 56.2	+0.1
ISA	**Isabella, Lake**	**0.67**	**250**	Pg	Pg	03 57 50.7	-0.2
CCAC	**Calif City Air**	**0.78**	**199**	Pg	Pg	03 57 52.7	-0.2
GWY	**Greenwater Val**	**0.89**	**70**	Pg	Pg	03 57 55.3	+0.4
GRAC	**Grapevine Rang**	**1.14**	**14**	Pg	Pg	03 57 59.4	-0.3
WCT	**Wildcat Mounta**	**1.25**	**44**	Pg	Pg	03 58 01.3	-0.6
GMN	**Gold Mountain**	**1.45**	**14**		Pn	03 58 04.9	-0.3
TPC	**Twentynine Pal**	**2.24**	**142**		Pn	03 58 17.1	+1.3
GVDA	**Garner Valley**	**2.37**	**159**		Pn	03 58 15.0	-2.7
SNDA	**J Saunders Pla**	**2.50**	**159**		Pn	03 58 15.9	-3.5
BZNA	**Buzz No.'s Pla**	**2.54**	**160**		Pn	03 58 17.4	-2.7
FRD	**Ford Ranch, An**	**2.56**	**159**		Pb	03 58 23.4	-1.0
RYN	**Ryan**	**2.81**	**347**		Pg	03 58 31.1	-0.7
WAKR	**Walker**	**2.96**	**333**		Pb	03 58 32.8	+1.5

*NEIC **06** 03:57:50.7±1.5, 35°.866N±0°.008×117°.66W±0°.01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.6km az=263.0*

*PAS **06** 03:57:50.9±1.1, 35°.869N±0°.009×117°.66W±0°.01, h7km±2km, ML4.3, ML4.4/86(NEIC), Error ellipse: s-maj=1.4km s-min=1.4km az=143.0*

*IDC **06** 03:57:52.9±0.8, 35°.96N×117°.45W, h0km, mb3.9/4, mbtmp3.9/9, ML3.7/4, Error ellipse: s-maj=18.7km s-min=6.3km az=74.0*

ISC 06 03:57:52.7±0.6, 35°.86N±0°.02×117°.68W±0°.02, h10km, n78, σ1876/98, mb4.0/4, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.08**	**122**		**Pg**	**03 57 52.8**	**-2.3**
CLC					**Sg**	**03 57 54.4**	**-2.4**
TOW	**Tower One**	**0.09**	**235**		**Pg**	**03 57 53.7**	**-1.4**
TOW					**Sg**	**03 57 54.8**	**-2.1**
WVPM	**Volcano Peak E**	**0.15**	**309**		**Pg**	**03 57 54.1**	**-2.0**
WVPM					**Sg**	**03 57 56.6**	**-1.9**
JRC2	**Joshua Ridge**	**0.16**	**320**		**Pg**	**03 57 54.4**	**-2.0**
JRC2					**Sg**	**03 57 56.7**	**-2.3**
SRTC	**Snort**	**0.17**	**199**		**Pg**	**03 57 55.1**	**-1.4**
SRTC					**Sg**	**03 57 56.5**	**-2.6**
WCSM	**Coso Springs S**	**0.18**	**337**		**Pg**	**03 57 54.6**	**-2.1**
WCSM					**Sg**	**03 57 57.3**	**-2.1**
WNMM	**Nine Mile Cany**	**0.18**	**266**		**Pg**	**03 57 56.0**	**-0.6**
WRVM	**Rose V. Centra**	**0.23**	**311**		**Pg**	**03 57 55.5**	**-1.9**
WRVM					**Sg**	**03 57 58.9**	**-1.8**
MPMC	**Manual Prospec**	**0.25**	**37**		**Pg**	**03 57 55.5**	**-2.4**
MPMC					**Sg**	**03 57 59.3**	**-2.2**
MFS	**McCloud Flat S**	**0.30**	**331**		**Pg**	**03 57 56.6**	**-2.1**
MFS					**Sg**	**03 58 01.0**	**-1.7**
LRMC	**Laurel Mtn Rad**	**0.38**	**181**		**Pg**	**03 57 58.4**	**-1.8**
CCCA	**Chr Cany lake**	**0.42**	**142**		**Pg**	**03 57 59.3**	**-1.6**
WORM	**Onyx Ranch**	**0.49**	**251**		**Pg**	**03 58 01.3**	**-0.9**
WORM					**Sg**	**03 58 06.8**	**-1.8**
WBSM	**Bird Springs**	**0.49**	**230**		**Pg**	**03 58 00.5**	**-1.9**
WBSM					**Sg**	**03 58 07.6**	**-1.3**
WHFM	**Hanning Flat**	**0.57**	**254**		**Pg**	**03 58 02.9**	**-0.8**
WHFM					**Sg**	**03 58 09.8**	**-1.5**
CWC	**Cottonwood Cre**	**0.67**	**331**		**Pg**	**03 58 04.2**	**-1.5**
QSM	**Queen of Sheba**	**0.67**	**80**	Pg	**Pg**	**03 58 03.3**	**-2.3**
QSM				Sg	**Sg**	**03 58 11.9**	**-2.4**
QSM				IAML		03 58 17.7	
	comp=E,25μm,0.7s						
QSM				IAML		03 58 20.1	
	comp=N,18μm,0.7s						
ISA	**Isabella, Lake**	**0.68**	**254**	Pg	**Pg**	**03 58 04.9**	**-0.9**
ISA				Sg	**Sg**	**03 58 12.8**	**-1.8**
ISA				IAML		03 58 14.1	
	comp=N,19μm,0.6s						
ISA				IAML		03 58 17.7	
	comp=E,11μm,0.5s						
WASM	**Alta Sierra Ca**	**0.72**	**261**		**Sg**	**03 58 14.6**	**-1.7**
CCAC	**Calif City Air**	**0.76**	**202**		**Pg**	**03 58 06.2**	**-1.0**
CCAC				Sg	**Sg**	**03 58 16.6**	**-0.5**
CCAC				IAML		03 58 18.0	
	comp=N,23μm,0.5s						
CCAC				IAML		03 58 18.0	
	comp=E,22μm,0.6s						
GWY	**Greenwater Val**	**0.88**	**68**		**Pg**	**03 58 08.8**	**-0.9**
GWY				IAML		03 58 26.3	
	comp=E,12μm,0.6s						
GWY				IAML		03 58 26.4	
	comp=N,17μm,0.5s						
GWY	**Greenwater Val**	**0.88**	**68**		**Sg**	**03 58 18.7**	**-2.5**
FURC	**Furnace Creek,**	**0.90**	**47**		**Pg**	**03 58 06.4**	**-3.6**
GSC	**Goldstone, Bar**	**0.90**	**128**	Pg	**Pg**	**03 58 07.6**	**-2.5**
GSC				Sg	**Sg**	**03 58 21.4**	**-0.5**
GSC				IAML		03 58 23.9	
	comp=N,13μm,0.7s						
SPG2	**Springville 2**	**0.95**	**292**		**Pg**	**03 58 08.3**	**-2.6**
SPG2					**Sg**	**03 58 21.1**	**-2.2**
EDW2	**Edwards Air Fo**	**1.01**	**195**		**Pg**	**03 58 10.1**	**-2.0**
EDW2					**Sg**	**03 58 24.5**	**-0.7**
TEJ	**El Tejon**	**1.03**	**233**		**Pg**	**03 58 09.9**	**-2.7**
TEJ					**Sg**	**03 58 24.4**	**-1.6**
GRAC	**Grapevine Rang**	**1.16**	**12**		**Pb**	**03 58 12.2**	**-2.7**
GRAC				IAML		03 58 32.6	
	comp=E,11μm,0.8s						
GRAC				IAML		03 58 34.5	
	comp=N,11μm,0.9s						
DSP	**Deep Springs**	**1.53**	**351**		**Pn**	**03 58 18.9**	**-1.1**
DSP				IAML		03 58 41.6	
	comp=E,4μm,0.6s						
TPNV	**Topopah Spring**	**1.59**	**46**		**Pn**	**03 58 20.1**	**-0.9**
TPNV				IAML		03 58 47.3	
	comp=E,6μm,0.6s						
TPNV				IAML		03 58 48.9	
	comp=E,5μm,1.2s						
BFSC	**Mount Baldy Ra**	**1.61**	**179**		**Sg**	**03 58 43.4**	**-1.2**
SS2	**San Sevaine**	**1.65**	**175**		**Pg**	**03 58 23.2**	**-1.2**
BCW	**Bitter Crk WRg**	**1.69**	**238**		**Pn**	**03 58 21.8**	**-0.5**
PASC	**Pasadena Art C**	**1.73**	**194**		**Pn**	**03 58 21.8**	**-1.1**
PASC				IAML		03 58 57.4	
	comp=E,3μm,0.8s						
MLSC	**Mira Loma**	**1.85**	**177**		**Pg**	**03 58 27.3**	**-0.9**
SHPR	**Sheep Range**	**2.14**	**72**		**Pn**	**03 58 28.4**	**-0.2**
ELS	**Elsinore Mount**	**2.21**	**175**	Pn	**Pn**	**03 58 29.8**	**+0.2**
ELS				IAML		03 59 10.5	
	comp=E,1μm,0.6s						
TPH	**Tonopah**	**2.24**	**9**		**Pb**	**03 58 33.7**	**+0.2**
V12A	**Nelson**	**2.30**	**92**		**Pn**	**03 58 31.7**	**+0.9**
V12A				IAML		03 59 07.9	
	comp=N,2μm,0.6s						
V12A				IAML		03 59 12.8	
	comp=E,2μm,0.8s						
PFO	**Pinyon Flats O**	**2.46**	**156**	Pn	**Pb**	**03 58 34.4**	**-2.6**
	comp=E,266nm,0.5s,baz=337,slow=15,SNR=8.9						
PFO				Pg	**Pg**	**03 58 37.9**	**-1.9**
	comp=E,81nm,0.3s,baz=333,slow=14,SNR=9.7						
PFO				Lg	Lg	03 59 10.2	
	comp=E,193nm,0.3s,baz=260,slow=18,SNR=9.5						
PMPB	**Monarch Peak**	**2.56**	**279**		**Pb**	**03 58 36.6**	**-2.1**
NV11	**Mina Array Sit**	**2.60**	**352**		**Pb**	**03 58 40.0**	**+0.6**
NVAR	**Mina Array Bea**	**2.62**	**349**		**Pb**	**03 58 39.8**	**0.0**
NVAR	**Mina Array Bea**	**2.62**	**349**	Pg	**Pb**	**03 58 40.0**	**+0.2**
	comp=E,268nm,0.3s,baz=166,slow=16,SNR=33						
NVAR				Lg	Lg	03 59 12.7	
	comp=E,114nm,0.3s,baz=168,slow=31,SNR=2.6						
PRN	**Pahroc Range**	**2.62**	**53**		**Pb**	**03 58 39.8**	**0.0**
PRN				IAML		03 59 21.4	
	comp=E,2μm,1.1s						
PRN				IAML		03 59 25.9	
	comp=N,2μm,1.0s						
R11B	**Troy Canyon, C**	**3.00**	**33**		**Pb**	**03 58 45.6**	**-0.6**
CMB	**Columbia Colle**	**3.07**	**316**		**Pb**	**03 58 44.2**	**-3.3**
CMB

comp=N,11nm,0.4s
X18A Snowflake 6.46 100 Pn 03 59 29.6 +1.5
YBH Yreka Blue Hor 7.06 328 Lg Lg 04 01 31.9
baz=185,slow=18,SNR=1.6
BSUT Blindstream Ca 7.17 47 Pn **Pn 03 59 40.6 +2.7**
L04D Klamath Falls 7.30 332 Pn **Pn 03 59 43.3 +3.8**
ANMO Albuquerque 9.21 92 Pn **Pn 04 00 05.2 -0.6**
comp=N,0.2nm,0.3s,baz=277,slow=17,SNR=2.4
ANMO Pg 04 00 38.6
comp=N,1.2nm,0.3s,baz=5.6,slow=7.1,SNR=8.1
ANMO Lg Lg 04 02 37.0
comp=N,0.3nm,0.3s,baz=262,slow=11,SNR=3.1
comp=N,6.2nm,0.8s
PDAR Pinedale Array 9.33 40 Pn **Pn 04 00 08.1 +0.6**
comp=N,0.1nm,0.3s,baz=218,slow=14,SNR=2.6
PDAR Lg Lg 04 02 40.4
comp=N,0.1nm,0.3s,baz=80,slow=27,SNR=1.7
comp=N,3.2nm,0.9s
TXAR Lajitas Array 13.48 115 Pn **Pn 04 01 04.6 +0.5**
comp=N,0.1nm,0.3s,baz=291,slow=13,SNR=4.2
comp=N,0.8nm,0.6s
FFC Flin Flon 21.77 25 P 04 02 44.1 -0.3
YKA Yellowknife Ar 26.73 3 P **P 04 03 34.5 +2.5**
comp=N,0.8nm,0.8s,baz=189,slow=9.0,SNR=6.9
comp=N,0.8nm,0.8s
ILAR Eielson Array 33.82 338 P **P 04 04 36.5 +1.7**
comp=N,0.8nm,0.9s,baz=153,slow=8.6,SNR=8.3
comp=N,0.8nm,0.9s
PETK Petropavlovsk- 59.26 316 P **P 04 07 54.6 +0.5**
comp=N,1.4nm,0.6s,baz=68,slow=9.0,SNR=3.6
comp=N,1.4nm,0.6s
BVAR Borovoye Array 91.21 355 P **P 04 11 01.1 +3.3**
comp=N,1.3nm,0.8s,baz=352,slow=4.5,SNR=4.5
comp=N,1.3nm,0.8s

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*SJA **06** 03:58:13.8±1.0, 27°.33S×66°.73W, h23km±7km, ML4.4, MW4.5*
*NEIC **06** 03:58:17.7±2.3, 27°.47S±0°.01×66°.73W±0°.08, h34km±7km, mb4.8/5, Error ellipse: s-maj=10.8km s-min=2.1km az=86.0*
*IDC **06** 03:58:19.6±3.6, 27°.43S×66°.63W, h55km±30km, mb4.0/4, mbtmp4.1/7, ML3.7/3, Error ellipse: s-maj=39.2km s-min=23.5km az=96.0*
ISC 06 03:58:13.8±0.5, 27°.33S±0°.02×66°.75W±0°.04, h10km, n74, σ1s74/91, mb4.9/3, 1C-1D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FSA	**Cafayete**	**1.39**	**30**	*eP*	**Pg**	**03 58 40.8**	**+0.2**
FSA				*eS*	**Sg**	**03 58 59.0**	**+0.4**
CYA	**Choya**	**1.40**	**143**	*eP*	**Pg**	**03 58 40.3**	**-0.2**
CYA				*i* S	**Sg**	**03 58 58.8**	**0.0**
CYA				IAML		03 58 59.3	
	comp=Z,10μm,0.5s						
VCA	**Vinchina**	**1.90**	**222**	*eP*	**Pn**	**03 58 47.4**	**+0.9**
VCA				*i* S	**Sb**	**03 59 12.5**	**-0.1**
VCA				IAML		03 59 14.7	
	comp=Z,8μm,0.3s						
ACLC	**CERRO LA CRUZ**	**2.10**	**185**	*i* P	**Pn**	**03 58 49.7**	**+0.5**
ACLC				*eS*	**Sb**	**03 59 18.5**	**+0.2**
ACLC				IAML		03 59 20.4	
	comp=Z,3μm,0.6s						
AC02	**Maricunga**	**2.17**	**282**		**Pb**	**03 58 53.0**	**-0.5**
AC02	**Maricunga**	**2.17**	**282**	*eP*	**Pb**	**03 58 52.7**	**-0.8**
AC02				*eS*	**Sb**	**03 59 20.2**	**-0.5**
AGUA	**GUANDACOL**	**2.64**	**215**	*eP*	**Pn**	**03 58 58.1**	**+1.5**
AGUA				*i* S	**Sb**	**03 59 34.1**	**+0.2**
AGUA				IAML		03 59 35.5	
	comp=Z,3μm,0.4s						
SLA	**San Lorenzo**	**2.83**	**24**	*eP*	**Pb**	**03 59 02.5**	**-2.0**
SLA				IAML		03 59 58.3	
	comp=Z,579nm,0.6s						
APLL	**PUNTA DE LOS L**	**3.06**	**176**	*i* P	**Pn**	**03 59 01.8**	**-0.6**
APLL				*i* S	**Sb**	**03 59 47.8**	**+1.8**
GO03	**Copiapo**	**3.10**	**264**		**Pn**	**03 59 04.5**	**+1.6**
GO03	**Copiapo**	**3.10**	**264**	*eP*	**Pb**	**03 59 08.1**	**-1.0**
GO03				⇓*eS*	**Sb**	**03 59 47.5**	**+0.4**
SALTA		**3.11**	**7**	*eP*	**Pb**	**03 59 08.2**	**-1.3**
SALTA				*eS*	**Sg**	**03 59 54.3**	**+0.5**
SALTA				IAML		03 59 55.1	
	comp=Z,434nm,2.6s						
AC06	**Mina Casimiro**	**3.20**	**269**		**Pn**	**03 59 05.9**	**+1.7**
GO02	**Mina Guanaco**	**3.33**	**310**		**Pb**	**03 59 10.3**	**-2.9**
GO02	**Mina Guanaco**	**3.33**	**310**	*eP*	**Pn**	**03 59 10.0**	**+3.7**
AVFE	**Valle Fertil**	**3.38**	**190**	*eP*	**Pn**	**03 59 06.3**	**-0.3**
AVFE				*eS*	**Sb**	**03 59 54.7**	**-0.3**
AVFE				IAML		03 59 60.0	
	comp=Z,1μm,0.4s						
ACDV	**Cuesta del Vie**	**3.52**	**216**	*i* P	**Pn**	**03 59 10.0**	**+1.4**
ACDV				*eS*	**Sb**	**04 00 00.3**	**+1.3**
ACDV				IAML		04 00 04.3	
	comp=Z,445nm,0.7s						
AC01	**Pan de Azucar**	**3.63**	**288**		**Pn**	**03 59 12.2**	**+2.0**
AROD	**Rodeo**	**3.70**	**219**	*eP*	**Pn**	**03 59 13.3**	**+1.9**
AROD				*i* S	**Sb**	**04 00 06.7**	**+2.1**
ACHE	**Chepes**	**3.82**	**179**	*eP*	**Pn**	**03 59 12.5**	**-0.4**
ACHE				*ePg*	**Pg**	**03 59 26.8**	**-0.2**
ACHE				*eS*	**Sb**	**04 00 10.2**	**+2.3**
ACCO	**Cerro Coronel**	**3.83**	**211**	*eP*	**Pn**	**03 59 14.0**	**+0.9**
ACCO				*eS*	**Sn**	**04 00 00.6**	**+2.2**
LCO	**Las Campanas**	**3.87**	**243**		**Pn**	**03 59 14.6**	**+1.0**
LCO	**Las Campanas**	**3.87**	**243**	*eP*	**Pn**	**03 59 14.4**	**+0.8**
LCO				IAML		04 00 12.7	
	comp=Z,354nm,0.7s						
AC04	**Llanos de Chal**	**3.93**	**256**		**Pn**	**03 59 14.5**	**+0.3**
CO01	**Juntas del Tor**	**3.95**	**227**		**Pn**	**03 59 17.4**	**+2.8**
CO01	**Juntas del Tor**	**3.95**	**227**	*eP*	**Pn**	**03 59 17.9**	**+3.2**
CO01				*eS*	**Sb**	**04 00 13.8**	**+2.2**
CO01				IAML		04 00 15.2	
	comp=Z,288nm,0.6s						
PB14	**IPOC Station P**	**4.24**	**308**		**Pn**	**03 59 20.7**	**+1.9**
PB14	**IPOC Station P**	**4.24**	**308**	*eP*	Pn	03 59 23.6	+4.8
ZON	**Zonda**	**4.53**	**201**		**Pn**	**03 59 22.9**	**+0.4**
ZON	**Zonda**	**4.53**	**201**	*i* P	**Pn**	**03 59 23.1**	**+0.6**
ZON				IAML		04 00 36.4	
	comp=Z,180nm,1.5s						
GO04	**Tololo Observa**	**4.54**	**230**		**Pn**	**03 59 23.7**	**+0.8**
GO04	**Tololo Observa**	**4.54**	**230**	*eP*	**Pn**	**03 59 24.0**	**+1.1**
CO05	**La Serena**	**4.71**	**236**		**Pn**	**03 59 24.6**	**-0.3**
CO03	**El Pedregal**	**4.91**	**224**		**Pn**	**03 59 29.0**	**+1.3**
CO03	**El Pedregal**	**4.91**	**224**	*i* P	**Pn**	**03 59 28.3**	**+0.6**
CO03				IAML		04 00 54.4	
	comp=Z,190nm,0.7s						
ACAN	**Cantantal**	**4.95**	**184**	*i* P	**Pn**	**03 59 28.4**	**+0.2**
ACAN				*ePg*	**Pb**	**03 59 43.7**	**+3.2**
ACAN				*eS*	**Sg**	**04 00 47.6**	**-5.1**
RTLS	**Leoncito**	**4.98**	**206**	*i* P	**Pn**	**03 59 30.1**	**+1.2**
MRA	**San Martin**	**5.16**	**170**	*i* P	**Pn**	**03 59 30.1**	**-1.1**
MRA				IAML		04 01 07.1	
	comp=Z,418nm,0.5s						
CO02	**Combarbal**	**5.36**	**223**		**Pn**	**03 59 34.1**	**+0.2**
CO02	**Combarbal**	**5.36**	**223**	*i* P	**Pn**	**03 59 33.6**	**-0.3**
CO02				*eS*	**Sb**	**04 00 56.3**	**+4.3**
CO02				IAML		04 01 00.1	
	comp=Z,317nm,0.9s						
CO06	**Fray Jorge**	**5.42**	**231**		**Pn**	**03 59 33.3**	**-1.4**
PB05	**IPOC Station P**	**5.44**	**324**		**Pn**	**03 59 33.8**	**-1.3**
PB03	**IPOC Station P**	**5.92**	**332**		**Pn**	**03 59 43.9**	**+2.2**
PB09	**IPOC Station P**	**5.95**	**337**		**Pn**	**03 59 43.6**	**+1.4**
VA03	**San Esteban**	**6.34**	**210**		**Pn**	**03 59 47.0**	**-0.4**
MT08	**Bocatoma Ro**	**6.72**	**204**		**Pn**	**03 59 52.7**	**-0.1**
PEL	**Peldehue**	**6.72**	**209**		**Pn**	**03 59 52.4**	**-0.2**
MT16	**CCHEN**	**6.90**	**207**		**Pn**	**03 59 53.8**	**-1.2**
MT03	**Universidad Ad**	**6.95**	**207**		**Pn**	**03 59 55.6**	**-0.2**
MT02	**Curacav**	**7.02**	**212**		**Pn**	**03 59 54.9**	**-1.8**
BO04	**La Punta**	**7.42**	**206**		**Pn**	**04 00 01.5**	**-0.8**
TA02	**Huaiquique**	**7.67**	**336**		**Pn**	**04 00 06.9**	**+1.2**
BO01	**Tunca**	**7.97**	**207**		**Pn**	**04 00 07.5**	**-2.2**
BO02	**Sierra Bellavi**	**8.21**	**204**		**Pn**	**04 00 11.4**	**-1.6**
CPUP	**Villa Florida**	**8.48**	**85**		**Pn**	**04 00 17.9**	**+1.2**
CPUP	**Villa Florida**	**8.48**	**85**	P	**Pn**	**04 00 17.6**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=125,slow=12,SNR=13						
	comp=Z,2.3nm,0.5s						
BI02	**San Fabin de**	**10.07**	**201**	Pn	**Pn**	**04 00 35.0**	**-3.6**
LPAZ	**La Paz**	**11.06**	**353**	P	**Pn**	**04 00 56.5**	**+3.9**
	comp=Z,0.1nm,0.3s,baz=17,slow=9.8,SNR=1.5						
	comp=Z,1.3nm,0.6s						
TRQA	**Tornquist**	**11.43**	**161**	Pn	**Pn**	**04 00 55.0**	**-2.1**
PLTB	**Pedras Altas**	**12.27**	**114**	Pn	**Pn**	**04 01 07.0**	**-1.6**
SIV	**San Ignacio**	**12.45**	**26**	P	**Pn**	**04 01 15.2**	**+4.1**
	baz=243,slow=9.1,SNR=5.5						
	comp=Z,1.0nm,0.8s						

BDFB Brasilia 20.93 60 P Pn 04 02 59.3 -0.1
comp=Z,1.9nm,0.5s,baz=190,slow=8.1,SNR=3.6
comp=Z,1.9nm,0.5s
SNAA Sanae 56.16 160 P **P 04 07 52.1 -1.2**
SNAA IAmb IAmb 04 07 54.0
comp=Z,6.5nm,1.4s
SNAA Sanae 56.16 160 P **P 04 07 52.3 -1.0**
comp=Z,1.4nm,0.7s,baz=310,slow=11,SNR=8.6
comp=Z,1.4nm,0.7s
QSPA South Pole Qui 62.89 180 P **P 04 08 39.4 -0.6**
QSPA IAmb IAmb 04 08 39.9
comp=Z,26nm,1.8s
QSPA South Pole Qui 62.89 180 P **P 04 08 39.6 -0.4**
comp=Z,3.4nm,0.6s,baz=175,slow=6.6,SNR=12
comp=Z,3.4nm,0.6s
WVT Waverly 66.17 341 P **P 04 09 01.2 -0.3**
ERPA Erie 70.17 350 P **P 04 09 30.1 +3.6**
ERPA IAmb IAmb 04 09 36.1
comp=Z,14nm,1.4s
TORD Torodi Ar. Bea 77.58 68 P **P 04 10 07.9 -2.6**
comp=Z,16nm,1.0s,baz=253,slow=5.3,SNR=1.9
comp=Z,16nm,1.0s
ASAR Alice Springs 125.52 203 PKP **PKPdf 04 17 14.2 -1.7**
comp=Z,0.2nm,0.5s,baz=104,slow=1.8,SNR=2.0
WRA Warramunga Arr 128.76 206 PKP **PKPdf 04 17 20.6 -1.6**
comp=Z,0.7nm,1.0s,baz=193,slow=1.6,SNR=6.0
KURBB Kurchatov Arra 144.87 39 PKP **PKPab 04 17 49.8 -0.1**
comp=Z,1.4nm,0.5s,baz=304,slow=3.6,SNR=5.3
ZALV Zalesovo Beam 146.18 30 PKPbc **PKPdf 04 17 53.1 +0.2**
comp=Z,2.4nm,0.5s,baz=304,slow=2.0,SNR=9.1
MKAR Makanchi Array 148.87 43 PKPbc **PKPbc 04 18 00.9 -0.7**
comp=Z,1.5nm,0.7s,baz=299,slow=2.9,SNR=15

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*NEIC **06** 03:59:48.3±0.9, 35°.871N±0°.008×117°.72W±0°.01, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.3km az=11.0*
PAS 06 03:59:48.6±0.8, 35°.875N±0°.008×117°.714W±0°.005, h4km±2km, ML3.7/28, **ML3.6**/12(NEIC), **Error ellipse: s-maj=1.2km s-min=0.6km az=182.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOW	**Tower One**	**0.08**	**212**		Pg	03 59 50.7	+0.4
CLC	**China Lake**	**0.11**	**122**		Pg	03 59 51.0	0.0
CLC					Sg	03 59 52.8	+0.3
WVPM	**Volcano Peak E**	**0.11**	**312**		Pg	03 59 51.0	0.0
WVPM					Sg	03 59 52.9	+0.4
JRC2	**Joshua Ridge**	**0.13**	**324**		Pg	03 59 51.5	+0.1
JRC2					Sg	03 59 53.7	+0.5
WCSM	**Coso Springs S**	**0.16**	**344**		Pg	03 59 51.8	0.0
WCSM					Sg	03 59 54.2	+0.3
WNMM	**Nine Mile Cany**	**0.16**	**258**		Pg	03 59 51.9	+0.2
WNMM					Sg	03 59 54.7	+0.9
SRTC	**Snort**	**0.18**	**189**		Pg	03 59 52.7	+0.4
SRTC					Sg	03 59 56.2	+1.6
WRVM	**Rose V. Centra**	**0.20**	**313**		Pg	03 59 52.5	0.0
WRVM					Sg	03 59 55.5	+0.4
MPMC	**Manual Prospec**	**0.26**	**45**		Pg	03 59 53.7	0.0
MPMC					Sg	03 59 57.6	+0.5
MFS	**McCloud Flat S**	**0.27**	**335**		Pg	03 59 53.9	+0.1
MFS					Sg	03 59 57.7	+0.3
LRMC	**Laurel Mtn Rad**	**0.40**	**176**		Pg	03 59 56.1	-0.2
LRMC					Sg	04 00 01.8	+0.4
CCCA	**Chr Cany lake**	**0.45**	**141**		Pg	03 59 58.0	+0.7
WORM	**Onyx Ranch**	**0.47**	**248**		Pg	03 59 57.3	-0.3
WORM					Sg	04 00 03.6	0.0
WBSM	**Bird Springs**	**0.48**	**226**		Pg	03 59 57.8	-0.1
WBSM					Sg	04 00 04.3	+0.1
WHFM	**Hanning Flat**	**0.55**	**251**		Pg	03 59 58.9	-0.2
WHFM					Sg	04 00 04.4	+0.1
DTP	**Desert Tortois**	**0.62**	**190**		Pg	03 59 60.0	-0.5
DTP					Sg	04 00 08.7	+0.3
CWC	**Cottonwood Cre**	**0.64**	**332**		Pg	04 00 01.1	+0.3
CWC					Sg	04 00 09.3	+0.1
ISA	**Isabella, Lake**	**0.65**	**251**		Sg	04 00 09.6	0.0
ISA	**Isabella, Lake**	**0.65**	**251**	Pg	Pg	04 00 00.8	-0.3
ISA				IAML		04 00 10.9	
	comp=N,2μm,0.2s						
ISA				IAML		04 00 11.4	
	comp=E,2μm,0.2s						
QSM	**Queen of Sheba**	**0.69**	**82**	Pg	Pg	04 00 01.9	0.0
QSM				IAML		04 00 14.8	
	comp=N,3μm,0.6s						
QSM				IAML		04 00 15.5	
	comp=E,3μm,0.5s						
WASM	**Alta Sierra Ca**	**0.70**	**259**		Pg	04 00 01.8	-0.2
WASM					Sg	04 00 11.9	+0.8
CCAC	**Calif City Air**	**0.76**	**199**		Sg	04 00 13.3	+0.2
CCAC	**Calif City Air**	**0.76**	**199**	Pg	Pg	04 00 02.1	-1.1
SPG2	**Springville 2**	**0.91**	**291**		Pg	04 00 05.2	-1.0
SPG2					Sg	04 00 17.6	-0.4
GSC	**Goldstone, Bar**	**0.94**	**127**		Sg	04 00 18.3	-0.4
GSC	**Goldstone, Bar**	**0.94**	**127**	Pg	Pg	04 00 06.2	-0.4
GSC				IAML		04 00 20.9	
	comp=N,2μm,0.3s						
HYS	**Haystack Butte**	**1.02**	**173**		Pg	04 00 07.2	-0.9
TEJ	**El Tejon**	**1.02**	**231**		Sg	04 00 20.5	-1.0
VES	**Vestal, Richgr**	**1.11**	**269**		Pg	04 00 09.5	-0.5
GRAC	**Grapevine Rang**	**1.15**	**14**	Pg	Pg	04 00 10.2	-0.6
GRAC				IAML		04 00 27.1	
	comp=E,1μm,0.4s						
GRAC				IAML		04 00 32.6	
	comp=N,1μm,0.8s						
RRX	**Edison Barstow**	**1.16**	**149**		Pg	04 00 11.0	+0.2
ARVC	**Arvin**	**1.18**	**231**		Sg	04 00 08.2	-2.9
TJR	**Tejon Ranch**	**1.19**	**225**		Sg	04 00 26.2	-0.7
VOG	**Valley Oaks Go**	**1.42**	**289**		Pn	04 00 14.9	-0.2
BLCC	**Black Canyon**	**1.81**	**206**		Pn	04 00 18.8	-1.8
SVD	**Seven Oaks Dam**	**1.84**	**164**		Pb	04 00 23.2	+0.5

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*NEIC **06** 04:02:59.2±0.8, 35°.870N±0°.004×117°.728W±0°.007, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.2km az=145.0*
PAS 06 04:02:59.6±0.8, 35°.882N±0°.008×117°.716W±0°.009, h5km±2km, ML3.5/16, **ML3.1**/18(NEIC), **Error ellipse: s-maj=1.2km s-min=1.0km az=139.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOW	**Tower One**	**0.08**	**208**		Pg	04 03 01.9	+0.5
TOW					Sg	04 03 03.1	+0.4
WVPM	**Volcano Peak E**	**0.11**	**309**		Pg	04 03 01.9	0.0
WVPM					Sg	04 03 03.9	+0.5
CLC	**China Lake**	**0.12**	**124**		Pg	04 03 02.0	0.0
CLC					Sg	04 03 04.0	+0.3
JRC2	**Joshua Ridge**	**0.12**	**323**		Pg	04 03 04.4	+2.1
WCSM	**Coso Springs S**	**0.15**	**344**		Pg	04 03 02.8	+0.2
WCSM					Sg	04 03 05.1	+0.5
WNMM	**Nine Mile Cany**	**0.16**	**256**		Pg	04 03 02.8	+0.1
WRVM	**Rose V. Centra**	**0.19**	**312**		Pg	04 03 03.3	0.0
WRVM					Sg	04 03 06.3	+0.4
SRTC	**Snort**	**0.19**	**188**		Pg	04 03 03.8	+0.5
MPMC	**Manual Prospec**	**0.25**	**46**		Pg	04 03 04.6	0.0
MPMC					Sg	04 03 08.4	+0.4
MFS	**McCloud Flat S**	**0.26**	**334**		Pg	04 03 04.7	0.0
MFS					Sg	04 03 08.2	+0.1
LRMC	**Laurel Mtn Rad**	**0.40**	**176**		Pg	04 03 07.2	-0.2
LRMC					Sg	04 03 13.1	+0.4
WORM	**Onyx Ranch**	**0.47**	**247**		Sg	04 03 14.6	-0.1
WBSM	**Bird Springs**	**0.49**	**225**		Sg	04 03 15.6	+0.3
WHFM	**Hanning Flat**	**0.55**	**250**		Sg	04 03 09.8	-0.3
WHFM					Sg	04 03 17.3	+0.1
CWC	**Cottonwood Cre**	**0.63**	**332**		Sg	04 03 20.3	+0.4
ISA	**Isabella, Lake**	**0.65**	**251**	Pg	Pg	04 03 11.3	-0.8
ISA				Sg	Sg	04 03 20.5	-0.1
ISA				IAML		04 03 20.8	
	comp=N,802nm,0.6s						
ISA				IAML		04 03 28.1	
	comp=E,742nm,0.3s						
QSM	**Queen of Sheba**	**0.69**	**83**		Pg	04 03 13.2	+0.3
QSM				Sg	Sg	04 03 22.4	+0.5
CCAC	**Calif City Air**	**0.77**	**199**		Sg	04 03 24.7	+0.4
GWY	**Greenwater Val**	**0.90**	**70**	Pg	Pg	04 03 16.8	-0.1
GWY				IAML		04 03 33.6	
	comp=E,870nm,0.3s						
GWY				IAML		04 03 34.2	
	comp=N,835nm,0.4s						
FURC	**Furnace Creek,**	**0.90**	**50**		Sb	04 03 29.6	-0.5
GSC	**Goldstone, Bar**	**0.94**	**128**		Sg	04 03 29.4	-0.4
GRAC	**Grapevine Rang**	**1.15**	**14**	Pg	Pg	04 03 21.1	-0.5
AMDNV	**Amargosa**	**1.29**	**63**		Sg	04 03 40.3	-0.8
GMN	**Gold Mountain**	**1.46**	**14**		Pn	04 03 26.9	+0.1
GMN				IAML		04 03 40.0	
	comp=N,166nm,0.6s						
GMN				IAML		04 03 49.8	
	comp=E,152nm,0.4s						
DSP	**Deep Springs**	**1.50**	**352**		Pn	04 03 27.4	+0.3
MZP	**Montezuma Peak**	**1.83**	**8**		Pb	04 03 33.4	-0.4
TPH	**Tonopah**	**2.22**	**10**		Pn	04 03 38.6	+1.3
TPH				IAML		04 03 50.2	
	comp=E,99nm,3.8s						
TPH				IAML		04 04 16.5	
	comp=N,103nm,4.6s						

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*NEIC **06** 04:05:27.4±0.7, 35°.655N±0°.008×117°.50W±0°.01, h5km±1km, Error ellipse: s-maj=2.0km s-min=1.5km az=83.0*
*NEIC **06** 04:06:13.8±1.0, 35°.582N±0°.005×117°.36W±0°.01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.6km az=218.0*
PAS 06 04:05:27.7±0.7, 35°.658N±0°.008×117°.49W±0°.01, h2km±1km, ML3.6/8, **ML3.6**/32(NEIC), **Error ellipse: s-maj=1.5km s-min=1.2km az=79.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCCA	**Chr Cany lake**	**0.17**	**143**		Pg	04 05 31.7	+0.8
CCCA					Sg	04 05 34.0	+0.9
CLC	**China Lake**	**0.18**	**330**		Sg	04 05 34.3	+0.6
LRMC	**Laurel Mtn Rad**	**0.24**	**222**		Pg	04 05 32.6	+0.3
LRMC					Sg	04 05 35.9	+0.5
MPMC	**Manual Prospec**	**0.40**	**360**		Pg	04 05 35.4	-0.1
MPMC					Sg	04 05 41.4	+0.7
DTP	**Desert Tortois**	**0.49**	**217**		Sg	04 05 44.2	+0.8
QSM	**Queen of Sheba**	**0.59**	**58**		Pg	04 05 39.1	+0.1
QSM				Sg	Sg	04 05 47.2	+0.5
QSM				IAML		04 05 48.3	
	comp=E,2μm,0.3s						
GSC	**Goldstone, Bar**	**0.66**	**122**	Pg	Pg	04 05 40.4	0.0
GSC				Sg	Sg	04 05 49.5	+0.6
GSC				IAML		04 05 49.8	
	comp=N,3μm,0.3s						
GSC				IAML		04 05 50.1	
	comp=E,3μm,0.4s						
CCAC	**Calif City Air**	**0.66**	**221**	Pg	Pg	04 05 40.8	+0.3
CCAC				Sg	Sg	04 05 49.1	0.0
GWY	**Greenwater Val**	**0.85**	**51**		Pg	04 05 43.9	-0.1
GWY				Sg	Sg	04 05 55.2	+0.2
GWY				IAML		04 05 59.4	
	comp=E,1μm,0.5s						
RRX	**Edison Barstow**	**0.88**	**153**		Pg	04 05 44.4	-0.1
EDW2	**Edwards Air Fo**	**0.88**	**208**		Pg	04 05 44.0	-0.6
WCT	**Wildcat Mounta**	**1.33**	**31**	Pg	Pg	04 05 52.2	-1.0
WCT				IAML		04 06 32.1	
	comp=E,1μm,0.5s						
WCT				IAML		04 06 33.9	
	comp=N,955nm,0.9s						
GRAC	**Grapevine Rang**	**1.34**	**4**	Pg	Pg	04 05 53.2	-0.2
GRAC				Sg	Sb	04 06 11.5	+0.3
GRAC				IAML		04 06 15.5	
	comp=N,2μm,0.7s						
PASC	**Pasadena Art C**	**1.59**	**201**		Pn	04 05 56.2	-0.7
SHPR	**Sheep Range**	**2.07**	**65**	Pn	Pn	04 06 03.1	-0.5
PFO	**Pinyon Flats O**	**2.21**	**157**	Pn	Pn	04 06 04.9	-0.7
PFO				IAML		04 07 23.7	
	comp=N,222nm,2.0s						
PFO				IAML		04 07 29.7	
	comp=N,238nm,0.7s						
S11A	**Rachel**	**2.43**	**35**	Pn	Pn	04 06 08.1	-0.5
LHV	**Little Huntoon**	**2.71**	**343**	Pn	Pn	04 06 12.7	+0.3
LHV				IAML		04 07 19.3	
	comp=N,292nm,1.4s						
LHV				IAML		04 07 25.0	
	comp=E,400nm,1.9s						
CPE	**Camp Elliot**	**2.78**	**173**	Pn	Pn	04 06 12.6	-0.7
NVAR	**Mina Array Bea**	**2.84**	**347**	Pn	Pn	04 06 14.2	-0.1
BBGB	**Big Mountain B**	**3.02**	**289**	Pn	Pn	04 06 16.4	-0.3
SCZ	**Santa Cruz**	**3.31**	**288**	Pn	Pn	04 06 20.7	+0.2
SCZ				IAML		04 08 27.9	
	comp=N,247nm,0.9s						

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*NEIC **06** 04:05:49.7±0.8, 35°.93N±0°.01×117°.717W±0°.009, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.3km az=357.0*
*PAS **06** 04:05:49.9±0.5, 35°.917N±0°.008×117°.71W±0°.01, h2km±1km, ML3.9/9, ML4.1/24(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=121.0*
*IDC **06** 04:05:56.6±2.4, 37°.24N×117°.98W, h0km, mbtmp3.1/5, ML3.5/4, Error ellipse: s-maj=30.5km s-min=9.3km az=56.0*
ISC 06 04:05:50.1±1.1, 35°.91N±0°.03×117°.70W±0°.02, h2km±14km, n32, σ0s72/37, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WVPM	**Volcano Peak E**	**0.10**	**290**		**Pg**	**04 05 52.0**	**-0.2**
WVPM					**Sg**	**04 05 53.8**	**+0.2**
JRC2	**Joshua Ridge**	**0.11**	**307**		**Pg**	**04 05 52.2**	**-0.2**
JRC2					**Sg**	**04 05 54.1**	**+0.2**
WCSM	**Coso Springs S**	**0.13**	**333**		**Pg**	**04 05 52.4**	**-0.2**
WCSM					**Sg**	**04 05 54.3**	**0.0**
WRVM	**Rose V. Centra**	**0.18**	**301**		**Pg**	**04 05 53.5**	**-0.2**
WRVM					**Sg**	**04 05 56.3**	**+0.2**
WNMM	**Nine Mile Cany**	**0.18**	**247**		**Pg**	**04 05 53.5**	**-0.2**
MPMC	**Manual Prospec**	**0.22**	**49**		**Pg**	**04 05 54.4**	**0.0**
MPMC					**Sg**	**04 05 58.0**	**+0.7**
MFS	**McCloud Flat S**	**0.24**	**328**		**Pg**	**04 05 54.6**	**-0.1**
MFS					**Sg**	**04 05 57.8**	**-0.1**
LRMC	**Laurel Mtn Rad**	**0.43**	**178**		**Sg**	**04 06 05.0**	**+0.9**
WORM	**Onyx Ranch**	**0.49**	**244**		**Sg**	**04 06 05.8**	**-0

comp=E,0.1nm,0.3s,baz=287,slow=13,SNR=2.2
comp=E,1.3nm,0.8s
PDAR Pinedale Array 9.30 40 Pn **Pn** 04 08 02.8 **-2.7**
comp=E,0.1nm,0.3s,baz=232,slow=24,SNR=1.7
comp=E,0.3nm,0.5s
NEW Newport 12.35 2 Pn Pn 04 08 36.9 -10
comp=E,0.1nm,0.3s,baz=180,slow=19,SNR=3.2
comp=E,0.4nm,0.4s
TXAR Lajitas Array 13.52 115 Pn P 04 09 23.1 +11
comp=E,0.1nm,0.3s,baz=296,slow=13,SNR=4.3
comp=E,0.1nm,0.4s

PAS 06 04:06:14.6±1.0, 35°58'N±0'008×117°37'W±0'01, h6km±1km, ML4.0/45, ML3.9/14(NEIC), Error ellipse: s-maj=1.4km s-min=0.9km az=46.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.05**	**172**		Pg	04 06 16.4	+0.3
CCCA					Sg	04 06 18.1	+0.8
LRMC	**Laurel Mtn Rad**	**0.27**	**249**		Pg	04 06 19.9	0.0
LRMC					Sg	04 06 24.0	+0.5
MPMC	**Manual Prospec**	**0.49**	**349**		Pg	04 06 23.6	-0.4
MPMC					Sg	04 06 30.4	0.0
DTP	**Desert Tortois**	**0.49**	**231**		Pg	04 06 23.9	-0.3
DTP					Sg	04 06 30.6	0.0
GSC	**Goldstone, Bar**	**0.54**	**121**		Pg	04 06 24.3	-0.7
GSC				Sg	Sg	04 06 32.2	+0.2
GSC				IAML		04 06 32.5	
	comp=N,11μm,0.5s						
QSM	**Queen of Sheba**	**0.56**	**47**	Pg	Pg	04 06 25.4	0.0
QSM				Sg	Sg	04 06 32.6	-0.2
QSM				IAML		04 06 33.5	
	comp=N,6μm,0.6s						
QSM				IAML		04 06 33.5	
	comp=E,6μm,0.5s						
CCAC	**Calif City Air**	**0.68**	**231**	Pg	Pg	04 06 27.4	-0.1
CCAC				Sg	Sg	04 06 37.1	+0.7
CCAC				IAML		04 06 41.0	
	comp=E,5μm,0.3s						
WORM	**Onyx Ranch**	**0.72**	**280**		Pg	04 06 27.3	-1.1
WORM					Sg	04 06 37.3	-0.4
RRX	**Edison Barstow**	**0.77**	**156**		Pg	04 06 28.9	-0.4
GWY	**Greenwater Val**	**0.83**	**43**		Pg	04 06 30.3	-0.3
GWY				Sg	Sg	04 06 41.0	-0.5
GWY				IAML		04 06 44.1	
	comp=E,5μm,0.4s						
GWY				IAML		04 06 44.9	
	comp=N,4μm,0.3s						
ISA	**Isabella, Lake**	**0.90**	**276**		Pg	04 06 31.4	-0.5
ISA				IAML		04 06 46.0	
	comp=N,3μm,0.5s						
PASC	**Pasadena Art C**	**1.55**	**206**		Pn	04 06 42.2	-0.6
GMN	**Gold Mountain**	**1.72**	**3**	Pn	Pn	04 06 44.5	-0.8
BCW	**Bitter Crk WRg**	**1.79**	**250**	Pn	Pn	04 06 45.7	-0.3
ELS	**Elsinore Mount**	**1.93**	**181**	Pn	Pn	04 06 47.5	-0.4
W13A	**Hualapai Mount**	**2.89**	**99**	Pn	Pn	04 06 59.0	-2.4

*NEIC **06** 04:07:03.9±1.3, 35°.554N±0'.009×117°.527W±0'.010, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.6km az=35.0*
*IDC **06** 04:07:03.8±0.7, 35°.52N×117°.35W, h0km, mb3.8/8, mbtmp3.8/16, ML4.1/7, Error ellipse: s-maj=13.2km s-min=6.1km az=69.0*
*PAS **06** 04:07:04.6±1.1, 35°.555N±0'.009×117°.522W±0'.010, h6km±1km, ML5.0/249, mb4.2/27(NEIC), ML4.6/58(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=205.0*

ISC 06 04:07:04.2±1.0, 35°55'N±0'.01×117°52'W±0'.02, h1km±8km, n141, σ1.901/157, mb4.2/15, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.13**	**100**		**Pg**	**04 07 07.7**	**+1.0**
CCCA					**Sg**	**04 07 10.0**	**+1.7**
LRMC	**Laurel Mtn Rad**	**0.15**	**243**		**Pg**	**04 07 07.7**	**+0.6**
LRMC					**Sg**	**04 07 10.3**	**+1.2**
SRTC	**Snort**	**0.24**	**307**		**Pg**	**04 07 09.1**	**+0.3**
SRTC					**Sg**	**04 07 09.4**	**-2.5**
CLC	**China Lake**	**0.28**	**346**		**Pg**	**04 07 09.7**	**+0.2**
CLC					**Sg**	**04 07 13.6**	**+0.5**
TOW	**Tower One**	**0.33**	**323**		**Pg**	**04 07 11.4**	**+0.8**
DTP	**Desert Tortois**	**0.39**	**224**		**Pg**	**04 07 11.8**	**+0.1**
DTP					**Sg**	**04 07 17.6**	**+0.9**
WNMM	**Nine Mile Cany**	**0.43**	**313**		**Pg**	**04 07 12.8**	**+0.3**
WVPM	**Volcano Peak E**	**0.47**	**329**		**Pg**	**04 07 13.5**	**+0.2**
WVPM					**Sg**	**04 07 19.4**	**+0.1**
JRC2	**Joshua Ridge**	**0.49**	**331**		**Pg**	**04 07 13.6**	**-0.1**
JRC2					**Sg**	**04 07 19.9**	**-0.2**
WBSM	**Bird Springs**	**0.51**	**269**		**Pg**	**04 07 13.9**	**0.0**
WBSM					**Sg**	**04 07 21.8**	**+1.2**
MPMC	**Manual Prospec**	**0.51**	**3**		**Pg**	**04 07 13.9**	**-0.1**
MPMC					**Sg**	**04 07 21.3**	**+0.6**
WCSM	**Coso Springs S**	**0.52**	**337**		**Pg**	**04 07 14.2**	**-0.1**
WCSM					**Sg**	**04 07 21.4**	**+0.5**
WRVM	**Rose V. Centra**	**0.55**	**327**		**Pg**	**04 07 14.9**	**+0.1**
CCAC	**Calif City Air**	**0.57**	**226**		**Sg**	**04 07 23.5**	**+1.0**
CCAC	**Calif City Air**	**0.57**	**226**	Pg	**Pg**	**04 07 15.0**	**-0.1**
CCAC				IAML		04 07 24.2	
	comp=N,61μm,0.5s						
CCAC				IAML		04 07 29.3	
	comp=E,53μm,1.0s						
WORM	**Onyx Ranch**	**0.61**	**284**		**Pg**	**04 07 15.6**	**-0.3**
WORM					**Sg**	**04 07 24.0**	**+0.2**
GSC	**Goldstone, Bar**	**0.63**	**113**		**Sg**	**04 07 25.0**	**+0.5**
GSC	**Goldstone, Bar**	**0.63**	**113**		**Pg**	**04 07 16.3**	**0.0**
GSC				IAML		04 07 26.9	
	comp=N,14μm,0.5s						
GSC				IAML		04 07 31.6	
	comp=E,18μm,0.8s						
MFS	**McCloud Flat S**	**0.63**	**334**		**Pg**	**04 07 16.4**	**0.0**
MFS					**Sg**	**04 07 25.1**	**+0.5**
QSM	**Queen of Sheba**	**0.67**	**52**		**Pg**	**04 07 17.1**	**-0.1**
QSM					**Sg**	**04 07 26.0**	**+0.1**
QSM				IAML		04 07 28.1	
	comp=E,35μm,0.5s						
QSM				IAML		04 07 28.9	
	comp=N,43μm,0.4s						
HYS	**Haystack Butte**	**0.68**	**184**		**Pg**	**04 07 17.6**	**+0.3**
HYS					**Sg**	**04 07 27.2**	**+1.0**
WHFM	**Hanning Flat**	**0.69**	**283**		**Pg**	**04 07 17.2**	**-0.3**
WHFM					**Sg**	**04 07 26.7**	**+0.2**
EDW2	**Edwards Air Fo**	**0.77**	**211**		**Pg**	**04 07 19.1**	**+0.1**
EDW2					**Sg**	**04 07 29.0**	**0.0**
ISA	**Isabella, Lake**	**0.79**	**279**		**Pg**	**04 07 19.0**	**-0.3**
ISA				IAML		04 07 30.1	
	comp=N,16μm,0.7s						
ISA				IAML		04 07 30.6	
	comp=E,34μm,0.5s						
ISA	**Isabella, Lake**	**0.79**	**279**		**Sg**	**04 07 29.6**	**+0.1**
RRX	**Edison Barstow**	**0.79**	**147**		**Pg**	**04 07 19.4**	**-0.1**
RRX					**Sg**	**04 07 30.8**	**+1.0**
WASM	**Alta Sierra Ca**	**0.87**	**283**		**Pg**	**04 07 20.3**	**-0.6**
WASM					**Sg**	**04 07 31.8**	**-0.3**
TPO	**Tropico Hills**	**0.89**	**221**		**Pg**	**04 07 21.1**	**-0.1**
TPO					**Sg**	**04 07 33.1**	**+0.4**
SBB	**Saddle Back Bu**	**0.89**	**196**		**Pg**	**04 07 21.4**	**0.0**
SBB					**Sg**	**04 07 32.8**	**-0.1**
GWY	**Greenwater Val**	**0.94**	**47**		**Pg**	**04 07 22.3**	**0.0**
GWY					**Sg**	**04 07 34.4**	**0.0**
GWY				IAML		04 07 37.3	
	comp=N,25μm,0.5s						
VTV	**Victorville**	**1.00**	**171**		**Pg**	**04 07 23.4**	**+0.1**
VTV					**Sg**	**04 07 36.4**	**+0.1**
ADO	**Adelanto Recei**	**1.00**	**176**		**Pg**	**04 07 23.3**	**-0.1**
CWC	**Cottonwood Cre**	**1.00**	**333**		**Pg**	**04 07 23.4**	**-0.1**
TEJ	**El Tejon**	**1.01**	**252**		**Pg**	**04 07 23.0**	**-0.6**
TEJ					**Sg**	**04 07 36.1**	**-0.6**
CGO	**Cerro Gordo**	**1.03**	**347**		**Pg**	**04 07 23.8**	**-0.1**
FURC	**Furnace Creek,**	**1.06**	**30**		**Pg**	**04 07 24.6**	**0.0**
SHOC	**Shoshone, Teco**	**1.07**	**70**		**Pg**	**04 07 24.5**	**-0.2**
ALPC	**Antelope**	**1.07**	**217**		**Pg**	**04 07 24.7**	**-0.1**
ALPC					**Sg**	**04 07 38.4**	**-0.2**
LRRC	**Littlerock Res**	**1.10**	**202**		**Pb**	**04 07 25.2**	**-0.8**
LEOC	**Leona Valley**	**1.12**	**215**		**Pb**	**04 07 25.5**	**-0.9**
HOLC	**Holcomb Ridge**	**1.12**	**194**		**Pb**	**04 07 25.5**	**-0.9**
TJR	**Tejon Ranch**	**1.13**	**243**		**Pb**	**04 07 25.3**	**-1.2**
THC	**Tehachapi Micr**	**1.13**	**236**		**Pg**	**04 07 25.4**	**-0.6**
CJV	**Casa Juvan**	**1.14**	**207**		**Pb**	**04 07 25.8**	**-0.9**
ARVC	**Arvin**	**1.15**	**249**		**Pb**	**04 07 25.9**	**-1.0**
JNH	**Juniper Hills**	**1.15**	**198**		**Pb**	**04 07 26.2**	**-0.8**
MAGC	**SCE Magundon P**	**1.16**	**261**		**Pb**	**04 07 26.2**	**-0.9**
HEC	**Hector,Ludlow**	**1.21**	**126**		**Pb**	**04 07 26.2**	**-1.7**
SPG2	**Springville 2**	**1.21**	**303**		**Pb**	**04 07 26.1**	**-1.7**
DSCC	**Desert Studies**	**1.22**	**109**		**Pn**	**04 07 25.9**	**-2.5**
CHFC	**Chilao Flat St**	**1.28**	**199**		**Pn**	**04 07 28.1**	**-1.3**
TUQ	**Turquoise Moun**	**1.30**	**94**		**Pn**	**04 07 27.5**	**-2.2**
VES	**Vestal, Richgr**	**1.31**	**283**		**Pn**	**04 07 28.5**	**-1.1**
BFSC	**Mount Baldy Ra**	**1.31**	**185**		**Pn**	**04 07 28.3**	**-1.5**
BAKC	**Calstate**	**1.31**	**262**		**Pn**	**04 07 28.6**	**-1.0**
SIL	**Silver Peak**	**1.32**	**154**		**Pn**	**04 07 28.7**	**-1.3**
SS2	**San Sevaine**	**1.34**	**179**		**Pn**	**04 07 29.2**	**-0.8**
AMDNV	**Amargosa**	**1.35**	**48**		**Pn**	**04 07 29.5**	**-0.6**
OSI	**Osito Audit: C**	**1.36**	**227**		**Pn**	**04 07 29.4**	**-1.0**
BBRC	**Big Bear Solar**	**1.37**	**159**		**Pn**	**04 07 30.1**	**-0.6**
MWC	**Mount Wilson**	**1.39**	**199**		**Pn**	**04 07 29.4**	**-1.6**
PDE	**Pardee, Santa**	**1.41**	**219**		**Pn**	**04 07 30.2**	**-0.8**
WCT	**Wildcat Mounta**	**1.44**	**30**		**Pn**	**04 07 30.0**	**-1.5**
WCT				IAML		04 07 52.3	
	comp=E,5μm,0.6s						
HLNC	**Highland**	**1.44**	**170**		**Pn**	**04 07 30.6**	**-0.9**
CFSC	**Central Fire S**	**1.45**	**172**		**Pb**	**04 07 31.9**	**-0.1**
GRAC	**Grapevine Rang**	**1.45**	**5**		**Pn**	**04 07 30.6**	**-1.1**
GRAC				IAML		04 07 56.6	
	comp=E,9μm,0.7s						
GRAC				IAML		04 07 56.6	
	comp=N,10μm,0.9s						
DECC	**Green Verdugo**	**1.46**	**208**		**Pn**	**04 07 30.9**	**-0.8**
PSRC	**Puddingstone R**	**1.47**	**189**		**Pn**	**04 07 31.3**	**-0.5**
PASC	**Pasadena Art C**	**1.48**	**202**		**Pb**	**04 07 32.5**	**0.0**
PASC				IAML		04 07 56.0	
	comp=N,13μm,0.9s						
SGV	**South Grapevin**	**1.48**	**15**		**Pn**	**04 07 31.0**	**-1.2**
CACC	**Caltech Cellar**	**1.49**	**200**		**Pn**	**04 07 31.4**	**-0.7**
HLLC	**North Hollywoo**	**1.53**	**207**		**Pn**	**04 07 32.0**	**-0.7**
MLSC	**Mira Loma**	**1.54**	**181**		**Pn**	**04 07 31.6**	**-1.2**
CFT	**Crafton Hills**	**1.54**	**167**		**Pn**	**04 07 31.8**	**-1.1**
CHNC	**Chino**	**1.55**	**185**		**Pn**	**04 07 32.2**	**-0.7**
RVR	**Riverside**	**1.56**	**176**		**Pn**	**04 07 31.7**	**-1.3**
GR2C	**Griffith Obs.**	**1.56**	**205**		**Pn**	**04 07 32.2**	**-0.9**
GVRC	**Garvey Reservo**	**1.57**	**199**		**Pn**	**04 07 32.4**	**-0.9**
RSBC	**Riverside Bore**	**1.58**	**174**		**Pn**	**04 07 32.4**	**-0.9**
MTPC	**Mountain Pass**	**1.60**	**92**		**Pn**	**04 07 31.7**	**-2.1**
TIN	**Tinemaha, Big**	**1.61**	**339**		**Pn**	**04 07 32.5**	**-1.3**
DJJ	**Donna J Jenkin**	**1.63**	**208**		**Pn**	**04 07 33.1**	**-1.0**
BCW	**Bitter Crk WRg**	**1.67**	**249**		**Pn**	**04 07 34.9**	**+0.3**
BCW				IAML		04 07 58.8	
	comp=E,11μm,0.7s						
BCW				IAML		04 08 16.1	
	comp=N,9μm,0.7s						
LCH	**Last Change Ra**	**1.69**	**357**		**Pn**	**04 07 33.5**	**-1.5**
FULC	**Fullerton**	**1.70**	**191**		**Pn**	**04 07 33.8**	**-1.3**
BLAC	**Blackrock camp**	**1.74**	**147**		**Pn**	**04 07 35.0**	**-0.7**
GMN	**Gold Mountain**	**1.76**	**7**	Pn	**Pn**	**04 07 34.7**	**-1.4**
CRGC	**Crocker Grade**	**1.83**	**261**		**Pn**	**04 07 35.9**	**-1.0**
DSP	**Deep Springs**	**1.85**	**349**	Pn	**Pn**	**04 07 36.0**	**-1.2**
ELS	**Elsinore Mount**	**1.90**	**178**	Pn	**Pn**	**04 07 36.8**	**-1.0**
ELS				IAML		04 08 08.6	
	comp=E,3μm,0.8s						
ELS				IAML		04 08 08.8	
	comp=N,3μm,0.6s						
PFO	**Pinyon Flats O**	**2.12**	**155**	Pn	**Pn**	**04 07 39.1**	**-1.7**
	comp=N,85nm,0.3s,baz=339,slow=11,SNR=17						
PFO				Pg	**Pb**	**04 07 43.7**	**+0.2**
	comp=N,84nm,0.3s,baz=336,slow=11,SNR=10						
PFO				Lg	Lg	04 08 09.5	
	comp=N,91nm,0.3s,baz=315,slow=11,SNR=5.0						
	comp=N,562nm,0.6s						
MZP	**Montezuma Peak**	**2.15**	**3**	Pn	**Pn**	**04 07 40.5**	**-1.0**
TPH	**Tonopah**	**2.53**	**5**	Pn	**Pn**	**04 07 45.5**	**-1.2**
NV11	**Mina Array Sit**	**2.92**	**350**	Pn	**Pn**	**04 07 51.1**	**-0.9**
NVAR	**Mina Array Bea**	**2.94**	**348**	Pn	**Pn**	**04 07 51.7**	**-0.6**
	comp=N,110nm,0.3s,baz=170,slow=17,SNR=16						
NVAR				Pg	**Pb**	**04 07 58.6**	**+0.9**
	comp=N,109nm,0.3s,baz=168,slow=13,SNR=12						
NVAR				Lg	Lg	04 08 39.9	
	comp=N,37nm,0.3s,baz=218,slow=17,SNR=4.2						
	comp=N,33nm,0.5s						
TKX	**Tecate**	**3.07**	**165**		**Pb**	**04 07 57.5**	**-2.1**
TKX				IAML		04 08 45.1	
	comp=E,1μm,1.0s						
TKX				IAML		04 08 53.8	
	comp=N,1μm,1.1s						
RYN	**Ryan**	**3.18**	**346**	Pn	**Pn**	**04 07 54.6**	**-0.9**
Q09A	**Carvers**	**3.29**	**5**	Pn	**Pn**	**04 07 57.0**	**-0.1**
Q09A				IAML		04 09 14.7	
	comp=E,2μm,1.6s						
Q09A				IAML		04 09 17.3	
	comp=N,2μm,1.6s						
CBX	**Cerro Bola**	**3.30**	**167**	Pn	**Pn**	**04 07 56.7**	**-0.5**
Y14A	**Wickenburg**	**4.05**	**112**	Pn	**Pn**	**04 08 06.1**	**-1.3**
Y14A				IAML		04 09 24.6	
	comp=E,675nm,0.7s						
PAHR	**Pah Rah Range**	**4.41**	**341**	Pn	**Pn**	**04 08 12.3**	**0.0**
PAHR				IAML		04 09 43.8	
	comp=N,325nm,1.5s						
PAHR				IAML		04 09 59.7	
	comp=E,377nm,2.0s						
WUAZ	**Wupatki**	**5.01**	**89**	Pn	**Pn**	**04 08 20.8**	**+0.1**
WUAZ				IAML		04 09 52.4	
	comp=E,392nm,1.0s						
WUAZ				IAML		04 09 54.0	
	comp=E,351nm,1.1s						
X16A	**Lo Mia Camp, P**	**5.11**	**101**	Pn	**Pn**	**04 08 21.3**	**-0.9**
X16A				IAML		04 09 59.5	
	comp=N,314nm,1.1s						
X16A				IAML		04 10 10.0	
	comp=E,335nm,2.6s						
214A	**Organ Pipe Nat**	**5.31**	**131**	IAML		04 10 04.8	
	comp=E,416nm,2.7s						
214A				IAML		04 10 05.7	
	comp=N,464nm,1.6s						
ELK	**Elko**	**5.49**	**18**	Pn	**Pn**	**04 08 27.5**	**+0.1**
	comp=N,6.1nm,0.3s,baz=214,slow=14,SNR=4.9						
ELK				Sn	**Sn**	**04 09 29.6**	**-1.6**
	baz=189,slow=23						
ELK				Lg	Lg	04 09 57.1	
	comp=N,26nm,0.3s,baz=47,slow=6.3,SNR=9.9						
	comp=N,10nm,0.4s						
X18A	**Snowflake**	**6.29**	**97**	Pn	**Pn**	**04 08 38.8**	**+0.5**
TUC	**Tucson**	**6.46**	**118**		**Pn**	**04 08 38.6**	**-1.9**
YBH	**Yreka Blue Hor**	**7.39**	**328**	Pn	**Pn**	**04 08 55.9**	**+2.6**
	baz=128,slow=4.6,SNR=4.1						
YBH				Sn	**Sn**	**04 10 20.5**	**+2.7**
	baz=102,slow=5.7,SNR=2.1						
YBH				Lg	Lg	04 10 57.5	
	baz=135,slow=10.0,SNR=6.3						
L04D	**Klamath Falls**	**7.63**	**332**		**Pn**	**04 08 55.2**	**-1.4**
ANMO	**Albuquerque**	**9.07**	**91**	Pn	**Pn**	**04 09 14.7**	**-1.7**
	comp=N,1.8nm,0.7s,baz=4.7,slow=8.5,SNR=3.9						
ANMO				Lg	Lg	04 11 51.4	
	comp=N,0.4nm,0.3s,baz=150,slow=9.1,SNR=3.4						
PDAR	**Pinedale Array**	**9.49**	**38**	Pn	**Pn**	**04 09 21.6**	**-0.6**
	comp=N,0.3nm,0.3s,baz=225,slow=12,SNR=3.8						
PDAR				Lg	Lg	04 11 58.9	
	comp=N,0.2nm,0.3s,baz=189,slow=17,SNR=1.7						
	comp=N,1.6nm,0.9s						
HRY	**Holter Researc**	**11.94**	**19**		**Pn**	**04 09 57.0**	**+1.3**
LYMT	**Lyon Mountain**	**12.07**	**17**	Pn	**Pn**	**04 09 55.7**	**-1.7**
NEW	**Newport**	**12.71**	**1**	Pn	**Pn**	**04 10 08.4**	**+2.3**
	comp=N,0.1nm,0.3s,baz=187,slow=17,SNR=3.1						
NEW				Lg	Lg	04 13 38.4	
	comp=N,0.1nm,0.3s,baz=202,slow=8.6,SNR=3.3						
	comp=N,2.0nm,0.8s						
TXAR	**Lajitas Array**	**13.23**	**114**	Pn	**Pn**	**04 10 13.2**	**-0.2**
	comp=N,0.4nm,0.3s,baz=293,slow=12,SNR=20						
TXAR				Lg	Lg	04 13 57.5	
	comp=N,0.1nm,0.3s,baz=303,slow=24,SNR=7.4						
	comp=N,0.7nm,0.5s						
LLLB	**Lillooet**	**15.38**	**349**	IAmb	IAmb	04 11 04.5	
	comp=Z,10nm,1.1s						
WTFS	**Witchita Falls**	**15.78**	**91**		**Pn**	**04 10 47.2**	**-0.4**
WTFS				IAmb	IAmb	04 11 02.0	
	comp=Z,28nm,1.1s						
PLPT	**Palo Pinto**	**16.12**	**94**	IAmb	IAmb	04 11 02.6	
	comp=Z,22nm,0.9s						
E28A	**Huff**	**16.77**	**44**	IAmb	IAmb	04 11 09.8	
	comp=Z,28nm,1.1s						
833A	**Chaparral WMA,**	**16.97**	**110**	IAmb	IAmb	04 11 14.3	
	comp=Z,25nm,1.4s						
MDND	**Maddock**	**18.11**	**42**	IAmb	IAmb	04 11 28.0	
	comp=Z,26nm,1.0s						
BBB	**Bella Bella**	**18.27**	**339**	P	**P**	**04 11 19.7**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=165,slow=20,SNR=1.2						
	comp=Z,4.2nm,0.8s						
ULM	**Lac du Bonnet**	**21.50**	**40**		**P**	**04 11 52.0**	**-2.4**
ULM	**Lac du Bonnet**	**21.50**	**40**	P	**P**	**04 11 54.0**	**-0.4**
	comp=E,8.5nm,0.7s,baz=236,slow=12,SNR=10						
	comp=Z,8.5nm,0.7s						
FFC	**Flin Flon**	**22.00**	**25**		**P**	**04 11 59.2**	**-0.3**
EPLO	**Experimental L**	**22.37**	**44**	IAmb	IAmb	04 12 08.7	
	comp=Z,20nm,1.3s						
E38A	**The Farm, Brul**	**22.37**	**52**	IAmb	IAmb	04 12 19.6	
	comp=Z,12nm,0.9s						
DLBC	**Dease Lake**	**24.36**	**344**	P	**P**	**04 12 23.8**	**+0.3**
	comp=Z,0.3nm,1.0s,baz=132,slow=11,SNR=3.8						
	comp=Z,0.3nm,1.0s						
YKA	**Yellowknife Ar**	**27.03**	**3**	P	**P**	**04 12 48.1**	**+0.5**
	comp=Z,2.0nm,1.1s,baz=187,slow=9.3,SNR=9.2						
	comp=Z,2.0nm,1.1s						
ILAR	**Eielson Array**	**34.16**	**338**	P	**P**	**04 13 51.8**	**+1.2**
	comp=Z,1.1nm,1.0s,baz=152,slow=7.3,SNR=8.1						
	comp=Z,1.1nm,1.0s						
G26K	**Porcupine Rive**	**34.92**	**342**	IAmb	IAmb	04 14 05.0	
	comp=Z,5.9nm,1.0s						
MLY	**Manley**	**35.55**	**336**	IAmb	IAmb	04 14 16.5	
	comp=Z,2.5nm,0.9s						
K20K	**Telida**	**35.71**	**333**	P	**P**	**04 14 04.9**	**+0.9**
J20K	**Nowinta River**	**36.20**	**334**		**P**	**04 14 09.2**	**+1.1**
J20K				IAmb	IAmb	04 14 15.2	
	comp=Z,4.4nm,0.8s						
H21K	**Melozitna Rive**	**36.62**	**336**	IAmb	IAmb	04 14 23.5	
	comp=Z,2.8nm,0.9s						
J19K	**Poorman**	**36.64**	**333**		**P**	**04 14 12.9**	**+1.1**
K17K	**Iditarod**	**37.04**	**330**	IAmb	IAmb	04 14 25.1	
	comp=Z,4.6nm,0.9s						
PETK	**Petropavlovsk-**	**59.57**	**316**	P	**P**	**04 17 09.1**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=103,slow=12,SNR=1.7						
	comp=Z,1.8nm,0.8s						
LPAZ	**La Paz**	**69.61**	**129**	P	**P**	**04 18 15.4**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=358,slow=6.4,SNR=5.6						
	comp=Z,0.9nm,0.7s						
SONM	**Songino Array**	**88.17**	**332**	P	**P**	**04 19 58.1**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=35,slow=5.4,SNR=3.9						
	comp=Z,0.9nm,0.8s						
BVAR	**Borovoye Array**	**91.53**	**355**	P	**P**	**04 20 11.9**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=58,slow=5.4,SNR=2.0						
	comp=Z,0.2nm,0.3s						

*NEIC **06** 04:08:35.4±0.8, 35°.852N±0'.008×117°.68W±0'.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.5km az=85.0*

PAS 06 04:08:35.8±0.7, 35°.869N±0'.009×117°.667W±0'.007, h6km±1km, ML3.4/20, ML3.4/12(NEIC), Error ellipse: s-maj=1.4km s-min=0.5km az=205.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.08**	**133**		Pg	04 08 37.7	0.0
CLC					Sg	04 08 39.2	+0.1
TOW	**Tower One**	**0.10**	**233**		Pg	04 08 38.6	+0.6
TOW					Sg	04 08 41.0	+1.5
WVPM	**Volcano Peak E**	**0.15**	**303**		Pg	04 08 39.0	+0.1
WVPM					Sg	04 08 41.3	+0.3
JRC2	**Joshua Ridge**	**0.16**	**315**		Pg	04 08 39.2	0.0
JRC2					Sg	04 08 41.8	+0.4
WCSM	**Coso Springs S**	**0.18**	**333**		Pg	04 08 39.4	0.0
WCSM					Sg	04 08 42.0	+0.1
SRTC	**Snort**	**0.19**	**201**		Pg	04 08 40.0	+0.4
WNMM	**Nine Mile Cany**	**0.20**	**262**		Pg	04 08 39.8	+0.1
WNMM					Sg	04 08 42.8	+0.4
WRVM	**Rose V. Centra**	**0.23**	**308**		Pg	04 08 40.4	0.0
WRVM					Sg	04 08 43.6	+0.2
MPMC	**Manual Prospec**	**0.24**	**37**		Pg	04 08 40.5	-0.1
MPMC					Sg	04 08 44.1	+0.3
MFS	**McCloud Flat S**	**0.29**	**328**		Pg	04 08 41.5	-0.1
MFS					Sg	04 08 45.7	+0.2
LRMC	**Laurel Mtn Rad**	**0.39**	**182**		Pg	04 08 43.0	-0.4
LRMC					Sg	04 08 48.5	0.0
CCCA	**Chr Cany lake**	**0.42**	**144**		Pg	04 08 44.2	+0.2
CCCA					Sg	04 08 50.7	+1.2
WORM	**Onyx Ranch**	**0.50**	**250**		Pg	04 08 45.4	0.0
WORM					Sg	04 08 51.7	-0.3
WBSM	**Bird Springs**	**0.51**	**229**		Pg	04 08 45.3	-0.3
WBSM					Sg	04 08 52.2	0.0
WHFM	**Hanning Flat**	**0.58**	**253**		Pg	04 08 46.6	-0.4
WHFM					Sg	04 08 54.4	-0.2
QSM	**Queen of Sheba**	**0.66**	**81**	Pg	Pg	04 08 47.6	-0.8
QSM				IAML		04 09 07.4	
	comp=N,2μm,0.2s						
QSM				IAML		04 09 09.9	
	comp=E,2μm,0.4s						
CWC	**Cottonwood Cre**	**0.66**	**330**		Pg	04 08 48.5	-0.1
CWC					Sb	04 08 58.3

GATR	**Gnd/Air Tx Cnt**	**2.64**	**242**			Pn		04 11 21.9	+0.7
R11B	**Troy Canyon, C**	**3.02**	**33**	Pn		Pn		04 11 26.6	0.0

NEIC ***06*** *04:10:48.6±0.8, 35°.77N±0°.01×117°.59W±0°.02, h10km±1km, Error ellipse: s-maj=2.8km s-min=2.7km az=267.0*

PAS 06 04:10:49.0±0.6, 35°.78N±0°.01×117°.58W±0°.02, h10km±3km, ML3.9/7, ML3.8/18(NEIC), **Error ellipse: s-maj=2.3km s-min=1.9km az=86.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.04**	**340**		Pg	04 10 51.0	-0.1
CLC					Sg	04 10 52.7	0.0
SRTC	**Snort**	**0.16**	**238**		Pg	04 10 52.8	+0.2
LRMC	**Laurel Mtn Rad**	**0.31**	**196**		Pg	04 10 55.1	-0.2
LRMC					Sg	04 10 59.5	0.0
WRVM	**Rose V. Centra**	**0.34**	**313**		Pg	04 10 55.6	-0.3
WRVM					Sg	04 11 00.5	0.0
MFS	**McCloud Flat S**	**0.41**	**327**		Pg	04 10 56.9	-0.2
WBSM	**Bird Springs**	**0.51**	**242**		Sg	04 11 05.7	-0.2
WORM	**Onyx Ranch**	**0.55**	**262**		Sg	04 11 06.2	-0.7
DTP	**Desert Tortois**	**0.55**	**203**		Sg	04 11 06.6	-0.5
QSM	**Queen of Sheba**	**0.61**	**72**	Sg	Sg	04 11 08.9	+0.1
CCAC	**Calif City Air**	**0.72**	**210**	Sg	Sg	04 11 12.1	-0.2
GSC	**Goldstone, Bar**	**0.79**	**127**	Sg	Sg	04 11 14.4	-0.3
WASM	**Alta Sierra Ca**	**0.80**	**267**		Sg	04 11 14.5	-0.4
GRAC	**Grapevine Rang**	**1.23**	**8**		Pb	04 11 12.4	+0.1
GRAC				IAML		04 11 34.4	
	comp=E,3μm,0.5s						
GRAC				IAML		04 11 41.6	
	comp=N,3μm,1.1s						
WCT	**Wildcat Mounta**	**1.27**	**37**	Pn	Pn	04 11 12.5	-0.4
WCT					Sb	04 11 29.4	-0.2
WCT				IAML		04 11 44.5	
	comp=N,1μm,0.8s						
WCT				IAML		04 11 47.8	
	comp=E,1μm,0.5s						
GMN	**Gold Mountain**	**1.54**	**10**		Pn	04 11 16.6	-0.2
GMN					Sn	04 11 36.7	-0.2
GMN				IAML		04 11 51.4	
	comp=N,813nm,0.5s						
TPNV	**Topopah Spring**	**1.59**	**42**	Pn	Pn	04 11 17.0	-0.4
TPNV				IAML		04 11 57.5	
	comp=N,1μm,0.8s						
TPNV				IAML		04 11 57.7	
	comp=N,2μm,0.7s						
DSP	**Deep Springs**	**1.62**	**349**	Pn	Pn	04 11 18.3	+0.7
DSP				IAML		04 11 50.9	
	comp=E,980nm,0.6s						
DSP				IAML		04 11 51.7	
	comp=N,684nm,0.6s						
PASC	**Pasadena Art C**	**1.68**	**197**	Pn	Pb	04 11 19.6	-0.4
PASC				IAML		04 11 46.6	
	comp=E,1μm,0.5s						
BCW	**Bitter Crk WRg**	**1.71**	**241**	Pn	Pn	04 11 19.3	+0.3
MZP	**Montezuma Peak**	**1.93**	**5**		Pn	04 11 21.5	-0.6

NCEDC ***06*** *04:11:17.6±0.6, 37°.13N±0°.05×118°.65W±0°.02, h-0km±1km, Md3.0/8, ML3.2/10(NEIC), Error ellipse: s-maj=8.7km s-min=3.1km az=187.0*

NEIC 06 04:11:16.0±0.5, 37°.06N±0°.02×118°.58W±0°.03, h5km±2km, Error ellipse: s-maj=4.7km s-min=3.3km az=232.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCVM	**Convict Lake**	**0.56**	**340**		Pg	04 11 27.2	+0.3
MLCM	**Laurel Creek C**	**0.61**	**334**		Pg	04 11 28.2	+0.4
MGPM	**Gravel Pit**	**0.62**	**336**		Pg	04 11 28.6	+0.6
MCSM	**Casa Diablo Ho**	**0.65**	**336**		Pg	04 11 29.0	+0.5
MMPM	**Mammoth Pass**	**0.65**	**327**		Pg	04 11 28.9	+0.3
MRDM	**Red Cones**	**0.66**	**325**		Pg	04 11 28.9	+0.2
MEMM	**East Mammoth H**	**0.67**	**335**		Pg	04 11 29.4	+0.6
MLIM	**Lincoln Peak**	**0.67**	**329**		Pg	04 11 29.4	+0.5
MDYM	**Dry Creek**	**0.69**	**330**		Pg	04 11 29.6	+0.4
MDCM	**Deadman Creek**	**0.74**	**331**		Pg	04 11 30.6	+0.3
MZP	**Montezuma Peak**	**1.15**	**56**	Pg	Pg	04 11 37.5	-0.5
MZP				Sg	Sg	04 11 50.2	-2.7
MZP				IAML		04 11 55.3	
	comp=N,301nm,0.4s						
MZP				IAML		04 12 04.9	
	comp=E,397nm,0.7s						
TPH	**Tonopah**	**1.48**	**46**		Pn	04 11 43.7	+0.2
TPH				IAML		04 12 05.0	
	comp=E,2μm,0.8s						
TPH				IAML		04 12 20.1	
	comp=N,2μm,1.1s						
RYN	**Ryan**	**1.56**	**2**		Pn	04 11 43.9	-0.7
WAKR	**Walker**	**1.59**	**335**		Pb	04 11 45.9	-0.2
WAKR				IAML		04 11 58.2	
	comp=N,138nm,2.7s						
WAKR				IAML		04 12 35.8	
	comp=E,148nm,2.9s						
TKX	**Tecate**	**4.77**	**160**		Pn	04 12 29.9	+1.3

NEIC ***06*** *04:12:13.5±1.9, 35°.677N±0°.009×117°.484W±0°.007, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.5km az=196.0*

PAS 06 04:12:14.2±1.7, 35°.681N±0°.009×117°.50W±0°.01, h2km±3km, ML3.7/3, ML4.2/30(NEIC), **Error ellipse: s-maj=1.4km s-min=1.2km az=223.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.19**	**146**		Pg	04 12 17.6	-0.2
CCCA					Sg	04 12 20.6	+0.3
LRMC	**Laurel Mtn Rad**	**0.25**	**217**		Pg	04 12 18.6	-0.4
LRMC					Sg	04 12 22.4	0.0
WNMM	**Nine Mile Cany**	**0.37**	**296**		Sg	04 12 25.2	-0.9
WVPM	**Volcano Peak E**	**0.38**	**316**		Pg	04 12 21.4	0.0
WRVM	**Rose V. Centra**	**0.46**	**316**		Pg	04 12 22.8	-0.2
DTP	**Desert Tortois**	**0.50**	**215**		Pg	04 12 23.3	-0.5
MFS	**McCloud Flat S**	**0.52**	**326**		Pg	04 12 24.3	+0.1
WBSM	**Bird Springs**	**0.54**	**255**		Pg	04 12 24.3	-0.3
QSM	**Queen of Sheba**	**0.58**	**61**	Pg	Pg	04 12 21.7	-3.6
QSM	**Queen of Sheba**	**0.58**	**61**		Sg	04 12 32.8	-0.2
CCAC	**Calif City Air**	**0.68**	**219**		Pb	04 12 28.0	-0.7
ISA	**Isabella, Lake**	**0.80**	**269**		Pg	04 12 28.4	-1.1
ISA				IAML		04 12 40.4	
	comp=E,5μm,0.3s						
ISA				IAML		04 12 42.6	
	comp=N,5μm,0.4s						
HYS	**Haystack Butte**	**0.82**	**184**		Pg	04 12 29.8	0.0
GWY	**Greenwater Val**	**0.84**	**53**		Pg	04 12 30.2	0.0
GWY				IAML		04 12 47.5	
	comp=E,3μm,0.6s						
CWC	**Cottonwood Cre**	**0.89**	**328**		Pg	04 12 31.2	-0.1
EDW2	**Edwards Air Fo**	**0.90**	**207**		Pg	04 12 31.4	0.0
RRX	**Edison Barstow**	**0.90**	**153**		Pg	04 12 31.3	-0.1
SHOC	**Shoshone, Teco**	**1.01**	**77**		Pg	04 12 32.9	-0.8
ADO	**Adelanto Recei**	**1.13**	**177**		Sb	04 12 51.5	-0.1
ALPC	**Antelope**	**1.19**	**214**		Sg	04 12 52.5	0.0
TUQ	**Turquoise Moun**	**1.30**	**100**		Pg	04 12 37.4	-1.7
GRAC	**Grapevine Rang**	**1.32**	**4**	Pg	Pg	04 12 38.3	-1.1
GRAC				IAML		04 13 01.8	
	comp=E,2μm,0.4s						
GRAC				IAML		04 13 03.1	
	comp=N,3μm,0.8s						
BBRC	**Big Bear Solar**	**1.49**	**161**		Sg	04 13 01.9	-0.2
MTPC	**Mountain Pass**	**1.59**	**96**		Pn	04 12 40.9	-2.6
PASC	**Pasadena Art C**	**1.61**	**201**		Pn	04 12 42.0	-1.5
PASC				IAML		04 13 39.5	
	comp=N,3μm,0.4s						
PASC				IAML		04 13 41.1	
	comp=E,2μm,0.5s						
GMN	**Gold Mountain**	**1.63**	**7**		Pn	04 12 43.4	-0.6
GMN				IAML		04 13 41.7	
	comp=N,3μm,0.4s						
GMN				IAML		04 13 42.8	
	comp=E,2μm,0.6s						
DSP	**Deep Springs**	**1.73**	**347**		Pn	04 12 44.1	-1.1
DSP				IAML		04 13 45.5	
	comp=E,1μm,0.6s						
DSP				IAML		04 13 45.8	
	comp=N,2μm,0.5s						
BHPR	**Bishop**	**1.80**	**334**		Pb	04 12 48.1	+0.1
BACC	**Bachelor Mtn.**	**2.10**	**170**		Pn	04 12 48.2	-2.1
XPFO	**Pinon Flat**	**2.24**	**157**		Pn	04 12 49.7	-2.6
X16A	**Lo Mia Camp, P**	**5.12**	**102**	Pn	Pn	04 13 31.0	-1.0
214A	**Organ Pipe Nat**	**5.38**	**132**	Pn	Pn	04 13 32.2	-3.3
X18A	**Snowflake**	**6.29**	**98**	Pn	Pn	04 13 47.8	-0.3

IDC ***06*** *04:13:05.8±0.5, 35°.72N×117°.58W, h0km, mb4.4/24, mbtmp4.3/32, ML4.0/6, Error ellipse: s-maj=12.4km s-min=7.0km az=73.0*

NEIC ***06*** *04:13:06.5±1.2, 35°.592N±0°.004×117°.62W±0°.01, h10km±1km, Error ellipse: s-maj=2.9km s-min=1.8km az=345.0*

MOS ***06*** *04:13:06.5±0.9, 35°.63N×117°.60W, h13km, mb4.9/30, Error ellipse: s-maj=7.5km s-min=5.2km az=102.6*

PAS ***06*** *04:13:07.1±1.1, 35°.59N±0°.01×117°.62W±0°.01, h10km±3km, ML5.2/230, mb4.7/337(NEIC), ML4.9/110(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=210.0*

NEIC ***06*** *04:14:20.2±0.5, 35°.604N±0°.010×117°.404W±0°.008, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.8km az=173.0*

ISC 06 04:13:08.1±0.6, 35°.59N±0°.02×117°.65W±0°.02, h14km±3km, n685, σ1s30/614, mb4.7/184, **7C, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mtn Rad**	**0.11**	**192**		Pb	04 13 10.0	-2.0
LRMC					**Sb**	**04 13 12.3**	**-2.3**
SRTC	**Snort**	**0.13**	**324**		**Pb**	**04 13 10.8**	**-1.6**
SRTC					**Sb**	**04 13 13.3**	**-2.0**
CLC	**China Lake**	**0.23**	**11**		**Pb**	**04 13 11.7**	**-2.5**
CLC					**Sb**	**04 13 15.2**	**-3.0**
CLC	**China Lake**	**0.23**	**11**	P	**Pb**	**04 13 11.7**	**-2.5**
TOW	**Tower One**	**0.24**	**338**		**Pb**	**04 13 17.0**	**-1.4**
CCCA	**Chr Cany lake**	**0.24**	**104**		**Pb**	**04 13 11.7**	**-2.6**
CCCA					**Sb**	**04 13 15.3**	**-3.1**
WNMM	**Nine Mile Cany**	**0.33**	**322**		Pg	04 13 10.0	-4.8
WNMM					**Sb**	**04 13 13.1**	**-7.8**
DTP	**Desert Tortois**	**0.35**	**206**		Pg	04 13 14.0	-1.3
DTP					**Sg**	**04 13 18.8**	**-1.4**
WVPM	**Volcano Peak E**	**0.39**	**340**		**Pn**	**04 13 20.0**	**+0.6**
WBSM	**Bird Springs**	**0.40**	**263**		Pg	04 13 15.2	-1.0
WBSM					**Sg**	**04 13 21.3**	**-0.4**
JRC2	**Joshua Ridge**	**0.42**	**342**		**Pn**	**04 13 21.1**	**+1.3**
WCSM	**Coso Springs S**	**0.45**	**348**		**Pg**	**04 13 15.7**	**-1.4**
WCSM					**Sg**	**04 13 22.1**	**-1.2**
MPMC	**Manual Prospec**	**0.49**	**16**		**Pg**	**04 13 16.1**	**-1.8**
MPMC					**Sg**	**04 13 22.9**	**-1.6**
WORM	**Onyx Ranch**	**0.49**	**283**		**Pb**	**04 13 16.7**	**-1.9**
WORM					**Sb**	**04 13 23.6**	**-2.0**
CCAC	**Calif City Air**	**0.52**	**215**	Pg	Pb	04 13 17.3	-1.8
CCAC				Sg	**Sb**	**04 13 24.8**	**-1.7**
CCAC				IAML		04 13 25.4	
	comp=E,122μm,0.7s						
CCAC				IAML		04 13 25.7	
	comp=N,89μm,0.5s						
MFS	**McCloud Flat S**	**0.56**	**343**		**Pg**	**04 13 17.7**	**-1.4**
MFS					**Sg**	**04 13 25.5**	**-1.0**
WHFM	**Hanning Flat**	**0.58**	**281**		**Pb**	**04 13 18.3**	**-1.7**
WHFM					**Sb**	**04 13 26.3**	**-1.8**
ISA	**Isabella, Lake**	**0.67**	**277**	Pg	**Pb**	**04 13 20.1**	**-1.6**
ISA				Sg	**Sb**	**04 13 29.2**	**-1.6**
ISA				IAML		04 13 29.6	
	comp=N,59μm,0.8s						
HYS	**Haystack Butte**	**0.72**	**174**		Pb	04 13 20.3	-2.2
QSM	**Queen of Sheba**	**0.74**	**59**		**Pb**	**04 13 20.2**	**-2.5**
QSM	**Queen of Sheba**	**0.74**	**59**	Sg	**Sb**	**04 13 30.6**	**-2.2**
QSM				IAML		04 13 32.7	
	comp=N,71μm,0.7s						
GSC	**Goldstone, Bar**	**0.75**	**112**		**Pb**	**04 13 20.4**	**-2.5**
GSC				Sg	**Sb**	**04 13 30.5**	**-2.5**
GSC	**Goldstone, Bar**	**0.75**	**112**	P	**Pb**	**04 13 20.4**	**-2.5**
GSC						04 13 30.5	
WASM	**Alta Sierra Ca**	**0.75**	**282**		**Pb**	**04 13 21.4**	**-1.6**
WASM					**Sb**	**04 13 31.9**	**-1.3**
EDW2	**Edwards Air Fo**	**0.76**	**202**		Pb	04 13 21.2	-1.9
EDW2					**Sb**	**04 13 31.3**	**-1.9**
TPO	**Tropico Hills**	**0.85**	**214**		Pb	04 13 23.1	-1.5
TPO					**Sb**	**04 13 34.8**	**-1.1**
RRX	**Edison Barstow**	**0.89**	**143**		Pb	04 13 23.3	-2.0
RRX					**Sb**	**04 13 35.3**	**-1.7**
SBB	**Saddle Back Bu**	**0.91**	**189**		Pb	04 13 23.8	-1.8
SBB					**Sb**	**04 13 35.4**	**-2.1**
TEJ	**El Tejon**	**0.92**	**248**		**Sb**	**04 13 36.8**	**-1.1**
CWC	**Cottonwood Cre**	**0.92**	**338**		**Pb**	**04 13 24.3**	**-1.6**
CWC					Pn	04 13 36.8	+10
CGO	**Cerro Gordo**	**0.97**	**353**		**Pb**	**04 13 25.1**	**-1.8**
GWY	**Greenwater Val**	**1.00**	**53**		**Pb**	**04 13 24.8**	**-2.4**
GWY	**Greenwater Val**	**1.00**	**53**	IAML		04 13 40.6	
	comp=N,26μm,0.6s						
GWY				IAML		04 13 43.0	
	comp=E,42μm,0.5s						
ALPC	**Antelope**	**1.04**	**211**		Pn	04 13 26.4	-1.9
ADO	**Adelanto Recei**	**1.05**	**170**		Pn	04 13 26.4	-2.0
ADO					**Sb**	**04 13 41.8**	**+0.1**
VTV	**Victorville**	**1.06**	**165**		Pn	04 13 26.4	-2.1
VTV					**Sb**	**04 13 41.2**	**-0.7**
VTV	**Victorville**	**1.06**	**165**	P	Pn	04 13 26.4	-2.1
VTV						04 13 41.2	
MAGC	**SCE Magundon P**	**1.06**	**258**		**Pn**	**04 13 27.1**	**-1.4**
ARVC	**Arvin**	**1.06**	**245**		**Pn**	**04 13 27.0**	**-1.6**
THC	**Tehachapi Micr**	**1.07**	**231**		Pn	04 13 26.8	-2.0
TUQ	**Turquoise Moun**	**1.42**	**96**		**Pn**	**04 13 31.1**	**-2.4**
GRAC	**Grapevine Rang**	**1.43**	**9**		**Pn**	**04 13 32.3**	**-1.3**
GRAC				IAML		04 13 55.4	
	comp=E,30μm,0.7s						
WCT	**Wildcat Mounta**	**1.46**	**34**		**Pn**	**04 13 32.5**	**-1.6**
WCT				IAML		04 13 54.1	
	comp=E,14μm,1.2s						
PASC	**Pasadena Art C**	**1.48**	**197**		**Pn**	**04 13 32.9**	**-1.4**
PASC				IAML		04 13 57.6	
	comp=E,22μm,0.8s						
PASC				IAML		04 13 58.5	
	comp=N,18μm,0.9s						
BCW	**Bitter Crk WRg**	**1.58**	**246**		**Pn**	**04 13 34.5**	**-1.2**
BCW				IAML		04 14 14.9	
	comp=E,18μm,1.1s						
BCW				IAML		04 14 24.3	
	comp=N,17μm,1.1s						
MTPC	**Mountain Pass**	**1.72**	**93**		**Pn**	**04 13 35.0**	**-2.7**
GMN	**Gold Mountain**	**1.74**	**10**	Pn	**Pn**	**04 13 37.6**	**-0.5**
TPNV	**Topopah Spring**	**1.77**	**39**		**Pn**	**04 13 37.4**	**-1.0**
TPNV				IAML		04 14 06.9	
	comp=N,12μm,0.5s						
TPNV				IAML		04 14 07.4	
	comp=N,18μm,0.6s						
TPNV	**Topopah Spring**	**1.77**	**39**	P	**Pn**	**04 13 37.4**	**-1.0**
DSP	**Deep Springs**	**1.80**	**352**		**Pn**	**04 13 37.6**	**-1.1**
ELS	**Elsinore Mount**	**1.94**	**174**		Pn	04 13 38.6	-2.1
MZP	**Montezuma Peak**	**2.12**	**6**		**Pn**	**04 13 42.1**	**-1.2**
PFO	**Pinyon Flats O**	**2.20**	**153**		**Pn**	**04 13 42.7**	**-1.6**
PFO				IAML		04 14 17.9	
	comp=N,5μm,1.2s						
PFO	**Pinyon Flats O**	**2.20**	**153**	Pg	**Pn**	**04 13 46.4**	**+2.0**
	comp=N,194nm,0.3s,baz=333,slow=11,SNR=9.5						
PFO				Lg	Lg	04 14 17.5	
	comp=N,576nm,0.3s,baz=226,slow=24,SNR=15						
PFO	**Pinyon Flats O**	**2.20**	**153**	*i* P	**Pn**	**04 13 45.2**	**+0.9**
V12A	**Nelson**	**2.29**	**86**		**Pn**	**04 13 43.3**	**-2.2**
TPH	**Tonopah**	**2.51**	**8**		**Pn**	**04 13 47.1**	**-1.5**
TPH	**Tonopah**	**2.51**	**8**	P	**Pn**	**04 13 47.1**	**-1.5**
PMPB	**Monarch Peak**	**2.63**	**285**		**Pn**	**04 13 51.6**	**+1.4**
LHV	**Little Huntoon**	**2.75**	**346**		**Pn**	**04 13 51.9**	**+0.3**
LHV				IAML		04 14 47.6	
	comp=N,4μm,1.6s						
LHV				IAML		04 14 53.8	
	comp=E,4μm,1.1s						
NV11	**Mina Array Sit**	**2.87**	**352**	Pn	**Pn**	**04 13 52.6**	**-0.9**
NVAR	**Mina Array Bea**	**2.89**	**350**		**Pn**	**04 13 52.8**	**-1.1**
NVAR	**Mina Array Bea**	**2.89**	**350**	Pn	**Pn**	**04 13 50.2**	**-3.7**
	comp=E,32nm,0.3s,baz=180,slow=15,SNR=4.6						
NVAR				Lg	Lg	04 14 39.3	
	baz=147,slow=13 comp=E,80nm,0.6s						
TJX	**Tijuana**	**3.11**	**171**		**Pn**	**04 13 57.9**	**+1.2**
RYN	**Ryan**	**3.12**	**347**		**Pn**	**04 13 56.1**	**-0.8**
TKX	**Tecate**	**3.13**	**164**	Pn	**Pn**	**04 13 57.9**	**+0.9**
TKX				IAML		04 14 44.5	
	comp=E,3μm,1.0s						
TKX				IAML		04 14 52.4	
	comp=N,2μm,1.1s						
BLYC	**Blythe**	**3.16**	**124**		**Pn**	**04 13 56.9**	**-0.6**
BLYC				IAML		04 14 49.6	
	comp=N,5μm,0.9s						
BLYC				IAML		04 14 49.6	
	comp=E,5μm,0.9s						
R11B	**Troy Canyon, C**	**3.22**	**30**	Pg	**Pb**	**04 14 05.2**	**+0.1**
R11B				IAML		04 14 49.0	
	comp=E,2μm,1.1s						
WAKR	**Walker**	**3.24**	**334**	Pn	**Pn**	**04 13 59.1**	**+0.3**
WAKR				IAML		04 15 02.2	
	comp=N,3μm,1.0s						
WAKR				IAML		04 15 08.3	
	comp=E,3μm,0.7s						
Q09A	**Carvers**	**3.27**	**6**		**Pn**	**04 13 58.9**	**-0.1**
CMB	**Columbia Colle**	**3.28**	**319**		**Pn**	**04 13 59.0**	**-0.1**
CMB				IAML		04 14 54.1	
	comp=E,4μm,1.4s						
CMB				IAML		04 14 54.2	
	comp=N,4μm,1.1s						
CMB	**Columbia Colle**	**3.28**	**319**	P	**Pn**	**04 13 59.0**	**-0.1**
SAO	**San Andreas Ge**	**3.29**	**292**		**Pn**	**04 14 00.2**	**+1.1**
SAO	**San Andreas Ge**	**3.29**	**292**	P	**Pn**	**04 14 00.2**	**+1.1**
CBX	**Cerro Bola**	**3.37**	**166**		**Pn**	**04 13 58.8**	**-1.6**
GLA	**Glamis**	**3.44**	**136**		Pn	04 13 58.9	-2.4
GLA				IAML		04 14 58.9	
	comp=N,4μm,1.7s						
GLA	**Glamis**	**3.44**	**136**	P	Pn	04 13 58.9	-2.4
CCX	**Cicese**	**3.80**	**167**		**Pn**	**04 14 06.5**	**+0.4**
CCX				IAML		04 15 08.6	
	comp=E,3μm,1.0s						
CCX				IAML		04 15 14.5	
	comp=N,2μm,0.9s						
LCMT	**Little Creek M**	**3.84**	**67**		**Pn**	**04 14 05.7**	**-1.1**
ESJX	**Sierra Juarez**	**3.84**	**158**	IAML		04 15 08.2	
	comp=N,1μm,1.4s						
ESJX				IAML		04 15 13.6	
	comp=E,2μm,1.6s						
CCUT	**Cedar City**	**3.97**	**59**		**Pn**	**04 14 08.7**	**-0.1**
KNB	**Kanab**	**4.16**	**68**	Pg	**Pb**	**04 14 21.2**	**+0.1**
KNB				IAML		04 15 23.3	
	comp=N,1μm,1.3s						
KNB				IAML		04 15 33.6	
	comp=E,1μm,1.6s						
KNB	**Kanab**	**4.16**	**68**	P	**Pb**	**04 14 21.2**	**+0.1**
Y14A	**Wickenburg**	**4.17**	**112**		**Pn**	**04 14 08.5**	**-2.8**
Y14A				IAML		04 15 28.6	
	comp=E,2μm,1.2s						
AFDM	**Forest Hills D**	**4.27**	**323**	IAML		04 15 30.5	
	comp=N,2μm,1.1s						
PAHR	**Pah Rah Range**	**4.34**	**342**		**Pn**	**04 14 13.6**	**-0.2**
VTX	**Valle De La Tr**	**4.46**	**159**	IAML		04 15 29.6	
	comp=E,2μm,1.1s						
VTX				IAML		04 15 32.0	
	comp=N,1μm,1.0s						
MCCM	**Marconi Confer**	**4.91**	**303**		**Pn**	**04 14 21.1**	**-0.2**
MCCM				IAML		04 16 09.0	
	comp=N,1μm,1.5s						
WUAZ	**Wupatki**	**5.12**	**89**	Pn	**Pn**	**04 14 24.1**	**-0.3**
WUAZ				IAML		04 16 05.8	
	comp=N,1μm,1.7s						
GDXM	**Geysers**	**5.21**	**310**		**Pn**	**04 14 26.7**	**+1.0**
GDXM				IAML		04 16 15.8	
	comp=E,447nm,3.9s						
GDXM				IAML		04 16 16.9	
	comp=N,414nm,1.9s						
X16A	**Lo Mia Camp, P**	**5.23**	**101**		**Pn**	**04 14 24.5**	**-1.5**
X16A				IAML		04 15 57.5	
	comp=E,813nm,1.2s						
X16A				IAML		04 16 02.9	
	comp=N,1μm,1.0s						
214A	**Organ Pipe Nat**	**5.42**	**131**		Pn	04 14 25.4	-3.1
214A				IAML		04 16 16.7	
	comp=E,968nm,1.3s						
ELK	**Elko**	**5.49**	**20**		**Pn**	**04 14 29.1**	**-0.5**
ELK	**Elko**	**5.49**	**20**	Pn	**Pn**	**04 14 26.6**	**-3.0**
	comp=E,2.7nm,0.3s,baz=185,slow=15,SNR=7.1						
ELK				Lg	Lg	04 15 55.4	
	comp=E,92nm,0.3s,baz=310,slow=24,SNR=7.7 comp=E,17nm,0.5s						
ELK	**Elko**	**5.49**	**20**	P	**Pn**	**04 14 29.1**	**-0.5**
HMU	**Henry Mountain**	**6.03**	**65**	Pn	**Pn**	**04 14 36.8**	**-0.2**
X18A	**Snowflake**	**6.41**	**97**		**Pn**	**04 14 41.9**	**-0.3**
W18A	**Petrified Fore**	**6.49**	**92**	Pn	**Pn**	**04 14 43.5**	**+0.2**
SRU	**San Rafael Swe**	**6.68**	**56**	Pn	**Pn**	**04 14 45.3**	**-0.6**
SRU	**San Rafael Swe**	**6.68**	**56**	P	**Pn**	**04 14 45.3**	**-0.6**
WVOR	**Wild Horse Val**	**6.88**	**354**	Pn	**Pn**	**04 14 48.4**	**-0.2**
WVOR	**Wild Horse Val**	**6.88**	**354**	P	**Pn**	**04 14 48.4**	**-0.2**
CTU	**Camp Tracy**	**6.90**	**41**	Pn	**Pn**	**04 14 47.8**	**-1.1**
JLU	**Jordanelle**	**7.00**	**42**		**Pn**	**04 14 51.3**	**+1.0**
PV05	**Paradox Valley**	**7.30**	**68**	Pn	**Pn**	**04 14 55.6**	**+1.2**
YBH	**Yreka Blue Hor**	**7.30**	**329**	Pn	**Pn**	**04 14 52.1**	**-2.2**
	baz=171,slow=7.4,SNR=6.9						
YBH				Lg	Lg	04 16 49.4	
	baz=60,slow=8.2,SNR=8.2						
BSUT	**Blindstream Ca**	**7.35**	**46**		**Pn**	**04 14 55.4**	**+0.1**
PV10	**Paradox Valley**	**7.44**	**65**		**Pn**	**04 14 55.5**	**-0.9**
PV19	**Morning Glory**	**7.46**	**66**		**Pn**	**04 14 57.1**	**+0.5**
PV17	**East Wray Mesa**	**7.46**	**66**		**Pn**	**04 14 52.6**	**-4.1**
ANMO	**Albuquerque**	**9.18**	**91**	Pn	**Pn**	**04 15 21.1**	**+0.8**
	comp=E,1.0nm,0.3s,baz=20,slow=13,SNR=7.1						
ANMO				Pg		04 15 53.9	
	comp=E,1.6nm,0.3s,baz=12,slow=13,SNR=5.6						
ANMO				Lg	Lg	04 17 51.4	
	comp=E,0.5nm,0.3s,baz=288,slow=19,SNR=3.0 comp=E,3.5nm,0.4s						
PDAR	**Pinedale Array**	**9.53**	**39**	Pn	**Pn**	**04 15 25.0**	**-0.1**
	comp=E,0.5nm,0.3s,baz=219,slow=12,SNR=9.8						
PDAR				Lg	Lg	04 18 03.6	
	comp=E,0.3nm,0.3s,baz=226,slow=30,SNR=2.0 comp=E,4.3nm,0.8s						
**

MIAR **Mount Ida** 19.73 86 P P 04 17 37.2 -0.1
MIAR **Mount Ida** 19.73 86 P P 04 17 37.2 -0.1
MIAR pmax pmax
comp=Z,97nm,1.2s
N38A **Joes South For** 19.86 68 P P 04 17 38.5 -0.2
N38A IAmb IAmb 04 17 49.4
comp=Z,55nm,1.0s
SCIA **State Center** 20.05 64 P P 04 17 39.2 -1.5
WLAR **White Oak Lake** 20.27 88 P P 04 17 42.9 -0.3
X40A **Basin Creek Fa** 20.34 86 P P 04 17 44.4 +0.4
X40A IAmb IAmb 04 17 51.0
comp=Z,39nm,1.2s
I37A **Lemond, Waseca** 20.39 58 P P 04 17 44.7 +0.2
I37A IAmb IAmb 04 17 51.3
comp=Z,47nm,1.2s
R40A **Maddies Statio** 20.45 75 IAmb IAmb 04 17 58.5
comp=Z,39nm,1.2s
DIB **Dawson Inlet,** 20.48 334 P P 04 17 45.3 +0.1
Z41A **Richland Creek** 20.62 89 P P 04 17 47.4 +0.4
Z41A IAmb IAmb 04 18 25.3
comp=Z,69nm,1.5s
WHAR **Wooly Hollow** 20.66 83 P P 04 17 47.0 -0.3
WHAR IAmb IAmb 04 17 56.1
comp=Z,51nm,1.2s
RUBB **Prince Rupert** 20.69 339 P P 04 17 48.5 +1.0
UALR **University of** 20.69 85 P P 04 17 48.7 +1.0
UALR IAmb IAmb 04 17 56.3
comp=Z,45nm,1.1s
FCAR **Ozark Folk Cen** 20.71 82 P P 04 17 47.4 -0.5
441A **DeRidder** 21.02 96 P P 04 17 52.0 +0.7
SPMN **Marine on St.** 21.16 55 IAmb IAmb 04 17 58.6
comp=Z,18nm,0.6s
CCM **Cathedral Cave** 21.26 76 P P 04 17 54.4 +0.5
CCM IAmb IAmb 04 18 02.8
comp=Z,61nm,1.4s
CCM **Cathedral Cave** 21.26 76 P P 04 17 54.4 +0.5
CCM pmax pmax
comp=Z,61nm,1.5s
LCAR **Lake Charles** 21.47 81 P P 04 17 56.1 0.0
LCAR IAmb IAmb 04 18 07.2
comp=Z,40nm,1.4s
MOIG **Morelia** 21.49 133 P P 04 17 56.7 +0.1
ULM **Lac du Bonnet** 21.55 40 P P 04 17 55.6 -1.2
comp=Z,29nm,1.1s,baz=233,slow=10,SNR=22
comp=Z,29nm,1.1s
ULM **Lac du Bonnet** 21.55 40 *i* P P 04 17 57.1 +0.3
N41A **Harden Midland** 21.65 68 P P 04 17 57.2 -0.8
143A **Socs Landing,** 21.89 90 P P 04 18 01.5 +0.9
FVM **French Village** 21.91 76 IAmb IAmb 04 18 10.8
comp=Z,48nm,1.3s
HBAR **Harrisburg** 21.94 82 P P 04 18 00.9 -0.2
V35K **Ketchikan** 21.96 338 P P 04 18 01.4 +0.2
V35K IAmb IAmb 04 18 05.8
comp=Z,30nm,1.1s
V35K **Ketchikan** 21.96 338 P P 04 18 03.6 +2.5
baz=148,SNR=5.9
PBMO **Poplar Bluff** 21.98 79 IAmb IAmb 04 18 08.2
comp=Z,34nm,1.1s
FFC **Flin Flon** 22.01 25 P 04 18 01.3 -0.4
FFC **Flin Flon** 22.01 25 P P 04 18 01.3 -0.4
FFC pmax pmax
comp=Z,92nm,1.3s
SLM **Saint Louis** 22.05 74 P P 04 18 03.3 +1.0
SLM **Saint Louis** 22.05 74 P P 04 18 03.3 +1.0
SLM pmax pmax
comp=Z,85nm,1.5s
I40A **Norwalk** 22.31 60 P P 04 18 05.6 +0.5
GNAR **Gosnell** 22.40 81 P P 04 18 06.1 0.0
GNAR IAmb IAmb 04 18 32.9
comp=Z,23nm,0.7s
EPLO **Experimental L** 22.41 44 P P 04 18 06.1 -0.1
EPLO IAmb IAmb 04 18 11.1
comp=Z,25nm,1.2s
E38A **The Farm, Brul** 22.44 53 P P 04 18 06.4 -0.1
E38A IAmb IAmb 04 18 15.8
comp=Z,29nm,1.0s
PARMO **Parma** 22.54 79 P P 04 18 08.1 +0.6
CRAG **Craig** 22.55 337 P P 04 18 07.5 +0.1
CRAG **Craig** 22.55 337 P P 04 18 09.0 +1.5
baz=146
P43A **Skaggs, Pawnee** 22.61 71 IAmb IAmb 04 18 18.7
comp=Z,52nm,1.3s
L42A **Oliver, Polo** 22.68 65 P P 04 18 08.2 -0.8
L42A IAmb IAmb 04 18 15.9
comp=Z,23nm,0.8s
VBMS **Vicksburg** 22.75 91 P P 04 18 11.0 +1.2
LNXT **Lenox** 22.81 80 P P 04 18 11.5 +1.1
HDIL **Hopedale** 22.82 69 P P 04 18 11.2 +0.7
S44A **Carbondale** 22.85 76 P P 04 18 11.6 +0.8
S44A IAmb IAmb 04 18 22.1
comp=Z,35nm,1.1s
SIUC **Southern Illin** 22.88 76 IAmb IAmb 04 18 21.6
comp=Z,29nm,1.1s
G40A **Rib Lake** 22.93 57 P P 04 18 11.6 0.0
GLAT **Glass** 22.95 80 P P 04 18 12.2 +0.3
EYMN **Ely** 22.97 49 P P 04 18 11.7 -0.3
HICK **Hickman** 22.97 79 P P 04 18 12.3 +0.2
Q44A **Meyer Farm, Va** 23.00 73 IAmb IAmb 04 18 19.7
comp=Z,32nm,0.9s
T35M **Bob Quinn** 23.03 342 P P 04 18 12.6 0.0
T35M **Bob Quinn** 23.03 342 P P 04 18 14.3 +1.7
baz=153,SNR=5.8
U33K **Whale Pass** 23.08 338 P P 04 18 13.0 0.0
U33K IAmb IAmb 04 18 16.4
comp=Z,50nm,1.5s
U33K **Whale Pass** 23.08 338 P P 04 18 14.2 +1.1
baz=146
WRAK **Wrangell Islan** 23.11 339 P P 04 18 14.4 +1.2
WRAK IAmb IAmb 04 18 17.3
comp=Z,40nm,1.1s
WRAK **Wrangell Islan** 23.11 339 P P 04 18 14.8 +1.5
baz=148,SNR=11
Y45A **Yeager Farm, C** 23.14 86 P P 04 18 14.6 +0.7
T45A **Paducah** 23.39 78 P P 04 18 18.4 +2.1
I42A **Draeger Farm,** 23.52 61 P P 04 18 17.4 -0.2
I42A IAmb IAmb 04 18 23.4
comp=Z,18nm,0.9s
OLIL **Olney** 23.72 74 P P 04 18 20.4 +0.8
OLIL IAmb IAmb 04 18 27.4
comp=Z,34nm,1.2s
TOAD **Toad River Com** 23.81 350 P P 04 18 20.8 +0.5
baz=165,SNR=8.9
M44A **Midewin, Midew** 23.82 67 P P 04 18 20.6 0.0
346A **Big Creek Wild** 23.84 92 P P 04 18 21.3 +0.5
COWI **Conover** 23.88 55 IAmb IAmb 04 18 51.1
comp=Z,16nm,0.9s
L44A **Lake County Fo** 23.99 65 P P 04 18 22.0 -0.2
L44A IAmb IAmb 04 18 28.4
comp=Z,26nm,1.0s
HQIL **Hanson Quary C** 24.00 66 P P 04 18 22.3 +0.1
S34M **Telegraph Cree** 24.08 342 P P 04 18 22.6 -0.2
S34M **Telegraph Cree** 24.08 342 P P 04 18 24.0 +1.2
baz=152
USIN **University of** 24.09 75 P P 04 18 23.2 +0.1
WVT **Waverly** 24.14 80 P P 04 18 24.3 +0.7
WVT **Waverly** 24.14 80 P P 04 18 24.3 +0.7
WVT pmax pmax
comp=Z,16nm,1.3s
DLBC **Dease Lake** 24.29 344 P P 04 18 23.9 -1.0
comp=Z,1.0nm,0.8s,baz=139,slow=9.1,SNR=26
comp=Z,1.0nm,0.8s
DLBC **Dease Lake** 24.29 344 P P 04 18 26.4 +1.5
baz=155,SNR=14
P46A **Rosedale** 24.40 71 P P 04 18 26.6 +0.7
P46A IAmb IAmb 04 18 33.2
comp=Z,26nm,1.1s
H43A **Windswept, Lux** 24.43 60 P P 04 18 26.6 +0.4
H43A IAmb IAmb 04 18 32.6
comp=Z,18nm,1.0s
F42A **Maple Grove Fa** 24.46 56 P P 04 18 26.4 -0.1
F42A IAmb IAmb 04 18 33.3
comp=Z,35nm,1.3s
LIRD **Liard River Hi** 24.47 350 P P 04 18 28.0 +1.6
baz=163
SFIN **Lafayette** 24.49 70 P P 04 18 27.6 +0.8
SFIN IAmb IAmb 04 18 33.9
comp=Z,23nm,1.0s
Z47A **Carrollton** 24.49 87 P P 04 18 27.2 +0.4
Z47A IAmb IAmb 04 18 41.7
comp=Z,18nm,0.9s
SIT **Sitka** 24.56 336 P P 04 18 27.9 +0.8
SIT IAmb IAmb 04 18 30.2
comp=Z,24nm,1.1s
SIT **Sitka** 24.56 336 P P 04 18 28.0 +0.8
SIT pmax pmax
comp=Z,24nm,1.1s
SIT **Sitka** 24.56 336 P P 04 18 28.6 +1.4
baz=144
T47A **Sharon Grove** 24.62 78 P P 04 18 28.8 +0.8
T47A IAmb IAmb 04 18 36.2
comp=Z,28nm,1.0s
S32K **Killisnoo** 24.66 338 P P 04 18 29.4 +1.3
baz=145
KOTAN **Koaneelee Air** 24.91 352 P P 04 18 31.2 +0.9
baz=168,SNR=15
BLO **Bloomington** 24.93 72 P P 04 18 31.9 +1.1
BLO **Bloomington** 24.93 72 P P 04 18 31.9 +1.1
BLO pmax pmax
comp=Z,53nm,1.3s
V48A **Smith Brothers** 25.00 81 P P 04 18 33.0 +1.6
V48A IAmb IAmb 04 18 39.6
comp=Z,26nm,1.3s
X48A **Hartselle** 25.05 84 P P 04 18 31.9 0.0
WCI **Wyandotte Cave** 25.16 75 P P 04 18 32.5 -0.3
WCI IAmb IAmb 04 18 41.2
comp=Z,26nm,1.1s
WCI **Wyandotte Cave** 25.16 75 P P 04 18 32.5 -0.3
WCI pmax pmax
comp=Z,26nm,1.1s
L46A **Eue Claire** 25.18 66 P P 04 18 31.8 -1.2
L46A IAmb IAmb 04 18 49.0
comp=Z,21nm,0.9s
Q32M **Nakina River** 25.29 342 P P 04 18 32.8 -1.2
Q32M IAmb IAmb 04 18 39.9
comp=Z,26nm,1.4s
Q32M **Nakina River** 25.29 342 P P 04 18 35.3 +1.3
baz=151,SNR=8.2
R32K **Eaglecrest** 25.31 339 P P 04 18 35.5 +1.6
baz=146
CLTN **Cedars of Leba** 25.34 80 P P 04 18 34.1 -0.4
R33M **Jennings River** 25.36 344 P P 04 18 34.9 +0.2
R33M IAmb IAmb 04 18 39.2
comp=Z,13nm,0.9s
R33M **Jennings River** 25.36 344 P P 04 18 36.2 +1.6
baz=154,SNR=13
LRAL **Lakeview Retre** 25.40 87 P P 04 18 35.4 +0.3
LRAL IAmb IAmb 04 18 43.5
comp=Z,19nm,1.4s
N47A **Urbana** 25.57 68 P P 04 18 38.1 +1.6
N47A IAmb IAmb 04 18 44.2
comp=Z,14nm,1.1s
S31K **Pelican** 25.58 337 P P 04 18 36.5 +0.2
S31K **Pelican** 25.58 337 P P 04 18 38.1 +1.7
baz=143
WTLY **Watson Lake, Y** 25.58 347 IAmb IAmb 04 18 40.7
comp=Z,19nm,1.1s
WTLY **Watson Lake, Y** 25.58 347 P P 04 18 37.8 +1.3
baz=159
Y49A **Blount Mountai** 25.68 85 P P 04 18 37.6 0.0
P48A **Milroy** 25.77 72 P P 04 18 39.4 +1.0
P48A IAmb IAmb 04 18 45.9
comp=Z,23nm,1.2s
R31K **City Hall, Gus** 25.79 338 P P 04 18 39.4 +1.1
baz=144
SWET **Sewanee** 25.80 81 P P 04 18 39.6 +0.8
BRAL **Brewton** 25.88 91 P P 04 18 41.2 +1.8
R49A **Shelbyville** 26.03 74 P P 04 18 41.2 +0.4
FPAL **Fort Paine** 26.19 83 P P 04 18 42.4 +0.1
P32M **Atlin** 26.20 341 P P 04 18 42.5 +0.3
P32M IAmb IAmb 04 18 44.6
comp=Z,13nm,1.0s
P32M **Atlin** 26.20 341 P P 04 18 43.5 +1.4
baz=149,SNR=8.2
250A **Grady** 26.28 89 P P 04 18 43.7 +0.7
250A IAmb IAmb 04 18 57.0
comp=Z,32nm,1.5s
J47A **Sunmer** 26.37 63 P P 04 18 44.3 +0.6
J47A IAmb IAmb 04 18 55.9
comp=Z,16nm,1.2s
T50A **Nancy** 26.42 77 P P 04 18 45.4 +1.1
P33M **Teslin, Yukon** 26.52 343 P P 04 18 45.5 +0.4
P33M **Teslin, Yukon** 26.52 343 P P 04 18 46.4 +1.3
baz=152
SKAG **Skagway** 26.53 340 P P 04 18 45.4 +0.4
SKAG **Skagway** 26.53 340 P P 04 18 46.5 +1.5
baz=146
O49A **Covington** 26.60 70 P P 04 18 45.7 -0.2
GLMI **Grayling** 26.71 60 P P 04 18 46.8 0.0
GLMI IAmb IAmb 04 19 28.8
comp=Z,22nm,0.9s
X51A **Calhoun** 26.80 83 P P 04 18 48.1 +0.4
PLBC **Pleasant Camp** 26.83 339 P P 04 18 48.9 +1.2
baz=145
CPCT **Cooper Cave** 26.90 81 P P 04 18 49.2 +0.6
YKAW1 **Yellowknife Wh** 26.99 3 P 04 18 49.1 -0.1
YKAW1 IAmb IAmb 04 18 58.3
comp=Z,17nm,1.0s
YKA **Yellowknife Ar** 27.00 3 P P 04 18 49.3 +0.1
YKA **Yellowknife Ar** 27.00 3 P P 04 18 48.6 -0.6
comp=Z,5.4nm,1.1s,baz=188,slow=9.0,SNR=16
comp=Z,5.4nm,1.1s
YKAW3 **Yellowknife Wh** 27.07 3 P 04 18 49.4 -0.4
YKAW3 IAmb IAmb 04 19 04.3
comp=Z,4.6nm,0.8s
E46A **Sault Ste Mari** 27.20 56 P P 04 18 50.3 -0.9
E46A IAmb IAmb 04 19 30.5
comp=Z,15nm,1.2s
S51A **Beattyville** 27.33 76 P P 04 18 52.9 +0.4
S51A IAmb IAmb 04 19 00.9
comp=Z,10nm,0.9s
P29M **Windy Craggy** 27.38 338 P P 04 18 53.2 +0.5
Q51A **Peebles** 27.41 73 P P 04 18 54.3 +1.1
N32M **Quiet Lake** 27.41 344 P P 04 18 53.7 +0.7
baz=152
WHY **Whitehorse** 27.42 342 P P 04 18 52.7 -0.5
WHY **Whitehorse** 27.42 342 P P 04 18 54.5 +1.3
baz=148
W52A **Murphy** 27.44 81 P P 04 18 54.8 +1.2
W52A IAmb IAmb 04 19 25.9
comp=Z,18nm,1.5s
TKL **Tuckaleechee C** 27.46 80 P P 04 18 54.5 +0.8
TKL **Tuckaleechee C** 27.46 80 P P 04 18 53.2 -0.5
comp=Z,5.7nm,1.0s,baz=244,slow=7.5,SNR=9.6
comp=Z,5.7nm,1.0s
TZTN **Tazewell** 27.50 78 P P 04 18 55.5 +1.4
TZTN IAmb IAmb 04 19 34.8
comp=Z,21nm,1.3s
P30M **Million Dollar** 27.55 339 P P 04 18 55.9 +1.7
baz=144
Y52A **Lilburn** 27.59 84 P P 04 18 54.8 0.0
P51A **Williamsport** 27.60 71 P P 04 18 55.6 +0.7
P51A IAmb IAmb 04 19 00.9
comp=Z,12nm,0.8s
ACSO **Alum Creek Sta** 27.64 70 P P 04 18 56.0 +0.8
ACSO IAmb IAmb 04 19 03.9
comp=Z,18nm,1.1s
O30N **Mendenhall** 27.84 341 P P 04 18 56.9 0.0
O30N **Mendenhall** 27.84 341 P P 04 18 57.8 +1.0
baz=146
WRGLY **Wrigley** 27.90 354 P P 04 18 58.0 +0.8
WRGLY IAmb IAmb 04 19 04.5
comp=Z,25nm,1.2s
WRGLY **Wrigley** 27.90 354 P P 04 18 58.5 +1.2
baz=176,SNR=6.3
PNL **Peninsula** 27.94 336 P P 04 18 58.8 +1.1
baz=140
V53A **Saluda** 28.23 80 P P 04 19 01.1 +0.5
V53A IAmb IAmb 04 19 12.6
comp=Z,10nm,1.0s
BG3 **Lake Jocassee** 28.26 81 P P 04 19 00.8 -0.1
BG3 IAmb IAmb 04 19 07.8
comp=Z,16nm,1.2s
HYT **Haines Junctio** 28.28 339 P P 04 19 00.7 -0.2
HYT **Haines Junctio** 28.28 339 P P 04 19 02.3 +1.5
baz=144
N31M **Braeburn, Yuko** 28.36 342 P P 04 19 00.9 -0.5
N31M **Braeburn, Yuko** 28.36 342 P P 04 19 02.8 +1.3
baz=148
MMPY **Sheldon Lake,** 28.36 347 P P 04 19 01.5 +0.1
MMPY **Sheldon Lake,** 28.36 347 P P 04 19 03.0 +1.5
baz=156,SNR=8.9
FARO **Faro, Yukon** 28.43 345 P P 04 19 01.7 -0.4
FARO **Faro, Yukon** 28.43 345 P P 04 19 03.2 +1.1
baz=152
YUK6 **Outpost Mounta** 28.62 339 P P 04 19 04.9 +0.9
baz=143
M31M **Drury Creek, Y** 28.64 344 P P 04 19 04.2 +0.2
M31M **Drury Creek, Y** 28.64 344 P P 04 19 05.2 +1.3
baz=151
N30M **Aishikik Lake** 28.68 341 P P 04 19 04.4 0.0
baz=146
N30M **Aishikik Lake** 28.68 341 P P 04 19 05.5 +1.2
baz=146
P53A **Whipple** 28.89 71 P P 04 19 07.1 +0.7
P53A IAmb IAmb 04 19 14.9
comp=Z,14nm,1.1s
O53A **New Philadelph** 28.99 70 P P 04 19 08.5 +1.3
O53A IAmb IAmb 04 19 15.9
comp=Z,15nm,1.1s
YUK4 **Talbot Arm** 29.03 339 P P 04 19 09.3 +1.7
baz=143
O28M **Mount Upton** 29.04 337 P P 04 19 08.2 +0.4
O28M IAmb IAmb 04 19 10.7
comp=Z,24nm,1.3s
O28M **Mount Upton** 29.04 337 P P 04 19 09.4 +1.6
baz=140
S54A **Dingess, Beckl** 29.11 75 P P 04 19 10.1 +1.7
MESA **MESA** 29.18 335 P P 04 19 10.2 +1.2
baz=137
LOGN **Logan Glacier** 29.34 337 P P 04 19 08.5 -1.8
Q54A **Coxs Mills** 29.36 72 P P 04 19 11.7 +1.1
V55A **Taylorsville** 29.48 79 P P 04 19 12.2 +0.5
KMSC **Kings Mountain** 29.52 80 P P 04 19 11.7 -0.3
GRNC **Granite Creek** 29.52 336 P P 04 19 11.8 -0.1
GRNC IAmb IAmb 04 19 49.4
comp=Z,13nm,1.3s
M30M **Minto, Yukon** 29.54 342 P P 04 19 11.7 -0.2
M30M **Minto, Yukon** 29.54 342 P P 04 19 13.2 +1.3
baz=147
CTGM **Chitina Glacie** 29.56 337 P P 04 19 12.3 +0.1
CTGM IAmb IAmb 04 19 15.2
comp=Z,7.6nm,0.6s
CTG **Chitna Glacier** 29.56 337 P P 04 19 13.9 +1.6
baz=138
O54A **Avella** 29.63 70 P P 04 19 13.4 +0.4
O54A IAmb IAmb 04 19 18.7
comp=Z,11nm,0.9s
WAX **Waxell Ridge** 29.69 335 P P 04 19 12.8 -0.5
WAX IAmb IAmb 04 19 26.2
comp=Z,8.2nm,0.7s
BARN **Barnard Glacie** 29.73 336 P P 04 19 13.4 -0.4
BARN IAmb IAmb 04 19 16.5
comp=Z,7.5nm,0.8s
M29M **Somme Creek** 29.86 341 P P 04 19 15.9 +1.0
M29M **Somme Creek** 29.86 341 P P 04 19 16.6 +1.7
baz=144,SNR=11
KAIM **Kayak Island** 29.89 333 P P 04 19 17.0 +2.0
baz=133
BLA **Blacksburg** 29.89 76 P P 04 19 16.5 +1.1
BLA IAmb IAmb 04 19 21.6
comp=Z,12nm,1.0s
BLA **Blacksburg** 29.89 76 P P 04 19 16.5 +1.1
BLA pmax pmax
comp=Z,12nm,1.0s
YUK3 **Moose Creek** 29.90 338 P P 04 19 17.0 +1.7
baz=141
CRQE **Cirque** 29.99 335 P P 04 19 17.9 +1.9
baz=136
CRQM **Cirque** 30.01 335 P P 04 19 16.0 -0.2
HMT **Hamilton** 30.11 334 P P 04 19 16.1 -0.9
HMT IAmb IAmb 04 19 30.8
comp=Z,14nm,1.4s
Q23K **Middleton Isla** 30.30 331 P P 04 19 20.5 +1.9
baz=129
L29M **L29M** 30.32 342 P P 04 19 20.2 +1.4
L29M IAmb IAmb 04 19 21.8
comp=Z,10nm,1.0s
L29M **L29M** 30.32 342 P P 04 19 21.0 +2.1
baz=146,SNR=11
BIRD **Birdtown, Kers** 30.32 81 P P 04 19 20.6 +1.5
BIRD IAmb IAmb 04 19 24.1
comp=Z,13nm,1.1s
MCARA **McCarthy VSAT** 30.42 336 P P 04 19 19.8 +0.1
MCARA IAmb IAmb 04 19 22.9
comp=Z,19nm,1.0s
MCARA **McCarthy VSAT** 30.42 336 P P 04 19 21.8 +2.1
baz=136
VRDI **Verde Repeater** 30.45 335 P P 04 19 20.8 +0.7
BVCY **Beaver Creek** 30.52 339 P P 04 19 22.7 +2.1
baz=141,SNR=5.5
SADO **Sadowa** 30.58 61 P P 04 19 22.4 +1.2
comp=Z,1.0nm,0.3s,baz=272,slow=8.7,SNR=3.5
Q56A **Snyder Ridge,** 30.64 72 P P 04 19 22.2 +0.3
BMRM **Bremner River** 30.67 334 P P 04 19 22.8 +0.9
BMRM **Bremner River** 30.67 334 P P 04 19 23.6 +1.7
baz=134
GLB **Gilahina Butte** 30.73 336 P P 04 19 23.2 +0.7
GLB IAmb IAmb 04 19 25.4
comp=Z,13nm,1.0s
M27K **Edge Creek, AK** 30.78 338 P P 04 19 24.6 +1.6
M27K IAmb IAmb 04 20 01.2
comp=Z,13nm,1.4s
M27K **Edge Creek, AK** 30.78 338 P P 04 19 25.1 +2.0
baz=139,SNR=6.3
K29M **Barlow Dome** 30.79 343 P P 04 19 24.2 +1.2
K29M IAmb IAmb 04 19 26.1
comp=Z,8.6nm,0.9s
K29M **Barlow Dome** 30.79 343 P P 04 19 25.0 +2.0
baz=147,SNR=11
EYAK **Cordova Ski Ar** 30.80 333 P P 04 19 24.9 +1.9
baz=131
HIN **Hinchinbrook I** 30.98 332 P P 04 19 25.7 +1.1
P23K **Montague Islan** 31.07 331 P P 04 19 27.3 +1.8
baz=128
N25K **Chitina, Valde** 31.11 335 P P 04 19 26.5 +0.7
N25K IAmb IAmb 04 19 29.1
comp=Z,10nm,0.9s
N25K **Chitina, Valde** 31.11 335 P P 04 19 28.2 +2.4
baz=134,SNR=5.2
J30M **Hart River** 31.14 344 P P 04 19 27.4 +1.3
J30M **Hart River** 31.14 344 P P 04 19 28.1 +2.0
baz=150,SNR=6.8
M26K **Nabesna, AK** 31.16 337 P P 04 19 26.9 +0.7
M26K **Nabesna, AK** 31.16 337 P P 04 19 28.0 +1.8
baz=138
DIV **Divide** 31.19 334 P P 04 19 27.6 +1.1
DIV IAmb IAmb 04 19 29.6
comp=Z,14nm,1.1s
FID **Port Fidalgo** 31.20 333 P P 04 19 28.0 +1.4
BCAR **Beaver Creek A** 31.29 339 P P 04 19 28.0 +0.5
L27K **Beaver Creek,** 31.30 339 P P 04 19 28.4 +0.9
L27K **Beaver Creek,** 31.30 339 P P 04 19 29.1 +1.6
baz=140
DAWY **Dawson** 31.43 342 P P 04 19 29.7 +1.0
DAWY IAmb IAmb 04 19 31.1
comp=Z,8.8nm,1.1s
DAWY **Dawson** 31.43 342 P P 04 19 30.1 +1.5
baz=145,SNR=7.7
J29N **Klondike Camp** 31.46 343 P P 04 19 30.8 +1.8
baz=147
KLU **Klutina** 31.49 334 P P 04 19 30.6 +1.3
KLU IAmb IAmb 04 19 31.9
comp=Z,8.5nm,1.1s
KLU **Klutina** 31.49 334 P P 04 19 30.8 +1.6
baz=132
P57A **Homestead Farm** 31.50 71 P P 04 19 30.8 +1.3
P57A IAmb IAmb 04 19 35.8
comp=Z,10nm,0.9s
GLI **Glacier Island** 31.52 333 P P 04 19 30.2 +0.8
GLI IAmb IAmb 04 19 32.1
comp=Z,16nm,1.0s
GLI **Glacier Island** 31.52 333 P P 04 19 31.2 +1.8
baz=130
BLKN **Baker Lake** 31.62 18 IAmb IAmb 04 19 35.5
comp=Z,8.8nm,1.1s
I30M **Mount Dempster** 31.71 345 IAmb IAmb 04 19 33.3
comp=Z,7.6nm,0.8s
I30M **Mount Dempster** 31.71 345 P P 04 19 32.2 +1.0
baz=150,SNR=13
L26K **Log Cabin Wild** 31.73 338 P P 04 19 31.9 +0.6
L26K **Log Cabin Wild** 31.73 338 P P 04 19 32.3 +1.0
baz=138
H31M **Peel River** 31.83 347 P P 04 19 32.7 +0.6
H31M IAmb IAmb 04 19 34.4
comp=Z,21nm,1.4s
H31M **Peel River** 31.83 347 P P 04 19 33.5 +1.4
baz=154,SNR=5.6
HARP **HAARP** 31.86 336 P P 04 19 33.9 +1.6
baz=134
SEW **Seward** 31.96 330 P P 04 19 33.4 +0.2
SEW **Seward** 31.96 330 P P 04 19 34.9 +1.7
baz=126,SNR=5.7
PWL **Port Wells** 31.97 332 P P 04 19 33.5 +0.1
PWL IAmb IAmb 04 19 38.9
comp=Z,7.8nm,1.0s
PWL **Port Wells** 31.97 332 P P 04 19 34.9 +1.5
baz=128

M24K	**Tolsona, Glenn**	**32.00**	**335**	P	**P**	**04 19 34.4 +0.8**
M24K				IAmb	IAmb	04 19 37.4
	comp=Z,11nm,0.9s					
M24K	**Tolsona, Glenn**	**32.00**	**335**	P	**P**	**04 19 35.9 +2.3**
	baz=133					
M57A	**Sunshine Farm,**	**32.03**	**67**	P	**P**	**04 19 34.5 +0.4**
M57A				IAmb	IAmb	04 20 11.5
	comp=Z,11nm,1.2s					
VLDQ	**Val d'Or**	**32.09**	**55**	P	**P**	**04 19 34.8 +0.2**
VLDQ				IAmb	IAmb	04 19 39.3
	comp=Z,9.6nm,1.3s					
KDAK	**Kodiak Island**	**32.09**	**325**	*i* P	**P**	**04 19 35.7 +1.3**
KDAK				pmax	pmax	
	comp=Z,5.0nm,0.9s					
K27K	**Chicken**	**32.12**	**340**	P	**P**	**04 19 36.3 +1.6**
	baz=141					
OHAK	**Old Harbor**	**32.17**	**323**	P	**P**	**04 19 36.3 +1.3**
OHAK				IAmb	IAmb	04 19 38.2
	comp=Z,12nm,1.0s					
OHAK	**Old Harbor**	**32.17**	**323**	P	**P**	**04 19 37.4 +2.4**
	baz=117,SNR=5.2					
T59A	**Double "B" Far**	**32.19**	**76**	P	**P**	**04 19 36.2 +0.6**
SCM	**Sheep Creek Mo**	**32.22**	**334**	P	**P**	**04 19 37.8 +2.2**
	baz=131,SNR=6.3					
I29M	**Ogilvie Camp,**	**32.25**	**344**	P	**P**	**04 19 36.1 +0.3**
I29M				IAmb	IAmb	04 19 38.1
	comp=Z,10nm,1.1s					
I29M	**Ogilvie Camp,**	**32.25**	**344**	P	**P**	**04 19 37.1 +1.3**
	baz=147					
SII	**Sitkinak Islan**	**32.32**	**322**	P	**P**	**04 19 38.0 +1.6**
	baz=115					
M23K	**Glacier View**	**32.34**	**334**	P	**P**	**04 19 38.0 +1.4**
	baz=130					
BRLK	**Bradley Lake**	**32.36**	**329**	P	**P**	**04 19 37.7 +0.9**
PAX	**Paxson**	**32.36**	**337**	P	**P**	**04 19 37.1 +0.3**
PAX	**Paxson**	**32.36**	**337**	P	**P**	**04 19 37.1 +0.3**
PAX				pmax	pmax	
	comp=Z,2.0nm,0.8s					
PAX	**Paxson**	**32.36**	**337**	P	**P**	**04 19 38.1 +1.2**
	baz=135					
KNK	**Knik Glacier**	**32.37**	**333**	P	**P**	**04 19 37.2 +0.4**
KNK	**Knik Glacier**	**32.37**	**333**	P	**P**	**04 19 38.7 +1.9**
	baz=129					
CNPM	**China Poot**	**32.38**	**328**	P	**P**	**04 19 38.1 +1.2**
CNPM				IAmb	IAmb	04 19 42.0
	comp=Z,12nm,1.1s					
DOT	**Dot Lake**	**32.41**	**338**	P	**P**	**04 19 37.4 +0.2**
DOT				IAmb	IAmb	04 20 03.6
	comp=Z,8.7nm,1.0s					
SYI	**Shuyak Island**	**32.41**	**326**	P	**P**	**04 19 39.0 +1.8**
SYI				IAmb	IAmb	04 19 39.8
	comp=Z,12nm,0.9s					
Q20K	**Shuyak Island**	**32.41**	**326**	P	**P**	**04 19 39.1 +1.9**
	baz=120					
K57A	**Scipio Center**	**32.44**	**65**	P	**P**	**04 19 38.2 +0.6**
K57A				IAmb	IAmb	04 19 55.0
	comp=Z,7.4nm,0.9s					
SLKM	**Skilak Lake**	**32.51**	**330**	P	**P**	**04 19 38.9 +0.9**
HOM	**Homer**	**32.62**	**328**	P	**P**	**04 19 41.1 +2.0**
	baz=122					
SCRK	**Sand Creek**	**32.63**	**339**	IAmb	IAmb	04 19 41.7
	comp=Z,12nm,0.9s					
SCRK	**Sand Creek**	**32.63**	**339**	P	**P**	**04 19 40.8 +1.6**
	baz=138,SNR=15					
I28M	**Miner Creek**	**32.70**	**343**	P	**P**	**04 19 40.9 +1.0**
	baz=145,SNR=25					
RIDG	**Independent Ri**	**32.72**	**338**	P	**P**	**04 19 41.0 +1.1**
	baz=136					
PMR	**Palmer**	**32.73**	**332**	P	**P**	**04 19 41.8 +1.8**
	baz=128,SNR=11					
EPYK	**Eagle Plains**	**32.78**	**346**	IAmb	IAmb	04 19 42.4
	comp=Z,13nm,0.9s					
EPYK	**Eagle Plains**	**32.78**	**346**	P	**P**	**04 19 41.4 +1.0**
	baz=151,SNR=7.8					
G31M	**Satah River**	**32.83**	**348**	P	**P**	**04 19 42.2 +1.5**
	baz=154,SNR=6.5					
WAT6	**Susitna Watana**	**32.86**	**335**	P	**P**	**04 19 43.2 +2.0**
	baz=131,SNR=8.2					
R18K	**Karluk**	**32.89**	**324**	P	**P**	**04 19 42.5 +1.2**
	baz=116					
J26L	**Joseph Creek**	**32.90**	**340**	P	**P**	**04 19 43.4 +1.8**
	baz=139,SNR=7.7					
H29M	**Whitestone**	**32.99**	**345**	IAmb	IAmb	04 19 43.7
	comp=Z,9.9nm,0.8s					
H29M	**Whitestone**	**32.99**	**345**	P	**P**	**04 19 43.2 +1.0**
	baz=148,SNR=9.8					
CAPN	**Captain Cook N**	**33.03**	**330**	P	**P**	**04 19 44.1 +1.6**
	baz=124					
K24K	**Donnelly Dome**	**33.05**	**337**	P	**P**	**04 19 44.7 +1.9**
	baz=135					
DHY	**Denali Highway**	**33.06**	**336**	IAmb	IAmb	04 19 45.4
	comp=Z,14nm,1.1s					
DHY	**Denali Highway**	**33.06**	**336**	P	**P**	**04 19 44.5 +1.4**
	baz=132,SNR=6.8					
Q19K	**Cape Douglas,**	**33.14**	**326**	P	**P**	**04 19 45.6 +2.0**
	baz=119					
M22K	**Willow**	**33.20**	**332**	P	**P**	**04 19 45.6 +1.6**
	baz=127					
F31M	**Tsiigehtchic**	**33.21**	**349**	P	**P**	**04 19 45.8 +1.7**
	baz=156					
G30M	**tAoh Zraii Nji**	**33.23**	**347**	P	**P**	**04 19 46.0 +1.7**
	baz=152					
I27K	**Kandik River**	**33.24**	**342**	P	**P**	**04 19 45.8 +1.3**
	baz=143					
O20K	**Slope Mountain**	**33.27**	**328**	P	**P**	**04 19 46.2 +1.4**
	baz=122					
SUA	**Susitna One**	**33.27**	**331**	P	**P**	**04 19 46.2 +1.4**
	baz=126					
WAT1	**Susitna Watana**	**33.30**	**335**	P	**P**	**04 19 46.5 +1.5**
	baz=130					
P19K	**Oil Pt**	**33.31**	**327**	P	**P**	**04 19 46.8 +1.7**
	baz=120					
I26K	**Coal Creek Min**	**33.41**	**341**	IAmb	IAmb	04 19 48.6
	comp=Z,8.1nm,0.8s					
I26K	**Coal Creek Min**	**33.41**	**341**	P	**P**	**04 19 47.7 +1.8**
	baz=140					
J25K	**Salcha River,**	**33.51**	**339**	IAmb	IAmb	04 19 49.5
	comp=Z,8.7nm,1.0s					
J25K	**Salcha River,**	**33.51**	**339**	P	**P**	**04 19 48.2 +1.4**
	baz=137,SNR=8.8					
G29M	**Pine Creek**	**33.52**	**346**	P	**P**	**04 19 48.0 +1.1**
	baz=149,SNR=12					
ACHA	**Angle Creek He**	**33.59**	**324**	IAmb	IAmb	04 19 50.2
	comp=Z,12nm,1.4s					
Q18K	**Katmai Hardscr**	**33.63**	**325**	P	**P**	**04 19 49.5 +1.4**
	baz=117					
CUT	**Chulitna**	**33.66**	**333**	P	**P**	**04 19 49.4 +1.4**
	baz=128					
SPCR	**Spurr Chakacha**	**33.70**	**330**	P	**P**	**04 19 49.7 +1.2**
	baz=124					
F30M	**Barrier River**	**33.71**	**348**	P	**P**	**04 19 49.9 +1.5**
	baz=153,SNR=9.5					
H27K	**Steamboat Moun**	**33.72**	**343**	IAmb	IAmb	04 19 50.4
	comp=Z,7.3nm,1.0s					
H27K	**Steamboat Moun**	**33.72**	**343**	P	**P**	**04 19 50.1 +1.5**
	baz=144,SNR=8.8					
HDA	**Harding Lake**	**33.84**	**338**	P	**P**	**04 19 51.1 +1.4**
	baz=134					
PLK4	**Peulik 4**	**33.85**	**323**	IAmb	IAmb	04 19 53.5
	comp=Z,14nm,0.9s					
R17L	**Mt. Peulik Vol**	**33.85**	**323**	P	**P**	**04 19 52.0 +2.2**
	baz=114,SNR=5.6					
SKT	**Skwentna**	**33.88**	**332**	IAmb	IAmb	04 19 51.9
	comp=Z,7.4nm,0.8s					
SKT	**Skwentna**	**33.88**	**332**	P	**P**	**04 19 51.4 +1.4**
	baz=125,SNR=8.2					
Q17K	**Contact Creek**	**33.88**	**324**	P	**P**	**04 19 51.6 +1.4**
	baz=115,SNR=11					
INK	**Inuvik**	**33.97**	**350**	P	**P**	**04 19 51.8 +1.1**
	baz=156,SNR=8.6					
MCK	**McKinley**	**34.03**	**336**	IAmb	IAmb	04 19 53.6
	comp=Z,11nm,0.8s					
MCK	**McKinley**	**34.03**	**336**	P	**P**	**04 19 52.6 +1.3**
	baz=131,SNR=6.8					
O19K	**Port Alsworth**	**34.06**	**328**	P	**P**	**04 19 53.0 +1.5**
	baz=120					
P18K	**Big Mountain,**	**34.08**	**326**	P	**P**	**04 19 52.8 +1.0**
	baz=118					
ILAR	**Eielson Array**	**34.08**	**338**	P	**P**	**04 19 51.8 +0.1**
	comp=Z,6.5nm,0.9s,baz=154,slow=7.4,SNR=68					
	comp=Z,6.5nm,0.9s					
PRP	**Porcupine Dome**	**34.22**	**340**	P	**P**	**04 19 54.6 +1.6**
	baz=137,SNR=5.7					
G27K	**Doyon Strip**	**34.22**	**343**	IAmb	IAmb	04 19 55.2
	comp=Z,7.6nm,1.0s					
G27K	**Doyon Strip**	**34.22**	**343**	P	**P**	**04 19 53.9 +0.9**
	baz=144,SNR=9.7					
WRH	**Wood River Hil**	**34.24**	**337**	IAmb	IAmb	04 19 55.8
	comp=Z,13nm,1.0s					
CCB	**Clear Creek Bu**	**34.27**	**337**	IAmb	IAmb	04 19 55.1
	comp=Z,8.0nm,1.0s					
O18K	**Koktuh Hills**	**34.28**	**327**	IAmb	IAmb	04 19 55.7
	comp=Z,13nm,0.9s					
O18K	**Koktuh Hills**	**34.28**	**327**	P	**P**	**04 19 55.0 +1.5**
	baz=118,SNR=5.7					
TRF	**Thorofare Moun**	**34.31**	**335**	P	**P**	**04 19 55.0 +1.1**
	baz=129,SNR=8.3					
CHGN	**Chignik**	**34.40**	**320**	P	**P**	**04 19 56.0 +1.4**
CHGN	**Chignik**	**34.40**	**320**	P	**P**	**04 19 56.2 +1.7**
	baz=110,SNR=7.2					
Q16K	**King Salmon**	**34.42**	**324**	P	**P**	**04 19 56.5 +1.8**
	baz=115					
N19K	**Bonanza Creek**	**34.44**	**329**	P	**P**	**04 19 56.1 +1.1**
	baz=120,SNR=17					
COLA	**College**	**34.45**	**338**	*i* P	**P**	**04 19 55.7 +0.9**
COLA				pmax	pmax	
	comp=Z,6.0nm,0.9s					
COLA	**College**	**34.45**	**338**	P	**P**	**04 19 56.7 +1.8**
	baz=134					
M20K	**Styx River**	**34.45**	**331**	IAmb	IAmb	04 19 56.8
	comp=Z,11nm,0.8s					
M20K	**Styx River**	**34.45**	**331**	P	**P**	**04 19 56.5 +1.5**
	baz=123					
F28M	**Old Crow**	**34.49**	**345**	IAmb	IAmb	04 19 57.5
	comp=Z,6.2nm,0.8s					
F28M	**Old Crow**	**34.49**	**345**	P	**P**	**04 19 56.4 +1.0**
	baz=147,SNR=7.6					
P17K	**Kvichak River**	**34.54**	**325**	P	**P**	**04 19 56.6 +0.9**
	baz=116					
CHNA	**Chernabura Isl**	**34.58**	**317**	P	**P**	**04 19 57.1 +1.0**
	baz=106					
KTH	**Kantishna Hill**	**34.60**	**334**	IAmb	IAmb	04 19 58.2
	comp=Z,13nm,1.0s					
NEA2	**Nenana**	**34.64**	**337**	IAmb	IAmb	04 19 58.8
	comp=Z,10nm,1.2s					
NEA2	**Nenana**	**34.64**	**337**	P	**P**	**04 19 57.7 +1.1**
	baz=132,SNR=14					
PPLA	**Purkeypile**	**34.66**	**333**	P	**P**	**04 19 57.9 +1.0**
	baz=126,SNR=7.0					
E29M	**Blow River**	**34.77**	**347**	P	**P**	**04 19 59.3 +1.6**
	baz=150,SNR=6.6					
G26K	**Porcupine Rive**	**34.85**	**342**	P	**P**	**04 20 00.1 +1.8**
	baz=141,SNR=24					
H25L	**Birch Creek**	**34.85**	**340**	P	**P**	**04 20 00.2 +1.8**
	baz=138					
CAST	**Castle Rocks**	**34.93**	**334**	IAmb	IAmb	04 20 00.2
	comp=Z,7.3nm,0.8s					
CAST	**Castle Rocks**	**34.93**	**334**	P	**P**	**04 19 59.7 +0.6**
	baz=126,SNR=12					
BPAW	**Bear Paw Mtn.**	**34.96**	**335**	P	**P**	**04 20 00.5 +1.1**
	baz=129,SNR=28					
M19K	**Big River Lodg**	**34.96**	**330**	P	**P**	**04 20 01.1 +1.7**
	baz=122,SNR=5.8					
N18K	**Kilae Creek**	**34.97**	**328**	IAmb	IAmb	04 20 01.3
	comp=Z,9.5nm,0.8s					
N18K	**Kilae Creek**	**34.97**	**328**	P	**P**	**04 20 00.7 +1.2**
	baz=118,SNR=12					
S14K	**Fog Glacier**	**34.99**	**320**	P	**P**	**04 20 00.7 +0.9**
	baz=108					
L20K	**Farewell, AK**	**35.07**	**331**	P	**P**	**04 20 01.5 +1.1**
	baz=123,SNR=17					
O17K	**Koliganek Bris**	**35.10**	**326**	P	**P**	**04 20 01.8 +1.3**
	baz=116					
I23K	**Minto, Yukon-K**	**35.10**	**337**	IAmb	IAmb	04 20 02.9
	comp=Z,18nm,1.5s					
I23K	**Minto, Yukon-K**	**35.10**	**337**	P	**P**	**04 20 01.8 +1.3**
	baz=132					
H24K	**Noodor Dome**	**35.13**	**339**	P	**P**	**04 20 01.9 +1.0**
	baz=134,SNR=7.7					
P16K	**Nushagak River**	**35.20**	**325**	P	**P**	**04 20 02.0 +0.6**
	baz=114					
SDPT	**Sand Point**	**35.22**	**318**	P	**P**	**04 20 02.0 +0.4**
	baz=106					
E28M	**Babbage River**	**35.27**	**346**	P	**P**	**04 20 03.0 +1.0**
	baz=148,SNR=6.7					
CHUM	**Lake Minchumin**	**35.29**	**334**	P	**P**	**04 20 03.5 +1.3**
	baz=127,SNR=20					
L19K	**White Mountain**	**35.29**	**331**	P	**P**	**04 20 03.7 +1.4**
	baz=122,SNR=8.8					
G25K	**Bearman Lake**	**35.30**	**341**	P	**P**	**04 20 04.3 +2.1**
	baz=138,SNR=8.4					
E27K	**Coleen River**	**35.34**	**345**	IAmb	IAmb	04 20 04.8
	comp=Z,13nm,1.2s					
E27K	**Coleen River**	**35.34**	**345**	P	**P**	**04 20 04.2 +1.7**
	baz=145,SNR=7.2					
M18K	**Stony River**	**35.34**	**329**	P	**P**	**04 20 03.7 +1.1**
	baz=119,SNR=12					
BMAR	**Burnt Mountain**	**35.42**	**342**	P	**P**	**04 20 04.8 +1.6**
MLY	**Manley**	**35.47**	**336**	IAmb	IAmb	04 20 06.6
	comp=Z,9.5nm,0.8s					
MLY	**Manley**	**35.47**	**336**	P	**P**	**04 20 04.9 +1.2**
	baz=130,SNR=19					
N17K	**Nushagak Hills**	**35.47**	**327**	IAmb	IAmb	04 20 06.3
	comp=Z,13nm,0.9s					
N17K	**Nushagak Hills**	**35.47**	**327**	P	**P**	**04 20 05.4 +1.6**
	baz=117,SNR=13					
O16K	**Kokwok River B**	**35.48**	**325**	P	**P**	**04 20 04.8 +1.0**
O16K	**Kokwok River B**	**35.48**	**325**	P	**P**	**04 20 05.1 +1.3**
	baz=114,SNR=5.5					
F26K	**Sheenjek River**	**35.52**	**343**	P	**P**	**04 20 06.3 +2.1**
	baz=141,SNR=26					
H23K	**Yukon River**	**35.62**	**338**	IAmb	IAmb	04 20 07.3
	comp=Z,11nm,0.9s					
H23K	**Yukon River**	**35.62**	**338**	P	**P**	**04 20 06.5 +1.5**
	baz=132,SNR=6.6					
K20K	**Telida**	**35.63**	**333**	P	**P**	**04 20 06.2 +1.1**
	baz=124,SNR=41					
G24K	**Hadweenzic Riv**	**35.63**	**340**	P	**P**	**04 20 06.1 +1.0**
G24K	**Hadweenzic Riv**	**35.63**	**340**	P	**P**	**04 20 06.5 +1.5**
	baz=136					
F25K	**Christian Rive**	**35.81**	**342**	P	**P**	**04 20 07.9 +1.3**
F25K				IAmb	IAmb	04 20 09.7
	comp=Z,20nm,1.1s					
F25K	**Christian Rive**	**35.81**	**342**	P	**P**	**04 20 08.7 +2.1**
	baz=139,SNR=16					
M17K	**Holitna River**	**35.98**	**328**	P	**P**	**04 20 09.5 +1.4**
	baz=117,SNR=18					
L18K	**Granite Mounta**	**36.05**	**330**	P	**P**	**04 20 10.2 +1.4**
	baz=119,SNR=5.8					
J20K	**Nowinta River**	**36.12**	**334**	P	**P**	**04 20 10.3 +1.1**
	baz=125,SNR=25					
O15K	**Ungalikthiuk R**	**36.13**	**324**	IAmb	IAmb	04 20 16.8
	comp=Z,20nm,1.4s					
O15K	**Ungalikthiuk R**	**36.13**	**324**	P	**P**	**04 20 10.4 +1.0**
	baz=112					
N16K	**Nishlik Lake**	**36.15**	**326**	P	**P**	**04 20 11.2 +1.6**
	baz=115,SNR=11					
E25K	**Arctic Village**	**36.19**	**343**	P	**P**	**04 20 11.0 +1.1**
E25K				IAmb	IAmb	04 20 13.1
	comp=Z,19nm,1.0s					
E25K	**Arctic Village**	**36.19**	**343**	P	**P**	**04 20 12.1 +2.2**
	baz=140,SNR=12					
H22K	**Ishtalitna Cre**	**36.23**	**337**	P	**P**	**04 20 11.8 +1.6**
	baz=130,SNR=26					
F24K	**Squaw Lake**	**36.33**	**341**	P	**P**	**04 20 12.8 +1.6**
	baz=136					
G23K	**Bananza Creek**	**36.36**	**339**	P	**P**	**04 20 12.7 +1.3**
	baz=133					
M16K	**Timber Creek**	**36.47**	**327**	IAmb	IAmb	04 20 15.3
	comp=Z,15nm,0.9s					
M16K	**Timber Creek**	**36.47**	**327**	P	**P**	**04 20 14.2 +1.9**
	baz=115,SNR=11					
H21K	**Melozitna Rive**	**36.54**	**336**	P	**P**	**04 20 14.2 +1.3**
	baz=128,SNR=28					
J19K	**Poorman**	**36.56**	**333**	P	**P**	**04 20 14.2 +1.2**
	baz=123,SNR=36					
I20K	**Naagheedeneel**	**36.59**	**334**	P	**P**	**04 20 14.6 +1.3**
	baz=125,SNR=16					
N15K	**Kwethluk River**	**36.63**	**326**	P	**P**	**04 20 15.1 +1.3**
	baz=113					
L17K	**Donlin**	**36.68**	**329**	P	**P**	**04 20 15.3 +1.2**
	baz=117,SNR=11					
J18K	**Innoko River**	**36.69**	**332**	IAmb	IAmb	04 20 15.7
	comp=Z,10nm,0.8s					
J18K	**Innoko River**	**36.69**	**332**	P	**P**	**04 20 15.6 +1.4**
	baz=121,SNR=16					
COLD	**Coldfoot**	**36.76**	**340**	P	**P**	**04 20 16.1 +1.3**
	baz=133					
E24K	**Your Creek**	**36.89**	**341**	IAmb	IAmb	04 20 19.0
	comp=Z,11nm,1.0s					
E24K	**Your Creek**	**36.89**	**341**	P	**P**	**04 20 17.6 +1.7**
	baz=136					
G22K	**Bettles**	**36.94**	**339**	P	**P**	**04 20 17.8 +1.6**
	baz=131					
K17K	**Iditarod**	**36.95**	**330**	P	**P**	**04 20 17.7 +1.3**
	baz=118,SNR=16					
C27K	**Jago River**	**36.96**	**345**	P	**P**	**04 20 18.4 +2.0**
	baz=143,SNR=9.1					
L16K	**Owhat River**	**36.99**	**328**	P	**P**	**04 20 18.0 +1.3**
	baz=115					
M15K	**Kasigluk River**	**37.11**	**326**	P	**P**	**04 20 19.1 +1.4**
	baz=113,SNR=5.7					
H20K	**Anotleneega Mo**	**37.13**	**335**	P	**P**	**04 20 18.9 +1.0**
	baz=125,SNR=32					
E23K	**Chandalar**	**37.18**	**341**	P	**P**	**04 20 19.6 +1.2**
E23K	**Chandalar**	**37.18**	**341**	P	**P**	**04 20 20.6 +2.2**
	baz=134,SNR=7.6					
N14K	**Kuskokwak Cree**	**37.28**	**325**	P	**P**	**04 20 20.2 +1.0**
	baz=111					
G21K	**Allakaket**	**37.29**	**337**	IAmb	IAmb	04 20 21.7
	comp=Z,17nm,1.2s					
G21K	**Allakaket**	**37.29**	**337**	P	**P**	**04 20 20.6 +1.3**
	baz=128,SNR=11					
D25K	**Kavik River**	**37.30**	**344**	P	**P**	**04 20 20.8 +1.4**
	baz=140					
GCSA	**Galena City Sc**	**37.42**	**333**	P	**P**	**04 20 21.5 +1.2**
	baz=122,SNR=5.2					
C26K	**Camden Bay**	**37.44**	**345**	P	**P**	**04 20 22.1 +1.6**
	baz=142					
F22K	**John River**	**37.52**	**339**	P	**P**	**04 20 23.1 +1.9**
	baz=131					
TOLK	**Toolik Lake Re**	**37.58**	**341**	IAmb	IAmb	04 20 24.7
	comp=Z,16nm,1.1s					
TOLK	**Toolik Lake Re**	**37.58**	**341**	P	**P**	**04 20 23.6 +1.9**
	baz=135,SNR=7.2					
J17K	**VABM Dome**	**37.58**	**331**	P	**P**	**04 20 22.5 +0.8**
	baz=118,SNR=5.8					
H19K	**Roundabout Mou**	**37.69**	**335**	IAmb	IAmb	04 20 24.6
	comp=Z,19nm,1.0s					
H19K	**Roundabout Mou**	**37.69**	**335**	P	**P**	**04 20 23.4 +0.8**
	baz=123,SNR=13					
M14K	**Bethel**	**37.71**	**326**	P	**P**	**04 20 23.9 +1.1**
	baz=111					
F21K	**Alatna River**	**37.73**	**338**	P	**P**	**04 20 24.3 +1.3**
F21K	**Alatna River**	**37.73**	**338**	P	**P**	**04 20 24.6 +1.6**
	baz=129					
D24K	**Happy Valley**	**37.76**	**342**	P	**P**	**04 20 24.5 +1.4**
D24K				IAmb	IAmb	04 20 25.8
	comp=Z,11nm,1.1s					
D24K	**Happy Valley**	**37.76**	**342**	P	**P**	**04 20 24.6 +1.4**
	baz=136					
E22K	**Anaktuvuk Pass**	**37.83**	**340**	IAmb	IAmb	04 20 26.5
	comp=Z,12nm,1.0s					
E22K	**Anaktuvuk Pass**	**37.83**	**340**	P	**P**	**04 20 25.3 +1.5**
	baz=132					
L15K	**Ungalak Mounta**	**37.85**	**327**	P	**P**	**04 20 24.9 +0.9**
	baz=113					
D23K	**Nanushuk River**	**38.10**	**341**	P	**P**	**04 20 27.4 +1.4**
D23K	**Nanushuk River**	**38.10**	**341**	P	**P**	**04 20 27.9 +1.9**
	baz=134,SNR=9.7					
K15K	**Wolf Creek Mou**	**38.12**	**328**	IAmb	IAmb	04 20 28.2
	comp=Z,16nm,0.9s					
K15K	**Wolf Creek Mou**	**38.12**	**328**	P	**P**	**04 20 27.3 +1.1**
	baz=114,SNR=8.0					
C24K	**Franklin Bluff**	**38.15**	**343**	P	**P**	**04 20 27.7 +1.4**
	baz=137					
J16K	**Anvik River**	**38.15**	**330**	IAmb	IAmb	04 20 28.3
	comp=Z,17nm,1.0s					
J16K	**Anvik River**	**38.15**	**330**	P	**P**	**04 20 27.4 +1.0**
	baz=116,SNR=8.4					
H18K	**Honhosa River**	**38.17**	**334**	IAmb	IAmb	04 20 28.6
	comp=Z,14nm,1.0s					
H18K	**Honhosa River**	**38.17**	**334**	P	**P**	**04 20 27.9 +1.1**
	baz=121,SNR=7.7					
M13K	**Dall Lake**	**38.23**	**325**	P	**P**	**04 20 28.1 +0.9**
	baz=110					
G19K	**Purcell Mounta**	**38.25**	**335**	IAmb	IAmb	04 20 29.0
	comp=Z,13nm,1.0s					
G19K	**Purcell Mounta**	**38.25**	**335**	P	**P**	**04 20 28.3 +1.0**
	baz=123,SNR=9.0					
L14K	**Kuka Creek**	**38.25**	**327**	P	**P**	**04 20 27.8 +0.4**
	baz=111					
F20K	**Avaraart Lake**	**38.32**	**337**	P	**P**	**04 20 28.7 +0.9**
	baz=126					
UNV	**Unalaska Valle**	**38.33**	**314**	P	**P**	**04 20 28.7 +0.5**
	baz=98					
I17K	**Unalakleet**	**38.45**	**331**	P	**P**	**04 20 29.9 +0.9**
	baz=116					
D22K	**Ayikyak River**	**38.57**	**341**	P	**P**	**04 20 31.4 +1.4**
	baz=131					
H17K	**Granite Mounta**	**38.64**	**333**	P	**P**	**04 20 31.4 +0.8**
	baz=119,SNR=5.9					
E21K	**Killik River**	**38.64**	**339**	P	**P**	**04 20 31.7 +1.0**
	baz=129					
G18K	**Tagagawik**	**38.66**	**334**	P	**P**	**04 20 31.2 +0.4**
	baz=121,SNR=7.2					
C23K	**Itkillik River**	**38.69**	**342**	IAmb	IAmb	04 20 33.3
	comp=Z,16nm,1.0s					
C23K	**Itkillik River**	**38.69**	**342**	P	**P**	**04 20 32.4 +1.4**
	baz=135					
F19K	**Shaleruckik Mo**	**38.86**	**336**	IAmb	IAmb	04 20 34.3
	comp=Z,12nm,0.9s					
F19K	**Shaleruckik Mo**	**38.86**	**336**	P	**P**	**04 20 33.2 +0.8**
	baz=123,SNR=15					
E19K	**Redstone River**	**39.03**	**337**	IAmb	IAmb	04 20 36.3
	comp=Z,20nm,1.1s					
E19K	**Redstone River**	**39.03**	**337**	P	**P**	**04 20 35.2 +1.3**
	baz=124,SNR=14					
J14K	**Nanvaranak Lak**	**39.16**	**328**	P	**P**	**04 20 36.2 +1.2**
	baz=112					
E20K	**Nigu River**	**39.18**	**338**	P	**P**	**04 20 36.5 +1.3**
	baz=126,SNR=10					
G17K	**Kiwalik Mounta**	**39.18**	**333**	P	**P**	**04 20 36.2 +1.0**
	baz=118,SNR=13					
C21K	**Knifeblade Rid**	**39.33**	**340**	P	**P**	**04 20 37.6 +1.3**
	baz=129					
K13K	**Kusilvak Mount**	**39.34**	**327**	P	**P**	**04 20 37.3 +0.7**
	baz=110					
M11K	**Mekoryuk**	**39.57**	**324**	P	**P**	**04 20 39.2 +0.7**
	baz=106					
B21K	**Ikpikpuk River**	**39.58**	**341**	P	**P**	**04 20 39.2 +0.9**
	baz=130					
D20K	**Etivluk River**	**39.58**	**339**	P	**P**	**04 20 39.0 +0.5**
D20K	**Etivluk River**	**39.58**	**339**	P	**P**	**04 20 39.2 +0.8**
	baz=126					
B22K	**Teshekpuk Lake**	**39.74**	**342**	P	**P**	**04 20 40.6 +0.9**
B22K	**Teshekpuk Lake**	**39.74**	**342**	P	**P**	**04 20 40.9 +1.2**
	baz=132					
G16K	**Koyuk River**	**39.76**	**333**	P	**P**	**04 20 40.9 +0.9**
G16K				IAmb	IAmb	04 20 42.2
	comp=Z,17nm,0.8s					
G16K	**Koyuk River**	**39.76**	**333**	P	**P**	**04 20 41.6 +1.6**
	baz=116,SNR=11					
F17K	**Baldwin Pennin**	**39.85**	**334**	P	**P**	**04 20 42.0 +1.4**
	baz=119					
D19K	**Kuna River**	**39.90**	**338**	IAm

	comp=Z,24nm,1.3s								
NNA	**Nana**	**61.05**	**133**	*i*	P		**P**	04 23 22.0	**+0.4**
NNA					pmax		pmax		
	comp=Z,13nm,1.0s								
TIXI	**Tiksi**	**63.47**	**341**	*ce*	P		**P**	04 23 36.7	**-0.3**
TIXI					pmax		pmax		
	comp=Z,15nm,2.5s								
YAK	**Yakutsk**	**68.73**	**332**	*i*	P		**P**	04 24 10.9	**0.0**
YAK					pmax		pmax		
	comp=Z,7.0nm,0.9s								
LPAZ	**La Paz**	**69.72**	**129**				**P**	04 24 17.3	**-1.1**
LPAZ					IAmb		IAmb	04 24 21.8	
	comp=Z,5.8nm,0.9s								
LPAZ	**La Paz**	**69.72**	**129**		P		**P**	04 24 20.4	**+2.0**
	comp=Z,5.1nm,0.8s,baz=329,slow=4.6,SNR=25								
	comp=Z,5.1nm,0.8s								
LPAZ	**La Paz**	**69.72**	**129**		P		**P**	04 24 17.3	**-1.1**
LPAZ					pmax		pmax		
	comp=Z,6.0nm,0.9s								
YSS	**Yuzhno-Sakhali**	**70.79**	**314**	*e*	P		**P**	04 24 23.8	**-0.1**
YSS					pmax		pmax		
	comp=Z,10.0nm,0.9s								
PB11	**IPOC Station P**	**71.40**	**132**		P		**P**	04 24 29.3	**+1.3**
EKA	**Eskdalemuir Ar**	**73.60**	**33**		P		**P**	04 24 39.7	**-0.9**
	comp=Z,2.9nm,0.9s,baz=333,slow=7.0,SNR=4.0								
	comp=Z,2.9nm,0.9s								
NRIK	**Noril'sk**	**73.75**	**351**		P		**P**	04 24 40.0	**-1.2**
	comp=Z,6.9nm,0.8s,baz=46,slow=6.7,SNR=3.6								
	comp=Z,6.9nm,0.8s								
NRIK	**Noril'sk**	**73.75**	**351**	*i*	P		**P**	04 24 40.4	**-0.8**
NRIK					pmax		pmax		
	comp=Z,9.0nm,1.0s								
ZEA	**Zeya**	**74.89**	**326**	*e*	P		**P**	04 24 47.6	**-0.5**
ZEA					pmax		pmax		
	comp=Z,10.0nm,1.1s								
NB2	**NORSAR Subarra**	**75.10**	**23**		P		**P**	04 24 49.0	**-0.3**
	comp=Z,10nm,1.2s,baz=320,slow=6.2								
NOA	**NORSAR Array B**	**75.10**	**23**		P		**P**	04 24 47.6	**-1.6**
	comp=Z,1.7nm,0.2s,baz=318,slow=5.8,SNR=5.5								
	comp=Z,1.7nm,0.2s								
KLR	**Kul'dur**	**75.55**	**321**	*i*	P		**P**	04 24 51.9	**-0.1**
KLR					pmax		pmax		
	comp=Z,7.0nm,1.7s								
HFS	**Hagfors**	**76.58**	**23**		P		**P**	04 24 57.2	**-0.5**
	comp=Z,2.3nm,0.9s,baz=336,slow=3.3,SNR=1.7								
	comp=Z,2.3nm,0.9s								
USA0B	**Ussuriysk Arra**	**78.55**	**317**	*i*	P		**P**	04 25 09.4	**+0.4**
USRK	**Ussuriysk Ar.**	**78.55**	**317**		P		**P**	04 25 08.3	**-0.7**
USRK	**Ussuriysk Ar.**	**78.55**	**317**		P		**P**	04 25 08.0	**-1.0**
	comp=Z,4.3nm,0.8s,baz=96,slow=1.9,SNR=8.0								
	comp=Z,4.3nm,0.8s								
USRK	**Ussuriysk Ar.**	**78.55**	**317**		P		**P**	04 25 08.0	**-1.0**
FINES	**FINESS Array B**	**78.91**	**17**		P		**P**	04 25 10.0	**-0.6**
	comp=Z,1.7nm,0.8s,baz=24,slow=3.8,SNR=1.9								
	comp=Z,1.7nm,0.8s								
KLMR	**Klimovskoe**	**82.10**	**11**	*e*	P		**P**	04 25 26.2	**-1.6**
KLMR				*e*				04 25 31.3	
KLMR					pmax		pmax		
	comp=Z,14nm,1.4s								
ESDC	**Sonseca Array**	**83.36**	**45**		P		**P**	04 25 34.3	**-0.5**
	comp=Z,0.8nm,1.0s,baz=315,slow=4.9,SNR=5.0								
	comp=Z,0.8nm,1.0s								
CPUP	**Villa Florida**	**83.88**	**128**		P		**P**	04 25 38.4	**+1.0**
	comp=Z,0.9nm,0.9s,baz=184,slow=3.7,SNR=2.9								
	comp=Z,0.9nm,0.9s								
CEST	**Esterri de Car**	**84.27**	**41**				**P**	04 25 39.1	**-0.4**
KSRS	**Korea Array**	**85.26**	**313**		P		**P**	04 25 43.7	**-0.7**
	comp=Z,1.7nm,0.8s,baz=57,slow=5.3,SNR=5.7								
	comp=Z,1.7nm,0.8s								
GERES	**GERESS Array B**	**85.46**	**30**		P		**P**	04 25 45.2	**-0.1**
	comp=Z,0.4nm,0.7s,baz=331,slow=4.7,SNR=5.2								
	comp=Z,0.4nm,0.7s								
MOY	**Mondy**	**86.75**	**337**	*e*	P		**P**	04 25 52.1	**+0.4**
MOY					pmax		pmax		
	comp=Z,20nm,1.6s								
ZAK	**Zakamensk**	**87.09**	**335**	*e*	P		**P**	04 25 52.9	**-0.4**
ZAK					pmax		pmax		
	comp=Z,7.0nm,1.3s								
PLCA	**Paso Flores**	**87.42**	**146**		P		**P**	04 25 56.8	**+2.1**
	comp=Z,3.7nm,0.9s,baz=320,slow=6.5,SNR=6.2								
	comp=Z,3.7nm,0.9s								
ULN	**Ulaanbaatar**	**87.81**	**332**	*ce*	P		**P**	04 25 58.0	**+1.1**
ULN					pmax		pmax		
	comp=Z,6.0nm,1.3s								
SONM	**Songino Array**	**88.09**	**332**		P		**P**	04 25 59.0	**+0.8**
	comp=Z,3.5nm,0.8s,baz=27,slow=4.3,SNR=20								
	comp=Z,3.5nm,0.8s								
SONM	**Songino Array**	**88.09**	**332**		P		**P**	04 25 59.0	**+0.8**
ARTI	**Arti**	**88.32**	**2**		P		**P**	04 25 59.3	**+0.3**
ARTI					S		**SKSac**	04 36 28.2	**+1.0**
ARTI					SS		**SS**	04 42 32.7	**+1.6**
ZAA0	**Zalesovo Array**	**88.73**	**347**		IAmb		IAmb	04 26 01.0	
	comp=Z,4.9nm,0.9s								
ZALV	**Zalesovo Beam**	**88.73**	**347**		P		**P**	04 26 00.4	**-0.6**
ZALV	**Zalesovo Beam**	**88.73**	**347**		P		**P**	04 25 59.5	**-1.4**
	comp=Z,3.0nm,0.7s,baz=20,slow=4.9,SNR=9.9								
	comp=Z,3.0nm,0.7s								
ZALV	**Zalesovo Beam**	**88.73**	**347**		P		**P**	04 26 00.4	**-0.6**
AKASG	**Malin Array Be**	**89.25**	**20**		P		**P**	04 26 02.6	**-0.9**
	comp=Z,0.7nm,0.6s,baz=317,slow=3.4,SNR=5.6								
	comp=Z,0.7nm,0.6s								
AKASG	**Malin Array Be**	**89.25**	**20**	*i*	P		**P**	04 26 02.5	**-0.9**
AKASG					pmax		pmax		
	comp=Z,2.0nm,0.8s								
AKBB	**Malin Array Si**	**89.25**	**20**	*i*	P		**P**	04 26 04.7	**+1.2**
AKBB					pmax		pmax		
	comp=Z,4.0nm,1.0s								
BELG	**Belogornoye**	**91.45**	**9**	*i*	P		**P**	04 26 15.0	**+1.4**
BELG					pmax		pmax		
	comp=Z,2.0nm,0.9s								
BRVK	**Borovoye**	**91.45**	**355**		P		**P**	04 26 14.1	**+0.4**
BRVK	**Borovoye**	**91.45**	**355**	*ce*	P		**P**	04 26 14.2	**+0.5**
BRVK					pmax		pmax		
	comp=Z,8.0nm,1.1s								
BVAR	**Borovoye Array**	**91.48**	**355**		P		**P**	04 26 14.3	**+0.5**
	comp=Z,4.5nm,0.9s,baz=8.1,slow=3.1,SNR=13								
	comp=Z,4.5nm,0.9s								
KURK	**Kurchatov**	**92.88**	**350**		P		**P**	04 26 19.8	**-0.5**
KURK					IAmb		IAmb	04 26 20.9	
	comp=Z,5.9nm,1.2s								
KURK	**Kurchatov**	**92.88**	**350**	*ce*	P		**P**	04 26 20.4	**+0.1**
KURK					pmax		pmax		
	comp=Z,3.0nm,1.1s								
KURBB	**Kurchatov Arra**	**92.98**	**350**		P		**P**	04 26 19.9	**-0.8**
	comp=Z,2.7nm,1.0s,baz=13,slow=4.6,SNR=18								
	comp=Z,2.7nm,1.0s								
MK31	**Makanchi Array**	**96.06**	**346**	*ce*	P		**P**	04 26 34.3	**-0.7**
MKAR	**Makanchi Array**	**96.06**	**346**		P		**P**	04 26 33.4	**-1.6**
	comp=Z,0.8nm,0.8s,baz=15,slow=5.3,SNR=5.8								
	comp=Z,0.8nm,0.8s								
MKAR	**Makanchi Array**	**96.06**	**346**	*i*	P		**P**	04 26 34.7	**-0.3**
MKAR					pmax		pmax		
	comp=Z,1.0nm,0.8s								
KIV	**Kislovodsk**	**98.84**	**14**	*e*	P		**P**	04 26 47.4	**-0.3**
KIV					pmax		pmax		
	comp=Z,4.0nm,1.0s								
KBZ	**Khabaz**	**99.10**	**14**	*i*	P		Pdif	04 26 50.4	**+1.7**
KBZ					pmax		pmax		
	comp=Z,1.0nm,0.9s								

PAS 06 04:14:20.8±0.6,**35°.604N**±0°.007×**117°.40W**±0°.01,
h7km±1km,**ML4.1**/13,**ML3.9**/14(NEIC),**Error ellipse:**
s-maj=1.5km s-min=0.9km az=113.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.09**	**159**		Pg	04 14 23.2	+0.3
CCCA					Sg	04 14 25.2	+0.9
LRMC	**Laurel Mtn Rad**	**0.26**	**241**		Pg	04 14 23.5	-2.5
LRMC					Sg	04 14 29.6	+0.2
SRTC	**Snort**	**0.29**	**287**		Pg	04 14 26.5	-0.1
MPMC	**Manual Prospec**	**0.46**	**351**		Pg	04 14 29.4	-0.3
DTP	**Desert Tortois**	**0.49**	**227**		Pg	04 14 27.8	-2.6
DTP					Sg	04 14 36.7	-0.1
QSM	**Queen of Sheba**	**0.56**	**50**	Pg	Pg	04 14 31.4	-0.3
QSM				Sg	Sg	04 14 39.1	0.0
QSM				IAML		04 14 51.2	
	comp=E,6μm,0.6s						
QSM				IAML		04 14 51.3	
	comp=N,8μm,0.9s						
GSC	**Goldstone, Bar**	**0.57**	**122**	Pg	Pg	04 14 31.5	-0.4
GSC				Sg	Sg	04 14 39.5	+0.2
GSC				IAML		04 14 39.7	
	comp=N,7μm,0.6s						
WBSM	**Bird Springs**	**0.60**	**264**		Pg	04 14 32.0	-0.5
WBSM					Sg	04 14 40.4	0.0
CCAC	**Calif City Air**	**0.67**	**228**		Pg	04 14 33.5	-0.3
CCAC					Sg	04 14 42.7	+0.2
CCAC					IAML	04 14 46.9	
	comp=N,9μm,0.5s						
CCAC					IAML	04 14 48.9	
	comp=E,7μm,1.2s						
WORM	**Onyx Ranch**	**0.69**	**278**		Sg	04 14 42.6	-0.4
HYS	**Haystack Butte**	**0.75**	**190**		Pg	04 14 34.7	-0.5
HYS					Sg	04 14 44.7	-0.3
WHFM	**Hanning Flat**	**0.78**	**277**		Sg	04 14 45.4	-0.4
ISA	**Isabella, Lake**	**0.88**	**274**		Pg	04 14 37.0	-0.6
ISA	**Isabella, Lake**	**0.88**	**274**		Pg	04 14 37.2	-0.4
ISA				Sg	Sg	04 14 48.2	-0.8
ISA				IAML		04 14 51.4	
	comp=N,2μm,0.4s						
ISA				IAML		04 14 51.9	
	comp=E,2μm,0.5s						
WASM	**Alta Sierra Ca**	**0.95**	**278**		Sg	04 14 50.9	-0.5
SBB	**Saddle Back Bu**	**0.98**	**201**		Sg	04 14 51.3	-0.9
TPO	**Tropico Hills**	**0.99**	**223**		Pg	04 14 39.5	-0.3
PASC	**Pasadena Art C**	**1.57**	**204**		Pn	04 14 49.4	+0.3
PASC				IAML		04 15 25.1	
	comp=E,1μm,1.0s						

*NEIC **06** 04:16:01.8±2.2,35°.910N±0°.010×117°.71W±0°.02,*
h10km±2km,Error ellipse: s-maj=3.0km s-min=2.3km
az=12.0

PAS 06 04:16:02.3±1.9,**35°.93N**±0°.01×**117°.73W**±0°.02,**h9**km±8km,
ML3.4/10,**ML3.3**/12(NEIC),**Error ellipse: s-maj=2.0km**
s-min=1.4km az=51.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.08**	**287**		Pg	04 16 04.8	+0.2
WNMM	**Nine Mile Cany**	**0.17**	**240**		Pg	04 16 09.4	+3.5
MFS	**McCloud Flat S**	**0.22**	**331**		Sg	04 16 09.7	-0.2
LRMC	**Laurel Mtn Rad**	**0.45**	**175**		Sg	04 16 15.8	-1.1
CCCA	**Chr Cany lake**	**0.50**	**144**		Pg	04 16 12.3	+0.3
WBSM	**Bird Springs**	**0.51**	**221**		Pg	04 16 11.9	-0.5
WBSM					Sg	04 16 19.2	+0.1
WHFM	**Hanning Flat**	**0.56**	**246**		Pg	04 16 13.0	-0.1
WHFM					Sg	04 16 20.5	+0.1
ISA	**Isabella, Lake**	**0.66**	**247**		Sg	04 16 23.8	0.0
ISA	**Isabella, Lake**	**0.66**	**247**	Pg	Pg	04 16 14.8	-0.3
ISA				IAML		04 16 39.1	
	comp=N,623nm,0.5s						
ISA				IAML		04 16 39.2	
	comp=E,956nm,0.4s						
CCAC	**Calif City Air**	**0.81**	**197**	Pg	Pg	04 16 16.6	-1.3
GWY	**Greenwater Val**	**0.90**	**73**	Pg	Pg	04 16 18.7	-0.8
GWY				IAML		04 16 47.8	
	comp=E,637nm,0.7s						
GSC	**Goldstone, Bar**	**0.97**	**129**	Pg	Pg	04 16 19.1	-1.9
GSC				IAML		04 16 47.4	
	comp=N,978nm,0.6s						
GSC				IAML		04 16 49.0	
	comp=E,1μm,0.5s						
TEJ	**El Tejon**	**1.05**	**229**		Pg	04 16 21.2	-1.3
GRAC	**Grapevine Rang**	**1.11**	**15**	Pg	Pg	04 16 22.9	-0.7
GATR	**Gnd/Air Tx Cnt**	**2.65**	**240**		Pn	04 16 47.0	+1.6

*NEIC **06** 04:16:17.1±1.2,35°.839N±0°.010×117°.689W±0°.008,*
h5km±1km,Error ellipse: s-maj=2.5km s-min=1.7km
az=192.0

PAS 06 04:16:17.3±1.1,**35°.83N**±0°.01×**117°.67W**±0°.02,**h6**km±2km,
ML3.5/24,**ML3.4**/16(NEIC),**Error ellipse: s-maj=1.8km**
s-min=1.5km az=111.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.17**	**316**		Pg	04 16 23.6	+2.7
WNMM	**Nine Mile Cany**	**0.19**	**275**		Pg	04 16 21.2	+0.1
WNMM					Sg	04 16 24.4	+0.7
WRVM	**Rose V. Centra**	**0.25**	**316**		Pg	04 16 22.4	+0.1
LRMC	**Laurel Mtn Rad**	**0.34**	**181**		Pg	04 16 23.9	-0.2
LRMC					Sg	04 16 29.1	+0.4
WORM	**Onyx Ranch**	**0.48**	**255**		Sg	04 16 32.7	-0.3
WHFM	**Hanning Flat**	**0.57**	**257**		Sg	04 16 35.4	-0.3
DTP	**Desert Tortois**	**0.57**	**194**		Sg	04 16 36.0	+0.1
ISA	**Isabella, Lake**	**0.67**	**256**	Pg	Pg	04 16 29.7	-0.6
ISA				IAML		04 16 40.1	
	comp=N,1μm,0.4s						
ISA				IAML		04 16 41.8	
	comp=E,1μm,0.2s						
CWC	**Cottonwood Cre**	**0.70**	**332**		Pg	04 16 30.7	-0.1
WASM	**Alta Sierra Ca**	**0.72**	**263**		Pg	04 16 30.8	-0.5
CCAC	**Calif City Air**	**0.73**	**203**	Pg	Pg	04 16 30.7	-0.6
GWY	**Greenwater Val**	**0.89**	**66**	Pg	Pg	04 16 34.2	-0.2
GWY				IAML		04 16 53.5	
	comp=E,809nm,0.4s						
FURC	**Furnace Creek,**	**0.92**	**45**		Pg	04 16 34.8	-0.1
GRAC	**Grapevine Rang**	**1.19**	**12**	Pg	Pg	04 16 39.8	-0.5
GRAC				IAML		04 16 58.1	
	comp=N,1μm,0.5s						
THC	**Tehachapi Micr**	**1.22**	**222**		Pg	04 16 39.4	-1.4
BAKC	**Calstate**	**1.26**	**248**		Pn	04 16 40.6	-0.9
SGV	**South Grapevin**	**1.26**	**24**		Pn	04 16 43.5	+1.9
WCT	**Wildcat Mounta**	**1.28**	**41**		Pn	04 16 41.2	-0.7
AMDNV	**Amargosa**	**1.29**	**61**		Pn	04 16 41.3	-0.5
SDH	**Striped Hills**	**1.35**	**52**		Pg	04 16 43.5	+0.2
PDE	**Pardee, Santa**	**1.57**	**209**		Pg	04 16 48.5	+1.0
TPNV	**Topopah Spring**	**1.60**	**45**		Pb	04 16 47.0	-0.4
TPNV				IAML		04 17 10.1	
	comp=N,422nm,1.0s						
SS2	**San Sevaine**	**1.62**	**175**		Pb	04 16 48.0	+0.4
BCW	**Bitter Crk WRg**	**1.68**	**239**		Pn	04 16 47.6	+0.4
BCW				IAML		04 17 09.9	
	comp=N,644nm,1.9s						
CPY	**CP-1**	**1.71**	**49**		Pb	04 16 49.4	+0.2

*NEIC **06** 04:16:48.3±1.0,35°.814N±0°.009×117°.65W±0°.01,*
h5km±1km,Error ellipse: s-maj=2.2km s-min=1.8km
az=83.0

PAS 06 04:16:48.8±1.4,**35°.82N**±0°.01×**117°.66W**±0°.01,**h6**km±2km,
ML3.6/18,**ML3.3**/24(NEIC),**Error ellipse: s-maj=1.6km**
s-min=1.1km az=193.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.05**	**99**		Pg	04 16 50.8	+0.5
CLC					Sg	04 16 51.2	-0.2
TOW	**Tower One**	**0.09**	**260**		Pg	04 16 51.0	+0.2
SRTC	**Snort**	**0.15**	**209**		Pg	04 16 52.1	+0.2
SRTC					Sg	04 16 55.2	+1.3
WNMM	**Nine Mile Cany**	**0.20**	**275**		Pg	04 16 52.8	0.0
WCSM	**Coso Springs S**	**0.22**	**337**		Sg	04 16 56.6	+0.4
WRVM	**Rose V. Centra**	**0.26**	**315**		Sg	04 16 57.9	+0.5
MPMC	**Manual Prospec**	**0.27**	**31**		Sg	04 16 54.1	-0.1
MPMC					Sg	04 16 58.3	+0.5
LRMC	**Laurel Mtn Rad**	**0.34**	**183**		Pg	04 16 55.1	-0.4
LRMC					Sg	04 16 59.2	-0.9
CCCA	**Chr Cany lake**	**0.38**	**141**		Sg	04 17 02.4	+1.1
WBSM	**Bird Springs**	**0.48**	**234**		Sg	04 17 04.8	+0.4
WORM	**Onyx Ranch**	**0.49**	**255**		Sg	04 17 04.5	-0.1
DTP	**Desert Tortois**	**0.57**	**195**		Sg	04 17 07.3	-0.1
WHFM	**Hanning Flat**	**0.57**	**257**		Sg	04 17 07.5	+0.1
QSM	**Queen of Sheba**	**0.66**	**77**		Sg	04 17 09.7	-0.4
QSM	**Queen of Sheba**	**0.66**	**77**	Pg	Pg	04 17 01.1	-0.4
QSM				IAML		04 17 11.7	
	comp=E,2μm,0.3s						
QSM				IAML		04 17 13.0	
	comp=N,1μm,0.4s						
ISA	**Isabella, Lake**	**0.68**	**257**	Pg	Pg	04 16 59.8	-2.1
ISA				Sg	Sg	04 17 09.6	-1.2
CCAC	**Calif City Air**	**0.73**	**204**	Pg	Pg	04 17 02.4	-0.4
CCAC				Sg	Sg	04 17 12.2	-0.1
CCAC				IAML		04 17 13.2	
	comp=E,2μm,0.4s						
WASM	**Alta Sierra Ca**	**0.73**	**264**		Sg	04 17 12.9	+0.4
GSC	**Goldstone, Bar**	**0.87**	**127**	Pg	Pg	04 17 04.4	-1.1
GSC				Sg	Sg	04 17 15.7	-1.1
GWY	**Greenwater Val**	**0.88**	**66**	Pg	Pg	04 17 05.8	+0.1
GWY				Sg	Sg	04 17 16.7	-0.5
GWY				IAML		04 17 21.7	
	comp=E,2μm,0.5s						
GWY				IAML		04 17 21.8	
	comp=N,1μm,0.4s						
SHOC	**Shoshone, Teco**	**1.13**	**86**		Sg	04 17 24.4	-0.6
GRAC	**Grapevine Rang**	**1.19**	**11**	Pg	Pg	04 17 11.6	-0.2
GRAC					Sn	04 17 28.4	-0.3
GRAC				IAML		04 17 37.7	
	comp=N,937nm,0.7s						
WCT	**Wildcat Mounta**	**1.28**	**41**		Pn	04 17 12.9	-0.5
WCT					Sb	04 17 30.3	+0.2
WCT				IAML		04 17 31.4	
	comp=E,300nm,0.6s						
GMN	**Gold Mountain**	**1.51**	**12**		Pn	04 17 15.8	-0.8
GMN				IAML		04 17 43.4	
	comp=N,308nm,0.7s						
TPNV	**Topopah Spring**	**1.60**	**45**		Pn	04 17 17.2	-0.6
TPNV				IAML		04 17 42.1	
	comp=N,378nm,0.4s						
TPNV				IAML		04 17 44.7	
	comp=N,395nm,0.6s						
SHPR	**Sheep Range**	**2.13**	**71**	Pn	Pn	04 17 24.2	-0.9

*NEIC **06** 04:18:07.6±1.4,35°.661N±0°.007×117°.50W±0°.01,*
h5km±1km,Error ellipse: s-maj=2.4km s-min=1.5km
az=28.0

PAS 06 04:18:07.9±1.1,**35°.666N**±0°.007×**117°.482W**±0°.008,
h4km±2km,**ML3.5**/14,**ML4.1**/24(NEIC),**Error ellipse:**
s-maj=1.2km s-min=0.7km az=212.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.17**	**146**		Pg	04 18 11.8	+0.5
CCCA					Sg	04 18 14.9	+1.3
CLC	**China Lake**	**0.18**	**328**		Pg	04 18 11.4	-0.1
CLC					Sg	04 18 14.4	+0.6
SRTC	**Snort**	**0.22**	**277**		Pg	04 18 12.7	+0.5
LRMC	**Laurel Mtn Rad**	**0.25**	**221**		Pg	04 18 12.8	0.0
LRMC					Sg	04 18 16.3	+0.3
TOW	**Tower One**	**0.27**	**302**		Pg	04 18 13.8	+0.6
MPMC	**Manual Prospec**	**0.39**	**359**		Pg	04 18 15.4	-0.2
MPMC					Sg	04 18 21.1	+0.3
WVPM	**Volcano Peak E**	**0.39**	**316**		Pg	04 18 15.7	+0.1
JRC2	**Joshua Ridge**	**0.41**	**320**		Pg	04 18 16.1	+0.1
WRVM	**Rose V. Centra**	**0.48**	**316**		Pg	04 18 17.1	0.0
DTP	**Desert Tortois**	**0.50**	**217**		Pg	04 18 16.8	-0.7
DTP					Sg	04 18 23.1	-0.8
MFS	**McCloud Flat S**	**0.54**	**326**		Pg	04 18 18.3	-0.1
MFS					Sg	04 18 25.6	+0.1
WBSM	**Bird Springs**	**0.55**	**257**		Pg	04 18 18.3	-0.2
WBSM					Sg	04 18 25.9	+0.2
QSM	**Queen of Sheba**	**0.58**	**59**		Sg	04 18 26.7	0.0
QSM	**Queen of Sheba**	**0.58**	**59**		Pg	04 18 19.1	-0.1
QSM				IAML		04 18 27.5	
	comp=E,4μm,0.2s						
QSM				IAML		04 18 27.5	
	comp=N,3μm,0.5s						
WORM	**Onyx Ranch**	**0.62**	**273**		Pg	04 18 19.6	-0.3
WORM					Sg	04 18 27.6	-0.3
GSC	**Goldstone, Bar**	**0.66**	**123**		Sg	04 18 29.4	+0.2
GSC	**Goldstone, Bar**	**0.66**	**123**		Pg	04 18 20.5	-0.2
GSC				IAML		04 18 29.7	
	comp=N,4μm,0.4s						
GSC				IAML		04 18 29.9	
	comp=E,5μm,0.3s						
CCAC	**Calif City Air**	**0.67**	**221**	Pg	Pg	04 18 20.5	-0.3
CCAC	**Calif City Air**	**0.67**	**221**		Sg	04 18 30.1	+0.5
WHFM	**Hanning Flat**	**0.71**	**273**		Pg	04 18 21.1	-0.4
HYS	**Haystack Butte**	**0.80**	**185**		Pg	04 18 22.7	-0.7
ISA	**Isabella, Lake**	**0.81**	**270**		Sg	04 18 33.7	-0.3
ISA	**Isabella, Lake**	**0.81**	**270**		Pg	04 18 22.0	-0.8
GWY	**Greenwater Val**	**0.84**	**52**		Sg	04 18 34.4	-0.6
GWY	**Greenwater Val**	**0.84**	**52**	Pg	Pg	04 18 23.8	-0.3
GWY				IAML		04 18 40.6	
	comp=E,2μm,0.4s						
GWY				IAML		04 18 40.6	
	comp=N,2μm,0.5s						
WASM	**Alta Sierra Ca**	**0.88**	**275**		Pg	04 18 24.3	-0.5
RRX	**Edison Barstow**	**0.88**	**153**		Pb	04 18 25.8	-0.1
CWC	**Cottonwood Cre**	**0.91**	**328**		Sg	04 18 37.3	0.0
SHOC	**Shoshone, Teco**	**1.01**	**76**		Sg	04 18 26.7	-0.6
VTV	**Victorville**	**1.11**	**173**		Pb	04 18 29.7	0.0
ADO	**Adelanto Recei**	**1.11**	**178**		Pb	04 18 29.6	-0.1
TJR	**Tejon Ranch**	**1.21**	**239**		Pg	04 18 30.4	-0.8
AMDNV	**Amargosa**	**1.25**	**51**		Pg	04 18 31.7	-0.2
TUQ	**Turquoise Moun**	**1.29**	**100**		Pg	04 18 31.7	-1.0
GRAC	**Grapevine Rang**	**1.33**	**4**		Pn	04 18 33.3	-0.1
GRAC	**Grapevine Rang**	**1.33**	**4**		Pb	04 18 35.5	+2.0
SGV	**South Grapevin**	**1.36**	**15**		Pb	04 18 34.1	0.0
SIL	**Silver Peak**	**1.42**	**158**		Pn	04 18 34.5	-0.2
PASC	**Pasadena Art C**	**1.60**	**201**		Pb	04 18 37.9	-0.1
PASC				IAML		04 19 35.4	
	comp=E,9μm,0.6s						
BLCC	**Black Canyon**	**1.72**	**215**		Pn	04 18 36.8	-1.9
POCCA	**Poleta Canyon**	**1.81**	**339**		Pb	04 18 41.8	0.0
MTUM	**Tungsten Hills**	**1.90**	**333**		Pb	04 18 43.2	0.0
ELS	**Elsinore Mount**	**2.

CCCA	**Chr Cany lake**	**0.45**	**144**			**Pg**	**04 19 04.9**	**-0.8**
CCCA						**Sg**	**04 19 12.2**	**+0.6**
WORM	**Onyx Ranch**	**0.49**	**247**			**Pg**	**04 19 05.1**	**-1.3**
WORM						**Sg**	**04 19 11.6**	**-1.2**
WBSM	**Bird Springs**	**0.51**	**226**			**Pg**	**04 19 05.6**	**-1.2**
WBSM						**Sg**	**04 19 13.1**	**-0.4**
WHFM	**Hanning Flat**	**0.57**	**251**			**Pg**	**04 19 06.6**	**-1.3**
WHFM						**Sg**	**04 19 14.6**	**-0.9**
DTP	**Desert Tortois**	**0.63**	**192**			**Pg**	**04 19 07.8**	**-1.3**
DTP						**Sg**	**04 19 16.9**	**-0.5**
CWC	**Cottonwood Cre**	**0.64**	**330**			**Pg**	**04 19 07.3**	**-1.9**
CWC						**Sg**	**04 19 16.4**	**-1.3**
CGO	**Cerro Gordo**	**0.67**	**352**			**Pg**	**04 19 07.8**	**-2.2**
CGO						**Sg**	**04 19 17.4**	**-1.3**
QSM	**Queen of Sheba**	**0.67**	**83**			**Pg**	**04 19 08.3**	**-1.6**
QSM					IAML		04 19 22.4	
	comp=E,218µm,0.7s							
QSM					IAML		04 19 22.6	
	comp=N,327µm,0.8s							
ISA	**Isabella, Lake**	**0.68**	**251**			**Pg**	**04 19 08.4**	**-1.6**
ISA						**Sg**	**04 19 17.8**	**-1.0**
ISA	**Isabella, Lake**	**0.68**	**251**		IAML		04 19 18.4	
	comp=N,189µm,1.4s							
ISA					IAML		04 19 23.0	
	comp=E,381µm,0.5s							
ISA	**Isabella, Lake**	**0.68**	**251**	P		**Pg**	**04 19 08.4**	**-1.6**
ISA							04 19 17.8	
WASM	**Alta Sierra Ca**	**0.72**	**258**			**Pg**	**04 19 09.4**	**-1.4**
WASM						**Sg**	**04 19 19.3**	**-1.0**
CCAC	**Calif City Air**	**0.78**	**200**			**Sg**	**04 19 21.9**	**-0.2**
CCAC	**Calif City Air**	**0.78**	**200**			**Pg**	**04 19 10.4**	**-1.5**
CCAC					IAML		04 19 25.8	
	comp=E,146µm,0.8s							
CCAC					IAML		04 19 25.9	
	comp=N,146µm,0.6s							
GWY	**Greenwater Val**	**0.88**	**70**			**Pg**	**04 19 12.3**	**-1.6**
GWY					IAML		04 19 27.4	
	comp=N,166µm,0.9s							
GWY					IAML		04 19 27.5	
	comp=E,200µm,1.0s							
FURC	**Furnace Creek,**	**0.89**	**49**			**Pg**	**04 19 11.6**	**-2.4**
SPG2	**Springville 2**	**0.93**	**290**			**Pg**	**04 19 12.9**	**-1.8**
GSC	**Goldstone, Bar**	**0.93**	**129**			**Pg**	**04 19 13.0**	**-1.8**
GSC					IAML		04 19 29.8	
	comp=N,150µm,0.8s							
GSC	**Goldstone, Bar**	**0.93**	**129**	P		**Pg**	**04 19 13.0**	**-1.8**
HYS	**Haystack Butte**	**1.02**	**174**			**Pg**	**04 19 15.3**	**-1.4**
EDW2	**Edwards Air Fo**	**1.03**	**194**			**Pg**	**04 19 14.9**	**-1.9**
TEJ	**El Tejon**	**1.04**	**231**			**Pg**	**04 19 14.9**	**-2.1**
TPO	**Tropico Hills**	**1.10**	**204**			**Pg**	**04 19 16.4**	**-1.6**
MAGC	**SCE Magundon P**	**1.13**	**243**			**Pg**	**04 19 17.0**	**-1.6**
VES	**Vestal, Richgr**	**1.13**	**268**			**Pg**	**04 19 16.0**	**-2.6**
GRAC	**Grapevine Rang**	**1.14**	**13**			**Pg**	**04 19 16.5**	**-2.2**
GRAC					IAML		04 19 36.5	
	comp=E,116µm,1.4s							
GRAC					IAML		04 19 39.2	
	comp=N,131µm,0.8s							
SHOC	**Shoshone, Teco**	**1.15**	**89**			**Pg**	**04 19 16.4**	**-2.6**
RRX	**Edison Barstow**	**1.16**	**150**			**Pg**	**04 19 17.5**	**-1.6**
ARVC	**Arvin**	**1.20**	**231**			**Pg**	**04 19 18.2**	**-1.7**
ARVC						**Sg**	**04 19 34.1**	**-1.4**
SBB	**Saddle Back Bu**	**1.20**	**185**			**Pg**	**04 19 18.1**	**-1.9**
SBB						**Sg**	**04 19 33.9**	**-1.6**
SGV	**South Grapevin**	**1.21**	**26**			**Pg**	**04 19 18.1**	**-2.2**
TIN	**Tinemaha, Big**	**1.24**	**340**			**Pg**	**04 19 18.6**	**-2.2**
TIN	**Tinemaha, Big**	**1.24**	**340**	P		**Pg**	**04 19 18.6**	**-2.2**
WCT	**Wildcat Mounta**	**1.25**	**43**			**Pg**	**04 19 18.5**	**-2.3**
WCT					IAML		04 19 37.4	
	comp=E,74µm,1.4s							
BAKC	**Calstate**	**1.27**	**245**			**Pg**	**04 19 19.6**	**-1.7**
ALPC	**Antelope**	**1.30**	**203**			**Pg**	**04 19 19.4**	**-2.4**
LCH	**Last Change Ra**	**1.34**	**2**			**Pg**	**04 19 19.9**	**-2.9**
LEOC	**Leona Valley**	**1.35**	**202**			**Pn**	**04 19 19.6**	**-2.2**
ADO	**Adelanto Recei**	**1.35**	**171**			**Pn**	**04 19 20.6**	**-1.3**
VTV	**Victorville**	**1.36**	**167**			**Pn**	**04 19 20.5**	**-1.4**
VTV	**Victorville**	**1.36**	**167**	P		**Pn**	**04 19 20.5**	**-1.4**
LRRC	**Littlerock Res**	**1.39**	**192**			**Pn**	**04 19 19.7**	**-2.5**
CJV	**Casa Juvan**	**1.40**	**195**			**Pn**	**04 19 21.1**	**-1.5**
VOG	**Valley Oaks Go**	**1.44**	**288**			**Pn**	**04 19 21.9**	**-1.0**
GMN	**Gold Mountain**	**1.45**	**14**			**Pn**	**04 19 22.0**	**-1.4**
DSCC	**Desert Studies**	**1.49**	**119**			**Pn**	**04 19 21.5**	**-2.2**
DSP	**Deep Springs**	**1.50**	**351**			**Pn**	**04 19 22.6**	**-1.1**
DSP					IAML		04 19 46.1	
	comp=E,75µm,1.1s							
TPNV	**Topopah Spring**	**1.57**	**47**			**Pn**	**04 19 23.4**	**-1.6**
TPNV					IAML		04 19 48.1	
	comp=E,75µm,0.8s							
TPNV					IAML		04 19 48.9	
	comp=E,77µm,1.0s							
TPNV	**Topopah Spring**	**1.57**	**47**	P		**Pn**	**04 19 23.4**	**-1.6**
PDE	**Pardee, Santa**	**1.62**	**207**			**Pn**	**04 19 24.6**	**-0.8**
BCW	**Bitter Crk WRg**	**1.69**	**237**			**Pn**	**04 19 26.1**	**-1.2**
PASC	**Pasadena Art C**	**1.76**	**193**			**Pn**	**04 19 26.3**	**-1.1**
MTPC	**Mountain Pass**	**1.79**	**102**			**Pn**	**04 19 25.7**	**-2.2**
MZP	**Montezuma Peak**	**1.83**	**8**			**Pn**	**04 19 27.1**	**-1.4**
PKM	**Mcpherson Peak**	**2.00**	**241**			**Pn**	**04 19 32.9**	**+2.1**
SHPR	**Sheep Range**	**2.14**	**72**			**Pn**	**04 19 31.3**	**-1.4**
ELS	**Elsinore Mount**	**2.24**	**174**			**Pn**	**04 19 32.8**	**-1.4**
ELS					IAML		04 20 12.7	
	comp=N,23µm,1.7s							
ELS					IAML		04 20 13.1	
	comp=E,29µm,1.3s							
DGR	**Domenigoni Val**	**2.30**	**166**			**Pn**	**04 19 34.4**	**-0.5**
V12A	**Nelson**	**2.31**	**93**			**Pn**	**04 19 33.1**	**-2.0**
V12A					IAML		04 20 17.1	
	comp=N,25µm,1.0s							
S11A	**Rachel**	**2.35**	**41**			**Pn**	**04 19 34.9**	**-0.8**
LHV	**Little Huntoon**	**2.45**	**345**			**Pn**	**04 19 36.5**	**-0.3**
LHV					IAML		04 20 41.0	
	comp=E,23µm,1.1s							
PFO	**Pinyon Flats O**	**2.49**	**156**			**Pn**	**04 19 36.0**	**-1.5**
PFO					IAML		04 20 20.4	
	comp=E,25µm,2.0s							
PFO	**Pinyon Flats O**	**2.49**	**156**	Pn		**Pn**	**04 19 36.0**	**-1.5**
	comp=E,70nm,0.3s,baz=335,slow=14,SNR=10							
PFO				Pg		**Pb**	**04 19 42.6**	**+1.0**
	comp=E,693nm,0.3s,baz=326,slow=12,SNR=62							
PFO				Lg	Lg		04 20 13.0	
	comp=E,3µm,0.3s,baz=249,slow=16,SNR=21							
	comp=E,463nm,0.8s							
I57US	**PINON FLAT INF**	**2.49**	**156**	Pn		**Pn**	**04 19 35.9**	**-1.7**
	baz=331,slow=29							
I57US				I		I	04 35 40.0	
	baz=326,slow=303,SNR=1.4							
PMPB	**Monarch Peak**	**2.54**	**278**			**Pn**	**04 19 37.6**	**-0.6**
NV11	**Mina Array Sit**	**2.57**	**352**			**Pn**	**04 19 37.6**	**-1.0**
NVAR	**Mina Array Bea**	**2.58**	**349**	Pn		**Pn**	**04 19 38.8**	**-0.2**
	comp=E,588nm,0.3s,baz=149,slow=16,SNR=47							
NVAR				Pg		**Pb**	**04 19 43.4**	**-0.1**
	comp=E,718nm,0.3s,baz=180,slow=19,SNR=38							
NVAR				Lg	Lg		04 20 16.5	
	comp=E,755nm,0.3s,baz=199,slow=17,SNR=4.1							
	comp=E,435nm,0.6s							
BBGB	**Big Mountain B**	**2.79**	**285**			**Pn**	**04 19 41.5**	**-0.2**
RYN	**Ryan**	**2.82**	**347**			**Pn**	**04 19 41.6**	**-0.5**
RYN					IAML		04 20 33.1	
	comp=E,12µm,2.0s							
WAKR	**Walker**	**2.96**	**332**			**Pn**	**04 19 44.0**	**-0.1**
WAKR					IAML		04 20 39.0	
	comp=E,14µm,1.2s							
Q09A	**Carvers**	**2.97**	**8**			**Pn**	**04 19 43.8**	**-0.4**
R11B	**Troy Canyon, C**	**2.98**	**34**			**Pn**	**04 19 42.8**	**-1.5**
R11B					IAML		04 20 33.4	
	comp=E,11µm,1.1s							
CMB	**Columbia Colle**	**3.04**	**316**			**Pn**	**04 19 45.5**	**+0.4**
CMB					IAML		04 20 36.6	
	comp=N,18µm,1.0s							
CMB					IAML		04 20 39.9	
	comp=E,11µm,0.9s							
CMB	**Columbia Colle**	**3.04**	**316**	P		**Pn**	**04 19 45.5**	**+0.4**
SAO	**San Andreas Ge**	**3.16**	**287**			**Pn**	**04 19 45.4**	**-1.2**
SAO	**San Andreas Ge**	**3.16**	**287**	P		**Pn**	**04 19 45.4**	**-1.2**
BLYC	**Blythe**	**3.37**	**128**	Pn		**Pn**	**04 19 47.4**	**-2.1**
BLYC					IAML		04 20 45.5	
	comp=N,12µm,2.8s							
BLYC					IAML		04 20 53.6	
	comp=E,11µm,2.8s							
TJX	**Tijuana**	**3.41**	**171**			**Pn**	**04 19 49.8**	**-0.2**
TKX	**Tecate**	**3.43**	**165**		IAML		04 20 48.6	
	comp=E,12µm,1.5s							
TKX					IAML		04 20 59.2	
	comp=N,7µm,2.1s							
YUH	**Yuha Desert**	**3.55**	**155**			**Pn**	**04 19 50.5**	**-1.4**
YUH					IAML		04 21 01.8	
	comp=N,10µm,2.2s							
CBX	**Cerro Bola**	**3.67**	**166**			**Pn**	**04 19 52.7**	**-1.0**
GLA	**Glamis**	**3.69**	**139**			**Pn**	**04 19 51.4**	**-2.5**
GLA	**Glamis**	**3.69**	**139**	P		**Pn**	**04 19 51.4**	**-2.5**
LCMT	**Little Creek M**	**3.76**	**71**			**Pn**	**04 19 54.5**	**-0.5**
CCUT	**Cedar City**	**3.85**	**63**			**Pn**	**04 19 56.0**	**-0.4**
CCUT					IAML		04 21 08.0	
	comp=N,6µm,4.8s							
PAHR	**Pah Rah Range**	**4.04**	**341**			**Pn**	**04 19 58.2**	**-0.8**
PAHR					IAML		04 21 16.7	
	comp=E,5µm,3.7s							
KNB	**Kanab**	**4.08**	**73**			**Pn**	**04 19 59.1**	**-0.4**
KNB					IAML		04 21 13.6	
	comp=E,6µm,1.3s							
KNB					IAML		04 21 17.2	
	comp=N,7µm,1.9s							
KNB	**Kanab**	**4.08**	**73**	P		**Pn**	**04 19 59.1**	**-0.4**
CCX	**Cicese**	**4.10**	**168**	IAML			04 21 12.0	
	comp=N,7µm,1.8s							
SPR3	**Spring Creek 3**	**4.10**	**40**	IAML			04 21 11.3	
	comp=E,6µm,2.1s							
SPR3					IAML		04 21 17.9	
	comp=N,8µm,1.1s							
ESJX	**Sierra Juarez**	**4.13**	**159**	IAML			04 21 08.0	
	comp=N,7µm,1.2s							
ESJX					IAML		04 21 10.5	
	comp=E,10µm,2.3s							
Y14A	**Wickenburg**	**4.31**	**115**			**Pn**	**04 20 00.8**	**-1.7**
Y14A					IAML		04 21 25.4	
	comp=N,8µm,0.9s							
Y14A					IAML		04 21 28.9	
	comp=E,5µm,0.9s							
113A	**Mohawk Valley,**	**4.50**	**133**			**Pn**	**04 20 03.1**	**-1.9**
113A					IAML		04 21 26.1	
	comp=N,4µm,2.3s							
113A					IAML		04 21 30.8	
	comp=E,3µm,2.1s							
MCCM	**Marconi Confer**	**4.72**	**300**			**Pn**	**04 20 06.9**	**-1.3**
MCCM					IAML		04 21 33.7	
	comp=E,5µm,1.2s							
MCCM					IAML		04 21 47.8	
	comp=N,4µm,1.4s							
ORV	**Oroville**	**4.75**	**322**			**Pn**	**04 20 07.9**	**-0.6**
ORV					IAML		04 21 32.5	
	comp=N,3µm,1.4s							
ORV					IAML		04 21 39.2	
	comp=E,4µm,1.1s							
ORV	**Oroville**	**4.75**	**322**	P		**Pn**	**04 20 07.9**	**-0.6**
VTX	**Valle De La Tr**	**4.76**	**160**			**Pn**	**04 20 07.3**	**-1.4**
VTX					IAML		04 21 36.1	
	comp=N,5µm,1.5s							
GDXM	**Geysers**	**5.00**	**307**			**Pn**	**04 20 10.9**	**-1.1**
WUAZ	**Wupatki**	**5.15**	**92**			**Pn**	**04 20 13.9**	**-0.3**
ELK	**Elko**	**5.22**	**21**			**Pn**	**04 20 14.4**	**-0.8**
ELK	**Elko**	**5.22**	**21**	Pn		**Pn**	**04 20 14.8**	**-0.4**
	comp=N,28nm,0.3s,baz=189,slow=9.5,SNR=40							
ELK				Lg	Lg		04 21 39.2	
	comp=N,350nm,0.3s,baz=92,slow=9.4,SNR=12							
	comp=N,101nm,0.5s							
ELK	**Elko**	**5.22**	**21**	P		**Pn**	**04 20 14.4**	**-0.8**
X16A	**Lo Mia Camp, P**	**5.33**	**104**	IAML			04 22 20.0	
	comp=N,3µm,4.0s							
X16A					IAML		04 22 29.2	
	comp=E,2µm,3.0s							
SFX	**San Felipe**	**5.39**	**153**			**Pn**	**04 20 18.2**	**+1.0**
HATC	**Hat Creek Radi**	**5.74**	**330**			**Pn**	**04 20 25.2**	**+3.0**
DUG	**Dugway, Tooele**	**5.77**	**40**			**Pn**	**04 20 26.8**	**+4.1**
DUG	**Dugway, Tooele**	**5.77**	**40**	P		**Pn**	**04 20 26.8**	**+4.1**
O02D	**Mt. Diablo Mer**	**5.88**	**318**	Pn		**Pn**	**04 20 24.6**	**+0.6**
HMU	**Henry Mountain**	**5.93**	**68**	Pn		**Pn**	**04 20 25.9**	**+0.9**
X18A	**Snowflake**	**6.48**	**100**	Pn		**Pn**	**04 20 32.7**	**+0.3**
W18A	**Petrified Fore**	**6.53**	**94**	Pn		**Pn**	**04 20 33.2**	**0.0**
SRU	**San Rafael Swe**	**6.54**	**58**	Pn		**Pn**	**04 20 33.7**	**+0.4**
SRU	**San Rafael Swe**	**6.54**	**58**	P		**Pn**	**04 20 33.7**	**+0.4**
TUC	**Tucson**	**6.75**	**120**			**Pn**	**04 20 34.7**	**-1.3**
TUC	**Tucson**	**6.75**	**120**	P		**Pn**	**04 20 34.7**	**-1.3**
KMPM	**Mount Pierce**	**6.79**	**314**			**Pn**	**04 20 37.2**	**+0.6**
JLU	**Jordanelle**	**6.80**	**44**	Pn		**Pn**	**04 20 37.4**	**+0.5**
KHMM	**Horse Mountain**	**6.88**	**318**	Pn		**Pn**	**04 20 39.1**	**+1.2**
P18A	**Preston Nutter**	**6.98**	**55**	Pn		**Pn**	**04 20 41.1**	**+1.7**
HVU	**Hansel Valley**	**7.02**	**32**	Pn		**Pn**	**04 20 41.5**	**+1.6**
HVU	**Hansel Valley**	**7.02**	**32**	P		**Pn**	**04 20 41.5**	**+1.6**
YBH	**Yreka Blue Hor**	**7.03**	**328**	Pn		**Pn**	**04 20 42.5**	**+2.7**
	comp=E,0.1nm,0.3s,baz=169,slow=7.1,SNR=12							
YBH				Lg		Lg	04 22 34.8	
	comp=E,0.2nm,0.3s,baz=23,slow=20,SNR=5.7							
BSUT	**Blindstream Ca**	**7.16**	**48**	Pn		**Pn**	**04 20 44.2**	**+2.3**
TCUT	**Toone Canyon**	**7.18**	**41**	Pn		**Pn**	**04 20 43.8**	**+1.7**
PV18	**Skein Mesa, Pa**	**7.41**	**69**			**Pn**	**04 20 47.1**	**+1.9**
PV16	**Nyroger Mesa**	**7.42**	**68**			**Pn**	**04 20 44.9**	**-0.4**
PV11	**David Mesa, Pa**	**7.45**	**69**			**Pn**	**04 20 46.6**	**+0.8**
PV21	**Cone Mtn., Par**	**7.45**	**66**			**Pn**	**04 20 47.5**	**+1.7**
PV04	**Paradox Valley**	**7.45**	**68**			**Pn**	**04 20 47.0**	**+1.3**
PV13	**Radium Mtn., P**	**7.45**	**70**			**Pn**	**04 20 46.7**	**+1.0**
HWUT	**Hardware Ranch**	**7.45**	**38**			**Pn**	**04 20 48.5**	**+2.7**
PV12	**Saucer Basin,**	**7.50**	**69**	Pn		**Pn**	**04 20 47.0**	**+0.4**
ANMO	**Albuquerque**	**9.22**	**93**	Pn		**Pn**	**04 21 11.6**	**+1.6**
	comp=E,2.3nm,0.3s,baz=16,slow=11,SNR=11							
ANMO				Pg			04 21 41.3	
	comp=E,2.5nm,0.3s,baz=9.7,slow=10,SNR=7.9							
ANMO				Lg		Lg	04 23 41.8	
	comp=E,4.8nm,0.3s,baz=134,slow=23,SNR=8.2							
PDAR	**Pinedale Array**	**9.32**	**40**	Pn		**Pn**	**04 21 13.8**	**+2.4**
	comp=E,1.4nm,0.3s,baz=230,slow=12,SNR=36							
PDAR				Lg		Lg	04 23 45.5	
	comp=E,2.4nm,0.3s,baz=170,slow=14,SNR=1.1							
	comp=E,80nm,1.1s							
NEW	**Newport**	**12.38**	**2**	Pn		**Pn**	**04 21 55.8**	**+2.7**
	comp=E,0.3nm,0.3s,baz=178,slow=12,SNR=8.2							
NEW				Lg		Lg	04 25 32.9	
	comp=E,0.1nm,0.3s,baz=82,slow=22,SNR=5.5							
	comp=E,16nm,0.9s							
LPIG	**La Paz**	**13.37**	**149**			**Pn**	**04 22 07.6**	**+1.0**
LPIG	**La Paz**	**13.37**	**149**	Pn		**Pn**	**04 22 07.6**	**+1.0**
	comp=E,10nm,0.4s,baz=164,slow=8.3,SNR=1.3							
LPIG				Lg		Lg	04 25 56.6	
	comp=E,5.5nm,0.3s,baz=183,slow=23,SNR=3.9							
TXAR	**Lajitas Array**	**13.50**	**115**	Pn		**Pn**	**04 22 09.8**	**+1.3**
	comp=E,1.9nm,0.3s,baz=294,slow=12,SNR=46							
TXAR				Lg		Lg	04 26 00.2	
	comp=E,0.4nm,0.3s,baz=298,slow=32,SNR=4.7							
	comp=E,47nm,1.0s							
CBB	**Campbell River**	**15.20**	**341**	IAmb		IAmb	04 22 43.8	
	comp=Z,119nm,1.4s							
OK038	**West end E0370**	**15.32**	**82**	IAmb		IAmb	04 22 44.6	
	comp=Z,168nm,1.3s							
R32A	**Long Quarter,**	**15.35**	**75**	IAmb		IAmb	04 22 43.5	
	comp=Z,85nm,1.1s							
KAN14	**Manchester OK**	**15.92**	**80**	IAmb		IAmb	04 22 48.5	
	comp=Z,150nm,1.3s							
WTFS	**Witchita Falls**	**15.93**	**92**	IAmb		IAmb	04 22 52.6	
	comp=Z,170nm,1.2s							
KAN01	**Argonia South**	**16.08**	**80**	IAmb		IAmb	04 22 48.6	
	comp=Z,178nm,1.1s							
KAN09	**Caldwell North**	**16.19**	**80**	IAmb		IAmb	04 22 53.3	
	comp=Z,161nm,0.9s							
FW03	**Perrin-Whitt E**	**16.43**	**94**	IAmb		IAmb	04 22 52.5	
	comp=Z,154nm,1.1s							
E28A	**Huff**	**16.62**	**45**	IAmb		IAmb	04 23 15.2	
	comp=Z,174nm,1.2s							
SUSD	**Miller**	**16.65**	**53**	IAmb		IAmb	04 22 59.9	
	comp=Z,194nm,1.3s							
HNDO	**Hondo**	**16.73**	**107**	IAmb		IAmb	04 23 13.1	
	comp=Z,176nm,1.3s							
FW06	**Azle**	**16.86**	**94**	IAmb		IAmb	04 22 57.1	
	comp=Z,127nm,1.1s							
Z35A	**Perchaven, San**	**17.02**	**93**	IAmb		IAmb	04 22 58.2	
	comp=Z,219nm,1.1s							
DEOK	**Depew**	**17.18**	**84**	IAmb		IAmb	04 23 11.9	
	comp=Z,257nm,1.3s							
833A	**Chaparral WMA,**	**17.22**	**111**	IAmb		IAmb	04 23 01.2	
	comp=Z,187nm,1.1s							
WHTX	**Lake Whitney,**	**17.23**	**97**	IAmb		IAmb	04 23 23.6	
	comp=Z,138nm,1.0s							
TUL3	**Leonard**	**17.74**	**83**	IAmb		IAmb	04 23 06.3	
	comp=Z,163nm,1.0s							
BBB	**Bella Bella**	**17.90**	**339**	P		**P**	**04 23 07.5**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=140,slow=14,SNR=4.0							
	comp=Z,15nm,1.0s							
TREL	**Terrell**	**18.12**	**94**	IAmb		IAmb	04 23 10.3	
	comp=Z,183nm,1.2s							
HKT	**Hockley**	**19.27**	**102**	*i* P		**P**	**04 23 22.4**	**+0.9**
HKT				pmax		pmax		
	comp=Z,52nm,1.3s							
MIAR	**Mount Ida**	**19.74**	**87**	IAmb		IAmb	04 23 31.9	
	comp=Z,143nm,1.0s							
I37A	**Lemond, Waseca**	**20.26**	**59**	IAmb		IAmb	04 23 41.6	
	comp=Z,136nm,1.1s							
WHAR	**Wooly Hollow**	**20.66**	**84**	IAmb		IAmb	04 23 41.6	
	comp=Z,92nm,0.9s							
UALR	**University of**	**20.70**	**86**	IAmb		IAmb	04 23 45.9	
	comp=Z,91nm,1.2s							
FCAR	**Ozark Folk Cen**	**20.70**	**82**	IAmb		IAmb	04 23 42.2	
	comp=Z,127nm,1.0s							
SPMN	**Marine on St.**	**21.02**	**56**	IAmb		IAmb	04 23 45.3	
	comp=Z,155nm,1.2s							
CCM	**Cathedral Cave**	**21.22**	**76**	IAmb		IAmb	04 23 50.6	
	comp=Z,85nm,1.1s							
ULM	**Lac du Bonnet**	**21.34**	**41**	IAmb		IAmb	04 23 58.0	
	comp=Z,76nm,0.9s							
ULM	**Lac du Bonnet**	**21.34**	**41**	P		**P**	**04 23 43.2**	**-0.7**
	comp=Z,46nm,1.2s,baz=241,slow=10,SNR=22							
	comp=Z,46nm,1.2s							
L40A	**Anamosa**	**21.44**	**65**	IAmb		IAmb	04 23 49.9	
	comp=Z,90nm,1.0s							
LCAR	**Lake Charles**	**21.46**	**82**	IAmb		IAmb	04 23 53.3	
	comp=Z,80nm,1.2s							
V35K	**Ketchikan**	**21.67**	**338**	P		**P**	**04 23 48.9**	**+1.6**
	baz=148,SNR=5.8							
FFC	**Flin Flon**	**21.75**	**25**	IAmb		IAmb	04 23 53.0	
	comp=Z,100nm,1.0s							
FVM	**French Village**	**21.87**	**76**	IAmb		IAmb	04 23 55.5	
	comp=Z,119nm,1.4s							
EPLO	**Experimental L**	**22.22**	**44**	IAmb		IAmb	04 24 09.4	
	comp=Z,72nm,1.1s							
JFWS	**Jewell Farm**	**22.27**	**63**	IAmb		IAmb	04 24 01.5	
	comp=Z,103nm,1.1s							
CGM3	**Cape Girardeau**	**22.52**	**78**	P		**P**	**04 23 56.0**	**-0.8**
P43A	**Skaggs, Pawnee**	**22.54**	**72**	P		**P**	**04 23 56.3**	**-0.6**
L42A	**Oliver, Polo**	**22.58**	**66**	P		**P**	**04 23 56.6**	**-0.6**
L42A					IAmb	IAmb	04 24 14.1	
	comp=Z,66nm,0.9s							
T35M	**Bob Quinn**	**22.73**	**342**	P		**P**	**04 24 00.4**	**+1.6**
	baz=153,SNR=8.3							
G40A	**Rib Lake**	**22.79**	**57**	IAmb		IAmb	04 24 20.5	
	comp=Z,52nm,1.0s							
U33K	**Whale Pass**	**22.79**	**337**	P		**P**	**04 24 00.9**	**+1.5**
	baz=146,SNR=5.5							
EYMN	**Ely**	**22.80**	**50**	IAmb		IAmb	04 24 05.8	
	comp=Z,104nm,1.4s							
WRAK	**Wrangell Islan**	**22.82**	**339**	P		**P**	**04 24 01.1**	**+1.5**
	baz=148,SNR=11							
I42A	**Draeger Farm,**	**23.40**	**61**	IAmb		IAmb	04 24 09.6	
	comp=Z,105nm,1.1s							
TOAD	**Toad River Com**	**23.50**	**350**	P		**P**	**04 24 07.5**	**+0.8**
	baz=164,SNR=49							
COWI	**Conover**	**23.73**	**56**	IAmb		IAmb	04 24 14.6	
	comp=Z,68nm,0.9s							
S34M	**Telegraph Cree**	**23.78**	**342**	P		**P**	**04 24 10.6**	**+1.3**
	baz=152							
DLBC	**Dease Lake**	**23.99**	**344**	P		**P**	**04 24 11.9**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=141,slow=9.4,SNR=16							
DLBC	**Dease Lake**	**23.99**	**344**	P		**P**	**04 24 12.8**	**+1.3**
	baz=155,SNR=14							
LIRD	**Liard River Hi**	**24.17**	**349**	P		**P**	**04 24 15.3**	**+2.3**
	baz=163,SNR=18							
SIT	**Sitka**	**24.27**	**336**	P		**P**	**04 24 15.2**	**+1.3**
	baz=143							
TBO	**Thunder Bay**	**24.35**	**50**	IAmb		IAmb	04 24 17.0	
	comp=Z,82nm,1.1s							
S32K	**Killisnoo**	**24.37**	**338**	P		**P**	**04 24 16.2**	**+1.4**
	baz=145							
KOTAN	**Kotaneelee Air**	**24.61**	**352**	P		**P**	**04 24 18.6**	**+1.6**
	baz=168,SNR=12							
Q32M	**Nakina River**	**24.99**	**342**	P		**P**	**04 24 22.2**	**+1.5**
	baz=151			

baz=141
BMRM **Bremner River** 30.38 334 P P 04 25 10.5 +1.7
baz=133
SADO **Sadowa** 30.46 61 P P 04 25 09.0 -0.6
comp=Z,9.4nm,0.8s,baz=277,slow=9.2,SNR=13
comp=Z,9.4nm,0.8s
M27K **Edge Creek, AK** 30.49 338 P P 04 25 11.2 +1.4
baz=139,SNR=11
K29M **Barlow Dome** 30.49 343 P P 04 25 11.8 +2.1
baz=147,SNR=10
EYAK **Cordova Ski Ar** 30.52 333 P P 04 25 11.9 +2.0
baz=131
P23K **Montague Islan** 30.80 331 P P 04 25 14.3 +1.9
baz=128
N25K **Chitina, Valde** 30.82 335 P P 04 25 14.3 +1.6
baz=134
J30M **Hart River** 30.84 344 P P 04 25 15.1 +2.1
baz=150,SNR=12
M26K **Nabesna, AK** 30.87 337 P P 04 25 15.0 +1.9
baz=137,SNR=7.7
L27K **Beaver Creek,** 31.01 339 P P 04 25 15.7 +1.4
baz=140
DAWY **Dawson** 31.14 342 P P 04 25 17.3 +1.9
baz=144,SNR=7.5
KLU **Klutina** 31.21 334 P P 04 25 17.8 +1.7
baz=132
GLI **Glacier Island** 31.23 332 P P 04 25 18.3 +2.1
baz=130,SNR=6.1
I30M **Mount Dempster** 31.41 345 P P 04 25 19.5 +1.5
baz=150,SNR=9.0
L26K **Log Cabin Wild** 31.44 338 P P 04 25 19.7 +1.6
baz=138
H31M **Peel River** 31.53 347 P P 04 25 20.6 +1.7
baz=154,SNR=7.6
HARP **HAARP** 31.57 336 P P 04 25 21.1 +2.0
baz=134
SEW **Seward** 31.68 330 P P 04 25 21.9 +1.7
baz=126,SNR=6.9
PWL **Port Wells** 31.69 332 P P 04 25 21.9 +1.6
baz=128
M24K **Tolsona, Glenn** 31.71 335 P P 04 25 22.2 +1.7
baz=133
K27K **Chicken** 31.83 340 P P 04 25 23.1 +1.7
baz=140
KDAK **Kodiak Island** 31.83 324 *i* P P 04 25 21.8 +0.3
KDAK pmax pmax
comp=Z,17nm,1.0s
KDAK **Kodiak Island** 31.83 324 P P 04 25 23.5 +2.0
baz=118
OHAK **Old Harbor** 31.91 323 P P 04 25 23.9 +1.7
baz=117,SNR=9.1
SCM **Sheep Creek Mo** 31.94 334 P P 04 25 24.8 +2.2
baz=131,SNR=6.5
I29M **Ogilvie Camp,** 31.95 344 P P 04 25 23.4 +0.9
baz=147,SNR=7.6
O22K **Cooper Landing** 32.01 330 P P 04 25 25.4 +2.3
baz=126
M23K **Glacier View** 32.06 333 P P 04 25 25.8 +2.3
baz=130,SNR=6.2
SII **Sitkinak Islan** 32.07 322 P P 04 25 25.3 +1.7
baz=114
PAX **Paxson** 32.07 336 P P 04 25 25.2 +1.5
baz=135
KNK **Knik Glacier** 32.09 332 P P 04 25 25.5 +1.8
baz=129,SNR=6.4
Q20K **Shuyak Island** 32.15 326 P P 04 25 26.3 +2.0
baz=120
SCRK **Sand Creek** 32.34 339 P P 04 25 27.5 +1.4
baz=138,SNR=18
HOM **Homer** 32.35 328 P P 04 25 27.9 +1.8
baz=122
RC01 **Rabbit Creek A** 32.38 331 P P 04 25 27.9 +1.6
baz=126
I28M **Miner Creek** 32.41 343 P P 04 25 28.0 +1.4
baz=145,SNR=19
RIDG **Independent Ri** 32.43 338 IAmb IAmb 04 25 51.7
comp=Z,24nm,1.2s
RIDG **Independent Ri** 32.43 338 P P 04 25 28.1 +1.3
baz=136
PMR **Palmer** 32.45 332 P P 04 25 28.6 +1.7
baz=128,SNR=13
EPYK **Eagle Plains** 32.48 346 P P 04 25 28.5 +1.3
baz=150,SNR=7.2
CHIR **Chirikof Islan** 32.52 320 P P 04 25 28.8 +1.2
baz=112
G31M **Satah River** 32.53 348 P P 04 25 29.1 +1.6
baz=154
WAT6 **Susitna Watana** 32.57 334 P P 04 25 30.2 +2.0
baz=131,SNR=9.9
J26L **Joseph Creek** 32.61 339 P P 04 25 30.6 +2.2
baz=139,SNR=8.7
R18K **Karluk** 32.63 323 P P 04 25 30.0 +1.5
baz=116
H29M **Whitestone** 32.70 345 P P 04 25 30.1 +1.1
baz=148,SNR=12
CAPN **Captain Cook N** 32.76 330 P P 04 25 30.9 +1.4
baz=124
K24K **Donnelly Dome** 32.76 337 P P 04 25 31.2 +1.6
baz=135
DHY **Denali Highway** 32.78 335 P P 04 25 31.6 +1.6
baz=132,SNR=10
Q19K **Cape Douglas,** 32.87 326 P P 04 25 31.4 +0.8
baz=118
F31M **Tsiigehtchic** 32.91 349 P P 04 25 32.5 +1.6
baz=156
M22K **Willow** 32.92 332 P P 04 25 32.9 +1.9
baz=127,SNR=5.7
G30M **tAoh Zraii Nji** 32.93 347 P P 04 25 32.6 +1.5
baz=152
I27K **Kandik River** 32.95 342 P P 04 25 33.0 +1.7
baz=143
SUA **Susitna One** 32.99 331 P P 04 25 32.8 +0.9
baz=126
O20K **Slope Mountain** 33.00 328 P P 04 25 33.5 +1.7
baz=121
WAT1 **Susitna Watana** 33.02 334 P P 04 25 33.2 +1.3
baz=130
P19K **Oil Pt** 33.04 327 P P 04 25 33.8 +1.7
baz=120,SNR=9.3
I26K **Coal Creek Min** 33.11 341 P P 04 25 34.5 +1.9
baz=140
G29M **Pine Creek** 33.22 346 P P 04 25 34.8 +1.2
baz=149,SNR=10
J25K **Salcha River,** 33.22 339 P P 04 25 35.2 +1.5
baz=136,SNR=12
Q18K **Katmai Hardscr** 33.37 325 P P 04 25 36.7 +1.6
baz=116,SNR=9.5
CUT **Chulitna** 33.37 333 P P 04 25 36.2 +1.2
baz=127
F30M **Barrier River** 33.41 348 P P 04 25 36.8 +1.6
baz=153,SNR=9.0
SPCR **Spurr Chakacha** 33.42 330 P P 04 25 36.8 +1.3
baz=123
H27K **Steamboat Moun** 33.43 343 P P 04 25 36.9 +1.4
baz=143,SNR=10
HDA **Harding Lake** 33.55 337 P P 04 25 37.4 +0.9
baz=134
R17L **Mt. Peulik Vol** 33.59 323 P P 04 25 38.3 +1.4
baz=114,SNR=12
SKT **Skwentna** 33.60 332 P P 04 25 38.2 +1.2
baz=125,SNR=9.3
Q17K **Contact Creek** 33.62 324 P P 04 25 38.7 +1.4
baz=115,SNR=21
INK **Inuvik** 33.67 349 P P 04 25 38.8 +1.3
baz=156,SNR=11
MCK **McKinley** 33.74 335 P P 04 25 39.9 +1.7
baz=131,SNR=11
O19K **Port Alsworth** 33.79 328 P P 04 25 40.1 +1.5
baz=119
ILAR **Eielson Array** 33.79 338 P P 04 25 39.7 +1.1
comp=Z,7.3nm,0.9s,baz=155,slow=7.7,SNR=76
ILAR PcP PcP 04 28 17.7 +0.2
comp=Z,2.5nm,0.7s,baz=172,slow=1.8,SNR=11
comp=Z,7.3nm,0.9s
P18K **Big Mountain,** 33.81 326 P P 04 25 40.0 +1.1
baz=117,SNR=8.1
G27K **Doyon Strip** 33.93 343 P P 04 25 41.1 +1.3
baz=144,SNR=11
PRP **Porcupine Dome** 33.93 340 P P 04 25 41.4 +1.5
baz=137,SNR=8.5
O18K **Koktuh Hills** 34.01 327 P P 04 25 42.1 +1.5
baz=118,SNR=14
TRF **Thorofare Moun** 34.03 334 P P 04 25 42.3 +1.5
baz=129,SNR=12
CHGN **Chignik** 34.15 320 P P 04 25 43.4 +1.6
baz=109,SNR=13
COLA **College** 34.16 338 *i* P P 04 25 42.0 +0.3
COLA pmax pmax
comp=Z,10.0nm,1.0s
COLA **College** 34.16 338 P P 04 25 43.6 +1.8
baz=133
Q16K **King Salmon** 34.16 324 P P 04 25 43.2 +1.4
baz=115
N19K **Bonanza Creek** 34.16 328 P P 04 25 43.1 +1.1
baz=120,SNR=23
M20K **Styx River** 34.17 331 P P 04 25 43.1 +1.0
baz=133
F28M **Old Crow** 34.20 345 P P 04 25 43.6 +1.5
baz=147,SNR=12
P17K **Kvichak River** 34.28 325 P P 04 25 44.2 +1.3
baz=116
CHNA **Chernabura Isl** 34.34 317 P P 04 25 44.5 +1.0
baz=106,SNR=11
NEA2 **Nenana** 34.35 337 P P 04 25 44.7 +1.2
baz=132,SNR=28
PPLA **Purkeypile** 34.38 333 P P 04 25 45.0 +1.1
baz=126,SNR=11
E29M **Blow River** 34.47 347 P P 04 25 46.0 +1.6
baz=150,SNR=6.9
G26K **Porcupine Rive** 34.55 342 P P 04 25 46.7 +1.6
baz=141,SNR=22
H25L **Birch Creek** 34.56 340 P P 04 25 46.9 +1.7
baz=138,SNR=8.0
CAST **Castle Rocks** 34.65 333 P P 04 25 46.7 +0.6
baz=126,SNR=11
BPAW **Bear Paw Mtn.** 34.67 335 P P 04 25 47.2 +0.9
baz=128,SNR=26
M19K **Big River Lodg** 34.69 330 P P 04 25 47.9 +1.4
baz=122,SNR=8.7
N18K **Kilae Creek** 34.70 328 P P 04 25 47.9 +1.3
baz=118,SNR=16
S14K **Fog Glacier** 34.75 319 P P 04 25 47.3 +0.2
baz=108
L20K **Farewell, AK** 34.79 331 P P 04 25 48.5 +1.1
baz=123,SNR=22
I23K **Minto, Yukon-K** 34.81 337 P P 04 25 48.6 +1.1
baz=132,SNR=12
O17K **Koliganek Bris** 34.83 326 P P 04 25 49.1 +1.4
baz=116
H24K **Noodor Dome** 34.84 339 P P 04 25 48.8 +1.1
baz=134,SNR=9.8
P16K **Nushagak River** 34.94 324 P P 04 25 49.9 +1.3
baz=114
E28M **Babbage River** 34.97 346 P P 04 25 49.8 +1.1
baz=148,SNR=7.0
SDPT **Sand Point** 34.97 317 P P 04 25 49.9 +1.0
baz=106
CHUM **Lake Minchumin** 35.01 334 P P 04 25 50.4 +1.3
baz=126,SNR=21
G25K **Bearman Lake** 35.01 341 P P 04 25 51.0 +1.9
baz=138,SNR=11
L19K **White Mountain** 35.02 330 P P 04 25 50.6 +1.3
baz=121,SNR=17
E27K **Coleen River** 35.04 345 P P 04 25 51.1 +1.7
baz=145,SNR=7.2
M18K **Stony River** 35.07 329 P P 04 25 50.7 +1.0
baz=119,SNR=18
MLY **Manley** 35.18 336 P P 04 25 51.9 +1.2
baz=130,SNR=23
N17K **Nushagak Hills** 35.20 327 P P 04 25 52.5 +1.7
baz=116,SNR=20
O16K **Kokwok River B** 35.21 325 P P 04 25 52.0 +1.1
baz=114,SNR=12
F26K **Sheenjek River** 35.22 343 P P 04 25 53.1 +2.1
baz=141,SNR=28
H23K **Yukon River** 35.33 338 P P 04 25 53.4 +1.5
baz=132,SNR=14
G24K **Hadweenzic Riv** 35.34 340 P P 04 25 54.0 +2.0
baz=136,SNR=7.0
K20K **Telida** 35.35 332 P P 04 25 52.5 +0.4
K20K **Telida** 35.35 332 P P 04 25 53.0 +0.9
baz=124,SNR=43
HNH **Hanover** 35.38 63 P P 04 25 54.3 +1.7
F25K **Christian Rive** 35.51 342 P P 04 25 55.2 +1.7
baz=139,SNR=13
UCCT **U. Connecticut** 35.58 66 P P 04 25 54.3 0.0
UCCT IAmb IAmb 04 25 58.7
comp=Z,32nm,1.3s
M17K **Holitna River** 35.71 328 P P 04 25 56.5 +1.4
baz=117,SNR=32
L18K **Granite Mounta** 35.78 330 P P 04 25 56.1 +0.3
L18K **Granite Mounta** 35.78 330 P P 04 25 57.2 +1.4
baz=119,SNR=25
D27M **Malcolm River** 35.79 346 P P 04 25 57.7 +1.8
baz=147
J20K **Nowinta River** 35.84 334 P P 04 25 57.3 +1.0
baz=124,SNR=21
O15K **Ungalikthiuk R** 35.87 324 P P 04 25 57.5 +0.9
baz=112,SNR=8.5
N16K **Nishlik Lake** 35.89 326 P P 04 25 58.2 +1.5
baz=114
E25K **Arctic Village** 35.90 343 P P 04 25 56.6 -0.1
E25K IAmb IAmb 04 26 18.4
comp=Z,35nm,1.4s
E25K **Arctic Village** 35.90 343 P P 04 25 58.6 +1.8
baz=140,SNR=13
S12K **Black Hills** 35.94 318 P P 04 25 56.9 -0.3
S12K IAmb IAmb 04 26 03.3
comp=Z,33nm,0.9s
S12K **Black Hills** 35.94 318 P P 04 25 58.7 +1.5
baz=105
H22K **Ishlitna Cre** 35.94 337 P P 04 25 58.5 +1.4
baz=130,SNR=32
F24K **Squaw Lake** 36.04 341 P P 04 25 59.6 +1.6
baz=136
G23K **Bananza Creek** 36.07 339 P P 04 25 59.9 +1.6
baz=132,SNR=13
M16K **Timber Creek** 36.20 327 P P 04 25 59.6 +0.2
M16K IAmb IAmb 04 26 02.4
comp=Z,46nm,1.1s
M16K **Timber Creek** 36.20 327 P P 04 26 01.3 +1.9
baz=115,SNR=23
H21K **Melozitna Rive** 36.25 336 P P 04 26 01.6 +1.8
baz=128,SNR=43
J19K **Poorman** 36.27 333 P P 04 26 01.1 +1.1
baz=122,SNR=27
I20K **Naaghedeneel** 36.31 334 P P 04 26 01.6 +1.5
I20K **Naaghedeneel** 36.31 334 P P 04 26 01.8 +1.5
baz=125,SNR=16
N15K **Kwethluk River** 36.37 325 P P 04 26 02.5 +1.6
baz=113,SNR=5.8
A36M **Sachs Harbour** 36.38 356 P P 04 26 02.3 +1.5
baz=170
L17K **Donlin** 36.41 329 P P 04 26 02.2 +1.1
baz=117,SNR=19
J18K **Innoko River** 36.41 332 P P 04 26 02.1 +0.9
baz=120,SNR=23
COLD **Coldfoot** 36.47 339 P P 04 26 03.0 +1.4
baz=133
O14K **Tigyukauivet M** 36.59 324 P P 04 26 01.8 -0.9
O14K **Tigyukauivet M** 36.59 324 P P 04 26 03.0 +0.3
baz=110,SNR=5.3
E24K **Your Creek** 36.60 341 P P 04 26 04.5 +1.8
baz=136
G22K **Bettles** 36.65 338 P P 04 26 04.4 +1.3
baz=131
C27K **Jago River** 36.66 345 P P 04 26 04.0 +0.8
C27K pP 04 26 05.3 -1.5
C27K IAmb IAmb 04 26 20.6
comp=Z,26nm,0.9s
C27K **Jago River** 36.66 345 P P 04 26 04.6 +1.4
baz=143,SNR=7.1
K17K **Iditarod** 36.68 330 P P 04 26 04.2 +0.8
K17K **Iditarod** 36.68 330 P P 04 26 04.4 +0.9
baz=118,SNR=29
L16K **Owhat River** 36.72 328 P P 04 26 05.2 +1.4
baz=115
M15K **Kasigluk River** 36.84 326 P P 04 26 06.3 +1.4
baz=112,SNR=13
H20K **Anotleneega Mo** 36.85 335 P P 04 26 05.9 +1.0
baz=125,SNR=27
E23K **Chandalar** 36.88 341 P P 04 26 07.0 +1.7
baz=134,SNR=9.8
D25K **Kavik River** 37.01 344 P P 04 26 07.7 +1.4
baz=140
G21K **Allakaket** 37.01 337 P P 04 26 07.3 +1.1
baz=128,SNR=24
N14K **Kuskokwak Cree** 37.02 324 P P 04 26 07.3 +1.0
baz=110,SNR=8.4
GCSA **Galena City Sc** 37.14 333 P P 04 26 08.7 +1.3
baz=122
C26K **Camden Bay** 37.15 345 P P 04 26 09.3 +2.0
baz=142
F22K **John River** 37.23 339 P P 04 26 10.5 +2.3
baz=131
TOLK **Toolik Lake Re** 37.28 341 P P 04 26 10.1 +1.5
baz=135,SNR=7.0
J17K **VABM Dome** 37.31 331 P P 04 26 09.6 +0.8
baz=118,SNR=7.5
H19K **Roundabout Mou** 37.41 335 P P 04 26 10.4 +0.8
baz=123,SNR=21
F21K **Alatna River** 37.44 338 P P 04 26 11.0 +1.1
baz=129
M14K **Bethel** 37.45 326 P P 04 26 11.0 +1.0
baz=111
D24K **Happy Valley** 37.46 342 P P 04 26 11.2 +1.1
baz=136
E22K **Anaktuvuk Pass** 37.54 340 P P 04 26 12.1 +1.3
baz=132
L15K **Ungalak Mounta** 37.58 327 P P 04 26 11.9 +0.8
baz=113
D23K **Nanushuk River** 37.80 341 P P 04 26 14.6 +1.7
baz=134,SNR=10
K15K **Wolf Creek Mou** 37.84 328 P P 04 26 14.3 +0.9
baz=114,SNR=11
C24K **Franklin Bluff** 37.85 343 P P 04 26 14.5 +1.3
baz=137
J16K **Anvik River** 37.87 330 P P 04 26 14.8 +1.2
baz=116,SNR=11
H18K **Honhosa River** 37.89 333 P P 04 26 14.9 +1.2
baz=120,SNR=11
KIP **Kipapa** 37.93 259 *ce* P P 04 26 15.8 +1.3
KIP pmax pmax
comp=Z,165nm,2.5s
G19K **Purcell Mounta** 37.97 335 P P 04 26 15.4 +1.0
baz=123,SNR=9.1
M13K **Dall Lake** 37.97 325 P P 04 26 15.4 +1.0
baz=109,SNR=6.8
L14K **Kuka Creek** 37.99 326 P P 04 26 15.3 +0.7
baz=111,SNR=6.3
F20K **Avaraart Lake** 38.03 337 P P 04 26 15.9 +1.1
baz=126
UNV **Unalaska Valle** 38.10 314 P P 04 26 16.3 +0.8
baz=98
I17K **Unalakleet** 38.17 331 P P 04 26 17.1 +1.0
baz=116
D22K **Ayikyak River** 38.28 340 P P 04 26 17.9 +0.9
baz=131,SNR=5.3
E21K **Killik River** 38.35 339 P P 04 26 18.6 +1.0
baz=129
H17K **Granite Mounta** 38.36 333 P P 04 26 18.1 +0.4
baz=118,SNR=8.3
G18K **Tagagawik** 38.38 334 P P 04 26 18.4 +0.6
baz=121,SNR=10
C23K **Itkillik River** 38.40 342 P P 04 26 19.2 +1.3
baz=135
F19K **Shaleruckik Mo** 38.57 336 P P 04 26 20.1 +0.7
baz=123,SNR=23
E19K **Redstone River** 38.75 337 P P 04 26 22.6 +1.7
baz=124,SNR=41
J14K **Nanvaranak Lak** 38.89 328 P P 04 26 23.7 +1.7
baz=112,SNR=5.2
E20K **Nigu River** 38.89 338 P P 04 26 23.2 +1.1
baz=126,SNR=18
G17K **Kiwalik Mounta** 38.90 333 P P 04 26 23.3 +1.1
baz=118,SNR=16
C21K **Knifeblade Rid** 39.03 340 P P 04 26 24.8 +1.5
baz=129,SNR=8.0
K13K **Kusilvak Mount** 39.08 327 P P 04 26 24.4 +0.7
baz=110
B21K **Ikpikpuk River** 39.28 341 P P 04 26 26.4 +1.1
baz=130
D20K **Etivluk River** 39.29 339 P P 04 26 26.6 +1.1
baz=126
M11K **Mekoryuk** 39.31 324 P P 04 26 26.9 +1.3
baz=106
NIKH **Nikolski High** 39.40 312 P P 04 26 27.8 +1.3
baz=95
SCHQ **Schefferville** 39.41 45 P P 04 26 26.7 0.0
comp=Z,10nm,0.9s,baz=273,slow=11,SNR=7.9
comp=Z,10nm,0.9s
B22K **Teshekpuk Lake** 39.44 342 P P 04 26 28.2 +1.6
baz=132
G16K **Koyuk River** 39.48 332 P P 04 26 28.7 +1.6
baz=116,SNR=10
F17K **Baldwin Pennin** 39.56 334 P P 04 26 29.8 +2.1
baz=118,SNR=5.8
D19K **Kuna River** 39.61 338 P P 04 26 29.3 +1.2
baz=124,SNR=12
E18K **Tukpahlearik C** 39.83 336 P P 04 26 31.0 +1.1
baz=120,SNR=17
G15K **Niukluk** 39.96 331 P P 04 26 32.4 +1.4
baz=114,SNR=11
E17K **Hotham Inlet** 40.07 335 P P 04 26 32.5 +0.5
baz=118
B20K **Meade River** 40.22 340 P P 04 26 34.4 +1.3
baz=127
P08K **Saint George I** 40.22 318 P P 04 26 33.7 +0.4
baz=98
A22K **Sinclair Lake** 40.27 342 P P 04 26 34.8 +1.3
baz=130
ANM **Nome** 40.32 330 P P 04 26 34.8 +0.8
baz=112
C19K **Lookout Ridge** 40.40 338 P P 04 26 35.5 +0.8
baz=123
F15K **North Star Dit** 40.48 332 P P 04 26 36.2 +0.8
baz=114
C18K **Utukok River** 40.65 337 P P 04 26 37.9 +1.1
baz=121
SPIA **Saint Paul Isl** 40.68 318 P P 04 26 37.9 +0.8
baz=98
D17K **Noatak River** 40.79 335 P P 04 26 38.9 +1.0
baz=118
A21K **Barrow** 40.89 342 P P 04 26 39.8 +1.2
baz=129
RDOG **Red Dog Mine** 40.90 336 P P 04 26 39.8 +1.0
baz=118
F14K **Arctic Creek** 41.03 331 P P 04 26 41.0 +1.0
baz=112
C17K **DeLong Mountai** 41.19 336 P P 04 26 42.3 +1.1
baz=118
B18K **Kokolik River** 41.20 338 P P 04 26 42.4 +1.1
baz=121
A19K **Wainwright** 41.43 339 P P 04 26 44.0 +0.9
baz=123
TNA **Tin City** 41.69 331 P P 04 26 46.2 +0.9
baz=110
C16K **Lisburne Hills** 41.81 336 P P 04 26 47.2 +1.0
baz=116
GAMB **Gambell** 42.71 328 P P 04 26 54.5 +0.9
baz=104
ROSC **El Rosal** 50.42 117 P P 04 27 53.4 -1.8
comp=Z,3.6nm,0.2s,baz=80,slow=19,SNR=1.5
comp=Z,3.6nm,0.2s
BILL **Bilibino** 52.09 332 *ce* P P 04 28 05.1 -1.5
BILL pmax pmax
comp=Z,13nm,1.0s
SEY **Seymchan** 58.71 328 *i* P P 04 28 54.7 +0.4
SEY pmax pmax
comp=Z,19nm,1.5s
PETK **Petropavlovsk-** 59.23 316 P P 04 28 57.8 -0.3
comp=Z,28nm,0.9s,baz=77,slow=13,SNR=47
comp=Z,28nm,0.9s
MA2 **Magadan** 60.58 324 *ce* P P 04 29 07.9 +0.7
MA2 pmax pmax
comp=Z,16nm,1.0s
NNA **Nana** 61.27 133 *i* P P 04 29 11.7 -0.8
NNA pmax pmax
comp=Z,18nm,1.1s
BOAV **Boa Vista** 62.35 109 P P 04 29 19.2 -0.6
TIXI **Tiksi** 63.18 341 *ce* P P 04 29 24.1 -0.4
TIXI pmax pmax
comp=Z,17nm,1.3s
YAK **Yakutsk** 68.45 332 *i* P P 04 29 58.6 0.0
YAK pmax pmax
comp=Z,13nm,0.9s
TYV **Tymovskoe** 68.58 318 *e* P P 04 29 59.4 -0.2
TYV pmax pmax
comp=Z,25nm,1.0s
TYV pmax pmax
comp=Z,2μm,7.0s
LPAZ **La Paz** 69.93 129 P P 04 30 08.3 -0.8
comp=Z,2.5nm,0.7s,baz=326,slow=6.7,SNR=13
comp=Z,2.5nm,0.7s
PB18 **Visviri** 70.07 131 P P 04 30 09.7 -0.2
YUK **Yuzh-Kuril'sk** 70.22 310 *i* P P 04 30 09.8 -0.1
YUK pmax pmax
comp=Z,3.0nm,1.1s
YSS **Yuzhno-Sakhali** 70.56 314 P P 04 30 11.2 -0.7
YSS **Yuzhno-Sakhali** 70.56 314 *e* P P 04 30 11.6 -0.3
YSS 04 30 41.2
YSS pmax pmax
comp=Z,40nm,1.1s
PB16 **IPOC Station P** 70.62 131 P P 04 30 13.2 -0.1
PB16 IAmb IAmb 04 30 40.9

comp=Z,18nm,1.1s
ARCES ARCESS Array B 71.48 13 P **P** 04 30 18.0 +0.8
comp=Z,2.4nm,0.8s,baz=316,slow=5.1,SNR=5.0
comp=Z,2.4nm,0.8s
ARCES ARCESS Array B 71.48 13 P **P** 04 30 18.0 +0.8
PB11 IPOC Station P 71.62 132 P **P** 04 30 18.6 -0.2
JKA Kamikawa-asahi 72.17 312 P **P** 04 30 21.0 -0.7
ASAJ Asahikawa 72.17 312 P **P** 04 30 21.0 -0.7
ASAJ pmax pmax
comp=Z,41nm,1.1s
PB01 IPOC Station P 72.71 133 P **P** 04 30 25.1 -0.1
PB01 IAmb IAmb 04 30 44.0
comp=Z,25nm,1.2s
VILB Vilhena 72.81 121 P **P** 04 30 25.1 -0.8
ERM Erimo 72.97 310 P **P** 04 30 25.7 -0.8
ERM Erimo 72.97 310*ce*P **P** 04 30 26.8 +0.3
ERM pmax pmax
comp=Z,77nm,1.0s
EKA Eskdalemuir Ar 73.36 33 P **P** 04 30 29.3 +0.7
comp=Z,2.2nm,0.8s,baz=275,slow=4.9,SNR=3.9
comp=Z,2.2nm,0.8s
NRIK Noril'sk 73.44 351 P **P** 04 30 29.1 +0.2
comp=Z,1.6nm,0.3s,baz=15,slow=2.1,SNR=6.1
comp=Z,1.6nm,0.3s
NRIK Noril'sk 73.44 351 *i* P **P** 04 30 29.4 +0.6
NRIK pmax pmax
comp=Z,13nm,1.0s
APA Apatity 74.57 11 *e*P **P** 04 30 34.3 -1.1
APA *i* 04 30 48.2
APA MLR MLR
comp=Z,7μm,17.8s
ZEA Zeya 74.62 326 *e*P **P** 04 30 35.4 -0.6
ZEA pmax pmax
comp=Z,10.0nm,1.1s
NB2 NORSAR Subarra 74.83 23 P **P** 04 30 36.9 -0.3
comp=Z,137nm,2.5s,baz=318,slow=5.9
NB2 NORSAR Subarra 74.83 23 P **P** 04 30 36.9 -0.3
baz=318,slow=5.9
NOA NORSAR Array B 74.83 23 P **P** 04 30 37.5 +0.3
comp=Z,1.1nm,0.3s,baz=318,slow=5.8,SNR=6.4
comp=Z,1.1nm,0.3s
KLR Kul'dur 75.30 321 *i* P **P** 04 30 39.3 -0.7
KLR pmax pmax
comp=Z,17nm,1.5s
HFS Hagfors 76.32 23 P **P** 04 30 46.1 +0.5
comp=Z,1.8nm,0.6s,baz=358,slow=3.7,SNR=6.3
comp=Z,1.8nm,0.6s
HEH HeiHe 76.82 323 *e*P **P** 04 30 47.5 -1.1
HEH pmax pmax
comp=Z,22nm,1.1s
AC02 Maricunga 77.40 137 P **P** 04 30 52.3 -0.4
USA0B Ussuriysk Arra 78.31 316 P **P** 04 30 56.2 -0.9
USA0B Ussuriysk Arra 78.31 316 *i* P **P** 04 30 57.3 +0.2
USRK Ussuriysk Ar. 78.31 316 P **P** 04 30 56.8 -0.2
comp=Z,16nm,0.8s,baz=59,slow=4.2,SNR=9.9
comp=Z,16nm,0.8s
FINES FINESS Array B 78.63 17 P **P** 04 30 58.9 +0.4
comp=Z,1.5nm,0.7s,baz=318,slow=2.6,SNR=4.9
comp=Z,1.5nm,0.7s
MJAR Matsushiro Arr 79.24 307 P **P** 04 31 01.8 -0.6
comp=Z,6.4nm,0.9s,baz=36,slow=4.5,SNR=13
comp=Z,6.4nm,0.9s
MAJO Matsushiro 79.24 307 P **P** 04 31 01.5 -0.9
MAJO IAmb IAmb 04 31 04.8
comp=Z,23nm,1.0s
MAJO Matsushiro 79.24 307 P **P** 04 31 01.5 -0.9
MAJO pmax pmax
comp=Z,23nm,1.0s
MJB9 Matsu-Tunnel 79.24 307 P **P** 04 31 01.5 -0.9
MJB9 IAmb IAmb 04 31 04.8
comp=Z,22nm,1.0s
MDJ Mudanjiang 79.37 318 P **P** 04 31 02.8 -0.1
MDJ pmax pmax
comp=Z,13nm,1.6s
PCAB Cabril 79.50 46 *e*P **P** 04 31 06.6 +2.9
PCAB *i* IAmb IAmb 04 31 10.1
comp=Z,36nm,1.8s
BNX BinXian 79.80 320 ⇓P **P** 04 31 05.0 -0.2
BNX pmax pmax
comp=Z,36nm,1.3s
MSHR Mys Shultsa 79.80 316 *i* P **P** 04 31 04.5 -0.8
MSHR pmax pmax
comp=Z,41nm,1.1s
POLO Lamas de Olo 79.85 46 *e*P P 04 31 10.7 +5.0
POLO *i* IAmb IAmb 04 31 12.7
comp=Z,175nm,1.6s
PVRL Vila Real 79.95 46 *e*P **P** 04 31 09.5 +3.3
PVRL *i* IAmb IAmb 04 31 18.9
comp=Z,40nm,1.6s
PSTR Posyet 79.96 316 *i* P **P** 04 31 06.3 +0.2
PVIS Viseu 80.20 47 *e*P **P** 04 31 10.4 +2.8
PCAS Casmilo, Conde 80.26 47 *e*P **P** 04 31 12.3 +4.5
PCAS *i* IAmb IAmb 04 31 28.3
comp=Z,28nm,3.1s
BMRD Maredsous 80.31 33 *d*P **P** 04 31 08.0 +0.1
comp=Z,6.5nm,0.8s
DOU Dourbes 80.38 34 *d*P **P** 04 31 09.8 +1.6
comp=Z,6.4nm,1.1s
BGES Gesves 80.39 33 *d*P **P** 04 31 09.1 +0.8
comp=Z,6.1nm,1.0s
MVO Moncorvo 80.42 46 *e*P **P** 04 31 11.4 +2.7
BSTI Sart Tilman 80.46 33 *d*P **P** 04 31 10.2 +1.6
comp=Z,2.3nm,1.0s
BCLA Clavier 80.46 33 *d*P **P** 04 31 09.7 +1.0
comp=Z,7.5nm,1.2s
MTE Manteigas 80.61 47 *e*P **P** 04 31 12.9 +3.1
MTE *i* IAmb IAmb 04 31 15.9
comp=Z,105nm,1.9s
MEM Membach 80.64 32 *d*P **P** 04 31 10.1 +0.5
comp=Z,6.8nm,0.9s
PSARD Sardoal 80.75 48 *e*P **P** 04 31 12.0 +1.5
PSARD *i* IAmb IAmb 04 31 13.4
comp=Z,132nm,1.6s
CLF Chambon-Foret 80.77 36 P **P** 04 31 11.0 +0.7
PCBR Castelo Branco 81.00 47 *e*P **P** 04 31 14.9 +3.1
PCBR *i* IAmb IAmb 04 31 36.5
comp=Z,25nm,1.6s
HIA Hailar 81.11 326 *i* P **P** 04 31 11.3 -0.9
HIA pmax pmax
comp=Z,22nm,1.7s
VA03 San Esteban 81.31 141 P **P** 04 31 12.6 -0.9
PMRV Marv??o 81.32 47 *e*P **P** 04 31 11.9 -1.6
PMRV *i* IAmb IAmb 04 31 13.1
comp=Z,166nm,1.6s
WLF Walferdange 81.39 33 *d*P **P** 04 31 13.2 -0.4
comp=Z,9.3nm,0.9s
EVO Evora 81.51 48 *e*P **P** 04 31 17.1 +2.6
EVO *i* IAmb IAmb 04 31 17.5
comp=Z,157nm,1.9s
PESTR Estremoz 81.55 48 *e*P **P** 04 31 19.5 +4.7
PESTR *i* IAmb IAmb 04 31 20.2
comp=Z,82nm,1.9s
PTEO Sao Teotonio 81.70 49 *e*P P 04 31 22.5 +7.0
PTEO *i* IAmb IAmb 04 31 24.0
comp=Z,186nm,1.8s
KLMR Klimovskoe 81.81 11 *e*P **P** 04 31 13.8 -1.9
KLMR pmax pmax
comp=Z,34nm,1.3s
MORF Marmelete 81.90 50 *e*P P 04 31 22.4 +5.8
MORF *i* IAmb IAmb 04 31 22.6
comp=Z,92nm,1.8s
PCVE Castro Verde 82.07 49 *e*P P 04 31 23.5 +6.0
PCVE *i* IAmb IAmb 04 31 27.4
comp=Z,26nm,2.1s
CN2 Changchun 82.13 319 P **P** 04 31 17.7 0.0
CN2 pmax pmax
comp=Z,10.0nm,0.8s
PVAQ Vaqueiros 82.41 49 *e*P P 04 31 26.0 +6.8
PVAQ *i* IAmb IAmb 04 31 27.4
comp=Z,34nm,1.4s
CLL Collm 82.99 29 *e*P **P** 04 31 23.0 +1.0
CLL pmax pmax
comp=Z,38nm,2.0s
ESDC Sonseca Array 83.17 45 P **P** 04 31 23.9 +0.6
comp=Z,2.1nm,0.8s,baz=312,slow=5.3,SNR=9.0
comp=Z,2.1nm,0.8s
CPUP Villa Florida 84.09 128 P **P** 04 31 27.4 -0.5
comp=Z,2.2nm,1.2s,baz=9.0,slow=4.1,SNR=3.0
comp=Z,2.2nm,1.2s
DAVA Damuels 84.81 33 *i* P **P** 04 31 30.1 -1.5
comp=Z,5.8nm,1.1s
IRK Irkutsk 84.90 336 *e*P **P** 04 31 30.9 -0.9
IRK pmax pmax
comp=Z,41nm,2.3s
KSRS Korea Array 85.03 313 P **P** 04 31 32.6 -0.1
comp=Z,11nm,0.9s,baz=56,slow=5.0,SNR=26
comp=Z,11nm,0.9s
RETA Reutte 85.05 32 *ep*P **P** 04 31 33.2 +0.5
comp=Z,9.3nm,1.4s
GERES GERESS Array B 85.21 30 P **P** 04 31 34.4 +0.8
comp=Z,0.7nm,0.8s,baz=343,slow=4.2,SNR=5.6
comp=Z,0.7nm,0.8s
MNK Minsk 85.22 19 *i* P **P** 04 31 33.0 -0.3
MNK *i* 04 31 35.8
MNK *i* 04 34 51.1
MNK *i* PPP PPP 04 36 44.3
MNK *i* S **SKSac** 04 41 57.4 -0.6
MNK *i* SSS SSS 04 51 12.5
MNK pmax pmax
comp=N,4.0nm,0.6s
MNK pmax pmax
comp=E,11nm,0.8s
MNK pmax pmax
comp=Z,10.0nm,0.8s
KIRV Kirov 85.27 7 *i* P **P** 04 31 33.8 +0.4
MOTA Mosalm 85.30 32 *i* pP **P** 04 31 32.9 -1.2
comp=Z,9.6nm,1.7s
FETA Feichten 85.39 33 *e*P **P** 04 31 32.3 -2.2
comp=Z,8.1nm,1.3s
SQTA Sankt Quirin 85.44 32 *i* pP **P** 04 31 33.9 -0.8
comp=Z,5.6nm,1.2s
WATA Walderalm 85.51 32 *i* PcP **P** 04 31 36.1 +1.0
comp=Z,6.4nm,0.9s
WTTA Wattenberg 85.59 32 *e*P **P** 04 31 34.2 -1.4
comp=Z,5.0nm,1.1s
LESA Schwarzleotal 85.91 31 *i* pP **P** 04 31 35.9 -1.1
comp=Z,4.9nm,1.4s
BIOA Bad Ischl, Aus 86.10 31 *i* pP **P** 04 31 37.9 0.0
comp=Z,2.2nm,0.6s
MOA Molln 86.23 30 *i* pP **P** 04 31 37.9 -0.6
comp=Z,6.6nm,1.6s
MOS Moscow 86.33 14 *e*P **P** 04 31 38.9 +0.1
ABTA Abfaltersbach 86.37 32 *ep*P **P** 04 31 38.9 -0.4
comp=Z,3.4nm,1.1s
KBA Koblenbreinsper 86.46 31 *i* pP **P** 04 31 39.5 -0.3
comp=Z,4.2nm,1.0s
OBN Obninsk 86.71 14 *e*P **P** 04 31 41.0 +0.4
OBN *i* 04 31 46.1
OBN pmax pmax
comp=Z,18nm,1.5s
XLT XiLinHaoTe 86.77 324 *e*P **P** 04 31 41.3 0.0
XLT pmax pmax
comp=Z,15nm,0.9s
ZAK Zakamensk 86.80 335 *e*P **P** 04 31 41.1 -0.3
ZAK pmax pmax
comp=Z,8.0nm,1.7s
CONA Conrad Observa 86.81 29 *i* pP **P** 04 31 40.7 -0.7
comp=Z,4.2nm,1.0s
RONA Rosalia, Austr 87.17 29 *e*P **P** 04 31 41.9 -1.2
comp=Z,0.7nm,0.5s
ARSA Arzberg 87.22 30 *i* pP **P** 04 31 42.5 -0.9
comp=Z,4.0nm,1.2s
OBKA Obir 87.42 31 *ep*P **P** 04 31 44.2 -0.3
comp=Z,3.9nm,0.9s
SOKA Sobeth 87.48 30 *i* PcP **P** 04 31 44.7 0.0
comp=Z,2.7nm,1.0s
ULN Ulaanbaatar 87.53 332*ce*P **P** 04 31 44.9 -0.1
ULN pmax pmax
comp=Z,27nm,2.5s
SVE Sverdlovsk 87.63 1 *e*P **P** 04 31 46.4 +1.3
PLCA Paso Flores 87.68 146 P **P** 04 31 46.0 +0.5
comp=Z,2.7nm,0.9s,baz=319,slow=5.8,SNR=6.1
comp=Z,2.7nm,0.9s
PLCA Paso Flores 87.68 146 P **P** 04 31 46.0 +0.5
SONM Songino Array 87.81 332 P **P** 04 31 47.0 +0.7
comp=Z,3.0nm,0.7s,baz=23,slow=3.0,SNR=10
comp=Z,3.0nm,0.7s
SONM Songino Array 87.81 332 P **P** 04 31 47.0 +0.7
ARTI Arti 88.03 2 P **P** 04 31 46.6 -0.4
ARTI S **SKSac** 04 42 14.8 -0.5
ARTI SS **SS** 04 48 14.3 -2.2
ZALV Zalesovo Beam 88.44 347 P **P** 04 31 48.7 -0.3
comp=Z,2.4nm,0.6s,baz=20,slow=4.9,SNR=8.7
comp=Z,2.4nm,0.6s
AKASG Malin Array Be 88.98 20 P **P** 04 31 51.6 0.0
comp=Z,2.5nm,0.8s,baz=326,slow=4.0,SNR=12
comp=Z,2.5nm,0.8s
AKASG Malin Array Be 88.98 20*ce*P **P** 04 31 51.5 -0.1
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 88.98 20*ce*P **P** 04 31 51.6 0.0
AKBB pmax pmax
comp=Z,4.0nm,1.1s
BRVK Borovoye 91.15 355*ce*P **P** 04 32 02.4 +0.7
BRVK pmax pmax
comp=Z,12nm,0.9s
BELG Belogornoye 91.16 9 *i* P **P** 04 32 01.7 0.0
BELG pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 91.18 355 P **P** 04 32 02.5 +0.6
comp=Z,7.0nm,0.6s,baz=351,slow=3.3,SNR=31
comp=Z,7.0nm,0.6s
HHC Hu-ho-hao-te 91.25 325 *e*P **P** 04 32 02.5 -0.1
HHC pmax pmax
comp=Z,11nm,0.6s
BTO Baotou 92.16 326 *e*P **P** 04 32 06.2 -0.6
BTO S **S** 04 43 09.9 +0.4
BTO pmax pmax
comp=Z,23nm,0.6s
KURK Kurchatov 92.58 350*ce*P **P** 04 32 08.4 +0.1
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURBB Kurchatov Arra 92.68 350 P **P** 04 32 08.7 -0.2
comp=Z,3.2nm,0.9s,baz=12,slow=4.6,SNR=17
comp=Z,3.2nm,0.9s
KEST Kesra 93.36 41 P **P** 04 32 12.4 +0.1
comp=Z,1.6nm,0.7s,baz=328,slow=5.7,SNR=4.7
comp=Z,1.6nm,0.7s
NJ2 Nanjing 94.12 315 *e*P **P** 04 32 15.4 -0.4
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
MK31 Makanchi Array 95.76 346*ce*P **P** 04 32 23.2 +0.1
MKAR Makanchi Array 95.76 346 P **P** 04 32 22.5 -0.6
comp=Z,0.9nm,0.8s,baz=7.6,slow=3.7,SNR=5.9
comp=Z,0.9nm,0.8s
WMQ Urumqi 97.37 342 *e*P Pdif 04 32 32.3 +1.7
KIV Kislovodsk 98.55 14 *e*P **P** 04 32 33.4 -2.5
KIV pmax pmax
comp=Z,3.0nm,1.0s
LZH Lanzhou 98.63 327 *e*P Pdif 04 32 38.0 +1.5
LZH sP sP 04 32 46.2 +4.7
LZH pmax pmax
comp=Z,12nm,1.2s
SHA1 Shidzhatmaz 98.76 14 *i* P **P** 04 32 36.5 -0.4
KBZ Khabaz 98.81 14 *i* P **P** 04 32 36.7 -0.1
KBZ pmax pmax
comp=Z,2.0nm,0.9s
PZH PanZhiHua 107.64 323 PKP **PKiKP** 04 37 23.4 -1.2
WRA Warramunga Arr 115.69 263 PKP **PKPdf** 04 37 39.7 -0.1
comp=Z,1.2nm,0.6s,baz=57,slow=2.0,SNR=15
CMAR Chiang Mai Arr 115.78 321 PKP **PKiKP** 04 37 40.2 +0.1
comp=Z,0.8nm,0.3s,baz=332,slow=2.9,SNR=5.0
ASAR Alice Springs 117.91 260 PKP **PKPdf** 04 37 43.0 -0.9
comp=Z,1.3nm,0.8s,baz=66,slow=2.2,SNR=9.8
VNDA Vanda 122.71 195 PKP **PKPdf** 04 37 52.0 +0.5
comp=Z,2.0nm,1.0s,baz=298,slow=2.3,SNR=7.9
QSPA South Pole Qui 125.71 180 PKP **PKPdf** 04 37 58.1 +0.4
comp=Z,6.0nm,0.8s,baz=83,slow=0.3,SNR=16
SNAA Sanae 131.42 157 PKP **PKPdf** 04 38 08.8 +0.4
comp=Z,1.6nm,1.0s,baz=59,slow=11,SNR=21
SNAA Sanae 131.42 157*c i* PKIKP **PKPdf** 04 38 07.3 -1.1
SNAA pmax pmax
comp=Z,6.0nm,1.7s
MAW Mawson 148.24 180 PKPbc **PKPbc** 04 38 42.2 +0.1
comp=Z,34nm,0.9s,baz=220,slow=2.4,SNR=40

*NEIC **06** 04:19:54.5±0.6, 35.886N±0.009×117.721W±0.009, h5km±1km, Error ellipse: s-maj=1.5km s-min=1.5km az=8.0*
PAS 06 04:19:54.9±0.6, 35.885N±0.009×117.717W±0.009, h5km, ML4.0/8, Error ellipse: s-maj=1.3km s-min=1.0km az=172.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOW	**Tower One**	**0.09**	**207**			Pg 04 19 57.2	+0.4
WVPM	**Volcano Peak E**	**0.10**	**308**			Pg 04 19 57.3	+0.1
WVPM						Sg 04 19 59.0	+0.3
JRC2	**Joshua Ridge**	**0.12**	**322**			Pg 04 19 57.8	+0.2
JRC2						Sg 04 19 59.4	+0.1
WNMM	**Nine Mile Cany**	**0.16**	**255**			Pg 04 19 58.3	+0.2
WNMM						Sg 04 20 01.0	+0.8
WRVM	**Rose V. Centra**	**0.19**	**311**			Pg 04 19 58.6	0.0
WRVM						Sg 04 20 01.5	+0.4
SRTC	**Snort**	**0.20**	**188**			Pg 04 19 59.2	+0.4
MPMC	**Manual Prospec**	**0.25**	**47**			Pg 04 19 60.0	0.0
MPMC						Sg 04 20 03.7	+0.4
MFS	**McCloud Flat S**	**0.26**	**334**			Pg 04 20 00.2	+0.1
MFS						Sg 04 20 03.5	0.0
WORM	**Onyx Ranch**	**0.47**	**246**			Pg 04 20 03.8	-0.2
WORM						Sg 04 20 09.8	-0.2
WBSM	**Bird Springs**	**0.49**	**225**			Pg 04 20 04.2	-0.2
WHFM	**Hanning Flat**	**0.55**	**250**			Sg 04 20 12.7	+0.1
DTP	**Desert Tortois**	**0.62**	**190**			Pg 04 20 05.0	-1.9
ISA	**Isabella, Lake**	**0.65**	**250**	Pg		Pg 04 20 07.4	-0.1
QSM	**Queen of Sheba**	**0.69**	**83**	Pg		Pg 04 20 07.6	-0.6
CCAC	**Calif City Air**	**0.77**	**199**	Pg		Pg 04 20 08.9	-0.8
GWY	**Greenwater Val**	**0.90**	**70**	Pg		Pg 04 20 12.1	-0.1
GSC	**Goldstone, Bar**	**0.94**	**128**	Pg		Pg 04 20 13.4	+0.3
TPO	**Tropico Hills**	**1.09**	**203**			Pg 04 20 14.6	-1.2
GRAC	**Grapevine Rang**	**1.14**	**14**	Pg		Pg 04 20 15.9	-1.0
WCT	**Wildcat Mounta**	**1.26**	**44**	Pg		Pg 04 20 18.2	-1.0
BCW	**Bitter Crk WRg**	**1.68**	**236**			Pn 04 20 25.5	+0.4
PASC	**Pasadena Art C**	**1.75**	**193**	Pn		Pn 04 20 26.1	+0.1
MZP	**Montezuma Peak**	**1.83**	**8**	Pn		Pn 04 20 27.0	-0.3
TPH	**Tonopah**	**2.22**	**10**	Pn		Pn 04 20 31.1	-1.6

*NEIC **06** 04:21:35.5±1.0, 35.775N±0.004×117.618W±0.009, h5km±1km, Error ellipse: s-maj=2.0km s-min=1.2km az=249.0*
PAS 06 04:21:35.8±1.0, 35.779N±0.007×117.61W±0.01, h3km±1km, ML4.4/66, ML4.2/22(NEIC), Error ellipse: s-maj=1.2km s-min=1.0km az=108.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.04**	**18**			Pg 04 21 36.8	0.0
CLC						Sg 04 21 37.7	+0.3
TOW	**Tower One**	**0.13**	**284**			Pg 04 21 39.0	+0.6
SRTC	**Snort**	**0.14**	**232**			Pg 04 21 39.1	+0.5
SRTC						Sg 04 21 42.2	+1.7
WVPM	**Volcano Peak E**	**0.24**	**316**			Pg 04 21 40.6	+0.1
WNMM	**Nine Mile Cany**	**0.25**	**285**			Pg 04 21 40.8	+0.3
JRC2	**Joshua Ridge**	**0.26**	**322**			Pg 04 21 41.2	+0.3
JRC2						Sg 04 21 45.2	+1.0
LRMC	**Laurel Mtn Rad**	**0.30**	**191**			Pg 04 21 41.7	0.0
LRMC						Sg 04 21 46.4	+0.7
WRVM	**Rose V. Centra**	**0.32**	**315**			Pg 04 21 42.2	+0.1
CCCA	**Chr Cany lake**	**0.32**	**141**			Pg 04 21 42.7	+0.7
CCCA						Sg 04 21 48.1	+1.8
MFS	**McCloud Flat S**	**0.39**	**330**			Pg 04 21 43.5	+0.1
MFS						Sg 04 21 49.3	+0.8
WBSM	**Bird Springs**	**0.49**	**241**			Pg 04 21 45.2	0.0
WBSM						Sg 04 21 52.1	+0.5
WORM	**Onyx Ranch**	**0.52**	**261**			Pg 04 21 45.7	-0.1
WORM						Sg 04 21 52.8	+0.3
DTP	**Desert Tortois**	**0.54**	**200**			Pg 04 21 46.1	-0.1
DTP						Sg 04 21 53.9	+0.6
WHFM	**Hanning Flat**	**0.60**	**262**			Pg 04 21 47.3	-0.1
WHFM						Sg 04 21 55.6	+0.3
QSM	**Queen of Sheba**	**0.63**	**73**			Pg 04 21 47.6	-0.3
QSM	**Queen of Sheba**	**0.63**	**73**	IAML		04 21 57.3	
	comp=E,9μm,0.7s						
QSM				IAML		04 22 00.1	
	comp=N,12μm,0.7s						
CCAC	**Calif City Air**	**0.71**	**208**	Pg	Pg	04 21 49.4	+0.1
CCAC				IAML		04 22 00.1	
	comp=E,13μm,1.1s						
CCAC				IAML		04 22 00.2	
	comp=N,9μm,0.7s						
CCAC	**Calif City Air**	**0.71**	**208**		Sg	04 21 59.1	+0.6
ISA	**Isabella, Lake**	**0.71**	**261**	Pg	Pg	04 21 49.3	-0.1
ISA	**Isabella, Lake**	**0.71**	**261**		Sg	04 21 59.2	+0.5
WASM	**Alta Sierra Ca**	**0.77**	**267**		Pg	04 21 50.5	-0.1
WASM					Sg	04 22 01.5	+1.0
GSC	**Goldstone, Bar**	**0.81**	**126**	Pg	Pg	04 21 51.4	0.0
GSC				IAML		04 22 05.9	
	comp=N,11μm,0.8s						
GSC	**Goldstone, Bar**	**0.81**	**126**		Sg	04 22 02.5	+0.6
GWY	**Greenwater Val**	**0.87**	**62**	Pg	Pg	04 21 52.9	+0.4
GWY				IAML		04 22 18.4	
	comp=E,10μm,1.0s						
HYS	**Haystack Butte**	**0.91**	**178**		Pg	04 21 52.8	-0.5
EDW2	**Edwards Air Fo**	**0.95**	**199**		Pg	04 21 53.7	-0.3
SPG2	**Springville 2**	**1.03**	**295**		Pg	04 21 54.8	-0.7
SPG2					Sg	04 22 08.6	-0.3
RRX	**Edison Barstow**	**1.03**	**151**		Sn	04 22 11.3	-1.0
TEJ	**El Tejon**	**1.03**	**238**		Sg	04 22 09.3	+0.2
SBB	**Saddle Back Bu**	**1.10**	**189**		Pb	04 21 57.4	-0.2
SBB					Sg	04 22 10.5	-0.7
GRAC	**Grapevine Rang**	**1.23**	**9**	Pg	Pg	04 21 59.1	-0.3
GRAC				IAML		04 22 23.0	
	comp=E,7μm,1.5s						
ADO	**Adelanto Recei**	**1.23**	**173**		Pb	04 21 59.8	0.0
WCT	**Wildcat Mounta**	**1.29**	**38**	Pg	Pg	04 22 00.2	-0.3
WCT				IAML		04 22 20.9	
	comp=E,4μm,1.3s						
WCT				IAML		04 22 23.4	
	comp=N,3μm,1.4s						
LRRC	**Littlerock Res**	**1.29**	**195**		Pb	04 22 00.8	0.0
HOLC	**Holcomb Ridge**	**1.33**	**188**		Pg	04 22 01.1	-0.2
GMN	**Gold Mountain**	**1.54**	**10**		Pn	04 22 04.9	+0.3
TPNV	**Topopah Spring**	**1.60**	**43**		Pn	04 22 04.7	-0.6
TPNV				IAML		04 22 30.5	
	comp=N,4μm,1.4s						
TPNV				IAML		04 22 32.5	
	comp=N,4μm,0.8s						

*NEIC **06** 04:22:15.8±0.4, 35.859N±0.005×117.71W±0.01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.5km az=16.0*
PAS 06 04:22:16.2±0.4, 35.86N±0.01×117.69W±0.01, h8km±1km, ML3.6/16, ML3.7/16(NEIC), Error ellipse: s-maj=1.9km s-min=1.4km az=177.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOW	**Tower One**	**0.08**	**229**			Pg 04 22 18.7	+0.4
CLC	**China Lake**	**0.09**	**121**			Pg 04 22 18.3	-0.1
CLC						Sg 04 22 20.1	+0.1
WVPM	**Volcano Peak E**	**0.14**	**311**			Pg 04 22 19.2	0.0
WVPM						Sg 04 22 21.5	+0.2
SRTC	**Snort**	**0.17**	**196**			Pg 04 22 20.1	+0.3
WNMM	**Nine Mile Cany**	**0.17**	**264**			Pg 04 22 19.8	+0.1
WCSM	**Coso Springs S**	**0.18**	**340**			Pg 04 22 20.0	+0.1
WCSM						Sg 04 22 22.5	0.0
WRVM	**Rose V. Centra**	**0.22**	**312**			Pg 04 22 20.6	0.0
WRVM						Sg 04 22 23.8	+0.2
MPMC	**Manual Prospec**	**0.26**	**40**			Pg 04 22 21.3	-0.1
MPMC						Sg 04 22 25.0	+0.1
MFS	**McCloud Flat S**	**0.29**	**333**			Pg 04 22 21.8	-0.2
MFS						Sg 04 22 25.1	-0.2
LRMC	**Laurel Mtn Rad**	**0.38**	**179**			Pg 04 22 23.4	-0.3
LRMC						Sg 04 22 28.9	+0.2
CCCA	**Chr Cany lake**	**0.43**	**142**			Pg 04 22 24.8	+0.2
CCCA						Sg 04 22 31.3	+1.1
WORM	**Onyx Ranch**	**0.48**	**250**			Sg 04 22 31.5	-0.3
WBSM	**Bird Springs**	**0.49**	**229**			Pg 04 22 25.4	-0.3
WBSM						Sg 04 22 32.2	+0.1
WHFM	**Hanning Flat**	**0.56**	**253**			Pg 04 22 26.7	-0.3
WHFM						Sg 04 22 34.1	-0.2
ISA	**Isabella, Lake**	**0.67**	**253**	Pg	Pg	04 22 28.8	-0.3
ISA				Sg	Sg	04 22 37.4	-0.3
QSM	**Queen of Sheba**	**0.68**	**81**	Pg	Pg	04 22 28.9	-0.3
QSM				IAML		04 22 32.4	
	comp=E,3μm,1.2s						
QSM				Sg	Sg	04 22 37.6	-0.5
QSM				IAML		04 22 39.4	
	comp=N,3μm,0.8s						
CGO	**Cerro Gordo**	**0.69**	**353**		Sg	04 22 38.4	-0.4
WASM	**Alta Sierra Ca**	**0.71**	**260**		Sg	04 22 38.8	-0.6
CCAC	**Calif City Air**	**0.76**	**201**	Pg	Pg	04 22 30.2	-0.6
CCAC				IAML		04 22 52.5	
	comp=N,3μm,1.5s						
GWY	**Greenwater Val**	**0.89**	**68**	Pg	Pg	04 22 33.0	-0.3
GWY				IAML		04 22 36.7	
	comp=E,3μm,0.8s						
GWY				IAML		04 22 38.0	
	comp=N,3μm,1.1s						
GWY				Sg	Sg	04 22 44.5	-0.4
GSC	**Goldstone, Bar**	**0.91**	**127**	Pg	Pg	04 22 33.5	-0.3

GSC				IAML		04 22 37.7		
	comp=N,2μm,0.9s							
GSC				Sg	Sg	04 22 45.3	-0.3	
GRAC	**Grapevine Rang**	**1.16**	**13**	Pg	Pg	04 22 37.8	-0.8	
GRAC				Sg	Sb	04 22 54.2	+0.3	
WCT	**Wildcat Mounta**	**1.27**	**42**		Pn	04 22 39.2	-1.1	
WCT				IAML		04 22 45.9		
	comp=E,2μm,2.4s							

NEIC ***06*** *04:24:14.6±1.0, 35°.647N±0°.008×117°.43W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.5km az=235.0*

PAS 06 04:24:14.9±1.0**, 35°.636N**±0°.009×**117°.43W**±0°.01**, h6**km±2km**, ML3.3**/11**, ML3.5**/14(NEIC)**, Error ellipse: s-maj=1.7km s-min=1.3km az=71.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.12**	**155**		Pg	04 24 17.9	+0.3
CCCA					Sg	04 24 19.7	+0.5
CLC	**China Lake**	**0.23**	**323**		Sg	04 24 22.8	+0.4
LRMC	**Laurel Mtn Rad**	**0.26**	**233**		Pg	04 24 20.0	-0.1
LRMC					Sg	04 24 23.9	+0.4
MPMC	**Manual Prospec**	**0.42**	**353**		Pg	04 24 23.0	-0.2
MPMC					Sg	04 24 29.0	+0.1
WNMM	**Nine Mile Cany**	**0.44**	**298**		Pn	04 24 29.4	+1.5
WVPM	**Volcano Peak E**	**0.44**	**315**		Pb	04 24 25.9	+0.6
DTP	**Desert Tortois**	**0.50**	**223**		Pg	04 24 24.4	-0.2
DTP					Sg	04 24 31.3	+0.2
WRVM	**Rose V. Centra**	**0.53**	**315**		Pg	04 24 25.2	+0.1
QSM	**Queen of Sheba**	**0.56**	**54**	Pg	Pg	04 24 26.4	+0.6
QSM				Sg	Sg	04 24 33.5	+0.4
WBSM	**Bird Springs**	**0.59**	**261**		Sg	04 24 33.5	-0.4
GSC	**Goldstone, Bar**	**0.61**	**123**	Pg	Pg	04 24 26.5	-0.2
GSC				Sg	Sg	04 24 34.8	+0.2
GSC				IAML		04 24 35.1	
	comp=N,2μm,1.0s						
GSC				IAML		04 24 35.4	
	comp=E,2μm,0.5s						
WORM	**Onyx Ranch**	**0.67**	**275**		Pg	04 24 27.4	-0.4
WORM					Sg	04 24 36.1	-0.3
CCAC	**Calif City Air**	**0.68**	**225**	Pg	Pb	04 24 29.7	+0.4
CCAC				Sg	Sg	04 24 37.4	+0.5
CCAC				IAML		04 24 41.8	
	comp=N,2μm,0.6s						
WHFM	**Hanning Flat**	**0.75**	**275**		Pg	04 24 28.9	-0.5
WHFM					Sg	04 24 38.9	-0.2
HYS	**Haystack Butte**	**0.78**	**189**		Pg	04 24 29.1	-0.8
HYS					Sg	04 24 39.5	-0.5
RRX	**Edison Barstow**	**0.84**	**155**		Pb	04 24 32.1	+0.2
EDW2	**Edwards Air Fo**	**0.88**	**212**		Pb	04 24 32.8	0.0
CWC	**Cottonwood Cre**	**0.96**	**327**		Pn	04 24 35.9	+0.7
TPO	**Tropico Hills**	**1.00**	**221**		Pb	04 24 34.8	+0.1
CACC	**Caltech Cellar**	**1.60**	**201**		Pg	04 24 45.9	+0.3
TPNV	**Topopah Spring**	**1.62**	**36**		Pn	04 24 42.3	-1.9
TPNV				IAML		04 25 09.1	
	comp=N,651nm,3.1s						
ELS	**Elsinore Mount**	**1.98**	**180**	Pn	Pn	04 24 49.2	+0.1
ELS				IAML		04 25 54.8	
	comp=E,322nm,0.3s						
ELS				IAML		04 25 56.3	
	comp=N,282nm,1.9s						
WAKR	**Walker**	**3.28**	**331**	Pn	Pn	04 25 05.0	-2.2

NEIC ***06*** *04:24:40.1±0.8, 35°.893N±0°.010×117°.68W±0°.02, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.0km az=305.0*

PAS 06 04:24:40.6±1.0**, 35°.892N**±0°.005×**117°.69W**±0°.02**, h5**km±3km**, ML3.9**/20**, ML3.6**/20(NEIC)**, Error ellipse: s-maj=1.8km s-min=0.7km az=102.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.12**	**299**		Pg	04 24 43.3	+0.1
WNMM	**Nine Mile Cany**	**0.18**	**255**		Pg	04 24 44.4	+0.2
WNMM					Sg	04 24 47.3	+0.7
WRVM	**Rose V. Centra**	**0.20**	**305**		Pg	04 24 44.6	0.0
MFS	**McCloud Flat S**	**0.26**	**329**		Pg	04 24 45.7	-0.1
MFS					Sg	04 24 49.5	+0.2
LRMC	**Laurel Mtn Rad**	**0.41**	**179**		Pg	04 24 47.8	-0.7
CCCA	**Chr Cany lake**	**0.45**	**144**		Pg	04 24 48.0	-1.3
WORM	**Onyx Ranch**	**0.49**	**247**		Pg	04 24 50.2	+0.2
WBSM	**Bird Springs**	**0.51**	**226**		Pg	04 24 50.3	-0.2
WHFM	**Hanning Flat**	**0.57**	**250**		Pg	04 24 51.3	-0.3
CWC	**Cottonwood Cre**	**0.63**	**330**		Pg	04 24 52.8	0.0
DTP	**Desert Tortois**	**0.64**	**192**		Pg	04 24 52.6	-0.2
QSM	**Queen of Sheba**	**0.67**	**83**		Pb	04 24 54.2	-0.6
QSM				IAML		04 25 04.5	
	comp=E,2μm,0.5s						
QSM				IAML		04 25 04.5	
	comp=N,3μm,0.5s						
ISA	**Isabella, Lake**	**0.68**	**251**	Pg	Pg	04 24 53.4	-0.3
ISA				IAML		04 25 03.8	
	comp=E,3μm,0.4s						
CCAC	**Calif City Air**	**0.79**	**200**	Pg	Pg	04 24 55.3	-0.3
CCAC				IAML		04 25 06.7	
	comp=E,2μm,0.5s						
CCAC				IAML		04 25 09.5	
	comp=N,2μm,0.4s						
GSC	**Goldstone, Bar**	**0.93**	**129**		Pg	04 24 57.0	-1.5
EDW2	**Edwards Air Fo**	**1.04**	**194**		Pg	04 25 00.6	+0.1
GRAC	**Grapevine Rang**	**1.13**	**13**	Pg	Pg	04 25 01.0	-1.4
GRAC				IAML		04 25 18.0	
	comp=E,2μm,0.4s						
GRAC				IAML		04 25 20.5	
	comp=N,1μm,0.8s						
SHOC	**Shoshone, Teco**	**1.15**	**89**		Pb	04 25 02.9	-0.1
RRX	**Edison Barstow**	**1.16**	**151**		Pg	04 25 01.5	-1.3
SBB	**Saddle Back Bu**	**1.21**	**185**		Pg	04 25 02.7	-1.0
VOG	**Valley Oaks Go**	**1.44**	**288**		Pn	04 25 06.9	-0.5
GMN	**Gold Mountain**	**1.45**	**14**		Pn	04 25 07.3	-0.5
DSP	**Deep Springs**	**1.49**	**351**		Pn	04 25 07.6	-0.5
DSP				IAML		04 25 28.9	
	comp=E,603nm,1.1s						
TUQ	**Turquoise Moun**	**1.51**	**107**		Pn	04 25 07.9	-0.6
TPNV	**Topopah Spring**	**1.57**	**47**		Pn	04 25 07.7	-1.6
TPNV				IAML		04 25 32.1	
	comp=E,558nm,0.4s						
TPNV				IAML		04 25 33.0	
	comp=E,607nm,0.5s						
MTUM	**Tungsten Hills**	**1.62**	**334**		Pb	04 25 10.7	-0.5
BENR	**Benton**	**1.95**	**339**		Pb	04 25 16.9	0.0
MCSM	**Casa Diablo Ho**	**2.01**	**331**		Pb	04 25 17.8	-0.1
MYLM	**Yosemite Lake**	**2.66**	**305**		Pb	04 25 27.9	-0.8
BSM	**San Miguel Isl**	**2.86**	**231**		Pn	04 25 28.9	+1.9

NEIC ***06*** *04:27:10.1±1.2, 35°.89N±0°.01×117°.71W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.8km az=38.0*

PAS 06 04:27:10.4±1.1**, 35°.89N**±0°.01×**117°.71W**±0°.01**, h4**km±4km**, ML3.7**/20**, ML3.6**/46(NEIC)**, Error ellipse: s-maj=1.8km s-min=1.5km az=129.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.10**	**306**		Pg	04 27 12.7	+0.1
WNMM	**Nine Mile Cany**	**0.16**	**254**		Pg	04 27 14.0	+0.4
WNMM					Sg	04 27 16.8	+1.0
WRVM	**Rose V. Centra**	**0.19**	**310**		Pg	04 27 14.2	+0.1
MFS	**McCloud Flat S**	**0.26**	**333**		Pg	04 27 15.5	0.0
MFS					Sg	04 27 19.3	+0.4
WBSM	**Bird Springs**	**0.49**	**225**		Sg	04 27 26.5	+0.2
WHFM	**Hanning Flat**	**0.55**	**250**		Pg	04 27 20.8	-0.2
ISA	**Isabella, Lake**	**0.66**	**250**	Pg	Pg	04 27 22.6	-0.4
ISA				IAML		04 27 31.8	
	comp=N,3μm,0.5s						
ISA				IAML		04 27 31.8	
	comp=E,2μm,0.5s						
CGO	**Cerro Gordo**	**0.67**	**354**		Pg	04 27 23.1	-0.1
QSM	**Queen of Sheba**	**0.69**	**83**		Pg	04 27 24.0	+0.3
QSM				IAML		04 27 34.0	
	comp=E,5μm,0.2s						
CCAC	**Calif City Air**	**0.77**	**199**		Pg	04 27 24.9	-0.4
CCAC				IAML		04 27 39.0	
	comp=N,3μm,0.5s						
CCAC	**Calif City Air**	**0.77**	**199**		Sg	04 27 35.5	+0.2
GWY	**Greenwater Val**	**0.90**	**70**		Pg	04 27 27.7	0.0
GWY				IAML		04 27 42.8	
	comp=N,3μm,0.4s						
GWY				IAML		04 27 43.0	
	comp=E,3μm,0.3s						
SPG2	**Springville 2**	**0.91**	**290**		Pg	04 27 27.2	-0.7
GSC	**Goldstone, Bar**	**0.94**	**128**		Pg	04 27 27.8	-0.7
GSC				IAML		04 27 42.8	
	comp=N,2μm,0.3s						
GSC				IAML		04 27 43.6	
	comp=E,2μm,0.7s						
GRAC	**Grapevine Rang**	**1.14**	**14**		Pg	04 27 31.7	-0.6
GRAC				IAML		04 27 51.4	
	comp=N,1μm,0.3s						
GRAC				IAML		04 27 55.4	
	comp=E,1μm,0.4s						
ARVC	**Arvin**	**1.19**	**231**		Pg	04 27 30.8	-2.3
WCT	**Wildcat Mounta**	**1.26**	**44**		Pg	04 27 33.9	-0.7
WCT				IAML		04 27 53.0	
	comp=E,1μm,0.4s						
WCT				IAML		04 27 54.7	
	comp=N,850nm,0.7s						
VOG	**Valley Oaks Go**	**1.42**	**288**		Pn	04 27 36.5	-0.5
GMN	**Gold Mountain**	**1.46**	**14**		Pn	04 27 37.2	-0.5
DSP	**Deep Springs**	**1.49**	**352**		Pn	04 27 38.0	-0.1
DSP				IAML		04 27 59.3	
	comp=E,624nm,0.6s						
DSCC	**Desert Studies**	**1.51**	**119**		Pn	04 27 36.2	-2.1
POCCA	**Poleta Canyon**	**1.54**	**343**		Pn	04 27 39.1	+0.2
TPNV	**Topopah Spring**	**1.59**	**48**		Pn	04 27 39.3	-0.2
TPNV				IAML		04 28 03.8	
	comp=E,1μm,0.5s						
SSK	**Sunset Peak**	**1.67**	**179**		Pb	04 27 42.1	+0.2
PASC	**Pasadena Art C**	**1.75**	**193**		Pn	04 27 42.4	+0.7
KCC	**Kaiser Creek**	**1.93**	**318**		Pb	04 27 45.5	-0.7
V12A	**Nelson**	**2.33**	**93**		Pb	04 27 51.6	-1.5
V12A				IAML		04 28 26.6	
	comp=N,228nm,0.5s						
V12A				IAML		04 28 31.2	
	comp=E,309nm,0.9s						
NV11	**Mina Array Sit**	**2.56**	**352**	Pn	Pn	04 27 52.9	0.0
NVAR	**Mina Array Bea**	**2.58**	**350**		Pb	04 27 58.3	+0.9
GATR	**Gnd/Air Tx Cnt**	**2.64**	**241**		Pn	04 27 52.0	-1.9
RYN	**Ryan**	**2.81**	**347**		Pb	04 28 02.7	+1.3
Q09A	**Carvers**	**2.97**	**8**		Pb	04 28 05.5	+1.4
R11B	**Troy Canyon, C**	**2.99**	**34**		Pb	04 28 04.8	+0.4
R11B				IAML		04 28 50.0	
	comp=N,147nm,3.4s						
BLYC	**Blythe**	**3.38**	**128**	Pn	Pn	04 28 01.7	-2.3
BLYC				IAML		04 28 38.1	
	comp=E,153nm,4.9s						
BLYC				IAML		04 29 07.1	
	comp=N,162nm,3.5s						
CCUT	**Cedar City**	**3.87**	**63**	Pn	Pn	04 28 10.9	-0.1
CCUT				IAML		04 29 34.9	
	comp=E,99nm,4.6s						
CCUT				IAML		04 30 14.7	
	comp=N,105nm,4.9s						
KNB	**Kanab**	**4.10**	**73**	Pn	Pn	04 28 14.2	+0.2
PEAR	**Peavine Mounta**	**4.12**	**335**		Pg	04 28 26.5	-2.8
X16A	**Lo Mia Camp, P**	**5.34**	**104**	Pn	Pn	04 28 29.9	-1.3
X18A	**Snowflake**	**6.50**	**100**		Pn	04 28 47.5	+0.5

NEIC ***06*** *04:28:08.8±0.5, 35°.875N±0°.008×117°.731W±0°.009, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.3km az=14.0*

PAS 06 04:28:09.3±0.6**, 35°.882N**±0°.009×**117°.726W**±0°.009**, h4**km±2km**, ML3.5**/20**, ML3.4**/20(NEIC)**, Error ellipse: s-maj=1.4km s-min=1.0km az=204.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**203**		Pg	04 28 11.4	+0.5
WVPM	**Volcano Peak E**	**0.10**	**312**		Pg	04 28 11.6	+0.2
WVPM					Sg	04 28 13.3	+0.5
JRC2	**Joshua Ridge**	**0.12**	**326**		Pg	04 28 11.9	+0.2
JRC2					Sg	04 28 13.9	+0.5
CLC	**China Lake**	**0.12**	**122**		Pg	04 28 11.9	+0.1
CLC					Sg	04 28 13.7	+0.3
WCSM	**Coso Springs S**	**0.15**	**347**		Pg	04 28 12.3	+0.1
WCSM					Sg	04 28 14.6	+0.4
WNMM	**Nine Mile Cany**	**0.15**	**255**		Pg	04 28 12.4	+0.2
WRVM	**Rose V. Centra**	**0.18**	**313**		Pg	04 28 13.0	+0.1
WRVM					Sg	04 28 15.7	+0.4
SRTC	**Snort**	**0.19**	**186**		Pg	04 28 13.4	+0.4
MFS	**McCloud Flat S**	**0.26**	**336**		Pg	04 28 14.3	+0.1
MFS					Sg	04 28 18.0	+0.3
MPMC	**Manual Prospec**	**0.26**	**48**		Pg	04 28 14.4	0.0
MPMC					Sg	04 28 18.3	+0.5
LRMC	**Laurel Mtn Rad**	**0.40**	**175**		Pg	04 28 16.9	-0.2
LRMC					Sg	04 28 22.6	+0.3
WORM	**Onyx Ranch**	**0.46**	**246**		Pg	04 28 17.8	-0.3
WORM					Sg	04 28 24.1	0.0
CCCA	**Chr Cany lake**	**0.46**	**140**		Pg	04 28 18.7	+0.5
CCCA					Sg	04 28 25.7	+1.5
WBSM	**Bird Springs**	**0.48**	**224**		Pg	04 28 18.4	-0.1
WBSM					Sg	04 28 25.1	+0.3
WHFM	**Hanning Flat**	**0.54**	**250**		Pg	04 28 19.5	-0.1
WHFM					Sg	04 28 26.8	+0.2
DTP	**Desert Tortois**	**0.62**	**189**		Pg	04 28 20.9	-0.3
DTP					Sg	04 28 29.4	+0.2
CWC	**Cottonwood Cre**	**0.63**	**333**		Pg	04 28 21.2	-0.1
CWC					Sg	04 28 29.7	+0.2
ISA	**Isabella, Lake**	**0.65**	**250**	Pg	Pg	04 28 21.4	-0.3
ISA				IAML		04 28 30.4	
	comp=N,1μm,0.5s						
ISA				Sg	Sg	04 28 30.4	+0.3
CGO	**Cerro Gordo**	**0.67**	**355**		Pg	04 28 21.9	-0.3
WASM	**Alta Sierra Ca**	**0.69**	**258**		Pg	04 28 22.3	-0.3
WASM					Sg	04 28 31.7	+0.2
QSM	**Queen of Sheba**	**0.70**	**83**	Pg	Pg	04 28 22.5	-0.2
QSM					Sg	04 28 32.0	+0.1
QSM				IAML		04 28 35.7	
	comp=E,2μm,0.6s						
CCAC	**Calif City Air**	**0.77**	**198**	Pg	Pg	04 28 23.5	-0.5
CCAC				Sg	Sg	04 28 34.1	+0.2
CCAC				IAML		04 28 34.8	
	comp=E,1μm,0.4s						
SPG2	**Springville 2**	**0.90**	**291**		Pg	04 28 25.8	-0.8
SPG2					Sg	04 28 37.9	-0.4
GWY	**Greenwater Val**	**0.91**	**70**		Sg	04 28 38.7	+0.2
GWY	**Greenwater Val**	**0.91**	**70**	Pg	Pg	04 28 26.7	0.0
FURC	**Furnace Creek,**	**0.91**	**50**		Sg	04 28 39.0	+0.5
GSC	**Goldstone, Bar**	**0.95**	**127**		Sg	04 28 39.8	+0.1
GSC	**Goldstone, Bar**	**0.95**	**127**	Pg	Pg	04 28 26.8	-0.7
GSC				IAML		04 28 40.5	
	comp=N,1μm,0.3s						
TEJ	**El Tejon**	**1.02**	**231**		Sg	04 28 41.2	-0.8
GRAC	**Grapevine Rang**	**1.15**	**15**	Pg	Pg	04 28 30.8	-0.5
GRAC				IAML		04 28 47.7	
	comp=E,772nm,0.5s						
GRAC				IAML		04 28 53.3	
	comp=N,852nm,0.7s						
WCT	**Wildcat Mounta**	**1.27**	**44**	Pg	Pg	04 28 33.2	-0.5
WCT				IAML		04 28 52.9	
	comp=N,519nm,0.4s						
WCT				IAML		04 28 54.4	
	comp=E,756nm,0.5s						
GMN	**Gold Mountain**	**1.46**	**15**		Pn	04 28 36.4	-0.3
DSP	**Deep Springs**	**1.50**	**353**		Pn	04 28 36.7	-0.3

MOS ***06*** *04:28:20.2±0.9, 43°.50N×145°.88E, h114km, mb4.2/1, Error ellipse: s-maj=25.2km s-min=16.5km az=89.0*

SKHL ***06*** *04:28:22.2±0.3, 43°.60N×146°.00E, h112km±4km, mb4.7/4, msha5.8/3*

JMA ***06*** *04:28:22.3±0.2, 43°.5N±0°.6×14°.6E±°, h103km±1km, MV3.5/36, NEAR KUNASHIRI ISLAND*

IDC ***06*** *04:28:23.1±9.6, 45°.97N×145°.26E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=233.1km s-min=33.3km az=167.0*

ISC 06 04:28:21.6±0.9**, 43°.51N**±0°.07×**146°.06E**±0°.05**, h107**km±5km**, n32**, σ0**.71/52**, mb3.6**/7**, 2C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.27**	**237**	P	**Pn**	**04 28 37.1**	**+0.2**
NEM2				S	**Sn**	**04 28 48.1**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.28**	**239**	*i* PN	**Pn**	**04 28 37.0**	**+0.1**
NMR				*e*S	**Sn**	**04 28 48.1**	**-0.3**
NMR	**Nemuro--Hokkai**	**0.28**	**239**	*i* P	**Pn**	**04 28 37.0**	**+0.1**
NMR				*e*S	**Sn**	**04 28 48.0**	**-0.3**
GLVR	**Golovnino**	**0.45**	**300**	*e*PN	**Pn**	**04 28 38.2**	**+0.4**
GLVR				*e*S	**Sn**	**04 28 50.7**	**+0.8**
GLVR				pmax	pmax		
	comp=N,67nm,0.1s						
GLVR				pmax	pmax		
	comp=E,214nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,903nm,0.1s						
GLVR				smax	smax		
	comp=N,6μm,0.4s						
GLVR				smax	smax		
	comp=E,4μm,0.2s						
GLVR	**Golovnino**	**0.45**	**300**	*e*P	**Pn**	**04 28 38.2**	**+0.4**
GLVR				AMB	AMB	04 28 38.9	
	comp=E,900nm,0.2s						
GLVR				*e*S	**Sn**	**04 28 50.7**	**+0.8**
GLVR				A	A	04 28 51.4	
	comp=E,6μm,0.3s						
GLVR				A	A	04 28 51.4	
	comp=E,4μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.54**	**345**	*e*PN	**Pn**	**04 28 38.2**	**-0.1**
YUK				*e*S	**Sn**	**04 28 50.1**	**-0.9**
YUK				pmax	pmax		
	comp=N,107nm,0.2s						
YUK				pmax	pmax		
	comp=Z,966nm,0.2s						
YUK				pmax	pmax		
	comp=E,125nm,0.1s						
YUK				smax	smax		
	comp=E,1μm,0.3s						
YUK				smax	smax		
	comp=N,2μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**0.54**	**345**	*e*P	**Pn**	**04 28 38.3**	**-0.1**
YUK				AMB	AMB	04 28 38.7	
	comp=N,700nm,0.4s						
YUK				*e*S	**Sn**	**04 28 50.3**	**-0.7**
YUK				A	A	04 28 51.4	
	comp=N,1μm,0.5s						
YUK				A	A	04 28 51.4	
	comp=N,2μm,0.5s						
SHO	**Shikotan**	**0.66**	**57**	*c i* PN	**Pn**	**04 28 40.5**	**+1.2**
SHO				*e*S	**Sn**	**04 28 53.0**	**+0.4**
SHO				pmax	pmax		
	comp=Z,87nm,0.2s						
SHO				pmax	pmax		
	comp=N,21nm,0.3s						
SHO				pmax	pmax		
	comp=E,37nm,0.2s						
SHO				smax	smax		
	comp=E,1μm,0.5s						
SHO				smax	smax		
	comp=N,1μm,0.4s						
SHO	**Shikotan**	**0.66**	**57**	*i* P	**Pn**	**04 28 40.2**	**+0.9**
SHO				AMB	AMB	04 28 40.8	
	comp=N,70nm,0.2s						
SHO				*e*S	**Sn**	**04 28 53.5**	**+0.9**
SHO				A	A	04 28 53.7	
	comp=N,1μm,0.4s						
SHO				A	A	04 28 53.7	
	comp=N,1μm,0.4s						
JKHN	**Kushirohamanak**	**0.78**	**237**	*i* P	**Pn**	**04 28 41.0**	**+0.7**
JKHN				*e*S	**Sn**	**04 28 54.9**	**+0.4**
JRA	**Rausu**	**0.80**	**302**	P	**Pn**	**04 28 41.0**	**+0.5**
JRA				S	**Sn**	**04 28 55.2**	**+0.5**
JNSB	**Nemuroshibetsu**	**0.81**	**289**	P	**Pn**	**04 28 41.3**	**+0.7**
JNSB				*e*S	**Sn**	**04 28 55.7**	**+0.8**
RUSJ	**Misakicho**	**0.83**	**315**	*i* PN	**Pn**	**04 28 41.3**	**+0.5**
JNK	**Nakash**	**0.98**	**275**	P	**Pn**	**04 28 42.5**	**+0.2**
JNK				S	**Sn**	**04 28 57.2**	**-0.7**
AKK	**Akkeshi**	**1.02**	**241**	*e*P	**Pn**	**04 28 42.8**	**+0.1**
JAK	**Akkeshi**	**1.12**	**243**	P	**Pn**	**04 28 44.4**	**+0.5**
JAK				S	**Sn**	**04 29 00.8**	**+0.2**
JTKR	**Abashiri--Toko**	**1.62**	**287**	*i* P	**Pn**	**04 28 50.3**	**+0.6**
JTKR				*e*S	**Sn**	**04 29 11.9**	**+0.9**
JAR	**Ashorobuto**	**1.68**	**263**	*i* P	**Pn**	**04 28 51.5**	**+1.1**
JAR				S	**Sn**	**04 29 12.9**	**+0.5**
JOB	**Onbets**	**1.74**	**250**	P	**Pn**	**04 28 52.1**	**+1.0**
JOB				S	**Sn**	**04 29 14.2**	**+0.7**
JMP	**Maruseppu**	**2.02**	**285**	P	**Pn**	**04 28 55.3**	**+0.7**
JMP				*e*S	**Sn**	**04 29 21.1**	**+1.2**
KUR	**Kuril'sk**	**2.15**	**36**	PN	**Pn**	**04 28 57.8**	**+1.4**
KUR				*i* S	**Sn**	**04 29 23.3**	**+0.3**
KUR				smax	smax		
	comp=N,58nm,0.2s						
KUR				smax	smax		
	comp=E,48nm,0.3s						
KUR	**Kuril'sk**	**2.15**	**36**	*e*P	**Pn**	**04 28 57.0**	**+0.6**
KUR				AMB	AMB	04 28 58.3	
	comp=E,30nm,0.3s						
KUR				*i* S	**Sn**	**04 29 23.0**	**0.0**
KUR				A	A	04 29 24.4	
	comp=E,50nm,0.2s						
KUR				A	A	04 29 24.4	
	comp=E,30nm,0.2s						
ILAR	**Eielson Array**	**42.15**	**36**	P	**P**	**04 36 03.5**	**+0.4**
	comp=E,0.5nm,0.9s,baz=248,slow=7.8,SNR=6.6 comp=E,0.5nm,0.9s						
MKAR	**Makanchi Array**	**43.99**	**297**	P	**P**	**04 36 18.3**	**+0.2**
	comp=E,0.4nm,0.6s,baz=73,slow=8.1,SNR=2.3 comp=E,0.4nm,0.6s						
KURK	**Kurchatov**	**45.01**	**304**	P	**P**	**04 36 26.2**	**+0.1**
KURK	**Kurchatov**	**45.01**	**304**	*e*P	**P**	**04 36 26.2**	**+0.1**
KURBB	**Kurchatov Arra**	**45.09**	**304**	P	**P**	**04 36 26.1**	**-0.6**
	comp=E,0.4nm,0.4s,baz=77,slow=8.5,SNR=5.9 comp=E,0.4nm,0.4s						
BVAR	**Borovoye Array**	**49.04**	**309**	P	**P**	**04 36 56.5**	**-0.9**
	comp=E,0.4nm,0.3s,baz=90,slow=10,SNR=1.9 comp=E,0.4nm,0.3s						
FINES	**FINESS Array B**	**64.72**	**333**	P	**P**	**04 38 46.7**	**-1.2**
	comp=E,1.2nm,0.5s,baz=24,slow=5.2,SNR=9.5 comp=E,1.2nm,0.5s						
NB2	**NORSAR Subarra**	**69.53**	**338**	P	**P**	**04 39 17.4**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.53**	**338**	P	**P**	**04 39 17.5**	**-1.0**
	comp=Z,0.4nm,0.2s,baz=31,slow=6.6,SNR=5.7 comp=Z,0.4nm,0.2s						
HFS	**Hagfors**	**69.60**	**337**	P	**P**	**04 39 17.7**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=36,slow=6.9,SNR=18 comp=Z,1.1nm,0.4s						

NEIC ***06*** *04:29:02.1±1.2, 35°.80N±0°.01×117°.64W±0°.01, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.9km az=194.0*

PAS 06 04:29:02.1±1.3**, 35°.802N**±0°.006×**117°.63W**±0°.01**, h1**km±1km**, ML3.7**/23**, ML3.6**/14(NEIC)**, Error ellipse: s-maj=1.2km s-min=0.9km az=101.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.15**	**221**		Pg	04 29 05.5	+0.6
SRTC					Sg	04 29 08.5	+1.7
LRMC	**Laurel Mtn Rad**	**0.32**	**187**		Pg	04 29 08

*NEIC **06** 04:30:42.9±1.8,35°.861N±0°.009×117°.60W±0°.02, h10km±1km, Error ellipse: s-maj=3.0km s-min=3.0km az=244.0*

PAS 06 04:30:44.0±2.4,35°.873N±0°.008×117°.68W±0°.02, h9km±7km, ML3.3/13, Error ellipse: s-maj=2.1km s-min=0.9km az=115.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.09**	**132**		Pg	04 30 46.3	0.0
TOW	**Tower One**	**0.10**	**229**		Pg	04 30 46.7	+0.2
TOW					Sg	04 30 48.9	+0.7
WVPM	**Volcano Peak E**	**0.14**	**304**		Pg	04 30 47.0	-0.1
WVPM					Sg	04 30 49.4	0.0
WCSM	**Coso Springs S**	**0.17**	**334**		Sg	04 30 50.1	-0.1
SRTC	**Snort**	**0.19**	**199**		Pg	04 30 48.5	+0.5
SRTC					Sg	04 30 51.4	+0.7
WRVM	**Rose V. Centra**	**0.22**	**308**		Pg	04 30 48.5	0.0
MFS	**McCloud Flat S**	**0.28**	**329**		Pg	04 30 49.8	0.0
MFS					Sg	04 30 53.8	+0.2
LRMC	**Laurel Mtn Rad**	**0.39**	**181**		Pg	04 30 51.3	-0.4
LRMC					Sg	04 30 54.9	-2.0
CCCA	**Chr Cany lake**	**0.43**	**144**		Pg	04 30 49.5	-2.9
CCCA					Sg	04 30 55.2	-2.9
DTP	**Desert Tortois**	**0.62**	**193**		Sg	04 31 02.8	-1.4
ISA	**Isabella, Lake**	**0.68**	**252**		Sb	04 31 07.2	-0.6
CCAC	**Calif City Air**	**0.77**	**201**		Pg	04 30 59.4	-0.3
CCAC					Sg	04 31 08.4	-0.5
GSC	**Goldstone, Bar**	**0.91**	**129**	Pg	Pg	04 31 00.0	-1.5
HYS	**Haystack Butte**	**1.01**	**175**		Pg	04 31 03.2	-0.2
EDW2	**Edwards Air Fo**	**1.02**	**195**		Pn	04 31 04.4	-0.3
ARVC	**Arvin**	**1.20**	**232**		Pb	04 31 02.9	-4.0
MTPC	**Mountain Pass**	**1.77**	**102**		Pn	04 31 14.3	-0.7
PFO	**Pinyon Flats O**	**2.47**	**156**	Pn	Pn	04 31 23.5	-1.1
SBI	**Santa Barbara**	**2.63**	**205**		Pn	04 31 28.8	+2.1
BORC	**Borrego Spring**	**2.80**	**158**		Pb	04 31 32.8	-1.4
W13A	**Hualapai Mount**	**3.19**	**103**	Pn	Pn	04 31 34.1	-0.4

*NEIC **06** 04:31:05.2±1.6,35°.853N±0°.007×117°.66W±0°.01, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.8km az=285.0*

PAS 06 04:31:05.2±1.6,35°.833N±0°.006×117°.67W±0°.01, h2km±1km, ML3.5/18, ML3.6/22(NEIC), Error ellipse: s-maj=1.7km s-min=0.8km az=80.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.15**	**205**		Pg	04 31 09.0	+0.8
SRTC					Sg	04 31 12.3	+2.1
WVPM	**Volcano Peak E**	**0.17**	**314**		Sg	04 31 11.4	+0.7
WRVM	**Rose V. Centra**	**0.25**	**314**		Pg	04 31 10.2	+0.2
WRVM					Sg	04 31 13.9	+0.6
MFS	**McCloud Flat S**	**0.32**	**332**		Pg	04 31 11.4	0.0
LRMC	**Laurel Mtn Rad**	**0.35**	**182**		Pg	04 31 12.2	+0.2
LRMC					Sg	04 31 17.4	+0.8
WBSM	**Bird Springs**	**0.48**	**233**		Pg	04 31 14.6	+0.1
WORM	**Onyx Ranch**	**0.49**	**254**		Pg	04 31 14.6	0.0
WHFM	**Hanning Flat**	**0.57**	**256**		Pg	04 31 16.1	0.0
CWC	**Cottonwood Cre**	**0.69**	**331**		Pg	04 31 18.6	+0.1
CGO	**Cerro Gordo**	**0.72**	**351**		Pg	04 31 19.4	+0.3
CCAC	**Calif City Air**	**0.74**	**203**	Pg	Pg	04 31 19.2	-0.1
GSC	**Goldstone, Bar**	**0.88**	**127**	Pg	Pg	04 31 22.1	+0.1
GWY	**Greenwater Val**	**0.88**	**66**	Pg	Pg	04 31 22.1	0.0
GWY					IAML	04 31 51.8	
	comp=E,3μm,0.5s						
GWY					IAML	04 31 53.7	
	comp=N,2μm,0.6s						
HYS	**Haystack Butte**	**0.97**	**175**		Pb	04 31 24.3	-0.5
EDW2	**Edwards Air Fo**	**0.99**	**196**		Pb	04 31 24.8	-0.3
ARVC	**Arvin**	**1.18**	**234**		Pg	04 31 26.1	-1.7
GRAC	**Grapevine Rang**	**1.19**	**12**	Pg	Pg	04 31 27.4	-0.5
GRAC					IAML	04 32 09.6	
	comp=N,2μm,0.6s						
SGV	**South Grapevin**	**1.25**	**24**		Pg	04 31 29.4	+0.1
BAKC	**Calstate**	**1.27**	**248**		Pg	04 31 29.0	-0.5
WCT	**Wildcat Mounta**	**1.27**	**41**	Pg	Pg	04 31 28.8	-0.9
WCT					IAML	04 31 47.4	
	comp=N,717nm,0.4s						
WCT					IAML	04 31 47.5	
	comp=E,973nm,0.6s						
GMN	**Gold Mountain**	**1.50**	**13**		Pn	04 31 32.1	-1.3
DSP	**Deep Springs**	**1.55**	**351**		Pn	04 31 32.8	-1.1
BHPR	**Bishop**	**1.60**	**336**		Pn	04 31 35.2	+0.3
PASC	**Pasadena Art C**	**1.71**	**195**		Pn	04 31 35.2	-0.9
PASC					IAML	04 32 12.8	
	comp=E,963nm,1.1s						
PASC					IAML	04 32 13.8	
	comp=N,658nm,0.6s						
GTM	**Goat Mountain**	**1.87**	**145**		Pb	04 31 40.0	-0.3
BENR	**Benton**	**2.02**	**339**		Pb	04 31 42.9	+0.2
MLAC	**Mammoth, Mammo**	**2.02**	**333**		Pb	04 31 42.7	-0.2
MCSM	**Casa Diablo Ho**	**2.07**	**332**		Pb	04 31 43.6	-0.1
NV11	**Mina Array Sit**	**2.62**	**352**	Pn	Pn	04 31 48.5	-0.2
NV11					IAML	04 32 56.6	
	comp=E,190nm,1.4s						
GATR	**Gnd/Air Tx Cnt**	**2.65**	**242**		Pb	04 31 51.9	-1.5

*NEIC **06** 04:31:18.9±0.6,35°.568N±0°.009×117°.40W±0°.01, h5km, Error ellipse: s-maj=1.8km s-min=1.4km az=205.0*

PAS 06 04:31:19.5±0.5,35°.566N±0°.010×117°.396W±0°.009, h3km±2km, ML3.9/28, ML3.7/26(NEIC), Error ellipse: s-maj=1.5km s-min=0.9km az=194.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.05**	**148**		Sg	04 31 22.1	+0.8
LRMC	**Laurel Mtn Rad**	**0.25**	**250**		Pg	04 31 25.1	+0.8
CLC	**China Lake**	**0.30**	**327**		Pg	04 31 25.2	0.0
CLC					Sg	04 31 29.7	+0.5
SRTC	**Snort**	**0.31**	**294**		Pg	04 31 25.9	+0.3
DTP	**Desert Tortois**	**0.47**	**231**		Pg	04 31 28.6	+0.1
DTP					Sg	04 31 35.2	+0.5
MPMC	**Manual Prospec**	**0.50**	**351**		Sg	04 31 35.8	+0.3
GSC	**Goldstone, Bar**	**0.55**	**118**		Pg	04 31 30.0	0.0
GSC				Sg	Sg	04 31 37.7	+0.6
GSC					IAML	04 31 37.9	
	comp=E,10μm,0.4s						
GSC					IAML	04 31 37.9	
	comp=N,10μm,0.3s						
QSM	**Queen of Sheba**	**0.59**	**47**	Pg	Pg	04 31 30.4	-0.3
QSM					IAML	04 31 39.4	
	comp=N,4μm,0.7s						
QSM					IAML	04 31 41.6	
	comp=E,3μm,0.3s						
WBSM	**Bird Springs**	**0.61**	**268**		Sg	04 31 39.2	+0.1
CCAC	**Calif City Air**	**0.65**	**231**		Pg	04 31 31.7	-0.3
CCAC	**Calif City Air**	**0.65**	**231**	Sg	Sg	04 31 40.4	-0.1
CCAC					IAML	04 31 45.2	
	comp=N,4μm,0.8s						
CCAC					IAML	04 31 45.5	
	comp=E,3μm,0.7s						
MFS	**McCloud Flat S**	**0.67**	**326**		Pg	04 31 32.0	-0.2
MFS					Sg	04 31 41.1	+0.3
WORM	**Onyx Ranch**	**0.70**	**281**		Pg	04 31 32.5	-0.5
WORM					Sg	04 31 41.7	-0.3
WHFM	**Hanning Flat**	**0.79**	**280**		Pg	04 31 34.0	-0.6
WHFM					Sg	04 31 44.5	-0.2
EDW2	**Edwards Air Fo**	**0.84**	**216**		Pg	04 31 35.0	-0.6
GWY	**Greenwater Val**	**0.85**	**43**	Pg	Pg	04 31 36.0	+0.2
GWY					IAML	04 31 55.6	
	comp=E,4μm,0.5s						
GWY					IAML	04 31 56.1	
	comp=N,3μm,0.6s						
ISA	**Isabella, Lake**	**0.88**	**277**	Pg	Pg	04 31 36.0	-0.4
ISA				Sg	Sg	04 31 47.5	-0.4
ISA					IAML	04 31 47.9	
	comp=N,3μm,0.4s						
ISA					IAML	04 31 51.3	
	comp=E,2μm,0.3s						
WASM	**Alta Sierra Ca**	**0.96**	**281**		Sg	04 31 49.9	-0.4
TPNV	**Topopah Spring**	**1.66**	**34**		Pn	04 31 48.9	-0.8
TPNV					IAML	04 31 57.9	
	comp=E,860nm,0.6s						
TPNV					IAML	04 32 14.1	
	comp=E,887nm,0.7s						
SHPR	**Sheep Range**	**2.04**	**62**		Pn	04 31 52.7	-2.1
V12A	**Nelson**	**2.08**	**85**	Pn	Pn	04 31 54.0	-1.3
V12A					IAML	04 32 27.4	
	comp=E,687nm,0.4s						
PFO	**Pinyon Flats O**	**2.10**	**158**	Pn	Pn	04 31 54.8	-0.7
TPH	**Tonopah**	**2.51**	**3**	Pn	Pn	04 32 00.8	-0.5
TPH					IAML	04 32 42.0	
	comp=E,279nm,0.8s						

*NEIC **06** 04:33:24.2±1.2,35°.925N±0°.008×117°.71W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.8km az=345.0*

PAS 06 04:33:24.4±1.2,35°.923N±0°.009×117°.72W±0°.01, h2km±1km, ML3.5/26, ML3.3/20(NEIC), Error ellipse: s-maj=1.7km s-min=1.3km az=91.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**288**		Pg	04 33 26.5	+0.3
WRVM	**Rose V. Centra**	**0.16**	**301**		Pg	04 33 27.9	+0.2
SRTC	**Snort**	**0.23**	**186**		Pg	04 33 29.4	+0.5
LRMC	**Laurel Mtn Rad**	**0.44**	**176**		Sg	04 33 39.4	+0.7
WBSM	**Bird Springs**	**0.52**	**222**		Pg	04 33 34.3	0.0
WBSM					Sg	04 33 42.3	+1.2
CGO	**Cerro Gordo**	**0.63**	**354**		Sg	04 33 45.9	+1.1
ISA	**Isabella, Lake**	**0.67**	**247**		Sg	04 33 45.5	-0.4
WASM	**Alta Sierra Ca**	**0.71**	**255**		Sg	04 33 47.6	+0.4
CCAC	**Calif City Air**	**0.81**	**198**	Pg	Pg	04 33 39.5	-0.4
CCAC					IAML	04 33 55.5	
	comp=E,908nm,0.6s						
CCAC					IAML	04 34 09.1	
	comp=N,799nm,0.4s						
GWY	**Greenwater Val**	**0.89**	**73**	Pg	Pg	04 33 41.2	-0.2
GWY					IAML	04 33 58.5	
	comp=N,1μm,0.7s						
GWY					IAML	04 33 59.0	
	comp=E,1μm,0.4s						
TEJ	**El Tejon**	**1.05**	**229**		Pg	04 33 43.8	-0.8
HYS	**Haystack Butte**	**1.06**	**173**		Pg	04 33 45.2	+0.4
GRAC	**Grapevine Rang**	**1.11**	**15**		Pg	04 33 45.3	-0.4
GRAC	**Grapevine Rang**	**1.11**	**15**	Pg	Pg	04 33 44.7	-1.0
GRAC	**Grapevine Rang**	**1.11**	**15**		IAML	04 34 02.8	
	comp=N,641nm,0.7s						
GRAC					IAML	04 34 04.4	
	comp=E,819nm,0.9s						
SGV	**South Grapevin**	**1.19**	**27**		Pg	04 33 47.1	-0.1
WCT	**Wildcat Mounta**	**1.24**	**45**	Pg	Pg	04 33 47.7	-0.5
WCT					IAML	04 34 31.8	
	comp=E,349nm,0.6s						
WCT					IAML	04 34 32.4	
	comp=N,428nm,0.7s						
VOG	**Valley Oaks Go**	**1.41**	**287**		Pn	04 33 50.6	-0.5
GMN	**Gold Mountain**	**1.42**	**15**		Pn	04 33 51.2	-0.3
GMN					IAML	04 34 41.6	
	comp=N,367nm,0.7s						
DSP	**Deep Springs**	**1.46**	**352**		Pn	04 33 51.1	-0.7
TPNV	**Topopah Spring**	**1.56**	**49**		Pn	04 33 52.8	-0.7
TPNV					IAML	04 34 43.5	
	comp=N,596nm,0.9s						
MTUM	**Tungsten Hills**	**1.58**	**335**		Pb	04 33 54.6	0.0
BLCC	**Black Canyon**	**1.85**	**205**		Pn	04 33 56.7	-0.6
FRI	**Friant**	**1.93**	**304**		Pn	04 33 55.5	-2.8

*NEIC **06** 04:33:49.6±0.5,35°.825N±0°.008×117°.663W±0°.009, h5km±1km, Error ellipse: s-maj=2.0km s-min=1.3km az=344.0*

PAS 06 04:33:50.1±0.8,35°.829N±0°.008×117°.663W±0°.008, h3km±1km, ML3.8/36, ML3.4/14(NEIC), Error ellipse: s-maj=1.2km s-min=1.0km az=169.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.05**	**104**		Pg	04 33 51.3	0.0
CLC					Sg	04 33 52.4	+0.3
TOW	**Tower One**	**0.09**	**257**		Pg	04 33 52.3	+0.5
TOW					Sg	04 33 54.5	+1.6
SRTC	**Snort**	**0.15**	**207**		Pg	04 33 53.4	+0.4
SRTC					Sg	04 33 56.5	+1.4
WVPM	**Volcano Peak E**	**0.17**	**314**		Pg	04 33 53.9	+0.4
JRC2	**Joshua Ridge**	**0.19**	**322**		Pg	04 33 54.0	+0.1
WNMM	**Nine Mile Cany**	**0.20**	**274**		Pg	04 33 54.2	+0.3
WCSM	**Coso Springs S**	**0.21**	**337**		Pg	04 33 54.5	+0.2
WCSM					Sg	04 33 57.7	+0.6
WRVM	**Rose V. Centra**	**0.26**	**314**		Pg	04 33 55.3	+0.3
MPMC	**Manual Prospec**	**0.27**	**32**		Pg	04 33 55.4	+0.1
MPMC					Sg	04 33 59.4	+0.5
LRMC	**Laurel Mtn Rad**	**0.35**	**183**		Pg	04 33 56.9	+0.1
LRMC					Sg	04 34 01.8	+0.5
CCCA	**Chr Cany lake**	**0.39**	**141**		Sg	04 34 04.0	+1.4
WBSM	**Bird Springs**	**0.48**	**233**		Pg	04 33 59.5	+0.1
WBSM					Sg	04 34 06.2	+0.5
WORM	**Onyx Ranch**	**0.49**	**254**		Pg	04 33 59.5	+0.1
WORM					Sg	04 34 06.0	+0.1
WHFM	**Hanning Flat**	**0.57**	**257**		Sg	04 34 08.7	+0.2
DTP	**Desert Tortois**	**0.58**	**195**		Pg	04 34 00.9	-0.3
DTP					Sg	04 34 08.8	+0.2
ISA	**Isabella, Lake**	**0.68**	**256**	Pg	Pg	04 34 02.4	-0.8
ISA				Sg	Sg	04 34 11.9	-0.1
ISA					IAML	04 34 14.6	
	comp=N,1μm,0.3s						
ISA					IAML	04 34 15.2	
	comp=E,2μm,0.2s						
WASM	**Alta Sierra Ca**	**0.73**	**263**		Pg	04 34 03.6	-0.6
WASM					Sg	04 34 14.0	+0.4
CCAC	**Calif City Air**	**0.73**	**203**	Pg	Pg	04 34 03.6	-0.5
CCAC				Sg	Sg	04 34 13.8	+0.1
CCAC					IAML	04 34 14.8	
	comp=E,3μm,0.5s						
GSC	**Goldstone, Bar**	**0.87**	**127**	Pg	Pg	04 34 06.4	-0.5
GSC				Sg	Sg	04 34 18.1	-0.1
GWY	**Greenwater Val**	**0.88**	**66**	Pg	Pg	04 34 06.4	-0.6
GWY				Sg	Sg	04 34 18.7	+0.3
GWY					IAML	04 34 22.6	
	comp=E,2μm,0.5s						
GWY					IAML	04 34 26.7	
	comp=N,1μm,0.8s						
HYS	**Haystack Butte**	**0.97**	**175**		Sg	04 34 20.8	-0.3
SPG2	**Springville 2**	**0.97**	**293**		Sg	04 34 21.1	-0.2
WCT	**Wildcat Mounta**	**1.28**	**41**	Pg	Pg	04 34 14.4	-0.1
WCT					IAML	04 34 55.3	
	comp=E,613nm,0.5s						
VTV	**Victorville**	**1.29**	**168**		Sb	04 34 32.1	0.0
HOLC	**Holcomb Ridge**	**1.38**	**186**		Sn	04 34 34.9	-0.1
GMN	**Gold Mountain**	**1.50**	**12**		Pn	04 34 17.9	-0.3
GMN					IAML	04 34 44.6	
	comp=N,382nm,0.8s						

*NEIC **06** 04:36:49.8±0.6,35°.869N±0°.006×117°.714W±0°.009, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.4km az=23.0*

PAS 06 04:36:50.2±0.8,35°.869N±0°.008×117°.707W±0°.009, h3km±4km, ML4.0/6, Error ellipse: s-maj=1.4km s-min=0.9km az=216.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**218**		Pg	04 36 52.4	+0.6
CLC	**China Lake**	**0.10**	**121**		Pg	04 36 52.4	+0.1
CLC					Sg	04 36 54.1	+0.4
WVPM	**Volcano Peak E**	**0.12**	**312**		Pg	04 36 52.9	+0.2
WVPM					Sg	04 36 54.8	+0.5
WNMM	**Nine Mile Cany**	**0.16**	**261**		Pg	04 36 53.7	+0.3
WCSM	**Coso Springs S**	**0.17**	**343**		Pg	04 36 53.5	+0.1
WCSM					Sg	04 36 56.1	+0.4
SRTC	**Snort**	**0.18**	**191**		Pg	04 36 54.2	+0.5
WRVM	**Rose V. Centra**	**0.20**	**313**		Pg	04 36 54.4	+0.2
WRVM					Sg	04 36 57.4	+0.5
MPMC	**Manual Prospec**	**0.26**	**43**		Pg	04 36 55.3	+0.1
MPMC					Sg	04 36 59.2	+0.6
MFS	**McCloud Flat S**	**0.28**	**334**		Pg	04 36 55.7	+0.1
LRMC	**Laurel Mtn Rad**	**0.39**	**177**		Pg	04 36 57.7	0.0
CCCA	**Chr Cany lake**	**0.44**	**141**		Pg	04 36 59.2	+0.5
WORM	**Onyx Ranch**	**0.47**	**249**		Pg	04 36 59.1	-0.1
WBSM	**Bird Springs**	**0.48**	**227**		Pg	04 36 59.5	-0.1
WHFM	**Hanning Flat**	**0.55**	**252**		Pg	04 37 00.7	-0.1
ISA	**Isabella, Lake**	**0.66**	**252**	Pg	Pg	04 37 02.5	-0.3
QSM	**Queen of Sheba**	**0.69**	**82**	Pg	Pg	04 37 03.7	+0.3
WASM	**Alta Sierra Ca**	**0.70**	**260**		Pg	04 37 03.6	-0.1
CCAC	**Calif City Air**	**0.76**	**200**		Pg	04 37 04.5	-0.3
GWY	**Greenwater Val**	**0.90**	**69**		Pg	04 37 07.3	-0.2
FURC	**Furnace Creek,**	**0.91**	**49**		Pg	04 37 07.7	+0.1
SPG2	**Springville 2**	**0.92**	**291**		Pg	04 37 06.8	-1.1
GSC	**Goldstone, Bar**	**0.93**	**127**	Pg	Pg	04 37 07.9	-0.1
GRAC	**Grapevine Rang**	**1.16**	**14**	Pg	Pg	04 37 12.3	-0.1
WCT	**Wildcat Mounta**	**1.27**	**43**	Pg	Pg	04 37 14.2	-0.4
AMDNV	**Amargosa**	**1.29**	**63**		Pg	04 37 14.6	-0.4
VOG	**Valley Oaks Go**	**1.43**	**289**		Pn	04 37 16.7	-0.4
GMN	**Gold Mountain**	**1.47**	**14**		Pn	04 37 17.6	-0.4
DSP	**Deep Springs**	**1.51**	**352**		Pn	04 37 18.1	-0.1
BCW	**Bitter Crk WRg**	**1.67**	**237**		Pn	04 37 20.4	-0.2
ELS	**Elsinore Mount**	**2.23**	**174**	Pn	Pn	04 37 27.8	-0.3
PRN	**Pahroc Range**	**2.63**	**54**	Pn	Pn	04 37 33.0	-0.8
HULI	**Fort Hunter Li**	**2.87**	**274**	Pn	Pn	04 37 36.5	-0.4
W13A	**Hualapai Mount**	**3.21**	**103**	Pn	Pn	04 37 40.7	-1.1
BLYC	**Blythe**	**3.37**	**128**	Pn	Pn	04 37 41.8	-1.9
LCMT	**Little Creek M**	**3.77**	**71**	Pn	Pn	04 37 49.1	-0.3
CCUT	**Cedar City**	**3.87**	**63**	Pn	Pn	04 37 50.7	-0.3
KNB	**Kanab**	**4.10**	**72**	Pn	Pn	04 37 54.4	+0.4
X16A	**Lo Mia Camp, P**	**5.33**	**104**	Pn	Pn	04 38 10.9	-0.1

*NEIC **06** 04:36:54.8±1.4,35°.896N±0°.010×117°.73W±0°.01, h4km±5km, Error ellipse: s-maj=1.6km s-min=1.4km az=115.0*

*IDC **06** 04:36:56.0±0.4,35°.90N×117°.62W, h0km, mb4.4/22, mbtmp4.3/30, ML4.4/6, MS5.5/2, Error ellipse: s-maj=11.1km s-min=5.1km az=73.0*

*PAS **06** 04:36:55.3±1.4,35°.900N±0°.010×117°.74W±0°.01, h2km±5km, Mwr4.9/4, mb4.7/87(NEIC), ML4.9/128(NEIC), Mww4.9/13(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=75.0*

*MOS **06** 04:36:56.4±1.2,35°.84N×117°.71W, h13km, mb4.9/22, Error ellipse: s-maj=8.7km s-min=5.3km az=113.3*

ISC 06 04:36:57.4±0.3,35°.85N±0°.02×117°.71W±0°.02, h10km, n479,σ2s12/445, mb4.7/69, 4C, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.06**	**223**		**Pg**	**04 36 57.4**	**-2.1**
CLC	**China Lake**	**0.10**	**112**		**Pg**	**04 36 58.3**	**-1.8**
CLC	**China Lake**	**0.10**	**112**	P	**Pg**	**04 36 58.3**	**-1.8**
WVPM	**Volcano Peak E**	**0.13**	**319**		**Pg**	**04 36 57.2**	**-3.4**
SRTC	**Snort**	**0.16**	**190**		**Pg**	**04 36 59.6**	**-1.4**
WCSM	**Coso Springs S**	**0.18**	**346**		**Pg**	**04 36 58.2**	**-3.2**
WRVM	**Rose V. Centra**	**0.21**	**317**		**Pg**	**04 36 58.8**	**-3.0**
MPMC	**Manual Prospec**	**0.27**	**42**		**Pg**	**04 37 00.5**	**-2.6**
MFS	**McCloud Flat S**	**0.29**	**336**		**Pg**	**04 36 59.7**	**-3.6**
MFS					**Sg**	**04 37 03.9**	**-3.3**
LRMC	**Laurel Mtn Rad**	**0.37**	**176**		**Pb**	**04 37 03.5**	**-2.7**
LRMC					**Sb**	**04 37 09.9**	**-2.2**
CCCA	**Chr Cany lake**	**0.43**	**139**		**Pb**	**04 37 05.2**	**-2.0**
CCCA					**Sb**	**04 37 12.7**	**-1.0**
WORM	**Onyx Ranch**	**0.46**	**250**		**Pg**	**04 37 04.0**	**-2.4**
WORM					**Sg**	**04 37 10.3**	**-2.1**
WBSM	**Bird Springs**	**0.47**	**228**		**Pg**	**04 37 04.8**	**-1.8**
WBSM					**Sg**	**04 37 11.7**	**-1.2**
WHFM	**Hanning Flat**	**0.54**	**253**		**Pg**	**04 37 05.7**	**-2.2**
WHFM					**Sg**	**04 37 13.1**	**-2.0**
DTP	**Desert Tortois**	**0.59**	**190**		**Pg**	**04 37 07.4**	**-1.6**
ISA	**Isabella, Lake**	**0.65**	**253**	Pg	**Pg**	**04 37 07.2**	**-2.7**
ISA				IAML		04 37 16.8	
	comp=N,23μm,0.8s						
ISA				IAML		04 37 17.5	
	comp=E,17μm,0.5s						
ISA	**Isabella, Lake**	**0.65**	**253**	P	**Pg**	**04 37 07.2**	**-2.7**
CWC	**Cottonwood Cre**	**0.66**	**333**		**Pg**	**04 37 07.2**	**-2.9**
QSM	**Queen of Sheba**	**0.69**	**80**	Pg	**Pg**	**04 37 08.4**	**-2.4**
QSM	**Queen of Sheba**	**0.69**	**80**		**Sb**	**04 37 18.3**	**-3.0**
QSM	**Queen of Sheba**	**0.69**	**80**	IAML		04 37 22.4	
	comp=N,80μm,0.9s						
QSM				IAML		04 37 23.2	
	comp=E,49μm,0.7s						
WASM	**Alta Sierra Ca**	**0.70**	**261**		**Pg**	**04 37 08.5**	**-2.4**
WASM					**Sg**	**04 37 18.0**	**-2.0**
CGO	**Cerro Gordo**	**0.70**	**354**		**Pg**	**04 37 08.2**	**-2.8**
CCAC	**Calif City Air**	**0.74**	**200**		**Pg**	**04 37 09.6**	**-2.1**
CCAC	**Calif City Air**	**0.74**	**200**		**Sb**	**04 37 21.0**	**-1.7**
CCAC	**Calif City Air**	**0.74**	**200**	IAML		04 37 25.1	
	comp=N,59μm,0.6s						
CCAC				IAML		04 37 25.5	
	comp=E,45μm,1.2s						
GWY	**Greenwater Val**	**0.91**	**68**	Pg	**Pg**	**04 37 12.6**	**-2.3**
GWY				IAML		04 37 29.2	
	comp=E,33μm,0.8s						
GWY				IAML		04 37 32.0	
	comp=N,47μm,1.1s						
FURC	**Furnace Creek,**	**0.92**	**48**		**Pg**	**04 37 12.6**	**-2.6**
GSC	**Goldstone, Bar**	**0.92**	**126**	Pg	**Pb**	**04 37 13.6**	**-1.9**
GSC				IAML		04 37 29.8	
	comp=E,79μm,0.8s						
GSC				IAML		04 37 29.9	
	comp=N,37μm,1.2s						
GSC	**Goldstone, Bar**	**0.92**	**126**	P	**Pb**	**04 37 13.6**	**-1.9**
SPG2	**Springville 2**	**0.92**	**292**		**Pg**	**04 37 11.8**	**-3.4**
HYS	**Haystack Butte**	**0.99**	**173**		**Pb**	**04 37 14.9**	**-1.8**
EDW2	**Edwards Air Fo**	**1.00**	**193**		**Pg**	**04 37 14.5**	**-2.0**
TEJ	**El Tejon**	**1.01**	**232**		**Pg**	**04 37 14.3**	**-2.5**
TPO	**Tropico Hills**	**1.06**	**204**		**Pg**	**04 37 15.6**	**-2.1**
MAGC	**SCE Magundon P**	**1.10**	**244**		**Pb**	**04 37 16.3**	**-2.3**
VES	**Vestal, Richgr**	**1.11**	**270**		**Pb**	**04 37 16.0**	**-2.8**
RRX	**Edison Barstow**	**1.14**	**149**		**Pn**	**04 37 18.1**	**-1.3**
ARVC	**Arvin**	**1.17**	**232**		**Pb**	**04 37 18.0**	**-1.6**
SBB	**Saddle Back Bu**	**1.17**	**185**		**Pn**	**04 37 17.9**	**-1.9**
SHOC	**Shoshone, Teco**	**1.17**	**87**		**Pb**

ELS IAML 04 38 13.8
comp=E,3µm,1.5s
ELS IAML 04 38 23.4
comp=N,3µm,1.7s
TPH Tonopah 2.25 10 Pn Pn 04 37 32.5 -2.3
TPH Tonopah 2.25 10 P **Pn 04 37 32.6 -2.3**
DGR Domenigoni Val 2.27 165 Pn 04 37 32.9 -2.1
MURC Murrieta 2.29 169 Pn 04 37 33.2 -2.1
V12A Nelson 2.33 92 Pn 04 37 35.0 -0.9
V12A IAML 04 38 17.2
comp=E,5µm,0.8s
V12A IAML 04 38 21.5
comp=N,7µm,1.3s
PSMM Smith Mountain 2.35 276 Pn 04 37 34.2 -1.9
S11A Rachel 2.38 41 Pn 04 37 34.7 -2.0
CRY Cary Ranch 2.42 160 Pn 04 37 36.0 -1.2
PFO Pinyon Flats O 2.46 155 Pn 04 37 36.4 -1.4
PFO IAML 04 38 20.7
comp=N,5µm,2.4s
PFO IAML 04 38 21.5
comp=N,4µm,1.9s
PFO Pinyon Flats O 2.46 155 Pn **Pn 04 37 36.1 -1.6**
comp=N,47nm,0.3s,baz=334,slow=15,SNR=6.1
PFO Pg **Pg 04 37 41.2 -3.4**
comp=N,355nm,0.3s,baz=333,slow=14,SNR=31
PFO Lg Lg 04 38 14.6
comp=N,541nm,0.3s,baz=238,slow=23,SNR=12
comp=N,128nm,0.3s
PFO Pinyon Flats O 2.46 155 *i* P **Pn 04 37 36.2 -1.5**
I57US PINON FLAT INF 2.47 155 I I 04 54 50.0
baz=336,slow=314,SNR=2.1
LHV Little Huntoon 2.48 345 Pn 04 37 35.5 -2.2
LHV IAML 04 38 23.4
comp=E,6µm,1.6s
LHV IAML 04 38 28.8
comp=N,6µm,1.8s
PMPB Monarch Peak 2.53 279 Pn 04 37 37.0 -1.6
PMPB IAML 04 38 17.0
comp=N,9µm,1.1s
RAMR Ramage Ranch 2.58 266 Pn 04 37 39.2 0.0
NV11 Mina Array Sit 2.60 352 Pn 04 37 38.1 -1.6
NVAR Mina Array Bea 2.62 350 Pn 04 37 38.2 -1.7
NVAR Mina Array Bea 2.62 350 Pn **Pn 04 37 38.6 -1.3**
comp=N,41nm,0.3s,baz=174,slow=18,SNR=25
NVAR Pg **Pb 04 37 44.1 -0.4**
comp=N,207nm,0.3s,baz=178,slow=21,SNR=46
NVAR Lg Lg 04 38 16.7
comp=N,126nm,0.3s,baz=67,slow=30,SNR=5.7
comp=N,164nm,0.6s
PRN Pahroc Range 2.64 53 Pn 04 37 39.0 -1.2
PRN IAML 04 38 25.6
comp=E,9µm,1.1s
PRN IAML 04 38 31.9
comp=N,8µm,1.5s
WAKR Walker 2.98 333 Pn 04 37 44.4 -0.5
WAKR IAML 04 38 39.7
comp=E,3µm,1.6s
Q09A Carvers 3.01 8 Pn 04 37 44.0 -1.2
R11B Troy Canyon, C 3.02 34 Pn 04 37 45.3 -0.1
R11B IAML 04 38 35.8
comp=E,4µm,1.2s
CMB Columbia Colle 3.05 316 Pn 04 37 43.9 -1.9
CMB IAML 04 38 34.4
comp=N,3µm,1.0s
CMB IAML 04 38 35.2
comp=E,3µm,1.4s
CMB Columbia Colle 3.05 316 P **Pn 04 37 43.9 -1.9**
SAO San Andreas Ge 3.15 288 Pn 04 37 45.3 -1.8
SAO San Andreas Ge 3.15 288 P **Pn 04 37 45.3 -1.8**
W13A Hualapai Mount 3.21 102 Pn 04 37 46.4 -1.7
W13A IAML 04 38 43.1
comp=E,3µm,1.1s
W13A IAML 04 38 43.3
comp=N,3µm,1.4s
BLYC Blythe 3.36 128 Pn 04 37 47.4 -2.5
BLYC IAML 04 38 46.9
comp=E,3µm,1.0s
BLYC IAML 04 38 49.1
comp=N,3µm,1.1s
TJX Tijuana 3.38 171 Pn 04 37 49.7 -0.5
YUH Yuha Desert 3.52 155 Pn 04 37 50.2 -2.0
YUH IAML 04 38 54.6
comp=E,1µm,2.0s
CCUT Cedar City 3.88 63 IAML 04 39 12.6
comp=E,1µm,3.6s
CCUT IAML 04 39 21.6
comp=N,1µm,1.9s
AFDM Forest Hills D 4.03 321 IAML 04 39 11.6
comp=N,3µm,1.6s
AFDM IAML 04 39 13.3
comp=E,3µm,1.2s
CCX Cicese 4.07 167 IAML 04 39 17.0
comp=E,2µm,1.6s
CCX IAML 04 39 22.2
comp=N,1µm,1.5s
PSUT Pine Spring 4.08 48 IAML 04 39 24.2
comp=N,2µm,1.1s
SZCU Shurtz Canyon 4.10 64 IAML 04 39 24.1
comp=N,964nm,1.8s
ESJX Sierra Juarez 4.11 159 IAML 04 39 22.8
comp=E,1µm,1.8s
KNB Kanab 4.11 72 IAML 04 39 23.0
comp=E,1µm,1.2s
KNB IAML 04 39 29.8
comp=N,1µm,1.8s
SPR3 Spring Creek 3 4.13 40 IAML 04 39 07.2
comp=N,2µm,0.9s
SPR3 IAML 04 39 10.8
comp=E,2µm,1.3s
Y14A Wickenburg 4.32 115 IAML 04 39 29.6
comp=E,2µm,1.7s
113A Mohawk Valley, 4.49 132 IAML 04 39 34.3
comp=N,956nm,2.0s
113A IAML 04 39 38.5
comp=E,1µm,1.5s
BEKR Beckworth 4.52 333 IAML 04 39 33.9
comp=N,872nm,1.4s
BEKR IAML 04 39 42.2
comp=E,2µm,1.1s
MCCM Marconi Confer 4.73 300 IAML 04 39 25.7
comp=E,1µm,1.5s
MCCM IAML 04 39 47.3
comp=N,839nm,1.6s
ORV Oroville 4.76 322 IAML 04 39 32.2
comp=E,1µm,1.2s
ORV IAML 04 39 44.7
comp=N,823nm,4.2s
ELK Elko 5.26 21 IAML 04 39 41.5
comp=N,644nm,0.8s
ELK IAML 04 39 43.6
comp=N,425nm,0.8s
ELK Elko 5.26 21 Pn **Pn 04 38 15.7 -0.5**
comp=N,5.0nm,0.3s,baz=172,slow=19,SNR=7.5
ELK Lg Lg 04 39 38.2
comp=N,44nm,0.3s,baz=277,slow=16,SNR=22
comp=N,16nm,0.4s
HOPS Hopland Field 5.29 308 IAML 04 40 19.0
comp=E,575nm,1.8s
X16A Lo Mia Camp, P 5.33 104 IAML 04 39 54.0
comp=N,674nm,1.4s
X16A IAML 04 40 09.8
comp=E,609nm,1.4s
YBH Yreka Blue Hor 7.05 328 Pn **Pn 04 38 42.4 +1.7**
baz=165,slow=5.5,SNR=16
YBH Pg **Pb 04 38 57.9 -2.0**
comp=E,0.1nm,0.3s,baz=136,slow=6.8,SNR=7.9
YBH Lg Lg 04 40 34.7
comp=E,0.1nm,0.3s,baz=107,slow=4.8,SNR=3.6
ANMO Albuquerque 9.23 92 Pn **Pn 04 39 10.9 +0.1**
comp=E,6.2nm,0.8s,baz=15,slow=10.0,SNR=5.6
ANMO Lg Lg 04 41 44.5
comp=E,0.9nm,0.3s,baz=133,slow=22,SNR=7.8
PDAR Pinedale Array 9.36 40 Pn **Pn 04 39 13.0 +0.5**
comp=E,0.8nm,0.3s,baz=224,slow=12,SNR=23
PDAR Lg Lg 04 41 48.7
comp=E,0.7nm,0.3s,baz=227,slow=30,SNR=6.9
comp=E,7.5nm,0.6s
NEW Newport 12.41 2 Pn **Pn 04 39 55.6 +1.5**
comp=E,0.1nm,0.3s,baz=192,slow=11,SNR=6.6
NEW Lg Lg 04 43 25.2
comp=E,0.1nm,0.3s,baz=131,slow=14,SNR=1.8
NEW LR LR 04 44 59.6
comp=E,11µm,19.1s,baz=80,slow=39
comp=E,6.0nm,1.0s
LPIG La Paz 13.35 149 Pn **Pn 04 40 07.0 +0.1**
comp=E,5.5nm,0.3s,baz=183,slow=14,SNR=1.4
LPIG Sn **Sn 04 42 29.9 -5.5**
comp=E,22nm,0.3s,baz=197,slow=2.9,SNR=7.1
TXAR Lajitas Array 13.50 115 Pn **Pn 04 40 09.0 -0.1**
comp=E,0.9nm,0.3s,baz=291,slow=10,SNR=35
comp=E,1.8nm,0.4s
TXAR Lajitas Array 13.50 115 P **Pn 04 40 09.0 -0.1**
LLLB Lillooet 15.05 350 Pn 04 40 27.9 -2.3
ABTX Abilene, Hawle 15.29 97 P 04 40 33.7 -4.5
ABTX IAmb IAmb 04 40 37.6
comp=E,35nm,1.3s
OK038 West end E0370 15.34 82 Pn **Pn 04 40 32.7 -1.3**
OK038 IAmb IAmb 04 40 37.8
comp=E,20nm,0.9s
R32A Long Quarter, 15.37 75 Pn **Pn 04 40 34.8 +0.4**
R32A IAmb IAmb 04 40 39.4
comp=E,38nm,1.2s
CSTR Hydro, Custer 15.45 85 Pn **Pn 04 40 35.5 0.0**
JCT Junction City 15.92 105 Pn **P 04 40 41.6 -3.6**
JCT Junction City 15.92 105 P **P 04 40 41.6 -3.6**
JCT pmax pmax
comp=E,28nm,1.0s
KAN14 Manchester OK 15.94 80 IAmb IAmb 04 40 47.8
comp=E,49nm,1.2s
WTFS Witchita Falls 15.95 92 IAmb IAmb 04 40 48.9
comp=E,39nm,0.9s
DGMT Dagmar 16.07 34 Pn **Pn 04 40 41.8 -1.7**
KAN17 Caldwell West 16.10 80 Pn **P 04 40 43.7 -3.4**
KAN01 Argonia South 16.10 79 P **Pn 04 40 43.4 -0.4**
KAN01 IAmb IAmb 04 40 51.1
comp=E,110nm,1.1s
BRDY Brady 16.25 101 Pn **Pn 04 40 44.7 -1.1**
BRDY IAmb IAmb 04 40 52.7
comp=E,149nm,1.8s
BGNE Belgrade 16.25 64 IAmb IAmb 04 40 48.5
comp=E,100nm,1.6s
X34A Smith Ranch, M 16.30 89 IAmb IAmb 04 40 53.5
comp=E,90nm,1.0s
PLPT Palo Pinto 16.31 95 IAmb IAmb 04 40 53.4
comp=E,65nm,1.0s
OK029 Liberty Lake 16.43 84 IAmb IAmb 04 40 55.0
comp=E,127nm,1.3s
FW03 Perrin-Whitt E 16.45 94 Pn **P 04 40 48.0 -3.1**
FW03 IAmb IAmb 04 40 55.1
comp=E,61nm,1.0s
FNO Franklin 16.54 86 Pn **P 04 40 49.4 -2.7**
FNO IAmb IAmb 04 40 56.6
comp=E,73nm,1.0s
E28A Huff 16.66 45 IAmb IAmb 04 40 56.8
comp=E,94nm,1.4s
FW07 Weatherford 16.77 95 Pn **P 04 40 52.5 -2.1**
FW07 IAmb IAmb 04 40 58.0
comp=E,66nm,1.0s
FW06 Azle 16.88 94 Pn **Pn 04 40 52.7 -1.0**
FW06 IAmb IAmb 04 40 59.6
comp=E,61nm,0.9s
T35A Sooner Cattle 17.11 80 Pn **P 04 40 56.0 -2.4**
DEOK Depew 17.20 84 IAmb IAmb 04 41 04.1
comp=E,115nm,1.2s
833A Chaparral WMA, 17.23 111 Pn **P 04 40 57.4 -2.3**
WHTX Lake Whitney, 17.25 97 IAmb IAmb 04 41 04.2
comp=E,55nm,0.9s
L34A Svendsen Farm, 17.67 63 P **P 04 41 02.8 -1.7**
MDND Maddock 17.99 43 P **Pn 04 41 05.2 -2.3**
RLO Rose Lookout 18.36 82 P **P 04 41 11.9 -0.2**
237A Washetta, Mont 18.57 96 P **Pn 04 41 13.2 -1.5**
HKT Hockley 19.28 102 *i* P **Pn 04 41 24.0 +0.8**
HKT pmax pmax
comp=E,26nm,1.3s
X40A Basin Creek Fa 20.37 87 IAmb IAmb 04 41 38.5
comp=E,30nm,1.3s
Z41A Richland Creek 20.67 90 P **P 04 41 35.8 -1.6**
Z41A IAmb IAmb 04 41 43.7
comp=E,41nm,1.1s
WHAR Wooly Hollow 20.68 84 P Pn 04 41 36.8 -3.0
WHAR IAmb IAmb 04 41 40.7
comp=E,51nm,1.0s
UALR University of 20.72 86 P **P 04 41 37.0 -0.9**
UALR IAmb IAmb 04 41 45.0
comp=E,28nm,1.0s
FCAR Ozark Folk Cen 20.72 82 IAmb IAmb 04 41 43.8
comp=E,56nm,1.0s
SPMN Marine on St. 21.05 56 IAmb IAmb 04 41 47.4
comp=E,35nm,0.8s
ULM Lac du Bonnet 21.38 41 P **P 04 41 44.7 -0.2**
comp=E,18nm,0.8s,baz=234,slow=11,SNR=17
comp=E,18nm,0.8s
ULM Lac du Bonnet 21.38 41 *i* P **P 04 41 45.7 +0.8**
LCAR Lake Charles 21.48 82 IAmb IAmb 04 41 49.1
comp=E,24nm,1.0s
N41A Harden Midland 21.59 69 P **P 04 41 48.1 +0.7**
N41A IAmb IAmb 04 41 52.5
comp=E,43nm,0.8s
V35K Ketchikan 21.69 338 P **P 04 41 51.6 +3.4**
baz=148,SNR=5.7
FFC Flin Flon 21.79 25 P **P 04 41 47.4 -1.8**
FFC IAmb IAmb 04 41 53.1
comp=E,30nm,1.1s
FFC Flin Flon 21.79 25 P **P 04 41 47.4 -1.8**
FFC pmax pmax
comp=E,30nm,1.1s
I40A Norwalk 22.22 61 P **P 04 41 53.5 -0.6**
EPLO Experimental L 22.26 44 P **P 04 41 53.3 -1.1**
EPLO IAmb IAmb 04 41 56.1
comp=E,24nm,1.1s
CRAG Craig 22.28 336 P **P 04 41 57.3 +2.8**
baz=145
JFWS Jewell Farm 22.31 63 IAmb IAmb 04 41 57.5
comp=E,38nm,0.9s
E38A The Farm, Brul 22.32 53 P **P 04 41 53.2 -1.8**
P43A Skaggs, Pawnee 22.57 72 P **P 04 41 57.4 -0.4**
L42A Oliver, Polo 22.61 66 IAmb IAmb 04 42 02.2
comp=E,33nm,1.0s
T35M Bob Quinn 22.76 342 P **P 04 42 02.3 +2.6**
baz=153
U33K Whale Pass 22.82 337 P **P 04 42 02.9 +2.7**
baz=146
G40A Rib Lake 22.83 57 IAmb IAmb 04 42 10.4
comp=E,20nm,1.0s
EYMN Ely 22.83 50 IAmb IAmb 04 42 05.7
comp=E,20nm,1.1s
WRAK Wrangell Islan 22.84 339 P **P 04 42 03.0 +2.6**
baz=148,SNR=5.9
TOAD Toad River Com 23.54 350 P **P 04 42 09.4 +1.9**
baz=165,SNR=16
S34M Telegraph Cree 23.81 342 P **P 04 42 12.6 +2.4**
baz=152
DLBC Dease Lake 24.02 344 P **P 04 42 14.5 +2.2**
baz=155,SNR=7.8
LIRD Liard River Hi 24.20 350 P **P 04 42 16.0 +2.2**
baz=163
SIT Sitka 24.29 336 P **P 04 42 16.2 +1.5**
baz=143
S32K Killisnoo 24.39 338 P **P 04 42 16.9 +1.3**
baz=145
KOTAN Kotaelee Air 24.64 352 P **P 04 42 19.9 +2.1**
baz=168,SNR=8.1
Q32M Nakina River 25.02 342 P **P 04 42 22.7 +1.2**
baz=151
R32K Eaglecrest 25.04 339 P **P 04 42 22.8 +1.3**
baz=146
X48A Hartselle 25.07 84 IAmb IAmb 04 42 24.3
comp=E,20nm,1.0s
R33M Jennings River 25.09 344 P **P 04 42 23.8 +1.7**
baz=154,SNR=9.7
S31K Pelican 25.31 337 P **P 04 42 25.6 +1.7**
baz=143
SWET Sewanee 25.82 82 IAmb IAmb 04 42 31.1
comp=E,30nm,1.1s
P32M Atlin 25.93 341 P **P 04 42 31.6 +1.9**
baz=149
FPAL Fort Paine 26.21 83 IAmb IAmb 04 42 34.7
comp=E,17nm,1.0s
P33M Teslin, Yukon 26.25 343 P **P 04 42 34.2 +1.6**
baz=152
SKAG Skagway 26.26 340 P **P 04 42 34.2 +1.7**
baz=146
TGTN Hyland Airport 26.55 349 P **P 04 42 37.2 +2.0**
baz=161
PLBC Pleasant Camp 26.56 339 P **P 04 42 37.3 +2.1**
baz=144
YKA Yellowknife Ar 26.73 3 P **P 04 42 37.4 +0.7**
comp=E,5.9nm,0.8s,baz=187,slow=9.1,SNR=33
YKA PcP **PcP 04 46 00.9 +1.2**
comp=Z,1.2nm,0.8s,baz=181,slow=1.4,SNR=6.8
comp=E,5.9nm,0.8s
P29M Windy Craggy 27.12 338 P **P 04 42 41.7 +1.3**
baz=142
N32M Quiet Lake 27.14 344 P **P 04 42 42.1 +1.5**
baz=152
WHY Whitehorse 27.16 341 P **P 04 42 42.5 +1.7**
baz=148
P30M Million Dollar 27.28 339 P **P 04 42 43.5 +1.7**
baz=144
O30N Mendenhall 27.57 340 P **P 04 42 46.3 +1.9**
baz=146
CMIG Matias Romero 27.57 127 P **P 04 42 45.5 +0.8**
comp=Z,13nm,1.2s,baz=304,slow=11,SNR=4.6
comp=Z,13nm,1.2s
WRGLY Wrigley 27.63 354 P **P 04 42 47.2 +2.4**
baz=170
PNL Peninsula 27.68 336 P **P 04 42 47.3 +2.0**
baz=140
HYT Haines Junctio 28.01 339 P **P 04 42 50.5 +2.1**
baz=144
N31M Braeburn, Yuko 28.09 342 P **P 04 42 51.1 +2.1**
baz=148
MMPY Sheldon Lake, 28.09 347 P **P 04 42 51.4 +2.4**
baz=156
FARO Faro, Yukon 28.16 344 P **P 04 42 51.7 +2.1**
baz=152
M31M Drury Creek, Y 28.37 344 P **P 04 42 54.0 +2.5**
baz=151
N30M Aishikik Lake 28.41 340 P **P 04 42 54.5 +2.6**
baz=146
O28M Mount Upton 28.78 337 P **P 04 42 58.3 +2.8**
baz=140
M30M Minto, Yukon 29.27 342 P **P 04 43 02.2 +2.7**
baz=147
BGLC Bering Glacier 29.35 334 P **P 04 43 03.0 +2.9**
baz=134
M29M Somme Creek 29.60 341 P **P 04 43 05.7 +3.2**
baz=144,SNR=6.6
YUK3 Moose Creek 29.64 338 P **P 04 43 06.2 +3.2**
baz=141
L29M L29M 30.05 342 P **P 04 43 08.7 +2.2**
baz=146
MCARA McCarthy VSAT 30.16 336 P **P 04 43 09.7 +2.4**
baz=136
BVCY Beaver Creek 30.25 339 P **P 04 43 10.7 +2.5**
baz=141
BUKO Buck Lake 30.36 60 IAmb IAmb 04 43 10.4
comp=Z,17nm,1.2s
SADO Sadowa 30.49 61 IAmb IAmb 04 43 12.1
comp=Z,9.3nm,0.9s
M27K Edge Creek, AK 30.51 338 P **P 04 43 13.4 +2.7**
baz=139
K29M Barlow Dome 30.52 343 P **P 04 43 13.8 +3.2**
baz=147,SNR=6.8
EYAK Cordova Ski Ar 30.54 333 P **P 04 43 13.5 +2.9**
baz=131
P23K Montague Islan 30.82 331 P **P 04 43 15.9 +2.7**
baz=128
N25K Chitina, Valde 30.85 335 P **P 04 43 15.8 +2.3**
baz=134
J30M Hart River 30.87 344 P **P 04 43 16.2 +2.5**
baz=150
M26K Nabesna, AK 30.89 337 P **P 04 43 16.3 +2.5**
baz=138
L27K Beaver Creek, 31.04 339 P **P 04 43 17.5 +2.4**
baz=140
DAWY Dawson 31.16 342 P **P 04 43 18.8 +2.5**
baz=145,SNR=6.9
KLU Klutina 31.23 334 P **P 04 43 19.6 +2.7**
baz=132
GLI Glacier Island 31.26 332 P **P 04 43 19.6 +2.6**
baz=130
I30M Mount Dempster 31.44 345 P **P 04 43 21.2 +2.5**
baz=150
L26K Log Cabin Wild 31.46 338 P **P 04 43 21.6 +2.7**
baz=138
H31M Peel River 31.56 347 P **P 04 43 22.3 +2.6**
baz=154
HARP HAARP 31.59 336 P **P 04 43 22.8 +2.8**
baz=134
SEW Seward 31.70 330 P **P 04 43 23.0 +2.1**
baz=126
PWL Port Wells 31.71 332 P **P 04 43 23.4 +2.3**
baz=128
M24K Tolsona, Glenn 31.73 335 P **P 04 43 23.8 +2.5**
baz=133
KDAK Kodiak Island 31.85 325 P **P 04 43 24.7 +2.5**
baz=118
K27K Chicken 31.85 340 P **P 04 43 24.5 +2.3**
baz=141
OHAK Old Harbor 31.93 323 P **P 04 43 25.2 +2.3**
baz=117
SCM Sheep Creek Mo 31.96 334 P **P 04 43 25.9 +2.6**
baz=131
I29M Ogilvie Camp, 31.98 344 P **P 04 43 26.2 +2.8**
baz=147
SII Sitkinak Islan 32.08 322 P **P 04 43 27.4 +3.0**
baz=115
PAX Paxson 32.10 336 P **P 04 43 27.5 +3.1**
baz=135
KNK Knik Glacier 32.11 332 P **P 04 43 27.5 +3.0**
baz=129
SCRK Sand Creek 32.37 339 P **P 04 43 29.7 +2.9**
baz=138,SNR=10
HOM Homer 32.37 328 P **P 04 43 29.1 +2.3**
baz=122
I28M Miner Creek 32.43 343 P **P 04 43 29.9 +2.4**
baz=145,SNR=13
RIDG Independent Ri 32.45 338 P **P 04 43 29.6 +2.1**
baz=136
PMR Palmer 32.47 332 P **P 04 43 30.5 +2.8**
baz=128
EPYK Eagle Plains 32.51 346 P **P 04 43 29.9 +1.8**
baz=151
G31M Satah River 32.56 348 P **P 04 43 31.0 +2.6**
baz=155
WAT6 Susitna Watana 32.60 335 P **P 04 43 31.2 +2.3**
baz=131,SNR=5.0
J26L Joseph Creek 32.63 340 P **P 04 43 31.5 +2.3**
baz=139,SNR=5.5
H29M Whitestone 32.72 345 P **P 04 43 32.2 +2.3**
baz=148
CAPN Captain Cook N 32.78 330 P **P 04 43 32.6 +2.3**
baz=124
K24K Donnelly Dome 32.78 337 P **P 04 43 32.8 +2.3**
baz=135
DHY Denali Highway 32.80 335 P **P 04 43 33.2 +2.5**
baz=132
Q19K Cape Douglas, 32.89 326 P **P 04 43 34.0 +2.6**
baz=119
F31M Tsiigehtchic 32.94 349 P **P 04 43 34.8 +3.1**
baz=156
M22K Willow 32.94 332 P **P 04 43 34.6 +2.8**
baz=127
G30M tAoh Zraii Nji 32.95 347 P **P 04 43 34.5 +2.6**
baz=152
SUA Susitna One 33.01 331 P **P 04 43 35.0 +2.5**
baz=126
O20K Slope Mountain 33.02 328 P **P 04 43 35.4 +2.8**
baz=122
WAT1 Susitna Watana 33.04 334 P **P 04 43 35.1 +2.4**
baz=130
P19K Oil Pt 33.06 327 P **P 04 43 35.1 +2.2**
baz=120
I26K Coal Creek Min 33.14 341 P **P 04 43 35.5 +2.1**
baz=140
J25K Salcha River, 33.24 339 P **P 04 43 36.7 +2.2**
baz=137,SNR=6.0
G29M Pine Creek 33.24 346 P **P 04 43 36.6 +2.2**
baz=149
Q18K Katmai Hardscr 33.39 325 P **P 04 43 37.9 +2.0**
baz=117
CUT Chulitna 33.40 333 P **P 04 43 38.2 +2.5**
baz=128
F30M Barrier River 33.44 348 P **P 04 43 38.4 +2.3**
baz=153
H27K Steamboat Moun 33.45 343 P **P 04 43 38.4 +2.1**
baz=144
HDA Harding Lake 33.58 337 P **P 04 43 39.4 +2.1**
baz=134
R17L Mt. Peulik Vol 33.60 323 P **P 04 43 39.1 +1.5**
baz=114,SNR=5.1
SKT Skwentna 33.62 332 P **P 04 43 39.5 +1.8**
baz=125
Q17K Contact Creek 33.64 324 P **P 04 43 39.1 +1.1**
baz=115,SNR=6.1
INK Inuvik 33.70 349 P **P 04 43 40.2 +1.9**
baz=156
MCK McKinley 33.76 335 P **P 04 43 40.8 +1.8**
baz=131
O19K Port Alsworth 33.81 328 P **P 04 43 41.2 +1.9**
baz=120
ILAR Eielson Array 33.81 338 P **P 04 43 40.4 +1.0**

comp=Z,4.5nm,0.9s,baz=159,slow=7.8,SNR=48
ILAR PcP **PcP** **04 46 19.9 +1.7**
comp=Z,1.2nm,0.8s,baz=163,slow=2.4,SNR=7.5
comp=Z,4.5nm,0.9s

P18K **Big Mountain,** 33.83 326 P **P** **04 43 41.1 +1.6**
baz=117
PRP **Porcupine Dome** 33.95 340 P **P** **04 43 42.3 +1.6**
baz=137
G27K **Doyon Strip** 33.95 343 P **P** **04 43 42.5 +1.9**
baz=144
O18K **Koktuh Hills** 34.03 327 P **P** **04 43 43.2 +1.8**
baz=118
TRF **Thorofare Moun** 34.05 334 P **P** **04 43 43.3 +1.6**
baz=129,SNR=7.8
CHGN **Chignik** 34.16 320 P **P** **04 43 44.2 +1.8**
baz=109
Q16K **King Salmon** 34.18 324 P **P** **04 43 44.4 +1.9**
baz=115
COLA **College** 34.18 338 *i* P **P** **04 43 44.0 +1.5**
COLA pmax pmax
comp=Z,5.0nm,1.0s
COLA **College** 34.18 338 P **P** **04 43 44.5 +2.0**
baz=134
N19K **Bonanza Creek** 34.18 329 P **P** **04 43 44.9 +2.1**
baz=120,SNR=6.2
M20K **Styx River** 34.19 331 P **P** **04 43 43.9 +1.1**
baz=123
CHNA **Chernabura Isl** 34.35 317 P **P** **04 43 45.0 +0.9**
baz=106
NEA2 **Nenana** 34.38 337 P **P** **04 43 46.2 +1.9**
baz=132,SNR=9.6
PPLA **Purkeypile** 34.40 333 P **P** **04 43 46.3 +1.6**
baz=126
E29M **Blow River** 34.50 347 P **P** **04 43 47.2 +1.9**
baz=150
G26K **Porcupine Rive** 34.58 342 P **P** **04 43 47.8 +1.8**
baz=141,SNR=9.3
H25L **Birch Creek** 34.59 340 P **P** **04 43 47.5 +1.4**
baz=138
CAST **Castle Rocks** 34.67 333 P **P** **04 43 48.2 +1.4**
baz=126
BPAW **Bear Paw Mtn.** 34.70 335 P **P** **04 43 47.8 +0.7**
baz=128,SNR=12
M19K **Big River Lodg** 34.71 330 P **P** **04 43 49.1 +1.9**
baz=122
N18K **Kilae Creek** 34.72 328 P **P** **04 43 49.3 +2.0**
baz=118
S14K **Fog Glacier** 34.76 319 P **P** **04 43 49.8 +2.1**
baz=108
L20K **Farewell, AK** 34.81 331 P **P** **04 43 50.7 +2.7**
baz=123,SNR=8.9
I23K **Minto, Yukon-K** 34.84 337 P **P** **04 43 50.6 +2.4**
baz=132
O17K **Koliganek Bris** 34.85 326 P **P** **04 43 50.4 +2.1**
baz=116
H24K **Noodor Dome** 34.86 339 P **P** **04 43 50.7 +2.2**
baz=134
SDPT **Sand Point** 34.98 317 P **P** **04 43 51.6 +2.1**
baz=106
E28M **Babbage River** 35.00 346 P **P** **04 43 52.2 +2.6**
baz=148
CHUM **Lake Minchumin** 35.03 334 P **P** **04 43 52.4 +2.5**
baz=127,SNR=8.3
G25K **Bearman Lake** 35.03 341 P **P** **04 43 51.9 +2.0**
baz=138
L19K **White Mountain** 35.04 330 P **P** **04 43 52.0 +2.0**
baz=121
E27K **Coleen River** 35.07 345 P **P** **04 43 52.0 +1.8**
baz=145
M18K **Stony River** 35.09 329 P **P** **04 43 51.7 +1.3**
baz=119,SNR=7.5
MLY **Manley** 35.20 336 P **P** **04 43 53.8 +2.3**
baz=130,SNR=9.6
N17K **Nushagak Hills** 35.22 327 P **P** **04 43 53.5 +2.0**
baz=116,SNR=6.3
O16K **Kokwok River B** 35.23 325 P **P** **04 43 53.9 +2.3**
baz=114
F26K **Sheenjek River** 35.25 343 P **P** **04 43 53.9 +2.1**
baz=141,SNR=8.1
H23K **Yukon River** 35.35 338 P **P** **04 43 54.4 +1.7**
baz=132,SNR=8.7
G24K **Hadwenzic Riv** 35.36 340 P **P** **04 43 54.9 +2.2**
baz=136
K20K **Telida** 35.37 332 P **P** **04 43 54.6 +1.8**
baz=124,SNR=24
F25K **Christian Rive** 35.54 342 P **P** **04 43 56.7 +2.4**
baz=139,SNR=5.1
M17K **Holitna River** 35.73 328 P **P** **04 43 58.0 +2.1**
baz=117,SNR=6.5
L18K **Granite Mounta** 35.80 330 P **P** **04 43 58.2 +1.6**
baz=119,SNR=8.4
J20K **Nowinta River** 35.86 334 P **P** **04 43 59.6 +2.6**
baz=125,SNR=11
O15K **Ungalikthiuk R** 35.88 324 P **P** **04 43 59.3 +2.0**
baz=112
N16K **Nishlik Lake** 35.91 326 P **P** **04 44 00.1 +2.6**
baz=114
E25K **Arctic Village** 35.92 343 P **P** **04 44 00.5 +3.0**
baz=140,SNR=5.6
H22K **Ishtalitna Cre** 35.97 337 P **P** **04 44 00.5 +2.6**
baz=130,SNR=14
F24K **Squaw Lake** 36.06 341 P **P** **04 44 01.8 +3.0**
baz=136
G23K **Bananza Creek** 36.09 339 P **P** **04 44 01.4 +2.3**
baz=133
M16K **Timber Creek** 36.22 327 P **P** **04 44 03.5 +3.4**
baz=115,SNR=5.7
H21K **Melozitna Rive** 36.27 336 P **P** **04 44 03.6 +3.0**
baz=128,SNR=14
J19K **Poorman** 36.30 333 P **P** **04 44 03.1 +2.3**
baz=123,SNR=14
I20K **Naaghedeneel** 36.33 334 P **P** **04 44 03.7 +2.7**
baz=125,SNR=6.3
N15K **Kwethluk River** 36.39 325 P **P** **04 44 03.3 +1.7**
baz=113
L17K **Donlin** 36.42 329 P **P** **04 44 03.1 +1.3**
baz=117,SNR=5.9
J18K **Innoko River** 36.43 332 P **P** **04 44 02.5 +0.6**
baz=121,SNR=7.9
COLD **Coldfoot** 36.50 339 P **P** **04 44 04.8 +2.4**
baz=133
O14K **Tigyukauivet M** 36.60 324 P **P** **04 44 05.2 +1.7**
baz=110
E24K **Your Creek** 36.62 341 P **P** **04 44 05.4 +1.8**
baz=136
G22K **Bettles** 36.67 338 P **P** **04 44 06.9 +2.9**
baz=131
C27K **Jago River** 36.69 345 P **P** **04 44 06.3 +2.3**
baz=144
K17K **Iditarod** 36.70 330 P **P** **04 44 06.6 +2.4**
baz=118,SNR=9.6
L16K **Owhat River** 36.74 328 P **P** **04 44 07.1 +2.6**
baz=115
M15K **Kasigluk River** 36.86 326 P **P** **04 44 08.4 +2.8**
baz=113
H20K **Anotleneega Mo** 36.87 335 P **P** **04 44 08.3 +2.7**
baz=125,SNR=10.0
E23K **Chandalar** 36.91 341 P **P** **04 44 09.3 +3.3**
baz=134
G21K **Allakaket** 37.03 337 P **P** **04 44 09.8 +2.8**
baz=128,SNR=7.3
D25K **Kavik River** 37.03 344 P **P** **04 44 10.2 +3.1**
baz=140
N14K **Kuskokwak Cree** 37.04 325 P **P** **04 44 09.9 +2.8**
baz=111
GCSA **Galena City Sc** 37.16 333 P **P** **04 44 11.0 +2.9**
baz=122
C26K **Camden Bay** 37.17 345 P **P** **04 44 11.4 +3.2**
baz=142
F22K **John River** 37.26 339 P **P** **04 44 12.0 +3.1**
baz=131
TOLK **Toolik Lake Re** 37.31 341 P **P** **04 44 12.3 +2.9**
baz=135
J17K **VABM Dome** 37.33 331 P **P** **04 44 11.4 +1.8**
baz=118
H19K **Roundabout Mou** 37.43 335 P **P** **04 44 12.8 +2.4**
baz=123,SNR=7.9
F21K **Alatna River** 37.46 338 P **P** **04 44 13.3 +2.6**
baz=129
M14K **Bethel** 37.46 326 P **P** **04 44 13.2 +2.6**
baz=111
D24K **Happy Valley** 37.49 342 P **P** **04 44 13.0 +2.2**
baz=136
E22K **Anaktuvuk Pass** 37.57 340 P **P** **04 44 14.1 +2.5**
baz=132
L15K **Ungalak Mounta** 37.60 327 P **P** **04 44 14.2 +2.3**
baz=113
D23K **Nanushuk River** 37.83 341 P **P** **04 44 16.1 +2.4**
baz=134,SNR=5.7

K15K **Wolf Creek Mou** 37.86 328 P **P** **04 44 16.4 +2.3**
baz=114
C24K **Franklin Bluff** 37.88 343 P **P** **04 44 16.7 +2.6**
baz=137
J16K **Anvik River** 37.89 330 P **P** **04 44 16.5 +2.2**
baz=116
H18K **Honhosa River** 37.91 333 P **P** **04 44 16.7 +2.2**
baz=121
G19K **Purcell Mounta** 37.99 335 P **P** **04 44 17.0 +1.9**
baz=123
M13K **Dall Lake** 37.99 325 P **P** **04 44 17.1 +2.0**
baz=109
L14K **Kuka Creek** 38.01 326 P **P** **04 44 17.1 +1.9**
baz=111
F20K **Avaraart Lake** 38.05 337 P **P** **04 44 17.8 +2.2**
baz=126
I17K **Unalakleet** 38.19 331 P **P** **04 44 19.1 +2.2**
baz=116
D22K **Ayikyak River** 38.30 340 P **P** **04 44 20.4 +2.7**
baz=131
E21K **Killik River** 38.38 339 P **P** **04 44 20.0 +1.6**
baz=129
H17K **Granite Mounta** 38.38 333 P **P** **04 44 20.3 +1.9**
baz=118
G18K **Tagagawik** 38.40 334 P **P** **04 44 20.4 +1.8**
baz=121
C23K **Itkillik River** 38.42 342 P **P** **04 44 21.0 +2.4**
baz=135
F19K **Shaleruckik Mo** 38.60 336 P **P** **04 44 22.5 +2.3**
baz=123,SNR=8.3
E19K **Redstone River** 38.77 337 P **P** **04 44 24.6 +2.9**
baz=124,SNR=10.0
J14K **Nanvaranak Lak** 38.91 328 P **P** **04 44 24.9 +2.1**
baz=112
E20K **Nigu River** 38.91 338 P **P** **04 44 24.9 +2.0**
baz=126
G17K **Kiwalik Mounta** 38.92 333 P **P** **04 44 25.5 +2.5**
baz=118,SNR=5.5
C21K **Knifeblade Rid** 39.06 340 P **P** **04 44 26.4 +2.3**
baz=129
K13K **Kusilvak Mount** 39.09 327 P **P** **04 44 26.8 +2.4**
baz=110
M11K **Mekoryuk** 39.33 324 P **P** **04 44 29.2 +2.8**
baz=106
SCHQ **Scheffer Ville** 39.45 45 P **P** **04 44 27.9 +0.4**
comp=Z,11nm,1.1s,baz=277,slow=7.9,SNR=7.9
comp=Z,11nm,1.1s
B22K **Teshekpuk Lake** 39.47 342 P **P** **04 44 29.9 +2.5**
baz=132
G16K **Koyuk River** 39.51 332 P **P** **04 44 29.8 +2.0**
baz=116
F17K **Baldwin Pennin** 39.59 334 P **P** **04 44 30.5 +2.0**
baz=119
G15K **Nuiklik** 39.98 331 P **P** **04 44 33.9 +2.2**
baz=114
E17K **Hotham Inlet** 40.10 335 P **P** **04 44 35.2 +2.4**
baz=119
P08K **Saint George I** 40.23 318 P **P** **04 44 36.2 +2.3**
baz=98
B20K **Meade River** 40.24 340 P **P** **04 44 36.2 +2.3**
baz=127
C18K **Utukok River** 40.67 337 P **P** **04 44 39.4 +1.8**
baz=121
D17K **Noatak River** 40.82 335 P **P** **04 44 41.0 +2.3**
baz=118
BILL **Bilibino** 52.11 332 *i* P **P** **04 46 07.5 +0.2**
BILL pmax pmax
comp=Z,4.0nm,1.1s
SEY **Seymchan** 58.73 328 *i* P **P** **04 46 56.6 +1.6**
SEY pmax pmax
comp=Z,5.0nm,1.3s
PETK **Petropavlovsk-** 59.24 316 P **P** **04 46 57.3 -1.4**
comp=Z,7.7nm,0.6s,baz=75,slow=12,SNR=7.5
comp=Z,2.7nm,0.6s
MA2 **Magadan** 60.59 324 *i* P **P** **04 47 09.4 +1.5**
MA2 pmax pmax
comp=Z,13nm,0.9s
NNA **Nana** 61.27 133 *i* P **P** **04 47 14.5 +1.5**
NNA pmax pmax
comp=Z,16nm,1.0s
TIXI **Tiksi** 63.20 341 *ce* P **P** **04 47 26.9 +1.7**
TIXI pmax pmax
comp=Z,8.0nm,1.3s
YAK **Yakutsk** 68.47 332 *i* P **P** **04 48 01.0 +1.7**
YAK pmax pmax
comp=Z,13nm,0.8s
LPAZ **La Paz** 69.92 129 P **P** **04 48 08.6 -1.1**
comp=Z,2.4nm,0.8s,baz=352,slow=7.9,SNR=8.8
comp=Z,2.4nm,0.8s
YSS **Yuzhno-Sakhali** 70.57 314 *eP* **P** **04 48 12.4 -0.2**
YSS pmax pmax
comp=Z,10.0nm,1.1s
NRIK **Noril'sk** 73.47 351 *i* P **P** **04 48 31.4 +1.8**
NRIK pmax pmax
comp=Z,5.0nm,1.5s
ZEA **Zeya** 74.64 326 *eP* **P** **04 48 37.8 +1.1**
NB2 **NORSAR Subarra** 74.87 23 P **P** **04 48 38.2 +0.2**
comp=Z,1.3nm,0.9s,baz=318,slow=6.2
NOA **NORSAR Array B** 74.87 23 P **P** **04 48 38.2 +0.2**
comp=Z,1.3nm,0.2s,baz=318,slow=5.7,SNR=5.1
comp=Z,1.3nm,0.2s
KLR **Kul'dur** 75.31 321 *i* P **P** **04 48 41.1 +0.4**
KLR pmax pmax
comp=Z,5.0nm,1.5s
HFS **Hagfors** 76.36 23 P **P** **04 48 46.4 0.0**
comp=Z,6.8nm,1.0s,baz=149,slow=3.1,SNR=3.7
comp=Z,6.8nm,1.0s
USA0B **Ussuriysk Arra** 78.32 316 *i* P **P** **04 48 58.6 +0.9**
USRK **Ussuriysk Ar.** 78.32 316 P **P** **04 48 57.5 -0.2**
comp=Z,4.4nm,0.8s,baz=54,slow=2.9,SNR=7.3
comp=Z,4.4nm,0.8s
FINES **FINESS Array B** 78.67 17 P **P** **04 48 58.6 -0.7**
comp=Z,1.0nm,0.7s,baz=50,slow=15,SNR=1.6
comp=Z,1.0nm,0.7s
MJAR **Matsushiro Arr** 79.25 307 P **P** **04 49 04.4 +1.4**
comp=Z,0.9nm,0.3s,baz=37,slow=4.7,SNR=5.0
comp=Z,0.9nm,0.3s
PCAB **Cabril** 79.53 46 *eP* **P** **04 49 06.2 +1.7**
PCAB *i* IAmb IAmb 04 49 26.0
comp=Z,31nm,2.1s
MSHR **Mys Shultsa** 79.82 316 *i* P **P** **04 49 05.6 -0.3**
MSHR pmax pmax
comp=Z,24nm,1.0s
POLO **Lamas de Olo** 79.88 46 *eP* **P** **04 49 07.0 +0.5**
POLO *i* IAmb IAmb 04 49 09.2
comp=Z,12nm,1.5s
PVRL **Vila Real** 79.99 46 *eP* **P** **04 49 08.4 +1.4**
PVRL *i* IAmb IAmb 04 49 28.5
comp=Z,20nm,1.7s
PBRG **Braganca** 80.22 45 *eP* **P** **04 49 10.0 +1.8**
PBRG *i* IAmb IAmb 04 49 13.2
comp=Z,65nm,1.8s
PVIS **Viseu** 80.24 47 *eP* **P** **04 49 09.5 +1.1**
PCAS **Casmilo, Conde** 80.30 47 *eP* **P** **04 49 09.4 +0.8**
PCAS *i* IAmb IAmb 04 49 12.6
comp=Z,32nm,1.7s
MVO **Moncorvo** 80.46 46 *eP* **P** **04 49 11.2 +1.6**
MVO *i* IAmb IAmb 04 49 12.8
comp=Z,56nm,2.0s
MTE **Manteigas** 80.64 47 *eP* **P** **04 49 12.1 +1.5**
MTE *i* IAmb IAmb 04 49 24.7
comp=Z,18nm,1.7s
PSARD **Sardoal** 80.78 48 *eP* **P** **04 49 12.4 +1.2**
PSARD *i* IAmb IAmb 04 49 13.3
comp=Z,50nm,1.6s
PCBR **Castelo Branco** 81.04 47 *eP* **P** **04 49 14.2 +1.6**
PCBR *i* IAmb IAmb 04 49 33.2
comp=Z,17nm,1.5s
PMRV **Marv??o** 81.35 47 *eP* **P** **04 49 16.0 +1.7**
PMRV *i* IAmb IAmb 04 49 20.4
comp=Z,18nm,1.7s
EVO **Evora** 81.55 48 *eP* **P** **04 49 17.1 +1.8**
EVO *i* IAmb IAmb 04 49 19.7
comp=Z,22nm,1.7s
PTEO **Sao Teotonio** 81.73 49 *eP* P **04 49 19.6 +3.3**
PTEO *i* IAmb IAmb 04 49 25.1
comp=Z,42nm,1.9s
KLMR **Klimovskoe** 81.85 11 *eP* P **04 49 02.9 -14**
KLMR pmax pmax
comp=Z,10.0nm,1.4s
MORF **Marmelete** 81.93 50 *eP* **P** **04 49 19.2 +1.8**
MORF *i* IAmb IAmb 04 49 32.3
comp=Z,21nm,1.4s
PCVE **Castro Verde** 82.10 49 *eP* **P** **04 49 20.0 +1.7**
PCVE *i* IAmb IAmb 04 49 20.5
comp=Z,24nm,2.7s
CLL **Collm** 83.03 29 *eP* **P** **04 49 25.0 +2.2**

ESDC **Sonseca Array** 83.21 45 P **P** **04 49 25.0 +0.9**
comp=Z,1.4nm,0.7s,baz=310,slow=5.5,SNR=17
comp=Z,1.4nm,0.7s
BFO **Black Forest** 83.38 33 *i* P P 04 49 29.0 +4.3
KSRS **Korea Array** 85.04 313 P **P** **04 49 33.1 -0.2**
comp=Z,2.7nm,0.9s,baz=59,slow=5.1,SNR=7.3
comp=Z,2.7nm,0.9s
GERES **GERESS Array B** 85.25 30 P **P** **04 49 35.3 +1.0**
comp=Z,0.8nm,0.8s,baz=316,slow=3.7,SNR=6.8
comp=Z,0.8nm,0.8s
MNK **Minsk** 85.25 19 *i* P **P** **04 49 34.6 +0.5**
MNK *i* 04 49 37.5
MNK *i* 04 52 52.1
MNK *i* PPP PPP 04 54 45.2
MNK *i* S **SKSac** **04 59 59.4 +0.5**
MNK *i* SS **SS** **05 05 41.1 +4.3**
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=Z,9.0nm,0.6s
MNK pmax pmax
comp=E,12nm,0.8s
KIRV **Kirov** 85.30 7 *i* P **P** **04 49 35.9 +1.7**
OBN **Obninsk** 86.75 14 *i* P **P** **04 49 39.7 -1.7**
OBN pmax pmax
comp=Z,8.0nm,1.1s
PLCA **Paso Flores** 87.67 146 P **P** **04 49 46.1 +0.2**
comp=Z,5.0nm,1.2s,baz=353,slow=2.2,SNR=3.0
comp=Z,5.0nm,1.2s
SONM **Songino Array** 87.83 332 P **P** **04 49 46.7 -0.3**
comp=Z,0.7nm,0.6s,baz=11,slow=1.5,SNR=4.8
comp=Z,0.7nm,0.6s
ARTI **Arti** 88.06 2 P **P** **04 49 50.3 +2.6**
ARTI S **SKSac** **05 00 18.4 +2.2**
ZALV **Zalesovo Beam** 88.46 347 P **P** **04 49 49.8 +0.1**
comp=Z,1.1nm,0.5s,baz=350,slow=6.6,SNR=4.8
comp=Z,1.1nm,0.5s
ZALV **Zalesovo Beam** 88.46 347 *i* P **P** **04 49 51.5 +1.8**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
AKASG **Malin Array Be** 89.02 20 P **P** **04 49 52.2 -0.2**
comp=Z,1.3nm,0.6s,baz=322,slow=3.8,SNR=7.9
comp=Z,1.3nm,0.6s
AKASG **Malin Array Be** 89.02 20 *i* P **P** **04 49 52.2 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB **Malin Array Si** 89.02 20 *ce* P **P** **04 49 52.5 +0.1**
AKBB pmax pmax
comp=Z,3.0nm,0.9s
BRVK **Borovoye** 91.18 355 *ce* P **P** **04 50 02.7 +0.3**
BRVK pmax pmax
comp=Z,8.0nm,1.3s
BVAR **Borovoye Array** 91.21 355 P **P** **04 50 02.4 -0.2**
comp=Z,1.3nm,0.6s,baz=329,slow=2.6,SNR=8.8
comp=Z,1.3nm,0.6s
KURK **Kurchatov** 92.61 350 *i* P **P** **04 50 10.5 +1.4**
KURK pmax pmax
comp=Z,2.0nm,1.1s
KURBB **Kurchatov Arra** 92.71 350 P **P** **04 50 08.7 -0.8**
comp=Z,0.8nm,0.9s,baz=12,slow=4.2,SNR=6.3
comp=Z,0.8nm,0.9s
ABKAR **Akbulak array** 95.24 2 IAmb IAmb 04 50 25.5
comp=Z,8.0nm,1.8s
MK31 **Makanchi Array** 95.78 346 *i* P **P** **04 50 25.0 +1.2**
MKAR **Makanchi Array** 95.78 346 P **P** **04 50 23.6 -0.2**
comp=Z,0.4nm,0.8s,baz=25,slow=3.2,SNR=4.2
MKAR LR LR 05 41 09.9
comp=Z,4µm,18.7s,baz=208,slow=40
comp=Z,0.4nm,0.8s
KIV **Kislovodsk** 98.59 14 *e* P Pdif 04 50 35.5 -1.1
KIV pmax pmax
comp=Z,5.0nm,1.1s
SHA1 **Shidzhatmaz** 98.79 14 *i* P Pdif 04 50 38.4 +0.7
KBZ **Khabaz** 98.85 14 *i* P Pdif 04 50 39.5 +1.9
KBZ pmax pmax
comp=Z,1.0nm,1.1s
ASAR **Alice Springs** 117.88 260 PKP **PKiKP** **04 55 45.5 +0.9**
comp=Z,0.2nm,0.3s,baz=65,slow=3.0,SNR=2.7
QSPA **South Pole Qui** 125.68 180 PKP **PKiKP** **04 55 58.5 -0.1**
comp=Z,2.1nm,0.7s,baz=119,slow=2.0,SNR=6.5
SNAA **Sanae** 131.40 158 PKP **PKiKP** **04 56 08.5 -1.4**
comp=Z,3.3nm,1.2s,baz=40,slow=3.2,SNR=4.5
SNAA **Sanae** 131.40 158 *c* iPKIKP **PKPdf** **04 56 07.8 -1.2**
SNAA pmax pmax
comp=Z,4.0nm,1.3s
BOSA **Boshof** 148.00 88 PKPbc **PKPbc** **04 56 42.5 -0.9**
comp=Z,4.6nm,1.0s,baz=27,slow=4.2,SNR=4.4
MAW **Mawson** 148.20 180 PKPbc **PKiKP** **04 56 42.1 -2.1**
comp=Z,16nm,1.0s,baz=204,slow=3.4,SNR=13

NEIC ***06*** *04:39:09.8±0.8, 35.892N±0.009×117.75W±0.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.9km az=288.0*

PAS 06 04:39:10.1±0.9, 35.89N±0.01×117.742W±0.009, h7km±2km, ML3.1/10, ML3.4/12(NEIC)**, Error ellipse: s-maj=1.6km s-min=1.0km az=176.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**315**		Pg	04 39 12.2	0.0
WNMM	**Nine Mile Cany**	**0.14**	**251**		Pg	04 39 13.2	+0.2
WNMM					Sg	04 39 15.5	+0.6
WRVM	**Rose V. Centra**	**0.17**	**315**		Pg	04 39 13.6	0.0
MFS	**McCloud Flat S**	**0.24**	**338**		Pg	04 39 15.0	0.0
MFS					Sg	04 39 18.6	+0.3
WORM	**Onyx Ranch**	**0.45**	**245**		Pg	04 39 18.5	-0.3
CCCA	**Chr Cany lake**	**0.48**	**140**		Pg	04 39 19.2	-0.1
CCCA					Sg	04 39 26.0	+0.5
WBSM	**Bird Springs**	**0.48**	**223**		Pg	04 39 19.0	-0.3
WHFM	**Hanning Flat**	**0.53**	**249**		Pg	04 39 20.1	-0.3
WHFM					Sg	04 39 27.1	-0.1
CWC	**Cottonwood Cre**	**0.61**	**334**		Sg	04 39 29.9	-0.1
SPG2	**Springville 2**	**0.89**	**291**		Sg	04 39 38.4	-0.2
GWY	**Greenwater Val**	**0.92**	**71**	Pg	Pg	04 39 26.6	-1.2
GWY				IAML		04 39 41.2	
	comp=N,1µm,1.4s						
GWY				IAML		04 39 41.3	
	comp=E,1µm,1.2s						
GRAC	**Grapevine Rang**	**1.15**	**15**	Pg	Pg	04 39 31.4	-0.6
ARVC	**Arvin**	**1.17**	**230**		Pg	04 39 31.8	-0.7
WCT	**Wildcat Mounta**	**1.27**	**45**		Pn	04 39 33.8	-0.6
WCT				IAML		04 39 41.9	
	comp=E,752nm,1.8s						
GMN	**Gold Mountain**	**1.46**	**15**		Pn	04 39 37.2	+0.1
GMN				IAML		04 39 44.4	
	comp=N,561nm,2.5s						
GMN				IAML		04 39 45.8	
	comp=E,516nm,2.1s						
DSP	**Deep Springs**	**1.49**	**353**		Pn	04 39 37.3	+0.1
DSP				IAML		04 39 57.5	
	comp=E,707nm,2.8s						

PAS ***06*** *04:40:16.0±1.1, 35.643N±0.009×117.45W±0.01, h3km±2km, ML4.5/29, mb4.2/6(NEIC), ML4.4/56(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=217.0*

IDC ***06*** *04:40:15.8±0.6, 35.63N×117.35W, h0km, mb4.0/9, mbtmp4.0/13, ML4.6/3, Error ellipse: s-maj=16.9km s-min=5.8km az=72.0*

NEIC ***06*** *04:40:15.4±1.0, 35.640N±0.009×117.435W±0.007, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.5km az=180.0*

ISC 06 04:40:16.1±1.0, 35.63N±0.02×117.43W±0.02, h4km±7km, n86, σ0.87/106, mb4.2/12, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.12**	**154**		**Pg**	**04 40 18.8**	**+0.3**
CCCA					**Sg**	**04 40 21.9**	**+1.8**
CLC	**China Lake**	**0.23**	**323**		**Pg**	**04 40 20.2**	**-0.4**
CLC					**Sg**	**04 40 23.5**	**-0.2**
LRMC	**Laurel Mtn Rad**	**0.26**	**234**		**Pg**	**04 40 21.0**	**-0.1**
LRMC					**Sg**	**04 40 24.8**	**+0.3**
SRTC	**Snort**	**0.27**	**283**		**Pg**	**04 40 21.4**	**0.0**
SRTC					**Sg**	**04 40 25.9**	**+1.1**
TOW	**Tower One**	**0.33**	**303**		**Pg**	**04 40 22.5**	**+0.1**
TOW					**Sg**	**04 40 27.7**	**+1.0**
MPMC	**Manual Prospec**	**0.43**	**353**		**Pg**	**04 40 23.9**	**-0.5**
MPMC					**Sg**	**04 40 29.9**	**-0.2**
WNMM	**Nine Mile Cany**	**0.44**	**299**		**Pg**	**04 40 24.3**	**-0.3**
WVPM	**Volcano Peak E**	**0.45**	**315**		**Pg**	**04 40 24.4**	**-0.4**
JRC2	**Joshua Ridge**	**0.47**	**319**		**Pg**	**04 40 24.4**	**-0.7**
JRC2					**Sg**	**04 40 31.2**	**0.0**

WCSM	**Coso Springs S**	**0.48**	**325**			**Sg**	**04 40 31.4**	**-0.3**
DTP	**Desert Tortois**	**0.50**	**223**			**Pg**	**04 40 25.4**	**-0.3**
DTP						**Sg**	**04 40 32.2**	**0.0**
WRVM	**Rose V. Centra**	**0.53**	**315**			**Pg**	**04 40 25.9**	**-0.5**
WRVM						**Sg**	**04 40 33.0**	**-0.3**
QSM	**Queen of Sheba**	**0.56**	**54**			**Sg**	**04 40 34.6**	**+0.3**
QSM	**Queen of Sheba**	**0.56**	**54**			**Pg**	**04 40 27.0**	**0.0**
QSM					IAML		04 40 35.3	
	comp=N,15µm,0.7s							
QSM					IAML		04 40 38.0	
	comp=E,13µm,0.7s							
WBSM	**Bird Springs**	**0.59**	**261**			**Pn**	**04 40 35.0**	**+3.5**
MFS	**McCloud Flat S**	**0.60**	**325**			**Pg**	**04 40 27.1**	**-0.5**
MFS						**Sg**	**04 40 35.1**	**-0.2**
GSC	**Goldstone, Bar**	**0.60**	**123**			**Sg**	**04 40 36.6**	**+1.0**
GSC	**Goldstone, Bar**	**0.60**	**123**			**Pg**	**04 40 27.9**	**+0.1**
GSC					IAML		04 40 36.9	
	comp=N,47µm,0.5s							
GSC					IAML		04 40 41.2	
	comp=E,36µm,0.5s							
WORM	**Onyx Ranch**	**0.67**	**276**			**Pg**	**04 40 28.2**	**-0.8**
WORM						**Sg**	**04 40 36.8**	**-0.7**
CCAC	**Calif City Air**	**0.68**	**225**			**Sg**	**04 40 38.2**	**+0.2**
CCAC	**Calif City Air**	**0.68**	**225**			**Pg**	**04 40 28.6**	**-0.6**
CCAC					IAML		04 40 47.0	
	comp=E,19µm,0.7s							
WHFM	**Hanning Flat**	**0.75**	**275**			**Pg**	**04 40 29.8**	**-0.8**
WHFM						**Sg**	**04 40 39.8**	**-0.5**
HYS	**Haystack Butte**	**0.78**	**189**			**Pg**	**04 40 30.5**	**-0.5**
HYS						**Sg**	**04 40 41.2**	**+0.1**
GWY	**Greenwater Val**	**0.83**	**48**			**Pg**	**04 40 31.5**	**-0.6**
GWY						**Sg**	**04 40 42.4**	**-0.4**
GWY					IAML		04 40 48.2	
	comp=N,17µm,0.7s							
GWY					IAML		04 40 48.2	
	comp=E,14µm,0.7s							
RRX	**Edison Barstow**	**0.83**	**155**			**Pg**	**04 40 30.8**	**-1.3**
ISA	**Isabella, Lake**	**0.85**	**272**			**Sg**	**04 40 42.8**	**-0.7**
ISA	**Isabella, Lake**	**0.85**	**272**			**Pg**	**04 40 31.4**	**-1.1**
ISA					IAML		04 40 46.6	
	comp=E,15µm,0.4s							
EDW2	**Edwards Air Fo**	**0.88**	**212**			**Pg**	**04 40 32.3**	**-0.7**
EDW2						**Sg**	**04 40 44.1**	**-0.4**
WASM	**Alta Sierra Ca**	**0.93**	**277**			**Pg**	**04 40 32.9**	**-1.0**
WASM						**Sg**	**04 40 45.3**	**-0.6**
FURC	**Furnace Creek,**	**0.95**	**29**			**Sg**	**04 40 47.0**	**+0.3**
CGO	**Cerro Gordo**	**0.97**	**342**			**Sb**	**04 40 48.1**	**-0.9**
SHOC	**Shoshone, Teco**	**0.97**	**74**			**Pb**	**04 40 35.1**	**-0.5**
SBB	**Saddle Back Bu**	**1.00**	**199**			**Pg**	**04 40 34.5**	**-0.7**
SBB						**Sg**	**04 40 47.5**	**-0.7**
TPO	**Tropico Hills**	**1.00**	**221**			**Pg**	**04 40 34.5**	**-0.8**
TPO						**Sg**	**04 40 48.3**	**+0.2**
TEJ	**El Tejon**	**1.10**	**249**			**Pg**	**04 40 35.9**	**-1.4**
TEJ						**Sg**	**04 40 50.4**	**-1.2**
DSCC	**Desert Studies**	**1.19**	**114**			**Pg**	**04 40 37.9**	**-1.0**
SPG2	**Springville 2**	**1.23**	**298**			**Pg**	**04 40 38.3**	**-1.4**
TUQ	**Turquoise Moun**	**1.24**	**99**			**Pg**	**04 40 39.3**	**-0.7**
WCT	**Wildcat Mounta**	**1.33**	**29**			**Pg**	**04 40 41.1**	**-0.5**
WCT					IAML		04 41 00.4	
	comp=N,4µm,0.5s							
WCT					IAML		04 41 01.3	
	comp=E,6µm,0.5s							
GRAC	**Grapevine Rang**	**1.36**	**2**			**Pn**	**04 40 41.1**	**-1.0**
GRAC					IAML		04 41 04.6	
	comp=E,7µm,0.9s							
BBRC	**Big Bear Solar**	**1.43**	**163**			**Pn**	**04 40 43.2**	**+0.1**
PASC	**Pasadena Art C**	**1.58**	**203**			**Pn**	**04 40 44.1**	**-0.9**
PASC					IAML		04 41 08.8	
	comp=N,4µm,0.5s							
PASC					IAML		04 41 11.2	
	comp=E,4µm,0.6s							
GTM	**Goat Mountain**	**1.60**	**146**			**Pb**	**04 40 45.8**	**-0.5**
CFT	**Crafton Hills**	**1.61**	**171**			**Pn**	**04 40 44.8**	**-0.7**
TPNV	**Topopah Spring**	**1.62**	**36**			**Pn**	**04 40 45.1**	**-0.7**
TPNV					IAML		04 41 10.8	
	comp=E,4µm,0.9s							
TPNV					IAML		04 41 11.7	
	comp=E,5µm,0.8s							
GMN	**Gold Mountain**	**1.67**	**5**			**Pn**	**04 40 46.2**	**-0.3**
VOG	**Valley Oaks Go**	**1.73**	**294**			**Pb**	**04 40 48.4**	**-0.1**
BCW	**Bitter Crk WRg**	**1.76**	**248**			**Pn**	**04 40 47.4**	**-0.2**
BCW					IAML		04 41 12.4	
	comp=N,5µm,0.6s							
BCW					IAML		04 41 22.6	
	comp=E,6µm,1.1s							
DSP	**Deep Springs**	**1.79**	**346**			**Pn**	**04 40 47.3**	**-0.6**
BHPR	**Bishop**	**1.87**	**333**			**Pb**	**04 40 51.0**	**-0.1**
TPC	**Twentynine Pal**	**1.90**	**143**			**Pn**	**04 40 48.5**	**-1.0**
CRGC	**CRocker Grade**	**1.92**	**259**			**Pb**	**04 40 51.3**	**-0.4**
MTUM	**Tungsten Hills**	**1.95**	**332**			**Pb**	**04 40 52.3**	**0.0**
ELS	**Elsinore Mount**	**1.98**	**180**			**Pn**	**04 40 49.9**	**-0.6**
PFO	**Pinyon Flats O**	**2.17**	**158**	Pn		**Pn**	**04 40 51.6**	**-1.6**
	comp=E,79nm,0.3s,baz=335,slow=16,SNR=10							
PFO				Pg		**Pb**	**04 40 56.0**	**-0.1**
	comp=E,81nm,0.3s,baz=328,slow=15,SNR=8.4							
PFO				Lg		Lg	04 41 23.7	
	comp=E,402nm,0.3s,baz=70,slow=11,SNR=13							
	comp=E,135nm,0.3s							
PMPB	**Monarch Peak**	**2.80**	**283**	Pn		**Pn**	**04 41 00.9**	**-1.0**
PMPB					IAML		04 41 50.7	
	comp=N,2µm,0.8s							
NVAR	**Mina Array Bea**	**2.88**	**346**	Pn		**Pn**	**04 41 03.4**	**+0.3**
	comp=N,67nm,0.3s,baz=167,slow=12,SNR=8.0							
NVAR				Pg		**Pb**	**04 41 09.1**	**+0.8**
	comp=N,67nm,0.3s,baz=164,slow=17,SNR=7.5							
NVAR				Lg		Lg	04 41 47.1	
	comp=N,37nm,0.3s,baz=173,slow=33,SNR=2.2							
	comp=N,25nm,0.5s							
W13A	**Hualapai Mount**	**2.94**	**99**	Pn		**Pn**	**04 41 03.2**	**-0.7**
W13A					IAML		04 42 02.2	
	comp=N,850nm,1.0s							
TJX	**Tijuana**	**3.13**	**174**	Pn		**Pn**	**04 41 06.6**	**+0.3**
TJX					IAML		04 42 10.2	
	comp=N,2µm,0.8s							
TKX	**Tecate**	**3.13**	**167**			**Pn**	**04 41 05.7**	**-0.7**
GLA	**Glamis**	**3.35**	**139**	Pn		**Pn**	**04 41 07.6**	**-1.8**
CBX	**Cerro Bola**	**3.37**	**169**			**Pn**	**04 41 09.9**	**+0.2**
CBX					IAML		04 42 05.8	
	comp=N,1µm,0.7s							
SAO	**San Andreas Ge**	**3.44**	**290**	Pn		**Pn**	**04 41 09.7**	**-0.9**
CCX	**Cicese**	**3.81**	**170**	Pn		**Pn**	**04 41 15.4**	**-0.2**
CCX					IAML		04 42 17.6	
	comp=N,364nm,0.7s							
CCX					IAML		04 42 21.0	
	comp=E,458nm,0.6s							
ESJX	**Sierra Juarez**	**3.82**	**161**	Pn		**Pn**	**04 41 15.3**	**-0.6**
ESJX					IAML		04 42 23.0	
	comp=E,375nm,1.3s							
Y14A	**Wickenburg**	**4.01**	**114**	Pn		**Pn**	**04 41 17.8**	**-0.7**
Y14A					IAML		04 42 27.2	
	comp=E,587nm,0.5s							
Y14A					IAML		04 42 28.8	
	comp=N,826nm,0.9s							
SFX	**San Felipe**	**5.06**	**154**	IAML			04 42 18.3	
	comp=N,144nm,3.2s							
SFX					IAML		04 43 16.4	
	comp=E,188nm,1.4s							
214A	**Organ Pipe Nat**	**5.31**	**132**	Pn		**Pn**	**04 41 34.1**	**-2.3**
214A					IAML		04 43 12.4	
	comp=E,267nm,1.2s							
214A					IAML		04 43 20.3	
	comp=N,220nm,1.7s							
ELK	**Elko**	**5.39**	**18**	Pn		**Pn**	**04 41 38.2**	**+0.6**
	comp=N,25nm,0.9s,baz=226,slow=21,SNR=0.6							
ELK				Sn		**Sn**	**04 42 39.8**	**-0.4**
	comp=N,3.7nm,0.3s,baz=227,slow=12,SNR=1.4							
ELK				Lg		Lg	04 43 04.8	
	comp=N,14nm,0.3s,baz=166,slow=16,SNR=6.6							
YBH	**Yreka Blue Hor**	**7.36**	**327**	Pn		**Pn**	**04 42 06.9**	**+2.4**
	baz=179,slow=13							
YBH				Lg		Lg	04 44 07.4	
	baz=143,slow=12,SNR=3.7							
HRY	**Holter Researc**	**11.84**	**19**			**Pn**	**04 43 04.2**	**-1.8**
TXAR	**Lajitas Array**	**13.20**	**115**	Pn		**Pn**	**04 43 25.4**	**+0.9**
	comp=N,0.5nm,0.3s,baz=292,slow=13,SNR=12							
TXAR				Lg		Lg	04 47 10.7	
	comp=N,0.1nm,0.3s,baz=284,slow=27,SNR=7.9							
	comp=N,1.0nm,0.4s							
ULM	**Lac du Bonnet**	**21.39**	**40**			**P**	**04 45 04.9**	**+0.1**
ULM					IAmb	IAmb	04 45 08.8	
	comp=Z,9.0nm,0.8s							
ULM	**Lac du Bonnet**	**21.39**	**40**	P		**P**	**04 45 05.4**	**+0.6**
	comp=Z,8.9nm,0.7s,baz=233,slow=9.5,SNR=8.5							
	comp=Z,8.9nm,0.7s							
FFC	**Flin Flon**	**21.89**	**24**			**P**	**04 45 10.0**	**0.0**
FFC					IAmb	IAmb	04 45 13.2	
	comp=Z,9.1nm,0.9s							
ILAR	**Eielson Array**	**34.10**	**338**	P		**P**	**04 47 03.0**	**+1.3**
	comp=Z,1.4nm,1.1s,baz=150,slow=7.1,SNR=4.7							
	comp=Z,1.4nm,1.1s							
K20K	**Telida**	**35.67**	**333**			**P**	**04 47 16.2**	**+1.0**
K20K					IAmb	IAmb	04 47 19.0	
	comp=Z,6.8nm,0.9s							
J19K	**Poorman**	**36.60**	**333**	IAmb		IAmb	04 47 26.3	
	comp=Z,4.2nm,0.9s							
K17K	**Iditarod**	**37.00**	**330**			**P**	**04 47 27.4**	**+0.8**
PETK	**Petropavlovsk-**	**59.56**	**316**	P		**P**	**04 50 20.9**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=82,slow=12,SNR=5.1							
	comp=Z,3.1nm,0.9s							
LPAZ	**La Paz**	**69.60**	**129**	P		**P**	**04 51 27.0**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=322,slow=7.9,SNR=4.4							
	comp=Z,0.9nm,0.8s							
ARCES	**ARCESS Array B**	**71.68**	**13**	P		**P**	**04 51 39.9**	**+1.1**
	comp=Z,1.7nm,0.9s,baz=1.5,slow=10,SNR=1.4							
	comp=Z,1.7nm,0.9s							
HFS	**Hagfors**	**76.47**	**23**	P		**P**	**04 52 06.7**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=321,slow=5.5,SNR=1.3							
	comp=Z,1.2nm,0.7s							
USRK	**Ussuriysk Ar.**	**78.64**	**317**	P		**P**	**04 52 19.2**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=90,slow=7.2,SNR=3.0							
	comp=Z,2.9nm,0.9s							
BVAR	**Borovoye Array**	**91.45**	**355**	P		**P**	**04 53 23.0**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=46,slow=4.2,SNR=3.7							
	comp=Z,0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**92.97**	**350**	P		**P**	**04 53 31.7**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=21,slow=4.6,SNR=2.6							
	comp=Z,0.1nm,0.3s							

*NEIC **06** 04:41:49.0±1.5, 35.878N±0.008×117.671W±0.007, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.5km az=121.0*

PAS 06 04:41:49.1±1.2, **35.879N**±0.009×**117.690W**±0.009, **h1**km±1km, **ML3.6**/15, **ML3.4**/22(NEIC), **Error ellipse: s-maj=1.3km s-min=1.0km az=186.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.12**	**304**		Pg	04 41 52.0	+0.4
SRTC	**Snort**	**0.19**	**195**		Pg	04 41 53.6	+0.8
SRTC					Sg	04 41 57.6	+2.2
WRVM	**Rose V. Centra**	**0.21**	**308**		Pg	04 41 53.3	+0.2
MFS	**McCloud Flat S**	**0.27**	**331**		Pg	04 41 54.4	0.0
WORM	**Onyx Ranch**	**0.48**	**248**		Pg	04 41 58.6	+0.1
WBSM	**Bird Springs**	**0.50**	**227**		Pn	04 42 05.8	+2.3
WHFM	**Hanning Flat**	**0.57**	**251**		Pg	04 41 60.0	0.0
CWC	**Cottonwood Cre**	**0.64**	**331**		Pg	04 42 01.6	+0.2
QSM	**Queen of Sheba**	**0.67**	**82**		Pg	04 42 02.3	+0.3
QSM				IAML		04 42 11.1	
	comp=N,2µm,0.6s						
QSM				IAML		04 42 12.6	
	comp=E,2µm,0.3s						
ISA	**Isabella, Lake**	**0.67**	**252**	Pg	Pg	04 42 01.9	-0.2
ISA				IAML		04 42 10.9	
	comp=N,2µm,0.3s						
ISA				IAML		04 42 12.4	
	comp=E,2µm,0.3s						
CGO	**Cerro Gordo**	**0.68**	**352**		Pg	04 42 02.4	+0.3
CGO					Sg	04 42 11.8	+0.9
WASM	**Alta Sierra Ca**	**0.72**	**259**		Pb	04 42 04.2	-0.4
CCAC	**Calif City Air**	**0.77**	**200**	Pg	Pg	04 42 03.7	-0.2
CCAC				IAML		04 42 14.9	
	comp=E,1µm,0.4s						
CCAC				IAML		04 42 15.1	
	comp=N,1µm,0.4s						
GWY	**Greenwater Val**	**0.88**	**69**	Pg	Pg	04 42 06.2	+0.1
FURC	**Furnace Creek,**	**0.89**	**48**		Sg	04 42 18.4	+0.7
GSC	**Goldstone, Bar**	**0.92**	**128**	Pg	Pg	04 42 06.3	-0.5
HYS	**Haystack Butte**	**1.02**	**174**		Pg	04 42 09.1	+0.4
EDW2	**Edwards Air Fo**	**1.03**	**194**		Pb	04 42 09.3	-0.4
GRAC	**Grapevine Rang**	**1.15**	**13**		Sg	04 42 26.4	+0.5
SHOC	**Shoshone, Teco**	**1.15**	**89**		Pg	04 42 11.2	0.0
RRX	**Edison Barstow**	**1.15**	**150**		Pg	04 42 11.5	+0.3
WCT	**Wildcat Mounta**	**1.25**	**43**	Pg	Pg	04 42 12.2	-1.0
WCT				IAML		04 42 35.7	
	comp=E,436nm,1.3s						
VOG	**Valley Oaks Go**	**1.44**	**288**		Pg	04 42 16.7	0.0
GMN	**Gold Mountain**	**1.46**	**14**		Pg	04 42 17.0	-0.1
DSP	**Deep Springs**	**1.50**	**351**		Pn	04 42 16.7	-0.5
DSP				IAML		04 42 38.1	
	comp=E,416nm,0.4s						
TPNV	**Topopah Spring**	**1.58**	**47**		Pn	04 42 18.7	+0.3
TPNV				IAML		04 42 40.8	
	comp=E,430nm,0.4s						
TPNV				IAML		04 42 41.3	
	comp=E,464nm,0.8s						
BLCC	**Black Canyon**	**1.82**	**207**		Pn	04 42 21.6	+0.1
MCSM	**Casa Diablo Ho**	**2.02**	**332**		Pb	04 42 26.7	-0.2

*NEIC **06** 04:42:54.0±1.4, 35.71N±0.01×117.61W±0.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.0km az=95.0*

PAS 06 04:42:54.7±1.5, **35.716N**±0.009×**117.63W**±0.01, **h5**km±3km, **ML3.4**/23, **ML3.1**/22(NEIC), **Error ellipse: s-maj=1.7km s-min=1.3km az=88.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.10**	**257**		Pg	04 42 57.3	+0.4
LRMC	**Laurel Mtn Rad**	**0.24**	**191**		Pg	04 42 58.6	-0.8
WVPM	**Volcano Peak E**	**0.28**	**327**		Pg	04 43 00.4	+0.2
CCCA	**Chr Cany lake**	**0.29**	**132**		Pb	04 43 01.8	-0.5
CCCA					Sg	04 43 03.9	-0.2
WRVM	**Rose V. Centra**	**0.36**	**324**		Pg	04 43 01.7	0.0
WBSM	**Bird Springs**	**0.45**	**247**		Pg	04 43 03.1	-0.4
WBSM					Sg	04 43 09.6	+0.2
DTP	**Desert Tortois**	**0.48**	**202**		Sg	04 43 09.7	-0.6
WORM	**Onyx Ranch**	**0.50**	**268**		Sg	04 43 11.2	+0.3
WHFM	**Hanning Flat**	**0.59**	**268**		Sg	04 43 14.3	+0.6
CCAC	**Calif City Air**	**0.65**	**210**	Pg	Pg	04 43 06.3	-0.7
CCAC				IAML		04 43 15.2	
	comp=E,2µm,0.3s						
CCAC				IAML		04 43 15.2	
	comp=N,2µm,0.3s						
QSM	**Queen of Sheba**	**0.67**	**68**		Pg	04 43 06.7	-0.7
QSM				IAML		04 43 16.1	
	comp=N,871nm,0.4s						
QSM				IAML		04 43 19.0	
	comp=E,858nm,0.3s						
ISA	**Isabella, Lake**	**0.69**	**266**	Pg	Pg	04 43 07.5	-0.5
WASM	**Alta Sierra Ca**	**0.76**	**272**		Pg	04 43 09.1	-0.1
GSC	**Goldstone, Bar**	**0.79**	**121**	Pg	Pg	04 43 08.4	-1.4
GSC				IAML		04 43 18.9	
	comp=N,1µm,0.3s						
CWC	**Cottonwood Cre**	**0.81**	**333**		Pg	04 43 10.4	+0.1
HYS	**Haystack Butte**	**0.85**	**177**		Pg	04 43 10.8	-0.2
EDW2	**Edwards Air Fo**	**0.89**	**200**		Pg	04 43 11.7	0.0
GWY	**Greenwater Val**	**0.91**	**59**		Pg	04 43 11.4	-0.7
GWY				IAML		04 43 26.3	
	comp=N,873nm,0.4s						
TEJ	**El Tejon**	**0.99**	**241**		Pg	04 43 12.4	-1.3
SPG2	**Springville 2**	**1.04**	**298**		Pg	04 43 14.3	-0.4
SHOC	**Shoshone, Teco**	**1.11**	**80**		Pg	04 43 15.4	-0.7
BAKC	**Calstate**	**1.26**	**253**		Pg	04 43 18.2	-0.6
GRAC	**Grapevine Rang**	**1.29**	**9**		Pn	04 43 18.6	-0.9
GRAC				IAML		04 43 42.0	
	comp=N,387nm,1.1s						
GRAC				IAML		04 43 44.2	
	comp=E,306nm,0.5s						
HEC	**Hector,Ludlow**	**1.38**	**130**		Pn	04 43 19.8	-0.8
TUQ	**Turquoise Moun**	**1.42**	**101**		Pn	04 43 19.9	-1.3
PASC	**Pasadena Art C**	**1.61**	**197**		Pn	04 43 22.4	-1.3
PASC				IAML		04 43 36.2	
	comp=E,161nm,5.0s						
PASC				IAML		04 43 47.5	
	comp=N,145nm,0.4s						
GMN	**Gold Mountain**	**1.61**	**10**		Pb	04 43 24.5	-0.5
BCW	**Bitter Crk WRg**	**1.65**	**243**		Pn	04 43 24.2	-0.2
BCW				IAML		04 43 50.3	
	comp=N,284nm,1.5s						
CRGC	**Crocker Grade**	**1.78**	**255**		Pb	04 43 27.4	-0.3
BORC	**Borrego Spring**	**2.64**	**157**		Pn	04 43 37.0	-0.8

*NEIC **06** 04:44:08.8±0.8, 35.892N±0.009×117.74W±0.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.6km az=291.0*

PAS 06 04:44:09.3±0.7, **35.89N**±0.01×**117.73W**±0.01, **h5**km±3km, **ML3.1**/9, **ML2.8**/16(NEIC), **Error ellipse: s-maj=1.6km s-min=1.5km az=135.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.10**	**310**		Pg	04 44 11.5	+0.1
WNMM	**Nine Mile Cany**	**0.15**	**253**		Pg	04 44 15.0	+2.7
WRVM	**Rose V. Centra**	**0.18**	**312**		Pg	04 44 12.9	0.0
SRTC	**Snort**	**0.20**	**185**		Pg	04 44 13.6	+0.4
MFS	**McCloud Flat S**	**0.25**	**336**		Pg	04 44 14.2	0.0
LRMC	**Laurel Mtn Rad**	**0.41**	**175**		Pg	04 44 17.3	+0.1
WBSM	**Bird Springs**	**0.48**	**224**		Sg	04 44 25.1	+0.1
WHFM	**Hanning Flat**	**0.54**	**249**		Pg	04 44 19.4	-0.3
WHFM					Sg	04 44 26.6	-0.1
ISA	**Isabella, Lake**	**0.65**	**250**		Sg	04 44 30.0	-0.2
ISA	**Isabella, Lake**	**0.65**	**250**	Pg	Pg	04 44 21.9	+0.2
ISA				IAML		04 44 30.2	
	comp=N,713nm,0.4s						
ISA				IAML		04 44 31.2	
	comp=E,567nm,0.3s						
WASM	**Alta Sierra Ca**	**0.69**	**258**		Pg	04 44 21.1	-1.5
WASM					Sg	04 44 31.5	-0.1
CCAC	**Calif City Air**	**0.77**	**198**	Pg	Pg	04 44 23.7	-0.4
SPG2	**Springville 2**	**0.90**	**291**		Pg	04 44 25.7	-0.9
GSC	**Goldstone, Bar**	**0.95**	**128**	Pg	Pg	04 44 26.9	-0.6
GRAC	**Grapevine Rang**	**1.14**	**15**	Pg	Pg	04 44 30.5	-0.7
GRAC				IAML		04 45 05.8	
	comp=E,263nm,1.9s						
GRAC				IAML		04 45 09.9	
	comp=N,190nm,0.6s						
ARVC	**Arvin**	**1.18**	**230**		Pg	04 44 31.7	-0.2
SGV	**South Grapevin**	**1.23**	**27**		Pg	04 44 32.4	-0.5
WCT	**Wildcat Mounta**	**1.27**	**44**	Pg	Pg	04 44 32.4	-1.2
WCT				IAML		04 45 18.2	
	comp=E,135nm,0.9s						
WCT				IAML		04 45 18.4	
	comp=N,128nm,1.0s						
GMN	**Gold Mountain**	**1.46**	**15**		Pn	04 44 36.1	-0.4
GMN				IAML		04 45 07.5	
	comp=N,97nm,0.4s						
DSP	**Deep Springs**	**1.49**	**353**		Pn	04 44 37.1	+0.3
DSP				IAML		04 45 29.8	
	comp=E,122nm,0.8s						
MTUM	**Tungsten Hills**	**1.61**	**336**		Pb	04 44 39.2	-0.5

*NEIC **06** 04:44:31.8±1.4, 35.65N±0.01×117.59W±0.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.8km az=9.0*

PAS 06 04:44:32.4±1.5, **35.63N**±0.01×**117.58W**±0.01, **h5**km±5km, **ML3.3**/22, **ML3.2**/10(NEIC), **Error ellipse: s-maj=1.7km s-min=1.5km az=47.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.16**	**295**		Pg	04 44 35.9	+0.4
LRMC	**Laurel Mtn Rad**	**0.17**	**211**		Pg	04 44 35.7	-0.1
CCCA	**Chr Cany lake**	**0.20**	**120**		Pg	04 44 36.8	+0.5
WNMM	**Nine Mile Cany**	**0.34**	**309**		Sg	04 44 43.4	-0.2
WVPM	**Volcano Peak E**	**0.38**	**329**		Pg	04 44 39.7	-0.1
DTP	**Desert Tortois**	**0.42**	**212**		Pg	04 44 40.3	-0.2
WRVM	**Rose V. Centra**	**0.46**	**326**		Pg	04 44 41.0	-0.3
WBSM	**Bird Springs**	**0.47**	**259**		Pg	04 44 41.2	-0.2
WBSM					Sg	04 44 47.9	+0.4
CCAC	**Calif City Air**	**0.59**	**217**		Sg	04 44 51.8	+0.3
WHFM	**Hanning Flat**	**0.63**	**277**		Pg	04 44 44.2	-0.4
QSM	**Queen of Sheba**	**0.67**	**59**	Pg	Pg	04 44 45.2	0.0
GSC	**Goldstone, Bar**	**0.71**	**117**		Pg	04 44 45.4	-0.5
GSC				IAML		04 44 58.6	
	comp=E,1µm,0.5s						
GSC				IAML		04 44 58.8	
	comp=N,962nm,0.4s						
ISA	**Isabella, Lake**	**0.73**	**273**		Pg	04 44 45.8	-0.7
ISA				IAML		04 44 56.2	
	comp=E,1µm,0.5s						
ISA				IAML		04 44 58.7	
	comp=N,607nm,0.3s						
HYS	**Haystack Butte**	**0.76**	**180**		Pb	04 44 48.1	-0.1
RRX	**Edison Barstow**	**0.89**	**148**		Pb	04 44 50.2	-0.1
PASC	**Pasadena Art C**	**1.54**	**199**		Pb	04 45 01.0	-0.3
CLTC	**Calectric**	**1.54**	**172**		Pg	04 45 02.2	+0.2
VOG	**Valley Oaks Go**	**1.62**	**296**		Pn	04 44 59.3	-2.3
MTPC	**Mountain Pass**	**1.66**	**94**		Pn	04 45 00.6	-1.6
TPC	**Twentynine Pal**	**1.97**	**140**		Pn	04 45 05.2	-1.3
DGR	**Domenigoni Val**	**2.03**	**167**		Pn	04 45 06.3	-0.9
BORC	**Borrego Spring**	**2.54**	**158**		Pb	04 45 16.6	-1.9

*NEIC **06** 04:45:36.1±0.7, 35.900N±0.010×117.736W±0.008, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.7km az=98.0*

PAS 06 04:45:36.5±0.9, **35.904N**±0.010×**117.73W**±0.02, **h4**km±1km, **ML3.6**/20, **ML3.3**/34(NEIC), **Error ellipse: s-maj=1.9km s-min=1.3km az=115.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC

NEIC ***06*** *04:47:30.6±1.6,35°.759N±0°.008×117°.55W±0°.01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.8km az=15.0*

PAS 06 04:47:31.2±1.3, 35°.750N±0°.010×117°.56W±0°.01, h5km±2km, ML3.3/23, ML3.1/25(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=131.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.27**	**145**		Sg	04 47 39.7	-0.4
LRMC	**Laurel Mtn Rad**	**0.29**	**201**		Pg	04 47 36.8	0.0
LRMC	**Laurel Mtn Rad**	**0.29**	**201**	IAML		04 47 41.9	
	comp=E,4μm,0.3s						
WVPM	**Volcano Peak E**	**0.29**	**313**		Pg	04 47 37.7	+0.8
WRVM	**Rose V. Centra**	**0.37**	**314**		Pg	04 47 38.1	-0.3
MFS	**McCloud Flat S**	**0.44**	**327**		Pg	04 47 39.1	-0.6
WBSM	**Bird Springs**	**0.52**	**246**		Pg	04 47 40.8	-0.5
WBSM					Sg	04 47 47.9	-0.1
DTP	**Desert Tortois**	**0.54**	**206**		Sg	04 47 48.4	-0.1
QSM	**Queen of Sheba**	**0.60**	**69**		Pg	04 47 42.1	-0.6
QSM				IAML		04 48 00.2	
	comp=E,1μm,0.7s						
WHFM	**Hanning Flat**	**0.65**	**265**		Pb	04 47 45.5	+0.5
CCAC	**Calif City Air**	**0.70**	**212**	Pg	Pg	04 47 44.2	-0.5
CCAC				IAML		04 47 54.3	
	comp=E,906nm,0.4s						
CCAC				IAML		04 47 54.4	
	comp=N,901nm,0.3s						
ISA	**Isabella, Lake**	**0.75**	**264**	Pg	Pg	04 47 44.7	-0.9
ISA				IAML		04 47 56.7	
	comp=N,937nm,0.4s						
ISA				IAML		04 47 58.2	
	comp=E,851nm,0.3s						
GSC	**Goldstone, Bar**	**0.76**	**126**	Pg	Pg	04 47 44.9	-0.8
GSC				IAML		04 47 57.2	
	comp=N,1μm,0.6s						
GSC				IAML		04 47 57.9	
	comp=E,1μm,0.7s						
GWY	**Greenwater Val**	**0.84**	**59**		Pg	04 47 46.8	-0.6
GWY				IAML		04 48 08.6	
	comp=N,638nm,0.5s						
GWY				IAML		04 48 09.7	
	comp=E,604nm,0.5s						
EDW2	**Edwards Air Fo**	**0.94**	**203**		Pg	04 47 49.0	-0.1
SPG2	**Springville 2**	**1.08**	**295**		Pg	04 47 51.9	0.0
AMDNV	**Amargosa**	**1.25**	**55**		Pg	04 47 52.7	-2.5
GRAC	**Grapevine Rang**	**1.25**	**7**	Pg	Pg	04 47 53.8	-1.5
GRAC				IAML		04 48 18.4	
	comp=N,458nm,0.6s						
GRAC	**Grapevine Rang**	**1.25**	**7**		Pg	04 47 54.4	-0.9
WCT	**Wildcat Mounta**	**1.28**	**36**		Pg	04 47 55.0	-0.9
WCT				IAML		04 48 13.3	
	comp=E,331nm,0.5s						
WCT				IAML		04 48 13.4	
	comp=N,268nm,0.6s						
CJV	**Casa Juvan**	**1.31**	**202**		Sg	04 48 13.0	-0.2
SIL	**Silver Peak**	**1.52**	**157**		Pn	04 47 59.3	0.0
GMN	**Gold Mountain**	**1.57**	**9**		Pn	04 48 00.2	+0.2
DSP	**Deep Springs**	**1.65**	**349**		Pn	04 48 01.0	+0.1
BENR	**Benton**	**2.12**	**338**		Pb	04 48 10.4	0.0
MCSM	**Casa Diablo Ho**	**2.19**	**331**		Pb	04 48 11.5	0.0
TPH	**Tonopah**	**2.34**	**6**		Pb	04 48 14.0	+0.1
NVAR	**Mina Array Bea**	**2.74**	**348**		Pb	04 48 20.0	-0.9
LCMT	**Little Creek M**	**3.70**	**69**	Pn	Pn	04 48 28.3	-0.9

NEIC ***06*** *04:49:42.0±1.5,35°.87N±0°.01×117°.72W±0°.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.1km az=281.0*

PAS 06 04:49:42.7±1.4, 35°.88N±0°.01×117°.73W±0°.02, h5km±4km, ML3.7/17, ML3.6/70(NEIC), Error ellipse: s-maj=2.2km s-min=1.5km az=87.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.10**	**317**		Pg	04 49 45.1	+0.2
WNMM	**Nine Mile Cany**	**0.14**	**256**		Pg	04 49 48.3	+2.8
WRVM	**Rose V. Centra**	**0.18**	**316**		Pg	04 49 46.3	0.0
SRTC	**Snort**	**0.18**	**184**		Pg	04 49 46.8	+0.5
MFS	**McCloud Flat S**	**0.26**	**338**		Pg	04 49 47.6	-0.1
MFS					Sg	04 49 51.4	+0.2
LRMC	**Laurel Mtn Rad**	**0.40**	**174**		Pg	04 49 50.1	-0.2
LRMC					Sg	04 49 55.9	+0.3
LRMC				IAML		04 49 57.2	
	comp=E,6μm,0.2s						
LRMC				IAML		04 49 57.2	
	comp=N,9μm,0.2s						
CCCA	**Chr Cany lake**	**0.46**	**139**		Pg	04 49 51.7	+0.2
DTP	**Desert Tortois**	**0.61**	**188**		Pg	04 49 54.0	-0.5
CWC	**Cottonwood Cre**	**0.63**	**334**		Pg	04 49 54.8	0.0
ISA	**Isabella, Lake**	**0.64**	**251**		Pg	04 49 54.8	-0.1
ISA				IAML		04 50 03.7	
	comp=N,3μm,0.3s						
ISA				IAML		04 50 04.9	
	comp=E,4μm,0.1s						
QSM	**Queen of Sheba**	**0.71**	**83**		Pg	04 49 55.8	-0.4
CCAC	**Calif City Air**	**0.76**	**198**		Pg	04 49 56.6	-0.6
CCAC				IAML		04 50 07.8	
	comp=E,3μm,0.4s						
CCAC				IAML		04 50 10.6	
	comp=N,4μm,0.5s						
GWY	**Greenwater Val**	**0.92**	**70**		Pg	04 49 59.7	-0.6
GWY					Sg	04 50 12.0	-0.2
GWY				IAML		04 50 12.3	
	comp=N,1μm,0.4s						
GWY				IAML		04 50 14.3	
	comp=E,1μm,0.3s						
FURC	**Furnace Creek,**	**0.92**	**50**		Sg	04 50 12.4	+0.1
GSC	**Goldstone, Bar**	**0.95**	**127**		Pg	04 50 00.0	-0.8
GRAC	**Grapevine Rang**	**1.16**	**15**		Pg	04 50 03.9	-0.9
GRAC				IAML		04 50 28.7	
	comp=E,2μm,0.6s						
GRAC				IAML		04 50 28.8	
	comp=N,1μm,0.6s						
ARVC	**Arvin**	**1.17**	**230**		Pg	04 50 03.9	-1.1
BAKC	**Calstate**	**1.24**	**245**		Pg	04 50 05.7	-0.7
WCT	**Wildcat Mounta**	**1.28**	**44**		Pg	04 50 05.4	-1.8
WCT				IAML		04 50 25.1	
	comp=E,876nm,0.6s						
VOG	**Valley Oaks Go**	**1.41**	**289**		Pg	04 50 10.1	+0.4
GMN	**Gold Mountain**	**1.47**	**15**		Pn	04 50 08.9	-1.2
GMN				IAML		04 50 41.1	
	comp=N,637nm,0.4s						
DSP	**Deep Springs**	**1.50**	**353**		Pn	04 50 09.3	-1.0
TPNV	**Topopah Spring**	**1.61**	**48**		Pn	04 50 10.8	-1.1
TPNV				IAML		04 50 34.6	
	comp=N,608nm,0.5s						
BCW	**Bitter Crk WRg**	**1.66**	**236**		Pn	04 50 11.8	-0.7
MWC	**Mount Wilson**	**1.67**	**189**	IAML		04 51 12.3	
	comp=E,1μm,0.4s						
PASC	**Pasadena Art C**	**1.74**	**192**		Pn	04 50 12.8	-0.8
PASC				IAML		04 51 01.4	
	comp=E,530nm,0.5s						
CRGC	**Crocker Grade**	**1.74**	**249**		Pb	04 50 14.8	-0.4
BBRC	**Big Bear Solar**	**1.74**	**157**		Pn	04 50 14.5	+0.7
MTPC	**Mountain Pass**	**1.82**	**102**		Pn	04 50 12.9	-1.9
MZP	**Montezuma Peak**	**1.84**	**9**		Pb	04 50 17.1	+0.1
KCC	**Kaiser Creek**	**1.93**	**319**		Pb	04 50 17.8	-0.5
TSCN	**Private Proper**	**2.15**	**262**		Pn	04 50 19.1	-0.1
DEVC	**Devers**	**2.16**	**154**		Pn	04 50 17.7	-1.6
TPH	**Tonopah**	**2.23**	**10**		Pn	04 50 19.7	-0.9
ELS	**Elsinore Mount**	**2.24**	**173**		Pn	04 50 19.2	-1.3
ELS				IAML		04 51 29.9	
	comp=E,398nm,0.3s						
ELS				IAML		04 51 31.2	
	comp=N,254nm,0.6s						
BACC	**Bachelor Mtn.**	**2.33**	**166**		Pb	04 50 25.6	+0.4
LHV	**Little Huntoon**	**2.45**	**346**		Pn	04 50 23.6	+0.3
LHV				IAML		04 51 44.1	
	comp=E,202nm,1.8s						
PFO	**Pinyon Flats O**	**2.49**	**155**		Pn	04 50 22.1	-2.0
PFO				IAML		04 51 41.0	
	comp=E,289nm,1.0s						
PFO				IAML		04 51 41.6	
	comp=E,240nm,0.8s						
PMPB	**Monarch Peak**	**2.51**	**279**		Pn	04 50 24.3	+0.1
DPD	**Davis Peak**	**2.57**	**256**		Pn	04 50 24.1	-0.9
NV11	**Mina Array Sit**	**2.57**	**353**		Pn	04 50 24.6	-0.5
NVAR	**Mina Array Bea**	**2.59**	**350**		Pn	04 50 23.9	-1.5
BBGB	**Big Mountain B**	**2.76**	**286**	Pn	Pn	04 50 26.5	-1.3
DPP	**Dos Picos Cty**	**2.94**	**167**		Pb	04 50 35.6	-0.1
Q09A	**Carvers**	**2.98**	**8**		Pn	04 50 30.5	-0.3
W13A	**Hualapai Mount**	**3.23**	**103**	Pn	Pn	04 50 32.6	-1.7
W13A				IAML		04 52 03.6	
	comp=E,100nm,0.8s						
CBX	**Cerro Bola**	**3.66**	**166**		Pn	04 50 39.7	-0.4
LCMT	**Little Creek M**	**3.79**	**71**	Pn	Pn	04 50 41.8	-0.2
CCUT	**Cedar City**	**3.89**	**63**		Pn	04 50 43.2	-0.1
KNB	**Kanab**	**4.12**	**73**	Pn	Pn	04 50 46.3	-0.1
KNB				IAML		04 52 32.3	
	comp=E,68nm,1.1s						
KNB				IAML		04 52 44.6	
	comp=N,59nm,3.0s						
ESJX	**Sierra Juarez**	**4.14**	**158**		Pn	04 50 43.4	-3.3
ESJX				IAML		04 52 26.2	
	comp=N,56nm,0.9s						
ESJX				IAML		04 52 27.9	
	comp=E,75nm,0.7s						
ELK	**Elko**	**5.24**	**21**		Pn	04 51 01.7	-0.2
ELK				IAML		04 53 58.5	
	comp=E,56nm,1.2s						
X16A	**Lo Mia Camp, P**	**5.36**	**104**	Pn	Pn	04 51 03.3	-0.2
X16A				IAML		04 54 07.7	
	comp=N,45nm,0.9s						

NEIC ***06*** *04:50:03.6±1.0,35°.798N±0°.010×117°.60W±0°.01, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.8km az=56.0*

PAS 06 04:50:04.1±0.4, 35°.79N±0°.01×117°.61W±0°.02, h7km±2km, ML3.8/24, ML3.8/12(NEIC), Error ellipse: s-maj=2.5km s-min=1.2km az=115.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.03**	**27**		Pg	04 50 05.5	-0.1
CLC					Sg	04 50 06.6	0.0
TOW	**Tower One**	**0.12**	**279**		Pg	04 50 07.2	+0.4
TOW					Sg	04 50 09.9	+1.3
SRTC	**Snort**	**0.15**	**228**		Pg	04 50 07.5	+0.3
SRTC					Sg	04 50 10.6	+1.3
JRC2	**Joshua Ridge**	**0.25**	**320**		Pg	04 50 09.2	+0.1
WCSM	**Coso Springs S**	**0.27**	**332**		Pg	04 50 09.4	0.0
WCSM					Sg	04 50 13.2	+0.2
MPMC	**Manual Prospec**	**0.28**	**21**		Pg	04 50 09.7	-0.1
MPMC					Sg	04 50 13.8	+0.2
LRMC	**Laurel Mtn Rad**	**0.32**	**190**		Pg	04 50 10.2	-0.2
LRMC					Sg	04 50 14.6	+0.1
LRMC	**Laurel Mtn Rad**	**0.32**	**190**	IAML		04 50 15.4	
	comp=N,16μm,0.2s						
LRMC				IAML		04 50 15.8	
	comp=E,21μm,0.2s						
WBSM	**Bird Springs**	**0.50**	**240**		Pg	04 50 13.4	-0.3
WBSM					Sg	04 50 20.2	0.0
WORM	**Onyx Ranch**	**0.52**	**260**		Pg	04 50 13.8	-0.4
WORM					Sg	04 50 20.7	-0.3
DTP	**Desert Tortois**	**0.56**	**200**		Sg	04 50 22.2	+0.1
WHFM	**Hanning Flat**	**0.61**	**261**		Pg	04 50 15.3	-0.5
WHFM					Sg	04 50 23.3	-0.4
ISA	**Isabella, Lake**	**0.71**	**260**	Pg	Pg	04 50 17.5	-0.3
ISA				IAML		04 50 37.1	
	comp=N,5μm,0.6s						
ISA				IAML		04 50 37.9	
	comp=E,4μm,0.3s						
ISA	**Isabella, Lake**	**0.71**	**260**		Sg	04 50 26.6	-0.5
WASM	**Alta Sierra Ca**	**0.77**	**266**		Sg	04 50 28.7	-0.2
TPO	**Tropico Hills**	**1.04**	**209**		Sg	04 50 37.1	-0.5
GMN	**Gold Mountain**	**1.53**	**11**		Pn	04 50 30.3	-1.8
MWC	**Mount Wilson**	**1.60**	**193**		Pn	04 50 32.2	-0.9
ELS	**Elsinore Mount**	**2.14**	**176**	Pn	Pn	04 50 39.9	-0.4

NEIC 06 04:50:16.0±0.5, 35°.81N±0°.02×117°.75W±0°.04, h5km±1km, ML3.8/20, Error ellipse: s-maj=6.5km s-min=2.3km az=298.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mtn Rad**	**0.33**	**171**	Pg	Pg	04 50 23.1	+0.5
LRMC				Sg	Sg	04 50 28.3	+1.3
CCAC	**Calif City Air**	**0.69**	**199**	Pg	Pg	04 50 29.7	+0.3
CCAC				IAML		04 50 44.7	
	comp=N,5μm,0.4s						
GSC	**Goldstone, Bar**	**0.92**	**123**	Pg	Pg	04 50 33.5	-0.1
GSC				Sg	Sg	04 50 45.8	+0.2
GSC				IAML		04 50 49.5	
	comp=N,2μm,0.6s						
GSC				IAML		04 50 49.6	
	comp=E,4μm,0.7s						
GWY	**Greenwater Val**	**0.95**	**66**		Pg	04 50 34.3	0.0
GWY				IAML		04 50 51.1	
	comp=N,2μm,0.6s						
GWY				IAML		04 50 51.2	
	comp=E,2μm,0.5s						
GMN	**Gold Mountain**	**1.54**	**15**		Pn	04 50 44.1	-0.3
TPNV	**Topopah Spring**	**1.66**	**46**		Pb	04 50 46.6	-0.6
TPNV				IAML		04 51 11.4	
	comp=E,810nm,0.8s						
TPNV				IAML		04 51 17.8	
	comp=E,625nm,0.9s						
TPH	**Tonopah**	**2.30**	**10**	Pn	Pn	04 50 53.9	-0.9
TPH				IAML		04 51 29.9	
	comp=E,837nm,0.7s						
PMPB	**Monarch Peak**	**2.51**	**280**	Pn	Pn	04 50 57.7	+0.1
PMPB				IAML		04 51 37.3	
	comp=E,719nm,0.8s						
CMB	**Columbia Colle**	**3.07**	**317**	Pn	Pn	04 51 06.3	+1.1
AFDM	**Forest Hills D**	**4.05**	**322**		Pn	04 51 20.5	+1.8
AFDM				IAML		04 54 02.5	
	comp=E,172nm,0.5s						

JMA ***06*** *04:50:42.5±0.9,46°.4×15°.0E±°, h30km, MV4.2/13, KURILE ISLANDS REGION*
SKHL ***06*** *04:50:47.1±0.3,45°.50N×149°.80E, h57km±7km, mb4.9/6*

ISC 06 04:50:45.5±1.4, 45°.30N±0°.10×150°.0E±0°.1, h61km, n19, σ1°35/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.48**	**268**	*i* P	**Pn**	**04 51 09.4**	**-0.6**
KUR				AMB	AMB	04 51 10.0	
	2μm,0.3s						
KUR				*e*S	**Sn**	**04 51 25.9**	**-2.5**
KUR				A	A	04 51 27.8	
	2μm,0.5s						
KUR				A	A	04 51 27.8	
	4μm,0.5s						
SHO	**Shikotan**	**2.66**	**239**	*e*P	**Pn**	**04 51 26.0**	**+0.1**
SHO				AMB	AMB	04 51 27.5	
	30nm,0.3s						
SHO				*e*S	**Sn**	**04 51 55.4**	**-1.5**
SHO				A	A	04 52 03.2	
	350nm,0.4s						
SHO				A	A	04 52 03.2	
	340nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.19**	**248**	*e*P	**Pn**	**04 51 34.0**	**+0.8**
YUK				AMB	AMB	04 51 39.2	
	400nm,0.4s						
YUK				*e*S	**Sn**	**04 52 09.1**	**-0.8**
YUK				A	A	04 52 13.6	
	350nm,0.3s						
YUK				A	A	04 52 13.6	
	560nm,0.3s						
NEM2	**Nemuro 2**	**3.59**	**239**	P	**Pn**	**04 51 37.4**	**-1.3**
NEM2				*e*S	**Sn**	**04 52 18.0**	**-1.8**
NMR	**Nemuro--Hokkai**	**3.60**	**239**	*e*P	**Pn**	**04 51 38.9**	**+0.1**
JRA	**Rausu**	**3.72**	**250**	P	**Pn**	**04 51 42.1**	**+1.7**
JRA				*e*S	**Sn**	**04 52 26.3**	**+3.4**
JNK	**Nakash**	**4.13**	**247**	P	**Pn**	**04 51 46.8**	**+0.7**
JNK				*e*S	**Sn**	**04 52 32.8**	**-0.2**
AKK	**Akkeshi**	**4.34**	**240**	*e*P	**Pn**	**04 51 49.1**	**+0.3**
JAK	**Akkeshi**	**4.44**	**241**	*e*P	**Pn**	**04 51 49.7**	**-0.5**
JAK				*e*S	**Sn**	**04 52 40.7**	**+0.2**
JTKR	**Abashiri--Toko**	**4.52**	**255**	*e*P	**Pn**	**04 51 52.0**	**+0.6**
JAR	**Ashorobuto**	**4.88**	**248**	P	**Pn**	**04 51 57.3**	**+1.0**
YSS	**Yuzhno-Sakhali**	**5.28**	**291**	*e*P	**Pn**	**04 52 00.6**	**-1.1**
JKK2	**Kamakawa 2**	**5.35**	**257**	*e*P	**Pn**	**04 52 04.0**	**+1.2**
JCH	**Churui**	**5.47**	**243**	*e*P	**Pn**	**04 52 04.2**	**-0.2**
JNBK	**Urakawa-nobuka**	**6.03**	**243**	*e*P	**Pn**	**04 52 12.5**	**+0.5**
JRBN	**Rebuntou**	**6.27**	**274**	*e*P	**Pn**	**04 52 16.4**	**+1.0**
SKR	**Severo-Kuril's**	**6.78**	**35**	*e*P	**Pn**	**04 52 22.9**	**+0.6**
SKR				AMB	AMB	04 52 24.5	
	50nm,0.6s						
SKR				*e*S	**Sn**	**04 53 36.3**	**-1.7**
SKR				A	A	04 53 49.2	
	60nm,0.5s						
TYV	**Tymovskoe**	**7.41**	**321**	*e*P	**Pn**	**04 52 30.9**	**0.0**
PAU	**Pauzhetka**	**7.67**	**34**	*e*P	**Pn**	**04 52 36.4**	**+2.0**
PAU				AMB	AMB	04 52 52.2	
	20nm,0.4s						

NEIC ***06*** *04:52:03.8±0.9,35°.889N±0°.004×117°.74W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.7km az=321.0*

PAS 06 04:52:04.2±1.0, 35°.891N±0°.007×117°.74W±0°.01, h4km±2km, ML3.6/19, Error ellipse: s-maj=1.6km s-min=1.0km az=96.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.08**	**315**		Pg	04 52 06.2	+0.2
WNMM	**Nine Mile Cany**	**0.14**	**250**		Pg	04 52 07.1	+0.2
WNMM					Sg	04 52 09.7	+0.9
WRVM	**Rose V. Centra**	**0.17**	**315**		Pg	04 52 07.6	+0.1
MFS	**McCloud Flat S**	**0.24**	**338**		Pg	04 52 09.0	+0.1
MFS					Sg	04 52 12.9	+0.7
LRMC	**Laurel Mtn Rad**	**0.41**	**173**		Pg	04 52 11.7	-0.5
LRMC	**Laurel Mtn Rad**	**0.41**	**173**		Sg	04 52 18.3	+0.7
WORM	**Onyx Ranch**	**0.45**	**244**		Pg	04 52 12.8	-0.1
WORM					Sg	04 52 18.7	0.0
WBSM	**Bird Springs**	**0.48**	**222**		Pg	04 52 13.2	-0.2
WBSM					Sg	04 52 19.9	+0.3
CCCA	**Chr Cany lake**	**0.48**	**140**		Pg	04 52 13.4	0.0
WHFM	**Hanning Flat**	**0.53**	**249**		Pg	04 52 14.2	-0.2
CGO	**Cerro Gordo**	**0.66**	**356**		Pg	04 52 16.9	0.0
QSM	**Queen of Sheba**	**0.71**	**84**		Pg	04 52 17.1	-0.7
CCAC	**Calif City Air**	**0.77**	**197**		Pg	04 52 18.3	-0.6
FURC	**Furnace Creek,**	**0.92**	**51**		Sg	04 52 33.7	0.0
GWY	**Greenwater Val**	**0.92**	**71**		Pg	04 52 21.4	-0.5
TEJ	**El Tejon**	**1.01**	**230**		Sg	04 52 35.8	-1.0
EDW2	**Edwards Air Fo**	**1.03**	**192**		Pn	04 52 35.7	+10
HYS	**Haystack Butte**	**1.03**	**172**		Pg	04 52 24.0	0.0
HYS					Pn	04 52 35.1	+10
TPO	**Tropico Hills**	**1.08**	**202**		Pg	04 52 23.9	-1.1
TPO					Sg	04 52 37.7	-1.3
VES	**Vestal, Richgr**	**1.09**	**268**		Pg	04 52 24.6	-0.5
VES					Sg	04 52 38.6	-0.6
GRAC	**Grapevine Rang**	**1.14**	**15**		Sg	04 52 39.1	-1.8
GRAC	**Grapevine Rang**	**1.14**	**15**		Pg	04 52 25.5	-0.6
ARVC	**Arvin**	**1.17**	**230**		Pg	04 52 25.9	-0.7
SHOC	**Shoshone, Teco**	**1.19**	**89**		Pg	04 52 26.6	-0.4
WCT	**Wildcat Mounta**	**1.27**	**45**		Pg	04 52 27.8	-0.8
JNH	**Juniper Hills**	**1.45**	**187**		Pb	04 52 31.7	-0.1
GMN	**Gold Mountain**	**1.46**	**15**		Pb	04 52 32.1	0.0
DSP	**Deep Springs**	**1.49**	**353**		Pn	04 52 31.0	-0.6
BHPR	**Bishop**	**1.53**	**337**		Pn	04 52 32.7	+0.3
DSCC	**Desert Studies**	**1.53**	**119**		Pn	04 52 31.6	-0.7
HEC	**Hector,Ludlow**	**1.56**	**132**		Pn	04 52 32.6	-0.2
TPNV	**Topopah Spring**	**1.60**	**48**		Pn	04 52 33.2	-0.2
CRGC	**Crocker Grade**	**1.74**	**249**		Pb	04 52 36.4	-0.4
MZP	**Montezuma Peak**	**1.83**	**9**		Pn	04 52 36.3	-0.3
KCC	**Kaiser Creek**	**1.91**	**319**		Pb	04 52 38.9	-0.7
GTM	**Goat Mountain**	**1.96**	**144**		Pb	04 52 40.1	-0.3
TPH	**Tonopah**	**2.22**	**11**		Pb	04 52 45.0	+0.1
V12A	**Nelson**	**2.36**	**93**		Pn	04 52 46.9	-0.4
NV11	**Mina Array Sit**	**2.56**	**353**		Pn	04 52 46.6	+0.1
NVAR	**Mina Array Bea**	**2.57**	**350**		Pb	04 52 51.6	+0.6
MYLM	**Yosemite Lake**	**2.62**	**305**		Pb	04 52 50.5	-1.1
PCBM	**Cambria**	**2.73**	**263**		Pg	04 53 01.9	+5.5
RYN	**Ryan**	**2.80**	**347**		Pb	04 52 56.3	+1.5
HULI	**Fort Hunter Li**	**2.84**	**274**		Pg	04 53 03.5	+5.0
BCWM	**Chews Ridge**	**3.12**	**279**		Pg	04 53 09.8	+5.7
JSBM	**San Bruno Moun**	**4.14**	**297**		Pg	04 53 24.3	+0.9

PAS ***06*** *04:52:17.7±0.9,35°.877N±0°.008×117°.695W±0°.009, h3km±2km, ML4.8/38, mb4.3/40(NEIC), ML4.5/68(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=180.0*
NEIC ***06*** *04:52:17.3±1.0,35°.874N±0°.007×117°.695W±0°.008, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.3km az=245.0*
IDC ***06*** *04:52:17.9±0.5,35°.97N×117°.36W, h0km, mb4.0/15, mbtmp3.9/21, ML3.7/6, Error ellipse: s-maj=12.3km s-min=5.3km az=74.0*

ISC 06 04:52:18.1±0.8, 35°.87N±0°.02×117°.68W±0°.02, h6km±5km, n146, σ1°22/154, mb4.2/24, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.09**	**129**		**Pg**	**04 52 19.8**	**-0.3**
CLC					**Sg**	**04 52 21.6**	**0.0**
TOW	**Tower One**	**0.09**	**228**		**Pg**	**04 52 20.1**	**-0.2**
WVPM	**Volcano Peak E**	**0.14**	**305**		**Pg**	**04 52 20.4**	**-0.6**
WVPM					**Sg**	**04 52 22.5**	**-0.6**
JRC2	**Joshua Ridge**	**0.15**	**317**		**Pg**	**04 52 20.8**	**-0.6**
JRC2					**Sg**	**04 52 23.0**	**-0.5**
WCSM	**Coso Springs S**	**0.17**	**335**		**Pg**	**04 52 21.0**	**-0.7**
WCSM					**Sg**	**04 52 23.3**	**-0.7**
WNMM	**Nine Mile Cany**	**0.18**	**262**		**Pg**	**04 52 21.3**	**-0.5**
WNMM					**Sg**	**04 52 24.1**	**-0.2**
SRTC	**Snort**	**0.19**	**198**		**Pg**	**04 52 21.6**	**-0.3**
SRTC					**Sg**	**04 52 25.8**	**+1.4**
WRVM	**Rose V. Centra**	**0.22**	**309**		**Pg**	**04 52 21.9**	**-0.6**
WRVM					**Sg**	**04 52 25.0**	**-0.5**
MPMC	**Manual Prospec**	**0.24**	**39**		**Pg**	**04 52 22.6**	**-0.4**
MPMC					**Sg**	**04 52 26.2**	**0.0**
MFS	**McCloud Flat S**	**0.28**	**330**		**Pg**	**04 52 23.1**	**-0.7**
MFS					**Sg**	**04 52 27.2**	**-0.4**
LRMC	**Laurel Mtn Rad**	**0.39**	**180**		**Sg**	**04 52 31.1**	**+0.2**
LRMC	**Laurel Mtn Rad**	**0.39**	**180**		**Pg**	**04 52 25.2**	**-0.5**
LRMC				IAML		04 52 32.1	
	comp=E,79μm,0.5s						
LRMC				IAML		04 52 32.1	
	comp=N,61μm,0.2s						
CCCA	**Chr Cany lake**	**0.43**	**143**		**Pg**	**04 52 26.8**	**+0.4**
CCCA					**Sg**	**04 52 33.5**	**+1.4**
WORM	**Onyx Ranch**	**0.49**	**249**		**Pg**	**04 52 26.7**

SHOC	**Shoshone, Teco**	**1.14**	**88**			**Pg**		04 52 38.3	-1.7
SBB	**Saddle Back Bu**	**1.19**	**186**			**Pg**		04 52 38.4	-2.4
TJR	**Tejon Ranch**	**1.21**	**226**			**Pg**		04 52 39.6	-1.7
TJR						**Sg**		04 52 55.6	-1.4
THC	**Tehachapi Micr**	**1.25**	**220**			**Pg**		04 52 40.5	-1.6
THC						**Sg**		04 52 57.2	-1.2
WCT	**Wildcat Mounta**	**1.25**	**42**			**Pg**		04 52 41.3	-0.9
WCT	**Wildcat Mounta**	**1.25**	**42**	IAML				04 53 00.3	
	comp=N,8µm,0.9s								
WCT				IAML				04 53 02.6	
	comp=E,9µm,1.1s								
TIN	**Tinemaha, Big**	**1.26**	**340**			**Pg**		04 52 41.3	-1.1
AMDNV	**Amargosa**	**1.27**	**62**			**Pg**		04 52 41.9	-0.7
BAKC	**Calstate**	**1.27**	**246**			**Pg**		04 52 41.4	-1.2
BAKC						**Sb**		04 52 59.0	-0.1
ALPC	**Antelope**	**1.28**	**203**			**Pg**		04 52 41.1	-1.7
ADO	**Adelanto Recei**	**1.33**	**171**			**Pn**		04 52 40.5	-2.7
LEOC	**Leona Valley**	**1.34**	**203**			**Pn**		04 52 42.1	-1.3
VTV	**Victorville**	**1.34**	**168**			**Pn**		04 52 40.3	-3.1
LCH	**Last Change Ra**	**1.36**	**1**			**Pn**		04 52 42.8	-1.0
LRRC	**Littlerock Res**	**1.37**	**192**			**Pn**		04 52 42.7	-1.1
CJV	**Casa Juvan**	**1.39**	**196**			**Pn**		04 52 42.8	-1.4
HOLC	**Holcomb Ridge**	**1.42**	**186**			**Pn**		04 52 43.4	-1.1
JNH	**Juniper Hills**	**1.44**	**189**			**Pn**		04 52 42.2	-2.6
VOG	**Valley Oaks Go**	**1.45**	**289**			**Pn**		04 52 44.2	-0.6
GMN	**Gold Mountain**	**1.47**	**13**			**Pn**		04 52 44.6	-0.7
DSCC	**Desert Studies**	**1.48**	**119**			**Pn**		04 52 42.4	-2.8
TUQ	**Turquoise Moun**	**1.49**	**106**			**Pn**		04 52 42.8	-2.7
HEC	**Hector Ludlow**	**1.51**	**133**			**Pn**		04 52 44.3	-1.5
DSP	**Deep Springs**	**1.52**	**351**			**Pn**		04 52 45.0	-0.7
OSI	**Osito Audit: C**	**1.52**	**215**			**Pn**		04 52 45.9	+0.1
OSI	**Osito Audit: C**	**1.52**	**215**	IAML				04 53 12.8	
	comp=N,8µm,0.8s								
OSI				IAML				04 53 13.4	
	comp=E,10µm,0.8s								
CHFC	**Chilao Flat St**	**1.56**	**191**			**Pn**		04 52 45.0	-1.4
POCCA	**Poleta Canyon**	**1.56**	**342**			**Pn**		04 52 46.6	0.0
BHPR	**Bishop**	**1.57**	**336**			**Pn**		04 52 46.6	-0.1
MPI	**Mount Pinos, F**	**1.60**	**229**			**Pn**		04 52 46.1	-1.0
PDE	**Pardee, Santa**	**1.61**	**208**			**Pn**		04 52 46.0	-1.0
BFSC	**Mount Baldy Ra**	**1.63**	**179**			**Pn**		04 52 47.2	-0.2
MTUM	**Tungsten Hills**	**1.64**	**335**			**Pn**		04 52 47.7	+0.1
MWC	**Mount Wilson**	**1.67**	**191**			**Pn**		04 52 49.3	0.0
SIL	**Silver Peak**	**1.67**	**155**			**Pn**		04 52 46.1	-1.9
BCW	**Bitter Crk WRg**	**1.69**	**237**			**Pn**		04 52 47.2	-1.1
BBRC	**Big Bear Solar**	**1.72**	**159**			**Pg**		04 52 50.8	-0.3
PASC	**Pasadena Art C**	**1.75**	**194**			**Pn**		04 52 48.4	-0.5
PASC				IAML				04 53 23.2	
	comp=N,3µm,1.1s								
PASC				IAML				04 53 23.2	
	comp=E,4µm,0.7s								
GTM	**Goat Mountain**	**1.91**	**145**			**Pb**		04 52 53.8	+0.5
KCC	**Kaiser Creek**	**1.96**	**318**			**Pb**		04 52 53.4	-0.9
FRI	**Friant**	**1.98**	**305**			**Pn**		04 52 52.7	+0.6
SHPR	**Sheep Range**	**2.13**	**72**			**Pn**		04 52 54.7	+0.3
ELS	**Elsinore Mount**	**2.23**	**175**	IAML				04 53 30.9	
	comp=E,2µm,0.5s								
ELS				IAML				04 53 40.9	
	comp=N,2µm,1.1s								
PFO	**Pinyon Flats O**	**2.47**	**156**	Pn		**Pn**		04 52 58.0	-1.0
PFO				IAML				04 53 41.5	
	comp=N,2µm,1.3s								
PFO	**Pinyon Flats O**	**2.47**	**156**	Pn		**Pn**		04 52 58.9	0.0
	comp=N,151nm,0.3s,baz=334,slow=13,SNR=20								
PFO				Pg		**Pb**		04 53 03.1	+0.2
	comp=N,151nm,0.3s,baz=330,slow=13,SNR=25								
PFO				Lg		Lg		04 53 36.0	
	comp=N,426nm,0.3s,baz=84,slow=22,SNR=14								
PMPB	**Monarch Peak**	**2.55**	**279**	Pn		**Pn**		04 52 59.9	-0.1
NVAR	**Mina Array Bea**	**2.60**	**349**	Pn		**Pn**		04 53 00.7	-0.2
	comp=N,23nm,0.3s,baz=170,slow=15,SNR=6.8								
NVAR				Pg		**Pb**		04 53 05.9	+0.6
	comp=N,202nm,0.3s,baz=175,slow=18,SNR=67								
NVAR				Lg		Lg		04 53 39.1	
	comp=N,46nm,0.3s,baz=62,slow=31,SNR=3.8								
	comp=N,48nm,0.5s								
BBGB	**Big Mountain B**	**2.81**	**286**	Pn		**Pn**		04 53 04.4	+0.8
SAO	**San Andreas Ge**	**3.17**	**287**	Pn		**Pn**		04 53 08.1	-0.4
W13A	**Hualapai Mount**	**3.19**	**103**	Pn		**Pn**		04 53 07.4	-1.5
W13A				IAML				04 54 02.8	
	comp=E,741nm,1.1s								
BLYC	**Blythe**	**3.35**	**128**	Pn		**Pn**		04 53 08.4	-2.5
BLYC				IAML				04 54 06.7	
	comp=N,2µm,0.9s								
BLYC				IAML				04 54 15.3	
	comp=E,1µm,0.8s								
TJX	**Tijuana**	**3.39**	**171**	Pn		**Pn**		04 53 10.0	-1.5
CCUT	**Cedar City**	**3.85**	**63**	Pn		**Pn**		04 53 16.0	-2.1
MPK	**Martis Peak**	**3.90**	**332**	Pn		**Pn**		04 53 17.8	-0.9
PSUT	**Pine Spring**	**4.05**	**48**	Pn		**Pn**		04 53 20.0	-0.7
PSUT				IAML				04 54 39.1	
	comp=N,796nm,1.3s								
SZCU	**Shurtz Canyon**	**4.07**	**64**	Pn		**Pn**		04 53 19.6	-1.5
KNB	**Kanab**	**4.08**	**72**	Pn		**Pn**		04 53 20.3	-0.9
KNB				IAML				04 54 29.2	
	comp=N,502nm,1.7s								
KNB				IAML				04 54 34.5	
	comp=E,379nm,0.8s								
MCCM	**Marconi Confer**	**4.74**	**300**	Pn		**Pn**		04 53 30.3	+0.3
MCCM				IAML				04 54 43.8	
	comp=N,322nm,0.9s								
MCCM				IAML				04 54 58.7	
	comp=E,465nm,1.0s								
WUAZ	**Wupatki**	**5.14**	**92**	Pn		**Pn**		04 53 36.0	+0.2
WUAZ				IAML				04 55 03.2	
	comp=E,531nm,1.6s								
ELK	**Elko**	**5.23**	**21**	Pn		**Pn**		04 53 36.2	-0.8
ELK	**Elko**	**5.23**	**21**	Pn		**Pn**		04 53 37.2	+0.1
	comp=E,2.3nm,0.3s,baz=204,slow=11,SNR=3.9								
ELK				Sn		**Sn**		04 54 32.6	-5.1
	comp=E,3.0nm,0.3s,baz=207,slow=8.9,SNR=3.3								
ELK				Lg		Lg		04 54 59.0	
	comp=E,11nm,0.3s,baz=267,slow=18,SNR=6.5								
	comp=E,8.8nm,0.3s								
HOPS	**Hopland Field**	**5.30**	**308**	Pn		**Pn**		04 53 39.6	+1.7
X16A	**Lo Mia Camp, P**	**5.31**	**104**	Pn		**Pn**		04 53 37.5	-0.6
X16A				IAML				04 55 35.8	
	comp=E,145nm,1.1s								
X16A				IAML				04 55 35.9	
	comp=N,182nm,1.8s								
YBH	**Yreka Blue Hor**	**7.05**	**328**	Pn		**Pn**		04 54 04.2	+2.3
	baz=176,slow=7.5,SNR=8.1								
YBH				Pg		**Pb**		04 54 20.6	-0.4
	baz=162,slow=7.6,SNR=6.2								
YBH				Lg		Lg		04 55 52.3	
	comp=N,0.1nm,0.3s,baz=174,slow=3.2,SNR=3.7								
SBM	**South Baldy**	**8.83**	**99**	Pn		**Pn**		04 54 26.7	+0.2
TPAW	**Teton Pass**	**9.21**	**32**	Pn		**Pn**		04 54 33.6	+2.0
ANMO	**Albuquerque**	**9.21**	**92**	Pn		**Pn**		04 54 30.7	-0.9
	comp=N,0.2nm,0.3s,baz=25,slow=7.2,SNR=3.3								
ANMO				Lg		Lg		04 57 01.6	
	comp=N,0.5nm,0.3s,baz=315,slow=22,SNR=6.7								
	comp=N,1.1nm,0.6s								
PDAR	**Pinedale Array**	**9.32**	**40**	Pn		**Pn**		04 54 31.1	-2.2
	comp=N,0.2nm,0.3s,baz=220,slow=10,SNR=10								
PDAR				Lg		Lg		04 57 09.6	
	comp=N,0.2nm,0.3s,baz=218,slow=30,SNR=8.4								
	comp=N,0.9nm,0.9s								
H04A	**Detroit Lake**	**9.45**	**340**	Pn		**Pn**		04 54 36.0	+1.3
NEW	**Newport**	**12.39**	**2**	Pn		**Pn**		04 55 14.8	-0.2
	comp=N,0.1nm,0.3s,baz=193,slow=8.0,SNR=2.2								
NEW				Lg		Lg		04 58 53.4	
	comp=N,0.1nm,0.3s,baz=170,slow=11,SNR=0.9								
	comp=N,1.2nm,0.7s								
TXAR	**Lajitas Array**	**13.48**	**115**	Pn		**Pn**		04 55 28.8	-1.3
	comp=N,0.2nm,0.3s,baz=291,slow=13,SNR=9.3								
TXAR				Lg		Lg		04 59 22.2	
	baz=308,slow=6.2,SNR=3.9								
	comp=N,0.3nm,0.4s								
BRDY	**Brady**	**16.22**	**101**	IAmb		IAmb		04 56 14.6	
	comp=Z,32nm,1.6s								
DEOK	**Depew**	**17.17**	**84**			**Pn**		04 56 19.1	+0.5
DEOK				IAmb		IAmb		04 56 25.6	
	comp=Z,25nm,1.0s								
TUL3	**Leonard**	**17.73**	**83**			**Pn**		04 56 25.9	+0.3
TUL3				IAmb		IAmb		04 56 30.8	
	comp=Z,30nm,1.0s								
MDND	**Maddock**	**17.96**	**43**	IAmb		IAmb		04 56 33.7	
	comp=Z,40nm,1.4s								
Z38A	**Mt. Pleasant**	**18.87**	**91**	P		**P**		04 56 38.8	-0.1
HHAR	**Hobbs**	**19.19**	**82**	P		**P**		04 56 43.0	+0.6
I37A	**Lemond, Waseca**	**20.26**	**59**	IAmb		IAmb		04 56 59.3	
	comp=Z,18nm,1.1s								
R40A	**Maddies Statio**	**20.40**	**76**	P		**P**		04 56 55.0	-0.6
R40A				IAmb		IAmb		04 57 00.4	
	comp=Z,36nm,1.9s								
P40A	**Paris**	**20.58**	**72**	P		**P**		04 56 56.9	-0.8
WHAR	**Wooly Hollow**	**20.65**	**84**	P		**P**		04 56 58.8	+0.4
WHAR				IAmb		IAmb		04 57 05.5	
	comp=Z,22nm,1.3s								
UALR	**University of**	**20.69**	**86**	P		**P**		04 56 59.4	+0.6
UALR				IAmb		IAmb		04 57 05.8	
	comp=Z,23nm,1.4s								
FCAR	**Ozark Folk Cen**	**20.69**	**82**	P		**P**		04 56 58.8	-0.1
FCAR				IAmb		IAmb		04 57 05.8	
	comp=Z,17nm,1.0s								
SPMN	**Marine on St.**	**21.02**	**56**	P		**P**		04 57 01.7	-0.6
SPMN				IAmb		IAmb		04 57 10.2	
	comp=Z,11nm,0.8s								
ULM	**Lac du Bonnet**	**21.35**	**41**	P		**P**		04 57 05.5	-0.3
ULM				IAmb		IAmb		04 57 16.1	
	comp=Z,11nm,0.9s								
ULM	**Lac du Bonnet**	**21.35**	**41**	P		**P**		04 57 04.1	-1.7
	comp=Z,5.2nm,0.8s,baz=232,slow=8.8,SNR=6.4								
	comp=Z,5.2nm,0.8s								
FFC	**Flin Flon**	**21.76**	**25**	IAmb		IAmb		04 57 15.3	
	comp=Z,15nm,1.1s								
EPLO	**Experimental L**	**22.23**	**44**	IAmb		IAmb		04 57 32.1	
	comp=Z,14nm,1.3s								
E38A	**The Farm, Brul**	**22.28**	**53**	IAmb		IAmb		04 57 21.4	
	comp=Z,14nm,1.0s								
I42A	**Draeger Farm,**	**23.40**	**61**	IAmb		IAmb		04 57 30.8	
	comp=Z,7.8nm,1.0s								
YKA	**Yellowknife Ar**	**26.72**	**3**	P		**P**		04 57 58.0	+0.2
	comp=Z,1.5nm,0.7s,baz=188,slow=7.8,SNR=16								
	comp=Z,1.5nm,0.7s								
TKL	**Tuckaleechee C**	**27.44**	**80**	P		**P**		04 58 04.0	-0.6
	comp=Z,3.6nm,0.9s,baz=229,slow=9.0,SNR=6.2								
	comp=Z,3.6nm,0.9s								
ILAR	**Eielson Array**	**33.81**	**338**	P		**P**		04 58 59.4	-1.2
	comp=Z,0.3nm,0.6s,baz=154,slow=7.1,SNR=9.1								
ILAR				PcP		**PcP**		05 01 40.0	+0.5
	comp=Z,0.4nm,0.7s,baz=174,slow=2.7,SNR=4.1								
	comp=Z,0.3nm,0.6s								
WRH	**Wood River Hil**	**33.98**	**337**	IAmb		IAmb		04 59 07.7	
	comp=Z,3.1nm,1.0s								
G26K	**Porcupine Rive**	**34.57**	**342**	IAmb		IAmb		04 59 20.5	
	comp=Z,5.2nm,1.1s								
K20K	**Telida**	**35.37**	**332**	IAmb		IAmb		04 59 18.8	
	comp=Z,6.7nm,1.1s								
J19K	**Poorman**	**36.29**	**333**	IAmb		IAmb		04 59 28.4	
	comp=Z,8.8nm,1.6s								
PETK	**Petropavlovsk-**	**59.25**	**316**	P		**P**		05 02 20.7	+0.7
	comp=Z,3.3nm,0.7s,baz=78,slow=13,SNR=8.7								
	comp=Z,3.3nm,0.7s								
LPAZ	**La Paz**	**69.91**	**129**	P		**P**		05 03 32.0	+1.1
	comp=Z,1.2nm,1.0s,baz=2.6,slow=7.8,SNR=3.9								
	comp=Z,1.2nm,1.0s								
NOA	**NORSAR Array B**	**74.85**	**23**	P		**P**		05 03 58.7	-0.5
	comp=Z,1.0nm,0.3s,baz=322,slow=6.0,SNR=3.0								
	comp=Z,1.0nm,0.3s								
FINES	**FINESS Array B**	**78.65**	**17**	P		**P**		05 04 21.9	+1.4
	comp=Z,2.0nm,0.8s,baz=322,slow=5.2,SNR=2.3								
	comp=Z,2.0nm,0.8s								
ESDC	**Sonseca Array**	**83.17**	**45**	P		**P**		05 04 45.6	+0.4
	comp=Z,0.6nm,0.9s,baz=298,slow=5.7,SNR=4.8								
	comp=Z,0.6nm,0.9s								
KSRS	**Korea Array**	**85.05**	**313**	P		**P**		05 04 55.5	+0.9
	comp=Z,0.4nm,0.3s,baz=44,slow=5.5,SNR=2.4								
	comp=Z,0.4nm,0.3s								
GERES	**GERESS Array B**	**85.22**	**30**	P		**P**		05 04 55.6	+0.1
	comp=Z,0.1nm,0.5s,baz=325,slow=4.0,SNR=1.7								
	comp=Z,0.1nm,0.5s								
SONM	**Songino Array**	**87.83**	**332**	P		**P**		05 05 09.4	+1.1
	comp=Z,0.4nm,0.3s,baz=18,slow=5.8,SNR=2.2								
	comp=Z,0.4nm,0.5s								
ZALV	**Zalesovo Beam**	**88.45**	**347**	P		**P**		05 05 11.4	+0.4
	comp=Z,0.3nm,0.3s,baz=304,slow=8.5,SNR=1.6								
	comp=Z,0.3nm,0.3s								
BVAR	**Borovoye Array**	**91.19**	**355**	P		**P**		05 05 24.8	+1.0
	comp=Z,1.7nm,0.8s,baz=352,slow=3.0,SNR=7.1								
	comp=Z,1.7nm,0.8s								
KURBB	**Kurchatov Arra**	**92.70**	**350**	P		**P**		05 05 32.2	+1.4
	comp=Z,0.7nm,0.7s,baz=17,slow=4.7,SNR=4.0								
	comp=Z,0.7nm,0.7s								
QSPA	**South Pole Qui**	**125.70**	**180**	PKP		**PKiKP**		05 11 20.7	+0.8
	comp=Z,1.2nm,0.8s,baz=1.4,slow=1.0,SNR=4.4								
MAW	**Mawson**	**148.22**	**180**	PKPbc		**PKPbc**		05 12 04.3	+0.4
	comp=Z,5.1nm,0.9s,baz=248,slow=4.1,SNR=7.7								

*NEIC **06** 04:53:41.6±0.9, 35°.863N±0°.009×117°.66W±0°.01, h5km, Error ellipse: s-maj=1.7km s-min=1.5km az=296.0*

PAS 06 04:53:42.0±1.0, 35°.867N±0°.008×117°.66W±0°.01, h4km±2km, ML3.9/4, ML4.0/20(NEIC), Error ellipse: s-maj=1.4km s-min=1.1km az=83.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.15**	**303**		Pg	04 53 45.1	+0.1
SRTC	**Snort**	**0.19**	**202**		Pg	04 53 46.3	+0.6
SRTC					Sg	04 53 50.1	+1.9
WNMM	**Nine Mile Cany**	**0.20**	**263**		Pg	04 53 46.1	+0.2
WRVM	**Rose V. Centra**	**0.23**	**307**		Pg	04 53 46.5	0.0
MFS	**McCloud Flat S**	**0.29**	**328**		Pg	04 53 47.7	-0.1
MFS					Sg	04 53 51.9	+0.3
LRMC	**Laurel Mtn Rad**	**0.39**	**182**	Pg	Pg	04 53 49.5	-0.1
LRMC				IAML		04 53 55.6	
	comp=E,16µm,0.4s						
LRMC				IAML		04 53 55.8	
	comp=N,15µm,0.4s						
WORM	**Onyx Ranch**	**0.50**	**250**		Sg	04 53 58.1	0.0
WBSM	**Bird Springs**	**0.51**	**230**		Pg	04 53 51.7	-0.1
WHFM	**Hanning Flat**	**0.58**	**253**		Pg	04 53 53.0	-0.2
DTP	**Desert Tortois**	**0.62**	**194**		Pg	04 53 53.5	-0.4
QSM	**Queen of Sheba**	**0.65**	**81**		Pg	04 53 54.2	-0.3
QSM				Sg	Sg	04 54 02.2	-0.8
QSM				IAML		04 54 07.4	
	comp=N,11µm,0.7s						
ISA	**Isabella, Lake**	**0.69**	**253**	Pg	Pg	04 53 54.9	-0.3
ISA				Sg	Sg	04 54 03.8	-0.4
ISA				IAML		04 54 08.8	
	comp=E,7µm,0.4s						
CCAC	**Calif City Air**	**0.77**	**202**	Pg	Pg	04 53 56.4	-0.4
CCAC				Sg	Sg	04 54 07.0	+0.3
CCAC				IAML		04 54 07.7	
	comp=E,5µm,0.5s						
CCAC				IAML		04 54 10.4	
	comp=N,4µm,0.5s						
GWY	**Greenwater Val**	**0.87**	**68**		Pg	04 53 58.5	-0.2
GWY				Sg	Sg	04 54 09.6	-0.3
GWY				IAML		04 54 12.2	
	comp=N,7µm,0.5s						
GSC	**Goldstone, Bar**	**0.90**	**129**	Pg	Pg	04 53 57.6	-1.7
SPG2	**Springville 2**	**0.95**	**291**		Pg	04 53 59.4	-0.9
GRAC	**Grapevine Rang**	**1.15**	**12**	Pg	Pg	04 54 03.5	-0.7
GRAC				IAML		04 54 10.0	
	comp=N,3µm,0.6s						
GRAC				IAML		04 54 21.8	
	comp=E,3µm,0.3s						
VES	**Vestal, Richgr**	**1.16**	**269**		Pg	04 54 03.5	-0.6
WCT	**Wildcat Mounta**	**1.25**	**42**	Pg	Pg	04 54 05.1	-0.8
AMDNV	**Amargosa**	**1.26**	**62**		Pg	04 54 05.5	-0.7
TIN	**Tinemaha, Big**	**1.27**	**339**		Pg	04 54 06.0	-0.4
ADO	**Adelanto Recei**	**1.33**	**172**		Pn	04 54 07.0	-0.5
GMN	**Gold Mountain**	**1.47**	**13**		Pn	04 54 09.1	-0.4
TUQ	**Turquoise Moun**	**1.48**	**106**		Pn	04 54 07.8	-1.8
SVD	**Seven Oaks Dam**	**1.82**	**165**		Pb	04 54 15.7	-0.2

*NEIC **06** 04:55:21.5±0.7, 35°.716N±0°.010×117°.56W±0°.01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.6km az=144.0*

PAS 06 04:55:22.0±0.8, 35°.710N±0°.008×117°.551W±0°.008, h3km±3km, ML3.2/15, ML3.0/14(NEIC), Error ellipse: s-maj=1.3km s-min=0.7km az=145.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.16**	**264**		Pg	04 55 25.6	+0.5
CCCA	**Chr Cany lake**	**0.24**	**141**		Pg	04 55 28.7	+2.1
LRMC	**Laurel Mtn Rad**	**0.25**	**205**		Pg	04 55 26.8	0.0
LRMC					Sg	04 55 30.7	+0.5
LRMC				IAML		04 55 33.0	
	comp=E,4µm,0.4s						
WNMM	**Nine Mile Cany**	**0.32**	**295**		Sg	04 55 32.6	+0.4
WRVM	**Rose V. Centra**	**0.41**	**317**		Pg	04 55 30.0	+0.2
DTP	**Desert Tortois**	**0.50**	**209**		Sg	04 55 38.6	+0.5
WBSM	**Bird Springs**	**0.51**	**250**		Pg	04 55 31.6	-0.2
WBSM					Sg	04 55 38.9	+0.6
WORM	**Onyx Ranch**	**0.56**	**269**		Sg	04 55 40.7	+0.6
QSM	**Queen of Sheba**	**0.61**	**65**		Pg	04 55 33.5	-0.2
QSM				IAML		04 55 43.6	
	comp=N,698nm,0.1s						
QSM				IAML		04 55 47.1	
	comp=E,695nm,0.2s						
WHFM	**Hanning Flat**	**0.65**	**269**		Pg	04 55 34.1	-0.3
CCAC	**Calif City Air**	**0.67**	**215**		Sg	04 55 44.1	+0.5
CCAC	**Calif City Air**	**0.67**	**215**	Pg	Pg	04 55 34.7	-0.1
CCAC				IAML		04 55 46.0	
	comp=N,767nm,0.2s						
GSC	**Goldstone, Bar**	**0.73**	**124**	Pg	Pg	04 55 35.9	-0.1
GSC				IAML		04 55 47.4	
	comp=N,680nm,0.3s						
GSC				IAML		04 55 47.6	
	comp=E,1µm,0.4s						
GSC	**Goldstone, Bar**	**0.73**	**124**		Sg	04 55 45.9	+0.5
ISA	**Isabella, Lake**	**0.75**	**267**	Pg	Pg	04 55 36.0	-0.4
WASM	**Alta Sierra Ca**	**0.82**	**272**		Pg	04 55 37.4	-0.3
HYS	**Haystack Butte**	**0.84**	**181**		Pg	04 55 37.6	-0.6
GWY	**Greenwater Val**	**0.86**	**56**	Pg	Pg	04 55 38.0	-0.4
GWY				IAML		04 55 53.9	
	comp=N,419nm,0.3s						
AMDNV	**Amargosa**	**1.27**	**54**		Pg	04 55 45.9	-0.4
JNH	**Juniper Hills**	**1.30**	**195**		Pg	04 55 46.8	-0.1
GATR	**Gnd/Air Tx Cnt**	**2.68**	**245**		Pn	04 56 06.4	+0.3

*NEIC **06** 04:56:01.9±1.0, 35°.87N±0°.01×117°.65W±0°.01, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.6km az=326.0*

PAS 06 04:56:02.4±0.8, 35°.872N±0°.008×117°.67W±0°.01, h4km±1km, ML3.1/5, ML3.0/18(NEIC), Error ellipse: s-maj=1.7km s-min=1.1km az=106.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.15**	**302**		Pg	04 56 05.5	+0.2
SRTC	**Snort**	**0.19**	**201**		Pg	04 56 06.6	+0.5
WNMM	**Nine Mile Cany**	**0.20**	**262**		Pg	04 56 09.8	+3.6
WRVM	**Rose V. Centra**	**0.23**	**307**		Pg	04 56 06.9	+0.1
MFS	**McCloud Flat S**	**0.29**	**328**		Pg	04 56 08.0	0.0
LRMC	**Laurel Mtn Rad**	**0.39**	**182**		Pg	04 56 09.7	-0.2
LRMC				IAML		04 56 22.6	
	comp=N,1µm,0.1s						
LRMC				IAML		04 56 23.1	
	comp=E,2µm,0.2s						
CCCA	**Chr Cany lake**	**0.42**	**145**		Sg	04 56 15.3	-0.8
WBSM	**Bird Springs**	**0.51**	**229**		Pg	04 56 12.1	-0.1
WBSM					Sg	04 56 19.1	+0.3
WHFM	**Hanning Flat**	**0.58**	**253**		Pg	04 56 13.3	-0.3
QSM	**Queen of Sheba**	**0.65**	**82**	Pg	Pg	04 56 15.0	+0.1
QSM				IAML		04 56 26.4	
	comp=N,770nm,0.2s						
QSM				IAML		04 56 27.3	
	comp=E,754nm,0.5s						
CGO	**Cerro Gordo**	**0.69**	**351**		Pg	04 56 15.7	+0.1
ISA	**Isabella, Lake**	**0.69**	**253**	Pg	Pg	04 56 15.2	-0.4
ISA				IAML		04 56 25.5	
	comp=E,679nm,0.2s						
CCAC	**Calif City Air**	**0.77**	**202**	Pg	Pg	04 56 16.8	-0.4
CCAC				IAML		04 56 28.0	
	comp=E,704nm,0.4s						
CCAC				IAML		04 56 30.7	
	comp=N,657nm,0.4s						
GWY	**Greenwater Val**	**0.87**	**68**		Pg	04 56 18.6	-0.4
GWY				IAML		04 56 32.4	
	comp=N,573nm,0.5s						
GSC	**Goldstone, Bar**	**0.90**	**129**	Pg	Pg	04 56 19.0	-0.6
HYS	**Haystack Butte**	**1.01**	**175**		Pg	04 56 21.9	+0.2
GRAC	**Grapevine Rang**	**1.15**	**12**	Pg	Pg	04 56 23.6	-0.8
GRAC				IAML		04 56 44.5	
	comp=E,270nm,0

ISA				IAML			04 58 42.3	
	comp=N,2µm,0.5s							
ISA				IAML			04 58 53.3	
	comp=E,2µm,0.2s							
ISA	**Isabella, Lake**	**0.85**	**273**			Sg	04 58 39.9	+0.5
EDW2	**Edwards Air Fo**	**0.88**	**212**			Pg	04 58 28.2	-0.7
DSCC	**Desert Studies**	**1.19**	**114**			Pg	04 58 34.0	-0.9
SPG2	**Springville 2**	**1.22**	**298**			Pg	04 58 34.7	-0.9
AMDNV	**Amargosa**	**1.24**	**48**			Pg	04 58 35.6	-0.2
TUQ	**Turquoise Moun**	**1.25**	**99**			Pg	04 58 35.1	-0.9
WCT	**Wildcat Mounta**	**1.33**	**29**			Pg	04 58 37.1	-0.5
BFSC	**Mount Baldy Ra**	**1.40**	**188**			Pn	04 58 38.3	-0.4
PASC	**Pasadena Art C**	**1.58**	**203**			Pn	04 58 39.7	-1.3
TPNV	**Topopah Spring**	**1.63**	**36**			Pn	04 58 41.1	-0.7
GMN	**Gold Mountain**	**1.67**	**5**			Pb	04 58 43.5	-0.2
BHPR	**Bishop**	**1.87**	**333**			Pb	04 58 47.4	+0.4
MTUM	**Tungsten Hills**	**1.95**	**332**			Pb	04 58 48.6	+0.3
GATR	**Gnd/Air Tx Cnt**	**2.74**	**248**			Pn	04 58 58.1	+1.2
W13A	**Hualapai Mount**	**2.95**	**99**			Pn	04 58 58.7	-1.3
BLYC	**Blythe**	**3.04**	**127**			Pn	04 58 58.9	-2.2

NEIC ***06*** *04:58:36.5±1.2,35°.712N±0°.008×117°.57W±0°.01, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.4km az=241.0*

PAS ***06*** *04:58:36.7±1.2,35°.707N±0°.008×117°.571W±0°.007, h3km±2km, ML4.3/48, ML3.9/50(NEIC), Error ellipse: s-maj=1.2km s-min=0.7km az=184.0*

IDC ***06*** *04:58:38.5±0.7,35°.71N×117°.31W, h0km, mb3.5/2, mbtmp3.6/8, ML3.4/3, Error ellipse: s-maj=13.9km s-min=5.6km az=74.0*

ISC 06 04:58:37.4±0.8, 35°.70N±0°.02×117°.58W±0°.02, h10km±6km, n70, σ1°17/83, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.12**	**354**		**Pg**	**04 58 40.7**	**-0.3**
SRTC	**Snort**	**0.14**	**268**		**Pg**	**04 58 40.2**	**-0.4**
SRTC					**Sg**	**04 58 43.2**	**+0.4**
TOW	**Tower One**	**0.19**	**307**		**Pg**	**04 58 40.9**	**-0.5**
LRMC	**Laurel Mtn Rad**	**0.23**	**201**		**Pg**	**04 58 41.5**	**-0.7**
LRMC					**Sg**	**04 58 45.3**	**-0.2**
LRMC	**Laurel Mtn Rad**	**0.23**	**201**	IAML		04 58 45.5	
	comp=E,72µm,0.5s						
LRMC				IAML		04 58 46.1	
	comp=N,52µm,0.3s						
CCCA	**Chr Cany lake**	**0.25**	**134**		**Pg**	**04 58 42.1**	**-0.3**
CCCA					**Sg**	**04 58 46.4**	**+0.5**
WNMM	**Nine Mile Cany**	**0.30**	**299**		**Pg**	**04 58 42.8**	**-0.6**
WNMM					**Sg**	**04 58 47.8**	**+0.4**
WVPM	**Volcano Peak E**	**0.32**	**323**		**Pg**	**04 58 42.9**	**-0.9**
JRC2	**Joshua Ridge**	**0.34**	**327**		**Sg**	**04 58 48.4**	**-0.4**
WCSM	**Coso Springs S**	**0.36**	**336**		**Pg**	**04 58 43.6**	**-1.0**
WCSM					**Sg**	**04 58 48.7**	**-0.8**
WRVM	**Rose V. Centra**	**0.40**	**321**		**Pg**	**04 58 44.3**	**-1.0**
MFS	**McCloud Flat S**	**0.47**	**332**		**Pg**	**04 58 45.8**	**-0.9**
MFS					**Sg**	**04 58 52.6**	**-0.4**
DTP	**Desert Tortois**	**0.48**	**207**		**Pg**	**04 58 45.9**	**-0.8**
DTP					**Sg**	**04 58 53.1**	**0.0**
WBSM	**Bird Springs**	**0.48**	**251**		**Pg**	**04 58 46.1**	**-0.7**
WBSM					**Sg**	**04 58 53.0**	**-0.2**
WORM	**Onyx Ranch**	**0.54**	**270**		**Pg**	**04 58 47.0**	**-0.9**
WORM					**Sg**	**04 58 54.2**	**-0.8**
WHFM	**Hanning Flat**	**0.62**	**270**		**Sg**	**04 58 57.1**	**-0.7**
QSM	**Queen of Sheba**	**0.64**	**65**	Pg	**Pg**	**04 58 48.2**	**-1.6**
QSM				IAML		04 58 57.3	
	comp=E,7µm,0.5s						
QSM				IAML		04 59 01.4	
	comp=N,10µm,0.7s						
QSM	**Queen of Sheba**	**0.64**	**65**		**Sg**	**04 58 57.0**	**-1.2**
CCAC	**Calif City Air**	**0.65**	**213**	Pg	**Pg**	**04 58 48.9**	**-1.0**
CCAC				IAML		04 58 58.8	
	comp=E,6µm,0.3s						
CCAC				IAML		04 59 06.5	
	comp=N,5µm,0.5s						
ISA	**Isabella, Lake**	**0.73**	**268**		**Sg**	**04 59 00.2**	**-0.7**
ISA	**Isabella, Lake**	**0.73**	**268**	Pg	**Pg**	**04 58 50.9**	**-0.5**
ISA				IAML		04 59 01.1	
	comp=E,9µm,0.5s						
GSC	**Goldstone, Bar**	**0.75**	**122**	Pg	**Pg**	**04 58 50.8**	**-1.0**
GSC				IAML		04 59 01.3	
	comp=N,8µm,0.4s						
WASM	**Alta Sierra Ca**	**0.79**	**273**		**Pg**	**04 58 51.9**	**-0.9**
WASM					**Sg**	**04 59 02.5**	**-0.7**
HYS	**Haystack Butte**	**0.83**	**179**		**Pg**	**04 58 52.4**	**-1.0**
HYS					**Sg**	**04 59 03.6**	**-0.6**
CWC	**Cottonwood Cre**	**0.84**	**332**		**Pg**	**04 58 52.8**	**-1.0**
CWC					**Sg**	**04 59 04.1**	**-0.6**
CGO	**Cerro Gordo**	**0.87**	**348**		**Pb**	**04 58 53.9**	**-0.9**
CGO					**Sb**	**04 59 05.4**	**-1.2**
EDW2	**Edwards Air Fo**	**0.88**	**203**		**Pg**	**04 58 53.0**	**-1.3**
GWY	**Greenwater Val**	**0.89**	**56**	Pg	**Pg**	**04 58 53.6**	**-0.9**
RRX	**Edison Barstow**	**0.95**	**149**		**Pg**	**04 58 54.8**	**-0.9**
FURC	**Furnace Creek,**	**0.96**	**37**		**Sg**	**04 59 07.5**	**-1.0**
TPO	**Tropico Hills**	**0.97**	**213**		**Pg**	**04 58 55.1**	**-0.9**
TPO					**Sb**	**04 59 09.1**	**-0.1**
SBB	**Saddle Back Bu**	**1.02**	**191**		**Pg**	**04 58 55.7**	**-1.4**
SBB					**Sg**	**04 59 09.2**	**-1.2**
SHOC	**Shoshone, Teco**	**1.08**	**79**		**Sg**	**04 59 11.0**	**-1.3**
SPG2	**Springville 2**	**1.08**	**298**		**Pg**	**04 58 56.7**	**-1.5**
ADO	**Adelanto Recei**	**1.15**	**174**		**Pb**	**04 58 58.7**	**-0.7**
TJR	**Tejon Ranch**	**1.16**	**235**		**Pb**	**04 58 58.0**	**-1.4**
TJR					**Sb**	**04 59 13.4**	**-1.2**
ALPC	**Antelope**	**1.17**	**210**		**Pb**	**04 58 59.2**	**-0.4**
ALPC					**Sb**	**04 59 14.5**	**-0.3**
THC	**Tehachapi Micr**	**1.18**	**229**		**Pb**	**04 58 58.5**	**-1.5**
LEOC	**Leona Valley**	**1.22**	**209**		**Pn**	**04 58 59.6**	**-0.9**
JNH	**Juniper Hills**	**1.28**	**194**		**Pn**	**04 59 00.3**	**-1.1**
JNH					**Sb**	**04 59 17.2**	**-1.0**
AMDNV	**Amargosa**	**1.30**	**54**		**Pb**	**04 59 00.9**	**-0.9**
AMDNV					**Sb**	**04 59 17.6**	**-0.9**
GRAC	**Grapevine Rang**	**1.31**	**8**		**Pn**	**04 58 59.7**	**-2.1**
DSCC	**Desert Studies**	**1.33**	**114**		**Pn**	**04 59 01.1**	**-0.8**
HEC	**Hector,Ludlow**	**1.34**	**130**		**Pb**	**04 59 01.8**	**-0.7**
WCT	**Wildcat Mounta**	**1.34**	**35**		**Pb**	**04 59 01.8**	**-0.8**
WCT	**Wildcat Mounta**	**1.34**	**35**	IAML		04 59 22.8	
	comp=E,2µm,0.5s						
TUQ	**Turquoise Moun**	**1.38**	**100**		**Pn**	**04 59 02.0**	**-0.7**
PASC	**Pasadena Art C**	**1.60**	**198**		**Pb**	**04 59 06.6**	**-0.4**
PASC				IAML		04 59 33.3	
	comp=N,1µm,0.8s						
PASC				IAML		04 59 35.0	
	comp=E,2µm,0.5s						
PSRC	**Puddingstone R**	**1.61**	**187**		**Pg**	**04 59 07.8**	**-0.5**
GMN	**Gold Mountain**	**1.62**	**9**		**Pb**	**04 59 06.6**	**-0.9**
GMN				IAML		04 59 30.5	
	comp=E,1µm,0.5s						
GMN				IAML		04 59 34.2	
	comp=N,2µm,0.7s						
TPNV	**Topopah Spring**	**1.65**	**40**		**Pn**	**04 59 06.2**	**-0.3**
TPNV				IAML		04 59 35.9	
	comp=N,1µm,0.7s						
TPNV				IAML		04 59 37.9	
	comp=N,2µm,0.8s						
BCW	**Bitter Crk WRg**	**1.68**	**244**		**Pb**	**04 59 07.8**	**-0.6**
BCW				IAML		04 59 31.3	
	comp=E,2µm,0.5s						
DSP	**Deep Springs**	**1.70**	**350**		**Pb**	**04 59 07.8**	**-0.9**
DSP				IAML		04 59 31.7	
	comp=E,1µm,0.5s						
BLAC	**Blackrock camp**	**1.90**	**148**		**Pn**	**04 59 09.4**	**-0.5**
MZP	**Montezuma Peak**	**2.01**	**5**		**Pb**	**04 59 12.2**	**-1.9**
MZP				IAML		04 59 45.6	
	comp=E,650nm,0.5s						
PFO	**Pinyon Flats O**	**2.28**	**156**	Pn	**Pn**	**04 59 14.7**	**-0.4**
	comp=E,87nm,0.4s,baz=348,slow=13,SNR=15						
PFO				Pg	**Pg**	**04 59 19.5**	**-1.5**
	comp=E,100nm,0.3s,baz=339,slow=12,SNR=11						
PFO				Lg	Lg	04 59 48.7	
	comp=E,169nm,0.3s,baz=190,slow=14,SNR=10						
LHV	**Little Huntoon**	**2.66**	**344**	IAML		05 00 07.5	
	comp=N,523nm,1.1s						
LHV				IAML		05 00 08.5	
	comp=E,645nm,1.1s						
NV11	**Mina Array Sit**	**2.77**	**351**	IAML		05 00 08.7	
	comp=E,362nm,1.6s						
NVAR	**Mina Array Bea**	**2.79**	**348**	Pn	**Pb**	**04 59 25.9**	**-1.5**
	comp=E,38nm,0.4s,baz=170,slow=15,SNR=9.6						
NVAR				Pg	**Pg**	**04 59 29.1**	**-1.7**
	comp=E,52nm,0.3s,baz=318,slow=34,SNR=12						
NVAR				Lg	Lg	05 00 05.2	
	comp=E,50nm,0.3s,baz=123,slow=33,SNR=3.0						
CMB	**Columbia Colle**	**3.24**	**317**	IAML		05 00 27.4	
	comp=E,218nm,0.8s						
CMB				IAML		05 00 33.7	
	comp=N,241nm,0.6s						
MPK	**Martis Peak**	**4.09**	**332**	IAML		05 01 01.4	
	comp=N,277nm,0.7s						
VTX	**Valle De La Tr**	**4.55**	**160**	IAML		05 01 01.4	
	comp=E,169nm,0.8s						
VTX				IAML		05 01 02.8	
	comp=N,121nm,0.9s						
ELK	**Elko**	**5.37**	**19**	IAML		05 01 28.9	
	comp=N,46nm,0.6s						
ELK	**Elko**	**5.37**	**19**	Pn	**Pn**	**05 00 00.3**	**+2.6**
	comp=N,1.7nm,0.3s,baz=207,slow=14,SNR=4.7						
ELK				Sn	**Sn**	**05 00 59.9**	**+0.2**
	comp=N,5.3nm,0.3s,baz=274,slow=15,SNR=2.1						
ELK				Lg	Lg	05 01 25.9	
	comp=N,8.3nm,0.3s,baz=116,slow=22,SNR=9.5						
	comp=N,5.0nm,0.4s						
YBH	**Yreka Blue Hor**	**7.24**	**328**	Pn	Pn	05 00 29.6	+6.4
	baz=170,slow=11,SNR=1.9						
YBH				Lg	Lg	05 02 31.3	
	baz=187,slow=6.0,SNR=4.7						
ANMO	**Albuquerque**	**9.12**	**91**	Pn	**Pn**	**05 00 49.6**	**+0.4**
	comp=N,0.1nm,0.3s,baz=240,slow=16,SNR=0.9						
ANMO				Lg	Lg	05 03 18.4	
	comp=N,0.2nm,0.3s,baz=126,slow=23,SNR=10						
	comp=N,0.8nm,0.7s						
PDAR	**Pinedale Array**	**9.41**	**39**	Pn	**Pn**	**05 00 57.0**	**+3.8**
	comp=N,0.1nm,0.3s,baz=216,slow=12,SNR=4.1						
PDAR				Lg	Lg	05 03 28.2	
	baz=255,slow=35						
	comp=N,0.6nm,0.7s						
TXAR	**Lajitas Array**	**13.34**	**114**	Pn	**Pn**	**05 01 47.6**	**+0.8**
	comp=N,1.0nm,0.4s,baz=291,slow=13,SNR=38						
TXAR				Lg	Lg	05 05 30.9	
	baz=302,slow=23,SNR=9.7						
ULM	**Lac du Bonnet**	**21.43**	**41**	P	**P**	**05 03 26.7**	**+1.4**
	comp=N,3.1nm,0.6s,baz=243,slow=11,SNR=4.9						
	comp=N,3.1nm,0.6s						
YKA	**Yellowknife Ar**	**26.89**	**3**	P	**P**	**05 04 22.2**	**+4.2**
	comp=N,0.2nm,0.7s,baz=191,slow=8.2,SNR=3.1						
	comp=N,0.2nm,0.7s						

NEIC ***06*** *05:00:29.2±1.6,35°.90N±0°.01×117°.724W±0°.008, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.9km az=21.0*

PAS 06 05:00:29.1±1.8, 35°.88N±0°.01×117°.71W±0°.01, h2km±4km, ML3.4/14, ML3.0/26(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=181.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.11**	**306**		Pg	05 00 31.6	+0.3
WVPM					Sg	05 00 33.7	+0.8
WRVM	**Rose V. Centra**	**0.20**	**310**		Pg	05 00 33.1	+0.2
LRMC	**Laurel Mtn Rad**	**0.40**	**177**		Pg	05 00 36.8	0.0
LRMC					Sg	05 00 42.7	+0.6
LRMC	**Laurel Mtn Rad**	**0.40**	**177**	IAML		05 00 43.6	
	comp=N,4µm,0.2s						
LRMC				IAML		05 00 43.7	
	comp=E,4µm,0.2s						
CCCA	**Chr Cany lake**	**0.45**	**142**		Sg	05 00 45.2	+1.7
WBSM	**Bird Springs**	**0.49**	**226**		Pg	05 00 38.5	0.0
WBSM					Sg	05 00 45.6	+0.7
WHFM	**Hanning Flat**	**0.56**	**251**		Sg	05 00 47.2	+0.3
DTP	**Desert Tortois**	**0.62**	**191**		Pg	05 00 40.8	-0.2
QSM	**Queen of Sheba**	**0.68**	**83**	Pg	Pg	05 00 42.0	-0.2
QSM				IAML		05 00 55.4	
	comp=N,1µm,0.7s						
CCAC	**Calif City Air**	**0.77**	**199**		Pg	05 00 43.2	-0.6
CCAC					Sg	05 00 54.6	+0.7
CCAC	**Calif City Air**	**0.77**	**199**	IAML		05 00 54.8	
	comp=N,569nm,0.9s						
GWY	**Greenwater Val**	**0.89**	**70**	Pg	Pg	05 00 45.9	-0.3
GWY				IAML		05 01 01.5	
	comp=N,683nm,0.5s						
FURC	**Furnace Creek,**	**0.90**	**49**		Sg	05 00 58.7	+0.8
SPG2	**Springville 2**	**0.92**	**291**		Pg	05 00 46.2	-0.4
GSC	**Goldstone, Bar**	**0.93**	**128**	Pg	Pg	05 00 46.3	-0.7
GSC				IAML		05 01 03.5	
	comp=N,374nm,0.6s						
HYS	**Haystack Butte**	**1.02**	**174**		Pb	05 00 49.1	-0.4
GRAC	**Grapevine Rang**	**1.15**	**14**	Pg	Pg	05 00 50.4	-0.6
GRAC				IAML		05 01 11.9	
	comp=E,377nm,0.6s						
GRAC				IAML		05 01 16.3	
	comp=N,401nm,0.7s						
SBB	**Saddle Back Bu**	**1.20**	**185**		Pg	05 00 51.7	-0.2
WCT	**Wildcat Mounta**	**1.26**	**43**	Pg	Pg	05 00 52.7	-0.5
WCT				IAML		05 01 11.8	
	comp=N,196nm,0.9s						
WCT				IAML		05 01 13.9	
	comp=E,301nm,0.7s						
BAKC	**Calstate**	**1.26**	**245**		Sb	05 01 10.3	+0.1
AMDNV	**Amargosa**	**1.28**	**63**		Sg	05 01 09.8	-0.5
VTV	**Victorville**	**1.35**	**167**		Sn	05 01 13.3	-0.2
LRRC	**Littlerock Res**	**1.38**	**191**		Pb	05 00 55.7	+0.2
CJV	**Casa Juvan**	**1.40**	**195**		Pb	05 00 56.2	+0.3
JNH	**Juniper Hills**	**1.45**	**188**		Pg	05 00 56.8	0.0
GMN	**Gold Mountain**	**1.46**	**14**		Pn	05 00 56.8	+0.2
GMN				IAML		05 01 05.5	
	comp=N,137nm,0.6s						
DSP	**Deep Springs**	**1.50**	**352**		Pn	05 00 56.9	-0.1
CHFC	**Chilao Flat St**	**1.57**	**190**		Pb	05 00 58.7	-0.1
TPNV	**Topopah Spring**	**1.58**	**47**		Pn	05 00 58.1	-0.2
TPNV				IAML		05 01 22.2	
	comp=N,195nm,0.4s						
TPNV				IAML		05 01 22.2	
	comp=N,235nm,1.1s						
SSK	**Sunset Peak**	**1.67**	**180**		Pb	05 01 00.7	+0.2
PASC	**Pasadena Art C**	**1.75**	**193**		Pn	05 01 01.0	+0.6
PSRC	**Puddingstone R**	**1.79**	**183**		Pg	05 01 03.1	-0.3
W13A	**Hualapai Mount**	**3.21**	**103**	Pn	Pn	05 01 19.2	-1.5

NEIC ***06*** *05:03:36.4±0.6,35°.89N±0°.01×117°.69W±0°.01, h3km±3km, Error ellipse: s-maj=2.0km s-min=1.2km az=219.0*

PAS 06 05:03:36.8±0.5, 35°.89N±0°.01×117°.70W±0°.01, h4km±2km, ML3.5/175, ML3.3/22(NEIC), Error ellipse: s-maj=2.1km s-min=0.9km az=222.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.10**	**215**		Pg	05 03 39.0	+0.2
CLC	**China Lake**	**0.11**	**132**		Pg	05 03 38.9	-0.1
CLC					Sg	05 03 40.7	+0.2
WVPM	**Volcano Peak E**	**0.12**	**302**		Pg	05 03 39.3	+0.1
WVPM					Sg	05 03 41.1	+0.3
WCSM	**Coso Springs S**	**0.15**	**338**		Pg	05 03 39.8	0.0
WCSM					Sg	05 03 42.1	+0.3
WNMM	**Nine Mile Cany**	**0.17**	**255**		Pg	05 03 40.6	+0.4
WNMM					Sg	05 03 43.2	+0.7
WRVM	**Rose V. Centra**	**0.20**	**308**		Pg	05 03 40.3	-0.3
SRTC	**Snort**	**0.20**	**192**		Pg	05 03 41.0	+0.3
SRTC					Sg	05 03 44.5	+1.2
MPMC	**Manual Prospec**	**0.24**	**45**		Pg	05 03 41.6	+0.1
MPMC					Sg	05 03 45.3	+0.6
MFS	**McCloud Flat S**	**0.26**	**331**		Pg	05 03 42.0	+0.1
MFS					Sg	05 03 45.8	+0.4
LRMC	**Laurel Mtn Rad**	**0.41**	**178**	Pg	Pg	05 03 44.5	-0.1
LRMC				IAML		05 03 51.0	
	comp=N,4µm,0.6s						
QSM	**Queen of Sheba**	**0.68**	**83**	Pg	Pg	05 03 49.2	-0.6
CCAC	**Calif City Air**	**0.78**	**200**	Pg	Pg	05 03 51.6	-0.1
CCAC				IAML		05 04 06.3	
	comp=E,1µm,1.0s						
CCAC				IAML		05 04 06.5	
	comp=N,1µm,0.3s						
GWY	**Greenwater Val**	**0.89**	**70**	Pg	Pg	05 03 53.5	-0.3
GWY				IAML		05 04 11.3	
	comp=E,1µm,0.5s						
GWY				IAML		05 04 13.1	
	comp=N,924nm,0.5s						
GSC	**Goldstone, Bar**	**0.93**	**129**	Pg	Pg	05 03 54.4	-0.3
GSC				IAML		05 04 17.5	
	comp=E,852nm,0.7s						
GRAC	**Grapevine Rang**	**1.14**	**13**	Pg	Pg	05 03 58.6	0.0
GRAC				IAML		05 04 14.8	
	comp=E,665nm,0.8s						
GRAC				IAML		05 04 19.3	
	comp=N,723nm,0.8s						
WCT	**Wildcat Mounta**	**1.25**	**43**	Pg	Pb	05 04 01.0	0.0
WCT				IAML		05 04 21.6	
	comp=E,418nm,0.7s						
GMN	**Gold Mountain**	**1.45**	**14**	Pg	Pb	05 04 04.3	-0.2
GMN				IAML		05 04 50.4	
	comp=E,374nm,0.5s						
ELS	**Elsinore Mount**	**2.25**	**174**		Pn	05 04 13.6	-1.2
ELS				IAML		05 05 33.1	
	comp=E,177nm,0.7s						
PFO	**Pinyon Flats O**	**2.49**	**155**		Pn	05 04 17.0	-1.2
PFO				IAML		05 05 45.8	
	comp=E,133nm,0.8s						
BBGB	**Big Mountain B**	**2.79**	**285**	Pn	Pn	05 04 21.4	-0.9
R11B	**Troy Canyon, C**	**2.98**	**34**	Pn	Pn	05 04 24.8	-0.2
BGU	**Big Grassy Mou**	**6.22**	**35**	Pn	Pn	05 05 09.3	-0.2
W18A	**Petrified Fore**	**6.54**	**94**	Pn	Pn	05 05 12.9	-1.0
P18A	**Preston Nutter**	**6.98**	**55**	Pn	Pn	05 05 18.6	-1.5
PV23	**Carpenter Ridg**	**7.39**	**67**	Pn	Pn	05 05 25.6	-0.1
PV11	**David Mesa, Pa**	**7.45**	**69**	Pn	Pn	05 05 26.3	-0.2
PV13	**Radium Mtn., P**	**7.45**	**70**	Pn	Pn	05 05 24.0	-2.5
PV12	**Saucer Basin,**	**7.51**	**69**	Pn	Pn	05 05 25.3	-2.0
PV02	**Paradox Valley**	**7.53**	**69**	Pn	Pn	05 05 26.2	-1.3
PV01	**Paradox Valley**	**7.64**	**70**	Pn	Pn	05 05 27.9	-1.2
PV07	**Paradox Valley**	**7.66**	**68**	Pn	Pn	05 05 29.4	+0.1

NEIC ***06*** *05:04:19.3±1.4,35°.89N±0°.01×117°.71W±0°.01, h3km±1km, Error ellipse: s-maj=1.6km s-min=1.4km az=138.0*

PAS 06 05:04:19.8±1.6, 35°.88N±0°.01×117°.69W±0°.01, h7km±2km, ML3.8/19, ML3.4/56(NEIC), Error ellipse: s-maj=1.6km s-min=1.5km az=130.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.13**	**305**		Pg	05 04 20.7	-1.8
WVPM					Sg	05 04 22.8	-1.7
WNMM	**Nine Mile Cany**	**0.18**	**259**		Pg	05 04 23.3	0.0
WNMM					Sg	05 04 26.4	+0.7
SRTC	**Snort**	**0.19**	**194**		Pg	05 04 24.0	+0.4
SRTC					Sg	05 04 28.0	+1.8
WRVM	**Rose V. Centra**	**0.21**	**309**		Pg	05 04 22.1	-1.8
MFS	**McCloud Flat S**	**0.27**	**331**		Pg	05 04 25.1	-0.1
LRMC	**Laurel Mtn Rad**	**0.40**	**179**	Pg	Pg	05 04 27.2	-0.3
LRMC				IAML		05 04 33.4	
	comp=E,6µm,0.6s						
LRMC				IAML		05 04 37.7	
	comp=N,4µm,0.2s						
WORM	**Onyx Ranch**	**0.48**	**248**		Sg	05 04 35.1	-0.3
WBSM	**Bird Springs**	**0.50**	**227**		Sg	05 04 36.1	+0.2
DTP	**Desert Tortois**	**0.62**	**192**		Pg	05 04 31.2	-0.5
CWC	**Cottonwood Cre**	**0.64**	**331**		Pg	05 04 32.2	0.0
ISA	**Isabella, Lake**	**0.67**	**252**		Pg	05 04 31.9	-0.8
ISA				IAML		05 04 42.8	
	comp=E,2µm,0.3s						
ISA	**Isabella, Lake**	**0.67**	**252**		Sg	05 04 41.1	-0.4
QSM	**Queen of Sheba**	**0.67**	**82**	Pg	Pg	05 04 41.6	-1.2
QSM				IAML		05 04 45.2	
	comp=E,2µm,0.6s						
WASM	**Alta Sierra Ca**	**0.72**	**259**		Pg	05 04 33.1	-0.5
CCAC	**Calif City Air**	**0.77**	**200**		Pg	05 04 33.8	-0.8
CCAC				IAML		05 04 51.7	
	comp=N,2µm,0.4s						
GWY	**Greenwater Val**	**0.88**	**69**		Pg	05 04 36.5	-0.3
GSC	**Goldstone, Bar**	**0.92**	**128**	Pg	Pg	05 04 36.1	-1.3
HYS	**Haystack Butte**	**1.02**	**174**		Pg	05 04 39.2	0.0
TEJ	**El Tejon**	**1.04**	**232**		Sg	05 04 52.1	-1.1
VES	**Vestal, Richgr**	**1.13**	**269**		Pg	05 04 40.8	-1.7
VES					Sg	05 04 55.9	-0.3
GRAC	**Grapevine Rang**	**1.15**	**13**	Pg	Pg	05 04 40.9	-0.9
GRAC				IAML		05 05 05.8	
	comp=E,1µm,0.9s						
RRX	**Edison Barstow**	**1.15**	**150**		Pg	05 04 41.8	0.0
SHOC	**Shoshone, Teco**	**1.15**	**88**		Pg	05 04 41.7	-0.1
ARVC	**Arvin**	**1.19**	**232**		Pg	05 04 39.9	-2.8
SGV	**South Grapevin**	**1.22**	**26**		Pg	05 04 42.6	-0.6
WCT	**Wildcat Mounta**	**1.25**	**43**		Pb	05 04 43.0	-0.8
WCT	**Wildcat Mounta**	**1.25**	**43**	IAML		05 05 02.2	
	comp=E,776nm,0.5s						
AMDNV	**Amargosa**	**1.28**	**63**		Sb	05 05 00.2	-0.6
ADO	**Adelanto Recei**	**1.34**	**171**		Pn	05 04 44.9	-0.1
LCH	**Last Change Ra**	**1.35**	**2**		Pn	05 04 44.5	-0.8
LCH					Sb	05 05 02.5	-0.7
CJV	**Casa Juvan**	**1.39**	**196**		Pb	05 04 46.1	-0.1
VOG	**Valley Oaks Go**	**1.44**	**288**		Pb	05 04 47.0	+0.1
JNH	**Juniper Hills**	**1.44**	**189**		Pn	05 04 46.3	-0.1
GMN	**Gold Mountain**	**1.46**	**14**		Pn	05 04 46.0	-0.9
GMN				IAML		05 04 54.8	
	comp=N,422nm,0.5s						
TUQ	**Turquoise Moun**	**1.50**	**106**		Pn	05 04 47.4	+0.1
DSP	**Deep Springs**	**1.51**	**352**		Pn	05 04 46.6	-0.6
OSI	**Osito Audit: C**	**1.52**	**214**		Pn	05 04 47.4	0.0
OSI				IAML		05 05 16.2	
	comp=E,482nm,0.8s						
OSI				IAML		05 05 20.8	
	comp=N,477nm,0.6s						
POCCA	**Poleta Canyon**	**1.56**	**342**		Pn

QSM	**Queen of Sheba**	**0.69**	**83**	Pg	Pg	05 05 07.5	+0.2	
QSM				IAML		05 05 20.1		
	comp=N,732nm,0.8s							
CCAC	**Calif City Air**	**0.77**	**199**	Pg	Pg	05 05 08.1	-0.6	
CCAC				IAML		05 05 11.9		
	comp=E,631nm,1.2s							
CCAC				IAML		05 05 23.0		
	comp=N,628nm,0.6s							
GWY	**Greenwater Val**	**0.90**	**70**	Pg	Pg	05 05 09.9	-1.4	
GWY				IAML		05 05 15.3		
	comp=E,799nm,0.7s							
GWY				IAML		05 05 18.7		
	comp=N,513nm,0.8s							
GSC	**Goldstone, Bar**	**0.94**	**128**	Pg	Pg	05 05 11.8	-0.2	
GSC				IAML		05 05 17.0		
	comp=N,487nm,0.9s							
HYS	**Haystack Butte**	**1.02**	**173**		Sb	05 05 27.8	-0.5	
WCT	**Wildcat Mounta**	**1.27**	**44**	Pg	Pg	05 05 18.3	0.0	
TPH	**Tonopah**	**2.23**	**10**	Pn	Pn	05 05 30.1	-1.9	
BACC	**Bachelor Mtn.**	**2.33**	**166**		Pn	05 05 32.0	-1.2	
V12A	**Nelson**	**2.33**	**93**	Pn	Pn	05 05 33.5	+0.1	
V12A				IAML		05 05 46.3		
	comp=E,117nm,0.7s							
S11A	**Rachel**	**2.37**	**41**	Pn	Pn	05 05 33.0	-0.9	
PMD	**Palm Desert**	**2.48**	**153**	Pn	Pn	05 05 34.1	-1.3	
PMD				IAML		05 05 49.4		
	comp=N,100nm,1.0s							
PMD				IAML		05 05 56.3		
	comp=E,88nm,1.3s							
PFO	**Pinyon Flats O**	**2.49**	**155**	Pn	Pn	05 05 34.3	-1.3	
PFO				IAML		05 05 52.2		
	comp=E,84nm,1.2s							
PFO				IAML		05 05 56.6		
	comp=E,96nm,1.3s							
NV11	**Mina Array Sit**	**2.57**	**352**	Pn	Pn	05 05 36.4	-0.3	
BBGB	**Big Mountain B**	**2.78**	**286**	Pn	Pn	05 05 39.5	0.0	
WAKR	**Walker**	**2.96**	**333**	Pn	Pn	05 05 42.4	+0.3	
SAO	**San Andreas Ge**	**3.14**	**287**	Pn	Pn	05 05 43.4	-1.0	

*NEIC **06** 05:06:55.9±1.2,35°.916N±0°.006×117°.75W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.8km az=145.0*

PAS 06 05:06:56.2±1.2,35°.917N±0°.010×117°.75W±0°.01, h3km±3km, ML3.2/21, ML3.1/46(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=118.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.06**	**302**		Pg	05 06 58.1	+0.5
TOW	**Tower One**	**0.11**	**185**		Pg	05 06 58.9	+0.5
WNMM	**Nine Mile Cany**	**0.14**	**239**		Pg	05 06 59.4	+0.3
WNMM					Sg	05 07 02.1	+1.2
WRVM	**Rose V. Centra**	**0.14**	**309**		Pg	05 06 59.4	+0.3
MFS	**McCloud Flat S**	**0.22**	**338**		Pg	05 07 00.7	+0.3
SRTC	**Snort**	**0.23**	**179**		Pg	05 07 00.9	+0.3
SRTC					Sg	05 07 05.1	+1.6
LRMC	**Laurel Mtn Rad**	**0.44**	**172**		Sg	05 07 10.7	+0.2
LRMC	**Laurel Mtn Rad**	**0.44**	**172**	Pg	Pg	05 07 04.3	-0.4
LRMC				IAML		05 07 11.5	
	comp=N,2μm,0.2s						
LRMC				IAML		05 07 11.9	
	comp=E,2μm,0.2s						
WORM	**Onyx Ranch**	**0.46**	**241**		Pg	05 07 04.8	-0.2
WORM					Sg	05 07 11.1	+0.2
WBSM	**Bird Springs**	**0.49**	**220**		Pg	05 07 05.5	-0.1
WBSM					Sg	05 07 12.6	+0.5
CWC	**Cottonwood Cre**	**0.58**	**333**		Pg	05 07 07.8	+0.3
CWC					Sg	05 07 15.6	+0.5
CGO	**Cerro Gordo**	**0.63**	**356**		Pg	05 07 08.4	0.0
ISA	**Isabella, Lake**	**0.64**	**247**		Sg	05 07 17.1	+0.3
ISA	**Isabella, Lake**	**0.64**	**247**	Pg	Pg	05 07 08.2	-0.3
ISA				IAML		05 07 17.6	
	comp=N,755nm,0.2s						
ISA				IAML		05 07 19.5	
	comp=E,628nm,0.2s						
WASM	**Alta Sierra Ca**	**0.68**	**255**		Sg	05 07 18.5	+0.5
QSM	**Queen of Sheba**	**0.72**	**86**		Pg	05 07 09.4	-0.6
QSM				IAML		05 07 24.8	
	comp=N,543nm,0.5s						
QSM				IAML		05 07 26.6	
	comp=E,579nm,0.5s						
CCAC	**Calif City Air**	**0.79**	**196**		Sg	05 07 21.7	+0.1
CCAC	**Calif City Air**	**0.79**	**196**		Pg	05 07 10.5	-0.9
CCAC				IAML		05 07 25.2	
	comp=N,589nm,0.4s						
SPG2	**Springville 2**	**0.87**	**289**		Pg	05 07 12.3	-0.6
SPG2					Sg	05 07 23.7	-0.4
GWY	**Greenwater Val**	**0.92**	**73**		Pg	05 07 13.2	-0.7
GWY	**Greenwater Val**	**0.92**	**73**	IAML		05 07 40.4	
	comp=N,663nm,0.6s						
GWY				IAML		05 07 42.2	
	comp=E,814nm,0.5s						
GSC	**Goldstone, Bar**	**0.99**	**128**		Pg	05 07 14.2	-0.9
GSC				IAML		05 07 23.4	
	comp=N,798nm,0.5s						
TEJ	**El Tejon**	**1.03**	**228**		Sg	05 07 28.9	-0.3
HYS	**Haystack Butte**	**1.06**	**172**		Pg	05 07 16.4	-0.1
VES	**Vestal, Richgr**	**1.08**	**266**		Sg	05 07 31.5	+0.5
GRAC	**Grapevine Rang**	**1.12**	**16**	Pg	Pg	05 07 16.6	-1.1
GRAC				IAML		05 07 33.2	
	comp=E,480nm,0.4s						
GRAC				IAML		05 07 35.5	
	comp=N,407nm,0.8s						
SGV	**South Grapevin**	**1.21**	**28**		Sg	05 07 34.7	-0.5
WCT	**Wildcat Mounta**	**1.26**	**46**	Pg	Pg	05 07 19.0	-1.4
WCT				IAML		05 07 36.3	
	comp=E,240nm,0.6s						
VOG	**Valley Oaks Go**	**1.38**	**287**		Pn	05 07 19.8	-2.6
VTV	**Victorville**	**1.40**	**166**		Sg	05 07 40.8	-0.3
GMN	**Gold Mountain**	**1.44**	**16**		Pn	05 07 22.6	-0.8
DSCC	**Desert Studies**	**1.55**	**119**		Sn	05 07 43.0	-2.4
MTUM	**Tungsten Hills**	**1.57**	**336**		Pn	05 07 25.5	+0.3
BCW	**Bitter Crk WRg**	**1.67**	**235**		Pn	05 07 26.6	+0.1
BCW				IAML		05 08 09.9	
	comp=E,143nm,0.9s						
BCW				IAML		05 08 16.0	
	comp=N,135nm,0.9s						
BFSC	**Mount Baldy Ra**	**1.68**	**177**		Sn	05 07 48.8	+0.2
CRGC	**Crocker Grade**	**1.74**	**248**		Pn	05 07 28.0	+0.5
BENR	**Benton**	**1.91**	**340**		Pb	05 07 31.6	-0.3
MCSM	**Casa Diablo Ho**	**1.97**	**332**		Pb	05 07 32.8	-0.1
TSCN	**Private Proper**	**2.14**	**261**		Pn	05 07 33.7	+0.8
SHPR	**Sheep Range**	**2.18**	**74**	Pn	Pn	05 07 33.2	-0.3
TPH	**Tonopah**	**2.20**	**11**	Pn	Pn	05 07 33.4	-0.3
NV11	**Mina Array Sit**	**2.53**	**353**	Pn	Pn	05 07 38.3	0.0
NV11				IAML		05 09 04.1	
	comp=N,79nm,0.8s						
PRN	**Pahroc Range**	**2.63**	**55**	Pn	Pn	05 07 38.1	-1.6
PRN				IAML		05 09 10.6	
	comp=E,88nm,0.6s						
PRN				IAML		05 09 15.2	
	comp=N,125nm,0.5s						
BBGB	**Big Mountain B**	**2.74**	**285**	Pn	Pn	05 07 40.1	-1.0
R11B	**Troy Canyon, C**	**2.98**	**35**	Pn	Pn	05 07 43.5	-1.1
CMB	**Columbia Colle**	**2.99**	**316**	Pn	Pn	05 07 43.6	-0.9
CMB				IAML		05 09 11.6	
	comp=N,38nm,0.6s						
SAO	**San Andreas Ge**	**3.10**	**287**	Pn	Pn	05 07 45.5	-0.5
YUH	**Yuha Desert**	**3.60**	**155**	Pn	Pn	05 07 52.4	-0.5
YUH				IAML		05 10 03.2	
	comp=N,58nm,0.8s						
YUH				IAML		05 10 04.1	
	comp=E,53nm,1.1s						
CBX	**Cerro Bola**	**3.71**	**166**	Pn	Pn	05 07 53.7	-0.7
KNB	**Kanab**	**4.12**	**73**	Pn	Pn	05 07 59.2	-1.1
KNB				IAML		05 10 33.2	
	comp=E,43nm,1.0s						

*NEIC **06** 05:08:11.0±2.1,35°.720N±0°.010×117°.55W±0°.01, h7km±5km, Error ellipse: s-maj=1.5km s-min=1.3km az=215.0*

PAS 06 05:08:11.3±2.0,35°.715N±0°.010×117°.57W±0°.01, h7km±4km, ML3.8/17, ML3.6/58(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=209.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.15**	**261**		Pg	05 08 14.9	+0.5
TOW	**Tower One**	**0.19**	**300**		Pg	05 08 15.5	+0.4
CCCA	**Chr Cany lake**	**0.25**	**139**		Pg	05 08 16.7	+0.4
LRMC	**Laurel Mtn Rad**	**0.25**	**202**		Pg	05 08 16.3	0.0
LRMC	**Laurel Mtn Rad**	**0.25**	**202**	IAML		05 08 20.4	
	comp=E,18μm,0.3s						
LRMC				IAML		05 08 20.8	
	comp=N,23μm,0.3s						
WNMM	**Nine Mile Cany**	**0.30**	**295**		Pg	05 08 17.2	0.0
WNMM					Sg	05 08 21.9	+0.7
WVPM	**Volcano Peak E**	**0.31**	**319**		Pg	05 08 17.3	-0.1
WRVM	**Rose V. Centra**	**0.39**	**318**		Pg	05 08 18.5	-0.4
WRVM					Sg	05 08 24.2	0.0
MFS	**McCloud Flat S**	**0.46**	**330**		Pg	05 08 20.1	-0.2
MFS					Sg	05 08 26.6	+0.2
WBSM	**Bird Springs**	**0.50**	**249**		Sg	05 08 27.6	+0.1
DTP	**Desert Tortois**	**0.50**	**207**		Pg	05 08 20.6	-0.4
DTP					Sg	05 08 27.8	+0.2
WORM	**Onyx Ranch**	**0.55**	**268**		Pg	05 08 21.5	-0.4
WORM					Sg	05 08 28.9	-0.3
QSM	**Queen of Sheba**	**0.62**	**66**		Pg	05 08 22.4	-0.8
QSM					Sg	05 08 31.0	-0.3
QSM				IAML		05 08 31.6	
	comp=N,6μm,0.5s						
WHFM	**Hanning Flat**	**0.64**	**269**		Pg	05 08 23.1	-0.4
WHFM					Sg	05 08 31.8	-0.1
CCAC	**Calif City Air**	**0.67**	**213**		Pg	05 08 23.6	-0.7
CCAC				Sg	Sg	05 08 32.7	-0.3
CCAC				IAML		05 08 34.4	
	comp=E,3μm,0.4s						
ISA	**Isabella, Lake**	**0.74**	**266**		Sg	05 08 35.2	0.0
ISA	**Isabella, Lake**	**0.74**	**266**		Pg	05 08 24.9	-0.6
ISA				IAML		05 08 35.5	
	comp=N,3μm,0.3s						
ISA				IAML		05 08 36.8	
	comp=E,2μm,0.3s						
GSC	**Goldstone, Bar**	**0.74**	**123**		Sg	05 08 35.3	-0.1
GSC	**Goldstone, Bar**	**0.74**	**123**		Pg	05 08 24.7	-1.0
WASM	**Alta Sierra Ca**	**0.81**	**272**		Sg	05 08 37.2	-0.1
CWC	**Cottonwood Cre**	**0.83**	**330**		Pg	05 08 27.4	0.0
CWC					Sg	05 08 38.3	+0.1
HYS	**Haystack Butte**	**0.85**	**180**		Pg	05 08 26.9	-0.8
CGO	**Cerro Gordo**	**0.85**	**347**		Pg	05 08 27.1	-0.7
GWY	**Greenwater Val**	**0.87**	**57**		Pg	05 08 27.1	-0.9
GWY	**Greenwater Val**	**0.87**	**57**		Sg	05 08 39.2	-0.1
EDW2	**Edwards Air Fo**	**0.90**	**203**		Pg	05 08 27.8	-0.9
RRX	**Edison Barstow**	**0.96**	**151**		Pg	05 08 29.1	-0.6
RRX					Sb	05 08 43.7	+0.5
TPO	**Tropico Hills**	**0.99**	**213**		Pg	05 08 29.8	-0.6
TEJ	**El Tejon**	**1.04**	**242**		Pg	05 08 30.0	-1.2
SBB	**Saddle Back Bu**	**1.05**	**192**		Pg	05 08 30.4	-1.0
SBB					Sb	05 08 45.5	-0.2
SHOC	**Shoshone, Teco**	**1.07**	**80**		Pg	05 08 31.5	-0.3
SPG2	**Springville 2**	**1.09**	**297**		Pg	05 08 31.1	-1.1
MAGC	**SCE Magundon P**	**1.16**	**253**		Pg	05 08 32.7	-0.8
ADO	**Adelanto Recei**	**1.17**	**175**		Pg	05 08 33.6	-0.1
VTV	**Victorville**	**1.17**	**170**		Pg	05 08 33.4	-0.3
VTV					Sb	05 08 49.4	+0.1
TJR	**Tejon Ranch**	**1.18**	**235**		Sg	05 08 48.3	-1.0
ALPC	**Antelope**	**1.19**	**211**		Pg	05 08 33.9	-0.2
ALPC					Sb	05 08 50.2	+0.3
THC	**Tehachapi Micr**	**1.21**	**228**		Pg	05 08 33.1	-1.3
LEOC	**Leona Valley**	**1.24**	**209**		Pg	05 08 34.7	-0.4
VES	**Vestal, Richgr**	**1.24**	**276**		Pb	05 08 34.4	-0.7
VES					Sg	05 08 50.8	-0.4
LRRC	**Littlerock Res**	**1.25**	**198**		Pb	05 08 33.7	-1.4
CJV	**Casa Juvan**	**1.27**	**202**		Pn	05 08 35.5	-0.1
CJV					Sn	05 08 52.9	-0.2
AMDNV	**Amargosa**	**1.27**	**54**		Pn	05 08 33.9	-1.7
HOLC	**Holcomb Ridge**	**1.27**	**190**		Sn	05 08 52.8	-0.3
GRAC	**Grapevine Rang**	**1.29**	**7**		Pn	05 08 34.9	-0.9
GRAC				IAML		05 08 42.3	
	comp=E,1μm,0.4s						
GRAC				IAML		05 08 58.7	
	comp=N,967nm,0.8s						
JNH	**Juniper Hills**	**1.30**	**194**		Pn	05 08 36.1	0.0
BAKC	**Calstate**	**1.31**	**254**		Pn	05 08 35.5	-0.5
WCT	**Wildcat Mounta**	**1.32**	**35**		Pn	05 08 34.2	-2.1
WCT				IAML		05 08 55.0	
	comp=N,1μm,0.9s						
WCT				IAML		05 08 55.4	
	comp=E,1μm,0.4s						
DSCC	**Desert Studies**	**1.32**	**115**		Pn	05 08 34.0	-2.2
SGV	**South Grapevin**	**1.33**	**19**		Pn	05 08 35.3	-1.3
HEC	**Hector,Ludlow**	**1.34**	**131**		Pn	05 08 34.7	-1.8
HEC					Sb	05 08 53.5	-0.7
TUQ	**Turquoise Moun**	**1.37**	**101**		Pn	05 08 36.0	-1.0
CHFC	**Chilao Flat St**	**1.43**	**195**		Pn	05 08 36.6	-1.3
TIN	**Tinemaha, Big**	**1.44**	**338**		Pn	05 08 38.1	+0.1
BFSC	**Mount Baldy Ra**	**1.48**	**183**		Pn	05 08 38.5	+0.1
SIL	**Silver Peak**	**1.49**	**156**		Pn	05 08 38.9	+0.1
SSK	**Sunset Peak**	**1.50**	**184**		Pn	05 08 37.9	-1.0
LCH	**Last Change Ra**	**1.52**	**358**		Pn	05 08 38.1	-1.0
MWC	**Mount Wilson**	**1.54**	**195**		Pb	05 08 40.3	-0.1
MWC	**Mount Wilson**	**1.54**	**195**	IAML		05 09 04.3	
	comp=E,1μm,0.5s						
MWC				IAML		05 09 05.0	
	comp=N,1μm,0.6s						
BBRC	**Big Bear Solar**	**1.54**	**160**		Pb	05 08 40.5	+0.1
DECC	**Green Verdugo**	**1.59**	**204**		Pb	05 08 41.1	+0.1
VOG	**Valley Oaks Go**	**1.59**	**293**		Pb	05 08 41.1	+0.1
GMN	**Gold Mountain**	**1.60**	**9**		Pn	05 08 39.1	-1.2
GMN				IAML		05 08 49.3	
	comp=N,359nm,0.5s						
PASC	**Pasadena Art C**	**1.62**	**198**		Pn	05 08 39.1	-1.2
PASC				IAML		05 09 06.5	
	comp=N,510nm,0.7s						
PASC				IAML		05 09 06.9	
	comp=E,782nm,0.6s						
TPNV	**Topopah Spring**	**1.63**	**40**		Pn	05 08 39.5	-1.1
TPNV				IAML		05 09 05.6	
	comp=E,969nm,0.5s						
TPNV				IAML		05 09 07.5	
	comp=E,1μm,0.7s						
PSRC	**Puddingstone R**	**1.63**	**187**		Pg	05 08 42.3	-0.3
MTPC	**Mountain Pass**	**1.66**	**97**		Pn	05 08 39.1	-1.9
DSP	**Deep Springs**	**1.68**	**349**		Pn	05 08 40.1	-1.1
BCW	**Bitter Crk WRg**	**1.70**	**243**		Pn	05 08 40.3	-1.2
BCW				IAML		05 09 06.8	
	comp=N,998nm,0.6s						
BCW				IAML		05 09 11.4	
	comp=E,817nm,0.5s						
MLSC	**Mira Loma**	**1.71**	**180**		Pb	05 08 43.0	-0.1
GVR	**Garvey Reservo**	**1.72**	**195**		Pg	05 08 43.9	-0.5
RVR	**Riverside**	**1.73**	**175**		Pb	05 08 43.3	0.0
GTM	**Goat Mountain**	**1.73**	**145**		Pb	05 08 42.8	-0.7
POCCA	**Poleta Canyon**	**1.74**	**341**		Pb	05 08 43.5	-0.3
BHPR	**Bishop**	**1.75**	**335**		Pb	05 08 43.8	-0.1
RHC	**Rose Hills Cem**	**1.75**	**192**		Pg	05 08 44.5	-0.3
MTUM	**Tungsten Hills**	**1.82**	**334**		Pb	05 08 45.0	-0.1
CRGC	**Crocker Grade**	**1.82**	**256**		Pb	05 08 44.8	-0.3
PEC	**Perris**	**1.85**	**169**		Pb	05 08 46.0	+0.5
MZP	**Montezuma Peak**	**1.99**	**4**		Pn	05 08 44.6	-1.1
TPC	**Twentynine Pal**	**2.03**	**142**		Pn	05 08 44.5	-1.6
ELS	**Elsinore Mount**	**2.07**	**177**		Pn	05 08 44.8	-1.7
ELS				IAML		05 09 19.1	
	comp=E,326nm,0.3s						
POB	**Polly Butte**	**2.09**	**165**		Pn	05 08 46.1	-0.8
SHPR	**Sheep Range**	**2.10**	**67**	Pn	Pn	05 08 46.1	-1.1
SHPR				IAML		05 09 19.9	
	comp=N,208nm,0.6s						
DGR	**Domenigoni Val**	**2.11**	**167**		Pb	05 08 50.5	+0.5
MURC	**Murrieta**	**2.13**	**172**		Pn	05 08 46.6	-0.8
BACC	**Bachelor Mtn.**	**2.14**	**168**		Pn	05 08 46.9	-0.7
BENR	**Benton**	**2.15**	**338**		Pb	05 08 50.8	-0.1
MLAC	**Mammoth, Mammo**	**2.17**	**332**		Pb	05 08 51.4	+0.4
V12A	**Nelson**	**2.21**	**89**		Pn	05 08 46.5	-2.0
MCSM	**Casa Diablo Ho**	**2.21**	**331**		Pb	05 08 52.2	+0.3
PFO	**Pinyon Flats O**	**2.29**	**156**		Pn	05 08 47.9	-1.7
PFO				IAML		05 09 28.1	
	comp=N,173nm,0.8s						
PFO				IAML		05 09 28.7	
	comp=N,246nm,1.2s						
XPFO	**Pinon Flat**	**2.29**	**156**		Pn	05 08 48.3	-1.4
TPH	**Tonopah**	**2.37**	**7**		Pn	05 08 49.9	-1.0
LHV	**Little Huntoon**	**2.64**	**344**		Pn	05 08 53.6	-0.8
LHV				IAML		05 09 41.7	
	comp=E,180nm,1.0s						
LHV				IAML		05 09 49.0	
	comp=N,124nm,1.4s						
PMPB	**Monarch Peak**	**2.67**	**282**		Pn	05 08 54.3	-0.6
PMPB				IAML		05 09 45.9	
	comp=E,365nm,1.2s						
PMPB				IAML		05 09 47.4	
	comp=N,312nm,0.9s						
NV11	**Mina Array Sit**	**2.75**	**350**		Pn	05 08 55.7	-0.4
NVAR	**Mina Array Bea**	**2.77**	**348**		Pn	05 08 55.4	-1.0
RYN	**Ryan**	**3.01**	**346**		Pn	05 08 58.0	-1.5
W13A	**Hualapai Mount**	**3.07**	**100**		Pn	05 08 58.7	-1.8
W13A				IAML		05 09 50.7	
	comp=N,86nm,0.5s						
SAO	**San Andreas Ge**	**3.31**	**290**		Pn	05 09 02.5	-1.1
KNB	**Kanab**	**4.04**	**70**		Pn	05 09 13.1	-0.7
PAHR	**Pah Rah Range**	**4.24**	**341**		Pn	05 09 16.1	-0.3
X18A	**Snowflake**	**6.35**	**99**	Pn	Pn	05 09 44.9	-0.7

*NEIC **06** 05:09:32.0±2.2,35°.758N±0°.004×117°.56W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.6km az=176.0*

PAS 06 05:09:31.9±2.0,35°.750N±0°.008×117°.58W±0°.01, h2km±2km, ML3.7/29, ML3.4/48(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=127.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.15**	**247**		Pg	05 09 35.2	+0.4
SRTC					Sg	05 09 38.4	+1.6
TOW	**Tower One**	**0.16**	**291**		Pg	05 09 35.5	+0.5
WVPM	**Volcano Peak E**	**0.28**	**316**		Pg	05 09 37.3	+0.1
LRMC	**Laurel Mtn Rad**	**0.28**	**197**		Pg	05 09 37.3	0.0
LRMC					Sg	05 09 41.6	+0.6
LRMC	**Laurel Mtn Rad**	**0.28**	**197**	IAML		05 09 42.2	
	comp=N,14μm,0.2s						
LRMC				IAML		05 09 42.5	
	comp=E,13μm,0.2s						
CCCA	**Chr Cany lake**	**0.28**	**142**		Pg	05 09 37.9	+0.5
WRVM	**Rose V. Centra**	**0.36**	**316**		Pg	05 09 38.8	0.0
WBSM	**Bird Springs**	**0.50**	**245**		Pg	05 09 41.4	-0.1
WBSM					Sg	05 09 48.5	+0.4
DTP	**Desert Tortois**	**0.53**	**204**		Sg	05 09 49.5	+0.6
WORM	**Onyx Ranch**	**0.54**	**264**		Sg	05 09 49.3	0.0
QSM	**Queen of Sheba**	**0.61**	**69**		Sg	05 09 52.2	+0.6
QSM	**Queen of Sheba**	**0.61**	**69**	Pg	Pg	05 09 42.9	-0.8
QSM				IAML		05 09 52.1	
	comp=N,1μm,0.5s						
QSM				IAML		05 09 52.9	
	comp=E,1μm,0.5s						
WHFM	**Hanning Flat**	**0.63**	**265**		Sg	05 09 52.1	0.0
CCAC	**Calif City Air**	**0.70**	**211**		Sg	05 09 54.8	+0.6
CCAC	**Calif City Air**	**0.70**	**211**	Pg	Pg	05 09 43.8	-1.4
ISA	**Isabella, Lake**	**0.73**	**263**	Pg	Pg	05 09 45.6	-0.4
ISA				IAML		05 09 56.4	
	comp=E,1μm,0.2s						
GSC	**Goldstone, Bar**	**0.77**	**125**		Sg	05 09 57.0	+0.3
GSC	**Goldstone, Bar**	**0.77**	**125**		Pg	05 09 46.0	-0.7
GSC				IAML		05 09 57.2	
	comp=E,2μm,0.6s						
GSC				IAML		05 10 00.1	
	comp=N,2μm,0.3s						
WASM	**Alta Sierra Ca**	**0.80**	**269**		Pg	05 09 47.0	-0.1
WASM					Sg	05 09 57.6	+0.1
CGO	**Cerro Gordo**	**0.82**	**347**		Pb	05 09 49.2	+0.2
CGO					Sg	05 09 59.4	+1.1
GWY	**Greenwater Val**	**0.86**	**59**		Pg	05 09 48.2	-0.1
GWY				IAML		05 10 03.3	
	comp=N,973nm,0.5s						
GWY				IAML		05 10 07.1	
	comp=E,1μm,0.5s						
HYS	**Haystack Butte**	**0.88**	**180**		Pb	05 09 49.6	-0.3
EDW2	**Edwards Air Fo**	**0.93**	**202**		Pb	05 09 50.8	0.0
RRX	**Edison Barstow**	**0.99**	**151**		Pg	05 09 50.5	-0.4
SPG2	**Springville 2**	**1.06**	**295**		Sg	05 10 05.9	-0.2
SHOC	**Shoshone, Teco**	**1.07**	**82**		Sg	05 10 06.5	+0.3
SBB	**Saddle Back Bu**	**1.08**	**191**		Pg	05 09 52.6	+0.1
ADO	**Adelanto Recei**	**1.20**	**174**		Pg	05 09 55.1	+0.2
GRAC	**Grapevine Rang**	**1.25**	**8**	Pg	Pg	05 09 55.2	-0.7
GRAC				IAML		05 10 16.7	
	comp=E,785nm,1.0s						
GRAC				IAML		05 10 19.7	
	comp=N,784nm,0.7s						
LEOC	**Leona Valley**	**1.27**	**208**		Pg	05 09 56.2	+0.1
LRRC	**Littlerock Res**	**1.28**	**197**		Sb	05 10 13.4	0.0
WCT	**Wildcat Mounta**	**1.29**	**36**		Sg	05 10 13.7	+0.2
WCT	**Wildcat Mounta**	**1.29**	**36**	Pg	Pg	05 09 55.8	-0.9
CJV	**Casa Juvan**	**1.30**	**201**		Pn	05 09 57.3	+0.1
CJV					Sn	05 10 14.8	-0.4
SGV	**South Grapevin**	**1.30**	**20**		Pg	05 09 56.2	-0.7
JNH	**Juniper Hills**	**1.34**	**193**		Pg	05 09 57.5	0.0
JNH					Sb	05 10 15.2	0.0
DSCC	**Desert Studies**	**1.35**	**116**		Pn	05 09 56.5	-1.2
DSCC					Sg	05 10 15.0	-0.2
HEC	**Hector,Ludlow**	**1.37**	**132**		Sg	05 10 15.9	0.0
TUQ	**Turquoise Moun**	**1.38**	**103**		Pn	05 09 57.4	-0.9
CHFC	**Chilao Flat St**	**1.46**	**195**		Sg	05 10 18.8	0.0
BFSC	**Mount Baldy Ra**	**1.51**	**183**		Sb	05 10 19.9	-0.3
SIL	**Silver Peak**	**1.53**	**156**		Pb	05 10 00.9	-0.1
GMN	**Gold Mountain**	**1.57**	**9**	Pg	Pn	05 10 01.3	+0.4
GMN				IAML		05 10 38.5	
	comp=N,488nm,0.4s						
VOG	**Valley Oaks Go**	**1.57**	**292**		Pg	05 10 02.4	+0.5
BBRC	**Big Bear Solar**	**1.58**

GWY				IAML		05 10 55.0	
	comp=N,501nm,0.9s						
GWY				IAML		05 10 56.5	
	comp=E,560nm,0.6s						
VES	**Vestal, Richgr**	**1.23**	**272**		Sb	05 11 16.7	-0.3
MZP	**Montezuma Peak**	**1.90**	**4**	Pn	Pn	05 11 09.0	-1.3
S11A	**Rachel**	**2.35**	**38**	Pn	Pn	05 11 14.7	-1.6
CMB	**Columbia Colle**	**3.17**	**315**	Pn	Pn	05 11 26.9	-0.7
CMB				IAML		05 11 48.1	
	comp=N,70nm,0.5s						
CMB				IAML		05 11 48.4	
	comp=E,52nm,0.8s						
SPR3	**Spring Creek 3**	**4.10**	**38**	Pn	Pn	05 11 39.8	-0.8
SPR3				IAML		05 12 21.9	
	comp=N,22nm,1.0s						
SPR3				IAML		05 12 24.8	
	comp=E,37nm,1.6s						
AFDM	**Forest Hills D**	**4.15**	**320**	Pn	Pn	05 11 40.4	-0.6
Y14A	**Wickenburg**	**4.18**	**115**	Pn	Pn	05 11 39.8	-1.6
Y14A				IAML		05 12 32.8	
	comp=E,26nm,1.1s						
Y14A				IAML		05 12 32.9	
	comp=N,32nm,1.1s						
113A	**Mohawk Valley,**	**4.36**	**133**	Pn	Pn	05 11 42.0	-1.8
113A				IAML		05 12 49.8	
	comp=N,17nm,4.7s						
113A				IAML		05 13 09.7	
	comp=E,15nm,4.1s						
214A	**Organ Pipe Nat**	**5.51**	**133**	Pn	Pn	05 11 57.5	-2.2

*NEIC **06** 05:12:12.3±1.9,35°.86N±0°.01×117°.72W±0°.02,h5$^{km}_{\pm 1}$, Error ellipse: s-maj=2.7km s-min=2.4km az=181.0*

PAS 06 05:12:12.3±1.7,35°.885N±0°.010×117°.74W±0°.01, h2$^{km}_{\pm 1}$,ML3.0/23,ML3.0/40(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=203.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**196**		Pg	05 12 15.1	+1.2
WVPM	**Volcano Peak E**	**0.09**	**315**		Pg	05 12 15.8	+1.7
WNMM	**Nine Mile Cany**	**0.14**	**253**		Sg	05 12 18.0	+1.1
WRVM	**Rose V. Centra**	**0.17**	**315**		Pg	05 12 15.7	-0.1
SRTC	**Snort**	**0.19**	**183**		Pg	05 12 16.3	+0.3
LRMC	**Laurel Mtn Rad**	**0.41**	**174**	Pg	Pg	05 12 19.3	-0.9
LRMC				IAML		05 12 26.0	
	comp=N,3µm,0.2s						
LRMC				IAML		05 12 26.2	
	comp=E,2µm,0.2s						
WORM	**Onyx Ranch**	**0.45**	**245**		Sg	05 12 28.0	+1.1
WBSM	**Bird Springs**	**0.48**	**223**		Pg	05 12 21.7	+0.2
WBSM					Sg	05 12 28.5	+0.8
WHFM	**Hanning Flat**	**0.53**	**249**		Pg	05 12 23.1	+0.6
DTP	**Desert Tortois**	**0.62**	**188**		Pg	05 12 23.8	-0.5
ISA	**Isabella, Lake**	**0.64**	**250**		Sb	05 12 34.7	-1.0
ISA	**Isabella, Lake**	**0.64**	**250**	Pg	Pg	05 12 24.3	-0.3
ISA				IAML		05 12 34.5	
	comp=N,481nm,0.4s						
ISA				IAML		05 12 35.0	
	comp=E,579nm,0.2s						
QSM	**Queen of Sheba**	**0.71**	**83**		Pg	05 12 25.4	-0.6
QSM				IAML		05 12 35.5	
	comp=N,495nm,0.2s						
QSM				IAML		05 12 37.3	
	comp=E,561nm,0.4s						
CCAC	**Calif City Air**	**0.77**	**197**	Pg	Pg	05 12 26.0	-1.0
CCAC				IAML		05 12 37.9	
	comp=N,414nm,0.3s						
CCAC				IAML		05 12 38.0	
	comp=E,645nm,0.3s						
SPG2	**Springville 2**	**0.89**	**291**		Sb	05 12 42.3	-0.7
FURC	**Furnace Creek,**	**0.92**	**50**		Sg	05 12 42.2	+0.4
FURC	**Furnace Creek,**	**0.92**	**50**		Pg	05 12 30.2	+0.3
GWY	**Greenwater Val**	**0.92**	**71**		Sg	05 12 41.0	-0.9
GWY	**Greenwater Val**	**0.92**	**71**		Pg	05 12 29.1	-0.8
GWY				IAML		05 12 43.8	
	comp=E,398nm,0.5s						
GSC	**Goldstone, Bar**	**0.96**	**127**	Pg	Pg	05 12 29.6	-1.1
GSC				IAML		05 12 58.1	
	comp=N,321nm,0.3s						
GSC				IAML		05 12 58.6	
	comp=E,258nm,0.4s						
EDW2	**Edwards Air Fo**	**1.02**	**192**		Pg	05 12 31.8	-0.1
TPO	**Tropico Hills**	**1.08**	**202**		Pg	05 12 33.2	+0.2
VES	**Vestal, Richgr**	**1.09**	**268**		Sg	05 12 46.7	-0.8
GRAC	**Grapevine Rang**	**1.15**	**15**		Pg	05 12 34.4	0.0
GRAC	**Grapevine Rang**	**1.15**	**15**	Pg	Pg	05 12 34.2	-0.2
GRAC	**Grapevine Rang**	**1.15**	**15**	IAML		05 12 53.5	
GRAC	comp=N,168nm,0.3s			IAML		05 12 56.4	
	comp=E,203nm,0.5s						
SGV	**South Grapevin**	**1.23**	**27**		Pg	05 12 36.0	0.0
THC	**Tehachapi Micr**	**1.23**	**218**		Pb	05 12 36.4	-0.1
WCT	**Wildcat Mounta**	**1.27**	**44**		Pg	05 12 36.4	-0.4
AMDNV	**Amargosa**	**1.31**	**64**		Pg	05 12 36.5	-1.0
AMDNV					Sg	05 12 53.0	-1.3
LCH	**Last Change Ra**	**1.35**	**3**		Pb	05 12 40.0	+1.5
LRRC	**Littlerock Res**	**1.38**	**190**		Pn	05 12 37.4	-1.2
JNH	**Juniper Hills**	**1.45**	**187**		Pn	05 12 39.8	+0.1
GMN	**Gold Mountain**	**1.46**	**15**		Pn	05 12 38.9	-1.2
DSP	**Deep Springs**	**1.49**	**353**		Pn	05 12 39.5	-0.7
CHFC	**Chilao Flat St**	**1.57**	**189**		Pn	05 12 41.7	+0.3
CHFC					Sn	05 13 01.6	-0.7
TPNV	**Topopah Spring**	**1.60**	**48**		Pn	05 12 41.6	-0.3
TPNV				IAML		05 13 10.1	
	comp=E,105nm,0.4s						
SSK	**Sunset Peak**	**1.67**	**179**		Pn	05 12 43.4	+0.5
PASC	**Pasadena Art C**	**1.75**	**192**		Pn	05 12 43.0	-0.7
PASC				IAML		05 13 48.6	
	comp=N,319nm,0.7s						
PASC				IAML		05 13 49.1	
	comp=E,89nm,0.5s						
TPH	**Tonopah**	**2.23**	**11**	Pn	Pn	05 12 49.8	-0.7
LHV	**Little Huntoon**	**2.44**	**346**	Pn	Pn	05 12 53.4	+0.2
NV11	**Mina Array Sit**	**2.56**	**353**	Pn	Pn	05 12 53.9	-1.2
NV11				IAML		05 14 04.9	
	comp=N,153nm,0.8s						
NV11				IAML		05 14 05.8	
	comp=E,79nm,0.6s						
PRN	**Pahroc Range**	**2.64**	**54**	Pn	Pn	05 12 55.9	-0.3
RYN	**Ryan**	**2.81**	**347**	Pn	Pn	05 12 58.3	-0.2
Q09A	**Carvers**	**2.98**	**8**	Pn	Pn	05 13 00.5	-0.3
SAO	**San Andreas Ge**	**3.12**	**287**	Pn	Pn	05 13 01.8	-0.9
TJX	**Tijuana**	**3.41**	**170**	Pn	Pn	05 13 05.2	-1.5
113A	**Mohawk Valley,**	**4.52**	**132**	Pn	Pn	05 13 21.5	-0.4
VTX	**Valle De La Tr**	**4.77**	**159**	Pn	Pn	05 13 24.6	-0.7
ELK	**Elko**	**5.24**	**21**	Pn	Pn	05 13 30.8	-1.1

*NEIC **06** 05:13:14.6±1.7,35°.882N±0°.010×117°.66W±0°.01, h2$^{km}_{\pm 4}$, Error ellipse: s-maj=1.5km s-min=1.4km az=150.0*

PAS 06 05:13:15.0±1.7,35°.873N±0°.009×117°.66W±0°.01, h3$^{km}_{\pm 4}$,ML4.2/16,ML3.9/80(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=116.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.10**	**233**		Pg	05 13 17.9	+0.7
WNMM	**Nine Mile Cany**	**0.20**	**261**		Pg	05 13 19.1	+0.2
WNMM					Sg	05 13 22.4	+0.9
CCCA	**Chr Cany lake**	**0.42**	**145**		Pg	05 13 23.5	+0.3
CCCA					Sg	05 13 29.9	+1.3
WORM	**Onyx Ranch**	**0.51**	**250**		Pg	05 13 24.5	-0.2
WBSM	**Bird Springs**	**0.51**	**229**		Pg	05 13 24.7	-0.2
WBSM					Sg	05 13 31.9	+0.3
WHFM	**Hanning Flat**	**0.59**	**253**		Pg	05 13 26.0	-0.3
DTP	**Desert Tortois**	**0.62**	**194**		Pg	05 13 26.5	-0.5
QSM	**Queen of Sheba**	**0.65**	**82**		Pg	05 13 27.0	-0.5
QSM					Sg	05 13 35.6	-0.3
QSM				IAML		05 13 39.6	
	comp=E,10µm,0.5s						
QSM				IAML		05 13 41.0	
	comp=N,9µm,1.0s						
CWC	**Cottonwood Cre**	**0.66**	**329**		Pg	05 13 27.9	+0.1
CWC					Sg	05 13 36.5	+0.2
CGO	**Cerro Gordo**	**0.69**	**350**		Pg	05 13 27.9	-0.3
ISA	**Isabella, Lake**	**0.69**	**253**		Sg	05 13 36.8	-0.5
ISA	**Isabella, Lake**	**0.69**	**253**		Pg	05 13 27.9	-0.4
ISA				IAML		05 13 37.8	
	comp=N,10µm,0.4s						
ISA				IAML		05 13 40.1	
	comp=E,5µm,0.2s						

WASM	**Alta Sierra Ca**	**0.74**	**260**		Sg	05 13 38.4	-0.4
CCAC	**Calif City Air**	**0.78**	**202**		Pg	05 13 29.4	-0.6
CCAC				IAML		05 13 40.7	
	comp=E,3µm,0.4s						
CCAC				IAML		05 13 43.5	
	comp=N,4µm,0.5s						
GWY	**Greenwater Val**	**0.86**	**68**		Pg	05 13 31.1	-0.5
FURC	**Furnace Creek,**	**0.88**	**47**		Sg	05 13 43.6	+0.4
GSC	**Goldstone, Bar**	**0.90**	**129**		Sg	05 13 44.2	+0.2
GSC	**Goldstone, Bar**	**0.90**	**129**		Pg	05 13 31.3	-1.0
GSC				IAML		05 13 46.1	
	comp=N,6µm,0.5s						
SPG2	**Springville 2**	**0.95**	**290**		Pg	05 13 32.4	-0.9
SPG2					Sg	05 13 45.2	-0.5
HYS	**Haystack Butte**	**1.01**	**176**		Pg	05 13 33.6	-0.8
EDW2	**Edwards Air Fo**	**1.03**	**195**		Pg	05 13 34.8	+0.1
TEJ	**El Tejon**	**1.06**	**233**		Pg	05 13 34.1	-1.2
TEJ					Sg	05 13 48.4	-0.6
TPO	**Tropico Hills**	**1.09**	**205**		Pg	05 13 35.1	-1.0
SHOC	**Shoshone, Teco**	**1.12**	**88**		Pg	05 13 36.4	-0.2
RRX	**Edison Barstow**	**1.13**	**151**		Pb	05 13 37.2	-0.1
RRX					Sb	05 13 53.0	+0.7
GRAC	**Grapevine Rang**	**1.15**	**12**		Pg	05 13 36.3	-0.8
GRAC				IAML		05 13 56.0	
	comp=N,2µm,0.7s						
GRAC				IAML		05 13 56.1	
	comp=E,2µm,0.8s						
GRAC	**Grapevine Rang**	**1.15**	**12**		Sb	05 13 52.9	+0.1
VES	**Vestal, Richgr**	**1.16**	**269**		Pg	05 13 36.5	-0.8
VES					Sb	05 13 53.0	-0.1
SBB	**Saddle Back Bu**	**1.19**	**187**		Sb	05 13 53.9	-0.1
SGV	**South Grapevin**	**1.22**	**24**		Pg	05 13 37.6	-0.8
TJR	**Tejon Ranch**	**1.22**	**227**		Sg	05 13 53.5	-0.8
WCT	**Wildcat Mounta**	**1.24**	**42**		Pg	05 13 37.8	-1.0
WCT				IAML		05 13 56.4	
	comp=N,1µm,1.1s						
WCT				IAML		05 14 00.2	
	comp=E,2µm,1.2s						
AMDNV	**Amargosa**	**1.26**	**62**		Pg	05 13 38.4	-0.7
TIN	**Tinemaha, Big**	**1.27**	**339**		Pg	05 13 38.8	-0.6
TIN					Sg	05 13 55.8	+0.1
BAKC	**Calstate**	**1.29**	**246**		Pg	05 13 39.1	-0.6
BAKC					Sg	05 13 56.6	+0.1
ALPC	**Antelope**	**1.29**	**204**		Pg	05 13 39.4	-0.4
ADO	**Adelanto Recei**	**1.33**	**172**		Pg	05 13 40.0	-0.6
ADO					Sb	05 13 58.4	+0.2
VTV	**Victorville**	**1.34**	**168**		Sb	05 13 58.6	+0.3
LEOC	**Leona Valley**	**1.35**	**203**		Pn	05 13 40.2	-0.6
LCH	**Last Change Ra**	**1.36**	**1**		Pn	05 13 39.8	-1.2
LCH					Sg	05 13 57.9	-0.8
LRRC	**Littlerock Res**	**1.38**	**193**		Pg	05 13 41.5	0.0
CJV	**Casa Juvan**	**1.40**	**197**		Pg	05 13 41.8	0.0
GMN	**Gold Mountain**	**1.46**	**13**		Pn	05 13 41.8	-0.7
DSCC	**Desert Studies**	**1.46**	**119**		Pn	05 13 41.5	-0.8
VOG	**Valley Oaks Go**	**1.46**	**288**		Sb	05 14 00.9	-0.9
TUQ	**Turquoise Moun**	**1.48**	**107**		Pn	05 13 40.6	-2.1
HEC	**Hector,Ludlow**	**1.50**	**133**		Pn	05 13 41.0	-1.9
DSP	**Deep Springs**	**1.52**	**351**		Pn	05 13 42.6	-0.4
DSP				IAML		05 14 04.4	
	comp=E,2µm,0.6s						
DSP				IAML		05 14 04.5	
	comp=N,1µm,0.5s						
TPNV	**Topopah Spring**	**1.56**	**46**		Pn	05 13 42.8	-1.0
TPNV				IAML		05 14 07.1	
	comp=N,2µm,0.8s						
TPNV				IAML		05 14 11.8	
	comp=N,2µm,1.1s						
POCCA	**Poleta Canyon**	**1.57**	**342**		Pn	05 13 44.0	0.0
BHPR	**Bishop**	**1.57**	**335**		Pn	05 13 44.5	+0.4
BFSC	**Mount Baldy Ra**	**1.63**	**180**		Pb	05 13 45.5	-0.3
MTUM	**Tungsten Hills**	**1.65**	**334**		Pn	05 13 45.5	+0.4
SIL	**Silver Peak**	**1.67**	**156**		Pb	05 13 46.4	-0.1
BCW	**Bitter Crk WRg**	**1.71**	**237**		Pn	05 13 44.8	-1.0
BBRC	**Big Bear Solar**	**1.72**	**159**		Pb	05 13 47.1	-0.3
PASC	**Pasadena Art C**	**1.75**	**194**		Pn	05 13 45.4	-0.9
CRGC	**Crocker Grade**	**1.80**	**250**		Pn	05 13 47.6	+0.6
CLTC	**Calectric**	**1.80**	**171**		Pb	05 13 48.7	+0.1
GR2C	**Griffith Obs.**	**1.83**	**197**		Pb	05 13 48.4	-0.7
MZP	**Montezuma Peak**	**1.84**	**7**		Pn	05 13 46.9	-0.8
RVR	**Riverside**	**1.89**	**173**		Pb	05 13 50.2	0.0
GTM	**Goat Mountain**	**1.90**	**145**		Pb	05 13 50.2	-0.2
KCC	**Kaiser Creek**	**1.97**	**318**		Pb	05 13 50.7	-0.9
BENR	**Benton**	**1.98**	**339**		Pb	05 13 51.4	-0.5
MLAC	**Mammoth, Mammo**	**1.99**	**332**		Pb	05 13 51.9	-0.2
MCSM	**Casa Diablo Ho**	**2.04**	**331**		Pb	05 13 52.7	-0.2
BLAC	**Blackrock camp**	**2.08**	**149**		Pb	05 13 53.8	+0.3
SHPR	**Sheep Range**	**2.12**	**72**		Pn	05 13 50.3	-1.2
HMTC	**Hemet**	**2.23**	**166**		Pb	05 13 56.6	+0.7
ELS	**Elsinore Mount**	**2.23**	**175**	Pn	Pn	05 13 51.6	-1.3
ELS				IAML		05 14 27.3	
	comp=E,533nm,0.6s						
ELS				IAML		05 14 29.4	
	comp=N,562nm,0.8s						
V12A	**Nelson**	**2.29**	**93**		Pn	05 13 52.6	-1.1
V12A				IAML		05 14 34.3	
	comp=E,525nm,0.6s						
V12A				IAML		05 14 37.9	
	comp=N,453nm,0.6s						
S11A	**Rachel**	**2.34**	**40**		Pn	05 13 53.6	-0.9
LHV	**Little Huntoon**	**2.47**	**344**		Pn	05 13 56.0	-0.1
LHV				IAML		05 14 36.7	
	comp=E,692nm,0.8s						
LHV				IAML		05 14 40.5	
	comp=N,403nm,1.5s						
PMPB	**Monarch Peak**	**2.57**	**279**		Pn	05 13 58.1	+0.5
NV11	**Mina Array Sit**	**2.58**	**351**		Pn	05 13 57.4	-0.5
PRN	**Pahroc Range**	**2.60**	**53**		Pn	05 13 58.8	+0.8
PRN				IAML		05 14 44.3	
	comp=E,724nm,0.8s						
PRN				IAML		05 14 44.3	
	comp=N,714nm,0.7s						
NVAR	**Mina Array Bea**	**2.60**	**349**		Pn	05 13 57.7	-0.5
BBGB	**Big Mountain B**	**2.82**	**285**		Pn	05 14 00.2	-0.9
RYN	**Ryan**	**2.83**	**346**		Pn	05 14 00.9	-0.4
Q09A	**Carvers**	**2.98**	**7**		Pn	05 14 03.4	0.0
Q09A				IAML		05 14 53.1	
	comp=E,611nm,0.9s						
Q09A				IAML		05 15 00.2	
	comp=N,629nm,1.2s						
W13A	**Hualapai Mount**	**3.18**	**103**		Pn	05 14 03.9	-2.2
SAO	**San Andreas Ge**	**3.18**	**287**		Pn	05 14 05.8	-0.1
BLYC	**Blythe**	**3.34**	**128**		Pn	05 14 05.8	-2.3
BLYC				IAML		05 15 03.5	
	comp=N,282nm,0.9s						
BLYC				IAML		05 15 09.5	
	comp=E,217nm,0.9s						
LCMT	**Little Creek M**	**3.74**	**71**		Pn	05 14 13.3	-0.4
CCUT	**Cedar City**	**3.84**	**63**		Pn	05 14 13.6	-1.6
CCUT				IAML		05 14 24.6	
	comp=E,108nm,2.1s						
MPK	**Martis Peak**	**3.90**	**332**		Pn	05 14 16.1	0.0
PSUT	**Pine Spring**	**4.04**	**48**		Pn	05 14 17.1	-0.7
PSUT				IAML		05 15 37.8	
	comp=E,159nm,0.9s						
PSUT				IAML		05 15 41.9	
	comp=N,172nm,1.2s						
AFDM	**Forest Hills D**	**4.05**	**320**		Pn	05 14 17.2	-0.6
AFDM				IAML		05 15 26.4	
	comp=E,212nm,0.9s						
AFDM				IAML		05 15 32.8	
	comp=N,125nm,0.7s						
PAHR	**Pah Rah Range**	**4.06**	**341**		Pn	05 14 17.4	-0.8
KNB	**Kanab**	**4.07**	**72**		Pn	05 14 17.7	-0.5
KNB				IAML		05 15 31.8	
	comp=E,103nm,1.5s						
KNB				IAML		05 15 55.0	
	comp=N,106nm,1.5s						
CCX	**Cicese**	**4.08**	**168**		Pn	05 14 17.8	-0.5
CCX				IAML		05 15 25.8	
	comp=E,243nm,1.1s						
CCX				IAML		05 15 26.2	
	comp=N,168nm,0.8s						
ESJX	**Sierra Juarez**	**4.11**	**159**		Pn	05 14 17.4	-1.5
ESJX				IAML		05 15 25.6	
	comp=E,161nm,0.5s						
ESJX				IAML		05 15 26.1	
	comp=N,145nm,0.7s						
Y14A	**Wickenburg**	**4.29**	**115**		Pn	05 14 19.2	-2.0
WUAZ	**Wupatki**	**5.13**	**92**		Pn	05 14 32.5	-0.4
ELK	**Elko**	**5.22**	**21**		Pn	05 14 34.0	-0.2
X16A	**Lo Mia Camp, P**	**5.30**	**104**		Pn	05 14 34.0	-1.3
K05A	**Summer Lake**	**7.29**	**341**	Pn	Pn	05 15 02.9	+0.4
PV10	**Paradox Valley**	**7.33**	**68**	Pn	Pn	05 15 01.5	-1.6

*NEIC **06** 05:14:21.1±0.9,35°.86N±0°.01×117°.67W±0°.02,h4$^{km}_{\pm 1}$, Error ellipse: s-maj=2.4km s-min=1.3km az=123.0*

PAS 06 05:14:21.3±0.9,35°.87N±0°.01×117°.67W±0°.01,h0$^{km}_{\pm 1}$, ML3.0/10,ML2.9/14(NEIC), Error ellipse: s-maj=1.9km s-min=1.9km az=157.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.10**	**234**		Pg	05 14 25.4	+2.2
WVPM	**Volcano Peak E**	**0.15**	**305**		Pg	05 14 24.5	+0.4
SRTC	**Snort**	**0.19**	**201**		Pg	05 14 25.3	+0.5
WNMM	**Nine Mile Cany**	**0.19**	**263**		Pg	05 14 25.6	+0.6
WNMM					Sg	05 14 28.2	+0.7
WRVM	**Rose V. Centra**	**0.23**	**308**		Pg	05 14 25.9	+0.2
MFS	**McCloud Flat S**	**0.29**	**329**		Pg	05 14 27.2	+0.3
MFS					Sg	05 14 30.9	+0.1
WORM	**Onyx Ranch**	**0.50**	**250**		Pg	05 14 31.0	+0.1
WORM					Sg	05 14 37.2	0.0
WBSM	**Bird Springs**	**0.51**	**230**		Pg	05 14 31.8	+0.8
WBSM					Sg	05 14 38.5	+1.0
WHFM	**Hanning Flat**	**0.58**	**253**		Pg	05 14 32.6	+0.2
CWC	**Cottonwood Cre**	**0.66**	**330**		Pg	05 14 34.5	+0.5
ISA	**Isabella, Lake**	**0.69**	**253**	Pg	Pg	05 14 34.2	-0.2
ISA				IAML		05 14 43.5	
	comp=N,352nm,0.3s						
GWY	**Greenwater Val**	**0.87**	**68**	Pg	Pg	05 14 37.8	-0.2
GWY				IAML		05 14 42.1	
	comp=N,447nm,0.8s						
GWY				IAML		05 14 43.2	
	comp=E,464nm,1.2s						
VOG	**Valley Oaks Go**	**1.46**	**289**		Pn	05 14 48.8	-0.1
GMN	**Gold Mountain**	**1.47**	**13**		Pn	05 14 48.8	-0.5
GMN				IAML		05 15 31.8	
	comp=N,168nm,0.5s						
OAT	**Oat Mountain**	**1.71**	**207**		Sb	05 15 15.5	-0.1
BLCC	**Black Canyon**	**1.82**	**207**		Pn	05 14 53.7	-0.2
TPH	**Tonopah**	**2.23**	**9**	Pn	Pn	05 14 59.5	-0.3
PRN	**Pahroc Range**	**2.61**	**53**	Pn	Pn	05 15 04.8	0.0
PRN				IAML		05 15 21.6	
	comp=E,241nm,0.8s						
NVAR	**Mina Array Bea**	**2.61**	**349**	Pn	Pn	05 15 03.8	-1.1
R11B	**Troy Canyon, C**	**2.98**	**33**	Pn	Pn	05 15 09.4	-0.7
R11B				IAML		05 15 41.3	
	comp=N,28nm,1.6s						
R11B				IAML		05 16 38.2	
	comp=E,28nm,1.9s						
HATC	**Hat Creek Radi**	**5.77**	**330**	Pn	Pn	05 15 47.7	-0.6

*NEIC **06** 05:14:56.1±2.0,35°.75N±0°.01×117°.57W±0°.02,h5^{km}, Error ellipse: s-maj=2.1km s-min=2.0km az=110.0*

PAS 06 05:14:57.1±1.9,35°.75N±0°.01×117°.57W±0°.01,h8$^{km}_{\pm 8}$, ML3.4/22,ML3.1/40(NEIC), Error ellipse: s-maj=1.8km s-min=1.5km az=142.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.16**	**250**		Pg	05 15 00.8	+0.4
TOW	**Tower One**	**0.17**	**292**		Pg	05 15 01.1	+0.4
TOW					Sg	05 15 04.7	+1.5
LRMC	**Laurel Mtn Rad**	**0.28**	**200**		Pg	05 15 02.6	-0.1
LRMC	**Laurel Mtn Rad**	**0.28**	**200**	IAML		05 15 07.1	
	comp=E,8µm,0.4s						
LRMC				IAML		05 15 08.1	
	comp=N,5µm,0.2s						
WVPM	**Volcano Peak E**	**0.29**	**315**		Pg	05 15 02.7	-0.2
WVPM					Sg	05 15 07.1	+0.3
WRVM	**Rose V. Centra**	**0.37**	**315**		Pg	05 15 02.8	-1.6
MFS	**McCloud Flat S**	**0.44**	**328**		Pg	05 15 05.4	-0.3
MFS					Sg	05 15 11.7	+0.2
WBSM	**Bird Springs**	**0.51**	**246**		Pg	05 15 06.6	-0.4
WBSM					Sg	05 15 13.6	-0.2
WORM	**Onyx Ranch**	**0.55**	**265**		Sg	05 15 14.6	-0.5
QSM	**Queen of Sheba**	**0.61**	**69**	Pg	Pg	05 15 08.1	-0.7
QSM				IAML		05 15 16.8	
	comp=E,1µm,0.4s						
QSM				IAML		05 15 18.2	
	comp=N,1µm,0.4s						
WHFM	**Hanning Flat**	**0.64**	**266**		Sg	05 15 17.5	-0.3
CCAC	**Calif City Air**	**0.70**	**212**	Pg	Pg	05 15 09.7	-0.9
CCAC				IAML		05 15 20.4	
	comp=N,807nm,0.6s						
ISA	**Isabella, Lake**	**0.74**	**264**		Sg	05 15 21.0	-0.1
ISA	**Isabella, Lake**	**0.74**	**264**	Pg	Pg	05 15 09.7	-1.7
ISA				IAML		05 15 21.2	
	comp=E,670nm,0.2s						
ISA				IAML		05 15 21.2	
	comp=N,1µm,0.3s						
GSC	**Goldstone, Bar**	**0.76**	**125**		Sg	05 15 21.6	-0.1
WASM	**Alta Sierra Ca**	**0.81**	**270**		Sg	05 15 22.8	-0.3
CWC	**Cottonwood Cre**	**0.81**	**329**		Pg	05 15 12.6	-0.1
GWY	**Greenwater Val**	**0.85**	**59**	Pg	Pg	05 15 12.7	-0.8
GWY				IAML		05 15 27.7	
	comp=N,961nm,0.5s						
HYS	**Haystack Butte**	**0.88**	**180**		Pb	05 15 14.4	-0.3
EDW2	**Edwards Air Fo**	**0.93**	**202**		Pg	05 15 12.5	-2.4
TPO	**Tropico Hills**	**1.02**	**212**		Pg	05 15 14.4	-2.2
SPG2	**Springville 2**	**1.07**	**295**		Sg	05 15 30.9	-0.8
VES	**Vestal, Richgr**	**1.24**	**275**		Sb	05 15 33.3	-3.5
GRAC	**Grapevine Rang**	**1.26**	**7**		Pn	05 15 20.7	-0.8
LRRC	**Littlerock Res**	**1.27**	**197**		Pg	05 15 21.7	+0.2
WCT	**Wildcat Mounta**	**1.29**	**36**		Pn

WNMM	Nine Mile Cany	0.14	239			Pg	05 15 40.6	+0.2
WRVM	Rose V. Centra	0.14	310			Pg	05 15 40.6	0.0
MFS	McCloud Flat S	0.22	338			Pg	05 15 41.8	-0.1
SRTC	Snort	0.22	179			Pg	05 15 42.1	+0.2
SRTC						Sg	05 15 46.2	+1.1
LRMC	Laurel Mtn Rad	0.44	172			Sg	05 15 51.6	-0.2
LRMC	Laurel Mtn Rad	0.44	172	Pg		Pg	05 15 45.8	-0.2
LRMC				IAML			05 15 52.2	
	comp=E,3µm,0.2s							
LRMC				IAML			05 15 52.5	
	comp=N,4µm,0.3s							
WBSM	Bird Springs	0.49	220			Pg	05 15 46.6	-0.4
WHFM	Hanning Flat	0.53	246			Sg	05 15 54.5	-0.1
ISA	Isabella, Lake	0.64	247	Pg		Pg	05 15 48.5	-1.2
ISA				IAML			05 15 58.0	
	comp=N,1µm,0.5s							
ISA				IAML			05 15 59.0	
	comp=E,1µm,0.2s							
DTP	Desert Tortois	0.65	186			Sg	05 15 58.1	-0.4
WASM	Alta Sierra Ca	0.68	255			Sg	05 15 59.2	-0.1
QSM	Queen of Sheba	0.72	86	Pg		Pg	05 15 51.0	-0.3
QSM				IAML			05 16 02.9	
	comp=N,1µm,0.5s							
QSM				IAML			05 16 03.1	
	comp=E,1µm,0.2s							
CCAC	Calif City Air	0.79	196			Sg	05 16 03.1	+0.2
CCAC	Calif City Air	0.79	196	Pg		Pg	05 15 52.1	-0.5
SPG2	Springville 2	0.87	289			Pg	05 15 53.8	-0.3
FURC	Furnace Creek,	0.91	52			Sg	05 16 06.6	0.0
GWY	Greenwater Val	0.92	73			Sg	05 16 06.5	-0.6
GWY	Greenwater Val	0.92	73	Pg		Pg	05 15 54.2	-0.8
GWY				IAML			05 16 07.6	
	comp=N,909nm,0.5s							
GWY				IAML			05 16 13.0	
	comp=E,1µm,0.4s							
GSC	Goldstone, Bar	0.99	128	Pg		Pg	05 15 54.9	-1.4
GSC				IAML			05 16 12.1	
	comp=N,759nm,0.5s							
HYS	Haystack Butte	1.06	172			Pg	05 15 57.5	-0.2
TPO	Tropico Hills	1.10	201			Pg	05 15 57.6	-1.0
GRAC	Grapevine Rang	1.12	16			Pg	05 15 58.0	-1.0
GRAC				IAML			05 16 17.9	
	comp=N,570nm,0.6s							
GRAC				IAML			05 16 20.7	
	comp=E,578nm,0.7s							
THC	Tehachapi Micr	1.25	217			Pn	05 15 59.9	-1.3
WCT	Wildcat Mounta	1.26	46			Sb	05 16 16.8	-1.1
WCT	Wildcat Mounta	1.26	46			Pn	05 16 00.2	-1.0
WCT				IAML			05 16 18.6	
	comp=E,429nm,0.4s							
WCT				IAML			05 16 20.1	
	comp=N,268nm,0.3s							
AMDNV	Amargosa	1.31	65			Sb	05 16 18.4	-0.6
LCH	Last Change Ra	1.32	4			Sb	05 16 19.5	+0.1
GMN	Gold Mountain	1.44	16	Pn		Pn	05 16 03.3	-0.5
DSP	Deep Springs	1.46	353	Pn		Pn	05 16 03.9	0.0
HEC	Hector,Ludlow	1.59	133			Sb	05 16 27.6	+0.5
TPNV	Topopah Spring	1.59	49	Pn		Pn	05 16 04.4	-1.5
TPNV				IAML			05 16 30.3	
	comp=N,465nm,0.5s							
TPNV				IAML			05 16 30.7	
	comp=N,463nm,0.7s							
CHFC	Chilao Flat St	1.59	188			Sb	05 16 27.5	+0.1
BCW	Bitter Crk WRg	1.67	235	Pn		Pn	05 16 06.7	-0.1
BCW				IAML			05 16 43.3	
	comp=E,326nm,0.8s							
PASC	Pasadena Art C	1.78	192	Pn		Pn	05 16 08.4	+0.1
BLCC	Black Canyon	1.83	205			Pn	05 16 08.5	-0.5
CLTC	Calectric	1.85	169			Sb	05 16 34.9	+0.2
MCSM	Casa Diablo Ho	1.96	332			Pb	05 16 13.8	+0.3
GTM	Goat Mountain	1.98	144			Pb	05 16 13.7	0.0
S11A	Rachel	2.36	42	Pn		Pn	05 16 15.1	-1.3
LHV	Little Huntoon	2.41	346			Pn	05 16 17.2	+0.3
LHV				IAML			05 17 08.1	
	comp=E,92nm,1.0s							
PMPB	Monarch Peak	2.49	278	Pn		Pn	05 16 17.6	-0.5
NV11	Mina Array Sit	2.53	353	Pn		Pn	05 16 18.5	-0.3
NVAR	Mina Array Bea	2.55	350	Pn		Pn	05 16 18.2	-0.9
PRN	Pahroc Range	2.63	55	Pn		Pn	05 16 19.0	-1.2
PRN				IAML			05 17 07.0	
	comp=E,157nm,0.9s							
PRN				IAML			05 17 07.5	
	comp=N,144nm,0.7s							
BBGB	Big Mountain B	2.74	285	Pn		Pn	05 16 20.9	-0.6
WAKR	Walker	2.91	333			Pn	05 16 23.5	-0.6
Q09A	Carvers	2.95	9	Pn		Pn	05 16 24.5	0.0
R11B	Troy Canyon, C	2.98	35	Pn		Pn	05 16 24.8	-0.3
SAO	San Andreas Ge	3.10	287	Pn		Pn	05 16 25.2	-1.2
W13A	Hualapai Mount	3.26	103	Pn		Pn	05 16 27.3	-1.6
TKX	Tecate	3.47	164	Pn		Pn	05 16 30.2	-1.4
CCUT	Cedar City	3.89	64	Pn		Pn	05 16 37.5	0.0
CCX	Cicese	4.14	167	Pn		Pn	05 16 39.6	-1.2
ORV	Oroville	4.69	322	Pn		Pn	05 16 47.3	-1.0
ORV				IAML			05 18 05.3	
	comp=N,19nm,3.8s							
ORV				IAML			05 18 15.3	
	comp=E,14nm,3.6s							
HOPS	Hopland Field	5.23	308	Pn		Pn	05 16 56.3	+0.6

NEIC ***06*** *05:19:37.0±1.6,35°.71N±0°.01×117°.562W±0°.004, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.3km az=325.0*

PAS 06 05:19:37.5±1.8, 35°.70N±0°.01×117°.56W±0°.01, h7km±4km, ML3.0/23, ML2.7/48(NEIC), Error ellipse: s-maj=1.7km s-min=1.6km az=170.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	Snort	0.16	266		Pg	05 19 41.2	+0.4
SRTC					Sg	05 19 44.5	+1.5
TOW	Tower One	0.20	302		Pg	05 19 42.0	+0.5
CCCA	Chr Cany lake	0.24	139		Pg	05 19 42.4	+0.2
LRMC	Laurel Mtn Rad	0.25	205		Sg	05 19 45.7	0.0
LRMC	Laurel Mtn Rad	0.25	205	Pg	Pg	05 19 42.1	-0.3
LRMC				IAML		05 19 46.1	
	comp=E,2µm,0.4s						
LRMC				IAML		05 19 46.8	
	comp=N,4µm,0.3s						
WNMM	Nine Mile Cany	0.32	296		Pg	05 19 43.7	0.0
WNMM					Sg	05 19 47.7	-0.2
WRVM	Rose V. Centra	0.41	318		Pg	05 19 45.2	-0.3
MFS	McCloud Flat S	0.48	330		Pg	05 19 46.4	-0.5
WORM	Onyx Ranch	0.56	269		Pg	05 19 47.9	-0.4
WORM					Sg	05 19 55.2	-0.4
QSM	Queen of Sheba	0.62	65	Pg	Pg	05 19 48.9	-0.5
QSM				IAML		05 19 58.6	
	comp=N,396nm,0.3s						
QSM				IAML		05 20 00.8	
	comp=E,493nm,0.5s						
WHFM	Hanning Flat	0.65	270		Pg	05 19 49.5	-0.5
WHFM					Sg	05 19 58.5	+0.1
CCAC	Calif City Air	0.67	214		Sg	05 19 59.1	+0.1
CCAC	Calif City Air	0.67	214	Pg	Pg	05 19 49.8	-0.5
GSC	Goldstone, Bar	0.73	123		Pg	05 19 50.6	-1.0
GSC				IAML		05 20 06.4	
	comp=N,298nm,0.3s						
GSC				IAML		05 20 06.6	
	comp=E,553nm,0.5s						
ISA	Isabella, Lake	0.75	267		Sg	05 20 01.8	+0.2
ISA	Isabella, Lake	0.75	267	Pg	Pg	05 19 51.3	-0.6
ISA				IAML		05 20 02.7	
	comp=N,429nm,0.3s						
ISA				IAML		05 20 02.8	
	comp=E,271nm,0.2s						
WASM	Alta Sierra Ca	0.81	273		Pg	05 19 52.7	-0.5
WASM					Sg	05 20 04.4	+0.6
HYS	Haystack Butte	0.84	181		Pg	05 19 53.9	+0.3
CWC	Cottonwood Cre	0.85	330		Pg	05 19 54.0	+0.2
GWY	Greenwater Val	0.87	56	Pg	Pg	05 19 53.5	-0.7
RRX	Edison Barstow	0.94	151		Pg	05 19 55.8	+0.1
SPG2	Springville 2	1.10	297		Pg	05 19 57.7	-0.9
ADO	Adelanto Recei	1.16	175		Sn	05 20 15.7	-0.5
AMDNV	Amargosa	1.27	54		Sb	05 20 18.3	-0.1
GRAC	Grapevine Rang	1.30	7		Pn	05 20 00.8	-1.3
WCT	Wildcat Mounta	1.32	34		Pn	05 20 02.1	-0.3
WCT				IAML		05 20 23.5	
	comp=E,102nm,0.4s						
HEC	Hector,Ludlow	1.33	131		Pn	05 20 01.7	-0.8
SGV	South Grapevin	1.34	18		Pn	05 20 02.9	+0.1
TUQ	Turquoise Moun	1.36	101		Pn	05 20 02.0	-1.0
CHFC	Chilao Flat St	1.42	196		Sn	05 20 22.9	0.0
OSI	Osito Audit: C	1.45	222		Pn	05 20 03.1	-1.1
OSI				IAML		05 20 31.2	
	comp=N,107nm,0.5s						
OSI				IAML		05 20 33.0	
	comp=E,106nm,0.5s						
BFSC	Mount Baldy Ra	1.46	183		Sn	05 20 23.8	-0.1
GMN	Gold Mountain	1.61	8		Pn	05 20 06.1	-0.5
GMN				IAML		05 20 30.5	
	comp=E,62nm,0.4s						
GMN				IAML		05 20 31.1	
	comp=N,81nm,0.7s						
PSRC	Puddingstone R	1.62	187		Sg	05 20 29.1	-0.5
TPNV	Topopah Spring	1.63	40		Pn	05 20 06.7	-0.1
TPNV				IAML		05 20 33.1	
	comp=N,87nm,0.5s						
TPNV				IAML		05 20 33.9	
	comp=N,91nm,0.5s						
SVD	Seven Oaks Dam	1.64	167		Pb	05 20 08.4	+0.4
MLSC	Mira Loma	1.69	180		Sn	05 20 29.3	-0.2
DSP	Deep Springs	1.70	349		Pn	05 20 07.3	-0.2
DSP	Deep Springs	1.70	349	IAML		05 20 31.1	
	comp=E,59nm,0.4s						
GR2C	Griffith Obs.	1.70	201		Pb	05 20 08.7	-0.3
BCW	Bitter Crk WRg	1.70	244		Pn	05 20 07.3	-0.3
BCW				IAML		05 20 37.5	
	comp=E,100nm,0.8s						
BCW				IAML		05 20 48.3	
	comp=N,94nm,1.2s						
MZP	Montezuma Peak	2.00	4	Pn	Pn	05 20 11.3	-0.6
TPC	Twentynine Pal	2.02	142		Pn	05 20 10.6	-1.5
POB	Polly Butte	2.08	165		Pn	05 20 11.9	-1.0
SHPR	Sheep Range	2.10	67	Pn	Pn	05 20 12.6	-0.6
V12A	Nelson	2.20	89	Pn	Pn	05 20 12.8	-1.8
V12A				IAML		05 20 55.7	
	comp=E,36nm,0.5s						
PMD	Palm Desert	2.27	154	Pn	Pn	05 20 13.6	-1.9
PMD				IAML		05 20 56.3	
	comp=E,35nm,0.4s						
PFO	Pinyon Flats O	2.27	156	Pn	Pn	05 20 13.9	-1.7
NV11	Mina Array Sit	2.77	350	Pn	Pn	05 20 22.1	-0.3
BBGB	Big Mountain B	2.95	288	Pn	Pn	05 20 24.6	-0.3
Q09A	Carvers	3.14	5	Pn	Pn	05 20 26.5	-1.1
CBX	Cerro Bola	3.46	167	Pn	Pn	05 20 30.9	-1.0
GLA	Glamis	3.48	139	Pn	Pn	05 20 29.8	-2.3
GLA				IAML		05 22 21.9	
	comp=N,25nm,0.6s						
LCMT	Little Creek M	3.72	68	Pn	Pn	05 20 33.5	-2.0
ESJX	Sierra Juarez	3.92	160	Pn	Pn	05 20 37.4	-0.9
SZCU	Shurtz Canyon	4.06	61	Pn	Pn	05 20 40.2	0.0
PSUT	Pine Spring	4.09	45	Pn	Pn	05 20 40.8	+0.1
VTX	Valle De La Tr	4.55	161	Pn	Pn	05 20 46.4	-0.4
PV23	Carpenter Ridg	7.36	66	Pn	Pn	05 21 25.7	+0.1

NEIC ***06*** *05:21:10.2±3.0,35°.632N±0°.007×117°.37W±0°.02, h5km±1km, Error ellipse: s-maj=2.7km s-min=2.4km az=255.0*

PAS 06 05:21:09.7±2.7, 35°.66N±0°.01×117°.43W±0°.01, h4km±2km, ML3.3/40, ML3.0/46(NEIC), Error ellipse: s-maj=1.8km s-min=1.5km az=159.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	Chr Cany lake	0.15	160		Pg	05 21 12.5	-0.1
CCCA					Sg	05 21 15.5	+1.0
LRMC	Laurel Mtn Rad	0.28	229		Sg	05 21 19.3	+0.5
MPMC	Manual Prospec	0.40	353		Sb	05 21 26.2	+0.1
WRVM	Rose V. Centra	0.51	313		Sg	05 21 26.4	+0.1
DTP	Desert Tortois	0.52	221		Pg	05 21 19.7	-0.1
DTP					Sg	05 21 27.0	+0.4
QSM	Queen of Sheba	0.54	56	Pg	Pg	05 21 20.8	+0.6
QSM				IAML		05 21 36.2	
	comp=N,1µm,0.5s						
QSM				IAML		05 21 38.2	
	comp=E,1µm,0.6s						
GSC	Goldstone, Bar	0.62	125		Sg	05 21 29.9	+0.2
GSC	Goldstone, Bar	0.62	125	Pg	Pg	05 21 21.1	-0.6
GSC				IAML		05 21 30.9	
	comp=N,2µm,0.5s						
GSC				IAML		05 21 30.9	
	comp=E,2µm,0.7s						
CCAC	Calif City Air	0.70	224		Pb	05 21 25.4	+0.8
CCAC	Calif City Air	0.70	224	IAML		05 21 25.7	
	comp=E,976nm,0.3s						
CCAC				IAML		05 21 37.9	
	comp=N,1µm,0.4s						
HYS	Haystack Butte	0.81	188		Pb	05 21 26.7	+0.3
HYS					Sg	05 21 35.2	-0.4
EDW2	Edwards Air Fo	0.91	211		Pb	05 21 28.5	+0.4
EDW2					Sb	05 21 41.6	+1.0
TPO	Tropico Hills	1.02	220		Pn	05 21 30.7	-0.3
SBB	Saddle Back Bu	1.02	199		Pb	05 21 30.1	0.0
ADO	Adelanto Recei	1.11	180		Pn	05 21 32.2	0.0
HOLC	Holcomb Ridge	1.25	196		Pn	05 21 34.5	+0.4
LEOC	Leona Valley	1.26	215		Pn	05 21 34.7	+0.5
LEOC					Sn	05 21 51.3	-0.3
CJV	Casa Juvan	1.27	208		Pn	05 21 34.9	+0.4
JNH	Juniper Hills	1.29	200		Pn	05 21 35.0	+0.4
OSI	Osito Audit: C	1.49	226		Pn	05 21 35.9	-1.5
MWC	Mount Wilson	1.53	200		Pn	05 21 36.6	-1.4
MWC				IAML		05 21 59.7	
	comp=N,375nm,0.4s						
CLTC	Calectric	1.57	177		Sn	05 21 57.2	-2.0
ELS	Elsinore Mount	2.01	180	Pn	Pn	05 21 43.2	-1.3
ELS				IAML		05 22 18.4	
	comp=E,134nm,0.4s						
PMD	Palm Desert	2.19	156	Pn	Pn	05 21 46.4	-0.6
PMD				IAML		05 22 19.2	
	comp=E,92nm,0.4s						
PMD				IAML		05 22 20.8	
	comp=N,75nm,0.4s						
PFO	Pinyon Flats O	2.19	158	Pn	Pn	05 21 45.7	-1.5
PFO				IAML		05 22 19.9	
	comp=N,66nm,0.7s						
PRN	Pahroc Range	2.59	47	Pn	Pn	05 21 51.2	-1.4
PRN				IAML		05 22 10.8	
	comp=E,93nm,0.8s						
NVAR	Mina Array Bea	2.85	346	Pn	Pn	05 21 55.0	-1.2
RYN	Ryan	3.09	344	Pn	Pn	05 21 59.7	+0.2
YUH	Yuha Desert	3.25	157	Pn	Pn	05 21 59.9	-1.7
WAKR	Walker	3.26	331	Pn	Pn	05 22 00.2	-1.7
CMB	Columbia Colle	3.35	316	Pn	Pn	05 22 02.6	-0.4
CMB				IAML		05 22 48.4	
	comp=E,27nm,0.7s						
CMB				IAML		05 23 06.0	
	comp=N,28nm,0.8s						
SAO	San Andreas Ge	3.43	290	Pn	Pn	05 22 04.4	+0.3
LCMT	Little Creek M	3.63	67	Pn	Pn	05 22 07.9	+0.9
KNB	Kanab	3.95	69	Pn	Pn	05 22 12.0	+0.6
KNB				IAML		05 23 33.7	
	comp=N,16nm,1.0s						
SPR3	Spring Creek 3	4.14	36	Pn	Pn	05 22 15.6	+1.4
SPR3				IAML		05 23 21.6	
	comp=N,16nm,0.9s						
SPR3				IAML		05 23 36.5	
	comp=E,15nm,1.0s						
AFDM	Forest Hills D	4.33	320	Pn	Pn	05 22 17.2	+0.7
AFDM				IAML		05 24 43.5	
	comp=N,15nm,0.7s						
AFDM				IAML		05 24 54.9	
	comp=E,20nm,0.8s						
X16A	Lo Mia Camp, P	5.06	102	Pn	Pn	05 22 28.9	+2.2
X16A				IAML		05 24 00.9	
	comp=E,8.0nm,1.1s						
X16A				IAML		05 24 04.6	
	comp=N,9.4nm,1.1s						

NEIC ***06*** *05:22:29.3±2.1,35°.72N±0°.01×117°.37W±0°.02,h7km±5km, Error ellipse: s-maj=2.3km s-min=1.1km az=58.0*

PAS 06 05:22:29.5±2.1, 35.71N±0°.01×117°.368W±0°.004, h1km±1km, ML3.4/28, ML3.0/28(NEIC), Error ellipse: s-maj=1.9km s-min=0.5km az=182.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	Chr Cany lake	0.18	179		Pg	05 22 33.1	+0.1
SRTC	Snort	0.31	267		Pb	05 22 38.8	+1.0
TOW	Tower One	0.34	287		Pg	05 22 36.8	+0.9
LRMC	Laurel Mtn Rad	0.34	228		Pg	05 22 36.3	+0.2
LRMC					Sg	05 22 40.0	-0.5
LRMC	Laurel Mtn Rad	0.34	228	IAML		05 22 40.7	
	comp=N,3µm,0.2s						
LRMC				IAML		05 22 40.9	
	comp=E,4µm,0.2s						
WVPM	Volcano Peak E	0.44	304		Pg	05 22 37.1	-0.7
WRVM	Rose V. Centra	0.52	305		Pg	05 22 38.6	-0.8
MFS	McCloud Flat S	0.57	316		Pg	05 22 39.9	-0.5
DTP	Desert Tortois	0.59	222		Pg	05 22 40.5	-0.2
GSC	Goldstone, Bar	0.61	131		Sg	05 22 49.5	+0.4
WBSM	Bird Springs	0.65	255		Sg	05 22 51.0	+0.7
GWY	Greenwater Val	0.74	50	Pg	Pg	05 22 43.5	-0.2
GWY				IAML		05 23 03.8	
	comp=E,629nm,0.5s						
GWY				IAML		05 23 03.9	
	comp=N,501nm,0.4s						
CCAC	Calif City Air	0.77	224		Sg	05 22 53.7	-0.4
CCAC	Calif City Air	0.77	224	Pg	Pg	05 22 43.4	-0.8
CCAC				IAML		05 22 57.2	
	comp=E,540nm,0.4s						
CCAC				IAML		05 22 57.3	
	comp=N,557nm,0.3s						
HYS	Haystack Butte	0.86	191		Pg	05 22 46.4	+0.5
HYS					Sg	05 22 54.7	-2.4
CWC	Cottonwood Cre	0.93	322		Pg	05 22 47.5	+0.1
EDW2	Edwards Air Fo	0.97	212		Pg	05 22 48.1	+0.1
EDW2					Sg	05 23 00.5	-0.2
SBB	Saddle Back Bu	1.08	200		Pg	05 22 49.1	-1.1
TPO	Tropico Hills	1.09	221		Pg	05 22 50.6	+0.4
TPO					Sg	05 23 03.1	-1.3
VTV	Victorville	1.15	178		Pg	05 22 51.5	0.0
ADO	Adelanto Recei	1.16	183		Pg	05 22 51.7	+0.1
TUQ	Turquoise Moun	1.21	103		Pn	05 22 53.9	+0.3
HEC	Hector,Ludlow	1.22	136		Pg	05 22 52.8	0.0
HEC					Sg	05 23 08.5	-0.1
SPG2	Springville 2	1.24	294		Pg	05 22 51.8	-1.4
ALPC	Antelope	1.27	217		Sg	05 23 09.5	-0.8
GRAC	Grapevine Rang	1.28	0	Pg	Pg	05 22 53.7	-0.4
GRAC				IAML		05 23 17.5	
	comp=N,306nm,0.9s						
GRAC				IAML		05 23 20.1	
	comp=E,324nm,0.5s						
LRRC	Littlerock Res	1.30	205		Pg	05 22 53.9	-0.4
LEOC	Leona Valley	1.32	216		Sg	05 23 11.1	-0.8
CJV	Casa Juvan	1.34	209		Pg	05 22 54.5	-0.5
CJV					Sg	05 23 10.9	-1.5
JNH	Juniper Hills	1.35	201		Pg	05 22 54.1	-1.2
VES	Vestal, Richgr	1.40	276		Sg	05 23 11.0	-3.5
SIL	Silver Peak	1.43	162		Pn	05 22 55.7	-1.0
BAKC	Calstate	1.46	256		Sg	05 23 15.9	-0.5
BBRC	Big Bear Solar	1.49	166		Pn	05 22 57.2	-0.3
MWC	Mount Wilson	1.59	201		Pn	05 22 58.1	-0.7
MWC				IAML		05 23 19.5	
	comp=E,178nm,0.5s						
MWC				IAML		05 23 29.8	
	comp=N,166nm,0.6s						
CLTC	Calectric	1.61	178		Sb	05 23 20.9	+0.1
PSRC	Puddingstone R	1.65	193		Pn	05 23 00.1	+0.5
DECC	Green Verdugo	1.65	209		Pb	05 23 00.5	-0.3
PASC	Pasadena Art C	1.67	204		Pn	05 22 59.1	-0.8
PASC				IAML		05 23 25.4	
	comp=E,100nm,0.7s						
GMRC	Granite Mounta	1.68	123		Sg	05 23 23.1	-0.2
DSP	Deep Springs	1.73	344		Sn	05 23 22.1	-1.1
BCW	Bitter Crk WRg	1.84	246	Pn	Pn	05 23 00.3	-2.0
MTUM	Tungsten Hills	1.90	330		Pb	05 23 05.1	0.0
HMTC	Hemet	2.02	171		Pn	05 23 03.6	-1.1
V12A	Nelson	2.05	89	Pn	Pn	05 23 04.5	-0.6
V12A				IAML		05 23 50.1	
	comp=N,73nm,0.7s						
V12A				IAML		05 23 50.6	
	comp=E,51nm,0.4s						
ELS	Elsinore Mount	2.06	181	Pn	Pn	05 23 04.0	-1.2
DGR	Domenigoni Val	2.08	172		Pn	05 23 04.7	-0.7
MURC	Murrieta	2.11	176		Pn	05 23 05.0	-0.9
BACC	Bachelor Mtn.	2.11	173		Pn	05 23 04.9	-1.0
PFO	Pinyon Flats O	2.22	160	Pn	Pn	05 23 06.2	-1.3
FRD	Ford Ranch, An	2.30	164		Pb	05 23 11.7	-0.1
LHV	Little Huntoon	2.70	341	Pn	Pn	05 23 14.2	+0.3
NV11	Mina Array Sit	2.79	347	Pn	Pn	05 23 15.3	-0.1
BBGB	Big Mountain B	3.10	287	Pn	Pn	05 23 20.9	+1.4
ELK	Elko	5.30	18	Pn	Pn	05 23 50.7	+0.7
DUG	Dugway, Tooele	5.75	37	Pn	Pn	05 23 56.8	+0.8

BJI ***06*** *05:23:31.0,56°.10N×164°.50E,h9km,mB5.6/3,mb4.7/53, Ms5.8/15,Ms7 5.5/18*

IDC ***06*** *05:23:32.5±0.4,56°.21N×164°.25E,h0km,mb4.7/43, mbtmp4.7/47,ML4.7/3,MS5.4/25,Error ellipse: s-maj=10.9km s-min=8.3km az=157.0*

NEIC ***06*** *05:23:34.0±1.3,56°.21N±0°.07×164°.3E±0°.1,h10km±1km, mb5.3/113,Error ellipse: s-maj=12.7km s-min=10.8km az=163.0*

KRSC ***06*** *05:23:33.0±1.2,56°.15N×164°.42E,h56km±21km,Mc6.4, Ml5.5*

MOS ***06*** *05:23:35.2±0.8,56°.14N×164°.34E,h33km,mb5.4/56, MS5.3/27,Error ellipse: s-maj=5.2km s-min=3.7km az=71.6*

BGR ***06*** *05:23:46.2,57°.01N×164°.87E,h17km±1km,mb5.2*

ISC 06 05:23:33.9±0.5, 56°.14N±0°.04×164°.29E±0°.03, h9km±2km, h9km:pP-P,n956,σ1s39/966, mb5.2/227, MS5.6/43, 46C-33D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.82	275	PN	Pg	05 23 48.6	-1.1
KBTR	Krutoberegovo	0.82	275	eP	Pg	05 23 48.7	-1.1
KBG	Krutoberegovo	0.89	278	PN	Pg	05 23 50.3	-0.7
KBG				S	Sb	05 24 03.1	-0.4
KBG	Krutoberegovo	0.89	278	eP	Pg	05 23 50.3	-0.7
KBG				eS	Sb	05 24 03.1	-0.4
BKI	Bering	1.34	134	PN	Pn	05 23 57.1	-1.6
BKI				S	Sb	05 24 14.0	-2.4
BKI	Bering	1.34	134	eP	Pn	05 23 57.2	-1.6
BKI				eS	Sb	05 24 14.0	-2.4
SMKR	Semkarok	1.63	287	PN	Pn	05 24 02.0	-0.9
SMKR	Semkarok	1.63	287	i P	Pn	05 24 02.1	-0.9
ZLN	Zelenaya	1.96	268	PN	Pn	05 24 08.0	+0.6
ZLN	Zelenaya	1.96	268	eP	Pn	05 24 08.0	+0.6
CIRR	Tsirk	1.98	271	PN	Pn	05 24 08.1	+0.4
CIRR	Tsirk

SDLR Sedlovina 4.25 230 PN Pn 05 24 39.3 +0.4
SDLR Sedlovina 4.25 230 eP Pn 05 24 39.3 +0.4
KRER Koryakskii 4.29 231 PN Pn 05 24 40.2 +0.7
KRER Koryakskii 4.29 231 eP Pn 05 24 40.2 +0.7
KRX Arik 4.30 232 PN Pn 05 24 41.1 +1.6
KRX Arik 4.30 232 eP Pn 05 24 41.2 +1.6
SMAR Somma 4.30 230 PN Pn 05 24 40.3 +0.7
SMAR Somma 4.30 230 eP Pn 05 24 40.3 +0.7
AVH Avacha 4.32 230 PN Pn 05 24 40.8 +1.0
AVH Avacha 4.32 230 eP Pn 05 24 40.8 +1.0
UGLR Uglovaya 4.33 229 PN Pn 05 24 40.4 +0.5
UGLR Uglovaya 4.33 229 eP Pn 05 24 40.5 +0.5
KOK Koryaka 4.35 231 PN Pn 05 24 41.0 +0.8
KOK Koryaka 4.35 231 eP Pn 05 24 41.1 +0.8
GNL Ganaly 4.41 239 PN Pn 05 24 42.8 +1.7
GNL Ganaly 4.41 239 eP Pn 05 24 42.8 +1.7
TILK Tilichiki 4.42 12 PN Pn 05 24 39.5 -1.6
TILK Tilichiki 4.42 12 eP Pn 05 24 39.5 -1.6
DALK Dalny 4.48 228 PN Pn 05 24 42.5 +0.6
DALK Dalny 4.48 228 eP Pn 05 24 42.5 +0.6
INSR Institute 4.52 229 PN Pn 05 24 43.0 +0.5
INSR Institute 4.52 229 eP Pn 05 24 43.0 +0.5
PET Petropavlovsk 4.53 229 Pn 05 24 43.2 +0.6
PET Petropavlovsk 4.53 229 P Pn 05 24 43.1 +0.5
PET Petropavlovsk 4.53 229 ePN Pn 05 24 42.9 +0.3
PET pmax pmax
comp=Z,875nm,0.5s
PET MLR MLR
comp=Z,14µm,9.0s
PET MLR MLR
comp=Z,19µm,8.0s
PET Petropavlovsk 4.53 229 eP Pn 05 24 43.2 +0.6
PET Petropavlovsk 4.53 229 P Pn 05 24 43.1 +0.5
I44RU PETROPAVLOVSK- 4.88 234 I I 05 50 40.0
baz=42,slow=321,SNR=1.0
KRMR Karymshinskiy 4.89 230 PN Pn 05 24 48.7 +1.2
KRMR Karymshinskiy 4.89 230 eP Pn 05 24 48.7 +1.2
PEA0B Petropavlovsk- 4.89 234 Pn 05 24 48.6 +1.1
PEA0B Petropavlovsk- 4.89 234 c iPN Pn 05 24 48.7 +1.1
PETK Petropavlovsk- 4.89 234 Pn 05 24 47.6 0.0
PETK Petropavlovsk- 4.89 234 Pn Pn 05 24 47.8 +0.2
comp=Z,90nm,1.0s,baz=68,slow=17,SNR=90
PETK LR LR 05 27 05.2
comp=Z,36µm,18.3s,baz=36,slow=43
PETK Petropavlovsk- 4.89 234 PN Pn 05 24 47.6 0.0
RUS Russkaya 5.03 225 PN Pn 05 24 50.0 +0.6
RUS Russkaya 5.03 225 eP Pn 05 24 50.0 +0.6
GRL Gorelyy 5.11 228 PN Pn 05 24 52.2 +1.4
GRL Gorelyy 5.11 228 eP Pn 05 24 52.2 +1.4
MTVR Mutnovka 5.12 227 PN Pn 05 24 52.2 +1.4
MTVR Mutnovka 5.12 227 eP Pn 05 24 52.3 +1.4
APC Apacha 5.26 235 PN Pn 05 24 54.0 +1.5
APC Apacha 5.26 235 eP Pn 05 24 54.1 +1.5
ASAK Asacha 5.31 227 PN Pn 05 24 54.7 +1.3
ASAK Asacha 5.31 227 eP Pn 05 24 54.7 +1.3
MIPR Malaya Ipel'ka 5.88 232 PN Pn 05 25 03.2 +2.1
MIPR Malaya Ipel'ka 5.88 232 eP Pn 05 25 03.2 +2.1
PAU Pauzhetka 6.45 226 PN Pn 05 25 09.9 +1.0
PAU Pauzhetka 6.45 226 eP Pn 05 25 10.0 +1.0
SMY Shemya 6.67 117 Pn 05 25 12.6 +0.7
SMY Shemya 6.67 117 PN Pn 05 25 12.6 +0.7
SKR Severo-Kuril's 7.33 225 PN Pn 05 25 21.4 +0.4
SKR Severo-Kuril's 7.33 225 eP Pn 05 25 21.4 +0.4
MA2 Magadan 7.99 301 Pn Pn 05 25 30.2 +0.1
comp=Z,0.3nm,0.3s,baz=79,slow=13,SNR=3.5
MA2 LR LR 05 28 49.4
comp=Z,18µm,20.1s,baz=102,slow=40
comp=Z,11nm,0.8s
MA2 Magadan 7.99 301 ePN Pn 05 25 30.9 +0.9
MA2 MLR MLR
comp=Z,15µm,11.0s
MA2 Magadan 7.99 301 P Pn 05 25 29.6 -0.4
comp=Z,0.4nmcomp=Z,2µmcomp=Z,39nm,0.9s
SEY Seymchan 9.09 323 Pn Pn 05 25 44.3 -0.9
comp=Z,0.4nm,0.3s,baz=127,slow=14,SNR=9.1
SEY LR LR 05 29 12.8
comp=Z,17µm,21.5s,baz=106,slow=38
SEY Seymchan 9.09 323 ePN Pn 05 25 43.7 -1.5
SEY MLR MLR
comp=Z,26µm,15.0s
AMKA Amchitka 10.08 112 Pn 05 25 59.8 +1.0
KIWB Kanaga Island 11.73 104 Pn 05 26 21.4 +0.2
ADK Adak 11.96 103 Pn 05 26 23.2 -1.3
ADK Adak 11.96 103 P Pn 05 26 22.5 -2.0
ADK Adak 11.96 103 PN Pn 05 26 23.2 -1.3
BILL Bilibino 11.97 4 Pn 05 26 24.0 -0.5
BILL Bilibino 11.97 4 ePN Pn 05 26 24.1 -0.5
BILL MLR MLR
comp=Z,4µm,14.0s
GSTR Great Sitkin T 12.21 101 Pn 05 26 27.0 -0.8
OKH Okha 12.57 267 dePN Pn 05 26 22.3 -10
OKH MLR MLR
comp=Z,10µm,12.0s
OKH MLR MLR
comp=N,15µm,12.0s
OKH MLR MLR
comp=E,13µm,13.0s
ATKA Atka Island 13.19 98 Pn 05 26 39.9 -1.3
ATKA Atka Island 13.19 98 P Pn 05 26 39.5 -1.7
TYV Tymovskoe 13.89 257 eP Pn 05 26 54.1 +3.3
TYV eS Sn 05 29 33.5 +8.5
TYV pmax pmax
comp=Z,1µm,2.7s
TYV pmax pmax
comp=Z,192nm,1.2s
TYV smax smax
comp=N,600nm,6.4s
TYV smax smax
comp=E,700nm,6.4s
TYV MLR MLR
comp=Z,10µm,14.0s
TYV MLR MLR
comp=E,14µm,14.0s
NKL Nikolayevsk 13.97 267 eP Pn 05 26 49.5 -2.4
NKL eS Sn 05 29 25.5 -1.4
NKL pmax pmax
comp=E,111nm,1.6s
NKL pmax pmax
comp=N,155nm,1.3s
NKL pmax pmax
comp=Z,108nm,1.4s
NKL smax smax
comp=E,989nm,9.6s
NKL smax smax
comp=N,460nm,3.3s
NKL MLR MLR
comp=N,18µm,15.0s
NKL MLR MLR
comp=E,34µm,15.0s
NKL MLR MLR
comp=Z,14µm,14.0s
SPIA Saint Paul Isl 14.02 75 P Pn 05 26 54.4 +2.0
baz=277
GAMB Gambell 14.17 48 Pn 05 26 54.7 +0.2
GAMB Gambell 14.17 48 P Pn 05 26 55.4 +0.9
baz=249,SNR=6.3
P08K Saint George I 14.47 77 Pn 05 26 59.1 +0.4
P08K Saint George I 14.47 77 P Pn 05 27 00.7 +2.0
baz=279
UGL Uglegorsk 15.19 252 eP Pn 05 27 05.5 -3.0
UGL S Sn 05 29 54.9 -1.8
UGL pmax pmax
comp=Z,142nm,1.4s
UGL smax smax
comp=N,2µm,10.1s
UGL smax smax
comp=E,2µm,14.6s
UGL MLR MLR
comp=Z,10µm,16.0s
UGL MLR MLR
comp=N,7µm,15.0s
UGL MLR MLR
comp=E,20µm,13.0s
NIKH Nikolski High 15.86 90 Pn 05 27 17.2 +0.1
NIKH IAmb IAmb 05 27 39.3
comp=Z,308nm,1.0s
NIKH Nikolski High 15.86 90 P Pn 05 27 18.3 +1.2
baz=292,SNR=5.9
M11K Mekoryuk 16.02 62 Pn Pn 05 27 19.3 +0.2
M11K Mekoryuk 16.02 62 P Pn 05 27 20.6 +1.5
baz=268
YSS Yuzhno-Sakhali 16.18 244 Pn 05 27 22.2 +0.8
YSS IAmb IAmb 05 27 33.6
comp=Z,415nm,1.2s

YSS Yuzhno-Sakhali 16.18 244 eP Pn 05 27 21.9 +0.5
YSS pmax pmax
comp=Z,270nm,1.2s
TNA Tin City 16.35 44 P Pn 05 27 24.7 +1.4
baz=248
UNV Unalaska Valle 16.86 86 P 05 27 31.3 -0.6
UNV Unalaska Valle 16.86 86 P P 05 27 32.5 +0.5
baz=290,SNR=6.0
K13K Kusilvak Mount 16.88 57 P P 05 27 31.4 -0.7
K13K IAmb IAmb 05 27 51.2
comp=Z,289nm,1.4s
K13K Kusilvak Mount 16.88 57 P P 05 27 31.2 -1.0
baz=264,SNR=34
F14K Arctic Creek 16.94 45 P P 05 27 32.6 -0.2
baz=251,SNR=14
LVA Lava Point 17.02 84 Pn 05 27 32.5 +0.6
LVA IAmb IAmb 05 27 53.4
comp=Z,200nm,0.8s
ANM Nome 17.05 48 Pn 05 27 32.8 +0.6
ANM IAmb IAmb 05 27 51.0
comp=Z,298nm,1.4s
ANM Nome 17.05 48 P Pn 05 27 32.8 +0.6
ANM pmax pmax
comp=Z,298nm,1.4s
ANM Nome 17.05 48 P P 05 27 34.1 0.0
baz=255,SNR=7.5
AKUT Akutan 17.17 84 P Pn 05 27 34.2 +0.5
AKUT Akutan 17.17 84 P Pn 05 27 33.8 0.0
GRNR Gornyy 17.38 264 eP P 05 27 37.1 -0.7
GRNR MLR MLR
comp=N,8µm,14.0s
GRNR MLR MLR
comp=E,6µm,14.0s
GRNR MLR MLR
comp=Z,4µm,16.0s
M13K Dall Lake 17.43 62 P Pn 05 27 37.6 +0.6
M13K IAmb IAmb 05 27 59.1
comp=Z,224nm,1.1s
M13K Dall Lake 17.43 62 P P 05 27 39.3 +1.0
baz=270,SNR=17
J14K Nanvaranak Lak 17.48 55 P P 05 27 39.2 +0.4
baz=263,SNR=12
F15K North Star Dit 17.67 45 P P 05 27 42.1 +1.2
baz=252,SNR=37
G15K Niukluk 17.72 47 P P 05 27 42.2 +0.8
baz=255,SNR=20
L14K Kuka Creek 17.77 59 P P 05 27 41.8 -0.3
L14K Kuka Creek 17.77 59 P P 05 27 43.4 +1.3
baz=268,SNR=47
M14K Bethel 18.12 61 P P 05 27 46.0 +0.2
M14K IAmb IAmb 05 28 10.1
comp=Z,334nm,1.2s
M14K Bethel 18.12 61 P P 05 27 47.8 +2.0
baz=270
N14K Kuskokwak Cree 18.28 64 P P 05 27 49.2 +1.6
baz=273,SNR=16
JKA Kamikawa-asahi 18.29 238 P Pn 05 27 46.4 -1.4
JKA IAmb IAmb 05 27 57.2
comp=Z,368nm,1.0s
ASAJ Asahikawa 18.30 238 P Pn 05 27 47.3 -0.5
comp=Z,5.3nm,0.3s,baz=39,slow=6.5,SNR=44
ASAJ LR LR 05 35 26.8
comp=Z,12µm,18.6s,baz=16,slow=39
comp=Z,222nm,0.9s
L15K Ungalak Mounta 18.36 58 P P 05 27 50.7 +2.1
baz=268
K15K Wolf Creek Mou 18.37 56 P P 05 27 50.6 +1.9
baz=266,SNR=38
C16K Lisburne Hills 18.39 37 P P 05 27 50.2 +1.4
baz=244,SNR=7.3
G16K Koyuk River 18.50 47 P 05 27 50.0 -0.1
G16K Koyuk River 18.50 47 P Pn 05 27 51.9 +1.7
baz=256,SNR=14
O14K Tigyukauivet M 18.54 66 P Pn 05 27 52.1 +1.4
baz=276,SNR=13
YAK Yakutsk 18.56 303 P 05 27 49.3 -1.3
YAK IAmb IAmb 05 28 07.5
comp=Z,168nm,0.8s
YAK Yakutsk 18.56 303 P P 05 27 49.6 -1.0
comp=Z,5.5nm,0.3s,baz=128,slow=2.9,SNR=14
YAK LR LR 05 35 07.6
comp=Z,8µm,19.1s,baz=22,slow=38
comp=Z,53nm,0.6s
YAK Yakutsk 18.56 303 eP P 05 27 50.4 -0.3
YAK eS Sn 05 31 18.0 -0.1
YAK pmax pmax
comp=Z,65nm,1.5s
YAK pmax pmax
comp=N,3.0nm,0.8s
YAK pmax pmax
comp=E,42nm,1.1s
YAK pmax pmax
comp=Z,86nm,0.7s
YAK pmax pmax
comp=N,80nm,1.6s
YAK pmax pmax
comp=E,405nm,1.9s
YAK smax smax
comp=N,203nm,2.3s
YAK smax smax
comp=E,276nm,2.3s
YAK MLR MLR
comp=Z,4µm,14.0s
YAK MLR MLR
comp=N,2µm,11.0s
YAK MLR MLR
comp=E,3µm,14.0s
M15K Kasigluk River 18.74 61 P Pn 05 27 54.5 +1.3
baz=272,SNR=33
S12K Black Hills 18.76 77 P Pn 05 27 54.9 +1.5
baz=286,SNR=24
J16K Anvik River 18.89 53 P Pn 05 27 56.0 +1.2
baz=264,SNR=19
I17K Unalakleet 18.92 52 P Pn 05 27 55.8 +0.7
baz=262
D17K Noatak River 18.94 39 P Pn 05 27 56.6 +1.2
baz=248
N15K Kwethluk River 19.06 63 P Pn 05 27 58.1 +1.1
baz=274,SNR=39
RDOG Red Dog Mine 19.13 38 P P 05 27 56.7 -0.3
RDOG Red Dog Mine 19.13 38 P Pn 05 27 58.0 +0.2
baz=248,SNR=9.4
E17K Hotham Inlet 19.18 42 P Pn 05 27 59.4 +1.0
baz=252
C17K DeLong Mountai 19.21 37 P Pn 05 27 59.2 +0.5
baz=246,SNR=29
F17K Baldwin Pennin 19.21 44 P Pn 05 27 59.7 +1.0
baz=254,SNR=22
G17K Kiwalik Mounta 19.22 47 P Pn 05 27 59.2 +0.3
baz=258,SNR=14
O15K Ungalikthiuk R 19.29 66 P Pn 05 28 00.1 +0.4
baz=277,SNR=52
L16K Owhat River 19.32 58 P P 05 27 59.4 +0.3
L16K Owhat River 19.32 58 P Pn 05 28 00.2 +0.1
baz=270
H17K Granite Mounta 19.42 49 P Pn 05 28 01.4 +0.2
baz=260,SNR=32
M16K Timber Creek 19.58 60 P Pn 05 28 03.5 +0.3
baz=272,SNR=30
J17K VABM Dome 19.58 53 P Pn 05 28 03.6 +0.4
baz=265,SNR=39
ERM Erimo 19.67 233 P P 05 28 00.3 -2.6
ERM IAmb IAmb 05 28 14.9
comp=Z,105nm,0.7s
ERM Erimo 19.67 233 eP P 05 28 03.2 +0.2
ERM pmax pmax
comp=Z,36nm,0.5s
ERM MLR MLR
comp=Z,10µm,21.0s
N16K Nishlik Lake 19.70 62 P Pn 05 28 05.0 +0.3
baz=274
SDPT Sand Point 19.72 78 P P 05 28 02.0 -1.4
SDPT IAmb IAmb 05 28 16.1
comp=Z,337nm,1.3s
SDPT Sand Point 19.72 78 P P 05 28 03.4 -0.1
SDPT Sand Point 19.72 78 P P 05 28 03.8 +0.4
baz=287
E18K Tukpahlearik C 19.74 41 P Pn 05 28 05.3 +0.3
baz=252,SNR=64
F18K Selawik 19.87 44 P Pn 05 28 06.2 -0.4
baz=256
L17K Donlin 19.88 57 P Pn 05 28 06.7 -0.1
baz=270,SNR=45
K17K Iditarod 19.89 55 P Pn 05 28 06.5 -0.4
baz=268,SNR=54
C18K Utukok River 19.95 37 P P 05 28 05.6 -0.3
C18K IAmb IAmb 05 28 17.8
comp=Z,308nm,1.4s
C18K Utukok River 19.95 37 P Pn 05 28 07.1 -0.5
baz=248,SNR=33
S14K Fog Glacier 19.97 74 P Pn 05 28 08.2 +0.2
baz=285,SNR=36
B18K Kokolik River 20.02 35 P Pn 05 28 08.6 +0.1
baz=246,SNR=23
H18K Honhosa River 20.10 48 P Pn 05 28 09.0 -0.3
baz=261,SNR=39
G18K Tagagawik 20.11 46 P Pn 05 28 09.1 -0.4
baz=259,SNR=73
O16K Kokwok River B 20.12 65 P P 05 28 08.6 +0.8
baz=277,SNR=24
P16K Nushagak River 20.24 66 P Pn 05 28 10.3 -0.8
baz=278
M17K Holitna River 20.30 59 P Pn 05 28 11.3 -0.5
baz=272,SNR=63
CHNA Chernabura Isl 20.37 79 P P 05 28 11.4 +0.9
baz=289,SNR=6.4
CNBA Chernabura Isl 20.37 79 P P 05 28 09.7 -0.8
N17K Nushagak Hills 20.48 62 P P 05 28 12.6 +1.0
baz=275,SNR=45
CHGN Chignik 20.58 74 P P 05 28 13.7 +1.0
baz=285,SNR=29
O17K Koliganek Bris 20.60 64 P P 05 28 13.8 +0.8
baz=277
A19K Wainwright 20.61 33 P Pn 05 28 14.1 -1.1
baz=245,SNR=8.8
L18K Granite Mounta 20.64 57 P Pn 05 28 14.7 -0.9
baz=271,SNR=40
J18K Innoko River 20.64 53 P P 05 28 14.6 +1.1
baz=267,SNR=107
TEY Ternei 20.64 249 eP P 05 28 03.9 -10
C19K Lookout Ridge 20.66 37 P P 05 28 14.3 +0.7
baz=249,SNR=48
F19K Shaleruckik Mo 20.66 44 P P 05 28 13.5 0.0
F19K Shaleruckik Mo 20.66 44 P P 05 28 14.5 +1.0
baz=257,SNR=68
GCSA Galena City Sc 20.67 50 P P 05 28 14.2 +0.5
baz=264,SNR=6.2
KLR Kul'dur 20.75 264 P P 05 28 14.6 -0.2
comp=Z,3.2nm,0.5s,baz=63,slow=12,SNR=13
comp=Z,3.2nm,0.5s
G19K Purcell Mounta 20.79 46 P P 05 28 15.7 +0.7
baz=260,SNR=12
H19K Roundabout Mou 20.95 48 P P 05 28 17.3 +0.6
baz=262
D19K Kuna River 20.96 39 P P 05 28 17.6 +0.7
baz=253,SNR=43
Q16K King Salmon 20.98 67 P Pn 05 28 18.5 -1.2
baz=280
E19K Redstone River 21.00 42 P P 05 28 18.6 +1.3
baz=256,SNR=61
P17K Kvichak River 21.01 65 P P 05 28 18.3 +0.9
baz=279
M18K Stony River 21.07 59 P P 05 28 19.1 +1.0
baz=273,SNR=23
N18K Kilae Creek 21.10 61 P P 05 28 19.5 +1.0
baz=276,SNR=16
J19K Poorman 21.16 52 P P 05 28 18.8 -0.2
baz=267,SNR=95
ZEA Zeya 21.25 279 eP P 05 28 20.4 +0.4
ZEA e 05 32 19.6
ZEA pmax pmax
comp=E,20nm,1.0s
ZEA pmax pmax
comp=Z,30nm,0.8s
ZEA MLR MLR
comp=E,4µm,14.0s
ZEA MLR MLR
comp=N,3µm,13.0s
ZEA MLR MLR
comp=Z,6µm,14.0s
R17L Mt. Peulik Vol 21.35 70 P P 05 28 22.4 +1.3
baz=283,SNR=70
Q17K Contact Creek 21.46 68 P P 05 28 22.9 +0.5
baz=282,SNR=50
F20K Avaraart Lake 21.49 43 P P 05 28 22.4 -0.1
F20K Avaraart Lake 21.49 43 P P 05 28 23.4 +0.9
baz=259
TIXI Tiksi 21.49 330 P P 05 28 22.3 -0.1
TIXI IAmb IAmb 05 28 33.7
comp=Z,154nm,1.1s
TIXI Tiksi 21.49 330 P P 05 28 22.3 -0.1
comp=Z,29nm,0.7s,baz=128,slow=8.7,SNR=32
TIXI LR LR 05 37 30.2
comp=Z,6µm,20.5s,baz=96,slow=39
comp=Z,29nm,0.7s
TIXI Tiksi 21.49 330⇑ iP P 05 28 22.3 -0.1
TIXI pmax pmax
comp=Z,98nm,1.0s
TIXI MLR MLR
comp=Z,11µm,15.0s
L19K White Mountain 21.50 57 P P 05 28 23.2 +0.6
baz=272,SNR=37
O18K Koktuh Hills 21.53 63 P P 05 28 24.3 +1.2
baz=278,SNR=17
D20K Etivluk River 21.55 39 P P 05 28 22.5 -0.8
D20K IAmb IAmb 05 28 35.5
comp=Z,151nm,1.2s
D20K Etivluk River 21.55 39 P P 05 28 23.6 +0.4
baz=254,SNR=62
E20K Nigu River 21.58 40 P P 05 28 24.3 +0.7
baz=256,SNR=56
P18K Big Mountain, 21.59 65 P P 05 28 24.4 +0.7
baz=279,SNR=17
JTM Tenmabayashi 21.59 234 P P 05 28 24.0 +0.2
JTM Tenmabayashi 21.59 234 P P 05 28 23.4 -0.4
H20K Anotleneega Mo 21.59 48 P P 05 28 24.2 +0.5
baz=264,SNR=103
I20K Naaghedeneel 21.70 50 P P 05 28 25.2 +0.4
baz=266,SNR=17
M19K Big River Lodg 21.73 58 P P 05 28 25.5 +0.3
baz=274,SNR=17
B20K Meade River 21.77 35 P P 05 28 25.2 -0.3
B20K Meade River 21.77 35 P P 05 28 25.7 +0.2
baz=250
N19K Bonanza Creek 21.77 61 P P 05 28 26.7 +0.9
baz=276,SNR=22
J20K Nowinta River 21.81 51 P P 05 28 26.7 +0.7
baz=268,SNR=46
K20K Telida 21.83 54 P P 05 28 26.9 +0.7
baz=270,SNR=27
Q18K Katmai Hardscr 21.84 66 P P 05 28 26.6 +0.2
baz=281,SNR=9.7
O19K Port Alsworth 21.93 62 P P 05 28 27.7 +0.4
baz=278
L20K Farewell, AK 21.94 56 P P 05 28 27.5 +0.1
baz=272,SNR=24
IMAR Indian Mountai 22.11 47 P P 05 28 29.4 +0.1
CHIR Chirikof Islan 22.21 74 P P 05 28 29.7 -0.7
baz=288,SNR=8.0
G21K Allakaket 22.27 45 P P 05 28 31.5 +0.6
baz=263,SNR=44
C21K Knifeblade Rid 22.31 38 P P 05 28 31.8 +0.5
baz=255,SNR=37
M20K Styx River 22.32 58 P P 05 28 31.3 -0.3
M20K Styx River 22.32 58 P P 05 28 31.6 0.0
baz=275
R18K Karluk 22.36 69 P P 05 28 31.5 -0.4
baz=284
F21K Alatna River 22.38 43 P P 05 28 32.5 +0.4
baz=261,SNR=47
A21K Barrow 22.41 32 P P 05 28 32.9 +0.5
baz=248
E21K Killik River 22.43 40 P P 05 28 31.7 -0.9
E21K Killik River 22.43 40 P P 05 28 32.5 -0.1
baz=258
H21K Melozitna Rive 22.47 48 P P 05 28 33.5 +0.4
baz=266,SNR=26
Q19K Cape Douglas, 22.48 65 P P 05 28 33.1 -0.2
Q19K IAmb IAmb 05 28 45.7
comp=Z,140nm,0.8s
Q19K Cape Douglas, 22.48 65 P P 05 28 33.2 0.0
baz=281,SNR=18
B21K Ikpikpuk River 22.49 37 P P 05 28 33.6 +0.4
baz=254
P19K Oil Pt 22.55 63 P P 05 28 34.7 +0.6
baz=280
CHUM Lake Minchumin 22.61 52 P P 05 28 34.9 +0.3
baz=270,SNR=26
HEH HeiHe 22.66 271 eP P 05 28 30.9 -4.3
HEH sP pwP 05 28 39.8 -2.0
HEH S S 05 32 39.5 -3.6
HEH pmax pmax
comp=Z,15nm,0.6s
HEH LR LR
comp=Z,19µm,17.3s

HEH LR LR
comp=Z,12µm,17.1s
HEH LR LR
comp=Z,17µm,15.7s
RED Redoubt Volcan 22.66 61 P P 05 28 34.9 -0.4
PPLA Purkeypile 22.70 55 P P 05 28 36.0 +0.3
baz=273,SNR=15
CAST Castle Rocks 22.73 53 P P 05 28 35.9 +0.1
baz=272,SNR=39
SII Sitkinak Islan 22.77 72 P P 05 28 36.8 +0.5
baz=287
O20K Slope Mountain 22.79 62 P P 05 28 36.6 +0.1
baz=279,SNR=11
A22K Sinclair Lake 22.80 33 P P 05 28 36.2 -0.2
baz=251
SPCR Spurr Chakacha 22.83 59 P P 05 28 37.8 +0.8
baz=277
F22K John River 22.92 43 P P 05 28 38.3 +0.4
baz=262
D22K Ayikyak River 22.98 39 P P 05 28 38.5 +0.1
baz=258,SNR=20
OHAK Old Harbor 23.06 70 P P 05 28 38.5 -0.8
OHAK Old Harbor 23.06 70 P P 05 28 38.0 -1.3
baz=286,SNR=18
SKT Skwentna 23.07 57 P P 05 28 39.5 +0.1
baz=276,SNR=18
H22K Ishtalitna Cre 23.07 47 P P 05 28 39.5 +0.1
baz=266,SNR=39
B22K Teshekpuk Lake 23.09 36 P P 05 28 38.6 -0.8
baz=254,SNR=17
G22K Betties 23.11 44 P P 05 28 38.8 -0.9
baz=264
E22K Anaktuvuk Pass 23.16 41 P P 05 28 39.1 -1.1
E22K IAmb IAmb 05 29 08.3
comp=Z,188nm,1.2s
E22K Anaktuvuk Pass 23.16 41 P P 05 28 40.1 -0.2
baz=261
Q20K Shuyak Island 23.18 66 P P 05 28 39.3 -1.3
baz=283,SNR=8.9
SYI Shuyak Island 23.18 66 P P 05 28 40.0 -0.6
SYI IAmb IAmb 05 29 03.7
comp=Z,139nm,0.9s
BPAW Bear Paw Mtn. 23.20 52 P P 05 28 40.2 -0.5
baz=271,SNR=34
KDAK Kodiak Island 23.28 68 P P 05 28 39.9 -1.6
KDAK IAmb IAmb 05 28 52.1
comp=Z,148nm,1.4s
KDAK Kodiak Island 23.28 68 P P 05 28 40.7 -0.8
comp=Z,30nm,0.9s,baz=75,slow=1.4,SNR=31
comp=Z,30nm,0.9s
KDAK Kodiak Island 23.28 68⇑*i*P P 05 28 40.8 -0.8
KDAK pmax pmax
comp=Z,25nm,0.6s
KDAK MLR MLR
comp=Z,5µm,16.0s
KDAK Kodiak Island 23.28 68 P P 05 28 41.8 +0.3
baz=285
MLY Manley 23.30 49 P P 05 28 41.9 +0.1
baz=269,SNR=54
HOM Homer 23.35 63 P P 05 28 41.9 -0.2
baz=281
SUA Susitna One 23.50 58 P P 05 28 44.1 +0.2
baz=277
TRF Thorofare Moun 23.53 53 P P 05 28 43.7 -0.5
baz=273,SNR=37
CUT Chulitna 23.62 56 P P 05 28 44.0 -0.9
CUT IAmb IAmb 05 29 03.2
comp=Z,133nm,0.9s
CUT Chulitna 23.62 56 P P 05 28 44.3 -0.5
baz=276
COLD Coldfoot 23.65 44 P P 05 28 44.9 -0.2
baz=264,SNR=27
USA0B Ussuriysk Arra 23.65 253 P P 05 28 42.9 -2.4
USA0B Ussuriysk Arra 23.65 253⇓*i*P P 05 28 42.0 -3.3
USRK Ussuriysk Ar. 23.65 253 P P 05 28 45.2 -0.1
USRK Ussuriysk Ar. 23.65 253 P P 05 28 44.1 -1.2
comp=Z,3.0nm,0.7s,baz=58,slow=10,SNR=9.4
comp=Z,3.0nm,0.7s
G23K Bananza Creek 23.68 45 P P 05 28 44.8 -0.6
baz=266,SNR=32
D23K Nanushuk River 23.71 39 P P 05 28 45.6 -0.1
baz=260,SNR=19
M22K Willow 23.76 58 P P 05 28 46.3 0.0
baz=277
H23K Yukon River 23.82 47 P P 05 28 47.0 +0.2
baz=268,SNR=20
BWN Browne 23.86 51 P P 05 28 47.9 +0.7
I23K Minto, Yukon-K 23.89 49 P P 05 28 47.1 -0.3
baz=270,SNR=29
C23K Itkillik River 23.90 37 P P 05 28 47.5 0.0
baz=258,SNR=39
E23K Chandalar 23.96 42 P P 05 28 48.1 -0.1
baz=263,SNR=35
NEA2 Nenana 24.02 50 P P 05 28 48.1 -0.6
baz=272,SNR=28
RC01 Rabbit Creek A 24.04 59 P P 05 28 48.1 -0.8
baz=279
TOLK Toolik Lake Re 24.05 40 P P 05 28 48.6 -0.4
baz=262,SNR=29
JMM Marumori 24.11 231 P P 05 28 49.4 -0.3
JMM Marumori 24.11 231 P P 05 28 49.6 -0.1
MCK McKinley 24.12 53 P P 05 28 49.7 0.0
baz=274,SNR=7.4
O22K Cooper Landing 24.14 61 P P 05 28 49.1 -0.8
baz=280
PMR Palmer 24.25 58 P P 05 28 50.8 0.0
baz=278
SEW Seward 24.35 61 P P 05 28 50.4 -1.4
baz=281,SNR=5.5
WAT1 Susitna Watana 24.37 55 P P 05 28 51.2 -0.8
baz=276
E24K Your Creek 24.39 42 P P 05 28 51.5 -0.6
E24K IAmb IAmb 05 29 13.4
comp=Z,134nm,1.1s
E24K Your Creek 24.39 42 P P 05 28 52.0 -0.2
baz=264
D24K Happy Valley 24.40 39 P P 05 28 51.8 -0.3
baz=262,SNR=23
H24K Noodor Dome 24.51 47 P P 05 28 53.6 +0.3
baz=270,SNR=35
C24K Franklin Bluff 24.53 38 P P 05 28 53.0 -0.3
baz=260
COLA College 24.54 50⇑*i*P P 05 28 52.3 -1.1
COLA pmax pmax
comp=Z,35nm,1.0s
COLA MLR MLR
comp=Z,5µm,16.0s
COLA College 24.54 50 P P 05 28 53.3 -0.1
baz=272
CCB Clear Creek Bu 24.57 50 P P 05 28 52.6 -1.0
CCB IAmb IAmb 05 29 20.2
comp=Z,108nm,1.0s
F24K Squaw Lake 24.57 43 P P 05 28 53.4 -0.4
baz=266,SNR=11
KNK Knik Glacier 24.59 58 P P 05 28 53.7 -0.3
baz=279
MDJ Mudanjiang 24.67 257 P P 05 28 52.8 -2.1
MDJ pmax pmax
comp=Z,7.0nm,0.8s
G24K Hadweenzic Riv 24.69 45 P P 05 28 54.3 -0.6
baz=268,SNR=56
PWL Port Wells 24.75 59 P P 05 28 54.5 -0.9
baz=280,SNR=22
WAT6 Susitna Watana 24.77 55 P P 05 28 54.3 -1.4
baz=277,SNR=24
DHY Denali Highway 24.88 54 P P 05 28 55.7 -1.0
baz=276,SNR=19
M23K Glacier View 24.88 57 P P 05 28 56.4 -0.3
baz=279,SNR=9.3
HDA Harding Lake 24.95 51 P P 05 28 56.9 -0.3
baz=274,SNR=20
ILAR Eielson Array 24.95 50 P P 05 28 56.2 -1.0
comp=Z,12nm,0.9s,baz=266,slow=8.6,SNR=82
ILAR PcP PcP 05 32 30.3 -1.7
comp=Z,1.5nm,0.8s,baz=278,slow=3.0,SNR=4.8
ILAR LR LR 05 38 40.1
comp=Z,6µm,20.2s,baz=249,slow=36
comp=Z,12nm,0.9s
SCM Sheep Creek Mo 25.06 57 P P 05 28 58.6 +0.3
baz=279,SNR=25
JSD Sado 25.09 235 P P 05 28 58.5 -0.2
BNX BinXian 25.17 261 ⇑P P 05 28 57.7 -1.6
BNX pmax pmax
comp=Z,13nm,1.0s
G25K Bearman Lake 25.23 45 P P 05 28 59.8 +0.1
baz=270,SNR=15
D25K Kavik River 25.28 39 P P 05 29 00.3 +0.1
baz=264
GLI Glacier Island 25.34 59 P P 05 28 59.8 -0.9
baz=281
H25L Birch Creek 25.35 46 P P 05 28 59.3 -1.4
baz=271
P23K Montague Islan 25.37 61 P P 05 29 00.5 -0.6
baz=283
F25K Christian Rive 25.43 43 P P 05 29 00.7 -0.8
baz=268,SNR=31
E25K Arctic Village 25.48 42 P P 05 29 01.5 -0.5
baz=267,SNR=26
PRP Porcupine Dome 25.49 48 P P 05 29 01.3 -0.9
baz=273,SNR=27
K24K Donnelly Dome 25.51 52 P P 05 29 01.1 -1.2
baz=276
M24K Tolsona, Glenn 25.56 56 P P 05 29 01.7 -1.0
baz=279,SNR=6.4
J25K Salcha River, 25.61 50 P P 05 29 01.8 -1.5
baz=275,SNR=14
PAX Paxson 25.75 54 P P 05 29 03.6 -1.0
baz=278
KLU Klutina 25.78 57 P P 05 29 04.2 -0.6
baz=281
C26K Camden Bay 25.86 38 P P 05 29 04.6 -0.8
baz=264,SNR=12
RIDG Independent Ri 25.93 52 P P 05 29 04.5 -1.6
RIDG IAmb IAmb 05 29 16.3
comp=Z,75nm,1.2s
RIDG Independent Ri 25.93 52 P P 05 29 04.6 -1.5
baz=277,SNR=20
HARP HAARP 25.98 55 P P 05 29 05.7 -0.9
baz=280
F26K Sheenjek River 26.00 43 P P 05 29 06.2 -0.6
baz=269,SNR=18
EYAK Cordova Ski Ar 26.06 59 P P 05 29 07.0 -0.2
baz=283
G26K Porcupine Rive 26.15 45 P P 05 29 07.7 -0.3
baz=271,SNR=47
C27K Jago River 26.25 39 P P 05 29 08.8 -0.2
baz=266,SNR=14
SCRK Sand Creek 26.28 51 P P 05 29 07.8 -1.6
baz=277,SNR=37
MJB9 Matsu-Tunnel 26.35 233 P P 05 29 10.4 +0.3
MAJO Matsushiro 26.35 233 P P 05 29 10.2 0.0
MAJO Matsushiro 26.35 233 P P 05 29 10.1 0.0
MAJO Matsushiro 26.35 233*c*⇓P P 05 29 10.1 0.0
MAJO pmax pmax
comp=Z,68nm,0.8s
MJAR Matsushiro Arr 26.35 233 P P 05 29 10.0 -0.1
MJAR Matsushiro Arr 26.35 233 P P 05 29 10.4 +0.3
comp=Z,23nm,0.6s,baz=27,slow=7.9,SNR=66
MJAR LR LR 05 40 02.1
comp=Z,7µm,20.1s,baz=206,slow=38
comp=Z,23nm,0.6s
MJAR Matsushiro Arr 26.35 233 P P 05 29 10.0 -0.1
MJAR pmax pmax
comp=Z,174nm,0.9s
N25K Chitina, Valde 26.38 57 P P 05 29 10.4 +0.2
baz=282,SNR=9.6
J26L Joseph Creek 26.40 50 P P 05 29 10.1 -0.3
baz=276,SNR=6.3
I26K Coal Creek Min 26.50 48 P P 05 29 10.9 -0.2
baz=275
BMRM Bremner River 26.51 58 P P 05 29 10.9 -0.5
baz=283,SNR=8.7
L26K Log Cabin Wild 26.70 53 P P 05 29 13.3 +0.2
baz=280
KAIM Kayak Island 26.85 60 P P 05 29 14.6 +0.2
baz=285
E27K Coleen River 26.97 42 P P 05 29 15.2 -0.3
baz=271,SNR=13
M26K Nabesna, AK 26.97 55 P P 05 29 15.2 -0.3
baz=281,SNR=23
G27K Doyon Strip 26.99 45 P P 05 29 16.0 +0.3
baz=273,SNR=18
H27K Steamboat Moun 27.09 46 P P 05 29 16.8 +0.3
baz=275,SNR=41
I27K Kandik River 27.11 48 P P 05 29 16.1 -0.7
baz=276
K27K Chicken 27.11 51 P P 05 29 16.2 -0.5
baz=278
MCARA McCarthy VSAT 27.17 57 P P 05 29 16.9 -0.3
baz=283
CRQE Cirque 27.28 58 P P 05 29 18.4 0.0
baz=284
L27K Beaver Creek, 27.38 53 P P 05 29 19.2 0.0
baz=281,SNR=67
BCAR Beaver Creek A 27.39 53 P P 05 29 18.7 -0.7
CN2 Changchun 27.47 260 P P 05 29 24.8 +4.7
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,7µm,18.0s
CN2 LR LR
comp=Z,8µm,18.0s
CN2 LR LR
comp=Z,4µm,17.0s
M27K Edge Creek, AK 27.49 55 P P 05 29 19.9 -0.4
baz=282,SNR=30
JGF Kuroka 27.51 233 P P 05 29 20.4 -0.2
JGF Kuroka 27.51 233 P P 05 29 21.1 +0.5
F28M Old Crow 27.64 43 P P 05 29 21.0 -0.4
baz=273,SNR=17
E28M Babbage River 27.72 41 P P 05 29 22.0 -0.2
baz=272,SNR=14
I28M Mine Creek 27.82 48 P P 05 29 22.8 -0.4
baz=278,SNR=17
BVCY Beaver Creek 27.94 54 P P 05 29 24.4 +0.2
baz=282,SNR=14
MESA MESA 27.98 59 P P 05 29 24.7 0.0
baz=286
D28M Stokes Point 27.99 39 P P 05 29 23.6 -0.9
baz=271
CTG Chitna Glacier 28.06 57 P P 05 29 25.6 +0.2
baz=285
DAWY Dawson 28.27 51 P P 05 29 26.9 -0.2
baz=280,SNR=10
YUK3 Moose Creek 28.27 56 P P 05 29 27.4 0.0
baz=284
E29M Blow River 28.34 41 P P 05 29 27.8 +0.1
baz=274,SNR=18
H29M Whitestone 28.36 46 P P 05 29 28.1 +0.3
baz=277,SNR=19
G29M Pine Creek 28.42 44 P P 05 29 27.9 -0.5
G29M IAmb IAmb 05 29 37.4
comp=Z,52nm,0.9s
G29M Pine Creek 28.42 44 P P 05 29 29.0 +0.6
baz=276,SNR=23
I29M Ogilvie Camp, 28.51 48 P P 05 29 28.8 -0.5
baz=279,SNR=28
O28M Mount Upton 28.65 58 P P 05 29 31.2 +0.3
baz=286,SNR=6.4
YUK8 Steele Glacier 28.72 56 P P 05 29 32.0 +0.6
baz=285
PINM Pinnacle 28.82 59 P P 05 29 32.6 +0.6
baz=287
EPYK Eagle Plains 29.00 45 P P 05 29 33.5 -0.1
baz=278,SNR=18
L29M L29M 29.01 52 P P 05 29 34.3 +0.5
baz=283,SNR=34
M29M Somme Creek 29.02 54 P P 05 29 34.3 +0.4
baz=284,SNR=17
G30M tAoh Zrail Nji 29.11 44 P P 05 29 34.4 -0.2
baz=278,SNR=9.2
K29M Barlow Dome 29.12 51 P P 05 29 34.7 -0.1
baz=282,SNR=9.9
F30M Barrier River 29.20 43 P P 05 29 35.9 +0.6
baz=277,SNR=14
YUK4 Talbot Arm 29.22 56 P P 05 29 35.9 +0.1
baz=286
I30M Mount Dempster 29.33 48 P P 05 29 36.1 -0.5
baz=281,SNR=32
PNL Peninsula 29.36 59 P P 05 29 37.1 +0.3
PNL Peninsula 29.36 59 P P 05 29 37.6 +0.8
baz=288,SNR=5.8
YUK6 Outpost Mounta 29.46 57 P P 05 29 38.0 0.0
baz=287
J30M Hart River 29.48 49 P P 05 29 38.4 +0.4
baz=282
CIT Chita 29.49 284 *e*P P 05 29 38.4 +0.3
CIT *e* 05 29 54.0
CIT *e* 05 30 39.8
CIT *e* 05 32 44.8
CIT *e* 05 34 36.4
CIT *e* 05 36 29.0
O29M Mount Kennedy 29.55 58 P P 05 29 39.0 +0.4
baz=288
M30M Minto, Yukon 29.74 53 P P 05 29 40.5 +0.4
baz=285,SNR=13
SNY Shenyang 29.81 259 ⇓P P 05 29 45.1 +4.2
SNY pmax pmax
comp=Z,20nm,1.4s
G31M Satah River 29.88 44 P P 05 29 41.6 +0.3
baz=279,SNR=7.7
MAYO Mayo, Yukon 29.88 51 P P 05 29 42.0 +0.6
baz=284
HYT Haines Junctio 29.90 57 P P 05 29 42.6 +0.8
baz=288,SNR=19
N30M Aishikik Lake 29.91 55 P P 05 29 41.8 +0.1
baz=287
INK Inuvik 29.96 41 P P 05 29 42.2 +0.2
baz=278,SNR=15
F31M Tsiigehtchic 30.00 43 P P 05 29 42.1 -0.3
baz=279
H31M Peel River 30.05 46 P P 05 29 42.4 -0.5
baz=281,SNR=6.2
P29M Windy Craggy 30.17 59 P P 05 29 44.9 +0.9
baz=289
P30M Million Dollar 30.38 58 P P 05 29 46.8 +1.0
baz=289
N31M Braeburn, Yuko 30.50 55 P P 05 29 47.8 +0.9
baz=288
O30N Mendenhall 30.58 56 P P 05 29 47.9 +0.2
baz=288,SNR=8.8
KS19 Wonju Array Si 30.62 248 P P 05 29 47.2 -1.0
KSRS Korea Array 30.63 248 P P 05 29 47.7 -0.5
comp=Z,3.6nm,0.7s,baz=34,slow=9.3,SNR=16
KSRS PcP PcP 05 32 46.8 +0.5
comp=Z,11nm,1.1s,baz=23,slow=1.7,SNR=9.1
comp=Z,3.6nm,0.7s
KSAR Wonju Array Be 30.66 248 P P 05 29 45.6 -2.9
KSAR Wonju Array Be 30.66 248 P P 05 29 45.6 -2.9
PLBC Pleasant Camp 30.88 59 P P 05 29 50.9 +0.6
baz=290
M31M Drury Creek, Y 30.92 53 P P 05 29 51.8 +1.2
baz=287,SNR=19
WHY Whitehorse 31.18 56 P P 05 29 53.9 +0.9
baz=289,SNR=18
FARO Faro, Yukon 31.38 53 P P 05 29 55.6 +1.0
baz=288,SNR=12
SKAG Skagway 31.38 58 P P 05 29 53.9 -0.7
SKAG IAmb IAmb 05 30 07.5
comp=Z,87nm,1.4s
SKAG Skagway 31.38 58 P P 05 29 55.5 +0.9
baz=291
S31K Pelican 31.50 62 P P 05 29 56.8 +1.2
baz=293
R31K City Hall, Gus 31.57 61 P P 05 29 57.9 +1.6
baz=292
N32M Quiet Lake 31.84 55 P P 05 30 00.1 +1.4
baz=290
P32M Atlin 32.10 58 P P 05 30 01.9 +0.9
baz=292
MMPY Sheldon Lake, 32.18 52 P P 05 30 02.5 +0.8
baz=289,SNR=23
R32K Eaglecrest 32.21 60 P P 05 30 03.5 +1.6
baz=293
A36M Sachs Harbour 32.24 33 P P 05 30 03.0 +0.9
baz=279
JIS Juneau Island 32.28 60 P P 05 30 03.0 +0.5
P33M Teslin, Yukon 32.29 56 P P 05 30 03.9 +1.1
baz=291,SNR=6.8
SIT Sitka 32.31 63 P P 05 30 04.5 +1.7
baz=295
S32K Killisnoo 32.51 62 P P 05 30 06.0 +1.5
baz=294,SNR=8.0
JNU Nakatsue 32.57 239 P P 05 30 05.8 +0.4
Q32M Nakina River 33.02 58 P P 05 30 10.8 +1.5
baz=293,SNR=16
R33M Jennings River 33.47 57 P P 05 30 14.5 +1.4
baz=294,SNR=16
U33K Whale Pass 33.82 63 P P 05 30 16.8 +0.9
baz=297
TGTN Hyland Airport 33.88 53 P P 05 30 17.5 +1.0
baz=292
S34M Telegraph Cree 34.00 60 P P 05 30 19.8 +2.2
baz=295,SNR=8.2
WRAK Wrangell Islan 34.06 62 P P 05 30 20.2 +2.1
baz=297
WTLY Watson Lake, Y 34.19 55 P P 05 30 20.4 +1.2
baz=294,SNR=7.3
DLBC Dease Lake 34.31 58 LR LR 05 45 10.9
comp=Z,834nm,18.4s,baz=306,slow=38
DLBC Dease Lake 34.31 58 P P 05 30 21.8 +1.5
baz=295,SNR=22
IRK Irkutsk 34.36 289 *e*P P 05 30 22.5 +1.7
IRK pmax pmax
comp=Z,45nm,1.3s
T35M Bob Quinn 34.84 61 P P 05 30 27.3 +2.4
baz=297,SNR=6.1
NRIK Noril'sk 34.88 323 P P 05 30 25.2 +0.1
comp=Z,9.3nm,0.9s,baz=63,slow=4.5,SNR=8.0
comp=Z,9.3nm,0.9s
NRIK Noril'sk 34.88 323⇑*i*P P 05 30 24.5 -0.6
NRIK pmax pmax
comp=Z,11nm,1.1s
V35K Ketchikan 34.94 64 P P 05 30 27.4 +1.7
baz=299
ULN Ulaanbaatar 35.25 281 P P 05 30 27.6 -1.1
ULN IAmb IAmb 05 30 37.1
comp=Z,63nm,1.4s
ULN Ulaanbaatar 35.25 281*d*⇓P P 05 30 27.9 -0.8
ULN pmax pmax
comp=Z,26nm,1.4s
WRGLY Wrigley 35.30 48 P P 05 30 30.1 +1.4
baz=293
SONM Songino Array 35.63 282 P P 05 30 30.6 -1.3
SONM IAmb IAmb 05 30 39.7
comp=Z,41nm,1.1s
SONM Songino Array 35.63 282 P P 05 30 31.4 -0.5
comp=Z,8.5nm,0.9s,baz=64,slow=9.2,SNR=24
SONM PcP PcP 05 32 59.9 -0.4
comp=Z,2.4nm,0.9s,baz=34,slow=2.2,SNR=2.2
comp=Z,8.5nm,0.9s
SONM Songino Array 35.63 282 P P 05 30 30.6 -1.3
SONM pmax pmax
comp=Z,41nm,1.1s
LIRD Liard River Hi 35.72 55 P P 05 30 33.7 +1.2
baz=296
ZAK Zakamensk 35.88 287 *e*P P 05 30 33.7 -0.3
ZAK pmax pmax
comp=Z,8.0nm,1.3s
KOTAN Kotaneelee Air 36.34 53 P P 05 30 38.9 +1.2
baz=296
TOAD Toad River Com 36.37 56 P P 05 30 39.9 +1.9
baz=297,SNR=12
MOY Mondy 36.39 290 *e*P P 05 30 38.8 +0.4
MOY pmax pmax
comp=Z,39nm,1.8s
H11N2 WAKE ISLAND Hy 36.41 176 T T 06 09 28.5
baz=357,slow=76
H11N3 WAKE ISLAND Hy 36.42 176 T T 06 09 22.8
baz=357,slow=76
H11N1 WAKE ISLAND Hy 36.43 176 T T 06 09 31.9
baz=357,slow=76
HNS HongShan 37.80 262 ⇑P P 05 30 55.9 +5.6
HNS pmax pmax
comp=Z,21nm,1.2s
BTO Baotou 38.17 269 *e*P P 05 30 49.1 -4.5
BTO pP pP 05 30 53.9 -1.2
BTO sP sP 05 30 56.1 +0.4
BTO PP PP 05 32 14.9 -5.8
BTO S S 05 36 39.0 -7.9
BTO SS SnSn 05 39 23.0 -7.1
JOW Kunigami 39.05 237 P P 05 31 00.8 -0.1
comp=Z,29nm,0.7s,baz=35,slow=13,SNR=6.1
comp=Z,29nm,0.7s
YKA Yellowknife Ar 39.27 46 P P 05 31 00.8 -1.6
comp=Z,8.1nm,0.7s,baz=301,slow=8.7,SNR=64
YKA LR LR 05 48 45.6
comp=Z,5µm,18.5s,baz=340,slow=38
comp=Z,8.1nm,0.7s
NJ2 Nanjing 39.54 252 *e*P P 05 31 05.1 +0.1
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
WHN Wuhan 43.13 255 P P 05 31 39.3 +4.8
WHN pmax pmax
comp=Z,42nm,0.5s
ZALV Zalesovo Beam 43.21 302 P P 05 31 34.7 -0.2
comp=Z,0.9nm,0.4s,baz=55,slow=5.6,SNR=5.2
ZALV PP PP 05 33 16.0 +1.1
comp=Z,13nm,1.0s,baz=52,slow=7.7,SNR=5.7
KBS Kingsbay 44.17 353 *e*P P 05 31 42.1 -0.2
KBS pmax pmax
comp=Z,47nm,1.2s

KBS MLR MLR
comp=Z,2μm,17.0s
KBS Kingsbay 44.17 353 *i* P **P** **05 31 41.7 -0.7**
KIP Kipapa 44.47 126 ⇓*i* P **P** **05 31 46.7 +1.4**
KIP pmax pmax
comp=Z,68nm,1.2s
SPITS Spitsbergen Ar 44.51 351 P **P** **05 31 45.3 +0.2**
comp=Z,51nm,0.7s,baz=55,slow=5.8,SNR=15
comp=Z,51nm,0.7s
SPITS Spitsbergen Ar 44.51 351 P **P** **05 31 45.3 +0.2**
SPITS pmax pmax
comp=Z,333nm,1.2s
GTA Gaotai 44.70 276 *e*P **P** **05 31 46.2 -1.0**
GTA sP pwP 05 31 54.1 +0.2
GTA PP **PP** **05 33 34.0 +2.8**
GTA pmax pmax
comp=Z,9.0nm,0.9s
GTA LR LR
comp=Z,7μm,22.5s
GTA LR LR
comp=Z,9μm,21.4s
GTA LR LR
comp=Z,5μm,21.8s
LZH Lanzhou 44.80 270 *e*P **P** **05 31 50.6 +2.6**
LZH sP pwP 05 31 56.8 +2.0
LZH pmax pmax
comp=Z,110nm,1.0s
NEEM North Greenlan 44.87 10 *i* P **P** **05 31 47.3 -1.0**
NEEM IAmb IAmb 05 31 53.2
comp=Z,75nm,1.2s
BLKN Baker Lake 45.19 37 P **P** **05 31 50.1 -0.4**
HSPB Hornsund (broa 45.66 351 *e*P **P** **05 31 53.6 -0.6**
NEW Newport 46.33 65 P **P** **05 31 59.6 -0.2**
comp=Z,8.5nm,1.0s,baz=306,slow=8.7,SNR=4.4
comp=Z,8.5nm,1.0s
KULLO Kullorsuaq 46.66 14 *i* P **P** **05 32 01.2 -0.8**
KULLO IAmb IAmb 05 32 02.5
comp=Z,20nm,0.8s
ZSN Zaisan 47.29 295 *e*P **P** **05 32 07.1 -0.2**
ZSN Zaisan 47.29 295 *e*P **P** **05 32 07.1 -0.2**
DAG Danmarks Havn 47.34 1 *i* P **P** **05 32 07.4 +0.1**
DAG IAmb IAmb 05 32 11.4
comp=Z,13nm,0.7s
J05D Fort Rock, OR 47.50 73 P **P** **05 32 10.0 +0.8**
YBH Yreka Blue Hor 47.78 75 P **P** **05 32 11.5 +0.2**
YBH IAmb IAmb 05 32 22.4
comp=Z,33nm,1.2s
YBH Yreka Blue Hor 47.78 75 P **P** **05 32 11.6 +0.2**
comp=Z,0.5nm,0.7s,baz=12,slow=3.6,SNR=8.0
YBH Yreka Blue Hor 47.78 75 P **P** **05 32 11.5 +0.2**
YBH pmax pmax
comp=Z,33nm,1.2s
K05A Summer Lake 48.07 73 P **P** **05 32 14.9 +1.2**
KURK Kurchatov 48.20 302 P **P** **05 32 13.3 -1.0**
KURK IAmb IAmb 05 32 26.5
comp=Z,29nm,1.0s
KURK Kurchatov 48.20 302 P **P** **05 32 13.6 -0.7**
KURK Kurchatov 48.20 302 ⇑*i* P **P** **05 32 13.8 -0.5**
KURK pmax pmax
comp=Z,9.0nm,0.7s
KURK MLR MLR
comp=Z,8μm,16.0s
WMQ Urumqi 48.26 289 *e*P **P** **05 32 17.2 +2.2**
WMQ pP pwP 05 32 22.4 +0.6
WMQ pmax pmax
comp=Z,75nm,1.1s
KURBB Kurchatov Arra 48.30 302 P **P** **05 32 14.1 -1.0**
comp=Z,5.8nm,0.7s,baz=56,slow=8.1,SNR=39
KURBB PP **PP** **05 34 09.3 +2.1**
comp=Z,12nm,0.9s,baz=48,slow=9.7,SNR=4.1
KURBB LR LR 05 55 10.2
comp=Z,6μm,19.8s,baz=198,slow=39
comp=Z,5.8nm,0.7s
UPNV Upernavik 48.38 15 *i* P **P** **05 32 15.5 +0.1**
UPNV IAmb IAmb 05 32 16.3
comp=Z,11nm,0.7s
MK31 Makanchi Array 49.03 296*c i*P **P** **05 32 19.6 -1.2**
MKAR Makanchi Array 49.03 296 P **P** **05 32 19.6 -1.2**
comp=Z,2.8nm,0.6s,baz=50,slow=6.6,SNR=19
comp=Z,2.8nm,0.6s
MAKZ Makanchi 49.18 296 P **P** **05 32 21.3 -0.7**
MAKZ IAmb IAmb 05 32 30.5
comp=Z,34nm,1.1s
MAKZ Makanchi 49.18 296 P **P** **05 32 21.3 -0.7**
MAKZ pmax pmax
comp=Z,34nm,1.2s
GOMU GeErMu 49.76 277 P **P** **05 32 25.2 -1.7**
GOMU pP pP 05 32 28.5 +0.1
GOMU sP pwP 05 32 32.4 -1.3
GOMU pmax pmax
comp=Z,4.0nm,0.4s
BVA0 Borovoye Array 50.40 309 *i* P **P** **05 32 30.6 -0.5**
BVAR Borovoye Array 50.40 309 P **P** **05 32 30.6 -0.5**
comp=Z,17nm,0.8s,baz=50,slow=7.9,SNR=51
BVAR PP **PP** **05 34 29.1 +2.9**
comp=Z,16nm,1.0s,baz=64,slow=6.6,SNR=3.6
BVAR LR LR 05 56 45.1
comp=Z,5μm,18.2s,baz=126,slow=40
comp=Z,17nm,0.8s
BRVK Borovoye 50.42 309 P **P** **05 32 31.0 -0.3**
BRVK IAmb IAmb 05 32 39.5
comp=Z,30nm,0.8s
BRVK Borovoye 50.42 309 P **P** **05 32 31.1 -0.2**
BRVK Borovoye 50.42 309*d i*P **P** **05 32 30.8 -0.5**
BRVK pmax pmax
comp=Z,30nm,0.8s
SUMG Summit 50.60 9 P **P** **05 32 32.3 -0.6**
SUMG Summit 50.60 9 P **P** **05 32 32.3 -0.6**
SUMG pmax pmax
comp=Z,74nm,1.2s
SUMG Summit 50.60 9 *i* P **P** **05 32 33.4 +0.5**
SUMG IAmb IAmb 05 32 37.4
comp=Z,41nm,1.1s
ARCES ARCESS Array B 51.12 343 P **P** **05 32 36.4 +0.1**
ARCES IAmb IAmb 05 32 46.2
comp=Z,41nm,1.1s
ARCES ARCESS Array B 51.12 343 P **P** **05 32 35.4 -1.0**
comp=Z,4.9nm,0.8s,baz=12,slow=8.9,SNR=6.6
comp=Z,4.9nm,0.8s
ARCES ARCESS Array B 51.12 343 P **P** **05 32 36.4 +0.1**
ARCES pmax pmax
comp=Z,41nm,1.2s
APA Apatity 51.34 338 *e*P **P** **05 32 34.7 -3.3**
APA *i* 05 33 51.3
BRZS Berezniki 51.48 304 *e*P **P** **05 32 39.5 +0.2**
BRZS Berezniki 51.48 304 *e*P **P** **05 32 39.6 +0.2**
SVE Sverdlovsk 51.71 317 *e*P **P** **05 32 43.9 +3.0**
SVE pmax pmax
comp=Z,152nm,2.3s
SVE MLR MLR
comp=Z,7μm,15.0s
YNE Yellowstone No 52.13 64 P **P** **05 32 44.6 +0.1**
ILULI Ilulissat 52.32 15 *i* P **P** **05 32 47.3 +2.0**
ILULI IAmb IAmb 05 32 49.1
comp=Z,12nm,0.7s
ELK Elko 52.47 71 P **P** **05 32 45.8 -1.3**
comp=Z,4.7nm,0.8s,baz=316,slow=9.0,SNR=2.4
comp=Z,4.7nm,0.8s
PDGK Podgornoye 52.87 294 P **P** **05 32 49.1 -0.8**
ARTI Arti 52.88 318 P **P** **05 32 48.8 -0.8**
ARTI IAmb IAmb 05 33 00.1
comp=Z,37nm,0.7s
ARTI Arti 52.88 318 LR LR 05 55 38.5
comp=Z,5μm,21.7s,baz=112,slow=36
ARTI Arti 52.88 318*c i*P **P** **05 32 49.2 -0.4**
ARTI 05 33 58.9
ARTI 05 34 46.0
ARTI S **S** **05 40 19.2 +0.9**
ARTI SS **SS** **05 43 51.5 -4.8**
ARTI pmax pmax
comp=Z,75nm,1.5s
SHLS Shalkode 53.01 294 *e*P **P** **05 32 49.5 -1.4**
SHLS pmax pmax
comp=Z,23nm,0.9s
SHLS Shalkode 53.01 294 *e*P **P** **05 32 49.5 -1.4**
comp=Z,23nm,0.9s
ARXS Arharly 53.08 296 *i* P **P** **05 32 50.9 -0.5**
PZH PanZhiHua 53.20 263 P **P** **05 32 51.5 -1.0**
PZH pmax pmax
comp=Z,10.0nm,1.1s
SCO Scoresbysund 53.59 3 *i* P **P** **05 32 56.5 +1.9**
SCO IAmb IAmb 05 32 59.5
comp=Z,17nm,1.0s
SATY Saty 53.62 295 *e*P **P** **05 32 55.4 0.0**
SATY pmax pmax
comp=Z,14nm,1.1s
SATY Saty 53.62 295 *e*P **P** **05 32 55.4 0.0**
comp=Z,14nm,1.1s
FRB Frobisher Bay 53.71 26 P **P** **05 32 54.5 -1.1**
comp=Z,17nm,0.7s,baz=331,slow=9.9,SNR=5.7
comp=Z,17nm,0.7s
PDAR Pinedale Array 53.96 65 P **P** **05 32 58.2 +0.1**
comp=Z,8.7nm,0.7s,baz=329,slow=3.0,SNR=39
comp=Z,8.7nm,0.7s
AAA Alma-Ata 54.26 296 *e*P **P** **05 33 00.1 +0.1**
AAA pmax pmax
comp=Z,9.0nm,0.3s
AAA Alma-Ata 54.26 296 *e*P **P** **05 33 00.2 +0.1**
comp=Z,9.0nm,0.3s
AAA LR LR 05 56 19.1
BTLS Baital 54.36 299 *e*P **P** **05 33 00.9 +0.3**
BTLS Baital 54.36 299 *e*P **P** **05 33 00.9 +0.3**
KIRV Kirov 54.37 324 *e*P **P** **05 33 00.5 +0.1**
SFJD Kangerlussuaq 54.44 16 P **P** **05 33 01.7 +0.9**
comp=Z,8.5nm,0.8s,baz=328,slow=6.1,SNR=4.1
comp=Z,8.5nm,0.8s
QIZ Qiongzhong 54.80 250 P **P** **05 33 04.0 -0.1**
QIZ S **S** **05 40 46.3 +1.3**
QIZ pmax pmax
comp=Z,14nm,1.4s
QIZ LR LR
comp=Z,4μm,16.2s
QIZ LR LR
comp=Z,2μm,17.2s
KDJ Kajisay 54.91 295 P **P** **05 33 04.0 -0.9**
KDJ IAmb IAmb 05 33 16.7
comp=Z,42nm,1.0s
KDJ Kajisay 54.91 295 P **P** **05 33 04.0 -0.9**
KDJ pmax pmax
comp=Z,42nm,1.0s
ULM Lac du Bonnet 54.97 51 P **P** **05 33 04.8 -0.1**
comp=Z,14nm,0.7s,baz=318,slow=7.0,SNR=20
comp=Z,14nm,0.7s
TKM2 Tokmak 2 55.13 296 P **P** **05 33 06.7 +0.1**
SNR=6.0
TKM2 Tokmak 2 55.13 296 P **P** **05 33 06.1 -0.4**
SGDS Sogindy 55.23 298 *e*P **P** **05 33 07.2 +0.2**
ULHL Ulahol 55.30 295 P **P** **05 33 08.2 +0.4**
SNR=6.5
USP Ospenovka 55.43 297 P **P** **05 33 08.9 +0.5**
SNR=13
KLMR Klimovskoe 55.50 331 *e*P **P** **05 33 06.3 -2.3**
KLMR pmax pmax
comp=Z,108nm,1.4s
AAK Ala-Archa 55.89 297 P **P** **05 33 12.7 +0.8**
AAK Ala-Archa 55.89 297 ⇑*i* P **P** **05 33 12.2 +0.3**
AAK pmax pmax
comp=Z,17nm,1.0s
AAK MLR MLR
comp=Z,4μm,16.0s
AAK Ala-Archa 55.89 297 *i* P **P** **05 33 12.3 +0.4**
SNR=5.8
SLVN Son La 56.11 258 P **P** **05 33 13.9 +0.3**
EKS2 Erkin-Say 56.23 297 P **P** **05 33 14.8 +0.5**
SNR=12
AGMN Agassiz Nation 56.43 52 P **P** **05 33 15.0 -0.4**
AGMN IAmb IAmb 05 33 26.7
comp=Z,22nm,0.8s
LSA Lhasa 56.65 275 P **P** **05 33 18.1 +0.2**
AML Almayashu 56.66 297 P **P** **05 33 18.3 +0.6**
SNR=8.3
NUUK Nuuk 56.85 18 *i* P **P** **05 33 21.6 +3.4**
DZA Taraz 57.27 299 *e*P **P** **05 33 21.7 +0.2**
DZA pmax pmax
comp=Z,6.0nm,0.3s
DZA Taraz 57.27 299 *e*P **P** **05 33 21.8 +0.2**
comp=Z,5.6nm,0.3s
KSH Kashi 57.46 293 P P 05 33 28.5 +5.4
KSH pmax pmax
comp=Z,18nm,1.7s
KK31 Karatay Array 57.51 300 P **P** **05 33 22.2 -1.0**
KK31 IAmb IAmb 05 33 33.5
comp=Z,27nm,0.8s
KK31 Karatay Array 57.51 300 *i* P **P** **05 33 22.5 -0.7**
KKAR Karatay Array 57.51 300 P **P** **05 33 22.8 -0.4**
KKAR Karatay Array 57.51 300 P **P** **05 33 22.8 -0.4**
AKTO Aktyubinsk 57.53 313 LR LR 05 59 30.1
comp=Z,5μm,20.3s,baz=72,slow=38
AKTO Aktyubinsk 57.53 313 P **P** **05 33 22.7 -0.6**
AB31 Akbulak array 57.64 311 P **P** **05 33 23.2 -0.9**
AB31 Akbulak array 57.64 311 *i* P **P** **05 33 23.8 -0.2**
ABKAR Akbulak array 57.64 311 P **P** **05 33 23.0 -1.0**
ABKAR Akbulak array 57.64 311 P **P** **05 33 23.7 -0.3**
ABKAR IAmb IAmb 05 33 27.3
comp=Z,65nm,1.2s
BRLS Borolday 57.89 300 *e*P **P** **05 33 28.0 +2.1**
BRLS Borolday 57.89 300 *e*P **P** **05 33 28.1 +2.1**
FINES FINESS Array B 58.25 338 P **P** **05 33 27.4 -0.7**
FINES FINESS Array B 58.25 338 P **P** **05 33 27.5 -0.6**
comp=Z,5.3nm,0.8s,baz=46,slow=8.2,SNR=12
comp=Z,5.3nm,0.8s
FINES FINESS Array B 58.25 338 P **P** **05 33 27.4 -0.7**
IUG luzhnay 58.46 300 *e*P **P** **05 33 30.1 +0.1**
IUG pmax pmax
comp=Z,58nm,1.6s
IUG luzhnay 58.46 300 *e*P **P** **05 33 30.1 +0.1**
comp=Z,58nm,1.6s
CHM Chimkent 58.54 300 *e*P **P** **05 33 30.6 +0.2**
CHM pmax pmax
comp=Z,7.0nm,0.3s
CHM MLR MLR
comp=Z,1μm,14.0s
CHM Chimkent 58.54 300 *e*P **P** **05 33 30.6 +0.2**
comp=Z,6.8nm,0.3s
CHM LR LR 05 58 46.9
comp=Z,1μm,14.4s
BORG Borgarnes 59.36 3 P **P** **05 33 35.3 -0.5**
comp=Z,14nm,1.0s,baz=9.1,slow=3.8,SNR=4.7
comp=Z,14nm,1.0s
BTK Batken 59.66 297 P **P** **05 33 38.1 -0.2**
BTK Batken 59.66 297 P **P** **05 33 38.1 -0.2**
BTK pmax pmax
comp=Z,67nm,1.5s
BELG Belogornoye 59.94 321 LR LR 06 01 10.3
comp=Z,4μm,19.5s,baz=131,slow=38
UBPT Khong Chiam 60.22 252 P **P** **05 33 42.4 +0.1**
IVI Ivigtut 60.23 17 *i* P **P** **05 33 39.1 -2.7**
GAR Garm 60.71 297 P **P** **05 33 46.4 +0.8**
CHTO Chiang Mai 60.87 260 P **P** **05 33 46.3 -0.5**
CHTO Chiang Mai 60.87 260 P **P** **05 33 46.3 -0.5**
CHTO pmax pmax
comp=Z,65nm,1.0s
CM31 Chiang Mai Arr 61.16 260 P P 05 33 57.0 +8.3
SNR=6.9
CMAR Chiang Mai Arr 61.16 260 P **P** **05 33 48.4 -0.3**
CMAR Chiang Mai Arr 61.16 260 P **P** **05 33 48.6 -0.1**
comp=Z,7.7nm,0.8s,baz=19,slow=6.9,SNR=26
CMAR LR LR 06 02 05.3
comp=Z,2μm,18.2s,baz=35,slow=38
comp=Z,7.7nm,0.8s
CMAR Chiang Mai Arr 61.16 260 P **P** **05 33 48.4 -0.3**
OBN Obninsk 61.21 329*c i*P **P** **05 33 50.3 +1.7**
OBN *e* 05 34 01.1
OBN pmax pmax
comp=Z,80nm,1.9s
OBN MLR MLR
comp=Z,4μm,19.0s
NB201 NORSAR Array S 61.23 345 P **P** **05 33 47.9 -0.8**
NB2 NORSAR Subarra 61.25 345 P **P** **05 33 47.9 -0.9**
comp=Z,69nm,1.4s,baz=18,slow=6.9
NB2 NORSAR Subarra 61.25 345 P **P** **05 33 47.9 -0.9**
baz=18,slow=6.9
NOA NORSAR Array B 61.25 345 P **P** **05 33 48.1 -0.7**
comp=Z,3.2nm,0.6s,baz=18,slow=6.8,SNR=16
comp=Z,3.2nm,0.6s
ANMO Albuquerque 61.41 69 P **P** **05 33 50.1 -0.4**
comp=Z,3.4nm,0.7s,baz=11,slow=7.1,SNR=4.2
comp=Z,3.4nm,0.7s
JAY Jayapura 61.55 207 P P 05 34 02.8 +11
SMPI Sarmi 61.58 209 P P 05 34 01.7 +10
HFS Hagfors 61.74 344 P **P** **05 33 51.2 -0.9**
comp=Z,3.9nm,0.5s,baz=45,slow=4.4,SNR=35
comp=Z,3.9nm,0.5s
GENI Genyem 61.77 208 P P 05 34 03.1 +10
SCHQ Schefferville 61.79 31 P **P** **05 33 51.5 -1.1**
comp=Z,14nm,0.6s,baz=349,slow=6.0,SNR=32
comp=Z,14nm,0.6s
LPSR Galich'ya Gora 62.67 326 *e*P **P** **05 33 57.6 -0.8**
LPSR pmax pmax
comp=Z,60nm,0.9s
KONO Kongsberg 62.81 346*d i*P **P** **05 33 59.1 -0.1**
KONO pmax pmax
comp=Z,29nm,1.7s
KONO MLR MLR
comp=Z,2μm,19.0s
SWI Sorong 62.82 218 P P 05 34 08.4 +8.6
comp=Z,165nm,1.4s
VRH Novokhopyorsk 62.96 323 *e*P **P** **05 33 58.7 -1.7**
VRH pmax pmax
comp=Z,30nm,1.0s
VORR Voronezh 63.38 325 *e*P **P** **05 34 02.0 -1.1**
VORR pmax pmax
comp=Z,20nm,1.3s
VSR Storozhevoye 63.78 325 *e*P **P** **05 34 04.2 -1.6**
VSR pmax pmax
comp=Z,30nm,1.2s
VORD Divnogorie 63.96 325 *e*P **P** **05 34 07.2 +0.2**
VORD pmax pmax
comp=Z,80nm,0.8s
NACGM Naroch 64.01 334 *e*P P 05 34 12.6 +5.3
comp=Z,19nm,0.9s,baz=25
MNK Minsk 64.11 333 *i* P **P** **05 34 07.6 -0.3**
comp=E,15nm,0.9s
MNK *i* P **P** **05 34 07.6 -0.3**
comp=N,19nm,0.8s
MNK *i* P **P** **05 34 07.6 -0.3**
comp=Z,12nm,0.8s,baz=25
MNK *i* PcP **PcP** **05 34 41.2 -1.7**
MNK *i* PP **PP** **05 36 27.3 -0.9**
MNK *i* PPP PPP 05 37 57.6
MNK *i* S **S** **05 42 45.7 +1.3**
MNK *i* PS PnS 05 43 16.1 +15
MNK *i* SS **SS** **05 46 54.3 +2.1**
MNK *i* SSS SSS 05 49 45.2
MNK *i* LQ LQ 05 57 49.5
MNK *i* LRM MLR 06 04 00.2
comp=N,3μm,16.2s
MNK *i* LRM MLR 06 05 50.4
comp=Z,3μm,14.3s
MNK *i* LRM MLR 06 05 55.5
comp=E,2μm,15.4s
MNK Minsk 64.11 333 *i* P **P** **05 34 07.5 -0.3**
MNK *i* 05 34 41.2
MNK *i* 05 36 27.3
MNK *i* PPP PPP 05 37 57.5
MNK *i* S **S** **05 42 45.6 +1.3**
MNK *i* PS 05 43 16.0
MNK *i* SS **SS** **05 46 54.3 +2.1**
MNK *i* SSS SSS 05 49 45.2
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=E,15nm,0.9s
MNK pmax pmax
comp=N,19nm,0.8s
MNK MLR MLR
comp=N,3μm,16.0s
MNK MLR MLR
comp=Z,3μm,14.0s
MNK MLR MLR
comp=E,2μm,15.0s
FAKI Fak Fak 64.41 216 P **P** **05 34 10.5 +0.2**
FAKI Fak Fak 64.41 216 P P 05 34 19.0 +8.7
comp=E,97nm,1.4s
KBL Kabul 64.82 295 P **P** **05 34 15.4 +2.2**
SNR=12
MRSI Marisa 65.13 228 P P 05 34 22.1 +7.0
comp=E,75nm,1.2s
P43A Skaggs, Pawnee 66.04 54 P **P** **05 34 19.6 -1.1**
P43A IAmb IAmb 05 34 40.0
comp=Z,19nm,0.8s
TUL3 Leonard 66.07 61 P **P** **05 34 20.0 -1.0**
MPSI Mapaga 66.12 230 P **P** **05 34 23.2 +1.8**
MNHN Monahans 66.16 69 P **P** **05 34 21.9 +0.3**
U38A Gravette 66.33 60 P **P** **05 34 21.5 -1.1**
LDAQ Lac Daran 66.38 37 P **P** **05 34 21.7 -1.1**
LDAQ IAmb IAmb 05 34 30.1
comp=Z,29nm,1.1s
AAM Ann Arbor 66.44 49 P **P** **05 34 22.1 -1.1**
AAM IAmb IAmb 05 34 32.3
comp=Z,28nm,1.0s
AAM Ann Arbor 66.44 49 P **P** **05 34 22.1 -1.1**
AAM pmax pmax
comp=Z,28nm,1.0s
ALPN Alpine 66.46 70 P **P** **05 34 24.2 +0.5**
ALPN IAmb IAmb 05 34 33.5
comp=Z,21nm,1.0s
APSI Ampana 66.51 228 P P 05 34 31.6 +7.7
comp=Z,80nm,1.2s,comp=Z,80nm,1.2s
CCM Cathedral Cave 66.53 56 P **P** **05 34 22.8 -1.1**
CCM IAmb IAmb 05 34 32.7
comp=Z,22nm,1.0s
CCM Cathedral Cave 66.53 56 P **P** **05 34 22.8 -1.1**
CCM pmax pmax
comp=Z,23nm,1.0s
SGCY Sterling City 66.55 68 P **P** **05 34 23.5 -0.7**
SGCY IAmb IAmb 05 34 34.9
comp=Z,20nm,0.8s
HHAR Hobbs 66.67 59 P **P** **05 34 23.7 -1.1**
HHAR IAmb IAmb 05 34 33.3
comp=Z,25nm,1.0s
AK03 Malin Array Si 67.17 331 P **P** **05 34 26.9 -0.8**
AKASG Malin Array Be 67.19 331 P **P** **05 34 28.4 +0.5**
AKASG Malin Array Be 67.19 331 P **P** **05 34 26.9 -1.0**
comp=Z,4.2nm,0.5s,baz=29,slow=6.2,SNR=25
comp=Z,4.2nm,0.5s
AKBB Malin Array Si 67.19 331 P **P** **05 34 28.4 +0.6**
AKBB IAmb IAmb 05 34 44.1
comp=Z,21nm,1.0s
AKBB Malin Array Si 67.19 331*c e*P **P** **05 34 26.9 -1.0**
AKBB pmax pmax
comp=Z,28nm,1.3s
AKBB MLR MLR
comp=Z,4μm,17.0s
AKBB Malin Array Si 67.19 331 P **P** **05 34 27.6 -0.3**
KIEV Kiev 67.20 331 ⇑P **P** **05 34 28.3 +0.3**
KIEV Kiev 67.20 331 ⇑P **P** **05 34 28.3 +0.3**
KIEV Kiev 67.20 331 P **P** **05 34 27.0 -0.9**
TXAR Lajitas Array 67.27 71 P **P** **05 34 29.0 +0.2**
TXAR Lajitas Array 67.27 71 P **P** **05 34 29.2 +0.4**
comp=Z,14nm,0.8s,baz=298,slow=4.5,SNR=50
comp=Z,14nm,0.8s
TXAR Lajitas Array 67.27 71 P **P** **05 34 29.0 +0.2**
AK13 Malin Array Si 67.32 331 P **P** **05 34 27.6 -1.1**
RNPP8 Varash 67.50 333 P **P** **05 34 29.3 -0.5**
GKP Gorka Klasztor 67.64 339 *e*P **P** **05 34 32.2 +1.6**
MNTQ Montreal, Queb 67.67 40 P **P** **05 34 29.4 -1.6**
MNTQ IAmb IAmb 05 34 39.1
comp=Z,21nm,0.9s
GOF Gofitskoye 67.74 319*ce*P **P** **05 34 33.1 +1.7**
GOF *e*S **S** **05 43 33.6 +4.7**
S44A Carbondale 67.74 55 P **P** **05 34 30.2 -1.4**
S44A IAmb IAmb 05 34 41.4
comp=Z,24nm,0.7s
SIUC Southern Illin 67.74 55 P **P** **05 34 29.9 -1.6**
PECO Prince Edward 67.75 43 P **P** **05 34 31.0 -0.5**
PECO IAmb IAmb 05 34 42.4
comp=Z,23nm,1.1s
MAK Makhachkala 67.82 315 *e*P **P** **05 34 27.7 -4.2**
MAK *e*S **S** **05 43 24.5 -5.4**
MAK pmax pmax
comp=Z,84nm,0.9s
MAK MLR MLR
comp=Z,6μm,17.0s
FCAR Ozark Folk Cen 67.86 58 P **P** **05 34 31.2 -1.1**
FCAR IAmb IAmb 05 34 40.9
comp=Z,22nm,0.9s
PBMO Poplar Bluff 67.94 57 P **P** **05 34 31.9 -1.0**
PBMO IAmb IAmb 05 34 41.9
comp=Z,18nm,0.8s
ERBR Yeremizino-Bor 68.09 321 *e*P **P** **05 34 33.8 +0.1**
ERBR *e*S **S** **05 43 34.4 +1.3**
ERBR pmax pmax
comp=Z,90nm,1.5s
ERBR MLR MLR
comp=Z,3μm,15.0s
E62A Clayton Lake 68.12 37 P **P** **05 34 33.0 -0.8**
BSEG Bad Segeberg 68.23 344 *e*P **P** **05 34 37.1 +2.8**
comp=Z,22nm,1.4s,baz=15,slow=6.1
BEL Belsk 68.24 337 *e*P **P** **05 34 38.2 +3.7**
EKA Eskdalemuir Ar 68.41 352 P **P** **05 34 35.1 -0.3**
comp=Z,6.7nm,0.7s,baz=14,slow=5.0,SNR=22
comp=Z,6.7nm,0.7s
J57A Williamstown 68.57 43 P **P** **05 34 35.0 -1.7**
KVAR Kislovodsk Arr 68.81 319 LR LR 06 07 05.5
comp=Z,3μm,20.4s,baz=284,slow=38

KIV Kislovodsk 68.82 319 *e*P **P 05 34 38.0 -0.3**
KIV pmax pmax
comp=Z,25nm,1.1s
KIV Kislovodsk 68.82 319 *i* P **P 05 34 38.2 -0.1**
SNR=13
KBZ Khabaz 68.93 318 P **P 05 34 39.2 +0.3**
comp=Z,24nm,1.1s,baz=12,slow=3.1,SNR=24
KBZ LR LR 06 08 25.6
comp=Z,5µm,19.6s,baz=16,slow=39
comp=Z,24nm,1.1s
KBZ Khabaz 68.93 318⇑ *i* P **P 05 34 39.1 +0.2**
KBZ pmax pmax
comp=Z,18nm,1.0s
KBZ MLR MLR
comp=Z,4µm,18.0s
LABN Labinsk 68.94 320 *e*P **P 05 34 40.6 +1.7**
LABN *e*S **S 05 43 45.3 +2.1**
LABN pmax pmax
comp=Z,32nm,0.7s
LABN MLR MLR
comp=Z,3µm,15.0s
AKT Akhty 68.97 314 *e*P **P 05 34 38.0 -1.4**
AKT *e* 05 37 08.8
AKT pmax pmax
comp=Z,152nm,1.5s
AKT MLR MLR
comp=Z,3µm,19.0s
GORT1 Trebel 68.98 343 *e*P **P 05 34 42.1 +3.1**
comp=Z,58nm,1.6s,baz=15,slow=6.1
RETH Rethem/Aller, 69.53 344 *e*P **P 05 34 45.2 +2.8**
comp=Z,47nm,1.6s,baz=15,slow=6.1
FLTG Flechtingen 69.63 343 *e*P **P 05 34 45.1 +2.1**
comp=Z,39nm,1.7s,baz=15,slow=6.1
NRDL Niedersach Rie 69.65 344 *e*P **P 05 34 45.7 +2.5**
comp=Z,29nm,1.8s,baz=15,slow=6.1
WVT Waverly 69.67 55 P **P 05 34 42.8 -0.8**
WVT IAmb IAmb 05 34 53.0
comp=Z,23nm,0.8s
WVT Waverly 69.67 55 P **P 05 34 42.8 -0.8**
WVT pmax pmax
comp=Z,23nm,0.9s
P53A Whipple 69.73 49 P **P 05 34 42.5 -1.4**
SORM Soroca 69.77 330⇑P **P 05 34 43.7 -0.3**
SORM Soroca 69.77 330⇑P **P 05 34 43.7 -0.3**
KWP Kalwaria Pacla 69.85 335 *e*P **P 05 34 47.9 +3.4**
KMPD K-Podol'skiy 69.89 332 P **P 05 34 43.9 -0.8**
ASSE Asse, Remlinge 69.91 343 *e*P **P 05 34 47.4 +2.6**
comp=Z,18nm,1.1s,baz=15,slow=6.1
ANN Anapa 69.94 323 *e*P **P 05 34 42.7 -2.4**
ANN *e* 05 37 16.6
ANN *e*S **S 05 43 53.3 -1.7**
ANN pmax pmax
comp=Z,40nm,1.2s
ANN MLR MLR
comp=Z,3µm,14.0s
OJC Ojcow 69.98 337 *e*P **P 05 34 48.2 +2.9**
OJC Ojcow 69.98 337 P **P 05 34 45.0 -0.3**
OJC Ojcow 69.98 337 P **P 05 34 45.0 -0.3**
I63A Otisfield 70.00 39 P **P 05 34 45.0 -0.5**
I63A IAmb IAmb 05 34 56.6
comp=Z,27nm,1.2s
G65A Princeton 70.02 36 P **P 05 34 44.9 -0.8**
G65A IAmb IAmb 05 34 53.8
comp=Z,26nm,1.0s
SPSI Sidrap Palu 70.05 228 P P 05 34 53.2 +7.1
comp=Z,61nm,1.5s
KSP Ksiaz 70.13 339 *e*P **P 05 34 49.1 +2.9**
STKI Sintang 70.17 238 P P 05 34 54.2 +7.3
SSPA Standing Stone 70.20 46 P **P 05 34 45.1 -1.6**
SSPA IAmb IAmb 05 34 56.2
comp=Z,25nm,1.1s
SOC Sochi 70.22 321 *e*P **P 05 34 46.1 -0.7**
SOC *e* 05 37 21.1
SOC *e*PPP PPP 05 39 04.1
SOC *e*S S **05 43 59.2 +1.0**
SOC *e*SSS SSS 05 51 30.0
SOC pmax pmax
comp=Z,18nm,0.8s
SOC MLR MLR
comp=Z,3µm,20.0s
MCWV Mont Chateau 70.23 48 P **P 05 34 45.9 -1.1**
CLZ Clausthal 70.24 343 *e*P **P 05 34 49.8 +2.8**
comp=Z,55nm,1.5s,baz=15,slow=6.1
CLZ *e*pP **pwP 05 34 54.7 +0.7**
baz=15,slow=6.1
CLL Collm 70.31 341 *i* P **P 05 34 46.7 -0.6**
CLL *i* 05 34 54.0
CLL pmax pmax
comp=Z,31nm,1.4s
CLL Collm 70.31 341 *i* P **P 05 34 46.7 -0.6**
comp=Z,31nm,1.4s
CLL *i* x x 05 34 54.0
comp=Z,53nm,1.4s
CLL Collm 70.31 341 *e*P **P 05 34 49.4 +2.2**
comp=Z,23nm,1.3s,baz=15,slow=6.1
CLL *e*pP **pwP 05 34 54.1 -0.2**
baz=15,slow=6.1
STHS Stebnicka Huta 70.40 335 *e*P **P 05 34 50.7 +2.8**
STHS pmax pmax
comp=Z,18nm,1.4s
STHS Stebnicka Huta 70.40 335 *e*P **P 05 34 50.7 +2.8**
UPC Upice 70.50 339 *e*P **P 05 34 53.0 +4.5**
UPC Upice 70.50 339 *e*P **P 05 34 53.0 +4.5**
BRG Berggiesshubel 70.55 341 *e*P **P 05 34 51.1 +2.3**
comp=Z,28nm,1.6s,baz=15,slow=6.1
BRG *e*pP **pwP 05 34 56.0 +0.2**
baz=15,slow=6.1
BRG Berggiesshubel 70.55 341 *e*P **P 05 34 51.3 +2.5**
BRG Amp 05 34 53.1
comp=Z,11nm,1.2s
BRG Berggiesshubel 70.55 341 Amp 05 34 57.5
comp=Z,23nm,1.3s
BRG P **pwP 05 34 56.5 +0.7**
BRG Berggiesshubel 70.55 341 Amp 05 35 07.6
comp=Z,19nm,1.4s
BRG P **PcP 05 35 06.8 -3.1**
BRG Berggiesshubel 70.55 341 PP PP 05 37 25.8 +1.6
BRG Amp 05 37 27.6
comp=Z,6.8nm,1.2s
DPC Dobruska-Polom 70.59 339 *e*P **P 05 34 51.8 +2.7**
DPC Dobruska-Polom 70.59 339 *e*P **P 05 34 51.8 +2.7**
KOLS Kolonicke sedl 70.61 335 *e*P **P 05 34 52.1 +2.9**
KOLS pmax pmax
comp=Z,16nm,1.3s
KOLS Kolonicke sedl 70.61 335 *e*P **P 05 34 52.1 +2.9**
NIE Niedzica 70.61 336 *e*P **P 05 34 52.5 +3.3**
STEB Steborice 70.68 338 *e*P **P 05 34 50.3 +0.7**
KRLC Kraliky 70.76 338 *e*P **P 05 34 49.4 -0.7**
KRLC Kraliky 70.76 338 *e*P **P 05 34 49.4 -0.7**
HKT Hockley 70.83 65 P **P 05 34 50.4 -0.3**
HKT Hockley 70.83 65 P **P 05 34 50.4 -0.3**
HKT pmax pmax
comp=Z,31nm,1.5s
MORC Moravsky Berou 70.88 338 *e*P **P 05 34 50.8 -0.1**
MORC Moravsky Berou 70.88 338⇑P **P 05 34 50.9 0.0**
SIM Simferopol' 70.91 325 *e*P P 05 34 44.7 -6.4
SIM *e* 05 35 08.0
SIM pmax pmax
comp=Z,12nm,0.5s
SIM MLR MLR
comp=Z,3µm,16.3s
HRV Adam Dziewonsk 71.00 40⇑P **P 05 34 50.9 -0.8**
LANS Liptovska Anna 71.05 336 *e*P **P 05 34 53.4 +1.5**
LANS pmax pmax
comp=Z,21nm,1.3s
LANS Liptovska Anna 71.05 336 *e*P **P 05 34 53.4 +1.5**
BURAR Bucovina Array 71.09 332 P **P 05 34 51.5 -0.8**
BURAR Bucovina Array 71.09 332⇑P **P 05 34 52.6 +0.4**
BURAR Bucovina Array 71.09 332⇑P **P 05 34 52.6 +0.4**
BUG Bochum--Univer 71.11 345 *e*P **P 05 34 54.4 +2.3**
comp=Z,63nm,1.9s,baz=15,slow=6.1
BUG *e*pP **pwP 05 34 59.2 +0.1**
baz=15,slow=6.1
KASTN Kahler Asten 71.17 344 *e*P **P 05 34 55.1 +2.6**
comp=Z,42nm,1.7s,baz=15,slow=6.1
S54A Dingess, Beckl 71.18 50 P **P 05 34 52.0 -0.9**
S54A IAmb IAmb 05 35 01.6
comp=Z,36nm,1.5s
MOX Moxa 71.19 342 *e*P **P 05 34 55.2 +2.5**
comp=Z,34nm,1.6s,baz=15,slow=6.1
MOX *e*pP **pwP 05 34 60.0 +0.3**
baz=15,slow=6.1
MAUC Maruska 71.21 338 *e*P **P 05 34 53.5 +0.6**
TZTN Tazewell 71.26 52 P **P 05 34 52.2 -1.2**
TZTN IAmb IAmb 05 35 05.3
comp=Z,27nm,1.1s
TANN Tannenbergstha 71.26 341 *e*P **P 05 34 55.9 +2.7**
comp=Z,31nm,1.6s,baz=15,slow=6.1
PRU Pruhonice 71.28 340 *e*P **P 05 34 57.7 +4.5**
PRU Pruhonice 71.28 340 *e*P **P 05 34 57.7 +4.5**
UBBA Unterbreizbach 71.29 343 *e*P **P 05 34 55.8 +2.6**
comp=Z,44nm,1.8s,baz=15,slow=6.1
UBBA *e*pP **pwP 05 35 00.2 +0.1**
baz=15,slow=6.1
GNI Garni 71.30 315 LR LR 06 10 04.2
comp=Z,6µm,20.1s,baz=40,slow=39
GNI Garni 71.30 315*c**e*P **P 05 34 53.6 -0.1**
GNI pmax pmax
comp=Z,84nm,1.7s
GNI MLR MLR
comp=Z,5µm,19.0s
VRAC Vranov 71.52 338 *e*P **P 05 34 54.7 0.0**
VRAC Vranov 71.52 338⇓P **P 05 34 55.5 +0.8**
VRAC Vranov 71.52 338⇓P **P 05 34 55.5 +0.8**
TESR Tescani 71.72 331⇓P **P 05 34 59.0 +3.1**
JAVC Velka Javorina 71.72 338 *e*P **P 05 34 57.0 +1.0**
BSSI Bau Bau, Buton 71.72 226 P P 05 35 05.1 +8.8
comp=Z,163nm,1.7s
MANZ Manzenberg 71.74 342 *e*P **P 05 34 58.4 +2.4**
comp=Z,4.7nm,1.3s,baz=15,slow=6.1
KRUC Moravsky 71.80 338 *e*P **P 05 34 55.9 -0.5**
VYHS Vyhne 71.81 337 *e*P **P 05 34 59.4 +2.9**
VYHS pmax pmax
comp=Z,37nm,1.7s
VYHS Vyhne 71.81 337 *e*P **P 05 34 59.4 +2.9**
ZVC Zvikov 71.88 340 *e*P P 05 35 01.7 +4.9
ROTZ Rotzenmuhle 71.93 341 *e*P **P 05 35 00.0 +2.9**
comp=Z,9.9nm,1.5s,baz=15,slow=6.1
146A Union 71.97 58 P **P 05 34 57.8 +0.1**
COEN Coen 72.04 202 P **P 05 34 58.7 +0.6**
comp=Z,72nm,1.2s
COEN Coen 72.04 202 P **P 05 34 58.1 0.0**
MEM Membach 72.10 346 *d*P **P 05 34 57.8 -0.3**
comp=Z,28nm,1.0s
BTNL Ternell 72.10 346 *d*P **P 05 34 58.0 -0.2**
comp=Z,18nm,1.1s
PSZ Piszkesteto 72.12 336⇑P **P 05 35 00.6 +2.2**
PSZ Piszkesteto 72.12 336⇑P **P 05 35 00.6 +2.2**
TNS Taunus Mts 72.12 344 *e*P **P 05 35 00.8 +2.4**
comp=Z,38nm,1.8s,baz=15,slow=6.1
UCC Uccle 72.13 347 *d*P **P 05 34 59.8 +1.5**
comp=Z,8.0nm,1.1s
GRF Grafenberg Arr 72.17 342 *e*P **P 05 35 01.6 +3.0**
comp=Z,56nm,1.5s,baz=15,slow=6.1
GRF *e*pP **pwP 05 35 06.2 +0.5**
baz=15,slow=6.1
BSTI Sart Tilman 72.18 346 *d*P **P 05 34 59.2 +0.6**
comp=Z,3.9nm,1.2s
S57A Dark Hollow, R 72.20 48 P **P 05 34 58.0 -1.0**
S57A IAmb IAmb 05 35 08.1
comp=Z,25nm,1.0s
MODS Modra-Piesok 72.27 338 *e*P **P 05 35 01.2 +2.0**
KHC Kasperske Hory 72.29 340 *e*P **P 05 35 02.4 +3.0**
KHC *ex* x 05 35 07.0
VRI Vrincioaia 72.29 330⇑P **P 05 35 00.2 +0.8**
VRI Vrincioaia 72.29 330⇑P **P 05 35 00.2 +0.8**
PLOR Plostina 72.33 330⇑P **P 05 34 59.1 -0.5**
PLOR Plostina 72.33 330⇑P **P 05 34 59.1 -0.5**
OZUR 72.34 331⇑P P 05 35 06.2 +6.5
BHOU Houvegnez 72.35 346 *d*P **P 05 35 00.7 +1.0**
comp=Z,9.3nm,1.5s
BCLA Clavier 72.38 346 *d*P **P 05 35 00.1 +0.3**
comp=Z,7.6nm,1.2s
WET Wettzell 72.41 341 *e*P **P 05 35 03.0 +3.0**
comp=Z,46nm,1.5s,baz=15,slow=6.1
WET *e*pP **pwP 05 35 07.8 +0.7**
baz=15,slow=6.1
BGES Gesves 72.44 346 *d*P **P 05 34 59.5 -0.7**
comp=Z,6.5nm,1.3s
CKRC Cesky Krumlov 72.45 340 *e*P **P 05 35 03.6 +3.3**
HOMI Horasan 72.48 317⇓P **P 05 35 03.4 +2.5**
DRGR 72.49 333⇓P **P 05 35 02.2 +1.6**
MARR Marisel-Cluj 72.50 333⇓P **P 05 35 02.9 +2.2**
CFR Carcaliu 72.52 329⇑P **P 05 35 02.6 +1.8**
GEC2 GERESS Array S 72.54 340 P **P 05 35 01.1 +0.2**
GEC2 IAmb IAmb 05 35 09.2
comp=Z,37nm,1.4s
GEC2 GERESS Array S 72.54 340 *e*P **P 05 35 03.5 +2.6**
comp=Z,28nm,1.4s,baz=15,slow=6.1
GEC2 *e*pP **pwP 05 35 08.3 +0.3**
baz=15,slow=6.1
GERES GERESS Array B 72.54 340 P **P 05 35 00.7 -0.3**
GERES GERESS Array B 72.54 340 P **P 05 35 00.8 -0.1**
comp=Z,4.4nm,1.1s,baz=19,slow=4.5,SNR=20
comp=Z,4.4nm,1.1s
DOPR Dopca 72.56 331⇓P **P 05 35 05.6 +4.6**
BMRD Maredsous 72.56 346 *d*P **P 05 35 00.3 -0.6**
comp=Z,12nm,1.2s
SRO Srobarova 72.57 337 *e*P **P 05 35 05.0 +4.0**
TPGR Topolog 72.73 329⇓P **P 05 35 00.7 -1.3**
DOU Dourbes 72.79 346 *d*P **P 05 35 01.6 -0.6**
comp=Z,7.0nm,1.2s
NEHR Nehoiu 72.81 330⇓P **P 05 35 04.9 +2.3**
MLR Muntele Rosu 72.85 331 LR LR 06 09 13.9
comp=Z,5µm,20.2s,baz=35,slow=38
MLR Muntele Rosu 72.85 331⇓P **P 05 35 03.4 +0.5**
OZAP Van, Ozalp-Mer 72.87 315⇑P **P 05 35 07.0 +3.7**
CONA Conrad Observa 72.99 338 *i* pP pP 05 35 07.3 +2.2
comp=Z,23nm,1.3s,SNR=17
WLF Walferdange 73.00 345 *d*P **P 05 35 07.1 +3.5**
comp=Z,10nm,1.2s
HARR Harsova 73.03 329⇑P **P 05 35 03.9 +0.2**
ISR Istrita 73.03 330⇓P **P 05 35 06.1 +2.3**
TIRR Virguior 73.10 329⇑P **P 05 35 06.4 -0.1**
RONA Rosalia, Austr 73.11 338 *i* pP pP 05 35 08.1 +2.3
comp=Z,21nm,1.4s,SNR=14
VOIR 73.14 331⇓P **P 05 35 04.8 +0.2**
SIRR Siria 73.24 334⇑P **P 05 35 06.6 +1.6**
MMRI Maumere 73.30 224 P P 05 35 14.1 +8.5
comp=Z,75nm,1.1s
HYB Hyderabad 73.37 276 *e*P **P 05 35 06.5 +0.3**
MOA Molln 73.38 339 *i* pP pP 05 35 09.0 +1.7
comp=Z,18nm,1.4s,SNR=7.4
STU Stuttgart 73.41 343 *e*P **P 05 35 08.2 +2.3**
baz=15,slow=6.1
STU *e*pP **pwP 05 35 13.2 +0.2**
baz=15,slow=6.1
KDU Kakadu 73.54 212 P **P 05 35 07.3 +0.3**
comp=Z,58nm,0.9s
BIOA Bad Ischl, Aus 73.66 340 *i* pP pP 05 35 11.5 +2.5
comp=Z,15nm,1.5s,SNR=8.9
ARSA Arzberg 73.70 338 *e*pP pP 05 35 09.8 +0.6
comp=Z,23nm,1.3s
RJOB Jochberg 73.77 340 *e*P **P 05 35 11.1 +2.9**
comp=Z,19nm,1.3s,baz=15,slow=6.1
GZR Gura Zlata 73.78 333⇑P **P 05 35 10.2 +1.9**
GZR Gura Zlata 73.78 333⇑P **P 05 35 10.2 +1.9**
BZS Buzias 73.86 334⇓P **P 05 35 08.8 +0.1**
BZS Buzias 73.86 334⇓P **P 05 35 08.8 +0.1**
BFO Black Forest 73.97 344 *e*P **P 05 35 11.6 +2.3**
comp=Z,26nm,1.4s,baz=15,slow=6.1
BFO *e*pP **pwP 05 35 16.5 +0.1**
baz=15,slow=6.1
MORH Mrgy, Hungar 74.01 336⇓P **P 05 35 09.3 -0.2**
LESA Schwarzleotal 74.10 340 *i* pP pP 05 35 13.4 +1.8
comp=Z,17nm,1.7s,SNR=8.0
MTN Manton Dam 74.10 214 P **P 05 35 10.6 +0.3**
PSI Prapat 74.14 251 P **P 05 35 10.6 -0.3**
comp=Z,7.0nm,0.8s,baz=284,slow=2.6,SNR=5.2
comp=Z,7.0nm,0.8s
PSI Prapat 74.14 251 P **P 05 35 10.6 -0.3**
PSI pmax pmax
comp=Z,84nm,1.5s
RPSI Rantau Prapat 74.23 251 P **P 05 35 10.3 -0.9**
RPSI Rantau Prapat 74.23 251 P **P 05 35 10.6 -0.6**
ECH Echery 74.27 344 P **P 05 35 10.2 -0.8**
ECH Echery 74.27 344 P **P 05 35 10.2 -0.8**
ECH pmax pmax
comp=Z,31nm,1.4s
KBA Koelnbreinsper 74.30 340 *e*pP pP 05 35 14.1 +1.2
comp=Z,57nm,1.2s
KOGS Kog 74.31 338 *e*P **P 05 35 14.4 +3.1**
HERR Herculane 74.35 333⇑P **P 05 35 13.2 +1.7**
SOKA Soboth 74.35 339 *i* pP pP 05 35 13.3 +0.2
comp=Z,21nm,1.7s,SNR=16
RETA Reutte 74.39 342 *e*pP **P 05 35 12.0 +0.2**
comp=Z,11nm,1.2s,SNR=9.6
WATA Walderalm 74.39 341 *i* pP **P 05 35 12.4 +0.6**
comp=Z,24nm,1.3s,SNR=10
WTTA Wattenberg 74.44 341 *e*pP **P 05 35 12.6 +0.3**
comp=Z,37nm,1.6s,SNR=12
MOTA Moosalm 74.46 341 *i* pP pP 05 35 14.9 +1.1
comp=Z,23nm,1.3s,SNR=13
SQTA Sankt Quirin 74.56 341 *e*pP **P 05 35 13.3 +0.4**
comp=Z,19nm,1.2s,SNR=10
OBKA Obir 74.61 339 *i* pP **P 05 35 13.6 +0.5**
comp=Z,39nm,1.3s,SNR=22
MYKA Terra Mystica 74.67 339 *e*pP pP 05 35 14.5 -0.4
comp=Z,22nm,1.7s
DAVA Damuels 74.73 342 *i* pP pP 05 35 17.2 +1.8
comp=Z,13nm,1.7s
ABTA Abfaltersbach 74.78 340 *i* pP pP 05 35 17.2 +1.7
comp=Z,28nm,1.2s,SNR=12
FETA Feichten 74.84 342 *i* pP pP 05 35 17.9 +1.9
comp=Z,19nm,1.2s,SNR=15
GOLS Golise 74.86 338 *i* P **P 05 35 17.8 +3.2**
CRNS Crni Vrh 75.08 339 *i* P **P 05 35 18.4 +2.6**
Y58A Scranton 75.18 51 P **P 05 35 16.1 -0.4**
TUE Stuetta 75.61 342 P **P 05 35 18.8 -0.2**
SAHE Sakarya_HENDEK 75.64 325⇑P **P 05 35 18.6 -0.4**
BOVS Bovan 75.69 333⇑P **P 05 35 22.2 +2.9**
BR131 Keskin Array S 75.74 323 P **P 05 35 19.0 -0.8**
BR131 Keskin Array S 75.74 323 P **P 05 35 19.0 -0.8**
BR131 pmax pmax
comp=Z,17nm,1.1s
BRTR Keskin Array B 75.74 323 P **P 05 35 19.2 -0.6**
comp=Z,3.5nm,0.8s,baz=49,slow=5.1,SNR=16
comp=Z,3.5nm,0.8s
KIRS Kirsehir-Merke 76.18 322⇑P **P 05 35 22.4 +0.1**
PDG Podgorica 77.44 334⇑P **P 05 35 30.3 +1.1**
CTAO Charters Tower 77.45 197 P **P 05 35 29.5 +0.2**
CTAO Charters Tower 77.45 197 P **P 05 35 29.7 +0.4**
CTAO Charters Tower 77.45 197 P **P 05 35 29.5 +0.2**
CTAO pmax pmax
comp=Z,83nm,1.2s
MDSI Maura Dua 77.66 242 P P 05 35 36.8 +6.1
EZN Ezine 77.97 328⇑P **P 05 35 33.5 +1.3**
EZN Ezine 77.97 328⇑P **P 05 35 33.5 +1.3**
BANOM Banah 78.19 299 *i* P **P 05 35 34.5 +0.8**
SNR=9.0
MDH Madha 78.71 299 P **P 05 35 37.4 +0.9**
SNR=6.0
MDH Madha 78.71 299 *i* P **P 05 35 37.0 +0.5**
SNR=5.9
MASF Masafi 78.72 299 P **P 05 35 38.6 +1.9**
SNR=11
MSFE Esma-Masafi 78.73 299 *i* P **P 05 35 37.3 +0.6**
SNR=8.5
UOSS Minazif 79.06 298 P **P 05 35 37.3 -1.1**
UOSS Minazif 79.06 298 *i* P **P 05 35 37.1 -1.3**
SNR=14
HATD Hatta, Dubai 79.19 298 P **P 05 35 39.4 +0.2**
SNR=20
HATD Hatta, Dubai 79.19 298 *i* P **P 05 35 38.3 -0.8**
SNR=10
QIS Mount Isa 79.21 203 P **P 05 35 40.2 +1.2**
comp=Z,50nm,1.3s
NAZ Nazwa, Dubai 79.29 299 P **P 05 35 41.6 +1.9**
BIDO Bidbid 79.29 296 P **P 05 35 42.4 +2.7**
SNR=6.8
ASHO Ashiyiah 79.35 298 P **P 05 35 41.6 +1.5**
SNR=21
ASHO Ashiyiah 79.35 298 *i* P **P 05 35 42.0 +1.9**
SNR=15
KBD Kabd 79.47 307 P **P 05 35 43.1 +2.5**
FAQ Al Faqa, Dubai 79.52 299 P **P 05 35 41.5 +0.5**
FAQ Al Faqa, Dubai 79.52 299 P **P 05 35 41.3 +0.3**
SOHO SOHO 79.57 298 P **P 05 35 41.4 +0.2**
SOHO SOHO 79.57 298 *i* P **P 05 35 40.7 -0.6**
SNR=12
WBK Wadi Bani Khal 79.62 295 P **P 05 35 41.8 +0.2**
HOQ Hoqain 79.65 297 P **P 05 35 40.4 -1.3**
SNR=14
SMDO Samad 79.71 296 P **P 05 35 43.1 +1.0**
SNR=11
ASUD Al Ashush, Dub 79.75 299 P **P 05 35 42.6 +0.4**
ASUD Al Ashush, Dub 79.75 299 P **P 05 35 42.3 +0.1**
JLN Jalan Bani Buh 79.78 294 P **P 05 35 42.8 +0.4**
WRA Warramunga Arr 79.91 208 P **P 05 35 43.2 +0.3**
comp=Z,6.2nm,0.8s,baz=13,slow=5.2,SNR=21
comp=Z,6.2nm,0.8s
ALNE Al Ain 80.02 298 P **P 05 35 45.8 +2.1**
SNR=17
ALNE Al Ain 80.02 298 *i* P **P 05 35 45.0 +1.2**
SNR=6.2
ARQ Araqi 80.25 297 P **P 05 35 44.6 -0.4**
SNR=17
JMDO Jabal Madar 80.26 296 P **P 05 35 44.5 -0.5**
SNR=13
BSY Bisya 80.40 297 P **P 05 35 45.6 -0.2**
SNR=22
FITZ Fitzroy Crossi 80.80 217 P **P 05 35 47.8 +0.1**
comp=Z,12nm,1.1s,baz=354,slow=6.5,SNR=5.5
comp=Z,12nm,1.1s
MMAI Mount Meron Ar 81.13 319 P **P 05 35 49.3 -0.3**
comp=Z,15nm,1.1s,baz=319,slow=3.7,SNR=8.9
MMAI LR LR 06 17 45.3
comp=Z,2µm,18.1s,baz=12,slow=40
comp=Z,15nm,1.1s
ASF Jabal al Asfar 81.32 317 LR LR 06 17 35.1
comp=Z,2µm,18.9s,baz=19,slow=40
MHTO MHTO 81.48 295 P **P 05 35 50.8 -0.7**
SNR=13
MZR Muzera 82.02 300 P **P 05 35 53.3 -1.1**
SNR=6.3
PGAV Gavieira, Arco 82.06 354 *e*P **P 05 35 55.9 +1.5**
PGAV *i* IAmb IAmb 05 36 06.6
comp=Z,41nm,1.8s
PBRG Braganca 82.13 353 *e*P **P 05 35 55.8 +1.1**
PBRG *i* IAmb IAmb 05 36 00.2
comp=Z,25nm,1.8s
PBRG *e*PcP **pwP 05 36 03.0 +1.3**
POLO Lamas de Olo 82.62 354 *e*PcP **PcP 05 36 03.2 +0.8**
PVRL Vila Real 82.71 354 *e*PcP **PcP 05 36 05.4 +2.7**
MVO Moncorvo 82.78 353 *e*P **P 05 35 58.4 +0.2**
MVO *e*PcP **pwP 05 36 05.4 +0.1**
MVO *i* IAmb IAmb 05 36 09.6
comp=Z,28nm,2.1s
PPT Papeete 83.03 136 LR LR 06 04 02.6
comp=Z,3µm,21.5s,baz=235,slow=29
PVIS Viseu 83.28 354 *e*P **P 05 36 00.9 +0.2**
PVIS *e*PcP **pwP 05 36 11.0 +3.3**
ASAR Alice Springs 83.57 208 P **P 05 36 02.8 +0.6**
comp=Z,9.5nm,1.0s,baz=15,slow=5.0,SNR=18
comp=Z,9.5nm,1.0s
MTE Manteigas 83.58 354 *e*P **P 05 36 02.6 +0.3**
MTE *e*PcP **pwP 05 36 11.0 +1.7**
MTE *i* IAmb IAmb 05 36 13.7
comp=Z,46nm,2.0s
COI Coimbra 83.82 354 *e*P **P 05 36 04.4 +1.0**
COI *e*PcP **pwP 05 36 11.5 +1.0**
COI *i* IAmb IAmb 05 36 15.4
comp=Z,67nm,1.6s
PCAS Casmilo, Conde 83.98 354 *e*P **P 05 36 03.2 -1.1**
PCAS *e*PcP **pwP 05 36 10.6 -0.7**
PCAS *i* IAmb IAmb 05 36 14.4
comp=Z,76nm,1.7s
ESDC Sonseca Array 84.03 351 P **P 05 36 04.7 +0.1**
comp=Z,3.8nm,0.9s,baz=0.7,slow=5.5,SNR=23
comp=Z,3.8nm,0.9s
PCBR Castelo Branco 84.13 354 *e*P **P 05 36 05.1 +0.1**
PCBR *e*PcP **pwP 05 36 12.1 0.0**
PCBR *i* IAmb IAmb 05 36 17.2
comp=Z,55nm,2.0s
QLP Quilpie 84.15 198 P **P 05 36 06.7 +1.7**
comp=Z,97nm,1.3s
EIL Elat 84.30 317 LR LR 06 17 35.9
comp=Z,3µm,18.4s,baz=150,slow=38
PSARD Sardoal 84.41 354 *e*P **P 05 36 09.0 +2.6**
PSARD *e*PcP **pwP 05 36 14.0 +0.5**
PSARD *i* IAmb IAmb 05 36 18.6
comp=Z,34nm,2.0s
PSBE So Bento 84.53 355 *e*P **P 05 36 07.3 +0.2**
PSBE *i* IAmb IAmb 05 36 18.5
comp=Z,75nm,1.9s
PMRV Marv??o 84.53 354 *e*P **P 05 36 06.9 -0.2**
PMRV *i* IAmb IAmb 05 36 22.5
comp=Z,42nm,1.8s
PMTG Montargil 84.94 354 *e*P **P 05 36 09.2 +0.1**
PMTG *e*PcP **pwP 05 36 16.3 +0.1**
PMTG *i* IAmb IAmb 05 36 25.1
comp=Z,39nm,1.6s
PESTR Estremoz 85.10 354 *e*P **P 05 36 10.2 +0.2**
PESTR *e*PcP **pwP 05 36 17.3 +0.2**
PESTR *i* IAmb IAmb 05 36 26.1
comp=Z,46nm,1.5s

RAYN	**Ar Rayn**	**85.33**	**306**	P	**P**	05 36 10.6	**-0.7**
RAYN	**Ar Rayn**	**85.33**	**306**	‖P	**P**	05 36 10.7	**-0.7**
EVO	**Evora**	**85.46**	**354**	*e*P	**P**	05 36 12.0	**+0.2**
EVO				*e*PcP	**pwP**	05 36 19.1	**+0.3**
EVO				*i* IAmb	IAmb	05 36 27.1	
	comp=Z,61nm,1.9s						
PBAR	**Barrancos**	**85.76**	**353**	*e*P	**P**	05 36 13.6	**+0.3**
PBAR				*e*PcP	**pwP**	05 36 20.8	**+0.5**
PBAR				*i* IAmb	IAmb	05 36 29.5	
	comp=Z,70nm,1.4s						
PBEJ	**Beja**	**85.96**	**354**	*e*P	**P**	05 36 15.3	**+1.1**
PBEJ				*e*PcP	**pwP**	05 36 21.9	**+0.6**
PBEJ				*i* IAmb	IAmb	05 36 25.5	
	comp=Z,45nm,1.8s						
KEST	**Kesra**	**86.03**	**340**	P	**P**	05 36 14.2	**-0.5**
	comp=Z,1.3nm,0.5s,baz=154,slow=4.3,SNR=5.3						
KEST				LR	LR	06 21 55.1	
	comp=Z,2µm,18.4s,baz=192,slow=41 comp=Z,1.3nm,0.5s						
WHFO	**Wadi Hawf**	**86.18**	**297**	*e*P	**P**	05 36 14.0	**-1.6**
PCVE	**Castro Verde**	**86.36**	**354**	*e*P	**P**	05 36 17.1	**+0.8**
PCVE				*e*PcP	**pwP**	05 36 23.0	**-0.3**
PCVE				*i* IAmb	IAmb	05 36 25.6	
	comp=Z,39nm,1.4s						
WRKA	**Warakurna**	**86.44**	**212**	P	**P**	05 36 17.3	**+0.7**
	comp=Z,31nm,1.2s						
PVAQ	**Vaqueiros**	**86.57**	**354**	*e*P	**P**	05 36 18.1	**+0.8**
PVAQ				*e*PcP	**pwP**	05 36 24.6	**+0.3**
PVAQ				*i* IAmb	IAmb	05 36 28.9	
	comp=Z,53nm,1.9s						
MORF	**Marmelete**	**86.72**	**354**	*e*PcP	**PcP**	05 36 25.9	**+5.5**
PBDV	**Barranco-do-Ve**	**86.74**	**354**	*e*PcP	**PcP**	05 36 25.7	**+5.2**
ARMA	**Armidale**	**86.89**	**191**	P	P	05 36 27.9	+9.2
CMSA	**Cobar Meteorol**	**88.76**	**196**	P	**P**	05 36 29.5	**+2.1**
	comp=Z,48nm,1.2s						
STKA	**Stephens Creek**	**89.78**	**199**	P	**P**	05 36 34.3	**+2.0**
	comp=Z,185nm,1.4s						
STKA	**Stephens Creek**	**89.78**	**199**	P	**P**	05 36 33.4	**+1.1**
	comp=Z,8.0nm,1.1s,baz=348,slow=9.4,SNR=3.5 comp=Z,8.0nm,1.1s						
YNG	**Young**	**91.10**	**193**	P	P	05 36 47.4	+9.0
HTT	**Hallett**	**91.81**	**201**	P	P	05 36 49.5	+7.8
FORT	**Forrest**	**91.91**	**211**	P	**P**	05 36 42.8	**+0.5**
	comp=Z,24nm,1.2s						
MORW	**Morawa**	**94.26**	**221**	P	P	05 36 59.8	+6.7
LPAZ	**La Paz**	**123.97**	**67**	PKP	**PKiKP**	05 42 34.3	**+0.8**
	comp=Z,1.4nm,0.9s,baz=352,slow=3.8,SNR=5.5						
VNDA	**Vanda**	**133.41**	**181**	PKP	**PKiKP**	05 42 50.2	**+0.4**
	comp=Z,2.8nm,1.0s,baz=310,slow=2.8,SNR=8.4						
BOSA	**Boshof**	**140.03**	**296**	PKP	**PKPdf**	05 43 03.1	**+0.6**
	comp=Z,8.6nm,1.2s,baz=24,slow=2.5,SNR=4.0						
PLCA	**Paso Flores**	**141.59**	**90**	PKP	**PKPdf**	05 43 04.7	**-0.2**
	comp=Z,6.7nm,1.2s,baz=359,slow=4.1,SNR=3.3						
MAW	**Mawson**	**143.89**	**220**	PKP	**PKPdf**	05 43 07.4	**-0.5**
	comp=Z,14nm,1.0s,baz=86,slow=7.8,SNR=6.6						
QSPA	**South Pole Qui**	**145.90**	**180**		**PKPdf**	05 43 10.9	**-0.7**
QSPA	**South Pole Qui**	**145.90**	**180**	PKPbc	**PKPdf**	05 43 11.3	**-0.3**
	comp=Z,8.8nm,0.5s,baz=341,slow=0.3,SNR=76						
SNAA	**Sanae**	**163.49**	**194**	PKPab	**PKPab**	05 44 27.7	**+0.7**
	comp=Z,15nm,1.2s,baz=155,slow=3.9,SNR=8.5						

NEIC ***06*** *05:23:49.5±0.9, 35°.90N±0°.01×117°.72W±0°.02, h8km±9km, Error ellipse: s-maj=2.0km s-min=1.5km az=114.0*

PAS 06 05:23:49.8±1.1, 35°.89N±0°.01×117°.70W±0°.02, h7km±3km, ML3.1/97, ML3.1/26(NEIC), Error ellipse: s-maj=2.8km s-min=1.3km az=126.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.10**	**211**		Pg	05 23 52.4	+0.4
WVPM	**Volcano Peak E**	**0.11**	**301**		Pg	05 23 52.3	0.0
WNMM	**Nine Mile Cany**	**0.17**	**253**		Pg	05 23 53.4	+0.2
WNMM					Sg	05 23 56.2	+0.6
WRVM	**Rose V. Centra**	**0.19**	**307**		Pg	05 23 53.7	0.0
SRTC	**Snort**	**0.20**	**191**		Pg	05 23 54.2	+0.4
SRTC					Sg	05 23 58.2	+1.6
MFS	**McCloud Flat S**	**0.26**	**331**		Pg	05 23 54.9	0.0
LRMC	**Laurel Mtn Rad**	**0.41**	**178**		Pg	05 23 57.6	-0.2
LRMC					Sg	05 24 03.5	+0.3
LRMC	**Laurel Mtn Rad**	**0.41**	**178**	IAML		05 24 04.2	
	comp=E,3µm,0.5s						
LRMC				IAML		05 24 04.5	
	comp=N,3µm,0.4s						
CCCA	**Chr Cany lake**	**0.46**	**143**		Pb	05 24 00.1	-0.1
WORM	**Onyx Ranch**	**0.48**	**246**		Pg	05 23 58.7	-0.4
WORM					Sg	05 24 05.1	-0.3
WBSM	**Bird Springs**	**0.50**	**225**		Pg	05 23 59.2	-0.3
WBSM					Sg	05 24 06.0	0.0
WHFM	**Hanning Flat**	**0.56**	**250**		Pg	05 24 00.3	-0.3
WHFM					Sg	05 24 07.5	-0.4
CWC	**Cottonwood Cre**	**0.63**	**331**		Pg	05 24 02.2	+0.3
ISA	**Isabella, Lake**	**0.67**	**250**	Pg	Pg	05 24 02.2	-0.4
ISA				IAML		05 24 11.3	
	comp=N,1µm,0.4s						
ISA				IAML		05 24 11.5	
	comp=E,761nm,0.3s						
QSM	**Queen of Sheba**	**0.68**	**84**	Pg	Pg	05 24 03.0	+0.1
QSM				IAML		05 24 11.9	
	comp=N,749nm,0.6s						
QSM				IAML		05 24 13.4	
	comp=E,614nm,0.2s						
WASM	**Alta Sierra Ca**	**0.71**	**258**		Sg	05 24 12.6	-0.2
CCAC	**Calif City Air**	**0.78**	**199**		Sg	05 24 14.9	-0.1
CCAC	**Calif City Air**	**0.78**	**199**	Pg	Pg	05 24 04.2	-0.5
CCAC				IAML		05 24 18.6	
	comp=N,1µm,0.4s						
GWY	**Greenwater Val**	**0.89**	**70**	Pg	Pg	05 24 06.6	-0.2
GWY				IAML		05 24 24.2	
	comp=N,573nm,0.5s						
GWY				IAML		05 24 25.1	
	comp=E,560nm,0.4s						
GSC	**Goldstone, Bar**	**0.94**	**129**	Pg	Pg	05 24 07.1	-0.6
GSC				IAML		05 24 23.0	
	comp=E,426nm,0.6s						
HYS	**Haystack Butte**	**1.03**	**174**		Sg	05 24 20.4	-2.6
GRAC	**Grapevine Rang**	**1.13**	**14**		Pg	05 24 11.2	-0.3
GRAC					Sb	05 24 27.3	+0.6
GRAC	**Grapevine Rang**	**1.13**	**14**	Pg	Pg	05 24 10.9	-0.6
GRAC	**Grapevine Rang**	**1.13**	**14**	IAML		05 24 27.5	
	comp=E,326nm,0.4s						
GRAC				IAML		05 24 30.5	
	comp=N,374nm,0.4s						
ARVC	**Arvin**	**1.20**	**231**		Pn	05 24 15.7	+2.7
SBB	**Saddle Back Bu**	**1.21**	**185**		Sg	05 24 28.6	0.0
WCT	**Wildcat Mounta**	**1.25**	**44**	Pg	Pg	05 24 13.0	-0.8
CJV	**Casa Juvan**	**1.41**	**195**		Sb	05 24 33.4	-1.3
OAT	**Oat Mountain**	**1.72**	**206**		Sg	05 24 44.4	-0.5
CLTC	**Calectric**	**1.82**	**170**		Sn	05 24 44.5	-0.5
LHV	**Little Huntoon**	**2.44**	**345**		Pn	05 24 29.8	-0.3
PFO	**Pinyon Flats O**	**2.50**	**155**	Pn	Pn	05 24 31.1	+0.2
PFO				IAML		05 25 56.5	
	comp=N,186nm,0.8s						
PFO				IAML		05 26 04.4	
	comp=N,281nm,0.8s						
PRN	**Pahroc Range**	**2.61**	**54**	Pn	Pn	05 24 33.6	+1.0
WAKR	**Walker**	**2.95**	**333**	Pn	Pn	05 24 35.9	-1.4
W13A	**Hualapai Mount**	**3.21**	**103**	Pn	Pn	05 24 40.4	-0.5
YUH	**Yuha Desert**	**3.56**	**155**	Pn	Pn	05 24 44.0	-1.4
CBX	**Cerro Bola**	**3.67**	**166**	Pn	Pn	05 24 48.0	+0.9

IDC ***06*** *05:25:04.2±0.7, 35°.83N×117°.55W, h0km, mb4.2/6, mbtmp4.0/13, ML3.9/6, Error ellipse: s-maj=13.5km s-min=6.8km az=70.0*

NEIC ***06*** *05:25:04.3±1.5, 35°.833N±0°.007×117°.68W±0°.01, h5km±1km, Error ellipse: s-maj=1.5km s-min=1.4km az=138.0*

PAS ***06*** *05:25:04.9±1.5, 35°.833N±0°.008×117°.68W±0°.01, h4km±2km, ML4.6/195, mb4.2/36(NEIC), ML4.4/108(NEIC), Error ellipse: s-maj=1.2km s-min=1.1km az=70.0*

ISC 06 05:25:05.2±0.8, 35°.82N±0°.02×117°.67W±0°.02, h5km±5km, n184, σ0°90/204, mb4.1/10, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.06**	**98**		**Pg**	05 25 06.4	**-0.4**
CLC					**Sg**	05 25 07.7	**-0.2**
TOW	**Tower One**	**0.08**	**259**		**Pg**	05 25 07.0	**0.0**
TOW					**Sg**	05 25 09.3	**+1.0**
SRTC	**Snort**	**0.15**	**206**		**Pg**	05 25 08.3	**+0.1**
SRTC					**Sg**	05 25 11.5	**+1.3**
WVPM	**Volcano Peak E**	**0.17**	**316**		**Pg**	05 25 08.3	**-0.5**
WNMM	**Nine Mile Cany**	**0.19**	**276**		**Pg**	05 25 08.7	**-0.3**
WNMM					**Sg**	05 25 11.8	**+0.2**
JRC2	**Joshua Ridge**	**0.19**	**324**		**Pg**	05 25 08.7	**-0.5**
JRC2					**Sg**	05 25 11.5	**-0.2**
WCSM	**Coso Springs S**	**0.22**	**339**		**Pg**	05 25 09.0	**-0.6**
WCSM					**Sg**	05 25 12.0	**-0.5**
WRVM	**Rose V. Centra**	**0.26**	**316**		**Pg**	05 25 09.7	**-0.6**
WRVM					**Sg**	05 25 13.3	**-0.4**
MPMC	**Manual Prospec**	**0.28**	**32**		**Pg**	05 25 10.2	**-0.5**
MPMC					**Sg**	05 25 14.2	**-0.2**
MFS	**McCloud Flat S**	**0.33**	**333**		**Pg**	05 25 11.1	**-0.6**
MFS					**Sg**	05 25 15.6	**-0.5**
LRMC	**Laurel Mtn Rad**	**0.34**	**182**		**Sg**	05 25 16.9	**+0.4**
LRMC	**Laurel Mtn Rad**	**0.34**	**182**	Pg	**Pg**	05 25 11.6	**-0.4**
LRMC				IAML		05 25 17.5	
	comp=E,51µm,0.7s						
LRMC				IAML		05 25 19.0	
	comp=N,25µm,0.4s						
CCCA	**Chr Cany lake**	**0.39**	**140**		**Pg**	05 25 13.1	**+0.3**
CCCA					**Sb**	05 25 19.4	**-1.5**
WBSM	**Bird Springs**	**0.48**	**233**		**Pg**	05 25 14.0	**-0.5**
WBSM					**Sg**	05 25 20.9	**+0.2**
WORM	**Onyx Ranch**	**0.48**	**255**		**Pg**	05 25 13.9	**-0.7**
WORM					**Sg**	05 25 20.7	**-0.2**
WHFM	**Hanning Flat**	**0.57**	**257**		**Pg**	05 25 15.5	**-0.6**
WHFM					**Sg**	05 25 23.3	**-0.3**
DTP	**Desert Tortois**	**0.57**	**194**		**Pg**	05 25 15.8	**-0.5**
QSM	**Queen of Sheba**	**0.67**	**78**		**Pg**	05 25 17.4	**-0.7**
QSM					**Sg**	05 25 26.4	**-0.3**
QSM	**Queen of Sheba**	**0.67**	**78**	IAML		05 25 30.8	
	comp=E,18µm,0.8s						
QSM				IAML		05 25 32.3	
	comp=N,12µm,0.5s						
ISA	**Isabella, Lake**	**0.67**	**256**		**Sg**	05 25 26.5	**-0.4**
ISA	**Isabella, Lake**	**0.67**	**256**		**Pg**	05 25 17.3	**-0.9**
ISA				IAML		05 25 27.3	
	comp=E,15µm,0.5s						
ISA				IAML		05 25 27.8	
	comp=N,14µm,0.4s						
CWC	**Cottonwood Cre**	**0.70**	**332**		**Pg**	05 25 17.9	**-0.8**
CWC					**Sg**	05 25 27.6	**-0.2**
CCAC	**Calif City Air**	**0.73**	**203**		**Pg**	05 25 18.5	**-0.7**
CCAC				IAML		05 25 29.4	
	comp=N,25µm,0.6s						
CCAC				IAML		05 25 29.7	
	comp=E,16µm,0.5s						
WASM	**Alta Sierra Ca**	**0.73**	**263**		**Pg**	05 25 18.5	**-0.7**
WASM					**Sg**	05 25 28.6	**-0.1**
CGO	**Cerro Gordo**	**0.73**	**352**		**Pg**	05 25 18.6	**-0.8**
CGO					**Sg**	05 25 28.6	**-0.3**
GSC	**Goldstone, Bar**	**0.88**	**126**		**Sg**	05 25 33.6	**+0.2**
GSC	**Goldstone, Bar**	**0.88**	**126**		**Pg**	05 25 21.2	**-0.8**
GSC				IAML		05 25 37.1	
	comp=N,15µm,0.8s						
GWY	**Greenwater Val**	**0.89**	**66**		**Pg**	05 25 21.6	**-0.7**
GWY				IAML		05 25 37.4	
	comp=N,16µm,0.6s						
GWY				IAML		05 25 37.7	
	comp=E,15µm,0.5s						
FURC	**Furnace Creek,**	**0.92**	**45**		**Pg**	05 25 22.4	**-0.4**
FURC					**Sb**	05 25 35.4	**-0.6**
HYS	**Haystack Butte**	**0.96**	**175**		**Pg**	05 25 22.9	**-0.7**
SPG2	**Springville 2**	**0.96**	**293**		**Pg**	05 25 22.4	**-1.3**
SPG2					**Sg**	05 25 35.3	**-1.0**
EDW2	**Edwards Air Fo**	**0.98**	**196**		**Pg**	05 25 22.9	**-1.0**
TEJ	**El Tejon**	**1.02**	**235**		**Pg**	05 25 23.4	**-1.4**
TPO	**Tropico Hills**	**1.05**	**206**		**Pg**	05 25 24.2	**-1.1**
TPO					**Sg**	05 25 39.0	**+0.1**
RRX	**Edison Barstow**	**1.09**	**150**		**Pg**	05 25 25.5	**-0.7**
MAGC	**SCE Magundon P**	**1.12**	**246**		**Pg**	05 25 25.8	**-0.9**
SHOC	**Shoshone, Teco**	**1.14**	**86**		**Pg**	05 25 26.1	**-1.0**
SHOC					**Sb**	05 25 42.2	**-0.2**
SBB	**Saddle Back Bu**	**1.14**	**186**		**Pg**	05 25 26.0	**-1.1**
VES	**Vestal, Richgr**	**1.15**	**271**		**Pg**	05 25 26.2	**-1.1**
VES					**Sg**	05 25 41.7	**-0.5**
ARVC	**Arvin**	**1.18**	**234**		**Pg**	05 25 26.4	**-1.4**
TJR	**Tejon Ranch**	**1.18**	**228**		**Pg**	05 25 26.2	**-1.7**
TJR					**Sg**	05 25 42.6	**-0.7**
GRAC	**Grapevine Rang**	**1.20**	**12**		**Pg**	05 25 27.3	**-0.9**
GRAC				IAML		05 25 50.6	
	comp=E,11µm,1.0s						
GRAC				IAML		05 25 52.2	
	comp=N,13µm,1.1s						
GRAC	**Grapevine Rang**	**1.20**	**12**		**Sb**	05 25 44.0	**-0.1**
THC	**Tehachapi Micr**	**1.22**	**222**		**Pg**	05 25 26.9	**-1.8**
ALPC	**Antelope**	**1.25**	**205**		**Pn**	05 25 27.7	**-1.6**
BAKC	**Calstate**	**1.26**	**248**		**Pn**	05 25 28.4	**-1.1**
SGV	**South Grapevin**	**1.26**	**24**		**Pn**	05 25 28.6	**-1.1**
WCT	**Wildcat Mounta**	**1.28**	**41**		**Pn**	05 25 28.4	**-1.5**
WCT				IAML		05 25 48.1	
	comp=E,6µm,1.3s						
ADO	**Adelanto Recei**	**1.28**	**171**		**Pn**	05 25 29.1	**-0.8**
AMDNV	**Amargosa**	**1.29**	**60**		**Pn**	05 25 28.2	**-1.6**
VTV	**Victorville**	**1.29**	**167**		**Pn**	05 25 29.1	**-0.9**
LEOC	**Leona Valley**	**1.30**	**204**		**Pn**	05 25 28.6	**-1.5**
TIN	**Tinemaha, Big**	**1.31**	**340**		**Pn**	05 25 29.3	**-1.0**
LRRC	**Littlerock Res**	**1.33**	**193**		**Pn**	05 25 28.9	**-1.4**
CJV	**Casa Juvan**	**1.35**	**197**		**Pn**	05 25 29.3	**-1.5**
HOLC	**Holcomb Ridge**	**1.37**	**186**		**Pn**	05 25 29.7	**-1.4**
JNH	**Juniper Hills**	**1.39**	**190**		**Pn**	05 25 30.0	**-1.4**
LCH	**Last Change Ra**	**1.41**	**1**		**Pn**	05 25 30.3	**-1.3**
DSCC	**Desert Studies**	**1.45**	**118**		**Pn**	05 25 30.1	**-1.9**
TUQ	**Turquoise Moun**	**1.47**	**105**		**Pn**	05 25 30.7	**-1.8**
HEC	**Hector,Ludlow**	**1.48**	**132**		**Pn**	05 25 30.9	**-1.6**
OSI	**Osito Audit: C**	**1.48**	**216**		**Pn**	05 25 31.6	**-1.0**
OSI	**Osito Audit: C**	**1.48**	**216**	IAML		05 26 05.7	
	comp=N,5µm,0.8s						
OSI				IAML		05 26 06.7	
	comp=E,6µm,1.0s						
GMN	**Gold Mountain**	**1.51**	**13**		**Pn**	05 25 32.4	**-0.8**
GMN				IAML		05 25 56.0	
	comp=E,3µm,1.1s						
GMN				IAML		05 25 57.9	
	comp=N,5µm,0.8s						
CHFC	**Chilao Flat St**	**1.52**	**191**		**Pn**	05 25 31.8	**-1.4**
DSP	**Deep Springs**	**1.56**	**351**		**Pn**	05 25 32.9	**-0.7**
BFSC	**Mount Baldy Ra**	**1.58**	**180**		**Pn**	05 25 32.9	**-1.2**
TPNV	**Topopah Spring**	**1.60**	**45**		**Pn**	05 25 33.6	**-0.8**
TPNV				IAML		05 25 58.6	
	comp=N,7µm,1.0s						
TPNV				IAML		05 26 01.3	
	comp=N,6µm,1.0s						
SSK	**Sunset Peak**	**1.61**	**181**		**Pn**	05 25 33.5	**-0.9**
POCCA	**Poleta Canyon**	**1.61**	**342**		**Pn**	05 25 33.3	**-1.2**
BHPR	**Bishop**	**1.61**	**336**		**Pn**	05 25 33.8	**-0.7**
MWC	**Mount Wilson**	**1.63**	**191**		**Pn**	05 25 33.6	**-1.1**
MWC	**Mount Wilson**	**1.63**	**191**	IAML		05 26 03.6	
	comp=N,7µm,0.7s						
MWC				IAML		05 26 07.5	
	comp=E,4µm,0.8s						
DECC	**Green Verdugo**	**1.66**	**199**		**Pn**	05 25 33.9	**-1.1**
BBRC	**Big Bear Solar**	**1.68**	**158**		**Pn**	05 25 34.5	**-0.9**
BCW	**Bitter Crk WRg**	**1.68**	**239**		**Pn**	05 25 34.2	**-1.1**
MTUM	**Tungsten Hills**	**1.69**	**335**		**Pn**	05 25 34.9	**-0.7**
PASC	**Pasadena Art C**	**1.70**	**195**		**Pn**	05 25 34.6	**-1.0**
PSRC	**Puddingstone R**	**1.73**	**184**		**Pn**	05 25 35.0	**-1.0**
MTPC	**Mountain Pass**	**1.76**	**100**		**Pn**	05 25 34.8	**-1.7**
CRGC	**Crocker Grade**	**1.77**	**251**		**Pn**	05 25 36.1	**-0.5**
DJJ	**Donna J Jenkin**	**1.83**	**201**		**Pn**	05 25 36.5	**-0.9**
MZP	**Montezuma Peak**	**1.89**	**7**		**Pn**	05 25 37.8	**-0.6**
SMMC	**Simmler**	**1.96**	**256**		**Pn**	05 25 39.0	**-0.2**
PEC	**Perris**	**1.97**	**168**		**Pn**	05 25 38.7	**-0.6**
KCC	**Kaiser Creek**	**2.00**	**319**		**Pn**	05 25 39.9	**+0.1**
BENR	**Benton**	**2.02**	**339**		**Pn**	05 25 39.9	**-0.3**
MLAC	**Mammoth, Mammo**	**2.03**	**333**		**Pb**	05 25 42.4	**-0.4**
BLAC	**Blackrock camp**	**2.04**	**149**		**Pn**	05 25 39.8	**-0.5**
MCSM	**Casa Diablo Ho**	**2.08**	**332**		**Pb**	05 25 43.2	**-0.4**
SHPR	**Sheep Range**	**2.14**	**71**		**Pn**	05 25 41.3	**-0.5**
EW2	**E Wide Canyon**	**2.15**	**151**		**Pn**	05 25 40.8	**-0.9**
TPC	**Twentynine Pal**	**2.17**	**142**		**Pn**	05 25 40.8	**-1.3**
ELS	**Elsinore Mount**	**2.18**	**175**		**Pn**	05 25 41.9	**-0.3**
HMTC	**Hemet**	**2.18**	**165**		**Pn**	05 25 41.6	**-0.5**
DANC	**Danby, Needles**	**2.22**	**122**		**Pn**	05 25 40.9	**-1.7**
POB	**Polly Butte**	**2.22**	**164**		**Pn**	05 25 42.1	**-0.6**
DGR	**Domenigoni Val**	**2.24**	**166**		**Pn**	05 25 42.2	**-0.7**
MURC	**Murrieta**	**2.25**	**170**		**Pn**	05 25 42.6	**-0.5**
BACC	**Bachelor Mtn.**	**2.27**	**167**		**Pn**	05 25 42.5	**-0.8**
TPH	**Tonopah**	**2.27**	**9**		**Pn**	05 25 43.1	**-0.5**
CRY	**Cary Ranch**	**2.38**	**161**		**Pn**	05 25 44.7	**-0.3**
S11A	**Rachel**	**2.38**	**40**		**Pn**	05 25 44.0	**-1.0**
PFO	**Pinyon Flats O**	**2.42**	**155**		**Pn**	05 25 44.8	**-0.8**
PFO				IAML		05 26 27.4	
	comp=E,1µm,1.4s						
PFO	**Pinyon Flats O**	**2.42**	**155**	Pn	**Pn**	05 25 44.5	**-1.1**
	comp=E,8.0nm,0.3s,baz=335,slow=15,SNR=10						
PFO				Lg	Lg	05 26 21.3	
	comp=E,59nm,0.3s,baz=309,slow=11,SNR=5.3 comp=E,96nm,0.8s						
LHV	**Little Huntoon**	**2.51**	**345**		**Pn**	05 25 47.0	**+0.3**
LHV				IAML		05 26 36.1	
	comp=E,1µm,1.1s						
LHV				IAML		05 26 57.4	
	comp=N,1µm,2.3s						
PMPB	**Monarch Peak**	**2.57**	**280**		**Pn**	05 25 47.5	**0.0**
NV11	**Mina Array Sit**	**2.63**	**352**		**Pn**	05 25 48.1	**-0.4**
PRN	**Pahroc Range**	**2.63**	**52**		**Pn**	05 25 48.4	**-0.1**
NVAR	**Mina Array Bea**	**2.65**	**349**		**Pn**	05 25 48.6	**-0.2**
NVAR	**Mina Array Bea**	**2.65**	**349**	Pn	**Pn**	05 25 48.0	**-0.8**
	comp=N,18nm,0.3s,baz=173,slow=15,SNR=21						
NVAR				Lg	Lg	05 26 29.1	
	comp=N,34nm,0.3s,baz=164,slow=32,SNR=3.6 comp=N,43nm,0.5s						
BBGB	**Big Mountain B**	**2.83**	**286**		**Pn**	05 25 51.0	**-0.2**
RYN	**Ryan**	**2.88**	**347**		**Pn**	05 25 52.0	**+0.1**
Q09A	**Carvers**	**3.03**	**7**		**Pn**	05 25 53.9	**0.0**
W13A	**Hualapai Mount**	**3.17**	**102**		**Pn**	05 25 54.6	**-1.3**
W13A				IAML		05 26 50.9	
	comp=N,812nm,1.8s						
W13A				IAML		05 26 54.1	
	comp=E,698nm,1.3s						
SAO	**San Andreas Ge**	**3.19**	**288**		**Pn**	05 25 55.0	**-1.0**
BLYC	**Blythe**	**3.31**	**128**		**Pn**	05 25 55.5	**-2.2**
BLYC				IAML		05 26 52.8	
	comp=N,1µm,0.8s						
BLYC				IAML		05 26 55.6	
	comp=E,1µm,0.7s						
GLA	**Glamis**	**3.63**	**139**		**Pn**	05 26 00.5	**-1.6**
LCMT	**Little Creek M**	**3.76**	**70**		**Pn**	05 26 03.7	**-0.3**
CCUT	**Cedar City**	**3.87**	**62**		**Pn**	05 26 05.5	**0.0**
CCX	**Cicese**	**4.03**	**168**		**Pn**	05 26 07.5	**-0.1**
CCX				IAML		05 27 19.9	
	comp=E,561nm,0.8s						
CCX				IAML		05 27 21.0	
	comp=N,442nm,0.8s						
PSUT	**Pine Spring**	**4.07**	**47**		**Pn**	05 26 08.3	**-0.1**
PSUT				IAML		05 27 26.5	
	comp=N,874nm,1.3s						
PSUT				IAML		05 27 26.8	
	comp=E,474nm,1.0s						
SZCU	**Shurtz Canyon**	**4.08**	**63**		**Pn**	05 26 08.1	**-0.4**
KNB	**Kanab**	**4.09**	**72**		**Pn**	05 26 08.9	**+0.4**
KNB				IAML		05 27 29.4	
	comp=E,381nm,1.3s						
KNB				IAML		05 27 32.0	
	comp=N,389nm,1.2s						
PAHR	**Pah Rah Range**	**4.11**	**341**		**Pn**	05 26 09.2	**+0.4**
Y14A	**Wickenburg**	**4.27**	**115**		**Pn**	05 26 09.0	**-1.9**
Y14A				IAML		05 27 23.0	
	comp=E,699nm,0.8s						
113A	**Mohawk Valley,**	**4.44**	**132**		**Pn**	05 26 11.4	**-1.8**
113A				IAML		05 27 38.0	
	comp=N,280nm,2.0s						
113A				IAML		05 27 39.4	
	comp=E,354nm,1.2s						
VTX	**Valle De La Tr**	**4.69**	**160**	Pn	**Pn**	05 26 17.3	**+0.5**
VTX				IAML		05 27 36.8	
	comp=E,220nm,1.1s						
VTX				IAML		05 27 37.7	
	comp=N,290nm,1.1s						
MCCM	**Marconi Confer**	**4.77**	**301**	Pn	**Pn**	05 26 16.6	**-1.1**
MCCM				IAML		05 27 48.0	
	comp=E,261nm,1.2s						
MCCM				IAML		05 28 02.0	
	comp=N,256nm,1.4s						
ORV	**Oroville**	**4.81**	**322**	Pn	**Pn**	05 26 17.6	**-0.6**
ORV				IAML		05 27 44.5	
	comp=N,208nm,1.3s						
ORV				IAML		05 27 45.4	
	comp=E,240nm,1.1s						
WUAZ	**Wupatki**	**5.13**	**92**		**Pn**	05 26 22.8	**-0.1**
**EL

comp=Z,8.6nm,1.0s

JFWS	**Jewell Farm**	**22.29**	**63**		**P**	**P**	**05 30 02.3**	**-1.0**
K43A	**Burlington**	**23.65**	**64**	P	**P**	**P**	**05 30 16.4**	**-1.0**
CLTN	**Cedars of Leba**	**25.32**	**80**	P	**P**	**P**	**05 30 32.8**	**0.0**
CLTN				IAmb	IAmb	IAmb	05 30 38.0	

comp=Z,4.0nm,1.0s

P48A	**Milroy**	**25.71**	**72**	P	**P**	**P**	**05 30 35.8**	**-0.5**
FPAL	**Fort Paine**	**26.18**	**83**	P	**P**	**P**	**05 30 40.4**	**-0.2**
FPAL				IAmb	IAmb	IAmb	05 30 52.1	

comp=Z,3.7nm,0.9s

YKAW1	**Yellowknife Wh**	**26.76**	**3**		**P**	**P**	**05 30 45.6**	**+0.1**
YKAW1					IAmb	IAmb	05 31 12.9	

comp=Z,17nm,0.8s

YKA	**Yellowknife Ar**	**26.76**	**3**	P	**P**	**P**	**05 30 46.2**	**+0.6**

comp=Z,2.3nm,0.9s,baz=186,slow=8.8,SNR=16
comp=Z,2.3nm,0.9s

ILAR	**Eielson Array**	**33.85**	**338**	P	**P**	**P**	**05 31 49.7**	**+1.4**

comp=Z,3.3nm,1.0s,baz=133,slow=8.3,SNR=4.1
comp=Z,3.3nm,1.0s

LPAZ	**La Paz**	**69.88**	**129**	P	**P**	**P**	**05 36 18.1**	**+0.1**

comp=Z,1.4nm,0.9s,baz=280,slow=6.1,SNR=5.7
comp=Z,1.4nm,0.9s

USRK	**Ussuriysk Ar.**	**78.37**	**316**	P	**P**	**P**	**05 37 06.7**	**+0.1**

comp=Z,4.8nm,0.8s,baz=80,slow=7.1,SNR=4.5
comp=Z,4.8nm,0.8s

BRG	**Berggiesshubel**	**83.75**	**28**	P	**P**	**P**	**05 37 39.0**	**+3.9**
BRG				Amp			05 37 41.7	

comp=Z,3.7nm,1.0s

BVAR	**Borovoye Array**	**91.24**	**355**	P	**P**	**P**	**05 38 11.6**	**+0.2**

comp=Z,2.6nm,0.8s,baz=352,slow=4.4,SNR=3.9
comp=Z,2.6nm,0.8s

*NEIC **06** 05:26:05.7±0.6,35°.91N±0°.01×117°.73W±0°.01,h9km±9km, Error ellipse: s-maj=1.8km s-min=1.5km az=137.0*

PAS 06 05:26:06.1±0.8,35°.91N±0°.01×117°.72W±0°.01,h4km±4km, ML3.3/4,ML3.3/14(NEIC),Error ellipse: s-maj=1.9km s-min=1.4km az=148.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**299**		Pg	05 26 08.2	+0.1
WNMM	**Nine Mile Cany**	**0.16**	**248**		Pg	05 26 09.4	+0.1
WRVM	**Rose V. Centra**	**0.17**	**307**		Pg	05 26 09.6	+0.1
SRTC	**Snort**	**0.21**	**187**		Pg	05 26 10.7	+0.4
MFS	**McCloud Flat S**	**0.24**	**332**		Pg	05 26 10.9	+0.2
LRMC	**Laurel Mtn Rad**	**0.43**	**176**		Sg	05 26 20.2	+0.3
LRMC	**Laurel Mtn Rad**	**0.43**	**176**	Pg	Pg	05 26 13.9	-0.4
LRMC				IAML		05 26 20.6	

comp=E,3μm,0.5s

LRMC				IAML		05 26 20.8		

comp=N,2μm,0.1s

WBSM	**Bird Springs**	**0.50**	**223**		Pg	05 26 15.5	-0.2	
WBSM					Sg	05 26 22.4	+0.1	
CGO	**Cerro Gordo**	**0.65**	**354**		Pg	05 26 18.8	+0.2	
ISA	**Isabella, Lake**	**0.66**	**249**	Pg	Pg	05 26 18.1	-0.7	
QSM	**Queen of Sheba**	**0.69**	**85**	Pg	Pg	05 26 19.2	-0.1	
QSM				IAML		05 26 25.6		

comp=E,1μm,0.9s

QSM					Sg	05 26 28.3	0.0	
QSM				IAML		05 26 33.9		

comp=N,1μm,1.0s

WASM	**Alta Sierra Ca**	**0.70**	**257**		Pg	05 26 19.2	-0.3	
WASM					Sg	05 26 28.6	-0.1	
CCAC	**Calif City Air**	**0.79**	**198**	Pg	Pg	05 26 20.6	-0.6	
GWY	**Greenwater Val**	**0.90**	**71**	Pg	Pg	05 26 23.0	-0.2	
GWY				IAML		05 26 26.1		

comp=N,1μm,1.0s

GSC	**Goldstone, Bar**	**0.96**	**129**	Pg	Pg	05 26 23.9	-0.5	
GSC				IAML		05 26 31.9		

comp=N,1μm,1.5s

GSC				IAML		05 26 39.5		

comp=E,2μm,0.8s

ARVC	**Arvin**	**1.19**	**230**		Pg	05 26 28.9	-0.1	
GMN	**Gold Mountain**	**1.44**	**15**		Pn	05 26 33.3	+0.1	
CLTC	**Calectric**	**1.84**	**170**		Sn	05 27 01.2	-0.9	
RYN	**Ryan**	**2.79**	**347**	Pn	Pn	05 26 52.8	+1.1	
CCUT	**Cedar City**	**3.87**	**64**	Pn	Pn	05 27 04.5	-1.9	
AFDM	**Forest Hills D**	**3.99**	**321**	Pn	Pn	05 27 07.2	-0.8	
214A	**Organ Pipe Nat**	**5.67**	**133**	Pn	Pn	05 27 30.0	-1.1	

*NEIC **06** 05:26:52.9±2.2,35°.652N±0°.009×117°.45W±0°.01, h1km,Error ellipse: s-maj=1.4km s-min=1.3km az=219.0*

PAS 06 05:26:53.0±2.2,35°.649N±0°.005×117°.46W±0°.01, h2km±2km,ML3.9/103,ML3.6/32(NEIC),Error ellipse: s-maj=1.4km s-min=0.8km az=82.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.15**	**148**		Pg	05 26 56.4	+0.6
CCCA					Sg	05 26 59.1	+1.4
SRTC	**Snort**	**0.24**	**280**		Pg	05 26 58.2	+0.6
SRTC					Sg	05 27 02.5	+1.7
LRMC	**Laurel Mtn Rad**	**0.25**	**227**		Pg	05 26 57.9	+0.1
LRMC					Sg	05 27 01.6	+0.6
LRMC	**Laurel Mtn Rad**	**0.25**	**227**	IAML		05 27 02.1	

comp=E,25μm,0.4s

LRMC				IAML		05 27 02.7		

comp=N,28μm,0.3s

MPMC	**Manual Prospec**	**0.41**	**356**		Pg	05 27 00.8	-0.1	
MPMC					Sg	05 27 06.7	+0.4	
DTP	**Desert Tortois**	**0.49**	**220**		Pg	05 27 02.2	-0.2	
DTP					Sg	05 27 09.2	+0.4	
WRVM	**Rose V. Centra**	**0.50**	**316**		Sg	05 27 09.7	+0.5	
WBSM	**Bird Springs**	**0.57**	**259**		Pg	05 27 03.7	-0.1	
MFS	**McCloud Flat S**	**0.57**	**325**		Sg	05 27 10.9	-0.4	
QSM	**Queen of Sheba**	**0.57**	**57**	Pg	Pg	05 27 03.9	-0.1	
QSM				IAML		05 27 14.5		

comp=N,2μm,0.7s

GSC	**Goldstone, Bar**	**0.64**	**123**	Pg	Pg	05 27 04.8	-0.3	
WORM	**Onyx Ranch**	**0.64**	**274**		Pg	05 27 05.1	-0.1	
CCAC	**Calif City Air**	**0.67**	**223**	Pg	Pg	05 27 05.4	-0.5	
CCAC				IAML		05 27 19.8		

comp=N,3μm,0.6s

CCAC				IAML		05 27 20.4		

comp=E,3μm,0.5s

ISA	**Isabella, Lake**	**0.83**	**271**	Pg	Pg	05 27 08.1	-0.8	
ISA				IAML		05 27 20.3		

comp=E,2μm,0.5s

GWY	**Greenwater Val**	**0.83**	**50**	Pg	Pg	05 27 09.2	+0.3	
GWY				IAML		05 27 26.1		

comp=E,2μm,0.5s

GWY				IAML		05 27 26.8		

comp=N,1μm,0.6s

EDW2	**Edwards Air Fo**	**0.88**	**210**		Pb	05 27 10.8	-0.2	
WASM	**Alta Sierra Ca**	**0.90**	**276**		Pg	05 27 09.9	-0.3	
TPO	**Tropico Hills**	**0.99**	**220**		Pb	05 27 12.8	-0.1	
SBB	**Saddle Back Bu**	**1.00**	**198**		Sb	05 27 26.4	-0.4	
TEJ	**El Tejon**	**1.09**	**248**		Pg	05 27 12.8	-1.0	
ALPC	**Antelope**	**1.18**	**216**		Pg	05 27 15.8	+0.2	
SPG2	**Springville 2**	**1.20**	**298**		Sg	05 27 30.9	-0.5	
LEOC	**Leona Valley**	**1.23**	**215**		Pg	05 27 16.7	+0.1	
CJV	**Casa Juvan**	**1.25**	**207**		Pb	05 27 17.3	0.0	
JNH	**Juniper Hills**	**1.27**	**199**		Pg	05 27 17.2	0.0	
JNH					Sb	05 27 34.4	0.0	
WCT	**Wildcat Mounta**	**1.32**	**30**		Pg	05 27 18.0	-0.4	
GRAC	**Grapevine Rang**	**1.35**	**3**		Pg	05 27 18.3	-0.5	
GRAC				IAML		05 27 42.0		

comp=N,1μm,0.9s

GRAC				IAML		05 27 45.3		

comp=E,1μm,0.8s

CHFC	**Chilao Flat St**	**1.39**	**200**		Pn	05 27 19.3	-0.2	
BBRC	**Big Bear Solar**	**1.45**	**162**		Sn	05 27 41.3	+1.2	
CLTC	**Calectric**	**1.56**	**176**		Sg	05 27 43.8	+0.8	
PSRC	**Puddingstone R**	**1.58**	**191**		Pg	05 27 23.2	0.0	
PSRC					Sg	05 27 44.1	+0.4	
TPNV	**Topopah Spring**	**1.62**	**37**		Pn	05 27 22.4	-0.3	
TPNV				IAML		05 27 48.5		

comp=E,517nm,1.2s

TPNV				IAML		05 27 48.7		

comp=E,769nm,0.7s

VOG	**Valley Oaks Go**	**1.70**	**294**		Pg	05 27 26.4	+0.8	
DSP	**Deep Springs**	**1.77**	**347**		Pn	05 27 24.1	-0.4	
SHPR	**Sheep Range**	**2.05**	**65**	Pn	Pn	05 27 28.1	-0.5	
LHV	**Little Huntoon**	**2.73**	**342**	Pn	Pn	05 27 37.6	-0.2	
LHV				IAML		05 27 58.1		

comp=N,263nm,1.4s

LHV				IAML		05 27 59.6		

comp=E,370nm,1.6s

W13A	**Hualapai Mount**	**2.97**	**100**	Pn	Pn	05 27 39.9	-1.4	
LCMT	**Little Creek M**	**3.66**	**67**	Pn	Pn	05 27 51.5	+0.7	

*NEIC **06** 05:28:38.9±0.7,35°.912N±0°.008×117°.74W±0°.01, h8km±5km,Error ellipse: s-maj=1.5km s-min=1.0km az=50.0*

PAS 06 05:28:39.2±0.7,35°.903N±0°.005×117°.73W±0°.01, h5km±2km,ML3.6/105,ML3.4/42(NEIC),Error ellipse: s-maj=1.2km s-min=0.8km az=103.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**303**		Pg	05 29 41.3	+0.1
WVPM					Sg	05 28 42.8	+0.2
TOW	**Tower One**	**0.10**	**198**		Pg	05 28 41.8	+0.4
TOW					Sg	05 28 44.4	+1.6
WNMM	**Nine Mile Cany**	**0.16**	**248**		Pg	05 28 42.5	+0.1
WNMM					Sg	05 28 45.2	+0.7
WRVM	**Rose V. Centra**	**0.17**	**309**		Pg	05 28 42.7	+0.1
MFS	**McCloud Flat S**	**0.24**	**334**		Pg	05 28 44.0	0.0
MFS					Sg	05 28 47.3	+0.2
MPMC	**Manual Prospec**	**0.25**	**51**		Pg	05 28 44.1	0.0
MPMC					Sg	05 28 47.8	+0.3
LRMC	**Laurel Mtn Rad**	**0.42**	**175**	Pg	Pg	05 28 47.1	-0.4
WORM	**Onyx Ranch**	**0.47**	**244**		Pg	05 28 48.0	-0.3
WORM					Sg	05 28 54.3	-0.1
WBSM	**Bird Springs**	**0.49**	**223**		Pg	05 28 48.4	-0.4
WHFM	**Hanning Flat**	**0.55**	**248**		Pg	05 28 49.6	-0.2
CWC	**Cottonwood Cre**	**0.61**	**332**		Pg	05 28 51.2	+0.3
ISA	**Isabella, Lake**	**0.65**	**249**	Pg	Pg	05 28 51.3	-0.5
ISA				IAML		05 29 06.8	

comp=N,2μm,0.2s

ISA				IAML		05 29 06.9		

comp=E,1μm,0.3s

CCAC	**Calif City Air**	**0.79**	**198**	Pg	Pg	05 28 53.9	-0.4	
CCAC				IAML		05 29 08.2		

comp=N,750nm,0.3s

FURC	**Furnace Creek,**	**0.90**	**51**		Pn	05 28 59.8	+1.4	
GWY	**Greenwater Val**	**0.90**	**71**	Pg	Pg	05 28 56.0	-0.6	
GWY				IAML		05 29 14.6		

comp=E,926nm,0.6s

GWY				IAML		05 29 17.4		

comp=N,1μm,0.4s

GSC	**Goldstone, Bar**	**0.96**	**128**	Pg	Pg	05 28 57.1	-0.5	
GSC				IAML		05 29 14.1		

comp=N,1μm,0.5s

GSC				IAML		05 29 14.2		

comp=E,2μm,0.6s

GRAC	**Grapevine Rang**	**1.13**	**15**		Pg	05 29 00.6	-0.4	
GRAC	**Grapevine Rang**	**1.13**	**15**	Pg	Pg	05 29 00.2	-0.7	
GRAC	**Grapevine Rang**	**1.13**	**15**	IAML		05 29 21.4		

comp=N,518nm,0.8s

GRAC				IAML		05 29 22.0		

comp=E,736nm,0.3s

SGV	**South Grapevin**	**1.21**	**27**		Pg	05 29 02.5	0.0	
GMN	**Gold Mountain**	**1.45**	**15**		Pn	05 29 05.8	-0.4	
DSP	**Deep Springs**	**1.48**	**352**		Pn	05 29 06.1	-0.4	
MZP	**Montezuma Peak**	**1.82**	**9**	Pn	Pn	05 29 12.2	+0.8	
MTPC	**Mountain Pass**	**1.82**	**103**		Pb	05 29 12.5	-0.6	
TPH	**Tonopah**	**2.21**	**10**		Pn	05 29 17.2	+0.6	
TPH				IAML		05 29 58.3		

comp=E,369nm,1.2s

ELS	**Elsinore Mount**	**2.26**	**174**	Pn	Pn	05 29 16.7	-0.6	
ELS				IAML		05 29 55.4		

comp=E,282nm,0.4s

ELS				IAML		05 29 57.0		

comp=N,136nm,0.7s

PMPB	**Monarch Peak**	**2.51**	**278**	Pn	Pn	05 29 20.3	-0.4	
PMPB				IAML		05 29 58.7		

comp=E,200nm,2.2s

PMPB				IAML		05 30 16.3		

comp=N,191nm,0.9s

BBGB	**Big Mountain B**	**2.76**	**285**	Pn	Pn	05 29 24.7	+0.5	
BBGB				IAML		05 30 31.1		

comp=E,231nm,1.2s

RYN	**Ryan**	**2.79**	**347**	Pn	Pn	05 29 25.1	+0.4	
RYN				IAML		05 30 13.6		

comp=E,53nm,4.5s

TJX	**Tijuana**	**3.43**	**170**	Pn	Pn	05 29 32.0	-1.3	
CBX	**Cerro Bola**	**3.69**	**166**	Pn	Pn	05 29 35.6	-1.4	
GLA	**Glamis**	**3.72**	**139**	Pn	Pn	05 29 36.9	-0.4	
GLA				IAML		05 30 42.5		

comp=E,97nm,0.8s

GLA				IAML		05 30 44.9		

comp=N,92nm,0.8s

*NEIC **06** 05:29:40.1±1.2,35°.88N±0°.01×117°.729W±0°.009, h5km±1km,Error ellipse: s-maj=2.7km s-min=2.3km az=228.0*

PAS 06 05:29:40.3±1.2,35°.89N±0°.01×117°.73W±0°.01,h2km±1km, ML3.0/9,ML2.8/20(NEIC),Error ellipse: s-maj=1.9km s-min=1.3km az=169.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**310**		Pg	05 29 42.5	+0.3
WNMM	**Nine Mile Cany**	**0.15**	**252**		Pg	05 29 46.1	+2.9
WRVM	**Rose V. Centra**	**0.17**	**312**		Pg	05 29 43.9	+0.1
SRTC	**Snort**	**0.20**	**185**		Pg	05 29 44.7	+0.5
MFS	**McCloud Flat S**	**0.25**	**336**		Pg	05 29 45.2	+0.1
LRMC	**Laurel Mtn Rad**	**0.41**	**175**		Sg	05 29 54.1	+0.4
LRMC	**Laurel Mtn Rad**	**0.41**	**175**		Pg	05 29 48.0	-0.3
LRMC				IAML		05 29 54.6	

comp=E,3μm,0.2s

LRMC				IAML		05 29 55.1		

comp=N,2μm,0.2s

CCCA	**Chr Cany lake**	**0.47**	**141**		Pg	05 29 49.8	+0.4	
CCCA					Sg	05 29 57.0	+1.5	
WBSM	**Bird Springs**	**0.48**	**223**		Pg	05 29 49.6	-0.1	
WBSM					Sg	05 29 57.1	+1.2	
WHFM	**Hanning Flat**	**0.54**	**249**		Pg	05 29 50.6	-0.1	
CWC	**Cottonwood Cre**	**0.62**	**333**		Pg	05 29 52.5	+0.3	
ISA	**Isabella, Lake**	**0.65**	**250**	Pg	Pg	05 29 52.6	-0.2	
ISA				IAML		05 30 01.4		

comp=N,581nm,0.4s

ISA				IAML		05 30 03.2		

comp=E,668nm,0.2s

SPG2	**Springville 2**	**0.90**	**291**		Pg	05 29 56.9	-0.7	
GWY	**Greenwater Val**	**0.91**	**71**	Pg	Pg	05 29 57.1	-0.7	
GWY				IAML		05 30 12.9		

comp=N,372nm,0.5s

GSC	**Goldstone, Bar**	**0.95**	**128**		Pg	05 29 58.6	0.0	
GSC				IAML		05 30 14.3		

comp=E,352nm,0.5s

GSC				IAML		05 30 20.7		

comp=N,187nm,0.9s

TEJ	**El Tejon**	**1.02**	**230**		Sg	05 30 12.8	-0.4	
TPO	**Tropico Hills**	**1.09**	**202**		Sg	05 30 15.3	0.0	
VES	**Vestal, Richgr**	**1.10**	**268**		Sb	05 30 16.3	-0.5	
GRAC	**Grapevine Rang**	**1.14**	**15**	Pg	Pg	05 30 01.6	-0.6	
GRAC				IAML		05 30 06.9		

comp=E,203nm,0.3s

GRAC				IAML		05 30 19.4		

comp=N,198nm,0.7s

WCT	**Wildcat Mounta**	**1.27**	**44**	Pg	Pg	05 30 04.0	-0.7	
WCT				IAML		05 30 13.8		

comp=E,117nm,0.5s

VOG	**Valley Oaks Go**	**1.41**	**288**		Pn	05 30 06.3	-0.6	
GMN	**Gold Mountain**	**1.46**	**15**		Pb	05 30 08.3	0.0	
TPNV	**Topopah Spring**	**1.59**	**48**		Pn	05 30 09.9	+0.2	
TPNV				IAML		05 30 22.7		

comp=E,114nm,0.7s

TPNV				IAML		05 30 25.3		

comp=E,120nm,1.3s

SMMC	**Simmler**	**1.93**	**253**		Pb	05 30 16.1	-0.2	
MPK	**Martis Peak**	**3.86**	**332**	Pn	Pn	05 30 40.8	-0.1	
CCUT	**Cedar City**	**3.88**	**63**	Pn	Pn	05 30 41.4	+0.2	
AFDM	**Forest Hills D**	**4.00**	**321**	Pn	Pn	05 30 41.9	-0.7	
PSUT	**Pine Spring**	**4.07**	**48**	Pn	Pn	05 30 44.6	+0.9	
CCX	**Cicese**	**4.11**	**167**	Pn	Pn	05 30 43.4	-0.6	
SPR3	**Spring Creek 3**	**4.12**	**40**	Pn	Pn	05 30 42.8	-1.7	
113A	**Mohawk Valley,**	**4.52**	**132**	Pn	Pn	05 30 49.8	+0.1	

*IDC **06** 05:29:50.3±0.4,56°.16N×164°.13E,h0km,mb4.6/37, mbtmp4.6/41,ML4.9/3,MS4.7/1,Error ellipse: s-maj=12.7km s-min=9.2km az=151.0*

*KRSC **06** 05:29:51.3±1.2,56°.13N×164°.34E,h51km±20km,Mc6.0, Ml5.1*

*NEIC **06** 05:29:52.5±1.5,56°.2N±0°.1×164°.1E±0°.1,h10km±1km, mb5.0/145,Error ellipse: s-maj=18.6km s-min=11.0km az=164.0*

*BJI **06** 05:29:52.2,56°.29N×163°.46E,h12km,mB5.6/1,mb4.8/47, Ms5.5/5,Ms7 5.4/5*

*MOS **06** 05:29:53.8±0.9,56°.16N×164°.20E,h41km,mb5.0/31,Error ellipse: s-maj=5.9km s-min=4.0km az=62.9*

ISC 06 05:29:52.4±0.5,56°.08N±0°.03×164°.20E±0°.03,h14km±3km, h14km:pP-P,n761,σ1s37/766,mb4.9/175,17C-9D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.79**	**280**	PN	Pg	05 30 06.6	-1.0
KBTR	**Krutoberegovo**	**0.79**	**280**	*eP*	Pg	05 30 06.6	-1.0
KBG	**Krutoberegovo**	**0.86**	**282**	PN	Pg	05 30 07.8	-1.2
KBG				S	Sb	05 30 21.0	+0.7
KBG	**Krutoberegovo**	**0.86**	**282**	*eP*	Pg	05 30 07.8	-1.2
KBG				*eS*	Sb	05 30 21.1	+0.7
BKI	**Bering**	**1.33**	**131**	PN	Pn	05 30 14.9	-1.7
BKI				S	Sb	05 30 31.9	-2.2
BKI	**Bering**	**1.33**	**131**	*eP*	Pn	05 30 15.0	-1.7
BKI				*eS*	Sb	05 30 32.0	-2.2
ZLN	**Zelenaya**	**1.91**	**269**	PN	Pn	05 30 25.7	+1.1
ZLN	**Zelenaya**	**1.91**	**269**	*eP*	Pn	05 30 25.7	+1.1
CIRR	**Tsirk**	**1.94**	**272**	PN	Pn	05 30 25.8	+0.8
CIRR	**Tsirk**	**1.94**	**272**	*eP*	Pn	05 30 25.8	+0.8
LGNR	**Loginova**	**1.97**	**272**	PN	Pn	05 30 26.6	+1.0
LGNR	**Loginova**	**1.97**	**272**	*eP*	Pn	05 30 26.7	+1.0
BZGR	**Bezymyannyi-Gr**	**1.97**	**267**	PN	Pn	05 30 26.4	+0.9
BZGR				S	Sn	05 30 51.1	+1.0
BZGR	**Bezymyannyi-Gr**	**1.97**	**267**	*eP*	Pn	05 30 26.4	+0.9
BZGR				*eS*	Sn	05 30 51.2	+1.0
KLY	**Klyuchi**	**2.00**	**278**	PN	Pn	05 30 24.3	-1.4
KLY				S	Sn	05 30 48.5	-2.0
KLY	**Klyuchi**	**2.00**	**278**	*eP*	Pn	05 30 24.4	-1.4
KLY				*eS*	Sn	05 30 48.6	-2.0
MKZ	**Mys Kozlova**	**2.08**	**224**	PN	Pn	05 30 26.8	-0.1
MKZ				S	Sn	05 30 52.5	0.0
MKZ	**Mys Kozlova**	**2.08**	**224**	*eP*	Pn	05 30 26.8	-0.1
MKZ				*eS*	Sn	05 30 52.5	0.0
BZWR	**Bezymyannyi-We**	**2.08**	**268**	PN	Pn	05 30 28.1	+1.0
BZWR	**Bezymyannyi-We**	**2.08**	**268**	*eP*	Pn	05 30 28.1	+1.0
BZMR	**Bezymyannaya**	**2.09**	**268**	PN	Pn	05 30 28.3	+1.2
BZMR	**Bezymyannaya**	**2.09**	**268**	*eP*	Pn	05 30 28.4	+1.2
KIRR	**Kirishev**	**2.17**	**268**	PN	Pn	05 30 29.7	+1.4
KIRR	**Kirishev**	**2.17**	**268**	*eP*	Pn	05 30 29.7	+1.4
KPT	**Kopyto**	**2.24**	**269**	PN	Pb	05 30 31.0	-1.7
KPT	**Kopyto**	**2.24**	**269**	*eP*	Pb	05 30 31.0	-1.7
KMNR	**Kamenistaya**	**2.26**	**263**	PN	Pn	05 30 30.7	+1.3
KMNR	**Kamenistaya**	**2.26**	**263**	*eP*	Pn	05 30 30.7	+1.3
TUMD	**Tumrok D**	**2.33**	**249**	PN	Pn	05 30 31.5	+1.2
TUMD				S	Sn	05 31 00.2	+1.5
TUMD	**Tumrok D**	**2.33**	**249**	*eP*	Pn	05 30 31.5	+1.2
TUMD				*eS*	Sn	05 31 00.2	+1.5
KOZ	**Kozyrevsk**	**2.43**	**271**	PN	Pn	05 30 33.5	+1.9
KOZ	**Kozyrevsk**	**2.43**	**271**	*eP*	Pn	05 30 33.6	+1.9
SRDR	**Sredinnyy**	**2.52**	**277**	PN	Pn	05 30 34.0	+1.1
SRDR	**Sredinnyy**	**2.52**	**277**	*eP*	Pn	05 30 34.0	+1.1
ESO	**Esso**	**3.09**	**269**	PN	Pn	05 30 42.4	+1.6
ESO	**Esso**	**3.09**	**269**	*eP*	Pn	05 30 42.4	+1.6
OSSR	**Ossora**	**3.24**	**350**	PN	Pn	05 30 40.2	-2.5
OSSR	**Ossora**	**3.24**	**350**	*eP*	Pn	05 30 40.3	-2.5
KII	**Karymskiy**	**3.42**	**235**	PN	Pn	05 30 47.4	+2.1
KII	**Karymskiy**	**3.42**	**235**	*eP*	Pn	05 30 47.5	+2.1
PALN	**Palana**	**3.78**	**325**	PN	Pn	05 30 51.5	+1.3
PALN	**Palana**	**

UNV Unalaska Valle 16.91 85 P 05 33 50.0 -0.4
UNV Unalaska Valle 16.91 85 P P 05 33 51.4 +1.0
baz=290
K13K Kusilvak Mount 16.95 57 P Pn 05 33 49.8 +0.9
K13K Kusilvak Mount 16.95 57 P P 05 33 50.6 -0.2
baz=264
F14K Arctic Creek 17.02 45 P P 05 33 51.0 -0.5
baz=251
LVA Lava Point 17.07 84 Pn 05 33 49.4 -1.1
LVA IAmb IAmb 05 33 56.8
comp=Z,83nm,0.9s
ANM Nome 17.13 48 P P 05 33 52.5 -0.2
baz=255
AKUT Akutan 17.23 84 P Pn 05 33 52.8 +0.4
AKUT IAmb IAmb 05 34 02.7
comp=Z,101nm,1.1s
GRNR Gornyy 17.32 264⇑ *i*P P 05 33 54.5 -0.4
GRNR pmax pmax
comp=Z,30nm,1.3s
M13K Dall Lake 17.50 62 P P 05 33 56.8 0.0
M13K Dall Lake 17.50 62 P P 05 33 58.7 +1.8
baz=270
J14K Nanvaranak Lak 17.56 54 P P 05 33 57.4 -0.1
J14K Nanvaranak Lak 17.56 54 P P 05 33 58.8 +1.3
baz=263
F15K North Star Dit 17.75 45 P P 05 34 01.0 +1.4
F15K North Star Dit 17.75 45 P P 05 34 01.6 +2.0
baz=252,SNR=6.1
G15K Niukluk 17.79 47 P P 05 34 01.4 +1.4
baz=255
L14K Kuka Creek 17.85 59 P 05 34 01.5 +0.9
L14K Kuka Creek 17.85 59 P P 05 34 02.5 +1.8
baz=268,SNR=8.7
M14K Bethel 18.19 61 P P 05 34 06.7 +2.3
baz=271
JKA Kamikawa-asahi 18.22 238 Pn 05 34 03.8 -0.9
ASAJ Asahikawa 18.22 238 P Pn 05 34 03.8 -0.9
comp=Z,3.3nm,0.3s,baz=27,slow=6.1,SNR=40
comp=Z,109nm,0.9s
ASAJ Asahikawa 18.22 238 P Pn 05 34 03.8 -0.9
ASAJ pmax pmax
comp=Z,207nm,1.1s
N14K Kuskokwak Cree 18.35 64 P P 05 34 07.3 +1.1
N14K Kuskokwak Cree 18.35 64 P P 05 34 09.4 +3.3
baz=273
L15K Ungalak Mounta 18.43 58 P Pn 05 34 10.3 +3.1
baz=268
K15K Wolf Creek Mou 18.45 56 P 05 34 06.5 -0.8
K15K Wolf Creek Mou 18.45 56 P Pn 05 34 09.5 +2.1
baz=266
C16K Lisburne Hills 18.47 37 Pn 05 34 08.0 +0.4
C16K Lisburne Hills 18.47 37 P Pn 05 34 08.7 +1.1
baz=244
YAK Yakutsk 18.55 303 P 05 34 06.9 -1.5
YAK IAmb IAmb 05 34 08.5
comp=Z,71nm,0.8s
YAK Yakutsk 18.55 303 P P 05 34 06.3 -2.1
comp=Z,7.3nm,0.3s,baz=2.1,slow=22,SNR=9.8
comp=Z,48nm,0.5s
YAK Yakutsk 18.55 303 *e*P P 05 34 07.3 -1.1
YAK pmax pmax
comp=Z,67nm,0.8s
YAK pmax pmax
comp=N,11nm,1.5s
YAK pmax pmax
comp=E,37nm,1.4s
G16K Koyuk River 18.58 46 P Pn 05 34 10.7 +1.7
baz=256
O14K Tigyukauivet M 18.61 66 Pn 05 34 09.4 0.0
O14K Tigyukauivet M 18.61 66 P Pn 05 34 11.5 +2.2
baz=276
M15K Kasigluk River 18.82 61 P Pn 05 34 13.9 +2.1
baz=272
S12K Black Hills 18.82 77 Pn 05 34 12.2 +0.3
S12K Black Hills 18.82 77 P Pn 05 34 13.9 +1.9
baz=286,SNR=34
J16K Anvik River 18.96 53 P Pn 05 34 15.0 +1.4
baz=264
I17K Unalakleet 18.99 51 P Pn 05 34 15.8 +1.8
baz=262
D17K Noatak River 19.02 39 P Pn 05 34 15.0 +0.8
baz=249
N15K Kwethluk River 19.13 63 Pn 05 34 16.1 +0.4
N15K Kwethluk River 19.13 63 P Pn 05 34 17.4 +1.7
baz=274,SNR=10
RDOG Red Dog Mine 19.21 38 P P 05 34 15.2 -0.4
RDOG Red Dog Mine 19.21 38 P Pn 05 34 17.6 +1.0
baz=248
E17K Hotham Inlet 19.26 42 P Pn 05 34 18.5 +1.3
baz=252
C17K DeLong Mountai 19.29 37 P Pn 05 34 19.1 +1.6
baz=247,SNR=5.8
F17K Baldwin Pennin 19.29 44 P 05 34 16.5 +0.1
F17K Baldwin Pennin 19.29 44 P Pn 05 34 18.3 +0.7
baz=255
G17K Kiwalik Mounta 19.30 47 P Pn 05 34 18.8 +1.1
baz=258
O15K Ungalikthiuk R 19.36 66 Pn 05 34 18.9 +0.6
O15K IAmb IAmb 05 34 28.1
comp=Z,77nm,1.1s
O15K Ungalikthiuk R 19.36 66 P Pn 05 34 19.5 +1.2
baz=277,SNR=15
L16K Owhat River 19.39 58 P Pn 05 34 20.8 +2.0
baz=270
H17K Granite Mounta 19.49 48 Pn 05 34 20.0 0.0
H17K IAmb IAmb 05 34 29.5
comp=Z,183nm,1.9s
H17K Granite Mounta 19.49 48 P Pn 05 34 20.6 +0.6
baz=260
JEM Erimo 19.59 233 P P 05 34 19.3 -0.6
ERM Erimo 19.59 233 P P 05 34 19.0 -0.9
ERM Erimo 19.59 233 *e*P Pn 05 34 20.7 -0.6
ERM pmax pmax
comp=Z,34nm,0.9s
M16K Timber Creek 19.65 60 Pn 05 34 22.1 +0.2
M16K IAmb IAmb 05 34 30.3
comp=Z,87nm,1.6s
M16K Timber Creek 19.65 60 P Pn 05 34 22.6 +0.7
baz=272
J17K VABM Dome 19.66 53 P Pn 05 34 23.1 +1.1
baz=266,SNR=6.8
N16K Nishlik Lake 19.77 62 P Pn 05 34 24.3 +1.0
baz=274
SDPT Sand Point 19.78 77 P Pn 05 34 23.1 -0.4
SDPT Sand Point 19.78 77 P Pn 05 34 26.5 +3.0
baz=287,SNR=5.5
E18K Tukpahlearik C 19.82 41 Pn 05 34 23.3 -0.5
E18K IAmb IAmb 05 34 35.5
comp=Z,111nm,1.4s
E18K Tukpahlearik C 19.82 41 P Pn 05 34 24.5 +0.7
baz=253,SNR=10
F18K Selawik 19.95 44 P Pn 05 34 27.2 +1.9
baz=256
L17K Donlin 19.96 57 P Pn 05 34 27.8 +2.3
baz=270,SNR=5.8
K17K Iditarod 19.97 55 Pn 05 34 25.7 +0.1
K17K IAmb IAmb 05 34 39.6
comp=Z,63nm,1.1s
K17K Iditarod 19.97 55 P Pn 05 34 27.3 +1.7
baz=268
C18K Utukok River 20.02 37 Pn 05 34 25.6 -0.7
C18K IAmb IAmb 05 34 37.1
comp=Z,89nm,1.3s
C18K Utukok River 20.02 37 P Pn 05 34 27.1 +0.8
baz=249
S14K Fog Glacier 20.03 74 P Pn 05 34 27.3 +0.8
baz=285,SNR=9.6
B18K Kokolik River 20.10 35 P Pn 05 34 27.2 +0.1
baz=246
H18K Honhosa River 20.18 48 P Pn 05 34 28.2 +0.1
H18K IAmb IAmb 05 34 38.6
comp=Z,98nm,1.5s
H18K Honhosa River 20.18 48 P Pn 05 34 28.4 +0.3
baz=262
O16K Kokwok River B 20.19 64 Pn 05 34 28.2 0.0
O16K Kokwok River B 20.19 64 P Pn 05 34 27.9 -0.4
baz=277,SNR=10
G18K Tagagawik 20.19 46 P 05 34 27.2 +0.9
G18K Tagagawik 20.19 46 P Pn 05 34 28.4 +0.2
baz=259,SNR=7.1
P16K Nushagak River 20.31 66 P Pn 05 34 28.9 -0.8
baz=278
M17K Holitna River 20.37 59 Pn 05 34 29.6 -0.9
M17K IAmb IAmb 05 34 41.0
comp=Z,90nm,1.1s
M17K Holitna River 20.37 59 P Pn 05 34 31.0 +0.6
baz=273,SNR=20

CHNA Chernabura Isl 20.43 78 P P 05 34 29.0 +0.1
CHNA Chernabura Isl 20.43 78 P Pn 05 34 30.8 -0.2
baz=289
CNBA Chernabura Isl 20.43 78 P P 05 34 29.8 +0.8
CNBA IAmb IAmb 05 34 39.0
comp=Z,52nm,0.9s
N17K Nushagak Hills 20.55 62 Pn 05 34 32.9 +0.4
N17K IAmb IAmb 05 34 42.8
comp=Z,70nm,1.4s
N17K Nushgak Hills 20.55 62 P Pn 05 34 32.5 0.0
baz=275
CHGN Chignik 20.64 74 P Pn 05 34 32.7 -0.8
CHGN Chignik 20.64 74 P Pn 05 34 32.9 -0.6
baz=286,SNR=15
O17K Koliganek Bris 20.67 64 P Pn 05 34 33.0 -0.8
baz=277
A19K Wainwright 20.69 33 P Pn 05 34 33.1 -0.8
baz=245
KLR Kul'dur 20.70 264 P P 05 34 30.8 -1.2
comp=Z,5.2nm,0.8s,baz=60,slow=12,SNR=6.2
comp=Z,5.2nm,0.8s
KLR Kul'dur 20.70 264⇓ *i*P P 05 34 31.9 -0.1
KLR pmax pmax
comp=Z,27nm,1.5s
L18K Granite Mounta 20.71 57 P 05 34 32.9 +0.9
L18K Granite Mounta 20.71 57 P Pn 05 34 34.0 -0.4
baz=271
J18K Innoko River 20.72 53 Pn 05 34 33.6 -0.9
J18K Innoko River 20.72 53 P Pn 05 34 34.2 -0.3
baz=268,SNR=10
F19K Shaleruckik Mo 20.73 44 P 05 34 32.5 +0.3
F19K Shaleruckik Mo 20.73 44 P Pn 05 34 33.4 -1.2
baz=258,SNR=15
C19K Lookout Ridge 20.73 37 P 05 34 33.4 +1.2
C19K Lookout Ridge 20.73 37 P Pn 05 34 33.6 -1.0
baz=250,SNR=14
GCSA Galena City Sc 20.75 50 P Pn 05 34 34.6 -0.2
baz=264
G19K Purcell Mounta 20.86 46 P P 05 34 34.5 +0.9
G19K IAmb IAmb 05 34 46.6
comp=Z,78nm,1.6s
G19K Purcell Mounta 20.86 46 P Pn 05 34 35.9 -0.2
baz=260,SNR=12
H19K Roundabout Mou 21.03 47 P P 05 34 36.1 +0.7
H19K IAmb IAmb 05 34 48.5
comp=Z,117nm,1.6s
H19K Roundabout Mou 21.03 47 P P 05 34 38.4 +3.1
baz=262,SNR=9.8
D19K Kuna River 21.04 39 P P 05 34 36.0 +0.4
D19K IAmb IAmb 05 34 51.3
comp=Z,58nm,1.1s
D19K Kuna River 21.04 39 P P 05 34 37.1 +1.5
baz=253
Q16K King Salmon 21.05 67 P P 05 34 37.9 +2.3
baz=280
P17K Kvichak River 21.08 65 P P 05 34 38.9 +3.0
baz=279
E19K Redstone River 21.08 42 P P 05 34 36.8 +0.8
E19K Redstone River 21.08 42 P P 05 34 37.7 +1.8
baz=257,SNR=6.0
M18K Stony River 21.14 59 P P 05 34 38.0 +1.3
baz=274
N18K Kilae Creek 21.17 61 P 05 34 37.2 +0.2
N18K Kilae Creek 21.17 61 P P 05 34 38.7 +1.7
baz=276
ZEA Zeya 21.21 279 *e*P P 05 34 36.0 -1.4
ZEA *e* 05 35 01.1
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=N,10.0nm,0.4s
ZEA pmax pmax
comp=Z,30nm,0.7s
J19K Poorman 21.23 52 P 05 34 37.3 -0.3
J19K Poorman 21.23 52 P P 05 34 39.8 +2.2
baz=267
R17L Mt. Peulik Vol 21.41 69 P P 05 34 41.6 +2.0
baz=283,SNR=21
JTM Tenmabayashi 21.52 234 P P 05 34 40.4 -0.4
TIXI Tiksi 21.52 330 P P 05 34 39.2 -1.3
comp=Z,12nm,0.8s,baz=124,slow=7.4,SNR=11
comp=Z,12nm,0.8s
TIXI Tiksi 21.52 330 *ce*P P 05 34 41.4 +0.9
TIXI pmax pmax
comp=Z,23nm,0.8s
Q17K Contact Creek 21.53 68 P P 05 34 42.8 +1.9
baz=282,SNR=16
F20K Avaraart Lake 21.57 43 P P 05 34 42.8 +1.7
baz=259
L19K White Mountain 21.57 57 P P 05 34 43.4 +2.1
baz=273,SNR=5.8
O18K Koktuh Hills 21.61 63 P 05 34 42.1 +0.5
O18K IAmb IAmb 05 34 53.1
comp=Z,64nm,1.1s
O18K Koktuh Hills 21.61 63 P P 05 34 42.7 +1.1
baz=278
D20K Etivluk River 21.63 39 P 05 34 41.8 -0.1
D20K IAmb IAmb 05 34 50.9
comp=Z,46nm,0.9s
D20K Etivluk River 21.63 39 P P 05 34 43.4 +1.5
baz=254,SNR=16
E20K Nigu River 21.66 40 P P 05 34 43.4 +1.2
baz=256,SNR=9.7
P18K Big Mountain, 21.66 64 P 05 34 42.2 0.0
P18K IAmb IAmb 05 34 52.7
comp=Z,106nm,1.5s
P18K Big Mountain, 21.66 64 P P 05 34 44.1 +1.8
baz=279
H20K Anotleneega Mo 21.67 48 P P 05 34 43.7 +1.4
baz=264
I20K Naaghedeneel 21.78 50 P P 05 34 46.0 +2.6
baz=266
M19K Big River Lodg 21.80 57 P 05 34 44.9 +1.2
M19K Big River Lodg 21.80 57 P P 05 34 46.8 +3.0
baz=274,SNR=5.4
ACHA Angle Creek He 21.83 68 P P 05 34 44.1 0.0
N19K Bonanza Creek 21.85 60 P 05 34 45.8 +1.4
N19K IAmb IAmb 05 35 04.6
comp=Z,46nm,1.1s
N19K Bonanza Creek 21.85 60 P P 05 34 47.0 +2.7
baz=276
B20K Meade River 21.85 35 P P 05 34 45.6 +1.5
baz=250
J20K Nowinta River 21.89 51 P 05 34 44.9 +0.3
J20K IAmb IAmb 05 35 05.2
comp=Z,51nm,1.2s
J20K Nowinta River 21.89 51 P P 05 34 48.5 +3.9
baz=268,SNR=9.8
Q18K Katmai Hardscr 21.91 66 P P 05 34 47.0 +2.1
baz=281,SNR=8.8
K20K Telida 21.91 54 P P 05 34 46.9 +2.0
baz=270,SNR=11
O19K Port Alsworth 22.00 62 P P 05 34 48.7 +2.9
baz=278
L20K Farewell, AK 22.01 56 P P 05 34 48.3 +2.3
baz=273
IMAR Indian Mountai 22.19 47 P P 05 34 48.6 +0.8
CHIR Chirikof Islan 22.28 74 P P 05 34 50.4 +1.5
CHIR Chirikof Islan 22.28 74 P P 05 34 51.6 +2.7
baz=288
G21K Allakaket 22.35 45 P P 05 34 52.3 +2.7
baz=263
C21K Knifeblade Rid 22.39 38 P P 05 34 51.8 +1.9
baz=255,SNR=5.8
M20K Styx River 22.40 57 P P 05 34 52.4 +2.2
baz=275
R18K Karluk 22.43 69 P P 05 34 51.9 +1.4
baz=284
F21K Alatna River 22.46 43 P 05 34 50.8 0.0
F21K Alatna River 22.46 43 P P 05 34 53.0 +2.3
baz=261
A21K Barrow 22.49 32 P P 05 34 52.5 +1.5
baz=248
E21K Killik River 22.50 40 P P 05 34 52.0 +0.8
baz=258
H21K Melozitna Rive 22.55 47 P P 05 34 52.5 +0.8
baz=266,SNR=11
Q19K Cape Douglas, 22.55 65 P 05 34 51.7 -0.1
Q19K IAmb IAmb 05 35 09.7
comp=Z,85nm,1.1s
Q19K Cape Douglas, 22.55 65 P P 05 34 52.2 +0.4
baz=282,SNR=9.5
B21K Ikpikpuk River 22.57 37 P P 05 34 51.9 +0.1
baz=254
HEH HeiHe 22.61 271 *e*P P 05 34 49.5 -2.9
HEH pmax pmax
comp=Z,20nm,1.0s

P19K Oil Pt 22.62 63 P P 05 34 53.9 +1.3
baz=280
CHUM Lake Minchumin 22.69 52 P P 05 34 55.2 +2.0
baz=271,SNR=7.5
PPLA Purkeypile 22.77 55 P P 05 34 55.1 +0.9
baz=273,SNR=5.2
CAST Castle Rocks 22.80 53 P 05 34 54.9 +0.5
CAST Castle Rocks 22.80 53 P P 05 34 56.6 +2.2
baz=272
SII Sitkinak Islan 22.83 71 P P 05 34 54.6 -0.2
SII IAmb IAmb 05 35 12.8
comp=Z,53nm,1.1s
SII Sitkinak Islan 22.83 71 P P 05 34 55.3 +0.5
SII Sitkinak Islan 22.83 71 P P 05 34 56.0 +1.2
baz=287
O20K Slope Mountain 22.86 62 P P 05 34 57.0 +2.0
baz=280
A22K Sinclair Lake 22.88 33 P P 05 34 56.5 +1.4
baz=251
SPCR Spurr Chakacha 22.91 59 P P 05 34 57.8 +2.2
baz=277
F22K John River 23.00 43 P P 05 34 57.7 +1.2
baz=262
D22K Ayikyak River 23.06 39 P P 05 34 58.2 +1.2
baz=258
OHAK Old Harbor 23.12 69 P P 05 34 59.7 +2.0
baz=286,SNR=9.6
SKT Skwentna 23.14 57 P P 05 34 58.9 +0.9
baz=276,SNR=6.4
H22K Ishtalitna Cre 23.15 47 P P 05 34 58.9 +0.9
baz=267,SNR=5.1
B22K Teshekpuk Lake 23.16 35 P P 05 34 58.7 +0.7
baz=254
G22K Bettles 23.19 44 P P 05 34 58.6 +0.3
baz=264
E22K Anaktuvuk Pass 23.23 41 P P 05 34 58.7 -0.2
baz=261
Q20K Shuyak Island 23.25 66 P P 05 34 59.2 +0.2
baz=283,SNR=8.3
BPAW Bear Paw Mtn. 23.27 52 P P 05 35 00.1 +0.8
baz=271,SNR=14
KDAK Kodiak Island 23.35 68 P 05 35 00.5 +0.5
KDAK Kodiak Island 23.35 68 P P 05 34 59.1 -0.9
comp=Z,7.0nm,0.6s,baz=272,slow=6.9,SNR=13
comp=Z,7.0nm,0.6s
KDAK Kodiak Island 23.35 68 *i*P P 05 35 00.8 +0.8
KDAK pmax pmax
comp=Z,25nm,1.3s
KDAK Kodiak Island 23.35 68 P P 05 34 59.5 -0.5
baz=285
MLY Manley 23.38 49 P P 05 35 00.5 +0.1
baz=269,SNR=8.8
HOM Homer 23.42 63 P P 05 35 00.7 0.0
baz=281
SUA Susitna One 23.57 58 P P 05 35 03.4 +1.0
baz=278
USRK Ussuriysk Ar. 23.59 253 P P 05 34 59.8 -2.6
comp=Z,5.3nm,0.9s,baz=52,slow=8.7,SNR=4.2
TRF Thorofare Moun 23.61 53 P P 05 35 04.5 +1.8
baz=273,SNR=12
CUT Chulitna 23.69 56 P P 05 35 04.7 +1.4
baz=276
COLD Coldfoot 23.73 44 P P 05 35 04.5 +0.8
baz=265,SNR=6.6
G23K Bananza Creek 23.75 45 P 05 35 04.2 +0.2
G23K Bananza Creek 23.75 45 P P 05 35 04.4 +0.4
baz=266
D23K Nanushuk River 23.79 39 P 05 35 04.6 +0.4
D23K IAmb IAmb 05 35 23.1
comp=Z,46nm,1.1s
D23K Nanushuk River 23.79 39 P P 05 35 05.6 +1.4
baz=260
M22K Willow 23.83 57 P P 05 35 06.5 +1.8
baz=277
H23K Yukon River 23.90 47 P P 05 35 06.2 +0.8
baz=269
I23K Minto, Yukon-K 23.97 49 P P 05 35 06.3 +0.4
baz=270,SNR=14
C23K Itkillik River 23.98 37 P P 05 35 06.2 +0.3
baz=258
E23K Chandalar 24.04 42 P P 05 35 07.3 +0.6
baz=264
NEA2 Nenana 24.10 50 P P 05 35 06.9 -0.3
baz=272,SNR=7.0
RC01 Rabbit Creek A 24.11 59 P P 05 35 08.7 +1.3
baz=279
TOLK Toolik Lake Re 24.13 40 P P 05 35 06.7 -0.9
baz=262
MCK McKinley 24.20 52 P P 05 35 09.7 +1.5
baz=274
O22K Cooper Landing 24.21 60 P P 05 35 10.4 +2.1
baz=280
PMR Palmer 24.32 58 P P 05 35 10.9 +1.7
baz=278
SEW Seward 24.42 61 P P 05 35 11.2 +1.1
baz=282
WAT1 Susitna Watana 24.44 55 P P 05 35 10.9 +0.5
baz=276
E24K Your Creek 24.46 42 P P 05 35 11.1 +0.6
baz=265
D24K Happy Valley 24.48 39 P P 05 35 11.2 +0.6
baz=262
H24K Noodor Dome 24.59 47 P P 05 35 13.5 +1.7
baz=270
C24K Franklin Bluff 24.61 38 P P 05 35 12.7 +0.9
baz=261
COLA College 24.61 50 P P 05 35 20.6 +8.8
COLA College 24.61 50 ⇑P P 05 35 12.4 +0.6
COLA College 24.61 50 P P 05 35 13.0 +1.1
baz=272
F24K Squaw Lake 24.64 43 P P 05 35 12.8 +0.6
baz=266
KNK Knik Glacier 24.67 58 P P 05 35 13.7 +1.3
baz=279
G24K Hadweenzic Riv 24.77 45 P 05 35 13.1 -0.1
G24K IAmb IAmb 05 35 33.0
comp=Z,59nm,1.1s
G24K Hadweenzic Riv 24.77 45 P P 05 35 13.6 +0.4
baz=269,SNR=17
PWL Port Wells 24.82 59 P P 05 35 14.5 +0.7
baz=281,SNR=11
WAT6 Susitna Watana 24.84 55 P P 05 35 14.5 +0.3
baz=277
DHY Denali Highway 24.95 54 P P 05 35 15.8 +0.6
baz=277,SNR=6.8
M23K Glacier View 24.96 57 P P 05 35 15.6 +0.6
baz=279
HDA Harding Lake 25.02 51 P P 05 35 17.1 +1.5
baz=274
ILAR Eielson Array 25.03 50 P P 05 35 15.1 -0.6
ILAR Eielson Array 25.03 50 P P 05 35 14.2 -1.5
comp=Z,4.2nm,0.7s,baz=265,slow=9.6,SNR=16
comp=Z,4.2nm,0.7s
BNX BinXian 25.11 261 ⇓P P 05 35 13.4 -3.1
BNX pmax pmax
comp=Z,33nm,1.1s
SCM Sheep Creek Mo 25.14 57 P P 05 35 18.5 +1.8
baz=279,SNR=10
G25K Bearman Lake 25.31 45 P P 05 35 18.9 +0.8
baz=270
D25K Kavik River 25.36 39 P P 05 35 19.9 +1.3
baz=264
GLI Glacier Island 25.41 59 P P 05 35 20.4 +1.2
baz=281
H25L Birch Creek 25.43 46 P P 05 35 21.0 +1.8
baz=271
P23K Montague Islan 25.45 61 P P 05 35 20.1 +0.7
baz=283
F25K Christian Rive 25.51 43 P P 05 35 19.8 -0.2
F25K Christian Rive 25.51 43 P P 05 35 21.6 +1.6
baz=268,SNR=10
E25K Arctic Village 25.56 42 P P 05 35 21.8 +1.3
baz=267,SNR=10.0
PRP Porcupine Dome 25.57 48 P P 05 35 20.8 +0.1
baz=273,SNR=12
K24K Donnelly Dome 25.59 52 P P 05 35 22.6 +1.9
baz=276
M24K Tolsona, Glenn 25.63 56 P P 05 35 22.8 +1.6
baz=280
J25K Salcha River, 25.69 50 P P 05 35 22.1 +0.3
baz=275
PAX Paxson 25.83 54 P P 05 35 23.5 +0.5
PAX Paxson 25.83 54 P P 05 35 23.5 +0.5
PAX pmax pmax
comp=Z,17nm,1.1s
PAX Paxson 25.83 54 P P 05 35 24.5 +1.5
baz=278
KLU Klutina 25.86 57 P P 05 35 25.0 +1.8

baz=281
BMAR Burnt Mountain 25.91 44 P **P** **05 35 24.0 +0.3**
C26K Camden Bay 25.94 38 P **P** **05 35 24.7 +0.9**
baz=264
RIDG Independent Ri 26.01 52 P **P** **05 35 26.5 +1.9**
baz=277,SNR=5.6
HARP HAARP 26.05 55 P **P** **05 35 26.9 +1.9**
baz=280
F26K Sheenjek River 26.08 43 P **P** **05 35 25.8 +0.6**
baz=270
EYAK Cordova Ski Ar 26.13 59 P **P** **05 35 26.2 +0.5**
baz=283
G26K Porcupine Rive 26.23 45 P **P** **05 35 27.6 +1.2**
baz=272,SNR=8.6
MAJO Matsushiro 26.27 233 **P** **05 35 28.0 +0.8**
MAJO Matsushiro 26.27 233*c i*P **P** **05 35 27.9 +0.8**
MAJO pmax pmax
comp=Z,110nm,1.0s
MJAR Matsushiro Arr 26.27 233 **P** **05 35 27.8 +0.7**
MJAR Matsushiro Arr 26.27 233 P **P** **05 35 27.5 +0.4**
comp=Z,54nm,1.1s,baz=15,slow=8.7,SNR=40
comp=Z,54nm,1.1s
C27K Jago River 26.33 39 P **P** **05 35 26.1 -1.3**
baz=266
SCRK Sand Creek 26.36 51 P **P** **05 35 26.5 -1.3**
baz=277,SNR=13
N25K Chitina, Valde 26.46 57 P **P** **05 35 30.2 +1.5**
baz=282
J26L Joseph Creek 26.48 50 P **P** **05 35 30.0 +1.1**
baz=277
I26K Coal Creek Min 26.57 48 P **P** **05 35 29.4 -0.2**
baz=275
BMRM Bremner River 26.59 58 P **P** **05 35 30.9 +1.1**
baz=283
MENT Mentasta 26.62 54 P **P** **05 35 35.6 +5.5**
L26K Log Cabin Wild 26.78 53 P **P** **05 35 32.3 +0.8**
baz=280
KAIM Kayak Island 26.92 60 P **P** **05 35 33.8 +1.0**
baz=285
M26K Nabesna, AK 27.05 55 P **P** **05 35 35.1 +1.1**
baz=281
E27K Coleen River 27.05 42 P **P** **05 35 34.4 +0.5**
baz=271
G27K Doyon Strip 27.07 45 P **P** **05 35 35.1 +0.9**
baz=274
H27K Steamboat Moun 27.16 46 P **P** **05 35 35.6 +0.6**
baz=275,SNR=10
K27K Chicken 27.18 51 P **P** **05 35 35.1 0.0**
baz=279
I27K Kandik River 27.18 47 P **P** **05 35 35.4 +0.2**
baz=276
MCARA McCarthy VSAT 27.24 57 P **P** **05 35 36.5 +0.9**
baz=283
D27M Malcolm River 27.28 39 P **P** **05 35 35.7 -0.3**
baz=270
CRQE Cirque 27.36 58 P **P** **05 35 37.2 +0.4**
baz=284
HIA Hailar 27.40 275 *i*P **P** **05 35 37.0 -0.3**
HIA pmax pmax
comp=Z,11nm,1.1s
JGF Kuroka 27.43 233 **P** **05 35 38.1 +0.4**
L27K Beaver Creek, 27.45 53 P **P** **05 35 38.5 +1.0**
baz=281,SNR=11
BCAR Beaver Creek A 27.47 53 **P** **05 35 37.8 0.0**
M27K Edge Creek, AK 27.57 55 P **P** **05 35 39.4 +0.6**
baz=282
F28M Old Crow 27.72 43 P **P** **05 35 39.5 -0.4**
baz=274,SNR=6.3
E28M Babbage River 27.80 41 P **P** **05 35 41.1 +0.5**
baz=272
I28M Miner Creek 27.90 48 P **P** **05 35 42.5 +0.9**
baz=278
BVCY Beaver Creek 28.02 54 P **P** **05 35 44.1 +1.5**
baz=283
MESA MESA 28.05 59 P **P** **05 35 43.8 +0.7**
baz=286
D28M Stokes Point 28.07 39 P **P** **05 35 43.8 +0.8**
baz=271
CTG Chitna Glacier 28.14 57 P **P** **05 35 45.6 +1.8**
baz=285
DAWY Dawson 28.34 50 P **P** **05 35 46.9 +1.3**
baz=281
YUK3 Moose Creek 28.35 55 P **P** **05 35 45.6 -0.1**
baz=284
E29M Blow River 28.41 41 **P** **05 35 46.7 +0.7**
E29M IAmb IAmb 05 35 49.8
comp=Z,33nm,1.4s
E29M Blow River 28.41 41 P **P** **05 35 46.4 +0.3**
baz=274
H29M Whitestone 28.44 46 P **P** **05 35 46.9 +0.6**
baz=278
G29M Pine Creek 28.50 44 P **P** **05 35 47.4 +0.6**
baz=277,SNR=6.3
I29M Ogilvie Camp, 28.59 48 P **P** **05 35 47.4 -0.2**
baz=279,SNR=12
O28M Mount Upton 28.73 57 P **P** **05 35 50.5 +1.2**
baz=286
J29N Klondike Camp 28.78 49 P **P** **05 35 49.6 +0.2**
baz=281
YUK8 Steele Glacier 28.79 56 P **P** **05 35 51.2 +1.4**
baz=285
PINM Pinnacle 28.89 59 P **P** **05 35 51.5 +1.0**
baz=287
EPYK Eagle Plains 29.08 45 P **P** **05 35 53.3 +1.2**
baz=279
L29M L29M 29.09 52 P **P** **05 35 52.5 +0.3**
baz=283
M29M Somme Creek 29.10 54 P **P** **05 35 52.8 +0.5**
M29M Somme Creek 29.10 54 P **P** **05 35 53.3 +1.0**
baz=284
G30M tAoh Zraii Nji 29.19 44 P **P** **05 35 54.6 +1.6**
baz=278
K29M Barlow Dome 29.20 51 P **P** **05 35 54.5 +1.2**
baz=282
F30M Barrier River 29.28 43 P **P** **05 35 55.0 +1.2**
baz=277
YUK4 Talbot Arm 29.30 56 P **P** **05 35 55.6 +1.4**
baz=286
I30M Mount Dempster 29.41 48 P **P** **05 35 55.8 +0.7**
baz=281,SNR=5.3
PNL Peninsula 29.43 59 P **P** **05 35 56.7 +1.5**
baz=288
YUK6 Outpost Mounta 29.54 57 P **P** **05 35 57.6 +1.2**
baz=287
J30M Hart River 29.55 49 P **P** **05 35 57.2 +0.8**
baz=282
O29M Mount Kennedy 29.63 58 P **P** **05 35 58.7 +1.6**
baz=288
M30M Minto, Yukon 29.81 53 P **P** **05 36 00.7 +2.1**
baz=285
G31M Satah River 29.96 44 P **P** **05 36 00.5 +0.8**
baz=280
HYT Haines Junctio 29.98 57 P **P** **05 36 01.0 +0.9**
baz=288
INK Inuvik 30.04 41 P **P** **05 36 00.9 +0.5**
baz=278
F31M Tsiigehtchic 30.08 43 P **P** **05 36 02.1 +1.3**
baz=279
H31M Peel River 30.13 46 P **P** **05 36 02.2 +0.9**
baz=282
P29M Windy Craggy 30.24 59 P **P** **05 36 04.6 +2.2**
baz=290
P30M Million Dollar 30.45 58 P **P** **05 36 06.8 +2.5**
baz=289
KSRS Korea Array 30.56 248 P **P** **05 36 04.4 -0.9**
comp=Z,4.9nm,0.9s,baz=39,slow=9.0,SNR=14
KSRS PcP **PcP** **05 39 04.2 +0.5**
comp=Z,3.4nm,0.9s,baz=8.3,slow=1.0,SNR=9.3
comp=Z,4.9nm,0.9s
N31M Braeburn, Yuko 30.58 55 P **P** **05 36 07.8 +2.5**
baz=288
KSAR Wonju Array Be 30.59 248 P **P** **05 36 04.2 -1.4**
KSAR Wonju Array Be 30.59 248 P **P** **05 36 04.2 -1.4**
O30N Mendenhall 30.65 56 P **P** **05 36 07.8 +1.7**
baz=289
PLBC Pleasant Camp 30.96 59 P **P** **05 36 11.1 +2.5**
baz=290
M31M Drury Creek, Y 30.99 53 P **P** **05 36 11.0 +2.0**
baz=287
WHY Whitehorse 31.25 56 P **P** **05 36 12.7 +1.3**
WHY Whitehorse 31.25 56 P **P** **05 36 14.3 +2.9**
baz=290,SNR=8.9
FARO Faro, Yukon 31.45 53 P **P** **05 36 15.1 +2.1**
baz=288,SNR=7.4
SKAG Skagway 31.45 58 P **P** **05 36 14.8 +1.9**
baz=291
P32M Atlin 32.17 58 P **P** **05 36 21.1 +1.7**
baz=292

MMPY Sheldon Lake, 32.25 51 **P** **05 36 21.1 +1.1**
MMPY IAmb IAmb 05 36 40.0
comp=Z,15nm,1.0s
MMPY Sheldon Lake, 32.25 51 P **P** **05 36 22.0 +1.9**
baz=289,SNR=6.7
R32K Eaglecrest 32.29 60 P **P** **05 36 22.5 +2.2**
baz=293
A36M Sachs Harbour 32.32 33 P **P** **05 36 21.5 +1.0**
baz=279
P33M Teslin, Yukon 32.37 56 P **P** **05 36 22.8 +1.6**
baz=291
SIT Sitka 32.38 63 P **P** **05 36 24.9 +3.7**
baz=295
S32K Killisnoo 32.58 62 P **P** **05 36 25.9 +3.0**
baz=294
JCJ Chichijima 33.02 218 LR LR 05 47 21.5
comp=Z,1μm,21.1s,baz=134,slow=32
Q32M Nakina River 33.10 58 P **P** **05 36 30.6 +2.9**
baz=294
R33M Jennings River 33.54 57 P **P** **05 36 34.5 +3.0**
baz=294,SNR=9.4
U33K Whale Pass 33.89 63 P **P** **05 36 36.3 +2.0**
baz=297
TGTN Hyland Airport 33.95 52 P **P** **05 36 36.8 +1.9**
baz=292
S34M Telegraph Cree 34.08 59 P **P** **05 36 38.1 +2.1**
baz=296
WRAK Wrangell Islan 34.14 62 P **P** **05 36 38.4 +1.9**
WRAK IAmb IAmb 05 36 58.8
comp=Z,13nm,0.8s
WRAK Wrangell Islan 34.14 62 P **P** **05 36 38.3 +1.9**
baz=297
CRAG Craig 34.18 64 P **P** **05 36 39.8 +3.0**
baz=298
WTLY Watson Lake, Y 34.26 55 P **P** **05 36 39.1 +1.4**
WTLY IAmb IAmb 05 36 41.7
comp=Z,11nm,0.9s
WTLY Watson Lake, Y 34.26 55 P **P** **05 36 39.5 +1.9**
baz=294
DLBC Dease Lake 34.38 58 P **P** **05 36 41.4 +2.7**
baz=295,SNR=11
T35M Bob Quinn 34.91 61 P **P** **05 36 47.1 +3.9**
baz=297,SNR=6.8
V35K Ketchikan 35.01 64 P **P** **05 36 45.8 +1.8**
baz=299
ULN Ulaanbaatar 35.22 281 P **P** **05 36 45.5 -0.6**
ULN IAmb IAmb 05 36 47.2
comp=Z,23nm,1.2s
ULN Ulaanbaatar 35.22 281*ce*P **P** **05 36 45.1 -1.0**
ULN pmax pmax
comp=Z,24nm,1.2s
WRGLY Wrigley 35.38 48 P **P** **05 36 49.0 +1.8**
baz=293
SONM Songino Array 35.59 282 P **P** **05 36 48.5 -0.9**
SONM Songino Array 35.59 282 P **P** **05 36 48.5 -0.9**
comp=Z,13nm,0.9s,baz=59,slow=8.0,SNR=28
SONM PcP **PcP** **05 39 17.6 -0.2**
comp=Z,4.3nm,1.0s,baz=84,slow=1.7,SNR=5.2
comp=Z,13nm,0.9s
SONM Songino Array 35.59 282 P **P** **05 36 48.5 -0.9**
SONM pmax pmax
comp=Z,12nm,1.0s
ZAK Zakamensk 35.85 287*eP* **P** **05 36 50.7 -0.8**
ZAK pmax pmax
comp=Z,10.0nm,1.5s
H11N2 WAKE ISLAND Hy 36.35 176 T T 06 15 41.9
baz=357,slow=76,SNR=57
H11N3 WAKE ISLAND Hy 36.36 176 T T 06 15 46.1
baz=357,slow=76,SNR=58
H11N1 WAKE ISLAND Hy 36.37 176 T T 06 15 43.6
baz=357,slow=76,SNR=65
KOTAN Kotaneelee Air 36.41 53 P **P** **05 36 57.2 +1.1**
baz=296
TOAD Toad River Com 36.45 56 P **P** **05 36 58.6 +2.2**
baz=297,SNR=25
HHC Hu-ho-hao-te 37.10 268*eP* **P** **05 37 01.9 -0.3**
HHC pmax pmax
comp=Z,6.0nm,0.5s
BTO Baotou 38.13 269*eP* **P** **05 37 10.4 -0.5**
BTO sP **sP** **05 37 16.5 +1.4**
BTO PP **PnPn** **05 38 41.4 +2.0**
BTO S **S** **05 43 02.9 -0.5**
BTO pmax pmax
comp=Z,70nm,0.7s
BTO LR LR
comp=Z,6μm,14.2s
BTO LR LR
comp=Z,7μm,13.7s
BTO LR LR
comp=Z,14μm,15.5s
JOW Kunigami 38.98 236 P **P** **05 37 17.7 -0.4**
comp=Z,75nm,1.1s,baz=56,slow=11,SNR=5.2
comp=Z,75nm,1.1s
YKAW3 Yellowknife Wh 39.32 46 P **P** **05 37 20.2 -0.3**
YKAW3 IAmb IAmb 05 37 28.8
comp=Z,12nm,0.5s
YKA Yellowknife Ar 39.35 46 P **P** **05 37 20.7 -0.1**
comp=Z,2.1nm,0.8s,baz=300,slow=8.8,SNR=22
comp=Z,2.1nm,0.8s
YKAW1 Yellowknife Wh 39.41 46 P **P** **05 37 20.7 -0.5**
YKAW1 IAmb IAmb 05 37 29.6
comp=Z,6.1nm,0.7s
NJ2 Nanjing 39.48 252*eP* **P** **05 37 22.2 0.0**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
CLRS Cowichan Lake 42.44 68 **P** **05 37 48.2 +1.8**
CLRS IAmb IAmb 05 37 56.2
comp=Z,24nm,1.2s
WHN Wuhan 43.07 255 P **P** **05 37 51.4 -0.3**
WHN pmax pmax
comp=Z,36nm,0.7s
ZALV Zalesovo Beam 43.20 302 PP **PP** **05 39 30.1 -2.5**
comp=Z,1.5nm,0.6s,baz=42,slow=12,SNR=2.8
NLWA Neilton Lookou 43.47 70 P **P** **05 37 56.9 +2.0**
NLWA IAmb IAmb 05 38 04.8
comp=Z,24nm,1.2s
KBS Kingsbay 44.23 353*eP* **P** **05 38 00.8 +0.3**
KBS pmax pmax
comp=Z,22nm,1.2s
KIP Kipapa 44.48 125*eP* **P** **05 38 01.6 -1.5**
KIP pmax pmax
comp=Z,45nm,1.4s
SPITS Spitsbergen Ar 44.57 351 P **P** **05 38 03.7 +0.5**
comp=Z,20nm,0.9s,baz=82,slow=6.1,SNR=6.0
comp=Z,20nm,0.9s
SPITS Spitsbergen Ar 44.57 351 P **P** **05 38 03.7 +0.5**
SPITS pmax pmax
comp=Z,161nm,1.1s
SPB2 Spitsbergen Ar 44.57 351 P **P** **05 38 04.5 +1.3**
GTA Gaotai 44.66 276*eP* **P** **05 38 03.6 -0.9**
GTA sP pwP 05 38 10.9 -1.7
GTA pmax pmax
comp=Z,22nm,0.9s
LZH Lanzhou 44.75 270*eP* **P** **05 38 06.8 +1.4**
LZH sP pwP 05 38 14.7 +0.6
LZH pmax pmax
comp=Z,45nm,1.1s
BLKN Baker Lake 45.27 37 P **P** **05 38 08.5 -0.4**
ILON Igloolik, Nuna 46.08 27 P **P** **05 38 15.2 -0.1**
H04A Detroit Lake 46.12 72 P **P** **05 38 16.8 +0.8**
H04A IAmb IAmb 05 38 24.6
comp=Z,14nm,1.1s
BBOR Butler Butte 47.06 74 P **P** **05 38 24.2 +0.7**
ZSN Zaisan 47.27 295*eP* **P** **05 38 23.8 -1.1**
ZSN pmax pmax
comp=Z,5.0nm,0.8s
ZSN Zaisan 47.27 295*eP* **P** **05 38 23.8 -1.1**
comp=Z,5.4nm,0.8s
L04D Klamath Falls 47.72 74 P **P** **05 38 30.2 +1.5**
YBH Yreka Blue Hor 47.84 75 P **P** **05 38 30.0 +0.5**
comp=Z,0.4nm,1.1s,baz=16,slow=3.3,SNR=4.3
K05A Summer Lake 48.13 73 P **P** **05 38 32.0 +0.1**
KURK Kurchatov 48.19 302*ce*P **P** **05 38 30.6 -1.4**
KURK pmax pmax
comp=Z,15nm,1.4s
WMQ Urumqi 48.24 289*eP* **P** **05 38 32.2 -0.3**
WMQ pP pwP 05 38 39.1 -1.5
WMQ pmax pmax
comp=Z,39nm,0.9s
KURBB Kurchatov Arra 48.29 302 P **P** **05 38 31.4 -1.4**
comp=Z,3.7nm,0.8s,baz=56,slow=7.9,SNR=12
KURBB PcP **PcP** **05 40 00.1 +0.7**
comp=Z,3.0nm,0.9s,baz=47,slow=5.3,SNR=4.1
KURBB PP **PP** **05 40 23.1 -1.8**
comp=Z,6.5nm,1.0s,baz=47,slow=9.5,SNR=7.1
comp=Z,3.7nm,0.8s
MK31 Makanchi Array 49.01 296*d i*P **P** **05 38 36.6 -1.8**

MKAR Makanchi Array 49.01 296 P **P** **05 38 36.9 -1.5**
MKAR Makanchi Array 49.01 296 P **P** **05 38 37.1 -1.3**
comp=Z,3.2nm,0.6s,baz=58,slow=6.0,SNR=12
comp=Z,3.2nm,0.6s
MAKZ Makanchi 49.16 296 P **P** **05 38 38.1 -1.4**
MAKZ IAmb IAmb 05 38 39.9
comp=Z,26nm,1.4s
MAKZ Makanchi 49.16 296 P **P** **05 38 38.1 -1.4**
MAKZ pmax pmax
comp=Z,26nm,1.4s
FFC Flin Flon 49.24 50 P **P** **05 38 40.1 +0.1**
FFC IAmb IAmb 05 38 43.1
comp=Z,16nm,1.2s
FFC Flin Flon 49.24 50 P **P** **05 38 40.1 +0.1**
FFC pmax pmax
comp=Z,16nm,1.2s
PATS Pohnpei 49.33 188 P P 05 38 34.8 -6.2
LYMT Lyon Mountain 49.70 63 P **P** **05 38 44.6 +0.7**
GOMU GeErMu 49.72 277 P **P** **05 38 43.0 -1.3**
GOMU pP pP 05 38 46.8 -0.8
GOMU sP pwP 05 38 50.9 -1.5
GOMU pmax pmax
comp=Z,18nm,0.9s
BVAR Borovoye Array 50.40 309 P **P** **05 38 48.0 -0.9**
comp=Z,13nm,0.8s,baz=50,slow=8.0,SNR=22
BVAR PP **PP** **05 40 43.1 -0.9**
comp=Z,4.5nm,0.9s,baz=56,slow=7.7,SNR=5.3
comp=Z,13nm,0.8s
BVAR Borovoye Array 50.40 309 P **P** **05 38 48.0 -0.9**
BRVK Borovoye 50.42 309 P **P** **05 38 48.8 -0.2**
BRVK Borovoye 50.42 309*ce*P **P** **05 38 48.4 -0.6**
BRVK pmax pmax
comp=Z,32nm,1.0s
MCMT McKenzie Canyo 50.89 66 P **P** **05 38 53.4 +0.4**
ARCES ARCESS Array B 51.17 343 P **P** **05 38 54.6 +0.2**
comp=Z,4.2nm,0.9s,baz=24,slow=6.6,SNR=4.0
comp=Z,4.2nm,0.9s
APA Apatity 51.38 338*eP* **P** **05 38 54.6 -1.4**
BRZS Berezniki 51.48 304*eP* **P** **05 38 56.0 -1.0**
BRZS Berezniki 51.48 304*eP* **P** **05 38 56.1 -1.0**
SVE Sverdlovsk 51.73 317*eP* **P** **05 38 59.2 +0.5**
SVE pmax pmax
comp=Z,38nm,1.3s
GCMT Greycliff 51.82 63 P **P** **05 39 00.9 +1.1**
ARTI Arti 52.90 318 P **P** **05 39 07.2 -0.2**
ARTI Arti 52.90 318*c i*P **P** **05 39 07.3 -0.2**
ARTI 05 41 01.6
ARTI S **S** **05 46 35.6 0.0**
ARTI pmax pmax
comp=Z,36nm,1.5s
SHLS Shalkode 52.99 294*eP* **P** **05 39 05.7 -2.7**
SHLS Shalkode 52.99 294*eP* **P** **05 39 05.8 -2.7**
PZH PanZhiHua 53.14 263 P **P** **05 39 09.7 -0.1**
AHID Auburn Hatcher 53.25 66 P **P** **05 39 11.4 +0.9**
SATY Saty 53.60 295*eP* **P** **05 39 11.8 -1.1**
SATY pmax pmax
comp=Z,12nm,1.3s
SATY Saty 53.60 295*eP* **P** **05 39 11.8 -1.1**
comp=Z,12nm,1.3s
SCO Scoresbysund 53.66 3 P **P** **05 39 13.7 +0.9**
SCO IAmb IAmb 05 39 27.3
comp=Z,15nm,1.2s
SCO Scoresbysund 53.66 3 P **P** **05 39 13.7 +0.9**
SCO pmax pmax
comp=Z,15nm,1.2s
FRB Frobisher Bay 53.79 26 P **P** **05 39 13.1 -0.8**
comp=Z,6.6nm,0.7s,baz=330,slow=10,SNR=4.9
comp=Z,6.6nm,0.7s
HWUT Hardware Ranch 53.84 68 P **P** **05 39 16.3 +1.5**
HWUT IAmb IAmb 05 39 23.6
comp=Z,12nm,1.1s
PDAR Pinedale Array 54.03 65 P **P** **05 39 16.6 +0.4**
comp=Z,6.4nm,1.0s,baz=337,slow=3.4,SNR=15
comp=Z,6.4nm,1.0s
AAA Alma-Ata 54.24 296*eP* **P** **05 39 16.5 -1.1**
AAA Alma-Ata 54.24 296*eP* **P** **05 39 16.5 -1.1**
BTLS Baital 54.34 299*eP* **P** **05 39 16.9 -1.3**
BTLS Baital 54.34 299*eP* **P** **05 39 17.0 -1.3**
KIRV Kirov 54.39 324⇑*i*P **P** **05 39 18.4 +0.1**
MPU Maple Canyon 54.96 69 P **P** **05 39 24.1 +1.0**
MPU IAmb IAmb 05 39 32.8
comp=Z,31nm,1.7s
BSUT Blindstream Ca 55.03 68 P **P** **05 39 24.6 +0.8**
BSUT IAmb IAmb 05 39 50.0
comp=Z,25nm,1.3s
ULM Lac du Bonnet 55.05 50 P **P** **05 39 23.2 0.0**
comp=Z,9.6nm,1.0s,baz=316,slow=9.6,SNR=7.4
comp=Z,9.6nm,1.0s
ULM Lac du Bonnet 55.05 50⇑*i*P **P** **05 39 23.9 +0.7**
SGDS Sogindy 55.21 298*eP* **P** **05 39 23.6 -1.0**
KLMR Klimovskoe 55.53 331*eP* **P** **05 39 24.4 -2.1**
KLMR pmax pmax
comp=Z,52nm,1.3s
RSSD Black Hills 55.80 61 P **P** **05 39 29.3 +0.3**
RSSD IAmb IAmb 05 39 32.6
comp=Z,18nm,1.2s
RSSD Black Hills 55.80 61 P **P** **05 39 29.3 +0.3**
RSSD pmax pmax
comp=Z,18nm,1.3s
AAK Ala-Archa 55.88 297 P **P** **05 39 28.7 -0.8**
AAK IAmb IAmb 05 39 39.1
comp=Z,28nm,1.4s
AAK Ala-Archa 55.88 297⇑*i*P **P** **05 39 28.8 -0.8**
AAK pmax pmax
comp=Z,9.0nm,0.7s
AAK Ala-Archa 55.88 297 P **P** **05 39 29.0 -0.5**
SRU San Rafael Swe 56.21 69 P **P** **05 39 33.0 +1.0**
SRU San Rafael Swe 56.21 69 P **P** **05 39 33.0 +1.0**
SRU pmax pmax
comp=Z,23nm,0.8s
O20A White River Ci 56.63 67 P **P** **05 39 35.7 +0.7**
DZA Taraz 57.25 299*eP* **P** **05 39 38.1 -1.0**
DZA pmax pmax
comp=Z,6.0nm,0.4s
DZA Taraz 57.25 299*eP* **P** **05 39 38.1 -1.0**
comp=Z,5.5nm,0.4s
KSH Kashi 57.44 293 P **P** **05 39 43.5 +2.9**
KSH sP pwP 05 39 51.9 +3.2
KSH pmax pmax
comp=Z,10.0nm,1.2s
KKAR Karatay Array 57.49 300 P **P** **05 39 40.4 -0.4**
KKAR Karatay Array 57.49 300 P **P** **05 39 40.4 -0.4**
ABKAR Akbulak array 57.65 311 P **P** **05 39 41.8 0.0**
ABKAR Akbulak array 57.65 311 P **P** **05 39 41.5 -0.2**
ABKAR IAmb IAmb 05 39 42.8
comp=Z,53nm,1.3s
BRLS Borolday 57.88 300*eP* **P** **05 39 44.3 +0.8**
BRLS Borolday 57.88 300*eP* **P** **05 39 44.3 +0.8**
ISCO Idaho Springs 58.23 65 P **P** **05 39 47.5 +1.1**
ISCO IAmb IAmb 05 39 55.6
comp=Z,9.5nm,1.0s
ISCO Idaho Springs 58.23 65 P **P** **05 39 47.5 +1.1**
ISCO pmax pmax
comp=Z,10.0nm,1.0s
FINES FINESS Array B 58.29 338 P **P** **05 39 44.8 -1.2**
comp=Z,5.8nm,1.0s,baz=60,slow=6.1,SNR=6.7
comp=Z,5.8nm,1.0s
IUG luzhnay 58.45 299*eP* **P** **05 39 46.6 -1.0**
IUG pmax pmax
comp=Z,22nm,1.2s
IUG luzhnay 58.45 299*eP* **P** **05 39 46.6 -1.0**
comp=Z,22nm,1.2s
CHM Chimkent 58.52 300*eP* **P** **05 39 47.2 -0.8**
CHM Chimkent 58.52 300*eP* **P** **05 39 47.2 -0.8**
BELG Belogornoye 59.95 321*c i*P **P** **05 39 57.7 0.0**
SPMN Marine on St. 60.21 53 P **P** **05 40 00.6 +1.0**
SPMN IAmb IAmb 05 40 02.6
comp=Z,13nm,1.1s
MOS Moscow 60.40 329*eP* **P** **05 40 00.0 -0.7**
MOS *e* 05 40 49.8
MOS *e* 05 42 16.8
GAR Garm 60.70 297 P **P** **05 40 02.8 -0.4**
CHTO Chiang Mai 60.81 260 P **P** **05 40 04.4 +0.4**
CHTO Chiang Mai 60.81 260 P **P** **05 40 04.4 +0.4**
CHTO pmax pmax
comp=Z,28nm,1.1s
T25A Trinidad 60.86 66 P **P** **05 40 05.1 +0.6**
T25A IAmb IAmb 05 40 22.0
comp=Z,20nm,1.6s
CM31 Chiang Mai Arr 61.10 260 P **P** **05 40 05.9 -0.2**
CMAR Chiang Mai Arr 61.10 260 P **P** **05 40 06.5 +0.5**
comp=Z,13nm,0.9s,baz=20,slow=7.1,SNR=40
comp=Z,13nm,0.9s
CMAR Chiang Mai Arr 61.10 260 *i* P **P** **05 40 06.5 +0.5**
CMAR pmax pmax

comp=Z,12nm,0.8s
COWI Conover 61.12 50 P **P** **05 40 05.8 -0.1**
COWI IAmb IAmb 05 40 08.5
comp=Z,8.0nm,0.9s
OBN Obninsk 61.24 329 *eP* **P** **05 40 03.8 -2.6**
OBN *i* 05 40 48.6
OBN pmax pmax
comp=Z,29nm,1.1s
NB2 NORSAR Subarra 61.29 345 P **P** **05 40 06.1 -0.7**
comp=Z,30nm,1.4s,baz=18,slow=6.9
NB2 NORSAR Subarra 61.29 345 P **P** **05 40 06.1 -0.7**
baz=18,slow=6.9
NOA NORSAR Array B 61.29 345 P **P** **05 40 06.4 -0.4**
comp=Z,1.7nm,0.6s,baz=18,slow=6.9,SNR=8.9
comp=Z,1.7nm,0.6s
ANMO Albuquerque 61.48 69 P **P** **05 40 08.9 +0.2**
comp=Z,3.3nm,1.0s,baz=26,slow=6.7,SNR=4.2
comp=Z,3.3nm,1.0s
HFS Hagfors 61.79 344 P **P** **05 40 09.2 -0.9**
comp=Z,3.1nm,0.7s,baz=32,slow=3.7,SNR=12
comp=Z,3.1nm,0.7s
SCHQ Schefferville 61.87 31 P **P** **05 40 10.6 -0.2**
comp=Z,6.7nm,0.9s,baz=339,slow=7.5,SNR=8.3
comp=Z,6.7nm,0.9s
LPSR Galich'ya Gora 62.69 326 *eP* **P** **05 40 13.7 -2.5**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
KONO Kongsberg 62.86 346 *ceP* **P** **05 40 18.7 +1.5**
KONO pmax pmax
comp=Z,18nm,1.2s
VRH Novokhopyorsk 62.98 323 *eP* **P** **05 40 17.1 -1.1**
VRH pmax pmax
comp=Z,36nm,1.5s
VORR Voronezh 63.40 325 *eP* **P** **05 40 18.8 -2.2**
VORR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 63.81 325 *eP* **P** **05 40 21.7 -2.0**
VSR pmax pmax
comp=Z,20nm,1.1s
VORD Divnogorie 63.98 325 *eP* **P** **05 40 23.5 -1.3**
VORD pmax pmax
comp=Z,10.0nm,0.8s
MNK Minsk 64.14 333 *i* P **P** **05 40 25.8 0.0**
comp=E,16nm,0.8s
MNK *i* P **P** **05 40 25.8 0.0**
comp=N,17nm,0.9s
MNK *i* P **P** **05 40 25.8 0.0**
comp=Z,13nm,0.8s,baz=26
MNK *i* PcP **PcP** **05 40 59.3 -1.4**
MNK *i* PPP PPP 05 44 15.7
MNK *i* S **S** **05 48 58.0 -3.9**
MNK *i* SS **SS** **05 53 12.5 +2.6**
MNK *i* SSS SSS 05 56 12.5
MNK Minsk 64.14 333 *i* P **P** **05 40 25.8 0.0**
MNK *i* 05 40 59.3
MNK *i* PPP PPP 05 44 15.7
MNK *i* S **S** **05 48 58.0 -3.9**
MNK *i* SS **SS** **05 53 12.5 +2.6**
MNK pmax pmax
comp=N,17nm,0.9s
MNK pmax pmax
comp=E,16nm,0.8s
MNK pmax pmax
comp=Z,13nm,0.8s
PABE Paberze 64.16 336 P **P** **05 40 25.9 +0.1**
P40A Paris 65.05 56 P **P** **05 40 32.2 +0.3**
P40A IAmb IAmb 05 40 34.6
comp=Z,14nm,0.9s
LDAQ Lac Daran 66.45 37 P **P** **05 40 40.9 -0.1**
LDAQ IAmb IAmb 05 40 43.5
comp=Z,16nm,1.1s
CCM Cathedral Cave 66.60 56 P **P** **05 40 41.6 -0.4**
CCM IAmb IAmb 05 40 44.5
comp=Z,16nm,1.1s
CCM Cathedral Cave 66.60 56 P **P** **05 40 41.6 -0.4**
CCM pmax pmax
comp=Z,17nm,1.2s
TRQ Mont Tremblant 66.79 40 P **P** **05 40 42.3 -0.9**
TRQ IAmb IAmb 05 40 44.5
comp=Z,16nm,1.1s
AKASG Malin Array Be 67.22 331 P **P** **05 40 45.1 -0.7**
comp=Z,1.1nm,0.3s,baz=28,slow=6.3,SNR=9.2
comp=Z,1.1nm,0.3s
AKASG Malin Array Be 67.22 331 *i* P **P** **05 40 45.0 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 67.23 331 *ceP* **P** **05 40 45.0 -0.8**
AKBB pmax pmax
comp=Z,13nm,1.1s
KIEV Kiev 67.24 331 P **P** **05 40 45.4 -0.4**
KIEV IAmb IAmb 05 40 53.1
comp=Z,11nm,1.0s
KIEV Kiev 67.24 331 P **P** **05 40 45.4 -0.4**
KIEV pmax pmax
comp=Z,11nm,1.0s
TXAR Lajitas Array 67.33 71 P **P** **05 40 47.0 +0.2**
TXAR Lajitas Array 67.33 71 P **P** **05 40 47.4 +0.5**
comp=Z,7.3nm,1.0s,baz=305,slow=4.4,SNR=13
comp=Z,7.3nm,1.0s
TXAR Lajitas Array 67.33 71 P **P** **05 40 47.1 +0.2**
RNPP9 Sopachiv 67.46 333 P **P** **05 40 46.8 -0.4**
SBUM Sibu 67.66 238 P **P** **05 40 50.4 +1.5**
GOF Gofitskoye 67.75 319 *ceP* **P** **05 40 49.4 +0.2**
D62A Allapoint, All 67.96 36 P **P** **05 40 50.9 +0.4**
D62A IAmb IAmb 05 40 53.1
comp=Z,11nm,1.0s
BRDY Brady 68.22 66 P **P** **05 40 52.6 +0.3**
BEL Belsk 68.28 337 *eP* **P** **05 40 53.1 +0.7**
JCT Junction City 68.44 67 P **P** **05 40 53.7 -0.2**
JCT Junction City 68.44 67 P **P** **05 40 53.7 -0.2**
JCT pmax pmax
comp=Z,14nm,0.8s
EKA Eskdalemuir Ar 68.47 352 P **P** **05 40 52.9 -0.6**
comp=Z,5.1nm,0.9s,baz=16,slow=5.4,SNR=6.2
comp=Z,5.1nm,0.9s
BATG Bathurst New B 68.75 34 P **P** **05 40 56.3 +0.9**
BATG IAmb IAmb 05 40 58.1
comp=Z,14nm,1.2s
KIV Kislovodsk 68.83 319 *eP* **P** **05 40 56.7 +0.6**
KIV pmax pmax
comp=Z,17nm,1.1s
DRIO Del Rio 68.86 69 P **P** **05 40 56.4 0.0**
DRIO IAmb IAmb 05 41 04.0
comp=Z,8.6nm,0.9s
KBZ Khabaz 68.95 318 P **P** **05 40 56.8 +0.1**
comp=Z,15nm,1.0s,baz=33,slow=3.5,SNR=15
comp=Z,15nm,1.0s
KBZ Khabaz 68.95 318 *i* P **P** **05 40 57.1 +0.4**
KBZ pmax pmax
comp=Z,22nm,1.0s
AKT Akhty 68.98 314 *eP* **P** **05 40 56.0 -1.1**
AKT *e* 05 41 19.2
AKT pmax pmax
comp=Z,64nm,1.7s
L56A Greenwood 69.13 45 P **P** **05 40 56.9 -1.0**
KSM Kuching 69.43 240 P **P** **05 41 00.9 +0.9**
WVT Waverly 69.75 55 P **P** **05 41 01.6 -0.2**
WVT IAmb IAmb 05 41 09.3
comp=Z,7.8nm,0.6s
WVT Waverly 69.75 55 P **P** **05 41 01.6 -0.2**
WVT pmax pmax
comp=Z,8.0nm,0.6s
KMPD K-Podol'skiy 69.92 332 P **P** **05 41 01.3 -1.3**
OJC Ojcow 70.01 337 *eP* **P** **05 41 04.0 +0.8**
OJC Ojcow 70.01 337 P **P** **05 41 03.2 0.0**
OJC Ojcow 70.01 337 P **P** **05 41 03.2 0.0**
KSP Ksiaz 70.17 339 *eP* **P** **05 41 04.2 0.0**
SSPA Standing Stone 70.28 46 P **P** **05 41 04.2 -0.8**
SSPA IAmb IAmb 05 41 14.2
comp=Z,11nm,1.2s
CLL Collm 70.35 341 *i* P **P** **05 41 05.0 -0.2**
CLL *e* 05 41 12.0
CLL pmax pmax
comp=Z,17nm,1.4s
CLL Collm 70.35 341 P **P** **05 41 05.1 -0.2**
comp=Z,8.6nm,1.0s
CLL Collm 70.35 341 *i* P **P** **05 41 05.0 -0.2**
comp=Z,17nm,1.4s
CLL *ex* x 05 41 12.0
comp=Z,30nm,1.6s
STHS Stebnicka Huta 70.44 335 *eP* **P** **05 41 06.3 +0.4**
STHS pmax pmax
comp=Z,9.0nm,1.1s
STHS Stebnicka Huta 70.44 335 *eP* **P** **05 41 06.2 +0.4**
V48A Smith Brothers 70.53 55 P **P** **05 41 06.2 -0.4**
V48A IAmb IAmb 05 41 09.3
comp=Z,12nm,1.2s
BRG Berggiesshubel 70.59 341 *eP* **P** **05 41 07.0 +0.3**
BRG Amp 05 41 08.4
comp=Z,13nm,1.4s
BRG Berggiesshubel 70.59 341 Amp 05 41 15.5
comp=Z,11nm,1.3s
BRG P **pwP** **05 41 14.4 -0.8**
BRG PP **PP** **05 43 38.5 -3.9**
BRG Amp 05 43 43.4
comp=Z,3.7nm,1.2s
DPC Dobruska-Polom 70.63 339 *eP* **P** **05 41 07.9 +0.9**
DPC Dobruska-Polom 70.63 339 *eP* **P** **05 41 07.9 +0.9**
DPC Dobruska-Polom 70.63 339 P **P** **05 41 07.5 +0.5**
comp=Z,17nm,1.3s
DPC pP **sP** **05 41 12.6 +1.1**
comp=Z,17nm,1.3s
KOLS Kolonicke sedl 70.64 334 *eP* **P** **05 41 07.6 +0.5**
KOLS pmax pmax
comp=Z,6.0nm,0.9s
KOLS Kolonicke sedl 70.64 334 *eP* **P** **05 41 07.6 +0.5**
NIE Niedzica 70.65 336 *eP* **P** **05 41 07.8 +0.6**
STEB Steborice 70.72 338 *eP* **P** **05 41 08.2 +0.7**
KRLC Kraliky 70.80 338 *eP* **P** **05 41 08.4 +0.4**
KRLC Kraliky 70.80 338 *eP* **P** **05 41 08.4 +0.4**
MORC Moravsky Berou 70.92 338 *eP* **P** **05 41 09.2 +0.4**
LANS Liptovska Anna 71.09 336 *eP* **P** **05 41 11.2 +1.4**
LANS pmax pmax
comp=Z,13nm,1.2s
LANS Liptovska Anna 71.09 336 *eP* **P** **05 41 11.2 +1.4**
BURAR Bucovina Array 71.12 332 P **P** **05 41 10.2 +0.1**
MAUC Maruska 71.25 338 *eP* **P** **05 41 11.1 +0.3**
VRAC Vranov 71.56 338 *eP* **P** **05 41 12.9 +0.2**
JAVC Velka Javorina 71.76 337 *eP* **P** **05 41 15.1 +1.2**
KRUC Moravsky 71.84 338 *eP* **P** **05 41 14.5 +0.2**
VYHS Vyhne 71.85 337 *eP* **P** **05 41 15.0 +0.5**
VYHS pmax pmax
comp=Z,14nm,1.4s
VYHS Vyhne 71.85 337 *eP* **P** **05 41 14.9 +0.5**
COEN Coen 71.97 201 P **P** **05 41 16.4 +1.0**
comp=Z,20nm,1.7s
MEM Membach 72.14 346 *dP* **P** **05 41 16.6 +0.5**
comp=Z,16nm,1.1s
BTNL Ternell 72.15 346 *dP* **P** **05 41 16.1 -0.1**
comp=Z,9.6nm,1.0s
GRFO Grafenberg 72.22 342 P **P** **05 41 17.2 +0.6**
GRFO Grafenberg 72.22 342 P **P** **05 41 17.2 +0.6**
GRFO pmax pmax
comp=Z,29nm,1.3s
BSTI Sart Tilman 72.23 346 *dP* **P** **05 41 16.5 -0.1**
MODS Modra-Piesok 72.31 338 *eP* **P** **05 41 16.8 -0.3**
MODS pmax pmax
comp=Z,32nm,1.4s
MODS Modra-Piesok 72.31 338 *eP* **P** **05 41 16.8 -0.3**
KHC Kasperske Hory 72.33 340 *eP* **P** **05 41 18.0 +0.7**
KHC Kasperske Hory 72.33 340 *eP* **P** **05 41 18.0 +0.7**
KHC Kasperske Hory 72.33 340 P **P** **05 41 17.9 +0.7**
comp=Z,13nm,1.3s
GEC2 GERESS Array S 72.58 340 P **P** **05 41 19.6 +0.7**
GEC2 IAmb IAmb 05 41 27.8
comp=Z,11nm,1.2s
GERES GERESS Array B 72.58 340 P **P** **05 41 19.2 +0.4**
GERES GERESS Array B 72.58 340 P **P** **05 41 18.9 0.0**
comp=Z,2.9nm,1.0s,baz=22,slow=4.3,SNR=12
comp=Z,2.9nm,1.0s
BMRD Maredsous 72.61 346 *dP* **P** **05 41 19.2 +0.3**
comp=Z,6.5nm,1.0s
DOU Dourbes 72.84 346 *dP* **P** **05 41 20.0 -0.3**
comp=Z,5.1nm,1.2s
CONA Conrad Observa 73.03 338 *i* pP **P** **05 41 22.5 +1.0**
comp=Z,12nm,1.3s,SNR=5.6
WLF Walferdange 73.05 345 *dP* **P** **05 41 20.7 -0.8**
RONA Rosalia, Austr 73.15 338 *i* pP **P** **05 41 23.6 +1.4**
comp=Z,13nm,1.6s,SNR=6.1
MPLH Magyarpolny 73.39 337 P **P** **05 41 23.9 +0.4**
comp=Z,42nm,1.4s
MOA Molln 73.42 339 *i* pP **P** **05 41 25.2 +1.4**
comp=Z,9.3nm,1.2s,SNR=6.9
KDU Kakadu 73.46 212 P **P** **05 41 25.0 +0.8**
comp=Z,27nm,0.9s
GEVA Gevas 73.55 315 P **P** **05 41 25.8 +0.9**
GEVA IAmb IAmb 05 41 35.7
comp=Z,17nm,1.1s
BIOA Bad Ischl, Aus 73.70 340 *i* pP **P** **05 41 26.1 +0.7**
comp=Z,6.1nm,1.2s
ARSA Arzberg 73.74 338 *i* pP **P** **05 41 26.8 +1.1**
comp=Z,11nm,1.7s
V58A Windy Hill, Pi 73.89 49 P **P** **05 41 26.8 +0.1**
V58A IAmb IAmb 05 41 29.4
comp=Z,23nm,1.2s
PSI Prapat 74.08 251 P **P** **05 41 28.6 +0.5**
comp=Z,11nm,0.9s,baz=2.6,slow=1.1,SNR=7.6
comp=Z,11nm,0.9s
LESA Schwarzleotal 74.14 340 *i* pP **P** **05 41 28.8 +0.8**
comp=Z,5.8nm,1.0s
RPSI Rantau Prapat 74.17 251 P **P** **05 41 28.6 +0.1**
KBA Kohlbreinsper 74.34 340 *i* pP pP 05 41 31.2 -1.4
comp=Z,22nm,1.2s
SOKA Soboth 74.39 339 *i* pP **P** **05 41 30.5 +0.9**
comp=Z,12nm,1.7s,SNR=8.0
RETA Reutte 74.43 342 *i* pP **P** **05 41 30.1 +0.3**
comp=Z,7.8nm,1.2s
WATA Walderalm 74.43 341 *i* pP **P** **05 41 30.8 +1.0**
comp=Z,17nm,1.5s
WTTA Wattenberg 74.49 341 *i* pP **P** **05 41 31.2 +1.0**
comp=Z,22nm,1.6s,SNR=6.8
MOTA Moosalm 74.50 341 *i* pP **P** **05 41 30.6 +0.3**
comp=Z,12nm,1.4s
ILGA Ilgaz 74.54 323 P **P** **05 41 31.5 +0.8**
ILGA IAmb IAmb 05 41 40.3
comp=Z,19nm,0.9s
SQTA Sankt Quirin 74.61 341 *e*pP **P** **05 41 31.7 +0.9**
comp=Z,17nm,1.1s,SNR=6.9
OBKA Obir 74.65 339 *i* pP **P** **05 41 32.1 +1.0**
comp=Z,22nm,1.2s,SNR=14
MYKA Tesa Mystica 74.72 339 *i* pP **P** **05 41 32.7 +1.3**
comp=Z,9.1nm,1.2s
DAVA Damuels 74.78 342 *i* P **P** **05 41 32.0 +0.1**
comp=Z,2.8nm,0.8s
ABTA Abfaltersbach 74.82 340 *i* pP **P** **05 41 32.5 +0.5**
comp=Z,14nm,1.2s,SNR=8.0
X58A Rowland 74.85 50 P **P** **05 41 32.4 +0.1**
X58A IAmb IAmb 05 41 35.1
comp=Z,21nm,1.0s
FETA Feichten 74.88 342 *i* pP **P** **05 41 33.1 +0.6**
comp=Z,12nm,1.1s,SNR=7.5
PRED Cave del Predi 74.91 339 P **P** **05 41 32.2 -0.3**
PRED IAmb IAmb 05 41 43.0
comp=Z,16nm,1.0s
TUE Stuetta 75.66 342 P **P** **05 41 37.5 +0.5**
comp=Z,42nm,1.3s
BRTR Keskin Array B 75.76 323 P **P** **05 41 37.6 0.0**
comp=Z,3.0nm,0.8s,baz=45,slow=3.7,SNR=10
comp=Z,3.0nm,0.8s
TEOL Teolo 76.32 340 P **P** **05 41 40.5 0.0**
RDO Rodhopi 77.00 329 P **P** **05 41 45.1 +0.6**
RDO IAmb IAmb 05 41 53.6
comp=Z,23nm,1.3s
SHME Shamm 78.15 299 *i* P **P** **05 41 50.4 -0.7**
SNR=6.6
BANOM Banah 78.18 299 *i* P **P** **05 41 51.0 -0.3**
SNR=9.5
NRCA Norcia 78.47 339 P **P** **05 41 53.8 +1.1**
MSFE Esma-Masafi 78.72 299 *i* P **P** **05 41 53.6 -0.7**
SNR=8.1
UOSS Minazif 79.04 298 P **P** **05 41 54.9 -1.1**
UOSS Minazif 79.04 298 *i* P **P** **05 41 54.6 -1.4**
SNR=14
QIS Mount Isa 79.13 203 P **P** **05 41 56.6 +0.2**
comp=Z,19nm,2.0s
HATD Hatta, Dubai 79.18 298 *i* P **P** **05 41 56.0 -0.8**
SNR=12
ASHO Ashiyiah 79.33 298 *i* P **P** **05 41 58.0 +0.3**
SNR=5.3
FAQ Al Faqa, Dubai 79.51 299 P **P** **05 41 58.1 -0.5**
SOHO SOHO 79.56 298 *i* P **P** **05 41 58.2 -0.7**
SNR=11
ASUD Al Ashush, Dub 79.74 299 P **P** **05 41 59.9 0.0**
WRAB Tennant Creek 79.82 208 P **P** **05 42 01.0 +0.9**
WRAB IAmb IAmb 05 42 01.7
comp=Z,22nm,1.1s
WRAB Tennant Creek 79.82 208 P **P** **05 42 01.0 +0.9**
WRAB pmax pmax
comp=Z,22nm,1.1s
WRA Warramunga Arr 79.83 208 P **P** **05 42 01.0 +0.8**
WRA Warramunga Arr 79.83 208 P **P** **05 42 00.6 +0.4**
comp=Z,11nm,0.9s,baz=20,slow=5.7,SNR=24
comp=Z,11nm,0.9s
ALNE Al Ain 80.01 298 P **P** **05 42 00.8 -0.5**
FITZ Fitzroy Crossi 80.72 217 P **P** **05 42 05.7 +0.7**
comp=Z,16nm,1.1s,baz=53,slow=4.6,SNR=10.0
comp=Z,16nm,1.1s
MMAI Mount Meron Ar 81.14 318 P **P** **05 42 07.4 0.0**
comp=Z,3.6nm,0.8s,baz=54,slow=7.3,SNR=4.6
comp=Z,3.6nm,0.8s
MZR Muzera 82.01 300 *i* P **P** **05 42 11.2 -0.8**
SNR=9.9
POLO Lamas de Olo 82.68 354 *e*PcP **PcP** **05 42 22.7 +2.4**
PVRL Vila Real 82.77 354 *e*PcP **PcP** **05 42 24.6 +4.0**
MVO Moncorvo 82.84 353 *e*PcP **PcP** **05 42 24.4 +3.5**
ASAR Alice Springs 83.50 208 P **P** **05 42 20.1 +0.6**
ASAR Alice Springs 83.50 208 P **P** **05 42 20.4 +1.0**
comp=Z,11nm,1.0s,baz=16,slow=5.0,SNR=32
comp=Z,11nm,1.0s
ASAR Alice Springs 83.50 208 P **P** **05 42 20.1 +0.6**
MTE Manteigas 83.63 354 *eP* **P** **05 42 22.5 +2.3**
MTE *e*PcP **pwP** **05 42 28.0 -0.8**
MTE *i* IAmb IAmb 05 42 38.4
comp=Z,18nm,1.9s
PCAS Casmilo, Conde 84.03 354 *eP* **P** **05 42 22.1 -0.1**
PCAS *e*PcP **pwP** **05 42 29.1 -1.6**
PCAS *i* IAmb IAmb 05 42 33.8
comp=Z,35nm,1.5s
QLP Quilpie 84.07 198 P **P** **05 42 23.7 +1.4**
comp=Z,34nm,1.1s
ESDC Sonseca Array 84.08 351 P **P** **05 42 23.1 +0.5**
ESDC IAmb IAmb 05 42 36.2
comp=Z,12nm,1.4s
ESDC Sonseca Array 84.08 351 P **P** **05 42 22.8 +0.2**
comp=Z,1.6nm,0.6s,baz=3.7,slow=4.6,SNR=11
comp=Z,1.6nm,0.6s
PCBR Castelo Branco 84.19 354 *eP* **P** **05 42 23.6 +0.6**
PCBR *e*PcP **pwP** **05 42 31.2 -0.3**
PCBR *i* IAmb IAmb 05 42 37.2
comp=Z,27nm,1.6s
PAB San Pablo 84.24 351 P **P** **05 42 23.8 +0.4**
PAB San Pablo 84.24 351 P **P** **05 42 23.8 +0.4**
PAB pmax pmax
comp=Z,26nm,1.6s
PSBE So Bento 84.59 355 *eP* **P** **05 42 25.3 +0.3**
PSBE *i* IAmb IAmb 05 42 28.3
comp=Z,76nm,1.6s
PMTG Montargil 85.00 354 *eP* **P** **05 42 27.3 +0.2**
PMTG *i* IAmb IAmb 05 42 30.9
comp=Z,21nm,1.6s
PMTG *e*PcP **pwP** **05 42 35.1 -0.5**
RAYN Ar Rayn 85.32 306 P **P** **05 42 28.6 -0.4**
RAYN IAmb IAmb 05 42 38.4
comp=Z,14nm,1.1s
RAYN Ar Rayn 85.32 306 P **P** **05 42 28.6 -0.4**
RAYN pmax pmax
comp=Z,14nm,1.1s
EVO Evora 85.52 354 *eP* **P** **05 42 29.9 +0.2**
EVO *e*PcP **pwP** **05 42 38.0 -0.2**
EVO *i* IAmb IAmb 05 42 43.2
comp=Z,24nm,1.6s
PBAR Barrancos 85.81 353 *eP* **P** **05 42 31.6 +0.5**
PBAR *e*PcP **pwP** **05 42 39.5 -0.2**
PBAR *i* IAmb IAmb 05 42 44.7
comp=Z,30nm,1.5s
KEST Kesra 86.07 340 P **P** **05 42 32.3 -0.3**
comp=Z,2.0nm,0.7s,baz=342,slow=6.4,SNR=2.3
comp=Z,2.0nm,0.7s
WRKA Warakurna 86.37 212 P **P** **05 42 34.6 +0.7**
comp=Z,11nm,1.3s
CMSA Cobar Meteorol 88.69 196 P **P** **05 42 46.7 +1.9**
STKA Stephens Creek 89.71 199 P **P** **05 42 50.5 +0.9**
comp=Z,5.3nm,0.9s,baz=346,slow=8.3,SNR=5.2
comp=Z,5.3nm,0.9s
PLCA Paso Flores 141.64 90 PKP **PKPdf** **05 49 21.8 -0.8**
comp=Z,2.2nm,0.9s,baz=315,slow=4.3,SNR=4.4
MAW Mawson 143.81 220 PKP PKPbc 05 49 23.9 +0.7
comp=Z,6.2nm,1.0s,baz=74,slow=5.4,SNR=6.9
QSPA South Pole Qui 145.83 180 PKPbc **PKPdf** **05 49 28.6 -0.5**
comp=Z,16nm,1.0s,baz=313,slow=0.8,SNR=20

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*IDC **06** 05:30:28.9±1.0, 9.29S×114.02E, h0km, mb4.0/8, mbtmp4.0/9, ML3.8/1, Error ellipse: s-maj=63.6km s-min=17.0km az=55.0*
*DJA **06** 05:30:35.3±0.6, 9.9°S±3.3×11.4E±°, h11km±4km, M4.5/2, MLv4.7/19, MLv4.5/2*
*NEIC **06** 05:30:36.4±1.3, 9.42S±0.07×114.00E±0.07, h52km±2km, mb4.6/21, Error ellipse: s-maj=10.3km s-min=9.0km az=134.0*

ISC 06 05:30:33.5±0.5, 9.51S±0.05×113.78E±0.04, h31km, n54, σ1°45/59, mb4.4/18, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.09**	**20**		**Pb**	**05 30 53.8**	**-0.1**
JAGI				Sn	**Sn**	**05 31 05.6**	**-1.1**
JAGI	**Jajag, Banyuwa**	**1.09**	**20**	P	**Pb**	**05 30 53.3**	**-0.5**
JAGI				S	**Sb**	**05 31 07.4**	**-0.3**
GMJI	**Gumukmas**	**1.27**	**345**	P	**Pb**	**05 30 58.2**	**+1.4**
SRBI	**Singaraja**	**2.00**	**45**	P	**Pn**	**05 31 06.4**	**+1.3**
SRBI				S	**Sn**	**05 31 28.9**	**-0.2**
KMMI	**Kalianget**	**2.45**	**4**	P	**Pb**	**05 31 14.5**	**-2.3**
GRJI	**Gresik**	**2.88**	**333**	P	**Pb**	**05 31 22.1**	**-2.1**
PCJI	**Pacitan**	**2.88**	**297**	P	**Pb**	**05 31 22.5**	**-1.7**
NGJI	**Ngawi**	**3.13**	**313**	P	**Pb**	**05 31 27.3**	**-1.1**
WOJI	**Wonogiri, Jawa**	**3.27**	**300**	P	**Pb**	**05 31 28.4**	**-2.5**
TBJI	**Tambak Boyo**	**3.29**	**324**	P	**Pb**	**05 31 28.7**	**-2.4**
TBJI				S	**Sb**	**05 32 09.0**	**-1.6**
UGM	**Wanagama**	**3.59**	**296**		**Pb**	**05 31 32.2**	**-4.1**
UGM				Sn	**Sn**	**05 32 11.1**	**+2.7**
UGM	**Wanagama**	**3.59**	**296**	P	**Pb**	**05 31 33.7**	**-2.6**
UGM				S	**Sb**	**05 32 18.4**	**-1.0**
BWJI	**Bawean**	**3.80**	**343**	P	Pb	05 31 34.1	-5.7
PLAI	**Plampang**	**4.00**	**81**	P	**Pn**	**05 31 33.5**	**+0.8**
PLAI				S	**Sn**	**05 32 18.3**	**-0.3**
SMRI	**Semarang**	**4.11**	**306**	P	Pb	05 31 40.2	-4.9
WBSI	**Waikabubak, Su**	**5.54**	**92**	P	**Pn**	**05 31 55.0**	**+1.2**
BASI	**Baing, Sumba**	**6.74**	**97**	P	**Pn**	**05 32 12.0**	**+1.7**
CNJI	**Cibinong**	**6.93**	**288**	P	Pn	05 32 19.4	+6.4
CGJI	**Cibinong**	**8.51**	**289**	P	Pn	05 32 40.7	+6.1
MNAI	**Manna**	**11.90**	**295**	Pn	**Pn**	**05 33 23.4**	**+2.3**
FITZ	**Fitzroy Crossi**	**14.33**	**128**	Pn	**Pn**	**05 33 52.1**	**-2.2**
FITZ	**Fitzroy Crossi**	**14.33**	**128**	Pn	**Pn**	**05 33 51.9**	**-2.5**
	0.3nm,0.3s,baz=314,slow=9.0,SNR=8.3						
FITZ				Sn	Sn	05 36 13.5	-19
	0.7nm,0.3s,baz=181,slow=21,SNR=6.1 1.2nm,0.4s						
MTN	**Manton Dam**	**17.34**	**103**		**Pn**	**05 34 33.1**	**-0.3**
MORW	**Morawa**	**19.58**	**174**	P	**Pn**	**05 35 00.9**	**+0.4**
MORW				IAmb	IAmb	05 35 03.4	
	comp=Z,28nm,1.4s						
WRA	**Warramunga Arr**	**22.40**	**120**	P	**P**	**05 35 28.0**	**-1.6**
WRA	**Warramunga Arr**	**22.40**	**120**	P	**P**	**05 35 27.6**	**-2.0**
	comp=Z,1.6nm,0.6s,baz=294,slow=12,SNR=18						
WRA				PcP	**PcP**	**05 39 24.1**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=319,slow=2.1,SNR=1.2 comp=Z,1.6nm,0.6s						
WR8	**Warramunga Arr**	**22.54**	**120**	P	**P**	**05 35 29.1**	**-2.0**
WR8				IAmb	IAmb	05 35 51.8	
	comp=Z,52nm,1.1s						
ASAR	**Alice Springs**	**23.83**	**129**	P	**P**	**05 35 43.6**	**-0.5**
ASAR	**Alice Springs**	**23.83**	**129**	P	**P**	**05 35 44.0**	**-0.1**
	comp=Z,4.3nm,0.6s,baz=304,slow=9.0,SNR=102						
ASAR				PcP	**PcP**	**05 39 27.9**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=308,slow=1.9,SNR=6.4 comp=Z,4.3nm,0.6s						
AS31	**Alice Springs**	**23.83**	**129**	P	**P**	**05 35 42.9**	**-1.2**
AS31				IAmb	IAmb	05 36 12.2	
	comp=Z,12nm,0.9s						
FORT	**Forrest**	**25.00**	**150**	P	**P**	**05 35 54.5**	**-0.1**
FORT				IAmb	IAmb	05 35 56.5	
	comp=Z,7.9nm,0.9s						
STKA	**Stephens Creek**	**34.05**	**135**	P	**P**	**05 37 14.9**	**-0.1**
STKA	**Stephens Creek**	**34.05**	**135**	P	**P**	**05 37 15.1**	**0.0**
	comp=Z,2.7nm,0.5s,baz=309,slow=10,SNR=4.4 comp=Z,2.7nm,0.5s						
EVN	**Everest**	**45.47**	**326**	P	**P**	**05 38 51.6**	**+0.8**
EVN				IAmb	IAmb	05 38 52.8	
	comp=Z,4.5nm,0.5s						
SONM	**Songino Array**	**57.46**	**354**	P	**P**	**05 40 19.0**	**-0.6**
SONM	**Songino Array**	**57.46**	**354**	P	**P**	**05 40 18.3**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=183,slow=8.1,SNR=2.2 comp=Z,0.9nm,0.5s						
NIL	**Nilore**	**57.66**	**320**	P	**P**	**05 40 20.9**	**-0.2**

MKAR	**Makanchi Array**	**62.69**	**336**	P	**P**	**05 40 54.8**	**-0.5**
MKAR	**Makanchi Array**	**62.69**	**336**	P	**P**	**05 40 55.1**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=149,slow=7.2,SNR=6.1						
	comp=Z,1.3nm,0.6s						
RTZ	**Ruatahuna**	**63.23**	**128**	P	**P**	**05 40 59.0**	**-0.2**
VOI	**Vohitsoka**	**65.23**	**250**	P	**P**	**05 41 13.8**	**+1.1**
VOI				IAmb	IAmb	05 41 22.3	
	comp=Z,9.1nm,1.2s						
KURBB	**Kurchatov Arra**	**67.25**	**337**	P	**P**	**05 41 24.3**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=152,slow=5.8,SNR=1.7						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**67.80**	**342**	P	**P**	**05 41 27.3**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=151,slow=4.9,SNR=2.3						
	comp=Z,0.8nm,0.3s						
VNDA	**Vanda**	**72.33**	**170**	P	**P**	**05 41 56.4**	**+0.7**
VNDA	**Vanda**	**72.33**	**170**	P	**P**	**05 41 56.7**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=310,slow=6.7,SNR=4.2						
	comp=Z,0.7nm,0.9s						
SBA	**Scott Base**	**73.37**	**170**	P	**P**	**05 42 03.2**	**+1.3**
AB31	**Akbulak array**	**75.08**	**327**	P	**P**	**05 42 12.5**	**+0.2**
AB31				IAmb	IAmb	05 42 13.3	
	comp=Z,4.7nm,0.6s						
ABKAR	**Akbulak array**	**75.08**	**327**	P	**P**	**05 42 12.2**	**-0.1**
ABKAR				IAmb	IAmb	05 42 13.3	
	comp=Z,4.7nm,0.6s						
MREMI	**Moremi**	**83.06**	**248**	P	**P**	**05 42 58.6**	**+1.9**
MREMI				IAmb	IAmb	05 43 24.9	
	comp=Z,18nm,1.3s						
LPHEP	**Lephephe**	**84.40**	**247**	P	**P**	**05 43 05.0**	**+1.4**
BELA	**Belgrano 2**	**90.99**	**186**	P	**P**	**05 43 35.5**	**+1.3**
J16K	**Anvik River**	**96.45**	**27**	P	**P**	**05 43 58.5**	**-0.8**
J16K				IAmb	IAmb	05 44 24.1	
	comp=Z,2.8nm,1.1s						
E18K	**Tukpahlearik C**	**97.02**	**23**	P	**P**	**05 44 00.8**	**-1.1**
E18K				IAmb	IAmb	05 44 18.7	
	comp=Z,5.6nm,1.4s						
YKA	**Yellowknife Ar**	**116.71**	**23**	PKP	**PKiKP**	**05 49 14.0**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=317,slow=2.9,SNR=5.6						

*NEIC **06** 05:31:56.1±1.6, 35°.840N±0°.007×117°.69W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.7km az=226.0*

PAS 06 05:31:56.7±1.6, **35°.85N**±0°.01×**117°.68W**±0°.01, **h5**km±2km, **ML3.4**/20, **ML3.2**/68(NEIC), **Error ellipse: s-maj=1.7km s-min=1.5km az=162.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**239**		Pg	05 31 59.2	+0.6
WVPM	**Volcano Peak E**	**0.15**	**313**		Pg	05 31 59.8	0.0
WVPM					Sg	05 32 02.1	+0.3
SRTC	**Snort**	**0.17**	**199**		Pg	05 31 59.1	-1.0
WNMM	**Nine Mile Cany**	**0.18**	**268**		Pg	05 32 00.4	+0.1
WNMM					Sg	05 32 03.3	+0.9
WRVM	**Rose V. Centra**	**0.23**	**314**		Pg	05 32 01.2	-0.1
LRMC	**Laurel Mtn Rad**	**0.37**	**180**	Pg	Pg	05 32 03.6	-0.3
LRMC				IAML		05 32 05.8	
	comp=N,3μm,0.2s						
LRMC				IAML		05 32 09.5	
	comp=E,4μm,0.2s						
CCCA	**Chr Cany lake**	**0.41**	**141**		Sb	05 32 11.8	-1.4
WORM	**Onyx Ranch**	**0.48**	**252**		Pg	05 32 05.5	-0.4
WORM					Sg	05 32 12.2	-0.1
WHFM	**Hanning Flat**	**0.56**	**254**		Pg	05 32 07.1	-0.4
WHFM					Sg	05 32 14.8	-0.1
ISA	**Isabella, Lake**	**0.67**	**254**		Sg	05 32 18.5	+0.2
ISA	**Isabella, Lake**	**0.67**	**254**		Pg	05 32 09.0	-0.6
ISA				IAML		05 32 18.5	
	comp=N,1μm,0.4s						
ISA				IAML		05 32 19.0	
	comp=E,1μm,0.2s						
CWC	**Cottonwood Cre**	**0.67**	**332**		Pg	05 32 09.5	-0.2
QSM	**Queen of Sheba**	**0.67**	**80**		Pg	05 32 08.5	-1.2
QSM				IAML		05 32 23.1	
	comp=N,2μm,0.7s						
CGO	**Cerro Gordo**	**0.71**	**352**		Pg	05 32 10.0	-0.4
WASM	**Alta Sierra Ca**	**0.72**	**261**		Pg	05 32 10.0	-0.5
CCAC	**Calif City Air**	**0.75**	**201**		Pg	05 32 10.3	-0.7
CCAC				IAML		05 32 21.4	
	comp=E,770nm,0.4s						
GWY	**Greenwater Val**	**0.89**	**67**		Pg	05 32 13.2	-0.7
GWY				IAML		05 32 30.4	
	comp=N,860nm,0.4s						
GSC	**Goldstone, Bar**	**0.90**	**127**		Sg	05 32 25.8	+0.1
GSC	**Goldstone, Bar**	**0.90**	**127**		Pg	05 32 13.3	-0.7
GSC				IAML		05 32 28.4	
	comp=E,928nm,0.7s						
SPG2	**Springville 2**	**0.94**	**292**		Pg	05 32 14.4	-0.5
HYS	**Haystack Butte**	**0.99**	**175**		Pg	05 32 13.0	-2.7
VES	**Vestal, Richgr**	**1.14**	**270**		Sg	05 32 33.1	-0.2
SBB	**Saddle Back Bu**	**1.16**	**186**		Pg	05 32 16.4	-2.7
GRAC	**Grapevine Rang**	**1.17**	**13**		Pg	05 32 18.2	-1.0
GRAC				IAML		05 32 40.1	
	comp=N,738nm,0.9s						
SGV	**South Grapevin**	**1.25**	**25**		Pg	05 32 19.9	-0.7
WCT	**Wildcat Mounta**	**1.27**	**42**		Pg	05 32 20.1	-1.1
WCT				IAML		05 32 41.4	
	comp=E,415nm,0.4s						
WCT				IAML		05 32 43.2	
	comp=N,300nm,0.6s						
TIN	**Tinemaha, Big**	**1.28**	**340**		Pg	05 32 21.2	-0.1
AMDNV	**Amargosa**	**1.28**	**62**		Pn	05 32 20.7	-0.6
GMN	**Gold Mountain**	**1.49**	**13**		Pn	05 32 22.9	-1.4
OSI	**Osito Audit: C**	**1.50**	**215**		Pn	05 32 24.5	+0.2
OSI				IAML		05 32 57.9	
	comp=E,237nm,0.8s						
DSP	**Deep Springs**	**1.54**	**351**		Pn	05 32 24.7	-0.1
DSP				IAML		05 32 47.8	
	comp=N,213nm,0.4s						
DSP				IAML		05 32 48.7	
	comp=E,398nm,0.9s						
TPNV	**Topopah Spring**	**1.59**	**46**		Pn	05 32 25.3	-0.5
TPNV				IAML		05 32 55.2	
	comp=E,330nm,0.4s						
MTUM	**Tungsten Hills**	**1.66**	**335**		Pb	05 32 27.3	-0.6
BCW	**Bitter Crk WRg**	**1.68**	**238**		Pn	05 32 25.8	-1.0
BCW				IAML		05 33 07.3	
	comp=E,384nm,0.8s						
BCW				IAML		05 33 25.3	
	comp=N,321nm,0.8s						
PASC	**Pasadena Art C**	**1.72**	**194**		Pn	05 32 26.9	-0.4
PSRC	**Puddingstone R**	**1.76**	**183**		Pn	05 32 27.3	-0.5
BLCC	**Black Canyon**	**1.79**	**207**		Pn	05 32 27.9	-0.4
MZP	**Montezuma Peak**	**1.86**	**7**		Pn	05 32 28.7	-0.8
GTM	**Goat Mountain**	**1.90**	**145**		Pb	05 32 31.8	-0.1
MCSM	**Casa Diablo Ho**	**2.05**	**332**		Pb	05 32 34.5	-0.1
ELS	**Elsinore Mount**	**2.21**	**174**	Pn	Pn	05 32 33.7	-0.3
TPH	**Tonopah**	**2.25**	**9**		Pn	05 32 34.4	-0.5
V12A	**Nelson**	**2.31**	**92**	Pn	Pn	05 32 34.3	-1.2
V12A				IAML		05 33 16.5	
	comp=N,139nm,1.2s						
NV11	**Mina Array Sit**	**2.61**	**352**		Pn	05 32 39.2	-0.4
NVAR	**Mina Array Bea**	**2.62**	**349**		Pn	05 32 38.9	-1.0
RYN	**Ryan**	**2.85**	**347**		Pn	05 32 42.6	-0.4
WAKR	**Walker**	**3.00**	**333**	Pn	Pn	05 32 44.0	-1.0
WAKR				IAML		05 34 36.0	
	comp=E,84nm,0.5s						
WAKR				IAML		05 34 37.0	
	comp=N,86nm,0.9s						
Q09A	**Carvers**	**3.01**	**7**	Pn	Pn	05 32 45.1	0.0
SAO	**San Andreas Ge**	**3.17**	**288**		Pn	05 32 47.8	+0.6
LCMT	**Little Creek M**	**3.76**	**71**	Pn	Pn	05 32 55.1	-0.4
SZCU	**Shurtz Canyon**	**4.08**	**63**		Pn	05 33 00.9	+0.9
SZCU				IAML		05 34 26.2	
	comp=E,34nm,0.4s						
SZCU				IAML		05 34 34.4	
	comp=N,25nm,4.5s						
SPR3	**Spring Creek 3**	**4.12**	**39**	Pn	Pn	05 33 01.2	+0.5
ORV	**Oroville**	**4.78**	**322**	Pn	Pn	05 33 10.6	+1.2
ORV				IAML		05 35 35.9	
	comp=N,24nm,1.3s						
ORV				IAML		05 35 41.5	
	comp=E,25nm,1.1s						
ELK	**Elko**	**5.25**	**21**	Pn	Pn	05 33 15.6	-0.5
ELK				IAML		05 35 47.2	
	comp=E,12nm,2.4s						
ELK				IAML		05 35 49.3	
	comp=E,9.7nm,1.3s						
X16A	**Lo Mia Camp, P**	**5.31**	**104**	Pn	Pn	05 33 16.1	-0.7
X16A				IAML		05 35 53.9	
	comp=E,16nm,3.0s						

*NEIC **06** 05:32:59.6±1.1, 35°.852N±0°.007×117°.69W±0°.02, h10km±5km, Error ellipse: s-maj=1.9km s-min=1.0km az=75.0*

PAS 06 05:33:00.1±1.1, **35°.84N**±0°.01×**117°.68W**±0°.01, **h7**km±2km, **ML3.8**/17, **ML3.5**/62(NEIC), **Error ellipse: s-maj=1.7km s-min=1.5km az=165.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.07**	**243**		Pg	05 33 02.5	+0.5
TOW					Sg	05 33 05.1	+1.7
WVPM	**Volcano Peak E**	**0.15**	**315**		Pg	05 33 03.3	-0.1
WVPM					Sg	05 33 05.8	+0.2
SRTC	**Snort**	**0.16**	**200**		Pg	05 33 03.7	+0.3
WNMM	**Nine Mile Cany**	**0.18**	**270**		Pg	05 33 03.5	-0.2
WNMM					Sg	05 33 06.8	+0.7
WRVM	**Rose V. Centra**	**0.24**	**315**		Pg	05 33 04.6	-0.2
MFS	**McCloud Flat S**	**0.31**	**333**		Pg	05 33 06.0	-0.2
LRMC	**Laurel Mtn Rad**	**0.36**	**180**		Pg	05 33 06.8	-0.4
LRMC					Sg	05 33 12.6	+0.7
LRMC	**Laurel Mtn Rad**	**0.36**	**180**	IAML		05 33 15.7	
	comp=E,18μm,0.3s						
LRMC				IAML		05 33 16.0	
	comp=N,18μm,0.2s						
CCCA	**Chr Cany lake**	**0.41**	**140**		Pg	05 33 08.2	+0.1
WORM	**Onyx Ranch**	**0.48**	**252**		Sg	05 33 15.4	-0.2
WBSM	**Bird Springs**	**0.48**	**231**		Sg	05 33 16.0	+0.3
WHFM	**Hanning Flat**	**0.56**	**255**		Sg	05 33 18.1	-0.2
DTP	**Desert Tortois**	**0.59**	**193**		Pg	05 33 11.0	-0.4
ISA	**Isabella, Lake**	**0.67**	**255**	Pg	Pg	05 33 12.4	-0.6
ISA				IAML		05 33 22.7	
	comp=N,4μm,0.4s						
ISA				IAML		05 33 24.5	
	comp=E,3μm,0.2s						
QSM	**Queen of Sheba**	**0.67**	**79**		Sg	05 33 21.5	-0.3
QSM	**Queen of Sheba**	**0.67**	**79**	Pg	Pg	05 33 12.7	-0.3
QSM				IAML		05 33 27.8	
	comp=N,3μm,0.8s						
QSM				IAML		05 33 28.3	
	comp=E,3μm,0.5s						
CWC	**Cottonwood Cre**	**0.68**	**332**		Pg	05 33 13.0	-0.2
WASM	**Alta Sierra Ca**	**0.72**	**262**		Pg	05 33 13.4	-0.5
WASM					Sg	05 33 23.8	+0.5
CCAC	**Calif City Air**	**0.74**	**202**		Sg	05 33 23.9	0.0
CCAC	**Calif City Air**	**0.74**	**202**	Pg	Pg	05 33 13.4	-0.9
CCAC				IAML		05 33 24.5	
	comp=E,2μm,0.4s						
CCAC				IAML		05 33 30.4	
	comp=N,3μm,0.3s						
GWY	**Greenwater Val**	**0.89**	**67**		Pg	05 33 16.8	-0.4
GWY	**Greenwater Val**	**0.89**	**67**	IAML		05 33 34.2	
	comp=N,2μm,0.5s						
GWY				IAML		05 33 36.4	
	comp=E,3μm,0.7s						
GSC	**Goldstone, Bar**	**0.90**	**127**	Pg	Pg	05 33 16.5	-0.8
GSC				IAML		05 33 30.3	
	comp=N,1μm,0.3s						
GSC				IAML		05 33 38.3	
	comp=E,2μm,0.5s						
FURC	**Furnace Creek,**	**0.91**	**47**		Sg	05 33 29.4	0.0
SPG2	**Springville 2**	**0.95**	**293**		Sg	05 33 29.6	-1.0
EDW2	**Edwards Air Fo**	**0.99**	**195**		Pg	05 33 19.3	+0.2
VES	**Vestal, Richgr**	**1.14**	**270**		Pg	05 33 21.1	-0.8
VES					Sg	05 33 36.6	-0.1
SBB	**Saddle Back Bu**	**1.16**	**186**		Pg	05 33 21.5	-0.8
GRAC	**Grapevine Rang**	**1.18**	**12**	Pg	Pg	05 33 21.1	-1.6
GRAC				IAML		05 33 40.4	
	comp=N,1μm,0.6s						
GRAC				IAML		05 33 52.0	
	comp=E,1μm,0.5s						
TJR	**Tejon Ranch**	**1.19**	**227**		Sg	05 33 37.3	-0.9
SGV	**South Grapevin**	**1.25**	**25**		Pg	05 33 23.3	-0.8
BAKC	**Calstate**	**1.26**	**247**		Pn	05 33 23.3	-0.8
WCT	**Wildcat Mounta**	**1.28**	**42**		Pn	05 33 23.2	-1.3
WCT				IAML		05 33 44.0	
	comp=E,721nm,0.5s						
WCT				IAML		05 33 46.4	
	comp=N,591nm,0.9s						
LRRC	**Littlerock Res**	**1.34**	**192**		Pg	05 33 26.0	+0.1
CJV	**Casa Juvan**	**1.36**	**196**		Pb	05 33 26.0	0.0
VOG	**Valley Oaks Go**	**1.46**	**290**		Pn	05 33 26.6	-0.2
GMN	**Gold Mountain**	**1.50**	**13**		Pn	05 33 27.6	0.0
CHFC	**Chilao Flat St**	**1.53**	**191**		Pb	05 33 28.8	-0.1
DSP	**Deep Springs**	**1.54**	**351**		Pn	05 33 27.6	-0.3
POCCA	**Poleta Canyon**	**1.59**	**343**		Pn	05 33 29.3	+0.4
TPNV	**Topopah Spring**	**1.60**	**46**		Pn	05 33 29.2	+0.3
TPNV				IAML		05 33 53.3	
	comp=N,794nm,0.8s						
TPNV				IAML		05 33 53.5	
	comp=N,507nm,0.6s						
MTUM	**Tungsten Hills**	**1.67**	**335**		Pb	05 33 30.8	-0.4
CLTC	**Calectric**	**1.77**	**170**		Sn	05 33 51.6	-2.3
SHPR	**Sheep Range**	**2.15**	**71**	Pn	Pn	05 33 36.5	0.0
TPH	**Tonopah**	**2.26**	**9**	Pn	Pn	05 33 37.3	-0.7
V12A	**Nelson**	**2.31**	**92**		Pn	05 33 37.4	-1.2
V12A				IAML		05 34 16.1	
	comp=N,241nm,1.3s						
V12A				IAML		05 34 25.0	
	comp=E,192nm,0.6s						
LCMT	**Little Creek M**	**3.77**	**71**	Pn	Pn	05 33 58.7	0.0
AFDM	**Forest Hills D**	**4.06**	**321**	Pn	Pn	05 34 00.7	-2.0
AFDM				IAML		05 35 14.0	
	comp=N,46nm,1.1s						
AFDM				IAML		05 35 21.2	
	comp=E,57nm,0.7s						
SZCU	**Shurtz Canyon**	**4.09**	**63**	Pn	Pn	05 34 03.5	+0.3
ESJX	**Sierra Juarez**	**4.09**	**159**	Pn	Pn	05 34 01.8	-1.4
ESJX				IAML		05 35 11.9	
	comp=E,86nm,0.4s						
ESJX				IAML		05 35 16.8	
	comp=N,71nm,0.7s						
KNB	**Kanab**	**4.09**	**72**	Pn	Pn	05 34 02.1	-1.1
KNB				IAML		05 35 11.1	
	comp=E,54nm,1.1s						
KNB				IAML		05 35 24.4	
	comp=N,48nm,1.4s						
SPR3	**Spring Creek 3**	**4.13**	**39**	Pn	Pn	05 34 03.3	-0.6
SPR3				IAML		05 35 12.6	
	comp=N,41nm,0.9s						
SPR3				IAML		05 35 14.4	
	comp=E,44nm,0.8s						
Y14A	**Wickenburg**	**4.29**	**115**	Pn	Pn	05 34 04.7	-1.1
Y14A				IAML		05 35 22.1	
	comp=E,57nm,0.6s						
Y14A				IAML		05 35 32.1	
	comp=N,80nm,0.7s						
113A	**Mohawk Valley,**	**4.46**	**132**	Pn	Pn	05 34 07.6	-0.5
MCCM	**Marconi Confer**	**4.75**	**300**	Pn	Pn	05 34 11.9	-0.2
WUAZ	**Wupatki**	**5.15**	**92**	Pn	Pn	05 34 17.0	-0.1
ELK	**Elko**	**5.26**	**21**	Pn	Pn	05 34 18.0	-1.3
X16A	**Lo Mia Camp, P**	**5.31**	**104**	Pn	Pn	05 34 19.0	-1.0
X16A				IAML		05 35 56.5	
	comp=N,17nm,3.7s						
214A	**Organ Pipe Nat**	**5.61**	**132**	Pn	Pn	05 34 22.9	-1.0
DUG	**Dugway, Tooele**	**5.80**	**40**	Pn	Pn	05 34 25.8	-0.9
X18A	**Snowflake**	**6.47**	**99**	Pn	Pn	05 34 36.6	+0.8
TUC	**Tucson**	**6.72**	**120**	Pn	Pn	05 34 37.8	-1.4

*NEIC **06** 05:34:07.7±1.3, 35°.645N±0°.009×117°.48W±0°.01, h4km±3km, Error ellipse: s-maj=1.7km s-min=0.7km az=224.0*

PAS 06 05:34:08.2±1.4, **35°.67N**±0°.01×**117°.52W**±0°.02, **h2**km±1km, **ML3.1**/5, **ML3.0**/36(NEIC), **Error ellipse: s-maj=2.4km s-min=1.5km az=134.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.19**	**139**		Pg	05 34 12.6	+0.8
SRTC	**Snort**	**0.19**	**277**		Pg	05 34 12.5	+0.6
LRMC	**Laurel Mtn Rad**	**0.23**	**215**		Sg	05 34 16.4	+0.7
LRMC	**Laurel Mtn Rad**	**0.23**	**215**		Pg	05 34 12.8	+0.1
LRMC				IAML		05 34 16.8	
	comp=E,6μm,0.4s						
LRMC				IAML		05 34 17.2	
	comp=N,4μm,0.2s						
WBSM	**Bird Springs**	**0.53**	**256**		Pg	05 34 18.3	+0.1
WBSM					Sg	05 34 25.6	+0.6
QSM	**Queen of Sheba**	**0.60**	**61**		Sg	05 34 28.2	+0.6
QSM	**Queen of Sheba**	**0.60**	**61**	Pg	Pg	05 34 19.3	-0.5
QSM				IAML		05 34 28.3	
	comp=N,810nm,0.5s						
QSM				IAML		05 34 28.4	
	comp=E,635nm,0.3s						
CCAC	**Calif City Air**	**0.66**	**219**		Sg	05 34 30.2	+0.8
CCAC	**Calif City Air**	**0.66**	**219**	Pg	Pg	05 34 20.3	-0.5
CCAC				IAML		05 34 30.3	
	comp=E,919nm,0.5s						
ISA	**Isabella, Lake**	**0.78**	**270**		Sg	05 34 33.7	+0.4
ISA	**Isabella, Lake**	**0.78**	**270**	Pg	Pg	05 34 22.7	-0.4
WASM	**Alta Sierra Ca**	**0.85**	**275**		Sg	05 34 36.4	+0.8
GWY	**Greenwater Val**	**0.86**	**53**	Pg	Pg	05 34 24.1	-0.6
GWY				IAML		05 34 39.7	
	comp=N,430nm,0.4s						
GWY				IAML		05 34 39.9	
	comp=E,555nm,0.5s						
SPG2	**Springville 2**	**1.14**	**298**		Sg	05 34 45.0	0.0
LEOC	**Leona Valley**	**1.22**	**212**		Pb	05 34 32.1	0.0
AMDNV	**Amargosa**	**1.27**	**52**		Pg	05 34 32.4	-0.1
VES	**Vestal, Richgr**	**1.29**	**278**		Sb	05 34 50.0	-0.2
WCT	**Wildcat Mounta**	**1.33**	**32**	Pg	Pg	05 34 32.8	-1.0
OSI	**Osito Audit: C**	**1.45**	**224**		Pg	05 34 36.2	+0.3
OSI				IAML		05 34 55.7	
	comp=N,150nm,0.5s						
OSI				IAML		05 34 57.8	
	comp=E,166nm,0.8s						
MWC	**Mount Wilson**	**1.51**	**197**		Pn	05 34 36.2	-0.3
MWC				IAML		05 34 58.5	
	comp=N,260nm,0.7s						
MWC				IAML		05 35 03.8	
	comp=E,188nm,0.5s						
CLTC	**Calectric**	**1.58**	**174**		Sn	05 34 56.3	-2.1
TPNV	**Topopah Spring**	**1.64**	**38**		Pn	05 34 38.2	0.0
TPNV				IAML		05 35 04.2	
	comp=E,211nm,0.7s						
TPNV				IAML		05 35 04.3	
	comp=E,153nm,0.7s						
VOG	**Valley Oaks Go**	**1.65**	**294**		Pg	05 34 39.7	0.0
BLCC	**Black Canyon**	**1.71**	**214**		Pn	05 34 39.1	0.0
DSP	**Deep Springs**	**1.74**	**348**		Pn	05 34 38.6	-0.8
ELS	**Elsinore Mount**	**2.02**	**178**	Pn	Pn	05 34 42.4	-1.0
LCMT	**Little Creek M**	**3.70**	**68**	Pn	Pn	05 35 06.6	0.0
LCMT				IAML		05 35 32.1	
	comp=E,16nm,2.8s						
Y14A	**Wickenburg**	**4.09**	**114**	Pn	Pn	05 35 12.7	+0.8
VTX	**Valle De La Tr**	**4.51**	**161**	Pn	Pn	05 35 16.4	-1.1
VTX				IAML		05 38 18.3	
	comp=N,18nm,0.1s						
X16A	**Lo Mia Camp, P**	**5.14**	**102**	Pn	Pn	05 35 25.3	-1.1
X16A				IAML		05 36 06.1	
	comp=E,13nm,2.7s						

*NEIC **06** 05:37:30.5±1.3, 35°.885N±0°.010×117°.74W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.8km az=219.0*

PAS 06 05:37:30.5±1.4, **35°.88N**±0°.01×**117°.73W**±0°.01, **h3**km±3km, **ML3.3**/22, **ML3.1**/64(NEIC), **Error ellipse: s-maj=1.6km s-min=1.5km az=163.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**205**		Pg	05 37 32.7	+0.6
WVPM	**Volcano Peak E**	**0.10**	**314**		Pg	05 37 32.9	+0.3
WNMM	**Nine Mile Cany**	**0.15**	**257**		Pg	05 37 33.9	+0.4
WNMM					Sg	05 37 36.8	+1.4
SRTC	**Snort**	**0.19**	**186**		Pg	05 37 34.6	+0.4
WRVM	**Rose V. Centra**	**0.19**	**314**		Pg	05 37 34.4	+0.1
MFS	**McCloud Flat S**	**0.26**	**336**		Pg	05 37 35.6	0.0
LRMC	**Laurel Mtn Rad**	**0.40**	**175**	Pg	Pg	05 37 38.1	-0.1
LRMC				IAML		05 37 44.7	
	comp=N,3μm,0.3s						
CCCA	**Chr Cany lake**	**0.46**	**140**		Sg	05 37 46.5	+1.2
WORM	**Onyx Ranch**	**0.46**	**247**		Pg	05 37 39.3	-0.1
WBSM	**Bird Springs**	**0.48**	**225**		Pg	05 37 39.6	-0.2
WHFM	**Hanning Flat**	**0.54**	**251**		Pg	05 37 40.7	-0.1
CWC	**Cottonwood Cre**	**0.63**	**333**		Pg	05 37 42.8	+0.1
CWC					Sg	05 37 51.0	+0.2
ISA	**Isabella, Lake**	**0.65**	**251**		Sg	05 37 51.2	-0.1
ISA	**Isabella, Lake**	**0.65**	**251**		Pg	05 37 42.9	-0.1
ISA				IAML		05 37 51.7	
	comp=N,1μm,0.4s						
ISA				IAML		05 37 53.2	
	comp=E,1μm,0.4s						
CGO	**Cerro Gordo**	**0.67**	**355**		Pg	05 37 43.4	-0.1
CGO					Sg	05 37 52.9	+0.6
WASM	**Alta Sierra Ca**	**0.69**	**259**		Pg	05 37 43.6	-0.2
QSM	**Queen of Sheba**	**0.70**	**83**		Pg	05 37 43.9	-0.1
CCAC	**Calif City Air**	**0.76**	**198**		Sg	05 37 55.1	+0.1
CCAC	**Calif City Air**	**0.76**	**198**		Pg	05 37 44.5	-0.6
CCAC				IAML		05 37 55.7	
	comp=E,1μm,0.3s						
SPG2	**Springville 2**	**0.90**	**291**		Pg	05 37 47.2	-0.7
GWY	**Greenwater Val**	**0.91**	**70**		Pg	05 37 47.7	-0.3
GWY				IAML		05 38 05.8	
	comp=N,821nm,0.5s						
GWY				IAML		05 38 06.0	
	comp=E,932nm,0.5s						
GWY	**Greenwater Val**	**0.91**	**70**		Sg	05 37 59.6	-0.2
GSC	**Goldstone, Bar**	**0.94**	**127**		Sg	05 38 00.8	-0.1
GSC	**Goldstone, Bar**	**0.94**	**127**		Pg	05 37 48.2	-0.4
GSC				IAML		05 38 04.3	
	comp=N,797nm,0.6s						
EDW2	**Edwards Air Fo**	**1.02**	**193**		Sg	05 38 02.4	-0.8
HYS	**Haystack Butte**	**1.02**	**173**		Pg	05 37 50.3	+0.2
TPO	**Tropico Hills**	**1.08**	**203**		Sg	05 38 04.9	-0.3
VES	**Vestal, Richgr**	**1.10**	**268**		Pg	05 37 51.3	-0.4
GRAC	**Grapevine Rang**	**1.15**	**14**		Pg	05 37 51.9	-0.8
GRAC				IAML		05 38 14.4	
	comp=N,537nm,0.8s						
RRX	**Edison Barstow**	**1.16**	**149**		Pg	05 37 52.8	-0.1
TJR	**Tejon Ranch**	**1.19**	**225**		Sg	05 38 08.1	-0.6

CRY	**Cary Ranch**	**2.45**	**160**			Pb	05 38 14.1	-1.1
PMPB	**Monarch Peak**	**2.52**	**279**		Pn	Pn	05 38 12.8	+0.4
NV11	**Mina Array Sit**	**2.57**	**352**			Pn	05 38 12.6	-0.7
NVAR	**Mina Array Bea**	**2.59**	**350**			Pn	05 38 13.8	+0.2
PRN	**Pahroc Range**	**2.64**	**54**			Pn	05 38 13.2	-0.9
PRN					IAML		05 39 00.9	
	comp=N,104nm,0.6s							
PRN					IAML		05 39 02.4	
	comp=E,80nm,0.7s							
SAO	**San Andreas Ge**	**3.13**	**287**	Pn	Pn	Pn	05 38 21.1	+0.3
W13A	**Hualapai Mount**	**3.23**	**103**	Pn	Pn	Pn	05 38 20.6	-1.8
W13A					IAML		05 39 15.9	
	comp=N,31nm,0.7s							
BLYC	**Blythe**	**3.38**	**128**	Pn	Pn		05 38 24.5	+0.3
BLYC					IAML		05 39 18.6	
	comp=N,55nm,0.4s							
BLYC					IAML		05 39 21.2	
	comp=E,53nm,1.1s							
CBX	**Cerro Bola**	**3.66**	**166**	Pn	Pn		05 38 27.3	-0.9
LCMT	**Little Creek M**	**3.79**	**71**	Pn	Pn		05 38 29.8	-0.1
KNB	**Kanab**	**4.11**	**73**	Pn	Pn		05 38 34.3	-0.2
KNB					IAML		05 39 47.7	
	comp=N,17nm,4.3s							
KNB					IAML		05 39 48.6	
	comp=E,19nm,4.8s							
ELK	**Elko**	**5.24**	**21**	Pn	Pn		05 38 48.5	-1.4
ELK					IAML		05 42 05.6	
	comp=E,6.9nm,3.1s							
X16A	**Lo Mia Camp, P**	**5.35**	**104**	Pn	Pn		05 38 50.0	-1.5
X16A					IAML		05 40 28.7	
	comp=E,7.9nm,4.9s							
X16A					IAML		05 40 29.5	
	comp=N,9.4nm,3.6s							
X18A	**Snowflake**	**6.51**	**100**	Pn	Pn		05 39 08.0	+0.6

*NEIC **06** 05:39:14.0±1.6, 35°.809N±0°.009×117°.630W±0°.009, h4km±3km, Error ellipse: s-maj=1.5km s-min=0.8km az=213.0*

PAS 06 05:39:14.4±1.8, **35°.799N**±0°.009×**117°.63W**±0°.01, **h8**km±4km, **ML3.5**/18, **ML3.2**/46(NEIC), **Error ellipse: s-maj=1.5km s-min=1.3km az=58.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.11**	**275**		Pg	05 39 17.5	+0.5
SRTC	**Snort**	**0.14**	**223**		Pg	05 39 17.9	+0.4
WVPM	**Volcano Peak E**	**0.21**	**314**		Pg	05 39 18.8	0.0
WNMM	**Nine Mile Cany**	**0.23**	**281**		Pg	05 39 19.2	+0.2
WRVM	**Rose V. Centra**	**0.30**	**314**		Pg	05 39 20.1	-0.2
LRMC	**Laurel Mtn Rad**	**0.32**	**188**		Pg	05 39 20.5	-0.2
LRMC	**Laurel Mtn Rad**	**0.32**	**188**	IAML		05 39 25.7	
	comp=E,5μm,0.4s						
LRMC				IAML		05 39 26.1	
	comp=N,4μm,0.2s						
CCCA	**Chr Cany lake**	**0.35**	**142**		Pg	05 39 21.6	+0.4
CCCA					Sg	05 39 26.8	+1.0
MFS	**McCloud Flat S**	**0.37**	**330**		Pg	05 39 21.6	-0.1
MFS					Sg	05 39 26.6	+0.1
WBSM	**Bird Springs**	**0.49**	**238**		Pg	05 39 23.7	-0.3
WORM	**Onyx Ranch**	**0.51**	**259**		Pg	05 39 23.8	-0.5
WORM					Sg	05 39 30.6	-0.4
DTP	**Desert Tortois**	**0.56**	**199**		Pg	05 39 24.7	-0.5
WHFM	**Hanning Flat**	**0.60**	**260**		Pg	05 39 25.4	-0.5
WHFM					Sg	05 39 33.9	+0.2
QSM	**Queen of Sheba**	**0.64**	**75**		Sg	05 39 34.8	-0.3
QSM	**Queen of Sheba**	**0.64**	**75**		Pg	05 39 25.9	-0.8
QSM				IAML		05 39 35.4	
	comp=E,3μm,0.2s						
QSM				IAML		05 39 35.9	
	comp=N,3μm,0.3s						
ISA	**Isabella, Lake**	**0.70**	**259**		Pg	05 39 27.3	-0.6
ISA				IAML		05 39 37.3	
	comp=E,970nm,0.4s						
ISA				IAML		05 39 40.7	
	comp=N,1μm,0.3s						
CCAC	**Calif City Air**	**0.72**	**206**		Sg	05 39 37.6	0.0
CCAC	**Calif City Air**	**0.72**	**206**		Pg	05 39 27.7	-0.5
CCAC				IAML		05 39 38.2	
	comp=E,1μm,0.5s						
CCAC				IAML		05 39 38.2	
	comp=N,1μm,0.4s						
CWC	**Cottonwood Cre**	**0.74**	**330**		Pg	05 39 28.8	+0.1
CWC					Sg	05 39 38.3	+0.1
WASM	**Alta Sierra Ca**	**0.76**	**266**		Pg	05 39 28.4	-0.6
CGO	**Cerro Gordo**	**0.76**	**349**		Pg	05 39 28.5	-0.7
GSC	**Goldstone, Bar**	**0.83**	**126**		Sg	05 39 41.0	-0.3
GSC	**Goldstone, Bar**	**0.83**	**126**	Pg	Pg	05 39 29.3	-1.1
GWY	**Greenwater Val**	**0.87**	**63**		Sg	05 39 42.1	-0.3
GWY	**Greenwater Val**	**0.87**	**63**		Pg	05 39 30.7	-0.4
GWY				IAML		05 39 44.7	
	comp=N,1μm,0.3s						
FURC	**Furnace Creek,**	**0.91**	**43**		Sg	05 39 43.8	+0.1
HYS	**Haystack Butte**	**0.93**	**177**		Pg	05 39 32.3	-0.1
EDW2	**Edwards Air Fo**	**0.96**	**198**		Pg	05 39 32.0	-0.9
SPG2	**Springville 2**	**1.01**	**294**		Pg	05 39 33.2	-0.5
SPG2					Sg	05 39 45.9	-0.9
TPO	**Tropico Hills**	**1.04**	**208**		Pg	05 39 33.5	-0.8
TPO					Sg	05 39 47.9	0.0
RRX	**Edison Barstow**	**1.06**	**151**		Pg	05 39 34.6	-0.1
SHOC	**Shoshone, Teco**	**1.10**	**84**		Sb	05 39 59.2	-0.1
SBB	**Saddle Back Bu**	**1.12**	**188**		Pg	05 39 35.3	-0.6
TJR	**Tejon Ranch**	**1.19**	**230**		Sg	05 39 51.6	-1.2
GRAC	**Grapevine Rang**	**1.21**	**10**		Pb	05 39 36.6	-1.0
GRAC				IAML		05 39 44.0	
	comp=E,626nm,0.3s						
GRAC				IAML		05 39 56.2	
	comp=N,467nm,0.5s						
THC	**Tehachapi Micr**	**1.23**	**224**		Pg	05 39 37.0	-1.0
AMDNV	**Amargosa**	**1.27**	**59**		Pn	05 39 37.6	-0.9
AMDNV					Sb	05 39 54.5	-0.6
SGV	**South Grapevin**	**1.27**	**22**		Pn	05 39 38.1	-0.5
WCT	**Wildcat Mounta**	**1.28**	**39**		Sb	05 39 54.8	-0.7
WCT	**Wildcat Mounta**	**1.28**	**39**		Pn	05 39 37.9	-0.8
WCT				IAML		05 39 56.2	
	comp=N,387nm,0.5s						
WCT				IAML		05 39 56.6	
	comp=E,524nm,0.4s						
BAKC	**Calstate**	**1.29**	**250**		Pn	05 39 38.1	-0.6
BAKC					Sb	05 39 55.5	0.0
LRRC	**Littlerock Res**	**1.31**	**195**		Pg	05 39 39.5	0.0
LRRC					Sn	05 39 57.1	+0.4
CJV	**Casa Juvan**	**1.33**	**199**		Pn	05 39 39.1	-0.4
CJV					Sb	05 39 57.2	+0.1
JNH	**Juniper Hills**	**1.38**	**191**		Pb	05 39 40.4	0.0
DSCC	**Desert Studies**	**1.41**	**117**		Pn	05 39 39.5	-0.8
HEC	**Hector,Ludlow**	**1.43**	**132**		Pn	05 39 40.3	-0.5
HEC					Sb	05 39 59.8	-0.1
TUQ	**Turquoise Moun**	**1.44**	**104**		Pn	05 39 39.2	-1.7
TUQ					Sb	05 39 59.6	-0.3
OSI	**Osito Audit: C**	**1.48**	**218**		Pn	05 39 41.6	+0.2
OSI				IAML		05 40 04.1	
	comp=E,305nm,0.6s						
OSI				IAML		05 40 04.6	
	comp=N,257nm,0.6s						
CHFC	**Chilao Flat St**	**1.50**	**193**		Pb	05 39 42.6	0.0
GMN	**Gold Mountain**	**1.53**	**11**		Pn	05 39 41.5	-0.7
GMN				IAML		05 39 48.5	
	comp=N,198nm,0.6s						
BFSC	**Mount Baldy Ra**	**1.56**	**181**		Pb	05 39 43.1	-0.4
SSK	**Sunset Peak**	**1.58**	**182**		Pb	05 39 44.3	+0.2
SIL	**Silver Peak**	**1.59**	**155**		Pb	05 39 43.8	-0.4
DSP	**Deep Springs**	**1.59**	**350**		Pn	05 39 42.1	-0.7
TPNV	**Topopah Spring**	**1.60**	**44**		Pn	05 39 43.3	+0.1
TPNV				IAML		05 40 07.1	
	comp=N,414nm,0.4s						
TPNV				IAML		05 40 08.3	
	comp=N,446nm,0.5s						
MWC	**Mount Wilson**	**1.61**	**193**		Pb	05 39 44.6	+0.1
MWC	**Mount Wilson**	**1.61**	**193**	IAML		05 40 07.8	
	comp=N,284nm,0.4s						
MWC				IAML		05 40 09.1	
	comp=E,241nm,0.4s						
BBRC	**Big Bear Solar**	**1.64**	**159**		Pb	05 39 45.0	0.0
DECC	**Green Verdugo**	**1.65**	**201**		Pb	05 39 45.0	0.0
BHPR	**Bishop**	**1.65**	**335**		Pb	05 39 45.0	-0.2
PASC	**Pasadena Art C**	**1.69**	**196**		Pn	05 39 43.1	-1.1
BCW	**Bitter Crk WRg**	**1.69**	**240**		Pn	05 39 43.3	-1.0
BCW				IAML		05 40 12.8	
	comp=E,354nm,0.7s						
PSRC	**Puddingstone R**	**1.71**	**185**		Pb	05 39 46.3	+0.2
MTUM	**Tungsten Hills**	**1.73**	**334**		Pb	05 39 46.2	-0.3
SVD	**Seven Oaks Dam**	**1.74**	**165**		Sg	05 40 09.8	-0.7
BLCC	**Black Canyon**	**1.77**	**209**		Pg	05 39 48.5	+0.1
MLCM	**Laurel Creek C**	**2.08**	**331**		Pb	05 39 52.7	0.0
MCSM	**Casa Diablo Ho**	**2.12**	**331**		Pb	05 39 53.5	+0.3
TPC	**Twentynine Pal**	**2.13**	**142**		Pn	05 39 48.9	-1.5
MRDM	**Red Cones**	**2.13**	**328**		Pb	05 39 53.5	0.0
MEMM	**East Mammoth H**	**2.14**	**331**		Pb	05 39 53.9	+0.3
ELS	**Elsinore Mount**	**2.15**	**176**		Pn	05 39 49.5	-1.2
ELS				IAML		05 40 23.8	
	comp=E,121nm,0.3s						
MINS	**Minaret Summit**	**2.18**	**329**		Pb	05 39 54.6	+0.3
POB	**Polly Butte**	**2.19**	**164**		Pn	05 39 50.0	-1.1
MDCM	**Deadman Creek**	**2.22**	**330**		Pb	05 39 55.0	+0.1
V12A	**Nelson**	**2.26**	**91**		Pn	05 39 52.2	+0.1
V12A				IAML		05 40 35.8	
	comp=E,74nm,0.6s						
TPH	**Tonopah**	**2.29**	**8**		Pn	05 39 52.3	-0.5
MMIM	**Miami Mountain**	**2.35**	**314**		Pb	05 39 56.6	-0.5
BZNA	**Buzz No.'s Pla**	**2.43**	**161**		Pb	05 39 59.2	+0.7
FRD	**Ford Ranch, An**	**2.45**	**160**		Pb	05 39 59.7	+0.9
FRD	**Ford Ranch, An**	**2.45**	**160**		Pb	05 39 59.4	+0.6
LHV	**Little Huntoon**	**2.55**	**344**	Pn	Pn	05 39 55.6	-0.4
LHV				IAML		05 41 08.5	
	comp=N,56nm,0.9s						
NV11	**Mina Array Sit**	**2.66**	**351**		Pn	05 39 56.8	-0.9
SAO	**San Andreas Ge**	**3.23**	**288**	Pn	Pn	05 40 06.6	+1.1
CCUT	**Cedar City**	**3.85**	**62**	Pn	Pn	05 40 13.0	-1.2
X18A	**Snowflake**	**6.42**	**99**	Pn	Pn	05 40 49.8	+0.4

*NEIC **06** 05:40:07.7±2.0, 35°.85N±0°.01×117°.638W±0°.009, h5km±8km, Error ellipse: s-maj=2.1km s-min=0.7km az=204.0*

PAS 06 05:40:08.4±1.8, **35°.89N**±0°.02×**117°.67W**±0°.02, **h11**km±6km, **ML3.3**/26, **ML3.1**/36(NEIC), **Error ellipse: s-maj=2.6km s-min=1.8km az=154.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.11**	**223**		Pg	05 40 11.5	+0.3
WVPM	**Volcano Peak E**	**0.13**	**299**		Pg	05 40 11.6	-0.1
WVPM					Sg	05 40 13.8	-0.3
WNMM	**Nine Mile Cany**	**0.19**	**257**		Sg	05 40 15.7	+0.3
SRTC	**Snort**	**0.20**	**197**		Pg	05 40 13.2	+0.2
SRTC					Sg	05 40 16.3	+0.6
WRVM	**Rose V. Centra**	**0.21**	**305**		Pg	05 40 12.8	-0.1
MFS	**McCloud Flat S**	**0.27**	**328**		Pg	05 40 13.9	-0.2
CCCA	**Chr Cany lake**	**0.44**	**145**		Pg	05 40 14.8	-2.2
WORM	**Onyx Ranch**	**0.50**	**248**		Pg	05 40 17.8	-0.4
DTP	**Desert Tortois**	**0.63**	**193**		Pg	05 40 19.0	-1.7
QSM	**Queen of Sheba**	**0.66**	**83**		Sg	05 40 29.3	-0.6
QSM	**Queen of Sheba**	**0.66**	**83**	Pg	Pg	05 40 20.6	-0.6
QSM				IAML		05 40 31.9	
	comp=E,561nm,0.4s						
QSM				IAML		05 40 33.3	
	comp=N,575nm,0.2s						
ISA	**Isabella, Lake**	**0.69**	**251**		Pg	05 40 21.3	-0.5
ISA				IAML		05 40 33.7	
	comp=E,675nm,0.4s						
CCAC	**Calif City Air**	**0.78**	**201**		Sg	05 40 31.8	-2.0
CCAC	**Calif City Air**	**0.78**	**201**	Pg	Pg	05 40 21.9	-1.6
CCAC				IAML		05 40 32.3	
	comp=E,597nm,0.3s						
CCAC				IAML		05 40 41.7	
	comp=N,816nm,0.5s						
GWY	**Greenwater Val**	**0.87**	**70**		Pg	05 40 24.8	-0.4
GWY				IAML		05 40 40.3	
	comp=N,789nm,0.4s						
GWY				IAML		05 40 50.6	
	comp=E,512nm,0.4s						
GSC	**Goldstone, Bar**	**0.92**	**129**		Pg	05 40 23.4	-2.7
GSC	**Goldstone, Bar**	**0.92**	**129**	IAML		05 40 33.8	
	comp=N,870nm,0.6s						
GSC				IAML		05 40 50.8	
	comp=E,1μm,0.4s						
HYS	**Haystack Butte**	**1.02**	**175**		Pg	05 40 25.2	-2.9
EDW2	**Edwards Air Fo**	**1.04**	**195**		Pg	05 40 27.7	-0.6
TEJ	**El Tejon**	**1.05**	**232**		Pb	05 40 27.7	-1.1
GRAC	**Grapevine Rang**	**1.14**	**13**		Pb	05 40 28.4	-1.7
GRAC				IAML		05 40 56.0	
	comp=E,797nm,0.4s						
GRAC				IAML		05 40 56.5	
	comp=N,508nm,0.7s						
VES	**Vestal, Richgr**	**1.15**	**268**		Sb	05 40 45.2	+0.1
RRX	**Edison Barstow**	**1.15**	**151**		Pb	05 40 28.4	-2.0
SBB	**Saddle Back Bu**	**1.20**	**186**		Pb	05 40 29.5	-1.8
ARVC	**Arvin**	**1.21**	**232**		Pn	05 40 31.0	-0.3
WCT	**Wildcat Mounta**	**1.24**	**43**	Pg	Pn	05 40 30.6	-1.1
LEOC	**Leona Valley**	**1.35**	**203**		Pb	05 40 33.7	-0.1
LRRC	**Littlerock Res**	**1.39**	**192**		Pn	05 40 33.0	-0.6
CJV	**Casa Juvan**	**1.41**	**196**		Pn	05 40 34.2	+0.1
CJV					Sn	05 40 50.8	-1.9
JNH	**Juniper Hills**	**1.45**	**189**		Pn	05 40 34.2	-0.5
DSCC	**Desert Studies**	**1.48**	**120**		Sn	05 40 50.0	-2.4
DSP	**Deep Springs**	**1.50**	**351**	Pn	Pn	05 40 35.0	-0.2
TPNV	**Topopah Spring**	**1.56**	**47**	Pn	Pn	05 40 35.9	-0.4
TPNV				IAML		05 41 05.4	
	comp=N,245nm,0.6s						
TPNV				IAML		05 41 10.9	
	comp=N,205nm,1.0s						
SIL	**Silver Peak**	**1.69**	**155**		Pn	05 40 37.1	-0.9
MWC	**Mount Wilson**	**1.69**	**191**	Pn	Pn	05 40 37.3	-0.7
MWC				IAML		05 41 00.7	
	comp=N,314nm,0.3s						
MWC				IAML		05 41 01.9	
	comp=E,232nm,0.5s						
PASC	**Pasadena Art C**	**1.76**	**194**	Pn	Pn	05 40 38.8	0.0
PASC				IAML		05 41 05.3	
	comp=N,130nm,0.9s						
PASC				IAML		05 41 05.4	
	comp=E,175nm,0.7s						
PSRC	**Puddingstone R**	**1.79**	**184**		Pn	05 40 40.1	+0.8
CLTC	**Calectric**	**1.81**	**171**		Pn	05 40 40.2	+0.6
CLTC					Sn	05 41 03.2	+0.7
BLCC	**Black Canyon**	**1.83**	**207**		Pn	05 40 38.5	-1.3
GTM	**Goat Mountain**	**1.92**	**145**		Pn	05 40 41.7	+0.6
NV11	**Mina Array Sit**	**2.57**	**352**	Pn	Pn	05 40 51.0	+0.8
Q09A	**Carvers**	**2.97**	**7**	Pn	Pn	05 40 55.1	-0.6
MPK	**Martis Peak**	**3.88**	**332**	Pn	Pn	05 41 08.1	-0.2
PSUT	**Pine Spring**	**4.03**	**48**	Pn	Pn	05 41 12.0	+1.7
Y14A	**Wickenburg**	**4.30**	**116**	Pn	Pn	05 41 13.7	-0.2

*NEIC **06** 05:41:31.6±1.9, 35°.780N±0°.010×117°.58W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.8km az=86.0*

PAS 06 05:41:32.2±2.1, **35°.781N**±0°.010×**117°.59W**±0°.01, **h5**km±3km, **ML3.7**/18, **ML3.8**/78(NEIC), **Error ellipse: s-maj=1.5km s-min=1.3km az=139.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.14**	**281**		Pg	05 41 35.4	+0.2
TOW					Sg	05 41 38.1	+1.0
SRTC	**Snort**	**0.16**	**236**		Pg	05 41 35.6	+0.2
WVPM	**Volcano Peak E**	**0.25**	**312**		Pg	05 41 37.0	-0.1
LRMC	**Laurel Mtn Rad**	**0.31**	**194**		Pg	05 41 38.4	+0.1
LRMC	**Laurel Mtn Rad**	**0.31**	**194**	IAML		05 41 44.8	
	comp=N,17μm,0.4s						
LRMC				IAML		05 41 45.2	
	comp=E,10μm,0.3s						
CCCA	**Chr Cany lake**	**0.31**	**144**		Pg	05 41 38.2	-0.1
WRVM	**Rose V. Centra**	**0.33**	**313**		Pg	05 41 38.5	-0.2
WRVM					Sg	05 41 43.0	-0.2
MFS	**McCloud Flat S**	**0.40**	**327**		Pg	05 41 40.0	0.0
WBSM	**Bird Springs**	**0.51**	**242**		Pg	05 41 41.8	-0.3
WBSM					Sg	05 41 48.9	+0.2
WORM	**Onyx Ranch**	**0.54**	**261**		Sg	05 41 49.3	-0.3
DTP	**Desert Tortois**	**0.55**	**202**		Pg	05 41 42.7	-0.2
DTP					Sb	05 41 51.4	-1.3
QSM	**Queen of Sheba**	**0.61**	**72**	Pg	Pg	05 41 44.0	0.0
QSM				IAML		05 41 55.5	
	comp=E,5μm,0.5s						
QSM				IAML		05 41 55.8	
	comp=N,4μm,0.6s						
WHFM	**Hanning Flat**	**0.62**	**262**		Sg	05 41 52.3	0.0
CCAC	**Calif City Air**	**0.72**	**209**		Pg	05 41 45.9	-0.1
CCAC				IAML		05 42 01.6	
	comp=N,5μm,0.4s						
CCAC				IAML		05 42 02.4	
	comp=E,3μm,0.7s						
ISA	**Isabella, Lake**	**0.73**	**261**		Pg	05 41 45.7	-0.5
WASM	**Alta Sierra Ca**	**0.79**	**267**		Pg	05 41 47.0	-0.4
GSC	**Goldstone, Bar**	**0.80**	**127**		Pg	05 41 46.5	-1.0
GSC				IAML		05 41 54.5	
	comp=N,4μm,0.4s						
GWY	**Greenwater Val**	**0.85**	**61**	Pg	Pg	05 41 48.5	-0.1
GWY				IAML		05 42 06.5	
	comp=N,5μm,0.4s						
HYS	**Haystack Butte**	**0.92**	**179**		Pg	05 41 49.3	-0.5
EDW2	**Edwards Air Fo**	**0.96**	**200**		Pb	05 41 51.5	+0.2
RRX	**Edison Barstow**	**1.02**	**152**		Pg	05 41 50.5	-1.3
TPO	**Tropico Hills**	**1.04**	**210**		Pg	05 41 51.7	-0.5
SPG2	**Springville 2**	**1.04**	**294**		Pg	05 41 51.3	-0.9
SPG2					Sg	05 42 04.7	-1.1
TEJ	**El Tejon**	**1.05**	**239**		Pg	05 41 51.2	-1.2
SBB	**Saddle Back Bu**	**1.11**	**190**		Pg	05 41 52.7	-0.7
TJR	**Tejon Ranch**	**1.21**	**232**		Pg	05 41 54.1	-1.3
TJR					Sg	05 42 10.4	-0.5
GRAC	**Grapevine Rang**	**1.23**	**8**		Pg	05 41 55.4	-0.3
GRAC				IAML		05 42 32.2	
	comp=E,3μm,0.6s						
GRAC	**Grapevine Rang**	**1.23**	**8**		Sb	05 42 12.3	+0.3
ADO	**Adelanto Recei**	**1.23**	**174**		Pn	05 41 56.2	0.0
THC	**Tehachapi Micr**	**1.24**	**226**		Pg	05 41 54.5	-1.4
VTV	**Victorville**	**1.24**	**170**		Pg	05 41 55.8	-0.2
AMDNV	**Amargosa**	**1.25**	**57**		Pg	05 41 55.5	-0.7
AMDNV					Sg	05 42 11.7	-0.9
WCT	**Wildcat Mounta**	**1.27**	**37**		Pg	05 41 56.4	-0.3
WCT				IAML		05 42 30.4	
	comp=E,2μm,0.5s						
WCT				IAML		05 42 33.5	
	comp=N,1μm,0.7s						
SGV	**South Grapevin**	**1.28**	**20**		Pg	05 41 56.6	-0.2
LEOC	**Leona Valley**	**1.29**	**207**		Pg	05 41 56.1	-0.8
LRRC	**Littlerock Res**	**1.30**	**196**		Pn	05 41 56.2	-0.8
LRRC					Sg	05 42 13.8	-0.3
BAKC	**Calstate**	**1.31**	**251**		Pn	05 41 56.5	-0.6
CJV	**Casa Juvan**	**1.33**	**200**		Pn	05 41 56.6	-1.0
CJV					Sg	05 42 14.3	-0.6
JNH	**Juniper Hills**	**1.36**	**193**		Pn	05 41 57.2	-0.8
JNH					Sg	05 42 15.6	-0.5
DSCC	**Desert Studies**	**1.37**	**117**		Pn	05 41 56.7	-1.3
HEC	**Hector,Ludlow**	**1.40**	**132**		Pn	05 41 57.1	-1.3
TUQ	**Turquoise Moun**	**1.40**	**104**		Pn	05 41 58.5	-0.1
LCH	**Last Change Ra**	**1.45**	**358**		Pn	05 41 59.3	+0.1
CHFC	**Chilao Flat St**	**1.49**	**194**		Pn	05 42 00.0	+0.2
CHFC					Sn	05 42 19.0	-0.7
BFSC	**Mount Baldy Ra**	**1.54**	**182**		Pb	05 42 01.2	-0.1
BFSC					Sn	05 42 17.3	-3.6
GMN	**Gold Mountain**	**1.54**	**10**		Sn	05 42 18.4	-2.7
GMN	**Gold Mountain**	**1.54**	**10**		Pn	05 42 00.3	-0.3
GMN				IAML		05 42 22.6	
	comp=N,1μm,0.4s						
GMN				IAML		05 42 39.2	
	comp=E,849nm,0.5s						
SIL	**Silver Peak**	**1.56**	**156**		Pn	05 42 00.8	0.0
TPNV	**Topopah Spring**	**1.59**	**42**		Pn	05 42 00.8	-0.4
TPNV				IAML		05 42 41.8	
	comp=E,1μm,0.5s						
TPNV				IAML		05 42 41.8	
	comp=E,1μm,0.4s						
MWC	**Mount Wilson**	**1.60**	**194**		Sn	05 42 22.1	-0.4
BBRC	**Big Bear Solar**	**1.61**	**160**		Pn	05 42 01.5	0.0
DSP	**Deep Springs**	**1.62**	**349**		Pn	05 42 01.9	+0.5
PASC	**Pasadena Art C**	**1.68**	**197**		Pn	05 42 02.1	-0.1
PASC				IAML		05 42 44.6	
	comp=E,1μm,0.5s						
BHPR	**Bishop**	**1.68**	**335**		Pb	05 42 03.8	0.0
MTPC	**Mountain Pass**	**1.68**	**99**		Pn	05 42 01.7	-0.8
CLTC	**Calectric**	**1.70**	**172**		Sn	05 42 22.7	-1.9
BCW	**Bitter Crk WRg**	**1.71**	**241**		Pn	05 42 02.1	-0.7
BCW				IAML		05 42 43.6	
	comp=N,1μm,0.5s						
BCW				IAML		05 42 57.4	
	comp=E,1μm,0.8s						
SVD	**Seven Oaks Dam**	**1.72**	**166**		Pn	05 42 03.3	+0.5
MTUM	**Tungsten Hills**	**1.75**	**334**		Pb	05 42 04.9	-0.2
GVRC	**Garvey Reservo**	**1.78**	**194**		Pg	05 42 06.1	-0.2
RVR	**Riverside**	**1.79**	**174**		Pn	05 42 03.5	-0.2
GTM	**Goat Mountain**	**1.79**	**145**		Pn	05 42 04.6	+0.7
GTM					Sn	05 42 25.6	-1.5
CRGC	**Crocker Grade**	**1.82**	**253**		Pn	05 42 05.1	+0.8
PEC	**Perris**	**1.92**	**169**		Pn	05 42 05.4	-0.2
EW2	**E Wide Canyon**	**2.08**	**152**		Pn	05 42 07.3	-0.4
BENR	**Benton**	**2.09**	**338**		Pb	05 42 11.3	+0.6
SHPR	**Sheep Range**	**2.10**	**69**	Pn	Pn	05 42 08.6	+0.4
TPC	**Twentynine Pal**	**2.10**	**142**		Pn	05 42 07.5	-0.5
MLAC	**Mammoth, Mammo**	**2.10**	**332**		Pb	05 42 11.2	+0.3
HMTC	**Hemet**	**2.12**	**167**		Pn	05 42 08.0	-0.3
ELS	**Elsinore Mount**	**2.13**	**176**	Pn	Pn	05 42 08.2	-0.4
ELS				IAML		05 43 00.8	
	comp=E,409nm,1.0s						
RPV	**Rancho Palos V**	**2.14**	**199**		Pn	05 42 08.7	+0.2
MCSM	**Casa Diablo Ho**	**2.15**	**331**		Pb	05 42 12.0	+0.2

LRMC					Sg	05 43 36.5	+0.7	
LRMC	**Laurel Mtn Rad**	**0.39**	**175**	IAML		05 43 37.0		
	comp=E,6µm,0.5s							
LRMC				IAML		05 43 37.3		
	comp=N,4µm,0.4s							
WORM	**Onyx Ranch**	**0.46**	**248**		Pg	05 43 31.5	-0.4	
WHFM	**Hanning Flat**	**0.54**	**252**		Sg	05 43 31.7	-1.7	
DTP	**Desert Tortois**	**0.61**	**189**		Sg	05 43 43.0	+0.2	
CWC	**Cottonwood Cre**	**0.64**	**333**		Pg	05 43 34.6	-0.8	
ISA	**Isabella, Lake**	**0.64**	**252**	Pg	Pg	05 43 34.5	-1.0	
ISA				IAML		05 43 44.1		
	comp=E,2µm,0.3s							
WASM	**Alta Sierra Ca**	**0.69**	**259**		Sg	05 43 45.1	-0.3	
QSM	**Queen of Sheba**	**0.70**	**82**	Pg	Pg	05 43 35.5	-1.0	
QSM				IAML		05 43 46.8		
	comp=E,1µm,0.6s							
QSM				IAML		05 43 51.2		
	comp=N,1µm,0.8s							
CCAC	**Calif City Air**	**0.75**	**199**	Pg	Pg	05 43 36.8	-0.7	
CCAC				IAML		05 43 51.2		
	comp=E,654nm,1.0s							
SPG2	**Springville 2**	**0.91**	**292**		Pg	05 43 39.1	-1.4	
GWY	**Greenwater Val**	**0.91**	**69**	Pg	Pg	05 43 40.4	-0.2	
GWY				IAML		05 43 56.8		
	comp=N,782nm,0.6s							
GWY				IAML		05 43 57.5		
	comp=E,1µm,0.4s							
GSC	**Goldstone, Bar**	**0.94**	**127**	Pg	Pg	05 43 40.2	-0.9	
GSC				IAML		05 43 55.3		
	comp=N,551nm,0.4s							
TEJ	**El Tejon**	**1.01**	**231**		Sg	05 43 55.1	-0.5	
VES	**Vestal, Richgr**	**1.11**	**269**		Sg	05 43 58.5	-0.1	
GRAC	**Grapevine Rang**	**1.16**	**14**	Pg	Pb	05 43 43.8	-1.4	
GRAC				IAML		05 44 02.9		
	comp=N,679nm,0.4s							
GRAC				IAML		05 44 04.7		
	comp=E,600nm,0.5s							
THC	**Tehachapi Micr**	**1.23**	**219**		Pb	05 43 45.2	-1.2	
WCT	**Wildcat Mounta**	**1.28**	**44**	Pn	Pn	05 43 46.2	-0.9	
WCT				IAML		05 44 03.4		
	comp=E,272nm,0.5s							
VOG	**Valley Oaks Go**	**1.42**	**289**		Pn	05 43 48.5	-0.3	
GMN	**Gold Mountain**	**1.48**	**15**		Pn	05 43 50.3	+0.3	
OSI	**Osito Audit: C**	**1.49**	**213**	Pn	Pn	05 43 50.1	+0.2	
DSCC	**Desert Studies**	**1.51**	**118**		Sb	05 44 10.8	+0.2	
DSP	**Deep Springs**	**1.51**	**353**	Pn	Pn	05 43 49.7	-0.5	
CHFC	**Chilao Flat St**	**1.55**	**189**		Sg	05 44 13.0	+0.1	
BHPR	**Bishop**	**1.56**	**337**		Pn	05 43 51.1	+0.1	
TPNV	**Topopah Spring**	**1.61**	**47**	Pn	Pn	05 43 51.5	-0.2	
TPNV				IAML		05 44 15.7		
	comp=E,309nm,0.8s							
TPNV				IAML		05 44 18.6		
	comp=E,252nm,0.8s							
MTUM	**Tungsten Hills**	**1.63**	**336**		Pn	05 43 52.4	+0.4	
MWC	**Mount Wilson**	**1.66**	**190**	Pn	Pn	05 43 51.4	-1.1	
MWC				IAML		05 44 18.1		
	comp=N,205nm,0.5s							
MWC				IAML		05 44 18.8		
	comp=E,252nm,0.6s							
BLCC	**Black Canyon**	**1.80**	**206**		Pb	05 43 56.0	-0.1	
MCSM	**Casa Diablo Ho**	**2.02**	**332**		Pb	05 43 59.6	-0.5	
TPH	**Tonopah**	**2.24**	**10**	Pn	Pn	05 43 59.9	-0.5	
HATC	**Hat Creek Radi**	**5.75**	**330**	Pn	Pn	05 44 47.4	-1.0	
O02D	**Mt. Diablo Mer**	**5.87**	**319**	Pn	Pn	05 44 49.3	-0.9	
HMU	**Henry Mountain**	**5.96**	**68**	Pn	Pn	05 44 51.0	-0.7	
MPU	**Maple Canyon**	**6.35**	**47**	Pn	Pn	05 44 56.0	-0.9	
PV20	**West Nyswonger**	**7.42**	**68**	Pn	Pn	05 45 10.2	-1.3	
PV16	**Nyswonger Mesa**	**7.45**	**68**	Pn	Pn	05 45 10.6	-1.4	

*NEIC **06** 05:43:49.5±1.1,35°.88N±0°.01×117°.72W±0°.02,h8km±9km, Error ellipse: s-maj=2.4km s-min=0.9km az=131.0*

PAS 06 05:43:50.1±1.1,35°.868N±0°.009×117°.71W±0°.02, h5km±3km,ML3.0/9,ML3.0/22(NEIC),Error ellipse: s-maj=2.4km s-min=0.9km az=118.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.07**	**215**		Pg	05 43 53.0	+1.2
WVPM	**Volcano Peak E**	**0.12**	**314**		Pg	05 43 52.5	-0.1
WNMM	**Nine Mile Cany**	**0.16**	**261**		Pg	05 43 53.6	+0.4
SRTC	**Snort**	**0.18**	**189**		Pg	05 43 54.1	+0.5
SRTC					Sg	05 43 56.3	+0.4
WRVM	**Rose V. Centra**	**0.20**	**314**		Pg	05 43 53.9	-0.2
MFS	**McCloud Flat S**	**0.27**	**335**		Pg	05 43 56.0	+0.5
MFS					Sg	05 43 59.1	0.0
WORM	**Onyx Ranch**	**0.46**	**248**		Sg	05 44 05.0	0.0
WBSM	**Bird Springs**	**0.48**	**226**		Pg	05 43 59.1	-0.2
WBSM					Sg	05 44 06.2	+0.7
WHFM	**Hanning Flat**	**0.55**	**252**		Sg	05 44 07.7	0.0
CWC	**Cottonwood Cre**	**0.64**	**333**		Pg	05 44 02.4	0.0
ISA	**Isabella, Lake**	**0.65**	**252**	Pg	Pg	05 44 01.6	-1.0
CCAC	**Calif City Air**	**0.76**	**199**	Pg	Pg	05 44 02.8	-1.8
VES	**Vestal, Richgr**	**1.11**	**269**		Sg	05 44 25.7	-0.2
WCT	**Wildcat Mounta**	**1.27**	**43**	Pg	Pg	05 44 13.1	-1.4
WCT				IAML		05 44 50.9	
	comp=N,238nm,0.8s						
WCT				IAML		05 44 51.6	
	comp=E,388nm,0.9s						
VOG	**Valley Oaks Go**	**1.43**	**289**		Sg	05 44 36.2	+0.3
GMN	**Gold Mountain**	**1.48**	**14**		Pn	05 44 16.6	-0.9
GMN				IAML		05 44 39.0	
	comp=N,266nm,0.4s						
GMN				IAML		05 45 07.6	
	comp=E,176nm,0.9s						
DSP	**Deep Springs**	**1.51**	**352**		Pn	05 44 17.8	0.0
DSP				IAML		05 44 57.3	
	comp=N,114nm,0.6s						
DSP				IAML		05 45 05.7	
	comp=E,240nm,0.4s						
CLTC	**Calectric**	**1.80**	**169**		Sb	05 44 46.2	-0.2
BLCC	**Black Canyon**	**1.80**	**206**		Pn	05 44 21.7	-0.2
SHPR	**Sheep Range**	**2.16**	**72**	Pn	Pn	05 44 25.9	-1.0
SHPR				IAML		05 45 26.3	
	comp=E,58nm,0.5s						
ELS	**Elsinore Mount**	**2.23**	**174**	Pn	Pn	05 44 26.6	-1.1
ELS				IAML		05 45 31.1	
	comp=E,94nm,0.5s						
ELS				IAML		05 45 32.8	
	comp=N,91nm,0.7s						
S11A	**Rachel**	**2.37**	**41**	Pn	Pn	05 44 28.9	-0.9
PMPB	**Monarch Peak**	**2.53**	**279**	Pn	Pn	05 44 31.1	-0.7
BBGB	**Big Mountain B**	**2.78**	**286**	Pn	Pn	05 44 34.0	-1.3
RYN	**Ryan**	**2.83**	**347**	Pn	Pn	05 44 35.2	-0.8
TJX	**Tijuana**	**3.39**	**171**	Pn	Pn	05 44 42.7	-0.9
TKX	**Tecate**	**3.42**	**164**	Pn	Pn	05 44 43.5	-0.6
CBX	**Cerro Bola**	**3.65**	**166**	Pn	Pn	05 44 48.2	+0.8

*NEIC **06** 05:44:08.5±1.4,35°.907N±0°.010×117°.71W±0°.01, h3km±1km,Error ellipse: s-maj=1.4km s-min=1.3km az=144.0*

PAS 06 05:44:08.9±1.4,35°.922N±0°.008×117°.72W±0°.01, h2km±3km,ML3.4/25,ML3.2/54(NEIC),Error ellipse: s-maj=1.4km s-min=1.2km az=88.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**288**		Pg	05 44 11.0	+0.3
TOW	**Tower One**	**0.12**	**200**		Pg	05 44 11.7	+0.4
WRVM	**Rose V. Centra**	**0.17**	**301**		Pg	05 44 12.4	+0.3
WNMM	**Nine Mile Cany**	**0.17**	**243**		Pg	05 44 12.8	+0.5
MFS	**McCloud Flat S**	**0.23**	**330**		Pg	05 44 13.5	+0.2
MFS					Sg	05 44 17.0	+0.7
SRTC	**Snort**	**0.23**	**187**		Pg	05 44 12.9	-0.4
LRMC	**Laurel Mtn Rad**	**0.44**	**177**	Pg	Pg	05 44 17.3	-0.1
LRMC				IAML		05 44 24.2	
	comp=N,3µm,0.2s						
LRMC				IAML		05 44 32.0	
	comp=E,3µm,0.7s						
WORM	**Onyx Ranch**	**0.48**	**242**		Pg	05 44 18.3	+0.1
WORM					Sg	05 44 24.8	+0.3
CCCA	**Chr Cany lake**	**0.49**	**144**		Pg	05 44 18.8	+0.5
CCCA					Sb	05 44 26.3	-1.5
WBSM	**Bird Springs**	**0.52**	**222**		Pg	05 44 18.6	-0.2
WBSM					Sg	05 44 25.5	-0.1
WHFM	**Hanning Flat**	**0.56**	**247**		Pg	05 44 19.8	+0.1
ISA	**Isabella, Lake**	**0.67**	**248**	Pg	Pg	05 44 21.7	0.0
ISA				IAML		05 44 31.3	
	comp=N,1µm,0.4s						
ISA				IAML		05 44 31.9	
	comp=E,2µm,0.3s						
QSM	**Queen of Sheba**	**0.69**	**86**	Pg	Pg	05 44 22.0	-0.1
QSM				IAML		05 44 35.9	
	comp=E,1µm,0.6s						
QSM				IAML		05 44 43.4	
	comp=N,1µm,0.4s						
WASM	**Alta Sierra Ca**	**0.71**	**255**		Pg	05 44 22.5	0.0
WASM					Sg	05 44 32.3	+0.6
CCAC	**Calif City Air**	**0.81**	**198**	Pg	Pg	05 44 24.2	-0.2
CCAC				IAML		05 44 39.0	
	comp=N,1µm,0.4s						
CCAC				IAML		05 44 39.0	
	comp=E,722nm,0.8s						
GWY	**Greenwater Val**	**0.89**	**72**	Pg	Pg	05 44 25.8	-0.1
GWY				IAML		05 44 45.5	
	comp=E,1µm,0.7s						
GWY				IAML		05 44 52.0	
	comp=N,849nm,0.6s						
GSC	**Goldstone, Bar**	**0.96**	**130**		Pg	05 44 27.0	-0.4
GRAC	**Grapevine Rang**	**1.11**	**15**	Pg	Pg	05 44 29.9	-0.2
GRAC				IAML		05 44 50.3	
	comp=N,800nm,0.7s						
VES	**Vestal, Richgr**	**1.12**	**266**		Pg	05 44 30.1	-0.2
VES					Sb	05 44 45.4	-0.4
WCT	**Wildcat Mounta**	**1.24**	**45**	Pg	Pg	05 44 31.3	-1.3
AMDNV	**Amargosa**	**1.27**	**65**		Sg	05 44 49.5	-0.4
GMN	**Gold Mountain**	**1.42**	**15**		Pn	05 44 35.6	-0.4
GMN				IAML		05 45 04.9	
	comp=N,220nm,0.5s						
CJV	**Casa Juvan**	**1.43**	**194**		Pb	05 44 36.6	+0.3
DSP	**Deep Springs**	**1.46**	**352**		Pn	05 44 36.2	0.0
OSI	**Osito Audit: C**	**1.54**	**213**		Pn	05 44 37.0	-0.5
OSI				IAML		05 45 01.2	
	comp=E,314nm,0.7s						
OSI				IAML		05 45 10.5	
	comp=N,223nm,0.6s						
MTUM	**Tungsten Hills**	**1.58**	**335**		Pb	05 44 39.0	0.0
BCW	**Bitter Crk WRg**	**1.70**	**235**		Pn	05 44 39.3	-0.4
MTPC	**Mountain Pass**	**1.81**	**103**		Pn	05 44 39.9	-1.4
SHPR	**Sheep Range**	**2.15**	**74**	Pn	Pn	05 44 45.2	-0.6
TPH	**Tonopah**	**2.19**	**10**	Pn	Pn	05 44 46.5	+0.1
WAKR	**Walker**	**2.92**	**332**	Pn	Pn	05 44 54.9	-1.7
Q09A	**Carvers**	**2.94**	**8**	Pn	Pn	05 44 57.5	+0.8
R11B	**Troy Canyon, C**	**2.96**	**34**	Pn	Pn	05 44 55.7	-1.4
R11B				IAML		05 45 42.6	
	comp=E,54nm,1.2s						
SAO	**San Andreas Ge**	**3.13**	**287**	Pn	Pn	05 44 58.8	-0.4
YUH	**Yuha Desert**	**3.59**	**155**	Pn	Pn	05 45 05.1	-0.4
CBX	**Cerro Bola**	**3.70**	**166**	Pn	Pn	05 45 06.8	-0.4
CCUT	**Cedar City**	**3.85**	**64**	Pn	Pn	05 45 09.1	-0.3
SZCU	**Shurtz Canyon**	**4.07**	**64**	Pn	Pn	05 45 13.0	+0.6
SZCU				IAML		05 46 35.5	
	comp=N,18nm,2.5s						
SZCU				IAML		05 46 47.0	
	comp=E,18nm,1.4s						
KNB	**Kanab**	**4.09**	**73**	Pn	Pn	05 45 13.0	+0.4
KNB				IAML		05 45 46.1	
	comp=E,27nm,1.7s						
KNB				IAML		05 46 29.2	
	comp=N,27nm,2.0s						
X16A	**Lo Mia Camp, P**	**5.35**	**104**	Pn	Pn	05 45 30.2	+0.2
X16A				IAML		05 47 13.1	
	comp=N,11nm,2.4s						
X16A				IAML		05 47 19.2	
	comp=E,9.8nm,3.4s						

*NEIC **06** 05:45:25.9±1.7,35°.933N±0°.004×117°.70W±0°.01, h1km±1km,Error ellipse: s-maj=1.5km s-min=0.6km az=102.0*

PAS 06 05:45:26.3±1.4,35°.928N±0°.009×117°.70W±0°.01, h2km±3km,ML3.0/5,ML2.9/44(NEIC),Error ellipse: s-maj=1.5km s-min=1.3km az=107.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.10**	**283**		Pg	05 45 28.5	+0.3
TOW	**Tower One**	**0.13**	**203**		Pg	05 45 29.3	+0.5
WRVM	**Rose V. Centra**	**0.17**	**298**		Pg	05 45 29.9	+0.2
MFS	**McCloud Flat S**	**0.23**	**327**		Pg	05 45 30.9	+0.2
MFS					Sg	05 45 34.4	+0.8
SRTC	**Snort**	**0.24**	**189**		Pg	05 45 31.4	+0.5
LRMC	**Laurel Mtn Rad**	**0.45**	**178**		Pg	05 45 34.9	0.0
LRMC	**Laurel Mtn Rad**	**0.45**	**178**	IAML		05 45 41.6	
	comp=N,2µm,0.2s						
LRMC				IAML		05 45 41.9	
	comp=E,1µm,0.3s						
CCCA	**Chr Cany lake**	**0.49**	**145**		Sg	05 45 43.5	+1.6
WORM	**Onyx Ranch**	**0.50**	**242**		Sg	05 45 42.4	+0.1
WBSM	**Bird Springs**	**0.53**	**222**		Pg	05 45 36.4	0.0
WBSM					Sg	05 45 43.9	+0.6
WHFM	**Hanning Flat**	**0.57**	**246**		Pg	05 45 37.2	0.0
WHFM					Sg	05 45 45.0	+0.2
QSM	**Queen of Sheba**	**0.68**	**87**	Pg	Pg	05 45 38.9	-0.4
QSM				IAML		05 45 54.5	
	comp=E,588nm,0.5s						
QSM				IAML		05 45 54.5	
	comp=N,726nm,0.6s						
ISA	**Isabella, Lake**	**0.68**	**247**	Pg	Pg	05 45 38.9	-0.4
ISA				IAML		05 45 48.7	
	comp=N,680nm,0.4s						
WASM	**Alta Sierra Ca**	**0.72**	**255**		Pg	05 45 40.0	-0.1
CCAC	**Calif City Air**	**0.81**	**198**		Sg	05 45 52.9	+0.5
CCAC	**Calif City Air**	**0.81**	**198**	Pg	Pg	05 45 41.5	-0.4
CCAC				IAML		05 45 56.4	
	comp=N,490nm,0.4s						
CCAC				IAML		05 45 56.6	
	comp=E,376nm,0.8s						
GWY	**Greenwater Val**	**0.88**	**73**	Pg	Pg	05 45 42.8	-0.3
GWY				IAML		05 46 00.8	
	comp=N,318nm,0.6s						
GWY				IAML		05 46 01.3	
	comp=E,484nm,0.6s						
SPG2	**Springville 2**	**0.90**	**288**		Pg	05 45 43.1	-0.5
GSC	**Goldstone, Bar**	**0.96**	**130**		Sg	05 45 57.5	+0.3
GSC	**Goldstone, Bar**	**0.96**	**130**	Pg	Pg	05 45 44.1	-0.6
GRAC	**Grapevine Rang**	**1.10**	**14**	Pg	Pg	05 45 47.1	-0.3
GRAC				IAML		05 46 09.8	
	comp=N,280nm,0.7s						
GRAC				IAML		05 46 12.9	
	comp=E,283nm,0.7s						
VES	**Vestal, Richgr**	**1.12**	**266**		Sg	05 46 02.8	+0.4
SGV	**South Grapevin**	**1.18**	**27**		Sg	05 46 04.8	+0.5
WCT	**Wildcat Mounta**	**1.23**	**45**		Sg	05 46 05.6	-0.1
WCT	**Wildcat Mounta**	**1.23**	**45**	Pg	Pg	05 45 49.7	-0.1
WCT				IAML		05 46 08.8	
	comp=N,121nm,0.8s						
WCT				IAML		05 46 10.4	
	comp=E,184nm,0.8s						
LCH	**Last Change Ra**	**1.30**	**2**		Sg	05 46 08.4	+0.2
GMN	**Gold Mountain**	**1.42**	**14**		Pn	05 45 52.7	-0.5
CJV	**Casa Juvan**	**1.44**	**195**		Pb	05 45 54.2	+0.3
DSP	**Deep Springs**	**1.46**	**352**		Pn	05 45 52.9	-0.7
JNH	**Juniper Hills**	**1.49**	**188**		Pg	05 45 55.1	+0.3
TPNV	**Topopah Spring**	**1.55**	**49**		Pn	05 45 54.5	-0.6
TPNV				IAML		05 46 20.1	
	comp=E,166nm,0.8s						
TPNV				IAML		05 46 21.5	
	comp=E,110nm,0.7s						
OSI	**Osito Audit: C**	**1.55**	**213**		Pn	05 45 54.8	-0.2
OSI				IAML		05 46 17.6	
	comp=E,113nm,0.8s						
OSI				IAML		05 46 27.9	
	comp=N,114nm,0.6s						
MTUM	**Tungsten Hills**	**1.58**	**334**		Pb	05 45 56.2	-0.1
CHFC	**Chilao Flat St**	**1.61**	**190**		Pb	05 45 56.7	-0.2
BFSC	**Mount Baldy Ra**	**1.69**	**179**		Pb	05 45 58.1	0.0
BCW	**Bitter Crk WRg**	**1.71**	**235**		Pn	05 45 56.9	-0.3
MWC	**Mount Wilson**	**1.73**	**190**		Pn	05 45 56.7	-0.8
MWC				IAML		05 46 59.2	
	comp=E,187nm,0.2s						
SIL	**Silver Peak**	**1.73**	**155**		Pb	05 45 59.1	+0.2
PASC	**Pasadena Art C**	**1.80**	**193**	Pn	Pn	05 45 57.5	-0.7
KCC	**Kaiser Creek**	**1.91**	**317**		Pb	05 46 01.5	-0.3
SHPR	**Sheep Range**	**2.14**	**74**	Pn	Pn	05 46 02.4	-0.7
TPH	**Tonopah**	**2.18**	**10**	Pn	Pn	05 46 02.5	-1.2
ELS	**Elsinore Mount**	**2.29**	**174**	Pn	Pn	05 46 04.0	-1.0
NV11	**Mina Array Sit**	**2.53**	**352**	Pn	Pn	05 46 06.9	-1.6
PMPB	**Monarch Peak**	**2.53**	**277**	Pn	Pn	05 46 07.8	-0.6
NVAR	**Mina Array Bea**	**2.54**	**349**	Pn	Pn	05 46 09.6	+0.9
LCMT	**Little Creek M**	**3.75**	**72**	Pn	Pn	05 46 24.8	-0.5
CPBX	**Cerro Prieto**	**4.03**	**150**	Pn	Pn	05 46 29.8	+0.9
KNB	**Kanab**	**4.08**	**73**	Pn	Pn	05 46 29.8	0.0
VTX	**Valle De La Tr**	**4.80**	**160**	Pn	Pn	05 46 38.2	-1.5
SFX	**San Felipe**	**5.43**	**153**	Pn	Pn	05 46 48.1	-0.1

*NEIC **06** 05:46:07.0±2.1,35°.72N±0°.01×117°.561W±0°.009, h5km±3km,Error ellipse: s-maj=2.0km s-min=1.0km az=186.0*

PAS 06 05:46:06.9±1.9,35°.71N±0°.01×117°.55W±0°.01,h2km, ML3.1/26,ML2.8/36(NEIC),Error ellipse: s-maj=1.9km s-min=1.5km az=191.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.16**	**265**		Pg	05 46 10.6	+0.6
TOW	**Tower One**	**0.20**	**300**		Pg	05 46 11.5	+0.7
CCCA	**Chr Cany lake**	**0.24**	**140**		Pg	05 46 12.2	+0.8
LRMC	**Laurel Mtn Rad**	**0.25**	**205**		Sg	05 46 15.7	+0.8
LRMC	**Laurel Mtn Rad**	**0.25**	**205**		Pg	05 46 11.8	+0.1
LRMC				IAML		05 46 15.9	
	comp=E,4µm,0.3s						
LRMC				IAML		05 46 16.2	
	comp=N,4µm,0.2s						
DTP	**Desert Tortois**	**0.50**	**209**		Pg	05 46 16.4	0.0
DTP					Sg	05 46 23.5	+0.6
WBSM	**Bird Springs**	**0.51**	**251**		Pg	05 46 16.8	+0.1
WBSM					Sg	05 46 23.9	+0.7
QSM	**Queen of Sheba**	**0.61**	**65**		Pg	05 46 18.6	0.0
QSM	**Queen of Sheba**	**0.61**	**65**	IAML		05 46 28.4	
	comp=E,476nm,0.2s						
WHFM	**Hanning Flat**	**0.65**	**269**		Pg	05 46 19.2	-0.1
CCAC	**Calif City Air**	**0.67**	**215**		Sg	05 46 29.1	+0.7
CCAC	**Calif City Air**	**0.67**	**215**	Pg	Pg	05 46 19.6	-0.1
CCAC				IAML		05 46 29.3	
	comp=E,749nm,0.5s						
CCAC				IAML		05 46 29.3	
	comp=N,572nm,0.3s						
GSC	**Goldstone, Bar**	**0.73**	**123**	Pg	Pg	05 46 20.4	-0.4
ISA	**Isabella, Lake**	**0.75**	**267**	Pg	Pg	05 46 20.8	-0.5
ISA				IAML		05 46 35.4	
	comp=N,295nm,0.3s						
WASM	**Alta Sierra Ca**	**0.82**	**272**		Pg	05 46 22.5	-0.1
WASM					Sg	05 46 32.4	-0.8
HYS	**Haystack Butte**	**0.84**	**181**		Pb	05 46 24.1	-0.2
GWY	**Greenwater Val**	**0.86**	**56**	Pg	Pg	05 46 23.1	-0.3
GWY				IAML		05 46 39.5	
	comp=N,562nm,0.6s						
EDW2	**Edwards Air Fo**	**0.90**	**204**		Pb	05 46 25.0	-0.2
TPO	**Tropico Hills**	**0.99**	**214**		Sg	05 46 39.5	+0.7
SPG2	**Springville 2**	**1.10**	**297**		Sg	05 46 41.6	-0.7
VTV	**Victorville**	**1.16**	**171**		Sb	05 46 45.8	+0.6
LEOC	**Leona Valley**	**1.24**	**210**		Pb	05 46 30.9	-0.2
LRRC	**Littlerock Res**	**1.24**	**199**		Sb	05 46 48.0	+0.5
VES	**Vestal, Richgr**	**1.25**	**277**		Sg	05 46 46.6	-0.6
AMDNV	**Amargosa**	**1.27**	**54**		Pg	05 46 31.0	-0.2
CJV	**Casa Juvan**	**1.27**	**203**		Pn	05 46 31.8	0.0
GRAC	**Grapevine Rang**	**1.29**	**7**	Pg	Pg	05 46 31.3	-0.4
GRAC				IAML		05 46 53.2	
	comp=E,185nm,0.5s						
GRAC				IAML		05 46 55.7	
	comp=N,251nm,0.6s						
JNH	**Juniper Hills**	**1.30**	**195**		Sb	05 46 49.7	+0.4
DSCC	**Desert Studies**	**1.31**	**115**		Sg	05 46 48.6	-0.3
WCT	**Wildcat Mounta**	**1.32**	**34**	Pg	Pg	05 46 31.9	-0.3
WCT				IAML		05 46 53.3	
	comp=E,108nm,0.4s						
HEC	**Hector Ludlow**	**1.32**	**131**		Sg	05 46 49.5	+0.1
GMN	**Gold Mountain**	**1.61**	**8**		Pn	05 46 36.2	-0.3
PASC	**Pasadena Art C**	**1.62**	**199**		Pn	05 46 35.9	-0.6
PASC				IAML		05 46 59.8	
	comp=E,90nm,0.8s						
PASC				IAML		05 47 03.7	
	comp=N,77nm,0.7s						
PSRC	**Puddingstone R**	**1.62**	**188**		Sg	05 46 59.4	+0.3
TPNV	**Topopah Spring**	**1.62**	**40**		Pn	05 46 36.2	-0.5
TPNV				IAML		05 47 01.8	
	comp=N,95nm,0.8s						
TPNV				IAML		05 47 02.5	
	comp=N,103nm,0.5s						
BLCC	**Black Canyon**	**1.73**	**213**		Pg	05 46 40.2	+0.2
PMD	**Palm Desert**	**2.27**	**154**	Pn	Pn	05 46 45.3	-0.1
PFO	**Pinyon Flats O**	**2.27**	**156**	Pn	Pn	05 46 45.3	-0.3
PRN	**Pahroc Range**	**2.63**	**49**	Pn	Pn	05 46 50.3	-0.3
PRN				IAML		05 47 37.9	
	comp=N,62nm,0.8s						
PRN				IAML		05 47 40.7	
	comp=E,65nm,0.8s						
TKX	**Tecate**	**3.23**	**166**	Pn	Pn	05 46 58.6	0.0
CMB	**Columbia Colle**	**3.25**	**316**	Pn	Pn	05 46 58.1	-0.9
CMB				IAML		05 47 50.0	
	comp=N,17nm,0.3s						
CMB				IAML		05 47 58.6	
	comp=E,16nm,0.7s						
SAO	**San Andreas Ge**	**3.32**	**290**	Pn	Pn	05 47 00.5	+0.6
GLA	**Glamis**	**3.48**	**139**	Pn	Pn	05 47 02.0	-0.1
LCMT	**Little Creek M**	**3.71**	**68**	Pn	Pn	05 47 05.3	-0.1
PSUT	**Pine Spring**	**4.08**	**45**	Pn	Pn	05 47 10.6	0.0
SPR3	**Spring Creek 3**	**4.17**	**37**	Pn	Pn	05 47 10.2	-1.6
VTX	**Valle De La Tr**	**4.55**	**161**	Pn	Pn	05 47 15.8	-1.0

*NEIC **06** 05:51:49.8±1.7,35°.922N±0°.009×117°.72W±0°.01, h5km±1km,Error ellipse: s-maj=2.5km s-min=1.5km az=321.0*

PAS 06 05:51:49.7±1.4,35°.912N±0°.008×117°.712W±0°.009, h2km±2km,ML3.4/27,ML3.4/72(NEIC),Error ellipse: s-maj=1.2km s-min=1.0km az=168.0,Central California

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m

SGV	South Grapevin	1.20	27			Sg	05 52 28.2	0.0
ARVC	Arvin	1.20	230			Sb	05 52 28.9	-0.3
TIN	Tinemaha, Big	1.21	340			Pg	05 52 12.6	-0.3
TIN						Sg	05 52 28.1	-0.6
WCT	Wildcat Mounta	1.24	45			Pg	05 52 13.3	-0.2
THC	Tehachapi Micr	1.27	218			Pg	05 52 13.6	-0.4
BAKC	Calstate	1.27	244			Pg	05 52 13.8	-0.2
AMDNV	Amargosa	1.28	65			Pg	05 52 11.5	-2.7
VTV	Victorville	1.38	167			Sb	05 52 34.3	-0.1
VOG	Valley Oaks Go	1.41	287			Pn	05 52 14.9	-1.5
BTPC	Burnt Peak	1.42	210			Sg	05 52 32.3	-2.8
GMN	Gold Mountain	1.43	15			Pn	05 52 16.8	-0.1
DSP	Deep Springs	1.47	352			Pn	05 52 17.2	0.0
JNH	Juniper Hills	1.48	188			Pg	05 52 18.0	+0.1
BHPR	Bishop	1.52	336			Pn	05 52 18.1	0.0
DSCC	Desert Studies	1.52	120			Pn	05 52 17.6	-0.2
TUQ	Turquoise Moun	1.53	108			Pn	05 52 17.0	-1.1
OSI	Osito Audit: C	1.54	213			Pg	05 52 19.1	0.0
OSI					IAML		05 52 54.0	
	comp=E,688nm,0.9s							
OSI					IAML		05 52 54.3	
	comp=N,585nm,0.6s							
OSI	Osito Audit: C	1.54	213			Sn	05 52 35.6	-3.1
TPNV	Topopah Spring	1.57	48			Pb	05 52 19.4	-0.1
MTUM	Tungsten Hills	1.59	335			Pn	05 52 19.4	+0.4
PDE	Pardee, Santa	1.63	206			Sn	05 52 39.5	-1.5
BFSC	Mount Baldy Ra	1.67	178			Pb	05 52 21.3	+0.1
BCW	Bitter Crk WRg	1.69	236			Pb	05 52 21.2	-0.4
BCW					IAML		05 53 16.1	
	comp=N,394nm,1.1s							
BCW					IAML		05 53 22.0	
	comp=E,419nm,0.8s							
BCW	Bitter Crk WRg	1.69	236			Sn	05 52 40.6	-2.1
SSK	Sunset Peak	1.70	179			Pg	05 52 22.0	-0.2
MWC	Mount Wilson	1.71	190			Pb	05 52 21.7	-0.2
SIL	Silver Peak	1.72	155			Pb	05 52 22.4	+0.3
DECC	Green Verdugo	1.73	197			Sn	05 52 41.8	-1.7
BBRC	Big Bear Solar	1.77	158			Pg	05 52 23.5	-0.1
CRGC	Crocker Grade	1.77	248			Pb	05 52 22.3	-0.6
PASC	Pasadena Art C	1.78	193			Sn	05 52 44.0	-0.7
PASC	Pasadena Art C	1.78	193			Pb	05 52 22.6	-0.4
PASC					IAML		05 53 00.2	
	comp=E,468nm,0.4s							
PASC					IAML		05 53 00.4	
	comp=N,459nm,0.3s							
MZP	Montezuma Peak	1.80	8			Pb	05 52 23.2	-0.4
PSRC	Puddingstone R	1.82	182			Pg	05 52 24.1	-0.4
BLCC	Black Canyon	1.84	206			Pb	05 52 24.4	+0.3
SVD	Seven Oaks Dam	1.87	164			Pb	05 52 24.8	+0.2
BENR	Benton	1.93	339			Pb	05 52 25.9	+0.1
MLAC	Mammoth, Mammo	1.94	333			Pb	05 52 25.7	-0.1
MCSM	Casa Diablo Ho	1.99	331			Pb	05 52 26.8	+0.1
SHPR	Sheep Range	2.15	73			Pb	05 52 28.1	-1.3
TPH	Tonopah	2.19	10			Pn	05 52 28.0	+0.6
POB	Polly Butte	2.31	163			Pn	05 52 28.5	-0.3
V12A	Nelson	2.33	94			Pb	05 52 31.6	-0.9
V12A					IAML		05 53 14.8	
	comp=N,152nm,0.5s							
V12A					IAML		05 53 15.2	
	comp=E,222nm,0.5s							
S11A	Rachel	2.34	42			Pn	05 52 30.9	+1.6
LHV	Little Huntoon	2.42	345			Pn	05 52 31.2	+1.0
LHV					IAML		05 53 40.1	
	comp=N,122nm,0.8s							
LHV					IAML		05 53 41.7	
	comp=E,164nm,0.8s							
NV11	Mina Array Sit	2.54	352			Pn	05 52 32.0	-0.1
BBGB	Big Mountain B	2.77	285	Pn		Pn	05 52 36.0	+0.8
Q09A	Carvers	2.95	8			Pn	05 52 38.1	+0.4
Q09A					IAML		05 54 04.1	
	comp=E,180nm,1.2s							
Q09A					IAML		05 54 06.9	
	comp=N,184nm,1.0s							
SAO	San Andreas Ge	3.13	287	Pn		Pn	05 52 41.2	+1.2
TKX	Tecate	3.46	164	Pn		Pn	05 52 45.9	+1.3
TKX					IAML		05 53 43.2	
	comp=N,84nm,0.3s							
YUH	Yuha Desert	3.58	155			Pn	05 52 48.1	+1.9
YUH					IAML		05 53 48.2	
	comp=N,61nm,0.6s							
YUH					IAML		05 53 50.8	
	comp=E,41nm,1.2s							
CBX	Cerro Bola	3.69	166			Pn	05 52 48.3	+0.4
LCMT	Little Creek M	3.77	72			Pn	05 52 49.2	+0.3
CCUT	Cedar City	3.86	64			Pn	05 52 50.8	+0.5
PAHR	Pah Rah Range	4.01	341			Pn	05 52 53.2	+0.9
KNB	Kanab	4.09	73	Pn		Pn	05 52 54.0	+0.5
KNB					IAML		05 54 14.1	
	comp=E,30nm,0.7s							
KNB					IAML		05 54 28.3	
	comp=N,30nm,1.0s							
113A	Mohawk Valley,	4.53	133	Pn		Pn	05 53 01.0	+1.8
113A					IAML		05 54 17.7	
	comp=N,34nm,0.8s							
113A					IAML		05 54 29.5	
	comp=E,36nm,0.9s							
X16A	Lo Mia Camp, P	5.35	104	Pn		Pn	05 53 10.8	+0.1
X16A					IAML		05 54 44.4	
	comp=N,14nm,1.2s							
TMUT	Trail Mountain	6.17	55	Pn		Pn	05 53 25.5	+3.4
PV10	Paradox Valley	7.35	68	Pn		Pn	05 53 38.2	-0.1
PV23	Carpenter Ridg	7.39	67	Pn		Pn	05 53 39.4	+0.5
PV04	Paradox Valley	7.46	68	Pn		Pn	05 53 42.9	+3.2

NEIC ***06*** *05:52:04.8±1.8,35°.622N×0°.002×117°.39W±0°.01, h2km±1km, Error ellipse: s-maj=1.5km s-min=0.3km az=91.0*

PAS 06 05:52:05.4±1.7,**35°.606N**±0°.010×**117°.40W**±0°.01, **h5**km±3km, **ML3.6**/22, **ML3.5**/62(NEIC), **Error ellipse: s-maj=1.5km s-min=1.4km az=62.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	Laurel Mtn Rad	0.26	241	Pg	Pg	05 52 10.3	-0.2
LRMC				IAML		05 52 14.4	
	comp=E,11μm,0.2s						
LRMC				IAML		05 52 14.6	
	comp=N,8μm,0.2s						
SRTC	Snort	0.30	287		Pg	05 52 11.6	+0.3
SRTC					Sg	05 52 16.5	+1.3
WVPM	Volcano Peak E	0.48	315		Pg	05 52 21.5	+0.5
DTP	Desert Tortois	0.50	227		Pg	05 52 14.8	-0.2
DTP					Sg	05 52 21.4	0.0
QSM	Queen of Sheba	0.56	50	Pg	Pg	05 52 16.0	-0.2
QSM				IAML		05 52 28.3	
	comp=N,4μm,0.2s						
QSM				IAML		05 52 28.7	
	comp=E,3μm,0.2s						
WRVM	Rose V. Centra	0.56	315		Pg	05 52 16.0	-0.4
WRVM					Sg	05 52 23.9	+0.3
GSC	Goldstone, Bar	0.57	122	Pg	Pg	05 52 16.2	-0.3
MFS	McCloud Flat S	0.63	324		Sg	05 52 26.1	+0.3
CCAC	Calif City Air	0.68	228		Sg	05 52 27.4	+0.2
CCAC	Calif City Air	0.68	228	Pg	Pg	05 52 18.0	-0.4
CCAC				IAML		05 52 31.3	
	comp=N,4μm,0.3s						
CCAC				IAML		05 52 32.2	
	comp=E,3μm,0.3s						
WORM	Onyx Ranch	0.69	278		Pg	05 52 18.2	-0.5
WORM					Sg	05 52 27.1	-0.6
HYS	Haystack Butte	0.75	191		Pg	05 52 19.4	-0.5
HYS					Sg	05 52 29.3	-0.4
WHFM	Hanning Flat	0.78	277		Pg	05 52 19.8	-0.6
WHFM					Sg	05 52 30.0	-0.5
RRX	Edison Barstow	0.80	156		Pb	05 52 21.8	0.0
GWY	Greenwater Val	0.83	46	Pg	Pg	05 52 20.9	-0.5
GWY				IAML		05 52 35.5	
	comp=E,2μm,0.3s						
GWY				IAML		05 52 35.8	
	comp=N,2μm,0.4s						
EDW2	Edwards Air Fo	0.87	214		Pb	05 52 22.6	-0.5
EDW2					Sg	05 52 33.0	-0.4
ISA	Isabella, Lake	0.88	274		Pb	05 52 22.9	-0.4
ISA					Sg	05 52 32.9	-0.7
ISA	Isabella, Lake	0.88	274	Pg	Pg	05 52 21.7	-0.6
ISA				IAML		05 52 36.0	
	comp=N,2μm,0.5s						
ISA				IAML		05 52 36.5	
	comp=E,1μm,0.6s						
WASM	Alta Sierra Ca	0.95	278		Sg	05 52 35.5	-0.6
SHOC	Shoshone, Teco	0.96	72		Pg	05 52 23.6	-0.3
SHOC					Sb	05 52 37.2	-0.4
SBB	Saddle Back Bu	0.98	201		Pg	05 52 23.8	-0.4
SBB					Sg	05 52 36.0	-1.0
TPO	Tropico Hills	0.99	223		Pb	05 52 24.9	-0.3
CGO	Cerro Gordo	1.00	341		Pg	05 52 25.0	+0.4
CWC	Cottonwood Cre	1.00	327		Pg	05 52 24.5	-0.1
VTV	Victorville	1.04	177		Pg	05 52 25.5	+0.1
VTV					Sb	05 52 40.1	0.0
ADO	Adelanto Recei	1.05	182		Pb	05 52 26.0	-0.2
DSCC	Desert Studies	1.16	113		Pg	05 52 26.2	-1.4
HEC	Hector,Ludlow	1.17	131		Pg	05 52 26.7	-1.1
LRRC	Littlerock Res	1.20	206		Sb	05 52 44.2	-0.1
TUQ	Turquoise Moun	1.22	98		Pg	05 52 28.0	-0.8
LEOC	Leona Valley	1.22	218		Pg	05 52 28.6	-0.3
CJV	Casa Juvan	1.23	210		Pg	05 52 28.5	-0.6
CJV					Sb	05 52 45.7	+0.1
AMDNV	Amargosa	1.24	47		Pg	05 52 29.1	-0.1
AMDNV					Sb	05 52 45.6	-0.1
JNH	Juniper Hills	1.24	202		Pg	05 52 28.8	-0.4
JNH					Sg	05 52 45.4	0.0
SPG2	Springville 2	1.26	299		Pg	05 52 28.5	-1.1
WCT	Wildcat Mounta	1.34	28		Pn	05 52 29.4	-1.5
WCT				IAML		05 52 50.0	
	comp=N,1μm,0.4s						
SIL	Silver Peak	1.34	159		Pn	05 52 30.7	-0.3
CHFC	Chilao Flat St	1.37	202		Sg	05 52 49.0	-0.4
BFSC	Mount Baldy Ra	1.38	189		Pn	05 52 31.1	-0.4
GRAC	Grapevine Rang	1.39	1		Pn	05 52 30.4	-1.2
GRAC				IAML		05 52 55.1	
	comp=E,769nm,0.6s						
GRAC				IAML		05 52 56.1	
	comp=N,1μm,0.8s						
BBRC	Big Bear Solar	1.40	164		Pn	05 52 31.5	-0.3
MTPC	Mountain Pass	1.51	94		Pn	05 52 31.7	-1.7
SVD	Seven Oaks Dam	1.52	171		Pg	05 52 34.5	+0.1
SVD					Sg	05 52 54.0	-0.2
MLSC	Mira Loma	1.60	185		Sn	05 52 55.7	+0.2
RVR	Riverside	1.61	179		Pn	05 52 33.4	-1.2
TPNV	Topopah Spring	1.63	34		Pn	05 52 35.0	0.0
TPNV				IAML		05 53 00.6	
	comp=N,584nm,0.6s						
TPNV				IAML		05 53 02.1	
	comp=N,523nm,0.8s						
LCH	Last Change Ra	1.64	353		Sg	05 52 57.6	-0.4
GMRC	Granite Mounta	1.64	119		Sb	05 52 57.6	+0.2
GMN	Gold Mountain	1.69	4		Pn	05 52 35.5	-0.5
BLCC	Black Canyon	1.72	218		Pn	05 52 34.5	-1.6
PEC	Perris	1.72	173		Pn	05 52 35.1	-1.0
DSP	Deep Springs	1.82	346	Pn	Pn	05 52 36.6	-0.8
DSP				IAML		05 53 04.1	
	comp=E,227nm,0.4s						
DSP				IAML		05 53 05.3	
	comp=N,285nm,0.5s						
DANC	Danby, Needles	1.92	120		Pb	05 52 41.5	+0.5
ELS	Elsinore Mount	1.95	181	Pn	Pn	05 52 38.4	-1.0
ELS				IAML		05 53 08.6	
	comp=E,339nm,0.5s						
ELS				IAML		05 53 09.2	
	comp=N,337nm,0.5s						
MZP	Montezuma Peak	2.09	0	Pn	Pn	05 52 40.5	-0.9
MCSM	Casa Diablo Ho	2.38	330		Pb	05 52 49.2	+0.3
TPH	Tonopah	2.47	3	Pn	Pn	05 52 45.7	-0.9
NV11	Mina Array Sit	2.88	348	Pn	Pn	05 52 51.4	-0.8
NVAR	Mina Array Bea	2.91	346	Pn	Pn	05 52 52.2	-0.5
W13A	Hualapai Mount	2.92	99	Pn	Pn	05 52 51.4	-1.4
W13A				IAML		05 53 41.9	
	comp=N,124nm,0.7s						
TJX	Tijuana	3.10	175	Pn	Pn	05 52 54.0	-1.1
GLA	Glamis	3.32	139	Pn	Pn	05 52 55.6	-2.5
CCX	Cicese	3.78	170	Pn	Pn	05 53 03.7	-0.6
CCX				IAML		05 54 07.4	
	comp=E,97nm,0.6s						
CCX				IAML		05 54 10.1	
	comp=N,101nm,0.9s						
CCUT	Cedar City	3.78	58	Pn	Pn	05 53 02.8	-1.8
ESJX	Sierra Juarez	3.79	161	Pn	Pn	05 53 04.0	-0.7
ESJX				IAML		05 54 06.5	
	comp=E,73nm,0.7s						
Y14A	Wickenburg	3.98	113	Pn	Pn	05 53 06.0	-1.3
Y14A				IAML		05 54 21.2	
	comp=E,90nm,0.6s						
PSUT	Pine Spring	4.07	43	Pn	Pn	05 53 06.5	-2.1
PSUT				IAML		05 54 27.4	
	comp=E,44nm,1.3s						
VTX	Valle De La Tr	4.42	162	Pn	Pn	05 53 13.0	-0.2
VTX				IAML		05 54 27.2	
	comp=E,53nm,0.7s						
VTX				IAML		05 54 27.5	
	comp=N,42nm,0.8s						
WUAZ	Wupatki	4.91	89	Pn	Pn	05 53 19.6	-0.6
WUAZ				IAML		05 54 42.5	
	comp=N,33nm,1.6s						
WUAZ				IAML		05 54 48.4	
	comp=N,46nm,0.6s						
X16A	Lo Mia Camp, P	5.03	102		Pn	05 53 20.8	-1.0
X16A				IAML		05 54 47.7	
	comp=E,20nm,1.0s						
ELK	Elko	5.41	18		Pn	05 53 26.2	-0.8
X18A	Snowflake	6.20	98		Pn	05 53 37.9	0.0
BGU	Big Grassy Mou	6.33	32		Pn	05 53 39.1	-0.5
WVOR	Wild Horse Val	6.89	352	Pn	Pn	05 53 48.3	+1.1
HVU	Hansel Valley	7.14	29	Pn	Pn	05 53 52.0	+1.2
PV19	Morning Glory	7.26	66	Pn	Pn	05 53 50.8	-1.6
PV21	Cone Mtn., Par	7.35	64	Pn	Pn	05 53 52.0	-1.7
MVCO	Mesa Verde	7.35	75	Pn	Pn	05 53 53.1	-0.6
PV12	Saucer Basin,	7.39	66		Pn	05 53 55.3	+1.0
PV02	Paradox Valley	7.41	67	Pn	Pn	05 53 54.3	-0.2
PV01	Paradox Valley	7.51	68	Pn	Pn	05 53 56.0	+0.1
PV07	Paradox Valley	7.55	65	Pn	Pn	05 53 55.8	-0.6

NNC ***06*** *05:57:02.5±4.3,39°.30N×73°.91E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=31.7km s-min=19.6km az=169.0*

KRNET ***06*** *05:57:06.2±0.1,39°.52N×73°.47E,h17km,mb3.5*

ISC 06 05:57:06.0±1.8,**39°.51N**±0°.06×**73°.48E**±0°.04,**h1**km±11km, **n27**,σ1°**08**/53,**35C-21D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.51	2	⇑*iP*		Pg	05 57 15.8	+0.1
SFK				⇑*iS*		Sg	05 57 23.2	+0.9
OHH	Osh	1.15	332	⇑*iP*		Pg	05 57 27.3	-0.7
OHH				⇑*iS*		Sg	05 57 42.7	-0.2
DRK	Karamyk	1.30	269	⇑*iP*		Pn	05 57 30.2	-1.4
DRK				⇑*iS*		Sb	05 57 47.8	-1.0
SALK	Salom-Alik	1.40	11	⇑*iP*		Pn	05 57 32.0	-0.8
SALK				⇑*iS*		Sg	05 57 50.5	-0.4
ARSB	Arslanbob	1.85	348	⇑*eP*		Pn	05 57 40.0	+1.0
ARSB				⇑*eS*		Sb	05 58 04.2	-0.3
BTK	Batken	2.13	286	⇓*eP*		Pn	05 57 43.3	+0.6
BTK				⇓*eS*		Sn	05 58 10.9	+1.1
GAR	Garm	2.51	259	⇓*iP*		Pn	05 57 48.8	+0.8
GAR				⇓*iS*		Sn	05 58 20.0	+0.6
ARK	Arkit	2.56	334	⇓*iP*		Pn	05 57 49.7	+0.9
ARK				⇓*iS*		Sn	05 58 21.2	+0.6
AML	Almayashu	2.62	3	⇓*iP*		Pn	05 57 50.7	+0.8
AML				⇓*iS*		Sn	05 58 23.2	+0.6
TRKS	Terek-Say	2.70	319	⇑*eP*		Pn	05 57 50.3	-0.3
TRKS				⇑*eS*		Sn	05 58 23.0	-1.0
NRN	Naryn	2.72	44	⇓*iP*		Pn	05 57 51.5	+0.4
NRN				⇓*iS*		Sn	05 58 24.6	-0.1
UCH	Uchtor	2.83	16	⇓*iP*		Pn	05 57 53.6	+0.9
UCH				⇓*iS*		Sn	05 58 28.1	+0.5
MNAS	Manas	3.07	346	⇑*iP*		Pn	05 57 56.5	+0.8
MNAS				⇑*iS*		Sn	05 58 33.5	+0.4
EKS2	Erkin-Say	3.16	4	⇑*iP*		Pn	05 57 57.8	+0.9
EKS2				⇑*iS*		Sn	05 58 35.6	+0.3
AAK	Ala-Archa	3.22	13	⇓Pg		Pb	05 58 03.5	-0.5
AAK	2.3nm,0.5s			⇑Lg		Lg	05 58 49.1	
	19nm,0.6s							
AAK	Ala-Archa	3.22	13	⇓*iP*		Pn	05 57 58.8	+1.0
AAK				⇓*iS*		Sn	05 58 37.2	+0.3
KBK	Karagaybulak	3.33	19	⇑*iP*		Pn	05 58 00.2	+0.8
KBK				⇑*iS*		Sn	05 58 39.8	+0.1
ULHL	Ulahol	3.44	37	⇓*eP*		Pn	05 58 01.9	+1.0
ULHL				⇓*iS*		Sn	05 58 42.6	+0.1
BOOM	Boomskoye usch	3.51	31	⇑*iP*		Pn	05 58 02.9	+1.1
BOOM				⇑*iS*		Sn	05 58 44.3	+0.2
CHMS	Chumysh	3.62	15	⇓*iP*		Pn	05 58 04.2	+1.1
CHMS				⇓*iS*		Sn	05 58 46.3	-0.2
TKM2	Tokmak 2	3.76	24	⇓Pg		Pb	05 58 12.1	-1.3
	2.0nm,0.4s							
TKM2				⇑Lg		Lg	05 59 07.2	
	16nm,0.7s							
TKM2	Tokmak 2	3.76	24	⇑*iP*		Pn	05 58 06.4	+1.1
TKM2				⇑*iS*		Sn	05 58 50.2	-0.2
USP	Ospenovka	3.83	11	⇑*iP*		Pn	05 58 07.3	+1.2
USP				⇑*iS*		Sn	05 58 51.7	-0.1
KDJ	Kajisay	3.84	46	⇑*iP*		Pn	05 58 07.3	+1.0
KDJ				⇑*iS*		Sn	05 58 52.3	+0.1
TARG	Taragay, Kyrgy	3.97	55	⇑*eP*		Pn	05 58 09.4	+1.1
TARG				⇑*iS*		Sn	05 58 55.5	-0.2
KK31	Karatay Array	4.23	329	⇓Pn		Pn	05 58 14.2	+2.5
	1.6nm,0.4s,baz=138,slow=13,SNR=20							
KK31				⇑Pg		Pb	05 58 23.9	+2.7
	4.0nm,0.5s,baz=141,slow=16,SNR=9.7							
KK31				⇑Sn		Sb	05 59 08.8	-4.0
	3.2nm,0.4s,baz=150,slow=26,SNR=4.4							
KK31				⇑Lg		Lg	05 59 25.6	
	20nm,0.8s,baz=134,slow=27,SNR=4.4							
KKAR	Karatay Array	4.23	329	⇑*eP*		Pn	05 58 12.5	+0.9
KKAR				⇑*iS*		Sn	05 59 01.2	-0.5

NEIC ***06*** *05:58:17.0±2.1,35°.939N×0°.009×117°.69W±0°.01, h2km±3km, Error ellipse: s-maj=1.4km s-min=1.3km az=119.0*

PAS ***06*** *05:58:17.6±2.1,35°.932N×0°.008×117°.69W±0°.01, h2km±1km, ML4.4/25, mb4.4/61(NEIC), ML4.4/118(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=107.0*

IDC ***06*** *05:58:17.4±0.5,35°.87N×117°.65W, h0km, mb4.2/14, mbtmp4.1/21, ML3.7/7, Error ellipse: s-maj=13.3km s-min=7.9km az=75.0*

ISC 06 05:58:17.6±1.1,**35°.94N**±0°.02×**117°.69W**±0°.02,**h1**km±7km, **n254**,σ0**92**/275,**mb4.4**/34,**Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	Volcano Peak E	0.10	278		Pg	05 58 18.4	-1.2
WVPM					Sg	05 58 19.9	-1.1
JRC2	Joshua Ridge	0.11	296		Pg	05 58 20.0	+0.3
WCSM	Coso Springs S	0.11	325		Pg	05 58 19.9	+0.2
WCSM					Sg	05 58 22.4	+1.2
CLC	China Lake	0.14	148		Pg	05 58 20.4	+0.2
CLC					Sg	05 58 22.5	+0.5
TOW	Tower One	0.14	206		Pg	05 58 22.2	+2.0
WRVM	Rose V. Centra	0.18	294		Pg	05 58 21.2	+0.2
WNMM	Nine Mile Cany	0.20	243		Pg	05 58 21.7	+0.3
WNMM					Sg	05 58 23.9	-0.1
MFS	McCloud Flat S	0.23	323		Pg	05 58 21.7	-0.2
SRTC	Snort	0.25	192		Pg	05 58 22.6	+0.4
LRMC	Laurel Mtn Rad	0.45	179		Pg	05 58 26.3	0.0
LRMC					Sg	05 58 32.7	+0.6
LRMC	Laurel Mtn Rad	0.45	179	IAML		05 58 33.5	
	comp=E,32μm,0.6s						
LRMC				IAML		05 58 33.8	
	comp=N,34μm,0.2s						
CCCA	Chr Cany lake	0.49	147		Pg	05 58 27.2	+0.3
CCCA					Sb	05 58 34.8	-1.9
WORM	Onyx Ranch	0.51	242		Pg	05 58 27.1	-0.2
WORM					Sg	05 58 34.3	+0.3
WBSM	Bird Springs	0.54	223		Pg	05 58 27.7	-0.2
WBSM					Sg	05 58 35.4	+0.5
WHFM	Hanning Flat	0.59	246		Pg	05 58 28.9	+0.1
WHFM					Sg	05 58 36.9	+0.4
CWC	Cottonwood Cre	0.60	328		Pg	05 58 28.9	-0.1
CGO	Cerro Gordo	0.62	351		Pg	05 58 29.5	0.0
QSM	Queen of Sheba	0.67	87		Pg	05 58 30.4	+0.1
QSM					Sg	05 58 39.4	+0.4
QSM				IAML		05 58 43.9	
	comp=N,26μm,0.7s						
QSM				IAML		05 58 44.1	
	comp=E,24μm,0.6s						
DTP	Desert Tortois	0.68	191		Pg	05 58 29.0	-1.5
DTP					Sg	05 58 39.8	+0.5
ISA	Isabella, Lake	0.69	247		Sg	05 58 40.2	+0.4
ISA	Isabella, Lake	0.69	247		Pg	05 58 30.8	-0.1
ISA				IAML		05 58 40.5	
	comp=N,16μm,0.6s						
ISA				IAML		05 58 41.9	
	comp=E,12μm,0.7s						
WASM	Alta Sierra Ca	0.73	255		Pg	05 58 31.5	-0.1
WASM					Sg	05 58 41.5	+0.4
CCAC	Calif City Air	0.82	199		Pg	05 58 32.9	-0.4
CCAC				Sg	Sg	05 58 44.1	0.0
CCAC				IAML		05 58 48.3	
	comp=N,14μm,0.6s						
CCAC				IAML		05 58 52.0	
	comp=E,11μm,1.2s						
FURC	Furnace Creek,	0.85	51		Pg	05 58 34.1	+0.2
GWY	Greenwater Val	0.86	73		Pg	05 58 34.5	+0.3
GWY				Sg	Sb	05 58 46.3	-1.3
GWY				IAML		05 58 52.2	
	comp=E,19μm,0.9s						
GWY				IAML		05 58 58.1	
	comp=N,11μm,1.2s						
SPG2	Springville 2	0.91	287		Pg	05 58 34.5	-0.6
GSC	Goldstone, Bar	0.96	131		Pg	05 58 35.6	-0.3
GSC					Sg	05 58 48.3	+0.3
HYS	Haystack Butte	1.07	175		Pg	05 58 37.5	-0.6
TEJ	El Tejon	1.08	230		Pg	05 58 37.4	-0.8
TEJ					Sg	05 58 51.5	-0.6
EDW2	Edwards Air Fo	1.08	193		Pg	05 58 37.5	-0.7
GRAC	Grapevine Rang	1.09	14		Pg	05 58 38.2	-0.3
GRAC				IAML		05 58 57.6	
	comp=N,8μm,1.3s						
GR

BCW IAML 05 59 27.8
comp=E,7μm,1.4s
SIL Silver Peak 1.73 156 Pb 05 58 50.3 0.0
DECC Green Verdugo 1.76 198 Pn 05 58 48.5 -0.7
MZP Montezuma Peak 1.78 8 Pn 05 58 49.3 -0.5
BBRC Big Bear Solar 1.78 159 Pg 05 58 51.6 -0.1
MTPC Mountain Pass 1.79 104 Pn 05 58 48.6 -1.3
CRGC Crocker Grade 1.80 248 Pb 05 58 50.6 -0.8
PASC Pasadena Art C 1.81 193 Pn 05 58 49.3 -0.6
PSRC Puddingstone R 1.84 183 Pn 05 58 49.9 -0.5
CARC Carrizo Plain 1.87 251 Pb 05 58 52.0 -0.6
SVD Seven Oaks Dam 1.89 165 Pg 05 58 53.4 -0.4
KCC Kaiser Creek 1.91 317 Pb 05 58 52.9 -0.3
BENR Benton 1.91 338 Pn 05 58 52.0 +0.3
MLAC Mammoth, Mammo 1.93 332 Pb 05 58 52.8 -0.9
DJJ Donna J Jenkin 1.93 199 Pn 05 58 50.8 -0.8
CFT Crafton Hills 1.95 166 Pg 05 58 54.8 -0.2
RVR Riverside 1.95 172 Pg 05 58 54.7 -0.3
GTM Goat Mountain 1.97 146 Pg 05 58 54.7 -0.6
MCSM Casa Diablo Ho 1.98 331 Pb 05 58 53.5 -1.0
SMMC Simmler 1.98 252 Pn 05 58 52.9 +0.6
GMRC Granite Mounta 2.02 124 Pn 05 58 51.0 -1.9
PKM Mcpherson Peak 2.03 240 Pb 05 58 54.0 -1.3
PEC Perris 2.08 168 Pn 05 58 53.1 -0.7
SHPR Sheep Range 2.12 74 Pn 05 58 54.1 -0.3
BLAC Blackrock camp 2.15 150 Pn 05 58 53.8 -0.9
TPH Tonopah 2.17 10 Pn 05 58 55.0 -0.1
TPH IAML 05 59 35.5
comp=E,4μm,1.4s
TPC Twentynine Pal 2.27 143 Pn 05 58 55.1 -1.2
HMTC Hemet 2.29 166 Pn 05 58 55.8 -0.8
ELS Elsinore Mount 2.29 175 Pn 05 58 56.1 -0.6
ELS IAML 05 59 33.2
comp=E,1μm,0.6s
S11A Rachel 2.31 42 Pn 05 58 56.8 -0.2
V12A Nelson 2.31 94 Pn 05 58 56.4 -0.6
V12A IAML 05 59 33.9
comp=N,3μm,1.3s
V12A IAML 05 59 39.4
comp=E,1μm,1.1s
POB Polly Butte 2.33 164 Pn 05 58 56.5 -0.7
MURC Murrieta 2.36 170 Pn 05 58 56.9 -0.7
BACC Bachelor Mtn. 2.38 167 Pn 05 58 56.9 -0.8
LHV Little Huntoon 2.40 344 Pn 05 58 58.4 +0.4
LHV IAML 05 59 46.1
comp=E,2μm,2.0s
LHV IAML 05 59 46.1
comp=N,1μm,1.5s
CRY Cary Ranch 2.49 161 Pn 05 58 58.8 -0.6
NV11 Mina Array Sit 2.52 352 Pn 05 58 59.4 -0.5
PMD Palm Desert 2.52 154 IAML 05 59 42.7
comp=E,1μm,0.6s
PMD IAML 05 59 43.8
comp=N,1μm,1.1s
PFO Pinyon Flats O 2.53 156 Pn 05 58 58.3 -1.7
PFO IAML 05 59 44.3
comp=N,2μm,1.1s
PFO IAML 05 59 45.8
comp=N,1μm,1.2s
PFO Pinyon Flats O 2.53 156 Pn **Pn 05 58 58.8 -1.1**
comp=N,7.1nm,0.3s,baz=337,slow=11,SNR=12
PFO Lg Lg 05 59 35.9
comp=N,215nm,0.3s,baz=64,slow=12,SNR=16
comp=N,57nm,0.7s
PMPB Monarch Peak 2.54 277 Pn 05 58 59.0 -1.0
NVAR Mina Array Bea 2.54 349 Pn 05 59 00.7 +0.5
NVAR Mina Array Bea 2.54 349 Pn **Pn 05 59 00.3 +0.2**
comp=N,7.4nm,0.3s,baz=173,slow=14,SNR=27
NVAR Lg Lg 05 59 33.9
comp=N,25nm,0.3s,baz=166,slow=15,SNR=5.0
comp=N,31nm,0.6s
PRN Pahroc Range 2.58 55 Pn 05 59 00.2 -0.4
PRN IAML 05 59 49.9
comp=N,2μm,1.1s
RYN Ryan 2.77 346 Pn 05 59 03.6 +0.3
BBGB Big Mountain B 2.78 284 Pn 05 59 03.0 -0.5
Q09A Carvers 2.92 8 Pn 05 59 05.9 +0.5
Q09A IAML 06 00 05.9
comp=N,2μm,1.3s
Q09A IAML 06 00 15.9
comp=E,2μm,1.6s
R11B Troy Canyon, C 2.94 34 Pn 05 59 05.2 -0.5
SAO San Andreas Ge 3.15 286 Pn 05 59 08.1 -0.2
W13A Hualapai Mount 3.21 104 Pn 05 59 08.2 -1.2
W13A IAML 06 00 05.9
comp=E,886nm,1.7s
W13A IAML 06 00 06.6
comp=N,856nm,1.0s
BLYC Blythe 3.39 129 Pn 05 59 09.5 -2.2
BLYC IAML 06 00 10.2
comp=N,1μm,1.0s
BLYC IAML 06 00 10.2
comp=E,1μm,0.8s
YUH Yuha Desert 3.59 155 Pn 05 59 12.6 -1.9
YUH IAML 06 00 16.1
comp=E,413nm,1.9s
CBX Cerro Bola 3.71 166 Pn 05 59 16.0 -0.2
GLA Glamis 3.72 140 Pn 05 59 14.0 -2.3
LCMT Little Creek M 3.74 72 Pn 05 59 16.6 0.0
CCUT Cedar City 3.83 64 Pn 05 59 18.2 +0.3
CCUT IAML 06 00 32.5
comp=N,461nm,1.7s
CCUT IAML 06 00 32.7
comp=E,527nm,2.2s
PAHR Pah Rah Range 4.00 341 Pn 05 59 20.7 +0.5
PSUT Pine Spring 4.01 49 Pn 05 59 20.3 -0.1
PSUT IAML 06 00 45.3
comp=N,562nm,1.4s
SPR3 Spring Creek 3 4.06 40 Pn 05 59 20.2 -1.0
SPR3 IAML 06 00 41.5
comp=E,378nm,1.6s
KNB Kanab 4.07 73 Pn 05 59 21.5 +0.3
KNB IAML 06 00 40.3
comp=N,458nm,1.5s
KNB IAML 06 00 53.7
comp=E,559nm,1.8s
ESJX Sierra Juarez 4.18 159 Pn 05 59 22.3 -0.4
ESJX IAML 06 00 35.5
comp=E,576nm,1.4s
ESJX IAML 06 00 40.2
comp=N,316nm,1.3s
Y14A Wickenburg 4.33 116 Pn 05 59 23.4 -1.3
113A Mohawk Valley, 4.53 133 Pn 05 59 26.6 -0.7
113A IAML 06 00 48.5
comp=E,298nm,1.3s
113A IAML 06 00 48.5
comp=N,328nm,1.1s
MCCM Marconi Confer 4.70 300 Pn 05 59 30.8 +1.1
MCCM IAML 06 00 43.8
comp=N,318nm,1.4s
MCCM IAML 06 01 10.6
comp=E,351nm,1.3s
VTX Valle De La Tr 4.80 160 Pn **Pn 05 59 31.9 +0.8**
VTX IAML 06 00 51.0
comp=E,409nm,1.9s
VTX IAML 06 01 05.7
comp=N,330nm,2.0s
GDXM Geysers 4.98 307 Pn 05 59 35.0 +1.4
WUAZ Wupatki 5.15 93 Pn 05 59 36.7 +0.6
ELK Elko 5.17 21 Pn 05 59 36.3 -0.1
ELK Elko 5.17 21 Pn **Pn 05 59 37.0 +0.6**
comp=N,3.5nm,0.3s,baz=177,slow=11,SNR=59
ELK Lg Lg 06 00 54.2
comp=N,8.7nm,0.3s,baz=268,slow=6.7,SNR=7.1
comp=N,8.5nm,0.4s
X16A Lo Mia Camp, P 5.34 105 Pn 05 59 38.7 +0.1
X16A IAML 06 01 18.7
comp=E,217nm,1.4s
X16A IAML 06 01 20.5
comp=N,218nm,1.1s
214A Organ Pipe Nat 5.67 133 Pn 05 59 40.4 -2.7
HMU Henry Mountain 5.91 68 Pn **Pn 05 59 47.9 +1.3**
Q16A Castle Valley 5.98 58 Pn **Pn 05 59 48.7 +1.3**
TMUT Trail Mountain 6.14 55 Pn **Pn 05 59 51.4 +1.6**
BGU Big Grassy Mou 6.18 35 Pn 05 59 50.8 +0.6
MPU Maple Canyon 6.28 48 Pn **Pn 05 59 52.2 +0.6**
X18A Snowflake 6.49 100 Pn **Pn 05 59 55.5 +1.1**
CTU Camp Tracy 6.66 43 Pn 05 59 57.1 +0.4
JLU Jordanelle 6.77 45 Pn 06 00 00.5 +2.2
TUC Tucson 6.77 120 Pn 05 59 56.9 -1.3
HVU Hansel Valley 6.98 32 Pn 06 00 03.0 +1.9
YBH Yreka Blue Hor 6.99 327 Pn 06 00 02.2 +1.0
YBH Yreka Blue Hor 6.99 327 Pn **Pn 06 00 03.3 +2.1**
baz=176,slow=7.8,SNR=1.9

YBH Lg Lg 06 01 53.2
baz=64,slow=10.0,SNR=4.1
BSUT Blindstream Ca 7.13 48 Pn 06 00 06.0 +2.6
PV05 Paradox Valley 7.20 70 Pn **Pn 06 00 07.3 +3.1**
PV10 Paradox Valley 7.32 68 Pn **Pn 06 00 07.4 +1.4**
DUN6 Lazy B Ranch 7.88 113 Pn 06 00 13.3 -0.1
HLID Hailey 8.02 17 Pn 06 00 17.1 +1.6
I07A Izee 8.26 351 Pn 06 00 20.6 +2.0
319A Douglas 8.35 121 Pn 06 00 20.2 +0.3
TPAW Teton Pass 9.15 32 Pn 06 00 31.5 +0.4
ANMO Albuquerque 9.22 93 Pn **Pn 06 00 33.3 +1.4**
comp=N,0.1nm,0.3s,baz=11,slow=13,SNR=3.7
ANMO Lg Lg 06 03 02.7
comp=N,0.3nm,0.3s,baz=115,slow=12,SNR=6.1
comp=N,1.4nm,0.7s
BNM Barren Site 9.24 98 Pn 06 00 33.3 +1.0
PDAR Pinedale Array 9.28 40 Pn **Pn 06 00 36.0 +3.3**
comp=N,0.2nm,0.3s,baz=226,slow=12,SNR=20
PDAR Lg Lg 06 03 10.7
comp=N,0.2nm,0.3s,baz=230,slow=23,SNR=1.3
comp=N,4.1nm,0.9s
DLMT Dillon 10.18 21 Pn 06 00 46.3 +1.3
BPMT Black Pine Rid 10.97 16 Pn 06 00 58.3 +2.5
RLMT Red Lodge 11.19 32 Pn 06 00 59.8 +1.0
MSO Missoula 11.24 13 Pn 06 01 00.0 +0.6
VHRN Van Horn 11.79 112 Pn 06 01 08.5 +1.3
NEW Newport 12.33 2 Pn **Pn 06 01 16.8 +2.6**
comp=N,0.1nm,0.3s,baz=142,slow=10,SNR=2.0
comp=N,0.9nm,0.7s
MSTX Muleshoe 12.40 95 Pn 06 01 17.7 +2.4
ALPN Alpine 13.01 111 Pn 06 01 24.1 +0.4
AMTX Amarillo 13.10 90 Pn 06 01 25.9 +0.9
MNHN Monahans 13.25 106 Pn 06 01 26.9 -0.1
RSSD Black Hills 13.27 48 Pn 06 01 28.3 +1.0
TXAR Lajitas Array 13.52 115 Pn 06 01 31.6 +0.9
TXAR Lajitas Array 13.52 115 Pn **Pn 06 01 31.3 +0.7**
comp=N,0.1nm,0.3s,baz=291,slow=10,SNR=20
comp=N,3.9nm,1.1s
POST Post 13.65 97 Pn 06 01 33.1 +0.6
LAO LASA Array 13.76 35 Pn 06 01 32.9 -0.9
SN07 Snyder 07 14.14 97 Pn 06 01 39.3 +0.2
SN05 Snyder 5 14.21 98 Pn 06 01 39.4 -0.6
APMT Aspermont 14.70 95 Pn 06 01 45.7 -1.0
OZNA Ozona 14.70 105 Pn **Pn 06 01 47.4 +0.6**
CBB Campbell River 15.16 341 Pn **Pn 06 01 52.9 +0.1**
CBB IAmb IAmb 06 02 21.7
comp=Z,17nm,1.5s
WMOK Wichita Mounta 15.48 89 Pn 06 01 56.5 -0.7
K30B Basset 15.51 59 Pn 06 01 56.9 -0.7
JCT Junction City 15.92 105 P **Pn 06 02 03.2 +0.2**
WTFS Witchita Falls 15.93 92 Pn 06 02 04.2 +1.2
BRDY Brady 16.24 101 Pn 06 02 07.1 0.0
X34A Smith Ranch, M 16.27 89 Pn **Pn 06 02 08.2 +0.7**
X34A IAmb IAmb 06 02 15.9
comp=Z,28nm,1.1s
PLPT Palo Pinto 16.30 95 P **Pn 06 02 08.3 +0.5**
E28A Huff 16.59 45 P **Pn 06 02 11.6 +0.2**
E28A IAmb IAmb 06 02 16.3
comp=Z,47nm,1.2s
HNDO Hondo 16.74 107 P **Pn 06 02 14.1 +0.7**
833A Chaparral WMA, 17.24 111 P **Pn 06 02 19.6 -0.1**
833A IAmb IAmb 06 02 25.5
comp=Z,42nm,1.1s
TUL3 Leonard 17.74 84 Pn 06 02 25.4 -0.5
TUL3 IAmb IAmb 06 02 29.5
comp=Z,32nm,1.0s
ECSD EROS Data Cent 17.93 58 P **Pn 06 02 28.0 -0.2**
Z38A Mt. Pleasant 18.88 92 P **P 06 02 38.6 -0.7**
F33A 5 Mile Ranch, 18.91 52 Pn 06 02 39.8 -0.4
P38A Dawn 19.43 72 Pn 06 02 45.7 -0.8
I37A Lemond, Waseca 20.24 59 P 06 02 54.4 +0.2
AGMN Agassiz Nation 20.28 46 P 06 02 54.8 +0.2
AGMN IAmb IAmb 06 02 56.4
comp=Z,17nm,1.0s
R40A Maddies Statio 20.39 76 P **P 06 02 56.1 +0.2**
P40A Paris 20.57 72 Pn 06 02 59.0 -1.0
P40A IAmb IAmb 06 03 02.6
comp=Z,18nm,1.2s
SPMN Marine on St. 20.99 56 P 06 03 02.7 +0.4
SPMN IAmb IAmb 06 03 08.5
comp=Z,27nm,1.2s
ULM Lac du Bonnet 21.30 41 P 06 03 04.6 -1.0
ULM Lac du Bonnet 21.30 41 P **P 06 03 05.6 0.0**
comp=Z,8.7nm,0.9s,baz=240,slow=9.9,SNR=8.8
comp=Z,8.7nm,0.9s
L40A Anamosa 21.41 65 P **P 06 03 06.9 0.0**
L40A IAmb IAmb 06 03 08.9
comp=Z,15nm,0.9s
FFC Flin Flon 21.70 25 P 06 03 08.6 -1.3
FFC IAmb IAmb 06 03 11.3
comp=Z,21nm,1.1s
I40A Norwalk 22.16 61 P **P 06 03 14.3 -0.7**
I40A IAmb IAmb 06 03 16.9
comp=Z,18nm,1.2s
EPLO Experimental L 22.18 44 P 06 03 14.5 -0.6
EPLO IAmb IAmb 06 03 15.7
comp=Z,20nm,1.2s
E38A The Farm, Brul 22.25 53 P **P 06 03 15.7 -0.2**
JFWS Jewell Farm 22.25 63 P 06 03 16.1 +0.2
JFWS IAmb IAmb 06 03 17.6
comp=Z,14nm,1.1s
HDIL Hopedale 22.73 70 P 06 03 21.5 +0.6
EYMN Ely 22.76 50 P **P 06 03 19.3 -2.0**
G40A Rib Lake 22.77 57 P **P 06 03 20.2 -1.1**
G40A IAmb IAmb 06 03 25.9
comp=Z,11nm,1.1s
OXF Oxford 23.12 85 P 06 03 25.3 +0.2
I42A Draeger Farm, 23.37 61 P 06 03 27.2 -0.5
I42A IAmb IAmb 06 03 28.8
comp=Z,15nm,1.0s
K43A Burlington 23.62 64 P **P 06 03 30.1 0.0**
COWI Conover 23.70 56 P **P 06 03 30.4 -0.5**
COWI IAmb IAmb 06 03 55.6
comp=Z,7.2nm,0.9s
M44A Midewin, Midew 23.71 68 P **P 06 03 31.2 +0.1**
L44A Lake County Fo 23.87 66 P **P 06 03 32.4 -0.2**
HQIL Hanson Quary C 23.89 67 P **P 06 03 32.5 -0.2**
PLAL Pickwick Lake 24.10 84 P 06 03 34.4 -0.5
PLAL IAmb IAmb 06 03 37.5
comp=Z,13nm,1.0s
WVT Waverly 24.11 81 P 06 03 35.0 +0.1
WVT IAmb IAmb 06 03 39.6
comp=Z,8.6nm,1.1s
H43A Windswept, Lux 24.28 60 P 06 03 36.0 -0.4
TBO Thunder Bay 24.32 50 P 06 03 36.8 0.0
SFIN Lafayette 24.40 70 P **P 06 03 37.0 -0.4**
Z47A Carrollton 24.50 88 P 06 03 38.3 -0.2
Z47A IAmb IAmb 06 03 42.2
comp=Z,13nm,1.0s
T47A Sharon Grove 24.57 78 P 06 03 38.9 -0.2
T47A IAmb IAmb 06 03 42.6
comp=Z,13nm,1.1s
V48A Smith Brothers 24.98 81 P **P 06 03 42.6 -0.2**
V48A IAmb IAmb 06 03 46.3
comp=Z,10nm,1.0s
X48A Hartselle 25.04 84 P 06 03 43.2 -0.2
X48A IAmb IAmb 06 03 44.5
comp=Z,7.7nm,1.0s
WCI Wyandotte Cave 25.09 75 P **P 06 03 43.4 -0.4**
Y49A Blount Mountai 25.68 85 P 06 03 49.6 +0.4
Y49A IAmb IAmb 06 03 52.3
comp=Z,6.2nm,1.0s
P48A Milroy 25.70 72 P **P 06 03 49.5 +0.3**
P48A IAmb IAmb 06 03 52.6
comp=Z,11nm,1.1s
FPAL Fort Paine 26.18 84 P **P 06 03 53.2 -0.5**
W50A Signal Mountai 26.29 82 P **P 06 03 54.7 0.0**
YKA Yellowknife Ar 26.65 3 P **P 06 03 58.8 +1.2**
YKA Yellowknife Ar 26.65 3 P **P 06 03 58.2 +0.6**
comp=Z,2.5nm,1.0s,baz=187,slow=8.9,SNR=14
YKA PcP **PcP 06 07 21.5 +0.2**
comp=Z,1.0nm,0.9s,baz=181,slow=2.1,SNR=8.2
comp=Z,2.5nm,1.0s
X51A Calhoun 26.78 83 P **P 06 03 58.9 -0.2**
X51A IAmb IAmb 06 04 00.7
comp=Z,8.9nm,1.0s
CPCT Cooper Cave 26.87 81 P 06 03 59.8 -0.2
CPCT IAmb IAmb 06 04 01.7
comp=Z,10nm,1.1s
P53A Whipple 28.81 72 P 06 04 16.8 -0.4
P53A IAmb IAmb 06 04 18.4
comp=Z,6.7nm,0.9s
ILAR Eielson Array 33.74 338 P **P 06 05 02.6 +2.2**
comp=Z,1.5nm,0.9s,baz=154,slow=7.4,SNR=18

ILAR PcP **PcP 06 07 40.4 +0.7**
comp=Z,1.1nm,0.7s,baz=176,slow=1.7,SNR=12
comp=Z,1.5nm,0.9s
G26K Porcupine Rive 34.51 342 P 06 05 08.6 +1.6
G26K IAmb IAmb 06 05 10.8
comp=Z,7.3nm,1.1s
J19K Poorman 36.23 333 P 06 05 22.9 +1.1
PETK Petropavlovsk- 59.20 316 P **P 06 08 20.3 +0.2**
comp=Z,4.0nm,0.9s,baz=81,slow=12,SNR=4.4
comp=Z,4.0nm,0.9s
LPAZ La Paz 69.96 129 P **P 06 09 31.0 -0.6**
comp=Z,1.0nm,0.8s,baz=347,slow=4.6,SNR=3.7
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 74.79 23 P **P 06 09 59.3 +0.1**
comp=Z,1.1nm,0.3s,baz=323,slow=5.9,SNR=3.6
comp=Z,1.1nm,0.3s
USRK Ussuriysk Ar. 78.28 316 P **P 06 10 19.6 +0.4**
comp=Z,4.8nm,1.0s,baz=64,slow=3.0,SNR=5.9
comp=Z,4.8nm,1.0s
ESDC Sonseca Array 83.14 45 P **P 06 10 45.6 +0.2**
comp=Z,0.5nm,0.7s,baz=298,slow=4.9,SNR=5.3
comp=Z,0.5nm,0.7s
KSRS Korea Array 85.00 313 P **P 06 10 55.3 +0.4**
comp=Z,2.2nm,0.9s,baz=62,slow=4.4,SNR=5.7
comp=Z,2.2nm,0.9s
SONM Songino Array 87.77 332 P **P 06 11 09.1 +0.6**
comp=Z,1.1nm,0.7s,baz=40,slow=5.3,SNR=5.1
comp=Z,1.1nm,0.7s
ZALV Zalesovo Beam 88.39 347 P **P 06 11 10.9 -0.2**
comp=Z,0.4nm,0.3s,baz=43,slow=6.5,SNR=3.8
comp=Z,0.4nm,0.3s
AKASG Malin Array Be 88.94 20 P **P 06 11 13.3 -0.4**
comp=Z,0.5nm,0.5s,baz=307,slow=3.3,SNR=4.7
comp=Z,0.5nm,0.5s
BVAR Borovoye Array 91.13 355 P **P 06 11 24.8 +0.8**
comp=Z,3.3nm,0.8s,baz=29,slow=3.4,SNR=12
comp=Z,3.3nm,0.8s
KURBB Kurchatov Arra 92.63 350 P **P 06 11 30.6 -0.3**
comp=Z,1.5nm,1.0s,baz=13,slow=4.7,SNR=7.8
comp=Z,1.5nm,1.0s
WRA Warramunga Arr 115.70 263 PKP **PKPdf 06 17 01.6 -0.6**
comp=Z,0.3nm,0.9s,baz=59,slow=2.1,SNR=4.5
ASAR Alice Springs 117.92 260 PKP **PKPdf 06 17 05.3 -1.0**
comp=Z,0.2nm,0.7s,baz=59,slow=2.1,SNR=1.9
QSPA South Pole Qui 125.76 180 PKP **PKiKP 06 17 20.4 -0.2**
comp=Z,2.0nm,0.9s,baz=1.1,slow=0.7,SNR=5.5
BOSA Boshof 147.97 87 PKPbc **PKPbc 06 18 03.9 -1.3**
MAW Mawson 148.28 180 PKPbc **PKPbc 06 18 04.4 -0.1**
comp=Z,9.4nm,0.9s,baz=146,slow=3.5,SNR=12

IDC 06 05:58:41.7±18.0, 20.84S×177.52W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=440.8km s-min=48.7km az=39.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.88**	**257**	P	P	06 06 57.2	-1.1
	0.2nm,0.3s,baz=99,slow=6.6,SNR=5.4						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**45.00**	**262**	P	P	06 06 59.8	+0.5
	1.2nm,0.7s,baz=97,slow=8.2,SNR=17						
	1.2nm,0.7s						
VNDA	**Vanda**	**57.61**	**185**	P	P	06 08 33.0	0.0
	0.2nm,0.6s,baz=22,slow=5.4,SNR=3.0						
	0.2nm,0.6s						

*NEIC **06** 05:59:44.0±1.7, 35.75N±0.01×117.58W±0.01, h9km±8km, Error ellipse: s-maj=1.8km s-min=1.3km az=218.0*

PAS 06 05:59:44.2±1.4, 35.736N±0.007×117.57W±0.01, h3km±3km, ML3.8/40, ML3.5/30(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=88.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.08**	**344**		Pg	05 59 46.0	0.0
CLC					Sg	05 59 47.5	+0.4
TOW	**Tower One**	**0.17**	**295**		Pg	05 59 48.2	+0.6
TOW					Sg	05 59 51.6	+1.6
CCCA	**Chr Cany lake**	**0.27**	**142**		Pg	05 59 50.1	+0.7
CCCA					Sg	05 59 54.7	+1.9
LRMC	**Laurel Mtn Rad**	**0.27**	**200**		Pg	05 59 49.5	0.0
LRMC					Sg	05 59 53.6	+0.6
LRMC	**Laurel Mtn Rad**	**0.27**	**200**	IAML		05 59 53.9	
	comp=E,19μm,0.5s						
LRMC				IAML		05 59 54.1	
	comp=N,11μm,0.5s						
MPMC	**Manual Prospec**	**0.33**	**11**		Pg	05 59 50.6	0.0
WCSM	**Coso Springs S**	**0.33**	**331**		Sg	05 59 55.4	+0.4
MFS	**McCloud Flat S**	**0.45**	**329**		Pg	05 59 52.8	0.0
MFS					Sg	05 59 59.0	+0.4
WBSM	**Bird Springs**	**0.51**	**247**		Pg	05 59 53.8	-0.1
DTP	**Desert Tortois**	**0.52**	**206**		Sg	06 00 01.1	+0.2
WORM	**Onyx Ranch**	**0.55**	**266**		Pg	05 59 54.6	-0.1
QSM	**Queen of Sheba**	**0.61**	**68**	Pg	Pg	05 59 55.6	-0.4
QSM				IAML		06 00 05.8	
	comp=E,2μm,0.6s						
WHFM	**Hanning Flat**	**0.64**	**267**		Pg	05 59 56.2	-0.2
CCAC	**Calif City Air**	**0.69**	**212**	Pg	Pg	05 59 57.2	-0.2
CCAC				IAML		06 00 07.1	
	comp=E,3μm,0.6s						
CCAC				IAML		06 00 12.4	
	comp=N,3μm,0.8s						
ISA	**Isabella, Lake**	**0.74**	**265**	Pg	Pg	05 59 57.7	-0.7
GSC	**Goldstone, Bar**	**0.76**	**125**	Pg	Pg	05 59 57.9	-0.9
GSC				IAML		06 00 09.5	
	comp=E,3μm,0.5s						
GSC				IAML		06 00 12.5	
	comp=N,2μm,0.7s						
WASM	**Alta Sierra Ca**	**0.80**	**270**		Pg	05 59 59.4	-0.2
GWY	**Greenwater Val**	**0.86**	**58**	Pg	Pg	06 00 00.7	0.0
GWY				IAML		06 00 17.7	
	comp=N,2μm,0.8s						
GWY				IAML		06 00 20.0	
	comp=E,2μm,0.8s						
HYS	**Haystack Butte**	**0.87**	**180**		Pb	06 00 01.9	-0.1
SPG2	**Springville 2**	**1.08**	**296**		Pg	06 00 04.5	-0.4
VTV	**Victorville**	**1.19**	**170**		Pg	06 00 07.1	+0.1
GRAC	**Grapevine Rang**	**1.27**	**7**	Pg	Pg	06 00 07.9	-0.6
WCT	**Wildcat Mounta**	**1.30**	**36**		Pg	06 00 08.6	-0.6
WCT				IAML		06 00 35.2	
	comp=N,564nm,2.0s						
SIL	**Silver Peak**	**1.51**	**156**		Sg	06 00 33.7	+0.9
MWC	**Mount Wilson**	**1.56**	**195**		Pn	06 00 12.3	-0.7
GMN	**Gold Mountain**	**1.58**	**9**		Pn	06 00 12.7	-0.7
PASC	**Pasadena Art C**	**1.64**	**198**		Pn	06 00 13.2	-0.7
PASC				IAML		06 00 37.8	
	comp=E,483nm,1.2s						
PASC				IAML		06 00 43.6	
	comp=N,417nm,1.0s						
DSP	**Deep Springs**	**1.66**	**349**		Pn	06 00 13.4	-0.8
DSP				IAML		06 00 38.1	
	comp=E,475nm,2.1s						
BLCC	**Black Canyon**	**1.74**	**212**		Pb	06 00 17.2	+0.3
GTM	**Goat Mountain**	**1.75**	**145**		Pb	06 00 16.7	-0.3
PFO	**Pinyon Flats O**	**2.31**	**156**	Pn	Pn	06 00 22.5	-0.8
PFO				IAML		06 00 37.7	
	comp=E,271nm,3.5s						
PFO				IAML		06 00 41.8	
	comp=E,259nm,1.8s						

*NEIC **06** 06:00:57.6±1.7, 35.586N±0.010×117.35W±0.01, h4km±4km, Error ellipse: s-maj=1.7km s-min=1.4km az=102.0*

PAS 06 06:00:57.8±2.0, 35.556N±0.009×117.34W±0.01, h3km±4km, ML3.6/24, ML3.6/40(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=120.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.04**	**209**		Pg	06 00 59.1	+0.3
LRMC	**Laurel Mtn Rad**	**0.29**	**255**		Sg	06 01 07.8	+0.7
LRMC	**Laurel Mtn Rad**	**0.29**	**255**	Pg	Pg	06 01 03.2	-0.2
LRMC				IAML		06 01 08.8	
	comp=E,7μm,0.4s						
LRMC				IAML		06 01 09.0	
	comp=N,4μm,0.3s						
DTP	**Desert Tortois**	**0.50**	**235**		Sg	06 01 14.0	+0.1
GSC	**Goldstone, Bar**	**0.51**	**120**		Pg	06 01 07.4	-0.2
GSC				IAML		06 01 14.8	
	comp=N,6μm,0.8s						
GSC				IAML		06 01 14.9	
	comp=E,5μm,0.7s						

MPMC	Manual Prospec	0.51	347			Sg	06 01 14.6	+0.2	
QSM	Queen of Sheba	0.56	43			Pg	06 01 08.4	-0.2	
CCAC	Calif City Air	0.68	234			Sg	06 01 20.4	+0.7	
CCAC	Calif City Air	0.68	234		Pg	Pg	06 01 10.6	-0.3	
HYS	Haystack Butte	0.71	195			Pg	06 01 11.5	0.0	
HYS						Sg	06 01 20.9	+0.1	
WORM	Onyx Ranch	0.75	281			Sg	06 01 21.4	-0.4	
WHFM	Hanning Flat	0.83	280			Sg	06 01 24.5	-0.1	
GWY	Greenwater Val	0.83	41		Pg	Pg	06 01 13.4	-0.5	
GWY					IAML		06 01 28.4		
	comp=N,2μm,0.5s								
GWY					IAML		06 01 28.9		
	comp=E,2μm,0.3s								
EDW2	Edwards Air Fo	0.86	219			Pb	06 01 15.6	+0.2	
ISA	Isabella, Lake	0.93	277			Sg	06 01 26.8	-0.8	
ISA	Isabella, Lake	0.93	277		Pg	Pg	06 01 14.9	-0.7	
SBB	Saddle Back Bu	0.95	205			Sg	06 01 27.8	-0.6	
VTV	Victorville	0.99	179			Pb	06 01 17.4	-0.3	
VTV						Sb	06 01 31.6	+0.4	
WASM	Alta Sierra Ca	1.00	281			Sg	06 01 29.6	-0.5	
ADO	Adelanto Recei	1.01	184			Pb	06 01 17.9	-0.1	
HEC	Hector,Ludlow	1.10	131			Sg	06 01 32.9	-0.3	
TUQ	Turquoise Moun	1.16	96			Sg	06 01 19.6	-0.6	
TUQ						Sg	06 01 35.6	+0.4	
LRRC	Littlerock Res	1.17	209			Sb	06 01 36.5	+0.3	
LEOC	Leona Valley	1.21	221			Pg	06 01 21.2	+0.1	
LEOC						Sb	06 01 37.7	+0.1	
JNH	Juniper Hills	1.22	205			Pg	06 01 21.1	0.0	
CJV	Casa Juvan	1.22	213			Sb	06 01 38.0	+0.3	
SIL	Silver Peak	1.28	160			Sg	06 01 21.8	-0.5	
BFSC	Mount Baldy Ra	1.34	191			Sg	06 01 40.4	-0.5	
WCT	Wildcat Mounta	1.36	25			Pn	06 01 22.5	-1.4	
SSK	Sunset Peak	1.37	192			Pn	06 01 23.8	-0.3	
GRAC	Grapevine Rang	1.44	359			Pn	06 01 24.5	-0.4	
SGV	South Grapevin	1.44	10			Sg	06 01 43.7	-0.6	
MWC	Mount Wilson	1.45	204			Pn	06 01 24.5	-0.7	
MWC					IAML		06 01 46.3		
	comp=N,480nm,0.5s								
MWC					IAML		06 01 47.2		
	comp=E,401nm,0.9s								
CLTC	Calectric	1.46	179			Sb	06 01 43.0	-1.6	
OSI	Osito Audit: C	1.47	231			Pn	06 01 24.6	-0.7	
OSI					IAML		06 01 45.9		
	comp=E,757nm,0.6s								
OSI					IAML		06 01 50.0		
	comp=N,510nm,0.5s								
GTM	Goat Mountain	1.50	147			Sn	06 01 45.1	-0.6	
DECC	Green Verdugo	1.53	212			Sg	06 01 47.2	+0.1	
PASC	Pasadena Art C	1.54	207			Pn	06 01 25.7	-0.6	
GMRC	Granite Mounta	1.58	119			Sn	06 01 47.5	-0.3	
TPNV	Topopah Spring	1.65	32			Pn	06 01 26.9	-1.0	
TPNV					IAML		06 02 27.3		
	comp=N,2μm,0.7s								
DSP	Deep Springs	1.88	345	Pn	Pn	Pn	06 01 30.8	0.0	
ELS	Elsinore Mount	1.91	182	Pn	Pn	Pn	06 01 30.3	-1.0	
ELS					IAML		06 02 34.8		
	comp=N,872nm,0.8s								
ELS					IAML		06 02 40.7		
	comp=E,374nm,0.5s								
SHPR	Sheep Range	2.01	61	Pn	Pn	Pn	06 01 31.7	-1.1	
SHPR					IAML		06 02 39.9		
	comp=E,391nm,0.8s								
SHPR					IAML		06 02 43.6		
	comp=N,356nm,0.9s								
XPFO	Pinon Flat	2.07	159			Pb	06 01 36.0	-0.1	
PRN	Pahroc Range	2.61	44	Pn	Pn	Pn	06 01 40.6	-0.5	
LCMT	Little Creek M	3.62	65	Pn	Pn	Pn	06 01 54.5	-0.3	
113A	Mohawk Valley,	4.07	132	Pn	Pn	Pn	06 01 60.0	-0.9	
VTX	Valle De La Tr	4.35	162	Pn	Pn	Pn	06 02 07.3	+2.3	
ORV	Oroville	5.18	322	Pn	Pn	Pn	06 02 16.4	+0.1	
TMUT	Trail Mountain	6.14	51	Pn	Pn	Pn	06 02 31.0	+1.2	
HSIG		8.47	139	Pn	Pn	Pn	06 03 01.3	-0.2	

NEIC ***06*** *06:01:51.2±1.3,35.°911N±0.°009×117.°73W±0.°01, h7km±2km, Error ellipse: s-maj=1.4km s-min=1.2km az=130.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr=2.80; Mθθ=4.10; Mφφ=6.91; Mrθ=2.95; Mθφ=2.97; Mφr=2.61; Fault plane solution: M0=7.79000×10^15^ NP1:φs=51.68000°, δ=77.27000°, λ=-39.43000°. NP2: φs=151.94000°, δ=51.72000°, λ=-163.70000°. Principal axes: T 8.6203, Plg16.0000°, Azm107.0000°; N -2.0981, Plg49.0000°, Azm217.0000°; P -6.5223, Plg36.0000°, Azm4.0000°;*

PAS ***06*** *06:01:51.8±1.4,35.°911N±0.°009×117.°74W±0.°01, h5km±2km, Mwr4.6/4, mb4.3/48(NEIC), ML4.6/88(NEIC), Mwr4.5/42(NEIC) Error ellipse: s-maj=1.3km s-min=1.2km az=134.0*

NEIC ***06*** *06:01:51.8, 35.°91N×117.°74W, h4km*

IDC ***06*** *06:01:51.3±0.7, 35.°90N×117.°44W, h0km, mb4.0/8, mbtmp4.0/15, ML4.2/4, Error ellipse: s-maj=14.4km s-min=6.7km az=74.0*

ISC 06 06:01:52.0±0.7, 35.°90N±0.°02×117.°72W±0.°02, h9km±5km, n197,σ0=85/208, mb4.2/13, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	Volcano Peak E	0.09	303		Pg	06 01 53.7	-0.8
WVPM					Sg	06 01 55.4	-0.9
TOW	Tower One	0.10	199		Pg	06 01 54.5	0.0
WCSM	Coso Springs S	0.13	345		Pg	06 01 54.3	-0.8
CLC	China Lake	0.13	129		Pg	06 01 54.7	-0.3
CLC					Sg	06 01 57.2	0.0
WNMM	Nine Mile Cany	0.16	249		Pg	06 01 55.0	-0.4
WNMM					Sg	06 01 58.1	+0.4
WRVM	Rose V. Centra	0.17	309		Pg	06 01 55.0	-0.7
SRTC	Snort	0.21	185		Pg	06 01 56.5	+0.1
MFS	McCloud Flat S	0.24	334		Pg	06 01 56.2	-0.8
MPMC	Manual Prospec	0.25	51		Pg	06 01 56.7	-0.4
MPMC					Sg	06 02 00.2	-0.3
LRMC	Laurel Mtn Rad	0.42	175		Pg	06 02 00.1	-0.3
LRMC					Sg	06 02 06.0	+0.2
LRMC	Laurel Mtn Rad	0.42	175	IAML		06 02 06.8	
	comp=E,68μm,0.5s						
LRMC				IAML		06 02 07.9	
	comp=N,39μm,0.3s						
WORM	Onyx Ranch	0.47	244		Pg	06 02 00.4	-0.8
WORM					Sg	06 02 06.7	-0.7
CCCA	Chr Cany lake	0.48	142		Pg	06 02 01.4	+0.2
CCCA					Sb	06 02 08.7	-1.0
WBSM	Bird Springs	0.50	223		Pg	06 02 01.1	-0.6
WBSM					Sg	06 02 08.2	-0.1
WHFM	Hanning Flat	0.55	248		Pg	06 02 02.0	-0.7
WHFM					Sg	06 02 09.3	-0.6
CWC	Cottonwood Cre	0.61	332		Pg	06 02 03.2	-0.7
CWC					Sg	06 02 11.2	-0.8
DTP	Desert Tortois	0.64	189		Pg	06 02 03.8	-0.6
CGO	Cerro Gordo	0.65	354		Pg	06 02 03.9	-0.8
ISA	Isabella, Lake	0.65	249		Sg	06 02 12.5	-0.7
ISA	Isabella, Lake	0.65	249		Pg	06 02 03.9	-0.8
ISA				IAML		06 02 12.8	
	comp=N,33μm,0.5s						
ISA				IAML		06 02 12.9	
	comp=E,23μm,0.4s						
WASM	Alta Sierra Ca	0.70	257		Pg	06 02 04.7	-0.8
WASM					Sg	06 02 14.0	-0.6
QSM	Queen of Sheba	0.70	84		Pg	06 02 05.2	-0.3
QSM	Queen of Sheba	0.70	84	IAML		06 02 18.1	
	comp=N,33μm,0.9s						
QSM				IAML		06 02 18.1	
	comp=E,31μm,0.7s						
CCAC	Calif City Air	0.78	198		Sg	06 02 17.3	-0.1
CCAC	Calif City Air	0.78	198		Pg	06 02 06.5	-0.7
CCAC				IAML		06 02 20.8	
	comp=E,18μm,0.6s						
CCAC				IAML		06 02 20.9	
	comp=N,37μm,0.5s						
SPG2	Springville 2	0.90	290		Pg	06 02 07.9	-1.4
FURC	Furnace Creek,	0.90	51		Pb	06 02 08.9	-0.8
FURC					Sb	06 02 21.6	-0.2
GWY	Greenwater Val	0.90	71		Pb	06 02 09.0	-0.9
GWY	Greenwater Val	0.90	71	IAML		06 02 23.7	
	comp=N,28μm,1.1s						
GWY				IAML		06 02 24.4	
	comp=E,28μm,1.0s						
GSC	Goldstone, Bar	0.96	128		Pg	06 02 07.9	-2.5
GSC	Goldstone, Bar	0.96	128		Pg	06 02 09.6	-0.9
GSC				IAML		06 02 25.6	
	comp=E,32μm,1.2s						
GSC				IAML		06 02 25.6	
	comp=N,17μm,1.1s						
TEJ	El Tejon	1.03	230		Pg	06 02 10.4	-1.4
TEJ					Sg	06 02 24.5	-0.8
EDW2	Edwards Air Fo	1.04	192		Pg	06 02 10.8	-1.3
HYS	Haystack Butte	1.04	173		Pg	06 02 11.2	-0.9
TPO	Tropico Hills	1.10	202		Pg	06 02 11.9	-1.3
TPO					Sg	06 02 27.2	-0.3
VES	Vestal, Richgr	1.11	267		Pg	06 02 11.2	-2.1
VES					Sg	06 02 27.2	-0.5
MAGC	SCE Magundon P	1.11	241		Pg	06 02 12.5	-0.9
MAGC					Sb	06 02 27.8	-0.3
GRAC	Grapevine Rang	1.13	15		Pg	06 02 12.3	-1.4
GRAC					Sn	06 02 28.9	-0.9
GRAC	Grapevine Rang	1.13	15	IAML		06 02 31.0	
	comp=N,17μm,0.8s						
GRAC				IAML		06 02 33.9	
	comp=E,15μm,0.7s						
SHOC	Shoshone, Teco	1.18	90		Pg	06 02 13.4	-1.2
RRX	Edison Barstow	1.18	150		Pg	06 02 13.6	-1.1
ARVC	Arvin	1.19	230		Pg	06 02 13.6	-1.3
TJR	Tejon Ranch	1.20	224		Pg	06 02 13.4	-1.7
TJR					Sg	06 02 29.7	-1.1
SBB	Saddle Back Bu	1.21	184		Pg	06 02 14.0	-1.3
SGV	South Grapevin	1.21	27		Pg	06 02 14.4	-1.0
TIN	Tinemaha, Big	1.22	341		Pg	06 02 14.5	-1.0
THC	Tehachapi Micr	1.25	218		Pg	06 02 14.4	-1.7
THC					Sg	06 02 31.1	-1.2
BAKC	Calstate	1.25	244		Pg	06 02 15.1	-1.0
WCT	Wildcat Mounta	1.26	45		Pg	06 02 14.8	-1.4
WCT	Wildcat Mounta	1.26	45	IAML		06 02 33.6	
	comp=E,15μm,0.6s						
WCT				IAML		06 02 34.0	
	comp=N,11μm,1.2s						
AMDNV	Amargosa	1.29	64		Pn	06 02 15.0	-1.2
ALPC	Antelope	1.30	201		Pn	06 02 15.4	-1.0
LCH	Last Change Ra	1.33	3		Pn	06 02 15.9	-1.1
LEOC	Leona Valley	1.35	201		Pn	06 02 16.2	-1.0
ADO	Adelanto Recei	1.37	170		Pn	06 02 17.1	-0.3
VTV	Victorville	1.38	166		Pn	06 02 17.5	0.0
LRRC	Littlerock Res	1.39	190		Pn	06 02 17.3	-0.4
BTPC	Burnt Peak	1.40	210		Pn	06 02 17.5	-0.4
VOG	Valley Oaks Go	1.41	288		Pn	06 02 17.3	-0.5
CJV	Casa Juvan	1.41	194		Pn	06 02 17.4	-0.6
HOLC	Holcomb Ridge	1.44	184		Pn	06 02 18.3	-0.2
GMN	Gold Mountain	1.45	15		Pn	06 02 18.0	-0.7
JNH	Juniper Hills	1.46	187		Pn	06 02 17.8	-0.9
DSP	Deep Springs	1.48	352		Pn	06 02 18.3	-0.5
OSI	Osito Audit: C	1.52	213		Pn	06 02 19.1	-0.4
OSI	Osito Audit: C	1.52	213	IAML		06 02 43.3	
	comp=E,7μm,0.9s						
DSCC	Desert Studies	1.52	119		Pn	06 02 18.0	-1.5
BHPR	Bishop	1.52	336		Pn	06 02 19.2	-0.5
POCCA	Poleta Canyon	1.53	343		Pb	06 02 19.9	-0.8
TUQ	Turquoise Moun	1.54	107		Pn	06 02 18.5	-1.3
HEC	Hector,Ludlow	1.56	133		Pn	06 02 18.8	-1.2
CHFC	Chilao Flat St	1.58	189		Pn	06 02 20.7	+0.3
TPNV	Topopah Spring	1.58	48		Pn	06 02 20.2	-0.2
TPNV				IAML		06 02 45.7	
	comp=E,11μm,1.0s						
MPI	Mount Pinos, F	1.59	227		Pn	06 02 20.7	0.0
MTUM	Tungsten Hills	1.60	335		Pn	06 02 20.7	0.0
PDE	Pardee, Santa	1.62	206		Pn	06 02 20.8	+0.1
BFSC	Mount Baldy Ra	1.66	178		Pn	06 02 21.1	-0.3
BCW	Bitter Crk WRg	1.68	236		Pb	06 02 22.6	-0.5
BCW	Bitter Crk WRg	1.68	236	IAML		06 02 56.2	
	comp=E,9μm,1.1s						
BCW				IAML		06 02 56.8	
	comp=N,9μm,1.6s						
SSK	Sunset Peak	1.69	179		Pn	06 02 21.8	0.0
MWC	Mount Wilson	1.69	189		Pn	06 02 21.8	-0.2
MWC	Mount Wilson	1.69	189	IAML		06 02 47.4	
	comp=N,5μm,0.4s						
MWC				IAML		06 02 48.4	
	comp=E,5μm,0.5s						
SIL	Silver Peak	1.71	154		Pb	06 02 23.6	-0.2
OAT	Oat Mountain	1.72	205		Pn	06 02 22.6	+0.4
DECC	Green Verdugo	1.72	197		Pn	06 02 21.5	-0.6
CRGC	Crocker Grade	1.76	249		Pn	06 02 20.7	+0.3
BBRC	Big Bear Solar	1.76	158		Pb	06 02 24.5	-0.1
PASC	Pasadena Art C	1.77	192		Pn	06 02 22.3	-0.5
PASC	Pasadena Art C	1.77	192		Pn	06 02 22.9	+0.1
PASC				IAML		06 02 59.2	
	comp=E,2μm,1.0s						
PASC				IAML		06 03 00.5	
	comp=N,1μm,0.9s						
CACC	Caltech Cellar	1.79	191		Pn	06 02 23.1	0.0
HLLC	North Hollywoo	1.80	197		Pb	06 02 24.4	-0.7
PSRC	Puddingstone R	1.81	182		Pn	06 02 23.6	+0.2
MTPC	Mountain Pass	1.81	103		Pn	06 02 22.4	-1.2
MZP	Montezuma Peak	1.82	9	Pn	Pn	06 02 23.6	-0.2
SVD	Seven Oaks Dam	1.86	164		Pn	06 02 24.0	-0.2
MLSC	Mira Loma	1.90	176		Pn	06 02 24.5	-0.1
KCC	Kaiser Creek	1.91	318		Pn	06 02 24.9	0.0
RVR	Riverside	1.92	171		Pn	06 02 24.4	-0.6
BENR	Benton	1.94	340		Pn	06 02 25.3	-0.1
FRI	Friant	1.94	305		Pn	06 02 25.5	+0.4
SMMC	Simnler	1.94	253		Pn	06 02 25.4	+0.2
MLAC	Mammoth, Mammo	1.94	333		Pn	06 02 27.5	-0.3
GTM	Goat Mountain	1.96	145		Pn	06 02 24.5	-1.0
MCSM	Casa Diablo Ho	1.99	332		Pn	06 02 28.1	-0.5
BLAC	Blackrock camp	2.13	149		Pn	06 02 27.4	-0.5
SHPR	Sheep Range	2.16	73	Pn	Pn	06 02 28.2	-0.2
EW2	E Wide Canyon	2.23	151		Pn	06 02 28.6	-0.7
ELS	Elsinore Mount	2.26	174	Pn	Pn	06 02 29.4	-0.2
ELS				IAML		06 03 09.7	
	comp=E,2μm,1.3s						
HMTC	Hemet	2.27	165		Pn	06 02 29.5	-0.2
POB	Polly Butte	2.31	163		Pn	06 02 30.1	-0.2
S11A	Rachel	2.36	42	Pn	Pn	06 02 30.7	-0.3
LHV	Little Huntoon	2.43	345	Pn	Pn	06 02 32.6	+0.7
LHV				IAML		06 03 13.8	
	comp=E,2μm,1.6s						
PFO	Pinyon Flats O	2.51	155	Pn	Pn	06 02 32.4	-0.7
PFO				IAML		06 03 16.8	
	comp=E,3μm,1.2s						
PFO				IAML		06 03 17.4	
	comp=E,2μm,1.5s						
PFO	Pinyon Flats O	2.51	155	Pn	Pn	06 02 32.2	-0.9
	comp=E,74nm,0.6s,baz=347,slow=15,SNR=10						
PFO				Lg	Lg	06 03 09.7	
	comp=E,376nm,0.3s,baz=60,slow=20,SNR=13						
NV11	Mina Array Sit	2.55	352		Pn	06 02 33.7	0.0
NVAR	Mina Array Bea	2.57	350	Pn	Pn	06 02 34.1	+0.1
	comp=E,43nm,0.5s,baz=184,slow=14,SNR=7.0						
NVAR				Lg	Lg	06 03 13.9	
	comp=E,152nm,0.3s,baz=273,slow=25,SNR=5.8						
PRN	Pahroc Range	2.62	54	Pn	Pn	06 02 34.5	-0.2
BBGB	Big Mountain B	2.76	285	Pn	Pn	06 02 36.6	-0.1
Q09A	Carvers	2.96	8	Pn	Pn	06 02 39.9	+0.5
Q09A				IAML		06 03 45.6	
	comp=E,3μm,1.8s						
SAO	San Andreas Ge	3.13	287	Pn	Pn	06 02 41.1	-0.4
W13A	Hualapai Mount	3.23	103	Pn	Pn	06 02 42.2	-1.0
W13A				IAML		06 03 51.7	
	comp=E,891nm,1.0s						
CBX	Cerro Bola	3.69	166	Pn	Pn	06 02 49.9	+0.6
LCMT	Little Creek M	3.78	72	Pn	Pn	06 02 51.2	+0.6
LCMT				IAML		06 03 58.4	
	comp=N,633nm,1.4s						
CCUT	Cedar City	3.87	64	Pn	Pn	06 02 52.6	+0.6
CCUT				IAML		06 04 03.8	
	comp=N,599nm,1.0s						
PAHR	Pah Rah Range	4.02	341	Pn	Pn	06 02 54.5	+0.6
PSUT	Pine Spring	4.05	48	Pn	Pn	06 02 54.2	-0.3
SZCU	Shurtz Canyon	4.09	64	Pn	Pn	06 02 55.0	+0.1
SZCU				IAML		06 04 19.0	
	comp=N,557nm,2.3s						
SPR3	Spring Creek 3	4.11	40	Pn	Pn	06 02 54.1	-1.2
SPR3				IAML		06 04 04.4	
	comp=N,1μm,1.1s						
SPR3				IAML		06 04 06.7	
	comp=E,1μm,1.0s						
KNB	Kanab	4.11	73	Pn	Pn	06 02 55.8	+0.7
KNB				IAML		06 04 16.2	
	comp=E,766nm,1.6s						
KNB				IAML		06 04 19.8	
	comp=N,835nm,1.6s						
CCX	Cicese	4.12	167		Pn	06 02 55.5	+0.3
CCX				IAML		06 04 04.7	
	comp=N,446nm,1.1s						
CCX				IAML		06 04 07.5	
	comp=E,687nm,1.2s						
WUAZ	Wupatki	5.18	92	Pn	Pn	06 03 10.8	+0.9
ELK	Elko	5.22	21		Pn	06 03 10.3	-0.1
ELK				IAML		06 04 40.6	
	comp=E,232nm,0.8s						
ELK	Elko	5.22	21	Pn	Pn	06 03 10.4	-0.1
	comp=E,9.5nm,0.3s,baz=193,slow=16,SNR=14						
ELK				Lg	Lg	06 04 33.3	
	comp=E,33nm,0.3s,baz=286,slow=24,SNR=10						
	comp=E,19nm,0.3s						
TMUT	Trail Mountain	6.18	55	Pn	Pn	06 03 24.3	+0.5
X18A	Snowflake	6.51	100	Pn	Pn	06 03 29.6	+1.4
W18A	Petrified Fore	6.56	95	Pn	Pn	06 03 29.9	+1.0
YBH	Yreka Blue Hor	7.00	328	Pn	Pn	06 03 38.9	+4.1
	baz=58,slow=6.3,SNR=1.0						
YBH				Lg	Lg	06 05 28.7	
	baz=16,slow=8.7,SNR=5.6						
ANMO	Albuquerque	9.25	93	Pn	Pn	06 04 04.4	-1.3
	comp=E,8.4nm,0.9s,baz=134,slow=21,SNR=1.1						
ANMO				Lg	Lg	06 06 35.0	
	comp=E,0.7nm,0.3s,baz=238,slow=9.9,SNR=4.7						
PDAR	Pinedale Array	9.32	40	Pn	Pn	06 04 06.8	0.0
	comp=E,0.3nm,0.3s,baz=201,slow=9.1,SNR=5.5						
PDAR				Lg	Lg	06 06 38.8	
	baz=219,slow=37,SNR=1.1						
	comp=E,1.8nm,0.8s						
CLNB	Carlsbad	12.04	104		Pn	06 04 43.3	-0.6
NEW	Newport	12.36	2	Pn	Pn	06 04 50.4	+2.2
	comp=E,0.2nm,0.3s,baz=186,slow=17,SNR=3.5						
	comp=E,1.9nm,0.7s						
PECS	Pecos	12.40	107		Pn	06 04 47.9	-0.9
ALPN	Alpine	13.02	111	Pn	Pn	06 05 00.3	+2.9
ODSA	Odessa	13.14	102	Pn	Pn	06 04 59.4	+0.5
MNHN	Monahans	13.27	106	Pn	Pn	06 05 00.5	-0.2
TXAR	Lajitas Array	13.53	115	Pn	Pn	06 05 05.7	+1.4
TXAR	Lajitas Array	13.53	115	Pn	Pn	06 05 04.8	+0.6
	comp=E,0.6nm,0.3s,baz=294,slow=12,SNR=17						
TXAR				Lg	Lg	06 08 49.3	
	baz=134,slow=16,SNR=1.5						
	comp=E,1.9nm,0.4s						
POST	Post	13.68	97	Pn	Pn	06 05 07.6	+1.3
LLLB	Lillooet	15.01	350	Pn	Pn	06 05 25.3	+1.1
CBB	Campbell River	15.18	341		Pn	06 05 28.1	+1.7
DRIO	Del Rio	15.78	109		Pn	06 05 35.1	+0.6
JCT	Junction City	15.94	105	Pn	Pn	06 05 37.0	+0.4
JCT				IAmb	IAmb	06 05 42.4	
	comp=E,27nm,1.4s						
WTFS	Witchita Falls	15.96	92		Pn	06 05 36.7	-0.1
BRDY	Brady	16.26	101	Pn	Pn	06 05 39.9	-0.8
X34A	Smith Ranch, M	16.30	89	Pn	Pn	06 05 41.7	+0.5
PLPT	Palo Pinto	16.32	95	Pn	Pn	06 05 40.6	-0.9
PLPT				IAmb	IAmb	06 05 47.2	
	comp=E,19nm,0.8s						
KAN13	South Haven SW	16.33	80	Pn	Pn	06 05 41.2	-0.3
KAN13				IAmb	IAmb	06 05 47.4	
	comp=E,41nm,1.4s						
FW03	Perrin-Whitt E	16.46	94	Pn	Pn	06 05 43.4	+0.1
FW03				IAmb	IAmb	06 05 49.0	
	comp=E,16nm,0.7s						
FNO	Franklin	16.55	86	Pn	Pn	06 05 45.0	+0.7
FNO				IAmb	IAmb	06 05 50.5	
	comp=E,26nm,1.1s						
E28A	Huff	16.63	45	Pn	Pn	06 05 45.5	+0.2
FW07	Weatherford	16.78	95	Pn	Pn	06 05 46.5	-0.8
FW07				IAmb	IAmb	06 05 51.9	
	comp=E,24nm,1.1s						
OK052	Battle Ridge R	16.94	84	Pn	Pn	06 05 49.5	+0.2
833A	Chaparral WMA,	17.25	111	Pn	Pn	06 05 52.4	-0.8
WHTX	Lake Whitney,	17.26	97	P	Pn	06 05 53.7	+0.4
WHTX				IAmb	IAmb	06 05 58.2	
	comp=E,17nm,0.7s						
TUL3	Leonard	17.77	84	P	P	06 06 00.1	-0.3
U38A	Gravette	18.85	81	P	P	06 06 12.3	0.0
Z38A	Mt. Pleasant	18.90	91		P	06 06 12.5	-0.4
F33A	5 Mile Ranch,	18.95	52	P	Pn	06 06 13.5	-0.5
P38A	Dawn	19.47	72	P	P	06 06 18.8	-0.3
P38A				IAmb	IAmb	06 06 45.0	
	comp=E,20nm,1.5s						
S39A	Bolivar	19.61	78	P	P	06 06 20.3	-0.3
AGMN	Agassiz Nation	20.33	46	P	P	06 06 27.7	-0.7
R40A	Maddies Statio	20.43	76	P	P	06 06 29.9	+0.4
P40A	Paris	20.61	72	P	P	06 06 30.9	-0.5
P40A				IAmb	IAmb	06 06 49.0	
	comp=E,16nm,1.4s						
WHAR	Wooly Hollow	20.68	84		P	06 06 32.3	0.0
WHAR				IAmb	IAmb	06 06 34.5	
	comp=E,12nm,0.8s						
FCAR	Ozark Folk Cen	20.73	82	P	P	06 06 33.1	+0.3
FCAR				IAmb	IAmb	06 06 37.7	
	comp=E,17nm,1.2s						
SPMN	Marine on St.	21.03	56	P	P	06 06 36.8	+0.8
SPMN				IAmb	IAmb	06 06 51.5	
	comp=E,11nm,0.9s						
ULM	Lac du Bonnet	21.35	41		P	06 06 39.3	-0.1
ULM				IAmb	IAmb	06 06 40.2	
	comp=E,14nm,1.1s						
ULM	Lac du Bonnet	21.35	41	P	P	06 06 38.6	-0.7
	comp=E,6.1nm,0.7s,baz=233,slow=10,SNR=8.8						
	comp=E,6.1nm,0.7s						
LCAR	Lake Charles	21.48	82		P	06 06 41.4	+0.4
FFC	Flin Flon	21.75	25		P	06 06 43.2	-0.4

WBSM	**Bird Springs**	**0.49**	**225**		Sg	06 04 50.4	+0.3
DTP	**Desert Tortois**	**0.63**	**190**		Pg	06 04 45.8	-0.4
CWC	**Cottonwood Cre**	**0.63**	**332**		Pg	06 04 46.5	+0.2
ISA	**Isabella, Lake**	**0.66**	**251**	Pg	Pg	06 04 46.5	-0.3
ISA				IAML		06 04 55.6	
	comp=N,3μm,0.3s						
ISA				IAML		06 04 55.8	
	comp=E,3μm,0.3s						
CGO	**Cerro Gordo**	**0.67**	**354**		Pg	06 04 47.0	0.0
QSM	**Queen of Sheba**	**0.69**	**83**		Pg	06 04 47.3	0.0
QSM				IAML		06 04 59.9	
	comp=E,2μm,0.5s						
QSM				IAML		06 05 01.0	
	comp=N,2μm,0.6s						
WASM	**Alta Sierra Ca**	**0.70**	**258**		Pg	06 04 47.4	-0.2
WASM					Sg	06 04 56.9	+0.1
CCAC	**Calif City Air**	**0.77**	**199**	Pg	Pg	06 04 48.4	-0.5
CCAC				IAML		06 05 06.4	
	comp=E,855nm,0.6s						
GWY	**Greenwater Val**	**0.90**	**70**	Pg	Pg	06 04 51.0	-0.4
GWY				IAML		06 05 05.4	
	comp=E,1μm,0.4s						
GWY				IAML		06 05 08.3	
	comp=N,1μm,0.5s						
SPG2	**Springville 2**	**0.91**	**290**		Sg	06 05 03.1	-0.3
GSC	**Goldstone, Bar**	**0.94**	**128**		Sg	06 05 04.3	0.0
GSC	**Goldstone, Bar**	**0.94**	**128**	Pg	Pg	06 04 51.4	-0.7
GSC				IAML		06 05 06.4	
	comp=N,2μm,0.3s						
GSC				IAML		06 05 08.0	
	comp=E,1μm,0.5s						
HYS	**Haystack Butte**	**1.03**	**173**		Pg	06 04 54.1	+0.3
EDW2	**Edwards Air Fo**	**1.03**	**193**		Pg	06 04 54.2	+0.3
TEJ	**El Tejon**	**1.03**	**231**		Sg	06 05 04.7	-0.6
TPO	**Tropico Hills**	**1.09**	**203**		Pg	06 04 54.3	-0.7
VES	**Vestal, Richgr**	**1.12**	**268**		Pg	06 04 55.1	-0.5
VES					Sg	06 05 09.7	-0.3
GRAC	**Grapevine Rang**	**1.14**	**14**	Pg	Pg	06 04 55.5	-0.6
GRAC				IAML		06 05 12.0	
	comp=E,726nm,0.5s						
GRAC				IAML		06 05 20.6	
	comp=N,592nm,0.7s						
RRX	**Edison Barstow**	**1.16**	**150**		Sb	06 05 12.7	+0.3
SHOC	**Shoshone, Teco**	**1.17**	**89**		Sg	06 05 11.7	+0.1
ARVC	**Arvin**	**1.19**	**231**		Pg	06 04 55.1	-1.8
TJR	**Tejon Ranch**	**1.20**	**225**		Pg	06 04 56.0	-1.2
TJR					Sg	06 05 12.4	-0.4
SGV	**South Grapevin**	**1.22**	**26**		Pg	06 04 57.1	-0.5
THC	**Tehachapi Micr**	**1.25**	**219**		Pg	06 04 56.7	-1.3
BAKC	**Calstate**	**1.26**	**245**		Sb	06 05 15.0	-0.1
WCT	**Wildcat Mounta**	**1.26**	**44**	Pg	Pg	06 04 58.2	-0.1
WCT				IAML		06 05 16.6	
	comp=E,483nm,0.5s						
VTV	**Victorville**	**1.36**	**167**		Sb	06 05 18.1	0.0
LRRC	**Littlerock Res**	**1.38**	**191**		Pn	06 05 00.4	+0.1
CJV	**Casa Juvan**	**1.40**	**195**		Pg	06 05 00.9	0.0
VOG	**Valley Oaks Go**	**1.42**	**288**		Pn	06 05 00.3	-0.5
VOG					Sb	06 05 19.5	-0.3
JNH	**Juniper Hills**	**1.45**	**188**		Pg	06 05 02.1	+0.2
GMN	**Gold Mountain**	**1.46**	**14**		Pn	06 05 01.0	-0.6
DSP	**Deep Springs**	**1.50**	**352**		Pn	06 05 01.5	-0.4
OSI	**Osito Audit: C**	**1.52**	**213**		Pn	06 05 02.3	+0.1
HEC	**Hector,Ludlow**	**1.54**	**133**		Sb	06 05 23.4	0.0
PCCCA	**Poleta Canyon**	**1.54**	**343**		Pn	06 05 03.0	+0.2
TPNV	**Topopah Spring**	**1.59**	**48**		Pn	06 05 01.8	-1.5
TPNV				IAML		06 05 27.2	
	comp=E,684nm,1.0s						
TPNV				IAML		06 05 27.4	
	comp=E,434nm,0.5s						
MTUM	**Tungsten Hills**	**1.62**	**335**		Pb	06 05 04.6	-0.2
SSK	**Sunset Peak**	**1.67**	**180**		Pb	06 05 05.6	-0.1
PSRC	**Puddingstone R**	**1.79**	**183**		Pb	06 05 08.0	+0.4
CLTC	**Calectric**	**1.82**	**170**		Sn	06 05 30.1	+0.2
MZP	**Montezuma Peak**	**1.83**	**8**	Pn	Pn	06 05 06.0	-0.8
RVR	**Riverside**	**1.91**	**172**		Pb	06 05 09.7	+0.1
SHPR	**Sheep Range**	**2.15**	**73**	Pn	Pn	06 05 11.3	+0.2
V12A	**Nelson**	**2.33**	**93**	Pn	Pn	06 05 14.5	+1.0
V12A				IAML		06 05 27.2	
	comp=E,117nm,1.2s						
BBGB	**Big Mountain B**	**2.78**	**285**	Pn	Pn	06 05 19.4	-0.2
Q09A	**Carvers**	**2.97**	**8**	Pn	Pn	06 05 21.3	-1.1
CMB	**Columbia Colle**	**3.03**	**316**	Pn	Pn	06 05 22.1	-1.0
CMB				IAML		06 06 12.1	
	comp=N,69nm,1.5s						
SAO	**San Andreas Ge**	**3.14**	**287**	Pn	Pn	06 05 23.9	-0.6
W13A	**Hualapai Mount**	**3.22**	**103**	Pn	Pn	06 05 23.8	-2.1
W13A				IAML		06 05 59.4	
	comp=E,58nm,2.7s						
W13A				IAML		06 06 03.5	
	comp=N,64nm,2.7s						
TJX	**Tijuana**	**3.41**	**171**	Pn	Pn	06 05 27.2	-1.0
TKX	**Tecate**	**3.43**	**164**	Pn	Pn	06 05 27.8	-0.8
AFDM	**Forest Hills D**	**4.01**	**321**	Pn	Pn	06 05 36.2	-0.3
AFDM				IAML		06 06 07.5	
	comp=E,42nm,1.6s						
AFDM				IAML		06 06 50.5	
	comp=N,44nm,1.4s						
Y14A	**Wickenburg**	**4.33**	**115**	Pn	Pn	06 05 41.2	+0.3
Y14A				IAML		06 06 13.0	
	comp=E,62nm,2.1s						
GDXM	**Geysers**	**4.99**	**307**	Pn	Pn	06 05 50.6	+0.5
GDXM				IAML		06 06 30.4	
	comp=N,47nm,3.3s						
GDXM				IAML		06 07 38.7	
	comp=E,34nm,4.5s						
X16A	**Lo Mia Camp, P**	**5.34**	**104**	Pn	Pn	06 05 54.4	-0.5
X16A				IAML		06 07 13.0	
	comp=N,35nm,1.5s						

NEIC ***06*** *06:06:30.7±2.0, 35°.70N±0°.01×117°.32W±0°.02, h5km±1km, Error ellipse: s-maj=2.1km s-min=2.0km az=76.0*

PAS 06 06:06:30.9±1.7, 35°.688N±0°.009×117°.32W±0°.01, h-1km±1km, ML3.2/28, ML3.0/26(NEIC), Error ellipse: s-maj=1.5km s-min=0.9km az=221.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.17**	**193**		Pg	06 06 34.5	+0.4
LRMC	**Laurel Mtn Rad**	**0.36**	**235**		Pg	06 06 38.1	+0.3
LRMC					Sg	06 06 42.2	-0.3
LRMC	**Laurel Mtn Rad**	**0.36**	**235**	IAML		06 06 42.6	
	comp=N,2μm,0.2s						
LRMC				IAML		06 06 42.7	
	comp=E,3μm,0.2s						
TOW	**Tower One**	**0.38**	**289**		Pg	06 06 39.1	+0.8
MPMC	**Manual Prospec**	**0.40**	**339**		Pg	06 06 39.2	+0.7
QSM	**Queen of Sheba**	**0.46**	**53**	Pg	Pg	06 06 39.7	0.0
WVPM	**Volcano Peak E**	**0.48**	**303**		Pg	06 06 38.7	-1.4
WNMM	**Nine Mile Cany**	**0.50**	**288**		Pg	06 06 39.8	-0.8
WRVM	**Rose V. Centra**	**0.56**	**305**		Pg	06 06 40.0	-1.7
GSC	**Goldstone, Bar**	**0.57**	**133**		Pg	06 06 39.9	-1.9
GSC	**Goldstone, Bar**	**0.57**	**133**	IAML		06 06 50.6	
	comp=N,1μm,0.5s						
GSC				IAML		06 06 50.7	
	comp=E,1μm,0.5s						
DTP	**Desert Tortois**	**0.60**	**226**		Pg	06 06 42.4	0.0
WBSM	**Bird Springs**	**0.69**	**258**		Pb	06 06 45.6	-0.2
GWY	**Greenwater Val**	**0.72**	**46**	Pg	Pg	06 06 44.5	-0.3
GWY				IAML		06 07 04.6	
	comp=E,420nm,0.3s						
WORM	**Onyx Ranch**	**0.75**	**271**		Pg	06 06 43.7	-1.6
WORM					Sg	06 06 55.8	+0.7
CCAC	**Calif City Air**	**0.78**	**227**	Pg	Pg	06 06 45.6	-0.3
CCAC				IAML		06 06 58.7	
	comp=N,330nm,0.5s						
WHFM	**Hanning Flat**	**0.84**	**271**		Pg	06 06 46.6	-0.4
ISA	**Isabella, Lake**	**0.94**	**269**		Pb	06 06 49.7	-0.5
ISA	**Isabella, Lake**	**0.94**	**269**	Pg	Pg	06 06 48.3	-0.7
ISA				IAML		06 07 22.5	
	comp=N,517nm,0.2s						
ISA				IAML		06 07 22.7	
	comp=E,413nm,0.2s						
EDW2	**Edwards Air Fo**	**0.98**	**215**		Pb	06 06 50.6	-0.2
WASM	**Alta Sierra Ca**	**1.01**	**273**		Sg	06 07 04.2	+0.8
SBB	**Saddle Back Bu**	**1.08**	**203**		Pg	06 06 50.5	-1.1
TPO	**Tropico Hills**	**1.10**	**223**		Pb	06 06 52.5	-0.3
VTV	**Victorville**	**1.12**	**181**		Sg	06 07 07.1	0.0
DSCC	**Desert Studies**	**1.13**	**118**		Sb	06 07 08.4	-0.2
WCT	**Wildcat Mounta**	**1.24**	**27**	Pg	Pg	06 06 54.2	-0.4
WCT				IAML		06 07 37.7	
	comp=N,155nm,0.5s						
WCT				IAML		06 07 37.8	
	comp=E,213nm,0.4s						
ALPC	**Antelope**	**1.28**	**219**		Sg	06 07 11.1	-1.0
LRRC	**Littlerock Res**	**1.30**	**207**		Pg	06 06 55.5	-0.3
LRRC					Sg	06 07 10.8	-1.8
LEOC	**Leona Valley**	**1.33**	**218**		Pg	06 06 56.5	+0.2
LEOC					Sg	06 07 13.4	-0.2
CJV	**Casa Juvan**	**1.34**	**211**		Pg	06 06 56.3	-0.3
CJV					Sg	06 07 11.9	-2.0
JNH	**Juniper Hills**	**1.34**	**203**		Pg	06 06 55.6	-1.0
SIL	**Silver Peak**	**1.40**	**163**		Pn	06 06 57.8	0.0
CHFC	**Chilao Flat St**	**1.47**	**204**		Pn	06 06 58.0	-0.9
BFSC	**Mount Baldy Ra**	**1.47**	**191**		Pn	06 06 58.0	-0.8
MWC	**Mount Wilson**	**1.58**	**203**		Pn	06 06 59.5	-0.9
GTM	**Goat Mountain**	**1.60**	**150**		Sn	06 07 21.9	0.0
DECC	**Green Verdugo**	**1.66**	**211**		Sn	06 07 22.2	-1.1
PASC	**Pasadena Art C**	**1.67**	**205**		Pn	06 07 00.7	-0.8
PASC				IAML		06 08 01.7	
	comp=E,166nm,0.4s						
PASC				IAML		06 08 02.2	
	comp=N,200nm,0.6s						
DSP	**Deep Springs**	**1.76**	**343**		Pn	06 07 02.6	0.0
DSP				IAML		06 08 08.2	
	comp=N,127nm,0.4s						
DSP				IAML		06 08 08.3	
	comp=E,109nm,0.4s						
MTUM	**Tungsten Hills**	**1.94**	**329**		Pn	06 07 06.3	+0.9
ELS	**Elsinore Mount**	**2.04**	**183**	Pn	Pn	06 07 05.5	-1.0
W13A	**Hualapai Mount**	**2.86**	**101**	Pn	Pn	06 07 17.9	-0.2
TKX	**Tecate**	**3.17**	**169**	Pn	Pn	06 07 21.8	-0.3

NEIC ***06*** *06:07:08.5±1.8, 35°.583N±0°.010×117°.35W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.7km az=160.0*

PAS 06 06:07:08.7±1.8, 35°.576N±0°.010×117°.36W±0°.01, h3km±4km, ML3.5/23, ML3.3/76(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=208.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.05**	**182**		Pg	06 07 10.3	+0.4
LRMC	**Laurel Mtn Rad**	**0.28**	**250**	Pg	Pg	06 07 14.2	+0.1
LRMC				IAML		06 07 19.0	
	comp=E,6μm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.28**	**250**		Sg	06 07 18.2	+0.5
MPMC	**Manual Prospec**	**0.49**	**348**		Pg	06 07 18.3	+0.1
DTP	**Desert Tortois**	**0.50**	**232**		Pg	06 07 18.1	-0.3
DTP					Sg	06 07 25.1	+0.2
WVPM	**Volcano Peak E**	**0.53**	**315**		Pg	06 07 18.9	0.0
GSC	**Goldstone, Bar**	**0.53**	**121**	Pg	Pg	06 07 18.8	-0.1
GSC				IAML		06 07 26.8	
	comp=N,2μm,0.4s						
GSC				IAML		06 07 33.1	
	comp=E,2μm,0.4s						
QSM	**Queen of Sheba**	**0.56**	**46**	Pg	Pg	06 07 19.2	-0.3
QSM				IAML		06 07 27.5	
	comp=E,2μm,0.2s						
QSM				IAML		06 07 32.5	
	comp=N,2μm,0.2s						
WRVM	**Rose V. Centra**	**0.61**	**315**		Pg	06 07 19.9	-0.5
WBSM	**Bird Springs**	**0.64**	**267**		Sg	06 07 29.3	+0.1
CCAC	**Calif City Air**	**0.68**	**232**		Pg	06 07 21.5	-0.3
CCAC				IAML		06 07 33.4	
	comp=E,1μm,0.5s						
CCAC				IAML		06 07 35.6	
	comp=N,2μm,0.5s						
HYS	**Haystack Butte**	**0.73**	**193**		Pb	06 07 23.9	-0.2
HYS					Sg	06 07 32.3	+0.1
RRX	**Edison Barstow**	**0.76**	**157**		Pg	06 07 23.1	-0.2
WHFM	**Hanning Flat**	**0.81**	**279**		Sg	06 07 34.6	-0.3
GWY	**Greenwater Val**	**0.83**	**43**		Pg	06 07 24.3	-0.4
GWY				IAML		06 07 38.1	
	comp=E,1μm,0.4s						
GWY				IAML		06 07 38.4	
	comp=N,1μm,0.3s						
EDW2	**Edwards Air Fo**	**0.86**	**217**		Pb	06 07 26.0	-0.5
ISA	**Isabella, Lake**	**0.91**	**276**	Pg	Pg	06 07 26.0	-0.2
SHOC	**Shoshone, Teco**	**0.94**	**70**		Pb	06 07 27.5	-0.2
SHOC					Sb	06 07 39.9	-0.8
WASM	**Alta Sierra Ca**	**0.99**	**280**		Sg	06 07 40.3	-0.1
VTV	**Victorville**	**1.01**	**178**		Pb	06 07 28.8	-0.2
ADO	**Adelanto Recei**	**1.02**	**183**		Pb	06 07 29.2	+0.1
CGO	**Cerro Gordo**	**1.04**	**340**		Sg	06 07 42.9	+0.8
DSCC	**Desert Studies**	**1.12**	**112**		Pg	06 07 29.1	-1.0
DSCC					Sg	06 07 44.1	-0.5
HEC	**Hector,Ludlow**	**1.12**	**131**		Pg	06 07 29.6	-0.7
ALPC	**Antelope**	**1.17**	**221**		Pg	06 07 31.3	0.0
LRRC	**Littlerock Res**	**1.18**	**208**		Pg	06 07 31.2	-0.1
LRRC					Sb	06 07 47.5	0.0
TUQ	**Turquoise Moun**	**1.18**	**96**		Pg	06 07 30.6	-0.8
TUQ					Sg	06 07 47.1	+0.3
HOLC	**Holcomb Ridge**	**1.18**	**200**		Sb	06 07 47.8	+0.1
LEOC	**Leona Valley**	**1.22**	**220**		Pb	06 07 32.3	-0.2
CJV	**Casa Juvan**	**1.23**	**212**		Pg	06 07 32.4	+0.2
JNH	**Juniper Hills**	**1.23**	**204**		Pg	06 07 32.2	0.0
JNH					Sb	06 07 49.0	+0.1
AMDNV	**Amargosa**	**1.24**	**45**		Pg	06 07 32.3	-0.2
SPG2	**Springville 2**	**1.30**	**299**		Sg	06 07 49.7	-0.8
SIL	**Silver Peak**	**1.30**	**160**		Pb	06 07 33.8	-0.1
WCT	**Wildcat Mounta**	**1.35**	**26**		Pn	06 07 34.0	-0.7
WCT				IAML		06 07 56.4	
	comp=E,348nm,0.5s						
BBRC	**Big Bear Solar**	**1.36**	**164**		Sg	06 07 52.0	-0.5
GRAC	**Grapevine Rang**	**1.42**	**360**		Pn	06 07 35.1	-0.4
VES	**Vestal, Richgr**	**1.43**	**281**		Sb	06 07 54.2	-0.3
MWC	**Mount Wilson**	**1.47**	**203**		Pn	06 07 35.8	-0.4
MWC				IAML		06 08 00.8	
	comp=E,349nm,0.6s						
MWC				IAML		06 08 02.6	
	comp=N,459nm,0.8s						
OSI	**Osito Audit: C**	**1.47**	**230**		Pg	06 07 36.9	0.0
OSI	**Osito Audit: C**	**1.47**	**230**		Pb	06 07 36.7	-0.1
OSI				IAML		06 07 57.2	
	comp=E,472nm,0.5s						
OSI				IAML		06 08 00.6	
	comp=N,526nm,0.5s						
CLTC	**Calectric**	**1.48**	**179**		Sb	06 07 56.1	0.0
GTM	**Goat Mountain**	**1.52**	**147**		Pn	06 07 37.0	+0.1
PSRC	**Puddingstone R**	**1.52**	**194**		Pg	06 07 37.8	-0.1
PASC	**Pasadena Art C**	**1.56**	**206**		Pn	06 07 36.5	-0.8
GMRC	**Granite Mounta**	**1.60**	**119**		Pn	06 07 37.9	-0.2
TPNV	**Topopah Spring**	**1.64**	**33**		Pn	06 07 38.0	-0.6
TPNV				IAML		06 08 05.6	
	comp=N,284nm,0.5s						
TPNV				IAML		06 08 07.1	
	comp=N,286nm,0.5s						
PEC	**Perris**	**1.69**	**174**		Pn	06 07 38.5	-0.7
BLAC	**Blackrock camp**	**1.70**	**152**		Pb	06 07 40.6	-0.2
GMN	**Gold Mountain**	**1.72**	**3**		Pn	06 07 39.8	-0.1
VOG	**Valley Oaks Go**	**1.80**	**295**		Pg	06 07 42.8	-0.4
HMTC	**Hemet**	**1.89**	**171**		Pn	06 07 41.1	-0.8
ELS	**Elsinore Mount**	**1.92**	**182**		Pn	06 07 41.0	-1.4
ELS				IAML		06 08 11.2	
	comp=E,288nm,0.6s						
MTUM	**Tungsten Hills**	**2.02**	**332**		Pb	06 07 46.3	+0.1
V12A	**Nelson**	**2.05**	**85**		Pn	06 07 43.0	-1.3
V12A				IAML		06 08 20.9	
	comp=E,226nm,0.5s						
PFO	**Pinyon Flats O**	**2.10**	**159**	Pn	Pn	06 07 45.1	+0.2
PFO				IAML		06 08 16.5	
	comp=E,145nm,0.8s						
MZP	**Montezuma Peak**	**2.12**	**360**	Pn	Pn	06 07 45.0	-0.4
S11A	**Rachel**	**2.44**	**32**	Pn	Pn	06 07 48.5	-1.1
S11A				IAML		06 08 35.0	
	comp=N,155nm,0.4s						
S11A				IAML		06 08 38.2	
	comp=E,180nm,1.0s						
PMPB	**Monarch Peak**	**2.86**	**284**	Pn	Pn	06 07 55.5	+0.1
W13A	**Hualapai Mount**	**2.88**	**99**		Pn	06 07 54.4	-1.4
NV11	**Mina Array Sit**	**2.92**	**348**	Pn	Pn	06 07 55.6	-0.7
NVAR	**Mina Array Bea**	**2.95**	**345**	Pn	Pn	06 07 56.5	-0.2
BLYC	**Blythe**	**2.96**	**127**	Pn	Pn	06 07 54.7	-2.0
BLYC				IAML		06 08 45.0	
	comp=E,73nm,0.7s						
BLYC				IAML		06 08 52.1	
	comp=N,83nm,0.5s						
R11B	**Troy Canyon, C**	**3.11**	**27**		Pn	06 07 57.7	-1.3
BBGB	**Big Mountain B**	**3.14**	**290**	Pn	Pn	06 07 57.4	-1.9
GLA	**Glamis**	**3.28**	**139**		Pn	06 07 58.8	-2.2
GLA				IAML		06 08 58.4	
	comp=N,98nm,0.8s						
CMB	**Columbia Colle**	**3.45**	**316**	Pn	Pn	06 08 01.8	-1.7
CMB				IAML		06 09 03.5	
	comp=N,54nm,0.6s						
CMB				IAML		06 09 04.0	
	comp=E,45nm,0.7s						
Y14A	**Wickenburg**	**3.94**	**113**	Pn	Pn	06 08 08.5	-1.7
Y14A				IAML		06 09 24.0	
	comp=E,50nm,0.8s						
PSUT	**Pine Spring**	**4.07**	**43**	Pn	Pn	06 08 11.7	-0.5
PSUT				IAML		06 09 27.6	
	comp=N,28nm,1.2s						
PSUT				IAML		06 09 38.3	
	comp=E,30nm,2.2s						
113A	**Mohawk Valley,**	**4.09**	**132**	Pn	Pn	06 08 11.9	-0.2
113A				IAML		06 09 28.3	
	comp=N,24nm,2.4s						
SPR3	**Spring Creek 3**	**4.18**	**34**	Pn	Pn	06 08 12.9	-0.8
SPR3				IAML		06 09 25.8	
	comp=N,24nm,1.2s						
X16A	**Lo Mia Camp, P**	**5.00**	**102**	Pn	Pn	06 08 23.7	-1.1
X16A				IAML		06 09 10.4	
	comp=E,15nm,3.8s						
X16A				IAML		06 09 23.3	
	comp=N,20nm,3.8s						
X18A	**Snowflake**	**6.17**	**98**	Pn	Pn	06 08 41.4	+0.5

NEIC ***06*** *06:07:39.5±0.6, 35°.619N±0°.010×117°.421W±0°.009, h8km±3km, Error ellipse: s-maj=1.4km s-min=1.0km az=176.0*

PAS 06 06:07:40.0±0.5, 35°.62N±0°.01×117°.42W±0°.02, h7km±1km, ML3.4/45, ML3.2/22(NEIC), Error ellipse: s-maj=2.2km s-min=1.0km az=125.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.11**	**155**		Pg	06 07 42.8	+0.4
CCCA					Sg	06 07 44.7	+0.6
CLC	**China Lake**	**0.24**	**323**		Pg	06 07 44.6	-0.2
CLC					Sg	06 07 48.3	+0.3
LRMC	**Laurel Mtn Rad**	**0.26**	**236**		Pg	06 07 45.1	-0.1
LRMC					Sg	06 07 48.9	+0.3
LRMC	**Laurel Mtn Rad**	**0.26**	**236**	IAML		06 07 49.1	
	comp=E,4μm,0.1s						
LRMC				IAML		06 07 49.2	
	comp=N,8μm,0.2s						
MPMC	**Manual Prospec**	**0.44**	**353**		Pg	06 07 48.3	-0.3
MPMC					Sg	06 07 54.3	-0.1
DTP	**Desert Tortois**	**0.50**	**224**		Pg	06 07 49.3	-0.3
DTP					Sg	06 07 56.1	0.0
QSM	**Queen of Sheba**	**0.56**	**53**	Pg	Pg	06 07 50.5	-0.4
QSM				IAML		06 08 03.1	
	comp=N,1μm,0.1s						
QSM				IAML		06 08 03.7	
	comp=E,1μm,0.2s						
GSC	**Goldstone, Bar**	**0.59**	**122**	Pg	Pg	06 07 50.5	-1.0
GSC				IAML		06 07 59.6	
	comp=N,1μm,0.3s						
GSC				IAML		06 08 01.0	
	comp=E,2μm,0.5s						
CCAC	**Calif City Air**	**0.68**	**226**	Pg	Pg	06 07 53.2	+0.1
CCAC				IAML		06 08 06.3	
	comp=N,920nm,0.4s						
CCAC				IAML		06 08 06.9	
	comp=E,801nm,0.4s						
GWY	**Greenwater Val**	**0.83**	**47**	Pg	Pg	06 07 55.9	-0.1
GWY				IAML		06 08 10.8	
	comp=E,613nm,0.5s						
PRN	**Pahroc Range**	**2.61**	**46**	Pn	Pn	06 08 22.3	-0.5
PRN				IAML		06 08 40.1	
	comp=E,164nm,0.8s						
NV11	**Mina Array Sit**	**2.87**	**348**	Pn	Pn	06 08 26.4	+0.1
NVAR	**Mina Array Bea**	**2.89**	**346**	Pn	Pn	06 08 26.0	-0.7
W13A	**Hualapai Mount**	**2.94**	**99**	Pn	Pn	06 08 26.3	-1.1
W13A				IAML		06 08 45.5	
	comp=N,63nm,0.8s						
W13A				IAML		06 08 45.8	
	comp=E,59nm,0.8s						
TJX	**Tijuana**	**3.12**	**174**	Pn	Pn	06 08 29.3	-0.4
SAO	**San Andreas Ge**	**3.45**	**290**	Pn	Pn	06 08 33.9	-0.4
Y14A	**Wickenburg**	**4.00**	**114**	Pn	Pn	06 08 41.6	-0.3

NEIC ***06*** *06:09:07.6±1.3, 35°.90N±0°.01×117°.71W±0°.02, h11km±7km, Error ellipse: s-maj=2.1km s-min=1.6km az=100.0*

PAS 06 06:09:08.1±1.1, 35°.902N±0°.010×117°.71W±0°.02, h8km±5km, ML3.1/21, ML2.7/60(NEIC), Error ellipse: s-maj=1.9km s-min=1.3km az=114.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.10**	**298**		Pg	06 09 10.6	+0.1
TOW	**Tower One**	**0.10**	**206**		Pg	06 09 10.8	+0.3
WRVM	**Rose V. Centra**	**0.18**	**306**		Pg	06 09 11.9	+0.1
SRTC	**Snort**	**0.21**	**189**		Pg	06 09 12.6	+0.2
MPMC	**Manual Prospec**	**0.24**	**49**		Pg	06 09 12.8	-0.1
MPMC					Sg	06 09 16.3	+0.2
MFS	**McCloud Flat S**	**0.24**	**331**		Pg	06 09 13.3	+0.2
MFS					Sg	06 09 16.3	-0.1
LRMC	**Laurel Mtn Rad**	**0.42**	**177**	Pg	Pg	06 09 15.8	-0.6
LRMC					Sg	06 09 21.6	-0.3
LRMC				IAML		06 09 22.2	
	comp=E,944nm,0.3s						
LRMC				IAML		06 09 22.4	
	comp=N,677nm,0.2s						
CCCA	**Chr Cany lake**	**0.47**	**143**		Sg	06 09 24.2	+0.8
WBSM	**Bird Springs**	**0.51**	**224**		Pg	06 09 17.7	-0.3
WBSM					Sg	06 09 24.4	-0.1
ISA	**Isabella, Lake**	**0.67**	**249**	Pg	Pg	06 09 20.4	-0.5
ISA				IAML		06 09 31.5	
	comp=E,406nm,0.3s						
QSM	**Queen of Sheba**	**0.69

CMB	**Columbia Colle**	**3.02**	**316**	Pn	Pn	06 09 55.4	-1.0
CMB				IAML		06 10 41.9	
	comp=N,14nm,0.4s						
CMB				IAML		06 10 45.5	
	comp=E,15nm,2.3s						
SAO	**San Andreas Ge**	**3.14**	**287**	Pn	Pn	06 09 57.6	-0.3
YUH	**Yuha Desert**	**3.57**	**155**	Pn	Pn	06 10 03.9	+0.1
YUH				IAML		06 10 32.3	
	comp=N,12nm,4.8s						
YUH				IAML		06 11 03.1	
	comp=E,13nm,4.8s						
LCMT	**Little Creek M**	**3.77**	**72**	Pn	Pn	06 10 06.2	-0.5
LCMT				IAML		06 11 00.6	
	comp=N,8.0nm,4.7s						
LCMT				IAML		06 11 31.1	
	comp=E,8.4nm,4.6s						
MPK	**Martis Peak**	**3.86**	**332**	Pn	Pn	06 10 07.6	-0.5
CCUT	**Cedar City**	**3.86**	**63**	Pn	Pn	06 10 07.6	-0.4
CCUT				IAML		06 10 35.5	
	comp=E,12nm,4.8s						
CCUT				IAML		06 11 32.3	
	comp=N,10.0nm,4.3s						
AFDM	**Forest Hills D**	**4.00**	**320**	Pn	Pn	06 10 08.8	-1.0
AFDM				IAML		06 11 11.7	
	comp=E,12nm,4.9s						
AFDM				IAML		06 11 20.2	
	comp=N,11nm,2.5s						
PAHR	**Pah Rah Range**	**4.02**	**341**	Pn	Pn	06 10 09.9	-0.3
PAHR				IAML		06 10 37.8	
	comp=E,11nm,5.0s						
PAHR				IAML		06 10 54.6	
	comp=N,8.9nm,4.5s						

NEIC ***06*** *06:12:51.2±1.2,35.587N±0.006×117.36W±0.01, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.5km az=210.0*

PAS ***06*** *06:12:52±1.1,35.581N±0.007×117.38W±0.01, h5km±1km, ML4.5/25, mb4.1/25(NEIC), ML4.4/116(NEIC), Error ellipse: s-maj=1.4km s-min=0.7km az=52.0*

IDC ***06*** *06:12:52.4±0.8, 35.63N×117.15W, h0km, mb3.7/4, mbtmp3.7/10, ML3.8/6, Error ellipse: s-maj=14.2km s-min=6.5km az=73.0*

ISC 06 06:12:52.2±0.8, 35.56N±0.02×117.37W±0.02, h8km±5km, n207, σ0.93/219, mb4.0/8, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.04**	**177**		**Pg**	**06 12 53.9**	**0.0**
CCCA					**Sg**	**06 12 55.5**	**+0.5**
LRMC	**Laurel Mtn Rad**	**0.27**	**252**		**Pg**	**06 12 57.3**	**-0.4**
LRMC					**Sg**	**06 13 01.3**	**0.0**
LRMC	**Laurel Mtn Rad**	**0.27**	**252**	IAML		06 13 01.6	
	comp=N,85μm,0.5s						
LRMC				IAML		06 13 02.6	
	comp=E,31μm,0.4s						
CLC	**China Lake**	**0.31**	**323**		**Pg**	**06 12 57.6**	**-0.9**
CLC					**Sg**	**06 13 01.9**	**-0.7**
SRTC	**Snort**	**0.34**	**292**		**Pg**	**06 12 58.6**	**-0.3**
TOW	**Tower One**	**0.41**	**307**		**Pg**	**06 12 60.0**	**-0.2**
TOW					**Sg**	**06 13 06.2**	**+0.7**
DTP	**Desert Tortois**	**0.49**	**233**		**Pg**	**06 13 01.3**	**-0.5**
DTP					**Sg**	**06 13 07.9**	**-0.2**
MPMC	**Manual Prospec**	**0.50**	**349**		**Pg**	**06 13 01.0**	**-1.0**
MPMC					**Sg**	**06 13 07.9**	**-0.8**
WNMM	**Nine Mile Cany**	**0.52**	**303**		**Pg**	**06 13 01.7**	**-0.6**
WNMM					**Sg**	**06 13 08.7**	**-0.4**
GSC	**Goldstone, Bar**	**0.53**	**120**		**Pg**	**06 13 02.2**	**-0.3**
GSC	**Goldstone, Bar**	**0.53**	**120**		**Sg**	**06 13 09.8**	**+0.4**
WVPM	**Volcano Peak E**	**0.53**	**317**		**Pg**	**06 13 01.8**	**-0.7**
WVPM					**Sg**	**06 13 09.1**	**-0.5**
JRC2	**Joshua Ridge**	**0.55**	**319**		**Pg**	**06 13 02.2**	**-0.7**
JRC2					**Sg**	**06 13 09.4**	**-0.8**
WCSM	**Coso Springs S**	**0.56**	**325**		**Pg**	**06 13 02.2**	**-1.0**
QSM	**Queen of Sheba**	**0.57**	**45**		**Sg**	**06 13 10.3**	**-0.5**
QSM	**Queen of Sheba**	**0.57**	**45**		**Pg**	**06 13 02.3**	**-1.0**
QSM				IAML		06 13 11.0	
	comp=E,28μm,0.7s						
QSM				IAML		06 13 14.9	
	comp=N,29μm,0.8s						
WRVM	**Rose V. Centra**	**0.61**	**316**		**Pg**	**06 13 03.2**	**-0.9**
WRVM					**Sg**	**06 13 11.6**	**-0.6**
WBSM	**Bird Springs**	**0.63**	**268**		**Pg**	**06 13 03.7**	**-0.7**
WBSM					**Sg**	**06 13 12.2**	**-0.5**
CCAC	**Calif City Air**	**0.67**	**232**		**Sg**	**06 13 14.2**	**+0.2**
CCAC	**Calif City Air**	**0.67**	**232**		**Pg**	**06 13 04.5**	**-0.6**
CCAC				IAML		06 13 18.6	
	comp=E,28μm,0.5s						
CCAC				IAML		06 13 19.0	
	comp=N,22μm,0.5s						
MFS	**McCloud Flat S**	**0.68**	**324**		**Pg**	**06 13 04.4**	**-1.0**
MFS					**Sg**	**06 13 13.8**	**-0.5**
HYS	**Haystack Butte**	**0.72**	**193**		**Pg**	**06 13 05.5**	**-0.6**
HYS					**Sb**	**06 13 14.4**	**-1.7**
WORM	**Onyx Ranch**	**0.72**	**281**		**Pg**	**06 13 05.2**	**-1.0**
WORM					**Sg**	**06 13 14.7**	**-1.0**
RRX	**Edison Barstow**	**0.75**	**156**		**Pg**	**06 13 06.4**	**-0.3**
WHFM	**Hanning Flat**	**0.81**	**280**		**Pg**	**06 13 06.8**	**-1.1**
WHFM					**Sg**	**06 13 17.5**	**-0.9**
GWY	**Greenwater Val**	**0.84**	**42**		**Sg**	**06 13 18.7**	**-0.7**
GWY	**Greenwater Val**	**0.84**	**42**		**Pg**	**06 13 07.5**	**-0.9**
GWY				IAML		06 13 21.8	
	comp=N,18μm,0.6s						
EDW2	**Edwards Air Fo**	**0.85**	**217**		**Pg**	**06 13 07.6**	**-1.1**
EDW2					**Sg**	**06 13 19.2**	**-0.6**
ISA	**Isabella, Lake**	**0.91**	**277**		**Sg**	**06 13 20.4**	**-1.1**
ISA	**Isabella, Lake**	**0.91**	**277**		**Pg**	**06 13 08.5**	**-1.2**
ISA				IAML		06 13 23.4	
	comp=N,19μm,0.7s						
ISA				IAML		06 13 23.8	
	comp=E,18μm,0.5s						
SHOC	**Shoshone, Teco**	**0.95**	**69**		**Pg**	**06 13 09.7**	**-0.7**
SHOC					**Sg**	**06 13 22.6**	**-0.2**
SBB	**Saddle Back Bu**	**0.95**	**203**		**Pg**	**06 13 09.6**	**-0.9**
TPO	**Tropico Hills**	**0.98**	**226**		**Pg**	**06 13 10.4**	**-0.7**
WASM	**Alta Sierra Ca**	**0.98**	**280**		**Pg**	**06 13 10.0**	**-1.2**
VTV	**Victorville**	**1.00**	**178**		**Pg**	**06 13 10.7**	**-0.7**
ADO	**Adelanto Recei**	**1.01**	**183**		**Pg**	**06 13 11.2**	**-0.5**
CGO	**Cerro Gordo**	**1.04**	**340**		**Pg**	**06 13 10.8**	**-1.6**
CWC	**Cottonwood Cre**	**1.05**	**327**		**Pg**	**06 13 11.0**	**-1.4**
DSCC	**Desert Studies**	**1.11**	**112**		**Pg**	**06 13 12.4**	**-1.2**
HEC	**Hector,Ludlow**	**1.12**	**131**		**Pg**	**06 13 13.0**	**-0.7**
TEJ	**El Tejon**	**1.13**	**253**		**Pb**	**06 13 12.2**	**-1.8**
ALPC	**Antelope**	**1.16**	**221**		**Pb**	**06 13 13.6**	**-1.0**
LRRC	**Littlerock Res**	**1.17**	**208**		**Pb**	**06 13 13.7**	**-0.9**
TUQ	**Turquoise Moun**	**1.18**	**96**		**Pb**	**06 13 13.6**	**-1.4**
LEOC	**Leona Valley**	**1.21**	**220**		**Pb**	**06 13 14.3**	**-1.1**
CJV	**Casa Juvan**	**1.21**	**212**		**Pb**	**06 13 14.6**	**-0.9**
JNH	**Juniper Hills**	**1.21**	**204**		**Pb**	**06 13 14.3**	**-1.3**
THC	**Tehachapi Micr**	**1.25**	**239**		**Pn**	**06 13 14.8**	**-1.4**
TJR	**Tejon Ranch**	**1.25**	**245**		**Pn**	**06 13 14.4**	**-1.5**
AMDNV	**Amargosa**	**1.25**	**44**		**Pn**	**06 13 14.4**	**-1.6**
ARVC	**Arvin**	**1.27**	**250**		**Pn**	**06 13 14.3**	**-2.0**
MAGC	**SCE Magundon P**	**1.29**	**261**		**Pn**	**06 13 15.7**	**-0.8**
SIL	**Silver Peak**	**1.29**	**160**		**Pn**	**06 13 15.7**	**-1.0**
SPG2	**Springville 2**	**1.30**	**300**		**Pn**	**06 13 15.6**	**-1.2**
CHFC	**Chilao Flat St**	**1.34**	**204**		**Pn**	**06 13 16.4**	**-1.0**
BFSC	**Mount Baldy Ra**	**1.34**	**190**		**Pn**	**06 13 16.6**	**-0.8**
BBRC	**Big Bear Solar**	**1.35**	**164**		**Pn**	**06 13 16.6**	**-1.0**
WCT	**Wildcat Mounta**	**1.36**	**26**		**Pn**	**06 13 16.2**	**-1.5**
WCT				IAML		06 13 36.9	
	comp=N,4μm,0.7s						
WCT				IAML		06 13 38.3	
	comp=E,5μm,0.6s						
SSK	**Sunset Peak**	**1.38**	**191**		**Pn**	**06 13 17.4**	**-0.6**
VES	**Vestal, Richgr**	**1.43**	**282**		**Pn**	**06 13 17.9**	**-0.6**
GRAC	**Grapevine Rang**	**1.43**	**0**		**Pn**	**06 13 17.5**	**-1.0**
GRAC				IAML		06 13 41.5	
	comp=E,6μm,0.6s						
GRAC				IAML		06 13 42.6	
	comp=N,10μm,0.7s						
BAKC	**Calstate**	**1.44**	**262**		**Pn**	**06 13 18.3**	**-0.3**
SGV	**South Grapevin**	**1.44**	**11**		**Pn**	**06 13 17.6**	**-1.2**
MWC	**Mount Wilson**	**1.45**	**203**		**Pn**	**06 13 18.5**	**-0.5**
MWC	**Mount Wilson**	**1.45**	**203**	IAML		06 13 41.4	
	comp=E,7μm,0.5s						
CFSC	**Central Fire S**	**1.46**	**177**		**Pg**	**06 13 19.9**	**-0.2**
OSI	**Osito Audit: C**	**1.46**	**230**		**Pn**	**06 13 17.9**	**-1.1**
OSI	**Osito Audit: C**	**1.46**	**230**	IAML		06 13 44.6	
	comp=E,9μm,0.6s						
SVD	**Seven Oaks Dam**	**1.47**	**171**		**Pn**	**06 13 18.5**	**-0.6**
MTPC	**Mountain Pass**	**1.48**	**93**		**Pn**	**06 13 17.9**	**-1.5**

PDE	**Pardee, Santa**	**1.50**	**222**			**Pg**	**06 13 21.0**	**0.0**
PSRC	**Puddingstone R**	**1.51**	**194**			**Pb**	**06 13 19.5**	**-1.1**
GTM	**Goat Mountain**	**1.52**	**146**			**Pb**	**06 13 20.1**	**-0.6**
DECC	**Green Verdugo**	**1.53**	**212**			**Pn**	**06 13 19.7**	**-0.2**
CFT	**Crafton Hills**	**1.54**	**172**			**Pn**	**06 13 19.7**	**-0.4**
PASC	**Pasadena Art C**	**1.54**	**206**			**Pn**	**06 13 19.9**	**-0.2**
PASC					IAML		06 13 44.2	
	comp=E,3μm,0.4s							
PASC					IAML		06 13 44.2	
	comp=N,3μm,0.5s							
CACC	**Caltech Cellar**	**1.55**	**204**			**Pb**	**06 13 20.1**	**-1.1**
MLSC	**Mira Loma**	**1.56**	**186**			**Pn**	**06 13 20.0**	**-0.3**
RVR	**Riverside**	**1.57**	**180**			**Pn**	**06 13 19.8**	**-0.6**
CHNC	**Chino**	**1.58**	**189**			**Pb**	**06 13 20.5**	**-1.2**
GMRC	**Granite Mounta**	**1.60**	**119**			**Pn**	**06 13 19.0**	**-2.0**
GVRC	**Garvey Reservo**	**1.63**	**203**			**Pn**	**06 13 21.2**	**0.0**
GR2C	**Griffith Obs.**	**1.63**	**208**			**Pg**	**06 13 23.0**	**-0.6**
TIN	**Tinemaha, Big**	**1.64**	**335**			**Pn**	**06 13 20.8**	**-0.7**
RHC	**Rose Hills Cem**	**1.65**	**199**			**Pn**	**06 13 21.2**	**-0.3**
TPNV	**Topopah Spring**	**1.65**	**33**			**Pn**	**06 13 21.0**	**-0.7**
TPNV					IAML		06 13 46.0	
	comp=N,5μm,0.5s							
LCH	**Last Change Ra**	**1.68**	**352**			**Pn**	**06 13 21.2**	**-0.9**
BLAC	**Blackrock camp**	**1.69**	**151**			**Pn**	**06 13 21.0**	**-1.3**
BLCC	**Black Canyon**	**1.70**	**220**			**Pb**	**06 13 22.9**	**-0.9**
DJJ	**Donna J Jenkin**	**1.71**	**212**			**Pn**	**06 13 21.7**	**-0.6**
GMN	**Gold Mountain**	**1.73**	**3**			**Pn**	**06 13 22.1**	**-0.8**
BCW	**Bitter Crk WRg**	**1.79**	**250**			**Pn**	**06 13 22.3**	**-1.2**
BCW					IAML		06 13 58.8	
	comp=E,4μm,0.9s							
BCW					IAML		06 13 59.2	
	comp=N,4μm,1.1s							
VOG	**Valley Oaks Go**	**1.80**	**295**			**Pb**	**06 13 25.9**	**+0.5**
EW2	**E Wide Canyon**	**1.80**	**154**			**Pn**	**06 13 22.9**	**-0.8**
TPC	**Twentynine Pal**	**1.81**	**143**			**Pn**	**06 13 22.8**	**-1.1**
DSP	**Deep Springs**	**1.87**	**345**			**Pn**	**06 13 23.7**	**-0.8**
DANC	**Danby, Needles**	**1.87**	**119**			**Pn**	**06 13 23.0**	**-1.6**
HMTC	**Hemet**	**1.88**	**171**			**Pn**	**06 13 24.1**	**-0.5**
POB	**Polly Butte**	**1.91**	**169**			**Pn**	**06 13 24.8**	**-0.4**
ELS	**Elsinore Mount**	**1.91**	**182**			**Pn**	**06 13 24.6**	**-0.6**
ELS					IAML		06 13 56.0	
	comp=N,2μm,0.5s							
BHPR	**Bishop**	**1.95**	**333**			**Pb**	**06 13 28.1**	**-0.1**
MURC	**Murrieta**	**1.96**	**176**			**Pn**	**06 13 25.9**	**0.0**
BACC	**Bachelor Mtn.**	**1.97**	**172**			**Pn**	**06 13 25.3**	**-0.6**
SHPR	**Sheep Range**	**2.02**	**62**			**Pn**	**06 13 25.8**	**-1.0**
V12A	**Nelson**	**2.06**	**85**			**Pn**	**06 13 25.8**	**-1.4**
PFO	**Pinyon Flats O**	**2.09**	**159**			**Pn**	**06 13 26.9**	**-0.8**
PFO					IAML		06 14 07.2	
	comp=N,2μm,0.6s							
PFO	**Pinyon Flats O**	**2.09**	**159**	Pn		**Pb**	**06 13 29.9**	**-0.5**
	comp=N,184nm,0.3s,baz=335,slow=15,SNR=171							
PFO				Lg			06 13 58.3	
	comp=N,458nm,0.3s,baz=100,slow=8.3,SNR=17							
MZP	**Montezuma Peak**	**2.13**	**360**			**Pn**	**06 13 27.7**	**-0.8**
BCKR	**Birch Creek**	**2.28**	**340**			**Pb**	**06 13 33.3**	**-0.4**
KCC	**Kaiser Creek**	**2.36**	**319**			**Pb**	**06 13 34.8**	**-0.3**
MLAC	**Mammoth, Mammo**	**2.38**	**331**			**Pb**	**06 13 35.5**	**+0.1**
MLCM	**Laurel Creek C**	**2.39**	**329**			**Pb**	**06 13 35.6**	**-0.2**
MGPM	**Gravel Pit**	**2.40**	**329**			**Pb**	**06 13 35.8**	**0.0**
MLHM	**Little Hot Cre**	**2.41**	**332**			**Pb**	**06 13 36.3**	**+0.3**
MCBM	**Casa Benchmark**	**2.41**	**330**			**Pb**	**06 13 36.2**	**+0.1**
MCSM	**Casa Diablo Ho**	**2.43**	**330**			**Pb**	**06 13 36.4**	**+0.1**
MMPM	**Mammoth Pass**	**2.44**	**327**			**Pb**	**06 13 36.3**	**-0.3**
MRDM	**Red Cones**	**2.44**	**327**			**Pb**	**06 13 36.4**	**-0.3**
MEMM	**East Mammoth H**	**2.45**	**329**			**Pb**	**06 13 36.8**	**+0.1**
S11A	**Rachel**	**2.45**	**32**			**Pn**	**06 13 32.2**	**-0.5**
MLIM	**Lincoln Peak**	**2.46**	**328**			**Pb**	**06 13 36.9**	**0.0**
MMLB	**Mammoth Lakes**	**2.46**	**329**			**Pb**	**06 13 36.7**	**-0.2**
MDYM	**Dry Creek**	**2.47**	**328**			**Pb**	**06 13 37.0**	**-0.1**
MINS	**Minaret Summit**	**2.49**	**327**			**Pb**	**06 13 37.2**	**-0.3**
TPH	**Tonopah**	**2.51**	**3**			**Pn**	**06 13 32.9**	**-0.6**
PRN	**Pahroc Range**	**2.62**	**45**			**Pn**	**06 13 34.6**	**-0.4**
LHV	**Little Huntoon**	**2.83**	**342**			**Pn**	**06 13 37.8**	**+0.1**
LHV					IAML		06 14 29.6	
	comp=E,1μm,0.9s							
LHV					IAML		06 14 32.7	
	comp=N,764nm,1.3s							
PMPB	**Monarch Peak**	**2.86**	**284**			**Pn**	**06 13 37.5**	**-0.7**
W13A	**Hualapai Mount**	**2.88**	**98**			**Pn**	**06 13 37.4**	**-1.3**
W13A					IAML		06 14 29.7	
	comp=N,983nm,0.8s							
NV11	**Mina Array Sit**	**2.93**	**348**			**Pn**	**06 13 38.7**	**-0.6**
NVAR	**Mina Array Bea**	**2.96**	**346**			**Pn**	**06 13 39.1**	**-0.6**
NVAR	**Mina Array Bea**	**2.96**	**346**	Pn		**Pn**	**06 13 39.4**	**-0.4**
	comp=N,17nm,0.3s,baz=170,slow=16,SNR=56							
NVAR				Lg			06 14 27.5	
	comp=N,49nm,0.3s,baz=118,slow=19,SNR=4.4							
	comp=N,44nm,0.6s							
BLYC	**Blythe**	**2.96**	**127**			**Pn**	**06 13 37.7**	**-1.8**
BLYC					IAML		06 14 26.8	
	comp=N,2μm,0.8s							
BLYC					IAML		06 14 28.4	
	comp=E,1μm,0.6s							
TKX	**Tecate**	**3.05**	**168**			**Pn**	**06 13 40.4**	**-0.5**
TKX					IAML		06 14 29.6	
	comp=E,656nm,0.5s							
TKX					IAML		06 14 30.6	
	comp=N,600nm,0.3s							
TJX	**Tijuana**	**3.06**	**175**			**Pn**	**06 13 41.3**	**+0.4**
BUCR	**Buckhorn Ranch**	**3.07**	**314**	IAML			06 14 28.8	
	comp=N,2μm,0.8s							
BUCR					IAML		06 14 32.0	
	comp=E,2μm,1.1s							
R11B	**Troy Canyon, C**	**3.12**	**27**			**Pn**	**06 13 42.4**	**+0.4**
BBGB	**Big Mountain B**	**3.14**	**290**			**Pn**	**06 13 42.4**	**+0.2**
YUH	**Yuha Desert**	**3.15**	**157**			**Pn**	**06 13 40.8**	**-1.3**
RYN	**Ryan**	**3.19**	**344**			**Pn**	**06 13 43.0**	**+0.1**
Q09A	**Carvers**	**3.27**	**3**			**Pn**	**06 13 43.5**	**-0.4**
CBX	**Cerro Bola**	**3.29**	**170**			**Pn**	**06 13 44.4**	**+0.1**
CMB	**Columbia Colle**	**3.46**	**316**	Pn		**Pn**	**06 13 47.5**	**+1.0**
CMB					IAML		06 14 46.3	
	comp=E,976nm,0.9s							
CMB					IAML		06 14 52.0	
	comp=N,956nm,0.7s							
SAO	**San Andreas Ge**	**3.51**	**291**			**Pn**	**06 13 46.2**	**-1.0**
LCMT	**Little Creek M**	**3.63**	**65**			**Pn**	**06 13 48.7**	**-0.2**
ESJX	**Sierra Juarez**	**3.74**	**161**			**Pn**	**06 13 50.3**	**-0.1**
ESJX					IAML		06 14 50.6	
	comp=N,329nm,0.7s							
ESJX					IAML		06 14 53.6	
	comp=E,699nm,0.6s							
CCUT	**Cedar City**	**3.78**	**57**			**Pn**	**06 13 51.2**	**+0.1**
CCUT					IAML		06 14 56.2	
	comp=E,330nm,1.2s							
KNB	**Kanab**	**3.95**	**67**			**Pn**	**06 13 53.1**	**-0.2**
KNB					IAML		06 15 05.9	
	comp=N,355nm,1.8s							
KNB					IAML		06 15 10.6	
	comp=E,325nm,1.1s							
SZCU	**Shurtz Canyon**	**4.00**	**58**			**Pn**	**06 13 53.9**	**-0.1**
PSUT	**Pine Spring**	**4.08**	**42**			**Pn**	**06 13 54.4**	**-0.8**
PSUT					IAML		06 15 08.9	
	comp=E,594nm,0.8s							
PSUT					IAML		06 15 12.9	
	comp=N,528nm,1.3s							
113A	**Mohawk Valley,**	**4.08**	**132**			**Pn**	**06 13 53.9**	**-1.1**
113A					IAML		06 15 04.3	
	comp=N,318nm,0.7s							
113A					IAML		06 15 06.5	
	comp=E,369nm,1.0s							
SPR3	**Spring Creek 3**	**4.20**	**34**			**Pn**	**06 13 55.9**	**-1.0**
SPR3					IAML		06 15 05.7	
	comp=E,486nm,1.2s							
SPR3					IAML		06 15 19.2	
	comp=N,291nm,1.2s							
VTX	**Valle De La Tr**	**4.37**	**162**			**Pn**	**06 13 58.5**	**-0.4**
VTX					IAML		06 15 22.1	
	comp=N,246nm,0.8s							
VTX					IAML		06 15 22.4	
	comp=E,311nm,1.4s							
PAHR	**Pah Rah Range**	**4.43**	**339**			**Pn**	**06 14 00.0**	**+0.1**
WUAZ	**Wupatki**	**4.89**	**89**			**Pn**	**06 14 06.2**	**0.0**
WUAZ					IAML		06 15 33.8	
	comp=E,252nm,0.8s							
WUAZ					IAML		06 15 42.1	
	comp=E,307nm,0.7s							
X16A	**Lo Mia Camp, P**	**5.00**	**102**			**Pn**	**06 14 07.1**	**-0.7**
X16A					IAML		06 15 36.0	
	comp=N,198nm,0.9s							
X16A					IAML		06 15 52.4	
	comp=E,188nm,1.0s							
ELK	**Elko**	**5.44**	**17**			**Pn**	**06 14 13.7**	**-0.1**
ELK	**Elko**	**5.44**	**17**	Pn		**Pn**	**06 14 13.2**	**-0.6**
	comp=E,1.7nm,0.3s,baz=252,slow=8.3,SNR=13							
ELK				Lg		Lg	06 15 39.1	
	comp=E,25nm,0.3s,baz=78,slow=20,SNR=18							
	comp=E,4.5nm,0.4s							
HMU	**Henry Mountain**	**5.82**	**64**			**Pn**	**06 14 18.0**	**-1.1**
TMUT	**Trail Mountain**	**6.16**	**51**	Pn		**Pn**	**06 14 23.9**	**+0.2**
X18A	**Snowflake**	**6.17**	**97**			**Pn**	**06 14 23.9**	**0.0**
W18A	**Petrified Fore**	**6.25**	**92**	Pn		**Pn**	**06 14 25.9**	**+1.0**
TUC	**Tucson**	**6.36**	**119**			**Pn**	**06 14 24.8**	**-1.6**
WVOR	**Wild Horse Val**	**6.93**	**352**	Pn		**Pn**	**06 14 34.5**	**+0.2**
P18A	**Preston Nutter**	**6.96**	**52**	Pn		**Pn**	**06 14 37.4**	**+2.6**
PV05	**Paradox Valley**	**7.09**	**67**	Pn		**Pn**	**06 14 39.4**	**+2.9**
PV20	**West Nyswonger**	**7.27**	**65**	Pn		**Pn**	**06 14 40.1**	**+1.2**
PV23	**Carpenter Ridg**	**7.28**	**64**	Pn		**Pn**	**06 14 40.5**	**+1.4**
YBH	**Yreka Blue Hor**	**7.44**	**327**	Pn		**Pn**	**06 14 44.2**	**+3.0**
	baz=149,slow=4.7,SNR=1.7							
YBH				Lg		Lg	06 16 44.6	
	baz=5.1,slow=7.7,SNR=6.7							
PV22	**Blue Mesa, Par**	**7.47**	**64**	Pn		**Pn**	**06 14 42.1**	**+0.3**
DUN6	**Lazy B Ranch**	**7.50**	**111**			**Pn**	**06 14 41.4**	**-0.6**
PV01	**Paradox Valley**	**7.50**	**67**	Pn		**Pn**	**06 14 42.9**	**+0.7**
319A	**Douglas**	**7.94**	**119**			**Pn**	**06 14 47.5**	**-0.6**
ANMO	**Albuquerque**	**8.95**	**91**	Pn		**Pn**	**06 15 02.1**	**+0.2**
	comp=E,0.2nm,0.3s,baz=4.6,slow=11,SNR=5.7							
ANMO				Lg		Lg	06 17 30.0	
	comp=E,0.4nm,0.3s,baz=286,slow=16,SNR=5.9							
	comp=E,1.2nm,0.5s							
SNOW	**Snow King Moun**	**9.39**	**31**	Pn		**Pn**	**06 15 08.8**	**+0.7**
BW06	**Boulder Array**	**9.40**	**38**	Pn		**Pn**	**06 15 09.8**	**+1.6**
PDAR	**Pinedale Array**	**9.40**	**38**	Pn		**Pn**	**06 15 10.3**	**+2.1**
	comp=E,0.2nm,0.3s,baz=216,slow=12,SNR=12							
PDAR				Lg		Lg	06 17 43.6	
	comp=E,0.1nm,0.3s,baz=236,slow=25,SNR=1.0							
	comp=E,1.7nm,0.6s							
NEW	**Newport**	**12.69**	**1**	Pn		**Pn**	**06 15 56.5**	**+3.5**
	comp=E,0.1nm,0.3s,baz=171,slow=16,SNR=3.8							
NEW				Lg		Lg	06 19 30.7	
	comp=E,0.1nm,0.3s,baz=348,slow=1.5,SNR=3.1							
	comp=E,1.2nm,0.6s							
TXAR	**Lajitas Array**	**13.13**	**114**	Pn		**Pn**	**06 15 59.3**	**+0.2**
	comp=E,0.4nm,0.3s,baz=292,slow=13,SNR=34							
TXAR				Lg		Lg	06 19 42.0	
	comp=E,0.1nm,0.3s,baz=291,slow=29,SNR=8.5							
	comp=E,0.6nm,0.4s							
OZNA	**Ozona**	**14.36**	**104**	Pn		**Pn**	**06 16 17.1**	**+1.2**
ABTX	**Abilene, Hawle**	**14.98**	**96**	Pn		**Pn**	**06 16 23.9**	**-0.3**
BRDY	**Brady**	**15.91**	**100**			**Pn**	**06 16 37.0**	**+0.4**
BRDY					IAmb	IAmb	06 16 45.8	
	comp=Z,13nm,1.0s							
PLPT	**Palo Pinto**	**16.00**	**94**	Pn		**Pn**	**06 16 36.2**	**-1.5**
PLPT					IAmb	IAmb	06 16 44.0	
	comp=Z,11nm,0.9s							
FW03	**Perrin-Whitt E**	**16.15**	**93**	Pn		**Pn**	**06 16 39.7**	**+0.1**
HNDO	**Hondo**	**16.39**	**106**	Pn		**Pn**	**06 16 43.0**	**+0.4**
HNDO					IAmb	IAmb	06 16 52.5	
	comp=Z,17nm,1.3s							
WHTX	**Lake Whitney,**	**16.93**	**96**	Pn		**P**	**06 16 50.4**	**-1.1**
WHTX					IAmb	IAmb	06 16 54.8	
	comp=Z,14nm,0.8s							
FW14	**Alvarado**	**17.03**	**95**	Pn		**Pn**	**06 16 51.1**	**+0.3**
FW14					IAmb	IAmb	06 17 00.8	
	comp=Z,15nm,1.0s							
TUL3	**Leonard**	**17.52**	**83**	Pn		**Pn**	**06 16 56.0**	**-0.9**
TUL3					IAmb	IAmb	06 17 03.6	
	comp=Z,20nm,1.3s							
U38A	**Gravette**	**18.61**	**81**	P		**P**	**06 17 09.3**	**-0.7**
MIAR	**Mount Ida**

STKA	**Stephens Creek**	**48.79**	**280**	P		**P**	**06 22 05.7**	**-4.2**
	comp=Z,1.4nm,0.7s,baz=127,slow=7.0,SNR=4.5							
	comp=Z,1.4nm,0.7s							
EFI	**East Falkland**	**49.61**	**126**	P		**P**	**06 22 15.5**	**-0.4**
LL02	**Futaleuf**	**50.96**	**110**			**P**	**06 22 26.6**	**+0.4**
LL01	**San Ignacio de**	**51.37**	**109**	P		**P**	**06 22 29.3**	**0.0**
LR05	**Currie**	**53.31**	**108**	P		**P**	**06 22 43.9**	**+0.1**
LR05				IAmb		IAmb	06 22 53.6	
	comp=Z,30nm,1.2s							
PLCA	**Paso Flores**	**53.52**	**109**			**P**	**06 22 45.7**	**+0.3**
PLCA	**Paso Flores**	**53.52**	**109**	P		**P**	**06 22 44.4**	**-1.0**
	comp=Z,3.8nm,0.9s,baz=212,slow=5.1,SNR=8.8							
PLCA				LR		LR	06 41 07.5	
	comp=Z,1µm,20.0s,baz=204,slow=31							
	comp=Z,3.8nm,0.9s							
H03S2	**Juan Fernandez**	**55.54**	**98**	T		T	07 23 18.7	
	baz=211,slow=74,SNR=1223							
H03S1	**Juan Fernandez**	**55.55**	**98**	T		T	07 23 20.1	
	baz=211,slow=74,SNR=1248							
H03S3	**Juan Fernandez**	**55.56**	**98**	T		T	07 23 19.4	
	baz=211,slow=74,SNR=1697							
H03N3	**Juan Fernandez**	**55.86**	**97**	T		T	07 23 39.5	
	baz=205,slow=71,SNR=209							
H03N2	**Juan Fernandez**	**55.87**	**97**	T		T	07 23 40.3	
	baz=205,slow=71,SNR=267							
H03N1	**Juan Fernandez**	**55.88**	**97**	T		T	07 23 37.5	
	baz=205,slow=71,SNR=150							
BI02	**San Fabin de**	**56.59**	**106**	P		**P**	**06 23 07.0**	**-0.6**
BI02				IAmb		IAmb	06 23 15.4	
	comp=Z,33nm,1.4s							
BO02	**Sierra Bellavi**	**58.38**	**105**	P		**P**	**06 23 20.1**	**-0.1**
BO02				IAmb		IAmb	06 23 27.2	
	comp=Z,24nm,1.1s							
H01W1	**Cape Leeuwin H**	**58.64**	**254**	T		T	07 27 24.3	
	baz=147,slow=76,SNR=19							
H01W2	**Cape Leeuwin H**	**58.64**	**254**	T		T	07 27 25.9	
	baz=147,slow=76,SNR=17							
H01W3	**Cape Leeuwin H**	**58.65**	**254**	T		T	07 27 26.5	
	baz=147,slow=76,SNR=16							
ASAR	**Alice Springs**	**59.30**	**278**	P		**P**	**06 23 27.4**	**+0.7**
ASAR	**Alice Springs**	**59.30**	**278**	P		**P**	**06 23 22.7**	**-4.0**
	comp=Z,2.5nm,0.9s,baz=153,slow=7.2,SNR=12							
	comp=Z,2.5nm,0.9s							
TRQA	**Tornquist**	**59.39**	**114**	P		**P**	**06 23 27.1**	**-0.1**
TRQA				IAmb		IAmb	06 24 05.4	
	comp=Z,66nm,1.9s							
LMEL	**Las Melosas**	**59.43**	**105**	P		**P**	**06 23 28.1**	**+0.5**
LMEL				IAmb		IAmb	06 23 36.7	
	comp=Z,33nm,1.1s							
WRA	**Warramunga Arr**	**62.34**	**281**	P		**P**	**06 23 49.3**	**+1.9**
WRA	**Warramunga Arr**	**62.34**	**281**	P		**P**	**06 23 43.1**	**-4.3**
	comp=Z,2.3nm,0.9s,baz=158,slow=6.0,SNR=7.9							
	comp=Z,2.3nm,0.9s							
WB0	**Warramunga Arr**	**62.47**	**281**	P		**P**	**06 23 49.9**	**+1.6**
WB0				IAmb		IAmb	06 23 51.5	
	comp=Z,12nm,1.1s							
AC02	**Maricunga**	**65.90**	**102**	P		**P**	**06 24 10.1**	**-1.2**
AC02				IAmb		IAmb	06 24 21.4	
	comp=Z,41nm,1.8s							
PLTB	**Pedras Altas**	**68.26**	**117**	P		**P**	**06 24 26.1**	**+0.4**
PB05	**IPOC Station P**	**68.87**	**99**	P		**P**	**06 24 29.2**	**-0.5**
PB01	**IPOC Station P**	**70.77**	**99**			**P**	**06 24 41.0**	**-0.4**
PB01				IAmb		IAmb	06 24 48.7	
	comp=Z,29nm,1.3s							
TA02	**Huaiquique**	**71.15**	**98**	P		**P**	**06 24 43.7**	**+0.2**
CPUP	**Villa Florida**	**71.48**	**112**	P		**P**	**06 24 45.0**	**-0.5**
CPUP	**Villa Florida**	**71.48**	**112**	P		**P**	**06 24 43.8**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=78,slow=6.0,SNR=8.7							
	comp=Z,0.8nm,0.6s							
PB11	**IPOC Station P**	**71.81**	**98**			**P**	**06 24 47.3**	**-0.4**
PB11				IAmb		IAmb	06 24 55.3	
	comp=Z,17nm,0.9s							
PB16	**IPOC Station P**	**73.12**	**97**	P		**P**	**06 24 56.1**	**0.0**
PB16				IAmb		IAmb	06 25 04.0	
	comp=Z,16nm,1.1s							
PB18	**Visviri**	**73.79**	**97**	P		**P**	**06 24 59.1**	**-0.9**
LPAZ	**La Paz**	**75.54**	**97**			**P**	**06 25 10.1**	**-0.1**
LPAZ				IAmb		IAmb	06 25 18.8	
	comp=Z,67nm,1.8s							
LPAZ	**La Paz**	**75.54**	**97**	P		**P**	**06 25 10.2**	**-0.1**
	comp=Z,7.2nm,1.1s,baz=200,slow=3.4,SNR=17							
	comp=Z,7.2nm,1.1s							
CZSB	**Cruzeiro do Su**	**80.99**	**89**	P		**P**	**06 25 39.9**	**+0.2**
CZSB				IAmb		IAmb	06 25 48.0	
	comp=Z,40nm,0.9s							
BOSA	**Boshof**	**88.62**	**183**	LR		LR	07 03 50.8	
	comp=Z,702nm,18.5s,baz=187,slow=34							
LBTB	**Lobatse**	**92.19**	**183**	LR		LR	07 05 20.1	
	comp=Z,752nm,19.2s,baz=170,slow=34							
MATP	**Matopo**	**96.65**	**186**	LR		LR	07 06 19.3	
	comp=Z,739nm,21.6s,baz=192,slow=33							
ILAR	**Eielson Array**	**127.78**	**6**	PKP		**PKPdf**	**06 32 28.0**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=225,slow=1.9,SNR=12							
MKAR	**Makanchi Array**	**143.35**	**273**	PKP		PKPab	06 32 54.1	-0.3
	comp=Z,1.3nm,0.8s,baz=116,slow=4.2,SNR=5.8							
KKAR	**Karatay Array**	**145.84**	**257**			**PKPab**	**06 33 03.1**	**-0.7**
ZALV	**Zalesovo Beam**	**147.29**	**284**			**PKPbc**	**06 33 05.8**	**-1.3**
ZALV	**Zalesovo Beam**	**147.29**	**284**	PKPbc		**PKPdf**	**06 33 05.0**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=114,slow=3.7,SNR=5.3							
KURBB	**Kurchatov Arra**	**147.85**	**274**	PKPbc		**PKPbc**	**06 33 07.2**	**-1.6**
	comp=Z,4.5nm,1.0s,baz=136,slow=2.0,SNR=14							
PFVI	**Vila Bisbo**	**147.94**	**129**	*e*PKP		**PKPab**	**06 33 14.7**	**+2.6**
MORF	**Marmelete**	**148.15**	**129**	*e*PKP		**PKiKP**	**06 33 12.1**	**+0.2**
PTEO	**Sao Teotonio**	**148.34**	**129**	*e*PKP		**PKPab**	**06 33 13.1**	**-0.6**
PCVE	**Castro Verde**	**148.66**	**130**	*e*PKP		**PKPbc**	**06 33 11.4**	**+0.1**
MMAI	**Mount Meron Ar**	**148.79**	**202**	PKPbc		**PKPbc**	**06 33 10.7**	**-1.3**
	comp=Z,4.7nm,0.9s,baz=225,slow=9.4,SNR=4.0							
PBEJ	**Beja**	**149.08**	**130**	*e*PKP		**PKiKP**	**06 33 13.5**	**-0.2**
EVO	**Evora**	**149.48**	**129**	*e*PKP		**PKPab**	**06 33 20.8**	**+2.5**
PBAR	**Barrancos**	**149.50**	**131**	*e*PKP		**PKPab**	**06 33 20.3**	**+1.9**
PMTG	**Montargil**	**149.88**	**128**	*e*PKP		**PKiKP**	**06 33 15.6**	**+0.3**
PESTR	**Estremoz**	**149.93**	**130**	*e*PKP		**PKPab**	**06 33 21.7**	**+1.5**
PSBE	**So Bento**	**150.07**	**127**	*e*PKP		**PKPdf**	**06 33 10.9**	**+1.1**
PMRV	**Marv??o**	**150.49**	**129**	*e*PKP		**PKPab**	**06 33 22.8**	**+0.3**
PCAS	**Casmilo, Conde**	**150.65**	**127**	*e*PKP		**PKPdf**	**06 33 11.9**	**+1.2**
PCBR	**Castelo Branco**	**150.83**	**129**	*e*PKP		**PKiKP**	**06 33 19.9**	**+2.7**
MTE	**Manteigas**	**151.30**	**128**	*e*PKP		**PKiKP**	**06 33 18.2**	**0.0**
PVIS	**Viseu**	**151.45**	**127**	*e*PKP		**PKiKP**	**06 33 21.0**	**+2.5**
KEST	**Kesra**	**151.54**	**158**	PKPbc		**PKPbc**	**06 33 17.6**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=79,slow=5.2,SNR=1.3							
ESDC	**Sonseca Array**	**151.88**	**134**	PKPbc		**PKiKP**	**06 33 19.8**	**+0.3**
	comp=Z,4.6nm,1.0s,baz=238,slow=1.0,SNR=16							
MVO	**Moncorvo**	**152.16**	**128**	*e*PKP		**PKiKP**	**06 33 19.6**	**-0.5**
PBRG	**Braganca**	**152.82**	**128**	*e*PKP		**PKiKP**	**06 33 22.3**	**+1.0**
BVAR	**Borovoye Array**	**153.19**	**271**	PKPbc		**PKiKP**	**06 33 21.3**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=154,slow=4.1,SNR=4.3							
BUR08	**Bucovina Ar. S**	**164.46**	**188**	PKPdf		**PKPdf**	**06 33 27.8**	**+0.1**
BUR08						**PKPab**	**06 34 21.5**	**-0.9**

*NEIC **06** 06:14:15.3±1.3,35°.680N±0°.010×117°.487W±0°.007, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.6km az=178.0*

PAS 06 06:14:15.7±1.4,**35°.674N**±0°.009×**117°.47W**±0°.01, **h6**km,**ML3.4**/5,**ML3.3**/30(NEIC),**Error ellipse: s-maj=1.4km s-min=1.3km az=70.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.17**	**150**		Pg	06 14 19.6	+0.4
CCCA					Sg	06 14 22.8	+1.2
SRTC	**Snort**	**0.23**	**274**		Pg	06 14 20.6	+0.3
SRTC					Sg	06 14 24.7	+1.4
LRMC	**Laurel Mtn Rad**	**0.26**	**222**		Pg	06 14 20.7	-0.2
LRMC					Sg	06 14 24.5	+0.2
LRMC	**Laurel Mtn Rad**	**0.26**	**222**	IAML		06 14 24.9	
	comp=N,9µm,0.2s						
LRMC				IAML		06 14 25.1	
	comp=E,6µm,0.2s						
TOW	**Tower One**	**0.28**	**299**		Pg	06 14 19.8	-1.4
MPMC	**Manual Prospec**	**0.38**	**358**		Pg	06 14 22.9	-0.4
MPMC					Sg	06 14 28.5	+0.2
WNMM	**Nine Mile Cany**	**0.39**	**296**		Pg	06 14 23.2	-0.1
WNMM					Sg	06 14 29.4	+0.9
WVPM	**Volcano Peak E**	**0.39**	**314**		Pg	06 14 23.3	-0.2
DTP	**Desert Tortois**	**0.51**	**217**		Pg	06 14 25.1	-0.5
MFS	**McCloud Flat S**	**0.54**	**325**		Pg	06 14 26.0	-0.2
MFS					Sg	06 14 33.5	+0.1
WBSM	**Bird Springs**	**0.56**	**256**		Pg	06 14 26.2	-0.4
QSM	**Queen of Sheba**	**0.57**	**59**	Pg	Pg	06 14 26.1	-0.5
QSM				IAML		06 14 34.3	
	comp=E,2µm,0.3s						
QSM				IAML		06 14 34.6	
	comp=N,2µm,0.6s						
WORM	**Onyx Ranch**	**0.63**	**272**		Pg	06 14 27.4	-0.5
GSC	**Goldstone, Bar**	**0.66**	**124**		Sg	06 14 36.9	0.0
GSC	**Goldstone, Bar**	**0.66**	**124**	Pg	Pg	06 14 27.5	-0.9
GSC				IAML		06 14 37.1	
	comp=N,2µm,0.3s						
GSC				IAML		06 14 38.7	
	comp=E,2µm,0.5s						
CCAC	**Calif City Air**	**0.69**	**221**	Pg	Pg	06 14 28.3	-0.6
CCAC				IAML		06 14 34.1	
	comp=N,1µm,1.1s						
CCAC				IAML		06 14 39.8	
	comp=E,2µm,1.2s						
WHFM	**Hanning Flat**	**0.72**	**272**		Pg	06 14 28.9	-0.6
HYS	**Haystack Butte**	**0.81**	**186**		Pg	06 14 30.7	-0.7
HYS					Sg	06 14 41.4	-0.5
ISA	**Isabella, Lake**	**0.82**	**269**	Pg	Pg	06 14 30.7	-0.8
ISA				IAML		06 14 43.5	
	comp=E,653nm,0.2s						
GWY	**Greenwater Val**	**0.83**	**52**	Pg	Pg	06 14 31.3	-0.3
GWY				IAML		06 14 42.7	
	comp=E,929nm,0.9s						
GWY				IAML		06 14 45.7	
	comp=N,720nm,0.5s						
RRX	**Edison Barstow**	**0.89**	**154**		Pb	06 14 33.6	+0.1
RRX					Sb	06 14 45.0	-0.6
WASM	**Alta Sierra Ca**	**0.89**	**274**		Pg	06 14 32.2	-0.6
EDW2	**Edwards Air Fo**	**0.90**	**209**		Pg	06 14 33.0	0.0
CWC	**Cottonwood Cre**	**0.91**	**327**		Pg	06 14 33.2	0.0
SHOC	**Shoshone, Teco**	**1.00**	**77**		Sb	06 14 48.7	0.0
SBB	**Saddle Back Bu**	**1.03**	**197**		Pg	06 14 34.9	-0.6
VTV	**Victorville**	**1.12**	**174**		Sg	06 14 51.4	-0.3
ADO	**Adelanto Recei**	**1.12**	**179**		Pg	06 14 36.9	-0.3
ADO					Sb	06 14 53.0	+0.6
LRRC	**Littlerock Res**	**1.23**	**202**		Pn	06 14 39.4	0.0
DSCC	**Desert Studies**	**1.23**	**115**		Sg	06 14 55.3	-0.1
LEOC	**Leona Valley**	**1.25**	**214**		Pg	06 14 39.4	-0.2
HEC	**Hector,Ludlow**	**1.25**	**132**		Pg	06 14 39.0	-0.8
CJV	**Casa Juvan**	**1.27**	**206**		Pn	06 14 40.1	0.0
JNH	**Juniper Hills**	**1.29**	**198**		Pn	06 14 40.3	0.0
WCT	**Wildcat Mounta**	**1.31**	**31**		Pn	06 14 39.9	-0.7
WCT				IAML		06 14 45.0	
	comp=E,290nm,1.0s						
MWC	**Mount Wilson**	**1.53**	**199**		Pn	06 14 42.7	-1.0
MWC				IAML		06 14 51.4	
	comp=N,432nm,1.4s						
MWC				IAML		06 15 01.6	
	comp=E,275nm,1.4s						
CLTC	**Calectric**	**1.58**	**175**		Sn	06 15 03.5	-1.5
SVD	**Seven Oaks Dam**	**1.59**	**169**		Pb	06 14 45.8	+0.2
SVD					Sb	06 15 05.8	-0.1
PASC	**Pasadena Art C**	**1.61**	**202**		Pn	06 14 43.6	-1.1
PASC				IAML		06 14 52.6	
	comp=N,244nm,1.6s						
GTM	**Goat Mountain**	**1.65**	**146**		Sb	06 15 07.7	0.0
ELS	**Elsinore Mount**	**2.02**	**179**	Pn	Pn	06 14 49.4	-1.0
BBGB	**Big Mountain B**	**3.03**	**288**	Pn	Pn	06 15 02.8	-1.4
BLYC	**Blythe**	**3.09**	**128**	Pn	Pn	06 15 04.8	-0.3
CMB	**Columbia Colle**	**3.32**	**316**	Pn	Pn	06 15 08.4	+0.1
CCX	**Cicese**	**3.85**	**170**	Pn	Pn	06 15 14.5	-1.0
ESJX	**Sierra Juarez**	**3.87**	**160**	Pn	Pn	06 15 14.7	-1.2
BEKR	**Beckworth**	**4.77**	**332**	Pn	Pn	06 15 27.3	-0.9
ELK	**Elko**	**5.36**	**18**	Pn	Pn	06 15 35.3	-1.1
ELK				IAML		06 16 15.8	
	comp=N,22nm,1.8s						
DUG	**Dugway, Tooele**	**5.82**	**38**	Pn	Pn	06 15 40.0	-2.7

*NEIC **06** 06:16:00.5±1.5,35°.852N±0°.007×117°.67W±0°.02, h9km±6km, Error ellipse: s-maj=2.1km s-min=1.0km az=89.0*

PAS 06 06:16:01.1±0.9,**35°.856N**±0°.010×**117°.67W**±0°.01, **h6**km±2km,**ML3.2**/109,**ML3.0**/46(NEIC),**Error ellipse: s-maj=1.9km s-min=1.4km az=117.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.07**	**123**		Pg	06 16 02.8	-0.1
CLC					Sg	06 16 04.2	+0.1
WVPM	**Volcano Peak E**	**0.15**	**309**		Pg	06 16 04.2	0.0
SRTC	**Snort**	**0.17**	**200**		Pg	06 16 04.9	+0.3
WNMM	**Nine Mile Cany**	**0.19**	**266**		Pg	06 16 04.8	0.0
WRVM	**Rose V. Centra**	**0.23**	**311**		Pg	06 16 05.8	0.0
MPMC	**Manual Prospec**	**0.25**	**37**		Pg	06 16 06.2	0.0
MPMC					Sg	06 16 09.9	+0.4
MFS	**McCloud Flat S**	**0.30**	**331**		Pg	06 16 07.0	0.0
LRMC	**Laurel Mtn Rad**	**0.38**	**181**	Pg	Pg	06 16 08.4	-0.1
LRMC				IAML		06 16 14.9	
	comp=N,2µm,0.2s						
WORM	**Onyx Ranch**	**0.49**	**251**		Pg	06 16 10.2	-0.4
WBSM	**Bird Springs**	**0.49**	**230**		Sg	06 16 17.9	+0.8
QSM	**Queen of Sheba**	**0.66**	**80**	Pg	Pg	06 16 13.9	0.0
QSM				IAML		06 16 26.6	
	comp=N,1µm,0.7s						
CWC	**Cottonwood Cre**	**0.67**	**331**		Pb	06 16 14.8	-0.6
ISA	**Isabella, Lake**	**0.68**	**254**		Pg	06 16 13.6	-0.5
ISA				IAML		06 16 23.0	
	comp=N,570nm,0.3s						
ISA				IAML		06 16 23.6	
	comp=E,477nm,0.2s						
CGO	**Cerro Gordo**	**0.70**	**351**		Sg	06 16 24.5	+0.7
WASM	**Alta Sierra Ca**	**0.73**	**261**		Pg	06 16 14.7	-0.4
CCAC	**Calif City Air**	**0.76**	**202**		Sg	06 16 25.6	+0.2
CCAC	**Calif City Air**	**0.76**	**202**		Pg	06 16 15.0	-0.6
CCAC				IAML		06 16 26.0	
	comp=E,586nm,0.3s						
CCAC				IAML		06 16 29.3	
	comp=N,857nm,0.4s						
GWY	**Greenwater Val**	**0.88**	**68**		Pg	06 16 17.7	-0.3
GWY				IAML		06 16 32.1	
	comp=N,729nm,0.5s						
FURC	**Furnace Creek,**	**0.90**	**47**		Pb	06 16 18.8	-0.3
GSC	**Goldstone, Bar**	**0.90**	**128**	Pg	Pg	06 16 18.1	-0.3
GSC				IAML		06 16 33.1	
	comp=E,487nm,0.7s						
TEJ	**El Tejon**	**1.04**	**233**		Pg	06 16 19.9	-1.2
VES	**Vestal, Richgr**	**1.15**	**270**		Sg	06 16 38.0	0.0
GRAC	**Grapevine Rang**	**1.17**	**12**	Pg	Pg	06 16 22.8	-0.7
GRAC				IAML		06 16 46.0	
	comp=E,480nm,0.5s						
ARVC	**Arvin**	**1.19**	**233**		Pg	06 16 22.4	-1.6
TJR	**Tejon Ranch**	**1.20**	**227**		Pg	06 16 22.8	-1.3
THC	**Tehachapi Micr**	**1.24**	**221**		Pg	06 16 23.7	-1.3
WCT	**Wildcat Mounta**	**1.26**	**42**		Pg	06 16 24.4	-1.0
WCT				IAML		06 16 46.5	
	comp=N,208nm,0.5s						
WCT				IAML		06 16 48.5	
	comp=E,188nm,0.5s						
BAKC	**Calstate**	**1.27**	**247**		Sb	06 16 42.5	+0.3
GMN	**Gold Mountain**	**1.48**	**13**		Pn	06 16 28.2	-0.3
GMN				IAML		06 16 53.3	
	comp=N,168nm,0.7s						
OSI	**Osito Audit: C**	**1.51**	**215**		Pn	06 16 28.9	+0.1
OSI				IAML		06 17 02.2	
	comp=E,120nm,0.8s						
DSP	**Deep Springs**	**1.53**	**351**		Pn	06 16 29.1	0.0
TPNV	**Topopah Spring**	**1.58**	**46**		Pn	06 16 29.2	-0.7
TPNV				IAML		06 16 55.1	
	comp=E,170nm,0.4s						
TPNV				IAML		06 16 56.3	
	comp=E,225nm,0.7s						
MWC	**Mount Wilson**	**1.66**	**191**		Pn	06 16 31.0	0.0
MWC				IAML		06 16 57.3	
	comp=E,208nm,0.5s						
BCW	**Bitter Crk WRg**	**1.69**	**238**		Pn	06 16 30.9	-0.4
BCW				IAML		06 17 05.7	
	comp=N,198nm,1.1s						
BCW				IAML		06 17 10.9	
	comp=E,185nm,1.1s						
PASC	**Pasadena Art C**	**1.73**	**194**	Pn	Pn	06 16 31.1	-0.7
CRGC	**Crocker Grade**	**1.78**	**250**		Pb	06 16 33.5	-0.8
SHPR	**Sheep Range**	**2.13**	**72**	Pn	Pn	06 16 36.9	-0.6
TPH	**Tonopah**	**2.24**	**9**		Pn	06 16 38.4	-0.7
PMD	**Palm Desert**	**2.45**	**154**	Pn	Pn	06 16 41.0	-0.7
PRN	**Pahroc Range**	**2.62**	**53**	Pn	Pn	06 16 43.8	-0.3
PRN				IAML		06 17 27.4	
	comp=N,87nm,0.8s						
PRN				IAML		06 17 35.2	
	comp=E,95nm,0.9s						
NVAR	**Mina Array Bea**	**2.62**	**349**	Pn	Pn	06 16 43.7	-0.6
RYN	**Ryan**	**2.85**	**347**	Pn	Pn	06 16 46.5	-0.9
Q09A	**Carvers**	**3.00**	**7**	Pn	Pn	06 16 49.8	+0.4
W13A	**Hualapai Mount**	**3.18**	**103**	Pn	Pn	06 16 50.9	-1.1
LCMT	**Little Creek M**	**3.75**	**71**	Pn	Pn	06 16 58.8	-0.9
CCUT	**Cedar City**	**3.85**	**63**	Pn	Pn	06 17 01.6	+0.3
MCCM	**Marconi Confer**	**4.75**	**300**	Pn	Pn	06 17 12.4	-0.9

*DJA **06** 06:16:13.6±0.4,8°.S±4°×11°.9E±°, h278km±6km, M4.5/2, MLv4.0/12, MLv4.5/2*
*IDC **06** 06:16:15.2±1.5,7°.50S×119°.62E, h283km±14km, mb3.4/8, mbtmp4.1/12, Error ellipse: s-maj=37.7km s-min=9.2km az=57.0*

ISC 06 06:16:14.6±0.7,**7°.68S**±0°.06×**119°.35E**±0°.06,**h283**km,**n30, σ1°45**/34,**mb3.8/8,Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	**Bau Bau, Buton**	**1.90**	**37**	P	**Pn**	**06 16 58.2**	**-0.9**
PLAI	**Plampang**	**1.93**	**234**	P	**Pn**	**06 16 58.8**	**-0.5**
PLAI	**Plampang**	**1.93**	**234**	S	**S**	**06 17 32.4**	**-2.4**
PLAI	**Plampang**	**1.93**	**234**	P	**Pn**	**06 16 58.3**	**-1.0**
PLAI				S	**S**	**06 17 33.1**	**-1.7**
WBSI	**Waikabubak, Su**	**1.95**	**179**	P	**Pn**	**06 16 57.2**	**-2.3**
WSI	**Waingapu**	**2.19**	**155**	P	**Pn**	**06 16 59.9**	**-1.5**
WSI				S	**S**	**06 17 36.5**	**-2.2**
BKSI	**Bulukumba**	**2.47**	**18**	P	**Pn**	**06 17 02.8**	**-1.2**
KAPI	**Kappang**	**2.68**	**9**	P	**Pn**	**06 17 04.6**	**-1.5**
	10nm,0.3s,baz=166,slow=7.4,SNR=5.5						
BASI	**Baing, Sumba**	**2.80**	**154**	P	**Pn**	**06 17 06.4**	**-0.7**
BASI				S	**S**	**06 17 47.7**	**-1.3**
MMRI	**Maumere**	**3.01**	**109**	P	**Pn**	**06 17 09.0**	**-0.3**
MMRI	**Maumere**	**3.01**	**109**	P	**Pn**	**06 17 08.2**	**-1.1**
MMRI				S	**S**	**06 17 51.4**	**-1.5**
BNSI	**Bone**	**3.34**	**13**	P	**Pn**	**06 17 11.7**	**-1.1**
BATI	**Baumata**	**4.95**	**121**	P	**Pn**	**06 17 31.2**	**+0.4**
	54nm,0.3s,baz=39,slow=4.3,SNR=4.6						
BATI				S	**S**	**06 18 28.2**	**-3.8**
	102nm,0.4s,baz=329,slow=4.6,SNR=4.8						
BATI	**Baumata**	**4.95**	**121**	P	**Pn**	**06 17 29.8**	**-1.1**
BATI				S	**S**	**06 18 30.5**	**-1.5**
JAGI	**Jajag, Banyuwa**	**5.21**	**261**	P	Pn	06 17 32.8	-1.1
SOEI	**Soe**	**5.28**	**113**	P	**Pn**	**06 17 34.7**	**-0.2**
SOEI	**Soe**	**5.28**	**113**	P	**Pn**	**06 17 34.0**	**-0.9**
GMJI	**Gumukmas**	**5.88**	**264**	P	Pn	06 17 41.2	-0.8
PCJI	**Pacitan**	**8.11**	**266**	P	Pn	06 18 08.5	-0.9
UGM	**Wanagama**	**8.75**	**268**	P	Pn	06 18 16.2	-1.2
FITZ	**Fitzroy Crossi**	**12.03**	**150**	P	**P**	**06 19 00.7**	**+1.0**
	9.1nm,0.7s,baz=330,slow=7.4,SNR=30						
FITZ				S	**S**	**06 21 11.6**	**-0.3**
	3.5nm,0.4s,baz=214,slow=16,SNR=4.1						
WRA	**Warramunga Arr**	**18.96**	**132**	P	**P**	**06 20 16.3**	**+0.7**
	5.9nm,0.6s,baz=304,slow=12,SNR=93						
WRA				S	**S**	**06 23 33.9**	**-1.9**
	2.4nm,0.9s,baz=295,slow=20,SNR=5.4						
ASAR	**Alice Springs**	**21.16**	**140**	P	**P**	**06 20 39.5**	**+1.1**
	4.0nm,0.4s,baz=315,slow=8.7,SNR=91						
	4.0nm,0.4s						
STKA	**Stephens Creek**	**31.76**	**142**	P	**P**	**06 22 14.4**	**+1.5**
	4.0nm,0.8s,baz=317,slow=10,SNR=5.1						
	4.0nm,0.8s						
SONM	**Songino Array**	**56.45**	**350**	P	**P**	**06 25 27.5**	**+0.2**
	0.7nm,0.7s,baz=168,slow=8.5,SNR=3.5						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**63.45**	**332**	P	**P**	**06 26 14.5**	**-0.1**
	1.6nm,0.6s,baz=142,slow=7.9,SNR=14						
	1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**67.94**	**339**	P	**P**	**06 26 42.1**	**-0.9**
	0.7nm,0.3s,baz=153,slow=0.3,SNR=3.6						
	0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**67.95**	**333**	P	**P**	**06 26 43.1**	**0.0**
	0.5nm,0.3s,baz=145,slow=5.5,SNR=3.2						
	0.5nm,0.3s						
PETK	**Petropavlovsk-**	**68.73**	**24**	P	**P**	**06 26 48.9**	**+1.0**
	1.1nm,0.6s,baz=235,slow=5.1,SNR=2.6						
	1.1nm,0.6s						
VNDA	**Vanda**	**73.23**	**171**	P	**

CWC	**Cottonwood Cre**	**0.61**	**331**			Pg	06 17 32.5	+0.1
ISA	**Isabella, Lake**	**0.67**	**249**			Sg	06 17 42.9	+0.8
ISA	**Isabella, Lake**	**0.67**	**249**	Pg		Pg	06 17 33.2	-0.1
ISA					IAML		06 17 43.1	
	comp=N,3µm,0.4s							
ISA					IAML		06 17 44.2	
	comp=E,2µm,0.3s							
QSM	**Queen of Sheba**	**0.68**	**85**			Sg	06 17 42.4	-0.1
QSM	**Queen of Sheba**	**0.68**	**85**			Pg	06 17 33.6	0.0
QSM					IAML		06 17 46.8	
	comp=E,3µm,0.7s							
QSM					IAML		06 17 47.6	
	comp=N,3µm,0.5s							
WASM	**Alta Sierra Ca**	**0.71**	**257**			Pg	06 17 33.4	-0.8
WASM						Sg	06 17 44.5	+1.0
CCAC	**Calif City Air**	**0.79**	**199**			Pg	06 17 35.2	-0.4
CCAC					IAML		06 17 46.9	
	comp=E,1µm,0.3s							
CCAC					IAML		06 17 50.0	
	comp=N,2µm,0.3s							
GWY	**Greenwater Val**	**0.89**	**71**			Sg	06 17 49.6	+0.6
GWY	**Greenwater Val**	**0.89**	**71**			Pg	06 17 37.5	-0.1
SPG2	**Springville 2**	**0.91**	**289**			Pg	06 17 36.8	-1.1
GSC	**Goldstone, Bar**	**0.95**	**129**			Sg	06 17 50.4	-0.6
GSC	**Goldstone, Bar**	**0.95**	**129**			Pg	06 17 37.9	-0.8
GSC					IAML		06 17 53.1	
	comp=N,1µm,0.3s							
GSC					IAML		06 17 53.1	
	comp=E,2µm,0.7s							
TEJ	**El Tejon**	**1.05**	**230**			Pg	06 17 40.1	-0.4
VES	**Vestal, Richgr**	**1.12**	**267**			Pg	06 17 41.1	-0.9
GRAC	**Grapevine Rang**	**1.12**	**14**			Pg	06 17 42.2	+0.2
GRAC					IAML		06 17 59.0	
	comp=E,678nm,0.4s							
GRAC					IAML		06 18 02.4	
	comp=N,904nm,0.5s							
SHOC	**Shoshone, Teco**	**1.16**	**90**			Pb	06 17 43.1	0.0
SHOC						Sg	06 17 58.1	+0.3
ARVC	**Arvin**	**1.20**	**230**			Pg	06 17 42.1	-1.4
SGV	**South Grapevin**	**1.20**	**27**			Pg	06 17 42.9	-0.7
WCT	**Wildcat Mounta**	**1.24**	**44**			Pg	06 17 44.4	+0.1
WCT					IAML		06 18 05.4	
	comp=E,385nm,0.6s							
WCT					IAML		06 18 05.5	
	comp=N,387nm,0.8s							
AMDNV	**Amargosa**	**1.28**	**64**			Pb	06 17 45.2	+0.2
ADO	**Adelanto Recei**	**1.37**	**171**			Sn	06 18 04.9	0.0
VTV	**Victorville**	**1.38**	**167**			Sn	06 18 04.9	-0.2
LRRC	**Littlerock Res**	**1.40**	**191**			Sn	06 18 05.5	0.0
VOG	**Valley Oaks Go**	**1.42**	**288**			Pn	06 17 46.3	-0.7
GMN	**Gold Mountain**	**1.44**	**14**			Pb	06 17 47.8	-0.1
GMN					IAML		06 17 50.7	
	comp=N,635nm,0.4s							
JNH	**Juniper Hills**	**1.47**	**188**			Pn	06 17 47.9	+0.1
DSP	**Deep Springs**	**1.48**	**352**			Pb	06 17 48.4	-0.1
DSP					IAML		06 18 10.6	
	comp=E,465nm,0.6s							
DSCC	**Desert Studies**	**1.51**	**120**			Pn	06 17 48.0	-0.2
DSCC						Sn	06 18 08.1	-0.2
TUQ	**Turquoise Moun**	**1.52**	**107**			Pn	06 17 47.5	-1.1
OSI	**Osito Audit: C**	**1.53**	**213**			Sb	06 18 09.3	+0.2
OSI	**Osito Audit: C**	**1.53**	**213**			Pn	06 17 48.0	-0.6
OSI					IAML		06 18 13.2	
	comp=N,380nm,0.6s							
OSI					IAML		06 18 18.5	
	comp=E,367nm,0.5s							
HEC	**Hector,Ludlow**	**1.55**	**133**			Pn	06 17 49.1	+0.2
TPNV	**Topopah Spring**	**1.57**	**48**			Pn	06 17 49.4	+0.2
TPNV					IAML		06 18 16.1	
	comp=E,369nm,0.6s							
TPNV					IAML		06 18 17.8	
	comp=E,402nm,1.1s							
CHFC	**Chilao Flat St**	**1.59**	**190**			Pg	06 17 50.7	-0.2
BFSC	**Mount Baldy Ra**	**1.66**	**179**			Sb	06 18 13.3	+0.4
SSK	**Sunset Peak**	**1.69**	**180**			Pn	06 17 51.5	+0.6
BCW	**Bitter Crk WRg**	**1.69**	**236**			Pb	06 17 51.6	-0.6
BCW					IAML		06 18 26.7	
	comp=N,657nm,1.1s							
MWC	**Mount Wilson**	**1.70**	**190**			Pg	06 17 52.9	-0.2
MWC	**Mount Wilson**	**1.70**	**190**		IAML		06 18 16.4	
	comp=N,477nm,0.5s							
MWC					IAML		06 18 17.5	
	comp=E,532nm,0.5s							
DECC	**Green Verdugo**	**1.73**	**198**			Pb	06 17 53.0	+0.3
PASC	**Pasadena Art C**	**1.77**	**193**			Pn	06 17 52.0	+0.2
CRGC	**Crocker Grade**	**1.77**	**249**			Pg	06 17 54.5	0.0
MTPC	**Mountain Pass**	**1.80**	**103**			Pn	06 17 51.1	-1.2
SVD	**Seven Oaks Dam**	**1.86**	**164**			Pb	06 17 55.5	+0.5
GTM	**Goat Mountain**	**1.95**	**145**			Pb	06 17 56.6	+0.1
GTM						Sg	06 18 22.2	-0.9
MCSM	**Casa Diablo Ho**	**2.00**	**331**			Pg	06 17 58.9	+0.1
EW2	**E Wide Canyon**	**2.23**	**151**			Sg	06 18 31.7	-0.4
ELS	**Elsinore Mount**	**2.26**	**174**	Pn		Pn	06 17 58.3	-0.3
DGR	**Domenigoni Val**	**2.32**	**166**			Sb	06 18 33.2	+1.3
S11A	**Rachel**	**2.34**	**42**	Pn		Pn	06 18 00.1	+0.3
S11A					IAML		06 19 30.7	
	comp=N,244nm,1.0s							
BACC	**Bachelor Mtn.**	**2.35**	**166**			Sg	06 18 34.4	-1.6
LHV	**Little Huntoon**	**2.43**	**345**	Pn		Pn	06 18 01.3	+0.5
LHV					IAML		06 18 46.0	
	comp=E,119nm,1.5s							
LHV					IAML		06 18 58.4	
	comp=N,104nm,1.2s							
PMPB	**Monarch Peak**	**2.53**	**278**	Pn		Pn	06 18 02.6	+0.3
PMPB					IAML		06 18 54.1	
	comp=N,249nm,0.7s							
PRN	**Pahroc Range**	**2.61**	**54**	Pn		Pn	06 18 04.0	+0.5
PRN					IAML		06 19 38.0	
	comp=N,168nm,0.7s							
PRN					IAML		06 19 43.7	
	comp=E,198nm,0.8s							
BBGB	**Big Mountain B**	**2.78**	**285**	Pn		Pn	06 18 06.9	+1.1
R11B	**Troy Canyon, C**	**2.97**	**34**	Pn		Pn	06 18 08.7	+0.2
LCMT	**Little Creek M**	**3.76**	**72**	Pn		Pn	06 18 19.0	-0.3
CCUT	**Cedar City**	**3.86**	**63**	Pn		Pn	06 18 20.8	+0.1
ELK	**Elko**	**5.21**	**21**	Pn		Pn	06 18 39.0	-0.2
ELK					IAML		06 21 34.5	
	comp=E,14nm,0.5s							
X16A	**Lo Mia Camp, P**	**5.34**	**104**	Pn		Pn	06 18 40.6	-0.5
X16A					IAML		06 21 38.1	
	comp=E,12nm,1.5s							
X16A					IAML		06 21 58.4	
	comp=N,13nm,3.6s							
X18A	**Snowflake**	**6.49**	**100**	Pn		Pn	06 18 56.8	-0.2

*NEIC **06** 06:18:10.7±1.3,35°.923N±0°.009×117°.670W±0°.009, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.5km az=295.0*

PAS 06 06:18:11.3±1.0, 35°.921N±0°.010×117°.68W±0°.01, h8km±4km, ML3.6/18, ML3.3/44(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=103.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.12**	**284**		Pg	06 18 12.6	-1.5
WVPM					Sg	06 18 16.3	+0.3
WRVM	**Rose V. Centra**	**0.19**	**297**		Pg	06 18 14.0	-1.3
WNMM	**Nine Mile Cany**	**0.20**	**247**		Pg	06 18 15.5	+0.2
WNMM					Sg	06 18 18.7	+0.6
MPMC	**Manual Prospec**	**0.21**	**48**		Pg	06 18 15.5	-0.1
SRTC	**Snort**	**0.24**	**194**		Pg	06 18 16.5	+0.4
SRTC					Sg	06 18 20.7	+1.5
MFS	**McCloud Flat S**	**0.24**	**324**		Pg	06 18 16.0	-0.2
MFS					Sg	06 18 19.8	+0.3
LRMC	**Laurel Mtn Rad**	**0.44**	**180**		Pg	06 18 19.6	-0.3
LRMC					Sg	06 18 26.0	+0.3
LRMC	**Laurel Mtn Rad**	**0.44**	**180**	IAML		06 18 26.2	
	comp=N,8µm,0.2s						
LRMC				IAML		06 18 26.9	
	comp=E,7µm,0.4s						
CCCA	**Chr Cany lake**	**0.47**	**147**		Pg	06 18 20.6	+0.1
CCCA					Sg	06 18 24.6	-2.1
WBSM	**Bird Springs**	**0.54**	**225**		Pg	06 18 21.3	-0.5
WHFM	**Hanning Flat**	**0.59**	**248**		Sg	06 18 30.0	-0.5
CGO	**Cerro Gordo**	**0.64**	**351**		Pg	06 18 23.5	-0.2
CGO					Sg	06 18 32.4	+0.4
QSM	**Queen of Sheba**	**0.66**	**86**		Pg	06 18 22.2	-1.8
QSM	**Queen of Sheba**	**0.66**	**86**	IAML		06 18 35.5	
	comp=N,1µm,0.8s						
DTP	**Desert Tortois**	**0.67**	**192**		Pg	06 18 23.7	-0.5
DTP					Sg	06 18 33.1	+0.3
ISA	**Isabella, Lake**	**0.70**	**249**	Pg	Pg	06 18 24.1	-0.6
ISA					IAML		06 18 35.0	
	comp=N,1µm,0.2s						
ISA					IAML		06 18 37.6	
	comp=E,2µm,0.5s						
WASM	**Alta Sierra Ca**	**0.74**	**256**		Sg	06 18 34.7	-0.4
CCAC	**Calif City Air**	**0.81**	**200**	Pg	Pg	06 18 26.2	-0.8
CCAC					IAML		06 18 37.7	
	comp=N,748nm,0.6s						
GWY	**Greenwater Val**	**0.86**	**72**		Sg	06 18 39.0	-0.1
GWY	**Greenwater Val**	**0.86**	**72**	Pg	Pg	06 18 27.4	-0.4
GWY					IAML		06 18 46.2	
	comp=N,1µm,0.5s						
GWY					IAML		06 18 46.2	
	comp=E,1µm,0.4s						
SPG2	**Springville 2**	**0.92**	**288**		Sg	06 18 40.4	-0.7
GSC	**Goldstone, Bar**	**0.94**	**131**	Pg	Pg	06 18 28.8	-0.7
GSC					IAML		06 18 44.4	
	comp=N,1µm,1.0s						
GSC					IAML		06 18 45.4	
	comp=E,2µm,0.6s						
HYS	**Haystack Butte**	**1.06**	**175**		Pg	06 18 31.0	-0.6
EDW2	**Edwards Air Fo**	**1.07**	**194**		Pg	06 18 31.7	-0.1
TEJ	**El Tejon**	**1.07**	**230**		Sg	06 18 44.8	-1.1
GRAC	**Grapevine Rang**	**1.10**	**13**		Sb	06 18 47.3	0.0
GRAC	**Grapevine Rang**	**1.10**	**13**	Pg	Pg	06 18 31.4	-1.1
GRAC					IAML		06 18 48.1	
	comp=E,792nm,0.3s						
GRAC					IAML		06 18 49.5	
	comp=N,458nm,0.3s						
TPO	**Tropico Hills**	**1.13**	**204**		Pg	06 18 32.4	-0.7
SHOC	**Shoshone, Teco**	**1.14**	**91**		Pn	06 18 33.6	0.0
VES	**Vestal, Richgr**	**1.15**	**266**		Sg	06 18 48.0	-0.2
WCT	**Wildcat Mounta**	**1.22**	**44**		Pb	06 18 33.7	-1.0
TJR	**Tejon Ranch**	**1.25**	**225**		Sb	06 18 50.5	-0.8
LCH	**Last Change Ra**	**1.31**	**1**		Sb	06 18 53.1	-0.2
GMN	**Gold Mountain**	**1.42**	**14**		Pn	06 18 37.1	-0.6
VOG	**Valley Oaks Go**	**1.44**	**287**		Pn	06 18 37.5	-0.2
DSP	**Deep Springs**	**1.47**	**351**		Sb	06 18 57.6	-0.1
DSP	**Deep Springs**	**1.47**	**351**		Pn	06 18 37.9	-0.2
TUQ	**Turquoise Moun**	**1.51**	**108**		Pn	06 18 39.1	+0.2
TPNV	**Topopah Spring**	**1.54**	**48**		Pn	06 18 39.0	-0.3
TPNV					IAML		06 19 03.6	
	comp=N,397nm,0.7s						
TPNV					IAML		06 19 03.7	
	comp=N,426nm,0.7s						
MTUM	**Tungsten Hills**	**1.60**	**334**		Pb	06 18 41.5	+0.2
BFSC	**Mount Baldy Ra**	**1.68**	**179**		Sb	06 19 04.7	+0.3
PASC	**Pasadena Art C**	**1.79**	**194**	Pn	Pn	06 18 42.7	+0.1
PASC					IAML		06 19 45.0	
	comp=E,282nm,1.1s						
PASC					IAML		06 19 45.0	
	comp=N,210nm,0.8s						
CLTC	**Calectric**	**1.85**	**171**		Pg	06 18 46.1	-0.7
BLCC	**Black Canyon**	**1.86**	**206**		Pn	06 18 44.4	+0.8
GTM	**Goat Mountain**	**1.95**	**146**		Pb	06 18 47.2	0.0
DEVC	**Devers**	**2.18**	**155**		Pn	06 18 45.9	-2.0
Q09A	**Carvers**	**2.94**	**8**	Pn	Pn	06 18 58.0	-0.5
SAO	**San Andreas Ge**	**3.16**	**287**	Pn	Pn	06 19 00.7	-0.7
W13A	**Hualapai Mount**	**3.20**	**104**		Pn	06 19 00.7	-1.4
W13A					IAML		06 20 41.4	
	comp=N,48nm,1.1s						
BLYC	**Blythe**	**3.38**	**129**	Pn	Pn	06 19 04.5	0.0
BLYC					IAML		06 20 31.5	
	comp=N,109nm,0.5s						
TKX	**Tecate**	**3.46**	**165**	Pn	Pn	06 19 04.5	-1.1
TKX					IAML		06 20 00.1	
	comp=N,86nm,0.4s						
TKX					IAML		06 21 07.7	
	comp=E,94nm,0.1s						
YUH	**Yuha Desert**	**3.57**	**156**	Pn	Pn	06 19 07.0	-0.1
KNB	**Kanab**	**4.06**	**73**	Pn	Pn	06 19 13.9	-0.2
KNB					IAML		06 19 42.6	
	comp=N,28nm,1.0s						
KNB					IAML		06 20 21.5	
	comp=E,29nm,1.0s						
CCX	**Cicese**	**4.13**	**168**		Pn	06 19 13.9	-0.8

*NEIC **06** 06:19:41.9±1.4,35°.871N±0°.009×117°.71W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.5km az=301.0*

PAS 06 06:19:42.5±1.3, 35°.884N±0°.010×117°.72W±0°.01, h5km±2km, ML3.2/19, ML2.8/38(NEIC), Error ellipse: s-maj=1.8km s-min=1.3km az=120.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**205**		Pg	06 19 44.8	+0.5
WVPM	**Volcano Peak E**	**0.10**	**310**		Pg	06 19 44.8	0.0
WNMM	**Nine Mile Cany**	**0.15**	**255**		Pg	06 19 45.9	+0.3
WNMM					Sg	06 19 48.5	+0.9
WRVM	**Rose V. Centra**	**0.18**	**312**		Pg	06 19 46.2	0.0
SRTC	**Snort**	**0.19**	**187**		Pg	06 19 46.7	+0.4
MFS	**McCloud Flat S**	**0.26**	**335**		Pg	06 19 47.6	0.0
MFS					Sg	06 19 50.9	-0.1
MPMC	**Manual Prospec**	**0.26**	**47**		Pg	06 19 47.5	-0.1
MPMC					Sg	06 19 51.2	+0.2
LRMC	**Laurel Mtn Rad**	**0.40**	**175**		Pg	06 19 49.5	-0.8
LRMC	**Laurel Mtn Rad**	**0.40**	**175**	IAML		06 19 53.9	
	comp=N,2µm,0.2s						
LRMC				IAML		06 19 56.5	
	comp=E,1µm,0.5s						
CCCA	**Chr Cany lake**	**0.46**	**141**		Pg	06 19 49.7	-1.7
CCCA					Sg	06 19 58.8	+1.4
WORM	**Onyx Ranch**	**0.46**	**246**		Pg	06 19 51.2	-0.3
WHFM	**Hanning Flat**	**0.54**	**250**		Pg	06 19 52.7	-0.2
WHFM					Sg	06 20 00.1	0.0
ISA	**Isabella, Lake**	**0.65**	**250**		Sg	06 20 03.4	-0.1
ISA	**Isabella, Lake**	**0.65**	**250**	Pg	Pg	06 19 54.6	-0.4
ISA					IAML		06 20 03.6	
	comp=N,853nm,0.4s						
ISA					IAML		06 20 03.6	
	comp=E,582nm,0.4s						
CGO	**Cerro Gordo**	**0.67**	**354**		Pg	06 19 55.6	+0.2
WASM	**Alta Sierra Ca**	**0.69**	**258**		Pg	06 19 55.6	-0.3
QSM	**Queen of Sheba**	**0.70**	**83**		Pg	06 19 56.0	+0.1
QSM	**Queen of Sheba**	**0.70**	**83**		Sg	06 20 04.8	-0.2
QSM					IAML		06 20 06.3	
	comp=N,765nm,0.1s						
QSM					IAML		06 20 08.5	
	comp=E,862nm,0.6s						
CCAC	**Calif City Air**	**0.77**	**198**	Pg	Pg	06 19 56.6	-0.7
CCAC					IAML		06 20 07.9	
	comp=N,472nm,0.4s						
CCAC					IAML		06 20 08.1	
	comp=E,361nm,0.4s						
SPG2	**Springville 2**	**0.90**	**291**		Pg	06 19 59.2	-0.6
GWY	**Greenwater Val**	**0.91**	**70**		Pg	06 19 59.7	-0.2
GWY					Sg	06 20 11.8	+0.2
GWY	**Greenwater Val**	**0.91**	**70**	IAML		06 20 14.3	
	comp=E,410nm,0.3s						
GSC	**Goldstone, Bar**	**0.95**	**128**	Pg	Pg	06 19 59.4	-1.2
GSC					IAML		06 20 14.7	
	comp=N,313nm,0.5s						
HYS	**Haystack Butte**	**1.02**	**173**		Pg	06 20 01.1	-1.0
VES	**Vestal, Richgr**	**1.11**	**268**		Sg	06 20 18.2	+0.1
GRAC	**Grapevine Rang**	**1.15**	**14**		Pg	06 20 03.9	-0.6
GRAC	**Grapevine Rang**	**1.15**	**14**	Pg	Pg	06 20 03.5	-1.0
GRAC	**Grapevine Rang**	**1.15**	**14**	IAML		06 20 25.3	
	comp=E,231nm,0.4s						
GRAC					IAML		06 20 27.3	
	comp=N,231nm,1.2s						
ARVC	**Arvin**	**1.18**	**230**		Pg	06 20 03.0	-2.1
SGV	**South Grapevin**	**1.23**	**27**		Pg	06 20 05.6	-0.5
WCT	**Wildcat Mounta**	**1.27**	**44**		Sg	06 20 22.8	-0.5
WCT	**Wildcat Mounta**	**1.27**	**44**	Pg	Pg	06 20 06.0	-0.8
WCT					IAML		06 20 23.9	
	comp=N,138nm,0.5s						
WCT					IAML		06 20 25.3	
	comp=E,219nm,0.5s						
AMDNV	**Amargosa**	**1.30**	**64**		Sg	06 20 23.5	-0.7
GMN	**Gold Mountain**	**1.46**	**15**		Pn	06 20 10.1	+0.2
GMN					IAML		06 20 15.3	
	comp=N,78nm,0.6s						
DSP	**Deep Springs**	**1.50**	**352**		Pn	06 20 10.4	+0.3
TPNV	**Topopah Spring**	**1.59**	**48**		Pn	06 20 10.1	-1.5
TPNV					IAML		06 20 35.8	
	comp=N,167nm,0.5s						
TPNV					IAML		06 20 36.1	
	comp=N,171nm,0.7s						
MTUM	**Tungsten Hills**	**1.62**	**335**		Pb	06 20 12.6	-0.4
MWC	**Mount Wilson**	**1.68**	**190**		Pn	06 20 12.6	-0.2
MWC					IAML		06 20 37.4	
	comp=E,130nm,0.5s						
MWC					IAML		06 20 37.5	
	comp=N,132nm,0.5s						
PASC	**Pasadena Art C**	**1.75**	**193**	Pn	Pn	06 20 13.3	-0.3
PASC					IAML		06 20 40.3	
	comp=E,56nm,0.9s						
PASC					IAML		06 20 45.1	
	comp=N,42nm,1.0s						
MTPC	**Mountain Pass**	**1.81**	**102**		Pn	06 20 13.0	-1.5
MZP	**Montezuma Peak**	**1.83**	**8**	Pn	Pn	06 20 14.2	-0.7
SHPR	**Sheep Range**	**2.16**	**73**	Pn	Pn	06 20 18.8	-0.6
NV11	**Mina Array Sit**	**2.57**	**352**	Pn	Pn	06 20 24.6	-0.4
WAKR	**Walker**	**2.95**	**333**	Pn	Pn	06 20 30.3	0.0
CCUT	**Cedar City**	**3.88**	**63**	Pn	Pn	06 20 43.4	+0.4
CCX	**Cicese**	**4.10**	**167**	Pn	Pn	06 20 45.7	-0.2

*IDC **06** 06:20:42.6±0.7,56°.31N×164°.01E, h0km, mb3.7/14, mbtmp3.8/16, ML4.0/1, MS4.6/1, Error ellipse: s-maj=28.0km s-min=13.5km az=152.0*

*KRSC **06** 06:20:42.6±1.1,56°.18N×164°.43E, h54km±19km, Ml4.3*

ISC 06 06:20:42.9±3.3, 56°.17N±0°.04×164°.34E±0°.04, h6km±21km, n61,σ1ᵗ41/65, mb3.8/14, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.85**	**273**	*eP*	**Pb**	**06 20 59.0**	**-0.9**
KBG	**Krutoberegovo**	**0.92**	**276**	*eP*	**Pb**	**06 21 00.1**	**-1.0**
KBG				*eS*	**Sb**	**06 21 13.0**	**-0.5**
BKI	**Bering**	**1.34**	**136**	*eP*	**Pn**	**06 21 06.8**	**-1.3**
BKI				*eS*	**Sn**	**06 21 23.6**	**-2.5**
SMKR	**Semkarok**	**1.65**	**286**	*eP*	**Pn**	**06 21 12.3**	**0.0**
ZLN	**Zelenaya**	**1.99**	**267**	*eP*	**Pn**	**06 21 18.0**	**+1.0**
CIRR	**Tsirk**	**2.01**	**270**	*eP*	**Pn**	**06 21 18.1**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**2.06**	**265**	*eP*	**Pn**	**06 21 18.5**	**+0.5**
KLY	**Klyuchi**	**2.06**	**275**	*eP*	**Pn**	**06 21 16.7**	**-1.2**
KLY				*eS*	**Sn**	**06 21 42.1**	**-1.8**
BZWR	**Bezymyannyi-We**	**2.16**	**266**	*eP*	**Pn**	**06 21 20.8**	**+1.2**
BZMR	**Bezymyannaya**	**2.17**	**265**	*eP*	**Pn**	**06 21 20.3**	**+0.7**
MKZ	**Mys Kozlova**	**2.20**	**224**	*eP*	**Pn**	**06 21 18.9**	**-0.9**
MKZ				*eS*	**Sn**	**06 21 45.2**	**-2.2**
KIRR	**Kirishev**	**2.25**	**266**	*eP*	**Pn**	**06 21 21.4**	**+0.7**
KPT	**Kopyto**	**2.32**	**267**	*eP*	**Pn**	**06 21 22.8**	**+1.2**
KMNR	**Kamenistaya**	**2.34**	**261**	*eP*	**Pn**	**06 21 23.2**	**+1.2**
TUMD	**Tumrok D**	**2.43**	**248**	*eP*	**Pn**	**06 21 23.6**	**+0.5**
TUMD				*eS*	**Sn**	**06 21 52.2**	**-0.9**
KOZ	**Kozyrevsk**	**2.50**	**269**	*eP*	**Pn**	**06 21 25.4**	**+1.4**
SRDR	**Sredinnyy**	**2.58**	**275**	*eP*	**Pn**	**06 21 26.9**	**+1.7**
OSSR	**Ossora**	**3.16**	**348**	*eP*	**Pn**	**06 21 32.6**	**-0.4**
OSSR				*eS*	**Sn**	**06 22 07.8**	**-3.2**
ESO	**Esso**	**3.17**	**268**	*eP*	**Pn**	**06 21 34.3**	**+1.1**
KII	**Karymskiy**	**3.53**	**235**	*eP*	**Pn**	**06 21 39.3**	**+1.1**
PALN	**Palana**	**3.75**	**323**	*eP*	**Pn**	**06 21 40.3**	**-0.8**
SPN	**Mys Shipunski**	**3.97**	**221**	*eP*	**Pn**	**06 21 43.4**	**-0.7**
SPN				*eS*	**Sn**	**06 22 27.3**	**-3.7**
NLC	**Nalytchevo**	**4.18**	**226**	*eP*	**Pn**	**06 21 47.9**	**+0.9**
NLC				*eS*	**Sn**	**06 22 35.9**	**-0.1**
SDLR	**Sedlovina**	**4.29**	**230**	*eP*	**Pn**	**06 22 49.7**	**+1.0**
KRER	**Koryakskii**	**4.33**	**231**	*eP*	**Pn**	**06 21 50.9**	**+1.6**
KRX	**Arik**	**4.34**	**232**	*eP*	**Pn**	**06 21 51.0**	**+1.7**
SMAR	**Somma**	**4.34**	**230**	*eP*	**Pn**	**06 21 50.0**	**+0.6**
AVH	**Avacha**	**4.36**	**230**	*eP*	**Pn**	**06 21 50.9**	**+1.3**
UGLR	**Uglovaya**	**4.37**	**229**	*eP*	**Pn**	**06 21 50.8**	**+1.1**
KOK	**Koryaka**	**4.39**	**231**	*eP*	**Pn**	**06 21 51.1**	**+1.1**
GNL	**Ganaly**	**4.45**	**239**	*eP*	**Pn**	**06 21 52.3**	**+1.5**
DALK	**Dalny**	**4.52**	**228**	*eP*	**Pn**	**06 21 52.6**	**+0.9**
PET	**Petropavlovsk**	**4.57**	**229**	*eP*	**Pn**	**06 21 53.1**	**+0.8**
PETK	**Petropavlovsk-** 10nm,0.9s,baz=68,slow=16,SNR=15	**4.93**	**234**	Pn	**Pn**	**06 21 58.8**	**+1.4**
KRMR	**Karymshinskiy**	**4.93**	**230**	*eP*	**Pn**	**06 21 59.1**	**+1.7**
RUS	**Russkaya**	**5.07**	**225**	*eP*	**Pn**	**06 22 00.0**	**+0.8**
GRL	**Gorelyy**	**5.16**	**228**	*eP*	**Pn**	**06 22 02.2**	**+1.6**
MTVR	**Mutnovka**	**5.16**	**227**	*eP*	**Pn**	**06 22 02.0**	**+1.4**
ASAK	**Asacha**	**5.35**	**227**	*eP*	**Pn**	**06 22 05.1**	**+1.9**
MIPR	**Malaya Ipel'ka**	**5.92**	**232**	*eP*	**Pn**	**06 22 13.1**	**+2.3**
KMSK	**Kamenskaya**	**6.38**	**8**	*eP*	**Pn**	**06 22 18.4**	**+1.1**
PAU	**Pauzhetka**	**6.49**	**227**	*eP*	**Pn**	**06 22 19.6**	**+0.9**
SEY	**Seymchan** comp=Z,4µm,20.5s,baz=190,slow=37	**9.09**	**323**	LR	LR	06 26 12.1	
ASAJ	**Asahikawa** 0.9nm,0.3s,baz=24,slow=1.9,SNR=8.6 9.2nm,0.7s	**18.33**	**238**	P	**Pn**	**06 24 57.4**	**-0.1**
ILAR	**Eielson Array** 0.6nm,0.7s,baz=272,slow=7.2,SNR=5.4 0.6nm,0.7s	**24.91**	**50**	P	**P**	**06 26 07.3**	**+1.2**
MJAR	**Matsushiro Arr** 2.5nm,0.6s,baz=25,slow=9

KIWB	**Kanaga Island**	**1.30**	**281**			Pn	06 22 01.5	-0.2
KIWB	**Kanaga Island**	**1.30**	**281**	IAML			06 22 22.6	
	comp=E,798nm,0.5s							
KIWB				IAML			06 22 23.8	
	comp=N,951nm,0.4s							
KINC	**Kanaga Island**	**1.31**	**285**			Pn	06 22 01.9	+0.1
KIKV	**Kanaga Island**	**1.32**	**282**			Pn	06 22 01.8	-0.2
KIMD	**Kanaga Island**	**1.34**	**277**			Pn	06 22 01.8	-0.5
KIMD						Sn	06 22 19.3	+0.1
TASE	**Tanaga Southea**	**1.85**	**278**			Pn	06 22 10.0	+0.8
CEPE	**Semis' Perret**	**3.29**	**278**			Pn	06 22 30.1	+1.1
AMKA	**Amchitka**	**3.51**	**268**	Pn		Pn	06 22 32.0	0.0
NIKH	**Nikolski High**	**4.06**	**68**	Pn		Pn	06 22 40.6	+0.9
NIKH				IAML			06 23 45.6	
	comp=N,93nm,0.8s							
UNV	**Unalaska Valle**	**5.67**	**63**	Pn		Pn	06 23 04.4	+2.6
LVA	**Lava Point**	**6.05**	**61**	Pn		Pn	06 23 08.5	+1.6
SPIA	**Saint Paul Isl**	**6.25**	**25**	Pn		Pn	06 23 10.5	+0.9
N14K	**Kuskokwak Cree**	**11.22**	**37**	Pn		Pn	06 24 21.3	+3.7
O15K	**Ungalikthiuk R**	**11.50**	**43**	Pn		Pn	06 24 25.2	+3.6
O16K	**Kokwok River B**	**12.47**	**44**	Pn		Pn	06 24 38.0	+3.3
H19K	**Roundabout Mou**	**16.89**	**27**	Pn		Pn	06 25 33.5	0.0
H19K				IAmb		IAmb	06 25 40.6	
	comp=Z,4.6nm,0.8s							
I20K	**Naaghedeneel**	**16.98**	**31**	Pn		Pn	06 25 34.0	-0.5
G19K	**Purcell Mounta**	**17.18**	**25**	Pn		Pn	06 25 36.7	-0.3
G19K				IAmb		IAmb	06 25 38.5	
	comp=Z,4.6nm,0.8s							
G21K	**Allakaket**	**18.44**	**28**	P		P	06 25 50.5	-1.9
G21K				IAmb		IAmb	06 26 21.1	
	comp=Z,4.4nm,1.1s							
PAX	**Paxson**	**19.42**	**43**	P		P	06 26 03.5	+0.2
G23K	**Bananza Creek**	**19.62**	**30**	P		P	06 26 03.5	-1.8
G23K				IAmb		IAmb	06 26 10.3	
	comp=Z,4.4nm,1.2s							
J25K	**Salcha River,**	**20.14**	**38**	P		P	06 26 09.5	-1.5
J25K				IAmb		IAmb	06 26 48.1	
	comp=Z,3.8nm,1.2s							

*NEIC **06** 06:26:18.3±1.5, 35°.701N±0°.005×117°.51W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.8km az=248.0*

PAS 06 06:26:18.7±1.5, 35°.708N±0°.005×117°.51W±0°.01, h4km±4km, ML3.0/23, ML3.0/36(NEIC), Error ellipse: s-maj=1.7km s-min=0.7km az=92.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.20**	**265**		Pg	06 26 22.9	+0.4
TOW	**Tower One**	**0.23**	**296**		Pg	06 26 23.8	+0.5
LRMC	**Laurel Mtn Rad**	**0.27**	**212**		Pg	06 26 23.8	-0.1
LRMC	**Laurel Mtn Rad**	**0.27**	**212**	IAML		06 26 28.3	
	comp=N,4μm,0.2s						
LRMC				IAML		06 26 28.6	
	comp=E,4μm,0.2s						
WVPM	**Volcano Peak E**	**0.35**	**314**		Pg	06 26 25.7	+0.2
MPMC	**Manual Prospec**	**0.35**	**2**		Pg	06 26 25.4	-0.1
MPMC					Sg	06 26 30.4	+0.2
WNMM	**Nine Mile Cany**	**0.35**	**293**		Pg	06 26 25.6	+0.2
WRVM	**Rose V. Centra**	**0.43**	**314**		Pg	06 26 26.9	-0.2
MFS	**McCloud Flat S**	**0.50**	**325**		Sg	06 26 35.3	+0.6
DTP	**Desert Tortois**	**0.52**	**212**		Sg	06 26 35.6	+0.3
WBSM	**Bird Springs**	**0.54**	**252**		Sg	06 26 36.3	+0.1
QSM	**Queen of Sheba**	**0.58**	**163**		Pg	06 26 37.7	-0.1
WORM	**Onyx Ranch**	**0.60**	**269**		Sg	06 26 37.7	-0.3
WHFM	**Hanning Flat**	**0.69**	**269**		Sg	06 26 31.4	-0.4
CCAC	**Calif City Air**	**0.69**	**217**		Sg	06 26 41.3	+0.3
CCAC	**Calif City Air**	**0.69**	**217**	Pg	Pg	06 26 31.2	-0.8
CCAC				IAML		06 26 41.4	
	comp=E,400nm,0.5s						
CCAC				IAML		06 26 41.5	
	comp=N,400nm,0.4s						
GSC	**Goldstone, Bar**	**0.70**	**125**	Pg	Pg	06 26 31.6	-0.5
GSC				IAML		06 26 44.9	
	comp=N,781nm,0.3s						
GSC				IAML		06 26 46.5	
	comp=E,618nm,0.3s						
ISA	**Isabella, Lake**	**0.79**	**267**		Sg	06 26 44.0	-0.1
ISA	**Isabella, Lake**	**0.79**	**267**	Pg	Pg	06 26 33.1	-0.7
ISA				IAML		06 26 44.3	
	comp=N,509nm,0.3s						
ISA				IAML		06 26 44.6	
	comp=E,577nm,0.2s						
GWY	**Greenwater Val**	**0.83**	**55**	Pg	Pg	06 26 34.2	-0.5
GWY				IAML		06 26 48.3	
	comp=E,343nm,0.3s						
HYS	**Haystack Butte**	**0.84**	**183**		Sg	06 26 45.3	-0.5
VTV	**Victorville**	**1.15**	**173**		Sg	06 26 56.0	+0.3
ARVC	**Arvin**	**1.23**	**242**		Pg	06 26 40.3	-1.9
LRRC	**Littlerock Res**	**1.25**	**200**		Sb	06 26 59.5	+0.2
CJV	**Casa Juvan**	**1.28**	**204**		Sg	06 27 00.1	+0.2
GRAC	**Grapevine Rang**	**1.29**	**5**		Pg	06 26 42.0	-1.5
GRAC				IAML		06 27 17.7	
	comp=N,410nm,0.2s						
GRAC				IAML		06 27 19.3	
	comp=E,423nm,0.3s						
JNH	**Juniper Hills**	**1.31**	**196**		Sb	06 27 01.2	+0.1
SGV	**South Grapevin**	**1.33**	**17**		Sg	06 27 01.2	-0.1
SIL	**Silver Peak**	**1.47**	**157**		Pn	06 26 44.8	-1.3
BBRC	**Big Bear Solar**	**1.52**	**161**		Pn	06 26 46.0	-0.8
MWC	**Mount Wilson**	**1.55**	**197**		Pn	06 26 45.5	-1.7
MWC				IAML		06 27 10.6	
	comp=N,165nm,0.5s						
MWC				IAML		06 27 11.7	
	comp=E,181nm,0.5s						
GMN	**Gold Mountain**	**1.60**	**7**		Pn	06 26 48.4	+0.5
GMN				IAML		06 27 24.1	
	comp=E,242nm,0.5s						
TPNV	**Topopah Spring**	**1.60**	**39**		Pn	06 26 47.7	-0.2
CLTC	**Calectric**	**1.62**	**174**		Sn	06 27 08.0	-1.2
PASC	**Pasadena Art C**	**1.63**	**200**		Pn	06 26 48.7	+0.6
SVD	**Seven Oaks Dam**	**1.63**	**168**		Sb	06 27 10.5	+0.2
VOG	**Valley Oaks Go**	**1.64**	**292**		Pn	06 26 47.4	-0.8
BCW	**Bitter Crk WRg**	**1.74**	**244**		Pn	06 26 49.2	-0.5
BLCC	**Black Canyon**	**1.75**	**214**		Pb	06 26 51.7	+0.4
GMRC	**Granite Mounta**	**1.77**	**121**		Sb	06 27 14.5	+0.1
ELS	**Elsinore Mount**	**2.06**	**178**	Pn	Pn	06 26 54.1	+0.1
ELS				IAML		06 28 06.3	
	comp=E,65nm,0.6s						
POB	**Polly Butte**	**2.07**	**166**		Pb	06 26 57.2	+0.3
CRY	**Cary Ranch**	**2.23**	**163**		Pb	06 26 59.9	+0.3
NV11	**Mina Array Sit**	**2.77**	**349**		Pn	06 27 04.1	+0.1
NV11				IAML		06 27 43.2	
	comp=N,40nm,0.8s						

*NEIC **06** 06:26:52.9±1.1, 35°.867N±0°.006×117°.70W±0°.01, h1km±1km, Error ellipse: s-maj=1.4km s-min=0.9km az=85.0*

PAS 06 06:26:53.5±1.1, 35°.871N±0°.009×117°.71W±0°.01, h5km±2km, ML3.4/21, ML3.2/58(NEIC), Error ellipse: s-maj=1.7km s-min=1.2km az=118.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.07**	**213**		Pg	06 26 55.8	+0.5
WVPM	**Volcano Peak E**	**0.12**	**313**		Pg	06 26 56.1	+0.1
WVPM					Sg	06 26 58.2	+0.5
WNMM	**Nine Mile Cany**	**0.16**	**260**		Pg	06 26 56.8	+0.2
WNMM					Sg	06 26 59.8	+1.0
SRTC	**Snort**	**0.18**	**189**		Pg	06 26 57.5	+0.3
WRVM	**Rose V. Centra**	**0.20**	**314**		Pg	06 26 57.5	0.0
MPMC	**Manual Prospec**	**0.26**	**44**		Pg	06 26 58.3	-0.4
MPMC					Sg	06 27 02.0	-0.1
MFS	**McCloud Flat S**	**0.27**	**335**		Pg	06 26 58.8	0.0
LRMC	**Laurel Mtn Rad**	**0.39**	**176**	Pg	Pg	06 27 00.7	-0.4
LRMC				IAML		06 27 06.9	
	comp=E,4μm,0.2s						
LRMC				IAML		06 27 07.4	
	comp=N,3μm,0.5s						
WBSM	**Bird Springs**	**0.48**	**226**		Sg	06 27 09.4	+0.3
WHFM	**Hanning Flat**	**0.55**	**251**		Pg	06 27 03.8	-0.2
WHFM					Sg	06 27 11.2	+0.1
DTP	**Desert Tortois**	**0.61**	**190**		Pg	06 27 04.8	-0.5
ISA	**Isabella, Lake**	**0.65**	**252**		Sg	06 27 14.5	0.0
ISA	**Isabella, Lake**	**0.65**	**252**	Pg	Pg	06 27 05.7	-0.4
ISA				IAML		06 27 14.7	
	comp=N,1μm,0.4s						
ISA				IAML		06 27 14.8	
	comp=E,851nm,0.3s						
CGO	**Cerro Gordo**	**0.68**	**354**		Pg	06 27 06.3	-0.3
CGO					Sg	06 27 16.0	+0.5
QSM	**Queen of Sheba**	**0.69**	**82**		Pg	06 27 06.6	-0.2
WASM	**Alta Sierra Ca**	**0.70**	**259**		Pg	06 27 06.7	-0.3
WASM					Sg	06 27 16.1	0.0
CCAC	**Calif City Air**	**0.76**	**199**		Sg	06 27 18.0	+0.1
CCAC	**Calif City Air**	**0.76**	**199**	Pg	Pg	06 27 07.2	-0.8
CCAC				IAML		06 27 18.7	
	comp=N,940nm,0.4s						
CCAC				IAML		06 27 18.7	
	comp=E,906nm,0.4s						
GWY	**Greenwater Val**	**0.90**	**69**		Pg	06 27 10.3	-0.5
GWY					Sg	06 27 22.2	-0.4
FURC	**Furnace Creek,**	**0.91**	**49**		Sg	06 27 23.2	+0.4
GSC	**Goldstone, Bar**	**0.93**	**127**	Pg	Pg	06 27 10.4	-1.0
GSC				IAML		06 27 25.3	
	comp=N,1μm,0.3s						
HYS	**Haystack Butte**	**1.01**	**173**		Pg	06 27 12.6	-0.4
TEJ	**El Tejon**	**1.02**	**231**		Sg	06 27 25.9	-0.5
GRAC	**Grapevine Rang**	**1.16**	**14**	Pg	Pg	06 27 14.9	-0.9
GRAC				IAML		06 27 34.2	
	comp=E,740nm,0.5s						
GRAC				IAML		06 27 36.1	
	comp=N,688nm,0.7s						
SHOC	**Shoshone, Teco**	**1.17**	**88**		Sg	06 27 30.8	-0.3
ARVC	**Arvin**	**1.18**	**231**		Pg	06 27 12.9	-3.2
SBB	**Saddle Back Bu**	**1.18**	**184**		Pg	06 27 15.7	-0.5
THC	**Tehachapi Micr**	**1.23**	**219**		Pg	06 27 16.6	-0.6
SGV	**South Grapevin**	**1.24**	**26**		Pg	06 27 16.5	-0.8
SGV					Sg	06 27 32.9	-0.4
WCT	**Wildcat Mounta**	**1.27**	**43**	Pg	Pg	06 27 16.4	-1.5
WCT				IAML		06 27 36.1	
	comp=E,638nm,0.5s						
WCT				IAML		06 27 37.7	
	comp=N,455nm,0.6s						
AMDNV	**Amargosa**	**1.30**	**63**		Pn	06 27 17.4	-0.9
AMDNV					Sg	06 27 34.0	-1.2
LEOC	**Leona Valley**	**1.33**	**202**		Pn	06 27 18.3	-0.6
LCH	**Last Change Ra**	**1.36**	**2**		Pn	06 27 19.3	-0.1
CJV	**Casa Juvan**	**1.38**	**195**		Pn	06 27 19.2	-0.4
JNH	**Juniper Hills**	**1.43**	**188**		Pn	06 27 20.3	0.0
GMN	**Gold Mountain**	**1.47**	**14**		Pn	06 27 20.4	-0.5
DSCC	**Desert Studies**	**1.50**	**119**		Sn	06 27 40.3	-0.7
DSP	**Deep Springs**	**1.51**	**352**		Sn	06 27 40.6	-0.6
DSP	**Deep Springs**	**1.51**	**352**		Pn	06 27 20.8	-0.4
DSP				IAML		06 27 42.6	
	comp=E,270nm,0.4s						
CHFC	**Chilao Flat St**	**1.56**	**190**		Pb	06 27 22.7	-0.2
POCCA	**Poleta Canyon**	**1.56**	**343**		Pn	06 27 22.3	+0.3
TPNV	**Topopah Spring**	**1.60**	**47**		Pn	06 27 22.2	-0.4
MTUM	**Tungsten Hills**	**1.63**	**335**		Pb	06 27 23.6	-0.6
MWC	**Mount Wilson**	**1.67**	**190**		Pn	06 27 23.2	-0.4
MWC				IAML		06 27 49.0	
	comp=N,278nm,0.6s						
MWC				IAML		06 27 49.5	
	comp=E,266nm,0.5s						
SIL	**Silver Peak**	**1.69**	**154**		Pb	06 27 25.1	0.0
CLTC	**Calectric**	**1.80**	**169**		Sb	06 27 50.0	0.0
MZP	**Montezuma Peak**	**1.84**	**8**	Pn	Pn	06 27 25.8	-0.3
PMPB	**Monarch Peak**	**2.53**	**279**		Pn	06 27 34.8	-0.4
PMPB				IAML		06 28 20.1	
	comp=N,146nm,0.7s						
PMPB				IAML		06 28 27.3	
	comp=E,119nm,0.8s						
WAKR	**Walker**	**2.97**	**333**	Pn	Pn	06 27 41.3	-0.2
SAO	**San Andreas Ge**	**3.14**	**288**		Pn	06 27 42.6	-1.1
LCMT	**Little Creek M**	**3.78**	**71**	Pn	Pn	06 27 52.3	-0.3
CCUT	**Cedar City**	**3.88**	**63**	Pn	Pn	06 27 53.8	-0.2
MPK	**Martis Peak**	**3.88**	**332**	Pn	Pn	06 27 53.7	-0.4
MPK				IAML		06 28 59.6	
	comp=E,51nm,0.6s						
AFDM	**Forest Hills D**	**4.02**	**321**	Pn	Pn	06 27 56.4	+0.6
AFDM				IAML		06 29 03.1	
	comp=E,38nm,1.0s						
AFDM				IAML		06 29 05.9	
	comp=N,29nm,0.6s						
CCX	**Cicese**	**4.09**	**167**	Pn	Pn	06 27 56.0	-0.6
KNB	**Kanab**	**4.11**	**72**	Pn	Pn	06 27 56.4	-0.7
KNB				IAML		06 29 05.5	
	comp=N,21nm,1.0s						
KNB				IAML		06 29 08.9	
	comp=E,21nm,1.0s						
ESJX	**Sierra Juarez**	**4.13**	**159**		Pn	06 27 57.5	+0.1
ESJX				IAML		06 29 04.1	
	comp=N,22nm,0.7s						
ESJX				IAML		06 29 04.2	
	comp=E,20nm,1.0s						
VTX	**Valle De La Tr**	**4.75**	**160**	Pn	Pn	06 28 05.8	-0.1
VTX				IAML		06 29 27.7	
	comp=N,19nm,0.9s						
VTX				IAML		06 29 32.0	
	comp=E,21nm,1.5s						
WUAZ	**Wupatki**	**5.17**	**92**	Pn	Pn	06 28 10.9	-0.8
WUAZ				IAML		06 29 36.7	
	comp=E,23nm,0.8s						
ELK	**Elko**	**5.24**	**21**	Pn	Pn	06 28 11.4	-1.3
X16A	**Lo Mia Camp, P**	**5.34**	**104**	Pn	Pn	06 28 13.2	-0.9
X16A				IAML		06 31 49.5	
	comp=E,7.8nm,1.2s						
214A	**Organ Pipe Nat**	**5.64**	**132**	Pn	Pn	06 28 17.8	-0.3

*IDC **06** 06:27:00.9±0.6, 18°.58S×176°.33E, h0km, mb4.4/15, mbtmp4.4/17, ML3.4/2, MS5.4/1, Error ellipse: s-maj=19.7km s-min=15.5km az=137.0*
*BJI **06** 06:27:01.6, 18°.52S×176°.60E, h13km, mb4.8/23*
*NEIC **06** 06:27:03.5±1.6, 18°.58S±0°.02×176°.51E±0°.08, h10km±1km, mb5.0/38, Error ellipse: s-maj=12.3km s-min=2.9km az=80.0*

ISC 06 06:27:04.9±0.4, 18°.64S±0°.08×176°.50E±0°.07, h23km, n271, σ1s17/272, mb4.9/40, 1C-9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.73**	**59**		**Pn**	**06 27 33.0**	**-0.6**
MSVF	**Nonsavu**	**1.73**	**59**	Pn	**Pn**	**06 27 33.2**	**-0.5**
	41nm,0.3s,baz=254,slow=16,SNR=57						
MSVF				Sn	**Sb**	**06 27 55.5**	**-1.9**
	102nm,0.3s,baz=78,slow=22,SNR=13						
MSVF				LR	LR	06 28 07.7	
	comp=Z,609nm,21.8s,baz=233,slow=36						
DZM	**Mont Dzumac**	**10.03**	**248**		**Pn**	**06 29 28.6**	**+0.9**
DZM	**Mont Dzumac**	**10.03**	**248**	Pn	Pn	06 29 22.7	-5.0
	0.1nm,0.3s,baz=54,slow=19,SNR=4.4						
DZM				Sn	**Sn**	**06 31 19.9**	**+0.2**
	2.6nm,0.3s,baz=177,slow=19,SNR=19 11nm,1.0s						
RAO	**Raoul Island**	**11.73**	**155**	LR	LR	06 33 05.4	
	comp=Z,16μm,18.9s,baz=42,slow=31						
URZ	**Urewera**	**19.56**	**179**	P	**P**	**06 31 30.0**	**-1.0**
	0.6nm,0.3s,baz=2.7,slow=2.3,SNR=5.4 7.4nm,0.9s						
BKZ	**Black Stump Fm**	**20.46**	**180**	P	**P**	**06 31 40.9**	**0.0**
BKZ				IAmb	IAmb	06 32 04.9	
	comp=Z,74nm,1.3s						
MRZ	**Mangatainoka R**	**21.96**	**182**	P	**P**	**06 31 57.0**	**-0.1**
MRZ				IAmb	IAmb	06 32 06.1	
	comp=Z,87nm,1.4s						
QRZ	**Quartz Range**	**22.38**	**188**	P	**P**	**06 32 03.3**	**+1.8**
QRZ				IAmb	IAmb	06 32 11.4	
	comp=Z,48nm,1.3s						
TKNZ	**Takaka Hill**	**22.53**	**187**	P	**P**	**06 32 05.2**	**+2.1**
THZ	**Tophouse**	**23.25**	**187**	P	**P**	**06 32 12.8**	**+2.0**
THZ				IAmb	IAmb	06 32 41.4	
	comp=Z,63nm,1.4s						
WB0	**Warramunga Arr**	**39.70**	**261**	P	**P**	**06 34 33.6**	**-2.2**
WRA	**Warramunga Arr**	**39.74**	**261**	P	**P**	**06 34 33.7**	**-2.4**
WRA	**Warramunga Arr**	**39.74**	**261**	P	**P**	**06 34 33.6**	**-2.5**
	comp=Z,6.9nm,1.2s,baz=89,slow=8.0,SNR=13 comp=Z,6.9nm,1.2s						
AS31	**Alice Springs**	**39.93**	**255**	P	**P**	**06 34 36.2**	**-1.5**
ASAR	**Alice Springs**	**39.93**	**255**	P	**P**	**06 34 35.7**	**-2.0**
	comp=Z,4.9nm,1.0s,baz=83,slow=8.9,SNR=24 comp=Z,4.9nm,1.0s						
MTN	**Manton Dam**	**43.95**	**271**	P	**P**	**06 35 07.1**	**-3.5**
MTN				IAmb	IAmb	06 35 09.2	
	comp=Z,21nm,1.1s						
KNRA	**Kununurra**	**45.60**	**266**	P	**P**	**06 35 22.2**	**-1.6**
KNRA				IAmb	IAmb	06 35 38.9	
	comp=Z,18nm,1.2s						
FITZ	**Fitzroy Crossi**	**48.13**	**262**		**P**	**06 35 42.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**48.13**	**262**	P	**P**	**06 35 41.3**	**-2.2**
	comp=Z,20nm,1.2s,baz=106,slow=11,SNR=7.0 comp=Z,20nm,1.2s						
MORW	**Morawa**	**55.75**	**247**	P	**P**	**06 36 38.3**	**-1.9**
MORW				IAmb	IAmb	06 36 40.6	
	comp=Z,18nm,1.1s						
VNDA	**Vanda**	**59.36**	**184**	P	**P**	**06 37 04.0**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=5.6,slow=10,SNR=2.4 comp=Z,0.4nm,0.8s						
CASY	**Casey**	**63.47**	**204**	P	**P**	**06 37 32.7**	**0.0**
MJAR	**Matsushiro Arr**	**65.73**	**327**	P	**P**	**06 37 46.5**	**-1.4**
MJAR	**Matsushiro Arr**	**65.73**	**327**	P	**P**	**06 37 45.9**	**-2.0**
	comp=Z,4.8nm,0.9s,baz=159,slow=7.3,SNR=7.2 comp=Z,4.8nm,0.9s						
SBUM	**Sibu**	**66.57**	**281**	P	**P**	**06 37 53.5**	**-0.3**
KSM	**Kuching**	**68.00**	**279**	P	**P**	**06 38 02.3**	**-0.6**
KSM				IAmb	IAmb	06 38 03.2	
	comp=Z,16nm,1.2s						
JKA	**Kamikawa-asahi**	**69.72**	**335**	P	**P**	**06 38 13.5**	**+0.6**
QSPA	**South Pole Qui**	**71.42**	**180**	P	**P**	**06 38 24.4**	**+1.1**
QSPA				IAmb	IAmb	06 38 38.7	
	comp=Z,16nm,1.4s						
QSPA	**South Pole Qui**	**71.42**	**180**	P	**P**	**06 38 23.9**	**+0.7**
	comp=Z,6.9nm,1.1s,baz=12,slow=2.7,SNR=7.9 comp=Z,6.9nm,1.1s						
YSS	**Yuzhno-Sakhali**	**72.02**	**336**	P	**P**	**06 38 26.3**	**-0.5**
YSS				IAmb	IAmb	06 38 55.8	
	comp=Z,7.8nm,0.5s						
KSRS	**Korea Array**	**72.12**	**321**	P	**P**	**06 38 27.2**	**-0.4**
	comp=Z,1.3nm,1.0s,baz=157,slow=6.8,SNR=5.7 comp=Z,1.3nm,1.0s						
KSAR	**Wonju Array Be**	**72.14**	**321**	P	**P**	**06 38 26.7**	**-1.0**
PEA0B	**Petropavlovsk-**	**73.28**	**348**		**P**	**06 38 34.4**	**+0.3**
PEA0B				IAmb	IAmb	06 38 36.0	
	comp=Z,30nm,1.4s						
PETK	**Petropavlovsk-**	**73.28**	**348**		**P**	**06 38 33.8**	**-0.4**
UNV	**Unalaska Valle**	**73.65**	**10**	P	**P**	**06 38 37.5**	**+1.2**
	baz=197						
NJ2	**Nanjing**	**74.74**	**312**	*e*P	**P**	**06 38 43.8**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
P08K	**Saint George I**	**75.86**	**8**	P	**P**	**06 38 50.0**	**+1.0**
	baz=194						
CHNA	**Chernabura Isl**	**75.97**	**14**	P	**P**	**06 38 51.2**	**+1.5**
	baz=203						
S12K	**Black Hills**	**76.25**	**12**	P	**P**	**06 38 51.9**	**+0.7**
	baz=201						
S14K	**Fog Glacier**	**77.32**	**13**	P	**P**	**06 38 58.2**	**+0.7**
	baz=203						
CHGN	**Chignik**	**77.59**	**14**	P	**P**	**06 38 59.0**	**+0.2**
CHGN				IAmb	IAmb	06 38 59.7	
	comp=Z,14nm,1.1s						
CHGN	**Chignik**	**77.59**	**14**	P	**P**	**06 38 59.4**	**+0.7**
	baz=204						
CN2	**Changchun**	**77.73**	**325**	P	**P**	**06 38 59.8**	**-0.1**
CN2				sP	pP	06 39 06.3	-0.2
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CHIR	**Chirikof Islan**	**77.83**	**16**	P	**P**	**06 39 00.9**	**+0.7**
	baz=207						
BNX	**BinXian**	**77.99**	**327**	⇑P	**P**	**06 39 00.6**	**-0.7**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SII	**Sitkinak Islan**	**78.86**	**16**	P	**P**	**06 39 06.2**	**+0.3**
	baz=208						
R17L	**Mt. Peulik Vol**	**79.27**	**14**	P	**P**	**06 39 08.5**	**+0.3**
	baz=206						
PLK4	**Peulik 4**	**79.27**	**14**	P	**P**	**06 39 08.1**	**-0.1**
PLK4				IAmb	IAmb	06 39 10.5	
	comp=Z,21nm,1.2s						
OHAK	**Old Harbor**	**79.68**	**16**	P	**P**	**06 39 10.4**	**+0.2**
OHAK				IAmb	IAmb	06 39 12.4	
	comp=Z,24nm,1.4s						
OHAK	**Old Harbor**	**79.68**	**16**	P	**P**	**06 39 11.7**	**+1.4**
	baz=209						
R18K	**Karluk**	**79.68**	**15**	P	**P**	**06 39 11.2**	**+0.9**
	baz=208						
O15K	**Ungalikthiuk R**	**79.93**	**12**	P	**P**	**06 39 12.4**	**+0.7**
	baz=203						
Q17K	**Contact Creek**	**79.95**	**14**	P	**P**	**06 39 12.6**	**+0.7**
	baz=206						
M11K	**Mekoryuk**	**79.98**	**9**	P	**P**	**06 39 12.7**	**+0.8**
	baz=197						
ACHA	**Angle Creek He**	**80.04**	**15**	P	**P**	**06 39 13.5**	**+1.1**
P16K	**Nushagak River**	**80.17**	**13**	P	**P**	**06 39 13.2**	**+0.3**
P16K				IAmb	IAmb	06 39 14.9	
	comp=Z,31nm,1.2s						
P16K	**Nushagak River**	**80.17**	**13**	P	**P**	**06 39 13.6**	**+0.6**
	baz=204						
N14K	**Kuskokwak Cree**	**80.27**	**11**		**P**	**06 39 14.3**	**+0.9**
N14K	**Kuskokwak Cree**	**80.27**	**11**	P	**P**	**06 39 14.3**	**+0.9**
	baz=201,SNR=7.5						
KDAK	**Kodiak Island**	**80.36**	**16**	P	**P**	**06 39 14.1**	**+0.2**
	comp=Z,15nm,1.3s,baz=209,slow=7.2,SNR=3.9 comp=Z,15nm,1.3s						
KDAK	**Kodiak Island**	**80.36**	**16**	P	**P**	**06 39 14.6**	**+0.7**
	baz=210						
M13K	**Dall Lake**	**80.45**	**10**	P	**P**	**06 39 15.1**	**+0.8**
	baz=199						
Q18K	**Katmai Hardscr**	**80.51**	**15**	P	**P**	**06 39 15.5**	**+0.6**
	baz=207						
P17K	**Kvichak River**	**80.66**	**14**	P	**P**	**06 39 16.4**	**+0.8**
	baz=206						
O16K	**Kokwok River B**	**80.67**	**13**	P	**P**	**06 39 16.2**	**+0.6**
	baz=204						
N15K	**Kwethluk River**	**80.80**	**12**		**P**	**06 39 17.4**	**+1.1**
N15K	**Kwethluk River**	**80.80**	**12**	P	**P**	**06 39 17.0**	**+0.7**
	baz=202,SNR=11						
M14K	**Bethel**	**81.00**	**11**	P	**P**	**06 39 17.9**	**+0.6**
M14K				IAmb	IAmb	06 39 22.1

baz=204,SNR=7.8
CAPN Captain Cook N 83.31 15 P P 06 39 31.9 +2.4
baz=211
L18K Granite Mounta 83.34 12 P P 06 39 30.7 +1.1
L18K IAmb IAmb 06 39 34.1
comp=Z,11nm,1.2s
L18K Granite Mounta 83.34 12 P P 06 39 31.7 +2.1
baz=206
NVAR Mina Array Bea 83.35 46 P P 06 39 30.6 +0.1
comp=Z,1.4nm,0.7s,baz=242,slow=4.1,SNR=1.2
comp=Z,1.4nm,0.7s
K17K Iditarod 83.48 11 P P 06 39 32.6 +2.3
baz=204,SNR=5.3
M19K Big River Lodg 83.55 13 P P 06 39 31.8 +1.1
baz=208
J16K Anvik River 83.60 10 P 06 39 31.9 +1.0
J16K Anvik River 83.60 10 P P 06 39 32.6 +1.7
baz=202
P23K Montague Islan 83.66 17 P P 06 39 32.7 +1.4
baz=214
L19K White Mountain 83.69 13 P P 06 39 32.8 +1.3
baz=207,SNR=8.1
M20K Styx River 83.81 14 P P 06 39 33.5 +1.4
baz=209
KMI Kunming 83.90 299 P P 06 39 33.4 -0.2
KMI pmax pmax
comp=Z,8.0nm,1.4s
J17K VABM Dome 83.97 11 P 06 39 33.8 +1.0
J17K IAmb IAmb 06 39 34.6
comp=Z,14nm,1.5s
J17K VABM Dome 83.97 11 P P 06 39 34.3 +1.5
baz=203
SUA Susitna One 84.01 15 P P 06 39 34.3 +1.1
baz=211
ANM Nome 84.11 8 P P 06 39 34.7 +1.2
baz=197
PWL Port Wells 84.12 16 P P 06 39 34.8 +1.2
baz=213
I17K Unalakleet 84.15 10 P P 06 39 35.2 +1.6
baz=202
L20K Farewell, AK 84.17 13 P P 06 39 35.2 +1.3
baz=208
HHC Hu-ho-hao-te 84.39 316 *e*P P 06 39 36.9 +1.3
HHC pmax pmax
comp=Z,9.0nm,0.5s
J18K Innoko River 84.47 12 P 06 39 36.0 +0.7
J18K Innoko River 84.47 12 P P 06 39 36.5 +1.1
baz=205
GLI Glacier Island 84.48 17 P P 06 39 36.1 +0.6
baz=214
PMR Palmer 84.53 16 P P 06 39 36.3 +0.7
baz=212
KNK Knik Glacier 84.56 16 P P 06 39 36.8 +0.9
baz=213
CMAR Chiang Mai Arr 84.61 291 P P 06 39 36.6 -0.4
comp=Z,7.0nm,1.1s,baz=113,slow=3.0,SNR=19
comp=Z,7.0nm,1.1s
G15K Niukluk 84.69 8 P P 06 39 37.7 +1.2
baz=198
TNA Tin City 84.77 6 P P 06 39 38.3 +1.5
baz=195
F14K Arctic Creek 84.86 7 P P 06 39 38.5 +1.2
baz=196
K20K Telida 84.91 13 P P 06 39 39.1 +1.6
baz=208
J19K Poorman 85.16 12 P P 06 39 40.4 +1.6
baz=206
SCM Sheep Creek Mo 85.20 16 P P 06 39 40.3 +1.1
baz=214
CRAG Craig 85.23 26 P P 06 39 40.4 +1.1
baz=227
H17K Granite Mounta 85.25 10 P P 06 39 40.9 +1.6
baz=202
BMRM Bremner River 85.26 18 P P 06 39 40.4 +1.0
baz=217
PZH PanZhiHua 85.27 300 P P 06 39 39.9 -0.5
F15K North Star Dit 85.29 8 P P 06 39 41.4 +2.0
baz=198
CAST Castle Rocks 85.39 14 P P 06 39 40.5 +0.5
baz=210
CRQE Cirque 85.53 19 P P 06 39 42.6 +1.6
baz=218
J20K Nowinta River 85.62 12 P P 06 39 43.2 +2.2
baz=208
G17K Kiwalik Mounta 85.66 9 P P 06 39 43.6 +2.3
baz=202
H18K Honhosa River 85.71 10 P P 06 39 42.9 +1.4
baz=204
WAT6 Susitna Watana 85.72 16 P P 06 39 43.0 +1.2
baz=214
WAT1 Susitna Watana 85.72 15 P P 06 39 42.4 +0.7
baz=213
S31K Pelican 85.74 23 P P 06 39 43.0 +1.2
baz=224
N25K Chitina, Valde 85.77 18 P P 06 39 43.1 +1.0
baz=217
TRF Thorofare Moun 85.83 14 P P 06 39 42.3 0.0
baz=211
PNL Peninsula 85.88 21 P P 06 39 42.1 -0.5
baz=221
H19K Roundabout Mou 86.39 11 P P 06 39 46.1 +1.3
baz=206
MCK McKinley 86.39 15 P P 06 39 45.9 +0.9
baz=213
P30M Million Dollar 87.04 21 P P 06 39 49.2 +0.9
baz=224
MLY Manley 87.08 13 P P 06 39 49.7 +1.3
baz=211
M27K Edge Creek, AK 87.16 18 P P 06 39 49.4 +0.6
baz=219
L26K Log Cabin Wild 87.26 17 P P 06 39 50.5 +1.3
baz=218
F19K Shaleruckik Mo 87.35 10 P P 06 39 50.9 +1.4
baz=204
HYT Haines Junctio 87.37 21 P P 06 39 51.1 +1.2
baz=223
D17K Noatak River 87.39 8 P P 06 39 51.4 +1.7
baz=199
HDA Harding Lake 87.44 15 P P 06 39 51.0 +1.0
baz=214
LZH Lanzhou 87.55 309 *e*P P 06 39 52.0 +0.5
LZH sP pP 06 39 59.1 +1.0
LZH pmax pmax
comp=Z,22nm,1.0s
S34M Telegraph Cree 87.68 25 P P 06 39 52.1 +0.8
baz=229
ILAR Eielson Array 87.75 15 P P 06 39 51.2 -0.3
comp=Z,0.9nm,0.9s,baz=230,slow=6.1,SNR=6.8
comp=Z,0.9nm,0.9s
G21K Allakaket 87.82 12 P P 06 39 52.5 +0.7
baz=208
P32M Atlin 87.82 23 P P 06 39 52.5 +0.4
baz=226
SCRK Sand Creek 87.84 16 P P 06 39 52.5 +0.3
baz=217
F20K Avaraart Lake 87.89 11 P P 06 39 53.0 +0.9
baz=206
Q32M Nakina River 87.94 24 P P 06 39 53.7 +0.9
baz=225
N30M Aishikik Lake 87.97 20 P P 06 39 53.9 +1.1
baz=223
J25K Salcha River, 88.00 15 P P 06 39 53.9 +1.1
baz=216
E19K Redstone River 88.01 10 P P 06 39 54.2 +1.5
baz=205
C17K DeLong Mountai 88.11 7 P P 06 39 54.4 +1.2
baz=199
WHY Whitehorse 88.15 22 P P 06 39 54.4 +0.7
baz=225
M29M Somme Creek 88.26 19 P P 06 39 55.2 +1.1
baz=222
J26L Joseph Creek 88.38 16 P P 06 39 55.3 +0.7
baz=218
K27K Chicken 88.41 17 P P 06 39 55.2 +0.6
baz=219
H24K Noodor Dome 88.41 14 P P 06 39 56.1 +1.4
baz=214
N31M Braeburn, Yuko 88.43 21 P P 06 39 55.9 +1.0
baz=224
F21K Alatna River 88.45 11 P P 06 39 55.9 +1.1
baz=208
DLBC Dease Lake 88.47 25 P P 06 39 56.3 +1.1
baz=230
C18K Utukok River 88.53 8 P P 06 39 56.3 +1.1
baz=201
P33M Teslin, Yukon 88.58 23 P P 06 39 57.3 +1.6
baz=227
G23K Bananza Creek 88.68 13 P P 06 39 57.6 +1.6
baz=212
R33M Jennings River 88.73 24 P P 06 39 57.6 +1.2
baz=229
L29M L29M 88.86 19 P P 06 39 58.1 +1.3
baz=222
M30M Minto, Yukon 88.88 20 P P 06 39 58.0 +1.0
baz=224
E20K Nigu River 88.90 10 P P 06 39 58.3 +1.3
baz=206
COLD Coldfoot 89.09 12 P P 06 39 58.6 +0.8
baz=211
B18K Kokolik River 89.12 8 P P 06 39 58.6 +0.8
baz=200
I26K Coal Creek Min 89.12 16 P P 06 39 58.6 +0.6
baz=218
C19K Lookout Ridge 89.17 8 P P 06 39 59.2 +1.0
baz=203
DAWY Dawson 89.19 18 P P 06 39 59.2 +0.8
baz=221
G24K Hadweenzic Riv 89.22 14 P P 06 39 59.9 +1.4
baz=214
E21K Killik River 89.44 10 P P 06 40 00.3 +0.9
baz=208
K29M Barlow Dome 89.58 19 P P 06 40 01.1 +0.7
baz=223
SNAA Sanae 89.92 180 P P 06 40 02.2 +0.3
SNAA Sanae 89.92 180 P P 06 40 01.5 -0.5
comp=Z,3.0nm,1.1s,baz=173,slow=6.2,SNR=5.5
comp=Z,3.0nm,1.1s
D22K Ayikyak River 90.05 11 P P 06 40 03.6 +1.3
baz=209
I28M Miner Creek 90.09 17 P P 06 40 03.3 +0.7
baz=221
E24K Your Creek 90.16 12 P P 06 40 04.2 +1.4
baz=213
H27K Steamboat Moun 90.27 16 P P 06 40 04.4 +1.0
baz=219
G26K Porcupine Rive 90.27 15 P P 06 40 04.4 +1.1
baz=217
B20K Meade River 90.34 9 P P 06 40 05.6 +2.0
baz=205
F25K Christian Rive 90.36 14 P P 06 40 05.6 +1.8
baz=216
B21K Ikpikpuk River 90.38 10 P P 06 40 05.2 +1.4
baz=207
TOLK Toolik Lake Re 90.42 12 P P 06 40 05.0 +0.9
baz=212
I29M Ogilvie Camp, 90.47 17 P P 06 40 05.3 +1.0
baz=222
J30M Hart River 90.47 18 P P 06 40 05.4 +0.9
baz=224
D23K Nanushuk River 90.49 11 P P 06 40 05.3 +1.0
baz=211
TXAR Lajitas Array 90.50 59 P P 06 40 05.8 +0.4
TXAR Lajitas Array 90.50 59 P P 06 40 04.7 -0.7
comp=Z,1.9nm,1.1s,baz=224,slow=4.9,SNR=8.6
comp=Z,1.9nm,1.1s
G27K Doyon Strip 90.68 15 P P 06 40 06.3 +1.0
baz=219
TOAD Toad River Com 90.69 26 P P 06 40 06.5 +1.0
baz=234
MMPY Sheldon Lake, 90.76 21 P P 06 40 06.7 +0.9
baz=228
F26K Sheenjek River 90.79 14 P P 06 40 06.9 +1.1
baz=217
I30M Mount Dempster 90.93 18 P P 06 40 07.1 +0.5
baz=224
SONM Songino Array 90.99 321 P P 06 40 05.3 -2.0
comp=Z,0.8nm,0.7s,baz=134,slow=6.4,SNR=6.1
comp=Z,0.8nm,0.7s
D24K Happy Valley 91.00 12 P P 06 40 07.8 +1.1
baz=213
F28M Old Crow 91.75 15 P P 06 40 11.1 +0.9
baz=221
GTA Gaotai 91.81 311 *e*P P 06 40 12.1 +0.8
GTA pmax pmax
comp=Z,5.0nm,1.0s
G31M Satah River 92.74 17 P P 06 40 15.1 +0.3
baz=226
F30M Barrier River 92.81 16 P P 06 40 16.0 +1.0
baz=224
E29M Blow River 92.83 15 P P 06 40 16.5 +1.3
baz=223
D28M Stokes Point 93.32 15 P P 06 40 18.0 +0.7
baz=222
INK Inuvik 93.91 17 P P 06 40 20.7 +0.6
baz=227
WMQ Urumqi 101.82 312 *e*P **Pdif** 06 40 57.9 +1.4
BRTR Keskin Array B 141.73 311 PKP **PKPdf** 06 46 34.7 -0.4
comp=Z,0.6nm,0.7s,baz=90,slow=2.9,SNR=2.4
DPC Dobruska-Polom 144.62 338 *e*PKP **PKPdf** 06 46 39.4 -0.2
DPC *ep*PKP **pPKPdf** 06 46 45.6 -1.1
MORC Moravsky Berou 144.64 336 PKPbc 06 46 38.2 -0.2
MORC Moravsky Berou 144.64 336 *e*PKP **PKPdf** 06 46 38.7 -1.0
KRLC Kraliky 144.68 337 *e*PKP **PKPdf** 06 46 40.7 +0.9
KRLC *ep*PKP **pPKPdf** 06 46 45.3 -1.5
CLL Collm 144.88 342 **PKPab** 06 46 38.4 -0.7
CLL Collm 144.88 342 *i* PKPdf PKPbc 06 46 38.7 -0.4
comp=Z,25nm,1.4s
CLL *i* PKiKP pPKPdf 06 46 45.5 -1.5
comp=Z,10.0nm,1.0s
CLL *i* x x 06 46 54.5
BRG Berggiesshubel 144.97 341 *e*PKP **PKPdf** 06 46 40.2 +0.1
BRG Amp 06 46 41.6
comp=Z,17nm,1.2s
BRG Berggiesshubel 144.97 341 P **PKiKP** 06 46 46.0 +2.0
BRG Amp 06 46 46.9
comp=Z,10.0nm,1.1s
BRG Berggiesshubel 144.97 341 P PKiKP 06 46 55.5 +12
BRG Amp 06 46 57.6
comp=Z,5.8nm,1.0s
VYHS Vyhne 145.14 334 *e*PKP **PKPdf** 06 46 40.6 0.0
VYHS *e*PP **PP** 06 50 04.3 +5.5
JAVC Velka Javorina 145.33 335 *e*PKP **PKPdf** 06 46 42.2 +1.3
VRAC Vranov 145.38 337 *e*PKP **PKPdf** 06 46 41.2 +0.3
KRUC Moravsky 145.66 337 *e*PKP **PKPab** 06 46 42.2 +0.2
MODS Modra-Piesok 145.88 335 *e*PKP **PKPbc** 06 46 42.2 -0.2
MODS *e*PP **PP** 06 50 05.9 +2.8
ZVC Zvikov 146.13 339 *e*PKP **PKPab** 06 46 44.6 +0.8
KHC Kasperske Hory 146.60 339 *e*PKP **PKPab** 06 46 46.0 +0.4
KHC *ep*PKP pPKPbc 06 46 51.2 -0.3
CKRC Cesky Krumlov 146.62 338 *e*PKP **PKPab** 06 46 45.6 -0.1
CKRC *ex* x 06 46 51.4
CONA Conrad Observa 146.79 336 *i* PKP **PKPab** 06 46 46.1 -0.3
comp=Z,16nm,1.3s,SNR=11
GERES GERESS Array B 146.81 339 **PKPbc** 06 46 44.8 -0.5
GERES GERESS Array B 146.81 339 PKPbc **PKPbc** 06 46 45.4 +0.2
comp=Z,4.3nm,1.0s,baz=38,slow=2.4,SNR=23
RONA Rosalia, Austr 146.81 335 *i* PKP **PKPab** 06 46 46.2 -0.3
comp=Z,16nm,1.3s,SNR=7.9
BTNL Ternell 147.21 349 *d*PKP **PKPbc** 06 46 46.0 -0.3
MEM Membach 147.21 349 *d*PKP **PKPab** 06 46 46.6 -1.3
BSTI Sart Tilman 147.31 349 *d*PKP **PKPab** 06 46 47.0 -1.3
BHOU Houvegnez 147.46 349 *d*PKP **PKPbc** 06 46 46.8 -0.2
MOA Molln 147.46 338 *i* PKP **PKPbc** 06 46 47.4 +0.3
comp=Z,8.0nm,1.2s
ARSA Arzberg 147.48 336 *i* PKP **PKPbc** 06 46 47.4 +0.2
comp=Z,2.4nm,0.9s
BCLA Clavier 147.52 349 *d*PKPdf **PKPdf** 06 46 43.5 -0.9
BGES Gesves 147.59 350 *d*PKPdf **PKPbc** 06 46 45.6 -1.7
BMRD Maredsous 147.72 350 *d*PKP **PKiKP** 06 46 48.7 -1.0
BIOA Bad Ischl, Aus 147.81 338 *i* PKP **PKiKP** 06 46 49.2 -0.8
comp=Z,14nm,1.6s
DOU Dourbes 147.95 350 *d*PKPdf **PKPbc** 06 46 46.4 -1.8
WLF Walferdange 148.09 348 *d*PKP **PKiKP** 06 46 49.9 -0.5
SOKA Soboth 148.14 336 *i* PKP **PKPbc** 06 46 49.0 0.0
comp=Z,10.0nm,1.5s,SNR=7.3
LESA Schwarzleotal 148.38 339 *i* PKP **PKPbc** 06 46 49.1 -0.5
comp=Z,8.5nm,1.3s
KBA Koelnbreinsper 148.44 338 *i* PKP **PKPbc** 06 46 49.2 -0.7
comp=Z,6.1nm,1.3s
OBKA Obir 148.47 336 *i* PKP **PKPbc** 06 46 49.9 0.0
comp=Z,4.3nm,1.2s
MYKA Terra Mystica 148.71 337 *i* PKP **PKPbc** 06 46 50.4 -0.1
comp=Z,7.6nm,1.7s
WATA Walderalm 148.82 340 *i* PKP **PKPbc** 06 46 50.9 +0.1
comp=Z,11nm,1.2s
WTTA Wattenberg 148.87 340 *i* PKP **PKiKP** 06 46 51.6 -0.8
comp=Z,12nm,1.4s
RETA Reutte 148.95 341 *i* PKP **PKiKP** 06 46 51.8 -0.6
comp=Z,7.2nm,1.1s
MOTA Moosalm 148.97 341 *i* PKP **PKPbc** 06 46 51.3 +0.1
comp=Z,14nm,1.5s
ABTA Abfaltersbach 149.02 338 *i* PKP **PKPbc** 06 46 50.8 -0.5
comp=Z,7.2nm,1.3s
SQTA Sankt Quirin 149.04 340 *i* PKP **PKPbc** 06 46 51.0 -0.4
comp=Z,9.0nm,1.1s
FETA Feichten 149.37 341 *i* PKP **PKiKP** 06 46 52.5 -0.9
comp=Z,11nm,1.3s,SNR=7.4
DAVA Damuels 149.39 342 *i* PKP **PKiKP** 06 46 53.1 -0.3
comp=Z,15nm,1.2s

DJA 06 06:27:21.1±0.6,**9°S**±5″×**11°0E**±°,**h10**km,**MLv3.7**/11,
South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**1.29**	**34**	P	Pn	06 27 43.2	-2.0
PCJI				S	Sb	06 28 02.4	+0.2
UGM	**Wanagama**	**1.35**	**3**	P	Pn	06 27 44.3	-1.8
UGM				S	Sb	06 28 03.9	0.0
WOJI	**Wonogiri, Jawa**	**1.50**	**19**	P	Pn	06 27 48.3	+0.2
NGJI	**Ngawi**	**2.14**	**28**	P	Pn	06 27 57.3	+0.4
SMRI	**Semarang**	**2.21**	**0**	P	Pn	06 27 59.3	+1.5
GRJI	**Gresik**	**3.09**	**41**	P	Pn	06 28 09.9	-0.1
GMJI	**Gumukmas**	**3.13**	**72**	P	Pn	06 28 10.6	+0.1
CNJI	**Cibinong**	**3.81**	**300**	P	Pn	06 28 20.2	+0.3

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*NEIC **06** 06:28:44.4±1.6,35°.54N±0°.02×117°.36W±0°.01,h5km±1km,*
Error ellipse: s-maj=3.0km s-min=2.1km az=169.0
PAS 06 06:28:44.3±1.7,**35°.55N**±0°.01×**117°.43W**±0°.01,**h2**km±1km,
ML3.1/3,**ML3.1**/30(NEIC),**Error ellipse: s-maj=2.1km**
s-min=0.9km az=146.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCCA	**Chr Cany lake**	**0.06**	**117**		Pg	06 28 46.9	+1.3
LRMC	**Laurel Mtn Rad**	**0.21**	**250**		Pg	06 28 48.9	+0.4
LRMC	**Laurel Mtn Rad**	**0.21**	**250**	IAML		06 28 54.7	
LRMC	comp=N,1μm,0.2s			IAML		06 28 55.4	
GSC	**Goldstone, Bar**	**0.57**	**116**	Pg	Pg	06 28 55.2	0.0
GSC	comp=E,844nm,0.5s			IAML		06 29 03.7	
QSM	**Queen of Sheba**	**0.62**	**48**	Pg	Pg	06 28 56.8	+0.6
QSM	comp=E,1μm,0.2s			IAML		06 29 18.4	
CCAC	**Calif City Air**	**0.62**	**230**	Pg	Pb	06 28 57.3	-0.7
ISA	**Isabella, Lake**	**0.85**	**278**	Pg	Pg	06 29 00.9	+0.2
ISA	comp=E,855nm,0.4s			IAML		06 29 22.5	
ISA	comp=N,959nm,0.4s			IAML		06 29 22.7	
GWY	**Greenwater Val**	**0.89**	**44**	Pg	Pg	06 29 01.2	-0.1
GWY	comp=N,814nm,0.5s			IAML		06 29 27.6	
GWY	comp=E,843nm,0.4s			IAML		06 29 30.0	
ARVC	**Arvin**	**1.22**	**250**		Pb	06 29 08.2	+0.1
WCT	**Wildcat Mounta**	**1.40**	**28**		Pn	06 29 10.0	-1.0
WCT	comp=E,234nm,0.4s			IAML		06 29 41.6	
OSI	**Osito Audit: C**	**1.41**	**229**		Pn	06 29 10.6	-0.5
OSI	comp=E,216nm,0.8s			IAML		06 29 49.5	
OSI	comp=N,246nm,0.7s			IAML		06 29 56.6	
GRAC	**Grapevine Rang**	**1.44**	**2**		Pn	06 29 11.4	-0.1
TPNV	**Topopah Spring**	**1.69**	**34**		Pn	06 29 15.5	+0.4
TPNV	comp=N,252nm,0.5s			IAML		06 29 50.7	
TPNV	comp=N,234nm,0.4s			IAML		06 29 51.3	
V12A	**Nelson**	**2.11**	**85**	Pn	Pn	06 29 20.8	0.0
V12A	comp=E,101nm,0.5s			IAML		06 30 13.2	
V12A	comp=N,147nm,0.9s			IAML		06 30 14.3	
SBI	**Santa Barbara**	**2.45**	**213**		Pn	06 29 26.8	+1.5
S11A	**Rachel**	**2.49**	**33**	Pn	Pn	06 29 25.9	-0.1
S11A	comp=N,140nm,1.1s			IAML		06 30 26.3	
TPH	**Tonopah**	**2.52**	**4**	Pn	Pn	06 29 26.3	-0.3
CBX	**Cerro Bola**	**3.29**	**169**	Pn	Pn	06 29 38.3	+1.2
SAO	**San Andreas Ge**	**3.46**	**292**	Pn	Pn	06 29 38.7	-0.6
ESJX	**Sierra Juarez**	**3.75**	**160**	Pn	Pn	06 29 42.9	-0.5

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*IDC **06** 06:30:25.2±0.5, 18°.51S×176°.25E,h0km,mb4.4/19,*
mbtmp4.4/19,Error ellipse: s-maj=20.0km s-min=14.6km
az=132.0
*BJI **06** 06:30:26.0, 18°.50S×176°.20E,h10km,mB5.1/1,mb5.0/36*
*NEIC **06** 06:30:27.3±0.8, 18°.4S±0°.1×176°.31E±0°.06,h10km±1km,*
mb5.0/58,Error ellipse: s-maj=22.3km s-min=4.3km
az=157.0
ISC 06 06:30:29.0±0.4,**18°.47S**±0°.09×**176°.32E**±0°.07,**h23**km,**n408,**
s0°.72/397,**mb4.9**/56,**10C-19D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.80**	**66**	Pn	**Pn**	**06 30 58.3**	**-0.4**
MSVF	**Nonsavu**	**1.80**	**66**	Pn	**Pn**	**06 30 57.2**	**-1.6**
MSVF	75nm,0.3s,baz=23,slow=19,SNR=13			Sn	**Sn**	**06 31 18.9**	**-2.0**
	339nm,0.3s,baz=293,slow=23,SNR=20						
ARMA	**Armidale**	**25.37**	**237**	P	**P**	**06 35 54.8**	**+0.1**
ARMA	comp=Z,33nm,1.2s			IAmb	IAmb	06 36 09.4	
CTAO	**Charters Tower**	**28.41**	**262**	P	**P**	**06 36 22.2**	**+0.1**
CTAO	comp=Z,26nm,1.4s			IAmb	IAmb	06 36 34.9	
TOO	**Toolangi**	**32.99**	**228**	P	**P**	**06 37 02.8**	**+0.4**
STKA	**Stephens Creek**	**33.99**	**240**	P	**P**	**06 37 11.6**	**+0.5**
STKA	**Stephens Creek**	**33.99**	**240**	P	**P**	**06 37 09.8**	**-1.3**
	comp=Z,5.1nm,0.9s,baz=46,slow=7.8,SNR=6.3						
	comp=Z,5.1nm,0.9s						
TAU	**Tasmania Unive**	**34.56**	**219**	P	**P**	**06 37 16.1**	**+0.2**
TAU	comp=Z,31nm,1.4s			IAmb	IAmb	06 37 28.8	
H11S2	**WAKE ISLAND Hy**	**37.92**	**345**	T	T	07 18 02.5	
	baz=172,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**37.93**	**345**	T	T	07 18 06.6	
	baz=172,slow=76,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**37.94**	**345**	T	T	07 18 00.6	
	baz=172,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**39.06**	**346**	T	T	07 19 27.9	
	baz=171						
H11N3	**WAKE ISLAND Hy**	**39.06**	**346**	T	T	07 19 31.5	
	baz=171						
H11N2	**WAKE ISLAND Hy**	**39.07**	**346**	T	T	07 19 26.6	
	baz=171						
WR0	**Warramunga Arr**	**39.41**	**261**	P	**P**	**06 37 56.5**	**-0.9**
WR8	**Warramunga Arr**	**39.45**	**261**		**P**	**06 37 56.4**	**-1.3**
WB0	**Warramunga Arr**	**39.57**	**261**		**P**	**06 37 57.2**	**-1.5**
WB0	comp=Z,24nm,1.1s			IAmb	IAmb	06 37 59.1	
WB2	**Warramunga Arr**	**39.59**	**261**	P	**P**	**06 37 57.2**	**-1.7**
WRAB	**Tennant Creek**	**39.59**	**261**	P	**P**	**06 37 57.1**	**-1.8**
WRA	**Warramunga Arr**	**39.60**	**261**		**P**	**06 37 57.6**	**-1.4**
WRA	**Warramunga Arr**	**39.60**	**261**	P	**P**	**06 37 57.0**	**-2.1**
	comp=Z,4.3nm,0.8s,baz=91,slow=8.7,SNR=18						
	comp=Z,4.3nm,0.8s						
AS31	**Alice Springs**	**39.81**	**255**		**P**	**06 37 59.9**	**-0.9**
ASAR	**Alice Springs**	**39.81**	**255**		**P**	**06 37 59.7**	**-1.1**
ASAR	**Alice Springs**	**39.81**	**255**	P	**P**	**06 37 60.0**	**-0.8**
	comp=Z,7.2nm,0.7s,baz=87,slow=8.9,SNR=36						
ASAR				PcP	**PcP**	**06 40 06.0**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=94,slow=4.6,SNR=4.6						
	comp=Z,7.2nm,0.7s						
MTN	**Manton Dam**	**43.78**	**271**		**P**	**06 38 32.5**	**-0.9**
MTN	comp=Z,16nm,0.8s			IAmb	IAmb	06 38 33.9	
FORT	**Forrest**	**45.24**	**245**		**P**	**06 38 44.7**	**-0.1**
FORT	comp=Z,17nm,0.8s			IAmb	IAmb	06 38 52.1	
KNRA	**Kununurra**	**45.45**	**266**	P	**P**	**06 38 45.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**47.99**	**262**		**P**	**06 39 06.2**	**-0.3**
FITZ	comp=Z,11nm,1.4s			IAmb	IAmb	06 39 07.5	
FITZ	**Fitzroy Crossi**	**47.99**	**262**	P	**P**	**06 39 06.0**	**-0.5**
	comp=Z,16nm,1.1s,baz=105,slow=9.1,SNR=8.6						
	comp=Z,16nm,1.1s						
MORW	**Morawa**	**55.66**	**247**	P	**P**	**06 40 02.5**	**-1.2**
MORW	comp=Z,36nm,1.4s			IAmb	IAmb	06 40 26.0	
TOLI2	**Tolitoli**	**57.94**	**283**	P	**P**	**06 40 18.2**	**-1.7**
TOLI2	comp=Z,16nm,1.2s			IAmb	IAmb	06 40 19.6	
VNDA	**Vanda**	**59.52**	**184**	P	**P**	**06 40 31.1**	**+1.1**

VNDA **Vanda** 59.52 184 P P 06 40 28.6 -1.4
comp=Z,0.7nm,0.8s,baz=14,slow=6.9,SNR=3.6
comp=Z,0.7nm,0.8s
SBA **Scott Base** 59.60 182 P P 06 40 32.6 +2.1
SBA IAmb IAmb 06 40 45.8
comp=Z,19nm,1.4s
KKM **Kota Kinabalu** 64.06 286 P 06 41 00.8 -0.9
MJAR **Matsushiro Arr** 65.50 327 P 06 41 10.2 -0.3
MJAR IAmb IAmb 06 41 11.2
comp=Z,11nm,1.2s
MJAR **Matsushiro Arr** 65.50 327 P P 06 41 09.8 -0.7
comp=Z,4.0nm,0.8s,baz=153,slow=6.1,SNR=12
comp=Z,4.0nm,0.8s
KSM **Kuching** 67.81 279 P P 06 41 24.9 -0.8
QSPA **South Pole Qui** 71.58 180 P P 06 41 48.7 +0.4
QSPA IAmb IAmb 06 42 02.8
comp=Z,26nm,1.2s
QSPA **South Pole Qui** 71.58 180 P P 06 41 48.4 +0.1
comp=Z,5.6nm,1.0s,baz=57,slow=1.4,SNR=5.9
comp=Z,5.6nm,1.0s
YSS **Yuzhno-Sakhali** 71.80 337 P P 06 41 49.7 +0.1
KSRS **Korea Array** 71.89 321 P P 06 41 50.3 0.0
comp=Z,0.8nm,0.7s,baz=131,slow=5.8,SNR=5.3
comp=Z,0.8nm,0.7s
KSAR **Wonju Array Be** 71.91 321 P 06 41 50.4 0.0
KS19 **Wonju Array Si** 71.96 321 P P 06 41 50.2 -0.5
KS19 IAmb IAmb 06 42 14.4
comp=Z,14nm,1.1s
NIKH **Nikolski High** 72.29 9 P P 06 41 52.9 +0.5
baz=195
PEA0B **Petropavlovsk-** 73.08 348 P P 06 41 57.2 +0.1
PEA0B IAmb IAmb 06 42 09.6
comp=Z,35nm,1.4s
PETK **Petropavlovsk-** 73.08 348 P P 06 41 57.0 -0.1
comp=Z,4.6nm,0.9s,baz=138,slow=7.6,SNR=4.9
comp=Z,4.6nm,0.9s
UNV **Unalaska Valle** 73.52 11 P P 06 42 00.5 +0.9
baz=197
USA0B **Ussuriysk Arra** 74.36 329 P P 06 42 04.9 +0.1
USRK **Ussuriysk Ar.** 74.36 329 P P 06 42 05.0 +0.2
comp=Z,2.7nm,0.7s,baz=131,slow=7.8,SNR=6.8
comp=Z,2.7nm,0.7s
NJ2 **Nanjing** 74.51 312 eP P 06 42 07.0 +1.1
NJ2 pmax pmax
comp=Z,15nm,0.5s
P08K **Saint George I** 75.72 8 P P 06 42 13.0 +0.7
baz=194
CNBA **Chernabura Isl** 75.84 14 P 06 42 13.0 0.0
CNBA IAmb IAmb 06 42 14.3
comp=Z,38nm,1.3s
CHNA **Chernabura Isl** 75.85 14 P P 06 42 13.4 +0.4
baz=204
S12K **Black Hills** 76.12 12 P P 06 42 14.6 0.0
baz=201
SDPT **Sand Point** 76.13 13 P P 06 42 14.6 -0.1
baz=203
SPIA **Saint Paul Isl** 76.19 7 P P 06 42 14.8 -0.1
baz=193
S14K **Fog Glacier** 77.19 14 P P 06 42 20.8 0.0
baz=203
CHGN **Chignik** 77.47 14 P P 06 42 22.3 +0.1
CHGN IAmb IAmb 06 42 23.3
comp=Z,24nm,1.0s
CHGN **Chignik** 77.47 14 P P 06 42 22.3 +0.1
baz=204,SNR=7.6
CN2 **Changchun** 77.50 325 P P 06 42 23.5 +0.8
CN2 pmax pmax
comp=Z,20nm,0.8s
IPM **Ipoh** 77.54 279 P P 06 42 22.8 -0.9
IPM IAmb IAmb 06 42 24.1
comp=Z,26nm,1.1s
CHIR **Chirikof Islan** 77.72 16 P P 06 42 23.7 +0.1
baz=207
SII **Sitkinak Islan** 78.75 16 P P 06 42 29.6 +0.2
baz=208
R17L **Mt. Peulik Vol** 79.15 15 P P 06 42 31.8 +0.2
baz=206,SNR=8.4
PLK4 **Peulik 4** 79.16 15 P 06 42 32.2 +0.5
OHAK **Old Harbor** 79.57 16 P 06 42 34.3 +0.5
OHAK IAmb IAmb 06 42 36.1
comp=Z,33nm,1.2s
OHAK **Old Harbor** 79.57 16 P P 06 42 34.8 +1.1
baz=209
R18K **Karluk** 79.57 16 P P 06 42 34.4 +0.6
baz=208
O14K **Tigyukauivet M** 79.59 11 P P 06 42 34.4 +0.6
baz=202
O15K **Ungalikthiuk R** 79.80 12 P P 06 42 35.6 +0.5
baz=203
Q17K **Contact Creek** 79.83 14 P P 06 42 35.6 +0.2
baz=207,SNR=13
M11K **Mekoryuk** 79.84 9 P P 06 42 35.8 +0.6
baz=197
Q16K **King Salmon** 80.03 14 P P 06 42 37.0 +0.8
baz=206
P16K **Nushagak River** 80.05 13 P P 06 42 36.4 0.0
P16K **Nushagak River** 80.05 13 P P 06 42 36.6 +0.2
baz=205
N14K **Kuskokwak Cree** 80.14 11 P 06 42 37.4 +0.6
N14K **Kuskokwak Cree** 80.14 11 P P 06 42 37.3 +0.5
baz=201,SNR=12
KDAK **Kodiak Island** 80.24 16 P P 06 42 37.9 +0.4
comp=Z,11nm,1.1s,baz=121,slow=1.6,SNR=5.7
comp=Z,11nm,1.1s
KDAK **Kodiak Island** 80.24 16 P P 06 42 38.4 +0.9
baz=210
HNS **HongShan** 80.28 315 ⇑P P 06 42 39.3 +1.2
M13K **Dall Lake** 80.31 10 P P 06 42 39.0 +1.3
baz=200
Q18K **Katmai Hardscr** 80.39 15 P P 06 42 38.5 +0.1
baz=208,SNR=7.6
O16K **Kokwok River B** 80.54 13 P P 06 42 39.4 +0.4
O16K IAmb IAmb 06 42 39.9
comp=Z,8.8nm,1.0s
O16K **Kokwok River B** 80.54 13 P P 06 42 39.1 +0.1
baz=205,SNR=6.2
P17K **Kvichak River** 80.54 14 P P 06 42 39.4 +0.4
baz=206
N15K **Kwethluk River** 80.67 12 P P 06 42 40.1 +0.4
baz=203,SNR=15
BJI **Beijing** 80.74 318 P P 06 42 40.8 +0.3
BJI pmax pmax
comp=Z,8.0nm,1.6s
HEH **HeiHe** 80.85 331 eP P 06 42 41.4 +0.5
HEH pmax pmax
comp=Z,15nm,1.6s
M14K **Bethel** 80.87 11 P P 06 42 40.2 -0.5
baz=201
O17K **Koliganek Bris** 80.92 13 P P 06 42 40.5 -0.5
baz=206
Q19K **Cape Douglas,** 80.97 15 P P 06 42 41.0 -0.4
baz=209
P18K **Big Mountain,** 81.00 14 P 06 42 41.8 +0.3
P18K IAmb IAmb 06 42 43.1
comp=Z,39nm,1.2s
P18K **Big Mountain,** 81.00 14 P P 06 42 41.6 +0.1
baz=207,SNR=7.7
Q20K **Shuyak Island** 81.01 16 P P 06 42 41.8 +0.2
baz=210
M15K **Kasigluk River** 81.04 11 P P 06 42 42.2 +0.5
baz=202,SNR=7.0
N16K **Nishlik Lake** 81.21 12 P P 06 42 42.7 +0.1
baz=204
L14K **Kuka Creek** 81.30 10 P P 06 42 43.8 +0.8
baz=200
O18K **Koktuh Hills** 81.42 14 P P 06 42 43.8 +0.1
baz=207,SNR=7.5
K13K **Kusilvak Mount** 81.55 9 P P 06 42 45.0 +0.7
baz=198
N17K **Nushagak Hills** 81.58 13 P P 06 42 45.4 +0.8
baz=205
MAW **Mawson** 81.60 201 P P 06 42 44.8 +0.1
comp=Z,11nm,0.9s,baz=102,slow=7.3,SNR=14
comp=Z,11nm,0.9s
M16K **Timber Creek** 81.67 12 P P 06 42 45.5 +0.5
baz=204,SNR=10
P19K **Oil Pt** 81.71 15 P 06 42 45.5 +0.2
P19K **Oil Pt** 81.71 15 P P 06 42 45.7 +0.4
baz=209
L15K **Ungalak Mounta** 81.82 10 P P 06 42 45.8 +0.1
baz=201
O19K **Port Alsworth** 81.92 14 P P 06 42 46.5 +0.2
O19K **Port Alsworth** 81.92 14 P P 06 42 46.9 +0.6
baz=208
N18K **Kilae Creek** 82.00 13 P P 06 42 47.3 +0.5
baz=207
HOM **Homer** 82.11 16 P P 06 42 47.6 +0.2
baz=211
BELA **Belgrano 2** 82.20 174 P 06 42 47.7 -0.1
BELA IAmb IAmb 06 42 54.6
comp=Z,14nm,1.4s
L16K **Owhat River** 82.21 11 P P 06 42 48.1 +0.3
L16K IAmb IAmb 06 42 49.9
comp=Z,24nm,1.4s
L16K **Owhat River** 82.21 11 P P 06 42 48.4 +0.6
baz=203
O20K **Slope Mountain** 82.23 15 P P 06 42 47.7 -0.3
baz=210
M17K **Holitna River** 82.32 12 P P 06 42 49.3 +0.9
baz=205,SNR=8.3
K15K **Wolf Creek Mou** 82.39 10 P P 06 42 49.9 +1.2
baz=201,SNR=12
N19K **Bonanza Creek** 82.44 14 P 06 42 49.3 +0.1
N19K IAmb IAmb 06 42 57.0
comp=Z,11nm,1.4s
N19K **Bonanza Creek** 82.44 14 P P 06 42 49.7 +0.6
baz=208,SNR=6.2
J14K **Nanvaranak Lak** 82.49 9 P P 06 42 50.1 +0.9
baz=199
GAMB **Gambell** 82.51 5 P P 06 42 50.2 +0.9
baz=192
XAN **Xi'an** 82.68 309 ⇑P P 06 42 51.9 +0.9
XAN pP PcP 06 42 56.1 +0.2
XAN pmax pmax
comp=Z,25nm,0.7s
M18K **Stony River** 82.74 13 P P 06 42 51.5 +0.9
baz=207,SNR=15
L17K **Donlin** 82.82 12 P P 06 42 52.4 +1.4
baz=204,SNR=13
XLT **XiLinHaoTe** 82.94 321 eP P 06 42 52.5 +0.3
XLT pmax pmax
comp=Z,10.0nm,0.8s
SEW **Seward** 83.07 16 P P 06 42 53.1 +0.8
baz=212
CAPN **Captain Cook N** 83.20 15 P P 06 42 54.0 +1.0
baz=211
SLKM **Skilak Lake** 83.21 16 P 06 42 53.4 +0.3
L18K **Granite Mounta** 83.22 12 P P 06 42 54.2 +1.1
baz=206
N20K **Mount Spurr** 83.31 15 P P 06 42 54.5 +0.9
baz=210
SPCR **Spurr Chakacha** 83.31 15 P P 06 42 54.3 +0.6
baz=210
O22K **Cooper Landing** 83.32 16 P P 06 42 54.2 +0.7
baz=212
K17K **Iditarod** 83.36 11 P 06 42 54.5 +0.8
K17K IAmb IAmb 06 42 55.9
comp=Z,32nm,1.5s
K17K **Iditarod** 83.36 11 P P 06 42 55.1 +1.4
baz=204,SNR=7.0
M19K **Big River Lodg** 83.42 13 P P 06 42 54.5 +0.4
baz=208
J16K **Anvik River** 83.47 10 P P 06 42 55.0 +0.7
baz=202,SNR=11
P23K **Montague Islan** 83.55 17 P P 06 42 55.1 +0.3
baz=214
L19K **White Mountain** 83.57 13 P P 06 42 55.1 +0.1
baz=207,SNR=18
KMI **Kunming** 83.67 299 P P 06 42 57.9 +1.3
KMI pmax pmax
comp=Z,20nm,1.4s
M20K **Styx River** 83.69 14 P P 06 42 56.5 +0.9
baz=209
RC01 **Rabbit Creek A** 83.83 16 P P 06 42 56.9 +0.6
baz=212
J17K **VABM Dome** 83.84 11 P P 06 42 56.8 +0.6
baz=203,SNR=6.4
SUA **Susitna One** 83.90 15 P P 06 42 57.2 +0.5
baz=211
ANM **Nome** 83.97 8 P P 06 42 57.9 +1.0
baz=198
PWL **Port Wells** 84.01 17 P P 06 42 57.1 -0.1
baz=214
I17K **Unalakleet** 84.01 10 P P 06 42 57.9 +0.8
baz=202
L20K **Farewell, AK** 84.05 13 P P 06 42 57.6 +0.2
baz=208,SNR=8.5
SKT **Skwentna** 84.15 15 P P 06 42 58.6 +0.7
baz=210
HHC **Hu-ho-hao-te** 84.15 316 eP P 06 42 59.9 +1.4
HHC pmax pmax
comp=Z,8.0nm,0.8s
HHC pmax pmax
comp=Z,100nm,5.5s
M22K **Willow** 84.30 15 P P 06 42 59.2 +0.7
baz=212
J18K **Innoko River** 84.34 12 P P 06 42 59.1 +0.3
J18K IAmb IAmb 06 43 02.1
comp=Z,22nm,1.4s
J18K **Innoko River** 84.34 12 P P 06 42 59.5 +0.7
baz=206,SNR=5.8
GLI **Glacier Island** 84.37 17 P P 06 42 58.9 -0.1
baz=215
KAIM **Kayak Island** 84.37 19 P P 06 42 59.3 +0.3
baz=217
CM31 **Chiang Mai Arr** 84.39 291 P P 06 42 59.9 -0.2
CMAR **Chiang Mai Arr** 84.39 291 P 06 43 00.0 0.0
CMAR **Chiang Mai Arr** 84.39 291 P P 06 43 00.4 +0.3
comp=Z,6.9nm,0.9s,baz=125,slow=3.7,SNR=22
comp=Z,6.9nm,0.9s
PMR **Palmer** 84.42 16 P P 06 42 58.9 -0.3
PMR IAmb IAmb 06 43 00.1
comp=Z,9.0nm,1.0s
PMR **Palmer** 84.42 16 P P 06 42 59.1 0.0
baz=213,SNR=6.9
KNK **Knik Glacier** 84.44 16 P P 06 42 59.9 +0.5
baz=213
EYAK **Cordova Ski Ar** 84.48 18 P P 06 43 00.4 +0.9
baz=216
CHTO **Chiang Mai** 84.52 292 P 06 43 00.1 -0.6
CHTO IAmb IAmb 06 43 01.7
comp=Z,12nm,1.1s
G15K **Niukluk** 84.55 8 P P 06 43 00.8 +1.0
baz=199
GHO **Glory Hole Cre** 84.62 16 P P 06 43 00.0 -0.3
GHO IAmb IAmb 06 43 01.3
comp=Z,13nm,1.0s
TNA **Tin City** 84.62 7 P P 06 43 00.4 +0.3
baz=195
F14K **Arctic Creek** 84.72 7 P P 06 43 00.9 +0.2
baz=196
K20K **Telida** 84.78 13 P 06 43 01.6 +0.5
PPLA **Purkeypile** 84.79 14 P P 06 43 01.3 +0.1
baz=210
BGLC **Bering Glacier** 84.87 19 P P 06 43 02.0 +0.5
baz=218
PZH **PanZhiHua** 85.04 300 P P 06 43 03.0 -0.4
SCM **Sheep Creek Mo** 85.09 16 P P 06 43 03.3 +0.6
baz=214
H17K **Granite Mounta** 85.12 10 P P 06 43 03.5 +0.9
baz=203
BMRM **Bremner River** 85.15 18 P P 06 43 04.1 +1.1
baz=217
CRAG **Craig** 85.15 26 P P 06 43 03.7 +0.7
baz=227
F15K **North Star Dit** 85.15 8 P P 06 43 03.7 +0.9
baz=198
G16K **Koyuk River** 85.17 9 P P 06 43 03.7 +0.8
baz=200
KLU **Klutina** 85.20 17 P P 06 43 03.1 -0.1
baz=216
CAST **Castle Rocks** 85.27 14 P 06 43 02.7 -0.8
CAST **Castle Rocks** 85.27 14 P P 06 43 03.9 +0.4
baz=210,SNR=6.4
MESA **MESA** 85.34 19 P P 06 43 04.3 +0.1
baz=219
SIT **Sitka** 85.36 24 P P 06 43 04.4 +0.4
baz=225
CRQE **Cirque** 85.43 19 P P 06 43 04.7 +0.2
baz=218
G17K **Kiwalik Mounta** 85.53 9 P P 06 43 05.2 +0.5
baz=202
H18K **Honhosa River** 85.58 10 P P 06 43 05.7 +0.7
baz=204
U33K **Whale Pass** 85.59 26 P P 06 43 06.3 +1.1
baz=227
WAT6 **Susitna Watana** 85.61 16 P P 06 43 05.6 +0.2
baz=214,SNR=6.1
WAT1 **Susitna Watana** 85.61 15 P P 06 43 06.1 +0.9
baz=213
M24K **Tolsona, Glenn** 85.63 17 P P 06 43 05.9 +0.6
baz=215
S31K **Pelican** 85.66 23 P P 06 43 06.3 +0.8
baz=224
N25K **Chitina, Valde** 85.67 18 P P 06 43 05.9 +0.3
baz=217
V35K **Ketchikan** 85.70 27 P P 06 43 06.1 +0.4
baz=229
TRF **Thorofare Moun** 85.71 14 P P 06 43 06.0 +0.1
baz=212
PNL **Peninsula** 85.78 21 P P 06 43 06.3 +0.2
baz=222
PINM **Pinnacle** 85.82 20 P P 06 43 06.8 +0.4
baz=221
S32K **Killisnoo** 85.94 24 P P 06 43 07.4 +0.6
baz=226
DHY **Denali Highway** 86.11 16 P P 06 43 08.1 +0.2
baz=214
WRAK **Wrangell Islan** 86.12 26 P P 06 43 08.2 +0.4
baz=228
CTG **Chitna Glacier** 86.14 19 P P 06 43 08.7 +0.6
baz=220
HARP **HAARP** 86.15 17 P P 06 43 08.8 +1.0
baz=216
R31K **City Hall, Gus** 86.16 23 P P 06 43 09.0 +1.1
baz=225
G18K **Tagagawik** 86.21 10 P P 06 43 08.0 -0.1
baz=204
H19K **Roundabout Mou** 86.26 11 P P 06 43 09.0 +0.8
baz=206
F17K **Baldwin Pennin** 86.31 9 P P 06 43 09.2 +0.7
baz=201
P29M **Windy Craggy** 86.32 21 P P 06 43 09.3 +0.5
baz=223
O28M **Mount Upton** 86.35 20 P P 06 43 10.2 +0.9
baz=221
H20K **Anotleneega Mo** 86.52 12 P P 06 43 10.4 +0.8
baz=207
PAX **Paxson** 86.52 16 P P 06 43 10.1 +0.3
baz=216
R32K **Eaglecrest** 86.52 24 P P 06 43 10.8 +1.0
baz=226
PLBC **Pleasant Camp** 86.68 22 P P 06 43 11.5 +1.0
baz=224
F18K **Selawik** 86.70 9 P P 06 43 10.7 +0.3
baz=203
G19K **Purcell Mounta** 86.70 11 P P 06 43 11.1 +0.6
baz=205
M26K **Nabesna, AK** 86.76 18 P P 06 43 11.5 +0.5
baz=218
E17K **Hotham Inlet** 86.83 8 P P 06 43 11.8 +0.7
baz=201
YUK8 **Steele Glacier** 86.88 20 P P 06 43 12.1 +0.3
baz=221
P30M **Million Dollar** 86.95 21 P P 06 43 11.9 0.0
baz=224
MLY **Manley** 86.96 13 P P 06 43 12.9 +1.0
baz=211
NEA2 **Nenana** 86.97 14 P P 06 43 12.5 +0.6
baz=213
YUK3 **Moose Creek** 87.03 19 P P 06 43 13.3 +0.9
baz=221
M27K **Edge Creek, AK** 87.05 18 P P 06 43 12.8 +0.3
baz=219
SKAG **Skagway** 87.06 22 P P 06 43 13.3 +1.0
baz=225
K24K **Donnelly Dome** 87.12 16 P P 06 43 13.2 +0.6
baz=216
L26K **Log Cabin Wild** 87.15 17 P P 06 43 13.4 +0.6
baz=218
F19K **Shaleruckik Mo** 87.22 10 P P 06 43 13.2 +0.3
baz=205
D17K **Noatak River** 87.25 8 P P 06 43 13.8 +0.7
baz=200
HYT **Haines Junctio** 87.28 21 P P 06 43 14.1 +0.5
baz=223
RIDG **Independent Ri** 87.31 16 P P 06 43 14.0 +0.4
baz=217
LZH **Lanzhou** 87.32 309 eP P 06 43 16.3 +1.9
LZH pP pP 06 43 22.2 +1.1
LZH pmax pmax
comp=Z,30nm,1.1s
E18K **Tukpahlearik C** 87.32 9 P P 06 43 14.0 +0.5
baz=202
HDA **Harding Lake** 87.32 15 P P 06 43 13.5 -0.1
baz=215
T35M **Bob Quinn** 87.36 26 P P 06 43 14.1 +0.2
baz=230
I23K **Minto, Yukon-K** 87.37 14 P P 06 43 14.2 +0.5
baz=212
BVCY **Beaver Creek** 87.40 18 P P 06 43 14.5 +0.5
baz=220
COLA **College** 87.49 14 P P 06 43 14.6 +0.3
baz=214
H22K **Ishtalitna Cre** 87.57 13 P P 06 43 15.6 +0.8
baz=210
S34M **Telegraph Cree** 87.61 25 P P 06 43 15.5 +0.5
baz=229
L27K **Beaver Creek,** 87.61 18 P P 06 43 15.4 +0.4
baz=219
ILAR **Eielson Array** 87.64 15 P P 06 43 14.4 -0.6
comp=Z,1.7nm,0.8s,baz=240,slow=6.1,SNR=20
comp=Z,1.7nm,0.8s
G21K **Allakaket** 87.69 12 P P 06 43 15.7 +0.4
baz=208
O30N **Mendenhall** 87.72 21 P P 06 43 15.6 0.0
baz=224
SCRK **Sand Creek** 87.73 16 P P 06 43 15.7 0.0
baz=217
P32M **Atlin** 87.74 23 P P 06 43 15.8 +0.1
baz=227
F20K **Avaraart Lake** 87.76 11 P P 06 43 15.8 +0.2
baz=206
Q32M **Nakina River** 87.85 24 P P 06 43 16.4 0.0
baz=228
E19K **Redstone River** 87.87 10 P P 06 43 16.8 +0.7
baz=205
N30M **Aishikik Lake** 87.88 20 P P 06 43 17.6 +1.2
baz=224
J25K **Salcha River,** 87.88 16 P P 06 43 17.5 +1.2
baz=216
H23K **Yukon River** 87.90 13 P P 06 43 18.0 +1.6
baz=212
C17K **DeLong Mountai** 87.97 7 P P 06 43 17.5 +0.9
baz=199
WHY **Whitehorse** 88.06 22 P P 06 43 17.9 +0.6
baz=226
M29M **Somme Creek** 88.16 19 P P 06 43 18.5 +0.7
baz=222
J26L **Joseph Creek** 88.26 16 P 06 43 18.7 +0.5
J26L **Joseph Creek** 88.26 16 P P 06 43 19.1 +1.0
baz=218,SNR=5.8
H24K **Noodor Dome** 88.29 14 P P 06 43 18.8 +0.7
baz=214
K27K **Chicken** 88.30 17 P P 06 43 18.8 +0.6
baz=219
F21K **Alatna River** 88.32 11 P P 06 43 19.1 +0.8
baz=209
N31M **Braeburn, Yuko** 88.33 21 P P 06 43 19.8 +1.3
baz=225
C18K **Utukok River** 88.39 8 P P 06 43 19.5 +0.9
baz=201
DLBC **Dease Lake** 88.39 25 P P 06 43 19.3 +0.4
comp=Z,0.2nm,1.1s,baz=229,slow=7.8,SNR=5.4
DLBC **Dease Lake** 88.39 25 P P 06 43 20.2 +1.3
baz=230
G22K **Bettles** 88.43 12 P P 06 43 20.4 +1.7
baz=210
P33M **Teslin, Yukon** 88.49 23 P P 06 43 20.8 +1.5
baz=227
ESPZ **Base Esperanza** 88.52 159 P P 06 43 19.9 +0.4
G23K **Bananza Creek** 88.56 13 P P 06 43 21.2 +1.8
baz=212
PRP **Porcupine Dome** 88.58 15 P P 06 43 20.8 +1.1
baz=216
R33M **Jennings River** 88.64 24 P P 06 43 21.1 +0.9
baz=229
D19K **Kuna River** 88.68 9 P P 06 43 20.8 +0.8
baz=204
L29M **L29M** 88.75 19 P P 06 43 20.8 +0.3
baz=223,SNR=5.3
E20K **Nigu River** 88.77 10 P P 06 43 20.9 +0.4
baz=206
M30M **Minto, Yukon** 88.78 20 P P 06 43 21.0 +0.4
baz=224
F22K **John River** 88.81 12 P P 06 43 21.4 +0.8
baz=210
COLD **Coldfoot** 88.96 12 P P 06 43 22.2 +0.9
baz=212
NEW **Newport** 88.97 38 P P 06 43 22.6 +0.8
comp=Z,1.9nm,1.0s,baz=280,slow=5.8,SNR=4.9
comp=Z,1.9nm,1.0s

B18K	Kokolik River	88.98	8	P		P	06 43 22.3	+1.0
	baz=201							
I26K	Coal Creek Min	89.01	16	P		P	06 43 22.3	+0.8
	baz=218							
C19K	Lookout Ridge	89.03	8	P		P	06 43 22.4	+0.8
	baz=203							
DAWY	Dawson	89.09	18	P		P	06 43 22.8	+0.8
	baz=222							
G24K	Hadweenzic Riv	89.10	14	P		P	06 43 22.9	+0.9
	baz=214							
D20K	Etivluk River	89.11	10	P		P	06 43 22.3	+0.3
	baz=206							
H25L	Birch Creek	89.12	14	P		P	06 43 22.9	+0.9
	baz=216							
M31M	Drury Creek, Y	89.31	21	P		P	06 43 23.4	+0.3
	baz=226							
E22K	Anaktuvuk Pass	89.43	11	P		P	06 43 24.3	+0.8
	baz=210							
G25K	Bearman Lake	89.46	14	P		P	06 43 24.4	+0.9
	baz=215							
K29M	Barlow Dome	89.48	19			P	06 43 24.2	+0.2
K29M	Barlow Dome	89.48	19	P		P	06 43 24.8	+0.8
	baz=223,SNR=5.7							
I27K	Kandik River	89.64	16	P		P	06 43 25.6	+1.0
	baz=220							
FARO	Faro, Yukon	89.68	21	P		P	06 43 25.8	+1.0
	baz=227							
F24K	Squaw Lake	89.69	13	P		P	06 43 25.9	+1.1
	baz=214							
J29N	Klondike Camp	89.72	18	P		P	06 43 25.9	+0.9
	baz=223							
E23K	Chandalar	89.79	12	P		P	06 43 26.2	+0.9
	baz=212							
MAYO	Mayo, Yukon	89.80	19	P		P	06 43 26.6	+1.3
	baz=225							
C21K	Knifeblade Rid	89.81	10	P		P	06 43 25.9	+0.7
	baz=207							
A19K	Wainwright	89.86	8	P		P	06 43 26.2	+0.8
	baz=201							
D22K	Ayikyak River	89.92	11	P		P	06 43 26.8	+1.0
	baz=209							
I28M	Miner Creek	89.98	17	P		P	06 43 26.8	+0.6
	baz=221							
E24K	Your Creek	90.03	12	P		P	06 43 27.3	+1.0
	baz=213							
SNAA	Sanae	90.09	180	P		P	06 43 26.4	-0.4
SNAA				IAmb		IAmb	06 43 26.8	
	comp=Z,6.5nm,1.1s							
SNAA	Sanae	90.09	180	P		P	06 43 26.2	-0.7
	comp=Z,3.0nm,0.9s,baz=190,slow=3.7,SNR=8.3							
	comp=Z,3.0nm,0.9s							
H27K	Steamboat Moun	90.15	16	P		P	06 43 27.8	+0.8
	baz=220							
G26K	Porcupine Rive	90.16	15	P		P	06 43 27.7	+0.8
	baz=218							
B20K	Meade River	90.21	9	P		P	06 43 27.8	+0.8
	baz=205							
F25K	Christian Rive	90.24	14	P		P	06 43 27.8	+0.5
	baz=216							
B21K	Ikpikpuk River	90.25	10	P		P	06 43 27.4	+0.2
	baz=208							
TOLK	Toolik Lake Re	90.29	12	P		P	06 43 28.0	+0.4
	baz=212							
D23K	Nanushuk River	90.36	11	P		P	06 43 28.4	+0.6
	baz=211							
I29M	Ogilvie Camp,	90.36	17	P		P	06 43 28.1	+0.1
	baz=222							
J30M	Hart River	90.37	19	P		P	06 43 28.3	+0.2
	baz=224							
TXAR	Lajitas Array	90.56	59	P		P	06 43 31.9	+2.1
	comp=Z,1.4nm,0.8s,baz=213,slow=4.3,SNR=11							
	comp=Z,1.4nm,0.8s							
G27K	Doyon Strip	90.57	15	P		P	06 43 29.2	+0.4
	baz=220							
LIRD	Liard River Hi	90.59	26	P		P	06 43 29.7	+0.6
	baz=233							
TOAD	Toad River Com	90.62	26	P		P	06 43 29.8	+0.5
	baz=234,SNR=5.5							
TPAW	Teton Pass	90.62	44	P		P	06 43 29.2	-0.7
TPAW				IAmb		IAmb	06 43 46.2	
	comp=Z,3.8nm,0.8s							
MMPY	Sheldon Lake,	90.66	21	P		P	06 43 30.1	+0.7
	baz=229							
F26K	Sheenjek River	90.67	14	P		P	06 43 30.3	+1.0
	baz=217							
E25K	Arctic Village	90.69	13	P		P	06 43 30.0	+0.6
	baz=216							
SONM	Songino Array	90.76	321			P	06 43 29.9	-0.4
SONM	Songino Array	90.76	321	P		P	06 43 30.8	+0.5
	comp=Z,0.8nm,0.6s,baz=122,slow=5.4,SNR=10							
	comp=Z,0.8nm,0.6s							
I30M	Mount Dempster	90.82	18	P		P	06 43 29.9	-0.2
I30M	Mount Dempster	90.82	18	P		P	06 43 30.9	+0.7
	baz=224							
D24K	Happy Valley	90.87	12	P		P	06 43 30.8	+0.6
	baz=213							
H29M	Whitestone	90.98	17	P		P	06 43 31.4	+0.6
	baz=222							
TGTN	Hyland Airport	91.04	23	P		P	06 43 31.5	+0.3
	baz=231							
B22K	Teshekpuk Lake	91.08	10	P		P	06 43 31.4	+0.3
	baz=209							
A22K	Sinclair Lake	91.43	9	P		P	06 43 33.1	+0.4
	baz=207							
EPYK	Eagle Plains	91.55	17	P		P	06 43 34.2	+0.8
	baz=224							
GTA	Gaotai	91.58	311	*e*P		P	06 43 35.7	+1.4
GTA				pmax		pmax		
	comp=Z,8.0nm,1.4s							
G29M	Pine Creek	91.59	16	P		P	06 43 34.2	+0.6
	baz=223							
F28M	Old Crow	91.63	15	P		P	06 43 34.3	+0.5
	baz=221							
E27K	Coleen River	91.65	15	P		P	06 43 34.4	+0.6
	baz=220							
H31M	Peel River	91.83	18	P		P	06 43 35.2	+0.4
	baz=226							
G30M	tAoh Zraii Nji	92.13	17	P		P	06 43 36.3	+0.2
	baz=224							
C26K	Camden Bay	92.29	13	P		P	06 43 37.0	+0.3
	baz=216							
C27K	Jago River	92.30	13	P		P	06 43 37.0	+0.2
	baz=218							
E28M	Babbage River	92.47	15	P		P	06 43 37.7	+0.1
	baz=221							
G31M	Satah River	92.63	17	P		P	06 43 39.0	+0.6
	baz=226							
E29M	Blow River	92.71	15	P		P	06 43 39.2	+0.5
	baz=223							
F31M	Tsiigehtchic	93.14	17	P		P	06 43 41.0	+0.4
	baz=227							
D28M	Stokes Point	93.20	15	P		P	06 43 41.0	+0.1
	baz=222							
INK	Inuvik	93.80	17	P		P	06 43 43.6	-0.1
	baz=227							
WRGLY	Wrigley	93.86	23	P		P	06 43 44.3	+0.3
	baz=236							
YKA	Yellowknife Ar	96.98	26	P		P	06 43 58.1	-0.3
	comp=Z,0.9nm,1.0s,baz=249,slow=4.4,SNR=6.3							
	comp=Z,0.9nm,1.0s							
BVAR	Borovoye Array	114.10	320	PKP		PKPdf	06 49 04.8	-1.4
	comp=Z,0.5nm,0.5s,baz=66,slow=4.9,SNR=2.8							
MLR	Muntele Rosu	143.53	324	⇑P		PKPbc	06 50 00.2	+0.8
PRD	Provadia	144.04	320	*e*P		**PKPdf**	**06 50 02.1**	**-0.7**
VOIR		144.06	325	⇓P		**PKPdf**	**06 50 02.4**	**-0.5**
STEB	Steborice	144.21	336	*e*PKP		PKPbc	06 50 02.0	+0.9
STEB				*ex*		x	06 50 09.4	
MARR	Marisel-Cluj	144.26	328	⇓P		PKPbc	06 50 01.8	+0.3
TNR	Turnu Rosu	144.34	326	⇑P		**PKPdf**	**06 50 02.9**	**-0.4**
UPC	Upice	144.38	328	*e*PKP		**PKPdf**	**06 50 03.0**	**-0.3**
DRGR		144.39	328	⇓P		**PKPab**	**06 49 59.1**	**-2.5**
DPC	Dobruska-Polom	144.41	338	*e*PKP		**PKPdf**	**06 50 03.0**	**-0.4**
MORC	Moravsky Berou	144.42	336	*e*PKP		PKPbc	06 50 02.4	+0.5
MORC	Moravsky Berou	144.42	336	⇑P		**PKPab**	**06 50 01.7**	**+0.1**
KRLC	Kraliky	144.47	337	*e*PKP		PKPbc	06 50 02.6	+0.6
MAUC	Maruska	144.64	336	*e*PKP		**PKPdf**	**06 50 03.5**	**-0.3**
CLL	Collm	144.67	342	⇓*i*PKPdf		PKPbc	06 50 02.5	0.0
	comp=Z,146nm,2.1s							
BRG	Berggiesshubel	144.76	341	*i* PKP		**PKPdf**	**06 50 03.7**	**-0.2**
BRG				Amp			06 50 04.6	
	comp=Z,21nm,1.0s							
SZH	Strazhitsa	144.84	321	*e*P		**PKPdf**	**06 50 04.9**	**+0.6**
PSZ	Piszkesteto	144.90	332	⇑P		**PKPdf**	**06 50 04.5**	**+0.2**
JMB	Yambol	144.94	320	*e*P		**PKPdf**	**06 50 04.7**	**+0.2**
JAVC	Velka Javorina	145.11	335	*e*PKP		**PKPdf**	**06 50 06.0**	**+1.4**
VRAC	Vranov	145.16	337	*e*PKP		**PKPdf**	**06 50 05.0**	**+0.3**
VRAC	Vranov	145.16	337	⇓P		**PKPdf**	**06 50 04.9**	**+0.3**
SIRR	Siria	145.27	329	⇑P		**PKPdf**	**06 50 05.6**	**+0.7**
GZR	Gura Zlata	145.30	327	⇑P		**PKPdf**	**06 50 05.3**	**+0.2**
GOPC	GO Pecny, Ondr	145.31	339	*e*PKP		**PKPdf**	**06 50 05.7**	**+0.8**
SURR	Surduc	145.40	328	⇑P		**PKPab**	**06 50 05.6**	**+0.4**
KRUC	Moravsky	145.44	337	*e*PKP		**PKPab**	**06 50 05.9**	**+0.6**
BZS	Buzias	145.75	328	⇓P		**PKPbc**	**06 50 06.2**	**0.0**
HERR	Herculane	145.84	326	⇓P		**PKPbc**	**06 50 06.3**	**-0.2**
ZVC	Zvikov	145.92	339	*e*PKP		**PKPab**	**06 50 07.4**	**+0.4**
MPEP	Malo Peshtene	146.09	323	*e*P		**PKPab**	**06 50 09.0**	**+1.1**
MDVR	Moldovita	146.27	327	⇓P		**PKPbc**	**06 50 07.7**	**-0.2**
KHC	Kasperske Hory	146.39	339	*e*PKP		**PKPab**	**06 50 09.0**	**+0.1**
CKRC	Cesky Krumlov	146.40	338	*e*PKP		**PKPab**	**06 50 08.7**	**-0.2**
CKRC				*ex*		x	06 50 15.8	
CONA	Conrad Observa	146.57	336	*i* PKP		**PKPab**	**06 50 09.3**	**-0.4**
	comp=Z,32nm,1.3s,SNR=14							
RONA	Rosalia, Austr	146.59	335	*i* PKP		**PKPab**	**06 50 09.4**	**-0.3**
	comp=Z,21nm,1.1s,SNR=14							
GERES	GERESS Array B	146.59	339	PKPbc		**PKPab**	**06 50 09.3**	**-0.4**
	comp=Z,7.2nm,0.8s,baz=29,slow=3.0,SNR=39							
MORH	Mrgy, Hungar	146.75	331	⇑P		**PKPbc**	**06 50 09.2**	**+0.1**
PLNA	Plana	146.82	322	*e*P		**PKPab**	**06 50 10.8**	**-0.1**
BTNL	Ternell	147.01	348	*d*PKP		**PKPbc**	**06 50 09.9**	**+0.2**
MEM	Membach	147.01	349	*d*PKP		**PKPbc**	**06 50 09.9**	**+0.2**
BOVS	Bovan	147.05	325	⇓P		**PKPbc**	**06 50 10.0**	**-0.1**
UCC	Uccle	147.12	351	*d*PKP		**PKPbc**	**06 50 10.3**	**+0.3**
BSTI	Sart Tilman	147.12	349	*d*PKP		**PKPbc**	**06 50 10.4**	**+0.4**
MMB	Musomishta	147.18	320	*e*P		**PKPbc**	**06 50 11.1**	**+0.5**
MOA	Molln	147.24	337	*i* pPKP		**PKPbc**	**06 50 11.0**	**+0.5**
	comp=Z,12nm,1.1s,SNR=8.6							
ARSA	Arzberg	147.26	336	*i* pPKP		**PKPbc**	**06 50 11.1**	**+0.5**
	comp=Z,13nm,1.2s,SNR=6.8							
BHOU	Houvegnez	147.26	349	*d*PKP		**PKPbc**	**06 50 09.9**	**-0.5**
BCLA	Clavier	147.32	349	*d*PKP		**PKPab**	**06 50 11.5**	**-0.9**
KKB	Krupnik	147.38	321	*e*P		**PKPbc**	**06 50 11.6**	**+0.5**
BGES	Gesves	147.40	350	*d*PKPdf		**PKPdf**	**06 50 08.7**	**+0.4**
BMRD	Maredsous	147.53	350	*d*PKP		**PKPdf**	**06 50 09.6**	**+1.0**
BIOA	Bad Ischl, Aus	147.60	338	*i* pPKP		**PKPbc**	**06 50 12.3**	**+0.8**
	comp=Z,23nm,1.7s							
DOU	Dourbes	147.76	350	*d*PKP		**PKPbc**	**06 50 12.3**	**+0.5**
WLF	Walferdange	147.89	348	*d*PKP		**PKPbc**	**06 50 13.1**	**+1.0**
SOKA	Soboth	147.92	335	*i* pPKP		**PKPbc**	**06 50 12.3**	**-0.2**
	comp=Z,16nm,1.6s,SNR=9.4							
LESA	Schwarzleotal	148.16	339	*i* pPKP		**PKPbc**	**06 50 13.2**	**+0.1**
	comp=Z,11nm,1.3s,SNR=12							
KBA	Koelnbreinsper	148.23	338	*i* pPKP		**PKPbc**	**06 50 14.0**	**+0.6**
	comp=Z,7.2nm,1.3s							
OBKA	Obir	148.25	336	*i* PKiKP		**PKiKP**	**06 50 14.8**	**-0.3**
	comp=Z,10nm,1.0s							
MYKA	Terra Mystica	148.50	337	*i* PKP		**PKPbc**	**06 50 13.6**	**-0.4**
	comp=Z,10.0nm,0.9s							
WATA	Walderalm	148.61	340	*i* PKP		**PKPbc**	**06 50 14.4**	**+0.1**
	comp=Z,11nm,1.0s,SNR=5.7							
WTTA	Wattenberg	148.65	340	*i* PKP		**PKPbc**	**06 50 14.4**	**-0.1**
	comp=Z,16nm,1.1s,SNR=6.2							
RETA	Reutte	148.74	341	*i* PKP		**PKPbc**	**06 50 14.5**	**-0.1**
	comp=Z,11nm,1.3s,SNR=9.1							
MOTA	Moosalm	148.75	340	*i* PKP		**PKPbc**	**06 50 14.9**	**+0.2**
	comp=Z,16nm,1.0s,SNR=8.7							
ABTA	Abfaltersbach	148.81	338	*i* PKP		**PKPbc**	**06 50 14.2**	**-0.6**
	comp=Z,9.0nm,1.0s							
SQTA	Sankt Quirin	148.83	340	*i* PKP		**PKPbc**	**06 50 14.8**	**-0.1**
	comp=Z,13nm,0.9s,SNR=6.1							
FETA	Feichten	149.16	341	*i* PKP		**PKPbc**	**06 50 15.9**	**+0.1**
	comp=Z,13nm,1.1s,SNR=7.8							
DAVA	Damuels	149.18	342	*i* PKP		**PKPbc**	**06 50 15.6**	**-0.2**
	comp=Z,12nm,1.0s,SNR=8.5							
ESDC	Sonseca Array	158.87	1	PKPab		**PKPab**	**06 51 00.1**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=353,slow=4.0,SNR=5.7							

NEIC ***06*** *06:30:45.5±1.2,35°.88N±0°.01×117°.65W±0°.01, h9km±7km, Error ellipse: s-maj=2.0km s-min=1.4km az=146.0*

PAS 06 06:30:45.8±1.5, 35°.869N±0°.010×117°.65W±0°.01, h8km, ML3.3/20, Error ellipse: s-maj=1.4km s-min=1.3km az=152.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	Tower One	0.11	236		Pg	06 30 48.6	+0.3
TOW					Sg	06 30 51.4	+1.4
WVPM	Volcano Peak E	0.15	301		Pg	06 30 49.0	-0.1
WVPM					Sg	06 30 51.6	+0.2
SRTC	Snort	0.19	204		Pg	06 30 50.1	+0.4
SRTC					Sg	06 30 52.9	+0.5
WNMM	Nine Mile Cany	0.21	263		Pg	06 30 50.1	+0.2
WNMM					Sg	06 30 53.0	+0.2
MPMC	Manual Prospec	0.23	35		Sg	06 30 54.4	+0.7
WRVM	Rose V. Centra	0.24	306		Pg	06 30 50.4	-0.2
MFS	McCloud Flat S	0.30	327		Pg	06 30 51.6	-0.1
LRMC	Laurel Mtn Rad	0.39	183	Pg	Pg	06 30 53.3	-0.1
CCCA	Chr Cany lake	0.42	146		Pg	06 30 53.6	-0.3
WORM	Onyx Ranch	0.51	250		Pg	06 30 55.1	-0.5
WBSM	Bird Springs	0.52	230		Pg	06 30 55.4	-0.4
WBSM					Sg	06 31 02.5	0.0
WHFM	Hanning Flat	0.59	253		Pg	06 30 56.8	-0.4
DTP	Desert Tortois	0.62	195		Pg	06 30 57.5	-0.2
DTP					Sg	06 31 00.4	+0.2
QSM	Queen of Sheba	0.64	81		Pg	06 30 57.7	-0.5
CWC	Cottonwood Cre	0.67	329		Pg	06 30 58.9	+0.3
ISA	Isabella, Lake	0.70	253		Pg	06 30 58.7	-0.5
WASM	Alta Sierra Ca	0.75	260		Pg	06 30 59.6	-0.5
CCAC	Calif City Air	0.77	203		Sg	06 31 10.8	+0.1
CCAC	Calif City Air	0.77	203		Pg	06 31 00.1	-0.5
GSC	Goldstone, Bar	0.89	129		Pg	06 31 01.9	-1.1
SPG2	Springville 2	0.96	290		Sg	06 31 16.0	-0.7
HYS	Haystack Butte	1.01	176		Pg	06 31 05.2	+0.1
HYS					Sg	06 31 15.4	-2.7
TEJ	El Tejon	1.06	233		Sg	06 31 19.0	-0.8
TPO	Tropico Hills	1.09	206		Pg	06 31 06.6	-0.1
TPO					Sg	06 31 20.7	-0.3
RRX	Edison Barstow	1.13	151		Pn	06 31 07.7	-0.2
GRAC	Grapevine Rang	1.15	12		Pg	06 31 06.8	-1.1
SBB	Saddle Back Bu	1.19	187		Sg	06 31 23.8	-0.1
WCT	Wildcat Mounta	1.24	42		Pb	06 31 07.7	-1.8
THC	Tehachapi Micr	1.27	221		Pn	06 31 08.3	-1.2
TIN	Tinemaha, Big	1.27	339		Pn	06 31 09.7	-0.3
LRRC	Littlerock Res	1.38	193		Pg	06 31 12.1	0.0
JNH	Juniper Hills	1.44	190		Pg	06 31 13.3	0.0
DSCC	Desert Studies	1.46	119		Pn	06 31 12.5	+0.1
GMN	Gold Mountain	1.46	12		Pn	06 31 12.7	-0.1
VOG	Valley Oaks Go	1.47	288		Pn	06 31 10.3	-2.3
DSP	Deep Springs	1.52	350		Pn	06 31 12.3	-0.9
OSI	Osito Audit: C	1.53	215		Pn	06 31 13.8	+0.4
CHFC	Chilao Flat St	1.56	191		Pb	06 31 15.3	+0.3
BHPR	Bishop	1.58	335		Pb	06 31 15.3	0.0
MTUM	Tungsten Hills	1.65	334		Pb	06 31 16.5	-0.1
SIL	Silver Peak	1.66	156		Pb	06 31 16.9	+0.1
PASC	Pasadena Art C	1.75	195	Pn	Pn	06 31 15.2	-1.2
KCC	Kaiser Creek	1.98	318		Pb	06 31 21.6	-0.4
MCSM	Casa Diablo Ho	2.05	331		Pb	06 31 23.7	+0.3
SHPR	Sheep Range	2.11	72	Pn	Pn	06 31 20.8	-0.8
W13A	Hualapai Mount	3.17	103	Pn	Pn	06 31 35.5	-0.7
BLYC	Blythe	3.33	128	Pn	Pn	06 31 36.7	-1.5
TJX	Tijuana	3.39	171	Pn	Pn	06 31 38.4	-0.5

NEIC ***06*** *06:31:01.0±1.7,35°.880N±0°.010×117°.70W±0°.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.8km az=335.0*

PAS 06 06:31:00.6±1.8, 35°.872N±0°.010×117°.69W±0°.01, h2km±1km, ML3.8/17, ML3.7/70(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=106.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	Volcano Peak E	0.13	306		Pg	06 31 03.6	+0.4
WNMM	Nine Mile Cany	0.18	261		Pg	06 31 04.5	+0.4
WNMM					Sg	06 31 07.7	+1.2
WRVM	Rose V. Centra	0.21	309		Pg	06 31 04.9	+0.1
MPMC	Manual Prospec	0.24	41		Pg	06 31 05.5	+0.1
MFS	McCloud Flat S	0.28	331		Pg	06 31 06.2	+0.1
LRMC	Laurel Mtn Rad	0.39	180		Pg	06 31 08.2	+0.1
LRMC					Sg	06 31 14.1	+0.8
LRMC	Laurel Mtn Rad	0.39	180	IAML		06 31 14.4	
	comp=E,10μm,0.6s						
LRMC				IAML		06 31 15.1	
	comp=N,7μm,0.4s						
CCCA	Chr Cany lake	0.43	143		Pg	06 31 09.7	+0.7
WBSM	Bird Springs	0.50	228		Pg	06 31 10.3	+0.1
WBSM					Sg	06 31 17.2	+0.6
WHFM	Hanning Flat	0.57	252		Pg	06 31 11.5	0.0
WHFM					Sg	06 31 19.2	+0.3
CWC	Cottonwood Cre	0.65	331		Pg	06 31 13.8	+0.7
CWC					Sg	06 31 22.5	+0.9
QSM	Queen of Sheba	0.67	82	Pg	Pg	06 31 14.2	+0.7
QSM				IAML		06 31 26.5	
	comp=E,5μm,0.7s						
QSM				IAML		06 31 26.6	
	comp=N,5μm,0.7s						
ISA	Isabella, Lake	0.67	252		Sg	06 31 23.4	+1.1
ISA	Isabella, Lake	0.67	252	Pg	Pg	06 31 13.4	-0.1
CGO	Cerro Gordo	0.68	352		Pg	06 31 13.9	+0.1
WASM	Alta Sierra Ca	0.72	260		Pg	06 31 14.4	0.0
WASM					Sg	06 31 24.5	+0.7
CCAC	Calif City Air	0.77	201	Pg	Pg	06 31 14.6	-0.7
CCAC				IAML		06 31 26.4	
	comp=N,7μm,0.5s						
CCAC				IAML		06 31 26.5	
	comp=E,6μm,0.6s						
GWY	Greenwater Val	0.88	69		Sg	06 31 29.3	+0.3
GWY	Greenwater Val	0.88	69		Pg	06 31 17.2	-0.4
GWY				IAML		06 31 32.2	
	comp=N,3μm,0.4s						
GWY				IAML		06 31 36.3	
	comp=E,3μm,0.6s						
FURC	Furnace Creek,	0.89	48		Sg	06 31 29.8	+0.5
GSC	Goldstone, Bar	0.92	128		Sg	06 31 30.2	+0.2
GSC	Goldstone, Bar	0.92	128	Pg	Pg	06 31 18.0	-0.2
GSC				IAML		06 31 32.3	
	comp=N,3μm,0.7s						
SPG2	Springville 2	0.94	291		Sg	06 31 30.2	-0.5
HYS	Haystack Butte	1.01	175		Sg	06 31 34.6	-0.1
TEJ	El Tejon	1.04	232		Sg	06 31 33.7	-0.3
VES	Vestal, Richgr	1.14	269		Pg	06 31 22.6	+0.1
VES					Sg	06 31 36.5	-0.6
SHOC	Shoshone, Teco	1.15	88		Pg	06 31 22.7	+0.1
SHOC					Sg	06 31 37.9	+0.4
GRAC	Grapevine Rang	1.15	13		Pg	06 31 22.0	-0.7
GRAC				IAML		06 31 40.1	
	comp=N,2μm,0.8s						
TJR	Tejon Ranch	1.21	226		Pb	06 31 24.0	-0.2
TJR					Sg	06 31 38.8	-0.6
SGV	South Grapevin	1.23	25		Pg	06 31 23.9	-0.3
WCT	Wildcat Mounta	1.26	43	Pg	Pg	06 31 24.0	-0.7
WCT				IAML		06 31 45.2	
	comp=N,2μm,0.5s						
WCT				IAML		06 31 46.0	
	comp=E,2μm,0.7s						
TIN	Tinemaha, Big	1.26	340		Pg	06 31 24.6	-0.2
BAKC	Calstate	1.27	246		Pg	06 31 24.5	-0.5
BAKC					Sb	06 31 42.1	0.0
AMDNV	Amargosa	1.28	63		Pg	06 31 24.6	-0.5
AMDNV					Sg	06 31 41.0	-0.6
ADO	Adelanto Recei	1.33	171		Pb	06 31 26.4	0.0
VTV	Victorville	1.34	167		Sb	06 31 44.3	+0.1
LCH	Last Change Ra	1.36	1		Pn	06 31 26.8	0.0
LRRC	Littlerock Res	1.37	192		Pb	06 31 27.6	+0.5
LRRC					Sg	06 31 44.5	-0.2
HOLC	Holcomb Ridge	1.42	185		Sn	06 31 46.9	0.0
VOG	Valley Oaks Go	1.45	289		Pn	06 31 26.6	-1.2
GMN	Gold Mountain	1.47	13		Pn	06 31 27.9	-0.5
GMN				IAML		06 31 50.3	
	comp=N,904nm,0.5s						
DSCC	Desert Studies	1.48	119		Pn	06 31 28.3	-0.1
DSCC					Sb	06 31 47.8	-0.4
TUQ	Turquoise Moun	1.50	106		Pb	06 31 29.1	-0.2
TUQ					Sn	06 31 49.1	+0.1
DSP	Deep Springs	1.51	351		Pn	06 31 28.2	-0.6
HEC	Hector,Ludlow	1.52	133		Pn	06 31 28.5	-0.4
CHFC	Chilao Flat St	1.56	190		Pb	06 31 30.3	-0.1
POCCA	Poleta Canyon	1.56	342		Pn	06 31 29.7	0.0
BHPR	Bishop	1.56	336		Pn	06 31 30.0	+0.2
TPNV	Topopah Spring	1.58	47		Pn	06 31 29.2	-0.7
TPNV				IAML		06 31 55.4	
	comp=N,1μm,0.9s						
TPNV				IAML		06 31 55.8	
	comp=N,2μm,0.6s						
BFSC	Mount Baldy Ra	1.63	179		Pg	06 31 31.8	-0.1
BFSC					Sb	06 31 52.8	+0.2
MTUM	Tungsten Hills	1.64	335		Pn	06 31 31.2	+0.5
SSK	Sunset Peak	1.66	180		Pb	06 31 32.0	0.0
SIL	Silver Peak	1.68	155		Pb	06 31 32.4	+0.1
BCW	Bitter Crk WRg	1.69	237		Pn	06 31 31.4	+0.1
BCW				IAML		06 32 01.5	
	comp=N,1μm,0.6s						
BCW				IAML		06 32 06.7	
	comp=E,1μm,0.9s						
BBRC	Big Bear Solar	1.72	158		Pg	06 31 33.6	-0.1
PASC	Pasadena Art C	1.75	194		Pn	06 31 30.9	-1.1
PASC	

SRTC	**Snort**	**0.20**	**186**			Pg		06 31 59.8 +0.4
SRTC						Sg		06 32 03.6 +1.6
MFS	**McCloud Flat S**	**0.25**	**335**			Pg		06 32 00.4 0.0
MPMC	**Manual Prospec**	**0.25**	**49**			Pg		06 32 00.3 -0.1
MPMC						Sg		06 32 04.2 +0.5
LRMC	**Laurel Mtn Rad**	**0.41**	**175**			Sg		06 32 09.4 +0.5
LRMC	**Laurel Mtn Rad**	**0.41**	**175**	Pg		Pg		06 32 03.2 -0.2
LRMC				IAML				06 32 09.5
	comp=E,10µm,0.4s							
LRMC				IAML				06 32 10.0
	comp=N,5µm,0.4s							
WBSM	**Bird Springs**	**0.49**	**224**			Pg		06 32 04.8 -0.1
WBSM						Sg		06 32 11.4 +0.1
WHFM	**Hanning Flat**	**0.55**	**249**			Pg		06 32 05.6 -0.3
CWC	**Cottonwood Cre**	**0.62**	**332**			Pg		06 32 07.5 +0.1
ISA	**Isabella, Lake**	**0.65**	**250**	Pg		Pg		06 32 07.2 -0.8
ISA				IAML				06 32 16.5
	comp=N,3µm,0.4s							
ISA				IAML				06 32 16.5
	comp=E,2µm,0.4s							
WASM	**Alta Sierra Ca**	**0.69**	**257**			Pg		06 32 08.5 -0.3
WASM						Sg		06 32 17.8 -0.1
QSM	**Queen of Sheba**	**0.70**	**84**			Sg		06 32 17.8 -0.2
QSM	**Queen of Sheba**	**0.70**	**84**	Pg		Pg		06 32 08.1 -0.8
QSM				IAML				06 32 19.8
	comp=E,2µm,0.4s							
QSM				IAML				06 32 24.0
	comp=N,2µm,0.8s							
CCAC	**Calif City Air**	**0.78**	**198**	Pg		Pg		06 32 09.6 -0.7
CCAC				IAML				06 32 24.0
	comp=N,2µm,0.5s							
SPG2	**Springville 2**	**0.90**	**290**			Pg		06 32 11.8 -0.9
SPG2						Sg		06 32 24.0 -0.3
GWY	**Greenwater Val**	**0.90**	**71**			Sg		06 32 24.6 +0.1
GWY	**Greenwater Val**	**0.90**	**71**	Pg		Pg		06 32 12.6 -0.2
GWY				IAML				06 32 28.1
	comp=E,1µm,0.5s							
GWY				IAML				06 32 28.3
	comp=N,1µm,0.4s							
GSC	**Goldstone, Bar**	**0.95**	**128**	Pg		Pg		06 32 13.5 -0.2
GSC				IAML				06 32 28.3
	comp=N,1µm,0.3s							
TEJ	**El Tejon**	**1.03**	**230**			Pg		06 32 14.0 -1.1
TEJ						Sg		06 32 27.9 -0.6
HYS	**Haystack Butte**	**1.03**	**173**			Pb		06 32 15.7 -0.2
VES	**Vestal, Richgr**	**1.11**	**268**			Pg		06 32 16.1 -0.6
VES						Sg		06 32 30.3 -0.8
GRAC	**Grapevine Rang**	**1.14**	**15**	Pg		Pg		06 32 17.0 -0.3
GRAC				IAML				06 32 23.2
	comp=E,594nm,0.6s							
GRAC				IAML				06 32 35.0
	comp=N,664nm,0.9s							
SHOC	**Shoshone, Teco**	**1.18**	**89**			Sb		06 32 33.6 -0.3
BAKC	**Calstate**	**1.25**	**244**			Sb		06 32 35.9 -0.1
WCT	**Wildcat Mounta**	**1.26**	**44**	Pg		Pg		06 32 19.4 -0.3
WCT				IAML				06 32 37.9
	comp=E,481nm,0.5s							
AMDNV	**Amargosa**	**1.29**	**64**			Sg		06 32 36.4 -0.7
VTV	**Victorville**	**1.37**	**166**			Sn		06 32 39.7 -0.2
VOG	**Valley Oaks Go**	**1.41**	**288**			Pb		06 32 22.1 -0.2
GMN	**Gold Mountain**	**1.45**	**15**			Pb		06 32 22.8 -0.4
POCCA	**Poleta Canyon**	**1.53**	**343**			Pb		06 32 24.4 -0.2
PASC	**Pasadena Art C**	**1.76**	**193**	Pn		Pn		06 32 26.4 -0.3
MZP	**Montezuma Peak**	**1.82**	**8**	Pn		Pn		06 32 26.7 -1.1
CLTC	**Calectric**	**1.83**	**169**			Sb		06 32 52.5 -0.1
TPH	**Tonopah**	**2.21**	**10**	Pn		Pn		06 32 32.8 -0.3
CBX	**Cerro Bola**	**3.68**	**166**	Pn		Pn		06 32 52.5 -0.7
GLA	**Glamis**	**3.71**	**139**	Pn		Pn		06 32 51.4 -2.1
AFDM	**Forest Hills D**	**4.00**	**321**	Pn		Pn		06 32 57.1 -0.4
CCX	**Cicese**	**4.11**	**167**	Pn		Pn		06 32 57.9 -1.1
SPR3	**Spring Creek 3**	**4.11**	**40**	Pn		Pn		06 32 58.4 -0.9
ESJX	**Sierra Juarez**	**4.15**	**159**	Pn		Pn		06 32 58.8 -0.9
ORV	**Oroville**	**4.72**	**322**	Pn		Pn		06 33 07.3 -0.2
ORV				IAML				06 36 16.4
	comp=N,29nm,0.7s							
ELK	**Elko**	**5.22**	**21**	Pn		Pn		06 33 13.5 -1.1
ELK				IAML				06 33 51.9
	comp=N,27nm,0.8s							
ELK				IAML				06 36 25.4
	comp=N,29nm,0.8s							
TUC	**Tucson**	**6.77**	**120**	Pn		Pn		06 33 33.7 -2.0

BJI **06** *06:31:56.1,27.˝59S×175.˝80W,h9km, mB6.1/13, mb5.5/53, Ms5.8/50, Ms7 5.5/49*
IDC **06** *06:31:56.0±0.4,27.˝71S×176.˝30W, h0km, mb5.0/24, mbtmp5.0/26, ML5.0/2, MS5.3/24, Error ellipse: s-maj=16.0km s-min=12.3km az=118.0*
NEIC **06** *06:31:58.3±1.7,27.˚65S±0.˚09×176.˚2W±0.˚1, h10km±1km, mb5.5/73, Mww5.4/7, Error ellipse: s-maj=18.8km s-min=14.6km az=110.0*
NOU **06** *06:32:02.2, 28.˚17S×175.˚84W, h43km, mb5.4/81, Kermadec Islands Region*
ISC 06 06:32:00.7±0.3, 28.˚04S±0.˚04×176.˚00W±0.˚05, h28km, n429, σ2ϕ05/452, mb5.4/95, MS5.6/53, 11C-18D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.07**	**234**		**Pn**	**06 32 35.1**	**+1.5**
RAO	**Raoul Island**	**2.07**	**234**	Pn	**Pn**	**06 32 33.8**	**+0.2**
	1µm,0.3s,baz=76,slow=9.6,SNR=29						
RAO				Sn	**Sn**	**06 32 58.4**	**-0.1**
	877nm,0.3s,baz=100,slow=23,SNR=7.8						
	3µm,0.2s						
RAO	**Raoul Island**	**2.07**	**234**	P	**Pb**	**06 32 36.2**	**-1.4**
RIZ	**Raoul Island**	**2.08**	**234**	P	**Pb**	**06 32 36.2**	**-1.4**
RIZ				S	**Sb**	**06 33 04.6**	**+1.6**
GLKZ	**Green Lake**	**2.08**	**234**	P	**Pn**	**06 32 35.8**	**+2.1**
GLKZ				S	**Sb**	**06 33 06.2**	**+3.1**
NIUE	**Niue**	**10.52**	**33**	Pn	Pn	06 34 18.8	-11
MXZ	**Matakaoa Point**	**10.63**	**205**	P	**Pn**	**06 34 30.0**	**-1.1**
MXZ				S	**Sn**	**06 36 28.0**	**-1.1**
WMGZ	**Waiomatatini S**	**10.82**	**204**	P	**Pn**	**06 34 31.8**	**-1.8**
WMGZ				S	**Sn**	**06 36 31.9**	**-1.8**
PKGZ	**Pakihiroa**	**10.98**	**205**	P	**Pn**	**06 34 32.4**	**-3.5**
PKGZ				S	**Sn**	**06 36 34.8**	**-3.1**
HAZ	**Te Kaha**	**11.00**	**207**	P	**Pn**	**06 34 32.4**	**-3.8**
HAZ				S	**Sn**	**06 36 39.7**	**+1.4**
PUZ	**Puketiti**	**11.10**	**204**	P	**Pn**	**06 34 33.5**	**-4.0**
PUZ				S	**Sn**	**06 36 38.7**	**-2.0**
KUZ	**Kuaotunu**	**11.14**	**217**	P	**Pn**	**06 34 39.2**	**+1.1**
RUGZ	**Raukumara Rang**	**11.22**	**207**	P	**Pn**	**06 34 35.3**	**-4.1**
RUGZ				S	**Sn**	**06 36 43.9**	**0.0**
TWGZ	**Tauwhareparae**	**11.29**	**205**	S	**Sn**	**06 36 45.0**	**-0.5**
WCZ	**Waipu Caves**	**11.36**	**224**	P	**Pn**	**06 34 42.2**	**+1.1**
OUZ	**Omahuta**	**11.39**	**228**	P	**Pn**	**06 34 45.6**	**+4.2**
CNGZ	**Carnagh Statio**	**11.48**	**203**	P	Pn	06 34 38.0	-4.7
CNGZ				P	**Sn**	**06 36 50.3**	**+0.3**
TKGZ	**Te Karaka**	**11.57**	**205**	S	**Sn**	**06 36 52.2**	**0.0**
OPRZ	**Ohinepanea**	**11.60**	**211**	S	**Pn**	**06 34 43.6**	**-2.3**
OPRZ				S	**Sn**	**06 36 53.0**	**+0.2**
MWZ	**Matawai**	**11.60**	**206**	P	Pn	06 34 37.6	-6.8
MWZ				S	**Sn**	**06 36 50.0**	**-3.0**
MSVF	**Nonsavu**	**11.63**	**331**	LR	LR	06 38 31.9	
	comp=Z,20µm,18.5s,baz=153,slow=35						
URZ	**Urewera**	**11.70**	**208**	Pn	Pn	06 34 40.4	-5.4
	2.7nm,0.3s,baz=275,slow=3.4,SNR=10						
URZ				Sn	**Sn**	**06 36 49.6**	**-5.8**
	4.6nm,0.3s,baz=8.3,slow=22,SNR=12						
URZ	**Urewera**	**11.70**	**208**	P	**Pn**	**06 34 44.6**	**-1.2**
URZ	**Urewera**	**11.70**	**208**	P	Pn	06 34 39.3	-6.4
URZ				S	**Sn**	**06 36 51.4**	**-4.1**
MKAZ	**Moumakai**	**11.71**	**217**	P	**Pn**	**06 34 43.0**	**-2.2**
RAGZ	**Rawiri**	**11.79**	**206**	S	**Sn**	**06 36 59.8**	**+2.2**
RIGZ	**Rimuhau**	**11.84**	**204**	P	**Pn**	**06 34 44.6**	**-3.0**
RIGZ				S	**Sn**	**06 36 59.1**	**+0.2**
PRGZ	**Paritu Road**	**11.99**	**204**	P	**Pn**	**06 34 45.3**	**-4.4**
PRGZ				S	**Sn**	**06 36 59.0**	**-3.4**
TOZ	**Tahuroa Road**	**12.01**	**214**	P	**Pn**	**06 34 48.4**	**-1.5**
MUGZ	**Murupara**	**12.03**	**208**	P	Pn	06 34 43.7	-6.6
MUGZ				S	**Sn**	**06 37 01.5**	**-2.0**
SNGZ	**Shannon Statio**	**12.06**	**206**	P	Pn	06 34 43.0	-7.8
SNGZ				S	**Sn**	**06 37 02.1**	**-2.2**
MHGZ	**Mahia Peninsul**	**12.18**	**203**	P	**Pn**	**06 34 51.3**	**-1.1**
MHGZ				S	**Sn**	**06 37 05.7**	**-1.6**
RAHZ	**Arahi**	**12.28**	**206**	P	**Pn**	**06 34 50.2**	**-3.4**
RAHZ				S	**Sn**	**06 37 07.7**	**-1.8**
MTHZ	**Maungataniwha**	**12.32**	**207**	P	**Pn**	**06 34 49.7**	**-4.5**
MTHZ				S	**Sn**	**06 37 07.6**	**-3.1**
NMHZ	**Naumai**	**12.54**	**207**	P	Pn	06 34 51.7	-5.6
NMHZ				S	**Sn**	**06 37 13.3**	**-2.9**
BKZ	**Black Stump Fm**	**12.73**	**207**	P	Pn	06 34 54.5	-5.3
BKZ				S	**Sn**	**06 37 17.4**	**-3.2**
HIZ	**Hauiti**	**12.93**	**214**	P	**Pn**	**06 35 03.1**	**+0.5**
KWHZ	**Kaweka Forest**	**12.98**	**207**	P	**Pn**	**06 35 03.0**	**-0.2**
KWHZ				S	**Sn**	**06 37 22.9**	**-3.8**
SNVZ	**South Ngauruho**	**13.11**	**210**	P	**Pn**	**06 35 02.8**	**-2.4**
SNVZ				S	**Sn**	**06 37 27.7**	**-2.3**
KAHZ	**Kahuranaki**	**13.12**	**205**	P	**Pn**	**06 35 02.2**	**-3.0**
KAHZ				S	**Sn**	**06 37 26.2**	**-4.0**
FWVZ	**Far West T-bar**	**13.20**	**210**	P	**Pn**	**06 35 06.1**	**-0.3**
MOVZ	**Moawhango**	**13.24**	**209**	P	**Pn**	**06 35 06.3**	**-0.5**
MOVZ				S	**Sn**	**06 37 27.9**	**-5.2**
VRZ	**Vera Road**	**13.46**	**212**	P	**P**	**06 35 14.5**	**-4.3**
PNHZ	**Pukenui**	**13.48**	**207**	P	Pn	06 35 01.6	-8.5
PNHZ				S	**Sn**	**06 37 31.7**	**-7.3**
TSZ	**Takapari Road**	**13.70**	**207**	P	**Pn**	**06 35 08.6**	**-4.6**
TSZ				S	**Sn**	**06 37 36.9**	**-7.4**
DVHZ	**Dannevirke**	**13.83**	**206**	P	**Pn**	**06 35 10.6**	**-4.2**
DVHZ				S	Sn	06 37 38.0	-9.4
ANWZ	**Angora Road**	**13.85**	**205**	P	**Pn**	**06 35 15.5**	**+0.4**
ANWZ				S	**Sn**	**06 37 44.3**	**-3.7**
WAZ	**Wanganui**	**13.86**	**210**	S	**Sn**	**06 37 48.3**	**+0.1**
POWZ	**Post Office Ro**	**14.06**	**207**	P	**Pn**	**06 35 17.7**	**-0.3**
BFZ	**Birch Farm**	**14.13**	**205**	P	**Pn**	**06 35 14.7**	**-4.2**
MRZ	**Mangatainoka R**	**14.37**	**207**	P	**Pn**	**06 35 17.7**	**-4.5**
CTZ	**Chatham Island**	**15.67**	**182**	P	**Pn**	**06 35 39.2**	**-0.2**
INH	**Isangel**	**15.90**	**299**	P	**P**	**06 35 45.7**	**-0.3**
RAR	**Rarotonga**	**16.24**	**69**	Pn	Pn	06 35 38.6	-8.2
	5.7nm,0.3s,baz=223,slow=4.4,SNR=6.1						
RAR				Sn	Sn	06 38 24.1	-22
	2.0nm,0.3s,baz=311,slow=18,SNR=1.1						
RAR				LR	LR	06 41 01.6	
	comp=Z,13µm,20.9s,baz=253,slow=33						
RAR	**Rarotonga**	**16.24**	**69**	P	**Pn**	**06 35 45.2**	**-1.7**
OUENC	**Ouen Island, N**	**16.50**	**286**	P	**P**	**06 35 52.9**	**+0.3**
KHZ	**Kahutara**	**16.67**	**208**	P	**Pn**	**06 35 52.1**	**-0.1**
DZM	**Mont Dzumac**	**16.97**	**287**		**Pn**	**06 35 55.1**	**-1.2**
DZM				IAmb	IAmb	06 36 13.0	
	comp=Z,681nm,1.4s						
DZM	**Mont Dzumac**	**16.97**	**287**	*e*Pn	**Pn**	**06 35 56.9**	**+0.6**
	comp=Z,1µm,1.6s						
DZM				*e*LR	LR	06 39 44.7	
	comp=Z,14µm,21.9s						
DZM	**Mont Dzumac**	**16.97**	**287**	Pn	**Pn**	**06 35 56.3**	**0.0**
	comp=Z,0.8nm,0.3s,baz=111,slow=16,SNR=22						
DZM				LR	LR	06 41 26.5	
	comp=Z,12µm,18.9s,baz=130,slow=34						
DZM	**Mont Dzumac**	**16.97**	**287**	P	**P**	**06 35 58.9**	**+0.9**
DVP	**Devils Point**	**17.80**	**302**	P	**P**	**06 36 08.8**	**+1.7**
RPZ	**Rata Peaks**	**18.79**	**210**	P	**P**	**06 36 17.1**	**-0.7**
	comp=Z,2.3nm,0.3s,baz=78,slow=1.7,SNR=12						
RPZ				S	Sn	06 39 29.4	-18
	comp=Z,17nm,0.9s,baz=172,slow=23,SNR=2.6						
RPZ				LR	LR	06 43 34.1	
	comp=Z,7µm,18.3s,baz=25,slow=37						
	comp=Z,12nm,0.4s						
RPZ	**Rata Peaks**	**18.79**	**210**	P	**P**	**06 36 17.1**	**-0.7**
VLAKA	**Lakatoro**	**19.39**	**304**	P	**Pn**	**06 36 26.1**	**+0.3**
KOUNC	**Koumac, New Ca**	**19.44**	**288**	P	**Pn**	**06 36 28.5**	**+2.2**
ODZ	**Otahua Downs**	**20.03**	**209**	P	**P**	**06 36 30.5**	**-0.8**
JCZ	**Jackson Bay**	**20.12**	**213**	P	**P**	**06 36 32.5**	**0.0**
LHI	**Lord Howe Isla**	**21.90**	**255**	P	**P**	**06 36 57.6**	**+6.0**
TBI	**Tubuai**	**24.35**	**85**	*e*S	**S**	**06 41 35.1**	**+1.1**
	comp=Z,33µm,26.5s						
TBI				*e*LR	LR	06 43 19.6	
	comp=Z,34µm,22.2s						
TBI				*e*LR	LR	06 43 22.5	
	comp=Z,9µm,21.8s						
PPT2	**Papeete2**	**26.43**	**72**	*e*S	**S**	**06 42 06.8**	**-0.7**
	comp=Z,10µm,23.5s						
PPT2				*e*LR	LR	06 44 15.1	
	comp=Z,8µm,21.5s						
PPT2				*e*LR	LR	06 44 22.0	
	comp=Z,7µm,22.2s						
PPT	**Papeete**	**26.44**	**72**	LR	LR	06 46 24.5	
	comp=Z,9µm,18.3s,baz=246,slow=33						
ARMA	**Armidale**	**28.30**	**257**		**P**	**06 37 51.7**	**-0.4**
ARMA	**Armidale**	**28.30**	**257**	P	**P**	**06 37 53.3**	**+1.3**
	comp=Z,40nm,1.5s						
ARMA	**Armidale**	**28.30**	**257**	P	**P**	**06 37 52.7**	**+0.7**
ALEG	**Aligegeo Malai**	**29.17**	**307**	P	**P**	**06 38 01.2**	**+1.5**
HNR	**Honiara**	**29.25**	**305**	LR	LR	06 48 01.8	
	comp=Z,5µm,19.5s,baz=147,slow=34						
EIDS	**Eidsvold**	**29.48**	**268**		**P**	**06 38 00.5**	**-2.0**
EIDS	**Eidsvold**	**29.48**	**268**	P	**P**	**06 38 01.7**	**-0.8**
	comp=Z,44nm,2.1s						
EIDS	**Eidsvold**	**29.48**	**268**	P	**P**	**06 38 04.2**	**+1.8**
CNB	**Canberra Magne**	**30.24**	**247**	P	**P**	**06 38 09.4**	**+0.1**
	comp=Z,35nm,2.1s						
CNB	**Canberra Magne**	**30.24**	**247**	P	**P**	**06 38 11.4**	**+2.2**
CAN	**Canberra**	**30.54**	**247**		**P**	**06 38 11.3**	**-0.5**
CAN	**Canberra**	**30.54**	**247**	P	**P**	**06 38 11.7**	**-0.2**
	comp=Z,32nm,0.9s						
CAN	**Canberra**	**30.54**	**247**	P	**P**	**06 38 13.6**	**+1.8**
YNG	**Young**	**30.98**	**249**	P	**P**	**06 38 16.0**	**+0.3**
	comp=Z,17nm,1.4s						
CORO	**Coronation Par**	**32.85**	**236**	P	**P**	**06 38 32.4**	**+0.4**
MOO	**Moorlands**	**33.04**	**234**	P	**P**	**06 38 34.6**	**+0.9**
	comp=Z,47nm,1.5s						
TAU	**Tasmania Unive**	**33.06**	**234**		**P**	**06 38 35.1**	**+1.3**
TAU				IAmb	IAmb	06 38 36.3	
	comp=Z,101nm,1.5s						
TAU	**Tasmania Unive**	**33.06**	**234**	P	**P**	**06 38 34.2**	**+0.4**
CMSA	**Cobar Meteorol**	**33.31**	**255**	P	**P**	**06 38 34.5**	**-1.7**
	comp=Z,37nm,1.6s						
CMSA	**Cobar Meteorol**	**33.31**	**255**	P	**P**	**06 38 36.6**	**+0.4**
TOO	**Toolangi**	**33.53**	**244**		**P**	**06 38 37.3**	**-0.8**
TOO	**Toolangi**	**33.53**	**244**	P	**P**	**06 38 37.3**	**-0.8**
	comp=Z,14nm,1.6s						
BRAT	**Ballarat**	**34.77**	**244**	P	**P**	**06 38 49.4**	**+0.7**
XMAS	**Kiritimati**	**34.83**	**34**		**P**	**06 38 48.0**	**-1.4**
XMAS	**Kiritimati**	**34.83**	**34**	P	**P**	**06 38 49.1**	**-0.3**
CTAO	**Charters Tower**	**35.25**	**275**	P	**P**	**06 38 51.2**	**-1.9**
CTAO				IAmb	IAmb	06 39 12.1	
	comp=Z,100nm,1.4s						
CTAO	**Charters Tower**	**35.25**	**275**	P	**P**	**06 38 53.7**	**+0.6**
QLP	**Quilpie**	**35.26**	**263**	P	**P**	**06 38 51.9**	**-1.2**
	comp=Z,120nm,1.6s						
QLP	**Quilpie**	**35.26**	**263**	P	**P**	**06 38 53.8**	**+0.8**
STKA	**Stephens Creek**	**36.77**	**253**		**P**	**06 39 04.8**	**-1.2**
STKA	**Stephens Creek**	**36.77**	**253**	P	**P**	**06 39 04.5**	**-1.4**
	comp=Z,195nm,1.6s						
STKA	**Stephens Creek**	**36.77**	**253**	P	**P**	**06 39 04.1**	**-1.8**
	comp=Z,10nm,0.8s,baz=88,slow=8.0,SNR=12						
STKA				LR	LR	06 52 57.3	
	comp=Z,4µm,21.5s,baz=88,slow=34						
	comp=Z,10nm,0.8s						
STKA	**Stephens Creek**	**36.77**	**253**	P	**P**	**06 39 05.9**	**0.0**
MTSU	**Mount Surprise**	**37.67**	**276**	P	**P**	**06 39 11.8**	**-1.9**
	comp=Z,39nm,0.9s						
MTSU	**Mount Surprise**	**37.67**	**276**	P	**P**	**06 39 15.1**	**+1.4**
TAOE	**Nuku Hiva Isla**	**38.78**	**68**	*e*LR	LR	06 49 56.2	
	comp=Z,7µm,21.6s						
HTT	**Hallett**	**38.88**	**251**	P	**P**	**06 39 21.5**	**-2.4**
	comp=Z,8.9nm,0.9s						
HTT	**Hallett**	**38.88**	**251**	P	**P**	**06 39 23.8**	**-0.1**
WHYH	**Whyalla**	**40.04**	**251**	P	**P**	**06 39 33.9**	**+0.5**
COEN	**Coen**	**40.41**	**282**		**P**	**06 39 35.4**	**-1.3**
COEN	**Coen**	**40.41**	**282**	P	**P**	**06 39 36.5**	**-0.1**
AS01	**Alice Springs**	**45.00**	**264**	P	**P**	**06 40 12.8**	**-1.1**
AS31	**Alice Springs**	**45.04**	**264**		**P**	**06 40 12.3**	**-1.9**
ASAR	**Alice Springs**	**45.04**	**264**		**P**	**06 40 11.7**	**-2.5**
ASAR	**Alice Springs**	**45.04**	**264**	P	**P**	**06 40 12.1**	**-2.2**
	comp=Z,14nm,0.8s,baz=98,slow=7.3,SNR=35						
ASAR				LR	LR	06 59 10.3	
	comp=Z,9µm,18.3s,baz=107,slow=36						
	comp=Z,14nm,0.8s						
WR8	**Warramunga Arr**	**45.68**	**269**		**P**	**06 40 16.4**	**-2.9**
WR8				IAmb	IAmb	06 40 24.4	
	comp=Z,54nm,1.2s						
WRA	**Warramunga Arr**	**45.83**	**269**	P	**P**	**06 40 17.9**	**-2.6**
WRA	**Warramunga Arr**	**45.83**	**269**	P	**P**	**06 40 17.7**	**-2.8**
	comp=Z,22nm,0.8s,baz=110,slow=6.3,SNR=26						
WRA				LR	LR	06 58 54.3	
	comp=Z,4µm,18.4s,baz=131,slow=36						
	comp=Z,22nm,0.8s						
FORT	**Forrest**	**48.38**	**253**		**P**	**06 40 37.6**	**-2.6**
FORT				IAmb	IAmb	06 40 44.0	
	comp=Z,36nm,0.9s						
JAY	**Jayapura**	**48.46**	**294**	LR	LR	06 59 20.0	
	comp=Z,3µm,21.8s,baz=104,slow=34						
KDU	**Kakadu**	**50.30**	**277**	P	**P**	**06 40 53.7**	**-1.4**
SBA	**Scott Base**	**50.52**	**185**	P	**P**	**06 41 00.6**	**+4.8**
SBA				IAmb	IAmb	06 41 28.8	
	comp=Z,82nm,1.1s						
VNDA	**Vanda**	**50.61**	**186**	P	**P**	**06 41 01.1**	**+4.5**
VNDA	**Vanda**	**50.61**	**186**	P	**P**	**06 40 58.8**	**+2.2**
	comp=Z,6.0nm,1.1s,baz=22,slow=8.0,SNR=8.4						
	comp=Z,6.0nm,1.1s						
MTN	**Manton Dam**	**51.41**	**276**		**P**	**06 41 01.0**	**-2.5**
MTN	**Manton Dam**	**51.41**	**276**	P	**P**	**06 41 04.2**	**+0.7**
KIP	**Kipapa**	**52.16**	**21**	P	**P**	**06 41 09.4**	**+0.6**
KIP	**Kipapa**	**52.16**	**21**	P	**P**	**06 41 08.9**	**+0.1**
KNRA	**Kununurra**	**52.33**	**271**	P	**P**	**06 41 07.9**	**-2.5**
KNRA				IAmb	IAmb	06 41 26.4	
	comp=Z,52nm,1.2s						
BAKI	**Biak**	**52.97**	**292**	P	**P**	**06 41 13.8**	**-1.3**
	comp=Z,63nm,1.3s						
FITZ	**Fitzroy Crossi**	**54.16**	**267**		**P**	**06 41 21.7**	**-2.1**
FITZ	**Fitzroy Crossi**	**54.16**	**267**	P	**P**	**06 41 21.8**	**-2.0**
	comp=Z,34nm,1.2s,baz=74,slow=5.8,SNR=8.3						
	comp=Z,34nm,1.2s						
FITZ	**Fitzroy Crossi**	**54.16**	**267**	P	**P**	**06 41 23.2**	**-0.6**
FAKI	**Fak Fak**	**55.24**	**287**	P	**P**	**06 41 30.9**	**-0.7**
FAKI				IAmb	IAmb	06 41 45.0	
	comp=Z,54nm,1.1s						
GUMO	**Guam**	**56.12**	**312**	LR	LR	07 02 49.7	
	comp=Z,2µm,21.8s,baz=116,slow=33						
SWI	**Sorong**	**57.17**	**289**	P	**P**	**06 41 44.2**	**-1.2**
CASY	**Casey**	**58.03**	**207**		**P**	**06 41 52.5**	**+1.8**
CASY				IAmb	IAmb	06 41 54.8	
	comp=Z,69nm,1.1s						
MBWA	**Marble Bar**	**58.26**	**261**		**P**	**06 41 52.5**	**-0.5**
MBWA				IAmb	IAmb	06 42 14.8	
	comp=Z,57nm,1.4s						
AAI	**Ambon**	**58.29**	**284**	P	**P**	**06 41 52.4**	**-0.9**
	comp=Z,98nm,1.5s						
SOEI	**Soe**	**58.81**	**276**	P	**P**	**06 41 56.4**	**-0.7**
SOEI	**Soe**	**58.81**	**276**	P	**P**	**06 41 58.0**	**+0.9**
SOEI	**Soe**	**58.81**	**276**	P	P	06 42 02.4	+5.3
	comp=Z,103nm,1.1s						
SOEI	**Soe**	**58.81**	**276**	P	**P**	**06 41 56.3**	**-0.7**
MORW	**Morawa**	**58.91**	**251**	P	**P**	**06 41 55.5**	**-1.9**
BATI	**Baumata**	**59.14**	**275**	LR	LR	07 08 40.0	
	comp=Z,10µm,18.2s,baz=152,slow=38						
BATI	**Baumata**	**59.14**	**275**	P	**P**	**06 41 59.5**	**+0.3**
	comp=Z,49nm,1.1s						
NLAI	**Namlea**	**59.45**	**284**	P	**P**	**06 42 00.9**	**-0.5**
EDFI	**Ende, Flores**	**61.53**	**275**	P	**P**	**06 42 13.4**	**-2.3**
	comp=Z,31nm,1.0s						
QSPA	**South Pole Qui**	**62.06**	**180**	P	**P**	**06 42 21.3**	**+2.7**
	comp=Z,49nm,0.9s,baz=34,slow=3.0,SNR=21						
	comp=Z,49nm,0.9s						
PLAI	**Plampang**	**64.94**	**273**	P	**P**	**06 42 38.6**	**+0.4**
BNSI	**Bone**	**64.94**	**279**	P	**P**	**06 42 38.4**	**+0.2**
	comp=Z,55nm,1.4s						
KAPI	**Kappang**	**64.96**	**278**	P	**P**	**06 42 37.1**	**-1.2**
KAPI	**Kappang**	**64.96**	**278**	LR	LR	07 10 45.4	
	comp=Z,1µm,21.2s,baz=132,slow=36						
KAPI	**Kappang**	**64.96**	**278**	P	**P**	**06 42 38.7**	**+0.4**
TTSI	**Tana Toraja**	**65.85**	**280**	P	**P**	**06 42 45.8**	**+1.7**
PCI	**Palu**	**66.89**	**282**	P	**P**	**06 42 52.5**	**+1.8**
TOLI2	**Tolitoli**	**67.09**	**284**	P	**P**	**06 42 49.1**	**-2.9**
TOLI2				IAmb	IAmb	06 43 05.6	
	comp=Z,45nm,1.2s						
TOLI2	**Tolitoli**	**67.09**	**284**	P	**P**	**06 42 52.0**	**0.0**
JAGI	**Jajag, Banyuwa**	**68.30**	**272**	P	**P**	**06 42 56.2**	**-3.5**
JAGI	**Jajag, Banyuwa**	**68.30**	**272**	P	**P**	**06

QZH LR LR
comp=Z,1µm,17.5s
MYKOM **Kota Tinggi** 82.14 276 **P** **P** 06 44 17.5 -1.9
MYKOM IAmb IAmb 06 44 43.1
comp=Z,40nm,1.1s
MYKOM **Kota Tinggi** 82.14 276 P **P** 06 44 19.3 -0.1
PLCA **Paso Flores** 82.82 132 P **P** 06 44 24.6 +2.0
comp=Z,20nm,1.1s,baz=223,slow=5.4,SNR=12
comp=Z,20nm,1.1s
TJN **Taejon** 83.33 317 P **P** 06 44 25.6 +0.6
YSS **Yuzhno-Sakhali** 83.42 333 **P** 06 44 23.8 -1.3
YSS **Yuzhno-Sakhali** 83.42 333 P **P** 06 44 25.5 +0.4
KMPM **Mount Pierce** 83.42 37 **P** 06 44 24.9 -0.6
KSRS **Korea Array** 83.72 318 P **P** 06 44 24.6 -2.4
comp=Z,17nm,1.1s,baz=139,slow=5.0,SNR=20
comp=Z,17nm,1.1s
CNBA **Chernabura Isl** 83.72 9 **P** 06 44 25.8 -0.7
CHNA **Chernabura Isl** 83.73 9 P **P** 06 44 26.5 -0.1
BKNI **Bangkinang** 83.93 274 P **P** 06 44 28.4 -0.3
PETK **Petropavlovsk-** 84.00 344 P **P** 06 44 26.0 -2.0
comp=Z,18nm,1.0s,baz=108,slow=8.0,SNR=15
comp=Z,18nm,1.0s
SDPT **Sand Point** 84.11 9 P **P** 06 44 27.3 -1.2
KRMB **Red Mountain** 84.32 37 P **P** 06 44 30.4 +0.3
KRMB IAmb IAmb 06 44 44.2
comp=Z,46nm,1.3s
BI02 **San Fabin de** 84.41 129 **P** 06 44 32.4 +1.5
L02F **Cave Junction** 84.93 36 P **P** 06 44 31.7 -1.3
L02F IAmb IAmb 06 44 47.0
comp=Z,36nm,1.2s
YBH **Yreka Blue Hor** 85.11 37 P **P** 06 44 34.0 0.0
comp=Z,0.7nm,1.2s,baz=165,slow=5.5,SNR=9.0
YBH LR LR 07 15 10.8
comp=Z,212nm,21.8s,baz=238,slow=30
CHIR **Chirikof Islan** 85.32 11 P **P** 06 44 35.4 +0.8
NVAR **Mina Array Bea** 85.33 42 P **P** 06 44 35.7 +0.4
comp=Z,1.9nm,0.4s,baz=241,slow=4.1,SNR=1.0
comp=Z,1.9nm,0.4s
MNSI **Mandailing Nat** 85.44 273 P **P** 06 44 36.3 +0.1
QIZ **Qiongzhong** 85.60 294 P **P** 06 44 35.9 -1.0
QIZ PP **PP** 06 47 53.7 -2.4
QIZ S **S** 06 55 06.5 -0.9
QIZ SS **SS** 07 00 43.3 -0.9
QIZ LR LR
comp=Z,540nm,18.6s
QIZ LR LR
comp=Z,900nm,15.7s
L04D **Klamath Falls** 85.66 37 **P** 06 44 36.5 -0.4
L04D IAmb IAmb 06 44 50.2
comp=Z,61nm,1.3s
BO02 **Sierra Bellavi** 85.72 127 P **P** 06 44 38.6 +1.1
MT01 **Popeta** 85.86 126 P **P** 06 44 39.0 +0.9
MT01 IAmb IAmb 06 45 01.2
comp=Z,60nm,1.2s
IPM **Ipoh** 85.90 277 P **P** 06 44 38.4 -0.1
NJ2 **Nanjing** 86.07 309 ⇑P **P** 06 44 38.6 -0.3
NJ2 S **S** 06 55 17.8 +6.3
NJ2 pmax pmax
comp=Z,45nm,1.1s
NJ2 pmax pmax
comp=Z,1µm,7.9s
USRK **Ussuriysk Ar.** 86.19 325 P **P** 06 44 38.2 -1.0
comp=Z,12nm,1.0s,baz=141,slow=3.9,SNR=19
comp=Z,12nm,1.0s
KULM **Kulim** 86.61 278 P **P** 06 44 44.1 +2.1
319A **Douglas** 86.76 52 **P** 06 44 42.1 -0.4
319A IAmb IAmb 06 44 56.6
comp=Z,29nm,1.0s
PSI **Prapat** 86.95 275 LR LR 07 23 07.9
comp=Z,1µm,21.8s,baz=124,slow=36
PSI **Prapat** 86.95 275 P **P** 06 44 43.5 -0.4
OHAK **Old Harbor** 87.07 12 P **P** 06 44 42.9 -0.3
UBPT **Khong Chiam** 87.30 289 P **P** 06 44 45.9 +0.6
GSI **Gunungsitoli** 87.44 273 P **P** 06 44 46.7 +0.6
GSI **Gunungsitoli** 87.44 273 P **P** 06 44 46.3 +0.2
H04A **Detroit Lake** 87.45 35 **P** 06 44 45.3 -0.1
H04A IAmb IAmb 06 45 13.7
comp=Z,27nm,1.3s
ACHA **Angle Creek He** 87.65 11 P **P** 06 44 45.5 -0.6
MDJ **Mudanjiang** 87.70 324 P **P** 06 44 45.8 -0.8
MDJ SKS **SKSac** 06 55 14.8 +2.3
MDJ S **S** 06 55 28.0 +1.3
MDJ SS **SS** 07 01 12.6 -1.6
MDJ pmax pmax
comp=Z,21nm,1.3s
MDJ LR LR
comp=Z,1µm,20.7s
MDJ LR LR
comp=Z,1µm,20.1s
MDJ LR LR
comp=Z,3µm,19.9s
MDJ **Mudanjiang** 87.70 324 P **P** 06 44 46.9 +0.3
KDAK **Kodiak Island** 87.73 12 P **P** 06 44 44.9 -1.4
comp=Z,18nm,1.2s,baz=200,slow=6.2,SNR=4.8
comp=Z,18nm,1.2s
CNSH **ChangSha** 88.08 303 P **P** 06 44 48.0 -0.8
CNSH S **S** 06 55 32.0 +0.9
CNSH pmax pmax
comp=Z,31nm,1.5s
CNSH LR LR
comp=Z,620nm,12.6s
CNSH LR LR
comp=Z,760nm,14.2s
CNSH LR LR
comp=Z,920nm,22.3s
WHN **Wuhan** 88.35 306 P **P** 06 44 49.5 -0.5
WHN SKS **SKSac** 06 55 20.2 +3.2
WHN S **ScS** 06 55 36.7 -2.6
WHN pmax pmax
comp=Z,250nm,1.2s
WHN LR LR
comp=Z,3µm,16.6s
WHN LR LR
comp=Z,4µm,25.8s
WHN LR LR
comp=Z,4µm,19.5s
DL2 **Dalian** 88.44 316 P **P** 06 44 51.5 +1.3
DL2 SKS **SKSac** 06 55 18.7 +1.6
DL2 S **ScS** 06 55 38.4 -1.2
DL2 pmax pmax
comp=Z,80nm,1.1s
DL2 LR LR
comp=Z,2µm,13.0s
DL2 LR LR
comp=Z,2µm,14.6s
DL2 LR LR
comp=Z,2µm,21.4s
SRIT **Nakonsritamara** 89.09 280 P **P** 06 44 54.7 +0.9
GNW **Green Mountain** 89.16 33 **P** 06 44 53.3 -0.1
GNW IAmb IAmb 06 45 06.8
comp=Z,42nm,1.2s
CN2 **Changchun** 89.35 322 P **P** 06 44 53.8 -0.6
CN2 S **S** 06 55 41.7 -0.6
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,600nm,8.0s
CN2 LR LR
comp=Z,2µm,14.0s
CN2 LR LR
comp=Z,2µm,14.0s
CN2 LR LR
comp=Z,1µm,13.0s
BNX **BinXian** 89.60 324 ⇓P **P** 06 44 54.2 -1.3
BNX sP **pP** 06 45 00.2 -2.3
BNX S **S** 06 55 47.3 +2.7
BNX pmax pmax
comp=Z,19nm,1.5s
BNX pmax pmax
comp=Z,630nm,6.9s
BNX LR LR
comp=Z,2µm,17.2s
BNX LR LR
comp=Z,2µm,14.7s
BNX LR LR
comp=Z,3µm,19.8s
TXAR **Lajitas Array** 89.64 56 P **P** 06 44 56.4 +0.1
comp=Z,5.0nm,1.2s,baz=230,slow=5.9,SNR=12
comp=Z,5.0nm,1.2s
TIA **Tai'an** 89.67 312 P **P** 06 44 56.1 0.0
TIA SKS **SKSac** 06 55 28.2 +3.5
TIA S **ScS** 06 55 50.5 +0.4
TIA pmax pmax
comp=Z,55nm,1.3s
TIA LR LR
comp=Z,220nm,15.1s
TIA LR LR
comp=Z,1µm,16.5s
L14K **Kuka Creek** 89.72 6 **P** 06 44 55.0 -0.6
L14K IAmb IAmb 06 45 08.6
comp=Z,56nm,1.3s
RED **Redoubt Volcan** 90.17 11 P **P** 06 44 57.5 -0.4
SLKM **Skilak Lake** 90.72 12 P **P** 06 44 59.2 -1.2
D08A **Wollman Farm,** 90.74 35 **P** 06 45 00.7 -0.1
ANMO **Albuquerque** 90.74 50 P **P** 06 45 01.8 +0.5
comp=Z,7.8nm,1.1s,baz=351,slow=4.6,SNR=7.6
comp=Z,7.8nm,1.1s
K15K **Wolf Creek Mou** 90.77 7 **P** 06 45 00.3 -0.3
PWL **Port Wells** 91.41 13 P **P** 06 45 03.4 -0.2
MA2 **Magadan** 91.51 344 LR LR 07 21 30.6
comp=Z,2µm,19.7s,baz=114,slow=33
SLVN **Son La** 91.57 293 P **P** 06 45 05.6 +0.3
EYAK **Cordova Ski Ar** 91.67 14 P **P** 06 45 05.0 +0.3
LYN **LuoYang** 91.89 308 eP **P** 06 45 06.4 0.0
LYN pmax pmax
comp=Z,23nm,1.1s
GYA **Guiyang** 91.92 299 ⇑P **P** 06 45 07.5 +0.6
GYA S **S** 06 56 14.0 +7.0
GYA pmax pmax
comp=Z,55nm,1.6s
PMR **Palmer** 91.93 12 P **P** 06 45 05.7 -0.2
HNS **HongShan** 91.94 312 ⇓P **P** 06 45 06.9 +0.3
HNS SKS **SKSac** 06 55 39.0 +1.4
HNS S **ScS** 06 56 10.4 +1.6
HNS pmax pmax
comp=Z,29nm,1.5s
HNS LR LR
comp=Z,1µm,19.2s
HNS LR LR
comp=Z,430nm,19.0s
HNS LR LR
comp=Z,960nm,19.1s
J17K **VABM Dome** 92.11 8 **P** 06 45 06.4 -0.3
J17K IAmb IAmb 06 45 19.7
comp=Z,27nm,1.1s
GHO **Glory Hole Cre** 92.13 13 P **P** 06 45 06.6 -0.4
NNA **Nana** 92.36 105 LR LR 07 18 49.9
comp=Z,804nm,19.2s,baz=284,slow=30
NEW **Newport** 92.45 35 P **P** 06 45 08.1 -0.6
comp=Z,2.7nm,1.1s,baz=307,slow=3.8,SNR=3.9
comp=Z,2.7nm,1.1s
PNL **Peninsula** 92.45 18 P **P** 06 45 08.5 +0.1
BJI **Beijing** 92.50 315 P **P** 06 45 08.1 -1.0
BJI SKS **SKSac** 06 55 43.4 +2.9
BJI S **ScS** 06 56 17.6 +4.3
BJI pmax pmax
comp=Z,11nm,1.3s
HEH **HeiHe** 92.64 328 eP **P** 06 45 09.5 0.0
HEH sP **sP** 06 45 18.2 -0.8
HEH SKS **SKSac** 06 55 37.0 -3.9
HEH S **ScS** 06 56 16.2 +2.1
HEH pmax pmax
comp=Z,8.0nm,1.3s
HEH LR LR
comp=Z,2µm,19.2s
HEH LR LR
comp=Z,2µm,19.2s
HEH LR LR
comp=Z,4µm,16.7s
FXWY **Fox Creek** 92.87 41 P **P** 06 45 10.9 -0.1
PDAR **Pinedale Array** 93.23 43 P **P** 06 45 11.8 -0.9
comp=Z,2.4nm,1.0s,baz=207,slow=3.0,SNR=5.9
comp=Z,2.4nm,1.0s
ATAH **Atahualpa** 93.35 100 LR LR 07 18 20.6
comp=Z,3µm,20.8s,baz=266,slow=30
SKAG **Skagway** 93.42 19 P **P** 06 45 13.7 +0.8
S34M **Telegraph Cree** 93.50 22 **P** 06 45 13.2 -0.1
S34M IAmb IAmb 06 45 27.1
comp=Z,18nm,1.4s
XAN **Xi'an** 94.10 306 ⇓P **P** 06 45 17.1 +0.4
XAN pP pP 06 45 22.5 -1.1
XAN pmax pmax
comp=Z,12nm,0.3s
MENT **Mentasta** 94.25 14 P **P** 06 45 16.6 -0.1
HRY **Holter Researc** 94.26 38 P **P** 06 45 17.2 0.0
DLBC **Dease Lake** 94.28 22 P **P** 06 45 15.9 -1.1
baz=104,slow=3.3,SNR=2.3
CMAR **Chiang Mai Arr** 94.29 289 P **P** 06 45 17.6 -0.3
comp=Z,2.0nm,0.3s,baz=138,slow=3.0,SNR=13
comp=Z,2.0nm,0.3s
KMI **Kunming** 94.34 296 ⇑P **P** 06 45 18.2 -0.1
KMI SKS **SKSac** 06 55 55.0 +3.1
KMI S **ScS** 06 56 29.8 -0.1
KMI pmax pmax
comp=Z,35nm,1.4s
CHTO **Chiang Mai** 94.46 289 P **P** 06 45 18.9 +0.3
RIDG **Independent Ri** 94.72 13 **P** 06 45 18.3 -0.6
RIDG IAmb IAmb 06 45 31.3
comp=Z,18nm,1.2s
XLT **XiLinHaoTe** 94.76 318 eP **P** 06 45 19.3 -0.2
XLT sP sP 06 45 30.1 +1.1
XLT SKS **SKSac** 06 55 53.9 +0.9
XLT pmax pmax
comp=Z,12nm,1.3s
XLT pmax pmax
comp=Z,630nm,9.9s
XLT LR LR
comp=Z,220nm,13.9s
XLT LR LR
comp=Z,1µm,15.7s
XLT LR LR
comp=Z,2µm,14.2s
COLA **College** 95.17 12 P **P** 06 45 20.4 -0.4
IL31 95.25 12 P **P** 06 45 19.6 -1.5
ILAR **Eielson Array** 95.25 12 P **P** 06 45 19.9 -1.3
comp=Z,5.7nm,1.1s,baz=223,slow=4.5,SNR=17
comp=Z,5.7nm,1.1s
JTS **Las Juntas de** 95.68 81 LR LR 07 19 11.7
comp=Z,2µm,19.8s,baz=282,slow=30
PZH **PanZhiHua** 95.79 297 P **P** 06 45 23.0 -1.7
PZH pmax pmax
comp=Z,10.0nm,1.1s
HHC **Hu-ho-hao-te** 95.87 313 eP **P** 06 45 24.0 -0.7
HHC pmax pmax
comp=Z,21nm,0.6s
CD2 **Chengdu** 96.33 302 P **P** 06 45 27.5 +0.5
CD2 pmax pmax
comp=Z,20nm,0.5s
BTO **Baotou** 96.75 313 eP **P** 06 45 30.4 +1.7
BTO sP **sP** 06 45 38.2 0.0
BTO PP **PP** 06 49 24.0 -0.2
BTO S **S** 06 56 54.6 +6.0
BTO pmax pmax
comp=Z,10.0nm,0.7s
BTO LR LR
comp=Z,1µm,20.0s
BTO LR LR
comp=Z,2µm,14.3s
BTO LR LR
comp=Z,2µm,18.8s
LPAZ **La Paz** 97.48 113 P Pdif 06 45 34.6 +1.2
comp=Z,1.0nm,0.8s,baz=291,slow=3.7,SNR=3.5
LPAZ LR LR 07 21 11.8
comp=Z,955nm,20.7s,baz=295,slow=30
comp=Z,1.0nm,0.8s
TNCH **TengChong** 97.67 294 eP Pdif 06 45 35.3 +1.9
TNCH SKS **SKSac** 06 56 13.0 +3.6
TNCH S **S** 06 56 56.6 -0.8
TNCH LR LR
comp=Z,1µm,23.0s
LZH **Lanzhou** 98.73 306 eP Pdif 06 45 39.2 +1.3
LZH sP pP 06 45 46.1 +1.3
LZH SKS **SKSac** 06 56 18.9 +4.7
LZH pmax pmax
comp=Z,17nm,1.2s
LZH LR LR
comp=Z,940nm,16.1s
LZH LR LR
comp=Z,2µm,16.3s
LZH LR LR
comp=Z,3µm,15.5s
GTA **Gaotai** 103.08 308 eP **Pdif** 06 45 58.5 +1.4
GTA pP pPdif 06 46 02.8 -1.2
GTA SKS **SKSac** 06 56 39.1 +4.0
GTA S **Sdif** 06 57 42.7 +0.7
GTA LR LR
comp=Z,650nm,20.7s
GTA LR LR
comp=Z,1µm,20.4s
GTA LR LR
comp=Z,2µm,20.7s
WMQ **Urumqi** 113.14 309 ePKP **PKiKP** 06 50 35.1 -0.3
WMQ LR LR
comp=Z,2µm,15.9s
WMQ LR LR
comp=Z,1µm,20.7s
WMQ LR LR
comp=Z,980nm,19.5s
ZSN **Zaisan** 116.02 312 ePKP **PKPdf** 06 50 39.7 -1.1
ZSN ePP **PP** 06 51 42.2 -3.6
ZALV **Zalesovo Beam** 117.42 319 PKP **PKPdf** 06 50 41.0 -2.2
comp=Z,3.0nm,0.7s,baz=111,slow=2.1,SNR=8.8
MKAR **Makanchi Array** 117.58 311 PKP **PKPdf** 06 50 42.0 -1.8
comp=Z,4.1nm,0.8s,baz=56,slow=2.2,SNR=16
SHLS **Shalkode** 118.76 306 ePKP **PKPdf** 06 50 44.6 -1.7
BOSA **Boshof** 120.10 202 PKP **PKiKP** 06 50 50.2 +0.7
comp=Z,3.4nm,0.8s,baz=224,slow=2.2,SNR=4.7
KSH **Kashi** 120.53 301 PKP **PKiKP** 06 50 51.3 +1.4
AAA **Alma-Ata** 120.59 306 ePKP **PKPdf** 06 50 48.6 -1.1
KURBB **Kurchatov Arra** 120.71 314 PKP **PKPdf** 06 50 47.8 -1.8
comp=Z,1.8nm,0.3s,baz=105,slow=1.9,SNR=16
SGDS **Sogindy** 122.27 306 ePKP **PKPdf** 06 50 51.9 -1.1
BTLS **Baital** 122.93 307 ePKP **PKPdf** 06 50 52.7 -1.4
BTLS ePP **PP** 06 52 30.5 -3.0
BRZS **Berezniki** 124.38 313 ePKP **PKPdf** 06 50 56.1 -0.7
DZA **Taraz** 124.58 305 ePKP **PKPdf** 06 50 56.4 -1.0
IUG **luzhnay** 125.43 303 ePKP **PKPdf** 06 50 58.1 -1.0
BRLS **Borolday** 125.68 305 ePKP **PKPdf** 06 50 58.5 -0.9
BRLS ePP **PP** 06 52 49.0 -3.1
CHM **Chimkent** 125.77 304 ePKP **PKPdf** 06 50 58.5 -1.1
BVAR **Borovoye Array** 125.91 317 PKP **PKPdf** 06 50 58.5 -1.1
comp=Z,6.0nm,0.8s,baz=96,slow=3.0,SNR=16
ARCES **ARCESS Array B** 136.64 349 PKP **PKPdf** 06 51 16.4 -3.0
comp=Z,3.6nm,0.7s,baz=39,slow=1.8,SNR=7.5
FINES **FINESS Array B** 143.49 342 PKP PKPab 06 51 28.4 +0.1
comp=Z,5.4nm,0.8s,baz=62,slow=3.4,SNR=19
KBZ **Khabaz** 145.17 307 PKP **PKPbc** 06 51 32.6 -2.4
comp=Z,10nm,1.2s,baz=34,slow=4.0,SNR=11
NC204 **NORSAR Array S** 146.46 354 **PKPdf** 06 51 36.8 -0.4
NC405 **NORSAR Array S** 146.53 353 **PKPdf** 06 51 37.0 -0.3
NB2 **NORSAR Subarra** 146.65 354 PKP **PKPdf** 06 51 37.5 0.0
comp=Z,633nm,2.5s,baz=10,slow=3.2
NOA **NORSAR Array B** 146.65 354 PKPbc **PKPdf** 06 51 37.5 0.0
comp=Z,16nm,0.8s,baz=14,slow=4.5,SNR=36
NC602 **NORSAR Array S** 146.91 353 **PKPdf** 06 51 38.1 +0.3
HFS **Hagfors** 147.24 351 PKPbc **PKPdf** 06 51 39.4 +0.9
comp=Z,29nm,0.8s,baz=48,slow=2.2,SNR=25
MNK **Minsk** 148.35 333 *i* PKiKP **PKPbc** 06 51 43.2 -0.8
comp=E,22nm,0.8s,baz=334
MNK *i* PKiKP **PKPbc** 06 51 43.2 -0.8
comp=N,21nm,0.9s,baz=334
MNK *i* PKiKP **PKPbc** 06 51 43.2 -0.8
comp=Z,42nm,0.9s,baz=334
MNK *i* PP PP 06 54 22.1 -51
baz=334
MNK *i* PPP PPP 06 58 03.4
baz=334
MNK *i* SSS SSS 07 19 52.3
baz=334
MNK *i* LRM MLR 07 57 28.9
comp=E,1µm,18.2s,baz=334
MNK *i* LRM MLR 07 57 42.6
comp=N,696nm,18.1s,baz=334
MNK *i* LRM MLR 07 57 51.7
comp=Z,1µm,18.6s,baz=334
AKASG **Malin Array Be** 150.39 327 PKPbc **PKPbc** 06 51 46.5 -2.5
comp=Z,36nm,1.1s,baz=40,slow=2.3,SNR=35
KIEV **Kiev** 150.40 327 ⇓P **PKPbc** 06 51 47.8 -1.3
SUW **Suwalki** 150.49 337 ePKP **PKPbc** 06 51 48.0 -1.2
DIKM **Dikmen** 151.15 306 ⇑P **PKiKP** 06 51 54.4 +2.7
RNPP9 **Sopachiv** 151.43 331 PKP **PKPdf** 06 51 44.2 -1.2
EKA **Eskdalemuir Ar** 152.24 9 PKPbc **PKPbc** 06 51 51.0 -2.3
comp=Z,2.0nm,0.6s,baz=354,slow=1.6,SNR=6.8
SORM **Soroca** 152.46 323 ⇓P **PKPbc** 06 51 53.2 -0.8
MMAI **Mont Meron Ar** 152.56 288 PKPbc **PKPbc** 06 51 54.7 -0.1
comp=Z,11nm,0.8s,baz=111,slow=4.6,SNR=12
KIRS **Kirsehir-Merke** 152.85 302 ⇑P **PKPbc** 06 51 53.6 -1.6
BRTR **Keskin Array B** 152.90 303 PKPbc **PKPbc** 06 51 54.2 -1.2
comp=Z,3.9nm,0.8s,baz=149,slow=2.6,SNR=12
MILM **Milestii Mici** 152.93 321 ePKP **PKPdf** 06 51 50.0 +2.2
comp=Z,1µm,8.8s
MILM eL L 07 56 39.0
MILM LRM MLR 08 02 43.0
comp=Z,1µm,19.0s
GKP **Gorka Klasztor** 152.96 342 ePKP **PKiKP** 06 51 55.1 0.0
KWP **Kalwaria Pacla** 154.12 331 ePKP **PKPbc** 06 51 57.5 -0.1
CFR **Carcaliu** 154.31 318 ⇓P **PKPdf** 06 51 45.5 -4.3
TPGR **Topolog** 154.31 317 ⇑P **PKiKP** 06 51 58.4 +0.2
TESR **Tescani** 154.37 322 ⇑P **PKiKP** 06 52 00.9 +2.7
BURAR **Bucovina Array** 154.40 325 ⇓P **PKiKP** 06 52 01.0 +2.6
ONER **Baraj Valea Uz** 154.62 322 ⇓P **PKiKP** 06 52 00.6 +1.8
HARR **Harsova** 154.69 317 ⇑P **PKPbc** 06 51 58.2 -0.7
VRI **Vrincioaia** 154.72 321 ⇑P **PKiKP** 06 52 02.1 +3.1
PLOR **Plostina** 154.77 321 ⇑P **PKPab** 06 52 14.1 -0.1
OJC **Ojcow** 154.79 336 ePKP **PKPdf** 06 51 50.0 -0.4
NIE **Niedzica** 155.26 334 ePKP **PKPdf** 06 51 50.6 -0.5
DOPR **Dopca** 155.39 322 ⇓P **PKPab** 06 52 11.4 -5.4
KSP **Ksiaz** 155.40 341 ePKP **PKPdf** 06 51 51.5 +0.3
OSTC **Ostas** 155.67 341 ePKPAB **PKPab** 06 52 13.3 -4.5
OSTC AMS AMS 08 10 40.0
comp=Z,1µm,19.0s
CHVC **Chvalec** 155.69 341 AMS AMS 08 10 30.0
comp=Z,900nm,17.4s
STEB **Steborice** 155.74 338 ePKPAB **PKPab** 06 52 12.3 -5.8
UPC **Upice** 155.78 341 AMS AMS 08 09 40.0
comp=Z,1µm,17.1s
DPC **Dobruska-Polom** 155.83 340 ePKPAB **PKPab** 06 52 13.5 -5.0
DPC AMS AMS 08 09 00.0
comp=Z,1µm,20.3s
KRLC **Kraliky** 155.93 340 ePKPAB **PKPab** 06 52 13.3 -5.7
KRLC AMS AMS 07 58 30.0
comp=Z,1µm,16.9s
PVCC **Panska Ves** 156.15 343 AMS AMS 08 08 40.0
comp=Z,1µm,20.7s
RICC **Richard** 156.25 344 AMS AMS 08 09 40.0
comp=Z,1µm,17.8s
VYHS **Vyhne** 156.57 335 ePKP PKPdf 06 52 02.7 +10
PRA **Prague** 156.60 343 AMS AMS 08 04 40.0
comp=Z,1µm,17.4s
PRU **Pruhonice** 156.65 343 AMS AMS 08 02 20.0
comp=Z,1µm,19.0s
GOPC **GO Pecny, Ondr** 156.65 342 AMS AMS 08 12 10.0
comp=Z,1µm,17.6s
NKC **Novy Kostel** 156.92 346 AMS AMS 08 02 20.0
comp=Z,1µm,18.7s
TREC **Trest** 157.01 340 AMS AMS 08 10 10.0
comp=Z,2µm,18.7s
MODS **Modra-Piesok** 157.24 337 ePKP PKPdf 06 52 06.3 +13
ZVC **Zvikov** 157.25 343 AMS AMS 08 11 10.0
comp=Z,1µm,17.9s
MEM **Membach** 157.41 357 dPKP **PKPab** 06 52 23.5 -1.7
BTNL **Ternell** 157.43 356 dPKP **PKPab** 06 52 23.6 -1.7
BSTI **Sart Tilman** 157.46 357 dPKP **PKPab** 06 52 24.0 -1.4
BCLA **Clavier** 157.63 358 dPKP **PKPab** 06 52 24.8 -1.4
BHOU **Houvegnez** 157.67 357 dPKP **PKPab** 06 52 25.8 -0.6
BGES **Gesves** 157.67 358 dPKP **PKPab** 06 52 24.9 -1.4
KHC **Kasperske Hory** 157.69 343 ⇑ePKP PKPdf 06 52 05.5 +11
KHC ePKPAB **PKPab** 06 52 25.6 -1.0
KHC AMS AMS 08 11 10.0
comp=Z,2µm,18.4s
BMRD **Maredsous** 157.76 359 dPKP **PKPab** 06 52 25.1 -1.7
CKRC **Cesky Krumlov** 157.78 342 ePKPAB PKPab 06 52 17.6 -9.3
CKRC AMS AMS 08 11 00.0
comp=Z,1µm,19.8s
GERES **GERESS Array B** 157.92 343 PKP **PKPdf** 06 51 53.8 -0.9
comp=Z,1.4nm,1.2s,baz=308,slow=3.6,SNR=1.5
GERES PKPab **PKPab** 06 52 26.2 -1.4
comp=Z,4.7nm,1.1s,baz=40,slow=2.3,SNR=6.2
DOU **Dourbes** 157.97 359 dPKP **PKPab** 06 52 26.1 -1.6
CONA **Conrad Observa** 158.10 338 *i* PKP **PKPab** 06 52 28.6 +0.1
comp=Z,14nm,1.4s
RONA **Rosalia, Austr** 158.16 337 *i* PKP **PKPab** 06 52 28.5 -0.2
comp=Z,18nm,1.5s
WLF **Walferdange** 158.34 356 dPKP **PKPab** 06 52 28.1 -1.2
MOA **Molln** 158.67 341 *i* PKP **PKPab** 06 52 30.4 -0.4
comp=Z,19nm,1.3s
ARSA **Arzberg** 158.81 338 *i* PKP **PKPab** 06 52 31.2 -0.2
comp=Z,5.2nm,1.1s
BIOA **Bad Ischl, Aus** 158.99 342 ePKP **PKPab** 06 52 32.1 -0.2
comp=Z,34nm,1.5s
SOKA **Soboth** 159.47 338 *i* PKP **PKPab** 06 52 34.3 -0.1
comp=Z,23nm,1.4s
LESA **Schwarzleotal** 159.50 343 *i* PKP **PKPab** 06 52 34.1 -0.4
comp=Z,41nm,1.5s
KBA **Koelnbreinsper** 159.63 341 *i* pPKP **PKPab** 06 52 37.2 +2.0
comp=Z,18nm,1.6s

OBKA	**Obir**	159.78	339	*i* PKP		PKPab	06 52 32.8	-3.0
	comp=Z,6.9nm,1.4s							
WATA	**Walderalm**	159.85	345	*i* PKP		PKPab	06 52 35.6	-0.5
	comp=Z,18nm,1.3s							
RETA	**Reutte**	159.88	347	*i* PKP		PKPab	06 52 35.4	-0.8
	comp=Z,19nm,1.5s							
WTTA	**Wattenberg**	159.90	345	*i* PKP		PKPab	06 52 35.8	-0.6
	comp=Z,22nm,1.5s							
MOTA	**Moosalm**	159.94	346	*i* PKP		PKPab	06 52 36.1	-0.4
	comp=Z,19nm,1.4s							
MYKA	**Terra Mystica**	159.95	340	*i* PKP		PKPab	06 52 34.9	-1.6
	comp=Z,18nm,1.4s							
SQTA	**Sankt Quirin**	160.04	345	*i* pPKP		PKPab	06 52 37.3	+0.4
	comp=Z,14nm,1.5s							
ABTA	**Abfaltersbach**	160.16	343	*i* PKP		PKPab	06 52 36.0	-1.4
	comp=Z,16nm,1.6s							
DAVA	**Damuels**	160.24	348	*i* PKP		PKPab	06 52 36.7	-1.2
	comp=Z,11nm,1.4s							
FETA	**Feichten**	160.33	346	*i* PKP		PKPab	06 52 37.4	-0.8
	comp=Z,14nm,1.6s							
PGAV	**Gavieira, Arco**	162.88	33	*e*PKP		PKPdf	06 52 02.1	+1.8
PCAB	**Cabril**	163.19	33	*e*PKP		PKPdf	06 52 03.8	+3.2
POLO	**Lamas de Olo**	163.56	33	*e*PKP		PKPdf	06 52 03.6	+2.6
PVRL	**Vila Real**	163.68	33	*e*PKP		PKPdf	06 52 05.0	+4.0
PBRG	**Braganca**	163.71	30	*e*PKP		PKPdf	06 52 02.2	+1.1
PVIS	**Viseu**	164.01	35	*e*PKP		PKPdf	06 52 03.7	+2.3
MVO	**Moncorvo**	164.09	32	*e*PKP		PKPdf	06 52 02.6	+1.2
PCAS	**Casmilo, Conde**	164.19	38	*e*PKP		PKPdf	06 52 03.1	+1.6
PSBE	**So Bento**	164.40	40	*e*PKP		PKPdf	06 52 04.5	+2.8
MTE	**Manteigas**	164.43	35	*e*PKP		PKPdf	06 52 03.8	+2.0
PSARD	**Sardoal**	164.69	38	*e*PKP		PKPdf	06 52 04.7	+2.8
PCBR	**Castelo Branco**	164.88	36	*e*PKP		PKPdf	06 52 03.6	+1.5
PMTG	**Montargil**	165.02	40	*e*PKP		PKPdf	06 52 04.0	+1.7
TORD	**Torodi Ar. Bea**	165.03	171	PKPab		PKPab	06 52 58.4	-0.9
	comp=Z,2.5nm,0.3s,baz=175,slow=2.7,SNR=2.5							
PMRV	**Marv??o**	165.23	37	*e*PKP		PKPdf	06 52 04.1	+1.7
EVO	**Evora**	165.51	41	*e*PKP		PKPdf	06 52 05.7	+3.1
PESTR	**Estremoz**	165.52	39	*e*PKP		PKPdf	06 52 04.8	+2.2
PTEO	**Sao Teotonio**	165.72	45	*e*PKP		PKPdf	06 52 06.3	+3.5
PFVI	**Vila Bisbo**	165.90	47	*e*PKP		PKPdf	06 52 06.2	+3.2
MORF	**Marmelete**	165.91	46	*e*PKP		PKPdf	06 52 06.7	+3.6
PBEJ	**Beja**	165.94	42	*e*PKP		PKPdf	06 52 04.5	+1.5
PCVE	**Castro Verde**	166.09	44	*e*PKP		PKPdf	06 52 06.8	+3.6
PBAR	**Barrancos**	166.31	40	*e*PKP		PKPdf	06 52 03.5	+0.2
PBDV	**Barranco-do-Ve**	166.40	45	*e*PKP		PKPdf	06 52 06.1	+2.7
PVAQ	**Vaqueiros**	166.43	44	*e*PKP		PKPdf	06 52 06.4	+3.0
ESDC	**Sonseca Array**	166.65	28	PKP		PKPdf	06 52 04.4	+0.8
	comp=Z,3.5nm,1.2s,baz=348,slow=3.2,SNR=8.0							
ESDC				PKPab		PKPab	06 53 04.5	-1.6
	comp=Z,5.3nm,1.2s,baz=307,slow=3.6,SNR=5.5							

PAS ***06*** *06:32:24.2±1.4,35°.94N±0°.01×117°.66W±0°.01,h-0km±1km, ML3.2/7,ML3.0/18(NEIC),Error ellipse: s-maj=2.5km s-min=2.0km az=9.0*

NEIC 06 06:32:24.1±0.8,35°.94N±0°.02×117°.68W±0°.02,h6km±3km, Error ellipse: s-maj=3.6km s-min=1.5km az=144.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	0.11	276		Pg	06 32 27.1	+0.5
TOW	**Tower One**	0.15	208		Pg	06 32 27.9	+0.8
WRVM	**Rose V. Centra**	0.18	292		Pg	06 32 28.3	+0.5
WNMM	**Nine Mile Cany**	0.21	243		Pg	06 32 28.5	+0.3
WNMM					Sg	06 32 31.3	+0.4
SRTC	**Snort**	0.25	193		Pb	06 32 30.2	-0.8
SRTC					Sg	06 32 33.5	+1.1
LRMC	**Laurel Mtn Rad**	0.46	180		Pg	06 32 32.5	-0.5
LRMC				IAML		06 32 37.3	
	comp=E,1μm,0.2s						
LRMC				IAML		06 32 37.9	
	comp=N,2μm,0.2s						
CCCA	**Chr Cany lake**	0.49	148		Pg	06 32 33.7	+0.3
CCCA					Sg	06 32 40.6	+0.8
WBSM	**Bird Springs**	0.55	223		Pb	06 32 36.0	-0.2
WBSM					Sg	06 32 42.9	+1.1
DTP	**Desert Tortois**	0.68	191		Pg	06 32 37.1	-0.2
CCAC	**Calif City Air**	0.83	199	Pg	Pg	06 32 39.9	-0.1
CCAC				IAML		06 32 42.9	
	comp=N,398nm,1.1s						
GSC	**Goldstone, Bar**	0.95	131	Pg	Pg	06 32 41.4	-1.0
GSC				IAML		06 32 53.1	
	comp=N,454nm,0.3s						
GSC				IAML		06 32 55.4	
	comp=E,685nm,0.6s						
BLCC	**Black Canyon**	1.88	206		Pn	06 32 55.1	-1.6
ELS	**Elsinore Mount**	2.29	175	Pn	Pn	06 33 01.6	-0.9
ELS				IAML		06 33 15.1	
	comp=E,74nm,0.6s						
ELS				IAML		06 33 18.6	
	comp=N,92nm,0.7s						
RYN	**Ryan**	2.77	346	Pn	Pn	06 33 09.5	+0.4
RYN				IAML		06 33 30.4	
	comp=N,40nm,1.3s						
W13A	**Hualapai Mount**	3.21	104	Pn	Pn	06 33 14.3	-0.9
W13A				IAML		06 33 42.5	
	comp=E,41nm,0.9s						
W13A				IAML		06 33 49.1	
	comp=N,32nm,1.1s						
TJX	**Tijuana**	3.46	171	Pn	Pn	06 33 17.8	-0.7
DUG	**Dugway, Tooele**	5.73	41	Pn	Pn	06 33 50.5	+0.7
BGU	**Big Grassy Mou**	6.17	35	Pn	Pn	06 33 56.0	+0.1

NEIC ***06*** *06:34:46.9±1.8,35°.90N±0°.01×117°.73W±0°.01,h10km±2km, Error ellipse: s-maj=3.0km s-min=2.3km az=218.0*

IDC ***06*** *06:34:46.0±0.9,35°.84N×117°.70W,h0km,mb3.3/2, mbtmp3.3/8,ML4.3/4,Error ellipse: s-maj=15.8km s-min=6.8km az=71.0*

PAS ***06*** *06:34:47.5±1.6,35°.90N±0°.01×117°.73W±0°.01,h7km±2km, ML4.3/15,ML4.0/102(NEIC),Error ellipse: s-maj=1.6km s-min=1.5km az=149.0*

ISC 06 06:34:47.5±0.9,35°.89N±0°.02×117°.73W±0°.02,h8km±8km, n127,o0697/134,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WNMM	**Nine Mile Cany**	0.15	252		Pg	06 34 50.8	+0.1
WNMM					Sg	06 34 53.4	+0.5
WRVM	**Rose V. Centra**	0.18	312		Pg	06 34 49.4	-1.9
SRTC	**Snort**	0.20	185		Pg	06 34 51.9	+0.3
SRTC					Sg	06 34 55.9	+1.6
MFS	**McCloud Flat S**	0.25	336		Pg	06 34 52.4	-0.3
LRMC	**Laurel Mtn Rad**	0.41	175		Pg	06 34 55.4	-0.2
LRMC					Sg	06 35 01.1	+0.2
LRMC				IAML		06 35 01.9	
	comp=E,23μm,0.6s						
WORM	**Onyx Ranch**	0.46	245		Sg	06 35 02.3	-0.2
CCCA	**Chr Cany lake**	0.47	141		Pg	06 34 56.7	+0.1
CCCA					Sb	06 35 03.7	-1.4
WBSM	**Bird Springs**	0.48	224		Sg	06 35 03.5	+0.2
WHFM	**Hanning Flat**	0.54	249		Sg	06 35 04.9	-0.1
DTP	**Desert Tortois**	0.63	189		Pg	06 34 59.0	-0.6
ISA	**Isabella, Lake**	0.65	250		Sg	06 35 08.3	-0.2
ISA	**Isabella, Lake**	0.65	250		Pg	06 34 59.5	-0.6
ISA				IAML		06 35 08.4	
	comp=N,14μm,0.4s						
ISA				IAML		06 35 09.2	
	comp=E,12μm,0.2s						
CGO	**Cerro Gordo**	0.66	355		Pg	06 34 59.6	-0.8
WASM	**Alta Sierra Ca**	0.69	258		Sg	06 35 09.7	-0.2
QSM	**Queen of Sheba**	0.70	84		Pg	06 35 00.2	-0.8
QSM				IAML		06 35 13.2	
	comp=E,11μm,0.6s						
QSM				IAML		06 35 13.6	
	comp=N,11μm,0.5s						
CCAC	**Calif City Air**	0.77	198		Pg	06 35 01.7	-0.6
CCAC				IAML		06 35 18.3	
	comp=N,5μm,0.5s						
SPG2	**Springville 2**	0.90	291		Pg	06 35 03.7	-1.0
FURC	**Furnace Creek,**	0.91	50		Pb	06 35 04.7	-0.8
GWY	**Greenwater Val**	0.91	71		Pg	06 35 04.2	-0.9
GWY					Sg	06 35 16.3	-0.5
GWY				IAML		06 35 23.4	
	comp=N,7μm,0.5s						
GWY				IAML		06 35 23.6	
	comp=E,8μm,0.4s						
GSC	**Goldstone, Bar**	0.95	128		Sb	06 35 18.2	-0.9
GSC	**Goldstone, Bar**	0.95	128		Pg	06 35 04.7	-1.1
GSC				IAML		06 35 21.3	
	comp=N,7μm,0.8s						

TEJ	**El Tejon**	1.02	230			Pg	06 35 06.0	-1.2
EDW2	**Edwards Air Fo**	1.03	192			Pg	06 35 06.1	-1.2
HYS	**Haystack Butte**	1.03	173			Pg	06 35 06.4	-0.9
HYS						Sg	06 35 20.1	-0.6
TPO	**Tropico Hills**	1.09	202			Pg	06 35 07.3	-1.1
VES	**Vestal, Richgr**	1.10	268			Pg	06 35 07.9	-0.8
VES						Sg	06 35 22.3	-0.7
MAGC	**SCE Magundon P**	1.11	242			Sg	06 35 22.4	-0.7
GRAC	**Grapevine Rang**	1.14	15			Pg	06 35 08.6	-0.9
GRAC					IAML		06 35 29.8	
	comp=E,4μm,0.8s							
GRAC					IAML		06 35 30.3	
	comp=N,4μm,0.9s							
RRX	**Edison Barstow**	1.18	149			Pg	06 35 09.3	-0.8
ARVC	**Arvin**	1.18	230			Pn	06 35 10.3	0.0
ARVC						Sg	06 35 24.7	-0.7
SHOC	**Shoshone, Teco**	1.18	89			Sb	06 35 25.4	-0.2
TJR	**Tejon Ranch**	1.19	224			Pg	06 35 08.9	-1.5
TJR						Sg	06 35 24.9	-1.0
SBB	**Saddle Back Bu**	1.20	184			Pg	06 35 09.2	-1.4
SGV	**South Grapevin**	1.23	27			Pg	06 35 09.8	-1.2
TIN	**Tinemaha, Big**	1.23	341			Pg	06 35 10.5	-0.7
THC	**Tehachapi Micr**	1.24	218			Pg	06 35 09.8	-1.6
BAKC	**Calstate**	1.25	245			Pn	06 35 10.7	-0.5
WCT	**Wildcat Mounta**	1.27	44			Pn	06 35 10.2	-1.4
WCT					IAML		06 35 28.9	
	comp=E,3μm,0.4s							
WCT					IAML		06 35 32.1	
	comp=N,2μm,0.7s							
ALPC	**Antelope**	1.29	201			Pg	06 35 11.7	-0.5
AMDNV	**Amargosa**	1.30	64			Pn	06 35 10.4	-1.5
LEOC	**Leona Valley**	1.34	201			Pn	06 35 11.4	-1.2
LCH	**Last Change Ra**	1.34	3			Pn	06 35 11.6	-1.1
ADO	**Adelanto Recei**	1.36	170			Pb	06 35 12.8	-0.4
LRRC	**Littlerock Res**	1.38	190			Pn	06 35 11.8	-1.2
CJV	**Casa Juvan**	1.40	194			Pn	06 35 12.1	-1.4
VOG	**Valley Oaks Go**	1.41	288			Pn	06 35 13.1	-0.3
HOLC	**Holcomb Ridge**	1.43	184			Pb	06 35 14.0	-0.5
JNH	**Juniper Hills**	1.45	187			Pn	06 35 12.9	-1.3
GMN	**Gold Mountain**	1.46	15			Pn	06 35 13.4	-1.0
GMN					IAML		06 35 22.3	
	comp=N,2μm,0.4s							
DSP	**Deep Springs**	1.49	353			Pn	06 35 14.1	-0.5
DSP					IAML		06 35 38.0	
	comp=E,1μm,0.7s							
OSI	**Osito Audit: C**	1.51	213			Pn	06 35 14.3	-0.6
OSI	**Osito Audit: C**	1.51	213		IAML		06 35 45.6	
	comp=E,2μm,0.9s							
DSCC	**Desert Studies**	1.52	119			Pn	06 35 13.1	-1.9
BHPR	**Bishop**	1.53	337			Pn	06 35 14.7	-0.7
POCCA	**Poleta Canyon**	1.54	343			Pb	06 35 15.7	-0.6
TUQ	**Turquoise Moun**	1.54	107			Pn	06 35 13.6	-1.7
HEC	**Hector,Ludlow**	1.55	132			Pn	06 35 14.3	-1.2
CHFC	**Chilao Flat St**	1.57	189			Pb	06 35 15.3	-0.9
TPNV	**Topopah Spring**	1.59	48			Pn	06 35 15.3	-0.9
TPNV					IAML		06 35 41.2	
	comp=E,3μm,0.7s							
PDE	**Pardee, Santa**	1.60	206			Pg	06 35 17.5	-0.7
MTUM	**Tungsten Hills**	1.61	336			Pb	06 35 17.1	-0.5
BFSC	**Mount Baldy Ra**	1.65	178			Pb	06 35 18.1	-0.1
BCW	**Bitter Crk WRg**	1.67	236			Pn	06 35 16.9	-0.3
SSK	**Sunset Peak**	1.68	179			Pg	06 35 19.3	-0.3
MWC	**Mount Wilson**	1.68	189			Pn	06 35 16.5	-0.9
MWC	**Mount Wilson**	1.68	189		IAML		06 35 42.2	
	comp=N,2μm,0.5s							
MWC					IAML		06 35 43.6	
	comp=E,2μm,0.5s							
DECC	**Green Verdugo**	1.71	197			Pb	06 35 19.0	-0.1
SIL	**Silver Peak**	1.71	154			Pb	06 35 19.0	-0.2
CRGC	**Crocker Grade**	1.75	249			Pb	06 35 19.4	-0.6
BBRC	**Big Bear Solar**	1.75	158			Pg	06 35 20.2	-0.9
PASC	**Pasadena Art C**	1.75	192			Pn	06 35 17.4	-0.8
PSRC	**Puddingstone R**	1.79	182			Pn	06 35 18.2	-0.6
MZP	**Montezuma Peak**	1.83	9			Pn	06 35 19.0	-0.5
SVD	**Seven Oaks Dam**	1.85	164			Pg	06 35 22.1	-0.9
GVRC	**Garvey Reservo**	1.86	190			Pg	06 35 22.3	-1.0
CHNC	**Chino**	1.89	179			Pg	06 35 23.1	-0.6
RVR	**Riverside**	1.91	171			Pg	06 35 23.0	-1.2
BENR	**Benton**	1.94	340			Pn	06 35 20.8	-0.3
PEC	**Perris**	2.05	167			Pn	06 35 21.5	-0.7
SHPR	**Sheep Range**	2.17	73			Pn	06 35 23.3	-0.7
TPH	**Tonopah**	2.22	10			Pn	06 35 24.2	-0.6
ELS	**Elsinore Mount**	2.25	174			Pn	06 35 24.3	-0.8
ELS					IAML		06 36 04.4	
	comp=E,901nm,0.8s							
ELS					IAML		06 36 05.2	
	comp=N,747nm,1.0s							
V12A	**Nelson**	2.34	93			Pn	06 35 25.1	-1.3
V12A					IAML		06 36 03.4	
	comp=N,665nm,0.6s							
V12A					IAML		06 36 09.1	
	comp=E,507nm,0.7s							
S11A	**Rachel**	2.37	42			Pn	06 35 26.1	-0.6
LHV	**Little Huntoon**	2.44	345			Pn	06 35 27.7	+0.1
LHV					IAML		06 36 12.9	
	comp=N,481nm,0.8s							
LHV					IAML		06 36 14.8	
	comp=E,546nm,1.4s							
PFO	**Pinyon Flats O**	2.50	155			Pn	06 35 27.6	-1.0
PFO					IAML		06 36 09.2	
	comp=E,797nm,0.5s							
PFO					IAML		06 36 10.3	
	comp=E,472nm,1.2s							
PFO	**Pinyon Flats O**	2.50	155	Pn		Pn	06 35 26.8	-1.8
	comp=E,37nm,0.3s,baz=318,slow=10,SNR=19							
PFO					Lg	Lg	06 36 05.1	
	comp=E,224nm,0.3s,baz=205,slow=5.3,SNR=20							
	comp=E,14nm,0.4s							
PMPB	**Monarch Peak**	2.51	278			Pn	06 35 27.6	-1.1
NV11	**Mina Array Sit**	2.56	352			Pn	06 35 29.4	-0.1
NVAR	**Mina Array Bea**	2.58	350			Pn	06 35 29.4	-0.3
NVAR	**Mina Array Bea**	2.58	350	Pn		Pn	06 35 29.3	-0.5
	comp=E,140nm,0.3s,baz=172,slow=21,SNR=28							
NVAR					Lg	Lg	06 36 09.4	
	comp=E,59nm,0.3s,baz=73,slow=3.6,SNR=6.4							
	comp=E,14nm,0.5s							
PRN	**Pahroc Range**	2.63	54			Pn	06 35 29.8	-0.6
PRN					IAML		06 36 25.2	
	comp=N,1μm,0.8s							
BBGB	**Big Mountain B**	2.76	285			Pn	06 35 32.4	+0.2
RYN	**Ryan**	2.81	347			Pn	06 35 32.7	-0.1
Q09A	**Carvers**	2.97	8			Pn	06 35 35.3	+0.1
CMB	**Columbia Colle**	3.02	316			Pn	06 35 35.3	-0.3
CMB					IAML		06 36 24.5	
	comp=E,303nm,0.4s							
CMB					IAML		06 36 26.4	
	comp=N,410nm,0.5s							
SAO	**San Andreas Ge**	3.13	287			Pn	06 35 37.0	-0.1
W13A	**Hualapai Mount**	3.23	103			Pn	06 35 37.1	-1.6
TKX	**Tecate**	3.44	164	Pn		Pn	06 35 39.6	-1.8
TKX					IAML		06 36 35.3	
	comp=E,452nm,0.8s							
TKX					IAML		06 36 36.4	
	comp=N,230nm,0.4s							
CBX	**Cerro Bola**	3.67	166			Pn	06 35 44.7	0.0
GLA	**Glamis**	3.71	139	Pn		Pn	06 35 43.7	-1.5
LCMT	**Little Creek M**	3.79	71			Pn	06 35 46.5	+0.2
PAHR	**Pah Rah Range**	4.03	342			Pn	06 35 50.0	+0.4
CCX	**Cicese**	4.11	167			Pn	06 35 50.6	+0.1
CCX					IAML		06 37 01.5	
	comp=N,243nm,1.1s							
CCX					IAML		06 37 02.0	
	comp=E,324nm,0.9s							
KNB	**Kanab**	4.11	73			Pn	06 35 51.1	+0.3
KNB					IAML		06 36 59.3	
	comp=E,187nm,0.9s							
KNB					IAML		06 37 09.8	
	comp=N,192nm,1.2s							
SPR3	**Spring Creek 3**	4.12	40			Pn	06 35 49.4	-1.6
SPR3					IAML		06 36 58.2	
	comp=E,194nm,1.1s							
SPR3					IAML		06 37 00.2	
	comp=N,191nm,0.9s							
ESJX	**Sierra Juarez**	4.15	159			Pn	06 35 50.8	-0.5
ESJX					IAML		06 36 59.2	
	comp=E,177nm,1.1s							
ESJX					IAML		06 37 02.5	
	comp=N,152nm,0.7s							
Y14A	**Wickenburg**	4.34	115			Pn	06 35 51.9	-1.9
Y14A					IAML		06 37 11.7	
	comp=E,196nm,0.8s							
Y14A					IAML		06 37 19.1	
	comp=N,214nm,0.7s							

113A	**Mohawk Valley,**	4.52	132	Pn		Pn	06 35 56.2	0.0
MCCM	**Marconi Confer**	4.70	300	Pn		Pn	06 35 58.0	-0.6
MCCM				IAML			06 37 12.1	
	comp=E,126nm,1.8s							
MCCM				IAML			06 37 15.4	
	comp=N,104nm,1.0s							
ELK	**Elko**	5.23	21			Pn	06 36 06.2	0.0
ELK	**Elko**	5.23	21	Pn		Pn	06 36 06.2	0.0
	comp=N,3.1nm,0.3s,baz=207,slow=9.0,SNR=13							
ELK				Lg	Lg		06 37 31.4	
	comp=N,13nm,0.3s,baz=83,slow=18,SNR=6.8							
	comp=N,6.4nm,0.3s							
X16A	**Lo Mia Camp, P**	5.36	104			Pn	06 36 07.0	-1.0
X16A				IAML			06 37 59.5	
	comp=N,64nm,1.1s							
X18A	**Snowflake**	6.51	100	Pn		Pn	06 36 24.2	+0.4
SRU	**San Rafael Swe**	6.57	59	Pn		Pn	06 36 25.3	+0.7
TUC	**Tucson**	6.78	120			Pn	06 36 26.9	-0.5
P18A	**Preston Nutter**	7.00	56	Pn		Pn	06 36 32.0	+1.3
YBH	**Yreka Blue Hor**	7.01	328	Pn		Pn	06 36 32.5	+1.9
	baz=153,slow=9.4,SNR=3.5							
YBH				Lg	Lg		06 38 25.8	
	baz=276,slow=11,SNR=3.0							
HVU	**Hansel Valley**	7.04	32			Pn	06 36 32.2	+1.2
BSUT	**Blindstream Ca**	7.18	48			Pn	06 36 35.5	+2.4
DUN6	**Lazy B Ranch**	7.89	112	Pn		Pn	06 36 42.4	-0.3
319A	**Douglas**	8.36	120	Pn		Pn	06 36 48.4	-0.7
ANMO	**Albuquerque**	9.25	93	Pn		Pn	06 37 02.7	+1.3
	comp=N,0.5nm,0.4s,baz=222,slow=14,SNR=1.0							
ANMO				Lg	Lg		06 39 36.4	
	comp=N,0.2nm,0.3s,baz=294,slow=22,SNR=6.7							
PDAR	**Pinedale Array**	9.34	40	Pn		Pn	06 37 04.8	+2.2
	comp=N,0.4nm,0.6s,baz=207,slow=9.2,SNR=2.1							
PDAR				Lg	Lg		06 39 38.6	
	comp=N,0.1nm,0.3s,baz=321,slow=42,SNR=2.6							
TXAR	**Lajitas Array**	13.53	115	Pn		Pn	06 38 01.9	+2.0
	comp=N,0.3nm,0.3s,baz=297,slow=12,SNR=20							
	comp=N,0.4nm,0.4s							
YKA	**Yellowknife Ar**	26.70	3	P		P	06 40 28.3	+1.4
	comp=N,0.4nm,0.7s,baz=184,slow=8.8,SNR=7.3							
	comp=N,0.4nm,0.7s							
ILAR	**Eielson Array**	33.77	338	P		P	06 41 30.6	+1.2
	comp=N,0.5nm,0.9s,baz=154,slow=7.0,SNR=5.4							
	comp=N,0.5nm,0.9s							

KRSC 06 06:37:52.3±1.3,56.12N×164.34E,h47km±23km,MI3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	0.85	277	*e*P	Pn	06 38 07.2	-0.8
KBG	**Krutoberegovo**	0.92	279	*e*P	Pn	06 38 08.6	-0.3
BKI	**Bering**	1.30	134	*e*P	Pn	06 38 15.8	+1.8
BKI				*e*S	Sn	06 38 32.7	+2.4
SMKR	**Semkarok**	1.66	287	*e*P	Pn	06 38 20.8	+1.8
SRKR	**Sorokina**	1.84	288	*e*P	Pn	06 38 23.8	+2.3
ZLN	**Zelenaya**	1.98	269	*e*P	Pn	06 38 26.6	+3.1
CIRR	**Tsirk**	2.01	271	*e*P	Pn	06 38 27.0	+3.1
BZGR	**Bezymyannyi-Gr**	2.05	266	*e*P	Pn	06 38 27.2	+3.2
KLY	**Klyuchi**	2.07	277	*e*P	Pn	06 38 25.3	+0.8
BZWR	**Bezymyannyi-We**	2.16	267	*e*P	Pn	06 38 29.0	+3.1
MKZ	**Mys Kozlova**	2.16	225	*e*P	Pn	06 38 27.8	+2.0
MKZ				*e*S	Sn	06 38 53.4	+2.1
BZMR	**Bezymyannaya**	2.17	267	*e*P	Pn	06 38 29.4	+3.4
KIRR	**Kirishev**	2.25	267	*e*P	Pn	06 38 30.4	+3.2
KPT	**Kopyto**	2.31	268	*e*P	Pn	06 38 31.4	+3.5
KMNR	**Kamenistaya**	2.33	263	*e*P	Pn	06 38 31.8	+3.5
TUMD	**Tumrok D**	2.41	249	*e*P	Pn	06 38 32.2	+2.9
TUMD				*e*S	Sn	06 39 01.2	+3.6
KOZ	**Kozyrevsk**	2.50	270	*e*P	Pn	06 38 33.9	+3.4
SRDR	**Sredinnyy**	2.59	276	*e*P	Pn	06 38 35.0	+3.3
ESO	**Esso**	3.17	269	*e*P	Pn	06 38 44.8	+5.2
OSSR	**Ossora**	3.21	348	*e*P	Pn	06 38 41.6	+1.5
KII	**Karymskiy**	3.50	235	*e*P	Pn	06 38 48.1	+3.9
SPN	**Mys Shipunski**	3.93	221	*e*P	Pn	06 38 52.7	+2.6
SPN				*e*S	Sn	06 39 34.7	-0.2
NLC	**Nalytchevo**	4.14	227	*e*S	Sn	06 39 43.7	+3.7
SDLR	**Sedlovina**	4.25	230	*e*P	Pn	06 38 58.5	+3.9
KRER	**Koryakskii**	4.30	231	*e*P	Pn	06 38 58.9	+3.7
SMAR	**Somma**	4.30	231	*e*P	Pn	06 38 59.8	+4.5
KRX	**Arik**	4.30	232	*e*P	Pn	06 38 59.8	+4.5
AVH	**Avacha**	4.33	231	*e*P	Pn	06 39 00.1	+4.5
UG

DSCC	**Desert Studies**	**1.31**	**116**			Sg	06 39 52.1	-0.1
SGV	**South Grapevin**	**1.31**	**18**			Pg	06 39 34.6	-0.6
SGV						Sg	06 39 52.1	-0.2
JNH	**Juniper Hills**	**1.32**	**195**			Sg	06 39 52.4	-0.1
TUQ	**Turquoise Moun**	**1.35**	**102**			Sg	06 39 52.9	-0.6
CHFC	**Chilao Flat St**	**1.45**	**196**			Sg	06 39 56.0	-0.5
OSI	**Osito Audit: C**	**1.47**	**221**			Pn	06 39 36.2	-1.4
OSI					IAML		06 39 59.9	
	comp=N,105nm,0.7s							
OSI					IAML		06 40 02.0	
	comp=E,102nm,0.7s							
BFSC	**Mount Baldy Ra**	**1.49**	**184**			Sn	06 39 58.0	+0.1
SIL	**Silver Peak**	**1.50**	**157**			Pn	06 39 37.9	-0.1
MWC	**Mount Wilson**	**1.56**	**196**			Sg	06 40 00.4	+0.3
MWC	**Mount Wilson**	**1.56**	**196**			Pn	06 39 37.9	-1.0
MWC					IAML		06 40 01.7	
	comp=N,131nm,0.5s							
MWC					IAML		06 40 02.6	
	comp=E,133nm,0.5s							
GMN	**Gold Mountain**	**1.58**	**8**			Pn	06 39 38.3	-0.9
GMN					IAML		06 40 31.1	
	comp=N,72nm,0.4s							
VOG	**Valley Oaks Go**	**1.60**	**292**			Pn	06 39 37.6	-1.7
TPNV	**Topopah Spring**	**1.60**	**40**			Pn	06 39 38.2	-1.2
TPNV					IAML		06 40 02.9	
	comp=N,60nm,0.3s							
TPNV					IAML		06 40 04.1	
	comp=N,61nm,0.4s							
DECC	**Green Verdugo**	**1.61**	**204**			Sg	06 40 01.6	-0.1
PASC	**Pasadena Art C**	**1.64**	**199**			Pn	06 39 39.6	-0.2
PASC					IAML		06 40 06.8	
	comp=E,113nm,0.4s							
PASC					IAML		06 40 07.3	
	comp=N,55nm,0.5s							
CLTC	**Calectric**	**1.64**	**173**			Sb	06 40 02.1	0.0
SVD	**Seven Oaks Dam**	**1.66**	**167**			Sg	06 40 03.2	-0.2
DSP	**Deep Springs**	**1.67**	**348**			Pn	06 39 40.2	0.0
BCW	**Bitter Crk WRg**	**1.72**	**243**			Pn	06 39 41.2	+0.2
BCW					IAML		06 40 06.0	
	comp=E,81nm,0.7s							
BCW					IAML		06 40 20.8	
	comp=N,66nm,1.7s							
GTM	**Goat Mountain**	**1.73**	**145**			Pb	06 39 42.4	-0.2
BHPR	**Bishop**	**1.74**	**334**			Pb	06 39 42.6	-0.2
MTUM	**Tungsten Hills**	**1.82**	**333**			Pb	06 39 43.8	-0.2
MZP	**Montezuma Peak**	**1.97**	**4**	Pn		Pn	06 39 43.9	-0.7
TPC	**Twentynine Pal**	**2.03**	**142**			Pb	06 39 48.0	+0.4
SHPR	**Sheep Range**	**2.08**	**67**	Pn		Pn	06 39 44.9	-1.1
ELS	**Elsinore Mount**	**2.08**	**177**	Pn		Pn	06 39 44.1	-1.8
ELS					IAML		06 40 22.4	
	comp=E,33nm,0.5s							
POB	**Polly Butte**	**2.10**	**166**			Pn	06 39 45.4	-0.9
BENR	**Benton**	**2.15**	**338**			Pb	06 39 50.1	+0.4
MLAC	**Mammoth, Mammo**	**2.16**	**332**			Pb	06 39 50.1	+0.2
V12A	**Nelson**	**2.19**	**89**	Pn		Pn	06 39 46.8	-0.6
MCSM	**Casa Diablo Ho**	**2.21**	**331**			Pb	06 39 51.0	+0.2
CRY	**Cary Ranch**	**2.26**	**163**			Pb	06 39 51.8	+0.3
PMD	**Palm Desert**	**2.29**	**155**			Pb	06 39 52.7	+0.8
PFO	**Pinyon Flats O**	**2.29**	**157**	Pn		Pn	06 39 47.3	-1.6
SNDA	**J Saunders Pla**	**2.31**	**160**			Pb	06 39 52.5	+0.2
TPH	**Tonopah**	**2.35**	**6**			Pn	06 39 49.1	-0.7
S11A	**Rachel**	**2.40**	**37**	Pn		Pn	06 39 49.6	-0.7
PRN	**Pahroc Range**	**2.61**	**49**			Pn	06 39 52.6	-0.7
PRN					IAML		06 40 51.6	
	comp=E,28nm,0.9s							
PRN					IAML		06 41 33.6	
	comp=N,36nm,0.7s							
LHV	**Little Huntoon**	**2.63**	**343**	Pn		Pn	06 39 53.2	-0.2
LHV					IAML		06 40 39.5	
	comp=E,24nm,2.3s							
LHV					IAML		06 41 08.0	
	comp=N,20nm,0.8s							
RYN	**Ryan**	**3.00**	**345**	Pn		Pn	06 39 58.7	+0.1
R11B	**Troy Canyon, C**	**3.05**	**30**	Pn		Pn	06 39 58.9	-0.4
W13A	**Hualapai Mount**	**3.05**	**101**	Pn		Pn	06 39 57.9	-1.6
WAKR	**Walker**	**3.15**	**332**	Pn		Pn	06 40 00.4	-0.4
SAO	**San Andreas Ge**	**3.32**	**289**	Pn		Pn	06 40 02.8	-0.1
CBX	**Cerro Bola**	**3.49**	**168**	Pn		Pn	06 40 05.5	+0.2
GLA	**Glamis**	**3.49**	**139**	Pn		Pn	06 40 05.0	-0.3
LCMT	**Little Creek M**	**3.70**	**69**	Pn		Pn	06 40 07.2	-1.0
KNB	**Kanab**	**4.02**	**70**	Pn		Pn	06 40 12.6	-0.1
PSUT	**Pine Spring**	**4.06**	**45**	Pn		Pn	06 40 13.1	-0.3
ELK	**Elko**	**5.33**	**19**	Pn		Pn	06 40 31.1	+0.4
DUG	**Dugway, Tooele**	**5.82**	**39**	Pn		Pn	06 40 37.8	+0.5

*NEIC **06** 06:40:01.9±1.0,35°.901N±0°.009×117°.742W±0°.008, h7km±5km, Error ellipse: s-maj=1.5km s-min=0.6km az=210.0*

PAS 06 06:40:02.1±0.9,35°.899N±0°.010×117°.73W±0°.01, h4km, ML3.0/25, ML3.0/40(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=118.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**305**		Pg	06 40 04.2	+0.1
TOW	**Tower One**	**0.10**	**198**		Pg	06 40 04.5	+0.5
WNMM	**Nine Mile Cany**	**0.15**	**249**		Pg	06 40 05.3	+0.2
WRVM	**Rose V. Centra**	**0.17**	**310**		Pg	06 40 05.6	+0.1
SRTC	**Snort**	**0.21**	**185**		Pg	06 40 06.5	+0.4
MFS	**McCloud Flat S**	**0.24**	**335**		Pg	06 40 06.9	+0.1
MPMC	**Manual Prospec**	**0.25**	**51**		Pg	06 40 07.0	0.0
MPMC					Sg	06 40 10.6	+0.3
LRMC	**Laurel Mtn Rad**	**0.42**	**175**		Pg	06 40 09.7	-0.5
LRMC					IAML	06 40 21.6	
	comp=E,2μm,0.3s						
LRMC					IAML	06 40 21.8	
	comp=N,1μm,0.2s						
CCCA	**Chr Cany lake**	**0.48**	**142**		Pg	06 40 11.6	+0.4
WBSM	**Bird Springs**	**0.49**	**223**		Sg	06 40 18.2	+0.3
WHFM	**Hanning Flat**	**0.54**	**248**		Pg	06 40 12.3	-0.2
CWC	**Cottonwood Cre**	**0.61**	**332**		Sg	06 40 22.3	+0.5
DTP	**Desert Tortois**	**0.64**	**189**		Pg	06 40 14.2	-0.1
ISA	**Isabella, Lake**	**0.65**	**249**		Pg	06 40 14.0	-0.5
ISA					IAML	06 40 23.3	
	comp=N,505nm,0.3s						
ISA					IAML	06 40 24.1	
	comp=E,525nm,0.2s						
WASM	**Alta Sierra Ca**	**0.69**	**257**		Pg	06 40 15.1	-0.3
WASM					Sg	06 40 24.4	0.0
QSM	**Queen of Sheba**	**0.70**	**84**		Pg	06 40 15.5	0.0
QSM					IAML	06 40 25.8	
	comp=N,403nm,0.3s						
QSM					IAML	06 40 28.1	
	comp=E,430nm,0.5s						
CCAC	**Calif City Air**	**0.78**	**198**		Sg	06 40 27.3	+0.1
CCAC	**Calif City Air**	**0.78**	**198**	Pg	Pg	06 40 16.2	-0.8
CCAC					IAML	06 40 36.2	
	comp=N,320nm,0.4s						
SPG2	**Springville 2**	**0.89**	**290**		Pg	06 40 18.4	-0.8
GWY	**Greenwater Val**	**0.90**	**71**	Pg	Pg	06 40 19.0	-0.4
GSC	**Goldstone, Bar**	**0.96**	**128**		Sg	06 40 33.0	+0.1
GSC	**Goldstone, Bar**	**0.96**	**128**	Pg	Pg	06 40 19.7	-0.7
GSC					IAML	06 40 34.9	
	comp=N,239nm,0.3s						
GSC					IAML	06 40 35.6	
	comp=E,388nm,0.7s						
HYS	**Haystack Butte**	**1.04**	**173**		Pg	06 40 22.2	+0.1
GRAC	**Grapevine Rang**	**1.13**	**15**	Pg	Pg	06 40 23.2	-0.6
GRAC					IAML	06 40 51.4	
	comp=N,179nm,0.7s						
SHOC	**Shoshone, Teco**	**1.18**	**90**		Pg	06 40 24.6	0.0
SGV	**South Grapevin**	**1.22**	**27**		Pg	06 40 25.2	-0.2
VOG	**Valley Oaks Go**	**1.41**	**288**		Pn	06 40 27.9	-0.5
GMN	**Gold Mountain**	**1.45**	**15**		Pn	06 40 28.9	-0.3
DSP	**Deep Springs**	**1.48**	**352**		Pn	06 40 29.0	-0.4
MTUM	**Tungsten Hills**	**1.60**	**335**		Pb	06 40 32.2	-0.1
BCW	**Bitter Crk WRg**	**1.68**	**236**		Pn	06 40 32.1	-0.1
BCW					IAML	06 40 58.8	
	comp=N,108nm,0.7s						
BCW					IAML	06 41 10.6	
	comp=E,122nm,1.0s						
OAT	**Oat Mountain**	**1.71**	**205**		Sn	06 40 55.1	0.0
FON	**Fontana**	**1.81**	**172**		Sb	06 40 58.6	-0.2
MURC	**Murrieta**	**2.33**	**169**		Pb	06 40 44.6	-0.1
BBGB	**Big Mountain B**	**2.76**	**285**	Pn	Pn	06 40 47.0	-0.2
WAKR	**Walker**	**2.94**	**333**	Pn	Pn	06 40 48.8	-0.8
WAKR					IAML	06 42 22.7	
	comp=N,41nm,0.5s						
WAKR					IAML	06 42 34.2	
	comp=E,34nm,0.6s						
Q09A	**Carvers**	**2.96**	**8**	Pn	Pn	06 40 49.7	-0.3
CMB	**Columbia Colle**	**3.01**	**316**	Pn	Pn	06 40 50.0	-0.5
CMB					IAML	06 42 21.5	
	comp=N,38nm,0.7s						
CMB					IAML	06 42 42.6	
	comp=E,35nm,0.7s						
YUH	**Yuha Desert**	**3.57**	**155**	Pn	Pn	06 40 57.4	-0.7
YUH					IAML	06 43 05.7	
	comp=N,52nm,0.8s						
YUH					IAML	06 43 14.2	
	comp=E,49nm,0.7s						
CBX	**Cerro Bola**	**3.68**	**166**	Pn	Pn	06 40 58.0	-1.8
GLA	**Glamis**	**3.72**	**139**	Pn	Pn	06 40 59.1	-1.1
AFDM	**Forest Hills D**	**3.99**	**321**	Pn	Pn	06 41 05.3	+1.4
AFDM					IAML	06 43 38.1	
	comp=N,84nm,0.6s						
HATC	**Hat Creek Radi**	**5.72**	**330**	Pn	Pn	06 41 26.9	-0.8

*IDC **06** 06:41:12.6±1.0,35°.74N×117°.78W, h0km, mb4.0/1, mbtmp3.4/7, ML3.6/6, Error ellipse: s-maj=18.2km s-min=7.8km az=73.0*

*NEIC **06** 06:41:14.4±1.9,35°.801N±0°.009×117°.63W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.8km az=340.0*

*PAS **06** 06:41:15.1±2.0,35°.801N±0°.010×117°.63W±0°.01, h7km±4km, ML4.1/15, ML3.8/90(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=101.0*

ISC 06 06:41:14.9±0.9,35.78N±0°.02×117.64W±0°.02, h13km±6km, n117, σ0.73/121, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.11**	**286**		Pg	**06 41 17.9**	**-0.2**
SRTC	**Snort**	**0.13**	**226**		Pg	**06 41 18.2**	**-0.1**
WVPM	**Volcano Peak E**	**0.22**	**319**		Pb	**06 41 22.6**	**+1.7**
WNMM	**Nine Mile Cany**	**0.23**	**286**		Pg	**06 41 19.5**	**-0.3**
WNMM					Sg	**06 41 23.2**	**+0.1**
LRMC	**Laurel Mtn Rad**	**0.30**	**187**		Pg	**06 41 23.1**	**+0.1**
LRMC	**Laurel Mtn Rad**	**0.30**	**187**	IAML		06 41 26.7	
	comp=E,28μm,0.5s						
LRMC				IAML		06 41 27.0	
	comp=N,44μm,0.2s						
CCCA	**Chr Cany lake**	**0.34**	**139**		Pb	**06 41 22.3**	**-0.4**
MFS	**McCloud Flat S**	**0.38**	**332**		Pg	**06 41 22.1**	**-0.5**
WBSM	**Bird Springs**	**0.47**	**240**		Pg	**06 41 24.2**	**-0.1**
WBSM					Sb	**06 41 31.3**	**-0.9**
DTP	**Desert Tortois**	**0.54**	**198**		Pg	**06 41 25.4**	**0.0**
DTP					Sb	**06 41 33.3**	**-0.6**
WHFM	**Hanning Flat**	**0.58**	**262**		Sg	**06 41 34.0**	**-0.1**
QSM	**Queen of Sheba**	**0.65**	**73**		Pg	**06 41 27.0**	**-0.6**
QSM				IAML		06 41 39.8	
	comp=E,8μm,0.3s						
QSM				IAML		06 41 40.8	
	comp=N,7μm,0.5s						
ISA	**Isabella, Lake**	**0.69**	**261**		Pg	**06 41 28.1**	**-0.3**
ISA				IAML		06 41 38.2	
	comp=N,5μm,0.4s						
ISA				IAML		06 41 39.7	
	comp=E,5μm,0.3s						
ISA	**Isabella, Lake**	**0.69**	**261**		Sg	**06 41 37.3**	**-0.2**
CCAC	**Calif City Air**	**0.70**	**206**		Pb	**06 41 28.4**	**-0.5**
WASM	**Alta Sierra Ca**	**0.75**	**267**		Pg	**06 41 29.1**	**-0.4**
WASM					Sg	**06 41 39.2**	**-0.2**
CWC	**Cottonwood Cre**	**0.75**	**332**		Pb	**06 41 29.4**	**-0.5**
CGO	**Cerro Gordo**	**0.78**	**350**		Pg	**06 41 29.1**	**-1.0**
GSC	**Goldstone, Bar**	**0.83**	**125**		Pb	**06 41 30.6**	**-0.6**
GSC				IAML		06 41 44.8	
	comp=N,6μm,0.5s						
GWY	**Greenwater Val**	**0.88**	**62**		Pb	**06 41 31.3**	**-0.8**
GWY				IAML		06 41 48.3	
	comp=N,4μm,0.4s						
GWY				IAML		06 41 52.2	
	comp=E,6μm,0.5s						
HYS	**Haystack Butte**	**0.92**	**177**		Pb	**06 41 32.3**	**-0.3**
FURC	**Furnace Creek,**	**0.93**	**42**		Pb	**06 41 32.4**	**-0.5**
EDW2	**Edwards Air Fo**	**0.94**	**198**		Pb	**06 41 32.6**	**-0.5**
SPG2	**Springville 2**	**1.01**	**295**		Pb	**06 41 33.2**	**-1.0**
TEJ	**El Tejon**	**1.02**	**238**		Pb	**06 41 33.5**	**-0.9**
TEJ					Sg	**06 41 47.5**	**-0.4**
TPO	**Tropico Hills**	**1.02**	**208**		Pb	**06 41 34.1**	**-0.3**
RRX	**Edison Barstow**	**1.04**	**150**		Pg	**06 41 35.2**	**+0.2**
SBB	**Saddle Back Bu**	**1.10**	**188**		Pn	**06 41 35.5**	**-0.5**
SBB					Sg	**06 41 51.4**	**+1.0**
SHOC	**Shoshone, Teco**	**1.11**	**83**		Pb	**06 41 35.0**	**-0.9**
MAGC	**SCE Magunden P**	**1.13**	**249**		Pg	**06 41 36.1**	**-0.5**
TJR	**Tejon Ranch**	**1.17**	**231**		Pn	**06 41 36.2**	**-0.8**
VES	**Vestal, Richgr**	**1.18**	**273**		Pg	**06 41 36.9**	**-0.6**
VES					Sn	**06 41 51.8**	**-1.2**
THC	**Tehachapi Micr**	**1.21**	**224**		Pn	**06 41 37.0**	**-0.7**
ALPC	**Antelope**	**1.22**	**207**		Pg	**06 41 39.5**	**+1.2**
GRAC	**Grapevine Rang**	**1.23**	**10**		Pb	**06 41 37.7**	**-0.4**
ADO	**Adelanto Recei**	**1.24**	**172**		Pg	**06 41 38.9**	**+0.2**
LEOC	**Leona Valley**	**1.27**	**206**		Pg	**06 41 40.3**	**+1.0**
BAKC	**Calstate**	**1.27**	**251**		Pg	**06 41 38.7**	**-0.7**
AMDNV	**Amargosa**	**1.29**	**58**		Pn	**06 41 37.5**	**-1.0**
LRRC	**Littlerock Res**	**1.29**	**195**		Pb	**06 41 38.5**	**-0.5**
SGV	**South Grapevin**	**1.29**	**22**		Pn	**06 41 38.3**	**-0.5**
WCT	**Wildcat Mounta**	**1.30**	**39**		Pn	**06 41 38.2**	**-0.6**
WCT				IAML		06 41 58.7	
	comp=E,1μm,0.4s						
WCT				IAML		06 42 00.1	
	comp=N,1μm,0.8s						
CJV	**Casa Juvan**	**1.31**	**199**		Pg	**06 41 39.6**	**-0.6**
JNH	**Juniper Hills**	**1.35**	**191**		Pg	**06 41 40.5**	**-0.5**
TIN	**Tinemaha, Big**	**1.36**	**340**		Pb	**06 41 40.1**	**-0.2**
DSCC	**Desert Studies**	**1.40**	**116**		Pn	**06 41 39.3**	**-0.8**
HEC	**Hector,Ludlow**	**1.43**	**131**		Pn	**06 41 40.0**	**-0.5**
TUQ	**Turquoise Moun**	**1.44**	**103**		Pn	**06 41 40.0**	**-0.8**
LCH	**Last Change Ra**	**1.45**	**360**		Pn	**06 41 40.7**	**-0.3**
OSI	**Osito Audit: C**	**1.46**	**218**		Pb	**06 41 42.0**	**0.0**
OSI	**Osito Audit: C**	**1.46**	**218**	IAML		06 42 05.3	
	comp=E,2μm,0.8s						
OSI				IAML		06 42 11.3	
	comp=N,1μm,0.7s						
CHFC	**Chilao Flat St**	**1.48**	**193**		Pg	**06 41 42.9**	**-0.4**
VOG	**Valley Oaks Go**	**1.51**	**291**		Pg	**06 41 44.3**	**+0.3**
BFSC	**Mount Baldy Ra**	**1.54**	**181**		Pg	**06 41 44.0**	**-0.4**
GMN	**Gold Mountain**	**1.55**	**11**		Pn	**06 41 42.3**	**-0.1**
GMN				IAML		06 42 05.6	
	comp=N,996nm,0.6s						
SSK	**Sunset Peak**	**1.56**	**182**		Pg	**06 41 44.6**	**-0.4**
SIL	**Silver Peak**	**1.57**	**155**		Pg	**06 41 44.9**	**-0.3**
MWC	**Mount Wilson**	**1.59**	**193**		Pg	**06 41 45.1**	**-0.3**
MWC	**Mount Wilson**	**1.59**	**193**	IAML		06 42 09.5	
	comp=E,2μm,0.4s						
DSP	**Deep Springs**	**1.61**	**351**		Pb	**06 41 43.1**	**-1.3**
DSP				IAML		06 42 06.7	
	comp=E,1μm,0.6s						
TPNV	**Topopah Spring**	**1.62**	**43**		Pn	**06 41 42.8**	**-0.4**
TPNV				IAML		06 42 09.5	
	comp=E,2μm,0.7s						
TPNV				IAML		06 42 09.5	
	comp=E,2μm,0.5s						
BBRC	**Big Bear Solar**	**1.62**	**159**		Pg	**06 41 46.0**	**0.0**
DECC	**Green Verdugo**	**1.63**	**201**		Pg	**06 41 45.1**	**-1.0**
POCCA	**Poleta Canyon**	**1.66**	**342**		Pb	**06 41 45.3**	**-0.1**
BHPR	**Bishop**	**1.67**	**336**		Pb	**06 41 44.3**	**-1.3**
PASC	**Pasadena Art C**	**1.67**	**196**		Pn	**06 41 44.0**	**+0.2**
PASC				IAML		06 42 13.0	
	comp=N,962nm,0.5s						
PASC				IAML		06 42 14.0	
	comp=E,1μm,0.5s						
BCW	**Bitter Crk WRg**	**1.68**	**241**		Pn	**06 41 44.0**	**0.0**
PSRC	**Puddingstone R**	**1.69**	**185**		Pg	**06 41 47.4**	**0.0**
MTPC	**Mountain Pass**	**1.72**	**99**		Pn	**06 41 44.0**	**-0.7**
SVD	**Seven Oaks Dam**	**1.73**	**165**		Pg	**06 41 48.2**	**+0.2**
MTUM	**Tungsten Hills**	**1.74**	**335**		Pb	**06 41 46.9**	**+0.1**
GR2C	**Griffith Obs.**	**1.74**	**198**		Pg	**06 41 47.3**	**-1.1**
BLCC	**Black Canyon**	**1.75**	**209**		Pb	**06 41 46.2**	**-0.7**
GVRC	**Garvey Reservo**	**1.77**	**193**		Pg	**06 41 48.8**	**-0.1**
CRGC	**Crocker Grade**	**1.79**	**253**		Pb	**06 41 47.5**	**-0.1**
RVR	**Riverside**	**1.79**	**173**		Pg	**06 41 48.7**	**-0.6**
DJJ	**Donna J. Jenkin**	**1.80**	**202**		Pn	**06 41 45.9**	**+0.3**
GTM	**Goat Mountain**	**1.82**	**144**		Pg	**06 41 49.0**	**-0.7**
MZP	**Montezuma Peak**	**1.93**	**6**		Pn	**06 41 47.6**	**0.0**
BLAC	**Blackrock camp**	**1.99**	**149**		Pn	**06 41 48.2**	**-0.1**
EW2	**E Wide Canyon**	**2.09**	**151**		Pn	**06 41 49.7**	**0.0**
TPC	**Twentynine Pal**	**2.12**	**142**		Pn	**06 41 49.7**	**-0.3**
HMTC	**Hemet**	**2.13**	**166**		Pn	**06 41 50.3**	**+0.2**
SHPR	**Sheep Range**	**2.13**	**69**		Pn	**06 41 50.5**	**+0.2**
ELS	**Elsinore Mount**	**2.13**	**175**		Pn	**06 41 50.1**	**-0.1**
ELS				IAML		06 42 25.7	
	comp=E,568nm,0.5s						
ELS				IAML		06 42 30.5	
	comp=N,507nm,0.5s						
DGR	**Domenigoni Val**	**2.19**	**166**		Pn	**06 41 51.3**	**+0.3**
MURC	**Murrieta**	**2.20**	**170**		Pn	**06 41 51.5**	**+0.3**
BACC	**Bachelor Mtn.**	**2.22**	**167**		Pn	**06 41 51.6**	**+0.2**
V12A	**Nelson**	**2.27**	**91**		Pn	**06 41 51.4**	**-0.7**
V12A					IAML	06 42 27.8	
	comp=N,587nm,1.0s						
V12A					IAML	06 42 31.1	
	comp=E,446nm,0.5s						
PFO	**Pinyon Flats O**	**2.37**	**156**		Pn	**06 41 53.6**	**+0.1**
PFO	**Pinyon Flats O**	**2.37**	**156**	Pn	Pn	**06 41 52.8**	**-0.7**
	comp=E,15nm,0.3s,baz=335,slow=15,SNR=7.0						
PFO				Lg	Lg	06 42 29.8	
	comp=E,74nm,0.3s,baz=38,slow=19,SNR=12						
	comp=E,16nm,0.3s						
S11A	**Rachel**	**2.40**	**39**		Pn	**06 41 53.8**	**-0.2**
S11A					IAML	06 42 36.9	
	comp=N,842nm,0.8s						
LHV	**Little Huntoon**	**2.56**	**345**		Pn	**06 41 55.5**	**-0.6**
LHV					IAML	06 42 42.9	
	comp=E,246nm,0.6s						
PMPB	**Monarch Peak**	**2.60**	**281**		Pn	**06 41 56.5**	**-0.2**
PRN	**Pahroc Range**	**2.64**	**51**		Pn	**06 41 57.4**	**+0.1**
PRN					IAML	06 42 28.9	
	comp=E,436nm,0.6s						
PRN					IAML	06 42 56.6	
	comp=N,493nm,0.8s						
NV11	**Mina Array Sit**	**2.68**	**351**		Pn	**06 41 57.6**	**-0.2**
NVAR	**Mina Array Bea**	**2.70**	**349**		Pn	**06 41 57.9**	**-0.3**
NVAR	**Mina Array Bea**	**2.70**	**349**	Pn	Pn	**06 41 58.1**	**-0.1**
	comp=N,35nm,0.3s,baz=166,slow=13,SNR=36						
NVAR				Lg	Lg	06 42 38.6	
	comp=N,16nm,0.3s,baz=40,slow=36,SNR=1.8						
	comp=N,2.9nm,0.3s						
RYN	**Ryan**	**2.93**	**346**		Pn	**06 42 01.6**	**+0.3**
Q09A	**Carvers**	**3.07**	**7**		Pn	**06 42 04.3**	**+1.1**
W13A	**Hualapai Mount**	**3.14**	**101**		Pn	**06 42 03.3**	**-0.9**
W13A					IAML	06 42 57.6	
	comp=N,184nm,1.1s						
W13A					IAML	06 42 58.6	
	comp=E,198nm,0.5s						
SAO	**San Andreas Ge**	**3.23**	**289**		Pn	**06 42 05.4**	**+0.1**
YUH	**Yuha Desert**	**3.43**	**155**		Pn	**06 42 07.0**	**-1.0**
GLA	**Glamis**	**3.58**	**139**		Pn	**06 42 08.8**	**-1.3**
GLA					IAML	06 43 13.4	
	comp=N,276nm,0.5s						
LCMT	**Little Creek M**	**3.75**	**70**		Pn	**06 42 12.5**	**-0.1**
CCUT	**Cedar City**	**3.86**	**62**		Pn	**06 42 14.0**	**-0.2**
KNB	**Kanab**	**4.08**	**71**		Pn	**06 42 17.0**	**-0.1**
KNB					IAML	06 43 27.2	
	comp=E,70nm,1.0s						
KNB					IAML	06 43 48.3	
	comp=N,70nm,0.9s						
SZCU	**Shurtz Canyon**	**4.08**	**62**		Pn	**06 42 17.5**	**+0.4**
Y14A	**Wickenburg**	**4.23**	**114**		Pn	**06 42 19.0**	**0.0**
X16A	**Lo Mia Camp, P**	**5.26**	**103**		Pn	**06 42 34.0**	**+0.7**
X16A					IAML	06 44 07.8	
	comp=N,30nm,1.2s						
ELK	**Elko**	**5.30**	**20**		Pn	**06 42 34.2**	**+0.2**
ELK					IAML	06 44 05.7	
	comp=N,29nm,0.7s						
ELK					IAML	06 44 06.6	
	comp=N,38nm,0.8s						
ELK	**Elko**	**5.30**	**20**	Pn	Pn	**06 42 34.8**	**+0.8**
	comp=N,1.0nm,0.3s,baz=197,slow=16,SNR=14						
ELK				Lg	Lg	06 44 01.1	
	comp=N,15nm,0.3s,baz=277,slow=22,SNR=12						
	comp=N,2.6nm,0.4s						
YBH	**Yreka Blue Hor**	**7.14**	**328**	Pn	Pn	**06 42 58.2**	**-0.9**
	baz=20,slow=3.5,SNR=3.1						
ANMO	**Albuquerque**	**9.17**	**92**	Pn	Pn	**06 43 29.5**	**+2.5**
	comp=N,0.1nm,0.3s,baz=272,slow=17,SNR=3.7						
ANMO				Lg	Lg	06 46 00.8	
	comp=N,0.1nm,0.3s,baz=126,slow=20,SNR=5.6						
	comp=N,2.4nm,0.9s						
PDAR	**Pinedale Array**	**9.37**	**39**	Pn	Pn	**06 43 33.1**	**+3.3**
	comp=N,0.1nm,0.3s,baz=224,slow=8.3,SNR=6.3						
	comp=N,0.7nm,0.7s						
TXAR	**Lajitas Array**	**13.41**	**115**	Pn	Pn	**06 44 27.3**	**+2.2**
	comp=N,0.1nm,0.3s,baz=299,slow=14,SNR=5.4						
	comp=N,0.2nm,0.5s						
PETK	**Petropavlovsk-**	**59.34**	**316**	P	**P**	**06 51 16.9**	**+0.5**
	comp=N,1.2nm,0.6s,baz=79,slow=7.5,SNR=4.1						
	comp=N,1.2nm,0.6s						

*IDC **06** 06:41:13.6±0.7, 18°.60S×176°.22E, h0km, mb4.2/13, mbtmp4.2/14, ML4.3/1, Error ellipse: s-maj=21.4km s-min=17.9km az=104.0*

*NEIC

M17K					IAmb	IAmb	06 53 46.8	
	comp=Z,5.7nm,1.1s							
K15K	**Wolf Creek Mou**	**82.39**	**10**		**P**	**P**	**06 53 38.7**	**+1.3**
K15K					IAmb	IAmb	06 54 02.7	
	comp=Z,2.9nm,1.1s							
L18K	**Granite Mounta**	**83.22**	**12**	P	**P**	**P**	**06 53 41.8**	**+0.1**
L18K					IAmb	IAmb	06 54 02.7	
	comp=Z,4.7nm,1.1s							
J16K	**Anvik River**	**83.47**	**10**			**P**	**06 53 43.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**84.43**	**291**			**P**	**06 53 48.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**84.43**	**291**	P		**P**	**06 53 47.2**	**-1.7**
	comp=Z,1.3nm,0.3s,baz=113,slow=3.1,SNR=12							
	comp=Z,1.3nm,0.3s							
ILAR	**Eielson Array**	**87.64**	**15**	P		**P**	**06 54 03.2**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=243,slow=6.1,SNR=5.7							
	comp=Z,0.7nm,0.9s							
SNAA	**Sanae**	**90.08**	**180**	P		**P**	**06 54 15.6**	**+0.1**
SNAA					IAmb	IAmb	06 54 22.4	
	comp=Z,3.3nm,1.0s							
SNAA	**Sanae**	**90.08**	**180**	P		**P**	**06 54 14.3**	**-1.2**
	comp=Z,2.5nm,1.1s,baz=206,slow=2.5,SNR=5.6							
	comp=Z,2.5nm,1.1s							
TXAR	**Lajitas Array**	**90.53**	**59**	P		**P**	**06 54 19.9**	**+1.6**
	comp=Z,0.9nm,1.0s,baz=193,slow=5.1,SNR=6.3							
	comp=Z,0.9nm,1.0s							
SONM	**Songino Array**	**90.79**	**321**	P		**P**	**06 54 18.2**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=104,slow=1.8,SNR=3.7							
	comp=Z,0.2nm,0.3s							
STEB	**Steborice**	**144.23**	**336**	*e*PKP		**PKPdf**	**07 00 51.4**	**-0.2**
OSTC	**Ostas**	**144.29**	**338**	*e*PKP		**PKiKP**	**07 00 53.2**	**-2.2**
UPC	**Upice**	**144.41**	**338**	*e*PKP		**PKPdf**	**07 00 52.1**	**+0.2**
DPC	**Dobruska-Polom**	**144.43**	**338**	*e*PKP		**PKPdf**	**07 00 51.6**	**-0.4**
DPC				*ex*		x	07 00 57.1	
MAUC	**Maruska**	**144.67**	**336**	*e*PKP		**PKPdf**	**07 00 53.3**	**+0.8**
MAUC				*ex*		x	07 00 58.3	
PVCC	**Panska Ves**	**144.88**	**340**	*e*PKP		**PKPdf**	**07 00 53.9**	**+1.2**
ZVC	**Zvikov**	**145.94**	**339**	*e*PKP		**PKPab**	**07 00 55.7**	**-0.1**
ZVC				*ex*		x	07 01 02.1	
KHC	**Kasperske Hory**	**146.41**	**339**	*e*PKP		**PKiKP**	**07 00 58.2**	**-1.6**
KHC				*ex*		x	07 01 04.3	
CKRC	**Cesky Krumlov**	**146.42**	**338**	*e*PKP		**PKPab**	**07 00 57.6**	**-0.1**
CKRC				*ex*		x	07 01 03.1	
CONA	**Conrad Observa**	**146.60**	**336**	*i* PKP		**PKPab**	**07 00 58.3**	**-0.2**
	comp=Z,13nm,1.2s							
GERES	**GERESS Array B**	**146.61**	**339**	PKPbc		**PKPbc**	**07 00 57.3**	**-0.2**
	comp=Z,3.1nm,0.9s,baz=45,slow=4.0,SNR=15							
RONA	**Rosalia, Austr**	**146.61**	**335**	*i* PKP		**PKPab**	**07 00 58.8**	**+0.3**
	comp=Z,12nm,1.2s							
MOA	**Molln**	**147.26**	**337**	*i* PKP		**PKiKP**	**07 01 00.7**	**-0.9**
	comp=Z,4.8nm,1.0s							
ARSA	**Arzberg**	**147.28**	**336**	*e*PKP		**PKiKP**	**07 01 01.1**	**-0.5**
	comp=Z,4.9nm,0.8s							
BIOA	**Bad Ischl, Aus**	**147.62**	**338**	*i* PKP		**PKPab**	**07 01 01.8**	**-0.6**
	comp=Z,0.7nm,0.4s							
SOKA	**Soboth**	**147.94**	**335**	*i* PKP		**PKPbc**	**07 01 01.2**	**0.0**
	comp=Z,5.8nm,1.5s							
LESA	**Schwarzleotal**	**148.19**	**339**	*i* PKP		**PKiKP**	**07 01 02.3**	**-1.2**
	comp=Z,11nm,1.4s							
KBA	**Koelnbreinsper**	**148.25**	**338**	*i* PKP		**PKPab**	**07 01 05.6**	**+0.5**
	comp=Z,2.7nm,0.9s							
OBKA	**Obir**	**148.27**	**336**	*i* PKP		**PKiKP**	**07 01 02.9**	**-0.9**
	comp=Z,2.8nm,1.1s							
MYKA	**Terra Mystica**	**148.52**	**337**	*i* PKP		**PKPab**	**07 01 04.7**	**-1.3**
	comp=Z,4.6nm,0.9s							
WATA	**Walderalm**	**148.63**	**340**	*i* PKP		**PKiKP**	**07 01 03.3**	**-1.3**
	comp=Z,7.6nm,1.6s							
WTTA	**Wattenberg**	**148.67**	**340**	*i* PKP		**PKiKP**	**07 01 03.9**	**-0.8**
	comp=Z,9.4nm,1.4s							
RETA	**Reutte**	**148.75**	**341**	*i* PKP		**PKiKP**	**07 01 04.6**	**-0.1**
	comp=Z,3.4nm,0.9s							
MOTA	**Moosalm**	**148.78**	**340**	*i* PKP		**PKPbc**	**07 01 03.3**	**-0.1**
	comp=Z,12nm,1.2s							
ABTA	**Abfaltersbach**	**148.83**	**338**	*i* PKP		**PKPbc**	**07 01 03.6**	**+0.1**
	comp=Z,8.6nm,1.6s							
SQTA	**Sankt Quirin**	**148.85**	**340**	*i* PKP		**PKiKP**	**07 01 04.3**	**-0.7**
	comp=Z,6.6nm,1.0s							
FETA	**Feichten**	**149.18**	**341**	*e*PKP		**PKiKP**	**07 01 05.2**	**-0.5**
	comp=Z,9.4nm,1.3s							
DAVA	**Damuels**	**149.20**	**342**	*i* PKP		**PKiKP**	**07 01 05.6**	**-0.1**
	comp=Z,8.7nm,1.2s							

*NEIC **06** 06:47:07.7±2.1, 35°.782N±0°.008×117°.61W±0°.01, h5km±1km, Error ellipse: s-maj=2.0km s-min=1.4km az=312.0*

PAS 06 06:47:08.1±2.0, **35°.787N**±0°.004×**117°.62W**±0°.01, **h3**km±2km, **ML3.7**/161, **ML3.4**/98(NEIC), **Error ellipse: s-maj=1.3km s-min=0.7km az=83.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.03**	**32**		Pg	06 47 09.2	+0.1
CLC					Sg	06 47 10.0	+0.4
TOW	**Tower One**	**0.12**	**281**		Pg	06 47 11.0	+0.5
SRTC	**Snort**	**0.14**	**228**		Pg	06 47 11.3	+0.4
SRTC					Sg	06 47 14.3	+1.5
WVPM	**Volcano Peak E**	**0.23**	**315**		Pg	06 47 13.3	+0.7
WVPM					Sg	06 47 16.5	+1.0
MPMC	**Manual Prospec**	**0.29**	**21**		Pg	06 47 13.7	0.0
MPMC					Sg	06 47 17.0	-0.6
LRMC	**Laurel Mtn Rad**	**0.31**	**189**		Pg	06 47 14.1	0.0
LRMC					Sg	06 47 18.8	+0.6
LRMC	**Laurel Mtn Rad**	**0.31**	**189**	IAML		06 47 19.7	
	comp=N,7μm,0.2s						
LRMC				IAML		06 47 19.8	
	comp=E,7μm,0.3s						
WRVM	**Rose V. Centra**	**0.31**	**315**		Pg	06 47 14.8	+0.6
CCCA	**Chr Cany lake**	**0.33**	**141**		Pg	06 47 15.1	+0.6
CCCA					Sg	06 47 19.5	+0.6
MFS	**McCloud Flat S**	**0.38**	**330**		Pg	06 47 15.8	+0.3
WBSM	**Bird Springs**	**0.49**	**240**		Pg	06 47 16.8	-0.8
WBSM					Sg	06 47 24.5	+0.5
WORM	**Onyx Ranch**	**0.52**	**260**		Pb	06 47 20.5	+0.7
DTP	**Desert Tortois**	**0.55**	**200**		Pg	06 47 18.4	-0.3
WHFM	**Hanning Flat**	**0.60**	**262**		Pg	06 47 19.4	-0.2
WHFM					Sg	06 47 28.4	+1.0
QSM	**Queen of Sheba**	**0.64**	**74**	Pg	Pg	06 47 19.6	-0.6
QSM				IAML		06 47 33.7	
	comp=E,3μm,0.4s						
QSM				IAML		06 47 38.5	
	comp=N,3μm,0.6s						
ISA	**Isabella, Lake**	**0.71**	**260**		Sg	06 47 31.5	+0.7
ISA	**Isabella, Lake**	**0.71**	**260**		Pg	06 47 21.2	-0.4
ISA				IAML		06 47 33.1	
	comp=N,2μm,0.5s						
ISA				IAML		06 47 33.2	
	comp=E,2μm,0.2s						
CCAC	**Calif City Air**	**0.71**	**207**		Sg	06 47 31.5	+0.5
CCAC	**Calif City Air**	**0.71**	**207**		Pg	06 47 21.4	-0.3
CCAC				IAML		06 47 36.8	
	comp=E,3μm,0.5s						
CCAC				IAML		06 47 36.8	
	comp=N,2μm,0.6s						
CWC	**Cottonwood Cre**	**0.75**	**330**		Pg	06 47 23.2	+0.7
CWC					Sb	06 47 33.9	-0.8
WASM	**Alta Sierra Ca**	**0.76**	**267**		Pg	06 47 22.5	-0.3
WASM					Sg	06 47 33.3	+0.6
CGO	**Cerro Gordo**	**0.78**	**349**		Pg	06 47 22.8	-0.2
CGO					Sg	06 47 34.1	+1.0
GSC	**Goldstone, Bar**	**0.82**	**126**		Sg	06 47 35.2	+0.7
GSC	**Goldstone, Bar**	**0.82**	**126**		Pg	06 47 23.5	-0.3
GSC				IAML		06 47 43.0	
	comp=N,2μm,0.6s						
GSC				IAML		06 47 43.6	
	comp=E,3μm,0.9s						
GWY	**Greenwater Val**	**0.87**	**62**		Pg	06 47 24.6	-0.2
GWY				IAML		06 47 46.0	
	comp=N,2μm,0.5s						
HYS	**Haystack Butte**	**0.92**	**177**		Pg	06 47 25.1	-0.6
EDW2	**Edwards Air Fo**	**0.95**	**199**		Pg	06 47 25.7	-0.7
SPG2	**Springville 2**	**1.02**	**294**		Pg	06 47 26.9	-0.7
SPG2					Sg	06 47 40.1	-0.7
TPO	**Tropico Hills**	**1.03**	**209**		Pg	06 47 27.3	-0.6
TEJ	**El Tejon**	**1.03**	**238**		Pg	06 47 26.9	-1.0
SBB	**Saddle Back Bu**	**1.11**	**189**		Pg	06 47 28.4	-0.9
SBB					Sg	06 47 42.6	-1.1
ARVC	**Arvin**	**1.19**	**237**		Pg	06 47 28.3	-2.5
TJR	**Tejon Ranch**	**1.19**	**231**		Pg	06 47 29.7	-1.2
VES	**Vestal, Richgr**	**1.19**	**273**		Pg	06 47 30.3	-0.6
VES					Pn	06 47 32.8	+1.1
VES					Sg	06 47 46.6	+0.2
THC	**Tehachapi Micr**	**1.22**	**225**		Pg	06 47 30.2	-1.3
GRAC	**Grapevine Rang**	**1.22**	**10**		Sb	06 47 48.1	-0.1
GRAC	**Grapevine Rang**	**1.22**	**10**		Pg	06 47 30.9	-0.7
GRAC				IAML		06 47 52.6	
	comp=E,1μm,0.7s						
ALPC	**Antelope**	**1.23**	**207**		Pg	06 47 31.6	-0.1
ADO	**Adelanto Recei**	**1.24**	**173**		Pg	06 47 31.9	0.0
VTV	**Victorville**	**1.25**	**169**		Pg	06 47 31.6	-0.4
VTV					Sg	06 47 45.5	-2.6
AMDNV	**Amargosa**	**1.27**	**58**		Pg	06 47 31.1	-1.4
LEOC	**Leona Valley**	**1.28**	**206**		Pg	06 47 31.6	-1.1
WCT	**Wildcat Mounta**	**1.28**	**38**		Pg	06 47 31.7	-1.1
WCT				IAML		06 47 54.2	
	comp=E,954nm,0.4s						
WCT				IAML		06 47 56.1	
	comp=N,782nm,0.6s						
BAKC	**Calstate**	**1.29**	**250**		Pg	06 47 32.0	-0.8
LRRC	**Littlerock Res**	**1.30**	**195**		Pg	06 47 31.8	-1.3
TIN	**Tinemaha, Big**	**1.36**	**339**		Pn	06 47 33.6	-0.5
JNH	**Juniper Hills**	**1.36**	**192**		Pn	06 47 32.7	-1.4
DSCC	**Desert Studies**	**1.39**	**117**		Pn	06 47 33.7	-0.8
HEC	**Hector,Ludlow**	**1.42**	**132**		Sn	06 47 54.1	0.0
LCH	**Last Change Ra**	**1.44**	**359**		Pg	06 47 35.9	+0.1
OSI	**Osito Audit: C**	**1.48**	**218**		Pn	06 47 34.1	-1.6
OSI	**Osito Audit: C**	**1.48**	**218**	Pn	Pn	06 47 34.8	-0.8
OSI				IAML		06 48 02.3	
	comp=E,569nm,0.7s						
OSI				IAML		06 48 06.1	
	comp=N,525nm,0.7s						
CHFC	**Chilao Flat St**	**1.49**	**193**		Pn	06 47 35.7	-0.2
VOG	**Valley Oaks Go**	**1.52**	**291**		Pg	06 47 37.2	-0.1
VOG					Sn	06 47 56.3	-0.2
GMN	**Gold Mountain**	**1.54**	**11**		Pn	06 47 35.8	-0.9
GMN				IAML		06 47 42.4	
	comp=N,518nm,0.4s						
GMN				IAML		06 47 42.5	
	comp=E,412nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.54**	**181**		Pn	06 47 34.2	-2.5
BFSC					Sb	06 47 57.4	-0.1
PDE	**Pardee, Santa**	**1.56**	**211**		Sn	06 47 55.7	-1.7
SSK	**Sunset Peak**	**1.57**	**182**		Pn	06 47 36.8	-0.3
SIL	**Silver Peak**	**1.58**	**155**		Pn	06 47 37.5	+0.4
MWC	**Mount Wilson**	**1.60**	**193**		Pn	06 47 36.7	-0.7
MWC				IAML		06 48 07.0	
	comp=N,809nm,0.6s						
TPNV	**Topopah Spring**	**1.60**	**43**		Pn	06 47 36.1	-1.4
DSP	**Deep Springs**	**1.60**	**350**		Sb	06 47 58.9	-0.1
DSP	**Deep Springs**	**1.60**	**350**		Pn	06 47 36.9	-0.4
DSP				IAML		06 48 00.4	
	comp=E,464nm,0.5s						
BBRC	**Big Bear Solar**	**1.63**	**159**		Pb	06 47 38.8	0.0
DECC	**Green Verdugo**	**1.64**	**201**		Pn	06 47 37.1	-0.7
POCCA	**Poleta Canyon**	**1.66**	**342**		Pg	06 47 39.7	-0.2
BHPR	**Bishop**	**1.66**	**335**		Pn	06 47 38.1	-0.3
PASC	**Pasadena Art C**	**1.68**	**196**		Pn	06 47 36.9	-1.4
BCW	**Bitter Crk WRg**	**1.69**	**241**		Pn	06 47 38.8	+0.2
BCW					Sn	06 47 59.5	-1.4
BCW	**Bitter Crk WRg**	**1.69**	**241**		Pn	06 47 38.5	-0.2
BCW	**Bitter Crk WRg**	**1.69**	**241**	IAML		06 48 16.5	
	comp=N,737nm,1.1s						
PSRC	**Puddingstone R**	**1.70**	**185**		Pn	06 47 38.1	-0.6
MTPC	**Mountain Pass**	**1.71**	**100**		Pg	06 47 40.6	-0.3
SVD	**Seven Oaks Dam**	**1.73**	**166**		Pb	06 47 40.5	0.0
MTUM	**Tungsten Hills**	**1.74**	**334**		Pb	06 47 40.5	-0.2
CHNC	**Chino**	**1.79**	**182**		Sn	06 48 02.3	-0.7
RVR	**Riverside**	**1.80**	**174**		Pn	06 47 39.0	-1.0
CRGC	**Crocker Grade**	**1.80**	**253**		Pb	06 47 41.4	-0.4
MZP	**Montezuma Peak**	**1.92**	**6**		Pn	06 47 41.2	-0.8
BLAC	**Blackrock camp**	**1.99**	**149**		Pb	06 47 45.3	+0.3
SMMC	**Simmler**	**1.99**	**257**		Pb	06 47 45.0	0.0
KCC	**Kaiser Creek**	**2.06**	**319**		Pb	06 47 46.2	+0.1
BENR	**Benton**	**2.07**	**339**		Pb	06 47 46.8	+0.3
MLAC	**Mammoth, Mammo**	**2.08**	**332**		Pb	06 47 46.8	+0.1
SHPR	**Sheep Range**	**2.12**	**69**	Pn	Pn	06 47 44.0	-0.6
MCSM	**Casa Diablo Ho**	**2.13**	**331**		Pb	06 47 47.6	+0.1
ELS	**Elsinore Mount**	**2.14**	**176**		Pn	06 47 43.6	-1.1
ELS				IAML		06 48 24.5	
	comp=E,233nm,0.6s						
POB	**Polly Butte**	**2.17**	**164**		Pn	06 47 44.5	-0.7
DGR	**Domenigoni Val**	**2.19**	**167**		Pn	06 47 44.6	-0.8
MURC	**Murrieta**	**2.21**	**171**		Pn	06 47 45.0	-0.7
V12A	**Nelson**	**2.25**	**91**	Pn	Pn	06 47 45.8	-0.5
V12A				IAML		06 48 26.4	
	comp=N,161nm,0.5s						
V12A				IAML		06 48 34.1	
	comp=E,163nm,0.5s						
PMD	**Palm Desert**	**2.37**	**154**	Pn	Pn	06 47 46.4	-1.5
PMD				IAML		06 48 32.1	
	comp=E,146nm,0.6s						
PFO	**Pinyon Flats O**	**2.37**	**156**		Pn	06 47 46.8	-1.2
PFO				IAML		06 48 35.4	
	comp=E,203nm,0.9s						
XPFO	**Pinon Flat**	**2.37**	**156**		Pn	06 47 47.1	-1.0
LHV	**Little Huntoon**	**2.56**	**344**		Pn	06 47 51.0	+0.5
LHV				IAML		06 48 37.0	
	comp=E,148nm,1.6s						
LHV				IAML		06 48 47.3	
	comp=N,115nm,0.8s						
PMPB	**Monarch Peak**	**2.62**	**280**		Pn	06 47 50.5	-0.8
PMPB				IAML		06 48 35.0	
	comp=N,276nm,0.6s						
PMPB				IAML		06 48 39.9	
	comp=E,289nm,1.1s						
PRN	**Pahroc Range**	**2.62**	**51**		Pn	06 47 51.1	-0.4
NV11	**Mina Array Sit**	**2.67**	**351**		Pn	06 47 51.2	-1.0
NVAR	**Mina Array Bea**	**2.69**	**348**		Pn	06 47 52.4	-0.1
BBGB	**Big Mountain B**	**2.88**	**287**		Pn	06 47 55.2	+0.3
RYN	**Ryan**	**2.93**	**346**		Pn	06 47 55.7	0.0
Q09A	**Carvers**	**3.06**	**6**	Pn	Pn	06 47 57.8	+0.2
W13A	**Hualapai Mount**	**3.12**	**102**	Pn	Pn	06 47 58.6	-1.6
SAO	**San Andreas Ge**	**3.24**	**289**		Pn	06 47 59.6	-0.3
TKX	**Tecate**	**3.32**	**165**	Pn	Pn	06 48 00.5	-0.5
TKX				IAML		06 48 58.1	
	comp=E,70nm,0.2s						
TKX				IAML		06 48 58.2	
	comp=N,76nm,0.3s						
YUH	**Yuha Desert**	**3.43**	**155**	Pn	Pn	06 48 00.5	-2.0
YUH				IAML		06 49 06.1	
	comp=E,53nm,1.3s						
CBX	**Cerro Bola**	**3.56**	**167**	Pn	Pn	06 48 03.4	-0.9
GLA	**Glamis**	**3.57**	**139**	Pn	Pn	06 48 04.7	+0.2
LCMT	**Little Creek M**	**3.73**	**70**	Pn	Pn	06 48 08.4	+1.6
MPK	**Martis Peak**	**3.99**	**332**		Pn	06 48 11.2	+0.7
ESJX	**Sierra Juarez**	**4.02**	**159**		Pn	06 48 11.4	+0.7
ESJX				IAML		06 49 22.1	
	comp=N,37nm,0.7s						
ESJX				IAML		06 49 33.3	
	comp=E,31nm,1.4s						
KNB	**Kanab**	**4.06**	**71**		Pn	06 48 11.5	+0.2
KNB				IAML		06 49 33.8	
	comp=N,34nm,1.4s						
SZCU	**Shurtz Canyon**	**4.07**	**62**		Pn	06 48 10.6	-0.7
SZCU				IAML		06 49 26.7	
	comp=E,31nm,0.4s						
PSUT	**Pine Spring**	**4.07**	**47**		Pn	06 48 12.9	+1.5
PSUT				IAML		06 49 23.9	
	comp=E,87nm,0.7s						
PSUT				IAML		06 49 25.6	
	comp=N,69nm,0.7s						
Y14A	**Wickenburg**	**4.22**	**115**		Pn	06 48 13.4	+0.1
Y14A				IAML		06 49 31.1	
	comp=E,68nm,0.7s						
WUAZ	**Wupatki**	**5.09**	**91**	Pn	Pn	06 48 26.3	+0.8
X16A	**Lo Mia Camp, P**	**5.25**	**103**	Pn	Pn	06 48 26.2	-1.4
X16A				IAML		06 50 09.5	
	comp=N,14nm,1.2s						
ELK	**Elko**	**5.29**	**20**		Pn	06 48 29.3	+1.0
ELK				IAML		06 49 59.2	
	comp=N,15nm,0.6s						

*NEIC **06** 06:47:54.4±1.0, 35°.740N±0°.010×117°.57W±0°.01, h11km±8km, Error ellipse: s-maj=2.0km s-min=0.4km az=133.0*

PAS 06 06:47:54.9±0.9, **35°.73N**±0°.01×**117°.57W**±0°.01, **h8**km±8km, **ML3.1**/15, **ML3.0**/36(NEIC), **Error ellipse: s-maj=1.8km s-min=1.3km az=140.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.09**	**344**		Pg	06 47 57.1	-0.1
SRTC	**Snort**	**0.15**	**255**		Pg	06 47 58.5	+0.4
LRMC	**Laurel Mtn Rad**	**0.27**	**200**		Pg	06 48 00.1	-0.2
LRMC					Sg	06 48 04.3	+0.4
LRMC	**Laurel Mtn Rad**	**0.27**	**200**	IAML		06 48 04.5	
	comp=E,1μm,0.3s						
LRMC				IAML		06 48 04.7	
	comp=N,2μm,0.2s						
MPMC	**Manual Prospec**	**0.33**	**11**		Pg	06 48 01.2	-0.3
MPMC					Sg	06 48 05.9	-0.1
WBSM	**Bird Springs**	**0.51**	**248**		Pg	06 48 04.3	-0.4
WBSM					Sg	06 48 11.4	+0.1
DTP	**Desert Tortois**	**0.52**	**206**		Sg	06 48 11.8	+0.1
WORM	**Onyx Ranch**	**0.55**	**266**		Pg	06 48 05.2	-0.4
WORM					Sg	06 48 12.5	-0.3
QSM	**Queen of Sheba**	**0.61**	**67**		Sg	06 48 14.2	-0.6
QSM	**Queen of Sheba**	**0.61**	**67**		Pg	06 48 05.8	-0.9
QSM				IAML		06 48 14.3	
	comp=N,493nm,0.8s						
QSM				IAML		06 48 14.3	
	comp=E,536nm,0.1s						
WHFM	**Hanning Flat**	**0.64**	**267**		Pg	06 48 06.8	-0.4
CCAC	**Calif City Air**	**0.68**	**213**	Pg	Pg	06 48 07.5	-0.6
CCAC				IAML		06 48 18.5	
	comp=N,374nm,1.1s						
ISA	**Isabella, Lake**	**0.74**	**265**		Pg	06 48 08.2	-1.0
ISA				IAML		06 48 28.6	
	comp=N,390nm,0.3s						
ISA				IAML		06 48 29.5	
	comp=E,336nm,0.2s						
WASM	**Alta Sierra Ca**	**0.81**	**271**		Sg	06 48 21.0	0.0
GWY	**Greenwater Val**	**0.86**	**58**		Pg	06 48 10.7	-0.7
GWY	**Greenwater Val**	**0.86**	**58**	IAML		06 48 16.2	
	comp=N,266nm,1.0s						
GWY				IAML		06 48 21.9	
	comp=E,379nm,0.5s						
HYS	**Haystack Butte**	**0.87**	**180**		Pg	06 48 11.7	+0.1
SBB	**Saddle Back Bu**	**1.06**	**192**		Sg	06 48 28.9	-0.2
HOLC	**Holcomb Ridge**	**1.29**	**190**		Pn	06 48 18.9	-0.4
WCT	**Wildcat Mounta**	**1.30**	**35**		Pn	06 48 18.9	-0.6
GMN	**Gold Mountain**	**1.58**	**9**		Pn	06 48 23.2	-0.3
GMN				IAML		06 48 37.0	
	comp=N,100nm,0.5s						
DSP	**Deep Springs**	**1.67**	**349**	Pn	Pn	06 48 23.4	-0.9
TPH	**Tonopah**	**2.35**	**7**	Pn	Pn	06 48 33.7	-0.3
LHV	**Little Huntoon**	**2.62**	**344**	Pn	Pn	06 48 37.5	+0.1
LHV				IAML		06 48 56.5	
	comp=E,93nm,1.2s						
LHV				IAML		06 49 09.6	
	comp=N,67nm,1.1s						
W13A	**Hualapai Mount**	**3.07**	**101**	Pn	Pn	06 48 44.0	+0.1
W13A				IAML		06 49 03.4	
	comp=N,55nm,0.9s						
W13A				IAML		06 49 04.2	
	comp=E,38nm,0.6s						
BLYC	**Blythe**	**3.19**	**127**	Pn	Pn	06 48 44.8	-0.5
BLYC				IAML		06 49 06.0	
	comp=E,90nm,0.8s						
BLYC				IAML		06 49 08.6	
	comp=N,64nm,0.5s						
CBX	**Cerro Bola**	**3.49**	**167**	Pn	Pn	06 48 50.4	+0.8
SPR3	**Spring Creek 3**	**4.16**	**37**	Pn	Pn	06 48 59.7	+0.8
SPR3				IAML		06 49 30.3	
	comp=E,42nm,1.0s						
Y14A	**Wickenburg**	**4.16**	**114**	Pn	Pn	06 48 59.7	+1.0
AFDM	**Forest Hills D**	**4.20**	**321**	Pn	Pn	06 48 59.3	+0.1
AFDM				IAML		06 49 28.4	
	comp=N,44nm,0.8s						
AFDM				IAML		06 49 31.4	
	comp=E,44nm,0.7s						
BEKR	**Beckworth**	**4.68**	**333**	Pn	Pn	06 49 07.2	+1.2
HOPS	**Hopland Field**	**5.46**	**308**	Pn	Pn	06 49 15.6	-0.9

*NEIC **06** 06:49:28.9±1.6, 35°.92N±0°.01×117°.69W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.0km az=355.0*

PAS 06 06:49:28.9±1.6, **35°.92N**±0°.01×**117°.693W**±0°.009, **h2**km±3km, **ML3.3**/20, **ML3.1**/52(NEIC), **Error ellipse: s-maj=1.7km s-min=0.8km az=156.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.10**	**285**		Pg	06 49 31.2	+0.2
TOW	**Tower One**	**0.13**	**207**		Pg	06 49 32.0	+0.6
WRVM	**Rose V. Centra**	**0.18**	**298**		Pg	06 49 32.6	+0.1
WNMM	**Nine Mile Cany**	**0.19**	**245**		Pg	06 49 32.8	+0.3
MPMC	**Manual Prospec**	**0.21**	**51**		Pg	06 49 34.9	+1.9
MFS	**McCloud Flat S**	**0.23**	**326**		Pg	06 49 33.5	+0.1
SRTC	**Snort**	**0.23**	**191**		Pg	06 49 34.1	+0.7
LRMC	**Laurel Mtn Rad**	**0.44**	**179**		Pg	06 49 36.4	-1.0
LRMC					Sg	06 49 43.2	+0.1
LRMC	**Laurel Mtn Rad**	**0.44**	**179**	IAML		06 49 43.4	
	comp=E,5μm,0.2s						
LRMC				IAML		06 49 44.1	
	comp=N,4μm,0.2s						
WBSM	**Bird Springs**	**0.53**	**223**		Pg	06 49 39.1	0.0
WBSM					Sg	06 49 46.

BCW	**Bitter Crk WRg**	**1.71**	**236**	IAML			06 50 37.8	
	comp=N,273nm,0.8s							
MWC	**Mount Wilson**	**1.72**	**190**			Pn	06 50 00.2	+0.2
MWC				IAML			06 50 24.7	
	comp=N,139nm,0.3s							
MWC				IAML			06 50 34.3	
	comp=E,144nm,0.8s							
BBRC	**Big Bear Solar**	**1.77**	**159**			Pb	06 50 02.5	+0.3
CRGC	**Crocker Grade**	**1.79**	**248**			Pb	06 50 01.7	-0.8
MZP	**Montezuma Peak**	**1.79**	**8**			Pn	06 50 00.5	-0.6
MTPC	**Mountain Pass**	**1.79**	**103**			Pn	06 49 59.9	-1.2
BLCC	**Black Canyon**	**1.86**	**206**			Pn	06 50 00.4	-1.3
RVR	**Riverside**	**1.94**	**172**			Pb	06 50 05.5	+0.5
GTM	**Goat Mountain**	**1.96**	**146**			Pb	06 50 05.5	+0.2
SHPR	**Sheep Range**	**2.13**	**73**	Pn		Pn	06 50 04.5	-1.1
TPH	**Tonopah**	**2.18**	**10**			Pn	06 50 06.1	-0.3
V12A	**Nelson**	**2.32**	**94**			Pn	06 50 07.0	-1.2
V12A				IAML			06 50 45.1	
	comp=N,90nm,1.1s							
V12A				IAML			06 50 45.2	
	comp=E,83nm,0.4s							
S11A	**Rachel**	**2.32**	**42**	Pn		Pn	06 50 08.0	-0.2
S11A				IAML			06 50 46.6	
	comp=N,174nm,0.8s							
MURC	**Murrieta**	**2.35**	**170**			Pb	06 50 12.4	+0.4
PFO	**Pinyon Flats O**	**2.52**	**156**	Pn		Pn	06 50 10.1	-0.8
PFO				IAML			06 50 53.9	
	comp=N,83nm,0.7s							
PFO				IAML			06 50 56.0	
	comp=N,61nm,0.9s							
NV11	**Mina Array Sit**	**2.53**	**352**	Pn		Pn	06 50 11.0	-0.2
PRN	**Pahroc Range**	**2.59**	**54**	Pn		Pn	06 50 11.0	-0.9
PRN				IAML			06 51 02.6	
	comp=N,113nm,0.9s							
RYN	**Ryan**	**2.78**	**346**	Pn		Pn	06 50 15.1	+0.5
BBGB	**Big Mountain B**	**2.78**	**285**	Pn		Pn	06 50 14.9	+0.3
Q09A	**Carvers**	**2.93**	**8**	Pn		Pn	06 50 16.4	-0.3
R11B	**Troy Canyon, C**	**2.95**	**34**			Pn	06 50 16.2	-0.7
SAO	**San Andreas Ge**	**3.15**	**287**	Pn		Pn	06 50 20.9	+1.5
W13A	**Hualapai Mount**	**3.21**	**104**	Pn		Pn	06 50 19.0	-1.5
LCMT	**Little Creek M**	**3.75**	**72**	Pn		Pn	06 50 28.7	+0.8
SPR3	**Spring Creek 3**	**4.07**	**40**	Pn		Pn	06 50 32.2	-0.3
KNB	**Kanab**	**4.07**	**73**	Pn		Pn	06 50 31.8	-0.6

*NEIC **06** 06:50:35.9±2.4,35°.705N±0°.008×117°.50W±0°.01, h2km±1km, Error ellipse: s-maj=1.3km s-min=1.1km az=212.0*

PAS 06 06:50:36.5±3.6,35°.69N±0°.01×117°.48W±0°.01,h8km±7km, ML3.4/80,ML3.1/46(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=153.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.16**	**324**		Pg	06 50 39.8	-0.1
CLC					Sg	06 50 42.3	0.0
CCCA	**Chr Cany lake**	**0.19**	**149**		Pg	06 50 40.7	+0.3
CCCA					Sg	06 50 44.1	+1.1
SRTC	**Snort**	**0.22**	**271**		Pg	06 50 41.2	+0.3
SRTC					Sg	06 50 45.2	+1.3
TOW	**Tower One**	**0.26**	**298**		Pg	06 50 42.0	+0.3
TOW					Sb	06 50 46.7	-1.4
LRMC	**Laurel Mtn Rad**	**0.26**	**218**		Pg	06 50 41.6	-0.2
LRMC					Sg	06 50 45.4	0.0
LRMC	**Laurel Mtn Rad**	**0.26**	**218**	IAML		06 50 45.8	
	comp=E,8μm,0.2s						
LRMC				IAML		06 50 46.3	
	comp=N,15μm,0.2s						
WNMM	**Nine Mile Cany**	**0.38**	**294**		Pg	06 50 43.7	-0.1
WNMM					Sg	06 50 49.3	+0.4
JRC2	**Joshua Ridge**	**0.40**	**318**		Sg	06 50 49.7	+0.2
WRVM	**Rose V. Centra**	**0.46**	**314**		Pg	06 50 45.2	-0.3
WRVM					Sg	06 50 51.9	+0.4
DTP	**Desert Tortois**	**0.51**	**215**		Pg	06 50 46.0	-0.4
DTP					Sg	06 50 53.0	-0.2
WBSM	**Bird Springs**	**0.56**	**255**		Pg	06 50 46.9	-0.4
WBSM					Sg	06 50 54.4	-0.2
QSM	**Queen of Sheba**	**0.57**	**61**		Pg	06 50 47.2	-0.3
QSM					Sg	06 50 54.9	-0.1
QSM	**Queen of Sheba**	**0.57**	**61**	IAML		06 50 55.1	
	comp=N,1μm,0.4s						
QSM				IAML		06 50 55.7	
	comp=E,2μm,0.2s						
WORM	**Onyx Ranch**	**0.62**	**271**		Pg	06 50 47.9	-0.6
WORM					Sg	06 50 56.0	-0.6
GSC	**Goldstone, Bar**	**0.67**	**125**	Pg	Pg	06 50 49.0	-0.5
CCAC	**Calif City Air**	**0.69**	**219**	Pg	Pg	06 50 49.2	-0.5
CCAC				IAML		06 50 59.2	
	comp=N,1μm,0.4s						
CCAC				IAML		06 50 59.3	
	comp=E,999nm,0.4s						
WHFM	**Hanning Flat**	**0.71**	**271**		Pg	06 50 49.6	-0.5
WHFM					Sg	06 50 58.8	-0.5
ISA	**Isabella, Lake**	**0.81**	**269**		Sg	06 51 02.1	-0.5
ISA	**Isabella, Lake**	**0.81**	**269**	Pg	Pg	06 50 51.2	-0.8
ISA				IAML		06 51 03.0	
	comp=E,431nm,0.2s						
HYS	**Haystack Butte**	**0.82**	**185**		Pg	06 50 51.8	-0.5
HYS					Sg	06 51 02.7	-0.4
GWY	**Greenwater Val**	**0.83**	**53**	Pg	Pg	06 50 52.1	-0.3
GWY				IAML		06 51 06.9	
	comp=E,614nm,0.4s						
GWY				IAML		06 51 11.8	
	comp=N,559nm,0.4s						
RRX	**Edison Barstow**	**0.90**	**154**		Pb	06 50 54.4	0.0
RRX					Sb	06 51 07.0	+0.5
SHOC	**Shoshone, Teco**	**1.00**	**77**		Sb	06 51 09.4	0.0
TPO	**Tropico Hills**	**1.01**	**217**		Sg	06 51 09.3	+0.3
SBB	**Saddle Back Bu**	**1.04**	**196**		Sb	06 51 10.2	-0.2
VTV	**Victorville**	**1.13**	**174**		Pg	06 50 58.0	-0.2
VTV					Sn	06 51 14.1	-0.3
ALPC	**Antelope**	**1.20**	**214**		Sb	06 51 15.6	+0.4
LRRC	**Littlerock Res**	**1.24**	**201**		Sn	06 51 17.4	+0.5
DSCC	**Desert Studies**	**1.25**	**115**		Pn	06 50 59.3	-0.9
DSCC					Sb	06 51 16.3	-0.2
LEOC	**Leona Valley**	**1.25**	**213**		Sn	06 51 17.5	+0.2
HEC	**Hector,Ludlow**	**1.27**	**132**		Sb	06 51 17.0	-0.1
CJV	**Casa Juvan**	**1.28**	**205**		Sb	06 51 17.4	+0.1
TUQ	**Turquoise Moun**	**1.29**	**101**		Pn	06 51 00.1	-0.8
JNH	**Juniper Hills**	**1.30**	**198**		Sg	06 51 18.2	+0.1
WCT	**Wildcat Mounta**	**1.30**	**32**		Pn	06 51 00.3	-0.8
WCT				IAML		06 51 20.3	
	comp=E,315nm,0.4s						
WCT				IAML		06 51 20.3	
	comp=N,218nm,0.4s						
CHFC	**Chilao Flat St**	**1.42**	**198**		Sg	06 51 22.5	+0.3
BFSC	**Mount Baldy Ra**	**1.45**	**186**		Sn	06 51 22.2	-0.1
OSI	**Osito Audit: C**	**1.48**	**224**		Pn	06 51 03.2	-0.2
OSI				IAML		06 51 28.5	
	comp=E,341nm,1.0s						
SSK	**Sunset Peak**	**1.48**	**187**		Pn	06 51 01.6	-1.9
MWC	**Mount Wilson**	**1.54**	**198**	Pn	Pn	06 51 03.2	-1.1
MWC				IAML		06 51 26.8	
	comp=E,386nm,0.5s						
MTPC	**Mountain Pass**	**1.58**	**97**		Sb	06 51 26.5	+0.2
DECC	**Green Verdugo**	**1.59**	**206**		Sg	06 51 27.1	-0.6
TPNV	**Topopah Spring**	**1.60**	**38**	Pn	Pn	06 51 03.8	-1.5
TPNV				IAML		06 51 30.5	
	comp=E,153nm,0.4s						
TPNV				IAML		06 51 34.3	
	comp=E,187nm,0.6s						
SVD	**Seven Oaks Dam**	**1.61**	**169**		Sg	06 51 27.6	-0.6
PASC	**Pasadena Art C**	**1.62**	**201**	Pn	Pn	06 51 03.9	-1.3
PASC				IAML		06 51 29.4	
	comp=N,222nm,0.5s						
PASC				IAML		06 51 31.3	
	comp=E,195nm,0.5s						
DSP	**Deep Springs**	**1.73**	**347**	Pn	Pn	06 51 05.0	-1.7
BCW	**Bitter Crk WRg**	**1.75**	**245**	Pn	Pn	06 51 06.7	-0.5
BCW				IAML		06 51 33.8	
	comp=E,222nm,0.7s						
BCW				IAML		06 51 43.5	
	comp=N,182nm,1.0s						
PEC	**Perris**	**1.81**	**172**		Pn	06 51 07.3	-0.6
BLAC	**Blackrock camp**	**1.85**	**151**		Pn	06 51 07.7	-0.8
TPC	**Twentynine Pal**	**1.97**	**143**		Pn	06 51 09.0	-1.2
HMTC	**Hemet**	**2.01**	**169**		Pn	06 51 10.0	-0.8
ELS	**Elsinore Mount**	**2.04**	**179**	Pn	Pn	06 51 10.2	-0.9
ELS				IAML		06 51 47.3	
	comp=E,137nm,0.6s						
POB	**Polly Butte**	**2.05**	**167**		Pn	06 51 10.6	-0.7
SHPR	**Sheep Range**	**2.05**	**66**	Pn	Pn	06 51 10.0	-1.3
DGR	**Domenigoni Val**	**2.07**	**169**		Pn	06 51 11.1	-0.4
MURC	**Murrieta**	**2.10**	**173**		Pn	06 51 11.3	-0.5
BACC	**Bachelor Mtn.**	**2.10**	**170**		Pn	06 51 11.2	-0.8
V12A	**Nelson**	**2.14**	**88**	Pn	Pn	06 51 11.3	-1.3
V12A				IAML		06 51 50.5	
	comp=E,92nm,0.5s						
PMD	**Palm Desert**	**2.23**	**156**	Pn	Pn	06 51 11.9	-1.8
PMPB	**Monarch Peak**	**2.74**	**282**	Pn	Pn	06 51 20.0	-0.8
PMPB				IAML		06 52 11.7	
	comp=N,103nm,1.4s						
PMPB				IAML		06 52 18.0	
	comp=E,97nm,1.3s						
RYN	**Ryan**	**3.05**	**344**	Pn	Pn	06 51 24.8	-0.4
R11B	**Troy Canyon, C**	**3.06**	**29**	Pn	Pn	06 51 24.2	-1.1
BAR	**Barrett**	**3.07**	**167**	IAML		06 52 13.7	
	comp=N,82nm,0.3s						
PSUT	**Pine Spring**	**4.06**	**45**	Pn	Pn	06 51 37.4	-1.6
PAHR	**Pah Rah Range**	**4.29**	**340**	Pn	Pn	06 51 41.8	-0.3

*IDC **06** 06:52:24.3±2.5,35°.59N×117°.37W,h0km,mb3.4/2, mbtmp3.3/5,ML3.8/3, Error ellipse: s-maj=42.2km s-min=11.9km az=55.0*

*NEIC **06** 06:52:25.4±2.7,35°.569N±0°.009×117°.39W±0°.01, h3km±3km, Error ellipse: s-maj=1.5km s-min=1.1km az=132.0*

*PAS **06** 06:52:25.8±3.0,35°.56N±0°.01×117°.39W±0°.01,h1km, ML3.8/21,ML3.6/112(NEIC), Error ellipse: s-maj=1.7km s-min=1.4km az=201.0*

ISC 06 06:52:25.5±1.1,35°.57N±0°.02×117°.38W±0°.02,h1km±9km, n138,n0/69/152, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.04**	**160**		Pg	06 52 26.1	-0.3
LRMC	**Laurel Mtn Rad**	**0.26**	**251**		Sg	06 52 34.7	+0.8
LRMC	**Laurel Mtn Rad**	**0.26**	**251**	Pg	Pg	06 52 30.7	+0.2
LRMC				IAML		06 52 34.8	
	comp=N,28μm,0.4s						
LRMC				IAML		06 52 35.5	
	comp=E,11μm,0.5s						
SRTC	**Snort**	**0.32**	**293**		Pg	06 52 32.6	+0.9
DTP	**Desert Tortois**	**0.48**	**232**		Pg	06 52 34.8	+0.1
MPMC	**Manual Prospec**	**0.50**	**350**		Pg	06 52 35.4	+0.3
GSC	**Goldstone, Bar**	**0.54**	**119**		Pg	06 52 36.4	+0.5
GSC				IAML		06 52 44.3	
	comp=N,6μm,0.5s						
QSM	**Queen of Sheba**	**0.58**	**46**		Pg	06 52 37.1	+0.5
QSM				IAML		06 52 45.8	
	comp=E,4μm,0.6s						
QSM				IAML		06 52 50.3	
	comp=N,4μm,0.6s						
WRVM	**Rose V. Centra**	**0.60**	**317**		Pg	06 52 37.6	+0.5
WBSM	**Bird Springs**	**0.62**	**267**		Pg	06 52 37.9	+0.6
WBSM					Sg	06 52 45.8	+0.4
CCAC	**Calif City Air**	**0.66**	**232**		Pg	06 52 38.3	+0.1
CCAC	**Calif City Air**	**0.66**	**232**		Sg	06 52 47.5	+0.7
WORM	**Onyx Ranch**	**0.71**	**281**		Pg	06 52 38.2	-1.0
WORM					Sg	06 52 48.4	0.0
HYS	**Haystack Butte**	**0.72**	**192**		Pg	06 52 39.0	-0.2
RRX	**Edison Barstow**	**0.76**	**155**		Pg	06 52 40.4	+0.3
WHFM	**Hanning Flat**	**0.80**	**280**		Pg	06 52 40.8	-0.1
EDW2	**Edwards Air Fo**	**0.85**	**216**		Pg	06 52 41.4	-0.4
GWY	**Greenwater Val**	**0.85**	**43**		Pg	06 52 42.0	+0.2
ISA	**Isabella, Lake**	**0.89**	**276**		Pg	06 52 42.3	-0.3
ISA				IAML		06 52 54.7	
	comp=N,2μm,0.2s						
ISA				IAML		06 52 54.9	
	comp=E,2μm,0.2s						
ISA	**Isabella, Lake**	**0.89**	**276**		Sg	06 52 54.2	-0.1
SBB	**Saddle Back Bu**	**0.95**	**203**		Pg	06 52 43.2	-0.5
SHOC	**Shoshone, Teco**	**0.96**	**69**		Pb	06 52 44.7	-0.3
WASM	**Alta Sierra Ca**	**0.97**	**280**		Pg	06 52 44.0	-0.2
WASM					Sg	06 52 56.8	0.0
TPO	**Tropico Hills**	**0.97**	**225**		Pg	06 52 43.9	-0.3
VTV	**Victorville**	**1.00**	**178**		Pb	06 52 45.8	0.0
ADO	**Adelanto Recei**	**1.01**	**182**		Pb	06 52 46.3	+0.3
CGO	**Cerro Gordo**	**1.04**	**341**		Pg	06 52 45.1	-0.4
CGO					Sb	06 53 00.7	-0.1
TEJ	**El Tejon**	**1.12**	**253**		Pg	06 52 46.2	-0.7
DSCC	**Desert Studies**	**1.13**	**112**		Pg	06 52 46.8	-0.3
DSCC					Sg	06 53 02.0	+0.2
HEC	**Hector,Ludlow**	**1.13**	**130**		Pg	06 52 47.1	-0.1
HEC					Sg	06 53 02.1	+0.3
ALPC	**Antelope**	**1.16**	**221**		Pb	06 52 48.1	-0.2
LRRC	**Littlerock Res**	**1.17**	**207**		Pg	06 52 47.2	-0.6
LRRC					Sb	06 53 04.4	+0.4
HOLC	**Holcomb Ridge**	**1.17**	**199**		Sb	06 53 04.6	+0.3
TUQ	**Turquoise Moun**	**1.20**	**96**		Pg	06 52 48.0	-0.4
TUQ					Sb	06 53 05.2	+0.1
LEOC	**Leona Valley**	**1.20**	**219**		Pg	06 52 47.9	-0.6
LEOC					Sb	06 53 05.4	+0.3
CJV	**Casa Juvan**	**1.21**	**211**		Pg	06 52 48.0	-0.6
CJV					Sb	06 53 05.7	+0.3
JNH	**Juniper Hills**	**1.21**	**203**		Pg	06 52 48.1	-0.6
TJR	**Tejon Ranch**	**1.24**	**245**		Pg	06 52 48.4	-0.8
THC	**Tehachapi Micr**	**1.24**	**238**		Pg	06 52 48.6	-0.6
AMDNV	**Amargosa**	**1.26**	**45**		Pb	06 52 49.9	-0.1
SPG2	**Springville 2**	**1.29**	**300**		Pg	06 52 49.8	-0.5
SIL	**Silver Peak**	**1.30**	**159**		Pg	06 52 50.1	-0.3
SIL					Sn	06 53 09.0	-0.1
CHFC	**Chilao Flat St**	**1.34**	**203**		Pg	06 52 50.2	-0.9
CHFC					Sn	06 53 09.5	-0.5
BFSC	**Mount Baldy Ra**	**1.34**	**190**		Pg	06 52 50.9	-0.4
BFSC					Sb	06 53 09.5	+0.2
BBRC	**Big Bear Solar**	**1.35**	**164**		Pg	06 52 51.1	-0.4
BBRC					Sb	06 53 10.1	+0.4
WCT	**Wildcat Mounta**	**1.37**	**26**		Pg	06 52 50.9	-0.9
WCT				IAML		06 53 11.8	
	comp=N,660nm,0.4s						
WCT				IAML		06 53 14.5	
	comp=E,810nm,0.4s						
SSK	**Sunset Peak**	**1.38**	**191**		Pg	06 52 51.2	-0.7
VES	**Vestal, Richgr**	**1.41**	**282**		Sg	06 53 08.5	-2.4
GRAC	**Grapevine Rang**	**1.43**	**1**		Pn	06 52 52.3	-0.3
GRAC				IAML		06 53 20.0	
	comp=E,1μm,0.5s						
SGV	**South Grapevin**	**1.44**	**11**		Pb	06 52 53.6	+0.4
MWC	**Mount Wilson**	**1.45**	**203**		Pn	06 52 52.3	-0.8
MWC				IAML		06 53 12.5	
	comp=N,1μm,0.7s						
MWC				IAML		06 53 13.4	
	comp=E,1μm,0.4s						
OSI	**Osito Audit: C**	**1.45**	**230**		Pn	06 52 52.5	-0.5
SVD	**Seven Oaks Dam**	**1.48**	**171**		Pn	06 52 53.1	-0.2
PDE	**Pardee, Santa**	**1.49**	**222**		Pg	06 52 54.2	0.0
MTPC	**Mountain Pass**	**1.49**	**93**		Pn	06 52 52.4	-1.2
MTPC					Sn	06 53 14.4	+0.6
PSRC	**Puddingstone R**	**1.51**	**193**		Pn	06 52 53.3	-0.4
GTM	**Goat Mountain**	**1.52**	**146**		Pb	06 52 54.5	-0.1
DECC	**Green Verdugo**	**1.52**	**211**		Pb	06 52 54.5	-0.1
DECC					Sg	06 53 15.3	+0.8
PASC	**Pasadena Art C**	**1.54**	**206**		Pn	06 52 53.3	-0.8
PASC				IAML		06 53 19.5	
	comp=E,666nm,1.0s						
PASC				IAML		06 53 20.1	
	comp=N,536nm,0.6s						
CFT	**Crafton Hills**	**1.54**	**172**		Pg	06 52 55.2	+0.1
MLSC	**Mira Loma**	**1.56**	**185**		Sn	06 53 14.9	-0.5
RVR	**Riverside**	**1.57**	**180**		Pn	06 52 54.2	-0.3
CHNC	**Chino**	**1.58**	**189**		Pg	06 52 56.1	+0.2
GMRC	**Granite Mounta**	**1.61**	**118**		Pn	06 52 53.3	-1.9
GR2C	**Griffith Obs.**	**1.63**	**208**		Pg	06 52 56.5	-0.3
GVRC	**Garvey Reservo**	**1.63**	**202**		Pg	06 52 56.9	+0.1
RHC	**Rose Hills Cem**	**1.65**	**199**		Pg	06 52 57.7	+0.6
TPNV	**Topopah Spring**	**1.66**	**33**		Pn	06 52 55.2	-0.7
TPNV				IAML		06 53 24.1	
	comp=N,916nm,0.7s						
TPNV				IAML		06 53 25.3	
	comp=N,1μm,0.6s						
LCH	**Last Change Ra**	**1.68**	**353**		Pn	06 52 55.8	-0.4
PEC	**Perris**	**1.68**	**174**		Pn	06 52 55.9	-0.2
BLAC	**Blackrock camp**	**1.70**	**151**		Pn	06 52 55.5	-1.0
DJJ	**Donna J Jenkin**	**1.70**	**212**		Pn	06 52 55.6	-0.7
GMN	**Gold Mountain**	**1.73**	**3**		Pn	06 52 56.3	-0.7
BCW	**Bitter Crk WRg**	**1.77**	**250**		Pn	06 52 56.5	-1.0
BCW				IAML		06 53 34.4	
	comp=E,569nm,0.8s						
BCW				IAML		06 53 51.4	
	comp=N,621nm,0.8s						
VOG	**Valley Oaks Go**	**1.79**	**295**		Pn	06 52 57.0	-0.5
EW2	**E Wide Canyon**	**1.81**	**153**		Pg	06 53 00.2	0.0
TPC	**Twentynine Pal**	**1.82**	**143**		Pn	06 52 57.2	-0.8
DSP	**Deep Springs**	**1.86**	**345**		Pn	06 52 58.8	+0.3
DSP				IAML		06 53 26.3	
	comp=E,355nm,0.5s						
HMTC	**Hemet**	**1.88**	**170**		Pn	06 52 58.2	-0.6
POB	**Polly Butte**	**1.91**	**168**		Pn	06 52 58.8	-0.5
ELS	**Elsinore Mount**	**1.92**	**181**		Pn	06 52 58.3	-1.0
ELS				IAML		06 53 27.3	
	comp=E,530nm,0.4s						
ELS				IAML		06 53 30.2	
	comp=N,409nm,0.6s						
CRGC	**Crocker Grade**	**1.94**	**261**		Pb	06 53 01.7	0.0
MURC	**Murrieta**	**1.97**	**175**		Pn	06 52 59.8	-0.2
BACC	**Bachelor Mtn.**	**1.97**	**172**		Pn	06 52 59.7	-0.3
SHPR	**Sheep Range**	**2.03**	**62**		Pn	06 53 00.3	-0.7
CRY	**Cary Ranch**	**2.07**	**165**		Pb	06 53 04.3	+0.4
V12A	**Nelson**	**2.07**	**85**		Pn	06 53 00.2	-1.3
V12A				IAML		06 53 32.7	
	comp=N,387nm,0.5s						
PMD	**Palm Desert**	**2.09**	**156**		Pn	06 53 01.3	-0.3
PMD	**Palm Desert**	**2.09**	**156**	Pn	Pn	06 53 00.7	-0.9
PMD	**Palm Desert**	**2.09**	**156**	IAML		06 53 41.2	
	comp=N,249nm,0.8s						
PMD				IAML		06 53 44.0	
	comp=E,390nm,0.7s						
PFO	**Pinyon Flats O**	**2.09**	**158**		Pn	06 53 01.0	-0.9
SNDA	**J Saunders Pla**	**2.11**	**162**		Pg	06 53 05.3	-0.6
MZP	**Montezuma Peak**	**2.13**	**360**		Pn	06 53 02.3	-0.2
SMMC	**Simmler**	**2.15**	**264**		Pb	06 53 04.7	-0.5
BZNA	**Buzz No.'s Pla**	**2.15**	**164**		Pn	06 53 02.3	-0.3
FRD	**Ford Ranch, An**	**2.17**	**162**		Pn	06 53 02.1	-0.7
PLM	**Palomar**	**2.25**	**169**		Pn	06 53 03.7	-0.3
CTW	**Cottonwood Mou**	**2.26**	**146**		Pg	06 53 08.5	-0.3
GORC	**Green Oak Ranc**	**2.41**	**177**		Pn	06 53 05.9	-0.2
S11A	**Rachel**	**2.46**	**32**		Pn	06 53 06.8	-0.1
TPH	**Tonopah**	**2.51**	**3**		Pn	06 53 07.4	-0.2
PRN	**Pahroc Range**	**2.63**	**45**		Pn	06 53 09.2	0.0
PMPB	**Monarch Peak**	**2.85**	**284**	Pn	Pn	06 53 11.3	-0.8
PMPB				IAML		06 54 09.0	
	comp=N,248nm,1.2s						
PMPB				IAML		06 54 10.3	
	comp=E,288nm,0.7s						
W13A	**Hualapai Mount**	**2.90**	**98**		Pn	06 53 11.9	-1.0
W13A				IAML		06 54 01.9	
	comp=N,130nm,0.7s						
W13A				IAML		06 54 07.6	
	comp=E,120nm,0.6s						
NV11	**Mina Array Sit**	**2.93**	**348**		Pn	06 53 13.2	-0.1
BAR	**Barrett**	**2.94**	**168**	IAML		06 53 57.7	
	comp=E,200nm,0.5s						
BAR				IAML		06 54 00.9	
	comp=N,188nm,0.7s						
NVAR	**Mina Array Bea**	**2.95**	**346**		Pn	06 53 12.6	-1.1
NVAR	**Mina Array Bea**	**2.95**	**346**	Pn	Pn	06 53 11.6	-2.2
	comp=N,23nm,0.3s,baz=164,slow=17,SNR=23						
NVAR				Lg	Lg	06 53 56.9	
	comp=N,13nm,0.3s,baz=151,slow=19,SNR=6.2						
	comp=N,3.4nm,0.5s						
BLYC	**Blythe**	**2.97**	**127**		Pn	06 53 12.1	-1.7
BLYC				IAML		06 54 01.2	
	comp=E,170nm,0.6s						
BLYC				IAML		06 54 07.2	
	comp=N,194nm,0.5s						
TKX	**Tecate**	**3.06**	**168**		Pn	06 53 15.1	0.0
TKX				IAML		06 54 03.6	
	comp=E,165nm,0.5s						
TKX				IAML		06 54 04.0	
	comp=N,124nm,0.3s						
TJX	**Tijuana**	**3.06**	**175**		Pn	06 53 15.8	+0.8
R11B	**Troy Canyon, C**	**3.13**	**27**		Pn	06 53 16.3	+0.2
R11B				IAML		06 54 10.3	
	comp=E,109nm,0.8s						
YUH	**Yuha Desert**	**3.15**	**157**		Pn	06 53 15.4	-0.9
RYN	**Ryan**	**3.19**	**344**	Pn	Pn	06 53 16.5	-0.4
Q09A	**Carvers**	**3.27**	**3**	Pn	Pn	06 53 18.8	+0.8
GLA	**Glamis**	**3.28**	**139**	Pn	Pn	06 53 15.8	-2.3
GLA				IAML		06 54 17.6	
	comp=N,236nm,0.6s						
CBX	**Cerro Bola**	**3.30**	**169**		Pn	06 53 18.6	+0.2
SAO	**San Andreas Ge**	**3.50**	**291**	Pn	Pn	06 53 20.7	-0.4
LCMT	**Little Creek M**	**3.64**	**65**	Pn	Pn	06 53 23.5	+0.4
ESJX	**Sierra Juarez**	**3.75**	**161**		Pn	06 53 24.4	-0.3
ESJX				IAML		06 54 23.9	
	comp=E,93nm,0.9s						
CCUT	**Cedar City**	**3.79**	**57**		Pn	06 53 24.7	-0.6
CCUT				IAML		06 54 36.4	
	comp=N,59nm,1.0s						
KNB	**Kanab**	**3.96**	**67**		Pn	06 53 27.1	-0.4
KNB				IAML		06 54 41.1	
	comp=N,63nm,1.4s						
KNB				IAML		06 54 50.3	
	comp=E,54nm,1.3s						
SZCU	**Shurtz Canyon**	**4.01**	**58**	Pn	Pn	06 53 29.8	+1.6
PSUT	**Pine Spring**	**4.09**	**43**		Pn	06 53 29.4	0.0
PSUT				IAML		06 54 45.8	
	comp=E,99n

WORM	**Onyx Ranch**	**0.61**	**273**		Pg	06 53 21.7	+0.1
WORM					Sg	06 53 29.8	+0.3
CCAC	**Calif City Air**	**0.67**	**220**		Sg	06 53 32.4	+1.0
CCAC	**Calif City Air**	**0.67**	**220**	Pg	Pg	06 53 22.4	-0.4
CCAC	comp=N,2µm,0.4s			IAML		06 53 34.7	
CCAC	comp=E,1µm,0.8s			IAML		06 53 39.3	
GSC	**Goldstone, Bar**	**0.67**	**123**		Sg	06 53 32.2	+0.7
GSC	**Goldstone, Bar**	**0.67**	**123**	Pg	Pg	06 53 22.5	-0.2
GSC	comp=N,2µm,0.5s			IAML		06 53 32.4	
GSC	comp=E,2µm,0.4s			IAML		06 53 35.7	
WHFM	**Hanning Flat**	**0.70**	**272**		Pg	06 53 23.2	0.0
ISA	**Isabella, Lake**	**0.80**	**270**	Pg	Pg	06 53 24.8	-0.4
HYS	**Haystack Butte**	**0.81**	**184**		Pb	06 53 26.7	0.0
GWY	**Greenwater Val**	**0.84**	**52**	Pg	Pg	06 53 26.2	+0.2
GWY	comp=N,2µm,1.0s			IAML		06 53 42.5	
GWY	comp=E,1µm,0.8s			IAML		06 53 43.0	
EDW2	**Edwards Air Fo**	**0.89**	**208**		Pb	06 53 28.0	-0.1
SPG2	**Springville 2**	**1.16**	**297**		Pg	06 53 31.6	-0.5
SPG2					Sg	06 53 46.9	-0.3
VES	**Vestal, Richgr**	**1.31**	**278**		Sg	06 53 49.7	-2.1
WCT	**Wildcat Mounta**	**1.32**	**32**	Pg	Pg	06 53 34.8	-0.4
GRAC	**Grapevine Rang**	**1.33**	**4**	Pg	Pg	06 53 34.9	-0.4
GRAC	comp=E,767nm,1.0s			IAML		06 53 58.4	
CLTC	**Calectric**	**1.58**	**175**		Sb	06 54 00.4	0.0
DSP	**Deep Springs**	**1.74**	**347**		Pn	06 53 40.9	-0.2
DSP	comp=E,192nm,0.8s			IAML		06 54 06.9	
LHV	**Little Huntoon**	**2.70**	**343**	Pn	Pn	06 53 54.2	-0.2
LHV	comp=N,132nm,1.0s			IAML		06 54 21.9	
LHV	comp=E,163nm,0.9s			IAML		06 54 44.0	

IDC 06 06:56:10.4±5.4, 16°34'S×175°45'W, h0km, mb4.5/3, mbtmp4.5/3, Error ellipse: s-maj=164.6km s-min=106.8km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.86**	**240**	P	P	07 04 02.5	+0.1
	3.2nm,0.8s,baz=94,slow=14,SNR=5.7 3.2nm,0.8s						
WRA	**Warramunga Arr**	**47.71**	**258**	P	P	07 04 49.1	-0.2
	3.2nm,0.7s,baz=94,slow=7.1,SNR=56 3.2nm,0.7s						
ASAR	**Alice Springs**	**47.94**	**253**	P	P	07 04 50.8	-0.3
	15nm,0.6s,baz=88,slow=8.4,SNR=230						
ASAR	0.4nm,0.6s,baz=92,slow=4.0,SNR=2.5 15nm,0.6s			PcP	PcP	07 06 19.4	-0.2

*NEIC **06** 06:56:20.8±1.9, 35°.695N×0°.010×117°.49W±0°.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.8km az=226.0*

PAS 06 06:56:21.2±1.9, 35°.686N×0°.010×117°.48W±0°.01, h7km±4km, ML3.2/24, ML3.0/66(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=59.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.19**	**149**		Pg	06 56 25.4	+0.4
SRTC	**Snort**	**0.22**	**272**		Pg	06 56 26.0	+0.4
TOW	**Tower One**	**0.26**	**298**		Pg	06 56 26.9	+0.5
LRMC	**Laurel Mtn Rad**	**0.26**	**219**		Pg	06 56 26.3	-0.2
LRMC					Sg	06 56 30.3	+0.3
LRMC	**Laurel Mtn Rad**	**0.26**	**219**	IAML		06 56 31.0	
LRMC	comp=N,10µm,0.3s			IAML		06 56 31.8	
MPMC	**Manual Prospec**	**0.37**	**359**		Pg	06 56 28.2	-0.3
MPMC	comp=E,5µm,0.2s				Sg	06 56 33.5	+0.1
DTP	**Desert Tortois**	**0.51**	**215**		Pg	06 56 30.6	-0.5
DTP					Sg	06 56 38.1	+0.3
MFS	**McCloud Flat S**	**0.53**	**325**		Pg	06 56 31.3	-0.2
MFS					Sg	06 56 38.5	+0.2
WBSM	**Bird Springs**	**0.56**	**255**		Pg	06 56 31.6	-0.4
WBSM					Sg	06 56 39.3	0.0
QSM	**Queen of Sheba**	**0.57**	**61**		Pg	06 56 31.8	-0.5
QSM	comp=E,1µm,0.4s			IAML		06 56 39.8	
QSM	comp=N,1µm,0.5s			IAML		06 56 43.5	
WORM	**Onyx Ranch**	**0.62**	**271**		Pg	06 56 32.8	-0.4
GSC	**Goldstone, Bar**	**0.67**	**125**		Sg	06 56 43.0	0.0
GSC	**Goldstone, Bar**	**0.67**	**125**		Pg	06 56 33.4	-0.7
GSC	comp=N,816nm,0.3s			IAML		06 56 43.1	
GSC	comp=E,745nm,0.5s			IAML		06 56 44.5	
CCAC	**Calif City Air**	**0.69**	**220**		Pg	06 56 33.7	-0.8
CCAC	comp=N,1µm,0.3s			IAML		06 56 47.1	
CCAC	comp=E,710nm,0.3s			IAML		06 56 47.3	
WHFM	**Hanning Flat**	**0.71**	**271**		Sg	06 56 43.6	-0.5
ISA	**Isabella, Lake**	**0.81**	**269**		Sg	06 56 46.8	-0.5
ISA	**Isabella, Lake**	**0.81**	**269**		Pg	06 56 35.9	-0.9
ISA	comp=E,617nm,0.2s			IAML		06 56 49.5	
ISA	comp=N,702nm,0.4s			IAML		06 56 50.3	
HYS	**Haystack Butte**	**0.82**	**185**		Pg	06 56 36.3	-0.7
GWY	**Greenwater Val**	**0.83**	**53**		Pg	06 56 36.3	-0.8
WASM	**Alta Sierra Ca**	**0.88**	**274**		Sg	06 56 49.0	-0.5
CGO	**Cerro Gordo**	**0.90**	**343**		Pb	06 56 39.1	-0.3
CGO					Sb	06 56 51.1	-0.7
EDW2	**Edwards Air Fo**	**0.91**	**208**		Pg	06 56 37.6	-1.0
EDW2					Sb	06 56 52.1	+0.4
SHOC	**Shoshone, Teco**	**1.00**	**77**		Sb	06 56 54.1	-0.3
TPO	**Tropico Hills**	**1.01**	**217**		Pg	06 56 39.8	-0.9
SBB	**Saddle Back Bu**	**1.03**	**196**		Pg	06 56 40.1	-1.0
TEJ	**El Tejon**	**1.09**	**246**		Pg	06 56 40.8	-1.3
ADO	**Adelanto Recei**	**1.13**	**178**		Pg	06 56 42.5	-0.5
SPG2	**Springville 2**	**1.16**	**297**		Pg	06 56 42.7	-0.8
SPG2					Sg	06 56 58.0	-0.7
ALPC	**Antelope**	**1.20**	**214**		Pg	06 56 43.9	-0.3
TJR	**Tejon Ranch**	**1.22**	**238**		Pg	06 56 43.1	-1.5
AMDNV	**Amargosa**	**1.24**	**51**		Pb	06 56 44.0	-0.9
THC	**Tehachapi Micr**	**1.24**	**232**		Pg	06 56 43.9	-1.1
LRRC	**Littlerock Res**	**1.24**	**201**		Pb	06 56 44.3	-0.6
LEOC	**Leona Valley**	**1.25**	**213**		Pg	06 56 43.8	-1.4
CJV	**Casa Juvan**	**1.27**	**205**		Pn	06 56 45.2	-0.4
TUQ	**Turquoise Moun**	**1.29**	**101**		Pn	06 56 45.0	-0.8
JNH	**Juniper Hills**	**1.29**	**198**		Pn	06 56 45.8	-0.1
WCT	**Wildcat Mounta**	**1.30**	**32**		Pn	06 56 44.5	-1.4
GRAC	**Grapevine Rang**	**1.31**	**4**		Pn	06 56 45.0	-1.0
SGV	**South Grapevin**	**1.34**	**16**		Pn	06 56 46.4	-0.1
CHFC	**Chilao Flat St**	**1.42**	**198**		Pn	06 56 47.8	+0.2
SIL	**Silver Peak**	**1.44**	**158**		Pn	06 56 48.0	+0.1
SIL					Sg	06 57 08.0	+0.5
BFSC	**Mount Baldy Ra**	**1.45**	**186**		Sn	06 57 07.4	0.0
OSI	**Osito Audit: C**	**1.48**	**224**		Pn	06 56 48.2	-0.1
OSI	comp=E,209nm,0.8s			IAML		06 57 13.4	
OSI	comp=N,256nm,0.6s			IAML		06 57 13.4	
SSK	**Sunset Peak**	**1.48**	**187**		Pb	06 56 49.3	+0.1
BBRC	**Big Bear Solar**	**1.49**	**162**		Pg	06 56 49.7	-0.2
MWC	**Mount Wilson**	**1.53**	**198**		Pb	06 56 50.1	0.0
MWC	**Mount Wilson**	**1.53**	**198**		Pn	06 56 48.1	-1.1
MWC	comp=N,290nm,0.6s			IAML		06 57 15.2	
MWC	comp=E,322nm,0.5s			IAML		06 57 17.0	
LCH	**Last Change Ra**	**1.55**	**355**		Pn	06 56 48.6	-0.8
MTPC	**Mountain Pass**	**1.58**	**97**		Pn	06 56 48.3	-1.6
DECC	**Green Verdugo**	**1.59**	**206**		Pb	06 56 51.2	+0.2
CLTC	**Calectric**	**1.59**	**175**		Sn	06 57 10.0	-0.8
TPNV	**Topopah Spring**	**1.61**	**38**		Pn	06 56 49.1	-1.1
TPNV	comp=E,238nm,0.7s			IAML		06 57 15.8	
TPNV	comp=E,152nm,0.7s			IAML		06 57 20.0	
SVD	**Seven Oaks Dam**	**1.61**	**169**		Pb	06 56 51.3	+0.1
SVD					Sb	06 57 12.3	+0.5
PSRC	**Puddingstone R**	**1.61**	**190**		Pn	06 56 49.6	-0.6
PASC	**Pasadena Art C**	**1.62**	**201**		Pn	06 56 49.1	-1.1
PASC	comp=E,150nm,0.9s			IAML		06 57 17.0	
PASC	comp=N,138nm,0.7s			IAML		06 57 18.7	
GMN	**Gold Mountain**	**1.62**	**6**		Pn	06 56 49.7	-0.8
GMN	comp=N,171nm,0.5s			IAML		06 57 15.7	
VOG	**Valley Oaks Go**	**1.67**	**293**		Pn	06 56 50.5	-0.4
GTM	**Goat Mountain**	**1.67**	**146**		Pb	06 56 52.1	-0.2
GTM					Sg	06 57 14.5	-0.3
RVR	**Riverside**	**1.69**	**177**		Pb	06 56 52.8	+0.1
DSP	**Deep Springs**	**1.73**	**347**		Pn	06 56 51.0	-0.6
DSP	comp=E,152nm,0.5s			IAML		06 57 16.9	
BLCC	**Black Canyon**	**1.74**	**215**		Pb	06 56 54.0	+0.4
BCW	**Bitter Crk WRg**	**1.75**	**245**		Pn	06 56 50.4	-1.7
BCW	comp=N,176nm,0.9s			IAML		06 57 22.0	
BCW	comp=E,172nm,1.0s			IAML		06 57 27.0	
DJJ	**Donna J Jenkin**	**1.77**	**207**		Pb	06 56 54.4	+0.4
BHPR	**Bishop**	**1.80**	**334**		Pb	06 56 55.2	+0.4
BLAC	**Blackrock camp**	**1.85**	**151**		Pn	06 56 52.5	-1.0
MTUM	**Tungsten Hills**	**1.88**	**333**		Pb	06 56 56.1	+0.1
HMTC	**Hemet**	**2.01**	**169**		Pn	06 56 54.7	-1.0
ELS	**Elsinore Mount**	**2.03**	**179**	Pn	Pn	06 56 54.8	-1.2
ELS	comp=E,96nm,0.7s			IAML		06 57 31.9	
POB	**Polly Butte**	**2.05**	**167**		Pn	06 56 55.4	-0.8
SHPR	**Sheep Range**	**2.05**	**66**		Pn	06 56 55.2	-1.1
DGR	**Domenigoni Val**	**2.07**	**169**		Pn	06 56 56.0	-0.4
MURC	**Murrieta**	**2.09**	**173**		Pn	06 56 55.9	-0.9
BACC	**Bachelor Mtn.**	**2.10**	**170**		Pn	06 56 56.0	-0.8
V12A	**Nelson**	**2.14**	**88**	Pn	Pn	06 56 55.9	-1.6
V12A	comp=E,104nm,0.5s			IAML		06 57 35.9	
CRY	**Cary Ranch**	**2.20**	**164**		Pn	06 56 57.7	-0.7
MLAC	**Mammoth, Mammo**	**2.23**	**331**		Pb	06 57 02.6	+0.7
PMD	**Palm Desert**	**2.23**	**156**	Pn	Pn	06 56 57.2	-1.4
PMD	comp=E,91nm,0.6s			IAML		06 57 36.3	
PFO	**Pinyon Flats O**	**2.23**	**158**		Pn	06 56 57.6	-1.2
TPH	**Tonopah**	**2.39**	**5**		Pn	06 57 00.2	-0.8
LHV	**Little Huntoon**	**2.69**	**343**	Pn	Pn	06 57 05.0	+0.2
LHV	comp=N,56nm,0.8s			IAML		06 57 21.2	
NV11	**Mina Array Sit**	**2.79**	**349**		Pn	06 57 05.8	-0.7
NVAR	**Mina Array Bea**	**2.82**	**347**		Pn	06 57 06.4	-0.5
BLYC	**Blythe**	**3.11**	**128**	Pn	Pn	06 57 10.7	0.0
BLYC	comp=N,40nm,0.6s			IAML		06 58 04.2	
BLYC	comp=E,33nm,0.6s			IAML		06 58 04.3	
Q09A	**Carvers**	**3.15**	**4**	Pn	Pn	06 57 11.4	0.0
CBX	**Cerro Bola**	**3.43**	**168**		Pn	06 57 15.8	+0.6
ESJX	**Sierra Juarez**	**3.89**	**160**	Pn	Pn	06 57 22.0	+0.4
Y14A	**Wickenburg**	**4.08**	**114**	Pn	Pn	06 57 25.0	+0.9
Y14A	comp=N,21nm,0.5s			IAML		06 58 35.9	
Y14A	comp=E,18nm,0.7s			IAML		06 58 41.1	

*NEIC **06** 06:57:47.4±1.6, 35°.86N±0°.01×117°.73W±0°.01, h11km±7km, Error ellipse: s-maj=2.0km s-min=1.5km az=134.0*

PAS 06 06:57:47.6±1.7, 35°.86N±0°.01×117°.71W±0°.01, h8km±8km, ML3.3/21, ML3.0/16(NEIC), Error ellipse: s-maj=1.7km s-min=1.5km az=138.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.07**	**220**		Pg	06 57 50.1	+0.4
WVPM	**Volcano Peak E**	**0.12**	**316**		Pg	06 57 50.5	0.0
WNMM	**Nine Mile Cany**	**0.16**	**264**		Pg	06 57 51.0	0.0
SRTC	**Snort**	**0.17**	**190**		Pg	06 57 51.6	+0.3
WRVM	**Rose V. Centra**	**0.21**	**315**		Pg	06 57 51.8	-0.2
MPMC	**Manual Prospec**	**0.27**	**42**		Pg	06 57 52.8	-0.3
MPMC					Sg	06 57 56.6	-0.1
LRMC	**Laurel Mtn Rad**	**0.38**	**176**		Sg	06 58 00.6	+0.5
LRMC	**Laurel Mtn Rad**	**0.38**	**176**	Pg	Pg	06 57 54.6	-0.5
LRMC	comp=E,2µm,0.3s			IAML		06 58 00.8	
LRMC	comp=N,3µm,0.2s			IAML		06 58 01.2	
CCCA	**Chr Cany lake**	**0.44**	**140**		Pg	06 57 56.2	+0.1
WBSM	**Bird Springs**	**0.47**	**227**		Pg	06 57 56.6	-0.3
WHFM	**Hanning Flat**	**0.54**	**253**		Pg	06 57 57.9	-0.3
WHFM					Sg	06 58 05.0	-0.3
CWC	**Cottonwood Cre**	**0.65**	**333**		Pg	06 58 00.0	-0.3
CWC					Sg	06 58 08.6	-0.2
ISA	**Isabella, Lake**	**0.65**	**253**		Pg	06 57 59.6	-0.6
ISA	**Isabella, Lake**	**0.65**	**253**		Sg	06 58 08.5	-0.3
QSM	**Queen of Sheba**	**0.69**	**81**	Pg	Pg	06 58 00.6	-0.4
QSM	comp=E,540nm,0.7s			IAML		06 58 13.0	
CGO	**Cerro Gordo**	**0.69**	**354**		Pg	06 58 00.8	-0.3
WASM	**Alta Sierra Ca**	**0.70**	**260**		Pg	06 58 00.6	-0.6
CCAC	**Calif City Air**	**0.75**	**200**		Sg	06 58 11.6	-0.2
CCAC	**Calif City Air**	**0.75**	**200**	Pg	Pg	06 58 01.3	-0.8
CCAC	comp=N,642nm,0.4s			IAML		06 58 15.1	
GWY	**Greenwater Val**	**0.91**	**69**	Pg	Pg	06 58 04.6	-0.5
GWY	comp=N,513nm,0.4s			IAML		06 58 23.1	
SPG2	**Springville 2**	**0.92**	**292**		Sg	06 58 16.5	-0.8
GSC	**Goldstone, Bar**	**0.92**	**127**		Sg	06 58 17.0	-0.5
GSC	**Goldstone, Bar**	**0.92**	**127**	Pg	Pg	06 58 04.8	-0.6
GSC	comp=N,448nm,0.5s			IAML		06 58 19.6	
GSC	comp=E,475nm,0.6s			IAML		06 58 23.6	
TPO	**Tropico Hills**	**1.07**	**204**		Sg	06 58 21.7	-0.3
GRAC	**Grapevine Rang**	**1.17**	**14**		Pg	06 58 09.2	-0.8
GRAC	**Grapevine Rang**	**1.17**	**14**		Pg	06 58 09.1	-1.0
GRAC	comp=N,194nm,0.4s			IAML		06 58 33.8	
GRAC	comp=E,217nm,0.5s			IAML		06 58 34.1	
ARVC	**Arvin**	**1.17**	**232**		Pb	06 58 07.4	-2.7
TJR	**Tejon Ranch**	**1.18**	**226**		Sg	06 58 24.8	-0.9
SGV	**South Grapevin**	**1.25**	**26**		Pb	06 58 10.8	-0.7
SGV					Sg	06 58 26.9	-0.8
GMN	**Gold Mountain**	**1.48**	**14**		Pn	06 58 14.0	-0.8
DSP	**Deep Springs**	**1.52**	**352**		Pn	06 58 14.7	-0.4
BHPR	**Bishop**	**1.57**	**337**		Pb	06 58 16.6	-0.4
TPNV	**Topopah Spring**	**1.60**	**47**	Pn	Pn	06 58 15.8	-0.6
BFSC	**Mount Baldy Ra**	**1.62**	**178**		Pb	06 58 17.6	-0.2
MTUM	**Tungsten Hills**	**1.64**	**336**		Pb	06 58 17.8	-0.4
SSK	**Sunset Peak**	**1.65**	**179**		Pb	06 58 18.6	+0.3
MWC	**Mount Wilson**	**1.66**	**190**	Pn	Pn	06 58 16.6	-0.6
BCW	**Bitter Crk WRg**	**1.67**	**237**	Pn	Pn	06 58 15.8	-1.4
SIL	**Silver Peak**	**1.67**	**154**		Sg	06 58 41.6	+0.1
PASC	**Pasadena Art C**	**1.73**	**193**	Pn	Pn	06 58 16.8	-1.2
MZP	**Montezuma Peak**	**1.86**	**8**	Pn	Pn	06 58 18.8	-1.2
BENR	**Benton**	**1.98**	**340**		Pb	06 58 23.9	-0.1
MLAC	**Mammoth, Mammo**	**1.98**	**333**		Pb	06 58 24.1	0.0
MCSM	**Casa Diablo Ho**	**2.03**	**332**		Pb	06 58 25.0	0.0
SHPR	**Sheep Range**	**2.16**	**72**	Pn	Pn	06 58 23.0	-1.1
ELS	**Elsinore Mount**	**2.22**	**174**	Pn	Pn	06 58 23.6	-1.2
TPH	**Tonopah**	**2.25**	**10**		Pn	06 58 23.7	-1.5
PMPB	**Monarch Peak**	**2.53**	**279**	Pn	Pn	06 58 28.6	-0.5

*CATAC **06** 06:58:06.5±0.6, 9°N±5°×8°4W±°, h1km, M4.4/12, MLv4.4/12, Error ellipse: s-maj=11.5km s-min=4.7km az=15.0, confirmed*

*IDC **06** 06:58:07.8±2.2, 9°.01N×84°.23W, h0km, mb3.7/5, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=64.2km s-min=25.1km az=38.0*

*UCR **06** 06:58:07.4±0.8, 8°.68N×84°.56W, h21km±3km, MW4.6*

*UPA **06** 06:58:08.6±1.1, 8°.75N×84°.45W, h10km±13km, MW4.6*

ISC 06 06:58:06.8±1.8, 8°.72N±0°.05×84°.48W±0°.04, h5km±11km, n86, σ1°11/103, mb3.9/5, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUEP	**Quepos**	**0.78**	**24**	*eP*	**Pb**	**06 58 22.7**	**-0.1**
QUEP				*eS*	**Sb**	**06 58 33.8**	**+0.1**
SVQ2	**Quepos**	**0.78**	**24**	*eP*	**Pb**	**06 58 22.6**	**-0.2**
LLNJ	**Naranjito**	**0.84**	**27**	*eP*	**Pb**	**06 58 23.8**	**-0.2**
PAR1A	**Puntarenas Pro**	**0.90**	**15**	*eP*	**Pb**	**06 58 25.3**	**+0.3**
PAR1A				*eS*	**Sb**	**06 58 37.4**	**+0.1**
OCHAL	**Ojochal**	**0.91**	**65**	P	**Pb**	**06 58 25.0**	**-0.1**
OCHAL	**Ojochal**	**0.91**	**65**	S	**Sb**	**06 58 38.0**	**+0.4**
PICV	**PH. Pirrs**	**0.95**	**17**	*eP*	**Pb**	**06 58 25.4**	**-0.4**
PISJ	**San Jernim**	**0.98**	**21**	*eP*	**Pb**	**06 58 26.0**	**-0.3**
EDPE	**Pejibaye, P**	**1.00**	**64**	*eP*	**Pb**	**06 58 26.8**	**+0.1**
EDPE				*eS*	**Sb**	**06 58 40.4**	**+0.1**
PIEC	**Cerro El Cedra**	**1.04**	**30**	*eP*	**Pg**	**06 58 27.0**	**+0.2**
PANP	**Palmar Norte**	**1.04**	**76**	*eP*	**Pb**	**06 58 27.1**	**-0.2**
RAZU	**San Marcos de**	**1.04**	**26**	*eP*	**Pb**	**06 58 27.1**	**-0.3**
PITB	**Pirrs, San**	**1.04**	**26**	*eP*	**Pb**	**06 58 27.2**	**-0.3**
ACOS	**Acosta**	**1.12**	**16**	*eP*	**Pg**	**06 58 28.0**	**-0.3**
LCR2	**La Lucha 2**	**1.12**	**25**	*eP*	**Pg**	**06 58 28.1**	**-0.3**
LCR2	**La Lucha 2**	**1.12**	**25**	S	**Sn**	**06 58 47.3**	**+1.9**
LCR2	**La Lucha 2**	**1.12**	**25**	P	**Pg**	**06 58 28.3**	**-0.1**
PURI	**Puriscal**	**1.14**	**9**	*eP*	**Pg**	**06 58 28.2**	**-0.4**
SAJE	**San Jernim**	**1.15**	**57**	*eP*	**Pg**	**06 58 28.8**	**0.0**
BURE	**Buenos Aires**	**1.22**	**68**	*eP*	**Pg**	**06 58 30.1**	**-0.1**
LUJA	**Lujan**	**1.27**	**19**	*eP*	**Pb**	**06 58 30.4**	**-1.0**
CENT	**San Jose**	**1.27**	**18**	*eP*	**Pn**	**06 58 31.4**	**0.0**
TRIO	**Tres Rios**	**1.28**	**22**	*eP*	**Pb**	**06 58 30.5**	**-0.9**
ECI	**Escuela Centro**	**1.29**	**19**	*eP*	**Pn**	**06 58 30.8**	**-0.8**
SJS	**Escuela Geolog**	**1.29**	**19**	*eP*	**Pn**	**06 58 30.9**	**-0.7**
EDAD	**Golfito**	**1.30**	**93**	*eP*	**Pn**	**06 58 30.3**	**-1.4**
HDC	**Heredia**	**1.33**	**16**	*eP*	**Pn**	**06 58 31.4**	**-0.8**
TCS1	**Tacares**	**1.33**	**8**	P	**Pg**	**06 58 32.5**	**+0.2**
DRK0	**Durika**	**1.34**	**66**	*eP*	**Pn**	**06 58 31.7**	**-0.7**
DRK0				*eS*	**Sb**	**06 58 49.4**	**-0.7**
DRK0	**Durika**	**1.34**	**66**	*eP*	**Pn**	**06 58 32.1**	**-0.3**
DRK0				*eS*	**Sb**	**06 58 49.4**	**-0.7**
DRK0	**Durika**	**1.34**	**66**	P	**Pn**	**06 58 32.2**	**-0.2**
PCAYA	**Pacayas**	**1.36**	**29**	*eP*	**Pn**	**06 58 32.3**	**-0.5**
RAFA	**San Farael, Vo**	**1.40**	**28**	*eP*	**Pn**	**06 58 32.8**	**-0.5**
CVIMO	**Finca Echandi**	**1.41**	**22**	*eP*	**Pn**	**06 58 33.0**	**-0.3**
VBV1	**V. Barva**	**1.44**	**15**	*eP*	**Pn**	**06 58 33.6**	**-0.2**
VERB	**Verbena**	**1.45**	**32**	*eP*	**Pn**	**06 58 33.6**	**-0.3**
CVTQ	**Turrialba Volc**	**1.46**	**29**	*eP*	**Pn**	**06 58 33.9**	**-0.3**
CVTV	**Tajo**	**1.47**	**29**	*eP*	**Pn**	**06 58 34.1**	**-0.2**
VTR0	**Volcan Turrial**	**1.48**	**29**	*eP*	**Pn**	**06 58 34.2**	**-0.3**
ABRB	**Las Abras (San**	**1.49**	**30**	*eP*	**Pn**	**06 58 34.4**	**-0.1**
NELY	**Ciudad Neily**	**1.52**	**92**	*eP*	**Pn**	**06 58 34.0**	**-0.7**
INDI	**Punta indio, G**	**1.52**	**319**	P	**Pn**	**06 58 34.6**	**-0.1**
INDI	**Punta indio, G**	**1.52**	**319**	S	**Sn**	**06 58 52.1**	**-2.9**
CMARA	**Lajas Hojancha**	**1.59**	**324**	P	**Pn**	**06 58 35.5**	**-0.3**
CDITO	**Canoas**	**1.60**	**95**	S	**Sn**	**06 58 56.2**	**-0.7**
CDITO	**Canoas**	**1.60**	**95**	P	**Pn**	**06 58 35.3**	**-0.5**
JTS	**Las Juntas de**	**1.63**	**344**	Pn	**Pn**	**06 58 35.5**	**-0.7**
	12nm,0.3s,baz=292,slow=19,SNR=27						
JTS	75nm,0.3s,baz=182,slow=20,SNR=6.2			Sn	**Sn**	**06 58 55.7**	**-2.0**
JTS	**Las Juntas de**	**1.63**	**344**	*eP*	**Pn**	**06 58 35.0**	**-1.3**
JTS	**Las Juntas de**	**1.63**	**344**	*eP*	**Pn**	**06 58 35.9**	**-0.4**
JTS	**Las Juntas de**	**1.63**	**344**	P	**Pn**	**06 58 35.6**	**-0.7**
LPPC	**Paso Canoas**	**1.64**	**96**	*eP*	**Pn**	**06 58 35.6**	**-0.7**
MLIR3	**Monte Lirio, C**	**1.64**	**87**	*eP*	**Pn**	**06 58 36.7**	**+0.2**
MLIR3				*eS*	**Sn**	**06 58 56.8**	**-1.3**
ALCO	**Alturas Coton,**	**1.65**	**82**	*eP*	**Pn**	**06 58 35.9**	**-0.7**
SOCE	**Pocosol**	**1.66**	**355**	P	**Pn**	**06 58 37.0**	**+0.3**
LESP3	**La Esperanza,**	**1.70**	**100**	*eP*	**Pn**	**06 58 36.9**	**-0.3**
LESP3				*eS*	**Sn**	**06 58 57.6**	**-1.8**
VERH	**Veragua Rainfo**	**1.75**	**47**	*eP*	**Pn**	**06 58 38.6**	**+0.6**
BRU2	**Volcan**	**1.77**	**87**	*eP*	**Pn**	**06 58 38.0**	**-0.3**
BRU2	**Volcan**	**1.77**	**87**	*eP*	**Pn**	**06 58 38.0**	**-0.3**
BRU2				*eS*	**Sn**	**06 59 01.6**	**+0.3**
BRU2	**Volcan**	**1.77**	**87**	P	**Pn**	**06 58 38.2**	**-0.1**
CLLRA	**Cordillera,**	**1.85**	**89**	*eP*	**Pn**	**06 58 39.1**	**-0.3**
BC3P	**Paso Ancho**	**1.85**	**87**	*eP*	**Pn**	**06 58 39.3**	**-0.2**
BC3P				*eS*	**Sn**	**06 59 03.5**	**0.0**
PTAR3	**Potrerillos Ar**	**1.96**	**91**	*eP*	**Pn**	**06 58 40.6**	**-0.3**
PTAR3				*eS*	**Sn**	**06 59 05.3**	**-0.8**
COVE	**Coope Vega, Sa**	**1.99**	**2**	P	**Pg**	**06 58 46.5**	**+1.5**
BQTLY	**Boquete Panama**	**2.00**	**89**	*eP*	**Pn**	**06 58 41.3**	**-0.2**
DVD	**David**	**2.03**	**98**	*eP*	**Pn**	**06 58 41.7**	**0.0**
DVD				*eS*	**Sn**	**06 59 06.8**	**-0.7**
CSTBL	**De las Acacias**	**2.04**	**98**	*eP*	**Pn**	**06 58 41.5**	**-0.4**
LOCO3	**Loma Colorada,**	**2.06**	**98**	*eP*	**Pn**	**06 58 42.5**	**+0.3**
LOCO3				*eS*	**Sn**	**06 59 08.1**	**-0.2**
PSOM3	**Paja de Sombre**	**2.14**	**91**	*eP*	**Pn**	**06 58 43.5**	**+0.2**
PSOM3				*eS*	**Sn**	**06 59 10.0**	**-0.2**
CHIR3	**Chiriqui UPA,**	**2.15**	**98**	*eP*	**Pn**	**06 58 44.1**	**+0.7**

CAHU	**Cacacutique**	**0.94**	**24**	*eP*	Pn	06 59 08.2 +0.3
UDBS	**Universidad Do**	**0.96**	**327**	S	Sn	06 59 21.2 +0.7
UTEC	**Universidad Te**	**0.98**	**324**	S	Sn	06 59 21.3 +0.4
UEES	**Universidad Ev**	**1.01**	**323**	S	Sn	06 59 22.6 +0.8
JAYA	**Jayaque - finc**	**1.10**	**312**	*eP*	Pn	06 59 10.6 +0.6
NUBE	**Las Nubes**	**1.51**	**311**	S	Sn	06 59 34.1 0.0
YUSH	**Yuscaran**	**2.01**	**59**	S	Sn	06 59 46.5 +0.1

*IDC **06** 06:59:59.4±1.2,35°.62N×117°.50W, h0km, mbtmp3.0/5, ML3.7/4, Error ellipse: s-maj=24.9km s-min=7.6km az=75.0*

*NEIC **06** 06:59:59.4±2.3,35°.697N±0°.010×117°.542W±0°.003, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.7km az=178.0*

*PAS **06** 06:59:59.5±2.3,35°.676N±0°.010×117°.55W±0°.01, h1km±1km, ML3.5/22, ML3.4/66(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=89.0*

ISC 06 06:59:59.5±1.1,35°.67N±0°.02×117°.53W±0°.02, h1km±10km, n94, σ0.87/102, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRTC	**Snort**	**0.18**	**276**		**Pg**	**07 00 03.3**	**+0.3**
CCCA	**Chr Cany lake**	**0.20**	**138**		**Pg**	**07 00 02.5**	**-0.8**
LRMC	**Laurel Mtn Rad**	**0.23**	**213**		**Pg**	**07 00 04.0**	**+0.1**
LRMC	**Laurel Mtn Rad**	**0.23**	**213**	IAML		07 00 07.7	
	comp=E,8μm,0.5s						
LRMC				IAML		07 00 10.7	
	comp=N,7μm,0.8s						
TOW	**Tower One**	**0.24**	**306**		**Pg**	**07 00 03.4**	**-0.7**
MPMC	**Manual Prospec**	**0.39**	**5**		**Pg**	**07 00 07.0**	**0.0**
MPMC					**Sg**	**07 00 12.4**	**+0.5**
DTP	**Desert Tortois**	**0.48**	**213**		**Pg**	**07 00 08.6**	**-0.1**
WBSM	**Bird Springs**	**0.52**	**255**		**Pg**	**07 00 09.4**	**0.0**
WBSM					**Sg**	**07 00 16.3**	**+0.2**
MFS	**McCloud Flat S**	**0.52**	**329**		**Pg**	**07 00 08.3**	**-1.1**
MFS					**Sg**	**07 00 17.1**	**+0.9**
QSM	**Queen of Sheba**	**0.61**	**61**		**Pg**	**07 00 11.3**	**+0.1**
QSM				IAML		07 00 20.5	
	comp=N,1μm,0.6s						
QSM				IAML		07 00 20.5	
	comp=E,2μm,0.4s						
CCAC	**Calif City Air**	**0.65**	**218**		**Sg**	**07 00 21.3**	**+0.8**
CCAC	**Calif City Air**	**0.65**	**218**		**Pg**	**07 00 11.8**	**-0.2**
CCAC				IAML		07 00 26.3	
	comp=E,2μm,0.5s						
CCAC				IAML		07 00 28.6	
	comp=N,2μm,1.1s						
WHFM	**Hanning Flat**	**0.67**	**272**		**Pg**	**07 00 12.1**	**-0.3**
GSC	**Goldstone, Bar**	**0.69**	**122**		**Pg**	**07 00 12.8**	**0.0**
GSC				IAML		07 00 23.5	
	comp=N,2μm,0.4s						
ISA	**Isabella, Lake**	**0.77**	**270**		**Sg**	**07 00 23.9**	**-0.3**
ISA	**Isabella, Lake**	**0.77**	**270**		**Pg**	**07 00 13.7**	**-0.5**
ISA				IAML		07 00 25.1	
	comp=N,1μm,0.8s						
ISA				IAML		07 00 26.2	
	comp=E,1μm,0.6s						
HYS	**Haystack Butte**	**0.81**	**182**		**Sg**	**07 00 25.7**	**+0.3**
WASM	**Alta Sierra Ca**	**0.84**	**275**		**Pg**	**07 00 15.3**	**-0.3**
WASM					**Sg**	**07 00 26.3**	**-0.2**
GWY	**Greenwater Val**	**0.87**	**53**		**Pg**	**07 00 15.7**	**-0.4**
GWY				IAML		07 00 34.0	
	comp=E,2μm,0.4s						
GWY				IAML		07 00 35.0	
	comp=N,1000nm,0.7s						
EDW2	**Edwards Air Fo**	**0.88**	**206**		**Pg**	**07 00 16.3**	**0.0**
CGO	**Cerro Gordo**	**0.91**	**346**		**Pb**	**07 00 18.4**	**+0.2**
RRX	**Edison Barstow**	**0.91**	**151**		**Pb**	**07 00 18.3**	**+0.3**
TPO	**Tropico Hills**	**0.98**	**216**		**Pg**	**07 00 17.7**	**-0.5**
SBB	**Saddle Back Bu**	**1.01**	**194**		**Pb**	**07 00 19.6**	**-0.2**
SHOC	**Shoshone, Teco**	**1.04**	**77**		**Pb**	**07 00 20.1**	**-0.3**
TEJ	**El Tejon**	**1.04**	**245**		**Pg**	**07 00 18.4**	**-1.1**
VTV	**Victorville**	**1.12**	**172**		**Sb**	**07 00 37.5**	**+0.7**
ADO	**Adelanto Recei**	**1.12**	**176**		**Pb**	**07 00 22.0**	**+0.3**
SPG2	**Springville 2**	**1.14**	**298**		**Pg**	**07 00 20.3**	**-1.0**
THC	**Tehachapi Micr**	**1.20**	**231**		**Pg**	**07 00 21.6**	**-0.9**
LRRC	**Littlerock Res**	**1.21**	**200**		**Pb**	**07 00 23.0**	**-0.3**
LRRC					**Sn**	**07 00 40.1**	**-0.5**
LEOC	**Leona Valley**	**1.22**	**212**		**Pb**	**07 00 23.3**	**-0.1**
LEOC					**Sn**	**07 00 40.3**	**-0.6**
HOLC	**Holcomb Ridge**	**1.24**	**192**		**Sb**	**07 00 40.4**	**+0.2**
CJV	**Casa Juvan**	**1.25**	**204**		**Pg**	**07 00 23.5**	**+0.2**
CJV					**Sb**	**07 00 40.4**	**-0.1**
JNH	**Juniper Hills**	**1.27**	**196**		**Pg**	**07 00 23.7**	**-0.1**
AMDNV	**Amargosa**	**1.28**	**52**		**Pg**	**07 00 23.1**	**-0.8**
HEC	**Hector,Ludlow**	**1.29**	**130**		**Pg**	**07 00 23.5**	**-0.7**
HEC					**Sb**	**07 00 42.1**	**+0.5**
GRAC	**Grapevine Rang**	**1.33**	**6**		**Pg**	**07 00 24.4**	**-0.5**
TUQ	**Turquoise Moun**	**1.33**	**100**		**Pg**	**07 00 24.5**	**-0.4**
WCT	**Wildcat Mounta**	**1.34**	**33**		**Pg**	**07 00 24.3**	**-0.8**
SGV	**South Grapevin**	**1.37**	**17**		**Pg**	**07 00 25.1**	**-0.6**
CHFC	**Chilao Flat St**	**1.40**	**197**		**Pb**	**07 00 26.3**	**-0.2**
OSI	**Osito Audit: C**	**1.44**	**223**		**Pn**	**07 00 26.6**	**-0.1**
OSI	**Osito Audit: C**	**1.44**	**223**		**Pn**	**07 00 26.2**	**-0.5**
OSI				IAML		07 00 48.1	
	comp=E,461nm,1.0s						
OSI				IAML		07 00 51.5	
	comp=N,444nm,0.6s						
SIL	**Silver Peak**	**1.44**	**156**		**Pg**	**07 00 27.1**	**0.0**
SIL					**Sn**	**07 00 47.4**	**+0.9**
BBRC	**Big Bear Solar**	**1.49**	**160**		**Sn**	**07 00 48.9**	**+1.0**
DECC	**Green Verdugo**	**1.56**	**205**		**Pb**	**07 00 29.1**	**-0.1**
CLTC	**Calectric**	**1.58**	**174**		**Sn**	**07 00 46.5**	**-3.3**
PASC	**Pasadena Art C**	**1.59**	**200**		**Pn**	**07 00 28.3**	**-0.5**
PASC				IAML		07 00 54.8	
	comp=N,316nm,0.7s						
PASC				IAML		07 00 55.0	
	comp=E,321nm,0.8s						
PSRC	**Puddingstone R**	**1.59**	**188**		**Pg**	**07 00 30.2**	**+0.2**
MTPC	**Mountain Pass**	**1.62**	**96**		**Pn**	**07 00 28.2**	**-1.1**
VOG	**Valley Oaks Go**	**1.64**	**294**		**Pb**	**07 00 30.0**	**-0.4**
GMN	**Gold Mountain**	**1.64**	**7**		**Pn**	**07 00 29.3**	**-0.4**
GMN				IAML		07 00 56.6	
	comp=N,304nm,0.5s						
TPNV	**Topopah Spring**	**1.64**	**39**		**Pn**	**07 00 28.6**	**-1.1**
TPNV				IAML		07 00 55.8	
	comp=N,644nm,0.6s						
TPNV				IAML		07 00 57.5	
	comp=N,383nm,0.5s						
GTM	**Goat Mountain**	**1.68**	**145**		**Pb**	**07 00 30.9**	**-0.3**
BCW	**Bitter Crk WRg**	**1.71**	**245**		**Pn**	**07 00 30.1**	**-0.4**
BCW				IAML		07 01 06.6	
	comp=N,531nm,0.7s						
BLCC	**Black Canyon**	**1.71**	**214**		**Sn**	**07 00 52.5**	**-0.4**
DSP	**Deep Springs**	**1.73**	**348**		**Pn**	**07 00 30.5**	**-0.2**
DJJ	**Donna J Jenkin**	**1.74**	**206**		**Pb**	**07 00 31.8**	**-0.4**
GMRC	**Granite Mounta**	**1.77**	**120**		**Pn**	**07 00 29.5**	**-1.9**
GMRC					**Sb**	**07 00 56.1**	**+0.6**
BHPR	**Bishop**	**1.80**	**335**		**Pb**	**07 00 33.1**	**-0.3**
BLAC	**Blackrock camp**	**1.85**	**149**		**Pg**	**07 00 35.0**	**0.0**
MTUM	**Tungsten Hills**	**1.87**	**334**		**Pb**	**07 00 34.3**	**-0.4**
TPC	**Twentynine Pal**	**1.98**	**142**		**Pn**	**07 00 33.4**	**-0.8**
HMTC	**Hemet**	**2.00**	**167**		**Pn**	**07 00 34.0**	**-0.5**
ELS	**Elsinore Mount**	**2.02**	**178**		**Pn**	**07 00 34.1**	**-0.6**
MZP	**Montezuma Peak**	**2.03**	**3**		**Pn**	**07 00 34.8**	**-0.3**
SHPR	**Sheep Range**	**2.09**	**66**		**Pn**	**07 00 35.0**	**-0.8**
V12A	**Nelson**	**2.18**	**88**		**Pn**	**07 00 35.9**	**-1.1**
V12A				IAML		07 01 11.2	
	comp=N,220nm,0.6s						
V12A				IAML		07 01 12.2	
	comp=E,182nm,0.5s						
CRY	**Cary Ranch**	**2.20**	**163**		**Pn**	**07 00 37.0**	**-0.2**
BENR	**Benton**	**2.21**	**338**		**Pb**	**07 00 40.5**	**+0.2**
MLAC	**Mammoth, Mammo**	**2.22**	**332**		**Pb**	**07 00 40.7**	**+0.1**
PMD	**Palm Desert**	**2.23**	**155**	Pn	**Pn**	**07 00 36.5**	**-1.1**
PMD				IAML		07 01 11.3	
	comp=E,181nm,0.5s						
PFO	**Pinyon Flats O**	**2.24**	**156**	Pn	**Pn**	**07 00 36.7**	**-1.1**
PFO	**Pinyon Flats O**	**2.24**	**156**	Pn	**Pn**	**07 00 36.5**	**-1.3**
	comp=E,10nm,0.3s,baz=337,slow=14,SNR=10.0						
PFO				Lg	Lg	07 01 10.0	
	comp=E,37nm,0.3s,baz=72,slow=20,SNR=7.4						
	comp=E,22nm,0.3s						
SNDA	**J Saunders Pla**	**2.25**	**160**		**Pg**	**07 00 41.8**	**-0.7**
MCSM	**Casa Diablo Ho**	**2.27**	**331**		**Pb**	**07 00 41.5**	**+0.1**
TPH	**Tonopah**	**2.41**	**6**	Pn	**Pn**	**07 00 40.1**	**-0.1**
S11A	**Rachel**	**2.43**	**36**	Pn	**Pn**	**07 00 40.3**	**-0.3**
S11A				IAML		07 01 26.3	
	comp=E,262nm,0.7s						
LHV	**Little Huntoon**	**2.69**	**343**	Pn	**Pn**	**07 00 43.1**	**-0.8**
LHV				IAML		07 01 34.4	
	comp=N,93nm,0.8s						
LHV				IAML		07 01 36.5	
	comp=E,143nm,1.1s						
PMPB	**Monarch Peak**	**2.71**	**283**	Pn	**Pn**	**07 00 43.0**	**-1.2**
NV11	**Mina Array Sit**	**2.80**	**350**		**Pn**	**07 00 44.8**	**-0.8**
NVAR	**Mina Array Bea**	**2.82**	**348**		**Pn**	**07 00 44.8**	**-1.2**
NVAR	**Mina Array Bea**	**2.82**	**348**	Pn	**Pn**	**07 00 47.0**	**+1.0**
	comp=E,9.7nm,0.3s,baz=166,slow=12,SNR=16						
NVAR				Lg	Lg	07 01 29.5	
	comp=E,7.3nm,0.3s,baz=308,slow=30,SNR=6.2						
	comp=E,2.5nm,0.5s						
W13A	**Hualapai Mount**	**3.03**	**100**		**Pn**	**07 00 47.0**	**-1.8**
W13A				IAML		07 01 43.4	
	comp=E,95nm,0.7s						
W13A				IAML		07 01 46.4	
	comp=N,119nm,1.0s						
RYN	**Ryan**	**3.06**	**345**	Pn	**Pn**	**07 00 49.0**	**-0.1**
R11B	**Troy Canyon, C**	**3.09**	**30**	Pn	**Pn**	**07 00 48.8**	**-0.8**
BLYC	**Blythe**	**3.13**	**127**	Pn	**Pn**	**07 00 48.1**	**-1.9**
BLYC				IAML		07 01 44.1	
	comp=N,91nm,0.7s						
BLYC				IAML		07 01 49.0	
	comp=E,101nm,1.1s						
GLA	**Glamis**	**3.44**	**139**		**Pn**	**07 00 52.4**	**-1.8**
GLA				IAML		07 02 01.5	
	comp=N,124nm,0.9s						
LCMT	**Little Creek M**	**3.71**	**68**		**Pn**	**07 00 57.0**	**-1.1**
ELK	**Elko**	**5.38**	**19**	Pn	**Pn**	**07 01 21.1**	**0.0**
	comp=N,1.7nm,0.7s,baz=204,slow=10,SNR=1.3						
ELK				Lg	Lg	07 02 49.5	
	comp=N,3.4nm,0.3s,baz=298,slow=23,SNR=11						
ANMO	**Albuquerque**	**9.08**	**91**	Lg	Lg	07 04 40.9	
	comp=N,0.1nm,0.3s,baz=278,slow=12,SNR=4.7						
PDAR	**Pinedale Array**	**9.40**	**39**	Pn	**Pn**	**07 02 20.0**	**+3.7**
	comp=N,0.1nm,0.3s,baz=216,slow=18,SNR=3.7						
	comp=N,0.1nm,0.3s						
TXAR	**Lajitas Array**	**13.29**	**114**	Pn	**Pn**	**07 03 10.9**	**+1.5**
	comp=N,0.1nm,0.3s,baz=290,slow=13,SNR=8.0						
	comp=N,0.2nm,0.4s						

*NEIC **06** 07:00:59.7±0.8,35°.895N±0°.009×117°.72W±0°.01, h7km±5km, Error ellipse: s-maj=1.4km s-min=1.2km az=207.0*

PAS 06 07:01:00.1±0.6,35°.883N±0°.008×117°.71W±0°.01, h5km±3km, ML3.1/24, ML2.8/32(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=115.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOW	**Tower One**	**0.09**	**213**		Pg	07 01 02.7	+0.7
WVPM	**Volcano Peak E**	**0.11**	**306**		Pg	07 01 02.6	+0.1
WNMM	**Nine Mile Cany**	**0.17**	**256**		Pg	07 01 03.6	+0.2
SRTC	**Snort**	**0.19**	**190**		Pg	07 01 04.1	+0.2
WRVM	**Rose V. Centra**	**0.20**	**310**		Pg	07 01 03.9	0.0
MPMC	**Manual Prospec**	**0.25**	**45**		Pg	07 01 04.9	-0.1
MFS	**McCloud Flat S**	**0.26**	**333**		Pg	07 01 05.2	-0.1
MFS					Sg	07 01 08.9	+0.2
WORM	**Onyx Ranch**	**0.47**	**247**		Pg	07 01 08.9	-0.4
WBSM	**Bird Springs**	**0.49**	**226**		Sg	07 01 16.3	+0.2
WHFM	**Hanning Flat**	**0.56**	**251**		Pg	07 01 10.4	-0.3
CWC	**Cottonwood Cre**	**0.63**	**331**		Pg	07 01 12.3	0.0
ISA	**Isabella, Lake**	**0.66**	**251**		Sg	07 01 21.2	-0.3
ISA	**Isabella, Lake**	**0.66**	**251**	Pg	Pg	07 01 12.2	-0.7
ISA				IAML		07 01 21.3	
	comp=N,313nm,0.3s						
ISA				IAML		07 01 24.1	
	comp=E,245nm,0.3s						
CGO	**Cerro Gordo**	**0.67**	**353**		Pg	07 01 13.1	+0.1
CGO					Sg	07 01 22.1	+0.3
QSM	**Queen of Sheba**	**0.68**	**83**	Pg	Pg	07 01 12.8	-0.4
WASM	**Alta Sierra Ca**	**0.71**	**258**		Pg	07 01 13.3	-0.4
CCAC	**Calif City Air**	**0.77**	**199**	Pg	Pg	07 01 14.2	-0.7
GWY	**Greenwater Val**	**0.89**	**70**		Sg	07 01 28.6	-0.3
GWY	**Greenwater Val**	**0.89**	**70**	Pg	Pg	07 01 16.5	-0.7
GWY				IAML		07 01 30.4	
	comp=N,241nm,0.6s						
GWY				IAML		07 01 30.6	
	comp=E,260nm,0.7s						
SPG2	**Springville 2**	**0.92**	**291**		Pg	07 01 17.0	-0.7
GSC	**Goldstone, Bar**	**0.94**	**128**		Pg	07 01 17.4	-0.7
GSC				IAML		07 01 32.4	
	comp=E,261nm,0.7s						
HYS	**Haystack Butte**	**1.02**	**174**		Pg	07 01 19.9	+0.1
EDW2	**Edwards Air Fo**	**1.03**	**193**		Pg	07 01 20.1	+0.3
VES	**Vestal, Richgr**	**1.12**	**268**		Sg	07 01 33.6	-2.5
GRAC	**Grapevine Rang**	**1.14**	**14**	Pg	Pg	07 01 21.1	-0.9
GRAC				IAML		07 01 28.8	
	comp=E,210nm,1.1s						
GRAC				IAML		07 01 32.9	
	comp=N,140nm,1.0s						
SGV	**South Grapevin**	**1.22**	**26**		Sg	07 01 39.1	-0.3
LCH	**Last Change Ra**	**1.35**	**2**		Sg	07 01 42.5	-1.0
BLCC	**Black Canyon**	**1.82**	**206**		Pb	07 01 33.1	-0.8
Q09A	**Carvers**	**2.98**	**8**	Pn	Pn	07 01 46.4	-1.8
W13A	**Hualapai Mount**	**3.21**	**103**	Pn	Pn	07 01 50.7	-0.8
W13A				IAML		07 02 17.1	
	comp=N,22nm,1.1s						
W13A				IAML		07 02 21.5	
	comp=E,20nm,1.3s						
BLYC	**Blythe**	**3.37**	**128**	Pn	Pn	07 01 52.4	-1.0
BLYC				IAML		07 02 28.6	
	comp=E,29nm,0.7s						
CCUT	**Cedar City**	**3.87**	**63**	Pn	Pn	07 01 58.9	-1.5
CCUT				IAML		07 02 33.2	
	comp=N,13nm,3.6s						
CCUT				IAML		07 03 40.5	
	comp=E,11nm,4.3s						
C055	**Cottonwood Ave**	**3.96**	**298**	Pn	Pn	07 02 00.7	-0.7
AFDM	**Forest Hills D**	**4.01**	**321**	Pn	Pn	07 02 02.0	-0.3
AFDM				IAML		07 02 36.2	
	comp=N,22nm,1.2s						
PSUT	**Pine Spring**	**4.05**	**48**	Pn	Pn	07 02 02.6	-0.4
PSUT				IAML		07 02 45.1	
	comp=N,22nm,0.9s						
KNB	**Kanab**	**4.10**	**73**	Pn	Pn	07 02 02.2	-1.3
VTX	**Valle De La Tr**	**4.76**	**160**	Pn	Pn	07 02 13.2	+0.7
VTX				IAML		07 04 19.4	
	comp=N,11nm,0.7s						

*NEIC **06** 07:03:14.3±2.3,35°.663N±0°.009×117°.53W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.5km az=125.0*

PAS 06 07:03:14.8±2.4,35°.653N±0°.004×117°.54W±0°.01, h8km±4km, ML3.6/18, ML3.4/86(NEIC), Error ellipse: s-maj=1.4km s-min=0.5km az=84.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRTC	**Snort**	**0.18**	**283**		Pg	07 03 18.8	+0.3
CCCA	**Chr Cany lake**	**0.19**	**132**		Pg	07 03 19.1	+0.4
CCCA					Sg	07 03 22.1	+0.8
LRMC	**Laurel Mtn Rad**	**0.21**	**214**		Pg	07 03 19.0	-0.1
LRMC					Sg	07 03 22.3	+0.3
LRMC	**Laurel Mtn Rad**	**0.21**	**214**	IAML		07 03 22.8	
	comp=E,8μm,0.3s						
LRMC				IAML		07 03 23.1	
	comp=N,13μm,0.3s						
TOW	**Tower One**	**0.24**	**310**		Sg	07 03 24.5	+1.6
WNMM	**Nine Mile Cany**	**0.35**	**302**		Pg	07 03 21.7	0.0
WNMM					Sg	07 03 25.4	-1.0
WVPM	**Volcano Peak E**	**0.37**	**322**		Pg	07 03 21.8	-0.4
WVPM					Sg	07 03 27.2	0.0
MPMC	**Manual Prospec**	**0.41**	**5**		Sg	07 03 28.3	+0.1
WRVM	**Rose V. Centra**	**0.46**	**321**		Pg	07 03 23.2	-0.5
WRVM					Sg	07 03 29.6	-0.1
DTP	**Desert Tortois**	**0.46**	**213**		Pg	07 03 23.3	-0.4
DTP					Sg	07 03 29.6	-0.1
WBSM	**Bird Springs**	**0.50**	**257**		Sg	07 03 31.1	-0.1
MFS	**McCloud Flat S**	**0.53**	**331**		Pg	07 03 24.7	-0.4
WORM	**Onyx Ranch**	**0.58**	**274**		Sg	07 03 33.0	-0.5
QSM	**Queen of Sheba**	**0.63**	**60**		Pg	07 03 26.2	-0.7
QSM				IAML		07 03 34.9	
	comp=E,3μm,0.5s						
CCAC	**Calif City Air**	**0.64**	**218**		Pg	07 03 26.4	-0.6
CCAC				IAML		07 03 36.1	
	comp=N,3μm,0.4s						
WHFM	**Hanning Flat**	**0.66**	**274**		Sg	07 03 35.9	-0.4
GSC	**Goldstone, Bar**	**0.69**	**120**		Pg	07 03 27.5	-0.6
GSC				IAML		07 03 39.9	
	comp=N,2μm,0.3s						
GSC				IAML		07 03 40.0	
	comp=E,3μm,0.5s						
GSC	**Goldstone, Bar**	**0.69**	**120**		Sg	07 03 37.0	-0.1
ISA	**Isabella, Lake**	**0.76**	**271**		Pg	07 03 28.8	-0.7
ISA				IAML		07 03 40.5	
	comp=N,1μm,0.2s						
ISA				IAML		07 03 40.8	
	comp=E,1μm,0.4s						
HYS	**Haystack Butte**	**0.79**	**182**		Pg	07 03 29.3	-0.6
WASM	**Alta Sierra Ca**	**0.83**	**276**		Pg	07 03 30.2	-0.7
WASM					Sg	07 03 41.4	-0.4
EDW2	**Edwards Air Fo**	**0.86**	**206**		Pg	07 03 30.4	-0.9
GWY	**Greenwater Val**	**0.88**	**53**		Pg	07 03 31.2	-0.6
GWY				IAML		07 03 46.2	
	comp=E,2μm,0.3s						
RRX	**Edison Barstow**	**0.89**	**150**		Pb	07 03 32.4	-0.2
CWC	**Cottonwood Cre**	**0.90**	**331**		Sg	07 03 44.2	+0.4
CGO	**Cerro Gordo**	**0.92**	**347**		Pg	07 03 31.9	-0.7
CGO					Sg	07 03 44.5	0.0
TPO	**Tropico Hills**	**0.96**	**216**		Pg	07 03 32.6	-0.6
TPO					Sg	07 03 45.8	+0.2
FURC	**Furnace Creek,**	**0.98**	**34**		Sg	07 03 46.3	0.0
SBB	**Saddle Back Bu**	**0.99**	**194**		Pg	07 03 32.9	-0.9
SBB					Sg	07 03 47.2	-0.2
TEJ	**El Tejon**	**1.03**	**246**		Pg	07 03 33.4	-1.2
SHOC	**Shoshone, Teco**	**1.05**	**76**		Pg	07 03 34.1	-0.9
SHOC					Sg	07 03 48.8	+0.1
ADO	**Adelanto Recei**	**1.10**	**176**		Pg	07 03 36.0	0.0
VTV	**Victorville**	**1.10**	**171**		Sb	07 03 50.8	+0.1
SPG2	**Springville 2**	**1.14**	**299**		Pg	07 03 35.4	-1.2
SPG2					Sg	07 03 50.4	-1.1
ALPC	**Antelope**	**1.15**	**213**		Pg	07 03 36.6	-0.2
THC	**Tehachapi Micr**	**1.18**	**231**		Pg	07 03 36.7	-0.8
LRRC	**Littlerock Res**	**1.19**	**200**		Pb	07 03 36.4	-1.3
LEOC	**Leona Valley**	**1.20**	**212**		Pg	07 03 36.4	-1.4
HOLC	**Holcomb Ridge**	**1.22**	**192**		Sg	07 03 53.7	-0.3
CJV	**Casa Juvan**	**1.23**	**204**		Pb	07 03 36.8	-1.5
CJV					Sb	07 03 54.5	+0.2
JNH	**Juniper Hills**	**1.25**	**196**		Pn	07 03 37.2	-1.5
JNH					Sg	07 03 55.0	0.0
VES	**Vestal, Richgr**	**1.27**	**279**		Pn	07 03 38.3	-0.6
VES					Sb	07 03 52.7	-2.8
DSCC	**Desert Studies**	**1.28**	**113**		Pn	07 03 36.8	-2.2
DSCC					Sb	07 03 55.6	0.0
HEC	**Hector,Ludlow**	**1.28**	**130**		Pn	07 03 37.3	-1.8
AMDNV	**Amargosa**	**1.29**	**52**		Pn	07 03 38.8	-0.3
AMDNV					Sb	07 03 55.8	-0.3
BAKC	**Calstate**	**1.32**	**257**		Pn	07 03 39.0	-0.4
BAKC					Sb	07 03 56.7	0.0
TUQ	**Turquoise Moun**	**1.33**	**99**		Pn	07 03 38.0	-1.9
GRAC	**Grapevine Rang**	**1.35**	**6**		Pn	07 03 39.1	-0.8
GRAC				IAML		07 04 04.2	
	comp=E,532nm,0.8s						
GRAC				IAML		07 04 04.5	
	comp=N,444nm,0.7s						
WCT	**Wildcat Mounta**	**1.35**	**33**		Sb	07 03 58.1	+0.1
WCT	**Wildcat Mounta**	**1.35**	**33**		Pn	07 03 39.7	-0.4
WCT				IAML		07 03 59.9	
	comp=E,409nm,0.3s						
CHFC	**Chilao Flat St**	**1.38**	**197**		Pn	07 03 39.1	-1.3
CHFC					Sg	07 03 59.0	0.0
SGV	**South Grapevin**	**1.39**	**17**		Pn	07 03 40.6	0.0
BFSC	**Mount Baldy Ra**	**1.41**	**184**		Pn	07 03 39.9	-1.0
BFSC					Sn	07 03 59.9	0.0
OSI	**Osito Audit: C**	**1.42**	**224**		Pn	07 03 40.6	-0.4
OSI				IAML		07 04 02.5	
	comp=E,547nm,0.8s						
OSI				IAML		07 04 03.1	
	comp=N,657nm,0.9s						
SIL	**Silver Peak**	**1.43**	**156**		Pn	07 03 41.1	0.0
SSK	**Sunset Peak**	**1.44**	**185**		Pn	07 03 40.4	-1.0
BBRC	**Big Bear Solar**	**1.48**	**160**		Pb	07 03 42.6	0.0
PDE	**Pardee, Santa**	**1.48**	**216**		Sb	07 04 01.6	0.0
MWC	**Mount Wilson**	**1.49**	**197**		Pn	07 03 41.0	-1.0
MWC	**Mount Wilson**	**1.49**	**197**		Pn	07 03 40.7	-1.3
MWC				IAML		07 04 03.9	
	comp=E,425nm,0.5s						
MWC				IAML		07 04 04.2	
	comp=N,466nm,0.3s						
DECC	**Green Verdugo**	**1.54**	**205**		Pn	07 03 41.8	-0.8
PASC	**Pasadena Art C**	**1.57**	**200**		Pn	07 03 41.9	-1.1
PSRC	**Puddingstone R**	**1.57**	**188**		Pn	07 03 42.4	-0.6
LCH	**Last Change Ra**	**1.58**	**357**		Pn	07 03 42.3	-1.0
SVD	**Seven Oaks Dam**	**1.58**	**167**		Pg	07 03 45.0	-0.2
SVD					Sb	07 04 04.6	+0.1
MTPC	**Mountain Pass**	**1.63**	**95**		Pn	07 03 42.1	-1.8
GR2C	**Griffith Obs.**	**1.66**	**203**	

KNB	Kanab	4.04	69			Pn	07 04 16.2	-1.0
Y14A	Wickenburg	4.10	113			Pn	07 04 17.7	-0.2
Y14A					IAML		07 07 01.1	
	comp=E,65nm,0.8s							
AFDM	Forest Hills D	4.28	321	Pn	Pn		07 04 20.3	+0.1
X16A	Lo Mia Camp, P	5.15	102	Pn	Pn		07 04 31.9	-0.4
X16A					IAML		07 07 50.7	
	comp=N,28nm,0.9s							
X18A	Snowflake	6.32	98			Pn	07 04 48.0	-0.4

IDC 06 07:03:55.4±1.8, 18°65S×176°22E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=130.8km s-min=22.3km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	1.96	63	Pn	Pn	07 04 28.2	-1.9
	35nm,0.3s,baz=240,slow=16,SNR=38						
MSVF				Sn	Sn	07 04 50.3	-5.2
	142nm,0.3s,baz=152,slow=15,SNR=24						
WRA	Warramunga Arr	39.48	261	P	P	07 11 27.1	-0.8
	0.9nm,0.9s,baz=93,slow=8.5,SNR=4.6						
	0.9nm,0.9s						
ASAR	Alice Springs	39.67	255	P	P	07 11 29.2	-0.3
	0.9nm,0.7s,baz=86,slow=8.8,SNR=14						
	0.9nm,0.7s						
TXAR	Lajitas Array	90.73	59	P	P	07 17 02.1	+1.3
	0.3nm,0.7s,baz=240,slow=4.7,SNR=4.9						
	0.3nm,0.7s						
GERES	GERESS Array B	146.72	339	PKPbc	PKPbc	07 23 39.3	-0.2
	0.4nm,0.4s,baz=36,slow=1.8,SNR=4.4						

*NEIC **06** 07:04:22.1±2.3, 35°.758N±0°.009×117°.57W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.6km az=277.0*

PAS 06 07:04:22.2±2.4, 35°.741N±0°.009×117°.565W±0°.007, h2km±4km, ML3.2/27, ML3.1/12(NEIC), Error ellipse: s-maj=1.4km s-min=0.8km az=169.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	Snort	0.16	252		Pg	07 04 25.6	+0.3
TOW	Tower One	0.18	293		Pg	07 04 26.4	+0.8
TOW					Sg	07 04 30.0	+2.0
CCCA	Chr Cany lake	0.27	143		Pg	07 04 28.1	+0.6
CCCA					Sg	07 04 32.4	+1.5
LRMC	Laurel Mtn Rad	0.28	200		Pg	07 04 27.7	+0.1
LRMC					Sg	07 04 31.9	+0.8
LRMC	Laurel Mtn Rad	0.28	200	IAML		07 04 32.4	
	comp=N,3μm,0.2s						
LRMC				IAML		07 04 32.6	
	comp=E,3μm,0.2s						
MPMC	Manual Prospec	0.32	11		Pg	07 04 28.5	0.0
MPMC					Sg	07 04 33.1	+0.4
MFS	McCloud Flat S	0.44	328		Sg	07 04 37.0	+0.4
DTP	Desert Tortois	0.52	206		Pg	07 04 32.3	0.0
DTP					Sg	07 04 39.9	+0.8
WORM	Onyx Ranch	0.55	266		Sg	07 04 40.6	+0.6
QSM	Queen of Sheba	0.61	68		Pg	07 04 33.5	-0.4
QSM					Sg	07 04 41.9	+0.1
QSM	Queen of Sheba	0.61	68	IAML		07 04 42.2	
	comp=E,660nm,0.2s						
QSM				IAML		07 04 45.8	
	comp=N,610nm,0.2s						
CCAC	Calif City Air	0.69	212		Sg	07 04 45.2	+0.7
CCAC	Calif City Air	0.69	212	Pg	Pg	07 04 35.5	0.0
CCAC				IAML		07 04 45.4	
	comp=E,788nm,0.3s						
CCAC				IAML		07 04 59.8	
	comp=N,923nm,1.0s						
ISA	Isabella, Lake	0.74	264		Pg	07 04 36.0	-0.5
GSC	Goldstone, Bar	0.76	125		Sg	07 04 46.7	0.0
GSC	Goldstone, Bar	0.76	125	Pg	Pg	07 04 36.6	-0.2
GSC				IAML		07 05 01.2	
	comp=E,1μm,0.7s						
WASM	Alta Sierra Ca	0.81	270		Pg	07 04 37.5	-0.2
GWY	Greenwater Val	0.85	58		Pg	07 04 37.9	-0.7
GWY				IAML		07 04 53.5	
	comp=E,936nm,0.4s						
HYS	Haystack Butte	0.88	180		Pb	07 04 39.9	-0.3
EDW2	Edwards Air Fo	0.93	202		Sb	07 04 54.5	+0.7
TEJ	El Tejon	1.05	241		Sg	07 04 55.1	-0.8
SBB	Saddle Back Bu	1.07	192		Pg	07 04 42.8	0.0
SBB					Sb	07 04 57.8	-0.2
SPG2	Springville 2	1.08	296		Pg	07 04 42.1	-0.8
SPG2					Sb	07 04 58.4	+0.3
ALPC	Antelope	1.21	210		Sb	07 05 02.2	+0.2
THC	Tehachapi Micr	1.22	228		Pg	07 04 44.5	-1.1
AMDNV	Amargosa	1.26	55		Pg	07 04 45.9	-0.5
GRAC	Grapevine Rang	1.26	7		Pg	07 04 46.2	-0.3
LRRC	Littlerock Res	1.27	198		Sn	07 05 04.1	-0.4
WCT	Wildcat Mounta	1.30	36		Pg	07 04 46.4	-0.7
CJV	Casa Juvan	1.30	202		Pb	07 04 47.4	0.0
CJV					Sb	07 05 04.6	0.0
SGV	South Grapevin	1.31	19		Sb	07 05 05.0	-0.1
BAKC	Calstate	1.32	253		Sn	07 05 05.4	-0.3
JNH	Juniper Hills	1.33	194		Sn	07 05 06.2	-0.1
HEC	Hector,Ludlow	1.36	132		Sg	07 05 05.6	-0.2
TUQ	Turquoise Moun	1.37	102		Sg	07 05 06.2	-0.1
OSI	Osito Audit: C	1.47	221		Sn	07 05 09.9	+0.2
BFSC	Mount Baldy Ra	1.50	183		Sg	07 05 10.4	0.0
SIL	Silver Peak	1.52	156		Pn	07 04 50.5	-0.1
MWC	Mount Wilson	1.57	195		Pn	07 04 51.3	+0.1
BBRC	Big Bear Solar	1.57	160		Pb	07 04 52.0	-0.1
VOG	Valley Oaks Go	1.58	292		Pn	07 04 51.0	-0.3
TPNV	Topopah Spring	1.61	41		Pn	07 04 51.3	-0.5
DECC	Green Verdugo	1.61	203		Sg	07 05 14.2	+0.1
PSRC	Puddingstone R	1.66	187		Sg	07 05 16.0	+0.5
DSP	Deep Springs	1.66	349		Pn	07 04 52.2	-0.1
MTPC	Mountain Pass	1.66	98		Pn	07 04 50.6	-1.9
MTPC					Sn	07 05 12.8	-1.7
SVD	Seven Oaks Dam	1.68	167		Sg	07 05 16.4	+0.4
BCW	Bitter Crk WRg	1.71	243		Pn	07 04 53.0	-0.2
MLSC	Mira Loma	1.73	180		Sb	07 05 17.3	+0.4
HMTC	Hemet	2.08	167		Pn	07 04 57.1	-1.1
ELS	Elsinore Mount	2.09	177	Pn	Pn	07 04 57.1	-1.2
POB	Polly Butte	2.12	165		Pn	07 04 57.8	-0.9
PFO	Pinyon Flats O	2.31	156	Pn	Pn	07 05 00.2	-1.2
TPH	Tonopah	2.35	7	Pn	Pn	07 05 01.7	-0.3
AFDM	Forest Hills D	4.20	321		Pn	07 05 26.7	-0.6
VTX	Valle De La Tr	4.58	161		Pn	07 05 32.9	+0.2

*NEIC **06** 07:04:42.1±2.0, 35°.892N±0°.009×117°.74W±0°.01, h7km±4km, Error ellipse: s-maj=1.6km s-min=1.2km az=113.0*

*IDC **06** 07:04:42.3±0.9, 35°.93N×117°.48W, h0km, mb3.4/1, mbtmp3.1/6, ML3.4/3, Error ellipse: s-maj=16.5km s-min=6.2km az=75.0*

*PAS **06** 07:04:42.2±1.9, 35°.883N±0°.010×117°.74W±0°.01, h4km±2km, ML4.1/16, ML3.8/92(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=171.0*

ISC 06 07:04:42.6±0.8, 35°.90N±0°.02×117°.73W±0°.02, h13km±6km, n109, σ1°12/118, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	Volcano Peak E	0.09	307		Pg	07 04 44.2	-1.4
TOW	Tower One	0.09	196		Pg	07 04 44.4	-1.1
WNMM	Nine Mile Cany	0.15	249		Pg	07 04 45.2	-1.0
WRVM	Rose V. Centra	0.17	311		Pg	07 04 45.6	-1.0
SRTC	Snort	0.21	183		Pg	07 04 50.5	+3.3
LRMC	Laurel Mtn Rad	0.42	174	Pg	Pg	07 04 49.7	-1.3
WORM	Onyx Ranch	0.46	244		Pg	07 04 50.7	-1.0
WORM					Sg	07 04 56.8	-1.1
CCCA	Chr Cany lake	0.48	141		Pg	07 04 51.4	-0.6
CCCA					Sb	07 04 58.5	-1.3
CWC	Cottonwood Cre	0.61	333		Pg	07 04 54.0	-0.5
DTP	Desert Tortois	0.64	188		Pg	07 04 53.7	-1.3
ISA	Isabella, Lake	0.65	249		Sg	07 05 02.8	-1.0
ISA	Isabella, Lake	0.65	249		Pg	07 04 54.2	-1.0
ISA				IAML		07 05 03.3	
	comp=N,10μm,0.3s						
ISA				IAML		07 05 03.3	
	comp=E,6μm,0.4s						
CGO	Cerro Gordo	0.65	355		Sg	07 05 04.2	+0.1
WASM	Alta Sierra Ca	0.69	257		Pg	07 04 55.0	-1.0
QSM	Queen of Sheba	0.71	84		Pg	07 04 55.0	-1.2
QSM				IAML		07 05 08.5	
	comp=E,5μm,0.5s						
CCAC	Calif City Air	0.78	197		Sg	07 05 07.3	-0.6
CCAC	Calif City Air	0.78	197	Pg	Pg	07 04 56.2	-1.5
SPG2	Springville 2	0.89	290		Pg	07 04 56.4	-3.4
FURC	Furnace Creek,	0.91	51		Pb	07 04 59.7	-0.4
FURC					Sb	07 05 11.6	-0.4
GWY	Greenwater Val	0.91	71		Pb	07 04 59.4	-0.8
GWY					Sb	07 05 11.3	-1.1
GWY	Greenwater Val	0.91	71	IAML		07 05 14.6	
	comp=E,5μm,0.7s						
GSC	Goldstone, Bar	0.96	128		Sg	07 05 12.6	-1.1
GSC	Goldstone, Bar	0.96	128		Pg	07 04 59.7	-1.5
GSC				IAML		07 05 14.6	
	comp=N,4μm,0.8s						
TEJ	El Tejon	1.02	230		Pg	07 05 00.9	-1.5
TEJ					Sg	07 05 14.1	-1.6
EDW2	Edwards Air Fo	1.04	192		Pb	07 05 02.5	+0.1
HYS	Haystack Butte	1.04	173		Pb	07 05 02.2	-0.3
VES	Vestal, Richgr	1.10	267		Pg	07 05 03.0	-0.7
VES					Sg	07 05 17.3	-0.8
MAGC	SCE Magundon P	1.11	241		Sg	07 05 18.1	-0.2
GRAC	Grapevine Rang	1.14	15		Pg	07 05 03.4	-1.1
GRAC				IAML		07 05 25.6	
	comp=E,2μm,0.7s						
GRAC				IAML		07 05 31.4	
	comp=N,2μm,1.1s						
SHOC	Shoshone, Teco	1.18	89		Pb	07 05 04.7	-0.2
SHOC					Sb	07 05 20.3	+0.1
RRX	Edison Barstow	1.19	149		Sn	07 05 21.1	+0.3
TJR	Tejon Ranch	1.20	224		Pg	07 05 04.0	-1.6
TJR					Sg	07 05 19.8	-1.4
TIN	Tinemaha, Big	1.22	341		Pn	07 05 05.8	+0.4
THC	Tehachapi Micr	1.25	218		Pg	07 05 04.4	-2.1
BAKC	Calstate	1.25	244		Sg	07 05 22.4	-0.3
WCT	Wildcat Mounta	1.26	45		Pg	07 05 05.4	-1.5
WCT				IAML		07 05 23.9	
	comp=E,3μm,0.6s						
WCT				IAML		07 05 26.6	
	comp=N,2μm,0.7s						
AMDNV	Amargosa	1.30	64		Sg	07 05 22.5	-2.0
LCH	Last Change Ra	1.33	3		Pb	07 05 07.7	+0.1
ADO	Adelanto Recei	1.37	170		Pn	07 05 07.9	+0.5
VTV	Victorville	1.38	166		Sn	07 05 26.4	+0.9
VOG	Valley Oaks Go	1.40	288		Pn	07 05 07.9	+0.1
CJV	Casa Juvan	1.41	194		Pg	07 05 09.1	-0.5
HOLC	Holcomb Ridge	1.44	184		Pg	07 05 09.5	-0.7
GMN	Gold Mountain	1.45	15		Pn	07 05 08.7	0.0
DSP	Deep Springs	1.48	353		Pn	07 05 08.7	-0.2
BHPR	Bishop	1.52	337		Pb	07 05 10.6	-0.2
POCCA	Poleta Canyon	1.53	343		Pb	07 05 10.8	0.0
TUQ	Turquoise Moun	1.54	107		Pg	07 05 11.0	-1.3
TUQ					Sg	07 05 31.6	-0.7
HEC	Hector,Ludlow	1.56	133		Sg	07 05 32.0	-0.9
CHFC	Chilao Flat St	1.58	189		Pb	07 05 11.8	+0.1
CHFC					Sn	07 05 32.1	+1.4
TPNV	Topopah Spring	1.59	48		Pn	07 05 10.4	-0.2
TPNV				IAML		07 05 36.4	
	comp=N,2μm,0.6s						
MTUM	Tungsten Hills	1.60	336		Pb	07 05 11.9	-0.2
BFSC	Mount Baldy Ra	1.66	178		Sb	07 05 34.6	+0.8
MWC	Mount Wilson	1.69	189		Pb	07 05 13.8	+0.2
MWC	Mount Wilson	1.69	189	IAML		07 05 37.2	
	comp=N,1μm,0.3s						
MWC				IAML		07 05 38.4	
	comp=E,923nm,0.5s						
CRGC	Crocker Grade	1.75	249		Pb	07 05 14.3	-0.3
PASC	Pasadena Art C	1.76	192		Pn	07 05 12.4	-0.3
BLCC	Black Canyon	1.82	205		Pn	07 05 13.4	-0.2
MZP	Montezuma Peak	1.82	9		Pn	07 05 13.4	-0.4
KCC	Kaiser Creek	1.91	319		Pb	07 05 16.8	-0.5
BENR	Benton	1.94	340		Pb	07 05 18.0	+0.1
MLAC	Mammoth, Mammo	1.94	333		Pb	07 05 18.3	+0.4
MCSM	Casa Diablo Ho	1.99	332		Pb	07 05 19.0	+0.2
SHPR	Sheep Range	2.17	73		Pn	07 05 17.7	-0.8
ELS	Elsinore Mount	2.26	173		Pn	07 05 19.1	-0.5
ELS				IAML		07 05 54.3	
	comp=E,354nm,0.3s						
TPC	Twentynine Pal	2.26	142		Pn	07 05 18.9	-0.8
HMTC	Hemet	2.27	164		Pn	07 05 19.6	-0.1
DANC	Danby, Needles	2.30	122		Pb	07 05 23.9	0.0
POB	Polly Butte	2.31	163		Pn	07 05 20.2	-0.1
DGR	Domenigoni Val	2.32	165		Pb	07 05 24.8	+0.6
V12A	Nelson	2.35	93		Pn	07 05 20.7	-0.3
V12A				IAML		07 05 58.3	
	comp=N,406nm,0.6s						
V12A				IAML		07 06 00.5	
	comp=E,644nm,0.5s						
S11A	Rachel	2.36	42		Pn	07 05 22.5	+1.3
PMPB	Monarch Peak	2.51	278		Pn	07 05 22.9	-0.1
PMPB				IAML		07 06 03.5	
	comp=E,507nm,0.8s						
PMPB				IAML		07 06 03.7	
	comp=N,808nm,1.2s						
PFO	Pinyon Flats O	2.51	155		Pn	07 05 22.5	-0.6
PFO				IAML		07 06 07.0	
	comp=N,575nm,1.0s						
PFO				IAML		07 06 07.0	
	comp=N,308nm,1.1s						
PFO	Pinyon Flats O	2.51	155	Pn	Pn	07 05 22.0	-1.2
	comp=N,8.7nm,0.3s,baz=335,slow=17,SNR=0.7						
PFO				Pg	Pb	07 05 27.8	+0.3
	comp=N,16nm,0.3s,baz=340,slow=15,SNR=5.8						
PFO				Lg	Lg	07 06 00.4	
	comp=N,56nm,0.3s,baz=66,slow=22,SNR=14						
NV11	Mina Array Sit	2.55	353		Pn	07 05 23.3	-0.5
NVAR	Mina Array Bea	2.57	350	Pn	Pn	07 05 24.6	+0.5
	comp=N,6.2nm,0.4s,baz=170,slow=10,SNR=1.7						
NVAR				Pg	Pb	07 05 29.8	+1.2
	comp=N,32nm,0.3s,baz=163,slow=15,SNR=26						
NVAR				Lg	Lg	07 06 04.0	
	comp=N,27nm,0.3s,baz=37,slow=25,SNR=6.2						
Q09A	Carvers	2.96	8	Pn	Pn	07 05 29.2	-0.2
CMB	Columbia Colle	3.01	316	IAML		07 06 19.7	
	comp=E,168nm,1.1s						
CMB				IAML		07 06 25.7	
	comp=N,181nm,1.0s						
SAO	San Andreas Ge	3.12	287		Pn	07 05 32.2	+0.8
BAR	Barrett	3.33	164	IAML		07 06 26.2	
	comp=E,289nm,0.8s						
BAR				IAML		07 06 26.9	
	comp=N,261nm,0.5s						
CBX	Cerro Bola	3.68	166		Pn	07 05 38.9	-0.4
GLA	Glamis	3.72	139		Pn	07 05 39.7	0.0
LCMT	Little Creek M	3.79	72		Pn	07 05 40.2	-0.5
LCMT				IAML		07 06 48.0	
	comp=N,85nm,0.9s						
PAHR	Pah Rah Range	4.02	342	Pn	Pn	07 05 44.0	0.0
PSUT	Pine Spring	4.06	48		Pn	07 05 46.2	+1.7
PSUT				IAML		07 07 03.5	
	comp=N,176nm,1.2s						
SZCU	Shurtz Canyon	4.10	64		Pn	07 05 45.8	+0.7
SZCU				IAML		07 06 53.5	
	comp=N,65nm,0.6s						
SZCU				IAML		07 07 05.1	
	comp=E,68nm,1.3s						
KNB	Kanab	4.11	73	Pn	Pn	07 05 45.3	+0.1
KNB				IAML		07 06 54.8	
	comp=N,158nm,1.0s						
KNB				IAML		07 07 06.2	
	comp=E,129nm,1.5s						
CCX	Cicese	4.12	167	Pn	Pn	07 05 44.9	-0.2
CCX				IAML		07 06 53.8	
	comp=E,192nm,0.9s						
CCX				IAML		07 07 02.9	
	comp=N,127nm,1.1s						
ESJX	Sierra Juarez	4.16	159	Pn	Pn	07 05 45.7	-0.2
ESJX				IAML		07 06 52.8	
	comp=N,75nm,1.4s						
ESJX				IAML		07 06 53.0	
	comp=E,109nm,1.3s						
Y14A	Wickenburg	4.35	115	Pn	Pn	07 05 48.0	-0.4
Y14A				IAML		07 07 03.0	
	comp=E,77nm,0.6s						
Y14A				IAML		07 07 03.7	
	comp=N,153nm,1.1s						
BEKR	Beckworth	4.47	333	Pn	Pn	07 05 49.5	-0.7
BEKR				IAML		07 07 17.1	
	comp=E,109nm,0.9s						
ORV	Oroville	4.72	322	Pn	Pn	07 05 53.1	-0.3
ORV				IAML		07 07 14.3	
	comp=E,49nm,1.0s						
ORV				IAML		07 07 16.7	
	comp=N,45nm,1.4s						
WUAZ	Wupatki	5.19	92	Pn	Pn	07 06 00.7	+0.7
ELK	Elko	5.22	21	Pn	Pn	07 06 01.2	+0.7
ELK				IAML		07 07 31.0	
	comp=N,41nm,0.8s						
ELK	Elko	5.22	21	Pn	Pn	07 06 01.1	+0.5
	comp=N,2.3nm,0.3s,baz=207,slow=13,SNR=4.5						
ELK				Pg	Pb	07 06 17.0	+3.2
	comp=N,4.5nm,0.3s,baz=217,slow=13,SNR=12						
ELK				Sn	Sn	07 06 59.0	-1.7
	comp=N,2.6nm,0.3s,baz=220,slow=9.7,SNR=1.9						
ELK				Lg	Lg	07 07 24.2	
	comp=N,12nm,0.3s,baz=352,slow=5.4,SNR=9.1						
	comp=N,4.9nm,0.3s						
HOPS	Hopland Field	5.25	308	Pn	Pn	07 06 02.3	+1.6
HOPS				IAML		07 07 18.6	
	comp=E,36nm,2.4s						
X16A	Lo Mia Camp, P	5.36	104		Pn	07 06 00.9	-1.5
X16A				IAML		07 07 40.3	
	comp=E,37nm,0.9s						
X16A				IAML		07 08 06.4	
	comp=N,28nm,1.4s						
214A	Organ Pipe Nat	5.67	132	Pn	Pn	07 06 06.4	-0.2
HATC	Hat Creek Radi	5.72	330	Pn	Pn	07 06 06.8	-0.3
Q16A	Castle Valley	6.03	58	Pn	Pn	07 06 12.4	+0.7
X18A	Snowflake	6.52	100	Pn	Pn	07 06 19.7	+1.4
TUC	Tucson	6.78	120	Pn	Pn	07 06 20.9	-0.9
YBH	Yreka Blue Hor	7.00	328	Pn	Pn	07 06 30.1	+5.3
	baz=159,slow=8.6,SNR=1.7						
YBH				Pg	Pb	07 06 48.6	+4.6
	baz=171,slow=8.5,SNR=3.8						
YBH				Lg	Lg	07 08 21.3	
	baz=216,slow=8.1,SNR=3.2						
HVU	Hansel Valley	7.03	32	Pn	Pn	07 06 26.1	+0.8
ANMO	Albuquerque	9.25	93	Pg	Pn	07 07 31.2	+35
	comp=N,0.2nm,0.3s,baz=16,slow=12,SNR=7.7						
ANMO				Lg	Lg	07 09 26.7	
	comp=N,0.3nm,0.3s,baz=255,slow=15,SNR=6.7						
PDAR	Pinedale Array	9.33	40	Pn	Pn	07 06 58.9	+1.9
	baz=231,slow=13,SNR=1.6						
PDAR				Pg		07 07 22.1	
	comp=N,0.1nm,0.3s,baz=223,slow=21,SNR=4.4						
PDAR				Lg	Lg	07 09 31.6	
	comp=N,0.1nm,0.3s,baz=194,slow=18,SNR=1.4						
	comp=N,0.2nm,0.6s						
TXAR	Lajitas Array	13.54	115	Pn	Pn	07 07 55.9	+1.5
	comp=N,0.1nm,0.3s,baz=303,slow=16,SNR=5.6						
	comp=N,0.2nm,0.5s						
YKA	Yellowknife Ar	26.69	3	P	P	07 10 22.4	+1.3
	comp=N,0.5nm,0.8s,baz=188,slow=8.7,SNR=5.8						
	comp=N,0.5nm,0.8s						

*NEIC **06** 07:05:20.6±1.4, 35°.90N±0°.01×117°.72W±0°.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.8km az=53.0*

PAS 06 07:05:21.1±0.9, 35°.89N±0°.01×117°.73W±0°.01, h6km, ML3.7/23, ML3.5/40(NEIC), Error ellipse: s-maj=1.7km s-min=1.5km az=157.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	Tower One	0.08	198		Pg	07 05 23.4	+0.4
WVPM	Volcano Peak E	0.09	312		Pg	07 05 23.3	0.0
WNMM	Nine Mile Cany	0.15	252		Pg	07 05 24.2	+0.1
WRVM	Rose V. Centra	0.17	313		Pg	07 05 24.6	0.0
SRTC	Snort	0.20	184		Pg	07 05 25.3	+0.4
MFS	McCloud Flat S	0.25	337		Pg	07 05 25.1	-0.9
MPMC	Manual Prospec	0.26	49		Pg	07 05 26.1	-0.1
MPMC					Sg	07 05 30.0	+0.3
LRMC	Laurel Mtn Rad	0.41	174		Sg	07 05 34.8	+0.4
LRMC	Laurel Mtn Rad	0.41	174	Pg	Pg	07 05 28.5	-0.5
LRMC				IAML		07 05 35.9	
	comp=E,6μm,0.3s						
LRMC				IAML		07 05 36.1	
	comp=N,5μm,0.2s						
WORM	Onyx Ranch	0.46	245		Pg	07 05 29.6	-0.3
WORM					Sg	07 05 35.8	-0.1
CCCA	Chr Cany lake	0.47	140		Pg	07 05 28.5	-1.6
CCCA					Sg	07 05 36.3	0.0
WBSM	Bird Springs	0.48	223		Pg	07 05 30.2	-0.2
CWC	Cottonwood Cre	0.62	333		Sg	07 05 41.2	+0.1
DTP	Desert Tortois	0.63	188		Sg	07 05 41.4	+0.1
ISA	Isabella, Lake	0.64	250		Sg	07 05 41.8	-0.1
ISA	Isabella, Lake	0.64	250	Pg	Pg	07 05 33.0	-0.5
ISA				IAML		07 05 41.9	
	comp=N,3μm,0.4s						
ISA				IAML		07 05 42.8	
	comp=E,3μm,0.2s						
WASM	Alta Sierra Ca	0.69	258		Sg	07 05 43.2	0.0
QSM	Queen of Sheba	0.71	84	Pg	Pg	07 05 34.1	-0.5
QSM				IAML		07 05 51.8	
	comp=E,1μm,0.8s						
QSM				IAML		07 05 53.0	
	comp=N,1μm,0.9s						
CCAC	Calif City Air	0.77	198		Pg	07 05 35.2	-0.7
CCAC					Sg	07 05 46.0	+0.1
GWY	Greenwater Val	0.91	71	Pg	Pg	07 05 38.3	-0.3
GWY				IAML		07 05 42.1	
	comp=E,1μm,0.7s						
GWY				IAML		07 05 42.9	
	comp=N,2μm,0.9s						
GSC	Goldstone, Bar	0.96	127		Sg	07 05 51.8	0.0
GSC	Goldstone, Bar	0.96	127	Pg	Pg	07 05 38.6	-0.8
GSC				IAML		07 05 57.0	
	comp=E,1μm,0.5s						
TEJ	El Tejon	1.02	230		Sg	07 05 53.0	-0.8
HYS	Haystack Butte	1.03	172		Pg	07 05 40.9	+0.1
TPO	Tropico Hills	1.08	202		Sg	07 05 56.1	+0.1
VES	Vestal, Richgr	1.10	268		Pg	07 05 41.6	-0.5
VES					Sg	07 05 56.4	0.0
GRAC	Grapevine Rang	1.14	15		Pg	07 05 42.3	-0.8
GRAC				IAML		07 06 00.9	
	comp=N,886nm,0.7s						
GRAC				IAML		07 06 04.3	
	comp=E,774nm,0.5s						
TJR	Tejon Ranch	1.19	224		Sg	07 05 58.8	-0.6
BAKC	Calstate	1.24	245		Sb	07 06 01.3	+0.1
CJV	Casa Juvan	1.40	194		Pg	07 05 47.9	+0.1
CJV					Sg	07 06 06.0	+0.1
VOG	Valley Oaks Go	1.40	288		Pn	07 05 46.9	-0.3
JNH	Juniper Hills	1.45	187		Pb	07 05 48.7	+0.1
GMN	Gold Mountain	1.46

IDC ***06*** *07:09:18.4±0.4,56˚.13N×164˚.21E,h0km,mb4.5/35, mbtmp4.6/39,ML4.8/3,MS4.9/14,Error ellipse: s-maj=10.7km s-min=9.2km az=161.0*

KRSC ***06*** *07:09:19.3±0.9,56˚.12N×164˚.38E,h54km±17km,Mc5.8, Ml5.1*

BJI ***06*** *07:09:19.5,56˚.20N×163˚.47E,h6km,mB5.4/8,mb4.8/51, Ms5.1/30,Ms7 4.9/29*

NEIC ***06*** *07:09:20.3±1.4,56˚.13N±0˚.08×164˚.2E±0˚.1,h10km±1km, mb5.1/127,Error ellipse: s-maj=13.0km s-min=10.7km az=164.0*

MOS ***06*** *07:09:22.2±1.0,56˚.14N×164˚.17E,h40km,mb5.1/60, MS4.5/9,Error ellipse: s-maj=5.1km s-min=3.7km az=70.9*

ISC 06 07:09:20.3±0.7,56˚.13N±0˚.03×164˚.23E±0˚.03,h13km±4km, n846,σ1§21/849,mb5.0/172,MS5.0/24,18C-10D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.80**	**277**	PN		**Pg**		**07 09 34.8**	**-0.9**
KBTR	**Krutoberegovo**	**0.80**	**277**	*eP*		**Pg**		**07 09 34.8**	**-0.9**
KBG	**Krutoberegovo**	**0.86**	**279**	PN		**Pg**		**07 09 36.2**	**-0.8**
KBG				S		**Sn**		**07 09 49.9**	**-0.6**
KBG	**Krutoberegovo**	**0.86**	**279**	*eP*		**Pg**		**07 09 36.3**	**-0.8**
KBG				*eS*		**Sn**		**07 09 49.9**	**-0.6**
BKI	**Bering**	**1.35**	**132**	PN		**Pn**		**07 09 43.0**	**-1.7**
BKI				S		**Sn**		**07 10 00.1**	**-2.4**
BKI	**Bering**	**1.35**	**132**	*eP*		**Pn**		**07 09 43.1**	**-1.7**
BKI				*eS*		**Sn**		**07 10 00.1**	**-2.4**
SMKR	**Semkarok**	**1.61**	**288**	PN		**Pn**		**07 09 48.0**	**-0.3**
SMKR	**Semkarok**	**1.61**	**288**	*eP*		**Pn**		**07 09 48.1**	**-0.3**
SRKR	**Sorokina**	**1.79**	**289**	PN		**Pn**		**07 09 51.3**	**+0.5**
SRKR	**Sorokina**	**1.79**	**289**	*eP*		**Pn**		**07 09 51.3**	**+0.5**
ZLN	**Zelenaya**	**1.93**	**268**	PN		**Pn**		**07 09 53.8**	**+1.0**
ZLN	**Zelenaya**	**1.93**	**268**	*eP*		**Pn**		**07 09 53.9**	**+1.0**
CIRR	**Tsirk**	**1.95**	**271**	PN		**Pn**		**07 09 54.0**	**+0.8**
CIRR	**Tsirk**	**1.95**	**271**	*eP*		**Pn**		**07 09 54.1**	**+0.8**
LGNR	**Loginova**	**1.99**	**270**	PN		**Pn**		**07 09 55.0**	**+1.2**
LGNR	**Loginova**	**1.99**	**270**	*eP*		**Pn**		**07 09 55.1**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**1.99**	**266**	PN		**Pn**		**07 09 54.8**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**1.99**	**266**	*i* P		**Pn**		**07 09 54.9**	**+1.1**
KLY	**Klyuchi**	**2.01**	**277**	PN		**Pn**		**07 09 52.9**	**-0.9**
KLY				S		**Sn**		**07 10 16.6**	**-2.1**
KLY	**Klyuchi**	**2.01**	**277**	*eP*		**Pn**		**07 09 52.9**	**-0.9**
KLY				*eS*		**Sn**		**07 10 16.7**	**-2.1**
BZWR	**Bezymyannyi-We**	**2.10**	**267**	PN		**Pn**		**07 09 56.7**	**+1.4**
BZWR	**Bezymyannyi-We**	**2.10**	**267**	*eP*		**Pn**		**07 09 56.7**	**+1.4**
BZMR	**Bezymyannaya**	**2.11**	**266**	PN		**Pn**		**07 09 56.7**	**+1.3**
BZMR	**Bezymyannaya**	**2.11**	**266**	*eP*		**Pn**		**07 09 56.7**	**+1.3**
MKZ	**Mys Kozlova**	**2.13**	**223**	PN		**Pn**		**07 09 54.8**	**-0.6**
MKZ	**Mys Kozlova**	**2.13**	**223**	*eP*		**Pn**		**07 09 54.8**	**-0.6**
KIRR	**Kirishev**	**2.19**	**267**	PN		**Pn**		**07 09 57.8**	**+1.4**
KIRR	**Kirishev**	**2.19**	**267**	*eP*		**Pn**		**07 09 57.9**	**+1.4**
KPT	**Kopyto**	**2.26**	**268**	PN		**Pn**		**07 09 58.8**	**+1.5**
KPT	**Kopyto**	**2.26**	**268**	*eP*		**Pn**		**07 09 58.8**	**+1.5**
KMNR	**Kamenistaya**	**2.28**	**262**	PN		**Pn**		**07 09 59.1**	**+1.5**
KMNR	**Kamenistaya**	**2.28**	**262**	*eP*		**Pn**		**07 09 59.2**	**+1.5**
TUMD	**Tumrok D**	**2.36**	**249**	PN		**Pn**		**07 09 59.9**	**+1.2**
TUMD				S		**Sn**		**07 10 27.4**	**-0.1**
TUMD	**Tumrok D**	**2.36**	**249**	*eP*		**Pn**		**07 09 59.9**	**+1.2**
TUMD				*eS*		**Sn**		**07 10 27.5**	**-0.1**
KOZ	**Kozyrevsk**	**2.44**	**270**	PN		**Pn**		**07 10 01.2**	**+1.4**
KOZ	**Kozyrevsk**	**2.44**	**270**	*eP*		**Pn**		**07 10 01.2**	**+1.4**
SRDR	**Sredinnyy**	**2.53**	**276**	PN		**Pn**		**07 10 02.4**	**+1.4**
SRDR	**Sredinnyy**	**2.53**	**276**	*eP*		**Pn**		**07 10 02.4**	**+1.4**
ESO	**Esso**	**3.11**	**269**	PN		**Pn**		**07 10 09.9**	**+0.9**
ESO	**Esso**	**3.11**	**269**	*eP*		**Pn**		**07 10 10.0**	**+0.9**
OSSR	**Ossora**	**3.20**	**349**	PN		**Pn**		**07 10 08.8**	**-1.3**
OSSR	**Ossora**	**3.20**	**349**	*eP*		**Pn**		**07 10 08.9**	**-1.3**
KII	**Karymskiy**	**3.46**	**235**	PN		**Pn**		**07 10 14.9**	**+1.1**
KII	**Karymskiy**	**3.46**	**235**	*eP*		**Pn**		**07 10 15.0**	**+1.1**
PALN	**Palana**	**3.75**	**324**	PN		**Pn**		**07 10 19.6**	**+1.9**
PALN	**Palana**	**3.75**	**324**	*eP*		**Pn**		**07 10 19.7**	**+1.9**
SPN	**Mys Shipunski**	**3.90**	**221**	PN		**Pn**		**07 10 19.1**	**-0.7**
SPN	**Mys Shipunski**	**3.90**	**221**	*eP*		**Pn**		**07 10 19.2**	**-0.7**
NLC	**Nalytchevo**	**4.10**	**226**	PN		**Pn**		**07 10 24.3**	**+1.7**
NLC				S		**Sn**		**07 11 09.7**	**-0.6**
NLC	**Nalytchevo**	**4.10**	**226**	*eP*		**Pn**		**07 10 24.3**	**+1.7**
NLC				*eS*		**Sn**		**07 11 09.8**	**-0.6**
SDLR	**Sedlovina**	**4.21**	**230**	PN		**Pn**		**07 10 25.5**	**+1.2**
SDLR	**Sedlovina**	**4.21**	**230**	*eP*		**Pn**		**07 10 25.5**	**+1.2**
KRER	**Koryakskii**	**4.25**	**231**	PN		**Pn**		**07 10 26.9**	**+2.0**
KRER	**Koryakskii**	**4.25**	**231**	*eP*		**Pn**		**07 10 26.9**	**+2.0**
KRX	**Arik**	**4.26**	**232**	PN		**Pn**		**07 10 25.9**	**+1.0**
KRX	**Arik**	**4.26**	**232**	*eP*		**Pn**		**07 10 26.0**	**+1.0**
SMAR	**Somma**	**4.26**	**230**	PN		**Pn**		**07 10 26.3**	**+1.3**
SMAR	**Somma**	**4.26**	**230**	*eP*		**Pn**		**07 10 26.3**	**+1.3**
AVH	**Avacha**	**4.29**	**230**	PN		**Pn**		**07 10 26.8**	**+1.6**
AVH	**Avacha**	**4.29**	**230**	*eP*		**Pn**		**07 10 26.9**	**+1.6**
UGLR	**Uglovaya**	**4.29**	**229**	PN		**Pn**		**07 10 26.5**	**+1.3**
UGLR	**Uglovaya**	**4.29**	**229**	*eP*		**Pn**		**07 10 26.6**	**+1.3**
KOK	**Koryaka**	**4.31**	**231**	PN		**Pn**		**07 10 27.0**	**+1.4**
KOK	**Koryaka**	**4.31**	**231**	*eP*		**Pn**		**07 10 27.0**	**+1.4**
GNL	**Ganaly**	**4.37**	**239**	PN		**Pn**		**07 10 28.1**	**+1.7**
GNL	**Ganaly**	**4.37**	**239**	*eP*		**Pn**		**07 10 28.2**	**+1.7**
DALK	**Dalny**	**4.45**	**228**	PN		**Pn**		**07 10 28.0**	**+0.7**
DALK	**Dalny**	**4.45**	**228**	*eP*		**Pn**		**07 10 28.0**	**+0.7**
TILK	**Tilichiki**	**4.45**	**12**	PN		**Pn**		**07 10 26.4**	**-0.9**
TILK	**Tilichiki**	**4.45**	**12**	*eP*		**Pn**		**07 10 26.5**	**-0.9**
INSR	**Institute**	**4.48**	**229**	PN		**Pn**		**07 10 29.4**	**+1.6**
INSR	**Institute**	**4.48**	**229**	*eP*		**Pn**		**07 10 29.4**	**+1.6**
PET	**Petropavlovsk**	**4.49**	**229**			**Pn**		**07 10 29.1**	**+1.1**
PET	**Petropavlovsk**	**4.49**	**229**	P		**Pn**		**07 10 29.1**	**+1.1**
PET	**Petropavlovsk**	**4.49**	**229**	*e*PN		**Pn**		**07 10 29.3**	**+1.3**
PET				*eS*		**Sn**		**07 11 20.8**	**+0.8**
PET	comp=Z,257nm,0.7s			pmax	pmax				
PET	comp=N,307nm,0.8s			smax	smax				
PET	comp=E,605nm,0.9s			smax	smax				
PET	comp=Z,5μm,7.0s			MLR	MLR				
PET	comp=E,6μm,9.0s			MLR	MLR				
PET	**Petropavlovsk**	**4.49**	**229**	*eP*		**Pn**		**07 10 28.8**	**+0.9**
PET	**Petropavlovsk**	**4.49**	**229**	P		**Pn**		**07 10 27.6**	**-0.4**
KRMR	**Karymshinskiy**	**4.85**	**230**	PN		**Pn**		**07 10 34.1**	**+1.2**
KRMR				S		**Sn**		**07 11 29.2**	**+0.3**
KRMR	**Karymshinskiy**	**4.85**	**230**	*eP*		**Pn**		**07 10 34.2**	**+1.2**
KRMR				*eS*		**Sn**		**07 11 29.2**	**+0.3**
PEA0B	**Petropavlovsk-**	**4.85**	**234**			**Pn**		**07 10 34.2**	**+1.3**
PEA0B	**Petropavlovsk-**	**4.85**	**234**	*i* PN		**Pn**		**07 10 33.1**	**+0.5**
PETK	**Petropavlovsk-**	**4.85**	**234**			**Pn**		**07 10 32.7**	**-0.2**
PETK	**Petropavlovsk-**	**4.85**	**234**	Pn		**Pn**		**07 10 34.2**	**+1.3**
PETK	comp=E,192nm,1.1s,baz=68,slow=16,SNR=116			Sn		**Sn**		**07 11 31.4**	**+2.5**
	comp=E,2.6nm,0.3s,baz=40,slow=12,SNR=3.7								
RUS	**Russkaya**	**4.99**	**225**	PN		**Pn**		**07 10 35.9**	**+1.1**
RUS	**Russkaya**	**4.99**	**225**	*eP*		**Pn**		**07 10 36.0**	**+1.1**
GRL	**Gorelyy**	**5.08**	**228**	PN		**Pn**		**07 10 38.9**	**+2.8**
GRL	**Gorelyy**	**5.08**	**228**	*eP*		**Pn**		**07 10 38.9**	**+2.8**
MTVR	**Mutnovka**	**5.09**	**227**	PN		**Pn**		**07 10 38.1**	**+1.9**
MTVR	**Mutnovka**	**5.09**	**227**	*eP*		**Pn**		**07 10 38.1**	**+1.9**
APC	**Apacha**	**5.22**	**235**	PN		**Pn**		**07 10 39.7**	**+1.8**
APC	**Apacha**	**5.22**	**235**	*eP*		**Pn**		**07 10 39.8**	**+1.8**
ASAK	**Asacha**	**5.28**	**227**	PN		**Pn**		**07 10 41.0**	**+2.2**
ASAK	**Asacha**	**5.28**	**227**	*eP*		**Pn**		**07 10 41.0**	**+2.2**
PAU	**Pauzhetka**	**6.41**	**226**	PN		**Pn**		**07 10 54.8**	**+0.5**
PAU	**Pauzhetka**	**6.41**	**226**	*eP*		**Pn**		**07 10 54.8**	**+0.5**
SMY	**Shemya**	**6.69**	**116**			**Pn**		**07 11 00.0**	**+2.0**
SMY	**Shemya**	**6.69**	**116**	P		**Pn**		**07 10 59.1**	**+1.1**
SMY	**Shemya**	**6.69**	**116**	PN		**Pn**		**07 11 00.0**	**+2.0**
SKR	**Severo-Kuril's**	**7.29**	**225**	*e*PN		**Pn**		**07 11 07.3**	**+0.9**
SKR	comp=Z,157nm,0.7s			pmax	pmax				
SKR	comp=Z,3μm,17.0s			MLR	MLR				
SKR	**Severo-Kuril's**	**7.29**	**225**	*eP*		**Pn**		**07 11 07.3**	**+0.9**
MA2	**Magadan**	**7.97**	**301**	Pn		**Pn**		**07 11 16.3**	**+0.6**
MA2	comp=Z,0.9nm,0.3s,baz=138,slow=16,SNR=1.9			Sn		**Sn**		**07 12 49.1**	**+3.6**
	comp=Z,0.6nm,0.3s,baz=348,slow=22,SNR=1.6								
	comp=Z,3.3nm,0.3s								
MA2	**Magadan**	**7.97**	**301**	*i* PN		**Pn**		**07 11 15.6**	**0.0**
MA2	**Magadan**	**7.97**	**301**	P		**Pn**		**07 11 14.4**	**-1.2**
	comp=Z,0.3nmcomp=Z,21nm,1.4s								
SEY	**Seymchan**	**9.09**	**324**	Pn		**Pn**		**07 11 32.1**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=128,slow=17,SNR=1.7								
SEY	**Seymchan**	**9.09**	**324**	*i* PN		**Pn**		**07 11 31.2**	**+0.2**
AMKA	**Amchitka**	**10.11**	**112**	Pn		**Pn**		**07 11 45.8**	**+0.9**
KIWB	**Kanaga Island**	**11.75**	**104**			**Pn**		**07 12 07.3**	**-0.1**
ADK	**Adak**	**11.99**	**103**			**Pn**		**07 12 10.2**	**-0.5**
ADK	**Adak**	**11.99**	**103**	P		**Pn**		**07 12 09.9**	**-0.8**
ADK	**Adak**	**11.99**	**103**	PN		**Pn**		**07 12 10.2**	**-0.5**
BILL	**Bilibino**	**11.99**	**4**			**Pn**		**07 12 10.9**	**+0.3**
BILL	**Bilibino**	**11.99**	**4**	*i* PN		**Pn**		**07 12 10.8**	**+0.1**
BILL	comp=Z,29nm,1.0s			pmax	pmax				
OKH	**Okha**	**12.54**	**267**	*de*PN		**Pn**		**07 12 20.1**	**+2.0**
OKH	comp=Z,500nm,11.1s			pmax	pmax				
OKH	comp=N,3μm,16.0s			MLR	MLR				
OKH	comp=E,2μm,14.0s			MLR	MLR				
OKH	comp=Z,2μm,15.0s			MLR	MLR				
ATKA	**Atka Island**	**13.22**	**98**			**Pn**		**07 12 26.5**	**-0.9**
ATKA	**Atka Island**	**13.22**	**98**	P		**Pn**		**07 12 25.8**	**-1.6**
TYV	**Tymovskoe**	**13.86**	**257**	*eP*		**Pn**		**07 12 39.7**	**+3.6**
TYV	comp=Z,1μm,3.2s			pmax	pmax				
TYV	comp=Z,78nm,1.4s			pmax	pmax				
NKL	**Nikolayevsk**	**13.94**	**268**	*eP*		**Pn**		**07 12 34.2**	**-3.1**
NKL				*eS*		**Sn**		**07 15 08.9**	**-2.8**
NKL	comp=E,59nm,1.1s			pmax	pmax				
NKL	comp=N,162nm,2.1s			pmax	pmax				
NKL	comp=Z,182nm,2.4s			pmax	pmax				
NKL	comp=E,105nm,1.4s			smax	smax				
NKL	comp=N,224nm,3.1s			smax	smax				
NKL	comp=E,8μm,18.0s			MLR	MLR				
NKL	comp=N,3μm,16.0s			MLR	MLR				
NKL	comp=Z,7μm,17.0s			MLR	MLR				
SPIA	**Saint Paul Isl**	**14.05**	**75**	Pn		**Pn**		**07 12 39.8**	**+1.0**
SPIA	**Saint Paul Isl** baz=277	**14.05**	**75**	P		**Pn**		**07 12 40.2**	**+1.5**
GAMB	**Gambell**	**14.21**	**48**			**Pn**		**07 12 40.8**	**-0.1**
GAMB	**Gambell** baz=249	**14.21**	**48**	P		**Pn**		**07 12 42.2**	**+1.3**
P08K	**Saint George I**	**14.51**	**77**			**Pn**		**07 12 46.0**	**+1.0**
P08K	**Saint George I** baz=279	**14.51**	**77**	P		**Pn**		**07 12 46.4**	**+1.3**
KUR	**Kuril'sk**	**15.01**	**230**	P		**Pn**		**07 12 51.5**	**-0.3**
KUR				S		**Sn**		**07 15 38.4**	**+0.7**
KUR	comp=Z,2μm,16.0s			MLR	MLR				
UGL	**Uglegorsk**	**15.16**	**252**	*eP*		**Pn**		**07 12 48.9**	**-4.9**
UGL				S		**Sn**		**07 15 42.6**	**+1.2**
UGL	comp=Z,155nm,1.7s			pmax	pmax				
UGL	comp=N,1μm,15.0s			smax	smax				
UGL	comp=E,1μm,9.1s			smax	smax				
UGL	comp=Z,2μm,18.0s			MLR	MLR				
UGL	comp=N,2μm,15.0s			MLR	MLR				
UGL	comp=E,2μm,15.0s			MLR	MLR				
NIKH	**Nikolski High**	**15.89**	**90**			**Pn**		**07 13 05.0**	**+1.6**
NIKH	**Nikolski High** baz=292	**15.89**	**90**	P		**P**		**07 13 05.9**	**-1.1**
M11K	**Mekoryuk** baz=268	**16.05**	**62**	P		**P**		**07 13 07.2**	**-1.5**
YSS	**Yuzhno-Sakhali**	**16.15**	**244**			**Pn**		**07 13 05.0**	**-1.7**
YSS	comp=Z,128nm,1.1s			IAmb	IAmb			07 13 12.3	
YSS	**Yuzhno-Sakhali**	**16.15**	**244**	*eP*		**P**		**07 13 08.5**	**-1.4**
YSS	comp=Z,90nm,1.0s			pmax	pmax				
YSS	comp=Z,3μm,14.0s			MLR	MLR				
TNA	**Tin City**	**16.38**	**44**			**Pn**		**07 13 11.0**	**+1.4**
TNA	**Tin City** baz=248	**16.38**	**44**	P		**P**		**07 13 11.1**	**-1.3**
UNV	**Unalaska Valle**	**16.89**	**86**			**P**		**07 13 18.2**	**+0.1**
UNV	comp=Z,181nm,1.2s			IAmb	IAmb			07 13 34.2	
UNV	**Unalaska Valle** baz=290	**16.89**	**86**	P		**P**		**07 13 17.2**	**-0.9**
K13K	**Kusilvak Mount**	**16.91**	**57**	P		**P**		**07 13 17.6**	**-0.7**
K13K	**Kusilvak Mount** baz=264,SNR=9.5	**16.91**	**57**	P		**P**		**07 13 17.9**	**-0.4**
F14K	**Arctic Creek** baz=251	**16.97**	**45**	P		**P**		**07 13 18.7**	**-0.2**
ANM	**Nome**	**17.09**	**48**	P		**P**		**07 13 19.4**	**-0.8**
ANM	**Nome**	**17.09**	**48**	P		**P**		**07 13 19.4**	**-0.8**
ANM	comp=Z,71nm,1.3s			pmax	pmax				
ANM	**Nome** baz=255	**17.09**	**48**	P		**P**		**07 13 20.1**	**-0.1**
GRNR	**Gornyy**	**17.34**	**264**	*i* P		**P**		**07 13 23.0**	**-0.1**
GRNR	comp=Z,30nm,1.3s			pmax	pmax				
GRNR	comp=N,980nm,16.0s			MLR	MLR				
GRNR	comp=E,1μm,16.0s			MLR	MLR				
GRNR	comp=Z,1μm,15.0s			MLR	MLR				
M13K	**Dall Lake**	**17.47**	**62**			**P**		**07 13 25.6**	**+1.2**
M13K	comp=Z,226nm,1.3s			IAmb	IAmb			07 13 44.5	
M13K	**Dall Lake** baz=270,SNR=7.1	**17.47**	**62**	P		**P**		**07 13 25.6**	**+1.2**
J14K	**Nanvaranak Lak** baz=263	**17.52**	**55**	P		**P**		**07 13 25.6**	**+0.6**
F15K	**North Star Dit**	**17.71**	**45**	P		**P**		**07 13 28.0**	**+1.0**
F15K	**North Star Dit** baz=252,SNR=6.2	**17.71**	**45**	P		**P**		**07 13 28.6**	**+1.6**
G15K	**Niukluk** baz=255	**17.75**	**47**	P		**P**		**07 13 29.1**	**+1.6**
L14K	**Kuka Creek**	**17.81**	**59**			**P**		**07 13 28.9**	**+0.7**
L14K	**Kuka Creek** baz=266,SNR=41	**17.81**	**59**	P		**P**		**07 13 29.9**	**+1.7**
M14K	**Bethel**	**18.15**	**61**	P		**Pn**		**07 13 31.4**	**-0.3**
M14K	comp=Z,153nm,1.1s			IAmb	IAmb			07 13 56.0	
M14K	**Bethel** baz=270	**18.15**	**61**	P		**P**		**07 13 33.9**	**+1.9**
JKA	**Kamikawa-asahi**	**18.26**	**238**			**Pn**		**07 13 32.7**	**-0.5**
JKA	comp=Z,249nm,1.1s			IAmb	IAmb			07 13 35.4	
ASAJ	**Asahikawa**	**18.26**	**238**	P		**Pn**		**07 13 33.1**	**0.0**
ASAJ	comp=Z,3.3nm,0.3s,baz=25,slow=6.2,SNR=56			S		**Sn**		**07 16 54.5**	**-2.1**
	comp=Z,1.9nm,0.3s,baz=131,slow=12,SNR=1.1								
	comp=Z,138nm,0.9s								
ASAJ	**Asahikawa**	**18.26**	**238**	P		**Pn**		**07 13 32.7**	**-0.4**
ASAJ	comp=Z,249nm,1.1s			pmax	pmax				
N14K	**Kuskokwak Cree**	**18.31**	**64**			**P**		**07 13 34.7**	**+1.0**
N14K	comp=Z,144nm,1.1s			IAmb	IAmb			07 13 53.5	
N14K	**Kuskokwak Cree** baz=273,SNR=22	**18.31**	**64**	P		**P**		**07 13 35.5**	**+1.8**
L15K	**Ungalak Mounta** baz=268	**18.40**	**58**	P		**Pn**		**07 13 36.6**	**+1.9**
K15K	**Wolf Creek Mou**	**18.41**	**56**			**Pn**		**07 13 36.2**	**+1.3**
K15K	**Wolf Creek Mou** baz=266,SNR=13	**18.41**	**56**	P		**Pn**		**07 13 37.2**	**+2.3**
H16K	**Elim** baz=258	**18.42**	**49**	P		**Pn**		**07 13 36.7**	**+1.8**
C16K	**Lisburne Hills**	**18.43**	**37**	P		**Pn**		**07 13 35.4**	**+0.4**
C16K	**Lisburne Hills** baz=244	**18.43**	**37**	P		**Pn**		**07 13 36.2**	**+1.2**
G16K	**Koyuk River**	**18.54**	**46**	P		**Pn**		**07 13 36.8**	**+0.4**
G16K	**Koyuk River** baz=256	**18.54**	**46**	P		**Pn**		**07 13 37.9**	**+1.5**
YAK	**Yakutsk**	**18.54**	**303**			**P**		**07 13 35.7**	**-0.5**
YAK	**Yakutsk**	**18.54**	**303**	P		**P**		**07 13 35.8**	**-0.4**
YAK	comp=Z,3.7nm,0.3s,baz=90,slow=5.4,SNR=19			S		**Sn**		**07 17 01.6**	**-1.6**
	comp=Z,11nm,0.4s,baz=4.7,slow=2.8,SNR=1.8								
	comp=Z,49nm,0.8s								
YAK	**Yakutsk**	**18.54**	**303**	*c i*P		**P**		**07 13 35.6**	**-0.6**
YAK				*e*S		**Sn**		**07 17 00.6**	**-2.6**
YAK	comp=Z,83nm,1.1s			pmax	pmax				
YAK	comp=N,5.0nm,1.0s			pmax	pmax				
YAK	comp=E,24nm,1.3s			pmax	pmax				
YAK	comp=Z,218nm,2.9s			pmax	pmax				
YAK	comp=N,111nm,2.0s			pmax	pmax				
YAK	comp=E,122nm,1.3s			smax	smax				
YAK	comp=N,143nm,2.0s			smax	smax				
YAK	comp=E,116nm,3.8s								
O14K	**Tigyukauivet M**	**18.58**	**66**			**Pn**		**07 13 37.2**	**+0.3**
O14K	comp=Z,209nm,1.2s			IAmb	IAmb			07 13 57.0	
O14K	**Tigyukauivet M** baz=276	**18.58**	**66**	P		**Pn**		**07 13 38.2**	**+1.3**
M15K	**Kasigluk River** baz=272,SNR=43	**18.78**	**61**	P		**Pn**		**07 13 40.7**	**+1.4**
S12K	**Black Hills**	**18.79**	**77**	P		**Pn**		**07 13 41.5**	**+1.9**
S12K	**Black Hills** baz=286,SNR=17	**18.79**	**77**	P		**Pn**		**07 13 41.3**	**+1.7**
J16K	**Anvik River**	**18.92**	**53**	P		**Pn**		**07 13 40.8**	**-0.2**
J16K	**Anvik River** baz=264	**18.92**	**53**	P		**Pn**		**07 13 41.9**	**+0.9**
I17K	**Unalakleet**	**18.95**	**52**	P		**P**		**07 13 40.3**	**-0.4**
I17K	comp=Z,133nm,1.3s			IAmb	IAmb			07 13 54.2	
I17K	**Unalakleet** baz=262	**18.95**	**52**	P		**Pn**		**07 13 42.8**	**+1.4**
D17K	**Noatak River** baz=249	**18.97**	**39**	P		**Pn**		**07 13 42.5**	**+0.9**
N15K	**Kwethluk River**	**19.10**	**63**			**Pn**		**07 13 44.5**	**+1.3**
N15K	comp=Z,118nm,1.1s			IAmb	IAmb			07 13 53.6	
N15K	**Kwethluk River** baz=274,SNR=18	**19.10**	**63**	P		**Pn**		**07 13 44.0**	**+0.8**
RDOG	**Red Dog Mine**	**19.17**	**38**	P		**Pn**		**07 13 44.7**	**+0.7**
RDOG	**Red Dog Mine** baz=248	**19.17**	**38**	P		**Pn**		**07 13 44.7**	**+0.7**
E17K	**Hotham Inlet** baz=252	**19.22**	**42**	P		**Pn**		**07 13 45.4**	**+0.8**
C17K	**DeLong Mountai** baz=246,SNR=9.2	**19.24**	**37**	P		**Pn**		**07 13 45.9**	**+1.0**
F17K	**Baldwin Pennin**	**19.25**	**44**			**Pn**		**07 13 45.1**	**+0.2**
F17K	**Baldwin Pennin** baz=254,SNR=14	**19.25**	**44**	P		**Pn**		**07 13 46.0**	**+1.0**
G17K	**Kiwalik Mounta** baz=258,SNR=7.1	**19.26**	**47**	P		**Pn**		**07 13 46.3**	**+1.2**
O15K	**Ungalikthiuk R**	**19.32**	**66**			**P**		**07 13 45.1**	**+0.3**
O15K	comp=Z,162nm,1.1s			IAmb	IAmb			07 13 56.8	
O15K	**Ungalikthiuk R** baz=277,SNR=20	**19.32**	**66**	P		**Pn**		**07 13 46.9**	**+1.0**
L16K	**Owhat River**	**19.36**	**58**	P		**Pn**		**07 13 46.5**	**+0.2**
L16K	**Owhat River** baz=270	**19.36**	**58**	P		**Pn**		**07 13 46.1**	**-0.2**
H17K	**Granite Mounta**	**19.45**	**49**			**Pn**		**07 13 47.4**	**0.0**
H17K	comp=Z,102nm,1.3s			IAmb	IAmb			07 14 10.8	
H17K	**Granite Mounta** baz=260,SNR=29	**19.45**	**49**	P		**Pn**		**07 13 48.2**	**+0.8**
M16K	**Timber Creek**	**19.61**	**60**			**Pn**		**07 13 48.8**	**-0.6**
M16K	**Timber Creek** baz=272,SNR=9.4	**19.61**	**60**	P		**Pn**		**07 13 49.9**	**+0.5**
J17K	**VABM Dome**	**19.62**	**53**			**P**		**07 13 48.4**	**+0.4**
J17K	comp=Z,130nm,1.4s			IAmb	IAmb			07 14 03.0	
J17K	**VABM Dome** baz=265,SNR=18	**19.62**	**53**	P		**Pn**		**07 13 50.1**	**+0.7**
ERM	**Erimo**	**19.63**	**233**			**P**		**07 13 47.5**	**-0.8**
ERM	**Erimo**	**19.63**	**233**	P		**P**		**07 13 47.8**	**-0.5**
ERM	**Erimo**	**19.63**	**233**	*i* P		**Pn**		**07 13 49.2**	**-0.5**
ERM	comp=Z,44nm,1.1s			pmax	pmax				
JEM	**Erimo**	**19.63**	**233**	P		**P**		**07 13 47.8**	**-0.5**
N16K	**Nishlik Lake** baz=274	**19.74**	**62**	P		**Pn**		**07 13 50.7**	**-0.2**
SDPT	**Sand Point** baz=287,SNR=8.6	**19.76**	**77**	P		**Pn**		**07 13 51.9**	**+0.8**
E18K	**Tukpahlearik C**	**19.77**	**41**			**Pn**		**07 13 50.5**	**-0.7**
E18K	comp=Z,154nm,1.4s			IAmb	IAmb			07 14 03.8	
E18K	**Tukpahlearik C** baz=253,SNR=40	**19.77**	**41**	P		**Pn**		**07 13 51.7**	**+0.4**
F18K	**Selawik** baz=256	**19.91**	**44**	P		**Pn**		**07 13 53.0**	**+0.2**
L17K	**Donlin** baz=270,SNR=6.9	**19.92**	**57**	P		**Pn**		**07 13 53.3**	**+0.3**
K17K	**Iditarod**	**19.93**	**55**			**P**		**07 13 51.9**	**+0.4**
K17K	comp=Z,118nm,1.2s			IAmb	IAmb			07 14 02.1	
K17K	**Iditarod** baz=268,SNR=18	**19.93**	**55**	P		**Pn**		**07 13 53.8**	**+0.7**
C18K	**Utukok River**	**19.98**	**37**			**Pn**		**07

comp=Z,3µm,19.5s,baz=104,slow=38
comp=Z,5.7nm,0.8s
KLR Kul'dur 20.72 264 *i* P **P** 07 14 00.7 +0.6
KLR pmax pmax
comp=Z,34nm,1.5s
G19K Purcell Mounta 20.82 46 P Pn 07 14 02.4 -1.2
baz=260
H19K Roundabout Mou 20.98 47 P Pn 07 14 04.2 -1.2
baz=262
D19K Kuna River 20.99 39 P **P** 07 14 04.2 +1.2
D19K IAmb IAmb 07 14 18.2
comp=Z,101nm,1.1s
D19K Kuna River 20.99 39 P **P** 07 14 04.0 +1.0
baz=253,SNR=26
Q16K King Salmon 21.02 67 P **P** 07 14 04.8 +1.5
baz=280
E19K Redstone River 21.04 42 **P** 07 14 04.2 +0.8
E19K IAmb IAmb 07 14 26.3
comp=Z,84nm,1.2s
E19K Redstone River 21.04 42 P **P** 07 14 04.8 +1.4
baz=257,SNR=28
P17K Kvichak River 21.05 65 P **P** 07 14 04.8 +1.3
baz=279
M18K Stony River 21.11 59 P **P** 07 14 05.5 +1.3
baz=274,SNR=15
N18K Kilae Creek 21.14 61 **P** 07 14 05.7 +1.1
N18K Kilae Creek 21.14 61 P **P** 07 14 05.9 +1.4
baz=276,SNR=10
J19K Poorman 21.19 52 **P** 07 14 05.8 +0.7
J19K IAmb IAmb 07 14 29.7
comp=Z,102nm,1.4s
J19K Poorman 21.19 52 P **P** 07 14 05.9 +0.7
baz=267,SNR=38
ZEA Zeya 21.22 279 *e*P **P** 07 14 04.1 -1.4
ZEA *e* 07 14 29.7
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=Z,30nm,0.9s
R17L Mt. Peulik Vol 21.38 70 P **P** 07 14 09.1 +1.9
baz=283,SNR=24
TIXI Tiksi 21.49 330 **P** 07 14 09.0 +0.8
TIXI Tiksi 21.49 330 P **P** 07 14 09.3 +1.1
comp=Z,8.6nm,0.6s,baz=120,slow=11,SNR=18
TIXI S **S** 07 18 06.8 +1.1
comp=Z,1.1nm,0.3s,baz=97,slow=23,SNR=1.3
comp=Z,8.6nm,0.6s
TIXI Tiksi 21.49 330 *ce*P **P** 07 14 09.7 +1.5
TIXI pmax pmax
comp=Z,34nm,0.8s
Q17K Contact Creek 21.49 68 P **P** 07 14 10.1 +1.6
baz=282,SNR=17
F20K Avaraart Lake 21.52 43 P **P** 07 14 10.0 +1.4
baz=259
L19K White Mountain 21.53 57 P **P** 07 14 10.0 +1.2
baz=272,SNR=32
JTM Tenmabayashi 21.56 234 **P** 07 14 08.3 -0.9
JTM IAmb IAmb 07 14 13.1
comp=Z,139nm,1.1s
JTM Tenmabayashi 21.56 234 P **P** 07 14 10.4 +1.2
O18K Koktuh Hills 21.57 63 P **P** 07 14 10.4 +1.2
baz=278,SNR=14
D20K Etivluk River 21.59 39 **P** 07 14 09.5 +0.2
D20K IAmb IAmb 07 14 20.1
comp=Z,160nm,1.4s
D20K Etivluk River 21.59 39 P **P** 07 14 10.0 +0.7
baz=254,SNR=42
E20K Nigu River 21.62 40 P **P** 07 14 10.8 +1.1
baz=256,SNR=22
P18K Big Mountain, 21.63 64 P **P** 07 14 10.8 +0.9
baz=279,SNR=6.9
H20K Anotleneega Mo 21.63 48 P **P** 07 14 10.8 +1.0
baz=264,SNR=24
I20K Naaghedeneel 21.74 50 P **P** 07 14 12.7 +1.8
I20K IAmb IAmb 07 14 39.7
comp=Z,94nm,1.1s
I20K Naaghedeneel 21.74 50 P **P** 07 14 11.3 +0.4
baz=266
M19K Big River Lodg 21.76 58 **P** 07 14 11.8 +0.6
M19K Big River Lodg 21.76 58 P **P** 07 14 12.3 +1.0
baz=274,SNR=11
B20K Meade River 21.80 35 P **P** 07 14 12.0 +0.5
baz=250
N19K Bonanza Creek 21.81 61 **P** 07 14 13.7 +1.8
N19K Bonanza Creek 21.81 61 P **P** 07 14 11.9 0.0
baz=276
J20K Nowinta River 21.85 51 P **P** 07 14 13.0 +0.8
baz=268,SNR=27
K20K Telida 21.87 54 P **P** 07 14 13.2 +0.8
baz=270
Q18K Katmai Hardscr 21.87 66 P **P** 07 14 13.5 +1.0
baz=281,SNR=7.8
O19K Port Alsworth 21.96 62 P **P** 07 14 14.7 +1.3
baz=278
L20K Farewell, AK 21.97 56 P **P** 07 14 15.5 +2.0
baz=273,SNR=16
IMAR Indian Mountai 22.15 47 P **P** 07 14 16.2 +0.9
CHIR Chirikof Islan 22.25 74 P **P** 07 14 17.9 +1.4
baz=288,SNR=7.3
G21K Allakaket 22.31 45 P **P** 07 14 17.8 +0.7
baz=263,SNR=14
C21K Kniveblade Rid 22.34 38 P **P** 07 14 18.0 +0.6
baz=255,SNR=17
M20K Styx River 22.36 58 P **P** 07 14 18.8 +1.1
baz=275
R18K Karluk 22.39 69 P **P** 07 14 19.1 +1.1
baz=284
F21K Alatna River 22.42 43 P **P** 07 14 19.1 +0.9
baz=261,SNR=18
A21K Barrow 22.44 32 P **P** 07 14 18.9 +0.5
baz=248
E21K Killik River 22.46 40 P **P** 07 14 19.1 +0.4
baz=258
H21K Melozitna Rive 22.50 48 P **P** 07 14 19.7 +0.5
baz=266,SNR=16
Q19K Cape Douglas, 22.51 65 P **P** 07 14 19.9 +0.5
baz=281
B21K Ikpikpuk River 22.52 37 P **P** 07 14 19.5 +0.2
baz=254
HEH HeiHe 22.63 271 *e*P **P** 07 14 18.5 -2.1
HEH pmax pmax
comp=Z,20nm,1.3s
HEH LR LR
comp=Z,2µm,19.2s
HEH LR LR
comp=Z,2µm,19.8s
HEH LR LR
comp=Z,4µm,16.1s
CHUM Lake Minchumin 22.65 52 P **P** 07 14 21.3 +0.6
baz=270,SNR=30
PPLA Purkeypile 22.73 55 P **P** 07 14 22.4 +0.6
baz=273,SNR=11
CAST Castle Rocks 22.76 53 P **P** 07 14 22.8 +0.9
baz=272,SNR=12
SII Sitkinak Islan 22.80 71 P **P** 07 14 23.2 +0.8
baz=287,SNR=8.3
O20K Slope Mountain 22.82 62 P **P** 07 14 22.9 +0.2
baz=279
A22K Sinclair Lake 22.83 33 P **P** 07 14 22.7 +0.2
baz=251
SPCR Spurr Chakacha 22.87 59 P **P** 07 14 23.9 +0.8
baz=277
F22K John River 22.96 43 P **P** 07 14 24.7 +0.8
baz=262
D22K Ayikyak River 23.01 39 P **P** 07 14 24.8 +0.3
baz=258,SNR=10
OHAK Old Harbor 23.09 69 P **P** 07 14 25.9 +0.6
baz=286
SKT Skwentna 23.11 57 P **P** 07 14 26.4 +0.8
baz=276,SNR=6.5
H22K Ishtalitna Cre 23.11 47 P **P** 07 14 26.1 +0.5
baz=267,SNR=12
B22K Teshekpuk Lake 23.12 35 P **P** 07 14 25.4 -0.1
baz=254,SNR=9.8
G22K Bettles 23.14 44 P **P** 07 14 25.1 -0.7
baz=264
E22K Anaktuvuk Pass 23.19 41 P **P** 07 14 26.5 +0.1
baz=261
Q20K Shuyak Island 23.22 66 P **P** 07 14 27.1 +0.5
baz=283,SNR=7.8
BPAW Bear Paw Mtn. 23.23 52 P **P** 07 14 27.2 +0.4
baz=271,SNR=25
KDAK Kodiak Island 23.32 68 *i* P **P** 07 14 28.1 +0.5
KDAK pmax pmax
comp=Z,24nm,1.0s
KDAK Kodiak Island 23.32 68 P **P** 07 14 28.0 +0.5
baz=285
MLY Manley 23.34 49 P **P** 07 14 28.8 +0.9
baz=269,SNR=20
HOM Homer 23.38 63 P **P** 07 14 28.6 +0.3
baz=281
CAPN Captain Cook N 23.44 60 P **P** 07 14 29.2 +0.4
baz=279
SUA Susitna One 23.54 58 P **P** 07 14 30.1 +0.1
baz=278
TRF Thorofare Moun 23.57 53 P **P** 07 14 30.6 +0.3
baz=273,SNR=16
USA0B Ussuriysk Arra 23.62 253 *i* P **P** 07 14 29.6 -1.1
USRK Ussuriysk Ar. 23.62 253 P **P** 07 14 28.1 -2.6
USRK Ussuriysk Ar. 23.62 253 P **P** 07 14 30.6 -0.1
comp=Z,11nm,1.0s,baz=64,slow=8.7,SNR=7.2
USRK LR LR 07 24 10.5
comp=Z,3µm,18.5s,baz=82,slow=38
comp=Z,11nm,1.0s
USRK Ussuriysk Ar. 23.62 253 P **P** 07 14 28.1 -2.6
CUT Chulitna 23.65 56 P **P** 07 14 31.2 +0.3
baz=276
COLD Coldfoot 23.68 44 P **P** 07 14 31.3 +0.1
baz=265,SNR=11
G23K Bananza Creek 23.71 45 P **P** 07 14 31.1 -0.4
baz=266,SNR=13
BRLK Bradley Lake 23.74 63 P **P** 07 14 31.8 -0.1
BRLK IAmb IAmb 07 14 53.0
comp=Z,59nm,1.2s
D23K Nanushuk River 23.74 39 P **P** 07 14 32.5 +0.7
baz=260,SNR=7.3
M22K Willow 23.80 57 P **P** 07 14 32.4 +0.1
baz=277
H23K Yukon River 23.86 47 P **P** 07 14 33.2 +0.3
baz=268,SNR=13
I23K Minto, Yukon-K 23.93 49 P **P** 07 14 34.1 +0.6
baz=270,SNR=16
C23K Itkillik River 23.93 37 P **P** 07 14 33.6 +0.1
baz=258,SNR=11
E23K Chandalar 24.00 42 P **P** 07 14 34.7 +0.5
baz=263,SNR=42
NEA2 Nenana 24.06 50 P **P** 07 14 34.6 -0.2
baz=272
RC01 Rabbit Creek A 24.07 59 P **P** 07 14 34.6 -0.3
baz=279
JMM Marumori 24.07 231 P **P** 07 14 36.2 +1.1
TOLK Toolik Lake Re 24.09 40 P **P** 07 14 35.3 +0.2
baz=262,SNR=15
MCK McKinley 24.16 52 P **P** 07 14 36.2 +0.5
baz=274,SNR=7.6
O22K Cooper Landing 24.18 61 P **P** 07 14 35.8 -0.1
baz=280
PMR Palmer 24.29 58 P **P** 07 14 36.6 -0.2
baz=278
SEW Seward 24.38 61 P **P** 07 14 37.4 -0.3
baz=281
WAT1 Susitna Watana 24.40 55 P **P** 07 14 37.0 -1.0
baz=276
E24K Your Creek 24.42 42 P **P** 07 14 37.7 -0.5
baz=264
D24K Happy Valley 24.43 39 **P** 07 14 38.8 +0.7
D24K IAmb IAmb 07 14 47.5
comp=Z,44nm,0.8s
D24K Happy Valley 24.43 39 P **P** 07 14 38.3 +0.2
baz=262,SNR=12
H24K Noodor Dome 24.54 47 P **P** 07 14 39.9 +0.6
baz=270,SNR=13
C24K Franklin Bluff 24.56 38 P **P** 07 14 39.4 +0.1
baz=261
COLA College 24.57 50 P **P** 07 14 39.9 +0.5
COLA IAmb IAmb 07 14 50.2
comp=Z,63nm,1.3s
COLA College 24.57 50 *i* P **P** 07 14 40.4 +1.0
COLA College 24.57 50 P **P** 07 14 39.8 +0.4
baz=272
F24K Squaw Lake 24.60 43 P **P** 07 14 39.8 0.0
baz=266,SNR=8.9
KNK Knik Glacier 24.63 58 P **P** 07 14 40.8 +0.7
baz=279,SNR=5.2
MDJ Mudanjiang 24.64 257 P **P** 07 14 38.4 -1.8
MDJ pmax pmax
comp=Z,14nm,1.5s
G24K Hadweenzic Riv 24.72 45 P **P** 07 14 41.1 +0.3
baz=268,SNR=44
PWL Port Wells 24.78 59 P **P** 07 14 42.5 +1.0
baz=280,SNR=8.3
WAT6 Susitna Watana 24.80 55 P **P** 07 14 41.7 0.0
baz=277,SNR=13
DHY Denali Highway 24.91 54 P **P** 07 14 42.6 -0.1
baz=276,SNR=16
M23K Glacier View 24.92 57 P **P** 07 14 43.5 +0.9
baz=279,SNR=5.9
HDA Harding Lake 24.98 51 P **P** 07 14 43.7 +0.5
baz=274
ILAR Eielson Array 24.99 50 P **P** 07 14 43.0 -0.2
comp=Z,6.1nm,0.9s,baz=266,slow=8.3,SNR=68
ILAR PcP **PcP** 07 18 16.9 -0.8
comp=Z,0.4nm,0.6s,baz=254,slow=2.7,SNR=1.5
comp=Z,6.1nm,0.9s
SCM Sheep Creek Mo 25.10 57 P **P** 07 14 44.7 +0.3
baz=279,SNR=18
BNX BinXian 25.14 261 ⇑P **P** 07 14 42.7 -2.0
BNX pmax pmax
comp=Z,37nm,1.1s
G25K Bearman Lake 25.27 45 P **P** 07 14 45.7 0.0
baz=270
D25K Kavik River 25.32 39 P **P** 07 14 46.3 +0.1
baz=264
GLI Glacier Island 25.38 59 P **P** 07 14 47.0 +0.2
baz=281
H25L Birch Creek 25.38 46 P **P** 07 14 46.7 -0.1
baz=271
P23K Montague Islan 25.41 61 P **P** 07 14 47.4 +0.4
baz=283
F25K Christian Rive 25.46 43 P **P** 07 14 47.7 +0.1
baz=268,SNR=21
E25K Arctic Village 25.52 42 P **P** 07 14 48.1 +0.1
baz=267,SNR=25
PRP Porcupine Dome 25.53 48 P **P** 07 14 48.2 0.0
baz=273,SNR=21
K24K Donnelly Dome 25.55 52 P **P** 07 14 48.3 0.0
baz=276
M24K Tolsona, Glenn 25.59 56 P **P** 07 14 49.0 +0.2
baz=279,SNR=8.9
J25K Salcha River, 25.65 50 P **P** 07 14 48.4 -0.9
baz=275,SNR=8.4
PAX Paxson 25.79 54 P **P** 07 14 50.4 -0.2
baz=278,SNR=8.2
KLU Klutina 25.82 57 P **P** 07 14 51.1 +0.2
baz=281,SNR=10
BMAR Burnt Mountain 25.87 44 P **P** 07 14 52.1 +0.9
C26K Camden Bay 25.89 38 P **P** 07 14 51.7 +0.4
baz=264
RIDG Independent Ri 25.96 52 P **P** 07 14 52.6 +0.4
baz=277,SNR=14
HARP HAARP 26.02 55 P **P** 07 14 52.9 +0.4
baz=280
F26K Sheenjek River 26.04 43 P **P** 07 14 52.7 -0.1
baz=270,SNR=8.9
Q23K Middleton Isla 26.06 62 P **P** 07 14 53.4 +0.4
baz=285
EYAK Cordova Ski Ar 26.09 59 P **P** 07 14 53.6 +0.3
baz=283
G26K Porcupine Rive 26.18 45 P **P** 07 14 54.1 +0.1
baz=271,SNR=16
C27K Jago River 26.28 39 P **P** 07 14 55.3 +0.4
baz=266,SNR=11
MJB9 Matsu-Tunnel 26.31 233 P **P** 07 14 56.5 +1.0
MAJO Matsushiro 26.31 233 *i* P **P** 07 14 55.8 +0.3
MAJO pmax pmax
comp=Z,141nm,1.1s
MJAR Matsushiro Arr 26.31 233 **P** 07 14 56.1 +0.6
MJAR Matsushiro Arr 26.31 233 P **P** 07 14 56.1 +0.6
comp=Z,52nm,1.1s,baz=14,slow=8.6,SNR=82
comp=Z,52nm,1.1s
MJAR Matsushiro Arr 26.31 233 P **P** 07 14 56.1 +0.6
MJAR pmax pmax
comp=Z,109nm,1.4s
SCRK Sand Creek 26.31 51 P **P** 07 14 55.1 -0.3
SCRK IAmb IAmb 07 15 13.3
comp=Z,54nm,1.1s
SCRK Sand Creek 26.31 51 P **P** 07 14 54.8 -0.6
baz=277,SNR=21
N25K Chitina, Valde 26.42 57 P **P** 07 14 56.8 +0.5
baz=282,SNR=6.4
J26L Joseph Creek 26.44 50 **P** 07 14 56.1 -0.4
J26L Joseph Creek 26.44 50 P **P** 07 14 56.0 -0.4
baz=276
I26K Coal Creek Min 26.53 48 P **P** 07 14 58.0 +0.8
I26K Coal Creek Min 26.53 48 P **P** 07 14 56.9 -0.3
baz=275
BMRM Bremner River 26.55 58 P **P** 07 14 57.4 0.0
baz=283,SNR=6.8
L26K Log Cabin Wild 26.73 53 P **P** 07 14 58.9 -0.2
baz=280
KAIM Kayak Island 26.89 60 P **P** 07 15 00.5 +0.1
baz=285
E27K Coleen River 27.00 42 P **P** 07 15 01.4 0.0
baz=271
M26K Nabesna, AK 27.00 55 P **P** 07 15 02.2 +0.6
baz=281,SNR=17
G27K Doyon Strip 27.03 45 P **P** 07 15 02.1 +0.4
baz=274,SNR=13
H27K Steamboat Moun 27.12 46 P **P** 07 15 02.8 +0.2
baz=275,SNR=17
I27K Kandik River 27.14 48 P **P** 07 15 02.7 0.0
baz=276
K27K Chicken 27.14 51 P **P** 07 15 02.8 +0.1
baz=279
MCARA McCarthy VSAT 27.20 57 P **P** 07 15 02.7 -0.6
baz=283
D27M Malcolm River 27.23 40 P **P** 07 15 03.2 -0.3
baz=269
CRQE Cirque 27.32 58 P **P** 07 15 04.8 +0.3
baz=284,SNR=6.9
L27K Beaver Creek, 27.41 53 P **P** 07 15 05.9 +0.7
baz=281,SNR=24
HIA Hailar 27.42 274 *i* P **P** 07 15 04.4 -0.9
HIA pmax pmax
comp=Z,8.0nm,0.8s
BCAR Beaver Creek A 27.43 53 **P** 07 15 05.8 +0.5
JGF Kuroka 27.48 233 **P** 07 15 07.0 +1.0
JGF Kuroka 27.48 233 P **P** 07 15 07.0 +1.0
M27K Edge Creek, AK 27.52 55 P **P** 07 15 06.5 +0.1
baz=282,SNR=16
F28M Old Crow 27.68 43 P **P** 07 15 07.8 +0.3
baz=274,SNR=8.2
E28M Babbage River 27.76 41 P **P** 07 15 07.2 -1.0
baz=272
INU Inuyama 27.84 233 **P** 07 15 10.0 +0.9
I28M Miner Creek 27.85 48 P **P** 07 15 10.3 +1.1
baz=278,SNR=9.1
BVCY Beaver Creek 27.98 54 P **P** 07 15 10.0 -0.2
baz=283,SNR=10
MESA MESA 28.01 59 P **P** 07 15 10.8 0.0
baz=286
D28M Stokes Point 28.03 39 P **P** 07 15 11.2 +0.7
baz=271
CTG Chitna Glacier 28.10 57 P **P** 07 15 12.0 +0.6
baz=285
DAWY Dawson 28.30 51 P **P** 07 15 13.3 +0.2
baz=281
YUK3 Moose Creek 28.31 56 P **P** 07 15 13.7 +0.3
baz=284
TABL Table Mountain 28.33 58 P **P** 07 15 14.8 +1.2
TABL IAmb IAmb 07 15 23.4
comp=Z,30nm,1.1s
E29M Blow River 28.37 41 P **P** 07 15 13.7 +0.1
baz=274,SNR=6.5
H29M Whitestone 28.39 46 P **P** 07 15 14.1 +0.2
baz=277,SNR=6.5
G29M Pine Creek 28.45 44 P **P** 07 15 14.5 +0.1
baz=276,SNR=12
I29M Ogilvie Camp, 28.54 48 P **P** 07 15 15.7 +0.5
baz=279,SNR=16
O28M Mount Upton 28.69 57 P **P** 07 15 16.5 -0.4
baz=282,SNR=5.5
J29N Klondike Camp 28.73 50 P **P** 07 15 17.1 +0.1
baz=281
YUK8 Steele Glacier 28.75 56 P **P** 07 15 17.3 -0.1
baz=285
PINM Pinnacle 28.85 59 P **P** 07 15 18.0 -0.1
baz=287,SNR=7.7
EPYK Eagle Plains 29.04 45 P **P** 07 15 19.5 -0.1
baz=278
L29M L29M 29.05 52 P **P** 07 15 19.3 -0.5
baz=283,SNR=34
M29M Somme Creek 29.06 54 P **P** 07 15 19.3 -0.7
baz=284,SNR=16
G30M tAoh Zraii Nji 29.15 44 P **P** 07 15 20.3 -0.3
baz=278
K29M Barlow Dome 29.15 51 P **P** 07 15 20.9 +0.1
baz=282
F30M Barrier River 29.23 43 P **P** 07 15 21.1 -0.2
baz=274,SNR=9.2
YUK4 Talbot Arm 29.26 56 P **P** 07 15 22.0 +0.2
baz=286
I30M Mount Dempster 29.36 48 P **P** 07 15 22.3 -0.3
baz=281,SNR=9.1
PNL Peninsula 29.39 59 P **P** 07 15 22.5 -0.3
baz=288,SNR=5.8
CIT Chita 29.46 284 *e*P **P** 07 15 22.6 -1.0
CIT *e* 07 15 33.8
CIT *e* 07 15 43.0
CIT *e* 07 16 27.2
CIT *e* 07 16 39.8
CIT *e* 07 18 32.8
CIT pmax pmax
comp=Z,57nm,2.2s
YUK6 Outpost Mounta 29.50 57 P **P** 07 15 24.0 0.0
baz=287
J30M Hart River 29.51 49 P **P** 07 15 23.9 -0.1
baz=282
O29M Mount Kennedy 29.59 58 P **P** 07 15 24.6 -0.1
baz=288
M30M Minto, Yukon 29.77 53 P **P** 07 15 26.1 -0.1
baz=285
G31M Satah River 29.91 44 P **P** 07 15 27.0 -0.3
baz=280
HYT Haines Junctio 29.94 57 P **P** 07 15 27.7 0.0
baz=288,SNR=11
N30M Aishikik Lake 29.94 55 P **P** 07 15 27.6 -0.2
baz=287
INK Inuvik 29.99 41 P **P** 07 15 28.1 +0.2
baz=278
F31M Tsiigehtchic 30.04 43 P **P** 07 15 28.6 +0.3
baz=279
H31M Peel River 30.09 46 P **P** 07 15 29.3 +0.3
baz=281
P29M Windy Craggy 30.20 59 P **P** 07 15 30.2 +0.2
baz=289
P30M Million Dollar 30.41 58 P **P** 07 15 31.7 -0.2
baz=289
N31M Braeburn, Yuko 30.54 55 P **P** 07 15 33.1 +0.2
baz=288
KSRS Korea Array 30.59 248 P **P** 07 15 32.8 -0.8
comp=Z,6.1nm,0.9s,baz=37,slow=8.7,SNR=21
KSRS PcP **PcP** 07 18 33.4 +1.6
comp=Z,4.7nm,1.0s,baz=18,slow=2.0,SNR=11
comp=Z,6.1nm,0.9s
O30N Mendenhall 30.61 56 P **P** 07 15 33.8 +0.2
baz=288,SNR=6.2
KSAR Wonju Array Be 30.62 248 **P** 07 15 32.3 -1.5
KSAR Wonju Array Be 30.62 248 P **P** 07 15 32.3 -1.5
PLBC Pleasant Camp 30.92 59 P **P** 07 15 35.6 -0.6
baz=290
M31M Drury Creek, Y 30.95 53 P **P** 07 15 35.8 -0.8
baz=287,SNR=26
WHY Whitehorse 31.21 56 P **P** 07 15 38.9 -0.1
baz=289,SNR=15
FARO Faro, Yukon 31.41 53 P **P** 07 15 41.1 +0.5
baz=288,SNR=12
SKAG Skagway 31.41 58 P **P** 07 15 41.4 +0.8
baz=291,SNR=7.0
S31K Pelican 31.53 61 P **P** 07 15 42.3 +0.6
baz=293
N32M Quiet Lake 31.88 55 P **P** 07 15 44.3 -0.5
baz=290
P32M Atlin 32.13 58 P **P** 07 15 47.1 +0.1
baz=292,SNR=7.3
MMPY Sheldon Lake, 32.21 52 P **P** 07 15 48.2 +0.5
baz=289,SNR=10
R32K Eaglecrest 32.25 60 P **P** 07 15 48.3 +0.3
baz=293
A36M Sachs Harbour 32.27 33 P **P** 07 15 48.3 +0.3
baz=279
JIS Juneau Island 32.31 60 P **P** 07 15 50.0 +1.5
P33M Teslin, Yukon 32.33 56 P **P** 07 15 48.9 +0.2
baz=291,SNR=12
SIT Sitka 32.34 63 P **P** 07 15 49.5 +0.7
baz=295,SNR=5.1
JNU Nakatsue 32.53 239 LR LR 07 30 33.4
comp=Z,981nm,18.2s,baz=44,slow=39
S32K Killisnoo 32.55 62 P **P** 07 15 51.2 +0.7
baz=294,SNR=9.3
Q32M Nakina River 33.06 58 P **P** 07 15 55.2 -0.1
baz=293,SNR=6.0
R33M Jennings River 33.50 57 P **P** 07 15 58.9 -0.2
baz=294,SNR=19

U33K Whale Pass 33.85 63 P P 07 16 02.5 +0.6
baz=297
TGTN Hyland Airport 33.91 53 P P 07 16 02.9 +0.4
baz=292
S34M Telegraph Cree 34.04 60 P P 07 16 03.9 +0.3
baz=296,SNR=8.2
WRAK Wrangell Islan 34.10 62 P P 07 16 04.4 +0.3
baz=297,SNR=10
CRAG Craig 34.15 64 P P 07 16 05.4 +0.9
baz=298
WTLY Watson Lake, Y 34.22 55 P P 07 16 05.7 +0.4
baz=294
IRK Irkutsk 34.34 289 *e*P P 07 16 06.3 0.0
IRK pmax pmax
comp=Z,29nm,1.7s
DLBC Dease Lake 34.34 58 P P 07 16 06.5 +0.2
baz=295,SNR=8.0
NRIK Noril'sk 34.88 323 P P 07 16 10.8 +0.1
comp=Z,8.1nm,1.1s,baz=108,slow=5.1,SNR=4.1
comp=Z,8.1nm,1.1s
NRIK Noril'sk 34.88 323 *i* P P 07 16 11.7 +1.0
NRIK pmax pmax
comp=Z,11nm,1.2s
T35M Bob Quinn 34.88 61 P P 07 16 10.8 -0.1
baz=297,SNR=21
V35K Ketchikan 34.97 64 P P 07 16 11.8 +0.2
baz=299
ULN Ulaanbaatar 35.22 281 P 07 16 12.6 -1.5
ULN IAmb IAmb 07 16 15.7
comp=Z,28nm,1.2s
ULN Ulaanbaatar 35.22 281 *ce*P P 07 16 13.5 -0.6
ULN pmax pmax
comp=Z,31nm,1.3s
WRGLY Wrigley 35.34 48 P P 07 16 15.2 +0.5
WRGLY IAmb IAmb 07 16 24.8
comp=Z,31nm,1.2s
WRGLY Wrigley 35.34 48 P P 07 16 15.2 +0.5
baz=293
U35K Hyder 35.48 62 P P 07 16 16.4 +0.4
baz=299
SONM Songino Array 35.60 282 P 07 16 16.5 -0.9
SONM IAmb IAmb 07 16 18.3
comp=Z,19nm,1.0s
SONM Songino Array 35.60 282 P P 07 16 17.3 -0.1
comp=Z,12nm,0.9s,baz=63,slow=8.8,SNR=66
SONM PcP PcP 07 18 46.1 +0.3
comp=Z,4.7nm,1.0s,baz=52,slow=2.6,SNR=6.0
SONM ScP ScP 07 22 32.4 +1.3
comp=Z,0.3nm,0.7s,baz=94,slow=4.3,SNR=3.6
comp=Z,12nm,0.9s
ZAK Zakamensk 35.85 287 *e*P P 07 16 18.4 -1.0
ZAK pmax pmax
comp=Z,8.0nm,1.3s
KOTAN Kotaneelee Air 36.37 53 P P 07 16 25.1 +1.4
baz=296,SNR=5.5
H11N2 WAKE ISLAND Hy 36.39 176 T T 07 55 13.9
baz=357,slow=76,SNR=3768
H11N3 WAKE ISLAND Hy 36.41 176 T T 07 55 21.0
baz=357,slow=76,SNR=3077
TOAD Toad River Com 36.41 56 P P 07 16 25.0 +0.9
baz=297,SNR=23
H11N1 WAKE ISLAND Hy 36.41 176 T T 07 55 21.2
baz=357,slow=76,SNR=3416
HHC Hu-ho-hao-te 37.12 268 *e*P P 07 16 29.6 -0.7
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,420nm,4.7s
HHC LR LR
comp=Z,1µm,15.5s
HHC LR LR
comp=Z,2µm,15.5s
HHC LR LR
comp=Z,2µm,17.7s
HNS HongShan 37.76 262 ⇑P P 07 16 35.0 -0.7
HNS LR LR
comp=Z,2µm,14.3s
HNS LR LR
comp=Z,1µm,14.7s
BTO Baotou 38.14 269 *e*P P 07 16 37.0 -2.0
BTO pP **pP** 07 16 40.3 -1.7
BTO sP **sP** 07 16 43.8 +0.7
BTO PP **PP** 07 18 05.0 -1.1
BTO S **S** 07 22 29.2 -2.5
BTO pmax pmax
comp=Z,18nm,0.6s
BTO pmax pmax
comp=Z,400nm,4.2s
BTO LR LR
comp=Z,4µm,17.8s
BTO LR LR
comp=Z,2µm,11.6s
BTO LR LR
comp=Z,2µm,16.5s
BBB Bella Bella 38.38 67 P P 07 16 41.5 +0.9
comp=Z,20nm,1.2s,baz=302,slow=9.5,SNR=4.3
comp=Z,20nm,1.2s
YKA Yellowknife Ar 39.31 46 P P 07 16 47.7 -0.7
comp=Z,2.7nm,0.8s,baz=136,slow=6.7,SNR=59
YKA PcP **PcP** 07 18 57.1 +0.4
comp=Z,1.0nm,0.9s,baz=301,slow=4.5,SNR=2.9
comp=Z,2.7nm,0.8s
NJ2 Nanjing 39.51 252 *e*P P 07 16 50.4 0.0
NJ2 pmax pmax
comp=Z,13nm,0.7s
RES Resolute Bay 39.59 24 LR LR 07 34 05.8
comp=Z,3µm,20.5s,baz=268,slow=38
NOR Nord 42.51 0 *i* P P 07 17 16.1 +1.6
NOR IAmb IAmb 07 17 30.0
comp=Z,2.3nm,0.9s
ZALV Zalesovo Beam 43.19 302 PP PP 07 19 02.1 +1.6
comp=Z,2.1nm,0.8s,baz=66,slow=11,SNR=4.1
KBS Kingsbay 44.19 353 *ce*P P 07 17 30.0 +1.9
KBS pmax pmax
comp=Z,40nm,1.7s
KBS Kingsbay 44.19 353 *i* P P 07 17 29.4 +1.3
SPITS Spitsbergen Ar 44.52 351 P P 07 17 30.9 +0.1
comp=Z,33nm,0.9s,baz=44,slow=8.8,SNR=11
comp=Z,33nm,0.9s
SPB2 Spitsbergen Ar 44.53 351 P P 07 17 30.8 0.0
GTA Gaotai 44.67 276 *e*P P 07 17 31.8 -0.8
GTA sP pwP 07 17 39.9 -0.6
GTA PcP **PcP** 07 19 15.4 +0.4
GTA pmax pmax
comp=Z,26nm,1.1s
GTA LR LR
comp=Z,1µm,16.0s
GTA LR LR
comp=Z,1µm,14.9s
GTA LR LR
comp=Z,1µm,17.5s
LZH Lanzhou 44.77 270 *e*P P 07 17 34.9 +1.4
LZH sP pwP 07 17 43.6 +2.3
LZH pmax pmax
comp=Z,54nm,1.2s
LZH LR LR
comp=Z,1µm,16.3s
LZH LR LR
comp=Z,2µm,16.3s
LZH LR LR
comp=Z,1µm,17.5s
NEEM North Greenlan 44.89 10 *i* P P 07 17 32.9 -1.2
NEEM IAmb IAmb 07 17 42.8
comp=Z,25nm,1.0s
NEW Newport 46.36 65 P P 07 17 45.7 -0.1
comp=Z,2.3nm,0.8s,baz=304,slow=4.8,SNR=8.7
comp=Z,2.3nm,0.8s
ZSN Zaisan 47.27 295 *e*P P 07 17 52.2 -0.6
ZSN Zaisan 47.27 295 *e*P P 07 17 52.3 -0.6
DAG Danmarks Havn 47.35 1 *i* P P 07 17 48.1 -5.0
DAG IAmb IAmb 07 17 56.8
comp=Z,14nm,1.0s
YBH Yreka Blue Hor 47.81 75 P P 07 17 57.0 -0.2
comp=Z,1.1nm,1.1s,baz=333,slow=6.8,SNR=3.8
YBH PP PP 07 19 44.5 -4.3
comp=Z,0.4nm,0.9s,baz=325,slow=10.0,SNR=2.0
YBH Yreka Blue Hor 47.81 75 P P 07 17 57.0 -0.2
KURK Kurchatov 48.18 302 P P 07 17 58.8 -1.0
KURK IAmb IAmb 07 18 13.1
comp=Z,12nm,1.1s
KURK Kurchatov 48.18 302 P P 07 17 59.1 -0.7
KURK Kurchatov 48.18 302 *ce*P P 07 17 58.8 -1.0
KURK pmax pmax
comp=Z,9.0nm,1.1s
WMQ Urumqi 48.24 289 *e*P P 07 18 01.3 +0.8
WMQ LR LR
comp=Z,2µm,19.9s
WMQ LR LR
comp=Z,1µm,21.1s
WMQ LR LR
comp=Z,980nm,21.1s
KURBB Kurchatov Arra 48.28 302 P P 07 17 59.8 -0.9
comp=Z,5.1nm,1.0s,baz=56,slow=7.9,SNR=35
KURBB PcP **PcP** 07 19 26.8 -0.5
comp=Z,7.1nm,1.2s,baz=46,slow=5.4,SNR=5.8
KURBB PP **PP** 07 19 51.8 -1.0
comp=Z,5.5nm,1.0s,baz=50,slow=9.9,SNR=7.8
comp=Z,5.1nm,1.0s
CD2 Chengdu 48.65 265 P P 07 18 03.5 -0.3
CD2 pmax pmax
comp=Z,20nm,0.5s
MK31 Makanchi Array 49.01 296 *ce*P P 07 18 05.7 -0.6
MKAR Makanchi Array 49.01 296 P P 07 18 05.2 -1.2
comp=Z,4.1nm,0.8s,baz=60,slow=7.2,SNR=30
comp=Z,4.1nm,0.8s
MAKZ Makanchi 49.16 296 P P 07 18 06.1 -1.4
MAKZ IAmb IAmb 07 18 08.5
comp=Z,17nm,1.2s
MAKZ Makanchi 49.16 296 P P 07 18 06.1 -1.4
MAKZ pmax pmax
comp=Z,17nm,1.2s
FFC Flin Flon 49.20 50 P P 07 18 07.4 -0.2
FFC IAmb IAmb 07 18 16.5
comp=Z,14nm,0.9s
FFC Flin Flon 49.20 50 P P 07 18 07.4 -0.2
FFC pmax pmax
comp=Z,14nm,0.9s
BPMT Black Pine Rid 49.44 64 P P 07 18 10.4 +0.4
GOMU GeErMu 49.73 277 P P 07 18 11.2 -1.2
GOMU pP pP 07 18 14.5 -1.0
GOMU sP pwP 07 18 18.4 -1.9
GOMU pmax pmax
comp=Z,21nm,1.0s
GOMU LR LR
comp=Z,600nm,14.3s
GOMU LR LR
comp=Z,830nm,14.1s
GOMU LR LR
comp=Z,1µm,14.6s
NUUG Nuugaatsiaq 49.93 15 *i* P P 07 18 06.0 -7.0
NUUG IAmb IAmb 07 18 25.0
comp=Z,200nm,3.0s
BVA0 Borovoye Array 50.39 309 *i* P P 07 18 16.5 -0.2
BVAR Borovoye Array 50.39 309 P P 07 18 16.4 -0.3
comp=Z,15nm,0.8s,baz=51,slow=7.8,SNR=56
BVAR PP PP 07 20 13.9 +2.1
comp=Z,12nm,1.0s,baz=53,slow=9.6,SNR=6.7
comp=Z,15nm,0.8s
BRVK Borovoye 50.41 309 P P 07 18 16.7 -0.1
BRVK IAmb IAmb 07 18 18.2
comp=Z,23nm,0.9s
BRVK Borovoye 50.41 309 P P 07 18 16.8 0.0
BRVK Borovoye 50.41 309 *ce*P P 07 18 16.5 -0.4
BRVK pmax pmax
comp=Z,50nm,1.7s
SUMG Summit 50.62 9 P P 07 18 18.4 -0.3
SUMG Summit 50.62 9 P P 07 18 18.4 -0.3
SUMG pmax pmax
comp=Z,14nm,1.0s
SUMG Summit 50.62 9 *i* P P 07 18 18.0 -0.7
SUMG IAmb IAmb 07 18 48.2
comp=Z,16nm,1.0s
LVZ Lovozero 50.81 338 *ce*P P 07 18 19.6 -0.1
LVZ pmax pmax
comp=Z,73nm,1.7s
ARCES ARCESS Array B 51.13 343 P P 07 18 22.2 +0.1
comp=Z,7.1nm,1.1s,baz=49,slow=9.8,SNR=4.7
comp=Z,7.1nm,1.1s
APA Apatity 51.35 338 *e*P P 07 18 20.6 -3.1
BRZS Berezniki 51.47 304 *e*P P 07 18 24.5 -0.4
BRZS Berezniki 51.47 304 *e*P P 07 18 24.5 -0.4
SVE Sverdlovsk 51.70 317 *e*P P 07 18 27.5 +1.0
SVE pmax pmax
comp=Z,40nm,1.5s
ARTI Arti 52.88 318 P P 07 18 35.5 +0.2
ARTI IAmb IAmb 07 18 45.8
comp=Z,49nm,1.2s
ARTI Arti 52.88 318 *c i* P P 07 18 35.1 -0.1
ARTI 07 19 46.3
ARTI S **S** 07 26 03.3 0.0
ARTI SS **SS** 07 29 32.7 -8.7
ARTI pmax pmax
comp=Z,42nm,1.5s
SHLS Shalkode 52.98 294 *e*P P 07 18 34.2 -2.2
SHLS pmax pmax
comp=Z,13nm,0.8s
SHLS Shalkode 52.98 294 *e*P P 07 18 34.2 -2.2
comp=Z,13nm,0.8s
PZH PanZhiHua 53.16 263 P P 07 18 39.5 +1.6
SATY Saty 53.59 295 *e*P P 07 18 40.3 -0.5
SATY Saty 53.59 295 *e*P P 07 18 40.4 -0.5
SCO Scoresbysund 53.61 3 *i* P P 07 18 42.2 +1.7
SCO IAmb IAmb 07 18 44.9
comp=Z,46nm,1.9s
KMI Kunming 53.70 261 P P 07 18 45.9 +4.0
KMI pmax pmax
comp=Z,14nm,0.9s
CHKK Chushkaly 53.74 296 *e*P P 07 18 41.4 -0.4
CHKK Chushkaly 53.74 296 *e*P P 07 18 41.4 -0.4
PD31 Pinedale Array 54.00 65 P P 07 18 44.2 +0.2
PD31 IAmb IAmb 07 18 53.5
comp=Z,23nm,1.0s
PDAR Pinedale Array 54.00 65 P P 07 18 44.1 +0.1
PDAR Pinedale Array 54.00 65 P P 07 18 44.8 +0.8
comp=Z,1.8nm,0.6s,baz=342,slow=3.7,SNR=16
comp=Z,1.8nm,0.6s
AAA Alma-Ata 54.24 296 *e*P P 07 18 45.1 -0.4
AAA Alma-Ata 54.24 296 *e*P P 07 18 45.1 -0.4
BTLS Baital 54.34 299 *e*P P 07 18 45.4 -0.7
BTLS Baital 54.34 299 *e*P P 07 18 45.4 -0.7
KIRV Kirov 54.36 324 *i* P P 07 18 47.2 +1.2
SFJD Kangerlussuaq 54.46 16 LR LR 07 41 55.5
comp=Z,2µm,19.9s,baz=303,slow=36
ULM Lac du Bonnet 55.01 51 P P 07 18 51.0 +0.1
comp=Z,4.7nm,0.7s,baz=322,slow=8.0,SNR=7.8
comp=Z,4.7nm,0.7s
ULM Lac du Bonnet 55.01 51 *i* P P 07 18 52.3 +1.4
SGDS Sogindy 55.21 298 *e*P P 07 18 52.1 -0.4
BOOM Boomskoye usch 55.26 296 P P 07 18 53.2 +0.2
BOOM IAmb IAmb 07 18 55.8
comp=Z,16nm,1.2s
BOOM Boomskoye usch 55.26 296 P P 07 18 53.2 +0.2
BOOM pmax pmax
comp=Z,16nm,1.2s
KLMR Klimovskoe 55.50 331 *e*P P 07 18 52.7 -1.6
KLMR pmax pmax
comp=Z,21nm,1.3s
K22A Casper 55.61 63 P P 07 18 56.6 +1.0
K22A IAmb IAmb 07 19 05.4
comp=Z,37nm,1.2s
AAK Ala-Archa 55.87 297 P P 07 18 57.6 +0.1
AAK Ala-Archa 55.87 297 *ce*P P 07 18 57.3 -0.1
AAK pmax pmax
comp=Z,9.0nm,0.9s
AAK Ala-Archa 55.87 297 P P 07 18 58.0 +0.5
LSA Lhasa 56.62 275 P P 07 19 03.1 -0.2
LSA Lhasa 56.62 275 P P 07 19 03.1 -0.2
LSA pmax pmax
comp=Z,27nm,0.7s
DZA Taraz 57.25 299 *e*P P 07 19 06.8 -0.2
DZA pmax pmax
comp=Z,5.0nm,0.6s
DZA Taraz 57.25 299 *e*P P 07 19 06.8 -0.2
comp=Z,5.4nm,0.6s
KSH Kashi 57.44 293 P P 07 19 11.7 +3.1
KSH sP pwP 07 19 20.0 +3.5
KSH pmax pmax
comp=Z,13nm,2.5s
KK31 Karatay Array 57.49 300 P P 07 19 08.3 -0.4
KK31 IAmb IAmb 07 19 10.8
comp=Z,47nm,1.4s
KK31 Karatay Array 57.49 300 *i* P P 07 19 08.1 -0.6
KKAR Karatay Array 57.49 300 P P 07 19 07.9 -0.8
KKAR Karatay Array 57.49 300 P P 07 19 07.9 -0.8
AKTO Aktyubinsk 57.52 313 P P 07 19 09.0 +0.2
ARSB Arslanbob 57.60 297 P P 07 19 09.5 -0.2
ARSB IAmb IAmb 07 19 11.5
comp=Z,14nm,1.0s
ARSB Arslanbob 57.60 297 P P 07 19 09.5 -0.2
ARSB pmax pmax
comp=Z,14nm,1.0s
AB31 Akbulak array 57.63 311 P P 07 19 09.1 -0.5
ABKAR Akbulak array 57.63 311 P P 07 19 09.8 +0.1
BRLS Borolday 57.87 300 *e*P P 07 19 12.9 +1.5
BRLS Borolday 57.87 300 *e*P P 07 19 12.9 +1.5
F33A 5 Mile Ranch, 58.13 54 P P 07 19 13.5 +0.4
F33A IAmb IAmb 07 19 22.9
comp=Z,35nm,1.1s
FINES FINESS Array B 58.25 338 P P 07 19 13.9 +0.2
comp=Z,3.7nm,0.8s,baz=54,slow=3.6,SNR=7.3
comp=Z,3.7nm,0.8s
IUG luzhnay 58.44 299 *e*P P 07 19 15.2 -0.3
IUG pmax pmax
comp=Z,19nm,1.1s
IUG luzhnay 58.44 299 *e*P P 07 19 15.3 -0.3
comp=Z,19nm,1.1s
CHM Chimkent 58.52 300 *e*P P 07 19 15.7 -0.3
CHM pmax pmax
comp=Z,7.0nm,0.4s
CHM Chimkent 58.52 300 *e*P P 07 19 15.7 -0.3
comp=Z,6.6nm,0.4s
EYMN Ely 58.63 50 P P 07 19 16.7 +0.1
K30B Basset 58.98 59 P P 07 19 20.1 +0.8
BELG Belogornoye 59.93 321 *i* P P 07 19 25.7 +0.2
BELG pmax pmax
comp=Z,12nm,1.0s
MOS Moscow 60.37 329 *e*P P 07 19 27.9 -0.6
MOS *e* 07 20 11.3
MOS pmax pmax
comp=Z,33nm,0.8s
EVN Everest 60.38 277 P P 07 19 28.8 -0.9
EVN IAmb IAmb 07 19 30.4
comp=Z,20nm,0.8s
CHTO Chiang Mai 60.84 260 P P 07 19 32.0 -0.2
CHTO Chiang Mai 60.84 260 P P 07 19 32.4 +0.2
CHTO Chiang Mai 60.84 260 P P 07 19 32.0 -0.2
CHTO pmax pmax
comp=Z,33nm,1.1s
COWI Conover 61.08 50 P P 07 19 34.5 +1.0
COWI IAmb IAmb 07 19 41.9
comp=Z,14nm,0.8s
CMAR Chiang Mai Arr 61.12 260 P P 07 19 34.3 +0.1
CMAR Chiang Mai Arr 61.12 260 P P 07 19 34.1 0.0
comp=Z,14nm,0.8s,baz=20,slow=7.2,SNR=48
comp=Z,14nm,0.8s
CMAR Chiang Mai Arr 61.12 260 *i* P P 07 19 35.2 +1.1
CMAR pmax pmax
comp=Z,8.0nm,0.5s
OBN Obninsk 61.21 329⇑ *e*P P 07 19 32.4 -1.8
OBN *i* 07 19 44.9
OBN *i* 07 20 16.4
OBN *i* 07 21 49.1
OBN pmax pmax
comp=Z,16nm,1.1s
NB2 NORSAR Subarra 61.26 345 P P 07 19 34.7 +0.1
comp=Z,0.8nm,0.4s,baz=18,slow=6.9
NOA NORSAR Array B 61.26 345 P P 07 19 34.6 +0.1
comp=Z,1.0nm,0.2s,baz=17,slow=6.8,SNR=10
comp=Z,1.0nm,0.2s
HFS Hagfors 61.75 344 P P 07 19 37.4 -0.4
comp=Z,3.0nm,0.6s,baz=36,slow=7.6,SNR=21
comp=Z,3.0nm,0.6s
BRDH Bariadhala 61.81 269 LR LR 07 50 42.3
comp=Z,1µm,19.2s,baz=348,slow=40
SCHQ Scheffer'ville 61.82 31 P P 07 19 38.1 -0.3
comp=Z,9.2nm,1.0s,baz=350,slow=6.6,SNR=13
comp=Z,9.2nm,1.0s
SCIA State Center 62.58 55 P P 07 19 44.0 +0.3
LPSR Galich'ya Gora 62.66 326 *e*P P 07 19 42.1 -1.9
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KKM Kota Kinabalu 62.67 236 P P 07 19 45.5 +0.9
VRH Novokhopyorsk 62.96 323 *e*P P 07 19 42.9 -3.1
VRH pmax pmax
comp=Z,10.0nm,1.0s
NIL Nilore 63.32 291 P P 07 19 49.0 +0.2
NIL Nilore 63.32 291 P P 07 19 49.0 +0.2
NIL pmax pmax
comp=Z,41nm,1.4s
VORR Voronezh 63.38 325 *e*P P 07 19 48.2 -0.6
VORR pmax pmax
comp=Z,20nm,1.0s
N38A Joes South For 63.45 56 P P 07 19 49.5 0.0
VSR Storozhevoye 63.78 325 *e*P P 07 19 48.8 -2.6
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 63.95 325 *e*P P 07 19 50.0 -2.6
VORD pmax pmax
comp=Z,9.0nm,0.9s
GLMI Grayling 64.00 48 P P 07 19 52.8 -0.3
VLDQ Val d'Or 64.09 41 P P 07 19 52.1 -1.4
MNK Minsk 64.11 333 *i* P P 07 19 53.8 +0.3
comp=E,19nm,0.9s
MNK *i* P P 07 19 53.8 +0.3
comp=N,29nm,0.9s
MNK *i* P P 07 19 53.8 +0.3
comp=Z,10.0nm,0.9s,baz=26
MNK *i* PcP **PcP** 07 20 30.4 +1.8
MNK *i* PP **PP** 07 22 14.8 +0.9
MNK *i* PPP PPP 07 23 45.0
MNK *i* S **S** 07 28 33.0 +3.4
MNK *i* PS **PnS** 07 28 41.8 -4.7
MNK *i* SS **SS** 07 32 41.8 +4.3
MNK *i* SSS SSS 07 36 45.4
MNK *i* LR LR 07 48 53.6
MNK *i* LRM MLR 07 52 02.7
comp=E,845nm,18.8s
MNK Minsk 64.11 333 *i* P P 07 19 53.8 +0.3
MNK *i* 07 20 30.3
MNK *i* 07 22 14.7
MNK *i* PPP PPP 07 23 45.0
MNK *i* S **S** 07 28 32.9 +3.4
MNK *i* PS 07 28 41.8
MNK *i* SS **SS** 07 32 41.7 +4.3
MNK pmax pmax
comp=E,19nm,0.9s
MNK pmax pmax
comp=Z,10.0nm,0.9s
MNK pmax pmax
comp=N,29nm,0.9s
MNK MLR MLR
comp=E,845nm,19.0s
MNK MLR MLR
comp=Z,663nm,15.0s
MNK MLR MLR
comp=N,533nm,16.0s
SMWD Samnorwood 64.53 65 P P 07 19 58.1 +1.4
KBL Kabul 64.80 295 P P 07 19 58.1 -0.6
KBL IAmb IAmb 07 19 58.7
comp=Z,16nm,1.0s
KBL Kabul 64.80 295 P P 07 19 55.8 -2.8
SNR=6.9
KBL Kabul 64.80 295 P P 07 19 58.1 -0.6
KBL pmax pmax
comp=Z,16nm,1.0s
TOLI2 Tolitoli 65.02 229 P P 07 20 00.3 +0.4
HNR Honiara 65.42 185 LR LR 07 44 08.8
comp=Z,711nm,19.5s,baz=360,slow=32
VHRN Van Horn 65.45 71 P P 07 20 04.2 +1.3
VHRN IAmb IAmb 07 20 13.3
comp=Z,19nm,0.9s
FVM French Village 67.00 56 P P 07 20 12.5 0.0
FVM French Village 67.00 56 P P 07 20 12.5 0.0
FVM pmax pmax
comp=Z,34nm,0.8s
AK21 Malin Array Si 67.18 331 P P 07 20 13.1 -0.3
AKASG Malin Array Be 67.19 331 P P 07 20 13.4 -0.1
comp=Z,1.9nm,0.3s,baz=28,slow=6.1,SNR=14
comp=Z,1.9nm,0.3s
AKBB Malin Array Si 67.19 331 *ce*P P 07 20 11.8 -1.7
AKBB pmax pmax
comp=Z,6.0nm,1.0s
AKBB Malin Array Si 67.19 331 P P 07 20 13.1 -0.4
KIEV Kiev 67.20 331 P P 07 20 21.4 +7.9
TXAR Lajitas Array 67.30 71 P P 07 20 15.3 +0.7
comp=Z,2.9nm,0.7s,baz=297,slow=4.3,SNR=33
comp=Z,2.9nm,0.7s
N49A Columbus Grove 67.39 50 P P 07 20 15.4 +0.5
RNPP8 Varash 67.50 333 P P 07 20 15.3 -0.2
GOF Gofitskoye 67.73 319 *ce*P P 07 20 17.6 +0.6
SIUC Southern Illin 67.78 55 P P 07 20 17.1 -0.3
MAK Makhachkala 67.81 315 *e*P P 07 20 12.2 -5.3
MAK *e*S **S** 07 29 06.5 -8.4
MAK pmax pmax
comp=Z,28nm,0.3s
EKA Eskdalemuir Ar 68.42 352 P P 07 20 21.9 +0.7
comp=Z,6.6nm,0.9s,baz=20,slow=6.0,SNR=14

comp=Z,6.6nm,0.9s
KIV Kislovodsk 68.81 319 *e*P **P 07 20 24.9 +1.0**
KIV pmax pmax
comp=Z,9.0nm,1.0s
DRIO Del Rio 68.83 69 P **P 07 20 24.4 +0.2**
KBZ Khabaz 68.92 318 P **P 07 20 25.7 +1.2**
comp=Z,14nm,0.9s,baz=16,slow=1.5,SNR=16
comp=Z,14nm,0.9s
KBZ Khabaz 68.92 318 *i* P **P 07 20 25.6 +1.1**
KBZ pmax pmax
comp=Z,14nm,0.9s
AKT Akhty 68.96 314 *e*P **P 07 20 23.5 -1.5**
AKT *e* 07 20 46.2
AKT *e* 07 22 55.7
AKT pmax pmax
comp=Z,84nm,2.2s
R49A Shelbyville 69.13 52 P **P 07 20 25.8 -0.1**
R49A IAmb IAmb 07 20 34.2
comp=Z,11nm,0.8s
O53A New Philadelph 69.20 48 P **P 07 20 26.2 -0.1**
O53A IAmb IAmb 07 20 34.1
comp=Z,14nm,0.7s
LBNH Lisbon 69.40 40 P **P 07 20 27.9 +0.5**
LBNH IAmb IAmb 07 20 35.9
comp=Z,15nm,1.1s
LBNH Lisbon 69.40 40 P **P 07 20 27.9 +0.5**
LBNH pmax pmax
comp=Z,15nm,1.1s
WVT Waverly 69.71 55 P **P 07 20 29.6 +0.1**
WVT Waverly 69.71 55 P **P 07 20 29.6 +0.1**
WVT pmax pmax
comp=Z,23nm,0.8s
KWP Kalwaria Pacla 69.85 334 *e*P **P 07 20 31.1 +0.9**
KMPD K-Podol'skiy 69.89 332 P **P 07 20 29.9 -0.5**
OJC Ojcow 69.98 337 *e*P **P 07 20 32.3 +1.4**
OJC Ojcow 69.98 337 P **P 07 20 31.8 +0.9**
OJC Ojcow 69.98 337 P **P 07 20 31.8 +0.9**
KSP Ksiaz 70.13 339 *e*P **P 07 20 32.7 +0.8**
CLL Collm 70.31 341 P **P 07 20 33.4 +0.4**
CLL IAmb IAmb 07 20 37.3
comp=Z,14nm,1.1s
CLL Collm 70.31 341 *i* P **P 07 20 33.4 +0.4**
CLL *i* 07 20 43.3
CLL pmax pmax
comp=Z,34nm,1.6s
CLL Collm 70.31 341 *i* P **P 07 20 33.4 +0.4**
comp=Z,34nm,1.6s
CLL *i* x x 07 20 43.3
STHS Stebnicka Huta 70.40 335 *e*P **P 07 20 34.3 +0.7**
STHS pmax pmax
comp=Z,6.0nm,0.7s
STHS Stebnicka Huta 70.40 335 *e*P **P 07 20 34.3 +0.7**
PLAL Pickwick Lake 70.54 56 P **P 07 20 34.5 -0.1**
BRG Berggiesshubel 70.56 341 *e*P **P 07 20 35.4 +0.9**
BRG Amp 07 20 39.1
comp=Z,13nm,1.3s
BRG Berggiesshubel 70.56 341 P P 07 20 47.3 +13
BRG Amp 07 20 48.5
comp=Z,7.9nm,1.2s
BRG PP **PP 07 23 11.1 +1.1**
BRG Amp 07 23 12.2
comp=Z,4.3nm,1.2s
DPC Dobruska-Polom 70.59 339 *e*P **P 07 20 36.1 +1.3**
DPC *ex* x 07 20 43.5
DPC Dobruska-Polom 70.59 339 *e*P **P 07 20 36.1 +1.3**
DPC *e* 07 20 43.5
KOLS Kolonicke sedl 70.61 334 *e*P **P 07 20 36.4 +1.6**
KOLS pmax pmax
comp=Z,5.0nm,0.7s
KOLS Kolonicke sedl 70.61 334 *e*P **P 07 20 36.4 +1.6**
NIE Niedzica 70.62 336 *e*P **P 07 20 36.3 +1.4**
STEB Steborice 70.69 338 *e*P **P 07 20 36.1 +0.8**
KRLC Kraliky 70.76 338 *e*P **P 07 20 37.0 +1.2**
KRLC *ex* x 07 20 44.9
KRLC Kraliky 70.76 338 *e*P **P 07 20 37.0 +1.2**
KRLC *e* 07 20 44.9
MORC Moravsky Berou 70.89 338 *e*P **P 07 20 37.0 +0.5**
SIM Simferopol' 70.90 325 *e*P **P 07 20 36.6 -0.1**
SIM *e* 07 20 57.0
SIM pmax pmax
comp=Z,10.0nm,0.7s
SIM MLR MLR
comp=Z,500nm,18.0s
LANS Liptovska Anna 71.06 336 *e*P **P 07 20 39.8 +2.2**
LANS pmax pmax
comp=Z,8.0nm,1.0s
LANS Liptovska Anna 71.06 336 *e*P **P 07 20 39.8 +2.2**
BUR08 Bucovina Ar. S 71.07 332 P **P 07 20 37.9 +0.2**
MAUC Maruska 71.21 338 *e*P P 07 20 48.1 +10
PRU Pruhonice 71.29 340 *e*P **P 07 20 43.5 +4.6**
PRU Pruhonice 71.29 340 *e*P **P 07 20 43.5 +4.6**
SWET Sewanee 71.33 54 P **P 07 20 39.1 -0.4**
VRAC Vranov 71.53 338 *e*P **P 07 20 41.4 +1.0**
JAVC Velka Javorina 71.73 337 *e*P **P 07 20 43.4 +1.7**
KRUC Moravsky 71.80 338 *e*P **P 07 20 42.9 +0.9**
VYHS Vyhne 71.82 337 *e*P **P 07 20 43.8 +1.6**
VYHS pmax pmax
comp=Z,18nm,1.6s
VYHS Vyhne 71.82 337 *e*P **P 07 20 43.8 +1.6**
ZVC Zvikov 71.88 340 *e*P P 07 20 51.6 +9.1
COEN Coen 72.02 202 P **P 07 20 44.3 +0.8**
comp=Z,32nm,1.3s
BLA Blacksburg 72.09 49 P **P 07 20 44.7 +0.7**
BLA IAmb IAmb 07 20 52.2
comp=Z,14nm,0.8s
BLA Blacksburg 72.09 49 P **P 07 20 44.7 +0.7**
BLA pmax pmax
comp=Z,14nm,0.9s
MEM Membach 72.11 346 *d*P **P 07 20 44.7 +0.9**
SMOL Smolenice 72.11 338 *e*P **P 07 20 45.9 +2.0**
SMOL pmax pmax
comp=Z,6.0nm,0.8s
BTNL Ternell 72.11 346 *d*P **P 07 20 45.1 +1.2**
comp=Z,10nm,1.1s
BSTI Sart Tilman 72.19 346 *d*P **P 07 20 45.5 +1.2**
comp=Z,2.5nm,0.0s
MODS Modra-Piesok 72.27 338 *e*P **P 07 20 45.6 +0.7**
MODS pmax pmax
comp=Z,44nm,1.5s
MODS Modra-Piesok 72.27 338 *e*P **P 07 20 45.5 +0.7**
KHC Kasperske Hory 72.29 340 *e*P **P 07 20 46.4 +1.4**
KHC Kasperske Hory 72.29 340 *e*P **P 07 20 46.4 +1.4**
GEC2 GERESS Array S 72.55 340 P **P 07 20 47.1 +0.5**
GERES GERESS Array B 72.55 340 P **P 07 20 46.9 +0.3**
GERES GERESS Array B 72.55 340 P **P 07 20 47.6 +1.0**
comp=Z,0.6nm,0.4s,baz=15,slow=5.5,SNR=11
GERES LR LR 07 56 26.1
comp=Z,690nm,20.0s,baz=17,slow=39
comp=Z,0.6nm,0.4s
GERES GERESS Array B 72.55 340 P **P 07 20 46.9 +0.3**
BMRD Maredsous 72.57 346 *d*P **P 07 20 45.1 -1.5**
comp=Z,5.3nm,1.2s
BG3 Lake Jocassee 72.87 52 P **P 07 20 48.9 +0.3**
BG3 IAmb IAmb 07 20 57.2
comp=Z,20nm,0.8s
CONA Conrad Observa 72.99 338 *i* pP **P 07 20 51.2 +2.0**
comp=Z,11nm,1.3s,SNR=7.3
RONA Rosalia, Austr 73.12 338 *i* pP **P 07 20 52.2 +2.3**
comp=Z,7.3nm,1.1s
HYB Hyderabad 73.34 276 *e*P **P 07 20 51.1 -0.5**
MOA Molln 73.39 339 *i* pP **P 07 20 54.0 +2.5**
comp=Z,15nm,1.4s
KDU Kakadu 73.51 212 P **P 07 20 52.4 -0.1**
comp=Z,42nm,1.1s
BIOA Bad Ischl, Aus 73.66 340 *i* pP **P 07 20 56.3 +3.1**
comp=Z,2.6nm,0.5s
ARSA Arzberg 73.71 338 *i* pP **P 07 20 55.4 +1.9**
comp=Z,9.3nm,1.6s
BFO Black Forest 73.98 344 P **P 07 20 55.4 +0.4**
BFO Black Forest 73.98 344 P **P 07 20 55.4 +0.4**
BFO pmax pmax
comp=Z,8.0nm,1.0s
MTN Manton Dam 74.07 214 P **P 07 20 56.5 +0.8**
comp=Z,48nm,1.2s
LESA Schwarzleotal 74.10 340 *i* pP **P 07 20 57.8 +2.0**
comp=Z,11nm,1.5s
KBA Koelnbreinsper 74.31 340 *i* pP **P 07 20 59.8 +2.6**
comp=Z,20nm,1.4s
SOKA Soboth 74.36 339 *i* pP **P 07 20 58.6 +1.3**
comp=Z,11nm,1.4s,SNR=8.9
RETA Reutte 74.39 342 *i* pP **P 07 20 59.6 +2.1**
comp=Z,4.0nm,0.8s
WATA Walderalm 74.39 341 *i* pP **P 07 20 59.6 +2.1**
comp=Z,18nm,1.4s
WTTA Wattenberg 74.45 341 *i* pP **P 07 20 59.8 +1.8**
comp=Z,17nm,1.4s,SNR=9.6
MOTA Moosalm 74.47 341 *i* pP **P 07 20 59.5 +1.4**
comp=Z,15nm,1.4s
MSVF Nonsavu 74.49 166 LR LR 07 48 45.3
comp=Z,298nm,20.3s,baz=3.4,slow=32
ILGA Ilgaz 74.52 323 P **P 07 20 58.7 +0.2**
ILGA IAmb IAmb 07 21 09.4
comp=Z,17nm,0.9s
SQTA Sankt Quirin 74.57 341 *i* pP **P 07 20 60.0 +1.4**
comp=Z,22nm,1.2s
OBKA Obir 74.61 339 *i* pP **P 07 21 00.6 +1.8**
comp=Z,28nm,1.2s,SNR=15
MYKA Terra Mystica 74.68 339 *i* pP **P 07 21 01.2 +2.1**
comp=Z,15nm,1.6s
DAVA Damuels 74.74 342 *i* pP **P 07 21 01.6 +2.0**
comp=Z,8.3nm,1.1s
ABTA Abfaltersbach 74.78 340 *i* pP **P 07 21 01.1 +1.3**
comp=Z,10nm,1.3s,SNR=9.3
FETA Feichten 74.85 342 *i* pP **P 07 21 02.0 +1.7**
comp=Z,10nm,1.3s,SNR=5.5
BRTR Keskin Array B 75.73 323 P **P 07 21 05.8 +0.4**
BRTR Keskin Array B 75.73 323 P **P 07 21 06.5 +1.0**
comp=Z,4.0nm,1.0s,baz=75,slow=3.4,SNR=13
BRTR PP **PP 07 23 56.2 +1.7**
comp=Z,0.8nm,0.9s,baz=22,slow=8.0,SNR=1.7
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 75.73 323 *ce*P **P 07 21 06.5 +1.0**
BRTR pmax pmax
comp=Z,9.0nm,1.2s
MTSU Mount Surprise 75.86 200 P **P 07 21 06.3 +0.3**
comp=Z,8.1nm,1.2s
RDO Rodhopi 76.97 329 P **P 07 21 12.9 +0.7**
RDO IAmb IAmb 07 21 14.3
comp=Z,26nm,1.5s
JASK Jask - Hormozg 77.45 298 P **P 07 21 15.1 0.0**
KNRA Kununurra 77.48 215 P **P 07 21 15.2 0.0**
comp=Z,27nm,1.9s
DZM Mont Dzumac 77.91 178 *e*LR LR 07 45 27.3
comp=Z,715nm,26.7s
SHME Shamm 78.14 299 P **P 07 21 18.9 -0.1**
SHME Shamm 78.14 299 *i* P **P 07 21 19.0 -0.1**
SNR=6.7
BANOM Banah 78.17 299 P **P 07 21 19.5 +0.3**
BANOM Banah 78.17 299 *i* P **P 07 21 19.6 +0.3**
SNR=9.3
FDMO Fiordimonte 78.24 339 P **P 07 21 19.9 +0.5**
FDMO IAmb IAmb 07 21 31.6
comp=Z,29nm,1.2s
MDH Madha 78.69 299 P **P 07 21 21.9 -0.2**
MASF Masafi 78.70 299 P **P 07 21 22.0 -0.2**
MSFE Esma-Masafi 78.71 299 *i* P **P 07 21 22.3 0.0**
SNR=6.4
UOSS Minazif 79.04 298 P **P 07 21 23.4 -0.6**
UOSS Minazif 79.04 298 *i* P **P 07 21 23.3 -0.6**
SNR=12
HATD Hatta, Dubai 79.17 298 P **P 07 21 24.7 0.0**
SNR=8.0
HATD Hatta, Dubai 79.17 298 *i* P **P 07 21 24.8 0.0**
SNR=9.9
QIS Mount Isa 79.18 203 P **P 07 21 24.8 +0.2**
comp=Z,20nm,1.4s
NAZ Nazwa, Dubai 79.27 299 P **P 07 21 24.8 -0.4**
BIDO Bidbid 79.27 296 P **P 07 21 25.0 -0.3**
TAOE Nuku Hiva Isla 79.29 124 *e*LR LR 07 46 04.6
comp=Z,499nm,22.4s
ASHO Ashiyiah 79.33 298 P **P 07 21 25.3 -0.3**
SNR=9.7
ASHO Ashiyiah 79.33 298 *i* P **P 07 21 24.4 -1.2**
SNR=11
SOHO SOHO 79.55 298 P **P 07 21 26.2 -0.5**
SOHO SOHO 79.55 298 *i* P **P 07 21 25.1 -1.6**
SNR=11
WBK Wadi Bani Khal 79.60 295 P **P 07 21 27.6 +0.5**
HOQ Hoqain 79.63 297 P **P 07 21 26.3 -0.9**
SMDO Samad 79.69 296 P **P 07 21 27.9 +0.2**
WB0 Warramunga Arr 79.69 208 P **P 07 21 27.9 +0.5**
WB0 IAmb IAmb 07 21 29.1
comp=Z,40nm,1.1s
ASUD Al Ashush, Dub 79.73 299 P **P 07 21 28.1 +0.3**
ASUD Al Ashush, Dub 79.73 299 P **P 07 21 28.3 +0.5**
JLN Jalan Bani Buh 79.76 294 P **P 07 21 28.6 +0.6**
WRAB Tennant Creek 79.86 208 P **P 07 21 28.8 +0.5**
WRAB IAmb IAmb 07 21 30.1
comp=Z,30nm,1.1s
WRAB Tennant Creek 79.86 208 P **P 07 21 28.8 +0.5**
WRAB pmax pmax
comp=Z,30nm,1.1s
WRA Warramunga Arr 79.88 208 P **P 07 21 28.6 +0.2**
WRA Warramunga Arr 79.88 208 P **P 07 21 28.6 +0.2**
comp=Z,17nm,1.0s,baz=20,slow=5.6,SNR=42
comp=Z,17nm,1.0s
WRA Warramunga Arr 79.88 208 *ce*P **P 07 21 28.8 +0.4**
WRA pmax pmax
comp=Z,16nm,1.0s
ARQ Araqi 80.22 297 P **P 07 21 29.7 -0.7**
SNR=6.0
JMDO Jabal Madar 80.24 296 P **P 07 21 31.0 +0.4**
SNR=6.7
BSY Bisya 80.38 296 P **P 07 21 31.7 +0.3**
SNR=7.6
PALK Palkele 80.40 269 P **P 07 21 31.3 -0.2**
FITZ Fitzroy Crossi 80.77 217 P **P 07 21 33.3 +0.1**
comp=Z,6.0nm,1.4s
MMAI Mount Meron Ar 81.12 319 P **P 07 21 35.9 +0.7**
comp=Z,3.0nm,0.7s,baz=23,slow=4.5,SNR=5.2
MMAI LR LR 08 03 22.3
comp=Z,1μm,18.8s,baz=134,slow=40
comp=Z,3.0nm,0.7s
ASF Jabal al Asfar 81.31 317 LR LR 08 04 41.1
comp=Z,1μm,18.2s,baz=162,slow=41
MHTO MHTO 81.46 295 P **P 07 21 37.6 +0.5**
SNR=6.6
PGAV Gavieira, Arco 82.07 354 *e*P **P 07 21 41.2 +1.1**
PBRG Braganca 82.14 353 *e*P **P 07 21 42.8 +2.4**
POLO Lamas de Olo 82.63 354 *e*P **P 07 21 44.1 +1.1**
PVRL Vila Real 82.73 354 *e*P **P 07 21 45.1 +1.6**
MVO Moncorvo 82.80 353 *e*P **P 07 21 47.8 +4.0**
RAR Rarotonga 82.84 146 LR LR 07 51 56.1
comp=Z,218nm,19.3s,baz=325,slow=31
PPT2 Papeete2 83.06 136 *e*LR LR 07 47 40.6
comp=Z,496nm,25.2s
PPT2 *e*LR LR 07 47 46.7
comp=Z,646nm,23.5s
PVIS Viseu 83.30 354 *e*P **P 07 21 47.3 +0.8**
AS31 Alice Springs 83.54 208 P **P 07 21 48.7 +1.0**
ASAR Alice Springs 83.54 208 P **P 07 21 48.4 +0.7**
ASAR Alice Springs 83.54 208 P **P 07 21 48.5 +0.8**
comp=Z,15nm,1.0s,baz=14,slow=4.9,SNR=62
comp=Z,15nm,1.0s
ASAR Alice Springs 83.54 208 P **P 07 21 48.4 +0.7**
PCAS Casmilo, Conde 83.99 354 *e*P **P 07 21 50.1 +0.1**
PCAS *i* IAmb IAmb 07 22 03.9
comp=Z,43nm,1.4s
ESDC Sonseca Array 84.04 351 P **P 07 21 51.2 +1.0**
ESDC Sonseca Array 84.04 351 P **P 07 21 51.3 +1.0**
comp=Z,1.2nm,0.6s,baz=5.5,slow=5.1,SNR=15
comp=Z,1.2nm,0.6s
QLP Quilpie 84.12 198 P **P 07 21 51.6 +1.1**
comp=Z,46nm,1.2s
PCBR Castelo Branco 84.14 354 *e*P **P 07 21 51.7 +1.0**
PCBR *i* IAmb IAmb 07 22 05.1
comp=Z,33nm,1.5s
PAB San Pablo 84.20 351 P **P 07 21 51.9 +0.8**
PAB IAmb IAmb 07 21 56.1
comp=Z,18nm,1.4s
PAB San Pablo 84.20 351 P **P 07 21 51.9 +0.8**
PAB pmax pmax
comp=Z,18nm,1.4s
PMTG Montargil 84.95 354 *e*P **P 07 21 55.9 +1.0**
PMTG *i* IAmb IAmb 07 21 58.1
comp=Z,26nm,1.7s
PESTR Estremoz 85.12 354 *e*P **P 07 21 55.8 +0.1**
PESTR *i* IAmb IAmb 07 22 10.6
comp=Z,21nm,1.3s
RAYN Ar Rayn 85.31 306 P **P 07 21 55.4 -1.5**
RAYN Ar Rayn 85.31 306 *i* P **P 07 21 56.8 -0.1**
SNR=7.5
EVO Evora 85.48 354 *e*P **P 07 21 58.3 +0.9**
EVO *i* IAmb IAmb 07 22 07.1
comp=Z,22nm,1.4s
MBWA Marble Bar 85.67 221 P **P 07 21 58.4 0.0**
comp=Z,38nm,1.0s
MBWA Marble Bar 85.67 221 P **P 07 21 59.2 +0.8**
PBAR Barrancos 85.77 353 *e*P **P 07 22 00.3 +1.4**
PBAR *i* IAmb IAmb 07 22 14.7
comp=Z,30nm,1.3s
PBEJ Beja 85.97 354 *e*P **P 07 22 01.5 +1.5**
PBEJ *i* IAmb IAmb 07 22 15.0
comp=Z,18nm,1.6s
KEST Kesra 86.03 340 P **P 07 22 00.6 +0.2**
comp=Z,1.3nm,0.5s,baz=14,slow=4.2,SNR=3.8
comp=Z,1.3nm,0.5s
PCVE Castro Verde 86.37 354 *e*P **P 07 22 03.4 +1.5**
PCVE *i* IAmb IAmb 07 22 08.6
comp=Z,23nm,1.7s
RAO Raoul Island 86.39 164 LR LR 07 53 59.1
comp=Z,406nm,21.2s,baz=96,slow=31
WRKA Warakurna 86.41 212 P **P 07 22 02.3 +0.3**
comp=Z,15nm,1.1s
TBI Tubuai 88.34 138 *e*LR LR 07 50 19.5
comp=Z,2μm,26.2s
CMSA Cobar Meteorol 88.74 196 P **P 07 22 13.6 +0.6**
comp=Z,23nm,1.2s
STKA Stephens Creek 89.76 199 P **P 07 22 17.5 -0.3**
comp=Z,98nm,2.2s
STKA Stephens Creek 89.76 199 P **P 07 22 18.4 +0.7**
comp=Z,9.2nm,1.1s,baz=335,slow=10,SNR=7.6
comp=Z,9.2nm,1.1s
MDT Midelt 90.90 351 LR LR 08 04 02.3
comp=Z,1μm,20.9s,baz=244,slow=36
FORT Forrest 91.88 211 P **P 07 22 27.2 -0.4**
comp=Z,17nm,1.5s
VNDA Vanda 133.39 181 PKP **PKPdf 07 28 34.3 +0.1**
comp=Z,0.6nm,0.8s,baz=0.0,slow=2.0,SNR=4.9
BOSA Boshof 140.01 296 PKP **PKPdf 07 28 48.7 +0.7**
comp=Z,4.0nm,0.9s,baz=0.0,slow=2.0,SNR=3.7
PLCA Paso Flores 141.62 90 PKP **PKPdf 07 28 50.9 +0.3**
comp=Z,1.7nm,1.0s,baz=297,slow=3.3,SNR=2.5
MAW Mawson 143.86 220 PKP PKPbc 07 28 51.8 +0.5
comp=Z,8.2nm,1.0s,baz=35,slow=4.2,SNR=11
QSPA South Pole Qui 145.88 180 PKPbc **PKPdf 07 28 57.0 -0.1**
comp=Z,22nm,1.1s,baz=348,slow=1.9,SNR=46
SYO Syowa Base 152.57 220 ||*e*PKPbc **PKiKP 07 29 15.6 +0.8**
TROLL Troll, Antarti 162.31 199 ||PKPab **PKPab 07 30 07.4 -0.1**
comp=Z,254nm,0.9s
SNAA Sanae 163.46 194 ||PKPab **PKPab 07 30 11.4 -1.1**
comp=Z,63nm,1.2s
SNAA Sanae 163.46 194 PKPab **PKPab 07 30 10.8 -1.6**
comp=Z,4.1nm,1.1s,baz=143,slow=5.6,SNR=5.9
VNA2 Neumayer--Watz 164.71 190 ||PKPab **PKPab 07 30 17.0 -0.9**
comp=Z,1.5nm,0.3s,baz=156,slow=10
VNA1 Neumayer--Stat 165.06 190 ||PKPab **PKPab 07 30 18.9 -0.5**
comp=Z,6.9nm,1.0s

*NEIC **06** 07:09:56.3±1.2,35°.910N±0°.010×117°.74W±0°.01, h4km±3km, Error ellipse: s-maj=1.7km s-min=1.5km az=84.0*

PAS 06 07:09:56.9±1.1,35°.904N±0°.010×117°.75W±0°.01, h5km±2km, ML3.2/23, ML3.0/26(NEIC), Error ellipse: s-maj=1.7km s-min=1.5km az=87.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WVPM	**Volcano Peak E**	**0.07**	**311**		Pg	07 09 58.7	+0.1
TOW	**Tower One**	**0.10**	**185**		Pg	07 09 59.4	+0.4
WNMM	**Nine Mile Cany**	**0.14**	**244**		Pg	07 09 59.8	+0.1
WNMM					Sg	07 10 02.2	+0.7
WRVM	**Rose V. Centra**	**0.15**	**313**		Pg	07 09 60.0	0.0
MFS	**McCloud Flat S**	**0.23**	**339**		Pg	07 10 01.3	-0.1
MFS					Sg	07 10 04.8	+0.4
MPMC	**Manual Prospec**	**0.26**	**54**		Pg	07 10 01.9	-0.1
LRMC	**Laurel Mtn Rad**	**0.43**	**172**	Pg	Pg	07 10 04.8	-0.3
LRMC					Sg	07 10 10.9	+0.2
LRMC				IAML		07 10 11.3	
	comp=E,2μm,0.2s						
LRMC				IAML		07 10 11.8	
	comp=N,2μm,0.2s						
WHFM	**Hanning Flat**	**0.53**	**247**		Sg	07 10 13.9	0.0
CWC	**Cottonwood Cre**	**0.60**	**334**		Pg	07 10 08.4	0.0
CWC					Sg	07 10 16.3	+0.2
ISA	**Isabella, Lake**	**0.63**	**248**	Pg	Pg	07 10 08.4	-0.6
QSM	**Queen of Sheba**	**0.72**	**85**	Pg	Pg	07 10 10.6	-0.1
QSM				IAML		07 10 24.7	
	comp=N,495nm,0.8s						
CCAC	**Calif City Air**	**0.78**	**196**	Pg	Pg	07 10 11.3	-0.5
CCAC				IAML		07 10 25.6	
	comp=N,409nm,0.4s						
SPG2	**Springville 2**	**0.87**	**290**		Pg	07 10 12.8	-0.9
SPG2					Sg	07 10 24.5	-0.4
GWY	**Greenwater Val**	**0.92**	**72**	Pg	Pg	07 10 14.4	-0.2
GWY				IAML		07 10 32.0	
	comp=N,356nm,0.5s						
GWY				IAML		07 10 32.7	
	comp=E,472nm,0.4s						
GSC	**Goldstone, Bar**	**0.98**	**128**		Sg	07 10 27.9	-0.4
TEJ	**El Tejon**	**1.02**	**229**		Sg	07 10 29.0	-0.6
VES	**Vestal, Richgr**	**1.08**	**267**		Pb	07 10 18.0	-0.1
GRAC	**Grapevine Rang**	**1.13**	**16**	Pg	Pg	07 10 17.0	-1.6
GRAC				IAML		07 10 24.2	
	comp=N,333nm,0.5s						
GRAC				IAML		07 10 34.4	
	comp=E,304nm,0.4s						
BAKC	**Calstate**	**1.23**	**243**		Pg	07 10 20.0	-0.5
WCT	**Wildcat Mounta**	**1.27**	**45**		Sg	07 10 37.0	-0.7
WCT	**Wildcat Mounta**	**1.27**	**45**		Pg	07 10 20.0	-1.2
WCT				IAML		07 10 38.4	
	comp=E,238nm,0.4s						
VOG	**Valley Oaks Go**	**1.38**	**288**		Pn	07 10 22.3	-0.5
CJV	**Casa Juvan**	**1.41**	**193**		Pn	07 10 23.3	+0.1
GMN	**Gold Mountain**	**1.45**	**16**		Pn	07 10 23.2	-0.7
HEC	**Hector,Ludlow**	**1.58**	**132**		Pn	07 10 23.8	-1.8
MTUM	**Tungsten Hills**	**1.59**	**336**		Pb	07 10 26.4	-0.4
TPNV	**Topopah Spring**	**1.60**	**49**		Pn	07 10 25.1	-0.9
TPNV				IAML		07 10 50.6	
	comp=E,182nm,0.8s						
TPNV				IAML		07 10 50.8	
	comp=E,142nm,0.4s						
MWC	**Mount Wilson**	**1.69**	**189**		Pn	07 10 26.3	-0.9
MWC				IAML		07 10 36.1	
	comp=E,144nm,0.5s						
OAT	**Oat Mountain**	**1.71**	**205**		Pg	07 10 30.9	+1.2
CRGC	**Crocker Grade**	**1.74**	**248**		Pb	07 10 28.8	-0.5
BLCC	**Black Canyon**	**1.82**	**205**		Pn	07 10 28.6	-0.2
CLTC	**Calectric**	**1.84**	**169**		Pg	07 10 32.5	+0.3

*NEIC **06** 07:13:35.9±1.5,35°.947N±0°.010×117°.73W±0°.01, h2km±1km, Error ellipse: s-maj=1.7km s-min=1.0km az=130.0*

PAS 06 07:13:36.1±1.5,35°.947N±0°.010×117°.72W±0°.01, h1km±1km, ML3.1/26, ML3.0/40(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=218.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WVPM	**Volcano Peak E**	**0.08**	**272**		Pg	07 13 37.9	+0.2
TOW	**Tower One**	**0.14**	**194**		Pg	07 13 39.4	+0.6
WRVM	**Rose V. Centra**	**0.15**	**294**		Pg	07 13 39.3	+0.2
MPMC	**Manual Prospec**	**0.22**	**60**		Pg	07 13 40.5	+0.1
MPMC					Sg	07 13 43.9	+0.6
LRMC	**Laurel Mtn Rad**	**0.47**	**176**		Sg	07 13 52.0	+0.9
LRMC	**Laurel Mtn Rad**	**0.47**	**176**	Pg	Pg	07 13 45.3	+0.2
LRMC				IAML		07 13 52.2	
	comp=N,1μm,0.2s						
LRMC				IAML		07 13 52.4	
	comp=E,2μm,0.6s						
WORM	**Onyx Ranch**	**0.49**	**239**		Pg	07 13 46.0	+0.4
WBSM	**Bird Springs**	**0.53**	**220**		Pg	07 13 46.3	0.0
CGO	**Cerro Gordo**	**0.61**	**354**		Pg	07 13 48.1	+0.3
CGO					Sg	07 13 57.0	+1.4
ISA	**Isabella, Lake**	**0.67**	**245**		Sg	07 13 58.0	+0.3
ISA	**Isabella, Lake**	**0.67**	**245**		Pg	07 13 48.8	-0.3
QSM	**Queen of Sheba**	**0.69**	**88**		Pg	07 13 49.3	-0.1
QSM				IAML		07 14 01.2	
	comp=N,816nm,0.7s						
QSM				IAML		07 14 03.2	
	comp=E,839nm,0.6s						
WASM	**Alta Sierra Ca**	**0.71**	**253**		Pg	07 13 49.7	0.0
CCAC	**Calif City Air**	**0.83**	**197**		Pg	07 13 51.6	-0.4
CCAC				IAML		07 14 07.0	
	comp=N,499nm,0.3s						
CCAC				IAML		07 14 11.0	
	comp=E,403nm,0.6s						
SPG2	**Springville 2**	**0.88**	**287**		Pg	07 13 52.8	-0.3
GWY	**Greenwater Val**	**0.89**	**74**		Pg	07 13 53.1	0.0
GWY				IAML		07 14 05.6	
	comp=E,520nm,0.5s						
GWY				IAML		07 14 09.6	

comp=N,531nm,0.5s
GSC Goldstone, Bar 0.99 130 Pg 07 13 54.6 -0.4
GSC IAML 07 14 10.3
comp=N,239nm,0.6s
TEJ El Tejon 1.06 228 Pg 07 13 55.8 -0.8
GRAC Grapevine Rang 1.09 15 Pg 07 13 56.8 -0.2
GRAC IAML 07 14 21.4
comp=N,405nm,0.6s
VES Vestal, Richgr 1.11 265 Sg 07 14 12.3 +0.4
SGV South Grapevin 1.17 28 Pg 07 13 58.5 -0.2
RRX Edison Barstow 1.22 151 Pb 07 13 59.9 -0.1
WCT Wildcat Mounta 1.22 46 Pg 07 13 59.2 -0.4
WCT IAML 07 14 17.4
comp=E,190nm,0.4s
BAKC Calstate 1.28 242 Sb 07 14 18.0 +0.2
LCH Last Change Ra 1.29 3 Pg 07 14 00.7 -0.1
LCH Sg 07 14 17.3 -0.2
VOG Valley Oaks Go 1.39 286 Pn 07 14 00.7 -2.0
GMN Gold Mountain 1.40 15 Pg 07 14 02.1 -1.0
DSP Deep Springs 1.44 352 Pn 07 14 03.3 0.0
LRRC Littlerock Res 1.44 190 Sg 07 14 22.0 -0.3
BHPR Bishop 1.48 336 Pb 07 14 04.8 +0.1
TUQ Turquoise Moun 1.55 109 Pn 07 14 04.9 0.0
TPNV Topopah Spring 1.55 49 Pn 07 14 04.4 -0.7
TPNV IAML 07 14 30.0
comp=E,191nm,0.8s
TPNV IAML 07 14 30.4
comp=E,158nm,1.0s
MTUM Tungsten Hills 1.56 335 Pn 07 14 05.3 +0.2
OSI Osito Audit: C 1.56 212 Pn 07 14 04.5 -0.6
OSI IAML 07 14 32.4
comp=E,152nm,0.6s
OSI IAML 07 14 33.1
comp=N,149nm,0.7s
BFSC Mount Baldy Ra 1.71 178 Pb 07 14 08.3 0.0
BCW Bitter Crk WRg 1.71 234 Pb 07 14 08.0 -0.4
BCW Bitter Crk WRg 1.71 234 Pn 07 14 07.1 0.0
BCW Bitter Crk WRg 1.71 234 IAML 07 14 45.7
comp=N,186nm,0.8s
SIL Silver Peak 1.76 155 Pb 07 14 09.4 +0.2
OAT Oat Mountain 1.76 205 Sb 07 14 31.9 +0.1
MCSM Casa Diablo Ho 1.95 331 Pb 07 14 12.8 +0.1
MMLB Mammoth Lakes 1.98 330 Pg 07 14 14.3 +0.1
MDYM Dry Creek 2.00 329 Pg 07 14 14.3 -0.1
MINS Minaret Summit 2.01 328 Pb 07 14 13.8 +0.1
MHDM Hidden Dam 2.10 304 Pn 07 14 13.7 +1.3
MMIM Miami Mountain 2.19 313 Pb 07 14 16.1 -0.6
LEGD La Grand CA 2.33 304 Pb 07 14 17.6 -1.2
LHV Little Huntoon 2.38 345 Pn 07 14 15.8 -0.4
LHV IAML 07 15 02.8
comp=N,44nm,1.7s
PMPB Monarch Peak 2.51 277 Pn Pn 07 14 17.8 -0.3
PMPB IAML 07 15 10.8
comp=E,90nm,0.8s
PMPB IAML 07 15 16.3
comp=N,88nm,0.8s
NVAR Mina Array Bea 2.52 350 Pn 07 14 18.0 -0.4
PFO Pinyon Flats O 2.55 156 Pn Pn 07 14 17.4 -1.3
PRN Pahroc Range 2.60 55 Pn Pn 07 14 18.6 -0.8
PRN IAML 07 15 06.1
comp=N,63nm,1.0s
BBGB Big Mountain B 2.75 284 Pn Pn 07 14 21.4 -0.1
R11B Troy Canyon, C 2.94 35 Pn Pn 07 14 23.4 -0.9
SAO San Andreas Ge 3.12 286 Pn Pn 07 14 26.7 +0.3
W13A Hualapai Mount 3.24 104 Pn Pn 07 14 26.7 -1.7
PAHR Pah Rah Range 3.98 341 Pn Pn 07 14 36.8 -1.6

*NEIC **06** 07:15:26.3±2.8, 35°.709N±0°.003×117°.50W±0°.01, h10km±8km, Error ellipse: s-maj=1.8km s-min=0.2km az=102.0*

PAS 06 07:15:26.4±2.3, 35°.704N±0°.009×117°.51W±0°.01, h5km±4km, ML3.3/19, ML3.5/72(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=117.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.20**	**267**		Pg	07 15 30.8	+0.5
TOW	**Tower One**	**0.23**	**297**		Pg	07 15 31.6	+0.6
TOW					Sg	07 15 35.9	+1.7
LRMC	**Laurel Mtn Rad**	**0.27**	**213**		Pg	07 15 31.6	0.0
LRMC					Sg	07 15 35.5	+0.4
LRMC	**Laurel Mtn Rad**	**0.27**	**213**	IAML		07 15 36.0	
	comp=N,10μm,0.1s						
LRMC				IAML		07 15 36.5	
	comp=E,7μm,0.2s						
WNMM	**Nine Mile Cany**	**0.35**	**293**		Sg	07 15 38.6	+0.7
MPMC	**Manual Prospec**	**0.35**	**2**		Pg	07 15 33.2	-0.2
MPMC					Sg	07 15 38.2	+0.2
WRVM	**Rose V. Centra**	**0.44**	**314**		Pg	07 15 34.7	-0.1
WRVM					Sg	07 15 41.1	+0.5
MFS	**McCloud Flat S**	**0.50**	**326**		Pg	07 15 35.9	-0.2
MFS					Sg	07 15 43.4	+0.7
DTP	**Desert Tortois**	**0.52**	**213**		Pg	07 15 36.7	+0.3
DTP					Sg	07 15 43.2	+0.1
WBSM	**Bird Springs**	**0.54**	**252**		Pg	07 15 36.6	-0.3
QSM	**Queen of Sheba**	**0.58**	**63**		Pg	07 15 37.2	-0.4
WORM	**Onyx Ranch**	**0.60**	**269**		Pg	07 15 37.6	-0.4
WORM					Sg	07 15 45.4	-0.4
WHFM	**Hanning Flat**	**0.69**	**270**		Pg	07 15 39.2	-0.5
WHFM					Sg	07 15 48.7	+0.1
CCAC	**Calif City Air**	**0.69**	**217**		Pg	07 15 39.1	-0.6
CCAC				IAML		07 15 49.3	
	comp=E,1μm,0.3s						
GSC	**Goldstone, Bar**	**0.70**	**125**		Sg	07 15 49.1	+0.2
GSC	**Goldstone, Bar**	**0.70**	**125**		Pg	07 15 39.5	-0.4
GSC				IAML		07 15 52.1	
	comp=N,2μm,0.4s						
GSC				IAML		07 15 53.8	
	comp=E,1μm,0.5s						
ISA	**Isabella, Lake**	**0.79**	**267**		Sg	07 15 51.4	-0.5
ISA	**Isabella, Lake**	**0.79**	**267**		Pg	07 15 40.8	-0.8
GWY	**Greenwater Val**	**0.83**	**54**		Pg	07 15 41.9	-0.6
HYS	**Haystack Butte**	**0.84**	**184**		Pg	07 15 41.9	-0.7
HYS					Sg	07 15 53.0	-0.5
WASM	**Alta Sierra Ca**	**0.86**	**273**		Pg	07 15 42.3	-0.6
CWC	**Cottonwood Cre**	**0.87**	**328**		Sg	07 15 54.6	+0.1
CGO	**Cerro Gordo**	**0.88**	**344**		Pg	07 15 43.5	+0.2
CGO					Sb	07 15 55.9	-0.8
EDW2	**Edwards Air Fo**	**0.91**	**206**		Pg	07 15 44.1	+0.2
EDW2					Sg	07 15 55.5	-0.3
FURC	**Furnace Creek,**	**0.92**	**34**		Sg	07 15 56.6	+0.5
RRX	**Edison Barstow**	**0.93**	**153**		Pg	07 15 43.7	-0.5
TPO	**Tropico Hills**	**1.01**	**216**		Pg	07 15 45.2	-0.6
SHOC	**Shoshone, Teco**	**1.02**	**79**		Pg	07 15 46.1	+0.1
SHOC					Sb	07 16 00.7	+0.4
SBB	**Saddle Back Bu**	**1.05**	**195**		Pg	07 15 45.9	-0.6
SPG2	**Springville 2**	**1.14**	**296**		Pg	07 15 47.5	-0.8
ADO	**Adelanto Recei**	**1.15**	**177**		Pb	07 15 49.1	+0.2
ADO					Sn	07 16 05.0	-0.6
ALPC	**Antelope**	**1.21**	**213**		Sb	07 16 05.8	+0.1
TJR	**Tejon Ranch**	**1.22**	**237**		Pg	07 15 48.4	-1.3
ARVC	**Arvin**	**1.23**	**242**		Pg	07 15 49.2	-0.8
THC	**Tehachapi Micr**	**1.23**	**230**		Pg	07 15 48.8	-1.3
AMDNV	**Amargosa**	**1.24**	**53**		Pg	07 15 48.5	-1.7
AMDNV					Sg	07 16 06.1	-0.2
LRRC	**Littlerock Res**	**1.25**	**200**		Pg	07 15 49.8	-0.6
LEOC	**Leona Valley**	**1.25**	**212**		Pg	07 15 50.0	-0.4
DSCC	**Desert Studies**	**1.27**	**116**		Sg	07 16 07.4	0.0
VES	**Vestal, Richgr**	**1.29**	**277**		Sg	07 16 07.9	0.0
GRAC	**Grapevine Rang**	**1.29**	**5**		Pg	07 15 50.4	-0.9
GRAC				IAML		07 16 28.6	
	comp=E,2μm,0.8s						
HEC	**Hector,Ludlow**	**1.29**	**132**		Pg	07 15 49.3	-2.0
HEC					Sg	07 16 08.1	+0.1
WCT	**Wildcat Mounta**	**1.30**	**33**		Sg	07 16 08.2	-0.1
WCT	**Wildcat Mounta**	**1.30**	**33**		Pg	07 15 50.2	-1.2
WCT				IAML		07 16 30.9	
	comp=E,848nm,0.7s						
WCT				IAML		07 16 30.9	
	comp=N,819nm,0.8s						
JNH	**Juniper Hills**	**1.31**	**196**		Pg	07 15 51.4	-0.1
TUQ	**Turquoise Moun**	**1.32**	**101**		Pn	07 15 50.0	-1.7
TUQ					Sn	07 16 09.6	-0.1
SGV	**South Grapevin**	**1.33**	**17**		Pn	07 15 51.6	-0.3
SGV					Sg	07 16 09.3	0.0
BAKC	**Calstate**	**1.35**	**255**		Pn	07 15 51.4	-0.7
SIL	**Silver Peak**	**1.46**	**157**		Pn	07 15 53.5	-0.2
BFSC	**Mount Baldy Ra**	**1.47**	**185**		Sb	07 16 13.1	-0.2
OSI	**Osito Audit: C**	**1.48**	**223**		Sg	07 16 14.0	+0.1
OSI	**Osito Audit: C**	**1.48**	**223**		Pn	07 15 53.4	-0.4
OSI				IAML		07 16 37.8	
	comp=E,538nm,0.7s						
BBRC	**Big Bear Solar**	**1.52**	**161**		Pn	07 15 54.5	0.0
LCH	**Last Change Ra**	**1.53**	**356**		Pb	07 15 55.2	-0.2
LCH					Sg	07 16 15.5	-0.1
MWC	**Mount Wilson**	**1.54**	**197**		Pn	07 15 54.1	-0.8
MWC				IAML		07 16 17.3	
	comp=E,392nm,0.3s						
MWC				IAML		07 16 17.6	
	comp=N,420nm,0.2s						
DECC	**Green Verdugo**	**1.60**	**205**		Pb	07 15 56.6	+0.1
DECC					Sg	07 16 17.7	-0.1
TPNV	**Topopah Spring**	**1.60**	**39**		Pn	07 15 53.8	-1.9
TPNV				IAML		07 16 42.3	
	comp=N,574nm,1.0s						
TPNV				IAML		07 16 42.7	
	comp=N,608nm,0.7s						
GMN	**Gold Mountain**	**1.61**	**7**		Pn	07 15 54.6	-1.2
GMN				IAML		07 16 54.4	
	comp=N,939nm,1.1s						
GMN				IAML		07 16 55.2	
	comp=E,648nm,0.8s						
MTPC	**Mountain Pass**	**1.61**	**97**		Pn	07 15 53.7	-1.9
MTPC					Sb	07 16 17.3	-0.1
PASC	**Pasadena Art C**	**1.63**	**200**		Pn	07 15 54.7	-1.1
PSRC	**Puddingstone R**	**1.63**	**189**		Pg	07 15 57.3	-0.3
SVD	**Seven Oaks Dam**	**1.63**	**168**		Pb	07 15 56.5	-0.6
VOG	**Valley Oaks Go**	**1.64**	**293**		Sn	07 16 14.5	-3.1
GTM	**Goat Mountain**	**1.69**	**146**		Pb	07 15 57.6	-0.5
DSP	**Deep Springs**	**1.71**	**347**		Pn	07 15 55.6	-1.2
DSP				IAML		07 16 56.1	
	comp=N,470nm,1.5s						
DSP				IAML		07 17 00.7	
	comp=E,730nm,0.9s						
RVR	**Riverside**	**1.71**	**176**		Pn	07 15 55.6	-1.3
BCW	**Bitter Crk WRg**	**1.74**	**245**		Pn	07 15 55.6	-1.8
BCW				IAML		07 16 60.0	
	comp=N,752nm,1.8s						
BLCC	**Black Canyon**	**1.74**	**214**		Pb	07 15 58.8	-0.2
DJJ	**Donna J Jenkin**	**1.77**	**206**		Pb	07 15 59.7	+0.2
PEC	**Perris**	**1.83**	**171**		Pn	07 15 57.6	-1.0
MTUM	**Tungsten Hills**	**1.85**	**333**		Pb	07 16 00.7	-0.3
CRGC	**Crocker Grade**	**1.87**	**256**		Pb	07 16 01.5	+0.3
BLAC	**Blackrock camp**	**1.87**	**150**		Pn	07 15 58.0	-1.3
EW2	**E Wide Canyon**	**1.98**	**153**		Pg	07 16 04.0	-0.3
ELS	**Elsinore Mount**	**2.05**	**178**		Pn	07 16 00.2	-1.5
ELS				IAML		07 17 19.4	
	comp=N,240nm,0.8s						
SHPR	**Sheep Range**	**2.06**	**66**	Pn	Pn	07 16 00.8	-1.1
POB	**Polly Butte**	**2.07**	**166**		Pn	07 16 00.9	-1.0
V12A	**Nelson**	**2.16**	**89**	Pn	Pn	07 16 01.3	-2.0
V12A				IAML		07 16 51.9	
	comp=E,224nm,0.8s						
V12A				IAML		07 17 22.5	
	comp=N,279nm,1.1s						
BENR	**Benton**	**2.18**	**337**		Pb	07 16 06.6	-0.1
MLAC	**Mammoth, Mammo**	**2.20**	**331**		Pb	07 16 07.1	+0.2
CRY	**Cary Ranch**	**2.23**	**163**		Pb	07 16 07.6	+0.3
MCSM	**Casa Diablo Ho**	**2.25**	**330**		Pb	07 16 07.9	+0.1
PMD	**Palm Desert**	**2.25**	**155**	Pn	Pn	07 16 02.4	-2.0
PMD				IAML		07 17 30.7	
	comp=E,176nm,0.7s						
PFO	**Pinyon Flats O**	**2.26**	**157**		Pn	07 16 02.7	-1.9
XPFO	**Pinon Flat**	**2.26**	**157**		Pb	07 16 08.5	+0.6
SNDA	**J Saunders Pla**	**2.27**	**161**		Pb	07 16 08.7	+0.7
TPH	**Tonopah**	**2.38**	**5**		Pn	07 16 05.4	-0.9
PRN	**Pahroc Range**	**2.61**	**49**	Pn	Pn	07 16 08.5	-1.0
LHV	**Little Huntoon**	**2.67**	**343**	Pn	Pn	07 16 10.1	0.0
NV08	**Mina Array Sit**	**2.77**	**347**		Pb	07 16 17.6	+0.9
NV11	**Mina Array Sit**	**2.77**	**349**	Pn	Pn	07 16 11.1	-0.7
NV11				IAML		07 17 33.9	
	comp=E,177nm,1.9s						
NV11				IAML		07 17 38.1	
	comp=N,169nm,1.4s						
NVAR	**Mina Array Bea**	**2.79**	**347**	Pn	Pn	07 16 11.1	-1.0
RYN	**Ryan**	**3.03**	**345**	Pn	Pn	07 16 14.7	-0.5
RYN				IAML		07 17 41.7	
	comp=N,138nm,1.9s						
RYN				IAML		07 17 43.8	
	comp=E,198nm,1.5s						
YUH	**Yuha Desert**	**3.32**	**156**	Pn	Pn	07 16 16.9	-2.2
YUH				IAML		07 18 12.5	
	comp=N,92nm,2.7s						
YUH				IAML		07 18 13.2	
	comp=E,112nm,2.0s						
CBX	**Cerro Bola**	**3.45**	**168**		Pn	07 16 20.4	-0.6
LCMT	**Little Creek M**	**3.68**	**68**		Pn	07 16 24.2	0.0
LCMT				IAML		07 18 20.2	
	comp=N,89nm,1.6s						
LCMT				IAML		07 18 41.7	
	comp=E,55nm,1.5s						
ESJX	**Sierra Juarez**	**3.91**	**160**	Pn	Pn	07 16 26.0	-1.4
ESJX				IAML		07 18 27.5	
	comp=N,90nm,1.3s						
WUAZ	**Wupatki**	**5.00**	**90**	Pn	Pn	07 16 41.4	-1.0

*NEIC **06** 07:16:02.1±2.5, 35°.94N±0°.01×117°.79W±0°.02, h5km±1km, ML3.7/84, Error ellipse: s-maj=3.1km s-min=2.9km az=317.0*

*IDC **06** 07:16:04.8±0.9, 35°.99N×117°.46W, h0km, mb3.2/2, mbtmp3.1/6, ML3.5/4, Error ellipse: s-maj=17.7km s-min=6.7km az=72.0*

ISC 06 07:16:02.5±1.2, 35°.94N±0°.03×117°.80W±0°.04, h10km±10km, n49, σ1s 36/56, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mtn Rad**	**0.47**	**168**	Pg	**Pg**	**07 16 11.1**	**-0.6**
LRMC				Sg	**Sg**	**07 16 18.0**	**+0.2**
LRMC				IAML		07 16 22.1	
	comp=E,7μm,0.7s						
LRMC				IAML		07 16 24.8	
	comp=N,5μm,0.5s						
ISA	**Isabella, Lake**	**0.61**	**243**	Pg	**Pb**	**07 16 14.7**	**-0.7**
ISA				Sg	**Sb**	**07 16 23.7**	**-0.3**
QSM	**Queen of Sheba**	**0.76**	**88**	Pg	**Pg**	**07 16 17.2**	**0.0**
QSM				Sg	**Sg**	**07 16 28.8**	**+1.7**
QSM				IAML		07 16 34.5	
	comp=E,4μm,0.6s						
QSM				IAML		07 16 35.9	
	comp=N,4μm,0.7s						
CCAC	**Calif City Air**	**0.80**	**193**	Pg	**Pb**	**07 16 17.9**	**-0.7**
CCAC				Sg	**Sb**	**07 16 28.3**	**-1.2**
CCAC				IAML		07 16 33.7	
	comp=N,3μm,0.5s						
CCAC				IAML		07 16 36.6	
	comp=E,3μm,0.8s						
GWY	**Greenwater Val**	**0.95**	**75**	Pg	**Pg**	**07 16 20.9**	**0.0**
GWY				Sg	**Sg**	**07 16 32.1**	**-1.2**
GWY				IAML		07 16 39.5	
	comp=E,4μm,1.1s						
GWY				IAML		07 16 47.8	
	comp=N,3μm,1.1s						
GSC	**Goldstone, Bar**	**1.03**	**128**		**Pg**	**07 16 21.9**	**-0.5**
GSC				Sg	**Sg**	**07 16 34.0**	**-1.8**
GSC				IAML		07 16 44.9	
	comp=N,3μm,0.8s						
GRAC	**Grapevine Rang**	**1.11**	**18**	Pg	**Pg**	**07 16 24.0**	**0.0**
WCT	**Wildcat Mounta**	**1.28**	**48**		**Pn**	**07 16 26.9**	**+0.3**
WCT				IAML		07 16 52.6	
	comp=N,1μm,0.8s						
WCT				IAML		07 16 53.8	
	comp=E,2μm,1.0s						
GMN	**Gold Mountain**	**1.43**	**18**		**Pg**	**07 16 30.4**	**+0.4**
GMN				IAML		07 16 56.0	
	comp=N,2μm,0.8s						
GMN				IAML		07 16 57.9	
	comp=E,918nm,1.1s						
DSP	**Deep Springs**	**1.44**	**355**		**Pn**	**07 16 29.2**	**+0.6**
DSP				IAML		07 17 01.2	
	comp=E,1μm,1.1s						
TPNV	**Topopah Spring**	**1.61**	**51**		**Pn**	**07 16 31.4**	**+0.2**
TPNV				IAML		07 16 59.5	
	comp=E,2μm,1.0s						
TPNV				IAML		07 17 01.7	
	comp=E,2μm,1.1s						
BCW	**Bitter Crk WRg**	**1.65**	**233**		**Pn**	**07 16 31.4**	**-0.2**
BCW				IAML		07 17 08.9	
	comp=N,886nm,0.9s						
BCW				IAML		07 17 11.8	
	comp=E,2μm,1.0s						
PASC	**Pasadena Art C**	**1.79**	**190**	Pn	**Pn**	**07 16 34.0**	**+0.5**
PASC				IAML		07 17 17.8	
	comp=E,396nm,0.9s						
MZP	**Montezuma Peak**	**1.79**	**11**	Pn	**Pn**	**07 16 33.4**	**-0.4**
TPH	**Tonopah**	**2.18**	**12**	Pn	**Pn**	**07 16 40.4**	**+1.3**
SHPR	**Sheep Range**	**2.21**	**74**	Pn	**Pn**	**07 16 39.0**	**-0.5**
S11A	**Rachel**	**2.37**	**43**		**Pn**	**07 16 40.5**	**-1.2**
LHV	**Little Huntoon**	**2.38**	**347**	Pn	**Pn**	**07 16 40.9**	**-0.6**
LHV				IAML		07 16 59.3	
	comp=E,454nm,0.8s						
LHV				IAML		07 17 00.1	
	comp=N,500nm,0.8s						
PMPB	**Monarch Peak**	**2.44**	**277**		**Pn**	**07 16 42.8**	**+0.2**
NV11	**Mina Array Sit**	**2.51**	**354**		**Pn**	**07 16 43.7**	**+0.1**
NVAR	**Mina Array Bea**	**2.52**	**351**	Pn	**Pb**	**07 16 46.6**	**-1.4**
	comp=N,26nm,0.3s,baz=167,slow=13,SNR=14						
NVAR				Pg	**Pg**	**07 16 51.0**	**+0.1**
	comp=N,28nm,0.3s,baz=170,slow=16,SNR=23						
NVAR				Lg	Lg	07 17 24.6	
	comp=N,3.3nm,0.3s,baz=144,slow=14,SNR=1.7 comp=N,31nm,0.6s						
PFO	**Pinyon Flats O**	**2.57**	**154**	Pg	**Pb**	**07 16 50.3**	**+1.5**
	comp=N,15nm,0.3s,baz=338,slow=18,SNR=8.4						
PFO				Lg	Lg	07 17 23.4	
	comp=N,14nm,0.3s,baz=18,slow=7.2,SNR=3.7						
PRN	**Pahroc Range**	**2.66**	**56**		**Pn**	**07 16 45.6**	**0.0**
BBGB	**Big Mountain B**	**2.69**	**285**		**Pn**	**07 16 45.3**	**-0.7**
RYN	**Ryan**	**2.75**	**348**		**Pn**	**07 16 47.7**	**+0.8**
WAKR	**Walker**	**2.88**	**334**	Pn	**Pn**	**07 16 49.3**	**+0.7**
WAKR				IAML		07 17 43.7	
	comp=E,187nm,1.1s						
Q09A	**Carvers**	**2.93**	**10**		**Pn**	**07 16 49.7**	**+0.2**
R11B	**Troy Canyon, C**	**2.99**	**36**	Pn	**Pn**	**07 16 50.7**	**+0.5**
R11B				IAML		07 17 41.6	
	comp=E,173nm,0.9s						
R11B				IAML		07 17 46.9	
	comp=N,133nm,0.9s						
SAO	**San Andreas Ge**	**3.05**	**287**	Pn	**Pn**	**07 16 51.0**	**+0.1**
W13A	**Hualapai Mount**	**3.30**	**104**	Pn	**Pn**	**07 16 54.8**	**+0.3**
W13A				IAML		07 18 01.2	
	comp=N,150nm,1.2s						
W13A				IAML		07 18 02.4	
	comp=E,125nm,1.1s						
BLYC	**Blythe**	**3.47**	**128**	Pn	**Pn**	**07 16 56.0**	**-0.6**
BLYC				IAML		07 17 58.1	
	comp=N,174nm,1.1s						
BLYC				IAML		07 18 05.2	
	comp=E,265nm,0.9s						
YUH	**Yuha Desert**	**3.63**	**154**	Pn	**Pn**	**07 16 59.0**	**+0.2**
YUH				IAML		07 18 09.2	
	comp=E,70nm,1.1s						
GLA	**Glamis**	**3.79**	**139**	Pn	**Pn**	**07 17 00.9**	**-0.1**
LCMT	**Little Creek M**	**3.83**	**72**	Pn	**Pn**	**07 17 03.2**	**+1.5**
CCUT	**Cedar City**	**3.91**	**64**	Pn	**Pn**	**07 17 04.3**	**+1.3**
SZCU	**Shurtz Canyon**	**4.13**	**65**	Pn	**Pn**	**07 17 07.2**	**+1.2**
SZCU				IAML		07 18 29.6	
	comp=N,59nm,1.2s						
KNB	**Kanab**	**4.16**	**74**		**Pn**	**07 17 07.0**	**+0.8**
KNB				IAML		07 18 39.5	
	comp=E,60nm,1.1s						
Y14A	**Wickenburg**	**4.42**	**115**		**Pn**	**07 17 10.0**	**+0.3**
Y14A				IAML		07 18 27.0	
	comp=E,89nm,0.9s						
Y14A				IAML		07 18 28.2	
	comp=N,153nm,1.0s						
ELK	**Elko**	**5.21**	**22**	Pn	**Pn**	**07 17 23.0**	**+2.3**
	comp=N,0.6nm,0.3s,baz=200,slow=21,SNR=7.1						
ELK				Pg	**Pg**	**07 17 41.2**	**-1.1**
	comp=N,3.1nm,0.3s,baz=235,slow=13,SNR=17						
ELK				Sn	**Sn**	**07 18 15.4**	**-5.5**
	comp=N,1.9nm,0.3s,baz=187,slow=9.6,SNR=3.0						
ELK				Lg	Lg	07 18 44.0	
	comp=N,4.8nm,0.3s,baz=294,slow=19,SNR=8.2 comp=N,2.6nm,0.4s						
X16A	**Lo Mia Camp, P**	**5.43**	**104**	Pn	**Pn**	**07 17 24.2**	**+0.5**
P18A	**Preston Nutter**	**7.03**	**56**	Pn	**Pn**	**07 17 46.6**	**+0.8**
HVU	**Hansel Valley**	**7.03**	**32**	Pn	**Pn**	**07 17 46.3**	**+1.3**
KRMB	**Red Mountain**	**7.34**	**321**	Pn	**Pn**	**07 17 51.2**	**+1.4**
PV19	**Morning Glory**	**7.43**	**69**	Pn	**Pn**	**07 17 50.8**	**-0.5**
ANMO	**Albuquerque**	**9.31**	**93**	Pg	Pn	07 18 48.8	+32
	comp=N,0.1nm,0.3s,baz=354,slow=7.7,SNR=3.7						
ANMO				Lg	Lg	07 20 52.9	
	baz=26,slow=2.9,SNR=1.4						
PDAR	**Pinedale Array**	**9.34**	**41**	Pn	**Pn**	**07 18 20.2**	**+2.8**
	comp=N,0.1nm,0.3s,baz=220,slow=11,SNR=4.9						
PDAR				Lg	Lg	07 20 47.2	
	baz=258,slow=41 comp=N,0.4nm,0.5s						
TXAR	**Lajitas Array**	**13.61**	**115**	Pn	**Pn**	**07 19 17.3**	**+1.7**
	baz=295,slow=13,SNR=4.4 comp=N,0.1nm,0.5s						
YKA	**Yellowknife Ar**	**26.66**	**3**	P	**P**	**07 21 45.1**	**+3.8**
	comp=N,0.2nm,0.6s,baz=187,slow=9.1,SNR=2.8 comp=N,0.2nm,0.6s						
ILAR	**Eielson Array**	**33.71**	**338**	P	P	07 22 49.6	+6.0
	comp=N,0.3nm,0.7s,baz=153,slow=8.5,SNR=4.9 comp=N,0.3nm,0.7s						

IDC 06 07:16:31.6±5.5, 18°.92S×176°.43E, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=315.9km s-min=25.7km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.94**	**53**	Pn	Pn	07 17 05.6	-0.4
	12nm,0.3s,baz=275,slow=17,SNR=5.9						
MSVF				Sn	Sn	07 17 27.1	-4.0
	65nm,0.3s,baz=150,slow=21,SNR=26						
WRA	**Warramunga Arr**	**39.63**	**261**	P	P	07 24 04.6	-0.7
	0.9nm,0.8s,baz=98,slow=7.9,SNR=4.7 0.9nm,0.8s						
ASAR	**Alice Springs**	**39.80**	**256**	P	P	07 24 07.0	+0.2
	1.1nm,0.8s,baz=86,slow=9.0,SNR=9.4 1.1nm,0.8s						
GERES	**GERESS Array B**	**147.05**	**339**	PKPbc	PKPbc	07 36 16.1	-0.4
	0.4nm,0.4s,baz=11,slow=2.7,SNR=5.7						

*NEIC **06** 07:28:47.9±0.6, 35°.905N±0°.008×117°.683W±0°.009, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.3km az=1.0*

PAS 06 07:28:48.3±0.7, 35°.907N±0°.004×117°.685W±0°.009, h2km±4km, ML3.0/51, ML2.7/26(NEIC), Error ellipse: s-maj=1.1km s-min=0.6km az=111.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.12**	**142**		Pg	07 28 50.7	+0.1
CLC					Sg	07 28 52.5	+0.4
WVPM	**Volcano Peak E**	**0.12**	**292**		Pg	07 28 50.9	+0.3
WVPM					Sg	07 28 53.0	+0.8
TOW	**Tower One**	**0.12**	**213**		Pg	07 28 50.7	+0.1
JRC2	**Joshua Ridge**	**0.13**	**307**		P

	comp=N,225nm,0.6s						
GRAC				IAML		07 29 31.2	
	comp=E,173nm,0.6s						
ARVC	**Arvin**	**1.22**	**231**		Pg	07 29 08.5	-3.1
WCT	**Wildcat Mounta**	**1.23**	**44**	Pg	Pg	07 29 11.9	0.0
GMN	**Gold Mountain**	**1.43**	**14**		Pn	07 29 14.8	-0.7
GMN				IAML		07 29 37.9	
	comp=N,64nm,0.6s						
DSP	**Deep Springs**	**1.48**	**351**		Pn	07 29 15.3	-0.6
DSP				IAML		07 29 37.4	
	comp=E,69nm,0.8s						
BCW	**Bitter Crk WRg**	**1.71**	**236**		Pn	07 29 18.6	-0.6
BCW				IAML		07 29 49.3	
	comp=N,103nm,1.8s						
BLCC	**Black Canyon**	**1.85**	**206**		Pn	07 29 19.6	-1.5
S11A	**Rachel**	**2.33**	**41**	Pn	Pn	07 29 27.6	-0.2
S11A				IAML		07 29 50.9	
	comp=E,67nm,1.1s						
S11A				IAML		07 30 10.1	
	comp=N,44nm,1.3s						
PMPB	**Monarch Peak**	**2.54**	**278**	Pn	Pn	07 29 30.3	-0.4
W13A	**Hualapai Mount**	**3.20**	**103**	Pn	Pn	07 29 38.1	-1.7
TKX	**Tecate**	**3.45**	**165**	Pn	Pn	07 29 41.7	-1.3

*PAS **06** 07:31:14.5±2.3,35°.701N×0°.004×117°.50W±0°.01, h2km,1km,ML3.6/17,ML3.5/60(NEIC),Error ellipse: s-maj=1.5km s-min=0.4km az=104.0*
*NEIC **06** 07:31:14.4±2.6,35°.714N±0°.008×117°.50W±0°.01, h5km,1km,Error ellipse: s-maj=2.8km s-min=1.7km az=196.0*
*IDC **06** 07:31:14.6±0.9,35°.73N×117°.29W,h0km,mbtmp2.8/6, ML3.0/6,Error ellipse: s-maj=19.6km s-min=5.7km az=76.0*

ISC 06 07:31:14.7±1.0,35°.70N±0°.02×117°.49W±0°.02,h5km±9km, n102,σ0s66/117,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRTC	**Snort**	**0.21**	**267**		**Pg**	**07 31 19.0**	**+0.2**
SRTC					**Sg**	**07 31 22.8**	**+1.2**
LRMC	**Laurel Mtn Rad**	**0.27**	**215**		**Pg**	**07 31 19.8**	**-0.2**
LRMC					**Sg**	**07 31 24.0**	**+0.3**
LRMC	**Laurel Mtn Rad**	**0.27**	**215**	IAML		07 31 24.1	
	comp=E,13µm,0.3s						
LRMC				IAML		07 31 24.9	
	comp=N,12µm,0.3s						
WRVM	**Rose V. Centra**	**0.44**	**313**		**Pg**	**07 31 23.0**	**-0.2**
DTP	**Desert Tortois**	**0.52**	**214**		**Pg**	**07 31 24.3**	**-0.5**
DTP					**Sg**	**07 31 31.5**	**0.0**
WBSM	**Bird Springs**	**0.55**	**253**		**Pg**	**07 31 25.0**	**-0.4**
QSM	**Queen of Sheba**	**0.57**	**63**		**Pg**	**07 31 25.6**	**-0.1**
QSM	**Queen of Sheba**	**0.57**	**63**	IAML		07 31 33.7	
	comp=E,2µm,0.6s						
QSM				IAML		07 31 33.8	
	comp=N,2µm,0.8s						
GSC	**Goldstone, Bar**	**0.69**	**125**		**Pg**	**07 31 27.6**	**-0.3**
GSC				IAML		07 31 37.9	
	comp=N,1µm,0.3s						
GSC				IAML		07 31 41.1	
	comp=E,3µm,0.5s						
CCAC	**Calif City Air**	**0.70**	**218**		**Pg**	**07 31 27.4**	**-0.7**
CCAC				IAML		07 31 38.5	
	comp=N,3µm,0.3s						
CCAC				IAML		07 31 42.0	
	comp=E,2µm,0.3s						
WHFM	**Hanning Flat**	**0.70**	**270**		**Pg**	**07 31 27.6**	**-0.5**
WHFM					**Sg**	**07 31 36.7**	**-0.5**
ISA	**Isabella, Lake**	**0.80**	**267**		**Sg**	**07 31 40.2**	**-0.3**
ISA	**Isabella, Lake**	**0.80**	**267**		**Pg**	**07 31 29.4**	**-0.7**
GWY	**Greenwater Val**	**0.82**	**54**	Pg	**Pg**	**07 31 29.9**	**-0.6**
GWY				IAML		07 31 46.5	
	comp=E,2µm,0.8s						
GWY				IAML		07 31 46.8	
	comp=N,3µm,0.8s						
HYS	**Haystack Butte**	**0.84**	**184**		**Pg**	**07 31 30.4**	**-0.4**
WASM	**Alta Sierra Ca**	**0.87**	**273**		**Pg**	**07 31 30.8**	**-0.6**
CGO	**Cerro Gordo**	**0.88**	**344**		**Pb**	**07 31 32.3**	**-0.3**
CGO					**Sg**	**07 31 43.5**	**+0.4**
EDW2	**Edwards Air Fo**	**0.92**	**207**		**Pg**	**07 31 31.4**	**-0.9**
RRX	**Edison Barstow**	**0.92**	**154**		**Pb**	**07 31 33.4**	**+0.2**
SHOC	**Shoshone, Teco**	**1.01**	**78**		**Pb**	**07 31 34.7**	**0.0**
TPO	**Tropico Hills**	**1.02**	**216**		**Pg**	**07 31 33.6**	**-0.7**
TEJ	**El Tejon**	**1.08**	**245**		**Sg**	**07 31 49.5**	**-0.1**
SPG2	**Springville 2**	**1.15**	**296**		**Pg**	**07 31 35.5**	**-1.2**
VTV	**Victorville**	**1.15**	**173**		**Pb**	**07 31 37.2**	**+0.2**
VTV					**Sg**	**07 31 51.6**	**0.0**
ADO	**Adelanto Recei**	**1.15**	**178**		**Pb**	**07 31 37.1**	**0.0**
ALPC	**Antelope**	**1.21**	**213**		**Pg**	**07 31 37.8**	**-0.2**
ALPC					**Sb**	**07 31 54.4**	**+0.3**
TJR	**Tejon Ranch**	**1.23**	**237**		**Sg**	**07 31 52.9**	**-1.2**
AMDNV	**Amargosa**	**1.23**	**52**		**Sg**	**07 31 38.1**	**-0.2**
ARVC	**Arvin**	**1.23**	**243**		**Pn**	**07 31 39.0**	**+0.5**
THC	**Tehachapi Micr**	**1.24**	**231**		**Pg**	**07 31 37.3**	**-1.2**
LRRC	**Littlerock Res**	**1.25**	**201**		**Pg**	**07 31 38.5**	**-0.3**
LEOC	**Leona Valley**	**1.26**	**212**		**Pg**	**07 31 38.7**	**-0.2**
DSCC	**Desert Studies**	**1.27**	**116**		**Pg**	**07 31 38.0**	**-0.9**
DSCC					**Sb**	**07 31 55.8**	**+0.3**
HOLC	**Holcomb Ridge**	**1.28**	**193**		**Sg**	**07 31 56.1**	**+0.4**
CJV	**Casa Juvan**	**1.29**	**205**		**Pg**	**07 31 39.1**	**-0.2**
CJV					**Sg**	**07 31 56.4**	**+0.3**
HEC	**Hector,Ludlow**	**1.29**	**132**		**Sg**	**07 31 56.0**	**-0.1**
WCT	**Wildcat Mounta**	**1.29**	**33**	Pg	**Pg**	**07 31 39.0**	**-0.5**
GRAC	**Grapevine Rang**	**1.29**	**4**		**Pg**	**07 31 38.6**	**-0.9**
VES	**Vestal, Richgr**	**1.30**	**276**		**Pg**	**07 31 39.1**	**-0.6**
VES					**Sg**	**07 31 56.0**	**-0.5**
TUQ	**Turquoise Moun**	**1.31**	**101**		**Pg**	**07 31 39.0**	**-0.7**
TUQ					**Sb**	**07 31 57.5**	**+0.6**
JNH	**Juniper Hills**	**1.31**	**197**		**Pg**	**07 31 39.7**	**-0.1**
JNH					**Sb**	**07 31 57.3**	**+0.3**
BAKC	**Calstate**	**1.36**	**255**		**Pn**	**07 31 39.9**	**-0.4**
BAKC					**Sg**	**07 31 58.1**	**-0.4**
CHFC	**Chilao Flat St**	**1.44**	**198**		**Pn**	**07 31 41.5**	**0.0**
CHFC					**Sg**	**07 32 00.4**	**-0.4**
SIL	**Silver Peak**	**1.46**	**158**		**Sn**	**07 32 02.4**	**+1.0**
BFSC	**Mount Baldy Ra**	**1.47**	**185**		**Pn**	**07 31 42.4**	**+0.5**
TIN	**Tinemaha, Big**	**1.47**	**336**		**Pb**	**07 31 42.5**	**-0.2**
OSI	**Osito Audit: C**	**1.48**	**223**		**Pn**	**07 31 41.0**	**-1.1**
OSI				IAML		07 32 06.6	
	comp=N,643nm,0.9s						
OSI				IAML		07 32 07.6	
	comp=E,530nm,1.0s						
BBRC	**Big Bear Solar**	**1.51**	**162**		**Sn**	**07 32 03.9**	**+1.1**
PDE	**Pardee, Santa**	**1.54**	**216**		**Pn**	**07 31 42.0**	**-0.8**
MTPC	**Mountain Pass**	**1.59**	**97**		**Sg**	**07 32 06.0**	**0.0**
TPNV	**Topopah Spring**	**1.60**	**39**		**Pn**	**07 31 42.7**	**-1.0**
TPNV				IAML		07 32 11.6	
	comp=E,392nm,0.6s						
GMN	**Gold Mountain**	**1.60**	**7**		**Pn**	**07 31 43.0**	**-0.8**
CLTC	**Calectric**	**1.61**	**175**		**Sn**	**07 32 04.6**	**-0.3**
SVD	**Seven Oaks Dam**	**1.63**	**168**		**Sb**	**07 32 06.5**	**+0.5**
PSRC	**Puddingstone R**	**1.63**	**189**		**Pb**	**07 31 45.6**	**+0.4**
PASC	**Pasadena Art C**	**1.63**	**201**		**Pn**	**07 31 43.5**	**-0.5**
PASC				IAML		07 32 12.4	
	comp=E,458nm,0.8s						
VOG	**Valley Oaks Go**	**1.65**	**292**		**Sb**	**07 32 06.8**	**+0.2**
GTM	**Goat Mountain**	**1.69**	**146**		**Pn**	**07 31 44.8**	**-0.1**
DSP	**Deep Springs**	**1.71**	**347**		**Pn**	**07 31 44.8**	**-0.2**
DSP				IAML		07 32 13.5	
	comp=E,419nm,0.9s						
GVRC	**Garvey Reservo**	**1.73**	**198**		**Pg**	**07 31 47.6**	**-0.2**
BCW	**Bitter Crk WRg**	**1.75**	**245**		**Pn**	**07 31 45.5**	**-0.2**
BCW				IAML		07 32 13.4	
	comp=E,698nm,0.9s						
BLCC	**Black Canyon**	**1.75**	**214**		**Pb**	**07 31 47.0**	**-0.3**
DEVC	**Devers**	**1.92**	**157**		**Pb**	**07 31 50.5**	**+0.4**
EW2	**E Wide Canyon**	**1.97**	**153**		**Pn**	**07 31 47.9**	**-0.8**
TPC	**Twentynine Pal**	**1.99**	**143**		**Pn**	**07 31 48.1**	**-0.8**
HMTC	**Hemet**	**2.03**	**168**		**Pn**	**07 31 49.1**	**-0.4**
SHPR	**Sheep Range**	**2.05**	**66**	Pn	**Pn**	**07 31 49.8**	**-0.2**
ELS	**Elsinore Mount**	**2.05**	**178**		**Pn**	**07 31 49.1**	**-0.8**
ELS				IAML		07 32 26.5	
	comp=E,348nm,0.6s						
ELS				IAML		07 32 26.9	
	comp=N,238nm,0.6s						
POB	**Polly Butte**	**2.07**	**167**		**Pn**	**07 31 49.8**	**-0.3**
DGR	**Domenigoni Val**	**2.09**	**169**		**Pn**	**07 31 50.0**	**-0.4**
RPV	**Rancho Palos V**	**2.10**	**201**		**Pn**	**07 31 50.1**	**-0.3**
MURC	**Murrieta**	**2.11**	**173**		**Pn**	**07 31 50.5**	**-0.2**
V12A	**Nelson**	**2.15**	**89**	Pn	**Pn**	**07 31 50.6**	**-0.7**
V12A				IAML		07 32 25.2	
	comp=N,244nm,1.2s						

CRY	**Cary Ranch**	**2.22**	**164**		**Pn**	**07 31 52.0**	**-0.3**
PMD	**Palm Desert**	**2.25**	**156**	Pn	**Pn**	**07 31 51.3**	**-1.2**
PMD				IAML		07 32 28.6	
	comp=E,228nm,0.9s						
MCSM	**Casa Diablo Ho**	**2.25**	**330**		**Pb**	**07 31 56.4**	**+0.4**
PFO	**Pinyon Flats O**	**2.25**	**158**	Pn	**Pn**	**07 31 51.8**	**-1.0**
PFO				IAML		07 32 33.9	
	comp=E,215nm,1.1s						
PFO	**Pinyon Flats O**	**2.25**	**158**	Pn	**Pn**	**07 31 51.3**	**-1.4**
	comp=E,2.7nm,0.3s,baz=340,slow=16,SNR=2.0						
PFO				Pg	**Pb**	**07 31 55.7**	**-0.2**
	comp=E,19nm,0.3s,baz=343,slow=17,SNR=12						
PFO				Sn	**Sn**	**07 32 19.0**	**-2.0**
	comp=E,13nm,0.3s,baz=332,slow=17,SNR=4.5						
PFO				Lg	Lg	07 32 25.7	
	comp=E,18nm,0.3s,baz=74,slow=20,SNR=4.5						
	comp=E,8.6nm,0.3s						
XPFO	**Pinon Flat**	**2.26**	**157**		**Pn**	**07 31 51.8**	**-1.0**
SNDA	**J Saunders Pla**	**2.27**	**161**		**Pn**	**07 31 52.3**	**-0.6**
TPH	**Tonopah**	**2.38**	**5**		**Pn**	**07 31 54.1**	**-0.4**
S11A	**Rachel**	**2.39**	**35**		**Pn**	**07 31 54.7**	**+0.1**
S11A				IAML		07 32 36.2	
	comp=N,240nm,0.7s						
S11A				IAML		07 32 41.5	
	comp=E,306nm,0.8s						
PLM	**Palomar**	**2.40**	**167**		**Pn**	**07 31 54.4**	**-0.4**
PRN	**Pahroc Range**	**2.60**	**48**		**Pn**	**07 31 57.7**	**+0.2**
PRN				IAML		07 32 47.9	
	comp=E,238nm,0.8s						
PRN				IAML		07 32 50.1	
	comp=N,219nm,0.7s						
LHV	**Little Huntoon**	**2.67**	**343**		**Pn**	**07 31 58.9**	**+0.6**
LHV				IAML		07 32 43.9	
	comp=E,262nm,0.7s						
LHV				IAML		07 32 45.8	
	comp=N,206nm,1.0s						
PMPB	**Monarch Peak**	**2.73**	**282**		**Pn**	**07 31 59.4**	**+0.1**
NV11	**Mina Array Sit**	**2.77**	**349**		**Pn**	**07 31 59.7**	**-0.2**
NV11				IAML		07 32 47.9	
	comp=E,162nm,1.3s						
NVAR	**Mina Array Bea**	**2.80**	**347**		**Pn**	**07 32 00.1**	**-0.2**
NVAR	**Mina Array Bea**	**2.80**	**347**	Pn	**Pn**	**07 32 00.4**	**+0.1**
	comp=E,1.3nm,0.3s,baz=176,slow=15,SNR=2.2						
NVAR				Pg	**Pb**	**07 32 06.3**	**+1.1**
	comp=E,8.3nm,0.3s,baz=162,slow=18,SNR=12						
NVAR				Lg	Lg	07 32 43.1	
	comp=E,15nm,0.3s,baz=159,slow=30,SNR=8.2						
	comp=E,1.2nm,0.3s						
W13A	**Hualapai Mount**	**3.01**	**101**		**Pn**	**07 32 02.4**	**-0.8**
RYN	**Ryan**	**3.03**	**345**		**Pn**	**07 32 03.3**	**-0.2**
BAR	**Barrett**	**3.09**	**167**	IAML		07 32 51.7	
	comp=N,168nm,0.6s						
Q09A	**Carvers**	**3.13**	**4**	Pn	**Pn**	**07 32 05.0**	**+0.1**
SAO	**San Andreas Ge**	**3.37**	**289**		**Pn**	**07 32 06.7**	**-1.2**
CBX	**Cerro Bola**	**3.45**	**168**		**Pn**	**07 32 09.3**	**+0.1**
LCMT	**Little Creek M**	**3.67**	**68**		**Pn**	**07 32 12.9**	**+0.8**
ESJX	**Sierra Juarez**	**3.91**	**160**		**Pn**	**07 32 14.5**	**-1.0**
ELK	**Elko**	**5.34**	**19**	Pn	**Pn**	**07 32 34.0**	**-1.2**
	comp=N,0.2nm,0.3s,baz=194,slow=12,SNR=1.5						
ELK				Pg	**Pb**	**07 32 47.9**	**-0.6**
	comp=N,1.2nm,0.3s,baz=206,slow=12,SNR=10						
ELK				Lg	Lg	07 33 59.9	
	comp=N,2.5nm,0.3s,baz=291,slow=23,SNR=9.7						
	comp=N,0.7nm,0.4s						
YBH	**Yreka Blue Hor**	**7.27**	**327**	Pg	**Pb**	**07 33 22.0**	**+0.6**
	baz=160,slow=12,SNR=2.5						
YBH				Lg	Lg	07 35 02.0	
	baz=144,slow=14,SNR=2.3						
ANMO	**Albuquerque**	**9.05**	**92**	Pn	**Pn**	**07 33 24.4**	**-1.8**
	baz=273,slow=16,SNR=1.2						
ANMO				Pg		07 34 01.4	
	comp=N,0.1nm,0.3s,baz=3.9,slow=9.6,SNR=7.9						
ANMO				Lg	Lg	07 35 53.3	
	comp=N,0.1nm,0.3s,baz=127,slow=22,SNR=9.6						
	comp=N,0.3nm,0.4s						
PDAR	**Pinedale Array**	**9.36**	**39**	Pn	**Pn**	**07 33 31.3**	**+0.9**
	baz=214,slow=15,SNR=1.5						
	comp=N,0.1nm,0.5s						
TXAR	**Lajitas Array**	**13.28**	**115**	Pn	**Pn**	**07 34 25.3**	**+1.3**
	comp=N,0.1nm,0.3s,baz=296,slow=13,SNR=6.3						
	comp=N,0.1nm,0.5s						

*UCR **06** 07:31:54.0±1.4,11°.12N×86°.55W,h0km±7km,MW3.7*
*CATAC **06** 07:31:54.9±0.6,11°.N±3°×8°.7W±°,h13km±4km,M3.5/24, MLv3.5/24,Error ellipse: s-maj=7.9km s-min=4.0km az=57.8,confirmed*

ISC 06 07:31:52.3±1.5,11°.05N±0°.04×86°.71W±0°.05,h12km±11km, n68,σ0s78/76,1C,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NADN	**Granada**	**0.96**	**44**	*eP*	**Pb**	**07 32 11.3**	**+0.3**
NADN	**Granada**	**0.96**	**44**	P	**Pg**	**07 32 11.1**	**+0.2**
NADN				S	**Sb**	**07 32 24.4**	**+0.7**
SABN	**Sabanita**	**1.05**	**31**	P	**Pb**	**07 32 11.8**	**-0.7**
NANN	**Nandasmo**	**1.06**	**33**	P	**Pn**	**07 32 14.0**	**+0.9**
LCRUZ	**La Cruz**	**1.06**	**88**	*eP*	**Pb**	**07 32 12.3**	**-0.3**
LCRUZ				*eS*	**Sb**	**07 32 26.6**	**+0.1**
JAPN	**Al SSO del Vol**	**1.12**	**65**	*eP*	**Pb**	**07 32 13.8**	**+0.2**
JAPN	**Al SSO del Vol**	**1.12**	**65**	P	**Pb**	**07 32 13.8**	**+0.2**
COPN	**Copaltepe**	**1.13**	**6**	*eP*	**Pg**	**07 32 14.2**	**0.0**
COPN	**Copaltepe**	**1.13**	**6**	P	**Pg**	**07 32 14.1**	**0.0**
ABCN	**Banco Central**	**1.14**	**20**	P	**Pn**	**07 32 14.3**	**+0.1**
ABCN	**Banco Central**	**1.14**	**20**	S	**Sb**	**07 32 29.0**	**+0.2**
UNAN	**Cigeo UNAN**	**1.14**	**22**	P	**Pb**	**07 32 14.1**	**+0.1**
UNAN				S	**Sg**	**07 32 29.6**	**+0.4**
ENAN	**Enatrel Managu**	**1.15**	**22**	S	**Sb**	**07 32 29.1**	**+0.1**
ENAN	**Enatrel Managu**	**1.15**	**22**	P	**Pg**	**07 32 14.6**	**+0.2**
MORN	**Al O del Volca**	**1.15**	**64**	P	**Pb**	**07 32 14.0**	**-0.3**
SAPS	**Ciudad Sandino**	**1.15**	**15**	S	**Sg**	**07 32 29.8**	**+0.1**
SAPS	**Ciudad Sandino**	**1.15**	**15**	P	**Pn**	**07 32 14.5**	**+0.2**
TISN	**Laguna Tiscapa**	**1.17**	**22**	P	**Pb**	**07 32 13.7**	**-0.9**
CARN	**Rivas**	**1.17**	**83**	*eP*	**Pn**	**07 32 12.9**	**-1.7**
CARN	**Rivas**	**1.17**	**83**	P	**Pn**	**07 32 14.0**	**-0.6**
CARN				S	**Sb**	**07 32 30.1**	**+0.3**
ALLN	**Telcor Managua**	**1.18**	**21**	P	**Pb**	**07 32 15.0**	**+0.3**
MGAN	**Managua**	**1.18**	**22**	*eP*	**Pn**	**07 32 14.9**	**+0.1**
MGAN				*eS*	**Sb**	**07 32 30.1**	**+0.1**
MGAN	**Managua**	**1.18**	**22**	P	**Pn**	**07 32 14.8**	**+0.1**
APQ2	**Apoyeque**	**1.20**	**18**	P	**Pn**	**07 32 14.8**	**-0.2**
ELI1	**Hacienda Flor**	**1.21**	**109**	*eP*	**Pg**	**07 32 15.7**	**+0.1**
WILN	**Americas 2**	**1.22**	**25**	P	**Pn**	**07 32 15.4**	**+0.1**
ALIBA	**Liberia Airpor**	**1.23**	**111**	*eP*	**Pg**	**07 32 16.2**	**+0.2**
APQ3	**Volcan Apoyequ**	**1.26**	**15**	P	**Pb**	**07 32 16.1**	**0.0**
LAPC	**Finca la Perla**	**1.28**	**102**	*eP*	**Pn**	**07 32 16.1**	**0.0**
ERIA	**Liberia**	**1.31**	**108**	*eP*	**Pb**	**07 32 17.3**	**+0.3**
BUAI	**I Buenos Aires**	**1.36**	**97**	*eP*	**Pn**	**07 32 17.1**	**-0.2**
GPS1	**Guardaparques**	**1.36**	**101**	*eP*	**Pn**	**07 32 17.6**	**+0.4**
MOMN	**Momotombo**	**1.36**	**7**	P	**Pn**	**07 32 17.3**	**+0.1**
GPS2	**Hotel Rincn d**	**1.36**	**102**	*eP*	**Pn**	**07 32 17.9**	**+0.6**
GPS2				*eS*	**Sn**	**07 32 35.7**	**+0.3**
PEJA	**Penjamo Buenos**	**1.38**	**96**	*eP*	**Pn**	**07 32 17.6**	**+0.2**
MOM2	**El Cardon**	**1.40**	**9**	P	**Pb**	**07 32 18.1**	**-0.3**
CNGA	**Al SSO del Vol**	**1.44**	**0**	P	**Pn**	**07 32 18.7**	**+0.4**
CNGA				S	**Sn**	**07 32 36.6**	**-0.5**
CNGN	**Cerro Negro**	**1.44**	**0**	*eP*	**Pb**	**07 32 18.9**	**-0.3**
MESS	**Mesas**	**1.52**	**101**	*eP*	**Pn**	**07 32 20.1**	**+0.7**
COLC	**Colonia**	**1.53**	**104**	*eP*	**Pb**	**07 32 20.5**	**-0.2**
NICO	**Nicoya**	**1.54**	**126**	*eP*	**Pb**	**07 32 21.6**	**+0.8**
CUI	**Cuipilapa**	**1.57**	**104**	*eP*	**Pn**	**07 32 20.9**	**+0.8**
VMAR	**Armenia, Volca**	**1.58**	**98**	*eP*	**Pn**	**07 32 20.5**	**+0.2**
CMARA	**Lajas Hojancha**	**1.63**	**129**	*eP*	**Pn**	**07 32 20.8**	**-0.1**
CMARA	**Lajas Hojancha**	**1.63**	**129**	P	**Pg**	**07 32 23.3**	**-0.3**
PKGN	**Cerro Pekin**	**1.63**	**351**	P	**Pb**	**07 32 22.0**	**-0.4**
PKGN				S	**Sn**	**07 32 41.9**	**0.0**
UPAL	**Upala**	**1.67**	**95**	*eP*	**Pn**	**07 32 21.8**	**+0.3**
TIMP	**Tierras Morena**	**1.72**	**105**	*eP*	**Pb**	**07 32 24.3**	**+0.3**
ACON	**Acoyapa**	**1.76**	**59**	*eP*	**Pn**	**07 32 21.2**	**-1.5**
ACON	**Acoyapa**	**1.76**	**59**	P	**Pn**	**07 32 21.5**	**-1.1**
TILA	**Tilaran**	**1.80**	**108**	*eP*	**Pb**	**07 32 25.4**	**0.0**
VERA	**Finca Concepci**	**1.82**	**96**	*eP*	**Pn**	**07 32 24.3**	**+0.8**
QUEB	**Quebradon, Cot**	**1.83**	**103**	*eP*	**Pb**	**07 32 25.6**	**-0.3**
JUNT	**Juntas**	**1.88**	**114**	*eP*	**Pn**	**07 32 25.5**	**+1.1**
JTS	**Las Juntas de**	**1.88**	**113**	*eP*	**Pn**	**07 32 23.6**	**-0.8**
JTS	**Las Juntas de**	**1.88**	**113**	P	**Pb**	**07 32 27.0**	**+0.2**
TABAC	**Tabacon**	**1.98**	**106**	*eP*	**Pb**	**07 32 28.4**	**-0.1**
MATN	**Matagalpa**	**2.02**	**22**	P	**Pn**	**07 32 25.4**	**-1.0**
CASO	**Castillo**	**2.04**	**107**	*eP*	**Pb**	**07 32 28.8**	**-0.5**
ARE1	**Arenal 1**	**2.04**	**106**	*eP*	**Pb**	**07 32 29.3**	**-0.1**
VARE2	**V. Arenal**	**2.04**	**106**	*eP*	**Pb**	**07 32 29.2**	**-0.3**
CEDE	**Laguna Cedeo**	**2.05**	**106**	*eP*	**Pb**	**07 32 28.9**	**-0.7**
RCPN	**Sur Rio San Ju**	**2.54**	**14**	P	**Pn**	**07 32 33.8**	**+0.3**

ACOS	**Acosta**	**2.80**	**116**	*eP*	**Pb**	**07 32 40.0**	**-2.3**
PACA	**Pacayal**	**2.88**	**327**	P	**Pb**	**07 32 41.0**	**-2.7**
ABE2	**San Pablo**	**2.93**	**117**	*eP*	**Pb**	**07 32 42.9**	**-1.9**
LCR2	**La Lucha 2**	**2.96**	**116**	P	**Pb**	**07 32 44.4**	**-0.8**
SCLA	**Alcaldia de Sa**	**3.29**	**323**	P	**Pn**	**07 32 46.7**	**+2.8**

*IDC **06** 07:33:17.0±0.5,27°.53S×176°.23W,h0km,mb4.1/15, mbtmp4.2/18,ML4.6/2,Error ellipse: s-maj=20.0km s-min=15.9km az=114.0*
*NEIC **06** 07:33:18.5±2.3,27°.4S±0°.1×175°.9W±0°.1,h10km±1km, mb4.6/27,Error ellipse: s-maj=21.2km s-min=12.1km az=313.0*

ISC 06 07:33:21.6±0.4,27°.46S±0°.08×176°.09W±0°.08,h33km,n65, σ1s29/66,mb4.5/29,4D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.41**	**222**		**Pn**	**07 33 59.0**	**+0.4**
RAO	**Raoul Island**	**2.41**	**222**	Pn	**Pn**	**07 33 57.3**	**-1.3**
	351nm,0.3s,baz=92,slow=23,SNR=4.7						
RAO				Sn	**Sn**	**07 34 25.6**	**-1.3**
	464nm,0.3s,baz=258,slow=22,SNR=7.3						
	680nm,0.3s						
NIUE	**Niue**	**10.08**	**35**		**Pn**	**07 35 40.1**	**-4.0**
URZ	**Urewera**	**12.19**	**206**	Pn	Pn	07 36 02.9	-10
	0.6nm,0.3s,baz=40,slow=7.9,SNR=1.7						
URZ				Sn	Sn	07 38 14.3	-13
	1.6nm,0.3s,baz=338,slow=24,SNR=10.0						
DZM	**Mont Dzumac**	**16.74**	**285**	Pn	**Pn**	**07 37 10.0**	**-3.8**
	9.5nm,1.1s,baz=107,slow=20,SNR=1.5						
RPZ	**Rata Peaks**	**19.26**	**209**	P	**P**	**07 37 40.2**	**-3.0**
	1.0nm,0.3s,baz=24,slow=10,SNR=1.9						
	5.5nm,0.5s						
ARMA	**Armidale**	**28.36**	**256**	P	**P**	**07 39 12.7**	**-0.1**
ARMA				IAmb	IAmb	07 39 30.6	
	comp=Z,14nm,1.1s						
CAN	**Canberra**	**30.70**	**246**	P	**P**	**07 39 33.5**	**+0.1**
CAN				IAmb	IAmb	07 39 36.0	
	comp=Z,4.6nm,0.8s						
TAU	**Tasmania Unive**	**33.35**	**233**	P	**P**	**07 39 57.0**	**+0.5**
TAU				IAmb	IAmb	07 40 06.1	
	comp=Z,7.7nm,0.9s						
TOO	**Toolangi**	**33.73**	**243**	P	**P**	**07 40 00.8**	**+0.8**
CTAO	**Charters Tower**	**35.13**	**274**	P	**P**	**07 40 13.4**	**+1.1**
CTAO				IAmb	IAmb	07 40 39.7	
	comp=Z,8.9nm,1.1s						
STKA	**Stephens Creek**	**36.86**	**253**	P	**P**	**07 40 27.0**	**0.0**
STKA				IAmb	IAmb	07 40 44.6	
	comp=Z,17nm,1.1s						
STKA	**Stephens Creek**	**36.86**	**253**	P	**P**	**07 40 25.9**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=84,slow=9.0,SNR=3.0						
	comp=Z,2.2nm,0.8s						
COEN	**Coen**	**40.22**	**281**	P	**P**	**07 40 56.0**	**+0.7**
PTCN	**Pitcairn Islan**	**41.13**	**97**	P	**P**	**07 41 01.9**	**-0.9**
AS31	**Alice Springs**	**45.03**	**263**	P	**P**	**07 41 33.5**	**-0.9**
ASAR	**Alice Springs**	**45.03**	**263**	P	**P**	**07 41 33.5**	**-0.9**
ASAR	**Alice Springs**	**45.03**	**263**	P	**P**	**07 41 33.1**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=95,slow=6.6,SNR=13						
ASAR				PcP	**PcP**	**07 43 15.0**	**0.0**
	comp=Z,0.4nm,0.5s,baz=99,slow=3.4,SN

EKA	**Eskdalemuir Ar**	**151.68**	**9**	PKPbc	**PKiKP**	**07 53 13.0 +0.4**
	comp=Z,3.1nm,1.0s,baz=0.0,slow=1.6,SNR=3.9					
MMAI	**Mount Meron Ar**	**152.30**	**289**	PKPbc	**PKiKP**	**07 53 14.8 +0.2**
	comp=Z,2.0nm,0.7s,baz=91,slow=5.8,SNR=2.3					
BRTR	**Keskin Array B**	**152.51**	**304**	PKPbc	**PKiKP**	**07 53 15.9 +0.9**
	comp=Z,0.2nm,0.3s,baz=195,slow=4.5,SNR=1.8					

*NEIC **06** 07:34:55.0±1.6, 35°.928N±0°.006×117°.72W±0°.01, h1km±1km, Error ellipse: s-maj=1.8km s-min=0.3km az=120.0*

PAS 06 07:34:55.5±1.3, 35°.935N±0°.009×117°.715W±0°.007, h2km±3km, ML3.2/23, ML3.0/30(NEIC), Error ellipse: s-maj=1.3km s-min=0.7km az=182.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.08**	**280**		Pg	07 34 57.5	+0.2
TOW	**Tower One**	**0.13**	**197**		Pg	07 34 58.7	+0.6
CLC	**China Lake**	**0.15**	**141**		Pg	07 34 58.6	+0.1
CLC					Sg	07 35 01.1	+0.6
WRVM	**Rose V. Centra**	**0.16**	**297**		Pg	07 34 58.8	+0.2
WNMM	**Nine Mile Cany**	**0.18**	**239**		Pg	07 34 59.2	+0.3
WNMM					Sg	07 35 02.1	+0.8
MFS	**McCloud Flat S**	**0.21**	**328**		Pg	07 34 59.8	+0.1
MPMC	**Manual Prospec**	**0.22**	**56**		Pg	07 34 60.0	+0.2
MPMC					Sg	07 35 03.3	+0.6
SRTC	**Snort**	**0.24**	**186**		Pg	07 35 00.8	+0.6
SRTC					Sg	07 35 03.0	-0.4
LRMC	**Laurel Mtn Rad**	**0.46**	**177**		Sg	07 35 10.4	+0.2
LRMC	**Laurel Mtn Rad**	**0.46**	**177**	Pg	Pg	07 35 04.6	+0.3
LRMC				IAML		07 35 11.4	
	comp=E,3μm,0.2s						
LRMC				IAML		07 35 11.8	
	comp=N,3μm,0.2s						
WORM	**Onyx Ranch**	**0.49**	**241**		Pg	07 35 04.8	-0.1
CCCA	**Chr Cany lake**	**0.50**	**145**		Pg	07 35 05.6	+0.6
WBSM	**Bird Springs**	**0.53**	**221**		Pg	07 35 05.5	0.0
WHFM	**Hanning Flat**	**0.57**	**245**		Pg	07 35 06.3	-0.1
CGO	**Cerro Gordo**	**0.62**	**353**		Sg	07 35 16.2	+0.8
ISA	**Isabella, Lake**	**0.67**	**246**	Pg	Pg	07 35 08.1	-0.3
ISA				IAML		07 35 17.8	
	comp=N,1μm,0.2s						
DTP	**Desert Tortois**	**0.68**	**189**		Pb	07 35 10.0	0.0
DTP					Sg	07 35 17.8	+0.6
QSM	**Queen of Sheba**	**0.69**	**87**	Pg	Pg	07 35 09.0	+0.3
QSM				IAML		07 35 22.4	
	comp=E,647nm,0.5s						
QSM				IAML		07 35 23.5	
	comp=N,791nm,0.6s						
WASM	**Alta Sierra Ca**	**0.71**	**254**		Pg	07 35 09.1	-0.1
CCAC	**Calif City Air**	**0.82**	**198**		Sb	07 35 22.9	-1.0
CCAC	**Calif City Air**	**0.82**	**198**		Pg	07 35 10.6	-0.6
GWY	**Greenwater Val**	**0.88**	**73**	Pg	Pg	07 35 12.2	-0.3
GWY				IAML		07 35 30.6	
	comp=N,352nm,0.4s						
GWY				IAML		07 35 33.1	
	comp=E,571nm,0.4s						
GSC	**Goldstone, Bar**	**0.97**	**130**		Sg	07 35 26.2	-0.6
GSC	**Goldstone, Bar**	**0.97**	**130**	Pg	Pg	07 35 13.6	-0.5
GSC					Pb	07 35 14.1	-1.0
GSC	**Goldstone, Bar**	**0.97**	**130**	IAML		07 35 30.7	
	comp=N,366nm,0.5s						
GSC				IAML		07 35 34.7	
	comp=E,406nm,0.5s						
TEJ	**El Tejon**	**1.06**	**229**		Pg	07 35 15.0	-0.8
HYS	**Haystack Butte**	**1.08**	**174**		Pb	07 35 16.5	-0.3
GRAC	**Grapevine Rang**	**1.09**	**15**		Pg	07 35 16.1	-0.4
GRAC	**Grapevine Rang**	**1.09**	**15**	Pg	Pg	07 35 15.9	-0.6
GRAC				IAML		07 35 41.4	
	comp=N,246nm,0.5s						
GRAC				IAML		07 35 43.1	
	comp=E,262nm,0.5s						
VES	**Vestal, Richgr**	**1.12**	**266**		Sg	07 35 31.8	+0.5
TPO	**Tropico Hills**	**1.13**	**202**		Pg	07 35 16.6	-0.6
SGV	**South Grapevin**	**1.18**	**28**		Pg	07 35 17.7	-0.5
RRX	**Edison Barstow**	**1.21**	**151**		Sb	07 35 35.1	0.0
ARVC	**Arvin**	**1.22**	**229**		Pg	07 35 15.9	-2.9
WCT	**Wildcat Mounta**	**1.23**	**45**		Pg	07 35 18.2	-0.8
BAKC	**Calstate**	**1.28**	**243**		Pg	07 35 19.5	-0.4
VOG	**Valley Oaks Go**	**1.40**	**286**		Pn	07 35 21.6	-0.5
VTV	**Victorville**	**1.41**	**167**		Sn	07 35 41.2	-0.1
GMN	**Gold Mountain**	**1.41**	**15**		Pn	07 35 22.0	-0.4
CJV	**Casa Juvan**	**1.45**	**194**		Pg	07 35 23.3	+0.1
OSI	**Osito Audit: C**	**1.56**	**212**		Pn	07 35 23.6	-0.6
OSI				IAML		07 35 49.7	
	comp=E,174nm,0.6s						
OSI				IAML		07 35 51.3	
	comp=N,129nm,0.5s						
TPNV	**Topopah Spring**	**1.56**	**49**		Pn	07 35 23.9	-0.4
TPNV				IAML		07 35 34.2	
	comp=N,124nm,0.5s						
HEC	**Hector,Ludlow**	**1.58**	**134**		Sn	07 35 45.5	0.0
CHFC	**Chilao Flat St**	**1.62**	**189**		Sb	07 35 47.1	+0.1
BFSC	**Mount Baldy Ra**	**1.69**	**178**		Sb	07 35 49.0	-0.1
BCW	**Bitter Crk WRg**	**1.71**	**235**		Pn	07 35 26.4	+0.1
BCW				IAML		07 35 54.2	
	comp=N,177nm,0.6s						
BCW				IAML		07 35 58.0	
	comp=E,215nm,0.7s						
MWC	**Mount Wilson**	**1.73**	**189**		Pn	07 35 25.8	-1.0
MWC				IAML		07 35 53.7	
	comp=E,158nm,0.5s						
OAT	**Oat Mountain**	**1.75**	**205**		Sb	07 35 50.4	-0.5
BBRC	**Big Bear Solar**	**1.79**	**158**		Sb	07 35 51.8	-0.3
PASC	**Pasadena Art C**	**1.80**	**192**	Pn	Pn	07 35 27.1	-0.4
BLCC	**Black Canyon**	**1.86**	**205**		Pn	07 35 27.8	-0.6
ELS	**Elsinore Mount**	**2.29**	**174**	Pn	Pn	07 35 32.5	-1.8
S11A	**Rachel**	**2.33**	**42**		Pn	07 35 33.1	-1.8
V12A	**Nelson**	**2.34**	**94**		Pn	07 35 34.1	-0.9
PMPB	**Monarch Peak**	**2.52**	**277**	Pn	Pn	07 35 38.3	+0.9
PMD	**Palm Desert**	**2.53**	**154**	Pn	Pn	07 35 36.5	-1.1
R11B	**Troy Canyon, C**	**2.95**	**35**	Pn	Pn	07 35 43.1	-0.4

*NEIC **06** 07:36:22.7±1.3, 35°.734N±0°.008×117°.56W±0°.01, h12km±3km, Error ellipse: s-maj=1.6km s-min=1.2km az=94.0*

PAS 06 07:36:23.5±1.8, 35°.731N±0°.009×117°.58W±0°.01, h8km±7km, ML3.4/166, ML3.2/52(NEIC), Error ellipse: s-maj=1.4km s-min=0.9km az=211.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.09**	**352**		Pg	07 36 24.9	-0.9
CLC					Sg	07 36 27.6	+0.2
SRTC	**Snort**	**0.14**	**254**		Pg	07 36 27.0	+0.4
SRTC					Sg	07 36 30.2	+1.5
TOW	**Tower One**	**0.17**	**298**		Pg	07 36 27.2	+0.2
TOW					Sg	07 36 31.0	+1.5
LRMC	**Laurel Mtn Rad**	**0.26**	**198**		Pg	07 36 28.7	-0.1
LRMC					Sg	07 36 32.5	+0.1
LRMC	**Laurel Mtn Rad**	**0.26**	**198**	IAML		07 36 33.7	
	comp=N,3μm,0.2s						
LRMC				IAML		07 36 33.8	
	comp=E,3μm,0.3s						
CCCA	**Chr Cany lake**	**0.27**	**139**		Sg	07 36 33.6	+1.0
WNMM	**Nine Mile Cany**	**0.28**	**293**		Pg	07 36 29.0	-0.1
WNMM					Sg	07 36 33.5	+0.5
WVPM	**Volcano Peak E**	**0.29**	**319**		Pg	07 36 29.2	-0.1
WVPM					Sg	07 36 33.4	+0.2
JRC2	**Joshua Ridge**	**0.31**	**324**		Pg	07 36 29.6	-0.2
JRC2					Sg	07 36 34.0	+0.1
MPMC	**Manual Prospec**	**0.34**	**13**		Pg	07 36 29.7	-0.5
MPMC					Sg	07 36 34.6	-0.1
WRVM	**Rose V. Centra**	**0.37**	**318**		Pg	07 36 30.5	-0.4
WRVM					Sg	07 36 35.6	-0.2
WBSM	**Bird Springs**	**0.49**	**247**		Pg	07 36 32.8	-0.3
WBSM					Sg	07 36 39.8	+0.2
WORM	**Onyx Ranch**	**0.54**	**266**		Pg	07 36 33.8	-0.2
QSM	**Queen of Sheba**	**0.63**	**68**		Sg	07 36 43.7	-0.1
QSM	**Queen of Sheba**	**0.63**	**68**	Pg	Pg	07 36 34.9	-0.7
QSM				IAML		07 36 44.1	
	comp=E,4μm,0.2s						
QSM				IAML		07 36 45.6	
	comp=N,4μm,0.1s						
CCAC	**Calif City Air**	**0.68**	**212**	Pg	Pg	07 36 36.4	-0.2
CCAC				IAML		07 36 46.5	
	comp=E,1μm,0.5s						
CCAC				IAML		07 36 46.5	
	comp=N,2μm,0.5s						
ISA	**Isabella, Lake**	**0.73**	**265**		Sg	07 36 46.6	-0.5
GSC	**Goldstone, Bar**	**0.76**	**124**		Sg	07 36 48.3	+0.1
CWC	**Cottonwood Cre**	**0.81**	**330**		Sg	07 36 49.7	-0.1
CGO	**Cerro Gordo**	**0.84**	**348**		Pg	07 36 39.2	-0.5
CGO					Sg	07 36 50.6	0.0
GWY	**Greenwater Val**	**0.87**	**58**		Pg	07 36 39.8	-0.5
FURC	**Furnace Creek,**	**0.94**	**38**		Sb	07 36 54.3	-0.3
SHOC	**Shoshone, Teco**	**1.08**	**81**		Pg	07 36 43.8	-0.4
ARVC	**Arvin**	**1.18**	**240**		Pb	07 36 42.9	-3.3
VTV	**Victorville**	**1.19**	**170**		Pn	07 36 47.0	+0.5
VTV					Sb	07 37 02.1	+0.3
GRAC	**Grapevine Rang**	**1.27**	**8**		Pn	07 36 46.9	-0.8
GRAC				IAML		07 36 54.3	
	comp=E,750nm,0.4s						
GRAC				IAML		07 37 07.0	
	comp=N,504nm,0.5s						
AMDNV	**Amargosa**	**1.28**	**55**		Pn	07 36 47.6	0.0
AMDNV					Sb	07 37 04.3	0.0
CJV	**Casa Juvan**	**1.28**	**201**		Pg	07 36 48.5	+0.4
WCT	**Wildcat Mounta**	**1.31**	**36**		Pn	07 36 47.6	-0.6
WCT				IAML		07 37 06.5	
	comp=E,736nm,0.4s						
WCT				IAML		07 37 07.0	
	comp=N,594nm,0.7s						
TUQ	**Turquoise Moun**	**1.38**	**102**		Pn	07 36 48.5	-0.8
OSI	**Osito Audit: C**	**1.45**	**220**		Pn	07 36 49.2	-0.9
OSI				IAML		07 37 12.4	
	comp=N,388nm,0.7s						
OSI				IAML		07 37 15.6	
	comp=E,284nm,0.7s						
MWC	**Mount Wilson**	**1.55**	**195**		Pn	07 36 51.5	-0.1
MWC				IAML		07 37 14.8	
	comp=E,329nm,0.4s						
MWC				IAML		07 37 17.2	
	comp=N,399nm,0.5s						
GMN	**Gold Mountain**	**1.59**	**9**		Pn	07 36 51.4	-0.8
TPNV	**Topopah Spring**	**1.62**	**41**		Pn	07 36 51.8	-0.7
PASC	**Pasadena Art C**	**1.63**	**198**		Pn	07 36 51.8	-0.7
CLTC	**Calectric**	**1.65**	**172**		Pn	07 36 51.8	-0.9
DSP	**Deep Springs**	**1.67**	**349**		Pn	07 36 51.9	-1.0
DSP				IAML		07 37 19.6	
	comp=E,179nm,0.8s						
BCW	**Bitter Crk WRg**	**1.69**	**243**	Pn	Pn	07 36 53.1	-0.3
BCW				IAML		07 37 18.9	
	comp=N,419nm,0.6s						
BCW				IAML		07 37 23.2	
	comp=E,336nm,0.6s						
BHPR	**Bishop**	**1.73**	**335**		Pb	07 36 56.0	+0.4
BLCC	**Black Canyon**	**1.73**	**211**		Pn	07 36 52.7	-1.2
MZP	**Montezuma Peak**	**1.97**	**5**		Pn	07 36 57.0	-0.5
ELS	**Elsinore Mount**	**2.08**	**176**	Pn	Pn	07 36 57.9	-0.9
ELS				IAML		07 37 31.9	
	comp=E,111nm,0.5s						
ELS				IAML		07 37 33.7	
	comp=N,118nm,0.4s						
SHPR	**Sheep Range**	**2.11**	**68**	Pn	Pn	07 36 58.5	-0.7
SHPR				IAML		07 37 32.2	
	comp=N,136nm,0.6s						
TRAM	**Private Proper**	**2.19**	**269**		Pb	07 37 02.3	-1.1
TPH	**Tonopah**	**2.36**	**7**		Pn	07 37 02.3	-0.4
S11A	**Rachel**	**2.41**	**37**	Pn	Pn	07 37 02.9	-0.5
S11A				IAML		07 37 50.0	
	comp=N,210nm,0.9s						
LHV	**Little Huntoon**	**2.62**	**344**		Pn	07 37 06.8	+0.7
PMPB	**Monarch Peak**	**2.66**	**281**	Pn	Pn	07 37 06.3	-0.4
PMPB				IAML		07 37 57.2	
	comp=N,149nm,0.8s						
PMPB				IAML		07 37 58.7	
	comp=E,153nm,0.8s						
NV11	**Mina Array Sit**	**2.73**	**351**		Pn	07 37 07.5	-0.3
NVAR	**Mina Array Bea**	**2.75**	**348**	Pn	Pn	07 37 07.9	-0.3
BBGB	**Big Mountain B**	**2.92**	**288**	Pn	Pn	07 37 10.0	-0.4
RYN	**Ryan**	**2.99**	**346**		Pn	07 37 10.1	-1.2
W13A	**Hualapai Mount**	**3.08**	**101**		Pn	07 37 11.1	-1.6
Q09A	**Carvers**	**3.11**	**6**		Pn	07 37 12.1	-1.0
SZCU	**Shurtz Canyon**	**4.07**	**61**		Pn	07 37 24.6	-1.6
SPR3	**Spring Creek 3**	**4.17**	**37**	Pn	Pn	07 37 26.0	-1.6

*NOU **06** 07:39:02.0, 41°.44S×175°.56E, h263km, MLv3.7/7, North Island, New Zealand*
*WEL **06** 07:39:29.5±0.7, 42°.5±4°×17°.3E±°, h62km±8km, M2.8/13, ML3.0/8, MLv2.8/13, Error ellipse: s-maj=6.1km s-min=5.2km az=37.6, confirmed*

ISC 06 07:39:26.6±1.5, 41.81S±0.04×173.23E±0.04, h99km±8km, n51, σ0.88/60, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.25**	**281**	P	**Pn**	**07 39 41.4**	**+0.4**
THZ				S	**Sn**	**07 39 49.8**	**-1.9**
BSWZ	**Blackbirch Sta**	**0.49**	**79**	P	**Pn**	**07 39 43.2**	**+0.9**
BSWZ				S	**Sn**	**07 39 53.7**	**-0.3**
MRNZ	**Matariki Terra**	**0.54**	**319**	P	**Pn**	**07 39 43.2**	**+0.5**
MRNZ				S	**Sn**	**07 39 53.7**	**-1.0**
MATW	**Matariki Wadsw**	**0.55**	**314**	P	**Pn**	**07 39 43.3**	**+0.6**
KEKS	**Kekerengu Vall**	**0.58**	**105**	P	**Pn**	**07 39 43.7**	**+0.8**
KEKS				S	**Sn**	**07 39 55.2**	**0.0**
NNZ	**Nelson**	**0.60**	**11**	P	**Pn**	**07 39 43.7**	**+0.6**
NNZ				S	**Sn**	**07 39 54.5**	**-1.0**
BWRS	**Waikakaho Road**	**0.63**	**54**	P	**Pn**	**07 39 44.0**	**+0.7**
KHZ	**Kahutara**	**0.65**	**159**	P	**Pn**	**07 39 44.3**	**+0.8**
KHZ	**Kahutara**	**0.65**	**159**	P	**Pn**	**07 39 44.5**	**+1.1**
KHZ				S	**Sn**	**07 39 55.7**	**-0.4**
TUWZ	**Tuamarina**	**0.66**	**55**	P	**Pn**	**07 39 44.3**	**+0.8**
WDFS	**Ward Fire Stat**	**0.68**	**92**	P	**Pn**	**07 39 45.0**	**+1.2**
HAVS	**Havelock**	**0.68**	**38**	P	**Pn**	**07 39 44.3**	**+0.6**
KIKS	**Kaikoura**	**0.70**	**151**	P	**Pn**	**07 39 45.1**	**+1.2**
TKNZ	**Takaka Hill**	**0.80**	**345**	P	**Pn**	**07 39 45.8**	**+0.8**
TKNZ				S	**Sn**	**07 39 57.9**	**-0.9**
SJFS	**Springs Juncti**	**0.94**	**236**	P	**Pn**	**07 39 47.5**	**+1.2**
INGS	**Inangahua Fire**	**0.95**	**267**	P	**Pn**	**07 39 47.1**	**+0.6**
TCW	**Tory Channel**	**0.99**	**53**	P	**Pn**	**07 39 48.0**	**+1.1**
KASC	**Karamea School**	**1.01**	**304**	P	**Pn**	**07 39 48.0**	**+1.0**
QRZ	**Quartz Range**	**1.12**	**332**	P	**Pn**	**07 39 48.9**	**+0.6**
QRZ	**Quartz Range**	**1.12**	**332**	P	**Pn**	**07 39 49.1**	**+0.8**
QRZ				S	**Sn**	**07 40 03.7**	**-1.0**
LTZ	**Lake Taylor**	**1.20**	**216**	P	**Pn**	**07 39 50.2**	**+0.9**
WAKC	**Waikari**	**1.22**	**198**	P	**Pn**	**07 39 50.7**	**+1.3**
SNZO	**South Karori**	**1.22**	**66**	S	**Sn**	**07 40 05.6**	**-0.9**
WEL	**Wellington**	**1.27**	**66**	P	**Pn**	**07 39 50.9**	**+0.9**
BHW	**Baring Head**	**1.30**	**72**	P	**Pn**	**07 39 51.1**	**+0.8**
PLWZ	**Palliser**	**1.54**	**82**	P	**Pn**	**07 39 53.7**	**+0.4**
CAW	**Cannon Point**	**1.55**	**64**	P	**Pn**	**07 39 54.2**	**+0.7**
MSWZ	**Moikau Station**	**1.57**	**76**	P	**Pn**	**07 39 54.1**	**+0.5**
MSWZ				S	**Sn**	**07 40 13.2**	**-1.0**
KIW	**Kapiti Island**	**1.58**	**54**	P	**Pn**	**07 39 55.0**	**+1.2**
INZ	**Inchbonnie**	**1.61**	**235**	P	**Pn**	**07 39 55.1**	**+1.0**
OXZ	**Oxford**	**1.75**	**210**	P	**Pn**	**07 39 56.2**	**+0.3**
OGWZ	**Otaki Gorge**	**1.77**	**56**	P	**Pn**	**07 39 56.2**	**0.0**
CSHS	**Castle Hill**	**1.80**	**218**	P	**Pn**	**07 39 57.3**	**+0.6**
SPRS	**Springfield Vo**	**1.80**	**212**	P	**Pn**	**07 39 56.8**	**+0.2**
MTW	**Mount Morrison**	**1.83**	**70**	P	**Pn**	**07 39 57.2**	**+0.2**
OKCZ	**Okains Bay**	**1.92**	**184**	P	**Pn**	**07 39 59.1**	**+1.0**
MQZ	**McQueen's Vall**	**1.94**	**192**	P	**Pn**	**07 39 58.6**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.95**	**63**	P	**Pn**	**07 39 57.7**	**-0.8**
RACZ	**Rakaia**	**2.08**	**202**	P	**Pn**	**07 40 00.5**	**+0.4**
MHCZ	**Mount Hutt**	**2.11**	**215**	P	**Pn**	**07 40 01.1**	**+0.5**
WVZ	**Waitaha Valley**	**2.23**	**235**	P	**Pn**	**07 40 02.9**	**+0.8**
WACZ	**Wakanui South**	**2.36**	**205**	P	**Pn**	**07 40 04.1**	**+0.3**
RPZ	**Rata Peaks**	**2.49**	**219**	P	**Pn**	**07 40 06.6**	**+1.1**
RPZ	**Rata Peaks**	**2.49**	**219**	P	**Pn**	**07 40 05.8**	**+0.3**
NBEZ	**Newall Road No**	**2.59**	**11**	P	**Pn**	**07 40 09.4**	**+2.6**
ARCZ	**Arundel**	**2.61**	**215**	P	**Pn**	**07 40 07.7**	**+0.5**
GCSZ	**Gaunt Creek Bo**	**2.62**	**234**	P	**Pn**	**07 40 07.9**	**+0.7**
DVHZ	**Dannevirke**	**2.69**	**57**	P	**Pn**	**07 40 08.0**	**-0.2**
TMZ	**Timaru**	**3.04**	**212**	P	**Pn**	**07 40 13.3**	**+0.4**
FOZ	**Fox Glacier**	**3.05**	**235**	P	**Pn**	**07 40 13.2**	**+0.3**
JCZ	**Jackson Bay**	**3.97**	**234**	P	**Pn**	**07 40 25.6**	**+0.2**

WEL 06 07:39:34.9±1.1, 40°.5±6°×17°.5E±°, h75km±9km, M2.2/4, ML2.5/13, MLv2.2/4, Error ellipse: s-maj=8.6km s-min=7.1km az=31.5, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.20**	**154**	P	Pn	07 39 47.3	+1.2
WAZ				S	Sn	07 39 57.3	+3.0
LREZ	**Lake Rotokare**	**0.38**	**287**	P	Pn	07 39 48.5	+1.4
VRZ	**Vera Road**	**0.46**	**349**	P	Pn	07 39 49.0	+1.3
VRZ				S	Sn	07 40 00.4	+3.2
FWVZ	**Far West T-bar**	**0.62**	**59**	P	Pn	07 39 50.5	+1.0
COVZ	**Chateau Observ**	**0.64**	**55**	P	Pn	07 39 50.6	+0.9
TWVZ	**Taurewa**	**0.67**	**42**	P	Pn	07 39 50.5	+0.5
NEZ	**North Egmont**	**0.67**	**296**	P	Pn	07 39 51.0	+1.1
MOVZ	**Moawhango**	**0.70**	**77**	P	Pn	07 39 50.7	+0.5
MOVZ				S	Sn	07 40 02.8	+1.2
SNVZ	**South Ngauruho**	**0.71**	**57**	P	Pn	07 39 51.4	+0.9
OHWZ	**Ohakea**	**0.72**	**152**	P	Pn	07 39 50.9	+0.5
OTVZ	**Oturere**	**0.74**	**57**	P	Pn	07 39 51.7	+1.0
KRVZ	**Karewarewa**	**0.76**	**52**	P	Pn	07 39 51.9	+0.9
KRVZ				S	Sn	07 40 04.8	+1.9
PKE	**Pukeiti**	**0.78**	**299**	P	Pn	07 39 51.8	+0.7
PKE				S	Sn	07 40 04.8	+1.7
NMEZ	**Namu Road**	**0.78**	**281**	P	Pn	07 39 51.3	+0.2
TSZ	**Takapari Road**	**0.97**	**120**	P	Pn	07 39 54.3	+0.9
HIZ	**Hauiti**	**1.06**	**359**	P	Pn	07 39 55.2	+0.9
HIZ	**Hauiti**	**1.06**	**359**	P	Pn	07 39 55.2	+0.9
HIZ				S	Sn	07 40 11.5	+2.7
POWZ	**Post Office Ro**	**1.07**	**140**	P	Pn	07 39 55.3	+0.7
PNHZ	**Pukenui**	**1.08**	**109**	P	Pn	07 39 56.1	+1.4
KRHZ	**Kereru**	**1.16**	**94**	P	Pn	07 39 55.7	+0.1
MRZ	**Mangatainoka R**	**1.22**	**154**	P	Pn	07 39 57.4	+1.0
OGWZ	**Otaki Gorge**	**1.27**	**170**	P	Pn	07 39 57.0	+0.1
WPHZ	**Waipukurau**	**1.31**	**113**	P	Pn	07 39 58.9	+1.4
TLZ	**Tolley Road**	**1.34**	**23**	P	Pn	07 39 58.4	+0.3

*NEIC **06** 07:46:16.4±1.4, 35°.79N±0°.01×117°.60W±0°.01, h10km±7km, Error ellipse: s-maj=1.7km s-min=1.6km az=81.0*

PAS 06 07:46:16.9±1.4, 35°.782N±0°.008×117°.59W±0°.01, h8km±8km, ML3.1/23, ML3.0/40(NEIC), Error ellipse: s-maj=1.4km s-min=0.9km az=135.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.03**	**355**		Pg	07 46 18.6	0.0
TOW	**Tower One**	**0.14**	**281**		Pg	07 46 20.2	+0.3
SRTC	**Snort**	**0.15**	**235**		Pg	07 46 20.7	+0.5
WVPM	**Volcano Peak E**	**0.25**	**313**		Pg	07 46 21.6	-0.3
WNMM	**Nine Mile Cany**	**0.26**	**284**		Pg	07 46 22.0	-0.1
WNMM					Sg	07 46 25.8	+0.2
MPMC	**Manual Prospec**	**0.29**	**17**		Pg	07 46 22.6	-0.1
LRMC	**Laurel Mtn Rad**	**0.31**	**193**		Pg	07 46 22.7	-0.3
LRMC				IAML		07 46 28.3	
	comp=E,2μm,0.3s						
LRMC				IAML		07 46 28.9	
	comp=N,2μm,0.2s						
CCCA	**Chr Cany lake**	**0.32**	**144**		Pg	07 46 23.1	0.0
WRVM	**Rose V. Centra**	**0.33**	**313**		Pg	07 46 23.0	-0.4
MFS	**McCloud Flat S**	**0.40**	**328**		Pg	07 46 24.4	-0.3
MFS					Sg	07 46 29.6	-0.3
WBSM	**Bird Springs**	**0.51**	**241**		Pg	07 46 26.5	-0.2
WBSM					Sg	07 46 33.5	+0.1
WORM	**Onyx Ranch**	**0.54**	**261**		Pg	07 46 26.8	-0.5
WORM					Sg	07 46 33.7	-0.6
DTP	**Desert Tortois**	**0.55**	**202**		Pg	07 46 27.3	-0.3
QSM	**Queen of Sheba**	**0.62**	**73**	Pg	Pg	07 46 29.2	+0.4
QSM				IAML		07 46 50.2	
	comp=N,1μm,0.6s						
QSM				IAML		07 46 50.5	
	comp=E,1μm,0.2s						
WHFM	**Hanning Flat**	**0.62**	**262**		Pg	07 46 28.5	-0.4
CCAC	**Calif City Air**	**0.72**	**209**		Sg	07 46 40.2	+0.2
CCAC	**Calif City Air**	**0.72**	**209**		Pg	07 46 30.4	-0.3
CCAC				IAML		07 46 53.0	
	comp=N,626nm,0.7s						
CCAC				IAML		07 46 55.1	
	comp=E,752nm,0.5s						
ISA	**Isabella, Lake**	**0.73**	**261**	Pg	Pg	07 46 30.4	-0.5
ISA				IAML		07 46 40.8	
	comp=N,719nm,0.2s						
ISA				IAML		07 46 47.7	
	comp=E,586nm,0.4s						
WASM	**Alta Sierra Ca**	**0.79**	**267**		Pg	07 46 31.7	-0.3
WASM					Sg	07 46 41.9	-0.4
GSC	**Goldstone, Bar**	**0.80**	**126**		Sg	07 46 42.0	-0.7
GSC	**Goldstone, Bar**	**0.80**	**126**		Pg	07 46 31.3	-1.0
GWY	**Greenwater Val**	**0.85**	**61**	Pg	Pg	07 46 33.4	+0.2
GWY				IAML		07 47 02.7	
	comp=N,575nm,1.0s						
HYS	**Haystack Butte**	**0.92**	**179**		Pg	07 46 33.5	-0.9
HYS					Sg	07 46 47.2	-0.2
EDW2	**Edwards Air Fo**	**0.96**	**200**		Pb	07 46 35.8	-0.1
RRX	**Edison Barstow**	**1

WBSM	**Bird Springs**	**0.61**	**264**		Pg	07 49 11.3	-0.5
CCAC	**Calif City Air**	**0.68**	**229**		Sg	07 49 22.3	+0.5
CCAC	**Calif City Air**	**0.68**	**229**		Pg	07 49 12.6	-0.4
CCAC				IAML		07 49 25.9	
	comp=E,830nm,0.5s						
WORM	**Onyx Ranch**	**0.70**	**278**		Pg	07 49 12.7	-0.7
WORM					Sg	07 49 21.9	-0.6
HYS	**Haystack Butte**	**0.75**	**191**		Pg	07 49 13.9	-0.5
WHFM	**Hanning Flat**	**0.78**	**277**		Pg	07 49 14.5	-0.6
RRX	**Edison Barstow**	**0.80**	**156**		Pb	07 49 16.3	+0.2
GWY	**Greenwater Val**	**0.83**	**45**		Sg	07 49 26.6	-0.2
GWY	**Greenwater Val**	**0.83**	**45**		Pg	07 49 15.7	-0.3
GWY				IAML		07 49 29.3	
	comp=E,731nm,0.4s						
GWY				IAML		07 49 36.2	
	comp=N,442nm,0.5s						
EDW2	**Edwards Air Fo**	**0.87**	**214**		Pg	07 49 15.9	-0.8
ISA	**Isabella, Lake**	**0.88**	**274**		Pg	07 49 16.0	-0.9
ISA				IAML		07 49 30.8	
	comp=E,410nm,0.6s						
WASM	**Alta Sierra Ca**	**0.95**	**279**		Pg	07 49 17.7	-0.6
SBB	**Saddle Back Bu**	**0.98**	**201**		Pg	07 49 17.9	-0.8
SBB					Sg	07 49 31.5	+0.1
TPO	**Tropico Hills**	**0.99**	**224**		Pg	07 49 19.1	+0.1
TPO					Sg	07 49 31.9	0.0
VTV	**Victorville**	**1.04**	**177**		Sb	07 49 34.4	+0.3
TEJ	**El Tejon**	**1.12**	**251**		Pg	07 49 20.2	-1.3
DSCC	**Desert Studies**	**1.15**	**113**		Pg	07 49 21.2	-0.8
HEC	**Hector,Ludlow**	**1.16**	**131**		Sg	07 49 37.0	-0.3
LRRC	**Littlerock Res**	**1.19**	**206**		Pg	07 49 21.7	-1.1
LRRC					Sn	07 49 39.1	-0.3
HOLC	**Holcomb Ridge**	**1.20**	**198**		Pg	07 49 22.8	-0.2
TUQ	**Turquoise Moun**	**1.21**	**97**		Pg	07 49 22.1	-1.2
LEOC	**Leona Valley**	**1.22**	**218**		Pg	07 49 23.4	0.0
CJV	**Casa Juvan**	**1.23**	**210**		Pg	07 49 23.0	-0.6
JNH	**Juniper Hills**	**1.24**	**202**		Pb	07 49 22.8	-1.0
AMDNV	**Amargosa**	**1.24**	**46**		Pn	07 49 23.4	-0.2
SPG2	**Springville 2**	**1.26**	**299**		Pn	07 49 23.1	-1.0
SIL	**Silver Peak**	**1.33**	**159**		Pn	07 49 25.1	0.0
WCT	**Wildcat Mounta**	**1.34**	**27**		Pn	07 49 24.5	-0.7
WCT				IAML		07 49 58.8	
	comp=E,269nm,0.5s						
CHFC	**Chilao Flat St**	**1.37**	**202**		Pn	07 49 24.6	-1.1
BFSC	**Mount Baldy Ra**	**1.38**	**189**		Pn	07 49 25.7	0.0
BBRC	**Big Bear Solar**	**1.39**	**164**		Pn	07 49 26.0	0.0
GRAC	**Grapevine Rang**	**1.39**	**1**		Pn	07 49 25.1	-0.7
GRAC				IAML		07 49 47.9	
	comp=N,220nm,0.6s						
GRAC				IAML		07 50 02.3	
	comp=E,201nm,0.5s						
SGV	**South Grapevin**	**1.41**	**12**		Pb	07 49 26.4	-0.2
OSI	**Osito Audit: C**	**1.47**	**228**		Pn	07 49 27.0	+0.1
OSI				IAML		07 49 48.5	
	comp=E,237nm,0.5s						
MWC	**Mount Wilson**	**1.48**	**202**		Pn	07 49 26.5	-0.7
MTPC	**Mountain Pass**	**1.51**	**94**		Pn	07 49 26.1	-1.4
SVD	**Seven Oaks Dam**	**1.51**	**171**		Pn	07 49 27.9	+0.4
PSRC	**Puddingstone R**	**1.54**	**193**		Pb	07 49 28.7	-0.2
DECC	**Green Verdugo**	**1.55**	**210**		Pg	07 49 29.4	-0.3
GTM	**Goat Mountain**	**1.56**	**146**		Sn	07 49 48.6	0.0
PASC	**Pasadena Art C**	**1.57**	**205**		Pn	07 49 26.9	-1.3
TPNV	**Topopah Spring**	**1.63**	**34**		Pn	07 49 28.5	-0.7
TPNV				IAML		07 49 54.2	
	comp=E,158nm,0.5s						
TPNV				IAML		07 49 57.2	
	comp=E,189nm,0.6s						
BCW	**Bitter Crk WRg**	**1.78**	**249**	Pn	Pn	07 49 30.6	-0.6
BCW				IAML		07 50 09.4	
	comp=E,141nm,0.9s						
BCW				IAML		07 50 26.4	
	comp=N,125nm,0.8s						
ELS	**Elsinore Mount**	**1.95**	**181**		Pn	07 49 32.6	-0.9
SHPR	**Sheep Range**	**2.02**	**63**		Pn	07 49 33.8	-0.8
V12A	**Nelson**	**2.08**	**86**	Pn	Pn	07 49 33.8	-1.5
PMD	**Palm Desert**	**2.12**	**156**	Pn	Pn	07 49 34.6	-1.2
PFO	**Pinyon Flats O**	**2.13**	**158**	Pn	Pn	07 49 35.0	-1.1
FRD	**Ford Ranch, An**	**2.20**	**162**		Pb	07 49 40.5	+0.3
LHV	**Little Huntoon**	**2.79**	**342**		Pn	07 49 44.4	-0.6
NV11	**Mina Array Sit**	**2.89**	**348**		Pn	07 49 46.7	+0.2
W13A	**Hualapai Mount**	**2.91**	**99**		Pn	07 49 45.5	-1.4
NVAR	**Mina Array Bea**	**2.92**	**346**		Pn	07 49 46.8	-0.2
R11B	**Troy Canyon, C**	**3.10**	**27**	Pn	Pn	07 49 50.1	+0.7
BBGB	**Big Mountain B**	**3.11**	**289**	Pn	Pn	07 49 50.1	+0.6
Q09A	**Carvers**	**3.23**	**3**	Pn	Pn	07 49 51.6	+0.4
GLA	**Glamis**	**3.31**	**139**	Pn	Pn	07 49 52.0	-0.3
CPBX	**Cerro Prieto**	**3.62**	**151**	Pn	Pn	07 49 55.6	-0.8
LCMT	**Little Creek M**	**3.64**	**66**	Pn	Pn	07 49 56.0	-0.8
CCUT	**Cedar City**	**3.78**	**58**		Pn	07 49 58.1	-0.8

NEIC ***06*** *07:50:01.8±0.9,35°.697N±0°.009×117°.56W±0°.01, h8km±2km, Error ellipse: s-maj=1.5km s-min=1.1km az=51.0*

PAS 06 07:50:02.1±1.0,35°.703N±0°.009×117°.56W±0°.01, h4km±2km, ML3.2/22, ML3.1/40(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=49.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.12**	**344**		Pg	07 50 04.5	+0.1
CLC					Sg	07 50 06.6	+0.5
SRTC	**Snort**	**0.16**	**266**		Pg	07 50 05.6	+0.4
TOW	**Tower One**	**0.20**	**302**		Pg	07 50 06.4	+0.5
CCCA	**Chr Cany lake**	**0.24**	**138**		Pg	07 50 05.6	-1.1
LRMC	**Laurel Mtn Rad**	**0.24**	**205**		Pg	07 50 06.9	0.0
LRMC	**Laurel Mtn Rad**	**0.24**	**205**	IAML		07 50 10.8	
	comp=E,2μm,0.6s						
LRMC				IAML		07 50 11.1	
	comp=N,3μm,0.6s						
WNMM	**Nine Mile Cany**	**0.32**	**296**		Pg	07 50 08.3	+0.1
WVPM	**Volcano Peak E**	**0.32**	**320**		Pg	07 50 08.5	+0.2
MPMC	**Manual Prospec**	**0.36**	**9**		Pg	07 50 09.0	-0.1
MPMC					Sg	07 50 14.1	+0.3
WRVM	**Rose V. Centra**	**0.41**	**319**		Pg	07 50 09.8	-0.1
MFS	**McCloud Flat S**	**0.48**	**330**		Pg	07 50 11.3	0.0
MFS					Sg	07 50 17.9	+0.4
DTP	**Desert Tortois**	**0.49**	**208**		Pg	07 50 11.6	0.0
WBSM	**Bird Springs**	**0.50**	**251**		Pg	07 50 11.6	-0.1
WBSM					Sg	07 50 18.6	+0.3
WORM	**Onyx Ranch**	**0.56**	**269**		Pg	07 50 12.4	-0.3
WORM					Sg	07 50 20.5	+0.5
QSM	**Queen of Sheba**	**0.62**	**65**		Sg	07 50 22.2	+0.2
QSM	**Queen of Sheba**	**0.62**	**65**		Pg	07 50 13.6	-0.4
QSM				IAML		07 50 26.2	
	comp=N,980nm,0.2s						
QSM				IAML		07 50 36.1	
	comp=E,1μm,0.2s						
WHFM	**Hanning Flat**	**0.64**	**270**		Pg	07 50 14.1	-0.3
WHFM					Sg	07 50 23.3	+0.5
CCAC	**Calif City Air**	**0.67**	**214**	Pg	Pg	07 50 14.6	-0.3
CCAC				IAML		07 50 37.8	
	comp=N,1μm,0.3s						
CCAC				IAML		07 50 38.2	
	comp=E,1μm,0.2s						
GSC	**Goldstone, Bar**	**0.73**	**123**		Pg	07 50 15.7	-0.4
ISA	**Isabella, Lake**	**0.75**	**267**	Pg	Pg	07 50 16.0	-0.4
ISA				IAML		07 50 26.6	
	comp=E,874nm,0.5s						
ISA				IAML		07 50 30.1	
	comp=N,1μm,0.3s						
WASM	**Alta Sierra Ca**	**0.81**	**273**		Pg	07 50 17.3	-0.4
WASM					Sg	07 50 28.7	+0.5
HYS	**Haystack Butte**	**0.84**	**181**		Pg	07 50 17.7	-0.4
GWY	**Greenwater Val**	**0.87**	**56**		Pg	07 50 18.4	-0.4
CGO	**Cerro Gordo**	**0.87**	**347**		Sg	07 50 30.6	+0.5
EDW2	**Edwards Air Fo**	**0.89**	**204**		Pb	07 50 19.9	-0.3
SPG2	**Springville 2**	**1.10**	**297**		Pg	07 50 22.2	-0.9
SPG2					Sg	07 50 36.7	-0.7
LEOC	**Leona Valley**	**1.23**	**210**		Pg	07 50 25.7	0.0
LRRC	**Littlerock Res**	**1.24**	**198**		Pg	07 50 24.8	-1.0
CJV	**Casa Juvan**	**1.26**	**203**		Pg	07 50 26.3	-0.1
AMDNV	**Amargosa**	**1.28**	**54**		Pg	07 50 26.2	-0.3
AMDNV					Sg	07 50 39.7	-3.4
GRAC	**Grapevine Rang**	**1.30**	**7**		Pg	07 50 26.2	-0.8
GRAC				IAML		07 50 50.2	
	comp=N,533nm,0.8s						
GRAC				IAML		07 50 53.2	
	comp=E,431nm,0.6s						
DSCC	**Desert Studies**	**1.31**	**115**		Pn	07 50 26.0	-1.2
WCT	**Wildcat Mounta**	**1.32**	**34**		Pg	07 50 26.8	-0.6
WCT				IAML		07 50 46.8	
	comp=E,265nm,0.6s						
SGV	**South Grapevin**	**1.34**	**18**		Pn	07 50 27.3	-0.5
TUQ	**Turquoise Moun**	**1.36**	**101**		Pn	07 50 27.1	-0.9
OSI	**Osito Audit: C**	**1.45**	**222**		Pn	07 50 29.1	-0.1
BFSC	**Mount Baldy Ra**	**1.46**	**183**		Pn	07 50 28.5	-0.9
GMN	**Gold Mountain**	**1.61**	**8**		Pn	07 50 31.8	+0.2
PASC	**Pasadena Art C**	**1.61**	**199**		Pn	07 50 31.1	-0.2
PASC				IAML		07 51 06.5	
	comp=E,171nm,0.3s						
PASC				IAML		07 51 09.7	
	comp=N,180nm,0.7s						
PSRC	**Puddingstone R**	**1.62**	**187**		Pn	07 50 31.1	-0.4
TPNV	**Topopah Spring**	**1.63**	**40**		Pn	07 50 32.2	+0.4
BCW	**Bitter Crk WRg**	**1.70**	**244**		Pn	07 50 32.7	+0.1
BCW				IAML		07 51 17.6	
	comp=E,333nm,0.7s						
BCW				IAML		07 51 27.2	
	comp=N,299nm,1.1s						
DSP	**Deep Springs**	**1.70**	**349**		Pb	07 50 33.9	+0.1
DSP	**Deep Springs**	**1.70**	**349**	IAML		07 50 57.2	
	comp=E,155nm,0.3s						
MTUM	**Tungsten Hills**	**1.84**	**334**		Pb	07 50 36.3	0.0
ELS	**Elsinore Mount**	**2.05**	**177**	Pn	Pn	07 50 36.5	-1.0
ELS				IAML		07 51 16.5	
	comp=E,142nm,0.3s						
POB	**Polly Butte**	**2.08**	**165**		Pn	07 50 37.1	-0.7
PFO	**Pinyon Flats O**	**2.27**	**156**	Pn	Pn	07 50 39.1	-1.4
PFO				IAML		07 51 23.2	
	comp=E,116nm,0.7s						
NV11	**Mina Array Sit**	**2.77**	**350**	Pn	Pn	07 50 47.1	-0.3

NEIC ***06*** *07:52:11.4±1.1,35°.812N±0°.010×117°.63W±0°.01, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.7km az=330.0*

PAS 06 07:52:11.6±1.3,35°.804N±0°.008×117°.628W±0°.009, h2km±2km, ML3.1/24, Error ellipse: s-maj=1.2km s-min=1.1km az=180.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.11**	**273**		Pg	07 52 14.6	+0.7
SRTC	**Snort**	**0.15**	**221**		Pg	07 52 15.0	+0.5
SRTC					Sg	07 52 18.3	+1.8
WVPM	**Volcano Peak E**	**0.21**	**313**		Pg	07 52 16.1	+0.3
WNMM	**Nine Mile Cany**	**0.23**	**280**		Pg	07 52 16.4	+0.4
WNMM					Sg	07 52 20.1	+1.1
MPMC	**Manual Prospec**	**0.28**	**24**		Sg	07 52 21.4	+0.7
WRVM	**Rose V. Centra**	**0.29**	**314**		Pg	07 52 17.6	+0.2
LRMC	**Laurel Mtn Rad**	**0.33**	**188**	Pg	Pg	07 52 17.9	0.0
CCCA	**Chr Cany lake**	**0.35**	**142**		Pg	07 52 19.0	+0.6
CCCA					Sg	07 52 24.6	+1.7
MFS	**McCloud Flat S**	**0.36**	**330**		Pg	07 52 18.9	+0.2
WBSM	**Bird Springs**	**0.49**	**237**		Pg	07 52 20.1	-0.1
WBSM					Sg	07 52 28.1	+0.6
WORM	**Onyx Ranch**	**0.51**	**258**		Pg	07 52 21.4	-0.1
WORM					Sg	07 52 28.3	+0.2
DTP	**Desert Tortois**	**0.56**	**198**		Pg	07 52 22.3	-0.2
WHFM	**Hanning Flat**	**0.60**	**260**		Pg	07 52 23.0	-0.1
QSM	**Queen of Sheba**	**0.64**	**75**	Pg	Pg	07 52 23.6	-0.3
ISA	**Isabella, Lake**	**0.70**	**259**		Sg	07 52 35.0	+0.8
ISA	**Isabella, Lake**	**0.70**	**259**		Pg	07 52 24.9	-0.2
CCAC	**Calif City Air**	**0.72**	**206**		Pg	07 52 25.4	-0.1
CCAC	**Calif City Air**	**0.72**	**206**		Sg	07 52 35.6	+0.8
CGO	**Cerro Gordo**	**0.76**	**349**		Pg	07 52 26.4	+0.2
WASM	**Alta Sierra Ca**	**0.76**	**265**		Pg	07 52 26.3	+0.1
GSC	**Goldstone, Bar**	**0.84**	**127**		Sg	07 52 39.0	+0.5
GSC	**Goldstone, Bar**	**0.84**	**127**		Pg	07 52 27.2	-0.4
GWY	**Greenwater Val**	**0.87**	**64**		Pg	07 52 28.0	-0.3
HYS	**Haystack Butte**	**0.94**	**177**		Pg	07 52 29.1	-0.6
EDW2	**Edwards Air Fo**	**0.97**	**198**		Pg	07 52 29.7	-0.5
SPG2	**Springville 2**	**1.00**	**294**		Pg	07 52 30.2	-0.7
TEJ	**El Tejon**	**1.04**	**237**		Pg	07 52 30.7	-0.8
TPO	**Tropico Hills**	**1.04**	**208**		Pg	07 52 31.1	-0.6
RRX	**Edison Barstow**	**1.06**	**151**		Pg	07 52 31.6	-0.3
SHOC	**Shoshone, Teco**	**1.10**	**85**		Sg	07 52 47.5	+0.4
SBB	**Saddle Back Bu**	**1.12**	**188**		Pg	07 52 32.4	-0.8
TJR	**Tejon Ranch**	**1.20**	**230**		Pg	07 52 33.5	-1.0
GRAC	**Grapevine Rang**	**1.21**	**10**		Pg	07 52 34.5	-0.3
AMDNV	**Amargosa**	**1.27**	**59**		Pg	07 52 34.8	-1.1
SGV	**South Grapevin**	**1.27**	**22**		Pg	07 52 35.7	-0.3
WCT	**Wildcat Mounta**	**1.28**	**39**		Pg	07 52 35.9	-0.3
LEOC	**Leona Valley**	**1.29**	**206**		Pg	07 52 36.4	-0.1
LRRC	**Littlerock Res**	**1.32**	**195**		Pg	07 52 36.3	-0.6
CJV	**Casa Juvan**	**1.34**	**199**		Pn	07 52 37.5	0.0
JNH	**Juniper Hills**	**1.38**	**191**		Pb	07 52 38.3	+0.1
TUQ	**Turquoise Moun**	**1.44**	**104**		Pn	07 52 37.9	-1.0
HEC	**Hector,Ludlow**	**1.44**	**132**		Pn	07 52 38.4	-0.4
OSI	**Osito Audit: C**	**1.49**	**217**		Pn	07 52 38.9	-0.6
CHFC	**Chilao Flat St**	**1.50**	**193**		Pb	07 52 40.3	-0.1
VOG	**Valley Oaks Go**	**1.51**	**290**		Pn	07 52 39.6	-0.1
GMN	**Gold Mountain**	**1.52**	**11**		Pn	07 52 39.8	-0.3
BFSC	**Mount Baldy Ra**	**1.56**	**181**		Pb	07 52 41.2	-0.1
DSP	**Deep Springs**	**1.59**	**350**		Pn	07 52 40.4	-0.4
SSK	**Sunset Peak**	**1.59**	**182**		Pg	07 52 42.0	-0.1
SIL	**Silver Peak**	**1.59**	**155**		Pn	07 52 41.4	+0.3
TPNV	**Topopah Spring**	**1.59**	**44**		Pn	07 52 40.1	-1.0
BHPR	**Bishop**	**1.65**	**335**		Pb	07 52 42.7	-0.1
PASC	**Pasadena Art C**	**1.69**	**196**		Pn	07 52 41.6	-0.7
BCW	**Bitter Crk WRg**	**1.69**	**240**		Pn	07 52 42.4	+0.1
PSRC	**Puddingstone R**	**1.71**	**185**		Pg	07 52 44.3	-0.2
MTUM	**Tungsten Hills**	**1.72**	**334**		Pb	07 52 44.0	-0.1
CLTC	**Calectric**	**1.73**	**171**		Pn	07 52 42.8	+0.1
CLTC					Sn	07 53 04.8	-0.5
MLSC	**Mira Loma**	**1.80**	**178**		Sn	07 53 06.8	-0.2
GTM	**Goat Mountain**	**1.83**	**145**		Pn	07 52 46.1	+0.2
MZP	**Montezuma Peak**	**1.90**	**6**		Pn	07 52 45.1	-0.3
MLAC	**Mammoth, Mammo**	**2.06**	**332**		Pb	07 52 50.0	0.0
SHPR	**Sheep Range**	**2.12**	**70**	Pn	Pn	07 52 48.0	-0.2
ELS	**Elsinore Mount**	**2.16**	**176**	Pn	Pn	07 52 47.9	-0.8
POB	**Polly Butte**	**2.19**	**164**		Pn	07 52 48.6	-0.6
V12A	**Nelson**	**2.26**	**91**	Pn	Pn	07 52 49.3	-0.8
PMD	**Palm Desert**	**2.38**	**154**	Pn	Pn	07 52 50.9	-0.9
LHV	**Little Huntoon**	**2.54**	**344**	Pn	Pn	07 52 54.1	+0.2
PRN	**Pahroc Range**	**2.62**	**52**	Pn	Pn	07 52 54.8	-0.3
NV11	**Mina Array Sit**	**2.66**	**351**		Pn	07 52 55.1	-0.5
NVAR	**Mina Array Bea**	**2.68**	**349**		Pn	07 52 55.8	-0.2
BBGB	**Big Mountain B**	**2.87**	**287**	Pn	Pn	07 52 57.8	-0.7
RYN	**Ryan**	**2.91**	**346**	Pn	Pn	07 52 59.2	+0.1
W13A	**Hualapai Mount**	**3.14**	**102**	Pn	Pn	07 53 00.8	-1.5
LCMT	**Little Creek M**	**3.74**	**70**	Pn	Pn	07 53 10.6	+0.1
CCUT	**Cedar City**	**3.85**	**62**	Pn	Pn	07 53 12.2	+0.1
KNB	**Kanab**	**4.06**	**71**	Pn	Pn	07 53 15.6	+0.6

IDC ***06*** *07:52:23.6±1.4,35°.89N×117°.61W, h0km, mb3.3/1, mbtmp3.2/5, ML3.4/4, Error ellipse: s-maj=24.1km s-min=8.4km az=74.0*

PAS ***06*** *07:52:24.6±1.4,35°.885N±0°.008×117°.73W±0°.01, h4km±4km, ML3.9/15, ML3.6/104(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=113.0*

NEIC ***06*** *07:52:24.2±1.3,35°.886N±0°.010×117°.74W±0°.01, h2km, Error ellipse: s-maj=1.6km s-min=1.4km az=115.0*

ISC 06 07:52:24.6±0.8,35°.89N±0°.02×117°.74W±0°.02, h11km±6km, n102, σ0°74/112, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**313**		**Pg**	**07 52 26.8**	**-0.5**
CLC	**China Lake**	**0.13**	**123**		**Pg**	**07 52 27.2**	**-0.6**
WNMM	**Nine Mile Cany**	**0.14**	**252**		**Pg**	**07 52 27.7**	**-0.2**
WNMM					**Sg**	**07 52 30.3**	**0.0**
MFS	**McCloud Flat S**	**0.25**	**337**		**Pg**	**07 52 29.5**	**-0.3**
MPMC	**Manual Prospec**	**0.26**	**50**		**Sg**	**07 52 33.4**	**-0.3**
LRMC	**Laurel Mtn Rad**	**0.41**	**174**		**Pg**	**07 52 32.2**	**-0.5**
LRMC					**Sg**	**07 52 38.2**	**+0.1**
LRMC	**Laurel Mtn Rad**	**0.41**	**174**	IAML		07 52 38.5	
	comp=E,11μm,0.3s						
LRMC				IAML		07 52 39.0	
	comp=N,8μm,0.4s						
CCCA	**Chr Cany lake**	**0.47**	**140**		**Pg**	**07 52 33.9**	**+0.1**
CCCA					**Sg**	**07 52 40.8**	**+0.8**
WBSM	**Bird Springs**	**0.48**	**223**		**Pg**	**07 52 33.7**	**-0.3**
WBSM					**Sg**	**07 52 40.4**	**0.0**
WHFM	**Hanning Flat**	**0.54**	**249**		**Pg**	**07 52 34.7**	**-0.3**
CWC	**Cottonwood Cre**	**0.62**	**333**		**Pg**	**07 52 36.7**	**0.0**
CWC					**Sg**	**07 52 44.8**	**0.0**
DTP	**Desert Tortois**	**0.62**	**188**		**Sg**	**07 52 45.2**	**+0.3**
ISA	**Isabella, Lake**	**0.64**	**250**		**Sg**	**07 52 45.2**	**-0.3**
ISA	**Isabella, Lake**	**0.64**	**250**	Pg	**Pg**	**07 52 36.0**	**-1.0**
ISA				IAML		07 52 45.4	
	comp=N,7μm,0.4s						
ISA				IAML		07 52 46.3	
	comp=E,5μm,0.3s						
CGO	**Cerro Gordo**	**0.66**	**355**		**Pg**	**07 52 37.2**	**-0.3**
WASM	**Alta Sierra Ca**	**0.69**	**258**		**Sg**	**07 52 46.7**	**-0.2**
QSM	**Queen of Sheba**	**0.71**	**84**	Pg	**Pg**	**07 52 37.3**	**-0.9**
QSM				IAML		07 52 52.0	
	comp=N,3μm,0.9s						
QSM				IAML		07 52 55.2	
	comp=E,3μm,0.7s						
CCAC	**Calif City Air**	**0.77**	**197**		**Sg**	**07 52 49.4**	**-0.1**
SPG2	**Springville 2**	**0.89**	**291**		**Pg**	**07 52 40.9**	**-0.9**
SPG2					**Sg**	**07 52 52.9**	**-0.5**
FURC	**Furnace Creek,**	**0.91**	**50**		**Sg**	**07 52 54.1**	**0.0**
GWY	**Greenwater Val**	**0.91**	**71**		**Pg**	**07 52 41.4**	**-0.8**
GWY				IAML		07 53 00.1	
	comp=N,2μm,0.4s						
GWY				IAML		07 53 00.1	
	comp=E,2μm,0.4s						
TEJ	**El Tejon**	**1.02**	**230**		**Sg**	**07 52 56.4**	**-1.0**
VES	**Vestal, Richgr**	**1.10**	**268**		**Pg**	**07 52 45.0**	**-0.6**
VES					**Sb**	**07 53 00.2**	**+0.4**
GRAC	**Grapevine Rang**	**1.15**	**15**		**Pg**	**07 52 45.9**	**-0.8**
GRAC	**Grapevine Rang**	**1.15**	**15**	Pg	**Pg**	**07 52 45.7**	**-0.9**
GRAC				IAML		07 53 05.6	
	comp=N,2μm,0.7s						
GRAC				IAML		07 53 08.1	
	comp=E,2μm,0.7s						
ARVC	**Arvin**	**1.17**	**230**		**Pn**	**07 52 47.5**	**+0.6**
TJR	**Tejon Ranch**	**1.19**	**224**		**Pg**	**07 52 46.2**	**-1.2**
TJR					**Sg**	**07 53 02.0**	**-0.9**
SGV	**South Grapevin**	**1.23**	**27**		**Pg**	**07 52 47.6**	**-0.6**
TIN	**Tinemaha, Big**	**1.23**	**341**		**Pg**	**07 52 47.7**	**-0.5**
THC	**Tehachapi Micr**	**1.24**	**218**		**Pg**	**07 52 46.9**	**-1.4**
BAKC	**Calstate**	**1.24**	**244**		**Sb**	**07 53 04.8**	**+0.8**
WCT	**Wildcat Mounta**	**1.27**	**44**		**Pg**	**07 52 48.3**	**-0.7**
WCT					**Sg**	**07 53 04.4**	**-1.1**
WCT	**Wildcat Mounta**	**1.27**	**44**	IAML		07 53 05.6	
	comp=N,848nm,0.4s						
WCT				IAML		07 53 06.3	
	comp=E,1μm,0.5s						
AMDNV	**Amargosa**	**1.30**	**64**		**Pg**	**07 52 48.9**	**-0.7**
AMDNV					**Sg**	**07 53 05.6**	**-1.0**
LCH	**Last Change Ra**	**1.34**	**3**		**Pb**	**07 52 50.2**	**+0.4**
LCH					**Sg**	**07 53 07.3**	**-0.6**
LRRC	**Littlerock Res**	**1.38**	**190**		**Pb**	**07 52 50.9**	**+0.6**
VOG	**Valley Oaks Go**	**1.40**	**288**		**Pn**	**07 52 50.2**	**+0.1**
JNH	**Juniper Hills**	**1.45**	**187**		**Pg**	**07 52 52.1**	**-0.3**
GMN	**Gold Mountain**	**1.46**	**15**		**Pn**	**07 52 51.4**	**+0.3**
GMN				IAML		07 52 58.1	
	comp=N,514nm,0.4s						
DSP	**Deep Springs**	**1.49**	**353**		**Pn**	**07 52 51.7**	**+0.4**
OSI	**Osito Audit: C**	**1.51**	**213**		**Pn**	**07 52 52.4**	**+0.8**
OSI				IAML		07 53 19.5	
	comp=N,805nm,0.8s						
OSI				IAML		07 53 24.5	
	comp=E,847nm,0.8s						
BHPR	**Bishop**	**1.53**	**337**		**Pn**	**07 52 53.2**	**+1.1**
POCCA	**Poleta Canyon**	**1.54**	**344**		**Pb**	**07 52 53.3**	**+0.1**
TUQ	**Turquoise Moun**	**1.54**	**106**		**Pn**	**07 52 52.7**	**+0.6**
HEC	**Hector,Ludlow**	**1.56**	**132**		**Sg**	**07 52 54.0**	**-0.6**
CHFC	**Chilao Flat St**	**1.57**	**189**		**Pb**	**07 52 54.0**	**-0.3**
TPNV	**Topopah Spring**	**1.60**	**48**		**Pn**	**07 52 53.3**	**+0.4**
TPNV				IAML		07 53 17.6	
	comp=E,911nm,0.5s						
MTUM	**Tungsten Hills**	**1.61**	**336**		**Pb**	**07 52 54.4**	**0.0**
BCW	**Bitter Crk WRg**	**1.67**	**236**		**Pn**	**07 52 54.5**	**+0.7**
DECC	**Green Verdugo**	**1.70**	**197**		**Pb**	**07 52 56.2**	**+0.3**
CRGC	**Crocker Grade**	**1.75**	**249**		**Pb**	**07 52 56.7**

comp=E,48nm,1.0s
VTX Valle De La Tr 4.77 160 Pn Pn 07 53 36.0 -0.4
VTX IAML 07 54 59.4
comp=N,65nm,1.0s
VTX IAML 07 55 04.7
comp=E,44nm,1.4s
WUAZ Wupatki 5.19 92 Pn 07 53 42.1 -0.2
ELK Elko 5.23 21 Pn 07 53 43.2 +0.3
ELK IAML 07 55 13.5
comp=E,22nm,0.7s
ELK Elko 5.23 21 Pn **Pn 07 53 42.8 -0.2**
comp=E,1.3nm,0.3s,baz=210,slow=13,SNR=1.8
ELK Pg **Pb 07 53 58.2 +2.0**
comp=E,6.3nm,0.3s,baz=209,slow=12,SNR=13
ELK Lg Lg 07 55 07.8
comp=E,6.4nm,0.3s,baz=278,slow=22,SNR=5.0
comp=E,2.6nm,0.4s
X16A Lo Mia Camp, P 5.36 104 Pn **Pn 07 53 43.7 -0.9**
X16A IAML 07 55 22.6
comp=E,18nm,1.0s
X18A Snowflake 6.51 100 Pn 07 54 00.8 +0.3
SRU San Rafael Swe 6.57 59 Pn **Pn 07 54 02.0 +0.7**
YBH Yreka Blue Hor 7.01 328 Lg Lg 07 56 03.8
baz=16,slow=7.1,SNR=2.6
BSUT Blindstream Ca 7.19 48 Pn **Pn 07 54 12.2 +2.3**
ANMO Albuquerque 9.25 93 Pn **Pn 07 54 36.0 -2.1**
ANMO Pg 07 55 10.5
comp=E,0.1nm,0.3s,baz=274,slow=13,SNR=1.1
comp=E,0.1nm,0.3s,baz=17,slow=11,SNR=5.1
comp=E,0.5nm,0.6s
PDAR Pinedale Array 9.34 40 Pn **Pn 07 54 41.4 +2.1**
comp=E,0.1nm,0.3s,baz=220,slow=12,SNR=1.8
comp=E,0.2nm,0.6s
YKA Yellowknife Ar 26.70 3 P **P 07 58 03.6 +0.1**
comp=E,0.4nm,0.8s,baz=186,slow=9.0,SNR=4.5
comp=E,0.4nm,0.8s

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*NEIC **06** 07:54:45.3±1.5, 35°.69N±0°.01×117°.52W±0°.01, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.2km az=207.0*
*PAS **06** 07:54:46.6±2.5, 35°.70N±0°.01×117°.56W±0°.01, h7km±4km, ML4.1/15, mb3.9/11(NEIC), ML3.9/94(NEIC), Error ellipse: s-maj=1.7km s-min=1.6km az=174.0*
*IDC **06** 07:54:46.0±0.7, 35°.72N×117°.43W, h0km, mb3.8/4, mbtmp3.7/10, ML3.5/5, MS3.3/1, Error ellipse: s-maj=14.9km s-min=5.4km az=70.0*
ISC 06 07:54:45.5±1.2, 35°.70N±0°.02×117°.52W±0°.02, h2km±9km, n131, σ1s07/138, mb4.0/5, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.14**	**332**		**Pg**	**07 54 49.3**	**+1.1**
SRTC	**Snort**	**0.19**	**269**		**Pg**	**07 54 50.3**	**+1.2**
CCCA	**Chr Cany lake**	**0.21**	**143**		**Pg**	**07 54 51.7**	**+2.1**
LRMC	**Laurel Mtn Rad**	**0.25**	**212**	Pg	**Pg**	**07 54 51.4**	**+1.1**
WVPM	**Volcano Peak E**	**0.35**	**317**		**Pg**	**07 54 52.8**	**+0.5**
MPMC	**Manual Prospec**	**0.36**	**4**		**Pb**	**07 54 53.4**	**-1.4**
WRVM	**Rose V. Centra**	**0.43**	**316**		**Pg**	**07 54 54.2**	**+0.4**
MFS	**McCloud Flat S**	**0.50**	**327**		**Pg**	**07 54 55.6**	**+0.5**
DTP	**Desert Tortois**	**0.50**	**212**		**Pb**	**07 54 55.8**	**-1.4**
WBSM	**Bird Springs**	**0.53**	**253**		**Pg**	**07 54 56.0**	**+0.3**
WBSM					**Sg**	**07 55 02.9**	**+0.4**
WORM	**Onyx Ranch**	**0.59**	**270**		**Pg**	**07 54 56.9**	**+0.1**
QSM	**Queen of Sheba**	**0.59**	**63**		**Pb**	**07 54 58.1**	**-0.6**
QSM				IAML		07 55 10.0	
	comp=N,10μm,0.6s						
QSM				IAML		07 55 11.1	
	comp=E,9μm,0.5s						
CCAC	**Calif City Air**	**0.68**	**217**		**Pb**	**07 54 59.0**	**-1.0**
CCAC				IAML		07 55 11.8	
	comp=E,5μm,0.5s						
CCAC				IAML		07 55 11.9	
	comp=N,6μm,0.4s						
GSC	**Goldstone, Bar**	**0.70**	**124**		**Pb**	**07 55 00.2**	**-0.4**
GSC				IAML		07 55 10.5	
	comp=N,10μm,0.4s						
GSC	**Goldstone, Bar**	**0.70**	**124**		**Sb**	**07 55 10.2**	**-0.5**
ISA	**Isabella, Lake**	**0.78**	**268**		**Sg**	**07 55 10.2**	**-0.3**
ISA	**Isabella, Lake**	**0.78**	**268**		**Pg**	**07 55 00.1**	**-0.3**
ISA				IAML		07 55 10.9	
	comp=E,4μm,0.6s						
ISA				IAML		07 55 10.9	
	comp=N,4μm,0.4s						
WASM	**Alta Sierra Ca**	**0.84**	**273**		**Sg**	**07 55 12.9**	**+0.2**
GWY	**Greenwater Val**	**0.85**	**54**		**Pb**	**07 55 02.8**	**-0.2**
CWC	**Cottonwood Cre**	**0.87**	**329**		**Pb**	**07 55 02.8**	**-0.7**
CGO	**Cerro Gordo**	**0.88**	**345**		**Pb**	**07 55 02.8**	**-1.0**
RRX	**Edison Barstow**	**0.92**	**152**		**Pn**	**07 55 04.2**	**-1.4**
RRX					**Sn**	**07 55 17.6**	**-1.8**
TPO	**Tropico Hills**	**1.00**	**216**		**Pb**	**07 55 04.8**	**-0.8**
TPO					**Sn**	**07 55 19.0**	**-2.3**
SBB	**Saddle Back Bu**	**1.03**	**194**		**Pn**	**07 55 05.5**	**-1.6**
SBB					**Sn**	**07 55 20.9**	**-1.3**
SPG2	**Springville 2**	**1.13**	**297**		**Pb**	**07 55 06.5**	**-1.3**
SPG2					**Sg**	**07 55 20.9**	**-0.9**
VTV	**Victorville**	**1.14**	**172**		**Pn**	**07 55 07.6**	**-1.0**
ADO	**Adelanto Recei**	**1.14**	**176**		**Pn**	**07 55 08.7**	**0.0**
LRRC	**Littlerock Res**	**1.24**	**200**		**Pb**	**07 55 08.8**	**-0.8**
LEOC	**Leona Valley**	**1.24**	**211**		**Pb**	**07 55 08.8**	**-1.0**
CJV	**Casa Juvan**	**1.27**	**204**		**Pn**	**07 55 09.2**	**-1.2**
DSCC	**Desert Studies**	**1.28**	**115**		**Pn**	**07 55 09.1**	**-1.3**
VES	**Vestal, Richgr**	**1.28**	**277**		**Pb**	**07 55 09.6**	**-0.7**
JNH	**Juniper Hills**	**1.29**	**196**		**Pg**	**07 55 11.7**	**+1.3**
HEC	**Hector,Ludlow**	**1.30**	**131**		**Pb**	**07 55 09.8**	**-0.9**
GRAC	**Grapevine Rang**	**1.30**	**5**		**Pg**	**07 55 10.5**	**-0.1**
WCT	**Wildcat Mounta**	**1.31**	**33**		**Pn**	**07 55 10.0**	**-1.0**
TUQ	**Turquoise Moun**	**1.33**	**101**		**Pn**	**07 55 10.0**	**-1.2**
CHFC	**Chilao Flat St**	**1.42**	**197**		**Pn**	**07 55 11.4**	**-1.1**
BFSC	**Mount Baldy Ra**	**1.46**	**185**		**Pb**	**07 55 12.1**	**-1.3**
SIL	**Silver Peak**	**1.46**	**157**		**Pn**	**07 55 12.2**	**-0.9**
OSI	**Osito Audit: C**	**1.46**	**223**		**Pg**	**07 55 13.1**	**-0.4**
OSI	**Osito Audit: C**	**1.46**	**223**	IAML		07 55 34.9	
	comp=N,2μm,0.7s						
OSI				IAML		07 55 35.4	
	comp=E,2μm,0.8s						
TIN	**Tinemaha, Big**	**1.47**	**337**		**Pg**	**07 55 13.6**	**-0.2**
SSK	**Sunset Peak**	**1.49**	**186**		**Pb**	**07 55 12.8**	**-1.1**
BBRC	**Big Bear Solar**	**1.51**	**161**		**Pn**	**07 55 13.0**	**-0.8**
PDE	**Pardee, Santa**	**1.52**	**215**		**Pg**	**07 55 15.5**	**+0.8**
MWC	**Mount Wilson**	**1.53**	**197**		**Pb**	**07 55 13.4**	**-1.3**
MWC	**Mount Wilson**	**1.53**	**197**	Pn	**Pb**	**07 55 13.9**	**-0.8**
MWC				IAML		07 55 37.2	
	comp=E,5μm,0.5s						
MWC				IAML		07 55 38.1	
	comp=N,5μm,0.4s						
DECC	**Green Verdugo**	**1.59**	**205**		**Pn**	**07 55 13.9**	**-0.7**
PASC	**Pasadena Art C**	**1.61**	**200**		**Pb**	**07 55 14.5**	**-1.6**
PASC				IAML		07 55 39.7	
	comp=E,2μm,0.7s						
PASC				IAML		07 55 42.7	
	comp=N,2μm,1.1s						
GMN	**Gold Mountain**	**1.62**	**7**		**Pn**	**07 55 14.5**	**-0.7**
GMN				IAML		07 55 38.9	
	comp=N,2μm,0.6s						
GMN				IAML		07 55 39.5	
	comp=E,984nm,0.4s						
MTPC	**Mountain Pass**	**1.62**	**97**		**Pn**	**07 55 14.2**	**-0.9**
PSRC	**Puddingstone R**	**1.62**	**188**		**Pb**	**07 55 14.8**	**-1.3**
TPNV	**Topopah Spring**	**1.62**	**39**		**Pn**	**07 55 14.6**	**-0.7**
TPNV				IAML		07 55 40.9	
	comp=E,1μm,0.5s						
TPNV				IAML		07 55 42.7	
	comp=E,1μm,0.8s						
SVD	**Seven Oaks Dam**	**1.62**	**168**		**Pb**	**07 55 14.6**	**-1.6**
CACC	**Caltech Cellar**	**1.63**	**198**		**Pg**	**07 55 17.6**	**+0.8**
VOG	**Valley Oaks Go**	**1.63**	**293**		**Pg**	**07 55 17.1**	**+0.2**
MLSC	**Mira Loma**	**1.69**	**181**		**Pn**	**07 55 15.5**	**-0.5**
CFT	**Crafton Hills**	**1.69**	**168**		**Pb**	**07 55 15.8**	**-1.6**
GTM	**Goat Mountain**	**1.69**	**145**		**Pn**	**07 55 15.1**	**-1.1**
GR2C	**Griffith Obs.**	**1.70**	**202**		**Pg**	**07 55 18.6**	**+0.5**
RVR	**Riverside**	**1.70**	**176**		**Pn**	**07 55 15.6**	**-0.6**
DSP	**Deep Springs**	**1.71**	**348**		**Pn**	**07 55 15.7**	**-0.6**
DSP				IAML		07 55 43.7	
	comp=E,890nm,0.8s						
GVRC	**Garvey Reservo**	**1.71**	**197**		**Pb**	**07 55 16.3**	**-1.5**
BCW	**Bitter Crk WRg**	**1.72**	**245**		**Pn**	**07 55 15.3**	**-1.3**
BCW				IAML		07 55 45.2	
	comp=E,1μm,0.5s						
BCW				IAML		07 55 46.5	
	comp=N,1μm,0.6s						
RHC	**Rose Hills Cem**	**1.74**	**194**		**Pb**	**07 55 16.3**	**-1.8**
DJJ	**Donna J Jenkin**	**1.76**	**206**		**Pn**	**07 55 16.2**	**-0.8**
BBSC	**Beaumont Base**	**1.82**	**166**		**Pb**	**07 55 18.1**	**-1.6**
CRGC	**Crocker Grade**	**1.86**	**257**		**Pg**	**07 55 20.3**	**-0.8**
BLAC	**Blackrock camp**	**1.87**	**150**		**Pn**	**07 55 18.0**	**-0.6**
EW2	**E Wide Canyon**	**1.98**	**152**		**Pn**	**07 55 19.4**	**-0.6**
TPC	**Twentynine Pal**	**1.99**	**142**		**Pn**	**07 55 19.5**	**-0.8**
MZP	**Montezuma Peak**	**2.00**	**3**	Pn	**Pn**	**07 55 20.3**	**-0.3**
HMTC	**Hemet**	**2.03**	**168**		**Pn**	**07 55 20.2**	**-0.5**
ELS	**Elsinore Mount**	**2.04**	**178**		**Pn**	**07 55 20.5**	**-0.5**
ELS				IAML		07 55 54.0	
	comp=E,2μm,0.6s						
ELS				IAML		07 55 55.2	
	comp=N,1μm,0.6s						
POB	**Polly Butte**	**2.06**	**166**		**Pn**	**07 55 21.0**	**-0.3**
SHPR	**Sheep Range**	**2.08**	**66**		**Pn**	**07 55 21.5**	**0.0**
RPV	**Rancho Palos V**	**2.08**	**201**		**Pn**	**07 55 21.3**	**-0.1**
DGR	**Domenigoni Val**	**2.08**	**168**		**Pn**	**07 55 20.9**	**-0.5**
MURC	**Murrieta**	**2.11**	**173**		**Pn**	**07 55 21.4**	**-0.4**
BACC	**Bachelor Mtn.**	**2.12**	**169**		**Pn**	**07 55 21.4**	**-0.5**
V12A	**Nelson**	**2.17**	**88**		**Pn**	**07 55 22.1**	**-0.7**
V12A				IAML		07 55 57.0	
	comp=N,618nm,1.1s						
V12A				IAML		07 56 03.1	
	comp=E,624nm,0.6s						
PFO	**Pinyon Flats O**	**2.25**	**157**		**Pn**	**07 55 23.4**	**-0.6**
PFO				IAML		07 56 05.5	
	comp=E,541nm,1.2s						
PFO	**Pinyon Flats O**	**2.25**	**157**	Pn	**Pn**	**07 55 22.8**	**-1.1**
	comp=E,66nm,0.3s,baz=342,slow=14,SNR=29						
PFO				Pg	**Pg**	**07 55 28.2**	**-0.5**
	comp=E,107nm,0.3s,baz=339,slow=14,SNR=26						
PFO				Lg	Lg	07 55 57.1	
	comp=E,110nm,0.3s,baz=81,slow=21,SNR=8.0						
PFO				LR	LR	07 56 24.4	
	comp=E,656nm,19.9s,baz=47,slow=44						
TPH	**Tonopah**	**2.39**	**6**		**Pn**	**07 55 25.8**	**-0.1**
S11A	**Rachel**	**2.41**	**36**		**Pn**	**07 55 26.1**	**-0.1**
S11A				IAML		07 56 13.7	
	comp=E,844nm,0.7s						
S11A				IAML		07 56 17.2	
	comp=N,730nm,0.8s						
PRN	**Pahroc Range**	**2.62**	**49**		**Pn**	**07 55 29.0**	**0.0**
PRN				IAML		07 56 20.4	
	comp=E,758nm,0.8s						
PRN				IAML		07 56 22.6	
	comp=N,711nm,0.6s						
LHV	**Little Huntoon**	**2.67**	**343**		**Pn**	**07 55 29.6**	**+0.1**
LHV				IAML		07 56 25.5	
	comp=E,395nm,1.2s						
LHV				IAML		07 56 27.6	
	comp=N,345nm,1.0s						
NV11	**Mina Array Sit**	**2.78**	**350**		**Pn**	**07 55 31.3**	**+0.1**
NVAR	**Mina Array Bea**	**2.80**	**347**		**Pn**	**07 55 31.6**	**0.0**
NVAR	**Mina Array Bea**	**2.80**	**347**	Pn	**Pn**	**07 55 31.4**	**-0.1**
	comp=N,22nm,0.3s,baz=165,slow=18,SNR=9.3						
NVAR				Pg	**Pg**	**07 55 37.7**	**-1.5**
	comp=N,20nm,0.3s,baz=170,slow=17,SNR=16						
NVAR				Lg	Lg	07 56 14.9	
	comp=N,32nm,0.3s,baz=140,slow=36,SNR=6.6						
	comp=N,15nm,0.5s						
W13A	**Hualapai Mount**	**3.03**	**100**		**Pn**	**07 55 34.3**	**-0.3**
W13A				IAML		07 56 26.2	
	comp=E,257nm,0.6s						
W13A				IAML		07 56 26.5	
	comp=N,386nm,1.1s						
RYN	**Ryan**	**3.04**	**345**	Pn	**Pn**	**07 55 35.1**	**+0.3**
BLYC	**Blythe**	**3.14**	**127**		**Pn**	**07 55 34.4**	**-1.5**
BLYC				IAML		07 56 27.8	
	comp=E,486nm,0.5s						
BLYC				IAML		07 56 29.8	
	comp=N,345nm,0.5s						
Q09A	**Carvers**	**3.15**	**5**	Pn	**Pn**	**07 55 36.4**	**+0.1**
TJX	**Tijuana**	**3.20**	**173**		**Pn**	**07 55 37.5**	**+0.6**
TKX	**Tecate**	**3.21**	**166**		**Pn**	**07 55 36.6**	**-0.4**
TKX				IAML		07 56 28.0	
	comp=N,371nm,0.3s						
YUH	**Yuha Desert**	**3.32**	**156**		**Pn**	**07 55 37.5**	**-0.9**
CBX	**Cerro Bola**	**3.45**	**168**		**Pn**	**07 55 40.6**	**+0.3**
GLA	**Glamis**	**3.45**	**139**	Pn	**Pn**	**07 55 38.8**	**-1.5**
GLA				IAML		07 56 42.5	
	comp=N,468nm,0.7s						
LCMT	**Little Creek M**	**3.69**	**68**	Pn	**Pn**	**07 55 44.8**	**+1.1**
CCUT	**Cedar City**	**3.82**	**60**	Pn	**Pn**	**07 55 45.9**	**+0.3**
CCX	**Cicese**	**3.88**	**169**		**Pn**	**07 55 46.6**	**+0.5**
CCX				IAML		07 56 49.2	
	comp=E,299nm,0.6s						
CCX				IAML		07 56 52.2	
	comp=N,271nm,0.7s						
ESJX	**Sierra Juarez**	**3.91**	**160**	Pn	**Pn**	**07 55 46.7**	**0.0**
ESJX				IAML		07 56 49.8	
	comp=N,145nm,0.9s						
ESJX				IAML		07 56 51.0	
	comp=E,296nm,0.5s						
SZCU	**Shurtz Canyon**	**4.04**	**61**	Pn	**Pn**	**07 55 48.0**	**-0.5**
SPR3	**Spring Creek 3**	**4.16**	**37**	Pn	**Pn**	**07 55 49.5**	**-0.9**
SPR3				IAML		07 57 04.3	
	comp=E,96nm,0.9s						
VTX	**Valle De La Tr**	**4.53**	**161**	Pn	**Pn**	**07 55 55.4**	**+0.2**
VTX				IAML		07 57 09.1	
	comp=E,196nm,0.7s						
VTX				IAML		07 57 12.1	
	comp=N,132nm,0.8s						
X16A	**Lo Mia Camp, P**	**5.15**	**103**	Pn	**Pn**	**07 56 04.1**	**+0.3**
X16A				IAML		07 57 40.2	
	comp=N,49nm,1.1s						
ELK	**Elko**	**5.35**	**19**	Pn	**Pn**	**07 56 07.0**	**+0.4**
ELK				IAML		07 57 37.2	
	comp=N,43nm,0.7s						
ELK				IAML		07 57 37.6	
	comp=N,60nm,0.7s						
ELK	**Elko**	**5.35**	**19**	Pn	**Pn**	**07 56 06.8**	**+0.1**
	comp=N,1.0nm,0.3s,baz=200,slow=15,SNR=1.1						
ELK				Pg	**Pg**	**07 56 25.0**	**-3.1**
	comp=N,5.4nm,0.3s,baz=228,slow=12,SNR=6.2						
ELK				Lg	Lg	07 57 33.0	
	comp=N,11nm,0.3s,baz=128,slow=23,SNR=16						
	comp=N,4.5nm,0.4s						
214A	**Organ Pipe Nat**	**5.41**	**132**	Pn	**Pn**	**07 56 05.6**	**-1.6**
X18A	**Snowflake**	**6.31**	**98**		**Pn**	**07 56 21.2**	**+1.4**
TUC	**Tucson**	**6.53**	**119**	Pn	**Pn**	**07 56 21.9**	**-0.8**
YBH	**Yreka Blue Hor**	**7.26**	**328**	Pn	**Pn**	**07 56 34.9**	**+2.1**
	baz=151,slow=13,SNR=2.0						
YBH				Sn	**Sn**	**07 57 58.4**	**+2.6**
	baz=212,slow=4.8,SNR=2.1						
YBH				Lg	Lg	07 58 33.6	
	baz=315,slow=4.8,SNR=3.5						
ANMO	**Albuquerque**	**9.07**	**92**	Pn	**Pn**	**07 56 56.7**	**-0.9**
	comp=N,0.1nm,0.3s,baz=264,slow=9.2,SNR=1.3						
ANMO				Pg		07 57 28.9	
	comp=N,0.2nm,0.3s,baz=270,slow=19,SNR=3.1						
ANMO				Lg	Lg	07 59 31.8	
	comp=N,0.2nm,0.3s,baz=292,slow=22,SNR=8.6						
	comp=N,0.7nm,0.4s						
PDAR	**Pinedale Array**	**9.38**	**39**	Pn	**Pn**	**07 57 04.0**	**+2.1**
	baz=226,slow=12,SNR=3.8						
	comp=N,0.9nm,0.9s						
TXAR	**Lajitas Array**	**13.29**	**115**	Pn	**Pn**	**07 57 57.4**	**+2.0**
	comp=N,0.3nm,0.3s,baz=293,slow=13,SNR=11						
	comp=N,0.4nm,0.3s						
LLLB	**Lillooet**	**15.24**	**349**	Pn	**Pn**	**07 58 22.7**	**+1.1**
LLLB				IAmb	IAmb	07 58 29.9	
	comp=Z,3.9nm,0.8s						
WMOK	**Wichita Mounta**	**15.35**	**88**	Pn	**P**	**07 58 24.7**	**-3.4**
KAN09	**Caldwell North**	**16.09**	**79**	Pn	**Pn**	**07 58 32.6**	**-0.2**
KAN09				IAmb	IAmb	07 58 50.7	
	comp=Z,4.7nm,0.7s						
E28A	**Huff**	**16.66**	**44**	P	**P**	**07 58 42.1**	**-0.5**
E28A				IAmb	IAmb	07 58 44.8	
	comp=Z,8.5nm,0.8s						
TUL3	**Leonard**	**17.63**	**83**	P	**P**	**07 58 54.0**	**+0.7**
MDND	**Maddock**	**18.00**	**42**	P	**P**	**07 58 57.8**	**+0.5**
MDND				IAmb	IAmb	07 59 00.9	
	comp=Z,17nm,1.1s						
AGMN	**Agassiz Nation**	**20.35**	**45**	P	Pn	07 59 23.2	-1.9
AGMN				IAmb	IAmb	07 59 24.7	
	comp=Z,4.7nm,0.8s						
ULM	**Lac du Bonnet**	**21.39**	**40**	P	**P**	**07 59 34.3**	**0.0**
ULM	**Lac du Bonnet**	**21.39**	**40**	P	**P**	**07 59 34.6**	**+0.3**
	comp=Z,7.7nm,0.9s,baz=231,slow=9.2,SNR=8.7						
	comp=Z,7.7nm,0.9s						
FFC	**Flin Flon**	**21.86**	**25**	P	**P**	**07 59 39.6**	**+0.3**
FFC				IAmb	IAmb	07 59 40.6	
	comp=Z,7.5nm,1.1s						
TBO	**Thunder Bay**	**24.37**	**49**	P	**P**	**08 00 04.8**	**-0.1**
YKA	**Yellowknife Ar**	**26.88**	**3**	P	**P**	**08 00 30.0**	**+2.5**
	comp=Z,0.7nm,0.8s,baz=188,slow=9.0,SNR=9.3						
	comp=Z,0.7nm,0.8s						
ILAR	**Eielson Array**	**34.02**	**338**	P	**P**	**08 01 32.1**	**+1.7**
	comp=Z,1.2nm,0.9s,baz=156,slow=8.3,SNR=9.1						
	comp=Z,1.2nm,0.9s						
PETK	**Petropavlovsk-**	**59.46**	**316**	P	**P**	**08 04 49.4**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=74,slow=11,SNR=3.5						
	comp=Z,1.1nm,0.7s						

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*NEIC **06** 07:56:03.6±1.6, 35°.690N±0°.008×117°.49W±0°.01, h2km±1km, Error ellipse: s-maj=1.4km s-min=1.0km az=46.0*
PAS 06 07:56:03.7±1.8, 35°.673N±0°.010×117°.47W±0°.01, h2km, ML3.9/28, ML3.6/42(NEIC), Error ellipse: s-maj=1.4km s-min=1.4km az=57.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.17**	**149**		Pg	07 56 07.8	+0.7
CCCA					Sg	07 56 10.8	+1.6
CLC	**China Lake**	**0.17**	**325**		Pg	07 56 07.2	+0.1
SRTC	**Snort**	**0.22**	**275**		Pg	07 56 08.7	+0.6
LRMC	**Laurel Mtn Rad**	**0.26**	**221**		Pg	07 56 08.8	+0.2
LRMC					Sg	07 56 12.7	+0.7
LRMC	**Laurel Mtn Rad**	**0.26**	**221**	IAML		07 56 13.0	
	comp=E,16μm,0.2s						
LRMC				IAML		07 56 13.5	
	comp=N,16μm,0.3s						
TOW	**Tower One**	**0.27**	**300**		Pg	07 56 09.6	+0.7
TOW					Sg	07 56 14.4	+1.9
MPMC	**Manual Prospec**	**0.39**	**358**		Pg	07 56 11.1	0.0
WNMM	**Nine Mile Cany**	**0.39**	**296**		Pg	07 56 11.5	+0.3
WVPM	**Volcano Peak E**	**0.39**	**315**		Pg	07 56 11.7	+0.5
WRVM	**Rose V. Centra**	**0.47**	**315**		Pg	07 56 13.0	+0.2
DTP	**Desert Tortois**	**0.51**	**217**		Pg	07 56 13.6	+0.2
DTP					Sg	07 56 20.2	+0.3
MFS	**McCloud Flat S**	**0.54**	**325**		Pg	07 56 14.2	+0.1
MFS					Sg	07 56 22.0	+0.9
WBSM	**Bird Springs**	**0.56**	**256**		Pg	07 56 14.4	0.0
WBSM					Sg	07 56 22.2	+0.5
QSM	**Queen of Sheba**	**0.57**	**59**		Pg	07 56 14.8	+0.1
QSM	**Queen of Sheba**	**0.57**	**59**	IAML		07 56 23.1	
	comp=E,11μm,0.2s						
QSM				IAML		07 56 23.1	
	comp=N,7μm,0.5s						
GSC	**Goldstone, Bar**	**0.66**	**124**	Pg	Pg	07 56 16.3	0.0
CCAC	**Calif City Air**	**0.68**	**221**		Sg	07 56 26.3	+0.7
CCAC	**Calif City Air**	**0.68**	**221**	Pg	Pg	07 56 16.4	-0.4
CCAC				IAML		07 56 31.4	
	comp=N,3μm,0.7s						
CCAC				IAML		07 56 32.0	
	comp=E,2μm,0.7s						
HYS	**Haystack Butte**	**0.81**	**186**		Pg	07 56 18.8	-0.4
HYS					Sg	07 56 29.8	+0.1
ISA	**Isabella, Lake**	**0.81**	**270**	Pg	Pg	07 56 18.9	-0.4
ISA				IAML		07 56 30.5	
	comp=E,1μm,0.5s						
ISA				IAML		07 56 30.6	
	comp=N,1μm,0.3s						
GWY	**Greenwater Val**	**0.83**	**52**		Pg	07 56 19.5	-0.1
GWY					Sg	07 56 30.5	+0.1
WASM	**Alta Sierra Ca**	**0.88**	**275**		Pg	07 56 20.4	-0.3
WASM					Sg	07 56 32.5	+0.4
RRX	**Edison Barstow**	**0.89**	**154**		Pb	07 56 21.8	0.0
EDW2	**Edwards Air Fo**	**0.90**	**208**		Pg	07 56 20.4	-0.5
CWC	**Cottonwood Cre**	**0.91**	**328**		Pg	07 56 21.6	+0.4
FURC	**Furnace Creek,**	**0.93**	**32**		Sb	07 56 34.6	-0.8
SHOC	**Shoshone, Teco**	**1.00**	**77**		Pg	07 56 23.3	+0.4
SHOC					Sb	07 56 37.3	-0.1
SBB	**Saddle Back Bu**	**1.02**	**196**		Pb	07 56 23.9	-0.3
VTV	**Victorville**	**1.12**	**174**		Pb	07 56 25.6	-0.2
VTV					Sg	07 56 39.9	+0.4
SPG2	**Springville 2**	**1.17**	**297**		Pg	07 56 25.4	-0.8
SPG2					Sg	07 56 40.6	-0.8
ALPC	**Antelope**	**1.19**	**215**		Sb	07 56 43.1	+0.1
TJR	**Tejon Ranch**	**1.22**	**239**		Pg	07 56 26.0	-1.1
LRRC	**Littlerock Res**	**1.23**	**202**		Sb	07 56 44.3	+0.4
DSCC	**Desert Studies**	**1.24**	**115**		Pg	07 56 26.2	-1.2
DSCC					Sg	07 56 43.1	-0.3
AMDNV	**Amargosa**	**1.24**	**51**		Pg	07 56 27.4	-0.1
AMDNV					Sg	07 56 43.8	+0.2
LEOC	**Leona Valley**	**1.24**	**213**		Pb	07 56 27.7	-0.2
LEOC					Sb	07 56 44.6	+0.2
HEC	**Hector,Ludlow**	**1.26**	**132**		Sg	07 56 43.9	-0.1
CJV	**Casa Juvan**	**1.27**	**206**		Pg	07 56 28.1	+0.2
CJV					Sb	07 56 45.6	+0.5
JNH	**Juniper Hills**	**1.28**	**198**		Sb	07 56 45.7	0.0
TUQ	**Turquoise Moun**	**1.29**	**100**		Pg	07 56 27.6	-0.7
TUQ					Sb	07 56 45.8	0.0
WCT	**Wildcat Mounta**	**1.31**	**31**		Sg	07 56 45.9	0.0
WCT	**Wildcat Mounta**	**1.31**	**31**		Pg	07 56 27.7	-1.1
WCT				IAML		07 56 49.5	
	comp=N,547nm,0.5s						
WCT				IAML		07 56 53.0	
	comp=E,521nm,0.5s						
VES	**Vestal, Richgr**	**1.32**	**278**		Sg	07 56 42.9	-3.3
GRAC	**Grapevine Rang**	**1.32**	**4**	Pg	Pg	07 56 28.3	-0.8
GRAC				IAML		07 56 53.4	

LRMC				IAML		08 01 09.6		
	comp=E,10µm,0.4s							
LRMC				IAML		08 01 10.0		
	comp=N,9µm,0.2s							
WNMM	**Nine Mile Cany**	**0.34**	**283**		Pb	08 01 08.2	+0.8	
WRVM	**Rose V. Centra**	**0.40**	**308**		Pg	08 01 05.7	-0.9	
QSM	**Queen of Sheba**	**0.55**	**69**		Pb	08 01 12.3	+1.1	
QSM				Sg	Sb	08 01 20.1	+0.7	
WBSM	**Bird Springs**	**0.57**	**246**		Pb	08 01 11.1	-0.4	
WBSM					Sb	08 01 18.6	-1.3	
DTP	**Desert Tortois**	**0.57**	**209**		Pg	08 01 10.2	+0.2	
DTP				Sg	Sg	08 01 17.0	-0.4	
WORM	**Onyx Ranch**	**0.60**	**263**		Pb	08 01 12.3	+0.2	
WORM					Sb	08 01 20.5	-0.5	
WHFM	**Hanning Flat**	**0.69**	**264**		Pb	08 01 13.9	+0.4	
GSC	**Goldstone, Bar**	**0.73**	**129**		Pb	08 01 13.8	-0.5	
GSC				Sg	Sg	08 01 22.8	+0.2	
CCAC	**Calif City Air**	**0.74**	**214**		Pg	08 01 13.2	0.0	
CCAC				Sg	Sg	08 01 22.5	-0.3	
CCAC				IAML		08 01 27.9		
	comp=E,983nm,0.8s							
GWY	**Greenwater Val**	**0.80**	**58**		Pb	08 01 16.1	+0.7	
GWY				IAML		08 01 33.3		
	comp=N,797nm,0.3s							
ISA	**Isabella, Lake**	**0.80**	**263**		Pb	08 01 15.6	+0.3	
ISA				IAML		08 01 30.5		
	comp=N,387nm,0.3s							
ISA				IAML		08 01 31.4		
	comp=E,450nm,0.2s							
HYS	**Haystack Butte**	**0.90**	**183**		Pn	08 01 17.8	-0.6	
EDW2	**Edwards Air Fo**	**0.97**	**205**		Pg	08 01 17.2	-0.4	
RRX	**Edison Barstow**	**0.98**	**155**		Pg	08 01 17.8	0.0	
TPO	**Tropico Hills**	**1.07**	**214**		Pg	08 01 19.6	+0.2	
TPO					Sg	08 01 33.2	0.0	
TEJ	**El Tejon**	**1.11**	**241**		Pg	08 01 20.2	0.0	
VTV	**Victorville**	**1.21**	**173**		Pb	08 01 22.3	-0.1	
ADO	**Adelanto Recei**	**1.22**	**177**		Pn	08 01 22.9	+0.2	
ADO					Sn	08 01 39.3	-0.2	
GRAC	**Grapevine Rang**	**1.23**	**5**		Pb	08 01 22.7	0.0	
GRAC				IAML		08 01 47.5		
	comp=E,335nm,0.6s							
GRAC				IAML		08 01 48.8		
	comp=N,348nm,0.8s							
WCT	**Wildcat Mounta**	**1.25**	**34**		Pg	08 01 22.8	-0.1	
WCT				IAML		08 01 46.2		
	comp=E,213nm,0.4s							
ALPC	**Antelope**	**1.26**	**211**		Sg	08 01 38.9	-0.5	
THC	**Tehachapi Micr**	**1.28**	**228**		Pg	08 01 23.4	-0.1	
DSCC	**Desert Studies**	**1.30**	**118**		Pg	08 01 24.1	+0.2	
DSCC					Sn	08 01 41.5	0.0	
LEOC	**Leona Valley**	**1.31**	**210**		Pb	08 01 24.2	+0.2	
LEOC					Sb	08 01 41.4	+0.1	
LRRC	**Littlerock Res**	**1.31**	**199**		Pn	08 01 23.5	-0.4	
LRRC					Sb	08 01 41.3	+0.2	
TUQ	**Turquoise Moun**	**1.33**	**104**		Pb	08 01 25.1	+0.7	
HEC	**Hector,Ludlow**	**1.34**	**134**		Pn	08 01 24.4	0.0	
HEC					Sg	08 01 41.7	-0.3	
CJV	**Casa Juvan**	**1.34**	**203**		Pn	08 01 24.3	-0.2	
CJV					Sn	08 01 43.1	+0.4	
JNH	**Juniper Hills**	**1.37**	**196**		Pn	08 01 24.4	-0.5	
BAKC	**Calstate**	**1.37**	**253**		Pg	08 01 26.1	+0.9	
CHFC	**Chilao Flat St**	**1.49**	**197**		Pb	08 01 27.1	-0.2	
CHFC					Sn	08 01 46.5	-0.1	
SIL	**Silver Peak**	**1.52**	**158**		Pg	08 01 27.9	-0.2	
OSI	**Osito Audit: C**	**1.52**	**221**		Pn	08 01 26.0	-0.9	
OSI				IAML		08 01 49.9		
	comp=N,311nm,0.8s							
OSI				IAML		08 01 49.9		
	comp=E,209nm,0.7s							
OSI	**Osito Audit: C**	**1.52**	**221**		Sb	08 01 47.4	0.0	
BFSC	**Mount Baldy Ra**	**1.53**	**185**		Pb	08 01 27.8	-0.1	
GMN	**Gold Mountain**	**1.54**	**7**		Pg	08 01 28.6	+0.1	
TPNV	**Topopah Spring**	**1.55**	**40**		Pg	08 01 28.6	-0.1	
TPNV				IAML		08 01 57.1		
	comp=E,246nm,0.6s							
TPNV				IAML		08 01 57.4		
	comp=E,217nm,0.4s							
SSK	**Sunset Peak**	**1.56**	**186**		Pb	08 01 28.6	+0.1	
BBRC	**Big Bear Solar**	**1.58**	**162**		Pb	08 01 28.5	-0.2	
MWC	**Mount Wilson**	**1.61**	**197**		Pg	08 01 29.6	-0.1	
MWC	**Mount Wilson**	**1.61**	**197**	IAML		08 01 51.2		
	comp=E,313nm,0.4s							
MTPC	**Mountain Pass**	**1.61**	**100**		Pn	08 01 28.8	+0.5	
DSP	**Deep Springs**	**1.64**	**347**		Pb	08 01 29.6	-0.1	
CLTC	**Calectric**	**1.68**	**175**		Sn	08 01 49.0	-1.9	
PASC	**Pasadena Art C**	**1.69**	**200**		Pn	08 01 28.6	-0.5	
PASC				IAML		08 01 56.3		
	comp=E,134nm,0.4s							
PASC				IAML		08 01 56.7		
	comp=N,159nm,0.5s							
PSRC	**Puddingstone R**	**1.69**	**189**		Pg	08 01 31.3	0.0	
PSRC					Sb	08 01 52.7	+0.6	
SVD	**Seven Oaks Dam**	**1.69**	**169**		Pg	08 01 31.6	+0.2	
SVD					Sg	08 01 52.8	-0.4	
GTM	**Goat Mountain**	**1.75**	**147**		Pg	08 01 32.0	-0.4	
BCW	**Bitter Crk WRg**	**1.77**	**243**	Pn	Pn	08 01 30.2	0.0	
BCW				IAML		08 02 01.0		
	comp=E,161nm,0.7s							
BCW				IAML		08 02 01.3		
	comp=N,175nm,0.7s							
GMRC	**Granite Mounta**	**1.80**	**122**		Pn	08 01 30.2	-0.6	
DJJ	**Donna J Jenkin**	**1.83**	**206**		Pb	08 01 33.1	+0.2	
PEC	**Perris**	**1.89**	**171**		Pn	08 01 32.2	+0.3	
SHPR	**Sheep Range**	**2.04**	**68**	Pn	Pn	08 01 33.8	-0.2	
TPC	**Twentynine Pal**	**2.04**	**144**		Pg	08 01 34.2	+0.2	
DANC	**Danby, Needles**	**2.07**	**122**		Pg	08 01 38.2	-0.4	
HMTC	**Hemet**	**2.10**	**169**		Pn	08 01 34.8	+0.1	
ELS	**Elsinore Mount**	**2.12**	**178**		Pn	08 01 34.9	-0.2	
ELS				IAML		08 02 08.3		
	comp=E,69nm,0.3s							
POB	**Polly Butte**	**2.13**	**167**		Pn	08 01 35.5	+0.2	
DGR	**Domenigoni Val**	**2.15**	**169**		Pn	08 01 35.7	+0.1	
V12A	**Nelson**	**2.16**	**90**	Pn	Pn	08 01 36.0	+0.3	
MURC	**Murrieta**	**2.18**	**173**		Pn	08 01 36.0	+0.1	
BACC	**Bachelor Mtn.**	**2.18**	**170**		Pn	08 01 36.0	0.0	
CRY	**Cary Ranch**	**2.29**	**164**		Pn	08 01 38.0	+0.5	
PMD	**Palm Desert**	**2.31**	**156**		Pb	08 01 41.9	+0.8	
PMD	**Palm Desert**	**2.31**	**156**	IAML		08 02 13.3		
	comp=E,65nm,0.3s							
PFO	**Pinyon Flats O**	**2.32**	**158**	Pn	Pn	08 01 36.8	-1.1	
XPFO	**Pinon Flat**	**2.32**	**158**		Pn	08 01 38.0	+0.1	
SNDA	**J Saunders Pla**	**2.33**	**161**		Pn	08 01 38.2	+0.2	
BZNA	**Buzz No.'s Pla**	**2.37**	**163**		Pn	08 01 38.9	+0.3	
FRD	**Ford Ranch, An**	**2.39**	**162**		Pn	08 01 39.0	+0.3	
PLM	**Palomar**	**2.47**	**167**		Pn	08 01 40.2	+0.2	
PRN	**Pahroc Range**	**2.56**	**50**	Pn	Pn	08 01 40.5	-0.8	
PRN				IAML		08 02 31.9		
	comp=E,94nm,0.5s							
PRN				IAML		08 02 32.7		
	comp=N,81nm,0.6s							
PMPB	**Monarch Peak**	**2.71**	**280**	Pn	Pn	08 01 43.9	+0.7	
PMPB				IAML		08 02 29.6		
	comp=E,80nm,0.7s							
PMPB				IAML		08 02 38.1		
	comp=N,92nm,1.1s							
NVAR	**Mina Array Bea**	**2.73**	**347**	Pn	Pn	08 01 43.0	-0.7	
CPE	**Camp Elliot**	**2.89**	**173**	IAML		08 02 30.4		
	comp=N,53nm,0.3s							
CPE				IAML		08 02 30.7		
	comp=E,42nm,0.3s							
BBGB	**Big Mountain B**	**2.97**	**287**		Pn	08 01 46.8	0.0	
BAR	**Barrett**	**3.16**	**167**	IAML		08 02 37.4		
	comp=E,57nm,0.5s							
BAR				IAML		08 02 39.0		
	comp=N,36nm,0.2s							
BLYC	**Blythe**	**3.17**	**129**	Pn	Pn	08 01 49.3	-0.2	
BLYC				IAML		08 02 45.6		
	comp=E,59nm,0.7s							
LCMT	**Little Creek M**	**3.65**	**69**	Pn	Pn	08 01 55.0	-1.3	
KNB	**Kanab**	**3.98**	**70**	Pn	Pn	08 01 59.7	-1.1	
PSUT	**Pine Spring**	**4.01**	**45**	Pn	Pn	08 02 00.5	-0.8	
VTX	**Valle De La Tr**	**4.59**	**161**	Pn	Pn	08 02 07.8	-1.3	

*IDC **06** 08:10:22.5±1.9, 1°.81N×126°.83E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=182.3km s-min=20.3km az=67.0, Northern Molucca Sea*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.84**	**162**	P	P	08 15 27.5	0.0
	1.8nm,0.5s,baz=340,slow=11,SNR=40						
	1.8nm,0.5s						
ASAR	**Alice Springs**	**26.25**	**165**	P	P	08 16 00.1	+0.5
	0.5nm,0.6s,baz=348,slow=8.5,SNR=16						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**59.18**	**326**	P	P	08 20 25.6	+0.2
	0.3nm,0.4s,baz=118,slow=7.5,SNR=6.2						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.40**	**328**	P	P	08 20 53.8	0.0
	0.4nm,0.5s,baz=127,slow=6.2,SNR=6.1						
	0.4nm,0.5s						
VNDA	**Vanda**	**81.53**	**173**	P	P	08 22 40.5	-1.0
	0.2nm,0.5s,baz=318,slow=6.1,SNR=1.9						
	0.2nm,0.5s						

*NEIC **06** 08:10:49.9±1.7, 35°.916N×0°.009×117°.709W±0°.009, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.9km az=18.0*

PAS 06 08:10:50.1±1.7, 35°.914N±0°.010×117°.72W±0°.01, h2km±2km, Mwr3.6/4, ML3.4/84(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=134.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**294**		Pg	08 10 52.1	+0.3
TOW	**Tower One**	**0.11**	**200**		Pg	08 10 52.8	+0.5
TOW					Sg	08 10 55.7	+2.0
CLC	**China Lake**	**0.14**	**135**		Pg	08 10 52.9	+0.1
WNMM	**Nine Mile Cany**	**0.17**	**245**		Pg	08 10 53.6	+0.3
WNMM					Sg	08 10 56.7	+1.2
WRVM	**Rose V. Centra**	**0.17**	**304**		Pg	08 10 53.6	+0.2
SRTC	**Snort**	**0.22**	**187**		Pg	08 10 54.9	+0.5
MFS	**McCloud Flat S**	**0.23**	**331**		Pg	08 10 54.8	+0.2
MPMC	**Manual Prospec**	**0.23**	**52**		Pg	08 10 54.8	+0.2
MPMC					Sg	08 10 58.6	+0.9
LRMC	**Laurel Mtn Rad**	**0.43**	**176**	Pg	Pg	08 10 58.4	0.0
LRMC				IAML		08 11 05.0	
	comp=N,4µm,0.3s						
WORM	**Onyx Ranch**	**0.48**	**243**		Pg	08 10 59.2	-0.1
WORM					Sg	08 11 05.7	+0.2
CCCA	**Chr Cany lake**	**0.48**	**143**		Pg	08 10 59.8	+0.5
WBSM	**Bird Springs**	**0.51**	**222**		Pg	08 10 59.8	0.0
WHFM	**Hanning Flat**	**0.56**	**247**		Pg	08 11 00.7	0.0
WHFM					Sg	08 11 08.3	+0.4
CWC	**Cottonwood Cre**	**0.60**	**331**		Pg	08 11 02.4	+0.8
CGO	**Cerro Gordo**	**0.64**	**354**		Pg	08 11 02.3	0.0
DTP	**Desert Tortois**	**0.65**	**189**		Pg	08 11 02.3	-0.3
DTP					Sg	08 11 11.4	+0.4
ISA	**Isabella, Lake**	**0.66**	**248**		Pg	08 11 02.6	-0.2
ISA				IAML		08 11 12.2	
	comp=N,3µm,0.5s						
ISA				IAML		08 11 12.8	
	comp=E,3µm,0.3s						
QSM	**Queen of Sheba**	**0.69**	**86**		Pg	08 11 03.4	0.0
QSM				IAML		08 11 17.5	
	comp=E,2µm,0.6s						
QSM				IAML		08 11 18.6	
	comp=N,2µm,0.8s						
WASM	**Alta Sierra Ca**	**0.70**	**256**		Pg	08 11 03.5	-0.1
WASM					Sg	08 11 13.2	+0.5
CCAC	**Calif City Air**	**0.80**	**198**		Pg	08 11 04.9	-0.4
CCAC				IAML		08 11 20.0	
	comp=E,1µm,0.7s						
CCAC				IAML		08 11 20.1	
	comp=N,1µm,0.4s						
GWY	**Greenwater Val**	**0.89**	**72**		Pg	08 11 07.1	-0.1
GWY				IAML		08 11 24.4	
	comp=N,2µm,0.7s						
GWY				IAML		08 11 25.8	
	comp=E,1µm,0.6s						
GSC	**Goldstone, Bar**	**0.96**	**129**		Sg	08 11 21.6	+0.6
GSC	**Goldstone, Bar**	**0.96**	**129**		Pg	08 11 07.8	-0.7
GSC				IAML		08 11 23.7	
	comp=N,1µm,0.8s						
TEJ	**El Tejon**	**1.05**	**230**		Pg	08 11 09.3	-0.8
EDW2	**Edwards Air Fo**	**1.05**	**192**		Pb	08 11 10.7	-0.4
HYS	**Haystack Butte**	**1.05**	**173**		Pg	08 11 10.4	+0.2
VES	**Vestal, Richgr**	**1.11**	**267**		Sb	08 11 26.4	-0.5
TPO	**Tropico Hills**	**1.11**	**202**		Pg	08 11 10.7	-0.8
GRAC	**Grapevine Rang**	**1.12**	**15**		Pg	08 11 11.1	-0.4
GRAC				IAML		08 11 32.9	
	comp=E,1µm,0.8s						
GRAC				IAML		08 11 37.7	
	comp=N,982nm,0.7s						
MAGC	**SCE Magundon P**	**1.13**	**241**		Pg	08 11 11.4	-0.2
RRX	**Edison Barstow**	**1.19**	**150**		Pb	08 11 13.4	0.0
SGV	**South Grapevin**	**1.20**	**27**		Pg	08 11 12.9	-0.1
TJR	**Tejon Ranch**	**1.22**	**224**		Pg	08 11 13.1	-0.4
SBB	**Saddle Back Bu**	**1.23**	**184**		Pg	08 11 12.9	-0.7
WCT	**Wildcat Mounta**	**1.24**	**45**		Pg	08 11 13.5	-0.4
WCT				IAML		08 11 33.4	
	comp=E,412nm,1.1s						
BAKC	**Calstate**	**1.27**	**244**		Pg	08 11 13.9	-0.4
BAKC					Sb	08 11 31.5	+0.3
THC	**Tehachapi Micr**	**1.27**	**218**		Pg	08 11 13.1	-1.2
AMDNV	**Amargosa**	**1.28**	**65**		Pg	08 11 13.7	-0.9
AMDNV					Sg	08 11 30.4	-0.9
LCH	**Last Change Ra**	**1.32**	**3**		Pg	08 11 15.1	-0.2
VTV	**Victorville**	**1.39**	**167**		Sn	08 11 35.4	0.0
CJV	**Casa Juvan**	**1.42**	**194**		Pb	08 11 17.4	0.0
GMN	**Gold Mountain**	**1.43**	**15**		Pn	08 11 16.8	-0.4
GMN				IAML		08 11 40.9	
	comp=E,312nm,0.8s						
DSP	**Deep Springs**	**1.47**	**352**		Sb	08 11 36.8	-0.3
DSP	**Deep Springs**	**1.47**	**352**		Pn	08 11 17.2	-0.3
JNH	**Juniper Hills**	**1.48**	**188**		Pn	08 11 16.6	-1.2
JNH					Sn	08 11 38.0	+0.3
BHPR	**Bishop**	**1.52**	**336**		Pb	08 11 18.8	-0.2
OSI	**Osito Audit: C**	**1.54**	**213**		Pb	08 11 19.2	-0.1
OSI	**Osito Audit: C**	**1.54**	**213**		Pn	08 11 18.2	-0.3
OSI				IAML		08 11 45.4	
	comp=E,578nm,0.7s						
OSI				IAML		08 11 50.7	
	comp=N,526nm,0.8s						
TUQ	**Turquoise Moun**	**1.54**	**108**		Pn	08 11 17.2	-1.4
TPNV	**Topopah Spring**	**1.57**	**48**		Pn	08 11 18.6	-0.5
TPNV				IAML		08 11 44.4	
	comp=N,531nm,1.0s						
TPNV				IAML		08 11 50.5	
	comp=N,406nm,0.7s						
MTUM	**Tungsten Hills**	**1.59**	**335**		Pb	08 11 19.9	-0.3
CHFC	**Chilao Flat St**	**1.60**	**189**		Pb	08 11 20.3	0.0
BFSC	**Mount Baldy Ra**	**1.67**	**178**		Pb	08 11 21.4	-0.2
BCW	**Bitter Crk WRg**	**1.69**	**235**		Pn	08 11 19.8	-0.9
BCW				IAML		08 11 45.9	
	comp=N,662nm,0.6s						
SSK	**Sunset Peak**	**1.70**	**179**		Pb	08 11 22.4	+0.2
SIL	**Silver Peak**	**1.73**	**155**		Pb	08 11 22.8	+0.2
CRGC	**Crocker Grade**	**1.77**	**248**		Pb	08 11 22.5	-0.7
BBRC	**Big Bear Solar**	**1.77**	**158**		Pg	08 11 23.8	-0.2
PASC	**Pasadena Art C**	**1.78**	**193**		Pn	08 11 21.2	-0.7
PASC				IAML		08 11 57.0	
	comp=E,203nm,0.8s						
MZP	**Montezuma Peak**	**1.80**	**8**		Pn	08 11 22.5	+0.1
MTPC	**Mountain Pass**	**1.81**	**103**		Pn	08 11 21.1	-1.3
CLTC	**Calectric**	**1.85**	**170**		Sn	08 11 45.4	-1.3
DJJ	**Donna J Jenkin**	**1.90**	**199**		Pn	08 11 22.6	-0.9
KCC	**Kaiser Creek**	**1.91**	**318**		Pb	08 11 25.0	-0.6
MLAC	**Mammoth, Mammo**	**1.93**	**333**		Pb	08 11 26.4	+0.2
SMMC	**Simmler**	**1.95**	**253**		Pn	08 11 25.2	+1.0
GTM	**Goat Mountain**	**1.96**	**145**		Pb	08 11 26.9	+0.3
MCSM	**Casa Diablo Ho**	**1.98**	**332**		Pb	08 11 27.2	+0.2
GMRC	**Granite Mounta**	**2.02**	**123**		Pn	08 11 23.3	-2.0
SHPR	**Sheep Range**	**2.15**	**73**		Pn	08 11 26.7	-0.3
TPH	**Tonopah**	**2.19**	**10**		Pn	08 11 27.8	+0.1
ELS	**Elsinore Mount**	**2.27**	**174**		Pn	08 11 27.9	-0.7
ELS				IAML		08 12 05.2	
	comp=E,179nm,0.5s						
ELS				IAML		08 12 08.5	
	comp=N,133nm,0.6s						
POB	**Polly Butte**	**2.32**	**163**		Pn	08 11 28.6	-0.6
DGR	**Domenigoni Val**	**2.33**	**165**		Pn	08 11 28.6	-0.8
V12A	**Nelson**	**2.34**	**94**		Pn	08 11 28.1	-1.4
V12A				IAML		08 12 07.5	
	comp=N,180nm,1.1s						
V12A				IAML		08 12 14.3	
	comp=E,145nm,0.6s						
PSMM	**Smith Mountain**	**2.34**	**275**		Pb	08 11 32.6	-0.3
S11A	**Rachel**	**2.34**	**42**		Pn	08 11 29.4	-0.3
S11A				IAML		08 12 10.2	
	comp=N,331nm,0.9s						
CRY	**Cary Ranch**	**2.48**	**161**		Pn	08 11 31.2	-0.3
PFO	**Pinyon Flats O**	**2.52**	**155**		Pn	08 11 30.9	-1.2
PFO				IAML		08 12 15.2	
	comp=N,170nm,1.4s						
PFO				IAML		08 12 16.5	
	comp=N,117nm,1.0s						
NV11	**Mina Array Sit**	**2.54**	**352**		Pn	08 11 31.9	-0.5
NVAR	**Mina Array Bea**	**2.55**	**350**	Pn	Pn	08 11 32.5	-0.2
PRN	**Pahroc Range**	**2.61**	**54**		Pn	08 11 33.9	+0.6
PRN				IAML		08 12 17.5	
	comp=N,166nm,0.7s						
PRN				IAML		08 12 31.6	
	comp=E,225nm,1.0s						
BBGB	**Big Mountain B**	**2.77**	**285**		Pn	08 11 34.8	-0.6
RYN	**Ryan**	**2.78**	**347**		Pn	08 11 35.6	-0.1
Q09A	**Carvers**	**2.95**	**8**		Pn	08 11 37.6	-0.4
Q09A				IAML		08 12 49.2	
	comp=E,198nm,1.6s						
W13A	**Hualapai Mount**	**3.23**	**103**		Pn	08 11 40.6	-1.4
W13A				IAML		08 12 38.7	
	comp=E,63nm,0.8s						
W13A				IAML		08 12 48.8	
	comp=N,60nm,0.9s						
TKX	**Tecate**	**3.46**	**164**	Pn	Pn	08 11 44.7	-0.3
TKX				IAML		08 12 38.5	
	comp=E,128nm,0.6s						
TKX				IAML		08 13 58.4	
	comp=N,81nm,0.1s						
CBX	**Cerro Bola**	**3.70**	**166**		Pn	08 11 47.6	-0.7
GLA	**Glamis**	**3.72**	**139**		Pn	08 11 46.9	-1.7
LCMT	**Little Creek M**	**3.77**	**72**		Pn	08 11 49.4	+0.1
CCUT	**Cedar City**	**3.86**	**64**		Pn	08 11 50.2	-0.5
CCUT				IAML		08 12 59.9	
	comp=E,33nm,1.4s						
SZCU	**Shurtz Canyon**	**4.08**	**64**		Pn	08 11 53.8	+0.2
WUAZ	**Wupatki**	**5.18**	**93**		Pn	08 12 08.4	-0.3
ELK	**Elko**	**5.20**	**21**		Pn	08 12 09.0	-0.1
ELK				IAML		08 13 37.5	
	comp=E,14nm,0.8s						
X16A	**Lo Mia Camp, P**	**5.35**	**104**		Pn	08 12 10.7	-0.4
X16A				IAML		08 13 54.9	
	comp=E,12nm,1.1s						
X16A				IAML		08 13 54.9	
	comp=N,17nm,1.1s						
PV19	**Morning Glory**	**7.38**	**69**		Pn	08 12 37.9	-1.0

*IDC **06** 08:20:29.3±5.9, 7°.07S×129°.38E, h178km±55km, mb3.2/2, mbtmp4.0/6, Error ellipse: s-maj=72.2km s-min=21.5km az=62.0*

ISC 06 08:20:28.3±1.4, 7°.20S±0°.10×129°.36E±0°.10, h150km, n9, σ2°.90/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDU	**Kakadu**	**6.25**	**151**	P	**Pn**	**08 22 02.4**	**+4.0**
BATI	**Baumata**	**6.38**	**242**	P	**Pn**	**08 22 02.4**	**+2.3**
	34nm,0.5s,baz=113,slow=23,SNR=2.1						
BATI				S	**Sn**	**08 23 12.8**	**+0.9**
	23nm,0.4s,baz=74,slow=9.6,SNR=1.5						
FITZ	**Fitzroy Crossi**	**11.42**	**198**	P	**Pn**	**08 23 08.7**	**+1.6**
	3.3nm,0.4s,baz=32,slow=11,SNR=31						
FITZ				S	**Sn**	**08 25 09.7**	**-3.8**
	2.1nm,0.3s,baz=216,slow=23,SNR=8.1						
WRA	**Warramunga Arr**	**13.56**	**160**	P	**Pn**	**08 23 35.5**	**+0.8**
	0.4nm,0.6s,baz=334,slow=13,SNR=11						
WRA				S	**Sn**	**08 26 01.0**	**-3.9**
	1.1nm,0.5s,baz=333,slow=22,SNR=9.1						
WB1	**Warramunga Ar.**	**13.57**	**160**	P	**Pn**	**08 23 36.5**	**+1.6**
ASAR	**Alice Springs**	**16.94**	**166**	P	**P**	**08 24 18.6**	**+2.4**
	3.8nm,0.5s,baz=338,slow=9.5,SNR=76						
ASAR				S	**S**	**08 27 25.0**	**-0.1**
	0.3nm,0.4s,baz=354,slow=26,SNR=4.3						
AS01	**Alice Springs**	**16.95**	**165**	P	**Pn**	**08 24 19.3**	**+2.5**
MKAR	**Makanchi Array**	**68.05**	**327**	P	**P**	**08 31 09.2**	**-2.5**
	0.3nm,0.4s,baz=129,slow=7.2,SNR=7.4						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**72.35**	**329**	P	**P**	**08 31 34.6**	**-3.1**
	0.2nm,0.3s,baz=142,slow=4.7,SNR=3.0						
	0.2nm,0.3s						

*UCR **06** 08:22:20.1±1.2, 8°.30N×82°.83W, h23km±4km, MW3.6, Fault plane solution: NP1:φs327.90000°, δ35.31000°, λ81.33000°.*

*UPA **06** 08:22:20.7±0.9, 8°.38N×82°.80W, h33km±2km, ML3.7, MW3.7*

*CATAC **06** 08:22:20.1±1.2, 8°N±8°×8°3W±°, h14km±5km, M3.5/7, MLv3.5/7, Error ellipse: s-maj=19.6km s-min=8.3km az=24.2, confirmed*

ISC 06 08:22:20.3±1.0, 8°.33N±0°.05×82°.83W±0°.03, h32km±4km, n72, σ1°.00/91, 4C-10D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.08**	**27**	eP	**Pn**	**08 22 25.8**	**-0.1**
LESP3				AMP		08 22 25.9	
	comp=Z,18µm,0.1s						
LESP3				eS	**Sb**	**08 22 30.0**	**+0.3**
LPPC	**Paso Canoas**	**0.20**	**357**	eP	**Pb**	**08 22 26.5**	**-0.3**
LPPC				eS	**Sb**	**08 22 31.5**	**+0.2**
CDITO	**Canoas**	**0.24**	**349**	P	**Pb**	**08 22 26.7**	**-0.6**
CDITO	**Canoas**	**0.24**	**349**	S	**Sb**	**08 22 32.5**	**+0.4**
NELY	**Ciudad Neily**	**0.34**	**340**	↑eP	**Pb**	**08 22 27.9**	**-0.6**

VINA	Juan Vinas	1.80	330	eP		Pn	08 22 50.2	+1.0
VERB	Verbena	1.81	332	eP		Pn	08 22 50.5	+1.0
PISJ	San Jernim	1.82	315	eP		Pn	08 22 50.6	+1.1
LCR2	La Lucha 2	1.82	320	eP		Pn	08 22 50.2	+0.7
LCR2	La Lucha 2	1.82	320	P		Pn	08 22 50.3	+0.7
RVSTA	Santa Teresita	1.82	334	eP		Pn	08 22 50.9	+1.4
PCAYA	Pacayas	1.85	328	eP		Pn	08 22 51.5	+1.5
PICV	PH. Pirrs	1.86	314	eP		Pn	08 22 51.0	+1.0
PAR1A	Puntarenas Pro	1.89	312	eP		Pn	08 22 51.5	+1.2
CVTV	Tajo	1.89	331	eP		Pn	08 22 52.3	+1.6
ACOS	Acosta	1.96	318	eP		Pn	08 22 52.7	+1.2
HEME	Heredia, Merce	2.10	322	eP		Pn	08 22 55.2	+1.9
PURI	Puriscal	2.10	316	eP		Pn	08 22 54.6	+1.2
BELE	Belen	2.11	321	eP		Pn	08 22 55.5	+1.9
CACAO	El Cacao, Vera	2.18	117	eP		Pn	08 22 54.4	0.0
CACAO				eS		Sn	08 23 21.3	+1.0
TCS1	Tacares	2.23	320	P		Pn	08 22 57.5	+2.2
ATEO	Atenas	2.24	317	eP		Pn	08 22 56.5	+1.2
AZU	Azuero	2.58	102	eP		Pn	08 23 00.1	+0.2
AZU				eS		Sn	08 23 29.6	-0.7
SOCE	Pocosol	2.70	319	P		Pn	08 23 03.9	+2.4
ARE1	Arenal 1	2.82	319	eP		Pn	08 23 05.9	+2.7
JTS	Las Juntas de	2.86	313	eP		Pn	08 23 04.3	+0.6
JTS	Las Juntas de	2.86	313	eP		Pn	08 23 04.5	+0.8
JTS				eS		Sn	08 23 36.9	-0.2
JTS	Las Juntas de	2.86	313	P		Pn	08 23 04.0	+0.3
JTS				S		Sn	08 23 38.5	+1.4
INDI	Punta indio, G	3.05	300	P		Pn	08 23 07.0	+0.7
CMARA	Lajas Hojancha	3.06	303	P		Pn	08 23 07.5	+0.9
BCIP	Isla Barro Col	3.07	74	eP		Pn	08 23 05.7	-0.9
BCIP	Isla Barro Col	3.07	74	P		Pn	08 23 09.7	+3.1
ACON	Acoyapa	4.29	328	P		Pn	08 23 25.0	+1.6

NEIC ***06*** *08:26:48.8±2.3,35°.687N±0°.008×117°.35W±0°.01, h3km±3km, Error ellipse: s-maj=1.6km s-min=1.1km az=64.0*

PAS 06 08:26:49.7±2.4,**35°.65N**±0°.01×**117°.33W**±0°.01,**h7**km±3km, **ML3.4**/147,**ML3.2**/76(NEIC),**Error ellipse: s-maj=1.5km s-min=1.5km az=221.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	Chr Cany lake	0.13	191		Pg	08 26 52.7	+0.1
CCCA					Sg	08 26 53.8	-0.7
CLC	China Lake	0.27	307		Pg	08 26 55.3	+0.2
CLC					Sg	08 26 58.3	-0.3
LRMC	Laurel Mtn Rad	0.33	239		Pg	08 26 56.5	+0.2
LRMC					Sg	08 27 00.4	-0.3
LRMC	Laurel Mtn Rad	0.33	239	IAML		08 27 07.0	
	comp=N,4μm,0.2s						
SRTC	Snort	0.34	276		Pg	08 26 57.0	+0.6
SRTC					Sg	08 27 00.8	-0.1
TOW	Tower One	0.38	294		Pg	08 26 55.0	-2.2
MPMC	Manual Prospec	0.42	343		Pg	08 26 57.6	-0.5
GSC	Goldstone, Bar	0.56	129		Sb	08 27 09.1	-1.0
GSC	Goldstone, Bar	0.56	129		Pb	08 27 01.5	-0.4
GSC				IAML		08 27 09.2	
	comp=N,670nm,0.5s						
GSC				IAML		08 27 09.5	
	comp=E,650nm,0.5s						
DTP	Desert Tortois	0.57	227		Pg	08 27 00.4	-0.3
WBSM	Bird Springs	0.67	260		Pg	08 27 01.8	-0.8
CCAC	Calif City Air	0.75	228		Pg	08 27 03.6	-0.5
CCAC				IAML		08 27 21.4	
	comp=N,1μm,0.3s						
CCAC				IAML		08 27 22.0	
	comp=E,944nm,1.2s						
HYS	Haystack Butte	0.81	194		Pg	08 27 04.9	-0.5
RRX	Edison Barstow	0.82	160		Pg	08 27 05.5	-0.1
RRX					Sg	08 27 16.1	-0.2
SHOC	Shoshone, Teco	0.89	74		Sg	08 27 16.5	-2.0
EDW2	Edwards Air Fo	0.94	215		Pg	08 27 06.8	-1.0
EDW2					Sg	08 27 20.4	+0.3
CGO	Cerro Gordo	0.97	337		Pg	08 27 06.7	-1.7
CWC	Cottonwood Cre	0.99	323		Pg	08 27 09.0	+0.2
WASM	Alta Sierra Ca	1.00	275		Pg	08 27 05.7	-3.3
SBB	Saddle Back Bu	1.04	203		Pg	08 27 08.6	-1.2
SBB					Sg	08 27 22.8	-0.5
TPO	Tropico Hills	1.06	224		Pg	08 27 09.6	-0.6
VTV	Victorville	1.09	180		Pb	08 27 11.1	+0.2
VTV					Sg	08 27 24.9	+0.1
ADO	Adelanto Recei	1.10	184		Pn	08 27 11.6	-0.2
ADO					Sb	08 27 26.5	+0.6
DSCC	Desert Studies	1.13	117		Pn	08 27 12.0	0.0
HEC	Hector,Ludlow	1.16	135		Pb	08 27 12.2	+0.1
AMDNV	Amargosa	1.17	47		Pg	08 27 09.5	-2.6
TUQ	Turquoise Moun	1.17	100		Pn	08 27 13.3	+0.7
TEJ	El Tejon	1.19	249		Pg	08 27 11.2	-1.2
TEJ					Sg	08 27 25.1	-2.7
ALPC	Antelope	1.25	220		Pg	08 27 14.3	+0.6
ALPC					Sg	08 27 29.6	-0.2
LRRC	Littlerock Res	1.26	207		Pn	08 27 13.7	0.0
WCT	Wildcat Mounta	1.27	27		Pg	08 27 15.5	+1.4
WCT				IAML		08 27 42.0	
	comp=E,407nm,1.1s						
LEOC	Leona Valley	1.29	218		Pn	08 27 14.1	-0.3
CJV	Casa Juvan	1.30	211		Pn	08 27 14.1	-0.4
JNH	Juniper Hills	1.31	203		Pn	08 27 13.6	-0.9
TJR	Tejon Ranch	1.31	242		Pn	08 27 14.2	-0.3
TJR					Sb	08 27 30.5	-1.2
THC	Tehachapi Micr	1.32	236		Pg	08 27 15.1	+0.1
GRAC	Grapevine Rang	1.34	359		Sb	08 27 30.2	-2.4
GRAC	Grapevine Rang	1.34	359		Pn	08 27 13.6	-1.3
SIL	Silver Peak	1.37	162		Pn	08 27 15.4	0.0
BBRC	Big Bear Solar	1.43	166		Pb	08 27 16.9	+0.1
CHFC	Chilao Flat St	1.44	204		Pb	08 27 16.2	-0.2
CHFC					Sb	08 27 32.9	-2.5
BFSC	Mount Baldy Ra	1.44	191		Pn	08 27 16.6	+0.2
BFSC					Sb	08 27 33.7	-1.8
VES	Vestal, Richgr	1.44	278		Pn	08 27 13.3	-2.9
SSK	Sunset Peak	1.47	192		Pg	08 27 18.0	0.0
BAKC	Calstate	1.48	258		Pn	08 27 15.9	-0.8
MWC	Mount Wilson	1.55	203		Pb	08 27 18.7	-0.1
MWC	Mount Wilson	1.55	203		Pn	08 27 18.2	+0.4
MWC				IAML		08 27 48.8	
	comp=E,247nm,0.6s						
MWC				IAML		08 27 55.1	
	comp=N,316nm,0.9s						
SVD	Seven Oaks Dam	1.56	173		Sn	08 27 37.9	-0.4
CLTC	Calectric	1.56	180		Sg	08 27 40.3	+0.5
TPNV	Topopah Spring	1.56	34		Pn	08 27 17.9	-0.1
TPNV				IAML		08 27 46.4	
	comp=N,435nm,0.9s						
TPNV				IAML		08 27 47.7	
	comp=N,364nm,1.1s						
TIN	Tinemaha, Big	1.57	333		Pn	08 27 16.3	-1.9
TIN					Sn	08 27 37.0	-1.9
GTM	Goat Mountain	1.58	149		Pg	08 27 19.6	-0.3
PSRC	Puddingstone R	1.61	194		Pb	08 27 19.4	-0.3
PSRC					Sn	08 27 39.4	-0.2
DECC	Green Verdugo	1.62	211		Pb	08 27 19.9	-0.2
GMRC	Granite Mounta	1.62	122		Pn	08 27 18.5	-0.4
GMRC					Sn	08 27 37.6	-2.5
PASC	Pasadena Art C	1.64	206		Sn	08 27 40.2	-0.1
PASC	Pasadena Art C	1.64	206		Pn	08 27 18.9	0.0
GMN	Gold Mountain	1.64	2		Pn	08 27 19.4	+0.1
GMN				IAML		08 27 26.9	
	comp=N,350nm,0.7s						
GMN				IAML		08 27 50.0	
	comp=E,205nm,0.7s						
MLSC	Mira Loma	1.66	187		Sn	08 27 40.0	-0.8
RVR	Riverside	1.66	181		Pn	08 27 19.1	-0.1
HLLC	North Hollywoo	1.70	210		Sn	08 27 40.3	-1.5
PEC	Perris	1.76	175		Sn	08 27 42.9	-0.6
DSP	Deep Springs	1.79	344		Pn	08 27 19.9	-1.1
DSP				IAML		08 27 41.4	
	comp=E,255nm,0.4s						
DSP				IAML		08 27 42.2	
	comp=N,172nm,0.4s						
BCW	Bitter Crk WRg	1.84	248		Pn	08 27 21.4	-0.6
POCCA	Poleta Canyon	1.87	336		Pn	08 27 21.7	-0.6
EW2	E Wide Canyon	1.87	156		Pg	08 27 25.4	-0.2
BHPR	Bishop	1.89	331		Pn	08 27 21.0	-1.6
HMTC	Hemet	1.96	172		Pn	08 27 23.5	+0.1
MTUM	Tungsten Hills	1.96	330		Pn	08 27 22.3	-1.4
ELS	Elsinore Mount	2.00	182		Pn	08 27 24.0	-0.1
ELS				IAML		08 28 10.0	
	comp=E,149nm,1.3s						
DGR	Domenigoni Val	2.02	172		Pn	08 27 24.4	+0.2
V12A	Nelson	2.02	87		Pn	08 27 25.1	+0.7
V12A				IAML		08 28 11.8	
	comp=N,174nm,0.8s						
V12A				IAML		08 28 17.5	
	comp=E,156nm,0.7s						
MZP	Montezuma Peak	2.04	359		Pn	08 27 24.4	-0.4
MURC	Murrieta	2.05	177		Pn	08 27 24.9	+0.2
PMD	Palm Desert	2.15	158	Pn	Pn	08 27 26.1	0.0
PMD				IAML		08 28 23.0	
	comp=E,110nm,0.9s						
PFO	Pinyon Flats O	2.16	160		Pn	08 27 26.1	-0.2
PFO				IAML		08 28 17.7	
	comp=E,135nm,2.0s						
SNDA	J Saunders Pla	2.18	164		Pg	08 27 30.6	-0.9
BENR	Benton	2.29	335		Pn	08 27 28.4	+0.2
KCC	Kaiser Creek	2.31	317		Pn	08 27 27.5	-0.8
MLAC	Mammoth, Mammo	2.31	329		Pn	08 27 28.7	+0.2
MCSM	Casa Diablo Ho	2.36	328		Pn	08 27 29.5	+0.3
TRAM	Private Proper	2.39	271		Pb	08 27 31.7	-1.5
PRN	Pahroc Range	2.54	46		Pn	08 27 31.4	-0.1
LHV	Little Huntoon	2.76	340		Pn	08 27 33.6	-0.8
LHV				IAML		08 28 16.4	
	comp=N,122nm,1.0s						
NV11	Mina Array Sit	2.85	347		Pn	08 27 35.0	-0.8
NV11				IAML		08 28 24.1	
	comp=E,66nm,1.4s						
PMPB	Monarch Peak	2.87	282		Pn	08 27 35.4	-0.6
W13A	Hualapai Mount	2.87	100		Pn	08 27 37.0	+0.8
W13A				IAML		08 28 39.2	
	comp=N,53nm,1.2s						
NVAR	Mina Array Bea	2.88	345		Pn	08 27 35.9	-0.3
BLYC	Blythe	2.99	129		Pn	08 27 36.8	-0.8
BLYC				IAML		08 28 42.1	
	comp=N,52nm,0.8s						
BLYC				IAML		08 28 49.0	
	comp=E,60nm,0.9s						
RYN	Ryan	3.12	343		Pn	08 27 38.8	-0.7
RYN				IAML		08 28 29.8	
	comp=E,70nm,1.2s						
BBGB	Big Mountain B	3.14	288		Pn	08 27 39.1	-0.6
YUH	Yuha Desert	3.22	158		Pn	08 27 41.3	+0.6
GLA	Glamis	3.32	141		Pn	08 27 41.3	-0.8
GLA				IAML		08 28 57.8	
	comp=N,76nm,0.7s						
CMB	Columbia Colle	3.41	315		Pn	08 27 44.5	+1.1
CMB				IAML		08 28 32.8	
	comp=N,68nm,0.8s						
CMB				IAML		08 28 36.4	
	comp=E,61nm,0.7s						
SAO	San Andreas Ge	3.51	290		Pn	08 27 43.9	-0.8
LCMT	Little Creek M	3.57	66		Pn	08 27 45.5	-0.1
CCUT	Cedar City	3.71	58		Pn	08 27 49.0	+1.3
CCUT				IAML		08 29 02.1	
	comp=N,28nm,1.4s						
CCUT				IAML		08 29 02.6	
	comp=E,26nm,1.8s						
ESJX	Sierra Juarez	3.82	162		Pn	08 27 48.4	-0.7
ESJX				IAML		08 29 08.4	
	comp=E,31nm,1.0s						
ESJX				IAML		08 29 49.0	
	comp=N,28nm,0.8s						
KNB	Kanab	3.89	68		Pn	08 27 51.7	+1.6
KNB				IAML		08 29 16.8	
	comp=E,38nm,1.6s						
KNB				IAML		08 29 20.3	
	comp=N,38nm,1.5s						
Y14A	Wickenburg	3.95	114		Pn	08 27 51.6	+0.8
Y14A				IAML		08 29 12.8	
	comp=N,38nm,0.7s						
Y14A				IAML		08 29 21.7	
	comp=E,30nm,0.6s						

NEIC ***06*** *08:28:33.4±1.6,35°.630N±0°.009×117°.40W±0°.01, h5km±2km, Error ellipse: s-maj=1.4km s-min=1.3km az=68.0*

PAS 06 08:28:33.7±1.6,**35°.631N**±0°.009×**117°.41W**±0°.01, **h3**km±2km,**ML3.5**/18,**ML3.3**/64(NEIC),**Error ellipse: s-maj=1.3km s-min=1.3km az=207.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	Chr Cany lake	0.11	162		Pg	08 28 36.5	+0.6
CLC	China Lake	0.24	320		Pg	08 28 38.4	0.0
LRMC	Laurel Mtn Rad	0.27	236		Sg	08 28 43.4	+0.9
LRMC	Laurel Mtn Rad	0.27	236		Pg	08 28 39.0	+0.1
LRMC				IAML		08 28 43.4	
	comp=E,8μm,0.4s						
LRMC				IAML		08 28 44.6	
	comp=N,7μm,0.3s						
SRTC	Snort	0.28	282		Sg	08 28 44.7	+1.7
TOW	Tower One	0.34	302		Pg	08 28 40.9	+0.6
TOW					Sb	08 28 46.7	-1.7
MPMC	Manual Prospec	0.43	351		Pg	08 28 42.0	-0.1
WVPM	Volcano Peak E	0.46	314		Pg	08 28 42.7	+0.1
WVPM					Sg	08 28 49.5	+0.9
DTP	Desert Tortois	0.51	225		Pg	08 28 43.3	-0.2
DTP					Sg	08 28 50.5	+0.3
WRVM	Rose V. Centra	0.54	314		Sg	08 28 51.2	-0.1
QSM	Queen of Sheba	0.55	53		Pg	08 28 44.3	0.0
QSM				IAML		08 28 52.6	
	comp=N,2μm,0.3s						
QSM				IAML		08 28 52.9	
	comp=E,2μm,0.2s						
GSC	Goldstone, Bar	0.59	124		Sg	08 28 53.2	+0.5
GSC	Goldstone, Bar	0.59	124		Pg	08 28 45.0	0.0
GSC				IAML		08 28 53.5	
	comp=N,4μm,0.4s						
GSC				IAML		08 28 54.9	
	comp=E,3μm,0.6s						
WBSM	Bird Springs	0.60	261		Pg	08 28 45.2	-0.1
WBSM					Sg	08 28 53.7	+0.5
MFS	McCloud Flat S	0.61	323		Pg	08 28 45.2	-0.2
MFS					Sg	08 28 53.7	+0.4
WORM	Onyx Ranch	0.68	276		Pg	08 28 46.6	-0.2
CCAC	Calif City Air	0.69	226		Pg	08 28 46.8	-0.2
WHFM	Hanning Flat	0.77	275		Sg	08 28 58.3	-0.2
HYS	Haystack Butte	0.78	190		Pg	08 28 48.3	-0.4
HYS					Sg	08 28 58.9	+0.2
GWY	Greenwater Val	0.82	47		Pg	08 28 49.1	-0.3
GWY				IAML		08 29 03.8	
	comp=N,1μm,0.3s						
GWY				IAML		08 29 08.0	
	comp=E,1μm,0.5s						
RRX	Edison Barstow	0.83	156		Pg	08 28 49.4	-0.2
ISA	Isabella, Lake	0.87	272		Sg	08 29 01.6	-0.1
ISA	Isabella, Lake	0.87	272		Pg	08 28 49.9	-0.5
ISA				IAML		08 29 04.6	
	comp=N,854nm,0.4s						
EDW2	Edwards Air Fo	0.89	213		Pg	08 28 50.2	-0.6
EDW2					Sb	08 29 03.5	-0.7
WASM	Alta Sierra Ca	0.94	277		Pg	08 28 51.3	-0.5
WASM					Sg	08 29 03.8	-0.2
CGO	Cerro Gordo	0.97	341		Pb	08 28 53.3	-0.2
SBB	Saddle Back Bu	1.00	200		Pg	08 28 52.5	-0.4
SBB					Sg	08 29 05.2	-0.7
TPO	Tropico Hills	1.01	222		Pg	08 28 52.5	-0.5
VTV	Victorville	1.07	177		Pb	08 28 54.7	-0.3
VTV					Sb	08 29 09.4	0.0
ADO	Adelanto Recei	1.08	181		Pb	08 28 55.2	+0.1
ADO					Sb	08 29 10.0	+0.3
TEJ	El Tejon	1.12	249		Pg	08 28 54.1	-1.1
DSCC	Desert Studies	1.17	114		Pg	08 28 55.1	-1.1
DSCC					Sg	08 29 11.3	0.0
HEC	Hector,Ludlow	1.19	132		Pg	08 28 55.7	-0.8
ALPC	Antelope	1.19	218		Pg	08 28 56.7	+0.1
LRRC	Littlerock Res	1.22	205		Pg	08 28 56.3	-0.7
LRRC					Sg	08 29 13.1	+0.3
TUQ	Turquoise Moun	1.23	99		Pg	08 28 56.3	-1.0
TUQ					Sb	08 29 13.6	-0.4
AMDNV	Amargosa	1.23	48		Pg	08 28 56.8	-0.4
LEOC	Leona Valley	1.24	217		Pg	08 28 56.5	-1.0
LEOC					Sb	08 29 14.5	+0.1
SPG2	Springville 2	1.24	298		Pg	08 28 56.7	-0.8
TJR	Tejon Ranch	1.25	242		Pg	08 28 56.6	-1.0
CJV	Casa Juvan	1.25	209		Pg	08 28 57.3	-0.4
THC	Tehachapi Micr	1.25	235		Pg	08 28 57.0	-0.8
JNH	Juniper Hills	1.26	201		Pg	08 28 57.1	-0.8
JNH					Sb	08 29 15.5	+0.5
MAGC	SCE Magundon P	1.27	258		Pg	08 28 57.4	-0.6
ARVC	Arvin	1.27	247		Pg	08 28 57.0	-1.0
WCT	Wildcat Mounta	1.32	28		Pg	08 28 58.0	-1.0
WCT				IAML		08 29 17.9	
	comp=N,283nm,0.5s						
WCT				IAML		08 29 19.0	
	comp=E,384nm,0.4s						
GRAC	Grapevine Rang	1.36	1		Pn	08 28 58.8	-1.0
SIL	Silver Peak	1.37	159		Pg	08 28 59.1	-0.8
SGV	South Grapevin	1.38	13		Pb	08 29 00.4	+0.1
CHFC	Chilao Flat St	1.39	202		Pb	08 29 00.5	0.0
BFSC	Mount Baldy Ra	1.40	189		Pn	08 28 59.8	-0.6
BAKC	Calstate	1.41	259		Pn	08 28 60.0	-0.4
BBRC	Big Bear Solar	1.42	164		Pn	08 29 00.1	-0.6
SSK	Sunset Peak	1.44	189		Pb	08 29 01.4	+0.1
OSI	Osito Audit: C	1.48	227		Pn	08 29 01.2	-0.2
OSI	Osito Audit: C	1.48	227		Pn	08 29 00.9	-0.5
OSI				IAML		08 29 23.8	
	comp=E,726nm,0.5s						
OSI				IAML		08 29 24.4	
	comp=N,768nm,0.5s						
MWC	Mount Wilson	1.50	201		Pn	08 29 00.3	-1.5
MTPC	Mountain Pass	1.52	95		Pn	08 29 00.5	-1.6
PDE	Pardee, Santa	1.53	219		Pg	08 29 03.1	+0.1
CLTC	Calectric	1.54	177		Sn	08 29 19.1	-3.6
SVD	Seven Oaks Dam	1.54	170		Pn	08 29 02.2	0.0
DECC	Green Verdugo	1.57	209		Pb	08 29 03.5	0.0
PSRC	Puddingstone R	1.57	192		Pb	08 29 03.1	-0.4
GTM	Goat Mountain	1.59	147		Pn	08 29 03.1	+0.2
PASC	Pasadena Art C	1.59	204		Pn	08 29 01.9	-1.0
PASC				IAML		08 29 28.7	
	comp=E,368nm,0.5s						
PASC				IAML		08 29 30.4	
	comp=N,442nm,0.6s						
LCH	Last Change Ra	1.61	353		Pn	08 29 02.5	-0.8
TPNV	Topopah Spring	1.61	35		Pn	08 29 03.1	-0.2
TPNV				IAML		08 29 32.9	
	comp=N,278nm,0.9s						
TPNV				IAML		08 29 34.8	
	comp=N,198nm,0.6s						
GMRC	Granite Mounta	1.66	120		Pn	08 29 01.6	-2.3
GMN	Gold Mountain	1.67	4		Pn	08 29 03.9	-0.3
GMN				IAML		08 29 33.9	
	comp=N,198nm,0.5s						
PEC	Perris	1.75	173		Pn	08 29 04.4	-0.6
DJJ	Donna J Jenkin	1.75	210		Pb	08 29 06.4	-0.1
BLAC	Blackrock camp	1.77	151		Pb	08 29 06.9	0.0
BCW	Bitter Crk WRg	1.78	248	Pn	Pn	08 29 04.6	-1.0
BCW				IAML		08 29 32.5	
	comp=E,310nm,1.1s						
BCW				IAML		08 29 46.0	
	comp=N,313nm,0.7s						
DSP	Deep Springs	1.79	346	Pn	Pn	08 29 05.3	-0.3
EW2	E Wide Canyon	1.88	154		Pb	08 29 08.9	+0.2
TPC	Twentynine Pal	1.89	143		Pn	08 29 05.8	-1.2
HMTC	Hemet	1.95	170		Pn	08 29 06.9	-0.9
MTUM	Tungsten Hills	1.96	332		Pb	08 29 10.2	0.0
ELS	Elsinore Mount	1.98	180		Pn	08 29 07.8	-0.4
ELS	Elsinore Mount	1.98	180	Pn	Pn	08 29 07.7	-0.6
ELS	Elsinore Mount	1.98	180	IAML		08 29 39.5	
	comp=E,245nm,0.3s						
ELS				IAML		08 29 39.6	
	comp=N,220nm,0.5s						
POB	Polly Butte	1.98	168		Pn	08 29 07.5	-0.8
DGR	Domenigoni Val	2.00	170		Pn	08 29 07.8	-0.7
SHPR	Sheep Range	2.02	64	Pn	Pn	08 29 08.7	-0.2
MURC	Murrieta	2.03	175		Pn	08 29 08.3	-0.7
BACC	Bachelor Mtn.	2.04	171		Pn	08 29 08.3	-0.8
MZP	Montezuma Peak	2.07	1	Pn	Pn	08 29 09.2	-0.4
V12A	Nelson	2.08	87	Pn	Pn	08 29 07.9	-1.8
V12A				IAML		08 29 41.0	
	comp=N,233nm,0.5s						
V12A				IAML		08 29 45.7	
	comp=E,145nm,0.4s						
CRY	Cary Ranch	2.13	165		Pn	08 29 09.6	-0.9
PMD	Palm Desert	2.15	156	Pn	Pn	08 29 08.7	-1.8
PFO	Pinyon Flats O	2.16	159	Pn	Pn	08 29 09.5	-1.3
SNDA	J Saunders Pla	2.17	162		Pb	08 29 14.0	+0.1
BZNA	Buzz No.'s Pla	2.22	164		Pn	08 29 10.8	-0.8
FRD	Ford Ranch, An	2.23	162		Pn	08 29 10.9	-0.8
TPH	Tonopah	2.44	3	Pn	Pn	08 29 14.5	-0.3
PRN	Pahroc Range	2.60	46	Pn	Pn	08 29 15.5	-1.3
PRN				IAML		08 30 01.4	
	comp=N,144nm,0.5s						
PRN				IAML		08 30 06.3	
	comp=E,152nm,0.7s						
LHV	Little Huntoon	2.76	342	Pn	Pn	08 29 17.9	-1.0
LHV				IAML		08 30 06.9	
	comp=E,134nm,0.6s						
LHV				IAML		08 30 09.6	
	comp=N,109nm,0.9s						
W13A	Hualapai Mount	2.93	99	Pn	Pn	08 29 20.1	-1.3
W13A				IAML		08 30 09.6	
	comp=E,50nm,0.7s						
W13A				IAML		08 30 17.2	
	comp=N,84nm,0.9s						
BLYC	Blythe	3.03	127	Pn	Pn	08 29 20.5	-2.1
BLYC				IAML		08 30 10.9	
	comp=E,120nm,0.6s						
BLYC				IAML		08 30 12.5	
	comp=N,140nm,0.5s						
YUH	Yuha Desert	3.22	157	Pn	Pn	08 29 24.3	-1.0
CBX	Cerro Bola	3.37	169	Pn	Pn	08 29 27.2	-0.2
LCMT	Little Creek M	3.63	66	Pn	Pn	08 29 30.1	-1.0

NEIC ***06*** *08:29:10.6±1.0,35°.934N±0°.010×117°.684W±0°.008, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.8km az=90.0*

PAS 06 08:29:10.9±1.0,**35°.926N**±0°.010×**117°.69W**±0°.01, **h0**km,**ML3.0**/9,**ML2.9**/22(NEIC),**Error ellipse: s-maj=1.6km s-min=1.3km az=123.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	Volcano Peak E	0.10	283		Pg	08 29 13.4	+0.4
TOW	Tower One	0.13	207		Pg	08 29 14.2	+0.8
CLC	China Lake	0.13	145		Pg	08 29 13.5	0.0
WRVM	Rose V. Centra	0.18	297		Pg	08 29 14.8	+0.3
WNMM

NEIC ***06*** *08:31:09.1±1.3,35°.895N×0°.009×117°.73W×0°.01, h5km,Error ellipse: s-maj=1.8km s-min=1.6km az=333.0*

PAS 06 08:31:09.3±1.2,**35°.895N**×0°.009×**117°.72W**×0°.01, **h4**km±2km,**ML3.2**/21,**ML3.2**/54(NEIC),**Error ellipse: s-maj=1.4km s-min=1.3km az=126.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.09**	**201**		Pg	08 31 11.7	+0.5
WVPM	**Volcano Peak E**	**0.09**	**305**		Pg	08 31 11.6	+0.2
CLC	**China Lake**	**0.13**	**128**		Pg	08 31 11.9	0.0
WNMM	**Nine Mile Cany**	**0.16**	**251**		Pg	08 31 12.6	+0.2
WNMM					Sg	08 31 15.3	+0.8
WRVM	**Rose V. Centra**	**0.18**	**310**		Pg	08 31 13.0	+0.1
MFS	**McCloud Flat S**	**0.25**	**334**		Pg	08 31 14.2	0.0
MFS					Sg	08 31 17.9	+0.5
MPMC	**Manual Prospec**	**0.25**	**49**		Pg	08 31 14.3	+0.1
MPMC					Sg	08 31 18.0	+0.4
LRMC	**Laurel Mtn Rad**	**0.42**	**175**		Sg	08 31 23.6	+0.8
LRMC	**Laurel Mtn Rad**	**0.42**	**175**	Pg	Pg	08 31 16.9	-0.4
LRMC				IAML		08 31 24.6	
	comp=N,1μm,0.2s						
LRMC				IAML		08 31 24.7	
	comp=E,1μm,0.1s						
WORM	**Onyx Ranch**	**0.47**	**245**		Sg	08 31 24.3	-0.1
CCCA	**Chr Cany lake**	**0.47**	**142**		Sg	08 31 25.9	+1.4
WBSM	**Bird Springs**	**0.49**	**224**		Pg	08 31 18.7	-0.1
WBSM					Sg	08 31 25.5	+0.3
WHFM	**Hanning Flat**	**0.55**	**249**		Pg	08 31 19.6	-0.2
WHFM					Sg	08 31 27.0	+0.1
CWC	**Cottonwood Cre**	**0.62**	**332**		Sg	08 31 29.6	+0.4
DTP	**Desert Tortois**	**0.63**	**189**		Pg	08 31 21.1	-0.4
DTP					Sg	08 31 29.9	+0.1
ISA	**Isabella, Lake**	**0.65**	**249**		Pg	08 31 21.3	-0.6
ISA				IAML		08 31 30.5	
	comp=N,756nm,0.4s						
ISA				IAML		08 31 31.5	
	comp=E,775nm,0.2s						
WASM	**Alta Sierra Ca**	**0.70**	**257**		Pg	08 31 22.5	-0.2
WASM					Sg	08 31 31.8	+0.1
QSM	**Queen of Sheba**	**0.70**	**84**		Sg	08 31 32.0	+0.2
QSM	**Queen of Sheba**	**0.70**	**84**		Pg	08 31 21.4	-1.4
QSM				IAML		08 31 35.4	
	comp=N,690nm,0.4s						
QSM				IAML		08 31 35.5	
	comp=E,721nm,0.6s						
CCAC	**Calif City Air**	**0.78**	**198**		Sg	08 31 34.4	+0.1
CCAC	**Calif City Air**	**0.78**	**198**	Pg	Pg	08 31 23.8	-0.5
CCAC				IAML		08 31 35.0	
	comp=N,836nm,0.4s						
CCAC				IAML		08 31 35.1	
	comp=E,730nm,0.4s						
SPG2	**Springville 2**	**0.90**	**290**		Sg	08 31 37.8	-0.5
GWY	**Greenwater Val**	**0.90**	**71**	Pg	Pg	08 31 26.1	-0.6
GWY				IAML		08 31 41.5	
	comp=N,373nm,0.4s						
GWY				IAML		08 31 43.5	
	comp=E,445nm,0.4s						
GSC	**Goldstone, Bar**	**0.95**	**128**		Pg	08 31 27.3	-0.3
GSC	**Goldstone, Bar**	**0.95**	**128**	Pg	Pg	08 31 27.2	-0.4
GSC				IAML		08 31 42.0	
	comp=N,659nm,0.3s						
GSC				IAML		08 31 42.4	
	comp=E,659nm,0.7s						
TEJ	**El Tejon**	**1.03**	**230**		Pg	08 31 28.1	-0.9
TEJ					Sg	08 31 41.8	-0.6
HYS	**Haystack Butte**	**1.04**	**173**		Pg	08 31 28.4	-0.8
TPO	**Tropico Hills**	**1.09**	**202**		Sg	08 31 44.3	-0.2
VES	**Vestal, Richgr**	**1.11**	**268**		Pg	08 31 30.1	-0.5
VES					Sg	08 31 45.0	+0.1
GRAC	**Grapevine Rang**	**1.14**	**15**		Pg	08 31 30.4	-0.7
GRAC				IAML		08 31 51.9	
	comp=E,379nm,0.7s						
GRAC				IAML		08 31 52.9	
	comp=N,332nm,0.8s						
RRX	**Edison Barstow**	**1.18**	**150**		Pg	08 31 31.9	0.0
TJR	**Tejon Ranch**	**1.20**	**224**		Pg	08 31 31.6	-0.8
TJR					Sg	08 31 47.4	-0.6
SBB	**Saddle Back Bu**	**1.21**	**184**		Pg	08 31 32.0	-0.5
SGV	**South Grapevin**	**1.22**	**27**		Pg	08 31 32.6	-0.1
BAKC	**Calstate**	**1.25**	**244**		Pg	08 31 32.7	-0.6
WCT	**Wildcat Mounta**	**1.26**	**44**		Sg	08 31 49.6	-0.3
WCT	**Wildcat Mounta**	**1.26**	**44**		Pg	08 31 33.1	-0.4
AMDNV	**Amargosa**	**1.29**	**64**		Pg	08 31 33.8	-0.4
AMDNV					Sg	08 31 50.5	-0.4
LRRC	**Littlerock Res**	**1.39**	**190**		Pb	08 31 35.9	+0.1
VOG	**Valley Oaks Go**	**1.41**	**288**		Pn	08 31 35.3	-0.4
GMN	**Gold Mountain**	**1.45**	**15**		Pn	08 31 35.9	-0.7
DSP	**Deep Springs**	**1.48**	**352**		Pn	08 31 36.3	-0.5
TUQ	**Turquoise Moun**	**1.54**	**107**		Sg	08 31 58.5	-0.2
HEC	**Hector,Ludlow**	**1.56**	**133**		Sb	08 31 59.0	+0.3
CHFC	**Chilao Flat St**	**1.58**	**189**		Sg	08 31 59.8	-0.3
TPNV	**Topopah Spring**	**1.59**	**48**		Pn	08 31 38.4	0.0
TPNV				IAML		08 32 03.0	
	comp=N,146nm,0.9s						
TPNV				IAML		08 32 07.5	
	comp=N,144nm,0.8s						
MTUM	**Tungsten Hills**	**1.60**	**335**		Pb	08 31 39.3	-0.4
BFSC	**Mount Baldy Ra**	**1.65**	**178**		Pn	08 31 39.6	+0.4
BCW	**Bitter Crk WRg**	**1.68**	**236**		Pn	08 31 39.3	-0.2
BCW				IAML		08 32 04.3	
	comp=N,175nm,0.6s						
BCW				IAML		08 32 22.0	
	comp=E,177nm,0.8s						
MWC	**Mount Wilson**	**1.69**	**189**		Pn	08 31 39.2	-0.6
MWC				IAML		08 32 04.6	
	comp=E,210nm,0.5s						
MWC				IAML		08 32 04.8	
	comp=N,266nm,0.6s						
SIL	**Silver Peak**	**1.71**	**154**		Pb	08 31 41.4	-0.1
BBRC	**Big Bear Solar**	**1.76**	**158**		Pb	08 31 42.6	+0.3
CRGC	**Crocker Grade**	**1.76**	**249**		Pn	08 31 41.4	+0.8
PSRC	**Puddingstone R**	**1.80**	**182**		Pb	08 31 43.3	+0.4
BLCC	**Black Canyon**	**1.82**	**206**		Pb	08 31 43.4	+0.1
BENR	**Benton**	**1.94**	**340**		Pb	08 31 45.3	-0.1
MLAC	**Mammoth, Mammo**	**1.95**	**333**		Pb	08 31 45.7	+0.1
MCSM	**Casa Diablo Ho**	**2.00**	**332**		Pb	08 31 46.5	+0.2
TSCN	**Private Proper**	**2.17**	**261**		Pn	08 31 46.6	+0.5
DEVC	**Devers**	**2.17**	**154**		Pn	08 31 46.4	+0.1
LHV	**Little Huntoon**	**2.43**	**345**		Pn	08 31 49.5	-0.3
NV11	**Mina Array Sit**	**2.56**	**352**	Pn	Pn	08 31 51.3	-0.3
NVAR	**Mina Array Bea**	**2.57**	**350**		Pn	08 31 51.5	-0.5
RAMR	**Ramage Ranch**	**2.57**	**265**	IAML		08 32 28.7	
	comp=N,120nm,0.6s						
RAMR				IAML		08 32 30.8	
	comp=E,120nm,0.6s						
RYN	**Ryan**	**2.80**	**347**	Pn	Pn	08 31 53.8	-1.3
W13A	**Hualapai Mount**	**3.23**	**103**	Pn	Pn	08 31 59.4	-1.6
W13A				IAML		08 34 05.1	
	comp=N,510nm,0.9s						
BLYC	**Blythe**	**3.39**	**128**	Pn	Pn	08 32 01.4	-1.6
CBX	**Cerro Bola**	**3.68**	**166**	Pn	Pn	08 32 06.5	-0.6
CCUT	**Cedar City**	**3.87**	**63**	Pn	Pn	08 32 11.2	+1.3
CCUT				IAML		08 34 15.6	
	comp=N,451nm,0.8s						
KNB	**Kanab**	**4.11**	**73**	Pn	Pn	08 32 13.7	+0.7
KNB				IAML		08 34 22.7	
	comp=E,375nm,0.9s						
KNB				IAML		08 34 31.8	
	comp=N,338nm,0.9s						
ESJX	**Sierra Juarez**	**4.15**	**159**	Pn	Pn	08 32 11.6	-2.1
WUAZ	**Wupatki**	**5.18**	**92**	Pn	Pn	08 32 27.8	0.0
DUG	**Dugway, Tooele**	**5.78**	**41**	Pn	Pn	08 32 36.9	+0.9

NEIC ***06*** *08:32:56.9±1.2,35°.638N×0°.007×117°.485W×0°.008, h5km±1km,Error ellipse: s-maj=1.2km s-min=0.4km az=220.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr4.09; Mθθ-7.70; Mϕϕ3.61; Mrθ-2.78; Mθϕ3.71; Mϕr-3.14; Fault plane solution: Ms8.71000×10¹⁵ NP1:φs143.39000°,δ54.14000°,λ151.89000°. NP2: φs250.77000°,δ67.55000°,λ39.33000°. Principal axes: T 8.3012, Plg43.0000°, Azm112.0000°; N 0.7639, Plg46.0000°, Azm276.0000°; P -9.0652, Plg8.0000°, Azm14.0000°;*

IDC ***06*** *08:32:56.7±0.4,35°.58N×117°.45W,h0km,mb4.5/24, mbtmp4.5/31,ML4.2/7,MS4.0/26 Error ellipse: s-maj=11.5km s-min=5.7km az=73.0*

NEIC ***06*** *08:32:57.5,35°.64N×117°.49W,h2km*

PAS ***06*** *08:32:57.5±1.2,35°.639N±0°.004×117°.49W±0°.01, h3km±2km,Mwr4.6/6,mb4.7/37(NEIC),ML4.8/116(NEIC), Mwr4.6/176(NEIC),Error ellipse: s-maj=1.2km s-min=0.5km az=100.0*

MOS ***06*** *08:32:57.8±0.8,35°.60N×117°.42W,h15km,mb4.9/31, Error ellipse: s-maj=6.9km s-min=4.4km az=99.6*

ISC 06 08:32:58.1±0.8,**35°.60N**±0°.02×**117°.49W**±0°.02,**h8**km±5km, **n634,σ1§45/634,mb4.7**/64,**MS4.2**/20,**9C-5D,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.13**	**127**		Pg	08 33 01.1	+0.2
LRMC	**Laurel Mtn Rad**	**0.20**	**232**		Pg	08 33 02.0	-0.3
LRMC					Sg	08 33 05.4	+0.4
LRMC	**Laurel Mtn Rad**	**0.20**	**232**	IAML		08 33 05.7	
	comp=N,231μm,0.7s						
LRMC				IAML		08 33 05.8	
	comp=E,394μm,0.4s						
SRTC	**Snort**	**0.23**	**293**		Pg	08 33 02.3	-0.5
CLC	**China Lake**	**0.23**	**338**		Pg	08 33 01.4	-1.4
CLC					Sg	08 33 04.3	-1.6
TOW	**Tower One**	**0.30**	**313**		Pg	08 33 03.5	-0.7
TOW					Sg	08 33 08.6	+0.3
WNMM	**Nine Mile Cany**	**0.42**	**306**		Pg	08 33 05.3	-0.9
WVPM	**Volcano Peak E**	**0.44**	**323**		Pg	08 33 05.5	-1.2
DTP	**Desert Tortois**	**0.44**	**221**		Pg	08 33 06.4	-0.4
DTP					Sb	08 33 12.9	-2.1
MPMC	**Manual Prospec**	**0.46**	**360**		Pg	08 33 05.5	-1.6
MPMC					Sg	08 33 11.8	-1.3
JRC2	**Joshua Ridge**	**0.46**	**326**		Pg	08 33 06.0	-1.1
WRVM	**Rose V. Centra**	**0.52**	**321**		Pg	08 33 07.0	-1.3
WRVM					Sg	08 33 13.8	-1.3
WBSM	**Bird Springs**	**0.53**	**263**		Pg	08 33 06.6	-1.9
WBSM					Sg	08 33 15.3	-0.3
MFS	**McCloud Flat S**	**0.59**	**330**		Pg	08 33 08.3	-1.3
MFS					Sg	08 33 16.5	-1.0
QSM	**Queen of Sheba**	**0.62**	**54**		Sg	08 33 17.1	-1.2
QSM	**Queen of Sheba**	**0.62**	**54**		Pg	08 33 09.2	-0.9
QSM				IAML		08 33 18.0	
	comp=E,53μm,0.8s						
QSM				IAML		08 33 21.6	
	comp=N,51nm,0.8s						
WORM	**Onyx Ranch**	**0.62**	**279**		Pg	08 33 09.3	-0.8
WORM					Sg	08 33 17.4	-0.9
CCAC	**Calif City Air**	**0.62**	**224**		Sb	08 33 19.1	-1.0
CCAC	**Calif City Air**	**0.62**	**224**		Pb	08 33 09.7	-1.5
CCAC				IAML		08 33 24.4	
	comp=E,79μm,0.5s						
CCAC				IAML		08 33 27.1	
	comp=N,71μm,0.9s						
GSC	**Goldstone, Bar**	**0.63**	**118**		Pg	08 33 09.9	-0.4
GSC				IAML		08 33 21.0	
	comp=N,46μm,0.8s						
GSC	**Goldstone, Bar**	**0.63**	**118**		Sb	08 33 19.0	-1.5
GSC	**Goldstone, Bar**	**0.63**	**118**	P	Pg	08 33 09.9	-0.4
GSC						08 33 19.0	
WHFM	**Hanning Flat**	**0.71**	**278**		Pg	08 33 10.8	-1.0
WHFM					Sg	08 33 20.2	-0.8
HYS	**Haystack Butte**	**0.74**	**185**		Pb	08 33 11.9	-1.3
HYS					Sb	08 33 22.4	-1.2
ISA	**Isabella, Lake**	**0.81**	**275**	Pg	Pg	08 33 12.4	-1.2
ISA	**Isabella, Lake**	**0.81**	**275**	P	Pg	08 33 12.4	-1.2
ISA						08 33 23.5	
EDW2	**Edwards Air Fo**	**0.83**	**210**		Pb	08 33 13.4	-1.4
EDW2					Sb	08 33 24.9	-1.3
RRX	**Edison Barstow**	**0.83**	**151**		Pb	08 33 13.9	-0.8
WASM	**Alta Sierra Ca**	**0.88**	**279**		Pg	08 33 13.9	-1.1
WASM					Sg	08 33 26.0	-0.5
GWY	**Greenwater Val**	**0.89**	**49**		Pg	08 33 13.6	-1.5
GWY	**Greenwater Val**	**0.89**	**49**	IAML		08 33 28.6	
	comp=N,41μm,1.2s						
GWY				IAML		08 33 30.4	
	comp=E,37μm,0.8s						
TPO	**Tropico Hills**	**0.94**	**220**		Pb	08 33 15.5	-1.2
SBB	**Saddle Back Bu**	**0.95**	**197**		Pb	08 33 15.7	-1.1
CWC	**Cottonwood Cre**	**0.96**	**330**		Pg	08 33 15.1	-1.6
CGO	**Cerro Gordo**	**0.98**	**345**		Pg	08 33 15.0	-2.0
FURC	**Furnace Creek,**	**1.00**	**30**		Pg	08 33 15.9	-1.4
SHOC	**Shoshone, Teco**	**1.03**	**73**		Pg	08 33 17.0	-0.9
VTV	**Victorville**	**1.05**	**173**		Pn	08 33 17.8	-1.4
VTV	**Victorville**	**1.05**	**173**	P	Pn	08 33 17.8	-1.4
TEJ	**El Tejon**	**1.05**	**250**		Pg	08 33 16.8	-1.4
ADO	**Adelanto Recei**	**1.05**	**178**		Pn	08 33 18.0	-1.2
ALPC	**Antelope**	**1.13**	**216**		Pb	08 33 18.8	-1.1
LRRC	**Littlerock Res**	**1.16**	**203**		Pn	08 33 19.5	-1.1
TJR	**Tejon Ranch**	**1.18**	**241**		Pg	08 33 19.1	-1.6
LEOC	**Leona Valley**	**1.18**	**215**		Pb	08 33 19.6	-1.1
HOLC	**Holcomb Ridge**	**1.18**	**194**		Pn	08 33 19.9	-1.1
THC	**Tehachapi Micr**	**1.18**	**235**		Pg	08 33 19.5	-1.3
ARVC	**Arvin**	**1.19**	**247**		Pg	08 33 19.7	-1.3
MAGC	**SCE Magundon P**	**1.20**	**259**		Pb	08 33 20.1	-0.9
CJV	**Casa Juvan**	**1.20**	**207**		Pn	08 33 20.2	-1.1
SPG2	**Springville 2**	**1.20**	**300**		Pb	08 33 19.3	-1.8
JNH	**Juniper Hills**	**1.21**	**198**		Pn	08 33 20.6	-0.9
HEC	**Hector,Ludlow**	**1.22**	**129**		Pg	08 33 20.2	-1.3
DSCC	**Desert Studies**	**1.22**	**112**		Pb	08 33 19.7	-1.7
BTPC	**Burnt Peak**	**1.28**	**224**		Pn	08 33 21.7	-0.8
TUQ	**Turquoise Moun**	**1.29**	**97**		Pn	08 33 20.7	-1.8
AMDNV	**Amargosa**	**1.30**	**49**		Pn	08 33 20.7	-1.8
VES	**Vestal, Richgr**	**1.32**	**281**		Pn	08 33 21.9	-0.9
CHFC	**Chilao Flat St**	**1.34**	**199**		Pg	08 33 22.6	-1.2
BAKC	**Calstate**	**1.34**	**259**		Pn	08 33 22.8	-0.3
SIL	**Silver Peak**	**1.36**	**156**		Pn	08 33 22.6	-1.0
BFSC	**Mount Baldy Ra**	**1.37**	**186**		Pg	08 33 23.0	-1.3
WCT	**Wildcat Mounta**	**1.38**	**30**	Pg	Pn	08 33 22.2	-1.6
GRAC	**Grapevine Rang**	**1.40**	**4**		Pn	08 33 22.6	-1.3
SSK	**Sunset Peak**	**1.40**	**187**		Pg	08 33 23.8	-1.2
OSI	**Osito Audit: C**	**1.41**	**226**		Pn	08 33 23.4	-0.7
OSI				IAML		08 33 45.1	
	comp=N,17μm,0.6s						
OSI				IAML		08 33 51.2	
	comp=E,18μm,0.8s						
BBRC	**Big Bear Solar**	**1.42**	**161**		Pn	08 33 23.5	-0.8
SGV	**South Grapevin**	**1.43**	**15**		Pn	08 33 22.9	-1.6
MWC	**Mount Wilson**	**1.45**	**199**		Pg	08 33 24.5	-1.5
MWC	**Mount Wilson**	**1.45**	**199**		Pb	08 33 24.4	-1.1
MWC				IAML		08 33 47.9	
	comp=N,27μm,0.5s						
MWC				IAML		08 33 48.0	
	comp=E,17μm,0.5s						
MWC	**Mount Wilson**	**1.45**	**199**	P	Pg	08 33 24.5	-1.5
PDE	**Pardee, Santa**	**1.46**	**218**		Pn	08 33 24.2	-0.6
HLNC	**Highland**	**1.49**	**171**		Pb	08 33 25.0	-1.1
FON	**Fontana**	**1.50**	**178**		Pb	08 33 24.9	-1.3
CFSC	**Central Fire S**	**1.50**	**173**		Pb	08 33 24.9	-1.3
CLTC	**Calectric**	**1.51**	**175**		Pb	08 33 24.9	-1.5
DECC	**Green Verdugo**	**1.51**	**208**		Pn	08 33 24.8	-0.7
SVD	**Seven Oaks Dam**	**1.53**	**168**		Pb	08 33 25.2	-1.4
PSRC	**Puddingstone R**	**1.53**	**190**		Pb	08 33 25.6	-1.1
PASC	**Pasadena Art C**	**1.54**	**202**		Pb	08 33 25.7	-1.2
PASC				IAML		08 33 48.8	
	comp=N,10μm,0.8s						
PASC				IAML		08 33 50.4	
	comp=E,15μm,0.9s						
CACC	**Caltech Cellar**	**1.55**	**200**		Pb	08 33 26.0	-1.0
OAT	**Oat Mountain**	**1.56**	**217**		Pb	08 33 26.3	-1.0
TIN	**Tinemaha, Big**	**1.57**	**338**		Pn	08 33 25.4	-1.0
TIN	**Tinemaha, Big**	**1.57**	**338**	P	Pn	08 33 25.4	-1.0
MTPC	**Mountain Pass**	**1.58**	**94**		Pn	08 33 25.0	-1.6
HLLC	**North Hollywoo**	**1.59**	**207**		Pb	08 33 26.4	-1.3
CFT	**Crafton Hills**	**1.59**	**169**		Pb	08 33 26.3	-1.5
MLSC	**Mira Loma**	**1.59**	**182**		Pb	08 33 26.4	-1.4
GTM	**Goat Mountain**	**1.60**	**144**		Pn	08 33 24.8	-2.0
CHNC	**Chino**	**1.61**	**186**		Pb	08 33 27.0	-1.0
RVR	**Riverside**	**1.61**	**177**		Pn	08 33 26.3	-0.5
RVR	**Riverside**	**1.61**	**177**	P	Pn	08 33 26.3	-0.5
GR2C	**Griffith Obs.**	**1.62**	**205**		Pb	08 33 26.6	-1.7
RSBC	**Riverside Bore**	**1.63**	**175**		Pb	08 33 26.9	-1.5
GVRC	**Garvey Reservo**	**1.63**	**199**		Pn	08 33 25.7	-1.4
LCH	**Last Change Ra**	**1.63**	**356**		Pn	08 33 26.0	-1.3
RHC	**Rose Hills Cem**	**1.65**	**195**		Pb	08 33 27.4	-1.5
BLCC	**Black Canyon**	**1.67**	**216**		Pb	08 33 27.5	-1.5
TPNV	**Topopah Spring**	**1.68**	**36**		Pn	08 33 26.4	-1.5
TPNV				IAML		08 33 53.2	
	comp=E,11μm,1.1s						
TPNV				IAML		08 33 55.2	
	comp=E,12μm,0.8s						
TPNV	**Topopah Spring**	**1.68**	**36**	P	Pn	08 33 26.4	-1.5
DJJ	**Donna J Jenkin**	**1.69**	**208**		Pn	08 33 27.4	-0.5
VOG	**Valley Oaks Go**	**1.70**	**296**		Pn	08 33 26.5	-1.4
GMN	**Gold Mountain**	**1.71**	**6**		Pn	08 33 27.1	-1.3
BCW	**Bitter Crk WRg**	**1.71**	**248**		Pn	08 33 28.0	-0.2
BCW				IAML		08 33 58.2	
	comp=E,14μm,0.9s						
BCW				IAML		08 34 19.3	
	comp=N,14μm,1.0s						
USC	**University of**	**1.71**	**203**		Pg	08 33 29.6	-1.3
CRNC	**Corona**	**1.72**	**182**		Pb	08 33 28.4	-1.6
BBSC	**Beaumont Base**	**1.73**	**166**		Pb	08 33 28.7	-1.4
PEC	**Perris**	**1.73**	**171**		Pb	08 33 28.2	-1.9
PEC	**Perris**	**1.73**	**171**	P	Pb	08 33 28.2	-1.9
LCGC	**La Cienega, Cu**	**1.76**	**205**		Pg	08 33 30.7	-1.1
BHPC	**Baldwin Hills**	**1.76**	**204**		Pg	08 33 30.2	-1.6
AGOC	**Agoura**	**1.79**	**216**		Pn	08 33 29.1	-0.3
DSP	**Deep Springs**	**1.81**	**348**		Pn	08 33 28.2	-1.3
DSP				IAML		08 33 58.9	
	comp=E,7μm,1.0s						
DEVC	**Devers**	**1.82**	**155**		Pn	08 33 29.6	-0.2
CRGC	**Crocker Grade**	**1.86**	**260**		Pn	08 33 29.5	-0.9
BHPR	**Bishop**	**1.88**	**335**		Pn	08 33 29.7	-1.0
EW2	**E Wide Canyon**	**1.88**	**151**		Pn	08 33 29.9	-0.7
TPC	**Twentynine Pal**	**1.91**	**141**		Pn	08 33 29.9	-1.0
HMTC	**Hemet**	**1.93**	**168**		Pn	08 33 31.1	-0.1
CARC	**Carrizo Plain**	**1.95**	**262**		Pn	08 33 31.2	-0.3
ELS	**Elsinore Mount**	**1.95**	**178**		Pn	08 33 31.3	-0.3
ELS	**Elsinore Mount**	**1.95**	**178**	Pn	Pn	08 33 31.0	-0.6
ELS				IAML		08 34 03.3	
	comp=E,10μm,0.7s						
ELS				IAML		08 34 09.2	
	comp=N,14μm,0.6s						
MTUM	**Tungsten Hills**	**1.95**	**334**		Pn	08 33 30.8	-0.9
SHPR	**Sheep Range**	**2.09**	**64**		Pn	08 33 32.6	-1.0
MZP	**Montezuma Peak**	**2.10**	**2**		Pn	08 33 32.7	-1.1
V12A	**Nelson**	**2.15**	**86**		Pn	08 33 33.1	-1.3
V12A				IAML		08 34 08.9	
	comp=N,5μm,1.6s						
PFO	**Pinyon Flats O**	**2.16**	**157**		Pn	08 33 33.7	-0.8
PFO				IAML		08 34 14.2	
	comp=N,6μm,0.8s						
PFO				IAML		08 34 16.3	
	comp=N,8μm,0.8s						
PFO	**Pinyon Flats O**	**2.16**	**157**	Pn	Pn	08 33 33.7	-0.8
	comp=N,51nm,0.3s,baz=341,slow=10,SNR=35						
PFO				Pg	Pg	08 33 38.1	-1.4
	comp=N,143nm,0.3s,baz=342,slow=16,SNR=30						
PFO				Lg	Lg	08 34 05.4	
	comp=N,990nm,0.3s,baz=64,slow=11,SNR=24						
	comp=N,451nm,0.5s						
I57US	**PINON FLAT INF**	**2.17**	**156**	Pn	Pb	08 33 37.4	-0.2
	baz=343,slow=22						
I57US				I	I	08 49 30.0	
	baz=335,slow=310,SNR=0.7						
S11A	**Rachel**	**2.47**	**34**		Pn	08 33 37.8	-1.0
TPH	**Tonopah**	**2.48**	**5**		Pn	08 33 37.8	-1.2
TPH	**Tonopah**	**2.48**	**5**	P	Pn	08 33 37.8	-1.2
PRN	**Pahroc Range**	**2.67**	**47**		Pn	08 33 40.8	-0.7
PRN				IAML		08 34 31.1	
	comp=N,6μm,0.9s						
PRN				IAML		08 34 40.2	
	comp=E,6μm,0.9s						
PMPB	**Monarch Peak**	**2.76**	**284**		Pn	08 33 42.7	0.0
PMPB				IAML		08 34 35.1	
	comp=E,6μm,1.4s						
LHV	**Little Huntoon**	**2.77**	**343**		Pn	08 33 42.3	-0.4
LHV				IAML		08 34 36.1	
	comp=E,5μm,1.7s						
LHV				IAML		08 34 40.1	
	comp=N,4μm,1.0s						
NV11	**Mina Array Sit**	**2.88**	**350**	Pn	Pn	08 33 43.5	-0.9
NV11				IAML		08 34 33.0	
	comp=E,2μm,1.5s						
NVAR	**Mina Array Bea**	**2.90**	**347**		Pn	08 33 44.1	-0.7
NVAR	**Mina Array Bea**	**2.90**	**347**	Pn	Pn	08 33 44.3	-0.5
	comp=E,58nm,0.3s,baz=172,slow=12,SNR=69						
NVAR				Pg	Pb	08 33 50.1	-0.1
	comp=E,291nm,0.3s,baz=169,slow=14,SNR=91						
NVAR				Lg	Lg	08 34 28.8	
	comp=E,112nm,0.3s,baz=161,slow=32,SNR=6.3						
NVAR				LR	LR	08 34 48.2	
	comp=E,1μm,20.2s,baz=158,slow=38						
	comp=E,45nm,0.3s						
BBGB	**Big Mountain B**	**3.04**	**290**		Pn	08 33 46.1	-0.5
BLYC	**Blythe**	**3.06**	**126**		Pn	08 33 44.5	-2.3
BLYC				IAML		08 34 37.4	
	comp=N,4μm,0.7s						
BLYC				IAML		08 34 37.4	
	comp=E,3μm,0.6s						
TJX	**Tijuana**	**3.10**	**173**		Pn	08 33 47.7	+0.3
TKX	**Tecate**	**3.11**	**166**		Pn	08 33 47.5	0.0
TKX				IAML		08 34 42.7	
	comp=E,3μm,1.0s					

HATC Hat Creek Radi 6.07 330 Pn Pn 08 34 29.1 +0.8
TMUT Trail Mountain 6.21 52 Pn Pn 08 34 31.6 +1.2
X18A Snowflake 6.27 98 Pn 08 34 31.4 +0.2
W18A Petrified Fore 6.35 92 Pn 08 34 34.4 +2.2
BGU Big Grassy Mou 6.37 32 Pn 08 34 32.1 -0.3
MPU Maple Canyon 6.39 45 Pn 08 34 34.9 +2.1
TUC Tucson 6.46 119 Pn 08 34 31.6 -2.1
TUC Tucson 6.46 119 P Pn 08 34 31.6 -2.1
WVOR Wild Horse Val 6.88 353 Pn 08 34 41.0 +1.6
WVOR Wild Horse Val 6.88 353 P Pn 08 34 41.0 +1.6
JLU Jordanelle 6.90 42 Pn 08 34 40.5 +0.8
P18A Preston Nutter 7.01 53 Pn 08 34 43.6 +2.2
PV05 Paradox Valley 7.17 67 Pn Pn 08 34 45.2 +1.8
HVU Hansel Valley 7.18 29 Pn 08 34 44.6 +1.0
HVU Hansel Valley 7.18 29 P Pn 08 34 44.6 +1.0
BSUT Blindstream Ca 7.24 45 Pn 08 34 46.9 +2.4
TCUT Toone Canyon 7.29 39 Pn Pn 08 34 45.7 +0.6
PV10 Paradox Valley 7.31 65 Pn 08 34 46.4 +1.0
PV14 Lion Creek, Pa 7.32 65 Pn Pn 08 34 45.9 +0.4
PV19 Morning Glory 7.33 66 Pn Pn 08 34 44.8 -0.8
PV17 East Wray Mesa 7.33 66 Pn 08 34 46.3 +0.6
PV20 West Nyswonger 7.35 66 Pn 08 34 47.0 +1.2
PV23 Carpenter Ridg 7.35 65 Pn 08 34 47.7 +1.7
YBH Yreka Blue Hor 7.36 328 Pn Pn 08 34 46.9 +1.0
YBH Yreka Blue Hor 7.36 328 Pn Pn 08 34 48.8 +2.9
baz=154,slow=7.4,SNR=21
YBH Lg Lg 08 36 47.1
baz=355,slow=23,SNR=7.6
YBH Yreka Blue Hor 7.36 328 P Pn 08 34 46.9 +1.0
PV18 Skein Mesa, Pa 7.36 66 Pn 08 34 46.8 +0.7
PV16 Nyswonger Mesa 7.38 66 Pn 08 34 47.3 +1.0
PV13 Radium Mtn., P 7.40 67 Pn 08 34 48.5 +1.8
PV11 David Mesa, Pa 7.41 66 Pn 08 34 48.3 +1.7
PV03 Paradox Valley 7.41 67 Pn 08 34 48.3 +1.6
PV04 Paradox Valley 7.41 65 Pn 08 34 48.4 +1.7
PV21 Cone Mtn., Par 7.42 64 Pn 08 34 48.5 +1.6
MVCO Mesa Verde 7.42 75 Pn 08 34 48.1 +1.2
PV12 Saucer Basin, 7.46 66 Pn 08 34 49.1 +1.6
PV02 Paradox Valley 7.48 67 Pn 08 34 49.4 +1.7
PV22 Blue Mesa, Par 7.55 65 Pn 08 34 50.0 +1.4
HWUT Hardware Ranch 7.58 36 Pn 08 34 51.6 +2.6
PV01 Paradox Valley 7.58 68 Pn 08 34 50.9 +1.8
K05A Summer Lake 7.59 341 Pn 08 34 49.9 +0.7
L04D Klamath Falls 7.60 332 Pn 08 34 49.5 +0.3
DUN6 Lazy B Ranch 7.60 111 Pn 08 34 48.0 -1.3
PV07 Paradox Valley 7.62 66 Pn 08 34 50.9 +1.3
PV15 Paradox Valley 7.71 67 Pn 08 34 51.2 +0.3
K04D Chiloquin, OR 7.76 336 Pn 08 34 52.6 +1.2
J08A Circle Bar Ran 7.78 355 Pn 08 34 52.9 +1.2
319A Douglas 8.05 119 Pn Pn 08 34 55.3 -0.1
J05D Fort Rock, OR 8.20 340 Pn 08 34 58.9 +1.4
J04A Umpqua Nationa 8.42 336 Pn 08 35 01.5 +0.8
K02D Willamette Mer 8.55 328 Pn 08 35 02.6 +0.3
HSIG 8.58 138 Pn 08 35 02.0 -0.7
O20A White River Ci 8.60 55 Pn 08 35 05.0 +2.0
PINE Pine Mountain 8.60 343 Pn 08 35 04.4 +1.4
I07A Izee 8.61 350 Pn 08 35 04.1 +1.0
SBM South Baldy 8.63 98 Pn 08 35 04.4 +0.7
AHID Auburn Hatcher 8.70 33 Pn 08 35 05.4 +0.9
ANMO Albuquerque 9.04 91 Pn Pn 08 35 10.2 +1.1
comp=N,0.4nm,0.3s,baz=5.9,slow=10,SNR=13
ANMO Pg 08 35 44.7
comp=N,1.0nm,0.3s,baz=16,slow=11,SNR=17
ANMO Lg Lg 08 37 38.0
comp=N,0.9nm,0.3s,baz=281,slow=22,SNR=12
ANMO LR LR 08 39 01.7
comp=N,2µm,18.4s,baz=10.0,slow=40
comp=N,7.9nm,0.9s
PDAR Pinedale Array 9.44 38 Pn Pn 08 35 16.6 +2.0
comp=N,0.2nm,0.3s,baz=222,slow=13,SNR=26
PDAR Pg 08 35 51.1
comp=N,0.9nm,0.3s,baz=223,slow=12,SNR=7.6
PDAR Lg Lg 08 37 48.7
comp=N,0.3nm,0.3s,baz=228,slow=29,SNR=2.0
comp=N,6.0nm,0.9s
MNTX Cornudas Mount 10.81 108 Pn 08 35 33.3 0.0
NEW Newport 12.66 1 Pn Pn 08 35 60.0 +1.6
comp=N,0.2nm,0.3s,baz=185,slow=12,SNR=8.8
NEW Lg Lg 08 39 32.4
comp=N,0.1nm,0.3s,baz=79,slow=23,SNR=1.7
NEW LR LR 08 41 42.0
comp=N,373nm,21.4s,baz=176,slow=41
comp=N,7.3nm,1.1s
NEW Newport 12.66 1 P Pn 08 36 00.0 +1.6
LPIG La Paz 13.04 150 LR LR 08 40 49.4
comp=N,297nm,18.3s,baz=338,slow=36
TXAR Lajitas Array 13.23 114 Pn 08 36 06.8 +0.4
TXAR Lajitas Array 13.23 114 Pn Pn 08 36 07.1 +0.7
comp=N,1.8nm,0.3s,baz=292,slow=13,SNR=120
TXAR Lg Lg 08 39 51.8
comp=N,0.2nm,0.3s,baz=286,slow=26,SNR=13
comp=N,11nm,0.8s
CLRS Cowichan Lake 14.09 342 Pn 08 36 16.9 -0.9
SGCY Sterling City 14.10 100 Pn 08 36 18.8 +0.6
CBKS Cedar Bluff 14.51 72 Pn Pn 08 36 23.5 -0.2
CBKS Cedar Bluff 14.51 72 P Pn 08 36 23.5 -0.2
APMT Aspermont 14.51 94 Pn 08 36 22.6 -1.1
ABTX Abilene, Hawle 15.08 96 Pn 08 36 29.9 -1.6
ABTX IAmb IAmb 08 36 41.2
comp=Z,26nm,1.1s
R32A Long Quarter, 15.26 74 Pn 08 36 32.5 -1.4
R32A IAmb IAmb 08 36 42.8
comp=Z,34nm,1.3s
CSTR Hydro, Custer 15.29 84 Pn Pn 08 36 35.2 +0.9
WMOK Wichita Mounta 15.33 88 Pn Pn 08 36 34.8 0.0
WMOK Wichita Mounta 15.33 88 P Pn 08 36 34.8 0.0
WMOK pmax pmax
comp=Z,8.0nm,0.9s
DRIO Del Rio 15.50 109 Pn Pn 08 36 38.1 +1.1
DRIO IAmb IAmb 08 36 44.4
comp=Z,39nm,1.0s
CBB Campbell River 15.52 341 Pn Pn 08 36 36.3 -0.9
CBB IAmb IAmb 08 36 47.3
comp=Z,33nm,1.0s
K30B Basset 15.55 58 Pn Pn 08 36 37.1 -0.6
K30B IAmb IAmb 08 36 51.8
comp=Z,22nm,1.0s
WTFS Witchita Falls 15.76 91 Pn 08 36 40.2 -0.2
KAN14 Manchester OK 15.81 79 Pn 08 36 41.0 0.0
KAN17 Caldwell West 15.96 79 Pn Pn 08 36 43.2 +0.2
KAN01 Argonia South 15.97 79 Pn 08 36 43.0 -0.1
BRDY Brady 16.02 100 Pn 08 36 43.7 -0.1
BRDY IAmb IAmb 08 36 49.8
comp=Z,56nm,1.0s
KAN13 South Haven SW 16.20 79 P Pn 08 36 46.3 +0.3
BBB Bella Bella 18.23 339 LR LR 08 44 53.2
comp=Z,466nm,19.4s,baz=162,slow=39
HKT Hockley 19.05 101 *i* P Pn 08 37 22.2 +0.8
HKT pmax pmax
comp=Z,18nm,1.3s
P38A Dawn 19.38 71 P P 08 37 24.1 -0.2
P38A IAmb IAmb 08 37 27.2
comp=Z,41nm,1.2s
MIAR Mount Ida 19.59 86 P P 08 37 27.2 +0.5
MIAR IAmb IAmb 08 37 30.8
comp=Z,68nm,1.1s
MIAR Mount Ida 19.59 86 P P 08 37 27.2 +0.5
MIAR pmax pmax
comp=Z,69nm,1.2s
I37A Lemond, Waseca 20.27 58 P P 08 37 34.2 +0.2
I37A IAmb IAmb 08 37 39.9
comp=Z,45nm,1.2s
ULM Lac du Bonnet 21.45 40 P P 08 37 46.0 -0.7
ULM Lac du Bonnet 21.45 40 P P 08 37 46.3 -0.4
comp=Z,41nm,0.9s,baz=233,slow=10,SNR=34
comp=Z,41nm,0.9s
ULM Lac du Bonnet 21.45 40 *i* P P 08 37 46.5 -0.1
FFC Flin Flon 21.94 25 P P 08 37 51.6 -0.3
FFC IAmb IAmb 08 37 55.2
comp=Z,37nm,0.9s
FFC Flin Flon 21.94 25 P P 08 37 51.6 -0.3
FFC pmax pmax
comp=Z,37nm,0.9s
V35K Ketchikan 21.99 338 P P 08 37 53.0 +0.6
baz=148
CRAG Craig 22.59 336 P P 08 37 59.9 +1.2
baz=145
EYMN Ely 22.86 49 P P 08 38 00.9 -0.8
T35M Bob Quinn 23.05 342 P P 08 38 04.8 +1.1
baz=153
U33K Whale Pass 23.12 337 P P 08 38 05.4 +1.0
baz=146
WRAK Wrangell Islan 23.14 339 P P 08 38 06.8 +2.3
baz=148
M44A Midewin, Midew 23.69 67 P P 08 38 10.2 0.0
TOAD Toad River Com 23.81 350 P P 08 38 12.6 +1.3
baz=164
WVT Waverly 24.00 80 P P 08 38 13.2 -0.1
WVT IAmb IAmb 08 38 16.1
comp=Z,35nm,1.5s
WVT Waverly 24.00 80 P P 08 38 13.2 -0.1
WVT pmax pmax
comp=Z,35nm,1.5s
S34M Telegraph Cree 24.10 342 P P 08 38 16.3 +2.3
baz=152
DLBC Dease Lake 24.31 344 LR LR 08 47 17.0
comp=Z,43nm,21.2s,baz=122,slow=35
DLBC Dease Lake 24.31 344 P P 08 38 17.1 +1.1
baz=155
LIRD Liard River Hi 24.48 349 P P 08 38 18.8 +1.4
baz=163
SIT Sitka 24.60 336 P P 08 38 19.8 +1.4
baz=143
S32K Killisnoo 24.69 338 P P 08 38 21.0 +1.6
baz=145
KOTAN Kotaneelee Air 24.91 352 P P 08 38 23.0 +1.7
baz=167,SNR=14
WCI Wyandotte Cave 25.02 75 P P 08 38 22.4 -0.1
WCI Wyandotte Cave 25.02 75 P P 08 38 22.4 -0.1
WCI pmax pmax
comp=Z,34nm,0.9s
Q32M Nakina River 25.31 342 P P 08 38 26.5 +1.3
baz=151
R32K Eaglecrest 25.34 339 P P 08 38 27.1 +1.9
baz=146
R33M Jennings River 25.39 344 P P 08 38 27.7 +2.0
baz=154
S31K Pelican 25.62 337 P P 08 38 29.3 +1.7
baz=143
O48B Farmland 25.84 70 P P 08 38 29.0 -0.9
O48B IAmb IAmb 08 38 30.4
comp=Z,17nm,0.9s
P32M Atlin 26.23 341 P P 08 38 35.1 +1.8
baz=149
P33M Teslin, Yukon 26.55 343 P P 08 38 38.0 +1.7
baz=151
SKAG Skagway 26.56 340 P P 08 38 37.4 +1.2
baz=146
X51A Calhoun 26.66 83 P P 08 38 37.2 -0.2
X51A IAmb IAmb 08 38 38.6
comp=Z,20nm,1.0s
CPCT Cooper Cave 26.77 81 P P 08 38 38.8 +0.4
CPCT IAmb IAmb 08 38 39.8
comp=Z,18nm,1.0s
TGTN Hyland Airport 26.84 349 P P 08 38 40.6 +1.8
baz=160
PLBC Pleasant Camp 26.86 339 P P 08 38 40.7 +1.7
baz=144
YKA Yellowknife Ar 26.98 3 P P 08 38 40.7 +0.7
YKA Yellowknife Ar 26.98 3 P P 08 38 40.6 +0.6
comp=Z,4.4nm,0.9s,baz=188,slow=8.4,SNR=34
YKA PcP PcP 08 42 00.8 -0.5
comp=Z,0.2nm,0.8s,baz=181,slow=6.3,SNR=4.7
YKA LR LR 08 51 21.4
comp=Z,420nm,18.3s,baz=104,slow=41
comp=Z,4.4nm,0.9s
YKAW3 Yellowknife Wh 27.05 3 P P 08 38 40.8 +0.3
YKAW3 IAmb IAmb 08 38 48.3
comp=Z,7.2nm,0.9s
E46A Sault Ste Mari 27.07 56 P P 08 38 40.7 -0.3
E46A IAmb IAmb 08 39 03.5
comp=Z,7.5nm,0.9s
S51A Beattyville 27.20 76 P P 08 38 42.0 -0.3
152A Waverly Hall 27.21 87 P P 08 38 42.1 -0.3
CMIG Matias Romero 27.28 127 LR LR 08 50 11.1
comp=Z,289nm,18.5s,baz=236,slow=38
TKL Tuckaleechee C 27.33 80 P P 08 38 43.4 0.0
TKL IAmb IAmb 08 38 44.7
comp=Z,17nm,1.1s
TKL Tuckaleechee C 27.33 80 P P 08 38 43.4 0.0
TKL pmax pmax
comp=Z,17nm,1.1s
SSFO Shawnee State 27.41 73 P P 08 38 43.6 -0.6
P29M Windy Craggy 27.42 338 P P 08 38 45.7 +1.6
baz=142
N32M Quiet Lake 27.44 344 P P 08 38 45.7 +1.5
baz=152
WHY Whitehorse 27.45 341 P P 08 38 45.9 +1.5
baz=148
P30M Million Dollar 27.58 339 P P 08 38 46.8 +1.3
baz=144
O30N Mendenhall 27.87 340 P P 08 38 48.9 +0.8
baz=146
WRGLY Wrigley 27.90 354 P P 08 38 48.8 +0.6
WRGLY IAmb IAmb 08 38 52.6
comp=Z,16nm,1.2s
WRGLY Wrigley 27.90 354 P P 08 38 49.6 +1.4
baz=170
PNL Peninsula 27.98 336 P P 08 38 50.4 +1.4
baz=140
V53A Saluda 28.10 80 P P 08 38 50.7 +0.3
BG3 Lake Jocassee 28.13 81 P P 08 38 50.0 -0.6
O29M Mount Kennedy 28.21 338 P P 08 38 52.7 +1.5
baz=142
HYT Haines Junctio 28.31 339 P P 08 38 52.8 +0.7
baz=144
MMPY Sheldon Lake, 28.38 347 P P 08 38 53.8 +1.2
baz=156,SNR=10
O52A Adamsville 28.39 70 P P 08 38 52.8 -0.1
FARO Faro, Yukon 28.45 344 P P 08 38 55.2 +2.0
baz=152,SNR=7.5
PINM Pinnacle 28.59 336 P P 08 38 56.1 +1.6
baz=139
YUK6 Outpost Mounta 28.66 339 P P 08 38 56.7 +1.4
baz=143
M31M Drury Creek, Y 28.66 343 P P 08 38 57.1 +2.0
baz=150
N30M Aishikik Lake 28.71 340 P P 08 38 57.1 +1.5
baz=145
YUK4 Talbot Arm 29.06 339 P P 08 39 01.0 +2.1
baz=143
O28M Mount Upton 29.08 337 P P 08 39 00.7 +1.5
baz=140
MESA MESA 29.22 335 P P 08 39 01.1 +0.8
baz=136
Q54A Coxs Mills 29.23 72 P P 08 39 00.3 0.0
Q54A IAmb IAmb 08 39 01.4
comp=Z,14nm,1.0s
YUK8 Steele Glacier 29.34 338 P P 08 39 03.3 +1.9
baz=141
M30M Minto, Yukon 29.57 342 P P 08 39 04.5 +1.4
baz=147,SNR=5.2
M29M Somme Creek 29.89 340 P P 08 39 07.3 +1.2
baz=144
KAIM Kayak Island 29.93 333 P P 08 39 07.8 +1.5
baz=132
YUK3 Moose Creek 29.94 338 P P 08 39 08.6 +1.9
baz=140
MAYO Mayo, Yukon 30.22 344 P P 08 39 10.1 +1.3
baz=149
L29M L29M 30.35 342 P P 08 39 11.9 +1.8
baz=145,SNR=6.5
MCARA McCarthy VSAT 30.46 336 P P 08 39 12.4 +1.4
baz=136
BVCY Beaver Creek 30.55 339 P P 08 39 13.4 +1.6
baz=140
BMRM Bremner River 30.71 334 P P 08 39 14.8 +1.5
baz=133
K29M Barlow Dome 30.81 343 P P 08 39 15.8 +1.6
baz=147,SNR=10
M27K Edge Creek, AK 30.82 338 P P 08 39 16.2 +1.9
baz=139,SNR=5.6
EYAK Cordova Ski Ar 30.84 333 P P 08 39 15.4 +1.0
baz=131
P23K Montague Islan 31.13 331 P P 08 39 17.8 +1.0
baz=128
N25K Chitina, Valde 31.15 335 P P 08 39 18.8 +1.6
baz=134,SNR=6.1
J30M Hart River 31.16 344 P P 08 39 18.4 +1.1
baz=149,SNR=10.0
M26K Nabesna, AK 31.20 337 P P 08 39 18.9 +1.4
baz=137
L27K Beaver Creek, 31.34 339 P P 08 39 20.4 +1.7
baz=140
DAWY Dawson 31.46 342 P P 08 39 21.9 +2.0
baz=144,SNR=13
KLU Klutina 31.54 334 P P 08 39 22.0 +1.4
baz=132
GLI Glacier Island 31.56 333 P P 08 39 22.5 +1.7
baz=130
I30M Mount Dempster 31.73 345 P P 08 39 24.4 +2.1
baz=150,SNR=9.4
L26K Log Cabin Wild 31.77 338 P P 08 39 24.5 +2.0
baz=138,SNR=6.9
H31M Peel River 31.84 347 P P 08 39 24.8 +1.6
baz=153
HARP HAARP 31.89 336 P P 08 39 26.1 +2.4
baz=134
SEW Seward 32.01 330 P P 08 39 27.3 +2.7
baz=126,SNR=7.1
PWL Port Wells 32.02 332 P P 08 39 26.9 +2.1
baz=128
M24K Tolsona, Glenn 32.04 335 P P 08 39 27.7 +2.7
baz=132
K27K Chicken 32.15 340 P P 08 39 28.0 +2.1
baz=140
KDAK Kodiak Island 32.16 325 *i* P P 08 39 27.4 +1.4
KDAK pmax pmax
comp=Z,7.0nm,0.9s
KDAK Kodiak Island 32.16 325 P P 08 39 28.6 +2.6
baz=118
OHAK Old Harbor 32.24 323 P P 08 39 29.6 +2.9
baz=117,SNR=7.0
SCM Sheep Creek Mo 32.27 334 P P 08 39 29.6 +2.7
baz=131,SNR=5.2
I29M Ogilvie Camp, 32.27 344 P P 08 39 29.6 +2.7
baz=147,SNR=9.5
M23K Glacier View 32.38 333 P P 08 39 31.0 +3.1
baz=130
SII Sitkinak Islan 32.39 322 P P 08 39 30.9 +2.8
baz=115
PAX Paxson 32.40 336 P P 08 39 30.3 +2.1
baz=134,SNR=5.5
KNK Knik Glacier 32.41 333 P P 08 39 30.2 +2.0
baz=128
SCRK Sand Creek 32.66 339 P P 08 39 33.3 +2.8
baz=138,SNR=18
RC01 Rabbit Creek A 32.71 331 P P 08 39 32.6 +1.8
baz=126
I28M Miner Creek 32.73 343 P P 08 39 32.2 +1.2
baz=145,SNR=17
RIDG Independent Ri 32.75 338 P P 08 39 32.5 +1.3
baz=136
PMR Palmer 32.78 332 P P 08 39 33.2 +1.9
baz=128,SNR=12
EPYK Eagle Plains 32.80 346 P P 08 39 33.1 +1.5
baz=150,SNR=8.3
CHIR Chirikof Islan 32.84 320 P P 08 39 33.0 +1.0
baz=112
G31M Satah River 32.84 348 P P 08 39 33.2 +1.4
baz=154,SNR=8.6
WAT6 Susitna Watana 32.90 335 P P 08 39 33.9 +1.3
baz=131,SNR=11
J26L Joseph Creek 32.94 340 P P 08 39 34.4 +1.5
baz=139,SNR=11
R18K Karluk 32.95 323 P P 08 39 34.9 +2.0
baz=116
H29M Whitestone 33.02 345 P P 08 39 35.4 +2.0
baz=148,SNR=8.4
K24K Donnelly Dome 33.09 337 P P 08 39 36.0 +1.9
baz=135
DHY Denali Highway 33.10 335 P P 08 39 35.1 +0.7
baz=132,SNR=11
F31M Tsiigehtchic 33.22 349 P P 08 39 36.6 +1.4
baz=155
G30M tAoh Zraii Nji 33.24 347 P P 08 39 36.9 +1.5
baz=152
M22K Willow 33.25 332 P P 08 39 37.3 +1.8
baz=127
I27K Kandik River 33.27 342 P P 08 39 36.8 +1.1
baz=143
SUA Susitna One 33.32 331 P P 08 39 37.8 +1.5
baz=126
O20K Slope Mountain 33.33 328 P P 08 39 37.8 +1.6
baz=121
WAT1 Susitna Watana 33.35 334 P P 08 39 37.9 +1.5
baz=130
P19K Oil Pt 33.37 327 P P 08 39 38.3 +1.7
baz=120
I26K Coal Creek Min 33.44 341 P P 08 39 38.7 +1.6
baz=140
G29M Pine Creek 33.53 345 P P 08 39 40.0 +2.1
baz=149,SNR=8.8
J25K Salcha River, 33.54 339 P P 08 39 40.3 +2.2
baz=136,SNR=11
Q18K Katmai Hardscr 33.70 325 P P 08 39 41.0 +1.4
baz=116,SNR=7.3
CUT Chulitna 33.70 333 P P 08 39 41.4 +2.0
baz=127
F30M Barrier River 33.72 347 P P 08 39 41.1 +1.6
baz=153,SNR=12
H27K Steamboat Moun 33.75 343 P P 08 39 41.3 +1.5
baz=143,SNR=11
SPCR Spurr Chakacha 33.75 330 P P 08 39 41.4 +1.4
baz=123
HDA Harding Lake 33.88 337 P P 08 39 42.4 +1.5
baz=134
R17L Mt. Peulik Vol 33.91 323 P P 08 39 43.2 +1.9
baz=114,SNR=5.0
SKT Skwentna 33.93 332 P P 08 39 42.8 +1.4
baz=125,SNR=6.1
Q17K Contact Creek 33.95 324 P P 08 39 42.1 +0.4
baz=115,SNR=21
INK Inuvik 33.98 349 LR LR 08 55 21.5
comp=Z,369nm,19.8s,baz=57,slow=40
INK Inuvik 33.98 349 P P 08 39 43.6 +1.8
baz=156,SNR=6.6
MCK McKinley 34.07 336 P P 08 39 43.1 +0.5
baz=131,SNR=9.3
ILAR Eielson Array 34.11 338 P P 08 39 44.3 +1.3
comp=Z,5.5nm,0.8s,baz=152,slow=7.5,SNR=55
ILAR PcP PcP 08 42 20.2 +0.2
comp=Z,0.8nm,0.6s,baz=139,slow=1.6,SNR=9.9
comp=Z,5.5nm,0.8s
O19K Port Alsworth 34.12 328 P P 08 39 44.1 +1.1
baz=119
P18K Big Mountain, 34.14 326 P P 08 39 44.0 +0.7
baz=117
G27K Doyon Strip 34.25 343 P P 08 39 45.2 +1.0
baz=144,SNR=11
PRP Porcupine Dome 34.25 340 P P 08 39 46.1 +1.8
baz=137,SNR=7.2
O18K Koktuh Hills 34.34 327 P P 08 39 48.0 +2.9
baz=118
TRF Thorofare Moun 34.35 334 P P 08 39 47.8 +2.5
baz=128,SNR=10
CHGN Chignik 34.47 320 P P 08 39 48.5 +2.4
baz=109,SNR=14
COLA College 34.48 338 *i* P P 08 39 47.6 +1.5
COLA pmax pmax
comp=Z,7.0nm,1.0s
COLA College 34.48 338 P P 08 39 48.9 +2.8
baz=133
N19K Bonanza Creek 34.49 329 P P 08 39 48.9 +2.5
baz=120,SNR=15
M20K Styx River 34.50 331 P P 08 39 47.7 +1.3
baz=123
F28M Old Crow 34.51 345 P P 08 39 48.3 +1.8
baz=147
POKR Poker Plat Res 34.52 338 P P 08 39 49.2 +2.7
baz=134
P17K Kvichak River 34.61 325 P P 08 39 49.5 +2.3
baz=116
CHNA Chernabura Isl 34.66 317 P P 08 39 49.4 +1.6
baz=106,SNR=5.3
NEA2 Nenana 34.68 337 P P 08 39 49.5 +1.6
baz=131,SNR=18
PPLA Purkeypile 34.71 333 P P 08 39 49.7 +1.3
baz=126,SNR=12
E29M Blow River 34.79 347 P P 08 39 51.1 +2.3
baz=150,SNR=6.0
G26K Porcupine Rive 34.87 342 P P 08 39 51.3 +1.8
baz=141,SNR=35
H25L Birch Creek 34.88 340 P P 08 39 52.2 +2.6
baz=138,SNR=16
CAST Castle Rocks 34.98 334 P P 08 39 52.6 +2.2
baz=126,SNR=12
BPAW Bear Paw Mtn. 35.00 335 P P 08 39 52.2 +1.5
baz=128,SNR=26
M19K Big River Lodg 35.02 330 P P 08 39 52.3 +1.5
baz=122,SNR=6.6
N18K Kilae Creek 35.03 328 P P 08 39 53.0 +2.0
baz=118,SNR=12
S14K Fog Glacier 35.07 319 P P 08 39 52.4 +0.9
baz=108
L20K Farewell, AK 35.12 331 P P 08 39 53.5 +1.8
baz=123,SNR=21
I23K Minto, Yukon-K 35.14 337 P P 08 39 53.8 +2.0
baz=132,SNR=5.8

O17K	**Koliganek Bris** baz=116	35.16 326	P	P	08 39 53.7	+1.7
H24K	**Noodor Dome** baz=134,SNR=8.7	35.16 339	P	P	08 39 54.1	+2.0
P16K	**Nushagak River** baz=114	35.27 324	P	P	08 39 53.4	+0.4
E28M	**Babbage River** baz=148,SNR=6.7	35.28 346	P	P	08 39 54.9	+1.8
SDPT	**Sand Point** baz=106	35.29 318	P	P	08 39 53.6	+0.4
G25K	**Bearman Lake** baz=138,SNR=22	35.33 341	P	P	08 39 55.0	+1.6
CHUM	**Lake Minchumin** baz=126,SNR=14	35.34 334	P	P	08 39 55.6	+2.1
L19K	**White Mountain** baz=121,SNR=12	35.35 331	P	P	08 39 55.8	+2.1
E27K	**Coleen River** baz=145,SNR=8.2	35.36 345	P	P	08 39 55.8	+2.1
M18K	**Stony River** baz=119,SNR=11	35.39 329	P	P	08 39 55.5	+1.5
MLY	**Manley** baz=130,SNR=17	35.51 336	P	P	08 39 57.0	+1.9
N17K	**Nushagak Hills** baz=116,SNR=14	35.53 327	P	P	08 39 56.3	+1.1
F26K	**Sheenjek River** baz=141,SNR=22	35.54 343	P	P	08 39 57.3	+2.0
O16K	**Kokwok River B** baz=114,SNR=9.8	35.54 325	P	P	08 39 56.9	+1.5
H23K	**Yukon River** baz=132,SNR=16	35.65 338	P	P	08 39 58.6	+2.3
G24K	**Hadweenzic Riv** baz=136,SNR=11	35.66 340	P	P	08 39 58.5	+2.2
K20K	**Telida** baz=124,SNR=38	35.67 333	P	P	08 39 58.1	+1.6
F25K	**Christian Rive** baz=139,SNR=21	35.83 342	P	P	08 40 00.1	+2.3
M17K	**Holitna River** baz=117,SNR=20	36.03 328	P	P	08 40 00.6	+1.1
D27M	**Malcolm River** baz=147	36.10 346	P	P	08 40 01.5	+1.4
L18K	**Granite Mounta** baz=119,SNR=20	36.11 330	P	P	08 40 01.9	+1.7
J20K	**Nowinta River** baz=124,SNR=25	36.16 334	P	P	08 40 02.2	+1.6
O15K	**Ungalikthiuk R** baz=112	36.20 324	P	P	08 40 02.7	+1.7
E25K	**Arctic Village** baz=140,SNR=15	36.22 343	P	P	08 40 02.7	+1.6
N16K	**Nishlik Lake** baz=114,SNR=14	36.22 326	P	P	08 40 02.6	+1.5
S12K	**Black Hills** baz=105	36.26 318	P	P	08 40 03.6	+2.1
H22K	**Ishtalitna Cre** baz=130,SNR=25	36.27 337	P	P	08 40 03.8	+2.3
F24K	**Squaw Lake** baz=136	36.36 341	P	P	08 40 03.9	+1.6
G23K	**Bananza Creek** baz=132,SNR=6.9	36.39 339	P	P	08 40 04.4	+1.8
M16K	**Timber Creek** baz=115,SNR=13	36.53 327	P	P	08 40 05.1	+1.3
H21K	**Melozitna Rive** baz=128,SNR=33	36.58 336	P	P	08 40 06.2	+2.0
J19K	**Poorman** baz=122,SNR=38	36.60 333	P	P	08 40 05.9	+1.5
I20K	**Naaghedeneel** baz=125,SNR=7.3	36.63 334	P	P	08 40 06.6	+2.0
N15K	**Kwethluk River** baz=113,SNR=7.1	36.70 326	P	P	08 40 06.3	+1.0
L17K	**Donlin** baz=117,SNR=13	36.73 329	P	P	08 40 06.5	+0.9
M65A	**Busby, Falmout** baz=276	36.74 66	P	P	08 40 06.6	+0.8
J18K	**Innoko River** baz=120,SNR=24	36.74 332	P	P	08 40 06.4	+0.8
COLD	**Coldfoot** baz=133,SNR=5.9	36.80 339	P	P	08 40 08.0	+2.0
O14K	**Tigyukauivet M** baz=110	36.91 324	P	P	08 40 08.3	+1.3
E24K	**Your Creek** baz=136	36.92 341	P	P	08 40 08.7	+1.5
G22K	**Bettles** baz=131	36.97 338	P	P	08 40 09.6	+2.1
C27K	**Jago River** baz=143,SNR=14	36.98 345	P	P	08 40 09.3	+1.8
K17K	**Iditarod** baz=118,SNR=18	37.01 330	P	P	08 40 09.5	+1.6
L16K	**Owhat River** baz=115	37.05 328	P	P	08 40 09.6	+1.4
M15K	**Kasigluk River** baz=113,SNR=7.9	37.17 326	P	P	08 40 10.5	+1.3
H20K	**Anotleneega Mo** baz=125,SNR=30	37.17 335	P	P	08 40 10.8	+1.6
E23K	**Chandalar** baz=134,SNR=11	37.21 341	P	P	08 40 11.6	+2.0
D25K	**Kavik River** baz=140	37.33 344	P	P	08 40 12.0	+1.4
G21K	**Allakaket** baz=128,SNR=9.4	37.33 337	P	P	08 40 11.1	+0.5
N14K	**Kuskokwak Cree** baz=110,SNR=7.5	37.35 325	P	P	08 40 11.4	+0.7
C26K	**Camden Bay** baz=142,SNR=5.4	37.46 345	P	P	08 40 11.8	+0.2
GCSA	**Galena City Sc** baz=122,SNR=7.1	37.47 333	P	P	08 40 12.0	+0.3
F22K	**John River** baz=130	37.56 339	P	P	08 40 13.2	+0.8
TOLK	**Toolik Lake Re** baz=135,SNR=10	37.61 341	P	P	08 40 13.2	+0.3
J17K	**VABM Dome** baz=118,SNR=14	37.64 331	P	P	08 40 13.5	+0.4
H19K	**Roundabout Mou** baz=123	37.74 335	P	P	08 40 14.2	+0.2
F21K	**Alatna River** baz=129	37.76 338	P	P	08 40 16.5	+2.2
M14K	**Bethel** baz=111,SNR=14	37.77 326	P	P	08 40 16.4	+2.1
D24K	**Happy Valley** baz=136	37.78 342	P	P	08 40 16.9	+2.5
E22K	**Anaktuvuk Pass** baz=132	37.86 340	P	P	08 40 18.1	+3.0
L15K	**Ungalak Mounta** baz=113,SNR=9.0	37.91 327	P	P	08 40 17.8	+2.3
D23K	**Nanushuk River** baz=134	38.12 341	P	P	08 40 19.5	+2.3
C24K	**Franklin Bluff** baz=137	38.17 343	P	P	08 40 20.1	+2.5
K15K	**Wolf Creek Mou** baz=114,SNR=9.9	38.17 328	P	P	08 40 20.3	+2.6
J16K	**Anvik River** baz=116,SNR=17	38.20 330	P	P	08 40 19.4	+1.5
H18K	**Honhosa River** baz=120,SNR=9.2	38.22 333	P	P	08 40 19.7	+1.6
G19K	**Purcell Mounta** baz=123,SNR=13	38.29 335	P	P	08 40 20.5	+1.8
M13K	**Dall Lake** baz=109,SNR=6.5	38.30 325	P	P	08 40 21.1	+2.4
L14K	**Kuka Creek** baz=111	38.31 327	P	P	08 40 20.8	+1.9
F20K	**Avaraart Lake** baz=126	38.36 337	P	P	08 40 21.7	+2.5
UNV	**Unalaska Valle** baz=98	38.41 314	P	P	08 40 21.7	+1.9
I17K	**Unalakleet** baz=116	38.50 331	P	P	08 40 23.5	+3.1
D22K	**Ayikyak River** baz=131,SNR=7.9	38.60 340	P	P	08 40 23.3	+2.0
E21K	**Killik River** baz=129	38.68 339	P	P	08 40 24.0	+2.1
H17K	**Granite Mounta** baz=118,SNR=6.5	38.69 333	P	P	08 40 24.5	+2.5
G18K	**Tagagawik** baz=121,SNR=7.0	38.70 334	P	P	08 40 24.4	+2.3
C23K	**Itkillik River** baz=135	38.72 342	P	P	08 40 24.7	+2.5
JTS	**Las Juntas de** comp=Z,305nm,20.5s,baz=335,slow=37	38.83 122	LR	LR	08 56 41.9	
F19K	**Shaleruckik Mo** baz=123,SNR=15	38.90 336	P	P	08 40 25.2	+1.4
E19K	**Redstone River** baz=124,SNR=16	39.07 337	P	P	08 40 27.4	+2.2
J14K	**Nanvaranak Lak** baz=112	39.22 328	P	P	08 40 27.7	+1.3
G17K	**Kiwalik Mounta** baz=118,SNR=12	39.23 333	P	P	08 40 28.4	+1.8
C21K	**Knifeblade Rid** baz=129,SNR=5.7	39.36 340	P	P	08 40 29.3	+1.8
K13K	**Kusilvak Mount** baz=110	39.41 327	P	P	08 40 29.9	+1.9
F18K	**Selawik** baz=120,SNR=7.3	39.41 335	P	P	08 40 29.1	+1.1
H16K	**Elim** baz=115	39.44 331	P	P	08 40 29.5	+1.2
SCHQ	**Schefferville** comp=Z,6.2nm,0.9s,baz=254,slow=12,SNR=5.0	39.50 45	P	P	08 40 28.8	-0.2
SCHQ	comp=Z,425nm,19.3s,baz=100,slow=37 comp=Z,6.2nm,0.9s		LR	LR	08 57 19.7	
B21K	**Ikpikpuk River** baz=130	39.61 341	P	P	08 40 31.3	+1.7
D20K	**Etivluk River** baz=126	39.61 339	P	P	08 40 31.0	+1.3
M11K	**Mekoryuk** baz=106	39.64 324	P	P	08 40 31.2	+1.2
NIKH	**Nikolski High** baz=95	39.71 312	P	P	08 40 31.8	+1.1
B22K	**Teshekpuk Lake** baz=132,SNR=11	39.76 342	P	P	08 40 32.3	+1.4
G16K	**Koyuk River** baz=116,SNR=9.7	39.81 333	P	P	08 40 33.1	+1.7
F17K	**Baldwin Pennin** baz=118	39.89 334	P	P	08 40 34.3	+2.3
D19K	**Kuna River** baz=124,SNR=8.9	39.93 338	P	P	08 40 34.3	+1.9
E18K	**Tukpahlearik C** baz=120,SNR=11	40.15 336	P	P	08 40 35.7	+1.5
G15K	**Niukluk** baz=114,SNR=12	40.29 331	P	P	08 40 37.5	+2.1
E17K	**Hotham Inlet** baz=118	40.40 335	P	P	08 40 37.6	+1.4
B20K	**Meade River** baz=127	40.54 340	P	P	08 40 39.1	+1.8
A22K	**Sinclair Lake** baz=130	40.59 342	P	P	08 40 39.8	+2.0
ANM	**Nome** baz=112	40.65 331	P	P	08 40 40.1	+1.8
RES	**Resolute Bay** comp=Z,506nm,19.2s,baz=113,slow=37	40.65 9	LR	LR	08 57 56.5	
C19K	**Lookout Ridge** baz=123	40.72 338	P	P	08 40 41.4	+2.4
FRB	**Frobisher Bay** comp=Z,149nm,21.0s,baz=72,slow=34	40.79 31	LR	LR	08 56 06.8	
F15K	**North Star Dit** baz=114	40.81 332	P	P	08 40 41.2	+1.5
C18K	**Utukok River** baz=121,SNR=5.4	40.97 337	P	P	08 40 43.3	+2.3
SPIA	**Saint Paul Isl** baz=99	41.01 319	P	P	08 40 43.9	+2.6
D17K	**Noatak River** baz=118,SNR=5.5	41.12 336	P	P	08 40 43.8	+1.6
RDOG	**Red Dog Mine** baz=118	41.23 336	P	P	08 40 45.2	+2.1
F14K	**Arctic Creek** baz=112	41.36 332	P	P	08 40 46.9	+2.7
C17K	**DeLong Mountai** baz=118	41.52 337	P	P	08 40 47.8	+2.3
B18K	**Kokolik River** baz=121	41.53 338	P	P	08 40 48.0	+2.5
A19K	**Wainwright** baz=122	41.76 339	P	P	08 40 49.5	+2.2
TNA	**Tin City** baz=110	42.02 331	P	P	08 40 51.3	+1.8
C16K	**Lisburne Hills** baz=116	42.14 336	P	P	08 40 53.1	+2.6
GAMB	**Gambell** baz=104	43.04 328	P	P	08 40 59.9	+2.1
BILL	**Bilibino**	52.42 333	*ce*P	P	08 42 10.9	+0.3
BILL	comp=Z,8.0nm,1.0s		pmax	pmax		
PET	**Petropavlovsk**	59.03 316	*i* P	P	08 42 59.8	+1.5
PET	comp=Z,16nm,1.1s		pmax	pmax		
SEY	**Seymchan**	59.03 328	*i* P	P	08 42 59.8	+1.7
SEY	comp=Z,5.0nm,0.9s		pmax	pmax		
PEA0B	**Petropavlovsk-**	59.55 316	*i* P	P	08 43 01.9	0.0
PETK	**Petropavlovsk-** comp=Z,21nm,0.9s,baz=81,slow=9.8,SNR=32 comp=Z,21nm,0.9s	59.55 316	P	P	08 43 02.0	+0.1
MA2	**Magadan**	60.90 324	*i* P	P	08 43 12.6	+1.6
MA2	comp=Z,7.0nm,0.6s		pmax	pmax		
BORG	**Borgarnes** comp=Z,122nm,18.3s,baz=268,slow=36	60.92 29	LR	LR	09 09 36.5	
NNA	**Nana**	60.96 133	*ce*P	P	08 43 12.2	+0.2
NNA	comp=Z,22nm,0.9s		pmax	pmax		
PPT2	**Papeete2** comp=Z,278nm,27.0s	61.02 215	*e*LR	LR	09 01 09.0	
SKR	**Severo-Kuril's**	61.33 314	*ce*P	P	08 43 15.6	+1.6
TIXI	**Tiksi**	63.50 341	*ce*P	P	08 43 28.9	+0.7
TIXI	comp=Z,10.0nm,1.0s		pmax	pmax		
TBI	**Tubuai** comp=Z,725nm,33.2s	65.98 212	*e*LR	LR	09 03 33.2	
YAK	**Yakutsk**	68.78 332	*i* P	P	08 44 03.4	+1.2
YAK	comp=Z,8.0nm,0.9s		pmax	pmax		
LPAZ	**La Paz** comp=Z,6.4nm,0.8s,baz=343,slow=4.1,SNR=16 comp=Z,6.4nm,0.8s	69.62 129	P	P	08 44 08.3	-0.5
YSS	**Yuno-Sakhali**	70.88 314	*e*P	P	08 44 16.0	+0.5
ARCES	**ARCESS Array B** comp=Z,148nm,18.2s,baz=302,slow=38	71.72 13	LR	LR	09 17 53.9	
EKA	**Eskdalemuir Ar** comp=Z,1.7nm,0.6s,baz=289,slow=5.4,SNR=6.4 comp=Z,1.7nm,0.6s	73.51 33	P	P	08 44 30.5	-0.6
NRIK	**Noril'sk** comp=Z,6.0nm,0.9s,baz=42,slow=14,SNR=3.6 comp=Z,6.0nm,0.9s	73.75 351	P	P	08 44 31.8	-0.4
NRIK	**Noril'sk**	73.75 351	*i* P	P	08 44 33.7	+1.4
NRIK	comp=Z,10.0nm,1.1s		pmax	pmax		
ZEA	**Zeya**	74.95 326	*e*P	P	08 44 40.2	+0.7
ZEA	comp=Z,10.0nm,1.2s		pmax	pmax		
NB2	**NORSAR Subarra** comp=Z,4.1nm,1.0s,baz=320,slow=5.9	75.03 23	P	P	08 44 40.1	+0.1
NOA	**NORSAR Array B** comp=Z,1.6nm,0.2s,baz=318,slow=5.7,SNR=5.6	75.03 23	P	P	08 44 40.0	+0.1
NOA	comp=Z,75nm,19.2s,baz=320,slow=36 comp=Z,1.6nm,0.2s		LR	LR	09 18 24.8	
KONO	**Kongsberg**	75.54 25	*ce*P	P	08 44 42.5	-0.3
KONO	comp=Z,9.0nm,1.0s		pmax	pmax		
KLR	**Kul'dur**	75.62 321	*i* P	P	08 44 45.0	+1.5
KLR	comp=Z,8.0nm,1.3s		pmax	pmax		
HFS	**Hagfors** comp=Z,5.6nm,0.9s,baz=321,slow=2.0,SNR=8.4	76.52 23	P	P	08 44 48.4	0.0
HFS	comp=Z,110nm,18.1s,baz=310,slow=35 comp=Z,5.6nm,0.9s		LR	LR	09 18 00.9	
USA0B	**Ussuriysk Arra**	78.63 317	*i* P	P	08 45 01.0	+0.6
USRK	**Ussuriysk Ar.** comp=Z,6.8nm,0.7s,baz=64,slow=4.5,SNR=12 comp=Z,6.8nm,0.7s	78.63 317	P	P	08 45 00.3	-0.1
FINES	**FINESS Array B** comp=Z,5.8nm,1.1s,baz=341,slow=11,SNR=4.4	78.86 17	P	P	08 45 00.9	-0.4
FINES	comp=Z,147nm,18.1s,baz=340,slow=38 comp=Z,5.8nm,1.1s		LR	LR	09 22 52.3	
PMOZ	**Porto Moniz, M**	79.04 58	*e*P	P	08 45 03.2	+0.1
MJAR	**Matsushiro Arr** comp=Z,2.0nm,0.8s,baz=56,slow=5.2,SNR=4.2 comp=Z,2.0nm,0.8s	79.55 307	P	P	08 45 04.9	-0.8
PCAB	**Cabril**	79.58 46	*e*P	P	08 45 07.4	+1.6
PCAB	comp=Z,31nm,1.8s		*i* IAmb	IAmb	08 45 37.6	
PVIS	**Viseu**	80.28 47	*e*P	P	08 45 11.6	+2.0
BMRD	**Maredsous**	80.46 33	*d*P	P	08 45 10.5	+0.3
MVO	**Moncorvo**	80.51 46	*e*P	P	08 45 11.8	+1.0
DOU	**Dourbes** comp=Z,2.7nm,1.0s	80.53 34	*d*P	P	08 45 10.9	+0.2
BGES	**Gesves** comp=Z,6.0nm,1.1s	80.54 33	*d*P	P	08 45 10.8	0.0
BCLA	**Clavier** comp=Z,5.9nm,1.1s	80.61 33	*d*P	P	08 45 13.5	+2.4
MTE	**Manteigas**	80.69 47	*e*P	P	08 45 13.9	+2.1
MTE	comp=Z,18nm,1.9s		*i* IAmb	IAmb	08 45 25.9	
MEM	**Membach**	80.79 33	*d*P	P	08 45 12.5	+0.5
PCBR	**Castelo Branco**	81.08 47	*e*P	P	08 45 13.8	0.0
PMRV	**Marv??o**	81.39 47	*e*P	P	08 45 15.9	+0.4
PMRV	comp=Z,14nm,1.8s		*i* IAmb	IAmb	08 45 17.1	
HIA	**Hailar**	81.43 326	*i* P	P	08 45 17.0	+1.4
HIA	comp=Z,14nm,1.4s		pmax	pmax		
EVO	**Evora**	81.58 48	*e*P	P	08 45 17.1	+0.6
PESTR	**Estremoz**	81.62 48	*e*P	P	08 45 17.1	+0.4
PFVI	**Vila Bisbo**	81.95 50	*e*P	P	08 45 19.2	+0.7
MORF	**Marmelete**	81.95 50	*e*P	P	08 45 17.3	-1.2
MORF	comp=Z,23nm,1.6s		*i* IAmb	IAmb	08 45 41.2	
KLMR	**Klimovskoe**	82.06 11	*e*P	P	08 45 17.2	-1.4
KLMR	comp=Z,10.0nm,0.9s		pmax	pmax		
PCVE	**Castro Verde**	82.13 49	*e*P	P	08 45 20.4	+1.0
CLL	**Collm**	83.17 29	*e*P	P	08 45 25.0	+0.5
CLL	comp=Z,6.0nm,1.1s		pmax	pmax		
ESDC	**Sonseca Array** comp=Z,1.5nm,0.9s,baz=307,slow=5.3,SNR=12 comp=Z,1.5nm,0.9s	83.25 45	P	P	08 45 25.4	+0.1
CPUP	**Villa Florida** comp=Z,1.2nm,1.0s,baz=354,slow=1.6,SNR=3.0 comp=Z,1.2nm,1.0s	83.79 128	P	P	08 45 28.0	0.0
DAVOX	**Davos/Dischmat** comp=Z,103nm,18.6s,baz=259,slow=36	85.35 33	LR	LR	09 24 12.1	
KSRS	**Korea Array** comp=Z,3.7nm,0.9s,baz=58,slow=4.9,SNR=11 comp=Z,3.7nm,0.9s	85.35 313	P	P	08 45 36.0	+0.1
KSRS	**Korea Array**	85.35 313	P	P	08 45 36.0	+0.1
GERES	**GERESS Array B** comp=Z,0.8nm,0.7s,baz=281,slow=6.5,SNR=5.3	85.38 30	P	P	08 45 35.9	0.0
GERES	comp=Z,82nm,18.5s,baz=106,slow=36 comp=Z,0.8nm,0.7s		LR	LR	09 24 34.5	
MNK	**Minsk**	85.43 19	*i* P	P	08 45 35.1	-0.9
MNK			*i*		08 45 37.9	
MNK			*i*		08 48 53.2	
MNK			*i* PPP	PPP	08 50 46.4	
MNK			*i* S	SKSac	08 55 59.5	-1.8
MNK	comp=N,7.0nm,0.7s		pmax	pmax		
MNK	comp=E,36nm,0.8s		pmax	pmax		
MNK	comp=Z,12nm,0.9s		pmax	pmax		
KIRV	**Kirov**	85.53 7	*i* P	P	08 45 38.4	+2.1
VRAC	**Vranov** comp=Z,124nm,18.1s,baz=306,slow=37	86.15 28	LR	LR	09 25 55.7	
OBN	**Obninsk** comp=Z,96nm,18.2s,baz=32,slow=38	86.94 15	LR	LR	09 27 39.4	
OBN	**Obninsk**	86.94 15	*i* P	P	08 45 44.3	+0.9
OBN	comp=Z,5.0nm,0.7s		pmax	pmax		
ZAK	**Zakamensk**	87.13 335	*e*P	P	08 45 44.0	-0.6
ZAK	comp=Z,7.0nm,1.3s		pmax	pmax		
PLCA	**Paso Flores** comp=Z,4.6nm,1.0s,baz=298,slow=6.9,SNR=6.9 comp=Z,4.6nm,1.0s	87.36 146	P	P	08 45 45.6	+0.1
ULN	**Ulaanbaatar**	87.86 332	*ce*P	P	08 45 49.8	+1.6
ULN	comp=Z,12nm,1.3s		pmax	pmax		
SONM	**Songino Array** comp=Z,4.8nm,0.7s,baz=21,slow=4.6,SNR=20 comp=Z,4.8nm,0.7s	88.14 332	P	P	08 45 50.4	+0.9
ARTI	**Arti** comp=Z,96nm,21.4s,baz=222,slow=38	88.30 2	LR	LR	09 28 17.6	
ARTI	**Arti**	88.30 2	P	P	08 45 45.8	-4.1
ARTI			S	SKSac	08 56 12.8	-6.1
ZALV	**Zalesovo Beam** comp=Z,3.3nm,0.5s,baz=20,slow=4.7,SNR=13 comp=Z,3.3nm,0.5s	88.75 347	P	P	08 45 51.8	-0.3
AKASG	**Malin Array Be** comp=Z,2.0nm,0.8s,baz=316,slow=3.4,SNR=7.7 comp=Z,2.0nm,0.8s	89.19 20	P	P	08 45 53.0	-1.2
AKASG	**Malin Array Be**	89.19 20	*i* P	P	08 45 53.9	-0.3
AKASG	comp=Z,3.0nm,0.9s		pmax	pmax		
AKBB	**Malin Array Si**	89.19 20	*ce*P	P	08 45 53.9	-0.3
AKBB	comp=Z,4.0nm,1.0s		pmax	pmax		
BELG	**Belogornoye**	91.41 9	*i* P	P	08 46 04.5	0.0
BELG	comp=Z,1.0nm,0.9s		pmax	pmax		
BRVK	**Borovoye**	91.45 355	*ce*P	P	08 46 06.1	+1.4
BRVK	comp=Z,9.0nm,0.9s		pmax	pmax		
BVAR	**Borovoye Array** comp=Z,3.3nm,0.6s,baz=8.5,slow=3.0,SNR=17 comp=Z,3.3nm,0.6s	91.47 355	P	P	08 46 05.2	+0.3
MLR	**Muntele Rosu** comp=Z,87nm,18.1s,baz=355,slow=38	92.78 25	LR	LR	09 31 00.7	
KURK	**Kurchatov**	92.89 350	*ce*P	P	08 46 11.9	+0.5
KURK	comp=Z,4.0nm,1.2s		pmax	pmax		
KURBB	**Kurchatov Arra** comp=Z,2.2nm,0.8s,baz=13,slow=4.7,SNR=13 comp=Z,2.2nm,0.8s	92.99 350	P	P	08 46 11.4	-0.4
AKTO	**Aktyubinsk** comp=Z,87nm,21.7s,baz=61,slow=37	94.24 3	LR	LR	09 31 25.8	
MKAR	**Makanchi Array** comp=Z,0.6nm,0.7s,baz=32,slow=7.1,SNR=6.9 comp=Z,0.6nm,0.7s	96.07 346	P	P	08 46 25.6	-0.5
MKAR	**Makanchi Array**	96.07 346	*i* P	P	08 46 25.8	-0.3
MKAR	comp=Z,1.0nm,1.0s		pmax	pmax		
KIV	**Kislovodsk**	98.79 14	*e*P	P	08 46 37.1	-1.4
KIV	comp=Z,5.0nm,1.0s		pmax	pmax		
WRA	**Warramunga Arr** comp=Z,0.8nm,0.7s,baz=65,slow=2.1,SNR=9.8	115.82 263	PKP	PKPdf	08 51 40.9	-0.8
ASAR	**Alice Springs** comp=Z,0.7nm,0.8s,baz=84,slow=2.2,SNR=6.3	118.02 260	PKP	PKPdf	08 51 44.8	-1.1
VNDA	**Vanda** comp=Z,0.3nm,0.4s,baz=68,slow=5.4,SNR=2.9	122.47 195	PKP	PKPdf	08 51 51.8	-1.0
QSPA	**South Pole Qui** comp=Z,2.0nm,1.0s,baz=116,slow=3.1,SNR=7.9	125.43 180	PKP	PKPdf	08 51 58.9	+0.1
BOSA	**Boshof** comp=Z,3.1nm,0.8s,baz=286,slow=3.5,SNR=6.7	147.82 88	PKPbc	PKPbc	08 52 43.3	-0.7
MAW	**Mawson** comp=Z,7.3nm,1.0s,baz=186,slow=6.3,SNR=7.9	147.95 180	PKPbc	PKPbc	08 52 42.6	-0.3

WEL 06 08:36:04.7±1.3,35°S±6°×18°0W±1°2,h12km,M3.9/6, ML4.1/11,MLv3.9/6,Error ellipse: s-maj=15.7km s-min=7.0km az=96.6,confirmed,East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**3.00**	**206**	P	Pn	08 36 52.1	+0.1
WMGZ				S	Sn	08 37 30.8	+2.9
PKGZ	**Pakihiroa**	**3.17**	**210**	P	Pn	08 36 54.4	0.0
PKGZ				S	Sn	08 37 32.9	+0.7
HAZ	**Te Kaha**	**3.21**	**214**	P	Pn	08 36 55.1	+0.3
HAZ				S	Sb	08 37 37.4	-3.2
PUZ	**Puketiti**	**3.28**	**206**	P	Pn	08 36 56.3	+0.4
PUZ				S	Sn	08 37 35.9	+1.0
RUGZ	**Raukumara Rang**	**3.42**	**213**	P	Pn	08 36 57.3	-0.7
RUGZ				S	Sn	08 37 41.1	+2.5
TWGZ	**Tauwhareparae**	**3.48**	**208**	P	Pn	08 36 58.1	-0.6
TWGZ				S	Sn	08 37 41.3	+1.5
CNGZ	**Carnagh Statio**	**3.67**	**203**	P	Pn	08 37 00.6	-0.6
TKGZ	**Te Karaka**	**3.76**	**208**	P	Pn	08 37 02.0	-0.4
TKGZ				S	Sn	08 37 46.8	+0.3
MWZ	**Matawai**	**3.80**	**212**	P	Pn	08 37 01.9	-1.1
MWZ				S	Sn	08 37 47.7	+0.1
KUZ	**Kuaotunu**	**3.88**	**244**	P	Pn	08 37 04.6	+0.5
URZ	**Urewera**	**3.93**	**216**	P	Pn	08 37 04.4	-0.4
URZ				S	Sn	08 37 50.5	-0.3
RIGZ	**Rimuhau**	**4.02**	**207**	P	Pn	08 37 05.3	-0.9
RIGZ				S	Sn	08 37 53.8	+0.6
MUGZ	**Murupara**	**4.26**	**217**	P	Pn	08 37 09.4	0.0
MUGZ				S	Sn	08 37 57.8	-1.3
WIAZ	**Waiheke Island**	**4.33**	**246**	P	Pn	08 37 11.3	+0.9
MKAZ	**Moumakai**	**4.43**	**242**	P	Pn	08 37 12.4	+0.6
TOZ	**Tahuroa Road**	**4.51**	**233**	P	Pn	08 37 14.1	+1.4
WCZ	**Waipu Caves**	**4.74**	**258**	P	Pn	08 37 16.6	+0.7
BKZ	**Black Stump Fm**	**4.94**	**214**	P	Pn	08 37 17.3	-1.5
BKZ				S	Sn	08 38 13.6	-2.3
OUZ	**Omahuta**	**5.30**	**267**	P	Pn	08 37 22.5	-1.2
CTZ	**Chatham Island**	**8.97**	**164**	P	Pn	08 38 13.6	-0.4

*NEIC **06** 08:36:48.7±1.9,35°690N±0°008×117°50W±0°01, h2km±3km,Error ellipse: s-maj=1.7km s-min=0.9km az=120.0*

PAS 06 08:36:48.9±2.1, 35°.678N±0°.009×117°.492W±0°.008, h1km±1km, ML3.1/26, ML3.1/52(NEIC), Error ellipse: s-maj=1.4km s-min=0.8km az=205.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	Chr Cany lake	0.18	146		Pg	08 36 53.2	+0.7
LRMC	Laurel Mtn Rad	0.25	218		Sg	08 36 57.8	+0.8
LRMC	Laurel Mtn Rad	0.25	218		Pg	08 36 53.5	-0.3
LRMC	comp=N,4μm,0.5s			IAML		08 36 58.0	
LRMC	comp=E,5μm,0.4s			IAML		08 36 58.2	
WBSM	Bird Springs	0.55	255		Pg	08 36 59.6	+0.2
QSM	Queen of Sheba	0.58	60		Sg	08 37 08.2	+0.5
QSM	Queen of Sheba	0.58	60		Pg	08 37 00.2	0.0
QSM	comp=N,855nm,0.5s			IAML		08 37 08.7	
QSM	comp=E,1μm,0.4s			IAML		08 37 09.2	
WORM	Onyx Ranch	0.61	272		Sb	08 37 10.4	-1.2
GSC	Goldstone, Bar	0.67	124		Pg	08 37 01.8	-0.1
GSC	comp=N,2μm,0.4s			IAML		08 37 11.4	
CCAC	Calif City Air	0.68	219	Pg	Pg	08 37 01.7	-0.2
CCAC	comp=N,772nm,0.8s			IAML		08 37 11.8	
CCAC	comp=E,848nm,1.0s			IAML		08 37 16.5	
WHFM	Hanning Flat	0.70	272		Pg	08 37 02.3	0.0
WHFM					Sg	08 37 11.8	+0.5
ISA	Isabella, Lake	0.80	269		Pg	08 37 03.9	-0.3
HYS	Haystack Butte	0.81	184		Pb	08 37 05.8	-0.1
GWY	Greenwater Val	0.84	53	Pg	Pg	08 37 04.7	-0.4
GWY	comp=E,1μm,0.5s			IAML		08 37 20.5	
GWY	comp=N,822nm,0.5s			IAML		08 37 20.9	
EDW2	Edwards Air Fo	0.89	207		Pb	08 37 07.2	-0.1
CGO	Cerro Gordo	0.91	344		Pb	08 37 07.4	-0.3
TPO	Tropico Hills	1.00	217		Pb	08 37 09.2	+0.2
SHOC	Shoshone, Teco	1.01	77		Pg	08 37 08.7	+0.3
LRRC	Littlerock Res	1.23	201		Pg	08 37 12.0	-0.6
LEOC	Leona Valley	1.24	213		Pb	08 37 13.2	+0.1
LEOC					Sb	08 37 30.1	+0.5
AMDNV	Amargosa	1.25	51		Sg	08 37 29.4	+0.3
TUQ	Turquoise Moun	1.30	100		Pg	08 37 13.3	-0.6
GRAC	Grapevine Rang	1.32	4	Pg	Pg	08 37 14.3	+0.1
GRAC	comp=N,420nm,0.9s			IAML		08 37 36.6	
GRAC	comp=E,327nm,3.7s			IAML		08 37 41.7	
SIL	Silver Peak	1.44	157		Pb	08 37 16.6	0.0
OSI	Osito Audit: C	1.46	224		Pn	08 37 15.9	-0.6
OSI	comp=E,210nm,1.1s			IAML		08 37 38.5	
OSI	comp=N,211nm,1.0s			IAML		08 37 44.1	
SSK	Sunset Peak	1.47	186		Pn	08 37 16.7	0.0
MWC	Mount Wilson	1.52	198		Pn	08 37 17.4	-0.1
MWC	comp=N,211nm,0.6s			IAML		08 37 39.8	
MWC	comp=E,192nm,1.5s			IAML		08 37 46.5	
CLTC	Calectric	1.59	175		Sn	08 37 38.7	-0.6
PASC	Pasadena Art C	1.61	201		Pn	08 37 17.7	-0.7
TPNV	Topopah Spring	1.62	38		Pn	08 37 17.6	-1.1
TPNV	comp=E,207nm,1.9s			IAML		08 37 28.1	
TPNV	comp=E,252nm,1.1s			IAML		08 37 44.7	
VOG	Valley Oaks Go	1.66	293		Pn	08 37 18.8	-0.4
GTM	Goat Mountain	1.67	146		Sb	08 37 42.1	+0.2
BCW	Bitter Crk WRg	1.73	245		Pn	08 37 20.8	+0.5
BCW	comp=E,260nm,2.4s			IAML		08 37 28.7	
BCW	comp=N,240nm,2.2s			IAML		08 37 35.1	
ELS	Elsinore Mount	2.03	178	Pn	Pn	08 37 23.4	-0.9
V12A	Nelson	2.15	88	Pn	Pn	08 37 24.4	-1.6
PMD	Palm Desert	2.22	155	Pn	Pn	08 37 25.6	-1.3
PFO	Pinyon Flats O	2.23	157	Pn	Pn	08 37 26.2	-0.9
PFO	comp=N,90nm,3.1s			IAML		08 37 42.1	
FRD	Ford Ranch, An	2.30	161		Pb	08 37 31.7	+0.5
TPH	Tonopah	2.40	5	Pn	Pn	08 37 28.7	-0.9
LHV	Little Huntoon	2.69	343	Pn	Pn	08 37 33.8	+0.5
LHV	comp=N,114nm,4.1s			IAML		08 37 51.1	
PMPB	Monarch Peak	2.74	282	Pn	Pn	08 37 33.6	-0.5
NV11	Mina Array Sit	2.80	349		Pn	08 37 33.8	-1.2
NV11	comp=N,72nm,2.9s			IAML		08 37 53.5	
NV11	comp=E,86nm,4.3s			IAML		08 38 02.2	
NVAR	Mina Array Bea	2.82	347	Pn	Pn	08 37 34.8	-0.6
RYN	Ryan	3.06	345	Pn	Pn	08 37 38.7	+0.1
RYN	comp=N,65nm,2.1s			IAML		08 38 00.0	
RYN	comp=E,62nm,3.8s			IAML		08 38 37.8	
CBX	Cerro Bola	3.43	168	Pn	Pn	08 37 43.0	-0.5

*NEIC **06** 08:39:42.5±1.5, 35°.920N±0°.007×117°.70W±0°.01, h2km±1km, Error ellipse: s-maj=1.6km s-min=0.8km az=114.0*

PAS 06 08:39:42.8±1.6, 35°.923N±0°.004×117°.71W±0°.02, h2km±1km, ML3.1/24, ML3.3/46(NEIC), Error ellipse: s-maj=1.9km s-min=0.5km az=105.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	Volcano Peak E	0.09	287		Pg	08 39 44.9	+0.3
TOW	Tower One	0.12	201		Pg	08 39 45.7	+0.6
TOW					Sg	08 39 48.7	+1.9
CLC	China Lake	0.14	139		Pg	08 39 45.7	+0.2
CLC					Sg	08 39 47.9	+0.5
WRVM	Rose V. Centra	0.17	300		Pg	08 39 46.3	+0.3
WNMM	Nine Mile Cany	0.18	243		Pg	08 39 46.6	+0.4
WNMM					Sg	08 39 49.8	+1.3
MPMC	Manual Prospec	0.23	53		Pg	08 39 47.5	+0.3
MPMC					Sg	08 39 50.8	+0.7
MFS	McCloud Flat S	0.23	329		Pg	08 39 47.4	+0.2
MFS					Sg	08 39 51.0	+0.9
LRMC	Laurel Mtn Rad	0.44	177		Pg	08 39 51.3	0.0
LRMC					Sg	08 39 57.8	+0.8
LRMC	Laurel Mtn Rad	0.44	177	IAML		08 39 58.9	
LRMC	comp=E,2μm,0.2s			IAML		08 40 07.1	
LRMC	comp=N,3μm,0.4s			IAML		08 40 20.7	
CCCA	Chr Cany lake	0.49	144		Pg	08 39 52.8	+0.6
CWC	Cottonwood Cre	0.60	330		Pg	08 39 55.2	+0.9
ISA	Isabella, Lake	0.67	248	Pg	Pg	08 39 55.3	-0.3
ISA	comp=N,994nm,0.4s			IAML		08 40 05.1	
QSM	Queen of Sheba	0.69	86		Pg	08 39 55.6	-0.4
QSM	comp=E,989nm,0.5s			IAML		08 40 09.3	
QSM	comp=N,1μm,0.9s			IAML		08 40 20.2	
CCAC	Calif City Air	0.81	198		Sg	08 40 09.2	+0.5
CCAC	Calif City Air	0.81	198	Pg	Pg	08 39 57.9	-0.4
CCAC	comp=N,1μm,0.8s			IAML		08 40 19.9	
CCAC	comp=E,2μm,0.5s			IAML		08 40 23.1	
GWY	Greenwater Val	0.89	72		Pg	08 39 59.3	-0.5
GWY	comp=E,1μm,1.1s			IAML		08 40 30.8	
GWY	comp=N,1μm,1.1s			IAML		08 40 31.1	
GSC	Goldstone, Bar	0.96	130	Pg	Pg	08 40 00.8	-0.4
TEJ	El Tejon	1.05	229		Pg	08 40 02.2	-0.8
EDW2	Edwards Air Fo	1.06	193		Pb	08 40 03.8	-0.2
GRAC	Grapevine Rang	1.11	14		Pg	08 40 03.5	-0.5
GRAC	comp=N,939nm,1.1s			IAML		08 40 39.9	
VES	Vestal, Richgr	1.12	266		Sg	08 40 19.2	+0.4
SGV	South Grapevin	1.19	27		Sg	08 40 20.1	-0.9
ARVC	Arvin	1.21	229		Pg	08 40 06.2	+0.2
TJR	Tejon Ranch	1.23	224		Pg	08 40 05.8	-0.5
WCT	Wildcat Mounta	1.23	45	Pg	Pg	08 40 06.3	-0.1
AMDNV	Amargosa	1.27	65		Pg	08 40 07.2	0.0
THC	Tehachapi Micr	1.28	218		Pg	08 40 06.2	-1.1
LCH	Last Change Ra	1.31	2		Pb	08 40 08.2	-0.1
VOG	Valley Oaks Go	1.41	287		Pn	08 40 08.2	-1.3
LRRC	Littlerock Res	1.42	191		Pn	08 40 09.3	-0.2
GMN	Gold Mountain	1.42	15		Pn	08 40 09.3	-0.6
GMN	comp=N,293nm,0.7s			IAML		08 40 27.6	
CJV	Casa Juvan	1.43	194		Pb	08 40 10.7	+0.4
DSP	Deep Springs	1.46	352		Pn	08 40 09.6	-0.6
OSI	Osito Audit: C	1.55	213		Pn	08 40 11.2	-0.2
OSI	comp=E,624nm,0.8s			IAML		08 40 49.3	
OSI	comp=N,438nm,1.0s			IAML		08 40 57.3	
MTUM	Tungsten Hills	1.58	335		Pb	08 40 12.7	-0.2
CHFC	Chilao Flat St	1.61	189		Pb	08 40 13.1	-0.2
BFSC	Mount Baldy Ra	1.68	179		Pb	08 40 14.6	0.0
BCW	Bitter Crk WRg	1.70	235		Pn	08 40 13.1	-0.5
SSK	Sunset Peak	1.71	179		Pb	08 40 15.2	+0.2
MWC	Mount Wilson	1.72	190		Pb	08 40 15.4	+0.2
BBRC	Big Bear Solar	1.78	158		Pg	08 40 16.7	-0.2
PASC	Pasadena Art C	1.79	193		Pn	08 40 14.3	-0.5
PASC	comp=E,309nm,1.1s			IAML		08 40 54.1	
PASC	comp=N,248nm,0.8s			IAML		08 40 54.1	
PSRC	Puddingstone R	1.83	182		Pg	08 40 17.5	-0.3
BENR	Benton	1.92	339		Pb	08 40 18.8	+0.1
MCSM	Casa Diablo Ho	1.98	331		Pb	08 40 19.7	0.0
SHPR	Sheep Range	2.14	74	Pn	Pn	08 40 19.2	-0.6
TSCN	Private Proper	2.18	261		Pb	08 40 22.4	-0.6
ELS	Elsinore Mount	2.28	174		Pn	08 40 21.2	-0.4
ELS	comp=N,123nm,0.8s			IAML		08 41 13.6	
V12A	Nelson	2.33	94		Pn	08 40 21.0	-1.3
V12A	comp=N,168nm,1.0s			IAML		08 41 13.3	
V12A	comp=E,127nm,0.7s			IAML		08 41 16.4	
PFO	Pinyon Flats O	2.52	156		Pn	08 40 24.0	-1.0
PFO	comp=E,113nm,0.9s			IAML		08 41 18.6	
PFO	comp=E,98nm,1.0s			IAML		08 41 19.4	
PRN	Pahroc Range	2.60	55	Pn	Pn	08 40 25.3	-0.8
PRN	comp=N,198nm,0.6s			IAML		08 41 24.2	
PRN	comp=E,208nm,1.0s			IAML		08 41 38.0	
BBGB	Big Mountain B	2.77	285	Pn	Pn	08 40 29.2	+0.9
SAO	San Andreas Ge	3.13	287	Pn	Pn	08 40 33.9	+0.7
W13A	Hualapai Mount	3.23	104	Pn	Pn	08 40 32.9	-1.8

*NEIC **06** 08:40:30.2±0.9, 35°.611N±0°.009×117°.42W±0°.02, h5km±1km, Error ellipse: s-maj=2.4km s-min=2.2km az=115.0*

PAS 06 08:40:30.7±0.5, 35°.607N±0°.010×117°.42W±0°.01, h4km±2km, ML3.2/5, ML3.0/16(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=123.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	Chr Cany lake	0.09	152		Pg	08 40 33.0	+0.4
CCCA					Sg	08 40 35.1	+1.1
LRMC	Laurel Mtn Rad	0.25	240		Sg	08 40 39.5	+0.6
LRMC	Laurel Mtn Rad	0.25	240		Pg	08 40 35.5	-0.1
LRMC	comp=N,2μm,0.3s			IAML		08 40 39.6	
LRMC	comp=E,2μm,0.2s			IAML		08 40 39.6	
CLC	China Lake	0.25	325		Sg	08 40 39.7	+0.7
MPMC	Manual Prospec	0.45	353		Pg	08 40 39.4	-0.1
MPMC					Sg	08 40 45.8	+0.3
DTP	Desert Tortois	0.49	226		Pg	08 40 39.9	-0.2
DTP					Sg	08 40 46.7	+0.3
WRVM	Rose V. Centra	0.55	316		Pg	08 40 41.4	0.0
GSC	Goldstone, Bar	0.58	121	Pg	Pg	08 40 41.6	-0.4
MFS	McCloud Flat S	0.62	325		Sg	08 40 50.9	+0.1
CCAC	Calif City Air	0.67	227	Pg	Pg	08 40 43.3	-0.2
CCAC	comp=N,539nm,1.1s			IAML		08 40 46.1	
CCAC	comp=N,674nm,0.7s			IAML		08 40 57.4	
WORM	Onyx Ranch	0.68	278		Sg	08 40 52.4	-0.1
WHFM	Hanning Flat	0.76	277		Sg	08 40 55.2	-0.1
GWY	Greenwater Val	0.84	46	Pg	Pg	08 40 46.2	-0.6
GWY	comp=N,398nm,0.9s			IAML		08 40 52.2	
GWY	comp=E,385nm,1.0s			IAML		08 41 09.1	
BLCC	Black Canyon	1.71	218		Pn	08 40 59.3	-2.0
S11A	Rachel	2.44	33	Pn	Pn	08 41 10.5	-0.9
TPH	Tonopah	2.47	4	Pn	Pn	08 41 09.9	-2.0
TPH	comp=E,311nm,1.4s			IAML		08 41 25.8	

*NEIC **06** 08:41:33.0±1.6, 35°.721N±0°.010×117°.52W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.6km az=269.0*

PAS 06 08:41:33.1±1.6, 35°.703N±0°.007×117°.51W±0°.01, h2km±2km, ML3.4/18, ML3.2/50(NEIC), Error ellipse: s-maj=1.3km s-min=1.0km az=99.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	China Lake	0.13	327		Pg	08 41 35.9	+0.2
CLC					Sg	08 41 38.0	+0.5
SRTC	Snort	0.20	267		Pg	08 41 37.5	+0.6
SRTC					Sg	08 41 41.2	+1.7
CCCA	Chr Cany lake	0.21	147		Pg	08 41 37.9	+0.7
TOW	Tower One	0.23	297		Pg	08 41 38.2	+0.6
LRMC	Laurel Mtn Rad	0.26	213		Pg	08 41 38.2	+0.1
LRMC	Laurel Mtn Rad	0.26	213	IAML		08 41 43.2	
LRMC	comp=N,6μm,0.3s			IAML		08 41 43.3	
LRMC	comp=E,6μm,0.3s			IAML		08 41 43.8	
WVPM	Volcano Peak E	0.35	314		Pg	08 41 40.0	+0.2
MPMC	Manual Prospec	0.35	2		Pg	08 41 40.0	0.0
MPMC					Sg	08 41 45.1	+0.5
WRVM	Rose V. Centra	0.43	315		Pg	08 41 41.5	+0.1
MFS	McCloud Flat S	0.50	326		Pg	08 41 42.8	+0.1
MFS					Sg	08 41 50.0	+0.8
DTP	Desert Tortois	0.51	212		Pg	08 41 42.7	-0.2
DTP					Sg	08 41 50.0	+0.4
WBSM	Bird Springs	0.54	252		Sg	08 41 51.1	+0.6
QSM	Queen of Sheba	0.58	63		Pg	08 41 43.8	-0.5
QSM	comp=E,1μm,0.5s			IAML		08 41 52.6	
QSM	comp=N,2μm,0.6s			IAML		08 41 52.7	
WORM	Onyx Ranch	0.60	270		Pg	08 41 44.2	-0.3
WORM					Sg	08 41 52.2	0.0
WHFM	Hanning Flat	0.69	270		Pg	08 41 46.0	-0.2
WHFM					Sg	08 41 55.1	0.0
CCAC	Calif City Air	0.69	217		Sg	08 41 56.0	+0.8
CCAC	Calif City Air	0.69	217		Pg	08 41 46.0	-0.3
CCAC	comp=E,902nm,0.4s			IAML		08 41 56.2	
CCAC	comp=N,1μm,0.4s			IAML		08 41 56.9	
GSC	Goldstone, Bar	0.70	125		Sg	08 41 56.1	+0.6
GSC	Goldstone, Bar	0.70	125		Pg	08 41 46.2	-0.3
GSC	comp=N,1μm,0.4s			IAML		08 41 56.3	
GSC	comp=E,1μm,0.5s			IAML		08 41 56.8	
ISA	Isabella, Lake	0.79	267		Sg	08 41 58.7	+0.3
ISA	Isabella, Lake	0.79	267		Pg	08 41 47.7	-0.4
GWY	Greenwater Val	0.83	54	Pg	Pg	08 41 49.0	0.0
GWY	comp=N,2μm,0.8s			IAML		08 42 04.9	
HYS	Haystack Butte	0.84	183		Pb	08 41 50.1	-0.3
WASM	Alta Sierra Ca	0.85	273		Pg	08 41 49.2	-0.3
WASM					Sg	08 42 00.5	0.0
EDW2	Edwards Air Fo	0.91	206		Pg	08 41 49.9	-0.7
TPO	Tropico Hills	1.01	216		Pb	08 41 53.3	0.0
TPO					Sb	08 42 06.3	-0.7
SBB	Saddle Back Bu	1.04	194		Pg	08 41 53.2	+0.1
SPG2	Springville 2	1.14	296		Pg	08 41 54.0	-0.8
SPG2					Sg	08 42 09.6	+0.1
VTV	Victorville	1.15	173		Pg	08 41 55.3	+0.2
ALPC	Antelope	1.20	213		Sb	08 42 12.8	+0.3
ARVC	Arvin	1.22	242		Pg	08 41 54.5	-2.1
THC	Tehachapi Micr	1.23	230		Pg	08 41 55.8	-0.9
AMDNV	Amargosa	1.24	53		Pg	08 41 56.7	-0.2
LRRC	Littlerock Res	1.25	200		Pg	08 41 56.9	-0.1
LEOC	Leona Valley	1.25	212		Pg	08 41 57.1	0.0
LEOC					Sb	08 42 14.2	+0.2
DSCC	Desert Studies	1.28	116		Pg	08 41 56.6	-0.9
DSCC					Sg	08 42 13.3	-0.8
CJV	Casa Juvan	1.28	204		Pg	08 41 57.4	-0.2
VES	Vestal, Richgr	1.29	277		Sg	08 42 14.4	-0.1
GRAC	Grapevine Rang	1.30	5		Pg	08 41 57.4	-0.5
HEC	Hector,Ludlow	1.30	132		Pg	08 41 57.5	-0.4
HEC					Sb	08 42 15.7	+0.4
WCT	Wildcat Mounta	1.30	33		Pg	08 41 57.0	-1.0
WCT	comp=N,360nm,0.5s			IAML		08 42 19.5	
JNH	Juniper Hills	1.30	196		Pg	08 41 58.1	+0.1
JNH					Sb	08 42 15.7	+0.2
TUQ	Turquoise Moun	1.32	101		Pg	08 41 57.6	-0.8
TUQ					Sg	08 42 15.5	+0.1
SGV	South Grapevin	1.33	17		Pg	08 41 57.9	-0.8
BAKC	Calstate	1.35	255		Sg	08 42 16.5	0.0
CHFC	Chilao Flat St	1.43	197		Pn	08 41 59.7	-0.4
SIL	Silver Peak	1.46	157		Pn	08 42 00.6	0.0
OSI	Osito Audit: C	1.47	223		Pn	08 42 00.5	-0.2
OSI	comp=N,355nm,0.7s			IAML		08 42 21.8	
OSI	comp=E,400nm,0.6s			IAML		08 42 23.9	
SSK	Sunset Peak	1.50	186		Pn	08 42 00.7	-0.3
LCH	Last Change Ra	1.53	356		Pn	08 42 01.2	-0.4
LCH					Sn	08 42 21.9	-0.1
MWC	Mount Wilson	1.54	197		Pb	08 42 02.4	-0.1
MWC	Mount Wilson	1.54	197		Pn	08 42 00.8	-0.9
MWC	comp=N,363nm,0.6s			IAML		08 42 23.7	
MWC	comp=E,345nm,0.5s			IAML		08 42 24.9	
DECC	Green Verdugo	1.60	205		Pb	08 42 03.4	+0.1
TPNV	Topopah Spring	1.61	39		Pn	08 42 01.5	-1.1
TPNV	comp=E,398nm,0.6s			IAML		08 42 29.9	
TPNV	comp=E,418nm,0.5s			IAML		08 42 30.5	
GMN	Gold Mountain	1.61	7		Pn	08 42 01.9	-0.8
GMN	comp=N,208nm,0.5s			IAML		08 42 26.8	
MTPC	Mountain Pass	1.61	97		Pn	08 42 01.4	-1.1
PASC	Pasadena Art C	1.63	200		Pb	08 42 03.4	-0.3
PASC	Pasadena Art C	1.63	200		Pn	08 42 01.6	-1.1
PSRC	Puddingstone R	1.63	189		Pb	08 42 03.3	-0.4
SVD	Seven Oaks Dam	1.63	168		Pg	08 42 04.2	0.0
VOG	Valley Oaks Go	1.64	293		Pn	08 42 00.8	-2.0
GTM	Goat Mountain	1.69	146		Pg	08 42 05.5	-0.1
DSP	Deep Springs	1.71	348		Pn	08 42 03.8	0.0
DSP	comp=E,221nm,0.4s			IAML		08 42 28.5	
BLCC	Black Canyon	1.74	214		Pg	08 42 06.4	-0.1
RHC	Rose Hills Cem	1.75	194		Pg	08 42 06.9	+0.4
BHPR	Bishop	1.78	334		Pb	08 42 06.7	+0.2
MTUM	Tungsten Hills	1.85	333		Pb	08 42 07.7	0.0
MZP	Montezuma Peak	2.00	3		Pn	08 42 07.3	-0.7
HMTC	Hemet	2.03	168		Pn	08 42 07.4	-0.9
ELS	Elsinore Mount	2.05	178	Pn	Pn	08 42 08.1	-0.5
POB	Polly Butte	2.07	166		Pn	08 42 08.3	-0.6
V12A	Nelson	2.16	89	Pn	Pn	08 42 09.3	-0.8
V12A	comp=N,136nm,0.9s			IAML		08 42 44.4	
MLAC	Mammoth, Mammo	2.20	331		Pb	08 42 14.3	+0.6
CRY	Cary Ranch	2.23	163		Pb	08 42 14.1	+0.1
MCSM	Casa Diablo Ho	2.25	330		Pb	08 42 15.0	+0.5
TPH	Tonopah	2.38	5		Pn	08 42 12.6	-0.7
S11A	Rachel	2.40	36	Pn	Pn	08 42 13.0	-0.4
S11A	comp=N,169nm,0.8s			IAML		08 43 17.1	
PRN	Pahroc Range	2.61	49	Pn	Pn	08 42 15.8	-0.5
PRN	comp=N,163nm,0.6s			IAML		08 43 06.2	
PRN	comp=E,145nm,0.9s			IAML		08 43 06.5	
NV11	Mina Array Sit	2.77	349	Pn	Pn	08 42 17.4	-1.2
W13A	Hualapai Mount	3.02	100		Pn	08 42 22.4	+0.4
BLYC	Blythe	3.14	128	Pn	Pn	08 42 22.4	-1.1
BLYC	comp=E,52nm,0.6s			IAML		08 43 13.7	
BLYC	comp=N,63nm,0.7s			IAML		08 43 20.0	
Q09A	Carvers	3.14	5	Pn	Pn	08 42 23.2	-0.4
ESJX	Sierra Juarez	3.91	160	Pn	Pn	08 42 33.1	-1.1

*NEIC **06** 08:46:32.7±1.8, 35°.692N±0°.009×117°.60W±0°.01, h8km±9km, Error ellipse: s-maj=1.5km s-min=1.3km az=56.0*

PAS 06 08:46:32.6±1.9, 35°.678N±0°.009×117°.60W±0°.01, h5km±3km, ML3.3/20, ML3.0/68(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=50.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	Snort	0.12	276		Pg	08 46 35.7	+0.5
SRTC					Sg	08 46 38.7	+1.7
CLC	China Lake	0.14	360		Pg	08 46 35.5	0.0
CLC					Sg	08 46 38.0	+0.5
TOW	Tower One	0.19	314		Pg	08 46 36.8	+0.4
TOW					Sg	08 46 41.0	+0.5
LRMC	Laurel Mtn Rad	0.21	199		Sg	08 46 41.4	+0.5
LRMC	Laurel Mtn Rad	0.21	199	Pg	Pg	08 46 36.6	-0.2
LRMC	comp=E,5μm,0.6s			IAML		08 46 40.2	
LRMC	comp=N,7μm,0.2s			IAML		08 46 40.7	
CCCA	Chr Cany lake	0.24	129		Pg	08 46 37.5	+0.1
CCCA					Sg	08 46 41.5	+0.8
WNMM	Nine Mile Cany	0.30	303		Pg	08 46 38.6	+0.1
WVPM	Volcano Peak E	0.33	327		Pg	08 46 38.9	-0.1
WVPM					Sg	08 46 43.8	+0.4
MPMC	Manual Prospec	0.39	13		Pg	08 46 39.7	-0.6
MPMC					Sg	08 46 45.4	0.0
WRVM	Rose V. Centra	0.41	324		Pg	08 46 40.2	-0.3
WRVM					Sg	08 46 45.9	0.0
DTP	Desert Tortois	0.46	206		Pg	08 46 41.2	-0.2
MFS	McCloud Flat S	0.49	335		Pg	08 46 41.7	-0.3
MFS					Sg	08 46 48.5	+0.1
WORM	Onyx Ranch	0.53	272		Pg	08 46 42.5	-0.3
CCAC	Calif City Air	0.63	213	Pg	Pg	08 46 44.0	-0.7
CCAC	comp=E,602nm,0.8s			IAML		08 46 53.2	
CCAC	comp=N,785nm,0.4s			IAML		08 46 54.0	
QSM	Queen of Sheba	0.66	64		Sg	08 46 54.0	+0.1
QSM	Queen of Sheba	0.66	64	Pg	Pg	08 46 44.4	-0.9
QSM	comp=E,886nm,0.7s			IAML		08 46 57.3	
QSM	comp=N,936nm,0.7s			IAML		08 46 57.3	
ISA	Isabella, Lake	0.71	269		Sg	08 46 55.3	-0.3
ISA	Isabella, Lake	0.71	269	Pg	Pg	08 46 45.6	-0.8
ISA	comp=N,759nm,0.5s			IAML		08 46 55.8	
ISA	comp=E,958nm,0.5s			IAML		08 46 56.0	
GSC	Goldstone, Bar	0.75	120		Sg	08 46 56.1	-0.6
GSC	Goldstone, Bar	0.75	120	Pg	Pg	08 46 46.5	-0.4
WASM	Alta Sierra Ca	0.78	275		Pg	08 46 47.2	-0.5
WASM					Sg	08 46 57.7	-0.2
HYS	Haystack Butte	0.81	178		Pg	08 46 48.6	+0.3
CWC	Cottonwood Cre	0.85	333		Pg	08 46 48.9	-0.1
CWC					Sg	08 47 00.2	0.0
EDW2	Edwards Air Fo	0.86	202		Pb	08 46 49.7	-0.3
CGO	Cerro Gordo	0.89	349		Sg	08 47 02.0	+0.7
GWY	Greenwater Val	0.91	56		Pg	08 46 49.7	-0.4
RRX	Edison Barstow	0.94	148		Pg	08 46 50.8	+0

VES	**Vestal, Richgr**	**1.22**	**278**			Sn	08 47 12.8	-0.4
CJV	**Casa Juvan**	**1.23**	**202**			Pb	08 46 56.4	0.0
CJV						Sg	08 47 12.3	+0.2
HOLC	**Holcomb Ridge**	**1.23**	**190**			Sb	08 47 12.7	0.0
JNH	**Juniper Hills**	**1.26**	**194**			Sb	08 47 13.7	+0.2
AMDNV	**Amargosa**	**1.32**	**54**			Pn	08 46 56.9	-0.8
GRAC	**Grapevine Rang**	**1.33**	**8**			Pn	08 46 56.8	-1.1
DSCC	**Desert Studies**	**1.33**	**113**			Sb	08 47 14.5	-0.9
WCT	**Wildcat Mounta**	**1.36**	**35**			Sb	08 47 16.2	-0.2
WCT	**Wildcat Mounta**	**1.36**	**35**			Pn	08 46 57.3	-1.0
WCT					IAML		08 47 17.5	
	comp=N,162nm,0.6s							
SGV	**South Grapevin**	**1.38**	**19**			Sb	08 47 16.6	-0.4
CHFC	**Chilao Flat St**	**1.39**	**195**			Sb	08 47 17.0	-0.2
OSI	**Osito Audit: C**	**1.41**	**221**			Pn	08 46 58.5	-0.4
OSI					IAML		08 47 20.5	
	comp=N,304nm,0.9s							
OSI					IAML		08 47 25.8	
	comp=E,211nm,0.8s							
BFSC	**Mount Baldy Ra**	**1.44**	**182**			Pn	08 46 59.4	0.0
BFSC						Sb	08 47 18.0	-0.6
SSK	**Sunset Peak**	**1.47**	**183**			Pb	08 47 00.3	-0.2
SIL	**Silver Peak**	**1.47**	**154**			Pn	08 46 59.6	-0.3
BBRC	**Big Bear Solar**	**1.52**	**158**			Sg	08 47 21.4	0.0
LCH	**Last Change Ra**	**1.55**	**359**			Sb	08 47 22.0	+0.1
PASC	**Pasadena Art C**	**1.58**	**198**			Pn	08 47 00.8	-0.4
PASC					IAML		08 47 24.6	
	comp=E,258nm,0.7s							
PASC					IAML		08 47 27.2	
	comp=N,201nm,0.9s							
VOG	**Valley Oaks Go**	**1.58**	**294**			Pb	08 47 02.1	-0.3
CLTC	**Calectric**	**1.60**	**172**			Sn	08 47 19.6	-2.9
BCW	**Bitter Crk WRg**	**1.66**	**244**			Pn	08 47 02.4	-0.1
BCW					IAML		08 47 30.7	
	comp=N,151nm,0.6s							
BCW					IAML		08 47 31.4	
	comp=E,169nm,1.1s							
BLCC	**Black Canyon**	**1.68**	**212**			Pn	08 47 02.4	-0.3
DSP	**Deep Springs**	**1.71**	**350**			Sb	08 47 26.7	+0.2
MTUM	**Tungsten Hills**	**1.84**	**335**			Pb	08 47 06.6	-0.4
ELS	**Elsinore Mount**	**2.03**	**176**			Pn	08 47 06.5	-1.1
ELS					IAML		08 47 42.9	
	comp=E,109nm,0.6s							
DGR	**Domenigoni Val**	**2.08**	**166**			Pb	08 47 11.2	+0.3
TRAM	**Private Proper**	**2.18**	**271**			Pn	08 47 08.1	-1.4
MCBM	**Casa Benchmark**	**2.22**	**332**			Pb	08 47 12.6	-0.9
S11A	**Rachel**	**2.46**	**37**			Pn	08 47 11.1	-2.4
S11A					IAML		08 48 04.9	
	comp=N,103nm,0.9s							
PMPB	**Monarch Peak**	**2.66**	**283**	Pn		Pn	08 47 16.6	+0.5
LHV	**Little Huntoon**	**2.67**	**344**			Pn	08 47 16.0	-0.2
LHV					IAML		08 48 07.8	
	comp=N,60nm,0.9s							
LHV					IAML		08 48 08.0	
	comp=E,61nm,0.9s							
PRN	**Pahroc Range**	**2.68**	**49**			Pn	08 47 15.6	-0.9
PRN					IAML		08 48 09.4	
	comp=N,93nm,0.8s							
PRN					IAML		08 48 27.7	
	comp=E,80nm,0.7s							
NV08	**Mina Array Sit**	**2.78**	**348**			Pn	08 47 17.9	-0.1
NV11	**Mina Array Sit**	**2.79**	**351**			Pn	08 47 17.3	-0.7
NVAR	**Mina Array Bea**	**2.80**	**349**			Pn	08 47 17.8	-0.5
NV09	**Mina Array Sit**	**2.81**	**348**			Pn	08 47 18.2	-0.2
RYN	**Ryan**	**3.04**	**346**			Pn	08 47 21.0	-0.4
W13A	**Hualapai Mount**	**3.09**	**100**	Pn		Pn	08 47 19.7	-2.5
W13A					IAML		08 48 12.7	
	comp=E,60nm,0.6s							
W13A					IAML		08 48 13.0	
	comp=N,44nm,1.2s							
WAKR	**Walker**	**3.18**	**333**			Pn	08 47 23.2	-0.3
CMB	**Columbia Colle**	**3.25**	**317**			Pb	08 47 28.2	-2.5
CMB	**Columbia Colle**	**3.25**	**317**		IAML		08 48 18.7	
	comp=N,47nm,0.6s							
CMB					IAML		08 48 19.0	
	comp=E,32nm,1.3s							
YUH	**Yuha Desert**	**3.33**	**155**	Pn		Pn	08 47 23.2	-2.0
CBX	**Cerro Bola**	**3.44**	**167**			Pn	08 47 26.4	-0.7
LCMT	**Little Creek M**	**3.76**	**68**			Pn	08 47 30.7	-0.7
CCUT	**Cedar City**	**3.88**	**60**			Pn	08 47 32.8	-0.3
ESJX	**Sierra Juarez**	**3.91**	**159**			Pn	08 47 31.7	-1.8
ESJX					IAML		08 48 35.7	
	comp=N,16nm,1.4s							
ESJX					IAML		08 48 40.4	
	comp=E,17nm,1.4s							
KNB	**Kanab**	**4.08**	**69**			Pn	08 47 35.1	-0.7
PSUT	**Pine Spring**	**4.13**	**45**			Pn	08 47 36.1	-0.5
PSUT					IAML		08 48 51.9	
	comp=E,15nm,0.9s							
PSUT					IAML		08 48 57.3	
	comp=N,14nm,1.4s							
Y14A	**Wickenburg**	**4.16**	**113**			Pn	08 47 36.6	-0.2

IDC ***06*** *08:53:30.3±1.0, 10°.83S×113°.88E, h0km, mb4.2/12, mbtmp4.2/15, ML3.9/3, Error ellipse: s-maj=30.5km s-min=11.8km az=45.0*

DJA ***06*** *08:53:30.9±0.3, 11°S±2°×11°4E±°, h10km, M4.5/2, MLv4.6/18, MLv4.5/2*

NEIC ***06*** *08:53:31.2±1.3, 11°.02S±0°.06×113°.73E±0°.07, h10km±1km, mb4.7/27, Error ellipse: s-maj=12.6km s-min=10.3km az=110.0*

ISC 06 08:53:32.4±0.5**, 11°.07S**±0°.06**×113°.70E**±0°.05**, h25**km**, n79,** σ1**s**2.52/86**, mb4.5**/25**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.62**	**10**			**Pn**	**08 54 13.2**	**+0.1**
JAGI	**Jajag, Banyuwa**	**2.62**	**10**	P		**Pn**	**08 54 14.0**	**+0.9**
JAGI	**Jajag, Banyuwa**	**2.62**	**10**	S		**Sn**	**08 54 44.9**	**+0.7**
JAGI	**Jajag, Banyuwa**	**2.62**	**10**	P		**Pn**	**08 54 13.0**	**-0.1**
JAGI				S		**Sn**	**08 54 45.1**	**+0.9**
GMJI	**Gumukmas**	**2.79**	**355**	P		**Pn**	**08 54 15.2**	**-0.3**
GMJI				S		**Sn**	**08 54 48.4**	**+0.1**
SRBI	**Singaraja**	**3.32**	**27**	P		**Pn**	**08 54 24.3**	**+1.6**
SRBI				S		**Sn**	**08 55 03.2**	**+1.8**
PCJI	**Pacitan**	**3.79**	**319**	P		**Pn**	**08 54 27.6**	**-1.6**
PCJI				S		**Sn**	**08 55 12.1**	**-0.9**
KMMI	**Kalianget**	**4.00**	**4**	P		**Pn**	**08 54 33.9**	**+1.8**
KMMI				S		**Sn**	**08 55 19.9**	**+1.6**
WOJI	**Wonogiri, Jawa**	**4.22**	**319**	P		**Pn**	**08 54 34.0**	**-1.2**
WOJI				S		**Sn**	**08 55 21.9**	**-1.8**
NGJI	**Ngawi**	**4.29**	**329**	P		**Pn**	**08 54 35.4**	**-0.7**
UGM	**Wanagama**	**4.43**	**315**			**Pn**	**08 54 37.5**	**-0.6**
UGM	**Wanagama**	**4.43**	**315**	P		**Pn**	**08 54 37.5**	**-0.6**
UGM	**Wanagama**	**4.43**	**315**	P		**Pn**	**08 54 37.3**	**-0.8**
UGM				S		**Sn**	**08 55 28.1**	**-0.9**
PLAI	**Plampang**	**4.59**	**61**	P		**Pn**	**08 54 40.9**	**+0.6**
PLAI	**Plampang**	**4.59**	**61**	S		**Sn**	**08 55 31.6**	**-1.3**
PLAI	**Plampang**	**4.59**	**61**	P		**Pn**	**08 54 40.4**	**+0.1**
SMRI	**Semarang**	**5.13**	**321**	Pn		**Pn**	**08 54 49.5**	**+1.8**
SMRI	**Semarang**	**5.13**	**321**	P		**Pn**	**08 54 47.7**	**0.0**
WBSI	**Waikabubak, Su**	**5.78**	**76**	P		**Pn**	**08 54 58.6**	**+2.0**
BASI	**Baing, Sumba**	**6.81**	**84**	P		**Pn**	**08 55 13.6**	**+2.8**
BBJI	**Bungbulang**	**6.96**	**300**	P		**Pn**	**08 55 12.1**	**-0.9**
CNJI	**Cibinong**	**7.48**	**299**	P		**Pn**	**08 55 19.0**	**-1.0**
EDFI	**Ende, Flores**	**8.20**	**74**	P		**Pn**	**08 55 31.8**	**+1.8**
KAPI	**Kappang**	**8.49**	**45**	Pn		**Pn**	**08 55 31.6**	**-2.3**
	1.5nm,0.3s,baz=236,slow=11,SNR=1.8							
KAPI					Sn	**Sn**	**08 57 05.2**	**-3.7**
	1.6nm,0.3s,baz=76,slow=21,SNR=1.8 3.7nm,0.2s							
BATI	**Baumata**	**9.83**	**86**	Pn		**Pn**	**08 55 49.6**	**-2.6**
	3.4nm,0.3s,baz=243,slow=11,SNR=1.4							
BATI					Sn	**Sn**	**08 57 41.3**	**-0.7**
	5.7nm,0.3s,baz=257,slow=21,SNR=1.9 22nm,0.5s							
MBWA	**Marble Bar**	**11.58**	**151**			**Pn**	**08 56 13.2**	**-3.1**
MBWA	**Marble Bar**	**11.58**	**151**	P		**Pn**	**08 56 13.6**	**-2.7**
MNAI	**Manna**	**12.56**	**301**	Pn		**Pn**	**08 56 27.9**	**-1.7**
FITZ	**Fitzroy Crossi**	**13.50**	**123**	Pn		**Pn**	**08 56 40.9**	**-1.6**
FITZ	**Fitzroy Crossi**	**13.50**	**123**	Pn		**Pn**	**08 56 41.1**	**-1.4**
	0.2nm,0.3s,baz=306,slow=11,SNR=8.1							
FITZ					Sn	Sn	08 58 59.6	-12
	1.0nm,0.3s,baz=10,slow=23,SNR=8.1 1.8nm,0.6s							
TOLI2	**Tolitoli**	**14.00**	**31**	Pn		**Pn**	**08 56 48.8**	**-0.5**
KNRA	**Kununurra**	**15.35**	**109**	Pn		**Pn**	**08 57 06.7**	**-0.9**
MEEK	**Meekatharra**	**16.17**	**164**	P		**Pn**	**08 57 16.1**	**-2.0**
MORW	**Morawa**	**18.04**	**173**	Pn		**Pn**	**08 57 39.3**	**-2.2**
KDU	**Kakadu**	**18.44**	**97**	P		**P**	**08 57 41.0**	**-5.3**
IPM	**Ipoh**	**19.94**	**320**	P		**Pn**	**08 58 04.8**	**+0.3**
IPM					IAmb	IAmb	08 58 05.9	
	comp=Z,32nm,0.8s							
KULM	**Kulim**	**20.80**	**321**	P		**P**	**08 58 12.2**	**+0.1**
KULM					IAmb	IAmb	08 58 13.9	
	comp=Z,16nm,0.6s							
WRA	**Warramunga Arr**	**21.74**	**116**	P		**P**	**08 58 22.7**	**+0.6**
WRA	**Warramunga Arr**	**21.74**	**116**	P		**P**	**08 58 23.6**	**+1.4**
	comp=Z,3.9nm,0.9s,baz=290,slow=12,SNR=26 comp=Z,3.9nm,0.9s							
WR8	**Warramunga Arr**	**21.88**	**116**	P		**P**	**08 58 23.6**	**-0.1**
AS31	**Alice Springs**	**22.96**	**126**	P		**P**	**08 58 36.1**	**+0.9**
ASAR	**Alice Springs**	**22.96**	**126**	P		**P**	**08 58 36.9**	**+1.7**
ASAR	**Alice Springs**	**22.96**	**126**	P		**P**	**08 58 37.7**	**+2.6**
	comp=Z,5.2nm,1.0s,baz=301,slow=9.6,SNR=15							
ASAR					S	**S**	**09 02 48.2**	**+4.2**
	comp=Z,1.7nm,1.0s,baz=307,slow=24,SNR=4.3 comp=Z,5.2nm,1.0s							
FORT	**Forrest**	**23.71**	**148**	P		**P**	**08 58 42.5**	**0.0**
FORT					IAmb	IAmb	08 58 56.5	
	comp=Z,12nm,0.8s							
CMAR	**Chiang Mai Arr**	**32.75**	**333**	P		**P**	**09 00 04.9**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=167,slow=8.1,SNR=7.7 comp=Z,1.5nm,0.5s							
STKA	**Stephens Creek**	**33.03**	**133**	P		**P**	**09 00 07.3**	**+1.4**
STKA	**Stephens Creek**	**33.03**	**133**	P		**P**	**09 00 08.8**	**+2.9**
	comp=Z,3.5nm,1.0s,baz=317,slow=13,SNR=2.2 comp=Z,3.5nm,1.0s							
H08S2	**Diego Garcia H**	**40.78**	**271**	T		T	09 44 43.1	
	baz=96,slow=75,SNR=9.0							
H08S3	**Diego Garcia H**	**40.79**	**271**	T		T	09 44 48.7	
	baz=96,slow=75,SNR=37							
H08S1	**Diego Carcia H**	**40.80**	**271**	T		T	09 44 48.5	
	baz=96,slow=75,SNR=6.4							
LSA	**Lhasa**	**45.99**	**332**	P		**P**	**09 01 54.1**	**-0.2**
LSA					IAmb	IAmb	09 02 02.3	
	comp=Z,6.2nm,0.6s							
EVN	**Everest**	**46.72**	**327**	P		**P**	**09 02 00.8**	**+0.5**
EVN					IAmb	IAmb	09 02 07.6	
	comp=Z,6.9nm,0.9s							
KSAR	**Wonju Array Be**	**50.06**	**15**	P		**P**	**09 02 25.4**	**+0.3**
KSRS	**Korea Array**	**50.08**	**15**	P		**P**	**09 02 25.6**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=191,slow=7.9,SNR=9.2 comp=Z,1.8nm,0.6s							
MJAR	**Matsushiro Arr**	**52.68**	**25**	P		**P**	**09 02 43.0**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=191,slow=5.0,SNR=2.0 comp=Z,0.7nm,0.6s							
USA0B	**Ussuriysk Arra**	**57.46**	**16**	P		**P**	**09 03 19.3**	**+0.1**
USA0B					IAmb	IAmb	09 03 26.5	
	comp=Z,8.4nm,0.8s							
USRK	**Ussuriysk Ar.**	**57.46**	**16**	P		**P**	**09 03 18.9**	**-0.3**
	comp=Z,3.4nm,0.6s,baz=202,slow=7.6,SNR=5.7 comp=Z,3.4nm,0.6s							
SONM	**Songino Array**	**59.00**	**354**	P		**P**	**09 03 30.6**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=174,slow=9.5,SNR=9.1 comp=Z,1.5nm,0.6s							
KDJ	**Kajisay**	**62.65**	**330**	P		**P**	**09 03 55.8**	**+0.7**
KDJ					IAmb	IAmb	09 03 58.5	
	comp=Z,4.8nm,0.8s							
NRN	**Naryn**	**62.72**	**329**	P		**P**	**09 03 55.9**	**+0.1**
NRN					IAmb	IAmb	09 03 57.7	
	comp=Z,5.0nm,1.0s							
MKAR	**Makanchi Array**	**64.08**	**337**			**P**	**09 04 04.6**	**+0.3**
MKAR	**Makanchi Array**	**64.08**	**337**	P		**P**	**09 04 05.3**	**+1.0**
	comp=Z,2.5nm,0.5s,baz=143,slow=7.9,SNR=40 comp=Z,2.5nm,0.5s							
GAR	**Garm**	**64.13**	**323**	P		**P**	**09 04 05.8**	**+0.9**
AAK	**Ala-Archa**	**64.37**	**329**	P		**P**	**09 04 07.1**	**+0.6**
AAK					IAmb	IAmb	09 04 09.1	
	comp=Z,6.8nm,0.8s							
BTK	**Batken**	**64.54**	**325**			**P**	**09 04 07.8**	**+0.3**
SIMJ	**Simiganj**	**64.68**	**322**	P		**P**	**09 04 08.1**	**-0.5**
SIMJ					IAmb	IAmb	09 04 09.8	
	comp=Z,8.0nm,1.4s							
KK31	**Karatay Array**	**66.78**	**327**			**P**	**09 04 21.3**	**-0.5**
KK31					IAmb	IAmb	09 04 27.4	
	comp=Z,5.4nm,1.4s							
KKAR	**Karatay Array**	**66.78**	**327**			**P**	**09 04 21.5**	**-0.3**
KKAR					IAmb	IAmb	09 04 27.4	
	comp=Z,5.7nm,1.4s							
KURBB	**Kurchatov Arra**	**68.65**	**337**	P		**P**	**09 04 34.0**	**+0.6**
	comp=Z,4.0nm,0.6s,baz=150,slow=6.0,SNR=36 comp=Z,4.0nm,0.6s							
KURK	**Kurchatov**	**68.69**	**337**			**P**	**09 04 34.0**	**+0.4**
KURK					IAmb	IAmb	09 04 35.4	
	comp=Z,5.6nm,0.7s							
ZAA0	**Zalesovo Array**	**69.25**	**342**	P		**P**	**09 04 36.6**	**-0.5**
ZAA0					IAmb	IAmb	09 04 37.8	
	comp=Z,3.7nm,0.6s							
ZALV	**Zalesovo Beam**	**69.25**	**342**	P		**P**	**09 04 37.1**	**+0.1**
ZALV	**Zalesovo Beam**	**69.25**	**342**	P		**P**	**09 04 37.4**	**+0.3**
	comp=Z,4.3nm,0.5s,baz=157,slow=4.1,SNR=18 comp=Z,4.3nm,0.5s							
VNDA	**Vanda**	**70.81**	**170**	P		**P**	**09 04 47.3**	**+0.9**
BVAR	**Borovoye Array**	**73.77**	**334**	P		**P**	**09 05 05.0**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=147,slow=8.8,SNR=8.6 comp=Z,2.0nm,0.7s							
PEA0B	**Petropavlovsk**	**74.12**	**26**	P		**P**	**09 05 06.8**	**+0.3**
AB31	**Akbulak array**	**76.34**	**327**			**P**	**09 05 19.9**	**+0.7**
ABKAR	**Akbulak array**	**76.34**	**327**	P		**P**	**09 05 20.6**	**+1.4**
SNAA	**Sanae**	**87.58**	**196**	P		**P**	**09 06 19.7**	**+1.5**
SNAA					IAmb	IAmb	09 06 32.1	
	comp=Z,2.0nm,0.8s							

SJA ***06*** *08:53:56.8±0.7, 29°.60S×72°.48W, h40km, ML4.1, MW4.3*

GUC ***06*** *08:54:07.5±0.8, 30°.27S×71°.64W, h35km±3km, ML3.8*

ISC 06 08:54:07.8±1.6**, 30°.30S**±0°.03**×71°.53W**±0°.06**, h16**km±11**km,** n22**,** σ1**s**25/36**, 3C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.39**	**194**	i*e*P		**Pb**	**08 54 16.4**	**+0.1**
CO06				*e*S		**Sb**	**08 54 22.4**	**+0.3**
CO06				IAML			08 54 24.1	
	comp=N,10μm,0.4s							
CO05	**La Serena**	**0.45**	**34**	i*e*P		**Pb**	**08 54 17.8**	**+0.4**
CO05				*e*S		**Sb**	**08 54 24.6**	**+0.8**
CO05				IAML			08 54 25.5	
	comp=N,6μm,0.2s							
GO04	**Tololo Observa**	**0.64**	**79**	i*e*P		**Pn**	**08 54 21.6**	**-0.8**
GO04				*e*S		**Sn**	**08 54 32.1**	**-0.3**
CO03	**El Pedregal**	**0.90**	**127**	i*e*P		**Pn**	**08 54 25.3**	**-0.6**
CO03				*e*S		**Sn**	**08 54 38.5**	**-0.2**
CO03				IAML			08 54 38.9	
	comp=E,4μm,0.4s							
CO03	**El Pedregal**	**0.90**	**127**	*i* P		**Pn**	**08 54 25.3**	**-0.6**
CO03				*e*S		**Sn**	**08 54 38.4**	**-0.3**
CO02	**Combarbal**	**1.01**	**154**	i*e*P		**Pn**	**08 54 26.9**	**-0.6**
CO02				*e*S		**Sn**	**08 54 41.1**	**-0.3**
CO02				IAML			08 54 43.9	
	comp=E,7μm,0.2s							
CO02	**Combarbal**	**1.01**	**154**	*i* P		**Pn**	**08 54 27.0**	**-0.4**
CO02				*e*S		**Sn**	**08 54 41.4**	**0.0**
CO01	**Juntas del Tor**	**1.28**	**76**	*e*P		**Pg**	**08 54 31.8**	**-0.7**
CO01				*e*S		**Sn**	**08 54 49.7**	**+1.5**
LCO	**Las Campanas**	**1.47**	**30**	*e*P		**Pn**	**08 54 32.9**	**-1.0**
LCO				*e*S		**Sn**	**08 54 53.0**	**+0.2**
ACCO	**Cerro Coronel**	**2.15**	**98**	*i* P		**Pg**	**08 54 47.1**	**-1.9**
RTLS	**Leoncito**	**2.43**	**129**	*i* P		**Pb**	**08 54 51.2**	**-0.1**
RTLS				IAML			08 55 49.6	
	comp=Z,488nm,0.6s							
VA03	**San Esteban**	**2.60**	**162**	i*e*P		**Pn**	**08 54 50.2**	**+1.0**
VA03				IAML			08 55 36.6	
	comp=N,838nm,0.5s							
VA03	**San Esteban**	**2.60**	**162**	*i* P		**Pn**	**08 54 51.0**	**+1.7**
VA03				*e*S		**Sg**	**08 55 33.1**	**+1.7**
VA03				IAML			08 55 38.1	
	comp=Z,642nm,0.7s							
AUSP	**Uspallata**	**2.66**	**137**	*i* P		**Pb**	**08 54 53.8**	**-1.3**
ROCH	**El Roble**	**2.70**	**171**	*e*P		**Pn**	**08 54 50.8**	**0.0**
ROCH				IAML			08 55 39.1	
	comp=N,731nm,0.7s							
ZON	**Zonda**	**2.75**	**118**	*i* P		**Pb**	**08 54 55.7**	**-0.9**
ZON				*e*S		**Sg**	**08 55 38.9**	**+2.8**
ZON				IAML			08 55 46.2	
	comp=Z,168nm,0.8s							
AGUA	**GUANDACOL**	**2.76**	**74**	*i* P		**Pb**	**08 54 56.2**	**-0.5**
AGUA				*e*S		**Sg**	**08 55 39.7**	**+3.2**
AGUA				IAML			08 55 39.8	
	comp=Z,431nm,0.5s							
RTLL	**Cerro Villicun**	**2.82**	**112**	*i* P		**Pb**	**08 54 55.8**	**-2.0**
RTLL				*e*S		**Sb**	**08 55 33.3**	**+1.2**
AC06	**Mina Casimiro**	**3.10**	**20**	*e*P		**Pn**	**08 54 55.0**	**-1.2**
AC06				IAML			08 55 51.0	
	comp=E,373nm,0.7s							
ASAL	**Salagasta**	**3.25**	**136**	*i* P		**Pg**	**08 55 07.8**	**-2.2**
BO04	**La Punta**	**3.76**	**168**	*e*P		**Pn**	**08 55 05.5**	**+0.3**
BO04				*e*S		**Sn**	**08 55 49.8**	**+0.6**
AC02	**Maricunga**	**4.04**	**32**	i*e*P		**Pn**	**08 55 09.5**	**0.0**

NEIC ***06*** *08:59:09.2±1.9, 35°.872N±0°.008×117°.67W±0°.01, h2km±2km, Error ellipse: s-maj=1.3km s-min=1.2km az=94.0*

PAS 06 08:59:09.3±1.9**, 35°.863N**±0°.008**×117°.67W**±0°.01**, h3**km±2**km, ML3.3**/28**, ML3.4**/32(NEIC)**, Error ellipse: s-maj=1.3km s-min=1.2km az=101.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.08**	**128**			Pg	08 59 12.3	+1.5
TOW	**Tower One**	**0.09**	**234**			Pg	08 59 11.7	+0.6
TOW						Sg	08 59 14.3	+2.0
WVPM	**Volcano Peak E**	**0.14**	**306**			Pg	08 59 12.5	+0.3
WVPM						Sg	08 59 14.8	+0.7
JRC2	**Joshua Ridge**	**0.16**	**317**			Pg	08 59 15.2	+2.6
WCSM	**Coso Springs S**	**0.18**	**335**			Pg	08 59 12.9	+0.1
WCSM						Sg	08 59 15.5	+0.3
SRTC	**Snort**	**0.18**	**200**			Pg	08 59 13.3	+0.5
SRTC						Sg	08 59 16.9	+1.7
WNMM	**Nine Mile Cany**	**0.19**	**264**			Pg	08 59 13.2	+0.2
WNMM						Sg	08 59 16.4	+0.9
WRVM	**Rose V. Centra**	**0.23**	**309**			Pg	08 59 13.8	+0.1
WRVM						Sg	08 59 17.3	+0.6
MPMC	**Manual Prospec**	**0.24**	**37**			Pg	08 59 14.1	+0.1
MPMC						Sg	08 59 17.9	+0.6
MFS	**McCloud Flat S**	**0.29**	**330**			Pg	08 59 15.1	+0.1
MFS						Sg	08 59 19.2	+0.4
LRMC	**Laurel Mtn Rad**	**0.38**	**181**			Pg	08 59 16.6	-0.1
LRMC						Sg	08 59 22.2	+0.6
LRMC	**Laurel Mtn Rad**	**0.38**	**181**	IAML			08 59 22.5	
	comp=E,3μm,0.5s							
LRMC				IAML			08 59 23.7	
	comp=N,2μm,0.2s							
CCCA	**Chr Cany lake**	**0.42**	**143**			Pg	08 59 17.8	+0.4
CCCA						Sg	08 59 24.1	+1.3
WORM	**Onyx Ranch**	**0.49**	**250**			Sg	08 59 25.2	+0.1
WBSM	**Bird Springs**	**0.50**	**230**			Pg	08 59 18.8	-0.1
WBSM						Sg	08 59 25.8	+0.4
DTP	**Desert Tortois**	**0.61**	**193**			Sg	08 59 29.4	+0.5
QSM	**Queen of Sheba**	**0.66**	**81**			Pg	08 59 21.9	0.0
QSM						Sg	08 59 30.9	+0.4
QSM	**Queen of Sheba**	**0.66**	**81**	IAML			08 59 31.2	
	comp=E,974nm,0.3s							
CWC	**Cottonwood Cre**	**0.66**	**330**			Pg	08 59 22.5	+0.5
ISA	**Isabella, Lake**	**0.68**	**253**			Sg	08 59 31.2	0.0
CGO	**Cerro Gordo**	**0.69**	**351**			Sg	08 59 33.0	+1.4
WASM	**Alta Sierra Ca**	**0.73**	**260**			Sg	08 59 33.0	+0.2
CCAC	**Calif City Air**	**0.76**	**202**			Sg	08 59 34.2	+0.5
CCAC	**Calif City Air**	**0.76**	**202**	Pg		Pg	08 59 23.5	-0.4
CCAC				IAML			08 59 34.6	
	comp=E,842nm,0.3s							
GWY	**Greenwater Val**	**0.88**	**68**			Sg	08 59 38.0	+0.6
GWY	**Greenwater Val**	**0.88**	**68**			Pg	08 59 26.0	-0.1
GWY				IAML			08 59 42.8	
	comp=N,615nm,0.6s							
GWY				IAML			08 59 43.7	
	comp=E,909nm,0.6s							
GSC	**Goldstone, Bar**	**0.90**	**128**	Pg	Pg	08	59 26.1	-0.5
GSC				IAML			08 59 42.6	
	comp=E,788nm,0.5s							
HYS	**Haystack Butte**	**1.00**	**175**			Pn	08 59 30.5	+0.2
EDW2	**Edwards Air Fo**	**1.01**	**195**			Pb	08 59 29.4	-0.2
TEJ	**El Tejon**	**1.04**	**233**			Pg	08 59 28.3	-0.9
SHOC	**Shoshone, Teco**	**1.14**	**88**			Sg	08 59 45.3	+0.2
SBB	**Saddle Back Bu**	**1.18**	**186**			Pg	08 59 31.7	-0.2
ARVC	**Arvin**	**1.20**	**232**			Pg	08 59 31.7	-0.5
TJR	**Tejon Ranch**	**1.21**	**227**			Pg	08 59 31.3	-1.2
SGV	**South Grapevin**	**1.23**	**25**			Pg	08 59 32.5	-0.4
THC	**Tehachap

QSM	**Queen of Sheba**	**0.56**	**49**		Pg	09 00 06.4	-0.1
GSC	**Goldstone, Bar**	**0.56**	**122**		Sb	09 00 15.2	-1.1
GSC	**Goldstone, Bar**	**0.56**	**122**	Pg	Pb	09 00 07.6	-0.4
WRVM	**Rose V. Centra**	**0.57**	**315**		Pg	09 00 06.6	-0.2
WBSM	**Bird Springs**	**0.62**	**264**		Pg	09 00 07.2	-0.4
WBSM					Sb	09 00 17.8	-0.2
MFS	**McCloud Flat S**	**0.64**	**324**		Pg	09 00 07.7	-0.4
CCAC	**Calif City Air**	**0.68**	**229**		Sb	09 00 18.8	-0.9
CCAC	**Calif City Air**	**0.68**	**229**	Pg	Pg	09 00 08.5	-0.4
WORM	**Onyx Ranch**	**0.70**	**278**		Pg	09 00 08.7	-0.6
WORM					Sg	09 00 18.0	-0.4
HYS	**Haystack Butte**	**0.75**	**191**		Pg	09 00 09.6	-0.6
HYS					Sg	09 00 19.4	-0.5
WHFM	**Hanning Flat**	**0.79**	**277**		Pg	09 00 10.4	-0.5
WHFM					Sb	09 00 23.1	+0.3
RRX	**Edison Barstow**	**0.79**	**156**		Pb	09 00 11.6	-0.2
RRX					Sb	09 00 22.8	0.0
GWY	**Greenwater Val**	**0.82**	**45**		Pg	09 00 11.0	-0.6
EDW2	**Edwards Air Fo**	**0.87**	**215**		Pg	09 00 12.8	+0.3
ISA	**Isabella, Lake**	**0.89**	**274**		Pg	09 00 12.1	-0.7
WASM	**Alta Sierra Ca**	**0.96**	**278**		Pg	09 00 13.5	-0.7
TPO	**Tropico Hills**	**1.00**	**224**		Pb	09 00 15.1	-0.2
CGO	**Cerro Gordo**	**1.00**	**341**		Pg	09 00 15.2	+0.2
VTV	**Victorville**	**1.04**	**177**		Pb	09 00 16.2	+0.1
ADO	**Adelanto Recei**	**1.05**	**182**		Pb	09 00 16.2	-0.1
DSCC	**Desert Studies**	**1.15**	**113**		Pg	09 00 16.9	-0.8
HEC	**Hector,Ludlow**	**1.16**	**132**		Pn	09 00 18.4	0.0
HEC					Sb	09 00 33.6	+0.2
ALPC	**Antelope**	**1.18**	**220**		Pb	09 00 18.6	+0.1
ALPC					Sn	09 00 35.7	+0.6
LRRC	**Litterlock Res**	**1.20**	**206**		Pg	09 00 18.1	-0.5
HOLC	**Holcomb Ridge**	**1.20**	**198**		Pn	09 00 40.8	+0.7
HOLC					Sn	09 00 35.8	0.0
TUQ	**Turquoise Moun**	**1.21**	**97**		Pg	09 00 18.0	-0.8
LEOC	**Leona Valley**	**1.23**	**218**		Pg	09 00 19.2	-0.1
LEOC					Sn	09 00 36.8	+0.5
AMDNV	**Amargosa**	**1.23**	**46**		Pb	09 00 18.9	-0.5
CJV	**Casa Juvan**	**1.24**	**210**		Pg	09 00 18.8	-0.6
JNH	**Juniper Hills**	**1.24**	**202**		Pg	09 00 18.6	-0.9
JNH					Sn	09 00 37.0	+0.3
SPG2	**Springville 2**	**1.27**	**298**		Pn	09 00 19.0	-1.0
SPG2					Sn	09 00 37.9	+0.6
ARVC	**Arvin**	**1.27**	**249**		Pg	09 00 20.3	+0.2
SIL	**Silver Peak**	**1.33**	**160**		Pb	09 00 21.1	-0.1
WCT	**Wildcat Mounta**	**1.34**	**27**		Pn	09 00 20.6	-0.3
CHFC	**Chilao Flat St**	**1.37**	**203**		Pn	09 00 21.4	-0.1
CHFC					Sn	09 00 40.3	+0.3
BFSC	**Mount Baldy Ra**	**1.38**	**189**		Pn	09 00 21.7	+0.2
BFSC					Sn	09 00 40.8	+0.7
BBRC	**Big Bear Solar**	**1.39**	**164**		Pg	09 00 23.2	+0.8
BBRC					Sn	09 00 40.9	+0.4
GRAC	**Grapevine Rang**	**1.39**	**1**		Pn	09 00 21.4	-0.2
SSK	**Sunset Peak**	**1.41**	**190**		Pb	09 00 22.6	+0.1
MTPC	**Mountain Pass**	**1.50**	**94**		Pb	09 00 23.7	-0.4
CLTC	**Calectric**	**1.51**	**178**		Sg	09 00 44.3	+0.2
SVD	**Seven Oaks Dam**	**1.51**	**171**		Pn	09 00 23.5	+0.2
PSRC	**Puddingstone R**	**1.55**	**193**		Pb	09 00 24.4	-0.4
DECC	**Green Verdugo**	**1.55**	**210**		Pb	09 00 24.6	-0.2
GTM	**Goat Mountain**	**1.56**	**147**		Pg	09 00 25.8	+0.2
PASC	**Pasadena Art C**	**1.57**	**205**		Pb	09 00 24.9	-0.3
CFT	**Crafton Hills**	**1.58**	**172**		Pg	09 00 26.8	+0.7
MLSC	**Mira Loma**	**1.60**	**185**		Pb	09 00 25.4	-0.2
RVR	**Riverside**	**1.60**	**180**		Pb	09 00 25.2	-0.5
CHNC	**Chino**	**1.62**	**189**		Pg	09 00 27.3	+0.6
TPNV	**Topopah Spring**	**1.63**	**34**		Pb	09 00 26.3	+0.1
GMRC	**Granite Mounta**	**1.63**	**119**		Pn	09 00 24.6	-0.4
GVRC	**Garvey Reservo**	**1.66**	**201**		Pg	09 00 27.5	-0.1
PEC	**Perris**	**1.72**	**174**		Pb	09 00 27.2	-0.6
DJJ	**Donna J Jenkin**	**1.73**	**211**		Pn	09 00 26.8	+0.5
BLAC	**Blackrock camp**	**1.74**	**151**		Pg	09 00 29.4	+0.4
VOG	**Valley Oaks Go**	**1.77**	**294**		Pn	09 00 27.0	+0.2
BCW	**Bitter Crk WRg**	**1.78**	**249**	Pn	Pn	09 00 27.5	+0.4
EW2	**E Wide Canyon**	**1.84**	**154**		Pg	09 00 31.5	+0.4
TPC	**Twentynine Pal**	**1.85**	**143**		Pn	09 00 28.6	+0.5
HMTC	**Hemet**	**1.92**	**170**		Pn	09 00 29.7	+0.9
ELS	**Elsinore Mount**	**1.95**	**181**		Pb	09 00 30.5	-1.1
ELS	**Elsinore Mount**	**1.95**	**181**	Pn	Pn	09 00 30.2	+0.9
DGR	**Domenigoni Val**	**1.97**	**171**		Pn	09 00 30.6	+1.0
MURC	**Murrieta**	**2.00**	**175**		Pn	09 00 30.9	+0.9
BACC	**Bachelor Mtn.**	**2.01**	**172**		Pn	09 00 31.0	+0.9
MZP	**Montezuma Peak**	**2.09**	**0**		Pn	09 00 32.6	+1.1
PMD	**Palm Desert**	**2.12**	**157**		Sg	09 01 02.6	-1.2
IRM	**Iron Mountain**	**2.34**	**127**		Pn	09 00 34.3	-0.4
NEE2	**Needles Airpor**	**2.42**	**109**		Pn	09 00 35.7	0.0
NV11	**Mina Array Sit**	**2.89**	**348**	Pn	Pn	09 00 44.2	+1.8
W13A	**Hualapai Mount**	**2.91**	**99**		Pn	09 00 43.2	+0.5
NVAR	**Mina Array Bea**	**2.92**	**346**		Pn	09 00 43.0	+0.2
BLYC	**Blythe**	**3.00**	**127**		Pn	09 00 43.2	-0.4
TKX	**Tecate**	**3.09**	**168**		Pn	09 00 45.4	+0.3
TJX	**Tijuana**	**3.10**	**175**		Pn	09 00 45.8	+0.7
YUH	**Yuha Desert**	**3.19**	**157**	Pn	Pn	09 00 47.2	+0.9
Q09A	**Carvers**	**3.23**	**3**		Pn	09 00 46.6	-0.4
GLA	**Glamis**	**3.31**	**139**		Pn	09 00 47.5	-0.6
WAKR	**Walker**	**3.33**	**331**	Pn	Pn	09 00 48.0	-0.5
CBX	**Cerro Bola**	**3.33**	**169**		Pn	09 00 48.5	+0.1
SAO	**San Andreas Ge**	**3.48**	**291**		Pn	09 00 49.5	-0.9
LCMT	**Little Creek M**	**3.63**	**66**		Pn	09 00 53.1	+0.5
CCX	**Cicese**	**3.77**	**171**		Pn	09 00 55.2	+0.9
ESJX	**Sierra Juarez**	**3.78**	**161**		Pn	09 00 55.3	+0.6
KNB	**Kanab**	**3.95**	**68**		Pn	09 00 59.6	+2.7
Y14A	**Wickenburg**	**3.97**	**113**		Pn	09 00 57.4	+0.3
WUAZ	**Wupatki**	**4.90**	**89**		Pn	09 01 11.6	+1.6
X16A	**Lo Mia Camp. P**	**5.02**	**102**		Pn	09 01 12.3	+0.6
PV20	**West Nyswonger**	**7.27**	**65**		Pn	09 01 44.5	+1.8
MVCO	**Mesa Verde**	**7.34**	**75**		Pn	09 01 43.8	+0.1
PV12	**Saucer Basin,**	**7.39**	**66**		Pn	09 01 45.7	+1.4
DUN6	**Lazy B Ranch**	**7.53**	**111**		Pn	09 01 47.1	+1.1
319A	**Douglas**	**7.97**	**120**		Pn	09 01 53.0	+0.9

*NEIC **06** 08:59:57.0±0.8, 35°.550N±0°.008×117°.37W±0°.02, h5km±1km, Error ellipse: s-maj=2.4km s-min=2.2km az=83.0*
*PAS **06** 08:59:57.5±0.6, 35°.55N±0°.01×117°.39W±0°.02, h4km±1km, Mwr4.0/4, ML4.1/38(NEIC), Error ellipse: s-maj=2.3km s-min=1.5km az=80.0*
*IDC **06** 08:59:57.3±0.6, 35°.57N×117°.27W, h0km, mb3.7/5, mbtmp3.7/12, ML3.7/6, MS3.4/2, Error ellipse: s-maj=13.5km s-min=5.4km az=73.0*
ISC 06 08:59:57.8±0.8, 35°.53N±0°.03×117°.38W±0°.03, h7km±5km, n49, σ0s78/54, mb3.9/5, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.01**	**100**		**Pg**	**08 59 58.8**	**-0.2**
CCCA					**Sg**	**08 59 59.8**	**-0.1**
CLC	**China Lake**	**0.34**	**329**		**Sg**	**09 00 07.9**	**-1.0**
SRTC	**Snort**	**0.34**	**299**		**Sg**	**09 00 08.8**	**-0.2**
TOW	**Tower One**	**0.42**	**312**		**Pg**	**09 00 05.6**	**-0.3**
TOW					**Sg**	**09 00 12.1**	**+0.7**
MPMC	**Manual Prospec**	**0.54**	**351**		**Sg**	**09 00 14.4**	**-0.8**
JRC2	**Joshua Ridge**	**0.57**	**323**		**Pg**	**09 00 08.2**	**-0.6**
JRC2					**Sg**	**09 00 15.8**	**-0.5**
QSM	**Queen of Sheba**	**0.60**	**44**	Pg	**Pg**	**09 00 08.8**	**-0.6**
QSM				IAML		09 00 17.5	
	comp=E,16μm,0.8s						
QSM				IAML		09 00 17.5	
	comp=N,17μm,0.7s						
CCAC	**Calif City Air**	**0.64**	**234**	Pg	**Pg**	**09 00 09.8**	**-0.2**
CCAC				IAML		09 00 19.7	
	comp=N,10μm,0.9s						
CCAC				IAML		09 00 29.2	
	comp=E,11μm,1.1s						
MFS	**McCloud Flat S**	**0.70**	**327**		**Sg**	**09 00 19.9**	**-0.6**
WORM	**Onyx Ranch**	**0.72**	**284**		**Pg**	**09 00 10.8**	**-0.9**
EDW2	**Edwards Air Fo**	**0.82**	**218**		**Pb**	**09 00 14.9**	**+0.6**
EDW2					**Sg**	**09 00 23.9**	**-0.2**
GWY	**Greenwater Val**	**0.88**	**41**	Pg	**Pg**	**09 00 13.9**	**-0.7**
GWY				IAML		09 00 28.4	
	comp=N,11μm,0.6s						
GWY				IAML		09 00 35.7	
	comp=E,16μm,0.5s						
ISA	**Isabella, Lake**	**0.90**	**279**	Pg	**Pg**	**09 00 14.2**	**-0.9**
ISA				IAML		09 00 26.4	
	comp=N,5μm,0.3s						
ISA				IAML		09 00 27.8	
	comp=E,6μm,0.4s						
SBB	**Saddle Back Bu**	**0.91**	**204**		**Pg**	**09 00 14.6**	**-0.7**
MWC	**Mount Wilson**	**1.42**	**203**		**Pn**	**09 00 23.7**	**-0.5**
MWC	**Mount Wilson**	**1.42**	**203**		**Pn**	**09 00 23.9**	**-0.2**
MWC				IAML		09 00 45.9	
	comp=E,4μm,0.7s						
MWC				IAML		09 00 50.3	
	comp=N,4μm,0.5s						
OSI	**Osito Audit: C**	**1.43**	**231**		**Pn**	**09 00 23.9**	**-0.3**
OSI	**Osito Audit: C**	**1.43**	**231**		**Pn**	**09 00 23.8**	**-0.4**
OSI				IAML		09 00 45.6	
	comp=N,6μm,0.8s						
OSI				IAML		09 00 51.0	
	comp=E,6μm,0.6s						
GRAC	**Grapevine Rang**	**1.47**	**0**		**Pn**	**09 00 23.9**	**-0.8**
GRAC				IAML		09 00 50.1	
	comp=N,5μm,0.8s						
GRAC				IAML		09 00 53.5	
	comp=E,4μm,0.6s						
GMN	**Gold Mountain**	**1.77**	**3**		**Pn**	**09 00 28.3**	**-0.8**
PMD	**Palm Desert**	**2.05**	**156**	Pn	**Pn**	**09 00 32.5**	**-0.2**
PMD				IAML		09 01 15.1	
	comp=E,1μm,0.7s						
PFO	**Pinyon Flats O**	**2.06**	**158**	Pn	**Pn**	**09 00 32.9**	**0.0**
	comp=E,11nm,0.3s,baz=342,slow=18,SNR=9.1						
PFO				Pg	**Pb**	**09 00 35.6**	**+0.1**
	comp=E,87nm,0.3s,baz=340,slow=16,SNR=18						
PFO				Lg	Lg	09 01 02.7	
	comp=E,473nm,0.3s,baz=234,slow=19,SNR=22						
	comp=E,250nm,0.4s						
V12A	**Nelson**	**2.07**	**84**	Pn	**Pn**	**09 00 32.3**	**-0.8**
V12A				IAML		09 01 11.0	
	comp=E,1μm,0.5s						
MZP	**Montezuma Peak**	**2.17**	**360**	Pn	**Pn**	**09 00 33.8**	**-0.8**
MZP				IAML		09 01 14.8	
	comp=E,352nm,1.1s						
MZP				IAML		09 01 15.5	
	comp=N,429nm,0.8s						
TPH	**Tonopah**	**2.55**	**3**	Pn	**Pn**	**09 00 39.1**	**-0.6**
PMPB	**Monarch Peak**	**2.86**	**285**	Pn	**Pn**	**09 00 43.7**	**-0.2**
PMPB				IAML		09 01 37.7	
	comp=E,1μm,0.7s						
LHV	**Little Huntoon**	**2.86**	**342**	Pn	**Pn**	**09 00 43.3**	**-0.5**
LHV				IAML		09 01 36.6	
	comp=E,808nm,1.3s						
LHV				IAML		09 01 37.1	
	comp=N,668nm,0.8s						
NVAR	**Mina Array Bea**	**2.99**	**346**	Pn	**Pn**	**09 00 45.8**	**0.0**
NVAR	**Mina Array Bea**	**2.99**	**346**	Pn	**Pn**	**09 00 45.3**	**-0.5**
	comp=N,13nm,0.3s,baz=168,slow=14,SNR=14						
NVAR				Pg	**Pb**	**09 00 52.1**	**+0.6**
	comp=N,111nm,0.3s,baz=164,slow=15,SNR=37						
NVAR				Lg	Lg	09 01 30.7	
	comp=N,19nm,0.3s,baz=167,slow=32,SNR=1.5						
	comp=N,13nm,0.3s						
RYN	**Ryan**	**3.23**	**344**	Pn	**Pn**	**09 00 48.5**	**-0.5**
CCUT	**Cedar City**	**3.81**	**57**	Pn	**Pn**	**09 00 56.7**	**-0.5**
CCUT				IAML		09 02 01.9	
	comp=E,266nm,1.0s						
SZCU	**Shurtz Canyon**	**4.03**	**58**	Pn	**Pn**	**09 01 00.1**	**+0.1**
SZCU				IAML		09 02 05.3	
	comp=N,187nm,0.9s						
PAHR	**Pah Rah Range**	**4.46**	**340**	Pn	**Pn**	**09 01 05.9**	**-0.1**
ELK	**Elko**	**5.48**	**17**	Pn	**Pn**	**09 01 20.2**	**+0.1**
	comp=N,1.6nm,0.3s,baz=202,slow=8.8,SNR=8.6						
ELK				Lg	Lg	09 02 48.3	
	comp=N,11nm,0.3s,baz=112,slow=19,SNR=11						
	comp=N,3.4nm,0.3s						
X18A	**Snowflake**	**6.18**	**97**	Pn	**Pn**	**09 01 29.9**	**+0.3**
W18A	**Petrified Fore**	**6.26**	**92**	Pn	**Pn**	**09 01 30.9**	**+0.1**
BGU	**Big Grassy Mou**	**6.38**	**31**	Pn	**Pn**	**09 01 33.0**	**+0.6**
WVOR	**Wild Horse Val**	**6.97**	**352**	Pn	**Pn**	**09 01 40.9**	**+0.5**
YBH	**Yreka Blue Hor**	**7.47**	**328**	Pn	**Pn**	**09 01 50.8**	**+3.6**
	baz=162,slow=19,SNR=1.9						
YBH				Lg	Lg	09 03 51.8	
	baz=170,slow=17,SNR=7.0						
ANMO	**Albuquerque**	**8.96**	**91**	Pn	**Pn**	**09 02 07.1**	**-0.7**
	comp=N,0.1nm,0.3s,baz=287,slow=19,SNR=4.7						
ANMO				Lg	Lg	09 04 36.8	
	comp=N,0.4nm,0.3s,baz=274,slow=19,SNR=3.2						
	comp=N,0.6nm,0.4s						
PDAR	**Pinedale Array**	**9.44**	**38**	Pn	**Pn**	**09 02 15.8**	**+1.4**
	comp=N,0.2nm,0.3s,baz=226,slow=12,SNR=15						
PDAR				Lg	Lg	09 04 51.6	
	baz=206,slow=17,SNR=1.6						
	comp=N,1.7nm,0.7s						
NEW	**Newport**	**12.73**	**1**	Pn	**Pn**	**09 03 00.1**	**+0.9**
	comp=N,0.1nm,0.3s,baz=177,slow=16,SNR=2.0						
	comp=N,1.3nm,0.8s						
TXAR	**Lajitas Array**	**13.12**	**114**	Pn	**Pn**	**09 03 05.9**	**+1.2**
	comp=N,2.1nm,0.4s,baz=300,slow=14,SNR=123						
TXAR				Lg	Lg	09 06 49.9	
	baz=301,slow=32,SNR=3.4						
TXAR				LR	LR	09 07 28.6	
	comp=N,62nm,20.8s,baz=29,slow=35						
ULM	**Lac du Bonnet**	**21.45**	**40**	P	**P**	**09 04 46.4**	**-0.1**
	comp=N,2.8nm,0.5s,baz=238,slow=11,SNR=8.8						
	comp=N,2.8nm,0.5s						
YKA	**Yellowknife Ar**	**27.05**	**3**	P	**P**	**09 05 40.0**	**-0.4**
	comp=N,0.8nm,0.9s,baz=188,slow=8.7,SNR=14						
	comp=N,0.8nm,0.9s						
ILAR	**Eielson Array**	**34.22**	**338**	P	**P**	**09 06 43.5**	**-0.2**
	comp=N,0.4nm,0.7s,baz=135,slow=7.7,SNR=7.0						
	comp=N,0.4nm,0.7s						
RES	**Resolute Bay**	**40.71**	**9**	LR	LR	09 24 11.4	
	comp=N,126nm,19.7s,baz=354,slow=36						
PETK	**Petropavlovsk-**	**59.66**	**316**	P	**P**	**09 10 01.9**	**-0.6**
	comp=N,1.4nm,0.7s,baz=71,slow=15,SNR=3.6						
	comp=N,1.4nm,0.7s						
LPAZ	**La Paz**	**69.51**	**129**	P	**P**	**09 11 08.1**	**+0.1**
	comp=N,0.8nm,0.7s,baz=315,slow=1.4,SNR=4.3						
	comp=N,0.8nm,0.7s						

*NEIC **06** 09:00:55.7±0.7, 35°.89N±0°.01×117°.73W±0°.02, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.2km az=52.0*
PAS 06 09:00:56.1±0.6, 35°.90N±0°.01×117°.73W±0°.02, h3km±5km, ML3.2/13, Error ellipse: s-maj=2.9km s-min=1.5km az=54.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**307**		Pg	09 00 58.1	+0.2
TOW	**Tower One**	**0.09**	**195**		Pg	09 00 58.6	+0.6
CLC	**China Lake**	**0.14**	**127**		Pg	09 00 58.9	0.0
WNMM	**Nine Mile Cany**	**0.15**	**248**		Pg	09 00 59.4	+0.3
WRVM	**Rose V. Centra**	**0.17**	**311**		Pg	09 00 59.5	+0.1
SRTC	**Snort**	**0.21**	**183**		Pg	09 01 00.8	+0.6
MFS	**McCloud Flat S**	**0.24**	**336**		Pg	09 01 00.8	0.0
MFS					Sg	09 01 04.5	+0.6
MPMC	**Manual Prospec**	**0.26**	**51**		Pg	09 01 01.1	0.0
MPMC					Sg	09 01 05.0	+0.6
LRMC	**Laurel Mtn Rad**	**0.42**	**174**		Pg	09 01 04.0	-0.2
LRMC					Sg	09 01 10.2	+0.5
WORM	**Onyx Ranch**	**0.46**	**244**		Pg	09 01 04.8	-0.2
WORM					Sg	09 01 11.0	+0.1
WBSM	**Bird Springs**	**0.49**	**223**		Pg	09 01 05.5	-0.1
WHFM	**Hanning Flat**	**0.54**	**248**		Pg	09 01 06.4	-0.1
CWC	**Cottonwood Cre**	**0.61**	**333**		Pg	09 01 08.1	+0.3
ISA	**Isabella, Lake**	**0.65**	**249**	Pg	Pg	09 01 08.3	-0.3
ISA	**Isabella, Lake**	**0.65**	**249**		Sg	09 01 17.0	0.0
WASM	**Alta Sierra Ca**	**0.69**	**257**		Sg	09 01 18.5	+0.2
VES	**Vestal, Richgr**	**1.10**	**267**		Sg	09 01 31.6	+0.1
VOG	**Valley Oaks Go**	**1.40**	**288**		Pn	09 01 22.0	-0.6
BLCC	**Black Canyon**	**1.82**	**205**		Pn	09 01 27.4	-1.0

*NEIC **06** 09:02:21.7±0.9, 35°.56N±0°.01×117°.37W±0°.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.8km az=185.0*
PAS 06 09:02:22.2±1.3, 35°.57N±0°.01×117°.36W±0°.01, h4km±3km, ML3.0/59, ML2.8/32(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=195.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.05**	**183**		Pg	09 02 25.2	+1.7
LRMC	**Laurel Mtn Rad**	**0.28**	**251**		Pg	09 02 27.4	-0.2
LRMC					Sg	09 02 31.3	+0.1
LRMC				IAML		09 02 32.6	
	comp=E,1μm,0.2s						
CLC	**China Lake**	**0.31**	**322**		Pb	09 02 29.5	-0.9
SRTC	**Snort**	**0.34**	**291**		Pg	09 02 29.1	+0.3
TOW	**Tower One**	**0.40**	**306**		Pb	09 02 31.3	-0.6
DTP	**Desert Tortois**	**0.50**	**233**		Pg	09 02 31.9	+0.1
DTP					Sg	09 02 38.4	+0.1
MPMC	**Manual Prospec**	**0.50**	**348**		Pg	09 02 31.5	-0.3
MPMC					Sg	09 02 38.2	-0.1
WNMM	**Nine Mile Cany**	**0.52**	**302**		Pb	09 02 33.2	-0.6
GSC	**Goldstone, Bar**	**0.53**	**120**	Pg	Pg	09 02 32.3	0.0
GSC	**Goldstone, Bar**	**0.53**	**120**		Sg	09 02 39.7	+0.5
QSM	**Queen of Sheba**	**0.56**	**45**		Pg	09 02 33.0	0.0
QSM				IAML		09 02 40.8	
	comp=E,665nm,0.5s						
QSM				IAML		09 02 45.2	
	comp=N,561nm,0.8s						
WRVM	**Rose V. Centra**	**0.61**	**316**		Pg	09 02 33.8	-0.2
WBSM	**Bird Springs**	**0.63**	**267**		Pg	09 02 34.0	-0.4
CCAC	**Calif City Air**	**0.68**	**232**	Pg	Pg	09 02 35.1	-0.1
CCAC				IAML		09 02 44.8	
	comp=N,517nm,0.6s						
CCAC				IAML		09 02 48.7	
	comp=E,545nm,0.4s						
WORM	**Onyx Ranch**	**0.73**	**280**		Sg	09 02 45.4	-0.2
WHFM	**Hanning Flat**	**0.81**	**279**		Pg	09 02 37.2	-0.6
GWY	**Greenwater Val**	**0.83**	**42**		Pg	09 02 37.9	-0.3
GWY					Sg	09 02 49.0	-0.1
GWY				IAML		09 02 52.9	
	comp=N,442nm,0.3s						
ISA	**Isabella, Lake**	**0.91**	**276**	Pg	Pg	09 02 39.1	-0.5
ISA				IAML		09 02 54.3	
	comp=E,282nm,0.5s						
WASM	**Alta Sierra Ca**	**0.99**	**280**		Sg	09 02 53.5	-0.4
AMDNV	**Amargosa**	**1.24**	**45**		Pg	09 02 45.9	-0.1
WCT	**Wildcat Mounta**	**1.36**	**26**		Pn	09 02 47.9	-0.1
WCT				IAML		09 03 13.3	
	comp=E,92nm,0.7s						
GRAC	**Grapevine Rang**	**1.42**	**360**		Pn	09 02 48.6	-0.2
GRAC				IAML		09 02 58.8	
	comp=E,148nm,1.5s						
GRAC				IAML		09 03 15.1	
	comp=N,164nm,0.8s						
VES	**Vestal, Richgr**	**1.43**	**281**		Sb	09 03 06.9	-0.9
MWC	**Mount Wilson**	**1.46**	**203**		Pn	09 02 49.4	-0.1
MWC				IAML		09 03 13.5	
	comp=N,134nm,0.7s						
MWC				IAML		09 03 18.2	
	comp=E,107nm,1.5s						
OSI	**Osito Audit: C**	**1.47**	**230**		Pn	09 02 49.7	+0.2
PASC	**Pasadena Art C**	**1.55**	**206**		Pn	09 02 50.3	-0.3
VOG	**Valley Oaks Go**	**1.80**	**295**		Pn	09 02 49.8	-4.2
ELS	**Elsinore Mount**	**1.92**	**182**	Pn	Pn	09 02 55.0	-0.7
SHPR	**Sheep Range**	**2.01**	**62**	Pn	Pn	09 02 56.2	-0.8
V12A	**Nelson**	**2.05**	**85**	Pn	Pn	09 02 56.3	-1.2
V12A				IAML		09 03 13.0	
	comp=E,54nm,1.2s						
V12A				IAML		09 03 19.8	
	comp=N,44nm,2.1s						

*PAS **06** 09:03:08.7±3.1, 35°.67N±0°.02×117°.30W±0°.03, h-1km±2km, Error ellipse: s-maj=4.1km s-min=1.2km az=121.0*
NEIC 06 09:03:11.4±0.7, 35°.68N±0°.01×117°.51W±0°.01, h5km±1km, ML2.6/14, ML3.0/24(PAS), Error ellipse: s-maj=3.6km s-min=1.8km az=140.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.15**	**333**		Pg	09 03 14.1	-0.4
SRTC	**Snort**	**0.19**	**273**		Pg	09 03 16.3	+1.1
CCCA	**Chr Cany lake**	**0.20**	**142**		Pg	09 03 11.7	-3.6
TOW	**Tower One**	**0.24**	**302**		Pg	09 03 15.8	-0.3
LRMC	**Laurel Mtn Rad**	**0.24**	**214**		Pg	09 03 16.9	+0.7
LRMC				Sg	Sg	09 03 20.5	+1.0
LRMC				IAML		09 03 21.7	
	comp=E,1μm,0.2s						
WNMM	**Nine Mile Cany**	**0.36**	**297**		Pg	09 03 18.9	+0.5
WVPM	**Volcano Peak E**	**0.36**	**317**		Pg	09 03 18.5	0.0
MPMC	**Manual Prospec**	**0.38**	**3**		Pg	09 03 19.5	+0.7
MPMC					Sg	09 03 25.0	+1.2
DTP	**Desert Tortois**	**0.49**	**213**		Sg	09 03 28.2	+0.9
MFS	**McCloud Flat S**	**0.52**	**328**		Pg	09 03 21.8	+0.4
WBSM	**Bird Springs**	**0.53**	**254**		Pg	09 03 21.9	+0.3
WBSM					Sg	09 03 28.9	+0.4
WORM	**Onyx Ranch**	**0.59**	**272**		Pg	09 03 23.0	+0.1
WORM					Sg	09 03 30.5	-0.1
CCAC	**Calif City Air**	**0.67**	**218**		Sg	09 03 34.1	+1.1
CCAC	**Calif City Air**	**0.67**	**218**	Pg	Pg	09 03 24.6	+0.3
CCAC				IAML		09 03 36.6

PASC	**Pasadena Art C**	**1.69**	**196**			Pn	09 05 55.7	+0.3
PASC				IAML			09 06 25.2	
	comp=E,103nm,0.8s							
BCW	**Bitter Crk WRg**	**1.70**	**240**			Pn	09 05 55.8	+0.1
MZP	**Montezuma Peak**	**1.91**	**6**			Pn	09 05 59.3	+0.5
SHPR	**Sheep Range**	**2.11**	**70**			Pn	09 06 01.7	+0.2
ELS	**Elsinore Mount**	**2.15**	**176**			Pn	09 06 02.4	+0.5
ELS				IAML			09 07 25.5	
	comp=E,82nm,0.4s							
ELS				IAML			09 07 25.6	
	comp=N,76nm,0.5s							
RYN	**Ryan**	**2.92**	**346**	Pn		Pn	09 06 13.2	+0.7
W13A	**Hualapai Mount**	**3.13**	**102**	Pn		Pn	09 06 15.1	-0.4
W13A				IAML			09 08 06.6	
	comp=N,30nm,0.9s							
TKX	**Tecate**	**3.33**	**165**	Pn		Pn	09 06 18.4	+0.3
CBX	**Cerro Bola**	**3.57**	**167**	Pn		Pn	09 06 22.3	+0.9
CCUT	**Cedar City**	**3.84**	**62**	Pn		Pn	09 06 26.5	+1.2
KNB	**Kanab**	**4.06**	**71**	Pn		Pn	09 06 29.2	+1.0
KNB				IAML			09 08 33.8	
	comp=N,12nm,2.8s							
KNB				IAML			09 08 35.3	
	comp=E,12nm,0.9s							
X16A	**Lo Mia Camp, P**	**5.25**	**103**	Pn		Pn	09 06 45.5	+0.9
X16A				IAML			09 09 08.4	
	comp=E,6.8nm,1.1s							
X16A				IAML			09 09 13.3	
	comp=N,7.5nm,1.1s							

*NEIC **06** 09:06:21.4±1.5,35°.680N±0°.010×117°.47W±0°.01, h5km±2km, ML3.4/18, ML3.2/34(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=194.0*

PAS 06 09:06:21.8±1.5, 35°.671N±0°.008×117°.47W±0°.01, h3km±2km, ML3.4/18, ML3.2/34(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=57.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.17**	**149**		Pg	09 06 25.7	+0.6
CLC	**China Lake**	**0.18**	**325**		Pg	09 06 25.3	0.0
LRMC	**Laurel Mtn Rad**	**0.26**	**222**		Pg	09 06 26.8	+0.1
LRMC					Sg	09 06 30.5	+0.4
LRMC				IAML		09 06 31.1	
	comp=E,5µm,0.3s						
TOW	**Tower One**	**0.27**	**300**		Pg	09 06 27.6	+0.5
MPMC	**Manual Prospec**	**0.39**	**358**		Pg	09 06 29.2	0.0
WNMM	**Nine Mile Cany**	**0.39**	**296**		Pg	09 06 29.5	+0.2
WNMM					Sg	09 06 35.5	+1.1
WVPM	**Volcano Peak E**	**0.40**	**315**		Pg	09 06 29.5	+0.1
WVPM					Sg	09 06 35.1	+0.5
WRVM	**Rose V. Centra**	**0.48**	**315**		Pg	09 06 30.8	-0.1
WRVM					Sg	09 06 37.8	+0.6
DTP	**Desert Tortois**	**0.51**	**217**		Pg	09 06 31.2	-0.2
DTP					Sg	09 06 38.3	+0.3
MFS	**McCloud Flat S**	**0.54**	**325**		Pg	09 06 32.1	-0.1
MFS					Sg	09 06 39.7	+0.4
WBSM	**Bird Springs**	**0.56**	**256**		Pg	09 06 32.4	-0.1
WBSM					Sg	09 06 40.1	+0.3
QSM	**Queen of Sheba**	**0.57**	**59**	Pg	Pg	09 06 32.3	-0.4
QSM					Sg	09 06 40.3	+0.1
QSM				IAML		09 06 40.5	
	comp=N,1µm,0.5s						
WORM	**Onyx Ranch**	**0.63**	**272**		Pg	09 06 33.6	-0.2
WORM					Sg	09 06 41.8	-0.2
GSC	**Goldstone, Bar**	**0.66**	**124**		Sg	09 06 43.3	+0.4
GSC	**Goldstone, Bar**	**0.66**	**124**	Pg	Pg	09 06 34.2	-0.2
GSC				IAML		09 06 43.5	
	comp=N,2µm,0.4s						
GSC				IAML		09 06 44.0	
	comp=E,2µm,0.5s						
CCAC	**Calif City Air**	**0.68**	**221**		Sg	09 06 44.2	+0.5
CCAC	**Calif City Air**	**0.68**	**221**	Pg	Pg	09 06 34.6	-0.3
CCAC				IAML		09 06 45.2	
	comp=E,792nm,0.3s						
CCAC				IAML		09 06 52.5	
	comp=N,877nm,0.8s						
WHFM	**Hanning Flat**	**0.71**	**272**		Pg	09 06 35.1	-0.3
WHFM					Sg	09 06 44.6	-0.2
HYS	**Haystack Butte**	**0.81**	**186**		Sg	09 06 47.7	-0.1
ISA	**Isabella, Lake**	**0.82**	**270**		Pg	09 06 37.0	-0.4
ISA				IAML		09 06 48.4	
	comp=E,988nm,0.4s						
ISA				IAML		09 06 49.0	
	comp=N,872nm,0.2s						
ISA	**Isabella, Lake**	**0.82**	**270**		Sg	09 06 47.7	-0.3
GWY	**Greenwater Val**	**0.83**	**52**	Pg	Pg	09 06 37.7	0.0
GWY				IAML		09 06 54.7	
	comp=E,766nm,0.6s						
GWY				IAML		09 06 55.8	
	comp=N,810nm,0.5s						
WASM	**Alta Sierra Ca**	**0.89**	**275**		Pg	09 06 38.3	-0.4
WASM					Sg	09 06 50.1	-0.2
CWC	**Cottonwood Cre**	**0.91**	**327**		Pg	09 06 39.4	+0.1
CGO	**Cerro Gordo**	**0.92**	**343**		Pb	09 06 40.4	-0.1
CGO					Sg	09 06 52.2	+0.9
SHOC	**Shoshone, Teco**	**1.00**	**76**		Sb	09 06 54.9	-0.4
TEJ	**El Tejon**	**1.09**	**246**		Sg	09 06 56.0	-0.7
VTV	**Victorville**	**1.11**	**174**		Sb	09 06 58.8	+0.2
ADO	**Adelanto Recei**	**1.12**	**178**		Pb	09 06 43.6	-0.2
SPG2	**Springville 2**	**1.18**	**297**		Pg	09 06 43.3	-1.0
SPG2					Sg	09 06 58.8	-0.8
ALPC	**Antelope**	**1.19**	**215**		Pg	09 06 44.7	+0.1
ALPC					Sb	09 07 01.0	0.0
TJR	**Tejon Ranch**	**1.22**	**239**		Pg	09 06 44.4	-0.8
LRRC	**Littlerock Res**	**1.23**	**202**		Pg	09 06 45.1	-0.2
LRRC					Sn	09 07 02.5	-0.5
DSCC	**Desert Studies**	**1.24**	**115**		Pg	09 06 44.5	-0.9
DSCC					Sg	09 07 01.5	0.0
AMDNV	**Amargosa**	**1.24**	**51**		Pg	09 06 45.3	-0.2
AMDNV					Sg	09 07 01.6	0.0
LEOC	**Leona Valley**	**1.24**	**214**		Pg	09 06 45.6	+0.1
HEC	**Hector,Ludlow**	**1.25**	**132**		Pg	09 06 44.6	-1.2
HEC					Sg	09 07 01.5	-0.6
CJV	**Casa Juvan**	**1.27**	**206**		Pg	09 06 45.8	-0.2
JNH	**Juniper Hills**	**1.28**	**198**		Sb	09 07 03.8	+0.1
TUQ	**Turquoise Moun**	**1.28**	**100**		Pg	09 06 45.5	-0.9
TUQ					Sg	09 07 02.6	-0.5
WCT	**Wildcat Mounta**	**1.31**	**31**		Pg	09 06 45.8	-1.2
GRAC	**Grapevine Rang**	**1.32**	**4**		Pg	09 06 46.6	-0.6
GRAC				IAML		09 07 07.5	
	comp=E,519nm,0.6s						
GRAC				IAML		09 07 07.6	
	comp=N,485nm,0.7s						
SGV	**South Grapevin**	**1.35**	**15**		Sb	09 07 05.6	-0.1
CHFC	**Chilao Flat St**	**1.41**	**199**		Pn	09 06 48.0	-0.5
SIL	**Silver Peak**	**1.42**	**158**		Pn	09 06 48.6	-0.1
BFSC	**Mount Baldy Ra**	**1.44**	**186**		Pn	09 06 48.4	-0.5
BFSC					Sg	09 07 07.4	-0.6
OSI	**Osito Audit: C**	**1.47**	**225**		Sg	09 07 09.0	0.0
OSI	**Osito Audit: C**	**1.47**	**225**		Pn	09 06 48.8	-0.5
OSI				IAML		09 07 14.1	
	comp=N,238nm,0.8s						
OSI				IAML		09 07 15.2	
	comp=E,231nm,0.7s						
MWC	**Mount Wilson**	**1.52**	**199**		Pn	09 06 49.1	-1.0
MWC				IAML		09 07 13.2	
	comp=N,307nm,0.5s						
MWC				IAML		09 07 14.4	
	comp=E,287nm,0.5s						
PDE	**Pardee, Santa**	**1.53**	**217**		Pn	09 06 47.5	-2.5
LCH	**Last Change Ra**	**1.56**	**355**		Pn	09 06 49.6	-1.0
MTPC	**Mountain Pass**	**1.57**	**96**		Pn	09 06 49.1	-1.7
MTPC					Sb	09 07 12.1	0.0
DECC	**Green Verdugo**	**1.58**	**207**		Pb	09 06 51.5	-0.2
SVD	**Seven Oaks Dam**	**1.59**	**169**		Pg	09 06 52.1	-0.2
SVD					Sn	09 07 12.1	+0.1
PSRC	**Puddingstone R**	**1.60**	**190**		Pn	09 06 50.3	-0.6
PASC	**Pasadena Art C**	**1.61**	**202**		Pn	09 06 50.2	-0.9
TPNV	**Topopah Spring**	**1.61**	**37**		Pn	09 06 51.0	-0.3
TPNV				IAML		09 07 15.7	
	comp=E,188nm,0.6s						
TPNV				IAML		09 07 16.4	
	comp=E,178nm,0.5s						
BCW	**Bitter Crk WRg**	**1.75**	**246**		Pn	09 06 52.6	-0.5
BCW				IAML		09 07 18.9	
	comp=E,205nm,0.4s						
BCW				IAML		09 07 31.1	
	comp=N,271nm,0.9s						
BHPR	**Bishop**	**1.82**	**334**		Pb	09 06 56.2	+0.3
MTUM	**Tungsten Hills**	**1.90**	**333**		Pb	09 06 57.0	-0.2
ELS	**Elsinore Mount**	**2.02**	**179**	Pn	Pn	09 06 56.7	-0.1
MCSM	**Casa Diablo Ho**	**2.29**	**330**		Pb	09 07 04.2	+0.2
BLYC	**Blythe**	**3.09**	**127**		Pn	09 07 10.3	-1.2
CBX	**Cerro Bola**	**3.42**	**168**	Pn	Pn	09 07 15.1	-1.0
SPR3	**Spring Creek 3**	**4.16**	**36**		Pn	09 07 26.0	-0.5

*NEIC **06** 09:08:03.2±2.5,35°.878N±0°.010×117°.72W±0°.01, h5km, Error ellipse: s-maj=2.1km s-min=1.6km az=316.0*

PAS 06 09:08:03.4±2.4, 35°.88N±0°.01×117°.73W±0°.01, h5km±3km, ML3.4/20, ML3.1/76(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=156.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**201**		Sg	09 08 07.5	+1.2
WVPM	**Volcano Peak E**	**0.10**	**314**		Pg	09 08 05.5	0.0
CLC	**China Lake**	**0.13**	**122**		Pg	09 08 06.1	+0.1
WNMM	**Nine Mile Cany**	**0.15**	**255**		Pg	09 08 06.4	+0.1
WNMM					Sg	09 08 09.3	+1.0
MFS	**McCloud Flat S**	**0.26**	**337**		Pg	09 08 08.4	0.0
MPMC	**Manual Prospec**	**0.26**	**48**		Sg	09 08 12.3	+0.3
LRMC	**Laurel Mtn Rad**	**0.40**	**174**		Pg	09 08 10.9	-0.3
LRMC				IAML		09 08 17.1	
	comp=E,3µm,0.4s						
LRMC				IAML		09 08 18.8	
	comp=N,3µm,0.3s						
WORM	**Onyx Ranch**	**0.46**	**246**		Pg	09 08 11.9	-0.3
WORM					Sg	09 08 18.2	+0.1
CCCA	**Chr Cany lake**	**0.46**	**140**		Pg	09 08 12.5	+0.2
WBSM	**Bird Springs**	**0.48**	**224**		Pg	09 08 12.4	-0.2
WBSM					Sg	09 08 19.2	+0.4
WHFM	**Hanning Flat**	**0.54**	**250**		Pg	09 08 13.5	-0.2
WHFM					Sg	09 08 20.9	+0.3
DTP	**Desert Tortois**	**0.62**	**189**		Pg	09 08 14.8	-0.5
ISA	**Isabella, Lake**	**0.64**	**250**		Pg	09 08 15.3	-0.4
ISA				IAML		09 08 26.1	
	comp=E,773nm,0.3s						
ISA				IAML		09 08 28.2	
	comp=N,910nm,0.4s						
CGO	**Cerro Gordo**	**0.67**	**355**		Pg	09 08 15.8	-0.5
WASM	**Alta Sierra Ca**	**0.69**	**258**		Pg	09 08 16.4	-0.2
WASM					Sg	09 08 26.0	+0.5
QSM	**Queen of Sheba**	**0.70**	**83**		Pg	09 08 16.2	-0.7
QSM				IAML		09 08 30.3	
	comp=N,2µm,0.7s						
QSM				IAML		09 08 30.7	
	comp=E,1µm,0.5s						
CCAC	**Calif City Air**	**0.77**	**198**		Sg	09 08 28.2	+0.2
CCAC	**Calif City Air**	**0.77**	**198**	Pg	Pg	09 08 17.6	-0.4
CCAC				IAML		09 08 28.9	
	comp=N,1µm,0.5s						
CCAC				IAML		09 08 32.5	
	comp=E,1µm,0.8s						
SPG2	**Springville 2**	**0.90**	**291**		Pg	09 08 20.0	-0.6
GWY	**Greenwater Val**	**0.91**	**70**		Pg	09 08 20.4	-0.4
GWY				IAML		09 08 36.3	
	comp=E,691nm,0.3s						
GWY				IAML		09 08 38.7	
	comp=N,684nm,0.6s						
GSC	**Goldstone, Bar**	**0.95**	**127**		Pg	09 08 20.9	-0.7
EDW2	**Edwards Air Fo**	**1.02**	**192**		Pb	09 08 23.3	-0.3
HYS	**Haystack Butte**	**1.02**	**173**		Pg	09 08 22.1	-0.9
TPO	**Tropico Hills**	**1.08**	**202**		Pg	09 08 23.5	-0.6
TPO					Sg	09 08 37.9	-0.2
VES	**Vestal, Richgr**	**1.10**	**268**		Pg	09 08 24.1	-0.4
VES					Sg	09 08 38.5	-0.2
GRAC	**Grapevine Rang**	**1.15**	**15**		Pg	09 08 24.8	-0.7
SBB	**Saddle Back Bu**	**1.19**	**184**		Pg	09 08 25.8	-0.4
SGV	**South Grapevin**	**1.23**	**27**		Pg	09 08 26.7	-0.3
SGV					Sg	09 08 43.0	0.0
TIN	**Tinemaha, Big**	**1.24**	**341**		Pg	09 08 27.0	-0.1
BAKC	**Calstate**	**1.24**	**245**		Pg	09 08 26.7	-0.5
BAKC					Sb	09 08 44.0	+0.4
WCT	**Wildcat Mounta**	**1.27**	**44**		Pg	09 08 26.9	-0.9
WCT				IAML		09 08 45.7	
	comp=N,248nm,0.8s						
WCT				IAML		09 08 49.2	
	comp=E,424nm,0.5s						
AMDNV	**Amargosa**	**1.30**	**64**		Pn	09 08 27.7	-0.6
LEOC	**Leona Valley**	**1.33**	**201**		Pn	09 08 28.5	-0.3
ADO	**Adelanto Recei**	**1.35**	**170**		Pn	09 08 28.9	-0.2
LCH	**Last Change Ra**	**1.35**	**3**		Pn	09 08 29.2	+0.1
LRRC	**Littlerock Res**	**1.38**	**190**		Pn	09 08 28.1	-1.2
CJV	**Casa Juvan**	**1.39**	**194**		Pg	09 08 30.1	0.0
VOG	**Valley Oaks Go**	**1.41**	**289**		Pn	09 08 29.4	-0.3
JNH	**Juniper Hills**	**1.44**	**187**		Pn	09 08 29.1	-1.2
GMN	**Gold Mountain**	**1.47**	**15**		Pn	09 08 30.4	-0.4
GMN					Sb	09 08 50.0	-0.3
GMN				IAML		09 08 54.8	
	comp=E,257nm,0.5s						
DSP	**Deep Springs**	**1.50**	**353**		Pn	09 08 30.9	0.0
DSP				IAML		09 08 53.3	
	comp=E,209nm,0.6s						
OSI	**Osito Audit: C**	**1.50**	**213**		Pn	09 08 31.4	+0.3
OSI	**Osito Audit: C**	**1.50**	**213**		Pn	09 08 31.2	+0.1
OSI	**Osito Audit: C**	**1.50**	**213**	IAML		09 08 59.8	
	comp=N,317nm,0.8s						
DSCC	**Desert Studies**	**1.52**	**119**		Sg	09 08 51.9	-0.2
TUQ	**Turquoise Moun**	**1.54**	**106**		Pn	09 08 30.3	-1.3
TUQ					Sb	09 08 52.5	+0.2
POCCA	**Poleta Canyon**	**1.54**	**343**		Pn	09 08 32.2	+0.4
HEC	**Hector,Ludlow**	**1.55**	**132**		Sb	09 08 52.5	-0.1
CHFC	**Chilao Flat St**	**1.56**	**189**		Pb	09 08 32.6	-0.3
CHFC					Sb	09 08 53.0	-0.1
TPNV	**Topopah Spring**	**1.60**	**48**		Pn	09 08 32.1	-0.5
TPNV				IAML		09 08 58.2	
	comp=N,351nm,0.9s						
TPNV				IAML		09 08 59.2	
	comp=N,350nm,0.6s						
MTUM	**Tungsten Hills**	**1.61**	**336**		Pb	09 08 33.5	-0.3
BFSC	**Mount Baldy Ra**	**1.64**	**178**		Pb	09 08 34.2	-0.1
BFSC					Sb	09 08 55.4	+0.1
BCW	**Bitter Crk WRg**	**1.67**	**236**		Pb	09 08 34.3	-0.3
BCW				IAML		09 09 06.5	
	comp=E,388nm,0.7s						
SSK	**Sunset Peak**	**1.67**	**179**		Pb	09 08 34.8	+0.1
MWC	**Mount Wilson**	**1.68**	**189**		Pn	09 08 33.3	-0.3
BBRC	**Big Bear Solar**	**1.75**	**157**		Pn	09 08 35.3	+0.7
CRGC	**Crocker Grade**	**1.75**	**249**		Pn	09 08 34.8	+0.3
PASC	**Pasadena Art C**	**1.75**	**192**		Pn	09 08 33.3	-1.1
CLTC	**Calectric**	**1.82**	**169**		Pn	09 08 34.2	-1.2
CLTC					Sn	09 08 55.9	-2.9
MZP	**Montezuma Peak**	**1.84**	**9**		Pn	09 08 35.6	-0.3
MZP				IAML		09 09 06.3	
	comp=E,112nm,0.5s						
SVD	**Seven Oaks Dam**	**1.85**	**164**		Pb	09 08 37.8	+0.2
RHC	**Rose Hills Cem**	**1.89**	**187**		Pg	09 08 39.2	-0.4
RVR	**Riverside**	**1.91**	**171**		Pb	09 08 38.6	-0.1
CFT	**Crafton Hills**	**1.91**	**164**		Pg	09 08 40.2	+0.2
KCC	**Kaiser Creek**	**1.93**	**319**		Pb	09 08 38.5	-0.5
GTM	**Goat Mountain**	**1.94**	**144**		Pb	09 08 39.5	+0.1
BENR	**Benton**	**1.95**	**340**		Pb	09 08 39.8	+0.1
MLAC	**Mammoth, Mammo**	**1.96**	**333**		Pb	09 08 40.0	+0.3
MCSM	**Casa Diablo Ho**	**2.01**	**332**		Pb	09 08 40.8	+0.2
GMRC	**Granite Mounta**	**2.02**	**122**		Pn	09 08 36.1	-2.1
PEC	**Perris**	**2.04**	**167**		Pg	09 08 41.8	-0.7
BLAC	**Blackrock camp**	**2.12**	**148**		Pb	09 08 42.8	+0.5
TSCN	**Private Proper**	**2.16**	**262**		Pn	09 08 41.4	+1.4
SHPR	**Sheep Range**	**2.17**	**73**		Pn	09 08 40.5	+0.1
EW2	**E Wide Canyon**	**2.22**	**150**		Pg	09 08 45.0	-0.9
TPH	**Tonopah**	**2.23**	**10**		Pn	09 08 40.7	-0.5
ELS	**Elsinore Mount**	**2.24**	**174**		Pn	09 08 40.4	-0.9
TPC	**Twentynine Pal**	**2.25**	**142**		Pn	09 08 40.0	-1.3
POB	**Polly Butte**	**2.29**	**163**		Pn	09 08 41.4	-0.6
POB					Pg	09 08 46.4	-0.9
DGR	**Domenigoni Val**	**2.30**	**165**		Pb	09 08 45.9	+0.4
MURC	**Murrieta**	**2.32**	**169**		Pb	09 08 46.2	+0.5
BACC	**Bachelor Mtn.**	**2.33**	**166**		Pb	09 08 46.0	0.0
V12A	**Nelson**	**2.34**	**93**		Pn	09 08 42.3	-0.4
V12A				IAML		09 09 19.6	
	comp=N,141nm,0.6s						
V12A				IAML		09 09 24.2	
	comp=E,125nm,0.4s						
S11A	**Rachel**	**2.37**	**42**		Pn	09 08 42.0	-1.1
CRY	**Cary Ranch**	**2.45**	**160**		Pn	09 08 43.2	-1.0
PMD	**Palm Desert**	**2.49**	**153**	Pn	Pn	09 08 43.3	-1.4
PMD	**Palm Desert**	**2.49**	**153**		Pb	09 08 49.4	+0.7
PMD	**Palm Desert**	**2.49**	**153**	IAML		09 09 29.3	
	comp=E,56nm,0.4s						
PFO	**Pinyon Flats O**	**2.50**	**155**		Pn	09 08 43.5	-1.3
PFO				IAML		09 09 27.5	
	comp=E,64nm,1.3s						
XPFO	**Pinon Flat**	**2.50**	**155**		Pn	09 08 43.6	-1.2
SNDA	**J Saunders Pla**	**2.50**	**158**		Pb	09 08 50.1	+1.2
BZNA	**Buzz No.'s Pla**	**2.54**	**160**		Pb	09 08 50.8	+1.2
FRD	**Ford Ranch, An**	**2.56**	**158**		Pn	09 08 44.5	-1.1
FRD					Pb	09 08 50.8	+1.0
FRD	**Ford Ranch, An**	**2.56**	**158**		Pn	09 08 44.7	-0.9
FRD					Pb	09 08 51.0	+1.2
RAMR	**Ramage Ranch**	**2.57**	**265**		Pn	09 08 47.1	+1.4
NV11	**Mina Array Sit**	**2.57**	**353**		Pn	09 08 45.8	0.0
PLM	**Palomar**	**2.62**	**164**		Pn	09 08 45.9	-0.7
MYLM	**Yosemite Lake**	**2.63**	**305**		Pb	09 08 50.4	-0.7
CMB	**Columbia Colle**	**3.02**	**316**	Pn	Pn	09 08 51.1	-0.9
CMB				IAML		09 09 42.1	
	comp=E,75nm,0.5s						
CMB				IAML		09 09 44.0	
	comp=N,67nm,0.9s						
SAO	**San Andreas Ge**	**3.13**	**287**	Pn	Pn	09 08 53.1	-0.3
W13A	**Hualapai Mount**	**3.23**	**103**	Pn	Pn	09 08 53.8	-1.3
W13A				IAML		09 09 48.7	
	comp=N,52nm,1.3s						
W13A				IAML		09 09 50.2	
	comp=E,42nm,0.7s						
BAR	**Barrett**	**3.31**	**164**	IAML		09 09 47.1	
	comp=N,34nm,0.6s						
BAR				IAML		09 09 49.8	
	comp=E,50nm,0.6s						
YUH	**Yuha Desert**	**3.56**	**155**	Pn	Pn	09 08 58.6	-0.7
CBX	**Cerro Bola**	**3.67**	**166**	Pn	Pn	09 09 01.1	+0.1
LCMT	**Little Creek M**	**3.79**	**71**	Pn	Pn	09 09 02.7	+0.1
KNB	**Kanab**	**4.12**	**73**	Pn	Pn	09 09 06.1	-1.0
ESJX	**Sierra Juarez**	**4.14**	**159**	Pn	Pn	09 09 06.9	-0.6
ESJX				IAML		09 10 17.7	
	comp=N,18nm,1.8s						
ESJX				IAML		09 10 26.2	
	comp=E,21nm,1.8s						

*IDC **06** 09:10:52.0±3.0,33°.64N×141°.60E, h0km, mb3.3/3, mbtmp3.3/4, ML2.3/1, Error ellipse: s-maj=97.6km s-min=27.0km az=65.0*

*JMA **06** 09:10:56.2±0.6,34°.N±1°×14°.2E±°, h47km, MV3.1/44, E OFF HACHIJOJIMA ISLAND*

ISC 06 09:10:54.3±1.5, 33°.76N±0°.08×141°.8E±0°.1, h21km, n16, σ0°.89/19, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.14**	**322**	*eP*	**Pn**	**09 11 14.6**	**+0.1**
BSO3	**Boso 3**	**1.51**	**314**	P	**Pn**	**09 11 20.2**	**+0.4**
BSO4	**Boso 4**	**1.74**	**315**	*eP*	**Pn**	**09 11 24.1**	**+1.0**
JHJ2	**Mitsune**	**1.80**	**250**	*eP*	**Pn**	**09 11 24.2**	**+0.2**
JMKN	**Mikurajimanish**	**1.87**	**275**	*eP*	**Pn**	**09 11 25.0**	**0.0**
JMKN				*eS*	**Sn**	**09 11 47.0**	**-0.9**
JIM2	**Oshima 3**	**2.20**	**296**	*eP*	**Pn**	**09 11 29.2**	**-0.5**
JIZS	**Izushimoda**	**2.62**	**292**	*eP*	**Pn**	**09 11 35.1**	**-0.3**
JOD2	**Odawara 2**	**2.71**	**304**	*eP*	**Pn**	**09 11 36.3**	**-0.4**
JYT	**Yasato**	**2.80**	**332**	*eP*	**Pn**	**09 11 38.4**	**+0.5**
JHO	**Hitachi**	**3.03**	**340**	*eP*	**Pn**	**09 11 40.7**	**-0.3**
JHO				*eS*	**Sn**	**09 12 14.6**	**-2.0**
JYN	**Shimob**	**3.21**	**304**	*eP*	**Pn**	**09 11 43.9**	**+0.3**
JAG	**Ashikaga**	**3.30**	**324**	*eP*	**Pn**	**09 11 45.1**	**+0.4**
MJAR	**Matsushiro Arr**	**4.06**	**314**	Pn	**Pn**	**09 11 55.8**	**+0.6**
	0.2nm,0.3s,baz=138,slow=1.1,SNR=4.3						
MJAR				Sn	**Sn**	**09 12 43.8**	**+1.7**
	0.1nm,0.3s,baz=137,slow=21,SNR=5.3						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**46.20**	**305**	P	**P**	**09 19 18.6**	**+1.0**
	0.3nm,0.5s,baz=82,slow=8.1,SNR=2.9						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**48.33**	**310**	P	**P**	**09 19 32.9**	**-1.1**
	0.4nm,0.5s,baz=87,slow=7.8,SNR=6.0						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**53.88**	**189**	P	**P**	**09 20 16.2**	**+0.2**
	0.2nm,0.6s,baz=6.6,slow=7.6,SNR=4.5						
	0.2nm,0.6s						

*IDC **06** 09:12:43.1±1.4,39°.19S×176°.15E, h0km, mb3.8/3, mbtmp3.8/3, MS4.0/1, Error ellipse: s-maj=51.2km s-min=19.1km az=147.0*

*WEL **06** 09:12:45.1±0.7,39°.S±2°×17°.6E±°, h9km±4km, M3.8/78, ML4.1/19, MLv3.8/78, Error ellipse: s-maj=3.7km s-min=2.2km az=123.7, confirmed*

ISC 06 09:12:45.9±0.7, 38°.86S±0°.02×175°.89E±0°.02, h14km±4km, n116, σ1°.09/116, mb3.5/3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.09**	**266**	P	**Pg**	**09 12 48.3**	**-0.7**
RATZ				S	**Sg**	**09 12 50.7**	**-0.3**
RITZ	**Rihia Road**	**0.12**	**192**	P	**Pg**	**09 12 49.6**	**+0.3**
RITZ				S	**Sg**	**09 12 53.5**	**+1.8**
HATZ	**Hinemaiaia**	**0.16**	**101**	P	**Pg**	**09 12 49.6**	**-0.3**
HATZ				S	**Sg**	**09 12 52.6**	**0.0**
KATZ	**Kakaramea**	**0.19**	**233**	P	**Pb**	**09 12

URZ	**Urewera**	**1.13 58**	Pg		**Pb**	**09 13 06.4**	**-0.8**
	23nm,0.3s,baz=247,slow=11,SNR=93						
URZ	**Urewera**	**1.13 58**	P		**Pn**	**09 13 06.8**	**-0.6**
WAZ	**Wanganui**	**1.14 218**	P		**Pn**	**09 13 07.8**	**+0.3**
OPRZ	**Ohinepanea**	**1.14 27**	P		**Pg**	**09 13 06.5**	**-1.4**
TGRZ	**Tauranga**	**1.17 15**	P		**Pg**	**09 13 06.7**	**-1.8**
TOZ	**Tahuroa Road**	**1.17 345**	P		**Pn**	**09 13 06.3**	**-1.6**
TSZ	**Takapari Road**	**1.20 177**	P		**Pn**	**09 13 09.4**	**+1.0**
KAHZ	**Kahuranaki**	**1.21 141**	P		Pn	09 13 11.3	+2.8
CKHZ	**Cape Kidnapper**	**1.22 131**	P		Pn	09 13 13.8	+5.2
RAGZ	**Rawiri**	**1.25 74**	P		**Pn**	**09 13 09.9**	**+0.8**
WPHZ	**Waipukurau**	**1.27 161**	P		Pn	09 13 11.9	+2.5
LREZ	**Lake Rotokare**	**1.30 242**	P		**Pg**	**09 13 11.2**	**+0.2**
DREZ	**Durham Road**	**1.35 255**	P		**Pg**	**09 13 11.6**	**-0.4**
MWZ	**Matawai**	**1.39 68**	P		**Pg**	**09 13 11.0**	**-1.6**
PXZ	**Pawanui**	**1.39 147**	P		Pn	09 13 14.9	+3.9
KNZ	**Kokohu**	**1.40 97**	P		Pb	09 13 15.5	+3.7
OHWZ	**Ohakea**	**1.41 198**	P		**Pg**	**09 13 13.5**	**+0.3**
PREZ	**Palmer Road**	**1.43 250**	P		**Pg**	**09 13 14.1**	**+0.7**
DVHZ	**Dannevirke**	**1.45 172**	P		Pb	09 13 14.6	+1.8
NEZ	**North Egmont**	**1.46 253**	P		**Pg**	**09 13 13.7**	**-0.2**
RIGZ	**Rimuhau**	**1.47 85**	P		**Pg**	**09 13 14.9**	**+0.7**
PKE	**Pukeiti**	**1.52 257**	P		**Pb**	**09 13 14.2**	**+0.3**
PRHZ	**Porangahau**	**1.52 158**	P		Pg	09 13 17.1	+2.0
KHEZ	**Kahui Hut**	**1.52 253**	P		**Pg**	**09 13 14.6**	**-0.6**
POWZ	**Post Office Ro**	**1.53 183**	P		**Pg**	**09 13 15.6**	**+0.2**
PRGZ	**Paritu Road**	**1.56 93**	P		Pg	09 13 19.1	+3.3
TKGZ	**Te Karaka**	**1.59 75**	P		**Pg**	**09 13 17.3**	**+0.8**
MYRZ	**Mayor Island**	**1.60 10**	P		**Pb**	**09 13 16.4**	**+1.0**
NBEZ	**Newall Road No**	**1.62 255**	P		**Pb**	**09 13 16.0**	**+0.3**
NMEZ	**Namu Road**	**1.66 250**	P		**Pg**	**09 13 16.7**	**-1.0**
ANWZ	**Angora Road**	**1.66 164**	P		Pg	09 13 18.6	+0.8
RUGZ	**Raukumara Rang**	**1.67 58**	P		**Pg**	**09 13 16.1**	**-1.9**
PRWZ	**Pori Road**	**1.69 178**	P		Pg	09 13 19.9	+1.5
TWGZ	**Tauwhareparae**	**1.78 68**	P		**Pg**	**09 13 19.6**	**-0.5**
MRZ	**Mangatainoka R**	**1.81 187**	P		**Pg**	**09 13 19.2**	**-1.6**
BFZ	**Birch Farm**	**1.84 172**	P		**Pg**	**09 13 19.6**	**-1.6**
MKAZ	**Moumakai**	**1.85 342**	P		**Pn**	**09 13 16.7**	**-0.5**
HAZ	**Te Kaha**	**1.85 54**	P		**Pb**	**09 13 19.0**	**-0.6**
PKGZ	**Pakihiroa**	**1.99 61**	P		**Pg**	**09 13 21.4**	**-2.7**
OGWZ	**Otaki Gorge**	**2.03 196**	P		**Pg**	**09 13 22.4**	**-2.5**
AWAZ	**Awhitu Peninsu**	**2.05 331**	P		**Pn**	**09 13 20.2**	**+0.2**
ETAZ	**East Tamaki Re**	**2.05 338**	P		**Pn**	**09 13 20.9**	**+0.8**
KUZ	**Kuaotunu**	**2.12 356**	P		**Pn**	**09 13 22.8**	**+1.8**
WIAZ	**Waiheke Island**	**2.15 344**	P		**Pn**	**09 13 22.9**	**+1.5**
RPZ	**Rata Peaks**	**6.06 215**	Pn		**Pn**	**09 14 16.2**	**+1.0**
	0.3nm,0.3s,baz=42,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**38.60 281**	P		**P**	**09 20 10.2**	**+1.4**
	0.8nm,0.8s,baz=119,slow=8.3,SNR=5.3						
	0.8nm,0.8s						
VNDA	**Vanda**	**39.22 185**	LR		LR	09 34 52.7	
	comp=Z,172nm,18.1s,baz=224,slow=34						
WRA	**Warramunga Arr**	**40.40 286**	P		**P**	**09 20 24.7**	**+0.9**
	0.9nm,1.0s,baz=124,slow=8.6,SNR=6.5						
	0.9nm,1.0s						
FITZ	**Fitzroy Crossi**	**48.10 281**	P		**P**	**09 21 27.7**	**+2.3**
	4.1nm,1.1s,baz=141,slow=13,SNR=3.7						
	4.1nm,1.1s						
KURBB	**Kurchatov Arra**	**123.05 311**	PKP		**PKPdf**	**09 31 39.7**	**-1.6**
	0.2nm,0.3s,baz=98,slow=2.1,SNR=5.2						
NRIK	**Noril'sk**	**125.18 334**	PKP		**PKiKP**	**09 31 45.5**	**+0.3**
	4.4nm,0.8s,baz=66,slow=2.6,SNR=2.9						
KBZ	**Khabaz**	**144.72 293**	PKPbc		**PKPab**	**09 32 20.8**	**0.0**
	1.7nm,0.7s,baz=108,slow=6.4,SNR=5.0						
FINES	**FINESS Array B**	**150.72 330**	PKPbc		**PKPbc**	**09 32 35.3**	**-1.5**
	3.1nm,1.0s,baz=62,slow=5.6,SNR=4.2						
BRTR	**Keskin Array B**	**150.91 284**	PKPbc		**PKiKP**	**09 32 39.9**	**+1.1**
	1.0nm,0.8s,baz=101,slow=4.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**153.88 193**	PKPbc		**PKPbc**	**09 32 44.4**	**-0.9**
	1.1nm,0.3s,baz=167,slow=2.5,SNR=1.5						

NEIC ***06*** *09:20:58.9±1.6,35°.883N±0°.010×117°.721W±0°.006, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.7km az=154.0*

PAS 06 09:20:59.4±1.4, 35°.874N±0°.010×117°.724W±0°.005, h7km±3km, ML3.1/21, ML2.9/44(NEIC), Error ellipse: s-maj=1.5km s-min=0.6km az=196.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.07**	**207**		Pg	09 21 01.7	+0.4
WVPM	**Volcano Peak E**	**0.11**	**315**		Pg	09 21 01.9	+0.1
CLC	**China Lake**	**0.12**	**120**		Pg	09 21 01.9	-0.1
CLC					Sg	09 21 04.0	+0.2
WNMM	**Nine Mile Cany**	**0.15**	**258**		Pg	09 21 02.7	+0.2
SRTC	**Snort**	**0.18**	**186**		Pg	09 21 03.4	+0.3
SRTC					Sg	09 21 07.2	+1.6
WRVM	**Rose V. Centra**	**0.19**	**315**		Pg	09 21 03.2	0.0
MPMC	**Manual Prospec**	**0.26**	**46**		Pg	09 21 04.5	-0.2
MFS	**McCloud Flat S**	**0.27**	**336**		Pg	09 21 04.6	-0.1
LRMC	**Laurel Mtn Rad**	**0.40**	**175**	Pg	Pg	09 21 06.6	-0.5
LRMC				IAML		09 21 12.9	
	comp=E,2μm,0.5s						
WBSM	**Bird Springs**	**0.48**	**225**		Pg	09 21 08.3	-0.3
WBSM					Sg	09 21 14.8	0.0
WHFM	**Hanning Flat**	**0.54**	**251**		Sg	09 21 16.7	-0.1
DTP	**Desert Tortois**	**0.61**	**189**		Sg	09 21 19.1	-0.1
CWC	**Cottonwood Cre**	**0.63**	**333**		Pg	09 21 11.6	0.0
ISA	**Isabella, Lake**	**0.65**	**251**		Pg	09 21 11.1	-0.7
ISA				IAML		09 21 20.6	
	comp=N,406nm,0.3s						
ISA	**Isabella, Lake**	**0.65**	**251**		Sg	09 21 19.7	-0.5
CGO	**Cerro Gordo**	**0.68**	**355**		Sg	09 21 22.2	+0.8
QSM	**Queen of Sheba**	**0.70**	**82**		Pg	09 21 12.4	-0.4
QSM				IAML		09 21 25.3	
	comp=E,474nm,0.8s						
QSM				IAML		09 21 26.8	
	comp=N,409nm,0.7s						
CCAC	**Calif City Air**	**0.76**	**198**		Pg	09 21 13.4	-0.5
CCAC				IAML		09 21 24.3	
	comp=E,606nm,0.4s						
CCAC	**Calif City Air**	**0.76**	**198**		Sg	09 21 23.6	-0.2
SPG2	**Springville 2**	**0.91**	**291**		Pg	09 21 16.0	-0.8
GWY	**Greenwater Val**	**0.91**	**70**		Pg	09 21 16.3	-0.6
GWY				IAML		09 21 40.3	
	comp=N,363nm,0.3s						
GWY				IAML		09 21 41.8	
	comp=E,290nm,0.6s						
GSC	**Goldstone, Bar**	**0.94**	**127**		Pg	09 21 17.2	-0.3
TEJ	**El Tejon**	**1.02**	**231**		Pg	09 21 17.7	-1.2
TPO	**Tropico Hills**	**1.07**	**203**		Sg	09 21 33.4	-0.5
VES	**Vestal, Richgr**	**1.11**	**269**		Pg	09 21 20.0	-0.6
GRAC	**Grapevine Rang**	**1.16**	**14**		Pg	09 21 20.8	-0.8
GRAC				IAML		09 21 37.4	
	comp=E,328nm,0.4s						
GRAC				IAML		09 21 42.5	
	comp=N,282nm,0.7s						
SGV	**South Grapevin**	**1.24**	**27**		Sg	09 21 38.8	-0.4
BAKC	**Calstate**	**1.24**	**245**		Pb	09 21 22.4	-0.8
BAKC					Sb	09 21 39.7	+0.3
WCT	**Wildcat Mounta**	**1.27**	**44**		Pn	09 21 22.5	-1.2
WCT				IAML		09 22 06.5	
	comp=N,166nm,0.5s						
WCT				IAML		09 22 07.1	
	comp=E,154nm,0.2s						
AMDNV	**Amargosa**	**1.30**	**63**		Pn	09 21 23.6	-0.4
LCH	**Last Change Ra**	**1.36**	**3**		Pg	09 21 25.4	0.0
LRRC	**Littlerock Res**	**1.37**	**191**		Pg	09 21 25.5	-0.1
CJV	**Casa Juvan**	**1.38**	**195**		Pg	09 21 26.0	+0.1
GMN	**Gold Mountain**	**1.47**	**15**		Pn	09 21 25.8	-0.8
GMN				IAML		09 22 14.2	
	comp=N,131nm,0.5s						
DSP	**Deep Springs**	**1.51**	**353**		Pn	09 21 26.2	-0.6
HEC	**Hector,Ludlow**	**1.54**	**132**		Sb	09 21 48.2	+0.1
BHPR	**Bishop**	**1.55**	**337**		Pn	09 21 27.9	+0.3
CHFC	**Chilao Flat St**	**1.56**	**189**		Pb	09 21 28.6	-0.1
CHFC					Sb	09 21 48.7	+0.1
TPNV	**Topopah Spring**	**1.60**	**48**		Pn	09 21 27.6	-0.7
TPNV				IAML		09 21 53.7	
	comp=N,168nm,0.8s						
TPNV				IAML		09 22 18.0	
	comp=N,166nm,0.8s						
MTUM	**Tungsten Hills**	**1.62**	**336**		Pb	09 21 29.3	-0.5
BFSC	**Mount Baldy Ra**	**1.63**	**178**		Pn	09 21 29.3	+0.6
SSK	**Sunset Peak**	**1.66**	**179**		Pb	09 21 30.7	+0.3
BCW	**Bitter Crk WRg**	**1.67**	**236**		Pb	09 21 30.1	-0.4
BCW				IAML		09 22 04.6	
	comp=E,156nm,0.8s						
BCW				IAML		09 22 29.9	
	comp=N,152nm,0.6s						
MWC	**Mount Wilson**	**1.67**	**190**		Pn	09 21 29.3	+0.1
BBRC	**Big Bear Solar**	**1.74**	**157**		Sn	09 21 52.9	+0.1
PASC	**Pasadena Art C**	**1.74**	**193**		Pn	09 21 30.0	0.0
PASC				IAML		09 22 17.5	
	comp=E,166nm,0.3s						
CLTC	**Calectric**	**1.81**	**169**		Sn	09 21 53.4	-0.8
MZP	**Montezuma Peak**	**1.84**	**8**		Pn	09 21 31.3	-0.4
RVR	**Riverside**	**1.90**	**171**		Pb	09 21 34.6	+0.2
GTM	**Goat Mountain**	**1.93**	**144**		Sn	09 21 55.4	-2.0
BENR	**Benton**	**1.96**	**340**		Pb	09 21 35.5	-0.1
BENR					Sg	09 22 02.1	-0.3
SHPR	**Sheep Range**	**2.17**	**72**		Pn	09 21 35.5	-0.6
TPH	**Tonopah**	**2.23**	**10**		Pn	09 21 36.7	-0.4
LHV	**Little Huntoon**	**2.45**	**345**	Pn	Pn	09 21 39.8	0.0
LHV				IAML		09 22 54.5	
	comp=E,41nm,1.6s						
NV11	**Mina Array Sit**	**2.58**	**352**		Pn	09 21 41.9	+0.2
NVAR	**Mina Array Bea**	**2.59**	**350**		Pn	09 21 42.0	0.0
BBGB	**Big Mountain B**	**2.77**	**286**	Pn	Pn	09 21 43.9	-0.4
RYN	**Ryan**	**2.82**	**347**		Pn	09 21 44.9	-0.2
LCMT	**Little Creek M**	**3.79**	**71**	Pn	Pn	09 21 57.8	-0.6
CCUT	**Cedar City**	**3.88**	**63**		Pn	09 21 59.5	-0.3

NEIC ***06*** *09:21:22.9±1.4, 35°.750N±0°.005×117°.57W±0°.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.6km az=271.0*

PAS 06 09:21:23.0±1.6, 35°.748N±0°.005×117°.57W±0°.01, h4km±4km, ML3.1/23, ML3.1/20(NEIC), Error ellipse: s-maj=1.5km s-min=0.7km az=101.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.07**	**342**		Pg	09 21 24.8	+0.2
SRTC	**Snort**	**0.15**	**249**		Pg	09 21 26.6	+0.5
TOW	**Tower One**	**0.17**	**291**		Pg	09 21 27.0	+0.6
TOW					Sg	09 21 30.4	+1.9
LRMC	**Laurel Mtn Rad**	**0.28**	**199**		Pg	09 21 28.3	-0.2
LRMC					Sg	09 21 32.6	+0.4
LRMC				IAML		09 21 33.5	
	comp=E,4μm,0.3s						
WVPM	**Volcano Peak E**	**0.28**	**315**		Pg	09 21 28.6	0.0
WNMM	**Nine Mile Cany**	**0.29**	**289**		Pg	09 21 28.8	+0.2
WNMM					Sg	09 21 33.1	+0.8
MPMC	**Manual Prospec**	**0.32**	**12**		Pg	09 21 29.1	-0.1
WRVM	**Rose V. Centra**	**0.37**	**315**		Pg	09 21 30.0	-0.1
MFS	**McCloud Flat S**	**0.43**	**328**		Pg	09 21 31.3	-0.1
MFS					Sg	09 21 38.2	+1.1
WBSM	**Bird Springs**	**0.51**	**246**		Pg	09 21 32.6	-0.2
WBSM					Sg	09 21 40.0	+0.6
DTP	**Desert Tortois**	**0.53**	**205**		Pg	09 21 33.0	-0.1
DTP					Sg	09 21 40.4	+0.4
WORM	**Onyx Ranch**	**0.55**	**265**		Sg	09 21 40.6	0.0
QSM	**Queen of Sheba**	**0.61**	**69**		Pg	09 21 34.3	-0.4
QSM				IAML		09 21 43.6	
	comp=E,694nm,0.2s						
WHFM	**Hanning Flat**	**0.64**	**266**		Pg	09 21 35.0	-0.3
WHFM					Sg	09 21 43.3	-0.2
CCAC	**Calif City Air**	**0.70**	**212**		Sg	09 21 45.7	+0.3
CCAC	**Calif City Air**	**0.70**	**212**	Pg	Pg	09 21 36.0	-0.4
CCAC				IAML		09 21 46.2	
	comp=E,1μm,0.3s						
CCAC				IAML		09 21 46.3	
	comp=N,762nm,0.4s						
ISA	**Isabella, Lake**	**0.74**	**264**		Sg	09 21 46.7	-0.1
ISA	**Isabella, Lake**	**0.74**	**264**	Pg	Pg	09 21 36.8	-0.4
GSC	**Goldstone, Bar**	**0.77**	**125**		Sg	09 21 47.9	+0.2
GSC	**Goldstone, Bar**	**0.77**	**125**	Pg	Pg	09 21 36.9	-0.8
GSC				IAML		09 21 50.5	
	comp=N,1μm,0.5s						
WASM	**Alta Sierra Ca**	**0.80**	**270**		Pg	09 21 38.0	-0.4
WASM					Sg	09 21 48.7	-0.2
CGO	**Cerro Gordo**	**0.82**	**347**		Pb	09 21 39.6	-0.5
GWY	**Greenwater Val**	**0.85**	**59**		Pg	09 21 38.7	-0.7
GWY				IAML		09 21 56.1	
	comp=N,598nm,0.5s						
GWY				IAML		09 21 57.2	
	comp=E,620nm,0.5s						
HYS	**Haystack Butte**	**0.88**	**180**		Pb	09 21 40.6	-0.4
EDW2	**Edwards Air Fo**	**0.93**	**202**		Sb	09 21 53.9	-0.6
SHOC	**Shoshone, Teco**	**1.06**	**81**		Sg	09 21 57.0	-0.3
SPG2	**Springville 2**	**1.07**	**295**		Sg	09 21 56.5	-0.9
SBB	**Saddle Back Bu**	**1.08**	**191**		Sg	09 21 56.9	-0.7
ADO	**Adelanto Recei**	**1.20**	**175**		Pg	09 21 46.0	0.0
ARVC	**Arvin**	**1.20**	**239**		Pg	09 21 46.1	+0.1
AMDNV	**Amargosa**	**1.26**	**56**		Pg	09 21 46.7	-0.5
LRRC	**Littlerock Res**	**1.27**	**197**		Sb	09 22 04.6	+0.3
WCT	**Wildcat Mounta**	**1.29**	**36**	Pg	Pg	09 21 47.1	-0.7
SGV	**South Grapevin**	**1.30**	**19**		Sg	09 22 04.7	-0.3
JNH	**Juniper Hills**	**1.33**	**194**		Pg	09 21 48.6	0.0
HEC	**Hector,Ludlow**	**1.36**	**132**		Sg	09 22 06.7	-0.1
CHFC	**Chilao Flat St**	**1.46**	**195**		Sb	09 22 09.7	-0.1
BFSC	**Mount Baldy Ra**	**1.51**	**183**		Sn	09 22 10.9	-0.2
SSK	**Sunset Peak**	**1.54**	**184**		Pb	09 21 52.2	+0.1
MWC	**Mount Wilson**	**1.57**	**195**		Pb	09 21 52.5	-0.3
MWC				IAML		09 22 16.6	
	comp=E,370nm,0.6s						
VOG	**Valley Oaks Go**	**1.58**	**292**		Pn	09 21 50.6	-1.2
CLTC	**Calectric**	**1.66**	**173**		Sn	09 22 13.3	-1.4
TPC	**Twentynine Pal**	**2.06**	**142**		Pb	09 22 01.4	+0.4
MCSM	**Casa Diablo Ho**	**2.19**	**331**		Pb	09 22 03.1	-0.2
MDYM	**Dry Creek**	**2.23**	**329**		Pb	09 22 04.2	+0.1
MINS	**Minaret Summit**	**2.25**	**328**		Pb	09 22 04.2	-0.2
BZNA	**Buzz No.'s Pla**	**2.37**	**161**		Pb	09 22 06.7	+0.3
MMIM	**Miami Mountain**	**2.42**	**314**		Pb	09 22 07.0	-0.1
W13A	**Hualapai Mount**	**3.08**	**101**	Pn	Pn	09 22 11.1	-1.5

NEIC ***06*** *09:23:41.2±1.2, 36°.058N±0°.009×117°.83W±0°.01, h3km±3km, Error ellipse: s-maj=1.5km s-min=1.3km az=96.0*

PAS 06 09:23:41.6±1.0, 36°.062N±0°.009×117°.853W±0°.008, h1km±1km, ML3.0/25, ML3.2/68(NEIC), Error ellipse: s-maj=1.4km s-min=0.9km az=195.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.06**	**358**		Pg	09 23 42.9	+0.1
WRVM	**Rose V. Centra**	**0.06**	**210**		Pg	09 23 43.0	+0.1
WVPM	**Volcano Peak E**	**0.12**	**166**		Pg	09 23 44.0	+0.1
WVPM					Sg	09 23 46.0	+0.7
WNMM	**Nine Mile Cany**	**0.22**	**191**		Pg	09 23 46.1	+0.3
TOW	**Tower One**	**0.26**	**164**		Pg	09 23 47.3	+0.6
MPMC	**Manual Prospec**	**0.29**	**91**		Pg	09 23 47.4	+0.1
SRTC	**Snort**	**0.38**	**167**		Pg	09 23 49.5	+0.6
CWC	**Cottonwood Cre**	**0.42**	**334**		Pg	09 23 49.9	+0.2
CWC					Sg	09 23 55.8	+0.7
CGO	**Cerro Gordo**	**0.49**	**5**		Pg	09 23 51.2	+0.2
CGO					Sg	09 23 58.6	+1.2
WHFM	**Hanning Flat**	**0.54**	**228**		Pg	09 23 52.0	0.0
WHFM					Sg	09 23 59.6	+0.6
WBSM	**Bird Springs**	**0.57**	**204**		Pg	09 23 52.8	+0.2
WBSM					Sg	09 24 00.7	+0.7
LRMC	**Laurel Mtn Rad**	**0.60**	**167**		Sg	09 24 01.2	+0.4
LRMC	**Laurel Mtn Rad**	**0.60**	**167**	Pg	Pg	09 23 52.8	-0.3
LRMC				IAML		09 24 01.6	
	comp=E,893nm,0.5s						
LRMC				IAML		09 24 03.4	
	comp=N,774nm,0.4s						
ISA	**Isabella, Lake**	**0.64**	**232**		Sg	09 24 02.7	+0.4
ISA	**Isabella, Lake**	**0.64**	**232**	Pg	Pg	09 23 53.8	-0.1
ISA				IAML		09 24 02.9	
	comp=E,731nm,0.3s						
ISA				IAML		09 24 02.9	
	comp=N,643nm,0.4s						
WASM	**Alta Sierra Ca**	**0.66**	**241**		Pg	09 23 54.2	0.0
CCCA	**Chr Cany lake**	**0.67**	**143**		Pg	09 23 54.8	+0.4
SPG2	**Springville 2**	**0.75**	**281**		Sg	09 23 55.7	-0.4
SPG2					Sg	09 24 06.1	+0.3
QSM	**Queen of Sheba**	**0.80**	**97**	Pg	Pg	09 23 57.0	0.0
QSM				IAML		09 24 00.5	
	comp=N,562nm,0.5s						
QSM				IAML		09 24 08.0	
	comp=E,669nm,0.4s						
CCAC	**Calif City Air**	**0.92**	**188**		Pg	09 23 58.9	-0.3
CCAC				IAML		09 24 17.1	
	comp=E,498nm,0.7s						
CCAC	**Calif City Air**	**0.92**	**188**		Sg	09 24 11.5	+0.5
GWY	**Greenwater Val**	**0.97**	**82**		Pg	09 23 59.9	-0.3
GWY					Sg	09 24 12.4	-0.3
GWY				IAML		09 24 16.5	
	comp=N,635nm,0.5s						
GWY				IAML		09 24 18.0	
	comp=E,701nm,0.5s						
GRAC	**Grapevine Rang**	**1.01**	**23**		Pg	09 24 00.7	-0.3
GRAC				IAML		09 24 19.6	
	comp=E,415nm,0.7s						
GRAC				IAML		09 24 22.3	
	comp=N,508nm,0.8s						
VES	**Vestal, Richgr**	**1.02**	**258**		Sg	09 24 15.2	+0.7
TIN	**Tinemaha, Big**	**1.04**	**343**		Sg	09 24 15.7	+0.8
TEJ	**El Tejon**	**1.07**	**220**		Pg	09 24 01.7	-0.5
SGV	**South Grapevin**	**1.13**	**36**		Pg	09 24 03.4	+0.1
SGV					Sb	09 24 18.8	-0.5
GSC	**Goldstone, Bar**	**1.14**	**131**		Pg	09 24 02.3	-1.2
GSC				IAML		09 24 41.3	
	comp=N,402nm,0.3s						
LCH	**Last Change Ra**	**1.18**	**8**		Pg	09 24 03.8	-0.5
TPO	**Tropico Hills**	**1.22**	**195**		Pg	09 24 04.3	-0.6
TPO					Sg	09 24 21.1	+0.3
ARVC	**Arvin**	**1.23**	**221**		Pg	09 24 03.7	-1.4
WCT	**Wildcat Mounta**	**1.23**	**53**		Pg	09 24 04.6	-0.6
BAKC	**Calstate**	**1.25**	**235**		Pg	09 24 05.2	-0.2
DSP	**Deep Springs**	**1.31**	**356**		Pg	09 24 06.4	-0.3
DSP					Sg	09 24 23.1	-0.6
GMN	**Gold Mountain**	**1.32**	**21**		Pg	09 24 06.2	-0.8
GMN				IAML		09 24 55.3	
	comp=N,268nm,1.0s						
AMDNV	**Amargosa**	**1.33**	**72**		Sg	09 24 24.2	-0.1
BHPR	**Bishop**	**1.34**	**338**		Pg	09 24 06.8	-0.5
MTUM	**Tungsten Hills**	**1.41**	**336**		Pn	09 24 07.8	-0.8
CJV	**Casa Juvan**	**1.55**	**189**		Pg	09 24 11.5	+0.2
TPNV	**Topopah Spring**	**1.57**	**55**		Pn	09 24 10.1	-0.6
TPNV				IAML		09 24 56.9	
	comp=N,250nm,0.6s						
TPNV				IAML		09 25 02.5	
	comp=N,264nm,0.6s						
MZP	**Montezuma Peak**	**1.68**	**13**		Pn	09 24 12.2	-0.2
TUQ	**Turquoise Moun**	**1.69**	**111**		Pn	09 24 11.4	-1.0
BCW	**Bitter Crk WRg**	**1.69**	**229**		Pn	09 24 12.3	-0.1
BCW				IAML		09 25 08.6	
	comp=N,285nm,0.8s						
BCW				IAML		09 25 13.1	
	comp=E,351nm,1.0s						
KCC	**Kaiser Creek**	**1.73**	**317**		Pn	09 24 13.2	+0.4
CRGC	**Crocker Grade**	**1.73**	**242**		Pn	09 24 13.6	+0.6
BENR	**Benton**	**1.75**	**341**		Pb	09 24 14.2	-0.4
MLAC	**Mammoth, Mammo**	**1.75**	**334**		Pb	09 24 14.3	-0.4
MCSM	**Casa Diablo Ho**	**1.80**	**332**		Pb	09 24 15.2	-0.4
SMMC	**Simmler**	**1.90**	**247**		Pn	09 24 15.8	+0.7
AGOC	**Agoura**	**2.05**	**202**		Pn	09 24 15.2	-2.0
TSCN	**Private Proper**	**2.09**	**256**		Pb	09 24 19.9	-0.5
SHPR	**Sheep Range**	**2.22**	**78**		Pn	09 24 19.4	-0.3
SHPR				IAML		09 25 33.4	
	comp=N,108nm,0.5s						
PSMM	**Smith Mountain**	**2.22**	**271**		Pb	09 24 21.6	-1.0
LHV	**Little Huntoon**	**2.25**	**347**		Pn	09 24 19.9	0.0
LHV				IAML		09 25 16.0	
	comp=E,119nm,0.5s						
LHV				IAML		09 25 33.7	
	comp=N,101nm,0.9s						
NVAR	**Mina Array Bea**	**2.39**	**351**	Pn	Pn	09 24 22.4	+0.3
PMPB	**Monarch Peak**	**2.39**	**275**		Pn	09 24 23.2	+1.3
MYLM	**Yosemite Lake**	**2.45**	**303**		Pb	09 24 25.3	-1.1
V12A	**Nelson**	**2.46**	**97**	Pn	Pn	09 24 21.9	-1.1
V12A				IAML		09 25 45.8	
	comp=E,134nm,1.2s						
RAMR	**Ramage Ranch**	**2.49**	**261**		Pn	09 24 24.2	+0.9
RYN	**Ryan**	**2.62**	**348**		Pn	09 24 25.7	+0.5
PRN	**Pahroc Range**	**2.62**	**58**		Pn	09 24 25.0	-0.2
BBGB	**Big Mountain B**	**2.62**	**282**		Pn	09 24 25.0	-0.3
PCCM	**Crazy Canyon**	**2.68**	**272**		Pn	09 24 27.5	+1.6
PMD	**Palm Desert**	**2.70**	**153**	Pn	Pn	09 24 26.1	0.0
PMD				IAML		09 25 46.4	
	comp=N,118nm,1.1s						
PMD				IAML		09 25 47.0	
	comp=E,119nm,0.9s

SGV	South Grapevin	1.28	22			Pn		09 24 48.1	+0.3
AMDNV	Amargosa	1.28	59			Pg		09 24 46.8	-1.6
WCT	Wildcat Mounta	1.29	39	Pg		Pg		09 24 47.4	-1.2
WCT				IAML				09 25 08.3	
	comp=E,467nm,0.7s								
WCT				IAML				09 25 09.2	
	comp=N,420nm,0.6s								
CJV	Casa Juvan	1.33	198			Pb		09 24 49.2	+0.3
JNH	Juniper Hills	1.37	191			Pn		09 24 48.3	-0.8
CHFC	Chilao Flat St	1.50	192			Pn		09 24 51.5	+0.6
VOG	Valley Oaks Go	1.51	291			Pn		09 24 51.4	+0.6
VOG						Sn		09 25 08.6	-2.0
GMN	Gold Mountain	1.53	11			Pn		09 24 51.3	-0.1
GMN				IAML				09 25 23.7	
	comp=N,340nm,1.0s								
DSP	Deep Springs	1.59	350			Pn		09 24 52.0	0.0
DSP				IAML				09 25 19.8	
	comp=E,479nm,0.9s								
TPNV	Topopah Spring	1.60	44			Pn		09 24 52.0	-0.3
TPNV				IAML				09 25 17.9	
	comp=E,599nm,0.5s								
TPNV				IAML				09 25 21.8	
	comp=E,420nm,0.6s								
MWC	Mount Wilson	1.61	193			Pn		09 24 52.0	-0.4
MWC				IAML				09 25 18.5	
	comp=N,604nm,0.8s								
MWC				IAML				09 25 26.2	
	comp=E,642nm,0.9s								
PASC	Pasadena Art C	1.68	196			Pn		09 24 52.9	-0.4
PASC				IAML				09 25 19.8	
	comp=E,330nm,0.9s								
PASC				IAML				09 25 25.3	
	comp=N,276nm,0.9s								
CLTC	Calectric	1.72	171			Sn		09 25 14.2	-1.6
GTM	Goat Mountain	1.83	145			Pb		09 24 57.5	+0.1
MZP	Montezuma Peak	1.91	6	Pn		Pn		09 24 56.1	-0.5
TPC	Twentynine Pal	2.13	142			Pn		09 24 58.7	-0.8
HMTC	Hemet	2.15	166			Pn		09 24 59.2	-0.5
ELS	Elsinore Mount	2.15	175			Pn		09 24 59.5	-0.3
ELS				IAML				09 25 39.4	
	comp=N,168nm,1.2s								
ELS				IAML				09 25 39.8	
	comp=E,226nm,1.2s								
POB	Polly Butte	2.19	164			Pn		09 25 00.4	+0.1
DGR	Domenigoni Val	2.21	166			Pn		09 25 00.2	-0.3
BACC	Bachelor Mtn.	2.24	167			Pn		09 25 01.0	+0.1
V12A	Nelson	2.27	91			Pn		09 25 01.0	-0.4
V12A				IAML				09 25 44.0	
	comp=N,206nm,0.8s								
CRY	Cary Ranch	2.35	161			Pn		09 25 02.4	-0.2
PMD	Palm Desert	2.38	154			Pn		09 25 02.2	-0.7
PMD	Palm Desert	2.38	154	Pn		Pn		09 25 02.1	-0.8
PFO	Pinyon Flats O	2.39	156	Pn		Pn		09 25 02.1	-1.0
	comp=N,13nm,0.3s,baz=342,slow=16,SNR=17								
PFO				Pg		Pb		09 25 07.8	+0.8
	comp=N,11nm,0.3s,baz=338,slow=16,SNR=17								
PFO				Lg	Lg			09 25 40.5	
	comp=N,11nm,0.3s,baz=241,slow=19,SNR=10								
	comp=N,12nm,0.6s								
BZNA	Buzz No.'s Pla	2.44	161			Pn		09 25 03.8	+0.1
PRN	Pahroc Range	2.63	52	Pn		Pn		09 25 06.1	-0.3
PRN				IAML				09 25 55.2	
	comp=N,173nm,1.1s								
PRN				IAML				09 26 01.4	
	comp=E,187nm,1.1s								
NVAR	Mina Array Bea	2.68	349	Pg		Pg		09 25 13.9	-1.3
	comp=E,18nm,0.3s,baz=171,slow=16,SNR=15								
NVAR				Lg	Lg			09 25 48.9	
	comp=E,14nm,0.3s,baz=172,slow=31,SNR=5.6								
Q09A	Carvers	3.05	7	Pn		Pn		09 25 11.8	-0.5
W13A	Hualapai Mount	3.14	102	Pn		Pn		09 25 13.1	-0.5
W13A				IAML				09 26 18.9	
	comp=N,83nm,1.5s								
W13A				IAML				09 26 24.3	
	comp=E,68nm,1.3s								
BLYC	Blythe	3.28	128	Pn		Pn		09 25 14.1	-1.1
BLYC				IAML				09 26 11.6	
	comp=N,101nm,0.6s								
YUH	Yuha Desert	3.45	155	Pn		Pn		09 25 17.6	0.0
YUH				IAML				09 26 24.4	
	comp=E,59nm,1.8s								
CBX	Cerro Bola	3.57	167	Pn		Pn		09 25 19.6	+0.3
LCMT	Little Creek M	3.75	70			Pn		09 25 22.0	+0.2
ESJX	Sierra Juarez	4.04	159	Pn		Pn		09 25 25.9	+0.1
ESJX				IAML				09 26 36.5	
	comp=E,39nm,1.0s								
VTX	Valle De La Tr	4.66	160	Pn		Pn		09 25 34.3	+0.1
VTX				IAML				09 26 55.0	
	comp=N,45nm,1.0s								
ELK	Elko	5.29	20	Pn		Pn		09 25 44.1	+1.1
	comp=N,0.7nm,0.3s,baz=208,slow=13,SNR=3.2								
ELK				Lg	Lg			09 27 08.8	
	comp=N,3.2nm,0.3s,baz=274,slow=14,SNR=7.5								
	comp=N,2.7nm,0.4s								
214A	Organ Pipe Nat	5.55	132	Pn		Pn		09 25 44.4	-2.1
PV12	Saucer Basin,	7.50	68	Pn		Pn		09 26 11.9	-1.5
ANMO	Albuquerque	9.17	92	Pn		Pn		09 26 37.8	+1.5
	comp=N,0.1nm,0.3s,baz=280,slow=14,SNR=2.0								
ANMO				Lg	Lg			09 29 12.2	
	comp=N,0.1nm,0.3s,baz=280,slow=19,SNR=6.8								
	comp=N,0.7nm,0.6s								
PDAR	Pinedale Array	9.36	40	Pn		Pn		09 26 42.3	+3.4
	comp=N,0.1nm,0.3s,baz=234,slow=9.6,SNR=4.8								
	comp=N,0.2nm,0.4s								
TXAR	Lajitas Array	13.42	115	Pn		Pn		09 27 36.9	+2.5
	baz=301,slow=15,SNR=3.4								
	comp=N,0.1nm,0.5s								
YKA	Yellowknife Ar	26.79	3	P		P		09 30 06.6	+3.0
	comp=N,0.4nm,0.8s,baz=188,slow=9.1,SNR=5.9								
	comp=N,0.4nm,0.8s								

*IDC **06** 09:27:04.2±1.3,35°.82N×117°.62W,h0km,mbtmp2.9/5, ML3.3/3,Error ellipse: s-maj=29.0km s-min=7.9km az=76.0*

*NEIC **06** 09:27:08.3±2.2,35°.627N±0°.010×117°.58W±0°.01, h9km±6km,Error ellipse: s-maj=1.5km s-min=1.4km az=128.0*

*PAS **06** 09:27:08.5±1.9,35°.616N±0°.010×117°.59W±0°.01, h10km±5km,ML3.5/17,ML3.8/76(NEIC),Error ellipse: s-maj=1.6km s-min=1.5km az=88.0*

ISC 06 09:27:08.1±0.8,35°.63N±0°.02×117°.58W±0°.02,h14km±6km, n114,σ0§91/129,Central California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SRTC	Snort	0.15	294			Pg	09 27 12.3	+0.3
SRTC						Sb	09 27 15.7	-0.3
LRMC	Laurel Mtn Rad	0.17	210			Pg	09 27 12.0	-0.3
LRMC						Sg	09 27 14.7	-0.5
LRMC	Laurel Mtn Rad	0.17	210	IAML			09 27 14.9	
	comp=N,48μm,0.3s							
LRMC				IAML			09 27 15.5	
	comp=E,35μm,0.3s							
CLC	China Lake	0.19	355			Pg	09 27 11.1	-1.4
CCCA	Chr Cany lake	0.20	121			Pg	09 27 13.1	+0.3
TOW	Tower One	0.23	320			Pg	09 27 13.8	+0.5
WNMM	Nine Mile Cany	0.34	309			Pg	09 27 15.3	+0.2
WNMM						Sg	09 27 20.3	+0.5
DTP	Desert Tortois	0.42	211			Pg	09 27 16.1	-0.5
DTP						Sg	09 27 21.9	-0.5
WRVM	Rose V. Centra	0.46	326			Pg	09 27 17.4	+0.1
MFS	McCloud Flat S	0.54	335			Pg	09 27 18.8	0.0
MFS						Sg	09 27 26.2	+0.2
WORM	Onyx Ranch	0.55	277			Pg	09 27 18.5	-0.4
WORM						Sg	09 27 25.8	-0.4
CCAC	Calif City Air	0.60	217			Pg	09 27 19.4	-0.4
CCAC				IAML			09 27 28.1	
	comp=E,4μm,0.3s							
CCAC				IAML			09 27 28.2	
	comp=N,3μm,0.4s							
CCAC	Calif City Air	0.60	217			Sg	09 27 27.6	-0.1
WHFM	Hanning Flat	0.63	276			Pg	09 27 20.1	-0.5
WHFM						Sg	09 27 28.5	-0.4
QSM	Queen of Sheba	0.67	60			Pg	09 27 21.0	-0.2
QSM						Sg	09 27 29.9	-0.1
QSM				IAML			09 27 31.1	
	comp=E,4μm,0.5s							
QSM				IAML			09 27 32.9	
	comp=N,5μm,0.7s							
GSC	Goldstone, Bar	0.71	117			Pg	09 27 21.6	-0.4
GSC				IAML			09 27 32.0	
	comp=E,2μm,0.5s							
GSC	Goldstone, Bar	0.71	117			Sg	09 27 31.4	0.0
ISA	Isabella, Lake	0.73	273			Pg	09 27 19.1	-3.3
HYS	Haystack Butte	0.76	180			Pg	09 27 22.3	-0.7
WASM	Alta Sierra Ca	0.81	278			Pg	09 27 20.7	-3.1
WASM						Sg	09 27 34.1	-0.4
EDW2	Edwards Air Fo	0.82	205			Pg	09 27 23.2	-0.9
CWC	Cottonwood Cre	0.91	333			Pb	09 27 25.9	+0.2
TPO	Tropico Hills	0.92	216			Pb	09 27 25.3	-0.6
TPO						Sb	09 27 37.9	-0.1
GWY	Greenwater Val	0.92	53			Pb	09 27 26.1	+0.1
GWY						Sb	09 27 38.0	-0.2
GWY				IAML			09 27 40.8	
	comp=E,2μm,0.4s							
GWY				IAML			09 27 40.9	
	comp=N,2μm,0.4s							
CGO	Cerro Gordo	0.94	349			Pg	09 27 27.0	+0.7
SBB	Saddle Back Bu	0.96	192			Sg	09 27 39.5	+0.2
TEJ	El Tejon	0.99	247			Pn	09 27 30.8	+3.1
FURC	Furnace Creek,	1.02	34			Sn	09 27 42.0	-0.1
ADO	Adelanto Recei	1.08	174			Sn	09 27 44.6	+0.8
VTV	Victorville	1.09	169			Pn	09 27 29.2	+0.2
VTV						Sg	09 27 43.5	+0.2
SHOC	Shoshone, Teco	1.09	75			Pb	09 27 29.0	+0.2
ALPC	Antelope	1.11	212			Sg	09 27 44.3	+0.2
SPG2	Springville 2	1.12	301			Pb	09 27 26.8	-2.5
SPG2						Sb	09 27 43.4	-0.4
TJR	Tejon Ranch	1.13	238			Pb	09 27 28.5	-0.9
TJR						Sb	09 27 43.4	-0.5
MAGC	SCE Magundon P	1.13	257			Pb	09 27 29.3	+0.2
ARVC	Arvin	1.14	244			Pg	09 27 30.4	+0.3
THC	Tehachapi Micr	1.14	231			Pb	09 27 29.2	-0.6
LEOC	Leona Valley	1.16	211			Pn	09 27 30.2	+0.1
LRRC	Littlerock Res	1.16	199			Pn	09 27 30.1	+0.1
HOLC	Holcomb Ridge	1.19	191			Sg	09 27 46.9	+0.3
CJV	Casa Juvan	1.19	203			Pg	09 27 31.3	+0.2
JNH	Juniper Hills	1.22	195			Pg	09 27 31.6	0.0
JNH						Sg	09 27 47.9	+0.3
VES	Vestal, Richgr	1.25	280			Pb	09 27 31.6	+0.2
VES						Sn	09 27 47.8	0.0
BAKC	Calstate	1.28	258			Pb	09 27 32.0	0.0
HEC	Hector,Ludlow	1.29	128			Pn	09 27 31.0	-0.9
DSCC	Desert Studies	1.30	112			Pn	09 27 30.6	-1.3
AMDNV	Amargosa	1.33	52			Pb	09 27 33.3	+0.3
CHFC	Chilao Flat St	1.34	196			Pb	09 27 33.8	+0.6
TUQ	Turquoise Moun	1.36	98			Pn	09 27 32.2	-0.7
GRAC	Grapevine Rang	1.37	7			Pg	09 27 34.5	-0.1
GRAC				IAML			09 27 57.8	
	comp=E,638nm,0.6s							
GRAC				IAML			09 27 59.3	
	comp=N,621nm,0.7s							
BFSC	Mount Baldy Ra	1.39	183			Pn	09 27 33.6	+0.3
WCT	Wildcat Mounta	1.39	33			Pb	09 27 34.6	+0.6
WCT				IAML			09 27 54.6	
	comp=E,493nm,0.6s							
SGV	South Grapevin	1.42	18			Pn	09 27 33.3	-0.4
SSK	Sunset Peak	1.42	184			Pb	09 27 34.4	-0.1
SIL	Silver Peak	1.42	154			Pb	09 27 34.5	0.0
PDE	Pardee, Santa	1.44	215			Pg	09 27 36.1	+0.2
MWC	Mount Wilson	1.46	196			Pb	09 27 35.6	+0.5
MWC	Mount Wilson	1.46	196			Pn	09 27 34.3	+0.1
MWC				IAML			09 27 55.2	
	comp=E,530nm,0.2s							
MWC				IAML			09 27 56.0	
	comp=N,958nm,0.5s							
BBRC	Big Bear Solar	1.47	158			Pb	09 27 35.4	+0.1
DECC	Green Verdugo	1.51	205			Pb	09 27 36.5	+0.6
TIN	Tinemaha, Big	1.52	340			Pg	09 27 37.1	-0.2
PASC	Pasadena Art C	1.54	199			Pn	09 27 35.1	-0.1
PASC				IAML			09 28 00.9	
	comp=E,495nm,0.5s							
PSRC	Puddingstone R	1.55	187			Pb	09 27 36.8	+0.2
SVD	Seven Oaks Dam	1.57	165			Pb	09 27 37.2	+0.2
LCH	Last Change Ra	1.60	358			Pn	09 27 36.3	+0.1
VOG	Valley Oaks Go	1.62	296			Pg	09 27 39.1	-0.1
MLSC	Mira Loma	1.62	180			Pb	09 27 38.4	+0.5
GVRC	Garvey Reservo	1.64	196			Pg	09 27 39.2	-0.4
RVR	Riverside	1.64	174			Pb	09 27 38.8	+0.6
BLCC	Black Canyon	1.65	213			Pb	09 27 38.1	-0.3
BCW	Bitter Crk WRg	1.65	246			Pb	09 27 37.9	-0.6
BCW				IAML			09 28 11.8	
	comp=N,337nm,0.6s							
MTPC	Mountain Pass	1.66	94			Pn	09 27 36.1	-0.9
RHC	Rose Hills Cem	1.66	193			Pg	09 27 40.3	+0.2
GTM	Goat Mountain	1.67	143			Pb	09 27 39.4	+0.8
DJJ	Donna J Jenkin	1.68	206			Pb	09 27 39.4	+0.5
GMN	Gold Mountain	1.69	9			Pn	09 27 37.8	+0.3
TPNV	Topopah Spring	1.70	39			Pn	09 27 37.6	+0.1
TPNV				IAML			09 28 07.5	
	comp=N,494nm,0.6s							
TPNV				IAML			09 28 09.3	
	comp=N,324nm,0.5s							
DSP	Deep Springs	1.77	350			Pn	09 27 39.2	+0.9
GMRC	Granite Mounta	1.78	118			Pn	09 27 37.1	-1.6
CRGC	Crocker Grade	1.80	258			Pb	09 27 41.2	+0.3
MTUM	Tungsten Hills	1.90	335			Pb	09 27 43.5	+0.9
EW2	E Wide Canyon	1.94	150			Pg	09 27 44.7	-0.7
TPC	Twentynine Pal	1.97	140			Pn	09 27 40.6	-0.6
HMTC	Hemet	1.97	166			Pn	09 27 40.0	-1.2
ELS	Elsinore Mount	1.98	176			Pn	09 27 42.0	+0.6
POB	Polly Butte	2.01	164			Pg	09 27 45.9	-0.8
DGR	Domenigoni Val	2.03	167			Pb	09 27 45.8	+1.0
MURC	Murrieta	2.05	171			Pn	09 27 43.8	+1.5
DANC	Danby, Needles	2.05	118			Pn	09 27 41.1	-1.2
MZP	Montezuma Peak	2.07	4			Pn	09 27 43.4	+0.6
MZP				IAML			09 29 07.4	
	comp=E,932nm,0.9s							
MZP				IAML			09 29 07.7	
	comp=N,2μm,0.9s							
SHPR	Sheep Range	2.14	65			Pn	09 27 44.0	+0.3
PMD	Palm Desert	2.21	153	Pn		Pn	09 27 43.6	-0.8
PMD				IAML			09 28 19.1	
	comp=E,265nm,0.4s							
PFO	Pinyon Flats O	2.21	155			Pn	09 27 44.0	-0.6
PFO	Pinyon Flats O	2.21	155	Pn		Pn	09 27 43.8	-0.8
	comp=E,1.6nm,0.3s,baz=340,slow=15,SNR=6.7							
PFO				Pg		Pb	09 27 48.9	+0.9
	comp=E,13nm,0.3s,baz=337,slow=16,SNR=12							
PFO				Lg	Lg		09 28 18.0	
	comp=E,50nm,0.3s,baz=270,slow=20,SNR=19							
	comp=E,6.7nm,0.3s							
V12A	Nelson	2.22	87			Pn	09 27 44.0	-0.6
V12A				IAML			09 29 12.1	
	comp=E,448nm,0.6s							
FRD	Ford Ranch, An	2.28	159			Pn	09 27 45.2	-0.3
TPH	Tonopah	2.46	7			Pn	09 27 48.6	+0.6
NEE2	Needles Airpor	2.57	109			Pn	09 27 48.1	-1.3
NV11	Mina Array Sit	2.83	351			Pn	09 27 54.0	+0.9
NV11				IAML			09 29 19.4	
	comp=N,1μm,0.8s							
NV11				IAML			09 29 22.5	
	comp=E,776nm,0.8s							
NVAR	Mina Array Bea	2.85	348	Pn		Pn	09 27 46.3	-7.2
	comp=E,2.7nm,0.3s,baz=173,slow=17,SNR=3.1							
NVAR				Pg		Pb	09 27 54.2	-4.8
	comp=E,2.6nm,0.3s,baz=169,slow=11,SNR=3.2							
	comp=E,4.3nm,0.6s							
BLYC	Blythe	3.14	126	Pn		Pn	09 27 55.8	-1.4
BLYC				IAML			09 29 36.6	
	comp=N,548nm,0.7s							
BLYC				IAML			09 29 45.3	
	comp=E,544nm,0.6s							
Q09A	Carvers	3.21	6	Pn		Pn	09 27 59.7	+1.3
LCMT	Little Creek M	3.76	67	Pn		Pn	09 28 06.7	+0.9
LCMT				IAML			09 30 28.9	
	comp=E,452nm,1.5s							
LCMT				IAML			09 30 34.0	
	comp=N,585nm,1.1s							
ESJX	Sierra Juarez	3.86	159	Pn		Pn	09 28 07.3	0.0
KNB	Kanab	4.08	69	Pn		Pn	09 28 11.0	+0.7
Y14A	Wickenburg	4.12	113	Pn		Pn	09 28 10.2	-0.6
113A	Mohawk Valley,	4.26	131	Pn		Pn	09 28 10.4	-2.2
113A				IAML			09 30 58.2	
	comp=N,458nm,1.2s							
113A				IAML			09 31 03.6	
	comp=E,391nm,1.0s							
WUAZ	Wupatki	5.06	89	Pn		Pn	09 28 24.9	+1.2
X16A	Lo Mia Camp, P	5.18	102	Pn		Pn	09 28 25.8	+0.4
X16A				IAML			09 31 36.9	
	comp=E,321nm,1.6s							
214A	Organ Pipe Nat	5.40	131	Pn		Pn	09 28 26.5	-1.8
ELK	Elko	5.43	19	Pn		Pn	09 28 26.7	-2.1
	comp=E,0.7nm,0.3s,baz=218,slow=14,SNR=0.4							
X18A	Snowflake	6.35	98	Pn		Pn	09 28 42.7	+1.2
PDAR	Pinedale Array	9.46	39	Pn		Pn	09 29 21.6	-2.6
	comp=E,0.2nm,0.4s,baz=243,slow=15,SNR=1.9							
TXAR	Lajitas Array	13.31	114	Pn		Pn	09 30 18.2	+1.5
	comp=E,0.1nm,0.3s,baz=302,slow=15,SNR=7.9							
	comp=E,0.1nm,0.4s							

*NEIC **06** 09:28:28.3±1.4,35°.886N±0°.010×117°.72W±0°.01, h4km±3km,Error ellipse: s-maj=1.7km s-min=1.3km az=111.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=0.34; Mθθ=1.33; Mφφ 1.67; Mrθ 0.32; Mθφ 1.35; Mφr=0.19; Fault plane solution: M₀2.07000×10¹⁶ NP1:φs336.75000°,δ81.83000°,λ=169.61000°. NP2: φs245.25000°,δ79.72000°,λ=-8.30000°. Principal axes: T 2.1837, Plg1.0000°, Azm111.0000°; N -0.2515, Plg77.0000°, Azm15.0000°; P -1.9322, Plg13.0000°, Azm201.0000°;*

*PAS **06** 09:28:29.0±1.4,35°.898N±0°.010×117°.73W±0°.01, h4km±3km,Mwr4.9/6,mb4.4/47(NEIC),ML4.8/88(NEIC), Mwr4.8/160(NEIC),Mww5.0/18(NEIC) Error ellipse: s-maj=1.7km s-min=1.4km az=123.0*

*NEIC **06** 09:28:29,35°.90N×117°.73W,h12km,Moment Tensor Solution. Duration: 1§6 Moment tensor: Scale 10¹⁶Nm; Mrr0.28; Mθθ-2.80; Mφφ2.52; Mrθ0.80; Mθφ2.51; Mφr0.20; Fault plane solution: M₀3.76000×10¹⁶ NP1: φs336.80000°,δ77.62000°,λ-179.46000°. NP2: φs246.69000°,δ89.47000°,λ-12.38000°. Principal axes: T 3.5859, Plg8.0000°, Azm292.0000°; N 0.3220, Plg78.0000°, Azm64.0000°; P -3.9079, Plg9.0000°, Azm201.0000°;*

*NEIC **06** 09:28:29,35°.90N×117°.73W,h12km*

*IDC **06** 09:28:29.9±0.5,35°.92N×117°.53W,h0km,mb4.2/16, mbtmp4.1/23,ML3.9/4,MS4.1/20,Error ellipse: s-maj=11.6km s-min=5.6km az=74.0*

*NEIC **06** 09:28:29,35°.90N×117°.73W,h4km*

*GCMT **06** 09:28:32.0±0.4,35°.95N±0°.02×117°.65W±0°.02,h12km, MW5.0/86,Moment Tensor Solution. s4,c4; s86,c104; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.25±.22; Mθθ-2.86±.23; Mφφ3.12±.18; Mrθ-0.00±.66; Mθφ2.88±.19; Mφr0.25±.56; Best double couple: Mw4.15800×10¹⁶ NP1:φs67.00000°,δ87.00000°,λ1.00000°. NP2: φs337.00000°,δ89.00000°,λ177.00000°. Principal axes: T 4.2930, Plg3.0000°, Azm292.0000°; N -0.2630, Plg87.0000°, Azm138.0000°; P -4.0240, Plg1.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 09:28:30.0±0.4,35°.88N±0°.02×117°.72W±0°.02,h10km, n428,σ1§11/424,mb4.4/32,MS4.2/14,Central California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TOW	Tower One	0.08	210			Pg	09 28 31.5	-0.9
WVPM	Volcano Peak E	0.11	311			Pg	09 28 31.1	-1.7
CLC	China Lake	0.11	123			Pg	09 28 31.7	-1.1
WCSM	Coso Springs S	0.15	344			Pg	09 28 31.7	-1.7
WNMM	Nine Mile Cany	0.16	257			Pg	09 28 32.2	-1.2
WNMM						Sg	09 28 34.8	-1.0
SRTC	Snort	0.19	188			Pg	09 28 33.4	-0.5
SRTC						Sg	09 28 37.4	+0.7
WRVM	Rose V. Centra	0.19	312			Pg	09 28 32.5	-1.6
MPMC	Manual Prospec	0.26	46			Pg	09 28 33.9	-1.4
MPMC						Sg	09 28 37.7	-1.1
MFS	McCloud Flat S	0.26	335			Pg	09 28 33.8	-1.6
MFS						Sg	09 28 37.5	-1.5
LRMC	Laurel Mtn Rad	0.40	176			Pg	09 28 36.9	-1.0
LRMC						Sb	09 28 43.4	-2.0
LRMC				IAML			09 28 44.5	
	comp=N,144μm,0.4s							
CCCA	Chr Cany lake	0.45	141			Pb	09 28 38.5	-1.5
CCCA						Sb	09 28 45.4	-1.5
WORM	Onyx Ranch	0.47	247			Pg	09 28 37.7	-1.4
WORM						Sg	09 28 44.1	-1.1
WBSM	Bird Springs	0.48	225			Pg	09 28 38.3	-1.1
WBSM						Sg	09 28 45.3	-0.6
WHFM	Hanning Flat	0.55	251			Pg	09 28 39.2	-1.4
WHFM						Sg	09 28 46.7	-1.1
DTP	Desert Tortois	0.62	190			Pg	09 28 40.8	-1.2
DTP						Sg	09 28 49.6	-0.5
CWC	Cottonwood Cre	0.63	332			Pg	09 28 40.6	-1.7
ISA	Isabella, Lake	0.65	251			Pg	09 28 41.4	-1.2
ISA	Isabella, Lake	0.65	251			Sg	09 28 50.1	-1.1
ISA	Isabella, Lake	0.65	251	IAML			09 28 50.8	
	comp=N,69μm,0.6s							
ISA				IAML			09 28 50.8	
	comp=E,47μm,0.6s							
CGO	Cerro Gordo	0.67	354			Pg	09 28 41.2	-1.9
QSM	Queen of Sheba	0.69	83			Pg	09 28 42.3	-1.1
QSM						Sg	09 28 51.5	-0.9
QSM				IAML			09 28 53.1	
	comp=N,64μm,0.6s							
QSM				IAML			09 28 55.5	
	comp=E,68μm,0.7s							
WASM	Alta Sierra Ca	0.70	259			Pg	09 28 42.1	-1.4
WASM						Sg	09 28 51.5	-1.1
CCAC	Calif City Air	0.77	199	Pg		Pg	09 28 43.5	-1.2
CCAC				IAML			09 28 58.7	
	comp=E,31μm,0.7s							
GWY	Greenwater Val	0.90	70			Pb	09 28 46.5	-1.4
GWY				IAML			09 29 00.6	
	comp=N,31μm,1.5s							
GWY				IAML			09 29 05.8	
	comp=E,34μm,0.7s							
FURC	Furnace Creek,	0.91	49			Pb	09 28 46.4	-1.4
SPG2	Springville 2	0.91	291			Pg	09 28 45.4	-2.1
GSC	Goldstone, Bar	0.94

TUQ **Turquoise Moun** 1.52 106 Pn 09 28 55.8 -1.6
HEC **Hector,Ludlow** 1.54 132 Pn 09 28 56.0 -1.5
BHPR **Bishop** 1.55 337 Pn 09 28 57.0 -0.8
POCCA **Poleta Canyon** 1.55 343 Pb 09 28 57.5 -1.4
CHFC **Chilao Flat St** 1.56 189 Pn 09 28 56.6 -1.3
MPI **Mount Pinos, F** 1.58 228 Pn 09 28 56.9 -1.4
TPNV **Topopah Spring** 1.59 47 Pb 09 28 57.7 -1.9
TPNV IAML 09 29 22.7
comp=N,12µm,0.8s
TPNV IAML 09 29 22.9
comp=N,11µm,0.7s
PDE **Pardee, Santa** 1.60 207 Pn 09 28 57.7 -0.6
MTUM **Tungsten Hills** 1.62 335 Pb 09 28 58.8 -1.4
BFSC **Mount Baldy Ra** 1.64 178 Pn 09 28 57.5 -1.4
SSK **Sunset Peak** 1.66 179 Pn 09 28 58.7 -0.6
BCW **Bitter Crk WRg** 1.67 236 Pn 09 28 58.6 -0.9
BCW **Bitter Crk WRg** 1.67 236 Pn Pn 09 28 58.9 -0.5
BCW IAML 09 29 37.3
comp=N,18µm,0.9s
BCW IAML 09 29 37.6
comp=E,22µm,0.9s
MWC **Mount Wilson** 1.68 190 Pn 09 28 58.6 -0.9
MWC **Mount Wilson** 1.68 190 IAML 09 29 24.8
comp=N,8µm,0.5s
MWC IAML 09 29 25.5
comp=E,10µm,0.5s
SIL **Silver Peak** 1.69 154 Pn 09 28 57.1 -2.6
DECC **Green Verdugo** 1.70 198 Pn 09 28 58.8 -0.9
BBRC **Big Bear Solar** 1.74 158 Pn 09 28 58.4 -2.1
PASC **Pasadena Art C** 1.75 193 Pn 09 28 59.7 -0.6
CRGC **Crocker Grade** 1.76 249 Pn 09 28 55.8 -4.8
CACC **Caltech Cellar** 1.77 191 Pn 09 29 00.1 -0.5
HLLC **North Hollywoo** 1.78 197 Pn 09 29 00.1 -0.6
PSRC **Puddingstone R** 1.78 182 Pn 09 29 00.3 -0.5
MTPC **Mountain Pass** 1.80 102 Pn 09 28 59.2 -2.0
CFSC **Central Fire S** 1.80 169 Pn 09 29 00.6 -0.6
CLTC **Calectric** 1.81 169 Pb 09 29 01.2 -2.0
CARC **Carrizo Plain** 1.83 252 Pn 09 28 59.1 -2.4
MZP **Montezuma Peak** 1.84 8 Pn 09 29 01.5 -0.4
KCC **Kaiser Creek** 1.94 319 Pn 09 29 02.8 -0.2
FRI **Friant** 1.95 305 Pn 09 29 02.5 -0.7
BENR **Benton** 1.96 340 Pn 09 29 02.9 -0.6
MLAC **Mammoth, Mammo** 1.97 333 Pb 09 29 05.2 -0.9
BLAC **Blackrock camp** 2.11 149 Pn 09 29 04.4 -1.0
SHPR **Sheep Range** 2.16 72 Pn 09 29 06.1 -0.1
TPH **Tonopah** 2.23 10 Pn 09 29 06.7 -0.5
ELS **Elsinore Mount** 2.24 174 Pn 09 29 06.5 -0.6
ELS IAML 09 29 46.7
comp=E,5µm,1.3s
ELS IAML 09 29 47.0
comp=N,4µm,0.7s
V12A **Nelson** 2.33 93 Pn 09 29 07.6 -0.9
V12A IAML 09 29 45.8
comp=N,5µm,1.0s
S11A **Rachel** 2.37 41 Pn 09 29 08.5 -0.5
LHV **Little Huntoon** 2.45 345 Pn 09 29 10.4 +0.4
LHV IAML 09 30 02.0
comp=E,5µm,1.1s
LHV IAML 09 30 09.0
comp=N,4µm,1.3s
PMD **Palm Desert** 2.48 153 Pn Pn 09 29 09.5 -0.9
PMD IAML 09 29 53.3
comp=E,4µm,1.6s
PMD IAML 09 29 56.9
comp=N,3µm,1.0s
PFO **Pinyon Flats O** 2.49 155 Pn 09 29 09.9 -0.8
PFO IAML 09 29 53.8
comp=N,6µm,1.5s
PFO **Pinyon Flats O** 2.49 155 Pn Pn 09 29 09.8 -0.8
comp=N,51nm,0.3s,baz=335,slow=17,SNR=16
PFO Pg Pg 09 29 15.4 -2.2
comp=N,155nm,0.3s,baz=334,slow=16,SNR=20
PFO Lg Lg 09 29 49.0
comp=N,363nm,0.3s,baz=252,slow=19,SNR=5.5
I57US **PINON FLAT INF** 2.49 155 Pn Pb 09 29 12.8 -2.1
baz=341,slow=32
I57US I I 09 46 10.0
baz=334,slow=313,SNR=0.9
NV11 **Mina Array Sit** 2.57 352 Pn 09 29 11.5 -0.3
NVAR **Mina Array Bea** 2.59 350 Pn 09 29 12.2 0.0
NVAR **Mina Array Bea** 2.59 350 Pn Pn 09 29 11.6 -0.5
comp=N,194nm,0.7s,baz=172,slow=12,SNR=49
NVAR Pg Pb 09 29 16.5 -0.1
comp=N,379nm,0.3s,baz=172,slow=16,SNR=70
NVAR LR LR 09 29 48.1
comp=N,830nm,19.1s,baz=341,slow=31
PRN **Pahroc Range** 2.63 54 Pn 09 29 12.1 -0.5
PRN IAML 09 29 57.6
comp=N,6µm,0.7s
PRN IAML 09 30 07.8
comp=E,5µm,0.6s
BBGB **Big Mountain B** 2.78 286 Pn 09 29 15.6 +1.0
RYN **Ryan** 2.82 347 Pn 09 29 15.1 -0.2
Q09A **Carvers** 2.98 8 Pn 09 29 19.4 +0.4
W13A **Hualapai Mount** 3.22 103 Pn 09 29 19.7 -1.1
BLYC **Blythe** 3.38 128 Pn 09 29 21.0 -1.8
BLYC IAML 09 30 20.3
comp=E,2µm,1.4s
BLYC IAML 09 30 21.9
comp=N,2µm,0.7s
TJX **Tijuana** 3.41 171 Pn Pn 09 29 23.4 +0.3
TKX **Tecate** 3.43 164 Pn 09 29 22.9 -0.6
TKX IAML 09 30 18.9
comp=N,2µm,0.4s
TKX IAML 09 30 18.9
comp=E,2µm,1.0s
CBX **Cerro Bola** 3.66 166 Pn 09 29 26.9 +0.2
GLA **Glamis** 3.69 139 Pn 09 29 25.2 -1.9
GLA IAML 09 30 48.6
comp=N,2µm,0.9s
CCX **Cicese** 4.09 167 Pn 09 29 32.9 +0.3
Y14A **Wickenburg** 4.33 115 Pn Pn 09 29 34.7 -1.2
Y14A IAML 09 31 40.4
comp=N,1µm,1.1s
Y14A IAML 09 32 06.4
comp=E,917nm,1.1s
ELK **Elko** 5.23 21 Pn Pn 09 29 48.6 +0.1
comp=E,8.3nm,0.3s,baz=207,slow=13,SNR=25
ELK Lg Lg 09 31 14.6
comp=E,43nm,0.3s,baz=259,slow=19,SNR=5.4
comp=E,18nm,0.3s
X16A **Lo Mia Camp, P** 5.34 104 Pn 09 29 50.1 +0.1
X16A IAML 09 31 53.8
comp=N,338nm,2.4s
X16A IAML 09 32 31.8
comp=E,343nm,1.4s
214A **Organ Pipe Nat** 5.65 132 Pn 09 29 52.0 -2.1
X18A **Snowflake** 6.50 100 Pn 09 30 06.8 +0.9
TUC **Tucson** 6.76 120 Pn 09 30 08.1 -1.2
YBH **Yreka Blue Hor** 7.03 328 Pn Pn 09 30 18.3 +5.4
baz=164,slow=9.2,SNR=17
YBH Lg Lg 09 32 06.9
comp=E,0.1nm,0.3s,baz=143,slow=5.1,SNR=5.1
YBH LR LR 09 32 39.9
comp=E,131nm,18.3s,baz=150,slow=35
DUN6 **Lazy B Ranch** 7.88 112 Pn 09 30 24.4 -0.3
319A **Douglas** 8.34 120 Pn 09 30 30.7 -0.4
HSIG 8.91 138 Pn 09 30 37.9 -0.8
ANMO **Albuquerque** 9.24 93 Pn Pn 09 30 44.1 +0.7
comp=E,0.4nm,0.3s,baz=311,slow=9.4,SNR=7.3
ANMO Lg Lg 09 33 14.7
comp=E,2.3nm,0.3s,baz=270,slow=18,SNR=7.5
comp=E,2.1nm,0.5s
PDAR **Pinedale Array** 9.34 40 Pn Pn 09 30 46.9 +2.1
comp=E,0.3nm,0.3s,baz=232,slow=11,SNR=19
PDAR Lg Lg 09 33 19.0
comp=E,1.0nm,0.3s,baz=242,slow=20,SNR=4.4
PDAR LR LR 09 34 20.0
comp=E,508nm,21.2s,baz=220,slow=38
comp=E,7.3nm,0.9s
E03A **Lebam** 11.53 339 Pn Pn 09 31 13.2 -1.3
NEW **Newport** 12.38 2 Pn 09 31 25.6 -0.7
NEW **Newport** 12.38 2 Pn Pn 09 31 30.3 +4.0
comp=E,0.1nm,0.3s,baz=183,slow=16,SNR=6.6
NEW Lg Lg 09 35 00.2
comp=E,0.1nm,0.3s,baz=198,slow=3.2,SNR=3.0
NEW LR LR 09 37 01.6
comp=E,1µm,18.9s,baz=184,slow=42
comp=E,3.1nm,0.8s
MSTX **Muleshoe** 12.41 94 Pn 09 31 26.1 -0.7
B08A **Colville Reser** 12.53 355 Pn 09 31 27.8 -0.4
LPIG **La Paz** 13.37 149 Lg Lg 09 35 34.9
comp=E,3.1nm,0.3s,baz=288,slow=3.2,SNR=1.5
LPIG LR LR 09 36 32.3
comp=E,1µm,19.0s,baz=20,slow=36

TXAR **Lajitas Array** 13.52 115 Pn 09 31 41.1 -0.7
TXAR **Lajitas Array** 13.52 115 Pn Pn 09 31 43.1 +1.2
comp=E,2.5nm,0.5s,baz=301,slow=14,SNR=81
TXAR Lg Lg 09 35 34.2
comp=E,0.1nm,0.3s,baz=289,slow=32,SNR=5.3
TXAR LR LR 09 36 48.3
comp=E,434nm,21.8s,baz=290,slow=37
POST **Post** 13.67 97 Pn 09 31 42.1 -1.8
LAO **LASA Array** 13.81 35 Pn 09 31 45.1 -0.7
SN05 **Snyder 5** 14.22 97 Pn 09 31 51.0 -0.5
CBB **Canpbell River** 15.20 341 Pn 09 32 04.2 -0.4
ABTX **Abilene, Hawle** 15.29 97 Pn Pn 09 32 04.0 -1.9
ABTX IAmb IAmb 09 32 12.4
comp=E,26nm,1.5s
KAN14 **Manchester OK** 15.94 80 Pn Pn 09 32 13.7 -0.6
KAN14 IAmb IAmb 09 32 20.4
comp=E,26nm,1.4s
WTFS **Witchita Falls** 15.95 92 Pn 09 32 13.7 -0.8
WTFS IAmb IAmb 09 32 21.1
comp=E,20nm,0.9s
DGMT **Dagmar** 16.05 34 Pn 09 32 14.6 -1.1
BRDY **Brady** 16.25 101 Pn 09 32 17.9 -0.5
OK029 **Liberty Lake** 16.43 84 Pn Pn 09 32 19.0 -1.6
OK029 IAmb IAmb 09 32 26.4
comp=E,49nm,1.6s
FW03 **Perrin-Whitt E** 16.45 94 Pn Pn 09 32 19.6 -1.4
FW03 IAmb IAmb 09 32 26.2
comp=E,20nm,0.9s
E28A **Huff** 16.64 45 Pn 09 32 22.5 -0.7
E28A IAmb IAmb 09 32 27.5
comp=E,28nm,1.2s
FW06 **Azle** 16.88 94 Pn 09 32 24.6 -1.8
FW06 IAmb IAmb 09 32 30.3
comp=E,36nm,1.1s
BBB **Bella Bella** 17.90 339 LR LR 09 40 04.5
comp=Z,966nm,18.6s,baz=155,slow=39
MDND **Maddock** 17.98 43 P Pn 09 32 37.7 -2.2
ECSD **EROS Data Cent** 17.98 58 P 09 32 38.9 -1.6
N35A **Tabor** 17.99 67 P Pn 09 32 38.8 -1.4
Z38A **Mt. Pleasant** 18.89 91 P P 09 32 49.4 -1.2
WLAR **White Oak Lake** 20.32 89 P P 09 33 05.7 -0.4
AGMN **Agassiz Nation** 20.34 46 P 09 33 05.5 -0.8
WHAR **Wooly Hollow** 20.68 84 P 09 33 09.0 -1.0
WHAR IAmb IAmb 09 33 17.5
comp=E,15nm,0.9s
UALR **University of** 20.72 86 P P 09 33 09.5 -1.0
ULM **Lac du Bonnet** 21.36 41 P 09 33 15.8 -1.4
ULM IAmb IAmb 09 33 31.8
comp=E,11nm,0.8s
ULM **Lac du Bonnet** 21.36 41 P P 09 33 16.9 -0.3
comp=E,5.2nm,0.7s,baz=236,slow=12,SNR=9.6
ULM Lg Lg 09 39 44.3
comp=E,0.1nm,0.3s,baz=229,slow=20,SNR=1.8
comp=E,5.2nm,0.7s
V35K **Ketchikan** 21.67 338 P P 09 33 20.3 -0.2
baz=148
FFC **Flin Flon** 21.76 25 P 09 33 20.2 -1.3
EPLO **Experimental L** 22.24 44 P 09 33 26.0 -0.8
JFWS **Jewell Farm** 22.30 63 P P 09 33 26.2 -1.2
JFWS IAmb IAmb 09 33 47.0
comp=E,12nm,0.8s
E38A **The Farm, Brul** 22.30 53 P 09 33 26.6 -0.8
E38A IAmb IAmb 09 33 38.6
comp=E,13nm,0.8s
PARMO **Parma** 22.53 80 P P 09 33 29.1 -0.9
T35M **Bob Quinn** 22.73 342 P P 09 33 32.3 +0.3
baz=153
U33K **Whale Pass** 22.79 337 P P 09 33 32.3 -0.2
baz=146
WRAK **Wrangell Islan** 22.82 339 P P 09 33 33.4 +0.7
baz=148
I42A **Draeger Farm,** 23.42 61 P 09 33 39.5 +0.4
I42A IAmb IAmb 09 33 47.7
comp=E,11nm,0.9s
TOAD **Toad River Com** 23.51 350 P P 09 33 40.7 +0.8
baz=165,SNR=8.3
S34M **Telegraph Cree** 23.78 342 P P 09 33 43.7 +1.2
baz=152
DLBC **Dease Lake** 23.99 344 LR LR 09 43 54.3
comp=Z,147nm,21.1s,baz=139,slow=38
DLBC **Dease Lake** 23.99 344 P P 09 33 45.3 +0.7
baz=155
PLAL **Pickwick Lake** 24.13 83 P 09 33 45.8 -0.2
PLAL IAmb IAmb 09 33 54.3
comp=Z,9.9nm,1.0s
LIRD **Liard River Hi** 24.17 350 P P 09 33 47.3 +1.1
baz=163
SIT **Sitka** 24.27 336 P P 09 33 47.4 +0.4
baz=143
S32K **Killisnoo** 24.37 338 P P 09 33 49.0 +1.0
baz=145
KOTAN **Kotaneelee Air** 24.61 352 P P 09 33 51.0 +0.8
baz=168
Q32M **Nakina River** 24.99 342 P P 09 33 53.9 +0.1
baz=151
R32K **Eaglecrest** 25.02 339 P P 09 33 54.3 +0.5
baz=146
X48A **Hartselle** 25.07 84 P P 09 33 52.9 -1.6
X48A IAmb IAmb 09 33 58.9
comp=Z,5.8nm,0.8s
R33M **Jennings River** 25.07 344 P P 09 33 54.4 -0.1
baz=154
WCI **Wyandotte Cave** 25.13 75 P P 09 33 55.3 +0.2
WCI IAmb IAmb 09 34 18.7
comp=Z,7.4nm,0.9s
S31K **Pelican** 25.29 337 P P 09 33 56.6 +0.3
baz=143
P32M **Atlin** 25.91 341 P P 09 34 01.6 -0.4
baz=149
P33M **Teslin, Yukon** 26.23 343 P P 09 34 05.0 +0.1
baz=151
SKAG **Skagway** 26.24 340 P P 09 34 04.3 -0.5
SKAG IAmb IAmb 09 34 31.2
comp=E,16nm,1.7s
SKAG **Skagway** 26.24 340 P P 09 34 05.1 +0.2
baz=146
PLBC **Pleasant Camp** 26.54 339 P P 09 34 08.3 +0.7
baz=144
YKAW1 **Yellowknife Wh** 26.70 3 P 09 34 10.0 +1.0
YKAW1 IAmb IAmb 09 34 17.1
comp=Z,15nm,1.0s
YKA **Yellowknife Ar** 26.71 3 P P 09 34 08.7 -0.4
comp=Z,1.5nm,0.7s,baz=188,slow=8.9,SNR=18
YKA Lg Lg 09 42 40.3
baz=189,slow=16,SNR=2.2
YKA LR LR 09 46 06.3
comp=Z,505nm,18.2s,baz=194,slow=40
comp=Z,1.5nm,0.7s
YKAW3 **Yellowknife Wh** 26.78 3 P 09 34 12.6 +2.9
YKAW3 IAmb IAmb 09 34 17.9
comp=Z,6.1nm,1.1s
P30M **Million Dollar** 27.25 339 P P 09 34 14.5 +0.4
baz=144
S51A **Beattyville** 27.31 76 P P 09 34 18.1 +3.3
S51A IAmb IAmb 09 34 23.7
comp=Z,8.2nm,0.9s
TKL **Tuckaleechee C** 27.46 80 LR LR 09 45 32.2
comp=Z,721nm,18.3s,baz=278,slow=37
O30N **Mendenhall** 27.55 340 P P 09 34 17.2 +0.5
baz=146
CMIG **Matias Romero** 27.59 127 LR LR 09 45 05.1
comp=Z,805nm,19.6s,baz=272,slow=36
WRGLY **Wrigley** 27.61 354 P P 09 34 18.2 +1.0
WRGLY **Wrigley** 27.61 354 P P 09 34 18.4 +1.3
baz=170
HYT **Haines Junctio** 27.98 339 P P 09 34 20.4 -0.4
baz=144
MMPY **Sheldon Lake,** 28.07 347 P P 09 34 21.8 +0.4
baz=156
N31M **Braeburn, Yuko** 28.07 342 P P 09 34 20.9 -0.4
baz=148
FARO **Faro, Yukon** 28.14 344 P P 09 34 22.4 +0.4
baz=152
PINM **Pinnacle** 28.26 336 P P 09 34 23.5 +0.3
baz=139
M31M **Drury Creek, Y** 28.34 344 P P 09 34 24.4 +0.6
baz=151
N30M **Aishikik Lake** 28.39 340 P P 09 34 24.6 +0.3
baz=146
YUK4 **Talbot Arm** 28.73 339 P P 09 34 28.3 +0.8
baz=143
O28M **Mount Upton** 28.75 337 P P 09 34 28.0 +0.2
baz=140
M30M **Minto, Yukon** 29.25 342 P P 09 34 32.6 +0.7
baz=147
CTG **Chitna Glacier** 29.27 336 P P 09 34 32.9 +0.7
baz=138
M29M **Somme Creek** 29.57 340 P P 09 34 35.9 +1.1
baz=144
L29M **L29M** 30.03 342 P P 09 34 39.3 +0.5
baz=146
MCARA **McCarthy VSAT** 30.13 336 P P 09 34 39.7 0.0
baz=136
BVCY **Beaver Creek** 30.23 339 P P 09 34 41.3 +0.8
baz=141
BMRM **Bremner River** 30.38 334 P P 09 34 41.7 -0.2
baz=134
M27K **Edge Creek, AK** 30.49 338 P P 09 34 43.9 +0.9
baz=139
K29M **Barlow Dome** 30.49 343 P P 09 34 43.9 +1.0
baz=147
EYAK **Cordova Ski Ar** 30.51 333 P P 09 34 43.7 +0.7
baz=131
P23K **Montague Islan** 30.79 331 P P 09 34 45.8 +0.3
baz=128
N25K **Chitina, Valde** 30.82 335 P P 09 34 46.7 +0.8
baz=134
J30M **Hart River** 30.84 344 P P 09 34 46.0 -0.1
baz=150
M26K **Nabesna, AK** 30.87 337 P P 09 34 46.7 +0.5
baz=138
L27K **Beaver Creek,** 31.01 339 P P 09 34 48.0 +0.5
baz=140
DAWY **Dawson** 31.14 342 P P 09 34 49.1 +0.6
baz=145
GLI **Glacier Island** 31.23 332 P P 09 34 49.4 +0.1
baz=130
I30M **Mount Dempster** 31.42 345 P P 09 34 51.2 +0.1
baz=150
L26K **Log Cabin Wild** 31.44 338 P P 09 34 51.4 +0.2
baz=138
H31M **Peel River** 31.53 347 P P 09 34 52.5 +0.5
baz=154
HARP **HAARP** 31.57 336 P P 09 34 52.2 -0.2
baz=134
SEW **Seward** 31.68 330 P P 09 34 54.0 +0.7
baz=126
PWL **Port Wells** 31.69 332 P P 09 34 53.4 0.0
baz=128
KDAK **Kodiak Island** 31.83 324 LR LR 09 46 31.3
comp=Z,555nm,18.9s,baz=108,slow=34
KDAK **Kodiak Island** 31.83 324 P P 09 34 53.7 -0.9
baz=118
K27K **Chicken** 31.83 340 P P 09 34 53.9 -0.7
baz=141
OHAK **Old Harbor** 31.91 323 P P 09 34 54.6 -0.7
baz=117
SCM **Sheep Creek Mo** 31.94 334 P P 09 34 55.4 -0.3
baz=131
I29M **Ogilvie Camp,** 31.96 344 P P 09 34 56.6 +0.9
baz=147
O22K **Cooper Landing** 32.01 330 P P 09 34 57.4 +1.2
baz=126
M23K **Glacier View** 32.05 333 P P 09 34 57.8 +1.1
baz=130
SII **Sitkinak Islan** 32.06 322 P P 09 34 57.3 +0.6
baz=115
PAX **Paxson** 32.07 336 P P 09 34 57.9 +1.1
baz=135
SCRK **Sand Creek** 32.34 339 P 09 35 01.3 +2.1
SCRK IAmb IAmb 09 36 00.3
comp=Z,5.9nm,1.2s
SCRK **Sand Creek** 32.34 339 P P 09 35 00.5 +1.3
baz=138,SNR=8.5
HOM **Homer** 32.35 328 P P 09 35 00.2 +1.0
baz=122
RC01 **Rabbit Creek A** 32.38 331 P P 09 35 01.4 +1.9
baz=126
I28M **Miner Creek** 32.41 343 P P 09 35 01.0 +1.2
baz=145
RIDG **Independent Ri** 32.43 338 P P 09 35 01.4 +1.5
baz=136
PMR **Palmer** 32.45 332 P P 09 35 01.5 +1.5
baz=128
EPYK **Eagle Plains** 32.49 346 P P 09 35 02.2 +1.8
baz=150
CHIR **Chirikof Islan** 32.51 320 P P 09 35 02.1 +1.4
baz=112
G31M **Satah River** 32.53 348 P P 09 35 01.7 +1.0
baz=154
WAT6 **Susitna Watana** 32.57 335 P P 09 35 02.0 +0.6
baz=131
J26L **Joseph Creek** 32.61 340 P P 09 35 03.0 +1.4
baz=139
R18K **Karluk** 32.62 323 P P 09 35 01.6 +0.1
baz=116
H29M **Whitestone** 32.70 345 P P 09 35 02.5 +0.3
baz=148
Q19K **Cape Douglas,** 32.87 326 P P 09 35 04.4 +0.7
baz=119
F31M **Tsiigehtchic** 32.92 349 P P 09 35 05.5 +1.4
baz=156
G30M **tAoh Zraii Nji** 32.93 347 P P 09 35 05.9 +1.7
baz=152
I27K **Kandik River** 32.95 342 P P 09 35 05.1 +0.7
baz=143
SUA **Susitna One** 32.99 331 P P 09 35 04.9 -0.1
baz=126
O20K **Slope Mountain** 32.99 328 P P 09 35 05.0 +0.1
baz=121
WAT1 **Susitna Watana** 33.02 334 P P 09 35 05.0 0.0
baz=130
P19K **Oil Pt** 33.04 327 P P 09 35 05.7 +0.5
baz=120
I26K **Coal Creek Min** 33.11 341 P P 09 35 07.0 +1.2
baz=140
J25K **Salcha River,** 33.22 339 P P 09 35 07.9 +1.1
baz=137
G29M **Pine Creek** 33.22 346 P P 09 35 07.6 +0.9
baz=149
Q18K **Katmai Hardscr** 33.37 325 P P 09 35 09.6 +1.3
baz=117
CUT **Chulitna** 33.37 333 P P 09 35 09.4 +1.4
baz=127
F30M **Barrier River** 33.41 348 P P 09 35 09.2 +0.8
baz=153
H27K **Steamboat Moun** 33.43 343 P P 09 35 09.3 +0.7
baz=144
R17L **Mt. Peulik Vol** 33.58 323 P P 09 35 10.8 +0.7
baz=114
SKT **Skwentna** 33.60 332 P P 09 35 11.7 +1.6
baz=125
Q17K **Contact Creek** 33.61 324 P P 09 35 11.1 +0.8
baz=115,SNR=5.6
INK **Inuvik** 33.68 349 P P 09 35 11.9 +1.3
comp=Z,2.0nm,0.9s,baz=148,slow=8.0,SNR=3.2
INK LR LR 09 51 37.7
comp=Z,792nm,18.7s,baz=163,slow=41
comp=Z,2.0nm,0.9s
INK **Inuvik** 33.68 349 P P 09 35 12.1 +1.5
baz=156
O19K **Port Alsworth** 33.78 328 P P 09 35 12.5 +0.8
baz=120
ILAR **Eielson Array** 33.79 338 P P 09 35 13.4 +1.7
comp=Z,1.8nm,0.8s,baz=135,slow=7.7,SNR=14
ILAR LR LR 09 48 32.6
comp=Z,466nm,21.0s,baz=132,slow=36
comp=Z,1.8nm,0.8s
P18K **Big Mountain,** 33.80 326 P P 09 35 12.9 +1.0
baz=117
PRP **Porcupine Dome** 33.93 340 P P 09 35 13.3 +0.2
baz=137
O18K **Koktuh Hills** 34.01 327 P P 09 35 13.8 +0.1
baz=118
TRF **Thorofare Moun** 34.02 334 P P 09 35 15.0 +1.0
baz=129
CHGN **Chignik** 34.14 320 P P 09 35 15.9 +1.1
baz=109,SNR=6.0
N19K **Bonanza Creek** 34.16 328 P P 09 35 16.6 +1.5
baz=120,SNR=7.8
M20K **Styx River** 34.17 331 P P 09 35 16.5 +1.4
baz=123
POKR **Poker Plat Res** 34.20 338 P P 09 35 16.3 +1.0
baz=134
F28M **Old Crow** 34.20 345 P P 09 35 16.4 +1.2
baz=147
P17K **Kvichak River** 34.27 325 P P 09 35 15.8 -0.1
baz=116
CHNA **Chernabura Isl** 34.33 317 P P 09 35 16.4 -0.1
baz=106
NEA2 **Nenana** 34.35 337 P P 09 35 16.6 0.0
baz=132
PPLA **Purkeypile** 34.38 333 P P 09 35 15.8 -1.3
baz=126
E29M **Blow River** 34.48 347 P P 09 35 17.9 +0.3

	baz=150							
G26K	**Porcupine Rive**	**34.55**	**342**		**P**	09 35 20.5	+2.2	
G26K	**Porcupine Rive**	**34.55**	**342**	P	**P**	09 35 18.7	+0.4	
	baz=141,SNR=7.6							
H25L	**Birch Creek**	**34.56**	**340**	P	**P**	09 35 18.0	-0.4	
	baz=138							
CAST	**Castle Rocks**	**34.65**	**333**	P	**P**	09 35 18.9	-0.3	
	baz=126							
BPAW	**Bear Paw Mtn.**	**34.67**	**335**		**P**	09 35 20.9	+1.5	
BPAW	**Bear Paw Mtn.**	**34.67**	**335**	P	**P**	09 35 19.0	-0.4	
	baz=128,SNR=12							
M19K	**Big River Lodg**	**34.68**	**330**	P	**P**	09 35 18.5	-1.0	
	baz=122							
N18K	**Kilae Creek**	**34.70**	**328**	P	**P**	09 35 20.1	+0.4	
	baz=118							
L20K	**Farewell, AK**	**34.79**	**331**	P	**P**	09 35 20.2	-0.3	
	baz=123,SNR=6.4							
O17K	**Koliganek Bris**	**34.83**	**326**	P	**P**	09 35 20.7	0.0	
	baz=116							
H24K	**Noodor Dome**	**34.84**	**339**	P	**P**	09 35 21.3	+0.5	
	baz=134							
P16K	**Nushagak River**	**34.93**	**324**	P	**P**	09 35 21.8	+0.2	
	baz=114							
E28M	**Babbage River**	**34.97**	**346**	P	**P**	09 35 22.3	+0.4	
	baz=148							
CHUM	**Lake Minchumin**	**35.01**	**334**	P	**P**	09 35 22.0	-0.3	
	baz=126							
G25K	**Bearman Lake**	**35.01**	**341**	P	**P**	09 35 22.5	+0.3	
	baz=138							
L19K	**White Mountain**	**35.01**	**330**	P	**P**	09 35 21.8	-0.6	
	baz=121							
E27K	**Coleen River**	**35.04**	**345**	P	**P**	09 35 22.8	+0.2	
	baz=145							
M18K	**Stony River**	**35.06**	**329**	P	**P**	09 35 23.2	+0.4	
	baz=119							
MLY	**Manley**	**35.18**	**336**		**P**	09 35 25.7	+1.9	
MLY	**Manley**	**35.18**	**336**	P	**P**	09 35 23.8	0.0	
	baz=130							
N17K	**Nushagak Hills**	**35.20**	**327**		**P**	09 35 26.8	+2.9	
N17K				IAmb	IAmb	09 36 21.7		
	comp=Z,5.7nm,0.9s							
N17K	**Nushagak Hills**	**35.20**	**327**	P	**P**	09 35 23.6	-0.4	
	baz=116							
O16K	**Kokwok River B**	**35.21**	**325**	P	**P**	09 35 23.8	-0.3	
	baz=114							
F26K	**Sheenjek River**	**35.22**	**343**	P	**P**	09 35 24.4	+0.3	
	baz=141,SNR=7.1							
H23K	**Yukon River**	**35.33**	**338**	P	**P**	09 35 24.8	-0.2	
	baz=132							
G24K	**Hadweenzic Riv**	**35.34**	**340**	P	**P**	09 35 25.5	+0.4	
	baz=136							
K20K	**Telida**	**35.34**	**332**	P	**P**	09 35 27.2	+2.0	
K20K	**Telida**	**35.34**	**332**	P	**P**	09 35 25.3	+0.1	
	baz=124,SNR=20							
F25K	**Christian Rive**	**35.51**	**342**	P	**P**	09 35 26.4	-0.2	
	baz=139							
M17K	**Holitna River**	**35.70**	**328**		**P**	09 35 31.1	+2.8	
M17K	**Holitna River**	**35.70**	**328**	P	**P**	09 35 28.0	-0.3	
	baz=117,SNR=7.6							
L18K	**Granite Mounta**	**35.78**	**330**		**P**	09 35 31.8	+2.8	
L18K				IAmb	IAmb	09 35 37.4		
	comp=Z,6.1nm,0.9s							
L18K	**Granite Mounta**	**35.78**	**330**	P	**P**	09 35 29.2	+0.3	
	baz=119							
J20K	**Nowinta River**	**35.83**	**334**		**P**	09 35 31.4	+2.0	
J20K				IAmb	IAmb	09 36 31.3		
	comp=Z,6.0nm,0.8s							
J20K	**Nowinta River**	**35.83**	**334**	P	**P**	09 35 29.8	+0.5	
	baz=125							
O15K	**Ungalikthiuk R**	**35.86**	**324**	P	**P**	09 35 29.1	-0.6	
	baz=112							
N16K	**Nishlik Lake**	**35.88**	**326**	P	**P**	09 35 30.0	+0.1	
	baz=114							
E25K	**Arctic Village**	**35.90**	**343**	P	**P**	09 35 30.1	+0.2	
	baz=140							
S12K	**Black Hills**	**35.93**	**318**	P	**P**	09 35 30.1	-0.2	
	baz=105							
H22K	**Ishtalitna Cre**	**35.94**	**337**	P	**P**	09 35 30.2	-0.1	
	baz=130,SNR=7.0							
F24K	**Squaw Lake**	**36.04**	**341**	P	**P**	09 35 31.6	+0.5	
	baz=136							
G23K	**Bananza Creek**	**36.07**	**339**	P	**P**	09 35 31.1	-0.4	
	baz=132							
M16K	**Timber Creek**	**36.20**	**327**	P	**P**	09 35 33.1	+0.6	
	baz=115							
H21K	**Melozitna Rive**	**36.25**	**336**	P	**P**	09 35 32.7	-0.2	
	baz=128,SNR=14							
J19K	**Poorman**	**36.27**	**333**		**P**	09 35 34.6	+1.4	
J19K				IAmb	IAmb	09 36 30.4		
	comp=Z,6.0nm,0.9s							
J19K	**Poorman**	**36.27**	**333**	P	**P**	09 35 33.8	+0.7	
	baz=122							
I20K	**Naaghedeneel**	**36.31**	**334**	P	**P**	09 35 34.0	+0.6	
	baz=125							
N15K	**Kwethluk River**	**36.36**	**325**	P	**P**	09 35 34.2	+0.2	
	baz=113							
L17K	**Donlin**	**36.40**	**329**	P	**P**	09 35 34.5	+0.3	
	baz=117							
J18K	**Innoko River**	**36.41**	**332**		**P**	09 35 36.5	+2.2	
J18K				IAmb	IAmb	09 36 35.8		
	comp=Z,6.7nm,1.2s							
J18K	**Innoko River**	**36.41**	**332**	P	**P**	09 35 34.5	+0.2	
	baz=121							
COLD	**Coldfoot**	**36.47**	**339**	P	**P**	09 35 35.2	+0.4	
	baz=133							
O14K	**Tigyukauivet M**	**36.58**	**324**	P	**P**	09 35 37.3	+1.5	
	baz=110							
E24K	**Your Creek**	**36.60**	**341**	P	**P**	09 35 37.5	+1.6	
	baz=136							
G22K	**Bettles**	**36.65**	**338**	P	**P**	09 35 37.6	+1.3	
	baz=131							
K17K	**Iditarod**	**36.67**	**330**	P	**P**	09 35 35.8	-0.8	
	baz=118							
L16K	**Owhat River**	**36.72**	**328**	P	**P**	09 35 36.9	0.0	
	baz=115							
M15K	**Kasigluk River**	**36.84**	**326**	P	**P**	09 35 37.3	-0.7	
	baz=113							
H20K	**Anotleneega Mo**	**36.85**	**335**	P	**P**	09 35 38.0	0.0	
	baz=125							
E23K	**Chandalar**	**36.89**	**341**	P	**P**	09 35 39.0	+0.6	
	baz=134							
G21K	**Allakaket**	**37.01**	**337**	P	**P**	09 35 39.1	-0.2	
	baz=128							
D25K	**Kavik River**	**37.01**	**344**	P	**P**	09 35 39.8	+0.5	
	baz=140							
N14K	**Kuskokwak Cree**	**37.02**	**324**	P	**P**	09 35 39.3	-0.2	
	baz=110							
GCSA	**Galena City Sc**	**37.14**	**333**	P	**P**	09 35 41.2	+0.8	
	baz=122							
C26K	**Camden Bay**	**37.15**	**345**	P	**P**	09 35 41.3	+0.8	
	baz=142							
F22K	**John River**	**37.23**	**339**	P	**P**	09 35 41.7	+0.4	
	baz=131							
TOLK	**Toolik Lake Re**	**37.29**	**341**	P	**P**	09 35 41.1	-0.7	
	baz=135							
J17K	**VABM Dome**	**37.30**	**331**	P	**P**	09 35 42.4	+0.5	
	baz=118							
H19K	**Roundabout Mou**	**37.41**	**335**	P	**P**	09 35 42.4	-0.3	
	baz=123							
F21K	**Alatna River**	**37.44**	**338**	P	**P**	09 35 43.1	+0.1	
	baz=129							
M14K	**Bethel**	**37.44**	**326**	P	**P**	09 35 43.2	+0.1	
	baz=111							
E22K	**Anaktuvuk Pass**	**37.54**	**340**	P	**P**	09 35 44.2	+0.3	
	baz=132							
L15K	**Ungalak Mounta**	**37.58**	**327**	P	**P**	09 35 44.5	+0.2	
	baz=113							
D23K	**Nanushuk River**	**37.80**	**341**	P	**P**	09 35 46.4	+0.3	
	baz=134							
K15K	**Wolf Creek Mou**	**37.84**	**328**	P	**P**	09 35 45.7	-0.8	
	baz=114							
C24K	**Franklin Bluff**	**37.85**	**343**	P	**P**	09 35 45.7	-0.7	
	baz=137							
J16K	**Anvik River**	**37.87**	**330**		**P**	09 35 48.9	+2.2	
J16K				IAmb	IAmb	09 35 51.9		
	comp=Z,8.0nm,1.1s							
J16K	**Anvik River**	**37.87**	**330**	P	**P**	09 35 45.8	-0.9	
	baz=116							
H18K	**Honhosa River**	**37.89**	**333**	P	**P**	09 35 46.4	-0.4	
	baz=120							
M13K	**Dall Lake**	**37.97**	**325**	P	**P**	09 35 47.0	-0.5	
	baz=109							
L14K	**Kuka Creek**	**37.98**	**326**	P	**P**	09 35 46.8	-0.8	
	baz=111							
F20K	**Avaraart Lake**	**38.03**	**337**	P	**P**	09 35 47.8	-0.2	
	baz=126							
UNV	**Unalaska Valle**	**38.09**	**314**	P	**P**	09 35 47.6	-1.0	
	baz=98							
I17K	**Unalakleet**	**38.17**	**331**	P	**P**	09 35 48.4	-0.8	
	baz=116							
D22K	**Ayikyak River**	**38.28**	**340**	P	**P**	09 35 50.4	+0.3	
	baz=131							
E21K	**Killik River**	**38.35**	**339**	P	**P**	09 35 50.0	-0.8	
	baz=129							
H17K	**Granite Mounta**	**38.35**	**333**	P	**P**	09 35 50.8	0.0	
	baz=118							
G18K	**Tagagawik**	**38.38**	**334**	P	**P**	09 35 50.4	-0.6	
	baz=121							
C23K	**Itkillik River**	**38.40**	**342**	P	**P**	09 35 50.3	-0.8	
	baz=135							
F19K	**Shaleruckik Mo**	**38.57**	**336**	P	**P**	09 35 51.5	-1.1	
	baz=123							
E19K	**Redstone River**	**38.75**	**337**	P	**P**	09 35 53.9	-0.2	
	baz=124							
J14K	**Nanvaranak Lak**	**38.88**	**328**	P	**P**	09 35 54.6	-0.6	
	baz=112							
E20K	**Nigu River**	**38.89**	**338**	P	**P**	09 35 54.3	-1.0	
	baz=126							
G17K	**Kiwalik Mounta**	**38.90**	**333**	P	**P**	09 35 55.2	-0.1	
	baz=118							
C21K	**Knifeblade Rid**	**39.03**	**340**	P	**P**	09 35 56.6	+0.2	
	baz=129							
F18K	**Selawik**	**39.09**	**335**	P	**P**	09 35 56.7	-0.2	
	baz=121							
H16K	**Elim**	**39.11**	**331**	P	**P**	09 35 57.0	-0.1	
	baz=116							
JTS	**Las Juntas de**	**39.14**	**122**	LR	LR	09 53 15.3		
	comp=Z,616nm,19.7s,baz=310,slow=38							
B21K	**Ikpikpuk River**	**39.28**	**341**	P	**P**	09 35 58.0	-0.5	
	baz=130							
D20K	**Etivluk River**	**39.29**	**339**	P	**P**	09 35 57.6	-1.0	
	baz=126							
M11K	**Mekoryuk**	**39.30**	**324**	P	**P**	09 35 58.3	-0.4	
	baz=106							
SCHQ	**Schefferville**	**39.43**	**45**	P	**P**	09 35 59.9	0.0	
	comp=Z,1.7nm,0.7s,baz=270,slow=3.0,SNR=2.0							
SCHQ				LR	LR	09 51 16.3		
	comp=Z,275nm,18.8s,baz=260,slow=35							
	comp=Z,1.7nm,0.7s							
B22K	**Teshekpuk Lake**	**39.44**	**342**	P	**P**	09 35 59.6	-0.2	
	baz=132							
D19K	**Kuna River**	**39.61**	**338**	P	**P**	09 36 00.5	-0.8	
	baz=124							
E18K	**Tukpahlearik C**	**39.83**	**336**	P	**P**	09 36 02.8	-0.2	
	baz=120							
G15K	**Niukluk**	**39.96**	**331**	P	**P**	09 36 03.7	-0.5	
	baz=114							
E17K	**Hotham Inlet**	**40.07**	**335**	P	**P**	09 36 04.9	-0.2	
	baz=119							
B20K	**Meade River**	**40.22**	**340**	P	**P**	09 36 07.0	+0.8	
	baz=127							
C19K	**Lookout Ridge**	**40.40**	**338**	P	**P**	09 36 07.3	-0.5	
	baz=123							
RES	**Resolute Bay**	**40.41**	**9**	LR	LR	09 52 33.7		
	comp=Z,399nm,19.3s,baz=186,slow=36							
C18K	**Utukok River**	**40.65**	**337**	P	**P**	09 36 10.7	+0.8	
	baz=121							
FRB	**Frobisher Bay**	**40.65**	**31**	LR	LR	09 54 29.2		
	comp=Z,321nm,21.6s,baz=257,slow=38							
D17K	**Noatak River**	**40.79**	**335**	P	**P**	09 36 11.6	+0.6	
	baz=118							
F14K	**Arctic Creek**	**41.03**	**332**	P	**P**	09 36 12.5	-0.5	
	baz=112							
C17K	**DeLong Mountai**	**41.19**	**336**	P	**P**	09 36 15.1	+0.7	
	baz=118							
ROSC	**El Rosal**	**50.44**	**117**	LR	LR	10 01 41.0		
	comp=Z,204nm,19.1s,baz=34,slow=40							
PETK	**Petropavlovsk-**	**59.22**	**316**		**P**	09 38 33.9	+2.7	
PETK	**Petropavlovsk-**	**59.22**	**316**	P	**P**	09 38 31.3	+0.1	
	comp=Z,3.5nm,0.8s,baz=80,slow=12,SNR=9.9							
	comp=Z,3.5nm,0.8s							
BORG	**Borgarnes**	**60.77**	**29**	LR	LR	10 03 53.2		
	comp=Z,215nm,18.4s,baz=282,slow=35							
MDP	**Montagnes des**	**66.89**	**101**	LR	LR	10 12 58.1		
	comp=Z,79nm,19.6s,baz=335,slow=40							
LPAZ	**La Paz**	**69.94**	**129**	P	**P**	09 39 43.4	+1.1	
	comp=Z,1.5nm,0.9s,baz=333,slow=2.3,SNR=5.9							
	comp=Z,1.5nm,0.9s							
NOA	**NORSAR Array B**	**74.85**	**23**	P	**P**	09 40 10.6	+0.2	
	comp=Z,1.5nm,0.3s,baz=318,slow=5.8,SNR=2.7							
	comp=Z,1.5nm,0.3s							
USRK	**Ussuriysk Ar.**	**78.30**	**316**	P	**P**	09 40 32.3	+2.1	
	comp=Z,4.6nm,0.9s,baz=80,slow=8.9,SNR=6.2							
	comp=Z,4.6nm,0.9s							
CPUP	**Villa Florida**	**84.10**	**128**	P	**P**	09 41 03.1	+2.0	
	comp=Z,0.4nm,0.6s,baz=290,slow=18,SNR=3.2							
	comp=Z,0.4nm,0.6s							
KSRS	**Korea Array**	**85.02**	**313**	P	**P**	09 41 08.7	+2.9	
	comp=Z,2.5nm,1.0s,baz=60,slow=5.2,SNR=6.6							
	comp=Z,2.5nm,1.0s							
SONM	**Songino Array**	**87.81**	**332**	P	**P**	09 41 21.1	+1.6	
	comp=Z,0.6nm,0.6s,baz=29,slow=3.3,SNR=3.8							
	comp=Z,0.6nm,0.6s							
ZALV	**Zalesovo Beam**	**88.44**	**347**	P	**P**	09 41 24.3	+2.1	
	comp=Z,0.7nm,0.5s,baz=357,slow=6.2,SNR=3.6							
	comp=Z,0.7nm,0.5s							
AKASG	**Malin Array Be**	**89.00**	**20**	P	**P**	09 41 27.3	+2.4	
	comp=Z,0.8nm,0.6s,baz=339,slow=4.0,SNR=4.6							
	comp=Z,0.8nm,0.6s							
BVAR	**Borovoye Array**	**91.18**	**355**	P	**P**	09 41 35.8	+0.8	
	comp=Z,1.4nm,0.7s,baz=355,slow=4.9,SNR=4.2							
	comp=Z,1.4nm,0.7s							
KURBB	**Kurchatov Arra**	**92.69**	**350**	P	**P**	09 41 44.6	+2.6	
	comp=Z,1.2nm,0.8s,baz=14,slow=4.9,SNR=7.5							
	comp=Z,1.2nm,0.8s							
MAW	**Mawson**	**148.23**	**180**	PKPbc	**PKPab**	09 48 18.3	+0.1	
	comp=Z,2.7nm,0.8s,baz=178,slow=7.9,SNR=5.5							

*NEIC **06** 09:29:20.6±0.9, 35°.881N±0°.008×117°.74W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.5km az=60.0*

PAS 06 09:29:21.0±0.9,**35°.882N**±0°.009×**117°.72W**±0°.01, **h6**km±1km,**ML4.7**/35,**ML4.6**/26(NEIC), **Error ellipse: s-maj=1.4km s-min=1.4km az=94.0,Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOW	**Tower One**	**0.08**	**208**		Pg	09 29 23.4	+0.5
WVPM	**Volcano Peak E**	**0.11**	**310**		Pg	09 29 23.4	+0.1
CLC	**China Lake**	**0.12**	**124**		Pg	09 29 23.4	-0.1
JRC2	**Joshua Ridge**	**0.12**	**324**		Pg	09 29 23.8	+0.1
WNMM	**Nine Mile Cany**	**0.16**	**256**		Pg	09 29 24.3	+0.1
WRVM	**Rose V. Centra**	**0.19**	**312**		Pg	09 29 24.8	0.0
SRTC	**Snort**	**0.19**	**188**		Pg	09 29 25.1	+0.4
MPMC	**Manual Prospec**	**0.26**	**46**		Pg	09 29 26.0	-0.1
MPMC					Sg	09 29 29.5	+0.1
MFS	**McCloud Flat S**	**0.26**	**335**		Pg	09 29 26.1	-0.1
MFS					Sg	09 29 29.7	+0.1
LRMC	**Laurel Mtn Rad**	**0.40**	**176**		Pg	09 29 33.7	-0.3
LRMC					Sg	09 29 34.4	+0.3
LRMC				IAML		09 29 35.2	
	comp=E,77μm,0.6s						
CCCA	**Chr Cany lake**	**0.46**	**141**		Pg	09 29 30.0	+0.2
CCCA					Sg	09 29 37.0	+1.2
WORM	**Onyx Ranch**	**0.47**	**247**		Pg	09 29 29.6	-0.3
WORM					Sg	09 29 35.9	-0.2
WBSM	**Bird Springs**	**0.49**	**225**		Pg	09 29 30.1	-0.2
WBSM					Sg	09 29 36.8	+0.1
WHFM	**Hanning Flat**	**0.55**	**250**		Pg	09 29 31.2	-0.3
WHFM					Sg	09 29 38.5	-0.1
DTP	**Desert Tortois**	**0.62**	**190**		Pg	09 29 32.7	-0.3
CWC	**Cottonwood Cre**	**0.63**	**332**		Pg	09 29 32.4	-0.7
ISA	**Isabella, Lake**	**0.65**	**251**	Pg	Pg	09 29 33.4	-0.2
CGO	**Cerro Gordo**	**0.67**	**354**		Pg	09 29 33.7	-0.3
CGO					Sg	09 29 43.3	+0.6
QSM	**Queen of Sheba**	**0.69**	**83**	Pg	Pg	09 29 34.4	0.0
QSM				IAML		09 29 47.1	
	comp=E,28μm,0.7s						
QSM				IAML		09 29 47.3	
	comp=N,39μm,0.7s						
WASM	**Alta Sierra Ca**	**0.70**	**258**		Pg	09 29 34.0	-0.4
CCAC	**Calif City Air**	**0.77**	**199**		Sg	09 29 46.1	+0.5
CCAC	**Calif City Air**	**0.77**	**199**	Pg	Pg	09 29 35.3	-0.4
CCAC				IAML		09 29 49.9	
	comp=E,14μm,1.3s						
CCAC				IAML		09 29 52.8	
	comp=N,17μm,0.8s						
GWY	**Greenwater Val**	**0.90**	**70**	Pg	Pg	09 29 37.9	-0.4
GWY				IAML		09 29 55.4	
	comp=E,28μm,0.6s						
GWY				IAML		09 29 55.6	
	comp=N,20μm,0.4s						
FURC	**Furnace Creek,**	**0.91**	**50**		Pg	09 29 38.3	0.0
FURC					Sg	09 29 50.4	+0.3
SPG2	**Springville 2**	**0.91**	**291**		Pg	09 29 37.7	-0.7
GSC	**Goldstone, Bar**	**0.94**	**128**	Pg	Pg	09 29 38.5	-0.5
GSC				IAML		09 29 53.0	
	comp=N,16μm,1.1s						
GSC				IAML		09 29 53.7	
	comp=E,19μm,1.2s						
EDW2	**Edwards Air Fo**	**1.02**	**193**		Pg	09 29 39.6	-1.0
HYS	**Haystack Butte**	**1.02**	**173**		Pg	09 29 40.0	-0.6
TEJ	**El Tejon**	**1.02**	**231**		Pg	09 29 39.8	-0.8
MAGC	**SCE Magundon P**	**1.11**	**243**		Pg	09 29 41.8	-0.5
VES	**Vestal, Richgr**	**1.11**	**268**		Pg	09 29 40.8	-1.5
GRAC	**Grapevine Rang**	**1.15**	**14**	Pg	Pg	09 29 42.3	-0.7
SHOC	**Shoshone, Teco**	**1.17**	**89**		Pg	09 29 43.2	-0.3
ARVC	**Arvin**	**1.18**	**231**		Pg	09 29 40.2	-3.4
SBB	**Saddle Back Bu**	**1.19**	**184**		Pg	09 29 43.0	-0.9
TJR	**Tejon Ranch**	**1.20**	**225**		Pg	09 29 42.4	-1.4
SGV	**South Grapevin**	**1.23**	**27**		Pg	09 29 44.1	-0.5
THC	**Tehachapi Micr**	**1.24**	**219**		Pg	09 29 43.6	-1.2
TIN	**Tinemaha, Big**	**1.24**	**341**		Pg	09 29 44.3	-0.5
BAKC	**Calstate**	**1.25**	**245**		Pg	09 29 44.2	-0.8
WCT	**Wildcat Mounta**	**1.27**	**44**	Pg	Pg	09 29 44.2	-1.0
WCT				IAML		09 30 03.4	
	comp=E,16μm,1.1s						
WCT				IAML		09 30 06.1	
	comp=N,13μm,1.5s						
AMDNV	**Amargosa**	**1.29**	**63**		Pn	09 29 45.0	-0.6
LCH	**Last Change Ra**	**1.35**	**2**		Pn	09 29 45.5	-1.1
CJV	**Casa Juvan**	**1.39**	**195**		Pn	09 29 47.1	0.0
VOG	**Valley Oaks Go**	**1.42**	**289**		Pn	09 29 47.1	-0.3
GMN	**Gold Mountain**	**1.46**	**14**		Pn	09 29 47.9	-0.3
GMN				IAML		09 29 56.4	
	comp=N,6μm,0.5s						
DSP	**Deep Springs**	**1.50**	**352**		Pn	09 29 48.6	+0.2
POCCA	**Poleta Canyon**	**1.55**	**343**		Pn	09 29 49.4	+0.1
TPNV	**Topopah Spring**	**1.59**	**48**		Pb	09 29 50.7	-0.2
MTPC	**Mountain Pass**	**1.81**	**102**		Pn	09 29 51.4	-1.5
BLCC	**Black Canyon**	**1.81**	**206**		Pn	09 29 50.7	-2.1
VTX	**Valle De La Tr**	**4.76**	**160**	Pn	Pn	09 30 32.8	-0.6

*KRNET **06** 09:30:41.9±0.1, 39°.63N×73°.00E, h19km, mb3.2*
*SOME **06** 09:30:45.2, 40°.00N×72°.58E, h5km*
*NNC **06** 09:30:46.3±5.5, 39°.82N×73°.18E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=41.6km s-min=20.0km az=176.0*

ISC 06 09:30:42.2±1.4,**39°.66N**±0°.05×**72°.99E**±0°.03,**h2**km±10km, **n36,σ1°53/66,32C-22D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
SFK	**Sufi-Kurgan**	**0.53**	**48**	↑	*iP*	**Pg 09 30 52.6**	**+0.2**
SFK				↑	*iS*	**Sg 09 31 00.6**	**+1.3**
OHH	**Osh**	**0.88**	**350**	↑	*eP*	**Pg 09 30 58.8**	**-0.2**
OHH				↑	*iS*	**Sb 09 31 11.5**	**-0.9**
DRK	**Karamyk**	**0.94**	**259**	↓	*iP*	**Pg 09 30 59.4**	**-0.7**
DRK				↓	*iS*	**Sg 09 31 12.0**	**-0.2**
SALK	**Salom-Alik**	**1.38**	**27**	↑	*eP*	**Pg 09 31 07.6**	**-1.1**
SALK				↑	*iS*	**Sn 09 31 26.2**	**-1.3**
ARSB	**Arslanbob**	**1.66**	**360**	↓	*eP*	**Pn 09 31 13.1**	**+0.6**
ARSB				↓	*eS*	**Sg 09 31 35.1**	**-0.5**
BTK	**Batken**	**1.72**	**284**	↓	*iP*	**Pn 09 31 13.5**	**+0.3**
BTK				↓	*iS*	**Sn 09 31 36.5**	**+0.8**
GAR	**Garm**	**2.17**	**253**	↑	*iP*	**Pn 09 31 19.5**	**0.0**
GAR				↑	*iS*	**Sn 09 31 47.1**	**+0.1**
ARK	**Arkit**	**2.27**	**340**	↓	*iP*	**Pn 09 31 21.6**	**+0.8**
ARK				↓	*iS*	**Sb 09 31 50.8**	**-1.8**
TRKS	**Terek-Say**	**2.34**	**324**	↑	*iP*	**Pn 09 31 21.6**	**-0.2**
TRKS				↑	*iS*	**Sn 09 31 50.5**	**-0.6**
AML	**Almayashu**	**2.52**	**12**	↓	*iP*	**Pn 09 31 25.4**	**+0.8**
AML				↓	*iS*	**Sb 09 31 57.1**	**-3.0**
UCH	**Uchtor**	**2.81**	**24**	↑	*iP*	**Pn 09 31 29.2**	**+0.6**
UCH				↑	*iS*	**Sn 09 32 03.9**	**+0.6**
MNAS	**Manas**	**2.85**	**353**	↑	*iP*	**Pn 09 31 29.7**	**+0.9**
MNAS				↑	*iS*	**Sn 09 32 04.5**	**+0.8**
NRN	**Naryn**	**2.90**	**51**	↓	*iP*	**Pn 09 31 29.6**	**0.0**
NRN				↓	*iS*	**Sn 09 32 04.9**	**-0.3**
EKS2	**Erkin-Say**	**3.06**	**11**	↓	*iP*	**Pn 09 31 32.5**	**+0.9**
EKS2				↓	*iS*	**Sn 09 32 09.4**	**+0.6**
MRKS	**Merke**	**3.09**	**3**	Pg		**Pb 09 31 37.4**	**-0.5**
	14nm,0.2s						
MRKS				Lg		Lg 09 32 15.2	
	19nm,0.5s						
MRKS	**Merke**	**3.09**	**3**	*eP*		**Pb 09 31 37.4**	**-0.5**
	14nm,0.2s						
MRKS				*eS*		**Sb 09 32 15.2**	**-0.8**
	19nm,0.5s						
AAK	**Ala-Archa**	**3.18**	**20**	↑	Pg	**Pn 09 31 36.5**	**+3.1**
	1.5nm,0.4s						
AAK				↑	Lg	Lg 09 32 18.3	
	15nm,0.9s						
AAK	**Ala-Archa**	**3.18**	**20**	↓	*iP*	**Pn 09 31 34.1**	**+0.7**
AAK				↓	*iS*	**Sn 09 32 12.5**	**+0.5**
KBK	**Karagaybulak**	**3.34**	**26**	↑	*iP*	**Pn 09 31 36.4**	**+0.8**
KBK				↑	*eS*	**Sn 09 32 16.1**	**+0.2**
IUG	**Iuzhnay**	**3.34**	**319**	Pg		**Pn 09 31 38.4**	**+2.9**
	18nm,0.2s						
IUG				Lg		Lg 09 32 19.8	
	84nm,0.4s						
ULHL	**Ulahol**	**3.57**	**43**	↑	*eP*	**Pn 09 31 39.5**	**+0.7**
ULHL				↑	*iS*	**Sn 09 32 21.6**	**0.0**
CHMS	**Chumysh**	**3.59**	**21**	↑	*iP*	**Pn 09 31 39.6**	**+0.7**
CHMS				↑	*iS*	**Sn 09 32 21.9**	**+0.1**
BOOM	**Boomskoye us

n104,σ1ˢ79/135,mb4.1/12,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.08**	**304**		**Pg**	**09 30 43.2**	**-2.1**
WVPM					**Sg**	**09 30 44.7**	**-2.5**
TOW	**Tower One**	**0.10**	**195**		**Pg**	**09 30 43.8**	**-1.5**
JRC2	**Joshua Ridge**	**0.10**	**322**		**Pg**	**09 30 43.4**	**-2.1**
JRC2					**Sg**	**09 30 45.1**	**-2.4**
CLC	**China Lake**	**0.14**	**128**		**Pg**	**09 30 44.1**	**-1.9**
CLC					**Sg**	**09 30 46.5**	**-1.8**
WNMM	**Nine Mile Cany**	**0.15**	**247**		**Pg**	**09 30 44.5**	**-1.7**
WNMM					**Sg**	**09 30 47.0**	**-1.4**
WRVM	**Rose V. Centra**	**0.17**	**309**		**Pg**	**09 30 44.6**	**-1.9**
WRVM					**Sg**	**09 30 47.1**	**-1.9**
SRTC	**Snort**	**0.21**	**184**		**Pg**	**09 30 45.9**	**-1.3**
MFS	**McCloud Flat S**	**0.23**	**335**		**Pg**	**09 30 45.8**	**-1.9**
MFS					**Sg**	**09 30 48.9**	**-2.1**
MPMC	**Manual Prospec**	**0.25**	**52**		**Pg**	**09 30 46.1**	**-1.9**
MPMC					**Sg**	**09 30 49.7**	**-1.8**
LRMC	**Laurel Mtn Rad**	**0.42**	**174**	Pg	**Pg**	**09 30 49.4**	**-1.7**
LRMC				Sg	**Sg**	**09 30 55.5**	**-1.3**
LRMC				IAML		09 30 56.7	
	comp=N,53μm,0.6s						
WORM	**Onyx Ranch**	**0.46**	**244**		**Pg**	**09 30 50.0**	**-1.9**
WORM					**Sg**	**09 30 56.3**	**-1.7**
CCCA	**Chr Cany lake**	**0.48**	**141**		**Pg**	**09 30 50.9**	**-1.3**
CCCA					**Sg**	**09 30 58.2**	**-0.3**
WBSM	**Bird Springs**	**0.49**	**222**		**Pg**	**09 30 50.7**	**-1.7**
WBSM					**Sg**	**09 30 57.7**	**-1.2**
WHFM	**Hanning Flat**	**0.54**	**248**		**Pg**	**09 30 51.6**	**-1.7**
WHFM					**Sg**	**09 30 58.9**	**-1.5**
CWC	**Cottonwood Cre**	**0.60**	**332**		**Pg**	**09 30 52.9**	**-1.6**
CWC					**Sg**	**09 31 00.8**	**-1.8**
DTP	**Desert Tortois**	**0.64**	**188**		**Pg**	**09 30 53.2**	**-1.9**
CGO	**Cerro Gordo**	**0.65**	**355**		**Pg**	**09 30 53.1**	**-2.3**
CGO					**Sg**	**09 31 02.9**	**-1.1**
ISA	**Isabella, Lake**	**0.65**	**249**		**Sg**	**09 31 02.3**	**-1.6**
ISA	**Isabella, Lake**	**0.65**	**249**	Pg	**Pg**	**09 30 53.5**	**-1.8**
ISA				IAML		09 31 02.6	
	comp=N,52μm,0.8s						
ISA				IAML		09 31 02.6	
	comp=E,31μm,0.7s						
WASM	**Alta Sierra Ca**	**0.69**	**256**		**Pg**	**09 30 54.3**	**-1.8**
WASM					**Sg**	**09 31 03.8**	**-1.4**
QSM	**Queen of Sheba**	**0.70**	**85**	Pg	**Pg**	**09 30 54.2**	**-2.2**
QSM				Sg	**Sg**	**09 31 03.2**	**-2.4**
QSM				IAML		09 31 08.5	
	comp=E,34μm,0.6s						
CCAC	**Calif City Air**	**0.78**	**197**	Pg	**Pg**	**09 30 55.6**	**-2.3**
CCAC				IAML		09 31 10.6	
	comp=E,16μm,1.4s						
CCAC				IAML		09 31 10.7	
	comp=N,28μm,0.5s						
SPG2	**Springville 2**	**0.89**	**290**		**Pg**	**09 30 57.5**	**-2.4**
SPG2					**Sg**	**09 31 09.1**	**-2.4**
FURC	**Furnace Creek,**	**0.90**	**51**		**Pg**	**09 30 58.5**	**-1.6**
FURC					**Sg**	**09 31 10.1**	**-1.8**
GWY	**Greenwater Val**	**0.91**	**72**		**Pg**	**09 30 57.9**	**-2.3**
GWY					**Sg**	**09 31 10.3**	**-1.8**
GWY				IAML		09 31 15.5	
	comp=N,21μm,0.7s						
GSC	**Goldstone, Bar**	**0.96**	**128**	Pg	**Pg**	**09 30 59.1**	**-2.2**
GSC				IAML		09 31 19.8	
	comp=N,16μm,0.6s						
TEJ	**El Tejon**	**1.03**	**230**		**Pg**	**09 31 00.1**	**-2.5**
TEJ					**Sg**	**09 31 13.8**	**-2.2**
EDW2	**Edwards Air Fo**	**1.04**	**192**		**Pg**	**09 31 00.4**	**-2.4**
HYS	**Haystack Butte**	**1.05**	**173**		**Pg**	**09 31 00.7**	**-2.2**
HYS					**Sb**	**09 31 16.4**	**-0.4**
TPO	**Tropico Hills**	**1.10**	**202**		**Pg**	**09 31 01.7**	**-2.2**
VES	**Vestal, Richgr**	**1.10**	**267**		**Pb**	**09 31 01.9**	**-2.0**
VES					**Sg**	**09 31 14.6**	**-3.6**
MAGC	**SCE Magundon P**	**1.11**	**241**		**Pb**	**09 31 02.1**	**-1.9**
MAGC					**Sg**	**09 31 17.5**	**-1.0**
GRAC	**Grapevine Rang**	**1.13**	**15**		**Pb**	**09 31 02.2**	**-2.2**
GRAC	**Grapevine Rang**	**1.13**	**15**	Pg	**Pb**	**09 31 01.8**	**-2.7**
GRAC	**Grapevine Rang**	**1.13**	**15**	IAML		09 31 24.1	
	comp=E,15μm,0.8s						
GRAC				IAML		09 31 26.7	
	comp=N,16μm,1.1s						
SHOC	**Shoshone, Teco**	**1.18**	**90**		**Pb**	**09 31 03.7**	**-1.6**
SHOC					**Sg**	**09 31 20.0**	**-0.9**
ARVC	**Arvin**	**1.18**	**229**		**Pb**	**09 31 03.1**	**-2.2**
RRX	**Edison Barstow**	**1.19**	**149**		**Pb**	**09 31 03.5**	**-1.9**
TJR	**Tejon Ranch**	**1.20**	**224**		**Pb**	**09 31 03.1**	**-2.5**
TJR					**Sg**	**09 31 19.2**	**-2.0**
SBB	**Saddle Back Bu**	**1.21**	**184**		**Pb**	**09 31 03.6**	**-2.3**
SGV	**South Grapevin**	**1.22**	**27**		**Pb**	**09 31 04.2**	**-1.8**
TIN	**Tinemaha, Big**	**1.22**	**341**		**Pn**	**09 31 04.1**	**-1.8**
BAKC	**Calstate**	**1.25**	**244**		**Pn**	**09 31 04.7**	**-1.6**
BAKC					**Sg**	**09 31 22.1**	**-0.9**
THC	**Tehachapi Micr**	**1.25**	**218**		**Pn**	**09 31 04.0**	**-2.5**
THC					**Sb**	**09 31 20.7**	**-2.1**
WCT	**Wildcat Mounta**	**1.26**	**45**		**Pn**	**09 31 04.7**	**-1.9**
WCT					**Sb**	**09 31 21.0**	**-2.0**
WCT				IAML		09 31 26.3	
	comp=N,11μm,0.9s						
WCT				IAML		09 31 27.1	
	comp=E,11μm,1.4s						
AMDNV	**Amargosa**	**1.30**	**65**		**Pn**	**09 31 05.3**	**-1.6**
AMDNV					**Sb**	**09 31 21.9**	**-2.1**
ALPC	**Antelope**	**1.30**	**201**		**Pn**	**09 31 05.2**	**-1.8**
LCH	**Last Change Ra**	**1.33**	**3**		**Pn**	**09 31 05.1**	**-2.5**
LEOC	**Leona Valley**	**1.35**	**200**		**Pn**	**09 31 06.0**	**-1.8**
ADO	**Adelanto Recei**	**1.37**	**170**		**Pn**	**09 31 06.7**	**-1.3**
VTV	**Victorville**	**1.38**	**166**		**Pn**	**09 31 06.6**	**-1.6**
LRRC	**Littlerock Res**	**1.40**	**190**		**Pn**	**09 31 06.9**	**-1.4**
BTPC	**Burnt Peak**	**1.40**	**210**		**Pn**	**09 31 07.1**	**-1.4**
VOG	**Valley Oaks Go**	**1.40**	**288**		**Pn**	**09 31 07.0**	**-1.3**
VOG					**Sn**	**09 31 26.0**	**-0.9**
CJV	**Casa Juvan**	**1.41**	**194**		**Pn**	**09 31 06.8**	**-1.8**
CJV					**Sg**	**09 31 26.9**	**-1.3**
HOLC	**Holcomb Ridge**	**1.44**	**184**		**Pn**	**09 31 07.5**	**-1.6**
GMN	**Gold Mountain**	**1.45**	**15**		**Pn**	**09 31 08.2**	**-1.1**
JNH	**Juniper Hills**	**1.46**	**187**		**Pn**	**09 31 07.5**	**-1.9**
DSP	**Deep Springs**	**1.48**	**353**		**Pn**	**09 31 08.3**	**-1.1**
OSI	**Osito Audit: C**	**1.52**	**213**		**Pn**	**09 31 09.2**	**-0.8**
OSI				IAML		09 31 35.6	
	comp=E,7μm,1.0s						
OSI				IAML		09 31 41.9	
	comp=N,7μm,1.1s						
POCCA	**Poleta Canyon**	**1.52**	**343**		**Pn**	**09 31 09.4**	**-0.8**
DSCC	**Desert Studies**	**1.53**	**119**		**Pn**	**09 31 07.6**	**-2.6**
TUQ	**Turquoise Moun**	**1.54**	**107**		**Pn**	**09 31 08.1**	**-2.4**
HEC	**Hector,Ludlow**	**1.57**	**133**		**Pn**	**09 31 08.4**	**-2.3**
CHFC	**Chilao Flat St**	**1.58**	**189**		**Pn**	**09 31 09.9**	**-1.1**
MPI	**Mount Pinos, F**	**1.59**	**227**		**Pn**	**09 31 09.4**	**-1.9**
MTUM	**Tungsten Hills**	**1.59**	**335**		**Pb**	**09 31 11.2**	**-1.3**
BFSC	**Mount Baldy Ra**	**1.66**	**178**		**Pn**	**09 31 11.7**	**-0.4**
BCW	**Bitter Crk WRg**	**1.68**	**235**		**Pn**	**09 31 10.9**	**-1.4**
SIL	**Silver Peak**	**1.72**	**154**		**Pb**	**09 31 13.9**	**-0.7**
CRGC	**Crocker Grade**	**1.75**	**248**		**Pn**	**09 31 12.9**	**-0.4**
BBRC	**Big Bear Solar**	**1.77**	**158**		**Pb**	**09 31 13.9**	**-1.5**
PASC	**Pasadena Art C**	**1.77**	**192**	Pn	**Pn**	**09 31 12.4**	**-1.0**
PSRC	**Puddingstone R**	**1.81**	**182**		**Pn**	**09 31 13.2**	**-0.8**
CARC	**Carrizo Plain**	**1.82**	**252**		**Pn**	**09 31 14.1**	**-0.2**
MTPC	**Mountain Pass**	**1.82**	**103**		**Pn**	**09 31 12.2**	**-2.2**
BLCC	**Black Canyon**	**1.83**	**205**		**Pn**	**09 31 13.7**	**-0.5**
KCC	**Kaiser Creek**	**1.91**	**318**		**Pb**	**09 31 15.8**	**-1.9**
RVR	**Riverside**	**1.93**	**171**		**Pb**	**09 31 16.1**	**-1.9**
CFT	**Crafton Hills**	**1.93**	**164**		**Pb**	**09 31 17.0**	**-1.1**
GTM	**Goat Mountain**	**1.96**	**144**		**Pb**	**09 31 16.8**	**-1.8**
ELS	**Elsinore Mount**	**2.26**	**174**	Pn	**Pn**	**09 31 19.3**	**-1.1**
ELS				IAML		09 31 58.5	
	comp=E,3μm,1.3s						
DGR	**Domenigoni Val**	**2.33**	**165**		**Pn**	**09 31 20.4**	**-0.8**
PFO	**Pinyon Flats O**	**2.52**	**155**	Pn	**Pn**	**09 31 22.1**	**-1.7**
	comp=E,274nm,0.7s,baz=343,slow=17,SNR=0.4						
PFO				Pg	**Pb**	**09 31 27.4**	**-0.7**
	comp=E,135nm,0.3s,baz=340,slow=16,SNR=1.1						
PFO				Lg	Lg	09 32 00.8	
	comp=E,440nm,0.3s,baz=49,slow=20,SNR=6.9						
NVAR	**Mina Array Bea**	**2.56**	**350**	Pn	**Pn**	**09 31 23.9**	**-0.7**
	comp=E,135nm,0.5s,baz=170,slow=16,SNR=0.6						
NVAR				Pg	**Pb**	**09 31 28.6**	**-0.4**
	comp=E,179nm,0.3s,baz=169,slow=15,SNR=4.5						
NVAR				Lg	Lg	09 32 03.0	
	comp=E,44nm,0.3s,baz=158,slow=17,SNR=1.6						
BLYC	**Blythe**	**3.40**	**128**	Pn	**Pn**	**09 31 33.4**	**-2.6**
BLYC				IAML		09 32 44.9	
	comp=E,1μm,0.9s						
BLYC				IAML		09 32 46.9	
	comp=N,1μm,0.9s						
ELK	**Elko**	**5.22**	**21**	Pn	**Pn**	**09 32 00.7**	**-0.4**
	comp=N,71nm,0.3s,baz=229,slow=20,SNR=3.9						
ELK				Lg	Lg	09 33 24.4	
	comp=N,29nm,0.3s,baz=126,slow=16,SNR=4.0						
YBH	**Yreka Blue Hor**	**7.00**	**328**	Lg	Lg	09 34 24.6	
	baz=155,slow=17,SNR=1.9						
ANMO	**Albuquerque**	**9.25**	**93**	Lg	Lg	09 35 26.5	
	comp=N,0.6nm,0.3s,baz=271,slow=17,SNR=2.9						
PDAR	**Pinedale Array**	**9.33**	**40**	Lg	Lg	09 35 31.0	
	comp=N,0.4nm,0.3s,baz=237,slow=40,SNR=1.8						
TXAR	**Lajitas Array**	**13.54**	**115**	Pn	**Pn**	**09 33 55.4**	**+0.4**
	comp=N,1.0nm,0.3s,baz=301,slow=14,SNR=9.3						
	comp=N,2.0nm,0.4s						
ULM	**Lac du Bonnet**	**21.35**	**41**	P	**P**	**09 35 28.3**	**-1.7**
	comp=N,4.8nm,0.8s,baz=236,slow=11,SNR=2.0						
	comp=N,4.8nm,0.8s						
YKA	**Yellowknife Ar**	**26.69**	**3**	P	**P**	**09 36 23.7**	**+2.0**
	comp=N,1.6nm,0.8s,baz=187,slow=8.6,SNR=4.5						
YKA				PcP	**PcP**	**09 39 46.8**	**+1.9**
	comp=N,0.3nm,0.7s,baz=191,slow=2.2,SNR=4.1						
	comp=N,1.6nm,0.8s						
ILAR	**Eielson Array**	**33.76**	**338**	P	**P**	**09 37 26.3**	**+2.0**
	comp=N,1.3nm,0.8s,baz=136,slow=8.6,SNR=5.0						
ILAR				PcP	**PcP**	**09 40 04.0**	**+0.6**
	comp=N,0.7nm,0.8s,baz=150,slow=2.7,SNR=4.8						
	comp=N,1.3nm,0.8s						
PETK	**Petropavlovsk-**	**59.19**	**316**	P	**P**	**09 40 44.0**	**+0.2**
	comp=N,3.7nm,0.8s,baz=72,slow=14,SNR=5.6						
	comp=N,3.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**78.27**	**316**	P	**P**	**09 42 44.8**	**+1.9**
	comp=N,3.8nm,0.8s,baz=69,slow=7.9,SNR=3.7						
	comp=N,3.8nm,0.8s						
ESDC	**Sonseca Array**	**83.18**	**45**	P	**P**	**09 43 11.1**	**+1.8**
	comp=N,0.3nm,0.5s,baz=305,slow=4.6,SNR=2.0						
	comp=N,0.3nm,0.5s						
KSRS	**Korea Array**	**85.00**	**313**	P	**P**	**09 43 21.0**	**+2.5**
	comp=N,1.5nm,0.8s,baz=52,slow=6.9,SNR=5.1						
	comp=N,1.5nm,0.8s						
SONM	**Songino Array**	**87.78**	**332**	P	**P**	**09 43 34.4**	**+2.3**
	comp=N,0.8nm,0.7s,baz=29,slow=3.3,SNR=3.4						
	comp=N,0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**88.41**	**347**	P	**P**	**09 43 34.5**	**-0.3**
	comp=N,0.6nm,0.6s,baz=38,slow=2.6,SNR=1.9						
	comp=N,0.6nm,0.6s						
AKASG	**Malin Array Be**	**88.98**	**20**	P	**P**	**09 43 39.3**	**+1.7**
	comp=N,0.6nm,0.5s,baz=316,slow=3.9,SNR=2.1						
	comp=N,0.6nm,0.5s						
BVAR	**Borovoye Array**	**91.16**	**355**	P	**P**	**09 43 49.0**	**+1.3**
	comp=N,1.3nm,0.7s,baz=7.1,slow=5.8,SNR=2.7						
	comp=N,1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**92.66**	**350**	P	**P**	**09 43 57.7**	**+3.0**
	comp=N,0.8nm,0.8s,baz=15,slow=3.9,SNR=4.1						
	comp=N,0.8nm,0.8s						
MAW	**Mawson**	**148.25**	**180**	PKPbc	**PKPab**	**09 50 29.5**	**-1.5**
	comp=N,2.5nm,0.8s,baz=219,slow=6.5,SNR=3.9						

NEIC ***06*** *09:33:24.7±0.9,35°.875N±0°.009×117°.72W±0°.02, h11km±7km, Error ellipse: s-maj=1.8km s-min=1.3km az=102.0*

PAS 06 09:33:25.1±1.0,**35°.875N**±0°.007×**117°.72W**±0°.01, **h8km±4km,ML3.3**/22,**ML3.0**/24(NEIC),**Error ellipse: s-maj=1.5km s-min=0.7km az=128.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.07**	**207**		Pg	09 33 27.4	+0.3
WVPM	**Volcano Peak E**	**0.11**	**314**		Pg	09 33 27.6	0.0
CLC	**China Lake**	**0.12**	**120**		Pg	09 33 27.6	-0.1
WNMM	**Nine Mile Cany**	**0.15**	**258**		Pg	09 33 28.5	+0.2
WNMM					Sg	09 33 31.2	+0.7
SRTC	**Snort**	**0.18**	**187**		Pg	09 33 29.1	+0.2
WRVM	**Rose V. Centra**	**0.19**	**314**		Pg	09 33 29.0	-0.1
MPMC	**Manual Prospec**	**0.26**	**46**		Pg	09 33 30.3	-0.1
MFS	**McCloud Flat S**	**0.26**	**336**		Pg	09 33 30.7	+0.3
MFS					Sg	09 33 34.4	+0.3
LRMC	**Laurel Mtn Rad**	**0.40**	**175**	Pg	Pg	09 33 32.1	-0.7
LRMC				Sg	Sg	09 33 37.9	-0.1
LRMC				IAML		09 33 38.6	
	comp=N,2μm,0.2s						
LRMC				IAML		09 33 39.0	
	comp=E,2μm,0.5s						
CCCA	**Chr Cany lake**	**0.46**	**140**		Sg	09 33 40.8	+0.9
WORM	**Onyx Ranch**	**0.46**	**247**		Pg	09 33 33.6	-0.4
WBSM	**Bird Springs**	**0.48**	**225**		Pg	09 33 34.2	-0.3
WBSM					Sg	09 33 40.7	-0.1
DTP	**Desert Tortois**	**0.61**	**189**		Pg	09 33 36.5	-0.5
CWC	**Cottonwood Cre**	**0.63**	**333**		Pg	09 33 37.5	+0.2
ISA	**Isabella, Lake**	**0.65**	**251**		Sg	09 33 45.8	-0.3
ISA	**Isabella, Lake**	**0.65**	**251**	Pg	Pg	09 33 37.1	-0.5
ISA				IAML		09 33 45.9	
	comp=N,728nm,0.3s						
ISA				IAML		09 33 47.5	
	comp=E,587nm,0.4s						
CGO	**Cerro Gordo**	**0.68**	**354**		Sg	09 33 47.7	+0.6
WASM	**Alta Sierra Ca**	**0.69**	**259**		Pg	09 33 38.0	-0.4
WASM					Sg	09 33 48.0	+0.5
QSM	**Queen of Sheba**	**0.70**	**82**		Pg	09 33 38.1	-0.4
CCAC	**Calif City Air**	**0.76**	**199**	Pg	Pg	09 33 39.3	-0.5
CCAC				IAML		09 33 50.1	
	comp=N,566nm,1.1s						
CCAC				IAML		09 33 50.2	
	comp=E,666nm,0.4s						
SPG2	**Springville 2**	**0.91**	**291**		Pb	09 33 42.9	-0.2
SPG2					Sg	09 33 53.5	-0.8
GWY	**Greenwater Val**	**0.91**	**70**	Pg	Pg	09 33 42.3	-0.3
GWY				IAML		09 33 54.9	
	comp=E,465nm,1.4s						
GSC	**Goldstone, Bar**	**0.94**	**127**	Pg	Pg	09 33 42.4	-0.8
GSC				IAML		09 33 58.5	
	comp=E,419nm,0.5s						
GRAC	**Grapevine Rang**	**1.16**	**14**	Pg	Pg	09 33 46.7	-0.6
ARVC	**Arvin**	**1.17**	**231**		Pg	09 33 44.5	-3.2
SHOC	**Shoshone, Teco**	**1.18**	**88**		Pg	09 33 47.4	-0.2
SGV	**South Grapevin**	**1.23**	**27**		Sg	09 34 04.3	-0.6
WCT	**Wildcat Mounta**	**1.27**	**44**		Pn	09 33 48.4	-0.9
WCT				IAML		09 34 05.5	
	comp=N,227nm,1.7s						
WCT				IAML		09 34 26.1	
	comp=E,234nm,0.5s						
LRRC	**Littlerock Res**	**1.37**	**191**		Pb	09 33 51.2	+0.2
DSP	**Deep Springs**	**1.50**	**352**		Pn	09 33 52.1	-0.3
DSP				IAML		09 34 28.6	
	comp=N,169nm,0.9s						
DSP				IAML		09 34 48.0	
	comp=E,226nm,0.6s						
PDE	**Pardee, Santa**	**1.59**	**206**		Pn	09 33 51.5	-2.1
TPNV	**Topopah Spring**	**1.60**	**48**		Pn	09 33 53.3	-0.6
MWC	**Mount Wilson**	**1.67**	**190**		Pb	09 33 56.3	0.0
BLCC	**Black Canyon**	**1.81**	**206**		Pn	09 33 53.8	-2.8
CLTC	**Calectric**	**1.81**	**169**		Sn	09 34 19.8	0.0

NEIC ***06*** *09:33:59.2±1.4,35°.894N±0°.006×117°.721W±0°.009, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.5km az=336.0*

PAS 06 09:33:59.8±1.3,**35°.890N**±0°.008×**117°.73W**±0°.01, **h4km±2km,ML3.7**/131,**ML3.4**/30(NEIC),**Error ellipse: s-maj=1.3km s-min=1.1km az=122.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.09**	**201**		Pg	09 34 02.2	+0.6
TOW					Sg	09 34 04.7	+1.8
WVPM	**Volcano Peak E**	**0.10**	**308**		Pg	09 34 01.9	+0.1
WVPM					Sg	09 34 03.6	+0.5
CLC	**China Lake**	**0.13**	**126**		Pg	09 34 02.4	+0.1
CLC					Sg	09 34 04.6	+0.6
WNMM	**Nine Mile Cany**	**0.15**	**252**		Pg	09 34 03.0	+0.2
WNMM					Sg	09 34 05.5	+0.7
SRTC	**Snort**	**0.20**	**186**		Pg	09 34 04.2	+0.5
SRTC					Sg	09 34 08.1	+1.8
MFS	**McCloud Flat S**	**0.25**	**335**		Pg	09 34 04.6	-0.1
MFS					Sg	09 34 08.2	+0.3
MPMC	**Manual Prospec**	**0.25**	**49**		Pg	09 34 04.6	-0.1
MPMC					Sg	09 34 08.2	+0.1
LRMC	**Laurel Mtn Rad**	**0.41**	**175**		Pg	09 34 07.7	0.0
LRMC					Sg	09 34 13.6	+0.5
LRMC				IAML		09 34 14.2	
	comp=N,3μm,0.3s						
CCCA	**Chr Cany lake**	**0.47**	**141**		Pg	09 34 07.2	-1.6
CCCA					Sg	09 34 16.3	+1.5
WBSM	**Bird Springs**	**0.49**	**224**		Pg	09 34 09.1	-0.1
WBSM					Sg	09 34 15.9	+0.4
CWC	**Cottonwood Cre**	**0.62**	**332**		Pg	09 34 11.7	0.0
CWC					Sg	09 34 19.7	-0.1
DTP	**Desert Tortois**	**0.63**	**189**		Pg	09 34 11.5	-0.4
ISA	**Isabella, Lake**	**0.65**	**250**		Pg	09 34 11.8	-0.4
ISA	**Isabella, Lake**	**0.65**	**250**		Sg	09 34 20.8	+0.1
CGO	**Cerro Gordo**	**0.66**	**355**		Pg	09 34 11.3	-1.2
WASM	**Alta Sierra Ca**	**0.69**	**258**		Pg	09 34 12.8	-0.3
WASM					Sg	09 34 22.1	+0.1
QSM	**Queen of Sheba**	**0.70**	**84**		Pg	09 34 12.8	-0.4
CCAC	**Calif City Air**	**0.77**	**198**		Pg	09 34 14.2	-0.4
CCAC				IAML		09 34 42.0	
	comp=N,2μm,0.4s						
CCAC				IAML		09 34 42.1	
	comp=E,2μm,0.3s						
SPG2	**Springville 2**	**0.90**	**290**		Pg	09 34 14.9	-2.1
FURC	**Furnace Creek,**	**0.90**	**50**		Sg	09 34 29.2	+0.4
GWY	**Greenwater Val**	**0.91**	**71**	Pg	Pg	09 34 17.0	-0.2
GWY					Sg	09 34 28.7	-0.2
GWY				IAML		09 34 48.5	
	comp=E,2μm,0.4s						
GSC	**Goldstone, Bar**	**0.95**	**128**	Pg	Pg	09 34 17.2	-0.8
GSC				IAML		09 34 39.6	
	comp=N,1μm,0.3s						
GSC	**Goldstone, Bar**	**0.95**	**128**		Sg	09 34 29.3	-1.0
TEJ	**El Tejon**	**1.03**	**230**		Pg	09 34 18.5	-1.0
TEJ					Sg	09 34 32.4	-0.3
EDW2	**Edwards Air Fo**	**1.03**	**192**		Pg	09 34 18.6	-0.9
EDW2					Sg	09 34 32.6	-0.3
HYS	**Haystack Butte**	**1.03**	**173**		Pg	09 34 18.8	-0.8
HYS					Sg	09 34 33.5	+0.6
TPO	**Tropico Hills**	**1.09**	**202**		Pg	09 34 19.8	-0.9
VES	**Vestal, Richgr**	**1.11**	**268**		Pg	09 34 20.4	-0.5
VES					Sg	09 34 35.4	+0.1
GRAC	**Grapevine Rang**	**1.14**	**15**	Pg	Pg	09 34 20.8	-0.8
GRAC				IAML		09 34 27.5	
	comp=E,922nm,0.6s						
GRAC				IAML		09 34 49.1	
	comp=N,938nm,0.6s						
SHOC	**Shoshone, Teco**	**1.18**	**89**		Pg	09 34 22.2	-0.1
SHOC					Sg	09 34 37.8	+0.2
ARVC	**Arvin**	**1.18**	**230**		Pg	09 34 22.3	-0.1
TJR	**Tejon Ranch**	**1.20**	**224**		Pg	09 34 21.6	-1.1
TJR					Sg	09 34 37.4	-0.8
SBB	**Saddle Back Bu**	**1.20**	**184**		Pg	09 34 22.1	-0.7
SBB					Sg	09 34 38.1	-0.3
THC	**Tehachapi Micr**	**1.24**	**218**		Pg	09 34 22.4	-1.2
BAKC	**Calstate**	**1.25**	**245**		Pg	09 34 23.2	-0.5
BAKC					Sb	09 34 40.3	-0.1
WCT	**Wildcat Mounta**	**1.27**	**44**		Pg	09 34 23.1	-0.9
WCT				IAML		09 34 42.3	
	comp=E,829nm,0.5s						
WCT				IAML		09 34 44.0	
	comp=N,588nm,0.7s						
AMDNV	**Amargosa**	**1.30**	**64**		Pg	09 34 24.1	-0.5
AMDNV					Sg	09 34 40.6	-0.8
LEOC	**Leona Valley**	**1.34**	**201**		Pn	09 34 25.0	-0.4
SDH	**Striped Hills**	**1.35**	**56**		Pn	09 34 25.4	-0.1
VTV	**Victorville**	**1.37**	**166**		Pn	09 34 25.1	-0.6
VTV					Sg	09 34 40.1	-3.6
BTPC	**Burnt Peak**	**1.39**	**210**		Sg	09 34 44.0	-0.5
CJV	**Casa Juvan**	**1.40**	**194**		Pg	09 34 26.6	0.0
VOG	**Valley Oaks Go**	**1.41**	**288**		Pn	09 34 24.8	-1.4
JNH	**Juniper Hills**	**1.45**	**187**		Pn	09 34 25.6	-1.4
GMN	**Gold Mountain**	**1.46**	**15**		Pn	09 34 26.5	-0.7
GMN				IAML		09 35 03.5	
	comp=N,468nm,0.3s						
OSI	**Osito Audit: C**	**1.51**	**213**		Sn	09 34 45.6	-2.3
DSCC	**Desert Studies**	**1.52**	**119**		Pn	09 34 27.4	-0.4
BHPR	**Bishop**	**1.53**	**337**		Pn	09 34 28.3	+0.1
TUQ	**Turquoise Moun**	**1.54**	**107**		Pn	09 34 26.5	-1.6
CHFC	**Chilao Flat St**	**1.57**	**189**		Pb	09 34 29.4	-0.1
CHFC					Sn	09 34 45.8	-3.8
TPNV	**Topopah Spring**	**1.59**	**48

DSP	Deep Springs	1.51 352		Pn	09 37 06.4 -0.8
MTUM	Tungsten Hills	1.64 335		Pn	09 37 09.5 +0.4
MWC	Mount Wilson	1.67 190		Pn	09 37 08.5 -1.0
MWC			IAML		09 37 33.7
	comp=E,186nm,0.6s				
BCW	Bitter Crk WRg	1.68 237		Pn	09 37 10.1 +0.5
PASC	Pasadena Art C	1.74 193		Pn	09 37 10.1 -0.3
CLTC	Calectric	1.80 170		Sn	09 37 32.7 -1.8
BLCC	Black Canyon	1.81 206		Pn	09 37 10.1 -1.2
NV11	Mina Array Sit	2.58 352	Pn	Pn	09 37 21.5 -0.6

BJI **06** *09:44:25.7, 6.°05S×155.°16E, h42km, mB5.5/65, mb5.2/85, Ms5.2/87, Ms7 5.1/84*

MOS **06** *09:44:26.2±0.8, 6.°18S×154.°69E, h36km, mb5.6/44, MS5.0/17, Error ellipse: s-maj=8.6km s-min=5.4km az=109.9*

NEIC **06** *09:44:28.8±2.1, 6.°27S±0.°07×154.°74E±0.°07, h38km±4km, mb5.6/524, Ms_20 5.5/773, Mww5.7/23, Error ellipse: s-maj=11.6km s-min=9.0km az=216.0*

NEIC **06** *09:44:29.7, 6.°27S×154.°95E, h46km, Moment Tensor Solution. Duration: 35 Moment tensor: Scale 10^17 Nm; Mrr=4.31; Mθθ=-3.07; Mφφ=-1.25; Mrθ=0.42; Mθφ=1.98; Mrφ=0.08; Fault plane solution: Mo=4.35000×10^17 NP1: φs=306.55000°, δ=43.05000°, λ=95.70000°. NP2: φs=118.77000°, δ=47.22000°, λ=84.70000°. Principal axes: T 4.3464, Plg86.0000°, Azm331.0000°; N -0.0009, Plg4.0000°, Azm122.0000°; P -4.3455, Plg2.0000°, Azm213.0000°;*

NEIC **06** *09:44:29.7, 6.°27S×154.°74E, h46km*

IDC **06** *09:44:30.8±0.9, 6.°27S×154.°73E, h65km±7km, mb5.1/38, mbtmp5.4/41, MS5.0/52, Error ellipse: s-maj=8.2km s-min=5.9km az=69.0*

DJA **06** *09:44:30.7±0.7, 6.°S±3.°×15.°5E±.°, h61km±6km, M5.7/91, mB6.1/67, mb5.8/91, Mw(mB)5.7/67, MwMwp5.5/18, Mwp5.7/18*

GCMT **06** *09:44:32.2±0.1, 6.°53S±0.°01×154.°76E±0.°01, h47km, MW5.7/148, Moment Tensor Solution. s148,c233; s140,c251; Duration: 18 Moment tensor: Scale 10^17 Nm; Mrr=4.95±.08; Mθθ-3.55±.06; Mφφ-1.40±.06; Mrθ=0.35±.06; Mθφ=2.39±.04; Mrφ=0.27±.06; Best double couple: Mo=5.04300×10^17 NP1:φs=308.00000°, δ=44.00000°, λ=97.00000°. NP2:φs=118.00000°, δ=46.00000°, λ=83.00000°. Principal axes: T 4.9880, Plg85.0000°, Azm313.0000°; N 0.1100, Plg5.0000°, Azm123.0000°; P -5.0980, Plg1.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 09:44:29.7±0.3, 6.°31S±0.°03×154.°78E±0.°03, h55km±2km, h55km:pP-P, n1463, s1346/1034, mb5.6/385, MS5.5/474, 19C-6D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	Az°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	3.34 309			Pn	09 45 21.5	+2.0
TATA	Tatamba Isabel	5.40 113		P	Pn	09 45 49.5	+1.8
TATA	Tatamba Isabel	5.40 113		S	Sn	09 46 52.3	+3.8
SAVO	Savo Central	5.74 120		P	Pn	09 45 55.5	+3.2
HNR	Honiara	5.99 122			Pn	09 45 59.3	+3.5
HNR	Honiara	5.99 122		P	Pn	09 45 58.5	+2.7
	3μm,0.9s,baz=296,slow=1.4,SNR=34						
HNR				S	Sn	09 47 08.9	+5.8
	11μm,1.0s,baz=246,slow=20,SNR=9.0						
HNR				LR	LR	09 48 15.3	
	comp=Z,23μm,19.9s,baz=300,slow=37						
HNR	Honiara	5.99 122		P	Pn	09 45 59.6	+3.8
HNR	Honiara	5.99 122		S	Sn	09 47 07.6	+4.5
ALEG	Aligegeo Malai	6.35 113		P	Pn	09 46 02.4	+1.6
ALEG	Aligegeo Malai	6.35 113		S	Sn	09 47 16.1	+4.1
NGOA	Tingoa Renbel	7.38 135		P	Pn	09 46 16.7	+1.9
NGOA	Tingoa Renbel	7.38 135		S	Sn	09 47 41.0	+3.8
HURO	Huro Makira	8.17 121		P	Pn	09 46 29.8	+4.1
HURO	Huro Makira	8.17 121		S	Sn	09 48 01.2	+4.5
MANU	Manus Island	8.52 300			Pn	09 46 31.7	+1.3
LUES	Luesalemba Tem	11.83 112		P	Pn	09 47 18.8	+3.0
PATS	Pohnpei	13.53 15			Pn	09 47 38.9	0.0
PATS	Pohnpei	13.53 15		P	Pn	09 47 38.3	-0.6
PATS	Pohnpei	13.53 15		P	Pn	09 47 39.5	+0.6
COEN	Coen	13.71 235			Pn	09 47 42.3	+0.9
COEN	Coen	13.71 235		P	Pn	09 47 44.7	+3.2
	comp=Z,0.0nmcomp=Z,376nm,1.1s						
COEN	Coen	13.71 235		P	Pn	09 47 42.7	+1.2
JAY	Jayapura	14.52 284		P	Pn	09 47 53.7	+1.4
	comp=Z,93nm,1.0s,baz=104,slow=16,SNR=13						
JAY				S	Sn	09 50 35.6	+3.5
	comp=Z,24nm,1.0s,baz=131,slow=20,SNR=1.3						
JAY	Jayapura	14.52 284		P	Pn	09 47 53.3	+1.0
GENI	Genyem	15.02 284		P	Pn	09 48 00.2	+1.5
GENI	Genyem	15.02 284		P	Pn	09 47 59.9	+1.2
	comp=Z,7μmcomp=Z,4μmcomp=Z,206nm,1.2s						
MTSU	Mount Surprise	15.57 220		P	P	09 48 07.6	-1.4
	comp=Z,131nm,0.9s						
MTSU	Mount Surprise	15.57 220		P	Pn	09 48 07.1	+1.3
VLAKA	Lakatoro	15.76 129		P	P	09 48 10.9	-0.3
CTAO	Charters Tower	16.00 210			P	09 48 13.1	-0.8
CTAO	Charters Tower	16.00 210		P	P	09 48 13.7	-0.2
CTAO	Charters Tower	16.00 210		P	P	09 48 13.1	-0.8
CTAO				pmax	pmax		
	comp=Z,207nm,1.1s						
SMPI	Sarmi	16.58 284		P	P	09 48 20.0	-0.4
KOUNC	Koumac, New Ca	16.90 148		P	P	09 48 25.1	+1.3
GD1S	Gladstone Soft	17.78 191		P	P	09 48 35.8	+2.3
EIDS	Eidsvold	19.28 190			Pn	09 48 51.3	-0.2
EIDS	Eidsvold	19.28 190		P	Pn	09 48 50.7	-0.8
	comp=Z,0.0nmcomp=Z,265nm,1.5s						
EIDS	Eidsvold	19.28 190		P	Pn	09 48 52.4	+0.9
INH	Isangel	19.29 134		P	Pn	09 48 51.3	-0.3
BAKI	Biak	19.30 285		P	Pn	09 48 52.9	+1.1
	comp=Z,9μmcomp=Z,6μmcomp=Z,269nm,1.5s						
DZM	Mont Dzumac	19.30 145			Pn	09 48 51.5	-0.4
DZM				IAmb	IAmb	09 48 59.1	
	comp=Z,273nm,1.0s						
DZM	Mont Dzumac	19.30 145		eP	P	09 48 50.4	0.0
	comp=Z,597nm,1.1s						
DZM				eS	S	09 52 26.1	-0.1
	comp=Z,17μm,33.6s						
DZM				eLR	LR	09 53 32.2	
	comp=Z,17μm,26.8s						
DZM	Mont Dzumac	19.30 145		P	Pn	09 48 52.0	+0.1
	comp=Z,160nm,0.8s,baz=319,slow=15,SNR=53						
DZM				S	S	09 52 26.3	+0.1
	baz=0.0,slow=20						
DZM				LR	LR	09 55 25.1	
	comp=Z,7μm,21.8s,baz=325,slow=34						
DZM	Mont Dzumac	19.30 145		P	Pn	09 48 52.4	+0.5
OUENC	Ouen Island, N	19.80 145		P	Pn	09 48 57.7	0.0
QIS	Mount Isa	20.43 225		P	Pn	09 49 03.9	-1.2
	comp=Z,232nm,0.9s						
QIS	Mount Isa	20.43 225		P	Pn	09 49 04.0	-1.1
RKPI	Ransiki, Papua	21.09 282		P	P	09 49 11.7	+2.0
	comp=Z,8μmcomp=Z,290nm,0.9s						
GUMO	Guam	22.08 334			P	09 49 20.8	+0.5
GUMO				IAmb	IAmb	09 49 25.3	
	comp=Z,193nm,0.8s						
GUMO	Guam	22.08 334		P	P	09 49 19.2	-1.1
	comp=Z,142nm,0.8s,baz=168,slow=18,SNR=10						
GUMO				S	S	09 53 19.6	-1.1
	comp=Z,33nm,0.9s,baz=180,slow=18,SNR=1.5						
GUMO				LR	LR	09 57 17.4	
	comp=Z,2μm,21.5s,baz=152,slow=35						
	comp=Z,142nm,0.8s						
GUMO	Guam	22.08 334		P	P	09 49 21.7	+1.4
QLP	Quilpie	22.53 205		P	P	09 49 25.3	+0.3
	comp=Z,509nm,0.9s						
QLP	Quilpie	22.53 205		P	P	09 49 26.5	+1.5
FAKI	Fak Fak	22.70 278			P	09 49 27.3	+0.2
FAKI				IAmb	IAmb	09 49 32.0	
	comp=Z,317nm,0.9s						
FAKI	Fak Fak	22.70 278		P	P	09 49 28.7	+1.7
FAKI	Fak Fak	22.70 278		P	P	09 49 28.9	+1.9
	comp=Z,8μmcomp=Z,6μmcomp=Z,449nm,1.5s						
KDU	Kakadu	22.88 252		P	P	09 49 28.6	-0.3
	comp=Z,0.0nmcomp=Z,188nm,0.9s						
KDU	Kakadu	22.88 252		P	P	09 49 29.2	+0.4
SAUI	Saumlaki	23.35 264		P	P	09 49 34.1	+0.6
SAUI	Saumlaki	23.35 264		P	P	09 49 34.5	+1.0
SAUI	Saumlaki	23.35 264		P	P	09 49 36.5	+3.0
	comp=Z,19μmcomp=Z,2μm,1.4s						
WB0	Warramunga Arr	23.90 234		P	P	09 49 39.6	+1.0
WR8	Warramunga Arr	23.91 234		P	P	09 49 39.7	+1.0
WRAB	Tennant Creek	24.02 234		P	P	09 49 40.5	+0.8
WRAB	Tennant Creek	24.02 234		iP	P	09 49 39.8	+0.1
WRAB				pmax	pmax		
	comp=Z,557nm,1.1s						
WRA	Warramunga Arr	24.04 234		P	P	09 49 40.5	+0.7
WRA	Warramunga Arr	24.04 234		P	P	09 49 39.9	+0.1
	comp=Z,346nm,0.9s,baz=57,slow=9.3,SNR=280						
WRA				PcP	PcP	09 53 20.7	+0.1
	comp=Z,16nm,0.8s,baz=58,slow=2.1,SNR=5.7						
WRA				S	S	09 53 53.8	+0.4
	comp=Z,21nm,1.0s,baz=61,slow=16,SNR=6.6						
WRA				ScP	ScP	09 56 54.6	0.0
	comp=Z,2.9nm,1.0s,baz=61,slow=3.2,SNR=3.4						
WRA				LR	LR	09 58 55.2	
	comp=Z,7μm,20.3s,baz=78,slow=36						
	comp=Z,346nm,0.9s						
WRA	Warramunga Arr	24.04 234	ce	P	P	09 49 39.9	+0.1
WRA				pmax	pmax		
	comp=Z,353nm,1.0s						
SWI	Sorong	24.08 282		P	P	09 49 42.0	+1.8
	comp=Z,3μmcomp=Z,290nm,1.0s						
ARMA	Armidale	24.17 187			P	09 49 41.8	+0.8
ARMA				IAmb	IAmb	09 49 45.1	
	comp=Z,547nm,1.8s						
ARMA	Armidale	24.17 187		P	P	09 49 41.6	+0.6
	comp=Z,0.0nmcomp=Z,135nm,1.1s						
ARMA	Armidale	24.17 187		P	P	09 49 42.5	+1.5
MTN	Manton Dam	24.19 253			P	09 49 41.4	+0.2
MTN				IAmb	IAmb	09 49 44.1	
	comp=Z,357nm,1.1s						
MTN	Manton Dam	24.19 253		P	P	09 49 42.0	+0.8
	comp=Z,350nm,1.2s						
MTN	Manton Dam	24.19 253		P	P	09 49 42.0	+0.8
DRS	Darwin Rock St	24.32 254		P	P	09 49 43.5	+1.1
MSVF	Nonsavu	25.40 119			P	09 49 52.5	+0.2
MSVF				IAmb	IAmb	09 50 07.0	
	comp=Z,244nm,1.2s						
MSVF	Nonsavu	25.40 119		P	P	09 49 52.6	+0.3
	comp=Z,24nm,0.6s,baz=279,slow=17,SNR=15						
MSVF				LR	LR	09 59 09.3	
	comp=Z,6μm,19.8s,baz=296,slow=34						
	comp=Z,24nm,0.6s						
MSVF	Nonsavu	25.40 119		P	P	09 49 52.9	+0.6
LHI	Lord Howe Isla	25.40 171		P	P	09 49 52.5	+0.5
LHI	Lord Howe Isla	25.40 171		P	P	09 49 51.7	-0.4
	comp=Z,175nm,1.0s						
AS01	Alice Springs	26.43 227		P	P	09 50 02.4	+0.8
AS31	Alice Springs	26.47 227		P	P	09 50 02.6	+0.7
AS31	Alice Springs	26.47 227		P	P	09 50 02.5	+0.6
	comp=Z,30nm,0.9s						
ASAR	Alice Springs	26.47 227		P	P	09 50 02.5	+0.6
ASAR	Alice Springs	26.47 227		P	P	09 50 02.2	+0.3
	comp=Z,58nm,0.8s,baz=51,slow=8.9,SNR=399						
ASAR				PcP	PcP	09 53 26.2	+0.1
	comp=Z,23nm,0.7s,baz=54,slow=2.0,SNR=10						
ASAR				S	S	09 54 29.0	-3.2
	comp=Z,2.8nm,0.8s,baz=53,slow=14,SNR=1.8						
ASAR				ScP	ScP	09 57 02.8	+1.3
	comp=Z,2.1nm,0.7s,baz=48,slow=4.1,SNR=3.8						
ASAR				LR	LR	10 00 08.1	
	comp=Z,7μm,20.7s,baz=100,slow=35						
	comp=Z,58nm,0.8s						
CMSA	Cobar Meteorol	26.50 198		P	P	09 50 02.0	-0.1
	comp=Z,104nm,0.9s						
CMSA	Cobar Meteorol	26.50 198		P	P	09 50 02.4	+0.4
AAI	Ambon	26.61 274		P	P	09 50 07.0	+3.8
	comp=Z,2μmcomp=Z,158nm,1.0s						
NTLH	Newcastle Hard	26.61 186		P	P	09 50 04.6	+1.6
KNRA	Kununurra	27.15 248			P	09 50 08.6	+0.6
KNRA				IAmb	IAmb	09 50 43.5	
	comp=Z,83nm,0.8s						
KNRA	Kununurra	27.15 248		P	P	09 50 08.6	+0.6
	comp=Z,91nm,1.5s						
H11S3	WAKE ISLAND Hy	27.30 25		T	T	10 19 15.4	
	baz=205,slow=74						
H11S2	WAKE ISLAND Hy	27.31 25		T	T	10 19 12.1	
	baz=205,slow=74						
H11S1	WAKE ISLAND Hy	27.32 25		T	T	10 19 08.5	
	baz=205,slow=74						
SYDH	Sydney Hard Ro	27.57 187		P	P	09 50 13.2	+1.6
RIV	Riverview	27.59 187		P	P	09 50 13.2	+1.4
	comp=Z,147nm,1.1s						
NLAI	Namlea	27.74 275		P	P	09 50 17.0	+3.6
	comp=Z,4μmcomp=Z,3μmcomp=Z,199nm,1.6s						
TNTI	Ternate	28.25 283		P	P	09 50 18.7	+0.8
TNTI	Ternate	28.25 283		P	P	09 50 25.9	+8.0
STKA	Stephens Creek	28.27 204		P	P	09 50 17.5	-0.4
STKA	Stephens Creek	28.27 204		P	P	09 50 17.9	0.0
	comp=Z,285nm,1.5s						
STKA	Stephens Creek	28.27 204		P	P	09 50 18.0	+0.2
	comp=Z,42nm,0.8s,baz=30,slow=12,SNR=60						
STKA				PcP	PcP	09 53 30.0	-0.2
	comp=Z,19nm,0.8s,baz=42,slow=3.2,SNR=4.2						
STKA				S	S	09 54 57.2	-2.9
	comp=Z,2.6nm,0.6s,baz=0.0,slow=15,SNR=1.4						
STKA				ScP	ScP	09 57 07.4	+0.7
	comp=Z,9.6nm,1.0s,baz=20,slow=5.7,SNR=3.6						
STKA				LR	LR	10 01 36.1	
	comp=Z,8μm,19.9s,baz=9.7,slow=36						
	comp=Z,42nm,0.8s						
STKA	Stephens Creek	28.27 204		P	P	09 50 18.2	+0.4
YNG	Young	28.47 191		P	P	09 50 20.2	+0.5
	comp=Z,24nm,1.5s						
H11N1	WAKE ISLAND Hy	28.48 25		T	T	10 19 46.5	
	baz=205,slow=76,SNR=20						
H11N3	WAKE ISLAND Hy	28.49 25		T	T	10 19 57.5	
	baz=205,slow=76,SNR=26						
H11N2	WAKE ISLAND Hy	28.49 24		T	T	10 20 18.5	
	baz=205,slow=76,SNR=36						
SANI	Sanana	29.01 277		P	P	09 50 26.0	+1.3
SANI	Sanana	29.01 277		P	P	09 50 25.9	+1.3
	comp=Z,2μmcomp=Z,220nm,1.2s						
CNB	Canberra Magne	29.30 189		P	P	09 50 27.7	+0.7
	comp=Z,41nm,1.4s						
CNB	Canberra Magne	29.30 189		P	P	09 50 29.0	+2.0
CAN	Canberra	29.36 190		P	P	09 50 28.1	+0.5
CAN	Canberra	29.36 190		P	P	09 50 28.5	+1.0
	comp=Z,27nm,2.1s						
CAN	Canberra	29.36 190		P	P	09 50 29.2	+1.6
CAN	Canberra	29.36 190		P	P	09 50 28.1	+0.5
CAN				pmax	pmax		
	comp=Z,105nm,1.7s						
CAN				MLR	MLR		
	comp=Z,6μm,20.0s						
SOEI	Soe	30.39 262		P	P	09 50 37.9	+0.8
SOEI	Soe	30.39 262		P	P	09 50 38.8	+1.7
SOEI	Soe	30.39 262		P	P	09 50 39.2	+2.1
	comp=Z,2μmcomp=Z,221nm,1.3s						
FITZ	Fitzroy Crossi	30.74 245		P	P	09 50 40.0	+0.2
FITZ	Fitzroy Crossi	30.74 245		P	P	09 50 39.6	-0.3
	comp=Z,26nm,1.0s						
FITZ	Fitzroy Crossi	30.74 245		LR	LR	10 03 29.1	
	comp=Z,7μm,20.3s,baz=78,slow=37						
FITZ	Fitzroy Crossi	30.74 245		P	P	09 50 40.3	+0.4
HTT	Hallett	30.74 207		P	P	09 50 39.7	-0.1
	comp=Z,22nm,1.1s						
HTT	Hallett	30.74 207		P	P	09 50 40.9	+1.1
SGSI	Sangihe	30.84 288		P	P	09 50 45.1	+4.2
	comp=Z,4μmcomp=Z,9μmcomp=Z,428nm,0.9s						
BATI	Baumata	31.02 261		P	P	09 50 44.0	+1.5
	comp=Z,47nm,0.4s,baz=111,slow=11,SNR=5.8						
BATI				S	S	09 55 42.2	-1.7
	comp=Z,13nm,0.4s,baz=135,slow=4.3,SNR=1.1						
BATI				LR	LR	10 04 44.3	
	comp=Z,5μm,21.6s,baz=118,slow=39						
	comp=Z,47nm,0.4s						
BATI	Baumata	31.02 261		P	P	09 50 47.6	+5.1
	comp=Z,2μmcomp=Z,159nm,1.1s						
WHYH	Whyalla	31.03 209		P	P	09 50 42.6	+0.3
WRKA	Warakurna	31.46 231		P	P	09 50 46.0	-0.2
	comp=Z,96nm,0.9s						
KMSI	Cibinong	31.49 281		P	P	09 50 48.3	+1.7
DAV	Davao City (W)	32.02 294		LR	LR	10 02 01.3	
	comp=Z,2μm,21.8s,baz=102,slow=33						
TOO	Toolangi	32.25 194		P	P	09 50 53.8	+0.8
TOO	Toolangi	32.25 194		P	P	09 50 53.3	+0.3
	comp=Z,11nm,1.3s						
TOO	Toolangi	32.25 194		P	P	09 50 53.8	+0.8
TOO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MMRI	Maumere	32.34 264		P	P	09 50 55.1	+1.1
MMRI	Maumere	32.34 264		P	P	09 50 54.9	+0.9
MMRI	Maumere	32.34 264		P	P	09 50 55.3	+1.3
	comp=Z,7μmcomp=Z,552nm,1.7s						
LUWI	Luwuk	32.35 278		P	P	09 50 54.6	+0.4
LUWI	Luwuk	32.35 278		P	P	09 50 56.2	+2.0
LUWI				P	pP	09 51 09.4	+2.7
BRAT	Ballarat	32.63 196		P	P	09 50 57.9	+1.6
GEXS	Deakin Univers	33.15 195		P	P	09 51 02.7	+1.9
MRSI	Marisa	33.46 280		P	P	09 51 04.2	+0.4
	comp=Z,2μmcomp=Z,177nm,1.1s						
APSI	Ampana	33.48 278		P	P	09 51 05.5	+1.5
	comp=Z,4μmcomp=Z,452nm,1.2s						
OUZ	Omahuta	33.59 151		P	P	09 51 06.2	+1.5
BASI	Baing, Sumba	34.05 261		P	P	09 51 10.7	+1.7
BSSI	Bau Bau, Buton	34.08 268		P	P	09 51 11.9	+2.7
	comp=Z,4μmcomp=Z,327nm,1.6s						
WSI	Waingapu	34.30 262		P	P	09 51 13.2	+2.1
RAO	Raoul Island	34.42 135		LR	LR	10 03 05.6	
	comp=Z,2μm,21.9s,baz=275,slow=32						
WCZ	Waipu Caves	34.53 151		P	P	09 51 14.4	+1.6
BNSI	Bone	34.56 271		P	P	09 51 16.3	+2.9
	comp=Z,2μmcomp=Z,144nm,1.2s						
TOLI2	Tolitoli	34.73 281		P	P	09 51 14.6	-0.2
TOLI2				IAmb	IAmb	09 51 32.6	
	comp=Z,93nm,0.9s						
TOLI2	Tolitoli	34.73 281		P	P	09 51 15.2	+0.4
KAPI	Kappang	34.87 270		P	P	09 51 16.9	+0.8
KAPI				IAmb	IAmb	09 51 33.7	
	comp=Z,148nm,1.1s						
KAPI	Kappang	34.87 270		P	P	09 51 17.1	+1.0
	comp=Z,24nm,0.7s,baz=100,slow=18,SNR=9.4						
KAPI				S	S	09 56 43.9	+0.2
	comp=Z,3.6nm,0.3s,baz=83,slow=19,SNR=1.3						
KAPI				LR	LR	10 08 07.7	
	comp=Z,437nm,20.9s,baz=90,slow=41						
	comp=Z,24nm,0.7s						
KAPI	Kappang	34.87 270		P	P	09 51 17.1	+1.0
KAPI	Kappang	34.87 270	i	P	P	09 51 15.8	-0.3
KAPI				pmax	pmax		
	comp=Z,42nm,0.9s						
SPSI	Sidrap Palu	34.94 272		P	P	09 51 18.7	+2.0
	comp=Z,63nm,1.0s						
FORT	Forrest	34.94 223		P	P	09 51 16.8	+0.3
FORT				IAmb	IAmb	09 51 18.3	
	comp=Z,85nm,0.8s						
FORT	Forrest	34.94 223		P	P	09 51 16.9	+0.5
	comp=Z,130nm,0.9s						
TTSI	Tana Toraja	34.98 274		P	P	09 51 20.1	+3.0
	comp=Z,1μmcomp=Z,70nm,1.3s						
GLAD	Gladstone	35.05 189		P	P	09 51 18.9	+1.6
WBSI	Waikabubak, Su	35.19 262		P	P	09 51 20.2	+1.3
	comp=Z,4μmcomp=Z,335nm,1.0s						
PCI	Palu	35.27 277		P	P	09 51 22.2	+2.7
MPSI	Mapaga	35.43 279		P	P	09 51 20.7	-0.2
	comp=Z,3μmcomp=Z,285nm,1.0s						
WTAZ	Waiatarua	35.44 152		P	P	09 51 25.0	+4.3
MBAZ	Motutapu North	35.46 152		P	P	09 51 22.5	+1.7
AWAZ	Awhitu Peninsu	35.58 152		P	P	09 51 24.5	+2.7
WIAZ	Waiheke Island	35.59 151		P	P	09 51 23.4	+1.5
CORO	Coronation Par	35.65 190		P	P	09 51 24.1	+1.7
KUZ	Kuaotunu	35.84 151		P	P	09 51 25.6	+1.5
KUZ	Kuaotunu	35.84 151		P	P	09 51 25.3	+1.3
TOZ	Tahuroa Road	36.52 152		P	P	09 51 31.2	+1.3
TOZ				IAmb	IAmb	09 51 35.4	
	comp=Z,113nm,0.9s						
TOZ	Tahuroa Road	36.52 152		P	P	09 51 31.5	+1.7
MOO	Moorlands	36.61 189		P	P	09 51 31.9	+1.4
	comp=Z,103nm,1.6s						
MOO	Moorlands	36.61 189		P	P	09 51 33.4	+2.8
PLAI	Plampang	36.75 264		P	P	09 51 32.6	+0.4
PLAI	Plampang	36.75 264		P	P	09 51 31.7	-0.5
HIZ	Hauiti	36.86 153		P	P	09 51 34.6	+1.8
MBWA	Marble Bar	36.99 243		P	P	09 51 34.1	+0.1
MBWA				IAmb	IAmb	09 51 35.5	
	comp=Z,123nm,1.2s						
MBWA	Marble Bar	36.99 243		IAMs_20	IAMs_20	10 07 07.8	
	comp=Z,8μm,19.0s						
MBWA	Marble Bar	36.99 243		P	P	09 51 34.2	+0.1
	comp=Z,67nm,0.8s						
MBWA	Marble Bar	36.99 243		P	P	09 51 34.7	+0.6
MBWA	Marble Bar	36.99 243		P	P	09 51 33.9	-0.2
MBWA				sP	sP	09 51 50.3	-1.9
MBWA				PcP	PcP	09 53 54.8	+0.3
TAU	Tasmania Unive	37.04 189		P	P	09 51 35.8	+1.5
TAU				IAmb	IAmb	09 51 37.0	
	comp=Z,142nm,1.1s						
TAU	Tasmania Unive	37.04 189		P	P	09 51 36.2	+2.0
TAU	Tasmania Unive	37.04 189		P	P	09 51 35.8	+1.5
TAU				pmax	pmax		
	comp=Z,142nm,1.2s						
OMRZ	Omania	37.23 151		P	P	09 51 37.8	+1.8
VRZ	Vera Road	37.32 154		P	P	09 51 38.9	+2.2
HSRZ	Hossack Road	37.34 152		P	P	09 51 39.7	+2.8
HRRZ	Handcock Road	37.42 152		P	P	09 51 40.3	+2.8
WPRZ	Whakapapatarin	37.46 152		P	P	09 51 43.1	+5.2
PRRZ	Plateau Road	37.56 152		P	P	09 51 42.6	+3.9
TWSI	Taliwang, Sumb	37.63 264		P	P	09 51 39.2	-0.5
	comp=Z,2μmcomp=Z,223nm,1.5s						
HAZ	Te Kaha	37.65 150		P	P	09 51 41.4	+1.9
URZ	Urewera	37.71 151		P	P	09 51 40.9	+1.0
	comp=Z,57nm,0.6s,baz=344,slow=9.6,SNR=4.4						
URZ				LR	LR	10 06 43.0	
	comp=Z,2μm,18.3s,baz=320,slow=35						
	comp=Z,57nm,0.6s						
URZ	Urewera	37.71 151		P	P	09 51 41.2	+1.2
URZ	Urewera	37.71 151		P	P	09 51 43.0	+3.1
MUGZ	Murupara	37.72 151		P	P	09 51 44.0	+4.0
COVZ	Chateau Observ	37.73 153		P	P	09 51 41.9	+1.6
QRZ	Quartz Range	37.86 158		P	P	09 51 42.4	+1.2
QRZ	Quartz Range	37.86 158		P	P	09 51 43.1	+1.9
RTZ	Ruatahuna	37.93 151		P	P	09 51 43.0	+1.1
SMKI	Samarinda	37.93 277		P	P	09 51 59.3	+17
MWZ	Matawai	37.97 150		P	P	09 51 43.8	+1.6
BKZ	Black Stump Fm	38.14 152

KKM **Kota Kinabalu** 40.40 287 P **P** **09 52 03.9 +1.0**
MQZ **McQueen's Vall** 40.43 160 P **P** **09 52 03.0 +0.4**
DCZ **Deep Cove** 40.46 167 P **P** **09 52 03.1 +0.3**
MLZ **Mavora Lakes** 40.60 166 P **P** **09 52 04.6 +0.5**
MLZ IAmb IAmb 09 52 06.8
comp=Z,148nm,1.0s
MLZ IAMs_20 IAMs_20 10 05 33.8
comp=Z,6µm,22.0s
ODZ **Otahua Downs** 40.99 163 P **P** **09 52 07.9 +0.7**
ODZ IAmb IAmb 09 52 08.9
comp=Z,145nm,1.6s
ODZ IAMs_20 IAMs_20 10 08 00.1
comp=Z,7µm,19.0s
ODZ **Otahua Downs** 40.99 163 P **P** **09 52 06.1 -1.1**
GMJI **Gumukmas** 41.03 265 P **P** **09 52 11.3 +3.3**
comp=Z,77nm,1.2s
WHZ **Wether Hill Ro** 41.05 166 P **P** **09 52 07.9 +0.1**
WHZ **Wether Hill Ro** 41.05 166 P **P** **09 52 07.1 -0.6**
TUZ **Tuapeka** 41.54 164 P **P** **09 52 12.0 +0.3**
JOW **Kunigami** 41.77 323 P **P** **09 52 12.8 -1.0**
comp=Z,26nm,0.9s,baz=134,slow=7.0,SNR=8.0
JOW LR LR 10 07 02.0
comp=Z,2µm,21.7s,baz=143,slow=32
comp=Z,26nm,0.9s
JOW **Kunigami** 41.77 323 P **P** **09 52 14.7 +0.9**
APZ **The Paps** 41.95 166 P **P** **09 52 15.2 +0.1**
KLBR **Kellerberrin** 42.76 229 P **P** **09 52 21.5 -0.4**
comp=Z,406nm,0.9s
KLBR **Kellerberrin** 42.76 229 P **P** **09 52 22.0 0.0**
MORW **Morawa** 42.98 233 P **P** **09 52 23.6 -0.2**
MORW IAmb IAmb 09 52 25.1
comp=Z,143nm,1.1s
MORW **Morawa** 42.98 233 P **P** **09 52 23.5 -0.2**
comp=Z,140nm,1.1s
MORW **Morawa** 42.98 233 P **P** **09 52 24.1 +0.3**
NGJI **Ngawi** 43.01 266 P **P** **09 52 27.5 +3.4**
comp=Z,152nm,1.2s
BLDU **Ballidu** 43.12 231 P **P** **09 52 24.7 -0.1**
comp=Z,105nm,1.4s
BLDU **Ballidu** 43.12 231 P **P** **09 52 25.1 +0.3**
PCJI **Pacitan** 43.27 265 P **P** **09 52 26.8 +0.5**
SBUM **Sibu** 43.37 280 P **P** **09 52 28.2 +1.1**
SBUM **Sibu** 43.37 280 P **P** **09 52 28.6 +1.5**
YOJ **Yonaguni jima** 43.51 316 IAmb IAmb 09 52 34.5
comp=Z,144nm,1.1s
YOJ **Yonaguni jima** 43.51 316 P **P** **09 52 30.0 +2.0**
WOJI **Wonogiri, Jawa** 43.53 265 P **P** **09 52 29.4 +1.0**
comp=Z,5µmcomp=Z,312nm,1.7s
MIDW **Midway** 43.59 37 P **P** **09 52 29.8 +1.2**
MIDW IAMs_20 IAMs_20 10 07 31.1
comp=Z,7µm,22.0s
MIDW **Midway** 43.59 37 P **P** **09 52 30.7 +2.1**
STKI **Sintang** 43.67 277 P **P** **09 52 32.1 +2.6**
comp=Z,145nm,1.2s
NWAO **Narrogin (SRO)** 43.79 228 P **P** **09 52 29.6 -0.6**
NWAO IAmb IAmb 09 52 31.5
comp=Z,77nm,1.0s
NWAO **Narrogin (SRO)** 43.79 228 IAMs_20 IAMs_20 10 10 15.9
comp=Z,6µm,22.0s
NWAO **Narrogin (SRO)** 43.79 228 P **P** **09 52 30.0 -0.2**
comp=Z,130nm,1.2s
NWAO **Narrogin (SRO)** 43.79 228 LR LR 10 10 48.9
comp=Z,5µm,20.0s,baz=64,slow=36
NWAO **Narrogin (SRO)** 43.79 228 P **P** **09 52 30.1 -0.1**
NWAO **Narrogin (SRO)** 43.79 228 P **P** **09 52 30.9 +0.7**
NWAO **Narrogin (SRO)** 43.79 228 P **P** **09 52 29.6 -0.6**
NWAO pmax pmax
comp=Z,77nm,1.0s
NWAO MLR MLR
comp=Z,6µm,22.0s
UGM **Wanagama** 43.93 265 P **P** **09 52 31.8 +0.2**
UGM **Wanagama** 43.93 265 P **P** **09 52 32.6 +1.0**
UGM **Wanagama** 43.93 265 P P 09 52 42.1 +11
SMRI **Semarang** 44.03 266 P P 09 52 49.7 +17
YULB **Yu-li** 44.05 313 IAmb IAmb 09 52 37.1
comp=Z,75nm,0.9s
YULB **Yu-li** 44.05 313 P **P** **09 52 33.7 +1.3**
MUN **Mundaring** 44.11 230 P **P** **09 52 32.4 -0.4**
comp=Z,200nm,1.6s
MUN **Mundaring** 44.11 230 P **P** **09 52 32.9 +0.1**
NACB **Ninganchiao** 44.32 314 IAmb IAmb 09 52 38.6
comp=Z,92nm,0.9s
NACB **Ninganchiao** 44.32 314 P **P** **09 52 35.2 +0.7**
TPUB **Ta-pu** 44.48 313 IAmb IAmb 09 52 57.6
comp=Z,75nm,0.7s
TPUB **Ta-pu** 44.48 313 P **P** **09 52 38.2 +2.3**
SSLB **Suanglung** 44.54 313 P **P** **09 52 36.0 -0.4**
SSLB IAmb IAmb 09 52 41.4
comp=Z,64nm,0.8s
SSLB **Suanglung** 44.54 313 P **P** **09 52 37.9 +1.5**
YHNB **Yeheng** 44.79 315 P **P** **09 52 39.8 +1.4**
RKGY **Rocky Gully** 44.80 226 P **P** **09 52 38.8 +0.6**
comp=Z,81nm,1.1s
CTZ **Chatham Island** 44.95 151 P **P** **09 52 39.4 +0.2**
KSM **Kuching** 45.06 278 IAmb IAmb 09 52 44.5
comp=Z,112nm,1.0s
KSM **Kuching** 45.06 278 P **P** **09 52 41.6 +1.0**
JNU **Nakatsue** 45.31 331 IAmb IAmb 09 52 44.7
comp=Z,56nm,0.9s
JNU **Nakatsue** 45.31 331 P **P** **09 52 41.4 -0.9**
comp=Z,47nm,0.8s,baz=149,slow=3.9,SNR=22
comp=Z,47nm,0.8s
JNU **Nakatsue** 45.31 331 P **P** **09 52 42.8 +0.5**
MJAR **Matsushiro Arr** 45.37 341 P **P** **09 52 42.6 -0.1**
MJAR **Matsushiro Arr** 45.37 341 P **P** **09 52 40.6 -2.1**
comp=Z,4.4nm,0.8s,baz=157,slow=10,SNR=11
MJAR PcP **PcP** **09 54 19.8 -1.6**
comp=Z,9.1nm,0.9s,baz=153,slow=3.5,SNR=4.9
comp=Z,4.4nm,0.8s
MJAR **Matsushiro Arr** 45.37 341 P **P** **09 52 42.6 -0.1**
MJAR pmax pmax
comp=Z,8.0nm,1.0s
MAJO **Matsushiro** 45.37 341 P **P** **09 52 42.7 0.0**
MAJO **Matsushiro** 45.37 341 P **P** **09 52 44.3 +1.6**
MAJO **Matsushiro** 45.37 341 P **P** **09 52 42.7 0.0**
MAJO pmax pmax
comp=Z,15nm,0.9s
MAJO MLR MLR
comp=Z,1µm,20.0s
JCJI **Jatiwangi** 46.20 267 P **P** **09 52 52.4 +2.8**
RAR **Rarotonga** 46.38 113 P **P** **09 52 50.5 -0.4**
comp=Z,39nm,0.7s,baz=280,slow=6.1,SNR=3.6
RAR LR LR 10 09 18.3
comp=Z,818nm,20.4s,baz=280,slow=32
comp=Z,39nm,0.7s
BBJI **Bungbulang** 46.78 266 P **P** **09 52 55.3 +1.0**
QZH **Quanzhou** 46.95 313 P **P** **09 52 55.2 -0.1**
QZH S **S** **09 59 44.6 +1.8**
QZH sS **sS** **10 00 06.0 -1.2**
QZH pmax pmax
comp=Z,670nm,6.6s
QZH LR LR
comp=Z,840nm,19.9s
QZH LR LR
comp=Z,1µm,20.0s
QZH LR LR
comp=Z,2µm,25.4s
TPI **Tanjungpandan** 47.09 272 P **P** **09 52 59.8 +3.2**
comp=Z,1µmcomp=Z,81nm,1.5s
CNJI **Cibinong** 47.30 266 P **P** **09 52 58.3 +0.1**
comp=Z,4µmcomp=Z,432nm,1.2s
DBJI **Dramaga** 47.71 267 P **P** **09 53 05.9 +4.5**
comp=Z,156nm,1.1s
SKJI **Sukabumi** 47.88 266 P **P** **09 53 04.3 +1.5**
XMAS **Kiritimati** 48.42 82 IAMs_20 IAMs_20 10 09 58.2
comp=Z,4µm,20.0s
CGJI **Cibinong** 48.76 267 P **P** **09 53 09.0 -0.5**
comp=Z,308nm,0.9s
SSE **Sheshan** 49.14 321 P **P** **09 53 11.4 -0.7**
SSE S **S** **10 00 13.9 +0.4**
SSE pmax pmax
comp=Z,9.0nm,0.6s
SSE pmax pmax
comp=Z,160nm,4.1s
SSE LR LR
comp=Z,390nm,25.0s
SSE LR LR
comp=Z,400nm,25.0s
TJN **Taejon** 49.63 331 IAMs_20 IAMs_20 10 14 49.8
comp=Z,4µm,20.0s
TJN **Taejon** 49.63 331 P **P** **09 53 16.6 +0.9**
TJN **Taejon** 49.63 331 *i* P **P** **09 53 15.9 +0.2**
KSRS **Korea Array** 50.23 332 P **P** **09 53 19.9 -0.3**
comp=Z,20nm,0.9s,baz=144,slow=6.6,SNR=60
KSRS PcP **PcP** **09 54 39.0 +0.3**
comp=Z,4.8nm,0.8s,baz=157,slow=3.6,SNR=5.5
KSRS LR LR 10 14 59.2
comp=Z,203µm,18.4s,baz=140,slow=36
comp=Z,20nm,0.9s
KSAR **Wonju Array Be** 50.24 332 P **P** **09 53 20.0 -0.4**
KSAR **Wonju Array Be** 50.24 332 P **P** **09 53 20.0 -0.4**
KS19 **Wonju Array Si** 50.30 332 P **P** **09 53 20.3 -0.5**
MDSI **Maura Dua** 50.39 269 P **P** **09 53 21.3 -0.6**
comp=Z,1µmcomp=Z,79nm,1.4s
LWLI **Liwa** 50.47 269 P **P** **09 53 25.3 +2.6**
comp=Z,192nm,1.1s
INCN **Inchon** 50.87 331 P **P** **09 53 25.2 +0.1**
INCN IAmb IAmb 09 53 26.4
comp=Z,76nm,0.9s
INCN **Inchon** 50.87 331 P **P** **09 53 26.2 +1.1**
INCN **Inchon** 50.87 331 P **P** **09 53 25.2 +0.1**
INCN pmax pmax
comp=Z,76nm,0.9s
QIZ **Qiongzhong** 50.92 301 IAmb IAmb 09 53 42.0
comp=Z,89nm,1.4s
QIZ **Qiongzhong** 50.92 301 P **P** **09 53 26.9 +1.1**
QIZ sP **pwP** **09 53 42.5 -0.1**
QIZ S **S** **10 00 40.7 +1.9**
QIZ sS **sS** **10 01 02.0 -1.5**
QIZ pmax pmax
comp=Z,30nm,0.9s
QIZ pmax pmax
comp=Z,470nm,7.3s
QIZ LR LR
comp=Z,670nm,16.3s
QIZ LR LR
comp=Z,1µm,21.6s
QIZ **Qiongzhong** 50.92 301 P **P** **09 53 27.3 +1.5**
NJ2 **Nanjing** 51.25 320 *e*P **P** **09 53 29.1 +1.1**
NJ2 pmax pmax
comp=Z,21nm,0.6s
NJ2 pmax pmax
comp=Z,470nm,5.3s
NJ2 LR LR
comp=Z,420nm,16.6s
JKA **Kamikawa-asahi** 51.38 349 IAmb IAmb 09 54 09.9
comp=Z,61nm,1.2s
ASAJ **Asahikawa** 51.38 349 P **P** **09 53 29.2 +0.4**
comp=Z,12nm,0.9s,baz=195,slow=20,SNR=6.8
ASAJ LR LR 10 13 17.7
comp=Z,2µm,20.5s,baz=178,slow=34
comp=Z,12nm,0.9s
MYKOM **Kota Tinggi** 51.47 277 IAmb IAmb 09 53 33.6
comp=Z,93nm,1.0s
MYKOM **Kota Tinggi** 51.47 277 P **P** **09 53 31.0 +0.9**
KUR **Kuril'sk** 51.68 354 *e*P **P** **09 53 30.8 -0.2**
KUR S **S** **10 00 51.9 +3.6**
KUR MLR MLR
comp=Z,1µm,17.0s
KUR MLR MLR
comp=Z,2µm,20.0s
CNSH **ChangSha** 52.96 312 P **P** **09 53 42.6 +1.8**
CNSH S **S** **10 01 10.0 +3.5**
CNSH pmax pmax
comp=Z,48nm,1.1s
CNSH LR LR
comp=Z,700nm,8.3s
CNSH LR LR
comp=Z,730nm,14.5s
CNSH LR LR
comp=Z,2µm,27.1s
MSHR **Mys Shultsa** 53.19 338 *i* P **P** **09 53 41.4 -0.9**
MSHR pmax pmax
comp=Z,25nm,1.1s
WHN **Wuhan** 53.30 316 P **P** **09 53 44.3 +1.0**
WHN pP **pP** **09 53 56.2 -1.8**
WHN S **S** **10 01 10.8 -0.2**
WHN pmax pmax
comp=Z,150nm,0.9s
WHN pmax pmax
comp=Z,1µm,5.4s
WHN LR LR
comp=Z,1µm,14.9s
WHN LR LR
comp=Z,2µm,18.7s
WHN LR LR
comp=Z,9µm,32.7s
UBPT **Khong Chiam** 53.35 294 P **P** **09 53 45.2 +1.3**
PSTR **Posyet** 53.39 338 *i* P **P** **09 53 44.1 +0.4**
TEY **Ternei** 53.65 344 *e*P P 09 53 37.4 -8.2
KIP **Kipapa** 53.88 58 P **P** **09 53 47.2 -0.5**
KIP **Kipapa** 53.88 58 *ce*P **P** **09 53 48.9 +1.2**
KIP pmax pmax
comp=Z,56nm,1.0s
BKNI **Bangkinang** 54.03 275 P **P** **09 53 49.0 0.0**
BKNI **Bangkinang** 54.03 275 P **P** **09 53 49.9 +0.9**
YSS **Yuzhno-Sakhali** 54.09 350 P **P** **09 53 48.7 0.0**
YSS **Yuzhno-Sakhali** 54.09 350 P **P** **09 53 50.5 +1.8**
YSS **Yuzhno-Sakhali** 54.09 350 *e*P **P** **09 53 49.0 +0.3**
YSS *e*S **S** **10 01 25.4 +4.2**
YSS pmax pmax
comp=Z,300nm,5.4s
YSS pmax pmax
comp=Z,20nm,0.8s
YSS smax smax
comp=N,100nm,7.3s
YSS smax smax
comp=E,200nm,6.3s
YSS MLR MLR
comp=Z,1µm,18.0s
YSS MLR MLR
comp=N,1µm,19.0s
YSS MLR MLR
comp=E,600nm,17.0s
USA0B **Ussuriysk Arra** 54.31 340 P **P** **09 53 50.3 -0.1**
USA0B **Ussuriysk Arra** 54.31 340 *i* P **P** **09 53 50.4 -0.1**
USRK **Ussuriysk Ar.** 54.31 340 P **P** **09 53 50.1 -0.3**
comp=E,13nm,0.9s,baz=154,slow=8.0,SNR=20
comp=E,13nm,0.9s
DL2 **Dalian** 54.47 328 P **P** **09 53 51.1 -0.6**
DL2 S **S** **10 01 30.7 +4.1**
DL2 pmax pmax
comp=E,100nm,0.9s
DL2 pmax pmax
comp=E,190nm,7.3s
DL2 LR LR
comp=E,1µm,23.9s
DL2 LR LR
comp=E,1µm,22.7s
DL2 LR LR
comp=E,2µm,25.1s
PPI **Padang Panjang** 54.56 274 P **P** **09 53 52.1 -0.7**
IPM **Ipoh** 54.72 280 IAmb IAmb 09 53 57.1
comp=Z,89nm,0.9s
IPM **Ipoh** 54.72 280 P **P** **09 53 54.4 +0.4**
TIA **Tai'an** 55.09 323 P **P** **09 53 55.8 -0.5**
TIA S **S** **10 01 34.2 -0.9**
TIA pmax pmax
comp=Z,20nm,0.6s
TIA LR LR
comp=Z,350nm,19.2s
TIA LR LR
comp=Z,900nm,19.9s
TIA LR LR
comp=Z,2µm,22.0s
AIN **Ainahou** 55.24 61 P **P** **09 53 57.0 -0.8**
KULM **Kulim** 55.24 281 IAmb IAmb 09 54 00.1
comp=Z,63nm,1.0s
KULM **Kulim** 55.24 281 P **P** **09 53 58.2 +0.4**
MLH **Mauna Loa** 55.35 61 IAMs_20 IAMs_20 10 15 01.4
comp=Z,3µm,18.0s
PPT **Papeete** 55.40 107 LR LR 10 12 51.8
comp=Z,674nm,21.8s,baz=272,slow=31
PPT2 **Papeete2** 55.40 107 *e*P **P** **09 53 58.8 -0.1**
comp=Z,476nm,27.0s
PPT2 **Papeete2** 55.40 107 *e*PP **PP** **09 56 02.8 -0.5**
comp=Z,394nm,27.0s
PPT2 *e*S **S** **10 01 34.9 -5.1**
comp=Z,934nm,25.5s
PPT2 *e*SS **SS** **10 05 27.5 +2.1**
comp=Z,406nm,26.0s
PPT2 *e*LQ LQ 10 07 47.9
comp=Z,2µm,29.0s
PPT2 *e*LR LR 10 10 05.8
comp=Z,1µm,28.5s
PPT2 *e*LR LR 10 10 14.3
comp=Z,1µm,23.0s
HATHI **Halema'uma'u T** 55.43 61 IAMs_20 IAMs_20 10 14 48.6
comp=Z,3µm,21.0s
MDJ **Mudanjiang** 55.52 338 P **P** **09 53 59.2 0.0**
MDJ S **S** **10 01 39.1 -1.4**
MDJ sS pS 10 01 59.1 +2.5
MDJ pmax pmax
comp=Z,20nm,1.0s
MDJ pmax pmax
comp=Z,420nm,7.8s
MDJ LR LR
comp=Z,750nm,22.3s
MDJ LR LR
comp=Z,870nm,20.2s
MDJ LR LR
comp=Z,1µm,20.5s
MDJ **Mudanjiang** 55.52 338 P **P** **09 54 00.9 +1.7**
MNSI **Mandailing Nat** 55.54 275 P **P** **09 54 00.0 +0.1**
comp=Z,230nm,0.9s
JOKA **Jonika Flow** 55.66 61 IAMs_20 IAMs_20 10 17 26.6
comp=Z,3µm,19.0s
SISI **Saibi** 55.76 273 P **P** **09 54 02.8 +1.4**
comp=Z,148nm,1.0s
TBI **Tubuai** 56.15 114 *e*P **P** **09 54 03.7 -0.4**
comp=Z,2µm,26.5s
TBI *e*S **S** **10 01 49.2 -0.4**
comp=Z,3µm,30.0s
TBI *e*SS **SS** **10 05 38.9 +2.0**
comp=Z,2µm,26.0s
TBI *e*LQ LQ 10 08 11.0
comp=Z,13µm,28.8s
TBI *e*LR LR 10 10 28.0
comp=Z,6µm,28.0s
TBI *e*LR LR 10 10 32.0
comp=Z,31µm,29.8s
RPSI **Rantau Prapat** 56.48 277 IAmb IAmb 09 54 07.4
comp=Z,59nm,1.3s
PSI **Prapat** 56.49 278 P **P** **09 54 07.3 +0.4**
ENH **Enshi** 56.62 313 P **P** **09 54 07.2 -0.2**
ENH **Enshi** 56.62 313 P **P** **09 54 08.2 +0.9**
SKR **Severo-Kuril's** 56.77 1 *e*P **P** **09 54 06.8 -1.1**
SKR *e*S **S** **10 01 57.7 +0.9**
SKR pmax pmax
comp=Z,500nm,3.8s
SKR pmax pmax
comp=Z,49nm,1.0s
SKR MLR MLR
comp=Z,900nm,17.0s
GYA **Guiyang** 56.87 307 ⇑P **P** **09 54 09.9 +0.6**
GYA S **S** **10 02 01.5 +2.3**
GYA pmax pmax
comp=Z,33nm,1.2s
GYA pmax pmax
comp=Z,520nm,5.8s
GYA LR LR
comp=Z,740nm,21.4s
GYA LR LR
comp=Z,1µm,18.4s
GYA LR LR
comp=Z,2µm,22.2s
SLVN **Son La** 56.95 300 P **P** **09 54 10.5 +0.6**
SLVN IAmb IAmb 09 54 14.3
comp=Z,63nm,0.9s
SLVN **Son La** 56.95 300 P **P** **09 54 11.9 +2.0**
SRIT **Nakonsritamara** 56.96 284 P **P** **09 54 11.2 +1.2**
LYN **LuoYang** 56.97 318 *e*P **P** **09 54 10.1 +0.4**
LYN pP pP 09 54 22.6 -1.9
LYN sP sP 09 54 28.2 -2.6
LYN S **S** **10 01 58.6 -1.4**
LYN pmax pmax
comp=Z,34nm,0.9s
LYN LR LR
comp=Z,1µm,20.3s
LYN LR LR
comp=Z,1µm,23.4s
LYN LR LR
comp=Z,3µm,26.5s
BNX **BinXian** 57.30 338 ⇑P **P** **09 54 11.2 -0.6**
BNX sP **pP** **09 54 27.9 +1.2**
BNX S **S** **10 02 06.5 +2.6**
BNX pmax pmax
comp=Z,38nm,1.2s
BNX pmax pmax
comp=Z,350nm,11.0s
BNX LR LR
comp=Z,610nm,17.3s
BNX LR LR
comp=Z,490nm,20.8s
BNX LR LR
comp=Z,870nm,18.3s
HNS **HongShan** 57.33 322 ⇑P **P** **09 54 12.2 0.0**
HNS S **S** **10 01 57.2 -7.4**
HNS pmax pmax
comp=Z,41nm,1.2s
HNS pmax pmax
comp=Z,560nm,8.4s
HNS LR LR
comp=Z,480nm,22.2s
HNS LR LR
comp=Z,710nm,24.1s
HNS LR LR
comp=Z,970nm,20.7s
GSI **Gunungsitoli** 57.60 276 P **P** **09 54 13.7 -0.8**
GSI **Gunungsitoli** 57.60 276 P **P** **09 54 15.9 +1.4**
GSI **Gunungsitoli** 57.60 276 P **P** **09 54 13.9 -0.6**
comp=Z,193nm,0.9s
TYV **Tymovskoe** 57.90 351 *e*P **P** **09 54 16.5 +0.6**
TYV pmax pmax
comp=Z,21nm,0.9s
TYV pmax pmax
comp=Z,200nm,3.5s
BJT **Baijiatuau** 58.22 326 P **P** **09 54 18.2 -0.2**
BJT **Baijiatuau** 58.22 326 P **P** **09 54 20.2 +1.8**
BJT **Baijiatuau** 58.22 326 P **P** **09 54 18.2 -0.2**
BJT pmax pmax
comp=Z,14nm,0.8s
BJT MLR MLR
comp=Z,900nm,22.0s
BJI **Beijing** 58.23 326 P **P** **09 54 20.6 +2.2**
BJI sP **sP** **09 54 39.8 +0.3**
BJI S **S** **10 02 13.3 -3.1**
BJI pmax pmax
comp=Z,10.0nm,0.8s
BJI pmax pmax
comp=Z,180nm,9.1s
BJI LR LR
comp=Z,210nm,22.2s
BJI LR LR
comp=Z,350nm,22.7s
BJI LR LR
comp=Z,490nm,21.9s
KLR **Kul'dur** 58.85 343 P **P** **09 54 22.9 +0.3**
comp=Z,24nm,0.9s,baz=151,slow=6.3,SNR=53
KLR LR LR 10 17 56.8
comp=Z,780nm,21.6s,baz=166,slow=34
comp=Z,24nm,0.9s
KLR **Kul'dur** 58.85 343 *i* P **P** **09 54 23.3 +0.7**
KLR pmax pmax
comp=Z,47nm,1.1s
KLR MLR MLR
comp=Z,795nm,20.0s
GRNR **Gornyy** 59.02 347 *e*P **P** **09 54 20.8 -2.9**
XAN **Xi'an** 59.06 316 ⇑P **P** **09 54 24.4 0.0**
XAN S **S** **10 02 25.1 -2.5**
XAN SS **SS** **10 06 18.2 -4.4**
XAN pmax pmax
comp=Z,600nm,9.4s
XAN LR LR
comp=Z,640nm,19.6s
XAN LR LR
comp=Z,1µm,21.5s
XAN LR LR
comp=Z,2µm,20.1s
PET **Petropavlovsk** 59.20 3 P **P** **09 54 24.9 +0.1**
PET IAmb IAmb 09 54 29.4
comp=Z,56nm,0.7s
PET **Petropavlovsk** 59.20 3 P **P** **09 54 26.1 +1.2**
PET **Petropavlovsk** 59.20 3 *e*P **P** **09 54 25.0 +0.1**
PET *e*S **S** **10 02 31.8 +3.4**
PET pmax pmax
comp=Z,400nm,10.6s
PET pmax pmax
comp=Z,300nm,10.4s
PET pmax pmax
comp=Z,89nm,0.6s
PET MLR MLR
comp=Z,800nm,17.0s
PET MLR MLR
comp=Z,700nm,16.0s
PET **Petropavlovsk** 59.20 3 P **P** **09 54 25.3 +0.4**
comp=Z,758nmcomp=Z,83nm,0.8s
MLSI **Meulaboh, Aceh** 59.22 279 P **P** **09 54 25.3 -0.5**

comp=Z,111nm,0.9s
PEA0B Petropavlovsk- 59.24 2 P **P** **09 54 25.3 +0.1**
PEA0B Petropavlovsk- 59.24 2 *i* P **P** **09 54 25.3 +0.1**
PETK Petropavlovsk- 59.24 2 P **P** **09 54 25.6 +0.4**
comp=Z,52nm,0.7s,baz=180,slow=7.2,SNR=52
PETK S **S** **10 02 29.0 0.0**
comp=Z,0.5nm,0.5s,baz=148,slow=11,SNR=4.6
PETK LR LR 10 16 15.1
comp=Z,2μm,21.8s,baz=182,slow=32
comp=Z,52nm,0.7s
KMI Kunming 59.45 304 ⇑P **P** **09 54 29.1 +1.6**
KMI pP pP 09 54 43.3 +1.6
KMI S **S** **10 02 32.8 -0.5**
KMI pmax pmax
comp=Z,100nm,1.1s
KMI pmax pmax
comp=Z,420nm,7.7s
KMI LR LR
comp=Z,460nm,20.8s
KMI LR LR
comp=Z,1μm,23.8s
KMI LR LR
comp=Z,2μm,26.0s
CMAR Chiang Mai Arr 60.29 295 P **P** **09 54 34.4 +1.3**
CMAR Chiang Mai Arr 60.29 295 P **P** **09 54 34.6 +1.5**
comp=Z,134nm,0.8s,baz=109,slow=5.4,SNR=279
CMAR S **S** **10 02 45.7 +1.9**
comp=Z,0.5nm,0.3s,baz=109,slow=8.4,SNR=1.7
CMAR LR LR 10 19 17.7
comp=Z,749nm,21.4s,baz=105,slow=35
CMAR PKPPKP 10 23 53.5
comp=Z,1.5nm,0.8s,baz=310,slow=2.5,SNR=5.3
comp=Z,134nm,0.8s
CMAR Chiang Mai Arr 60.29 295 *i* P **P** **09 54 34.7 +1.6**
CMAR pmax pmax
comp=Z,148nm,0.8s
CHTO Chiang Mai 60.41 296 P **P** **09 54 34.8 +0.9**
CHTO Chiang Mai 60.41 296 P **P** **09 54 35.8 +1.9**
CHTO Chiang Mai 60.41 296 P **P** **09 54 34.8 +0.9**
CHTO pmax pmax
comp=Z,150nm,1.0s
CHTO Chiang Mai 60.41 296 P **P** **09 54 35.3 +1.4**
CHTO pP **pP** **09 54 44.5 -3.8**
PZH PanZhiHua 60.84 305 P **P** **09 54 37.4 +0.5**
PZH S **S** **10 02 53.1 +2.3**
PZH pmax pmax
comp=Z,20nm,1.4s
PZH pmax pmax
comp=Z,350nm,8.2s
PZH LR LR
comp=Z,680nm,20.0s
PZH LR LR
comp=Z,890nm,22.4s
PZH LR LR
comp=Z,2μm,27.5s
XLT XiLinHaoTe 60.96 329 *e*P **P** **09 54 37.1 -0.2**
XLT sP pP 09 54 54.8 +2.6
XLT S **S** **10 02 52.2 +0.6**
XLT SS **SS** **10 06 50.8 -1.3**
XLT pmax pmax
comp=Z,74nm,0.9s
XLT pmax pmax
comp=Z,400nm,11.2s
XLT LR LR
comp=Z,930nm,24.3s
XLT LR LR
comp=Z,2μm,23.3s
SMY Shemya 61.06 13 IAMs_20 IAMs_20 10 18 38.0
comp=Z,4μm,20.0s
SMY Shemya 61.06 13 P **P** **09 54 40.1 +2.4**
HEH HeiHe 61.12 340 *e*P **P** **09 54 37.6 -0.5**
HEH PcP **PcP** **09 55 19.7 -0.9**
HEH S **S** **10 02 58.7 +5.5**
HEH pmax pmax
comp=Z,21nm,0.8s
HEH pmax pmax
comp=Z,360nm,11.9s
HEH LR LR
comp=Z,420nm,20.2s
HEH LR LR
comp=Z,590nm,21.4s
HEH LR LR
comp=Z,790nm,19.4s
CD2 Chengdu 61.20 310 P **P** **09 54 39.5 +0.3**
CD2 S **S** **10 02 56.1 +0.9**
CD2 pmax pmax
comp=Z,100nm,0.6s
CD2 pmax pmax
comp=Z,570nm,4.8s
CD2 LR LR
comp=Z,2μm,22.0s
CD2 LR LR
comp=Z,2μm,23.0s
CD2 LR LR
comp=Z,2μm,22.6s
HHC Hu-ho-hao-te 61.41 324 *e*P **P** **09 54 41.6 +1.1**
HHC S **S** **10 02 56.7 -0.9**
HHC sS pS 10 03 18.5 +3.5
HHC SS **SS** **10 07 01.0 +1.7**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,160nm,5.1s
HHC LR LR
comp=Z,620nm,18.6s
HHC LR LR
comp=Z,500nm,18.4s
HHC LR LR
comp=Z,1μm,19.6s
BTO Baotou 62.18 323 *e*P **P** **09 54 48.8 +3.2**
BTO pP **pP** **09 55 00.1 -0.5**
BTO sP **sP** **09 55 07.3 +0.5**
BTO PP **PP** **09 57 04.4 +1.3**
BTO S **S** **10 03 14.1 +6.8**
BTO SS **SS** **10 07 13.0 +1.6**
BTO pmax pmax
comp=Z,48nm,0.8s
BTO pmax pmax
comp=Z,230nm,3.9s
BTO LR LR
comp=Z,860nm,18.6s
BTO LR LR
comp=Z,1μm,17.5s
BTO LR LR
comp=Z,2μm,19.9s
ADK Adak 62.90 19 P **P** **09 54 50.4 +0.4**
ADK Adak 62.90 19 IAMs_20 IAMs_20 10 18 15.6
comp=Z,4μm,20.0s
ADK Adak 62.90 19 P **P** **09 54 52.2 +2.2**
ADK Adak 62.90 19 P **P** **09 54 50.4 +0.4**
ADK pmax pmax
comp=Z,160nm,0.9s
ADK Adak 62.90 19 P **P** **09 54 51.0 +1.1**
TNCH TengChong 62.94 302 P **P** **09 54 51.8 +0.7**
TNCH pP pP 09 55 05.9 +0.5
TNCH sP sP 09 55 11.6 +0.3
TNCH PP **PP** **09 57 09.7 -0.4**
TNCH S **S** **10 03 16.7 -0.7**
TNCH sS sS 10 03 40.2 -1.1
TNCH pmax pmax
comp=Z,110nm,0.8s
TNCH pmax pmax
comp=Z,430nm,6.1s
TNCH LR LR
comp=Z,430nm,19.4s
TNCH LR LR
comp=Z,430nm,13.1s
TNCH LR LR
comp=Z,1μm,22.6s
HIA Hailar 63.21 335 P **P** **09 54 52.0 -0.2**
HIA IAmb IAmb 09 54 55.0
comp=Z,41nm,0.8s
HIA Hailar 63.21 335 P **P** **09 54 52.6 +0.4**
HIA Hailar 63.21 335 *i* P **P** **09 54 52.9 +0.7**
HIA pmax pmax
comp=Z,52nm,0.9s
HIA Hailar 63.21 335 P **P** **09 54 52.7 +0.4**
GSTR Great Sitkin T 63.28 20 IAMs_20 IAMs_20 10 16 59.8
comp=Z,3μm,22.0s
LZH Lanzhou 63.67 315 *e*P **P** **09 54 56.7 +1.0**
LZH pP pP 09 55 10.2 -0.6
LZH sP sP 09 55 17.5 +0.5
LZH S **S** **10 03 26.4 +0.1**
LZH SS **SS** **10 07 32.4 -2.6**
LZH pmax pmax
comp=Z,63nm,1.1s
LZH pmax pmax
comp=Z,520nm,4.5s
LZH LR LR
comp=Z,890nm,18.6s
LZH LR LR
comp=Z,1μm,18.2s
LZH LR LR
comp=Z,2μm,21.3s
ATKA Atka Island 64.01 21 IAmb IAmb 09 54 58.9
comp=Z,77nm,0.9s
ATKA IAMs_20 IAMs_20 10 17 43.2
comp=Z,5μm,22.0s
ATKA Atka Island 64.01 21 P **P** **09 54 59.5 +2.2**
ZEA Zeya 64.16 342 *i* P **P** **09 54 59.2 +0.9**
TAOE Nuku Hiva Isla 64.49 97 *e*P **P** **09 55 00.1 -1.3**
comp=Z,388nm,28.7s
TAOE *e*S **S** **10 03 32.4 -4.6**
comp=Z,301nm,28.1s
TAOE *e*SS **SS** **10 07 49.0 +0.8**
comp=Z,211nm,23.9s
TAOE *e*LR LR 10 14 20.3
comp=Z,1μm,23.5s
MA2 Magadan 65.75 358 P **P** **09 55 08.6 0.0**
MA2 IAmb IAmb 09 55 11.0
comp=Z,45nm,0.8s
MA2 Magadan 65.75 358 P **P** **09 55 09.1 +0.5**
comp=Z,39nm,0.8s,baz=165,slow=7.1,SNR=14
MA2 LR LR 10 21 10.8
comp=Z,871nm,21.8s,baz=182,slow=34
comp=Z,39nm,0.8s
MA2 Magadan 65.75 358 P **P** **09 55 10.1 +1.6**
MA2 Magadan 65.75 358 *ce*P **P** **09 55 08.8 +0.3**
MA2 pmax pmax
comp=Z,41nm,0.7s
MA2 Magadan 65.75 358 P **P** **09 55 08.1 -0.4**
comp=Z,75nm,0.8s
MA2 Magadan 65.75 358 P **P** **09 55 09.0 +0.5**
NIKH Nikolski High 66.60 23 P **P** **09 55 14.6 +0.5**
baz=220
CASY Casey 67.18 198 P **P** **09 55 17.9 +0.3**
CASY IAmb IAmb 09 55 47.3
comp=Z,85nm,1.4s
CASY Casey 67.18 198 IAMs_20 IAMs_20 10 20 22.0
comp=Z,3μm,22.0s
CASY Casey 67.18 198 P **P** **09 55 17.9 +0.3**
CASY PcP **PcP** **09 55 46.1 +0.9**
CIT Chita 67.90 334 *e*P **P** **09 55 21.6 -0.9**
CIT *e* 09 55 32.8
CIT *e* 09 55 48.8
CIT *e* 09 59 38.4
CIT pmax pmax
comp=Z,54nm,1.0s
GTA Gaotai 68.09 317 P **P** **09 55 25.2 +1.2**
GTA pP pP 09 55 39.0 -0.3
GTA PcP **PcP** **09 55 54.6 +4.8**
GTA S **S** **10 04 21.6 +1.7**
GTA sS sS 10 04 42.1 -3.1
GTA SS **SS** **10 08 41.0 -2.5**
GTA pmax pmax
comp=Z,43nm,1.1s
GTA pmax pmax
comp=Z,470nm,10.2s
GTA LR LR
comp=Z,590nm,22.5s
GTA LR LR
comp=Z,880nm,24.7s
GTA LR LR
comp=Z,2μm,24.7s
BRDH Bariadhala 68.09 297 LR LR 10 23 30.4
comp=Z,438nm,22.0s,baz=142,slow=34
UNV Unalaska Valle 68.18 24 IAMs_20 IAMs_20 10 19 31.7
comp=Z,4μm,22.0s
UNV Unalaska Valle 68.18 24 P **P** **09 55 24.3 +0.3**
baz=222
ULN Ulaanbaatar 68.31 328 P **P** **09 55 25.2 0.0**
ULN Ulaanbaatar 68.31 328 *ce*P **P** **09 55 25.8 +0.6**
ULN pmax pmax
comp=Z,39nm,1.3s
LVA Lava Point 68.60 24 IAMs_20 IAMs_20 10 19 43.8
comp=Z,4μm,22.0s
SONM Songino Array 68.64 327 P **P** **09 55 27.6 +0.3**
SONM IAmb IAmb 09 55 30.6
comp=Z,36nm,0.9s
SONM Songino Array 68.64 327 P **P** **09 55 27.4 +0.2**
comp=Z,31nm,0.9s,baz=133,slow=6.1,SNR=74
SONM PKPPKP 10 23 40.6
comp=Z,2.0nm,0.8s,baz=290,slow=2.7,SNR=6.1
comp=Z,31nm,0.9s
AKUT Akutan 68.69 24 IAMs_20 IAMs_20 10 19 45.1
comp=Z,4μm,22.0s
SHL Shillong 68.76 300 P **P** **09 55 25.9 -2.6**
SHL Shillong 68.76 300 P **P** **09 55 25.9 -2.6**
SEY Seymchan 69.07 359 P **P** **09 55 29.2 -0.2**
comp=Z,17nm,0.9s,baz=163,slow=5.7,SNR=26
SEY LR LR 10 26 33.1
comp=Z,580nm,19.2s,baz=169,slow=36
comp=Z,17nm,0.9s
SEY Seymchan 69.07 359 *i* P **P** **09 55 29.6 +0.2**
SEY pmax pmax
comp=Z,17nm,0.9s
P08K Saint George I 69.17 20 IAMs_20 IAMs_20 10 19 55.6
comp=Z,4μm,22.0s
P08K Saint George I 69.17 20 P **P** **09 55 30.5 +0.3**
baz=218
SPIA Saint Paul Isl 69.39 19 IAMs_20 IAMs_20 10 22 48.3
comp=Z,3μm,20.0s
SPIA Saint Paul Isl 69.39 19 P **P** **09 55 33.4 +1.9**
SPIA Saint Paul Isl 69.39 19 P **P** **09 55 32.2 +0.7**
baz=218
GOMU GeErMu 70.23 312 P **P** **09 55 38.1 +0.5**
GOMU S **S** **10 04 51.2 +5.5**
GOMU pmax pmax
comp=Z,4.0nm,0.7s
GOMU LR LR
comp=Z,340nm,18.7s
GOMU LR LR
comp=Z,730nm,18.1s
GOMU LR LR
comp=Z,2μm,18.2s
LSA Lhasa 70.71 304 IAmb IAmb 09 55 60.0
comp=Z,194nm,1.9s
YAK Yakutsk 70.84 348 P **P** **09 55 40.4 +0.1**
YAK IAmb IAmb 09 55 44.2
comp=Z,75nm,0.8s
YAK Yakutsk 70.84 348 P **P** **09 55 40.8 +0.5**
comp=Z,62nm,0.7s,baz=120,slow=3.1,SNR=15
YAK LR LR 10 24 50.2
comp=Z,1μm,22.0s,baz=148,slow=34
comp=Z,62nm,0.7s
YAK Yakutsk 70.84 348 *c* P **P** **09 55 40.1 -0.2**
YAK *e**PP **pP** **09 55 51.2 -4.4**
YAK *e* 09 56 00.3
YAK *e* 09 58 17.6
YAK *e*PPP PPP 10 00 00.8
YAK *e*S **S** **10 04 49.0 -2.0**
YAK *e* 10 05 36.1
YAK *e*SS **SS** **10 09 23.8 -0.8**
YAK pmax pmax
comp=Z,99nm,1.8s
YAK pmax pmax
comp=N,17nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,110nm,3.8s
YAK pmax pmax
comp=N,69nm,2.7s
YAK pmax pmax
comp=E,23nm,1.6s
YAK smax smax
comp=N,181nm,5.8s
YAK smax smax
comp=E,34nm,1.9s
VNDA Vanda 71.27 178 P **P** **09 55 43.6 +0.8**
VNDA Vanda 71.27 178 P **P** **09 55 43.1 +0.4**
comp=E,9.8nm,0.7s,baz=342,slow=8.0,SNR=19
VNDA S **S** **10 05 00.5 +4.8**
comp=E,0.4nm,0.8s,baz=329,slow=5.9,SNR=1.6
VNDA LR LR 10 22 31.5
comp=E,579nm,19.5s,baz=355,slow=32
comp=E,9.8nm,0.7s
VNDA Vanda 71.27 178 P **P** **09 55 43.6 +0.8**
VNDA pmax pmax
comp=Z,35nm,1.1s
VNDA Vanda 71.27 178 P **P** **09 55 43.5 +0.8**
VNDA PcP **sP** **09 56 03.7 -0.1**
S12K Black Hills 71.31 24 IAmb IAmb 09 56 06.5
comp=Z,96nm,0.9s
S12K IAMs_20 IAMs_20 10 21 15.4
comp=Z,3μm,21.0s
S12K Black Hills 71.31 24 P **P** **09 55 43.6 +0.3**
baz=226,SNR=6.6
SDPT Sand Point 71.72 25 IAMs_20 IAMs_20 10 21 44.4
comp=Z,2μm,22.0s
SDPT Sand Point 71.72 25 P **P** **09 55 48.2 +2.5**
SDPT Sand Point 71.72 25 P **P** **09 55 45.6 -0.1**
baz=228
CNBA Chernabura Isl 71.75 26 IAmb IAmb 09 56 02.3
comp=Z,95nm,1.2s
CNBA IAMs_20 IAMs_20 10 21 07.2
comp=Z,3μm,22.0s
CHNA Chernabura Isl 71.75 26 P **P** **09 55 47.0 +1.1**
CHNA Chernabura Isl 71.75 26 P **P** **09 55 46.0 +0.1**
baz=228,SNR=5.7
ZAK Zakamensk 71.80 328 *e*P **P** **09 55 46.1 -0.4**
ZAK pmax pmax
comp=Z,33nm,1.0s
IRK Irkutsk 72.38 330 *e*P **P** **09 55 49.0 -0.8**
IRK pmax pmax
comp=Z,44nm,1.1s
S14K Fog Glacier 72.74 25 P **P** **09 55 52.5 +0.6**
baz=228
M11K Mekoryuk 73.21 19 IAmb IAmb 09 55 59.3
comp=Z,70nm,0.8s
M11K IAMs_20 IAMs_20 10 24 49.4
comp=Z,2μm,21.0s
M11K Mekoryuk 73.21 19 P **P** **09 55 55.9 +1.4**
baz=221
CHGN Chignik 73.22 25 IAmb IAmb 09 56 13.8
comp=Z,60nm,1.1s
CHGN IAMs_20 IAMs_20 10 22 40.2
comp=Z,3μm,21.0s
CHGN Chignik 73.22 25 P **P** **09 55 54.5 -0.2**
baz=229,SNR=9.5
EVN Everest 73.79 301 IAmb IAmb 09 56 18.8
comp=Z,85nm,1.1s
O14K Tigyukauivet M 74.10 22 IAmb IAmb 09 56 02.0
comp=Z,102nm,0.9s
O14K Tigyukauivet M 74.10 22 P **P** **09 56 00.9 +1.1**
baz=226,SNR=52
CHIR Chirikof Islan 74.13 27 IAMs_20 IAMs_20 10 24 31.1
comp=Z,3μm,20.0s
CHIR Chirikof Islan 74.13 27 P **P** **09 56 00.5 +0.5**
baz=232
M13K Dall Lake 74.18 20 IAmb IAmb 09 56 02.9
comp=Z,94nm,0.8s
M13K IAMs_20 IAMs_20 10 23 57.2
comp=Z,4μm,22.0s
M13K Dall Lake 74.18 20 P **P** **09 56 01.9 +1.7**
baz=224,SNR=28
GAMB Gambell 74.31 15 P **P** **09 56 01.6 +0.7**
GAMB IAmb IAmb 09 56 04.4
comp=Z,45nm,0.9s
GAMB IAMs_20 IAMs_20 10 24 46.3
comp=Z,3μm,20.0s
GAMB Gambell 74.31 15 P **P** **09 56 01.9 +1.1**
baz=215,SNR=16
N14K Kuskokwak Cree 74.42 21 P **P** **09 56 02.5 +1.0**
baz=225,SNR=19
O15K Ungalikthiuk R 74.58 22 IAmb IAmb 09 56 19.8
comp=Z,74nm,1.4s
O15K Ungalikthiuk R 74.58 22 P **P** **09 56 03.4 +0.8**
baz=227,SNR=24
BILL Bilibino 74.62 4 P **P** **09 56 03.1 +0.5**
BILL IAmb IAmb 09 56 07.3
comp=Z,68nm,0.8s
BILL Bilibino 74.62 4 *ce*P **P** **09 56 03.1 +0.5**
BILL pmax pmax
comp=Z,53nm,0.9s
BILL MLR MLR
comp=Z,522nm,18.0s
K13K Kusilvak Mount 74.87 19 IAmb IAmb 09 56 06.6
comp=Z,51nm,0.8s
K13K IAMs_20 IAMs_20 10 24 59.3
comp=Z,2μm,20.0s
K13K Kusilvak Mount 74.87 19 P **P** **09 56 05.4 +1.2**
baz=222,SNR=42
M14K Bethel 74.91 20 IAmb IAmb 09 56 23.9
comp=Z,104nm,0.9s
M14K IAMs_20 IAMs_20 10 24 31.3
comp=Z,4μm,22.0s
M14K Bethel 74.91 20 P **P** **09 56 05.6 +1.3**
baz=225,SNR=39
R17L Mt. Peulik Vol 74.94 25 P **P** **09 56 05.4 +0.7**
baz=231,SNR=30
PLK4 Peulik 4 74.95 25 IAmb IAmb 09 56 27.9
comp=Z,93nm,0.8s
PLK4 IAMs_20 IAMs_20 10 23 02.6
comp=Z,3μm,22.0s
L14K Kuka Creek 75.08 20 IAmb IAmb 09 56 29.6
comp=Z,74nm,0.9s
L14K IAMs_20 IAMs_20 10 24 14.9
comp=Z,2μm,21.0s
L14K Kuka Creek 75.08 20 P **P** **09 56 06.8 +1.4**
baz=224,SNR=44
PALK Pallekele 75.11 279 P **P** **09 56 07.1 +0.4**
PALK IAmb IAmb 09 56 10.2
comp=Z,85nm,0.9s
PALK Pallekele 75.11 279 LR LR 10 34 45.1
comp=Z,301nm,18.5s,baz=104,slow=40
PALK Pallekele 75.11 279 *i* P **P** **09 56 06.9 +0.2**
N15K Kwethluk River 75.16 22 P **P** **09 56 06.7 +0.8**
N15K IAmb IAmb 09 56 09.9
comp=Z,57nm,0.9s
N15K Kwethluk River 75.16 22 P **P** **09 56 07.2 +1.2**
baz=227,SNR=48
P16K Nushagak River 75.19 23 IAmb IAmb 09 56 29.2
comp=Z,53nm,0.9s
P16K IAMs_20 IAMs_20 10 23 42.0
comp=Z,4μm,22.0s
P16K Nushagak River 75.19 23 P **P** **09 56 06.0 0.0**
baz=229,SNR=13
SII Sitkinak Islan 75.22 26 IAMs_20 IAMs_20 10 24 22.9
comp=Z,3μm,21.0s
SII Sitkinak Islan 75.22 26 P **P** **09 56 08.2 +1.9**
SII Sitkinak Islan 75.22 26 P **P** **09 56 07.1 +0.8**
baz=233,SNR=9.6
M15K Kasigluk River 75.31 21 P **P** **09 56 07.6 +0.9**
baz=226,SNR=46
Q16K King Salmon 75.49 24 P **P** **09 56 07.6 -0.1**
baz=230,SNR=7.8
O16K Kokwok River B 75.52 23 P **P** **09 56 08.0 +0.1**
baz=229,SNR=13
Q17K Contact Creek 75.54 24 P **P** **09 56 08.4 +0.1**
baz=231,SNR=55
R18K Karluk 75.71 26 P **P** **09 56 09.2 +0.2**
baz=233
L15K Ungalak Mounta 75.72 20 P **P** **09 56 09.8 +0.7**
baz=225
ACHA Angle Creek He 75.74 25 P **P** **09 56 09.4 +0.1**
ACHA IAmb IAmb 09 56 27.1
comp=Z,48nm,1.0s
J14K Nanvaranak Lak 75.82 18 IAmb IAmb 09 56 33.6
comp=Z,110nm,1.1s
J14K IAMs_20 IAMs_20 10 26 30.0
comp=Z,3μm,20.0s
J14K Nanvaranak Lak 75.82 18 P **P** **09 56 11.2 +1.6**
baz=223
N16K Nishlik Lake 75.85 22 P **P** **09 56 11.5 +1.6**
baz=228,SNR=32
P17K Kvichak River 75.91 24 P **P** **09 56 09.7 -0.5**
baz=230
OHAK Old Harbor 76.01 26 IAmb IAmb 09 56 26.9
comp=Z,70nm,1.2s
OHAK Old Harbor 76.01 26 P **P** **09 56 12.2 +1.4**
OHAK Old Harbor 76.01 26 P **P** **09 56 11.3 +0.6**
baz=234,SNR=21
O17K Koliganek Bris 76.02 23 P **P** **09 56 11.2 +0.4**
baz=230
Q18K Katmai Hardscr 76.14 24 P **P** **09 56 11.8 +0.1**
baz=232,SNR=50
K15K Wolf Creek Mou 76.15 19 IAmb IAmb 09 56 35.8
comp=Z,88nm,0.9s
K15K IAMs_20 IAMs_20 10 27 38.0
comp=Z,2μm,20.0s
K15K Wolf Creek Mou 76.15 19 P **P** **09 56 12.9 +1.4**
baz=225,SNR=65
M16K Timber Creek 76.15 21 IAmb IAmb 09 56 35.8
comp=Z,112nm,1.0s
M16K Timber Creek 76.15 21 P **P** **09 56 12.9 +1.4**
baz=228,SNR=135
L16K Owhat River 76.44 21 IAmb IAmb 09 56 17.8
comp=Z,42nm,0.8s
L16K Owhat River 76.44 21 P **P** **09 56 13.9 +0.8**

baz=227
N17K **Nushagak Hills** 76.48 22 P P 09 56 14.9 +1.5
baz=230,SNR=27
P18K **Big Mountain,** 76.51 24 IAmb IAmb 09 56 31.9
comp=Z,109nm,1.6s
P18K IAMs_20 IAMs_20 10 26 52.0
comp=Z,2µm,20.0s
P18K **Big Mountain,** 76.51 24 P P 09 56 13.3 -0.4
baz=232,SNR=12
ANM **Nome** 76.64 17 IAmb IAmb 09 56 18.0
comp=Z,56nm,0.8s
ANM **Nome** 76.64 17 P P 09 56 15.6 +1.4
baz=221,SNR=11
KDAK **Kodiak Island** 76.65 26 P P 09 56 14.6 +0.2
KDAK IAmb IAmb 09 56 37.6
comp=Z,48nm,0.9s
KDAK **Kodiak Island** 76.65 26 LR LR 10 24 58.2
comp=Z,1µm,21.9s,baz=235,slow=32
KDAK **Kodiak Island** 76.65 26 *i* P P 09 56 14.9 +0.5
KDAK pmax pmax
comp=Z,39nm,1.0s
KDAK **Kodiak Island** 76.65 26 P P 09 56 15.1 +0.7
baz=234
TNA **Tin City** 76.72 15 IAmb IAmb 09 56 18.4
comp=Z,46nm,0.9s
TNA IAMs_20 IAMs_20 10 25 27.9
comp=Z,2µm,22.0s
TNA **Tin City** 76.72 15 P P 09 56 15.3 +0.6
baz=218,SNR=7.9
O18K **Koktuh Hills** 76.81 23 IAMs_20 IAMs_20 10 24 52.8
comp=Z,3µm,21.0s
O18K **Koktuh Hills** 76.81 23 P P 09 56 15.1 -0.2
baz=232,SNR=10.0
Q19K **Cape Douglas,** 76.88 25 IAMs_20 IAMs_20 10 24 36.6
comp=Z,3µm,22.0s
Q19K **Cape Douglas,** 76.88 25 P P 09 56 15.8 +0.1
baz=233,SNR=9.2
M17K **Holitna River** 76.96 21 IAmb IAmb 09 56 40.1
comp=Z,102nm,1.1s
M17K **Holitna River** 76.96 21 P P 09 56 17.9 +1.8
baz=229,SNR=33
N18K **Kilae Creek** 77.07 23 IAmb IAmb 09 56 20.9
comp=Z,64nm,0.8s
N18K **Kilae Creek** 77.07 23 P P 09 56 18.0 +1.2
baz=231,SNR=59
F14K **Arctic Creek** 77.07 16 P P 09 56 17.7 +1.0
baz=220,SNR=16
L17K **Donlin** 77.14 21 P P 09 56 18.6 +1.6
baz=228,SNR=36
J16K **Anvik River** 77.15 19 IAMs_20 IAMs_20 10 27 10.5
comp=Z,2µm,20.0s
J16K **Anvik River** 77.15 19 P P 09 56 18.8 +1.7
baz=226,SNR=42
Q20K **Shuyak Island** 77.21 25 P P 09 56 18.2 +0.7
baz=234
SYI **Shuyak Island** 77.21 25 IAmb IAmb 09 56 34.6
comp=Z,126nm,1.2s
SYI IAMs_20 IAMs_20 10 26 08.6
comp=Z,3µm,20.0s
G15K **Niukluk** 77.34 17 P P 09 56 19.0 +0.9
baz=222,SNR=17
O19K **Port Alsworth** 77.37 23 IAmb IAmb 09 56 36.0
comp=Z,70nm,1.4s
O19K IAMs_20 IAMs_20 10 24 57.7
comp=Z,3µm,22.0s
O19K **Port Alsworth** 77.37 23 P P 09 56 18.2 -0.2
baz=232
P19K **Oil Pt** 77.48 24 P P 09 56 19.4 +0.3
baz=233,SNR=15
K17K **Iditarod** 77.53 20 IAmb IAmb 09 56 43.1
comp=Z,62nm,1.1s
K17K IAMs_20 IAMs_20 10 27 25.5
comp=Z,3µm,20.0s
K17K **Iditarod** 77.53 20 P P 09 56 20.7 +1.4
baz=228,SNR=32
I17K **Unalakleet** 77.54 19 IAmb IAmb 09 56 22.2
comp=Z,52nm,0.9s
I17K IAMs_20 IAMs_20 10 28 03.9
comp=Z,3µm,20.0s
I17K **Unalakleet** 77.54 19 P P 09 56 21.1 +1.8
baz=226,SNR=39
H16K **Elim** 77.60 17 P P 09 56 20.5 +0.9
baz=224
M18K **Stony River** 77.61 22 P P 09 56 21.1 +1.4
baz=231,SNR=36
N19K **Bonanza Creek** 77.69 23 P P 09 56 20.9 +0.6
baz=232,SNR=14
F15K **North Star Dit** 77.70 16 IAmb IAmb 09 56 46.7
comp=Z,51nm,1.0s
F15K **North Star Dit** 77.70 16 P P 09 56 21.3 +1.1
baz=222,SNR=21
ILSW **Iliamna Southw** 77.71 24 IAMs_20 IAMs_20 10 28 28.8
comp=Z,2µm,20.0s
J17K **VABM Dome** 77.72 19 IAmb IAmb 09 56 25.7
comp=Z,64nm,0.8s
J17K IAMs_20 IAMs_20 10 26 19.8
comp=Z,2µm,21.0s
J17K **VABM Dome** 77.72 19 P P 09 56 21.9 +1.6
baz=227,SNR=72
L18K **Granite Mounta** 77.76 21 IAmb IAmb 09 56 44.6
comp=Z,84nm,1.1s
L18K **Granite Mounta** 77.76 21 P P 09 56 22.1 +1.6
baz=230,SNR=68
O20K **Slope Mountain** 77.98 24 P P 09 56 21.9 0.0
baz=234
G16K **Koyuk River** 78.12 17 IAmb IAmb 09 56 24.8
comp=Z,67nm,0.9s
G16K IAMs_20 IAMs_20 10 26 09.0
comp=Z,2µm,22.0s
G16K **Koyuk River** 78.12 17 P P 09 56 23.7 +1.2
baz=224,SNR=36
RED **Redoubt Volcan** 78.12 24 IAmb IAmb 09 56 49.1
comp=Z,74nm,1.3s
RED IAMs_20 IAMs_20 10 23 52.5
comp=Z,3µm,21.0s
HOM **Homer** 78.14 25 IAMs_20 IAMs_20 10 25 38.9
comp=Z,3µm,22.0s
HOM **Homer** 78.14 25 P P 09 56 23.6 +0.9
baz=235,SNR=8.0
WMQ **Urumqi** 78.18 317 *e*P P 09 56 24.6 +1.2
WMQ pmax pmax
comp=Z,26nm,1.1s
WMQ pmax pmax
comp=Z,420nm,6.1s
WMQ LR LR
comp=Z,670nm,15.5s
WMQ LR LR
comp=Z,650nm,22.1s
WMQ LR LR
comp=Z,810nm,20.3s
M19K **Big River Lodg** 78.40 22 IAmb IAmb 09 56 44.1
comp=Z,102nm,1.1s
M19K **Big River Lodg** 78.40 22 P P 09 56 25.6 +1.5
baz=232,SNR=43
L19K **White Mountain** 78.40 22 IAmb IAmb 09 56 50.0
comp=Z,76nm,0.9s
L19K **White Mountain** 78.40 22 P P 09 56 25.4 +1.3
baz=231,SNR=69
BRLK **Bradley Lake** 78.51 25 IAmb IAmb 09 56 49.3
comp=Z,53nm,0.9s
H17K **Granite Mounta** 78.52 18 IAmb IAmb 09 56 44.5
comp=Z,151nm,1.6s
H17K **Granite Mounta** 78.52 18 P P 09 56 25.9 +1.2
baz=226,SNR=47
J18K **Innoko River** 78.56 20 IAmb IAmb 09 56 28.4
comp=Z,41nm,0.9s
J18K IAMs_20 IAMs_20 10 26 43.7
comp=Z,3µm,21.0s
J18K **Innoko River** 78.56 20 P P 09 56 25.8 +0.8
baz=230,SNR=77
G17K **Kiwalik Mounta** 78.69 17 P P 09 56 26.8 +1.1
baz=225,SNR=54
HYB **Hyderabad** 78.84 289 *e*P P 09 56 27.4 -0.2
HYB IVmB_BB 09 56 42.2
comp=Z,1µm,3.4s
M20K **Styx River** 78.86 22 IAmb IAmb 09 56 46.2
comp=Z,110nm,1.4s
M20K **Styx River** 78.86 22 P P 09 56 27.7 +0.9
baz=233
L20K **Farewell, AK** 78.94 22 P P 09 56 28.3 +1.1
baz=232,SNR=44
STLK **Strandline Lak** 79.13 23 IAMs_20 IAMs_20 10 26 05.1
comp=Z,2µm,22.0s
H18K **Honhosa River** 79.15 18 IAMs_20 IAMs_20 10 29 13.3
comp=Z,3µm,20.0s
H18K **Honhosa River** 79.15 18 P P 09 56 28.6 +0.4
baz=228,SNR=12
F17K **Baldwin Pennin** 79.19 17 IAmb IAmb 09 56 54.0
comp=Z,64nm,0.9s
F17K **Baldwin Pennin** 79.19 17 P P 09 56 29.4 +1.0
baz=225,SNR=25
SLKM **Skilak Lake** 79.21 24 IAMs_20 IAMs_20 10 27 17.3
comp=Z,3µm,22.0s
J19K **Poorman** 79.28 20 IAmb IAmb 09 56 48.5
comp=Z,116nm,1.6s
J19K IAMs_20 IAMs_20 10 28 09.4
comp=Z,3µm,20.0s
J19K **Poorman** 79.28 20 P P 09 56 29.7 +0.8
baz=230,SNR=44
SEW **Seward** 79.30 25 IAmb IAmb 09 56 58.7
comp=Z,80nm,1.2s
SEW IAMs_20 IAMs_20 10 26 13.8
comp=Z,3µm,21.0s
SEW **Seward** 79.30 25 P P 09 56 29.5 +0.4
baz=237,SNR=11
GCSA **Galena City Sc** 79.35 19 P P 09 56 30.1 +0.9
baz=229,SNR=22
O22K **Cooper Landing** 79.40 25 P P 09 56 30.1 +0.5
baz=236
K20K **Telida** 79.42 21 P P 09 56 30.8 +1.1
baz=232
C16K **Lisburne Hills** 79.47 14 P P 09 56 30.3 +0.5
baz=220
E17K **Hotham Inlet** 79.49 16 P P 09 56 31.2 +1.2
baz=224,SNR=32
SKT **Skwentna** 79.53 23 P P 09 56 29.3 -1.0
baz=235,SNR=8.7
SUA **Susitna One** 79.54 23 IAmb IAmb 09 56 33.5
comp=Z,36nm,0.8s
SUA IAMs_20 IAMs_20 10 26 05.6
comp=Z,3µm,22.0s
SUA **Susitna One** 79.54 23 P P 09 56 30.0 -0.5
baz=235
G18K **Tagagawik** 79.56 18 P P 09 56 30.9 +0.5
baz=227,SNR=41
FIS **Fire Island** 79.57 24 IAMs_20 IAMs_20 10 26 18.6
comp=Z,2µm,22.0s
D17K **Noatak River** 79.61 15 P P 09 56 31.8 +1.2
baz=223,SNR=18
TIXI **Tiksi** 79.65 352 P P 09 56 29.4 -1.4
TIXI **Tiksi** 79.65 352 S S 10 06 30.3 +2.0
comp=Z,3.0nm,0.4s,baz=81,slow=11,SNR=7.0
TIXI LR LR 10 30 13.8
comp=Z,608nm,21.1s,baz=160,slow=34
TIXI **Tiksi** 79.65 352 *ce*P P 09 56 30.9 +0.2
TIXI pmax pmax
comp=Z,26nm,1.3s
RC01 **Rabbit Creek A** 79.73 24 IAmb IAmb 09 56 48.0
comp=Z,98nm,1.3s
RC01 IAMs_20 IAMs_20 10 26 01.0
comp=Z,2µm,22.0s
RC01 **Rabbit Creek A** 79.73 24 P P 09 56 31.7 +0.3
baz=236,SNR=16
F18K **Selawik** 79.75 17 P P 09 56 32.0 +0.6
baz=226,SNR=19
PPLA **Purkeypile** 79.82 22 P P 09 56 32.2 +0.1
PPLA IAmb IAmb 09 56 51.2
comp=Z,196nm,1.9s
PPLA **Purkeypile** 79.82 22 P P 09 56 31.9 -0.2
baz=234,SNR=11
J20K **Nowinta River** 79.90 20 IAmb IAmb 09 56 57.8
comp=Z,42nm,0.9s
J20K **Nowinta River** 79.90 20 P P 09 56 33.4 +1.2
baz=232,SNR=59
RDOG **Red Dog Mine** 79.91 15 IAmb IAmb 09 56 56.0
comp=Z,90nm,1.0s
RDOG IAMs_20 IAMs_20 10 29 53.7
comp=Z,2µm,21.0s
RDOG **Red Dog Mine** 79.91 15 P P 09 56 33.5 +1.2
baz=223,SNR=8.8
M22K **Willow** 79.95 23 IAmb IAmb 09 57 03.3
comp=Z,126nm,1.1s
M22K **Willow** 79.95 23 P P 09 56 32.4 -0.2
baz=236,SNR=8.4
H19K **Roundabout Mou** 80.00 19 IAmb IAmb 09 56 36.3
comp=Z,70nm,0.8s
H19K IAMs_20 IAMs_20 10 30 38.4
comp=Z,2µm,20.0s
H19K **Roundabout Mou** 80.00 19 P P 09 56 33.7 +1.0
baz=229
E18K **Tukpahlearik C** 80.06 16 IAMs_20 IAMs_20 10 27 33.8
comp=Z,2µm,22.0s
E18K **Tukpahlearik C** 80.06 16 P P 09 56 34.1 +1.0
baz=225,SNR=20
P23K **Montague Islan** 80.11 26 P P 09 56 34.1 +0.6
baz=239
C17K **DeLong Mountai** 80.16 15 P P 09 56 34.5 +0.9
baz=223,SNR=20
CAST **Castle Rocks** 80.17 21 IAmb IAmb 09 56 57.6
comp=Z,48nm,1.0s
CAST **Castle Rocks** 80.17 21 P P 09 56 33.6 -0.1
baz=234,SNR=48
I20K **Naaghedeneel** 80.17 20 IAmb IAmb 09 56 58.1
comp=Z,97nm,1.0s
I20K IAMs_20 IAMs_20 10 27 32.0
comp=Z,2µm,21.0s
I20K **Naaghedeneel** 80.17 20 P P 09 56 35.0 +1.4
baz=231,SNR=14
PWL **Port Wells** 80.18 25 P P 09 56 34.5 +0.6
baz=238,SNR=31
G19K **Purcell Mounta** 80.21 18 IAMs_20 IAMs_20 10 29 47.8
comp=Z,2µm,20.0s
G19K **Purcell Mounta** 80.21 18 P P 09 56 34.8 +0.9
baz=229,SNR=51
PMR **Palmer** 80.25 24 P P 09 56 34.6 +0.4
PMR **Palmer** 80.25 24 P P 09 56 34.3 +0.2
baz=237,SNR=25
CUT **Chulitna** 80.26 23 IAmb IAmb 09 56 56.7
comp=Z,100nm,1.0s
CUT **Chulitna** 80.26 23 P P 09 56 33.9 -0.3
baz=236
Q23K **Middleton Isla** 80.28 26 P P 09 56 34.0 -0.4
baz=240
CHUM **Lake Minchumin** 80.36 21 P P 09 56 35.3 +0.5
baz=234,SNR=24
KNK **Knik Glacier** 80.42 24 IAmb IAmb 09 56 54.2
comp=Z,119nm,1.3s
KNK IAMs_20 IAMs_20 10 26 32.9
comp=Z,3µm,22.0s
KNK **Knik Glacier** 80.42 24 P P 09 56 35.5 +0.3
baz=238
GHO **Glory Hole Cre** 80.43 24 IAmb IAmb 09 57 05.9
comp=Z,81nm,1.1s
GHO IAMs_20 IAMs_20 10 26 46.1
comp=Z,3µm,22.0s
F19K **Shaleruckik Mo** 80.46 17 P P 09 56 35.7 +0.5
baz=228,SNR=39
H20K **Anotleneega Mo** 80.48 19 P P 09 56 36.2 +0.8
baz=231,SNR=45
GLI **Glacier Island** 80.70 25 IAmb IAmb 09 56 59.5
comp=Z,73nm,1.0s
GLI IAMs_20 IAMs_20 10 27 51.4
comp=Z,2µm,21.0s
GLI **Glacier Island** 80.70 25 P P 09 56 37.0 +0.3
baz=239,SNR=7.1
HIN **Hinchbrook I** 80.71 25 IAmb IAmb 09 56 53.6
comp=Z,139nm,1.5s
HIN IAMs_20 IAMs_20 10 28 52.4
comp=Z,2µm,20.0s
C18K **Utukok River** 80.78 15 IAMs_20 IAMs_20 10 29 01.8
comp=Z,3µm,21.0s
C18K **Utukok River** 80.78 15 P P 09 56 37.7 +0.7
baz=224,SNR=9.0
TRF **Thorofare Moun** 80.84 22 P P 09 56 36.8 -0.8
baz=238,SNR=30
FID **Port Fidalgo** 80.90 25 IAmb IAmb 09 56 56.4
comp=Z,50nm,0.9s
FID IAMs_20 IAMs_20 10 29 08.8
comp=Z,2µm,21.0s
M23K **Glacier View** 80.92 24 P P 09 56 37.8 -0.1
baz=238
BPAW **Bear Paw Mtn.** 80.96 21 P P 09 56 37.2 -0.8
baz=235,SNR=21
E19K **Redstone River** 81.04 17 P P 09 56 39.4 +1.1
baz=228,SNR=48
EYAK **Cordova Ski Ar** 81.11 26 IAMs_20 IAMs_20 10 27 23.0
comp=Z,3µm,22.0s
EYAK **Cordova Ski Ar** 81.11 26 P P 09 56 40.8 +2.0
EYAK **Cordova Ski Ar** 81.11 26 P P 09 56 39.5 +0.7
baz=240,SNR=6.2
SCM **Sheep Creek Mo** 81.11 24 IAmb IAmb 09 57 10.0
comp=Z,88nm,1.1s
SCM IAMs_20 IAMs_20 10 27 05.9
comp=Z,3µm,22.0s
SCM **Sheep Creek Mo** 81.11 24 P P 09 56 39.7 +0.8
baz=238,SNR=9.7
B18K **Kokolik River** 81.15 14 P P 09 56 39.6 +0.7
baz=224,SNR=6.2
IMAR **Indian Mountai** 81.15 19 P P 09 56 39.1 +0.1
WAT1 **Susitna Watana** 81.16 23 P P 09 56 39.1 0.0
baz=237
F20K **Avaraart Lake** 81.21 18 IAMs_20 IAMs_20 10 29 29.4
comp=Z,2µm,21.0s
F20K **Avaraart Lake** 81.21 18 P P 09 56 40.2 +0.9
baz=230
H21K **Melozitna River** 81.26 19 IAMs_20 IAMs_20 10 29 18.7
comp=Z,2µm,21.0s
H21K **Melozitna River** 81.26 19 P P 09 56 40.4 +0.8
baz=233,SNR=46
ZSN **Zaisan** 81.28 320 *e*P P 09 56 39.7 -0.3
ZSN **Zaisan** 81.28 320 *e*P P 09 56 39.8 -0.3
WAT6 **Susitna Watana** 81.34 23 P P 09 56 40.3 +0.1
baz=238,SNR=26
RND **Reindeer** 81.36 22 IAmb IAmb 09 56 58.3
comp=Z,2µm,1.3s
KAIM **Kayak Island** 81.38 26 IAMs_20 IAMs_20 10 29 11.3
comp=Z,2µm,19.0s
KAIM **Kayak Island** 81.38 26 P P 09 56 41.1 +0.8
baz=241
DIV **Divide** 81.39 25 IAmb IAmb 09 57 05.4
comp=Z,50nm,1.0s
DIV IAMs_20 IAMs_20 10 29 26.4
comp=Z,2µm,20.0s
D19K **Kuna River** 81.49 16 IAMs_20 IAMs_20 10 30 26.8
comp=Z,2µm,20.0s
D19K **Kuna River** 81.49 16 P P 09 56 41.4 +0.6
baz=228,SNR=18
RAGM **Ragged Mountai** 81.49 26 IAmb IAmb 09 56 58.1
comp=Z,147nm,1.4s
RAGM IAMs_20 IAMs_20 10 26 47.1
comp=Z,2µm,22.0s
MCK **McKinley** 81.50 22 IAmb IAmb 09 57 03.1
comp=Z,107nm,1.0s
MCK **McKinley** 81.50 22 P P 09 56 40.5 -0.4
baz=237,SNR=51
KLU **Klutina** 81.51 25 IAmb IAmb 09 57 04.8
comp=Z,75nm,1.0s
KLU IAMs_20 IAMs_20 10 29 21.6
comp=Z,2µm,21.0s
KLU **Klutina** 81.51 25 P P 09 56 41.9 +0.9
baz=240,SNR=18
C19K **Lookout Ridge** 81.52 15 IAmb IAmb 09 56 43.1
comp=Z,48nm,0.9s
C19K IAMs_20 IAMs_20 10 30 58.2
comp=Z,3µm,20.0s
C19K **Lookout Ridge** 81.52 15 P P 09 56 41.9 +0.9
baz=226,SNR=23
G21K **Allakaket** 81.56 19 IAMs_20 IAMs_20 10 27 56.6
comp=Z,2µm,22.0s
G21K **Allakaket** 81.56 19 P P 09 56 41.7 +0.6
baz=232,SNR=47
MLY **Manley** 81.59 20 P P 09 56 41.4 +0.1
baz=235,SNR=62
HMT **Hamilton** 81.64 26 IAmb IAmb 09 57 00.9
comp=Z,165nm,1.6s
HMT IAMs_20 IAMs_20 10 31 19.3
comp=Z,2µm,19.0s
M24K **Tolsona, Glenn** 81.71 24 IAmb IAmb 09 56 45.8
comp=Z,77nm,1.0s
M24K IAMs_20 IAMs_20 10 27 23.0
comp=Z,2µm,22.0s
M24K **Tolsona, Glenn** 81.71 24 P P 09 56 42.9 +0.8
baz=240,SNR=13
SUCK **Suckling Hills** 81.73 26 IAMs_20 IAMs_20 10 29 01.6
comp=Z,2µm,20.0s
DHY **Denali Highway** 81.74 23 IAmb IAmb 09 57 12.9
comp=Z,49nm,1.0s
DHY IAMs_20 IAMs_20 10 27 38.7
comp=Z,3µm,22.0s
DHY **Denali Highway** 81.74 23 P P 09 56 42.6 +0.3
baz=238,SNR=30
BMRM **Bremner River** 81.80 25 IAmb IAmb 09 57 02.6
comp=Z,101nm,1.4s
BMRM IAMs_20 IAMs_20 10 27 55.4
comp=Z,3µm,22.0s
BMRM **Bremner River** 81.80 25 P P 09 56 43.0 +0.4
baz=241,SNR=12
E20K **Nigu River** 81.86 17 P P 09 56 43.6 +0.9
baz=229
H22K **Ishtalitna Cre** 81.87 20 P P 09 56 43.5 +0.7
baz=234,SNR=43
BERG **Berg Lake** 81.92 26 IAMs_20 IAMs_20 10 29 10.5
comp=Z,2µm,21.0s
NEA2 **Nenana** 81.93 21 IAmb IAmb 09 57 05.2
comp=Z,54nm,1.1s
NEA2 IAMs_20 IAMs_20 10 28 15.6
comp=Z,3µm,21.0s
NEA2 **Nenana** 81.93 21 P P 09 56 42.4 -0.7
baz=236,SNR=56
A19K **Wainwright** 81.93 14 P P 09 56 43.8 +0.9
baz=224
BGLC **Bering Glacier** 81.97 27 P P 09 56 43.9 +0.5
baz=242
F21K **Alatna River** 82.00 18 IAMs_20 IAMs_20 10 31 43.3
comp=Z,2µm,20.0s
F21K **Alatna River** 82.00 18 P P 09 56 44.0 +0.5
baz=232,SNR=23
D20K **Etivluk River** 82.05 16 IAMs_20 IAMs_20 10 29 11.2
comp=Z,2µm,22.0s
D20K **Etivluk River** 82.05 16 P P 09 56 44.4 +0.7
baz=229,SNR=15
N25K **Chitina, Valde** 82.11 25 IAmb IAmb 09 57 01.6
comp=Z,164nm,1.7s
N25K IAMs_20 IAMs_20 10 29 58.6
comp=Z,2µm,20.0s
N25K **Chitina, Valde** 82.11 25 P P 09 56 45.0 +0.8
baz=241,SNR=18
I23K **Minto, Yukon-K** 82.14 21 P P 09 56 43.9 -0.2
baz=236,SNR=14
WRH **Wood River Hil** 82.22 22 IAmb IAmb 09 57 02.5
comp=Z,119nm,1.8s
HARP **HAARP** 82.27 24 P P 09 56 45.5 +0.5
baz=240
WAX **Waxell Ridge** 82.32 26 IAmb IAmb 09 57 02.6
comp=Z,89nm,1.1s
WAX IAMs_20 IAMs_20 10 29 32.0
comp=Z,2µm,21.0s
CRQM **Cirque** 82.33 26 IAmb IAmb 09 57 02.5
comp=Z,62nm,1.0s
CRQE **Cirque** 82.35 26 P P 09 56 46.2 +0.7
baz=242,SNR=6.6
GLB **Gilahina Butte** 82.37 25 IAmb IAmb 09 57 02.5
comp=Z,72nm,1.1s
GLB IAMs_20 IAMs_20 10 28 34.3
comp=Z,2µm,21.0s
VRDI **Verde Repeater** 82.42 25 IAmb IAmb 09 57 02.9
comp=Z,92nm,1.4s
VRDI IAMs_20 IAMs_20 10 28 25.7
comp=Z,3µm,22.0s
PAX **Paxson** 82.43 23 IAmb IAmb 09 57 02.6
comp=Z,98nm,1.9s
PAX IAMs_20 IAMs_20 10 27 60.0
comp=Z,3µm,22.0s
PAX **Paxson** 82.43 23 P P 09 56 46.0 +0.1
baz=240,SNR=8.8
G22K **Bettles** 82.44 19 P P 09 56 46.1 +0.4
baz=234
H23K **Yukon River** 82.45 20 IAmb IAmb 09 57 09.1
comp=Z,55nm,1.1s
H23K **Yukon River** 82.45 20 P P 09 56 46.3 +0.4
baz=236,SNR=43
TGL **Tana Glacier** 82.47 26 IAmb IAmb 09 57 03.1
comp=Z,99nm,1.2s
COLA **College** 82.52 21 P P 09 56 45.5 -0.7
COLA IAmb IAmb 09 57 08.6
comp=Z,36nm,0.8s
COLA **College** 82.52 21 IAMs_20 IAMs_20 10 28 00.1
comp=Z,3µm,22.0s
COLA **College** 82.52 21 P P 09 56 46.8 +0.7
COLA **College** 82.52 21 *i* P P 09 56 46.1 0.0
COLA pmax pmax
comp=Z,31nm,0.9s
COLA **College** 82.52 21 P P 09 56 45.4 -0.7
baz=236
F22K **John River** 82.58 18 P P 09 56 47.3 +0.9
baz=233
MESA **MESA** 82.59 27 IAmb IAmb 09 57 06.2
comp=Z,71nm,1.2s
MESA IAMs_20 IAMs_20 10 28 37.4
comp=Z,2µm,21.0s
MESA **MESA** 82.59 27 P P 09 56 48.0 +1.1
baz=244
HDA **Harding Lake** 82.61 22 IAmb IAmb 09 57 04.5
comp=Z,103nm,1.7s

HDA **Harding Lake** 82.61 22 P P 09 56 45.9 -0.7
baz=238,SNR=23
ISLE **Juniper Island** 82.61 26 P P 09 56 47.4 +0.5
ISLE IAmb IAmb 09 57 03.7
comp=Z,72nm,1.2s
ISLE IAMs_20 IAMs_20 10 30 00.9
comp=Z,2µm,20.0s
E21K **Killik River** 82.61 17 IAmb IAmb 09 56 48.5
comp=Z,41nm,1.0s
E21K **Killik River** 82.61 17 P P 09 56 47.5 +0.8
baz=232
MCARA **McCarthy VSAT** 82.67 25 IAmb IAmb 09 57 04.2
comp=Z,70nm,1.0s
MCARA IAMs_20 IAMs_20 10 28 22.5
comp=Z,3µm,22.0s
MCARA **McCarthy VSAT** 82.67 25 P P 09 56 47.7 +0.7
baz=242,SNR=7.0
K24K **Donnelly Dome** 82.73 23 IAmb IAmb 09 57 11.2
comp=Z,50nm,0.8s
K24K **Donnelly Dome** 82.73 23 P P 09 56 47.8 +0.4
baz=240,SNR=13
MK31 **Makanchi Array** 82.75 319 *ce* P P 09 56 47.1 -0.7
MKAR **Makanchi Array** 82.75 319 P P 09 56 47.2 -0.6
comp=Z,52nm,0.8s,baz=102,slow=5.0,SNR=173
MKAR S S 10 06 59.3 -2.3
comp=Z,0.1nm,0.4s,baz=119,slow=12,SNR=1.8
MKAR LR LR 10 33 53.0
comp=Z,545nm,20.4s,baz=105,slow=36
comp=Z,52nm,0.8s
MKAR **Makanchi Array** 82.75 319 *ce* P P 09 56 47.4 -0.4
MKAR pmax pmax
comp=Z,52nm,0.8s
B20K **Meade River** 82.76 15 IAmb IAmb 09 56 49.0
comp=Z,34nm,0.8s
B20K IAMs_20 IAMs_20 10 28 49.1
comp=Z,3µm,22.0s
B20K **Meade River** 82.76 15 P P 09 56 48.0 +0.7
baz=228
YAH **Yahtse** 82.77 27 IAmb IAmb 09 57 04.4
comp=Z,49nm,1.2s
YAH IAMs_20 IAMs_20 10 28 30.9
comp=Z,2µm,21.0s
G23K **Bananza Creek** 82.80 19 P P 09 56 48.3 +0.7
baz=235,SNR=35
POKR **Poker Plat Res** 82.80 21 IAMs_20 IAMs_20 10 28 09.0
comp=Z,3µm,22.0s
POKR **Poker Plat Res** 82.80 21 P P 09 56 46.7 -0.9
baz=238
ILAR **Eielson Array** 82.82 22 P P 09 56 46.6 -1.1
ILAR **Eielson Array** 82.82 22 P P 09 56 46.5 -1.2
comp=Z,11nm,0.6s,baz=237,slow=4.7,SNR=84
ILAR S S 10 07 02.4 +0.8
comp=Z,0.2nm,0.6s,baz=250,slow=1.8,SNR=1.6
ILAR PKKPbc PKKPbc 10 15 11.7 -2.7
comp=Z,0.6nm,1.1s,baz=31,slow=2.3,SNR=4.4
ILAR LR LR 10 29 06.0
comp=Z,4µm,21.8s,baz=239,slow=32
comp=Z,11nm,0.6s
C21K **Knifeblade Rid** 82.84 16 P P 09 56 48.8 +1.0
baz=231,SNR=18
MAKZ **Makanchi** 82.96 319 P P 09 56 48.4 -0.5
MAKZ IAmb IAmb 09 56 51.9
comp=Z,66nm,0.9s
MAKZ **Makanchi** 82.96 319 P P 09 56 48.4 -0.5
MAKZ pmax pmax
comp=Z,66nm,1.0s
H24K **Noodor Dome** 83.03 20 P P 09 56 48.6 -0.3
baz=238,SNR=17
COLD **Coldfoot** 83.03 19 P P 09 56 49.7 +0.9
baz=235,SNR=25
RIDG **Independent Ri** 83.06 23 P P 09 56 49.3 +0.2
baz=241,SNR=29
E22K **Anaktuvuk Pass** 83.06 18 IAMs_20 IAMs_20 10 32 56.6
comp=Z,3µm,20.0s
E22K **Anaktuvuk Pass** 83.06 18 P P 09 56 49.6 +0.6
baz=234
TABL **Table Mountain** 83.07 27 IAmb IAmb 09 57 05.7
comp=Z,85nm,1.2s
TABL IAMs_20 IAMs_20 10 28 51.0
comp=Z,2µm,21.0s
BARN **Barnard Glacie** 83.11 26 IAmb IAmb 09 57 06.8
comp=Z,71nm,1.0s
MENT **Mentasta** 83.12 24 P P 09 56 50.8 +1.4
M26K **Nabesna, AK** 83.16 25 IAmb IAmb 09 57 06.8
comp=Z,64nm,1.4s
M26K IAMs_20 IAMs_20 10 30 45.2
comp=Z,2µm,20.0s
M26K **Nabesna, AK** 83.16 25 P P 09 56 50.2 +0.6
baz=242,SNR=10
B21K **Ikpikpuk River** 83.18 16 IAmb IAmb 09 56 53.7
comp=Z,36nm,0.9s
B21K IAMs_20 IAMs_20 10 29 48.2
comp=Z,2µm,22.0s
B21K **Ikpikpuk River** 83.18 16 P P 09 56 50.2 +0.8
baz=231,SNR=23
CTG **Chitna Glacier** 83.21 26 P P 09 56 51.0 +0.9
baz=244,SNR=11
CTGM **Chitina Glacie** 83.22 26 IAmb IAmb 09 57 07.2
comp=Z,90nm,1.1s
D22K **Ayikyak River** 83.26 17 IAmb IAmb 09 57 06.6
comp=Z,47nm,0.8s
D22K **Ayikyak River** 83.26 17 P P 09 56 51.1 +1.1
baz=233,SNR=35
J25K **Salcha River,** 83.30 22 IAmb IAmb 09 57 08.8
comp=Z,117nm,1.4s
J25K **Salcha River,** 83.30 22 P P 09 56 50.3 0.0
baz=240,SNR=66
LOGN **Logan Glacier** 83.30 26 IAmb IAmb 09 57 07.5
comp=Z,39nm,0.9s
LOGN IAMs_20 IAMs_20 10 29 51.5
comp=Z,2µm,21.0s
L26K **Log Cabin Wild** 83.31 24 IAMs_20 IAMs_20 10 28 26.1
comp=Z,3µm,22.0s
L26K **Log Cabin Wild** 83.31 24 P P 09 56 51.1 +0.7
baz=242,SNR=15
DOT **Dot Lake** 83.32 23 IAmb IAmb 09 57 09.1
comp=Z,116nm,1.5s
PCA **Pinnacle** 83.32 27 IAmb IAmb 09 57 07.0
comp=Z,68nm,1.0s
PINM **Pinnacle** 83.32 27 P P 09 56 51.5 +1.0
baz=245,SNR=6.6
ZAA0 **Zalesovo Array** 83.49 326 P P 09 56 49.9 -1.5
ZAA0 IAmb IAmb 09 56 53.3
comp=Z,44nm,0.9s
ZALV **Zalesovo Beam** 83.49 326 P P 09 56 49.9 -1.5
comp=Z,36nm,0.8s,baz=109,slow=4.5,SNR=109
ZALV S S 10 07 05.9 -2.9
comp=Z,0.4nm,0.5s,baz=107,slow=20,SNR=1.3
ZALV LR LR 10 34 19.0
comp=Z,213nm,21.1s,baz=100,slow=36
comp=Z,36nm,0.8s
ZALV **Zalesovo Beam** 83.49 326 *i* P P 09 56 50.5 -0.9
ZALV pmax pmax
comp=Z,36nm,0.8s
SCRK **Sand Creek** 83.51 23 P P 09 56 51.9 +0.4
baz=241,SNR=24
PNL **Peninsula** 83.54 28 P P 09 56 53.5 +1.9
PNL **Peninsula** 83.54 28 P P 09 56 52.5 +1.0
baz=246,SNR=8.3
M27K **Edge Creek, AK** 83.60 25 IAmb IAmb 09 57 16.3
comp=Z,82nm,1.0s
M27K IAMs_20 IAMs_20 10 30 49.0
comp=Z,2µm,20.0s
M27K **Edge Creek, AK** 83.60 25 P P 09 56 53.1 +1.1
baz=243,SNR=44
G24K **Hadweenzic Riv** 83.64 20 IAmb IAmb 09 57 10.1
comp=Z,113nm,1.8s
G24K **Hadweenzic Riv** 83.64 20 P P 09 56 52.4 +0.5
baz=238,SNR=22
O28M **Mount Upton** 83.64 27 IAmb IAmb 09 57 09.5
comp=Z,47nm,0.9s
O28M IAMs_20 IAMs_20 10 29 20.0
comp=Z,2µm,21.0s
O28M **Mount Upton** 83.64 27 P P 09 56 53.4 +1.0
baz=245,SNR=16
QSPA **South Pole Qui** 83.66 180 P P 09 56 52.7 +0.4
QSPA **South Pole Qui** 83.66 180 P P 09 56 52.7 +0.4
comp=Z,67nm,0.9s,baz=11,slow=2.8,SNR=33
QSPA S SKSac 10 07 07.8 -2.4
comp=Z,1.4nm,1.0s,baz=5.5,slow=9.7,SNR=2.0
comp=Z,67nm,0.9s
SHLS **Shalkode** 83.68 315 *eP* P 09 56 50.7 -2.1
SHLS **Shalkode** 83.68 315 *eP* P 09 56 50.8 -2.1
E23K **Chandalar** 83.69 18 IAmb IAmb 09 57 08.7
comp=Z,40nm,1.1s
E23K IAMs_20 IAMs_20 10 29 22.9
comp=Z,2µm,22.0s
E23K **Chandalar** 83.69 18 P P 09 56 53.0 +0.7
baz=236,SNR=26
PRP **Porcupine Dome** 83.70 21 IAMs_20 IAMs_20 10 29 54.3
comp=Z,3µm,21.0s
PRP **Porcupine Dome** 83.70 21 P P 09 56 52.0 -0.4
baz=240
PDGK **Podgornoye** 83.71 315 P P 09 56 51.6 -1.4
A21K **Barrow** 83.77 14 P P 09 56 53.7 +1.2
baz=229
D23K **Nanushuk River** 83.89 17 IAMs_20 IAMs_20 10 33 27.2
comp=Z,3µm,20.0s
D23K **Nanushuk River** 83.89 17 P P 09 56 54.5 +1.3
baz=235,SNR=55
J26L **Joseph Creek** 83.92 23 P P 09 56 53.9 +0.4
baz=242,SNR=26
F24K **Squaw Lake** 83.94 19 IAmb IAmb 09 56 57.2
comp=Z,29nm,0.8s
F24K **Squaw Lake** 83.94 19 P P 09 56 54.6 +1.1
baz=237,SNR=47
L27K **Beaver Creek,** 83.94 24 IAmb IAmb 09 57 13.1
comp=Z,71nm,1.5s
L27K **Beaver Creek,** 83.94 24 P P 09 56 54.5 +0.9
baz=243,SNR=24
YUK3 **Moose Creek** 83.95 26 P P 09 56 54.9 +1.0
baz=245,SNR=7.0
B22K **Teshekpuk Lake** 83.95 16 IAmb IAmb 09 56 57.3
comp=Z,38nm,0.9s
B22K **Teshekpuk Lake** 83.95 16 P P 09 56 53.9 +0.4
baz=232,SNR=16
BCAR **Beaver Creek A** 83.96 24 P P 09 56 54.1 +0.4
A22K **Sinclair Lake** 83.97 15 P P 09 56 53.9 +0.4
baz=230,SNR=16
H25L **Birch Creek** 83.97 21 P P 09 56 54.4 +0.8
baz=239
TOLK **Toolik Lake Re** 84.04 18 IAmb IAmb 09 56 57.7
comp=Z,30nm,0.8s
TOLK IAMs_20 IAMs_20 10 34 07.0
comp=Z,2µm,20.0s
TOLK **Toolik Lake Re** 84.04 18 P P 09 56 54.7 +0.7
baz=236,SNR=26
YUK8 **Steele Glacier** 84.04 26 P P 09 56 55.4 +1.0
baz=245,SNR=7.6
BVCY **Beaver Creek** 84.05 25 P P 09 56 55.2 +1.1
baz=244,SNR=11
E24K **Your Creek** 84.05 18 IAMs_20 IAMs_20 10 29 44.5
comp=Z,2µm,22.0s
E24K **Your Creek** 84.05 18 P P 09 56 54.6 +0.5
baz=237
G25K **Bearman Lake** 84.13 20 P P 09 56 55.2 +0.8
baz=239,SNR=21
O29M **Mount Kennedy** 84.17 27 P P 09 56 56.1 +1.2
baz=247,SNR=6.9
K27K **Chicken** 84.28 23 IAmb IAmb 09 57 15.0
comp=Z,48nm,1.3s
K27K **Chicken** 84.28 23 P P 09 56 56.4 +1.2
baz=243
P29M **Windy Craggy** 84.30 28 IAmb IAmb 09 57 12.0
comp=Z,44nm,1.2s
P29M **Windy Craggy** 84.30 28 P P 09 56 56.6 +1.1
baz=247,SNR=5.3
FYU **Fort Yukon** 84.33 20 IAmb IAmb 09 57 14.5
comp=Z,78nm,1.5s
S31K **Pelican** 84.40 30 P P 09 56 56.9 +1.0
baz=249
SATY **Saty** 84.41 314 *eP* P 09 56 55.8 -0.7
SATY **Saty** 84.41 314 *eP* P 09 56 55.9 -0.7
C23K **Itkillik River** 84.42 17 IAmb IAmb 09 57 14.3
comp=Z,88nm,1.2s
C23K IAMs_20 IAMs_20 10 32 20.9
comp=Z,2µm,20.0s
C23K **Itkillik River** 84.42 17 P P 09 56 56.6 +0.8
baz=235,SNR=26
I26K **Coal Creek Min** 84.46 22 P P 09 56 56.2 +0.1
baz=242
YUK6 **Outpost Mounta** 84.52 27 P P 09 56 57.9 +1.0
baz=247,SNR=9.5
SIT **Sitka** 84.53 31 P P 09 56 59.6 +3.0
SIT **Sitka** 84.53 31 P P 09 56 57.9 +1.3
baz=250
D24K **Happy Valley** 84.55 17 IAmb IAmb 09 56 58.6
comp=Z,35nm,0.9s
D24K IAMs_20 IAMs_20 10 32 59.5
comp=Z,2µm,20.0s
D24K **Happy Valley** 84.55 17 P P 09 56 57.5 +1.0
baz=236,SNR=15
YUK4 **Talbot Arm** 84.56 26 P P 09 56 58.5 +1.6
baz=246,SNR=30
F25K **Christian Rive** 84.71 19 IAmb IAmb 09 57 16.1
comp=Z,88nm,1.9s
F25K IAMs_20 IAMs_20 10 32 31.0
comp=Z,3µm,20.0s
F25K **Christian Rive** 84.71 19 P P 09 56 58.5 +1.0
baz=239,SNR=21
P30M **Milon Dollar** 84.85 28 P P 09 56 59.1 +0.9
baz=248
HYT **Haines Junctio** 84.86 27 IAmb IAmb 09 57 15.3
comp=Z,78nm,1.2s
HYT **Haines Junctio** 84.86 27 P P 09 56 59.8 +1.3
baz=248,SNR=43
PLBC **Pleasant Camp** 84.88 29 P P 09 56 58.9 +0.6
baz=249,SNR=7.9
C24K **Franklin Bluff** 84.90 17 IAmb IAmb 09 57 00.3
comp=Z,57nm,0.9s
C24K IAMs_20 IAMs_20 10 34 28.7
comp=Z,2µm,19.0s
C24K **Franklin Bluff** 84.90 17 P P 09 56 59.1 +0.8
baz=236
MAW **Mawson** 84.94 203 P P 09 56 58.5 0.0
comp=Z,45nm,0.7s,baz=96,slow=6.8,SNR=96
MAW S SKSac 10 07 16.2 -1.9
comp=Z,0.9nm,0.8s,baz=107,slow=20,SNR=1.3
MAW LR LR 10 31 02.6
comp=Z,989nm,22.0s,baz=90,slow=33
comp=Z,45nm,0.7s
BMAR **Burnt Mountain** 84.98 20 P P 09 56 59.2 +0.4
E25K **Arctic Village** 85.01 19 IAMs_20 IAMs_20 10 30 29.7
comp=Z,2µm,22.0s
E25K **Arctic Village** 85.01 19 P P 09 56 59.7 +0.8
baz=240
G26K **Porcupine Rive** 85.02 20 P P 09 57 00.1 +1.2
baz=241,SNR=72
S32K **Killisnoo** 85.06 31 IAmb IAmb 09 57 18.1
comp=Z,98nm,1.8s
S32K **Killisnoo** 85.06 31 P P 09 57 00.2 +1.0
baz=250
KDJ **Kajisay** 85.07 313 IAmb IAmb 09 57 06.8
comp=Z,66nm,0.9s
M29M **Somme Creek** 85.08 25 IAmb IAmb 09 57 19.1
comp=Z,58nm,1.5s
M29M IAMs_20 IAMs_20 10 31 05.1
comp=Z,3µm,21.0s
M29M **Somme Creek** 85.08 25 P P 09 57 00.5 +1.0
baz=246,SNR=18
CRAG **Craig** 85.17 33 IAmb IAmb 09 57 17.6
comp=Z,108nm,1.7s
CRAG **Craig** 85.17 33 P P 09 57 00.8 +1.0
baz=252
I27K **Kandik River** 85.17 22 P P 09 57 00.7 +0.9
baz=243,SNR=40
F26K **Sheenjek River** 85.26 20 IAmb IAmb 09 57 18.9
comp=Z,88nm,1.8s
F26K **Sheenjek River** 85.26 20 P P 09 57 01.5 +1.4
baz=241,SNR=24
N30M **Aishikik Lake** 85.29 27 IAmb IAmb 09 57 20.2
comp=Z,107nm,1.7s
N30M **Aishikik Lake** 85.29 27 P P 09 57 01.4 +0.9
baz=248,SNR=13
HG4B **Hotspring** 85.30 36 IAmb IAmb 09 57 17.2
comp=Z,60nm,1.1s
DAWY **Dawson** 85.36 24 P P 09 57 01.8 +1.1
baz=246,SNR=17
R32K **Eaglecrest** 85.36 30 IAmb IAmb 09 57 17.6
comp=Z,42nm,1.4s
R32K **Eaglecrest** 85.36 30 P P 09 57 01.9 +1.1
baz=250,SNR=5.8
U33K **Whale Pass** 85.37 32 IAMs_20 IAMs_20 10 28 17.3
comp=Z,2µm,20.0s
U33K **Whale Pass** 85.37 32 P P 09 57 02.0 +1.2
baz=252,SNR=5.4
SKAG **Skagway** 85.37 29 IAmb IAmb 09 57 18.3
comp=Z,70nm,1.4s
SKAG **Skagway** 85.37 29 P P 09 57 03.0 +2.2
SKAG **Skagway** 85.37 29 P P 09 57 02.1 +1.3
baz=250,SNR=9.1
D25K **Kavik River** 85.38 18 IAMs_20 IAMs_20 10 33 06.4
comp=Z,2µm,20.0s
D25K **Kavik River** 85.38 18 P P 09 57 01.1 +0.4
baz=239,SNR=21
KSH **Kashi** 85.40 310 P P 09 57 02.9 +1.3
KSH sP sP 09 57 20.4 -2.7
KSH PP PP 10 00 24.8 +4.3
KSH S S 10 07 32.5 +3.8
KSH pmax pmax
comp=Z,39nm,0.9s
KSH LR LR
comp=Z,600nm,20.6s
KSH LR LR
comp=Z,390nm,19.9s
KSH LR LR
comp=Z,750nm,23.4s
JIS **Juneau Island** 85.43 30 P P 09 57 03.1 +2.0
H27K **Steamboat Moun** 85.48 21 P P 09 57 02.3 +1.0
baz=243,SNR=50
L29M **L29M** 85.48 25 IAmb IAmb 09 57 21.2
comp=Z,89nm,1.4s
L29M **L29M** 85.48 25 P P 09 57 02.8 +1.4
baz=247,SNR=17
O30N **Mendenhall** 85.49 27 IAmb IAmb 09 57 18.8
comp=Z,62nm,1.3s
O30N IAMs_20 IAMs_20 10 31 17.0
comp=Z,2µm,21.0s
O30N **Mendenhall** 85.49 27 P P 09 57 02.4 +0.9
baz=249,SNR=15
AAA **Alma-Ata** 85.50 314 *eP* P 09 57 01.2 -0.7
AAA pmax pmax
comp=Z,12nm,0.5s
AAA **Alma-Ata** 85.50 314 *eP* P 09 57 01.3 -0.7
comp=Z,12nm,0.5s
T33K **Petersburg** 85.68 32 P P 09 57 03.5 +1.1
baz=252
G27K **Doyon Strip** 85.70 21 IAmb IAmb 09 57 21.1
comp=Z,51nm,1.6s
G27K **Doyon Strip** 85.70 21 P P 09 57 03.3 +1.0
baz=243,SNR=31
I28M **Miner Creek** 85.73 22 IAmb IAmb 09 57 20.8
comp=Z,58nm,1.4s
I28M **Miner Creek** 85.73 22 P P 09 57 03.1 +0.5
baz=245,SNR=35
NRN **Naryn** 85.78 312 IAmb IAmb 09 57 38.8
comp=Z,74nm,1.9s
M30M **Minto, Yukon** 85.84 26 IAmb IAmb 09 57 22.7
comp=Z,63nm,1.4s
M30M IAMs_20 IAMs_20 10 31 38.3
comp=Z,3µm,21.0s
M30M **Minto, Yukon** 85.84 26 P P 09 57 04.1 +0.9
baz=248,SNR=24
WRAK **Wrangell Islan** 85.88 32 IAMs_20 IAMs_20 10 27 15.7
comp=Z,2µm,22.0s
WRAK **Wrangell Islan** 85.88 32 P P 09 57 04.6 +1.3
baz=252,SNR=16
N31M **Braeburn, Yuko** 85.89 27 P P 09 57 04.5 +1.2
baz=249,SNR=22
V35K **Ketchikan** 85.94 33 P P 09 57 04.7 +1.0
baz=253,SNR=16
J29N **Klondike Camp** 85.98 24 IAMs_20 IAMs_20 10 30 24.9
comp=Z,3µm,22.0s
J29N **Klondike Camp** 85.98 24 P P 09 57 05.3 +1.5
baz=247
WHY **Whitehorse** 86.00 28 IAmb IAmb 09 57 20.6
comp=Z,75nm,1.2s
WHY **Whitehorse** 86.00 28 P P 09 57 04.7 +0.7
baz=250,SNR=8.0
K29M **Barlow Dome** 86.03 24 IAMs_20 IAMs_20 10 33 15.0
comp=Z,2µm,20.0s
K29M **Barlow Dome** 86.03 24 P P 09 57 05.4 +1.3
baz=247,SNR=50
KUU **Kurty** 86.06 315 *eP* P 09 57 04.2 -0.4
KUU pmax pmax
comp=Z,22nm,1.0s
KUU **Kurty** 86.06 315 *eP* P 09 57 04.2 -0.4
comp=Z,22nm,1.0s
C26K **Camden Bay** 86.12 18 P P 09 57 05.9 +1.6
baz=240,SNR=36
KURK **Kurchatov** 86.16 322 P P 09 57 03.7 -1.2
KURK IAmb IAmb 09 57 06.4
comp=Z,43nm,1.1s
KURK **Kurchatov** 86.16 322 *ce* P P 09 57 04.0 -0.9
KURK pmax pmax
comp=Z,38nm,1.2s
KURBB **Kurchatov Arra** 86.19 322 P P 09 57 03.6 -1.5
comp=Z,9.1nm,0.8s,baz=111,slow=3.6,SNR=71
KURBB S SKSac 10 07 26.1 -0.4
comp=Z,0.2nm,0.5s,baz=106,slow=2.0,SNR=1.1
KURBB PKKPbc PKKPbc 10 15 04.0 -1.8
comp=Z,0.5nm,0.6s,baz=295,slow=2.7,SNR=4.8
KURBB LR LR 10 38 42.1
comp=Z,221nm,18.1s,baz=161,slow=38
comp=Z,9.1nm,0.8s
P32M **Atlin** 86.19 29 IAmb IAmb 09 57 21.5
comp=Z,36nm,1.2s
P32M IAMs_20 IAMs_20 10 34 10.7
comp=Z,2µm,19.0s
P32M **Atlin** 86.19 29 P P 09 57 06.1 +1.1
baz=251,SNR=11
I29M **Ogilvie Camp,** 86.31 23 IAmb IAmb 09 57 08.6
comp=Z,44nm,1.0s
I29M **Ogilvie Camp,** 86.31 23 P P 09 57 05.9 +0.5
baz=246,SNR=61
C27K **Jago River** 86.34 18 IAmb IAmb 09 57 09.9
comp=Z,32nm,0.8s
C27K IAMs_20 IAMs_20 10 33 34.0
comp=Z,2µm,20.0s
C27K **Jago River** 86.34 18 P P 09 57 06.5 +1.1
baz=241,SNR=25
E27K **Coleen River** 86.34 20 IAmb IAmb 09 57 07.8
comp=Z,48nm,0.9s
E27K **Coleen River** 86.34 20 P P 09 57 06.6 +1.1
baz=243,SNR=45
TKM2 **Tokmak 2** 86.39 314 P P 09 57 08.8 +2.3
SNR=17
TKM2 **Tokmak 2** 86.39 314 *i* P P 09 57 05.3 -1.2
TKM2 pmax pmax
comp=Z,15nm,0.7s
RUBB **Prince Rupert** 86.42 35 IAmb IAmb 09 57 22.6
comp=Z,45nm,1.2s
NIL **Nilore** 86.44 304 P P 09 57 06.1 -0.7
NIL **Nilore** 86.44 304 P P 09 57 06.1 -0.7
NIL pmax pmax
comp=Z,146nm,1.7s
NIL MLR MLR
comp=Z,600nm,21.0s
MAYO **Mayo, Yukon** 86.60 25 P P 09 57 08.2 +1.3
baz=249,SNR=19
H29M **Whitestone** 86.64 22 IAmb IAmb 09 57 46.6
comp=Z,40nm,1.3s
H29M **Whitestone** 86.64 22 P P 09 57 07.5 +0.6
baz=246,SNR=9.1
F28M **Old Crow** 86.68 20 IAmb IAmb 09 57 09.2
comp=Z,29nm,0.9s
F28M IAMs_20 IAMs_20 10 34 27.0
comp=Z,2µm,20.0s
F28M **Old Crow** 86.68 20 P P 09 57 08.1 +0.9
baz=245,SNR=25
Q32M **Nakina River** 86.70 30 P P 09 57 08.7 +1.0
baz=252,SNR=11
HOLB **Holberg** 86.72 38 IAmb IAmb 09 57 09.7
comp=Z,44nm,0.9s
M31M **Drury Creek, Y** 86.76 26 IAmb IAmb 09 57 24.4
comp=Z,46nm,1.2s
M31M IAMs_20 IAMs_20 10 30 40.5
comp=Z,2µm,22.0s
M31M **Drury Creek, Y** 86.76 26 P P 09 57 08.2 +0.5
baz=250,SNR=22
J30M **Hart River** 86.79 24 IAmb IAmb 09 57 11.7
comp=Z,47nm,0.9s
J30M IAMs_20 IAMs_20 10 31 13.1
comp=Z,2µm,22.0s
J30M **Hart River** 86.79 24 P P 09 57 09.0 +1.1
baz=248,SNR=70
P33M **Teslin, Yukon** 86.82 28 P P 09 57 08.7 +0.7
baz=252,SNR=7.5
S34M **Telegraph Cree** 86.95 31 P P 09 57 10.1 +1.5
baz=253,SNR=31
U35K **Hyder** 86.97 33 IAMs_20 IAMs_20 10 28 53.8
comp=Z,2µm,21.0s
N32M **Quiet Lake** 87.00 28 IAmb IAmb 09 57 25.4
comp=Z,57nm,0.9s
N32M **Quiet Lake** 87.00 28 P P 09 57 09.8 +0.9
baz=251
CHMS **Chumysh** 87.01 314 P P 09 57 09.9 +0.6
SNR=7.5
I30M **Mount Dempster** 87.01 23 IAmb IAmb 09 57 28.0
comp=Z,83nm,1.4s
I30M **Mount Dempster** 87.01 23 P P 09 57 09.6 +0.6
baz=248,SNR=54
D27M **Malcolm River** 87.02 19 IAmb IAmb 09 57 37.2
comp=Z,50nm,1.1s

D27M	**Malcolm River**	87.02	19	P	P	09 57 09.9	+1.1			
	baz=244,SNR=12									
UCH	**Uchtor**	87.03	313	P	P	09 57 10.7	+0.7			
	SNR=11									
G29M	**Pine Creek**	87.04	21	IAmb	IAmb	09 57 33.0				
	comp=Z,59nm,1.0s									
G29M	**Pine Creek**	87.04	21	P	P	09 57 09.7	+0.8			
	baz=247,SNR=34									
BBB	**Bella Bella**	87.11	37	LR	LR	10 28 46.9				
	comp=Z,2µm,21.9s,baz=263,slow=30									
AAK	**Ala-Archa**	87.12	313	P	P	09 57 09.6	-0.4			
AAK	**Ala-Archa**	87.12	313	P	P	09 57 10.2	+0.1			
	comp=Z,14nm,0.6s,baz=131,slow=3.5,SNR=11									
AAK				S	SKSac	10 07 26.4	-6.7			
	comp=Z,1.5nm,0.3s,baz=49,slow=20,SNR=1.4									
AAK				LR	LR	10 36 54.4				
	comp=Z,439nm,21.8s,baz=90,slow=36									
	comp=Z,14nm,0.6s									
AAK	**Ala-Archa**	87.12	313	*ce*P	P	09 57 10.7	+0.6			
AAK				pmax	pmax					
	comp=Z,15nm,0.8s									
T35M	**Bob Quinn**	87.15	32	IAmb	IAmb	09 57 27.2				
	comp=Z,100nm,1.6s									
T35M	**Bob Quinn**	87.15	32	P	P	09 57 10.8	+1.2			
	baz=254,SNR=18									
SGDS	**Sogindy**	87.19	314	*e*P	P	09 57 09.4	-0.8			
E28M	**Babbage River**	87.21	20	P	P	09 57 10.4	+0.7			
	baz=245,SNR=20									
FARO	**Faro, Yukon**	87.23	26	IAmb	IAmb	09 57 26.7				
	comp=Z,52nm,1.4s									
FARO	**Faro, Yukon**	87.23	26	P	P	09 57 10.3	+0.4			
	baz=251,SNR=12									
USP	**Ospenovka**	87.24	314	P	P	09 57 10.1	-0.3			
	SNR=19									
EPYK	**Eagle Plains**	87.31	22	P	P	09 57 10.9	+0.6			
	baz=248,SNR=53									
JCC	**Jacoby Creek,**	87.45	49	IAMs_20	IAMs_20	10 28 41.8				
	comp=Z,1µm,20.0s									
R33M	**Jennings River**	87.47	30	P	P	09 57 12.4	+1.1			
	baz=253,SNR=30									
AML	**Almayashu**	87.61	313	P	P	09 57 13.2	+0.5			
	SNR=22									
EKS2	**Erkin-Say**	87.65	313	P	P	09 57 13.4	+0.9			
	SNR=13									
DLBC	**Dease Lake**	87.66	31	LR	LR	10 29 24.2				
	comp=Z,137nm,21.9s,baz=250,slow=31									
DLBC	**Dease Lake**	87.66	31	P	P	09 57 13.3	+1.2			
	baz=254,SNR=34									
E29M	**Blow River**	87.67	20	IAMs_20	IAMs_20	10 34 30.3				
	comp=Z,2µm,20.0s									
E29M	**Blow River**	87.67	20	P	P	09 57 12.2	+0.3			
	baz=247									
G30M	**tAoh Zraii Nji**	87.72	22	IAmb	IAmb	09 57 30.9				
	comp=Z,79nm,1.4s									
G30M	**tAoh Zraii Nji**	87.72	22	P	P	09 57 12.5	+0.2			
	baz=248,SNR=13									
D28M	**Stokes Point**	87.78	19	P	P	09 57 12.7	+0.4			
	baz=246									
HOPS	**Hopland Field**	87.86	51	IAMs_20	IAMs_20	10 34 18.6				
	comp=Z,2µm,19.0s									
MCCM	**Marconi Confer**	87.86	51	IAMs_20	IAMs_20	10 30 54.8				
	comp=Z,2µm,20.0s									
BTLS	**Baital**	87.91	316	*e*P	P	09 57 12.7	-0.8			
BTLS				pmax	pmax					
	comp=Z,20nm,1.8s									
BTLS	**Baital**	87.91	316	*e*P	P	09 57 12.8	-0.8			
	comp=Z,20nm,1.8s									
H31M	**Peel River**	88.01	23	IAmb	IAmb	09 57 32.6				
	comp=Z,80nm,1.4s									
H31M	**Peel River**	88.01	23	P	P	09 57 14.0	+0.4			
	baz=250,SNR=21									
NRIK	**Noril'sk**	88.02	341	IAmb	IAmb	09 57 13.7				
	comp=Z,42nm,0.9s									
NRIK	**Noril'sk**	88.02	341	P	P	09 57 12.0	-1.5			
	comp=Z,40nm,0.9s,baz=110,slow=4.7,SNR=21									
NRIK				S	SKSac	10 07 34.6	-2.3			
	comp=Z,4.3nm,0.8s,baz=104,slow=4.2,SNR=2.1									
NRIK				LR	LR	10 38 16.1				
	comp=Z,776nm,19.5s,baz=101,slow=37									
	comp=Z,40nm,0.9s									
NRIK	**Noril'sk**	88.02	341	*i* P	P	09 57 12.0	-1.5			
NRIK				pmax	pmax					
	comp=Z,45nm,0.9s									
GDXM	**Geysers**	88.04	51	IAmb	IAmb	09 57 17.2				
	comp=Z,23nm,0.9s									
F30M	**Barrier River**	88.11	21	IAmb	IAmb	09 57 37.9				
	comp=Z,54nm,1.0s									
F30M	**Barrier River**	88.11	21	P	P	09 57 14.6	+0.6			
	baz=249,SNR=18									
MMPY	**Sheldon Lake,**	88.27	26	P	P	09 57 15.9	+0.9			
	baz=253,SNR=17									
O02D	**Mt. Diablo Mer**	88.27	49	IAMs_20	IAMs_20	10 29 48.5				
	comp=Z,2µm,21.0s									
CBB	**Campbell River**	88.31	39	IAmb	IAmb	09 57 16.9				
	comp=Z,33nm,0.9s									
G31M	**Satah River**	88.42	22	P	P	09 57 15.9	+0.5			
	baz=250,SNR=20									
YBH	**Yreka Blue Hor**	88.59	48	LR	LR	10 30 56.1				
	comp=Z,271nm,20.3s,baz=287,slow=31									
RADR	**Rader Ridge**	88.64	43	IAmb	IAmb	09 57 18.9				
	comp=Z,39nm,0.9s									
F03A	**Seaside**	88.72	44	IAmb	IAmb	09 57 21.4				
	comp=Z,33nm,0.8s									
NLWA	**Neilton Lookou**	88.77	42	IAmb	IAmb	09 57 20.2				
	comp=Z,64nm,1.6s									
WISH	**Wishkah**	88.79	42	IAmb	IAmb	09 57 30.0				
	comp=Z,58nm,1.4s									
F31M	**Tsiigehtchic**	88.79	21	P	P	09 57 17.3	+0.2			
	baz=251									
G03D	**McMinnville, O**	88.79	44	IAmb	IAmb	09 57 19.5				
	comp=Z,20nm,0.8s									
E03A	**Lebam**	88.82	43	IAmb	IAmb	09 57 19.5				
	comp=Z,47nm,0.9s									
CLRS	**Cowichan Lake**	88.86	41	IAmb	IAmb	09 57 35.1				
	comp=Z,29nm,1.2s									
H04D	**Lebanon**	89.04	45	IAmb	IAmb	09 57 21.4				
	comp=Z,18nm,0.8s									
INK	**Inuvik**	89.16	21	IAmb	IAmb	09 57 49.8				
	comp=Z,31nm,1.2s									
INK	**Inuvik**	89.16	21	LR	LR	10 34 27.9				
	comp=Z,3µm,20.9s,baz=245,slow=34									
INK	**Inuvik**	89.16	21	P	P	09 57 18.8	-0.1			
	baz=251,SNR=9.0									
PGC	**Sidney**	89.28	41	IAmb	IAmb	09 57 22.7				
	comp=Z,36nm,1.3s									
J04A	**Umpqua Nationa**	89.28	47	IAmb	IAmb	09 57 24.4				
	comp=Z,24nm,0.8s									
TGTN	**Hyland Airport**	89.33	28	P	P	09 57 20.8	+0.8			
	baz=256									
G04A	**Mulino**	89.34	45	IAmb	IAmb	09 57 35.9				
	comp=Z,30nm,1.0s									
HATC	**Hat Creek Radi**	89.38	49	IAmb	IAmb	09 57 23.0				
	comp=Z,23nm,0.8s									
BTK	**Batken**	89.41	310	IAmb	IAmb	09 57 37.6				
	comp=Z,17nm,0.8s									
DZA	**Taraz**	89.46	313	*e*P	P	09 57 20.4	-0.6			
DZA	**Taraz**	89.46	313	*e*P	P	09 57 20.4	-0.6			
AFDM	**Forest Hills D**	89.47	51	IAmb	IAmb	10 00 43.5				
	comp=Z,33nm,0.7s									
GAR	**Garm**	89.63	309	IAmb	IAmb	09 57 25.1				
	comp=Z,29nm,0.8s									
A04D	**Lummi Island**	89.77	41	IAmb	IAmb	09 57 24.5				
	comp=Z,37nm,1.0s									
CMB	**Columbia Colle**	89.79	52	IAMs_20	IAMs_20	10 31 35.9				
	comp=Z,2µm,20.0s									
LIRD	**Liard River Hi**	89.88	30	P	P	09 57 23.2	+0.7			
	baz=258,SNR=8.0									
J05D	**Fort Rock, OR**	89.92	47	IAmb	IAmb	09 57 25.7				
	comp=Z,28nm,1.2s									
HOOD	**Mount Hood Mea**	89.93	45	IAmb	IAmb	09 57 44.4				
	comp=Z,39nm,1.4s									
I05D	**Terrebonne, OR**	90.00	46	IAmb	IAmb	09 57 25.2				
	comp=Z,43nm,1.6s									
KBL	**Kabul**	90.03	305	P	P	09 57 22.9	-1.1			
KBL	**Kabul**	90.03	305	P	P	09 57 22.9	-1.1			
BEKR	**Beckworth**	90.07	50	IAmb	IAmb	10 00 51.4				
	comp=Z,24nm,0.7s									
KK31	**Karatay Array**	90.09	313	P	P	09 57 23.3	-0.6			
KK31	**Karatay Array**	90.09	313	*i* P	P	09 57 23.1	-0.8			
KKAR	**Karatay Array**	90.09	313	P	P	09 57 23.3	-0.6			
KKAR	**Karatay Array**	90.09	313	P	P	09 57 23.3	-0.6			
KKAR				pmax	pmax					
	comp=Z,15nm,1.1s									
G05A	**Wamic**	90.16	45	IAmb	IAmb	09 58 04.8				
	comp=Z,46nm,1.3s									
TOAD	**Toad River Com**	90.20	31	P	P	09 57 24.3	+0.3			
	baz=258,SNR=18									
IUG	**luzhnay**	90.30	312	*e*P	P	09 57 24.3	-0.7			
IUG				pmax	pmax					
	comp=Z,8.0nm,0.7s									
IUG	**luzhnay**	90.30	312	*e*P	P	09 57 24.3	-0.7			
	comp=Z,7.8nm,0.7s									
SIMJ	**Simiganj**	90.60	309	P	P	09 57 26.0	-0.5			
LTY	**Liberty**	90.90	43	IAmb	IAmb	09 57 44.5				
	comp=Z,69nm,1.9s									
KOTAN	**Kotaneelee Air**	91.04	30	P	P	09 57 28.7	+0.8			
	baz=259,SNR=8.4									
PASC	**Pasadena Art C**	91.06	56	IAMs_20	IAMs_20	10 30 55.8				
	comp=Z,1µm,20.0s									
I07A	**Izee**	91.27	46	IAmb	IAmb	09 57 31.1				
	comp=Z,31nm,1.6s									
E07A	**Sunnyside**	91.35	43	IAmb	IAmb	09 57 32.7				
	comp=Z,22nm,0.9s									
NVAR	**Mina Array Bea**	91.47	52	P	P	09 57 31.4	+0.7			
	comp=Z,27nm,0.8s,baz=275,slow=6.4,SNR=43									
NVAR				LR	LR	10 33 15.8				
	comp=Z,1µm,20.0s,baz=282,slow=32									
	comp=Z,27nm,0.8s									
HAWA	**Hanford**	91.55	44	IAmb	IAmb	09 57 32.1				
	comp=Z,18nm,0.9s									
HAWA				IAMs_20	IAMs_20	10 33 39.8				
	comp=Z,3µm,20.0s									
WAH2	**Wahluke Slope**	91.58	43	IAmb	IAmb	09 57 32.0				
	comp=Z,18nm,0.9s									
BVA0	**Borovoye Array**	91.62	323	*i* P	P	09 57 28.7	-2.0			
BVAR	**Borovoye Array**	91.62	323	P	P	09 57 28.5	-2.2			
	comp=Z,32nm,0.8s,baz=100,slow=6.0,SNR=102									
BVAR				LR	LR	10 37 47.4				
	comp=Z,657nm,21.4s,baz=87,slow=35									
	comp=Z,32nm,0.8s									
BRVK	**Borovoye**	91.69	323	P	P	09 57 28.9	-2.0			
BRVK				IAmb	IAmb	09 57 30.4				
	comp=Z,24nm,1.0s									
BRVK	**Borovoye**	91.69	323	P	P	09 57 29.0	-2.0			
BRVK				pmax	pmax					
	comp=Z,24nm,1.0s									
BRVK				MLR	MLR					
	comp=Z,800nm,22.0s									
WVOR	**Wild Horse Val**	91.69	48	IAmb	IAmb	09 57 49.1				
	comp=Z,70nm,2.0s									
WVOR				IAMs_20	IAMs_20	10 33 35.9				
	comp=Z,3µm,20.0s									
WRGLY	**Wrigley**	91.88	27	IAmb	IAmb	09 57 33.3				
	comp=Z,18nm,0.9s									
WRGLY	**Wrigley**	91.88	27	P	P	09 57 32.1	+0.4			
	baz=260,SNR=8.5									
E08A	**Dider Farm, El**	91.89	44	IAmb	IAmb	09 57 33.6				
	comp=Z,16nm,0.9s									
YPT	**Yellepit**	91.90	44	IAmb	IAmb	09 57 33.7				
	comp=Z,22nm,0.9s									
B08A	**Colville Reser**	91.94	42	IAmb	IAmb	09 57 48.4				
	comp=Z,35nm,1.4s									
D08A	**Wollman Farm,**	92.05	43	IAmb	IAmb	09 57 49.4				
	comp=Z,71nm,1.8s									
PFO	**Pinyon Flats O**	92.42	57	P	P	09 57 36.3	+1.2			
PFO	**Pinyon Flats O**	92.42	57	IAMs_20	IAMs_20	10 34 45.1				
	comp=Z,2µm,19.0s									
PFO	**Pinyon Flats O**	92.42	57	LR	LR	10 35 05.2				
	comp=Z,2µm,18.1s,baz=286,slow=33									
PFO	**Pinyon Flats O**	92.42	57	P	P	09 57 36.3	+1.2			
PFO				pmax	pmax					
	comp=Z,206nm,0.7s									
E09A	**Wood Farm, Sta**	92.52	44	IAmb	IAmb	09 57 36.4				
	comp=Z,28nm,1.0s									
A36M	**Sachs Harbour**	92.86	18	IAMs_20	IAMs_20	10 38 14.2				
	comp=Z,3µm,21.0s									
BMO	**Blue Mountains**	92.92	45	IAMs_20	IAMs_20	10 34 16.3				
	comp=Z,2µm,20.0s									
TPNV	**Topopah Spring**	92.93	53	IAMs_20	IAMs_20	10 35 03.7				
	comp=Z,1µm,20.0s									
NEW	**Newport**	93.39	42	IAmb	IAmb	09 57 40.1				
	comp=Z,20nm,1.0s									
NEW	**Newport**	93.39	42	LR	LR	10 32 47.3				
	comp=Z,5µm,21.5s,baz=306,slow=31									
MFID	**Camas Ranch**	93.85	47	IAMs_20	IAMs_20	10 32 05.8				
	comp=Z,2µm,22.0s									
PLID	**Pearl Lake**	93.87	45	IAMs_20	IAMs_20	10 33 06.2				
	comp=Z,2µm,21.0s									
ELK	**Elko**	94.06	50	IAmb	IAmb	10 01 12.4				
	comp=Z,14nm,0.6s									
ELK				IAMs_20	IAMs_20	10 34 47.6				
	comp=Z,1µm,20.0s									
ELK	**Elko**	94.06	50	LR	LR	10 34 20.4				
	comp=Z,1µm,20.2s,baz=280,slow=32									
MSO	**Missoula**	95.43	44	IAMs_20	IAMs_20	10 36 39.4				
	comp=Z,2µm,19.0s									
YKA	**Yellowknife Ar**	95.83	28	P	P	09 57 50.0	+0.2			
YKA	**Yellowknife Ar**	95.83	28	P	P	09 57 49.8	-0.1			
	comp=Z,10nm,0.8s,baz=273,slow=4.7,SNR=123									
YKA				PKKPbc	PKKPbc	10 14 38.4	-3.2			
	comp=Z,1.6nm,0.7s,baz=78,slow=2.5,SNR=23									
YKA				LR	LR	10 37 22.3				
	comp=Z,583nm,21.1s,baz=294,slow=33									
	comp=Z,10nm,0.8s									
YKA	**Yellowknife Ar**	95.83	28	*ce*P	P	09 57 50.0	+0.2			
YKA				pmax	pmax					
	comp=Z,11nm,0.8s									
YKAW3	**Yellowknife Wh**	95.83	28	IAmb	IAmb	09 58 06.5				
	comp=Z,35nm,1.2s									
DUG	**Dugway, Tooele**	95.86	50	IAmb	IAmb	10 01 23.1				
	comp=Z,11nm,0.7s									
YKAW1	**Yellowknife Wh**	95.89	28	IAmb	IAmb	09 58 06.8				
	comp=Z,35nm,1.2s									
DLMT	**Dillon**	96.29	45	IAMs_20	IAMs_20	10 36 24.2				
	comp=Z,2µm,19.0s									
WUAZ	**Wupatki**	96.75	55	IAMs_20	IAMs_20	10 35 17.5				
	comp=Z,2µm,20.0s									
HWUT	**Hardware Ranch**	96.88	49	IAMs_20	IAMs_20	10 37 35.2				
	comp=Z,2µm,20.0s									
BOZ	**Bozeman (W)**	96.98	45	IAMs_20	IAMs_20	10 35 15.4				
	comp=Z,2µm,21.0s									
LPIG	**La Paz**	97.02	67	LR	LR	10 35 41.1				
	comp=Z,1µm,19.5s,baz=285,slow=32									
TMUT	**Trail Mountain**	97.06	51	IAmb	IAmb	10 01 29.6				
	comp=Z,14nm,0.7s									
Q16A	**Castle Valley**	97.07	52	IAmb	IAmb	10 01 26.1				
	comp=Z,16nm,0.8s									
TUC	**Tucson**	97.08	58	IAMs_20	IAMs_20	10 33 51.4				
	comp=Z,1µm,21.0s									
AHID	**Auburn Hatcher**	97.27	48	IAMs_20	IAMs_20	10 37 44.4				
	comp=Z,2µm,20.0s									
TPAW	**Teton Pass**	97.40	47	IAmb	IAmb	09 57 59.9				
	comp=Z,26nm,1.8s									
SNOW	**Snow King Moun**	97.54	47	IAMs_20	IAMs_20	10 35 19.5				
	comp=Z,2µm,21.0s									
SRU	**San Rafael Swe**	97.58	51	IAmb	IAmb	10 01 43.0				
	comp=Z,12nm,0.6s									
ABKAR	**Akbulak array**	97.89	319	P	P	09 57 56.9	-2.6			
ABKAR	**Akbulak array**	97.89	319	IAmb	IAmb	09 57 59.8				
	comp=Z,5.3nm,0.9s									
BW06	**Boulder Array**	98.40	48	IAMs_20	IAMs_20	10 38 31.4				
	comp=Z,2µm,20.0s									
PDAR	**Pinedale Array**	98.40	48	P	P	09 58 01.5	-0.7			
PDAR	**Pinedale Array**	98.40	48	P	P	09 58 01.0	-1.3			
	comp=Z,3.6nm,0.7s,baz=258,slow=6.1,SNR=40									
PDAR				PP	PP	10 01 59.3	-3.6			
	comp=Z,0.5nm,0.5s,baz=268,slow=8.6,SNR=6.4									
PDAR				PKKPbc	PKKPbc	10 14 28.0	-6.1			
	comp=Z,0.5nm,0.7s,baz=70,slow=4.1,SNR=3.7									
PDAR				PKPPKP		10 22 48.3				
	comp=Z,0.2nm,0.5s,baz=98,slow=2.4,SNR=3.7									
PDAR				LR	LR	10 38 52.1				
	comp=Z,961nm,19.2s,baz=281,slow=33									
	comp=Z,3.6nm,0.7s									
RLMT	**Red Lodge**	98.63	45	IAMs_20	IAMs_20	10 38 18.3				
	comp=Z,2µm,20.0s									
PV05	**Paradox Valley**	98.67	53	IAmb	IAmb	10 01 43.9				
	comp=Z,25nm,0.9s									
ARTI	**Arti**	98.76	326	P	P	09 58 00.9	-2.3			
ARTI	**Arti**	98.76	326	P	P	09 58 00.9	-2.3			
	comp=Z,9.0nm,0.8s,baz=86,slow=3.9,SNR=12									
ARTI				LR	LR	10 44 44.9				
	comp=Z,397nm,20.5s,baz=74,slow=37									
	comp=Z,9.0nm,0.8s									
ARTI	**Arti**	98.76	326	P	P	09 58 00.8	-2.4			
ARTI						10 02 02.2				
ARTI				S	SKSac	10 08 36.3	-0.2			
ARTI				SP	SP	10 10 53.3	-0.3			
ARTI				MLR	MLR					
	comp=Z,535nm,21.0s									
PV21	**Cone Mtn., Par**	98.78	52	IAmb	IAmb	10 01 53.3				
	comp=Z,14nm,0.7s									
PV16	**Nyswonger Mesa**	98.82	52	IAmb	IAmb	10 01 49.4				
	comp=Z,18nm,0.6s									
PV07	**Paradox Valley**	99.03	52	IAmb	IAmb	10 02 01.3				
	comp=Z,14nm,0.7s									
PV01	**Paradox Valley**	99.09	52	IAmb	IAmb	10 01 49.1				
	comp=Z,16nm,1.0s									
AKTO	**Aktyubinsk**	99.13	320	P	Pdif	09 58 02.8	-2.2			
	comp=Z,3.2nm,0.8s,baz=74,slow=5.3,SNR=6.2									
AKTO				LR	LR	10 46 22.8				
	comp=Z,169nm,18.7s,baz=62,slow=38									
	comp=Z,3.2nm,0.8s									
O20A	**White River Ci**	99.36	50	IAMs_20	IAMs_20	10 37 53.2				
	comp=Z,2µm,20.0s									
EPT	**El Paso**	100.69	59	IAMs_20	IAMs_20	10 38 05.1				
	comp=Z,2µm,20.0s									
LAO	**LASA Array**	100.73	44	IAMs_20	IAMs_20	10 39 56.7				
	comp=Z,2µm,20.0s									
ANMO	**Albuquerque**	100.76	56	IAMs_20	IAMs_20	10 39 50.7				
	comp=Z,1µm,20.0s									
SNAA	**Sanae**	100.79	187	IAMs_20	IAMs_20	10 41 30.7				
	comp=Z,2µm,21.0s									
SNAA	**Sanae**	100.79	187	PP	PP	10 02 17.2	-2.4			
	comp=Z,7.0nm,1.3s,baz=150,slow=9.0,SNR=7.9									
SNAA				PKiKP	PKiKP	10 02 37.1	-0.5			
	comp=Z,1.0nm,0.7s,baz=155,slow=2.7,SNR=5.7									
SNAA	**Sanae**	100.79	187	*i* P	Pdif	09 58 13.7	+1.6			
SNAA				pmax	pmax					
	comp=Z,12nm,1.2s									
RES	**Resolute Bay**	101.36	15	IAMs_20	IAMs_20	10 44 24.4				
	comp=Z,1µm,20.0s									
SDCO	**Great Sand Dun**	101.51	53	IAMs_20	IAMs_20	10 39 43.3				
	comp=Z,2µm,20.0s									
MNTX	**Cornudas Mount**	101.65	59	IAMs_20	IAMs_20	10 35 42.5				
	comp=Z,2µm,21.0s									
T25A	**Trinidad**	102.39	53	IAMs_20	IAMs_20	10 39 33.7				
	comp=Z,2µm,20.0s									
FFC	**Flin Flon**	102.77	35	IAMs_20	IAMs_20	10 42 03.6				
	comp=Z,2µm,21.0s									
TXAR	**Lajitas Array**	103.13	61	Pdiff	Pdif	09 58 23.6	+0.2			
	comp=Z,2.0nm,1.0s,baz=276,slow=3.2,SNR=7.5									
TXAR				PKiKP	PKiKP	10 02 43.2	+0.1			
	comp=Z,1.6nm,1.0s,baz=246,slow=1.5,SNR=5.1									
TXAR				PKKPbc	PKKPbc	10 14 19.0	-0.9			
	comp=Z,2.6nm,0.8s,baz=80,slow=3.2,SNR=24									
KSCO	**Kaye Shedlock'**	103.73	52	IAMs_20	IAMs_20	10 45 55.8				
	comp=Z,996nm,18.0s									
OGNE	**Ogallala**	104.07	49	IAMs_20	IAMs_20	10 42 00.6				
	comp=Z,2µm,20.0s									
E28A	**Huff**	104.54	44	IAMs_20	IAMs_20	10 38 13.4				
	comp=Z,2µm,22.0s									
AMTX	**Amarillo**	104.69	56	IAMs_20	IAMs_20	10 40 02.2				
	comp=Z,1µm,21.0s									
MOIG	**Morelia**	105.29	71	IAMs_20	IAMs_20	10 42 25.8				
	comp=Z,2µm,20.0s									
BELG	**Belogornoye**	105.42	323	Pdiff	Pdif	09 58 31.1	-1.8			
	comp=Z,10nm,0.9s,baz=90,slow=5.1,SNR=4.2									
CBKS	**Cedar Bluff**	105.99	52	IAMs_20	IAMs_20	10 40 26.3				
	comp=Z,2µm,21.0s									
SUSD	**Miller**	106.00	46	IAMs_20	IAMs_20	10 47 23.8				
	comp=Z,1µm,19.0s									
JCT	**Junction City**	106.46	60	IAMs_20	IAMs_20	10 38 37.6				
	comp=Z,2µm,22.0s									
ELIS	**Ellis County**	106.46	54	IAMs_20	IAMs_20	10 45 42.0				
	comp=Z,2µm,22.0s									
POIN	**Pond Inlet**	106.51	14	IAMs_20	IAMs_20	10 48 08.0				
	comp=Z,1µm,20.0s									
R32A	**Long Quarter,**	106.83	52	IAMs_20	IAMs_20	10 40 06.5				
	comp=Z,1µm,22.0s									
833A	**Chaparral WMA,**	106.89	62	IAMs_20	IAMs_20	10 41 51.4				
	comp=Z,2µm,20.0s									
MAK	**Makhachkala**	106.90	313	*i* P	Pdif	09 58 38.8	-0.9			
MAK				*e*		10 03 03.3				
MAK				*e*PPP	PPP	10 05 17.5				
MAK				*e*		10 09 16.2				
MAK				*e*SS	SS

comp=Z,2µm,20.0s
I40A **Norwalk** 112.00 45 IAMs_20 IAMs_20 10 44 15.6
comp=Z,2µm,22.0s
441A **DeRidder** 112.12 59 IAMs_20 IAMs_20 10 43 49.6
comp=Z,2µm,21.0s
Z41A **Richland Creek** 112.16 57 IAMs_20 IAMs_20 10 46 54.3
comp=Z,2µm,21.0s
FCAR **Ozark Folk Cen** 112.36 54 IAMs_20 IAMs_20 10 45 05.1
comp=Z,1µm,20.0s
SOC **Sochi** 112.39 315 *i* PKIKP **PKiKP** **10 02 57.5 -2.3**
SOC *e* 10 03 42.7
SOC *e*PPP PPP 10 06 06.5
SOC *e*PS **SP** **10 13 14.9 +1.3**
SOC *e*SSS SSS 10 23 26.5
SOC MLR MLR
comp=Z,453nm,21.0s
JFWS **Jewell Farm** 112.48 46 IAMs_20 IAMs_20 10 47 54.4
comp=Z,1µm,20.0s
N41A **Harden Midland** 112.50 49 IAMs_20 IAMs_20 10 45 28.2
comp=Z,2µm,21.0s
CCM **Cathedral Cave** 112.70 51 IAMs_20 IAMs_20 10 46 57.9
comp=Z,2µm,20.0s
L42A **Oliver, Polo** 113.10 47 IAMs_20 IAMs_20 10 50 49.0
comp=Z,1µm,19.0s
LCAR **Lake Charles** 113.11 54 IAMs_20 IAMs_20 10 51 18.9
comp=Z,1µm,19.0s
I42A **Draeger Farm,** 113.20 45 IAMs_20 IAMs_20 10 47 04.2
comp=Z,2µm,20.0s
FINES **FINESS Array B** 113.22 336 Pdiff **Pdif** **09 59 05.1 -2.3**
comp=Z,1.8nm,0.8s,baz=48,slow=2.1,SNR=4.4
FINES PKiKP **PKiKP** **10 02 59.5 -1.3**
comp=Z,2.2nm,0.8s,baz=65,slow=4.7,SNR=5.0
FINES PP **PP** **10 03 51.0 -0.1**
comp=Z,4.1nm,0.9s,baz=63,slow=5.2,SNR=4.1
FINES PKKPbc **PKKPbc** **10 13 45.9 -3.0**
comp=Z,2.3nm,0.7s,baz=221,slow=2.2,SNR=6.9
FINES PKKPab **PKKPab** **10 13 53.7 -0.6**
comp=Z,2.6nm,0.7s,baz=222,slow=1.9,SNR=6.2
FINES PKKP **PKKPdf** **10 14 08.7 -1.0**
comp=Z,2.4nm,0.8s,baz=247,slow=5.6,SNR=3.8
F42A **Maple Grove Fa** 113.26 43 IAMs_20 IAMs_20 10 47 38.4
comp=Z,2µm,21.0s
SUMG **Summit** 113.30 4 IAMs_20 IAMs_20 10 48 58.0
comp=Z,1µm,21.0s
143A **Socs Landing,** 113.40 57 IAMs_20 IAMs_20 10 48 03.2
comp=Z,1µm,20.0s
PBMO **Poplar Bluff** 113.56 53 IAMs_20 IAMs_20 10 49 53.9
comp=Z,1µm,19.0s
HBAR **Harrisburg** 113.59 54 IAMs_20 IAMs_20 10 46 21.7
comp=Z,1µm,20.0s
HDIL **Hopedale** 113.69 48 IAMs_20 IAMs_20 10 48 07.8
comp=Z,2µm,20.0s
H43A **Windswept, Lux** 113.85 44 IAMs_20 IAMs_20 10 46 06.3
comp=Z,1µm,21.0s
CCIG **Comitan** 113.88 75 IAMs_20 IAMs_20 10 44 13.6
comp=Z,1µm,20.0s
K43A **Burlington** 113.90 46 IAMs_20 IAMs_20 10 49 26.0
comp=Z,1µm,20.0s
GNAR **Gosnell** 114.03 53 IAMs_20 IAMs_20 10 49 14.4
comp=Z,1µm,20.0s
CGM3 **Cape Girardeau** 114.08 52 IAMs_20 IAMs_20 10 47 19.4
comp=Z,1µm,20.0s
PARMO **Parma** 114.12 53 IAMs_20 IAMs_20 10 49 16.6
comp=Z,1µm,19.0s
PEBM **Pemiscott Bayo** 114.13 53 IAMs_20 IAMs_20 10 51 50.0
comp=Z,1µm,18.0s
PVMO **Portageville** 114.21 53 IAMs_20 IAMs_20 10 48 42.9
comp=Z,1µm,20.0s
VBMS **Vicksburg** 114.21 58 IAMs_20 IAMs_20 10 48 41.6
comp=Z,1µm,20.0s
MET **Memphis--Engin** 114.24 54 IAMs_20 IAMs_20 10 46 33.1
comp=Z,1µm,21.0s
L44A **Lake County Fo** 114.33 46 IAMs_20 IAMs_20 10 50 42.4
comp=Z,2µm,18.0s
LNXT **Lenox** 114.43 53 IAMs_20 IAMs_20 10 51 04.9
comp=Z,1µm,19.0s
M44A **Midewin, Midew** 114.43 47 IAMs_20 IAMs_20 10 50 23.1
comp=Z,1µm,19.0s
HQIL **Hanson Quary C** 114.47 47 IAMs_20 IAMs_20 10 50 28.0
comp=Z,1µm,19.0s
HUEH **Huehuetenango** 114.49 76 IAMs_20 IAMs_20 10 40 26.9
comp=Z,1µm,22.0s
HICK **Hickman** 114.56 53 IAMs_20 IAMs_20 10 49 39.2
comp=Z,1µm,19.0s
GLAT **Glass** 114.56 53 IAMs_20 IAMs_20 10 46 35.3
comp=Z,1µm,20.0s
HALT **Halls** 114.58 53 IAMs_20 IAMs_20 10 49 39.0
comp=Z,1µm,20.0s
Y45A **Yeager Farm, C** 114.77 56 IAMs_20 IAMs_20 10 48 15.2
comp=Z,2µm,21.0s
OXF **Oxford** 114.77 55 IAMs_20 IAMs_20 10 48 43.2
comp=Z,2µm,20.0s
ILULI **Ilulissat** 114.91 10 IAMs_20 IAMs_20 10 49 15.7
comp=Z,1µm,22.0s
I45A **Fountain** 115.03 44 IAMs_20 IAMs_20 10 49 18.5
comp=Z,1µm,21.0s
346A **Big Creek Wild** 115.22 58 IAMs_20 IAMs_20 10 48 14.3
comp=Z,923nm,20.0s
SFIN **Lafayette** 115.37 48 IAMs_20 IAMs_20 10 49 35.0
comp=Z,1µm,20.0s
146A **Union** 115.37 57 IAMs_20 IAMs_20 10 46 14.2
comp=Z,1µm,21.0s
P46A **Rosedale** 115.47 49 IAMs_20 IAMs_20 10 49 16.8
comp=Z,2µm,19.0s
L46A **Eue Claire** 115.54 46 IAMs_20 IAMs_20 10 50 43.3
comp=Z,2µm,20.0s
POGA **Pongola** 115.63 236 IAMs_20 IAMs_20 10 50 09.1
comp=Z,1µm,20.0s
WVT **Waverly** 115.74 53 **PKPdf** **10 03 05.2 -1.2**
WVT **Waverly** 115.74 53 IAMs_20 IAMs_20 10 47 30.6
comp=Z,1µm,21.0s
WVT **Waverly** 115.74 53 PKIKP **PKPdf** **10 03 05.2 -1.2**
PLAL **Pickwick Lake** 115.77 54 IAMs_20 IAMs_20 10 50 18.5
comp=Z,1µm,19.0s
SCO **Scoresbysund** 115.87 359 IAMs_20 IAMs_20 10 48 18.6
comp=Z,999nm,22.0s
PETF **Flores** 116.05 74 IAMs_20 IAMs_20 10 45 38.0
comp=Z,2µm,20.0s
Z47A **Carrollton** 116.09 56 IAMs_20 IAMs_20 10 49 29.4
comp=Z,2µm,20.0s
J47A **Sunmer** 116.24 45 IAMs_20 IAMs_20 10 49 55.7
comp=Z,2µm,21.0s
N47A **Urbana** 116.27 47 IAMs_20 IAMs_20 10 48 52.9
comp=Z,1µm,20.0s
WCI **Wyandotte Cave** 116.48 50 **PKPdf** **10 03 07.0 -0.8**
WCI **Wyandotte Cave** 116.48 50 PKIKP **PKPdf** **10 03 07.0 -0.8**
MTO3 **Montecristo** 116.56 77 IAMs_20 IAMs_20 10 42 54.9
comp=Z,1µm,21.0s
ESQI **Esquipulas** 116.58 77 IAMs_20 IAMs_20 10 43 36.3
comp=Z,1µm,20.0s
X48A **Hartselle** 116.70 55 IAMs_20 IAMs_20 10 50 20.3
comp=Z,1µm,20.0s
O48B **Farmland** 116.83 48 IAMs_20 IAMs_20 10 53 06.8
comp=Z,981nm,20.0s
P48A **Milroy** 116.84 49 IAMs_20 IAMs_20 10 50 43.1
comp=Z,2µm,20.0s
AKASG **Malin Array Be** 116.86 325 PKP **PKPdf** **10 03 07.0 -1.1**
comp=Z,1.4nm,0.6s,baz=69,slow=1.8,SNR=4.0
AKASG PP **PP** **10 04 17.1 0.0**
comp=Z,1.1nm,0.6s,baz=60,slow=6.1,SNR=4.7
AKASG **Malin Array Be** 116.86 325 *c i* PKIKP **PKPdf** **10 03 07.0 -1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB **Malin Array Si** 116.86 325 *i* PKIKP **PKPdf** **10 03 06.9 -1.2**
LRAL **Lakeview Retre** 117.01 56 IAMs_20 IAMs_20 10 47 32.5
comp=Z,2µm,22.0s
Y49A **Blount Mountai** 117.33 55 IAMs_20 IAMs_20 10 50 30.0
comp=Z,2µm,21.0s
AAM **Ann Arbor** 117.34 45 IAMs_20 IAMs_20 10 46 22.8
comp=Z,2µm,22.0s
N49A **Columbus Grove** 117.36 47 IAMs_20 IAMs_20 10 53 11.7
comp=Z,1µm,20.0s
PLCA **Paso Flores** 117.40 143 PKP **PKPdf** **10 03 08.7 -0.9**
comp=Z,2.6nm,0.8s,baz=256,slow=3.3,SNR=10
PLCA PP **PP** **10 04 19.8 -1.1**
comp=Z,3.3nm,1.0s,baz=240,slow=8.1,SNR=3.0
PLCA PKKPbc **PKKPbc** **10 13 31.3 -2.8**
comp=Z,2.0nm,0.9s,baz=29,slow=3.5,SNR=7.1
PLCA SKKPbc SKKPbc 10 17 12.0 -3.8
comp=Z,1.3nm,1.0s,baz=79,slow=5.2,SNR=1.8
PLCA SKKP 10 17 32.1
comp=Z,2.9nm,1.1s,baz=61,slow=2.7,SNR=2.9
SWET **Sewanee** 117.44 54 IAMs_20 IAMs_20 10 49 44.7
comp=Z,1µm,20.0s
O49A **Covington** 117.46 48 IAMs_20 IAMs_20 10 48 32.3
comp=Z,1µm,20.0s
BRTR **Keskin Array B** 117.77 312 **PKPdf** **10 03 08.9 -1.5**
BRTR **Keskin Array B** 117.77 312 PKP **PKPdf** **10 03 09.3 -1.1**
comp=Z,1.0nm,0.7s,baz=106,slow=4.7,SNR=6.5
BRTR PP **PP** **10 04 25.3 +1.2**
comp=Z,1.6nm,0.8s,baz=76,slow=6.1,SNR=4.0
BRTR PKKPbc **PKKPbc** **10 13 32.5 -0.2**
comp=Z,1.4nm,0.8s,baz=221,slow=2.0,SNR=6.1
BRTR **Keskin Array B** 117.77 312 *c i* PKIKP **PKPdf** **10 03 09.8 -0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
250A **Grady** 117.81 57 IAMs_20 IAMs_20 10 49 08.9
comp=Z,1µm,20.0s
FPAL **Fort Paine** 117.84 54 IAMs_20 IAMs_20 10 51 31.4
comp=Z,920nm,20.0s
K50A **Casco** 117.92 45 IAMs_20 IAMs_20 10 52 27.0
comp=Z,2µm,21.0s
W50A **Signal Mountai** 117.94 53 IAMs_20 IAMs_20 10 50 19.9
comp=Z,1µm,20.0s
M50A **Fremont** 118.05 46 IAMs_20 IAMs_20 10 46 48.7
comp=Z,1µm,22.0s
ACSO **Alum Creek Sta** 118.44 47 IAMs_20 IAMs_20 10 52 45.2
comp=Z,1µm,20.0s
X51A **Calhoun** 118.45 54 IAMs_20 IAMs_20 10 53 28.4
comp=Z,1µm,19.0s
451A **Vernon** 118.49 59 IAMs_20 IAMs_20 10 50 58.1
comp=Z,2µm,21.0s
Q51A **Peebles** 118.51 49 IAMs_20 IAMs_20 10 50 30.4
comp=Z,910nm,20.0s
CPCT **Cooper Cave** 118.52 53 IAMs_20 IAMs_20 10 48 39.0
comp=Z,1µm,20.0s
TGUH **Tegucigalpa,Un** 118.59 77 IAMs_20 IAMs_20 10 49 25.6
comp=Z,1µm,19.0s
P51A **Williamsport** 118.60 48 IAMs_20 IAMs_20 10 50 27.5
comp=Z,1µm,21.0s
N51A **Ashland** 118.67 47 IAMs_20 IAMs_20 10 56 05.3
comp=Z,1µm,20.0s
HFS **Hagfors** 118.79 339 PKP **PKPdf** **10 03 11.0 -0.6**
comp=Z,1.8nm,0.8s,baz=48,slow=4.3,SNR=5.8
HFS PKKPbc **PKKPbc** **10 13 27.9 -1.5**
comp=Z,2.9nm,0.8s,baz=183,slow=5.8,SNR=4.2
HFS **Hagfors** 118.79 339 PKIKP **PKPdf** **10 03 11.0 -0.6**
CRIN **San Cristobal** 118.81 79 IAMs_20 IAMs_20 10 41 53.2
comp=Z,993nm,22.0s
NB2 **NORSAR Subarra** 118.98 341 PKPdf **PKPdf** **10 03 10.6 -1.4**
comp=Z,3.5nm,0.9s,baz=40,slow=1.8
NB2 PKKP **PKKPbc** **10 13 26.9 -1.9**
comp=Z,0.6nm,0.6s,baz=211,slow=3.8
NOA **NORSAR Array B** 118.98 341 PKP **PKPdf** **10 03 11.3 -0.7**
comp=Z,1.6nm,0.8s,baz=40,slow=2.0,SNR=6.5
NOA PKKPbc **PKKPbc** **10 13 28.1 -0.7**
comp=Z,1.3nm,0.8s,baz=221,slow=4.3,SNR=5.3
HERN **Volcan Telica** 119.02 79 IAMs_20 IAMs_20 10 42 31.2
comp=Z,766nm,21.0s
352A **Blakely** 119.02 58 IAMs_20 IAMs_20 10 51 22.3
comp=Z,899nm,20.0s
W52A **Murphy** 119.07 53 IAMs_20 IAMs_20 10 48 14.8
comp=Z,2µm,22.0s
P52A **Corning** 119.24 48 IAMs_20 IAMs_20 10 51 04.5
comp=Z,1µm,20.0s
Y52A **Lilburn** 119.24 55 IAMs_20 IAMs_20 10 53 02.5
comp=Z,2µm,20.0s
VLDQ **Val d'Or** 119.28 37 IAMs_20 IAMs_20 10 51 31.3
comp=Z,2µm,20.0s
O52A **Adamsville** 119.31 47 IAMs_20 IAMs_20 10 54 31.9
comp=Z,1µm,20.0s
SADO **Sadowa** 119.58 41 **PKPdf** **10 03 12.6 -0.9**
553A **Crawfordville** 119.68 59 IAMs_20 IAMs_20 10 52 15.7
comp=Z,1µm,20.0s
O53A **New Philadelph** 119.72 47 IAMs_20 IAMs_20 10 53 58.1
comp=Z,2µm,22.0s
N53A **Lisbon** 119.81 46 IAMs_20 IAMs_20 10 56 14.5
comp=Z,2µm,20.0s
GOGA **Godfrey** 119.83 55 IAMs_20 IAMs_20 10 52 45.1
comp=Z,1µm,20.0s
P53A **Whipple** 119.83 48 IAMs_20 IAMs_20 10 52 26.1
comp=Z,1µm,20.0s
ALLY **Alegheny Colle** 120.03 45 IAMs_20 IAMs_20 10 53 13.9
comp=Z,2µm,22.0s
TIGA **Tifton** 120.15 57 IAMs_20 IAMs_20 10 52 55.9
comp=Z,1µm,21.0s
BOAB **BOACO BROADBA** 120.16 79 IAMs_20 IAMs_20 10 50 24.3
comp=Z,2µm,20.0s
BOSA **Boshof** 120.27 232 PKP **PKPdf** **10 03 15.5 -0.1**
comp=Z,5.8nm,0.6s,baz=107,slow=2.1,SNR=14
BOSA PKKPbc **PKKPbc** **10 13 23.1 -0.2**
comp=Z,3.5nm,0.9s,baz=288,slow=4.7,SNR=5.3
154A **Montrose** 120.30 56 IAMs_20 IAMs_20 10 52 56.7
comp=Z,1µm,20.0s
O54A **Avella** 120.35 47 IAMs_20 IAMs_20 10 54 45.7
comp=Z,2µm,22.0s
U54A **Nelsons Funny** 120.36 51 IAMs_20 IAMs_20 10 49 33.7
comp=Z,2µm,22.0s
S54A **Dingess, Becki** 120.39 50 IAMs_20 IAMs_20 10 52 26.3
comp=Z,1µm,20.0s
Q54A **Coxs Mills** 120.40 48 IAMs_20 IAMs_20 10 52 44.1
comp=Z,1µm,20.0s
KONO **Kongsberg** 120.56 340 IAMs_20 IAMs_20 10 55 30.9
comp=Z,1µm,21.0s
HODGE **Hodges** 120.61 54 IAMs_20 IAMs_20 10 54 53.7
comp=Z,1µm,19.0s
MEDO **Medina** 120.65 43 IAMs_20 IAMs_20 10 51 28.1
comp=Z,1µm,20.0s
WVNY **West Valley, N** 120.83 44 IAMs_20 IAMs_20 10 56 49.0
comp=Z,2µm,19.0s
JTS **Las Juntas de** 120.83 82 **PKPdf** **10 03 15.2 -1.6**
JTS **Las Juntas de** 120.83 82 PKIKP **PKPdf** **10 03 15.2 -1.6**
MATP **Matopo** 120.91 242 PKKPbc PKKPbc 10 13 20.5 -0.2
comp=Z,0.9nm,0.6s,baz=288,slow=4.1,SNR=5.1
J55A **Hilton** 121.04 43 IAMs_20 IAMs_20 10 57 41.4
comp=Z,1µm,19.0s
KWP **Kalwaria Pacla** 121.06 326 *e*PKP **PKPdf** **10 03 15.8 -0.4**
MMNY **Mt. Morris Dam** 121.19 43 IAMs_20 IAMs_20 10 52 59.3
comp=Z,2µm,20.0s
BLA **Blacksburg** 121.24 50 IAMs_20 IAMs_20 10 56 15.8
comp=Z,2µm,19.0s
SCHQ **Schefferville** 121.27 27 PKP **PKiKP** **10 03 17.3 +0.6**
comp=Z,2.3nm,0.7s,baz=304,slow=3.6,SNR=3.6
SCHQ PKKPbc **PKKPab** **10 13 18.6 -0.4**
comp=Z,3.8nm,0.8s,baz=108,slow=6.4,SNR=5.1
JSC **Jenkinsville** 121.40 54 IAMs_20 IAMs_20 10 49 35.5
comp=Z,2µm,22.0s
656A **Willston** 121.46 59 IAMs_20 IAMs_20 10 54 09.8
comp=Z,1µm,20.0s
LBTB **Lobatse** 121.59 236 PKKPbc PKKPbc 10 13 17.7 -0.5
comp=Z,4.6nm,0.8s,baz=256,slow=4.3,SNR=4.2
456A **Hilliard** 121.62 58 IAMs_20 IAMs_20 10 52 44.8
comp=Z,1µm,20.0s
L56A **Greenwood** 121.65 44 IAMs_20 IAMs_20 10 57 31.7
comp=Z,1µm,19.0s
SSPA **Standing Stone** 121.98 46 **PKPdf** **10 03 17.9 -0.4**
SSPA **Standing Stone** 121.98 46 IAMs_20 IAMs_20 10 54 51.6
comp=Z,1µm,20.0s
257A **Skidaway Islan** 122.16 56 IAMs_20 IAMs_20 10 57 59.0
comp=Z,1µm,19.0s
P57A **Homestead Farm** 122.30 47 IAMs_20 IAMs_20 10 52 28.3
comp=Z,1µm,21.0s
NIE **Niedzica** 122.51 326 *e*PKP **PKPdf** **10 03 18.7 -0.4**
NHSC **New Hope** 122.58 55 IAMs_20 IAMs_20 10 54 25.8
comp=Z,1µm,20.0s
IVI **Ivigtut** 122.59 13 IAMs_20 IAMs_20 10 52 45.0
comp=Z,2µm,22.0s
DWPF **Disney Wildern** 122.65 61 **PKPdf** **10 03 19.8 -0.2**
DWPF **Disney Wildern** 122.65 61 IAMs_20 IAMs_20 10 51 36.5
comp=Z,956nm,21.0s
CSU **Charleston Sou** 122.69 55 IAMs_20 IAMs_20 10 56 27.9
comp=Z,1µm,20.0s
RGN **Rugen** 122.80 334 IAMs_20 IAMs_20 10 59 11.4
comp=Z,929nm,22.0s
LSZ **Lusaka** 122.90 247 **PKPdf** **10 03 20.9 0.0**
LSZ **Lusaka** 122.90 247 IAMs_20 IAMs_20 10 51 09.5
comp=Z,2µm,22.0s
LSZ **Lusaka** 122.90 247 PKIKP **PKPdf** **10 03 20.9 0.0**
R58B **Miraf** 122.92 48 IAMs_20 IAMs_20 10 56 13.0
comp=Z,2µm,21.0s
LDAQ **Lac Daran** 123.01 35 IAMs_20 IAMs_20 10 56 38.4
comp=Z,1µm,20.0s
BRU2 **Volcan** 123.02 84 IAMs_20 IAMs_20 10 48 36.6
comp=Z,751nm,18.0s
FRNY **Flat Rock** 123.13 39 IAMs_20 IAMs_20 10 52 51.3
comp=Z,2µm,20.0s
MVL **Millersville** 123.31 46 IAMs_20 IAMs_20 10 49 59.8
comp=Z,2µm,22.0s
W59A **Clinton** 123.38 52 IAMs_20 IAMs_20 10 57 29.7
comp=Z,2µm,20.0s
OKC **Ostrava-Krasne** 123.44 328 AMS AMS 10 56 20.0
comp=Z,700nm,27.5s
T59A **Double "B" Far** 123.50 49 IAMs_20 IAMs_20 10 52 54.3
comp=Z,1µm,20.0s
CAMR **Camarioca** 123.54 67 IAMs_20 IAMs_20 10 53 30.8
comp=Z,2µm,20.0s
LUPA **Lehigh Univers** 123.76 45 IAMs_20 IAMs_20 10 52 41.8
comp=Z,1µm,21.0s
060A **Indiantown** 123.79 62 IAMs_20 IAMs_20 10 56 05.8
comp=Z,882nm,20.0s
MORC **Moravsky Berou** 123.79 328 IAMs_20 IAMs_20 11 03 23.3
comp=Z,849nm,20.0s
MORC **Moravsky Berou** 123.79 328 *e*PKP **PKPdf** **10 03 20.9 -0.7**
MORC *e*PKKP **PKKPab** **10 13 08.8 +0.4**
KSP **Ksiaz** 123.80 330 *e*PKP **PKPdf** **10 03 21.2 -0.3**
LCO **Las Campanas** 123.91 131 **PKPdf** **10 03 22.2 -0.5**
LCO **Las Campanas** 123.91 131 PKIKP **PKPdf** **10 03 22.2 -0.5**
OSTC **Ostas** 124.01 329 AMS AMS 10 56 50.0
comp=Z,1µm,24.2s
KRLC **Kraliky** 124.01 329 AMS AMS 10 59 10.0
comp=Z,1µm,21.4s
CHVC **Chvalec** 124.07 329 AMS AMS 10 57 00.0
comp=Z,1µm,25.2s
DPC **Dobruska-Polom** 124.08 329 AMS AMS 10 56 20.0
comp=Z,1µm,24.3s
UPC **Upice** 124.14 329 AMS AMS 10 57 10.0
comp=Z,1µm,24.1s
JAVC **Velka Javorina** 124.25 327 *e*PKP **PKiKP** **10 03 22.8 0.0**
VRAC **Vranov** 124.57 328 *e*PKP **PKPdf** **10 03 22.3 -0.7**
VRAC *e*PKKP **PKKPab** **10 13 04.9 -0.2**
S61A **Accomac** 124.66 48 IAMs_20 IAMs_20 10 57 57.9
comp=Z,1µm,20.0s
R61A **Willards** 124.66 47 IAMs_20 IAMs_20 10 56 01.9
comp=Z,1µm,19.0s
D62A **Allapoint, All** 124.73 35 IAMs_20 IAMs_20 10 52 39.1
comp=Z,2µm,22.0s
MODS **Modra-Piesok** 124.75 327 *e*PKIKP **PKPdf** **10 03 22.8 -0.6**
MODS **Modra-Piesok** 124.75 327 *e*PKP **PKPdf** **10 03 22.8 -0.6**
KRUC **Moravsky** 124.82 328 *e*PKP **PKPdf** **10 03 23.0 -0.5**
KRUC *e*PKKP **PKKPab** **10 13 04.2 +0.2**
PVCC **Panska Ves** 124.85 330 AMS AMS 10 57 20.0
comp=Z,700nm,22.8s
BRG **Berggiesshubel** 124.94 331 P PKiKP 10 03 43.2 +19
BRG Amp 10 03 44.1
comp=Z,5.6nm,1.0s
BRG **Berggiesshubel** 124.94 331 P PKiKP 10 03 51.7 +28
BRG Amp 10 03 57.9
comp=Z,5.5nm,1.0s
BRG **Berggiesshubel** 124.94 331 Amp 10 05 15.6
comp=Z,4.7nm,1.2s
BRG P **PP** **10 05 12.6 +0.6**
CLL **Collm** 125.11 332 *i* PKIKP **PKPdf** **10 03 23.0 -0.9**
CLL *e* 10 03 37.0
CLL *e* 10 05 19.0
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL MLR MLR
comp=Z,800nm,21.3s
CLL **Collm** 125.11 332 *i* PKPdf **PKPdf** **10 03 23.0 -0.9**
comp=Z,8.0nm,0.9s
CLL *ep*PKPdf **pPKPdf** **10 03 37.0 -2.9**
CLL *es*PKPdf **sPKPdf** **10 03 43.0 -2.7**
CLL *e*PP **PP** **10 05 19.0 +5.9**
CLL AMS AMS 11 00 00.0
comp=Z,800nm,21.3s
GOPC **GO Pecny, Ondr** 125.13 329 *e*PKPDF **PKiKP** **10 03 26.1 +1.7**
GOPC AMS AMS 10 58 20.0
comp=Z,800nm,21.0s
PRU **Pruhonice** 125.21 330 AMS AMS 10 58 00.0
comp=Z,700nm,23.2s
PRA **Prague** 125.21 330 AMS AMS 10 58 10.0
comp=Z,600nm,20.4s
ATAH **Atahualpa** 125.30 103 PKP **PKPdf** **10 03 25.0 -0.9**
comp=Z,12nm,0.9s,baz=261,slow=1.5,SNR=14
NNA **Nana** 125.55 109 PKP **PKPdf** **10 03 26.0 +0.1**
comp=Z,3.2nm,0.3s,baz=270,slow=2.8,SNR=3.6
NNA **Nana** 125.55 109 PKIKP **PKPdf** **10 03 26.0 +0.1**
RONA **Rosalia, Austr** 125.68 327 *i* PKP **PKPdf** **10 03 25.3 +0.1**
comp=Z,8.0nm,1.2s
ZVC **Zvikov** 125.73 329 AMS AMS 10 58 50.0
comp=Z,900nm,22.9s
CONA **Conrad Observa** 125.78 327 *i* PKP **PKPdf** **10 03 24.9 -0.6**
comp=Z,7.1nm,1.6s
CONA *i* SKKP 10 16 56.9
comp=Z,4.3nm,1.2s
F64A **Sherman** 125.81 36 IAMs_20 IAMs_20 10 58 03.6
comp=Z,1µm,19.0s
CKRC **Cesky Krumlov** 126.06 329 *e*PKPDF **PKPdf** **10 03 25.7 -0.2**
CKRC AMS AMS 11 01 10.0
comp=Z,700nm,19.3s
CKRC **Cesky Krumlov** 126.06 329 *e*PKIKP **PKPdf** **10 03 25.7 -0.2**
CKRC MLR MLR
comp=Z,700nm,19.3s
NKC **Novy Kostel** 126.08 331 AMS AMS 11 01 20.0
comp=Z,700nm,20.8s
FNA **Florina** 126.13 317 **PKPdf** **10 03 25.3 -1.1**
FNA **Florina** 126.13 317 PKIKP **PKPdf** **10 03 25.3 -1.1**
KHC **Kasperske Hory** 126.24 329 *e*PKPpre PKPpre 10 03 21.0
KHC *e*PKPDF **PKPdf** **10 03 25.5 -0.8**
KHC AMS AMS 10 58 30.0
comp=Z,1µm,21.4s
KHC **Kasperske Hory** 126.24 329 *e*PKIKP PKPpre 10 03 21.0
KHC MLR MLR
comp=Z,1µm,21.4s
BATG **Bathurst New B** 126.30 34 **PKPdf** **10 03 25.9 -0.5**
GERES **GERESS Array B** 126.36 329 PKP **PKPdf** **10 03 25.8 -0.7**
comp=Z,3.4nm,0.9s,baz=45,slow=1.9,SNR=14
ARSA **Arzberg** 126.36 326 IAMs_20 IAMs_20 11 02 01.5
comp=Z,879nm,22.0s
ARSA **Arzberg** 126.36 326 *i* PKP **PKPdf** **10 03 25.8 -0.8**
comp=Z,3.3nm,0.8s
MOA **Molln** 126.68 328 *i* PKiKP **PKiKP** **10 03 28.5 +0.9**
comp=Z,3.6nm,1.1s
SOKA **Soboth** 126.97 326 *i* PKP **PKPdf** **10 03 27.2 -0.6**
comp=Z,7.8nm,1.4s
SOKA *i* SKKP 10 16 49.1
comp=Z,3.2nm,1.1s
GGN **Saint George** 127.10 36 IAMs_20 IAMs_20 10 59 01.8
comp=Z,1µm,18.0s
BIOA **Bad Ischl, Aus** 127.11 328 *i* PKP **PKPdf** **10 03 27.7 -0.3**
comp=Z,9.8nm,1.6s
OBKA **Obir** 127.34 326 *i* PKP **PKiKP** **10 03 29.1 0.0**
comp=Z,3.5nm,1.1s
OBKA *i* SKKP 10 16 43.6
comp=Z,5.5nm,1.7s
KBA **Koelnbreinsper** 127.65 327 *e*PKP **PKiKP** **10 03 29.5 -0.3**
comp=Z,2.1nm,0.5s
MYKA **Terra Mystica** 127.77 327 *i* PKP **PKiKP** **10 03 29.7 -0.1**
comp=Z,3.5nm,1.0s
MYKA *e*SKKP 10 16 41.5
comp=Z,1.2nm,0.5s
LESA **Schwarzleotal** 127.79 328 *i* PKP **PKPdf** **10 03 28.6 -0.7**
comp=Z,8.2nm,1.2s
LESA *e*SKKP 10 16 48.0
comp=Z,6.3nm,1.4s
EKA **Eskdalemuir Ar** 128.02 344 PKP **PKPdf** **10 03 29.6 +0.2**
comp=Z,0.5nm,0.4s,baz=15,slow=2.0,SNR=6.9
ABTA **Abfaltersbach** 128.30 328 *i* PKP **PKPdf** **10 03 29.3 -1.1**
comp=Z,7.9nm,1.1s
WATA **Walderalm** 128.42 329 *i* PKP **PKPdf** **10 03 30.4 -0.2**
comp=Z,8.5nm,0.9s
WTTA **Wattenberg** 128.43 329 *i* PKP **PKPdf** **10 03 30.2 -0.5**
comp=Z,16nm,1.2s
STAL **STALIGIAL** 128.50 327 IAMs_20 IAMs_20 11 03 14.0
comp=Z,1µm,21.0s
CHIV **Chivirico** 128.54 70 IAMs_20 IAMs_20 10 54 05.5
comp=Z,769nm,20.0s
CIMO **Cimolais** 128.62 327 IAMs_20 IAMs_20 11 03 26.9
comp=Z,887nm,21.0s
MOTA **Moosalm** 128.65 329 *i* PKP **PKPdf** **10 03 30.4 -0.7**
comp=Z,9.8nm,1.1s
MOTA *i* SKKP 10 16 35.2
comp=Z,6.5nm,1.3s
SQTA **Sankt Quirin** 128.68 329 *i* PKP **PKPdf** **10 03 30.9 -0.2**
comp=Z,11nm,1.2s
SQTA *e*SKKP 10 16 46.7
comp=Z,3.9nm,0.9s
BTNL **Ternell** 128.70 335 *d*PKPdf **PKPdf** **10 03 30.8 -0.1**
MEM **Membach** 128.73 335 *d*PKPdf **PKiKP** **10 03 31.3 -0.3**
RETA **Reutte** 128.73 329 *i* PKP **PKPdf** **10 03 30.7 -0.5**
comp=Z,3.5nm,1.1s
RETA *e*SKKP 10 16 44.8
comp=Z,6.5nm,1.4s
FETA **Feichten** 129.06 329 *i* PKP **PKPdf** **10 03 31.7 -0.1**
comp=Z,9.5nm,0.9s
FETA *e*SKKP 10 16 41.4
comp=Z,4.1nm,1.2s
BCLA **Clavier** 129.17 335 *d*PKPdf **PKPdf** **10 03 30.8 -0.9**
DAVA **Damuels** 129.31 330 *i* PKP **PKPdf** **10 03 31.6 -0.7**
comp=Z,7.5nm,1.1s
DAVA *e*SKKP 10 16 44.1
comp=Z,7.3nm,1.3s

SGRT	San Giovanni R	129.34 321			PKPdf	10 03 31.7	-0.8	
WLF	Walferdange	129.38 334		IAMs_20	IAMs_20	11 04 24.5		
	comp=Z,1µm,21.0s							
WLF	Walferdange	129.38 334		dPKPdf	PKiKP	10 03 32.5	-0.4	
BMRD	Maredsous	129.48 335		dPKPdf	PKPdf	10 03 32.0	-0.3	
DOU	Dourbes	129.71 335		dPKPdf	PKPdf	10 03 32.8	0.0	
PRMA	PARMA	130.75 327		IAMs_20	IAMs_20	11 04 35.6		
	comp=Z,935nm,20.0s							
TSUM	Tsumeb	130.81 238			PKPdf	10 03 36.1	+0.2	
ROSC	El Rosal	131.13 89		PKP	PKPdf	10 03 35.1	-1.9	
	comp=Z,33nm,0.5s,baz=288,slow=20,SNR=12							
ROSC				SKPbc	SKPbc	10 06 56.1	-1.1	
	comp=Z,7.2nm,0.3s,baz=260,slow=17,SNR=4.5							
LPAZ	La Paz	131.98 118		PKhKP	PKPpre	10 03 28.5		
	comp=Z,1.2nm,0.6s,baz=259,slow=5.6,SNR=7.2							
LPAZ				PKP	PKiKP	10 03 39.6	-0.3	
	comp=Z,13nm,1.1s,baz=302,slow=2.4,SNR=22							
LPAZ				SKPbc	SKPbc	10 06 59.0	-1.5	
	comp=Z,2.4nm,1.0s,baz=260,slow=3.4,SNR=3.0							
CLF	Chambon-Foret	132.29 335		IAMs_20	IAMs_20	11 02 43.7		
	comp=Z,947nm,22.0s							
BNI	Bardonecchia	132.47 329		IAMs_20	IAMs_20	11 07 08.9		
	comp=Z,840nm,22.0s							
SDDR	Presa de Saban	133.47 70		IAMs_20	IAMs_20	10 55 29.8		
	comp=Z,1µm,21.0s							
SDV	Santo Domingo	134.94 84			PKPdf	10 03 43.8	-0.1	
BBSR	BB Station	135.03 50		IAMs_20	IAMs_20	10 59 04.5		
	comp=Z,1µm,22.0s							
CPUP	Villa Florida	135.03 138		PKP	PKPdf	10 03 43.8	+0.3	
	comp=Z,1.9nm,0.8s,baz=238,slow=0.6,SNR=10							
KEST	Kesra	136.84 318		PKP	PKPdf	10 03 46.9	+0.1	
	comp=Z,4.4nm,1.0s,baz=30,slow=0.6,SNR=4.1							
SIV	San Ignacio	138.16 122		PKhKP	PKPpre	10 03 38.9		
	comp=Z,2.1nm,0.8s,baz=271,slow=4.7,SNR=7.7							
SIV				SKP		10 07 20.4		
	comp=Z,1.5nm,0.6s,baz=236,slow=3.6,SNR=4.4							
SJG	San Juan	138.42 70		IAMs_20	IAMs_20	10 57 43.0		
	comp=Z,854nm,22.0s							
PTLB	Pontes e Lacer	140.05 123			PKPdf	10 03 52.9	-0.2	
PBRG	Braganca	141.02 338		ePKP	PKPdf	10 03 53.2	-0.9	
SABA	Saba	141.23 70		IAMs_20	IAMs_20	10 53 11.4		
	comp=Z,1µm,22.0s							
PGAV	Gavieira, Arco	141.43 340		ePKP	PKPdf	10 03 53.4	-1.6	
SEUS	St. Eustatius	141.50 70		IAMs_20	IAMs_20	11 11 54.6		
	comp=Z,743nm,18.0s							
PCAB	Cabril	141.57 339		ePKP	PKPdf	10 03 52.6	-2.6	
ESDC	Sonseca Array	141.66 333			PKPdf	10 03 54.4	-1.0	
ESDC	Sonseca Array	141.66 333		PKhKP	PKPpre	10 03 47.9		
	comp=Z,0.3nm,0.3s,baz=23,slow=2.1,SNR=2.7							
ESDC				PKP	PKPdf	10 03 54.3	-1.1	
	comp=Z,0.6nm,0.7s,baz=44,slow=3.9,SNR=4.5							
MVO	Moncorvo	141.68 338		ePKP	PKPdf	10 03 54.3	-1.1	
POLO	Lamas de Olo	141.78 339		ePKP	PKPpre	10 03 49.8		
PVIS	Viseu	142.39 338		ePKP	PKPpre	10 03 51.4		
MTE	Manteigas	142.53 338		ePKP	PKPdf	10 03 54.6	-2.3	
ANWB	Willy Bob	142.57 69		IAMs_20	IAMs_20	10 59 52.0		
	comp=Z,1µm,22.0s							
PCBR	Castelo Branco	142.99 337		ePKP	PKPpre	10 03 54.6		
ABD	La Joyeuse, An	143.11 71		IAMs_20	IAMs_20	11 00 38.3		
	comp=Z,884nm,21.0s							
PCAS	Casmilo, Conde	143.19 338		ePKP	PKPdf	10 03 56.9	-1.1	
PMRV	Marv??o	143.31 337		ePKP	PKPab	10 03 54.7	+0.4	
PSARD	Sardoal	143.46 338		ePKP	PKPbc	10 03 55.9	0.0	
GDSD	La Dsirade Is	143.54 71		IAMs_20	IAMs_20	11 13 03.7		
	comp=Z,840nm,19.0s							
FDF	Fort de France	143.75 74			PKPbc	10 03 57.3	-0.1	
FDF	Fort de France	143.75 74		PKIKP	PKPbc	10 03 57.3	-0.1	
PSBE	So Bento	143.78 338		ePKP	PKPbc	10 03 57.6	+0.8	
BIM	Bigot	143.86 74		IAMs_20	IAMs_20	11 05 23.6		
	comp=Z,962nm,20.0s							
PESTR	Estremoz	143.88 336		ePKP	PKPab	10 03 56.3	-0.2	
PMTG	Montargil	143.95 337		ePKP	PKPab	10 03 56.7	0.0	
PBAR	Barrancos	144.24 335		ePKP	PKPab	10 03 57.9	+0.1	
EVO	Evora	144.33 337		ePKP	PKPbc	10 03 58.4	-0.1	
LIS	Lisbon	144.61 338		ePKP	PKPbc	10 03 59.2	-0.1	
LIS	Lisbon	144.61 338		ePKIKP	PKPbc	10 03 59.2	-0.1	
PBEJ	Beja	144.71 336		ePKP	PKPab	10 03 59.4	-0.1	
MESJ	Messejana	145.01 336		ePKP	PKPbc	10 04 00.5	-0.2	
MESJ				IAMs_20	IAMs_20	11 07 29.8		
	comp=Z,802nm,23.3s							
MESJ	Messejana	145.01 336		ePKIKP	PKPbc	10 04 00.5	-0.2	
PCVE	Castro Verde	145.12 336		ePKP	PKPbc	10 04 00.3	-0.7	
PVAQ	Vaqueiros	145.18 335		IAMs_20	IAMs_20	11 13 07.8		
	comp=Z,1µm,22.0s							
PVAQ	Vaqueiros	145.18 335		ePKP	PKPbc	10 04 00.8	-0.4	
PBDV	Barranco-do-Ve	145.40 335		ePKP	PKPbc	10 04 01.9	-0.1	
PTEO	Sao Teotonio	145.47 337		ePKP	PKPdf	10 04 01.7	-0.3	
MORF	Marmelete	145.65 336		ePKP	PKPdf	10 04 02.0	-0.4	
MORF				IAMs_20	IAMs_20	11 12 18.6		
	comp=Z,1µm,31.0s							
MORF	Marmelete	145.65 336		ePKP	PKPdf	10 04 02.1	-0.3	
PFVI	Vila Bisbo	145.86 336		ePKP	PKPbc	10 04 03.3	-0.1	
BDFB	Brasilia	148.61 134		PKP	PKPdf	10 04 08.1	0.0	
	comp=Z,12nm,0.7s,baz=228,slow=4.1,SNR=7.7							
BDFB				PKPbc	PKPbc	10 04 11.5	-0.3	
	comp=Z,12nm,0.7s,baz=235,slow=3.9,SNR=10.0							
MAL2	Monte Alegre,	149.93 105			PKPdf	10 04 10.3	+0.2	
MAL2				PKPbc	PKPbc	10 04 15.3	+0.3	
TORD	Torodi Ar. Bea	152.63 286		PKP	PKPdf	10 04 13.3	-0.9	
	comp=Z,6.6nm,1.1s,baz=60,slow=1.6,SNR=3.1							
TORD				PKPbc	PKPbc	10 04 19.9	-1.3	
	comp=Z,14nm,0.8s,baz=79,slow=1.8,SNR=12							
TORD				PKPab	pPKPdf	10 04 30.9	+0.6	
	comp=Z,21nm,0.9s,baz=61,slow=2.0,SNR=8.9							
ACRG	Accra	155.11 270		IAMs_20	IAMs_20	11 28 57.2		
	comp=Z,676nm,21.0s							
MACI	Morro de la Ar	156.66 340		IAMs_20	IAMs_20	11 20 48.2		
	comp=Z,584nm,20.0s							
DBIC	Dimbokro	159.76 272			PKPab	10 05 02.4	-0.2	
DBIC	Dimbokro	159.76 272		PKP	PKPdf	10 04 23.3	-0.2	
	comp=Z,5.6nm,0.8s,baz=141,slow=2.0,SNR=3.9							
DBIC				PKPab	PKPab	10 05 02.8	+0.2	
	comp=Z,46nm,0.8s,baz=113,slow=4.1,SNR=6.7							
DBIC	Dimbokro	159.76 272		PKP2	PKPab	10 05 02.4	-0.2	

*IDC **06** 09:45:31.3±0.6,27.°76S×176.°08W, h0km, mb4.6/10, mbtmp4.5/13, ML4.9/3, Error ellipse: s-maj=25.6km s-min=16.0km az=89.0*

*BJI **06** 09:45:32.2,27.°65S×176.°07W, h6km, mB5.4/4, mb5.1/12, Ms5.3/4, Ms7 5.0/4*

*NEIC **06** 09:45:33.6±0.9,27.°82S±0.°08×176.°18W±0.°05, h10km±1km, mb5.1/13, Error ellipse: s-maj=14.7km s-min=4.4km az=23.0*

ISC 06 09:45:36.9±0.4,**27.°98S**±0.°06×**176.°18W**±0.°09,**h37**km,**n93,** σ2s**81**/96,**mb4.9**/20,**2C-5D**,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	1.98 230			Pn	09 46 56.6	+0.8
RAO	Raoul Island	1.98 230		Pn	Pn	09 46 09.9	+2.0
	366nm,0.3s,baz=45,slow=19,SNR=10						
RAO				Sn	Sn	09 46 37.0	+5.6
	350nm,0.3s,baz=49,slow=20,SNR=4.9						
	696nm,0.3s						
RIZ	Raoul Island	1.98 230		P	Pn	09 46 10.9	+3.0
GLKZ	Green Lake	1.99 230		P	Pn	09 46 09.8	+1.8
GLKZ				S	Sn	09 46 37.6	+6.0
WMGZ	Waiomatatini S	10.81 203		P	Pn	09 48 04.8	-4.2
WMGZ				S	Sn	09 50 09.5	+0.9
PKGZ	Pakihiroa	10.97 205		P	Pn	09 48 04.7	-6.5
PKGZ				S	Sn	09 50 07.9	-4.7
HAZ	Te Kaha	10.98 206		P	Pn	09 48 05.7	-5.7
HAZ				S	Sn	09 50 11.9	-1.1
PUZ	Puketiti	11.09 203		P	Pn	09 48 08.4	-4.5
PUZ				S	Sn	09 50 10.9	-4.7
KUZ	Kuaotunu	11.10 216		P	Pn	09 48 11.7	-1.2
RUGZ	Raukumara Rang	11.21 206		P	Pn	09 48 09.3	-5.3
RUGZ				S	Sn	09 50 14.3	-4.3
TWGZ	Tauwhareparae	11.28 204		P	Pn	09 48 11.4	-4.1
TWGZ				S	Sn	09 50 20.1	-0.2
WCZ	Waipu Caves	11.29 223		P	Pn	09 48 20.8	+5.1
OUZ	Omahuta	11.31 228		P	Pn	09 48 21.0	+5.1
CNGZ	Carnagh Statio	11.47 203		P	Pn	09 48 11.2	-6.9
CNGZ				S	Sn	09 50 25.2	+0.3
MSVF	Nonsavu	11.50 331			Pn	09 48 15.2	-3.4
MSVF	Nonsavu	11.50 331		Pn	Pn	09 48 15.6	-3.0
	0.4nm,0.3s,baz=166,slow=19,SNR=3.0						
	7.8nm,1.0s						
TKGZ	Te Karaka	11.56 204		P	Pn	09 48 14.1	-5.2
TKGZ				S	Sn	09 50 23.0	-4.0
MWZ	Matawai	11.59 205		P	Pn	09 48 12.6	-7.1
MWZ				S	Sn	09 50 24.2	-3.6
URZ	Urewera	11.69 207		Pn	Pn	09 48 13.6	-7.4
	0.3nm,0.3s,baz=37,slow=5.1,SNR=2.8						
URZ				Sn	Sn	09 50 26.0	-4.1
	2.9nm,0.3s,baz=6.3,slow=19,SNR=9.3						
URZ	Urewera	11.69 207		P	Pn	09 48 13.2	-7.8
URZ				S	Sn	09 50 25.6	-4.5
TOZ	Tahuroa Road	11.97 214		Pn	Pn	09 48 26.0	+1.2
BKZ	Black Stump Fm	12.71 207		P	Pn	09 48 33.8	-1.3
BKZ				S	Sn	09 50 49.8	-5.4
HIZ	Hauiti	12.90 213		P	Pn	09 48 34.7	-2.8
PNHZ	Pukenui	13.47 206		P	Pn	09 48 42.5	-2.9
PNHZ				S	Sn	09 51 06.1	-7.7
TSZ	Takapari Road	13.69 206		P	Pn	09 48 44.8	-3.6
TSZ				S	Sn	09 51 09.0	-10
DVHZ	Dannevirke	13.81 205		P	Pn	09 48 46.5	-3.6
DVHZ				S	Sn	09 51 13.5	-8.7
BFZ	Birch Farm	14.12 204		P	Pn	09 48 50.9	-3.3
BFZ				S	Sn	09 51 21.9	-7.7
MRZ	Mangatainoka R	14.35 206		P	Pn	09 48 51.4	-6.0
MRZ				S	Sn	09 51 24.3	-11
HOWZ	Holdsworth Sta	14.58 206		P	Pn	09 48 54.5	-6.0
OGWZ	Otaki Gorge	14.65 207		P	Pn	09 48 56.7	-4.7
PAWZ	Paruwai Farm	15.03 205		P	Pn	09 49 01.0	-5.6
TUWZ	Tuamarina	15.66 209		P	Pn	09 49 11.8	-3.0
QRZ	Quartz Range	15.82 213		P	Pn	09 49 16.5	-0.3
RAR	Rarotonga	16.37 69		Pn	Pn	09 49 14.0	-10
	2.4nm,0.3s,baz=237,slow=12,SNR=4.4						
THZ	Tophouse	16.39 210		P	Pn	09 49 19.9	-4.1
KHZ	Kahutara	16.65 207		P	Pn	09 49 24.4	-2.9
RPZ	Rata Peaks	18.77 210		P	Pn	09 49 54.7	+1.3
	1.6nm,0.3s,baz=37,slow=10,SNR=8.5						
	5.9nm,0.5s						
ASAR	Alice Springs	44.89 264		P	P	09 53 47.9	-0.2
	5.3nm,0.8s,baz=102,slow=7.0,SNR=5.2						
	5.3nm,0.8s						
WR8	Warramunga Arr	45.52 269		P	P	09 53 51.9	-1.2
WRAB	Tennant Creek	45.66 269		P	P	09 53 53.8	-0.4
SBA	Scott Base	50.56 185		P	P	09 54 34.4	+3.2
SBA				IAmb	IAmb	09 54 57.1	
	comp=Z,22nm,1.1s						
VNDA	Vanda	50.66 186			P	09 54 34.6	+2.6
VNDA	Vanda	50.66 186		P	P	09 54 33.3	+1.3
	comp=Z,3.1nm,1.0s,baz=39,slow=3.2,SNR=13						
	comp=Z,3.1nm,1.0s						
QSPA	South Pole Qui	62.12 180		P	P	09 55 56.2	+2.2
	comp=Z,24nm,1.0s,baz=33,slow=3.3,SNR=38						
	comp=Z,24nm,1.0s						
SMAI	San Martin Ant	71.07 158		P	P	09 56 52.2	+1.5
SMAI				IAmb	IAmb	09 56 53.6	
	comp=Z,24nm,1.1s						
BELA	Belgrano 2	71.96 172			P	09 56 56.7	+0.6
MJAR	Matsushiro Arr	77.20 324			P	09 57 26.6	-0.3
MJAR	Matsushiro Arr	77.20 324		P	P	09 57 27.2	+0.3
	comp=Z,5.6nm,1.1s,baz=141,slow=1.6,SNR=4.0						
	comp=Z,5.6nm,1.1s						
KIWB	Kanaga Island	79.49 359		P	P	09 57 38.6	-0.5
KIWB				IAmb	IAmb	09 57 53.5	
	comp=Z,30nm,1.2s						
ADK	Adak	79.52 360		P	P	09 57 38.5	-0.8
COYC	Coyhaique	79.58 136			P	09 57 41.0	+0.8
COYC				IAmb	IAmb	09 57 42.6	
	comp=Z,14nm,0.9s						
SYO	Syowa Base	79.81 192	⇑	*i*P	P	09 57 36.0	-4.9
SYO	Syowa Base	79.81 192	⇓	*i*PcP	P	09 57 38.2	-2.7
SYO	Syowa Base	79.81 192	⇑	*i*P	P	09 57 42.1	+1.2
TROLL	Troll, Antarti	80.28 180	⇓	P	P	09 57 44.7	+1.1
	comp=Z,616nm,1.1s						
SNAA	Sanae	80.51 178	⇓	P	P	09 57 45.4	+0.6
	comp=Z,178nm,0.9s						
SNAA	Sanae	80.51 178			P	09 57 45.3	+0.6
SNAA				IAmb	IAmb	09 57 47.0	
	comp=Z,29nm,1.3s						
SNAA	Sanae	80.51 178		P	P	09 57 45.9	+1.1
	comp=Z,11nm,1.0s,baz=192,slow=6.0,SNR=23						
	comp=Z,11nm,1.0s						
LL02	Futaleuf	80.90 134			P	09 57 48.1	+0.8
LL02				IAmb	IAmb	09 57 49.4	
	comp=Z,16nm,1.1s						
VNA2	Neumayer--Watz	81.05 176	⇓	P	P	09 57 49.0	+1.4
	comp=Z,15nm,1.2s,baz=182,slow=3.6						
ASAJ	Asahikawa	81.06 331		P	P	09 57 47.6	-0.2
	comp=Z,1.9nm,0.7s,baz=129,slow=13,SNR=2.9						
	comp=Z,1.9nm,0.7s						
VNA1	Neumayer--Stat	81.27 176	⇓	P	P	09 57 50.0	+1.3
	comp=Z,16nm,1.0s						
PLCA	Paso Flores	82.98 132			P	09 57 59.2	+0.8
PLCA				IAmb	IAmb	09 58 00.5	
	comp=Z,22nm,1.2s						
PLCA	Paso Flores	82.98 132		P	P	09 57 59.5	+1.1
	comp=Z,8.5nm,1.0s,baz=237,slow=6.1,SNR=12						
	comp=Z,8.5nm,1.0s						
KSRS	Korea Array	83.57 318		P	P	09 58 01.6	+0.5
	comp=Z,3.5nm,1.1s,baz=124,slow=4.7,SNR=3.5						
	comp=Z,3.5nm,1.1s						
KSAR	Wonju Array Be	83.58 318			P	09 58 01.2	0.0
PETK	Petropavlovsk-	83.89 345		P	P	09 58 01.9	-0.5
	comp=Z,3.2nm,0.8s,baz=158,slow=5.9,SNR=2.0						
	comp=Z,3.2nm,0.8s						
NJ2	Nanjing	85.91 310		*e*P	P	09 58 14.2	+1.2
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
CN2	Changchun	89.20 322		P	P	09 58 28.1	-0.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CMAR	Chiang Mai Arr	94.12 289		P	P	09 58 53.1	+1.1
	comp=Z,0.6nm,0.4s,baz=103,slow=4.6,SNR=1.5						
	comp=Z,0.6nm,0.4s						
PZH	PanZhiHua	95.62 297		P	P	09 58 59.0	+0.1
HHC	Hu-ho-hao-te	95.72 313		*e*P	P	09 58 59.7	+0.8
HHC				pmax	pmax		
	comp=Z,4.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,5.1s						
CD2	Chengdu	96.16 302		*e*P	P	09 59 02.0	+0.9
WMQ	Urumqi	112.97 309		*e*PKP	PKiKP	10 04 11.1	+1.1
WMQ				LR	LR		
	comp=Z,680nm,17.3s						
WMQ				LR	LR		
	comp=Z,690nm,24.2s						
WMQ				LR	LR		
	comp=Z,790nm,23.3s						
ZALV	Zalesovo Beam	117.27 319		PKP	PKiKP	10 04 17.5	-0.3
	comp=Z,0.4nm,0.3s,baz=104,slow=1.8,SNR=1.7						
MKAR	Makanchi Array	117.42 311		PKP	PKPdf	10 04 17.5	-0.9
	comp=Z,1.0nm,0.7s,baz=90,slow=1.4,SNR=5.3						
KURBB	Kurchatov Arra	120.55 314		PKP	PKPdf	10 04 22.9	-1.3
	comp=Z,0.8nm,0.7s,baz=99,slow=2.0,SNR=4.4						
BVAR	Borovoye Array	125.76 317		PKP	PKPdf	10 04 33.6	-0.5
	comp=Z,2.3nm,0.9s,baz=114,slow=3.6,SNR=5.5						
ARCES	ARCESS Array B	136.55 349		PKhKP	PKPpre	10 04 49.9	
	comp=Z,3.7nm,1.0s,baz=57,slow=5.7,SNR=1.8						
FINES	FINESS Array B	143.38 342		PKhKP	PKPpre	10 05 01.0	
	comp=Z,1.1nm,0.5s,baz=27,slow=5.8,SNR=7.6						
KBZ	Khabaz	145.00 307		PKP	PKPdf	10 05 10.6	+0.6
	comp=Z,0.7nm,0.4s,baz=76,slow=4.2,SNR=1.4						
NC405	NORSAR Array S	146.45 353			PKPab	10 05 13.5	-0.8
NB201	NORSAR Array S	146.55 353			PKPbc	10 05 13.2	-0.6
NB2	NORSAR Subarra	146.57 353		PKP	PKPbc	10 05 13.3	-0.5
	comp=Z,100nm,3.3s,baz=9.7,slow=3.0						
NOA	NORSAR Array B	146.57 353		PKPbc	PKPbc	10 05 13.2	-0.5
	comp=Z,4.5nm,1.0s,baz=10,slow=2.4,SNR=8.7						
HFS	Hagfors	147.16 351		PKPbc	PKPbc	10 05 14.0	-1.4
	comp=Z,9.0nm,0.9s,baz=26,slow=3.7,SNR=12						
AKASG	Malin Array Be	150.25 327		PKPbc	PKPbc	10 05 23.0	-0.7
	comp=Z,10nm,1.0s,baz=47,slow=3.2,SNR=13						
KIEV	Kiev	150.26 327			PKiKP	10 05 23.9	-0.6
EKA	Eskdalemuir Ar	152.21 9		PKPbc	PKPbc	10 05 27.1	-1.0
	comp=Z,1.2nm,0.8s,baz=342,slow=1.8,SNR=2.2						
MMAI	Mount Meron Ar	152.38 288		PKPbc	PKiKP	10 05 30.3	+0.7
	comp=Z,3.9nm,0.7s,baz=107,slow=5.0,SNR=3.8						
BRTR	Keskin Array B	152.73 303		PKPbc	PKiKP	10 05 29.7	-0.4
	comp=Z,1.3nm,0.7s,baz=104,slow=4.6,SNR=2.4						
CLL	Collm	155.69 346		*e*PKPdf	PKPdf	10 05 29.0	+2.6
CLL				*e*PKPdif	sPKPdf	10 05 39.0	-1.3
CLL				*i* x	x	10 05 46.0	
	comp=Z,8.0nm,1.0s						
CLL				*i* PKPab	PKPab	10 05 51.4	-1.3
	comp=Z,7.0nm,0.9s						
TORD	Torodi Ar. Bea	165.11 172		PKPab	PKPab	10 06 35.6	+1.0
	comp=Z,5.5nm,0.9s,baz=180,slow=1.3,SNR=2.1						

*NEIC **06** 09:46:39.7±1.9,35.°808N±0.°005×117.°62W±0.°01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.5km az=244.0*

PAS 06 09:46:40.0±1.7,**35.°806N**±0.°005×**117.°63W**±0.°01, **h3**km±2km,**ML3.3**/20,**ML3.2**/46(NEIC),**Error ellipse: s-maj=1.3km s-min=0.7km az=68.0**,**Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	China Lake	0.03 69			Pg	09 46 40.9	+0.1
TOW	Tower One	0.11 271			Pg	09 46 42.8	+0.6
TOW					Sg	09 46 45.3	+1.7
SRTC	Snort	0.15 221			Pg	09 46 43.3	+0.4
SRTC					Sg	09 46 46.1	+1.2
WVPM	Volcano Peak E	0.21 313			Pg	09 46 44.1	0.0
WNMM	Nine Mile Cany	0.23 279			Pg	09 46 44.7	+0.3
MPMC	Manual Prospec	0.28 24			Pg	09 46 45.4	+0.1
MPMC					Sg	09 46 49.6	+0.7
WRVM	Rose V. Centra	0.29 313			Pg	09 46 45.8	+0.1
LRMC	Laurel Mtn Rad	0.33 188			Pg	09 46 46.1	-0.2
LRMC				IAML		09 46 51.4	
	comp=N,4µm,0.2s						
LRMC				Sg	Sg	09 46 51.0	+0.4
CCCA	Chr Cany lake	0.35 143			Pg	09 46 47.3	+0.5
CCCA					Sg	09 46 53.0	+1.7
MFS	McCloud Flat S	0.36 329			Pg	09 46 47.1	+0.2
WBSM	Bird Springs	0.50 237			Pg	09 46 49.5	0.0
WORM	Onyx Ranch	0.51 258			Sg	09 46 56.6	+0.1
DTP	Desert Tortois	0.57 198			Pg	09 46 50.5	-0.3
DTP					Sg	09 46 58.8	+0.6
WHFM	Hanning Flat	0.60 260			Pg	09 46 51.3	-0.1
QSM	Queen of Sheba	0.64 75			Pg	09 46 52.0	-0.2
QSM					Sg	09 47 00.5	+0.1
QSM				IAML		09 47 01.1	
	comp=E,1µm,0.5s						
QSM				IAML		09 47 03.0	
	comp=N,1µm,0.5s						
ISA	Isabella, Lake	0.70 258			Pg	09 46 52.9	-0.5
ISA				IAML		09 47 02.8	
	comp=N,819nm,0.5s						
ISA				IAML		09 47 03.3	
	comp=E,851nm,0.3s						
ISA	Isabella, Lake	0.70 258			Sg	09 47 02.5	-0.1
CCAC	Calif City Air	0.72 206			Pg	09 46 53.7	-0.1
CGO	Cerro Gordo	0.76 349			Sg	09 47 05.3	+1.0
WASM	Alta Sierra Ca	0.76 265			Pg	09 46 54.4	-0.2
WASM					Sg	09 47 05.2	+0.8
GSC	Goldstone, Bar	0.84 127			Pg	09 46 55.6	-0.4
GSC				IAML		09 47 07.6	
	comp=E,1µm,0.4s						
GSC				IAML		09 47 10.2	
	comp=N,1µm,0.4s						
GSC	Goldstone, Bar	0.84 127			Sg	09 47 07.3	+0.4
GWY	Greenwater Val	0.86 64			Pg	09 46 56.4	-0.2
GWY				IAML		09 47 11.8	
	comp=E,975nm,0.5s						
SPG2	Springville 2	1.00 293			Pg	09 46 58.6	-0.6
SPG2					Sg	09 47 12.0	-0.2
TPO	Tropico Hills	1.05 208			Sg	09 47 13.6	0.0
RRX	Edison Barstow	1.06 151			Pb	09 47 00.9	-0.1
SHOC	Shoshone, Teco	1.10 85			Sb	09 47 16.1	-0.4
SBB	Saddle Back Bu	1.13 188			Pg	09 47 01.6	0.0
TJR	Tejon Ranch	1.20 230			Sg	09 47 17.7	-0.7
GRAC	Grapevine Rang	1.21 10			Pg	09 47 02.3	-0.8
GRAC				IAML		09 47 24.3	
	comp=N,540nm,0.6s						
THC	Tehachapi Micr	1.23 224			Pg	09 47 03.2	-0.4
ADO	Adelanto Recei	1.26 173			Pg	09 47 04.2	0.0
SGV	South Grapevin	1.27 22			Pg	09 47 04.0	-0.2
AMDNV	Amargosa	1.27 59			Pg	09 47 03.1	-1.1
VTV	Victorville	1.27 169			Pg	09 47 04.0	-0.3
BAKC	Calstate	1.29 249			Pg	09 47 04.1	-0.6
BAKC					Sb	09 47 21.7	-0.1
LRRC	Littlerock Res	1.32 195			Pb	09 47 05.5	+0.2
LRRC					Sb	09 47 23.0	+0.3
TIN	Tinemaha, Big	1.34 339			Pn	09 47 05.7	0.0
CJV	Casa Juvan	1.34 199			Pb	09 47 06.0	+0.2
JNH	Juniper Hills	1.38 191			Pb	09 47 06.5	0.0
DSCC	Desert Studies	1.41 118			Pn	09 47 05.8	-0.7
TUQ

QSM				IAML		09 48 57.3		
	comp=N,1μm,0.5s							
WASM	**Alta Sierra Ca**	**0.70**	**259**		Pg	09 48 43.1	0.0	
CCAC	**Calif City Air**	**0.76**	**199**		Pg	09 48 44.0	-0.4	
CCAC				IAML		09 48 58.7		
	comp=N,601nm,0.2s							
CCAC				IAML		09 49 03.3		
	comp=E,363nm,0.6s							
GWY	**Greenwater Val**	**0.90**	**70**		Pg	09 48 46.8	-0.3	
GWY					Sg	09 48 58.5	-0.3	
GWY				IAML		09 49 02.0		
	comp=N,914nm,0.5s							
SPG2	**Springville 2**	**0.91**	**291**		Pg	09 48 46.6	-0.6	
GSC	**Goldstone, Bar**	**0.94**	**128**		Pg	09 48 47.1	-0.7	
GSC				IAML		09 49 03.0		
	comp=N,528nm,0.4s							
HYS	**Haystack Butte**	**1.02**	**173**		Pg	09 48 48.7	-0.6	
HYS					Sg	09 49 02.8	+0.3	
EDW2	**Edwards Air Fo**	**1.02**	**193**		Pg	09 48 48.5	-0.8	
TEJ	**El Tejon**	**1.02**	**231**		Pg	09 48 48.6	-0.8	
TEJ					Sg	09 49 02.2	-0.4	
TPO	**Tropico Hills**	**1.08**	**203**		Pg	09 48 50.0	-0.5	
VES	**Vestal, Richgr**	**1.11**	**268**		Pg	09 48 50.8	-0.3	
VES					Sg	09 49 05.8	+0.3	
GRAC	**Grapevine Rang**	**1.15**	**14**		Pg	09 48 51.3	-0.5	
GRAC				IAML		09 49 12.2		
	comp=E,489nm,0.5s							
GRAC				IAML		09 49 14.6		
	comp=N,389nm,0.5s							
RRX	**Edison Barstow**	**1.16**	**149**		Pb	09 48 52.4	-0.1	
SHOC	**Shoshone, Teco**	**1.17**	**89**		Pg	09 48 52.2	0.0	
SBB	**Saddle Back Bu**	**1.19**	**184**		Pg	09 48 52.4	-0.2	
TJR	**Tejon Ranch**	**1.19**	**225**		Pg	09 48 51.7	-1.0	
TJR					Sg	09 49 07.5	-0.6	
SGV	**South Grapevin**	**1.23**	**26**		Pg	09 48 53.0	-0.4	
SGV					Sg	09 49 09.8	+0.4	
THC	**Tehachapi Micr**	**1.24**	**219**		Pg	09 48 52.5	-1.1	
BAKC	**Calstate**	**1.25**	**245**		Pg	09 48 53.4	-0.3	
WCT	**Wildcat Mounta**	**1.27**	**44**		Pg	09 48 53.3	-0.8	
WCT					Sg	09 49 10.1	-0.4	
WCT				IAML		09 49 14.8		
	comp=E,400nm,0.6s							
WCT				IAML		09 49 14.9		
	comp=N,240nm,0.8s							
AMDNV	**Amargosa**	**1.29**	**63**		Pg	09 48 54.3	-0.3	
LEOC	**Leona Valley**	**1.33**	**201**		Pg	09 48 54.8	-0.5	
VTV	**Victorville**	**1.35**	**166**		Sb	09 49 13.7	+0.1	
LCH	**Last Change Ra**	**1.35**	**2**		Pg	09 48 55.2	-0.5	
LRRC	**Littlerock Res**	**1.37**	**191**		Pn	09 48 55.5	-0.4	
CJV	**Casa Juvan**	**1.39**	**195**		Pn	09 48 54.8	-1.5	
VOG	**Valley Oaks Go**	**1.42**	**289**		Pn	09 48 56.1	-0.5	
JNH	**Juniper Hills**	**1.44**	**188**		Pn	09 48 55.6	-1.4	
GMN	**Gold Mountain**	**1.47**	**14**		Pn	09 48 57.2	-0.3	
DSP	**Deep Springs**	**1.50**	**352**		Pn	09 48 57.3	-0.4	
DSP				IAML		09 49 18.9		
	comp=E,106nm,0.6s							
DSCC	**Desert Studies**	**1.51**	**119**		Sn	09 49 17.9	-0.1	
OSI	**Osito Audit: C**	**1.51**	**213**		Pn	09 48 57.1	-0.8	
OSI				IAML		09 49 26.2		
	comp=N,154nm,0.7s							
OSI				IAML		09 49 26.7		
	comp=E,150nm,0.6s							
TUQ	**Turquoise Moun**	**1.52**	**106**		Pn	09 48 56.4	-1.7	
TUQ					Sg	09 49 18.7	0.0	
HEC	**Hector,Ludlow**	**1.54**	**132**		Sb	09 49 19.1	0.0	
BHPR	**Bishop**	**1.55**	**337**		Pb	09 48 59.0	-0.3	
CHFC	**Chilao Flat St**	**1.56**	**189**		Pb	09 48 59.2	-0.2	
CHFC					Sg	09 49 20.1	+0.2	
TPNV	**Topopah Spring**	**1.59**	**47**		Pn	09 48 58.6	-0.6	
TPNV				IAML		09 49 23.6		
	comp=E,242nm,0.7s							
TPNV				IAML		09 49 26.5		
	comp=E,230nm,0.7s							
MTUM	**Tungsten Hills**	**1.62**	**335**		Pb	09 49 00.1	-0.4	
BFSC	**Mount Baldy Ra**	**1.64**	**178**		Pn	09 48 59.9	+0.2	
BFSC					Sg	09 49 22.1	-0.2	
SSK	**Sunset Peak**	**1.66**	**179**		Pb	09 49 00.7	-0.5	
MWC	**Mount Wilson**	**1.67**	**190**		Pn	09 48 59.1	-1.1	
MWC				IAML		09 49 29.5		
	comp=N,151nm,0.5s							
MWC				IAML		09 49 33.4		
	comp=E,135nm,0.6s							
SIL	**Silver Peak**	**1.69**	**154**		Pb	09 49 01.8	0.0	
BBRC	**Big Bear Solar**	**1.74**	**158**		Pb	09 49 02.7	+0.2	
PASC	**Pasadena Art C**	**1.75**	**193**		Pn	09 49 00.5	-0.6	
CRGC	**Crocker Grade**	**1.76**	**249**		Pb	09 49 02.6	-0.2	
PSRC	**Puddingstone R**	**1.78**	**182**		Pg	09 49 03.6	-0.4	
MTPC	**Mountain Pass**	**1.80**	**102**		Pn	09 49 00.3	-1.7	
SVD	**Seven Oaks Dam**	**1.84**	**164**		Pg	09 49 04.6	-0.4	
RVR	**Riverside**	**1.90**	**171**		Pb	09 49 05.4	+0.2	
KCC	**Kaiser Creek**	**1.94**	**319**		Pb	09 49 05.1	-0.7	
SMMC	**Simmler**	**1.94**	**254**		Pb	09 49 05.5	-0.4	
BENR	**Benton**	**1.96**	**340**		Pb	09 49 06.2	-0.2	
MLAC	**Mammoth, Mammo**	**1.97**	**333**		Pb	09 49 06.5	+0.1	
MCSM	**Casa Diablo Ho**	**2.01**	**332**		Pb	09 49 07.3	+0.1	
SHPR	**Sheep Range**	**2.16**	**72**	Pn	Pn	09 49 06.2	-0.7	
TSCN	**Private Proper**	**2.17**	**262**		Pn	09 49 08.1	+1.2	
ELS	**Elsinore Mount**	**2.24**	**174**		Pn	09 49 07.2	-0.7	
ELS	**Elsinore Mount**	**2.24**	**174**		Pn	09 49 07.7	-0.3	
ELS				IAML		09 49 42.3		
	comp=E,74nm,0.3s							
ELS				IAML		09 49 46.5		
	comp=N,52nm,0.7s							
POB	**Polly Butte**	**2.28**	**163**		Pn	09 49 07.9	-0.6	
DGR	**Domenigoni Val**	**2.30**	**165**		Pn	09 49 07.9	-0.8	
MURC	**Murrieta**	**2.31**	**169**		Pb	09 49 12.7	+0.5	
PFO	**Pinyon Flats O**	**2.49**	**155**	Pn	Pn	09 49 10.1	-1.3	
PFO				IAML		09 49 50.2		
	comp=N,52nm,0.6s							
PFO				IAML		09 49 54.4		
	comp=N,70nm,1.1s							
RAMR	**Ramage Ranch**	**2.58**	**266**		Pn	09 49 13.8	+1.2	
MYLM	**Yosemite Lake**	**2.64**	**305**		Pb	09 49 16.5	-1.3	
BBGB	**Big Mountain B**	**2.78**	**286**	Pn	Pn	09 49 14.9	-0.4	
PCCM	**Crazy Canyon**	**2.80**	**275**		Pn	09 49 17.5	+1.8	
W13A	**Hualapai Mount**	**3.22**	**103**	Pn	Pn	09 49 19.9	-1.7	
LCMT	**Little Creek M**	**3.78**	**71**	Pn	Pn	09 49 29.3	+0.1	
X16A	**Lo Mia Camp, P**	**5.34**	**104**	Pn	Pn	09 49 50.5	-0.2	
X16A				IAML		09 51 36.2		
	comp=E,4.9nm,1.3s							

NEIC ***06*** *09:49:33.1±1.3,35.900N±0.008×117.72W±0.01, h7km±4km, Error ellipse: s-maj=1.5km s-min=1.1km az=106.0*

PAS 06 09:49:33.3±1.2,**35.892N**±0.006×**117.72W**±0.01, **h7**km±3km, **ML3.3**/22, **ML2.8**/30(NEIC), **Error ellipse: s-maj=1.4km s-min=0.4km az=129.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.09**	**204**		Pg	09 49 36.0	+0.4
WVPM	**Volcano Peak E**	**0.10**	**306**		Pg	09 49 35.7	0.0
CLC	**China Lake**	**0.12**	**128**		Pg	09 49 36.0	0.0
WNMM	**Nine Mile Cany**	**0.16**	**252**		Pg	09 49 36.7	+0.1
WNMM					Sg	09 49 39.5	+0.7
WRVM	**Rose V. Centra**	**0.18**	**310**		Pg	09 49 37.0	0.0
SRTC	**Snort**	**0.20**	**187**		Sg	09 49 41.8	+1.7
MFS	**McCloud Flat S**	**0.25**	**334**		Pg	09 49 38.2	-0.1
MFS					Sg	09 49 42.0	+0.3
MPMC	**Manual Prospec**	**0.25**	**48**		Sg	09 49 41.8	0.0
LRMC	**Laurel Mtn Rad**	**0.41**	**176**	Pg	Pg	09 49 41.1	-0.3
LRMC					Sg	09 49 47.0	+0.1
CCCA	**Chr Cany lake**	**0.47**	**142**		Pg	09 49 40.3	-2.1
WORM	**Onyx Ranch**	**0.47**	**245**		Pg	09 49 42.0	-0.4
WBSM	**Bird Springs**	**0.49**	**224**		Pg	09 49 42.6	-0.3
WHFM	**Hanning Flat**	**0.55**	**249**		Pg	09 49 43.6	-0.3
CWC	**Cottonwood Cre**	**0.62**	**332**		Sg	09 49 53.4	-0.1
DTP	**Desert Tortois**	**0.63**	**189**		Pg	09 49 45.0	-0.6
ISA	**Isabella, Lake**	**0.66**	**250**	Pg	Pg	09 49 45.5	-0.5
ISA					Sg	09 49 45.7	-8.8
CGO	**Cerro Gordo**	**0.66**	**354**		Pg	09 49 45.9	-0.2
CGO					Sg	09 49 54.6	-0.1
QSM	**Queen of Sheba**	**0.69**	**84**	Pg	Pg	09 49 46.4	-0.3
QSM				IAML		09 49 56.0	
	comp=E,433nm,0.3s						
QSM				IAML		09 50 00.5	
	comp=N,635nm,0.6s						
WASM	**Alta Sierra Ca**	**0.70**	**258**		Pg	09 49 46.4	-0.4
WASM					Sg	09 49 55.7	-0.2
CCAC	**Calif City Air**	**0.78**	**198**		Pg	09 49 47.7	-0.5
CCAC				IAML		09 49 59.1	
	comp=E,232nm,0.3s						
CCAC				IAML		09 50 01.9	
	comp=N,274nm,0.3s						
GWY	**Greenwater Val**	**0.90**	**71**		Pg	09 49 50.3	-0.3
SPG2	**Springville 2**	**0.90**	**290**		Pg	09 49 49.8	-0.9
GSC	**Goldstone, Bar**	**0.95**	**128**	Pg	Pg	09 49 50.8	-0.8
GSC				IAML		09 50 06.3	
	comp=N,385nm,0.6s						
EDW2	**Edwards Air Fo**	**1.03**	**193**		Pg	09 49 53.4	+0.2
HYS	**Haystack Butte**	**1.03**	**173**		Pg	09 49 52.4	-0.8
TPO	**Tropico Hills**	**1.09**	**202**		Pg	09 49 53.3	-1.1
VES	**Vestal, Richgr**	**1.11**	**268**		Sg	09 50 06.3	-2.7
GRAC	**Grapevine Rang**	**1.14**	**14**	Pg	Pg	09 49 54.5	-0.7
GRAC				IAML		09 50 01.3	
	comp=E,205nm,0.4s						
GRAC				IAML		09 50 17.9	
	comp=N,248nm,0.9s						
ARVC	**Arvin**	**1.19**	**230**		Sg	09 50 10.8	-0.7
SGV	**South Grapevin**	**1.22**	**27**		Pg	09 49 56.2	-0.6
SGV					Sg	09 50 12.1	-0.5
BAKC	**Calstate**	**1.25**	**245**		Sb	09 50 13.9	+0.2
WCT	**Wildcat Mounta**	**1.26**	**44**		Pn	09 49 56.5	-0.9
WCT				IAML		09 50 14.7	
	comp=E,220nm,0.4s						
WCT				IAML		09 50 16.0	
	comp=N,147nm,0.7s						
AMDNV	**Amargosa**	**1.29**	**64**		Pn	09 49 57.5	-0.3
AMDNV					Sb	09 50 13.8	-0.9
LCH	**Last Change Ra**	**1.34**	**3**		Pn	09 49 58.6	0.0
LCH					Sb	09 50 15.6	-0.7
LEOC	**Leona Valley**	**1.35**	**201**		Pn	09 49 58.5	-0.2
CJV	**Casa Juvan**	**1.40**	**194**		Pn	09 49 59.4	0.0
VOG	**Valley Oaks Go**	**1.41**	**288**		Pn	09 49 57.3	-2.2
GMN	**Gold Mountain**	**1.45**	**15**		Pn	09 50 00.1	-0.1
JNH	**Juniper Hills**	**1.45**	**188**		Pb	09 50 01.0	+0.2
DSP	**Deep Springs**	**1.49**	**352**		Pn	09 50 00.6	+0.1
TUQ	**Turquoise Moun**	**1.53**	**107**		Pn	09 50 01.4	+0.2
BHPR	**Bishop**	**1.53**	**336**		Pb	09 50 02.0	-0.3
CHFC	**Chilao Flat St**	**1.57**	**189**		Pb	09 50 03.0	+0.1
MTUM	**Tungsten Hills**	**1.61**	**335**		Pb	09 50 03.2	-0.3
MWC	**Mount Wilson**	**1.69**	**190**		Pn	09 50 03.0	-0.5
MWC				IAML		09 50 28.6	
	comp=N,76nm,0.4s						
MWC				IAML		09 50 33.1	
	comp=E,74nm,0.6s						
SIL	**Silver Peak**	**1.71**	**154**		Pb	09 50 05.4	+0.3
PASC	**Pasadena Art C**	**1.76**	**193**	Pn	Pn	09 50 03.7	-0.6
CLTC	**Calectric**	**1.82**	**169**		Sn	09 50 29.0	+0.4
MCSM	**Casa Diablo Ho**	**2.00**	**332**		Pb	09 50 10.4	+0.1
LHV	**Little Huntoon**	**2.44**	**345**	Pn	Pn	09 50 12.6	-0.9
LHV				IAML		09 50 57.3	
	comp=E,33nm,0.6s						
VTX	**Valle De La Tr**	**4.77**	**160**	Pn	Pn	09 50 44.7	-1.0

NEIC ***06*** *09:50:43.3±2.2,35.727N±0.010×117.59W±0.01, h5km±3km, Error ellipse: s-maj=1.5km s-min=1.4km az=80.0*

PAS 06 09:50:43.3±1.9,**35.702N**±0.010×**117.59W**±0.01, **h3**km±3km, **ML3.1**/21, **ML2.9**/22(NEIC), **Error ellipse: s-maj=1.6km s-min=1.4km az=99.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.11**	**357**		Pg	09 50 45.7	+0.1
SRTC	**Snort**	**0.13**	**265**		Pg	09 50 46.6	+0.7
TOW	**Tower One**	**0.18**	**307**		Sg	09 50 50.9	+1.7
LRMC	**Laurel Mtn Rad**	**0.23**	**198**		Pg	09 50 48.0	+0.1
LRMC				IAML		09 50 52.4	
	comp=E,2μm,0.2s						
LRMC				IAML		09 50 52.8	
	comp=N,2μm,0.2s						
CCCA	**Chr Cany lake**	**0.26**	**134**		Pg	09 50 48.8	+0.5
WVPM	**Volcano Peak E**	**0.31**	**323**		Sg	09 50 53.7	+0.4
WRVM	**Rose V. Centra**	**0.39**	**322**		Pg	09 50 50.8	0.0
DTP	**Desert Tortois**	**0.48**	**206**		Pg	09 50 52.4	-0.2
WORM	**Onyx Ranch**	**0.53**	**269**		Sg	09 51 00.5	+0.1
WHFM	**Hanning Flat**	**0.62**	**270**		Pg	09 50 54.9	-0.3
QSM	**Queen of Sheba**	**0.64**	**66**	Pg	Pg	09 50 55.3	-0.4
QSM				IAML		09 51 03.9	
	comp=N,752nm,0.6s						
CCAC	**Calif City Air**	**0.65**	**212**		Sg	09 51 04.9	+0.7
CCAC	**Calif City Air**	**0.65**	**212**	Pg	Pg	09 50 55.0	-0.8
CCAC				IAML		09 51 05.2	
	comp=E,530nm,0.2s						
CCAC				IAML		09 51 05.2	
	comp=N,664nm,0.3s						
ISA	**Isabella, Lake**	**0.72**	**267**		Pg	09 50 56.9	-0.3
ISA				IAML		09 51 07.0	
	comp=N,551nm,0.3s						
ISA				IAML		09 51 07.3	
	comp=E,513nm,0.4s						
GSC	**Goldstone, Bar**	**0.76**	**122**	Pg	Pg	09 50 56.6	-1.2
GSC				IAML		09 51 17.6	
	comp=N,534nm,0.3s						
WASM	**Alta Sierra Ca**	**0.79**	**273**		Pg	09 50 58.1	-0.3
WASM					Sg	09 51 09.0	+0.3
HYS	**Haystack Butte**	**0.84**	**179**		Pb	09 51 00.1	-0.4
EDW2	**Edwards Air Fo**	**0.88**	**202**		Pb	09 51 01.0	-0.3
GWY	**Greenwater Val**	**0.89**	**57**		Pg	09 50 59.9	-0.6
SBB	**Saddle Back Bu**	**1.03**	**191**		Pg	09 51 03.2	+0.2
SBB					Sg	09 51 17.6	-0.2
VTV	**Victorville**	**1.16**	**169**		Sb	09 51 21.4	-0.1
VES	**Vestal, Richgr**	**1.22**	**277**		Sb	09 51 23.2	-0.1
CJV	**Casa Juvan**	**1.25**	**201**		Pn	09 51 07.8	-0.1
HOLC	**Holcomb Ridge**	**1.26**	**190**		Pg	09 51 07.6	+0.1
JNH	**Juniper Hills**	**1.29**	**193**		Pg	09 51 08.1	+0.1
GRAC	**Grapevine Rang**	**1.30**	**8**	Pg	Pg	09 51 07.9	-0.4
GRAC				IAML		09 51 46.0	
	comp=N,185nm,0.5s						
DSCC	**Desert Studies**	**1.34**	**114**		Sg	09 51 26.0	-0.3
HEC	**Hector,Ludlow**	**1.35**	**130**		Sg	09 51 25.9	-0.7
TUQ	**Turquoise Moun**	**1.39**	**101**		Sg	09 51 27.2	-0.6
CHFC	**Chilao Flat St**	**1.41**	**195**		Pn	09 51 07.2	-2.9
CHFC					Sn	09 51 29.1	-0.2
OSI	**Osito Audit: C**	**1.43**	**221**		Pn	09 51 09.2	-1.0
OSI				IAML		09 51 32.2	
	comp=N,136nm,0.9s						
BFSC	**Mount Baldy Ra**	**1.46**	**182**		Pn	09 51 10.9	+0.2
SSK	**Sunset Peak**	**1.49**	**183**		Pn	09 51 08.4	-2.7
MWC	**Mount Wilson**	**1.52**	**195**		Pn	09 51 10.8	-0.9
MWC				IAML		09 51 33.7	
	comp=N,193nm,0.3s						
MWC				IAML		09 51 35.0	
	comp=E,168nm,0.4s						
VOG	**Valley Oaks Go**	**1.58**	**294**		Pn	09 51 09.8	-2.4
PSRC	**Puddingstone R**	**1.62**	**186**		Pn	09 51 12.9	+0.1
GMRC	**Granite Mounta**	**1.83**	**120**		Sb	09 51 40.4	-0.4
BBSC	**Beaumont Base**	**1.85**	**164**		Pn	09 51 16.6	+0.6
MCSM	**Casa Diablo Ho**	**2.22**	**332**		Sg	09 51 53.5	-1.0
NV11	**Mina Array Sit**	**2.76**	**351**	Pn	Pn	09 51 27.3	-1.4
NVAR	**Mina Array Bea**	**2.78**	**348**	Pn	Pn	09 51 27.7	-1.3

NEIC ***06*** *09:51:18.1±2.1,35.847N±0.006×117.70W±0.02, h4km±1km, ML3.0/16, ML3.1/28(PAS), Error ellipse: s-maj=1.9km s-min=0.9km az=85.0*

PAS 06 09:51:16.6±3.1,**35.78N**±0.02×**117.60W**±0.02, **h17**km±4km, **Error ellipse: s-maj=2.9km s-min=1.9km az=127.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.04**	**5**		Pg	09 51 19.3	-0.5
TOW	**Tower One**	**0.14**	**282**		Pg	09 51 19.2	-1.4
SRTC	**Snort**	**0.15**	**234**		Pb	09 51 21.1	+0.1
WVPM	**Volcano Peak E**	**0.24**	**314**		Pg	09 51 21.9	-0.3
MPMC	**Manual Prospec**	**0.29**	**18**		Pb	09 51 24.0	+0.4
LRMC	**Laurel Mtn Rad**	**0.31**	**192**	Pg	Pn	09 51 26.7	+0.2
LRMC				IAML		09 51 35.6	
	comp=N,866nm,0.2s						
CCCA	**Chr Cany lake**	**0.32**	**143**		Pg	09 51 23.2	-0.2
WRVM	**Rose V. Centra**	**0.33**	**314**		Pg	09 51 23.2	-0.4
MFS	**McCloud Flat S**	**0.39**	**329**		Pg	09 51 24.1	-0.7
WBSM	**Bird Springs**	**0.50**	**241**		Pg	09 51 26.0	-0.7
QSM	**Queen of Sheba**	**0.62**	**73**	Pg	Pn	09 51 33.2	+2.5
QSM				IAML		09 51 42.0	
	comp=N,818nm,0.6s						
ISA	**Isabella, Lake**	**0.72**	**261**	Pg	Pn	09 51 32.9	+0.8
ISA				IAML		09 51 42.3	
	comp=E,860nm,0.5s						
CWC	**Cottonwood Cre**	**0.76**	**330**		Pn	09 51 32.3	-0.5
CGO	**Cerro Gordo**	**0.79**	**348**		Sg	09 51 40.7	-1.8
GSC	**Goldstone, Bar**	**0.81**	**126**	Pg	Pn	09 51 33.3	0.0
GSC				IAML		09 51 40.2	
	comp=N,464nm,0.3s						
GSC				IAML		09 51 55.9	
	comp=E,489nm,0.8s						
GWY	**Greenwater Val**	**0.86**	**62**	Pg	Pn	09 51 36.5	+2.5
GWY				IAML		09 51 52.2	
	comp=N,596nm,0.7s						
HYS	**Haystack Butte**	**0.92**	**178**		Sb	09 51 44.8	-1.1
GRAC	**Grapevine Rang**	**1.23**	**9**		Pg	09 51 40.2	-0.2
GRAC				IAML		09 51 59.2	
	comp=E,432nm,0.5s						
WCT	**Wildcat Mounta**	**1.28**	**38**		Pg	09 51 42.7	+1.3
WCT				IAML		09 52 00.4	
	comp=E,223nm,0.4s						
SGV	**South Grapevin**	**1.28**	**21**		Pg	09 51 42.1	+0.7
VOG	**Valley Oaks Go**	**1.54**	**291**		Pb	09 51 44.6	-0.1
CLTC	**Calectric**	**1.70**	**172**		Sn	09 52 06.4	-0.4

RSNC ***06*** *09:56:03.3±1.0,9°N±5°×7°1W±°, h0km, M2.4, ML2.3, MLv3.1*

FUNV ***06*** *09:56:04.0,8.80N×70.68W, h2km, MW3.1*

ISC 06 09:56:02.2±0.9,**8.85N**±0.06×**70.65W**±0.03, **h9**km±6km, **n13**, σ**1**§**50**/**23**, **Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.04**	**22**	P	**Pg**	**09 56 04.4**	**+0.1**
SDV				S	**Sg**	**09 56 06.4**	**+0.6**
TEPV	**Terepaima**	**1.82**	**52**	*e*P	**Pg**	**09 56 36.4**	**-0.7**
TEPV				*e*S	**Sg**	**09 57 00.6**	**-0.2**
CAPV	**Capacho**	**1.91**	**240**	*e*P	**Pb**	**09 56 36.9**	**-0.6**
CAPV				*e*S	**Sb**	**09 57 01.1**	**-0.4**
MCQV	**Machiques**	**2.21**	**303**	*e*P	**Pb**	**09 56 40.8**	**-1.6**
MCQV				*e*S	**Sb**	**09 57 08.2**	**-1.7**
PAMC	**Pamplona, Colo**	**2.52**	**234**	P	**Pn**	**09 56 43.3**	**+0.5**
BAUV	**El Baul**	**2.58**	**88**	*e*P	**Pn**	**09 56 45.8**	**+1.7**
BAUV				*e*S	**Sb**	**09 57 18.0**	**-2.5**
OCAC	**Ocana**	**2.71**	**257**	P	**Pb**	**09 56 50.9**	**-0.1**
OCAC				S	**Sb**	**09 57 24.4**	**0.0**
CRJC	**Cerrejon, Guaj**	**3.08**	**315**	P	**Pb**	**09 56 56.3**	**-1.0**
CRJC				S	**Sn**	**09 57 27.2**	**-1.0**
BENV	**Beln**	**3.21**	**70**	*e*P	**Pn**	**09 56 55.2**	**+2.3**
BENV				*e*S	**Sn**	**09 57 33.1**	**+1.8**
TACV	**Tcata**	**3.80**	**70**	*e*P	**Pn**	**09 57 02.7**	**+1.7**
TACV				*e*S	**Sn**	**09 57 46.6**	**+0.8**
CACV	**CAICARA DEL OR**	**4.26**	**107**	*e*P	**Pb**	**09 57 15.7**	**-1.6**
ZARC	**Zaragoza, Cauc**	**4.38**	**252**	P	**Pn**	**09 57 09.3**	**+0.4**
SJCC	**San Jacinto, C**	**4.59**	**284**	P	**Pn**	**09 57 13.8**	**+1.9**
SJCC				S	**Sn**	**09 58 07.8**	**+2.4**

NEIC ***06*** *09:57:34.7±1.5,35.931N±0.009×117.70W±0.01, h3km±3km, Error ellipse: s-maj=1.5km s-min=0.8km az=139.0*

PAS 06 09:57:34.9±1.3,**35.951N**±0.008×**117.705W**±0.007, **h2**km±3km, **ML3.1**/23, **ML3.0**/32(NEIC), **Error ellipse: s-maj=1.2km s-min=0.8km az=171.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**269**		Pg	09 57 35.3	-1.4
TOW	**Tower One**	**0.15**	**199**		Pg	09 57 38.5	+0.7
CLC	**China Lake**	**0.16**	**147**		Pg	09 57 38.1	+0.1
CLC					Sg	09 57 40.9	+0.8
WRVM	**Rose V. Centra**	**0.16**	**291**		Pg	09 57 36.7	-1.3
WNMM	**Nine Mile Cany**	**0.20**	**236**		Pg	09 57 39.0	+0.4
WNMM					Sg	09 57 42.0	+0.9
MPMC	**Manual Prospec**	**0.20**	**59**		Pg	09 57 39.1	+0.3
MPMC					Sg	09 57 42.3	+0.7
MFS	**McCloud Flat S**	**0.21**	**324**		Pg	09 57 39.1	+0.3
MFS					Sg	09 57 42.4	+0.8
SRTC	**Snort**	**0.26**	**188**		Pg	09 57 40.5	+0.6
SRTC					Sg	09 57 45.1	+1.9
LRMC	**Laurel Mtn Rad**	**0.47**	**178**	Pg	Pg	09 57 43.9	0.0
LRMC					Sg	09 57 50.6	+0.6
CCCA	**Chr Cany lake**	**0.51**	**147**		Sg	09 57 52.7	+1.6
WBSM	**Bird Springs**	**0.54**	**221**		Pg	09 57 45.2	0.0
WHFM	**Hanning Flat**	**0.58**	**244**		Pg	09 57 46.0	0.0
ISA	**Isabella, Lake**	**0.69**	**246**		Pg	09 57 47.9	-0.2
ISA				IAML		09 57 57.3	
	comp=N,766nm,0.4s						
ISA				IAML		09 57 58.1	
	comp=E,801nm,0.3s						
WASM	**Alta Sierra Ca**	**0.72**	**253**		Pg	09 57 48.7	0.0
CCAC	**Calif City Air**	**0.84**	**198**		Pg	09 57 50.5	-0.4
CCAC				IAML		09 58 05.4	
	comp=N,620nm,0.4s						
CCAC				IAML		09 58 18.6	
	comp=E,361nm

h6km±3km, **Mwr3.8**/6, **ML3.7**/114(NEIC), **Error ellipse: s-maj=1.5km s-min=1.3km az=96.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**214**		Pg	09 59 29.2	+0.6
CLC	**China Lake**	**0.11**	**124**		Pg	09 59 28.7	-0.3
CLC					Sg	09 59 31.1	+0.5
WVPM	**Volcano Peak E**	**0.11**	**309**		Pg	09 59 29.2	+0.1
WNMM	**Nine Mile Cany**	**0.16**	**258**		Pg	09 59 30.0	+0.1
WNMM					Sg	09 59 32.9	+0.8
WRVM	**Rose V. Centra**	**0.20**	**312**		Pg	09 59 30.6	0.0
MPMC	**Manual Prospec**	**0.25**	**45**		Pg	09 59 31.5	-0.2
MPMC					Sg	09 59 35.2	+0.1
LRMC	**Laurel Mtn Rad**	**0.40**	**177**		Pg	09 59 34.2	-0.2
LRMC					Sg	09 59 40.0	+0.4
LRMC				IAML		09 59 40.4	
	comp=N,7μm,0.2s						
LRMC				IAML		09 59 41.1	
	comp=E,5μm,0.4s						
WORM	**Onyx Ranch**	**0.47**	**248**		Sg	09 59 41.7	-0.1
WBSM	**Bird Springs**	**0.49**	**226**		Pg	09 59 35.9	-0.2
WBSM					Sg	09 59 42.6	+0.1
DTP	**Desert Tortois**	**0.62**	**190**		Pg	09 59 38.1	-0.5
CWC	**Cottonwood Cre**	**0.64**	**332**		Pg	09 59 38.8	-0.1
CWC					Sg	09 59 47.1	-0.1
ISA	**Isabella, Lake**	**0.66**	**251**		Pg	09 59 38.8	-0.5
ISA				IAML		09 59 47.9	
	comp=N,4μm,0.5s						
ISA				IAML		09 59 49.6	
	comp=E,4μm,0.2s						
CGO	**Cerro Gordo**	**0.68**	**354**		Pg	09 59 39.0	-0.7
CGO					Sg	09 59 49.1	+0.5
QSM	**Queen of Sheba**	**0.69**	**82**		Pg	09 59 39.3	-0.6
QSM				IAML		09 59 52.0	
	comp=E,3μm,0.6s						
CCAC	**Calif City Air**	**0.77**	**199**		Pg	09 59 40.8	-0.5
CCAC				IAML		09 59 52.1	
	comp=E,5μm,0.4s						
GWY	**Greenwater Val**	**0.90**	**70**		Pg	09 59 43.5	-0.4
GWY				IAML		10 00 01.0	
	comp=N,3μm,0.5s						
GWY				IAML		10 00 02.0	
	comp=E,3μm,0.5s						
FURC	**Furnace Creek,**	**0.90**	**49**		Pg	09 59 43.9	-0.1
SPG2	**Springville 2**	**0.92**	**291**		Pg	09 59 43.2	-1.0
GSC	**Goldstone, Bar**	**0.93**	**128**		Sg	09 59 56.4	-0.2
GSC	**Goldstone, Bar**	**0.93**	**128**		Pg	09 59 44.0	-0.5
GSC				IAML		09 59 58.4	
	comp=N,4μm,0.6s						
HYS	**Haystack Butte**	**1.02**	**174**		Pg	09 59 43.9	-2.3
EDW2	**Edwards Air Fo**	**1.02**	**193**		Pg	09 59 45.1	-1.1
EDW2					Sg	09 59 58.8	-0.7
TEJ	**El Tejon**	**1.03**	**231**		Pg	09 59 45.3	-1.1
TEJ					Sg	09 59 58.5	-1.2
TPO	**Tropico Hills**	**1.08**	**203**		Pg	09 59 46.4	-1.0
TPO					Sg	10 00 01.1	-0.3
MAGC	**SCE Magundon P**	**1.11**	**243**		Pg	09 59 47.4	-0.6
VES	**Vestal, Richgr**	**1.12**	**269**		Pg	09 59 47.3	-0.8
VES					Sg	10 00 02.8	+0.2
GRAC	**Grapevine Rang**	**1.15**	**14**		Sg	10 00 03.4	-0.3
GRAC	**Grapevine Rang**	**1.15**	**14**		Pg	09 59 48.0	-0.7
RRX	**Edison Barstow**	**1.16**	**150**		Pg	09 59 48.5	-0.4
SHOC	**Shoshone, Teco**	**1.16**	**88**		Pg	09 59 48.8	-0.2
SBB	**Saddle Back Bu**	**1.19**	**185**		Pg	09 59 48.3	-1.2
TJR	**Tejon Ranch**	**1.20**	**225**		Pg	09 59 48.2	-1.4
TJR					Sg	10 00 04.0	-1.1
SGV	**South Grapevin**	**1.23**	**26**		Pg	09 59 49.3	-1.0
THC	**Tehachapi Micr**	**1.24**	**219**		Pg	09 59 49.1	-1.3
TIN	**Tinemaha, Big**	**1.25**	**340**		Pg	09 59 50.0	-0.6
WCT	**Wildcat Mounta**	**1.26**	**43**		Pg	09 59 49.7	-1.2
WCT				IAML		10 00 09.5	
	comp=E,2μm,0.5s						
WCT				IAML		10 00 09.9	
	comp=N,1μm,0.6s						
AMDNV	**Amargosa**	**1.29**	**63**		Pn	09 59 49.4	-1.8
LEOC	**Leona Valley**	**1.33**	**202**		Pn	09 59 50.6	-1.4
ADO	**Adelanto Recei**	**1.34**	**170**		Pn	09 59 51.8	-0.2
VTV	**Victorville**	**1.35**	**167**		Pn	09 59 51.6	-0.5
LCH	**Last Change Ra**	**1.35**	**2**		Pn	09 59 51.0	-1.3
LRRC	**Littlerock Res**	**1.37**	**191**		Pn	09 59 51.0	-1.3
CJV	**Casa Juvan**	**1.39**	**195**		Pn	09 59 51.3	-1.5
VOG	**Valley Oaks Go**	**1.43**	**289**		Pn	09 59 51.0	-2.1
JNH	**Juniper Hills**	**1.44**	**188**		Pn	09 59 52.1	-1.3
GMN	**Gold Mountain**	**1.47**	**14**		Pn	09 59 53.2	-0.7
GMN				IAML		10 00 16.3	
	comp=N,910nm,0.5s						
DSCC	**Desert Studies**	**1.50**	**119**		Pn	09 59 52.1	-2.0
DSP	**Deep Springs**	**1.50**	**352**		Pn	09 59 53.4	-0.8
DSP				IAML		10 00 15.9	
	comp=E,385nm,0.3s						
DSP				IAML		10 00 21.6	
	comp=N,287nm,0.7s						
OSI	**Osito Audit: C**	**1.51**	**214**		Pn	09 59 54.5	+0.2
OSI	**Osito Audit: C**	**1.51**	**214**		Pn	09 59 54.3	+0.1
OSI				IAML		10 00 17.5	
	comp=E,1μm,0.6s						
OSI				IAML		10 00 18.2	
	comp=N,992nm,0.7s						
TUQ	**Turquoise Moun**	**1.52**	**106**		Pn	09 59 52.7	-1.8
HEC	**Hector,Ludlow**	**1.53**	**133**		Pn	09 59 54.8	+0.1
BHPR	**Bishop**	**1.55**	**336**		Pn	09 59 54.3	-0.8
POCCA	**Poleta Canyon**	**1.55**	**343**		Pn	09 59 55.2	+0.1
CHFC	**Chilao Flat St**	**1.56**	**190**		Pn	09 59 53.7	-1.4
TPNV	**Topopah Spring**	**1.59**	**47**		Pn	09 59 54.6	-0.9
MTUM	**Tungsten Hills**	**1.63**	**335**		Pn	09 59 56.6	+0.5
BFSC	**Mount Baldy Ra**	**1.64**	**179**		Pn	09 59 56.3	+0.2
SSK	**Sunset Peak**	**1.66**	**180**		Pn	09 59 55.6	-0.9
MWC	**Mount Wilson**	**1.67**	**190**		Pn	09 59 55.7	-1.0
MWC				IAML		10 00 22.0	
	comp=E,885nm,0.7s						
MWC				IAML		10 00 22.1	
	comp=N,1μm,0.6s						
BCW	**Bitter Crk WRg**	**1.68**	**237**		Pn	09 59 56.0	-0.7
BCW				IAML		10 00 23.3	
	comp=N,1μm,0.6s						
SIL	**Silver Peak**	**1.69**	**154**		Pb	09 59 58.2	0.0
DECC	**Green Verdugo**	**1.70**	**198**		Pn	09 59 56.0	-0.9
BBRC	**Big Bear Solar**	**1.74**	**158**		Pb	09 59 58.5	-0.5
PASC	**Pasadena Art C**	**1.75**	**193**		Pn	09 59 56.5	-1.0
CRGC	**Crocker Grade**	**1.76**	**250**		Pn	09 59 58.6	+0.7
PSRC	**Puddingstone R**	**1.78**	**183**		Pn	09 59 57.4	-0.6
MTPC	**Mountain Pass**	**1.80**	**102**		Pn	09 59 56.6	-1.8
CARC	**Carrizo Plain**	**1.83**	**253**		Pb	09 59 59.9	-0.7
SVD	**Seven Oaks Dam**	**1.84**	**164**		Pg	10 00 01.3	-0.6
MZP	**Montezuma Peak**	**1.84**	**8**		Pn	09 59 58.2	-0.8
MZP				IAML		10 00 29.4	
	comp=E,250nm,0.8s						
MZP				IAML		10 00 32.2	
	comp=N,168nm,0.5s						
DJJ	**Donna J Jenkin**	**1.87**	**199**		Pn	09 59 58.2	-1.0
MLSC	**Mira Loma**	**1.87**	**176**		Pb	10 00 01.2	0.0
RVR	**Riverside**	**1.90**	**172**		Pb	10 00 01.8	0.0
GTM	**Goat Mountain**	**1.93**	**145**		Pb	10 00 02.2	-0.1
KCC	**Kaiser Creek**	**1.94**	**319**		Pb	10 00 01.9	-0.5
MLAC	**Mammoth, Mammo**	**1.97**	**333**		Pb	10 00 02.9	-0.2
GMRC	**Granite Mounta**	**2.00**	**122**		Pn	09 59 58.7	-2.4
BLAC	**Blackrock camp**	**2.10**	**149**		Pn	10 00 01.6	-0.9
SHPR	**Sheep Range**	**2.15**	**72**	Pn	Pn	10 00 02.3	-1.0
EW2	**E Wide Canyon**	**2.21**	**151**		Pn	10 00 02.7	-1.2
TPH	**Tonopah**	**2.23**	**10**		Pn	10 00 03.6	-0.7
TPH				IAML		10 00 44.6	
	comp=N,2μm,0.8s						
TPH				IAML		10 00 45.0	
	comp=E,1μm,0.6s						
TPC	**Twentynine Pal**	**2.23**	**142**		Pn	10 00 02.8	-1.5
ELS	**Elsinore Mount**	**2.24**	**174**		Pn	10 00 03.1	-1.2
HMTC	**Hemet**	**2.24**	**165**		Pn	10 00 03.2	-1.1
POB	**Polly Butte**	**2.28**	**163**		Pn	10 00 04.0	-0.9
DGR	**Domenigoni Val**	**2.29**	**165**		Pn	10 00 04.1	-1.0
MURC	**Murrieta**	**2.31**	**169**		Pn	10 00 04.6	-0.7
BACC	**Bachelor Mtn.**	**2.33**	**166**		Pn	10 00 04.5	-1.0
V12A	**Nelson**	**2.33**	**93**	Pn	Pn	10 00 04.0	-1.6
V12A				IAML		10 00 47.6	
	comp=N,279nm,0.8s						
V12A				IAML		10 00 49.3	
	comp=E,284nm,0.5s						
S11A	**Rachel**	**2.36**	**41**	Pn	Pn	10 00 05.3	-0.8
LHV	**Little Huntoon**	**2.45**	**345**	Pn	Pn	10 00 07.3	+0.1
LHV				IAML		10 00 57.5	
	comp=N,254nm,1.1s						
LHV				IAML		10 01 00.4	
	comp=E,233nm,0.7s						
PMD	**Palm Desert**	**2.48**	**153**		Pn	10 00 06.1	-1.5
PMD	**Palm Desert**	**2.48**	**153**	Pn	Pn	10 00 05.8	-1.8
PMD				IAML		10 00 45.7	
	comp=E,233nm,0.5s						
PMD				IAML		10 00 53.4	
	comp=N,142nm,0.8s						
PFO	**Pinyon Flats O**	**2.48**	**155**	Pn	Pn	10 00 06.3	-1.5
PFO				IAML		10 00 50.9	
	comp=N,298nm,0.9s						
PMPB	**Monarch Peak**	**2.53**	**279**	Pn	Pn	10 00 07.5	-0.8
PMPB				IAML		10 00 47.2	
	comp=E,586nm,0.9s						
NV11	**Mina Array Sit**	**2.58**	**352**		Pn	10 00 08.4	-0.6
NV11				IAML		10 00 53.6	
	comp=E,78nm,1.7s						
NV11				IAML		10 01 00.0	
	comp=N,76nm,1.5s						
NVAR	**Mina Array Bea**	**2.59**	**350**	Pn	Pn	10 00 08.8	-0.5
PRN	**Pahroc Range**	**2.63**	**54**	Pn	Pn	10 00 08.7	-1.1
PRN				IAML		10 00 55.0	
	comp=N,564nm,0.8s						
PRN				IAML		10 00 59.2	
	comp=E,500nm,0.9s						
BBGB	**Big Mountain B**	**2.78**	**286**	Pn	Pn	10 00 11.7	-0.2
RYN	**Ryan**	**2.82**	**347**	Pn	Pn	10 00 12.0	-0.4
WAKR	**Walker**	**2.96**	**333**	Pn	Pn	10 00 14.3	-0.2
WAKR				IAML		10 01 03.0	
	comp=N,144nm,0.9s						
WAKR				IAML		10 01 08.1	
	comp=E,154nm,0.5s						
Q09A	**Carvers**	**2.98**	**8**	Pn	Pn	10 00 14.5	-0.1
R11B	**Troy Canyon, C**	**2.99**	**34**		Pn	10 00 14.3	-0.6
R11B				IAML		10 01 00.8	
	comp=N,152nm,0.6s						
R11B				IAML		10 01 00.8	
	comp=E,227nm,0.8s						
SAO	**San Andreas Ge**	**3.15**	**287**		Pn	10 00 16.8	+0.1
W13A	**Hualapai Mount**	**3.21**	**103**		Pn	10 00 16.0	-1.9
W13A				IAML		10 01 12.8	
	comp=E,126nm,0.4s						
W13A				IAML		10 01 15.6	
	comp=N,120nm,0.8s						
BLYC	**Blythe**	**3.37**	**128**	Pn	Pn	10 00 17.7	-2.2
BLYC				IAML		10 01 17.7	
	comp=N,236nm,0.9s						
BLYC				IAML		10 01 20.0	
	comp=E,250nm,0.5s						
TJX	**Tijuana**	**3.40**	**171**		Pn	10 00 19.7	-0.5
TJX				IAML		10 01 52.8	
	comp=N,266nm,1.0s						
TKX	**Tecate**	**3.42**	**164**		Pn	10 00 19.2	-1.4
TKX				IAML		10 01 13.9	
	comp=E,103nm,0.4s						
TKX				IAML		10 01 57.2	
	comp=N,89nm,0.1s						
YUH	**Yuha Desert**	**3.54**	**155**	Pn	Pn	10 00 20.5	-1.8
CBX	**Cerro Bola**	**3.66**	**166**	Pn	Pn	10 00 23.4	-0.5
GLA	**Glamis**	**3.69**	**139**	Pn	Pn	10 00 21.8	-2.5
LCMT	**Little Creek M**	**3.77**	**71**		Pn	10 00 24.8	-0.7
CCUT	**Cedar City**	**3.87**	**63**		Pn	10 00 26.9	-0.1
PAHR	**Pah Rah Range**	**4.05**	**341**	Pn	Pn	10 00 28.8	-0.5
PSUT	**Pine Spring**	**4.06**	**48**	Pn	Pn	10 00 28.4	-1.2
PSUT				IAML		10 01 37.5	
	comp=N,119nm,1.1s						
PSUT				IAML		10 01 41.4	
	comp=E,174nm,0.9s						
KNB	**Kanab**	**4.10**	**72**	Pn	Pn	10 00 30.1	+0.1
KNB				IAML		10 01 38.6	
	comp=E,54nm,0.8s						
KNB				IAML		10 01 38.8	
	comp=N,52nm,1.0s						
ESJX	**Sierra Juarez**	**4.13**	**159**	Pn	Pn	10 00 29.5	-1.0
ESJX				IAML		10 02 06.5	
	comp=E,54nm,1.1s						
WUAZ	**Wupatki**	**5.17**	**92**		Pn	10 00 44.5	-0.1
WUAZ				IAML		10 02 09.7	
	comp=E,56nm,0.8s						
WUAZ				IAML		10 02 13.1	
	comp=E,72nm,1.4s						
ELK	**Elko**	**5.23**	**21**	Pn	Pn	10 00 45.6	-0.1
ELK				IAML		10 02 14.9	
	comp=E,37nm,0.5s						
X16A	**Lo Mia Camp, P**	**5.34**	**104**		Pn	10 00 46.1	-1.0
X16A				IAML		10 02 24.4	
	comp=E,26nm,1.2s						
X16A				IAML		10 02 25.6	
	comp=N,29nm,1.2s						
HMU	**Henry Mountain**	**5.95**	**68**		Pn	10 00 55.6	0.0
X18A	**Snowflake**	**6.49**	**100**		Pn	10 01 02.8	-0.2
TUC	**Tucson**	**6.76**	**120**	Pn	Pn	10 01 05.8	-0.7

*NEIC **06** 10:02:37.2±1.7, 35°.746N±0°.007×117°.60W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.7km az=266.0*

PAS 06 10:02:37.2±2.0, **35°.728N**±0°.009×**117°.60W**±0°.01, **h8**km±4km, **ML3.2**/18, **ML3.0**/30(NEIC), **Error ellipse: s-maj=1.5km s-min=1.2km az=68.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.09**	**1**		Pg	10 02 39.5	0.0
CLC					Sg	10 02 41.6	+0.5
SRTC	**Snort**	**0.13**	**254**		Pg	10 02 40.4	+0.4
SRTC					Sg	10 02 43.5	+1.5
TOW	**Tower One**	**0.16**	**301**		Pg	10 02 40.9	+0.4
LRMC	**Laurel Mtn Rad**	**0.26**	**195**		Pg	10 02 42.0	-0.4
LRMC	**Laurel Mtn Rad**	**0.26**	**195**		Sg	10 02 46.2	+0.3
WNMM	**Nine Mile Cany**	**0.27**	**295**		Pg	10 02 42.7	0.0
CCCA	**Chr Cany lake**	**0.28**	**137**		Sg	10 02 47.3	+0.8
WVPM	**Volcano Peak E**	**0.28**	**321**		Pg	10 02 42.8	-0.1
WVPM					Sg	10 02 47.0	+0.3
MPMC	**Manual Prospec**	**0.34**	**15**		Pg	10 02 43.6	-0.4
WRVM	**Rose V. Centra**	**0.37**	**320**		Pg	10 02 44.1	-0.4
WRVM					Sg	10 02 49.6	+0.3
WBSM	**Bird Springs**	**0.48**	**247**		Pg	10 02 46.2	-0.4
WHFM	**Hanning Flat**	**0.61**	**267**		Pg	10 02 48.5	-0.5
WHFM					Sg	10 02 56.7	-0.4
QSM	**Queen of Sheba**	**0.64**	**68**		Sg	10 02 57.5	-0.4
CCAC	**Calif City Air**	**0.67**	**211**	Pg	Pg	10 02 49.5	-0.6
CCAC				IAML		10 02 59.5	
	comp=E,779nm,0.4s						
ISA	**Isabella, Lake**	**0.71**	**265**		Sg	10 03 00.1	-0.3
GSC	**Goldstone, Bar**	**0.77**	**123**		Sg	10 03 01.5	-0.8
GSC	**Goldstone, Bar**	**0.77**	**123**	Pg	Pg	10 02 52.0	-0.1
GSC				IAML		10 03 01.8	
	comp=N,818nm,0.3s						
GSC				IAML		10 03 02.1	
	comp=E,910nm,0.5s						
WASM	**Alta Sierra Ca**	**0.78**	**271**		Pg	10 02 51.6	-0.6
WASM					Sg	10 03 02.5	+0.1
CWC	**Cottonwood Cre**	**0.81**	**331**		Pg	10 02 52.8	-0.1
HYS	**Haystack Butte**	**0.86**	**178**		Sg	10 03 05.0	-0.1
GWY	**Greenwater Val**	**0.88**	**59**		Pg	10 02 54.0	-0.2
GWY					Sg	10 03 05.2	-0.5
GWY				IAML		10 03 08.7	
	comp=E,634nm,0.4s						
EDW2	**Edwards Air Fo**	**0.91**	**201**		Pb	10 02 55.1	-0.2
RRX	**Edison Barstow**	**0.98**	**150**		Pg	10 02 56.0	-0.1
TEJ	**El Tejon**	**1.02**	**241**		Sg	10 03 09.7	-0.4
SPG2	**Springville 2**	**1.06**	**297**		Pg	10 02 56.7	-0.9
SPG2					Sg	10 03 10.4	-0.9
ARVC	**Arvin**	**1.17**	**240**		Pg	10 02 59.1	-0.7
VTV	**Victorville**	**1.19**	**169**		Pg	10 02 59.7	-0.3
VTV					Sb	10 03 15.6	0.0
LRRC	**Littlerock Res**	**1.25**	**196**		Pg	10 03 01.2	0.0
LRRC					Sn	10 03 18.1	0.0
CJV	**Casa Juvan**	**1.28**	**201**		Pg	10 03 01.7	0.0
CJV					Sn	10 03 18.7	-0.2
GRAC	**Grapevine Rang**	**1.28**	**8**		Pn	10 03 00.5	-1.0
GRAC				IAML		10 03 20.8	
	comp=E,255nm,0.3s						
GRAC				IAML		10 03 23.8	
	comp=N,264nm,0.5s						
AMDNV	**Amargosa**	**1.29**	**56**		Pn	10 03 01.1	-0.5
AMDNV					Sb	10 03 17.9	-0.6
JNH	**Juniper Hills**	**1.31**	**193**		Pb	10 03 02.1	-0.1
JNH					Sg	10 03 19.6	+0.2
WCT	**Wildcat Mounta**	**1.32**	**36**		Sb	10 03 18.7	-0.8
SGV	**South Grapevin**	**1.33**	**20**		Pn	10 03 00.8	-1.5
DSCC	**Desert Studies**	**1.35**	**115**		Pn	10 02 59.9	-2.5
DSCC					Sb	10 03 20.0	-0.3
HEC	**Hector,Ludlow**	**1.37**	**131**		Pn	10 03 01.9	-0.9
HEC					Sb	10 03 20.1	-0.8
CHFC	**Chilao Flat St**	**1.44**	**194**		Pb	10 03 04.1	-0.3
CHFC					Sg	10 03 23.2	-0.2
OSI	**Osito Audit: C**	**1.44**	**220**		Pn	10 03 03.8	+0.1
OSI				IAML		10 03 25.7	
	comp=N,188nm,0.8s						
OSI				IAML		10 03 27.2	
	comp=E,116nm,0.7s						
BFSC	**Mount Baldy Ra**	**1.49**	**182**		Pb	10 03 04.9	-0.3
BFSC					Sn	10 03 24.0	-0.1
SSK	**Sunset Peak**	**1.52**	**183**		Pb	10 03 05.7	-0.1
MWC	**Mount Wilson**	**1.55**	**194**		Pb	10 03 06.2	-0.1
MWC	**Mount Wilson**	**1.55**	**194**		Pn	10 03 04.9	-0.5
MWC	**Mount Wilson**	**1.55**	**194**	IAML		10 03 27.8	
	comp=E,195nm,0.2s						
MWC				IAML		10 03 30.7	
	comp=N,217nm,0.6s						
VOG	**Valley Oaks Go**	**1.56**	**293**		Pn	10 03 03.6	-1.7
BBRC	**Big Bear Solar**	**1.56**	**159**		Sg	10 03 27.5	-0.1
GMN	**Gold Mountain**	**1.59**	**10**		Pn	10 03 05.1	-0.9
PASC	**Pasadena Art C**	**1.63**	**197**		Pn	10 03 06.8	+0.5
PASC				IAML		10 03 29.8	
	comp=E,116nm,0.4s						
PASC				IAML		10 03 30.2	
	comp=N,91nm,0.5s						
TPNV	**Topopah Spring**	**1.63**	**41**		Pn	10 03 05.8	-0.7
TPNV				IAML		10 03 32.0	
	comp=N,136nm,0.7s						
TPNV				IAML		10 03 32.0	
	comp=N,164nm,0.4s						
PSRC	**Puddingstone R**	**1.64**	**186**		Pb	10 03 08.0	+0.2
CLTC	**Calectric**	**1.65**	**172**		Sn	10 03 26.4	-1.5
DSP	**Deep Springs**	**1.67**	**350**		Pn	10 03 05.9	-0.8
SVD	**Seven Oaks Dam**	**1.67**	**166**		Sg	10 03 30.4	-0.5
MTPC	**Mountain Pass**	**1.68**	**98**		Pn	10 03 05.0	-2.2
BLCC	**Black Canyon**	**1.72**	**211**		Pn	10 03 05.0	-2.7
DJJ	**Donna J Jenkin**	**1.77**	**204**		Pb	10 03 10.3	+0.4
MTUM	**Tungsten Hills**	**1.80**	**335**		Pb	10 03 10.5	-0.1
JUEM	**Julian Eagle M**	**2.77**	**162**		Sb	10 04 03.1	+1.9
W13A	**Hualapai Mount**	**3.10**	**101**	Pn	Pn	10 03 24.7	-2.0
Q09A	**Carvers**	**3.12**	**6**	Pn	Pn	10 03 26.9	-0.1
Q09A				IAML		10 04 20.6	
	comp=E,55nm,0.8s						
Q09A				IAML		10 04 26.3	
	comp=N,56nm,1.1s						

*NEIC **06** 10:03:22.2±1.5, 35°.67N±0°.01×117°.48W±0°.02, h2km, Error ellipse: s-maj=1.9km s-min=1.4km az=119.0*

PAS 06 10:03:22.4±1.5, **35°.65N**±0°.01×**117°.45W**±0°.01, **h3**km±3km, **ML3.0**/26, **ML2.8**/20(NEIC), **Error ellipse: s-maj=1.8km s-min=1.4km az=120.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.15**	**150**		Pg	10 03 25.9	+0.6
CCCA					Sg	10 03 28.5	+1.3
LRMC	**Laurel Mtn Rad**	**0.25**	**227**	Pg	Pg	10 03 27.4	+0.1
LRMC					Sg	10 03 31.2	+0.6
LRMC				IAML		10 03 33.0	
	comp=N,2μm,0.3s						
MPMC	**Manual Prospec**	**0.41**	**356**		Sg	10 03 35.9	+0.3
DTP	**Desert Tortois**	**0.50**	**220**		Pg	10 03 31.8	-0.2
WRVM	**Rose V. Centra**	**0.50**	**315**		Pg	10 03 32.1	+0.1
QSM	**Queen of Sheba**	**0.57**	**57**		Pg	10 03 33.5	+0.2
QSM					Sg	10 03 41.0	+0.3
QSM				IAML		10 03 44.8	
	comp=E,537nm,0.2s						
QSM				IAML		10 03 45.9	
	comp=N,580nm,0.2s						
WBSM	**Bird Springs**	**0.57**	**259**		Pg	10 03 33.7	+0.3
WORM	**Onyx Ranch**	**0.64**	**274**		Sg	10 03 43.2	+0.1
CCAC	**Calif City Air**	**0.68**	**223**	Pg	Pg	10 03 35.3	-0.1
WHFM	**Hanning Flat**	**0.73**	**274**		Sg	10 03 46.0	+0.2
HYS	**Haystack Butte**	**0.79**	**187**		Pg	10 03 37.3	-0.3
GWY	**Greenwater Val**	**0.83**	**50**	Pg	Pg	10 03 38.6	+0.2
ISA	**Isabella, Lake**	**0.83**	**271**	Pg	Pg	10 03 37.5	-0.8
ISA				IAML		10 03 52.3	
	comp=N,357nm,0.4s						
EDW2	**Edwards Air Fo**	**0.89**	**210**		Pb	10 03 40.2	-0.3
WASM	**Alta Sierra Ca**	**0.90**	**276**		Sg	10 03 51.6	+0.2
FURC	**Furnace Creek,**	**0.94**	**30**		Sb	10 03 53.9	-0.5
TPO	**Tropico Hills**	**1.00**	**220**		Pb	10 03 42.4	0.0
SBB	**Saddle Back Bu**	**1.01**	**198**		Pg	10 03 42.0	+0.3
VTV	**Victorville**	**1.09**	**175**		Sb	10 03 59.1	+0.4
ADO	**Adelanto Recei**	**1.10**	**179**		Pb	10 03 44.0	-0.1
DSCC	**Desert Studies**	**1.21**	**114**		Sg	10 04 01.5	+0.1
LRRC	**Littlerock Res**	**1.22**	**203**		Pg	10 03 45.5	-0.2
LEOC	**Leona Valley**	**1.23**	**215**		Pg	10 03 46.2	+0.1
ARVC	**Arvin**	**1.24**	**245**		Pg	10 03 45.5	-0.7
AMDNV	**Amargosa**	**1.24**	**50**		Pg	10 03 46.1	-0.2
CJV	**Casa Juvan**	**1.25**	**207**		Pg	10 03 46.3	-0.1
JNH	**Juniper Hills**	**1.27**	**199**		Pg	10 03 45.9	-0.8
WCT	**Wildcat Mounta**	**1.32**	**30**	Pg	Pg	10 03 47.4	-0.4
WCT					Sg	10 04 04.6	-0.3
WCT				IAML		10 04 06.6	
	comp=N,142nm,0.5s						
WCT				IAML		10 04 07.4	
	comp=E,192nm,0.4s						

GWY				IAML		10 05 51.6	
	comp=N,1µm,0.4s						
CWC	**Cottonwood Cre**	**0.88**	**331**		Pn	10 05 44.7	+5.1
CWC					Sn	10 05 52.8	-0.2
CGO	**Cerro Gordo**	**0.90**	**347**		Pb	10 05 38.2	-0.4
SBB	**Saddle Back Bu**	**1.01**	**193**		Sb	10 05 53.7	-0.3
SHOC	**Shoshone, Teco**	**1.05**	**77**		Pg	10 05 40.2	-0.3
SHOC					Sb	10 05 55.1	-0.2
SPG2	**Springville 2**	**1.12**	**298**		Pn	10 05 49.0	+6.2
SPG2					Sn	10 06 01.1	+2.3
ARVC	**Arvin**	**1.18**	**243**		Sg	10 05 54.2	-4.1
JNH	**Juniper Hills**	**1.27**	**196**		Pb	10 05 44.7	-0.1
DSCC	**Desert Studies**	**1.29**	**114**		Sg	10 06 01.0	-0.7
BAKC	**Calstate**	**1.31**	**256**		Sg	10 05 56.1	-6.4
GRAC	**Grapevine Rang**	**1.33**	**6**		Pn	10 05 44.6	-1.0
WCT	**Wildcat Mounta**	**1.34**	**33**		Pn	10 05 45.0	-0.9
WCT				IAML		10 06 14.4	
	comp=N,351nm,0.7s						
WCT				IAML		10 06 16.2	
	comp=E,376nm,0.8s						
SGV	**South Grapevin**	**1.37**	**17**		Pn	10 05 46.1	-0.2
CHFC	**Chilao Flat St**	**1.39**	**197**		Sg	10 06 02.8	-2.3
BFSC	**Mount Baldy Ra**	**1.43**	**184**		Sb	10 06 03.9	-2.4
SIL	**Silver Peak**	**1.45**	**156**		Pb	10 05 47.9	0.0
SSK	**Sunset Peak**	**1.46**	**185**		Sb	10 06 04.7	-2.5
MWC	**Mount Wilson**	**1.51**	**196**		Pn	10 05 47.7	-0.5
MWC				IAML		10 06 12.7	
	comp=E,305nm,0.6s						
MWC				IAML		10 06 28.4	
	comp=N,397nm,0.5s						
LCH	**Last Change Ra**	**1.56**	**357**		Pn	10 05 47.9	-1.0
CLTC	**Calectric**	**1.59**	**173**		Pb	10 05 49.8	-0.4
PASC	**Pasadena Art C**	**1.59**	**200**		Pn	10 05 48.0	-1.1
PASC				IAML		10 06 14.1	
	comp=E,170nm,1.0s						
PASC				IAML		10 06 16.6	
	comp=N,150nm,0.8s						
VOG	**Valley Oaks Go**	**1.63**	**294**		Pn	10 05 49.2	-0.5
GMN	**Gold Mountain**	**1.64**	**8**		Pn	10 05 49.3	-0.8
GMN				IAML		10 06 02.4	
	comp=N,262nm,0.6s						
TPNV	**Topopah Spring**	**1.65**	**39**		Pn	10 05 49.7	-0.5
TPNV				IAML		10 06 14.7	
	comp=N,355nm,0.5s						
BLCC	**Black Canyon**	**1.70**	**213**		Pb	10 05 52.4	+0.3
DSP	**Deep Springs**	**1.73**	**349**		Pn	10 05 50.4	-0.7
DSP				IAML		10 06 14.6	
	comp=E,168nm,0.8s						
GMRC	**Granite Mounta**	**1.78**	**119**		Pb	10 05 52.8	-0.7
MTUM	**Tungsten Hills**	**1.87**	**334**		Pb	10 05 55.0	-0.1
ELS	**Elsinore Mount**	**2.02**	**177**	Pn	Pn	10 05 54.7	-0.5
MZP	**Montezuma Peak**	**2.03**	**4**		Pn	10 05 55.0	-0.4
PMPB	**Monarch Peak**	**2.70**	**283**	Pn	Pn	10 06 04.1	-0.4
NV11	**Mina Array Sit**	**2.80**	**350**		Pn	10 06 05.6	-0.3
W13A	**Hualapai Mount**	**3.04**	**100**		Pn	10 06 08.0	-1.4
RYN	**Ryan**	**3.05**	**345**	Pn	Pn	10 06 07.5	-1.9
R11B	**Troy Canyon, C**	**3.10**	**30**		Pn	10 06 08.7	-1.4
Q09A	**Carvers**	**3.17**	**5**		Pn	10 06 10.5	-0.6
GLA	**Glamis**	**3.45**	**139**	Pn	Pn	10 06 14.2	-0.6
GLA				IAML		10 07 20.5	
	comp=N,54nm,0.6s						
GLA				IAML		10 07 25.5	
	comp=E,67nm,0.7s						

NEIC ***06*** *10:05:32.5±1.0,35°.90N±0°.01×117°.74W±0°.01,h7km±1km, Error ellipse: s-maj=1.9km s-min=1.6km az=148.0*

PAS 06 10:05:32±0.9,**35°.898N**±0°.009×**117°.73W**±0°.01,**h3**km±1km, **ML3.4,ML3.3**/12(NEIC),**Error ellipse: s-maj=1.5km s-min=1.2km az=102.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**306**		Pg	10 05 34.7	+0.8
TOW	**Tower One**	**0.09**	**198**		Pg	10 05 35.2	+1.3
CLC	**China Lake**	**0.14**	**127**		Pg	10 05 35.4	+0.7
SRTC	**Snort**	**0.21**	**185**		Sg	10 05 41.3	+2.6
LRMC	**Laurel Mtn Rad**	**0.42**	**175**		Pg	10 05 40.3	+0.3
LRMC				Sg	Sb	10 05 47.3	-1.7
CCCA	**Chr Cany lake**	**0.48**	**141**		Pb	10 05 42.2	-0.8
WHFM	**Hanning Flat**	**0.54**	**248**		Sg	10 05 50.3	+0.9
ISA	**Isabella, Lake**	**0.65**	**249**	Pg	Pg	10 05 44.2	-0.3
ISA				Sg	Sg	10 05 52.8	-0.1
ISA				IAML		10 05 54.3	
	comp=N,1µm,0.2s						
ISA				IAML		10 05 55.7	
	comp=E,1µm,0.2s						
CGO	**Cerro Gordo**	**0.65**	**355**		Pb	10 05 45.6	-0.7
WASM	**Alta Sierra Ca**	**0.69**	**257**		Pg	10 05 45.8	+0.5
GWY	**Greenwater Val**	**0.91**	**71**	Pg	Pg	10 05 48.8	-0.6
GWY				Sg	Sg	10 06 01.8	+0.6
GWY				IAML		10 06 05.1	
	comp=N,759nm,0.5s						
GSC	**Goldstone, Bar**	**0.96**	**128**	Pg	Pg	10 05 50.8	+0.4
GSC				IAML		10 06 04.0	
	comp=E,826nm,0.4s						
GSC				IAML		10 06 05.6	
	comp=N,858nm,0.3s						
VES	**Vestal, Richgr**	**1.10**	**267**		Pg	10 05 53.4	+0.2
GRAC	**Grapevine Rang**	**1.13**	**15**	Pg	Pg	10 05 53.3	-0.4
GRAC				IAML		10 06 07.8	
	comp=E,683nm,0.4s						
GRAC				IAML		10 06 08.9	
	comp=N,563nm,0.8s						
SGV	**South Grapevin**	**1.22**	**27**		Pb	10 05 55.8	-0.1
VOG	**Valley Oaks Go**	**1.40**	**288**		Pn	10 05 58.5	0.0
NVAR	**Mina Array Bea**	**2.57**	**350**	Pn	Pn	10 06 13.4	-1.3

NEIC ***06*** *10:08:02.1±1.7,35°.859N±0°.006×117°.68W±0°.01, h9km±7km, Error ellipse: s-maj=1.7km s-min=0.6km az=65.0*

PAS 06 10:08:02.6±1.7,**35°.854N**±0°.009×**117°.68W**±0°.02, **h9**km±6km,**ML3.2**/20,**ML3.1**/40(NEIC),**Error ellipse: s-maj=1.8km s-min=1.3km az=99.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.08**	**120**		Pg	10 08 04.9	+0.2
WVPM	**Volcano Peak E**	**0.15**	**311**		Pg	10 08 05.7	-0.2
WVPM					Sg	10 08 08.0	-0.2
SRTC	**Snort**	**0.17**	**199**		Sg	10 08 10.4	+1.7
WNMM	**Nine Mile Cany**	**0.18**	**267**		Pg	10 08 06.3	0.0
WNMM					Sg	10 08 09.2	+0.3
WRVM	**Rose V. Centra**	**0.23**	**312**		Pg	10 08 07.0	-0.3
MPMC	**Manual Prospec**	**0.26**	**37**		Sg	10 08 11.5	+0.2
MFS	**McCloud Flat S**	**0.30**	**332**		Pg	10 08 07.8	-0.8
LRMC	**Laurel Mtn Rad**	**0.37**	**180**	Pg	Pg	10 08 09.9	0.0
LRMC				Sg	Sg	10 08 15.9	+1.0
CCCA	**Chr Cany lake**	**0.42**	**142**		Pg	10 08 10.3	-0.4
WORM	**Onyx Ranch**	**0.48**	**251**		Sg	10 08 18.0	-0.3
WBSM	**Bird Springs**	**0.49**	**230**		Sg	10 08 11.9	-0.2
WBSM					Sg	10 08 18.6	0.0
WHFM	**Hanning Flat**	**0.57**	**254**		Sg	10 08 21.2	+0.2
CWC	**Cottonwood Cre**	**0.67**	**331**		Pg	10 08 15.4	-0.1
QSM	**Queen of Sheba**	**0.67**	**80**		Pg	10 08 15.4	-0.1
QSM				IAML		10 08 27.1	
	comp=N,1µm,0.4s						
QSM				IAML		10 08 30.0	
	comp=E,1µm,0.3s						
ISA	**Isabella, Lake**	**0.67**	**254**		Pg	10 08 15.0	-0.6
ISA				IAML		10 08 25.4	
	comp=E,713nm,0.2s						
CGO	**Cerro Gordo**	**0.70**	**352**		Pg	10 08 15.9	-0.3
WASM	**Alta Sierra Ca**	**0.72**	**261**		Pg	10 08 15.9	-0.6
WASM					Sg	10 08 26.0	0.0
CCAC	**Calif City Air**	**0.75**	**202**		Pg	10 08 16.6	-0.5
CCAC				IAML		10 08 34.2	
	comp=N,721nm,0.4s						
CCAC				IAML		10 08 39.2	
	comp=E,623nm,1.1s						
GSC	**Goldstone, Bar**	**0.90**	**127**		Pg	10 08 19.1	-0.8
GSC				IAML		10 08 27.7	
	comp=N,824nm,0.3s						
SPG2	**Springville 2**	**0.95**	**292**		Pg	10 08 19.6	-1.2
HYS	**Haystack Butte**	**0.99**	**175**		Pg	10 08 21.8	+0.2
HYS					Sg	10 08 32.0	-2.5
RRX	**Edison Barstow**	**1.12**	**150**		Sg	10 08 37.8	-1.0
SHOC	**Shoshone, Teco**	**1.14**	**87**		Sg	10 08 24.4	-0.1
SHOC					Sb	10 08 39.5	0.0
GRAC	**Grapevine Rang**	**1.17**	**12**	Pg	Pg	10 08 24.2	-0.8
GRAC				IAML		10 08 55.1	
	comp=E,330nm,0.5s						
GRAC				IAML		10 08 56.6	
	comp=N,358nm,0.4s						
SBB	**Saddle Back Bu**	**1.17**	**186**		Pg	10 08 24.6	-0.4
WCT	**Wildcat Mounta**	**1.27**	**42**		Pn	10 08 26.1	-0.5
WCT				IAML		10 08 52.3	
	comp=E,261nm,0.4s						
WCT				IAML		10 08 52.3	
	comp=N,338nm,0.4s						
ADO	**Adelanto Recei**	**1.32**	**171**		Sb	10 08 44.1	-0.5
VTV	**Victorville**	**1.32**	**167**		Pg	10 08 28.5	+0.5
VTV					Sb	10 08 43.1	-1.7
CJV	**Casa Juvan**	**1.37**	**196**		Pg	10 08 29.2	+0.3
VOG	**Valley Oaks Go**	**1.46**	**289**		Pn	10 08 28.3	-0.8
DSCC	**Desert Studies**	**1.47**	**118**		Sn	10 08 45.1	-3.6
GMN	**Gold Mountain**	**1.48**	**13**	Pn	Pn	10 08 27.8	-1.9
TUQ	**Turquoise Moun**	**1.49**	**106**		Pb	10 08 30.6	0.0
HEC	**Hector,Ludlow**	**1.50**	**133**		Pn	10 08 30.2	+0.4
CHFC	**Chilao Flat St**	**1.54**	**191**		Pb	10 08 31.8	+0.4
BFSC	**Mount Baldy Ra**	**1.61**	**179**		Pb	10 08 32.8	+0.2
MTUM	**Tungsten Hills**	**1.66**	**335**		Pb	10 08 33.0	-0.4
SIL	**Silver Peak**	**1.66**	**155**		Pb	10 08 33.6	+0.2
SIL					Sn	10 08 52.5	-1.1
BBRC	**Big Bear Solar**	**1.71**	**158**		Sn	10 08 53.9	-0.9
CLTC	**Calectric**	**1.78**	**170**		Sb	10 08 58.3	+0.4
SVD	**Seven Oaks Dam**	**1.81**	**165**		Sn	10 08 56.9	-0.2
GTM	**Goat Mountain**	**1.90**	**145**		Sn	10 08 58.9	-0.4
GMRC	**Granite Mounta**	**1.97**	**122**		Sn	10 09 00.9	-0.3
MCSM	**Casa Diablo Ho**	**2.05**	**332**		Pb	10 08 40.3	+0.1
SHPR	**Sheep Range**	**2.14**	**72**		Pn	10 08 38.1	-0.6
RPV	**Rancho Palos V**	**2.19**	**196**		Pb	10 08 42.2	-0.1
POB	**Polly Butte**	**2.25**	**164**		Pn	10 08 39.8	-0.4
MURC	**Murrieta**	**2.28**	**170**		Pn	10 08 42.1	+1.5
LHV	**Little Huntoon**	**2.48**	**345**		Pn	10 08 43.8	+0.5
LHV				IAML		10 10 16.0	
	comp=N,50nm,0.6s						
PMPB	**Monarch Peak**	**2.56**	**279**	Pn	Pn	10 08 43.8	-0.5
PMPB				IAML		10 09 29.1	
	comp=E,85nm,1.0s						
PMPB				IAML		10 10 21.0	
	comp=N,87nm,0.8s						
NV11	**Mina Array Sit**	**2.60**	**352**		Pn	10 08 45.3	+0.2
RAMR	**Ramage Ranch**	**2.60**	**266**		Pn	10 08 46.5	+1.6
RAMR	**Ramage Ranch**	**2.60**	**266**	IAML		10 09 50.8	
	comp=N,138nm,0.7s						
NVAR	**Mina Array Bea**	**2.62**	**349**	Pn	Pn	10 08 44.8	-0.5
RYN	**Ryan**	**2.85**	**347**		Pn	10 08 48.5	+0.1
W13A	**Hualapai Mount**	**3.19**	**103**	Pn	Pn	10 08 51.7	-1.4
W13A				IAML		10 10 17.6	
	comp=E,30nm,0.8s						
W13A				IAML		10 10 57.0	
	comp=N,39nm,0.6s						
BLYC	**Blythe**	**3.34**	**128**	Pn	Pn	10 08 53.8	-1.2
CBX	**Cerro Bola**	**3.63**	**166**		Pn	10 08 58.6	-0.6
CCUT	**Cedar City**	**3.86**	**63**	Pn	Pn	10 09 01.5	-0.9
CCUT				IAML		10 11 19.9	
	comp=N,32nm,0.6s						
CCUT				IAML		10 11 25.8	
	comp=E,24nm,0.8s						
X16A	**Lo Mia Camp, P**	**5.31**	**104**	Pn	Pn	10 09 22.2	-0.1
X16A				IAML		10 12 10.9	
	comp=N,13nm,1.2s						
X16A				IAML		10 12 12.3	
	comp=E,9.7nm,1.2s						

NEIC ***06*** *10:08:26.8±1.4,35°.778N±0°.01×117°.62W±0°.02,h10km±2km, Error ellipse: s-maj=3.2km s-min=3.0km az=48.0*

PAS 06 10:08:27.0±1.2,**35°.79N**±0°.01×**117°.62W**±0°.02,**h9**km±8km, **ML3.0**/23,**ML3.1**/6(NEIC),**Error ellipse: s-maj=2.8km s-min=1.5km az=60.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.03**	**31**		Pg	10 08 28.8	0.0
TOW	**Tower One**	**0.12**	**279**		Pg	10 08 30.2	+0.3
SRTC	**Snort**	**0.14**	**228**		Pg	10 08 30.4	+0.2
WVPM	**Volcano Peak E**	**0.23**	**315**		Pg	10 08 31.6	-0.1
WVPM					Sg	10 08 35.2	+0.4
WNMM	**Nine Mile Cany**	**0.24**	**283**		Pg	10 08 31.8	-0.1
WNMM					Sg	10 08 35.5	+0.4
WRVM	**Rose V. Centra**	**0.31**	**315**		Pg	10 08 33.0	-0.3
WRVM					Sg	10 08 37.6	+0.2
LRMC	**Laurel Mtn Rad**	**0.31**	**190**		Sg	10 08 33.0	-4.5
LRMC	**Laurel Mtn Rad**	**0.31**	**190**	Pg	Pg	10 08 32.7	-0.6
LRMC				IAML		10 08 37.7	
	comp=E,2µm,0.4s						
LRMC				IAML		10 08 38.1	
	comp=N,3µm,0.2s						
CCCA	**Chr Cany lake**	**0.34**	**142**		Pg	10 08 33.6	0.0
CCCA					Sg	10 08 39.0	+0.9
MFS	**McCloud Flat S**	**0.38**	**330**		Sg	10 08 39.9	+0.3
WBSM	**Bird Springs**	**0.49**	**239**		Pg	10 08 36.4	-0.3
WHFM	**Hanning Flat**	**0.60**	**261**		Sg	10 08 46.5	-0.1
ISA	**Isabella, Lake**	**0.71**	**260**		Sg	10 08 49.8	-0.2
GSC	**Goldstone, Bar**	**0.82**	**126**		Sg	10 08 53.3	-0.2
GSC	**Goldstone, Bar**	**0.82**	**126**	Pg	Pg	10 08 42.9	+0.1
SPG2	**Springville 2**	**1.02**	**294**		Sg	10 08 59.2	-0.7
VES	**Vestal, Richgr**	**1.19**	**273**		Sg	10 09 05.5	+0.1
VTV	**Victorville**	**1.25**	**169**		Sb	10 09 07.0	-0.1
CJV	**Casa Juvan**	**1.33**	**199**		Sb	10 09 09.4	-0.1
DSCC	**Desert Studies**	**1.39**	**117**		Sb	10 09 11.2	0.0
CHFC	**Chilao Flat St**	**1.49**	**193**		Sb	10 09 14.3	+0.2
BFSC	**Mount Baldy Ra**	**1.55**	**181**		Sb	10 09 15.7	0.0
MWC	**Mount Wilson**	**1.60**	**193**	Pn	Pn	10 08 55.7	-0.1
MWC				IAML		10 09 19.0	
	comp=N,219nm,0.5s						
MWC				IAML		10 09 19.9	
	comp=E,209nm,0.5s						
SBI	**Santa Barbara**	**2.58**	**207**		Pn	10 09 08.9	-0.1

NEIC ***06*** *10:09:18.0±1.7,35°.575N±0°.008×117°.52W±0°.01, h10km±2km, Error ellipse: s-maj=3.0km s-min=1.9km az=357.0*

PAS 06 10:09:18.2±1.7,**35°.571N**±0°.008×**117°.52W**±0°.01, **h9**km±7km,**ML3.5**/19,**ML3.2**/46(NEIC),**Error ellipse: s-maj=1.6km s-min=1.1km az=82.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.14**	**110**		Pg	10 09 21.6	+0.4
LRMC	**Laurel Mtn Rad**	**0.16**	**236**		Pg	10 09 21.6	-0.1
LRMC					Sg	10 09 24.4	+0.3
SRTC	**Snort**	**0.22**	**303**		Pg	10 09 23.0	+0.3
SRTC					Sg	10 09 26.3	+0.5
CLC	**China Lake**	**0.25**	**346**		Pg	10 09 23.0	-0.3
CLC					Sg	10 09 27.0	+0.2
TOW	**Tower One**	**0.31**	**320**		Pg	10 09 24.7	+0.3
TOW					Sg	10 09 29.7	+1.1
DTP	**Desert Tortois**	**0.40**	**221**		Sg	10 09 31.3	-0.1
WNMM	**Nine Mile Cany**	**0.41**	**311**		Pg	10 09 26.3	0.0
WNMM					Sg	10 09 32.5	+0.7
WVPM	**Volcano Peak E**	**0.45**	**328**		Pg	10 09 26.1	-0.3
MPMC	**Manual Prospec**	**0.49**	**3**		Sg	10 09 34.1	-0.1
WBSM	**Bird Springs**	**0.51**	**266**		Pg	10 09 27.6	-0.4
CCAC	**Calif City Air**	**0.58**	**224**		Pg	10 09 29.2	-0.2
CCAC				IAML		10 09 43.3	
	comp=E,1µm,0.5s						
CCAC				IAML		10 09 43.9	
	comp=N,1µm,0.6s						
CCAC	**Calif City Air**	**0.58**	**224**		Sg	10 09 37.1	0.0
WORM	**Onyx Ranch**	**0.60**	**282**		Sg	10 09 37.2	-0.5
GSC	**Goldstone, Bar**	**0.64**	**114**		Pg	10 09 30.1	-0.5
GSC				IAML		10 09 43.8	
	comp=E,2µm,0.4s						
QSM	**Queen of Sheba**	**0.66**	**53**		Pg	10 09 30.6	-0.3
QSM					Sg	10 09 39.2	-0.4
WHFM	**Hanning Flat**	**0.69**	**281**		Pg	10 09 30.8	-0.7
WHFM					Sg	10 09 40.2	-0.3
HYS	**Haystack Butte**	**0.71**	**183**		Pg	10 09 31.1	-0.7
ISA	**Isabella, Lake**	**0.78**	**277**		Pg	10 09 32.4	-0.9
ISA				IAML		10 09 46.3	
	comp=E,584nm,0.5s						
EDW2	**Edwards Air Fo**	**0.79**	**210**		Pg	10 09 32.6	-0.8
RRX	**Edison Barstow**	**0.81**	**148**		Sg	10 09 44.6	+0.1
WASM	**Alta Sierra Ca**	**0.86**	**282**		Pg	10 09 34.0	-0.8
WASM					Sg	10 09 46.0	0.0
TPO	**Tropico Hills**	**0.90**	**220**		Pg	10 09 35.0	-0.5
SBB	**Saddle Back Bu**	**0.92**	**196**		Pg	10 09 34.9	-0.8
GWY	**Greenwater Val**	**0.93**	**48**		Pg	10 09 35.6	-0.4
CGO	**Cerro Gordo**	**1.00**	**347**		Pg	10 09 36.8	-0.8
ADO	**Adelanto Recei**	**1.02**	**176**		Pb	10 09 38.0	-0.1
VTV	**Victorville**	**1.02**	**171**		Pg	10 09 37.6	-0.1
VTV					Sb	10 09 51.8	+0.2
FURC	**Furnace Creek,**	**1.04**	**31**		Sg	10 09 51.7	0.0
SHOC	**Shoshone, Teco**	**1.06**	**72**		Pg	10 09 37.6	-1.0
SHOC					Sg	10 09 52.2	-0.2
ALPC	**Antelope**	**1.09**	**216**		Sb	10 09 53.7	+0.1
LRRC	**Littlerock Res**	**1.12**	**202**		Pg	10 09 38.6	-1.1
LEOC	**Leona Valley**	**1.14**	**215**		Pg	10 09 39.9	-0.1
CJV	**Casa Juvan**	**1.16**	**206**		Pg	10 09 39.8	-0.6
JNH	**Juniper Hills**	**1.18**	**198**		Pb	10 09 39.6	-1.1
JNH					Sb	10 09 56.2	0.0
SPG2	**Springville 2**	**1.19**	**302**		Pb	10 09 39.8	-1.2
SPG2					Sb	10 09 55.2	-1.3
HEC	**Hector,Ludlow**	**1.22**	**127**		Pb	10 09 39.8	-1.7
HEC					Sb	10 09 56.6	-0.8
DSCC	**Desert Studies**	**1.23**	**110**		Pn	10 09 39.5	-2.2
DSCC					Sb	10 09 57.4	-0.3
CHFC	**Chilao Flat St**	**1.30**	**199**		Pn	10 09 41.4	-1.3
CHFC					Sb	10 09 59.4	-0.5
TUQ	**Turquoise Moun**	**1.31**	**95**		Pn	10 09 41.3	-1.4
BFSC	**Mount Baldy Ra**	**1.33**	**185**		Pn	10 09 42.2	-0.9
AMDNV	**Amargosa**	**1.34**	**48**		Pn	10 09 42.7	-0.3
AMDNV					Sb	10 10 00.7	+0.1
SIL	**Silver Peak**	**1.35**	**155**		Pn	10 09 43.2	-0.2
SSK	**Sunset Peak**	**1.36**	**186**		Pn	10 09 43.4	-0.2
OSI	**Osito Audit: C**	**1.37**	**226**		Sb	10 10 01.4	-0.4
BBRC	**Big Bear Solar**	**1.40**	**159**		Pn	10 09 44.0	-0.1
MWC	**Mount Wilson**	**1.42**	**198**	Pn	Pn	10 09 44.0	-0.3
MWC				IAML		10 10 04.7	
	comp=E,465nm,0.6s						
MWC				IAML		10 10 06.0	
	comp=N,474nm,0.6s						
WCT	**Wildcat Mounta**	**1.42**	**30**	Pn	Pn	10 09 43.2	-1.1
WCT				IAML		10 10 04.0	
	comp=E,348nm,0.7s						
WCT				IAML		10 10 08.9	
	comp=N,311nm,0.5s						
GRAC	**Grapevine Rang**	**1.43**	**5**		Pn	10 09 43.6	-0.7
GRAC				IAML		10 10 08.6	
	comp=E,457nm,0.4s						
GRAC				IAML		10 10 09.9	
	comp=N,496nm,1.1s						
DECC	**Green Verdugo**	**1.47**	**207**		Pb	10 09 45.9	+0.1
PSRC	**Puddingstone R**	**1.49**	**189**		Pb	10 09 46.0	-0.1
PASC	**Pasadena Art C**	**1.50**	**202**		Pn	10 09 44.8	-0.4
PASC				IAML		10 10 09.0	
	comp=E,271nm,0.4s						
PASC				IAML		10 10 09.3	
	comp=N,238nm,0.7s						
SVD	**Seven Oaks Dam**	**1.50**	**167**		Pb	10 09 45.9	-0.3
GTM	**Goat Mountain**	**1.59**	**143**		Pb	10 09 47.7	-0.1
GVRC	**Garvey Reservo**	**1.60**	**198**		Pg	10 09 48.4	-0.4
MTPC	**Mountain Pass**	**1.61**	**92**		Pn	10 09 45.2	-1.6
BLCC	**Black Canyon**	**1.63**	**216**		Pn	10 09 45.5	-1.6
BCW	**Bitter Crk WRg**	**1.67**	**248**	Pn	Pn	10 09 46.8	-0.9
BCW				IAML		10 10 16.3	
	comp=E,355nm,0.7s						
BCW				IAML		10 10 26.6	
	comp=N,362nm,0.5s						
VOG	**Valley Oaks Go**	**1.69**	**297**		Pn	10 09 47.9	+0.1
GMRC	**Granite Mounta**	**1.71**	**117**		Sb	10 10 11.8	+0.1
TPNV	**Topopah Spring**	**1.72**	**36**		Pn	10 09 47.3	-1.1
TPNV				IAML		10 10 15.0	
	comp=N,514nm,0.6s						
TPNV				IAML		10 10 17.8	
	comp=N,436nm,0.7s						
GMN	**Gold Mountain**	**1.74**	**7**		Pn	10 09 48.0	-0.8
CRGC	**Crocker Grade**	**1.83**	**260**		Pb	10 09 51.8	-0.2
DSP	**Deep Springs**	**1.83**	**349**	Pn	Pn	10 09 49.3	-0.6
EW2	**E Wide Canyon**	**1.87**	**150**		Pb	10 09 53.2	+0.7
TPC	**Twentynine Pal**	**1.90**	**140**		Pb	10 09 53.2	+0.2
ELS	**Elsinore Mount**	**1.92**	**178**	Pn	Pn	10 09 50.5	-0.7
ELS				IAML		10 10 26.7	
	comp=N,134nm,0.6s						
CRY	**Cary Ranch**	**2.10**	**162**		Pb	10 09 57.0	+0.4
MZP	**Montezuma Peak**	**2.13**	**3**		Pn	10 09 53.5	-0.7
FRD	**Ford Ranch, An**	**2.21**	**160**		Pb	10 09 58.8	+0.5
FRD	**Ford Ranch, An**	**2.21**	**160**		Pb	10 09 58.7	+0.5
TRAM	**Private Proper**	**2.24**	**274**		Pn	10 09 57.1	+1.5
TRAM	**Private Proper**	**2.24**	**274**	IAML		10 10 47.4	
	comp=N,314nm,0.9s						
PLM	**Palomar**	**2.28**	**166**		Pb	10 09 59.9	+0.3
CTCC	**Cactus City**	**2.29**	**146**		Pb	10 10 00.1	+0.4
BENR	**Benton**	**2.30**	**339**		Pb	10 10 00.4	+0.3
TPH	**Tonopah**	**2.51**	**5**	Pn	Pn	10 09 58.8	-0.6
NV11	**Mina Array Sit**	**2.90**	**350**	Pn	Pn	10 10 04.4	-0.3
W13A	**Hualapai Mount**	**3.01**	**98**	Pn	Pn	10 10 04.8	-1.4
W13A				IAML		10 11 02.4	
	comp=E,47nm,0.8s						
W13A				IAML		10 11 03.0	
	comp=N,42nm,0.6s						
VTX	**Valle De La Tr**	**4.41**	**160**	Pn	Pn	10

*NEIC **06** 10:25:06.4±2.2,35°.846N±0°.008×117°.64W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.6km az=50.0*

PAS 06 10:25:07.0±2.2, 35°.888N±0°.008×117°.69W±0°.01, h3km±3km, ML3.2/19, ML3.0/70(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=110.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.10**	**216**		Pg	10 25 09.6	+0.6
CLC	**China Lake**	**0.11**	**132**		Pg	10 25 07.6	-1.6
CLC					Sg	10 25 10.8	+0.2
WVPM	**Volcano Peak E**	**0.12**	**302**		Pg	10 25 09.6	+0.2
WNMM	**Nine Mile Cany**	**0.18**	**255**		Pg	10 25 10.8	+0.3
WRVM	**Rose V. Centra**	**0.20**	**307**		Pg	10 25 11.1	+0.1
SRTC	**Snort**	**0.20**	**193**		Pg	10 25 11.6	+0.6
MPMC	**Manual Prospec**	**0.24**	**44**		Pg	10 25 11.8	+0.1
MPMC					Sg	10 25 15.0	+0.2
MFS	**McCloud Flat S**	**0.26**	**330**		Pg	10 25 12.2	+0.1
MFS					Sg	10 25 16.2	+0.6
LRMC	**Laurel Mtn Rad**	**0.41**	**179**		Pg	10 25 14.2	-0.7
LRMC				Sg	Sg	10 25 18.2	-2.0
WORM	**Onyx Ranch**	**0.48**	**247**		Pg	10 25 16.2	-0.1
WBSM	**Bird Springs**	**0.50**	**226**		Pg	10 25 16.7	0.0
WHFM	**Hanning Flat**	**0.57**	**250**		Pg	10 25 17.8	-0.1
DTP	**Desert Tortois**	**0.63**	**191**		Pg	10 25 18.5	-0.6
DTP					Sg	10 25 25.8	-1.5
CGO	**Cerro Gordo**	**0.67**	**352**		Pg	10 25 20.4	+0.6
ISA	**Isabella, Lake**	**0.67**	**251**		Pg	10 25 19.8	-0.2
ISA				IAML		10 25 33.1	
	comp=N,575nm,0.3s						
ISA				IAML		10 25 33.2	
	comp=E,563nm,0.5s						
QSM	**Queen of Sheba**	**0.68**	**83**		Pg	10 25 19.8	-0.2
QSM					Sg	10 25 28.2	-0.5
WASM	**Alta Sierra Ca**	**0.72**	**258**		Pg	10 25 20.7	-0.1
WASM					Sg	10 25 30.6	+0.5
CCAC	**Calif City Air**	**0.78**	**200**		Pg	10 25 21.8	-0.2
CCAC				Sg	Sg	10 25 31.3	-0.7
CCAC				IAML		10 25 31.9	
	comp=N,680nm,0.4s						
CCAC				IAML		10 25 32.0	
	comp=E,986nm,0.3s						
GWY	**Greenwater Val**	**0.88**	**70**		Pg	10 25 23.9	-0.1
GWY					Sg	10 25 35.7	+0.3
GWY				IAML		10 25 36.5	
	comp=N,858nm,0.4s						
FURC	**Furnace Creek,**	**0.89**	**49**		Sg	10 25 36.2	+0.7
SPG2	**Springville 2**	**0.92**	**290**		Pg	10 25 24.0	-0.7
GSC	**Goldstone, Bar**	**0.93**	**129**		Pg	10 25 20.8	-4.0
GSC				IAML		10 25 41.5	
	comp=E,795nm,0.5s						
HYS	**Haystack Butte**	**1.03**	**174**		Pg	10 25 24.0	-2.7
EDW2	**Edwards Air Fo**	**1.03**	**194**		Pg	10 25 25.8	-1.0
EDW2					Sg	10 25 38.5	-1.8
TEJ	**El Tejon**	**1.04**	**231**		Pg	10 25 26.2	-0.8
TPO	**Tropico Hills**	**1.10**	**204**		Pg	10 25 27.4	-0.7
VES	**Vestal, Richgr**	**1.13**	**268**		Pg	10 25 28.4	-0.3
VES					Sg	10 25 43.8	+0.4
GRAC	**Grapevine Rang**	**1.14**	**13**		Pg	10 25 28.6	-0.2
GRAC				IAML		10 25 50.6	
	comp=N,475nm,0.7s						
GRAC				IAML		10 25 55.3	
	comp=E,413nm,0.6s						
SHOC	**Shoshone, Teco**	**1.15**	**89**		Pg	10 25 28.6	-0.5
SHOC					Sg	10 25 44.2	+0.2
RRX	**Edison Barstow**	**1.16**	**150**		Pg	10 25 27.1	-2.2
ARVC	**Arvin**	**1.20**	**231**		Sg	10 25 45.6	+0.1
SBB	**Saddle Back Bu**	**1.20**	**185**		Pg	10 25 28.0	-2.1
TJR	**Tejon Ranch**	**1.21**	**225**		Pn	10 25 31.4	+0.4
SGV	**South Grapevin**	**1.21**	**26**		Pg	10 25 30.0	-0.3
WCT	**Wildcat Mounta**	**1.25**	**43**		Pg	10 25 30.6	-0.4
WCT				IAML		10 25 51.3	
	comp=N,224nm,0.5s						
WCT				IAML		10 25 53.3	
	comp=E,282nm,0.6s						
THC	**Tehachapi Micr**	**1.26**	**219**		Pg	10 25 31.1	-0.1
THC					Sg	10 25 46.6	-0.8
BAKC	**Calstate**	**1.27**	**245**		Pg	10 25 31.0	-0.4
AMDNV	**Amargosa**	**1.27**	**63**		Pg	10 25 30.5	-1.0
ALPC	**Antelope**	**1.30**	**203**		Sg	10 25 48.1	-0.6
LCH	**Last Change Ra**	**1.34**	**2**		Pg	10 25 32.2	-0.5
LEOC	**Leona Valley**	**1.35**	**202**		Pg	10 25 31.4	-1.5
VTV	**Victorville**	**1.36**	**167**		Sg	10 25 47.7	-2.9
LRRC	**Littlerock Res**	**1.39**	**191**		Pn	10 25 31.5	-1.8
CJV	**Casa Juvan**	**1.40**	**195**		Pn	10 25 33.3	-0.4
VOG	**Valley Oaks Go**	**1.43**	**288**		Pn	10 25 32.8	-1.2
JNH	**Juniper Hills**	**1.45**	**189**		Pn	10 25 32.4	-1.9
DSP	**Deep Springs**	**1.50**	**352**		Pn	10 25 34.4	-0.4
DSP				IAML		10 26 02.2	
	comp=E,118nm,1.0s						
TUQ	**Turquoise Moun**	**1.51**	**107**		Pn	10 25 32.5	-2.7
BHPR	**Bishop**	**1.55**	**336**		Pb	10 25 36.3	-0.2
CHFC	**Chilao Flat St**	**1.57**	**190**		Pn	10 25 35.3	-0.8
CHFC					Sn	10 25 55.7	-1.4
TPNV	**Topopah Spring**	**1.57**	**47**		Pn	10 25 35.4	-0.7
TPNV				IAML		10 26 01.4	
	comp=E,332nm,0.4s						
TPNV				IAML		10 26 01.5	
	comp=E,255nm,0.4s						
MTUM	**Tungsten Hills**	**1.62**	**335**		Pb	10 25 37.5	-0.3
BFSC	**Mount Baldy Ra**	**1.65**	**179**		Pn	10 25 37.0	0.0
BFSC					Sn	10 25 56.6	-2.2
MWC	**Mount Wilson**	**1.69**	**190**		Pn	10 25 36.2	-1.4
MWC				IAML		10 26 00.3	
	comp=N,298nm,0.6s						
BCW	**Bitter Crk WRg**	**1.69**	**237**		Pn	10 25 37.2	-0.4
BCW				IAML		10 26 08.2	
	comp=E,255nm,0.5s						
BCW				IAML		10 26 17.4	
	comp=N,254nm,0.5s						
DECC	**Green Verdugo**	**1.71**	**198**		Pb	10 25 39.0	-0.1
BBRC	**Big Bear Solar**	**1.74**	**158**		Pn	10 25 36.3	-2.1
PASC	**Pasadena Art C**	**1.76**	**193**		Pn	10 25 37.4	-1.1
PASC				IAML		10 26 04.7	
	comp=E,212nm,0.5s						
PASC				IAML		10 26 05.8	
	comp=N,136nm,0.8s						
MTPC	**Mountain Pass**	**1.79**	**102**		Pn	10 25 36.8	-2.3
PSRC	**Puddingstone R**	**1.79**	**183**		Pn	10 25 37.8	-1.2
MZP	**Montezuma Peak**	**1.83**	**8**		Pn	10 25 39.5	-0.2
SVD	**Seven Oaks Dam**	**1.84**	**164**		Sn	10 26 02.2	-1.3
BENR	**Benton**	**1.96**	**339**		Pb	10 25 43.7	+0.2
TRAM	**Private Proper**	**2.11**	**265**		Pn	10 25 42.3	-1.0
ELS	**Elsinore Mount**	**2.25**	**174**		Pn	10 25 43.5	-1.7
ELS				IAML		10 26 16.4	
	comp=E,67nm,0.3s						
ELS				IAML		10 26 18.5	
	comp=N,65nm,0.6s						
HMTC	**Hemet**	**2.25**	**165**		Pn	10 25 42.9	-2.3
POB	**Polly Butte**	**2.29**	**164**		Pn	10 25 43.7	-2.1
DGR	**Domenigoni Val**	**2.30**	**166**		Pn	10 25 43.9	-2.0
PKD	**Bear Valley Ra**	**2.31**	**272**		Pn	10 25 47.3	+1.2
V12A	**Nelson**	**2.32**	**93**		Pn	10 25 43.8	-2.4
V12A				IAML		10 26 22.9	
	comp=N,86nm,0.5s						
V12A				IAML		10 26 23.4	
	comp=E,74nm,0.4s						
MURC	**Murrieta**	**2.32**	**170**		Pn	10 25 44.4	-1.8
S11A	**Rachel**	**2.35**	**41**		Pn	10 25 46.5	-0.2
PSMM	**Smith Mountain**	**2.36**	**275**		Pb	10 25 49.1	-1.2
LHV	**Little Huntoon**	**2.45**	**345**		Pn	10 25 49.0	+1.1
LHV				IAML		10 26 47.9	
	comp=E,56nm,1.1s						
FRD	**Ford Ranch, An**	**2.55**	**159**		Pb	10 25 53.0	-0.5
NV11	**Mina Array Sit**	**2.57**	**352**		Pn	10 25 49.9	+0.2
NVAR	**Mina Array Bea**	**2.58**	**349**		Pn	10 25 50.0	0.0
PRN	**Pahroc Range**	**2.61**	**54**	Pn	Pn	10 25 49.9	-0.4
PRN				IAML		10 26 37.7	
	comp=E,112nm,1.0s						
PLM	**Palomar**	**2.62**	**165**		Pn	10 25 47.6	-2.8
RYN	**Ryan**	**2.81**	**347**		Pn	10 25 53.6	+0.5
R11B	**Troy Canyon, C**	**2.98**	**34**		Pn	10 25 55.9	+0.5
R11B				IAML		10 26 46.3	
	comp=E,27nm,0.6s						
W13A	**Hualapai Mount**	**3.21**	**103**		Pn	10 25 56.2	-2.4
W13A				IAML		10 26 55.4	
	comp=N,28nm,0.9s						
YUH	**Yuha Desert**	**3.55**	**155**		Pn	10 26 00.1	-3.0
CBX	**Cerro Bola**	**3.67**	**166**	Pn	Pn	10 26 03.3	-1.5
GLA	**Glamis**	**3.69**	**139**	Pn	Pn	10 26 04.2	-0.9
LCMT	**Little Creek M**	**3.76**	**71**		Pn	10 26 06.2	+0.1
CCUT	**Cedar City**	**3.85**	**63**	Pn	Pn	10 26 07.1	-0.4
CCUT				IAML		10 27 15.1	
	comp=N,15nm,1.2s						
KNB	**Kanab**	**4.09**	**73**	Pn	Pn	10 26 10.6	-0.1
KNB				IAML		10 27 25.3	
	comp=E,12nm,1.1s						
ESJX	**Sierra Juarez**	**4.14**	**159**	Pn	Pn	10 26 09.5	-1.8
ESJX				IAML		10 27 23.2	
	comp=E,18nm,0.8s						
ESJX				IAML		10 27 34.1	
	comp=N,12nm,1.0s						

*NEIC **06** 10:27:59.2±1.2,35°.685N±0°.010×117°.55W±0°.01, h10km±2km, Error ellipse: s-maj=3.0km s-min=1.8km az=124.0*

PAS 06 10:27:59.5±1.2, 35°.686N±0°.009×117°.55W±0°.01, h9km±7km, ML3.2/18, ML2.8/80(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=78.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.13**	**344**		Pg	10 28 02.6	0.0
SRTC	**Snort**	**0.16**	**272**		Pg	10 28 03.4	+0.4
SRTC					Sg	10 28 06.8	+1.5
TOW	**Tower One**	**0.21**	**306**		Pg	10 28 04.2	+0.3
CCCA	**Chr Cany lake**	**0.22**	**136**		Pg	10 28 04.2	+0.2
CCCA					Sg	10 28 08.3	+1.2
LRMC	**Laurel Mtn Rad**	**0.23**	**207**		Pg	10 28 04.2	-0.1
LRMC					Sg	10 28 07.7	+0.2
WVPM	**Volcano Peak E**	**0.34**	**321**		Pg	10 28 06.1	-0.3
WVPM					Sg	10 28 11.2	+0.3
MPMC	**Manual Prospec**	**0.38**	**8**		Pg	10 28 06.6	-0.4
MPMC					Sg	10 28 12.1	+0.1
WRVM	**Rose V. Centra**	**0.42**	**320**		Pg	10 28 07.4	-0.4
DTP	**Desert Tortois**	**0.48**	**210**		Pg	10 28 08.4	-0.5
DTP					Sg	10 28 15.4	+0.1
MFS	**McCloud Flat S**	**0.49**	**330**		Pg	10 28 08.9	-0.3
MFS					Sg	10 28 16.1	+0.4
WBSM	**Bird Springs**	**0.50**	**253**		Sg	10 28 15.8	-0.1
WORM	**Onyx Ranch**	**0.56**	**271**		Pg	10 28 09.9	-0.5
QSM	**Queen of Sheba**	**0.62**	**63**		Pg	10 28 10.9	-0.7
WHFM	**Hanning Flat**	**0.65**	**271**		Pg	10 28 11.5	-0.6
WHFM					Sg	10 28 20.1	-0.5
CCAC	**Calif City Air**	**0.65**	**216**		Pg	10 28 11.7	-0.5
CCAC				IAML		10 28 21.2	
	comp=E,565nm,0.3s						
CCAC				IAML		10 28 21.3	
	comp=N,549nm,0.3s						
GSC	**Goldstone, Bar**	**0.72**	**122**		Sg	10 28 22.6	-0.3
GSC	**Goldstone, Bar**	**0.72**	**122**	Pg	Pg	10 28 12.7	-0.7
ISA	**Isabella, Lake**	**0.75**	**268**		Pg	10 28 13.2	-0.8
ISA				IAML		10 28 23.4	
	comp=N,596nm,0.4s						
ISA	**Isabella, Lake**	**0.75**	**268**		Sg	10 28 23.2	-0.6
WASM	**Alta Sierra Ca**	**0.82**	**274**		Pg	10 28 14.6	-0.7
WASM					Sg	10 28 25.6	-0.4
HYS	**Haystack Butte**	**0.82**	**181**		Pg	10 28 14.7	-0.7
HYS					Sg	10 28 25.5	-0.5
CWC	**Cottonwood Cre**	**0.86**	**331**		Pg	10 28 16.2	0.0
GWY	**Greenwater Val**	**0.87**	**55**		Pg	10 28 16.1	-0.3
EDW2	**Edwards Air Fo**	**0.88**	**204**		Pg	10 28 15.7	-0.8
CGO	**Cerro Gordo**	**0.89**	**347**		Pg	10 28 16.9	+0.2
CGO					Sg	10 28 28.1	-0.1
RRX	**Edison Barstow**	**0.93**	**150**		Pg	10 28 17.4	+0.1
TPO	**Tropico Hills**	**0.98**	**215**		Pg	10 28 17.6	-0.7
SBB	**Saddle Back Bu**	**1.02**	**193**		Pg	10 28 18.4	-0.7
SBB					Sg	10 28 32.5	+0.1
TEJ	**El Tejon**	**1.03**	**244**		Pg	10 28 18.1	-1.3
SHOC	**Shoshone, Teco**	**1.06**	**78**		Sb	10 28 34.3	+0.1
VTV	**Victorville**	**1.14**	**171**		Sb	10 28 36.4	0.0
LEOC	**Leona Valley**	**1.22**	**211**		Pg	10 28 23.1	+0.2
LRRC	**Littlerock Res**	**1.22**	**199**		Pb	10 28 22.1	-0.7
LRRC					Sn	10 28 39.5	0.0
CJV	**Casa Juvan**	**1.25**	**203**		Pn	10 28 23.3	-0.1
CJV					Sg	10 28 39.9	+0.1
JNH	**Juniper Hills**	**1.28**	**195**		Pn	10 28 23.2	-0.5
JNH					Sn	10 28 41.2	+0.1
AMDNV	**Amargosa**	**1.28**	**53**		Pn	10 28 23.2	-0.4
DSCC	**Desert Studies**	**1.30**	**114**		Pn	10 28 21.7	-2.3
DSCC					Sb	10 28 40.7	-0.4
BAKC	**Calstate**	**1.31**	**255**		Pn	10 28 23.6	-0.4
HEC	**Hector,Ludlow**	**1.31**	**130**		Pn	10 28 22.3	-1.9
HEC					Sb	10 28 41.4	-0.1
GRAC	**Grapevine Rang**	**1.32**	**7**		Pn	10 28 23.4	-0.8
GRAC				IAML		10 28 47.5	
	comp=N,200nm,0.5s						
GRAC				IAML		10 28 48.4	
	comp=E,251nm,0.5s						
WCT	**Wildcat Mounta**	**1.33**	**34**		Pn	10 28 23.0	-1.5
WCT				IAML		10 28 42.6	
	comp=E,128nm,0.5s						
WCT				IAML		10 28 43.6	
	comp=N,115nm,0.7s						
TUQ	**Turquoise Moun**	**1.35**	**100**		Pn	10 28 23.1	-1.7
SGV	**South Grapevin**	**1.36**	**18**		Pn	10 28 23.6	-1.3
SGV					Sb	10 28 42.9	0.0
CHFC	**Chilao Flat St**	**1.40**	**196**		Pn	10 28 26.0	0.0
BFSC	**Mount Baldy Ra**	**1.45**	**183**		Pn	10 28 25.9	-0.2
BFSC					Sn	10 28 45.0	-0.3
SIL	**Silver Peak**	**1.46**	**156**		Pn	10 28 26.3	0.0
SSK	**Sunset Peak**	**1.48**	**185**		Pb	10 28 27.3	0.0
BBRC	**Big Bear Solar**	**1.51**	**160**		Pn	10 28 27.1	+0.1
BBRC					Sg	10 28 47.9	-0.3
MWC	**Mount Wilson**	**1.52**	**196**	Pn	Pb	10 28 28.1	+0.1
MWC				IAML		10 28 48.3	
	comp=E,147nm,0.5s						
LCH	**Last Change Ra**	**1.55**	**357**		Pn	10 28 26.4	-1.1
DECC	**Green Verdugo**	**1.57**	**204**		Pg	10 28 29.3	-0.2
PASC	**Pasadena Art C**	**1.60**	**199**		Pb	10 28 29.6	+0.4
PASC				IAML		10 28 54.3	
	comp=N,102nm,0.4s						
PASC				IAML		10 28 57.9	
	comp=E,98nm,0.6s						
PSRC	**Puddingstone R**	**1.60**	**188**		Pb	10 28 29.5	+0.1
PSRC					Sg	10 28 50.7	-0.4
GMN	**Gold Mountain**	**1.63**	**8**		Pn	10 28 27.9	-0.8
GMN				IAML		10 29 12.2	
	comp=N,126nm,0.4s						
MTPC	**Mountain Pass**	**1.64**	**96**		Pn	10 28 26.9	-1.9
MTPC					Sn	10 28 47.5	-2.6
TPNV	**Topopah Spring**	**1.64**	**39**		Pn	10 28 27.8	-1.0
TPNV				IAML		10 28 55.9	
	comp=N,143nm,0.7s						
TPNV				IAML		10 28 56.4	
	comp=N,165nm,0.6s						
BCW	**Bitter Crk WRg**	**1.69**	**244**		Pn	10 28 28.8	-0.7
BCW				IAML		10 28 58.4	
	comp=N,107nm,0.6s						
BCW				IAML		10 29 12.7	
	comp=E,108nm,0.9s						
GTM	**Goat Mountain**	**1.70**	**144**		Pb	10 28 30.7	-0.3
BLCC	**Black Canyon**	**1.71**	**213**		Pg	10 28 32.0	-0.3
DSP	**Deep Springs**	**1.71**	**349**		Pn	10 28 29.2	-0.4
BHPR	**Bishop**	**1.78**	**335**		Pb	10 28 32.5	0.0
GMRC	**Granite Mounta**	**1.79**	**120**		Pn	10 28 28.2	-2.6
MTUM	**Tungsten Hills**	**1.85**	**334**		Pb	10 28 33.7	-0.1
BLAC	**Blackrock camp**	**1.88**	**149**		Pn	10 28 30.7	-1.3
EW2	**E Wide Canyon**	**1.98**	**151**		Pn	10 28 31.9	-1.4
TPC	**Twentynine Pal**	**2.00**	**141**		Pn	10 28 32.0	-1.7
MZP	**Montezuma Peak**	**2.02**	**4**		Pn	10 28 33.3	-0.7
HMTC	**Hemet**	**2.02**	**167**		Pn	10 28 32.8	-1.2
ELS	**Elsinore Mount**	**2.04**	**177**	Pn	Pn	10 28 33.2	-0.9
ELS				IAML		10 29 05.2	
	comp=E,92nm,0.3s						
ELS				IAML		10 29 07.3	
	comp=N,79nm,0.7s						
POB	**Polly Butte**	**2.06**	**165**		Pn	10 28 33.4	-1.1
DGR	**Domenigoni Val**	**2.08**	**167**		Pn	10 28 33.6	-1.1
MURC	**Murrieta**	**2.10**	**172**		Pn	10 28 34.1	-0.9
BENR	**Benton**	**2.19**	**338**		Pb	10 28 39.9	-0.5
MLAC	**Mammoth, Mammo**	**2.20**	**332**		Pb	10 28 40.0	+0.3
CRY	**Cary Ranch**	**2.22**	**162**		Pn	10 28 35.7	-1.0
MCSM	**Casa Diablo Ho**	**2.25**	**331**		Pb	10 28 40.9	+0.4
PMD	**Palm Desert**	**2.25**	**154**		Pn	10 28 35.3	-1.8
PMD	**Palm Desert**	**2.25**	**154**		Pn	10 28 35.5	-1.5
PMD				IAML		10 29 11.0	
	comp=E,60nm,0.5s						
PMD				IAML		10 29 12.2	
	comp=N,36nm,0.5s						
PFO	**Pinyon Flats O**	**2.26**	**156**		Pn	10 28 35.9	-1.3
PFO				IAML		10 29 11.9	
	comp=N,40nm,0.4s						
PFO	**Pinyon Flats O**	**2.26**	**156**		Pn	10 28 35.7	-1.5
XPFO	**Pinon Flat**	**2.26**	**156**		Pn	10 28 35.7	-1.6
BZNA	**Buzz No.'s Pla**	**2.31**	**161**		Pn	10 28 36.9	-1.0
FRD	**Ford Ranch, An**	**2.32**	**160**		Pn	10 28 37.0	-1.1
FRD	**Ford Ranch, An**	**2.32**	**160**		Pn	10 28 37.0	-1.1
TPH	**Tonopah**	**2.40**	**6**		Pn	10 28 38.6	-0.6
S11A	**Rachel**	**2.44**	**36**	Pn	Pn	10 28 38.7	-1.0
CTW	**Cottonwood Mou**	**2.44**	**145**		Pn	10 28 37.7	-1.9
NEE2	**Needles Airpor**	**2.57**	**110**		Pn	10 28 39.1	-2.3
PRN	**Pahroc Range**	**2.65**	**49**		Pn	10 28 41.8	-0.8
PRN				IAML		10 29 32.1	
	comp=N,65nm,0.7s						
PRN				IAML		10 30 17.0	
	comp=E,58nm,1.2s						
LHV	**Little Huntoon**	**2.67**	**344**		Pn	10 28 43.0	+0.3
LHV				IAML		10 29 30.8	
	comp=E,27nm,1.0s						
NV11	**Mina Array Sit**	**2.78**	**350**		Pn	10 28 43.9	-0.6
NVAR	**Mina Array Bea**	**2.80**	**348**	Pn	Pn	10 28 44.3	-0.5
MYLM	**Yosemite Lake**	**2.86**	**307**		Pb	10 28 50.1	-0.8
RYN	**Ryan**	**3.04**	**346**		Pn	10 28 47.9	-0.1
W13A	**Hualapai Mount**	**3.05**	**100**		Pn	10 28 46.6	-1.7
BAR	**Barrett**	**3.09**	**166**	IAML		10 29 36.0	
	comp=N,44nm,0.4s						
YUH	**Yuha Desert**	**3.32**	**156**	Pn	Pn	10 28 49.6	-2.0
GLA	**Glamis**	**3.46**	**139**	Pn	Pn	10 28 51.2	-2.5
ESJX	**Sierra Juarez**	**3.91**	**160**	Pn	Pn	10 28 59.0	-1.0
ESJX				IAML		10 30 02.0	
	comp=N,12nm,1.0s						
ESJX				IAML		10 30 03.2	
	comp=E,18nm,0.7s						
Y14A	**Wickenburg**	**4.13**	**114**		Pn	10 29 00.9	-2.0
Y14A				IAML		10 30 14.9	
	comp=N,20nm,0.6s						
Y14A				IAML		10 30 18.6	
	comp=E,13nm,0.8s						
113A	**Mohawk Valley,**	**4.28**	**132**	Pn	Pn	10 29 02.4	-2.4
113A				IAML		10 30 25.8	
	comp=N,7.2nm,1.8s						
X16A	**Lo Mia Camp, P**	**5.17**	**102**	Pn	Pn	10 29 16.7	-0.6
X16A				IAML		10 30 48.1	
	comp=N,4.2nm,2.0s						
X16A				IAML		10 30 48.2	
	comp=E,4.1nm,3.4s						
ELK	**Elko**	**5.37**	**19**	Pn	Pn	10 29 19.4	-0.7
X18A	**Snowflake**	**6.34**	**98**	Pn	Pn	10 29 33.4	+0.1

*NEIC **06** 10:28:42.6±1.1,35°.899N±0°.008×117°.73W±0°.01, h3km±2km, Error ellipse: s-maj=1.4km s-min=1.1km az=118.0*

PAS 06 10:28:43.1±1.1, 35°.903N±0°.009×117°.73W±0°.01, h4km±3km, ML3.0/27, ML2.7/24(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=142.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**303**		Pg	10 28 45.2	+0.2
TOW	**Tower One**	**0.10**	**197**		Pg	10 28 45.6	+0.5
CLC	**China Lake**	**0.14**	**129**		Pg	10 28 45.8	0.0
CLC					Sg	10 28 48.2	+0.5
WNMM	**Nine Mile Cany**	**0.15**	**247**		Pg	10 28 46.4	+0.2
WNMM					Sg	10 28 49.0	+0.8
WRVM	**Rose V. Centra**	**0.17**	**309**		Pg	10 28 46.5	+0.1
MFS	**McCloud Flat S**	**0.24**	**334**		Pg	10 28 47.8	0.0
MFS					Sg	10 28 51.4	+0.5
MPMC	**Manual Prospec**	**0.25**	**51**		Pg	10 28 48.0	+0.1
MPMC					Sg	10 28 51.6	+0.4
LRMC	**Laurel Mtn Rad**	**0.42**	**175**		Pg	10 28 51.0	-0.3
LRMC				Sg	Sg	10 28 56.9	+0.1
LRMC				IAML		10 28 57.4	
	comp=N,914nm,0.2s						
WBSM	**Bird Springs**	**0.49**	**223**		Pg	10 28 52.5	-0.2
WBSM					Sg	10 28 59.2	+0.2
WHFM	**Hanning Flat**	**0.55**	**248**		Pg	10 28 53.4	-0.2
CWC	**Cottonwood Cre**	**0.61**	**332**		Sg	10 29 03.4	+0.7
DTP	**Desert Tortois**	**0.64**	**189**		Pg	10 28 55.0	-0.4
CGO	**Cerro Gordo**	**0.65**	**355**		Pg	10 28 56.3	+0.7
ISA	**Isabella, Lake**	**0.65**	**249**		Sg	10 29 04.2	+0.1
ISA	**Isabella, Lake**	**0.65**	**249**	Pg	Pg	10 28 55.2	-0.4
ISA				IAML		10 29 04.2	
	comp=N,867nm,0.4s						
ISA				IAML		10 29 04.2	
	comp=E,575nm,0.4s						
WASM	**Alta Sierra Ca**	**0.69**	**257**		Pg	10 28 56.1	-0.3
QSM	**Queen of Sheba**	**0.70**	**85**		Pg	10 28 56.4	-0.2
QSM				IAML		10 29 11.8	
	comp=N,408nm,0.8s						
CCAC	**Calif City Air**	**0.78**	**197**		Pg	10 28 57.6	-0.5
CCAC	**Calif City Air**	**0.78**	**197**	IAML		10 29 09.0	
	comp=N,270nm,0.6s						
CCAC				IAML		10 29 09.1	
	comp=E,234nm,0.5s						
FURC	**Furnace Creek,**	**0.90**	**51**		Sg	10 29 12.6	+0.7
GWY	**Greenwater Val**	**0.90**	**71**		Pg	10 29 00.3	-0.2
GWY					Sg	10 29 11.9	-0.3
GWY				IAML		10 29 20.2	
	com

baz=181,slow=0.0
PKI Sg **Sg** **10 30 44.8 0.0**
baz=181,slow=0.0
PKI Sg **Sg** **10 30 44.8 0.0**
baz=181,slow=0.0
KKN Kakani 0.16 316 Pg **Pg** **10 30 44.2 +0.1**
baz=322,slow=0.0
KKN Sg **Sg** **10 30 46.8 +0.4**
40µm,0.2s,baz=322,slow=0.0
KKN Kakani 0.16 316 Pg **Pg** **10 30 43.9 -0.2**
baz=316,slow=0.0
KKN Sg **Sg** **10 30 46.8 +0.4**
40µm,0.2s,baz=316,slow=0.0
DMN Daman 0.28 257 Pg **Pg** **10 30 45.4 -0.8**
baz=257,slow=0.0
DMN Sg **Sg** **10 30 49.4 -0.5**
11µm,0.3s,baz=257,slow=0.0
DMN Daman 0.28 257 Pg **Pg** **10 30 45.6 -0.6**
baz=255,slow=0.0
DMN Sg **Sg** **10 30 49.7 -0.2**
baz=255,slow=0.0
DMN Sg **Sg** **10 30 49.7 -0.2**
baz=255,slow=0.0
DMN Sg **Sg** **10 30 49.7 -0.2**
baz=255,slow=0.0
DMN Sg **Sg** **10 30 49.8 -0.2**
11µm,0.3s,baz=255,slow=0.0
GUN Gumba 0.48 60 Pg **Pg** **10 30 49.7 -0.3**
baz=60,slow=0.0
GUN Sg **Sg** **10 30 55.4 -1.0**
5µm,0.2s,baz=60,slow=0.0
GUN Gumba 0.48 60 Pg **Pg** **10 30 49.8 -0.3**
baz=61,slow=0.0
GUN Sg **Sg** **10 30 55.3 -1.1**
5µm,0.2s,baz=61,slow=0.0
GUN Sg **Sg** **10 30 55.4 -1.0**
baz=61,slow=0.0
GUN Sg **Sg** **10 30 55.4 -1.0**
baz=61,slow=0.0
GUN Sg **Sg** **10 30 55.4 -1.0**
baz=61,slow=0.0
GKN Gorkha 0.76 296 Pg **Pg** **10 30 54.2 -1.2**
baz=297,slow=0.0
GKN Sg **Sg** **10 31 04.2 -1.0**
1µm,0.2s,baz=297,slow=0.0
GKN Gorkha 0.76 296 Pg **Pg** **10 30 54.2 -1.2**
baz=295,slow=0.0
GKN Sg **Sg** **10 31 04.8 -0.4**
1µm,0.2s,baz=295,slow=0.0
RAMN Ramite 1.28 124 Pg **Pg** **10 31 04.4 -1.0**
baz=123,slow=0.0
RAMN Ramite 1.28 124 Pg **Pg** **10 31 04.1 -1.3**
baz=124,slow=0.0
RAMN Sg **Sg** **10 31 21.1 -0.9**
1µm,0.2s,baz=124,slow=0.0
DANN Dangsing 1.61 295 Pg **Pn** **10 31 10.1 +0.1**
baz=296,slow=0.0
DANN Sg **Sn** **10 31 31.3 0.0**
840nm,0.2s,baz=296,slow=0.0
DANN Dangsing 1.61 295 Pg **Pn** **10 31 10.3 +0.3**
baz=295,slow=0.0
DANN Sg **Sn** **10 31 31.2 0.0**
840nm,0.2s,baz=295,slow=0.0
KOLN Koldanda 1.61 274 Pg **Pn** **10 31 09.7 -0.2**
baz=274,slow=0.0
KOLN Sg **Sg** **10 31 32.1 -0.3**
921nm,0.2s,baz=274,slow=0.0
KOLN Koldanda 1.61 274 Pg **Pn** **10 31 09.7 -0.2**
baz=274,slow=0.0
KOLN Sg **Sb** **10 31 31.4 -0.2**
baz=274,slow=0.0
KOLN Sg **Sb** **10 31 31.5 -0.2**
921nm,0.2s,baz=274,slow=0.0
ODAN Odare 1.94 114 Pg **Pb** **10 31 16.4 -0.3**
baz=114,slow=0.0
ODAN Sg **Sg** **10 31 42.5 -0.7**
2µm,0.4s,baz=114,slow=0.0
ODAN Odare 1.94 114 Pg **Pb** **10 31 16.4 -0.3**
baz=114,slow=0.0
ODAN Sg **Sb** **10 31 41.8 +0.5**
1µm,0.3s,baz=114,slow=0.0
PYUN Piuthan 2.18 282 Pg **Pb** **10 31 19.4 -1.4**
baz=282,slow=0.0
PYUN Sg **Sb** **10 31 47.7 -0.6**
1µm,0.4s,baz=282,slow=0.0
PYUN Piuthan 2.18 282 Pn **Pn** **10 31 17.4 -0.5**
baz=282,slow=0.0
PYUN Piuthan 2.18 282 Pg **Pb** **10 31 20.1 -0.7**
baz=282,slow=0.0
PYUN Sg **Sb** **10 31 49.3 +1.0**
1µm,0.4s,baz=282,slow=0.0
CMAR Chiang Mai Arr 15.46 124 Pn **Pn** **10 34 20.0 +0.5**
0.1nm,0.3s,baz=312,slow=8.7,SNR=1.6
0.3nm,0.3s
MKAR Makanchi Array 19.24 353 P **P** **10 35 06.3 +0.4**
0.2nm,0.3s,baz=175,slow=11,SNR=12
1.0nm,0.5s
KURBB Kurchatov Arra 23.51 349 P **P** **10 35 52.0 +0.6**
0.4nm,0.2s,baz=169,slow=9.7,SNR=2.2
0.4nm,0.2s
SONM Songino Array 25.93 33 P **P** **10 36 18.3 +4.3**
0.5nm,0.4s,baz=211,slow=8.1,SNR=3.6
0.5nm,0.4s
ZALV Zalesovo Beam 26.25 359 P **P** **10 36 19.4 +2.8**
0.4nm,0.4s,baz=200,slow=12,SNR=1.9
0.4nm,0.4s
WRA Warramunga Arr 66.95 130 P **P** **10 41 33.5 -1.1**
0.8nm,1.1s,baz=315,slow=6.3,SNR=5.3
0.8nm,1.1s
ASAR Alice Springs 69.24 133 P **P** **10 41 47.0 -1.9**
0.4nm,0.7s,baz=314,slow=6.4,SNR=7.4
0.4nm,0.7s

NEIC ***06*** *10:31:43.3±2.4,35°.650N±0°.010×117°.44W±0°.01, h5km±3km, Error ellipse: s-maj=1.4km s-min=1.4km az=86.0*
PAS ***06*** *10:31:43.9±2.6,35°.649N±0°.010×117°.45W±0°.01, h3km±2km, ML3.5/20, ML3.4/88(NEIC), Error ellipse: s-maj=1.4km s-min=1.3km az=192.0*
IDC ***06*** *10:31:43.8±0.8, 35°.69N×117°.27W, h0km, mb3.3/2, mbtmp3.1/6, ML3.4/4, Error ellipse: s-maj=21.8km s-min=5.8km az=75.0*

ISC 06 10:31:43.8±0.9, 35°.67N±0°.01×117°.48W±0°.02, h13km±7km, n125, σ0s70/144, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCCA	**Chr Cany lake**	**0.17**	**147**		**Pg**	**10 31 47.3**	**-0.3**
CLC	**China Lake**	**0.18**	**327**		**Pb**	**10 31 47.9**	**-1.1**
SRTC	**Snort**	**0.22**	**277**		**Pb**	**10 31 49.2**	**-0.6**
SRTC					**Sb**	**10 31 53.4**	**-0.4**
LRMC	**Laurel Mtn Rad**	**0.25**	**222**		**Pg**	**10 31 48.8**	**-0.3**
LRMC					**Sg**	**10 31 52.6**	**-0.1**
LRMC				IAML		10 31 53.3	
	comp=E,11µm,0.4s						
TOW	**Tower One**	**0.28**	**302**		**Pb**	**10 31 50.3**	**-0.4**
MPMC	**Manual Prospec**	**0.39**	**358**		**Pb**	**10 31 51.7**	**-1.1**
MPMC					**Sb**	**10 31 57.5**	**-1.3**
WRVM	**Rose V. Centra**	**0.48**	**316**		**Pb**	**10 31 53.6**	**-0.6**
DTP	**Desert Tortois**	**0.50**	**217**		**Pg**	**10 31 53.2**	**-0.4**
DTP					**Sg**	**10 32 00.3**	**+0.1**
WBSM	**Bird Springs**	**0.56**	**257**		**Pb**	**10 31 54.7**	**-0.8**
WBSM					**Sb**	**10 32 02.7**	**-0.8**
QSM	**Queen of Sheba**	**0.58**	**59**		**Pg**	**10 31 54.8**	**-0.3**
QSM					**Sg**	**10 32 02.6**	**-0.2**
QSM				IAML		10 32 03.2	
	comp=N,3µm,0.6s						
QSM				IAML		10 32 03.5	
	comp=E,3µm,0.4s						
WORM	**Onyx Ranch**	**0.62**	**273**		**Sb**	**10 32 04.5**	**-0.8**
GSC	**Goldstone, Bar**	**0.66**	**123**		**Pg**	**10 31 55.9**	**-0.6**
GSC				IAML		10 32 04.9	
	comp=N,2µm,0.4s						
GSC	**Goldstone, Bar**	**0.66**	**123**		**Sg**	**10 32 04.8**	**-0.5**
CCAC	**Calif City Air**	**0.68**	**221**		**Pg**	**10 31 56.6**	**-0.3**
CCAC				IAML		10 32 10.8	
	comp=E,2µm,0.8s						
CCAC				IAML		10 32 14.5	
	comp=N,2µm,1.3s						
CCAC	**Calif City Air**	**0.68**	**221**		**Sb**	**10 32 06.3**	**-0.5**
WHFM	**Hanning Flat**	**0.71**	**273**		**Sb**	**10 32 07.3**	**-0.6**
HYS	**Haystack Butte**	**0.80**	**185**		**Pg**	**10 31 58.5**	**-0.8**
HYS					**Sg**	**10 32 09.3**	**-0.5**
ISA	**Isabella, Lake**	**0.81**	**270**		**Pb**	**10 31 59.6**	**-0.3**
ISA				IAML		10 32 11.1	
	comp=E,2µm,0.5s						
ISA				IAML		10 32 13.8	
	comp=N,2µm,0.4s						
ISA	**Isabella, Lake**	**0.81**	**270**		**Sb**	**10 32 10.8**	**+0.1**
GWY	**Greenwater Val**	**0.84**	**51**		**Pb**	**10 31 59.9**	**-0.4**
RRX	**Edison Barstow**	**0.88**	**153**		**Pg**	**10 32 00.5**	**-0.3**
RRX					**Sb**	**10 32 12.6**	**0.0**
WASM	**Alta Sierra Ca**	**0.88**	**275**		**Pn**	**10 32 00.9**	**-1.2**
EDW2	**Edwards Air Fo**	**0.89**	**209**		**Pg**	**10 32 00.2**	**-0.8**
CGO	**Cerro Gordo**	**0.92**	**343**		**Pn**	**10 32 02.6**	**-0.2**
FURC	**Furnace Creek,**	**0.94**	**32**		**Sn**	**10 32 15.3**	**-0.8**
TPO	**Tropico Hills**	**1.00**	**218**		**Pb**	**10 32 02.4**	**-0.6**
SHOC	**Shoshone, Teco**	**1.00**	**76**		**Pn**	**10 32 03.3**	**-0.3**
SBB	**Saddle Back Bu**	**1.02**	**196**		**Pb**	**10 32 02.4**	**-0.8**
SBB					**Sn**	**10 32 17.4**	**-0.6**
TEJ	**El Tejon**	**1.08**	**247**		**Pb**	**10 32 03.7**	**-0.7**
VTV	**Victorville**	**1.11**	**174**		**Pg**	**10 32 05.0**	**-0.1**
VTV					**Sn**	**10 32 20.3**	**0.0**
ADO	**Adelanto Recei**	**1.11**	**178**		**Pg**	**10 32 05.3**	**+0.1**
SPG2	**Springville 2**	**1.18**	**297**		**Pg**	**10 32 06.0**	**-0.4**
SPG2					**Sn**	**10 32 22.2**	**+0.3**
ALPC	**Antelope**	**1.19**	**215**		**Pg**	**10 32 06.7**	**+0.1**
TJR	**Tejon Ranch**	**1.22**	**239**		**Pg**	**10 32 06.5**	**-0.7**
LRRC	**Littlerock Res**	**1.22**	**202**		**Pn**	**10 32 06.3**	**-0.3**
LRRC					**Sg**	**10 32 23.8**	**+0.6**
THC	**Tehachapi Micr**	**1.23**	**232**		**Pg**	**10 32 06.8**	**-0.6**
LEOC	**Leona Valley**	**1.23**	**214**		**Pb**	**10 32 06.6**	**-0.4**
LEOC					**Sg**	**10 32 24.5**	**+0.9**
DSCC	**Desert Studies**	**1.24**	**115**		**Pn**	**10 32 05.8**	**-0.9**
DSCC					**Sb**	**10 32 22.3**	**-0.6**
AMDNV	**Amargosa**	**1.25**	**51**		**Pg**	**10 32 07.6**	**-0.2**
AMDNV					**Sg**	**10 32 24.1**	**+0.1**
HEC	**Hector,Ludlow**	**1.25**	**131**		**Pn**	**10 32 06.4**	**-0.7**
HEC					**Sb**	**10 32 23.1**	**-0.3**
CJV	**Casa Juvan**	**1.26**	**206**		**Pn**	**10 32 06.8**	**-0.4**
CJV					**Sg**	**10 32 24.9**	**+0.6**
JNH	**Juniper Hills**	**1.28**	**198**		**Pn**	**10 32 07.1**	**-0.4**
JNH					**Sg**	**10 32 25.4**	**+0.5**
TUQ	**Turquoise Moun**	**1.29**	**100**		**Pn**	**10 32 07.3**	**-0.3**
WCT	**Wildcat Mounta**	**1.32**	**31**		**Pb**	**10 32 08.2**	**-0.3**
WCT				IAML		10 32 28.9	
	comp=N,778nm,0.6s						
WCT				IAML		10 32 29.1	
	comp=E,1µm,0.4s						
VES	**Vestal, Richgr**	**1.32**	**278**		**Sg**	**10 32 26.8**	**+0.5**
GRAC	**Grapevine Rang**	**1.33**	**4**		**Pg**	**10 32 09.0**	**-0.4**
SGV	**South Grapevin**	**1.36**	**15**		**Pb**	**10 32 09.0**	**-0.2**
BAKC	**Calstate**	**1.37**	**257**		**Pg**	**10 32 09.7**	**-0.3**
CHFC	**Chilao Flat St**	**1.40**	**199**		**Pn**	**10 32 09.0**	**-0.3**
SIL	**Silver Peak**	**1.42**	**158**		**Pb**	**10 32 10.0**	**-0.2**
BFSC	**Mount Baldy Ra**	**1.43**	**186**		**Pn**	**10 32 09.4**	**-0.2**
BFSC					**Sg**	**10 32 29.4**	**-0.5**
OSI	**Osito Audit: C**	**1.47**	**225**		**Pg**	**10 32 11.6**	**-0.3**
OSI	**Osito Audit: C**	**1.47**	**225**		**Pb**	**10 32 10.7**	**-0.3**
OSI	**Osito Audit: C**	**1.47**	**225**	IAML		10 32 35.6	
	comp=N,742nm,0.8s						
OSI				IAML		10 32 37.4	
	comp=E,854nm,0.7s						
BBRC	**Big Bear Solar**	**1.47**	**162**		**Pb**	**10 32 11.0**	**-0.2**
TIN	**Tinemaha, Big**	**1.51**	**337**		**Pg**	**10 32 13.4**	**+0.5**
MWC	**Mount Wilson**	**1.52**	**199**		**Pn**	**10 32 10.9**	**0.0**
MWC	**Mount Wilson**	**1.52**	**199**	Pn	**Pb**	**10 32 11.2**	**-0.7**
MWC				IAML		10 32 33.4	
	comp=N,1µm,0.5s						
MWC				IAML		10 32 37.1	
	comp=E,746nm,0.7s						
LCH	**Last Change Ra**	**1.57**	**355**		**Pb**	**10 32 12.2**	**-0.6**
CLTC	**Calectric**	**1.57**	**175**		**Sn**	**10 32 30.8**	**-0.9**
DECC	**Green Verdugo**	**1.57**	**207**		**Pn**	**10 32 11.7**	**+0.2**
MTPC	**Mountain Pass**	**1.58**	**96**		**Pn**	**10 32 11.2**	**-0.4**
SVD	**Valley Oaks Dam**	**1.59**	**169**		**Pb**	**10 32 13.2**	**+0.3**
PSRC	**Puddingstone R**	**1.59**	**190**		**Pb**	**10 32 12.1**	**-1.0**
PASC	**Pasadena Art C**	**1.60**	**202**		**Pb**	**10 32 12.2**	**-1.0**
PASC				IAML		10 32 37.7	
	comp=E,413nm,0.6s						
PASC				IAML		10 32 38.5	
	comp=N,369nm,0.8s						
TPNV	**Topopah Spring**	**1.62**	**37**		**Pg**	**10 32 13.9**	**-0.9**
GMN	**Gold Mountain**	**1.64**	**6**		**Pb**	**10 32 13.4**	**-0.6**
GMN				IAML		10 32 42.6	
	comp=N,374nm,0.9s						
GTM	**Goat Mountain**	**1.65**	**146**		**Pb**	**10 32 14.3**	**+0.2**
VOG	**Valley Oaks Go**	**1.68**	**293**		**Pn**	**10 32 11.7**	**-1.2**
GMRC	**Granite Mounta**	**1.73**	**120**		**Pn**	**10 32 12.3**	**-1.3**
BCW	**Bitter Crk WRg**	**1.74**	**246**		**Pn**	**10 32 13.8**	**0.0**
BCW				IAML		10 32 43.7	
	comp=N,611nm,0.7s						
BCW				IAML		10 32 45.7	
	comp=E,554nm,0.7s						
DSP	**Deep Springs**	**1.75**	**347**		**Pb**	**10 32 14.8**	**-0.9**
DSP				IAML		10 32 45.1	
	comp=E,285nm,0.8s						
DJJ	**Donna J Jenkin**	**1.75**	**208**		**Pn**	**10 32 13.9**	**+0.1**
PEC	**Perris**	**1.79**	**172**		**Pn**	**10 32 14.8**	**+0.4**
BHPR	**Bishop**	**1.82**	**334**		**Pg**	**10 32 18.4**	**-0.4**
BLAC	**Blackrock camp**	**1.83**	**150**		**Pn**	**10 32 15.2**	**+0.2**
MTUM	**Tungsten Hills**	**1.90**	**333**		**Pg**	**10 32 19.6**	**-0.6**
EW2	**E Wide Canyon**	**1.93**	**153**		**Pn**	**10 32 16.3**	**-0.1**
TPC	**Twentynine Pal**	**1.95**	**143**		**Pn**	**10 32 16.4**	**-0.3**
HMTC	**Hemet**	**1.99**	**169**		**Pn**	**10 32 17.1**	**-0.1**
DANC	**Danby, Needles**	**2.00**	**120**		**Pn**	**10 32 16.4**	**-1.0**
ELS	**Elsinore Mount**	**2.01**	**179**		**Pn**	**10 32 17.7**	**+0.2**
ELS				IAML		10 32 47.1	
	comp=N,288nm,0.4s						
ELS				IAML		10 32 47.9	
	comp=E,381nm,0.3s						
POB	**Polly Butte**	**2.03**	**167**		**Pn**	**10 32 17.9**	**+0.1**
MZP	**Montezuma Peak**	**2.03**	**2**		**Pn**	**10 32 18.7**	**+0.7**
DGR	**Domigoni Val**	**2.05**	**169**		**Pn**	**10 32 18.0**	**0.0**
SHPR	**Sheep Range**	**2.05**	**65**		**Pn**	**10 32 17.9**	**-0.3**
RPV	**Rancho Palos V**	**2.06**	**202**		**Pn**	**10 32 19.0**	**+0.8**
MURC	**Murrieta**	**2.07**	**174**		**Pn**	**10 32 18.5**	**+0.1**
V12A	**Nelson**	**2.14**	**88**		**Pn**	**10 32 18.6**	**-0.7**
V12A				IAML		10 32 58.4	
	comp=N,161nm,1.1s						
CRY	**Cary Ranch**	**2.18**	**164**		**Pn**	**10 32 20.0**	**+0.1**
PMD	**Palm Desert**	**2.21**	**155**	Pn	**Pn**	**10 32 19.6**	**-0.5**
PMD				IAML		10 32 54.8	
	comp=E,218nm,0.4s						
PFO	**Pinyon Flats O**	**2.21**	**157**		**Pn**	**10 32 20.2**	**-0.2**
PFO				IAML		10 32 56.4	
	comp=E,181nm,0.5s						
PFO				IAML		10 32 56.7	
	comp=E,153nm,0.7s						
PFO	**Pinyon Flats O**	**2.21**	**157**	Pn	**Pn**	**10 32 20.1**	**-0.2**
	comp=E,17nm,0.3s,baz=339,slow=16,SNR=23						
PFO				Pg	**Pb**	**10 32 24.1**	**+0.4**
	comp=E,17nm,0.3s,baz=341,slow=15,SNR=26						
PFO				Lg	Lg	10 32 53.0	
	comp=E,70nm,0.3s,baz=41,slow=11,SNR=17						
	comp=E,13nm,0.3s						
XPFO	**Pinon Flat**	**2.21**	**157**		**Pn**	**10 32 20.3**	**-0.1**
MLAC	**Mammoth, Mammo**	**2.25**	**331**		**Pg**	**10 32 25.9**	**-0.9**
BZNA	**Buzz No.'s Pla**	**2.27**	**163**		**Pn**	**10 32 21.3**	**+0.1**
FRD	**Ford Ranch, An**	**2.28**	**161**		**Pn**	**10 32 21.2**	**0.0**
MCSM	**Casa Diablo Ho**	**2.29**	**330**		**Pg**	**10 32 26.8**	**-1.0**
CIAC	**Catalina I. Ai**	**2.39**	**199**		**Pn**	**10 32 22.6**	**0.0**
GORC	**Green Oak Ranc**	**2.51**	**175**		**Pn**	**10 32 24.2**	**-0.2**
DPP	**Dos Picos Cty**	**2.70**	**170**		**Pn**	**10 32 26.9**	**0.0**
LHV	**Little Huntoon**	**2.71**	**343**	Pn	**Pn**	**10 32 27.7**	**+0.7**
LHV				IAML		10 33 16.9	
	comp=N,188nm,0.7s						
LHV				IAML		10 33 20.3	
	comp=E,169nm,1.1s						
CPE	**Camp Elliot**	**2.79**	**174**		**Pn**	**10 32 28.4**	**+0.2**
NV11	**Mina Array Sit**	**2.81**	**349**		**Pn**	**10 32 29.7**	**+1.0**
NVAR	**Mina Array Bea**	**2.84**	**347**		**Pn**	**10 32 30.2**	**+1.2**
NVAR	**Mina Array Bea**	**2.84**	**347**	Pn	**Pn**	**10 32 30.0**	**+1.0**
	comp=E,2.6nm,0.3s,baz=168,slow=13,SNR=10						
NVAR				Pg	**Pg**	**10 32 36.7**	**-1.4**
	comp=E,14nm,0.3s,baz=162,slow=14,SNR=36						
NVAR				Lg	Lg	10 33 14.4	
	comp=E,6.5nm,0.3s,baz=168,slow=31,SNR=4.0						
	comp=E,4.5nm,0.5s						
W13A	**Hualapai Mount**	**2.99**	**100**		**Pn**	**10 32 31.4**	**+0.3**
RYN	**Ryan**	**3.07**	**345**		**Pn**	**10 32 33.8**	**+1.5**
BLYC	**Blythe**	**3.09**	**127**		**Pn**	**10 32 31.3**	**-1.1**
BLYC				IAML		10 33 23.0	
	comp=E,132nm,0.6s						
TJX	**Tijuana**	**3.17**	**174**		**Pn**	**10 32 34.2**	**+0.9**
Q09A	**Carvers**	**3.17**	**4**		**Pn**	**10 32 35.0**	**+1.4**
YUH	**Yuha Desert**	**3.27**	**156**		**Pn**	**10 32 34.3**	**-0.5**
CMB	**Columbia Colle**	**3.32**	**316**	IAML		10 33 34.1	
	comp=E,62nm,0.7s						
CMB				IAML		10 33 35.2	
	comp=N,55nm,0.9s						
GLA	**Glamis**	**3.41**	**139**		**Pn**	**10 32 35.6**	**-1.1**
CBX	**Cerro Bola**	**3.41**	**168**		**Pn**	**10 32 37.5**	**+0.6**
ESJX	**Sierra Juarez**	**3.87**	**160**	Pn	**Pn**	**10 32 43.7**	**+0.6**
ESJX				IAML		10 33 47.9	
	comp=E,72nm,1.1s						
ESJX				IAML		10 33 53.5	
	comp=N,58nm,1.3s						
KNB	**Kanab**	**3.99**	**69**	Pn	**Pn**	**10 32 46.1**	**+1.2**
KNB				IAML		10 34 03.9	
	comp=E,34nm,1.3s						
113A	**Mohawk Valley,**	**4.22**	**132**		**Pn**	**10 32 46.7**	**-1.1**
113A				IAML		10 33 58.9	
	comp=E,29nm,0.7s						
PAHR	**Pah Rah Range**	**4.31**	**340**		**Pn**	**10 32 51.2**	**+2.0**
214A	**Organ Pipe Nat**	**5.36**	**132**	Pn	**Pn**	**10 33 02.3**	**-1.2**
214A				IAML		10 34 39.3	
	comp=E,18nm,0.6s						
214A				IAML		10 34 42.1	
	comp=N,15nm,0.9s						
ELK	**Elko**	**5.37**	**18**	Pn	**Pn**	**10 33 04.8**	**+1.0**
	comp=N,0.3nm,0.3s,baz=196,slow=17,SNR=4.6						
ELK				Lg	Lg	10 34 31.8	
	comp=N,5.5nm,0.3s,baz=132,slow=14,SNR=12						
	comp=N,0.9nm,0.3s						
TUC	**Tucson**	**6.49**	**119**	Pn	**Pn**	**10 33 18.7**	**-0.3**
TXAR	**Lajitas Array**	**13.25**	**115**	Pn	**Pn**	**10 34 53.7**	**+2.0**
	comp=N,0.1nm,0.3s,baz=300,slow=15,SNR=5.7						
	comp=N,0.1nm,0.4s						
ULM	**Lac du Bonnet**	**21.39**	**40**	P	**P**	**10 36 29.6**	**-1.5**
	comp=N,1.5nm,0.6s,baz=242,slow=11,SNR=4.4						
	comp=N,1.5nm,0.6s						
YKA	**Yellowknife Ar**	**26.91**	**3**	P	**P**	**10 37 25.8**	**+1.4**
	comp=N,0.2nm,0.7s,baz=184,slow=9.1,SNR=2.5						
	comp=N,0.2nm,0.7s						

IDC 06 10:34:18.2±6.7, 26°.65N×45°.17W, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=197.5km s-min=34.7km az=5.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**45.39**	**135**	T	T	11 30 02.3	
	baz=319,slow=75,SNR=78						
H10N3	**ASCENSION HYDR**	**45.40**	**135**	T	T	11 30 01.8	
	baz=319,slow=75,SNR=82						
H10N1	**ASCENSION HYDR**	**45.41**	**135**	T	T	11 30 10.5	
	baz=319,slow=75,SNR=80						
H10S3	**ASCENSION HYDR**	**46.15**	**136**	T	T	11 31 09.9	
	baz=262,slow=74,SNR=32						
H10S2	**ASCENSION HYDR**	**46.16**	**136**	T	T	11 31 08.3	
	baz=318,slow=74,SNR=30						
PDAR	**Pinedale Array**	**54.08**	**305**	P	P	10 43 44.4	-0.5
	0.6nm,0.8s,baz=91,slow=2.2,SNR=3.9						
	0.6nm,0.8s						
YKA	**Yellowknife Ar**	**57.24**	**329**	P	P	10 44 07.3	+0.2
	0.5nm,0.9s,baz=95,slow=6.7,SNR=5.9						
	0.5nm,0.9s						
AKASG	**Malin Array Be**	**60.17**	**45**	P	P	10 44 26.6	-1.1
	0.2nm,0.3s,baz=281,slow=5.6,SNR=2.1						
	0.2nm,0.3s						
BRTR	**Keskin Array B**	**65.29**	**56**	P	P	10 45 03.0	+0.8
	0.6nm,0.7s,baz=285,slow=7.3,SNR=2.6						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**71.02**	**334**	P	P	10 45 37.7	+0.2
	0.6nm,0.8s,baz=62,slow=5.4,SNR=6.1						
	0.6nm,0.8s						

NEIC ***06*** *10:35:17.9±1.4,35°.58N±0°.01×117°.36W±0°.02, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.4km az=254.0*

PAS 06 10:35:18.1±1.3, 35°.56N±0°.01×117°.36W±0°.01, h9km±8km, ML3.4/130, **ML3.1**/40(NEIC), **Error ellipse: s-maj=1.7km s-min=1.1km az=146.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LRMC	**Laurel Mtn Rad**	**0.28**	**254**		**Pg**	**10 35 23.5**	**-0.3**
LRMC				IAML		10 35 29.4	
	comp=N,4µm,0.2s						
CLC	**China Lake**	**0.33**	**323**		**Sg**	**10 35 28.8**	**-0.2**
SRTC	**Snort**	**0.35**	**293**		**Pg**	**10 35 25.1**	**0.0**
SRTC					**Sg**	**10 35 30.6**	**+1.0**
DTP	**Desert Tortois**	**0.49**	**234**		**Pg**	**10 35 27.3**	**-0.4**
DTP					**Sg**	**10 35 33.9**	**-0.3**
MPMC	**Manual Prospec**	**0.51**	**348**		**Pg**	**10 35 27.6**	**-0.5**
GSC	**Goldstone, Bar**	**0.52**	**119**		**Sg**	**10 35 15.1**	**+0.1**
WNMM	**Nine Mile Cany**	**0.53**	**303**		**Pg**	**10 35 28.8**	**+0.4**
WVPM	**Volcano Peak E**	**0.54**	**316**		**Sg**	**10 35 36.0**	**+0.2**
QSM	**Queen of Sheba**	**0.57**	**44**	Pg	**Pg**	**10 35 28.8**	**-0.3**
QSM				IAML		10 35 36.7	
	comp=E,2µm,0.5s						
QSM				IAML		10 35 36.7	
	comp=N,2µm,0.5s						
WRVM	**Rose V. Centra**	**0.63**	**316**		**Pg**	**10 35 29.7**	**-0.5**
WRVM					**Sg**	**10 35 38.4**	**-0.1**
WBSM	**Bird Springs**	**0.64**	**268**		**Pg**	**10 35 30.1**	**-0.5**
WBSM					**Sg**	**10 35 38.8**	**-0.1**
CCAC	**Calif City Air**	**0.67**	**233**		**Sg**	**10 35 40.0**	**+0.1**
CCAC	**Calif City Air**	**0.67**	**233**	Pg	**Pg**	**10 35 31.1**	**0.0**
CCAC				IAML		10 35 43.8	
	comp=N,2µm,0.5s						
CCAC				IAML		10 35 44.2	
	comp=E,2µm,0.4s						
MFS	**McCloud Flat S**	**0.69**	**324**		**Sg**	**10 35 40.5**	**0.0**
WORM	**Onyx Ranch**	**0.73**	**281**		**Pg**	**10 35 31.7**	**-0.6**
WORM					**Sg**	**10 35 42.0**	**+0.1**
WHFM	**Hanning Flat**	**0.82**	**280**		**Sg**	**10 35 43.0**	**-0.8**
EDW2	**Edwards Air Fo**	**0.85**	**218**		**Sg**	**10 35 44.9**	**-0.7**
ISA	**Isabella, Lake**	**0.92**	**277**		**Pg**	**10 35 35.0**	**-0.8**
ISA				IAML		10 35 47.8	
	comp=N,465nm,0.1s						
ISA				IAML		10 35 48.6	
	comp=E,569nm,0.1s						
ISA	**Isabella, Lake**	**0.92**	**277**		**Sg**	**10 35 47.0**	**-0.7**
VTV	**Victorville**	**0.99**	**179**		**Pb**	**10 35 37.5**	**0.0**
WASM	**Alta Sierra Ca**	**0.99**	**281**		**Pg**	**10 35 36.4**	**-0.9**
WASM					**Sg**	**10 35 49.3**	**-0.9**
ADO	**Adelanto Recei**	**1.01**	**184**		**Pb**	**10 35 38.1**	**+0.4**
CGO	**Cerro Gordo**	**1.06**	**340**		**Pg**	**10 35 38.3**	**-0.1**
**LRRC

BLYC				IAML		10 36 53.2	
	comp=N,76nm,0.6s						
BLYC				IAML		10 36 53.9	
	comp=E,59nm,0.5s						
YUH	**Yuha Desert**	**3.14**	**157**	Pn	**Pn**	10 36 06.3	-1.4
CBX	**Cerro Bola**	**3.29**	**170**	Pn	**Pn**	10 36 09.2	-0.7
CBX				IAML		10 37 08.5	
	comp=N,62nm,0.5s						
Y14A	**Wickenburg**	**3.93**	**113**		Pn	10 36 16.9	-1.7
X16A	**Lo Mia Camp, P**	**4.99**	**101**	Pn	**Pn**	10 36 33.2	-0.1
X16A				IAML		10 39 19.9	
	comp=E,12nm,1.0s						
X16A				IAML		10 39 49.9	
	comp=N,10nm,0.9s						

*NEIC **06** 10:36:10.6±2.1,35°.702N±0°.010×117°.53W±0°.01, h4km±3km, Error ellipse: s-maj=1.5km s-min=1.3km az=54.0*

PAS 06 10:36:10.6±1.8,35°.683N±0°.010×117°.52W±0°.01, h1km±1km,ML3.1/28,ML3.0/18(NEIC),Error ellipse: s-maj=1.5km s-min=1.3km az=59.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.15**	**335**		Pg	10 36 13.7	+0.2
SRTC	**Snort**	**0.18**	**273**		Pg	10 36 14.8	+0.7
CCCA	**Chr Cany lake**	**0.20**	**141**		Pg	10 36 15.3	+0.8
TOW	**Tower One**	**0.23**	**303**		Sg	10 36 20.6	+2.4
LRMC	**Laurel Mtn Rad**	**0.24**	**213**		Pg	10 36 15.3	+0.1
LRMC					Sg	10 36 19.0	+0.6
LRMC				IAML		10 36 19.2	
	comp=E,3µm,0.4s						
LRMC				IAML		10 36 19.9	
	comp=N,3µm,0.2s						
MPMC	**Manual Prospec**	**0.38**	**4**		Pg	10 36 18.0	+0.2
WRVM	**Rose V. Centra**	**0.44**	**318**		Pg	10 36 19.5	+0.4
WRVM					Sg	10 36 24.7	-0.1
DTP	**Desert Tortois**	**0.49**	**212**		Pg	10 36 20.1	0.0
DTP					Sg	10 36 27.1	+0.7
MFS	**McCloud Flat S**	**0.51**	**328**		Pg	10 36 20.7	+0.2
MFS					Sg	10 36 28.6	+1.5
WBSM	**Bird Springs**	**0.52**	**254**		Pg	10 36 20.8	+0.1
WBSM					Sg	10 36 28.4	+0.9
WORM	**Onyx Ranch**	**0.59**	**271**		Pg	10 36 21.8	-0.1
WORM					Sg	10 36 29.7	+0.3
QSM	**Queen of Sheba**	**0.60**	**62**	Pg	Pg	10 36 22.2	+0.1
QSM				IAML		10 36 38.5	
	comp=N,1µm,0.2s						
QSM				IAML		10 36 39.1	
	comp=E,926nm,0.2s						
CCAC	**Calif City Air**	**0.67**	**217**		Sg	10 36 32.9	+0.9
CCAC	**Calif City Air**	**0.67**	**217**	Pg	Pg	10 36 23.3	-0.1
CCAC				IAML		10 36 37.2	
	comp=E,354nm,0.8s						
CCAC				IAML		10 36 37.8	
	comp=N,460nm,0.7s						
WHFM	**Hanning Flat**	**0.67**	**271**		Pg	10 36 23.5	0.0
GSC	**Goldstone, Bar**	**0.70**	**123**	Pg	Pg	10 36 24.1	+0.1
ISA	**Isabella, Lake**	**0.78**	**269**	Pg	Pg	10 36 25.2	-0.2
HYS	**Haystack Butte**	**0.82**	**183**		Pb	10 36 27.6	0.0
HYS					Sg	10 36 37.1	+0.2
WASM	**Alta Sierra Ca**	**0.84**	**274**		Pg	10 36 26.8	0.0
WASM					Sg	10 36 37.0	-0.8
GWY	**Greenwater Val**	**0.86**	**54**		Pg	10 36 27.0	-0.1
GWY				IAML		10 36 45.1	
	comp=N,462nm,0.3s						
CGO	**Cerro Gordo**	**0.90**	**345**		Sb	10 36 41.1	-0.6
RRX	**Edison Barstow**	**0.91**	**152**		Pb	10 36 29.3	+0.1
SBB	**Saddle Back Bu**	**1.02**	**194**		Sb	10 36 45.5	+0.4
VTV	**Victorville**	**1.13**	**172**		Pn	10 36 33.4	-0.3
VTV					Sb	10 36 48.7	+0.5
ALPC	**Antelope**	**1.18**	**213**		Sb	10 36 50.1	+0.5
LRRC	**Littlerock Res**	**1.23**	**200**		Sn	10 36 51.8	-0.3
LEOC	**Leona Valley**	**1.23**	**212**		Pb	10 36 34.7	0.0
LEOC					Sb	10 36 51.5	+0.5
AMDNV	**Amargosa**	**1.27**	**52**		Pg	10 36 34.9	0.0
DSCC	**Desert Studies**	**1.28**	**115**		Pg	10 36 34.7	-0.4
VES	**Vestal, Richgr**	**1.28**	**278**		Sg	10 36 51.6	-0.1
JNH	**Juniper Hills**	**1.28**	**196**		Pg	10 36 34.6	-0.6
GRAC	**Grapevine Rang**	**1.32**	**5**	Pg	Pg	10 36 35.7	-0.2
GRAC				IAML		10 37 03.4	
	comp=N,351nm,0.6s						
WCT	**Wildcat Mounta**	**1.32**	**33**	Pg	Pg	10 36 35.7	-0.3
WCT				IAML		10 36 58.8	
	comp=N,270nm,0.5s						
WCT				IAML		10 37 00.2	
	comp=E,333nm,0.3s						
TUQ	**Turquoise Moun**	**1.33**	**100**		Pg	10 36 35.4	-0.6
CHFC	**Chilao Flat St**	**1.41**	**197**		Pb	10 36 37.8	0.0
CHFC					Sg	10 36 56.0	+0.2
BFSC	**Mount Baldy Ra**	**1.45**	**184**		Sn	10 36 57.8	+0.1
SIL	**Silver Peak**	**1.45**	**157**		Pn	10 36 38.2	+0.1
DECC	**Green Verdugo**	**1.57**	**205**		Sg	10 37 01.9	+0.8
SVD	**Seven Oaks Dam**	**1.61**	**167**		Sg	10 37 03.2	+0.8
DEVC	**Devers**	**1.91**	**156**		Pn	10 36 44.8	+0.5
CMB	**Columbia Colle**	**3.28**	**316**	Pn	Pn	10 37 03.1	-0.1
CMB				IAML		10 38 32.8	
	comp=N,48nm,0.8s						
CMB				IAML		10 38 36.1	
	comp=E,29nm,0.8s						

*NEIC **06** 10:37:09.1±1.6,35°.891N±0°.008×117°.71W±0°.01, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.6km az=305.0*

PAS 06 10:37:09.2±1.4,35°.884N±0°.007×117°.70W±0°.01, h3km±3km,ML3.1/27,ML3.1/14(NEIC),Error ellipse: s-maj=1.4km s-min=1.0km az=76.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.09**	**216**		Pg	10 37 11.6	+0.6
TOW					Sg	10 37 14.1	+1.8
CLC	**China Lake**	**0.11**	**130**		Pg	10 37 11.4	+0.1
WVPM	**Volcano Peak E**	**0.12**	**304**		Pg	10 37 13.7	+2.1
SRTC	**Snort**	**0.20**	**192**		Pg	10 37 13.5	+0.5
SRTC					Sg	10 37 17.4	+1.8
WRVM	**Rose V. Centra**	**0.20**	**308**		Pg	10 37 13.3	+0.2
MPMC	**Manual Prospec**	**0.24**	**44**		Pg	10 37 14.0	+0.1
MPMC					Sg	10 37 17.6	+0.5
MFS	**McCloud Flat S**	**0.27**	**331**		Sg	10 37 18.4	+0.6
LRMC	**Laurel Mtn Rad**	**0.40**	**178**		Pg	10 37 16.8	-0.2
LRMC					Sg	10 37 22.6	+0.4
LRMC				IAML		10 37 23.8	
	comp=E,1µm,0.4s						
WBSM	**Bird Springs**	**0.50**	**226**		Pg	10 37 18.7	0.0
WBSM					Sg	10 37 25.7	+0.5
WHFM	**Hanning Flat**	**0.56**	**251**		Pg	10 37 19.9	0.0
WHFM					Sg	10 37 27.4	+0.2
DTP	**Desert Tortois**	**0.63**	**191**		Sg	10 37 29.8	+0.5
ISA	**Isabella, Lake**	**0.67**	**251**	Pg	Pg	10 37 21.8	-0.3
ISA				IAML		10 37 31.0	
	comp=N,823nm,0.3s						
ISA				IAML		10 37 32.5	
	comp=E,789nm,0.3s						
CGO	**Cerro Gordo**	**0.67**	**353**		Pg	10 37 22.3	+0.2
QSM	**Queen of Sheba**	**0.68**	**83**	Sg	Sg	10 37 30.7	-0.3
WASM	**Alta Sierra Ca**	**0.71**	**259**		Sg	10 37 32.3	+0.2
CCAC	**Calif City Air**	**0.78**	**200**		Sg	10 37 34.4	+0.3
CCAC	**Calif City Air**	**0.78**	**200**	Pg	Pg	10 37 23.6	-0.4
GWY	**Greenwater Val**	**0.89**	**70**	Pg	Pg	10 37 26.2	0.0
GWY				IAML		10 37 58.3	
	comp=E,1µm,0.4s						
GSC	**Goldstone, Bar**	**0.93**	**128**		Sn	10 37 45.1	+2.0
HYS	**Haystack Butte**	**1.02**	**174**		Pg	10 37 29.2	+0.4
HYS					Sb	10 37 43.1	-0.4
EDW2	**Edwards Air Fo**	**1.03**	**194**		Sb	10 37 43.6	0.0
TEJ	**El Tejon**	**1.04**	**231**		Sg	10 37 42.1	-0.4
TPO	**Tropico Hills**	**1.09**	**204**		Pg	10 37 29.6	-0.5
TPO					Sg	10 37 44.4	+0.1
GRAC	**Grapevine Rang**	**1.14**	**13**	Pg	Pg	10 37 30.8	-0.3
GRAC				IAML		10 38 05.8	
	comp=E,347nm,0.7s						
GRAC				IAML		10 38 11.5	
	comp=N,274nm,0.7s						
SHOC	**Shoshone, Teco**	**1.16**	**89**		Sg	10 37 46.6	+0.3
SGV	**South Grapevin**	**1.22**	**26**		Pg	10 37 32.6	0.0
WCT	**Wildcat Mounta**	**1.25**	**43**	Pg	Pg	10 37 32.8	-0.4
WCT				IAML		10 37 53.9	
	comp=N,483nm,0.7s						
WCT				IAML		10 38 16.1	
	comp=E,543nm,0.4s						
BAKC	**Calstate**	**1.27**	**245**		Sb	10 37 50.4	0.0
AMDNV	**Amargosa**	**1.28**	**63**		Sg	10 37 50.3	0.0
VOG	**Valley Oaks Go**	**1.43**	**288**		Pn	10 37 35.3	-0.8
JNH	**Juniper Hills**	**1.45**	**188**		Pb	10 37 36.9	0.0
CHFC	**Chilao Flat St**	**1.57**	**190**		Pb	10 37 38.8	-0.2
BFSC	**Mount Baldy Ra**	**1.64**	**179**		Pb	10 37 40.0	-0.2
OAT	**Oat Mountain**	**1.71**	**206**		Sn	10 38 01.5	-0.9
DJJ	**Donna J Jenkin**	**1.88**	**200**		Pn	10 37 41.1	-1.2

*NEIC **06** 10:37:27.5±1.7,35°.61N±0°.01×117°.35W±0°.01,h3km±4km, Error ellipse: s-maj=1.6km s-min=1.4km az=210.0*
*PAS **06** 10:37:27.9±1.8,35°.61N±0°.01×117°.38W±0°.01,h-1km±1km, Mwr3.8/4,ML3.7/50(NEIC),Error ellipse: s-maj=1.6km s-min=1.5km az=212.0*
*IDC **06** 10:37:28.0±0.9,35°.60N×117°.16W,h0km,mb3.7/1, mbtmp3.4/6,ML3.8/3,Error ellipse: s-maj=19.5km s-min=6.3km az=77.0*

ISC 06 10:37:27.3±1.1,35°.60N±0°.02×117°.34W±0°.02,h1km±10km, n90,σ0°66/106,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.07**	**197**		Pg	**10 37 29.0**	**+0.2**
CLC	**China Lake**	**0.30**	**316**		Pg	**10 37 33.6**	**+0.5**
LRMC	**Laurel Mtn Rad**	**0.30**	**247**		Pg	**10 37 33.1**	**-0.1**
LRMC					Sg	**10 37 37.3**	**+0.3**
LRMC				IAML		10 37 37.7	
	comp=N,18µm,0.5s						
LRMC				IAML		10 37 37.7	
	comp=E,13µm,0.4s						
TOW	**Tower One**	**0.41**	**301**		Pg	**10 37 36.1**	**+1.0**
MPMC	**Manual Prospec**	**0.48**	**345**		Pg	**10 37 37.0**	**+0.6**
WNMM	**Nine Mile Cany**	**0.52**	**298**		Pg	**10 37 37.5**	**+0.1**
WVPM	**Volcano Peak E**	**0.52**	**312**		Pg	**10 37 36.5**	**-0.9**
GSC	**Goldstone, Bar**	**0.53**	**124**		Pg	**10 37 37.7**	**+0.4**
DTP	**Desert Tortois**	**0.53**	**232**		Pg	**10 37 37.1**	**-0.3**
DTP					Sg	**10 37 44.1**	**-0.2**
QSM	**Queen of Sheba**	**0.53**	**46**		Pg	**10 37 38.4**	**+0.9**
QSM				IAML		10 37 52.1	
	comp=E,2µm,0.6s						
QSM				IAML		10 37 54.7	
	comp=N,2µm,0.6s						
WBSM	**Bird Springs**	**0.66**	**265**		Pg	**10 37 40.1**	**+0.2**
WBSM					Sg	**10 37 48.6**	**+0.3**
MFS	**McCloud Flat S**	**0.67**	**321**		Pg	**10 37 39.3**	**-0.8**
CCAC	**Calif City Air**	**0.71**	**232**		Pg	**10 37 40.9**	**0.0**
CCAC				IAML		10 37 54.6	
	comp=E,3µm,0.3s						
CCAC				IAML		10 37 54.9	
	comp=N,4µm,0.6s						
WORM	**Onyx Ranch**	**0.74**	**278**		Pg	**10 37 41.3**	**-0.2**
WORM					Sg	**10 37 49.7**	**-1.5**
HYS	**Haystack Butte**	**0.76**	**195**		Sg	**10 37 51.2**	**-0.4**
RRX	**Edison Barstow**	**0.77**	**159**		Pg	**10 37 41.9**	**-0.2**
WHFM	**Hanning Flat**	**0.83**	**277**		Pg	**10 37 43.0**	**-0.2**
WHFM					Sg	**10 37 54.2**	**+0.3**
EDW2	**Edwards Air Fo**	**0.89**	**217**		Sb	**10 37 57.4**	**-0.8**
ISA	**Isabella, Lake**	**0.93**	**274**		Pg	**10 37 44.9**	**-0.2**
ISA				IAML		10 38 00.2	
	comp=N,2µm,0.5s						
ISA				IAML		10 38 00.7	
	comp=E,2µm,0.8s						
SBB	**Saddle Back Bu**	**0.99**	**204**		Pg	**10 37 45.5**	**-0.8**
SBB					Sg	**10 37 57.9**	**-1.3**
WASM	**Alta Sierra Ca**	**1.00**	**278**		Sg	**10 37 59.6**	**+0.1**
TPO	**Tropico Hills**	**1.02**	**226**		Pg	**10 37 47.1**	**+0.2**
TPO					Sb	**10 38 01.4**	**-0.4**
CGO	**Cerro Gordo**	**1.02**	**339**		Pb	**10 37 47.9**	**-0.2**
CGO					Sb	**10 38 01.9**	**-0.2**
CWC	**Cottonwood Cre**	**1.03**	**325**		Pg	**10 37 46.7**	**-0.4**
VTV	**Victorville**	**1.03**	**180**		Pg	**10 37 47.7**	**+0.5**
VTV					Sb	**10 38 02.2**	**0.0**
ADO	**Adelanto Recei**	**1.05**	**184**		Pb	**10 37 48.2**	**-0.1**
ADO					Sb	**10 38 03.3**	**+0.7**
DSCC	**Desert Studies**	**1.11**	**114**		Pg	**10 37 48.1**	**-0.4**
HEC	**Hector,Ludlow**	**1.12**	**133**		Pg	**10 37 48.4**	**-0.4**
HEC					Sg	**10 38 04.3**	**+0.9**
TUQ	**Turquoise Moun**	**1.17**	**98**		Pg	**10 37 49.5**	**-0.1**
TUQ					Sb	**10 38 06.1**	**+0.1**
LRRC	**Littlerock Res**	**1.21**	**208**		Pg	**10 37 50.5**	**+0.1**
LRRC					Sg	**10 38 06.7**	**+0.5**
LEOC	**Leona Valley**	**1.25**	**220**		Pg	**10 37 51.1**	**-0.1**
LEOC					Sb	**10 38 08.1**	**-0.3**
CJV	**Casa Juvan**	**1.25**	**212**		Pg	**10 37 50.9**	**-0.4**
JNH	**Juniper Hills**	**1.25**	**204**		Pg	**10 37 50.9**	**-0.5**
SPG2	**Springville 2**	**1.31**	**298**		Pg	**10 37 51.5**	**-0.8**
SIL	**Silver Peak**	**1.32**	**161**		Pg	**10 37 52.6**	**+0.1**
SIL					Sg	**10 38 09.0**	**-0.6**
BFSC	**Mount Baldy Ra**	**1.38**	**191**		Pn	**10 37 53.7**	**-0.2**
CHFC	**Chilao Flat St**	**1.38**	**204**		Pn	**10 37 53.1**	**-0.8**
MTPC	**Mountain Pass**	**1.46**	**94**		Sg	**10 38 13.2**	**-1.1**
MWC	**Mount Wilson**	**1.49**	**204**		Pn	**10 37 55.3**	**-0.2**
MWC				IAML		10 38 17.2	
	comp=E,816nm,0.4s						
MWC				IAML		10 38 18.8	
	comp=N,1µm,0.6s						
CLTC	**Calectric**	**1.50**	**179**		Sn	**10 38 14.4**	**-1.3**
OSI	**Osito Audit: C**	**1.50**	**230**		Pb	**10 37 56.0**	**-0.1**
OSI					Sb	**10 38 15.3**	**-0.3**
OSI	**Osito Audit: C**	**1.50**	**230**		Pn	**10 37 55.1**	**-0.3**
OSI	**Osito Audit: C**	**1.50**	**230**	IAML		10 38 16.7	
	comp=N,2µm,0.7s						
SVD	**Seven Oaks Dam**	**1.50**	**172**		Sn	**10 38 15.2**	**-0.5**
GTM	**Goat Mountain**	**1.53**	**148**		Pn	**10 37 55.9**	**0.0**
GTM					Sn	**10 38 16.1**	**-0.3**
PDE	**Pardee, Santa**	**1.54**	**222**		Pb	**10 37 56.7**	**0.0**
PSRC	**Puddingstone R**	**1.55**	**195**		Pb	**10 37 56.8**	**-0.1**
DECC	**Green Verdugo**	**1.57**	**212**		Pn	**10 37 56.6**	**+0.2**
PASC	**Pasadena Art C**	**1.58**	**206**		Pn	**10 37 56.9**	**+0.3**
PASC				IAML		10 38 21.5	
	comp=E,615nm,0.5s						
GMRC	**Granite Mounta**	**1.60**	**120**		Pn	**10 37 55.0**	**-1.8**
MLSC	**Mira Loma**	**1.60**	**187**		Sn	**10 38 17.2**	**-0.9**
TPNV	**Topopah Spring**	**1.61**	**33**		Pn	**10 37 57.0**	**-0.1**
TPNV				IAML		10 38 24.0	
	comp=E,663nm,0.6s						
TPNV				IAML		10 38 27.0	
	comp=E,481nm,0.5s						
GVRC	**Garvey Reservo**	**1.67**	**203**		Pb	**10 37 59.2**	**+0.3**
GR2C	**Griffith Obs.**	**1.67**	**208**		Pb	**10 37 59.1**	**+0.2**
RHC	**Rose Hills Cem**	**1.69**	**199**		Pg	**10 38 00.1**	**+0.4**
BLAC	**Blackrock camp**	**1.71**	**153**		Pb	**10 37 59.3**	**-0.3**
BLCC	**Black Canyon**	**1.74**	**219**		Pn	**10 37 59.1**	**+0.3**
DJJ	**Donna J Jenkin**	**1.75**	**212**		Pn	**10 37 59.3**	**+0.5**
VOG	**Valley Oaks Go**	**1.81**	**294**		Pb	**10 38 00.7**	**-0.5**
BCW	**Bitter Crk WRg**	**1.82**	**249**	Pn	Pn	**10 38 00.1**	**+0.2**
BCW				IAML		10 38 29.1	
	comp=N,735nm,0.7s						
BCW				IAML		10 38 32.7	
	comp=E,796nm,0.6s						
EW2	**E Wide Canyon**	**1.82**	**155**		Pb	**10 38 01.5**	**0.0**
TPC	**Twentynine Pal**	**1.83**	**144**		Pb	**10 38 01.4**	**-0.2**
HMTC	**Hemet**	**1.90**	**172**		Pn	**10 38 00.1**	**-0.9**
POB	**Polly Butte**	**1.94**	**170**		Pn	**10 38 01.2**	**-0.3**
ELS	**Elsinore Mount**	**1.95**	**182**		Pn	**10 38 01.5**	**-0.1**
SHPR	**Sheep Range**	**1.98**	**62**		Pn	**10 38 01.9**	**-0.3**
V12A	**Nelson**	**2.03**	**86**	Pn	Pn	**10 38 01.6**	**-1.1**
V12A				IAML		10 38 33.3	
	comp=N,662nm,1.1s						
V12A				IAML		10 38 40.6	
	comp=E,415nm,0.6s						
PMD	**Palm Desert**	**2.10**	**158**		Pb	**10 38 06.1**	**-0.1**
PMD	**Palm Desert**	**2.10**	**158**	IAML		10 38 34.9	
	comp=E,347nm,0.5s						
PFO	**Pinyon Flats O**	**2.11**	**160**	Pn	Pb	**10 38 06.6**	**+0.1**
PFO				IAML		10 38 35.8	
	comp=E,358nm,0.7s						
PFO				IAML		10 38 35.8	
	comp=E,303nm,0.7s						
PFO	**Pinyon Flats O**	**2.11**	**160**	Pn	**Pn**	**10 38 03.5**	**-0.4**
	comp=E,23nm,0.3s,baz=343,slow=17,SNR=8.6						
PFO				Pg	**Pb**	**10 38 05.9**	**-0.6**
	comp=E,23nm,0.3s,baz=341,slow=17,SNR=8.6						
PFO				Lg	Lg	10 38 33.4	
	comp=E,85nm,0.3s,baz=66,slow=20,SNR=19						
	comp=E,62nm,0.4s						
XPFO	**Pinon Flat**	**2.11**	**160**		Pb	**10 38 06.4**	**-0.1**
SNDA	**J Saunders Pla**	**2.13**	**163**		Pb	**10 38 07.0**	**+0.3**
BZNA	**Buzz No.'s Pla**	**2.17**	**165**		Pb	**10 38 07.5**	**-0.1**
SLH	**Sleepy Hollow**	**2.56**	**159**		Pb	**10 38 14.9**	**+0.8**
NVAR	**Mina Array Bea**	**2.93**	**345**	Pn	**Pn**	**10 38 16.0**	**+0.7**
	comp=E,6.0nm,0.6s,baz=167,slow=12,SNR=1.8						
NVAR				Pg	**Pg**	**10 38 22.3**	**-1.2**
	comp=E,7.0nm,0.3s,baz=161,slow=15,SNR=7.8						
NVAR				Lg	Lg	10 39 02.3	
	comp=E,6.5nm,0.3s,baz=164,slow=32,SNR=2.5						
TJX	**Tijuana**	**3.09**	**176**	Pn	**Pn**	**10 38 17.1**	**-0.2**
BBGB	**Big Mountain B**	**3.15**	**289**	Pn	**Pn**	**10 38 18.4**	**+0.2**
YUH	**Yuha Desert**	**3.17**	**158**	Pn	**Pn**	**10 38 17.3**	**-1.0**
CBX	**Cerro Bola**	**3.32**	**170**	Pn	**Pn**	**10 38 20.9**	**+0.3**
KNB	**Kanab**	**3.91**	**67**	Pn	**Pn**	**10 38 29.3**	**+0.6**
KNB				IAML		10 39 39.0	
	comp=E,97nm,1.1s						
KNB				IAML		10 40 10.5	
	comp=N,77nm,1.4s						
SFX	**San Felipe**	**5.00**	**155**	Pn	**Pn**	**10 38 42.5**	**-1.0**
SFX				IAML		10 40 14.3	
	comp=E,38nm,0.9s						
SFX				IAML		10 40 25.9	
	comp=N,31nm,1.1s						
ELK	**Elko**	**5.40**	**17**	Pn	**Pn**	**10 38 48.3**	**-0.9**
ELK	**Elko**	**5.40**	**17**	Pn	**Pn**	**10 38 48.5**	**-0.7**
	comp=N,0.7nm,0.3s,baz=225,slow=14,SNR=1.8						
ELK				Lg	Lg	10 40 18.4	
	baz=131,slow=19 comp=N,2.3nm,0.4s						
Q16A	**Castle Valley**	**5.93**	**54**	Pn	**Pn**	**10 38 55.0**	**-1.5**
319A	**Douglas**	**7.94**	**120**	Pn	**Pn**	**10 39 22.2**	**-1.8**
ANMO	**Albuquerque**	**8.92**	**91**	Pg	Pg	10 40 11.5	-6.7
	comp=N,0.2nm,0.3s,baz=289,slow=7.8,SNR=11						
ANMO				Lg	Lg	10 42 05.2	
	comp=N,0.1nm,0.3s,baz=264,slow=18,SNR=2.1						
PDAR	**Pinedale Array**	**9.36**	**38**	Pn	**Pn**	**10 39 45.4**	**+1.7**
	comp=N,0.6nm,0.7s,baz=231,slow=12,SNR=5.3						
TXAR	**Lajitas Array**	**13.12**	**115**	Pn	**Pn**	**10 40 36.6**	**+1.6**
	comp=N,0.1nm,0.3s,baz=300,slow=15,SNR=11						
	comp=N,0.4nm,0.6s						
ULM	**Lac du Bonnet**	**21.37**	**40**	P	**P**	**10 42 16.7**	**+0.6**
	comp=N,4.3nm,1.1s,baz=236,slow=14,SNR=5.6						
	comp=N,4.3nm,1.1s						

*NEIC **06** 10:38:30.9±0.8,35°.901N±0°.010×117°.75W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.9km az=154.0*

PAS 06 10:38:31.3±0.8,35°.911N±0°.009×117°.73W±0°.01, h5km±3km,ML3.0/5,ML2.7/20(NEIC),Error ellipse: s-maj=1.6km s-min=1.4km az=109.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.08**	**299**		Pg	10 38 33.3	+0.1
TOW	**Tower One**	**0.10**	**194**		Pg	10 38 34.0	+0.5
CLC	**China Lake**	**0.15**	**131**		Pg	10 38 34.3	0.0
WNMM	**Nine Mile Cany**	**0.15**	**244**		Pg	10 38 34.5	+0.1
WRVM	**Rose V. Centra**	**0.16**	**307**		Pg	10 38 34.6	0.0
SRTC	**Snort**	**0.22**	**183**		Sg	10 38 40.3	+1.7
MFS	**McCloud Flat S**	**0.23**	**334**		Pg	10 38 36.0	+0.1
MFS					Sg	10 38 39.5	+0.6
MPMC	**Manual Prospec**	**0.25**	**53**		Pg	10 38 36.2	0.0
LRMC	**Laurel Mtn Rad**	**0.43**	**174**		Pg	10 38 39.4	-0.3
LRMC				Sg	Sg	10 38 45.5	+0.2
LRMC				IAML		10 38 46.6	
	comp=N,614nm,0.2s						
LRMC				IAML		10 38 46.9	
	comp=E,630nm,0.2s						
CCCA	**Chr Cany lake**	**0.49**	**142**		Sg	10 38 48.2	+1.1
WBSM	**Bird Springs**	**0.50**	**222**		Pg	10 38 40.7	-0.2
WBSM					Sg	10 38 47.4	0.0
WHFM	**Hanning Flat**	**0.55**	**247**		Pg	10 38 41.5	-0.3
CWC	**Cottonwood Cre**	**0.60**	**332**		Sg	10 38 50.9	+0.2
CGO	**Cerro Gordo**	**0.64**	**355**		Sg	10 38 52.8	+0.8
ISA	**Isabella, Lake**	**0.65**	**248**		Sg	10 38 52.2	-0.1
ISA	**Isabella, Lake**	**0.65**	**248**	Pg	Pg	10 38 43.4	-0.4
ISA				IAML		10 38 52.7	
	comp=N,383nm,0.2s						
ISA				IAML		10 38 54.2	
	comp=E,388nm,0.2s						
WASM	**Alta Sierra Ca**	**0.69**	**256**		Pg	10 38 44.3	-0.3
QSM	**Queen of Sheba**	**0.70**	**85**		Pg	10 38 45.0	+0.2
QSM				IAML		10 38 57.5	
	comp=E,279nm,0.8s						
CCAC	**Calif City Air**	**0.79**	**197**	Pg	Pg	10 38 46.2	-0.3
SPG2	**Springville 2**	**0.89**	**289**		Pg	10 38 47.5	-0.8
GWY	**Greenwater Val**	**0.91**	**72**	Pg	Pg	10 38 48.4	-0.3
GWY				IAML		10 38 52.4	
	comp=E,248nm,1.1s						
GWY				IAML		10 38 56.0	
	comp=N,252nm,1.2s						
GSC	**Goldstone, Bar**	**0.97**	**129**	Pg	Pg	10 38 49.1	-0.9
GSC				IAML		10 39 02.6	
	comp=N,167nm,0.8s						
VES	**Vestal, Richgr**	**1.10**	**267**		Pg	10 38 52.2	-0.2
GRAC	**Grapevine Rang**	**1.12**	**15**	Pg	Pg	10 38 52.4	-0.4
ARVC	**Arvin**	**1.19**	**229**		Pg	10 38 50.7	-3.4
SBB	**Saddle Back Bu**	**1.22**	**184**		Sg	10 39 09.6	-1.0
VOG	**Valley Oaks Go**	**1.40**	**288**		Pn	10 38 57.0	-0.

SPG2	**Springville 2**	**1.12**	**298**			Pg	10 40 45.5	-0.6
ADO	**Adelanto Recei**	**1.12**	**175**			Pn	10 40 47.4	-0.3
VTV	**Victorville**	**1.12**	**171**			Pb	10 40 46.9	0.0
VTV						Sb	10 41 02.5	+0.4
ALPC	**Antelope**	**1.16**	**212**			Pg	10 40 47.1	+0.3
ALPC						Sb	10 41 03.6	+0.5
TJR	**Tejon Ranch**	**1.17**	**237**			Pg	10 40 47.2	+0.1
ARVC	**Arvin**	**1.18**	**243**			Pg	10 40 47.3	0.0
THC	**Tehachapi Micr**	**1.19**	**230**			Pg	10 40 46.9	-0.6
LEOC	**Leona Valley**	**1.21**	**211**			Pg	10 40 47.2	-0.7
LEOC						Sn	10 41 05.5	-0.3
LRRC	**Littlerock Res**	**1.21**	**199**			Pg	10 40 47.1	-0.7
LRRC						Sn	10 41 05.5	-0.2
CJV	**Casa Juvan**	**1.24**	**203**			Pg	10 40 48.0	-0.4
CJV						Sb	10 41 05.7	+0.3
JNH	**Juniper Hills**	**1.27**	**195**			Pg	10 40 48.2	-0.7
AMDNV	**Amargosa**	**1.29**	**53**			Pg	10 40 48.4	-1.0
DSCC	**Desert Studies**	**1.29**	**114**			Pg	10 40 48.1	-1.4
HEC	**Hector,Ludlow**	**1.30**	**130**			Pg	10 40 48.6	-1.0
GRAC	**Grapevine Rang**	**1.33**	**6**			Pg	10 40 49.8	-0.3
GRAC					IAML		10 41 13.3	
	comp=E,656nm,0.5s							
WCT	**Wildcat Mounta**	**1.34**	**34**			Pg	10 40 49.8	-0.7
WCT					IAML		10 41 10.9	
	comp=E,403nm,0.8s							
TUQ	**Turquoise Moun**	**1.35**	**100**			Pg	10 40 49.6	-0.9
TUQ						Sn	10 41 09.1	-0.2
SGV	**South Grapevin**	**1.37**	**18**			Pg	10 40 50.2	-0.7
CHFC	**Chilao Flat St**	**1.39**	**196**			Pg	10 40 50.8	-0.5
CHFC						Sg	10 41 09.6	+0.2
OSI	**Osito Audit: C**	**1.43**	**223**			Pb	10 40 52.1	0.0
OSI	**Osito Audit: C**	**1.43**	**223**			Pn	10 40 51.4	-0.4
OSI					IAML		10 41 17.9	
	comp=E,449nm,0.9s							
OSI					IAML		10 41 18.6	
	comp=N,445nm,0.6s							
BFSC	**Mount Baldy Ra**	**1.43**	**184**			Pn	10 40 51.2	-0.8
SIL	**Silver Peak**	**1.45**	**156**			Pn	10 40 51.9	-0.3
SIL						Sn	10 41 12.2	+0.3
BBRC	**Big Bear Solar**	**1.50**	**160**			Pn	10 40 52.5	-0.4
BBRC						Sn	10 41 13.8	+0.6
MWC	**Mount Wilson**	**1.50**	**196**			Pb	10 40 53.4	-0.1
MWC	**Mount Wilson**	**1.50**	**196**		IAML		10 41 15.0	
	comp=E,522nm,0.7s							
DECC	**Green Verdugo**	**1.56**	**205**			Pn	10 40 53.7	+0.2
LCH	**Last Change Ra**	**1.56**	**357**			Pn	10 40 53.1	-0.6
PASC	**Pasadena Art C**	**1.59**	**199**			Pn	10 40 53.2	-0.7
PASC					IAML		10 41 20.1	
	comp=E,281nm,0.3s							
PASC					IAML		10 41 20.8	
	comp=N,331nm,0.5s							
CLTC	**Calectric**	**1.59**	**173**			Sn	10 41 14.2	-0.8
PSRC	**Puddingstone R**	**1.59**	**188**			Pb	10 40 54.6	-0.2
MTPC	**Mountain Pass**	**1.64**	**96**			Sn	10 41 14.2	-2.4
GMN	**Gold Mountain**	**1.64**	**8**			Pn	10 40 54.4	-0.5
TPNV	**Topopah Spring**	**1.65**	**39**			Pn	10 40 54.3	-0.7
MLSC	**Mira Loma**	**1.66**	**180**			Pb	10 40 55.9	-0.2
RVR	**Riverside**	**1.68**	**175**			Pb	10 40 56.3	-0.1
GTM	**Goat Mountain**	**1.69**	**144**			Pb	10 40 56.0	-0.5
BLCC	**Black Canyon**	**1.70**	**213**			Pg	10 40 57.5	+0.3
DSP	**Deep Springs**	**1.73**	**349**			Pn	10 40 55.6	-0.2
DJJ	**Donna J Jenkin**	**1.73**	**206**			Pb	10 40 57.2	0.0
BHPR	**Bishop**	**1.79**	**335**			Pb	10 40 58.6	+0.2
BLAC	**Blackrock camp**	**1.86**	**149**			Pn	10 40 57.0	-0.8
MTUM	**Tungsten Hills**	**1.86**	**334**			Pb	10 40 59.8	+0.2
EW2	**E Wide Canyon**	**1.97**	**151**			Pn	10 40 58.1	-1.1
HMTC	**Hemet**	**2.01**	**167**			Pn	10 40 59.2	-0.6
ELS	**Elsinore Mount**	**2.02**	**177**			Pn	10 40 59.4	-0.6
ELS					IAML		10 41 31.8	
	comp=E,215nm,0.3s							
MZP	**Montezuma Peak**	**2.03**	**4**			Pn	10 41 00.1	-0.2
POB	**Polly Butte**	**2.05**	**165**			Pn	10 40 59.3	-1.0
DANC	**Danby, Needles**	**2.06**	**120**			Pn	10 40 58.6	-1.8
DGR	**Domenigoni Val**	**2.07**	**167**			Pn	10 41 00.5	-0.1
MURC	**Murrieta**	**2.09**	**172**			Pn	10 41 00.6	-0.2
V12A	**Nelson**	**2.20**	**88**	Pn	Pn	Pn	10 41 01.3	-1.1
V12A					IAML		10 41 38.0	
	comp=N,173nm,1.1s							
CRY	**Cary Ranch**	**2.21**	**162**			Pn	10 41 02.1	-0.4
PMD	**Palm Desert**	**2.24**	**154**			Pn	10 41 02.5	-0.4
PMD	**Palm Desert**	**2.24**	**154**	Pn	Pn	Pn	10 41 01.7	-1.1
PMD	**Palm Desert**	**2.24**	**154**	IAML			10 41 36.3	
	comp=E,296nm,0.5s							
PMD					IAML		10 41 37.4	
	comp=N,221nm,0.6s							
PFO	**Pinyon Flats O**	**2.25**	**156**			Pn	10 41 02.1	-1.0
PFO					IAML		10 41 37.5	
	comp=N,188nm,0.7s							
PFO	**Pinyon Flats O**	**2.25**	**156**			Pn	10 41 02.0	-1.1
XPFO	**Pinon Flat**	**2.25**	**156**			Pn	10 41 01.9	-1.2
SNDA	**J Saunders Pla**	**2.25**	**160**			Pn	10 41 02.4	-0.8
BZNA	**Buzz No.'s Pla**	**2.29**	**161**			Pn	10 41 03.2	-0.6
FRD	**Ford Ranch, An**	**2.31**	**160**			Pn	10 41 03.0	-0.9
FRD	**Ford Ranch, An**	**2.31**	**160**			Pn	10 41 03.3	-0.7
TPH	**Tonopah**	**2.41**	**6**			Pn	10 41 05.5	0.0
SBI	**Santa Barbara**	**2.50**	**210**			Pn	10 41 07.3	+0.8
MATG	**Mataguay Scout**	**2.58**	**163**			Pn	10 41 07.8	+0.2
DPP	**Dos Picos Cty**	**2.71**	**169**			Pn	10 41 08.9	-0.6
NV11	**Mina Array Sit**	**2.80**	**350**	Pn	Pn	Pn	10 41 10.7	0.0
NVAR	**Mina Array Bea**	**2.82**	**348**	Pn	Pn	Pn	10 41 11.0	0.0
W13A	**Hualapai Mount**	**3.05**	**100**	Pn	Pn	Pn	10 41 13.2	-1.0
BLYC	**Blythe**	**3.15**	**127**	Pn	Pn	Pn	10 41 13.4	-2.0
BLYC					IAML		10 42 08.5	
	comp=N,91nm,0.5s							
BLYC					IAML		10 42 09.8	
	comp=E,94nm,0.6s							
CBX	**Cerro Bola**	**3.43**	**167**	Pn	Pn	Pn	10 41 19.3	-0.1
GLA	**Glamis**	**3.45**	**138**	Pn	Pn	Pn	10 41 17.6	-2.0
ESJX	**Sierra Juarez**	**3.89**	**160**	Pn	Pn	Pn	10 41 25.3	-0.5
ESJX					IAML		10 42 27.5	
	comp=E,52nm,0.4s							
ESJX					IAML		10 42 28.8	
	comp=N,50nm,0.7s							
KNB	**Kanab**	**4.05**	**69**	Pn	Pn	Pn	10 41 27.7	-0.2
KNB					IAML		10 42 38.4	
	comp=E,42nm,0.8s							
Y14A	**Wickenburg**	**4.12**	**114**	Pn	Pn	Pn	10 41 27.5	-1.4
Y14A					IAML		10 42 38.9	
	comp=E,49nm,0.5s							
WUAZ	**Wupatki**	**5.04**	**90**	Pn	Pn	Pn	10 41 41.5	0.0
X16A	**Lo Mia Camp, P**	**5.17**	**102**	Pn	Pn	Pn	10 41 43.5	+0.1
X16A					IAML		10 43 22.3	
	comp=N,14nm,1.4s							
X18A	**Snowflake**	**6.33**	**98**	Pn	Pn	Pn	10 42 00.2	+0.9
TUC	**Tucson**	**6.54**	**119**	Pn	Pn	Pn	10 42 00.7	-1.4

*IDC **06** 10:42:09.8±1.0,0.˝68S×98.˝72E,h0km,mb4.0/9, mbtmp3.9/11,ML3.8/2,Error ellipse: s-maj=41.1km s-min=12.4km az=70.0*

*DJA **06** 10:42:14.5±0.7,0.˝S±3.˝×9.˝9E±.˝,h13km±7km,M3.4/1, MLv4.2/13,MLv3.4/1*

*NEIC **06** 10:42:16.8±1.8,0.˝42S±0.˝02×98.˝80E±0.˝09,h40km±9km, mb4.2/15,Error ellipse: s-maj=12.8km s-min=3.2km az=93.0*

ISC 06 10:42:17.6±0.6,0.˝42S±0.˝04×98.˝84E±0.˝07,h53km,n52, σ1.59/49,mb4.2/18,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.93**	**165**	P	**Pn**	**10 42 32.6**	**-1.9**
SISI				S	**Sn**	**10 42 45.7**	**-1.3**
MNSI	**Mandailing Nat**	**1.42**	**31**	P	**Pn**	**10 42 39.4**	**-1.7**
PPI	**Padang Panjang**	**1.56**	**91**	P	**Pn**	**10 42 40.6**	**-2.3**
SBSI	**Sibolga**	**1.96**	**1**	P	**Pn**	**10 42 47.7**	**-0.8**
GSI	**Gunungsitoli**	**2.13**	**324**		**Pn**	**10 42 49.5**	**-1.3**
GSI	**Gunungsitoli**	**2.13**	**324**	P	**Pn**	**10 42 49.2**	**-1.6**
BKNI	**Bangkinang**	**2.32**	**71**	P	Pn	10 42 57.2	+3.8
RPSI	**Rantau Prapat**	**3.10**	**2**		**Pn**	**10 43 02.4**	**-1.6**
RPSI					**Sn**	**10 43 38.8**	**-1.0**
PSI	**Prapat**	**3.20**	**1**	Pn	**Pn**	**10 43 02.4**	**-3.2**
	4.6nm,0.3s,baz=156,slow=14,SNR=7.5						
PSI				Sn	**Sn**	**10 43 38.8**	**-3.8**
	3.4nm,0.3s,baz=126,slow=17,SNR=1.7 9.3nm,0.4s						
IPM	**Ipoh**	**5.33**	**24**	Pn	**Pn**	**10 43 34.6**	**-0.2**
MYKOM	**Kota Tinggi**	**5.47**	**66**	Pn	**Pn**	**10 43 36.2**	**-0.4**
MNAI	**Manna**	**5.67**	**134**	Pn	**Pn**	**10 43 39.9**	**+0.4**
MNAI	**Manna**	**5.67**	**134**	P	**Pn**	**10 43 38.8**	**-0.6**
MDSI	**Maura Dua**	**6.69**	**127**	P	**Pn**	**10 43 53.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**18.76**	**0**	P	**Pn**	**10 46 33.0**	**-0.4**
CMAR				S	**S**	**10 50 09.1**	**+5.7**
	0.2nm,0.3s,baz=172,slow=9.3,SNR=6.7						
	0.2nm,0.3s,baz=200,slow=26,SNR=1.2 0.3nm,0.3s						
H08S2	**Diego Garcia H**	**27.23**	**254**	T	T	11 15 45.8	
	baz=75,slow=75,SNR=14						
H08S3	**Diego Garcia H**	**27.23**	**254**	T	T	11 15 46.0	
	baz=75,slow=75,SNR=97						
H08S1	**Diego Carcia H**	**27.25**	**254**	T	T	11 15 46.9	
	baz=75,slow=75,SNR=21						
FITZ	**Fitzroy Crossi**	**31.66**	**125**	P	**P**	**10 48 34.4**	**-1.7**
WB0	**Warramunga Arr**	**39.77**	**121**	P	**P**	**10 49 44.4**	**-1.3**
WB0				IAmb	IAmb	10 49 54.0	
	comp=E,2.3nm,0.9s						
WRA	**Warramunga Arr**	**39.79**	**121**	P	**P**	**10 49 44.6**	**-1.3**
WRA	**Warramunga Arr**	**39.79**	**121**	P	**P**	**10 49 43.9**	**-2.0**
	comp=Z,0.8nm,0.5s,baz=300,slow=8.0,SNR=22						
WRA				PcP	**PcP**	**10 51 52.2**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=308,slow=2.8,SNR=2.8 comp=Z,0.8nm,0.5s						
WRAB	**Tennant Creek**	**39.80**	**121**	P	**P**	**10 49 45.0**	**-0.9**
WRAB				IAmb	IAmb	10 49 54.5	
	comp=Z,2.0nm,0.8s						
WR8	**Warramunga Arr**	**39.94**	**121**	P	**P**	**10 49 45.7**	**-1.4**
WR8				IAmb	IAmb	10 49 46.7	
	comp=Z,3.4nm,0.8s						
ASAR	**Alice Springs**	**41.12**	**127**	P	**P**	**10 49 56.7**	**-0.1**
ASAR	**Alice Springs**	**41.12**	**127**	P	**P**	**10 49 55.6**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=298,slow=8.4,SNR=32						
ASAR				PcP	**PcP**	**10 51 56.2**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=302,slow=3.8,SNR=3.0 comp=Z,1.0nm,0.5s						
AS31	**Alice Springs**	**41.12**	**127**	P	**P**	**10 49 56.4**	**-0.4**
NIL	**Nilore**	**41.56**	**327**	P	**P**	**10 49 58.7**	**-1.6**
NIL				IAmb	IAmb	10 50 09.8	
	comp=Z,6.0nm,0.8s						
KDJ	**Kajisay**	**46.65**	**338**	P	**P**	**10 50 41.5**	**+0.3**
KDJ				IAmb	IAmb	10 50 43.9	
	comp=Z,4.1nm,0.8s						
SONM	**Songino Array**	**48.51**	**7**	P	**P**	**10 50 57.7**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=187,slow=8.4,SNR=5.6						
SONM				PcP	**PcP**	**10 52 22.3**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=200,slow=3.8,SNR=2.3 comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**49.21**	**345**	P	**P**	**10 51 01.6**	**+1.0**
MKAR	**Makanchi Array**	**49.21**	**345**	P	**P**	**10 51 01.3**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=157,slow=9.0,SNR=16 comp=Z,1.2nm,0.6s						
STKA	**Stephens Creek**	**51.06**	**132**	P	**P**	**10 51 15.5**	**+0.6**
STKA	**Stephens Creek**	**51.06**	**132**	P	**P**	**10 51 12.6**	**-2.3**
	comp=Z,2.0nm,0.7s,baz=304,slow=3.6,SNR=3.8 comp=Z,2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**53.72**	**344**	P	**P**	**10 51 35.0**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=163,slow=6.6,SNR=9.9 comp=Z,1.2nm,0.6s						
KURK	**Kurchatov**	**53.78**	**344**	P	**P**	**10 51 34.7**	**+0.1**
KURK				IAmb	IAmb	10 51 36.8	
	comp=Z,1.9nm,0.8s						
ZAA0	**Zalesovo Array**	**55.42**	**350**	P	**P**	**10 51 47.0**	**+0.6**
ZAA0				IAmb	IAmb	10 51 47.7	
	comp=Z,2.9nm,1.1s						
ZALV	**Zalesovo Beam**	**55.42**	**350**	P	**P**	**10 51 46.7**	**+0.2**
ZALV	**Zalesovo Beam**	**55.42**	**350**	P	**P**	**10 51 46.9**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=164,slow=6.3,SNR=7.1 comp=Z,1.8nm,0.5s						
BVAR	**Borovoye Array**	**58.31**	**340**	P	**P**	**10 52 07.0**	**0.0**
	comp=Z,2.0nm,0.6s,baz=143,slow=8.5,SNR=8.9 comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**58.38**	**340**	P	**P**	**10 52 07.7**	**+0.2**
BRVK				IAmb	IAmb	10 52 08.2	
	comp=Z,2.1nm,0.7s						
AB31	**Akbulak array**	**59.71**	**332**	P	**P**	**10 52 16.9**	**+0.1**
AB31				IAmb	IAmb	10 52 17.6	
	comp=Z,1.2nm,0.7s						
ABKAR	**Akbulak array**	**59.71**	**332**	P	**P**	**10 52 16.8**	**0.0**
H04N2	**CROZET ISLANDS**	**61.39**	**215**	T	T	11 59 02.2	
	baz=55,slow=75,SNR=7.6						
H04N1	**CROZET ISLANDS**	**61.40**	**215**	T	T	11 58 55.9	
	baz=55,slow=75,SNR=6.4						
H04N3	**CROZET ISLANDS**	**61.41**	**215**	T	T	11 58 54.6	
	baz=55,slow=75,SNR=6.0						
H04S1	**CROZET ISLANDS**	**61.70**	**215**	T	T	11 58 57.0	
	baz=55						
H04S3	**CROZET ISLANDS**	**61.71**	**215**	T	T	11 59 09.5	
	baz=55,SNR=5.6						
H04S2	**CROZET ISLANDS**	**61.72**	**215**	T	T	11 59 09.6	
	baz=55						
NRIK	**Noril'sk**	**70.05**	**356**	P	**P**	**10 53 23.8**	**+0.2**
TIXI	**Tiksi**	**74.50**	**9**	P	**P**	**10 53 50.6**	**+0.5**
ARCES	**ARCESS Array B**	**84.61**	**340**	P	**P**	**10 54 45.9**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=103,slow=4.0,SNR=5.1 comp=Z,1.9nm,0.8s						

*NEIC **06** 10:43:30.3±1.3,35.˝89N±0.˝01×117.˝74W±0.˝01,h4km,Error ellipse: s-maj=1.9km s-min=1.7km az=189.0*

PAS 06 10:43:30.6±1.1,35.90N±0.01×117.727W±0.007, h4km±3km,ML3.0/24,ML2.7/34(NEIC),Error ellipse: s-maj=1.8km s-min=0.4km az=200.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**305**		Pg	10 43 32.7	+0.2
TOW	**Tower One**	**0.09**	**199**		Pg	10 43 33.1	+0.5
CLC	**China Lake**	**0.13**	**128**		Pg	10 43 33.3	0.0
WNMM	**Nine Mile Cany**	**0.15**	**249**		Pg	10 43 33.8	+0.2
SRTC	**Snort**	**0.21**	**185**		Pg	10 43 35.1	+0.5
SRTC					Sg	10 43 39.1	+1.7
MFS	**McCloud Flat S**	**0.24**	**335**		Pg	10 43 35.5	+0.1
LRMC	**Laurel Mtn Rad**	**0.42**	**175**		Sg	10 43 44.7	+0.5
LRMC	**Laurel Mtn Rad**	**0.42**	**175**	Pg	Pg	10 43 38.4	-0.3
LRMC				IAML		10 43 44.8	
	comp=N,1μm,0.2s						
LRMC				IAML		10 43 44.8	
	comp=E,1μm,0.5s						
WORM	**Onyx Ranch**	**0.47**	**244**		Sg	10 43 45.5	-0.1
WBSM	**Bird Springs**	**0.49**	**223**		Pg	10 43 38.9	-1.1
WBSM					Sg	10 43 46.9	+0.4
WHFM	**Hanning Flat**	**0.54**	**248**		Pg	10 43 40.0	-1.0
ISA	**Isabella, Lake**	**0.65**	**249**	Pg	Pg	10 43 42.8	-0.3
ISA				IAML		10 43 52.7	
	comp=E,519nm,0.2s						
ISA				IAML		10 43 53.0	
	comp=N,546nm,0.2s						
WASM	**Alta Sierra Ca**	**0.69**	**257**		Pg	10 43 43.6	-0.3
WASM					Sg	10 43 53.0	+0.1
QSM	**Queen of Sheba**	**0.70**	**84**		Pg	10 43 44.3	+0.3
QSM				IAML		10 43 56.9	
	comp=N,596nm,0.5s						
CCAC	**Calif City Air**	**0.78**	**198**		Sg	10 43 55.7	0.0
CCAC	**Calif City Air**	**0.78**	**198**	Pg	Pg	10 43 45.3	-0.3
CCAC				IAML		10 43 59.4	
	comp=E,239nm,0.7s						
SPG2	**Springville 2**	**0.90**	**290**		Pg	10 43 47.0	-0.8
GWY	**Greenwater Val**	**0.90**	**71**	Pg	Pg	10 43 47.7	-0.2
GWY				IAML		10 44 00.5	
	comp=E,281nm,0.4s						
GWY				IAML		10 44 02.8	
	comp=N,280nm,0.5s						
GSC	**Goldstone, Bar**	**0.96**	**128**	Pg	Pg	10 43 48.5	-0.5
HYS	**Haystack Butte**	**1.04**	**173**		Pg	10 43 49.8	-0.7
TPO	**Tropico Hills**	**1.10**	**202**		Sg	10 44 05.6	-0.2
VES	**Vestal, Richgr**	**1.10**	**267**		Sg	10 44 06.1	0.0
GRAC	**Grapevine Rang**	**1.13**	**15**		Pg	10 43 51.8	-0.5
GRAC				IAML		10 44 11.3	
	comp=E,198nm,0.6s						
GRAC				IAML		10 44 14.6	
	comp=N,203nm,0.9s						
SBB	**Saddle Back Bu**	**1.21**	**184**		Sg	10 44 09.1	-0.4
SGV	**South Grapevin**	**1.22**	**27**		Pg	10 43 51.0	-2.9
BAKC	**Calstate**	**1.25**	**244**		Sg	10 44 10.9	+0.1
AMDNV	**Amargosa**	**1.29**	**64**		Sg	10 44 11.2	-1.0
VOG	**Valley Oaks Go**	**1.41**	**288**		Pn	10 43 56.4	-0.7
GMN	**Gold Mountain**	**1.45**	**15**		Pg	10 43 58.5	+0.2
OSI	**Osito Audit: C**	**1.52**	**213**		Pb	10 43 59.5	+0.1
OSI				IAML		10 44 22.4	
	comp=N,85nm,0.8s						
OSI				IAML		10 44 24.5	
	comp=E,118nm,0.7s						
MTUM	**Tungsten Hills**	**1.60**	**335**		Pb	10 44 00.7	-0.2
CRGC	**Crocker Grade**	**1.75**	**249**		Pn	10 44 02.6	+0.7
MZP	**Montezuma Peak**	**1.82**	**9**		Pn	10 44 03.5	+0.5
CLTC	**Calectric**	**1.83**	**169**		Sn	10 44 26.7	+0.1
BENR	**Benton**	**1.94**	**340**		Pb	10 44 06.8	+0.1
MCSM	**Casa Diablo Ho**	**1.99**	**332**		Pb	10 44 07.7	0.0
ELS	**Elsinore Mount**	**2.26**	**174**	Pn	Pn	10 44 06.7	-2.1
S11A	**Rachel**	**2.36**	**42**	Pn	Pn	10 44 09.2	-1.1
S11A				IAML		10 44 57.8	
	comp=N,67nm,0.9s						
PMD	**Palm Desert**	**2.50**	**153**	Pn	Pn	10 44 10.9	-1.2
PMD				IAML		10 44 55.0	
	comp=E,29nm,0.8s						
PMD				IAML		10 44 58.1	
	comp=N,23nm,0.6s						
PFO	**Pinyon Flats O**	**2.51**	**155**	Pn	Pn	10 44 10.3	-2.0
PFO				IAML		10 44 55.0	
	comp=N,28nm,1.3s						
MYLM	**Yosemite Lake**	**2.62**	**305**		Pb	10 44 17.1	-1.2

*NEIC **06** 10:48:23.7±1.1,35.˝589N±0.˝008×117.˝37W±0.˝01, h5km±1km,Error ellipse: s-maj=2.1km s-min=1.5km az=178.0*

*IDC **06** 10:48:23.8±0.6,35.˝56N×117.˝29W,h0km,mb3.8/4, mbtmp3.7/11,ML3.7/6,MS3.6/1,Error ellipse: s-maj=13.6km s-min=5.4km az=73.0*

*PAS **06** 10:48:24.5±1.0,35.˝579N±0.˝008×117.˝37W±0.˝01, h6km±1km,Mwr4.0/6,mb3.9/15(NEIC),ML4.1/108(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=53.0*

ISC 06 10:48:24.5±0.8,35.57N±0.˝02×117.37W±0.˝02,h9km±5km, n154,σ0.83/167,mb4.0/5,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.05**	**176**		**Pg**	**10 48 26.3**	**-0.1**
CCCA					**Sg**	**10 48 27.9**	**+0.1**
LRMC	**Laurel Mtn Rad**	**0.27**	**250**		**Pg**	**10 48 29.8**	**-0.2**
LRMC					**Sg**	**10 48 33.7**	**0.0**
LRMC				IAML		10 48 35.4	
	comp=E,36μm,0.2s						
CLC	**China Lake**	**0.31**	**323**		**Pg**	**10 48 30.1**	**-0.5**
CLC					**Sg**	**10 48 34.5**	**-0.3**
SRTC	**Snort**	**0.33**	**291**		**Pg**	**10 48 31.1**	**0.0**
TOW	**Tower One**	**0.40**	**307**		**Pb**	**10 48 32.5**	**-1.4**
DTP	**Desert Tortois**	**0.49**	**232**		**Pg**	**10 48 33.8**	**-0.4**
DTP					**Sg**	**10 48 40.5**	**-0.1**
MPMC	**Manual Prospec**	**0.50**	**349**		**Pg**	**10 48 33.6**	**-0.6**
MPMC					**Sg**	**10 48 40.4**	**-0.4**
WNMM	**Nine Mile Cany**	**0.51**	**302**		**Pg**	**10 48 34.2**	**-0.3**
WNMM					**Sg**	**10 48 40.8**	**-0.4**
WVPM	**Volcano Peak E**	**0.53**	**316**		**Pg**	**10 48 34.4**	**-0.4**
GSC	**Goldstone, Bar**	**0.53**	**120**		**Pg**	**10 48 34.7**	**-0.2**
GSC				IAML		10 48 42.4	
	comp=N,26μm,0.5s						
GSC	**Goldstone, Bar**	**0.53**	**120**		**Sg**	**10 48 42.2**	**+0.3**
JRC2	**Joshua Ridge**	**0.55**	**319**		**Pg**	**10 48 34.7**	**-0.4**
QSM	**Queen of Sheba**	**0.57**	**46**		**Pg**	**10 48 35.0**	**-0.5**
QSM					**Sg**	**10 48 42.7**	**-0.2**
QSM				IAML		10 48 43.5	
	comp=E,14μm,0.7s						
QSM				IAML		10 48 47.4	
	comp=N,22μm,0.8s						
WRVM	**Rose V. Centra**	**0.61**	**316**		**Pg**	**10 48 35.8**	**-0.6**
WBSM	**Bird Springs**	**0.63**	**267**		**Pg**	**10 48 36.3**	**-0.5**
MFS	**McCloud Flat S**	**0.67**	**324**		**Pg**	**10 48 36.9**	**-0.7**
CCAC	**Calif City Air**	**0.67**	**232**		**Sg**	**10 48 46.9**	**-1.1**
CCAC	**Calif City Air**	**0.67**	**232**		**Pg**	**10 48 37.2**	**-0.3**
CCAC				IAML		10 48 47.6	
	comp=E,10μm,0.7s						
CCAC				IAML		10 48 51.4	
	comp=N,10μm,0.6s						
WORM	**Onyx Ranch**	**0.72**	**280**		**Pg**	**10 48 37.7**	**-0.8**
WORM					**Sg**	**10 48 47.3**	**-0.7**
HYS	**Haystack Butte**	**0.72**	**193**		**Pg**	**10 48 37.8**	**-0.7**
HYS					**Sg**	**10 48 47.9**	**-0.1**
RRX	**Edison Barstow**	**0.76**	**156**		**Pg**	**10 48 38.8**	**-0.4**
WHFM	**Hanning Flat**	**0.81**	**279**		**Pg**	**10 48 39.4**	**-0.8**
WHFM					**Sg**	**10 48 50.0**	**-0.6**
GWY	**Greenwater Val**	**0.84**	**43**		**Pg**	**10 48 40.1**	**-0.6**
GWY				IAML		10 48 55.9	
	comp=N,11μm,0.6s						
EDW2	**Edwards Air Fo**	**0.86**	**217**		**Pg**	**10 48 40.1**	**-1.0**
ISA	**Isabella, Lake**	**0.91**	**276**		**Sg**	**10 48 53.0**	**-0.8**
ISA	**Isabella, Lake**	**0.91**	**276**		**Pg**	**10 48 41.1**	**-0.8**
ISA				IAML		10 48 55.9	
	comp=N,12μm,0.7s						
ISA				IA

VOG	Valley Oaks Go	1.80	295			Pn	10 48 54.6	-1.1
DSP	Deep Springs	1.86	345			Pn	10 48 56.2	-0.4
DANC	Danby, Needles	1.88	119			Pn	10 48 55.4	-1.5
HMTC	Hemet	1.88	171			Pn	10 48 56.6	-0.3
POB	Polly Butte	1.92	169			Pn	10 48 57.2	-0.2
ELS	Elsinore Mount	1.92	181			Pn	10 48 56.9	-0.6
ELS					IAML		10 49 26.4	
	comp=E,1µm,0.6s							
ELS					IAML		10 49 28.3	
	comp=N,1µm,0.5s							
DGR	Domenigoni Val	1.94	171			Pn	10 48 57.5	-0.2
MURC	Murrieta	1.97	176			Pn	10 48 58.0	-0.2
BACC	Bachelor Mtn.	1.97	172			Pn	10 48 58.0	-0.2
RPV	Rancho Palos V	2.01	205			Pn	10 48 59.0	+0.3
SHPR	Sheep Range	2.02	62			Pn	10 48 58.5	-0.5
V12A	Nelson	2.06	85			Pn	10 48 58.4	-1.1
V12A					IAML		10 49 37.7	
	comp=E,944nm,0.6s							
CRY	Cary Ranch	2.07	165			Pn	10 48 59.5	-0.1
PMD	Palm Desert	2.08	157	Pn		Pn	10 48 58.9	-0.8
PMD					IAML		10 49 42.2	
	comp=E,1µm,0.7s							
PFO	Pinyon Flats O	2.09	159	Pn		Pn	10 48 59.2	-0.8
	comp=E,136nm,0.4s,baz=342,slow=18,SNR=78							
PFO				Pg		Pb	10 49 01.6	-1.2
	comp=E,68nm,0.3s,baz=342,slow=18,SNR=61							
PFO				Lg	Lg		10 49 29.7	
	comp=E,433nm,0.3s,baz=83,slow=16,SNR=23							
MZP	Montezuma Peak	2.13	360			Pn	10 49 00.3	-0.3
TPH	Tonopah	2.50	3			Pn	10 49 05.4	-0.2
PRN	Pahroc Range	2.62	45			Pn	10 49 07.2	0.0
LHV	Little Huntoon	2.83	342			Pn	10 49 10.7	+0.8
LHV					IAML		10 50 02.2	
	comp=E,598nm,0.7s							
LHV					IAML		10 50 33.4	
	comp=N,479nm,1.5s							
PMPB	Monarch Peak	2.86	284			Pn	10 49 10.2	-0.2
W13A	Hualapai Mount	2.89	98			Pn	10 49 10.1	-0.9
W13A					IAML		10 50 02.1	
	comp=N,455nm,0.8s							
NV11	Mina Array Sit	2.92	348			Pn	10 49 11.6	+0.2
BAR	Barrett	2.94	168			Pn	10 49 11.3	-0.2
BAR	Barrett	2.94	168	IAML			10 49 57.7	
	comp=E,713nm,0.4s							
BAR					IAML		10 50 05.9	
	comp=N,467nm,0.7s							
NVAR	Mina Array Bea	2.95	346			Pn	10 49 12.1	+0.3
NVAR	Mina Array Bea	2.95	346	Pn		Pn	10 49 11.8	0.0
	comp=N,18nm,0.3s,baz=168,slow=13,SNR=71							
NVAR				Pg		Pb	10 49 18.4	+0.9
	comp=N,155nm,0.3s,baz=166,slow=14,SNR=88							
NVAR				Lg	Lg		10 50 00.2	
	comp=N,28nm,0.3s,baz=169,slow=14,SNR=3.7							
	comp=N,18nm,0.3s							
BLYC	Blythe	2.97	127			Pn	10 49 10.3	-1.5
BLYC					IAML		10 49 59.1	
	comp=N,788nm,0.7s							
BLYC					IAML		10 50 00.8	
	comp=E,796nm,0.6s							
TKX	Tecate	3.06	168	Pn		Pn	10 49 13.4	+0.2
TKX					IAML		10 50 00.9	
	comp=E,369nm,0.5s							
TJX	Tijuana	3.06	175			Pn	10 49 13.6	+0.4
YUH	Yuha Desert	3.15	157			Pn	10 49 14.4	0.0
RYN	Ryan	3.19	344			Pn	10 49 15.4	+0.3
Q09A	Carvers	3.26	3			Pn	10 49 16.9	+0.9
GLA	Glamis	3.28	139	Pn		Pn	10 49 14.6	-1.5
GLA					IAML		10 50 11.3	
	comp=N,902nm,0.6s							
CBX	Cerro Bola	3.30	170			Pn	10 49 17.0	+0.4
WAKR	Walker	3.36	331			Pn	10 49 17.7	+0.2
WAKR					IAML		10 50 33.5	
	comp=N,349nm,0.7s							
WAKR					IAML		10 50 33.9	
	comp=E,357nm,0.9s							
SAO	San Andreas Ge	3.51	291			Pn	10 49 17.4	-1.9
LCMT	Little Creek M	3.63	65			Pn	10 49 20.9	-0.2
ESJX	Sierra Juarez	3.75	161			Pn	10 49 22.9	+0.1
ESJX					IAML		10 50 26.0	
	comp=E,414nm,0.6s							
CCUT	Cedar City	3.78	57			Pn	10 49 23.4	+0.1
CCUT					IAML		10 50 32.2	
	comp=N,193nm,1.4s							
Y14A	Wickenburg	3.94	113			Pn	10 49 24.2	-1.1
Y14A					IAML		10 50 49.8	
	comp=E,273nm,0.9s							
KNB	Kanab	3.95	67			Pn	10 49 25.3	-0.2
KNB					IAML		10 50 37.3	
	comp=N,218nm,1.4s							
KNB					IAML		10 50 43.1	
	comp=E,214nm,1.1s							
PSUT	Pine Spring	4.08	43			Pn	10 49 26.8	-0.6
PSUT					IAML		10 50 41.8	
	comp=E,358nm,0.8s							
PSUT					IAML		10 50 45.4	
	comp=N,313nm,1.2s							
SPR3	Spring Creek 3	4.19	34			Pn	10 49 28.3	-0.7
SPR3					IAML		10 50 38.2	
	comp=E,341nm,1.2s							
SPR3					IAML		10 50 51.6	
	comp=N,196nm,1.2s							
PAHR	Pah Rah Range	4.43	339			Pn	10 49 32.9	+0.8
WUAZ	Wupatki	4.89	89			Pn	10 49 38.9	+0.5
WUAZ					IAML		10 51 03.4	
	comp=N,174nm,0.7s							
WUAZ					IAML		10 51 08.2	
	comp=N,148nm,0.8s							
X16A	Lo Mia Camp, P	5.00	102			Pn	10 49 39.9	-0.1
X16A					IAML		10 51 08.4	
	comp=N,103nm,0.8s							
X16A					IAML		10 51 24.8	
	comp=E,103nm,1.0s							
ELK	Elko	5.43	17	Pn		Pn	10 49 46.6	+0.6
	comp=E,1.0nm,0.3s,baz=202,slow=9.6,SNR=13							
ELK				Lg	Lg		10 51 13.5	
	comp=E,17nm,0.3s,baz=117,slow=17,SNR=17							
	comp=E,3.2nm,0.4s							
HMU	Henry Mountain	5.82	64	Pn		Pn	10 49 52.9	+1.5
X18A	Snowflake	6.17	98			Pn	10 49 57.2	+1.1
TUC	Tucson	6.37	119			Pn	10 49 57.5	-1.2
YBH	Yreka Blue Hor	7.43	327	Pn		Pn	10 50 15.9	+2.6
	baz=145,slow=16,SNR=1.3							
YBH				Lg	Lg		10 52 18.8	
	baz=153,slow=2.3,SNR=5.4							
ANMO	Albuquerque	8.95	91	Pn		Pn	10 50 35.8	+1.6
	comp=E,0.2nm,0.3s,baz=343,slow=11,SNR=4.7							
ANMO				Lg	Lg		10 53 03.9	
	comp=E,0.3nm,0.3s,baz=265,slow=16,SNR=3.2							
ANMO				LR	LR		10 53 26.3	
	comp=E,422nm,20.1s,baz=72,slow=34							
	comp=E,1.1nm,0.5s							
PDAR	Pinedale Array	9.40	38	Pn		Pn	10 50 42.7	+2.3
	comp=E,0.1nm,0.3s,baz=232,slow=13,SNR=9.5							
PDAR				Lg	Lg		10 53 17.9	
	comp=E,0.1nm,0.3s,baz=219,slow=37,SNR=1.9							
	comp=E,0.8nm,0.6s							
NEW	Newport	12.69	1	Pn		Pn	10 51 27.1	+2.0
	comp=E,0.1nm,0.3s,baz=180,slow=14,SNR=2.8							
NEW				Lg	Lg		10 55 08.7	
	baz=184,slow=15,SNR=1.2							
	comp=E,1.2nm,0.7s							
TXAR	Lajitas Array	13.13	114	Pn		Pn	10 51 32.7	+1.3
	comp=E,0.4nm,0.3s,baz=300,slow=14,SNR=44							
TXAR				Lg	Lg		10 55 17.1	
	comp=E,0.1nm,0.3s,baz=300,slow=30,SNR=5.7							
	comp=E,0.7nm,0.4s							
BRDY	Brady	15.92	100			Pn	10 52 09.8	+1.0
BRDY					IAmb	IAmb	10 52 18.2	
	comp=Z,8.5nm,0.9s							
PLPT	Palo Pinto	16.00	94	Pn		P	10 52 12.3	-1.1
PLPT					IAmb	IAmb	10 52 19.4	
	comp=Z,12nm,1.1s							
FW03	Perrin-Whitt E	16.15	93	Pn		P	10 52 13.8	-1.3
FW03					IAmb	IAmb	10 52 21.2	
	comp=Z,11nm,1.1s							
HNDO	Hondo	16.39	106	Pn		P	10 52 16.3	-1.4
FW07	Weatherford	16.46	94	Pn		Pn	10 52 15.1	-0.7
Z35A	Perchaven, San	16.74	92	Pn		P	10 52 20.5	-1.1
833A	Chaparral WMA,	16.87	110	Pn		P	10 52 22.1	-0.9
833A					IAmb	IAmb	10 52 25.4	
	comp=Z,9.5nm,1.1s							
WHTX	Lake Whitney,	16.93	96	Pn		Pn	10 52 22.5	+0.7
WHTX					IAmb	IAmb	10 52 29.7	
	comp=Z,13nm,0.9s							
DEOK	Depew	16.96	83	Pn		Pn	10 52 21.6	-0.4
DEOK					IAmb	IAmb	10 52 41.9	
	comp=Z,9.1nm,0.9s							
TUL3	Leonard	17.52	83	P		Pn	10 52 28.9	-0.1
TUL3					IAmb	IAmb	10 52 31.6	
	comp=Z,8.1nm,1.0s							
ECSD	EROS Data Cent	17.91	57	P		P	10 52 34.6	+0.1
Z38A	Mt. Pleasant	18.61	91	P		Pn	10 52 42.4	0.0
Z38A					IAmb	IAmb	10 52 45.3	
	comp=Z,13nm,1.0s							
U38A	Gravette	18.61	81	P		P	10 52 41.4	-0.9
ULM	Lac du Bonnet	21.41	40	P		P	10 53 14.5	+1.9
	comp=Z,5.0nm,0.7s,baz=239,slow=18,SNR=8.5							
	comp=Z,5.0nm,0.7s							
FFC	Flin Flon	21.92	24	IAmb		IAmb	10 53 19.7	
	comp=Z,5.4nm,0.9s							
YKA	Yellowknife Ar	27.00	3	P		P	10 54 06.2	-0.3
	comp=Z,0.8nm,0.7s,baz=187,slow=8.9,SNR=12							
	comp=Z,0.8nm,0.7s							
ILAR	Eielson Array	34.18	338	P		P	10 55 10.7	+0.8
	comp=Z,0.4nm,0.7s,baz=133,slow=8.3,SNR=5.5							
	comp=Z,0.4nm,0.7s							
PETK	Petropavlovsk-	59.64	316	P		P	10 58 29.4	+0.5
	comp=Z,1.7nm,0.9s,baz=78,slow=11,SNR=5.3							
	comp=Z,1.7nm,0.9s							

NEIC ***06*** *10:49:48.3±0.8, 35°.916N±0°.008×117°.70W±0°.01, h2km±1km, Error ellipse: s-maj=1.3km s-min=1.1km az=52.0*

NEIC ***06*** *10:50:46.6±1.5, 35°.884N±0°.004×117°.71W±0°.01, h8km±7km, Error ellipse: s-maj=1.5km s-min=0.4km az=107.0*

PAS 06 10:49:48.6±0.8, 35°.925N±0°.008×117°.703W±0°.009, h1km±1km, ML3.5/4, ML3.3/24(NEIC), Error ellipse: s-maj=1.2km s-min=1.0km az=191.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	Volcano Peak E	0.10	285		Pg	10 49 50.7	+0.2
TOW	Tower One	0.13	203		Pg	10 49 51.6	+0.5
CLC	China Lake	0.14	142		Pg	10 49 51.4	+0.2
WRVM	Rose V. Centra	0.17	299		Pg	10 49 52.2	+0.2
WNMM	Nine Mile Cany	0.18	244		Pg	10 49 52.4	+0.3
WNMM					Sg	10 49 55.8	+1.3
MPMC	Manual Prospec	0.22	52		Pg	10 49 53.2	+0.4
MPMC					Sg	10 49 56.6	+0.9
MFS	McCloud Flat S	0.23	327		Pg	10 49 53.3	+0.3
MFS					Sg	10 49 57.2	+1.2
SRTC	Snort	0.24	189		Pg	10 49 53.8	+0.6
LRMC	Laurel Mtn Rad	0.45	178	Pg	Pg	10 49 56.7	-0.4
LRMC				Sg	Sg	10 50 04.2	+1.3
LRMC				IAML		10 50 04.3	
	comp=E,3µm,0.6s						
LRMC				IAML		10 50 05.3	
	comp=N,2µm,0.3s						
WORM	Onyx Ranch	0.49	243		Pg	10 49 58.2	+0.1
WORM					Sg	10 50 04.6	+0.1
WBSM	Bird Springs	0.53	223		Pn	10 50 06.6	+3.1
WHFM	Hanning Flat	0.57	247		Pg	10 49 59.8	+0.3
CGO	Cerro Gordo	0.63	353		Pn	10 50 09.5	+4.5
QSM	Queen of Sheba	0.68	86		Pg	10 50 01.5	-0.1
QSM				IAML		10 50 14.2	
	comp=E,1µm,0.6s						
QSM				IAML		10 50 17.0	
	comp=N,2µm,0.7s						
ISA	Isabella, Lake	0.68	248		Sg	10 50 11.1	+0.6
ISA	Isabella, Lake	0.68	248	Pg	Pg	10 50 01.1	-0.5
ISA				IAML		10 50 14.4	
	comp=N,1µm,0.6s						
WASM	Alta Sierra Ca	0.72	255		Pg	10 50 02.6	+0.3
WASM					Sg	10 50 12.0	+0.3
CCAC	Calif City Air	0.81	198	Pg	Pg	10 50 03.9	-0.3
CCAC				IAML		10 50 15.2	
	comp=E,812nm,1.4s						
GWY	Greenwater Val	0.88	72	Pg	Pg	10 50 05.5	+0.1
GWY				IAML		10 50 23.5	
	comp=N,1µm,0.4s						
SPG2	Springville 2	0.91	288		Pg	10 50 05.8	-0.1
SPG2					Sg	10 50 17.7	0.0
GSC	Goldstone, Bar	0.96	130	Pg	Pg	10 50 06.7	-0.3
GSC				IAML		10 50 22.8	
	comp=N,917nm,1.0s						
HYS	Haystack Butte	1.06	174		Pb	10 50 09.8	-0.1
GRAC	Grapevine Rang	1.10	14	Pg	Pg	10 50 09.6	-0.1
VES	Vestal, Richgr	1.12	266		Sg	10 50 25.1	+0.3
WCT	Wildcat Mounta	1.23	45	Pg	Pg	10 50 12.0	-0.2
WCT				IAML		10 50 31.3	
	comp=N,403nm,1.1s						
WCT				IAML		10 50 33.5	
	comp=E,574nm,1.0s						
AMDNV	Amargosa	1.27	65		Sg	10 50 29.1	-0.1
GMN	Gold Mountain	1.42	14		Pb	10 50 16.3	+0.3
GMN				IAML		10 50 40.0	
	comp=N,299nm,1.1s						
DSP	Deep Springs	1.46	352		Pg	10 50 16.6	0.0
TPNV	Topopah Spring	1.56	48		Pb	10 50 18.3	0.0
TPNV				IAML		10 50 41.4	
	comp=N,470nm,0.6s						
GDXM	Geysers	4.97	307		Pn	10 51 03.6	-0.9

PAS 06 10:50:46.6±1.6, 35°.863N±0°.009×117°.71W±0°.01, h7km, ML3.5, 18, ML3.1/32(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=116.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	Tower One	0.07	220		Pg	10 50 49.0	+0.5
TOW					Sg	10 50 51.8	+1.8
WVPM	Volcano Peak E	0.12	314		Pg	10 50 49.4	0.0
WVPM					Sg	10 50 51.6	+0.2
WNMM	Nine Mile Cany	0.16	263		Pg	10 50 50.0	0.0
WNMM					Sg	10 50 52.8	+0.6
SRTC	Snort	0.17	191		Sg	10 50 54.1	+1.5
WRVM	Rose V. Centra	0.21	315		Pg	10 50 50.7	-0.1
MPMC	Manual Prospec	0.26	42		Pg	10 50 51.7	-0.2
MPMC					Sg	10 50 55.5	0.0
MFS	McCloud Flat S	0.28	335		Pg	10 50 52.0	-0.3
MFS					Sg	10 50 56.4	+0.3
LRMC	Laurel Mtn Rad	0.38	177	Pg	Pg	10 50 53.7	-0.4
LRMC					Sg	10 50 59.4	+0.2
CCCA	Chr Cany lake	0.44	140		Pg	10 50 55.3	+0.1
WORM	Onyx Ranch	0.47	249		Sg	10 51 01.5	-0.3
WBSM	Bird Springs	0.48	227		Pg	10 50 55.6	-0.4
WHFM	Hanning Flat	0.55	252		Sg	10 51 04.1	-0.2
DTP	Desert Tortois	0.60	191		Pg	10 50 57.7	-0.6
CWC	Cottonwood Cre	0.65	333		Pg	10 50 59.1	-0.1
CWC					Sg	10 51 07.8	+0.1
ISA	Isabella, Lake	0.65	252		Sg	10 51 07.9	+0.2
ISA	Isabella, Lake	0.65	252	Pg	Pg	10 50 58.6	-0.6
ISA				IAML		10 51 08.0	
	comp=N,3µm,0.3s						
ISA				IAML		10 51 08.5	
	comp=E,2µm,0.2s						
CGO	Cerro Gordo	0.69	354		Pg	10 50 59.6	-0.4
QSM	Queen of Sheba	0.69	81		Pg	10 50 59.8	-0.1
QSM				IAML		10 51 10.3	
	comp=N,820nm,0.3s						
QSM				IAML		10 51 10.9	
	comp=E,736nm,0.2s						
WASM	Alta Sierra Ca	0.70	260		Pg	10 50 59.6	-0.5
CCAC	Calif City Air	0.75	200		Sg	10 51 10.7	-0.2
CCAC	Calif City Air	0.75	200	Pg	Pg	10 51 00.3	-0.8
CCAC				IAML		10 51 11.2	
	comp=E,1µm,0.3s						
GWY	Greenwater Val	0.90	69		Pg	10 51 03.5	-0.4
GWY					Sg	10 51 15.6	-0.1
FURC	Furnace Creek,	0.91	48		Sg	10 51 16.3	+0.3
SPG2	Springville 2	0.92	292		Sg	10 51 15.5	-0.8
GSC	Goldstone, Bar	0.93	127	Pg	Pg	10 51 04.0	-0.4
GSC				IAML		10 51 19.3	
	comp=N,592nm,0.4s						
TPO	Tropico Hills	1.07	204		Sg	10 51 20.9	-0.2
GRAC	Grapevine Rang	1.16	14	Pg	Pg	10 51 08.0	-1.0
GRAC				IAML		10 51 29.7	
	comp=N,384nm,0.3s						
GRAC				IAML		10 51 33.1	
	comp=E,423nm,0.9s						
SHOC	Shoshone, Teco	1.17	88		Sg	10 51 24.2	+0.1
TJR	Tejon Ranch	1.19	226		Sg	10 51 23.7	-1.1
SGV	South Grapevin	1.24	26		Sg	10 51 25.8	-0.8
BAKC	Calstate	1.25	246		Sg	10 51 27.0	+0.2
TIN	Tinemaha, Big	1.26	341		Pn	10 51 10.6	-0.2
WCT	Wildcat Mounta	1.27	43		Pn	10 51 10.1	-0.8
WCT					Sb	10 51 26.9	-0.7
WCT				IAML		10 51 29.4	
	comp=N,239nm,0.6s						
WCT				IAML		10 51 31.3	
	comp=E,299nm,0.6s						
AMDNV	Amargosa	1.30	63		Sb	10 51 27.1	-1.0
LEOC	Leona Valley	1.32	202		Pn	10 51 11.2	-0.3
VTV	Victorville	1.34	166		Pn	10 51 11.2	-0.5
LRRC	Littlerock Res	1.36	191		Pb	10 51 12.3	0.0
CJV	Casa Juvan	1.38	195		Pn	10 51 12.5	+0.2
CJV					Sb	10 51 30.6	0.0
VOG	Valley Oaks Go	1.43	289		Pg	10 51 14.0	-0.1
GMN	Gold Mountain	1.48	14		Pn	10 51 13.6	-0.3
OSI	Osito Audit: C	1.50	214		Pn	10 51 14.0	+0.1
OSI				IAML		10 51 40.8	
	comp=E,230nm,0.9s						
OSI				IAML		10 51 48.9	
	comp=N,162nm,0.8s						
DSP	Deep Springs	1.52	352		Pn	10 51 13.4	-0.7
CHFC	Chilao Flat St	1.55	190		Pb	10 51 15.6	-0.1
BHPR	Bishop	1.56	337		Pb	10 51 15.6	-0.5
POCCA	Poleta Canyon	1.56	343		Pb	10 51 15.6	-0.4
BFSC	Mount Baldy Ra	1.62	179		Pb	10 51 16.7	-0.2
MTUM	Tungsten Hills	1.64	335		Pb	10 51 16.9	-0.4
SSK	Sunset Peak	1.65	180		Pb	10 51 17.6	+0.2
MWC	Mount Wilson	1.66	190		Pb	10 51 17.8	+0.2
MWC	Mount Wilson	1.66	190	IAML		10 51 41.4	
	comp=N,278nm,0.6s						
MWC				IAML		10 51 45.6	
	comp=E,196nm,0.9s						
SIL	Silver Peak	1.68	154		Pb	10 51 18.2	+0.3
DECC	Green Verdugo	1.69	198		Pb	10 51 17.8	-0.2
PASC	Pasadena Art C	1.73	193	Pn	Pn	10 51 16.5	-0.6
CLTC	Calectric	1.79	170		Pn	10 51 18.2	+0.2
CLTC					Pg	10 51 22.4	+1.4
CLTC					Sn	10 51 37.6	-3.3
BLCC	Black Canyon	1.80	206		Pb	10 51 19.0	-0.9
SVD	Seven Oaks Dam	1.82	164		Pg	10 51 21.1	-0.5
NV11	Mina Array Sit	2.59	352	Pn	Pn	10 51 28.6	-0.4

CNRM ***06*** *10:58:01.8, 36°.30N×9°.54W, h79km*

MDD ***06*** *10:58:03.4±1.1, 36°.59N×9°.83W, h9km±4km, mb_Lg2.6/12, Error ellipse: s-maj=7.6km s-min=5.0km az=34.0*

INMG ***06*** *10:58:04.5±1.2, 36°.58N×9°.82W, h12km±4km, ML1.9, Error ellipse: s-maj=4.8km s-min=3.2km az=46.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW Cabo S.Vicente*

SFS ***06*** *10:58:04.7, 36°.58N×9°.85W, h21km, ML2.6/7, ML2.6/8, MLv2.6/8*

IGIL ***06*** *10:58:05.4, 36°.57N×9°.81W, h22km, ML1.8*

ISC 06 10:58:03.6±2.5, 36°.62N±0°.09×9°.74W±0°.08, h19km±3km, n65, σ1°12/96, 4C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	0.89	55	S	Sn	10 58 34.7	+1.1
PFVI				P	Pn	10 58 22.0	+0.9
PFVI	Vila Bisbo	0.89	55	eP	Pn	10 58 22.1	+0.9
PFVI				eS	Sn	10 58 35.1	+1.6
PFVI				i IAML		10 58 35.8	
PFVI				i IAML		10 58 35.9	
PFVI				i IAML		10 58 35.9	
PFVI	Vila Bisbo	0.89	55	P	Pg	10 58 20.9	-0.2
MORF	Marmelete	1.11	52	eP	Pg	10 58 25.1	0.0
MORF				eS	Sg	10 58 39.3	-0.4
MORF				IAML		10 58 42.4	
	comp=N,22nm,0.1s						
MORF	Marmelete	1.11	52	eP	Pg	10 58 25.1	0.0
MORF				eS	Sn	10 58 41.0	+2.1
MORF				i IAML		10 58 42.3	
MORF				i IAML		10 58 42.4	
MORF				i IAML		10 58 42.5	
PTEO	Sao Teotonio	1.23	41	eP	Pg	10 58 26.8	-0.6
PTEO				eS	Sg	10 58 43.5	0.0
PTEO				i IAML		10 58 44.3	
PTEO				i IAML		10 58 44.5	
PTEO				i IAML		10 58 45.1	
PBDV	Barranco-do-Ve	1.58	66	eP	Pb	10 58 31.7	-0.5
PBDV				eS	Sb	10 58 52.0	+0.2
PBDV				i IAML		10 58 52.7	
PBDV				i IAML		10 58 59.1	
PBDV				i IAML		10 59 02.0	
PCVE	Castro Verde	1.69	53	eP	Pb	10 58 33.6	-0.6
PCVE				eS	Sb	10 58 55.4	+0.3
PCVE				i IAML		10 58 55.9	
PCVE				i IAML		10 58 57.0	
PCVE				i IAML		10 58 58.8	
MESJ	Messejana	1.72	45	eP	Pn	10 58 33.6	+1.1
MESJ				eS	Sn	10 58 54.2	+0.3
MESJ				IAML		10 58 56.6	
	comp=N,4.1nm,0.2s						
PVAQ	Vaqueiros	1.80	64	P	Pn	10 58 34.6	+1.0
PVAQ				S	Sb	10 58 57.6	-0.5
PVAQ	Vaqueiros	1.80	64	eP	Pn	10 58 34.6	+1.0
PVAQ				eS	Sb	10 58 57.6	-0.5
PVAQ				i IAML		10 59 00.4	
PVAQ				i IAML		10 59 03.6	
PVAQ				i IAML		10 59 09.2	
PVAQ	Vaqueiros	1.80	64	P	Pn	10 58 31.4	-2.1
PVAQ	Vaqueiros	1.80	64	S	Sn	10 58 52.9	-3.0
EGRO	El Granado	2.02	63	S	Sn	10 59 02.4	+1.0
EGRO				P	Pb	10 58 39.2	-0.5
EGRO	El Granado	2.02	63	Pn	Pn	10 58 37.0	+0.3
EGRO				Sn	Sn	10 59 03.1	+1.7
EGRO				i lVmb_Lg		10 59 05.1	
PBEJ	Beja	2.05	46	eP	Pn	10 58 37.9	+0.9
PBEJ				eS	Sn	10 59 02.8	+0.7
PBEJ				i IAML		10 59 03.3	
PBEJ				i IAML		10 59 04.8	
PBEJ				i IAML		10 59 06.1	
PARRA	Arraiolos	2.26	14	eP	Pb	10 58 44.9	+1.1
PARRA				eS	Sg	10 59 15.9	-0.4
PARRA				i IAML		10 59 17.8	
PARRA				i IAML		10 59 17.9	
PARRA				i IAML		10 59 19.3	
PACT	Alcochete	2.26	18	eP	Pn	10 58 41.3	+1.4
PACT				eS	Sn	10 59 08.5	+1.3
PACT				i IAML		10 59 12.3	
EVO	Evora	2.35	35	S	Sn	10 59 09.9	+0.4
EVO				P	Pn	10 58 42.1	+0.9
EVO	Evora	2.35	35	eP	Pn	10 58 41.9	+0.8
EVO				eS	Sn

EBAD	**Badajoz**	**3.04**	**45**	Pn	**Pn**	**10 58 51.1**	**+0.5**
EBAD				Sn	**Sn**	**10 59 26.3**	**-0.1**
EBAD				*i* IVmb_Lg		10 59 29.2	
ESPR	**Espera**	**3.13**	**84**	Sn	**Sn**	**10 59 29.8**	**+1.0**
ESPR				*i* IVmb_Lg		10 59 30.7	
PSARD	**Sardoal**	**3.22**	**22**	*eP*	**Pn**	**10 58 54.2**	**+1.0**
PSARD				*eS*	**Sn**	**10 59 31.2**	**+0.1**
PSARD				*i* IAML		10 59 32.6	
PSARD				*i* IAML		10 59 34.1	
PSARD				*i* IAML		10 59 35.4	
PMRV	**Marv??o**	**3.36**	**33**	*eP*	**Pn**	**10 58 56.2**	**+1.2**
PMRV				*eS*	**Sn**	**10 59 34.6**	**+0.1**
PMRV				*i* IAML		10 59 35.1	
PMRV				*i* IAML		10 59 35.9	
PMRV				*i* IAML		10 59 36.0	
EJIF	**Jimena Fronter**	**3.45**	**92**	Sn	**Sn**	**10 59 36.7**	**+0.1**
PCAS	**Casmilo, Conde**	**3.56**	**16**	*eS*	**Sn**	**10 59 38.8**	**-0.6**
PCAS				*i* IAML		10 59 40.0	
PCAS				*i* IAML		10 59 40.9	
PCAS				*i* IAML		10 59 41.5	
PCBR	**Castelo Branco**	**3.67**	**28**	*eP*	**Pn**	**10 59 00.5**	**+1.2**
PCBR				*eS*	**Sn**	**10 59 43.1**	**+0.9**
PCBR				*i* IAML		10 59 44.0	
PCBR				*i* IAML		10 59 44.7	
PCBR				*i* IAML		10 59 44.9	
ECAB	**El Cabril**	**3.74**	**66**	P	**Pn**	**10 59 01.2**	**+0.9**
ECAB				S	**Sn**	**10 59 43.5**	**-0.3**
ECAB	**El Cabril**	**3.74**	**66**	Pn	**Pn**	**10 59 01.2**	**+0.9**
ECAB				Sn	**Sn**	**10 59 43.1**	**-0.7**
ECAB				*i* IVmb_Lg		10 59 45.8	
EADA	**Adamuz**	**4.39**	**68**	Pn	**Pn**	**10 59 10.3**	**+1.0**
EADA				Sn	**Sn**	**10 59 59.1**	**-0.9**
EADA				*i* IVmb_Lg		11 00 02.6	
EPLA	**Plasencia**	**4.48**	**39**	Pn	**Pn**	**10 59 11.4**	**+0.9**
EPLA				Sn	**Sn**	**11 00 01.2**	**-0.9**
EPLA				*i* IVmb_Lg		11 00 03.0	
POLO	**Lamas de Olo**	**4.98**	**17**	*eP*	**Pn**	**10 59 18.0**	**+0.6**
POLO				*eS*	**Sn**	**11 00 12.8**	**-1.7**
POLO				*i* IAML		11 00 15.6	
POLO				*i* IAML		11 00 16.0	
POLO				*i* IAML		11 00 17.4	
MVO	**Moncorvo**	**5.00**	**24**	*eP*	**Pn**	**10 59 18.4**	**+0.7**
MVO				*eS*	**Sn**	**11 00 13.2**	**-1.9**
MVO				*i* IAML		11 00 15.2	
MVO				*i* IAML		11 00 18.4	
MVO				*i* IAML		11 00 19.8	
PAB	**San Pablo**	**5.16**	**54**	Pn	**Pn**	**10 59 20.6**	**+0.8**
PAB				Sn	**Sn**	**11 00 17.1**	**-1.8**
PAB				*i* IVmb_Lg		11 00 19.1	
PSIM	**Granatula de C**	**5.23**	**63**	Sn	**Sn**	**11 00 18.9**	**-1.6**
PCAB	**Cabril**	**5.25**	**14**	*eP*	**Pn**	**10 59 21.4**	**+0.4**
ELOB	**Lobios**	**5.40**	**13**	Pn	**Pn**	**10 59 23.6**	**+0.4**
ELOB				Sn	**Sn**	**11 00 22.1**	**-2.6**
ELOB				*i* IVmb_Lg		11 00 25.3	
EQES	**Quesada**	**5.46**	**76**	Sn	**Sn**	**11 00 24.9**	**-1.3**
EQES				*i* IVmb_Lg		11 00 30.9	
PGAV	**Gavieira, Arco**	**5.46**	**12**	*eP*	**Pn**	**10 59 24.1**	**+0.2**
ESBB	**Sonseca Array**	**5.48**	**54**	Sn	**Sn**	**11 00 25.5**	**-1.3**
MD31	**MD31**	**5.56**	**131**	P	Pn	10 59 17.9	-7.5
MD31	**MD31**	**5.56**	**131**	S	Sn	11 00 16.3	-12
PBRG	**Braganca**	**5.67**	**23**	*eP*	**Pn**	**10 59 27.6**	**+0.7**
MDT	**Midelt**	**5.69**	**130**	P	Pn	10 59 19.5	-7.6
MDT	**Midelt**	**5.69**	**130**	S	Sn	11 00 20.2	-12
ECAL	**Calabor**	**5.80**	**23**	Pn	**Pn**	**10 59 29.3**	**+0.6**
ECAL				Sn	**Sn**	**11 00 34.1**	**-0.6**
ECAL				*i* IVmb_Lg		11 00 39.8	
GUD	**Guadarrama**	**5.94**	**46**	Pn	**Pn**	**10 59 31.2**	**+0.6**
GUD				Sn	**Sn**	**11 00 36.7**	**-1.4**
GUD				*i* IVmb_Lg		11 00 38.7	
TTIG	**Tnine Tigouga,**	**6.16**	**169**	P	Pn	10 59 25.6	-8.0
TTIG	**Tnine Tigouga,**	**6.16**	**169**	S	Sn	11 00 31.5	-12
OUZM	**OUZ**	**6.22**	**156**	P	Pn	10 59 27.1	-7.4
OUZM	**OUZ**	**6.22**	**156**	S	Sn	11 00 34.8	-10
EMAZ	**Mazaricos**	**6.35**	**5**	Sn	**Sn**	**11 00 43.8**	**-4.2**

*NEIC **06** 10:59:23.8±0.6,35°.82N±0°.01×117°.64W±0°.01,h10km±1km, Error ellipse: s-maj=2.8km s-min=1.9km az=343.0*

PAS 06 10:59:24.2±0.5,**35°.82N**±0°.01×**117°.63W**±0°.01,**h11**km±3km, **ML3.2**/83,**ML3.0**/34(NEIC),**Error ellipse: s-maj=1.7km s-min=1.5km az=140.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.03**	**101**		Pg	10 59 26.1	-0.2
CLC					Sg	10 59 27.6	-0.3
TOW	**Tower One**	**0.11**	**264**		Sg	10 59 30.1	+0.9
SRTC	**Snort**	**0.16**	**217**		Sg	10 59 31.5	+1.0
JRC2	**Joshua Ridge**	**0.22**	**318**		Pg	10 59 29.0	+0.1
JRC2					Sg	10 59 32.1	0.0
WNMM	**Nine Mile Cany**	**0.22**	**276**		Pg	10 59 28.7	-0.2
MPMC	**Manual Prospec**	**0.26**	**26**		Sg	10 59 33.5	0.0
LRMC	**Laurel Mtn Rad**	**0.34**	**187**		Pg	10 59 30.8	-0.4
LRMC					Sg	10 59 35.8	+0.1
MFS	**McCloud Flat S**	**0.35**	**328**		Sg	10 59 36.1	+0.1
CCCA	**Chr Cany lake**	**0.37**	**144**		Pg	10 59 31.7	+0.2
CCCA					Sg	10 59 37.3	+0.8
WBSM	**Bird Springs**	**0.50**	**236**		Pg	10 59 33.7	-0.4
WBSM					Sg	10 59 40.2	-0.1
WORM	**Onyx Ranch**	**0.51**	**256**		Pg	10 59 33.8	-0.5
WORM					Sg	10 59 40.6	-0.4
DTP	**Desert Tortois**	**0.58**	**198**		Pg	10 59 35.0	-0.5
DTP					Sg	10 59 43.0	-0.2
WHFM	**Hanning Flat**	**0.60**	**258**		Pg	10 59 35.2	-0.6
WHFM					Sg	10 59 43.3	-0.4
QSM	**Queen of Sheba**	**0.64**	**77**		Pg	10 59 36.3	-0.3
QSM				IAML		10 59 48.0	
	comp=E,940nm,0.4s						
QSM				IAML		10 59 49.7	
	comp=N,1µm,0.4s						
ISA	**Isabella, Lake**	**0.70**	**257**	Pg	Pg	10 59 37.2	-0.6
ISA				IAML		10 59 47.3	
	comp=N,751nm,0.4s						
ISA				IAML		10 59 49.4	
	comp=E,471nm,0.2s						
GWY	**Greenwater Val**	**0.86**	**65**		Pg	10 59 40.5	-0.3
GWY				IAML		10 59 55.0	
	comp=E,776nm,0.3s						
GWY				IAML		10 59 58.7	
	comp=N,450nm,0.4s						
EDW2	**Edwards Air Fo**	**0.98**	**198**		Pg	10 59 38.4	-4.8
RRX	**Edison Barstow**	**1.08**	**151**		Pb	10 59 40.3	-4.5
GRAC	**Grapevine Rang**	**1.19**	**10**	Pg	Pb	10 59 46.5	-0.3
GRAC				IAML		11 00 06.8	
	comp=N,378nm,0.4s						
GRAC				IAML		11 00 08.2	
	comp=E,539nm,0.3s						
ARVC	**Arvin**	**1.20**	**235**		Pn	10 59 41.3	-5.6
WCT	**Wildcat Mounta**	**1.26**	**40**	Pn	Pn	10 59 47.9	0.0
WCT				IAML		11 00 06.9	
	comp=N,231nm,0.5s						
WCT				IAML		11 00 08.9	
	comp=E,290nm,0.6s						
CHFC	**Chilao Flat St**	**1.52**	**192**		Sn	11 00 08.2	-3.1
TPNV	**Topopah Spring**	**1.58**	**44**		Pn	10 59 51.6	-0.7
TPNV				IAML		11 00 16.8	
	comp=E,223nm,0.5s						
TPNV				IAML		11 00 17.6	
	comp=E,206nm,0.7s						
PASC	**Pasadena Art C**	**1.71**	**196**		Pn	10 59 52.8	-1.1
PASC				IAML		11 00 19.9	
	comp=N,134nm,0.5s						
PASC				IAML		11 00 20.4	
	comp=E,145nm,0.9s						
SHPR	**Sheep Range**	**2.11**	**70**		Pn	10 59 58.8	-0.8
DGR	**Domenigoni Val**	**2.23**	**167**		Pn	10 59 59.2	-1.9
TPH	**Tonopah**	**2.27**	**8**		Pn	11 00 00.7	-1.2
S11A	**Rachel**	**2.37**	**39**		Pn	11 00 02.6	-0.4
PFO	**Pinyon Flats O**	**2.41**	**156**	Pn	Pn	11 00 03.2	-0.4
LHV	**Little Huntoon**	**2.52**	**344**	Pn	Pn	11 00 05.0	-0.1
PRN	**Pahroc Range**	**2.61**	**52**		Pn	11 00 06.1	-0.3
PRN				IAML		11 00 51.0	
	comp=N,64nm,0.8s						
PRN				IAML		11 00 58.4	
	comp=E,78nm,0.6s						
NV11	**Mina Array Sit**	**2.64**	**351**		Pn	11 00 07.1	+0.2
NVAR	**Mina Array Bea**	**2.66**	**349**		Pn	11 00 07.5	+0.3

*NEIC **06** 11:06:00.4±1.6,35°.810N±0°.008×117°.634W±0°.009, h5km±1km,Error ellipse: s-maj=2.4km s-min=1.4km az=332.0*

PAS 06 11:06:00.7±1.6,**35°.802N**±0°.010×**117°.63W**±0°.01, **h6**km±2km,**ML2.9**/25,**ML3.1**/28(NEIC),**Error ellipse: s-maj=1.5km s-min=1.2km az=140.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.03**	**60**		Pg	11 06 02.0	+0.1
TOW	**Tower One**	**0.11**	**274**		Pg	11 06 04.1	+1.1
SRTC	**Snort**	**0.15**	**222**		Pg	11 06 04.1	+0.4
WVPM	**Volcano Peak E**	**0.21**	**314**		Pg	11 06 04.6	-0.4
WNMM	**Nine Mile Cany**	**0.23**	**280**		Pg	11 06 05.3	+0.1
WNMM					Sg	11 06 08.9	+0.7
MPMC	**Manual Prospec**	**0.28**	**24**		Pg	11 06 06.2	0.0
MPMC					Sg	11 06 10.2	+0.2
WRVM	**Rose V. Centra**	**0.30**	**314**		Pg	11 06 06.4	-0.1
LRMC	**Laurel Mtn Rad**	**0.33**	**188**		Pg	11 06 06.9	-0.2
LRMC				Sg	Sg	11 06 11.5	+0.2
LRMC				IAML		11 06 11.9	
	comp=E,2µm,0.5s						
LRMC				IAML		11 06 13.8	
	comp=N,1µm,0.1s						
CCCA	**Chr Cany lake**	**0.35**	**142**		Pg	11 06 07.8	+0.3
MFS	**McCloud Flat S**	**0.36**	**330**		Pg	11 06 07.7	-0.2
WBSM	**Bird Springs**	**0.49**	**238**		Pg	11 06 09.9	-0.3
WBSM					Sg	11 06 17.0	+0.3
WORM	**Onyx Ranch**	**0.51**	**258**		Pg	11 06 10.2	-0.4
WORM					Sg	11 06 17.1	-0.1
DTP	**Desert Tortois**	**0.56**	**198**		Pg	11 06 11.2	-0.3
WHFM	**Hanning Flat**	**0.60**	**260**		Pg	11 06 11.9	-0.3
WHFM					Sg	11 06 19.9	0.0
ISA	**Isabella, Lake**	**0.70**	**259**	Pg	Pg	11 06 13.7	-0.5
CCAC	**Calif City Air**	**0.72**	**206**		Pg	11 06 14.2	-0.3
CCAC				IAML		11 06 24.6	
	comp=N,921nm,0.4s						
CCAC				IAML		11 06 24.7	
	comp=E,622nm,0.5s						
WASM	**Alta Sierra Ca**	**0.76**	**265**		Pg	11 06 15.1	-0.2
WASM					Sg	11 06 25.4	+0.3
CGO	**Cerro Gordo**	**0.76**	**349**		Pg	11 06 15.1	-0.3
GSC	**Goldstone, Bar**	**0.83**	**126**		Pg	11 06 16.1	-0.6
GSC				IAML		11 06 28.0	
	comp=E,442nm,0.4s						
GSC	**Goldstone, Bar**	**0.83**	**126**		Sg	11 06 27.6	0.0
GWY	**Greenwater Val**	**0.87**	**63**	Pg	Pg	11 06 17.0	-0.3
GWY					Sg	11 06 28.4	-0.2
GWY				IAML		11 06 37.9	
	comp=N,423nm,0.3s						
GWY				IAML		11 06 38.0	
	comp=E,428nm,0.5s						
HYS	**Haystack Butte**	**0.94**	**177**		Pg	11 06 17.9	-0.8
EDW2	**Edwards Air Fo**	**0.97**	**198**		Pb	11 06 19.6	-0.3
SPG2	**Springville 2**	**1.00**	**294**		Pg	11 06 19.0	-1.0
TEJ	**El Tejon**	**1.04**	**237**		Pg	11 06 20.7	+0.1
TPO	**Tropico Hills**	**1.04**	**208**		Pg	11 06 20.0	-0.8
RRX	**Edison Barstow**	**1.06**	**151**		Pb	11 06 21.3	-0.1
SBB	**Saddle Back Bu**	**1.12**	**188**		Pg	11 06 21.5	-0.8
SBB					Sb	11 06 37.3	-0.2
VES	**Vestal, Richgr**	**1.19**	**272**		Sb	11 06 39.4	+0.2
GRAC	**Grapevine Rang**	**1.21**	**10**	Pg	Pg	11 06 23.3	-0.6
GRAC				IAML		11 06 40.8	
	comp=E,272nm,0.3s						
GRAC				IAML		11 07 07.7	
	comp=N,536nm,0.6s						
ADO	**Adelanto Recei**	**1.26**	**173**		Pg	11 06 24.9	0.0
WCT	**Wildcat Mounta**	**1.28**	**39**		Pg	11 06 24.8	-0.4
WCT				Pn	Pn	11 06 24.9	-0.3
WCT				IAML		11 07 10.6	
	comp=E,412nm,1.0s						
LEOC	**Leona Valley**	**1.29**	**206**		Pn	11 06 25.4	-0.1
LRRC	**Littlerock Res**	**1.31**	**195**		Pg	11 06 26.3	+0.4
LRRC					Sg	11 06 43.0	+0.1
CJV	**Casa Juvan**	**1.34**	**199**		Pg	11 06 26.7	+0.4
CJV					Sn	11 06 44.0	-0.3
TIN	**Tinemaha, Big**	**1.34**	**339**		Pn	11 06 25.7	-0.4
JNH	**Juniper Hills**	**1.38**	**191**		Pg	11 06 27.2	+0.1
DSCC	**Desert Studies**	**1.41**	**117**		Sn	11 06 45.8	0.0
HEC	**Hector,Ludlow**	**1.44**	**132**		Sb	11 06 46.4	-0.1
TUQ	**Turquoise Moun**	**1.44**	**104**		Pn	11 06 26.8	-0.6
CHFC	**Chilao Flat St**	**1.50**	**193**		Pb	11 06 29.0	-0.1
BFSC	**Mount Baldy Ra**	**1.56**	**181**		Pb	11 06 29.7	-0.3
PDE	**Pardee, Santa**	**1.57**	**210**		Pn	11 06 29.0	-0.1
SSK	**Sunset Peak**	**1.59**	**182**		Pb	11 06 30.8	+0.2
DSP	**Deep Springs**	**1.59**	**350**		Pn	11 06 29.7	+0.3
SIL	**Silver Peak**	**1.59**	**155**		Pb	11 06 30.9	+0.2
MWC	**Mount Wilson**	**1.61**	**193**		Pg	11 06 31.4	-0.3
MWC				IAML		11 07 18.5	
	comp=N,416nm,0.4s						
MWC				IAML		11 07 29.0	
	comp=E,289nm,0.7s						
BBRC	**Big Bear Solar**	**1.64**	**159**		Pb	11 06 31.1	-0.5
POCCA	**Poleta Canyon**	**1.64**	**342**		Pb	11 06 31.1	-0.5
BHPR	**Bishop**	**1.65**	**335**		Pb	11 06 31.4	-0.3
PASC	**Pasadena Art C**	**1.69**	**196**		Pg	11 06 32.7	-0.4
PASC				IAML		11 07 17.9	
	comp=N,289nm,0.4s						
PASC				IAML		11 07 22.9	
	comp=E,158nm,0.6s						
PSRC	**Puddingstone R**	**1.71**	**185**		Pg	11 06 33.2	-0.4
MTUM	**Tungsten Hills**	**1.72**	**334**		Pb	11 06 32.6	-0.3
CLTC	**Calectric**	**1.72**	**171**		Sn	11 06 52.8	-0.8
GTM	**Goat Mountain**	**1.83**	**145**		Pb	11 06 34.5	-0.2
DEVC	**Devers**	**2.05**	**155**		Sg	11 07 05.5	-1.1
BENR	**Benton**	**2.06**	**339**		Pb	11 06 38.9	+0.2
MLAC	**Mammoth, Mammo**	**2.07**	**332**		Pb	11 06 38.9	+0.1
MCSM	**Casa Diablo Ho**	**2.12**	**331**		Pb	11 06 39.8	+0.1
BACC	**Bachelor Mtn.**	**2.24**	**167**		Sb	11 07 10.9	+1.4
PMD	**Palm Desert**	**2.38**	**154**	Pn	Pn	11 06 39.2	-1.1
PFO	**Pinyon Flats O**	**2.39**	**156**	Pn	Pn	11 06 39.5	-1.1
NVAR	**Mina Array Bea**	**2.68**	**349**	Pn	Pn	11 06 44.5	-0.1
RYN	**Ryan**	**2.91**	**346**		Pn	11 06 48.2	+0.5
WAKR	**Walker**	**3.06**	**332**	Pn	Pn	11 06 49.2	-0.6
W13A	**Hualapai Mount**	**3.13**	**102**	Pn	Pn	11 06 49.6	-1.3

*NEIC **06** 11:06:42.9±1.8,35°.798N±0°.004×117°.62W±0°.01, h5km±1km,Error ellipse: s-maj=2.7km s-min=1.7km az=356.0*

*IDC **06** 11:06:43.4±0.6,35°.85N×117°.55W,h0km,mb3.8/5, mbtmp3.5/11,ML3.4/6,Error ellipse: s-maj=14.2km s-min=5.2km az=73.0*

*PAS **06** 11:06:43.4±1.7,35°.793N±0°.008×117°.623W±0°.007, h4km±3km,Mwr3.8/6,mb3.9/3(NEIC),ML3.9/86(NEIC),Error ellipse: s-maj=1.3km s-min=0.5km az=149.0*

ISC 06 11:06:43.6±0.9,**35°.79N**±0°.02×**117°.61W**±0°.02,**h6**km±6km, **n113,**σ**086**/132,**mb4.2**/7,**Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.03**	**27**		**Pg**	**11 06 44.5**	**-0.5**
TOW	**Tower One**	**0.12**	**278**		**Pg**	**11 06 46.3**	**0.0**
SRTC	**Snort**	**0.15**	**228**		**Pg**	**11 06 46.6**	**0.0**
WVPM	**Volcano Peak E**	**0.23**	**314**		**Pg**	**11 06 47.8**	**-0.4**
WNMM	**Nine Mile Cany**	**0.24**	**282**		**Pg**	**11 06 48.1**	**-0.3**
MPMC	**Manual Prospec**	**0.28**	**21**		**Pg**	**11 06 48.8**	**-0.5**
MPMC					**Sg**	**11 06 53.3**	**+0.2**
LRMC	**Laurel Mtn Rad**	**0.32**	**190**		**Pg**	**11 06 49.5**	**-0.4**
LRMC					**Sg**	**11 06 53.9**	**-0.1**
LRMC				IAML		11 06 54.4	
	comp=E,28µm,0.5s						
LRMC				IAML		11 06 54.5	
	comp=N,19µm,0.4s						
CCCA	**Chr Cany lake**	**0.33**	**143**		**Pg**	**11 06 50.3**	**+0.2**
CCCA					**Sg**	**11 06 55.8**	**+1.2**
MFS	**McCloud Flat S**	**0.38**	**329**		**Pg**	**11 06 50.5**	**-0.6**
MFS					**Sg**	**11 06 56.2**	**+0.1**
WBSM	**Bird Springs**	**0.50**	**240**		**Sg**	**11 06 59.6**	**-0.2**
WORM	**Onyx Ranch**	**0.52**	**260**		**Pg**	**11 06 52.9**	**-0.7**
DTP	**Desert Tortois**	**0.56**	**200**		**Pg**	**11 06 53.7**	**-0.7**
WHFM	**Hanning Flat**	**0.61**	**261**		**Pg**	**11 06 54.6**	**-0.7**
QSM	**Queen of Sheba**	**0.63**	**74**		**Pg**	**11 06 55.0**	**-0.7**
QSM				IAML		11 07 05.2	
	comp=N,6µm,0.6s						
QSM				IAML		11 07 05.5	
	comp=E,7µm,0.5s						
ISA	**Isabella, Lake**	**0.71**	**260**	Pg	**Pg**	**11 06 56.3**	**-1.0**
CCAC	**Calif City Air**	**0.72**	**207**	Pg	**Pg**	**11 06 56.8**	**-0.6**
CCAC				IAML		11 07 07.1	
	comp=E,6µm,0.9s						
CCAC				IAML		11 07 07.2	
	comp=N,9µm,0.5s						

CWC	**Cottonwood Cre**	**0.75**	**330**			**Pg**	**11 06 58.1**	**0.0**
WASM	**Alta Sierra Ca**	**0.77**	**266**			**Pg**	**11 06 57.7**	**-0.8**
CGO	**Cerro Gordo**	**0.77**	**349**			**Pg**	**11 06 58.7**	**+0.2**
GSC	**Goldstone, Bar**	**0.82**	**126**	Pg		**Pg**	**11 06 58.7**	**-0.7**
GSC				IAML			11 07 12.6	
	comp=N,8µm,0.5s							
GSC	**Goldstone, Bar**	**0.82**	**126**			**Sg**	**11 07 10.1**	**0.0**
GWY	**Greenwater Val**	**0.86**	**62**			**Pg**	**11 06 59.4**	**-0.8**
GWY				IAML			11 07 14.6	
	comp=E,7µm,0.5s							
GWY				IAML			11 07 17.2	
	comp=N,7µm,0.7s							
HYS	**Haystack Butte**	**0.93**	**178**			**Pg**	**11 07 00.6**	**-0.9**
EDW2	**Edwards Air Fo**	**0.96**	**199**			**Pg**	**11 07 00.9**	**-1.2**
SPG2	**Springville 2**	**1.02**	**294**			**Pg**	**11 07 01.9**	**-1.4**
SPG2						**Sg**	**11 07 15.6**	**-0.9**
TPO	**Tropico Hills**	**1.04**	**209**			**Pg**	**11 07 02.5**	**-1.0**
TEJ	**El Tejon**	**1.04**	**238**			**Pg**	**11 07 02.0**	**-1.6**
TEJ						**Sg**	**11 07 16.2**	**-0.9**
RRX	**Edison Barstow**	**1.04**	**151**			**Pg**	**11 07 03.1**	**-0.6**
SHOC	**Shoshone, Teco**	**1.09**	**84**			**Pg**	**11 07 04.2**	**-0.3**
SHOC						**Sb**	**11 07 19.2**	**-0.2**
SBB	**Saddle Back Bu**	**1.11**	**189**			**Pg**	**11 07 03.8**	**-1.2**
MAGC	**SCE Magundon P**	**1.15**	**249**			**Pg**	**11 07 04.7**	**-1.0**
TJR	**Tejon Ranch**	**1.20**	**231**			**Pg**	**11 07 04.8**	**-1.8**
TJR						**Sg**	**11 07 20.8**	**-1.3**
VES	**Vestal, Richgr**	**1.20**	**273**			**Pn**	**11 07 08.4**	**+1.5**
VES						**Sb**	**11 07 22.0**	**-0.5**
GRAC	**Grapevine Rang**	**1.22**	**9**			**Pn**	**11 07 07.1**	**-0.2**
GRAC	**Grapevine Rang**	**1.22**	**9**	Pg		**Pg**	**11 07 06.2**	**-0.8**
GRAC				IAML			11 07 28.3	
	comp=N,5µm,0.7s							
GRAC				IAML			11 07 30.9	
	comp=E,4µm,0.5s							
THC	**Tehachapi Micr**	**1.23**	**225**			**Pg**	**11 07 05.4**	**-1.8**
ADO	**Adelanto Recei**	**1.25**	**173**			**Pg**	**11 07 07.2**	**-0.4**
VTV	**Victorville**	**1.25**	**169**			**Sb**	**11 07 24.1**	**+0.1**
AMDNV	**Amargosa**	**1.27**	**58**			**Pg**	**11 07 06.2**	**-1.7**
AMDNV						**Sg**	**11 07 23.3**	**-1.0**
SGV	**South Grapevin**	**1.28**	**21**			**Pg**	**11 07 07.0**	**-1.1**
WCT	**Wildcat Mounta**	**1.28**	**38**			**Pg**	**11 07 06.4**	**-1.7**
WCT				IAML			11 07 27.0	
	comp=N,1µm,0.7s							
WCT				IAML			11 07 28.6	
	comp=E,3µm,0.6s							
LEOC	**Leona Valley**	**1.29**	**206**			**Pg**	**11 07 06.8**	**-1.5**
BAKC	**Calstate**	**1.29**	**250**			**Pg**	**11 07 07.3**	**-1.2**
LRRC	**Littlerock Res**	**1.31**	**195**			**Pn**	**11 07 07.9**	**-0.6**
LRRC						**Sb**	**11 07 26.0**	**+0.4**
CJV	**Casa Juvan**	**1.33**	**199**			**Pn**	**11 07 08.8**	**-0.1**
CJV						**Sb**	**11 07 26.8**	**+0.4**
HOLC	**Holcomb Ridge**	**1.34**	**188**			**Sb**	**11 07 27.0**	**+0.2**
TIN	**Tinemaha, Big**	**1.35**	**339**			**Pn**	**11 07 08.8**	**-0.4**
DSCC	**Desert Studies**	**1.39**	**117**			**Pn**	**11 07 09.2**	**-2.0**
HEC	**Hector,Ludlow**	**1.42**	**132**			**Pn**	**11 07 09.6**	**-0.5**
HEC						**Sb**	**11 07 29.2**	**+0.2**
TUQ	**Turquoise Moun**	**1.42**	**104**			**Pn**	**11 07 08.7**	**-1.4**
LCH	**Last Change Ra**	**1.44**	**359**			**Pn**	**11 07 09.4**	**-1.0**
OSI	**Osito Audit: C**	**1.48**	**218**			**Pn**	**11 07 10.1**	**-0.8**
OSI				IAML			11 07 35.5	
	comp=N,2µm,0.8s							
OSI				IAML			11 07 37.9	
	comp=E,2µm,0.8s							
CHFC	**Chilao Flat St**	**1.49**	**193**			**Pb**	**11 07 11.7**	**-0.2**
VOG	**Valley Oaks Go**	**1.53**	**291**			**Pn**	**11 07 11.4**	**0.0**
GMN	**Gold Mountain**	**1.53**	**11**			**Pn**	**11 07 10.7**	**-1.1**
GMN				IAML			11 07 35.0	
	comp=E,878nm,0.9s							
GMN				IAML			11 07 36.6	
	comp=N,959nm,0.7s							
BFSC	**Mount Baldy Ra**	**1.55**	**181**			**Pb**	**11 07 12.7**	**-0.1**
BFSC						**Sb**	**11 07 32.9**	**+0.2**
SIL	**Silver Peak**	**1.58**	**156**			**Pn**	**11 07 12.7**	**+0.4**
SSK	**Sunset Peak**	**1.58**	**182**			**Pb**	**11 07 13.4**	**+0.1**
TPNV	**Topopah Spring**	**1.60**	**43**			**Pn**	**11 07 11.5**	**-1.1**
TPNV				IAML			11 07 36.2	
	comp=N,2µm,0.6s							
DSP	**Deep Springs**	**1.60**	**350**			**Pn**	**11 07 11.7**	**-0.8**
DSP				IAML			11 07 35.6	
	comp=E,1µm,0.6s							
MWC	**Mount Wilson**	**1.61**	**193**			**Pb**	**11 07 13.7**	**-0.1**
MWC	**Mount Wilson**	**1.61**	**193**			**Pn**	**11 07 12.4**	**-0.3**
MWC				IAML			11 07 37.0	
	comp=N,3µm,0.6s							
MWC				IAML			11 07 39.9	
	comp=E,2µm,0.

113A					IAML			11 09 10.0	
	comp=E,78nm,0.6s								
X16A	**Lo Mia Camp, P**	**5.24**	**103**			**Pn**		**11 08 01.9**	**-0.8**
X16A					IAML			11 09 44.3	
	comp=N,42nm,1.1s								
X16A					IAML			11 09 51.9	
	comp=E,34nm,1.7s								
ELK	**Elko**	**5.29**	**20**			**Pn**		**11 08 03.4**	**0.0**
ELK	**Elko**	**5.29**	**20**	Pn		**Pn**		**11 08 03.6**	**+0.3**
	comp=E,0.7nm,0.3s,baz=278,slow=5.9,SNR=7.3								
ELK					Pg	**Pb**		**11 08 17.3**	**+0.7**
	comp=E,0.7nm,0.3s,baz=222,slow=14,SNR=3.6								
ELK					Sn	**Sn**		**11 09 03.9**	**-0.9**
	comp=E,0.8nm,0.3s,baz=82,slow=21,SNR=1.4								
ELK					Lg	Lg		11 09 28.4	
	comp=E,8.0nm,0.3s,baz=67,slow=3.1,SNR=13								
	comp=E,3.0nm,0.5s								
214A	**Organ Pipe Nat**	**5.53**	**132**			**Pn**		**11 08 05.7**	**-0.8**
TUC	**Tucson**	**6.65**	**120**	Pn		**Pn**		**11 08 21.2**	**-0.7**
YBH	**Yreka Blue Hor**	**7.14**	**328**	Pn		**Pn**		**11 08 29.0**	**+0.2**
	baz=345,slow=3.7,SNR=1.8								
YBH					Lg	Lg		11 10 24.0	
	baz=350,slow=23,SNR=3.0								
ANMO	**Albuquerque**	**9.15**	**92**	Pn		**Pn**		**11 08 58.3**	**+1.9**
	comp=E,0.1nm,0.3s,baz=327,slow=7.3,SNR=1.4								
ANMO					Pg			11 09 29.8	
	comp=E,0.4nm,0.3s,baz=11,slow=13,SNR=15								
ANMO					Lg	Lg		11 11 28.0	
	comp=E,0.2nm,0.3s,baz=114,slow=23,SNR=7.0								
	comp=E,0.5nm,0.7s								
PDAR	**Pinedale Array**	**9.35**	**39**	Pn		**Pn**		**11 08 59.8**	**+0.6**
	comp=E,0.1nm,0.3s,baz=220,slow=12,SNR=4.6								
PDAR					Lg	Lg		11 11 34.9	
	baz=226,slow=36								
	comp=E,0.5nm,0.7s								
TXAR	**Lajitas Array**	**13.40**	**115**	Pn		**Pn**		**11 09 56.1**	**+1.6**
	comp=E,0.1nm,0.3s,baz=294,slow=12,SNR=9.6								
	comp=E,0.2nm,0.4s								
ECSD	**EROS Data Cent**	**17.96**	**57**			**Pn**		**11 10 53.0**	**-0.9**
ECSD					IAmb	IAmb		11 10 59.0	
	comp=Z,6.0nm,1.4s								
AGMN	**Agassiz Nation**	**20.34**	**45**	P		**P**		**11 11 19.9**	**-0.7**
AGMN					IAmb	IAmb		11 11 25.6	
	comp=Z,6.4nm,1.1s								
ULM	**Lac du Bonnet**	**21.37**	**41**	P		**P**		**11 11 30.7**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=222,slow=11,SNR=3.4								
	comp=Z,2.2nm,0.8s								
YKA	**Yellowknife Ar**	**26.79**	**3**	P		**P**		**11 12 23.7**	**-0.4**
	comp=Z,1.2nm,1.0s,baz=188,slow=9.5,SNR=8.8								
	comp=Z,1.2nm,1.0s								
ILAR	**Eielson Array**	**33.90**	**338**	P		**P**		**11 13 27.1**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=156,slow=7.0,SNR=10								
	comp=Z,0.6nm,0.9s								
K20K	**Telida**	**35.46**	**332**	P		**P**		**11 13 41.1**	**+0.6**
K20K					IAmb	IAmb		11 13 42.9	
	comp=Z,3.7nm,0.8s								
PETK	**Petropavlovsk-**	**59.34**	**316**	P		**P**		**11 16 46.5**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=82,slow=11,SNR=4.7								
	comp=Z,1.5nm,0.8s								
PPT	**Papeete**	**61.10**	**215**	P		**P**		**11 17 00.2**	**+1.6**
	comp=Z,79nm,1.1s,baz=322,slow=21,SNR=1.8								
BVAR	**Borovoye Array**	**91.28**	**355**	P		**P**		**11 19 50.2**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=29,slow=3.3,SNR=3.6								
	comp=Z,0.7nm,0.5s								

*IDC **06** 11:08:13.7±0.4,20.˙98S×169.˙97E, h88km±2km, mb5.2/37, mbtmp5.5/40, MS4.5/41, Error ellipse: s-maj=9.8km s-min=7.8km az=146.0*

*BJI **06** 11:08:14.8,20.˙29S×170.˙02E, h90km, mB5.5/48, mb5.6/89*

*MOS **06** 11:08:15.0±1.0,20.˙93S×169.˙92E, h107km, mb5.7/27, MS4.8/5, Error ellipse: s-maj=8.4km s-min=6.8km az=111.2*

*NEIC **06** 11:08:15.7,20.˙96S×169.˙87E, h100km*

*NEIC **06** 11:08:15.7,20.˙96S×169.˙98E, h100km, Moment Tensor Solution. Duration: 38.5 Moment tensor: Scale 10^17 Nm; Mrr=3.12; Mθθ1.21; Mφφ1.91; Mrθ0.34; Mθφ-0.82; Mrφ2.22; Fault plane solution: M0 3.63000×10^17 NP1: φs=318.24000°, δ29.84000°, λ-117.65000°. NP2: φs=169.38000°, δ63.85000°, λ-75.09000°. Principal axes: T 2.9908, Plg18.0000°, Azm248.0000°; N 1.0417, Plg13.0000°, Azm343.0000°; P -4.0325, Plg68.0000°, Azm108.0000°;*

*GCMT **06** 11:08:16.5±0.1,21.˙02S±0.˙01×169.˙91E±0.˙01, h110km, MW5.7/164, Moment Tensor Solution. s144,c268; s164,c330; Duration: 1.56 Moment tensor: Scale 10^17 Nm; Mrr=-3.00±.04; Mθθ 1.27±.04; Mφφ 1.73±.05; Mrθ0.33±.04; Mθφ-0.44±.04; Mrφ2.85±.03; Best double couple: M0 3.74300×10^17 NP1:φs334.00000°,δ22.00000°, λ-112.00000°. NP2:φs178.00000°,δ70.00000°, λ-82.00000°. Principal axes: T 3.1050, Plg24.0000°, Azm261.0000°; N 1.2760, Plg8.0000°, Azm355.0000°; P -4.3810, Plg64.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **06** 11:08:16.6±1.9,20.˙96S±0.˙08×169.˙87E±0.˙07, h100km±4km, mb5.8/520, Mww5.6/44 Error ellipse: s-maj=12.3km s-min=9.3km az=151.0*

*NOU **06** 11:08:17.4,20.˙94S×169.˙82E, h105km, ML5.5/160, Vanuatu Islands*

ISC 06 11:08:15.2±0.2,20˙99S±0˙03×169˙91E±0˙03, h102km±1km, h102km:pP-P, n1539, σ1s27/1430, mb5.8/334, 63C-96D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
INH	**Isangel**		**1.56**	**337**	P		**Pn**	**11 08 42.3**	**0.0**
INH	**Isangel**		**1.56**	**337**	S		**Sn**	**11 09 03.7**	**+0.9**
OUENC	**Ouen Island, N**		**3.19**	**243**	P		**Pn**	**11 09 03.0**	**-0.5**
OUENC	**Ouen Island, N**		**3.19**	**243**	S		**Sn**	**11 09 40.1**	**-0.7**
DZM	**Mont Dzumac**		**3.40**	**251**	*e*Pn		**Pn**	**11 09 04.7**	**-1.8**
	25μm,1.4s								
DZM					*e*Sn		**Sn**	**11 09 42.7**	**-3.4**
DZM					*e*LR		LR	11 09 47.4	
	38μm,27.1s								
DZM	**Mont Dzumac**		**3.40**	**251**	P		**Pn**	**11 09 06.3**	**-0.1**
	4μm,0.6s,baz=114,slow=12,SNR=3352								
DZM					S		**Sn**	**11 09 43.9**	**-2.2**
	4μm,0.3s,baz=107,slow=19,SNR=12								
DZM					LR		LR	11 09 44.3	
	comp=Z,3μm,19.0s,baz=54,slow=26								
DZM	**Mont Dzumac**		**3.40**	**251**	P		**Pn**	**11 09 06.1**	**-0.4**
DZM	**Mont Dzumac**		**3.40**	**251**	S		**Sn**	**11 09 44.7**	**-1.4**
DVP	**Devils Point**		**3.63**	**333**	P		**Pn**	**11 09 09.9**	**+0.4**
KOUNC	**Koumac, New Ca**		**5.28**	**274**	P		**Pn**	**11 09 32.7**	**+0.9**
KOUNC	**Koumac, New Ca**		**5.28**	**274**	S		**Sn**	**11 10 32.3**	**+0.9**
VLAKA	**Lakatoro**		**5.40**	**334**	P		**Pn**	**11 09 33.6**	**+0.2**
VLAKA	**Lakatoro**		**5.40**	**334**	S		**Sn**	**11 10 34.6**	**+0.3**
NFK	**Norfolk Island**		**8.21**	**192**	P		**Pn**	**11 10 11.8**	**+0.2**
	comp=Z,8μm,1.1s								
MSVF	**Nonsavu**		**8.34**	**69**	P		**Pn**	**11 10 17.7**	**+4.3**
MSVF	**Nonsavu**		**8.34**	**69**	P		**Pn**	**11 10 17.5**	**+4.1**
MSVF					LR		LR	11 12 51.7	
	comp=Z,786nm,1.1s,baz=247,slow=10.0,SNR=82								
MSVF					LR		LR	11 12 51.7	
	comp=Z,14μm,21.4s,baz=252,slow=34								
MSVF	**Nonsavu**		**8.34**	**69**	P		**Pn**	**11 10 17.8**	**+4.3**
MSVF	**Nonsavu**		**8.34**	**69**	P		**Pn**	**11 10 17.7**	**+4.3**
YSA	**Yasawairara**		**8.42**	**61**	P		**Pn**	**11 10 18.1**	**+3.7**
DGTI	**Dogotuki**		**10.41**	**65**	P		**Pn**	**11 10 44.8**	**+3.2**
TAVE	**Taveuni**		**10.54**	**68**	P		**Pn**	**11 10 46.6**	**+3.3**
LUES	**Luesalemba Tem**		**10.96**	**339**	P		**Pn**	**11 10 51.1**	**+2.0**
LKBA	**Tubou, Lakemba**		**10.97**	**77**	P		Pn	11 10 54.1	+5.0
HURO	**Huro Makira**		**12.99**	**322**	P		**Pn**	**11 11 16.6**	**+0.6**
FUTU	**Fugatoga**		**13.20**	**62**			**P**	**11 11 22.4**	**-2.5**
FUTU	**Fugatoga**		**13.20**	**62**	P		**P**	**11 11 22.5**	**-2.4**
NGOA	**Tingoa Renbel**		**13.31**	**313**	P		**P**	**11 11 23.8**	**-2.4**
RAO	**Raoul Island**		**13.75**	**129**	LR		LR	11 14 25.5	
	comp=Z,2μm,20.5s,baz=299,slow=27								
LHI	**Lord Howe Isla**		**14.29**	**221**			**Pn**	**11 11 33.4**	**+0.6**
LHI	**Lord Howe Isla**		**14.29**	**221**	P		**Pn**	**11 11 32.6**	**-0.3**
	comp=Z,251nm,1.1s								
OUZ	**Omahuta**		**14.54**	**168**	P		**P**	**11 11 38.2**	**-1.5**
OUZ	**Omahuta**		**14.54**	**168**	P		**P**	**11 11 38.3**	**-1.3**
HNR	**Honiara**		**14.97**	**319**			**Pn**	**11 11 42.0**	**+0.5**
HNR	**Honiara**		**14.97**	**319**	P		**Pn**	**11 11 42.2**	**+0.6**
	comp=Z,235nm,0.7s,baz=184,slow=2.3,SNR=17								
HNR					LR		LR	11 16 44.5	
	comp=Z,960nm,18.3s,baz=152,slow=34								
HNR	**Honiara**		**14.97**	**319**	P		**Pn**	**11 11 43.1**	**+1.5**
HNR	**Honiara**		**14.97**	**319**	P		**Pn**	**11 11 42.1**	**+0.5**
ALEG	**Aligegeo Malai**		**15.07**	**322**	P		**P**	**11 11 44.6**	**-1.1**
SAVO	**Savo Central**		**15.28**	**319**	P		**P**	**11 11 47.8**	**-0.2**
FUNA	**Funafuti**		**15.29**	**37**			**P**	**11 11 50.2**	**+2.0**
FUNA	**Funafuti**		**15.29**	**37**	P		**P**	**11 11 49.5**	**+1.3**
WCZ	**Waipu Caves**		**15.39**	**166**	P		**P**	**11 11 49.3**	**+0.2**
TATA	**Tatamba Isabel**		**15.88**	**321**	P		**Pn**	**11 11 53.1**	**+0.1**
GRZ	**Great Barrier**		**15.96**	**163**	P		**P**	**11 11 55.5**	**+0.1**
ABAZ	**Army Bay**		**16.14**	**166**	P		**P**	**11 11 58.9**	**+1.5**
RVAZ	**Riverhead Bore**		**16.24**	**166**	P		**P**	**11 12 01.1**	**+2.6**
MBAZ	**Motutapu North**		**16.31**	**166**	P		**P**	**11 12 00.1**	**+0.9**
WIAZ	**Waiheke Island**		**16.39**	**165**	P		**P**	**11 12 00.8**	**+0.6**
WTAZ	**Waiatarua**		**16.40**	**167**	P		**P**	**11 12 02.0**	**+1.7**
KUZ	**Kuaotunu**		**16.50**	**163**	P		**P**	**11 12 02.5**	**+1.2**
KUZ	**Kuaotunu**		**16.50**	**163**	P		**P**	**11 12 02.3**	**+1.0**
GC1S	**Gold Coast 1 S**		**16.53**	**241**	P		**P**	**11 12 04.0**	**+2.2**
AWAZ	**Awhitu Peninsu**		**16.54**	**167**	P		**P**	**11 12 02.0**	**+0.2**
TOZ	**Tahuroa Road**		**17.37**	**165**			**Pn**	**11 12 13.2**	**+2.0**
TOZ	**Tahuroa Road**		**17.37**	**165**	P		**Pn**	**11 12 12.7**	**+1.5**
GD1S	**Gladstone Soft**		**17.56**	**257**	P		**Pn**	**11 12 15.9**	**+2.3**
WIZ	**White Island**		**17.65**	**161**	P		**Pn**	**11 12 16.4**	**+1.9**
EIDS	**Eidsvold**		**17.85**	**252**	P		**Pn**	**11 12 18.1**	**+1.1**
EIDS	**Eidsvold**		**17.85**	**252**	P		**Pn**	**11 12 19.3**	**+2.2**
EIDS	**Eidsvold**		**17.85**	**252**	P		**Pn**	**11 12 18.9**	**+1.8**
TLZ	**Tolley Road**		**17.95**	**166**	P		**Pn**	**11 12 19.8**	**+1.5**
HIZ	**Hauiti**		**17.98**	**167**			**Pn**	**11 12 20.8**	**+2.3**
HIZ	**Hauiti**		**17.98**	**167**	P		**Pn**	**11 12 21.8**	**+3.3**
HIZ	**Hauiti**		**17.98**	**167**	P		**Pn**	**11 12 20.1**	**+1.6**
HAZ	**Te Kaha**		**18.05**	**159**	P		**Pn**	**11 12 21.2**	**+1.9**
MXZ	**Matakaoa Point**		**18.05**	**158**			**Pn**	**11 12 20.6**	**+1.3**
MXZ	**Matakaoa Point**		**18.05**	**158**	P		**Pn**	**11 12 21.7**	**+2.4**
MXZ	**Matakaoa Point**		**18.05**	**158**	P		**Pn**	**11 12 20.3**	**+0.9**
RUGZ	**Raukumara Rang**		**18.20**	**160**	P		**Pn**	**11 12 22.2**	**+0.9**
PKGZ	**Pakihiroa**		**18.25**	**159**	P		**Pn**	**11 12 23.7**	**+2.0**
URZ	**Urewera**		**18.30**	**162**	P		**Pn**	**11 12 22.4**	**+0.1**
	comp=Z,319nm,1.2s,baz=337,slow=2.6,SNR=34								
URZ					LR		LR	11 18 24.9	
	comp=Z,1μm,20.6s,baz=341,slow=33								
URZ	**Urewera**		**18.30**	**162**	P		**Pn**	**11 12 23.1**	**+0.8**
PUZ	**Puketiti**		**18.49**	**159**	P		**Pn**	**11 12 24.8**	**+0.1**
MWZ	**Matawai**		**18.49**	**161**	P		**Pn**	**11 12 25.6**	**+0.9**
TWGZ	**Tauwhareparae**		**18.49**	**160**	P		**Pn**	**11 12 25.8**	**+1.0**
VRZ	**Vera Road**		**18.55**	**168**	P		**Pn**	**11 12 26.6**	**+1.3**
KHEZ	**Kahui Hut**		**18.58**	**170**	P		**Pn**	**11 12 28.7**	**+2.9**
RTZ	**Ruatahuna**		**18.59**	**162**			**Pn**	**11 12 26.7**	**+0.7**
RTZ	**Ruatahuna**		**18.59**	**162**	P		**Pn**	**11 12 27.1**	**+1.2**
AFI	**Afiamalu**		**18.82**	**71**	P		**P**	**11 12 27.4**	**+0.2**
AFI	**Afiamalu**		**18.82**	**71**	P		**P**	**11 12 27.3**	**+0.2**
AFI	**Afiamalu**		**18.82**	**71**	P		**P**	**11 12 27.4**	**+0.2**
AFI	**Afiamalu**		**18.82**	**71**	P		**P**	**11 12 27.4**	**+0.2**
ARMA	**Armidale**		**18.94**	**237**			**Pn**	**11 12 31.9**	**+1.8**
ARMA	**Armidale**		**18.94**	**237**	P		**Pn**	**11 12 31.6**	**+1.5**
ARMA	**Armidale**		**18.94**	**237**	P		**Pn**	**11 12 32.1**	**+2.0**
BKZ	**Black Stump Fm**		**18.98**	**164**			**Pn**	**11 12 30.5**	**+0.1**
BKZ	**Black Stump Fm**		**18.98**	**164**	P		**Pn**	**11 12 30.8**	**+0.4**
BKZ	**Black Stump Fm**		**18.98**	**164**	P		**Pn**	**11 12 30.5**	**+0.1**
NIUE	**Niue**		**19.04**	**88**	P		**P**	**11 12 30.0**	**+0.5**
NIUE	**Niue**		**19.04**	**88**	P		**P**	**11 12 29.3**	**-0.2**
NIUE	**Niue**		**19.04**	**88**	P		**Pn**	**11 12 32.6**	**+1.3**
NIUE	**Niue**		**19.04**	**88**	P		**Pn**	**11 12 30.8**	**-0.5**
KNZ	**Kokohu**		**19.17**	**161**	P		**Pn**	**11 12 31.7**	**-0.9**
TSZ	**Takapari Road**		**19.70**	**166**	P		**Pn**	**11 12 37.9**	**-0.9**
QRZ	**Quartz Range**		**19.90**	**174**	P		**Pn**	**11 12 41.0**	**-0.1**
QRZ	**Quartz Range**		**19.90**	**174**	P		**Pn**	**11 12 41.6**	**+0.5**
QRZ	**Quartz Range**		**19.90**	**174**	P		**Pn**	**11 12 40.8**	**-0.3**
NTLH	**Newcastle Hard**		**20.07**	**230**	P		**Pn**	**11 12 43.9**	**+0.7**
TKNZ	**Takaka Hill**		**20.15**	**173**	P		**Pn**	**11 12 43.8**	**-0.2**
MRZ	**Mangatainoka R**		**20.19**	**167**	P		**P**	**11 12 42.5**	**+0.8**
MRZ	**Mangatainoka R**		**20.19**	**167**	P		**P**	**11 12 42.5**	**+0.8**
BFZ	**Birch Farm**		**20.36**	**166**	P		**P**	**11 12 43.8**	**+0.2**
BFZ	**Birch Farm**		**20.36**	**166**	P		**P**	**11 12 43.7**	**+0.2**
BFZ	**Birch Farm**		**20.36**	**166**	P		**P**	**11 12 43.5**	**0.0**
NNZ	**Nelson**		**20.38**	**172**	P		Pn	11 12 45.9	-0.8
MRNZ	**Matariki Terra**		**20.49**	**174**	P		Pn	11 12 47.5	-0.5
TCW	**Tory Channel**		**20.50**	**171**	P		Pn	11 12 46.5	-1.5
MGCD	**Mangrove Creek**		**20.66**	**230**	P		Pn	11 12 51.2	+1.2
MGCD	**Mangrove Creek**		**20.66**	**230**	P		Pn	11 12 48.7	-1.3
SNZO	**South Karori**		**20.66**	**170**	P		**P**	**11 12 47.3**	**+0.6**
SNZO	**South Karori**		**20.66**	**170**	P		Pn	11 12 49.9	-0.1
TUWZ	**Tuamarina**		**20.66**	**171**	P		**P**	**11 12 48.2**	**+1.5**
DSZ	**Denniston Nort**		**20.75**	**176**	P		Pn	11 12 50.4	-0.8
DSZ	**Denniston Nort**		**20.75**	**176**	P		Pn	11 12 49.7	-1.5
BHW	**Baring Head**		**20.79**	**169**	P		Pn	11 12 50.7	-0.7
THZ	**Tophouse**		**20.86**	**174**	P		**P**	**11 12 50.5**	**+1.4**
THZ	**Tophouse**		**20.86**	**174**	P		Pn	11 12 50.8	-1.6
RIV	**Riverview**		**20.95**	**228**	P		Pn	11 12 52.3	-1.1
	comp=Z,254nm,1.0s								
RIV	**Riverview**		**20.95**	**228**	P		Pn	11 12 51.9	-1.6
PLWZ	**Palliser**		**21.01**	**169**	P		**P**	**11 12 51.0**	**+0.5**
SYDH	**Sydney Hard Ro**		**21.21**	**229**	P		**P**	**11 12 55.7**	**+3.0**
WOLH	**Wollongong Har**		**21.46**	**227**	P		**P**	**11 12 58.2**	**+2.8**
KHZ	**Kahutara**		**21.58**	**173**	P		**P**	**11 12 58.5**	**+1.9**
LTZ	**Lake Taylor**		**21.82**	**175**	P		**P**	**11 13 00.2**	**+1.0**
WVZ	**Waitaha Valley**		**22.03**	**178**	P		**P**	**11 13 03.2**	**+1.9**
GVZ	**Greta Valley S**		**22.07**	**174**	P		**P**	**11 13 02.0**	**+0.2**
CTAO	**Charters Tower**		**22.17**	**268**	P		**P**	**11 13 04.8**	**+1.7**
CTAO	**Charters Tower**		**22.17**	**268**	P		**P**	**11 13 04.4**	**+1.3**
CTAO	**Charters Tower**		**22.17**	**268**	P		**P**	**11 13 04.8**	**+1.7**
FOZ	**Fox Glacier**		**22.48**	**180**	P		**P**	**11 13 07.5**	**+1.5**
RPZ	**Rata Peaks**		**22.68**	**178**	LR		LR	11 20 58.4	
	comp=Z,2μm,20.1s,baz=3.0,slow=34								
RPZ	**Rata Peaks**		**22.68**	**178**	P		**P**	**11 13 08.9**	**+0.8**
CNB	**Canberra Magne**		**23.00**	**227**	P		**P**	**11 13 12.6**	**+1.2**
	comp=Z,181nm,0.9s								
CNB	**Canberra Magne**		**23.00**	**227**	P		**P**	**11 13 13.9**	**+2.5**
JCZ	**Jackson Bay**		**23.04**	**182**	P		**P**	**11 13 14.1**	**+2.4**
JCZ	**Jackson Bay**		**23.04**	**182**	P		**P**	**11 13 13.5**	**+1.7**
YNG	**Young**		**23.15**	**231**	P		**P**	**11 13 14.1**	**+1.2**
	comp=Z,89nm,0.9s								
CAN	**Canberra**		**23.25**	**228**	P		**P**	**11 13 15.7**	**+1.9**
CAN	**Canberra**		**23.25**	**228**	P		**P**	**11 13 15.5**	**+1.7**
	comp=Z,193nm,0.9s								
CAN	**Canberra**		**23.25**	**228**	P		**P**	**11 13 16.0**	**+2.2**
CAN	**Canberra**		**23.25**	**228**	P		**P**	**11 13 15.7**	**+1.9**
LBZ	**Lake Benmore**		**23.33**	**180**	P		**P**	**11 13 15.5**	**+1.1**
TMZ	**Timaru**		**23.35**	**178**	P		**P**	**11 13 14.6**	**+0.1**
MSZ	**Milford Sound**		**23.68**	**184**	P		**P**	**11 13 19.2**	**+1.8**
WKZ	**Wanaka**		**23.78**	**182**	P		**P**	**11 13 19.4**	**+0.9**
ODZ	**Otahua Downs**		**24.00**	**179**	P		**P**	**11 13 20.4**	**+0.1**
RABL	**Rabaul**		**24.01**	**312**	P		**P**	**11 13 21.0**	**+0.3**
CMSA	**Cobar Meteorol**		**24.07**	**239**	P		**P**	**11 13 22.7**	**+1.5**
	comp=Z,259nm,1.0s								
CMSA	**Cobar Meteorol**		**24.07**	**239**	P		**P**	**11 13 22.9**	**+1.7**
QLP	**Quilpie**		**24.12**	**252**	P		**P**	**11 13 23.4**	**+1.7**
	comp=Z,799nm,1.3s								
QLP	**Quilpie**		**24.12**	**252**	P		**P**	**11 13 24.6**	**+2.9**
EAZ	**Earnscleugh**		**24.18**	**181**	P		**P**	**11 13 22.6**	**+0.6**
MTSU	**Mount Surprise**		**24.28**	**272**	P		**P**	**11 13 24.8**	**+1.7**
	comp=Z,226nm,0.9s								
MTSU	**Mount Surprise**		**24.28**	**272**	P		**P**	**11 13 25.8**	**+2.6**
MLZ	**Mavora Lakes**		**24.36**	**183**	P		**P**	**11 13 24.9**	**+1.2**
DCZ	**Deep Cove**		**24.52**	**185**	P		**P**	**11 13 26.5**	**+1.5**
WHZ	**Wether Hill Ro**		**24.89**	**183**	P		**P**	**11 13 29.2**	**+0.8**
TUZ	**Tuapeka**		**24.90**	**180**	P		**P**	**11 13 30.0**	**+1.5**
CTZ	**Chatham Island**		**25.31**	**157**	P		**P**	**11 13 33.5**	**+1.2**
CTZ	**Chatham Island**		**25.31**	**157**	P		**P**	**11 13 33.6**	**+1.4**
SYZ	**Scrubby Hill**		**25.49**	**181**	P		**P**	**11 13 35.8**	**+2.0**
SYZ	**Scrubby Hill**		**25.49**	**181**	P		**P**	**11 13 35.4**	**+1.5**
COEN	**Coen**		**26.42**	**281**	P		**P**	**11 13 44.9**	**+2.3**
COEN	**Coen**		**26.42**	**281**	P		**P**	**11 13 44.0**	**+1.4**
	comp=Z,192nm,0.9s								
COEN	**Coen**		**26.42**	**281**	P		**P**	**11 13 44.9**	**+2.3**
TOO	**Toolangi**		**26.84**	**227**	P		**P**	**11 13 48.0**	**+1.8**
TOO	**Toolangi**		**26.84**	**227**	P		**P**	**11 13 47.2**	**+1.0**
	comp=Z,28nm,1.1s								
TOO	**Toolangi**		**26.84**	**227**	P		**P**	**11 13 48.0**	**+1.8**
TOO					pmax	pmax			
	comp=Z,53nm,1.4s								
GLAD	**Gladstone**		**27.25**	**218**	P		**P**	**11 13 51.7**	**+1.9**
STKA	**Stephens Creek**		**27.50**	**241**	P		**P**	**11 13 53.9**	**+1.7**
STKA					IAmb		IAmb	11 14 45.5	
	comp=Z,279nm,1.1s								
STKA	**Stephens Creek**		**27.50**	**241**	P		**P**	**11 13 53.0**	**+0.9**
	comp=Z,201nm,0.9s								
STKA	**Stephens Creek**		**27.50**	**241**	P		**P**	**11 13 53.9**	**+1.7**
	comp=Z,28nm,0.7s,baz=88,slow=10,SNR=47								
STKA					pP		**pP**	**11 14 12.8**	**-0.4**
	comp=Z,26nm,0.9s,baz=91,slow=12,SNR=5.6								
STKA					PcP		**PcP**	**11 17 08.9**	**+0.9**
	comp=Z,51nm,0.7s,baz=86,slow=4.3,SNR=12								
STKA					ScP		**ScP**	**11 20 42.0**	**+2.6**
	comp=Z,8.6nm,0.9s,baz=66,slow=6.6,SNR=4.2								
STKA					LR		LR	11 24 02.7	
	comp=Z,3μm,20.8s,baz=70,slow=34								
	comp=Z,28nm,0.7s								
STKA	**Stephens Creek**		**27.50**	**241**	P		**P**	**11 13 54.2**	**+2.1**
STKA	**Stephens Creek**		**27.50**	**241**	*i* P		**P**	**11 13 52.7**	**+0.6**
BRAT	**Ballarat**		**27.90**	**228**	P		**P**	**11 13 57.6**	**+2.0**
GEXS	**Deakin Univers**		**27.98**	**227**	P		**P**	**11 13 58.7**	**+2.4**
CORO	**Coronation Par**		**28.05**	**218**	P		**P**	**11 13 59.1**	**+2.2**
RAR	**Rarotonga**		**28.27**	**96**	LR		LR	11 23 00.6	
	comp=Z,646nm,21.2s,baz=274,slow=31								
QIS	**Mount Isa**		**28.32**	**265**	P		**P**	**11 14 00.1**	**+0.5**
	comp=Z,42nm,1.3s								
QIS	**Mount Isa**		**28.32**	**265**	P		**P**	**11 14 00.6**	**+1.0**
MOO	**Moorlands**		**28.66**	**217**	P		**P**	**11 14 03.6**	**+1.2**
	comp=Z,119nm,1.1s								
MOO	**Moorlands**		**28.66**	**217**	P		**P**	**11 14 04.5**	**+2.1**
MOO	**Moorlands**		**28.66**	**217**	P		**P**	**11 14 04.1**	**+1.8**
TAU	**Tasmania Unive**		**28.90**	**216**	P		**P**	**11 14 06.2**	**+1.8**
TAU	**Tasmania Unive**		**28.90**	**216**	P		**P**	**11 14 06.2**	**+2.1**
TAU	**Tasmania Unive**		**28.90**	**216**	P		**P**	**11 14 06.2**	**+1.8**
TAU					pmax	pmax			
	comp=Z,77nm,1.3s								
MANU	**Manus Island**		**28.94**	**308**	P		**P**	**11 14 06.2**	**+1.1**
HTT	**Hallett**		**30.10**	**239**	P		**P**	**11 14 15.7**	**+0.5**
	comp=Z,17nm,1.8s								
HTT	**Hallett**		**30.10**	**239**	P		**P**	**11 14 17.1**	**+1.9**
WHYH	**Whyalla**		**31.08**	**240**	P		**P**	**11 14 25.6**	**+1.8**
WR8	**Warramunga Arr**		**33.15**	**265**	P		**P**	**11 14 41.6**	**-0.5**
WB0	**Warramunga Arr**		**33.28**	**266**	P		**P**	**11 14 43.0**	**-0.2**
WB0					IAmb		IAmb	11 14 44.4	
	comp=Z,114nm,0.8s								
WRAB	**Tennant Creek**		**33.29**	**265**	P		**P**	**

FITZ ScP **ScP** **11 21 30.7 +0.3**
comp=Z,12nm,1.0s,baz=94,slow=4.8,SNR=3.8
FITZ LR LR 11 33 46.1
comp=Z,2µm,18.5s,baz=100,slow=37
comp=Z,167nm,0.8s
FITZ Fitzroy Crossi 41.72 266 P **P** **11 15 55.7 +1.2**
GUMO Guam 42.26 322 P **P** **11 15 59.0 +0.3**
GUMO lAmb lAmb 11 16 01.2
comp=Z,102nm,0.8s
GUMO Guam 42.26 322 LR LR 11 33 06.0
comp=Z,350nm,20.0s,baz=154,slow=35
GUMO Guam 42.26 322 P **P** **11 16 00.7 +1.9**
GUMO Guam 42.26 322 P **P** **11 15 59.1 +0.3**
GUMO pmax pmax
comp=Z,102nm,0.9s
JOHN Johnston Islan 42.57 30 P **P** **11 16 02.6 +1.4**
JOHN Johnston Islan 42.57 30 P **P** **11 16 03.1 +1.9**
SWI Sorong 42.69 293 P **P** **11 16 02.6 +0.3**
NLAI Namlea 45.22 287 P **P** **11 16 23.6 +1.0**
SOEI Soe 45.26 277 lAmb lAmb 11 17 01.2
comp=Z,188nm,1.1s
SOEI Soe 45.26 277 P **P** **11 16 24.2 +1.2**
SOEI Soe 45.26 277 P **P** **11 16 25.1 +2.1**
BATI Baumata 45.67 276 P **P** **11 16 27.1 +1.0**
comp=Z,212nm,0.9s,baz=213,slow=1.8,SNR=12
BATI LR LR 11 35 59.2
comp=Z,2µm,20.2s,baz=130,slow=36
comp=Z,212nm,0.9s
BATI Baumata 45.67 276 P **P** **11 16 27.5 +1.3**
MBWA Marble Bar 46.66 260 P **P** **11 16 34.8 +1.0**
MBWA lAmb lAmb 11 17 00.5
comp=Z,178nm,0.9s
MBWA Marble Bar 46.66 260 P **P** **11 16 34.8 +1.0**
MBWA Marble Bar 46.66 260 P **P** **11 16 34.4 +0.6**
MBWA pP **pP** **11 16 55.3 -1.5**
SANI Sanana 46.74 288 P **P** **11 16 35.8 +1.3**
SANI Sanana 46.74 288 P **P** **11 16 35.1 +0.6**
MEEK Meekatharra 47.02 253 P **P** **11 16 37.6 +1.0**
MMRI Maumere 47.52 278 P **P** **11 16 41.4 +0.8**
MMRI lAmb lAmb 11 18 11.2
comp=Z,262nm,1.1s
MMRI Maumere 47.52 278 P **P** **11 16 41.7 +1.1**
MMRI Maumere 47.52 278 P **P** **11 16 41.0 +0.4**
KLBR Kellerberrin 47.56 246 P **P** **11 16 40.6 -0.1**
EDFI Ende, Flores 47.99 277 P **P** **11 16 45.0 +0.6**
NWAO Narrogin (SRO) 48.00 244 P **P** **11 16 44.6 +0.5**
NWAO lAmb lAmb 11 16 45.2
comp=Z,82nm,0.8s
NWAO Narrogin (SRO) 48.00 244 LR LR 11 36 53.6
comp=Z,3µm,19.1s,baz=92,slow=36
NWAO Narrogin (SRO) 48.00 244 P **P** **11 16 44.7 +0.6**
NWAO Narrogin (SRO) 48.00 244 P **P** **11 16 44.6 +0.5**
NWAO Narrogin (SRO) 48.00 244 P **P** **11 16 44.6 +0.5**
NWAO pmax pmax
comp=Z,83nm,0.8s
NWAO Narrogin (SRO) 48.00 244 P **P** **11 16 44.4 +0.3**
NWAO pP **pwP** **11 17 09.6 -1.5**
BLDU Ballidu 48.47 247 P **P** **11 16 49.0 +1.2**
BASI Baing, Sumba 48.53 275 P **P** **11 16 49.6 +1.2**
MUN Mundaring 48.87 245 P **P** **11 16 52.3 +1.5**
WSI Waingapu 48.97 275 P **P** **11 16 53.8 +2.0**
MORW Morawa 49.12 249 P **P** **11 16 52.6 -0.2**
MORW lAmb lAmb 11 16 54.0
comp=Z,81nm,0.9s
MORW Morawa 49.12 249 P **P** **11 16 54.1 +1.3**
DRV Dumont d'Urvil 49.51 195 P **P** **11 16 55.1 +0.1**
DRV PcP **PcP** **11 18 15.4 -0.1**
TAOE Nuku Hiva Isla 49.55 84 P **P** **11 16 56.9 +0.6**
TAOE lAmb lAmb 11 16 57.8
comp=Z,409nm,1.2s
TAOE Nuku Hiva Isla 49.55 84 *e*P **P** **11 16 56.1 -0.2**
comp=Z,707nm,1.3s
TAOE *e*S **S** **11 23 57.6 +0.7**
comp=Z,471nm,30.0s
TAOE *e*LQ LQ 11 29 06.9
comp=Z,6µm,31.1s
TAOE *e*LR LR 11 31 11.5
comp=Z,5µm,33.3s
TAOE Nuku Hiva Isla 49.55 84 P **P** **11 16 58.5 +2.2**
KMSI Cibinong 49.73 290 P **P** **11 16 59.6 +2.1**
WBSI Waikabubak, Su 49.83 275 P **P** **11 16 59.1 +0.8**
LUWI Luwuk 50.06 287 P **P** **11 16 00.8 +0.8**
LUWI Luwuk 50.06 287 P **P** **11 17 00.9 +0.8**
LUWI Luwuk 50.06 287 P **P** **11 17 02.4 +2.4**
H01W1 Cape Leeuwin H 50.58 242 P **P** **11 17 05.6 +2.2**
baz=283
H01W3 Cape Leeuwin H 50.59 242 P **P** **11 17 05.6 +2.1**
baz=283
H01W2 Cape Leeuwin H 50.59 242 P **P** **11 17 05.7 +2.2**
baz=283
BNSI Bone 51.06 282 P **P** **11 17 09.0 +1.4**
APSI Ampana 51.12 287 P **P** **11 17 10.2 +2.2**
KAPI Kappang 51.15 281 P **P** **11 17 09.7 +1.4**
KAPI Kappang 51.15 281 P **P** **11 17 09.6 +1.4**
comp=Z,95nm,0.8s,baz=151,slow=3.6,SNR=34
KAPI pP **pP** **11 17 28.9 -2.9**
comp=Z,77nm,0.9s,baz=110,slow=3.9,SNR=4.4
KAPI LR LR 11 41 41.9
comp=Z,351nm,18.3s,baz=114,slow=39
comp=Z,95nm,0.8s
KAPI Kappang 51.15 281 P **P** **11 17 09.4 +1.2**
MRSI Marisa 51.49 288 P **P** **11 17 10.9 +0.2**
SPSI Sidrap Palu 51.54 282 P **P** **11 17 11.2 0.0**
PLAI Plampang 51.60 275 P **P** **11 17 12.9 +1.3**
PLAI Plampang 51.60 275 P **P** **11 17 12.4 +0.8**
TTSI Tana Toraja 51.87 283 P **P** **11 17 14.8 +1.2**
KIP Kipapa 52.52 39 *c*e P **P** **11 17 19.3 +1.1**
KIP pmax pmax
comp=Z,77nm,1.7s
HMH Humu'ula Sheep 52.68 42 lAmb lAmb 11 17 23.3
comp=Z,163nm,0.9s
PCI Palu 52.75 286 P **P** **11 17 23.0 +2.8**
TOLI2 Tolitoli 52.81 288 P **P** **11 17 20.4 -0.2**
TOLI2 Tolitoli 52.81 288 P **P** **11 17 21.5 +1.0**
MHA Mahukona 52.85 41 P **P** **11 17 22.6 +2.0**
MHA Mahukona 52.85 41 P **P** **11 17 22.6 +2.0**
JOKA Jonika Flow 52.85 42 P **P** **11 17 21.8 +1.1**
MPSI Mapaga 53.24 287 P **P** **11 17 24.5 +0.8**
SRBI Singaraja 54.24 275 P **P** **11 17 32.1 +1.1**
JAGI Jajag, Banyuwa 55.09 274 lAmb lAmb 11 17 38.4
comp=Z,89nm,0.9s
JAGI Jajag, Banyuwa 55.09 274 P **P** **11 17 38.3 +1.1**
JAGI Jajag, Banyuwa 55.09 274 P **P** **11 17 37.7 +0.5**
SMKI Samarinda 55.32 285 P **P** **11 17 39.9 +1.1**
VNDA Vanda 56.71 182 P **P** **11 17 48.1 +0.4**
VNDA lAmb lAmb 11 17 49.8
comp=Z,260nm,1.8s
VNDA Vanda 56.71 182 P **P** **11 17 48.1 +0.4**
comp=Z,21nm,0.8s,baz=359,slow=7.3,SNR=90
VNDA LR LR 11 39 16.6
comp=Z,288nm,19.4s,baz=16,slow=33
VNDA PKPPKP **P'P'df** **11 47 40.8 -0.4**
comp=Z,1.6nm,1.1s,baz=296,slow=3.8,SNR=4.3
comp=Z,21nm,0.8s
VNDA Vanda 56.71 182 P **P** **11 17 48.2 +0.4**
VNDA pmax pmax
comp=Z,260nm,1.8s
VNDA Vanda 56.71 182 P **P** **11 17 48.1 +0.4**
SBA Scott Base 56.93 181 P **P** **11 17 50.7 +1.4**
SBA Scott Base 56.93 181 P **P** **11 17 50.7 +1.4**
SBA pmax pmax
comp=Z,316nm,1.2s
SBA Scott Base 56.93 181 P **P** **11 17 50.6 +1.3**
PCJI Pacitan 57.96 273 P **P** **11 17 58.7 +1.2**
WOJI Wonogiri, Jawa 58.31 274 P **P** **11 18 01.0 +1.0**
CASY Casey 58.78 204 P **P** **11 18 02.4 0.0**
CASY Casey 58.78 204 ⇓P **P** **11 18 02.4 0.0**
CASY PcP **PcP** **11 18 51.2 +0.3**
KKM Kota Kinabalu 59.14 291 P **P** **11 18 06.7 +0.9**
KKM Kota Kinabalu 59.14 291 P **P** **11 18 07.1 +1.3**
CCD Concordia, Ant 59.33 193 P **P** **11 18 06.2 -0.4**
CCD pP **pP** **11 18 32.3 +1.6**
CCD sP **sP** **11 18 44.8 +3.3**
CCD PcP **PcP** **11 18 54.0 +0.4**
STKI Sintang 60.74 282 P **P** **11 18 18.3 +1.6**
SBUM Sibu 61.06 285 P **P** **11 18 18.8 +0.9**
SBUM Sibu 61.06 285 P **P** **11 18 20.3 +1.5**
BBJI Bungbulang 61.49 273 P **P** **11 18 22.3 +0.5**
CNJI Cibinong 62.03 273 P **P** **11 18 25.5 +0.1**
JOW Kunigami 62.34 318 P **P** **11 18 28.2 +1.0**
JOW lAmb lAmb 11 18 29.4
comp=Z,143nm,1.0s
JOW Kunigami 62.34 318 P **P** **11 18 28.4 +1.2**
comp=Z,112nm,0.8s,baz=160,slow=6.6,SNR=31
JOW pP **pP** **11 18 49.3 -2.6**
comp=Z,57nm,0.9s,baz=173,slow=6.3,SNR=5.2
comp=Z,112nm,0.8s
JOW Kunigami 62.34 318 P **P** **11 18 28.8 +1.7**
KSM Kuching 62.38 283 lAmb lAmb 11 18 29.6
comp=Z,115nm,1.0s
KSM Kuching 62.38 283 P **P** **11 18 28.8 +1.1**
DBJI Dramaga 62.64 273 P **P** **11 18 30.0 +0.5**
SKJI Sukabumi 62.67 273 P **P** **11 18 31.3 +1.7**
SBJI Serang 63.37 274 P **P** **11 18 35.1 +0.9**
CGJI Cibinong 63.61 273 P **P** **11 18 35.6 -0.2**
INU Inuyama 64.13 330 P **P** **11 18 39.5 +0.7**
INU lAmb lAmb 11 18 40.5
comp=Z,130nm,1.5s
INU Inuyama 64.13 330 P **P** **11 18 39.4 +0.7**
JGF Kuroka 64.18 331 P **P** **11 18 39.5 +0.3**
YOJ Yonaguni jima 64.20 312 lAmb lAmb 11 18 41.8
comp=Z,252nm,1.2s
YOJ Yonaguni jima 64.20 312 P **P** **11 18 40.1 +0.7**
JMN Monobe 64.34 327 lAmb lAmb 11 18 42.5
comp=Z,229nm,1.4s
JMN Monobe 64.34 327 P **P** **11 18 41.5 +1.3**
TWGBT Beinan 64.52 310 P **P** **11 18 42.5 +1.0**
MJAR Matsushiro Arr 64.59 332 P **P** **11 18 41.5 -0.2**
comp=Z,42nm,0.9s,baz=170,slow=7.5,SNR=105
MJAR pP **pP** **11 19 03.1 -3.4**
comp=Z,20nm,0.9s,baz=163,slow=5.9,SNR=4.3
MJAR LR LR 11 47 18.5
comp=Z,144nm,19.1s,baz=135,slow=36
MJAR PKPPKP **P'P'df** **11 47 27.2 +0.2**
comp=Z,12nm,1.3s,baz=320,slow=2.5,SNR=7.7
comp=Z,42nm,0.9s
MAJO Matsushiro 64.59 332 P **P** **11 18 42.0 +0.3**
MAJO lAmb lAmb 11 18 43.0
comp=Z,132nm,1.3s
MAJO Matsushiro 64.59 332 P **P** **11 18 42.9 +1.2**
MAJO Matsushiro 64.59 332 *i* P **P** **11 18 42.3 +0.6**
MAJO pmax pmax
comp=Z,47nm,0.7s
MAJO Matsushiro 64.59 332 P **P** **11 18 41.5 -0.2**
MAJO pP **pP** **11 19 05.8 -0.7**
MJB9 Matsu-Tunnel 64.59 332 lAmb lAmb 11 18 43.0
comp=Z,128nm,1.3s
YULB Yu-li 64.72 310 P **P** **11 18 44.1 +1.2**
NACB Ninganchiao 65.00 311 lAmb lAmb 11 18 45.9
comp=Z,279nm,1.4s
NACB Ninganchiao 65.00 311 P **P** **11 18 45.3 +0.6**
TPUB Ta-pu 65.14 310 lAmb lAmb 11 18 46.2
comp=Z,164nm,1.0s
TPUB Ta-pu 65.14 310 P **P** **11 18 46.3 +0.7**
SSLB Suanglung 65.21 310 lAmb lAmb 11 18 46.7
comp=Z,99nm,0.9s
SSLB Suanglung 65.21 310 P **P** **11 18 46.0 -0.1**
JNU Nakatsue 65.45 324 lAmb lAmb 11 18 49.0
comp=Z,96nm,0.9s
JNU Nakatsue 65.45 324 P **P** **11 18 47.5 +0.1**
comp=Z,101nm,0.9s,baz=201,slow=4.4,SNR=6.5
JNU pP **pP** **11 19 09.6 -2.7**
comp=Z,53nm,0.9s,baz=118,slow=7.8,SNR=5.5
JNU LR LR 11 46 11.5
comp=Z,102nm,19.6s,baz=147,slow=35
comp=Z,101nm,0.9s
JNU Nakatsue 65.45 324 P **P** **11 18 48.6 +1.2**
YHNB Yeheng 65.47 311 P **P** **11 18 48.7 +0.9**
TATO Taipei 65.59 312 P **P** **11 18 49.0 +0.5**
TATO Taipei 65.59 312 P **P** **11 18 49.9 +1.5**
LWLI Liwa 65.68 274 P **P** **11 18 49.8 +0.3**
MDSI Maura Dua 65.76 275 P **P** **11 18 48.9 -0.9**
JSD Sado 65.82 333 P **P** **11 18 50.3 +0.7**
LHSI Lahat 66.61 275 P **P** **11 18 55.2 0.0**
KSI Kapahiang 67.53 275 P **P** **11 19 00.9 -0.3**
QZH Quanzhou 67.62 310 P **P** **11 19 02.2 +0.9**
QZH pP **PcP** **11 19 27.0 -0.7**
QZH pmax pmax
comp=Z,260nm,3.7s
MYKOM Kota Tinggi 68.41 281 P **P** **11 19 07.9 +1.3**
QSPA South Pole Qui 69.07 180 P **P** **11 19 10.3 +0.3**
comp=Z,229nm,0.9s,baz=21,slow=2.1,SNR=516
QSPA pP **PcP** **11 19 32.6 -0.8**
comp=Z,65nm,0.9s,baz=344,slow=4.2,SNR=2.8
QSPA LR LR 11 46 09.7
comp=Z,168nm,19.8s,baz=16,slow=33
QSPA PKPPKP **P'P'df** **11 47 14.3 -7.3**
comp=Z,10nm,1.2s,baz=236,slow=2.4,SNR=11
comp=Z,229nm,0.9s
QSPA South Pole Qui 69.07 180 P **P** **11 19 10.2 +0.3**
HKPS Hong Kong Po S 69.35 305 lAmb lAmb 11 19 14.3
comp=Z,106nm,0.9s
ASAJ Asahikawa 69.45 339 P **P** **11 19 12.8 +0.4**
comp=Z,16nm,0.6s,baz=215,slow=4.1,SNR=14
ASAJ pP **PcP** **11 19 34.6 -0.3**
comp=Z,16nm,0.8s,baz=192,slow=6.1,SNR=2.4
comp=Z,16nm,0.6s
SSE Sheshan 69.77 317 P **P** **11 19 14.6 0.0**
SSE S **S** **11 28 14.8 -1.0**
SSE pmax pmax
comp=Z,22nm,0.7s
SSE pmax pmax
comp=Z,150nm,3.5s
SSE LR LR
comp=Z,170nm,18.2s
SSE LR LR
comp=Z,190nm,18.0s
TJN Taejon 69.80 324 P **P** **11 19 15.7 +1.1**
TJN Taejon 69.80 324 *i* P **P** **11 19 15.2 +0.6**
KSRS Korea Array 70.30 326 P **P** **11 19 18.4 +0.8**
comp=Z,15nm,0.9s,baz=144,slow=6.1,SNR=50
KSRS pP **PcP** **11 19 40.0 +1.3**
comp=Z,9.7nm,0.9s,baz=132,slow=5.2,SNR=5.0
KSRS PKP2bc 11 47 14.3
comp=Z,3.8nm,1.1s,baz=309,slow=2.8,SNR=8.1
KSRS LR LR 11 48 22.2
comp=Z,108µm,20.8s,baz=145,slow=34
comp=Z,15nm,0.9s
KSAR Wonju Array Be 70.31 326 P **P** **11 19 18.9 +1.1**
KSAR Wonju Array Be 70.31 326 P **P** **11 19 18.9 +1.1**
KS19 Wonju Array Si 70.37 326 P **P** **11 19 18.3 +0.2**
BKNI Bangkinang 70.44 278 P **P** **11 19 19.7 +0.6**
BKNI lAmb lAmb 11 19 21.1
comp=Z,139nm,0.7s
PPI Padang Panjang 70.74 277 P **P** **11 19 21.1 +0.2**
QIZ Qiongzhong 70.99 300 P **P** **11 19 23.2 +0.9**
QIZ Qiongzhong 70.99 300 P **P** **11 19 24.1 +1.8**
QIZ pP **pP** **11 19 47.6 +0.2**
QIZ sP **sP** **11 19 57.5 -0.6**
QIZ S **S** **11 28 33.7 +3.2**
QIZ sS **SKSac** **11 29 13.9 -2.0**
QIZ pmax pmax
comp=Z,77nm,0.8s
QIZ pmax pmax
comp=Z,150nm,3.9s
QIZ Qiongzhong 70.99 300 P **P** **11 19 23.5 +1.2**
INCN Inchon 71.01 325 P **P** **11 19 23.1 +1.0**
INCN lAmb lAmb 11 19 24.2
comp=Z,107nm,0.9s
INCN Inchon 71.01 325 P **P** **11 19 23.2 +1.2**
INCN Inchon 71.01 325 P **P** **11 19 23.1 +1.0**
INCN pmax pmax
comp=Z,107nm,0.9s
NJ2 Nanjing 71.90 316 ⇓P **P** **11 19 28.1 +0.6**
NJ2 pP **pP** **11 19 50.4 -2.2**
NJ2 S **S** **11 28 42.5 +2.1**
NJ2 ScS **SKKSac** **11 29 22.8 +0.5**
NJ2 pmax pmax
comp=Z,48nm,0.9s
NJ2 pmax pmax
comp=Z,450nm,6.3s
YSS Yuzhno-Sakhali 71.93 341 P **P** **11 19 28.6 +1.3**
YSS Yuzhno-Sakhali 71.93 341 P **P** **11 19 28.9 +1.6**
YSS Yuzhno-Sakhali 71.93 341 *k*e P **P** **11 19 28.5 +1.2**
YSS *e*PP **pP** **11 19 53.6 +1.0**
YSS *e*SP **sP** **11 20 05.0 +1.6**
YSS *e* 11 22 05.6
YSS *e*S **S** **11 28 42.9 +2.7**
YSS *e*SS **sS** **11 29 27.6 +3.6**
YSS *e*SS **SS** **11 33 13.2 -6.2**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS pmax pmax
comp=Z,200nm,5.3s
YSS pmax pmax
comp=N,100nm,4.2s
YSS pmax pmax
comp=E,100nm,2.9s
YSS smax smax
comp=N,400nm,8.3s
YSS smax smax
comp=E,200nm,5.1s
YSS MLR MLR
comp=Z,300nm,19.0s
YSS MLR MLR
comp=N,200nm,17.0s
YSS MLR MLR
comp=E,100nm,17.0s
MNSI Mandailing Nat 71.97 278 P **P** **11 19 27.8 -0.5**
IPM Ipoh 72.06 282 P **P** **11 19 29.4 +0.5**
TEY Ternei 72.39 336 *e*P P 11 19 22.1 -8.0
SKR Severo-Kuril's 72.39 351 *e*P **P** **11 19 27.9 -2.0**
SKR *e* 11 22 18.2
SKR *e*S **S** **11 28 46.5 +1.3**
SKR pmax pmax
comp=Z,26nm,1.2s
SKR pmax pmax
comp=Z,400nm,4.8s
MSHR Mys Shultsa 72.65 331 *c*e P **P** **11 19 31.9 +0.2**
MSHR pmax pmax
comp=Z,122nm,1.3s
KULM Kulim 72.73 283 P **P** **11 19 34.2 +1.4**
UBPT Khong Chiam 72.79 294 P **P** **11 19 34.5 +1.4**
PSTR Posyet 72.87 331 *i* P **P** **11 19 33.8 +0.8**
RPSI Rantau Prapat 73.29 280 P **P** **11 19 36.1 0.0**
PSI Prapat 73.33 280 P **P** **11 19 35.5 -1.1**
comp=Z,59nm,1.0s,baz=163,slow=4.6,SNR=25
PSI pP **pP** **11 19 57.9 -3.8**
comp=Z,29nm,0.9s,baz=160,slow=5.6,SNR=3.3
PSI LR LR 11 53 52.6
comp=Z,298nm,20.5s,baz=155,slow=37
comp=Z,59nm,1.0s
PSI Prapat 73.33 280 P **P** **11 19 36.9 +0.3**
KIWB Kanaga Island 73.41 8 lAmb lAmb 11 19 38.1
comp=Z,226nm,1.2s
SMY Shemya 73.50 3 lAmb lAmb 11 19 37.9
comp=Z,198nm,1.4s
SMY Shemya 73.50 3 P **P** **11 19 38.1 +1.7**
ADK Adak 73.50 9 P **P** **11 19 36.5 0.0**
ADK lAmb lAmb 11 19 37.7
comp=Z,110nm,0.9s
ADK Adak 73.50 9 P **P** **11 19 36.8 +0.3**
ADK Adak 73.50 9 P **P** **11 19 36.5 0.0**
ADK pmax pmax
comp=Z,109nm,1.0s
USRK Ussuriysk Ar. 73.57 333 P **P** **11 19 38.0 +0.8**
comp=Z,10nm,0.5s,baz=146,slow=4.1,SNR=39
USRK pP **pP** **11 19 59.8 -2.7**
comp=Z,8.8nm,0.7s,baz=134,slow=5.5,SNR=3.4
USRK LR LR 11 49 58.1
comp=Z,132nm,20.0s,baz=146,slow=34
comp=Z,10nm,0.5s
USA0B Ussuriysk Arra 73.58 333 P **P** **11 19 37.8 +0.8**
USA0B lAmb lAmb 11 19 39.5
comp=Z,314nm,1.8s
USA0B Ussuriysk Arra 73.58 333 *d* i P **P** **11 19 37.9 +0.8**
CNSH ChangSha 73.61 310 P **P** **11 19 37.9 +0.2**
CNSH S **S** **11 29 00.3 +0.3**
CNSH pmax pmax
comp=Z,36nm,1.1s
CNSH LR LR
comp=Z,410nm,13.7s
CNSH LR LR
comp=Z,320nm,17.1s
CNSH LR LR
comp=Z,750nm,35.6s
GSTR Great Sitkin T 73.80 9 lAmb lAmb 11 19 43.8
comp=Z,243nm,1.0s
GULI GuiLin 73.89 306 P **P** **11 19 41.6 +2.2**
GULI pP **pP** **11 20 04.1 -0.5**
GULI S **S** **11 29 06.0 +2.6**
GULI pmax pmax
comp=Z,110nm,1.0s
GULI LR LR
comp=Z,240nm,24.9s
GULI LR LR
comp=Z,340nm,22.8s
GULI LR LR
comp=Z,520nm,23.9s
WHN Wuhan 73.99 312 P **P** **11 19 40.3 +0.5**
WHN pmax pmax
comp=Z,150nm,1.0s
GSI Gunungsitoli 74.01 278 P **P** **11 19 40.2 -0.2**
GSI lAmb lAmb 11 19 42.5
comp=Z,167nm,0.9s
GSI Gunungsitoli 74.01 278 P **P** **11 19 41.8 +1.4**
GSI Gunungsitoli 74.01 278 P **P** **11 19 41.3 +0.9**
ATKA Atka Island 74.19 10 lAmb lAmb 11 19 41.3
comp=Z,348nm,1.2s
ATKA Atka Island 74.19 10 P **P** **11 19 41.8 +1.3**
PET Petropavlovsk 74.35 353 P **P** **11 19 41.8 +0.4**
PET Petropavlovsk 74.35 353 P **P** **11 19 42.1 +0.7**
PET Petropavlovsk 74.35 353 *e*P **P** **11 19 40.6 -0.8**
PET eS **S** **11 29 08.4 +1.2**
PET *e*SS **sS** **11 29 53.3 +2.5**
PET pmax pmax
comp=Z,25nm,1.5s
PET pmax pmax
comp=Z,300nm,7.2s
PET pmax pmax
comp=Z,200nm,14.0s
PET Petropavlovsk 74.35 353 P **P** **11 19 41.3 -0.1**
comp=Z,707nmcomp=Z,26nm,0.9s
PEA0B Petropavlovsk- 74.54 352 *i* P **P** **11 19 43.3 +0.7**
PETK Petropavlovsk- 74.54 352 P **P** **11 19 42.5 0.0**
PETK Petropavlovsk- 74.54 352 P **P** **11 19 42.3 -0.2**
comp=Z,10nm,0.7s,baz=142,slow=5.7,SNR=69
comp=Z,10nm,0.7s
PETK Petropavlovsk- 74.54 352 P **P** **11 19 42.5 0.0**
DL2 Dalian 74.79 323 P **P** **11 19 44.8 +0.5**
DL2 pP **pP** **11 20 06.8 -2.8**
DL2 sP **sP** **11 20 23.6 +3.3**
DL2 S **S** **11 29 11.6 -1.2**
DL2 pmax pmax
comp=Z,270nm,1.1s
DL2 pmax pmax
comp=Z,190nm,7.8s
MDJ Mudanjiang 74.96 331 P **P** **11 19 45.9 +0.8**
MDJ lAmb lAmb 11 19 47.3
comp=Z,230nm,1.8s
MDJ Mudanjiang 74.96 331 P **P** **11 19 46.0 +0.9**
MDJ sP sP 11 20 22.7 +1.3
MDJ pmax pmax
comp=Z,68nm,1.4s
MDJ LR LR
comp=Z,340nm,23.5s
MDJ Mudanjiang 74.96 331 P **P** **11 19 46.5 +1.4**
SRIT Nakonsritamara 75.02 285 P **P** **11 19 48.0 +1.8**
TYV Tymovskoe 75.47 343 *e*P **P** **11 19 48.9 +1.0**
TYV eS **S** **11 29 20.2 +0.4**
TYV pmax pmax
comp=Z,400nm,3.6s
TYV pmax pmax
comp=Z,36nm,0.6s
TYV smax smax
comp=N,200nm,6.0s
TYV smax smax
comp=E,400nm,6.0s
TIA Tai'an 75.67 318 P **P** **11 19 49.9 +0.5**
TIA pP **pP** **11 20 14.9 +0.1**
TIA S **S** **11 29 23.6 +0.9**
TIA pmax pmax
comp=E,160nm,0.8s
TIA pmax pmax
comp=E,510nm,3.5s
SNY Shenyang 75.78 326 ⇓P **P** **11 19 50.0 +0.1**
SNY pmax pmax
comp=E,25nm,1.1s
SNY pmax pmax
comp=E,230nm,7.7s
SNY LR LR
comp=E,310nm,18.9s
SNY LR LR
comp=E,320nm,25.6s
SNY LR LR
comp=E,510nm,36.9s
NIKH Nikolski High 75.93 13 P **P** **11 19 49.0 -1.5**
NIKH Nikolski High 75.93 13 P **P** **11 19 50.0 -0.5**
baz=200,SNR=6.1
LHMI Lhok Sumawe 76.09 281 lAmb lAmb 11 19 54.3
comp=Z,187nm,1.0s
LHMI Lhok Sumawe 76.09 281 P **P** **11 19 53.8 +1.5**
LHMI Lhok Sumawe 76.09 281 P **P** **11 19 54.1 +1.8**
MLSI Meulaboh, Aceh 76.22 280 P **P** **11 19 53.5 +0.5**

CN2 Changchun 76.28 329 P **P** **11 19 53.1 +0.4**
CN2 pP pP 11 20 15.7 -2.6
CN2 sP sP 11 20 28.9 -0.1
CN2 S **S** **11 29 28.3 -0.7**
CN2 pmax pmax
comp=Z,70nm,1.1s
BNX BinXian 76.81 331 ⇓P **P** **11 19 55.3 -0.3**
BNX pP **pP** **11 20 17.6 -3.6**
BNX sP **sP** **11 20 30.9 -1.1**
BNX S **S** **11 29 32.1 -2.6**
BNX pmax pmax
comp=Z,65nm,1.0s
BNX pmax pmax
comp=Z,330nm,5.6s
BNX LR LR
comp=Z,240nm,23.1s
BNX LR LR
comp=Z,230nm,24.3s
BNX LR LR
comp=Z,470nm,23.7s
SLVN Son La 76.97 299 P **P** **11 19 58.8 +1.6**
MAW Mawson 77.06 202 P **P** **11 19 57.9 +1.1**
comp=Z,87nm,0.8s,baz=114,slow=7.0,SNR=153
MAW LR LR 11 49 31.5
comp=Z,237nm,20.8s,baz=191,slow=32
comp=Z,87nm,0.8s
UNV Unalaska Valle 77.26 14 P **P** **11 19 57.4 -0.5**
baz=203,SNR=8.6
ENH Enshi 77.27 310 IAmb IAmb 11 20 00.3
comp=Z,136nm,1.1s
ENH Enshi 77.27 310 P **P** **11 19 59.5 +0.9**
GRNR Gornyy 77.31 339 ⇓*i*P **P** **11 19 59.9 +1.6**
GRNR pmax pmax
comp=Z,50nm,1.0s
GYA Guiyang 77.33 305 ⇓P **P** **11 20 00.0 +0.8**
GYA pP pwP 11 20 27.7 +0.3
GYA pmax pmax
comp=Z,68nm,1.2s
LYN LuoYang 77.64 315 ⇓*i*P **P** **11 20 01.7 +1.1**
LYN pP pwP 11 20 30.2 +1.7
LYN S **S** **11 29 45.4 +1.1**
LYN pmax pmax
comp=Z,220nm,0.8s
KLR Kul'dur 77.72 336 P **P** **11 20 01.6 +1.0**
comp=Z,26nm,0.8s,baz=101,slow=11,SNR=6.4
comp=Z,26nm,0.8s
KLR Kul'dur 77.72 336 *i*P **P** **11 20 01.7 +1.0**
KLR pmax pmax
comp=Z,61nm,1.3s
HNS HongShan 77.92 318 ⇓P **P** **11 20 03.2 +1.2**
HNS pP **pP** **11 20 25.0 -2.5**
HNS S **S** **11 29 45.3 -1.8**
HNS pmax pmax
comp=Z,100nm,1.4s
HNS LR LR
comp=Z,320nm,20.2s
HNS LR LR
comp=Z,350nm,20.6s
BJT Baijiatuau 78.68 321 **P** **11 20 07.2 +1.0**
BJT Baijiatuau 78.68 321 P **P** **11 20 07.9 +1.7**
BJT Baijiatuau 78.68 321 P **P** **11 20 07.2 +1.0**
BJT pmax pmax
comp=Z,59nm,0.8s
BJI Beijing 78.69 321 P **P** **11 20 07.0 +0.8**
BJI pP **pP** **11 20 27.6 -4.1**
BJI pmax pmax
comp=Z,42nm,0.8s
BJI pmax pmax
comp=Z,220nm,4.1s
BJI LR LR
comp=Z,110nm,19.3s
BJI LR LR
comp=Z,110nm,19.6s
BJI LR LR
comp=Z,170nm,19.8s
P08K Saint George I 79.21 11 IAmb IAmb 11 20 10.4
comp=Z,176nm,1.1s
P08K Saint George I 79.21 11 P **P** **11 20 08.6 0.0**
baz=200,SNR=5.0
SPIA Saint Paul Isl 79.63 11 IAmb IAmb 11 20 12.9
comp=Z,243nm,1.2s
SPIA Saint Paul Isl 79.63 11 P **P** **11 20 12.4 +1.5**
SPIA Saint Paul Isl 79.63 11 P **P** **11 20 10.5 -0.4**
baz=199
KMI Kunming 79.73 302 ⇓P **P** **11 20 14.4 +1.9**
KMI pP pP 11 20 37.4 -0.6
KMI SS SS 11 35 20.3 +1.6
KMI pmax pmax
comp=Z,150nm,1.1s
XAN Xi'an 79.75 312 ⇓P **P** **11 20 13.2 +1.0**
XAN pP pP 11 20 34.4 -3.5
XAN S **S** **11 30 07.8 +0.9**
XAN pmax pmax
comp=Z,190nm,1.0s
XAN pmax pmax
comp=Z,890nm,4.1s
XAN LR LR
comp=Z,450nm,20.6s
XAN LR LR
comp=Z,300nm,13.4s
XAN LR LR
comp=Z,600nm,22.9s
CMAR Chiang Mai Arr 79.80 294 P **P** **11 20 14.8 +2.1**
comp=Z,53nm,0.8s,baz=135,slow=4.3,SNR=237
CMAR pP **pP** **11 20 37.3 -1.0**
comp=Z,27nm,1.0s,baz=130,slow=4.1,SNR=4.9
CMAR PKiKP **PKiKP** **11 25 42.8 -0.4**
comp=Z,0.9nm,0.5s,baz=128,slow=2.0,SNR=3.0
CMAR PKKPbc **PKKPbc** **11 38 58.3 -0.4**
comp=Z,3.5nm,0.9s,baz=290,slow=4.0,SNR=14
CMAR PKPPKP **P'P'df** **11 47 01.6 -1.5**
comp=Z,0.5nm,0.3s,baz=310,slow=4.4,SNR=5.4
comp=Z,53nm,0.8s
CMAR Chiang Mai Arr 79.80 294 *ce*P **P** **11 20 14.8 +2.1**
CMAR pmax pmax
comp=Z,59nm,0.8s
CHNA Chernabura Isl 79.90 17 P **P** **11 20 13.3 +0.9**
CHNA Chernabura Isl 79.90 17 P **P** **11 20 12.2 -0.2**
baz=209,SNR=7.8
CHTO Chiang Mai 79.95 295 P **P** **11 20 14.2 +0.6**
CHTO IAmb IAmb 11 20 16.5
comp=Z,91nm,0.8s
CHTO Chiang Mai 79.95 295 P **P** **11 20 15.3 +1.7**
CHTO Chiang Mai 79.95 295 P **P** **11 20 14.2 +0.6**
CHTO pmax pmax
comp=Z,91nm,0.8s
S12K Black Hills 80.02 16 IAmb IAmb 11 20 14.8
comp=Z,125nm,0.8s
S12K Black Hills 80.02 16 P **P** **11 20 12.9 -0.1**
baz=206,SNR=18
SDPT Sand Point 80.11 17 P **P** **11 20 14.9 +1.4**
SDPT Sand Point 80.11 17 P **P** **11 20 13.0 -0.5**
baz=208,SNR=6.0
HEH HeiHe 80.26 334 *e*P **P** **11 20 14.8 +0.3**
HEH sP **sP** **11 20 51.8 +0.8**
HEH S **S** **11 30 10.2 -1.2**
HEH pmax pmax
comp=Z,91nm,1.5s
HEH LR LR
comp=Z,210nm,18.8s
HEH LR LR
comp=Z,280nm,17.5s
HEH LR LR
comp=Z,330nm,20.8s
PZH PanZhiHua 81.18 303 P **P** **11 20 20.7 +0.6**
PZH S **S** **11 30 22.4 +0.1**
PZH pmax pmax
comp=Z,70nm,0.9s
PZH pmax pmax
comp=Z,260nm,4.4s
PZH LR LR
comp=Z,190nm,18.0s
PZH LR LR
comp=Z,210nm,18.2s
PZH LR LR
comp=Z,200nm,17.7s
S14K Fog Glacier 81.19 17 P **P** **11 20 19.6 +0.1**
baz=209,SNR=16
XLT XiLinHaoTe 81.22 324 *e*P **P** **11 20 20.5 +0.6**
XLT S **S** **11 30 22.1 +0.2**
XLT SKS **SKSac** **11 30 25.9 -3.9**
XLT pmax pmax
comp=Z,42nm,1.2s
XLT pmax pmax
comp=Z,270nm,4.7s
XLT LR LR
comp=Z,270nm,15.6s
XLT LR LR
comp=Z,430nm,23.1s
CHGN Chignik 81.51 17 P **P** **11 20 20.6 -0.3**
baz=210,SNR=24
MA2 Magadan 81.79 350 P **P** **11 20 22.5 +0.1**
comp=Z,5.5nm,0.6s,baz=162,slow=9.5,SNR=4.5
comp=Z,5.5nm,0.6s
CD2 Chengdu 81.80 307 P **P** **11 20 24.1 +0.9**
CD2 pP pwP 11 20 50.3 -1.2
CD2 S **S** **11 30 30.3 +2.0**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,470nm,5.5s
CD2 LR LR
comp=Z,630nm,23.5s
CD2 LR LR
comp=Z,600nm,24.5s
CHIR Chirikof Islan 81.91 19 IAmb IAmb 11 20 25.9
comp=Z,429nm,2.0s
CHIR Chirikof Islan 81.91 19 P **P** **11 20 23.8 +0.7**
CHIR Chirikof Islan 81.91 19 P **P** **11 20 23.5 +0.5**
baz=212
HHC Hu-ho-hao-te 81.95 319 *e*P **P** **11 20 25.1 +1.2**
HHC pP pP 11 20 47.5 -2.2
HHC sP sP 11 21 01.6 +1.3
HHC S **S** **11 30 30.4 +0.8**
HHC sS sS 11 31 11.6 -2.6
HHC SS **SS** **11 35 52.7 +1.6**
HHC pmax pmax
comp=Z,91nm,0.6s
HHC pmax pmax
comp=Z,190nm,5.0s
SMAI San Martin Ant 81.98 161 P **P** **11 20 23.6 +0.2**
BTO Baotou 82.76 318 *e*P **P** **11 20 29.2 +1.1**
BTO pP **pP** **11 20 51.9 -1.9**
BTO sP **sP** **11 21 03.6 -0.9**
BTO PP **PP** **11 23 45.1 +5.4**
BTO S **S** **11 30 38.2 +0.3**
BTO SS **SS** **11 36 01.2 -1.9**
BTO pmax pmax
comp=Z,100nm,0.9s
BTO pmax pmax
comp=Z,180nm,4.1s
BTO LR LR
comp=Z,250nm,6.9s
BTO LR LR
comp=Z,220nm,5.1s
BTO LR LR
comp=Z,380nm,13.9s
HIA Hailar 82.94 330 **P** **11 20 28.8 +0.1**
HIA Hailar 82.94 330 P **P** **11 20 29.1 +0.4**
HIA Hailar 82.94 330 P **P** **11 20 28.8 +0.1**
HIA pmax pmax
comp=Z,53nm,1.3s
SII Sitkinak Islan 82.96 19 IAmb IAmb 11 20 30.7
comp=Z,208nm,1.2s
SII Sitkinak Islan 82.96 19 P **P** **11 20 30.0 +1.4**
SII Sitkinak Islan 82.96 19 P **P** **11 20 29.4 +0.8**
baz=214,SNR=28
ZEA Zeya 83.01 336 *e*P **P** **11 20 29.9 +1.0**
ZEA *e**SP **sP** **11 21 09.8 +4.4**
ZEA *e*S **SKSac** **11 30 42.6 +1.5**
ZEA pmax pmax
comp=N,100nm,1.8s
ZEA pmax pmax
comp=Z,200nm,2.0s
ZEA pmax pmax
comp=N,50nm,0.7s
ZEA pmax pmax
comp=Z,110nm,1.6s
ZEA smax smax
comp=N,300nm,6.8s
TNCH TengChong 83.07 300 P **P** **11 20 31.4 +1.3**
TNCH pP pP 11 20 55.1 -0.8
TNCH S **S** **11 30 41.7 -0.1**
TNCH sS sS 11 31 27.5 +1.6
TNCH SS **SS** **11 36 11.3 +2.9**
TNCH pmax pmax
comp=N,110nm,1.4s
TNCH pmax pmax
comp=N,480nm,4.2s
TNCH LR LR
comp=N,490nm,15.6s
TNCH LR LR
comp=N,420nm,13.1s
TNCH LR LR
comp=N,470nm,20.4s
R17L Mt. Peulik Vol 83.23 18 P **P** **11 20 30.5 +0.5**
baz=212,SNR=29
PLK4 Peulik 4 83.23 18 IAmb IAmb 11 20 31.9
comp=Z,140nm,1.2s
M11K Mekoryuk 83.38 12 IAmb IAmb 11 20 33.3
comp=Z,158nm,1.3s
M11K Mekoryuk 83.38 12 P **P** **11 20 31.5 +0.9**
baz=202
O14K Tigyukauivet M 83.39 14 P **P** **11 20 31.1 +0.4**
baz=207,SNR=10
SYO Syowa Base 83.44 196 ⇓*i*P **P** **11 20 30.7 -0.3**
SYO Syowa Base 83.44 196 ⇓*i*PcP **PcP** **11 20 34.7 -0.4**
O15K Ungalikthiuk R 83.67 15 P **P** **11 20 32.1 0.0**
baz=208,SNR=34
R18K Karluk 83.73 18 P **P** **11 20 32.7 +0.3**
baz=213
OHAK Old Harbor 83.79 19 IAmb IAmb 11 20 34.8
comp=Z,165nm,1.1s
OHAK Old Harbor 83.79 19 P **P** **11 20 33.8 +1.0**
OHAK Old Harbor 83.79 19 P **P** **11 20 33.4 +0.7**
baz=214,SNR=83
N14K Kuskokwak Cree 83.89 14 P **P** **11 20 34.0 +0.7**
baz=207,SNR=18
Q17K Contact Creek 83.90 17 P **P** **11 20 33.5 0.0**
baz=212,SNR=115
M13K Dall Lake 83.97 13 IAmb IAmb 11 20 36.3
comp=Z,245nm,1.9s
M13K Dall Lake 83.97 13 P **P** **11 20 34.5 +0.9**
baz=205,SNR=8.4
P16K Nushagak River 84.00 16 P **P** **11 20 33.6 -0.1**
baz=210,SNR=15
Q16K King Salmon 84.05 17 P **P** **11 20 34.2 +0.2**
baz=211,SNR=35
LZH Lanzhou 84.36 312 ⇓*i*P **P** **11 20 38.4 +2.0**
LZH pP pP 11 21 00.5 -1.8
LZH sP sP 11 21 12.9 0.0
LZH SKS **SKSac** **11 30 51.0 -0.1**
LZH pmax pmax
comp=Z,190nm,1.1s
LZH pmax pmax
comp=Z,670nm,4.1s
O16K Kokwok River B 84.46 16 P **P** **11 20 35.5 -0.6**
baz=210,SNR=41
KDAK Kodiak Island 84.47 19 P **P** **11 20 37.3 +1.1**
KDAK IAmb IAmb 11 20 38.9
comp=Z,105nm,1.0s
KDAK Kodiak Island 84.47 19 LR LR 11 52 39.2
comp=Z,566nm,20.2s,baz=195,slow=32
KDAK Kodiak Island 84.47 19 P **P** **11 20 37.3 +1.1**
KDAK pmax pmax
comp=Z,105nm,1.0s
KDAK Kodiak Island 84.47 19 P **P** **11 20 36.6 +0.4**
baz=215
Q18K Katmai Hardscr 84.48 18 P **P** **11 20 36.3 -0.1**
baz=213,SNR=120
N15K Kwethluk River 84.48 15 IAmb IAmb 11 20 38.8
comp=Z,271nm,1.2s
N15K Kwethluk River 84.48 15 P **P** **11 20 37.4 +1.2**
baz=208,SNR=76
P17K Kvichak River 84.55 17 P **P** **11 20 36.3 -0.3**
baz=211
M14K Bethel 84.58 13 IAmb IAmb 11 20 38.7
comp=Z,108nm,1.1s
M14K Bethel 84.58 13 P **P** **11 20 37.5 +0.9**
baz=206,SNR=43
SEY Seymchan 84.78 352 P **P** **11 20 37.6 -0.1**
comp=Z,5.8nm,0.5s,baz=167,slow=4.3,SNR=15
comp=Z,5.8nm,0.5s
SEY Seymchan 84.78 352 *d i*P **P** **11 20 37.5 -0.1**
SEY pmax pmax
comp=Z,30nm,1.5s
M15K Kasigluk River 84.81 14 P **P** **11 20 38.6 +0.8**
baz=208,SNR=67
O17K Koliganek Bris 84.87 16 P **P** **11 20 38.1 -0.1**
baz=211,SNR=31
L14K Kuka Creek 84.96 13 IAmb IAmb 11 20 40.7
comp=Z,138nm,1.3s
L14K Kuka Creek 84.96 13 P **P** **11 20 39.6 +1.0**
baz=206
P18K Big Mountain, 85.04 17 IAmb IAmb 11 20 42.3
comp=Z,185nm,1.1s
P18K Big Mountain, 85.04 17 P **P** **11 20 38.5 -0.6**
baz=212,SNR=84
PMSA Palmer Station 85.06 160 P **P** **11 20 39.1 -0.1**
PMSA Palmer Station 85.06 160 LR LR 11 51 10.5
comp=Z,156nm,21.5s,baz=298,slow=30
PMSA Palmer Station 85.06 160 *e*P **P** **11 20 39.2 0.0**
N16K Nishlik Lake 85.06 15 P **P** **11 20 40.5 +1.3**
baz=209,SNR=79
Q19K Cape Douglas, 85.10 18 P **P** **11 20 39.4 0.0**
baz=214,SNR=36
K13K Kusilvak Mount 85.10 12 P **P** **11 20 40.3 +1.0**
baz=204
Q20K Shuyak Island 85.21 19 P **P** **11 20 40.6 +0.7**
baz=215,SNR=9.9
SYI Shuyak Island 85.21 19 IAmb IAmb 11 20 43.0
comp=Z,96nm,0.9s
O18K Koktuh Hills 85.44 17 IAmb IAmb 11 20 44.4
comp=Z,189nm,1.5s
O18K Koktuh Hills 85.44 17 P **P** **11 20 40.5 -0.5**
baz=212,SNR=46
M16K Timber Creek 85.50 15 P **P** **11 20 42.5 +1.2**
baz=209,SNR=74
N17K Nushagak Hills 85.50 16 P **P** **11 20 41.8 +0.5**
baz=211,SNR=44
L15K Ungalak Mounta 85.51 13 P **P** **11 20 41.7 +0.3**
baz=207
GAMB Gambell 85.70 8 IAmb IAmb 11 20 44.4
comp=Z,132nm,1.2s
GAMB Gambell 85.70 8 P **P** **11 20 43.0 +0.8**
baz=197,SNR=21
P19K Oil Pt 85.82 18 IAmb IAmb 11 20 46.4
comp=Z,133nm,1.1s
P19K Oil Pt 85.82 18 P **P** **11 20 42.6 -0.4**
baz=214,SNR=20
N18K Kilae Creek 85.96 16 P **P** **11 20 43.7 0.0**
baz=212,SNR=22
O19K Port Alsworth 85.97 17 IAmb IAmb 11 20 47.0
comp=Z,117nm,1.1s
O19K Port Alsworth 85.97 17 P **P** **11 20 43.3 -0.3**
baz=213,SNR=18
L16K Owhat River 85.98 14 P **P** **11 20 44.4 +0.7**
baz=209
K15K Wolf Creek Mou 86.06 13 P **P** **11 20 45.1 +1.0**
baz=207,SNR=70
J14K Nanvaranak Lak 86.06 12 IAmb IAmb 11 20 46.3
comp=Z,101nm,1.4s
J14K Nanvaranak Lak 86.06 12 P **P** **11 20 44.8 +0.8**
baz=205
ILSW Iliamna Southw 86.12 18 IAmb IAmb 11 20 47.6
comp=Z,101nm,1.0s
M17K Holitna River 86.19 15 IAmb IAmb 11 20 49.7
comp=Z,66nm,1.0s
M17K Holitna River 86.19 15 P **P** **11 20 45.7 +1.0**
baz=210,SNR=38
HOM Homer 86.29 18 P **P** **11 20 45.1 -0.1**
baz=216,SNR=5.6
CNPM China Poot 86.30 19 IAmb IAmb 11 20 49.4
comp=Z,80nm,1.2s
O20K Slope Mountain 86.35 18 P **P** **11 20 44.8 -0.8**
baz=215
N19K Bonanza Creek 86.45 17 P **P** **11 20 45.4 -0.7**
baz=213,SNR=15
SAO San Andreas Ge 86.50 49 IAmb IAmb 11 20 49.4
comp=Z,120nm,1.1s
GDXM Geysers 86.59 46 IAmb IAmb 11 20 50.3
comp=Z,148nm,1.2s
L17K Donlin 86.63 14 P **P** **11 20 47.6 +0.7**
baz=210,SNR=29
M18K Stony River 86.67 16 P **P** **11 20 47.5 +0.4**
baz=212,SNR=89
PMPB Monarch Peak 86.69 49 IAmb IAmb 11 20 50.6
comp=Z,166nm,1.1s
JCC Jacoby Creek, 86.80 44 IAmb IAmb 11 20 51.1
comp=Z,232nm,1.2s
TROLL Troll, Antarti 86.84 184 ⇓P **P** **11 20 47.7 -0.5**
comp=Z,9µm,0.8s
BCW Bitter Crk WRg 87.08 51 IAmb IAmb 11 20 52.6
comp=Z,185nm,1.1s
L18K Granite Mounta 87.08 15 P **P** **11 20 49.5 +0.4**
baz=211,SNR=30
J16K Anvik River 87.14 13 P **P** **11 20 50.1 +0.8**
baz=208,SNR=38
K17K Iditarod 87.14 14 P **P** **11 20 49.7 +0.4**
baz=210,SNR=23
SEW Seward 87.31 19 P **P** **11 20 49.6 -0.5**
baz=218
M19K Big River Lodg 87.39 16 P **P** **11 20 50.3 -0.2**
baz=213,SNR=8.2
ANM Nome 87.40 10 P **P** **11 20 51.0 +0.5**
baz=203
KSXB Camp Six Broad 87.42 43 IAmb IAmb 11 20 54.1
comp=Z,184nm,1.2s
SNAA Sanae 87.45 182 ⇓P **P** **11 20 50.3 -0.7**
comp=Z,1µm,0.6s
SNAA Sanae 87.45 182 P **P** **11 20 50.3 -0.7**
SNAA Sanae 87.45 182 P **P** **11 20 50.2 -0.7**
comp=Z,74nm,0.8s,baz=200,slow=5.8,SNR=377
SNAA PKKP **PKKPdf** **11 38 35.0 +0.8**
comp=Z,1.2nm,0.5s,baz=283,slow=4.0,SNR=20
SNAA PKPPKP **P'P'df** **11 46 47.5 -0.8**
comp=Z,1.3nm,0.7s,baz=91,slow=1.1,SNR=3.5
comp=Z,74nm,0.8s
SNAA Sanae 87.45 182 *d i*P **P** **11 20 50.0 -1.0**
SNAA pmax pmax
comp=Z,89nm,0.9s
L19K White Mountain 87.50 16 IAmb IAmb 11 20 53.8
comp=Z,133nm,1.9s
L19K White Mountain 87.50 16 P **P** **11 20 51.3 +0.1**
baz=213,SNR=31
O22K Cooper Landing 87.52 19 IAmb IAmb 11 21 00.4
comp=Z,83nm,1.3s
O22K Cooper Landing 87.52 19 P **P** **11 20 50.4 -0.8**
baz=217
J17K VABM Dome 87.56 13 P **P** **11 20 51.9 +0.6**
baz=209,SNR=16
PASC Pasadena Art C 87.62 52 IAmb IAmb 11 20 54.2
comp=Z,65nm,0.9s
I17K Unalakleet 87.65 13 P **P** **11 20 52.5 +0.8**
baz=207
KEBM Edson Butte 87.67 42 IAmb IAmb 11 20 55.0
comp=Z,145nm,1.1s
M20K Styx River 87.70 17 P **P** **11 20 51.1 -1.0**
baz=214
CIT Chita 87.71 329 *e*P **P** **11 20 52.8 +0.4**
CIT *e* 11 21 18.2
CIT *e* 11 21 33.0
CIT *e* 11 31 27.2
CIT pmax pmax
comp=Z,297nm,1.8s
CCX Cicese 87.72 55 IAmb IAmb 11 20 56.0
comp=Z,187nm,1.5s
L02F Cave Junction 87.76 43 IAmb IAmb 11 20 55.7
comp=Z,250nm,1.6s
ORV Oroville 87.83 46 IAmb IAmb 11 20 55.5
comp=Z,211nm,1.2s
CMB Columbia Colle 87.85 48 IAmb IAmb 11 20 55.5
comp=Z,150nm,1.1s
P23K Montague Islan 87.86 20 P **P** **11 20 52.2 -0.6**
baz=219
AFDM Forest Hills D 87.89 47 IAmb IAmb 11 20 55.7
comp=Z,216nm,1.1s
CBX Cerro Bola 87.92 54 IAmb IAmb 11 20 56.3
comp=Z,280nm,1.6s
TNA Tin City 87.92 9 P **P** **11 20 53.3 +0.3**
baz=201
ELS Elsinore Mount 87.94 53 IAmb IAmb 11 20 56.2
comp=Z,294nm,1.9s
K02D Willamette Mer 88.00 43 IAmb IAmb 11 20 56.6
comp=Z,168nm,1.2s
L20K Farewell, AK 88.00 16 P **P** **11 20 53.1 -0.4**
baz=214,SNR=33
RC01 Rabbit Creek A 88.01 18 P **P** **11 20 52.8 -0.7**
baz=217,SNR=11
SUA Susitna One 88.01 18 P **P** **11 20 52.5 -1.2**
baz=216
G15K Niukluk 88.02 11 P **P** **11 20 53.8 +0.3**
baz=204,SNR=8.5
H16K Elim 88.03 12 P **P** **11 20 53.9 +0.5**
baz=206
TKX Tecate 88.08 54 IAmb IAmb 11 20 56.8
comp=Z,169nm,1.5s
F14K Arctic Creek 88.09 10 P **P** **11 20 54.2 +0.4**
baz=202
YBH Yreka Blue Hor 88.12 44 IAmb IAmb 11 20 57.4

comp=Z,209nm,1.3s
YBH Yreka Blue Hor 88.12 44 P **P** **11 20 55.5 +0.9**
comp=Z,7.1nm,1.1s,baz=177,slow=2.4,SNR=68
YBH LR LR 11 51 28.7
comp=Z,27nm,21.3s,baz=261,slow=30
comp=Z,7.1nm,1.1s
J18K Innoko River 88.15 14 P **P** **11 20 54.1 0.0**
baz=211,SNR=28
VTX Valle De La Tr 88.19 55 IAmb IAmb 11 20 57.7
comp=Z,242nm,1.6s
SKT Skwentna 88.21 17 P **P** **11 20 52.1 -2.4**
baz=216
PWL Port Wells 88.24 19 IAmb IAmb 11 20 58.2
comp=Z,115nm,1.5s
PWL Port Wells 88.24 19 P **P** **11 20 53.8 -0.8**
baz=219,SNR=18
ESPZ Base Esperanza 88.25 161 P **P** **11 20 54.4 -0.4**
VNA2 Neumayer--Watz 88.31 181 ⇓P **P** **11 20 54.5 -0.5**
comp=Z,249nm,0.7s,baz=305,slow=2.7
ESJX Sierra Juarez 88.33 55 IAmb IAmb 11 20 58.7
comp=Z,195nm,1.6s
M22K Willow 88.43 18 P **P** **11 20 54.8 -0.6**
baz=217,SNR=15
F15K North Star Dit 88.58 10 P **P** **11 20 56.1 0.0**
baz=204
PMR Palmer 88.58 18 P **P** **11 20 57.0 +0.8**
PMR Palmer 88.58 18 P **P** **11 20 55.1 -1.0**
baz=218,SNR=13
VNA1 Neumayer--Stat 88.60 181 ⇓P **P** **11 20 56.0 -0.3**
comp=Z,176nm,1.0s
YUH Yuha Desert 88.63 54 IAmb IAmb 11 20 59.5
comp=Z,134nm,1.4s
ULN Ulaanbaatar 88.64 323 P **P** **11 20 57.8 +0.8**
ULN Ulaanbaatar 88.64 323 *ce*P **P** **11 20 57.6 +0.6**
ULN pmax pmax
comp=Z,205nm,1.7s
GLI Glacier Island 88.64 19 IAmb IAmb 11 20 59.9
comp=Z,120nm,1.7s
GLI Glacier Island 88.64 19 P **P** **11 20 55.5 -1.0**
baz=220
KNK Knik Glacier 88.64 19 P **P** **11 20 55.4 -1.1**
baz=218
PFO Pinyon Flats O 88.65 53 P **P** **11 20 57.3 -0.1**
comp=Z,45nm,1.1s,baz=256,slow=3.7,SNR=12
PFO LR LR 11 54 19.6
comp=Z,371nm,18.9s,baz=276,slow=31
comp=Z,45nm,1.1s
G16K Koyuk River 88.69 11 P **P** **11 20 56.8 +0.2**
baz=206,SNR=8.6
K20K Telida 88.69 15 P **P** **11 20 56.4 -0.3**
baz=213,SNR=18
BBOR Butler Butte 88.72 43 IAmb IAmb 11 20 59.8
comp=Z,87nm,1.3s
YAK Yakutsk 88.72 342 P **P** **11 20 56.6 -0.2**
YAK IAmb IAmb 11 20 57.1
comp=Z,73nm,0.8s
YAK Yakutsk 88.72 342 P **P** **11 20 56.5 -0.2**
comp=Z,53nm,0.6s,baz=104,slow=1.9,SNR=25
comp=Z,53nm,0.6s
YAK Yakutsk 88.72 342 *e*P **P** **11 20 54.2 -2.6**
YAK *e*S **SKSac** **11 31 12.0 -4.4**
YAK *e* 11 31 34.2
YAK pmax pmax
comp=Z,106nm,1.3s
YAK pmax pmax
comp=N,27nm,1.8s
YAK pmax pmax
comp=E,31nm,2.2s
YAK pmax pmax
comp=Z,49nm,4.1s
YAK pmax pmax
comp=N,41nm,1.7s
YAK pmax pmax
comp=E,37nm,2.5s
YAK smax smax
comp=N,168nm,3.3s
YAK smax smax
comp=E,126nm,5.3s
H17K Granite Mounta 88.75 12 P **P** **11 20 57.0 +0.1**
baz=208,SNR=17
BEKR Beckworth 88.75 46 IAmb IAmb 11 20 60.0
comp=Z,174nm,1.2s
GTA Gaotai 88.78 313 P **P** **11 20 59.2 +1.4**
GTA pP pP 11 21 21.6 -2.4
GTA SKS **SKSac** **11 31 18.1 -0.1**
GTA S **S** **11 31 39.2 +2.3**
GTA SS **SS** **11 37 29.7 -1.9**
GTA pmax pmax
comp=Z,93nm,0.9s
PPLA Purkeypile 88.79 16 P **P** **11 20 55.4 -1.9**
baz=215
BILL Bilibino 88.81 359 P **P** **11 20 57.2 +0.1**
BILL IAmb IAmb 11 20 58.5
comp=Z,105nm,1.3s
BILL Bilibino 88.81 359 *ce*P **P** **11 20 56.8 -0.3**
BILL pmax pmax
comp=Z,132nm,1.7s
EYAK Cordova Ski Ar 88.81 20 P **P** **11 20 58.4 +1.1**
EYAK Cordova Ski Ar 88.81 20 P **P** **11 20 56.4 -0.9**
baz=221
J19K Poorman 88.86 14 P **P** **11 20 57.5 +0.1**
baz=212,SNR=13
CUT Chulitna 88.91 17 P **P** **11 20 56.7 -1.0**
baz=217
SONM Songino Array 88.99 323 P **P** **11 20 59.2 +0.6**
SONM IAmb IAmb 11 21 00.5
comp=Z,99nm,1.0s
SONM Songino Array 88.99 323 P **P** **11 20 59.1 +0.6**
comp=Z,44nm,0.7s,baz=140,slow=5.0,SNR=193
SONM pP **pP** **11 21 22.3 -2.5**
comp=Z,28nm,1.0s,baz=138,slow=6.0,SNR=4.6
SONM PKKPbc **PKKPbc** **11 38 36.8 -1.9**
comp=Z,1.7nm,0.7s,baz=255,slow=2.3,SNR=8.7
SONM PKPPKP 11 46 43.5
comp=Z,1.5nm,0.9s,baz=332,slow=2.1,SNR=7.6
comp=Z,44nm,0.7s
SONM Songino Array 88.99 323 P **P** **11 20 59.2 +0.6**
SONM pmax pmax
comp=Z,99nm,1.0s
H02S1 DAWSON INLET T 89.05 31 P **P** **11 20 59.6 +1.1**
SNR=30
G17K Kiwalik Mounta 89.10 12 P **P** **11 20 59.0 +0.4**
baz=207,SNR=25
GSC Goldstone, Bar 89.14 52 IAmb IAmb 11 21 01.9
comp=Z,133nm,1.2s
M23K Glacier View 89.16 19 P **P** **11 20 57.9 -1.0**
baz=219
COR Corvallis 89.19 41 P **P** **11 21 01.0 +1.6**
COR IAmb IAmb 11 21 02.2
comp=Z,159nm,1.1s
COR Corvallis 89.19 41 P **P** **11 21 01.0 +1.6**
COR pmax pmax
comp=Z,159nm,1.1s
GCSA Galena City Sc 89.22 14 P **P** **11 20 59.3 +0.2**
baz=211,SNR=6.1
CAST Castle Rocks 89.24 16 P **P** **11 20 57.5 -1.7**
baz=215
H18K Honhosa River 89.25 13 P **P** **11 20 58.4 -0.8**
baz=210
SRIG Santa Rosalia 89.29 60 IAmb IAmb 11 21 02.5
comp=Z,104nm,1.2s
SCM Sheep Creek Mo 89.31 19 P **P** **11 20 59.0 -0.7**
baz=219,SNR=13
BGLC Bering Glacier 89.31 21 P **P** **11 20 59.5 -0.1**
baz=223
J20K Nowinta River 89.36 15 P **P** **11 20 59.2 -0.6**
baz=213,SNR=13
RYN Ryan 89.42 48 IAmb IAmb 11 21 03.1
comp=Z,135nm,1.0s
KLU Klutina 89.48 20 P **P** **11 20 59.8 -0.7**
baz=221,SNR=11
NVAR Mina Array Bea 89.49 48 P **P** **11 21 02.3 +1.0**
NVAR Mina Array Bea 89.49 48 P **P** **11 21 02.2 +0.9**
comp=Z,76nm,0.9s,baz=226,slow=7.7,SNR=71
NVAR pP **pP** **11 21 26.3 -1.2**
comp=Z,16nm,0.7s,baz=231,slow=8.6,SNR=4.1
NVAR PP **PP** **11 24 33.9 -0.4**
comp=Z,0.8nm,0.4s,baz=251,slow=8.4,SNR=2.1
NVAR LR LR 11 55 39.5
comp=Z,453nm,19.1s,baz=210,slow=32
comp=Z,76nm,0.9s
GRAC Grapevine Rang 89.50 50 P **P** **11 21 02.6 +1.5**
BMRM Bremner River 89.50 20 IAmb IAmb 11 21 02.2
comp=Z,119nm,1.5s
BMRM Bremner River 89.50 20 P **P** **11 21 00.0 -0.5**
baz=222,SNR=14
CHUM Lake Minchumin 89.57 16 P **P** **11 20 59.7 -1.0**
baz=215,SNR=11
LPIG La Paz 89.61 64 P **P** **11 21 02.0 +0.2**
comp=Z,12nm,0.3s,baz=28,slow=8.1,SNR=4.9
LPIG LR LR 11 53 26.0
comp=Z,363nm,18.9s,baz=238,slow=30
comp=Z,12nm,0.3s
USHA Ushuaia 89.61 150 LR LR 11 52 26.2
comp=Z,259nm,18.4s,baz=220,slow=30
GWY Greenwater Val 89.63 51 IAmb IAmb 11 21 03.9
comp=Z,162nm,1.1s
WAX Waxell Ridge 89.70 21 IAmb IAmb 11 21 02.9
comp=Z,115nm,1.1s
GMN Gold Mountain 89.71 50 IAmb IAmb 11 21 04.3
comp=Z,75nm,1.1s
WAT1 Susitna Watana 89.73 18 P **P** **11 21 00.4 -1.2**
baz=218
TRF Thorofare Moun 89.74 17 P **P** **11 21 00.2 -1.6**
baz=217,SNR=18
SLBS Sierra La Lagu 89.75 65 P **P** **11 21 04.1 +1.4**
SLBS IAmb IAmb 11 21 05.8
comp=Z,151nm,1.6s
WAT6 Susitna Watana 89.77 18 P **P** **11 21 00.8 -1.1**
baz=219,SNR=28
K05A Summer Lake 89.78 44 P **P** **11 21 03.8 +1.3**
MZP Montezuma Peak 89.80 49 IAmb IAmb 11 21 04.7
comp=Z,60nm,1.1s
I20K Naaghedeneel 89.80 14 P **P** **11 21 02.1 +0.3**
baz=213,SNR=7.6
MESA MESA 89.81 22 IAmb IAmb 11 21 03.6
comp=Z,86nm,1.0s
MESA MESA 89.81 22 P **P** **11 21 01.9 -0.3**
baz=224,SNR=9.9
CRQM Cirque 89.83 21 IAmb IAmb 11 21 03.3
comp=Z,85nm,1.2s
F17K Baldwin Pennin 89.83 11 P **P** **11 21 02.0 +0.1**
baz=207
CRQE Cirque 89.84 21 P **P** **11 21 02.1 -0.2**
baz=223,SNR=9.6
G18K Tagagawik 89.84 12 P **P** **11 21 02.0 0.0**
baz=209,SNR=16
M24K Tolsona, Glenn 89.87 19 P **P** **11 21 02.2 -0.1**
baz=220,SNR=8.8
TGL Tana Glacier 89.93 21 IAmb IAmb 11 21 03.7
comp=Z,97nm,1.2s
H19K Roundabout Mou 89.98 13 P **P** **11 21 02.9 +0.3**
baz=211,SNR=15
N25K Chitina, Valde 89.98 20 IAmb IAmb 11 21 04.7
comp=Z,71nm,1.3s
N25K Chitina, Valde 89.98 20 P **P** **11 21 02.5 -0.3**
baz=222,SNR=26
ISLE Juniper Island 89.99 21 IAmb IAmb 11 21 03.9
comp=Z,90nm,1.1s
YAH Yahtse 90.02 22 IAmb IAmb 11 21 04.5
comp=Z,81nm,1.0s
VRDI Verde Repeater 90.07 21 IAmb IAmb 11 21 04.3
comp=Z,63nm,1.3s
BPAW Bear Paw Mtn. 90.08 16 P **P** **11 21 01.8 -1.4**
baz=216,SNR=8.5
CRAG Craig 90.15 29 IAmb IAmb 11 21 06.2
comp=Z,110nm,1.2s
CRAG Craig 90.15 29 P **P** **11 21 05.0 +1.4**
CRAG Craig 90.15 29 P **P** **11 21 04.8 +1.2**
baz=232,SNR=10
SIT Sitka 90.21 27 IAmb IAmb 11 21 05.9
comp=Z,96nm,1.2s
SIT Sitka 90.21 27 P **P** **11 21 05.1 +1.2**
SIT Sitka 90.21 27 P **P** **11 21 04.7 +0.8**
baz=230,SNR=7.3
DHY Denali Highway 90.26 18 P **P** **11 21 03.3 -0.9**
baz=219,SNR=8.3
F18K Selawik 90.27 12 P **P** **11 21 03.9 0.0**
baz=208,SNR=7.0
GRNC Granite Creek 90.28 22 IAmb IAmb 11 21 05.5
comp=Z,87nm,1.1s
TABL Table Mountain 90.28 22 IAmb IAmb 11 21 05.5
comp=Z,98nm,1.0s
H20K Anotleneega Mo 90.30 14 P **P** **11 21 04.3 +0.1**
baz=213,SNR=25
NLWA Neilton Lookou 90.30 38 P **P** **11 21 05.9 +1.3**
E17K Hotham Inlet 90.31 11 P **P** **11 21 04.8 +0.7**
baz=206,SNR=15
113A Mohawk Valley, 90.33 55 IAmb IAmb 11 21 07.5
comp=Z,126nm,1.3s
MCARA McCarthy VSAT 90.33 21 IAmb IAmb 11 21 06.1
comp=Z,79nm,1.1s
MCARA McCarthy VSAT 90.33 21 P **P** **11 21 04.1 -0.3**
baz=223,SNR=12
MCK McKinley 90.33 17 P **P** **11 21 03.2 -1.2**
baz=218,SNR=18
PINM Pinnacle 90.36 23 P **P** **11 21 04.3 -0.3**
baz=226,SNR=7.8
PNL Peninsula 90.37 23 P **P** **11 21 06.1 +1.5**
PNL Peninsula 90.37 23 P **P** **11 21 04.3 -0.3**
baz=226,SNR=8.7
G19K Purcell Mounta 90.38 13 P **P** **11 21 04.8 +0.3**
baz=211,SNR=21
HARP HAARP 90.40 19 P **P** **11 21 04.4 -0.3**
baz=221,SNR=6.3
S31K Pelican 90.43 25 IAmb IAmb 11 21 06.9
comp=Z,164nm,1.2s
S31K Pelican 90.43 25 P **P** **11 21 05.8 +0.9**
baz=229,SNR=20
BARN Barnard Glacie 90.55 21 IAmb IAmb 11 21 06.8
comp=Z,130nm,1.1s
U33K Whale Pass 90.56 28 P **P** **11 21 06.7 +1.2**
baz=232,SNR=34
BBB Bella Bella 90.59 33 IAmb IAmb 11 21 08.2
comp=Z,104nm,1.1s
BBB Bella Bella 90.59 33 P **P** **11 21 06.3 +0.5**
comp=Z,48nm,0.9s,baz=229,slow=7.8,SNR=12
comp=Z,48nm,0.9s
CTG Chitina Glacie 90.59 22 P **P** **11 21 05.7 -0.1**
baz=225,SNR=17
CTGM Chitina Glacie 90.59 22 IAmb IAmb 11 21 06.9
comp=Z,106nm,1.0s
LOGN Logan Glacier 90.61 22 IAmb IAmb 11 21 06.9
comp=Z,81nm,1.1s
D17K Noatak River 90.65 10 P **P** **11 21 06.3 +0.6**
baz=205,SNR=11
214A Organ Pipe Nat 90.72 56 IAmb IAmb 11 21 09.5
comp=Z,121nm,1.5s
PAX Paxson 90.74 19 P **P** **11 21 05.4 -1.0**
baz=221,SNR=24
V35K Ketchikan 90.75 29 P **P** **11 21 07.6 +1.2**
baz=233,SNR=47
V12A Nelson 90.76 52 IAmb IAmb 11 21 09.5
comp=Z,108nm,1.2s
RUBB Prince Rupert 90.78 30 IAmb IAmb 11 21 09.2
comp=Z,110nm,1.1s
S32K Killisnoo 90.79 26 IAmb IAmb 11 21 08.5
comp=Z,123nm,1.2s
S32K Killisnoo 90.79 26 P **P** **11 21 07.3 +0.7**
baz=230,SNR=23
E18K Tukpahlearik C 90.83 11 P **P** **11 21 07.2 +0.6**
baz=208,SNR=15
C16K Lisburne Hills 90.83 9 P **P** **11 21 06.5 0.0**
baz=203
F19K Shaleruckik Mo 90.84 12 IAmb IAmb 11 21 08.3
comp=Z,58nm,1.4s
F19K Shaleruckik Mo 90.84 12 P **P** **11 21 06.6 0.0**
baz=210,SNR=24
O28M Mount Upton 90.85 22 IAmb IAmb 11 21 08.3
comp=Z,112nm,1.1s
O28M Mount Upton 90.85 22 P **P** **11 21 07.2 0.0**
baz=226,SNR=43
GOMU GeErMu 90.86 309 P **P** **11 21 09.1 +1.2**
GOMU PP **PP** **11 24 44.7 -0.7**
GOMU S **S** **11 31 54.8 -1.9**
GOMU SS **SS** **11 37 53.6 -8.7**
GOMU pmax pmax
comp=Z,22nm,0.9s
GOMU LR LR
comp=Z,120nm,16.2s
GOMU LR LR
comp=Z,210nm,16.2s
GOMU LR LR
comp=Z,510nm,16.4s
SHPR Sheep Range 90.87 51 IAmb IAmb 11 21 10.3
comp=Z,71nm,1.2s
MLY Manley 90.90 16 P **P** **11 21 05.9 -1.2**
baz=216,SNR=18
H21K Melozitna Rive 90.91 15 P **P** **11 21 07.1 +0.1**
baz=215,SNR=20
R31K City Hall, Gus 90.92 25 P **P** **11 21 07.6 +0.5**
baz=229
P29M Windy Craggy 90.96 24 P **P** **11 21 07.8 +0.4**
baz=228,SNR=43
IMAR Indian Mountai 90.97 14 P **P** **11 21 07.2 0.0**
LSA Lhasa 90.98 301 P **P** **11 21 08.5 -0.3**
NEA2 Nenana 90.98 16 P **P** **11 21 05.9 -1.5**
baz=218,SNR=17
RDOG Red Dog Mine 91.00 10 P **P** **11 21 07.9 +0.6**
baz=205
HSIG 91.01 59 IAmb IAmb 11 21 10.4
comp=Z,69nm,1.1s
T33K Petersburg 91.06 28 P **P** **11 21 08.6 +0.7**
baz=232,SNR=5.6
M26K Nabesna, AK 91.08 20 IAmb IAmb 11 21 09.0
comp=Z,79nm,1.4s
M26K Nabesna, AK 91.08 20 P **P** **11 21 07.5 -0.5**
baz=223,SNR=33
WRAK Wrangell Islan 91.08 28 P **P** **11 21 08.9 +0.9**
baz=232,SNR=54
O29M Mount Kennedy 91.10 23 IAmb IAmb 11 21 09.3
comp=Z,64nm,1.4s
O29M Mount Kennedy 91.10 23 P **P** **11 21 08.0 -0.2**
baz=227,SNR=8.2
G06A Carlson Farm, 91.16 41 IAmb IAmb 11 21 10.6
comp=Z,96nm,1.1s
LON Longmire 91.19 40 IAmb IAmb 11 21 10.5
comp=Z,42nm,1.0s
W13A Hualapai Mount 91.21 53 IAmb IAmb 11 21 11.7
comp=Z,102nm,1.2s
MENT Mentasta 91.25 19 IAmb IAmb 11 21 10.6
comp=Z,47nm,1.2s
MENT Mentasta 91.25 19 P **P** **11 21 09.7 +1.0**
K24K Donnelly Dome 91.28 18 IAmb IAmb 11 21 10.6
comp=Z,62nm,1.2s
K24K Donnelly Dome 91.28 18 P **P** **11 21 08.2 -0.5**
baz=221,SNR=20
R32K Eaglecrest 91.33 26 IAmb IAmb 11 21 11.1
comp=Z,80nm,1.2s
R32K Eaglecrest 91.33 26 P **P** **11 21 09.7 +0.6**
baz=230,SNR=22
C17K DeLong Mountai 91.34 10 P **P** **11 21 09.2 +0.2**
baz=205
I23K Minto, Yukon-K 91.35 16 P **P** **11 21 07.8 -1.2**
baz=218,SNR=13
YUK8 Steele Glacier 91.36 22 P **P** **11 21 09.6 +0.1**
baz=226,SNR=39
R11B Troy Canyon, C 91.36 49 IAmb IAmb 11 21 11.8
comp=Z,43nm,1.0s
PLBC Pleasant Camp 91.36 24 P **P** **11 21 09.6 +0.3**
baz=229,SNR=46
JIS Juneau Island 91.38 26 P **P** **11 21 10.8 +1.5**
Y14A Wickenburg 91.39 54 IAmb IAmb 11 21 12.2
comp=Z,68nm,1.2s
M27K Edge Creek, AK 91.41 20 IAmb IAmb 11 21 10.9
comp=Z,85nm,1.2s
M27K Edge Creek, AK 91.41 20 P **P** **11 21 09.6 0.0**
baz=224,SNR=42
HDA Harding Lake 91.41 17 P **P** **11 21 08.3 -1.0**
baz=220,SNR=46
L26K Log Cabin Rd 91.43 19 P **P** **11 21 09.2 -0.3**
baz=223,SNR=40
F20K Avaraart Lake 91.44 13 IAmb IAmb 11 21 11.2
comp=Z,52nm,1.3s
F20K Avaraart Lake 91.44 13 P **P** **11 21 09.7 +0.4**
baz=212,SNR=39
H22K Ishtalitna Cre 91.44 15 P **P** **11 21 09.4 -0.1**
baz=216,SNR=32
G21K Allakaket 91.47 14 IAmb IAmb 11 21 11.1
comp=Z,56nm,1.4s
G21K Allakaket 91.47 14 P **P** **11 21 09.7 +0.2**
baz=214,SNR=29
YUK3 Moose Creek 91.47 21 P **P** **11 21 09.4 -0.5**
baz=226,SNR=30
E19K Redstone River 91.48 12 P **P** **11 21 10.0 +0.4**
baz=211
RIDG Independent Ri 91.50 18 IAmb IAmb 11 21 11.6
comp=Z,86nm,1.3s
RIDG Independent Ri 91.50 18 P **P** **11 21 09.3 -0.6**
baz=222,SNR=39
COLA College 91.53 17 P **P** **11 21 08.5 -1.3**
COLA College 91.53 17 ⇑P **P** **11 21 08.8 -1.0**
COLA College 91.53 17 P **P** **11 21 08.6 -1.2**
baz=219
P30M Million Dollar 91.58 24 P **P** **11 21 10.3 0.0**
baz=228
YUK6 Outpost Mounta 91.62 23 P **P** **11 21 10.7 0.0**
baz=227,SNR=17
IL31 91.71 17 IAmb IAmb 11 21 11.8
comp=Z,72nm,1.4s
ILAR Eielson Array 91.71 17 P **P** **11 21 09.4 -1.3**
ILAR Eielson Array 91.71 17 P **P** **11 21 09.2 -1.5**
comp=Z,7.6nm,0.6s,baz=238,slow=4.9,SNR=165
ILAR pP **pP** **11 21 34.1 -2.8**
comp=Z,3.7nm,0.7s,baz=253,slow=6.0,SNR=2.6
ILAR PKiKP **PKiKP** **11 25 59.9 -1.3**
comp=Z,0.7nm,0.5s,baz=249,slow=2.8,SNR=11
ILAR PKKP **PKKPdf** **11 38 27.9 -1.6**
comp=Z,2.5nm,0.9s,baz=347,slow=1.7,SNR=19
ILAR PKPPKP **P'P'df** **11 46 39.6 +1.8**
comp=Z,1.4nm,1.1s,baz=17,slow=2.3,SNR=9.0
ILAR LR LR 11 58 00.0
comp=Z,385nm,19.9s,baz=204,slow=33
comp=Z,7.6nm,0.6s
SKAG Skagway 91.77 25 P **P** **11 21 12.3 +1.3**
SKAG Skagway 91.77 25 P **P** **11 21 11.9 +0.9**
baz=230,SNR=49
BVCY Beaver Creek 91.78 21 P **P** **11 21 11.0 -0.1**
baz=225,SNR=12
YUK4 Talbot Arm 91.79 22 P **P** **11 21 11.9 +0.5**
baz=227,SNR=24
C18K Utukok River 91.82 10 IAmb IAmb 11 21 13.0
comp=Z,79nm,1.6s
C18K Utukok River 91.82 10 P **P** **11 21 11.4 +0.2**
baz=207,SNR=12
U35K Hyder 91.82 29 P **P** **11 21 11.6 +0.2**
baz=234
POKR Poker Plat Res 91.83 17 P **P** **11 21 09.7 -1.6**
baz=219
PALK Pallekele 91.83 277 P **P** **11 21 13.0 +0.4**
PALK IAmb IAmb 11 21 16.2
comp=Z,176nm,1.8s
PALK Pallekele 91.83 277 LR LR 12 02 46.9
comp=Z,149nm,22.0s,baz=124,slow=36
PALK Pallekele 91.83 277 P **P** **11 21 13.0 +0.4**
PALK pmax pmax
comp=Z,176nm,1.8s
H23K Yukon River 91.84 16 P **P** **11 21 10.3 -1.1**
baz=218,SNR=14
HYT Haines Junctio 91.85 23 IAmb IAmb 11 21 12.8
comp=Z,85nm,1.2s
HYT Haines Junctio 91.85 23 P **P** **11 21 11.2 -0.4**
baz=228,SNR=45
AY03 Cochrane 91.90 143 IAmb IAmb 11 21 14.3
comp=Z,128nm,1.5s
F07A Phinny Hill Vi 91.91 41 IAmb IAmb 11 21 14.1
comp=Z,125nm,1.3s
L27K Beaver Creek, 91.93 20 IAmb IAmb 11 21 12.9
comp=Z,52nm,1.3s
L27K Beaver Creek, 91.93 20 P **P** **11 21 11.5 -0.4**
baz=224,SNR=46
SCRK Sand Creek 91.94 19 IAmb IAmb 11 21 13.1
comp=Z,71nm,1.3s
SCRK Sand Creek 91.94 19 P **P** **11 21 11.6 -0.4**
baz=222,SNR=45
BCAR Beaver Creek A 91.95 20 P **P** **11 21 11.2 -0.7**
J25K Salcha River, 92.01 18 IAmb IAmb 11 21 12.9
comp=Z,55nm,1.4s
J25K Salcha River, 92.01 18 P **P** **11 21 11.4 -0.8**
baz=221,SNR=31
MXC Moxie City 92.02 40 IAmb IAmb 11 21 14.6
comp=Z,70nm,1.1s
F21K Alatna River 92.06 13 IAmb IAmb 11 21 13.7
comp=Z,49nm,1.3s
F21K Alatna River 92.06 13 P **P** **11 21 12.3 0.0**
baz=214,SNR=19
ZAK Zakamensk 92.08 324 *e*P **P** **11 21 12.4 -0.5**
ZAK *e* 11 31 32.9
ZAK pmax pmax
comp=Z,73nm,1.4s
LTY Liberty 92.12 40 IAmb IAmb 11 21 15.0
comp=Z,89nm,1.5s
D19K Kuna River 92.22 11 P **P** **11 21 13.3 +0.3**
baz=210
G08A Pilot Rock 92.23 42 IAmb IAmb 11 21 15.6
comp=Z,86nm,0.9s
G22K Bettles 92.25 14 P **P** **11 21 13.2 +0.1**
baz=216
H24K Noodor Dome 92.27 16 P **P** **11 21 13.6 +0.2**
baz=219
E07A Sunnyside 92.27 41 IAmb IAmb 11 21 16.0
comp=Z,100nm,1.2s
O30N Mendenhall 92.33 23 IAmb IAmb 11 21 14.9
comp=Z,76nm,1.1s

O30N **Mendenhall** 92.33 23 P P 11 21 13.8 0.0
baz=229,SNR=51
T35M **Bob Quinn** 92.35 28 IAmb IAmb 11 21 16.3
comp=Z,53nm,1.1s
T35M **Bob Quinn** 92.35 28 P P 11 21 14.9 +1.0
baz=234,SNR=20
B18K **Kokolik River** 92.37 10 P P 11 21 14.0 +0.4
baz=206,SNR=8.3
E20K **Nigu River** 92.38 12 P P 11 21 14.5 +0.7
baz=212,SNR=59
N30M **Aishikik Lake** 92.42 23 IAmb IAmb 11 21 15.3
comp=Z,86nm,1.5s
N30M **Aishikik Lake** 92.42 23 P P 11 21 14.0 -0.1
baz=228,SNR=33
G23K **Bananza Creek** 92.43 15 P P 11 21 14.2 +0.1
baz=217,SNR=17
J26L **Joseph Creek** 92.45 18 IAmb IAmb 11 21 15.8
comp=Z,62nm,1.1s
J26L **Joseph Creek** 92.45 18 P P 11 21 14.2 -0.1
baz=223,SNR=70
LCMT **Little Creek M** 92.48 51 IAmb IAmb 11 21 17.4
comp=Z,100nm,1.3s
P32M **Atlin** 92.48 25 IAmb IAmb 11 21 16.3
comp=Z,112nm,1.3s
P32M **Atlin** 92.48 25 P P 11 21 14.8 +0.3
baz=231,SNR=41
C19K **Lookout Ridge** 92.50 11 P P 11 21 15.1 +0.8
baz=208,SNR=14
IRK **Irkutsk** 92.51 326 *e*P P 11 21 13.5 -1.2
IRK pmax pmax
comp=Z,72nm,1.9s
S34M **Telegraph Cree** 92.52 27 P P 11 21 15.7 +1.1
baz=233,SNR=57
SPR3 **Spring Creek 3** 92.53 49 IAmb IAmb 11 21 17.4
comp=Z,107nm,1.5s
WAH2 **Wahluke Slope** 92.54 40 IAmb IAmb 11 21 17.1
comp=Z,109nm,1.6s
K27K **Chicken** 92.55 19 P P 11 21 15.2 +0.6
baz=224
F22K **John River** 92.58 14 P P 11 21 15.0 +0.2
baz=215
M29M **Somme Creek** 92.61 21 IAmb IAmb 11 21 16.1
comp=Z,67nm,1.1s
M29M **Somme Creek** 92.61 21 P P 11 21 15.0 -0.1
baz=227,SNR=82
CCUT **Cedar City** 92.61 51 IAmb IAmb 11 21 18.5
comp=Z,97nm,1.3s
ELK **Elko** 92.64 47 IAmb IAmb 11 21 17.8
comp=Z,45nm,1.1s
ELK **Elko** 92.64 47 P P 11 21 16.5 +0.6
comp=Z,31nm,1.0s,baz=234,slow=4.6,SNR=22
ELK LR LR 11 58 22.9
comp=Z,286nm,18.3s,baz=222,slow=32
comp=Z,31nm,1.0s
PRP **Porcupine Dome** 92.65 17 P P 11 21 15.2 0.0
baz=221,SNR=15
PSUT **Pine Spring** 92.67 50 IAmb IAmb 11 21 18.3
comp=Z,148nm,1.9s
Q32M **Nakina River** 92.68 26 IAmb IAmb 11 21 17.6
comp=Z,104nm,1.2s
Q32M **Nakina River** 92.68 26 P P 11 21 16.4 +0.8
baz=232,SNR=49
D20K **Etivluk River** 92.69 12 IAmb IAmb 11 21 17.1
comp=Z,102nm,1.2s
D20K **Etivluk River** 92.69 12 P P 11 21 15.8 +0.6
baz=211,SNR=39
WHY **Whitehorse** 92.71 24 P P 11 21 15.6 0.0
baz=230,SNR=25
E08A **Dider Farm, El** 92.73 41 IAmb IAmb 11 21 17.9
comp=Z,68nm,0.9s
X16A **Lo Mia Camp, P** 92.77 54 IAmb IAmb 11 21 19.1
comp=Z,83nm,1.1s
COLD **Coldfoot** 92.80 14 IAmb IAmb 11 21 17.6
comp=Z,52nm,1.2s
COLD **Coldfoot** 92.80 14 P P 11 21 16.2 +0.5
baz=217,SNR=37
SZCU **Shurtz Canyon** 92.83 51 IAmb IAmb 11 21 19.3
comp=Z,97nm,1.4s
N31M **Braeburn, Yuko** 92.91 23 P P 11 21 16.4 0.0
baz=230,SNR=46
E21K **Killik River** 92.98 13 P P 11 21 16.7 +0.1
baz=214
G24K **Hadweenzic Riv** 93.05 16 IAmb IAmb 11 21 17.9
comp=Z,44nm,1.3s
G24K **Hadweenzic Riv** 93.05 16 P P 11 21 16.6 -0.3
baz=219,SNR=26
LLLB **Lillooet** 93.06 36 IAmb IAmb 11 21 19.3
comp=Z,55nm,1.2s
D08A **Wollman Farm,** 93.08 40 IAmb IAmb 11 21 18.8
comp=Z,34nm,1.1s
H25L **Birch Creek** 93.14 16 P P 11 21 15.8 -1.5
baz=221
I26K **Coal Creek Min** 93.16 18 IAmb IAmb 11 21 18.7
comp=Z,120nm,1.3s
I26K **Coal Creek Min** 93.16 18 P P 11 21 17.0 -0.3
baz=223
L29M **L29M** 93.17 21 P P 11 21 17.7 +0.1
baz=228,SNR=99
E22K **Anaktuvuk Pass** 93.18 13 P P 11 21 17.9 +0.4
baz=216
P33M **Teslin, Yukon** 93.23 25 IAmb IAmb 11 21 19.2
comp=Z,41nm,1.2s
P33M **Teslin, Yukon** 93.23 25 P P 11 21 17.5 -0.4
baz=232,SNR=26
A19K **Wainwright** 93.23 10 P P 11 21 17.9 +0.3
baz=207
WUAZ **Wupatki** 93.25 53 IAmb IAmb 11 21 21.1
comp=Z,83nm,1.1s
M30M **Minto, Yukon** 93.27 22 P P 11 21 17.9 -0.1
baz=229,SNR=130
E09A **Wood Farm, Sta** 93.30 41 IAmb IAmb 11 21 20.1
comp=Z,52nm,1.2s
DLBC **Dease Lake** 93.30 27 LR LR 12 00 49.7
comp=Z,28nm,18.1s,baz=196,slow=34
DLBC **Dease Lake** 93.30 27 P P 11 21 18.9 +0.6
baz=234,SNR=63
MFID **Camas Ranch** 93.39 45 IAmb IAmb 11 21 20.9
comp=Z,30nm,0.9s
DAWY **Dawson** 93.42 20 IAmb IAmb 11 21 19.7
comp=Z,78nm,1.2s
DAWY **Dawson** 93.42 20 P P 11 21 18.5 -0.2
baz=226,SNR=82
C21K **Knifeblade Rid** 93.42 12 P P 11 21 19.4 +0.8
baz=213,SNR=34
G25K **Bearman Lake** 93.45 16 P P 11 21 18.3 -0.4
baz=221,SNR=13
R33M **Jennings River** 93.47 26 IAmb IAmb 11 21 21.2
comp=Z,106nm,1.2s
R33M **Jennings River** 93.47 26 P P 11 21 19.8 +0.7
baz=234,SNR=61
F24K **Squaw Lake** 93.58 15 IAmb IAmb 11 21 21.2
comp=Z,49nm,1.2s
F24K **Squaw Lake** 93.58 15 P P 11 21 19.9 +0.5
baz=219,SNR=42
E23K **Chandalar** 93.60 14 IAmb IAmb 11 21 21.1
comp=Z,64nm,1.3s
E23K **Chandalar** 93.60 14 P P 11 21 19.9 +0.4
baz=218,SNR=32
D22K **Ayikyak River** 93.61 13 IAmb IAmb 11 21 21.5
comp=Z,38nm,0.8s
D22K **Ayikyak River** 93.61 13 P P 11 21 20.0 +0.6
baz=215,SNR=41
B20K **Meade River** 93.71 11 IAmb IAmb 11 21 20.8
comp=Z,43nm,1.2s
B20K **Meade River** 93.71 11 P P 11 21 20.3 +0.6
baz=211,SNR=7.5
N32M **Quiet Lake** 93.71 24 P P 11 21 20.2 +0.1
baz=232
I27K **Kandik River** 93.82 18 P P 11 21 20.4 -0.1
baz=225,SNR=30
EVN **Everest** 93.82 298 IAmb IAmb 11 21 23.9
comp=Z,54nm,1.0s
B21K **Ikpikpuk River** 93.84 12 IAmb IAmb 11 21 22.3
comp=Z,50nm,1.1s
B21K **Ikpikpuk River** 93.84 12 P P 11 21 21.1 +0.6
baz=213,SNR=26
K29M **Barlow Dome** 93.87 21 IAmb IAmb 11 21 22.0
comp=Z,74nm,1.2s
K29M **Barlow Dome** 93.87 21 P P 11 21 20.8 0.0
baz=228,SNR=62
E24K **Your Creek** 93.88 14 P P 11 21 21.0 +0.3
baz=218,SNR=14
M31M **Drury Creek, Y** 93.88 23 P P 11 21 20.1 -0.7
baz=231,SNR=29
X18A **Snowflake** 93.95 55 IAmb IAmb 11 21 24.2
comp=Z,55nm,1.3s
PLID **Pearl Lake** 94.01 43 IAmb IAmb 11 21 23.3
comp=Z,32nm,1.1s

J29N **Klondike Camp** 94.06 20 P P 11 21 22.1 +0.5
baz=228,SNR=7.6
TOLK **Toolik Lake Re** 94.08 14 IAmb IAmb 11 21 23.2
comp=Z,66nm,1.4s
TOLK **Toolik Lake Re** 94.08 14 P P 11 21 22.0 +0.4
baz=218,SNR=18
D23K **Nanushuk River** 94.10 13 IAmb IAmb 11 21 23.8
comp=Z,74nm,1.1s
D23K **Nanushuk River** 94.10 13 P P 11 21 22.6 +0.9
baz=217,SNR=32
F25K **Christian Rive** 94.19 16 IAmb IAmb 11 21 24.1
comp=Z,36nm,1.3s
F25K **Christian Rive** 94.19 16 P P 11 21 22.6 +0.4
baz=221,SNR=23
G26K **Porcupine Rive** 94.19 17 P P 11 21 22.4 +0.3
baz=223,SNR=71
I28M **Miner Creek** 94.21 19 IAmb IAmb 11 21 23.2
comp=Z,49nm,1.2s
I28M **Miner Creek** 94.21 19 P P 11 21 21.9 -0.5
baz=226,SNR=35
MAYO **Mayo, Yukon** 94.25 21 P P 11 21 22.8 +0.3
baz=230,SNR=36
FARO **Faro, Yukon** 94.28 23 IAmb IAmb 11 21 23.4
comp=Z,67nm,1.5s
FARO **Faro, Yukon** 94.28 23 P P 11 21 22.0 -0.6
baz=232,SNR=27
H27K **Steamboat Moun** 94.30 18 IAmb IAmb 11 21 24.1
comp=Z,63nm,1.3s
H27K **Steamboat Moun** 94.30 18 P P 11 21 22.8 +0.1
baz=225,SNR=42
W18A **Petrified Fore** 94.33 54 IAmb IAmb 11 21 25.8
comp=Z,50nm,1.3s
BMAR **Burnt Mountain** 94.34 16 P P 11 21 23.3 +0.5
LL05 **Los Muermos** 94.60 138 P P 11 21 25.5 +0.7
E25K **Arctic Village** 94.61 15 IAmb IAmb 11 21 25.8
comp=Z,48nm,1.4s
E25K **Arctic Village** 94.61 15 P P 11 21 24.3 +0.3
baz=221,SNR=18
I29M **Ogilvie Camp,** 94.64 19 IAmb IAmb 11 21 25.0
comp=Z,84nm,1.2s
I29M **Ogilvie Camp,** 94.64 19 P P 11 21 23.8 -0.5
baz=228,SNR=38
D24K **Happy Valley** 94.65 14 IAmb IAmb 11 21 26.1
comp=Z,62nm,1.4s
D24K **Happy Valley** 94.65 14 P P 11 21 24.8 +0.7
baz=218,SNR=13
F26K **Sheenjek River** 94.65 16 P P 11 21 24.9 +0.6
baz=222,SNR=14
B22K **Teshekpuk Lake** 94.67 12 IAmb IAmb 11 21 25.9
comp=Z,75nm,1.4s
B22K **Teshekpuk Lake** 94.67 12 P P 11 21 24.5 +0.3
baz=214,SNR=11
G27K **Doyon Strip** 94.67 17 IAmb IAmb 11 21 25.8
comp=Z,35nm,1.4s
G27K **Doyon Strip** 94.67 17 P P 11 21 24.5 +0.1
baz=225,SNR=26
NEW **Newport** 94.71 40 P P 11 21 24.7 -0.3
comp=Z,6.1nm,0.9s,baz=241,slow=2.7,SNR=9.9
NEW pP pP 11 21 48.5 -2.8
comp=Z,4.7nm,1.1s,baz=321,slow=0.4,SNR=2.9
NEW LR LR 12 01 49.0
comp=Z,250nm,18.0s,baz=175,slow=34
comp=Z,6.1nm,0.9s
LL01 **San Ignacio de** 94.73 139 IAmb IAmb 11 21 26.3
comp=Z,74nm,1.2s
Q16A **Castle Valley** 94.74 50 IAmb IAmb 11 21 28.1
comp=Z,52nm,1.2s
J30M **Hart River** 94.75 20 IAmb IAmb 11 21 26.1
comp=Z,106nm,2.0s
J30M **Hart River** 94.75 20 P P 11 21 24.6 -0.2
baz=229,SNR=17
HVU **Hansel Valley** 94.75 47 IAmb IAmb 11 21 27.2
comp=Z,99nm,1.1s
WTLY **Watson Lake, Y** 94.79 26 IAmb IAmb 11 21 27.7
comp=Z,104nm,1.7s
WTLY **Watson Lake, Y** 94.79 26 P P 11 21 25.7 +0.7
baz=235
C23K **Itkillik River** 94.81 13 P P 11 21 25.8 +0.9
baz=217,SNR=24
TMUT **Trail Mountain** 94.86 50 IAmb IAmb 11 21 28.5
comp=Z,34nm,1.1s
A21K **Barrow** 94.93 10 P P 11 21 25.3 -0.1
baz=211
A22K **Sinclair Lake** 94.94 11 P P 11 21 25.6 +0.1
baz=213
CTU **Camp Tracy** 95.03 48 IAmb IAmb 11 21 28.4
comp=Z,40nm,1.2s
C24K **Franklin Bluff** 95.12 13 P P 11 21 26.6 +0.3
baz=218
I30M **Mount Dempster** 95.16 20 IAmb IAmb 11 21 27.4
comp=Z,54nm,1.1s
I30M **Mount Dempster** 95.16 20 P P 11 21 26.2 -0.5
baz=229,SNR=85
JLU **Jordanelle** 95.20 49 IAmb IAmb 11 21 29.4
comp=Z,32nm,1.2s
H29M **Whitestone** 95.21 19 IAmb IAmb 11 21 27.9
comp=Z,61nm,1.1s
H29M **Whitestone** 95.21 19 P P 11 21 26.5 -0.3
baz=228,SNR=30
MMPY **Sheldon Lake,** 95.29 23 IAmb IAmb 11 21 29.7
comp=Z,96nm,1.6s
MMPY **Sheldon Lake,** 95.29 23 P P 11 21 27.2 -0.1
baz=234,SNR=48
D25K **Kavik River** 95.34 14 IAmb IAmb 11 21 28.4
comp=Z,40nm,1.4s
D25K **Kavik River** 95.34 14 P P 11 21 27.3 -0.1
baz=220,SNR=14
TCUT **Toone Canyon** 95.44 48 IAmb IAmb 11 21 41.5
comp=Z,56nm,1.3s
HWUT **Hardrock Ranch** 95.52 48 IAmb IAmb 11 25 22.2
comp=Z,46nm,1.6s
LIRD **Liard River Hi** 95.53 28 P P 11 21 28.5 +0.1
baz=238,SNR=6.7
EPT **El Paso** 95.60 58 IAmb IAmb 11 21 31.2
comp=Z,24nm,1.0s
TOAD **Toad River Com** 95.61 28 P P 11 21 28.9 0.0
baz=238,SNR=28
BSUT **Blindstream Ca** 95.66 49 IAmb IAmb 11 21 31.7
comp=Z,39nm,1.1s
E27K **Coleen River** 95.67 16 IAmb IAmb 11 21 30.6
comp=Z,54nm,1.2s
E27K **Coleen River** 95.67 16 P P 11 21 29.4 +0.5
baz=225,SNR=26
F28M **Old Crow** 95.73 17 IAmb IAmb 11 21 30.4
comp=Z,33nm,1.2s
F28M **Old Crow** 95.73 17 P P 11 21 29.2 0.0
baz=226,SNR=21
G29M **Pine Creek** 95.78 18 IAmb IAmb 11 21 30.4
comp=Z,65nm,1.1s
G29M **Pine Creek** 95.78 18 P P 11 21 29.1 -0.3
baz=228,SNR=28
TGTN **Hyland Airport** 95.80 25 P P 11 21 29.8 +0.1
baz=236,SNR=7.0
EPYK **Eagle Plains** 95.81 19 P P 11 21 29.4 -0.2
baz=229,SNR=35
PV05 **Paradox Valley** 95.92 52 IAmb IAmb 11 25 26.0
comp=Z,39nm,1.5s
PV10 **Paradox Valley** 96.08 51 IAmb IAmb 11 21 33.9
comp=Z,19nm,0.9s
PV19 **Morning Glory** 96.10 51 IAmb IAmb 11 25 26.2
comp=Z,76nm,1.7s
C26K **Camden Bay** 96.12 14 P P 11 21 31.8 +1.0
baz=222,SNR=30
PV23 **Carpenter Ridg** 96.13 51 IAmb IAmb 11 21 36.2
comp=Z,21nm,0.8s
H31M **Peel River** 96.18 20 IAmb IAmb 11 21 31.6
comp=Z,37nm,1.1s
H31M **Peel River** 96.18 20 P P 11 21 30.3 -1.0
baz=231,SNR=20
LR05 **Currie** 96.18 137 P P 11 21 32.0 0.0
C27K **Jago River** 96.19 15 IAmb IAmb 11 21 33.0
comp=Z,67nm,1.1s
C27K **Jago River** 96.19 15 P P 11 21 31.5 +0.3
baz=223,SNR=32
DLMT **Dillon** 96.31 44 IAmb IAmb 11 21 34.0
comp=Z,29nm,1.2s
G30M **tAoh Zraii Nji** 96.36 19 P P 11 21 31.7 -0.4
baz=230,SNR=71
VHRN **Van Horn** 96.47 60 IAmb IAmb 11 21 35.5
comp=Z,49nm,1.8s
E28M **Babbage River** 96.51 17 P P 11 21 32.9 +0.2
baz=227,SNR=33
TIXI **Tiksi** 96.58 348 LR LR 12 01 30.4
comp=Z,166nm,21.4s,baz=154,slow=33
TIXI **Tiksi** 96.58 348 *e*P P 11 21 31.1 -1.8
TIXI pmax pmax
comp=Z,23nm,1.7s
D27M **Malcolm River** 96.59 16 IAmb IAmb 11 21 35.0
comp=Z,73nm,1.4s
D27M **Malcolm River** 96.59 16 P P 11 21 33.4 +0.4
baz=225,SNR=14
TPAW **Teton Pass** 96.67 46 IAmb IAmb 11 25 31.2
comp=Z,57nm,1.5s
FXWY **Fox Creek** 96.67 46 IAmb IAmb 11 25 31.3
comp=Z,35nm,1.4s
ANMO **Albuquerque** 96.77 55 P P 11 21 34.6 -0.3
comp=Z,7.1nm,0.9s,baz=315,slow=4.4,SNR=7.7
ANMO PP PP 11 25 30.1 -1.3
comp=Z,14nm,1.3s,baz=336,slow=7.3,SNR=5.3
ANMO LR LR 11 57 47.2
comp=Z,572nm,21.8s,baz=269,slow=31
comp=Z,7.1nm,0.9s
SNOW **Snow King Moun** 96.79 46 IAmb IAmb 11 21 38.2
comp=Z,26nm,1.1s
KOTAN **Kotaneelee Air** 96.80 27 P P 11 21 34.0 -0.1
baz=239
E29M **Blow River** 96.81 17 IAmb IAmb 11 21 34.8
comp=Z,37nm,1.3s
E29M **Blow River** 96.81 17 P P 11 21 33.6 -0.4
baz=228,SNR=10
PLCA **Paso Flores** 96.81 138 IAmb IAmb 11 21 36.2
comp=Z,58nm,1.3s
PLCA **Paso Flores** 96.81 138 P P 11 21 34.9 -0.1
comp=Z,21nm,1.1s,baz=221,slow=5.5,SNR=23
PLCA PKKP PKKPbc 11 38 16.8 -0.4
comp=Z,2.3nm,0.9s,baz=53,slow=3.3,SNR=6.2
comp=Z,21nm,1.1s
PLCA **Paso Flores** 96.81 138 *e*P P 11 21 34.5 -0.5
F30M **Barrier River** 96.90 18 P P 11 21 34.1 -0.3
baz=230,SNR=20
G31M **Satah River** 96.91 19 P P 11 21 34.1 -0.4
baz=231,SNR=26
YHL **Hebgen Lake** 97.03 45 IAmb IAmb 11 21 40.5
comp=Z,33nm,1.2s
TXAR **Lajitas Array** 97.05 61 P Pdif 11 21 37.0 +0.8
TXAR **Lajitas Array** 97.05 61 P Pdif 11 21 36.3 +0.1
comp=Z,5.0nm,1.0s,baz=235,slow=4.4,SNR=36
TXAR PP PP 11 25 32.4 -1.1
comp=Z,1.7nm,1.0s,baz=219,slow=7.7,SNR=3.5
TXAR PKKPbc PKKPbc 11 38 15.9 -0.7
comp=Z,3.5nm,0.8s,baz=100,slow=3.0,SNR=22
TXAR LR LR 11 59 54.0
comp=Z,257nm,18.5s,baz=250,slow=32
comp=Z,5.0nm,1.0s
D28M **Stokes Point** 97.22 16 P P 11 21 35.5 -0.2
baz=227
H17A **Grant Village** 97.26 45 IAmb IAmb 11 25 23.3
comp=Z,16nm,0.8s
HYB **Hyderabad** 97.30 286 *e*P P 11 21 37.5 0.0
BW06 **Boulder Array** 97.34 47 IAmb IAmb 11 25 36.1
comp=Z,32nm,1.6s
PD31 **Pinedale Array** 97.34 47 IAmb IAmb 11 25 36.1
comp=Z,32nm,1.6s
PDAR **Pinedale Array** 97.34 47 P P 11 21 36.9 -0.4
PDAR **Pinedale Array** 97.34 47 P P 11 21 36.6 -0.7
comp=Z,4.2nm,0.8s,baz=207,slow=3.0,SNR=21
PDAR pP pP 11 21 59.4 -4.3
comp=Z,1.3nm,0.7s,baz=234,slow=9.0,SNR=2.2
PDAR PP PP 11 25 34.9 -0.8
comp=Z,4.0nm,1.1s,baz=241,slow=4.9,SNR=9.3
PDAR PKKPbc PKKPbc 11 38 13.9 -2.7
comp=Z,5.4nm,0.8s,baz=74,slow=5.3,SNR=24
PDAR PKPPKP P'P'df 11 46 29.6 +0.1
comp=Z,1.3nm,0.9s,baz=113,slow=1.9,SNR=5.2
PDAR LR LR 12 00 14.1
comp=Z,111nm,19.6s,baz=80,slow=32
comp=Z,4.2nm,0.8s
F31M **Tsiigehtchic** 97.40 19 P P 11 21 36.5 -0.1
baz=232,SNR=12
ALPN **Alpine** 97.42 60 IAmb IAmb 11 25 35.8
comp=Z,50nm,1.8s
INK **Inuvik** 98.00 18 IAmb IAmb 11 21 40.0
comp=Z,59nm,1.2s
INK **Inuvik** 98.00 18 LR LR 12 00 26.6
comp=Z,228nm,20.9s,baz=184,slow=32
INK **Inuvik** 98.00 18 P P 11 21 38.7 -0.6
baz=232,SNR=22
SAND **Sanderson** 98.52 61 IAmb IAmb 11 25 45.5
comp=Z,30nm,1.6s
WRGLY **Wrigley** 98.61 25 P P 11 21 42.1 -0.1
baz=240
WMQ **Urumqi** 98.86 313 *e*P Pdif 11 21 44.8 +0.9
WMQ LR LR
comp=Z,370nm,22.3s
YKA **Yellowknife Ar** 101.93 27 P Pdif 11 21 56.7 -0.3
comp=Z,0.9nm,0.6s,baz=216,slow=7.6,SNR=26
YKA PP PP 11 26 09.7 +0.1
comp=Z,1.1nm,0.8s,baz=274,slow=8.3,SNR=11
YKA PKiKP PKiKP 11 26 19.6 +0.3
comp=Z,2.9nm,1.0s,baz=273,slow=2.0,SNR=7.5
YKA PKKPbc PKKPbc 11 38 01.7 -2.3
comp=Z,0.2nm,0.3s,baz=56,slow=2.7,SNR=11
YKA PKPPKP P'P'df 11 46 20.8 +1.8
comp=Z,1.1nm,1.2s,baz=42,slow=2.8,SNR=3.5
A36M **Sachs Harbour** 102.41 17 P Pdif 11 21 59.0 +0.1
baz=240
MKAR **Makanchi Array** 103.42 315 Pdiff Pdif 11 22 04.6 +0.5
comp=Z,9.7nm,0.5s,baz=104,slow=5.5,SNR=76
MKAR PKiKP PP 11 26 21.7 +0.4
comp=Z,3.3nm,0.9s,baz=225,slow=0.2,SNR=8.3
MKAR PKKPbc PKKPbc 11 37 56.5 -2.5
comp=Z,2.9nm,0.9s,baz=302,slow=2.3,SNR=16
MKAR PKPPKP P'P'df 11 46 17.3 -0.1
comp=Z,1.8nm,1.1s,baz=266,slow=3.5,SNR=8.5
MKAR P4KPbc 11 57 38.9
comp=Z,0.5nm,0.9s,baz=90,slow=1.9,SNR=3.6
MAKZ **Makanchi** 103.63 315 ⇑P Pdif 11 22 05.3 +0.3
ZALV **Zaleadvo Beam** 103.89 323 Pdiff Pdif 11 22 05.5 -0.3
comp=Z,3.4nm,0.5s,baz=104,slow=6.3,SNR=17
ZALV PKiKP PKiKP 11 26 22.1 -1.0
comp=Z,3.4nm,0.9s,baz=105,slow=1.6,SNR=7.5
ZALV PKKPbc PKKPbc 11 37 55.5 -2.3
comp=Z,0.3nm,0.3s,baz=300,slow=6.0,SNR=3.6
SHLS **Shalkode** 104.36 311 *e*PKiKP PKiKP 11 26 23.1 -1.4
SATY **Saty** 105.08 311 *e*PKiKP PKiKP 11 26 24.8 -1.1
AAA **Alma-Ata** 106.18 311 *e*PKiKP PKiKP 11 26 26.9 -0.8
CHKK **Chushkaly** 106.28 311 *e*PKiKP PKiKP 11 26 27.3 -0.6
KUU **Kurty** 106.75 311 *e*PKiKP PKiKP 11 26 27.9 -0.9
KURBB **Kurchatov Arra** 106.79 318 Pdiff Pdif 11 22 18.3 -0.5
comp=Z,1.7nm,0.4s,baz=100,slow=4.5,SNR=10
KURBB PKiKP PKiKP 11 26 27.7 -0.8
comp=Z,3.7nm,0.7s,baz=103,slow=1.8,SNR=16
KURBB PKKPbc PKKPbc 11 37 45.2 -3.6
comp=Z,4.4nm,0.9s,baz=285,slow=3.7,SNR=20
KURBB PKKPab PKKPdf 11 38 00.9 -0.3
comp=Z,6.5nm,1.0s,baz=283,slow=5.1,SNR=14
SGDS **Sogindy** 107.86 310 *e*PKiKP PKiKP 11 26 30.0 -0.8
ULM **Lac du Bonnet** 108.49 42 PKiKP PKiKP 11 26 29.8 -1.9
comp=Z,4.5nm,0.6s,baz=260,slow=5.5,SNR=8.5
ULM PKKPbc PKKPbc 11 37 42.0 -1.5
comp=Z,2.2nm,0.8s,baz=135,slow=1.7,SNR=4.0
ULM PKKPab PKKPab 11 37 53.8 -0.1
comp=Z,1.7nm,0.7s,baz=100,slow=6.1,SNR=3.6
BTLS **Baital** 108.59 312 *e*PKiKP PKiKP 11 26 31.2 -0.9
BTLS *e*PP PP 11 26 58.1 -1.3
DZA **Taraz** 110.12 309 *i* PKiKP PKiKP 11 26 34.2 -0.9
DZA **Taraz** 110.12 309 *e*PKiKP PKiKP 11 26 34.2 -0.9
BRZS **Berezniki** 110.36 317 *i* PKiKP PKiKP 11 26 34.7 -0.6
BRZS **Berezniki** 110.36 317 *e*PKiKP PKiKP 11 26 34.7 -0.6
IUG **Iuzhnay** 110.94 308 *i* PKiKP PKiKP 11 26 35.8 -0.9
IUG **Iuzhnay** 110.94 308 *e*PKiKP PKiKP 11 26 35.9 -0.9
BRLS **Borolday** 111.22 309 *i* PKiKP PKiKP 11 26 36.3 -0.9
BRLS *e* 11 27 17.6
BRLS **Borolday** 111.22 309 *e*PKiKP PKiKP 11 26 36.3 -0.9
BRLS *e*PP PP 11 27 17.6 -0.9
LPAZ **La Paz** 112.07 118 PKiKP PKiKP 11 26 38.9 -1.4
comp=Z,3.0nm,1.0s,baz=250,slow=4.2,SNR=5.7
LPAZ PKKPbc PKKPbc 11 37 30.6 -1.0
comp=Z,2.6nm,0.7s,baz=220,slow=2.1,SNR=7.9
BVAR **Borovoye Array** 112.16 320 Pdiff Pdif 11 22 43.4 +0.7
comp=Z,2.2nm,0.5s,baz=91,slow=3.6,SNR=9.6
BVAR PKiKP PKiKP 11 26 38.0 -0.6
comp=Z,9.1nm,0.6s,baz=132,slow=1.6,SNR=28
BVAR PP PP 11 27 25.9 +1.1
comp=Z,42nm,0.7s,baz=107,slow=5.0,SNR=91
BVAR SKP 11 30 04.9
comp=Z,3.0nm,0.8s,baz=98,slow=2.9,SNR=4.6
BVAR PKKPbc PKKPbc 11 37 28.9 -2.6
comp=Z,3.1nm,0.7s,baz=316,slow=4.1,SNR=13
BVAR PKKP PKKPdf 11 37 49.4 -1.7
comp=Z,18nm,0.7s,baz=55,slow=26,SNR=62
BVAR **Borovoye Array** 112.16 320 *i* PKiKP PKiKP 11 26 38.0 -0.6
BRVK **Borovoye** 112.23 320 *c i*PKiKP PKiKP 11 26 38.0 -0.7
BRVK pmax pmax
comp=Z,19nm,1.3s

SVE	**Sverdlovsk**	**117.84**	**324**	*i* PKIKP	**PKPdf**	**11 26 48.6**	**-0.8**		
SVE				pmax	pmax				
	comp=Z,46nm,1.4s								
SOHO	**SOHO**	**118.92**	**287**	*i* P	**PKPdf**	**11 26 51.8**	**-0.6**		
	SNR=25								
ARTI	**Arti**	**119.12**	**324**		**PKPdf**	**11 26 51.4**	**-0.4**		
ARTI	**Arti**	**119.12**	**324**	SKP		11 30 18.6			
	comp=Z,6.9nm,1.0s,baz=82,slow=3.8,SNR=2.6								
ARTI				PKKPbc	PKKPbc	11 37 05.0	-2.4		
	comp=Z,6.3nm,0.8s,baz=292,slow=2.5,SNR=7.1								
ARTI	**Arti**	**119.12**	**324**	*i* PKIKP	**PKPdf**	**11 26 51.3**	**-0.5**		
ARTI						11 33 53.9			
ARTI				SP	SP	11 37 46.8	-3.1		
SUR	**Sutherland**	**119.25**	**210**		**PKiKP**	**11 26 53.9**	**+0.6**		
NOR	**Nord**	**119.26**	**1**	*i* P	**PKPdf**	**11 26 50.2**	**-1.3**		
UOSS	**Minazif**	**119.37**	**287**		**PKPdf**	**11 26 52.6**	**-0.7**		
UOSS	**Minazif**	**119.37**	**287**	*i* P	**PKPdf**	**11 26 52.3**	**-1.0**		
	SNR=6.4								
HATD	**Hatta, Dubai**	**119.41**	**287**	*i* P	**PKPdf**	**11 26 52.8**	**-0.6**		
	SNR=13								
ASHO	**Ashiyiah**	**119.45**	**287**	*i* P	**PKPdf**	**11 26 52.8**	**-0.7**		
	SNR=12								
MSFE	**Esma-Masafi**	**119.49**	**288**	*i* P	**PKPdf**	**11 26 53.1**	**-0.4**		
	SNR=7.8								
PTLB	**Pontes e Lacer**	**119.76**	**123**		**PKPdf**	**11 26 53.5**	**-0.8**		
AKTO	**Aktyubinsk**	**119.78**	**317**	SKP		11 30 20.0			
	comp=Z,1.5nm,0.3s,baz=56,slow=1.5,SNR=3.3								
AKTO				PKKPbc	PKKPbc	11 37 02.7	-2.1		
	comp=Z,11nm,1.0s,baz=270,slow=2.5,SNR=14								
NAZ	**Nazwa, Dubai**	**119.86**	**287**	*i* P	**PKPdf**	**11 26 54.0**	**-0.3**		
	SNR=6.5								
FAQ	**Al Faqa, Dubai**	**119.88**	**287**	P	**PKPdf**	**11 26 53.7**	**-0.6**		
BOSA	**Boshof**	**120.03**	**216**	PKP	**PKiKP**	**11 26 55.0**	**+0.1**		
	comp=Z,5.0nm,0.4s,baz=156,slow=1.5,SNR=18								
BOSA				PKKPab	**PKKPbc**	**11 37 05.3**	**+1.6**		
	comp=Z,4.6nm,0.9s,baz=136,slow=8.2,SNR=4.5								
BOSA	**Boshof**	**120.03**	**216**	PKIKP	**PKiKP**	**11 26 55.0**	**+0.1**		
ASUD	**Al Ashush, Dub**	**120.09**	**287**	P	**PKPdf**	**11 26 54.6**	**-0.1**		
NEEM	**North Greenlan**	**120.12**	**10**	*i* P	**PKPdf**	**11 26 52.7**	**-0.9**		
SDV	**Santo Domingo**	**120.58**	**92**		**PKPdf**	**11 26 55.2**	**-1.0**		
KULLO	**Kullorsuaq**	**120.88**	**13**	*i* P	**PKPdf**	**11 26 53.5**	**-1.2**		
KBS	**Kingsbay**	**121.12**	**355**	*c i* PKIKP	**PKiKP**	**11 26 55.4**	**+0.1**		
KBS				pmax	pmax				
	comp=Z,30nm,1.3s								
KBS	**Kingsbay**	**121.12**	**355**	*e* PKPdf	**PKPdf**	**11 26 54.7**	**-0.4**		
SPA0	**Spitsbergen Ar**	**121.40**	**354**	*e* PKPdf	**PKPdf**	**11 26 55.0**	**-0.7**		
SPITS	**Spitsbergen Ar**	**121.40**	**354**	PKP	**PKPdf**	**11 26 54.9**	**-0.8**		
	comp=Z,32nm,0.6s,baz=90,slow=7.0,SNR=56								
MZR	**Muzera**	**121.44**	**285**	*i* P	**PKiKP**	**11 26 57.8**	**+0.4**		
	SNR=11								
UPNV	**Upernavik**	**122.22**	**15**	*i* P	**PKPdf**	**11 26 56.3**	**-1.1**		
KIRV	**Kirov**	**123.49**	**327**	PKKPbc	PKKPbc	11 36 48.4	-2.5		
	comp=Z,5.4nm,0.6s,baz=222,slow=0.3,SNR=5.1								
KIRV	**Kirov**	**123.49**	**327**	*i* PKIKP	**PKiKP**	**11 27 00.8**	**+0.4**		
NUUG	**Nuugaatsiaq**	**123.70**	**15**	*i* P	**PKPdf**	**11 26 59.2**	**-1.0**		
DAG	**Danmarks Havn**	**124.01**	**2**	*i* P	**PKPdf**	**11 26 59.2**	**-1.5**		
HRV	**Adam Dziewonsk**	**124.73**	**52**		**PKPdf**	**11 27 02.4**	**-0.6**		
HRV	**Adam Dziewonsk**	**124.73**	**52**	||PKIKP	**PKPdf**	**11 27 02.0**	**-1.1**		
VADS	**Vadso**	**125.55**	**345**	*e* PKPdf	**PKiKP**	**11 27 04.6**	**+0.4**		
ILULI	**Ilulissat**	**125.76**	**17**	*i* P	**PKPdf**	**11 27 02.7**	**-1.5**		
SCHQ	**Schefferville**	**125.94**	**37**	PKP	**PKPdf**	**11 27 03.5**	**-1.5**		
	comp=Z,25nm,1.0s,baz=317,slow=2.5,SNR=12								
BELG	**Belogornoye**	**125.97**	**320**	*i* PKIKP	**PKiKP**	**11 27 05.8**	**+0.3**		
SUMG	**Summit**	**125.97**	**10**		**PKPdf**	**11 27 04.5**	**-0.6**		
SUMG	**Summit**	**125.97**	**10**	PKIKP	**PKPdf**	**11 27 04.5**	**-0.6**		
SUMG	**Summit**	**125.97**	**10**	*i* P	**PKPdf**	**11 27 04.2**	**-0.9**		
APA	**Apatity**	**126.09**	**341**	*i* PKIKP	**PKPdf**	**11 27 03.1**	**-1.8**		
APA				*e*		11 28 59.2			
APA				MLR	MLR				
	comp=Z,664nm,22.6s								
KEV	**Kevo**	**126.39**	**345**		**PKiKP**	**11 27 05.6**	**-0.2**		
KEV	**Kevo**	**126.39**	**345**	PKIKP	**PKiKP**	**11 27 05.6**	**-0.2**		
HAMF	**Hammerfest**	**126.49**	**347**	*e* PKPdf	**PKPdf**	**11 27 04.4**	**-1.2**		
ARA0	**ARCESS Array S**	**126.91**	**345**	*e* PKPdf	**PKPdf**	**11 27 05.5**	**-1.0**		
ARCES	**ARCESS Array B**	**126.91**	**345**	PKP	**PKPdf**	**11 27 05.9**	**-0.5**		
	comp=Z,21nm,0.5s,baz=65,slow=1.2,SNR=183								
ARCES				SKP		11 30 33.8			
	comp=Z,5.3nm,0.9s,baz=72,slow=1.3,SNR=4.2								
ARCES				PKKPab	**PKKPbc**	**11 36 38.9**	**+0.8**		
	comp=Z,3.0nm,0.8s,baz=187,slow=2.1,SNR=4.9								
SJG	**San Juan**	**127.32**	**83**		**PKPdf**	**11 27 07.5**	**-1.2**		
SJG	**San Juan**	**127.32**	**83**	PKIKP	**PKPdf**	**11 27 07.5**	**-1.2**		
SFJD	**Kangerlussuaq**	**127.34**	**19**	*i* P	**PKPdf**	**11 27 06.3**	**-1.0**		
KLMR	**Klimovskoe**	**127.37**	**332**	*e* PKIKP	**PKPdf**	**11 27 05.6**	**-1.9**		
KLMR				*e*		11 29 07.4			
KLMR				*e*SP	SP	11 39 02.0	-0.2		
KLMR				pmax	pmax				
	comp=Z,201nm,1.5s								
AKT	**Akhty**	**127.51**	**307**	*i* PKIKP	**PKPdf**	**11 27 07.4**	**-1.2**		
AKT				*e*		11 27 34.3			
AKT				*e*		11 27 44.4			
AKT				*e*		11 29 06.4			
AKT				*e*		11 34 01.6			
AKT				pmax	pmax				
	comp=Z,47nm,1.0s								
MAK	**Makhachkala**	**127.55**	**309**	*i* P	**Pdif**	**11 23 52.4**	**+1.0**		
MAK				*i*		11 27 09.3			
MAK				*e*		11 27 36.3			
MAK				*e*		11 29 09.0			
MAK				*e*PPP	PPP	11 31 53.4			
MAK				*e*		11 34 06.0			
MAK				*e*SS	SS	11 46 14.5	+0.7		
MAK				*e*SSS	SSS	11 50 56.0			
MAK				pmax	pmax				
	comp=Z,187nm,1.2s								
KTK1	**Kautokeino**	**127.84**	**345**	*e* PKPdf	**PKPdf**	**11 27 07.5**	**-0.7**		
LSZ	**Lusaka**	**127.93**	**229**		**PKiKP**	**11 27 10.6**	**-0.2**		
LSZ	**Lusaka**	**127.93**	**229**	PKIKP	**PKiKP**	**11 27 10.6**	**-0.2**		
BDFB	**Brasilia**	**127.93**	**135**	PKP	**PKPdf**	**11 27 09.0**	**-1.1**		
	comp=Z,19nm,0.8s,baz=265,slow=0.2,SNR=14								
JETT	**Jettan, Norway**	**128.05**	**347**	*e* PKPdf	**PKiKP**	**11 27 09.0**	**-0.2**		
TRO	**Tromso**	**128.29**	**348**	*e* PKPdf	**PKPdf**	**11 27 08.8**	**-0.2**		
NUUK	**Nuuk**	**128.75**	**22**	*i* P	**PKPdf**	**11 27 09.8**	**-0.2**		
RAYN	**Ar Rayn**	**128.76**	**284**		**PKiKP**	**11 27 12.4**	**+0.3**		
RAYN	**Ar Rayn**	**128.76**	**284**	||PKIKP	**PKiKP**	**11 27 12.5**	**+0.4**		
RAYN	**Ar Rayn**	**128.76**	**284**	*i* P	**PKiKP**	**11 27 12.3**	**+0.3**		
	SNR=20								
KMBO	**Kilima Mbogo**	**128.76**	**251**	*i* P	**PKiKP**	**11 27 13.3**	**+0.6**		
	SNR=14								
VRH	**Novokhopyorsk**	**129.81**	**320**	*e* PKIKP	**PKPdf**	**11 27 12.3**	**-0.1**		
VRH				pmax	pmax				
	comp=Z,48nm,1.0s								
GNI	**Garni**	**129.89**	**305**		**PKiKP**	**11 27 14.9**	**+0.9**		
GNI	**Garni**	**129.89**	**305**	*c i* PKIKP	**PKiKP**	**11 27 14.7**	**+0.7**		
GNI				pmax	pmax				
	comp=Z,74nm,1.7s								
JMIC	**Jan Mayen**	**129.99**	**359**	*e* PKPdf	**PKiKP**	**11 27 13.2**	**+0.2**		
SCO	**Scoresbysund**	**130.00**	**5**		**PKPdf**	**11 27 11.9**	**-0.3**		
SCO	**Scoresbysund**	**130.00**	**5**	PKIKP	**PKPdf**	**11 27 12.0**	**-0.3**		
SCO	**Scoresbysund**	**130.00**	**5**	*i* P	**PKPdf**	**11 27 11.9**	**-0.3**		
BBSR	**BB Station**	**130.37**	**65**		**PKPdf**	**11 27 13.4**	**-0.7**		
GOF	**Gofitskoye**	**130.44**	**312**	*ce* PKIKP	**PKPdf**	**11 27 13.7**	**-0.2**		
STEI	**Steigen**	**130.46**	**348**	*e* PKPdf	**PKPdf**	**11 27 13.0**	**-0.2**		
MOS	**Moscow**	**130.49**	**327**	*i* PKIKP	**PKPdf**	**11 27 11.4**	**-2.2**		
MOS				*e*		11 27 39.1			
MOS				*e*		11 29 26.3			
MOS				*e*SP	SP	11 39 22.0	-7.6		
MOS				*e*SS	**SS**	**11 46 44.9**	**-3.9**		
MOS				pmax	pmax				
	comp=Z,68nm,0.7s								
MOS				pmax	pmax				
	comp=Z,200nm,1.3s								
OZAP	**Van, Ozalp-Mer**	**130.60**	**303**	||P	**PKiKP**	**11 27 15.7**	**+0.1**		
OZAP	**Van, Ozalp-Mer**	**130.60**	**303**	||P	**SKPbc**	**11 30 31.7**	**+2.4**		
LOF	**Lofoten**	**130.61**	**349**	*e* PKPdf	**PKPdf**	**11 27 13.8**	**+0.4**		
KBZ	**Khabaz**	**130.78**	**310**	PKP	**PKPdf**	**11 27 14.9**	**+0.4**		
	comp=Z,6.3nm,0.9s,baz=75,slow=0.8,SNR=16								
KBZ				SKPbc	**SKPab**	**11 30 30.9**	**+1.3**		
	comp=Z,12nn,0.9s,baz=153,slow=4.2,SNR=9.6								
KBZ	**Khabaz**	**130.78**	**310**	*i* PKIKP	**PKPdf**	**11 27 13.8**	**-0.7**		
KIV	**Kislovodsk**	**130.89**	**310**		**PKiKP**	**11 27 15.4**	**-0.4**		
KIV	**Kislovodsk**	**130.89**	**310**	*i* PKIKP	**PKPdf**	**11 27 14.5**	**-0.4**		
KIV				*e*		11 29 30.7			
KIV				*e*SS	SS	11 46 53.7	-1.3		
KIV				pmax	pmax				
	comp=Z,18nm,1.1s								
KIV				MLR	MLR				
	comp=Z,180nm,23.0s								
KIV	**Kislovodsk**	**130.89**	**310**	*i* P	**PKPdf**	**11 27 14.4**	**-0.4**		
	SNR=11								
FAUS	**Fauske**	**130.92**	**347**	*e* PKPdf	**PKPdf**	**11 27 14.3**	**+0.3**		
SHA1	**Shidzhatmaz**	**130.95**	**310**	*i* PKIKP	**PKPdf**	**11 27 15.2**	**0.0**		
LPSR	**Galich'ya Gora**	**131.00**	**322**	*e* PKIKP	**PKPdf**	**11 27 15.0**	**+0.4**		
LPSR				pmax	pmax				
	comp=Z,151nm,1.4s								
VORR	**Voronezh**	**131.16**	**321**	*e* PKIKP	**PKPdf**	**11 27 13.3**	**-1.7**		
VORR				pmax	pmax				
	comp=Z,40nm,1.0s								
OBN	**Obninsk**	**131.30**	**326**		**PKiKP**	**11 27 15.9**	**-0.2**		
OBN	**Obninsk**	**131.30**	**326**	SKPbc	**SKPab**	**11 30 31.7**	**+0.2**		
	comp=Z,65nm,1.0s,baz=17,slow=2.5,SNR=19								
OBN	**Obninsk**	**131.30**	**326**	*d* PKIKP	**PKPdf**	**11 27 14.4**	**-0.7**		
OBN				pmax	pmax				
	comp=Z,78nm,1.5s								
VSR	**Storozhevoye**	**131.33**	**321**	*e* PKIKP	**PKPdf**	**11 27 12.8**	**-2.5**		
VSR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
VORD	**Divnogorie**	**131.34**	**320**	*e* PKIKP	**PKPdf**	**11 27 12.4**	**-3.0**		
VORD				pmax	pmax				
	comp=Z,10.0nm,0.9s								
ISOG	**Isortoq, Green**	**131.63**	**16**	*e* P	**PKPdf**	**11 27 14.0**	**-1.5**		
VAGH	**Vaagaholmen**	**131.88**	**348**	*e* PKPdf	**PKPdf**	**11 27 15.2**	**-0.7**		
IVI	**Ivigtut**	**131.89**	**24**	*i* P	**PKPdf**	**11 27 15.0**	**-1.0**		
ERBR	**Yeremizino-Bor**	**132.06**	**313**	*i* PKIKP	**PKPdf**	**11 27 16.0**	**-0.9**		
ERBR				*e*		11 34 14.4			
ERBR				*e*SSS	SSS	11 51 57.0			
ERBR				pmax	pmax				
	comp=Z,78nm,1.6s								
MOR8	**Moi Rana**	**132.13**	**347**	*e* PKPdf	**PKPdf**	**11 27 15.9**	**-0.5**		
LABN	**Labinsk**	**132.13**	**312**	*i* PKIKP	**PKPdf**	**11 27 16.9**	**-0.2**		
LABN				*e*		11 34 18.2			
LABN				pmax	pmax				
	comp=Z,39nm,0.7s								
STOK	**Stokkvaagen**	**132.28**	**348**	*e* PKPdf	**PKPdf**	**11 27 16.3**	**-0.4**		
FINES	**FINESS Array B**	**132.44**	**337**		**PKPdf**	**11 27 16.7**	**-0.4**		
FINES	**FINESS Array B**	**132.44**	**337**	PKhKP	PKPpre	11 27 01.6			
	comp=Z,2.5nm,0.8s,baz=198,slow=0.6,SNR=10								
FINES				PKP	**PKPdf**	**11 27 16.4**	**-0.8**		
	comp=Z,6.2nm,0.5s,baz=70,slow=2.3,SNR=20								
FINES				SKPbc	**SKPbc**	**11 30 34.4**	**-0.4**		
	comp=Z,24nm,0.7s,baz=64,slow=4.4,SNR=32								
LEIR	**Leirfjorden**	**132.45**	**347**	*e* PKPdf	**PKPdf**	**11 27 17.5**	**+0.5**		
LODK	**Lodwar**	**132.49**	**255**		**PKiKP**	**11 27 19.9**	**0.0**		
NRS	**Narsarsuaq**	**132.93**	**23**	*i* P	**PKPdf**	**11 27 16.5**	**-1.5**		
SOC	**Sochi**	**133.07**	**311**	*e* PKIKP	**PKPdf**	**11 27 18.2**	**-0.7**		
SOC				*e*		11 29 46.9			
SOC				*e*PPP	PPP	11 32 38.8			
SOC				*e*PS	PS	11 39 51.7	-14		
SOC				*e*SSS	SSS	11 52 21.2			
SOC				MLR	MLR				
	comp=Z,158nm,20.0s								
NSS	**Namsos**	**134.07**	**347**	*e* PKPdf	**PKPdf**	**11 27 20.7**	**+0.6**		
VSU	**Vasula**	**134.12**	**334**	*c i* PKIKP	**PKPdf**	**11 27 19.4**	**-0.9**		
VSU				pmax	pmax				
	comp=Z,102nm,1.7s								
ANN	**Anapa**	**134.37**	**313**	*i* PKIKP	**PKPdf**	**11 27 20.3**	**-1.0**		
ANN				pmax	pmax				
	comp=Z,27nm,0.8s								
MBAR	**Mbarara**	**134.69**	**247**	*c i* PKIKP	**PKiKP**	**11 27 24.6**	**+0.1**		
MBAR				pmax	pmax				
	comp=Z,37nm,1.3s								
MNK	**Minsk**	**135.97**	**329**	*i* PKiKP	**PKPdf**	**11 27 23.8**	**-0.1**		
	comp=E,36nm,1.0s								
MNK				*i* PKiKP	**PKPdf**	**11 27 23.8**	**-0.1**		
	comp=N,30nm,1.0s								
MNK				*i* PKiKP	**PKPdf**	**11 27 23.8**	**-0.1**		
	comp=Z,47nm,0.9s,baz=56								
MNK				*i* pPKiKP	**pPKPdf**	**11 27 51.2**	**-0.1**		
MNK				*i* sPKiKP	**sPKiKP**	**11 28 04.4**	**+1.2**		
MNK				*i* PP	**PP**	**11 29 56.8**	**-7.2**		
MNK				*i* SKP		11 30 41.4			
MNK				*i* PKS		11 30 58.0			
MNK				*i* PPP	PPP	11 33 00.3			
MNK				*i* SKS	SKSdf	11 34 38.6	+13		
MNK				*i* SS	**SS**	**11 47 55.5**	**+0.6**		
MNK				*i* SSS	SSS	11 52 03.9			
MNK	**Minsk**	**135.97**	**329**	*i* PKIKP	**PKPdf**	**11 27 23.8**	**-0.1**		
MNK				*i*		11 27 51.2			
MNK				*i*		11 28 04.4			
MNK				*i* PPP	PPP	11 33 00.2			
MNK				*i*		11 40 18.9			
MNK				*i* SS	SS	11 47 55.5	+0.6		
MNK				pmax	pmax				
	comp=E,36nm,1.0s								
MNK				pmax	pmax				
	comp=N,30nm,1.0s								
MNK				pmax	pmax				
	comp=Z,47nm,0.9s								
NACGM	**Naroch**	**136.26**	**330**	*e* PKP	**PKPdf**	**11 27 24.7**	**+0.3**		
	comp=Z,58nm,1.1s,baz=54								
MOL	**Molde**	**136.72**	**348**	*e* PKPdf	**PKPdf**	**11 27 25.8**	**+0.7**		
ASF	**Jabal al Asfar**	**136.83**	**295**	SKPbc	**SKPbc**	**11 30 50.1**	**0.0**		
	comp=Z,15nm,1.0s,baz=76,slow=4.2,SNR=6.7								
AKN	**Aaknes**	**137.19**	**348**	*e* PKPdf	**PKiKP**	**11 27 27.0**	**-0.9**		
AK03	**Malin Array Si**	**137.26**	**324**	PKP	**PKPdf**	**11 27 25.5**	**-1.0**		
AKASG	**Malin Array Be**	**137.27**	**324**	PKhKP	PKPpre	11 27 12.2			
	comp=Z,1.7nm,0.6s,baz=56,slow=3.5,SNR=4.3								
AKASG				PKP	**PKPdf**	**11 27 25.8**	**-0.7**		
	comp=Z,18nm,0.8s,baz=55,slow=1.7,SNR=35								
AKASG				PP	**PP**	**11 30 12.3**	**+0.1**		
	comp=Z,0.3nm,0.3s,baz=56,slow=6.0,SNR=5.1								
AKASG				SKPbc	**SKPbc**	**11 30 51.0**	**+0.4**		
	comp=Z,35nm,1.0s,baz=50,slow=3.0,SNR=36								
AKBB	**Malin Array Si**	**137.27**	**324**	*i* PKIKP	**PKPdf**	**11 27 27.0**	**+0.5**		
AKBB	**Malin Array Si**	**137.27**	**324**	PKP	**PKPdf**	**11 27 25.5**	**-1.0**		
AK09	**Malin Array Si**	**137.28**	**323**	PKP	**PKPdf**	**11 27 25.6**	**-0.9**		
AK01	**Malin Array Si**	**137.28**	**324**	PKP	**PKPdf**	**11 27 25.8**	**-0.7**		
KIEV	**Kiev**	**137.28**	**324**		**PKPdf**	**11 27 26.1**	**-0.4**		
KIEV	**Kiev**	**137.28**	**324**	||P	**PKPdf**	**11 27 25.6**	**-0.9**		
KIEV	**Kiev**	**137.28**	**324**	||P	**SKPbc**	**11 30 51.4**	**+0.8**		
KIEV	**Kiev**	**137.28**	**324**	||PKIKP	**PKPdf**	**11 27 25.6**	**-0.9**		
KIEV	**Kiev**	**137.28**	**324**	*i* P	**PKPdf**	**11 27 26.1**	**-0.4**		
	SNR=6.2								
KIEV	**Kiev**	**137.28**	**324**	PKP	**PKPdf**	**11 27 25.7**	**-0.9**		
NB2	**NORSAR Subarra**	**137.29**	**345**	pPKP	**SKPbc**	**11 30 49.5**	**-0.9**		
	comp=Z,76nm,1.7s,baz=28,slow=2.9								
NB2				PKP	PKPpre	11 27 17.0			
	comp=Z,59nm,2.0s,baz=13,slow=4.0								
NB2	**NORSAR Subarra**	**137.29**	**345**	PKP	PKPpre	11 27 17.0			
	baz=13,slow=4.0								
NOA	**NORSAR Array B**	**137.29**	**345**	PKhKP	PKPpre	11 27 16.2			
	comp=Z,1.2nm,0.5s,baz=32,slow=2.7,SNR=6.4								
NOA				PKP	**PKPdf**	**11 27 26.0**	**-0.3**		
	comp=Z,8.8nm,0.8s,baz=33,slow=1.9,SNR=9.7								
NOA				SKPbc	**SKPbc**	**11 30 49.5**	**-0.9**		
	comp=Z,5.1nm,0.9s,baz=18,slow=4.4,SNR=10.0								
AK21	**Malin Array Si**	**137.34**	**324**	PKP	**PKPdf**	**11 27 26.0**	**-0.6**		
HFS	**Hagfors**	**137.41**	**343**	PKhKP	PKPpre	11 27 12.9			
	comp=Z,2.2nm,0.6s,baz=61,slow=3.5,SNR=12								
HFS				PKP	**PKPdf**	**11 27 24.5**	**-2.0**		
	comp=Z,9.9nm,1.0s,baz=64,slow=2.4,SNR=10								
HFS				SKPbc	**SKPbc**	**11 30 49.9**	**-0.8**		
	comp=Z,14nm,0.9s,baz=64,slow=3.4,SNR=11								
NC602	**NORSAR Array S**	**137.47**	**344**	*e* PKPdf	**PKPdf**	**11 27 26.2**	**-0.3**		
MMAI	**Mount Meron Ar**	**138.03**	**296**	PKhKP	PKPpre	11 27 16.8			
	comp=Z,2.7nm,0.5s,baz=90,slow=2.0,SNR=9.6								
MMAI				PKP	**PKiKP**	**11 27 29.6**	**-1.0**		
	comp=Z,7.8nm,0.9s,baz=91,slow=5.8,SNR=4.0								
MMAI				SKP		11 30 54.6			
	comp=Z,40nm,1.1s,baz=59,slow=5.2,SNR=18								
SKAR	**Skarslia**	**138.28**	**347**	*e* PKPdf	**PKPdf**	**11 27 29.1**	**+0.9**		
BR131	**Keskin Array S**	**138.37**	**307**	*i* PKIKP	**PKPdf**	**11 27 28.9**	**-0.2**		
BRTR	**Keskin Array B**	**138.37**	**307**	PKhKP	PKPpre	11 27 18.6			
	comp=Z,1.8nm,0.6s,baz=142,slow=4.4,SNR=9.1								
BRTR				PKP	**PKPdf**	**11 27 28.9**	**-0.2**		
	comp=Z,6.2nm,0.6s,baz=151,slow=2.8,SNR=29								
BRTR				PP	**PP**	**11 30 20.6**	**+0.6**		
	comp=Z,1.3nm,0.9s,baz=81,slow=7.6,SNR=4.0								
BRTR				SKP		11 30 55.2			
	comp=Z,9.3nm,1.0s,baz=134,slow=3.6,SNR=12								
BRTR				SKKPbc	SKKPbc	11 39 36.5	-2.2		
	comp=Z,0.6nm,0.7s,baz=251,slow=4.0,SNR=4.9								
BR106	**Keskin Array S**	**138.38**	**307**	PKP	**PKPdf**	**11 27 29.3**	**+0.2**		
BR105	**Keskin Array S**	**138.39**	**307**	PKP	**PKPdf**	**11 27 29.2**	**+0.1**		
SUW	**Suwalki**	**138.47**	**331**	*e* PKP	**PKPdf**	**11 27 28.6**	**0.0**		
LUBAR	**Lubar, Ukraine**	**138.48**	**323**	PKP	**PKPdf**	**11 27 28.2**	**-0.5**		
EIL	**Elat**	**138.59**	**291**	PKP	**PKPdf**	**11 27 29.8**	**+0.2**		
	comp=Z,26nm,0.9s,baz=295,slow=0.4,SNR=19								
EIL				SKP		11 30 56.6			
	comp=Z,26nm,1.2s,baz=347,slow=2.0,SNR=7.4								
RNPP9	**Sopachiv**	**138.69**	**326**	PKP	**PKPdf**	**11 27 28.6**	**-0.5**		
RNPP8	**Varash**	**138.75**	**326**	PKP	**PKPdf**	**11 27 28.8**	**-0.4**		
RNPP5	**Staryi Chortor**	**138.80**	**326**	PKP	**PKPdf**	**11 27 29.3**	**0.0**		
ANTO	**Ankara**	**138.97**	**307**		**PKPdf**	**11 27 29.9**	**-0.2**		
ANTO	**Ankara**	**138.97**	**307**	||P	**PKiKP**	**11 27 31.6**	**-0.7**		
ANTO	**Ankara**	**138.97**	**307**	||PKIKP	**PKiKP**	**11 27 31.6**	**-0.7**		
ANTO	**Ankara**	**138.97**	**307**	PKP	**PKPdf**	**11 27 30.4**	**+0.3**		
SORM	**Soroca**	**139.00**	**321**	||P	PKPpre	11 27 21.8			
SORM	**Soroca**	**139.00**	**321**	||P	**SKPbc**	**11 30 56.0**	**+0.4**		
SORM	**Soroca**	**139.00**	**321**	||PKHKP	PKPpre	11 27 21.8			
SORM	**Soroca**	**139.00**	**321**	PKP	**PKPdf**	**11 27 29.1**	**-0.6**		
STRU	**Stroemstad**	**139.03**	**343**	*i* P	**PKPdf**	**11 27 23.6**	**-5.9**		
KIS	**Kishinev**	**139.23**	**319**	*e* PKP	**PKPdf**	**11 27 28.0**	**-2.2**		
KIS	**Kishinev**	**139.23**	**319**	*i* PP	PP	11 30 43.0	+18		
KIS				*i* SKP		11 30 56.0			
KIS				*e*L	L	12 51 26.0			
KIS				LRM	MLR	12 53 10.0			
	comp=Z,300nm,15.5s								
KIS	**Kishinev**	**139.23**	**319**	*e* PKIKP	**PKPdf**	**11 27 28.0**	**-2.2**		
MILM	**Milestii Mici**	**139.27**	**319**	*i* PKP	**PKPdf**	**11 27 29.0**	**-1.3**		
	comp=Z,120nm,1.7s								
MILM	**Milestii Mici**	**139.27**	**319**	*i* PP	PP	11 30 41.0	+16		
MILM				*e*L	L	12 50 31.0			
MILM				LRM	MLR	12 53 05.0			
	comp=Z,600nm,17.0s								
MILM	**Milestii Mici**	**139.27**	**319**	||P	**PKPdf**	**11 27 31.3**	**+1.0**		
MILM	**Milestii Mici**	**139.27**	**319**	*d* PKIKP	**PKPdf**	**11 27 29.0**	**-1.3**		
MILM				pmax	pmax				
	comp=Z,120nm,1.7s								
BORU	**Boraas**	**139.76**	**341**	*i* P	PKPpre	11 27 22.9			
BLEU	**Blekinge**	**139.83**	**338**	*i* P	PKPpre	11 27 23.3			
ONAU	**Onsala**	**140.22**	**342**	*i* P	PKPpre	11 27 25.5			
FABU	**Falk

MDVR	**Moldovita**	**144.64 320**	⇑P		**PKPpre**	11 31 11.1		
VRAC	**Vranov**	**144.66 329**	*e*PKP		**PKPab**	**11 27 38.8**	**0.0**
VRAC	**Vranov**	**144.66 329**	SKPbc		**SKiKP**	**11 31 10.7**	**+0.1**
	comp=Z,4.9nm,0.9s,baz=157,slow=1.3,SNR=4.8							
VRAC	**Vranov**	**144.66 329**	⇓P		**PKPdf**	**11 27 39.4**	**-0.5**
VRAC	**Vranov**	**144.66 329**	⇓PKIKP		**PKPdf**	**11 27 39.4**	**-0.5**
PLNA	**Plana**	**144.68 315**	*e*P		**PKPdf**	**11 27 40.6**	**+0.3**
PVCC	**Panska Ves**	**144.70 333**	*e*PKP		PKPbc	11 27 39.4	+0.4
PVCC			*e*SKP			11 31 11.1		
PVCC	**Panska Ves**	**144.70 333**	*e*PKIKP		PKPbc	11 27 39.4	+0.4
BRG	**Berggiesshubel**	**144.71 333**	⇓*i*PKP		PKPbc	11 27 39.2	+0.2
BRG			Amp			11 27 39.9		
	comp=Z,120nm,0.6s							
BRG	**Berggiesshubel**	**144.71 333**	P		**PKiKP**	**11 27 45.6**	**+2.0**
BRG			Amp			11 27 47.4		
	comp=Z,26nm,0.7s							
BRG			pPKP		**pPKPdf**	**11 28 05.3**	**-1.9**
BRG			Amp			11 28 06.2		
	comp=Z,54nm,1.0s							
BRG	**Berggiesshubel**	**144.71 333**	P		PKiKP	11 28 18.8	+35	
BRG			Amp			11 28 19.5		
	comp=Z,24nm,0.8s							
BRG	**Berggiesshubel**	**144.71 333**	Amp			11 31 12.6		
	comp=Z,76nm,1.3s							
BRG			P		**SKPbc**	**11 31 10.9**	**+0.9**	
BRG	**Berggiesshubel**	**144.71 333**	Amp			11 31 15.4		
	comp=Z,36nm,1.4s							
BRG			P		**PKSdf**	**11 31 14.2**	**-1.0**	
VTS	**Vitosha**	**144.75 315**	*e*P		**PKPdf**	**11 27 40.9**	**+0.5**	
CLL	**Collm**	**144.76 335**	⇓*i*PKIKP		PKPbc	11 27 39.1	0.0	
CLL			pmax		pmax			
	comp=Z,134nm,0.7s							
SRO	**Srobarova**	**144.79 326**	*e*PKIKP		**PKPdf**	**11 27 40.3**	**+0.2**	
SRO	**Srobarova**	**144.79 326**	*e*PKP		**PKPdf**	**11 27 40.3**	**+0.2**	
MMB	**Musomishta**	**144.88 313**	*e*P		**PKPdf**	**11 27 40.4**	**-0.1**	
MMB	**Musomishta**	**144.88 313**	P		**PKPab**	**11 27 38.7**	**-1.2**	
RICC	**Richard**	**144.89 333**	*e*PKP		**PKPdf**	**11 27 40.0**	**-0.2**	
KRUC	**Moravsky**	**144.92 329**	*e*PKP		**PKPab**	**11 27 39.9**	**+0.2**	
MODS	**Modra-Piesok**	**144.96 328**	*e*PKIKP		PKPbc	11 27 39.6	-0.3	
MODS	**Modra-Piesok**	**144.96 328**	*e*PKP		PKPbc	11 27 39.6	-0.3	
MODS			*e*PP		PP	11 31 10.4	+11	
PGBU	**Glenifferbraes**	**144.98 354**	*e*P		PKPbc	11 27 37.9	-1.7	
GOPC	**GO Pecny, Ondr**	**145.06 332**	*e*PKP		**PKPab**	**11 27 40.2**	**0.0**	
GOPC	**GO Pecny, Ondr**	**145.06 332**	*e*PKIKP		**PKPab**	**11 27 40.2**	**0.0**	
PRA	**Prague**	**145.10 332**	*e*PKP		**PKPdf**	**11 27 40.7**	**+0.2**	
PRA	**Prague**	**145.10 332**	*e*PKIKP		**PKPdf**	**11 27 40.7**	**+0.2**	
PRU	**Pruhonice**	**145.11 332**	*e*PKP		**PKPbc**	**11 27 40.3**	**0.0**	
PRU			AMS		AMS	12 26 40.0		
	comp=Z,600nm,28.0s							
PRU	**Pruhonice**	**145.11 332**	*e*PKIKP		**PKPbc**	**11 27 40.3**	**0.0**	
PRU			MLR		MLR			
	comp=Z,600nm,28.0s							
SRS	**Serrai**	**145.16 313**	P		**PKPbc**	**11 27 39.8**	**-0.9**	
KKB	**Krupnik**	**145.16 314**	*e*P		**PKPdf**	**11 27 41.6**	**+0.6**	
KKB	**Krupnik**	**145.16 314**	P		**PKPbc**	**11 27 40.3**	**-0.5**	
APE	**Apeiranthos**	**145.22 305**	⇑P		**PKPbc**	**11 27 40.4**	**-0.7**	
APE	**Apeiranthos**	**145.22 305**	⇑PKIKP		**PKPbc**	**11 27 40.4**	**-0.7**	
BOVS	**Bovan**	**145.24 318**	⇑P		**PKPbc**	**11 27 40.9**	**0.0**	
BOVS	**Bovan**	**145.24 318**	⇑P		**SKPbc**	**11 31 11.9**	**+0.5**	
EKA	**Eskdalemuir Ar**	**145.31 353**	PKPbc		**PKPbc**	**11 27 40.1**	**-0.6**	
	comp=Z,86nm,0.5s,baz=356,slow=2.4,SNR=512							
EKA			SKPbc		**SKiKP**	**11 31 12.5**	**+0.8**	
	comp=Z,6.9nm,1.0s,baz=1.3,slow=3.8,SNR=4.4							
ESK	**Eskdalemuir**	**145.34 353**			**PKPdf**	**11 27 40.5**	**-0.3**	
ESK	**Eskdalemuir**	**145.34 353**	*e*P		**PKPdf**	**11 27 40.1**	**-0.7**	
ESK	**Eskdalemuir**	**145.34 353**	PKIKP		**PKPdf**	**11 27 40.5**	**-0.3**	
SOH	**Sokhos**	**145.45 312**	P		**PKPdf**	**11 27 40.0**	**-1.6**	
FRGS	**Fruska Gora**	**145.57 321**	⇓*i*P		**PKPdf**	**11 27 40.7**	**-0.9**	
PAIG	**Paliouri**	**145.59 311**	P		**PKPdf**	**11 27 40.7**	**-1.0**	
MORH	**Mrgy, Hungar**	**145.61 324**	⇑P		**PKPdf**	**11 27 41.4**	**-0.1**	
MORH	**Mrgy, Hungar**	**145.61 324**	⇓P		**SKPbc**	**11 31 13.3**	**+1.1**	
KNT	**Kendrikon**	**145.62 313**	P		**PKPdf**	**11 27 40.3**	**-1.5**	
NEWG	**New Galloway**	**145.64 354**	*e*P		**PKPdf**	**11 27 41.1**	**-0.2**	
EDMD	**Edmundbyers**	**145.66 352**	*e*P		**PKPdf**	**11 27 40.3**	**-1.1**	
ZVC	**Zvikov**	**145.67 332**	*e*PKP		**PKPab**	**11 27 42.5**	**0.0**	
HORT	**Hortiatis**	**145.72 312**	P		**PKPdf**	**11 27 40.5**	**-1.5**	
KARY	**Karystos**	**145.73 307**	P		**PKPdf**	**11 27 41.1**	**-0.9**	
AOS	**Alonnisos**	**145.74 310**	P		**PKPdf**	**11 27 39.8**	**-2.2**	
VAY	**Valandovo**	**145.77 314**	*i* P		**PKPdf**	**11 27 41.1**	**-0.8**	
KYMI	**Kymi, Euboea I**	**145.77 309**	P		**PKPdf**	**11 27 40.4**	**-1.7**	
THE	**Thessaloniki**	**145.80 312**	P		**PKPdf**	**11 27 40.5**	**-1.5**	
NKC	**Novy Kostel**	**145.82 334**	*e*PKP		**PKPab**	**11 27 42.9**	**-0.2**	
NKC	**Novy Kostel**	**145.82 334**	*e*PKP2		**PKPab**	**11 27 42.9**	**-0.2**	
CLGH	**Cloghs, Cushen**	**145.83 356**	*e*P		**PKPdf**	**11 27 41.4**	**-0.3**	
RONA	**Rosalia, Austr**	**145.90 328**	*i* PKP		**PKPdf**	**11 27 41.6**	**-0.5**	
	comp=Z,245nm,1.4s,SNR=134							
RONA			*i* PP		**PP**	**11 31 05.4**	**+0.8**	
	comp=Z,24nm,0.9s							
IDGL	**Inch Island, C**	**145.91 357**	PKPdf		**PKPdf**	**11 27 41.6**	**-0.2**	
IDGL	**Inch Island, C**	**145.91 357**	*e*P		**PKPdf**	**11 27 40.9**	**-0.8**	
GAL1	**Galloway**	**145.93 354**	*e*P		**PKPdf**	**11 27 40.2**	**-1.6**	
CONA	**Conrad Observa**	**145.96 328**	*i* PKP		**PKPdf**	**11 27 41.8**	**-0.4**	
	comp=Z,350nm,1.5s,SNR=202							
CONA			*e*PP		**PP**	**11 31 05.0**	**0.0**	
	comp=Z,34nm,1.2s							
KESW	**Keswick, Cumbr**	**146.04 353**	*e*P		**PKPdf**	**11 27 41.7**	**-0.4**	
CKRC	**Cesky Krumlov**	**146.07 331**	*e*PKP		**PKPdf**	**11 27 42.5**	**+0.2**	
CKRC	**Cesky Krumlov**	**146.07 331**	*e*PKP2		**PKPdf**	**11 27 42.5**	**+0.2**	
TEKS	**Tekeris**	**146.08 321**	*e*P		**PKPdf**	**11 27 41.5**	**-1.0**	
DION	**Dionisos Attik**	**146.09 308**	P		**PKPdf**	**11 27 41.3**	**-1.4**	
PTL	**Penteli**	**146.15 308**	P		**PKPdf**	**11 27 41.5**	**-1.3**	
KHC	**Kasperske Hory**	**146.17 332**	*e*PKP		**PKPbc**	**11 27 43.7**	**+0.1**	
KHC			*e*SKP			11 31 13.8		
KHC			AMS		AMS	12 28 30.0		
	comp=Z,500nm,28.9s							
KHC	**Kasperske Hory**	**146.17 332**	*i* PKIKP		**PKPdf**	**11 27 41.6**	**-0.9**	
IDI	**Anoyia**	**146.22 302**	PKPbc		**PKPbc**	**11 27 43.7**	**-0.6**	
	comp=Z,104nm,0.6s,baz=20,slow=5.3,SNR=50							
IDI			SKPbc		**SKiKP**	**11 31 16.0**	**+1.7**	
	comp=Z,20nm,0.9s,baz=331,slow=1.6,SNR=3.8							
SKO	**Skopje**	**146.22 315**	*i* P		**PKPdf**	**11 27 42.6**	**-0.1**	
ATHU	**Athens Univers**	**146.24 308**	P		**PKPdf**	**11 27 41.1**	**-1.8**	
GERES	**GERESS Array B**	**146.32 331**	PKPbc		**PKPbc**	**11 27 44.2**	**+0.1**	
	comp=Z,70nm,0.6s,baz=143,slow=0.7,SNR=241							
GERES			SKPbc		**SKiKP**	**11 31 14.6**	**+0.4**	
	comp=Z,6.6nm,0.8s,baz=75,slow=1.5,SNR=6.9							
HPK	**Haverah Park**	**146.46 351**	*e*P		**PKPdf**	**11 27 42.6**	**-0.2**	
SJES	**Sjenica**	**146.51 318**	⇓*i*P		**PKPdf**	**11 27 43.0**	**-0.3**	
BBLS	**Lazi&#263i**	**146.53 320**	⇓*i*P		**PKPdf**	**11 27 43.0**	**-0.3**	
LKR	**Lokris**	**146.57 309**	P		**PKPdf**	**11 27 41.1**	**-2.3**	
ARSA	**Arzberg**	**146.59 328**	*i* PKP		**PKPdf**	**11 27 42.7**	**-0.6**	
	comp=Z,17nm,0.9s,SNR=24							
ARSA			*e*PP		**PP**	**11 31 11.3**	**+2.6**	
	comp=Z,2.8nm,0.9s							
RUDO	**Rudo**	**146.69 319**	*e*P		**PKPbc**	**11 27 44.8**	**-0.5**	
GRFO	**Grafenberg**	**146.74 335**			**PKPdf**	**11 27 43.5**	**+0.1**	
GRFO	**Grafenberg**	**146.74 335**	PKIKP		**PKPdf**	**11 27 43.5**	**+0.1**	
MOA	**Molln**	**146.78 330**	*i* PKP		**PKPdf**	**11 27 43.0**	**-0.6**	
	comp=Z,66nm,1.8s,SNR=67							
MOA			*e*PP		**PP**	**11 31 10.6**	**+0.9**	
	comp=Z,11nm,1.4s							
ILTH	**Belurgan, Co L**	**146.89 356**	PKPdf		**PKPdf**	**11 27 42.4**	**-1.0**	
OHR	**Ohrid**	**147.06 314**	*i* P		**PKPdf**	**11 27 44.5**	**+0.2**	
BIOA	**Bad Ischl, Aus**	**147.19 330**	*i* PKP		**PKPdf**	**11 27 43.2**	**-1.0**	
	comp=Z,91nm,1.5s,SNR=41							
BIOA			*e*PP		**PP**	**11 31 15.0**	**+2.9**	
	comp=Z,8.8nm,1.0s							
UPM	**Unac-Piva**	**147.20 319**	⇓*i*P		**PKPbc**	**11 27 46.3**	**-0.7**	
PERS	**Pernice**	**147.21 327**	*i* PKPdf		**PKPdf**	**11 27 43.4**	**-0.9**	
PERS			*i* PKPbc		**PKPbc**	**11 27 46.4**	**-0.4**	
SOKA	**Soboth**	**147.22 327**	*i* PKP		**PKPdf**	**11 27 43.4**	**-1.0**	
	comp=Z,63nm,1.5s,SNR=112							
SOKA			*i* PP		**PP**	**11 31 14.6**	**+2.1**	
	comp=Z,23nm,1.3s							
A051A	**Mrakovica**	**147.31 323**	⇓*i*P		**PKPdf**	**11 27 43.8**	**-0.8**	
BLY	**Banja Luka**	**147.32 323**	⇓*i*P		**PKPdf**	**11 27 43.8**	**-0.7**	
PDG	**Podgorica**	**147.40 318**	⇓*i*P		**PKPdf**	**11 27 43.7**	**-1.0**	
PDG	**Podgorica**	**147.40 318**	⇓P		**PKPbc**	**11 27 47.1**	**-0.2**	
DRME	**Dracevica, Mon**	**147.57 317**	⇓*i*P		**PKPdf**	**11 27 44.0**	**-1.0**	
CRES	**Cresnjevec Ost**	**147.58 326**	⇓*i*P		**PKPdf**	**11 27 44.4**	**-0.5**	
OBKA	**Obir**	**147.58 328**	⇓*i*P		**PKPdf**	**11 27 43.8**	**-1.2**	
OBKA	**Obir**	**147.58 328**	*i* PKP		**PKPdf**	**11 27 44.0**	**-1.0**	
	comp=Z,34nm,1.5s,SNR=28							
OBKA			*e*PP		**PP**	**11 31 17.9**	**+3.4**	
	comp=Z,7.8nm,0.9s							
BRY	**Bratogost**	**147.59 319**	⇓*i*P		**PKPbc**	**11 27 47.4**	**-0.6**	
CWF	**Charnwood Fore**	**147.59 350**	*e*P		**PKPdf**	**11 27 44.2**	**-0.5**	
IGLA	**Glengowla, Co**	**147.62 359**	PKPdf		**PKPdf**	**11 27 43.5**	**-1.2**	
IGLA	**Glengowla, Co**	**147.62 359**	*e*P		**PKPdf**	**11 27 44.0**	**-0.7**	
DSB	**Dublin**	**147.68 356**	PKPdf		**PKPdf**	**11 27 43.7**	**-1.1**	
FOEL	**Foel Wylfa**	**147.72 352**	*e*P		**PKPdf**	**11 27 44.9**	**-0.1**	
BEBN	**Eben Emael**	**147.77 341**	*d*PKPdf		**PKPdf**	**11 27 44.7**	**-0.3**	
KBA	**Koelnbreinsper**	**147.77 329**	*i* PKP		**PKPdf**	**11 27 45.0**	**-0.4**	
	comp=Z,139nm,1.1s							
KBA			*e*PP		**PP**	**11 31 16.3**	**+0.6**	
	comp=Z,16nm,1.3s							
ELMS	**Elmsett, Ipswi**	**147.78 347**	*e*P		**PKPdf**	**11 27 45.1**	**+0.1**	
BTNL	**Ternell**	**147.82 340**	*d*PKPdf		**PKPdf**	**11 27 44.4**	**-0.8**	
BTNL			*d*PKP		**PKPbc**	**11 27 48.1**	**-0.1**	
LESA	**Schwarzleotal**	**147.83 330**	*i* PKP		**PKPdf**	**11 27 44.3**	**-1.1**	
	comp=Z,75nm,1.8s,SNR=108							
LESA			*e*PP		**PP**	**11 31 15.9**	**0.0**	
	comp=Z,11nm,1.0s							
MEM	**Membach**	**147.83 341**	*d*PKPdf		**PKPdf**	**11 27 44.9**	**-0.3**	
MEM			*d*PKP		**PKPbc**	**11 27 47.9**	**-0.2**	
A050A	**Klekovaca**	**147.85 323**	⇓*i*P		**PKPdf**	**11 27 44.5**	**-1.0**	
HCY	**Herceg Novi**	**147.87 318**	⇓*i*P		**PKPbc**	**11 27 48.1**	**-0.5**	
BOJS	**Bojanci**	**147.90 326**	⇓*i*P		**PKPdf**	**11 27 44.9**	**-0.5**	
BOJS	**Bojanci**	**147.90 326**	*i* PKPdf		**PKPdf**	**11 27 45.1**	**-0.3**	
BOJS			*e*PKPbc		**PKPbc**	**11 27 48.9**	**+0.4**	
LJU	**Ljubljana**	**147.91 327**	*e*PKPdf		**PKPdf**	**11 27 44.9**	**-0.5**	
LJU			*i* PKPbc		**PKPbc**	**11 27 48.5**	**-0.1**	
MYKA	**Terra Mystica**	**147.95 328**	*i* PKP		**PKPdf**	**11 27 44.9**	**-0.7**	
	comp=Z,60nm,0.6s,SNR=38							
MYKA			*i* PP		**PP**	**11 31 16.9**	**+0.2**	
	comp=Z,20nm,1.3s							
BSTI	**Sart Tilman**	**147.99 341**	*d*PKPdf		**PKPdf**	**11 27 45.3**	**-0.1**	
BSTI			*d*PKP		**PKPbc**	**11 27 48.5**	**-0.1**	
HLM1	**Long Mynd**	**148.04 352**	*e*P		**PKPdf**	**11 27 45.1**	**-0.4**	
BHOU	**Houvegnez**	**148.06 340**	*d*PKPdf		**PKPdf**	**11 27 45.9**	**+0.3**	
STON	**Ston**	**148.12 320**	⇓*i*P		**PKPbc**	**11 27 47.9**	**-1.3**	
UCC	**Uccle**	**148.15 343**	*d*PKPdf		**PKPdf**	**11 27 45.4**	**-0.3**	
UCC			*d*PKP		**PKPbc**	**11 27 49.0**	**0.0**	
CEY	**Cerknica**	**148.17 327**	⇓*i*P		**PKPdf**	**11 27 45.3**	**-0.6**	
CADS	**Cadrg**	**148.18 328**	*i* PKPdf		**PKPdf**	**11 27 44.6**	**-1.3**	
CADS			*i* PKPbc		**PKPbc**	**11 27 48.4**	**-0.9**	
BCLA	**Clavier**	**148.22 341**	*d*PKPdf		**PKPdf**	**11 27 44.9**	**-0.9**	
BCLA			*d*PKP		**PKPbc**	**11 27 48.9**	**-0.3**	
BGES	**Gesves**	**148.31 341**	*d*PKPdf		**PKPdf**	**11 27 45.7**	**-0.2**	
BGES			*d*PKP		**PKPbc**	**11 27 48.8**	**-0.7**	
WATA	**Walderalm**	**148.40 331**	*i* PKP		**PKPdf**	**11 27 45.6**	**-0.8**	
	comp=Z,37nm,0.9s,SNR=36							
WATA			*e*PP		**PP**	**11 31 19.3**	**0.0**	
	comp=Z,5.5nm,0.6s							
ABTA	**Abfaltersbach**	**148.41 330**	*i* PKP		**PKPdf**	**11 27 45.0**	**-1.4**	
	comp=Z,112nm,1.6s,SNR=49							
ABTA			*e*PP		**PP**	**11 31 17.7**	**-1.6**	
	comp=Z,14nm,1.1s							
WTTA	**Wattenberg**	**148.43 331**	*i* PKP		**PKPdf**	**11 27 45.8**	**-0.7**	
	comp=Z,99nm,1.5s,SNR=43							
WTTA			*e*PP		**PP**	**11 31 18.3**	**-1.2**	
	comp=Z,16nm,1.2s							
BMRD	**Maredsous**	**148.48 342**	*d*PKPdf		**PKPdf**	**11 27 45.5**	**-0.7**	
BMRD			*d*PKP		**PKPbc**	**11 27 49.6**	**-0.2**	
SKDS	**Skadanscina**	**148.51 327**	⇓*i*P		**PKPdf**	**11 27 45.3**	**-1.2**	
IWEX	**Carrickbyrne,**	**148.57 356**	PKPdf		**PKPdf**	**11 27 45.3**	**-1.0**	
IWEX	**Carrickbyrne,**	**148.57 356**	*e*P		**PKPdf**	**11 27 45.7**	**-0.6**	
MOTA	**Moosalm**	**148.60 332**	*i* PKP		**PKPdf**	**11 27 45.9**	**-0.9**	
	comp=Z,218nm,1.1s,SNR=78							
MOTA			*i* PP		**PP**	**11 31 19.4**	**-1.0**	
	comp=Z,18nm,1.5s							
WLF	**Walferdange**	**148.61 340**	*d*PKPdf		**PKPdf**	**11 27 47.0**	**+0.5**	
RETA	**Reute**	**148.64 332**	*i* PKP		**PKPdf**	**11 27 46.1**	**-0.6**	
	comp=Z,33nm,0.6s,SNR=43							
RETA			*e*PP		**PP**	**11 31 16.9**	**-3.7**	
	comp=Z,10nm,1.5s							
SQTA	**Sankt Quirin**	**148.65 332**	*i* PKP		**PKPdf**	**11 27 45.9**	**-0.8**	
	comp=Z,92nm,0.6s,SNR=88							
SQTA			*e*PP		**PP**	**11 31 19.9**	**-0.8**	
	comp=Z,9.4nm,1.5s							
MONM	**Monmouth**	**148.69 351**	*e*P		**PKPdf**	**11 27 45.7**	**-0.8**	
DOU	**Dourbes**	**148.71 342**	*d*PKPdf		**PKPdf**	**11 27 45.1**	**-1.5**	
DOU			*d*PKP		**PKPbc**	**11 27 50.0**	**-0.5**	
BFO	**Black Forest**	**148.97 336**			**PKPdf**	**11 27 46.9**	**-0.3**	
BFO	**Black Forest**	**148.97 336**	PKIKP		**PKPdf**	**11 27 46.9**	**-0.3**	
FETA	**Feichten**	**149.01 332**	*i* PKP		**PKPdf**	**11 27 47.1**	**-0.3**	
	comp=Z,220nm,1.4s,SNR=93							
FETA			*e*PP		**PP**	**11 31 20.7**	**-2.2**	
	comp=Z,11nm,1.5s							
VAL	**Valentia**	**149.11 0**	PKPdf		**PKPbc**	**11 27 50.6**	**-0.8**	
SCTE	**Santa Cesarea**	**149.11 314**			**PKPbc**	**11 27 51.9**	**+0.1**	
DAVA	**Damuels**	**149.18 333**	*i* PKP		**PKPdf**	**11 27 47.2**	**-0.5**	
	comp=Z,168nm,1.4s,SNR=56							
DAVA			*i* PP		**PP**	**11 31 24.8**	**+1.1**	
	comp=Z,14nm,1.2s							
MATE	**Matera**	**149.97 317**	⇓P		**PKPbc**	**11 27 53.7**	**-0.2**	
SBD	**Saint Breward**	**150.18 353**	*e*P		**PKPdf**	**11 27 48.4**	**-0.6**	
CCA1	**Carnmenellis**	**150.61 354**	*e*P		**PKPdf**	**11 27 49.5**	**-0.1**	
TIP	**Timpagrande**	**150.70 314**	⇑P		**PKPbc**	**11 27 55.9**	**+0.1**	
VAE	**Valguarnera**	**153.15 313**	PKP		**PKPdf**	**11 27 54.0**	**+0.1**	
	comp=Z,5.4nm,0.5s,baz=329,slow=8.6,SNR=6.3							
VAE			PKPbc		**PKPbc**	**11 28 01.2**	**-0.2**	
	comp=Z,13nm,0.8s,baz=104,slow=8.8,SNR=3.8							
KEST	**Kesra**	**157.52 315**	PKP		**PKPdf**	**11 28 00.1**	**+0.2**	
	comp=Z,7.5nm,0.9s,baz=208,slow=1.4,SNR=19							
KEST			PKPbc		PKPbc	11 28 11.0		
	comp=Z,5.1nm,0.7s,baz=30,slow=5.1,SNR=5.2							
KEST			PKPab		**PKPab**	**11 28 32.7**	**+0.6**	
	comp=Z,41nm,1.0s,baz=325,slow=4.1,SNR=16							
PGAV	**Gavieira, Arco**	**159.03 356**	*e*PKPdf		**PKPdf**	**11 28 00.8**	**-0.7**	
PGAV			*e*PKPab		**PKPab**	**11 28 38.3**	**-0.1**	
PBRG	**Braganca**	**159.06 353**	*e*PKPdf		**PKPdf**	**11 28 00.7**	**-0.8**	
PBRG			*e*PKPab		**PKPab**	**11 28 38.4**	**-0.1**	
PCAB	**Cabril**	**159.27 356**	*e*PKPdf		**PKPdf**	**11 28 01.7**	**0.0**	
PCAB			*e*PKPab		**PKPab**	**11 28 39.2**	**-0.1**	
POLO	**Lamas de Olo**	**159.59 355**	*e*PKPdf		**PKPdf**	**11 28 01.6**	**-0.6**	
POLO			*e*PKPab		**PKPab**	**11 28 40.6**	**-0.2**	
PVRL	**Vila Real**	**159.68 355**	*e*PKPdf		**PKPdf**	**11 28 02.2**	**0.0**	
PVRL			*e*PKPab		**PKPab**	**11 28 41.2**	**0.0**	
MVO	**Moncorvo**	**159.72 353**	*e*PKPdf		**PKPdf**	**11 28 01.8**	**-0.6**	
MVO			*e*PKPab		**PKPab**	**11 28 41.3**	**-0.1**	
PVIS	**Viseu**	**160.25 355**	*e*PKPdf		**PKPdf**	**11 28 02.1**	**-0.8**	
PVIS			*e*PKPab		**PKPab**	**11 28 43.5**	**-0.1**	
MTE	**Manteigas**	**160.53 354**	*e*PKPdf		**PKPdf**	**11 28 02.6**	**-0.7**	
MTE			*e*PKPab		**PKPab**	**11 28 44.8**	**-0.2**	
ESDC	**Sonseca Array**	**160.65 346**	PKP		**PKPdf**	**11 28 02.1**	**-1.3**	
	comp=Z,6.3nm,1.1s,baz=348,slow=3.0,SNR=29							
ESDC			PKPab		**PKPab**	**11 28 44.9**	**-0.5**	
	comp=Z,6.9nm,0.7s,baz=11,slow=4.2,SNR=28							
ESDC			PP		**PP**	**11 32 27.8**	**+0.4**	
	comp=Z,0.9nm,1.0s,baz=61,slow=5.3,SNR=5.1							
COI	**Coimbra**	**160.79 356**	*e*PKPdf		**PKPdf**	**11 28 03.0**	**-0.5**	
COI			*e*PKPab		**PKPab**	**11 28 46.3**	**+0.4**	
PAB	**San Pablo**	**160.86 346**			**PKPdf**	**11 28 03.6**	**-0.1**	
PAB	**San Pablo**	**160.86 346**	PKIKP		**PKPdf**	**11 28 03.6**	**-0.1**	
PCAS	**Casmilo, Conde**	**160.95 356**	*e*PKPdf		**PKPdf**	**11 28 01.4**	**-2.3**	
PCAS			*e*PKPab		**PKPab**	**11 28 45.3**	**-1.3**	
PCBR	**Castelo Branco**	**161.08 354**	*e*PKPab		**PKPab**	**11 28 47.1**	**-0.1**	
PSARD	**Sardoal**	**161.38 355**	*e*PKPdf		**PKPdf**	**11 28 03.5**	**-0.7**	
PSARD			*e*PKPab		**PKPab**	**11 28 48.5**	**0.0**	
PMRV	**Marv??o**	**161.48 353**	*e*PKPdf		**PKPdf**	**11 28 03.7**	**-0.6**	
PMRV			*e*PKPab		**PKPab**	**11 28 49.0**	**0.0**	
PSBE	**So Bento**	**161.50 357**	*e*PKPdf		**PKPdf**	**11 28 03.6**	**-0.7**	
PSBE			*e*PKPab		**PKPab**	**11 28 49.2**	**0.0**	
PMTG	**Montargil**	**161.91 355**	*e*PKPdf		**PKPdf**	**11 28 03.5**	**-1.1**	
PMTG			*e*PKPab		**PKPab**	**11 28 50.8**	**-0.1**	
PESTR	**Estremoz**	**162.05 354**	*e*PKPdf		**PKPdf**	**11 28 04.2**	**-0.6**	
PESTR			*e*PKPab		**PKPab**	**11 28 51.6**	**+0.1**	
PACT	**Alcochete**	**162.25 357**	*e*PKPdf		**PKPdf**	**11 28 04.6**	**-0.4**	
PACT			*e*PKPab		**PKPab**	**11 28 52.7**	**+0.4**	
LIS	**Lisbon**	**162.31 358**	*e*PKP		**PKPdf**	**11 28 04.8**	**-0.3**	
LIS	**Lisbon**	**162.31 358**	*e*PKPdf		**PKPdf**	**11 28 04.8**	**-0.3**	
EVO	**Evora**	**162.43 355**	*e*PKPdf		**PKPdf**	**11 28 04.8**	**-0.4**	
EVO			*e*PKPab		**PKPab**	**11 28 53.2**	**+0.1**	
PBAR	**Barrancos**	**162.67 352**	*e*PKPdf		**PKPdf**	**11 28 05.0**	**-0.5**	
PBAR			*e*PKPab		**PKPab**	**11 28 54.4**	**+0.1**	
PBEJ	**Beja**	**162.91 354**	*e*PKPdf		**PKPdf**	**11 28 05.2**	**-0.5**	
PBEJ			*e*PKPab		**PKPab**	**11 28 55.7**	**+0.4**	
MESJ	**Messejana**	**163.13 355**	*e*PKP		**PKPdf**	**11 28 05.5**	**-0.4**	
PCVE	**Castro Verde**	**163.32 354**	*e*PKPdf		**PKPdf**	**11 28 05.7**	**-0.5**	
PCVE			*e*PKPab		**PKPab**	**11 28 57.6**	**+0.6**	
PTEO	**Sao Teotonio**	**163.46 356**	*e*PKPdf		**PKPdf**	**11 28 06.0**	**-0.3**	
PTEO			*e*PKPab		**PKPab**	**11 28 58.3**	**+0.6**	
PVAQ	**Vaqueiros**	**163.51 353**	*e*PKPdf		**PKPdf**	**11 28 05.6**	**-0.7**	
PVAQ			*e*PKPab		**PKPab**	**11 28 58.4**	**+0.4**	
MORF	**Marmelete**	**163.69 356**	*e*PKP		**PKPdf**	**11 28 06.2**	**-0.3**	
MORF	**Marmelete**	**163.69 356**	*e*PKPdf		**PKPdf**	**11 28 06.3**	**-0.3**	
MORF			*e*PKPab		**PKPab**	**11 28 59.2**	**+0.4**	
PBDV	**Barranco-do-Ve**	**163.70 354**	*e*PKPdf		**PKPdf**	**11 28 06.3**	**-0.2**	
PBDV			*e*PKPab		**PKPab**	**11 28 59.5**	**+0.7**	
PFVI	**Vila Bisbo**	**163.88 356**	*e*PKPdf		**PKPdf**	**11 28 06.2**	**-0.4**	
PFVI			*e*PKPab		**PKPab**	**11 29 00.1**	**+0.6**	
DBIC	**Dimbokro**	**164.89 200**			**PKPab**	**11 29 05.5**	**+0.9**	
DBIC	**Dimbokro**	**164.89 200**	PKP		**PKPdf**	**11 28 07.5**	**-0.7**	
	comp=Z,18nm,1.2s,baz=182,slow=3.5,SNR=6.2							

EDW2	**Edwards Air Fo**	**0.86**	**210**			**Pb**	**11 15 38.9**	**+0.1**
EDW2						**Sb**	**11 15 49.6**	**-0.9**
WASM	**Alta Sierra Ca**	**0.90**	**277**			**Sg**	**11 15 50.5**	**+0.2**
TPO	**Tropico Hills**	**0.98**	**220**			**Pn**	**11 15 40.9**	**-0.6**
SBB	**Saddle Back Bu**	**0.99**	**198**			**Pb**	**11 15 40.6**	**-0.2**
SHOC	**Shoshone, Teco**	**1.00**	**74**			**Pb**	**11 15 40.8**	**-0.4**
VTV	**Victorville**	**1.07**	**174**			**Pn**	**11 15 42.6**	**-0.3**
TEJ	**El Tejon**	**1.08**	**249**			**Pg**	**11 15 41.1**	**-1.0**
ADO	**Adelanto Recei**	**1.08**	**179**			**Pn**	**11 15 42.8**	**-0.1**
LRRC	**Littlerock Res**	**1.20**	**203**			**Sn**	**11 16 00.6**	**-0.3**
SPG2	**Springville 2**	**1.20**	**299**			**Pg**	**11 15 43.1**	**-1.3**
SPG2						**Sg**	**11 15 59.3**	**-0.7**
DSCC	**Desert Studies**	**1.21**	**113**			**Pg**	**11 15 43.0**	**-1.7**
DSCC						**Sg**	**11 15 59.9**	**-0.6**
THC	**Tehachapi Micr**	**1.22**	**234**			**Pg**	**11 15 43.9**	**-0.9**
HEC	**Hector,Ludlow**	**1.22**	**131**			**Pg**	**11 15 44.0**	**-0.9**
HEC						**Sb**	**11 16 00.6**	**-0.3**
CJV	**Casa Juvan**	**1.23**	**207**			**Pn**	**11 15 45.2**	**+0.1**
JNH	**Juniper Hills**	**1.25**	**199**			**Sn**	**11 16 02.5**	**0.0**
AMDNV	**Amargosa**	**1.26**	**49**			**Pg**	**11 15 45.0**	**-0.6**
TUQ	**Turquoise Moun**	**1.27**	**98**			**Pg**	**11 15 44.7**	**-1.1**
WCT	**Wildcat Mounta**	**1.34**	**30**			**Pn**	**11 15 45.7**	**-0.9**
GRAC	**Grapevine Rang**	**1.36**	**3**	Pg		**Pn**	**11 15 46.4**	**-0.5**
GRAC				IAML			11 16 09.2	
	comp=N,2µm,0.7s							
BAKC	**Calstate**	**1.37**	**258**			**Pb**	**11 15 47.1**	**-0.2**
CHFC	**Chilao Flat St**	**1.37**	**200**			**Pg**	**11 15 47.3**	**-0.4**
SIL	**Silver Peak**	**1.38**	**158**			**Pg**	**11 15 47.4**	**-0.5**
SGV	**South Grapevin**	**1.39**	**14**			**Pn**	**11 15 46.6**	**-0.8**
BFSC	**Mount Baldy Ra**	**1.40**	**187**			**Pn**	**11 15 47.1**	**-0.3**
BBRC	**Big Bear Solar**	**1.44**	**162**			**Pg**	**11 15 48.7**	**-0.3**
OSI	**Osito Audit: C**	**1.45**	**226**			**Pn**	**11 15 47.7**	**-0.3**
OSI				IAML			11 16 11.2	
	comp=E,1µm,0.9s							
OSI				IAML			11 16 11.4	
	comp=N,758nm,0.8s							
MWC	**Mount Wilson**	**1.49**	**199**			**Pn**	**11 15 48.3**	**-0.4**
MWC				IAML			11 16 12.4	
	comp=E,1µm,0.5s							
DECC	**Green Verdugo**	**1.55**	**208**			**Pn**	**11 15 49.1**	**-0.3**
PSRC	**Puddingstone R**	**1.56**	**190**			**Pb**	**11 15 49.8**	**-0.8**
PASC	**Pasadena Art C**	**1.57**	**202**			**Pn**	**11 15 49.4**	**-0.2**
PASC				IAML			11 16 17.5	
	comp=E,597nm,0.7s							
LCH	**Last Change Ra**	**1.60**	**355**			**Pn**	**11 15 49.9**	**-0.3**
GTM	**Goat Mountain**	**1.61**	**145**			**Pb**	**11 15 51.3**	**-0.2**
BCW	**Bitter Crk WRg**	**1.74**	**247**			**Pn**	**11 15 51.6**	**-0.4**
BCW				IAML			11 16 20.1	
	comp=E,977nm,0.8s							
BCW				IAML			11 16 31.0	
	comp=N,1µm,1.3s							
DSP	**Deep Springs**	**1.78**	**347**			**Pn**	**11 15 52.2**	**-0.4**
BHPR	**Bishop**	**1.86**	**334**			**Pb**	**11 15 55.7**	**-0.1**
MTUM	**Tungsten Hills**	**1.93**	**333**			**Pb**	**11 15 57.0**	**-0.1**
ELS	**Elsinore Mount**	**1.98**	**179**			**Pn**	**11 15 55.3**	**0.0**
ELS				IAML			11 16 27.2	
	comp=E,362nm,0.8s							
ELS				IAML			11 16 33.5	
	comp=N,712nm,0.5s							
SHPR	**Sheep Range**	**2.06**	**64**	Pn		**Pn**	**11 15 56.3**	**-0.2**
V12A	**Nelson**	**2.13**	**87**			**Pn**	**11 15 56.6**	**-0.8**
V12A				IAML			11 16 30.0	
	comp=N,327nm,0.5s							
PMD	**Palm Desert**	**2.17**	**155**			**Pg**	**11 16 01.8**	**-1.3**
PMD	**Palm Desert**	**2.17**	**155**	Pn		**Pn**	**11 15 56.9**	**-1.1**
PMD				IAML			11 16 31.4	
	comp=E,514nm,0.5s							
PMD				IAML			11 16 33.6	
	comp=N,330nm,0.5s							
PFO	**Pinyon Flats O**	**2.18**	**157**			**Pn**	**11 15 58.1**	**-0.1**
PFO				IAML			11 16 38.9	
	comp=N,369nm,1.3s							
PFO	**Pinyon Flats O**	**2.18**	**157**	Pn		**Pn**	**11 15 57.5**	**-0.6**
	comp=N,4.8nm,0.3s,baz=321,slow=8.1,SNR=14							
PFO				Pg		**Pb**	**11 16 01.6**	**+0.4**
	comp=N,18nm,0.3s,baz=339,slow=17,SNR=28							
PFO				Sn		**Sn**	**11 16 25.0**	**-0.4**
	comp=N,24nm,0.3s,baz=289,slow=14,SNR=5.7							
PFO				Lg	Lg		11 16 30.3	
	comp=N,153nm,0.3s,baz=69,slow=16,SNR=22							
	comp=N,45nm,0.4s							
S11A	**Rachel**	**2.44**	**34**			**Pn**	**11 16 01.5**	**-0.2**
S11A				IAML			11 16 46.4	
	comp=E,515nm,1.1s							
S11A				IAML			11 16 46.6	
	comp=N,447nm,1.3s							
TPH	**Tonopah**	**2.45**	**4**	Pn		**Pn**	**11 16 01.9**	**0.0**
PMPB	**Monarch Peak**	**2.77**	**283**			**Pn**	**11 16 06.1**	**-0.1**
NV11	**Mina Array Sit**	**2.85**	**349**	Pn		**Pn**	**11 16 07.0**	**-0.4**
NVAR	**Mina Array Bea**	**2.87**	**347**	Pn		**Pn**	**11 16 08.2**	**+0.4**
	comp=N,1.8nm,0.3s,baz=189,slow=33,SNR=3.8							
NVAR				Pg		**Pb**	**11 16 13.7**	**+0.6**
	comp=N,8.2nm,0.3s,baz=174,slow=15,SNR=9.0							
NVAR				Lg	Lg		11 16 51.6	
	comp=N,9.7nm,0.3s,baz=162,slow=32,SNR=3.5							
	comp=N,4.5nm,0.5s							
W13A	**Hualapai Mount**	**2.97**	**99**	Pn		**Pn**	**11 16 08.6**	**-0.6**
W13A				IAML			11 17 03.2	
	comp=N,152nm,0.8s							
W13A				IAML			11 17 08.8	
	comp=E,142nm,0.9s							
BLYC	**Blythe**	**3.06**	**127**			**Pn**	**11 16 08.7**	**-1.5**
BLYC				IAML			11 17 03.1	
	comp=E,265nm,1.1s							
TKX	**Tecate**	**3.14**	**167**			**Pn**	**11 16 11.1**	**-0.1**
TKX				IAML			11 17 00.1	
	comp=N,135nm,0.3s							
TKX				IAML			11 17 01.5	
	comp=E,259nm,0.3s							
GLA	**Glamis**	**3.37**	**139**			**Pn**	**11 16 13.0**	**-1.5**
LCMT	**Little Creek M**	**3.68**	**67**			**Pn**	**11 16 19.1**	**+0.3**
CCX	**Cicese**	**3.81**	**170**			**Pn**	**11 16 20.9**	**+0.5**
KNB	**Kanab**	**4.00**	**68**			**Pn**	**11 16 23.7**	**+0.5**
KNB				IAML			11 17 32.7	
	comp=N,66nm,1.2s							
KNB				IAML			11 17 42.3	
	comp=E,69nm,1.6s							
Y14A	**Wickenburg**	**4.04**	**113**			**Pn**	**11 16 22.9**	**-0.8**
Y14A				IAML			11 17 36.9	
	comp=E,125nm,0.8s							
113A	**Mohawk Valley,**	**4.19**	**132**			**Pn**	**11 16 23.8**	**-1.9**
113A				IAML			11 17 35.5	
	comp=N,60nm,0.9s							
X16A	**Lo Mia Camp, P**	**5.09**	**102**			**Pn**	**11 16 37.6**	**-0.6**
X16A				IAML			11 18 07.0	
	comp=E,61nm,1.1s							
X16A				IAML			11 18 25.9	
	comp=N,40nm,1.3s							
214A	**Organ Pipe Nat**	**5.33**	**132**	Pn		**Pn**	**11 16 39.5**	**-1.9**
214A				IAML			11 18 18.2	
	comp=E,41nm,0.8s							
214A				IAML			11 18 23.4	
	comp=N,37nm,1.3s							
ELK	**Elko**	**5.40**	**18**	Pn		**Pn**	**11 16 42.7**	**+0.2**
ELK	**Elko**	**5.40**	**18**	Pn		**Pn**	**11 16 43.0**	**+0.5**
	comp=N,0.6nm,0.3s,baz=198,slow=11,SNR=11							
ELK				Pg		**Pb**	**11 16 56.8**	**+0.7**
	comp=N,1.6nm,0.3s,baz=209,slow=16,SNR=12							
ELK				Lg	Lg		11 18 09.9	
	comp=N,3.8nm,0.3s,baz=119,slow=22,SNR=10							
	comp=N,1.5nm,0.3s							
X18A	**Snowflake**	**6.26**	**98**			**Pn**	**11 16 55.2**	**+0.9**
TUC	**Tucson**	**6.46**	**119**	Pn		**Pn**	**11 16 56.0**	**-1.0**
YBH	**Yreka Blue Hor**	**7.34**	**328**	Pn		**Pn**	**11 17 11.2**	**+2.1**
	baz=3.5,slow=5.7							
YBH				Pg		**Pb**	**11 17 27.0**	**-2.2**
	baz=140,slow=4.9,SNR=5.2							
YBH				Lg	Lg		11 19 10.2	
	baz=172,slow=6.1,SNR=4.2							
319A	**Douglas**	**8.04**	**120**	Pn		**Pn**	**11 17 18.9**	**+0.2**
AHID	**Auburn Hatcher**	**8.67**	**33**	Pn		**Pn**	**11 17 26.9**	**-0.4**
ANMO	**Albuquerque**	**9.03**	**91**	Pn		**Pn**	**11 17 34.1**	**+1.8**
	comp=N,0.1nm,0.3s,baz=253,slow=0.5,SNR=1.4							
ANMO				Pg			11 18 03.6	
	comp=N,0.1nm,0.3s,baz=4.7,slow=13,SNR=11							
ANMO				Lg	Lg		11 20 00.7	
	comp=N,0.1nm,0.3s,baz=125,slow=16,SNR=3.7							
	comp=N,0.3nm,0.3s							
PDAR	**Pinedale Array**	**9.40**	**38**	Pn		**Pn**	**11 17 40.2**	**+2.8**
	comp=N,0.2nm,0.3s,baz=250,slow=13,SNR=3.6							
	comp=N,0.2nm,0.3s							
TXAR	**Lajitas Array**	**13.23**	**114**	Pn		**Pn**	**11 18 31.4**	**+1.7**
	comp=N,0.1nm,0.3s,baz=292,slow=13,SNR=10.0							
	comp=N,0.2nm,0.4s							
ULM	**Lac du Bonnet**	**21.41**	**40**	P		**P**	**11 20 10.1**	**+0.4**
	comp=N,3.3nm,0.6s,baz=230,slow=10,SNR=9.0							
	comp=N,3.3nm,0.6s							
YKA	**Yellowknife Ar**	**26.95**	**3**	P		**P**	**11 21 04.0**	**+1.0**
	comp=N,0.3nm,0.7s,baz=187,slow=9.0,SNR=4.2							
	comp=N,0.3nm,0.7s							
SCHQ	**Schefferville**	**39.47**	**45**	P		**P**	**11 22 52.1**	**0.0**
	comp=N,3.4nm,0.9s,baz=219,slow=13,SNR=2.7							
	comp=N,3.4nm,0.9s							
PETK	**Petropavlovsk-**	**59.54**	**316**	P		**P**	**11 25 25.2**	**0.0**
	comp=N,1.2nm,1.0s,baz=86,slow=9.4,SNR=2.8							
	comp=N,1.2nm,1.0s							

*NEIC **06** 11:18:03.1±2.0, 35.683N±0.002×117.54W±0.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.5km az=109.0*

PAS 06 11:18:03.3±1.6, **35.687N**±0.006×**117.54W**±0.01, **h2**km±1km, **ML3.0**/22, **ML2.7**/48(NEIC), **Error ellipse: s-maj=1.3km s-min=1.0km az=94.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.14**	**341**		Pg	11 18 05.7	-0.3
SRTC	**Snort**	**0.17**	**272**		Pg	11 18 07.1	+0.5
CCCA	**Chr Cany lake**	**0.22**	**138**		Pg	11 18 08.0	+0.5
CCCA					Sg	11 18 11.1	+0.8
TOW	**Tower One**	**0.22**	**304**		Pg	11 18 07.5	0.0
LRMC	**Laurel Mtn Rad**	**0.24**	**209**		Pg	11 18 08.1	+0.3
LRMC					Sg	11 18 11.6	+0.7
LRMC				IAML		11 18 12.6	
	comp=E,2µm,0.2s						
WNMM	**Nine Mile Cany**	**0.33**	**298**		Pn	11 18 15.8	+0.6
WVPM	**Volcano Peak E**	**0.34**	**320**		Pg	11 18 09.4	-0.6
WVPM					Sg	11 18 15.9	+1.5
MPMC	**Manual Prospec**	**0.37**	**7**		Pg	11 18 09.9	-0.6
MPMC					Sg	11 18 16.4	+1.0
WRVM	**Rose V. Centra**	**0.43**	**319**		Pg	11 18 10.7	-0.9
DTP	**Desert Tortois**	**0.49**	**211**		Pg	11 18 12.7	0.0
MFS	**McCloud Flat S**	**0.50**	**329**		Pg	11 18 12.0	-0.9
WBSM	**Bird Springs**	**0.51**	**253**		Pg	11 18 12.9	-0.1
WBSM					Sg	11 18 20.3	+0.6
WORM	**Onyx Ranch**	**0.57**	**271**		Pg	11 18 14.3	+0.1
QSM	**Queen of Sheba**	**0.61**	**63**		Pg	11 18 15.1	0.0
QSM					Sg	11 18 23.1	+0.1
WHFM	**Hanning Flat**	**0.66**	**271**		Pg	11 18 16.0	+0.1
CCAC	**Calif City Air**	**0.66**	**216**		Pg	11 18 15.8	-0.1
CCAC	**Calif City Air**	**0.66**	**216**		Pg	11 18 25.1	+0.6
GSC	**Goldstone, Bar**	**0.71**	**122**		Pg	11 18 16.6	-0.4
GSC				IAML		11 18 26.6	
	comp=N,427nm,0.5s						
ISA	**Isabella, Lake**	**0.76**	**268**		Pg	11 18 17.6	-0.3
ISA				IAML		11 18 28.6	
	comp=E,363nm,0.5s						
ISA				IAML		11 18 31.3	
	comp=N,264nm,0.3s						
ISA	**Isabella, Lake**	**0.76**	**268**		Sg	11 18 28.3	+0.6
HYS	**Haystack Butte**	**0.82**	**182**		Pg	11 18 19.2	+0.2
HYS					Sg	11 18 29.4	-0.3
WASM	**Alta Sierra Ca**	**0.83**	**274**		Pg	11 18 19.1	-0.1
WASM					Sg	11 18 30.4	+0.5
GWY	**Greenwater Val**	**0.87**	**55**		Pg	11 18 20.0	+0.1
GWY				IAML		11 18 35.0	
	comp=E,318nm,0.5s						
GWY				IAML		11 18 38.1	
	comp=N,246nm,0.5s						
EDW2	**Edwards Air Fo**	**0.89**	**205**		Pg	11 18 19.9	-0.3
CGO	**Cerro Gordo**	**0.89**	**346**		Pb	11 18 21.6	-0.1
CGO					Sb	11 18 33.2	-0.9
RRX	**Edison Barstow**	**0.92**	**151**		Pg	11 18 20.7	-0.3
TPO	**Tropico Hills**	**0.98**	**215**		Pb	11 18 22.9	-0.2
SBB	**Saddle Back Bu**	**1.02**	**193**		Pg	11 18 22.6	-0.3
SHOC	**Shoshone, Teco**	**1.05**	**78**		Sb	11 18 37.9	-0.7
SPG2	**Springville 2**	**1.12**	**298**		Pg	11 18 23.2	-1.6
SPG2					Sg	11 18 39.1	-0.1
ADO	**Adelanto Recei**	**1.14**	**176**		Sb	11 18 41.4	+0.3
ARVC	**Arvin**	**1.19**	**242**		Pn	11 18 27.0	-0.1
LEOC	**Leona Valley**	**1.22**	**211**		Pg	11 18 26.7	-0.1
LRRC	**Littlerock Res**	**1.23**	**199**		Pg	11 18 26.6	-0.1
LRRC					Sg	11 18 43.0	+0.4
AMDNV	**Amargosa**	**1.28**	**53**		Pg	11 18 27.4	-0.3
AMDNV					Sb	11 18 44.7	-0.3
JNH	**Juniper Hills**	**1.28**	**195**		Pg	11 18 26.6	-1.2
JNH					Sg	11 18 44.8	+0.3
DSCC	**Desert Studies**	**1.29**	**114**		Pg	11 18 25.9	-2.1
HEC	**Hector,Ludlow**	**1.31**	**131**		Pg	11 18 26.6	-1.8
HEC					Sg	11 18 44.0	-1.3
GRAC	**Grapevine Rang**	**1.31**	**6**	Pg	Pg	11 18 27.5	-1.0
GRAC				IAML		11 18 51.7	
	comp=E,135nm,0.7s						
GRAC				IAML		11 18 53.3	
	comp=N,136nm,0.8s						
WCT	**Wildcat Mounta**	**1.33**	**34**		Pg	11 18 27.6	-1.2
WCT				IAML		11 18 47.8	
	comp=E,83nm,0.4s						
TUQ	**Turquoise Moun**	**1.34**	**100**		Pg	11 18 27.2	-1.8
SGV	**South Grapevin**	**1.35**	**18**		Sb	11 18 47.3	-0.1
CHFC	**Chilao Flat St**	**1.41**	**197**		Pn	11 18 28.5	-1.7
OSI	**Osito Audit: C**	**1.44**	**222**		Pn	11 18 30.2	-0.3
OSI				IAML		11 18 50.6	
	comp=E,91nm,0.6s						
OSI				IAML		11 18 56.2	
	comp=N,105nm,0.5s						
SIL	**Silver Peak**	**1.46**	**156**		Pn	11 18 30.5	-0.4
BBRC	**Big Bear Solar**	**1.51**	**160**		Sg	11 18 51.4	-0.4
MWC	**Mount Wilson**	**1.52**	**196**		Pn	11 18 30.2	-1.5
MWC				IAML		11 18 55.4	
	comp=N,127nm,0.5s						
DECC	**Green Verdugo**	**1.57**	**205**		Sg	11 18 53.9	+0.1
PASC	**Pasadena Art C**	**1.60**	**199**		Pn	11 18 31.4	-1.3
PASC	**Pasadena Art C**	**1.60**	**199**		Pn	11 18 31.2	-1.5
PASC				IAML		11 18 57.3	
	comp=N,42nm,0.4s						
PASC				IAML		11 18 58.6	
	comp=E,62nm,0.5s						
PSRC	**Puddingstone R**	**1.61**	**188**		Pg	11 18 34.3	+0.2
MTPC	**Mountain Pass**	**1.63**	**97**		Pn	11 18 31.5	-1.8
TPNV	**Topopah Spring**	**1.64**	**39**		Pn	11 18 31.9	-1.4
TPNV				IAML		11 18 57.9	
	comp=E,62nm,0.3s						
TPNV				IAML		11 19 00.6	
	comp=E,84nm,0.6s						
GTM	**Goat Mountain**	**1.70**	**145**		Pn	11 18 34.5	+0.4
GTM					Sn	11 18 56.3	-0.2
BCW	**Bitter Crk WRg**	**1.70**	**245**		Pn	11 18 32.6	-1.6
BCW				IAML		11 19 00.0	
	comp=E,93nm,0.9s						
BCW				IAML		11 19 10.8	
	comp=N,78nm,0.5s						
DSP	**Deep Springs**	**1.71**	**349**		Pn	11 18 33.5	-0.7
GMRC	**Granite Mounta**	**1.78**	**120**		Pn	11 18 32.5	-2.8
BREC	**Barre Substati**	**1.91**	**191**		Sn	11 19 00.4	-1.2
ELS	**Elsinore Mount**	**2.04**	**177**	Pn	Pn	11 18 37.4	-1.3
ELS				IAML		11 19 14.0	
	comp=E,41nm,0.5s						
POB	**Polly Butte**	**2.06**	**165**		Pn	11 18 37.6	-1.5
PFO	**Pinyon Flats O**	**2.25**	**156**	Pn	Pn	11 18 40.0	-1.7
LHV	**Little Huntoon**	**2.67**	**344**	Pn	Pn	11 18 47.1	-0.3
LHV				IAML		11 19 25.4	
	comp=E,21nm,2.2s						
YUH	**Yuha Desert**	**3.31**	**156**	Pn	Pn	11 18 54.2	-2.0
LCMT	**Little Creek M**	**3.71**	**68**	Pn	Pn	11 19 01.4	-0.4
LCMT				IAML		11 21 16.9	
	comp=E,8.8nm,4.3s						

*NEIC **06** 11:31:09.4±1.9, 35.933N±0.009×117.69W±0.01, h1km±1km, Error ellipse: s-maj=1.5km s-min=1.2km az=111.0*

PAS 06 11:31:09.9±1.5, **35.925N**±0.009×**117.70W**±0.01, **h1**km±1km, **ML3.2**/23, **ML3.1**/62(NEIC), **Error ellipse: s-maj=1.6km s-min=1.2km az=129.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.10**	**285**		Pg	11 31 12.1	+0.3
CLC	**China Lake**	**0.14**	**142**		Pg	11 31 12.7	+0.2
CLC					Sg	11 31 14.9	+0.5
WRVM	**Rose V. Centra**	**0.17**	**299**		Pg	11 31 13.5	+0.2
WNMM	**Nine Mile Cany**	**0.18**	**244**		Pg	11 31 13.8	+0.4
WNMM					Sg	11 31 16.9	+1.1
MPMC	**Manual Prospec**	**0.22**	**52**		Pg	11 31 14.3	+0.2
MPMC					Sg	11 31 17.7	+0.7
MFS	**McCloud Flat S**	**0.23**	**327**		Pg	11 31 14.5	+0.1
SRTC	**Snort**	**0.24**	**189**		Pg	11 31 15.1	+0.7
SRTC					Sg	11 31 19.6	+2.1
LRMC	**Laurel Mtn Rad**	**0.45**	**178**		Pg	11 31 17.9	-0.5
LRMC				IAML		11 31 25.2	
	comp=E,2µm,0.2s						
LRMC				IAML		11 31 26.0	
	comp=N,2µm,0.2s						
CCCA	**Chr Cany lake**	**0.48**	**145**		Pg	11 31 19.7	+0.5
CCCA					Sg	11 31 26.8	+1.4
WORM	**Onyx Ranch**	**0.49**	**243**		Pn	11 31 26.1	+2.0
WBSM	**Bird Springs**	**0.53**	**223**		Pg	11 31 20.0	+0.1
WHFM	**Hanning Flat**	**0.57**	**247**		Pg	11 31 20.9	0.0
WHFM					Sg	11 31 28.8	+0.4
CWC	**Cottonwood Cre**	**0.60**	**329**		Pb	11 31 22.4	-0.9
CGO	**Cerro Gordo**	**0.63**	**353**		Pg	11 31 22.7	+0.7
QSM	**Queen of Sheba**	**0.68**	**86**	Pg	Pg	11 31 22.6	-0.3
QSM					Sg	11 31 31.6	0.0
QSM				IAML		11 31 36.0	
	comp=N,2µm,0.5s						
ISA	**Isabella, Lake**	**0.68**	**248**		Pg	11 31 22.9	0.0
ISA				IAML		11 31 32.3	
	comp=N,1µm,0.4s						
ISA				IAML		11 31 33.1	
	comp=E,529nm,0.4s						
WASM	**Alta Sierra Ca**	**0.72**	**255**		Pg	11 31 23.6	-0.1
CCAC	**Calif City Air**	**0.81**	**198**		Pg	11 31 24.9	-0.5
CCAC				IAML		11 31 40.3	
	comp=N,797nm,0.4s						
CCAC				IAML		11 31 44.0	
	comp=E,576nm,1.2s						
GWY	**Greenwater Val**	**0.88**	**72**		Pg	11 31 26.0	-0.7
GWY					Sg	11 31 37.6	-0.5
GWY				IAML		11 31 39.1	
	comp=N,1µm,0.4s						
SPG2	**Springville 2**	**0.91**	**288**		Pg	11 31 26.8	-0.4
GSC	**Goldstone, Bar**	**0.96**	**130**		Pg	11 31 27.8	-0.5
GSC	**Goldstone, Bar**	**0.96**	**130**		Sg	11 31 40.9	+0.2
TEJ	**El Tejon**	**1.06**	**230**		Pg	11 31 29.5	-0.8
HYS	**Haystack Butte**	**1.06**	**174**		Pb	11 31 31.0	-0.1
GRAC	**Grapevine Rang**	**1.10**	**14**		Pg	11 31 30.5	-0.6
GRAC				IAML		11 31 46.8	
	comp=N,462nm,0.6s						
GRAC				IAML		11 31 50.5	
	comp=E,509nm,0.6s						
VES	**Vestal, Richgr**	**1.13**	**266**		Pg	11 31 31.4	0.0
TPO	**Tropico Hills**	**1.13**	**203**		Pg	11 31 30.5	-1.0
SHOC	**Shoshone, Teco**	**1.16**	**91**		Sg	11 31 47.5	+0.4
SGV	**South Grapevin**	**1.18**	**27**		Pg	11 31 32.4	-0.2
RRX	**Edison Barstow**	**1.20**	**151**		Pb	11 31 33.3	-0.1
ARVC	**Arvin**	**1.22**	**229**		Pg	11 31 33.1	-0.1
WCT	**Wildcat Mounta**	**1.23**	**45**		Pg	11 31 32.9	-0.6
WCT					Sg	11 31 49.0	-0.3
WCT				IAML		11 31 52.4	
	comp=N,214nm,0.6s						
WCT				IAML		11 31 54.9	
	comp=E,291nm,1.0s						
AMDNV	**Amargosa**	**1.26**	**65**		Pg	11 31 33.2	-0.9
AMDNV					Sg	11 31 50.4	-0.1
BAKC	**Calstate**	**1.28**	**244**		Pg	11 31 33.8	-0.6
BAKC					Sb	11 31 51.9	+0.2
LCH	**Last Change Ra**	**1.31**	**2**		Pg	11 31 34.7	-0.3
LCH					Sg	11 31 51.8	-0.1
GMN	**Gold Mountain**	**1.42**	**14**		Pn	11 31 36.5	-0.5
DSP	**Deep Springs**	**1.46**	**352**		Pn	11 31 36.6	-0.7
DSP				IAML		11 31 58.3	
	comp=E,182nm,0.8s						
JNH	**Juniper Hills**	**1.49**	**188**		Pg	11 31 38.8	+0.4
BHPR	**Bishop**	**1.51**	**336**		Pn	11 31 38.1	-0.2
DSCC	**Desert Studies**	**1.52**	**120**		Sn	11 31 58.4	-0.2
TUQ	**Turquoise Moun**	**1.53**	**108**		Pn	11 31 37.1	-1.4
TPNV	**Topopah Spring**	**1.55**	**48**		Pn	11 31 38.1	-0.7
TPNV				IAML		11 32 02.4	
	comp=E,348nm,0.9s						
TPNV				IAML		11 32 06.2	
	comp=E,244nm,0.6s						
HEC	**Hector,Ludlow**	**1.56**	**134**		Sn	11 31 59.8	0.0
MTUM	**Tungsten Hills**	**1.58**	**334**		Pn	11 31 39.5	+0.3
BFSC	**Mount Baldy Ra**	**1.68**	**179**		Pg	11 31 42.2	+0.1
BCW	**Bitter Crk WRg**	**1.71**	**235**		Pn	11 31 41.3	+0.4
BCW				IAML		11 32 09.8	
	comp=E,301nm,0.8s						
BCW				IAML		11 32 30.8	
	comp=N,230nm,1.0s						
SSK	**Sunset Peak**	**1.71**	**180**		Pg	11 31 42.6	-0.1
SIL	**Silver Peak**	**1.73**	**155**		Pb	11 31 42.8	+0.2
BBRC	**Big Bear Solar**	**1.78**	**159**		Pb	11 31 43.7	+0.3
CRGC	**Crocker Grade**	**1.78**	**248**		Pn	11 31 42.7	+0.8
MZP	**Montezuma Peak**	**1.79**	**8**		Pn

RTAL	**Retalhuleu**	**0.81**	**98**	S		**Sn**	**11 34 06.4**	**+0.6**
QUEO	**Labor Ovalle**	**1.00**	**77**	*e*P		**Pn**	**11 33 56.5**	**+0.5**
QUEO				*e*S		**Sn**	**11 34 11.1**	**+0.8**
QUEO				IAML			11 34 11.6	
	comp=E,3μm,0.2s							
SOKI	**Kika Raxquin**	**1.09**	**81**	*i* P		**Pn**	**11 33 58.1**	**+0.8**
SOKI				IAML			11 34 17.8	
	comp=N,2μm,0.5s							
STG8	**El Palmar, Qui**	**1.15**	**99**	*e*P		**Pn**	**11 33 54.4**	**-3.4**
STG8				IAML			11 34 10.4	
	comp=N,10μm,0.2s							
STG0	**El Palmar, Qui**	**1.16**	**101**	*e*P		**Pn**	**11 33 54.6**	**-3.3**
STG0				IAML			11 34 10.3	
	comp=E,20μm,0.2s							
HUEH	**Huehuetenango**	**1.19**	**55**	*e*P		**Pn**	**11 33 59.0**	**+0.7**
HUEH				*e*S		**Sn**	**11 34 15.9**	**+1.6**
HUEH	**Huehuetenango**	**1.19**	**55**	*e*P		**Pn**	**11 33 59.0**	**+0.7**
HUEH				*i* S		**Sn**	**11 34 16.9**	**+2.5**
HUEH				IAML			11 34 17.2	
	comp=E,3μm,0.4s							
HUEH	**Huehuetenango**	**1.19**	**55**	S		**Sn**	**11 34 17.2**	**+2.8**
HUEH	**Huehuetenango**	**1.19**	**55**	P		**Pn**	**11 33 59.2**	**+0.8**
PCIG		**1.25**	**327**	*e*P		**Pn**	**11 33 59.3**	**+0.4**
PCIG				*i* P			11 33 59.5	
PCIG				*e*S		**Sn**	**11 34 15.2**	**-0.3**
PCIG				*i* S			11 34 15.9	
ESSG	**Sabana Grande**	**1.65**	**99**	*i* P		**Pn**	**11 34 04.6**	**+0.4**
ESSG				IAML			11 34 25.6	
	comp=N,2μm,0.3s							
CCIG	**Comitan**	**1.67**	**13**	*e*P		**Pn**	**11 34 06.1**	**+1.5**
CCIG				*e*S		**Sn**	**11 34 23.5**	**-1.9**
CCIG	**Comitan**	**1.67**	**13**	*i* P		**Pn**	**11 34 06.1**	**+1.5**
CCIG				IAML			11 34 34.6	
	comp=N,884nm,0.3s							
CCIG	**Comitan**	**1.67**	**13**	P		**Pn**	**11 34 06.2**	**+1.7**
FG8	**Yepocapa, Chim**	**1.93**	**101**	*e*P		Pn	11 34 02.9	-5.1
FG16	**Alotenango, Sa**	**1.98**	**100**	*e*P		**Pn**	**11 34 04.6**	**-4.1**
FG16				IAML			11 34 26.6	
	comp=N,14μm,0.2s							
TGBT	**Tuxtla Gutierr**	**2.19**	**346**	*i* P		Pn	11 34 18.8	+7.5
TGBT				*e*S		**Sn**	**11 34 35.3**	**-2.3**
TGIG		**2.20**	**345**	*e*P		**Pn**	**11 34 11.4**	**-0.1**
TGIG				*e*S		**Sn**	**11 34 37.2**	**-0.7**
TGIG		**2.20**	**345**	*i* P		**Pn**	**11 34 11.4**	**-0.1**
TGIG				*i* S		**Sn**	**11 34 37.3**	**-0.6**
TGIG				IAML			11 34 50.5	
	comp=E,683nm,0.5s							
FAME	**Alcaldia de Sa**	**2.55**	**108**	P		**Pn**	**11 34 15.8**	**-0.4**
NUBE	**Las Nubes**	**2.75**	**105**	*i* P		**Pn**	**11 34 20.0**	**+0.9**
NUBE	**Las Nubes**	**2.75**	**105**	S		**Sn**	**11 34 52.4**	**+0.9**
NUBE	**Las Nubes**	**2.75**	**105**	P		**Pn**	**11 34 19.9**	**+0.8**
NILT	**Santiago Nilte**	**2.78**	**314**	*e*P		**Pn**	**11 34 21.1**	**+1.8**
NILT				*e*S		**Sn**	**11 34 52.2**	**+0.3**
CEVE	**Cerro Verde**	**2.92**	**106**	P		**Pn**	**11 34 22.7**	**+1.3**
MTO3	**Montecristo**	**3.07**	**94**	P		**Pn**	**11 34 23.9**	**+0.6**
UXUV	**UXUV**	**3.09**	**330**	*e*P		**Pn**	**11 34 24.9**	**+1.5**
UXUV				*e*S		**Sn**	**11 35 00.6**	**+1.4**
JAYA	**Jayaque - finc**	**3.13**	**108**	*i* P		**Pn**	**11 34 23.8**	**-0.4**
JAYA				*e*S		**Sn**	**11 35 00.8**	**+0.1**
JAYA	**Jayaque - finc**	**3.13**	**108**	P		**Pn**	**11 34 25.4**	**+1.2**
PMON	**Piamonte**	**3.24**	**106**	P		**Pn**	**11 34 27.6**	**+2.0**
PMON	**Piamonte**	**3.24**	**106**	S		**Sn**	**11 35 06.5**	**+3.3**
CMIG	**Matias Romero**	**3.33**	**317**	*e*P		**Pn**	**11 34 27.8**	**+1.1**
CMIG				*e*S		**Sn**	**11 35 02.9**	**-2.4**
PETF	**Flores**	**3.41**	**48**	*e*P		**Pn**	**11 34 28.3**	**+0.5**
PETF				*e*S		**Sn**	**11 35 04.1**	**-3.0**
PETF	**Flores**	**3.41**	**48**	P		**Pn**	**11 34 28.4**	**+0.6**
HUIG	**Huatulco**	**3.64**	**288**	*e*P		**Pn**	**11 34 30.8**	**-0.2**
HUIG				*e*S		**Sn**	**11 35 06.7**	**-6.2**
HUIG	**Huatulco**	**3.64**	**288**	*i* P		**Pn**	**11 34 31.0**	**0.0**
HUIG				IAML			11 35 27.1	
	comp=E,63nm,0.4s							
TUIG	**Tuzandepetl**	**3.84**	**332**	*e*S		**Sn**	**11 35 15.3**	**-2.2**
NEUV	**Arroyo Zacate**	**4.39**	**314**	*e*P		**Pn**	**11 34 43.5**	**+2.4**
NEUV				*e*S		**Sn**	**11 35 29.8**	**-1.3**
SCIG	**Sabancuy**	**4.49**	**16**	*e*P		**Pn**	**11 34 43.0**	**+0.5**
SCIG				*e*S		**Sn**	**11 35 29.5**	**-3.9**
PMUV	**Sontecomapan**	**4.61**	**328**	*e*S		**Sn**	**11 35 32.2**	**-4.5**
PEIG	**Puerto Escondi**	**4.67**	**287**	*e*P		**Pn**	**11 34 45.4**	**+0.4**
PEIG				*e*S		**Sn**	**11 35 36.7**	**-1.1**
VHO	**Vista Hermosa**	**4.72**	**301**	*e*P		**Pn**	**11 34 47.7**	**+1.9**
VHO				*e*S		**Sn**	**11 35 39.6**	**+0.1**
YOIG	**Yosondua**	**5.32**	**295**	*e*P		**Pn**	**11 34 56.8**	**+2.7**
YOIG				*e*S		**Sn**	**11 35 55.0**	**+0.8**
TOIG	**Toxpalan**	**5.55**	**309**	*e*P		**Pn**	**11 34 59.1**	**+2.0**
TOIG				*e*S		**Sn**	**11 36 01.2**	**+1.5**
TXIG	**Tlaxiaco**	**5.68**	**298**	*e*P		**Pn**	**11 35 01.7**	**+2.7**
TXIG				*e*S		**Sn**	**11 36 04.3**	**+1.3**
PNIG	**Pinotepa**	**5.68**	**289**	*e*P		**Pn**	**11 34 59.9**	**+1.1**
PNIG				*e*S		**Sn**	**11 36 00.1**	**-2.6**
TPIG	**Tehuac#an**	**5.97**	**310**	*e*P		**Pn**	**11 35 03.4**	**+0.5**
TPIG				*e*S		**Sn**	**11 36 09.5**	**-0.5**
JAUV	**Jalcomulco**	**6.23**	**319**	*e*P		**Pn**	**11 35 05.2**	**-1.2**
JAUV				*e*S		**Sn**	**11 36 11.2**	**-5.0**
LVIG	**Laguna Verde**	**6.28**	**324**	*e*S		**Sn**	**11 36 11.8**	**-5.5**
FTIG	**Fresnillo de T**	**6.29**	**302**	*e*P		**Pn**	**11 35 09.9**	**+2.7**
FTIG				*e*S		**Sn**	**11 36 17.9**	**+0.1**
POHV	**Veracruz**	**6.34**	**315**	*e*S		**Sn**	**11 36 18.7**	**-0.8**
MGIG	**Malinaltepec**	**6.42**	**294**	*e*P		**Pn**	**11 35 11.8**	**+2.7**
MGIG				*e*S		**Sn**	**11 36 19.3**	**-1.8**
TLIG	**Tlapa**	**6.50**	**297**	*e*P		**Pn**	**11 35 12.8**	**+2.7**
TLIG				*e*S		**Sn**	**11 36 20.2**	**-2.6**
CRIG	**Cruz Grande**	**6.70**	**289**	*e*P		**Pn**	**11 35 13.9**	**+1.2**
CRIG				*e*S		**Sn**	**11 36 26.8**	**-0.8**
PBCV	**Popocatepetl**	**7.22**	**308**	*e*P		**Pn**	**11 35 24.3**	**+4.2**
PBXN	**Popocatepetl**	**7.31**	**307**	*e*P		**Pn**	**11 35 23.3**	**+1.9**
PPM	**Popocatepetl**	**7.32**	**308**	*e*P		Pn	11 35 27.5	+5.8
PPM				*e*S		**Sn**	**11 36 43.2**	**-0.3**
CXUV	**Coxquihui**	**7.33**	**319**	*e*P		**Pn**	**11 35 20.8**	**-0.5**
CXUV				*e*S		**Sn**	**11 36 41.1**	**-1.9**

BEO 06 11:35:26.0±0.2, 44.12N×22.13E, *h*0km, ML1.5/9, 6C-5D, Mining explosion., Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORS2	**Bor- Borsko je**	**0.08**	**249**	*e*Pg	Pg	11 35 24.7	-2.9
BORS2				*e*Sg	Sg	11 35 26.4	-2.3
ZAGS	**Zajecar**	**0.32**	**166**	*e*Pg	Pg	11 35 31.5	-0.6
ZAGS				*e*Sg	Sg	11 35 36.4	+0.2
KUBS	**Kucevo**	**0.44**	**312**	*e*Pg	Pg	11 35 32.2	-2.2
KUBS				*e*Sg	Sg	11 35 38.2	-1.8
BOVS	**Bovan**	**0.57**	**212**	⇓P	Sg	11 35 36.2	-0.7
BOVS				⇓S	Sg	11 35 43.4	-1.0
BOVS	**Bovan**	**0.57**	**212**	*e*Pg	Pg	11 35 36.3	-0.7
BOVS				*e*Sg	Sg	11 35 43.0	-1.4
BLKB	**Belogradchik**	**0.64**	**141**	⇓S	Sg	11 35 46.7	-0.1
BLKB	**Belogradchik**	**0.64**	**141**	*e*Pg	Pg	11 35 37.7	-0.5
BLKB				*e*Sg	Sg	11 35 46.3	-0.1
MDVR	**Moldovita**	**0.72**	**336**	⇓P	Pg	11 35 38.5	-1.4
MDVR				⇑S	Sg	11 35 48.9	-0.3
MDVR	**Moldovita**	**0.72**	**336**	*e*Pg	Pg	11 35 38.7	-1.2
MDVR				*e*Sg	Sg	11 35 48.8	-0.5
ZAPS	**Zavoj**	**0.92**	**156**	*e*Pg	Pg	11 35 42.1	-1.6
ZAPS				*e*Sg	Sg	11 35 55.2	-0.4
GRUS	**Gruza**	**1.04**	**258**	*e*Pg	Pg	11 35 46.4	+0.4
GRUS				*e*Sg	Sb	11 36 00.9	-0.3
GOCS	**Kraljevo Serbi**	**1.06**	**239**	*e*Pg	Pg	11 35 46.4	0.0
GOCS				*e*Sg	Sb	11 36 01.2	-0.7
SELS	**Selova**	**1.16**	**219**	*e*Pg	Pg	11 35 46.8	-1.4
SELS				*e*Sg	Sg	11 36 03.6	+0.4
TRUS	**Trudelj**	**1.24**	**275**	*e*Pg	Pg	11 35 49.5	-0.3
TRUS				*e*Sg	Sb	11 36 06.5	-0.4
BARS	**Barje**	**1.32**	**190**	*e*Pg	Pg	11 35 49.5	-1.8
BARS				*e*Sg	Sg	11 36 07.4	-1.1
GZR	**Gura Zlata**	**1.35**	**20**	⇑P	Pg	11 35 50.8	-1.2
GZR				⇑S	Sb	11 36 10.0	-0.1
GZR	**Gura Zlata**	**1.35**	**20**	*e*Pg	Pg	11 35 50.6	-1.4
GZR				*e*Sg	Sb	11 36 10.0	-0.2
BZS	**Buzias**	**1.54**	**347**	⇓P	Pn	11 35 53.4	-1.4
BZS				⇑S	Sn	11 36 14.2	-1.2
SURR	**Surduc**	**1.63**	**360**	⇑P	Pn	11 35 54.5	-1.5
SURR				⇑S	Sn	11 36 17.7	0.0
BOSS	**Bosilegrad**	**1.65**	**171**	*e*Pg	Pn	11 35 55.2	-1.0

*GII **06** 11:36:35.6±0.0, 29.°689N×0.°007×36.°436E±0.°009, h0km, Md1.4/2, confirmed*
*HLW **06** 11:36:55.5, 29.°75N×34.°74E, h32km±13km, Ml2.8*

ISC 06 11:36:37.1±2.0, 29.°78N±0.°07×36.°36E±0.°10, *h*0km, *n*30, σ0.°77/30, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.18**	**283**	S	**Sn**	**11 37 17.4**	**-0.3**
HRFI	**Mount Harif**	**1.18**	**283**	P	**Pg**	**11 36 58.8**	**-0.9**
EIL	**Elat**	**1.23**	**265**	S	**Sb**	**11 37 18.0**	**+0.3**
EIL	**Elat**	**1.23**	**265**	P	**Pg**	**11 36 59.8**	**-0.9**
MBRI	**Mt Berech**	**1.26**	**271**	S	**Sb**	**11 37 19.4**	**+0.8**
MBRI	**Mt Berech**	**1.26**	**271**	P	**Pg**	**11 37 00.7**	**-0.5**
ZFRI	**Zfri**	**1.28**	**307**	S	**Sn**	**11 37 20.8**	**+0.7**
ZFRI	**Zfri**	**1.28**	**307**	P	**Pg**	**11 37 01.0**	**-0.8**
PRNI	**Paran**	**1.31**	**296**	S	**Sn**	**11 37 21.2**	**+0.3**
PRNI	**Paran**	**1.31**	**296**	P	**Pg**	**11 37 01.3**	**-0.9**
KRMI	**Paran Flat**	**1.46**	**284**	S	**Sg**	**11 37 24.5**	**+0.4**
KRMI	**Paran Flat**	**1.46**	**284**	P	**Pn**	**11 37 03.5**	**-1.2**
HBST	**Basata**	**1.53**	**249**	P	**Pb**	**11 37 06.8**	**+0.5**
GHAJ	**Ghor Haditha**	**1.57**	**336**	S	**Sn**	**11 37 30.3**	**+0.6**
GHAJ	**Ghor Haditha**	**1.57**	**336**	P	**Pn**	**11 37 06.7**	**-0.9**
NUB	**Nuweibaa**	**1.67**	**244**	P	**Pb**	**11 37 09.4**	**+0.7**
MSBI	**Mazada**	**1.76**	**331**	S	**Sn**	**11 37 32.6**	**+0.7**
MSBI	**Mazada**	**1.76**	**331**	P	**Pn**	**11 37 08.0**	**-0.8**
HDHB	**Dhahab**	**1.85**	**236**	P	**Pb**	**11 37 12.2**	**+0.4**
YTIR	**Yattir**	**1.91**	**326**	S	**Sn**	**11 37 36.8**	**+1.0**
YTIR	**Yattir**	**1.91**	**326**	P	**Pn**	**11 37 10.1**	**-0.9**
DSI	**Dead Sea**	**1.98**	**335**	S	**Sn**	**11 37 38.5**	**+1.2**
DSI	**Dead Sea**	**1.98**	**335**	P	**Pn**	**11 37 11.3**	**-0.5**
KZIT	**Kziot**	**2.04**	**304**	S	**Sn**	**11 37 39.3**	**+0.5**
KZIT	**Kziot**	**2.04**	**304**	P	**Pn**	**11 37 11.9**	**-0.7**
AMAZ	**Amatzia**	**2.15**	**325**	S	**Sn**	**11 37 42.3**	**+0.8**
AMAZ	**Amatzia**	**2.15**	**325**	P	**Pn**	**11 37 13.7**	**-0.5**
HKAT	**Jabal Katrina**	**2.42**	**239**	P	**Pn**	**11 37 18.1**	**-0.1**
HMDT	**Nahal Hemdat**	**2.57**	**344**	S	**Sn**	**11 37 53.0**	**+1.0**
HMDT	**Nahal Hemdat**	**2.57**	**344**	P	**Pn**	**11 37 19.4**	**-0.6**

*IDC **06** 11:37:49.6±6.2, 5.°51S×151.°24E, h78km±56km, mb3.6/9, mbtmp3.9/7, Error ellipse: s-maj=28.9km s-min=21.6km az=105.0*
*NEIC **06** 11:37:49.4±0.9, 5.°7S±0.°1×151.°4E±0.°2, h78km±8km, mb4.1/21, Error ellipse: s-maj=26.8km s-min=12.7km az=109.0*
ISC 06 11:37:49.2±0.6, 5.°62S±0.°09×151.°3E±0.°1, *h*78km, *n*34, σ1.9°02/35, *mb*4.0/18, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.66**	**31**		**Pn**	**11 38 15.8**	**-0.9**
CTAO	**Charters Tower**	**15.20**	**198**	Pn	**Pn**	**11 41 16.9**	**-2.7**
CTAO				IAmb	IAmb	11 41 39.6	
	comp=E,14nm,1.4s						
EIDS	**Eidsvold**	**19.64**	**181**	P	**P**	**11 42 09.9**	**-1.9**
MTN	**Manton Dam**	**21.15**	**249**	P	**P**	**11 42 28.9**	**+0.8**
MTN				IAmb	IAmb	11 42 40.7	
	comp=E,3.8nm,0.7s						
WB0	**Warramunga Arr**	**21.64**	**228**	P	**P**	**11 42 34.0**	**+0.6**
WB0				IAmb	IAmb	11 42 47.4	
	comp=E,9.7nm,1.0s						
WR0	**Warramunga Arr**	**21.65**	**227**	P	**P**	**11 42 33.9**	**+0.4**
WR0				IAmb	IAmb	11 42 48.0	
	comp=E,14nm,1.1s						
WR8	**Warramunga Arr**	**21.68**	**227**	P	**P**	**11 42 34.0**	**+0.2**
WR8				IAmb	IAmb	11 42 37.5	
	comp=E,5.5nm,0.6s						
WRAB	**Tennant Creek**	**21.77**	**228**	P	**P**	**11 42 35.1**	**+0.4**
WRAB				IAmb	IAmb	11 42 48.6	
	comp=E,14nm,1.1s						
WB2	**Warramunga Arr**	**21.78**	**228**	P	**P**	**11 42 35.3**	**+0.4**
WB2				IAmb	IAmb	11 42 49.5	
	comp=E,10nm,1.1s						
WRA	**Warramunga Arr**	**21.79**	**228**	P	**P**	**11 42 35.2**	**+0.3**
WRA	**Warramunga Arr**	**21.79**	**228**	P	**P**	**11 42 35.2**	**+0.3**
	comp=E,2.8nm,0.4s,baz=51,slow=10.0,SNR=42						
WRA				PcP	**PcP**	**11 46 33.3**	**+0.6**
	comp=E,0.4nm,0.8s,baz=34,slow=1.2,SNR=2.3						
	comp=E,2.8nm,0.4s						
DZM	**Mont Dzumac**	**21.95**	**140**	P	**P**	**11 42 38.7**	**+1.9**
	comp=E,15nm,0.9s,baz=270,slow=20						
	comp=E,15nm,0.9s						
KNRA	**Kununurra**	**24.27**	**244**	P	**P**	**11 43 00.0**	**+0.7**
KNRA				IAmb	IAmb	11 43 16.4	
	comp=E,5.4nm,1.0s						
AS31	**Alice Springs**	**24.55**	**221**	P	**P**	**11 43 02.4**	**+0.6**
ASAR	**Alice Springs**	**24.55**	**221**	P	**P**	**11 43 01.6**	**-0.2**
ASAR	**Alice Springs**	**24.55**	**221**	P	**P**	**11 43 02.4**	**+0.6**
	comp=E,1.2nm,0.4s,baz=52,slow=9.0,SNR=37						
	comp=E,1.2nm,0.4s						
STKA	**Stephens Creek**	**27.66**	**198**	P	**P**	**11 43 28.5**	**-1.3**
FITZ	**Fitzroy Crossi**	**27.96**	**241**	P	**P**	**11 43 32.8**	**+0.2**
FORT	**Forrest**	**33.22**	**218**	P	**P**	**11 44 18.4**	**-0.4**
MBWA	**Marble Bar**	**34.27**	**240**	P	**P**	**11 44 28.2**	**+0.1**
KKM	**Kota Kinabalu**	**36.89**	**288**	P	**P**	**11 44 50.8**	**0.0**
PETK	**Petropavlovsk-**	**58.76**	**5**	P	**P**	**11 47 38.4**	**-0.6**
PETK	**Petropavlovsk-**	**58.76**	**5**	P	**P**	**11 47 39.8**	**+0.9**
	comp=E,0.8nm,0.5s,baz=166,slow=6.3,SNR=5.1						
	comp=E,0.8nm,0.5s						
VNDA	**Vanda**	**72.07**	**178**	P	**P**	**11 49 05.2**	**+0.7**
VNDA				IAmb	IAmb	11 49 12.7	
	comp=E,1.3nm,1.1s						
VNDA	**Vanda**	**72.07**	**178**	P	**P**	**11 49 06.2**	**+1.7**
	comp=E,0.5nm,0.6s,baz=2.0,slow=5.1,SNR=1.8						
	comp=E,0.5nm,0.6s						
MKAR	**Makanchi Array**	**79.97**	**319**	P	**P**	**11 49 51.0**	**+0.9**
	comp=E,0.2nm,0.5s,baz=112,slow=6.4,SNR=1.9						
	comp=E,0.2nm,0.5s						
G18K	**Tagagawik**	**79.99**	**19**	P	**P**	**11 49 49.5**	**-0.2**
E19K	**Redstone River**	**81.41**	**18**	P	**P**	**11 49 57.0**	**-0.3**
E19K				IAmb	IAmb	11 50 22.9	
	comp=E,2.4nm,1.1s						
D19K	**Kuna River**	**81.80**	**17**	P	**P**	**11 49 58.9**	**-0.4**
D19K				IAmb	IAmb	11 50 21.4	
	comp=E,2.5nm,1.1s						
ILAR	**Eielson Array**	**83.48**	**22**	P	**P**	**11 50 06.3**	**-1.8**
	comp=E,0.3nm,0.5s,baz=250,slow=5.5,SNR=6.5						
	comp=E,0.3nm,0.5s						
MAW	**Mawson**	**84.24**	**203**	P	**P**	**11 50 13.1**	**+1.2**
	comp=E,1.9nm,0.8s,baz=101,slow=5.2,SNR=8.1						
	comp=E,1.9nm,0.8s						
QSPA	**South Pole Qui**	**84.34**	**180**	P	**P**	**11 50 13.1**	**+0.4**
QSPA	**South Pole Qui**	**84.34**	**180**	P	**P**	**11 50 13.5**	**+0.8**
	comp=E,1.3nm,0.8s,baz=274,slow=1.5,SNR=5.2						
	comp=E,1.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.12**	**286**	PKPbc	**PKPbc**	**11 57 28.1**	**-1.6**
	comp=E,0.8nm,0.6s,baz=66,slow=3.0,SNR=6.0						

*IDC **06** 11:39:36.1±0.5, 18.°39S×176.°28E, h0km, mb4.4/17, mbtmp4.4/18, ML4.4/1, MS4.1/34, Error ellipse: s-maj=18.2km s-min=14.2km az=129.0*
*NEIC **06** 11:39:38.9±2.3, 18.°33S±0.°08×176.°4E±0.°1, h10km±1km, mb4.9/28, Error ellipse: s-maj=17.4km s-min=13.4km az=291.0*
*GCMT **06** 11:39:40.9±0.2, 18.°46S±0.°03×176.°11E±0.°02, h18km±1km, MW5.2/108, Moment Tensor Solution. s26,c28; s108,c158; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-6.07±.38; Mθθ1.21±.22; Mϕϕ4.86±.23; Mrθ-3.46±.67; Mθϕ1.78±.12; Mϕr0.52±.44; Best double couple: M0 6.60700×10^16^ NP1:ϕs183.00000°, δ45.00000°, λ-123.00000°. NP2:ϕs45.00000°, δ54.00000°, λ-62.00000°. Principal axes: T 5.6560, Plg5.0000°, Azm115.0000°; N 1.9020, Plg23.0000°, Azm207.0000°; P -7.5580, Plg67.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 11:39:40.4±0.3, 18.°40S±0.°07×176.°28E±0.°07, *h*23km, *n*402, σ0.°83/366, *mb*4.8/37, *MS*4.1/32, 2C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.81**	**69**	Pn	**Pn**	**11 40 08.0**	**-2.2**
MSVF	**Nonsavu**	**1.81**	**69**	Pn	**Pn**	**11 40 07.8**	**-2.5**
	70nm,0.3s,baz=270,slow=15,SNR=96						
MSVF				Sn	**Sn**	**11 40 32.3**	**-0.3**
	623nm,0.3s,baz=158,slow=22,SNR=31						
DZM	**Mont Dzumac**	**9.93**	**247**	*e*P	Pn	11 42 13.6	+12
	561nm,26.9s						
DZM				*e*LR	LR	11 44 28.8	
	3μm,26.1s						
DZM	**Mont Dzumac**	**9.93**	**247**	LR	LR	11 45 20.5	
	comp=E,2μm,21.6s,baz=52,slow=35						

RAO	**Raoul Island**	**12.03**	**155**	Pn		**Pn**	**11 42 30.3**	**-0.2**
RAO	**Raoul Island**	**12.03**	**155**	LR		LR	11 46 17.9	
	comp=Z,1μm,21.0s,baz=344,slow=33							
URZ	**Urewera**	**19.80**	**178**	P		**P**	**11 44 09.9**	**+0.7**
	1.2nm,0.3s,baz=80,slow=2.4,SNR=7.9							
URZ				LR		LR	11 49 15.6	
	comp=Z,197nm,21.1s,baz=8.0,slow=29							
	30nm,0.9s							
RAR	**Rarotonga**	**22.70**	**101**	LR		LR	11 51 30.1	
	comp=Z,448nm,21.6s,baz=272,slow=31							
LTZ	**Lake Taylor**	**24.54**	**187**	P		**P**	**11 44 59.5**	**+1.1**
LTZ				IAmb		IAmb	11 45 12.6	
	comp=Z,47nm,1.3s							
RPZ	**Rata Peaks**	**25.62**	**189**	LR		LR	11 53 41.1	
	comp=Z,309nm,19.6s,baz=356,slow=33							
TBI	**Tubuai**	**32.34**	**105**	*e*LR		LR	11 54 26.3	
	comp=Z,1μm,37.0s							
TBI				*e*LR		LR	11 54 31.7	
	comp=Z,7μm,31.0s							
PPT2	**Papeete2**	**32.45**	**94**	*e*S		**S**	**11 51 24.9**	**+1.9**
	comp=Z,275nm,25.2s							
PPT2				*e*LQ		LQ	11 53 18.1	
	comp=Z,323nm,24.0s							
PPT2				*e*LR		LR	11 54 34.8	
	comp=Z,2μm,26.5s							
PPT2				*e*LR		LR	11 54 37.9	
	comp=Z,1μm,28.8s							
PPT	**Papeete**	**32.46**	**94**	LR		LR	11 56 01.2	
	comp=Z,397nm,21.2s,baz=273,slow=30							
TOO	**Toolangi**	**33.01**	**228**			**P**	**11 46 14.6**	**+0.7**
STKA	**Stephens Creek**	**33.99**	**240**	P		**P**	**11 46 22.8**	**+0.3**
	comp=Z,4.2nm,0.9s,baz=76,slow=12,SNR=4.6							
STKA				LR		LR	11 58 41.0	
	comp=Z,305nm,21.5s,baz=62,slow=34							
	comp=Z,4.2nm,0.9s							
TAU	**Tasmania Unive**	**34.59**	**219**	P		**P**	**11 46 28.2**	**+0.7**
TAU				IAmb		IAmb	11 46 28.3	
	comp=Z,32nm,1.2s							
H11S2	**WAKE ISLAND Hy**	**37.85**	**345**	T		T	12 27 06.7	
	baz=166,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy**	**37.86**	**345**	T		T	12 27 04.4	
	baz=166,slow=76,SNR=14							
H11S1	**WAKE ISLAND Hy**	**37.87**	**345**	T		T	12 27 08.8	
	baz=166,slow=76,SNR=10							
JAY	**Jayapura**	**38.26**	**290**	LR		LR	12 02 48.9	
	comp=Z,278nm,18.3s,baz=90,slow=36							
H11N1	**WAKE ISLAND Hy**	**38.98**	**346**	T		T	12 28 32.4	
	baz=166,slow=76,SNR=10							
H11N3	**WAKE ISLAND Hy**	**38.98**	**346**	T		T	12 28 29.7	
	baz=166,slow=76,SNR=15							
H11N2	**WAKE ISLAND Hy**	**39.00**	**346**	T		T	12 28 34.8	
	baz=166,slow=76,SNR=7.1							
WB0	**Warramunga Arr**	**39.54**	**261**	P		**P**	**11 47 08.1**	**-1.8**
WB0				IAmb		IAmb	11 47 10.1	
	comp=Z,15nm,1.1s							
WRAB	**Tennant Creek**	**39.56**	**261**	P		**P**	**11 47 09.0**	**-1.1**
WRA	**Warramunga Arr**	**39.58**	**261**	P		**P**	**11 47 07.8**	**-2.4**
WRA	**Warramunga Arr**	**39.58**	**261**	P		**P**	**11 47 07.8**	**-2.4**
	comp=Z,5.3nm,1.0s,baz=90,slow=8.7,SNR=21							
WRA				LR		LR	12 01 43.9	
	comp=Z,427nm,21.5s,baz=112,slow=34							
	comp=Z,5.3nm,1.0s							
AS31	**Alice Springs**	**39.79**	**255**			**P**	**11 47 10.7**	**-1.3**
ASAR	**Alice Springs**	**39.79**	**255**	P		**P**	**11 47 10.5**	**-1.5**
	comp=Z,8.8nm,1.0s,baz=82,slow=8.6,SNR=32							
ASAR				PcP		**PcP**	**11 49 16.4**	**-1.7**
	comp=Z,1.5nm,0.9s,baz=85,slow=3.6,SNR=4.2							
ASAR				LR		LR	12 03 32.5	
	comp=Z,764nm,18.1s,ba

R17L	Mt. Peulik Vol	79.10	15	P	P	11 51 43.0	+0.3
	baz=206,SNR=9.4						
PLK4	Peulik 4	79.10	15		P	11 51 43.6	+0.9
R18K	Karluk	79.51	16	P	P	11 51 45.4	+0.6
	baz=208						
OHAK	Old Harbor	79.51	16	P	P	11 51 45.5	+0.7
	baz=209,SNR=7.5						
O14K	Tigyukauivet M	79.53	12	P	P	11 51 45.5	+0.5
	baz=202						
O15K	Ungalikthiuk R	79.75	12		P	11 51 46.4	+0.3
O15K				IAmb	IAmb	11 51 48.7	
	comp=Z,10nm,1.3s						
O15K	Ungalikthiuk R	79.75	12	P	P	11 51 46.2	0.0
	baz=203						
Q17K	Contact Creek	79.78	15	P	P	11 51 46.5	+0.1
	baz=207,SNR=13						
M11K	Mekoryuk	79.78	9	P	P	11 51 46.4	+0.2
	baz=197						
Q16K	King Salmon	79.97	14	P	P	11 51 47.6	+0.3
	baz=206						
P16K	Nushagak River	80.00	13	P	P	11 51 47.4	-0.1
	baz=205						
N14K	Kuskokwak Cree	80.08	11	P	P	11 51 48.8	+1.0
	baz=201,SNR=15						
KDAK	Kodiak Island	80.19	16	LR	LR	12 20 24.8	
	comp=Z,173nm,21.1s,baz=117,slow=30						
KDAK	Kodiak Island	80.19	16	P	P	11 51 49.2	+0.6
	baz=210						
HNS	HongShan	80.20	315	⇓P	P	11 51 49.8	+0.7
HNS				pmax	pmax		
	comp=Z,12nm,1.1s						
M13K	Dall Lake	80.25	10	P	P	11 51 49.9	+1.1
	baz=200						
LYN	LuoYang	80.29	311	eP	P	11 51 52.8	+3.1
LYN				pmax	pmax		
	comp=Z,21nm,0.6s						
Q18K	Katmai Hardscr	80.33	15	P	P	11 51 49.5	0.0
	baz=208,SNR=8.9						
MA2	Magadan	80.44	347	LR	LR	12 20 16.1	
	comp=Z,94nm,21.1s,baz=222,slow=30						
O16K	Kokwok River B	80.49	13	P	P	11 51 50.7	+0.6
	baz=204,SNR=5.6						
P17K	Kvichak River	80.49	14	P	P	11 51 50.2	+0.1
	baz=206						
N15K	Kwethluk River	80.61	12	P	P	11 51 51.9	+1.1
	baz=203,SNR=13						
HEH	HeiHe	80.78	331	eP	P	11 51 52.1	+0.2
M14K	Bethel	80.81	11	P	P	11 51 52.7	+0.9
	baz=201						
O17K	Koliganek Bris	80.86	13	P	P	11 51 52.6	+0.5
	baz=205						
Q19K	Cape Douglas,	80.92	15	P	P	11 51 52.8	+0.3
	baz=209						
P18K	Big Mountain,	80.94	14	P	P	11 51 52.7	+0.1
	baz=207,SNR=9.4						
Q20K	Shuyak Island	80.96	16	P	P	11 51 52.8	+0.1
	baz=210						
M15K	Kasigluk River	80.98	11	P	P	11 51 53.7	+0.9
	baz=202,SNR=6.6						
N16K	Nishlik Lake	81.15	12	P	P	11 51 54.8	+1.1
	baz=204,SNR=8.7						
L14K	Kuka Creek	81.24	10	P	P	11 51 54.9	+0.9
	baz=200						
O18K	Koktuh Hills	81.36	14	P	P	11 51 55.2	+0.3
	baz=207,SNR=6.7						
K13K	Kusilvak Mount	81.49	9	P	P	11 51 56.3	+0.9
	baz=198						
N17K	Nushagak Hills	81.53	13	P	P	11 51 56.4	+0.8
	baz=205						
M16K	Timber Creek	81.62	12	P	P	11 51 57.5	+1.3
	baz=204,SNR=7.9						
MAW	Mawson	81.65	201	P	P	11 51 56.0	-0.3
	comp=Z,12nm,1.0s,baz=116,slow=6.6,SNR=15						
	comp=Z,12nm,1.0s						
P19K	Oil Pt	81.65	15	P	P	11 51 56.4	0.0
	baz=209						
L15K	Ungalak Mounta	81.76	11	P	P	11 51 57.5	+0.7
	baz=201						
O19K	Port Alsworth	81.87	14	P	P	11 51 57.5	+0.1
	baz=208						
N18K	Kilae Creek	81.94	13	P	P	11 51 58.3	+0.4
	baz=206						
HOM	Homer	82.06	16	P	P	11 51 59.2	+0.7
	baz=210						
L16K	Owhat River	82.15	11	P	P	11 52 00.0	+1.1
	baz=203						
O20K	Slope Mountain	82.18	15	P	P	11 51 59.7	+0.5
	baz=210						
M17K	Holitna River	82.27	12	P	P	11 52 01.3	+1.8
	baz=205,SNR=8.9						
BELA	Belgrano 2	82.27	174		P	11 51 59.2	-0.3
K15K	Wolf Creek Mou	82.33	10	P	P	11 52 01.5	+1.7
	baz=201,SNR=7.6						
N19K	Bonanza Creek	82.38	14	P	P	11 52 00.3	0.0
	baz=208						
J14K	Nanvaranak Lak	82.43	9	P	P	11 52 01.1	+0.8
	baz=199						
SMAI	San Martin Ant	82.44	160		P	11 52 01.8	+1.3
SMAI				IAmb	IAmb	11 52 05.8	
	comp=Z,12nm,1.4s						
GAMB	Gambell	82.45	5	P	P	11 52 01.3	+0.9
	baz=191						
XAN	Xi'an	82.61	309	⇑P	P	11 52 03.0	+1.0
XAN				pP	PcP	11 52 06.9	-0.1
XAN				pmax	pmax		
	comp=Z,14nm,1.1s						
M18K	Stony River	82.69	13	P	P	11 52 02.9	+1.2
	baz=206,SNR=13						
L17K	Donlin	82.77	12	P	P	11 52 03.9	+1.8
	baz=204,SNR=7.0						
SEW	Seward	83.02	17	P	P	11 52 03.6	+0.1
	baz=212						
LPIG	La Paz	83.09	62	LR	LR	12 22 37.3	
	comp=Z,91nm,18.8s,baz=214,slow=31						
L18K	Granite Mounta	83.16	12	P	P	11 52 05.6	+1.5
	baz=206,SNR=7.6						
SEY	Seymchan	83.22	349	P	P	11 52 03.8	-0.7
	comp=Z,7.6nm,0.9s,baz=161,slow=4.1,SNR=8.5						
	comp=Z,7.6nm,0.9s						
SPCR	Spurr Chakacha	83.26	15	P	P	11 52 04.5	-0.3
	baz=210						
O22K	Cooper Landing	83.27	16	P	P	11 52 05.0	+0.3
	baz=212						
K17K	Iditarod	83.30	11	P	P	11 52 06.1	+1.3
	baz=204,SNR=6.2						
Q23K	Middleton Isla	83.34	18	P	P	11 52 05.7	+0.6
	baz=215						
M19K	Big River Lodg	83.37	13	P	P	11 52 05.7	+0.5
	baz=208						
J16K	Anvik River	83.41	10	P	P	11 52 07.0	+1.6
	baz=202,SNR=9.5						
P23K	Montague Islan	83.50	17	P	P	11 52 06.4	+0.4
	baz=214						
L19K	White Mountain	83.51	13	P	P	11 52 07.3	+1.2
	baz=207,SNR=9.6						
KMI	Kunming	83.61	299	P	P	11 52 08.5	+0.9
KMI				pmax	pmax		
	comp=Z,10.0nm,1.4s						
M20K	Styx River	83.63	14	P	P	11 52 06.9	+0.1
	baz=209						
J17K	VABM Dome	83.78	11	P	P	11 52 08.5	+1.2
	baz=203,SNR=6.2						
RC01	Rabbit Creek A	83.78	16	P	P	11 52 07.8	+0.5
	baz=212						
SUA	Susitna One	83.84	15	P	P	11 52 08.1	+0.3
	baz=211						
ANM	Nome	83.91	8	P	P	11 52 09.2	+1.3
	baz=197						
J05D	Fort Rock, OR	83.92	41		P	11 52 10.7	+2.0
J05D				IAmb	IAmb	11 55 20.6	
	comp=Z,18nm,1.4s						
I17K	Unalakleet	83.95	10	P	P	11 52 09.1	+0.9
	baz=202						
PWL	Port Wells	83.96	17	P	P	11 52 09.0	+0.7
	baz=214						
L20K	Farewell, AK	83.99	13	P	P	11 52 09.0	+0.5
	baz=208						
HHC	Hu-ho-hao-te	84.08	316	eP	P	11 52 10.0	+0.5
HHC				pmax	pmax		
	comp=Z,18nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,6.6s						
SKT	Skwentna	84.09	15	P	P	11 52 09.9	+0.9
	baz=210						
M22K	Willow	84.25	15	P	P	11 52 10.0	+0.4
	baz=212						
J18K	Innoko River	84.28	12	P	P	11 52 10.0	+0.1
	baz=206						

GLI	Glacier Island	84.31	17	P	P	11 52 10.0	-0.1
	baz=215						
KAIM	Kayak Island	84.32	19	P	P	11 52 10.0	-0.1
	baz=217						
CMAR	Chiang Mai Arr	84.33	291		P	11 52 10.3	-0.9
CMAR	Chiang Mai Arr	84.33	291	P	P	11 52 11.8	+0.6
	comp=Z,8.6nm,1.1s,baz=119,slow=3.6,SNR=27						
CMAR				LR	LR	12 25 27.0	
	comp=Z,42nm,21.9s,baz=115,slow=33						
	comp=Z,8.6nm,1.1s						
PMR	Palmer	84.36	16	P	P	11 52 10.3	0.0
	baz=213						
KNK	Knik Glacier	84.39	16	P	P	11 52 11.0	+0.5
	baz=213						
H16K	Elim	84.41	9	P	P	11 52 11.3	+0.8
	baz=200						
EYAK	Cordova Ski Ar	84.43	18	P	P	11 52 11.1	+0.5
	baz=216						
CHTO	Chiang Mai	84.46	292	P	P	11 52 12.3	+0.5
CHTO				IAmb	IAmb	11 52 13.2	
	comp=Z,13nm,1.2s						
G15K	Niukluk	84.49	8	P	P	11 52 11.7	+0.8
	baz=199						
TNA	Tin City	84.56	7	P	P	11 52 12.2	+1.0
	baz=195						
F14K	Arctic Creek	84.66	7	P	P	11 52 12.3	+0.6
	baz=196						
K20K	Telida	84.72	13	P	P	11 52 12.5	+0.4
	baz=208						
PPLA	Purkeypile	84.74	14	P	P	11 52 12.7	+0.4
	baz=210						
CUT	Chulitna	84.77	15	P	P	11 52 12.9	+0.6
	baz=212						
BGLC	Bering Glacier	84.82	19	P	P	11 52 13.1	+0.4
	baz=218						
J19K	Poorman	84.97	12	P	P	11 52 14.2	+0.8
	baz=207						
PZH	PanZhiHua	84.98	300	P	P	11 52 14.4	0.0
SCM	Sheep Creek Mo	85.04	16	P	P	11 52 14.2	+0.3
	baz=214						
Y14A	Wickenburg	85.05	52		P	11 52 14.4	-0.1
H17K	Granite Mounta	85.06	10	P	P	11 52 14.4	+0.6
	baz=203						
F15K	North Star Dit	85.09	8	P	P	11 52 14.0	+0.1
	baz=198						
BMRM	Bremner River	85.10	18	P	P	11 52 14.0	-0.1
	baz=217						
CRAG	Craig	85.11	26	P	P	11 52 14.1	-0.1
	baz=227						
G16K	Koyuk River	85.11	9	P	P	11 52 14.1	+0.1
	baz=200						
KLU	Klutina	85.14	17	P	P	11 52 14.2	-0.2
	baz=216						
CAST	Castle Rocks	85.21	14	P	P	11 52 14.6	-0.1
	baz=210						
MESA	MESA	85.29	20	P	P	11 52 14.9	-0.4
	baz=219						
PMSA	Palmer Station	85.29	158	P	P	11 52 16.9	+1.7
SIT	Sitka	85.32	24	P	P	11 52 15.1	-0.1
	baz=225						
CRQE	Cirque	85.38	19	P	P	11 52 15.4	-0.2
	baz=218						
GCSA	Galena City Sc	85.41	11	P	P	11 52 15.8	+0.3
	baz=205						
J20K	Nowitna River	85.44	13	P	P	11 52 15.9	+0.2
	baz=208						
G17K	Kiwalik Mounta	85.47	9	P	P	11 52 16.0	+0.3
	baz=202						
H18K	Honhosa River	85.52	10	P	P	11 52 16.4	+0.3
	baz=204						
U33K	Whale Pass	85.55	26	P	P	11 52 16.4	+0.1
	baz=227						
WAT1	Susitna Watana	85.55	15	P	P	11 52 16.4	+0.1
	baz=213						
WAT6	Susitna Watana	85.55	16	P	P	11 52 16.7	+0.2
	baz=214						
CHUM	Lake Minchumin	85.57	13	P	P	11 52 16.9	+0.6
	baz=210						
M24K	Tolsona, Glenn	85.58	17	P	P	11 52 16.4	-0.1
	baz=215						
S31K	Pelican	85.61	23	P	P	11 52 16.9	+0.2
	baz=224						
N25K	Chitina, Valde	85.61	18	P	P	11 52 16.9	+0.2
	baz=217						
TRF	Thorofare Moun	85.65	14	P	P	11 52 17.2	+0.2
	baz=212						
V35K	Ketchikan	85.65	27	P	P	11 52 16.9	0.0
	baz=229						
PNL	Peninsula	85.73	21	P	P	11 52 17.8	+0.5
	baz=222						
PINM	Pinnacle	85.77	20	P	P	11 52 17.6	+0.1
	baz=221						
S32K	Kilisnoo	85.89	24	P	P	11 52 18.7	+0.7
	baz=226						
MCARA	McCarthy VSAT	85.90	18	P	P	11 52 18.8	+0.8
	baz=218						
I20K	Naaghedeneel	85.92	12	P	P	11 52 18.9	+0.9
	baz=208						
BPAW	Bear Paw Mtn.	86.05	14	P	P	11 52 20.1	+1.3
	baz=211						
DHY	Denali Highway	86.06	16	P	P	11 52 19.5	+0.5
	baz=214						
WRAK	Wrangell Islan	86.07	26	P	P	11 52 19.9	+1.0
	baz=228						
CTG	Chitna Glacier	86.09	19	P	P	11 52 19.8	+0.7
	baz=220						
HARP	HAARP	86.09	17	P	P	11 52 19.9	+0.9
	baz=216						
G18K	Tagagawik	86.15	10	P	P	11 52 20.2	+1.0
	baz=204						
H19K	Roundabout Mou	86.20	11	P	P	11 52 20.7	+1.3
	baz=206						
MCK	McKinley	86.22	15	P	P	11 52 20.7	+1.1
	baz=213						
F17K	Baldwin Pennin	86.25	9	P	P	11 52 20.4	+0.8
	baz=201						
P29M	Windy Craggy	86.27	21	P	P	11 52 20.8	+0.9
	baz=223						
O28M	Mount Upton	86.30	20	P	P	11 52 20.7	+0.2
	baz=221						
H20K	Anotleneega Mo	86.46	12	P	P	11 52 21.5	+0.8
	baz=207						
PAX	Paxson	86.47	16	P	P	11 52 21.6	+0.7
	baz=216						
R32K	Eaglecrest	86.48	24	P	P	11 52 21.6	+0.6
	baz=226						
O29M	Mount Kennedy	86.48	21	P	P	11 52 21.5	+0.4
	baz=222						
PLBC	Pleasant Camp	86.63	22	P	P	11 52 22.3	+0.7
	baz=224						
F18K	Selawik	86.64	9	P	P	11 52 22.2	+0.6
	baz=203						
G19K	Purcell Mounta	86.64	11	P	P	11 52 22.4	+0.8
	baz=205						
M26K	Nabesna, AK	86.71	18	P	P	11 52 22.5	+0.4
	baz=218						
E17K	Hotham Inlet	86.77	8	P	P	11 52 23.0	+0.8
	baz=201						
YUK8	Steele Glacier	86.83	20	P	P	11 52 23.5	+0.6
	baz=221						
P30M	Million Dollar	86.90	21	P	P	11 52 23.8	+0.7
	baz=224						
MLY	Manley	86.91	13	P	P	11 52 24.0	+1.0
	baz=211						
NEA2	Nenana	86.91	14	P	P	11 52 23.9	+1.0
	baz=213						
YUK3	Moose Creek	86.98	19	P	P	11 52 23.8	+0.2
	baz=221						
M27K	Edge Creek, AK	87.00	18	P	P	11 52 24.0	+0.3
	baz=219						
SKAG	Skagway	87.01	22	P	P	11 52 24.2	+0.7
	baz=225						
H21K	Melozitna Rive	87.01	12	P	P	11 52 24.3	+0.8
	baz=209						
YUK6	Outpost Mounta	87.03	20	P	P	11 52 23.9	0.0
	baz=222						
K24K	Donnelly Dome	87.07	16	P	P	11 52 24.3	+0.5
	baz=216						
L26K	Log Cabin Wild	87.10	17	P	P	11 52 24.4	+0.5
	baz=218						
F19K	Shaleruckik Mo	87.16	10	P	P	11 52 24.9	+0.8
	baz=204						
D17K	Noatak River	87.19	8	P	P	11 52 25.0	+0.8
	baz=200						
HYT	Haines Junctio	87.23	21	P	P	11 52 25.6	+0.9
	baz=223						
YUK4	Talbot Arm	87.23	20	P	P	11 52 25.3	+0.5
	baz=222						

RIDG	Independent Ri	87.26	16	P	P	11 52 24.5	-0.2
	baz=217						
E18K	Tukpahlearik C	87.26	9	P	P	11 52 24.8	+0.2
	baz=202						
HDA	Harding Lake	87.27	15	P	P	11 52 24.8	+0.1
	baz=215						
BVCY	Beaver Creek	87.35	18	P	P	11 52 25.3	+0.1
	baz=220						
MFID	Camas Ranch	87.39	43		P	11 52 27.6	+1.7
COLA	College	87.43	15	P	P	11 52 26.2	+0.7
	baz=214						
C16K	Lisburne Hills	87.46	7	P	P	11 52 26.6	+1.1
	baz=197						
H22K	Ishtalitna Cre	87.51	13	P	P	11 52 26.7	+0.8
	baz=210						
S34M	Telegraph Cree	87.56	25	P	P	11 52 26.9	+0.6
	baz=229						
L27K	Beaver Creek,	87.56	18	P	P	11 52 26.8	+0.7
	baz=219						
ILAR	Eielson Array	87.58	15		P	11 52 25.5	-0.7
ILAR	Eielson Array	87.58	15	P	P	11 52 25.1	-1.0
	comp=Z,1.8nm,0.8s,baz=235,slow=6.0,SNR=15						
	comp=Z,1.8nm,0.8s						
G21K	Allakaket	87.63	12	P	P	11 52 27.6	+1.2
	baz=208						
O30N	Mendenhall	87.67	21	P	P	11 52 27.5	+0.8
	baz=224						
SCRK	Sand Creek	87.68	16	P	P	11 52 27.4	+0.5
	baz=217						
P32M	Atlin	87.69	23	P	P	11 52 27.6	+0.8
	baz=227						
F20K	Avaraart Lake	87.70	11	P	P	11 52 27.8	+1.1
	baz=206						
POKR	Poker Plat Res	87.74	15	P	P	11 52 27.8	+0.9
	baz=214						
Q32M	Nakina River	87.81	24	P	P	11 52 28.2	+0.5
	baz=228						
E19K	Redstone River	87.81	10	P	P	11 52 28.4	+1.1
	baz=205						
N30M	Aishikik Lake	87.83	20	P	P	11 52 28.3	+0.8
	baz=224						
J25K	Salcha River,	87.83	16	P	P	11 52 28.0	+0.6
	baz=216						
H23K	Yukon River	87.85	13	P	P	11 52 28.4	+0.9
	baz=212						
WHY	Whitehorse	88.01	22	P	P	11 52 29.0	+0.5
	baz=226						
M29M	Somme Creek	88.11	19	P	P	11 52 29.6	+0.8
	baz=222						
J26L	Joseph Creek	88.21	16	P	P	11 52 30.0	+0.6
	baz=218						
H24K	Noodor Dome	88.23	14	P	P	11 52 30.3	+0.9
	baz=214						
YAK	Yakutsk	88.23	340	LR	LR	12 25 52.0	
	comp=Z,141nm,21.7s,baz=62,slow=32						
K27K	Chicken	88.24	17	P	P	11 52 30.3	+0.9
	baz=219						
F21K	Alatna River	88.26	11	P	P	11 52 30.5	+1.1
	baz=208						
N31M	Braeburn, Yuko	88.28	21	P	P	11 52 30.4	+0.7
	baz=225						
C18K	Utukok River	88.33	8	P	P	11 52 30.8	+1.0
	baz=201						
DLBC	Dease Lake	88.35	25	P	P	11 52 30.7	+0.6
	baz=230						
G22K	Bettles	88.38	12	P	P	11 52 30.9	+1.0
	baz=210						
P33M	Teslin, Yukon	88.45	23	P	P	11 52 31.3	+0.8
	baz=227						
G23K	Bananza Creek	88.50	13	P	P	11 52 31.8	+1.2
	baz=212						
R33M	Jennings River	88.60	24	P	P	11 52 32.1	+0.8
	baz=229						
D19K	Kuna River	88.62	9	P	P	11 52 32.4	+1.3
	baz=204						
L29M	L29M	88.70	19	P	P	11 52 32.2	+0.6
	baz=223						
E20K	Nigu River	88.71	10	P	P	11 52 32.1	+0.5
	baz=206						
M30M	Minto, Yukon	88.73	20	P	P	11 52 32.3	+0.6
	baz=224						
F22K	John River	88.75	12	P	P	11 52 32.8	+1.1
	baz=210						
COLD	Coldfoot	88.90	12	P	P	11 52 33.7	+1.3
	baz=212						
I26K	Coal Creek Min	88.95	16	P	P	11 52 33.5	+0.9
	baz=218						
C19K	Lookout Ridge	88.97	8	P	P	11 52 33.8	+1.0
	baz=203						
N32M	Quiet Lake	88.99	22	P	P	11 52 34.0	+1.0
	baz=227						
DAWY	Dawson	89.03	18		P	11 52 34.2	+1.0
DAWY	Dawson	89.03	18	P	P	11 52 33.8	+0.6
	baz=222						
G24K	Hadweenzic Riv	89.04	14	P	P	11 52 33.5	+0.4
	baz=214						
D20K	Etivluk River	89.05	10	P	P	11 52 33.8	+0.7
	baz=206						
H25L	Birch Creek	89.07	14	P	P	11 52 33.8	+0.6
	baz=216						
E21K	Killik River	89.25	11	P	P	11 52 34.8	+0.7
	baz=208						
M31M	Drury Creek, Y	89.26	21	P	P	11 52 34.9	+0.7
	baz=226						
E22K	Anaktuvuk Pass	89.37	11	P	P	11 52 35.5	+0.9
	baz=210						
G25K	Bearman Lake	89.41	14	P	P	11 52 35.5	+0.8
	baz=215						
K29M	Barlow Dome	89.43	19	P	P	11 52 35.6	+0.5
	baz=223						
I27K	Kandik River	89.59	16	P	P	11 52 36.2	+0.4
	baz=220						
FARO	Faro, Yukon	89.63	21	P	P	11 52 36.8	+0.8
	baz=227						
F24K	Squaw Lake	89.63	13	P	P	11 52 37.0	+1.2
	baz=214						
J29N	Klondike Camp	89.67	18	P	P	11 52 36.9	+0.8
	baz=223						
E23K	Chandalar	89.73	12	P	P	11 52 37.3	+1.0
	baz=212						
C21K	Knifeblade Rid	89.75	10	P	P	11 52 37.0	+0.7
	baz=207						
MAYO	Mayo, Yukon	89.75	19	P	P	11 52 37.2	+0.7
	baz=225						
A19K	Wainwright	89.80	8	P	P	11 52 37.7	+1.3
	baz=201						
D22K	Ayikyak River	89.86	11	P	P	11 52 38.0	+1.1
	baz=209						
I28M	Miner Creek	89.92	17	P	P	11 52 37.7	+0.3
	baz=221						
H27K	Steamboat Moun	90.10	16	P	P	11 52 39.1	+1.0
	baz=220						
G26K	Porcupine Rive	90.10	15	P	P	11 52 39.1	+1.1
	baz=218						
B20K	Meade River	90.15	9	P	P	11 52 39.5	+1.4
	baz=205						
SNAA	Sanae	90.15	180		P	11 52 37.5	-1.0
SNAA				IAmb	IAmb	11 52 38.4	
	comp=Z,6.3nm,1.1s						
SNAA	Sanae	90.15	180	P	P	11 52 37.1	-1.4
	comp=Z,3.6nm,1.0s,baz=66,slow=0.7,SNR=9.2						
	comp=Z,3.6nm,1.0s						
F25K	Christian Rive	90.19	14	P	P	11 52 39.6	+1.1
	baz=216						
B21K	Ikpikpuk River	90.19	10	P	P	11 52 39.7	+1.4
	baz=207						
TOLK	Toolik Lake Re	90.23	12	P	P	11 52 39.9	+1.2
	baz=212						
D23K	Nanushuk River	90.30	11	P	P	11 52 39.7	+0.8
	baz=211						
I29M	Ogilvie Camp,	90.31	17	P	P	11 52 39.6	+0.5
	baz=222						
J30M	Hart River	90.32	19	P	P	11 52 40.2	+0.9
	baz=224						
ANMO	Albuquerque	90.40	53	P	P	11 52 40.7	+0.2
	comp=Z,1.5nm,1.0s,baz=256,slow=4.2,SNR=3.1						
	comp=Z,1.5nm,1.0s						
G27K	Doyon Strip	90.51	15	P	P	11 52 41.1	+1.1
	baz=219						
LIRD	Liard River Hi	90.55	26	P	P	11 52 41.1	+0.8
	baz=233						
TXAR	Lajitas Array	90.56	59	P	P	11 52 40.8	-0.4
	comp=Z,1.8nm,0.9s,baz=227,slow=5.2,SNR=19						
	comp=Z,1.8nm,0.9s						
TOAD	Toad River Com	90.58	26	P	P	11 52 41.3	+0.8
	baz=234						
F26K	Sheenjek River	90.61	14	P	P	11 52 41.5	+1.0
	baz=217						

MMPY	**Sheldon Lake,** baz=229	**90.61**	**22**	P		**P**	**11 52 41.4**	**+0.8**
E25K	**Arctic Village** baz=216	**90.63**	**13**	P		**P**	**11 52 41.6**	**+1.0**
SONM	**Songino Array**	**90.68**	**321**	P		**P**	**11 52 41.5**	**+0.2**
SONM	comp=Z,12nm,1.7s			IAmb		IAmb	11 52 55.1	
SONM	**Songino Array** comp=Z,1.1nm,1.0s,baz=134,slow=4.3,SNR=8.4	**90.68**	**321**	P		**P**	**11 52 41.0**	**-0.4**
	comp=Z,1.1nm,1.0s							
I30M	**Mount Dempster** baz=224	**90.77**	**18**	P		**P**	**11 52 42.2**	**+0.8**
D24K	**Happy Valley** baz=213	**90.81**	**12**	P		**P**	**11 52 42.4**	**+1.1**
H29M	**Whitestone** baz=222	**90.93**	**17**	P		**P**	**11 52 42.9**	**+1.0**
B22K	**Teshekpuk Lake** baz=209	**91.02**	**10**	P		**P**	**11 52 43.4**	**+1.2**
C23K	**Itkillik River** baz=211	**91.06**	**11**	P		**P**	**11 52 43.7**	**+1.3**
C24K	**Franklin Bluff** baz=213	**91.32**	**12**	P		**P**	**11 52 44.8**	**+1.2**
A22K	**Sinclair Lake** baz=207	**91.37**	**9**	P		**P**	**11 52 44.7**	**+0.9**
A21K	**Barrow** baz=206	**91.42**	**8**	P		**P**	**11 52 45.0**	**+1.0**
D25K	**Kavik River** baz=215	**91.44**	**12**	P		**P**	**11 52 44.9**	**+0.6**
EPYK	**Eagle Plains** baz=224	**91.50**	**17**	P		**P**	**11 52 45.0**	**+0.4**
GTA	**Gaotai**	**91.51**	**311**	*e*P		**P**	**11 52 46.8**	**+1.4**
GTA	comp=Z,4.0nm,1.1s			pmax		pmax		
G29M	**Pine Creek** baz=223	**91.54**	**16**	P		**P**	**11 52 45.0**	**+0.2**
F28M	**Old Crow** baz=221	**91.58**	**15**	P		**P**	**11 52 45.3**	**+0.4**
E27K	**Coleen River** baz=220	**91.60**	**15**	P		**P**	**11 52 45.3**	**+0.3**
H31M	**Peel River** baz=226	**91.78**	**18**	P		**P**	**11 52 46.3**	**+0.4**
G30M	**tAoh Zraii Nji** baz=224	**92.08**	**17**	P		**P**	**11 52 47.3**	**+0.1**
C26K	**Camden Bay** baz=216	**92.23**	**13**	P		**P**	**11 52 48.3**	**+0.5**
C27K	**Jago River** baz=218	**92.25**	**13**	P		**P**	**11 52 48.3**	**+0.3**
E28M	**Babbage River** baz=221	**92.41**	**15**	P		**P**	**11 52 49.0**	**+0.3**
G31M	**Satah River** baz=226	**92.58**	**17**	P		**P**	**11 52 49.2**	**-0.2**
F30M	**Barrier River** baz=225	**92.64**	**17**	P		**P**	**11 52 49.8**	**0.0**
E29M	**Blow River** baz=223	**92.66**	**15**	P		**P**	**11 52 50.5**	**+0.7**
D28M	**Stokes Point** baz=222	**93.14**	**15**	P		**P**	**11 52 52.5**	**+0.5**
INK	**Inuvik** baz=227	**93.74**	**17**	P		**P**	**11 52 55.4**	**+0.6**
CMIG	**Matias Romero** comp=Z,116nm,20.6s,baz=304,slow=29	**94.20**	**73**	LR		LR	12 25 47.3	
PLCA	**Paso Flores** comp=Z,85nm,20.7s,baz=234,slow=29	**94.58**	**136**	LR		LR	12 25 43.1	
TIXI	**Tiksi** comp=Z,119nm,21.4s,baz=112,slow=32			LR		LR	12 30 41.6	
YKA	**Yellowknife Ar** comp=Z,1.0nm,1.0s,baz=254,slow=4.4,SNR=6.9	**96.94**	**26**	P		**P**	**11 53 08.8**	**-0.7**
	comp=Z,1.0nm,1.0s							
PALK	**Pallekele** comp=Z,84nm,18.1s,baz=168,slow=37	**97.53**	**275**	LR		LR	12 39 50.4	
WMQ	**Urumqi**	**101.51**	**312**	*e*P		**Pdif**	**11 53 32.6**	**+2.0**
WMQ	comp=Z,230nm,22.3s			LR		LR		
FINES	**FINESS Array B** comp=Z,4.1nm,1.0s,baz=10,slow=7.0,SNR=4.4	**132.15**	**341**	PKP		**PKPdf**	**11 58 50.6**	**-1.2**
STEB	**Steborice**	**144.13**	**336**	*e*PKP		PKPbc	11 59 12.7	+0.4
OSTC	**Ostas**	**144.20**	**338**	*e*PKP		**PKPdf**	**11 59 14.0**	**-0.4**
CHVC	**Chvalec**	**144.23**	**338**	*e*PKP		**PKPdf**	**11 59 13.5**	**-0.9**
UPC	**Upice**	**144.31**	**338**	*e*PKP		**PKPdf**	**11 59 13.8**	**-0.7**
DPC	**Dobruska-Polom**	**144.33**	**338**	*e*PKP		**PKPdf**	**11 59 13.8**	**-0.8**
MORC	**Moravsky Berou**	**144.35**	**336**	*e*PKP		PKPbc	11 59 13.3	+0.3
MAUC	**Maruska**	**144.57**	**336**	*e*PKP		**PKPdf**	**11 59 14.9**	**-0.2**
CLL	**Collm** comp=Z,20nm,1.0s	**144.59**	**342**	*j* PKPdf		PKPbc	11 59 13.7	0.0
CLL	comp=Z,17nm,1.1s			*i* x		x	11 59 15.5	
CLL				*e*(PKiKP)			11 59 20.0	
CLL				*e*SKPdf		**SKPdf**	**12 02 50.0**	**+2.0**
BRG	**Berggiesshubel**	**144.69**	**341**	*e*PKP		**PKPdf**	**11 59 14.6**	**-0.5**
BRG	comp=Z,18nm,1.1s			Amp			11 59 15.5	
BRG	**Berggiesshubel**	**144.69**	**341**	P		PKiKP	11 59 28.1	+9.2
BRG	comp=Z,23nm,1.5s			Amp			11 59 29.1	
VYHS	**Vyhne**	**144.84**	**334**	*e*PKP		**PKPdf**	**11 59 15.2**	**-0.3**
JAVC	**Velka Javorina**	**145.03**	**335**	*e*PKP		**PKPdf**	**11 59 16.7**	**+0.8**
VRAC	**Vranov**	**145.09**	**337**	*e*PKP		**PKPdf**	**11 59 15.7**	**-0.2**
GOPC	**GO Pecny, Ondr**	**145.23**	**339**	*e*PKP		**PKPdf**	**11 59 16.5**	**+0.3**
PRU	**Pruhonice**	**145.25**	**339**	*e*PKP		**PKPdf**	**11 59 16.2**	**0.0**
KRUC	**Moravsky**	**145.37**	**337**	*e*PKP		**PKPab**	**11 59 16.5**	**+0.1**
MODS	**Modra-Piesok**	**145.58**	**335**	*e*PKP		**PKPdf**	**11 59 16.8**	**0.0**
KHC	**Kasperske Hory**	**146.31**	**339**	*e*PKP		**PKPab**	**11 59 19.9**	**-0.1**
CKRC	**Cesky Krumlov**	**146.33**	**338**	*e*PKP		**PKPab**	**11 59 19.7**	**-0.4**
CONA	**Conrad Observa** comp=Z,16nm,1.0s,SNR=16	**146.50**	**336**	*i* PKP		**PKPab**	**11 59 20.5**	**-0.3**
RONA	**Rosalia, Austr** comp=Z,15nm,1.1s,SNR=11	**146.51**	**335**	*i* PKP		**PKPbc**	**11 59 20.3**	**+0.4**
GERES	**GERESS Array B** comp=Z,7.6nm,0.9s,baz=29,slow=3.3,SNR=18	**146.52**	**339**	PKPbc		**PKPbc**	**11 59 20.0**	**0.0**
BEBN	**Eben Emael**	**146.82**	**349**	*d*PKP		**PKPab**	**11 59 22.3**	**+0.5**
BTNL	**Ternell**	**146.94**	**348**	*d*PKPdf		**PKPdf**	**11 59 19.5**	**+0.4**
MEM	**Membach**	**146.94**	**349**	*d*PKP		**PKPbc**	**11 59 20.9**	**0.0**
BSTI	**Sart Tilman**	**147.05**	**349**	*d*PKPdf		**PKPdf**	**11 59 19.6**	**+0.4**
MOA	**Molln** comp=Z,11nm,1.0s	**147.16**	**337**	*e*PKP		**PKPbc**	**11 59 21.3**	**-0.4**
ARSA	**Arzberg** comp=Z,6.0nm,0.9s	**147.19**	**336**	*e*PKP		**PKPab**	**11 59 22.9**	**-0.6**
BCLA	**Clavier**	**147.25**	**349**	*d*PKP		**PKPbc**	**11 59 22.2**	**+0.4**
BGES	**Gesves**	**147.32**	**350**	*d*PKP		**PKPbc**	**11 59 22.7**	**+0.6**
BMRD	**Maredsous**	**147.46**	**350**	*d*PKPdf		**PKPdf**	**11 59 20.2**	**+0.3**
BIOA	**Bad Ischl, Aus** comp=Z,0.5nm,0.3s	**147.52**	**338**	*i* pPKP		**PKPbc**	**11 59 22.9**	**+0.2**
DOU	**Dourbes**	**147.69**	**350**	*d*PKP		**PKPbc**	**11 59 22.8**	**-0.2**
WLF	**Walferdange**	**147.82**	**348**	*d*PKP		**PKPbc**	**11 59 24.0**	**+0.6**
SOKA	**Soboth** comp=Z,7.8nm,1.2s,SNR=5.2	**147.85**	**335**	*i* pPKP		**PKPbc**	**11 59 23.6**	**-0.1**
LESA	**Schwarzleotal** comp=Z,5.9nm,1.0s	**148.09**	**339**	*i* pPKP		**PKPbc**	**11 59 24.0**	**-0.3**
KBA	**Koelnbreinsper** comp=Z,6.6nm,1.1s	**148.15**	**338**	*i* pPKP		**PKPbc**	**11 59 24.8**	**+0.1**
OBKA	**Obir** comp=Z,4.5nm,0.9s	**148.18**	**336**	*e*pPKP		**PKPbc**	**11 59 24.6**	**0.0**
MYKA	**Terra Mystica** comp=Z,3.7nm,0.6s	**148.42**	**337**	*i* pPKP		**PKPbc**	**11 59 24.6**	**-0.6**
WATA	**Walderalm** comp=Z,5.8nm,0.8s	**148.54**	**340**	*i* PKP		**PKPbc**	**11 59 25.7**	**+0.1**
WTTA	**Wattenberg** comp=Z,9.8nm,1.0s	**148.58**	**340**	*i* PKP		**PKPbc**	**11 59 25.4**	**-0.3**
RETA	**Reutte** comp=Z,7.0nm,1.0s	**148.66**	**341**	*e*PKP		**PKPbc**	**11 59 26.0**	**+0.2**
MOTA	**Moosalm** comp=Z,10nm,1.0s,SNR=5.1	**148.68**	**340**	*i* PKP		**PKPbc**	**11 59 25.5**	**-0.5**
ABTA	**Abfaltersbach** comp=Z,11nm,1.1s	**148.73**	**338**	*i* PKP		**PKPbc**	**11 59 25.4**	**-0.6**
SQTA	**Sankt Quirin** comp=Z,6.1nm,0.8s	**148.76**	**340**	*e*PKP		**PKPbc**	**11 59 25.5**	**-0.6**
FETA	**Feichten** comp=Z,12nm,1.2s,SNR=5.6	**149.09**	**341**	*i* PKP		**PKPbc**	**11 59 26.2**	**-0.8**
DAVA	**Damuels** comp=Z,9.7nm,1.0s	**149.11**	**342**	*i* PKP		**PKPbc**	**11 59 27.4**	**+0.3**
ESDC	**Sonseca Array** comp=Z,1.0nm,0.9s,baz=345,slow=0.9,SNR=6.5	**158.80**	**1**	PKPab		**PKPab**	**12 00 11.5**	**-0.8**
TORD	**Torodi Ar. Bea** comp=Z,1.3nm,1.0s,baz=256,slow=2.3,SNR=4.4	**172.62**	**226**	PKP		**PKPdf**	**11 59 47.0**	**-1.6**
TORD	comp=Z,1.4nm,1.0s,baz=120,slow=6.1,SNR=3.9			PKPab		**PKPab**	**12 01 12.0**	**-1.8**

NEIC ***06*** *11:45:11.1±1.5,35.842N±0.008×117.670W±0.008, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.6km az=305.0*

PAS 06 11:45:11.5±1.6,35.835N±0.008×117.666W±0.008, h4km±2km, ML3.4/19,ML3.1/79(NEIC), Error ellipse: s-maj=1.2km s-min=0.8km az=214.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.06**	**109**		Pg	11 45 13.0	+0.1
TOW	**Tower One**	**0.08**	**252**		Pg	11 45 13.8	+0.5
SRTC	**Snort**	**0.16**	**206**		Pg	11 45 15.0	+0.4
WVPM	**Volcano Peak E**	**0.17**	**313**		Pg	11 45 14.8	-0.1
WVPM					Sg	11 45 17.9	+0.8
WNMM	**Nine Mile Cany**	**0.20**	**273**		Pg	11 45 15.4	+0.1
WNMM					Sg	11 45 18.8	+0.9
WRVM	**Rose V. Centra**	**0.25**	**314**		Pg	11 45 16.4	0.0
WRVM					Sg	11 45 20.2	+0.5
MPMC	**Manual Prospec**	**0.27**	**33**		Pg	11 45 16.7	0.0
MPMC					Sg	11 45 20.6	+0.4
MFS	**McCloud Flat S**	**0.32**	**331**		Pg	11 45 17.8	0.0
LRMC	**Laurel Mtn Rad**	**0.35**	**182**		Pg	11 45 18.0	-0.3
CCCA	**Chr Cany lake**	**0.39**	**141**		Pg	11 45 19.5	+0.4
WBSM	**Bird Springs**	**0.49**	**233**		Pg	11 45 20.6	-0.2
DTP	**Desert Tortois**	**0.58**	**195**		Pg	11 45 22.5	-0.2
QSM	**Queen of Sheba**	**0.66**	**78**		Pg	11 45 23.7	-0.4
QSM	comp=E,2μm,0.5s			IAML		11 45 36.6	
QSM	comp=N,1μm,0.2s			IAML		11 45 38.3	
ISA	**Isabella, Lake**	**0.68**	**256**		Pg	11 45 24.1	-0.4
ISA	comp=E,618nm,0.2s			IAML		11 45 26.0	
ISA	comp=N,796nm,0.3s			IAML		11 45 35.0	
ISA	**Isabella, Lake**	**0.68**	**256**		Sg	11 45 34.2	+0.8
CGO	**Cerro Gordo**	**0.72**	**351**		Pg	11 45 25.2	-0.2
WASM	**Alta Sierra Ca**	**0.73**	**263**		Pg	11 45 25.2	-0.3
WASM					Sg	11 45 35.8	+0.8
CCAC	**Calif City Air**	**0.74**	**203**		Pg	11 45 25.1	-0.5
CCAC	**Calif City Air**	**0.74**	**203**		Sg	11 45 35.4	+0.2
GSC	**Goldstone, Bar**	**0.88**	**127**		Pg	11 45 27.5	-0.8
GSC	comp=N,1μm,0.3s			IAML		11 45 41.5	
GWY	**Greenwater Val**	**0.88**	**66**		Pg	11 45 27.9	-0.4
GWY	comp=N,1μm,0.4s			IAML		11 45 42.8	
FURC	**Furnace Creek,**	**0.91**	**46**		Sg	11 45 41.2	+0.6
SPG2	**Springville 2**	**0.96**	**293**		Pg	11 45 29.1	-0.9
SPG2					Sg	11 45 41.9	-0.6
HYS	**Haystack Butte**	**0.97**	**175**		Pb	11 45 30.9	+0.1
TEJ	**El Tejon**	**1.03**	**234**		Pg	11 45 30.1	-1.1
SHOC	**Shoshone, Teco**	**1.13**	**86**		Pg	11 45 32.9	-0.3
SHOC					Sb	11 45 48.3	-0.3
ARVC	**Arvin**	**1.18**	**234**		Pg	11 45 31.9	-2.3
GRAC	**Grapevine Rang**	**1.18**	**12**		Pg	11 45 33.6	-0.6
GRAC	comp=N,676nm,0.7s			IAML		11 45 58.4	
TJR	**Tejon Ranch**	**1.19**	**228**		Pg	11 45 33.0	-1.3
THC	**Tehachapi Micr**	**1.23**	**222**		Pg	11 45 34.0	-1.1
SGV	**South Grapevin**	**1.25**	**24**		Pg	11 45 35.1	-0.4
BAKC	**Calstate**	**1.27**	**248**		Pg	11 45 35.1	-0.7
BAKC					Sb	11 45 52.8	+0.2
WCT	**Wildcat Mounta**	**1.27**	**41**		Pg	11 45 35.0	-0.9
WCT	comp=E,538nm,0.6s			IAML		11 45 55.4	
WCT	comp=N,272nm,0.7s			IAML		11 45 55.5	
AMDNV	**Amargosa**	**1.28**	**61**		Pg	11 45 35.5	-0.4
LRRC	**Littlerock Res**	**1.34**	**193**		Pg	11 45 37.3	+0.2
CJV	**Casa Juvan**	**1.36**	**197**		Pg	11 45 37.8	+0.3
LCH	**Last Change Ra**	**1.40**	**1**		Pn	11 45 37.0	-0.8
TUQ	**Turquoise Moun**	**1.47**	**105**		Pn	11 45 38.3	-0.6
OSI	**Osito Audit: C**	**1.49**	**216**		Pn	11 45 38.7	-0.3
OSI	comp=N,234nm,0.8s			IAML		11 46 05.4	
OSI	comp=E,234nm,0.7s			IAML		11 46 05.8	
GMN	**Gold Mountain**	**1.50**	**12**		Pn	11 45 38.6	-0.7
GMN	comp=N,209nm,0.5s			IAML		11 46 02.4	
CHFC	**Chilao Flat St**	**1.53**	**191**		Pb	11 45 40.4	0.0
CHFC					Sg	11 46 00.3	-0.2
DSP	**Deep Springs**	**1.55**	**351**		Pn	11 45 39.2	-0.6
DSP	comp=E,223nm,0.6s			IAML		11 46 02.2	
BFSC	**Mount Baldy Ra**	**1.59**	**180**		Pb	11 45 41.5	0.0
POCCA	**Poleta Canyon**	**1.60**	**342**		Pb	11 45 41.3	-0.5
BHPR	**Bishop**	**1.60**	**336**		Pb	11 45 41.7	-0.1
MTUM	**Tungsten Hills**	**1.68**	**335**		Pb	11 45 42.7	-0.3
BCW	**Bitter Crk WRg**	**1.68**	**239**		Pn	11 45 40.9	-0.8
BCW	comp=E,246nm,1.2s			IAML		11 46 24.2	
BCW	comp=N,238nm,0.8s			IAML		11 46 31.0	
PASC	**Pasadena Art C**	**1.71**	**195**		Pn	11 45 41.5	-0.6
PASC	comp=E,134nm,0.5s			IAML		11 46 16.5	
CRGC	**Crocker Grade**	**1.78**	**251**		Pb	11 45 44.2	-0.5
GTM	**Goat Mountain**	**1.88**	**145**		Pb	11 45 46.2	-0.1
SMMC	**Simmler**	**1.97**	**255**		Pn	11 45 46.0	+0.4
KCC	**Kaiser Creek**	**2.00**	**319**		Pb	11 45 47.9	-0.4
MLAC	**Mammoth, Mammo**	**2.02**	**333**		Pb	11 45 48.9	0.0
MCSM	**Casa Diablo Ho**	**2.07**	**332**		Pb	11 45 50.0	+0.2
SHPR	**Sheep Range**	**2.13**	**71**		Pn	11 45 47.6	-0.4
EW2	**E Wide Canyon**	**2.15**	**151**		Pn	11 45 49.1	+0.9
TPC	**Twentynine Pal**	**2.18**	**142**		Pn	11 45 47.2	-1.2
ELS	**Elsinore Mount**	**2.19**	**175**		Pn	11 45 47.3	-1.3
ELS	comp=N,86nm,0.4s			IAML		11 46 23.8	
ELS	comp=E,93nm,0.5s			IAML		11 46 24.0	
TSCN	**Private Proper**	**2.20**	**263**		Pb	11 45 51.1	-0.7
MURC	**Murrieta**	**2.26**	**170**		Pn	11 45 50.7	+1.1
TPH	**Tonopah**	**2.26**	**9**		Pn	11 45 49.3	-0.5
V12A	**Nelson**	**2.29**	**92**	Pn	Pn	11 45 50.0	-0.1
V12A	comp=N,81nm,1.5s			IAML		11 46 28.6	
V12A	comp=E,76nm,0.7s			IAML		11 46 30.5	
PMD	**Palm Desert**	**2.43**	**154**	Pn	Pn	11 45 51.9	+0.1
PMD	comp=E,65nm,0.8s			IAML		11 46 36.5	
PFO	**Pinyon Flats O**	**2.43**	**156**		Pn	11 45 51.2	-0.8
LHV	**Little Huntoon**	**2.50**	**345**		Pn	11 45 53.1	+0.3
LHV	comp=N,59nm,1.5s			IAML		11 46 44.5	
PMPB	**Monarch Peak**	**2.57**	**279**		Pn	11 45 53.7	-0.2
RAMR	**Ramage Ranch**	**2.61**	**267**		Pn	11 45 55.9	+1.5
NV11	**Mina Array Sit**	**2.62**	**352**		Pn	11 45 54.4	-0.3
NVAR	**Mina Array Bea**	**2.64**	**349**		Pn	11 45 55.0	0.0
RYN	**Ryan**	**2.87**	**346**		Pn	11 45 58.6	+0.5
W13A	**Hualapai Mount**	**3.17**	**102**	Pn	Pn	11 46 00.6	-1.7
W13A	comp=E,28nm,0.9s			IAML		11 47 01.0	
W13A	comp=N,27nm,1.2s			IAML		11 47 07.0	
BLYC	**Blythe**	**3.32**	**128**	Pn	Pn	11 46 01.9	-2.2
BLYC	comp=E,36nm,0.6s			IAML		11 47 09.1	
BLYC	comp=N,43nm,0.9s			IAML		11 47 11.1	
TKX	**Tecate**	**3.37**	**165**	Pn	Pn	11 46 04.6	-0.3
GLA	**Glamis**	**3.63**	**139**	Pn	Pn	11 46 06.5	-2.0
GLA	comp=E,67nm,0.7s			IAML		11 47 11.7	
GLA	comp=N,64nm,0.7s			IAML		11 47 15.5	
LCMT	**Little Creek M**	**3.75**	**70**		Pn	11 46 09.4	-0.8
ESJX	**Sierra Juarez**	**4.08**	**159**	Pn	Pn	11 46 15.6	+0.9
ESJX	comp=E,14nm,0.8s			IAML		11 47 30.8	
KNB	**Kanab**	**4.08**	**72**	Pn	Pn	11 46 15.6	+0.9
KNB	comp=N,14nm,1.6s			IAML		11 47 29.6	
PAHR	**Pah Rah Range**	**4.10**	**341**	Pn	Pn	11 46 15.4	+0.4
ELK	**Elko**	**5.26**	**21**	Pn	Pn	11 46 31.2	+0.1
ELK	comp=N,9.0nm,0.7s			IAML		11 48 03.0	
ELK	comp=N,6.9nm,0.7s			IAML		11 48 04.1	
X16A	**Lo Mia Camp, P**	**5.29**	**104**	Pn	Pn	11 46 31.1	-0.4
X16A	comp=E,7.7nm,1.4s			IAML		11 48 06.9	

NEIC ***06*** *11:53:07.6±1.4,35.893N±0.008×117.73W±0.01, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.3km az=353.0*

PAS ***06*** *11:53:08.1±1.5,35.895N±0.009×117.73W±0.01, h2km±2km, Mwr4.1/6,mb4.1/23(NEIC),ML4.1/102(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=211.0*

IDC ***06*** *11:53:09.0±0.6,35.90N×117.56W, h0km, mb3.8/7, mbtmp3.7/12,ML4.0/5, Error ellipse: s-maj=13.4km s-min=5.2km az=75.0*

ISC 06 11:53:09.2±0.5,35.88N±0.01×117.72W±0.02,h10km, n173,σ1ϟ43/197,mb4.0/13, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**209**		**Pg**	**11 53 10.4**	**-1.1**
WVPM	**Volcano Peak E**	**0.11**	**313**		**Pg**	**11 53 10.1**	**-1.9**
WVPM					**Sg**	**11 53 11.7**	**-2.5**
CLC	**China Lake**	**0.12**	**121**		**Pg**	**11 53 10.9**	**-1.1**
CLC					**Sg**	**11 53 13.2**	**-0.9**
JRC2	**Joshua Ridge**	**0.13**	**326**		**Pg**	**11 53 10.5**	**-1.9**
JRC2					**Sg**	**11 53 12.3**	**-2.3**
WNMM	**Nine Mile Cany**	**0.15**	**258**		**Pg**	**11 53 11.3**	**-1.3**
WCSM	**Coso Springs S**	**0.16**	**345**		**Pg**	**11 53 10.8**	**-1.9**
SRTC	**Snort**	**0.18**	**188**		**Pg**	**11 53 12.6**	**-0.5**
WRVM	**Rose V. Centra**	**0.19**	**314**		**Pg**	**11 53 11.6**	**-1.7**
WRVM					**Sg**	**11 53 14.2**	**-1.9**
MPMC	**Manual Prospec**	**0.26**	**46**		**Pg**	**11 53 13.2**	**-1.4**
MPMC					**Sg**	**11 53 17.1**	**-1.1**
MFS	**McCloud Flat S**	**0.27**	**335**		**Pg**	**11 53 12.9**	**-1.7**
MFS					**Sg**	**11 53 16.9**	**-1.4**
LRMC	**Laurel Mtn Rad**	**0.40**	**176**	Pg	**Pg**	**11 53 16.1**	**-1.0**
LRMC	comp=E,22μm,0.3s			IAML		11 53 22.7	
LRMC	comp=N,15μm,0.6s			IAML		11 53 23.3	
LRMC	**Laurel Mtn Rad**	**0.40**	**176**		**Sb**	**11 53 22.3**	**-2.3**
CCCA	**Chr Cany lake**	**0.45**	**140**		**Pb**	**11 53 17.7**	**-1.6**
CCCA					**Sb**	**11 53 25.2**	**-0.9**
WORM	**Onyx Ranch**	**0.46**	**247**		**Pg**	**11 53 16.9**	**-1.3**
WORM					**Sg**	**11 53 23.3**	**-1.1**
WBSM	**Bird Springs**	**0.48**	**226**		**Pg**	**11 53 17.5**	**-1.1**
WBSM					**Sg**	**11 53 24.2**	**-0.8**
WHFM	**Hanning Flat**	**0.54**	**251**		**Pg**	**11 53 18.5**	**-1.3**
WHFM					**Sg**	**11 53 25.9**	**-1.0**
DTP	**Desert Tortois**	**0.61**	**190**		**Pg**	**11 53 20.0**	**-1.1**
DTP					**Sb**	**11 53 29.0**	**-1.8**
CWC	**Cottonwood Cre**	**0.64**	**333**		**Pg**	**11 53 19.1**	**-1.7**
CWC					**Sg**	**11 53 28.4**	**-1.6**
ISA	**Isabella, Lake**	**0.65**	**251**		**Sg**	**11 53 29.3**	**-1.0**
ISA	**Isabella, Lake**	**0.65**	**251**		**Pg**	**11 53 20.3**	**-1.5**
ISA	comp=N,6μm,0.5s			IAML		11 53 30.5	
ISA	comp=E,12μm,0.3s			IAML		11 53 30.6	
CGO	**Cerro Gordo**	**0.68**	**354**		**Pg**	**11 53 20.4**	**-2.0**
WASM	**Alta Sierra Ca**	**0.69**	**259**		**Pg**	**11 53 21.2**	**-1.4**
WASM					**Sg**	**11 53 30.6**	**-1.2**
QSM	**Queen of Sheba**	**0.70**	**82**		**Pg**	**11 53 21.3**	**-1.3**
QSM	comp=N,11μm,0.6s			IAML		11 53 36.4	
QSM	comp=E,9μm,0.6s			IAML		11 53 37.5	
CCAC	**Calif City Air**	**0.76**	**199**		**Sb**	**11 53 33.9**	**-1.1**
CCAC	**Calif City Air**	**0.76**	**199**		**Pg**	**11 53 22.8**	**-1.0**
CCAC	comp=E,10μm,0.9s			IAML		11 53 38.0	
CCAC	comp=N,6μm,0.3s			IAML		11 53 38.6	
GWY	**Greenwater Val**	**0.91**	**70**		**Pg**	**11 53 25.4**	**-1.3**
GWY	comp=N,7μm,0.7s			IAML		11 53 43.9	
GWY	comp=E,9μm,0.4s			IAML		11 53 44.2	
SPG2	**Springville 2**	**0.91**	**291**		**Pg**	**11 53 24.6**	**-2.1**
SPG2					Pn	11 53 36.4	+8.3
FURC	**Furnace Creek,**	**0.91**	**49**		**Pg**	**11 53 25.6**	**-1.1**
FURC					**Sb**	**11 53 38.0**	**-1.2**
GSC	**Goldstone, Bar**	**0.94**	**127**		**Pg**	**11 53 26.0**	**-1.3**
GSC	comp=N,8μm,0.6s			IAML		11 53 42.6	
GSC	**Goldstone, Bar**	**0.94**	**127**		**Sb**	**11 53 39.2**	**-0.9**
HYS	**Haystack Butte**	**1.02**	**173**		**Pg**	**11 53 27.3**	**-1.4**
EDW2	**Edwards Air Fo**	**1.02**	**193**		**Pg**	**11 53 27.1**	**-1.7**
EDW2					**Sg**	**11 53 40.8**	**-1.2**
TEJ	**El Tejon**	**1.02**	**231**		**Pg**	**11 53 27.0**	**-1.8**
TEJ					**Sg**	**11 53 40.6**	**-1.5**
TPO	**Tropico Hills**	**1.08**	**203**		**Pg**	**11 53 28.3**	**-1.6**
MAGC	**SCE Magundon P**	**1.11**	**243**		**Pb**	**11 53 29.1**	**-1.3**
VES	**Vestal, Richgr**	**1.11**	**269**		**Pb**	**11 53 28.8**	**-1.7**
VES					**Sg**	**11 53 43.6**	**-1.3**
GRAC	**Grapevine Rang**	**1.15**	**14**		**Pb**	**11 53 29.4**	**-1.8**
RRX	**Edison Barstow**	**1.16**	**149**		**Pb**	**11 53 30.2**	**-1.1**
SHOC	**Shoshone, Teco**	**1.17**	**88**		**Pb**	**11 53 30.0**	**-1.5**
SBB	**Saddle Back Bu**	**1.19**	**184**		**Pb**	**11 53 30.2**	**-1.6**
TJR	**Tejon Ranch**	**1.19**	**225**		**Pb**	**11 53 29.9**	**-1.9**
TJR					**Sg**	**11 53 46.3**	**-1.2**
SGV	**South Grapevin**	**1.23**	**26**		**Pn**	**11 53 31.1**	**-1.6**
THC	**Tehachapi Micr**	**1.23**	**219**		**Pn**	**11 53 30.8**	**-1.9**
BAKC	**Calstate**	**1.25**	**245**		**Pb**	**11 53 31.7**	**-1.1**
TIN	**Tinemaha, Big**	**1.25**	**341**		**Pn**	**11 53 31.1**	**-1.7**
WCT	**Wildcat Mounta**	**1.27**	**44**		**Pn**	**11 53 31.8**	**-1.3**
WCT	comp=N,4μm,0.6s			IAML		11 53 50.3	
WCT	comp=E,6μm,0.7s			IAML		11 53 52.6	
ALPC	**Antelope**	**1.28**	**202**		**Pg**	**11 53 32.9**	**-0.8**
AMDNV	**Amargosa**	**1.30**	**63**		**Pn**	**11 53 31.5**	**-1.9**
LEOC	**Leona Valley**	**1.33**	**201**		**Pn**	**11 53 32.7**	**-1.2**
ADO	**Adelanto Recei**	**1.34**	**170**		**Pg**	**11 53 34.1**	**-0.9**
VTV	**

SMMC	Simmler	1.94	254			Pb	11 53 42.9	-1.8
MLAC	Mammoth, Mammo	1.97	333			Pb	11 53 44.3	-1.0
PKM	Mcpherson Peak	1.98	241			Pb	11 53 44.1	-1.2
GMRC	Granite Mounta	2.00	122			Pn	11 53 41.3	-1.9
BLAC	Blackrock camp	2.11	148			Pn	11 53 43.8	-0.8
SHPR	Sheep Range	2.16	72			Pn	11 53 44.7	-0.7
EW2	E Wide Canyon	2.21	150			Pn	11 53 45.1	-0.8
TPH	Tonopah	2.23	10			Pn	11 53 45.5	-0.9
ELS	Elsinore Mount	2.23	174			Pn	11 53 45.7	-0.6
TPC	Twentynine Pal	2.23	142			Pn	11 53 45.2	-1.1
HMTC	Hemet	2.24	165			Pn	11 53 45.6	-0.7
POB	Polly Butte	2.28	163			Pn	11 53 46.4	-0.6
DGR	Domenigoni Val	2.29	165			Pn	11 53 46.5	-0.7
MURC	Murrieta	2.31	169			Pn	11 53 46.8	-0.6
BACC	Bachelor Mtn.	2.33	166			Pn	11 53 46.8	-0.7
V12A	Nelson	2.34	93			Pn	11 53 46.5	-1.3
V12A					IAML		11 54 29.7	
	comp=E,791nm,0.6s							
V12A					IAML		11 54 33.5	
	comp=N,1µm,0.8s							
LHV	Little Huntoon	2.45	345			Pn	11 53 49.5	+0.2
LHV					IAML		11 54 40.7	
	comp=N,727nm,1.1s							
LHV					IAML		11 54 43.5	
	comp=E,783nm,1.2s							
PMD	Palm Desert	2.48	153	Pn		Pn	11 53 48.5	-1.2
PMD					IAML		11 54 35.1	
	comp=E,973nm,0.8s							
PFO	Pinyon Flats O	2.48	155			Pn	11 53 49.1	-0.7
PFO					IAML		11 54 33.0	
	comp=E,837nm,1.3s							
PFO					IAML		11 54 34.9	
	comp=E,630nm,0.8s							
PFO	Pinyon Flats O	2.48	155	Pn		Pn	11 53 48.9	-1.0
	comp=E,8.9nm,0.3s,baz=336,slow=14,SNR=16							
PFO				Pg		Pg	11 53 54.4	-2.4
	comp=E,86nm,0.3s,baz=334,slow=14,SNR=46							
PFO				Sn		Sn	11 54 20.6	+0.3
	comp=E,18nm,0.3s,baz=133,slow=18,SNR=2.0							
PFO				Lg		Lg	11 54 26.8	
	comp=E,146nm,0.3s,baz=94,slow=8.4,SNR=13							
	comp=E,20nm,0.3s							
PMPB	Monarch Peak	2.52	279			Pn	11 53 50.8	+0.5
NV11	Mina Array Sit	2.58	352			Pn	11 53 51.0	-0.1
NVAR	Mina Array Bea	2.59	350			Pn	11 53 51.2	-0.2
NVAR	Mina Array Bea	2.59	350	Pn		Pn	11 53 52.1	+0.7
	comp=E,64nm,0.3s,baz=172,slow=19,SNR=91							
NVAR				Pg		Pb	11 53 56.1	+0.2
	comp=E,101nm,0.3s,baz=173,slow=17,SNR=115							
NVAR				Lg		Lg	11 54 31.1	
	comp=E,40nm,0.3s,baz=44,slow=8.8,SNR=5.3							
BBGB	Big Mountain B	2.77	286			Pn	11 53 55.2	+1.4
RYN	Ryan	2.82	347			Pn	11 53 54.1	-0.4
W13A	Hualapai Mount	3.22	103			Pn	11 53 58.9	-1.2
W13A					IAML		11 54 55.6	
	comp=E,388nm,0.7s							
W13A					IAML		11 55 00.3	
	comp=N,360nm,0.7s							
BLYC	Blythe	3.38	128			Pn	11 54 00.4	-1.6
BLYC					IAML		11 54 56.5	
	comp=N,506nm,0.8s							
BLYC					IAML		11 55 04.6	
	comp=E,501nm,0.7s							
TJX	Tijuana	3.40	170			Pn	11 54 02.7	+0.4
TKX	Tecate	3.42	164			Pn	11 54 02.1	-0.5
TKX					IAML		11 54 58.6	
	comp=E,298nm,0.4s							
YUH	Yuha Desert	3.55	155			Pn	11 54 03.0	-1.3
CBX	Cerro Bola	3.66	166			Pn	11 54 06.2	+0.2
GLA	Glamis	3.69	139			Pn	11 54 04.6	-1.7
LCMT	Little Creek M	3.78	71	Pn		Pn	11 54 07.5	-0.2
CCUT	Cedar City	3.88	63			Pn	11 54 09.8	+0.7
CCUT					IAML		11 55 34.9	
	comp=N,174nm,1.3s							
CCX	Cicese	4.09	167	Pn		Pn	11 54 12.0	+0.2
SZCU	Shurtz Canyon	4.10	64			Pn	11 54 11.5	-0.6
KNB	Kanab	4.11	72	Pn		Pn	11 54 12.9	+0.7
KNB					IAML		11 55 26.0	
	comp=E,159nm,0.8s							
KNB					IAML		11 55 48.4	
	comp=N,147nm,1.4s							
ESJX	Sierra Juarez	4.13	159			Pn	11 54 12.4	-0.1
ESJX					IAML		11 55 23.7	
	comp=N,148nm,0.8s							
ESJX					IAML		11 55 30.8	
	comp=E,227nm,1.3s							
Y14A	Wickenburg	4.33	115			Pn	11 54 14.5	-0.6
Y14A					IAML		11 55 33.5	
	comp=E,261nm,0.7s							
113A	Mohawk Valley,	4.50	132	Pn		Pn	11 54 15.8	-1.7
113A					IAML		11 55 32.5	
	comp=E,134nm,0.8s							
113A					IAML		11 55 32.5	
	comp=N,161nm,0.8s							
VTX	Valle De La Tr	4.75	160	Pn		Pn	11 54 21.1	+0.1
VTX					IAML		11 55 38.6	
	comp=E,180nm,0.6s							
VTX					IAML		11 55 43.4	
	comp=N,178nm,0.8s							
ELK	Elko	5.24	21	Pn		Pn	11 54 28.1	+0.3
	comp=N,2.8nm,0.3s,baz=182,slow=12,SNR=25							
ELK				Pg		Pb	11 54 40.0	-1.0
	comp=N,1.6nm,0.3s,baz=229,slow=6.4,SNR=4.1							
ELK				Sn		Sn	11 55 32.0	+3.7
	comp=N,1.5nm,0.3s,baz=188,slow=18,SNR=1.2							
ELK				Lg		Lg	11 55 52.2	
	comp=N,23nm,0.3s,baz=302,slow=18,SNR=15							
	comp=N,6.0nm,0.3s							
X16A	Lo Mia Camp, P	5.34	104			Pn	11 54 29.4	+0.2
X16A					IAML		11 56 21.4	
	comp=E,83nm,1.1s							
X16A					IAML		11 56 21.9	
	comp=N,78nm,1.1s							
214A	Organ Pipe Nat	5.65	132	Pn		Pn	11 54 31.2	-2.0
WVOR	Wild Horse Val	6.59	354	Pn		Pn	11 54 46.4	+0.2
YBH	Yreka Blue Hor	7.03	328	Pn		Pn	11 54 55.6	+3.4
	baz=165,slow=6.2,SNR=5.0							
YBH				Sn		Sn	11 56 19.0	+6.8
	baz=180,slow=15,SNR=1.6							
YBH				Lg		Lg	11 56 49.0	
	baz=30,slow=8.4,SNR=4.7							
DUN6	Lazy B Ranch	7.88	112	Pn		Pn	11 55 03.8	-0.2
ANMO	Albuquerque	9.24	92	Pn		Pn	11 55 21.7	-1.0
	comp=N,0.3nm,0.3s,baz=24,slow=13,SNR=1.1							
ANMO				Pg			11 55 55.3	
	comp=N,0.2nm,0.3s,baz=36,slow=23,SNR=3.2							
ANMO				Lg		Lg	11 57 53.1	
	comp=N,0.2nm,0.3s,baz=132,slow=23,SNR=6.6							
PD31	Pinedale Array	9.34	40			Pn	11 55 23.1	-1.0
PDAR	Pinedale Array	9.34	40			Pn	11 55 23.2	-0.8
PDAR	Pinedale Array	9.34	40	Pn		Pn	11 55 25.6	+1.6
	comp=N,0.2nm,0.3s,baz=232,slow=12,SNR=7.7							
PDAR				Lg		Lg	11 57 59.8	
	comp=N,0.2nm,0.3s,baz=238,slow=21,SNR=6.1							
	comp=N,1.5nm,0.6s							
MNTX	Cornudas Mount	11.08	109			Pn	11 55 48.2	+0.6
TXAR	Lajitas Array	13.52	115	Pn		Pn	11 56 23.2	+2.1
	comp=N,0.2nm,0.3s,baz=294,slow=13,SNR=11							
TXAR				Lg		Lg	12 00 11.3	
	baz=294,slow=31,SNR=6.8							
	comp=N,0.3nm,0.3s							
R32A	Long Quarter,	15.37	75	Pn		Pn	11 56 45.0	-1.2
R32A					IAmb	IAmb	11 57 23.3	
	comp=Z,6.4nm,0.8s							
X34A	Smith Ranch, M	16.30	89	Pn		Pn	11 56 57.1	-1.1
TUL3	Leonard	17.77	83	P		Pn	11 57 13.2	-3.4
TUL3					IAmb	IAmb	11 57 21.3	
	comp=Z,11nm,0.9s							
Z38A	Mt. Pleasant	18.90	91	P		P	11 57 28.5	-1.3
F33A	5 Mile Ranch,	18.97	52	P		Pn	11 57 30.3	-0.9
MIAR	Mount Ida	19.76	87			P	11 57 38.8	-0.5
MIAR					IAmb	IAmb	11 57 43.8	
	comp=Z,15nm,1.2s							
N38A	Joes South For	19.80	68			Pn	11 57 39.4	-1.8
N38A					IAmb	IAmb	11 57 45.5	
	comp=Z,11nm,1.0s							
AGMN	Agassiz Nation	20.34	46			P	11 57 44.6	-0.9
WHAR	Wooly Hollow	20.68	84			P	11 57 48.0	-1.3
WHAR					IAmb	IAmb	11 57 53.1	
	comp=Z,7.0nm,0.9s							
FCAR	Ozark Folk Cen	20.73	82	P		P	11 57 48.2	-1.6
ULM	Lac du Bonnet	21.36	41	P		P	11 57 55.5	-1.0
ULM	Lac du Bonnet	21.36	41	P		P	11 57 56.5	0.0
	comp=Z,3.9nm,0.8s,baz=224,slow=11,SNR=5.7							
	comp=Z,3.9nm,0.8s							

FFC	Flin Flon	21.77	25			P	11 58 00.4	-0.5
FFC					IAmb	IAmb	11 58 04.6	
	comp=Z,5.3nm,0.8s							
CGM3	Cape Girardeau	22.55	78	P		P	11 58 08.4	-1.0
CGM3					IAmb	IAmb	11 58 14.4	
	comp=Z,5.6nm,1.1s							
P43A	Skaggs, Pawnee	22.57	72	P		P	11 58 08.7	-0.9
P43A					IAmb	IAmb	11 58 14.3	
	comp=Z,8.0nm,1.2s							
OXF	Oxford	23.15	85	P		P	11 58 14.6	-1.0
OLIL	Olney	23.69	74	P		P	11 58 19.9	-1.1
OLIL					IAmb	IAmb	11 58 28.9	
	comp=Z,6.7nm,1.0s							
PLAL	Pickwick Lake	24.13	83			P	11 58 25.1	-0.1
PLAL					IAmb	IAmb	11 58 29.8	
	comp=Z,6.4nm,1.1s							
WVT	Waverly	24.14	81	P		P	11 58 25.2	-0.1
WVT					IAmb	IAmb	11 59 08.7	
	comp=Z,5.0nm,1.2s							
YKA	Yellowknife Ar	26.71	3	P		P	11 58 49.6	+1.3
	comp=Z,0.5nm,0.6s,baz=188,slow=9.1,SNR=11							
YKA				PcP		PcP	12 02 13.3	+1.9
	comp=Z,0.1nm,0.6s,baz=172,slow=2.5,SNR=5.0							
	comp=Z,0.5nm,0.6s							
ILAR	Eielson Array	33.79	338	P		P	11 59 53.1	+2.2
	comp=Z,0.4nm,0.7s,baz=160,slow=8.3,SNR=6.7							
ILAR				PcP		PcP	12 02 30.6	+0.7
	comp=Z,0.4nm,0.7s,baz=151,slow=2.1,SNR=5.8							
	comp=Z,0.4nm,0.7s							
BWN	Browne	34.21	336	P		P	11 59 52.0	-2.6
PETK	Petropavlovsk-	59.22	316	P		P	12 03 12.6	+2.2
	comp=Z,1.8nm,0.9s,baz=82,slow=11,SNR=4.2							
	comp=Z,1.8nm,0.9s							
ESDC	Sonseca Array	83.19	45	P		P	12 05 37.8	+2.0
	comp=Z,0.1nm,0.3s,baz=303,slow=4.6,SNR=1.9							
	comp=Z,0.1nm,0.3s							
BVAR	Borovoye Array	91.19	355	P		P	12 06 16.8	+2.5
	comp=Z,1.0nm,0.7s,baz=5.0,slow=4.9,SNR=2.1							
	comp=Z,1.0nm,0.7s							
KURBB	Kurchatov Arra	92.69	350	P		P	12 06 22.6	+1.4
	comp=Z,0.4nm,0.9s,baz=13,slow=4.5,SNR=4.0							
	comp=Z,0.4nm,0.9s							

UCR ***06*** *11:54:10.2±1.2, 10°.78N×86°.23W, h21km±5km, MW3.7*
CATAC ***06*** *11:54:11.6±0.7, 11°N±3°×8°.6W±°, h25km±6km, M3.0/10, MLv3.0/10, Error ellipse: s-maj=8.7km s-min=5.7km az=84.6, confirmed*

ISC 06 11:54:10.0±1.6, 10.74N±0.04×86.23W±0.06, h20km±9km, n49, σ0.54/57, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELI1	Hacienda Flor	0.67	98	eP	Pn	11 54 24.4	0.0
LCRUZ	La Cruz	0.68	60	eP	Pg	11 54 23.4	-0.1
LCRUZ				eS	Sn	11 54 33.8	-0.8
ALIBA	Liberia Airpor	0.69	102	eP	Pg	11 54 24.1	+0.5
ALIBA				eS	Sn	11 54 35.6	+0.8
LAPC	Finca la Perla	0.79	88	eP	Pb	11 54 25.0	0.0
LAPC				eS	Sg	11 54 36.0	+0.1
ARIN	Rivas	0.81	29	S	Sn	11 54 37.9	+0.1
ARIN	Rivas	0.81	29	P	Pb	11 54 24.6	-0.8
CARN	Rivas	0.83	57	eP	Pb	11 54 25.8	+0.1
CARN				eS	Sn	11 54 38.7	+0.5
CARN	Rivas	0.83	57	P	Pg	11 54 26.1	-0.1
CARN				S	Sn	11 54 38.8	+0.6
PG27	Guanacaste Pro	0.83	83	eP	Pb	11 54 25.9	+0.1
PG27				eS	Sn	11 54 37.7	-0.8
GPS3	Bodega del ICE	0.85	89	eP	Pn	11 54 28.8	+1.8
GPS2	Hotel Rincn d	0.86	89	eP	Pb	11 54 26.6	+0.2
GPS1	Guardaparques	0.87	88	eP	Pb	11 54 26.6	+0.1
VORI	VORI	0.87	85	eP	Pb	11 54 26.3	-0.3
BUAI	Buenos Aires	0.90	81	eP	Pn	11 54 27.5	0.0
PEJA	Penjamo Buenos	0.92	80	eP	Pn	11 54 27.9	+0.2
PLVR	Palo Verde	0.95	114	eP	Pg	11 54 28.3	-0.3
JAPN	AI SSO del Vol	0.95	35	eP	Pn	11 54 28.7	+0.3
JAPN	AI SSO del Vol	0.95	35	P	Pn	11 54 28.6	+0.3
BAGA	Bagaces	0.98	102	eP	Pn	11 54 28.6	0.0
NICO	Nicoya	0.98	128	eP	Pb	11 54 26.1	-2.1
MORN	AI O del Volca	0.99	35	P	Pb	11 54 28.3	-0.1
MORN				S	Sn	11 54 42.9	+0.7
COLC	Colonia	1.01	94	eP	Pb	11 54 28.7	-0.2
MESS	Mesas	1.02	90	eP	Pb	11 54 28.9	-0.1
NADN	Granada	1.02	11	eP	Pb	11 54 28.8	-0.2
NADN	Granada	1.02	11	P	Pb	11 54 29.3	+0.3
NADN				S	Sn	11 54 43.4	+0.4
HORNC	Hornillas	1.04	91	eP	Pb	11 54 29.1	-0.2
CUI	Cuipilapa	1.05	94	eP	Pb	11 54 29.4	-0.2
CMARA	Lajas Hojancha	1.07	132	eP	Pn	11 54 30.4	+0.4
CMARA	Lajas Hojancha	1.07	132	P	Pn	11 54 30.3	+0.4
VMAR	Armenia, Volca	1.10	86	eP	Pb	11 54 30.2	-0.2
INDI	Punta indio, G	1.12	140	P	Pb	11 54 31.3	+0.5
INVE	Universidad In	1.18	103	eP	Pn	11 54 31.5	+0.1
NANN	Nandasmo	1.20	5	P	Pg	11 54 33.3	+0.1
TIMP	Tierras Morena	1.20	97	eP	Pn	11 54 31.7	-0.1
UPAL	Upala	1.21	82	eP	Pn	11 54 31.8	0.0
TENO	El Achiote	1.23	91	eP	Pn	11 54 31.9	-0.3
TILA	Tilaran	1.27	102	eP	Pn	11 54 32.6	-0.1
QUEB	Quebradon, Cot	1.32	95	eP	Pn	11 54 32.7	+0.3
JTS	Las Juntas de	1.33	109	eP	Pn	11 54 33.8	+0.3
JTS	Las Juntas de	1.33	109	P	Pn	11 54 33.7	+0.1
MTEVE	Monteverde	1.44	107	eP	Pn	11 54 35.8	+0.6
COPN	Copaltepe	1.48	346	P	Pg	11 54 38.5	0.0
CASO	Castillo	1.50	101	eP	Pn	11 54 35.9	0.0
ARE1	Arenal 1	1.51	100	eP	Pb	11 54 37.5	+0.1
VARE2	V. Arenal	1.51	100	eP	Pb	11 54 37.4	-0.1
CEDE	Laguna Cedeo	1.52	99	eP	Pb	11 54 37.0	-0.6
ACON	Acoyapa	1.60	40	eP	Pn	11 54 36.6	-0.7
ACON	Acoyapa	1.60	40	P	Pn	11 54 37.0	-0.3
ACON	Acoyapa	1.60	40	S	Sn	11 54 56.7	-0.7

NEIC ***06*** *11:54:53.6±1.3, 35°.899N±0°.007×117°.73W±0°.01, h3km±2km, Error ellipse: s-maj=1.2km s-min=1.0km az=57.0*

PAS 06 11:54:54.0±1.4, 35°.900N±0°.007×117°.735W±0°.009, h2km, ML3.2/30, ML3.0/36(NEIC), Error ellipse: s-maj=1.1km s-min=1.1km az=47.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WVPM	Volcano Peak E	0.08	307		Pg	11 54 56.0	+0.3
WVPM					Sg	11 54 57.4	+0.5
TOW	Tower One	0.09	194		Pg	11 54 56.3	+0.5
TOW					Sg	11 54 58.9	+1.8
WCSM	Coso Springs S	0.13	348		Pg	11 54 56.7	+0.1
WCSM					Sg	11 54 58.7	+0.4
CLC	China Lake	0.14	127		Pg	11 54 54.2	-2.5
CLC					Sg	11 54 56.9	-1.7
WRVM	Rose V. Centra	0.17	311		Pg	11 54 57.5	+0.2
WRVM					Sg	11 55 00.0	+0.6
SRTC	Snort	0.21	183		Pg	11 54 55.7	-2.3
SRTC					Sg	11 55 02.9	+2.1
MFS	McCloud Flat S	0.24	336		Pg	11 54 58.8	+0.2
MFS					Sg	11 55 02.5	+0.7
MPMC	Manual Prospec	0.26	52		Pg	11 54 59.1	+0.2
MPMC					Sg	11 55 03.0	+0.8
LRMC	Laurel Mtn Rad	0.42	174		Pg	11 55 02.0	-0.1
LRMC				IAML		11 55 08.5	
	comp=E,2µm,0.3s						
LRMC				IAML		11 55 14.3	
	comp=N,1µm,0.2s						
WORM	Onyx Ranch	0.46	244		Pn	11 55 09.2	+1.4
CCCA	Chr Cany lake	0.48	141		Pg	11 55 03.7	+0.5
WBSM	Bird Springs	0.49	222		Pg	11 55 03.4	0.0
WBSM					Sg	11 55 10.1	+0.8
WHFM	Hanning Flat	0.54	248		Pg	11 55 04.3	0.0
WHFM					Sg	11 55 12.0	+0.7
CWC	Cottonwood Cre	0.61	333		Pb	11 55 06.6	-0.9
ISA	Isabella, Lake	0.65	249	Pg	Pg	11 55 06.4	0.0
ISA				IAML		11 55 15.5	
	comp=N,475nm,0.3s						
ISA				IAML		11 55 16.4	
	comp=E,690nm,0.2s						
CGO	Cerro Gordo	0.65	355		Pb	11 55 07.6	-0.8
CGO					Sg	11 55 16.4	+1.4
WASM	Alta Sierra Ca	0.69	257		Pg	11 55 07.2	-0.1
WASM					Sg	11 55 16.7	+0.5
QSM	Queen of Sheba	0.71	84	Pg	Pb	11 55 08.4	-0.7
QSM				IAML		11 55 21.3	
	comp=E,869nm,0.6s						
CCAC	Calif City Air	0.78	197		Sg	11 55 19.5	+0.4

CCAC	Calif City Air	0.78	197	Pg		Pg	11 55 08.7	-0.3
CCAC				IAML			11 55 23.8	
	comp=E,716nm,1.0s							
SPG2	Springville 2	0.89	290			Pg	11 55 10.7	-0.4
SPG2						Sg	11 55 23.0	+0.4
GWY	Greenwater Val	0.91	71	Pg		Pg	11 55 11.5	0.0
GWY				IAML			11 55 24.6	
	comp=N,494nm,0.5s							
GWY				IAML			11 55 24.7	
	comp=E,463nm,0.5s							
GSC	Goldstone, Bar	0.96	128			Sg	11 55 25.5	+0.5
GSC	Goldstone, Bar	0.96	128	Pg		Pg	11 55 12.0	-0.5
GSC				IAML			11 55 27.6	
	comp=N,527nm,0.5s							
GSC				IAML			11 55 28.1	
	comp=E,565nm,0.5s							
TEJ	El Tejon	1.02	230			Pg	11 55 13.0	-0.7
EDW2	Edwards Air Fo	1.04	192			Pb	11 55 14.4	-0.4
EDW2						Sg	11 55 27.0	-0.3
VES	Vestal, Richgr	1.10	267			Pg	11 55 14.9	-0.2
VES						Sg	11 55 29.9	+0.6
GRAC	Grapevine Rang	1.13	15	Pg		Pg	11 55 14.5	-1.2
GRAC				IAML			11 55 36.8	
	comp=E,442nm,0.6s							
ARVC	Arvin	1.18	230			Pg	11 55 14.3	-2.4
ARVC						Pb	11 55 16.8	-0.4
SHOC	Shoshone, Teco	1.19	90			Sg	11 55 32.3	+0.2
TJR	Tejon Ranch	1.20	224			Pg	11 55 17.2	+0.2
SBB	Saddle Back Bu	1.21	184			Pg	11 55 17.1	-0.1
BAKC	Calstate	1.25	244			Pg	11 55 17.6	-0.3
THC	Tehachapi Micr	1.25	218			Pg	11 55 17.6	-0.3
WCT	Wildcat Mounta	1.26	45	Pg		Pg	11 55 17.8	-0.5
WCT				IAML			11 55 36.2	
	comp=N,221nm,0.6s							
WCT				IAML			11 55 39.3	
	comp=E,205nm,0.7s							
AMDNV	Amargosa	1.30	64			Pg	11 55 16.4	-2.6
AMDNV						Sg	11 55 36.0	+0.2
BTPC	Burnt Peak	1.40	210			Sg	11 55 38.9	+0.1
GMN	Gold Mountain	1.45	15			Pb	11 55 22.5	+0.6
GMN				IAML			11 55 46.4	
	comp=N,167nm,0.7s							
DSP	Deep Springs	1.48	353			Pn	11 55 21.5	-0.2
OSI	Osito Audit: C	1.52	213			Pn	11 55 20.6	-1.7
OSI						Sn	11 55 42.3	-0.3
OSI	Osito Audit: C	1.52	213	IAML			11 55 44.4	
	comp=E,228nm,0.8s							
OSI				IAML			11 55 45.1	
	comp=N,185nm,0.7s							
HEC	Hector,Ludlow	1.56	133			Sn	11 55 41.6	-2.3
BCW	Bitter Crk WRg	1.67	236			Pn	11 55 24.1	-0.4
PASC	Pasadena Art C	1.76	192			Pn	11 55 25.1	-0.6
BLCC	Black Canyon	1.82	205			Pn	11 55 23.6	-2.9
PMD	Palm Desert	2.51	153	Pn		Pn	11 55 34.4	-1.5
PFO	Pinyon Flats O	2.51	155	Pn		Pn	11 55 34.8	-1.2
PFO				IAML			11 55 58.3	
	comp=N,55nm,1.5s							
XPFO	Pinon Flat	2.52	155			Pn	11 55 34.8	-1.3

TIR ***06*** *11:57:55.9, 42°.00N×19°.50E, h43km±1km, Md3.4/9, Ml3.2/9*
PDG ***06*** *11:57:59.9±0.4, 41°.82N×19°.74E, h19km, MD3.0/1, ML2.9/13, Error ellipse: s-maj=0.8km s-min=0.9km az=0.0*
BEO ***06*** *11:58:00.8±0.3, 41°.81N×19°.73E, h12km±2km, ML2.8/15*
RHSSO ***06*** *11:58:01.0±0.7, 41°.87N×19°.80E, h10km±2km, ML3.0/8*
THE ***06*** *11:58:02.0, 42°N±27°×2°.0E±2°.2, h30km±30km, M2.7/5, MLh2.7/5*

ISC 06 11:57:59.8±1.0, 41.80N±0.02×19.69E±0.02, h10km±8km, n97, σ0.97/164, 20C-10D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUK	Puka	0.28	32	Pg	Pg	11 58 04.8	-0.7
PUK				Sg	Sb	11 58 11.0	-0.9
PUK				AML	AML	11 58 11.7	
	29nm,0.3s						
PUK				AMd		11 58 48.1	
ULC	Ulcinj	0.37	295	↑iPg	Pg	11 58 07.9	+0.7
ULC				i Sg	Sb	11 58 15.1	+0.6
DRME	Dracevica, Mon	0.54	315	ePg	Pb	11 58 11.2	-0.2
DRME				eSg	Sb	11 58 19.7	+0.5
DRME	Dracevica, Mon	0.54	315	ePg	Pg	11 58 10.7	+0.4
DRME				i Sg	Sb	11 58 19.8	+0.5
BCI	Bajram Curri	0.63	26	Pg	Pg	11 58 10.6	-1.3
BCI				Sg	Sg	11 58 17.7	-2.6
BCI				AML	AML	11 58 23.0	
	4.8nm,0.3s						
PDG	Podgorica	0.71	333	↑iPg	Pb	11 58 14.0	-0.2
PDG				eSg	Sb	11 58 23.7	-0.3
PDG	Podgorica	0.71	333	↓iP	Pb	11 58 14.5	+0.2
PDG				↓↑S	Sb	11 58 24.6	+0.6
PDG	Podgorica	0.71	333	ePg	Pb	11 58 14.3	+0.1
PDG				eSg	Sb	11 58 24.6	+0.6
PDG	Podgorica	0.71	333	↓iPg	Pg	11 58 13.6	+0.1
PDG				i Sg	Sb	11 58 24.8	+0.8
BUM	Brajici-Budva	0.78	310	ePg	Pg	11 58 15.2	+0.4
BUM				i Sg	Sb	11 58 27.8	-0.9
PVY	Plav	0.81	14	ePg	Pg	11 58 14.6	-0.9
PV

SELS	**Selova**	**1.76**	**36**	*e*Pn		**Pn**	**11 58 30.9**	**+0.4**
SELS				*e*Sn		**Sb**	**11 58 54.1**	**-0.4**
IVAS	**Ivanjica**	**1.80**	**11**	*e*Pn		**Pn**	**11 58 31.6**	**+0.5**
IVAS				*e*Sn		**Sb**	**11 58 56.0**	**+0.3**
STON	**Ston**	**1.82**	**306**	*e*Pn		**Pn**	**11 58 32.1**	**+0.8**
STON				*e*Sn		**Sb**	**11 58 56.5**	**+0.3**
STON	**Ston**	**1.82**	**306**	*e*Pn		**Pn**	**11 58 31.2**	**-0.1**
STON				*e*Sn		**Sb**	**11 58 56.5**	**+0.3**
STON	**Ston**	**1.82**	**306**	*e*Pn		**Pb**	**11 58 32.9**	**-0.4**
STON				Sn		**Sb**	**11 58 56.8**	**+0.7**
RUDO	**Rudo**	**1.83**	**353**	*e*Pn		**Pn**	**11 58 31.9**	**+0.5**
RUDO				*e*Sn		**Sn**	**11 58 55.0**	**+0.4**
BARS	**Barje**	**1.87**	**57**	*e*Pn		**Pn**	**11 58 32.4**	**+0.4**
SRN	**Sarande**	**1.94**	**173**	Pn		**Pn**	**11 58 32.9**	**+0.1**
SRN				AML	AML		11 59 10.0	
	0.1nm,0.3s							
SRN				AMd			11 59 58.6	
PENT	**Pentalofos**	**1.94**	**145**	P		**Pb**	**11 58 35.7**	**+0.2**
GOCS	**Kraljevo Serbi**	**1.96**	**26**	*e*Pn		**Pn**	**11 58 33.9**	**+0.6**
GOCS				*e*Sn		**Sn**	**11 58 58.7**	**+0.7**
SCTE	**Santa Cesarea**	**1.96**	**209**	Pn		**Pn**	**11 58 31.3**	**-1.9**
SCTE				Sn		**Sn**	**11 58 57.9**	**0.0**
SCTE				AML	AML		11 59 06.2	
	0.4nm,0.2s							
SCTE				AMd			12 00 06.7	
BBLS	**Lazi&#263i**	**2.07**	**354**	⇑*i*Pn		**Pn**	**11 58 35.6**	**+0.8**
BBLS				*e*Sn		**Sn**	**11 59 00.6**	**-0.1**
BBLS	**Lazi&#263i**	**2.07**	**354**	*e*Pn		**Pn**	**11 58 35.7**	**+0.9**
BBLS				*e*Sn		**Sb**	**11 59 02.8**	**-0.6**
BOSS	**Bosilegrad**	**2.18**	**71**	*e*Pn		**Pn**	**11 58 36.9**	**+0.6**
BOSS				*e*Sn		**Sn**	**11 59 04.0**	**+0.6**
VAY	**Valandovo**	**2.21**	**102**	*e*Pn		**Pn**	**11 58 37.6**	**+1.0**
VAY				*i* Sg		**Sn**	**11 59 05.4**	**+1.4**
GRUS	**Gruza**	**2.21**	**19**	*e*Pn		**Pn**	**11 58 37.3**	**+0.6**
NOCI	**Noci**	**2.23**	**244**	Pn		**Pn**	**11 58 33.2**	**-3.7**
NOCI				Sn		**Sn**	**11 59 01.0**	**-3.4**
NOCI				AML	AML		11 59 08.2	
	0.3nm,0.3s							
NOCI				AMd			12 00 24.3	
KPRO	**Kipourio**	**2.24**	**145**	P		**Pb**	**11 58 39.4**	**-1.1**
LSTV	**Lastovo**	**2.29**	**296**	*e*Pn		**Pb**	**11 58 40.9**	**-0.4**
DIVS	**Divibare**	**2.30**	**5**	*e*Pn		**Pn**	**11 58 38.3**	**+0.3**
DIVS				*e*Sn		**Sn**	**11 59 06.2**	**-0.2**
KTI	**Kastanea**	**2.31**	**127**	P		**Pn**	**11 58 39.8**	**+1.7**
IGT	**Igoumenitsa**	**2.32**	**168**	Pn		**Pn**	**11 58 38.3**	**+0.1**
IGT				AMd			12 00 09.4	
IGT	**Igoumenitsa**	**2.32**	**168**	*e*Pn		**Pn**	**11 58 38.6**	**+0.5**
BOVS	**Bovan**	**2.35**	**38**	⇑P		**Pn**	**11 58 39.4**	**+0.9**
BOVS				⇓S		**Sn**	**11 59 07.1**	**-0.5**
BOVS	**Bovan**	**2.35**	**38**	*e*Pn		**Pn**	**11 58 39.1**	**+0.5**
BOVS				*e*Sn		**Sn**	**11 59 07.0**	**-0.5**
MATE	**Matera**	**2.53**	**244**	⇑P		**Pn**	**11 58 40.4**	**-0.6**
MATE				⇑S		**Sn**	**11 59 10.5**	**-1.5**
RICI	**Ricice**	**2.53**	**313**	*e*Pn		**Pn**	**11 58 41.4**	**+0.3**
ZAPS	**Zavoj**	**2.62**	**55**	*e*Pn		**Pn**	**11 58 43.2**	**+0.9**
ZAPS				*e*Sn		**Sn**	**11 59 13.8**	**-0.4**
TETR	**Tetrakomo, Epi**	**2.74**	**153**	P		**Pn**	**11 58 45.8**	**+1.9**
ZAGS	**Zajecar**	**2.74**	**42**	*e*Pn		**Pn**	**11 58 45.0**	**+1.1**
ZAGS				*e*Sn		**Sn**	**11 59 17.7**	**+0.6**
TEKS	**Tekeris**	**2.75**	**358**	*e*Pn		**Pn**	**11 58 43.9**	**-0.1**
TEKS				*e*Sn		**Sn**	**11 59 17.1**	**-0.2**
TEKS	**Tekeris**	**2.75**	**358**	*e*Pn		**Pn**	**11 58 43.9**	**-0.1**
VTS	**Vitosha**	**2.75**	**72**	*e*Pn		**Pn**	**11 58 45.0**	**+0.8**
VTS				*e*Sn		**Sn**	**11 59 17.9**	**+0.3**
HORT	**Hortiatis**	**2.84**	**114**	P		**Pn**	**11 58 46.2**	**+0.9**
TYRN	**Tyrnavos**	**2.84**	**136**	P		**Pn**	**11 58 47.7**	**+2.4**
THL	**Klokotos Trika**	**2.85**	**141**	P		**Pn**	**11 58 46.6**	**+1.3**
BLKB	**Belogradchik**	**2.85**	**49**	*e*Pn		**Pn**	**11 58 44.9**	**-0.6**
BLKB				*e*Sn		**Sn**	**11 59 20.3**	**+0.4**
BORS2	**Bor- Borsko je**	**2.85**	**36**	*e*Pn		**Pn**	**11 58 44.9**	**-0.5**
BORS2				*e*Sn		**Sn**	**11 59 18.2**	**-1.7**
KUBS	**Kucevo**	**2.98**	**28**	*e*Pn		**Pn**	**11 58 46.3**	**-0.9**
KUBS				*e*Sn		**Sn**	**11 59 21.2**	**-1.9**
SRS	**Serrai**	**3.01**	**102**	*e*Pn		**Pn**	**11 58 48.8**	**+1.2**
KIJV	**Kijevo**	**3.27**	**313**	Sn		**Sn**	**11 59 30.5**	**+0.4**
MDVR	**Moldovita**	**3.32**	**26**	⇓P		**Pn**	**11 58 52.3**	**+0.3**
MDVR	**Moldovita**	**3.32**	**26**	*e*Pn		**Pn**	**11 58 52.2**	**+0.3**
MDVR				*e*Sn		**Sn**	**11 59 31.0**	**-0.5**
FRGS	**Fruska Gora**	**3.35**	**1**	⇑*i*Pn		**Pn**	**11 58 52.1**	**-0.2**
FRGS				*e*Sn		**Sn**	**11 59 30.7**	**-1.5**
FRGS	**Fruska Gora**	**3.35**	**1**	*e*Pn		**Pn**	**11 58 52.3**	**0.0**
FRGS				*e*Sn		**Sn**	**11 59 32.1**	**-0.1**
ZIRJ	**Zirje**	**3.51**	**303**	*e*Pn		**Pn**	**11 58 54.9**	**+0.4**
A050A	**Klekovaca**	**3.54**	**320**	*e*Pn		**Pn**	**11 58 55.8**	**+0.9**
A050A				*e*Sn		**Sn**	**11 59 37.6**	**+0.7**
HERR	**Herculane**	**3.66**	**32**	⇑P		**Pn**	**11 58 57.2**	**+0.7**
A051A	**Mrakovica**	**3.80**	**329**	⇑*i*Pn		**Pn**	**11 58 59.1**	**+0.6**
UDBI	**Udbina**	**3.96**	**315**	*e*Pn		**Pn**	**11 58 59.3**	**-1.4**
BZS	**Buzias**	**4.06**	**19**	⇑P		**Pn**	**11 59 02.1**	**+0.1**
BZS	**Buzias**	**4.06**	**19**	*e*Pn		**Pn**	**11 59 02.4**	**+0.4**
BZS				*e*Sn		**Sn**	**11 59 47.2**	**-2.4**
GZR	**Gura Zlata**	**4.23**	**31**	⇓P		**Pn**	**11 59 05.2**	**+0.8**
GZR	**Gura Zlata**	**4.23**	**31**	*e*Pn		**Pn**	**11 59 04.8**	**+0.4**
SURR	**Surduc**	**4.32**	**23**	⇓P		**Pn**	**11 59 05.6**	**0.0**
SIRR	**Siria**	**4.68**	**17**	⇑P		**Pn**	**11 59 10.7**	**+0.1**
SIRR	**Siria**	**4.68**	**17**	*e*Pn		**Pn**	**11 59 10.8**	**+0.2**
SIRR				*e*Sn		**Sn**	**12 00 03.0**	**-2.0**
VOIR		**5.32**	**45**	⇓P		**Pn**	**11 59 20.3**	**+0.9**
DRGR		**5.43**	**22**	⇓P		**Pn**	**11 59 21.3**	**+0.3**
DRGR		**5.43**	**22**	*e*Pn		**Pn**	**11 59 21.3**	**+0.3**
DRGR				*e*Sn		**Sn**	**12 00 21.5**	**-2.1**
PSZ	**Piszkesteto**	**6.12**	**1**	⇑P		**Pn**	**11 59 29.2**	**-1.2**

*IDC **06** 12:02:48.5±0.9, 69.°92N×15.°96W, h0km, mb3.5/9, mbtmp3.6/13, ML3.1/4, Error ellipse: s-maj=22.5km s-min=16.1km az=7.0*

*DNK **06** 12:03:05.9±7.5, 70.°18N×18.°79W, h18km±63km, ML2.5*

ISC 06 12:02:49.9±0.7, **69.°98N**±0.°09×**15.°95W**±0.°07, **h10km, n16, σ1s05/15, mb3.5/9, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCO	**Scoresbysund**	**2.10**	**287**	*e*	Pn	12 03 16.4	-8.6
	baz=128,slow=11						
SCO				*i* P	**Pb**	**12 03 28.5**	**+0.5**
SCO				*i* S	Sn	12 03 38.7	-12
SCO				IAML		12 04 21.6	
	comp=Z,78nm,1.2s						
BORG	**Borgarnes**	**5.65**	**204**	Pn	Pn	12 04 12.9	-0.9
	comp=Z,1.1nm,0.3s,baz=344,slow=6.4,SNR=8.4						
BORG				Sn	**Sn**	**12 05 18.8**	**+0.2**
	baz=47,slow=14						
	comp=Z,6.1nm,0.3s						
SOEG	**Soedalen**	**5.80**	**259**	*i* S	Sn	12 05 13.9	-8.4
SUMG	**Summit**	**7.66**	**300**	*i* P	**Pn**	**12 04 40.0**	**-1.7**
SPITS	**Spitsbergen Ar**	**11.85**	**32**	Pn	**Pn**	**12 05 39.2**	**+0.6**
	baz=245,slow=18						
	comp=Z,2.1nm,0.6s						
ARCES	**ARCESS Array B**	**14.16**	**72**	Pn	**Pn**	**12 06 09.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=303,slow=12,SNR=1.7						
	comp=Z,5.3nm,1.2s						
FINES	**FINESS Array B**	**18.87**	**96**	P	**P**	**12 07 08.2**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=322,slow=10,SNR=5.6						
	comp=Z,3.2nm,0.8s						
GERES	**GERESS Array B**	**25.51**	**131**	P	**P**	**12 08 17.4**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=4.4,slow=8.7,SNR=4.5						
	comp=Z,0.8nm,0.8s						
AKASG	**Malin Array Be**	**28.49**	**109**	P	**P**	**12 08 46.4**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=331,slow=11,SNR=4.1						
	comp=Z,0.4nm,0.3s						
YKA	**Yellowknife Ar**	**36.15**	**309**	P	**P**	**12 09 53.0**	**+1.4**
	comp=Z,0.8nm,0.9s,baz=34,slow=8.9,SNR=8.0						
	comp=Z,0.8nm,0.9s						
ILAR	**Eielson Array**	**41.27**	**331**	P	**P**	**12 10 34.1**	**-0.5**
	comp=Z,0.3nm,0.9s,baz=28,slow=7.9,SNR=4.2						
	comp=Z,0.3nm,0.9s						
ZALV	**Zalesovo Beam**	**44.01**	**57**	P	**P**	**12 10 57.6**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=329,slow=5.4,SNR=1.5						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**45.04**	**64**	P	**P**	**12 11 05.1**	**-0.1**
	comp=Z,0.9nm,1.0s,baz=329,slow=7.4,SNR=6.2						
	comp=Z,0.9nm,1.0s						
MKAR	**Makanchi Array**	**49.59**	**63**	P	**P**	**12 11 40.6**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=354,slow=9.9,SNR=4.0						
	comp=Z,0.4nm,0.7s						
PDAR	**Pinedale Array**	**51.74**	**291**	P	**P**	**12 11 57.9**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=17,slow=4.4,SNR=1.6						
	comp=Z,0.2nm,0.3s						
TXAR	**Lajitas Array**	**61.99**	**279**	P	**P**	**12 13 09.3**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=29,slow=6.5,SNR=4.8						
	comp=Z,0.4nm,0.9s						

*NEIC **06** 12:04:59.7±2.6, 35.°88N±0.°01×117.°70W±0.°01, h8km±8km, Error ellipse: s-maj=1.6km s-min=1.4km az=198.0*

PAS 06 12:04:59.4±2.6, **35.°886N**±0.°009×**117.°73W**±0.°01, **h5km±3km, ML3.6**/26, **ML3.5**/56(NEIC), **Error ellipse: s-maj=1.5km s-min=1.3km az=55.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOW	**Tower One**	**0.08**	**199**		Pg	12 05 02.2	+0.9
WRVM	**Rose V. Centra**	**0.18**	**313**		Pg	12 05 06.1	+3.1
SRTC	**Snort**	**0.20**	**184**		Pg	12 05 03.7	+0.4
MFS	**McCloud Flat S**	**0.25**	**336**		Sg	12 05 07.5	-0.2
MPMC	**Manual Prospec**	**0.26**	**49**		Pg	12 05 04.6	0.0
LRMC	**Laurel Mtn Rad**	**0.41**	**174**		Pg	12 05 07.3	0.0
LRMC					Sg	12 05 12.4	-0.3
WORM	**Onyx Ranch**	**0.46**	**246**		Pn	12 05 14.1	+1.4
WORM					Sb	12 05 16.8	-0.3
CCCA	**Chr Cany lake**	**0.47**	**140**		Pg	12 05 08.6	+0.2
CCCA					Sg	12 05 14.7	+0.1
WBSM	**Bird Springs**	**0.48**	**224**		Pg	12 05 08.4	-0.3
WBSM					Sb	12 05 16.7	-1.2
WHFM	**Hanning Flat**	**0.54**	**250**		Sb	12 05 19.6	+0.1
CWC	**Cottonwood Cre**	**0.62**	**333**		Pg	12 05 11.4	0.0
DTP	**Desert Tortois**	**0.62**	**189**		Pg	12 05 11.7	+0.2
DTP					Sg	12 05 19.5	0.0
ISA	**Isabella, Lake**	**0.64**	**250**		Pb	12 05 13.3	+0.1
CGO	**Cerro Gordo**	**0.67**	**355**		Pg	12 05 12.1	-0.2
WASM	**Alta Sierra Ca**	**0.69**	**258**		Pg	12 05 12.3	-0.4
WASM					Sg	12 05 14.6	-7.0
QSM	**Queen of Sheba**	**0.70**	**83**		Pg	12 05 12.9	0.0
QSM				IAML		12 05 26.0	
	comp=E,3μm,0.5s						
QSM				IAML		12 05 28.2	
	comp=N,3μm,0.5s						
CCAC	**Calif City Air**	**0.77**	**198**		Pg	12 05 13.6	-0.5
CCAC				IAML		12 05 25.0	
	comp=N,3μm,0.5s						
SPG2	**Springville 2**	**0.90**	**291**		Pg	12 05 15.7	-0.9
GWY	**Greenwater Val**	**0.91**	**71**		Pg	12 05 17.2	+0.2
GWY					Sg	12 05 28.8	0.0
GSC	**Goldstone, Bar**	**0.95**	**127**		Pg	12 05 16.8	-0.9
GSC				IAML		12 05 31.0	
	comp=N,2μm,1.0s						
GSC	**Goldstone, Bar**	**0.95**	**127**		Sg	12 05 28.9	-1.2
TEJ	**El Tejon**	**1.02**	**230**		Pn	12 05 20.2	-0.2
EDW2	**Edwards Air Fo**	**1.03**	**192**		Pg	12 05 18.7	-0.4
HYS	**Haystack Butte**	**1.03**	**173**		Pg	12 05 18.5	-0.7
TPO	**Tropico Hills**	**1.08**	**202**		Pg	12 05 19.2	-1.0
TPO					Sg	12 05 34.4	+0.1
MAGC	**SCE Magundon P**	**1.10**	**242**		Pn	12 05 21.8	+0.3
GRAC	**Grapevine Rang**	**1.15**	**15**		Pg	12 05 20.7	-0.7
RRX	**Edison Barstow**	**1.17**	**149**		Pg	12 05 21.1	-0.9
RRX					Sb	12 05 38.2	+0.5
SHOC	**Shoshone, Teco**	**1.18**	**89**		Sg	12 05 37.7	+0.2
SBB	**Saddle Back Bu**	**1.20**	**184**		Pg	12 05 21.7	-0.7
SGV	**South Grapevin**	**1.23**	**27**		Pg	12 05 22.5	-0.5
THC	**Tehachapi Micr**	**1.24**	**218**		Pg	12 05 23.2	+0.1
BAKC	**Calstate**	**1.24**	**245**		Pn	12 05 24.4	+0.9
WCT	**Wildcat Mounta**	**1.27**	**44**		Pg	12 05 22.9	-1.0
WCT				IAML		12 05 43.6	
	comp=E,1μm,0.8s						
WCT				IAML		12 05 45.0	
	comp=N,740nm,0.7s						
AMDNV	**Amargosa**	**1.30**	**64**		Pn	12 05 23.7	-0.5
LCH	**Last Change Ra**	**1.35**	**3**		Pn	12 05 24.9	-0.1
VTV	**Victorville**	**1.36**	**166**		Sg	12 05 43.4	+0.2
LRRC	**Littlerock Res**	**1.38**	**190**		Pb	12 05 26.5	-0.1
CJV	**Casa Juvan**	**1.39**	**194**		Pg	12 05 26.2	+0.1
HOLC	**Holcomb Ridge**	**1.43**	**184**		Pg	12 05 27.1	+0.3
HOLC					Sg	12 05 45.4	+0.1
JNH	**Juniper Hills**	**1.45**	**187**		Pg	12 05 28.0	+0.8
JNH					Sg	12 05 46.0	+0.1
GMN	**Gold Mountain**	**1.46**	**15**		Pn	12 05 26.8	+0.1
GMN				IAML		12 05 50.8	
	comp=N,614nm,0.6s						
DSP	**Deep Springs**	**1.49**	**353**		Pn	12 05 26.8	0.0
OSI	**Osito Audit: C**	**1.51**	**213**		Pn	12 05 27.2	+0.1
OSI				IAML		12 05 53.2	
	comp=N,461nm,0.8s						
OSI				IAML		12 05 53.8	
	comp=E,554nm,0.7s						
DSCC	**Desert Studies**	**1.52**	**119**		Pn	12 05 25.7	-1.6
DSCC					Sn	12 05 46.5	-1.0
BHPR	**Bishop**	**1.54**	**337**		Pn	12 05 28.0	+0.3
TUQ	**Turquoise Moun**	**1.54**	**106**		Pn	12 05 26.2	-1.5
HEC	**Hector,Ludlow**	**1.55**	**132**		Pn	12 05 26.4	-1.3
CHFC	**Chilao Flat St**	**1.57**	**189**		Pb	12 05 28.7	-0.3
CHFC					Sn	12 05 48.9	0.0
TPNV	**Topopah Spring**	**1.60**	**48**		Pn	12 05 29.0	+0.5
TPNV				IAML		12 05 57.2	
	comp=E,1μm,0.7s						
MTUM	**Tungsten Hills**	**1.61**	**336**		Pn	12 05 29.2	+0.5
BFSC	**Mount Baldy Ra**	**1.65**	**178**		Pb	12 05 30.4	+0.1
BFSC					Sb	12 05 51.5	+0.1
BCW	**Bitter Crk WRg**	**1.67**	**236**		Pn	12 05 28.6	-0.8
BCW				IAML		12 06 11.7	
	comp=N,774nm,1.0s						
BCW				IAML		12 06 11.8	
	comp=E,1μm,1.0s						
SSK	**Sunset Peak**	**1.67**	**179**		Pb	12 05 30.6	-0.2
MWC	**Mount Wilson**	**1.68**	**189**		Pg	12 05 31.5	-0.2
MWC	**Mount Wilson**	**1.68**	**189**	IAML		12 05 55.4	
	comp=E,835nm,0.7s						
DECC	**Green Verdugo**	**1.70**	**197**		Pg	12 05 31.9	-0.1
SIL	**Silver Peak**	**1.70**	**154**		Pb	12 05 31.4	0.0
BBRC	**Big Bear Solar**	**1.75**	**157**		Pb	12 05 31.9	-0.3
PASC	**Pasadena Art C**	**1.75**	**192**		Pn	12 05 30.3	-0.2
PASC				IAML		12 05 56.2	
	comp=E,400nm,1.1s						
PSRC	**Puddingstone R**	**1.79**	**182**		Pg	12 05 33.4	-0.4
CLTC	**Calectric**	**1.82**	**169**		Sn	12 05 55.4	+0.5
SVD	**Seven Oaks Dam**	**1.85**	**164**		Pb	12 05 33.7	0.0
BENR	**Benton**	**1.95**	**340**		Pb	12 05 35.4	-0.1
GTM	**Goat Mountain**	**1.95**	**144**		Pb	12 05 35.1	-0.3
MLAC	**Mammoth, Mammo**	**1.95**	**333**		Pb	12 05 35.5	-0.1
MCSM	**Casa Diablo Ho**	**2.00**	**332**		Pb	12 05 36.4	-0.1
GMRC	**Granite Mounta**	**2.02**	**122**		Pn	12 05 32.3	-1.9
SHPR	**Sheep Range**	**2.17**	**73**		Pn	12 05 36.3	0.0
ELS	**Elsinore Mount**	**2.25**	**174**		Pn	12 05 36.8	-0.5
ELS				IAML		12 06 13.7	
	comp=N,190nm,0.8s						
TPC	**Twentynine Pal**	**2.25**	**142**		Pn	12 05 36.4	-1.0
HMTC	**Hemet**	**2.25**	**164**		Pn	12 05 37.0	-0.4
POB	**Polly Butte**	**2.29**	**163**		Pn	12 05 37.7	-0.3
V12A	**Nelson**	**2.35**	**93**	Pn	Pn	12 05 37.9	-0.8
V12A				IAML		12 06 21.4	
	comp=N,254nm,1.3s						
CRY	**Cary Ranch**	**2.46**	**160**		Pn	12 05 40.0	-0.2
PMD	**Palm Desert**	**2.50**	**153**	Pn	Pn	12 05 39.3	-1.4
PMD				IAML		12 06 22.0	
	comp=E,182nm,1.3s						
PFO	**Pinyon Flats O**	**2.50**	**155**	Pn	Pn	12 05 39.8	-1.1
PFO				IAML		12 06 22.6	
	comp=E,249nm,1.2s						
PFO				IAML		12 06 23.1	
	comp=E,155nm,0.9s						
FRD	**Ford Ranch, An**	**2.56**	**158**		Pn	12 05 41.3	-0.4
RAMR	**Ramage Ranch**	**2.56**	**265**		Pb	12 05 45.2	-0.7
MATG	**Mataguay Scout**	**2.83**	**161**		Pn	12 05 45.0	-0.3
BLYC	**Blythe**	**3.39**	**128**		Pn	12 05 50.9	-2.0
BLYC				IAML		12 06 46.0	
	comp=N,153nm,0.8s						
BLYC				IAML		12 06 49.1	
	comp=E,150nm,1.0s						
YUH	**Yuha Desert**	**3.56**	**155**	Pn	Pn	12 05 55.0	-0.3
113A	**Mohawk Valley,**	**4.52**	**132**	Pn	Pn	12 06 07.8	-0.7
113A				IAML		12 07 21.9	
	comp=E,45nm,0.8s						
113A				IAML		12 07 27.6	
	comp=N,44nm,1.1s						
X16A	**Lo Mia Camp, P**	**5.36**	**104**		Pn	12 06 20.5	+0.3
X16A				IAML		12 07 56.2	
	comp=E,27nm,1.2s						
X16A				IAML		12 08 12.3	
	comp=N,23nm,2.5s						

*NEIC **06** 12:05:20.9±1.2, 35.°80N±0.°01×117.°61W±0.°02, h6km±3km, Error ellipse: s-maj=2.3km s-min=1.6km az=52.0*

PAS 06 12:05:21.4±1.0, **35.°79N**±0.°01×**117.°63W**±0.°02, **h7km±5km, ML3.3**/19, **ML3.3**/8(NEIC), **Error ellipse: s-maj=2.3km s-min=1.3km az=55.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.04**	**42**		Pg	12 05 23.0	0.0
TOW	**Tower One**	**0.11**	**281**		Pg	12 05 24.3	+0.3
SRTC	**Snort**	**0.14**	**226**		Pg	12 05 24.6	+0.3
SRTC					Sg	12 05 27.9	+1.5
WVPM	**Volcano Peak E**	**0.22**	**316**		Sg	12 05 29.2	+0.2
WNMM	**Nine Mile Cany**	**0.23**	**284**		Pg	12 05 25.9	-0.1
WNMM					Sg	12 05 29.6	+0.5
MPMC	**Manual Prospec**	**0.29**	**23**		Pg	12 05 27.0	-0.2
LRMC	**Laurel Mtn Rad**	**0.31**	**188**	Pg	Pg	12 05 27.1	-0.5
LRMC					Sg	12 05 31.6	-0.1
CCCA	**Chr Cany lake**	**0.34**	**141**		Pg	12 05 28.1	+0.1
CCCA					Sg	12 05 33.5	+0.9
MFS	**McCloud Flat S**	**0.38**	**331**		Pg	12 05 28.5	-0.3
MFS					Sg	12 05 33.9	+0.1
WBSM	**Bird Springs**	**0.49**	**239**		Pg	12 05 30.4	-0.4
WBSM					Sg	12 05 37.3	+0.1
WORM	**Onyx Ranch**	**0.51**	**260**		Pg	12 05 30.7	-0.6
WHFM	**Hanning Flat**	**0.59**	**261**		Sg	12 05 40.7	0.0
QSM	**Queen of Sheba**	**0.64**	**74**	Pg	Pg	12 05 33.5	-0.3
QSM				IAML		12 05 35.8	
	comp=N,1μm,0.5s						
QSM				IAML		12 05 37.1	
	comp=E,1μm,0.6s						
QSM					Sg	12 05 41.6	-0.6
ISA	**Isabella, Lake**	**0.70**	**260**		Sg	12 05 43.5	-0.5
ISA	**Isabella, Lake**	**0.70**	**260**	Pg	Pg	12 05 33.5	-1.4
CWC	**Cottonwood Cre**	**0.75**	**331**		Pg	12 05 35.6	-0.2
CWC					Sg	12 05 45.4	-0.1
WASM	**Alta Sierra Ca**	**0.76**	**267**		Sg	12 05 45.6	-0.2
GSC	**Goldstone, Bar**	**0.83**	**126**		Sg	12 05 48.0	-0.1
GSC	**Goldstone, Bar**	**0.83**	**126**	Pg	Pg	12 05 36.8	-0.5
GSC				IAML		12 05 44.7	
	comp=E,1μm,0.7s						
GSC				IAML		12 05 48.2	
	comp=N,1μm,0.5s						
SPG2	**Springville 2**	**1.01**	**294**		Sg	12 05 53.1	-0.9
VES	**Vestal, Richgr**	**1.19**	**273**		Sg	12 05 58.2	-1.3
VTV	**Victorville**	**1.25**	**169**		Sg	12 06 01.4	-0.1
MTPC	**Mountain Pass**	**1.72**	**100**		Pn	12 05 50.0	-1.9
BLCC	**Black Canyon**	**1.76**	**209**		Pn	12 05 51.5	-0.8

*IDC **06** 12:19:54.5±0.9, 69.°85N×15.°68W, h0km, mb3.4/7, mbtmp3.5/11, ML3.1/4, Error ellipse: s-maj=25.0km s-min=18.5km az=10.0*

ISC 06 12:19:55.9±0.8, **69.°8N**±0.°1×**15.°6W**±0.°1, **h10km, n11, σ0s87/11, mb3.5/6, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**5.57**	**206**	Pn	**Pn**	**12 21 19.0**	**+0.4**
	1.6nm,0.3s,baz=38,slow=6.9,SNR=10.0						
	6.7nm,0.6s						
SPITS	**Spitsbergen Ar**	**11.92**	**32**	Pn	**Pn**	**12 22 45.7**	**+0.2**
	baz=237,slow=10						
	1.2nm,0.4s						
HFS	**Hagfors**	**15.54**	**114**	Pn	**Pn**	**12 23 33.5**	**-1.2**
	baz=318,slow=7.8,SNR=2.2						
	2.4nm,0.9s						
FINES	**FINESS Array B**	**18.72**	**96**	P	**Pn**	**12 24 14.6**	**0.0**
	0.1nm,0.3s,baz=353,slow=14,SNR=3.8						
	1.6nm,0.8s						
GERES	**GERESS Array B**	**25.31**	**131**	P	**P**	**12 25 24.1**	**+1.7**

LEOC						Sg	12 21 40.0	0.0
LRRC	**Littlerock Res**	**1.28**	**197**			Pn	12 21 21.9	-1.4
LRRC						Sg	12 21 40.5	+0.1
WCT	**Wildcat Mounta**	**1.29**	**37**			Pn	12 21 22.0	-1.5
WCT					IAML		12 21 41.8	
	comp=E,661nm,0.5s							
WCT					IAML		12 21 41.9	
	comp=N,680nm,0.5s							
SGV	**South Grapevin**	**1.30**	**20**			Pn	12 21 22.6	-1.1
SGV						Sb	12 21 40.5	-0.2
BAKC	**Calstate**	**1.31**	**252**			Sg	12 21 41.3	+0.1
CJV	**Casa Juvan**	**1.31**	**201**			Pn	12 21 22.2	-1.6
JNH	**Juniper Hills**	**1.34**	**193**			Pn	12 21 22.8	-1.5
JNH						Sg	12 21 42.2	-0.1
DSCC	**Desert Studies**	**1.35**	**117**			Pn	12 21 22.2	-2.1
HEC	**Hector,Ludlow**	**1.38**	**132**			Pn	12 21 23.0	-1.7
TUQ	**Turquoise Moun**	**1.39**	**103**			Pn	12 21 23.4	-1.5
TIN	**Tinemaha, Big**	**1.39**	**338**			Pn	12 21 25.1	+0.1
CHFC	**Chilao Flat St**	**1.47**	**194**			Pn	12 21 25.8	-0.3
LCH	**Last Change Ra**	**1.47**	**358**			Pn	12 21 25.2	-0.8
OSI	**Osito Audit: C**	**1.48**	**220**			Pb	12 21 26.5	-0.3
OSI					IAML		12 21 47.9	
	comp=N,487nm,0.6s							
OSI					IAML		12 21 48.7	
	comp=E,775nm,0.6s							
BFSC	**Mount Baldy Ra**	**1.52**	**182**			Pn	12 21 25.4	-1.3
BFSC						Sb	12 21 47.1	+0.1
SIL	**Silver Peak**	**1.54**	**156**			Pb	12 21 28.2	+0.2
SSK	**Sunset Peak**	**1.55**	**183**			Pn	12 21 26.1	-1.1
GMN	**Gold Mountain**	**1.56**	**9**			Pn	12 21 26.5	-0.9
GMN					IAML		12 21 49.9	
	comp=N,308nm,0.5s							
GMN					IAML		12 21 50.5	
	comp=E,217nm,0.4s							
VOG	**Valley Oaks Go**	**1.56**	**292**			Pn	12 21 25.6	-1.6
MWC	**Mount Wilson**	**1.58**	**194**			Pb	12 21 28.8	+0.1
MWC	**Mount Wilson**	**1.58**	**194**			Pn	12 21 26.6	-1.1
BBRC	**Big Bear Solar**	**1.59**	**160**			Pb	12 21 28.6	-0.3
TPNV	**Topopah Spring**	**1.60**	**42**			Pn	12 21 27.0	-0.9
TPNV					IAML		12 21 51.9	
	comp=E,615nm,0.6s							
TPNV					IAML		12 21 54.6	
	comp=E,523nm,0.4s							
DECC	**Green Verdugo**	**1.62**	**203**			Pn	12 21 27.1	-1.0
DSP	**Deep Springs**	**1.64**	**349**			Pn	12 21 27.8	-0.3
DSP					IAML		12 21 52.3	
	comp=E,252nm,0.6s							
PASC	**Pasadena Art C**	**1.66**	**198**			Pn	12 21 27.5	-1.0
PASC					IAML		12 21 53.1	
	comp=N,352nm,0.5s							
PASC					IAML		12 21 55.1	
	comp=E,621nm,0.5s							
MTPC	**Mountain Pass**	**1.68**	**99**			Pn	12 21 27.1	-1.7
PSRC	**Puddingstone R**	**1.68**	**186**			Pn	12 21 28.3	-0.4
POCCA	**Poleta Canyon**	**1.69**	**341**			Pb	12 21 30.4	-0.3
SVD	**Seven Oaks Dam**	**1.70**	**166**			Pb	12 21 30.5	-0.1
BHPR	**Bishop**	**1.70**	**335**			Pb	12 21 30.8	0.0
BCW	**Bitter Crk WRg**	**1.71**	**242**			Pn	12 21 27.9	-1.4
BCW					IAML		12 22 05.3	
	comp=N,533nm,0.8s							
BCW					IAML		12 22 13.4	
	comp=E,462nm,1.1s							
GTM	**Goat Mountain**	**1.77**	**145**			Pb	12 21 31.9	0.0
MTUM	**Tungsten Hills**	**1.78**	**334**			Pb	12 21 31.9	-0.1
GMRC	**Granite Mounta**	**1.85**	**121**			Pn	12 21 28.8	-2.4
MZP	**Montezuma Peak**	**1.94**	**5**			Pn	12 21 31.9	-0.7
MZP					IAML		12 22 05.8	
	comp=N,144nm,0.7s							
SHPR	**Sheep Range**	**2.10**	**69**			Pn	12 21 33.7	-1.0
BENR	**Benton**	**2.11**	**338**			Pb	12 21 37.9	+0.2
ELS	**Elsinore Mount**	**2.11**	**176**			Pn	12 21 33.7	-1.1
ELS					IAML		12 22 08.1	
	comp=E,178nm,0.5s							
MLAC	**Mammoth, Mammo**	**2.12**	**332**			Pb	12 21 38.4	+0.4
POB	**Polly Butte**	**2.14**	**165**			Pn	12 21 34.4	-0.8
DGR	**Domenigoni Val**	**2.16**	**167**			Pn	12 21 34.6	-0.8
MURC	**Murrieta**	**2.18**	**171**			Pn	12 21 34.8	-0.9
CRY	**Cary Ranch**	**2.30**	**162**			Pn	12 21 36.5	-0.9
TPH	**Tonopah**	**2.33**	**7**			Pn	12 21 37.1	-0.8
PFO	**Pinyon Flats O**	**2.33**	**156**	Pn		Pn	12 21 36.4	-1.5
LHV	**Little Huntoon**	**2.59**	**344**			Pn	12 21 41.0	-0.3
PRN	**Pahroc Range**	**2.62**	**50**			Pn	12 21 41.2	-0.6
PRN					IAML		12 22 34.4	
	comp=E,159nm,0.6s							
PMPB	**Monarch Peak**	**2.65**	**281**	Pn	Pn		12 21 41.8	-0.4
PMPB					IAML		12 22 23.1	
	comp=N,226nm,0.9s							
NV11	**Mina Array Sit**	**2.71**	**350**			Pn	12 21 42.9	-0.2
NVAR	**Mina Array Bea**	**2.73**	**348**			Pn	12 21 43.2	-0.2
JUEM	**Julian Eagle M**	**2.79**	**163**			Pn	12 21 43.4	-0.8
DPP	**Dos Picos Cty**	**2.81**	**169**			Pn	12 21 43.4	-0.9
RYN	**Ryan**	**2.96**	**346**			Pn	12 21 46.3	-0.2
Q09A	**Carvers**	**3.08**	**6**	Pn	Pn		12 21 48.6	+0.3
W13A	**Hualapai Mount**	**3.09**	**101**	Pn	Pn		12 21 46.8	-1.6
W13A					IAML		12 22 40.0	
	comp=E,56nm,0.8s							
W13A					IAML		12 22 40.0	
	comp=N,73nm,1.0s							
BLYC	**Blythe**	**3.22**	**128**	Pn	Pn		12 21 47.6	-2.4
BLYC					IAML		12 22 43.4	
	comp=N,68nm,0.6s							
BLYC					IAML		12 22 44.2	
	comp=E,71nm,0.8s							
SAO	**San Andreas Ge**	**3.28**	**289**	Pn	Pn		12 21 50.1	-0.8
YUH	**Yuha Desert**	**3.40**	**156**	Pn	Pn		12 21 50.4	-2.0
CBX	**Cerro Bola**	**3.52**	**167**	Pn	Pn		12 21 53.6	-0.6
CBX					IAML		12 22 56.5	
	comp=N,107nm,0.8s							
GLA	**Glamis**	**3.53**	**139**	Pn	Pn		12 21 55.1	+0.8
GLA					IAML		12 22 55.4	
	comp=N,94nm,0.5s							
LCMT	**Little Creek M**	**3.72**	**69**	Pn	Pn		12 21 57.1	+0.2
CCUT	**Cedar City**	**3.83**	**61**	Pn	Pn		12 21 58.8	+0.1
ESJX	**Sierra Juarez**	**3.98**	**160**	Pn	Pn		12 21 59.6	-1.1
KNB	**Kanab**	**4.04**	**71**	Pn	Pn		12 22 01.4	0.0
KNB					IAML		12 23 12.4	
	comp=E,25nm,1.0s							
SZCU	**Shurtz Canyon**	**4.05**	**62**	Pn	Pn		12 22 00.9	-0.7
SZCU					IAML		12 23 09.4	
	comp=E,23nm,0.3s							
SZCU					IAML		12 23 11.9	
	comp=N,23nm,0.4s							
TUC	**Tucson**	**6.61**	**119**	Pn	Pn		12 22 35.2	-1.4

IDC ***06*** *12:21:48.9±0.5,69°.83N×15°.61W,h0km,mb3.8/18, mbtmp3.9/24,ML3.1/6,MS3.9/7,Error ellipse: s-maj=15.6km s-min=11.6km az=16.0*

NEIC ***06*** *12:21:50.2±1.6,69°.90N±0°.08×15°.6W±0°.2,h10km±1km, mb4.4/50,Error ellipse: s-maj=14.4km s-min=11.0km az=29.0*

DNK ***06*** *12:21:50.1±3.4,69°.95N×16°.19W,h10km,ML3.1*

GCMT ***06*** *12:21:51.2±0.4,69°.98N±0°.05×15°.91W±0°.08,h21km±1km, MW5.0/71,Moment Tensor Solution. s14,c17; s71,c100; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.11±.40; Mθθ0.38±.21; Mφφ2.74±.24; Mrθ2.18±.45; Mrφ0.05±.11; Mθφ0.63±.30; Best double couple: Mo3.52700×10^16 NP1:φs343.00000°,δ41.00000°,λ-128.00000°. NP2: φs209.00000°,δ59.00000°,λ-62.00000°. Principal axes: T 2.8530, Plg9.0000°, Azm279.0000°; N 1.3530, Plg24.0000°, Azm14.0000°; P -4.2010, Plg64.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

REY ***06*** *12:21:51.9,69°.40N×14°.73W,h10km*

INMG ***06*** *12:21:51.0±2.3,69°.91N×15°.23W,h10km,M4.5,mb4.7, #DIST_RANGE: DISTANT*

ISC 06 12:21:49.9±0.3,69°.81N±0°.04×15°.88W±0°.04,h10km,n188, σ1Ꝋ73/187,**mb4.2**/81,**7D,Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.18**	**291**	Pn		**Pn**	**12 22 27.4**	**+1.3**
SCO	**Scoresbysund**	**2.18**	**291**	*i* S		**Sn**	**12 22 47.9**	**-5.2**
SCO				IAML			12 23 22.3	
	comp=Z,319nm,1.3s							
JMIC	**Jan Mayen**	**2.75**	**61**	Pn		Pn	12 22 28.9	-5.1
	baz=261,slow=12							
JMIC	**Jan Mayen**	**2.75**	**61**	*i* P		**Pn**	**12 22 31.8**	**-2.2**
JMIC				*i* S		**Sn**	**12 23 08.5**	**+1.3**

IGRI	**Grimsey**	**3.38**	**195**	P		**Pn**	**12 22 41.4**	**-1.2**
IGRI				S		**Sn**	**12 23 17.6**	**-5.0**
IGIL	**Gilhagi**	**3.76**	**183**	P		**Pn**	**12 22 45.0**	**-2.7**
IBRE	**Brettingsstaoi**	**3.78**	**193**	P		**Pn**	**12 22 46.9**	**-1.2**
IBRE				S		**Sn**	**12 23 27.5**	**-5.1**
ISIG	**Siglufjorour**	**3.87**	**199**	P		**Pn**	**12 22 48.7**	**-0.6**
ISIG				S		**Sn**	**12 23 30.4**	**-4.3**
IDIM	**Dimmadalss**	**3.89**	**186**	P		**Pn**	**12 22 47.3**	**-2.3**
IDIM				S		**Sn**	**12 23 33.1**	**-2.1**
IGRA	**Granastaoir**	**3.96**	**190**	P		**Pn**	**12 22 49.1**	**-1.5**
IGRA				S		**Sn**	**12 23 35.8**	**-1.2**
ISKI	**Skildingahlsh**	**3.98**	**187**	P		**Pn**	**12 22 48.2**	**-2.7**
ISKI				S		**Sn**	**12 23 35.2**	**-2.4**
IGHA	**Grjothals**	**4.00**	**185**	P		**Pn**	**12 22 48.6**	**-2.5**
IHLA	**Hella**	**4.00**	**195**	P		**Pn**	**12 22 50.5**	**-0.6**
IHRN	**Hraun**	**4.05**	**205**	P		**Pn**	**12 22 52.1**	**+0.3**
IGRS	**Grimsstaoir**	**4.19**	**181**	P		**Pn**	**12 22 51.4**	**-2.4**
IMEL	**Melhnausar**	**4.27**	**184**	P		**Pn**	**12 22 52.5**	**-2.3**
ISVA	**Svartarkot**	**4.53**	**187**	P		**Pn**	**12 22 57.0**	**-1.3**
IADA	**Aoalbol**	**4.82**	**178**	P		**Pn**	**12 22 59.8**	**-2.5**
BORG	**Borgarnes**	**5.50**	**205**			**Pn**	**12 23 13.0**	**+1.2**
BORG	**Borgarnes**	**5.50**	**205**	Pn		**Pn**	**12 23 12.7**	**+1.0**
	comp=Z,4.1nm,0.3s,baz=13,slow=6.4,SNR=15							
BORG				LR		LR	12 24 13.0	
	comp=Z,216nm,20.3s,baz=4.6,slow=26							
BORG				Sn		**Sn**	**12 24 18.5**	**+3.5**
	baz=241,slow=13							
	comp=Z,52nm,0.7s							
SOEG	**Soedalen**	**5.80**	**261**	*i* S		**Sn**	**12 24 16.7**	**-5.5**
SOEG				IAML			12 25 40.7	
	comp=E,51nm,1.8s							
SUMG	**Summit**	**7.78**	**301**			**Pn**	**12 23 43.0**	**-0.2**
SUMG	**Summit**	**7.78**	**301**	*i* P		**Pn**	**12 23 41.3**	**-1.9**
KBS	**Kingsbay**	**11.63**	**27**	Pn		**Pn**	**12 24 31.2**	**-4.4**
SPITS	**Spitsbergen Ar**	**11.99**	**32**	Pn		**Pn**	**12 24 39.1**	**-1.3**
	baz=215,slow=14							
	comp=Z,3.9nm,0.7s							
NOA	**NORSAR Array B**	**14.15**	**115**	Pn		**Pn**	**12 25 10.0**	**-0.1**
	baz=344,slow=9.7,SNR=2.1							
NOA				LR		LR	12 29 59.3	
	comp=Z,279nm,21.0s,baz=315,slow=35							
	comp=Z,1.3nm,0.3s							
ARCES	**ARCESS Array B**	**14.19**	**72**	Pn		**Pn**	**12 25 12.5**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=286,slow=13,SNR=2.0							
ARCES				LR		LR	12 29 30.4	
	comp=Z,578nm,19.8s,baz=315,slow=33							
NRS	**Narsarsuaq**	**14.84**	**249**	Pn		**Pn**	**12 25 19.7**	**+0.3**
EKA	**Eskdalemuir Ar**	**15.61**	**152**	Pn		**Pn**	**12 25 29.9**	**+0.3**
	baz=335,slow=11							
	comp=Z,2.7nm,0.9s							
HFS	**Hagfors**	**15.63**	**114**	Pn		**Pn**	**12 25 26.9**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=334,slow=13,SNR=5.0							
HFS				LR		LR	12 31 13.8	
	comp=Z,470nm,18.5s,baz=359,slow=36							
	comp=Z,1.4nm,0.9s							
IVI	**Ivigtut**	**15.71**	**253**			**Pn**	**12 25 31.9**	**+1.1**
TULEG	**Thule**	**16.11**	**318**	Pn		**Pn**	**12 25 31.4**	**-4.6**
DSB	**Dublin**	**17.19**	**160**	P		**Pn**	**12 25 49.9**	**+0.1**
FIA1	**FINESS Array S**	**18.83**	**95**	P		**P**	**12 26 07.8**	**-1.6**
FINES	**FINESS Array B**	**18.83**	**95**	P		**P**	**12 26 07.9**	**-1.4**
FINES	**FINESS Array B**	**18.83**	**95**	P		**P**	**12 26 09.1**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=325,slow=9.3,SNR=7.1							
FINES				LR		LR	12 32 32.0	
	comp=Z,733nm,20.0s,baz=352,slow=34							
	comp=Z,5.0nm,1.0s							
EUNU	**Eureka**	**19.33**	**330**	P		**P**	**12 26 10.6**	**-4.2**
EUNU				IAmb		IAmb	12 26 21.1	
	comp=Z,15nm,0.8s							
FRB	**Frobisher Bay**	**21.00**	**279**	LR		LR	12 34 33.7	
	comp=Z,674nm,19.0s,baz=56,slow=36							
BEBN	**Eben Emael**	**21.62**	**141**	*dP*		**P**	**12 26 40.0**	**+0.3**
MEM	**Membach**	**21.87**	**140**	*dP*		**P**	**12 26 42.7**	**+0.4**
	comp=Z,12nm,1.3s							
BGES	**Gesves**	**21.88**	**142**	*dP*		**P**	**12 26 42.7**	**+0.3**
BMRD	**Maredsous**	**21.89**	**143**	*dP*		**P**	**12 26 42.7**	**+0.1**
BCLA	**Clavier**	**21.89**	**142**	*dP*		**P**	**12 26 42.9**	**+0.3**
	comp=Z,6.4nm,0.9s							
BTNL	**Tenell**	**21.91**	**140**	*dP*		**P**	**12 26 43.0**	**+0.1**
	comp=Z,7.6nm,1.3s							
ILON	**Igloolik, Nuna**	**22.02**	**300**	P		**P**	**12 26 43.1**	**-0.7**
DOU	**Dourbes**	**22.05**	**143**	*dP*		**P**	**12 26 44.1**	**-0.2**
PABE	**Paberze**	**22.65**	**109**			**P**	**12 26 50.2**	**-0.4**
WLF	**Walferdange**	**22.79**	**141**	P		**P**	**12 26 50.8**	**-1.4**
WLF				IAmb		IAmb	12 27 14.8	
	comp=Z,7.6nm,0.8s							
RES	**Resolute Bay**	**22.83**	**318**	LR		LR	12 35 32.7	
	comp=Z,284nm,19.0s,baz=85,slow=36							
CLL	**Collm**	**22.95**	**129**	P		**P**	**12 26 53.2**	**-0.6**
CLL				IAmb		IAmb	12 26 54.9	
	comp=Z,14nm,1.2s							
CLL	**Collm**	**22.95**	**129**	P		**P**	**12 26 53.9**	**0.0**
	comp=Z,11nm,1.8s							
CLL	**Collm**	**22.95**	**129**	*i* P		**P**	**12 26 53.8**	**-0.1**
	comp=Z,16nm,1.4s							
LSH	**Leshukonskoye**	**23.29**	**72**	P		**P**	**12 26 59.1**	**+1.9**
	comp=Z,87nm,2.8s							
CLF	**Chambon-Foret**	**23.57**	**148**	P		**P**	**12 27 00.8**	**+0.6**
CLF				IAmb		IAmb	12 27 28.8	
	comp=Z,9.6nm,0.8s							
BRG	**Berggiesshubel**	**23.60**	**128**	*eP*		**P**	**12 27 00.3**	**-0.1**
BRG				Amp			12 27 02.5	
	comp=Z,6.5nm,1.2s							
SUW	**Suwalki**	**23.63**	**112**	P		**P**	**12 27 00.0**	**-0.7**
KLMR	**Klimovskoe**	**23.90**	**84**	P		**P**	**12 27 01.6**	**-1.7**
	comp=Z,54nm,2.1s							
GRA1	**Grafenberg Arr**	**23.96**	**133**	P		**P**	**12 27 04.7**	**+0.8**
GRFO	**Grafenberg**	**23.96**	**133**			**P**	**12 27 04.9**	**+0.9**
KSP	**Ksiaz**	**24.28**	**125**	P		**P**	**12 27 07.0**	**+0.1**
	comp=Z,26nm,1.6s							
STU	**Stuttgart**	**24.32**	**137**	P		**P**	**12 27 08.1**	**+0.9**
STU				IAmb		IAmb	12 27 09.3	
	comp=Z,8.2nm,0.9s							
ECH	**Echery**	**24.37**	**141**	P		**P**	**12 27 08.0**	**+0.2**
OSTC	**Ostas**	**24.51**	**125**	*eP*		**P**	**12 27 12.4**	**+3.3**
BFO	**Black Forest**	**24.53**	**139**			**P**	**12 27 08.9**	**-0.4**
DPC	**Dobruska-Polom**	**24.73**	**125**	*eP*		**P**	**12 27 11.9**	**+0.9**
DPC	**Dobruska-Polom**	**24.73**	**125**	P		**P**	**12 27 11.9**	**+0.9**
	comp=Z,9.9nm,1.6s							
KHC	**Kasperske Hory**	**25.08**	**130**	*eP*		**P**	**12 27 16.1**	**+1.9**
KHC	**Kasperske Hory**	**25.08**	**130**	P		**P**	**12 27 14.7**	**+0.5**
	comp=Z,6.0nm,1.4s							
GEC2	**GERESS Array S**	**25.38**	**130**	P		**P**	**12 27 17.5**	**+0.5**
GERES	**GERESS Array B**	**25.38**	**130**	P		**P**	**12 27 18.4**	**+1.5**
GERES	**GERESS Array B**	**25.38**	**130**	P		**P**	**12 27 16.8**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=332,slow=7.6,SNR=11							
	comp=Z,3.3nm,0.9s							
CKRC	**Cesky Krumlov**	**25.56**	**130**	*eP*		**P**	**12 27 19.7**	**+1.2**
MORC	**Moravsky Berou**	**25.59**	**124**			**P**	**12 27 19.1**	**+0.3**
MORC				IAmb		IAmb	12 27 21.7	
	comp=Z,13nm,1.2s							
MORC	**Moravsky Berou**	**25.59**	**124**	*eP*		**P**	**12 27 19.1**	**+0.3**
VRAC	**Vranov**	**25.75**	**126**	*eP*		**P**	**12 27 20.8**	**+0.6**
OJC	**Ojcow**	**25.86**	**121**	P		**P**	**12 27 20.9**	**-0.3**
OJC	**Ojcow**	**25.86**	**121**	P		**P**	**12 27 20.8**	**-0.4**
	comp=Z,8.2nm,1.5s							
DAVA	**Damuels**	**25.87**	**137**	*ep*	P	**P**	**12 27 25.1**	**+3.6**
	comp=Z,20nm,1.3s							
RETA	**Reutte**	**25.89**	**136**	*i* P		**P**	**12 27 24.1**	**+2.4**
	comp=Z,1.4nm,0.7s							
KRUC	**Moravsky**	**25.91**	**127**	*eP*		**P**	**12 27 21.2**	**-0.5**
MOTA	**Moosalm**	**26.11**	**135**	*i* P		**P**	**12 27 24.9**	**+1.3**
	comp=Z,9.8nm,1.6s							
WATA	**Walderalm**	**26.23**	**135**	*i* P		**P**	**12 27 25.7**	**+0.9**
	comp=Z,7.0nm,1.0s							
SQTA	**Sankt Quirin**	**26.25**	**135**	*ep*	P	pP	12 27 26.3	-1.3
	comp=Z,18nm,1.7s							
WTTA	**Wattenberg**	**26.31**	**135**	*i* P		**P**	**12 27 24.8**	**-0.7**
	comp=Z,9.4nm,1.4s							
FETA	**Feichten**	**26.32**	**136**	*eP*		**P**	**12 27 29.0**	**+3.4**
	comp=Z,4.3nm,1.3s							
BIOA	**Bad Ischl, Aus**	**26.42**	**132**	*eP*		**P**	**12 27 27.5**	**+1.2**
	comp=Z,1.7nm,0.6s							
LESA	**Schwarzleotal**	**26.43**	**133**	*eP*		**P**	**12 27 27.5**	**+1.1**
	comp=Z,2.4nm,1.0s							
MOA	**Molln**	**26.44**	**131**	*i* P		**P**	**12 27 27.2**	**+0.6**
	comp=Z,5.9nm,1.5s							
TUE	**Stuetta**	**26.51**	**139**			**P**	**12 27 27.9**	**+0.6**
TUE				IAmb		IAmb	12 27 32.0	
	comp=Z,8.4nm,1.1s							
TUE	**Stuetta**	**26.51**	**139**	P		**P**	**12 27 28.2**	**+0.8**
	comp=Z,34nm,1.4s							
FUORN	**Ofenpass-Fuorn**	**26.59**	**137**	P		**P**	**12 27 27.2**	**-0.9**
FUORN				IAmb		IAmb	12 27 53.2	
	comp=Z,7.1nm,1.2s							
NIE	**Niedzica**	**26.72**	**121**	P		**P**	**12 27 29.4**	**+0.4**

	comp=Z,4.8nm,1.4s									
CONA	**Conrad Observa**	**26.80**	**128**	*i* pP		**P**	**12 27 31.1**	**+1.3**
	comp=Z,4.6nm,1.0s									
RNPP5	**Staryi Chortor**	**26.87**	**112**	P		**P**	**12 27 29.2**	**-1.1**
KBA	**Koelnbreinsper**	**26.92**	**133**	*ep*	P	**P**	**12 27 33.3**	**+2.4**
	comp=Z,3.8nm,1.1s									
SCHQ	**Schefferville**	**26.95**	**263**	P		**P**	**12 27 31.9**	**+0.9**
	comp=Z,4.6nm,0.9s,baz=34,slow=2.5,SNR=3.6									
	comp=Z,4.6nm,0.9s									
ABTA	**Abfaltersbach**	**27.01**	**134**	*eP*		**P**	**12 27 36.3**	**+4.5**
	comp=Z,3.3nm,0.6s									
VYHS	**Vyhne**	**27.12**	**124**	*eP*		**P**	**12 27 33.0**	**+0.4**
RONA	**Rosalia, Austr**	**27.13**	**128**	*eP*		**P**	**12 27 33.7**	**+1.0**
	comp=Z,2.7nm,0.8s									
KWP	**Kalwaria Pacla**	**27.26**	**118**	P		**P**	**12 27 33.1**	**-0.7**
	comp=Z,16nm,0.7s									
ARSA	**Arzberg**	**27.33**	**129**	*eP*		**P**	**12 27 34.6**	**+0.1**
	comp=Z,2.3nm,0.6s									
CIMO	**Cimolais**	**27.40**	**134**	P		**P**	**12 27 33.3**	**-1.9**
CIMO				IAmb		IAmb	12 27 58.4			
	comp=Z,7.8nm,1.5s									
MYKA	**Terra Mystica**	**27.41**	**132**	*ep*	P	P	12 27 43.6	+8.4		
	comp=Z,4.4nm,1.1s									
CTI	**Castel Tesino**	**27.45**	**136**	P		**P**	**12 27 36.3**	**+0.6**
CTI				IAmb		IAmb	12 27 37.9			
	comp=Z,14nm,1.3s									
MI28	**MI28,Pidlybu**	**27.70**	**110**	P		**P**	**12 27 37.4**	**-0.4**
SOKA	**Soboth**	**27.73**	**131**	*i* pP		**P**	**12 27 39.5**	**+1.3**
	comp=Z,3.3nm,1.1s									
OBKA	**Obir**	**27.75**	**131**	*i* pP		P	12 27 46.9	+8.5		
	comp=Z,4.7nm,1.5s									
PSZ	**Piszkesteto**	**27.95**	**123**	P		**P**	**12 27 39.2**	**-0.9**
HOLU	**Holmets**	**28.14**	**119**	P		**P**	**12 27 42.1**	**+0.4**
PGAV	**Gavieira, Arco**	**28.19**	**168**	*eP*		**P**	**12 27 44.1**	**+1.8**
PGAV				*i* IAmb		IAmb	12 27 55.0			
	comp=Z,37nm,1.7s									
AK21	**Malin Array Si**	**28.28**	**109**	P		**P**	**12 27 42.1**	**-0.8**
AK19	**Malin Array Si**	**28.28**	**109**	P		**P**	**12 27 42.2**	**-1.1**
AK17	**Malin Array Si**	**28.37**	**109**	P		**P**	**12 27 43.2**	**-0.5**
AK15	**Malin Array Si**	**28.37**	**109**	P		**P**	**12 27 43.2**	**-0.6**
AKASG	**Malin Array Be**	**28.41**	**109**	P		**P**	**12 27 43.5**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=332,slow=9.6,SNR=5.8									
	comp=Z,1.0nm,0.6s									
AK02	**Malin Array Si**	**28.44**	**109**	P		**P**	**12 27 43.7**	**-0.6**
AK10	**Malin Array Si**	**28.50**	**109**	P		**P**	**12 27 44.4**	**-0.5**
AK07	**Malin Array Si**	**28.53**	**109**	P		**P**	**12 27 44.3**	**-0.8**
LUBAR	**Lubar, Ukraine**	**28.60**	**111**	P		**P**	**12 27 45.5**	**-0.3**
POLO	**Lamas de Olo**	**28.81**	**167**	*eP*		**P**	**12 27 49.5**	**+1.7**
MVO	**Moncorvo**	**29.08**	**166**	*eP*		**P**	**12 27 52.5**	**+2.3**
MVO				*i* IAmb		IAmb	12 28 27.7			
	comp=Z,21nm,1.7s									
MORH	**Mrgy, Hungar**	**29.14**	**126**	P		**P**	**12 27 50.8**	**+0.3**
	comp=Z,3.7nm,2.1s									
KSV	**Kosov**	**29.15**	**116**	P		**P**	**12 27 50.1**	**-0.6**
KMPD	**K-Podol'skiy**	**29.37**	**114**	P		**pP**	**12 27 52.7**	**-2.6**
KMPD				P		**P**	**12 27 52.1**	**-0.5**
BUR08	**Bucovina Ar. S**	**29.79**	**117**	P		**P**	**12 27 56.7**	**+0.2**
PCBR	**Castelo Branco**	**30.36**	**167**	*eP*		**P**	**12 28 01.9**	**+0.5**
PSARD	**Sardoal**	**30.55**	**168**	*eP*		**P**	**12 28 05.7**	**+2.6**
PSARD				*i* IAmb		IAmb	12 28 25.5			
	comp=Z,20nm,1.6s									
PMRV	**Marv??o**	**30.78**	**167**	*eP*		**P**	**12 28 07.2**	**+2.0**
PMRV				*i* IAmb		IAmb	12 28 08.3			
	comp=Z,15nm,

comp=Z,1.7nm,1.1s,baz=25,slow=4.9,SNR=5.7
comp=Z,1.7nm,1.1s

KSH	Kashi	54.15	73	P		P	12 31 16.1	+1.2
SONM	Songino Array	55.38	44	P		P	12 31 23.7	0.0
	comp=Z,0.2nm,0.3s,baz=319,slow=6.1,SNR=1.7							
	comp=Z,0.2nm,0.3s							
WMOK	Wichita Mounta	55.44	277	P		P	12 31 23.3	-0.9
WMOK				IAmb		IAmb	12 31 26.8	
	comp=Z,5.1nm,1.1s							
TMUT	Trail Mountain	55.49	290	IAmb		IAmb	12 31 34.3	
	comp=Z,3.0nm,1.0s							
TORD	Torodi Ar. Bea	57.70	160			P	12 31 39.8	-0.5
TORD				IAmb		IAmb	12 31 40.9	
	comp=Z,4.9nm,1.2s							
TORD	Torodi Ar. Bea	57.70	160	P		P	12 31 40.1	-0.2
	comp=Z,3.0nm,1.0s,baz=351,slow=9.2,SNR=12							
	comp=Z,3.0nm,1.0s							
ANMO	Albuquerque	57.87	284	P		P	12 31 42.4	+0.7
	comp=Z,0.2nm,0.3s,baz=40,slow=2.3,SNR=3.8							
	comp=Z,0.2nm,0.3s							
GTA	Gaotai	61.55	53	eP		P	12 32 06.8	0.0
TXAR	Lajitas Array	62.05	279	P		P	12 32 11.7	+1.5
	comp=Z,0.6nm,0.9s,baz=46,slow=5.4,SNR=6.5							
	comp=Z,0.6nm,0.9s							
HHC	Hu-ho-hao-te	63.20	42	eP		P	12 32 16.5	-1.3
ASAR	Alice Springs	130.50	37	PKP		PKiKP	12 41 01.2	+0.3
	comp=Z,0.2nm,0.7s,baz=339,slow=1.6,SNR=4.4							
MAW	Mawson	147.17	136	PKPbc		PKPbc	12 41 32.0	+0.8
	comp=Z,2.8nm,0.9s,baz=315,slow=12,SNR=4.4							
QSPA	South Pole Qui	159.75	180	PKPab		PKPab	12 42 27.3	+1.2
	comp=Z,3.7nm,1.0s,baz=244,slow=4.2,SNR=7.3							

IDC ***06*** *12:27:38.7±2.8, 28°.54N×51°.63E, h0km, mb3.7/4, mbtmp3.6/5, ML3.4/1, MS3.9/2, Error ellipse: s-maj=58.1km s-min=34.4km az=154.0*
TEH ***06*** *12:27:39.7, 28°.49N×51°.95E, h18km±27km*
DSN ***06*** *12:27:43.6±0.8, 28°.03N×52°.21E, h10km, ML3.0/4, Error ellipse: s-maj=16.8km s-min=6.7km az=32.0*

ISC 06 12:27:39.0±0.8, 28°.34N±0°.05×51°.93E±0°.05, h15km, n24, σ1§38/24, mb3.6/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	Dashti - Bushe	0.59	272	Pg	Pg	12 27 51.6	+0.9
QIR1	Qir	0.99	82	Pg	Pg	12 27 57.8	-0.5
KAZ2	Kazeron-Fars-I	1.29	350	Pg	Pn	12 28 02.1	-0.5
SHI	Shiraz	1.39	21	Pg	Pn	12 28 03.2	-0.9
JHRM	Jahrom	1.46	83	Pg	Pb	12 28 06.2	+0.2
LMD1	Lamerd	1.48	132	Pg	Pg	12 28 09.5	+2.0
KLNJ	Kolanjah	2.67	354	Pn	Pn	12 28 21.8	-0.2
IRAM	Ramesheh	3.48	6	Pn	Pn	12 28 32.5	-0.4
IMEH	Mehriz	3.83	37	Pn	Pn	12 28 37.9	+0.2
KHGB	Koh Gabri	4.46	62	Pn	Pn	12 28 47.6	+1.3
IZEF	Zefreh	4.55	4	Pn	Pn	12 28 47.6	-0.1
BANOM	Banah	4.58	121	P	Pn	12 28 47.1	-0.7
BANOM				S	Sn	12 28 59.9	-3.0
MSFE	Esma-Masafi	4.81	127	P	Pn	12 28 50.9	-0.1
UOSS	Minazif	5.11	131	P	Pn	12 28 55.3	+0.2
ASHO	Ashiyiah	5.19	134	P	Pn	12 28 55.5	-0.7
ASHO				S	Sn	12 29 53.0	-2.9
KBAM	BAM	5.78	81	Pn	Pn	12 29 06.2	+1.8
SOHO	SOHO	5.89	134	P	Pn	12 29 05.1	-0.7
BRTR	Keskin Array B	18.90	312	P	P	12 31 58.8	-0.5
	0.1nm,0.3s,baz=120,slow=10,SNR=4.2						
	0.9nm,0.9s						
AKTO	Aktyubinsk	22.55	10	LR	LR	12 44 08.9	
	comp=Z,213nm,18.6s,baz=224,slow=44						
MKAR	Makanchi Array	30.04	44	P	P	12 33 50.1	+2.7
	0.2nm,0.4s,baz=238,slow=7.6,SNR=2.3						
	0.2nm,0.4s						
FINES	FINESS Array B	37.31	340	P	P	12 34 49.4	-0.9
	1.0nm,0.8s,baz=153,slow=9.4,SNR=4.2						
	1.0nm,0.8s						
HFS	Hagfors	40.94	332	P	P	12 35 19.8	-1.0
	2.1nm,0.8s,baz=138,slow=9.1,SNR=7.7						
	2.1nm,0.8s						
TORD	Torodi Ar. Bea	49.01	263	P	P	12 36 25.6	+0.1
	0.4nm,0.4s,baz=62,slow=8.4,SNR=4.8						
	0.4nm,0.4s						
ASAJ	Asahikawa	71.32	49	LR	LR	13 12 34.1	
	comp=Z,90nm,19.3s,baz=331,slow=38						

WEL ***06*** *12:28:31.4±1.0, 37°.5S×17°.9E±°, h12km, M3.9/13, ML4.1/14, MLv3.9/13, Error ellipse: s-maj=10.7km s-min=6.2km az=100.4, confirmed*
NOU ***06*** *12:28:34.1, 37°.37S×178°.76E, h28km, MLv4.3/19, Off E. Coast of N. Island, N.Z.*
IDC ***06*** *12:28:35.3±4.0, 37°.99S×179°.13E, h83km±26km, mb3.9/4, mbtmp4.2/5, Error ellipse: s-maj=37.9km s-min=35.0km az=161.0*

ISC 06 12:28:31.3±2.2, 37°.25S±0°.06×179°.05E±0°.09, h30km±12km, n123, σ1§23/128, mb4.2/4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.67	242	P	Pb	12 28 44.1	-0.4
MXZ	Matakaoa Point	0.67	242	P	Pb	12 28 44.0	-0.4
MXZ				S	Sb	12 28 51.8	-1.7
PKGZ	Pakihiroa	0.99	231	P	Pb	12 28 50.3	+0.4
PKGZ				S	Sn	12 29 03.3	+1.2
PUZ	Puketiti	1.03	217	P	Pb	12 28 50.9	+0.3
PUZ				S	Sn	12 29 05.4	+2.1
HAZ	Te Kaha	1.13	243	P	Pn	12 28 50.9	-0.2
HAZ				S	Sb	12 29 07.2	+0.7
TWGZ	Tauwhareparae	1.26	222	P	Pb	12 28 54.4	0.0
TWGZ				S	Sb	12 29 11.0	+0.8
RUGZ	Raukumara Rang	1.30	236	P	Pb	12 28 55.2	-0.1
RUGZ				S	Sb	12 29 12.0	+0.4
CNGZ	Carnagh Statio	1.40	208	P	Pb	12 28 56.9	+0.1
CNGZ				S	Sb	12 29 15.7	+1.4
WIZ	White Island	1.51	259	P	Pn	12 28 57.5	+1.3
TKGZ	Te Karaka	1.52	218	P	Pn	12 28 57.7	+1.3
MWZ	Matawai	1.62	228	P	Pn	12 28 58.9	+1.1
WHRZ	Whale Island	1.76	249	P	Pn	12 29 00.7	+1.0
RIGZ	Rimuhau	1.77	215	P	Pn	12 29 01.1	+1.1
RAGZ	Rawiri	1.79	226	P	Pn	12 29 01.7	+1.4
URZ	Urewera	1.84	236	P	Pn	12 29 01.8	+1.0
	188nm,0.3s,baz=335,slow=1.3,SNR=383						
URZ				S	Sn	12 29 22.7	-0.3
	263nm,0.4s,baz=132,slow=22,SNR=17						
URZ				LR	LR	12 30 01.4	
	comp=Z,299nm,19.7s,baz=28,slow=53						
URZ	Urewera	1.84	236	P	Pn	12 29 01.9	+1.1
URZ	Urewera	1.84	236	P	Pn	12 29 01.8	+1.0
PRGZ	Paritu Road	1.91	209	P	Pn	12 29 03.2	+1.4
EDRZ	Edgecumbe	2.02	244	P	Pn	12 29 04.4	+1.0
MARZ	Manawahe	2.02	248	P	Pn	12 29 04.0	+0.6
OPRZ	Ohinepanea	2.07	253	P	Pn	12 29 04.2	+0.2
MHGZ	Mahia Peninsul	2.10	205	P	Pn	12 29 05.4	+1.0
RTZ	Ruatahuna	2.13	230	P	Pn	12 29 06.0	+1.1
MUGZ	Murupara	2.18	235	P	Pn	12 29 06.2	+0.7
MYRZ	Mayor Island	2.24	268	P	Pn	12 29 07.0	+0.6
TARZ	Mount Tarawera	2.24	243	P	Pn	12 29 07.8	+1.3
LIRZ	Lichensteins R	2.25	250	P	Pn	12 29 07.6	+1.1
TGRZ	Tauranga	2.27	257	P	Pn	12 29 07.0	+0.3
RAHZ	Arahi	2.27	222	P	Pn	12 29 07.8	+0.9
RRRZ	Republican Roa	2.28	241	P	Pn	12 29 08.1	+1.1
OMRZ	Omania	2.29	247	P	Pn	12 29 08.2	+1.2
KARZ	Kaharoa	2.36	250	P	Pn	12 29 08.7	+0.7
HLRZ	Highlands Stat	2.36	244	P	Pn	12 29 09.4	+1.3
MTHZ	Maungataniwha	2.37	227	P	Pn	12 29 09.3	+1.2
NGRZ	Ngongotaha	2.42	249	P	Pn	12 29 10.2	+1.2
PRRZ	Plateau Road	2.44	239	P	Pn	12 29 09.8	+0.6
UTU	Utuhina	2.45	247	P	Pn	12 29 11.5	+2.3
HSRZ	Hossack Road	2.46	244	P	Pn	12 29 10.9	+1.5
HRRZ	Handcock Road	2.47	242	P	Pn	12 29 10.6	+1.1
ALRZ	Allen Road	2.51	238	P	Pn	12 29 10.8	+0.7
KMRZ	Kaimai	2.54	256	P	Pn	12 29 10.9	+0.4
NMHZ	Naumai	2.56	223	P	Pn	12 29 12.1	+1.3
GRRZ	Galatos Road	2.58	244	P	Pn	12 29 12.4	+1.5
ARHZ	Aropaoanui	2.58	218	P	Pn	12 29 11.8	+0.8
MRHZ	Matea Rd	2.61	232	P	Pn	12 29 12.6	+1.1
WPRZ	Whakapapatarin	2.61	240	P	Pn	12 29 13.0	+1.5
KUZ	Kuaotunu	2.71	280	P	Pn	12 29 12.2	-0.6
KUZ	Kuaotunu	2.71	280	S	Sn	12 29 42.1	-2.5
KUZ	Kuaotunu	2.71	280	P	Pn	12 29 12.6	-0.2
BKZ	Black Stump Fm	2.78	226	P	Pn	12 29 13.9	+0.1
BKZ	Black Stump Fm	2.78	226	S	Sn	12 29 45.7	-0.6
BKZ	Black Stump Fm	2.78	226	P	Pn	12 29 14.2	+0.4
KUTZ	Kaahu Road	2.84	243	P	Pn	12 29 15.7	+1.1
TOZ	Tahuroa Road	2.86	259	P	Pn	12 29 15.0	+0.1
MCHZ	McNeill Hill	2.87	219	P	Pn	12 29 15.6	+0.6
TLZ	Tolley Road	2.98	248	P	Pn	12 29 16.1	-0.5
KWHZ	Kaweka Forest	3.00	223	P	Pn	12 29 17.0	+0.2
WATZ	Wairara	3.00	240	P	Pn	12 29 19.8	+3.0
RATZ	Rangitukua	3.05	237	P	Pn	12 29 18.6	+1.1
RITZ	Rihia Road	3.05	235	P	Pn	12 29 19.5	+2.0
GRZ	Great Barrier	3.05	288	P	Pn	12 29 18.2	+0.7
KAHZ	Kahuranaki	3.06	213	P	Pn	12 29 17.4	-0.3
MKAZ	Moumakai	3.11	272	P	Pn	12 29 18.1	-0.1
KATZ	Kakaramea	3.16	236	P	Pn	12 29 20.3	+1.3
WIAZ	Waiheke Island	3.17	277	P	Pn	12 29 19.2	+0.1
KRHZ	Kereru	3.18	221	P	Pn	12 29 19.1	-0.3
TMVZ	Te Maari	3.23	234	P	Pn	12 29 20.7	+0.7
NTVZ	North Tongarir	3.24	234	P	Pn	12 29 20.8	+0.7
KRVZ	Karewarewa	3.26	235	P	Pn	12 29 21.1	+0.7
PXZ	Pawanui	3.26	211	P	Pn	12 29 19.6	-0.8
OTVZ	Oturere	3.28	233	P	Pn	12 29 21.3	+0.5
NNVZ	North Ngauruho	3.29	234	P	Pn	12 29 21.9	+0.9
WTVZ	West Tongariro	3.30	235	P	Pn	12 29 21.9	+0.9
ETAZ	East Tamaki Re	3.31	274	P	Pn	12 29 21.3	+0.3
SNVZ	South Ngauruho	3.31	233	P	Pn	12 29 21.6	+0.4
MBAZ	Motutapu North	3.36	277	P	Pn	12 29 22.2	+0.5
MOVZ	Moawhango	3.37	229	P	Pn	12 29 22.2	+0.3
TWVZ	Taurewa	3.38	236	P	Pn	12 29 23.4	+1.3
COVZ	Chateau Observ	3.38	234	P	Pn	12 29 22.7	+0.6
WHVZ	Whangaehu Hut	3.40	232	P	Pn	12 29 22.8	+0.3
FWVZ	Far West T-bar	3.40	233	P	Pn	12 29 22.8	+0.2
MAVZ	Matarangi	3.41	233	P	Pn	12 29 23.0	+0.3
TRVZ	Turoa	3.43	232	P	Pn	12 29 23.3	+0.3
ABAZ	Army Bay	3.44	280	P	Pn	12 29 24.3	+1.4
EPAZ	Eden Park BICE	3.46	275	P	Pn	12 29 24.8	+1.7
PNHZ	Puhenui	3.47	219	P	Pn	12 29 22.5	-0.8
WPHZ	Waipukurau	3.47	215	P	Pn	12 29 22.7	-0.6
HBAZ	Herne Bay Bore	3.48	275	P	Pn	12 29 25.0	+1.7
AWAZ	Awhitu Peninsu	3.53	272	P	Pn	12 29 24.9	+0.9
MTVZ	Mangateitei	3.53	232	P	Pn	12 29 24.7	+0.5
HIZ	Hauiti	3.55	248	P	Pn	12 29 25.8	+1.5
HIZ	Hauiti	3.55	248	P	Pn	12 29 25.8	+1.5
WTAZ	Waiatarua	3.59	274	P	Pn	12 29 26.5	+1.6
RVAZ	Riverhead Bore	3.61	276	P	Pn	12 29 25.8	+0.7
TSZ	Takapari Road	3.70	220	P	Pn	12 29 26.1	-0.4
DVHZ	Dannevirke	3.79	216	P	Pn	12 29 26.6	-1.1
VRZ	Vera Road	3.87	240	P	Pn	12 29 29.8	+1.2
WCZ	Waipu Caves	4.01	288	P	Pn	12 29 31.3	+0.7
POWZ	Post Office Ro	4.05	218	P	Pn	12 29 30.5	-0.7
WAZ	Wanganui	4.05	231	P	Pn	12 29 32.2	+0.9
BFZ	Birch Farm	4.06	212	P	Pn	12 29 29.5	-1.9
BFZ	Birch Farm	4.06	212	S	Sn	12 30 14.5	-3.5
PRWZ	Pori Road	4.08	215	P	Pn	12 29 30.4	-0.9
LREZ	Lake Rotokare	4.27	237	P	Pn	12 29 35.7	+1.5
KHEZ	Kahui Hut	4.46	241	P	Pn	12 29 38.8	+1.9
OUZ	Omahuta	4.85	293	P	Pn	12 29 43.1	+0.9
SNZO	South Karori	5.27	218	P	Pn	12 29 48.5	+0.5
QRZ	Quartz Range	6.21	233	P	Pn	12 29 58.7	-2.1
KHZ	Kahutara	6.68	218	P	Pn	12 30 05.5	-1.8
CTZ	Chatham Island	7.27	154	P	Pn	12 30 18.9	+3.5
RPZ	Rata Peaks	8.87	221	P	Pn	12 30 33.4	-4.0
	9.6nm,1.0s,baz=183,slow=14,SNR=1.8						
RPZ				S	Sn	12 32 05.6	-11
	5.1nm,0.3s,baz=62,slow=5.5,SNR=11						
RPZ	Rata Peaks	8.87	221	P	Pn	12 30 36.6	-0.9
ODZ	Otahua Downs	10.04	216	P	Pn	12 30 52.6	-0.7
JCZ	Jackson Bay	10.35	226	P	Pn	12 30 57.6	-0.1
STKA	Stephens Creek	31.17	269	P	P	12 34 47.8	+0.2
	1.0nm,0.3s,baz=111,slow=14,SNR=4.5						
	1.0nm,0.3s						
ASAR	Alice Springs	40.84	276	P	P	12 36 09.8	-0.7
	2.1nm,0.7s,baz=120,slow=8.3,SNR=33						
	2.1nm,0.7s						
WRA	Warramunga Arr	42.45	281	P	P	12 36 22.9	-0.8
	2.8nm,0.4s,baz=121,slow=7.8,SNR=72						
WRA				PcP	PcP	12 38 14.7	-1.7
	0.5nm,0.7s,baz=115,slow=3.0,SNR=2.0						
	2.8nm,0.4s						
FITZ	Fitzroy Crossi	50.32	277	P	P	12 37 25.1	-0.4
	2.7nm,0.6s,baz=104,slow=9.9,SNR=7.4						
	2.7nm,0.6s						
H03N3	Juan Fernandez	78.95	124	T	T	14 07 13.8	
	baz=234,slow=72,SNR=5.3						
H03N2	Juan Fernandez	78.95	124	T	T	14 07 09.6	
	baz=234,slow=72,SNR=4.4						
H03N1	Juan Fernandez	78.96	124	T	T	14 07 10.6	
	baz=234,slow=72,SNR=4.2						
ARCES	ARCESS Array B	144.63	344	PKPbc	PKPab	12 48 01.1	-1.4
	1.8nm,0.8s,baz=39,slow=2.2,SNR=5.7						
FINES	FINESS Array B	150.47	334	PKPbc	PKPdf	12 48 18.2	+4.6
	0.7nm,0.4s,baz=48,slow=2.8,SNR=11						

NEIC ***06*** *12:29:19.5±1.6, 35°.820N±0°.008×117°.58W±0°.01, h4km, Error ellipse: s-maj=1.3km s-min=1.2km az=66.0*

PAS 06 12:29:19.9±1.4, 35°.808N±0°.009×117°.59W±0°.01, h7km±3km, ML3.5/16, ML2.9/54(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=46.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	China Lake	0.01	339		Pg	12 29 21.3	+0.1
TOW	Tower One	0.14	271		Pg	12 29 23.4	+0.6
TOW					Sg	12 29 26.7	+1.9
SRTC	Snort	0.17	228		Pg	12 29 23.1	-0.3
WVPM	Volcano Peak E	0.23	308		Pg	12 29 24.5	0.0
WVPM					Sg	12 29 28.0	+0.3
LRMC	Laurel Mtn Rad	0.34	192	Pg	Pg	12 29 24.4	-0.1
CCCA	Chr Cany lake	0.34	146		Pg	12 29 26.9	+0.3
CCCA					Sg	12 29 32.3	+1.3
MFS	McCloud Flat S	0.38	326		Pg	12 29 27.0	-0.3
MFS					Sg	12 29 32.4	+0.1
WBSM	Bird Springs	0.52	239		Pg	12 29 29.6	-0.4
WORM	Onyx Ranch	0.54	258		Pg	12 29 30.0	-0.4
WORM					Sg	12 29 37.4	0.0
DTP	Desert Tortois	0.58	201		Pg	12 29 30.6	-0.5
QSM	Queen of Sheba	0.61	75		Pg	12 29 31.4	-0.3
QSM					Sg	12 29 39.3	-0.3
WHFM	Hanning Flat	0.62	260		Pg	12 29 31.6	-0.4
WHFM					Sg	12 29 39.8	-0.3
ISA	Isabella, Lake	0.73	259		Pg	12 29 33.7	-0.3
ISA				IAML		12 29 46.4	
	comp=N,952nm,0.3s						
ISA	Isabella, Lake	0.73	259		Sg	12 29 43.1	-0.4
CCAC	Calif City Air	0.74	208		Pg	12 29 33.7	-0.4
CCAC				IAML		12 29 47.3	
	comp=E,548nm,0.6s						
CCAC				IAML		12 29 48.1	
	comp=N,414nm,0.7s						
CWC	Cottonwood Cre	0.74	328		Pg	12 29 34.2	-0.1
CGO	Cerro Gordo	0.76	347		Pg	12 29 33.9	-0.7
CGO					Sg	12 29 44.7	+0.2
WASM	Alta Sierra Ca	0.79	265		Pg	12 29 34.5	-0.6
WASM					Sg	12 29 45.0	-0.2
GSC	Goldstone, Bar	0.82	128		Pg	12 29 35.1	-0.5
GSC				IAML		12 29 48.4	
	comp=N,726nm,0.3s						
GWY	Greenwater Val	0.84	63		Pg	12 29 35.8	-0.3
GWY					Sg	12 29 46.3	-0.7
FURC	Furnace Creek,	0.89	42		Pg	12 29 36.6	-0.3
FURC					Sg	12 29 48.7	+0.3
HYS	Haystack Butte	0.94	179		Pg	12 29 37.2	-0.8
HYS					Sg	12 29 49.9	-0.3
EDW2	Edwards Air Fo	0.98	200		Pg	12 29 37.8	-1.0
SPG2	Springville 2	1.03	293		Pg	12 29 38.6	-1.1
RRX	Edison Barstow	1.05	152		Pg	12 29 40.1	+0.1
TPO	Tropico Hills	1.06	209		Pg	12 29 39.4	-0.9
TEJ	El Tejon	1.06	237		Pg	12 29 40.1	-0.2
SHOC	Shoshone, Teco	1.07	85		Pg	12 29 40.3	-0.3
SBB	Saddle Back Bu	1.13	190		Pg	12 29 41.0	-0.7
SBB					Sg	12 29 56.1	-0.2
GRAC	Grapevine Rang	1.20	9		Pg	12 29 42.3	-0.7
TJR	Tejon Ranch	1.22	231		Pg	12 29 42.9	-0.4
AMDNV	Amargosa	1.24	58		Pb	12 29 41.6	-2.2
AMDNV					Sg	12 29 59.1	-0.8
THC	Tehachapi Micr	1.25	225		Pg	12 29 43.0	-0.9
SGV	South Grapevin	1.25	21		Pg	12 29 43.1	-0.9
WCT	Wildcat Mounta	1.26	38		Pg	12 29 43.3	-0.8
WCT					Sg	12 29 59.3	-1.0
WCT				IAML		12 30 01.2	
	comp=E,179nm,0.4s						
WCT				IAML		12 30 04.2	
	comp=N,159nm,0.5s						
VTV	Victorville	1.26	170		Sn	12 30 01.2	-0.2
LEOC	Leona Valley	1.31	207		Pn	12 29 44.4	-0.4
BAKC	Calstate	1.31	250		Sg	12 30 02.3	+0.1
LRRC	Littlerock Res	1.33	196		Pn	12 29 44.4	-0.6
CJV	Casa Juvan	1.35	200		Pn	12 29 45.1	-0.3
DSCC	Desert Studies	1.39	118		Pn	12 29 44.9	-0.9
DSCC					Sb	12 30 04.1	0.0
JNH	Juniper Hills	1.39	192		Pn	12 29 45.7	-0.2
TUQ	Turquoise Moun	1.41	105		Pn	12 29 45.3	-0.9
HEC	Hector,Ludlow	1.42	133		Pn	12 29 45.6	-0.7
HEC					Sg	12 30 05.5	-0.1
LCH	Last Change Ra	1.42	358		Pn	12 29 45.5	-0.9
OSI	Osito Audit: C	1.51	218		Pn	12 29 47.8	+0.4
OSI	Osito Audit: C	1.51	218		Pn	12 29 47.3	-0.2
OSI				IAML		12 30 09.7	
	comp=N,90nm,0.6s						
OSI				IAML		12 30 14.4	
	comp=E,168nm,0.9s						
CHFC	Chilao Flat St	1.51	194		Pb	12 29 48.5	0.0
GMN	Gold Mountain	1.51	10		Pn	12 29 48.0	+0.3
GMN				IAML		12 29 53.5	
	comp=N,161nm,0.6s						
GMN				IAML		12 30 10.0	
	comp=E,100nm,0.4s						
VOG	Valley Oaks Go	1.54	290		Pb	12 29 48.5	-0.3
BFSC	Mount Baldy Ra	1.57	182		Pb	12 29 49.0	-0.3
SIL	Silver Peak	1.59	156		Pb	12 29 49.4	-0.4
DSP	Deep Springs	1.59	349		Pn	12 29 47.8	-0.7
DSP					Sn	12 30 09.3	-0.1
DSP				IAML		12 30 10.8	
	comp=N,104nm,0.5s						
DSP				IAML		12 30 11.1	
	comp=E,212nm,0.3s						
SSK	Sunset Peak	1.59	183		Pb	12 29 49.9	0.0
MWC	Mount Wilson	1.62	194		Pn	12 29 49.6	+0.3
MWC				IAML		12 30 13.8	
	comp=N,261nm,0.3s						
MWC				IAML		12 30 14.8	
	comp=E,215nm,0.6s						
POCCA	Poleta Canyon	1.65	341		Pn	12 29 49.9	+0.4
BHPR	Bishop	1.65	334		Pb	12 29 50.5	-0.4
DECC	Green Verdugo	1.67	202		Pb	12 29 51.0	0.0
MTPC	Mountain Pass	1.69	100		Sb	12 30 13.4	+0.3
PASC	Pasadena Art C	1.70	197		Pn	12 29 50.5	+0.4
PASC				IAML		12 30 18.2	
	comp=N,86nm,0.3s						
PASC				IAML		12 30 21.8	
	comp=E,87nm,0.5s						
BCW	Bitter Crk WRg	1.72	240		Pb	12 29 51.3	-0.7
BCW				IAML		12 30 14.8	
	comp=N,230nm,0.7s						
BCW				IAML		12 30 14.9	
	comp=E,198nm,0.6s						
PSRC	Puddingstone R	1.72	186		Pg	12 29 52.6	-0.4
MTUM	Tungsten Hills	1.73	333		Pb	12 29 51.7	-0.4
BLCC	Black Canyon	1.79	210		Pb	12 29 52.8	-0.4
GVRC	Garvey Reservo	1.81	194		Pb	12 29 53.9	+0.6
GTM	Goat Mountain	1.82	146		Pb	12 29 53.5	-0.2
MZP	Montezuma Peak	1.90	5		Pn	12 29 52.1	-1.0
MLAC	Mammoth, Mammo	2.08	332		Pb	12 29 58.3	+0.2
SHPR	Sheep Range	2.09	70		Pn	12 29 55.3	-0.3
SHPR				IAML		12 30 26.6	
	comp=N,63nm,0.7s						
SHPR				IAML		12 30 28.5	
	comp=E,58nm,0.8s						
MCSM	Casa Diablo Ho	2.12	331		Pb	12 29 58.9	-0.1
ELS	Elsinore Mount	2.16	176		Pb	12 29 59.7	+0.3
ELS	Elsinore Mount	2.16	176	IAML		12 30 29.6	
	comp=E,121nm,0.3s						
ELS				IAML		12 30 31.4	
	comp=N,73nm,0.3s						
DGR	Domenigoni Val	2.21	167		Pb	12 29 59.8	-0.4
V12A	Nelson	2.23	91		Pn	12 29 56.5	-0.9
V12A				IAML		12 30 32.8	
	comp=N,91nm,0.6s						
NV11	Mina Array Sit	2.66	350	Pn	Pn	12 30 03.0	-0.4
MYLM	Yosemite Lake	2.77	305		Pb	12 30 08.6	-1.1
RYN	Ryan	2.91	346	Pn	Pn	12 30 06.8	-0.1
WAKR	Walker	3.07	332	Pn	Pn	12 30 07.0	-2.1
SPR3	Spring Creek 3	4.11	38	Pn	Pn	12 30 23.1	-0.5
SPR3				IAML		12 31 30.5	
	comp=E,10nm,1.1s						
Y14A	Wickenburg	4.21	115	Pn	Pn	12 30 22.8	-1.8
Y14A				IAML		12 31

comp=Z,1.6nm,0.8s
ZAA0 Zalesovo Array 59.20 349 P **P** **12 40 17.2 +0.5**
ZALV Zalesovo Beam 59.20 349 P **P** **12 40 16.7 0.0**
ZALV Zalesovo Beam 59.20 349 P **P** **12 40 17.5 +0.9**
comp=Z,1.8nm,0.4s,baz=157,slow=4.2,SNR=9.7
comp=Z,1.8nm,0.4s
H04N2 CROZET ISLANDS 60.26 218 T T 13 45 27.6
baz=63
H04N1 CROZET ISLANDS 60.28 218 T T 13 45 27.3
baz=63,slow=74
H04N3 CROZET ISLANDS 60.28 218 T T 13 45 36.1
baz=63,slow=74
H04S1 CROZET ISLANDS 60.53 217 T T 13 45 39.7
baz=63
H04S3 CROZET ISLANDS 60.54 217 T T 13 45 44.6
baz=63
H04S2 CROZET ISLANDS 60.54 217 T T 13 45 43.5
baz=63
BVAR Borovoye Array 62.36 339 P **P** **12 40 39.0 +0.7**
comp=Z,0.9nm,0.4s,baz=158,slow=10,SNR=3.1
comp=Z,0.9nm,0.4s
AB31 Akbulak array 63.91 331 P **P** **12 40 48.9 +0.3**
AB31 IAmb IAmb 12 40 49.9
comp=Z,0.9nm,0.7s
ABKAR Akbulak array 63.91 331 P **P** **12 40 48.9 +0.3**
ABKAR IAmb IAmb 12 40 49.9
comp=Z,0.9nm,0.7s
TXAR Lajitas Array 145.16 40 PKPbc **PKPab** **12 49 54.7 +1.0**
comp=Z,0.4nm,0.5s,baz=247,slow=1.4,SNR=12

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*REY **06** 12:32:29.8, 69°.72N × 14°.30W, h10km*
*IDC **06** 12:32:33.2±1.6, 69°.78N × 15°.85W, h0km, mb3.2/4, mbtmp3.4/6, ML3.5/2, Error ellipse: s-maj=41.2km s-min=28.1km az=150.0*

ISC 06 12:32:33.7±0.9, 69.6N±0.1 × 15.3W±0.1, h10km, n17, σ0s 97/17, mb3.3/4, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGRI	**Grimsey**	**3.23**	**200**	P	**Pn**	**12 33 24.4**	**+0.2**
IGIL	**Gilhagi**	**3.55**	**187**	P	**Pn**	**12 33 27.9**	**-0.8**
IBRE	**Brettingsstaoi**	**3.62**	**197**	P	**Pn**	**12 33 29.9**	**+0.3**
IDIM	**Dimmadalss**	**3.70**	**190**	P	**Pn**	**12 33 30.4**	**-0.3**
IGRA	**Granastaoir**	**3.79**	**194**	P	**Pn**	**12 33 32.2**	**+0.2**
IGHA	**Grjothals**	**3.80**	**188**	P	**Pn**	**12 33 31.6**	**-0.5**
IHLA	**Hella**	**3.85**	**199**	P	**Pn**	**12 33 33.5**	**+0.7**
IHRN	**Hraun**	**3.94**	**210**	P	**Pn**	**12 33 35.1**	**+1.0**
IMEL	**Melhnausar**	**4.07**	**188**	P	**Pn**	**12 33 35.6**	**-0.3**
ISVA	**Svartarkot**	**4.34**	**191**	P	**Pn**	**12 33 40.0**	**+0.4**
IADA	**Aoalbol**	**4.59**	**181**	P	**Pn**	**12 33 42.8**	**-0.3**
BORG	**Borgarnes**	**5.40**	**209**	Pn	**Pn**	**12 33 56.2**	**+2.2**
	1.0nm,0.3s,baz=20,slow=6.1,SNR=5.9						
	8.2nm,0.8s						
SPITS	**Spitsbergen Ar**	**12.07**	**31**	Pn	**Pn**	**12 35 25.7**	**+0.3**
	baz=238,slow=16						
	4.7nm,0.7s						
YKA	**Yellowknife Ar**	**36.58**	**310**	P	**P**	**12 39 37.7**	**-1.4**
	0.5nm,1.0s,baz=34,slow=8.6,SNR=3.7						
	0.5nm,1.0s						
MKAR	**Makanchi Array**	**49.57**	**63**	P	**P**	**12 41 25.9**	**+1.6**
	0.1nm,0.5s,baz=348,slow=6.3,SNR=2.0						
	0.1nm,0.5s						
PDAR	**Pinedale Array**	**52.09**	**291**	P	**P**	**12 41 43.0**	**-0.6**
	0.1nm,0.3s,baz=6.6,slow=3.3,SNR=1.6						
	0.1nm,0.3s						
TXAR	**Lajitas Array**	**62.28**	**280**	P	**P**	**12 42 55.0**	**-0.6**
	0.2nm,0.7s,baz=19,slow=7.0,SNR=2.0						
	0.2nm,0.7s						

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*IDC **06** 12:34:12.2±0.6, 69°.78N × 15°.81W, h0km, mb4.1/18, mbtmp4.1/25, ML3.1/6, MS4.2/55, Error ellipse: s-maj=15.6km s-min=11.5km az=18.0*
*MOS **06** 12:34:12.1±1.1, 69°.85N × 15°.64W, h10km, mb4.7/41, MS4.3/12, Error ellipse: s-maj=13.2km s-min=6.2km az=100.4*
*GCMT **06** 12:34:13.7±0.2, 69°.83N±0°.03 × 15°.72W±0°.05, h12km±1km, MW4.9/110, Moment Tensor Solution. s19,c19; s110,c167; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-3.02±.23; Mθθ 0.09±.13; Mφφ 2.93±.16; Mrθ 0.31±.48; Mθφ 0.09±.08; Mφr 0.04±.37; Best double couple: M0 2.99200×10^16 NP1 φs 356.00000°, δ 45.00000°, λ -98.00000°. NP2 φs 187.00000°, δ 46.00000°, λ -82.00000°. Principal axes: T 2.9330, Plg 0.0000°, Azm 272.0000°; N 0.1160, Plg 6.0000°, Azm 2.0000°; P -3.0510, Plg 84.0000°, Azm 177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*REY **06** 12:34:13.7, 69°.50N × 14°.75W, h10km*
*NEIC **06** 12:34:13.7±1.5, 69°.84N±0°.05 × 15°.8W±0°.2, h10km±1km, mb4.5/150, Error ellipse: s-maj=12.5km s-min=7.2km az=238.0*
*DNK **06** 12:34:15.0±3.5, 70°.13N × 15°.50W, h0km±636km, ML3.0*
*INMG **06** 12:34:15.0±3.4, 69°.88N × 15°.59W, h10km, M4.6, mb4.6, #DIST_RANGE: DISTANT*

ISC 06 12:34:13.5±0.3, 69°.81N±0°.04 × 15°.58W±0°.04, h10km, n356, σ1s 69/283, mb4.5/146, MS4.2/71, 9C-1D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCO	**Scoresbysund**	**2.28**	**290**	Pn	**Pn**	**12 34 49.5**	**-1.5**
SCO	**Scoresbysund**	**2.28**	**290**	P	**Pn**	**12 34 49.5**	**-1.5**
SCO	**Scoresbysund**	**2.28**	**290**	*e*P	**Pn**	**12 34 50.9**	**-0.1**
SCO				IAML		12 36 38.4	
	comp=Z,591nm,2.0s						
JMIC	**Jan Mayen**	**2.66**	**60**	Pn	**Pn**	**12 34 53.6**	**-2.7**
	comp=Z,10.0nm,0.3s,baz=223,slow=8.4,SNR=4.0						
JMIC				Sn	**Sn**	**12 35 21.7**	**-6.8**
	comp=Z,23nm,0.3s,baz=161,slow=19,SNR=3.4						
JMIC	**Jan Mayen**	**2.66**	**60**	*i* P	**Pn**	**12 34 55.0**	**-1.3**
IGRI	**Grimsey**	**3.41**	**197**	P	**Pn**	**12 35 04.6**	**-2.0**
IGRI				S	**Sn**	**12 35 41.9**	**-5.1**
IGIL	**Gilhagi**	**3.77**	**185**	P	**Pn**	**12 35 08.2**	**-3.4**
IBRE	**Brettingsstaoi**	**3.81**	**194**	P	**Pn**	**12 35 10.0**	**-2.1**
IDIM	**Dimmadalss**	**3.91**	**188**	P	**Pn**	**12 35 10.6**	**-2.9**
IDIM				S	**Sn**	**12 35 57.3**	**-1.9**
ISIG	**Siglufjorour**	**3.91**	**200**	P	**Pn**	**12 35 11.9**	**-1.5**
IGRA	**Granastaoir**	**3.99**	**192**	P	**Pn**	**12 35 12.1**	**-2.4**
ISKI	**Skildingahlsh**	**4.00**	**189**	P	**Pn**	**12 35 12.3**	**-2.4**
IGHA	**Grjothals**	**4.01**	**186**	P	**Pn**	**12 35 12.0**	**-2.9**
IHLA	**Hella**	**4.03**	**197**	P	**Pn**	**12 35 13.5**	**-1.6**
IHRN	**Hraun**	**4.09**	**207**	P	**Pn**	**12 35 15.2**	**-0.8**
IKVO	**Krokottuvotn**	**4.15**	**187**	P	**Pn**	**12 35 14.5**	**-2.3**
IGRS	**Grimsstaoir**	**4.20**	**183**	P	**Pn**	**12 35 14.6**	**-2.9**
ISVA	**Svartarkot**	**4.54**	**189**	P	**Pn**	**12 35 20.2**	**-2.0**
DBG	**Daneborg**	**4.74**	**345**	*i* P	**Pn**	**12 35 20.8**	**-4.0**
DBG				IAML		12 36 27.1	
	comp=Z,38nm,1.0s						
BORG	**Borgarnes**	**5.55**	**206**	Pn	**Pn**	**12 35 36.2**	**+0.2**
	comp=Z,4.7nm,0.3s,baz=357,slow=5.7,SNR=16						
BORG				LR	LR	12 37 14.4	
	comp=Z,1μm,19.7s,baz=21,slow=33						
	comp=Z,40nm,0.8s						
SOEG	**Soedalen**	**5.90**	**262**	*i* P	**Pn**	**12 35 45.0**	**+4.3**
SOEG				IAML		12 38 46.4	
	comp=Z,41nm,2.3s						
DAG	**Danmarks Havn**	**7.05**	**354**	*e*P	**Pn**	**12 35 54.7**	**-1.8**
DAG				IAML		12 40 19.2	
	comp=Z,25nm,6.5s						
SUMG	**Summit**	**7.86**	**301**		**Pn**	**12 36 06.8**	**-1.2**
SUMG	**Summit**	**7.86**	**301**	P	**Pn**	**12 36 06.8**	**-1.2**
SUMG	**Summit**	**7.86**	**301**	*i* P	**Pn**	**12 36 07.1**	**-0.9**
KBS	**Kingsbay**	**11.58**	**26**		**Pn**	**12 36 57.7**	**-0.8**
KBS	**Kingsbay**	**11.58**	**26**	*ce*P	**Pn**	**12 36 58.6**	**+0.1**
KBS				pmax	pmax		
	comp=Z,37nm,1.7s						
KBS	**Kingsbay**	**11.58**	**26**	*e*P	**Pn**	**12 36 54.9**	**-3.6**
SPITS	**Spitsbergen Ar**	**11.93**	**32**	Pn	**Pn**	**12 37 04.1**	**+0.8**
	comp=Z,12nm,0.6s,baz=229,slow=12,SNR=21						
SPITS				LR	LR	12 40 28.6	
	comp=Z,1μm,20.5s,baz=214,slow=31						
SPB2	**Spitsbergen Ar**	**11.93**	**32**		**Pn**	**12 37 03.1**	**-0.2**
NEEM	**North Greenlan**	**12.33**	**324**	*i* P	**Pn**	**12 37 04.4**	**-4.6**
NEEM				IAML		12 41 34.3	
	comp=Z,22nm,2.3s						
ILULI	**Ilulissat**	**12.34**	**284**	Pn	**Pn**	**12 37 07.1**	**-1.8**
ILULI	**Ilulissat**	**12.34**	**284**	P	**Pn**	**12 37 07.1**	**-1.8**
NOA	**NORSAR Array B**	**14.06**	**115**	Pn	**Pn**	**12 37 32.1**	**-0.3**
	baz=337,slow=13,SNR=2.6						
NOA				LR	LR	12 42 32.5	
	comp=Z,596nm,19.5s,baz=320,slow=35						
	comp=Z,1.0nm,0.2s						
ARCES	**ARCESS Array B**	**14.09**	**72**	Pn	**Pn**	**12 37 32.4**	**-0.4**
ARCES	**ARCESS Array B**	**14.09**	**72**	Pn	**Pn**	**12 37 33.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=299,slow=9.2,SNR=3.9						
ARCES				LR	LR	12 41 53.3	
	comp=Z,1μm,18.9s,baz=318,slow=32						
	comp=Z,2.1nm,0.9s						
NC602	**NORSAR Array S**	**14.39**	**116**	Pn	**Pn**	**12 37 38.3**	**+1.3**
KONO	**Kongsberg**	**14.67**	**121**	*i* P	**Pn**	**12 37 42.9**	**+2.2**
HFS	**Hagfors**	**15.54**	**114**	Pn	**Pn**	**12 37 50.5**	**-1.9**
	baz=304,slow=11,SNR=5.6						
HFS				LR	LR	12 43 08.3	
	comp=Z,1μm,21.5s,baz=315,slow=34						
	comp=Z,6.3nm,1.0s						
EKA	**Eskdalemuir Ar**	**15.56**	**153**	Pn	**Pn**	**12 37 52.9**	**+0.3**
	baz=327,slow=10						
	comp=Z,1.9nm,0.9s						
TULEG	**Thule**	**16.18**	**318**	Pn	**Pn**	**12 37 54.2**	**-6.2**
TULEG				IAmb	IAmb	12 37 59.6	
	comp=Z,62nm,1.4s						
DSB	**Dublin**	**17.16**	**161**	P	**Pn**	**12 38 12.5**	**-0.5**
LVZ	**Lovozero**	**17.80**	**72**	*ce*P	**P**	**12 38 23.0**	**+1.3**
LVZ				pmax	pmax		
	comp=Z,59nm,1.7s						
LVZ	**Lovozero**	**17.80**	**72**	P	**P**	**12 38 22.8**	**+1.1**
	comp=Z,38nm,1.2s						
FIA1	**FINESS Array S**	**18.72**	**96**		**Pn**	**12 38 32.4**	**+0.2**
FINES	**FINESS Array B**	**18.72**	**96**		**P**	**12 38 31.5**	**-0.3**
FINES	**FINESS Array B**	**18.72**	**96**	P	**P**	**12 38 31.2**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=334,slow=13,SNR=17						
FINES				LR	LR	12 44 54.9	
	comp=Z,2μm,20.0s,baz=325,slow=34						
	comp=Z,12nm,0.9s						
FINES	**FINESS Array B**	**18.72**	**96**	P	**P**	**12 38 31.5**	**-0.3**
EUNU	**Eureka**	**19.38**	**330**	P	**P**	**12 38 36.1**	**-2.9**
FRB	**Frobisher Bay**	**21.10**	**280**	LR	LR	12 46 57.1	
	comp=Z,2μm,18.5s,baz=56,slow=36						
VSU	**Vasula**	**21.14**	**101**	*ce*P	**P**	**12 38 57.5**	**-0.5**
VSU				pmax	pmax		
	comp=Z,34nm,1.1s						
PUL	**Pulkovo**	**21.39**	**95**	*i* P	**P**	**12 39 02.5**	**+1.8**
PUL				pmax	pmax		
	comp=Z,65nm,1.0s						
ILON	**Igloolik, Nuna**	**22.10**	**300**	P	**P**	**12 39 06.2**	**-2.1**
ILON				IAmb	IAmb	12 39 13.8	
	comp=Z,16nm,1.2s						
PABE	**Paberze**	**22.55**	**109**	P	**P**	**12 39 13.2**	**-0.1**
CLL	**Collm**	**22.87**	**129**		**P**	**12 39 17.8**	**+1.1**
CLL				IAmb	IAmb	12 39 18.5	
	comp=Z,16nm,1.3s						
CLL	**Collm**	**22.87**	**129**	*i*	*i*P	**P**	**12 39 17.4**	**+0.7**
CLL					*e*		12 39 23.0	
CLL				pmax	pmax		
	comp=Z,54nm,2.0s						
CLL	**Collm**	**22.87**	**129**	P	**P**	**12 39 17.4**	**+0.7**
	comp=Z,577nmcomp=Z,9.9nm,1.1s						
CLL	**Collm**	**22.87**	**129**	*i*	*i*P	**P**	**12 39 17.4**	**+0.7**
	comp=Z,54nm,2.0s						
CLL					*ex*	x	12 39 23.0	
CLL					*ex*	x	12 39 31.0	
CLL					*ex*	x	12 39 55.0	
CLL					*eS*	**S**	**12 43 26.0**	**+0.1**
CLL					*eS*	SSS	12 44 12.0	
RES	**Resolute Bay**	**22.90**	**318**	P	**P**	**12 39 15.3**	**-1.4**
RES				IAmb	IAmb	12 39 18.0	
	comp=Z,20nm,1.4s						
RES	**Resolute Bay**	**22.90**	**318**	LR	LR	12 48 04.7	
	comp=Z,903nm,18.2s,baz=100,slow=36						
RES	**Resolute Bay**	**22.90**	**318**	P	**P**	**12 39 15.3**	**-1.4**
RES				pmax	pmax		
	comp=Z,20nm,1.4s						
LSH	**Leshukonskoye**	**23.19**	**72**	*e*P	**P**	**12 39 18.9**	**-0.9**
	comp=Z,64nm,1.3s						
BRG	**Berggiesshubel**	**23.52**	**129**	*e*P	**P**	**12 39 23.8**	**+0.6**
BRG				Amp		12 39 26.1	
	comp=Z,59nm,2.0s						
CLF	**Chambon-Foret**	**23.52**	**149**	P	**P**	**12 39 23.4**	**+0.1**
CLF				IAmb	IAmb	12 39 39.3	
	comp=Z,20nm,1.1s						
NKC	**Novy Kostel**	**23.70**	**131**	AMS	AMS	12 50 10.0	
	comp=Z,400nm,16.8s						
KLMR	**Klimovskoe**	**23.80**	**84**	*e*P	**P**	**12 39 23.8**	**-2.1**
	comp=Z,56nm,1.2s						
KLMR	**Klimovskoe**	**23.80**	**84**	*e*P	**P**	**12 39 23.7**	**-2.1**
KLMR				pmax	pmax		
	comp=Z,56nm,1.2s						
KLMR				MLR	MLR		
	comp=Z,847nm,15.0s						
GRA1	**Grafenberg Arr**	**23.89**	**134**	P	**P**	**12 39 27.5**	**+0.6**
GRA1				IAmb	IAmb	12 39 43.8	
	comp=Z,23nm,1.4s						
GRF	**Grafenberg Arr**	**23.89**	**134**	P	**P**	**12 39 27.5**	**+0.6**
GRF				pmax	pmax		
	comp=Z,23nm,1.4s						
GRFO	**Grafenberg**	**23.89**	**134**	P	**P**	**12 39 28.3**	**+1.4**
GRFO				IAmb	IAmb	12 39 43.8	
	comp=Z,23nm,1.4s						
GRFO	**Grafenberg**	**23.89**	**134**	P	**P**	**12 39 28.3**	**+1.4**
GRFO				pmax	pmax		
	comp=Z,23nm,1.4s						
NACGM	**Naroch**	**23.98**	**107**	*e*P	**P**	**12 39 28.6**	**+1.0**
	comp=Z,17nm,0.9s,baz=325						
KSP	**Ksiaz**	**24.20**	**125**	P	**P**	**12 39 30.8**	**+1.0**
	comp=Z,836nmcomp=Z,35nm,1.6s						
STU	**Stuttgart**	**24.25**	**138**	P	**P**	**12 39 31.3**	**+1.1**
STU	**Stuttgart**	**24.25**	**138**	P	**P**	**12 39 31.3**	**+1.1**
STU				pmax	pmax		
	comp=Z,11nm,0.4s						
ECH	**Echery**	**24.31**	**141**		**P**	**12 39 32.3**	**+1.4**
ECH	**Echery**	**24.31**	**141**	P	**P**	**12 39 32.3**	**+1.4**
ECH				pmax	pmax		
	comp=Z,11nm,1.4s						
CHVC	**Chvalec**	**24.36**	**126**	AMS	AMS	12 49 30.0	
	comp=Z,700nm,15.6s						
PRA	**Prague**	**24.38**	**129**	AMS	AMS	12 50 00.0	
	comp=Z,500nm,15.7s						
UPC	**Upice**	**24.42**	**126**	AMS	AMS	12 49 20.0	
	comp=Z,700nm,18.8s						
OSTC	**Ostas**	**24.43**	**126**	AMS	AMS	12 49 30.0	
	comp=Z,600nm,17.2s						
BFO	**Black Forest**	**24.46**	**139**		**P**	**12 39 32.5**	**+0.2**
BFO				IAmb	IAmb	12 39 35.9	
	comp=Z,14nm,1.2s						
BFO	**Black Forest**	**24.46**	**139**	P	**P**	**12 39 32.5**	**+0.2**
BFO				pmax	pmax		
	comp=Z,14nm,1.2s						
PRU	**Pruhonice**	**24.48**	**129**	AMS	AMS	12 50 30.0	
	comp=Z,400nm,13.4s						
GOPC	**GO Pecny, Ondr**	**24.62**	**128**	AMS	AMS	12 49 50.0	
	comp=Z,600nm,19.6s						
DPC	**Dobruska-Polom**	**24.65**	**126**	*e*P	**P**	**12 39 35.3**	**+1.4**
DPC				AMS	AMS	12 49 30.0	
	comp=Z,600nm,17.3s						
DPC	**Dobruska-Polom**	**24.65**	**126**	*e*P	**P**	**12 39 35.3**	**+1.4**
DPC				MLR	MLR		
	comp=Z,600nm,17.3s						
DPC	**Dobruska-Polom**	**24.65**	**126**	P	**P**	**12 39 35.8**	**+1.9**
	comp=Z,494nmcomp=Z,13nm,1.6s						
ZVC	**Zvikov**	**24.89**	**130**	AMS	AMS	12 50 40.0	
	comp=Z,600nm,16.9s						
KHC	**Kasperske Hory**	**25.01**	**131**	*e*P	**P**	**12 39 39.0**	**+1.8**
KHC				AMS	AMS	12 47 50.0	
	comp=Z,500nm,21.8s						
KHC	**Kasperske Hory**	**25.01**	**131**	*i* P	**P**	**12 39 38.8**	**+1.6**
KHC				pmax	pmax		
	comp=Z,14nm,1.5s						
KRLC	**Kraliky**	**25.03**	**125**	AMS	AMS	12 49 50.0	
	comp=Z,600nm,15.4s						
GEC2	**GERESS Array S**	**25.30**	**131**		**P**	**12 39 41.3**	**+1.4**
GERES	**GERESS Array B**	**25.30**	**131**	P	**P**	**12 39 40.9**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=330,slow=9.1,SNR=10						
GERES				LR	LR	12 50 39.0	
	comp=Z,356nm,19.6s,baz=344,slow=39						
	comp=Z,1.6nm,0.3s						
TREC	**Trest**	**25.37**	**128**	AMS	AMS	12 50 10.0	
	comp=Z,600nm,19.6s						
STEB	**Steborice**	**25.43**	**124**	*e*P	**P**	**12 39 41.4**	**+0.4**
CKRC	**Cesky Krumlov**	**25.49**	**130**	*e*P	**P**	**12 39 43.9**	**+2.4**
CKRC				AMS	AMS	12 51 00.0	
	comp=Z,400nm,14.7s						
CKRC	**Cesky Krumlov**	**25.49**	**130**	*e*P	**P**	**12 39 43.9**	**+2.4**
CKRC				MLR	MLR		
	comp=Z,400nm,14.7s						
MORC	**Moravsky Berou**	**25.51**	**125**		**P**	**12 39 41.7**	**0.0**
MORC				IAmb	IAmb	12 39 45.2	
	comp=Z,17nm,1.2s						
MORC	**Moravsky Berou**	**25.51**	**125**	*e*P	**P**	**12 39 42.7**	**+1.0**
MORC	**Moravsky Berou**	**25.51**	**125**	P	**P**	**12 39 41.7**	**0.0**
MORC				pmax	pmax		
	comp=Z,17nm,1.2s						
OKC	**Ostrava-Krasne**	**25.63**	**124**	AMS	AMS	12 50 00.0	
	comp=Z,500nm,17.2s						
VRAC	**Vranov**	**25.66**	**126**	*e*P	**P**	**12 39 44.0**	**+0.9**
OJC	**Ojcow**	**25.77**	**121**		**P**	**12 39 44.1**	**+0.1**
OJC	**Ojcow**	**25.77**	**121**	P	**P**	**12 39 44.1**	**+0.1**
OJC	**Ojcow**	**25.77**	**121**	P	**P**	**12 39 44.6**	**+0.6**
	comp=Z,10nm,1.4s						
DAVA	**Damuels**	**25.80**	**138**	*i* pP	**P**	**12 39 48.3**	**+3.8**
	comp=Z,22nm,1.4s						
RETA	**Reutte**	**25.82**	**136**	*i* pP	**P**	**12 39 47.8**	**+3.2**
	comp=Z,6.4nm,1.0s						
KRUC	**Moravsky**	**25.83**	**127**	*e*P	**P**	**12 39 45.6**	**+1.0**
MOTA	**Moosalm**	**26.04**	**136**	*e*P	**P**	**12 39 48.5**	**+1.9**
	comp=Z,16nm,1.6s						
WATA	**Walderalm**	**26.16**	**135**	*i* pP	**P**	**12 39 49.6**	**+1.8**
	comp=Z,12nm,1.5s						
SQTA	**Sankt Quirin**	**26.18**	**136**	*i* pP	**P**	**12 39 50.8**	**+2.9**
	comp=Z,17nm,1.4s						
WTTA	**Wattenberg**	**26.24**	**135**	*i* P	**P**	**12 39 49.6**	**+1.0**
	comp=Z,16nm,1.5s						
FETA	**Feichten**	**26.25**	**137**	*i* P	**P**	**12 39 53.2**	**+4.6**
	comp=Z,5.9nm,1.3s						
DAVOX	**Davos/Dischmat**	**26.28**	**138**	LR	LR	12 50 34.7	
	comp=Z,506nm,19.9s,baz=256,slow=37						
BIOA	**Bad Ischl, Aus**	**26.35**	**132**	*i* pP	**P**	**12 39 51.2**	**+1.9**
	comp=Z,9.7nm,1.5s						
LESA	**Schwarzleotal**	**26.35**	**134**	*i* pP	**P**	**12 39 51.2**	**+1.8**
	comp=Z,8.1nm,1.4s						
MOA	**Molln**	**26.37**	**131**	*i* pP	**P**	**12 39 51.3**	**+1.8**
	comp=Z,9.1nm,1.2s						
TUE	**Stuetta**	**26.45**	**139**		**P**	**12 39 51.3**	**+0.9**
TUE				IAmb	IAmb	12 39 56.3	
	comp=Z,21nm,1.5s						
TUE	**Stuetta**	**26.45**	**139**	P	**P**	**12 39 51.0**	**+0.6**
	comp=Z,35nm,2.4s						
TUE				pP	**sP**	**12 39 54.3**	**+0.1**
	comp=Z,35nm,2.4s						
FUORN	**Ofenpass-Fuorn**	**26.52**	**138**	P	**P**	**12 39 52.2**	**+1.1**
FUORN				IAmb	IAmb	12 40 25.4	
	comp=Z,9.6nm,1.3s						
RNPP9	**Sopachiv**	**26.62**	**112**	P	**P**	**12 39 52.3**	**+0.7**
RNPP8	**Varash**	**26.67**	**112**	P	**P**	**12 39 52.7**	**+0.6**
CONA	**Conrad Observa**	**26.72**	**129**	*i* P	**P**	**12 39 53.9**	**+1.2**
	comp=Z,4.8nm,1.1s						
RNPP5	**Staryi Chortor**	**26.77**	**112**	P	**P**	**12 39 52.9**	**-0.1**
KBA	**Koelnbreinsper**	**26.84**	**133**	*i* pP	**P**	**12 39 56.7**	**+2.8**
	comp=Z,6.8nm,1.2s						
ABTA	**Abfaltersbach**	**26.94**	**134**	*i* pP	**P**	**12 39 58.0**	**+3.3**
	comp=Z,7.0nm,1.6s						
MOS	**Moscow**	**27.00**	**94**	*e*P	**P**	**12 39 57.8**	**+2.8**
MOS				*e*		12 40 41.9	
MOS				MLR	MLR		
	comp=Z,400nm,14.0s						
VYHS	**Vyhne**	**27.04**	**124**	*e*P	**P**	**12 39 56.7**	**+1.2**
VYHS	**Vyhne**	**27.04**	**124**	*e*P	**P**	**12 39 56.7**	**+1.2**
RONA	**Rosalia, Austr**	**27.05**	**128**	*i* pP	**P**	**12 39 57.7**	**+2.1**
	comp=Z,5.1nm,1.2s						
SCHQ	**Schefferville**	**27.05**	**263**	LR	LR	12 49 52.7	
	comp=Z,577nm,19.6s,baz=49,slow=35						
OBN	**Obninsk**	**27.13**	**96**	P	**P**	**12 39 56.3**	**+0.1**
OBN	**Obninsk**	**27.13**	**96**	LR	LR	12 50 07.4	
	comp=Z,1μm,19.0s,baz=253,slow=35						
OBN	**Obninsk**	**27.13**	**96**	*e*P	**P**	**12 39 56.1**	**-0.1**
OBN				*i*		12 40 39.1	
OBN				pmax	pmax		
	comp=Z,15nm,1.0s						
OBN				MLR	MLR		
	comp=Z,822nm,16.0s						
ARSA	**Arzberg**	**27.25**	**130**	P	**P**	**12 39 57.7**	**+0.3**
ARSA	**Arzberg**	**27.25**	**130**	*e*pP	**P**	**12 39 59.2**	**+1.7**
	comp=Z,2.9nm,1.0s						
MYKA	**Terra Mystica**	**27.34**	**133**	*i* P	**P**	**12 39 58.0**	**-0.3**
	comp=Z,4.1nm,1.6s						
CTI	**Castel Tesino**	**27.39**	**136**	P	**P**	**12 40 00.1**	**+1.4**
CTI				IAmb	IAmb	12 40 23.2	
	comp=Z,11nm,1.3s						
CTI	**Castel Tesino**	**27.39**	**136**	P	**P**	**12 40 00.1**	**+1.4**
CTI				pmax	pmax		
	comp=Z,11nm,1.3s						
LVV	**L'vov**	**27.41**	**116**	P	**P**	**12 39 58.1**	**-0.7**
STAL	**STALIGIAL**	**27.45**	**134**	P	**P**	**12 40 00.8**	**+1.6**
MI28	**Mi28,Pidlybu**	**27.61**	**111**	P	**P**	**12 40 01.3**	**+0.8**
SOKA	**Soboth**	**27.65**	**131**	*i* P	**P**	**12 40 01.8**	**+0.7**
	comp=Z,5.2nm,1.3s						
OBKA	**Obir**	**27.68**	**132**	*i* P	**P**	**12 40 01.6**	**+0.3**
	comp=Z,4.0nm,1.1s						
PSZ	**Piszkesteto**	**27.86**	**123**	P	**P**	**12 40 04.3**	**+1.4**
PSZ				IAmb	IAmb	12 40 23.0	
	comp=Z,9.7nm,1.4s						
PSZ	**Piszkesteto**	**27.86**	**123**	P	**P**	**12 40 04.3**	**+1.4**
PSZ				pmax	pmax		
	comp=Z,10.0nm,1.4s						
TEOL	**Teolo**	**28.04**	**137**	P	**P**	**12 40 05.1**	**+0.7**
TEOL				IAmb	IAmb	12 40 20.5	
	comp=Z,10nm,1.0s						
HOLU	**Holmets**	**28.05**	**120**	P	**P**	**12 40 05.2**	**+0.7**
AK21	**Malin Array Si**	**28.19**	**109**	P	**P**	**12 40 05.6**	**-0.1**
AK21				pP	**sP**	**12 40 09.3**	**-0.2**
AK22	**Malin Array Si**	**28.21**	**109**	P	**P**	**12 40 05.4**	**-0.1**
AK22				pP	**sP**	**12 40 09.8**	**0.0**

PMTG Montargil 31.06 169 *e*P P **12 40 32.8 +1.6**
PMTG *i* IAmb IAmb 12 40 57.4
comp=Z,16nm,1.9s
TESR Tescani 31.16 116 P P **12 40 33.3 +1.2**
comp=Z,15nm,1.6s
VSR Storozhevoye 31.23 98 *e*P P **12 40 29.9 -2.7**
VSR pmax pmax
comp=Z,10.0nm,1.1s
PESTR Estremoz 31.30 168 *e*P P **12 40 35.0 +1.6**
MLR Muntele Rosu 31.86 118 LR LR 12 54 30.7
comp=Z,419nm,18.4s,baz=336,slow=38
NRIK Noril'sk 31.92 41 LR LR 12 54 56.8
comp=Z,104nm,20.5s,baz=330,slow=39
PBAR Barrancos 32.03 167 *e*P P **12 40 42.2 +2.5**
PBAR *i* IAmb IAmb 12 40 43.0
comp=Z,14nm,2.0s
PBEJ Beja 32.12 168 *e*P P **12 40 42.7 +2.1**
PBEJ *i* IAmb IAmb 12 40 46.1
comp=Z,16nm,1.5s
VRH Novokhopyorsk 32.12 95 *e*P P **12 40 38.4 -2.0**
VRH pmax pmax
comp=Z,6.0nm,0.9s
PCVE Castro Verde 32.50 169 *e*P P **12 40 47.4 +3.5**
BELG Belogornoye 33.18 88 LR LR 12 53 19.6
comp=Z,596nm,20.0s,baz=338,slow=34
BELG Belogornoye 33.18 88 *i* P P **12 40 50.1 +0.4**
BELG pmax pmax
comp=Z,2.0nm,1.0s
ARTI Arti 33.62 75 P P **12 40 54.0 +0.5**
comp=Z,2.3nm,0.4s,baz=303,slow=6.0,SNR=6.1
ARTI LR LR 12 53 49.7
comp=Z,906nm,18.6s,baz=320,slow=35
comp=Z,2.3nm,0.4s
ARTI Arti 33.62 75*d* *i*P P **12 40 54.6 +1.1**
ARTI 12 42 07.0
ARTI S **S** **12 46 19.3 +3.6**
ARTI SS **SnSn** **12 48 22.5 +4.1**
ARTI pmax pmax
comp=Z,12nm,1.5s
ARTI MLR MLR
comp=Z,900nm,19.0s
FNA Florina 34.83 127 P **12 41 04.9 +0.7**
FNA IAmb IAmb 12 41 05.6
comp=Z,9.5nm,1.0s
FNA Florina 34.83 127 P P **12 41 04.9 +0.7**
FNA pmax pmax
comp=Z,9.0nm,1.0s
RDO Rodhopi 35.69 122 P **12 41 11.8 +0.2**
ALN Alexandroupoli 36.07 121 P P **12 41 14.9 +0.2**
ALN IAmb IAmb 12 41 17.0
comp=Z,12nm,1.3s
ALN Alexandroupoli 36.07 121 P P **12 41 15.0 +0.2**
ALN pmax pmax
comp=Z,12nm,1.3s
VAE Valguarnera 36.16 138 LR LR 12 55 41.8
comp=Z,317nm,20.6s,baz=326,slow=36
ANN Anapa 36.17 106 *e*P P **12 41 15.5 -0.1**
ANN *e*S **S** **12 46 53.8 -1.3**
ANN pmax pmax
comp=Z,34nm,1.0s
ANN MLR MLR
comp=Z,816nm,15.0s
YKAW3 Yellowknife Wh 36.30 309 P **12 41 16.8 +0.2**
YKAW3 IAmb IAmb 12 41 19.9
comp=Z,11nm,1.1s
YKAW1 Yellowknife Wh 36.33 309 P **12 41 16.5 -0.3**
YKAW1 IAmb IAmb 12 41 20.2
comp=Z,12nm,1.2s
YKA Yellowknife Ar 36.36 309 P P **12 41 16.4 -0.7**
YKA Yellowknife Ar 36.36 309 P P **12 41 16.7 -0.4**
comp=Z,3.1nm,0.9s,baz=34,slow=9.0,SNR=19
YKA LR LR 12 56 06.2
comp=Z,463nm,18.4s,baz=28,slow=36
comp=Z,3.1nm,0.9s
YKA Yellowknife Ar 36.36 309 *i* P P **12 41 17.5 +0.5**
YKA pmax pmax
comp=Z,3.0nm,0.9s
ERBR Yeremizino-Bor 36.40 102 *e*P P **12 41 17.3 -0.3**
ERBR pmax pmax
comp=Z,12nm,0.7s
ERBR MLR MLR
comp=Z,271nm,14.0s
KEST Kesra 36.74 145 LR LR 12 57 15.8
comp=Z,320nm,18.5s,baz=347,slow=38
TIXI Tiksi 36.86 18 P **12 41 22.0 +0.8**
TIXI Tiksi 36.86 18 *i* P P **12 41 22.3 +1.1**
TIXI pmax pmax
comp=Z,32nm,1.8s
G31M Satah River 37.23 325 P **12 41 24.4 0.0**
LABN Labinsk 37.42 102 *e*P P **12 41 24.8 -1.5**
LABN pmax pmax
comp=Z,25nm,0.5s
LABN MLR MLR
comp=Z,1μm,15.0s
SOC Sochi 38.01 104 *e*P P **12 41 29.7 -1.6**
SOC *e* 12 42 58.1
SOC *e*PPP PPP 12 43 28.5
SOC *e*S **S** **12 47 22.2 -1.0**
SOC *e*SSS SSS 12 50 28.0
SOC pmax pmax
comp=Z,12nm,0.6s
SOC MLR MLR
comp=Z,1μm,17.0s
B21K Ikpikpuk River 38.13 338 IAmb IAmb 12 41 36.9
comp=Z,12nm,1.2s
H31M Peel River 38.22 324 IAmb IAmb 12 41 43.0
comp=Z,9.3nm,1.1s
AKTO Aktyubinsk 38.40 81 P P **12 41 35.1 +0.6**
comp=Z,3.1nm,0.9s,baz=308,slow=6.2,SNR=8.3
AKTO PP **PP** **12 43 00.4 -1.6**
comp=Z,5.8nm,1.2s,baz=348,slow=8.1,SNR=5.9
AKTO LR LR 12 56 31.9
comp=Z,467nm,18.8s,baz=298,slow=35
comp=Z,3.1nm,0.9s
KIV Kislovodsk 38.69 101 *e*P P **12 41 38.7 +1.6**
KIV *e*S **S** **12 47 36.7 +3.1**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,403nm,16.0s
KVAR Kislovodsk Arr 38.70 101 LR LR 12 57 20.9
comp=Z,452nm,19.5s,baz=262,slow=36
SHA1 Shidzhatmaz 38.87 101 *i* P P **12 41 40.2 +1.4**
KBZ Khabaz 38.96 101 P P **12 41 41.2 +2.0**
comp=Z,2.9nm,1.0s,baz=325,slow=8.1,SNR=7.5
KBZ LR LR 12 57 24.3
comp=Z,725nm,20.1s,baz=320,slow=36
comp=Z,2.9nm,1.0s
KBZ Khabaz 38.96 101 *i* P P **12 41 40.3 +1.1**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
FFC Flin Flon 39.05 293 P **12 41 39.9 0.0**
FFC IAmb IAmb 12 41 43.6
comp=Z,8.7nm,1.1s
FFC Flin Flon 39.05 293 P P **12 41 39.9 0.0**
FFC pmax pmax
comp=Z,9.0nm,1.1s
I30M Mount Dempster 39.14 325 P **12 41 40.9 +0.2**
D20K Etivluk River 39.24 339 IAmb IAmb 12 41 45.9
comp=Z,14nm,1.4s
I29M Ogilvie Camp, 39.40 326 IAmb IAmb 12 41 52.6
comp=Z,10nm,1.4s
BR131 Keskin Array S 39.48 113 *i* P P **12 41 45.3 +1.5**
BRTR Keskin Array B 39.48 113 P P **12 41 44.6 +0.8**
BRTR Keskin Array B 39.48 113 P P **12 41 45.6 +1.8**
comp=Z,0.9nm,0.7s,baz=286,slow=4.6,SNR=4.3
BRTR LR LR 12 58 35.9
comp=Z,268nm,20.9s,baz=326,slow=37
comp=Z,0.9nm,0.7s
BRTR Keskin Array B 39.48 113 P P **12 41 44.6 +0.8**
J30M Hart River 39.71 324 P **12 41 47.5 +2.1**
SADO Sadowa 39.80 265 LR LR 12 57 39.4
comp=Z,549nm,19.5s,baz=15,slow=35
AB31 Akbulak array 40.06 80 P **12 41 48.7 +0.4**
AB31 IAmb IAmb 12 41 50.3
comp=Z,12nm,1.4s
ABKAR Akbulak array 40.06 80 P P **12 41 48.6 +0.2**
ABKAR IAmb IAmb 12 41 50.3
comp=Z,12nm,1.4s
BRVK Borovoye 40.28 69 *i* P P **12 41 51.7 +1.5**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BVAR Borovoye Array 40.35 69 PP **PP** **12 43 24.1 +0.8**
comp=Z,0.5nm,0.4s,baz=321,slow=6.5,SNR=2.1
BVAR LR LR 12 58 31.2
comp=Z,530nm,18.2s,baz=317,slow=36

MMPY Sheldon Lake, 40.36 320 P **12 41 50.5 -0.3**
PRP Porcupine Dome 40.57 331 IAmb IAmb 12 41 56.8
comp=Z,8.4nm,1.0s
F20K Avaraart Lake 40.69 337 IAmb IAmb 12 41 58.6
comp=Z,14nm,1.2s
ULM Lac du Bonnet 40.83 285 P P **12 41 55.2 +0.5**
comp=Z,2.0nm,0.9s,baz=123,slow=8.4,SNR=3.0
comp=Z,2.0nm,0.9s
MAK Makhachkala 41.22 97 *e*P P **12 41 53.2 -4.8**
MAK *e*S **S** **12 48 04.5 -6.7**
MAK *e*SS **SS** **12 51 11.9 -2.0**
MAK pmax pmax
comp=Z,99nm,1.1s
MAK MLR MLR
comp=Z,400nm,15.0s
K27K Chicken 41.31 328 IAmb IAmb 12 42 15.2
comp=Z,7.8nm,1.1s
J25K Salcha River, 41.37 330 IAmb IAmb 12 42 02.8
comp=Z,7.8nm,1.0s
L29M L29M 41.38 325 IAmb IAmb 12 42 19.7
comp=Z,10nm,1.5s
ILAR Eielson Array 41.48 331 P **12 41 59.8 -0.2**
ILAR Eielson Array 41.48 331 P P **12 42 00.5 +0.6**
comp=Z,1.0nm,0.9s,baz=21,slow=6.3,SNR=14
ILAR LR LR 13 02 54.9
comp=Z,203nm,18.4s,baz=34,slow=42
comp=Z,1.0nm,0.9s
ILAR Eielson Array 41.48 331 P P **12 41 59.8 -0.2**
I23K Minto, Yukon-K 41.54 333 IAmb IAmb 12 42 06.2
comp=Z,20nm,1.5s
COLA College 41.55 332 *i* P P **12 42 00.5 +0.1**
COLA pmax pmax
comp=Z,8.0nm,1.5s
H21K Melozitna River 41.59 335 IAmb IAmb 12 42 06.8
comp=Z,14nm,1.3s
CCB Clear Creek Bu 41.75 331 IAmb IAmb 12 42 05.6
comp=Z,8.8nm,1.4s
HDA Harding Lake 41.83 331 IAmb IAmb 12 42 06.2
comp=Z,8.4nm,1.1s
MLY Manley 41.87 333 IAmb IAmb 12 42 07.8
comp=Z,11nm,1.3s
NEA2 Nenana 42.01 332 IAmb IAmb 12 42 09.4
comp=Z,10nm,1.1s
M29M Somme Creek 42.05 324 IAmb IAmb 12 42 16.6
comp=Z,10nm,1.3s
RIDG Independent Ri 42.08 329 IAmb IAmb 12 42 08.8
comp=Z,8.8nm,1.2s
BCAR Beaver Creek A 42.13 327 P **12 42 05.5 +0.2**
L27K Beaver Creek, 42.15 327 IAmb IAmb 12 42 17.8
comp=Z,11nm,1.1s
BILL Bilibino 42.40 359 *i* P P **12 42 07.9 +0.5**
BILL pmax pmax
comp=Z,6.0nm,1.5s
GNI Garni 42.77 101 LR LR 12 59 56.0
comp=Z,654nm,21.7s,baz=332,slow=36
MCK McKinley 42.79 332 P **12 42 10.8 +0.2**
MCK IAmb IAmb 12 42 22.5
comp=Z,13nm,1.4s
MCK McKinley 42.79 332 P P **12 42 10.8 +0.2**
MCK pmax pmax
comp=Z,13nm,1.4s
M26K Nabesna, AK 42.97 327 IAmb IAmb 12 42 26.2
comp=Z,8.7nm,1.3s
J19K Poorman 43.57 336 IAmb IAmb 12 42 29.4
comp=Z,8.0nm,1.3s
CAST Castle Rocks 43.59 333 IAmb IAmb 12 42 20.8
comp=Z,6.3nm,1.0s
K20K Telida 43.95 334 IAmb IAmb 12 42 23.5
comp=Z,6.7nm,1.1s
ZAA0 Zalesovo Array 43.99 57 P **12 42 20.7 +0.3**
ZALV Zalesovo Beam 43.99 57 P **12 42 21.0 +0.6**
ZALV Zalesovo Beam 43.99 57 P P **12 42 21.3 +0.9**
comp=Z,2.1nm,0.8s,baz=325,slow=9.4,SNR=8.0
comp=Z,2.1nm,0.8s
J18K Innoko River 44.23 336 IAmb IAmb 12 42 27.6
comp=Z,5.7nm,1.1s
F33A 5 Mile Ranch, 44.78 282 P **12 42 25.8 -1.0**
KURK Kurchatov 44.95 64 P **12 42 28.4 +0.3**
KURK Kurchatov 44.95 64 P P **12 42 29.7 +1.7**
KURBB Kurchatov Arra 45.00 64 P P **12 42 29.7 +1.2**
comp=Z,5.8nm,1.0s,baz=330,slow=7.7,SNR=30
KURBB PP **PP** **12 44 15.0 +1.8**
comp=Z,0.4nm,0.2s,baz=323,slow=10,SNR=4.4
KURBB LR LR 13 04 06.7
comp=Z,248nm,18.1s,baz=196,slow=40
comp=Z,5.8nm,1.0s
P53A Whipple 45.25 264 P P **12 42 30.3 -0.3**
P53A IAmb IAmb 12 42 32.7
comp=Z,6.9nm,0.9s
I37A Lemond, Waseca 45.40 278 P P **12 42 31.6 -0.1**
YAK Yakutsk 46.16 22 *e*P P **12 42 37.4 -0.1**
YAK pmax pmax
comp=Z,12nm,1.6s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.8s
N19K Bonanza Creek 46.43 334 IAmb IAmb 12 42 50.9
comp=Z,7.5nm,1.1s
M16K Timber Creek 46.88 337 IAmb IAmb 12 42 47.3
comp=Z,5.0nm,0.9s
SEY Seymchan 47.26 7 *i* P P **12 42 47.0 +0.9**
SEY pmax pmax
comp=Z,8.0nm,1.1s
EGMT Eagleton 47.30 294 P **12 42 46.7 -0.1**
R50A Paris 47.34 266 P P **12 42 47.1 +0.1**
ASF Jabal al Asfar 47.45 114 LR LR 13 04 17.5
comp=Z,270nm,19.4s,baz=32,slow=38
O16K Kokwok River B 48.14 335 IAmb IAmb 12 43 10.5
comp=Z,4.7nm,1.2s
T50A Nancy 48.65 266 IAmb IAmb 12 42 58.8
comp=Z,4.0nm,0.8s
KDAK Kodiak Island 49.01 331 LR LR 13 06 41.4
comp=Z,192nm,19.3s,baz=29,slow=40
KK31 Karatay Array 49.02 75 P P **12 42 59.6 -0.3**
KK31 IAmb IAmb 12 43 02.1
comp=Z,8.0nm,1.4s
KK31 Karatay Array 49.02 75 P P **12 42 59.7 -0.3**
KK31 pmax pmax
comp=Z,8.0nm,1.4s
KKAR Karatay Array 49.02 75 P **12 43 00.3 +0.3**
KKAR Karatay Array 49.02 75 P P **12 43 00.3 +0.3**
EIL Elat 49.16 117 LR LR 13 07 03.0
comp=Z,74nm,20.7s,baz=248,slow=40
NEW Newport 49.36 300 LR LR 13 04 30.0
comp=Z,566nm,18.2s,baz=34,slow=37
MAKZ Makanchi 49.44 64 P **12 43 03.4 +0.2**
MAKZ IAmb IAmb 12 43 04.7
comp=Z,9.1nm,1.2s
MAKZ Makanchi 49.44 64 P P **12 43 03.4 +0.2**
MAKZ pmax pmax
comp=Z,9.0nm,1.3s
TKL Tuckaleechee C 49.51 264 LR LR 13 03 25.2
comp=Z,592nm,19.6s,baz=36,slow=36
MK31 Makanchi Array 49.55 63*ce*P P **12 43 04.0 0.0**
MKAR Makanchi Array 49.55 63 P **12 43 04.8 +0.8**
MKAR Makanchi Array 49.55 63 P P **12 43 05.0 +1.0**
comp=Z,4.0nm,1.0s,baz=350,slow=6.2,SNR=27
MKAR LR LR 13 05 57.6
comp=Z,350nm,19.5s,baz=332,slow=38
comp=Z,4.0nm,1.0s
MKAR Makanchi Array 49.55 63 P P **12 43 04.8 +0.8**
MSO Missoula 49.67 297 IAmb IAmb 12 43 11.8
comp=Z,3.4nm,0.8s
BG3 Lake Jocassee 49.82 263 IAmb IAmb 12 43 08.6
comp=Z,6.5nm,1.0s
R40A Maddies Statio 50.09 273 IAmb IAmb 12 43 17.1
comp=Z,4.4nm,0.8s
MOY Mondy 50.43 46 *e*P P **12 43 12.8 +2.1**
MOY pmax pmax
comp=Z,29nm,2.2s
V48A Smith Brothers 50.49 267 IAmb IAmb 12 43 14.9
comp=Z,8.5nm,1.3s
YHL Hebgen Lake 50.57 294 IAmb IAmb 12 43 23.4
comp=Z,6.0nm,1.1s
SWET Sewanee 50.66 266 IAmb IAmb 12 43 13.4
comp=Z,4.0nm,0.9s
AAK Ala-Archa 50.76 72 LR LR 13 04 22.1
comp=Z,390nm,18.4s,baz=323,slow=36
AAK Ala-Archa 50.76 72*ce*P P **12 43 15.0 +1.6**
AAK pmax pmax
comp=Z,17nm,2.5s
K22A Casper 51.03 288 IAmb IAmb 12 43 24.2
comp=Z,8.2nm,1.1s
FPAL Fort Paine 51.16 265 IAmb IAmb 12 43 18.8
comp=Z,3.7nm,0.9s
BW06 Boulder Array 51.92 291 IAmb IAmb 12 43 25.2
comp=Z,8.4nm,1.4s
PD31 Pinedale Array 51.92 291 IAmb IAmb 12 43 25.3
comp=Z,9.0nm,1.4s
PDAR Pinedale Array 51.92 291 P **12 43 21.7 -0.4**
PDAR Pinedale Array 51.92 291 P P **12 43 21.0 -1.2**
comp=Z,0.6nm,0.7s,baz=46,slow=6.4,SNR=9.3
PDAR PP **PP** **12 45 19.1 -0.6**
comp=Z,0.1nm,0.3s,baz=26,slow=5.7,SNR=1.9
PDAR LR LR 13 05 23.0
comp=Z,330nm,19.3s,baz=30,slow=36
comp=Z,0.6nm,0.7s
U38A Gravette 52.48 274 IAmb IAmb 12 43 34.2
comp=Z,9.5nm,1.3s
TARG Taragay, Kyrgy 52.66 70 IAmb IAmb 12 43 31.0
comp=Z,8.3nm,1.1s
ZEA Zeya 53.84 26 *e*P P **12 43 38.7 +2.9**
KSH Kashi 54.05 73 P P **12 43 41.8 +4.0**
KSH sP sP 12 43 49.9 +8.2
SONM Songino Array 55.31 44 P **12 43 47.6 +0.8**
SONM IAmb IAmb 12 43 49.8
comp=Z,6.3nm,1.4s
SONM Songino Array 55.31 44 P P **12 43 47.7 +0.9**
comp=Z,0.4nm,0.3s,baz=328,slow=5.3,SNR=6.3
SONM LR LR 13 09 21.7
comp=Z,242nm,21.3s,baz=328,slow=38
comp=Z,0.4nm,0.3s
RTBA Rita Blanca 55.35 282 IAmb IAmb 12 43 52.5
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 55.44 44*ce*P P **12 43 48.2 +0.4**
ULN pmax pmax
comp=Z,12nm,1.7s
WMOK Wichita Mounta 55.54 277 IAmb IAmb 12 43 58.5
comp=Z,5.0nm,1.2s
ELK Elko 55.56 295 LR LR 13 08 02.7
comp=Z,668nm,18.4s,baz=16,slow=37
PV01 Paradox Valley 55.77 288 IAmb IAmb 12 43 51.6
comp=Z,4.5nm,1.0s
PV13 Radium Mtn., P 55.84 288 IAmb IAmb 12 44 00.6
comp=Z,6.8nm,1.1s
HEH HeiHe 57.24 27 *e*P P **12 44 01.2 +0.9**
APMT Aspermont 57.28 278 IAmb IAmb 12 44 03.5
comp=Z,4.2nm,0.8s
PETK Petropavlovsk- 57.29 5 LR LR 13 08 33.9
comp=Z,66nm,20.1s,baz=332,slow=36
TORD Torodi Ar. Bea 57.67 160 P P **12 44 04.2 +0.5**
TORD Torodi Ar. Bea 57.67 160 P P **12 44 03.0 -0.7**
comp=Z,0.5nm,0.3s,baz=349,slow=6.9,SNR=5.6
comp=Z,0.5nm,0.3s
BRDY Brady 58.76 276 IAmb IAmb 12 44 14.5
comp=Z,6.0nm,1.2s
MNTX Cornudas Mount 60.57 282 P **12 44 23.6 -0.2**
CLC China Lake 60.81 294 P P **12 44 25.9 +0.4**
CLC China Lake 60.81 294 P P **12 44 25.9 +0.4**
DUN6 Lazy B Ranch 61.03 286 P **12 44 29.1 +2.0**
ALPN Alpine 61.18 280 P **12 44 29.2 +1.1**
GTA Gaotai 61.47 53 *e*P P **12 44 30.4 +0.5**
GTA sP sP 12 44 43.7 +10
TX31 Lajitas Ar. Si 62.15 279 P P **12 44 35.0 +0.4**
TXAR Lajitas Array 62.15 279 P P **12 44 34.4 -0.2**
comp=Z,1.4nm,0.8s,baz=52,slow=5.0,SNR=20
TXAR LR LR 13 11 46.2
comp=Z,555nm,18.9s,baz=18,slow=36
comp=Z,1.4nm,0.8s
GLA Glamis 62.47 291 P P **12 44 38.0 +1.4**
GLA Glamis 62.47 291 P P **12 44 38.0 +1.4**
GLA pmax pmax
comp=Z,13nm,0.8s
PCRV Puerto La Cruz 67.14 234 LR LR 13 09 45.3
comp=Z,47nm,20.1s,baz=60,slow=30
LPIG La Paz 69.22 283 LR LR 13 16 00.6
comp=Z,557nm,21.8s,baz=356,slow=36
SDV Santo Domingo 70.10 239 LR LR 13 10 40.5
comp=Z,73nm,21.4s,baz=73,slow=31
MJAR Matsushiro Arr 72.23 22 P P **12 45 39.1 +0.7**
comp=Z,2.9nm,0.9s,baz=345,slow=5.3,SNR=6.7
comp=Z,2.9nm,0.9s
RCBR Riachuelo 76.75 201 LR LR 13 11 51.9
comp=Z,47nm,20.1s,baz=60,slow=30
CMAR Chiang Mai Arr 80.89 61 LR LR 13 27 13.4
comp=Z,52nm,18.6s,baz=315,slow=39
PALK Pallekele 85.40 82 LR LR 13 29 56.1
comp=Z,71nm,18.4s,baz=323,slow=39
BDFB Brasilia 88.22 211 LR LR 13 19 43.9
comp=Z,160nm,19.2s,baz=341,slow=31
LSZ Lusaka 90.21 138 LR LR 13 31 01.4
comp=Z,83nm,18.1s,baz=356,slow=38
MATP Matopo 95.25 129 LR LR 13 32 24.9
comp=Z,74nm,21.5s,baz=339,slow=37
PSI Prapat 95.64 66 LR LR 13 35 47.4
comp=Z,135nm,18.9s,baz=316,slow=39
DAV Davao City (W) 98.84 39 LR LR 13 38 18.6
comp=Z,99nm,18.5s,baz=154,slow=39
LBTB Lobatse 99.05 143 LR LR 13 36 15.6
comp=Z,137nm,18.3s,baz=350,slow=38
MAW Mawson 147.10 136 PKPbc **PKPdf** **12 53 52.7 +0.3**
comp=Z,3.2nm,0.9s,baz=22,slow=3.6,SNR=4.5
QSPA South Pole Qui 159.76 180 PKPab **PKPab** **12 54 51.1 +1.4**
comp=Z,3.3nm,1.0s,baz=201,slow=2.9,SNR=5.1

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*NEIC **06** 12:36:30.2±1.2, 35°.62N±0°.01×117°.446W±0°.003, h10km±7km, Error ellipse: s-maj=1.6km s-min=0.4km az=171.0*

PAS 06 12:36:30.4±1.4, 35°.618N±0°.010×117°.44W±0°.01, h8km±8km, ML3.0/25, ML2.8/30(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=216.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time	Res	
							h m s		ISC
CCCA	**Chr Cany lake**	**0.11**	**147**				Pg	12 36 33.2	+0.3
CCCA							Sg	12 36 35.7	+0.9
LRMC	**Laurel Mtn Rad**	**0.24**	**235**				Pg	12 36 35.1	-0.1
LRMC							Sg	12 36 38.6	+0.1
SRTC	**Snort**	**0.26**	**286**				Pg	12 36 35.9	+0.2
MPMC	**Manual Prospec**	**0.44**	**355**				Pg	12 36 38.5	-0.5
MPMC							Sg	12 36 44.9	0.0
WVPM	**Volcano Peak E**	**0.45**	**317**				Sg	12 36 45.5	+0.3
DTP	**Desert Tortois**	**0.48**	**224**				Pg	12 36 39.3	-0.5
WRVM	**Rose V. Centra**	**0.54**	**317**				Pg	12 36 40.4	-0.4
WBSM	**Bird Springs**	**0.58**	**262**				Pg	12 36 41.1	-0.5
WBSM							Sg	12 36 49.1	-0.1
QSM	**Queen of Sheba**	**0.58**	**53**				Pg	12 36 41.2	-0.4
MFS	**McCloud Flat S**	**0.60**	**326**				Sg	12 36 50.0	0.0
GSC	**Goldstone, Bar**	**0.60**	**121**				Pg	12 36 41.6	-0.4
GSC					IAML			12 36 50.3	
	comp=E,566nm,0.5s								
GSC					IAML			12 36 53.7	
	comp=N,524nm,0.5s								
WORM	**Onyx Ranch**	**0.66**	**277**				Pg	12 36 42.5	-0.6
CCAC	**Calif City Air**	**0.66**	**226**				Pg	12 36 42.7	-0.5
CCAC					IAML			12 36 56.1	
	comp=N,653nm,0.4s								
CCAC					IAML			12 36 56.3	
	comp=E,312nm,0.5s								
CCAC	**Calif City Air**	**0.66**	**226**				Sg	12 36 52.2	+0.3
WHFM	**Hanning Flat**	**0.75**	**276**				Pg	12 36 44.1	-0.7
WHFM							Sg	12 36 53.9	-0.6
HYS	**Haystack Butte**	**0.76**	**188**				Pg	12 36 44.4	-0.6
HYS							Sg	12 36 54.6	-0.3
GWY	**Greenwater Val**	**0.84**	**48**				Pg	12 36 46.2	-0.5
GWY							Sg	12 36 57.2	-0.4
GWY					IAML			12 37 00.9	
	comp=E,590nm,0.5s								
GWY					IAML			12 37 00.9	
	comp=N,633nm,0.3s								
ISA	**Isabella, Lake**	**0.84**	**273**				Pg	12 36 45.9	-0.7
ISA					IAML			12 37 00.2	
	comp=E,296nm,0.5s								
ISA					IAML			12 37 08.8	
	comp=N,299nm,0.3s								
EDW2	**Edwards Air Fo**	**0.86**	**212**				Pg	12 36 46.2	-0.8
WASM	**Alta Sierra Ca**	**0.92**	**278**				Pg	12 36 47.2	-0.8
WASM							Sg	12 36 59.4	-0.7
SBB	**Saddle Back Bu**	**0.98**	**199**				Pg	12 36 48.3	-0.9
SBB							Sb	12 37 02.6	-0.2
TPO	**Tropico Hills**	**0.98**	**221**				Pg	12 36 49.0	-0.2
SHOC	**Shoshone, Teco**	**0.99**	**73**				Sg	12 37 02.3	+0.2
VTV	**Victorville**	**1.06**	**175**				Sb	12 37 05.3	+0.3
ADO	**Adelanto Recei**	**1.06**	**180**				Pb	12 36 51.1	0.0
ALPC	**Antelope**	**1.17**	**217**				Pg	12 36 52.6	-0.2
DSCC	**Desert Studies**	**1.19**	**113**				Pb	12 36 51.4	-1.8
LRRC	**Littlerock Res**	**1.19**	**204**				Pb	12 36 52.3	-0.9
HEC	**Hector,Ludlow**	**1.20**	**131**				Pb	12 36 51.9	-1.5
HEC							Sg	12 37 08.1	-0.8
LEOC	**Leona Valley**	**1.21**	**216**				Pb	12 36 53.4	-0.3

TJR	**Tejon Ranch**	**1.22**	**241**			Pb	12 36 52.9	-0.8
SPG2	**Springville 2**	**1.23**	**299**			Pb	12 36 52.6	-1.2
THC	**Tehachapi Micr**	**1.23**	**235**			Pb	12 36 53.0	-0.9
CJV	**Casa Juvan**	**1.23**	**208**			Pb	12 36 53.4	-0.5
CJV						Sn	12 37 11.0	+0.1
JNH	**Juniper Hills**	**1.24**	**200**			Pb	12 36 52.9	-1.2
TUQ	**Turquoise Moun**	**1.25**	**98**			Pn	12 36 52.9	-1.3
TUQ						Sb	12 37 09.9	-0.6
AMDNV	**Amargosa**	**1.25**	**48**			Pn	12 36 53.6	-0.6
AMDNV						Sb	12 37 10.6	+0.1
WCT	**Wildcat Mounta**	**1.34**	**29**			Pn	12 36 54.6	-0.9
CHFC	**Chilao Flat St**	**1.37**	**201**			Pn	12 36 55.6	-0.3
BFSC	**Mount Baldy Ra**	**1.39**	**188**			Pb	12 36 56.5	-0.1
BFSC						Sb	12 37 14.2	-0.4
SGV	**South Grapevin**	**1.40**	**13**			Pn	12 36 56.6	+0.2
BBRC	**Big Bear Solar**	**1.42**	**162**			Sb	12 37 15.5	0.0
SSK	**Sunset Peak**	**1.42**	**189**			Pg	12 36 57.5	-0.1
OSI	**Osito Audit: C**	**1.45**	**227**			Pn	12 36 56.8	-0.2
OSI					IAML		12 37 19.4	
	comp=N,118nm,0.8s							
OSI					IAML		12 37 21.1	
	comp=E,139nm,0.6s							
MWC	**Mount Wilson**	**1.48**	**200**			Pn	12 36 56.9	-0.6
MWC					IAML		12 37 23.9	
	comp=N,106nm,0.5s							
MWC					IAML		12 37 24.6	
	comp=E,80nm,0.4s							
DECC	**Green Verdugo**	**1.55**	**209**			Pb	12 36 59.4	+0.1
PSRC	**Puddingstone R**	**1.55**	**191**			Pb	12 36 59.1	-0.2
PASC	**Pasadena Art C**	**1.57**	**203**			Pn	12 36 58.0	-0.5
PASC					IAML		12 37 25.6	
	comp=E,59nm,0.4s							
VOG	**Valley Oaks Go**	**1.73**	**295**			Pn	12 37 00.6	-0.1
TPC	**Twentynine Pal**	**1.89**	**142**			Pn	12 37 01.9	-1.1
HMTC	**Hemet**	**1.94**	**169**			Pb	12 37 06.6	+0.6
DANC	**Danby, Needles**	**1.95**	**120**			Pb	12 37 06.2	+0.1
V12A	**Nelson**	**2.11**	**86**	Pn		Pn	12 37 03.6	-2.4
V12A					IAML		12 37 37.8	
	comp=N,44nm,0.7s							
TRAM	**Private Proper**	**2.31**	**272**			Pb	12 37 11.4	-0.9
CLI2	**Calipatria 2**	**2.93**	**148**			Pn	12 37 16.6	-0.5
W13A	**Hualapai Mount**	**2.95**	**99**	Pn		Pn	12 37 16.1	-1.7
BLYC	**Blythe**	**3.04**	**127**	Pn		Pn	12 37 16.6	-2.2
BLYC					IAML		12 38 07.7	
	comp=N,22nm,0.5s							
BLYC					IAML		12 38 15.6	
	comp=E,17nm,0.6s							

RSNC 06 12:40:32.3±0.0,7°N±1′×7°3W±′,h148km±2km,M2.9,mb3.3, mB5.8,ML2.8,MLv3.4,Mw(mB)5.4,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**188**	P	Pn	12 40 52.3	-0.5
BARC				S	Sn	12 41 07.3	-1.0
BRJC	**Barrancabermej**	**0.61**	**284**	P	Pn	12 40 53.9	-0.1
BRJC				S	Sn	12 41 10.8	+0.3
PAMC	**Pamplona, Colo**	**0.68**	**41**	P	Pn	12 40 55.1	+0.1
PAMC				S	Sn	12 41 11.5	-0.8
RUSC	**La Rusia**	**0.93**	**176**	P	Pn	12 40 56.4	-0.5
RUSC				S	Sn	12 41 16.2	-0.6
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	P	Pn	12 40 58.8	-1.2
PTBC				S	Sn	12 41 19.8	-1.3
TAMC	**Tame, Arauca**	**1.41**	**106**	P	Pn	12 41 00.7	-0.1
TAMC				S	Sn	12 41 22.4	-0.1
OCAC	**Ocana**	**1.41**	**353**	P	Pn	12 41 00.1	-0.9
OCAC				S	Sn	12 41 21.8	-1.1
SPBC	**San Pablo de B**	**1.49**	**218**	P	Pn	12 41 01.7	0.0
SPBC				S	Sn	12 41 24.6	+0.4
ZARC	**Zaragoza, Cauc**	**1.82**	**291**	P	Pn	12 41 04.9	-0.3
ZARC				S	Sn	12 41 30.0	-0.5
NORC	**Norcasia**	**2.12**	**234**	P	Pn	12 41 08.6	-0.2
NORC				S	Sn	12 41 36.6	-0.3
CHIC	**Chingaza**	**2.26**	**195**	P	Pn	12 41 10.8	-0.1
CHIC				S	Sn	12 41 40.4	-0.1
ROSC	**El Rosal**	**2.29**	**211**	P	Pn	12 41 12.5	+1.3
ROSC				S	Sn	12 41 42.1	+1.0
HELC	**Santa Helena**	**2.45**	**255**	P	Pn	12 41 13.6	+0.6
HELC				S	Sn	12 41 43.8	-0.6
UREC	**San Jos de Ur**	**2.54**	**291**	P	Pn	12 41 12.2	-1.6
UREC				S	Sn	12 41 43.0	-2.7
GUY2C	**Guyana, Caldas**	**2.72**	**234**	P	Pn	12 41 16.7	+0.2
GUY2C				S	Sn	12 41 50.0	-0.6
VILC	**Villavicencio,**	**2.75**	**191**	P	Pn	12 41 16.4	-0.3
VILC				S	Sn	12 41 50.3	-0.6
PTGC	**Puerto Gaitan,**	**2.80**	**159**	P	Pn	12 41 15.7	-1.4
PTGC				S	Sn	12 41 49.3	-2.5
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P	Pn	12 41 20.2	+0.4
CBOC				S	Sn	12 41 56.6	+0.1
DBBC	**Dabeiba**	**3.04**	**274**	P	Pn	12 41 20.6	+0.4
DBBC				S	Sn	12 41 57.0	-0.3
ARGC	**Ariguani, Magd**	**3.20**	**340**	P	Pn	12 41 22.9	+0.7
ARGC				S	Sn	12 42 01.5	+0.7
SDV	**Santo Domingo**	**3.22**	**51**	P	Pn	12 41 22.3	-0.3
SDV				S	Sn	12 41 59.9	-1.7
ANIL	**Santa Ana**	**3.23**	**224**	P	Pn	12 41 24.6	+1.8
ANIL				S	Sn	12 42 03.0	+1.1
PRAC	**Prado**	**3.55**	**209**	P	Pn	12 41 26.6	-0.1
PRAC				S	Sn	12 42 07.8	-1.0
APAC	**Apartado, Choc**	**3.56**	**288**	P	Pn	12 41 26.7	-0.1
APAC				S	Sn	12 42 06.0	-3.1
ORTC	**Ortega, Tolima**	**3.57**	**216**	P	Pn	12 41 27.2	+0.2
ORTC				S	Sn	12 42 09.6	+0.1
SJCC	**San Jacinto, C**	**3.65**	**327**	P	Pn	12 41 26.6	-1.4
SJCC				S	Sn	12 42 07.8	-3.5
PLMC	**San Jos del P**	**3.66**	**239**	P	Pn	12 41 27.8	-0.3
PLMC				S	Sn	12 42 12.1	+0.7
URMC	**La Uribe, Meta**	**3.76**	**199**	P	Pn	12 41 29.6	0.0
URMC				S	Sn	12 42 13.3	-0.7
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	P	Pn	12 41 32.5	-2.4
CRJC				S	Sn	12 42 18.5	-5.0
SMRC	**Santa Marta, M**	**4.43**	**346**	P	Pn	12 41 37.6	-0.7
SMRC				S	Sn	12 42 25.6	-4.0
URIC	**Uribia, Colomb**	**4.97**	**13**	P	Pn	12 41 42.7	-2.7
URIC				S	Sn	12 42 38.8	-3.6
MALC	**Bahia Malaga**	**5.02**	**236**	P	Pn	12 41 47.1	+1.1
JAMC	**Jamundi, Valle**	**5.02**	**225**	P	Pn	12 41 47.8	+1.6
JAMC				S	Sn	12 42 43.4	-0.4

*NEIC **06** 12:40:45.7±1.3,35°913N±0°006×117°62W±0°01, h8km±4km, Error ellipse: s-maj=1.6km s-min=0.6km az=121.0*

PAS 06 12:40:46.0±1.4,35°902N±0°010×117°66W±0°01, h7km,ML3.3/17,ML3.0/24(NEIC),Error ellipse: s-maj=1.6km s-min=1.3km az=91.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.10**	**151**		Pg	12 40 48.3	0.0
CLC					Sg	12 40 50.4	+0.4
TOW	**Tower One**	**0.13**	**223**		Pg	12 40 49.2	+0.4
TOW					Sg	12 40 52.4	+1.7
WVPM	**Volcano Peak E**	**0.14**	**290**		Pg	12 40 51.5	+2.5
MPMC	**Manual Prospec**	**0.21**	**41**		Pg	12 40 50.0	-0.2
WNMM	**Nine Mile Cany**	**0.21**	**254**		Pg	12 40 53.6	+3.3
SRTC	**Snort**	**0.22**	**200**		Pg	12 40 50.9	+0.4
SRTC					Sg	12 40 55.4	+1.9
MFS	**McCloud Flat S**	**0.27**	**323**		Pg	12 40 51.1	-0.3
MFS					Sg	12 40 55.2	+0.2
LRMC	**Laurel Mtn Rad**	**0.42**	**183**		Pg	12 40 53.7	-0.6
LRMC					Sg	12 40 59.9	+0.1
CCCA	**Chr Cany lake**	**0.45**	**148**		Pg	12 40 54.6	0.0
CCCA					Sg	12 40 58.8	-1.7
WBSM	**Bird Springs**	**0.54**	**227**		Pg	12 40 56.0	-0.4
WBSM					Sg	12 41 03.4	0.0
WHFM	**Hanning Flat**	**0.60**	**250**		Pg	12 40 57.0	-0.6
CWC	**Cottonwood Cre**	**0.64**	**328**		Pg	12 40 58.2	-0.1
CWC					Sg	12 41 06.6	-0.1
QSM	**Queen of Sheba**	**0.64**	**84**	Pg	Pg	12 40 58.1	-0.3
QSM				IAML		12 41 05.2	
	comp=E,872nm,0.5s						
ISA	**Isabella, Lake**	**0.71**	**251**	Pg	Pg	12 40 58.9	-0.7
ISA				IAML		12 41 12.4	
	comp=N,708nm,0.3s						
ISA				IAML		12 41 12.7	
	comp=E,639nm,0.5s						
WASM	**Alta Sierra Ca**	**0.75**	**258**		Pg	12 41 00.3	-0.2
CCAC	**Calif City Air**	**0.80**	**202**		Sg	12 41 11.7	-0.2
CCAC	**Calif City Air**	**0.80**	**202**	Pg	Pg	12 41 01.5	0.0
CCAC				IAML		12 41 23.2	
	comp=N,274nm,0.5s						
GWY	**Greenwater Val**	**0.85**	**70**	Pg	Pg	12 41 01.9	-0.4
GWY				IAML		12 41 11.8	
	comp=E,635nm,0.4s						
GWY				IAML		12 41 13.7	
	comp=N,610nm,0.4s						
GSC	**Goldstone, Bar**	**0.92**	**131**		Sg	12 41 13.7	-1.8
SPG2	**Springville 2**	**0.95**	**289**		Sg	12 41 15.9	-0.7
HYS	**Haystack Butte**	**1.04**	**176**		Pg	12 41 05.8	-0.2
GRAC	**Grapevine Rang**	**1.12**	**12**		Pg	12 41 06.8	-0.7
GRAC				IAML		12 41 25.2	
	comp=N,447nm,0.3s						
VES	**Vestal, Richgr**	**1.16**	**267**		Pg	12 41 07.5	-0.8
SGV	**South Grapevin**	**1.19**	**25**		Pg	12 41 08.1	-0.7
WCT	**Wildcat Mounta**	**1.22**	**43**		Pg	12 41 07.7	-1.6
WCT					Sg	12 41 21.4	-3.8
WCT				IAML		12 41 23.5	
	comp=E,275nm,0.4s						
WCT				IAML		12 41 24.6	
	comp=N,188nm,0.5s						
TIN	**Tinemaha, Big**	**1.24**	**338**		Sg	12 41 25.6	-0.3
AMDNV	**Amargosa**	**1.24**	**63**		Pn	12 41 07.4	-2.3
BAKC	**Calstate**	**1.30**	**245**		Pn	12 41 10.1	-0.5
BAKC					Sb	12 41 27.8	0.0
GMN	**Gold Mountain**	**1.43**	**13**		Pn	12 41 12.2	-0.4
GMN				IAML		12 41 38.7	
	comp=N,108nm,0.5s						
VOG	**Valley Oaks Go**	**1.46**	**287**		Pn	12 41 12.7	-0.1
TUQ	**Turquoise Moun**	**1.48**	**108**		Pn	12 41 11.9	-1.3
DSP	**Deep Springs**	**1.49**	**350**		Pn	12 41 13.1	0.0
HEC	**Hector,Ludlow**	**1.52**	**134**		Pn	12 41 13.5	-0.2
POCCA	**Poleta Canyon**	**1.54**	**341**		Pn	12 41 14.2	+0.1
CHFC	**Chilao Flat St**	**1.59**	**191**		Pb	12 41 16.2	+0.3
MTUM	**Tungsten Hills**	**1.62**	**334**		Pb	12 41 15.8	-0.6
CRGC	**Crocker Grade**	**1.81**	**249**		Pb	12 41 19.1	-0.4
MCSM	**Casa Diablo Ho**	**2.02**	**331**		Pb	12 41 23.0	-0.1
SHPR	**Sheep Range**	**2.11**	**73**		Pn	12 41 21.4	-0.4
TSCN	**Private Proper**	**2.22**	**262**		Pn	12 41 23.7	+0.5
MYLM	**Yosemite Lake**	**2.67**	**304**		Pb	12 41 33.3	-0.8

*REY **06** 12:46:57.3,69°88N×14°12W,h10km*
*IDC **06** 12:47:01.9±0.5,69°73N×15°73W,h0km,mb3.9/19, mbtmp4.0/26,ML3.3/7,MS4.0/27,Error ellipse: s-maj=16.1km s-min=11.5km az=12.0*
*MOS **06** 12:47:01.7±1.0,69°79N×15°84W,h10km,mb4.4/31,Error ellipse: s-maj=15.3km s-min=7.2km az=99.6*
*NEIC **06** 12:47:03.1±1.3,69°82N±0°08×15°9W±0°2,h10km±1km, mb4.3/76,Error ellipse: s-maj=14.9km s-min=10.9km az=203.0*
*DNK **06** 12:47:04.7±4.0,69°92N×16°37W,h0km±786km,ML2.3*

ISC 06 12:47:03.2±0.3,69°78N±0°05×15°69W±0°05,h10km,n218, σ1s77/193,mb4.2/86,MS3.9/26,8C-5D,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.25**	**291**		**Pn**	**12 47 38.4**	**-2.0**
SCO	**Scoresbysund**	**2.25**	**291**	P	**Pn**	**12 47 38.4**	**-2.0**
SCO	**Scoresbysund**	**2.25**	**291**	*i* P	**Pn**	**12 47 37.0**	**-3.4**
SCO				IAML		12 47 54.8	
	comp=Z,33nm,0.4s						
JMIC	**Jan Mayen**	**2.71**	**60**	Pn	Pn	12 47 40.3	-6.5
	comp=Z,12nm,0.3s,baz=119,slow=11,SNR=4.0						
IGRI	**Grimsey**	**3.37**	**196**	P	**Pn**	**12 47 54.6**	**-1.2**
IGIL	**Gilhagi**	**3.73**	**184**	P	**Pn**	**12 47 58.1**	**-2.6**
IBRE	**Brettingsstaoi**	**3.77**	**194**	P	**Pn**	**12 48 00.1**	**-1.2**
ISIG	**Siglufjorour**	**3.86**	**200**	P	**Pn**	**12 48 01.9**	**-0.6**
IDIM	**Dimmadalss**	**3.87**	**188**	P	**Pn**	**12 48 00.7**	**-2.0**
IGRA	**Granastaoir**	**3.95**	**191**	P	**Pn**	**12 48 02.3**	**-1.4**
ISKI	**Skildingahlsh**	**3.96**	**188**	P	**Pn**	**12 48 01.6**	**-2.4**
IGHA	**Grjothals**	**3.98**	**186**	P	**Pn**	**12 48 01.8**	**-2.4**
IHLA	**Hella**	**3.99**	**196**	P	**Pn**	**12 48 03.6**	**-0.6**
IHRN	**Hraun**	**4.05**	**206**	P	**Pn**	**12 48 05.3**	**+0.2**
IKVO	**Krokottuvotn**	**4.11**	**187**	P	**Pn**	**12 48 04.3**	**-1.7**
IGRS	**Grimsstaoir**	**4.17**	**182**	P	**Pn**	**12 48 04.4**	**-2.4**
IMEL	**Melhnausar**	**4.25**	**185**	P	**Pn**	**12 48 05.8**	**-2.1**
ISVA	**Svartarkot**	**4.51**	**188**	P	**Pn**	**12 48 09.9**	**-1.5**
DBG	**Daneborg**	**4.76**	**345**	*i* P	**Pn**	**12 48 12.2**	**-2.7**
IADA	**Aoalbol**	**4.79**	**179**	P	**Pn**	**12 48 12.7**	**-2.6**
BORG	**Borgarnes**	**5.51**	**206**		**Pn**	**12 48 25.2**	**+0.1**
BORG	**Borgarnes**	**5.51**	**206**	Pn	**Pn**	**12 48 26.2**	**+1.1**
	comp=Z,4.3nm,0.3s,baz=349,slow=6.3,SNR=19						
	comp=Z,40nm,0.5s						
BORG	**Borgarnes**	**5.51**	**206**	P	**Pn**	**12 48 25.2**	**+0.1**
SOEG	**Soedalen**	**5.86**	**262**	*e*P	**Pn**	**12 48 28.9**	**-1.1**
DAG	**Danmarks Havn**	**7.08**	**354**	*i* P	**Pn**	**12 48 46.9**	**+0.3**
SUMG	**Summit**	**7.84**	**301**		**Pn**	**12 48 55.4**	**-2.2**
SUMG	**Summit**	**7.84**	**301**	P	**Pn**	**12 48 55.4**	**-2.2**
SUMG	**Summit**	**7.84**	**301**	*i* P	**Pn**	**12 48 57.0**	**-0.5**
KBS	**Kingsbay**	**11.63**	**26**		**Pn**	**12 49 49.2**	**+0.3**
KBS	**Kingsbay**	**11.63**	**26**	P	**Pn**	**12 49 49.2**	**+0.3**
SPITS	**Spitsbergen Ar**	**11.98**	**32**	Pn	**Pn**	**12 49 54.6**	**+0.9**
	baz=226,slow=12						
	comp=Z,33nm,1.2s						
SPB2	**Spitsbergen Ar**	**11.98**	**32**	Pn	**Pn**	**12 49 52.3**	**-1.4**
NEEM	**North Greenlan**	**12.33**	**324**	*i* P	**Pn**	**12 49 54.2**	**-4.6**
NOA	**NORSAR Array B**	**14.08**	**115**	Pn	**Pn**	**12 50 22.7**	**+0.2**
	baz=313,slow=13,SNR=3.0						
NOA				LR	LR	12 55 31.0	
	comp=Z,220nm,18.0s,baz=320,slow=36						
	comp=Z,1.9nm,0.2s						
ARCES	**ARCESS Array B**	**14.14**	**72**	Pn	**Pn**	**12 50 21.4**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=290,slow=13,SNR=0.9						
	comp=Z,1.2nm,0.9s						
EKA	**Eskdalemuir Ar**	**15.55**	**152**	Pn	**Pn**	**12 50 41.3**	**-0.9**
	baz=354,slow=11						
	comp=Z,1.7nm,0.9s						
HFS	**Hagfors**	**15.56**	**114**	Pn	**Pn**	**12 50 39.9**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=328,slow=11,SNR=6.0						
HFS				LR	LR	12 55 58.1	
	comp=Z,461nm,21.4s,baz=310,slow=34						
	comp=Z,2.4nm,1.0s						
IVI	**Ivigtut**	**15.76**	**253**	Pn	**Pn**	**12 50 43.8**	**-1.1**
IVI				IAmb	IAmb	12 50 50.8	
	comp=Z,24nm,1.0s						
TULEG	**Thule**	**16.18**	**318**	Pn	**Pn**	**12 50 45.3**	**-4.9**
TULEG				IAmb	IAmb	12 50 47.8	
	comp=Z,30nm,1.0s						
FIA1	**FINESS Array S**	**18.76**	**96**	P	**Pn**	**12 51 23.0**	**+0.6**
FINES	**FINESS Array B**	**18.76**	**96**	P	**Pn**	**12 51 22.8**	**+0.4**
FINES	**FINESS Array B**	**18.76**	**96**	Pn	**P**	**12 51 21.4**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=324,slow=6.1,SNR=17						
FINES				LR	LR	12 57 54.1	
	comp=Z,746nm,18.2s,baz=321,slow=35						
	comp=Z,6.3nm,0.9s						
FINES	**FINESS Array B**	**18.76**	**96**	P	**Pn**	**12 51 22.8**	**+0.4**
EUNU	**Eureka**	**19.39**	**330**	P	**P**	**12 51 24.4**	**-4.4**
EUNU				IAmb	IAmb	12 51 30.2	
	comp=Z,21nm,1.1s						
FRB	**Frobisher Bay**	**21.07**	**280**	LR	LR	12 59 46.9	
	comp=Z,740nm,18.5s,baz=68,slow=36						
VSU	**Vasula**	**21.17**	**101**	*ce*P	**P**	**12 51 47.8**	**-0.3**
VSU				pmax	pmax		
	comp=Z,70nm,2.5s						
PUL	**Pulkovo**	**21.42**	**95**	*i* P	**P**	**12 51 51.2**	**+0.3**
PUL				pmax	pmax		
	comp=Z,39nm,0.7s						
MEM	**Membach**	**21.80**	**141**	*d*P	**P**	**12 51 56.0**	**+0.9**
	comp=Z,6.3nm,1.1s						
BCLA	**Clavier**	**21.83**	**142**	*d*P	**P**	**12 51 57.7**	**+2.4**
	comp=Z,5.4nm,1.0s						
BTNL	**Ternell**	**21.85**	**140**	*d*P	**P**	**12 51 56.5**	**+0.9**
	comp=Z,7.2nm,1.0s						
DOU	**Dourbes**	**21.99**	**143**	*d*P	**P**	**12 51 57.2**	**+0.2**
	comp=Z,3.3nm,0.9s						
PABE	**Paberze**	**22.58**	**109**	P	**P**	**12 52 03.8**	**+0.5**
CLL	**Collm**	**22.88**	**129**	P	**P**	**12 52 07.2**	**+0.7**
CLL				IAmb	IAmb	12 52 08.1	
	comp=Z,7.2nm,1.0s						
CLL	**Collm**	**22.88**	**129**	*i* P	**P**	**12 52 06.9**	**+0.4**
CLL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
RES	**Resolute Bay**	**22.89**	**318**	P	**P**	**12 52 02.5**	**-4.0**
RES				IAmb	IAmb	12 52 14.9	
	comp=Z,11nm,1.1s						
RES	**Resolute Bay**	**22.89**	**318**	LR	LR	13 00 54.6	
	comp=Z,354nm,18.2s,baz=110,slow=36						
RES	**Resolute Bay**	**22.89**	**318**	P	**P**	**12 52 02.5**	**-4.0**
RES				pmax	pmax		
	comp=Z,11nm,1.1s						
CLF	**Chambon-Foret**	**23.51**	**149**	P	**P**	**12 52 14.0**	**+1.0**
CLF				IAmb	IAmb	12 52 39.4	
	comp=Z,9.9nm,0.9s						
KLMR	**Klimovskoe**	**23.84**	**84**	*e*P	**P**	**12 52 15.4**	**-0.6**
KLMR				*e*		12 55 57.6	
KLMR				pmax	pmax		
	comp=Z,41nm,1.5s						
GRA1	**Grafenberg Arr**	**23.89**	**133**	P	**P**	**12 52 17.2**	**+0.5**
GRA1				IAmb	IAmb	12 52 41.2	
	comp=Z,7.1nm,0.8s						
GRF	**Grafenberg Arr**	**23.89**	**133**	P	**P**	**12 52 17.2**	**+0.5**
GRF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GRFO	**Grafenberg**	**23.89**	**133**	P	**P**	**12 52 17.3**	**+0.7**
GRFO				IAmb	IAmb	12 52 41.1	
	comp=Z,7.2nm,0.8s						
GRFO	**Grafenberg**	**23.89**	**133**	P	**P**	**12 52 17.3**	**+0.7**
GRFO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ECH	**Echery**	**24.31**	**141**	P	**P**	**12 52 20.9**	**+0.3**
ECH				IAmb	IAmb	12 52 23.4	
	comp=Z,13nm,1.5s						
ECH	**Echery**	**24.31**	**141**	P	**P**	**12 52 20.9**	**+0.3**
ECH				pmax	pmax		
	comp=Z,13nm,1.5s						
UPC	**Upice**	**24.43**	**126**	*e*P	P	12 52 40.8	+19
BFO	**Black Forest**	**24.47**	**139**	P	**P**	**12 52 22.7**	**+0.7**
BFO				IAmb	IAmb	12 52 23.9	
	comp=Z,9.5nm,1.3s						
BFO	**Black Forest**	**24.47**	**139**	P	**P**	**12 52 22.7**	**+0.7**
BFO				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PRU	**Pruhonice**	**24.49**	**128**	*e*P	**P**	**12 52 23.4**	**+1.2**
PRU	**Pruhonice**	**24.49**	**128**	*e*P	**P**	**12 52 23.4**	**+1.2**
DPC	**Dobruska-Polom**	**24.66**	**126**	*e*P	**P**	**12 52 24.6**	**+0.8**
DPC	**Dobruska-Polom**	**24.66**	**126**	*e*P	**P**	**12 52 24.6**	**+0.8**
KHC	**Kasperske Hory**	**25.02**	**131**	*e*P	**P**	**12 52 32.8**	**+5.8**
KHC	**Kasperske Hory**	**25.02**	**131**	*i* P	**P**	**12 52 27.2**	**+0.2**
KHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GEC2	**GERESS Array S**	**25.31**	**131**	P	**P**	**12 52 30.5**	**+0.8**
GEC2				IAmb	IAmb	12 52 32.3	
	comp=Z,8.3nm,1.2s						
GERES	**GERESS Array B**	**25.31**	**131**	P	**P**	**12 52 31.2**	**+1.5**
GERES	**GERESS Array B**	**25.31**	**131**	P	**P**	**12 52 28.7**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=334,slow=11,SNR=7.2						
GERES				LR	LR	13 03 29.4	
	comp=Z,175nm,18.2s,baz=30,slow=39						
	comp=Z,1.6nm,0.8s						
CKRC	**Cesky Krumlov**	**25.50**	**130**	*e*P	**P**	**12 52 33.6**	**+2.3**
CKRC	**Cesky Krumlov**	**25.50**	**130**	*e*P	**P**	**12 52 33.6**	**+2.3**
MORC	**Moravsky Berou**	**25.52**	**124**		**P**	**12 52 32.7**	**+1.1**
MORC				IAmb	IAmb	12 52 34.9	
	comp=Z,8.8nm,1.2s						
MORC	**Moravsky Berou**	**25.52**	**124**	P	**P**	**12 52 32.7**	**+1.1**
MORC				pmax	pmax		
	comp=Z,9.0nm,1.2s						
VRAC	**Vranov**	**25.68**	**126**	LR	LR	13 03 06.1	
	comp=Z,270nm,18.3s,baz=344,slow=38						
DAVA	**Damuels**	**25.81**	**138**	*e*P	**P**	**12 52 37.5**	**+3.2**
	comp=Z,7.7nm,1.1s						
MOTA	**Moosalm**	**26.04**	**136**	*e*P	**P**	**12 52 37.7**	**+1.3**
	comp=Z,5.0nm,0.9s						
WATA	**Walderalm**	**26.17**	**135**	*e*P	**P**	**12 52 41.5**	**+4.0**
	comp=Z,2.2nm,0.5s						
SQTA	**Sankt Quirin**	**26.18**	**136**	*e*P	**P**	**12 52 39.0**	**+1.3**
	comp=Z,3.0nm,0.8s						
WTTA	**Wattenberg**	**26.25**	**135**	*i* pP	P	**12 52 40.5**	**+2.2**
	comp=Z,11nm,1.6s						
FETA	**Feichten**	**26.26**	**137**	*e*P	**P**	**12 52 43.0**	**+4.7**
	comp=Z,4.3nm,1.3s						
DAVOX	**Davos/Dischmat**	**26.28**	**138**	LR	LR	13 03 14.9	
	comp=Z,253nm,20.1s,baz=246,slow=37						
TUE	**Stuetta**	**26.45**	**139**	P	**P**	**12 52 40.4**	**+0.2**
TUE				IAmb	IAmb	12 52 52.3	
	comp=Z,7.5nm,1.2s						
CONA	**Conrad Observa**	**26.73**	**129**	*e*P	**P**	**12 52 46.4**	**+3.8**
	comp=Z,2.4nm,1.0s						
KBA	**Koelnbreinsper**	**26.85**	**133**	*ep*P	**P**	**12 52 47.1**	**+3.4**
	comp=Z,2.7nm,1.1s						
SCHQ	**Schefferville**	**27.01**	**263**	P	**P**	**12 52 44.8**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=276,slow=14,SNR=3.7						
SCHQ				LR	LR	13 02 32.1	
	comp=Z,284nm,22.0s,baz=53,slow=34						
	comp=Z,4.2nm,0.8s						
MOS	**Moscow**	**27.04**	**94**	*e*P	**P**	**12 52 46.8**	**+1.7**
RONA	**Rosalia, Austr**	**27

comp=Z,2.4nm,0.8s,baz=306,slow=3.3,SNR=4.7
AKTO LR LR 13 09 22.2
comp=Z,236nm,19.9s,baz=354,slow=35
comp=Z,2.4nm,0.8s
KIV Kislovodsk 38.72 101 *e*P **P 12 54 28.3 +1.2**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,161nm,16.0s
KVAR Kislovodsk Arr 38.73 101 LR LR 13 10 10.7
comp=Z,174nm,20.4s,baz=270,slow=36
E23K Chandalar 38.90 334 P 12 54 27.1 -1.2
E23K IAmb IAmb 12 54 34.8
comp=Z,7.3nm,1.1s
SHA1 Shidzhatmaz 38.91 101 *i* P **P 12 54 28.5 -0.3**
G26K Porcupine Rive 38.97 330 P 12 54 26.9 -1.9
KBZ Khabaz 39.00 101 P **P 12 54 29.9 +0.6**
comp=Z,1.5nm,0.7s,baz=5.8,slow=8.3,SNR=4.6
KBZ LR LR 13 10 13.7
comp=Z,327nm,19.4s,baz=328,slow=36
comp=Z,1.5nm,0.7s
KBZ Khabaz 39.00 101 *i* P **P 12 54 30.2 +0.9**
KBZ pmax pmax
comp=Z,3.0nm,1.0s
FFC Flin Flon 39.03 293 P 12 54 28.6 -0.8
FFC IAmb IAmb 12 54 31.4
comp=Z,5.1nm,0.9s
FFC Flin Flon 39.03 293 P **P 12 54 28.6 -0.8**
FFC pmax pmax
comp=Z,5.0nm,0.9s
H27K Steamboat Moun 39.23 329 P 12 54 29.4 -1.6
BRTR Keskin Array B 39.51 113 P P 12 54 33.4 -0.3
BRTR Keskin Array B 39.51 113 P **P 12 54 34.5 +0.7**
comp=Z,0.6nm,0.5s,baz=338,slow=7.3,SNR=4.4
BRTR LR LR 13 11 04.8
comp=Z,135nm,21.2s,baz=320,slow=36
comp=Z,0.6nm,0.5s
BRTR Keskin Array B 39.51 113 *ce*P **P 12 54 35.7 +1.9**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
J30M Hart River 39.71 324 P P 12 54 33.7 -1.5
SADO Sadowa 39.76 265 LR LR 13 10 38.2
comp=Z,222nm,18.7s,baz=328,slow=36
G24K Hadweenzic Riv 39.81 332 IAmb IAmb 12 54 43.0
comp=Z,9.5nm,1.3s
AB31 Akbulak array 40.11 80 P P 12 54 38.6 +0.1
ABKAR Akbulak array 40.11 80 P P 12 54 38.3 -0.2
BRVK Borovoye 40.33 68 *i* P **P 12 54 41.9 +1.6**
BRVK pmax pmax
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 40.40 68 P P 12 54 40.9 0.0
comp=Z,0.7nm,0.6s,baz=38,slow=7.5,SNR=4.0
BVAR LR LR 13 11 12.3
comp=Z,145nm,21.3s,baz=299,slow=36
comp=Z,0.7nm,0.6s
K29M Barlow Dome 40.60 325 P P 12 54 44.6 +2.0
H24K Noodor Dome 40.67 332 P 12 54 45.6 +2.5
F20K Avaraart Lake 40.71 337 P P 12 54 45.5 +2.3
F20K IAmb IAmb 12 54 58.7
comp=Z,5.5nm,1.1s
ULM Lac du Bonnet 40.80 285 P P 12 54 44.8 +0.6
comp=Z,2.6nm,0.9s,baz=57,slow=5.4,SNR=3.0
comp=Z,2.6nm,0.9s
ULM Lac du Bonnet 40.80 285 *i* P **P 12 54 44.0 -0.2**
J26L Joseph Creek 41.16 329 P 12 54 48.6 +1.5
J25K Salcha River, 41.38 330 P 12 54 51.0 +2.1
IMAR Indian Mountai 41.44 336 P P 12 54 48.1 -1.2
ILAR Eielson Array 41.49 331 P 12 54 53.2 +3.4
ILAR Eielson Array 41.49 331 P **P 12 54 51.0 +1.3**
comp=Z,0.4nm,0.8s,baz=8.8,slow=10.0,SNR=5.3
comp=Z,0.4nm,0.8s
I23K Minto, Yukon-K 41.55 333 IAmb IAmb 12 54 57.3
comp=Z,7.3nm,1.4s
COLA College 41.56 332 *i* P **P 12 54 51.3 +1.1**
COLA pmax pmax
comp=Z,4.0nm,0.9s
H21K Melozitna Rive 41.61 335 IAmb IAmb 12 54 55.9
comp=Z,6.9nm,1.3s
MLY Manley 41.88 333 P P 12 54 52.4 -0.6
NEA2 Nenana 42.02 332 P P 12 54 56.2 +2.1
NEA2 IAmb IAmb 12 54 58.5
comp=Z,6.7nm,1.2s
BCAR Beaver Creek A 42.14 327 P 12 54 56.6 +1.5
L27K Beaver Creek, 42.15 327 IAmb IAmb 12 55 07.2
comp=Z,6.2nm,1.1s
BILL Bilibino 42.43 359 *i* P **P 12 54 58.6 +1.2**
BILL pmax pmax
comp=Z,3.0nm,1.3s
AGMN Agassiz Nation 42.47 283 P 12 54 59.8 +1.8
BPAW Bear Paw Mtn. 42.79 333 P 12 55 02.7 +2.3
GNI Garni 42.80 101 LR LR 13 12 45.9
comp=Z,303nm,21.8s,baz=331,slow=36
J20K Nowinta River 43.20 335 IAmb IAmb 12 55 16.4
comp=Z,9.5nm,1.4s
ZAA0 Zalesovo Array 44.05 57 P P 12 55 10.9 +0.3
ZALV Zalesovo Beam 44.05 57 P P 12 55 10.6 +0.1
ZALV Zalesovo Beam 44.05 57 P **P 12 55 11.6 +1.1**
comp=Z,1.8nm,0.8s,baz=338,slow=11,SNR=7.0
comp=Z,1.8nm,0.8s
F33A 5 Mile Ranch, 44.75 282 P P 12 55 14.6 -1.7
F33A IAmb IAmb 12 55 18.2
comp=Z,5.3nm,1.1s
KURK Kurchatov 45.00 64 P P 12 55 18.7 +0.6
KURK Kurchatov 45.00 64 *ce*P **P 12 55 19.0 +0.8**
KURK pmax pmax
comp=Z,19nm,2.5s
KURBB Kurchatov Arra 45.05 64 P P 12 55 19.4 +0.8
comp=Z,3.2nm,0.8s,baz=329,slow=7.3,SNR=29
comp=Z,3.2nm,0.8s
ECSD EROS Data Cent 46.71 280 P P 12 55 33.5 +1.7
ECSD IAmb IAmb 12 55 34.1
comp=Z,2.3nm,0.8s
SEY Seymchan 47.30 7 *i* P **P 12 55 36.1 0.0**
SEY pmax pmax
comp=Z,2.0nm,0.7s
R50A Paris 47.30 266 P P 12 55 38.6 +2.2
KK31 Karatay Array 49.06 75 P P 12 55 50.8 +0.8
KK31 IAmb IAmb 12 55 57.0
comp=Z,4.0nm,1.4s
KK31 Karatay Array 49.06 75 P **P 12 55 50.8 +0.8**
KK31 pmax pmax
comp=Z,4.0nm,1.4s
KKAR Karatay Array 49.06 75 P P 12 55 50.7 +0.7
KKAR Karatay Array 49.06 75 P P 12 55 50.7 +0.7
MAKZ Makanchi 49.49 64 P P 12 55 53.6 +0.3
MAKZ IAmb IAmb 12 55 58.6
comp=Z,4.2nm,1.1s
MAKZ Makanchi 49.49 64 P **P 12 55 53.6 +0.3**
MAKZ pmax pmax
comp=Z,4.0nm,1.1s
MK31 Makanchi Array 49.60 63 *ce*P **P 12 55 55.1 +1.0**
MKAR Makanchi Array 49.60 63 P P 12 55 54.3 +0.2
MKAR Makanchi Array 49.60 63 P P 12 55 55.0 +0.9
comp=Z,2.4nm,0.9s,baz=342,slow=6.4,SNR=18
comp=Z,2.4nm,0.9s
MSO Missoula 49.65 297 P 12 55 55.5 +0.8
MSO IAmb IAmb 12 55 60.0
comp=Z,5.9nm,1.3s
JSC Jenkinsville 49.85 260 P P 12 55 54.8 -1.3
JSC Jenkinsville 49.85 260 P **P 12 55 54.8 -1.3**
JSC pmax pmax
comp=Z,13nm,1.3s
W50A Signal Mountai 50.42 265 P P 12 56 02.5 +2.0
YHL Hebgen Lake 50.55 294 IAmb IAmb 12 56 15.4
comp=Z,8.2nm,1.5s
AAK Ala-Archa 50.80 72 LR LR 13 17 10.9
comp=Z,169nm,19.3s,baz=319,slow=36
AAK Ala-Archa 50.80 72 *ce*P **P 12 56 05.0 +1.5**
AAK pmax pmax
comp=Z,7.0nm,1.7s
K22A Casper 51.01 288 IAmb IAmb 12 56 11.3
comp=Z,5.3nm,1.1s
FPAL Fort Paine 51.12 265 P 12 56 07.1 +1.4
FPAL IAmb IAmb 12 56 07.8
comp=Z,3.1nm,0.9s
BW06 Boulder Array 51.90 291 IAmb IAmb 12 56 16.9
comp=Z,7.4nm,1.5s
PD31 Pinedale Array 51.90 291 IAmb IAmb 12 56 16.9
comp=Z,6.4nm,1.4s
PDAR Pinedale Array 51.90 291 P P 12 56 10.5 -1.2
comp=Z,0.9nm,0.8s,baz=46,slow=6.4,SNR=5.9
comp=Z,0.9nm,0.8s
U38A Gravette 52.45 274 P P 12 56 16.2 +0.6
U38A IAmb IAmb 12 56 20.3
comp=Z,6.8nm,1.2s
HLID Hailey 52.73 295 P 12 56 20.7 +2.8

J05D Fort Rock, OR 55.07 301 P P 12 56 37.5 +2.5
J05D IAmb IAmb 12 56 38.0
comp=Z,4.6nm,1.0s
DUG Dugway, Tooele 55.27 292 P 12 56 38.2 +1.8
DUG Dugway, Tooele 55.27 292 P **P 12 56 38.2 +1.8**
DUG pmax pmax
comp=Z,7.0nm,1.4s
ULN Ulaanbaatar 55.49 43 *ce*P **P 12 56 39.2 +1.3**
ULN pmax pmax
comp=Z,6.0nm,1.7s
SRU San Rafael Swe 55.51 290 IAmb IAmb 12 56 44.4
comp=Z,2.8nm,0.9s
TORD Torodi Ar. Bea 57.65 160 P **P 12 56 53.1 -0.3**
comp=Z,0.7nm,0.3s,baz=351,slow=7.7,SNR=4.4
comp=Z,0.7nm,0.3s
TXAR Lajitas Array 62.11 279 P **P 12 57 24.9 +0.8**
comp=Z,0.8nm,0.8s,baz=56,slow=4.7,SNR=14
comp=Z,0.8nm,0.8s
ESJX Sierra Juarez 63.77 291 P P 12 57 33.6 -1.6
MJAR Matsushiro Arr 72.28 22 P **P 12 58 28.4 0.0**
comp=Z,1.4nm,0.7s,baz=351,slow=5.7,SNR=3.7
comp=Z,1.4nm,0.7s
JTS Las Juntas de 73.29 254 LR LR 13 31 52.5
comp=Z,152nm,20.8s,baz=310,slow=37
RCBR Riachuelo 76.70 201 LR LR 13 25 52.8
comp=Z,21nm,21.2s,baz=49,slow=30
CMAR Chiang Mai Arr 80.94 61 P **P 12 59 17.8 +0.2**
comp=Z,0.4nm,0.6s,baz=327,slow=8.1,SNR=4.3
comp=Z,0.4nm,0.6s
PALK Pallekele 85.44 82 *ce*P **P 12 59 40.9 0.0**
WRA Warramunga Arr 126.96 36 PKP **PKPdf 13 06 06.2 -0.7**
comp=Z,0.5nm,0.9s,baz=329,slow=2.3,SNR=5.1
ASAR Alice Springs 130.48 38 PKP **PKPdf 13 06 12.7 -0.8**
comp=Z,0.4nm,0.6s,baz=350,slow=1.9,SNR=7.0
MAW Mawson 147.10 136 PKPbc **PKPbc 13 06 43.4 -0.9**
comp=Z,3.0nm,1.0s,baz=301,slow=7.4,SNR=3.6
QSPA South Pole Qui 159.73 180 PKPab **PKPab 13 07 41.1 +1.7**
comp=Z,3.7nm,0.9s,baz=215,slow=2.2,SNR=9.3

*NEIC **06** 12:48:42.5±1.0, 35°.852N±0°.004×117°.67W±0°.01, h6km±3km, Error ellipse: s-maj=1.4km s-min=0.3km az=116.0*
PAS 06 12:48:43.0±1.0, **35°.854N**±0°.007×**117°.67W**±0°.01, **h8**km±2km, **ML3.1**/21, **ML2.8**/42(NEIC), **Error ellipse: s-maj=1.3km s-min=0.8km az=55.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.07**	**122**		Pg	12 48 44.1	-0.9
CLC					Sg	12 48 46.6	+0.2
TOW	**Tower One**	**0.09**	**239**		Pg	12 48 45.6	+0.5
WVPM	**Volcano Peak E**	**0.15**	**309**		Pg	12 48 46.2	0.0
WVPM					Sg	12 48 48.8	+0.3
SRTC	**Snort**	**0.17**	**201**		Pg	12 48 46.9	+0.4
WNMM	**Nine Mile Cany**	**0.19**	**267**		Pg	12 48 46.9	+0.1
WRVM	**Rose V. Centra**	**0.23**	**311**		Pg	12 48 47.6	-0.1
MFS	**McCloud Flat S**	**0.30**	**331**		Pg	12 48 48.7	-0.3
LRMC	**Laurel Mtn Rad**	**0.37**	**181**		Pg	12 48 50.1	-0.2
LRMC					Sg	12 48 55.4	+0.1
LRMC				IAML		12 48 56.4	
comp=N,2μm,0.5s							
CCCA	**Chr Cany lake**	**0.41**	**143**		Pg	12 48 51.2	+0.2
CCCA					Sg	12 48 57.5	+1.1
WORM	**Onyx Ranch**	**0.49**	**251**		Pg	12 48 52.0	-0.4
WORM					Sg	12 48 58.6	-0.2
WBSM	**Bird Springs**	**0.49**	**230**		Pg	12 48 52.2	-0.3
WBSM					Sg	12 48 59.1	+0.1
WHFM	**Hanning Flat**	**0.57**	**254**		Pg	12 48 53.7	-0.4
WHFM					Sg	12 49 01.3	-0.3
DTP	**Desert Tortois**	**0.60**	**194**		Pg	12 48 54.1	-0.5
QSM	**Queen of Sheba**	**0.66**	**80**		Pg	12 48 55.6	-0.1
QSM					Sg	12 49 03.9	-0.4
CWC	**Cottonwood Cre**	**0.67**	**331**		Pg	12 48 55.9	0.0
ISA	**Isabella, Lake**	**0.68**	**254**		Pg	12 48 55.8	-0.3
ISA				IAML		12 49 05.7	
comp=E,608nm,0.2s							
ISA	**Isabella, Lake**	**0.68**	**254**		Sg	12 49 04.6	-0.3
CGO	**Cerro Gordo**	**0.70**	**351**		Pg	12 48 56.4	-0.2
CGO					Sg	12 49 06.0	+0.2
WASM	**Alta Sierra Ca**	**0.73**	**261**		Pg	12 48 56.6	-0.4
CCAC	**Calif City Air**	**0.75**	**202**		Pg	12 48 56.9	-0.5
CCAC				IAML		12 49 07.9	
comp=E,260nm,0.4s							
CCAC				IAML		12 49 10.5	
comp=N,358nm,0.5s							
CCAC	**Calif City Air**	**0.75**	**202**		Sg	12 49 07.5	+0.2
GWY	**Greenwater Val**	**0.88**	**68**		Pg	12 48 59.3	-0.6
GWY					Sg	12 49 10.7	-0.6
GWY				IAML		12 49 14.6	
comp=E,513nm,0.4s							
GWY				IAML		12 49 16.7	
comp=N,497nm,0.4s							
GSC	**Goldstone, Bar**	**0.90**	**128**		Pg	12 48 59.5	-0.7
GSC				IAML		12 49 17.9	
comp=N,318nm,0.5s							
SPG2	**Springville 2**	**0.95**	**292**		Pg	12 49 00.2	-1.0
SPG2					Sg	12 49 12.7	-1.0
HYS	**Haystack Butte**	**0.99**	**175**		Pg	12 49 02.0	0.0
RRX	**Edison Barstow**	**1.12**	**150**		Pg	12 49 04.5	0.0
VES	**Vestal, Richgr**	**1.15**	**270**		Sg	12 49 19.7	-0.2
GRAC	**Grapevine Rang**	**1.17**	**12**		Pg	12 49 04.3	-1.1
GRAC	**Grapevine Rang**	**1.17**	**12**		Sg	12 49 20.4	-0.1
ARVC	**Arvin**	**1.19**	**233**		Pb	12 49 05.7	-0.1
SGV	**South Grapevin**	**1.24**	**24**		Pb	12 49 06.0	-0.7
WCT	**Wildcat Mounta**	**1.26**	**42**		Pn	12 49 06.3	-0.7
WCT				IAML		12 49 26.1	
comp=E,100nm,0.3s							
CJV	**Casa Juvan**	**1.38**	**196**		Pb	12 49 09.1	0.0
LCH	**Last Change Ra**	**1.38**	**1**		Sb	12 49 26.7	-0.2
GMN	**Gold Mountain**	**1.48**	**13**		Pn	12 49 09.5	-0.7
GMN				IAML		12 49 37.0	
comp=N,73nm,0.5s							
TUQ	**Turquoise Moun**	**1.48**	**106**		Pn	12 49 09.9	-0.2
OSI	**Osito Audit: C**	**1.51**	**215**		Pn	12 49 10.1	-0.2
DSP	**Deep Springs**	**1.53**	**351**		Pn	12 49 09.5	-1.1
DSP					Sn	12 49 30.9	+0.2
DSP				IAML		12 49 32.6	
comp=E,122nm,0.3s							
CHFC	**Chilao Flat St**	**1.54**	**191**		Pb	12 49 12.1	+0.1
TPNV	**Topopah Spring**	**1.58**	**46**		Pb	12 49 12.1	-0.5
TPNV				IAML		12 49 34.2	
comp=E,113nm,0.7s							
TPNV				IAML		12 49 36.1	
comp=E,148nm,0.6s							
BHPR	**Bishop**	**1.58**	**336**		Pb	12 49 12.4	-0.3
MWC	**Mount Wilson**	**1.66**	**191**		Pn	12 49 11.5	-1.0
MWC				IAML		12 49 37.0	
comp=E,112nm,0.5s							
MWC				IAML		12 49 38.5	
comp=N,143nm,0.5s							
MTUM	**Tungsten Hills**	**1.66**	**335**		Pb	12 49 13.8	-0.2
PASC	**Pasadena Art C**	**1.73**	**194**		Pn	12 49 13.2	-0.2
GTM	**Goat Mountain**	**1.89**	**145**		Pb	12 49 17.6	-0.2
SHPR	**Sheep Range**	**2.13**	**72**		Pn	12 49 18.8	-0.3
PMD	**Palm Desert**	**2.44**	**154**	Pn	Pn	12 49 22.8	-0.4
PMD				IAML		12 50 47.4	
comp=N,30nm,0.4s							
PMD				IAML		12 50 49.2	
comp=E,34nm,0.7s							
PFO	**Pinyon Flats O**	**2.45**	**156**		Pn	12 49 22.2	-1.2
PFO				IAML		12 50 02.4	
comp=E,24nm,0.5s							
PFO				IAML		12 50 50.1	
comp=E,36nm,0.8s							
CTCC	**Cactus City**	**2.59**	**147**		Pn	12 49 23.6	-1.7
MYLM	**Yosemite Lake**	**2.69**	**305**		Pb	12 49 30.3	-1.0
W13A	**Hualapai Mount**	**3.18**	**103**	Pn	Pn	12 49 32.1	-1.4
BLYC	**Blythe**	**3.33**	**128**	Pn	Pn	12 49 32.8	-2.6

*NEIC **06** 12:49:39.0±1.6, 35°.615N±0°.010×117°.40W±0°.01, h5km, Error ellipse: s-maj=1.9km s-min=1.6km az=63.0*
PAS 06 12:49:39.2±1.7, **35°.603N**±0°.010×**117°.39W**±0°.01, **h7**km±5km, **ML3.2**/22, **ML2.9**/34(NEIC), **Error ellipse: s-maj=1.6km s-min=1.3km az=48.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.08**	**163**		Pg	12 49 41.6	+0.3
LRMC	**Laurel Mtn Rad**	**0.27**	**242**	Pg	Pg	12 49 44.2	-0.3
LRMC					Sg	12 49 48.0	0.0
CLC	**China Lake**	**0.27**	**322**		Pg	12 49 44.8	+0.2
CLC					Sg	12 49 47.0	-1.2
SRTC	**Snort**	**0.30**	**287**		Pg	12 49 46.0	+0.8
MPMC	**Manual Prospec**	**0.46**	**350**		Pg	12 49 46.3	-1.9
MPMC					Sg	12 49 53.8	-0.5
DTP	**Desert Tortois**	**0.50**	**228**		Pg	12 49 48.4	-0.4
GSC	**Goldstone, Bar**	**0.57**	**122**		Pg	12 49 49.9	-0.2
WRVM	**Rose V. Centra**	**0.57**	**315**		Pg	12 49 49.8	-0.5
WBSM	**Bird Springs**	**0.61**	**264**		Pb	12 49 51.7	-0.6
WBSM					Sg	12 49 59.0	0.0
MFS	**McCloud Flat S**	**0.64**	**324**		Pg	12 49 51.1	-0.4
CCAC	**Calif City Air**	**0.68**	**229**		Sg	12 50 01.2	+0.1
WORM	**Onyx Ranch**	**0.70**	**278**		Sg	12 49 51.9	-0.8
WORM					Sg	12 50 00.7	-1.0
HYS	**Haystack Butte**	**0.75**	**191**		Pg	12 49 52.9	-0.8
WHFM	**Hanning Flat**	**0.78**	**277**		Pg	12 49 53.6	-0.7
WHFM					Sg	12 50 03.0	-1.4
RRX	**Edison Barstow**	**0.80**	**156**		Pb	12 49 55.4	0.0
ISA	**Isabella, Lake**	**0.88**	**274**		Pg	12 49 55.4	-0.7
ISA				IAML		12 50 08.4	
comp=N,348nm,0.2s							
ISA				IAML		12 50 10.2	
comp=E,430nm,0.4s							
ISA	**Isabella, Lake**	**0.88**	**274**		Sg	12 50 06.6	-1.1
WASM	**Alta Sierra Ca**	**0.96**	**278**		Pg	12 49 57.5	-0.1
SBB	**Saddle Back Bu**	**0.98**	**201**		Pg	12 49 57.0	-1.0
TPO	**Tropico Hills**	**0.99**	**224**		Pg	12 49 58.4	+0.1
TPO					Sb	12 50 12.3	+0.2
CGO	**Cerro Gordo**	**1.00**	**341**		Pg	12 49 58.3	-0.2
CGO					Sg	12 50 10.2	-1.3
VTV	**Victorville**	**1.04**	**177**		Sb	12 50 13.7	+0.2
DSCC	**Desert Studies**	**1.15**	**113**		Pg	12 49 59.8	-1.5
HEC	**Hector,Ludlow**	**1.16**	**131**		Pg	12 50 00.3	-1.2
ALPC	**Antelope**	**1.18**	**219**		Sb	12 50 17.7	+0.3
LRRC	**Littlerock Res**	**1.19**	**206**		Pg	12 50 01.5	-0.6
LRRC					Sb	12 50 17.9	+0.2
TUQ	**Turquoise Moun**	**1.21**	**97**		Pg	12 50 01.6	-0.8
CJV	**Casa Juvan**	**1.23**	**210**		Pg	12 50 02.4	-0.5
AMDNV	**Amargosa**	**1.24**	**46**		Pb	12 50 02.6	-0.3
AMDNV					Pg	12 50 05.3	+2.3
JNH	**Juniper Hills**	**1.24**	**202**		Pg	12 50 01.9	-1.1
SPG2	**Springville 2**	**1.26**	**299**		Sg	12 50 17.2	-2.6
SIL	**Silver Peak**	**1.34**	**159**		Pn	12 50 04.3	-0.1
WCT	**Wildcat Mounta**	**1.34**	**27**		Pn	12 50 04.5	0.0
WCT				IAML		12 50 24.9	
comp=E,171nm,0.4s							
WCT				IAML		12 50 25.6	
comp=N,176nm,0.6s							
CHFC	**Chilao Flat St**	**1.37**	**202**		Pn	12 50 04.8	-0.1
CHFC					Sb	12 50 23.1	+0.1
BFSC	**Mount Baldy Ra**	**1.38**	**189**		Pn	12 50 04.8	-0.2
GRAC	**Grapevine Rang**	**1.39**	**1**		Pn	12 50 04.8	-0.4
GRAC				IAML		12 50 28.8	
comp=E,269nm,0.6s							
GRAC				IAML		12 50 28.9	
comp=N,342nm,0.7s							
BBRC	**Big Bear Solar**	**1.39**	**164**		Pn	12 50 05.1	-0.2
OSI	**Osito Audit: C**	**1.47**	**228**		Sg	12 50 26.3	-0.1
OSI	**Osito Audit: C**	**1.47**	**228**		Pn	12 50 06.4	+0.2
OSI				IAML		12 50 29.9	
comp=E,197nm,0.6s							
MWC	**Mount Wilson**	**1.48**	**202**		Pb	12 50 06.9	-0.2
MWC				IAML		12 50 32.3	
comp=E,239nm,0.5s							
CLTC	**Calectric**	**1.51**	**178**		Sn	12 50 25.6	-1.0
SVD	**Seven Oaks Dam**	**1.51**	**171**		Pn	12 50 07.0	+0.2
SVD					Sg	12 50 27.9	+0.1
PSRC	**Puddingstone R**	**1.54**	**193**		Pn	12 50 07.7	+0.5
GTM	**Goat Mountain**	**1.56**	**147**		Pb	12 50 08.1	-0.4
PASC	**Pasadena Art C**	**1.57**	**205**		Pb	12 50 08.6	0.0
PASC				IAML		12 50 35.0	
comp=N,153nm,0.6s							
PASC				IAML		12 50 37.4	
comp=E,142nm,0.4s							
OAT	**Oat Mountain**	**1.61**	**219**		Sg	12 50 30.9	0.0
GMN	**Gold Mountain**	**1.70**	**4**		Pn	12 50 10.2	+0.7
BLCC	**Black Canyon**	**1.71**	**218**		Pn	12 50 08.7	-0.8
BLAC	**Blackrock camp**	**1.74**	**151**		Pb	12 50 11.4	-0.1
BCW	**Bitter Crk WRg**	**1.78**	**249**	Pn	Pb	12 50 11.6	-0.6
BCW				IAML		12 50 42.3	
comp=E,104nm,0.6s							
BCW				IAML		12 51 01.9	
comp=N,102nm,1.1s							
DSP	**Deep Springs**	**1.82**	**345**	Pn	Pn	12 50 11.6	+0.7
TPC	**Twentynine Pal**	**1.86**	**143**		Pb	12 50 13.9	+0.4
ELS	**Elsinore Mount**	**1.95**	**181**	Pn	Pb	12 50 14.2	-0.9
MTUM	**Tungsten Hills**	**1.98**	**332**		Pb	12 50 15.9	+0.1
W13A	**Hualapai Mount**	**2.91**	**99**		Pn	12 50 24.1	-2.1
NVAR	**Mina Array Bea**	**2.91**	**346**	Pn	Pn	12 50 26.2	0.0
BLYC	**Blythe**	**3.00**	**127**	Pn	Pn	12 50 25.7	-1.5
BLYC				IAML		12 51 18.5	
comp=N,38nm,0.5s							
BLYC				IAML		12 51 24.9	
comp=E,38nm,0.8s							
TKX	**Tecate**	**3.10**	**168**		Pn	12 50 26.6	-2.0
TKX				IAML		12 52 17.3	
comp=E,48nm,0.2s							
TKX				IAML		12 52 17.8	
comp=N,51nm,0.1s							

*NEIC **06** 12:55:24.4±1.4, 35°.897N±0°.009×117°.74W±0°.01, h2km, Error ellipse: s-maj=1.4km s-min=1.4km az=213.0*
PAS 06 12:55:24.8±1.4, **35°.897N**±0°.009×**117°.73W**±0°.01, **h4**km±2km, **ML3.2**/20, **ML2.9**/46(NEIC), **Error ellipse: s-maj=1.4km s-min=1.4km az=179.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**306**		Pg	12 55 26.9	+0.2
TOW	**Tower One**	**0.09**	**199**		Pg	12 55 27.3	+0.6
CLC	**China Lake**	**0.13**	**128**		Pg	12 55 27.6	+0.1
WNMM	**Nine Mile Cany**	**0.15**	**250**		Pg	12 55 28.0	+0.2
WNMM					Sg	12 55 30.7	+0.9
WRVM	**Rose V. Centra**	**0.17**	**310**		Pg	12 55 28.3	+0.1
MFS	**McCloud Flat S**	**0.24**	**335**		Pg	12 55 29.6	0.0
MFS					Sg	12 55 33.2	+0.4
MPMC	**Manual Prospec**	**0.25**	**50**		Pg	12 55 29.8	0.0
MPMC					Sg	12 55 33.4	+0.4
LRMC	**Laurel Mtn Rad**	**0.42**	**175**	Pg	Pg	12 55 32.7	-0.2
LRMC				IAML		12 55 39.6	
comp=N,1μm,0.2s							
CCCA	**Chr Cany lake**	**0.47**	**141**		Pg	12 55 34.4	+0.5
CCCA					Sb	12 55 41.7	-1.5
WBSM	**Bird Springs**	**0.49**	**223**		Pg	12 55 34.1	-0.1
WBSM					Sg	12 55 41.0	+0.3
WHFM	**Hanning Flat**	**0.54**	**249**		Sg	12 55 42.4	+0.1
CWC	**Cottonwood Cre**	**0.61**	**332**		Pg	12 55 37.0	+0.4
DTP	**Desert Tortois**	**0.64**	**189**		Pg	12 55 36.6	-0.4
ISA	**Isabella, Lake**	**0.65**	**249**		Pg	12 55 37.0	-0.3
ISA				IAML		12 55 47.9	
comp=E,797nm,0.2s							
ISA	**Isabella, Lake**	**0.65**	**249**		Sg	12 55 45.6	-0.2
CGO	**Cerro Gordo**	**0.66**	**355**		Pg	12 55 37.0	-0.5
CGO					Sg	12 55 46.8	+0.9
WASM	**Alta Sierra Ca**	**0.69**	**257**		Pg	12 55 37.9	-0.2
QSM	**Queen of Sheba**	**0.70**	**84**		Pg	12 55 37.9	-0.4
QSM				IAML		12 55 48.8	
comp=N,627nm,0.3s							
QSM				IAML		12 55 51.1	
comp=E,682nm,0.5s							
CCAC	**Calif City Air**	**0.78**	**198**		Pg	12 55 39.2	-0.5
CCAC				IAML		12 55 50.8	
comp=E,271nm,0.5s							
CCAC				IAML		12 55 53.8	
comp=N,472nm,0.4s							
CCAC	**Calif City Air**	**0.78**	**198**		Sg	12 55 50.0	+0.2
SPG2	**Springville 2**	**0.90**	**290**		Pg	12 55 41.2	-0.8
GWY	**Greenwater Val**	**0.91**	**71**		Pg	12 55 41.9	-0.3
GWY					Sg	12 55 53.9	0.0
GWY				IAML		12 56 00.3	
comp=E,427nm,0.6s							
GWY				IAML		12 56 02.0	
comp=N,347nm,0.5s							
GSC	**Goldstone, Bar**	**0.96**	**128**		P

GRAC	**Grapevine Rang**	**1.14**	**15**	Pg	Pg	12 55 45.9	-0.7
GRAC					Pb	12 55 46.0	-1.1
GRAC				IAML		12 56 05.5	
	comp=E,292nm,0.7s						
GRAC				IAML		12 56 09.7	
	comp=N,263nm,0.6s						
ARVC	**Arvin**	**1.18**	**230**		Pn	12 55 48.1	-0.1
ARVC					Sg	12 56 02.1	-0.8
SBB	**Saddle Back Bu**	**1.21**	**184**		Pg	12 55 47.5	-0.5
SGV	**South Grapevin**	**1.22**	**27**		Pg	12 55 47.8	-0.4
SGV					Sg	12 56 04.0	0.0
TIN	**Tinemaha, Big**	**1.22**	**341**		Pg	12 55 48.4	+0.1
THC	**Tehachapi Micr**	**1.25**	**218**		Pg	12 55 47.5	-1.2
WCT	**Wildcat Mounta**	**1.26**	**45**		Pg	12 55 48.3	-0.7
WCT				IAML		12 56 07.5	
	comp=E,205nm,0.4s						
AMDNV	**Amargosa**	**1.29**	**64**		Pg	12 55 49.2	-0.5
AMDNV					Sg	12 56 06.0	-0.4
LCH	**Last Change Ra**	**1.33**	**3**		Pg	12 55 50.0	-0.4
LEOC	**Leona Valley**	**1.35**	**201**		Pn	12 55 50.2	-0.3
LRRC	**Littlerock Res**	**1.39**	**190**		Pn	12 55 50.9	-0.1
CJV	**Casa Juvan**	**1.41**	**194**		Pn	12 55 51.3	-0.1
VOG	**Valley Oaks Go**	**1.41**	**288**		Pn	12 55 50.7	-0.5
GMN	**Gold Mountain**	**1.45**	**15**		Pn	12 55 51.4	-0.7
JNH	**Juniper Hills**	**1.46**	**187**		Pn	12 55 50.8	-1.3
DSP	**Deep Springs**	**1.48**	**352**		Pn	12 55 51.3	-1.0
DSP					Sn	12 56 12.1	-0.1
OSI	**Osito Audit: C**	**1.52**	**213**		Pb	12 55 53.3	-1.0
OSI	**Osito Audit: C**	**1.52**	**213**	IAML		12 56 20.9	
	comp=E,156nm,0.6s						
DSCC	**Desert Studies**	**1.52**	**119**		Sg	12 56 13.6	-0.2
BHPR	**Bishop**	**1.53**	**337**		Pn	12 55 53.3	+0.1
TUQ	**Turquoise Moun**	**1.54**	**107**		Pn	12 55 51.7	-1.5
HEC	**Hector,Ludlow**	**1.56**	**133**		Sg	12 56 14.8	-0.1
CHFC	**Chilao Flat St**	**1.58**	**189**		Pb	12 55 54.8	+0.1
MTUM	**Tungsten Hills**	**1.60**	**335**		Pb	12 55 54.7	-0.4
BCW	**Bitter Crk WRg**	**1.68**	**236**		Pn	12 55 53.7	-1.3
BCW				IAML		12 56 20.4	
	comp=N,161nm,0.6s						
SSK	**Sunset Peak**	**1.68**	**179**		Pb	12 55 56.6	+0.2
SIL	**Silver Peak**	**1.71**	**154**		Pb	12 55 57.0	0.0
CRGC	**Crocker Grade**	**1.75**	**249**		Pn	12 55 56.8	+0.7
PASC	**Pasadena Art C**	**1.76**	**192**		Pn	12 55 56.3	+0.1
PSRC	**Puddingstone R**	**1.80**	**182**		Pn	12 55 58.7	+0.3
MLAC	**Mammoth, Mammo**	**1.95**	**333**		Pb	12 56 01.0	0.0
MCSM	**Casa Diablo Ho**	**1.99**	**332**		Pb	12 56 01.7	-0.1
ELS	**Elsinore Mount**	**2.26**	**174**		Pn	12 56 02.1	-0.9
PFO	**Pinyon Flats O**	**2.51**	**155**		Pn	12 56 05.5	-1.1
PFO				IAML		12 56 49.3	
	comp=N,35nm,1.2s						
RAMR	**Ramage Ranch**	**2.57**	**265**		Pn	12 56 08.5	+1.2
NVAR	**Mina Array Bea**	**2.57**	**350**		Pn	12 56 07.4	-0.1
MYLM	**Yosemite Lake**	**2.63**	**305**		Pb	12 56 11.2	-1.2
PRN	**Pahroc Range**	**2.63**	**54**		Pn	12 56 07.8	-0.4
PRN				IAML		12 56 52.6	
	comp=E,53nm,0.9s						
PRN				IAML		12 57 06.8	
	comp=N,53nm,0.6s						
W13A	**Hualapai Mount**	**3.23**	**103**	Pn	Pn	12 56 15.2	-1.4
BLYC	**Blythe**	**3.40**	**128**	Pn	Pn	12 56 17.2	-1.4
BLYC				IAML		12 57 13.1	
	comp=N,26nm,0.6s						
BLYC				IAML		12 57 21.1	
	comp=E,23nm,0.6s						
CBX	**Cerro Bola**	**3.68**	**166**		Pn	12 56 22.5	-0.2
LCMT	**Little Creek M**	**3.78**	**72**	Pn	Pn	12 56 24.5	+0.2
KNB	**Kanab**	**4.11**	**73**	Pn	Pn	12 56 28.5	-0.1
ESJX	**Sierra Juarez**	**4.15**	**159**	Pn	Pn	12 56 28.5	-0.7

NEIC ***06*** *13:00:43.6±1.0, 35°.87N±0°.02×117°.71W±0°.01, h5km±2km, Error ellipse: s-maj=3.3km s-min=3.0km az=171.0*
PAS 06 13:00:44.2±1.1, 35°.88N±0°.02×117.71W±0°.01, h4km±5km, ML3.0/24, ML2.6/76(NEIC), Error ellipse: s-maj=2.4km s-min=1.4km az=174.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**215**		Pg	13 00 46.5	+0.6
CLC	**China Lake**	**0.11**	**123**		Pg	13 00 46.8	0.0
WVPM	**Volcano Peak E**	**0.12**	**310**		Pg	13 00 46.8	+0.1
WNMM	**Nine Mile Cany**	**0.16**	**259**		Pg	13 00 47.6	+0.2
WNMM					Sg	13 00 50.5	+0.9
SRTC	**Snort**	**0.19**	**191**		Pg	13 00 48.3	+0.4
SRTC					Sg	13 00 52.0	+1.7
WRVM	**Rose V. Centra**	**0.20**	**312**		Pg	13 00 48.2	0.0
MPMC	**Manual Prospec**	**0.25**	**44**		Pg	13 00 49.2	0.0
MFS	**McCloud Flat S**	**0.27**	**334**		Pg	13 00 49.5	0.0
LRMC	**Laurel Mtn Rad**	**0.40**	**177**		Pg	13 00 51.7	-0.1
LRMC	**Laurel Mtn Rad**	**0.40**	**177**	IAML		13 00 57.6	
	comp=E,2μm,0.3s						
LRMC				IAML		13 00 57.8	
	comp=N,2μm,0.2s						
WORM	**Onyx Ranch**	**0.47**	**248**		Pg	13 00 53.0	-0.3
WBSM	**Bird Springs**	**0.49**	**226**		Pg	13 00 53.4	-0.2
DTP	**Desert Tortois**	**0.62**	**191**		Pg	13 00 55.7	-0.4
CWC	**Cottonwood Cre**	**0.64**	**332**		Pg	13 00 56.7	+0.2
ISA	**Isabella, Lake**	**0.66**	**251**		Pg	13 00 56.6	-0.2
ISA				IAML		13 01 06.4	
	comp=E,452nm,0.3s						
CGO	**Cerro Gordo**	**0.68**	**353**		Pg	13 00 57.1	-0.2
QSM	**Queen of Sheba**	**0.69**	**82**		Pg	13 00 57.3	-0.1
QSM				IAML		13 01 11.9	
	comp=N,497nm,0.6s						
QSM				IAML		13 01 12.8	
	comp=E,504nm,0.6s						
CCAC	**Calif City Air**	**0.76**	**199**		Pg	13 00 58.4	-0.5
GWY	**Greenwater Val**	**0.90**	**69**		Pg	13 01 01.2	-0.2
GSC	**Goldstone, Bar**	**0.93**	**128**		Pg	13 01 01.3	-0.8
GSC				IAML		13 01 18.1	
	comp=N,308nm,0.8s						
GRAC	**Grapevine Rang**	**1.15**	**14**		Pg	13 01 05.6	-0.7
SHOC	**Shoshone, Teco**	**1.16**	**88**		Pg	13 01 05.6	-0.9
WCT	**Wildcat Mounta**	**1.27**	**43**		Pg	13 01 07.8	-0.7
WCT				IAML		13 01 29.1	
	comp=E,124nm,0.4s						
WCT				IAML		13 01 29.5	
	comp=N,94nm,0.5s						
VOG	**Valley Oaks Go**	**1.43**	**289**		Pb	13 01 11.4	0.0
GMN	**Gold Mountain**	**1.47**	**14**		Pn	13 01 11.3	-0.4
DSP	**Deep Springs**	**1.51**	**352**		Pn	13 01 11.3	-0.6
TPNV	**Topopah Spring**	**1.59**	**47**		Pn	13 01 12.8	-0.5
TPNV				IAML		13 01 39.8	
	comp=N,89nm,0.8s						
TPNV				IAML		13 01 41.2	
	comp=N,86nm,0.8s						
BCW	**Bitter Crk WRg**	**1.68**	**237**		Pn	13 01 14.0	-0.5
BCW				IAML		13 01 58.2	
	comp=N,116nm,0.8s						
PASC	**Pasadena Art C**	**1.74**	**193**		Pn	13 01 15.3	0.0
MZP	**Montezuma Peak**	**1.84**	**8**		Pg	13 01 19.2	-0.3
SHPR	**Sheep Range**	**2.15**	**72**		Pn	13 01 20.9	-0.2
TPH	**Tonopah**	**2.23**	**10**	Pg	Pb	13 01 25.9	+0.7
POB	**Polly Butte**	**2.28**	**163**		Pn	13 01 21.9	-0.7
V12A	**Nelson**	**2.33**	**93**	Pg	Pb	13 01 27.7	+0.9
V12A				IAML		13 02 02.5	
	comp=N,27nm,0.5s						
V12A				IAML		13 02 07.4	
	comp=E,27nm,0.5s						
LHV	**Little Huntoon**	**2.46**	**345**	Pn	Pn	13 01 24.3	-0.7
LHV				IAML		13 02 08.9	
	comp=E,22nm,0.6s						
LHV				IAML		13 02 12.9	
	comp=N,22nm,1.6s						
PMD	**Palm Desert**	**2.48**	**153**	Pn	Pn	13 01 23.7	-1.6
PMD				IAML		13 02 06.2	
	comp=E,27nm,0.2s						
PMD				IAML		13 02 09.9	
	comp=N,22nm,0.5s						
PFO	**Pinyon Flats O**	**2.48**	**155**		Pn	13 01 24.2	-1.3
PFO				IAML		13 02 09.0	
	comp=N,26nm,0.9s						
PFO				IAML		13 02 09.8	
	comp=N,31nm,1.1s						
SNDA	**J Saunders Pla**	**2.49**	**158**		Pn	13 01 23.5	-2.1
NV11	**Mina Array Sit**	**2.58**	**352**		Pn	13 01 27.0	+0.2
NVAR	**Mina Array Bea**	**2.59**	**350**		Pn	13 01 27.3	+0.1
SBI	**Santa Barbara**	**2.62**	**205**		Pb	13 01 32.1	+0.3
MYLM	**Yosemite Lake**	**2.65**	**305**		Pb	13 01 31.1	-1.1
RYN	**Ryan**	**2.82**	**347**	Pn	Pn	13 01 30.4	+0.1
WAKR	**Walker**	**2.97**	**333**		Pb	13 01 38.7	+1.0
WAKR				IAML		13 02 27.1	
	comp=E,13nm,0.5s						
W13A	**Hualapai Mount**	**3.21**	**103**		Pn	13 01 34.2	-1.4
W13A				IAML		13 02 31.8	
	comp=E,9.4nm,0.8s						
W13A				IAML		13 02 32.0	
	comp=N,14nm,1.1s						
PAHR	**Pah Rah Range**	**4.05**	**341**	IAML		13 03 36.6	
	comp=E,5.1nm,3.6s						
PSUT	**Pine Spring**	**4.06**	**48**	IAML		13 02 57.3	
	comp=E,8.5nm,1.1s						
PSUT				IAML		13 03 00.7	
	comp=N,8.1nm,1.2s						
SZCU	**Shurtz Canyon**	**4.09**	**64**	IAML		13 02 49.7	
	comp=E,9.2nm,0.2s						
SPR3	**Spring Creek 3**	**4.12**	**40**	IAML		13 02 54.1	
	comp=E,6.1nm,0.9s						
SPR3				IAML		13 03 05.2	
	comp=N,6.4nm,1.1s						
Y14A	**Wickenburg**	**4.32**	**115**	IAML		13 03 04.5	
	comp=E,11nm,0.7s						
Y14A				IAML		13 03 16.2	
	comp=N,11nm,0.8s						
BEKR	**Beckworth**	**4.50**	**333**	IAML		13 03 18.6	
	comp=E,7.8nm,0.9s						
BEKR				IAML		13 03 22.9	
	comp=N,5.3nm,1.3s						

NEIC ***06*** *13:06:54.7±1.0, 35°.929N±0°.009×117°.70W±0°.01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.5km az=320.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr-2.51; Mθθ-2.91; Mϕϕ5.42; Mrθ1.23; Mθϕ-0.73; Mϕr1.13; Fault plane solution: M0 5.04000×10^15 NP1: ϕ=211.05000°, δ=68.08000°, λ=-36.70000°. NP2: ϕ=316.60000°, δ=56.33000°, λ=-153.35000°. Principal axes: T 5.6140, Plg7.0000°, Azm266.0000°; N -1.4804, Plg48.0000°, Azm4.0000°; P -4.1337, Plg41.0000°, Azm170.0000°;*
NEIC ***06*** *13:06:55.2, 35°.93N×117°.71W, h2km*
PAS ***06*** *13:06:55.3±1.2, 35°.928N±0°.009×117°.71W±0°.01, h2km±3km, Mwr4.5/6, mb4.2/15(NEIC), ML4.4/110(NEIC), Mwr4.4/114(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=47.0*
IDC ***06*** *13:06:56.1±0.5, 35°.94N×117°.55W, h0km, mb4.2/8, mbtmp4.0/15, ML3.9/6, MS3.8/21, Error ellipse: s-maj=12.7km s-min=5.1km az=75.0*
ISC 06 13:06:56.8±0.5, 35°.91N±0°.02×117.70W±0°.02, h10km, n317, σ1§25/304, mb4.3/9, MS3.8/19, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.10**	**291**		Pg	13 06 57.4	-2.1
JRC2	**Joshua Ridge**	**0.11**	**308**		Pg	13 06 57.5	-2.1
JRC2					Sg	13 06 59.5	-2.3
TOW	**Tower One**	**0.12**	**206**		Pg	13 06 58.3	-1.4
TOW					Sg	13 07 01.5	-0.2
WCSM	**Coso Springs S**	**0.12**	**335**		Pg	13 06 57.5	-2.3
WCSM					Sg	13 06 59.4	-2.6
CLC	**China Lake**	**0.13**	**139**		Pg	13 06 58.1	-1.8
CLC					Sg	13 07 00.5	-1.6
WNMM	**Nine Mile Cany**	**0.18**	**247**		Pg	13 06 59.1	-1.5
WRVM	**Rose V. Centra**	**0.18**	**302**		Pg	13 06 58.8	-1.9
WRVM					Sg	13 07 01.6	-1.8
MPMC	**Manual Prospec**	**0.23**	**50**		Pg	13 06 59.6	-1.9
MPMC					Sg	13 07 02.8	-2.0
SRTC	**Snort**	**0.23**	**190**		Pg	13 07 00.3	-1.1
MFS	**McCloud Flat S**	**0.24**	**329**		Pg	13 06 59.8	-2.0
LRMC	**Laurel Mtn Rad**	**0.43**	**178**		Pg	13 07 03.8	-1.5
LRMC					Sg	13 07 10.5	-0.6
LRMC	**Laurel Mtn Rad**	**0.43**	**178**	IAML		13 07 11.1	
	comp=E,40μm,0.6s						
LRMC				IAML		13 07 11.2	
	comp=N,27μm,0.6s						
CCCA	**Chr Cany lake**	**0.48**	**145**		Pg	13 07 05.2	-0.9
WORM	**Onyx Ranch**	**0.49**	**244**		Pg	13 07 04.6	-1.7
WORM					Sg	13 07 11.4	-1.4
WBSM	**Bird Springs**	**0.52**	**223**		Pg	13 07 05.3	-1.6
WBSM					Sg	13 07 12.7	-1.1
WHFM	**Hanning Flat**	**0.57**	**248**		Pg	13 07 06.2	-1.6
WHFM					Sg	13 07 14.0	-1.3
CWC	**Cottonwood Cre**	**0.61**	**330**		Pg	13 07 06.9	-1.7
CGO	**Cerro Gordo**	**0.64**	**353**		Pg	13 07 07.0	-2.3
CGO					Sg	13 07 15.9	-1.9
DTP	**Desert Tortois**	**0.66**	**190**		Pg	13 07 07.8	-1.7
DTP					Sg	13 07 17.1	-1.0
ISA	**Isabella, Lake**	**0.68**	**248**		Pg	13 07 08.2	-1.7
ISA					Sg	13 07 17.4	-1.3
ISA	**Isabella, Lake**	**0.68**	**248**	IAML		13 07 17.7	
	comp=N,17μm,0.7s						
ISA				IAML		13 07 18.5	
	comp=E,17μm,0.3s						
QSM	**Queen of Sheba**	**0.68**	**85**		Pg	13 07 08.2	-1.8
QSM				IAML		13 07 18.1	
	comp=N,19μm,0.8s						
QSM				IAML		13 07 23.0	
	comp=E,22μm,0.7s						
WASM	**Alta Sierra Ca**	**0.72**	**256**		Pg	13 07 08.9	-1.8
WASM					Sg	13 07 18.8	-1.2
CCAC	**Calif City Air**	**0.80**	**199**		Pg	13 07 10.6	-1.7
CCAC				IAML		13 07 25.8	
	comp=N,16μm,0.7s						
CCAC				IAML		13 07 26.4	
	comp=E,14μm,1.2s						
CCAC	**Calif City Air**	**0.80**	**199**		Sg	13 07 21.4	-1.3
FURC	**Furnace Creek,**	**0.88**	**51**		Pg	13 07 12.2	-1.5
FURC					Sb	13 07 24.2	-1.6
GWY	**Greenwater Val**	**0.88**	**72**		Pg	13 07 12.0	-1.8
GWY				IAML		13 07 31.0	
	comp=N,11μm,0.8s						
GWY				IAML		13 07 32.9	
	comp=E,11μm,0.9s						
SPG2	**Springville 2**	**0.91**	**289**		Pg	13 07 12.0	-2.3
GSC	**Goldstone, Bar**	**0.95**	**130**		Pg	13 07 13.3	-1.8
GSC				IAML		13 07 29.6	
	comp=N,19μm,1.1s						
HYS	**Haystack Butte**	**1.05**	**174**		Pg	13 07 15.1	-2.0
TEJ	**El Tejon**	**1.05**	**230**		Pg	13 07 14.9	-2.2
EDW2	**Edwards Air Fo**	**1.06**	**193**		Pg	13 07 15.1	-2.1
GRAC	**Grapevine Rang**	**1.11**	**14**		Pg	13 07 15.9	-2.3
GRAC				IAML		13 07 37.6	
	comp=E,12μm,1.4s						
GRAC				IAML		13 07 37.9	
	comp=N,14μm,0.8s						
TPO	**Tropico Hills**	**1.12**	**203**		Pb	13 07 15.6	-2.6
VES	**Vestal, Richgr**	**1.12**	**267**		Pb	13 07 16.4	-1.9
MAGC	**SCE Magundon P**	**1.14**	**241**		Pb	13 07 16.9	-1.6
SHOC	**Shoshone, Teco**	**1.16**	**90**		Pb	13 07 17.1	-1.9
RRX	**Edison Barstow**	**1.19**	**151**		Pb	13 07 17.6	-1.7
SGV	**South Grapevin**	**1.19**	**27**		Pb	13 07 17.8	-1.9
ARVC	**Arvin**	**1.21**	**230**		Pn	13 07 18.1	-1.7
TIN	**Tinemaha, Big**	**1.22**	**340**		Pb	13 07 18.0	-1.9
TJR	**Tejon Ranch**	**1.23**	**224**		Pn	13 07 17.8	-2.2
SBB	**Saddle Back Bu**	**1.23**	**185**		Pn	13 07 18.0	-2.0
WCT	**Wildcat Mounta**	**1.23**	**44**		Pn	13 07 18.2	-2.0
WCT				IAML		13 07 40.1	
	comp=N,5μm,1.6s						
WCT				IAML		13 07 40.1	
	comp=E,8μm,1.3s						
AMDNV	**Amargosa**	**1.27**	**65**		Pn	13 07 18.5	-2.1
THC	**Tehachapi Micr**	**1.27**	**218**		Pn	13 07 18.6	-2.2
BAKC	**Calstate**	**1.28**	**244**		Pn	13 07 19.4	-1.2
LCH	**Last Change Ra**	**1.32**	**2**		Pn	13 07 18.9	-2.5
ALPC	**Antelope**	**1.32**	**202**		Pn	13 07 19.7	-1.6
LEOC	**Leona Valley**	**1.37**	**201**		Pn	13 07 20.5	-1.6
ADO	**Adelanto Recei**	**1.38**	**171**		Pn	13 07 21.0	-1.2
VTV	**Victorville**	**1.38**	**167**		Pb	13 07 21.8	-1.1
LRRC	**Littlerock Res**	**1.41**	**191**		Pn	13 07 21.0	-1.5
VOG	**Valley Oaks Go**	**1.42**	**287**		Pn	13 07 21.5	-1.2
BTPC	**Burnt Peak**	**1.42**	**210**		Pn	13 07 21.8	-1.1
CJV	**Casa Juvan**	**1.43**	**195**		Pn	13 07 19.7	-3.2
GMN	**Gold Mountain**	**1.43**	**14**		Pn	13 07 21.4	-1.6
GMN				IAML		13 07 46.3	
	comp=N,4μm,0.7s						
HOLC	**Holcomb Ridge**	**1.46**	**185**		Pn	13 07 21.6	-1.6
DSP	**Deep Springs**	**1.47**	**352**		Pn	13 07 21.4	-1.9
JNH	**Juniper Hills**	**1.48**	**188**		Pn	13 07 22.0	-1.6
DSCC	**Desert Studies**	**1.51**	**120**		Pn	13 07 22.1	-1.9
POCCA	**Poleta Canyon**	**1.52**	**342**		Pn	13 07 23.4	-0.8
BHPR	**Bishop**	**1.52**	**336**		Pn	13 07 23.2	-1.0
TUQ	**Turquoise Moun**	**1.52**	**108**		Pn	13 07 22.4	-1.8
OSI	**Osito Audit: C**	**1.54**	**213**		Pn	13 07 22.9	-1.5
OSI	**Osito Audit: C**	**1.54**	**213**	IAML		13 07 47.9	
	comp=E,8μm,0.8s						
OSI				IAML		13 07 54.7	
	comp=N,4μm,1.1s						
HEC	**Hector,Ludlow**	**1.56**	**134**		Pn	13 07 22.7	-1.9
TPNV	**Topopah Spring**	**1.56**	**48**		Pn	13 07 23.2	-1.6
TPNV				IAML		13 07 48.0	
	comp=N,5μm,1.4s						
TPNV				IAML		13 07 50.6	
	comp=N,6μm,1.0s						
MTUM	**Tungsten Hills**	**1.59**	**334**		Pn	13 07 24.1	-1.2
CHFC	**Chilao Flat St**	**1.60**	**190**		Pn	13 07 21.9	-3.4
MPI	**Mount Pinos, F**	**1.61**	**227**		Pn	13 07 23.9	-1.6
BFSC	**Mount Baldy Ra**	**1.67**	**179**		Pn	13 07 24.8	-1.5
SSK	**Sunset Peak**	**1.70**	**180**		Pn	13 07 25.4	-1.3
BCW	**Bitter Crk WRg**	**1.70**	**236**		Pn	13 07 25.3	-1.3
BCW				IAML		13 08 02.8	
	comp=N,8μm,1.2s						
MWC	**Mount Wilson**	**1.71**	**190**		Pn	13 07 25.5	-1.3
MWC	**Mount Wilson**	**1.71**	**190**	IAML		13 07 52.8	
	comp=E,4μm,0.7s						
MWC				IAML		13 08 02.7	
	comp=N,3μm,0.9s						
SIL	**Silver Peak**	**1.72**	**155**		Pn	13 07 25.3	-1.7
DECC	**Green Verdugo**	**1.74**	**198**		Pn	13 07 25.8	-1.2
BBRC	**Big Bear Solar**	**1.77**	**159**		Pn	13 07 26.3	-1.4
CRGC	**Crocker Grade**	**1.78**	**248**		Pn	13 07 26.8	-0.9
PASC	**Pasadena Art C**	**1.78**	**193**		Pn	13 07 26.1	-1.5
MTPC	**Mountain Pass**	**1.80**	**103**		Pn	13 07 26.2	-1.9
MZP	**Montezuma Peak**	**1.80**	**8**		Pn	13 07 27.3	-0.9
SVD	**Seven Oaks Dam**	**1.87**	**164**		Pn	13 07 27.8	-1.1
KCC	**Kaiser Creek**	**1.92**	**318**		Pn	13 07 29.6	0.0
MLAC	**Mammoth, Mammo**	**1.94**	**332**		Pb	13 07 30.1	-2.2
MCSM	**Casa Diablo Ho**	**1.99**	**331**		Pb	13 07 31.1	-2.2
PKM	**Mcpherson Peak**	**2.00**	**240**		Pn	13 07 30.2	-0.7
GMRC	**Granite Mounta**	**2.01**	**123**		Pn	13 07 28.5	-2.5
BLAC	**Blackrock camp**	**2.13**	**149**		Pn	13 07 31.1	-1.5
SHPR	**Sheep Range**	**2.14**	**73**		Pn	13 07 31.6	-1.2
TPH	**Tonopah**	**2.19**	**10**		Pn	13 07 32.5	-1.0
ELS	**Elsinore Mount**	**2.27**	**174**		Pn	13 07 32.5	-2.0
ELS				IAML		13 08 14.5	
	comp=E,2μm,1.2s						
ELS				IAML		13 08 19.2	
	comp=N,1μm,0.7s						
HMTC	**Hemet**	**2.27**	**165**		Pn	13 07 33.2	-1.2
V12A	**Nelson**	**2.33**	**94**		Pn	13 07 33.3	-1.9
V12A				IAML		13 08 10.7	
	comp=N,2μm,1.0s						
V12A				IAML		13 08 17.3	
	comp=E,1μm,1.4s						
S11A	**Rachel**	**2.33**	**42**		Pn	13 07 34.4	-1.0
LHV	**Little Huntoon**	**2.42**	**345**	IAML		13 08 23.5	
	comp=N,1μm,1.3s						
LHV				IAML		13 08 28.5	
	comp=E,2μm,1.8s						
PFO	**Pinyon Flats O**	**2.51**	**156**		Pn	13 07 36.1	-1.7
PFO				IAML		13 08 21.7	
	comp=E,2μm,2.0s						
PFO	**Pinyon Flats O**	**2.51**	**156**	Pn	Pn	13 07 36.3	-1.6
	comp=E,8.2nm,0.3s,baz=341,slow=9.1,SNR=95						
PFO				Pg	Pb	13 07 42.1	0.0
	comp=E,77nm,0.3s,baz=333,slow=14,SNR=65						
PFO				Sn	Sn	13 08 08.4	-0.2
	comp=E,46nm,0.3s,baz=49,slow=21,SNR=3.8						
PFO				Lg	Lg	13 08 13.7	
	comp=E,168nm,0.3s,baz=265,slow=21,SNR=14						
	comp=E,70nm,0.5s						
PMPB	**Monarch Peak**	**2.53**	**278**		Pn	13 07 38.5	+0.5
NV11	**Mina Array Sit**	**2.54**	**352**		Pn	13 07 37.4	-0.8
NVAR	**Mina Array Bea**	**2.56**	**349**		Pn	13 07 37.8	-0.7
NVAR	**Mina Array Bea**	**2.56**	**349**	Pn	Pn	13 07 38.0	-0.5
	comp=E,10nm,0.3s,baz=173,slow=14,SNR=124						
NVAR				Pg	Pb	13 07 43.1	+0.3
	comp=E,93nm,0.3s,baz=174,slow=18,SNR=110						
NVAR				Lg	Lg	13 08 16.4	
	comp=E,51nm,0.3s,baz=162,slow=32,SNR=5.2						
NVAR				LR	LR	13 08 51.7	
	comp=E,2μm,20.2s,baz=76,slow=46						
	comp=E,48nm,0.6s						
PRN	**Pahroc Range**	**2.60**	**54**		Pn	13 07 38.2	-0.9
PRN				IAML		13 08 25.0	
	comp=E,3μm,1.4s						
PRN				IAML		13 08 27.4	
	comp=N,2μm,0.9s						
RYN	**Ryan**	**2.79**	**347**		Pn	13 07 41.3	-0.3
WAKR	**Walker**	**2.93**	**332**		Pn	13 07 44.4	+0.7
SAO	**San Andreas Ge**	**3.14**	**287**		Pn	13 07 45.6	-0.7
W13A	**Hualapai Mount**	**3.22**	**104**		Pn	13 07 46.3	-1.3
W13A				IAML		13 08 42.0	
	comp=N,1μm,1.5s						
W13A				IAML		13 08 43.8	
	comp=E,996nm,1.1s						
TJX	**Tijuana**	**3.44**	**171**		Pn	13 07 49.7	-0.7
CBX	**Cerro Bola**	**3.69**	**166**		Pn	13 07 53.4	-0.6
GLA	**Glamis**	**3.71**	**139**		Pn	13 07 51.7	-2.6
CCUT	**Cedar City**	**3.85**	**64**	IAML		13 09 09.3	
	comp=N,412nm,1.7s						
CCUT				IAML		13 09 10.5	
	comp=E,490nm,2

WTFS	**Witchita Falls**	**15.94**	**92**	P	**P**	13 10 42.8	**-2.0**
WTFS				IAmb	IAmb	13 10 49.0	
	comp=Z,17nm,1.0s						
PLPT	**Palo Pinto**	**16.30**	**95**	IAmb	IAmb	13 11 12.8	
	comp=Z,22nm,1.2s						
FW03	**Perrin-Whitt E**	**16.45**	**94**	IAmb	IAmb	13 10 55.1	
	comp=Z,12nm,0.8s						
833A	**Chaparral WMA,**	**17.24**	**111**		**P**	**13 11 00.8**	**+1.5**
WHTX	**Lake Whitney,**	**17.24**	**97**	IAmb	IAmb	13 11 02.6	
	comp=Z,21nm,1.0s						
MIAR	**Mount Ida**	**19.75**	**87**		**Pn**	**13 11 28.0**	**-0.3**
ULM	**Lac du Bonnet**	**21.33**	**41**	P	**P**	**13 11 43.3**	**-0.4**
ULM				IAmb	IAmb	13 11 53.6	
	comp=Z,8.9nm,0.9s						
ULM	**Lac du Bonnet**	**21.33**	**41**	P	**P**	**13 11 43.5**	**-0.3**
	comp=Z,5.9nm,0.9s,baz=230,slow=9.6,SNR=7.1						
ULM				Lg	Lg	13 17 59.4	
	comp=Z,0.4nm,0.3s,baz=265,slow=12,SNR=4.7						
	comp=Z,5.9nm,0.9s						
FFC	**Flin Flon**	**21.73**	**25**	P	**P**	**13 11 47.9**	**-0.1**
FFC				IAmb	IAmb	13 11 54.8	
	comp=Z,12nm,0.8s						
TOAD	**Toad River Com**	**23.48**	**350**	P	**P**	**13 12 07.1**	**+0.7**
	baz=164						
S34M	**Telegraph Cree**	**23.75**	**342**	P	**P**	**13 12 08.8**	**-0.3**
	baz=152						
DLBC	**Dease Lake**	**23.96**	**344**	LR	LR	13 22 46.8	
	comp=Z,60nm,18.3s,baz=142,slow=40						
DLBC	**Dease Lake**	**23.96**	**344**	P	**P**	**13 12 11.2**	**0.0**
	baz=155						
R33M	**Jennings River**	**25.04**	**344**	P	**P**	**13 12 20.7**	**-0.3**
	baz=154						
YKA	**Yellowknife Ar**	**26.67**	**3**	P	**P**	**13 12 36.5**	**+0.9**
	comp=Z,2.4nm,0.9s,baz=186,slow=9.1,SNR=20						
YKA				LR	LR	13 24 58.4	
	comp=Z,233nm,18.6s,baz=184,slow=41						
	comp=Z,2.4nm,0.9s						
TKL	**Tuckaleechee C**	**27.45**	**80**	LR	LR	13 24 19.0	
	comp=Z,257nm,20.2s,baz=316,slow=38						
MMPY	**Sheldon Lake,**	**28.03**	**347**	P	**P**	**13 12 47.6**	**-0.3**
	baz=156						
SADO	**Sadowa**	**30.46**	**61**	LR	LR	13 26 04.9	
	comp=Z,462nm,20.4s,baz=304,slow=38						
K29M	**Barlow Dome**	**30.46**	**343**	P	**P**	**13 13 08.4**	**-1.1**
	baz=147						
M27K	**Edge Creek, AK**	**30.46**	**338**	P	**P**	**13 13 09.4**	**-0.1**
	baz=139						
J30M	**Hart River**	**30.81**	**344**	P	**P**	**13 13 12.5**	**-0.2**
	baz=150						
M26K	**Nabesna, AK**	**30.84**	**337**	P	**P**	**13 13 12.3**	**-0.5**
	baz=138						
L27K	**Beaver Creek,**	**30.98**	**339**	P	**P**	**13 13 13.7**	**-0.3**
	baz=140						
DAWY	**Dawson**	**31.11**	**342**	P	**P**	**13 13 15.2**	**0.0**
	baz=144						
I30M	**Mount Dempster**	**31.39**	**345**	P	**P**	**13 13 18.0**	**+0.4**
	baz=150						
L26K	**Log Cabin Wild**	**31.41**	**338**	P	**P**	**13 13 17.8**	**0.0**
	baz=138						
SEW	**Seward**	**31.66**	**330**	P	**P**	**13 13 20.1**	**+0.2**
	baz=126						
M24K	**Tolsona, Glenn**	**31.68**	**335**	P	**P**	**13 13 20.4**	**+0.1**
	baz=133						
K27K	**Chicken**	**31.80**	**340**	P	**P**	**13 13 21.1**	**-0.1**
	baz=141						
KDAK	**Kodiak Island**	**31.80**	**324**	P	**P**	**13 13 21.7**	**+0.5**
	baz=118						
OHAK	**Old Harbor**	**31.88**	**323**	P	**P**	**13 13 21.8**	**-0.1**
	baz=117						
SII	**Sitkinak Islan**	**32.04**	**322**	P	**P**	**13 13 23.5**	**+0.1**
	baz=115						
SCRK	**Sand Creek**	**32.31**	**339**	P	**P**	**13 13 25.5**	**-0.3**
	baz=138						
I28M	**Miner Creek**	**32.38**	**343**	P	**P**	**13 13 25.7**	**-0.7**
	baz=145						
PMR	**Palmer**	**32.42**	**332**	P	**P**	**13 13 26.0**	**-0.6**
	baz=128						
CHIR	**Chirikof Islan**	**32.49**	**320**	P	**P**	**13 13 26.7**	**-0.5**
	baz=112						
G31M	**Satah River**	**32.50**	**348**	P	**P**	**13 13 26.7**	**-0.5**
	baz=154						
WAT6	**Susitna Watana**	**32.55**	**334**	P	**P**	**13 13 27.7**	**-0.3**
	baz=131						
H29M	**Whitestone**	**32.67**	**345**	P	**P**	**13 13 28.8**	**0.0**
	baz=148						
CAPN	**Captain Cook N**	**32.73**	**330**	P	**P**	**13 13 28.8**	**-0.5**
	baz=124						
K24K	**Donnelly Dome**	**32.73**	**337**	P	**P**	**13 13 28.7**	**-0.7**
	baz=135						
DHY	**Denali Highway**	**32.75**	**335**	P	**P**	**13 13 29.3**	**-0.4**
	baz=132						
Q19K	**Cape Douglas,**	**32.84**	**326**	P	**P**	**13 13 29.6**	**-0.8**
	baz=119						
F31M	**Tsiigehtchic**	**32.88**	**349**	P	**P**	**13 13 30.4**	**-0.1**
	baz=156						
M22K	**Willow**	**32.90**	**332**	P	**P**	**13 13 30.0**	**-0.7**
	baz=127						
I27K	**Kandik River**	**32.92**	**342**	P	**P**	**13 13 30.8**	**-0.2**
	baz=143						
SUA	**Susitna One**	**32.97**	**331**	P	**P**	**13 13 31.2**	**-0.4**
	baz=126						
O20K	**Slope Mountain**	**32.97**	**328**	P	**P**	**13 13 31.2**	**-0.3**
	baz=121						
WAT1	**Susitna Watana**	**32.99**	**334**	P	**P**	**13 13 31.0**	**-0.7**
	baz=130						
P19K	**Oil Pt**	**33.01**	**327**	P	**P**	**13 13 30.8**	**-1.1**
	baz=120						
I26K	**Coal Creek Min**	**33.08**	**341**	P	**P**	**13 13 31.7**	**-0.7**
	baz=140						
G29M	**Pine Creek**	**33.19**	**346**	P	**P**	**13 13 33.4**	**+0.1**
	baz=149						
J25K	**Salcha River,**	**33.19**	**339**	P	**P**	**13 13 33.3**	**-0.1**
	baz=136						
Q18K	**Katmai Hardscr**	**33.34**	**325**	P	**P**	**13 13 34.8**	**-0.1**
	baz=116						
F30M	**Barrier River**	**33.38**	**348**	P	**P**	**13 13 34.4**	**-0.6**
	baz=153						
H27K	**Steamboat Moun**	**33.40**	**343**	P	**P**	**13 13 35.0**	**-0.2**
	baz=144						
R17L	**Mt. Peulik Vol**	**33.56**	**323**	P	**P**	**13 13 36.4**	**-0.3**
	baz=114						
Q17K	**Contact Creek**	**33.59**	**324**	P	**P**	**13 13 36.9**	**-0.1**
	baz=115,SNR=6.2						
INK	**Inuvik**	**33.64**	**349**	LR	LR	13 30 17.7	
	comp=Z,97nm,19.4s,baz=158,slow=42						
INK	**Inuvik**	**33.64**	**349**	P	**P**	**13 13 37.8**	**+0.6**
	baz=156						
O19K	**Port Alsworth**	**33.76**	**328**	P	**P**	**13 13 38.1**	**-0.1**
	baz=119						
ILAR	**Eielson Array**	**33.76**	**338**	P	**P**	**13 13 39.3**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=152,slow=7.5,SNR=14						
ILAR				PcP	**PcP**	**13 16 17.8**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=180,slow=2.5,SNR=5.5						
ILAR				LR	LR	13 28 00.1	
	comp=Z,154nm,18.0s,baz=104,slow=37						
	comp=Z,1.2nm,0.8s						
P18K	**Big Mountain,**	**33.78**	**326**	P	**P**	**13 13 37.6**	**-0.9**
	baz=117						
G27K	**Doyon Strip**	**33.90**	**343**	P	**P**	**13 13 38.9**	**-0.6**
	baz=144						
PRP	**Porcupine Dome**	**33.90**	**340**	P	**P**	**13 13 38.8**	**-0.8**
	baz=137						
O18K	**Koktuh Hills**	**33.99**	**327**	P	**P**	**13 13 40.0**	**-0.3**
	baz=118						
TRF	**Thorofare Moun**	**34.00**	**334**	P	**P**	**13 13 40.4**	**-0.2**
	baz=129						
CHGN	**Chignik**	**34.12**	**320**	P	**P**	**13 13 42.2**	**+0.7**
	baz=109						
COLA	**College**	**34.13**	**338**	P	**P**	**13 13 42.3**	**+0.9**
	baz=133						
Q16K	**King Salmon**	**34.13**	**324**	P	**P**	**13 13 42.3**	**+0.7**
	baz=115						
N19K	**Bonanza Creek**	**34.14**	**328**	P	**P**	**13 13 42.5**	**+0.8**
	baz=120						
M20K	**Styx River**	**34.14**	**331**	P	**P**	**13 13 41.4**	**-0.4**
	baz=123						
F28M	**Old Crow**	**34.17**	**345**	P	**P**	**13 13 43.5**	**+1.6**
	baz=147						
POKR	**Poker Plat Res**	**34.17**	**338**	P	**P**	**13 13 42.1**	**+0.2**
	baz=134						
P17K	**Kvichak River**	**34.25**	**325**	P	**P**	**13 13 42.9**	**+0.4**
	baz=116						
CHNA	**Chernabura Isl**	**34.31**	**317**	P	**P**	**13 13 43.4**	**+0.3**
	baz=106						
NEA2	**Nenana**	**34.32**	**337**	P	**P**	**13 13 43.3**	**+0.1**
	baz=132						
PPLA	**Purkeypile**	**34.35**	**333**	P	**P**	**13 13 43.5**	**-0.1**
	baz=126						
E29M	**Blow River**	**34.45**	**347**	P	**P**	**13 13 43.9**	**-0.2**
	baz=150						
G26K	**Porcupine Rive**	**34.52**	**342**	P	**P**	**13 13 43.7**	**-1.2**
	baz=141,SNR=7.1						
H25L	**Birch Creek**	**34.53**	**340**	P	**P**	**13 13 44.9**	**0.0**
	baz=138						
CAST	**Castle Rocks**	**34.62**	**333**	P	**P**	**13 13 45.1**	**-0.6**
	baz=126,SNR=5.3						
BPAW	**Bear Paw Mtn.**	**34.65**	**335**	P	**P**	**13 13 45.8**	**-0.2**
	baz=128						
M19K	**Big River Lodg**	**34.66**	**330**	P	**P**	**13 13 45.2**	**-0.9**
	baz=122						
N18K	**Kilae Creek**	**34.67**	**328**	P	**P**	**13 13 46.7**	**+0.4**
	baz=118						
L20K	**Farewell, AK**	**34.76**	**331**	P	**P**	**13 13 46.2**	**-0.8**
	baz=123,SNR=6.8						
I23K	**Minto, Yukon-K**	**34.79**	**337**	P	**P**	**13 13 47.4**	**+0.3**
	baz=132						
O17K	**Koliganek Bris**	**34.80**	**326**	P	**P**	**13 13 45.9**	**-1.5**
	baz=116						
H24K	**Noodor Dome**	**34.81**	**339**	P	**P**	**13 13 45.4**	**-2.0**
	baz=134						
E28M	**Babbage River**	**34.94**	**346**	P	**P**	**13 13 48.4**	**-0.1**
	baz=148						
CHUM	**Lake Minchumin**	**34.98**	**334**	P	**P**	**13 13 48.2**	**-0.6**
	baz=126						
G25K	**Bearman Lake**	**34.98**	**341**	P	**P**	**13 13 48.6**	**-0.2**
	baz=138						
L19K	**White Mountain**	**34.99**	**330**	P	**P**	**13 13 48.4**	**-0.6**
	baz=121,SNR=5.3						
E27K	**Coleen River**	**35.01**	**345**	P	**P**	**13 13 50.0**	**+0.9**
	baz=145						
M18K	**Stony River**	**35.04**	**329**	P	**P**	**13 13 48.8**	**-0.6**
	baz=119						
MLY	**Manley**	**35.15**	**336**	P	**P**	**13 13 49.9**	**-0.5**
	baz=130						
N17K	**Nushagak Hills**	**35.17**	**327**	P	**P**	**13 13 50.2**	**-0.4**
	baz=116						
O16K	**Kokwok River B**	**35.19**	**325**	P	**P**	**13 13 50.6**	**0.0**
	baz=114						
F26K	**Sheenjek River**	**35.19**	**343**	P	**P**	**13 13 50.3**	**-0.4**
	baz=141,SNR=6.2						
H23K	**Yukon River**	**35.30**	**338**	P	**P**	**13 13 52.4**	**+0.7**
	baz=132						
G24K	**Hadweenzic Riv**	**35.31**	**340**	P	**P**	**13 13 52.0**	**+0.3**
	baz=136						
K20K	**Telida**	**35.32**	**332**	P	**P**	**13 13 51.6**	**-0.2**
	baz=124,SNR=10						
F25K	**Christian Rive**	**35.48**	**342**	P	**P**	**13 13 52.4**	**-0.9**
	baz=139						
M17K	**Holitna River**	**35.68**	**328**	P	**P**	**13 13 54.2**	**-0.7**
	baz=117,SNR=6.6						
L18K	**Granite Mounta**	**35.75**	**330**	P	**P**	**13 13 55.0**	**-0.5**
	baz=119,SNR=6.1						
J20K	**Owinta River**	**35.81**	**334**	P	**P**	**13 13 56.0**	**0.0**
	baz=124						
O15K	**Ungalikthiuk R**	**35.84**	**324**	P	**P**	**13 13 56.5**	**+0.1**
	baz=112						
N16K	**Nishlik Lake**	**35.86**	**326**	P	**P**	**13 13 56.2**	**-0.3**
	baz=114						
E25K	**Arctic Village**	**35.87**	**343**	P	**P**	**13 13 56.5**	**+0.1**
	baz=140						
S12K	**Black Hills**	**35.91**	**318**	P	**P**	**13 13 57.2**	**+0.3**
	baz=105						
H22K	**Ishtalitna Cre**	**35.91**	**337**	P	**P**	**13 13 57.1**	**+0.3**
	baz=130,SNR=6.4						
F24K	**Squaw Lake**	**36.01**	**341**	P	**P**	**13 13 58.0**	**+0.3**
	baz=136						
M16K	**Timber Creek**	**36.17**	**327**	P	**P**	**13 13 57.8**	**-1.3**
	baz=115						
H21K	**Melozitna Rive**	**36.22**	**336**	P	**P**	**13 13 58.9**	**-0.7**
	baz=128,SNR=10						
J19K	**Poorman**	**36.25**	**333**	P	**P**	**13 13 58.9**	**-0.8**
	baz=122,SNR=6.1						
I20K	**Naaghedeneel**	**36.28**	**334**	P	**P**	**13 13 59.9**	**0.0**
	baz=125						
N15K	**Kwethluk River**	**36.34**	**325**	P	**P**	**13 14 00.4**	**-0.2**
	baz=113						
L17K	**Donlin**	**36.38**	**329**	P	**P**	**13 14 01.2**	**+0.3**
	baz=117						
J18K	**Innoko River**	**36.38**	**332**	P	**P**	**13 14 01.5**	**+0.5**
	baz=120						
COLD	**Coldfoot**	**36.44**	**339**	P	**P**	**13 14 01.0**	**-0.4**
	baz=133						
O14K	**Tigyukauivet M**	**36.56**	**324**	P	**P**	**13 14 02.8**	**+0.4**
	baz=110						
E24K	**Your Creek**	**36.57**	**341**	P	**P**	**13 14 02.5**	**0.0**
	baz=136						
G22K	**Bettles**	**36.62**	**338**	P	**P**	**13 14 02.8**	**0.0**
	baz=131						
C27K	**Jago River**	**36.63**	**345**	P	**P**	**13 14 02.3**	**-0.7**
	baz=143						
K17K	**Iditarod**	**36.65**	**330**	P	**P**	**13 14 03.4**	**+0.2**
	baz=118						
L16K	**Owhat River**	**36.69**	**328**	P	**P**	**13 14 02.7**	**-0.8**
	baz=115						
M15K	**Kasigluk River**	**36.82**	**326**	P	**P**	**13 14 03.6**	**-1.0**
	baz=113						
H20K	**Anotleneega Mo**	**36.82**	**335**	P	**P**	**13 14 03.9**	**-0.7**
	baz=125,SNR=7.1						
E23K	**Chandalar**	**36.86**	**341**	P	**P**	**13 14 04.5**	**-0.5**
	baz=134						
D25K	**Kavik River**	**36.98**	**344**	P	**P**	**13 14 05.6**	**-0.3**
	baz=140						
G21K	**Allakaket**	**36.98**	**337**	P	**P**	**13 14 05.7**	**-0.2**
	baz=128						
N14K	**Kuskokwak Cree**	**36.99**	**324**	P	**P**	**13 14 05.5**	**-0.6**
	baz=110						
GCSA	**Galena City Sc**	**37.11**	**333**	P	**P**	**13 14 07.2**	**+0.1**
	baz=122						
C26K	**Camden Bay**	**37.12**	**345**	P	**P**	**13 14 06.9**	**-0.1**
	baz=142						
TOLK	**Toolik Lake Re**	**37.26**	**341**	P	**P**	**13 14 08.2**	**-0.1**
	baz=135						
J17K	**VABM Dome**	**37.28**	**331**	P	**P**	**13 14 08.0**	**-0.5**
	baz=118						
H19K	**Roundabout Mou**	**37.38**	**335**	P	**P**	**13 14 08.9**	**-0.4**
	baz=123,SNR=5.4						
M14K	**Bethel**	**37.42**	**326**	P	**P**	**13 14 09.7**	**0.0**
	baz=111,SNR=6.0						
E22K	**Anaktuvuk Pass**	**37.51**	**340**	P	**P**	**13 14 10.5**	**0.0**
	baz=132						
L15K	**Ungalak Mounta**	**37.55**	**327**	P	**P**	**13 14 10.0**	**-0.9**
	baz=113						
D23K	**Nanushuk River**	**37.77**	**341**	P	**P**	**13 14 12.5**	**-0.2**
	baz=134						
K15K	**Wolf Creek Mou**	**37.82**	**328**	P	**P**	**13 14 12.9**	**-0.2**
	baz=114						
C24K	**Franklin Bluff**	**37.82**	**343**	P	**P**	**13 14 13.5**	**+0.5**
	baz=137						
J16K	**Anvik River**	**37.84**	**330**	P	**P**	**13 14 12.9**	**-0.4**
	baz=116						
H18K	**Honhosa River**	**37.86**	**333**	P	**P**	**13 14 13.4**	**-0.1**
	baz=120						
G19K	**Purcell Mounta**	**37.94**	**335**	P	**P**	**13 14 13.8**	**-0.3**
	baz=123						
M13K	**Dall Lake**	**37.94**	**325**	P	**P**	**13 14 14.3**	**+0.1**
	baz=109						
I17K	**Unalakleet**	**38.15**	**331**	P	**P**	**13 14 16.0**	**+0.2**
	baz=116						
D22K	**Ayikyak River**	**38.25**	**340**	P	**P**	**13 14 16.6**	**-0.1**
	baz=131						
E21K	**Killik River**	**38.32**	**339**	P	**P**	**13 14 17.6**	**+0.3**
	baz=129						
H17K	**Granite Mounta**	**38.33**	**333**	P	**P**	**13 14 17.4**	**0.0**
	baz=118						
G18K	**Tagagawik**	**38.35**	**334**	P	**P**	**13 14 17.9**	**+0.4**
	baz=121						
F19K	**Shaleruckik Mo**	**38.55**	**336**	P	**P**	**13 14 19.4**	**+0.2**
	baz=123,SNR=5.7						
E19K	**Redstone River**	**38.72**	**337**	P	**P**	**13 14 20.7**	**+0.1**
	baz=124						
J14K	**Nanvaranak Lak**	**38.86**	**328**	P	**P**	**13 14 21.9**	**+0.1**
	baz=112						
E20K	**Nigu River**	**38.86**	**338**	P	**P**	**13 14 22.2**	**+0.4**
	baz=126						
G17K	**Kiwalik Mounta**	**38.87**	**333**	P	**P**	**13 14 21.7**	**-0.2**
	baz=118						
C21K	**Knifeblade Rid**	**39.01**	**340**	P	**P**	**13 14 23.5**	**+0.4**
	baz=129						
F18K	**Selawik**	**39.06**	**335**	P	**P**	**13 14 24.3**	**+0.9**
	baz=121						
D20K	**Etivluk River**	**39.26**	**339**	P	**P**	**13 14 25.4**	**+0.3**
	baz=126						
B22K	**Teshekpuk Lake**	**39.41**	**342**	P	**P**	**13 14 27.0**	**+0.6**
	baz=132						
D19K	**Kuna River**	**39.58**	**338**	P	**P**	**13 14 28.2**	**+0.4**
	baz=124						
E18K	**Tukpahlearik C**	**39.80**	**336**	P	**P**	**13 14 29.4**	**-0.2**
	baz=120						
G15K	**Niukluk**	**39.93**	**331**	P	**P**	**13 14 30.8**	**0.0**
	baz=114						
E17K	**Hotham Inlet**	**40.04**	**335**	P	**P**	**13 14 31.7**	**0.0**
	baz=119						
B20K	**Meade River**	**40.19**	**340**	P	**P**	**13 14 33.3**	**+0.5**
	baz=127						
RES	**Resolute Bay**	**40.37**	**9**	LR	LR	13 32 21.7	
	comp=Z,100nm,18.6s,baz=282,slow=38						
D17K	**Noatak River**	**40.77**	**335**	P	**P**	**13 14 37.7**	**0.0**
	baz=118						
SFJD	**Kangerlussuaq**	**48.61**	**29**	LR	LR	13 37 30.8	
	comp=Z,94nm,18.1s,baz=259,slow=38						
SJG	**San Juan**	**48.66**	**97**	LR	LR	13 39 51.4	
	comp=Z,90nm,18.1s,baz=360,slow=41						
PCRV	**Puerto La Cruz**	**54.36**	**104**	LR	LR	13 42 59.2	
	comp=Z,43nm,18.5s,slow=40						
ATAH	**Atahualpa**	**56.55**	**131**	LR	LR	13 38 43.3	
	comp=Z,57nm,18.5s,baz=16,slow=34						
SEY	**Seymchan**	**58.68**	**328**	LR	LR	13 42 44.6	
	comp=Z,77nm,18.1s,baz=76,slow=37						
PETK	**Petropavlovsk-**	**59.20**	**316**	P	**P**	**13 16 58.9**	**+1.0**
	comp=Z,4.1nm,0.9s,baz=80,slow=10,SNR=7.3						
	comp=Z,4.1nm,0.9s						
SPITS	**Spitsbergen Ar**	**62.94**	**10**	LR	LR	13 45 59.0	
	comp=Z,116nm,18.5s,baz=324,slow=37						
TIXI	**Tiksi**	**63.15**	**341**	LR	LR	13 46 31.8	
	comp=Z,52nm,20.9s,baz=64,slow=38						
ARCES	**ARCESS Array B**	**71.45**	**13**	LR	LR	13 50 21.2	
	comp=Z,70nm,19.8s,baz=1.5,slow=36						
USRK	**Ussuriysk Ar.**	**78.28**	**316**	P	**P**	**13 18 58.9**	**+2.0**
	comp=Z,5.8nm,0.8s,baz=59,slow=7.8,SNR=5.7						
	comp=Z,5.8nm,0.8s						
KSRS	**Korea Array**	**85.01**	**313**	P	**P**	**13 19 35.1**	**+2.6**
	comp=Z,2.1nm,0.9s,baz=62,slow=4.0,SNR=6.0						
	comp=Z,2.1nm,0.9s						
ZALV	**Zalesovo Beam**	**88.41**	**347**	LR	LR	14 06 12.9	
	comp=Z,31nm,18.6s,baz=9.0,slow=40						
HNR	**Honiara**	**89.34**	**258**	LR	LR	13 54 43.3	
	comp=Z,87nm,18.4s,baz=46,slow=32						
BVAR	**Borovoye Array**	**91.15**	**355**	P	**P**	**13 20 03.7**	**+2.0**
	comp=Z,1.7nm,0.7s,baz=358,slow=4.5,SNR=4.1						
BVAR				LR	LR	14 05 58.6	
	comp=Z,45nm,19.1s,baz=7.2,slow=39						
	comp=Z,1.7nm,0.7s						
JOW	**Kunigami**	**91.90**	**305**	LR	LR	13 55 32.7	
	comp=Z,35nm,19.9s,baz=260,slow=32						
KURBB	**Kurchatov Arra**	**92.65**	**350**	P	**P**	**13 20 10.0**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=14,slow=4.3,SNR=6.4						
	comp=Z,0.6nm,0.8s						
QSPA	**South Pole Qui**	**125.74**	**180**	PKP	**PKiKP**	**13 25 59.9**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=288,slow=4.4,SNR=2.0						
MAW	**Mawson**	**148.26**	**180**	PKPbc	**PKiKP**	**13 26 42.2**	**-1.5**
	comp=Z,2.2nm,0.7s,baz=211,slow=6.0,SNR=5.4						

*NEIC **06** 13:08:11.5±0.7, 35.598N±0.005×117.46W±0.02, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.5km az=73.0*

PAS 06 13:08:11.9±0.6, 35.61N±0.01×117.45W±0.01, h10km±7km, ML3.1/6, ML3.2/10(NEIC), Error ellipse: s-maj=2.0km s-min=1.2km az=138.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.11**	**140**		Pg	13 08 15.0	+0.3
LRMC	**Laurel Mtn Rad**	**0.23**	**236**		Sg	13 08 20.2	+0.2
LRMC	**Laurel Mtn Rad**	**0.23**	**236**	Pg	Pg	13 08 16.6	-0.2
LRMC				IAML		13 08 18.0	
	comp=N,1μm,2.3s						
LRMC				IAML		13 08 19.7	
	comp=E,1μm,1.9s						
CLC	**China Lake**	**0.24**	**330**		Pg	13 08 16.7	-0.2
CLC					Sg	13 08 20.6	+0.3
MPMC	**Manual Prospec**	**0.45**	**356**		Sg	13 08 26.7	-0.1
DTP	**Desert Tortois**	**0.47**	**224**		Pg	13 08 20.8	-0.3
WBSM	**Bird Springs**	**0.57**	**263**		Sg	13 08 30.4	-0.1
QSM	**Queen of Sheba**	**0.59**	**53**	Pg	Pg	13 08 22.6	-0.9
QSM				IAML		13 08 34.4	
	comp=N,2μm,1.2s						
QSM				IAML		13 08 38.4	
	comp=E,1μm,2.3s						
CCAC	**Calif City Air**	**0.65**	**226**	Pg	Pg	13 08 24.1	-0.4
WORM	**Onyx Ranch**	**0.65**	**278**		Sg	13 08 32.5	-0.6
ISA	**Isabella, Lake**	**0.84**	**274**	Pg	Pg	13 08 26.3	-1.8
ISA				IAML		13 08 31.4	
	comp=N,458nm,1.9s						
ISA				IAML		13 08 33.4	
	comp=E,494nm,1.6s						
GWY	**Greenwater Val**	**0.86**	**47**	Pg	Pg	13 08 27.9	-0.6
GWY				IAML		13 08 31.2	
	comp=E,1μm,1.6s						
GWY				IAML		13 08 37.7	
	comp=N,1μm,1.5s						
CLTC	**Calectric**	**1.52**	**176**		Sn	13 08 58.3	-0.6

*IDC **06** 13:09:14.5±0.8, 69.81N×15.79W, h0km, mb3.5/9, mbtmp3.6/14, ML3.3/5, MS3.1/11, Error ellipse: s-maj=22.5km s-min=16.3km az=29.0*

*REY **06** 13:09:19.0, 69.26N×14.80W, h10km*

ISC 06 13:09:15.6±0.6, 69.67N±0.06×15.79W±0.08, h10km, n46, σ1s94/39, mb3.6/14, MS3.2/6, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.26**	**294**	*i* P	**Pn**	**13 09 53.0**	**0.0**
JMIC	**Jan Mayen**	**2.80**	**58**	LR	LR	13 10 26.3	
	comp=Z,49nm,19.8s,baz=231,slow=26						
IGRI	**Grimsey**	**3.25**	**196**	P	**Pn**	**13 10 06.5**	**0.0**
IGRI				S	**Sn**	**13 10 42.7**	**-2.6**
IGIL	**Gilhagi**	**3.62**	**184**	P	**Pn**	**13 10 10.1**	**-1.5**
IBRE	**Brettingsstaoi**	**3.65**	**194**	P	**Pn**	**13 10 12.1**	**0.0**
IBRE				S	**Sn**	**13 10 52.9**	**-2.3**
IDIM	**Dimmadalss**	**3.75**	**187**	P	**Pn**	**13 10 12.4**	**-1.0**
IGRA	**Granastaoir**	**3.83**	**191**	P	**Pn**	**13 10 14.2**	**-0.3**
ISKI	**Skildingahlsh**	**3.85**	**188**	P	**Pn**	**13 10 13.3**	**-1.5**
IGHA	**Grjothals**	**3.86**	**185**	P	**Pn**	**13 10 13.8**	**-1.2**
IHLA	**Hella**	**3.87**	**196**	P	**Pn**	**13 10 15.6**	**+0.5**
IHRN	**Hraun**	**3.93**	**207**	P	**Pn**	**13 10 17.2**	**+1.2**
IKVO	**Krokottuvotn**	**4.00**	**186**	P	**Pn**	**13 10 16.2**	**-0.6**
IGRS	**Gr

DAVOX	**Davos/Dischmat**	**26.22**	**138**	LR	LR	13 26 24.1		
	comp=Z,45nm,19.4s,baz=292,slow=39							
AKASG	**Malin Array Be**	**28.33**	**109**	LR	LR	13 25 14.4		
	comp=Z,52nm,21.9s,baz=254,slow=34							
ESDC	**Sonseca Array**	**30.71**	**162**	P	**P**	**13 15 32.1**	**+1.8**	
	0.2nm,0.5s,baz=19,slow=38,SNR=2.1							
	0.2nm,0.5s							
MLR	**Muntele Rosu**	**31.85**	**117**	LR	LR	13 28 24.6		
	comp=Z,70nm,21.6s,baz=280,slow=36							
YKA	**Yellowknife Ar**	**36.39**	**309**	P	**P**	**13 16 19.2**	**-0.2**	
	1.1nm,0.9s,baz=34,slow=8.8,SNR=8.6							
	1.1nm,0.9s							
KBZ	**Khabaz**	**39.01**	**100**	LR	LR	13 32 23.9		
	comp=Z,45nm,19.3s,baz=196,slow=36							
BRTR	**Keskin Array B**	**39.49**	**113**	P	**P**	**13 16 47.3**	**+1.3**	
	0.3nm,0.4s,baz=325,slow=7.0,SNR=1.7							
	0.3nm,0.4s							
ILAR	**Eielson Array**	**41.58**	**331**	P	**P**	**13 17 02.1**	**-0.7**	
	0.3nm,0.8s,baz=32,slow=7.1,SNR=1.7							
	0.3nm,0.8s							
KURBB	**Kurchatov Arra**	**45.13**	**64**	P	**P**	**13 17 31.8**	**+0.1**	
	0.8nm,0.8s,baz=330,slow=7.4,SNR=7.9							
	0.8nm,0.8s							
MKAR	**Makanchi Array**	**49.68**	**63**	P	**P**	**13 18 06.9**	**-0.3**	
	0.5nm,0.7s,baz=330,slow=7.0,SNR=5.0							
	0.5nm,0.7s							
PDAR	**Pinedale Array**	**51.90**	**291**	P	**P**	**13 18 24.4**	**+0.2**	
	0.2nm,0.3s,baz=23,slow=5.5,SNR=2.3							
	0.2nm,0.3s							
TXAR	**Lajitas Array**	**62.10**	**279**	P	**P**	**13 19 37.3**	**+1.0**	
	0.2nm,0.6s,baz=27,slow=7.5,SNR=3.0							
	0.2nm,0.6s							
ASAJ	**Asahikawa**	**65.42**	**17**	LR	LR	13 48 60.0		
	comp=Z,41nm,18.9s,baz=340,slow=36							
ASAR	**Alice Springs**	**130.59**	**38**	PKP	**PKPdf**	**13 28 24.0**	**-2.1**	
	0.3nm,0.8s,baz=332,slow=2.3,SNR=5.5							

*NEIC **06** 13:09:19.5±1.0,35°.796N±0°.010×117°.62W±0°.01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.4km az=338.0*

PAS 06 13:09:19.9±1.2,35°.797N±0°.010×117°.63W±0°.01, h3km±2km, ML3.1/14, ML2.9/34(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=164.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.03**	**50**		Pg	13 09 20.8	0.0
TOW	**Tower One**	**0.11**	**276**		Pg	13 09 22.8	+0.6
SRTC	**Snort**	**0.14**	**224**		Pg	13 09 23.2	+0.5
SRTC					Sg	13 09 26.3	+1.7
WVPM	**Volcano Peak E**	**0.22**	**315**		Pg	13 09 24.5	+0.3
WNMM	**Nine Mile Cany**	**0.23**	**282**		Pg	13 09 24.7	+0.3
MPMC	**Manual Prospec**	**0.28**	**23**		Pg	13 09 25.5	+0.1
WRVM	**Rose V. Centra**	**0.30**	**315**		Pg	13 09 25.8	0.0
LRMC	**Laurel Mtn Rad**	**0.32**	**188**	Pg	Pg	13 09 25.8	-0.3
LRMC				IAML		13 09 31.1	
	comp=E,1μm,0.3s						
CCCA	**Chr Cany lake**	**0.34**	**142**		Pg	13 09 27.1	+0.6
CCCA					Sg	13 09 30.7	-0.3
MFS	**McCloud Flat S**	**0.37**	**330**		Pg	13 09 27.3	+0.2
WBSM	**Bird Springs**	**0.49**	**238**		Pg	13 09 29.3	-0.1
WORM	**Onyx Ranch**	**0.51**	**259**		Pg	13 09 29.6	-0.2
QSM	**Queen of Sheba**	**0.64**	**75**	Pg	Pb	13 09 33.0	-0.7
QSM				IAML		13 09 41.6	
	comp=E,527nm,0.3s						
QSM				IAML		13 09 42.8	
	comp=N,636nm,0.2s						
ISA	**Isabella, Lake**	**0.70**	**259**	Pg	Pg	13 09 33.2	-0.2
CCAC	**Calif City Air**	**0.72**	**207**	IAML		13 09 44.1	
	comp=E,782nm,0.4s						
CCAC				IAML		13 09 44.1	
	comp=N,726nm,0.5s						
GSC	**Goldstone, Bar**	**0.83**	**126**	Pg	Pg	13 09 35.5	-0.3
GSC				IAML		13 09 50.0	
	comp=E,536nm,1.5s						
GWY	**Greenwater Val**	**0.87**	**63**	Pg	Pg	13 09 36.3	-0.2
GWY				IAML		13 09 51.4	
	comp=N,538nm,0.4s						
HYS	**Haystack Butte**	**0.93**	**177**		Pb	13 09 38.5	-0.3
GRAC	**Grapevine Rang**	**1.22**	**10**	Pg	Pg	13 09 42.9	-0.3
WCT	**Wildcat Mounta**	**1.28**	**39**	Pg	Pg	13 09 43.8	-0.7
WCT				IAML		13 09 50.0	
	comp=N,172nm,2.3s						
WCT				IAML		13 09 52.3	
	comp=E,216nm,2.5s						
GMN	**Gold Mountain**	**1.53**	**11**		Pn	13 09 47.8	-0.7
GMN				IAML		13 09 54.8	
	comp=E,151nm,2.9s						
DSP	**Deep Springs**	**1.59**	**350**		Pn	13 09 48.8	-0.3
DSP				IAML		13 09 55.9	
	comp=E,132nm,1.3s						
DSP				IAML		13 10 03.2	
	comp=N,193nm,2.2s						
PASC	**Pasadena Art C**	**1.69**	**196**	Pg	Pg	13 09 52.3	+0.1
PASC				IAML		13 09 59.2	
	comp=N,129nm,3.4s						
PASC				IAML		13 10 27.6	
	comp=E,128nm,3.2s						
SHPR	**Sheep Range**	**2.12**	**70**	Pn	Pn	13 09 56.1	-0.3
SHPR				IAML		13 10 15.9	
	comp=E,69nm,2.4s						
PMD	**Palm Desert**	**2.38**	**154**	Pn	Pn	13 09 58.9	-0.9
PMD				IAML		13 10 35.9	
	comp=E,71nm,4.2s						
PFO	**Pinyon Flats O**	**2.38**	**156**	Pn	Pn	13 09 59.0	-1.1
PFO				IAML		13 10 19.1	
	comp=E,76nm,2.8s						
PFO				IAML		13 10 46.7	
	comp=E,85nm,3.3s						

*UPA **06** 13:09:21.9±1.0,8°.40N×82°.78W, h24km±3km, MW4.0, Fault plane solution: NP1:φs17.00000°, δ78.00000°, λ-162.00000°.*

*CATAC **06** 13:09:21.2±0.6,8°.1N±3°×8°.3W±°, h17km±1km, M4.1/13, MLv4.1/13, Error ellipse: s-maj=7.4km s-min=5.6km az=166.8, confirmed*

ISC 06 13:09:21.7±0.9,8°.39N±0°.04×82°.80W±0°.02, h31km±5km, n45, σ1s50/66, 7C-12D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.02**	**40**	⇓*iP*	**Pb**	**13 09 26.7**	**-0.2**
LESP3				*eS*	**Sb**	**13 09 29.0**	**-1.5**
CDITO	**Canoas**	**0.20**	**340**	P	**Pb**	**13 09 27.8**	**-0.2**
CDITO	**Canoas**	**0.20**	**340**	S	**Sb**	**13 09 33.0**	**+0.6**
DVD	**David**	**0.35**	**83**	⇓*iP*	**Pb**	**13 09 29.6**	**-0.4**
DVD				*eS*	**Sb**	**13 09 35.0**	**-0.7**
PEDE3	**Pedregal, Chir**	**0.38**	**91**	⇓*iP*	**Pb**	**13 09 29.8**	**-0.6**
PEDE3				*eS*	**Sb**	**13 09 34.6**	**-1.6**
LOCO3	**Loma Colorada,**	**0.38**	**87**	⇓*iP*	**Pb**	**13 09 30.0**	**-0.4**
MLIR3	**Monte Lirio, C**	**0.40**	**357**	⇑*eP*	**Pb**	**13 09 30.9**	**0.0**
MLIR3				*eS*	**Sb**	**13 09 36.6**	**-0.4**
LOMA3	**Las Lomas, Chi**	**0.41**	**84**	⇓*iP*	**Pb**	**13 09 30.3**	**-0.6**
LOMA3				*eS*	**Sb**	**13 09 36.7**	**-0.4**
BRU2	**Volcan**	**0.42**	**16**	⇑*eP*	**Pb**	**13 09 30.7**	**-0.4**
BRU2				*eS*	**Sn**	**13 09 38.2**	**-0.3**
BRU2	**Volcan**	**0.42**	**16**	P	**Pb**	**13 09 30.9**	**-0.2**
PTAR3	**Potrerillos Ar**	**0.43**	**45**	⇓*iP*	**Pb**	**13 09 31.0**	**-0.2**
PTAR3				*eS*	**Sn**	**13 09 38.0**	**-0.7**
BC3P	**Paso Ancho**	**0.46**	**24**	⇓*iP*	**Pb**	**13 09 31.5**	**-0.3**
CHIR3	**Chiriqui UPA,**	**0.47**	**89**	⇓*iP*	**Pb**	**13 09 31.0**	**-0.7**
CHIR3				*eS*	**Sb**	**13 09 37.7**	**-0.9**
BQSF3	**Alto Boquete,**	**0.51**	**46**	⇓*iP*	**Pb**	**13 09 31.9**	**-0.6**
BQSF3				*eS*	**Sb**	**13 09 39.5**	**-0.3**
PIRO	**Carate, Puerto**	**0.53**	**272**	⇓*eP*	**Pb**	**13 09 31.5**	**-1.1**
PIRO				*eS*	**Sb**	**13 09 40.5**	**+0.4**
PIRO	**Carate, Puerto**	**0.53**	**272**	P	**Pb**	**13 09 31.6**	**-1.1**
PSOM3	**Paja de Sombre**	**0.56**	**58**	⇓*iP*	**Pb**	**13 09 32.4**	**-0.9**
PSOM3				*eS*	**Sb**	**13 09 39.8**	**-1.3**
DRK0	**Durika**	**0.97**	**333**	⇑*iP*	**Pb**	**13 09 38.5**	**-1.6**
DRK0				*eS*	**Sb**	**13 09 45.3**	**-7.4**
DRK0	**Durika**	**0.97**	**333**	P	**Pb**	**13 09 38.7**	**-1.5**
OCHAL	**Ojochal**	**1.09**	**310**	P	**Pn**	**13 09 40.3**	**-0.5**
OCHAL	**Ojochal**	**1.09**	**310**	S	**Sb**	**13 09 55.9**	**-0.1**
MESA3	**La Mesa, Verag**	**1.62**	**98**	⇑*iP*	**Pn**	**13 09 48.1**	**-0.1**
MESA3				*eS*	**Sn**	**13 10 07.5**	**-0.5**
GMAL	**Guarumal, Vera**	**1.68**	**112**	*eS*	**Sn**	**13 10 08.6**	**-0.8**
RSUS3	**Rio de Jesus,**	**1.68**	**104**	⇑*eP*	**Pn**	**13 09 48.5**	**-0.4**
RSUS3				*eS*	**Sn**	**13 10 10.8**	**+1.4**
SAFE3	**Santa Fe, Vera**	**1.71**	**86**	*eP*	**Pn**	**13 09 49.6**	**+0.2**
SAFE3				*eS*	**Sn**	**13 10 12.0**	**+1.7**
LCR2	**La Lucha 2**	**1.79**	**319**	S	**Sn**	**13 10 14.2**	**+1.7**
LCR2	**La Lucha 2**	**1.79**	**319**	P	**Pn**	**13 09 50.6**	**-0.1**
STIA3	**Santiago, Vera**	**1.84**	**99**	*eP*	**Pn**	**13 09 50.5**	**-0.6**
STIA3				*eS*	**Sn**	**13 10 13.0**	**-0.4**
MARI3	**Mariato, Verag**	**1.94**	**112**	⇑*eP*	**Pn**	**13 09 53.4**	**+0.9**
MARI3				*eS*	**Sn**	**13 10 17.9**	**+2.0**
CALO3	**Calobre, Verag**	**1.94**	**92**	*eS*	**Sn**	**13 10 17.9**	**+1.9**
CACAO	**El Cacao, Vera**	**2.19**	**118**	*eP*	**Pn**	**13 09 56.1**	**+0.1**
CACAO				*eS*	**Sn**	**13 10 21.7**	**-0.3**
TRT2	**Tortugero**	**2.34**	**337**	S	**Sn**	**13 10 28.2**	**+2.4**
TRT2	**Tortugero**	**2.34**	**337**	P	**Pn**	**13 09 59.5**	**+1.4**
TOSI3	**Tonosi**	**2.54**	**112**	*eS*	**Sb**	**13 10 37.6**	**+0.2**
AZU	**Azuero**	**2.58**	**103**	*eP*	**Pn**	**13 10 02.8**	**+1.5**
AZU				*eS*	**Sn**	**13 10 32.0**	**+0.4**
SOCE	**Pocosol**	**2.67**	**318**	P	**Pn**	**13 10 05.1**	**+2.5**
SOCE	**Pocosol**	**2.67**	**318**	S	**Sb**	**13 10 40.0**	**-1.3**
COVE	**Coope Vega, Sa**	**2.80**	**326**	P	**Pn**	**13 10 08.3**	**+3.9**
JTS	**Las Juntas de**	**2.84**	**312**	⇑*eP*	**Pn**	**13 10 06.4**	**+1.4**
JTS				*eS*	**Sn**	**13 10 39.7**	**+1.5**
JTS	**Las Juntas de**	**2.84**	**312**	P	**Pn**	**13 10 07.0**	**+2.0**
JTS				S	**Sn**	**13 10 39.4**	**+1.2**
BCIP	**Isla Barro Col**	**3.03**	**75**	⇓*eP*	**Pn**	**13 10 08.6**	**+1.0**
BCIP	**Isla Barro Col**	**3.03**	**75**	P	**Pn**	**13 10 08.7**	**+1.1**
INDI	**Punta indio, G**	**3.04**	**299**	P	**Pn**	**13 10 08.1**	**+0.4**
CMARA	**Lajas Hojancha**	**3.05**	**302**	S	**Sn**	**13 10 43.4**	**-0.1**
CMARA	**Lajas Hojancha**	**3.05**	**302**	P	**Pn**	**13 10 09.0**	**+1.1**

*IDC **06** 13:09:32.8±1.4,3°.72S×143°.73E, h0km, mb3.5/5, mbtmp3.5/7, ML3.0/2, Error ellipse: s-maj=32.9km s-min=25.3km az=96.0*

ISC 06 13:09:36.6±1.2,3.7S±0°.1×143°.7E±0°.1, h25km, n13, σ0s84/8, mb3.6/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.24**	**292**	Pn	**Pn**	**13 10 24.8**	**-1.2**
JAY	0.6nm,0.3s,baz=120,slow=20,SNR=5.2			Sn	**Sn**	**13 11 04.5**	**+0.7**
	0.5nm,0.3s,baz=88,slow=16,SNR=2.2 3.3nm,0.6s						
WRA	**Warramunga Arr**	**18.52**	**209**	P	**Pn**	**13 13 52.0**	**+0.4**
	0.1nm,0.3s,baz=27,slow=12,SNR=5.6 1.7nm,1.1s						
ASAR	**Alice Springs**	**21.96**	**205**	P	**P**	**13 14 28.8**	**+0.1**
	0.7nm,0.9s,baz=30,slow=11,SNR=9.2 0.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**22.73**	**230**	P	**P**	**13 14 37.4**	**+0.4**
	2.0nm,0.9s,baz=52,slow=12,SNR=2.5 2.0nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**31.63**	**45**	T	T	13 49 03.7	
	baz=229,slow=74						
H11S2	**WAKE ISLAND Hy**	**31.64**	**45**	T	T	13 49 02.0	
	baz=229,slow=74						
H11S1	**WAKE ISLAND Hy**	**31.65**	**45**	T	T	13 49 14.2	
	baz=229						
H11N1	**WAKE ISLAND Hy**	**32.60**	**43**	T	T	13 50 12.6	
	baz=226,slow=76,SNR=15						
H11N2	**WAKE ISLAND Hy**	**32.61**	**43**	T	T	13 50 14.2	
	baz=226,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**32.61**	**44**	T	T	13 50 13.1	
	baz=226,slow=76,SNR=6.4						
MKAR	**Makanchi Array**	**73.69**	**321**	P	**P**	**13 21 09.1**	**+0.7**
	0.3nm,0.7s,baz=110,slow=7.8,SNR=3.1 0.3nm,0.7s						
ILAR	**Eielson Array**	**84.73**	**24**	P	**P**	**13 22 08.6**	**+0.3**
	0.3nm,0.6s,baz=260,slow=5.0,SNR=4.2 0.3nm,0.6s						
QSPA	**South Pole Qui**	**86.21**	**180**	P	**P**	**13 22 15.0**	**-0.8**
	0.6nm,0.7s,baz=286,slow=5.4,SNR=1.5 0.6nm,0.7s						

*NEIC **06** 13:11:56.6±1.0,4°.4S±0°.1×144°.6E±0°.1, h156km±16km, mb4.2/14, Error ellipse: s-maj=20.2km s-min=15.3km az=170.0*

*IDC **06** 13:11:58.1±3.2,4°.30S×144°.41E, h177km±38km, mb3.6/4, mbtmp4.1/6, Error ellipse: s-maj=41.0km s-min=22.1km az=142.0*

ISC 06 13:11:56.1±1.4,4°.6S±0°.1×144°.5E±0°.1, h150km, n23, σ1s22/21, mb4.1/7, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.29**	**298**	P	**Pn**	**13 13 00.7**	**+0.5**
JAY	11nm,0.3s,baz=99,slow=7.9,SNR=18			S	**Sn**	**13 13 49.6**	**-0.4**
	4.5nm,0.3s,baz=284,slow=20,SNR=1.4						
COEN	**Coen**	**9.43**	**188**	Pn	Pn	13 14 10.6	+2.0
FAKI	**Fak Fak**	**12.32**	**277**	Pn	**Pn**	**13 14 46.0**	**-0.7**
WB0	**Warramunga Arr**	**18.03**	**212**	P	**Pn**	**13 15 57.8**	**+0.3**
WB0				IAmb	IAmb	13 15 59.9	
	comp=Z,5.9nm,0.8s						
WR8	**Warramunga Arr**	**18.13**	**212**		**Pn**	**13 15 58.6**	**0.0**
WR8				IAmb	IAmb	13 16 01.0	
	comp=Z,9.1nm,0.8s						
WRAB	**Tennant Creek**	**18.19**	**212**	P	**Pn**	**13 16 00.1**	**+0.8**
WRAB				IAmb	IAmb	13 16 02.2	
	comp=Z,6.5nm,0.8s						
WRA	**Warramunga Arr**	**18.21**	**212**	P	**Pn**	**13 15 58.0**	**-1.5**
WRA	**Warramunga Arr**	**18.21**	**212**	P	**Pn**	**13 15 59.5**	**0.0**
	comp=Z,3.4nm,0.4s,baz=34,slow=12,SNR=102						
WRA				S	**Sn**	**13 19 21.9**	**-2.3**
	comp=Z,0.7nm,1.1s,baz=30,slow=19,SNR=1.8						
KNRA	**Kununurra**	**19.00**	**233**	P	**Pn**	**13 16 07.3**	**-1.4**
KNRA				IAmb	IAmb	13 16 23.5	
	comp=Z,8.9nm,1.3s						
AS31	**Alice Springs**	**21.56**	**207**		**P**	**13 16 35.5**	**+1.5**
AS31				IAmb	IAmb	13 16 36.8	
	comp=Z,5.1nm,0.2s						
ASAR	**Alice Springs**	**21.57**	**207**	P	**P**	**13 16 35.4**	**+1.4**
ASAR	**Alice Springs**	**21.57**	**207**	P	**P**	**13 16 35.8**	**+1.8**
	comp=Z,2.9nm,0.4s,baz=26,slow=11,SNR=57						
ASAR				S	**S**	**13 20 25.4**	**+1.8**
	comp=Z,0.5nm,0.9s,baz=22,slow=27,SNR=2.2 comp=Z,2.9nm,0.4s						
EIDS	**Eidsvold**	**21.64**	**164**	P	**P**	**13 16 34.8**	**+0.2**
EIDS				IAmb	IAmb	13 16 46.3	
	comp=Z,24nm,1.3s						
FITZ	**Fitzroy Crossi**	**22.82**	**232**	P	**P**	**13 16 47.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**22.82**	**232**	P	**P**	**13 16 47.0**	**+0.7**
	comp=Z,2.0nm,0.3s,baz=54,slow=9.9,SNR=33 comp=Z,2.0nm,0.3s						
FORT	**Forrest**	**30.33**	**209**	P	**P**	**13 17 54.6**	**+1.0**
FORT				IAmb	IAmb	13 18 00.5	
	comp=Z,12nm,1.1s						
CAN	**Canberra**	**30.89**	**173**	P	P	13 17 58.5	-0.1
LTZ	**Lake Taylor**	**45.35**	**151**	P	**P**	**13 19 58.0**	**-1.4**
GVZ	**Greta Valley S**	**45.86**	**151**	P	P	13 20 03.8	+0.5
VNDA	**Vanda**	**73.50**	**176**	P	P	13 23 12.6	+0.8
VNDA	**Vanda**	**73.50**	**176**	P	P	13 23 12.6	+0.8
	comp=Z,0.7nm,0.6s,baz=319,slow=7.9,SNR=7.2 comp=Z,0.7nm,0.6s						
QSPA	**South Pole Qui**	**85.40**	**180**	P	**P**	**13 24 16.0**	**-0.5**
QSPA				IAmb	IAmb	13 24 17.0	
	comp=Z,6.2nm,1.4s						
QSPA	**South Pole Qui**	**85.40**	**180**	P	**P**	**13 24 16.4**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=359,slow=0.3,SNR=17 comp=Z,1.2nm,0.5s						

*NEIC **06** 13:16:57.2±2.0,35°.66N±0°.01×117°.50W±0°.02, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.4km az=75.0*

PAS 06 13:16:57.8±2.1,35°.65N±0°.01×117°.52W±0°.01, h10km±7km, ML3.2, ML2.8/80(NEIC), Error ellipse: s-maj=1.8km s-min=1.0km az=151.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.18**	**135**		Pg	13 17 02.1	+0.5
LRMC	**Laurel Mtn Rad**	**0.22**	**218**		Pg	13 17 02.2	-0.1
LRMC	**Laurel Mtn Rad**	**0.22**	**218**	IAML		13 17 06.0	
	comp=N,8μm,0.1s						
LRMC				IAML		13 17 06.3	
	comp=E,8μm,0.2s						
TOW	**Tower One**	**0.26**	**309**		Pg	13 17 03.5	+0.5
WNMM	**Nine Mile Cany**	**0.37**	**302**		Pg	13 17 05.6	+0.5
WVPM	**Volcano Peak E**	**0.39**	**321**		Pg	13 17 05.0	-0.5
WVPM					Sg	13 17 10.8	+0.2
MPMC	**Manual Prospec**	**0.41**	**3**		Pg	13 17 05.4	-0.5
MPMC					Sg	13 17 11.5	+0.2
DTP	**Desert Tortois**	**0.47**	**215**		Pg	13 17 06.4	-0.5
DTP					Sg	13 17 12.8	-0.3
WRVM	**Rose V. Centra**	**0.47**	**320**		Pg	13 17 06.3	-0.7
WBSM	**Bird Springs**	**0.52**	**258**		Pg	13 17 07.5	-0.4
QSM	**Queen of Sheba**	**0.61**	**59**		Pg	13 17 09.2	-0.5
CCAC	**Calif City Air**	**0.64**	**220**		Pg	13 17 09.7	-0.6
GSC	**Goldstone, Bar**	**0.68**	**121**		Pg	13 17 10.3	-0.6
ISA	**Isabella, Lake**	**0.78**	**271**		Pg	13 17 12.1	-0.8
ISA				IAML		13 17 25.4	
	comp=E,271nm,0.2s						
ISA				IAML		13 17 25.7	
	comp=N,284nm,0.3s						
ISA	**Isabella, Lake**	**0.78**	**271**		Sg	13 17 22.9	-0.1
WASM	**Alta Sierra Ca**	**0.85**	**276**		Pg	13 17 13.4	-0.8
GWY	**Greenwater Val**	**0.87**	**52**	Pg	Pg	13 17 13.8	-0.8
CGO	**Cerro Gordo**	**0.93**	**346**		Pg	13 17 15.9	+0.2
SHOC	**Shoshone, Teco**	**1.04**	**76**		Pg	13 17 17.9	+0.1
VTV	**Victorville**	**1.10**	**172**		Pg	13 17 18.5	-0.4
SPG2	**Springville 2**	**1.15**	**299**		Pb	13 17 18.8	-1.1
LEOC	**Leona Valley**	**1.20**	**213**		Pb	13 17 20.4	-0.3
CJV	**Casa Juvan**	**1.23**	**205**		Pn	13 17 20.7	-0.5
DSCC	**Desert Studies**	**1.26**	**113**		Pn	13 17 20.5	-1.0
AMDNV	**Amargosa**	**1.28**	**51**		Pn	13 17 21.6	-0.2
GRAC	**Grapevine Rang**	**1.35**	**5**		Pn	13 17 22.0	-0.8
GRAC				IAML		13 17 46.3	
	comp=E,231nm,0.7s						
GRAC				IAML		13 17 47.6	
	comp=N,204nm,0.8s						
WCT	**Wildcat Mounta**	**1.35**	**32**		Pn	13 17 21.5	-1.3
WCT				IAML		13 17 41.6	
	comp=E,196nm,0.5s						
WCT				IAML		13 17 43.2	
	comp=N,154nm,0.4s						
MWC	**Mount Wilson**	**1.49**	**197**	Pn	Pn	13 17 23.8	-1.1
MWC				IAML		13 17 48.0	
	comp=E,238nm,0.3s						
MWC				IAML		13 17 48.7	
	comp=N,241nm,0.7s						
PASC	**Pasadena Art C**	**1.57**	**201**		Pn	13 17 24.9	-0.9
PASC				IAML		13 17 49.1	
	comp=N,129nm,0.8s						
PASC				IAML		13 17 50.8	
	comp=E,214nm,0.5s						
LCH	**Last Change Ra**	**1.58**	**356**		Pn	13 17 25.7	-0.4
MTPC	**Mountain Pass**	**1.61**	**95**		Pn	13 17 24.8	-1.6
TPNV	**Topopah Spring**	**1.65**	**38**		Pg	13 17 29.3	-0.2
TPNV				IAML		13 17 52.3	
	comp=E,147nm,0.6s						
TPNV				IAML		13 17 54.1	
	comp=E,162nm,0.5s						
GTM	**Goat Mountain**	**1.65**	**144**		Pb	13 17 28.7	+0.2
GMN	**Gold Mountain**	**1.66**	**7**		Pn	13 17 26.7	-0.6
BCW	**Bitter Crk WRg**	**1.70**	**246**		Pb	13 17 29.3	0.0
BCW				IAML		13 17 53.9	
	comp=E,134nm,0.7s						
BCW				IAML		13 17 59.6	
	comp=N,112nm,0.6s						
DSP	**Deep Springs**	**1.76**	**348**		Pn	13 17 27.9	-0.4
ELS	**Elsinore Mount**	**2.00**	**178**		Pn	13 17 30.6	-1.1
MZP	**Montezuma Peak**	**2.05**	**3**		Pn	13 17 32.0	-0.6
V12A	**Nelson**	**2.17**	**87**	Pg	Pb	13 17 37.9	+0.6
V12A				IAML		13 18 07.4	
	comp=N,37nm,0.5s						
V12A				IAML		13 18 13.4	
	comp=E,34nm,0.6s						
PFO	**Pinyon Flats O**	**2.21**	**156**		Pb	13 17 38.7	+0.7
XPFO	**Pinon Flat**	**2.21**	**156**		Pb	13 17 38.6	+0.6
PLM	**Palomar**	**2.35**	**167**		Pb	13 17 40.9	+0.5
TPH	**Tonopah**	**2.43**	**5**		Pg	13 17 43.1	-1.3
S11A	**Rachel**	**2.45**	**35**		Pg	13 17 44.5	-0.2
S11A				IAML		13 18 22.6	
	comp=N,89nm,0.8s						
IRM	**Iron Mountain**	**2.45**	**127**		Pn	13 17 34.7	-3.2
PRN	**Pahroc Range**	**2.65**	**48**		Pg	13 17 48.8	+0.2
PRN				IAML		13 18 26.2	
	comp=E,55nm,0.8s						
PRN				IAML		13 18 32.5	
	comp=N,58nm,0.8s						
LHV	**Little Huntoon**	**2.71**	**343**		Pg	13 17 48.6	-1.2
NV11	**Mina Array Sit**	**2.82**	**350**		Pn	13 17 42.5	-0.6
NVAR	**Mina Array Bea**	**2.85**	**347**		Pg	13 17 50.6	-1.7
BBGB	**Big Mountain B**	**3.00**	**289**		Pn	13 17 43.5	-1.9
W13A	**Hualapai Mount**	**3.02**	**99**		Pn	13 17 44.3	-1.6
W13A				IAML		13 18 35.1	
	comp=N,19nm,0.4s						
W13A				IAML		13 18 40.2	
	comp=E,16nm,1.3s						
YUH	**Yuha Desert**	**3.27**	**156**		Pn	13 17 48.8	-0.4
CBX	**Cerro Bola**	**3.40**	**168**		Pn	13 17 50.4	-0.7
CBX				IAML		13 18 56.4	
	comp=E,35nm,1.1s						
Y14A	**Wickenburg**	**4.09**	**113**	IAML		13 19 13.5	
	comp=E,21nm,0.5s						
Y14A				IAML		13 19 16.4	
	comp=N,22nm,0.7s						
PSUT	**Pine Spring**	**4.11**	**44**	IAML		13 19 17.5	
	comp=E,13nm,1.2s						
PSUT				IAML		13 19 20.1	
	comp=N,12nm,1.5s						
AFDM	**Forest Hills D**	**4.29**	**321**	IAML		13 19 20.6	
	comp=E,15nm,0.8s						
AFDM				IAML		13 19 21.8	
	comp=N,10nm,0.7s						
PAHR	**Pah Rah Range**	**4.31**	**340**	IAML		13 18 37.1	
	comp=E,6.8nm,4.3s						
PAHR				IAML		13 20 11.5	
	comp=N,5.6nm,4.5s						

*IDC **06** 13:17:04.3±0.6,6°.56N×73°.39W, h121km±6km, mb3.5/5, mbtmp4.0/7, Error ellipse: s-maj=

CBOC				S		**Sn**	**13 18 15.0**	**-2.9**
DBBC	**Dabeiba**	**2.74**	**279**	P		**Pn**	**13 17 47.9**	**+0.4**
DBBC				S		**Sn**	**13 18 18.9**	**-1.7**
ANIL	**Santa Ana**	**2.83**	**222**	P		**Pn**	**13 17 49.8**	**+0.8**
ANIL				S		**Sn**	**13 18 25.4**	**+2.3**
PRAC	**Prado**	**3.18**	**206**	P		**Pn**	**13 17 53.2**	**-0.2**
PRAC				S		**Sn**	**13 18 30.7**	**-0.3**
ORTC	**Ortega, Tolima**	**3.19**	**213**	P		**Pn**	**13 17 53.7**	**+0.2**
ORTC				S		**Sn**	**13 18 31.5**	**+0.3**
PLMC	**San Jos del P**	**3.25**	**239**	P		**Pn**	**13 17 54.6**	**+0.3**
PLMC				S		**Sn**	**13 18 31.1**	**-1.5**
ARGC	**Ariguani, Magd**	**3.33**	**347**	P		**Pn**	**13 17 57.5**	**+2.3**
ARGC				S		**Sn**	**13 18 38.0**	**+3.6**
APAC	**Apartado, Choc**	**3.33**	**293**	P		**Pn**	**13 17 55.2**	**-0.1**
APAC				S		**Sn**	**13 18 32.0**	**-2.4**
URMC	**La Uribe, Meta**	**3.44**	**195**	P		**Pn**	**13 17 57.3**	**+0.5**
URMC				S		**Sn**	**13 18 37.4**	**+0.2**
SDV	**Santo Domingo**	**3.63**	**51**	P		**Pn**	**13 17 58.8**	**-0.6**
	64nm,0.3s,baz=217,slow=1.9,SNR=11							
SDV				S		**Sn**	**13 18 40.5**	**-1.3**
	122nm,0.3s,baz=268,slow=20,SNR=29							
LCBC	**Los crdobas,**	**3.63**	**308**	P		**Pn**	**13 17 59.3**	**0.0**
LCBC				S		**Sn**	**13 18 41.1**	**-0.5**
SJCC	**San Jacinto, C**	**3.68**	**333**	P		**Pn**	**13 17 59.2**	**-0.8**
SJCC				S		**Sn**	**13 18 41.0**	**-1.9**
YOTC	**Yotoco, Valle**	**3.85**	**228**	P		**Pn**	**13 18 01.8**	**-0.5**
YOTC				S		**Sn**	**13 18 46.6**	**-0.4**
GUVC	**San Jose del G**	**4.11**	**168**	P		**Pn**	**13 18 06.7**	**+1.0**
GUVC				S		**Sn**	**13 18 51.2**	**-1.9**
MACC	**Macarena, Meta**	**4.43**	**185**	P		**Pn**	**13 18 09.3**	**-0.7**
MACC				S		**Sn**	**13 18 57.4**	**-3.4**
CRJC	**Cerrejon, Guaj**	**4.44**	**8**	P		**Pn**	**13 18 10.3**	**+0.2**
CRJC				S		**Sn**	**13 19 01.1**	**+0.1**
SMRC	**Santa Marta, M**	**4.60**	**351**	P		**Pn**	**13 18 13.2**	**+1.0**
MALC	**Bahia Malaga**	**4.61**	**236**	P		**Pn**	**13 18 13.7**	**+1.4**
GARC	**Garzon, Huila**	**4.81**	**205**	P		**Pn**	**13 18 14.9**	**-0.4**
URIC	**Uribia, Colomb**	**5.29**	**16**	P		**Pn**	**13 18 21.2**	**-0.2**
	827nm29nm,0.8s							
URIC				S		**Sn**	**13 19 20.2**	**-1.0**
	827nm29nm,0.8s							
FLOC	**Florencia**	**5.43**	**204**	P		**Pn**	**13 18 23.0**	**-0.4**
PCRV	**Puerto La Cruz**	**9.45**	**67**	P		**Pn**	**13 19 17.2**	**-0.5**
	6.8nm,0.5s,baz=238,slow=6.3,SNR=7.2							
PCRV				S		**Sn**	**13 20 55.1**	**-7.2**
	10nm,0.5s,baz=308,slow=20,SNR=6.4							
TXAR	**Lajitas Array**	**36.34**	**312**	P		**P**	**13 23 57.4**	**+0.2**
	0.1nm,0.5s,baz=108,slow=7.4,SNR=4.1							
	0.1nm,0.5s							
YKA	**Yellowknife Ar**	**63.35**	**340**	P		**P**	**13 27 21.1**	**+0.5**
	0.2nm,0.6s,baz=140,slow=5.6,SNR=5.9							
YKA				pP		**pP**	**13 27 51.2**	**+1.1**
	0.1nm,0.5s,baz=127,slow=7.4,SNR=2.0							
	0.2nm,0.6s							
NB2	**NORSAR Subarra**	**81.70**	**29**	P		**P**	**13 29 10.4**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=268,slow=5.3							
NOA	**NORSAR Array B**	**81.70**	**29**	P		**P**	**13 29 09.6**	**0.0**
	comp=Z,1.0nm,0.3s,baz=268,slow=5.3,SNR=4.6							
	comp=Z,1.0nm,0.3s							
HFS	**Hagfors**	**82.92**	**30**	P		**P**	**13 29 15.8**	**0.0**
	comp=Z,1.1nm,0.7s,baz=302,slow=8.2,SNR=1.5							
	comp=Z,1.1nm,0.7s							
ARCES	**ARCESS Array B**	**87.01**	**20**	P		**P**	**13 29 36.1**	**0.0**
	comp=Z,6.0nm,1.1s,baz=268,slow=3.5,SNR=6.4							
	comp=Z,6.0nm,1.1s							
MKAR	**Makanchi Array**	**122.66**	**20**	PKP		**PKPdf**	**13 35 46.0**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=352,slow=2.3,SNR=5.9							
ASAR	**Alice Springs**	**146.68**	**234**	PKPbc		**PKPdf**	**13 36 36.3**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=120,slow=4.2,SNR=4.1							
ASAR				pPKPbc		**pPKPdf**	**13 37 09.3**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=128,slow=3.8,SNR=3.0							
WRA	**Warramunga Arr**	**149.91**	**241**	PKPbc		**PKPbc**	**13 36 40.4**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=108,slow=2.9,SNR=6.6							
WRA				pPKPbc		**pPKPbc**	**13 37 12.8**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=107,slow=2.7,SNR=3.0							

*IDC **06** 13:29:13.5±1.2,27.65S×176.40W,h0km,mb4.0/4, mbtmp4.0/4,Error ellipse: s-maj=41.0km s-min=31.2km az=53.0*

ISC 06 13:29:18.0±1.3,27.5S±0.3×176.4W±0.3,h34km,n7, σ0s45/7,mb3.9/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.77**	**263**	P	**P**	**13 37 29.2**	**+0.6**
	0.7nm,0.7s,baz=100,slow=7.0,SNR=12						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**45.51**	**268**	P	**P**	**13 37 33.9**	**-0.6**
	0.9nm,0.7s,baz=107,slow=7.6,SNR=7.3						
	0.9nm,0.7s						
QSPA	**South Pole Qui**	**62.56**	**180**	P	**P**	**13 39 38.5**	**+0.1**
	6.9nm,1.0s,baz=18,slow=1.3,SNR=15						
	6.9nm,1.0s						
SNAA	**Sanae**	**80.95**	**178**	P	**P**	**13 41 28.4**	**-0.3**
	1.8nm,1.0s,baz=186,slow=10,SNR=4.7						
	1.8nm,1.0s						
NOA	**NORSAR Array B**	**146.12**	**353**	PKPbc	**PKPbc**	**13 48 54.1**	**0.0**
	1.3nm,0.9s,baz=12,slow=2.9,SNR=3.7						
HFS	**Hagfors**	**146.70**	**351**	PKPbc	**PKPab**	**13 48 56.9**	**0.0**
	4.1nm,0.9s,baz=38,slow=2.6,SNR=3.7						
AKASG	**Malin Array Be**	**149.79**	**327**	PKPbc	**PKiKP**	**13 49 05.3**	**+0.2**
	0.1nm,0.3s,baz=48,slow=2.2,SNR=4.0						

JMA 06 13:31:59.6±0.1,24.6N±0.6×124.0E±0.5,h0km,MV0.7/5, NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIJ	**Ishigaki jima**	**0.23**	**151**	P	Pg	13 32 04.4	+0.4
JIJ				*eS*	Sg	13 32 07.7	+0.7
JISG	**Ishigakijimahi**	**0.27**	**85**	*eP*	Pg	13 32 05.2	+0.5
JKRS	**Kuro-shima**	**0.33**	**182**	*eS*	Sg	13 32 11.8	+1.6
IRIF	**Iriomote-Funau**	**0.35**	**229**	*eP*	Pg	13 32 06.9	+0.6
JTJ	**Tarama**	**0.62**	**83**	*eP*	Pb	13 32 12.5	-0.9
JTJ				*eS*	Sb	13 32 21.7	-1.0

TAP 06 13:32:41.4,24.86N×122.18E,h6km,ML2.5,C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.23**	**267**	*i* P	Pg	13 32 46.8	+0.9
EGS				*eS*	Sg	13 32 50.8	+1.9
TWB1	**Santiao Chiao**	**0.23**	**310**	*i* P	Pg	13 32 46.9	+1.0
TWB1				*i* S	Sg	13 32 50.2	+1.2
TIPB	**Shuangxi**	**0.34**	**289**	*i* P	Pb	13 32 49.0	-0.9
TIPB				*eS*	Sb	13 32 55.5	-0.2
SXI1	**Grass Mountain**	**0.36**	**310**	*i* P	Pb	13 32 49.7	-0.6
SXI1				*eS*	Sb	13 32 55.5	-0.8
TWC	**Suao**	**0.39**	**231**	*i* P	Pg	13 32 49.3	+0.3
TWC				*eS*	Sg	13 32 55.0	+0.8
ESAO	**Su ao**	**0.42**	**227**	*i* P	Pg	13 32 49.8	+0.3
ESAO				*eS*	Sg	13 32 55.1	+0.2
NWF	**Wu-fen Shan**	**0.42**	**300**	*eP*	Pg	13 32 50.1	+0.5
NWF				*eS*	Sb	13 32 58.0	0.0
EOS2	**EOS2**	**0.44**	**174**	*i* P	Pb	13 32 50.9	-0.7
EOS2				*eS*	Sb	13 32 58.4	+0.1
TNOU	**National Taiwa**	**0.47**	**308**	*i* P	Pg	13 32 51.1	+0.6
TNOU				*eS*	Sb	13 32 59.0	-0.4
NDS	**Dongshan**	**0.48**	**242**	*i* P	Pg	13 32 50.7	0.0
NDS				*eS*	Sb	13 32 58.7	0.9
TWE	**Neicheng**	**0.49**	**254**	*i* P	Pg	13 32 51.4	+0.6
TWE				*i* S	Sb	13 32 60.0	+0.2
FUSB	**Fushanzhiwuyua**	**0.55**	**260**	*i* P	Pb	13 32 52.8	-0.7
FUSB				*eS*	Sb	13 33 01.6	-0.1
EWUT	**Wuta**	**0.55**	**222**	*i* P	Pg	13 32 51.9	-0.1
EWUT				*eS*	Sg	13 33 00.1	+0.9
TWA	**Mucha**	**0.56**	**283**	P	Pg	13 32 52.4	+0.3
TWA				*eS*	Sb	13 33 01.5	-0.3
EOS3	**EOS3**	**0.58**	**168**	*i* P	Pb	13 32 53.4	-0.6
EOS3				S	Sb	13 33 03.7	+1.3
ENA	**Nanau**	**0.59**	**223**	*i* P	Pg	13 32 53.4	+0.6
ENA				*i* S	Sg	13 33 00.6	+0.2
ENTT	**Nioudou**	**0.60**	**249**	*i* P	Pg	13 32 53.4	+0.5
ENTT				*eS*	Sb	13 33 02.7	-0.4
NHDH	**Xindian Distri**	**0.60**	**280**	*i* P	Pn	13 32 55.8	-0.8
NHDH				*eS*	Sb	13 33 03.0	-0.2
NWLT	**Wulai**	**0.62**	**263**	*i* P	Pb	13 32 55.1	+0.4
NWLT				*eS*	Sb	13 33 04.7	+0.9
YM01	**YM01**	**0.62**	**297**	*i* P	Pb	13 32 54.6	-0.1
YM01				S	Sb	13 33 04.8	+1.0
TATO	**Taipei**	**0.64**	**281**	*i* P	Pb	13 32 55.6	+0.6
TATO				*eS*	Sn	13 33 06.0	-1.5
ZUZH	**Zhuzihu**	**0.65**	**298**	*i* P	Pb	13 32 55.7	+0.5
ZUZH				*eS*	Sb	13 33 05.7	+1.1
EAHA	**Aohua**	**0.66**	**217**	*i* P	Pg	13 32 53.7	-0.5
EAHA				*i* S	Sb	13 33 04.8	-0.1
TWY	**Chenhua**	**0.67**	**308**	*i* P	Pb	13 32 55.7	+0.2
TWY				S	Sb	13 33 06.0	+0.9
LATG	**Datong**	**0.68**	**242**	*i* P	Pb	13 32 55.2	-0.5
LATG				*eS*	Sb	13 33 05.6	+0.2
TWS1	**Kuangyinshan**	**0.73**	**289**	P	Pn	13 32 58.4	0.0
TWS1				S	Sb	13 33 08.2	+1.2
EOS4	**EOS4**	**0.74**	**170**	*i* P	Pb	13 32 56.9	+0.3
EOS4				*eS*	Sn	13 33 08.4	-1.2
YHNB	**Yeheng**	**0.76**	**256**	*i* P	Pg	13 32 56.0	+0.1
YHNB				*eS*	Sg	13 33 06.6	+0.8
NSK	**Sanguang**	**0.77**	**256**	*i* P	Pg	13 32 56.2	0.0
NSK				S	Sb	13 33 08.2	+0.2
NNSB	**Datong**	**0.84**	**240**	*i* P	Pg	13 32 57.8	+0.2
NNSB				S	Sb	13 33 10.9	+0.7
NNS	**Nan Shan**	**0.84**	**241**	*i* P	Pb	13 32 59.0	+0.4
NNS				S	Sb	13 33 09.8	-0.5
YOJ	**Yonaguni jima**	**0.85**	**117**	*i* P	Pg	13 32 57.6	-0.2
YOJ				S	Sb	13 33 10.7	+0.4
ETL	**Fush Village**	**0.86**	**216**	P	Pg	13 32 57.3	-0.7
ETL				*eS*	Sb	13 33 10.6	-0.1
NACB	**Ninganchiao**	**0.87**	**218**	*i* P	Pg	13 32 57.7	-0.3
NACB				S	Sg	13 33 09.4	+0.1
ETLH	**Xiulin Townshi**	**0.91**	**225**	*i* P	Pg	13 32 58.8	-0.1
ETLH				S	Sg	13 33 10.9	+0.2
KSHI	**Guanxi Townshi**	**0.92**	**265**	*i* P	Pn	13 33 01.0	+0.1
KSHI				*eS*	Sb	13 33 11.0	+0.6
TWD	**Chiawan**	**0.94**	**215**	*i* P	Pg	13 32 57.9	-1.6
TWD				S	Sb	13 33 12.6	-0.3
NFF	**Wufeng Townshi**	**0.99**	**257**	*i* P	Pn	13 33 01.9	0.0
NFF				*eS*	Sb	13 33 14.6	+0.2
FUSS	**Fushou**	**1.05**	**235**	*eP*	Pg	13 33 01.7	+0.1
FUSS				*eS*	Sn	13 33 18.0	0.0
LIOB	**Emei**	**1.08**	**259**	*i* P	Pn	13 33 04.0	+0.8
LIOB				*eS*	Sn	13 33 18.1	-0.4
ETM	**Tongmen**	**1.09**	**215**	*eP*	Pg	13 33 01.9	-0.4
ETM				*eS*	Sn	13 33 18.9	+0.2
LXIB	**Xiulin Townshi**	**1.09**	**220**	*i* P	Pg	13 33 01.9	-0.4
LXIB				*eS*	Sb	13 33 18.0	+0.7
TWT	**Tachien**	**1.10**	**237**	*i* P	Pn	13 33 03.7	+0.2
TWT				*eS*	Sn	13 33 18.5	-0.6
WHF	**Hehuan Shan**	**1.10**	**230**	*i* P	Pg	13 33 02.7	+0.2
WHF				S	Sb	13 33 18.0	+0.3
NSTT	**Nanjuang**	**1.10**	**258**	*i* P	Pn	13 33 04.1	+0.7
NSTT				S	Sn	13 33 19.2	+0.4
TDCB	**Techi**	**1.11**	**237**	*i* P	Pn	13 33 03.9	+0.2
TDCB				S	Sn	13 33 19.0	-0.4
SHUL	**Shoufeng**	**1.21**	**208**	*i* P	Pn	13 33 05.7	+0.9
SHUL				*i* S	Sn	13 33 25.4	+3.9
ESL	**Shilin**	**1.24**	**213**	*i* P	Pg	13 33 04.7	-0.6
ESL				*eS*	Sn	13 33 23.1	+0.7
WHP	**Taichung City**	**1.27**	**243**	*i* P	Pn	13 33 07.1	+1.3
WHP				*eS*	Sn	13 33 23.0	-0.2
OWD	**Renai**	**1.28**	**226**	*i* P	Pn	13 33 06.0	0.0
OWD				*eS*	Sn	13 33 23.4	-0.3
WUSB	**Renai**	**1.30**	**229**	*i* P	Pn	13 33 06.1	-0.1
WUSB				*eS*	Sn	13 33 25.3	+1.3
WARBT	**Fenglin Townsh**	**1.35**	**213**	*i* P	Pn	13 33 06.1	-0.7
WARBT				S	Sn	13 33 25.8	+0.7
WCS	**Beigang Elemen**	**1.41**	**236**	*i* P	Pg	13 33 09.2	+0.8
WCS				*eS*	Sg	13 33 27.8	+1.2
VWDT	**VWDT**	**1.45**	**221**	*i* P	Pb	13 33 08.8	-0.1
VWDT				S	Sg	13 33 28.8	+0.6
SMLT	**Sun Moon Lake**	**1.52**	**231**	*i* P	Pg	13 33 11.2	+0.7
SMLT				*eS*	Sg	13 33 30.6	+0.3
HGSD	**Ruisui**	**1.53**	**207**	*i* P	Pb	13 33 10.4	+0.2
HGSD				*eS*	Sg	13 33 31.6	+1.1
TYC	**Yuchr**	**1.54**	**232**	P	Pg	13 33 11.7	+0.8
TYC				*eS*	Sg	13 33 31.1	+0.2
SSLB	**Suanglung**	**1.55**	**227**	*i* P	Pb	13 33 10.3	-0.2
SSLB				*eS*	Sg	13 33 31.5	+0.4
EHY	**Hungye**	**1.56**	**210**	P	Pn	13 33 09.4	-0.4
EHY				*eS*	Sg	13 33 31.4	-0.1
EHYH	**Wanrong**	**1.56**	**209**	*i* P	Pn	13 33 09.0	-0.7
EHYH				*eS*	Sg	13 33 31.7	+0.2
YULB	**Yu-li**	**1.67**	**209**	*i* P	Pn	13 33 10.3	-0.9
YULB				*eS*	Sn	13 33 33.4	+0.4
WHYT	**Xinyi Township**	**1.68**	**227**	*i* P	Pb	13 33 13.1	+0.4
WHYT				*eS*	Sg	13 33 35.5	+0.2
TWF1	**Yuli**	**1.70**	**208**	*i* P	Pn	13 33 10.1	-0.7
TWF1				*eS*	Sb	13 33 34.7	-0.2
CHKH	**Chenggong**	**1.81**	**204**	*eP*	Pb	13 33 14.1	-0.8
CHKH				*eS*	Sn	13 33 36.4	0.0
ALS	**Alishan**	**1.84**	**223**	*i* P	Pb	13 33 15.7	0.0
ALS				S	Sg	13 33 42.5	+2.0
FULB	**Fuli**	**1.84**	**206**	*i* P	Pb	13 33 14.7	-0.8
FULB				*eS*	Sg	13 33 40.2	-0.4

*NEIC **06** 13:32:59.3±1.1,35.68N±0.01×117.492W±0.007, h5km±1km,Error ellipse: s-maj=2.9km s-min=1.9km az=25.0*

*PAS **06** 13:32:59.6±1.1,35.68N±0.01×117.49W±0.01,h1km±1km, Mwr3.7/7,ML3.5/94(NEIC),Error ellipse: s-maj=1.6km s-min=1.3km az=170.0*

*IDC **06** 13:33:00.0±0.9,35.65N×117.46W,h0km,mb3.3/2, mbtmp3.2/7,ML3.5/5,MS2.7/1,Error ellipse: s-maj=19.5km s-min=5.6km az=75.0*

ISC 06 13:32:59.8±1.2,35.66N±0.02×117.48W±0.02,h2km±11km, n72,σ0s93/69,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCCA	**Chr Cany lake**	**0.16**	**145**		**Pg**	**13 33 04.0**	**+1.0**
CLC	**China Lake**	**0.18**	**329**		**Pg**	**13 33 03.0**	**-0.3**
LRMC	**Laurel Mtn Rad**	**0.24**	**223**		**Pg**	**13 33 04.8**	**+0.3**
LRMC	**Laurel Mtn Rad**	**0.24**	**223**	IAML		13 33 09.1	
	comp=E,22μm,0.3s						
LRMC				IAML		13 33 09.5	
	comp=N,17μm,0.3s						
TOW	**Tower One**	**0.28**	**303**		**Pg**	**13 33 05.5**	**+0.4**
WNMM	**Nine Mile Cany**	**0.39**	**298**		**Pg**	**13 33 07.2**	**-0.1**
MPMC	**Manual Prospec**	**0.40**	**359**		**Pg**	**13 33 06.9**	**-0.5**
WVPM	**Volcano Peak E**	**0.40**	**317**		**Pg**	**13 33 07.3**	**-0.1**
WRVM	**Rose V. Centra**	**0.48**	**316**		**Pg**	**13 33 08.7**	**-0.4**
DTP	**Desert Tortois**	**0.49**	**217**		**Pg**	**13 33 09.3**	**+0.1**
DTP					**Sg**	**13 33 16.0**	**+0.5**
MFS	**McCloud Flat S**	**0.55**	**326**		**Pg**	**13 33 09.9**	**-0.4**
WBSM	**Bird Springs**	**0.55**	**257**		**Pg**	**13 33 08.4**	**-0.3**
QSM	**Queen of Sheba**	**0.58**	**58**		**Pg**	**13 33 10.9**	**-0.1**
QSM					**Sg**	**13 33 18.7**	**+0.2**
QSM	**Queen of Sheba**	**0.58**	**58**	IAML		13 33 20.1	
	comp=N,4μm,0.7s						
GSC	**Goldstone, Bar**	**0.66**	**123**	Pg	**Pg**	**13 33 12.4**	**0.0**
GSC				IAML		13 33 22.4	
	comp=N,3μm,0.4s						
GSC				IAML		13 33 22.4	
	comp=E,3μm,0.3s						
CCAC	**Calif City Air**	**0.67**	**221**	Pg	**Pg**	**13 33 12.4**	**-0.2**
CCAC				IAML		13 33 27.4	
	comp=E,3μm,1.1s						
CCAC				IAML		13 33 29.0	
	comp=N,2μm,1.3s						
CCAC	**Calif City Air**	**0.67**	**221**		**Sg**	**13 33 22.0**	**+0.7**
HYS	**Haystack Butte**	**0.80**	**185**		**Pg**	**13 33 15.1**	**0.0**
ISA	**Isabella, Lake**	**0.81**	**271**	Pg	**Pg**	**13 33 14.7**	**-0.6**
ISA				IAML		13 33 26.7	
	comp=E,1μm,0.5s						
GWY	**Greenwater Val**	**0.84**	**51**	Pg	**Pg**	**13 33 15.5**	**-0.4**
GWY				IAML		13 33 33.0	
	comp=N,2μm,0.6s						
RRX	**Edison Barstow**	**0.88**	**153**		**Pn**	**13 33 17.8**	**-1.3**
EDW2	**Edwards Air Fo**	**0.88**	**209**		**Pg**	**13 33 16.3**	**-0.4**
SHOC	**Shoshone, Teco**	**1.01**	**76**		**Pb**	**13 33 19.5**	**-0.5**
SPG2	**Springville 2**	**1.18**	**298**		**Pb**	**13 33 21.1**	**-1.7**
DSCC	**Desert Studies**	**1.24**	**114**		**Pn**	**13 33 22.9**	**-1.2**
WCT	**Wildcat Mounta**	**1.32**	**31**		**Pb**	**13 33 24.8**	**-0.7**
WCT	**Wildcat Mounta**	**1.32**	**31**	IAML		13 33 44.8	
	comp=E,515nm,1.1s						
GRAC	**Grapevine Rang**	**1.34**	**4**	Pg	**Pn**	**13 33 24.5**	**-1.0**
GRAC				IAML		13 33 47.4	
	comp=N,1μm,0.8s						
GRAC				IAML		13 33 47.7	
	comp=E,1μm,0.8s						
OSI	**Osito Audit: C**	**1.46**	**225**		**Pb**	**13 33 26.8**	**-0.9**
OSI				IAML		13 33 49.2	
	comp=N,691nm,0.9s						
OSI				IAML		13 33 49.3	
	comp=E,876nm,0.9s						
BBRC	**Big Bear Solar**	**1.47**	**162**		**Pg**	**13 33 27.7**	**-0.2**
MWC	**Mount Wilson**	**1.51**	**199**		**Pn**	**13 33 27.2**	**-0.8**
MWC				IAML		13 33 53.5	
	comp=N,666nm,0.7s						
MWC				IAML		13 33 54.3	
	comp=E,510nm,0.5s						
PASC	**Pasadena Art C**	**1.59**	**202**		**Pn**	**13 33 28.4**	**-0.6**
PASC				IAML		13 33 55.4	
	comp=E,423nm,1.0s						
PASC				IAML		13 33 56.3	
	comp=N,364nm,0.7s						
GMN	**Gold Mountain**	**1.65**	**6**		**Pn**	**13 33 29.3**	**-0.6**
DSP	**Deep Springs**	**1.75**	**347**		**Pb**	**13 33 31.5**	**-1.1**
CRGC	**Crocker Grade**	**1.88**	**258**		**Pb**	**13 33 34.6**	**-0.3**
DANC	**Danby, Needles**	**2.00**	**120**		**Pg**	**13 33 37.4**	**-0.7**
ELS	**Elsinore Mount**	**2.01**	**179**		**Pn**	**13 33 33.9**	**-0.8**
ELS				IAML		13 34 13.0	
	comp=E,228nm,0.8s						
ELS				IAML		13 34 14.4	
	comp=N,224nm,0.5s						
MZP	**Montezuma Peak**	**2.04**	**2**		**Pn**	**13 33 34.3**	**-1.1**
RPV	**Rancho Palos V**	**2.06**	**202**		**Pn**	**13 33 35.0**	**-0.3**
V12A	**Nelson**	**2.14**	**87**		**Pn**	**13 33 35.2**	**-1.4**
V12A				IAML		13 34 15.3	
	comp=N,203nm,0.6s						
PMD	**Palm Desert**	**2.20**	**155**	Pn	**Pn**	**13 33 36.4**	**-1.0**
PMD				IAML		13 34 13.0	
	comp=E,251nm,0.8s						
PMD				IAML		13 34 13.4	
	comp=N,197nm,0.7s						
PFO	**Pinyon Flats O**	**2.21**	**157**		**Pn**	**13 33 36.6**	**-1.0**
PFO				IAML		13 34 16.3	
	comp=N,230nm,1.3s						
PFO	**Pinyon Flats O**	**2.21**	**157**	Pn	**Pn**	**13 33 36.3**	**-1.2**
	comp=N,2.6nm,0.3s,baz=333,slow=11,SNR=5.9						
PFO				Pg	**Pb**	**13 33 40.5**	**0.0**
	comp=N,20nm,0.3s,baz=333,slow=11,SNR=22						
PFO				Sn	**Sn**	**13 34 05.4**	**-0.2**
	comp=N,8.5nm,0.3s,baz=33,slow=19,SNR=2.0						
PFO				Lg	Lg	13 34 10.2	
	comp=N,42nm,0.3s,baz=83,slow=9.6,SNR=15						
	comp=N,17nm,0.3s						
TPH	**Tonopah**	**2.42**	**5**		**Pn**	**13 33 39.9**	**-0.7**
S11A	**Rachel**	**2.42**	**35**		**Pg**	**13 33 45.5**	**-0.7**
S11A				IAML		13 34 32.5	
	comp=N,381nm,0.8s						
PRN	**Pahroc Range**	**2.62**	**48**		**Pg**	**13 33 50.3**	**+0.3**
PRN				IAML		13 34 43.0	
	comp=N,282nm,0.9s						
LHV	**Little Huntoon**	**2.71**	**343**		**Pn**	**13 33 44.6**	**+0.2**
LHV				IAML		13 34 38.6	
	comp=N,113nm,1.9s						
LHV				IAML		13 34 44.3	
	comp=E,113nm,1.5s						
PMPB	**Monarch Peak**	**2.75**	**283**		**Pn**	**13 33 43.0**	**-1.9**
CPE	**Camp Elliot**	**2.78**	**173**	IAML		13 34 29.1	
	comp=N,113nm,0.3s						
CPE				IAML		13 34 33.8	
	comp=E,148nm,0.8s						
NV11	**Mina Array Sit**	**2.82**	**349**		**Pn**	**13 33 46.0**	**0.0**
NVAR	**Mina Array Bea**	**2.84**	**347**		**Pn**	**13 33 47.0**	**+0.7**
NVAR	**Mina Array Bea**	**2.84**	**347**	Pn	**Pn**	**13 33 46.5**	**+0.1**
	comp=E,2.5nm,0.3s,baz=168,slow=13,SNR=5.9						
NVAR				Pg	**Pb**	**13 33 52.4**	**+1.0**
	comp=E,15nm,0.3s,baz=168,slow=17,SNR=34						
NVAR				Lg	Lg	13 34 30.6	
	comp=E,4.7nm,0.3s,baz=30,slow=24,SNR=5.8						
NVAR				LR	LR	13 34 46.4	
	comp=E,153nm,21.7s,baz=40,slow=38						
	comp=E,3.6nm,0.4s						
W13A	**Hualapai Mount**	**2.99**	**100**		**Pn**	**13 33 47.1**	**-1.3**
BAR	**Barrett**	**3.05**	**167**	IAML		13 34 36.1	
	comp=E,192nm,0.4s						
BAR				IAML		13 34 41.0	
	comp=N,110nm,0.7s						
BLYC	**Blythe**	**3.09**	**127**		**Pn**	**13 33 47.1**	**-2.5**
BLYC				IAML		13 34 44.8	
	comp=E,

comp=N,326nm,0.6s
GWY Greenwater Val 0.88 71 Pg 13 35 03.0 0.0
GWY IAML 13 35 15.5
comp=N,906nm,0.4s
GSC Goldstone, Bar 0.94 129 Pg 13 35 03.7 -0.5
GRAC Grapevine Rang 1.12 13 Pg Pg 13 35 07.2 -0.7
GRAC IAML 13 35 23.5
comp=N,378nm,0.6s
GRAC IAML 13 35 24.6
comp=E,554nm,0.5s
WCT Wildcat Mounta 1.24 44 IAML 13 35 30.4
comp=E,168nm,1.1s
AMDNV Amargosa 1.27 64 Pg 13 35 10.6 +0.1
GMN Gold Mountain 1.44 14 Pg Pg 13 35 13.8 0.0
GMN IAML 13 35 35.9
comp=N,164nm,0.5s
DSP Deep Springs 1.48 351 Pb 13 35 14.6 -0.1
DSP IAML 13 35 35.8
comp=E,200nm,0.7s
TUQ Turquoise Moun 1.51 107 Pn 13 35 13.2 -1.4
BHPR Bishop 1.54 336 Pn 13 35 15.3 +0.2
TPNV Topopah Spring 1.56 48 Pn 13 35 14.5 -0.9
TPNV IAML 13 35 40.2
comp=E,205nm,0.4s
TPNV IAML 13 35 41.9
comp=E,149nm,0.7s
CHFC Chilao Flat St 1.59 190 Pb 13 35 16.4 -0.1
MTUM Tungsten Hills 1.61 334 Pb 13 35 16.5 -0.4
BCW Bitter Crk WRg 1.70 236 Pn 13 35 17.1 -0.1
BCW IAML 13 35 42.6
comp=E,200nm,0.7s
BCW IAML 13 35 43.2
comp=N,191nm,0.5s
MTPC Mountain Pass 1.79 103 Pn 13 35 16.9 -1.5
KCC Kaiser Creek 1.93 318 Pb 13 35 21.7 -0.7
BENR Benton 1.95 339 Pb 13 35 22.5 -0.2
MCSM Casa Diablo Ho 2.01 331 Pb 13 35 23.6 -0.1
SHPR Sheep Range 2.13 73 Pn Pn 13 35 22.7 -0.5
TPH Tonopah 2.20 10 Pg Pg 13 35 28.5 0.0
V12A Nelson 2.31 93 Pn Pn 13 35 24.3 -1.3
V12A IAML 13 36 01.7
comp=N,128nm,0.5s
V12A IAML 13 36 03.3
comp=E,82nm,0.5s
PMD Palm Desert 2.49 154 Pn Pn 13 35 26.8 -1.1
PFO Pinyon Flats O 2.50 156 Pn Pn 13 35 27.2 -0.9
PFO IAML 13 36 12.1
comp=E,41nm,1.0s
PRN Pahroc Range 2.60 54 Pn Pn 13 35 29.2 -0.4
PRN IAML 13 36 17.2
comp=E,92nm,0.9s
PRN IAML 13 36 17.9
comp=N,82nm,0.6s
MYLM Yosemite Lake 2.65 305 Pb 13 35 33.4 -1.1
WKR Walker 2.95 332 Pg Pb 13 35 41.0 +1.2
CMB Columbia Colle 3.03 315 Pn Pn 13 35 34.7 -0.7
CMB IAML 13 36 23.7
comp=E,24nm,0.5s
CMB IAML 13 36 24.8
comp=N,28nm,0.6s
W13A Hualapai Mount 3.21 103 Pn Pn 13 35 36.5 -1.5

*NEIC **06** 13:36:26.3±2.2,35°41.841N±0°.010×117°.64W±0°.02, h9km±7km, Error ellipse: s-maj=1.9km s-min=1.4km az=75.0*
PAS 06 13:36:26.9±1.7,**35°.862N**±0°.007×**117°.69W**±0°.02, **h7**km±5km,**ML3.4**/19,**ML3.1**/52(NEIC),**Error ellipse: s-maj=2.2km s-min=0.7km az=113.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**230**		Pg	13 36 29.4	+0.5
CLC	**China Lake**	**0.09**	**123**		Pg	13 36 29.0	0.0
WVPM	**Volcano Peak E**	**0.14**	**309**		Pg	13 36 29.9	0.0
WVPM					Sg	13 36 32.2	+0.2
SRTC	**Snort**	**0.18**	**197**		Pg	13 36 30.9	+0.3
WNMM	**Nine Mile Cany**	**0.18**	**264**		Pg	13 36 30.5	0.0
WNMM					Sg	13 36 33.8	+0.8
WRVM	**Rose V. Centra**	**0.22**	**311**		Pg	13 36 31.3	-0.1
MPMC	**Manual Prospec**	**0.25**	**39**		Sg	13 36 35.6	+0.2
MFS	**McCloud Flat S**	**0.29**	**332**		Pg	13 36 32.4	-0.2
MFS					Sg	13 36 36.6	+0.1
LRMC	**Laurel Mtn Rad**	**0.38**	**180**	Pg	Pg	13 36 34.0	-0.3
LRMC				IAML		13 36 40.0	
	comp=E,3µm,0.6s						
LRMC				IAML		13 36 41.1	
	comp=N,3µm,0.2s						
LRMC	**Laurel Mtn Rad**	**0.38**	**180**		Sg	13 36 40.1	+0.7
WORM	**Onyx Ranch**	**0.48**	**250**		Sg	13 36 42.3	-0.3
WBSM	**Bird Springs**	**0.49**	**229**		Sg	13 36 42.9	0.0
DTP	**Desert Tortois**	**0.61**	**192**		Pg	13 36 38.1	-0.5
CWC	**Cottonwood Cre**	**0.66**	**331**		Pg	13 36 39.7	+0.1
QSM	**Queen of Sheba**	**0.67**	**81**		Pg	13 36 39.2	-0.6
QSM				IAML		13 36 51.6	
	comp=E,1µm,0.6s						
QSM				IAML		13 36 53.1	
	comp=N,1µm,0.5s						
ISA	**Isabella, Lake**	**0.67**	**253**		Pg	13 36 39.4	-0.5
ISA				IAML		13 36 49.2	
	comp=N,902nm,0.3s						
ISA				IAML		13 36 49.5	
	comp=E,1µm,0.2s						
CCAC	**Calif City Air**	**0.76**	**201**		Pg	13 36 40.8	-0.6
CCAC				IAML		13 36 51.9	
	comp=N,1µm,0.5s						
GWY	**Greenwater Val**	**0.89**	**68**		Pg	13 36 43.3	-0.6
GWY				IAML		13 37 00.4	
	comp=E,618nm,0.3s						
GWY				IAML		13 37 01.0	
	comp=N,747nm,0.5s						
GSC	**Goldstone, Bar**	**0.91**	**128**		Pg	13 36 43.0	-1.3
GSC				IAML		13 36 57.7	
	comp=N,587nm,0.4s						
GSC				IAML		13 37 04.9	
	comp=E,848nm,0.6s						
SPG2	**Springville 2**	**0.94**	**291**		Pg	13 36 43.9	-1.1
GRAC	**Grapevine Rang**	**1.16**	**13**	IAML		13 37 06.3	
	comp=N,650nm,0.5s						
WCT	**Wildcat Mounta**	**1.26**	**42**		Pn	13 36 49.6	-1.3
WCT				IAML		13 37 09.3	
	comp=E,448nm,0.5s						
WCT				IAML		13 37 11.6	
	comp=N,238nm,0.4s						
BAKC	**Calstate**	**1.27**	**246**		Pn	13 36 50.3	-0.6
LCH	**Last Change Ra**	**1.37**	**1**		Pn	13 36 51.5	-1.0
CJV	**Casa Juvan**	**1.38**	**196**		Pb	13 36 53.0	0.0
VOG	**Valley Oaks Go**	**1.45**	**289**		Pn	13 36 53.4	-0.1
GMN	**Gold Mountain**	**1.48**	**13**		Pn	13 36 53.1	-0.9
GMN				IAML		13 37 16.1	
	comp=E,138nm,0.4s						
GMN				IAML		13 37 16.8	
	comp=N,230nm,0.5s						
TUQ	**Turquoise Moun**	**1.50**	**106**		Pn	13 36 52.5	-1.8
DSP	**Deep Springs**	**1.52**	**351**		Pn	13 36 53.7	-0.7
TPNV	**Topopah Spring**	**1.59**	**46**		Pn	13 36 54.4	-1.1
TPNV				IAML		13 37 19.9	
	comp=N,336nm,0.7s						
TPNV				IAML		13 37 21.2	
	comp=N,427nm,0.8s						
BCW	**Bitter Crk WRg**	**1.69**	**237**		Pn	13 36 56.6	-0.2
BCW				IAML		13 37 32.6	
	comp=E,343nm,0.8s						
BCW				IAML		13 37 34.1	
	comp=N,294nm,0.9s						
PASC	**Pasadena Art C**	**1.74**	**194**		Pn	13 36 56.8	-0.6
CRGC	**Crocker Grade**	**1.77**	**250**		Pn	13 36 58.9	+0.9
MZP	**Montezuma Peak**	**1.85**	**7**		Pn	13 36 58.5	-0.8
MCSM	**Casa Diablo Ho**	**2.04**	**332**		Pb	13 37 04.4	0.0
SHPR	**Sheep Range**	**2.14**	**72**		Pn	13 37 01.6	-1.5
TSCN	**Private Proper**	**2.19**	**262**		Pn	13 37 05.1	+1.4
ELS	**Elsinore Mount**	**2.22**	**174**		Pn	13 37 03.5	-0.6
ELS				IAML		13 37 39.5	
	comp=E,106nm,0.6s						
ELS				IAML		13 37 41.0	
	comp=N,64nm,0.7s						
TPH	**Tonopah**	**2.24**	**9**		Pb	13 37 08.2	+0.5
POB	**Polly Butte**	**2.26**	**164**		Pn	13 37 04.0	-0.7
V12A	**Nelson**	**2.31**	**93**		Pb	13 37 09.1	+0.3
V12A				IAML		13 37 43.5	
	comp=N,61nm,0.5s						
LHV	**Little Huntoon**	**2.47**	**345**		Pg	13 37 13.0	-1.3
NV11	**Mina Array Sit**	**2.59**	**352**		Pn	13 37 08.1	-1.2
RAMR	**Ramage Ranch**	**2.60**	**266**		Pn	13 37 10.8	+1.5
NVAR	**Mina Array Bea**	**2.61**	**349**		Pg	13 37 16.5	-0.4
PRN	**Pahroc Range**	**2.62**	**53**		Pg	13 37 16.4	-0.7
MYLM	**Yosemite Lake**	**2.67**	**305**		Pb	13 37 14.0	-1.0
RYN	**Ryan**	**2.84**	**347**		Pn	13 37 12.9	+0.2
W13A	**Hualapai Mount**	**3.19**	**103**	Pn	Pn	13 37 16.0	-1.6
CCUT	**Cedar City**	**3.86**	**63**	Pn	Pn	13 37 27.0	+0.2

*NEIC **06** 13:41:41.9±1.7,35°.60N±0°.01×117°.41W±0°.02,h5km±1km, Error ellipse: s-maj=2.9km s-min=2.7km az=194.0*
PAS 06 13:41:42.8±1.6,**35°.59N**±0°.01×**117°.42W**±0°.02,**h6**km±5km, **ML3.2**/24,**ML3.1**/72(NEIC),**Error ellipse: s-maj=2.3km s-min=1.4km az=218.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mtn Rad**	**0.24**	**243**		Pg	13 41 47.5	0.0
LRMC					Sg	13 41 51.0	+0.4
LRMC	**Laurel Mtn Rad**	**0.24**	**243**	IAML		13 41 51.2	
	comp=E,17µm,0.2s						
LRMC				IAML		13 41 51.4	
	comp=N,17µm,0.2s						
CLC	**China Lake**	**0.27**	**328**		Pg	13 41 48.2	+0.1
CLC					Sg	13 41 52.0	+0.3
TOW	**Tower One**	**0.35**	**309**		Pg	13 41 49.9	+0.2
WNMM	**Nine Mile Cany**	**0.47**	**303**		Pg	13 41 51.7	-0.1
WNMM					Sg	13 41 58.7	+0.8
DTP	**Desert Tortois**	**0.47**	**227**		Pg	13 41 51.6	-0.3
MPMC	**Manual Prospec**	**0.47**	**353**		Pg	13 41 51.5	-0.5
WVPM	**Volcano Peak E**	**0.48**	**319**		Sg	13 41 59.1	+0.6
WRVM	**Rose V. Centra**	**0.57**	**318**		Pg	13 41 53.4	-0.4
GSC	**Goldstone, Bar**	**0.58**	**119**		Pg	13 41 53.7	-0.3
GSC				IAML		13 42 01.7	
	comp=N,1µm,0.3s						
QSM	**Queen of Sheba**	**0.59**	**50**		Pg	13 41 53.9	-0.2
QSM				IAML		13 42 02.3	
	comp=E,1µm,0.4s						
QSM				IAML		13 42 02.3	
	comp=N,1µm,0.4s						
CCAC	**Calif City Air**	**0.65**	**228**		Pg	13 41 54.9	-0.4
CCAC				IAML		13 42 04.4	
	comp=N,1µm,0.3s						
CCAC				IAML		13 42 08.8	
	comp=E,893nm,0.3s						
WHFM	**Hanning Flat**	**0.76**	**278**		Pg	13 41 56.8	-0.7
RRX	**Edison Barstow**	**0.79**	**154**		Pb	13 41 58.9	-0.1
GWY	**Greenwater Val**	**0.85**	**45**		Pg	13 41 58.8	-0.4
GWY				IAML		13 42 12.7	
	comp=E,811nm,0.3s						
GWY				IAML		13 42 13.1	
	comp=N,704nm,0.3s						
ISA	**Isabella, Lake**	**0.86**	**275**		Pg	13 41 58.4	-0.9
ISA				IAML		13 42 12.7	
	comp=N,319nm,0.4s						
ISA				IAML		13 42 13.1	
	comp=E,493nm,0.5s						
TEJ	**El Tejon**	**1.09**	**251**		Pg	13 42 02.4	-1.4
DSCC	**Desert Studies**	**1.17**	**112**		Pg	13 42 03.6	-1.6
TUQ	**Turquoise Moun**	**1.23**	**97**		Pg	13 42 05.5	-1.0
AMDNV	**Amargosa**	**1.27**	**47**		Pn	13 42 06.5	-0.5
WCT	**Wildcat Mounta**	**1.36**	**28**		Pn	13 42 06.8	-1.7
WCT				IAML		13 42 28.1	
	comp=N,294nm,0.5s						
WCT				IAML		13 42 29.1	
	comp=E,272nm,0.5s						
BBRC	**Big Bear Solar**	**1.39**	**163**		Pn	13 42 08.3	-0.6
GRAC	**Grapevine Rang**	**1.41**	**2**		Pn	13 42 08.3	-0.8
GRAC				IAML		13 42 31.3	
	comp=E,152nm,0.3s						
GRAC				IAML		13 42 46.1	
	comp=N,168nm,0.8s						
MWC	**Mount Wilson**	**1.46**	**201**		Pn	13 42 09.1	-0.8
MWC				IAML		13 42 31.3	
	comp=N,282nm,0.5s						
MWC				IAML		13 42 31.9	
	comp=E,245nm,0.5s						
PASC	**Pasadena Art C**	**1.54**	**204**		Pn	13 42 10.4	-0.5
PASC				IAML		13 42 37.3	
	comp=E,176nm,0.5s						
TPNV	**Topopah Spring**	**1.66**	**35**		Pn	13 42 11.5	-1.1
TPNV				IAML		13 42 38.9	
	comp=E,218nm,0.6s						
GMN	**Gold Mountain**	**1.71**	**4**		Pn	13 42 12.6	-0.9
DSP	**Deep Springs**	**1.83**	**346**		Pn	13 42 14.0	-0.8
ELS	**Elsinore Mount**	**1.94**	**180**		Pn	13 42 15.4	-0.9
SHPR	**Sheep Range**	**2.05**	**63**		Pn	13 42 16.8	-1.2
MZP	**Montezuma Peak**	**2.11**	**1**		Pn	13 42 18.0	-0.9
PMD	**Palm Desert**	**2.12**	**156**	Pn	Pn	13 42 17.1	-1.7
PMD				IAML		13 42 54.0	
	comp=E,55nm,0.5s						
PFO	**Pinyon Flats O**	**2.12**	**158**		Pn	13 42 17.5	-1.5
TPH	**Tonopah**	**2.49**	**4**		Pn	13 42 23.2	-0.9
TPH				IAML		13 43 05.4	
	comp=E,103nm,0.9s						
PRN	**Pahroc Range**	**2.64**	**46**		Pg	13 42 32.8	-0.5
PRN				IAML		13 43 08.2	
	comp=N,98nm,0.7s						
PRN				IAML		13 43 08.3	
	comp=E,88nm,0.8s						
LHV	**Little Huntoon**	**2.80**	**342**		Pg	13 42 34.8	-1.6
LHV				IAML		13 44 15.5	
	comp=E,77nm,0.8s						
NV11	**Mina Array Sit**	**2.90**	**349**		Pg	13 42 36.8	-1.6
NV11				IAML		13 44 13.5	
	comp=N,50nm,0.7s						
NVAR	**Mina Array Bea**	**2.92**	**346**		Pg	13 42 37.4	-1.4
W13A	**Hualapai Mount**	**2.93**	**99**		Pn	13 42 28.9	-1.3
W13A				IAML		13 44 19.9	
	comp=N,68nm,0.6s						
R11B	**Troy Canyon, C**	**3.12**	**28**		Pn	13 42 32.9	+0.1
RYN	**Ryan**	**3.16**	**344**		Pg	13 42 42.1	-1.3
RYN				IAML		13 44 29.7	
	comp=E,37nm,0.4s						
RYN				IAML		13 44 30.0	
	comp=N,50nm,1.0s						
YUH	**Yuha Desert**	**3.19**	**157**	Pg	Pg	13 42 42.9	-0.9
YUH				IAML		13 44 23.1	
	comp=N,37nm,1.1s						
YUH				IAML		13 44 24.5	
	comp=E,31nm,1.2s						
GLA	**Glamis**	**3.32**	**139**	Pn	Pn	13 42 34.4	-0.9
CBX	**Cerro Bola**	**3.33**	**169**	Pn	Pn	13 42 35.2	-0.3
LCMT	**Little Creek M**	**3.66**	**66**		Pn	13 42 40.1	0.0
LCMT				IAML		13 44 26.3	
	comp=N,37nm,0.7s						
ESJX	**Sierra Juarez**	**3.78**	**161**	Pg	Pb	13 42 52.0	+2.0
ESJX				IAML		13 44 36.3	
	comp=E,23nm,0.7s						
CCUT	**Cedar City**	**3.81**	**58**	Pn	Pn	13 42 41.5	-0.8
CCUT				IAML		13 44 33.4	
	comp=E,26nm,1.3s						
CCUT				IAML		13 44 42.8	
	comp=N,23nm,0.8s						
SPR3	**Spring Creek 3**	**4.20**	**35**	Pg	Pg	13 43 00.6	-2.7

*NEIC **06** 13:43:18.1±2.2,35°.62N±0°.01×117°.48W±0°.02,h10km±2km, Error ellipse: s-maj=3.0km s-min=2.3km az=309.0*
*PAS **06** 13:43:18.8±1.8,35°.62N±0°.01×117°.48W±0°.01,h7km±4km, Mwr3.6/4,ML3.7/96(NEIC),Error ellipse: s-maj=1.7km s-min=1.5km az=114.0*
*IDC **06** 13:43:18.6±0.8,35°.65N×117°.28W,h0km,mb3.4/3, mbtmp3.5/9,ML3.5/6,Error ellipse: s-maj=16.6km s-min=5.9km az=72.0*
ISC 06 13:43:18.9±0.9,**35°.58N**±0°.02×**117°.44W**±0°.02,**h10**km±7km, **n70,σ16/71,mb3.6/3,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.08**	**132**		**Pg**	**13 43 22.0**	**+0.7**
LRMC	**Laurel Mtn Rad**	**0.22**	**243**		**Pg**	**13 43 23.1**	**-0.4**
LRMC					**Sg**	**13 43 26.5**	**-0.2**
LRMC	**Laurel Mtn Rad**	**0.22**	**243**	IAML		13 43 26.8	
	comp=N,42µm,0.2s						
LRMC				IAML		13 43 27.1	
	comp=E,38µm,0.2s						
SRTC	**Snort**	**0.27**	**294**		**Pg**	**13 43 23.8**	**-0.7**
DTP	**Desert Tortois**	**0.46**	**227**		**Pg**	**13 43 27.3**	**-0.5**
DTP					**Sg**	**13 43 33.9**	**+0.1**
MPMC	**Manual Prospec**	**0.48**	**355**		**Pg**	**13 43 27.0**	**-1.3**
MPMC					**Sg**	**13 43 33.3**	**-1.3**
WRVM	**Rose V. Centra**	**0.56**	**319**		**Pg**	**13 43 28.3**	**-1.5**
WBSM	**Bird Springs**	**0.57**	**266**		**Sg**	**13 43 36.6**	**-1.0**
GSC	**Goldstone, Bar**	**0.59**	**118**		**Pb**	**13 43 30.4**	**-1.0**
GSC				IAML		13 43 42.8	
	comp=N,7µm,0.5s						
QSM	**Queen of Sheba**	**0.60**	**50**		**Pg**	**13 43 30.1**	**-0.5**
QSM				IAML		13 43 38.8	
	comp=E,6µm,0.2s						
QSM	**Queen of Sheba**	**0.60**	**50**		**Sg**	**13 43 38.2**	**-0.3**
CCAC	**Calif City Air**	**0.64**	**228**		**Sb**	**13 43 39.8**	**-1.3**
CCAC	**Calif City Air**	**0.64**	**228**		**Pg**	**13 43 30.7**	**-0.6**
CCAC				IAML		13 43 42.1	
	comp=N,4µm,0.3s						
CCAC				IAML		13 43 44.3	
	comp=E,5µm,0.5s						
ISA	**Isabella, Lake**	**0.85**	**276**		**Pg**	**13 43 33.6**	**-1.6**
GWY	**Greenwater Val**	**0.87**	**46**		**Pg**	**13 43 35.0**	**-0.7**
GWY				IAML		13 43 49.1	
	comp=E,4µm,0.4s						
GWY				IAML		13 43 54.9	
	comp=N,3µm,0.5s						
SHOC	**Shoshone, Teco**	**1.00**	**71**		**Pb**	**13 43 37.5**	**-0.8**
CWC	**Cottonwood Cre**	**1.00**	**329**		**Pg**	**13 43 36.8**	**-1.4**
TJR	**Tejon Ranch**	**1.20**	**243**		**Pn**	**13 43 40.3**	**-1.5**
TUQ	**Turquoise Moun**	**1.25**	**96**		**Pg**	**13 43 41.9**	**-0.9**
AMDNV	**Amargosa**	**1.28**	**47**		**Pg**	**13 43 42.6**	**-0.9**
WCT	**Wildcat Mounta**	**1.38**	**28**		**Pn**	**13 43 42.9**	**-1.4**
GRAC	**Grapevine Rang**	**1.41**	**2**	IAML		13 44 10.3	
	comp=E,2µm,0.8s						
OSI	**Osito Audit: C**	**1.43**	**228**	IAML		13 44 11.6	
	comp=E,2µm,0.7s						
PASC	**Pasadena Art C**	**1.53**	**204**		**Pn**	**13 43 45.7**	**-0.6**
PASC				IAML		13 44 11.2	
	comp=E,817nm,0.4s						
PASC				IAML		13 44 12.1	
	comp=N,774nm,0.5s						
TIN	**Tinemaha, Big**	**1.60**	**337**		**Pb**	**13 43 47.7**	**-1.0**
TPNV	**Topopah Spring**	**1.67**	**35**		**Pn**	**13 43 47.4**	**-1.0**
TPNV				IAML		13 44 16.6	
	comp=N,479nm,0.5s						
TPNV				IAML		13 44 19.7	
	comp=N,493nm,0.6s						
GMN	**Gold Mountain**	**1.72**	**5**		**Pn**	**13 43 48.1**	**-1.1**
GMN				IAML		13 44 20.1	
	comp=N,538nm,0.7s						
BCW	**Bitter Crk WRg**	**1.74**	**249**		**Pg**	**13 43 51.2**	**-1.0**
BCW				IAML		13 44 22.1	
	comp=E,1µm,0.8s						
BCW				IAML		13 44 23.2	
	comp=N,1µm,0.9s						
BLAC	**Blackrock camp**	**1.74**	**150**		**Pn**	**13 43 48.9**	**-0.4**
VOG	**Valley Oaks Go**	**1.74**	**296**		**Pn**	**13 43 48.7**	**-0.4**
DSP	**Deep Springs**	**1.83**	**347**		**Pb**	**13 43 52.1**	**-0.4**
ELS	**Elsinore Mount**	**1.93**	**180**		**Pn**	**13 43 51.5**	**-0.3**
ELS				IAML		13 44 22.1	
	comp=E,594nm,0.3s						
ELS				IAML		13 44 28.8	
	comp=N,498nm,0.5s						
DGR	**Domenigoni Val**	**1.96**	**169**		**Pn**	**13 43 52.1**	**-0.2**
RPV	**Rancho Palos V**	**2.00**	**204**		**Pn**	**13 43 52.5**	**-0.2**
SHPR	**Sheep Range**	**2.06**	**63**		**Pg**	**13 43 57.0**	**-1.5**
SHPR				IAML		13 44 26.0	
	comp=N,297nm,0.8s						
CRY	**Cary Ranch**	**2.09**	**164**		**Pn**	**13 43 53.9**	**-0.2**
V12A	**Nelson**	**2.11**	**85**		**Pn**	**13 43 53.2**	**-1.2**
V12A				IAML		13 44 27.1	
	comp=N,354nm,0.6s						
V12A				IAML		13 44 33.8	
	comp=E,319nm,0.4s						
MZP	**Montezuma Peak**	**2.12**	**1**		**Pn**	**13 43 53.6**	**-1.0**
PMD	**Palm Desert**	**2.12**	**155**	Pn	**Pn**	**13 43 53.6**	**-0.8**
PMD				IAML		13 44 29.5	
	comp=E,474nm,0.8s						
PMD				IAML		13 44 33.3	
	comp=N,344nm,0.9s						
PFO	**Pinyon Flats O**	**2.12**	**157**		**Pn**	**13 43 53.9**	**-0.7**
PFO				IAML		13 44 30.0	
	comp=N,464nm,0.9s						
PFO	**Pinyon Flats O**	**2.12**	**157**	Pn	**Pn**	**13 43 53.8**	**-0.7**
	comp=N,2.9nm,0.3s,baz=330,slow=10.0,SNR=1.5						
PFO				Pg	**Pg**	**13 43 58.4**	**-1.2**
	comp=N,45nm,0.3s,baz=331,slow=14,SNR=24						
PFO				Sn	**Sn**	**13 44 20.2**	**-0.9**
	comp=N,37nm,0.3s,baz=348,slow=15,SNR=4.7						
PFO				Lg	Lg	13 44 26.9	
	comp=N,92nm,0.3s,baz=58,slow=19,SNR=15						
	comp=N,55nm,0.3s						
TPH	**Tonopah**	**2.50**	**4**		**Pn**	**13 43 58.6**	**-1.2**
LHV	**Little Huntoon**	**2.80**	**343**		**Pn**	**13 44 04.3**	**+0.6**
LHV				IAML		13 44 53.5	
	comp=N,209nm,0.6s						
LHV				IAML		13 44 56.4	
	comp=E,214nm,0.7s						
PMPB	**Monarch Peak**	**2.80**	**284**		**Pn**	**13 44 03.1**	**-0.7**
PMPB				IAML		13 44 52.9	
	comp=N,454nm,0.9s						
NV11	**Mina Array Sit**	**2.90**	**349**		**Pb**	**13 44 11.9**	**+1.0**
NVAR	**Mina Array Bea**	**2.93**	**347**		**Pb**	**13 44 12.1**	**+0.8**
NVAR	**Mina Array Bea**	**2.93**	**347**	Pn	**Pn**	**13 44 04.8**	**-0.9**
	comp=N,2.8nm,0.3s,baz=162,slow=14,SNR=2.0						
NVAR				Pg	**Pb**	**13 44 11.2**	**-0.1**
	comp=N,16nm,0.3s,baz=189,slow=31,SNR=20						
NVAR				Lg	Lg	13 44 49.5	
	comp=N,13nm,0.3s,baz=178,slow=18,SNR=5.3						
	comp=N,3.1nm,0.6s						
W13A	**Hualapai Mount**	**2.95**	**98**		**Pn**	**13 44 05.0**	**-1.0**
W13A				IAML		13 44 57.2	
	comp=E,156nm,0.7s						
W13A				IAML		13 45 00.6	
	comp=N,153nm,1.0s						
BLYC	**Blythe**	**3.02**	**126**		**Pn**	**13 44 05.3**	**-1.5**
BLYC				IAML		13 44 58.2	
	comp=N,264nm,0.6s						
BLYC				IAML		13 45 04.3	
	comp=E,260nm,0.8s						
RYN	**Ryan**	**3.16**	**344**		**Pn**	**13 44 08.6**	**-0.3**
YUH	**Yuha Desert**	**3.19**	**156**		**Pn**	**13 44 08.0**	**-1.1**
YUH				IAML		13 45 06.0	
	comp=N,102nm,1.2s						
CBX	**Cerro Bola**	**3.32**	**169**		**Pn**	**13 44 11.1**	**0.0**
GLA	**Glamis**	**3.32**	**139**		**Pn**	**13 44 09.4**	**-1.6**
ESJX	**Sierra Juarez**	**3.78**	**160**	IAML		13 45 21.6	
	comp=E,163nm,0.9s						
ESJX				IAML		13 45 21.7	
	comp=N,138nm,0.9s						
KNB	**Kanab**	**4.00**	**68**	IAML		13 45 34.8	
	comp=N,72nm,1.2s						
KNB				IAML		13 45 41.7	
	comp=E,58nm,1.3s						
Y14A	**Wickenburg**	**4.00**	**113**		**Pn**	**13 44 19.5**	**-0.8**
Y14A				IAML		13 45 33.9	
	comp=E,117nm,0.5s						
113A	**Mohawk Valley,**	**4.14**	**132**	IAML		13 45 38.4	
	comp=E,59nm,1.1s						
MPK	**Martis Peak**	**4.24**	**332**		**Pb**	**13 44 36.1**	**+2.3**
MPK				IAML		13 45 50.5	
	comp=N,144nm,0.9s						
MPK				IAML		13 46 08.5	
	comp=E,142nm,1.1s						
WUAZ	**Wupatki**	**4.95**	**89**	Pn	**Pn**	**13 44 33.5**	**+0.1**
WUAZ				IAML		13 46 05.1	
	comp=E,61nm,0.8s						
WUAZ				IAML		13 46 36.4	
	comp=E,84nm,1.5s						
214A	**Organ Pipe Nat**	**5.29**	**132**	Pn	**Pn**	**13 44 36.0**	**-1.9**
214A				IAML		13 46 15.2	
	comp=N,24nm,1.0s						
214A				IAML		13 46 21.0	
	comp=E,34nm,1.0s						
ELK	**El

TXAR	**Lajitas Array**		**13.19**	**114**	Pn		**Pn**	**13 46 28.1**		**+1.7**
	comp=E,0.2nm,0.3s,baz=293,slow=13,SNR=16									
	comp=E,0.3nm,0.4s									
BBB	**Bella Bella**		**18.26**	**339**	P		**P**	**13 47 33.5**		**+1.1**
	comp=E,0.1nm,0.3s,baz=339,slow=4.4,SNR=3.1									
	comp=E,9.4nm,1.0s									
ULM	**Lac du Bonnet**		**21.44**	**40**	P		**P**	**13 48 07.1**		**0.0**
	comp=E,3.1nm,0.8s,baz=234,slow=13,SNR=6.0									
	comp=E,3.1nm,0.8s									
ILAR	**Eielson Array**		**34.15**	**338**	P		**P**	**13 50 05.0**		**+1.2**
	comp=E,0.2nm,0.8s,baz=146,slow=8.3,SNR=2.7									
	comp=E,0.2nm,0.8s									
ESDC	**Sonseca Array**		**83.24**	**45**	P		**P**	**13 55 47.0**		**+1.3**
	comp=E,0.3nm,0.8s,baz=336,slow=2.8,SNR=2.4									
	comp=E,0.3nm,0.8s									

*KRNET **06** 13:48:23.8±0.1, 39.°43N×73.°72E, h17km, mb3.3*
*SOME **06** 13:48:24.2, 39.°57N×73.°27E, h15km*
*NNC **06** 13:48:26.4±3.4, 39.°53N×73.°80E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=24.4km s-min=13.8km az=166.0*

ISC 06 13:48:23.8±1.1, 39.°44N±0.°05×73.°72E±0.°03, h10km, n40, σ2§50/71, 24C-32D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SFK	**Sufi-Kurgan**	**0.60**	**344**	⇓	*iP*	**Pb**		**13 48 35.6**	**-0.9**
SFK				⇓	*iS*	**Sg**		**13 48 44.1**	**+0.8**
OHH	**Osh**	**1.30**	**327**	⇑	*iP*	**Pg**		**13 48 48.4**	**-0.3**
OHH				⇑	*iS*	**Sg**		**13 49 06.2**	**+0.6**
SALK	**Salom-Alik**	**1.45**	**3**	⇓	*iP*	**Pb**		**13 48 50.9**	**0.0**
SALK				⇓	*iS*	**Sg**		**13 49 10.8**	**+0.5**
DRK	**Karamyk**	**1.48**	**272**	⇓	*eP*	**Pg**		**13 48 51.2**	**-1.1**
DRK				⇓	*eS*	**Sg**		**13 49 11.7**	**+0.1**
ARSB	**Arslanbob**	**1.96**	**344**	⇓	*iP*	**Pb**		**13 49 00.0**	**+0.3**
ARSB				⇓	*iS*	**Sg**		**13 49 26.1**	**-0.9**
BTK	**Batken**	**2.32**	**286**	⇓	*iP*	**Pb**		**13 49 04.6**	**-1.1**
BTK				⇓	*iS*	**Sb**		**13 49 34.7**	**+0.2**
NRN	**Naryn**	**2.65**	**40**	⇑	*iP*	**Pb**		**13 49 09.0**	**-2.5**
NRN				⇑	*iS*	**Sb**		**13 49 42.0**	**-2.2**
GAR	**Garm**	**2.68**	**262**	⇓	*iP*	**Pb**		**13 49 09.5**	**-2.4**
GAR				⇓	*iS*	**Sb**		**13 49 43.1**	**-1.7**
AML	**Almayashu**	**2.69**	**360**	⇓	*iP*	**Pb**		**13 49 10.2**	**-2.0**
AML				⇓	*iS*	**Sb**		**13 49 44.0**	**-1.5**
ARK	**Arkit**	**2.71**	**331**	⇓	*iP*	**Pb**		**13 49 10.2**	**-2.2**
ARK				⇓	*iS*	**Sb**		**13 49 44.3**	**-1.4**
UCH	**Uchtor**	**2.85**	**12**	⇓	*iP*	**Pb**		**13 49 12.3**	**-2.7**
UCH				⇓	*iS*	**Sb**		**13 49 47.7**	**-2.5**
TRKS	**Terek-Say**	**2.87**	**318**	⇑	*iP*	**Pb**		**13 49 11.6**	**-3.5**
TRKS				⇑	*iS*	**Sn**		**13 49 46.5**	**+2.1**
MNAS	**Manas**	**3.18**	**344**	⇓	*iP*	**Pb**		**13 49 16.8**	**-3.7**
MNAS				⇓	*iS*	**Sn**		**13 49 55.5**	**+3.4**
EKS2	**Erkin-Say**	**3.22**	**1**	⇓	*iP*	**Pb**		**13 49 17.4**	**-3.7**
EKS2				⇓	*iS*	**Sn**		**13 49 56.4**	**+3.4**
AAK	**Ala-Archa**	**3.25**	**10**	⇑	Pg	**Pb**		**13 49 20.7**	**-0.9**
	2.4nm,0.6s								
AAK				⇑	Lg	Lg		13 50 05.7	
	3.4nm,0.5s								
AAK	**Ala-Archa**	**3.25**	**10**	⇑	*iP*	**Pn**		**13 49 17.6**	**+2.6**
AAK				⇑	*iS*	**Sn**		**13 49 57.2**	**+3.4**
MRKS	**Merke**	**3.32**	**354**		Pg	**Pb**		**13 49 22.3**	**-0.6**
	5.0nm,0.2s								
MRKS					Lg	Lg		13 50 04.4	
	19nm,0.3s								
MRKS	**Merke**	**3.32**	**354**		*eP*	**Pb**		**13 49 22.3**	**-0.6**
	3.1nm,0.2s								
MRKS					*eS*	**Sb**		**13 50 03.4**	**0.0**
	19nm,0.3s								
KBK	**Karagaybulak**	**3.35**	**16**	⇑	*eP*	**Pn**		**13 49 19.1**	**+2.8**
KBK				⇑	*iS*	**Sn**		**13 49 59.2**	**+3.0**
ULHL	**Ulahol**	**3.40**	**34**	⇑	*iP*	**Pn**		**13 49 19.7**	**+2.7**
ULHL				⇑	*iS*	**Sn**		**13 50 00.4**	**+2.9**
FRU1	**Bishkek**	**3.44**	**11**	⇑	*iP*	**Pn**		**13 49 20.6**	**+3.1**
FRU1				⇑	*iS*	**Sn**		**13 50 01.9**	**+3.6**
BOOM	**Boomskoye usch**	**3.48**	**28**	⇑	*iP*	**Pn**		**13 49 21.0**	**+2.8**
BOOM				⇑	*iS*	**Sn**		**13 50 02.5**	**+3.0**
CHMS	**Chumysh**	**3.64**	**12**	⇓	*iP*	**Pn**		**13 49 22.9**	**+2.7**
CHMS				⇓	*iS*	**Sn**		**13 50 06.1**	**+2.8**
TKM2	**Tokmak 2**	**3.76**	**22**	⇓	*iP*	**Pn**		**13 49 24.7**	**+2.7**
TKM2				⇓	*iS*	**Sn**		**13 50 09.2**	**+2.8**
KDJ	**Kajisay**	**3.76**	**43**	⇑	*eP*	**Pn**		**13 49 24.7**	**+2.7**
KDJ				⇑	*eS*	**Sn**		**13 50 09.8**	**+3.4**
TARG	**Taragay, Kyrgy**	**3.86**	**52**	⇓	*eP*	**Pn**		**13 49 26.0**	**+2.4**
TARG				⇓	*iS*	**Sn**		**13 50 11.8**	**+2.5**
USP	**Ospenovka**	**3.87**	**9**	⇑	*iP*	**Pn**		**13 49 26.2**	**+2.8**
USP				⇑	*iS*	**Sn**		**13 50 11.9**	**+3.0**
KST	**Kastek**	**3.98**	**24**		Pg	**Pg**		**13 49 37.4**	**-2.6**
	2.4nm,0.3s								
KST					Lg	Lg		13 50 30.7	
	8.3nm,0.5s								
KST	**Kastek**	**3.98**	**24**		*eP*	**Pg**		**13 49 37.8**	**-2.2**
	2.4nm,0.3s								
KST					*eS*	**Sg**		**13 50 30.1**	**-1.5**
	6.3nm,0.4s								
SGDS	**Sogindy**	**4.07**	**9**		Pg	**Pg**		**13 49 39.2**	**-2.5**
	3.3nm,0.3s								
SGDS					Lg	Lg		13 50 32.8	
	1.7nm,0.3s								
MTBS	**Maitube**	**4.22**	**28**		Pg	**Pg**		**13 49 43.1**	**-1.5**
	1.6nm,0.1s								
MTBS					Lg	Lg		13 50 39.3	
	4.5nm,0.2s								
MTBS	**Maitube**	**4.22**	**28**		*eP*	**Pg**		**13 49 43.0**	**-1.5**
	1.6nm,0.1s								
MTBS					*eS*	**Sg**		**13 50 39.3**	**+0.2**
	4.5nm,0.2s								
KK31	**Karatay Array**	**4.39**	**328**	⇓	Pn	Pn		13 49 34.6	+4.2
	0.6nm,0.3s,baz=143,slow=14,SNR=5.5								
KK31				⇓	Pg	**Pg**		**13 49 45.1**	**-2.7**
	4.2nm,0.6s,baz=145,slow=16,SNR=8.6								
KK31				⇓	Sn	**Sb**		**13 50 28.2**	**-5.6**
	6.1nm,0.7s,baz=0.0,slow=0.1,SNR=4.9								
KK31				⇓	Lg	Lg		13 50 45.6	
	2.1nm,0.5s,baz=148,slow=28								
KKAR	**Karatay Array**	**4.39**	**328**	⇑	*iP*	**Pn**		**13 49 33.5**	**+3.1**
KKAR				⇑	*iS*	**Sn**		**13 50 24.3**	**+2.7**
KRBS	**Karabastau**	**4.50**	**18**		Pg	**Pb**		**13 49 45.8**	**+2.9**
	3.0nm,0.3s								
KRBS					Lg	Lg		13 50 44.3	
	4.9nm,0.5s								
KOTS	**Kotyrbulak**	**4.57**	**33**		Pg	**Pg**		**13 49 48.9**	**-2.4**
	2.5nm,0.5s								
KOTS					Lg	Lg		13 50 49.3	
	19nm,0.4s								
KOTS	**Kotyrbulak**	**4.57**	**33**		*eP*	**Pg**		**13 49 48.9**	**-2.4**
	2.5nm,0.5s								
KOTS					*eS*	**Sg**		**13 50 49.3**	**-1.3**
	19nm,0.4s								
KTBS	**Karatobe**	**4.81**	**27**		Pg	**Pg**		**13 49 52.5**	**-3.4**
	1.4nm,0.4s								
KTBS					Lg	Lg		13 50 55.9	
	12nm,0.4s								
KUU	**Kurty**	**4.87**	**23**		Pg	**Pg**		**13 49 53.8**	**-3.1**
	1.9nm,0.1s								
KUU					Lg	Lg		13 50 57.8	
	38nm,0.2s								
KUU	**Kurty**	**4.87**	**23**		*eP*	**Pg**		**13 49 53.8**	**-3.1**
	1.9nm,0.1s								
KUU					*eS*	**Sg**		**13 50 57.8**	**-2.1**
	38nm,0.2s								

*NEIC **06** 13:54:54.4±2.7, 23.°6N±0.°1×44.°72W±0.°09, h10km±2km, mb4.5/10, Error ellipse: s-maj=25.5km s-min=9.9km az=206.0*
*IDC **06** 13:55:05.0±0.8, 25.°58N×45.°20W, h0km, mb4.0/11, mbtmp4.0/11, MS3.8/23, Error ellipse: s-maj=23.5km s-min=22.0km az=107.0*

ISC 06 13:54:54.4±2.4, 23.°6N±0.°3×44.°8W±0.°3, h10km, n47, σ1§87/18, mb4.4/15, MS3.8/22, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
GDSD	**La Dsirade Is**	**16.93**	**248**			Pn	**Pn**	**13 58 49.3**	**-2.2**
GDSD						IAmb	IAmb	13 58 59.0	
	comp=Z,46nm,1.1s								
TDBA	**Terre de Bas,**	**17.63**	**247**				**P**	**13 59 00.9**	**-0.4**
MDP	**Montagnes des**	**19.89**	**204**			LR	LR	14 06 16.1	
	comp=Z,136nm,21.1s,baz=43,slow=31								
SJG	**San Juan**	**20.69**	**259**			LR	LR	14 06 12.4	
	comp=Z,303nm,21.3s,baz=114,slow=32								
PCRV	**Puerto La Cruz**	**23.18**	**238**			LR	LR	14 08 07.7	
	comp=Z,149nm,21.2s,slow=33								

BBTS	**Babate**		**28.09**	**103**		LR	LR	14 09 34.9		
	comp=Z,341nm,20.2s,baz=195,slow=30									
SDV	**Santo Domingo**		**28.73**	**244**		LR	LR	14 11 58.6		
	comp=Z,152nm,21.1s,baz=68,slow=35									
RCBR	**Riachuelo**		**30.51**	**162**		LR	LR	14 11 30.8		
	comp=Z,67nm,18.9s,baz=64,slow=30									
ROSC	**El Rosal**		**34.04**	**241**		LR	LR	14 16 01.1		
	comp=Z,173nm,21.3s,baz=66,slow=36									
SADO	**Sadowa**		**35.03**	**316**		LR	LR	14 12 56.9		
	comp=Z,397nm,20.8s,baz=142,slow=32									
TKL	**Tuckaleechee C**		**35.74**	**299**		LR	LR	14 13 14.3		
	comp=Z,380nm,21.5s,baz=110,slow=32									
MDT	**Midelt**		**36.39**	**66**		LR	LR	14 14 03.0		
	comp=Z,164nm,19.2s,baz=238,slow=32									
BDFB	**Brasilia**		**39.13**	**185**		LR	LR	14 18 03.1		
	comp=Z,156nm,18.5s,baz=352,slow=34									
JTS	**Las Juntas de**		**40.49**	**258**		LR	LR	14 18 34.7		
	comp=Z,53nm,21.3s,baz=74,slow=35									
DBIC	**Dimbokro**		**41.87**	**107**		LR	LR	14 18 15.1		
	comp=Z,358nm,19.4s,baz=325,slow=32									
SIV	**San Ignacio**		**42.45**	**204**		LR	LR	14 20 05.9		
	comp=Z,104nm,19.9s,baz=72,slow=34									
H10N2	**ASCENSION HYDR**		**43.04**	**133**		T	T	14 50 55.9		
	baz=318,slow=75,SNR=404									
H10N3	**ASCENSION HYDR**		**43.04**	**133**		T	T	14 50 53.0		
	baz=318,slow=75,SNR=309									
H10N1	**ASCENSION HYDR**		**43.06**	**133**		T	T	14 50 54.2		
	baz=318,slow=75,SNR=312									
H10S3	**ASCENSION HYDR**		**43.75**	**134**		T	T	14 51 29.0		
	baz=318,slow=74,SNR=140									
H10S2	**ASCENSION HYDR**		**43.77**	**134**		T	T	14 51 33.3		
	baz=262,slow=74,SNR=130									
ATAH	**Atahualpa**		**44.85**	**231**		LR	LR	14 23 48.0		
	comp=Z,97nm,21.1s,baz=53,slow=38									
TORD	**Torodi Ar. Bea**		**45.14**	**95**		P	P	14 03 28.3		+17
	comp=Z,1.2nm,0.3s,baz=297,slow=8.0,SNR=1.3									
TORD						LR	LR	14 21 00.4		
	comp=Z,347nm,19.9s,baz=300,slow=34									
	comp=Z,1.2nm,0.3s									
LPAZ	**La Paz**		**45.74**	**212**		P	P	14 03 40.5		+24
	comp=Z,5.4nm,1.1s,baz=29,slow=9.8,SNR=9.1									
LPAZ						LR	LR	14 22 32.6		
	comp=Z,103nm,21.2s,baz=21,slow=35									
	comp=Z,5.4nm,1.1s									
ULM	**Lac du Bonnet**		**47.53**	**317**		P	**P**	**14 03 28.9**		**-1.0**
	comp=Z,3.2nm,0.9s,baz=91,slow=5.2,SNR=4.5									
	comp=Z,3.2nm,0.9s									
WMOK	**Wichita Mounta**		**47.94**	**296**		P	**P**	**14 03 35.2**		**+1.9**
WMOK						IAmb	IAmb	14 03 37.9		
	comp=Z,7.6nm,1.4s									
SUMG	**Summit**		**49.13**	**3**		P	**P**	**14 03 40.2**		**-2.1**
SUMG						IAmb	IAmb	14 03 42.0		
	comp=Z,6.1nm,0.9s									
TXAR	**Lajitas Array**		**52.56**	**290**		P	**P**	**14 04 13.1**		**+4.7**
	comp=Z,0.3nm,0.7s,baz=99,slow=7.7,SNR=3.7									
TXAR						LR	LR	14 25 41.5		
	comp=Z,30nm,21.8s,baz=76,slow=36									
	comp=Z,0.3nm,0.7s									
NOA	**NORSAR Array B**		**53.31**	**30**		P	**P**	**14 04 14.3**		**+0.8**
NOA	**NORSAR Array B**		**53.31**	**30**		P	**P**	**14 04 14.3**		**+0.8**
	comp=Z,1.3nm,0.3s,baz=255,slow=7.6,SNR=2.2									
	comp=Z,1.3nm,0.3s									
ANMO	**Albuquerque**		**54.23**	**297**		LR	LR	14 25 24.7		
	comp=Z,222nm,19.8s,baz=148,slow=34									
PD31	**Pinedale Array**		**56.13**	**307**		P	**P**	**14 04 33.4**		**-1.0**
PDAR	**Pinedale Array**		**56.13**	**307**		P	**P**	**14 04 34.2**		**-0.2**
PDAR	**Pinedale Array**		**56.13**	**307**		P	**P**	**14 04 36.5**		**+2.1**
	comp=Z,0.9nm,0.8s,baz=95,slow=7.4,SNR=7.8									
	comp=Z,0.9nm,0.8s									
EGMT	**Eagleton**		**56.25**	**313**		P	**P**	**14 04 35.8**		**+0.8**
EGMT						IAmb	IAmb	14 04 43.9		
	comp=Z,7.2nm,1.1s									
TPAW	**Teton Pass**		**57.13**	**308**		P	**P**	**14 04 41.8**		**+0.3**
TPAW						IAmb	IAmb	14 04 46.0		
	comp=Z,3.4nm,0.9s									
LPIG	**La Paz**		**59.41**	**285**		LR	LR	14 30 32.4		
	comp=Z,83nm,20.4s,baz=34,slow=36									
YKA	**Yellowknife Ar**		**60.03**	**330**		P	**P**	**14 04 58.9**		**-2.2**
	comp=Z,0.7nm,0.8s,baz=94,slow=7.4,SNR=12									
	comp=Z,0.7nm,0.8s									
AKASG	**Malin Array B**		**62.10**	**44**		P	P	14 05 19.8		+4.5
	comp=Z,1.3nm,0.8s,baz=275,slow=6.0,SNR=4.2									
	comp=Z,1.3nm,0.8s									
LTY	**Liberty**		**63.65**	**313**		P	**P**	**14 05 25.5**		**-0.3**
PLCA	**Paso Flores**		**68.35**	**201**		P	P	14 06 18.7		+23
	comp=Z,2.2nm,0.7s,baz=1.5,slow=6.2,SNR=5.3									
PLCA						LR	LR	14 36 48.7		
	comp=Z,47nm,18.1s,baz=17,slow=36									
	comp=Z,2.2nm,0.7s									
E25K	**Arctic Village**		**72.25**	**337**		P	**P**	**14 06 20.9**		**+1.3**
E25K						IAmb	IAmb	14 06 22.2		
	comp=Z,4.2nm,1.0s									
ILAR	**Eielson Array**		**73.90**	**334**		P	**P**	**14 06 30.8**		**+1.4**
	comp=Z,1.0nm,0.7s,baz=68,slow=5.2,SNR=13									
	comp=Z,1.0nm,0.7s									
CCB	**Clear Creek Bu**		**74.31**	**334**		P	**P**	**14 06 31.0**		**-0.7**
USHA	**Ushuaia**		**80.71**	**194**		LR	LR	14 44 24.7		
	comp=Z,32nm,19.7s,baz=121,slow=36									
PMSA	**Palmer Station**		**89.35**	**188**		LR	LR	14 48 17.8		
	comp=Z,22nm,20.2s,baz=320,slow=35									
KURBB	**Kurchatov Arra**		**90.80**	**32**		P	P	14 08 03.1		+5.2
	comp=Z,0.3nm,0.6s,baz=304,slow=5.2,SNR=5.1									
	comp=Z,0.3nm,0.6s									

*IDC **06** 13:55:49.0±2.8, 35.°72N×117.°77W, h0km, mb3.2/1, mbtmp3.1/3, ML3.5/2, Error ellipse: s-maj=29.9km s-min=19.7km az=53.0*
*NEIC **06** 13:55:50.3±1.9, 35.°870N±0.°010×117.°68W±0.°01, h8km±8km, Error ellipse: s-maj=2.0km s-min=1.1km az=54.0*
*PAS **06** 13:55:51.2±2.2, 35.°863N±0.°007×117.°70W±0.°02, h7km±4km, Mwr3.5/6, ML3.5/84(NEIC), Error ellipse: s-maj=2.4km s-min=1.0km az=88.0*

ISC 06 13:55:50.7±0.8, 35.°82N±0.°02×117.°69W±0.°02, h12km±6km, n65, σ1§21/67, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
TOW	**Tower One**	**0.06**	**262**				**Pg**	**13 55 53.6**	**+0.4**
SRTC	**Snort**	**0.13**	**200**				**Pg**	**13 55 55.1**	**+1.0**
WVPM	**Volcano Peak E**	**0.17**	**323**				**Pg**	**13 55 54.0**	**-0.7**
WVPM							**Sg**	**13 55 56.1**	**-1.4**
WNMM	**Nine Mile Cany**	**0.17**	**278**				**Pg**	**13 55 54.7**	**0.0**
WNMM							**Sg**	**13 55 57.6**	**+0.2**
WRVM	**Rose V. Centra**	**0.25**	**320**				**Pg**	**13 55 55.3**	**-0.8**
MPMC	**Manual Prospec**	**0.29**	**34**				**Pg**	**13 55 56.1**	**-0.7**
MFS	**McCloud Flat S**	**0.33**	**336**				**Pg**	**13 55 56.5**	**-0.9**
LRMC	**Laurel Mtn Rad**	**0.34**	**179**				**Sb**	**13 56 04.2**	**0.0**
LRMC	**Laurel Mtn Rad**	**0.34**	**179**			Pg	**Pb**	**13 55 58.4**	**-0.3**
LRMC						IAML		13 56 04.8	
	comp=E,10μm,0.6s								
LRMC						IAML		13 56 04.9	
	comp=N,13μm,0.2s								
CCCA	**Chr Cany lake**	**0.40**	**137**				**Sg**	**13 55 59.8**	**-4.1**
WBSM	**Bird Springs**	**0.46**	**233**				**Pg**	**13 55 58.0**	**-1.8**
WORM	**Onyx Ranch**	**0.46**	**255**				**Pg**	**13 55 59.9**	**0.0**
WHFM	**Hanning Flat**	**0.55**	**257**				**Pg**	**13 56 01.4**	**0.0**
DTP	**Desert Tortois**	**0.56**	**193**				**Pb**	**13 56 02.3**	**-0.3**
ISA	**Isabella, Lake**	**0.65**	**257**				**Pg**	**13 56 02.1**	**-1.4**
ISA						IAML		13 56 14.2	
	comp=E,3μm,0.4s								
QSM	**Queen of Sheba**	**0.69**	**77**				**Pg**	**13 56 03.5**	**-0.6**
QSM						IAML		13 56 16.3	
	comp=E,3μm,0.6s								
QSM						IAML		13 56 17.9	
	comp=N,3μm,0.6s								
CWC	**Cottonwood Cre**	**0.70**	**333**				**Pg**	**13 56 03.6**	**-0.7**
CCAC	**Calif City Air**	**0.71**	**202**				**Pg**	**13 56 04.9**	**+0.3**
CGO	**Cerro Gordo**	**0.74**	**353**				**Pg**	**13 56 03.9**	**-1.2**
GSC	**Goldstone, Bar**	**0.89**	**125**				**Pg**	**13 56 07.9**	**0.0**
GSC						IAML		13 56 22.6	
	comp=N,2μm,0.3s								
GSC						IAML		13 56 29.6	
	comp=E,2μm,0.6s								
GWY	**Greenwater Val**	**0.91**	**66**				**Pg**	**13 56 07.8**	**-0.5**
GWY						IAML		13 56 22.8	
	comp=E,2μm,0.5s								
GWY						IAML		13 56 23.1	
	comp=N,2μm,0.6s								
FURC	**Furnace Creek,**	**0.93**	**46**				**Pb**	**13 56 08.7**	**-0.2**
VES	**Vestal, Richgr**	**1.13**	**272**				**Pg**	**13 56 11.9**	**-0.6**
GRAC	**Grapevine Rang**	**1.21**	**13**				**Pg**	**13 56 12.5**	**-1.4**
GRAC						IAML		13 56 32.8	
	comp=E,1μm,0.5s								
GRAC						IAML		13 56 33.5	
	comp=N,1μm,0.4s								
WCT	**Wildcat Mounta**	**1.30**	**41**			IAML		13 56 34.3	
	comp=N,7350nm,0.5s								
WCT						IAML		13 56 34.5	
	comp=E,783nm,0.6s								
DSCC	**Desert Studies**	**1.46**	**117**				**Pb**	**13 56 18.1**	**+0.2**
OSI	**Osito Audit: C**	**1.47**	**215**				**Pb**	**13 56 17.9**	**0.0**
OSI						IAML		13 56 41.9	
	comp=E,678nm,0.6s								
OSI						IAML		13 56 46.6	
	comp=N,580nm,0.7s								
TUQ	**Turquoise Moun**	**1.49**	**104**				**Pn**	**13 56 17.2**	**-0.3**
GMN	**Gold Mountain**	**1.52**	**13**				**Pn**	**13 56 17.4**	**-0.6**
GMN						IAML		13 56 41.4	
	comp=N,589nm,0.5s								
DSP	**Deep Springs**	**1.57**	**352**				**Pn**	**13 56 17.8**	**-0.5**
MWC	**Mount Wilson**	**1.62**	**191**				**Pb**	**13 56 20.6**	**-0.1**
MWC						IAML		13 56 45.5	
	comp=N,991nm,0.6s								
MWC						IAML		13 56 46.9	
	comp=E,896nm,0.5s								
TPNV	**Topopah Spring**	**1.62**	**45**				**Pn**	**13 56 18.7**	**-0.6**
TPNV						IAML		13 56 42.9	
	comp=E,894nm,0.6s								
TPNV						IAML		13 56 45.7	
	comp=E,885nm,0.8s								
SIL	**Silver Peak**	**1.63**	**154**				**Pg**	**13 56 22.7**	**+0.7**
MTUM	**Tungsten Hills**	**1.69**	**336**				**Pb**	**13 56 21.3**	**-0.5**
PASC	**Pasadena Art C**	**1.69**	**194**				**Pn**	**13 56 21.1**	**+1.0**
MTPC	**Mountain Pass**	**1.77**	**100**				**Pn**	**13 56 20.9**	**-0.5**
MZP	**Montezuma Peak**	**1.90**	**7**				**Pn**	**13 56 22.6**	**-0.5**
SHPR	**Sheep Range**	**2.16**	**71**				**Pn**	**13 56 26.7**	**0.0**
FIGC	**Figueroa Mtn.**	**2.17**	**241**				**Pb**	**13 56 30.6**	**+0.6**
ELS	**Elsinore Mount**	**2.17**	**174**				**Pn**	**13 56 27.5**	**+0.6**
ELS						IAML		13 57 03.8	
	comp=E,279nm,0.5s								
ELS						IAML		13 57 08.3	
	comp=N,198nm,0.8s								
TPH	**Tonopah**	**2.29**	**9**				**Pn**	**13 56 28.2**	**-0.2**
V12A	**Nelson**	**2.31**	**91**				**Pb**	**13 56 33.8**	**+1.3**
V12A						IAML		13 57 07.9	
	comp=E,198nm,0.6s								
V12A						IAML		13 57 15.2	
	comp=N,146nm,0.5s								
PFO	**Pinyon Flats O**	**2.42**	**155**				**Pg**	**13 56 36.6**	**-0.6**
PFO						IAML		13 57 14.3	
	comp=N,137nm,1.4s								
PFO						IAML		13 57 17.0	
	comp=N,135nm,0.7s								
LHV	**Little Huntoon**	**2.52**	**345**			Pn	**Pn**	**13 56 30.4**	**-0.9**
LHV						IAML		13 57 16.7	
	comp=E,124nm,0.8s								
PMPB	**Monarch Peak**	**2.55**	**280**				**Pn**	**13 56 32.9**	**+0.9**
PMPB						IAML		13 57 12.2	
	comp=E,393nm,0.8s								
PLM	**Palomar**	**2.55**	**164**				**Pg**	**13 56 38.7**	**-1.0**
RAMR	**Ramage Ranch**	**2.59**	**267**				**Pn**	**13 56 32.4**	**-0.1**
NV11	**Mina Array Sit**	**2.64**	**352**				**Pn**	**13 56 33.2**	**0.0**
PRN	**Pahroc Range**	**2.65**	**52**				**Pn**	**13 56 33.2**	**-0.2**
PRN						IAML		13 57 27.7	
	comp=E,352nm,0.7s								
PRN						IAML		13 57 27.7	
	comp=N,353nm,0.7s								
NVAR	**Mina Array Bea**	**2.65**	**350**			Pn	**Pn**	**13 56 33.8**	**+0.2**
	comp=N,3.5nm,0.3s,baz=171,slow=13,SNR=9.6								
NVAR						Pg	**Pb**	**13 56 39.0**	**+0.7**
	comp=N,3.5nm,0.3s,baz=172,slow=16,SNR

comp=Z,240nm,19.9s,baz=314,slow=34
1.5nm,0.3s
LPAZ La Paz 47.20 210 P **P** **14 21 03.6 +0.1**
3.1nm,0.7s,baz=34,slow=11,SNR=10
LPAZ LR LR 14 39 55.1
comp=Z,90nm,20.5s,baz=4.5,slow=35
3.1nm,0.7s
GERES GERESS Array B 50.99 47 P **P** **14 21 30.2 -1.5**
0.5nm,0.8s,baz=278,slow=6.8,SNR=2.1
0.5nm,0.8s
TXAR Lajitas Array 51.37 288 P **P** **14 21 33.1 -1.7**
0.5nm,0.9s,baz=93,slow=8.1,SNR=5.1
TXAR PcP **PcP** **14 22 50.5 +1.0**
0.5nm,0.9s,baz=86,slow=4.1,SNR=4.0
0.5nm,0.9s
NOA NORSAR Array B 51.84 31 P **P** **14 21 37.6 -0.2**
1.1nm,0.2s,baz=253,slow=7.4,SNR=3.5
1.1nm,0.2s
HFS Hagfors 52.78 33 P **P** **14 21 46.5 +1.7**
2.4nm,0.8s,baz=263,slow=11,SNR=2.0
2.4nm,0.8s
VRAC Vranov 52.92 46 LR LR 14 41 39.1
comp=Z,214nm,18.2s,baz=338,slow=33
PDAR Pinedale Array 54.48 305 P **P** **14 21 57.6 -0.2**
1.9nm,0.9s,baz=90,slow=8.9,SNR=14
1.9nm,0.9s
YKA Yellowknife Ar 57.99 329 P **P** **14 22 22.0 -0.2**
1.6nm,1.0s,baz=96,slow=7.4,SNR=12
1.6nm,1.0s
FINES FINESS Array B 58.97 32 P **P** **14 22 28.1 -0.9**
2.7nm,0.9s,baz=260,slow=8.2,SNR=4.6
2.7nm,0.9s
AKASG Malin Array Be 61.02 44 P **P** **14 22 43.5 +0.2**
0.3nm,0.3s,baz=274,slow=6.1,SNR=4.9
0.3nm,0.3s
BRTR Keskin Array B 66.01 56 P **P** **14 23 16.4 -0.4**
1.3nm,0.9s,baz=270,slow=6.2,SNR=5.9
1.3nm,0.9s
PLCA Paso Flores 70.07 200 P **P** **14 23 42.6 +0.7**
2.4nm,0.9s,baz=5.4,slow=18,SNR=4.3
2.4nm,0.9s
ILAR Eielson Array 71.82 334 P **P** **14 23 53.1 +0.8**
2.0nm,0.9s,baz=67,slow=5.1,SNR=15
2.0nm,0.9s
AKTO Aktyubinsk 78.63 39 P **P** **14 24 30.5 -1.2**
0.6nm,0.3s,baz=297,slow=2.3,SNR=2.3
0.6nm,0.3s
BVAR Borovoye Array 83.91 33 P **P** **14 25 01.2 +1.5**
0.6nm,0.6s,baz=306,slow=5.0,SNR=3.3
0.6nm,0.6s
KURBB Kurchatov Arra 89.36 32 P **P** **14 25 27.1 +0.7**
0.5nm,0.6s,baz=303,slow=5.6,SNR=5.0
0.5nm,0.6s
ZALV Zalesovo Beam 89.84 27 P **P** **14 25 30.1 +1.6**
0.9nm,0.6s,baz=289,slow=4.5,SNR=4.9
0.9nm,0.6s

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*IDC **06** 14:12:55.1±0.5,69.87N×15.61W,h0km,mb4.0/24, mbtmp4.0/30,ML4.0/5,MS4.2/70,Error ellipse: s-maj=13.6km s-min=10.5km az=7.0*
*BJI **06** 14:12:55.1,69.73N×16.47W,h27km,mB5.1/8,mb4.5/26, Ms4.9/14,Ms7 4.7/14*
*DNK **06** 14:12:56.4±4.8,69.87N×15.15W,h0km±926km,ML3.4*
*MOS **06** 14:12:57.4±1.3,69.78N×15.83W,h23km,mb4.7/35, MS4.3/16,Error ellipse: s-maj=13.6km s-min=6.1km az=99.2*
*NEIC **06** 14:12:57.4±2.4,69.91N±0.08×15.64W±0.09,h10km±1km, mb4.6/236,Error ellipse: s-maj=14.1km s-min=4.0km az=162.0*
*GCMT **06** 14:12:58.4±0.2,69.86N±0.02×15.66W±0.03,h12km, MW5.0/132,Moment Tensor Solution. s42,c46; s132,c210; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-4.05±.08; Mθθ0.65±.08; Mϕϕ3.39±.07; Mrθ1.12±.39; Mθϕ0.70±.07; Mϕr-0.40±.26; Best double couple: Mo3.95200×10¹⁶ NP1:ϕs207.00000°,δ46.00000°, λ-71.00000°. NP2:ϕs0.00000°,δ48.00000°,λ-109.00000°. Principal axes: T 3.5630, Plg1.0000°, Azm103.0000°; N 0.7700, Plg14.0000°, Azm13.0000°; P -4.3420, Plg76.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*INMG **06** 14:12:59.0±5.1,69.93N×15.35W,h10km,mb4.6,MW4.5, #DIST_RANGE: DISTANT*
*BER **06** 14:13:00.0±6.1,69.96N×15.60W,h0km±60km,mb(Pn)4.8, mb4.6(USGS),Confirmed Earthquake*
*REY **06** 14:13:07.5,68.77N×15.06W,h10km*
ISC 06 14:12:57.1±0.3,69.87N±0.04×15.62W±0.03,h10km,n709, σ2ˢ02/586,mb4.5/193,MS4.3/95,10C-11D,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.25**	**289**	*i* P		**Pn**	**14 13 31.0**	**-3.2**
SCO				IAML			14 14 34.6	
comp=Z,688nm,1.8s								
JMI	**Jan Mayen**	**2.55**	**62**	*e*P		**Pn**	**14 13 35.8**	**-2.7**
JMI				*e*			14 14 20.0	
JMIC	**Jan Mayen**	**2.65**	**62**	Pn		**Pn**	**14 13 36.7**	**-3.0**
comp=Z,40nm,0.3s,baz=169,slow=7.1,SNR=6.7								
JMIC				Sn		**Sn**	**14 14 06.8**	**-5.0**
comp=Z,21nm,0.3s,baz=330,slow=23,SNR=3.2								
comp=Z,152nm,0.5s								
JMIC	**Jan Mayen**	**2.65**	**62**	*e*P		**Pn**	**14 13 36.9**	**-2.8**
JMIC				*e*S		**Sn**	**14 14 07.2**	**-4.5**
JMIC				IAML			14 14 09.4	
comp=Z,84nm,0.4s								
JNW	**Jan Mayen West**	**2.68**	**61**	*e*P		**Pn**	**14 13 37.7**	**-2.5**
JNW				*e*S		**Sn**	**14 14 08.1**	**-4.6**
JNE	**Jan Mayen East**	**2.71**	**62**	*e*P		**Pn**	**14 13 37.9**	**-2.6**
JNE				IAML			14 14 07.7	
comp=Z,71nm,0.6s								
JNE				*e*S		**Sn**	**14 14 08.1**	**-5.3**
JNE				IAMs_20	IAMs_20		14 27 02.2	
comp=Z,4μm,12.4s								
IGRI	**Grimsey**	**3.46**	**196**	P		**Pn**	**14 13 47.6**	**-3.3**
IGIL	**Gilhagi**	**3.82**	**185**	P		**Pn**	**14 13 51.1**	**-4.7**
IBRE	**Brettingsstaoi**	**3.86**	**194**	P		**Pn**	**14 13 53.1**	**-3.2**
ISIG	**Siglufjorour**	**3.95**	**200**	P		**Pn**	**14 13 55.1**	**-2.6**
IDIM	**Dimmadalsr**	**3.96**	**188**	P		**Pn**	**14 13 53.0**	**-4.7**
IGRA	**Gramastaoir**	**4.04**	**192**	P		**Pn**	**14 13 55.4**	**-3.4**
ISKI	**Skildingahlsh**	**4.05**	**188**	P		**Pn**	**14 13 54.8**	**-4.3**
IGHA	**Grjothals**	**4.06**	**186**	P		**Pn**	**14 13 55.0**	**-4.3**
IHLA	**Hella**	**4.08**	**196**	P		**Pn**	**14 13 56.6**	**-2.8**
IHRN	**Hraun**	**4.14**	**206**	P		**Pn**	**14 13 58.4**	**-1.8**
IKVO	**Krokottuvotn**	**4.20**	**187**	P		**Pn**	**14 13 57.0**	**-4.2**
IGRS	**Grimsstaoir**	**4.25**	**183**	P		**Pn**	**14 13 57.4**	**-4.5**
IMEL	**Melhnausar**	**4.34**	**186**	P		**Pn**	**14 13 58.8**	**-4.1**
ISVA	**Svartarkot**	**4.60**	**189**	P		**Pn**	**14 14 03.1**	**-3.4**
DBG	**Daneborg**	**4.68**	**344**	*e*P		**Pn**	**14 14 05.4**	**-2.3**
DBG				*e*S		**Sn**	**14 14 59.5**	**-2.4**
DBG				*e*			14 15 10.6	
DBG	**Daneborg**	**4.68**	**344**	*e*P		**Pn**	**14 14 03.2**	**-4.5**
DBG				IAML			14 15 26.2	
comp=Z,120nm,2.0s								
IADA	**Aoalbol**	**4.87**	**180**	P		**Pn**	**14 14 05.8**	**-4.5**
IDYN	**Dyngjuhals**	**5.15**	**188**	P		**Pn**	**14 14 11.6**	**-2.6**
ISTE	**Stelbrattur**	**5.27**	**199**	P		**Pn**	**14 14 17.0**	**+1.2**
IKIS	**Kista**	**5.27**	**189**	P		**Pn**	**14 14 13.4**	**-2.6**
IVON	**Vonarskard**	**5.29**	**190**	P		**Pn**	**14 14 13.8**	**-2.2**
BORG	**Borgarnes**	**5.60**	**206**			**Pn**	**14 14 19.8**	**-0.4**
BORG	**Borgarnes**	**5.60**	**206**	Pn		**Pn**	**14 14 19.2**	**-1.0**
comp=Z,5.9nm,0.3s,baz=15,slow=6.9,SNR=21								
BORG				Sn		**Sn**	**14 15 25.7**	**+1.2**
baz=338,slow=15								
BORG				LR		LR	14 15 57.4	
comp=Z,2μm,20.3s,baz=20,slow=33								
comp=Z,38nm,0.6s								
BORG	**Borgarnes**	**5.60**	**206**	P		**Pn**	**14 14 19.8**	**-0.4**
SOEG	**Soedalen**	**5.89**	**261**	*i* P		**Pn**	**14 14 21.1**	**-3.2**
SOEG				IAML			14 18 01.8	
comp=Z,69nm,5.8s								
DAG	**Danmarks Havn**	**7.00**	**354**	*e*P		**Pn**	**14 14 41.0**	**+1.6**
DAG				*e*S		**Sn**	**14 15 51.4**	**-7.4**
DAG	**Danmarks Havn**	**7.00**	**354**	*i* P		**Pn**	**14 14 40.4**	**+1.0**
DAG				IAML			14 19 02.8	
comp=Z,29nm,6.1s								
SUMG	**Summit**	**7.82**	**301**			**Pn**	**14 14 49.3**	**-1.8**
SUMG	**Summit**	**7.82**	**301**	P		**Pn**	**14 14 49.3**	**-1.8**
SUMG	**Summit**	**7.82**	**301**	*i* P		**Pn**	**14 14 49.0**	**-2.1**
SUMG				IAML			14 17 39.8	
comp=Z,72nm,9.5s								
LOF	**Lofoten**	**10.55**	**86**	*e*P		**Pn**	**14 15 28.6**	**+0.6**
LOF				*e*S		Sn	14 17 15.6	-10
LOF				IAMs_20	IAMs_20		14 18 46.4	
comp=Z,358nm,5.0s								
VAGH	**Vaagaholmen**	**11.08**	**93**	*e*P		**Pn**	**14 15 36.2**	**+1.0**
VAGH				*i*			14 18 00.7	
STOK	**Stokkvaagen**	**11.19**	**95**	*e*P		**Pn**	**14 15 35.4**	**-1.3**
STOK				IAML			14 17 39.4	
comp=Z,3.8nm,0.6s								
STOK				*i*			14 17 54.4	
STOK				IAMs_20	IAMs_20		14 18 30.4	
comp=Z,574nm,4.0s								
STEI	**Steigen**	**11.22**	**85**	*e*P		**Pn**	**14 15 36.5**	**-0.7**
STEI				IAmb	IAmb		14 15 41.8	
comp=Z,91nm,1.8s								
STEI				*i*			14 18 07.9	
STEI				IAMs_20	IAMs_20		14 19 48.3	
comp=Z,274nm,4.4s								
LEIR	**Leirfjorden**	**11.34**	**95**	*e*P		**Pn**	**14 15 38.0**	**-0.9**
LEIR				IAmb	IAmb		14 15 43.9	
comp=Z,26nm,1.2s								
LEIR				*i*			14 18 14.5	
LEIR				IAMs_20	IAMs_20		14 21 17.7	
comp=Z,372nm,4.3s								
BRBA	**Barentsburg A**	**11.44**	**31**	*e*P		**Pn**	**14 15 41.8**	**+1.6**
BRBA				*i*			14 17 52.0	
BRBB	**Barentsburg B**	**11.46**	**31**	*e*P		**Pn**	**14 15 42.6**	**+2.2**
BRBB				*i*			14 18 15.2	
FAUS	**Fauske**	**11.47**	**88**	*e*P		**Pn**	**14 15 40.8**	**+0.2**
FAUS				IAmb	IAmb		14 15 41.8	
comp=Z,6.0nm,0.9s								
FAUS				*i*			14 18 01.7	
FAUS				IAMs_20	IAMs_20		14 18 50.5	
comp=Z,325nm,3.4s								
KBS	**Kingsbay**	**11.54**	**27**	*ce*P		**Pn**	**14 15 43.3**	**+1.8**
KBS				pmax	pmax			
comp=Z,81nm,1.7s								
KBS	**Kingsbay**	**11.54**	**27**	*e*P		**Pn**	**14 15 42.1**	**+0.6**
KBS				*i*			14 17 43.4	
KBS				IAML			14 17 52.3	
comp=Z,2.6nm,0.6s								
MOR8	**Moi Rana**	**11.77**	**94**	*e*P		Pn	14 15 51.3	+6.6
MOR8				*i*			14 18 17.6	
MOR8				IAMs_20	IAMs_20		14 20 00.6	
comp=Z,272nm,4.6s								
MOL	**Molde**	**11.79**	**117**	*e*P		**Pn**	**14 15 47.5**	**+2.4**
MOL				*i*			14 18 28.1	
MOL				IAMs_20	IAMs_20		14 22 54.5	
comp=Z,247nm,3.9s								
FOO	**Floro**	**11.80**	**124**	*e*P		**Pn**	**14 15 47.1**	**+1.9**
FOO				*e*			14 18 54.9	
NOR	**Nord**	**11.80**	**359**	*e*P		**Pn**	**14 15 44.8**	**-0.3**
NOR				*i*			14 18 04.0	
TRO	**Tromso**	**11.87**	**75**	*e*P		**Pn**	**14 15 45.3**	**-0.8**
TRO				*i*			14 18 02.5	
TRO				IAMs_20	IAMs_20		14 19 24.9	
comp=Z,332nm,3.0s								
NSS	**Namsos**	**11.87**	**103**	*e*			14 18 55.7	
NSS				IAMs_20	IAMs_20		14 21 14.9	
comp=Z,298nm,3.9s								
SPA0	**Spitsbergen Ar**	**11.89**	**32**	*e*P		**Pn**	**14 15 48.2**	**+1.8**
SPA0				IAML			14 17 52.6	
comp=Z,6.1nm,0.6s								
SPA0				*i*			14 18 13.1	
SPITS	**Spitsbergen Ar**	**11.89**	**32**	Pn		**Pn**	**14 15 47.0**	**+0.7**
baz=229,slow=13								
SPITS				LR		LR	14 19 12.4	
comp=Z,2μm,20.2s,baz=220,slow=32								
comp=Z,2.0nm,0.3s								
SPB2	**Spitsbergen Ar**	**11.89**	**32**			**Pn**	**14 15 44.3**	**-2.0**
AKN	**Aaknes**	**11.92**	**119**	*e*P		**Pn**	**14 15 48.5**	**+1.7**
AKN				*e*			14 18 35.4	
AKN				IAMs_20	IAMs_20		14 19 08.8	
comp=Z,372nm,3.4s								
SUE	**Sulen**	**12.16**	**126**	*e*P		**Pn**	**14 15 52.8**	**+2.8**
SUE				*e*			14 18 55.7	
SUE				IAMs_20	IAMs_20		14 20 18.9	
comp=Z,864nm,3.7s								
NEEM	**North Greenlan**	**12.28**	**323**	*i* P		**Pn**	**14 15 47.5**	**-4.4**
NEEM				IAML			14 20 27.7	
comp=Z,23nm,5.3s								
JETT	**Jettan, Norway**	**12.39**	**74**	*e*P		**Pn**	**14 15 55.1**	**+1.9**
JETT				*e*			14 18 41.7	
JETT				IAMs_20	IAMs_20		14 20 09.7	
comp=Z,380nm,3.6s								
HYA	**Hoyanger**	**12.48**	**124**	*e*P		**Pn**	**14 15 53.3**	**-1.0**
HYA				*e*			14 18 45.7	
HYA				IAMs_20	IAMs_20		14 20 58.1	
comp=Z,594nm,3.9s								
DOMB	**Dombas**	**12.66**	**116**	*e*P		**Pn**	**14 15 57.4**	**+0.5**
DOMB				*e*			14 18 57.9	
DOMB				IAMs_20	IAMs_20		14 19 36.6	
comp=Z,239nm,4.0s								
ASK	**Askoy**	**12.76**	**127**	*e*P		**Pn**	**14 15 59.8**	**+1.6**
ASK				*e*			14 18 48.4	
ASK				IAMs_20	IAMs_20		14 21 36.0	
comp=Z,591nm,4.1s								
BER	**Bergen**	**12.88**	**127**	*e*P		**Pn**	**14 15 59.9**	**+0.1**
BER				*e*			14 18 54.5	
HOPEN	**Hopen**	**13.19**	**42**	*e*		P	14 16 09.3	-4.8
ARCES	**ARCESS Array B**	**14.08**	**72**	Pn		**Pn**	**14 16 17.4**	**+1.1**
comp=Z,0.1nm,0.3s,baz=282,slow=8.9,SNR=2.0								
ARCES				LR		LR	14 20 36.8	
comp=Z,1μm,18.9s,baz=298,slow=33								
NOA	**NORSAR Array B**	**14.09**	**116**	Pn		**Pn**	**14 16 14.5**	**-2.0**
comp=Z,1.0nm,0.2s,baz=330,slow=14,SNR=3.6								
HFS	**Hagfors**	**15.57**	**114**	Pn		**Pn**	**14 16 37.8**	**+1.4**
comp=Z,0.3nm,0.3s,baz=339,slow=7.9,SNR=8.5								
HFS				LR		LR	14 21 51.6	
comp=Z,2μm,21.6s,baz=302,slow=34								
EKA	**Eskdalemuir Ar**	**15.62**	**153**	Pn		**Pn**	**14 16 36.9**	**0.0**
baz=345,slow=11								
comp=Z,1.9nm,0.7s								
APA	**Apatity**	**17.55**	**74**	*i*P		**Pn**	**14 17 01.5**	**+0.1**
APA				*i*			14 20 13.5	
APA				MLR		MLR		
comp=Z,2μm,15.1s								
FIA1	**FINESS Array S**	**18.74**	**96**			**P**	**14 17 14.4**	**-1.1**
FIA1				IAmb	IAmb		14 17 20.4	
comp=Z,67nm,1.1s								
FINES	**FINESS Array B**	**18.74**	**96**			**P**	**14 17 14.7**	**-0.9**
FINES	**FINESS Array B**	**18.74**	**96**	P		**P**	**14 17 15.0**	**-0.6**
comp=Z,0.4nm,0.3s,baz=324,slow=7.4,SNR=17								
FINES				LR		LR	14 23 38.5	
comp=Z,2μm,19.8s,baz=322,slow=34								
comp=Z,6.3nm,0.6s								
FRB	**Frobisher Bay**	**21.08**	**279**	P		**P**	**14 17 39.4**	**-1.6**
comp=Z,5.0nm,0.8s,baz=57,slow=15,SNR=4.4								
FRB				LR		LR	14 25 40.1	
comp=Z,2μm,18.4s,baz=64,slow=36								
comp=Z,5.0nm,0.8s								
VSU	**Vasula**	**21.16**	**101**	*ce*P		**P**	**14 17 43.0**	**+1.1**
VSU				pmax	pmax			
comp=Z,71nm,1.7s								
PUL	**Pulkovo**	**21.40**	**95**	*i* P		**P**	**14 17 47.1**	**+2.6**
PUL				pmax	pmax			
comp=Z,102nm,0.4s								
BEBN	**Eben Emael**	**21.61**	**141**	*d*P		**P**	**14 17 47.5**	**+0.8**
BSTI	**Sart Tilman**	**21.78**	**142**	*d*P		**P**	**14 17 49.2**	**+0.6**
MEM	**Membach**	**21.85**	**141**	*d*P		**P**	**14 17 50.2**	**+0.8**
BGES	**Gesves**	**21.87**	**143**	*d*P		**P**	**14 17 50.0**	**+0.4**
BMRD	**Maredsous**	**21.88**	**143**	*d*P		**P**	**14 17 50.9**	**+1.2**
BCLA	**Clavier**	**21.88**	**142**	*d*P		**P**	**14 17 50.0**	**+0.3**
BTNL	**Ternell**	**21.90**	**141**	*d*P		**P**	**14 17 50.7**	**+0.7**
comp=Z,13nm,0.0s								
DOU	**Dourbes**	**22.04**	**144**	*d*P		**P**	**14 17 51.3**	**-0.1**
ILON	**Igloolik, Nuna**	**22.06**	**300**			**P**	**14 17 49.3**	**-2.3**
ILON				IAmb	IAmb		14 17 57.0	
comp=Z,37nm,1.4s								
BHOU	**Houvegnez**	**22.09**	**141**	*d*P		**P**	**14 17 52.4**	**+0.4**
GKP	**Gorka Klasztor**	**22.37**	**121**	*e*P		**P**	**14 17 57.4**	**+2.5**
PABE	**Paberze**	**22.58**	**109**			**P**	**14 17 54.8**	**-2.4**
WLF	**Walferdange**	**22.77**	**142**	*d*P		**P**	**14 17 59.7**	**+0.5**
CLL	**Collm**	**22.91**	**129**			**P**	**14 17 59.4**	**-1.3**
CLL				IAmb	IAmb		14 18 04.1	
comp=Z,11nm,0.8s								
CLL	**Collm**	**22.91**	**129**	*i* P		**P**	**14 18 00.6**	**-0.1**
CLL				*i*			14 18 04.8	
CLL				*eS*		**S**	**14 22 12.0**	**+1.7**
CLL				pmax	pmax			
comp=Z,17nm,1.1s								
CLL	**Collm**	**22.91**	**129**	P		**P**	**14 18 00.7**	**0.0**
comp=Z,686nmcomp=Z,16nm,2.9s								
CLL	**Collm**	**22.91**	**129**	*i* P		**P**	**14 18 00.6**	**-0.1**
comp=Z,17nm,1.1s								
CLL				*i* x		x	14 18 04.8	
CLL				*i* x		x	14 18 10.1	
CLL				*i* PP		**PnPn**	**14 18 23.5**	**-1.5**
CLL				*eS*		**S**	**14 22 12.0**	**+1.7**
CLL				*e*SSS		SSS	14 22 54.0	
BRG	**Berggiesshubel**	**23.56**	**129**	*e*P		**P**	**14 18 07.1**	**-0.2**
BRG				Amp			14 18 10.4	
comp=Z,74nm,2.1s								
BRG	**Berggiesshubel**	**23.56**	**129**	P		P	14 18 15.6	+8.4
BRG				Amp			14 18 16.7	
comp=Z,28nm,1.7s								
BRG	**Berggiesshubel**	**23.56**	**129**	P		P	14 18 31.3	+24
BRG				Amp			14 18 32.7	
comp=Z,7.6nm,1.3s								
SUW	**Suwalki**	**23.57**	**112**	*e*P		**P**	**14 18 07.5**	**+0.2**
NKC	**Novy Kostel**	**23.75**	**131**	*e*P		**P**	**14 18 09.6**	**+0.5**
NKC				AMS	AMS		14 31 50.0	
comp=Z,400nm,10.9s								
NKC	**Novy Kostel**	**23.75**	**131**	*e*P		**P**	**14 18 09.6**	**+0.5**
NKC				MLR	MLR			
comp=Z,400nm,10.9s								
KLMR	**Klimovskoe**	**23.80**	**84**	*e*P		**P**	**14 18 08.9**	**-0.6**
comp=Z,154nm,2.0s								
KLMR	**Klimovskoe**	**23.80**	**84**	*e*P		**P**	**14 18 09.6**	**+0.1**
KLMR				pmax	pmax			
comp=Z,142nm,1.9s								
KLMR				MLR	MLR			
comp=Z,1μm,16.0s								
RICC	**Richard**	**23.90**	**129**	*e*P		**P**	**14 18 11.5**	**+0.9**
GRA1	**Grafenberg Arr**	**23.93**	**134**	P		**P**	**14 18 11.1**	**+0.2**
GRA1				IAmb	IAmb		14 18 27.2	
comp=Z,27nm,1.4s								
GRF	**Grafenberg Arr**	**23.93**	**134**	P		**P**	**14 18 11.1**	**+0.2**
GRF				pmax	pmax			
comp=Z,27nm,1.4s								
GRFO	**Grafenberg**	**23.93**	**134**	P		**P**	**14 18 11.1**	**+0.2**
GRFO				IAmb	IAmb		14 18 27.2	
comp=Z,25nm,1.4s								
GRFO	**Grafenberg**	**23.93**	**134**	P		**P**	**14 18 11.1**	**+0.2**
GRFO				pmax	pmax			
comp=Z,25nm,1.4s								
NACGM	**Naroch**	**24.00**	**107**	*e*P		**P**	**14 18 11.3**	**-0.2**
comp=Z,16nm,0.8s,baz=325								
PVCC	**Panska Ves**	**24.04**	**128**	AMS		AMS	14 28 30.0	
comp=Z,600nm,16.9s								
KSP	**Ksiaz**	**24.24**	**125**	*e*P		**P**	**14 18 13.7**	**0.0**
KSP	**Ksiaz**	**24.24**	**125**	P		**P**	**14 18 13.6**	**-0.1**
comp=Z,1μmcomp=Z,35nm,2.0s								
ECH	**Echery**	**24.36**	**141**			**P**	**14 18 14.4**	**-0.5**
ECH	**Echery**	**24.36**	**141**	P		**P**	**14 18 14.4**	**-0.5**
ECH				pmax	pmax			
comp=Z,13nm,1.4s								
CHVC	**Chvalec**	**24.40**	**126**	AMS		AMS	14 28 10.0	
comp=Z,900nm,17.5s								
PRA	**Prague**	**24.42**	**129**	AMS		AMS	14 28 30.0	
comp=Z,700nm,15.9s								
UPC	**Upice**	**24.46**	**126**	AMS		AMS	14 28 10.0	
comp=Z,1μm,18.3s								
OSTC	**Ostas**	**24.47**	**126**	*e*P		**P**	**14 18 17.0**	**+1.1**
OSTC				AMS		AMS	14 28 10.0	
comp=Z,800nm,17.9s								
OSTC	**Ostas**	**24.47**	**126**	*e*P		**P**	**14 18 17.0**	**+1.1**
OSTC				MLR		MLR		
comp=Z,800nm,17.9s								
BFO	**Black Forest**	**24.51**	**139**			**P**	**14 18 16.2**	**-0.1**
BFO				IAmb	IAmb		14 18 20.1	
comp=Z,21nm,1.4s								
BFO	**Black Forest**	**24.51**	**139**	P		**P**	**14 18 16.2**	**-0.1**
BFO				pmax	pmax			
comp=Z,21nm,1.4s								
PRU	**Pruhonice**	**24.53**	**129**	*e*P		**P**	**14 18 15.9**	**-0.4**
PRU				AMS	AMS		14 28 40.0	
comp=Z,600nm,14.5s								
PRU	**Pruhonice**	**24.53**	**129**	*e*P		**P**	**14 18 15.9**	**-0.4**
PRU				MLR	MLR			
comp=Z,600nm,14.5s								
GOPC	**GO Pecny, Ondr**	**24.66**	**128**	*e*P		**P**	**14 18 18.1**	**+0.5**
GOPC				AMS	AMS		14 28 40.0	
comp=Z,700nm,15.5s								
GOPC	**GO Pecny, Ondr**	**24.66**	**128**	*e*P		**P**	**14 18 18.1**	**+0.5**
GOPC				MLR	MLR			
comp=Z,700nm,15.5s								
BEL	**Belsk**	**24.68**	**118**	*e*P		**P**	**14 18 18.7**	**+1.0**
DPC	**Dobruska-Polom**	**24.69**	**126**	*e*P		**P**	**14 18 18.1**	**+0.2**
DPC				AMS		AMS	14 28 20.0	
comp=Z,800nm,17.6s								
DPC	**Dobruska-Polom**	**24.69**	**126**	*e*P		**P**	**14 18 18.1**	**+0.2**
DPC				MLR		MLR		
comp=Z,800nm,17.6s								
DPC	**Dobruska-Polom**	**24.69**	**126**	P		**P**	**14 18 18.2**	**+0.3**
comp=Z,524nmcomp=Z,11nm,1.6s								
ZVC	**Zvikov**	**24.93**	**130**	*e*P		**P**	**14 18 21.6**	**+1.6**
ZVC				AMS	AMS		14 29 20.0	
comp=Z,700nm,16.5s								
KHC	**Kasperske Hory**	**25.05**	**131**	*e*P		**P**	**14 18 22.0**	**+0.9**
KHC				AMS	AMS		14 30 00.0	
comp=Z,400nm,14.5s								
KHC	**Kasperske Hory**	**25.05**	**131**	*i* P		**P**	**14 18 20.7**	**-0.4**
KHC				pmax	pmax			
comp=Z,9.0nm,1.3s								
KHC	**Kasperske Hory**	**25.05**	**131**	P		**P**	**14 18 21.7**	**+0.6**
comp=Z,438nmcomp=Z,8.3nm,2.6s								
KRLC	**Kraliky**	**25.07**	**125**	AMS		AMS	14 28 30.0	
comp=Z,800nm,17.1s								
GEC2	**GERESS Array S**	**25.35**	**131**			**P**	**14 18 24.3**	**+0.4**
GEC2				IAmb	IAmb		14 18 29.3	
comp=Z,27nm,1.4s								
GERES	**GERESS Array B**	**25.35**	**131**	P		**P**	**14 18 25.5**	**+1.7**
GERES	**GERESS Array B**	**25.35**	**131**	P		**P**	**14 18 23.5**	**-0.4**
comp=Z,3.9nm,1.0s,baz=332,slow=8.3,SNR=12								
GERES				LR		LR	14 29 14.0	
comp=Z,454nm,18.8s,baz=342,slow=39								
comp=Z,3.9nm,1.0s								
TREC	**Trest**	**25.41**	**128**	AMS		AMS	14 29 00.0	
comp=Z,800nm,18.4s								
STEB	**Steborice**	**25.48**	**124**	*e*P		**P**	**14 18 23.5

FUORN **Ofenpass-Fuorn** 26.57 138 P P 14 18 34.0 -1.2
FUORN IAmb IAmb 14 19 09.6
comp=Z,13nm,1.4s
SSB Saint Sauveur 26.64 147 P P 14 18 33.5 -2.0
SSB Saint Sauveur 26.64 147 P P 14 18 33.5 -2.0
SSB pmax pmax
comp=Z,7.0nm,1.2s
NIE Niedzica 26.67 121 *e*P P 14 18 37.4 +1.6
NIE Niedzica 26.67 121 P P 14 18 38.0 +2.2
comp=Z,6.9nm,2.0s
CONA Conrad Observa 26.76 129 *i* pP P 14 18 37.9 +1.3
comp=Z,4.4nm,1.0s
RNPP5 Staryi Chortor 26.81 112 P P 14 18 37.8 +0.9
KBA Koelnbreinsper 26.89 133 *e*P P 14 18 42.0 +4.1
comp=Z,0.8nm,0.6s
STHS Stebnicka Huta 26.95 120 *e*P P 14 18 40.6 +2.3
STHS Stebnicka Huta 26.95 120 *e*P P 14 18 40.6 +2.3
ABTA Abfaltersbach 26.99 134 *e*pP P 14 18 41.2 +2.5
comp=Z,9.2nm,1.6s
MOS Moscow 27.02 94 *e*P P 14 18 40.8 +2.1
MOS *e* 14 19 24.8
MOS pmax pmax
comp=Z,32nm,1.0s
MOS MLR MLR
comp=Z,700nm,14.0s
SCHQ Schefferville 27.04 263 P P 14 18 37.4 -1.7
comp=Z,3.3nm,0.8s,baz=307,slow=2.2,SNR=3.0
SCHQ LR LR 14 28 25.7
comp=Z,892nm,21.6s,baz=62,slow=34
comp=Z,3.3nm,0.8s
VYHS Vyhne 27.08 124 *e*P P 14 18 39.5 +0.1
VYHS Vyhne 27.08 124 *e*P P 14 18 39.5 +0.1
RONA Rosalia, Austr 27.09 128 *i* P P 14 18 39.8 +0.2
comp=Z,0.8nm,0.5s
OBN Obninsk 27.15 96 *i* P P 14 18 40.5 +0.6
OBN pmax pmax
comp=Z,9.0nm,1.0s
OBN MLR MLR
comp=Z,740nm,15.0s
KWP Kalwaria Pacla 27.21 118 *e*P P 14 18 42.7 +2.1
BNI Bardonecchia 27.27 144 P P 14 18 39.7 -1.7
BNI Bardonecchia 27.27 144 P P 14 18 39.7 -1.7
BNI pmax pmax
comp=Z,7.0nm,1.2s
ARSA Arzberg 27.30 130 P P 14 18 40.5 -0.9
ARSA Arzberg 27.30 130 *i* pP P 14 18 44.0 +2.6
comp=Z,0.7nm,0.7s
CIMO Cimolais 27.38 135 P P 14 18 41.7 -0.5
CIMO IAmb IAmb 14 18 53.0
comp=Z,11nm,1.4s
MYKA Terra Mystica 27.38 133 *e*pP P 14 18 44.9 +2.7
comp=Z,1.1nm,0.4s
CTI Castel Tesino 27.43 136 P P 14 18 40.8 -1.9
CTI IAmb IAmb 14 18 52.3
comp=Z,12nm,1.1s
CTI Castel Tesino 27.43 136 P P 14 18 40.8 -1.9
CTI pmax pmax
comp=Z,12nm,1.1s
SOKA Soboth 27.70 131 *e*P P 14 18 45.8 +0.7
comp=Z,8.0nm,1.6s
OBKA Obir 27.73 132 *e*pP P 14 18 48.6 +3.2
comp=Z,8.8nm,2.1s
PSZ Piszkesteto 27.90 123 P P 14 18 49.3 +2.5
PSZ IAmb IAmb 14 18 59.9
comp=Z,11nm,1.5s
PSZ Piszkesteto 27.90 123 P P 14 18 49.3 +2.5
PSZ pmax pmax
comp=Z,11nm,1.5s
HOLU Holmets 28.09 120 P P 14 18 50.2 +1.8
AKASG Malin Array Be 28.34 109 P P 14 18 49.5 -1.2
AKASG LR LR 14 29 39.8
comp=Z,1.6nm,0.6s,baz=329,slow=9.5,SNR=11
comp=Z,840nm,20.8s,baz=316,slow=36
comp=Z,1.6nm,0.6s
AKASG Malin Array Be 28.34 109 *i* P P 14 18 49.9 -0.7
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 28.34 109 P 14 18 50.5 -0.1
AKBB IAmb IAmb 14 19 04.7
comp=Z,11nm,1.4s
AKBB Malin Array Si 28.34 109 *ce*P P 14 18 50.7 +0.1
AKBB pmax pmax
comp=Z,6.0nm,1.2s
AKBB Malin Array Si 28.34 109 P P 14 18 50.5 -0.1
KIEV Kiev 28.34 109 P 14 18 50.5 -0.1
KIEV Kiev 28.34 109 P P 14 18 50.5 -0.1
KIEV pmax pmax
comp=Z,9.0nm,1.4s
KIEV Kiev 28.34 109 P P 14 18 50.5 -0.1
comp=Z,42nm,1.9s
POLO Lamas de Olo 28.85 168 *e*P P 14 18 55.8 +0.4
KIRV Kirov 28.87 80 LR LR 14 29 32.3
comp=Z,1μm,18.8s,baz=318,slow=35
KIRV Kirov 28.87 80 *i* P P 14 18 55.9 +0.6
MVO Moncorvo 29.12 167 *e*P P 14 18 58.3 +0.6
MVO *i* IAmb IAmb 14 19 01.4
comp=Z,16nm,1.7s
KMPD K-Podol'skiy 29.31 115 P P 14 18 58.9 -0.4
BURAR Bucovina Array 29.77 117 P 14 19 02.5 -1.0
COI Coimbra 29.97 169 *e*P P 14 19 07.5 +2.4
PSARD Sardoal 30.59 169 *e*P P 14 19 12.0 +1.3
PSARD *i* IAmb IAmb 14 19 14.4
comp=Z,26nm,1.8s
PMRV Marv??o 30.81 168 *e*P P 14 19 13.1 +0.4
PMRV *i* IAmb IAmb 14 19 22.8
comp=Z,14nm,1.8s
ESDC Sonseca Array 30.88 162 P 14 19 13.7 +0.4
ESDC Sonseca Array 30.88 162 P P 14 19 12.0 -1.3
comp=Z,1.2nm,1.0s,baz=345,slow=9.1,SNR=7.9
ESDC LR LR 14 31 24.1
comp=Z,401nm,18.7s,baz=329,slow=36
comp=Z,1.2nm,1.0s
PMTG Montargil 31.11 169 *e*P P 14 19 14.8 -0.5
PMTG *i* IAmb IAmb 14 19 18.6
comp=Z,13nm,1.5s
A36M Sachs Harbour 31.20 326 P P 14 19 14.5 -1.2
baz=39
PESTR Estremoz 31.36 168 *e*P P 14 19 17.2 -0.3
EVO Evora 31.66 169 *e*P P 14 19 22.1 +2.0
NRIK Noril'sk 31.89 41 LR LR 14 33 49.6
comp=Z,190nm,18.5s,baz=330,slow=39
NRIK Noril'sk 31.89 41 *i* P P 14 19 26.3 +4.5
NRIK pmax pmax
comp=Z,9.0nm,1.2s
MLR Muntele Rosu 31.89 118 LR LR 14 32 41.2
comp=Z,375nm,19.6s,baz=332,slow=37
PBAR Barrancos 32.09 167 *e*P P 14 19 25.1 +1.3
PBAR *i* IAmb IAmb 14 19 46.9
comp=Z,14nm,1.8s
PBEJ Beja 32.17 168 *e*P P 14 19 22.8 -1.8
PBEJ *i* IAmb IAmb 14 19 32.0
comp=Z,12nm,2.5s
PCVE Castro Verde 32.55 169 *e*P P 14 19 29.2 +1.2
ARTI Arti 33.62 75 P P 14 19 36.0 -1.1
ARTI Arti 33.62 75 LR LR 14 32 33.1
comp=Z,1μm,18.6s,baz=312,slow=35
ARTI Arti 33.62 75 *c i* P P 14 19 38.1 +1.0
ARTI 14 20 48.4
ARTI S S 14 25 03.6 +4.4
ARTI SS SnSn 14 27 08.2 +6.3
ARTI pmax pmax
comp=Z,24nm,2.1s
ARTI MLR MLR
comp=Z,1μm,18.0s
FNA Florina 34.87 127 IAmb IAmb 14 19 48.0
comp=Z,5.1nm,0.7s
INK Inuvik 35.84 326 P 14 19 54.9 -1.2
INK Inuvik 35.84 326 LR LR 14 35 12.0
comp=Z,267nm,21.6s,baz=58,slow=37
INK Inuvik 35.84 326 P P 14 19 54.9 -1.2
INK pmax pmax
comp=Z,21nm,1.5s
D28M Stokes Point 35.92 330 P P 14 19 55.9 -0.9
baz=30
ANN Anapa 36.20 106 *e*P P 14 19 58.2 -1.2
ANN pmax pmax
comp=Z,39nm,0.7s
ANN MLR MLR
comp=Z,1μm,15.0s
VAE Valguarnera 36.21 138 LR LR 14 35 54.2
comp=Z,452nm,18.1s,baz=336,slow=38
YKAW3 Yellowknife Wh 36.26 309 P 14 19 58.7 -1.0
YKAW3 IAmb IAmb 14 20 03.3
comp=Z,14nm,1.4s
YKAW1 Yellowknife Wh 36.29 309 IAmb IAmb 14 20 05.1
comp=Z,3.9nm,0.9s

YKA Yellowknife Ar 36.31 309 P P 14 20 00.5 +0.2
YKA Yellowknife Ar 36.31 309 P P 14 19 59.8 -0.5
comp=Z,1.9nm,1.0s,baz=34,slow=8.4,SNR=16
YKA LR LR 14 34 49.6
comp=Z,661nm,18.4s,baz=34,slow=36
comp=Z,1.9nm,1.0s
YKA Yellowknife Ar 36.31 309 *i* P P 14 20 00.4 +0.2
YKA pmax pmax
comp=Z,4.0nm,0.9s
D27M Malcolm River 36.38 331 P P 14 19 58.9 -2.0
baz=28
C26K Camden Bay 36.42 333 P P 14 19 59.6 -1.4
baz=27
C27K Jago River 36.49 332 P P 14 20 00.4 -1.4
baz=27
E29M Blow River 36.59 328 IAmb IAmb 14 20 07.5
comp=Z,15nm,1.4s
E29M Blow River 36.59 328 P P 14 20 01.6 -1.0
baz=29,SNR=6.0
F31M Tsiigehtchic 36.63 325 P P 14 20 01.6 -1.2
baz=31
E28M Babbage River 36.70 329 IAmb IAmb 14 20 08.9
comp=Z,14nm,1.4s
E28M Babbage River 36.70 329 P P 14 20 01.6 -1.9
baz=29
A21K Barrow 36.73 340 P P 14 20 02.2 -1.5
baz=21
KEST Kesra 36.79 145 P P 14 20 05.1 +0.4
comp=Z,0.6nm,0.4s,baz=284,slow=16,SNR=3.7
KEST LR LR 14 34 55.7
comp=Z,333nm,19.0s,baz=11,slow=36
comp=Z,0.6nm,0.4s
TIXI Tiksi 36.81 18 P 14 20 04.4 0.0
TIXI IAmb IAmb 14 20 23.1
comp=Z,14nm,1.4s
TIXI Tiksi 36.81 18 LR LR 14 33 56.1
comp=Z,108nm,21.3s,baz=7.0,slow=34
TIXI Tiksi 36.81 18 *ce*P P 14 20 07.0 +2.6
TIXI pmax pmax
comp=Z,47nm,1.7s
A22K Sinclair Lake 36.83 339 P P 14 20 02.5 -2.0
baz=22
F30M Barrier River 36.88 327 P P 14 20 03.0 -2.0
baz=30
C24K Franklin Bluff 37.17 335 IAmb IAmb 14 20 11.7
comp=Z,18nm,1.1s
C24K Franklin Bluff 37.17 335 P P 14 20 05.8 -1.7
baz=25
G31M Satah River 37.18 325 IAmb IAmb 14 20 43.1
comp=Z,14nm,1.3s
G31M Satah River 37.18 325 P P 14 20 06.4 -1.2
baz=30
D25K Kavik River 37.19 334 P P 14 20 05.7 -2.0
baz=26,SNR=9.1
B22K Teshekpuk Lake 37.25 338 P P 14 20 06.9 -1.3
baz=22
C23K Itkillik River 37.34 336 P P 14 20 07.7 -1.2
baz=24,SNR=9.1
E27K Coleen River 37.42 330 IAmb IAmb 14 20 17.0
comp=Z,10nm,1.4s
E27K Coleen River 37.42 330 P P 14 20 08.2 -1.5
baz=27,SNR=5.6
G30M tAoh Zraii Nji 37.51 326 P P 14 20 08.6 -1.8
baz=29
MDT Midelt 37.61 165 LR LR 14 34 24.5
comp=Z,196nm,20.9s,baz=40,slow=34
F28M Old Crow 37.63 329 P P 14 20 09.7 -1.7
baz=28
D24K Happy Valley 37.71 335 IAmb IAmb 14 20 16.1
comp=Z,15nm,1.1s
D24K Happy Valley 37.71 335 P P 14 20 10.0 -2.1
baz=24
GOF Gofitskoye 37.87 100 *i* P P 14 20 12.8 -0.8
G29M Pine Creek 37.91 327 IAmb IAmb 14 20 19.1
comp=Z,8.5nm,1.1s
G29M Pine Creek 37.91 327 P P 14 20 11.8 -2.1
baz=28
WRGLY Wrigley 37.96 316 P P 14 20 12.8 -1.4
baz=32
B20K Meade River 38.03 340 P P 14 20 12.3 -2.4
baz=20
SOC Sochi 38.04 104 *e*P P 14 20 12.4 -2.7
SOC *e* 14 21 39.5
SOC *e*S S 14 26 05.2 -1.9
SOC *e*SS SS 14 28 52.7 -1.1
SOC *e*SSS SSS 14 29 11.0
SOC MLR MLR
comp=Z,1μm,14.0s
B21K Ikpikpuk River 38.08 338 P P 14 20 13.0 -2.1
baz=22
EPYK Eagle Plains 38.14 326 P P 14 20 13.3 -2.5
baz=29
E25K Arctic Village 38.15 332 IAmb IAmb 14 20 21.1
comp=Z,16nm,1.4s
E25K Arctic Village 38.15 332 P P 14 20 13.9 -1.9
baz=25,SNR=9.3
D23K Nanushuk River 38.15 336 IAmb IAmb 14 20 20.2
comp=Z,18nm,1.2s
D23K Nanushuk River 38.15 336 P P 14 20 13.8 -2.0
baz=23
H31M Peel River 38.17 324 P P 14 20 13.3 -2.7
baz=29
TOLK Toolik Lake Re 38.29 335 IAmb IAmb 14 20 21.0
comp=Z,16nm,1.3s
TOLK Toolik Lake Re 38.29 335 P P 14 20 14.9 -2.1
baz=24,SNR=5.7
A19K Wainwright 38.29 342 P P 14 20 14.7 -2.2
baz=18
F26K Sheenjek River 38.30 331 P P 14 20 15.0 -2.1
baz=26
AKTO Aktyubinsk 38.41 81 P P 14 20 18.1 -0.1
comp=Z,2.0nm,0.6s,baz=325,slow=4.8,SNR=8.2
AKTO PP PP 14 21 44.6 -1.0
comp=Z,2.2nm,0.8s,baz=335,slow=8.1,SNR=7.3
AKTO LR LR 14 35 15.5
comp=Z,598nm,19.1s,baz=54,slow=35
comp=Z,2.0nm,0.6s
D22K Ayikyak River 38.51 337 IAmb IAmb 14 20 22.8
comp=Z,14nm,1.5s
D22K Ayikyak River 38.51 337 P P 14 20 16.7 -2.2
baz=22
C21K Knifeblade Rid 38.53 338 P P 14 20 17.2 -1.8
baz=21,SNR=5.7
H29M Whitestone 38.59 327 P P 14 20 17.6 -2.0
baz=28
BMAR Burnt Mountain 38.61 331 P 14 20 20.9 +1.2
F25K Christian Rive 38.64 332 P P 14 20 20.6 +0.6
F25K IAmb IAmb 14 20 25.6
comp=Z,16nm,1.4s
F25K Christian Rive 38.64 332 P P 14 20 17.7 -2.3
baz=25,SNR=9.1
E24K Your Creek 38.65 334 IAmb IAmb 14 20 24.3
comp=Z,14nm,1.4s
E24K Your Creek 38.65 334 P P 14 20 17.8 -2.2
baz=24
G27K Doyon Strip 38.67 329 P P 14 20 18.4 -1.8
baz=26
KIV Kislovodsk 38.71 101 *e*P P 14 20 22.5 +1.6
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,590nm,16.0s
E23K Chandalar 38.83 334 IAmb IAmb 14 20 29.9
comp=Z,16nm,1.3s
E23K Chandalar 38.83 334 P P 14 20 19.5 -2.1
baz=23,SNR=9.0
SHA1 Shidzhatmaz 38.90 101 *i* P P 14 20 24.1 +1.5
G26K Porcupine Rive 38.91 330 P 14 20 23.6 +1.5
G26K Porcupine Rive 38.91 330 P P 14 20 20.4 -1.7
baz=26,SNR=5.1
KBZ Khabaz 38.99 101 P P 14 20 23.5 +0.5
comp=Z,0.7nm,0.4s,baz=325,slow=7.9,SNR=6.6
KBZ LR LR 14 36 16.9
comp=Z,882nm,18.6s,baz=316,slow=36
comp=Z,0.7nm,0.4s
KBZ Khabaz 38.99 101 *i* P P 14 20 24.6 +1.6
KBZ pmax pmax
comp=Z,3.0nm,1.1s
FFC Flin Flon 39.02 293 P 14 20 23.1 -0.1
FFC IAmb IAmb 14 20 27.9
comp=Z,13nm,1.2s
FFC Flin Flon 39.02 293 P P 14 20 23.1 -0.1
FFC pmax pmax
comp=Z,13nm,1.3s
F24K Squaw Lake 39.06 333 P P 14 20 22.1 -1.4
baz=24
E22K Anaktuvuk Pass 39.08 336 IAmb IAmb 14 20 27.1
comp=Z,12nm,1.3s

E22K Anaktuvuk Pass 39.08 336 P P 14 20 21.9 -1.7
baz=22,SNR=7.4
I30M Mount Dempster 39.09 325 P 14 20 24.3 +0.5
I30M IAmb IAmb 14 20 28.1
comp=Z,14nm,1.2s
I30M Mount Dempster 39.09 325 P P 14 20 22.4 -1.4
baz=28,SNR=7.4
E21K Killik River 39.09 337 P P 14 20 21.9 -1.9
baz=21
H27K Steamboat Moun 39.17 329 P P 14 20 22.2 -2.1
baz=26,SNR=6.3
B18K Kokolik River 39.17 342 P P 14 20 22.6 -1.7
baz=18
C19K Lookout Ridge 39.17 340 P P 14 20 22.5 -1.9
baz=19
D20K Etivluk River 39.18 339 P P 14 20 22.2 -2.3
baz=20
I29M Ogilvie Camp, 39.34 326 P P 14 20 23.9 -2.0
baz=27
G25K Bearman Lake 39.47 332 P P 14 20 25.3 -1.5
baz=24,SNR=13
FYU Fort Yukon 39.51 331 IAmb IAmb 14 20 43.7
comp=Z,24nm,1.5s
BR131 Keskin Array S 39.51 113 *i* P P 14 20 29.4 +1.8
BRTR Keskin Array B 39.51 113 P 14 20 27.8 +0.1
BRTR Keskin Array B 39.51 113 P P 14 20 28.1 +0.4
comp=Z,0.8nm,0.7s,baz=333,slow=5.4,SNR=5.0
BRTR LR LR 14 37 09.0
comp=Z,441nm,21.5s,baz=332,slow=37
comp=Z,0.8nm,0.7s
BRTR Keskin Array B 39.51 113 *i* P P 14 20 29.5 +1.8
BRTR pmax pmax
comp=Z,1.0nm,0.6s
E20K Nigu River 39.56 338 P P 14 20 25.9 -1.8
baz=20
I28M Miner Creek 39.58 327 P P 14 20 26.3 -1.5
baz=27,SNR=5.7
D19K Kuna River 39.58 339 P P 14 20 26.1 -1.7
baz=19
J30M Hart River 39.66 324 P P 14 20 26.9 -1.6
baz=28,SNR=9.3
COLD Coldfoot 39.69 334 P P 14 20 27.1 -1.6
baz=23
F22K John River 39.72 336 P P 14 20 27.4 -1.5
baz=22
I27K Kandik River 39.75 328 P P 14 20 27.5 -1.7
baz=26
G24K Hadweenzic Riv 39.75 332 IAmb IAmb 14 20 35.4
comp=Z,27nm,1.4s
G24K Hadweenzic Riv 39.75 332 P P 14 20 27.9 -1.4
baz=24,SNR=11
C18K Utukok River 39.79 341 P P 14 20 27.6 -1.9
baz=18
SADO Sadowa 39.79 265 LR LR 14 36 32.1
comp=Z,631nm,19.1s,baz=38,slow=36
H25L Birch Creek 39.88 331 P P 14 20 28.9 -1.3
baz=24,SNR=9.2
ABKAR Akbulak array 40.07 80 P 14 20 31.6 -0.3
G23K Bananza Creek 40.14 334 P P 14 20 31.5 -1.0
baz=22,SNR=5.2
G22K Bettles 40.17 335 P P 14 20 31.3 -1.3
baz=22
F21K Alatna River 40.17 336 P P 14 20 30.7 -2.0
baz=21
C17K DeLong Mountai 40.17 342 P P 14 20 31.3 -1.4
baz=17
I26K Coal Creek Min 40.29 329 P P 14 20 34.9 +1.2
I26K IAmb IAmb 14 20 39.4
comp=Z,29nm,1.5s
I26K Coal Creek Min 40.29 329 P P 14 20 32.2 -1.5
baz=25
MMPY Sheldon Lake, 40.31 320 P P 14 20 32.4 -1.5
baz=29,SNR=6.8
BVAR Borovoye Array 40.34 69 P P 14 20 34.8 +0.6
comp=Z,1.3nm,0.6s,baz=339,slow=6.8,SNR=3.7
BVAR LR LR 14 37 05.9
comp=Z,490nm,19.6s,baz=323,slow=36
comp=Z,1.3nm,0.6s
E19K Redstone River 40.45 338 P P 14 20 33.5 -1.5
baz=19
PRP Porcupine Dome 40.51 331 P P 14 20 34.1 -1.6
baz=24,SNR=6.0
K29M Barlow Dome 40.55 325 IAmb IAmb 14 20 41.3
comp=Z,20nm,1.4s
K29M Barlow Dome 40.55 325 P P 14 20 34.3 -1.7
baz=27,SNR=11
RDOG Red Dog Mine 40.55 342 P P 14 20 33.7 -2.1
baz=17
EPLO Experimental L 40.58 282 P 14 20 36.6 +0.4
TGTN Hyland Airport 40.58 317 P P 14 20 34.5 -1.7
baz=29
C16K Lisburne Hills 40.59 343 P P 14 20 34.0 -2.1
baz=16
H24K Noodor Dome 40.61 332 IAmb IAmb 14 20 40.8
comp=Z,17nm,1.4s
H24K Noodor Dome 40.61 332 P P 14 20 35.1 -1.3
baz=23,SNR=9.0
F20K Avaraart Lake 40.64 337 P P 14 20 35.8 -0.7
baz=20,SNR=12
DAWY Dawson 40.72 326 P P 14 20 35.3 -1.9
baz=26
KOTAN Kotaneelee Air 40.77 313 P P 14 20 36.2 -1.5
baz=30
ULM Lac du Bonnet 40.81 284 IAmb IAmb 14 20 59.4
comp=Z,16nm,1.2s
ULM Lac du Bonnet 40.81 284 P P 14 20 37.9 -0.2
comp=Z,2.7nm,0.9s,baz=19,slow=8.3,SNR=4.5
comp=Z,2.7nm,0.9s
ULM Lac du Bonnet 40.81 284 *i* P P 14 20 38.4 +0.3
G21K Allakaket 40.84 336 P P 14 20 36.1 -2.1
baz=21
H23K Yukon River 40.89 333 IAmb IAmb 14 20 43.3
comp=Z,22nm,1.5s
H23K Yukon River 40.89 333 P P 14 20 37.0 -1.6
baz=22,SNR=6.8
E18K Tukpahlearik C 40.90 340 P P 14 20 36.8 -1.9
baz=18
D17K Noatak River 40.91 342 P P 14 20 37.1 -1.6
baz=16
IDI Anoyia 40.98 126 LR LR 14 39 06.1
comp=Z,312nm,19.6s,baz=315,slow=38
J26L Joseph Creek 41.10 329 P P 14 20 39.0 -1.5
baz=24,SNR=5.8
H22K Ishtalitna Cre 41.11 334 P P 14 20 39.1 -1.3
baz=22,SNR=6.4
F19K Shaleruckik Mo 41.11 338 P P 14 20 39.0 -1.4
baz=19
MAK Makhachkala 41.24 97 *e*P P 14 20 36.0 -5.7
MAK *e*S S 14 26 47.2 -7.9
MAK pmax pmax
comp=Z,100nm,1.3s
MAK MLR MLR
comp=Z,549nm,16.0s
K27K Chicken 41.26 328 P P 14 20 40.8 -0.9
baz=25
J25K Salcha River, 41.32 330 P 14 20 43.3 +1.1
J25K IAmb IAmb 14 20 46.1
comp=Z,12nm,1.4s
J25K Salcha River, 41.32 330 P P 14 20 41.0 -1.2
baz=24,SNR=7.5
L29M L29M 41.33 325 IAmb IAmb 14 20 47.5
comp=Z,15nm,1.4s
L29M L29M 41.33 325 P P 14 20 41.1 -1.3
baz=26,SNR=7.1
M31M Drury Creek, Y 41.36 322 P P 14 20 41.2 -1.4
baz=27
E17K Hotham Inlet 41.36 341 P P 14 20 40.7 -1.8
baz=17
IMAR Indian Mountai 41.37 336 P P 14 20 43.4 +0.8
IL31 41.43 331 IAmb IAmb 14 20 47.9
comp=Z,22nm,1.5s
ILAR Eielson Array 41.43 331 P 14 20 44.3 +1.2
ILAR Eielson Array 41.43 331 P P 14 20 43.5 +0.4
comp=Z,2.9nm,1.1s,baz=29,slow=6.1,SNR=15
ILAR LR LR 14 41 28.5
comp=Z,333nm,19.0s,baz=58,slow=41
comp=Z,2.9nm,1.1s
I23K Minto, Yukon-K 41.49 333 IAmb IAmb 14 20 47.9
comp=Z,20nm,1.4s
I23K Minto, Yukon-K 41.49 333 P P 14 20 42.3 -1.2
baz=22,SNR=12
COLA College 41.50 332 P P 14 20 45.5 +1.9
COLA IAmb IAmb 14 20 49.2
comp=Z,20nm,1.3s
COLA College 41.50 332 *i* P P 14 20 46.2 +2.6
COLA pmax pmax
comp=Z,10.0nm,1.3s
COLA College 41.50 332 P P 14 20 42.4 -1.2

baz=23
M30M Minto, Yukon 41.53 323 IAmb IAmb 14 20 47.9
comp=Z,16nm,1.4s
M30M Minto, Yukon 41.53 323 P **P** **14 20 42.4 -1.6**
baz=26,SNR=9.8
H21K Melozitna Rive 41.54 335 IAmb IAmb 14 20 48.6
comp=Z,25nm,1.4s
H21K Melozitna Rive 41.54 335 P **P** **14 20 42.6 -1.4**
baz=21,SNR=15
F18K Selawik 41.57 339 P **P** **14 20 42.5 -1.6**
baz=18
SCRK Sand Creek 41.66 329 P **P** **14 20 43.4 -1.7**
baz=24
G19K Purcell Mounta 41.68 338 IAmb IAmb 14 20 50.8
comp=Z,19nm,1.5s
G19K Purcell Mounta 41.68 338 P **P** **14 20 43.3 -1.8**
baz=19,SNR=6.7
HDA Harding Lake 41.78 331 IAmb IAmb 14 20 49.6
comp=Z,11nm,1.2s
HDA Harding Lake 41.78 331 P **P** **14 20 44.7 -1.3**
baz=23,SNR=5.9
MLY Manley 41.81 333 **P** **14 20 46.7 +0.5**
MLY Manley 41.81 333 P **P** **14 20 44.2 -2.1**
baz=21,SNR=8.3
F17K Baldwin Pennin 41.91 340 P **P** **14 20 45.7 -1.3**
baz=17
WTLY Watson Lake, Y 41.95 316 P **P** **14 20 46.1 -1.3**
baz=28
NEA2 Nenana 41.96 332 IAmb IAmb 14 20 52.8
comp=Z,22nm,1.3s
NEA2 Nenana 41.96 332 P **P** **14 20 45.9 -1.5**
baz=22,SNR=12
DOT Dot Lake 41.97 328 IAmb IAmb 14 20 53.2
comp=Z,14nm,1.5s
H20K Anotlenenega Mo 41.99 336 P **P** **14 20 46.2 -1.5**
baz=20,SNR=8.0
M29M Somme Creek 42.00 324 IAmb IAmb 14 20 53.8
comp=Z,14nm,1.4s
M29M Somme Creek 42.00 324 P **P** **14 20 46.3 -1.6**
baz=26,SNR=7.8
N32M Quiet Lake 42.01 320 P **P** **14 20 47.1 -0.9**
baz=27
RIDG Independent Ri 42.03 329 **P** **14 20 49.5 +1.5**
RIDG Independent Ri 42.03 329 P **P** **14 20 47.0 -1.1**
baz=24
BCAR Beaver Creek A 42.08 327 **P** **14 20 49.5 +1.0**
L27K Beaver Creek, 42.09 327 IAmb IAmb 14 21 00.4
comp=Z,14nm,1.4s
L27K Beaver Creek, 42.09 327 P **P** **14 20 47.8 -0.8**
baz=24,SNR=14
G18K Tagagawik 42.12 338 P **P** **14 20 47.3 -1.4**
baz=18
K24K Donnelly Dome 42.13 330 P **P** **14 20 47.7 -1.2**
baz=23
H19K Roundabout Mou 42.18 337 P **P** **14 20 48.7 -0.5**
baz=19
TOAD Toad River Com 42.18 313 P **P** **14 20 48.4 -0.9**
baz=29
N31M Braeburn, Yuko 42.30 322 P **P** **14 20 49.1 -1.2**
baz=26
BILL Bilibino 42.34 359 *ce* **P** **P** **14 20 53.4 +2.9**
BILL pmax pmax
comp=Z,18nm,1.7s
L26K Log Cabin Wild 42.41 328 P **P** **14 20 50.7 -0.5**
baz=24,SNR=5.8
BVCY Beaver Creek 42.50 326 P **P** **14 20 51.2 -0.7**
baz=25
I20K Naaghedeneel 42.59 335 P **P** **14 20 51.4 -1.1**
baz=20
N30M Aishikik Lake 42.60 323 P **P** **14 20 51.5 -1.3**
baz=26,SNR=5.5
AKT Akhty 42.63 97 *e* **P** **P** **14 20 51.8 -1.5**
AKT *e* 14 22 31.2
AKT *e* 14 22 44.0
AKT pmax pmax
comp=Z,20nm,2.0s
AKT MLR MLR
comp=Z,608nm,18.0s
BPAW Bear Paw Mtn. 42.73 333 IAmb IAmb 14 21 01.7
comp=Z,19nm,1.5s
BPAW Bear Paw Mtn. 42.73 333 P **P** **14 20 52.5 -1.2**
baz=21,SNR=18
MCK McKinley 42.74 332 IAmb IAmb 14 20 59.9
comp=Z,15nm,1.2s
MCK McKinley 42.74 332 P **P** **14 20 52.4 -1.4**
baz=22,SNR=7.3
M27K Edge Creek, AK 42.75 326 P **P** **14 20 52.1 -1.9**
baz=24
H18K Honhosa River 42.79 338 P **P** **14 20 52.3 -1.9**
baz=18
P33M Teslin, Yukon 42.79 319 P **P** **14 20 51.9 -2.4**
baz=27
GNI Garni 42.80 101 LR LR 14 38 39.2
comp=Z,906nm,21.4s,baz=320,slow=36
PAX Paxson 42.85 329 P **P** **14 20 52.5 -2.3**
baz=23
WHY Whitehorse 42.85 321 IAmb IAmb 14 21 00.2
comp=Z,17nm,1.4s
WHY Whitehorse 42.85 321 P **P** **14 20 53.0 -1.9**
baz=26
M26K Nabesna, AK 42.92 327 IAmb IAmb 14 20 59.7
comp=Z,14nm,1.4s
M26K Nabesna, AK 42.92 327 P **P** **14 20 53.4 -1.9**
baz=24
GCSA Galena City Sc 42.98 337 P **P** **14 20 53.7 -1.9**
baz=18
YUK3 Moose Creek 43.00 325 P **P** **14 20 54.7 -1.5**
baz=24
F15K North Star Dit 43.01 342 P **P** **14 20 53.7 -2.2**
baz=15
O30N Mendenhall 43.01 322 P **P** **14 20 54.4 -1.7**
baz=26
SSPA Standing Stone 43.01 261 P **P** **14 20 58.3 +2.1**
SSPA IAmb IAmb 14 21 02.4
comp=Z,16nm,1.4s
RND Reindeer 43.03 331 IAmb IAmb 14 21 01.1
comp=Z,14nm,1.4s
YUK4 Talbot Arm 43.03 324 P **P** **14 20 53.6 -2.7**
baz=25
G16K Koyuk River 43.05 340 P **P** **14 20 53.9 -2.3**
baz=16
DHY Denali Highway 43.09 330 P **P** **14 20 55.3 -1.5**
baz=22
R33M Jennings River 43.10 317 P **P** **14 20 54.9 -2.0**
baz=27
J20K Nowinta River 43.13 335 P **P** **14 20 55.3 -1.6**
baz=20,SNR=9.3
CHUM Lake Minchumin 43.13 334 P **P** **14 20 55.2 -1.7**
baz=20,SNR=8.1
H17K Granite Mounta 43.19 339 P **P** **14 20 56.0 -1.5**
baz=17
TRF Thorofare Moun 43.22 332 P **P** **14 20 56.0 -1.8**
baz=21
KTH Kantishna Hill 43.23 333 IAmb IAmb 14 21 02.2
comp=Z,15nm,1.4s
HYT Haines Junctio 43.26 323 IAmb IAmb 14 21 11.9
comp=Z,12nm,1.5s
HYT Haines Junctio 43.26 323 P **P** **14 20 56.6 -1.6**
baz=25,SNR=5.8
YUK8 Steele Glacier 43.31 324 P **P** **14 20 57.3 -1.4**
baz=25
HARP HAARP 43.32 328 P **P** **14 20 56.5 -2.0**
baz=23
YUK6 Outpost Mounta 43.34 323 P **P** **14 20 57.2 -1.7**
baz=25
F14K Arctic Creek 43.41 343 P **P** **14 20 57.6 -1.6**
baz=14
TNA Tin City 43.48 344 P **P** **14 20 58.3 -1.4**
baz=13
WAT1 Susitna Watana 43.52 331 P **P** **14 20 58.5 -1.6**
baz=22
J19K Poorman 43.52 336 P **P** **14 20 58.4 -1.7**
baz=19,SNR=7.2
CAST Castle Rocks 43.54 333 IAmb IAmb 14 21 04.2
comp=Z,11nm,1.2s
CAST Castle Rocks 43.54 333 P **P** **14 20 58.2 -2.0**
baz=20,SNR=6.9
P32M Atlin 43.55 319 P **P** **14 20 59.0 -1.5**
baz=26
WAT6 Susitna Watana 43.61 330 P **P** **14 20 59.5 -1.5**
baz=22,SNR=6.6
G15K Niukluk 43.63 341 P **P** **14 20 58.5 -2.4**
baz=15
DLBC Dease Lake 43.73 316 LR LR 14 39 29.6
comp=Z,65nm,18.8s,baz=20,slow=36
DLBC Dease Lake 43.73 316 P **P** **14 21 00.2 -1.7**
baz=27
H16K Elim 43.77 340 P **P** **14 20 59.9 -2.1**
baz=16
M24K Tolsona, Glenn 43.77 329 P **P** **14 21 00.2 -2.0**
baz=22
P30M Million Dollar 43.79 322 P **P** **14 21 00.3 -2.1**
baz=25
Q32M Nakina River 43.79 318 IAmb IAmb 14 21 11.6
comp=Z,11nm,1.4s
Q32M Nakina River 43.79 318 P **P** **14 21 00.4 -2.1**
baz=26
MCARA McCarthy VSAT 43.86 327 P **P** **14 21 00.6 -2.3**
baz=23
O28M Mount Upton 43.87 324 P **P** **14 21 00.7 -2.5**
baz=24
K20K Telida 43.90 334 IAmb IAmb 14 21 07.0
comp=Z,10nm,1.1s
K20K Telida 43.90 334 P **P** **14 21 00.4 -2.7**
baz=19,SNR=5.7
CTG Chitna Glacier 43.92 325 P **P** **14 21 00.7 -2.8**
baz=24
N25K Chitina, Valde 43.95 328 IAmb IAmb 14 21 08.2
comp=Z,12nm,1.5s
N25K Chitina, Valde 43.95 328 P **P** **14 21 01.6 -2.0**
baz=23
O29M Mount Kennedy 43.96 323 P **P** **14 21 01.5 -2.3**
baz=25
ZALV Zalesovo Beam 43.98 57 **P** **14 21 04.5 +0.7**
ZALV Zalesovo Beam 43.98 57 P **P** **14 21 02.2 -1.6**
comp=Z,1.0nm,0.6s,baz=331,slow=9.0,SNR=5.7
ZALV LR LR 14 41 34.4
comp=Z,336nm,21.4s,baz=329,slow=39
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 43.98 57 *i* P **P** **14 21 05.5 +1.7**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
SKAG Skagway 44.03 320 P **P** **14 21 02.2 -1.9**
baz=23
PPLA Purkeypile 44.05 333 P **P** **14 21 02.8 -1.7**
baz=20
J18K Innoko River 44.18 336 P **P** **14 21 03.1 -2.3**
baz=18
SCM Sheep Creek Mo 44.23 329 P **P** **14 21 04.2 -1.7**
baz=22,SNR=5.2
PLBC Pleasant Camp 44.26 321 P **P** **14 21 04.2 -1.8**
baz=25
KLU Klutina 44.30 328 P **P** **14 21 03.9 -2.5**
baz=22
I17K Unalakleet 44.30 339 P **P** **14 21 04.1 -2.2**
baz=16
M23K Glacier View 44.34 330 P **P** **14 21 04.4 -2.3**
baz=22
P29M Windy Craggy 44.40 322 P **P** **14 21 04.8 -2.4**
baz=25
CRQE Cirque 44.46 326 P **P** **14 21 05.2 -2.5**
baz=23
S34M Telegraph Cree 44.46 317 P **P** **14 21 06.0 -1.7**
baz=26
PINM Pinnacle 44.50 324 P **P** **14 21 05.9 -2.1**
baz=24
O53A New Philadelph 44.50 264 IAmb IAmb 14 21 11.9
comp=Z,12nm,1.1s
BMRM Bremner River 44.54 327 P **P** **14 21 06.0 -2.4**
baz=22
J17K VABM Dome 44.56 338 P **P** **14 21 05.7 -2.7**
baz=17
GHO Glory Hole Cre 44.57 330 IAmb IAmb 14 21 12.1
comp=Z,16nm,1.4s
L20K Farewell, AK 44.70 334 P **P** **14 21 05.9 -3.6**
baz=19
PNL Peninsula 44.71 323 P **P** **14 21 06.1 -3.6**
baz=24
F33A 5 Mile Ranch, 44.76 282 **P** **14 21 10.8 +0.6**
MESA MESA 44.76 325 P **P** **14 21 07.4 -2.8**
baz=23,SNR=9.4
PMR Palmer 44.77 330 IAmb IAmb 14 21 14.3
comp=Z,13nm,1.4s
PMR Palmer 44.77 330 P **P** **14 21 07.5 -2.6**
baz=21
M22K Willow 44.79 331 P **P** **14 21 07.6 -2.6**
baz=20
SKT Skwentna 44.80 332 P **P** **14 21 07.2 -3.2**
baz=20,SNR=7.2
KNK Knik Glacier 44.82 330 P **P** **14 21 07.3 -3.3**
baz=21
J16K Anvik River 44.87 338 P **P** **14 21 07.7 -3.2**
baz=16
R32K Eaglecrest 44.92 319 P **P** **14 21 08.6 -2.8**
baz=25
KURK Kurchatov 44.93 64 **P** **14 21 11.8 +0.3**
KURK IAmb IAmb 14 21 16.4
comp=Z,14nm,1.2s
KURK Kurchatov 44.93 64 *ce* **P** **P** **14 21 12.2 +0.7**
KURK pmax pmax
comp=Z,22nm,1.7s
KURBB Kurchatov Arra 44.99 64 P **P** **14 21 11.6 -0.3**
comp=Z,2.5nm,0.8s,baz=328,slow=7.4,SNR=29
KURBB PP **PP** **14 22 55.1 -1.6**
comp=Z,0.4nm,0.7s,baz=332,slow=5.8,SNR=4.4
KURBB LR LR 14 42 50.3
comp=Z,319nm,18.4s,baz=204,slow=40
comp=Z,2.5nm,0.8s
GLI Glacier Island 45.08 329 P **P** **14 21 09.2 -3.4**
baz=21
T35M Bob Quinn 45.09 315 P **P** **14 21 09.5 -3.2**
baz=26
K17K Iditarod 45.11 337 P **P** **14 21 09.8 -3.0**
baz=17
L19K White Mountain 45.13 334 P **P** **14 21 09.7 -3.3**
baz=18
EYAK Cordova Ski Ar 45.15 328 P **P** **14 21 10.2 -2.8**
baz=22
M20K Styx River 45.15 333 IAmb IAmb 14 21 16.1
comp=Z,10nm,1.2s
M20K Styx River 45.15 333 P **P** **14 21 09.3 -3.9**
baz=19
SUA Susitna One 45.16 331 P **P** **14 21 11.5 -1.9**
baz=20
PWL Port Wells 45.32 330 P **P** **14 21 12.2 -2.3**
baz=21
M19K Big River Lodg 45.33 334 P **P** **14 21 12.3 -2.3**
baz=19
RC01 Rabbit Creek A 45.35 331 P **P** **14 21 12.1 -2.5**
baz=20
L18K Granite Mounta 45.36 336 P **P** **14 21 12.2 -2.6**
baz=18
I37A Lemond, Waseca 45.38 278 P **P** **14 21 16.1 +1.0**
KAIM Kayak Island 45.48 327 P **P** **14 21 13.7 -2.0**
baz=22
GAMB Gambell 45.58 345 P **P** **14 21 13.9 -2.6**
baz=11
S31K Pelican 45.59 320 P **P** **14 21 14.4 -2.2**
baz=24
N20K Mount Spurr 45.65 332 P **P** **14 21 14.8 -2.4**
baz=19
S32K Killisnoo 45.67 319 P **P** **14 21 14.8 -2.4**
baz=25
L17K Donlin 45.67 337 P **P** **14 21 14.7 -2.5**
baz=17
J14K Nanwranak Lak 45.75 340 P **P** **14 21 14.9 -2.9**
baz=15
O22K Cooper Landing 45.92 330 P **P** **14 21 16.9 -2.3**
baz=20
M18K Stony River 45.93 335 P **P** **14 21 17.5 -1.8**
baz=18,SNR=5.4
K15K Wolf Creek Mou 45.94 339 P **P** **14 21 17.3 -2.0**
baz=16
P23K Montague Islan 45.96 329 P **P** **14 21 16.7 -2.9**
baz=21
YAK Yakutsk 46.12 22 *e* **P** **P** **14 21 21.2 +0.5**
YAK pmax pmax
comp=Z,15nm,1.5s
YAK pmax pmax
comp=N,4.0nm,1.5s
YAK pmax pmax
comp=E,7.0nm,2.6s
SIT Sitka 46.21 319 P **P** **14 21 18.6 -2.9**
baz=24
SEW Seward 46.23 330 P **P** **14 21 19.1 -2.5**
baz=20
MMAI Mount Meron Ar 46.23 115 P **P** **14 21 22.5 +0.4**
comp=E,1.5nm,0.7s,baz=299,slow=5.9,SNR=1.7
MMAI LR LR 14 42 04.7
comp=E,163nm,19.4s,baz=280,slow=38
comp=E,1.5nm,0.7s
L16K Owhat River 46.24 337 P **P** **14 21 18.5 -3.2**
baz=16
M17K Holitna River 46.25 336 IAmb IAmb 14 21 25.8
comp=Z,6.2nm,1.1s
M17K Holitna River 46.25 336 P **P** **14 21 19.1 -2.7**
baz=17
N19K Bonanza Creek 46.38 334 **P** **14 21 22.4 -0.5**
N19K IAmb IAmb 14 21 25.9
comp=Z,8.6nm,1.1s
N19K Bonanza Creek 46.38 334 P **P** **14 21 20.2 -2.7**
baz=18,SNR=6.1
L15K Ungalak Mounta 46.53 338 P **P** **14 21 21.4 -2.6**
baz=15
U33K Whale Pass 46.56 317 P **P** **14 21 21.9 -2.4**
baz=25
K13K Kusilvak Mount 46.67 340 P **P** **14 21 22.5 -2.6**
baz=14
N18K Kilae Creek 46.72 334 P **P** **14 21 22.7 -2.9**
baz=18
ECSD EROS Data Cent 46.72 280 IAmb IAmb 14 21 30.7
comp=Z,8.0nm,1.1s
O20K Slope Mountain 46.78 332 P **P** **14 21 23.1 -3.0**
baz=19
M16K Timber Creek 46.83 337 IAmb IAmb 14 21 30.7
comp=Z,9.6nm,1.1s
M16K Timber Creek 46.83 337 P **P** **14 21 24.2 -2.2**
baz=16,SNR=6.4
V35K Ketchikan 46.91 315 P **P** **14 21 24.9 -2.1**
baz=25
O19K Port Alsworth 46.94 333 P **P** **14 21 24.8 -2.4**
baz=18
L14K Kuka Creek 47.01 339 P **P** **14 21 25.1 -2.6**
baz=15
N17K Nushagak Hills 47.06 335 P **P** **14 21 25.4 -2.7**
baz=17,SNR=6.4
CRAG Craig 47.15 316 P **P** **14 21 26.6 -2.2**
baz=25
SEY Seymchan 47.21 7 LR LR 14 41 12.5
comp=Z,66nm,18.4s,baz=5.0,slow=36
SEY Seymchan 47.21 7 *i* P **P** **14 21 32.8 +3.5**
SEY pmax pmax
comp=Z,8.0nm,1.1s
P19K Oil Pt 47.28 332 P **P** **14 21 27.5 -2.5**
baz=18
N16K Nishlik Lake 47.33 336 P **P** **14 21 27.7 -2.6**
baz=16
M15K Kasigluk River 47.38 337 P **P** **14 21 28.1 -2.5**
baz=16
O18K Koktuh Hills 47.40 334 P **P** **14 21 28.3 -2.6**
baz=18
ASF Jabal al Asfar 47.48 114 LR LR 14 42 50.6
comp=Z,352nm,20.1s,baz=41,slow=38
M14K Bethel 47.49 338 P **P** **14 21 29.0 -2.5**
baz=15
O17K Koliganek Bris 47.77 335 P **P** **14 21 31.1 -2.6**
baz=17
N15K Kwethluk River 47.81 337 P **P** **14 21 31.1 -2.9**
baz=16
P18K Big Mountain, 47.85 333 IAmb IAmb 14 21 36.7
comp=Z,6.9nm,1.1s
P18K Big Mountain, 47.85 333 P **P** **14 21 31.8 -2.5**
baz=18
M13K Dall Lake 47.99 339 P **P** **14 21 32.3 -3.0**
baz=14
Q19K Cape Douglas, 48.04 332 P **P** **14 21 33.2 -2.6**
baz=18
O16K Kokwok River B 48.08 335 IAmb IAmb 14 21 40.1
comp=Z,8.8nm,1.2s
O16K Kokwok River B 48.08 335 P **P** **14 21 33.4 -2.7**
baz=16
Q20K Shuyak Island 48.14 331 P **P** **14 21 33.8 -2.8**
baz=18
P17K Kvichak River 48.22 334 P **P** **14 21 34.1 -3.0**
baz=17
N14K Kuskokwak Cree 48.26 338 P **P** **14 21 34.1 -3.3**
baz=15
M11K Mekoryuk 48.36 341 P **P** **14 21 35.2 -2.9**
baz=13
Q18K Katmai Hardscr 48.52 333 P **P** **14 21 36.2 -3.5**
baz=17
P16K Nushagak River 48.61 335 P **P** **14 21 36.7 -3.5**
baz=16
O15K Ungalikthiuk R 48.73 336 P **P** **14 21 38.0 -3.1**
baz=16
Q16K King Salmon 48.75 334 P **P** **14 21 38.3 -2.9**
baz=17
O14K Tigyukauivet M 48.85 337 P **P** **14 21 39.5 -2.5**
baz=15
RSSD Black Hills 48.87 287 **P** **14 21 44.1 +1.4**
RSSD IAmb IAmb 14 21 45.8
comp=Z,7.3nm,1.1s
RSSD Black Hills 48.87 287 P **P** **14 21 44.1 +1.4**
RSSD pmax pmax
comp=Z,7.0nm,1.1s
BBB Bella Bella 48.88 311 LR LR 14 42 52.1
comp=Z,309nm,21.7s,baz=30,slow=37
KDAK Kodiak Island 48.96 331 LR LR 14 45 14.8
comp=Z,316nm,19.3s,baz=41,slow=40
KDAK Kodiak Island 48.96 331 P **P** **14 21 40.3 -2.5**
baz=18
KKAR Karatay Array 49.01 75 **P** **14 21 44.6 +1.1**
KKAR Karatay Array 49.01 75 P **P** **14 21 44.6 +1.1**
Q17K Contact Creek 49.03 333 P **P** **14 21 40.8 -2.7**
baz=17
EIL Elat 49.20 117 LR LR 14 44 09.4
comp=Z,104nm,18.2s,baz=249,slow=38
NEW Newport 49.32 300 LR LR 14 43 04.4
comp=Z,656nm,19.1s,baz=44,slow=37
MAKZ Makanchi 49.43 64 **P** **14 21 47.7 +1.1**
MAKZ IAmb IAmb 14 22 13.4
comp=Z,6.3nm,1.4s
MAKZ Makanchi 49.43 64 P **P** **14 21 47.7 +1.1**
MAKZ pmax pmax
comp=Z,6.0nm,1.4s
R18K Karluk 49.47 332 P **P** **14 21 44.2 -2.5**
baz=17
TKL Tuckaleechee C 49.51 264 LR LR 14 42 08.4
comp=Z,707nm,19.7s,baz=36,slow=35
MK31 Makanchi Array 49.54 63 *ce* **P** **P** **14 21 48.1 +0.6**
MKAR Makanchi Array 49.54 63 **P** **14 21 47.6 +0.1**
MKAR Makanchi Array 49.54 63 P **P** **14 21 47.3 -0.2**
comp=Z,1.8nm,0.8s,baz=339,slow=6.5,SNR=11
MKAR LR LR 14 44 41.1
comp=Z,463nm,19.4s,baz=318,slow=38
comp=Z,1.8nm,0.8s
MKAR Makanchi Array 49.54 63 *i* P **P** **14 21 47.9 +0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
OHAK Old Harbor 49.61 331 P **P** **14 21 45.3 -2.5**
baz=18
R17L Mt. Peulik Vol 49.71 333 P **P** **14 21 45.9 -2.7**
baz=17
B08A Colville Reser 49.89 302 **P** **14 21 50.9 +0.7**
CPCT Cooper Cave 49.95 264 IAmb IAmb 14 21 55.9
comp=Z,7.1nm,1.1s
BOZ Bozeman (W) 50.02 294 IAmb IAmb 14 21 55.7
comp=Z,7.5nm,1.4s
YNE Yellowstone No 50.03 293 IAmb IAmb 14 22 02.7
comp=Z,7.9nm,1.2s
SII Sitkinak Islan 50.39 332 P **P** **14 21 51.3 -2.5**
baz=17
MOY Mondy 50.40 46 *e* **P** **P** **14 21 55.7 +1.6**
MOY pmax pmax
comp=Z,45nm,2.3s
DLMT Dillon 50.53 295 IAmb IAmb 14 22 22.5
comp=Z,12nm,1.4s
YHL Hebgen Lake 50.54 294 IAmb IAmb 14 22 01.2
comp=Z,10nm,1.1s
YHB Horse Butte 50.63 293 IAmb IAmb 14 22 16.4
comp=Z,12nm,1.3s
AAK Ala-Archa 50.75 72 P **P** **14 21 56.1 -0.8**
comp=Z,1.7nm,0.2s,baz=294,slow=4.6,SNR=6.7
AAK LR LR 14 42 56.7
comp=Z,385nm,19.5s,baz=330,slow=36
comp=Z,1.7nm,0.2s
AAK Ala-Archa 50.75 72 *ce* **P** **P** **14 21 59.2 +2.3**
AAK pmax pmax
comp=Z,21nm,2.5s
H17A Grant Village 50.76 293 IAmb IAmb 14 22 03.6
comp=Z,8.7nm,1.2s
CLRS Cowichan Lake 50.85 306 IAmb IAmb 14 22 01.4
comp=Z,12nm,1.3s
FPAL Fort Paine 51.15 265 IAmb IAmb 14 22 02.6
comp=Z,6.4nm,1.2s
CHIR Chirikof Islan 51.33 332 P **P** **14 21 57.9 -3.0**
baz=16
S14K Fog Glacier 51.49 335 P **P** **14 21 59.6 -2.6**
baz=15
FXWY Fox Creek 51.58 293 IAmb IAmb 14 22 13.6
comp=Z,10nm,1.5s
TPAW Teton Pass 51.69 293 IAmb IAmb 14 22 08.2
comp=Z,9.4nm,1.2s
PLID Pearl Lake 51.83 298 IAmb IAmb 14 22 32.1

	comp=Z,7.8nm,1.2s								
SPIA	**Saint Paul Isl**	**51.94**	**343**		P		**P**	14 22 02.9	**-2.5**
	baz=11								
S12K	**Black Hills**	**52.41**	**337**		P		**P**	14 22 05.9	**-3.0**
	baz=14								
P08K	**Saint George I**	**52.44**	**342**		P		**P**	14 22 05.9	**-3.2**
	baz=11								
U38A	**Gravette**	**52.47**	**274**		P		**P**	14 22 08.8	**-0.8**
SDPT	**Sand Point**	**52.53**	**336**		P		**P**	14 22 06.9	**-2.9**
	baz=14								
G08A	**Pilot Rock**	**52.55**	**300**		IAmb		IAmb	14 22 13.8	
	comp=Z,12nm,1.5s								
CHNA	**Chernabura Isl**	**52.90**	**335**		P		**P**	14 22 09.4	**-3.1**
	baz=15								
G06A	**Carlson Farm,**	**53.10**	**301**		IAmb		IAmb	14 22 17.9	
	comp=Z,12nm,1.3s								
ZEA	**Zeya**	**53.79**	**26**	*eP*			**P**	14 22 21.6	**+2.5**
ZEA				*eS*			**S**	14 30 00.2	**+7.1**
ZEA					pmax		pmax		
	comp=Z,10.0nm,1.5s								
ZEA					MLR		MLR		
	comp=Z,100nm,17.0s								
WMQ	**Urumqi**	**53.87**	**61**	*eP*			**P**	14 22 22.0	**+2.1**
WMQ					LR		LR		
	comp=Z,530nm,12.5s								
WMQ					LR		LR		
	comp=Z,510nm,16.1s								
WMQ					LR		LR		
	comp=Z,290nm,16.3s								
KSH	**Kashi**	**54.05**	**73**		P		**P**	14 22 24.8	**+3.5**
KSH					pmax		pmax		
	comp=Z,11nm,1.9s								
KSH					LR		LR		
	comp=Z,1μm,20.3s								
KSH					LR		LR		
	comp=Z,280nm,16.5s								
KSH					LR		LR		
	comp=Z,580nm,17.9s								
I05D	**Terrebonne, OR**	**54.12**	**302**		IAmb		IAmb	14 23 05.3	
	comp=Z,11nm,1.4s								
BSUT	**Blindstream Ca**	**54.29**	**291**		IAmb		IAmb	14 22 28.3	
	comp=Z,10nm,1.5s								
PINE	**Pine Mountain**	**54.50**	**301**		IAmb		IAmb	14 22 53.9	
	comp=Z,6.2nm,1.3s								
UNV	**Unalaska Valle**	**54.80**	**339**		P		**P**	14 22 23.9	**-2.5**
	baz=12								
P18A	**Preston Nutter**	**54.94**	**290**		IAmb		IAmb	14 22 39.4	
	comp=Z,7.1nm,1.2s								
SDCO	**Great Sand Dun**	**55.08**	**285**		IAmb		IAmb	14 22 33.4	
	comp=Z,9.2nm,1.4s								
SONM	**Songino Array**	**55.28**	**44**				**P**	14 22 30.2	**0.0**
SONM					IAmb		IAmb	14 22 34.8	
	comp=Z,8.2nm,1.3s								
SONM	**Songino Array**	**55.28**	**44**		P		**P**	14 22 28.1	**-2.1**
	comp=Z,0.7nm,0.7s,baz=324,slow=8.1,SNR=9.5								
SONM					LR		LR	14 47 54.6	
	comp=Z,281nm,21.8s,baz=336,slow=38								
	comp=Z,0.7nm,0.7s								
SONM	**Songino Array**	**55.28**	**44**		P		**P**	14 22 30.2	**0.0**
SONM					pmax		pmax		
	comp=Z,8.0nm,1.3s								
ULN	**Ulaanbaatar**	**55.41**	**44**				**P**	14 22 31.5	**+0.4**
ULN	**Ulaanbaatar**	**55.41**	**44**	*ceP*			**P**	14 22 33.2	**+2.1**
ULN					pmax		pmax		
	comp=Z,19nm,1.7s								
WMOK	**Wichita Mounta**	**55.52**	**277**		P		**P**	14 22 32.3	**+0.3**
WMOK	**Wichita Mounta**	**55.52**	**277**		P		**P**	14 22 32.3	**+0.3**
WMOK					pmax		pmax		
	comp=Z,13nm,1.4s								
ELK	**Elko**	**55.53**	**295**		IAmb		IAmb	14 22 42.6	
	comp=Z,2.3nm,0.5s								
PV10	**Paradox Valley**	**55.68**	**288**		IAmb		IAmb	14 22 50.4	
	comp=Z,6.2nm,0.9s								
PV20	**West Nyswonger**	**55.69**	**288**		IAmb		IAmb	14 22 39.1	
	comp=Z,4.7nm,0.8s								
PV03	**Paradox Valley**	**55.73**	**288**		IAmb		IAmb	14 23 00.8	
	comp=Z,9.6nm,1.5s								
PV18	**Skein Mesa, Pa**	**55.76**	**288**		IAmb		IAmb	14 22 36.7	
	comp=Z,9.1nm,1.2s								
NIKH	**Nikolski High**	**55.93**	**341**		P		**P**	14 22 32.0	**-2.6**
	baz=11								
PV05	**Paradox Valley**	**55.97**	**288**		IAmb		IAmb	14 22 37.5	
	comp=Z,10nm,1.3s								
MVCO	**Mesa Verde**	**56.56**	**287**		IAmb		IAmb	14 23 03.0	
	comp=Z,7.5nm,1.2s								
HMU	**Henry Mountain**	**56.64**	**289**		P		**P**	14 22 41.8	**+1.5**
YBH	**Yreka Blue Hor**	**56.91**	**301**		LR		LR	14 47 31.6	
	comp=Z,19nm,19.9s,baz=42,slow=36								
HEH	**HeiHe**	**57.20**	**27**	*eP*			**P**	14 22 45.7	**+2.1**
HEH					pmax		pmax		
	comp=Z,6.0nm,1.5s								
DKNS	**Dickens**	**57.23**	**279**		IAmb		IAmb	14 23 00.0	
	comp=Z,7.1nm,1.4s								
PETK	**Petropavlovsk-**	**57.24**	**5**		LR		LR	14 47 17.4	
	comp=Z,84nm,20.0s,baz=3.6,slow=36								
APMT	**Aspermont**	**57.27**	**278**		IAmb		IAmb	14 22 52.6	
	comp=Z,6.9nm,1.3s								
TORD	**Torodi Ar. Bea**	**57.72**	**160**		P		**P**	14 22 48.1	**+0.4**
TORD					IAmb		IAmb	14 22 50.2	
	comp=Z,5.5nm,1.4s								
TORD	**Torodi Ar. Bea**	**57.72**	**160**		P		**P**	14 22 46.2	**-1.5**
	comp=Z,1.7nm,0.3s,baz=339,slow=8.9,SNR=1.5								
	comp=Z,1.7nm,0.3s								
CCUT	**Cedar City**	**57.84**	**292**		IAmb		IAmb	14 22 54.3	
	comp=Z,13nm,1.5s								
ANMO	**Albuquerque**	**57.94**	**284**		LR		LR	14 47 43.1	
	comp=Z,700nm,19.8s,baz=134,slow=36								
NVAR	**Mina Array Bea**	**58.60**	**296**		P		**P**	14 22 55.3	**+1.3**
	comp=Z,0.8nm,0.7s,baz=17,slow=10.0,SNR=1.6								
	comp=Z,0.8nm,0.7s								
KLR	**Kul'dur**	**58.85**	**24**		LR		LR	14 47 29.8	
	comp=Z,117nm,21.0s,baz=354,slow=35								
W18A	**Petrified Fore**	**58.88**	**287**		IAmb		IAmb	14 23 02.0	
	comp=Z,9.1nm,1.3s								
SJG	**San Juan**	**60.05**	**238**		P		**P**	14 23 03.9	**0.0**
	comp=Z,5.8nm,0.2s,baz=0.0,slow=8.1,SNR=2.0								
SJG					LR		LR	14 46 22.7	
	comp=Z,49nm,19.6s,baz=120,slow=33								
PECS	**Pecos**	**60.33**	**280**		P		**P**	14 23 07.2	**+1.4**
ALPN	**Alpine**	**61.16**	**280**				**P**	14 23 12.8	**+1.3**
ALPN					IAmb		IAmb	14 23 17.9	
	comp=Z,7.6nm,1.1s								
VHRN	**Van Horn**	**61.24**	**281**				**P**	14 23 13.1	**+1.0**
GTA	**Gaotai**	**61.44**	**53**	*eP*			**P**	14 23 13.9	**+0.6**
GTA					pmax		pmax		
	comp=Z,10.0nm,1.7s								
GTA					LR		LR		
	comp=Z,220nm,18.2s								
GTA					LR		LR		
	comp=Z,300nm,16.7s								
GTA					LR		LR		
	comp=Z,460nm,18.2s								
TUC	**Tucson**	**61.80**	**287**				**P**	14 23 16.8	**+1.1**
TUC					IAmb		IAmb	14 23 21.6	
	comp=Z,5.4nm,1.1s								
TUC	**Tucson**	**61.80**	**287**		P		**P**	14 23 16.8	**+1.1**
TUC					pmax		pmax		
	comp=Z,5.0nm,1.1s								
TXAR	**Lajitas Array**	**62.13**	**279**		P		**P**	14 23 16.6	**-1.4**
TXAR	**Lajitas Array**	**62.13**	**279**		P		**P**	14 23 17.3	**-0.7**
	comp=Z,0.8nm,0.8s,baz=46,slow=4.8,SNR=8.8								
TXAR					LR		LR	14 50 29.2	
	comp=Z,803nm,18.4s,baz=28,slow=36								
	comp=Z,0.8nm,0.8s								
PFO	**Pinyon Flats O**	**62.45**	**292**		LR		LR	14 50 07.9	
	comp=Z,513nm,20.7s,baz=22,slow=36								
HHC	**Hu-ho-hao-te**	**63.09**	**43**	*eP*			**P**	14 23 24.4	**+0.1**
HHC					pmax		pmax		
	comp=Z,14nm,0.7s								
HHC					pmax		pmax		
	comp=Z,91nm,3.8s								
USRK	**Ussuriysk Ar.**	**63.80**	**25**		LR		LR	14 51 33.0	
	comp=Z,72nm,19.2s,baz=346,slow=36								
LZH	**Lanzhou**	**65.66**	**51**	*eP*			**P**	14 23 41.2	**0.0**
LZH					sP		sP	14 23 50.7	**+5.5**
LZH					pmax		pmax		
	comp=Z,31nm,1.1s								
LZH					LR		LR		
	comp=Z,400nm,14.6s								
LZH					LR		LR		
	comp=Z,310nm,14.4s								
LZH					LR		LR		
	comp=Z,410nm,15.6s								
PCRV	**Puerto La Cruz**	**67.16**	**234**		LR		LR	14 48 18.3	
	comp=Z,48nm,21.6s,slow=32								
MDP	**Montagnes des**	**69.01**	**220**		LR		LR	14 47 25.5	
	comp=Z,69nm,19.3s,baz=348,slow=30								
LPIG	**La Paz**	**69.20**	**283**		LR		LR	14 54 52.7	
	comp=Z,1μm,18.4s,baz=12,slow=36								
SDV	**Santo Domingo**	**70.12**	**239**		LR		LR	14 50 16.5	
	comp=Z,68nm,21.9s,baz=48,slow=32								
CMIG	**Matias Romero**	**70.39**	**266**		LR		LR	14 56 45.7	
	comp=Z,252nm,21.2s,baz=32,slow=37								
MJAR	**Matsushiro Arr**	**72.19**	**22**		P		**P**	**14 24 22.0**	**+0.3**
	comp=Z,3.5nm,1.1s,baz=348,slow=4.9,SNR=5.3								
	comp=Z,3.5nm,1.1s								
MJAR	**Matsushiro Arr**	**72.19**	**22**		P		**P**	**14 24 22.0**	**+0.3**
NJ2	**Nanjing**	**73.17**	**39**	*eP*			**P**	**14 24 27.2**	**-0.3**
NJ2					pmax		pmax		
	comp=Z,7.0nm,0.5s								
JTS	**Las Juntas de**	**73.34**	**254**		LR		LR	14 59 22.0	
	comp=Z,80nm,18.8s,baz=340,slow=38								
PZH	**PanZhiHua**	**74.11**	**56**		P		**P**	**14 24 33.7**	**+0.4**
PZH					pmax		pmax		
	comp=Z,10.0nm,1.5s								
TNCH	**TengChong**	**74.56**	**59**		P		**P**	**14 24 35.5**	**-0.5**
TNCH					pmax		pmax		
	comp=Z,130nm,5.2s								
BRDH	**Bariadhala**	**74.65**	**66**		LR		LR	15 02 12.4	
	comp=Z,287nm,18.3s,baz=238,slow=40								
KMI	**Kunming**	**75.70**	**55**		P		**P**	**14 24 44.6**	**+2.0**
KMI					pmax		pmax		
	comp=Z,8.0nm,1.0s								
KMI					LR		LR		
	comp=Z,240nm,18.3s								
KMI					LR		LR		
	comp=Z,190nm,16.5s								
KMI					LR		LR		
	comp=Z,300nm,26.7s								
CMAR	**Chiang Mai Arr**	**80.87**	**61**		P		**P**	**14 25 10.5**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=6.3,slow=12,SNR=4.7								
CMAR					LR		LR	15 05 49.2	
	comp=Z,54nm,18.9s,baz=335,slow=39								
	comp=Z,0.5nm,0.3s								
CMAR	**Chiang Mai Arr**	**80.87**	**61**	*i*	P		**P**	**14 25 12.6**	**+1.6**
CMAR					pmax		pmax		
	comp=Z,1.0nm,0.7s								
PALK	**Pallekele**	**85.40**	**82**		LR		LR	15 07 52.9	
	comp=Z,72nm,18.3s,baz=324,slow=39								
BDFB	**Brasilia**	**88.27**	**211**		LR		LR	14 58 37.7	
	comp=Z,207nm,20.4s,baz=339,slow=31								
LSZ	**Lusaka**	**90.26**	**138**		LR		LR	15 12 08.7	
	comp=Z,54nm,18.6s,baz=344,slow=39								
SIV	**San Ignacio**	**91.33**	**223**		LR		LR	15 01 13.0	
	comp=Z,93nm,19.7s,baz=60,slow=32								
TSUM	**Tsumeb**	**91.89**	**149**		LR		LR	15 08 42.4	
	comp=Z,170nm,19.5s,baz=328,slow=36								
LPAZ	**La Paz**	**93.39**	**230**		LR		LR	15 06 14.0	
	comp=Z,32nm,18.8s,baz=346,slow=34								
MATP	**Matopo**	**95.30**	**139**		LR		LR	15 11 18.9	
	comp=Z,96nm,21.2s,baz=352,slow=37								
PSI	**Prapat**	**95.63**	**66**		LR		LR	15 15 27.2	
	comp=Z,164nm,18.1s,baz=307,slow=39								
GUMO	**Guam**	**95.64**	**19**		LR		LR	15 12 12.8	
	comp=Z,16nm,20.7s,baz=8.0,slow=37								
OPO	**Ambohidratompo**	**98.45**	**121**		LR		LR	15 16 02.0	
	comp=Z,56nm,18.6s,baz=160,slow=38								
LBTB	**Lobatse**	**99.10**	**143**		LR		LR	15 14 30.8	
	comp=Z,207nm,18.3s,baz=338,slow=37								
WRA	**Warramunga Arr**	**126.87**	**36**		PKP		**PKPdf**	**14 31 59.6**	**-0.8**
	comp=Z,0.9nm,0.9s,baz=334,slow=2.3,SNR=5.3								
ASAR	**Alice Springs**	**130.39**	**38**		PKP		**PKPdf**	**14 32 05.9**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=359,slow=1.7,SNR=10								
QSPA	**South Pole Qui**	**159.81**	**180**		PKPab		**PKPab**	**14 33 33.8**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=214,slow=2.0,SNR=14								

*IDC **06** 14:13:16.1±0.9,31°.98N×71°.76E,h0km,mb3.8/11, mbtmp3.8/14,ML3.7/3,Error ellipse: s-maj=26.7km s-min=15.8km az=65.0*
*NNC **06** 14:13:37.1±5.2,32°.86N×71°.28E,h700km,mb2.2,Error ellipse: s-maj=97.9km s-min=55.1km az=100.0*
ISC 06 14:13:18.2±0.9,32°.06N±0°.08×71°.8E±0°.1,h10km,n18, σ1§75/21,mb3.7/10,3C-2D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**10.77**	**11**	⇑P	Pn	14 15 59.3	+6.7
	1.1nm,0.5s						
AAK				⇑S	**Sn**	**14 17 53.2**	**-0.1**
	1.7nm,0.6s						
AAK	**Ala-Archa**	**10.77**	**11**	Pn	**Pn**	**14 15 54.5**	**+1.9**
	1.7nm,0.3s,baz=256,slow=11,SNR=3.5						
AAK				Sn	**Sn**	**14 17 53.3**	**+0.1**
	0.8nm,0.3s,baz=209,slow=19,SNR=4.1						
	2.2nm,0.3s						
KK31	**Karatay Array**	**11.07**	**355**	P	**Pn**	**14 15 57.4**	**+0.8**
	6.7nm,0.3s,baz=174,slow=12,SNR=138						
KK31				⇑S	**Sn**	**14 17 57.6**	**-2.8**
	3.9nm,0.4s,baz=181,slow=23,SNR=11						
TKM2	**Tokmak 2**	**11.24**	**14**	⇓P	**Pn**	**14 16 03.4**	**+4.3**
	0.9nm,0.4s						
TKM2				⇓S	**Sn**	**14 18 01.4**	**-3.5**
	3.5nm,0.7s						
MKAR	**Makanchi Array**	**16.77**	**26**	Pn	**Pn**	**14 17 12.6**	**-0.5**
	0.2nm,0.3s,baz=208,slow=12,SNR=8.1						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**19.20**	**13**	P	**P**	**14 17 41.7**	**-0.3**
	0.1nm,0.3s,baz=206,slow=10,SNR=7.8						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**20.97**	**358**	P	**P**	**14 18 02.3**	**+0.9**
	2.2nm,0.5s,baz=160,slow=9.5,SNR=6.9						
	2.2nm,0.5s						
AKTO	**Aktyubinsk**	**21.02**	**335**	P	**P**	**14 18 01.8**	**-0.1**
	0.8nm,0.3s,baz=157,slow=6.9,SNR=2.8						
	0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**23.77**	**19**	P	**P**	**14 18 30.4**	**-0.3**
	1.9nm,0.4s,baz=225,slow=9.8,SNR=9.9						
	1.9nm,0.4s						
KBZ	**Khabaz**	**25.49**	**305**	P	**P**	**14 18 49.3**	**+2.8**
	1.2nm,0.7s,baz=165,slow=14,SNR=2.0						
CMAR	**Chiang Mai Arr**	**27.93**	**112**	P	**P**	**14 19 08.8**	**-0.1**
	0.7nm,0.7s,baz=293,slow=10,SNR=6.6						
	0.7nm,0.7s						
SONM	**Songino Array**	**30.53**	**49**	P	**P**	**14 19 32.2**	**+0.4**
	0.2nm,0.4s,baz=204,slow=3.2,SNR=1.3						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**41.58**	**329**	P	**P**	**14 21 05.7**	**-0.2**
	1.6nm,0.9s,baz=101,slow=9.9,SNR=5.2						
	1.6nm,0.9s						
ARCES	**ARCESS Array B**	**45.51**	**339**	P	**P**	**14 21 37.4**	**0.0**
	2.6nm,0.9s,baz=121,slow=9.2,SNR=3.6						
	2.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**66.38**	**271**	P	**P**	**14 24 06.7**	**-1.0**
	1.3nm,0.4s,baz=44,slow=5.6,SNR=1.4						
	1.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**71.73**	**126**	P	**P**	**14 24 39.6**	**-1.1**
	1.2nm,0.9s,baz=0.0,slow=5.1,SNR=1.2						
	1.2nm,0.9s						
WRA	**Warramunga Arr**	**79.08**	**122**	P	**P**	**14 25 22.7**	**-0.4**
	0.3nm,0.3s,baz=322,slow=5.2,SNR=13						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**81.17**	**125**	P	**P**	**14 25 33.8**	**-0.5**
	0.7nm,0.6s,baz=310,slow=5.6,SNR=11						
	0.7nm,0.6s						

*RSNC **06** 14:14:05.4±0.9,8°.N×4°.7E,h3km±4km,M2.5,ML2.2*
*FUNV **06** 14:14:06.7,7°.72N×71°.88W,h5km,MW3.2*
ISC 06 14:14:05.2±1.2,7°.66N±0°.04×71°.85W±0°.03,h10km±10km, n14,σ1§17/26,1D,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.50**	**294**	*eP*	**Pg**	**14 14 15.1**	**+0.1**
CAPV				*eS*	**Sb**	**14 14 22.2**	**-1.5**
PAMC	**Pamplona, Colo**	**0.90**	**249**	P	**Pg**	**14 14 21.4**	**-1.2**
PAMC				S	**Sn**	**14 14 37.6**	**-0.1**
SOCV	**Socops**	**1.17**	**58**	*eP*	**Pg**	**14 14 28.7**	**+1.0**
SOCV				*eS*	**Sg**	**14 14 43.1**	**+0.3**
TAMC	**Tame, Arauca**	**1.22**	**177**	P	**Pg**	**14 14 28.4**	**-0.2**
TAMC				S	**Sg**	**14 14 44.4**	**-0.1**
OCAC	**Ocana**	**1.56**	**292**	P	**Pb**	**14 14 34.3**	**0.0**
OCAC				S	**Sg**	**14 14 54.7**	**-0.8**
BARC	**Barichara**	**1.69**	**231**	P	**Pb**	**14 14 36.1**	**-0.5**
BARC				S	**Sg**	**14 14 59.7**	**0.0**
BRJC	**Barrancabermej**	**2.00**	**250**	P	**Pb**	**14 14 41.4**	**-0.3**
BRJC				S	**Sb**	**14 15 07.1**	**+0.5**
RUSC	**La Rusia**	**2.14**	**215**	P	**Pb**	**14 14 44.1**	**-0.3**
RUSC				S	**Sb**	**14 15 10.5**	**-0.7**
PTBC	**PUERTO BERRIO,**	**2.81**	**247**	P	**Pn**	**14 14 52.0**	**+1.7**
PTBC				S	**Sn**	**14 15 26.4**	**+2.0**
TEPV	**Terepaima**	**3.49**	**49**	⇓*eP*	**Pn**	**14 15 00.6**	**+1.0**
TEPV				*eS*	**Sn**	**14 15 41.2**	**+0.1**
BAUV	**El Baul**	**3.98**	**71**	*eP*	**Pn**	**14 15 07.2**	**+0.8**
BAUV				*eS*	**Sn**	**14 15 52.5**	**-0.7**
MAPV	**Macapo**	**3.99**	**57**	*eP*	**Pn**	**14 15 07.8**	**+1.3**
MAPV				*eS*	**Sn**	**14 15 52.1**	**-1.3**
BENV	**Beln**	**4.79**	**61**	*eP*	**Pn**	**14 15 18.3**	**+0.7**
BENV				*eS*	**Sn**	**14 16 09.9**	**-3.3**
CACV	**CAICARA DEL OR**	**5.27**	**91**	*eP*	Pb	14 15 31.9	-5.6

*IDC **06** 14:25:34.4±0.5,69°.82N×15°.59W,h0km,mb3.9/22, mbtmp4.0/30,ML3.3/7,MS3.8/25,Error ellipse: s-maj=14.0km s-min=10.4km az=16.0*
*MOS **06** 14:25:34.7±1.4,69°.75N×15°.70W,h10km,mb4.4/23,Error ellipse: s-maj=16.5km s-min=7.3km az=101.9*
*REY **06** 14:25:35.9,69°.55N×14°.62W,h10km*
*NEIC **06** 14:25:36.2±2.7,69°.80N±0°.08×15°.5W±0°.3,h10km±1km, mb4.4/66,Error ellipse: s-maj=18.2km s-min=12.3km az=66.0*
*INMG **06** 14:25:38.0±4.3,69°.84N×15°.55W,h10km,M4.4,mb4.6, #DIST_RANGE: DISTANT*
*DNK **06** 14:25:39.8±5.0,69°.44N×16°.56W,h35km±999km,ML2.7*
ISC 06 14:25:36.2±0.3,69°.80N±0°.05×15°.56W±0°.04,h10km,n212, σ1§98/190,mb4.3/89,MS3.8/22,6C-7D,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCO	**Scoresbysund**	**2.29**	**290**	*i* P	**Pn**	**14 26 10.0**	**-3.9**
SCO				IAML		14 27 41.3	
	comp=Z,288nm,1.7s						
JMIC	**Jan Mayen**	**2.66**	**60**	Pn	**Pn**	**14 26 17.3**	**-1.7**
	comp=Z,10.0nm,0.3s,baz=210,slow=10,SNR=3.7						
JMIC				Sn	**Sn**	**14 26 47.2**	**-4.0**
	comp=Z,7.5nm,0.3s,baz=159,slow=23,SNR=2.3						
	comp=Z,76nm,0.6s						
IGRI	**Grimsey**	**3.40**	**197**	P	**Pn**	**14 26 27.4**	**-1.8**
IGIL	**Gilhagi**	**3.76**	**185**	P	**Pn**	**14 26 31.2**	**-2.9**
IBRE	**Brettingsstaoi**	**3.80**	**195**	P	**Pn**	**14 26 33.3**	**-1.4**
IDIM	**Dimmadalss**	**3.90**	**188**	P	**Pn**	**14 26 33.7**	**-2.3**
ISIG	**Siglufjyour**	**3.90**	**201**	P	**Pn**	**14 26 35.0**	**-1.1**
IGRA	**Granastaoir**	**3.98**	**192**	P	**Pn**	**14 26 35.5**	**-1.6**
ISKI	**Skildingahlsh**	**3.99**	**189**	P	**Pn**	**14 26 34.7**	**-2.6**
IGHA	**Grjothals**	**4.00**	**187**	P	**Pn**	**14 26 35.0**	**-2.5**
IHLA	**Hella**	**4.02**	**197**	P	**Pn**	**14 26 36.6**	**-1.1**
IHRN	**Hraun**	**4.09**	**207**	P	**Pn**	**14 26 38.2**	**-0.4**
IKVO	**Krokottuvotn**	**4.14**	**188**	P	**Pn**	**14 26 37.5**	**-1.9**
IGRS	**Grimsstaoir**	**4.19**	**183**	P	**Pn**	**14 26 37.5**	**-2.5**
IMEL	**Melhnausar**	**4.28**	**186**	P	**Pn**	**14 26 39.0**	**-2.2**
ISVA	**Svartarkot**	**4.54**	**189**	P	**Pn**	**14 26 43.2**	**-1.6**
DBG	**Daneborg**	**4.75**	**344**	*i* P	Pb	14 26 54.1	-5.2
DBG				IAML		14 28 47.6	
	comp=Z,21nm,2.7s						
IADA	**Aoalbol**	**4.81**	**180**	P	**Pn**	**14 26 45.8**	**-2.7**
IVSH	**V-Sauoahnukur**	**5.02**	**181**	P	**Pn**	**14 26 49.6**	**-1.9**
IKIS	**Kista**	**5.21**	**190**	P	**Pn**	**14 26 53.3**	**-0.9**
BORG	**Borgarnes**	**5.55**	**206**		**Pn**	**14 26 59.5**	**+0.9**
BORG	**Borgarnes**	**5.55**	**206**	Pn	**Pn**	**14 26 58.7**	**+0.1**
	comp=Z,3.7nm,0.3s,baz=15,slow=7.3,SNR=23						
BORG				Sn	**Sn**	**14 28 04.3**	**+2.0**
	baz=63,slow=18						
BORG				LR	LR	14 28 36.2	
	comp=Z,355nm,21.5s,baz=23,slow=33						
	comp=Z,37nm,0.7s						
BORG	**Borgarnes**	**5.55**	**206**	P	**Pn**	**14 26 59.5**	**+0.9**
SOEG	**Soedalen**	**5.91**	**262**	*i* P	**Pn**	**14 26 58.8**	**-4.8**
SOEG				IAML		14 29 31.0	
	comp=Z,27nm,1.7s						
DAG	**Danmarks Havn**	**7.06**	**354**	*i* P	**Pn**	**14 27 21.4**	**+2.0**
DAG				IAML		14 29 06.2	
	comp=Z,7.9nm,2.5s						
SUMG	**Summit**	**7.87**	**301**		**Pn**	**14 27 29.6**	**-1.3**
SUMG	**Summit**	**7.87**	**301**	P	**Pn**	**14 27 29.6**	**-1.3**
SUMG	**Summit**	**7.87**	**301**	*i* P	**Pn**	**14 27 30.7**	**-0.2**
SUMG				IAML		14 30 40.2	
	comp=Z,16nm,1.8s						
SPITS	**Spitsbergen Ar**	**11.93**	**32**	Pn	**Pn**	**14 28 27.1**	**+1.0**
	baz=234,slow=14						
	comp=Z,3.3nm,0.5s						
SPB2	**Spitsbergen Ar**	**11.94**	**32**		**Pn**	**14 28 27.3**	**+1.3**
NOA	**NORSAR Array B**	**14.04**	**115**	Pn	**Pn**	**14 28 54.6**	**-0.4**
	baz=303,slow=13,SNR=1.8						
NOA				LR	LR	14 33 55.3	
	comp=Z,186nm,19.3s,baz=320,slow=36						
	comp=Z,1.9nm,0.2s						
ARCES	**ARCESS Array B**	**14.08**	**72**	Pn	**Pn**	**14 28 52.2**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=282,slow=10.0,SNR=2.4						
ARCES				LR	LR	14 33 16.2	
	comp=Z,425nm,18.5s,baz=301,slow=33						
	comp=Z,3.5nm,0.9s						
HFS	**Hagfors**	**15.53**	**114**

GRF Grafenberg Arr 23.87 134 P P 14 30 49.5 +0.1
GRF pmax pmax
comp=Z,20nm,1.3s
GRFO Grafenberg 23.87 134 P P 14 30 50.0 +0.6
GRFO IAmb IAmb 14 31 29.5
comp=Z,16nm,1.2s
GRFO Grafenberg 23.87 134 P P 14 30 50.0 +0.6
GRFO pmax pmax
comp=Z,16nm,1.2s
NACGM Naroch 23.96 107 *eP* **P 14 30 51.3 +1.1**
comp=Z,17nm,0.9s,baz=325
BFO Black Forest 24.45 139 P P 14 30 52.8 -2.0
BFO IAmb IAmb 14 31 35.6
comp=Z,9.6nm,1.3s
BFO Black Forest 24.45 139 P P 14 30 52.8 -2.0
BFO pmax pmax
comp=Z,10.0nm,1.3s
PRU Pruhonice 24.47 129 *eP* **P 14 30 57.1 +2.2**
PRU Pruhonice 24.47 129 *eP* **P 14 30 57.1 +2.2**
DPC Dobruska-Polom 24.64 126 *eP* **P 14 30 57.7 +1.2**
DPC Dobruska-Polom 24.64 126 *eP* **P 14 30 57.7 +1.2**
KHC Kasperske Hory 25.00 131 *eP* **P 14 31 02.1 +2.4**
KHC *ex* x 14 31 07.5
KHC Kasperske Hory 25.00 131 *i* P **P 14 31 00.6 +0.9**
KHC pmax pmax
comp=Z,13nm,2.8s
GEC2 GERESS Array S 25.29 131 P 14 31 02.2 -0.3
GEC2 IAmb IAmb 14 31 05.4
comp=Z,9.8nm,1.3s
GERES GERESS Array B 25.29 131 P P 14 31 01.1 -1.4
GERES GERESS Array B 25.29 131 P P 14 31 01.6 -0.8
comp=Z,2.5nm,0.9s,baz=355,slow=11,SNR=9.9
GERES LR LR 14 41 44.8
comp=Z,128nm,19.9s,baz=64,slow=38
comp=Z,2.5nm,0.9s
GERES GERESS Array B 25.29 131 *eP* **P 14 31 04.3 +1.8**
GERES pmax pmax
comp=Z,3.0nm,0.9s
CKRC Cesky Krumlov 25.47 130 *eP* **P 14 31 06.8 +2.8**
CKRC Cesky Krumlov 25.47 130 *eP* **P 14 31 06.8 +2.8**
MORC Moravsky Berou 25.50 125 P 14 31 04.4 +0.1
MORC IAmb IAmb 14 31 08.0
comp=Z,6.5nm,1.1s
MORC Moravsky Berou 25.50 125 *eP* **P 14 31 05.0 +0.7**
MORC Moravsky Berou 25.50 125 P P 14 31 04.4 +0.1
MORC pmax pmax
comp=Z,7.0nm,1.1s
VRAC Vranov 25.65 126 *eP* **P 14 31 06.5 +0.9**
OJC Ojcow 25.76 121 P P 14 31 05.4 -1.2
OJC Ojcow 25.76 121 P P 14 31 05.4 -1.2
DAVA Damuels 25.79 138 *eP* **P 14 31 10.9 +3.8**
comp=Z,13nm,1.6s
RETA Reutte 25.81 136 *i* pP pP 14 31 18.7 +8.8
comp=Z,7.4nm,1.6s
KRUC Moravsky 25.82 127 *eP* **P 14 31 07.7 +0.5**
MOTA Moosalm 26.03 136 *i* P **P 14 31 10.5 +1.2**
comp=Z,13nm,1.4s
SENIN Lac Senin/Sane 26.09 142 P P 14 31 08.5 -1.3
WATA Walderalm 26.15 135 *i* P **P 14 31 12.1 +1.8**
comp=Z,13nm,2.2s
SQTA Sankt Quirin 26.17 136 *i* P **P 14 31 12.2 +1.7**
comp=Z,9.5nm,1.1s
WTTA Wattenberg 26.23 135 *i* P **P 14 31 16.6 +5.4**
comp=Z,14nm,1.6s
FETA Feichten 26.24 137 *ep*P pP 14 31 22.9 +9.0
comp=Z,7.1nm,2.0s
DAVOX Davos/Dischmat 26.27 138 LR LR 14 42 16.5
comp=Z,189nm,18.0s,baz=264,slow=38
BIOA Bad Ischl, Aus 26.34 132 *eP* **P 14 31 15.0 +3.1**
comp=Z,0.8nm,0.4s
LESA Schwarzleotal 26.34 134 *i* P **P 14 31 13.9 +1.9**
comp=Z,2.2nm,0.9s
MOA Molln 26.35 131 *i* P **P 14 31 17.2 +5.2**
comp=Z,7.6nm,1.4s
TUE Stuetta 26.43 139 P P 14 31 12.2 -0.8
TUE IAmb IAmb 14 31 18.2
comp=Z,9.1nm,1.2s
CONA Conrad Observa 26.71 129 *i* P **P 14 31 19.7 +4.4**
comp=Z,4.7nm,1.2s
MOS Moscow 26.99 94 *eP* **P 14 31 18.9 +1.3**
MOS *e* 14 32 03.7
VYHS Vyhne 27.02 124 *eP* **P 14 31 19.6 +1.5**
VYHS Vyhne 27.02 124 *eP* **P 14 31 19.5 +1.4**
RONA Rosalia, Austr 27.03 128 *eP* **P 14 31 20.8 +2.6**
comp=Z,4.0nm,1.2s
SCHQ Schefferville 27.06 263 P P 14 31 17.8 -0.5
comp=Z,3.0nm,0.7s,baz=16,slow=7.4,SNR=4.3
SCHQ LR LR 14 41 05.1
comp=Z,213nm,20.5s,baz=78,slow=34
comp=Z,3.0nm,0.7s
OBN Obninsk 27.12 96 LR LR 14 41 30.4
comp=Z,409nm,19.2s,baz=262,slow=35
OBN Obninsk 27.12 96 *i* P **P 14 31 18.9 +0.1**
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,125nm,14.0s
CTI Castel Tesino 27.37 136 P P 14 31 20.8 -0.5
CTI IAmb IAmb 14 31 33.5
comp=Z,12nm,1.2s
CTI Castel Tesino 27.37 136 P P 14 31 20.8 -0.5
CTI pmax pmax
comp=Z,12nm,1.2s
SOKA Soboth 27.64 131 *i* P **P 14 31 26.8 +3.1**
comp=Z,4.3nm,1.7s
OBKA Obir 27.67 132 *i* P **P 14 31 29.0 +5.0**
comp=Z,3.7nm,1.2s
PSZ Piszkesteto 27.85 123 P P 14 31 23.9 -1.5
PSZ IAmb IAmb 14 31 28.5
comp=Z,11nm,1.5s
PSZ Piszkesteto 27.85 123 P P 14 31 24.0 -1.5
PSZ pmax pmax
comp=Z,11nm,1.5s
PGAV Gavieira, Arco 28.16 168 *eP* **P 14 31 28.5 +0.2**
PGAV *i* IAmb IAmb 14 31 38.6
comp=Z,29nm,2.1s
AKASG Malin Array Be 28.30 109 P P 14 31 28.5 -0.9
comp=Z,0.4nm,0.3s,baz=328,slow=9.0,SNR=5.8
AKASG LR LR 14 42 19.2
comp=Z,221nm,19.5s,baz=12,slow=36
comp=Z,0.4nm,0.3s
AKASG Malin Array Be 28.30 109 *eP* **P 14 31 28.8 -0.6**
AKBB Malin Array Si 28.30 109 P P 14 31 28.0 -1.4
AKBB IAmb IAmb 14 31 52.3
comp=Z,8.6nm,1.4s
AKBB Malin Array Si 28.30 109 *i* P **P 14 31 29.9 +0.5**
AKBB pmax pmax
comp=Z,3.0nm,1.0s
KIEV Kiev 28.30 109 P P 14 31 27.6 -1.8
KIEV IAmb IAmb 14 31 34.9
comp=Z,9.4nm,1.4s
KIEV Kiev 28.30 109 P P 14 31 27.6 -1.8
KIEV pmax pmax
comp=Z,9.0nm,1.5s
POLO Lamas de Olo 28.78 168 *eP* **P 14 31 35.1 +1.2**
KIRV Kirov 28.86 79 LR LR 14 42 11.8
comp=Z,333nm,18.3s,baz=296,slow=35
KIRV Kirov 28.86 79 *i* P **P 14 31 34.9 +0.6**
PMRV Marv??o 30.75 168 *eP* **P 14 31 53.4 +2.2**
PMRV *i* IAmb IAmb 14 31 55.6
comp=Z,14nm,2.3s
ESDC Sonseca Array 30.81 162 P P 14 31 49.9 -1.9
ESDC Sonseca Array 30.81 162 P P 14 31 51.3 -0.5
comp=Z,1.3nm,0.9s,baz=352,slow=9.1,SNR=10
ESDC LR LR 14 42 45.7
comp=Z,111nm,20.7s,baz=319,slow=34
comp=Z,1.3nm,0.9s
PMTG Montargil 31.04 169 *eP* **P 14 31 56.4 +2.6**
PMTG *i* IAmb IAmb 14 31 59.9
comp=Z,19nm,1.7s
PESTR Estremoz 31.29 168 *eP* **P 14 31 57.8 +1.8**
PESTR *i* IAmb IAmb 14 32 06.8
comp=Z,12nm,1.4s
PACT Alcochete 31.30 170 *eP* **P 14 31 58.7 +2.6**
MLR Muntele Rosu 31.84 118 LR LR 14 45 19.6
comp=Z,165nm,18.9s,baz=322,slow=37
PBEJ Beja 32.11 169 *eP* **P 14 32 05.1 +1.9**
PBEJ *i* IAmb IAmb 14 32 09.4
comp=Z,17nm,1.9s
PTEO Sao Teotonio 32.53 170 *eP* **P 14 32 08.1 +1.2**
PVAQ Vaqueiros 32.74 168 *eP* **P 14 32 08.7 +0.1**
PVAQ *i* IAmb IAmb 14 32 15.1
comp=Z,17nm,1.8s
BELG Belogornoye 33.17 88 LR LR 14 44 43.1
comp=Z,172nm,20.7s,baz=313,slow=35
ARTI Arti 33.61 75 LR LR 14 45 13.0
comp=Z,308nm,18.6s,baz=302,slow=35
ARTI Arti 33.61 75*c i* P **P 14 32 17.7 +1.5**
ARTI 14 33 28.1
ARTI S **S 14 37 43.4 +5.1**
ARTI SS **SnSn 14 39 47.4 +6.5**
ARTI pmax pmax
comp=Z,8.0nm,1.6s
ARTI MLR MLR
comp=Z,276nm,18.0s
FNA Florina 34.82 127 P 14 32 25.3 -1.5
FNA IAmb IAmb 14 32 28.6
comp=Z,6.4nm,0.8s
FNA Florina 34.82 127 P P **14 32 25.3 -1.5**
FNA pmax pmax
comp=Z,6.0nm,0.8s
YKAW3 Yellowknife Wh 36.32 309 P 14 32 40.6 +1.3
YKAW3 IAmb IAmb 14 32 46.5
comp=Z,5.9nm,1.1s
YKA Yellowknife Ar 36.37 309 P **P 14 32 40.1 +0.2**
comp=Z,2.7nm,1.1s,baz=34,slow=8.9,SNR=14
comp=Z,2.7nm,1.1s
YKA Yellowknife Ar 36.37 309 *eP* **P 14 32 42.4 +2.5**
YKA pmax pmax
comp=Z,3.0nm,1.0s
KEST Kesra 36.73 145 P **P 14 32 44.0 +0.7**
comp=Z,0.8nm,0.5s,baz=310,slow=2.8,SNR=3.6
KEST LR LR 14 47 14.9
comp=Z,107nm,18.1s,baz=267,slow=35
comp=Z,0.8nm,0.5s
MDT Midelt 37.54 165 LR LR 14 46 52.7
comp=Z,64nm,21.0s,baz=32,slow=34
BMAR Burnt Mountain 38.68 331 P 14 33 00.0 +0.6
KIV Kislovodsk 38.68 101 *eP* **P 14 33 01.8 +2.1**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,160nm,16.0s
F25K Christian Rive 38.70 332 P P 14 33 00.0 +0.4
KBZ Khabaz 38.95 101 P P 14 33 02.5 +0.6
comp=Z,1.8nm,0.8s,baz=322,slow=6.6,SNR=3.6
KBZ LR LR 14 48 37.5
comp=Z,242nm,21.1s,baz=335,slow=36
comp=Z,1.8nm,0.8s
KBZ Khabaz 38.95 101 *i* P **P 14 33 03.4 +1.5**
KBZ pmax pmax
comp=Z,3.0nm,1.0s
FFC Flin Flon 39.06 293 P P 14 33 02.2 -0.5
FFC Flin Flon 39.06 293 P P 14 33 02.2 -0.5
FFC pmax pmax
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 39.47 113 P P 14 33 07.7 +1.2
comp=Z,0.8nm,0.7s,baz=328,slow=5.9,SNR=4.9
comp=Z,0.8nm,0.7s
BRTR Keskin Array B 39.47 113 *eP* **P 14 33 08.8 +2.4**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
SADO Sadowa 39.80 265 LR LR 14 48 51.8
comp=Z,187nm,19.6s,baz=348,slow=35
G24K Hadweenzic Riv 39.82 332 P 14 33 11.1 +2.3
AB31 Akbulak array 40.06 80 P P 14 33 07.9 -3.1
BVAR Borovoye Array 40.34 69 P P 14 33 11.9 -1.5
comp=Z,1.9nm,1.0s,baz=285,slow=5.5,SNR=3.2
comp=Z,1.9nm,1.0s
PRP Porcupine Dome 40.58 331 P P 14 33 12.9 -2.4
F20K Avaraart Lake 40.71 337 IAmb IAmb 14 33 21.7
comp=Z,5.8nm,1.1s
ULM Lac du Bonnet 40.84 285 P P 14 33 17.2 -0.3
comp=Z,1.9nm,0.7s,baz=353,slow=7.2,SNR=4.5
ULM LR LR 14 50 09.1
comp=Z,144nm,18.4s,baz=39,slow=36
comp=Z,1.9nm,0.7s
ILAR Eielson Array 41.50 331 P 14 33 21.9 -0.9
ILAR Eielson Array 41.50 331 P **P 14 33 22.0 -0.8**
comp=Z,0.2nm,0.7s,baz=24,slow=6.7,SNR=6.5
comp=Z,0.2nm,0.7s
ILAR Eielson Array 41.50 331 *eP* **P 14 33 27.2 +4.4**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
I23K Minto, Yukon-K 41.55 333 IAmb IAmb 14 33 28.4
comp=Z,12nm,1.5s
H21K Melozitna Rive 41.61 335 IAmb IAmb 14 33 29.9
comp=Z,6.1nm,1.2s
NEA2 Nenana 42.02 332 P P 14 33 28.0 +0.9
BILL Bilibino 42.41 359 *i* P **P 14 33 31.6 +1.4**
BILL pmax pmax
comp=Z,2.0nm,1.3s
AGMN Agassiz Nation 42.52 283 P 14 33 30.5 -0.7
AGMN IAmb IAmb 14 33 35.4
comp=Z,10nm,1.4s
GNI Garni 42.76 101 LR LR 14 51 18.4
comp=Z,250nm,20.7s,baz=312,slow=36
BPAW Bear Paw Mtn. 42.79 333 P 14 33 32.5 -0.9
BPAW IAmb IAmb 14 33 41.3
comp=Z,7.3nm,1.3s
ZALV Zalesovo Beam 43.99 57 P **P 14 33 43.0 -0.1**
comp=Z,1.4nm,0.7s,baz=334,slow=9.9,SNR=5.9
comp=Z,1.4nm,0.7s
ZALV Zalesovo Beam 43.99 57 *eP* **P 14 33 44.8 +1.7**
ZALV pmax pmax
comp=Z,1.0nm,0.7s
KURK Kurchatov 44.94 64*ce*P **P 14 33 52.7 +2.0**
KURK pmax pmax
comp=Z,10.0nm,1.7s
KURBB Kurchatov Arra 45.00 64 P **P 14 33 52.1 +0.9**
comp=Z,3.2nm,0.7s,baz=331,slow=7.4,SNR=16
comp=Z,3.2nm,0.7s
MMAI Mount Meron Ar 46.19 115 P P 14 33 59.4 -1.4
comp=Z,1.2nm,0.7s,baz=349,slow=19,SNR=2.0
comp=Z,1.2nm,0.7s
ECSD EROS Data Cent 46.75 281 P P 14 34 06.4 +1.3
ECSD IAmb IAmb 14 34 09.6
comp=Z,3.7nm,1.1s
SEY Seymchan 47.27 7 *i* P **P 14 34 10.2 +1.3**
SEY pmax pmax
comp=Z,3.0nm,1.0s
MAKZ Makanchi 49.44 64 P 14 34 26.1 +0.2
MAKZ IAmb IAmb 14 34 31.7
comp=Z,7.3nm,1.4s
MAKZ Makanchi 49.44 64 P P 14 34 26.1 +0.2
MAKZ pmax pmax
comp=Z,7.0nm,1.4s
TKL Tuckaleechee C 49.52 264 LR LR 14 54 27.3
comp=Z,232nm,20.3s,baz=31,slow=35
MK31 Makanchi Array 49.55 63*ce*P **P 14 34 27.7 +1.0**
MKAR Makanchi Array 49.55 63 P 14 34 27.1 +0.4
MKAR Makanchi Array 49.55 63 P **P 14 34 27.4 +0.8**
comp=Z,2.5nm,0.9s,baz=341,slow=6.4,SNR=18
comp=Z,2.5nm,0.9s
MKAR Makanchi Array 49.55 63 *eP* **P 14 34 28.3 +1.6**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
S44A Carbondale 49.59 270 P P 14 34 26.8 -0.2
CLTN Cedars of Leba 50.01 267 IAmb IAmb 14 34 33.9
comp=Z,4.2nm,1.1s
AAK Ala-Archa 50.75 72*ce*P **P 14 34 38.3 +2.3**
AAK pmax pmax
comp=Z,7.0nm,1.7s
FPAL Fort Paine 51.17 265 IAmb IAmb 14 34 43.1
comp=Z,10.0nm,1.5s
BW06 Boulder Array 51.93 291 IAmb IAmb 14 34 49.0
comp=Z,7.2nm,1.5s
PDAR Pinedale Array 51.93 291 P P 14 34 45.3 +0.3
PDAR Pinedale Array 51.93 291 P **P 14 34 43.3 -1.7**
comp=Z,0.3nm,0.3s,baz=64,slow=5.1,SNR=5.9
comp=Z,0.3nm,0.3s
FCAR Ozark Folk Cen 52.21 272 IAmb IAmb 14 34 49.7
comp=Z,4.9nm,1.2s
U38A Gravette 52.49 274 P P 14 34 48.4 -0.5
U38A IAmb IAmb 14 34 52.3
comp=Z,5.5nm,1.1s
ZEA Zeya 53.84 26 *i* P **P 14 35 00.9 +2.3**
P18A Preston Nutter 54.98 290 IAmb IAmb 14 35 12.2
comp=Z,6.5nm,1.3s
SONM Songino Array 55.31 44 P P 14 35 08.0 -1.5
comp=Z,0.8nm,0.8s,baz=347,slow=6.1,SNR=4.5
comp=Z,0.8nm,0.8s
SONM Songino Array 55.31 44 *eP* **P 14 35 12.0 +2.5**
SONM pmax pmax
comp=Z,1.0nm,0.6s
ULN Ulaanbaatar 55.44 44*ce*P **P 14 35 11.8 +1.3**
ULN pmax pmax
comp=Z,7.0nm,1.7s
SRU San Rafael Swe 55.54 290 IAmb IAmb 14 35 15.9
comp=Z,8.3nm,1.3s
WMOK Wichita Mounta 55.55 277 IAmb IAmb 14 35 16.0
comp=Z,4.0nm,1.1s
PV01 Paradox Valley 55.79 288 IAmb IAmb 14 35 18.0
comp=Z,5.7nm,1.0s
DKNS Dickens 57.26 279 P P 14 35 24.5 +1.0
DKNS IAmb IAmb 14 35 27.7
comp=Z,8.5nm,1.3s
TORD Torodi Ar. Bea 57.65 160 P P 14 35 25.9 -0.4
comp=Z,2.7nm,0.4s,baz=341,slow=7.1,SNR=1.5
comp=Z,2.7nm,0.4s
TX31 Lajitas Ar. Si 62.16 279 P P 14 35 58.3 +1.0
TX31 IAmb IAmb 14 36 01.7
comp=Z,3.8nm,1.1s
TXAR Lajitas Array 62.16 279 P P 14 35 57.6 +0.3
comp=Z,1.2nm,0.8s,baz=48,slow=5.2,SNR=15
comp=Z,1.2nm,0.8s
PCRV Puerto La Cruz 67.14 234 LR LR 15 02 32.7
comp=Z,24nm,19.4s,slow=33
MJAR Matsushiro Arr 72.24 22 P P 14 37 00.6 -0.5
comp=Z,2.2nm,1.0s,baz=354,slow=7.5,SNR=4.5
comp=Z,2.2nm,1.0s
MJA0 Matsu Arr-Jizo 72.24 22 *eP* **P 14 37 02.9 +1.8**
MJA0 pmax pmax
comp=Z,3.0nm,1.1s
WRA Warramunga Arr 126.91 36 PKP **PKPdf 14 44 37.8 -1.9**
comp=Z,0.5nm,0.8s,baz=322,slow=2.4,SNR=4.9
ASAR Alice Springs 130.43 38 PKP **PKPdf 14 44 46.1 -0.3**
comp=Z,0.4nm,0.6s,baz=349,slow=1.7,SNR=9.3
MAW Mawson 147.09 136 PKPbc **PKPdf 14 45 14.3 -0.7**
comp=Z,1.1nm,0.4s,baz=341,slow=5.5,SNR=4.9
QSPA South Pole Qui 159.75 180 PKPab **PKPab 14 46 13.0 +0.6**
comp=Z,4.4nm,1.0s,baz=208,slow=1.9,SNR=9.4

NEIC ***06*** *14:30:07.1±1.7,35°795N±0°.010×117°.627W±0°.005, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.7km az=193.0*

PAS 06 14:30:07.7±1.0,35°.82N±0°.01×117°.63W±0°.01, h6km±3km, ML3.0/21**, ML2.8**/50(NEIC)**, Error ellipse: s-maj=1.7km s-min=1.5km az=162.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.11**	**266**		Pg	14 30 10.7	+0.6
TOW					Sg	14 30 13.7	+2.1
SRTC	**Snort**	**0.16**	**217**		Pg	14 30 11.3	+0.5
WVPM	**Volcano Peak E**	**0.20**	**312**		Pg	14 30 11.7	0.0
WVPM					Sg	14 30 15.0	+0.5
WNMM	**Nine Mile Cany**	**0.22**	**277**		Pg	14 30 12.1	+0.1
WNMM					Sg	14 30 16.0	+1.0
MPMC	**Manual Prospec**	**0.27**	**26**		Pg	14 30 12.8	-0.2
WRVM	**Rose V. Centra**	**0.28**	**313**		Pg	14 30 13.1	-0.2
LRMC	**Laurel Mtn Rad**	**0.34**	**187**		Pg	14 30 14.1	-0.2
LRMC					Sg	14 30 19.6	+0.8
LRMC	**Laurel Mtn Rad**	**0.34**	**187**	IAML		14 30 19.6	
LRMC	comp=E,3μm,0.5s			IAML		14 30 21.0	
	comp=N,2μm,0.1s						
MFS	**McCloud Flat S**	**0.35**	**329**		Pg	14 30 14.3	-0.2
MFS					Sg	14 30 19.4	+0.2
WBSM	**Bird Springs**	**0.50**	**236**		Pg	14 30 16.9	-0.4
WORM	**Onyx Ranch**	**0.51**	**257**		Pg	14 30 17.1	-0.5
QSM	**Queen of Sheba**	**0.64**	**76**		Pg	14 30 19.7	-0.3
ISA	**Isabella, Lake**	**0.70**	**258**		Pg	14 30 19.5	-1.7
ISA				IAML		14 30 33.9	
	comp=N,543nm,0.4s						
ISA				IAML		14 30 34.1	
	comp=E,388nm,0.4s						
CWC	**Cottonwood Cre**	**0.72**	**330**		Pg	14 30 21.4	-0.1
CCAC	**Calif City Air**	**0.73**	**205**		Pg	14 30 21.1	-0.6
CCAC				IAML		14 30 32.0	
	comp=E,418nm,0.4s						
CCAC				IAML		14 30 32.2	
	comp=N,407nm,0.4s						
GSC	**Goldstone, Bar**	**0.85**	**127**		Pg	14 30 23.1	-0.9
GSC				IAML		14 30 37.3	
	comp=N,374nm,0.8s						
GWY	**Greenwater Val**	**0.86**	**64**		Pg	14 30 24.0	-0.3
GWY	**Greenwater Val**	**0.86**	**64**	IAML		14 30 42.2	
	comp=E,515nm,0.4s						
SPG2	**Springville 2**	**0.99**	**293**		Pg	14 30 25.7	-1.1
SHOC	**Shoshone, Teco**	**1.11**	**85**		Pg	14 30 26.9	-2.0
GRAC	**Grapevine Rang**	**1.20**	**10**		Pg	14 30 29.6	-1.0
WCT	**Wildcat Mounta**	**1.27**	**40**	IAML		14 30 52.7	
	comp=N,136nm,0.7s						
WCT				IAML		14 30 53.1	
	comp=E,147nm,0.5s						
LEOC	**Leona Valley**	**1.30**	**205**		Pn	14 30 32.1	-0.4
LCH	**Last Change Ra**	**1.41**	**360**		Pn	14 30 32.8	-1.3
DSCC	**Desert Studies**	**1.42**	**118**		Pn	14 30 33.3	-0.7
TUQ	**Turquoise Moun**	**1.44**	**105**		Pn	14 30 33.7	-0.8
GMN	**Gold Mountain**	**1.51**	**11**		Pn	14 30 35.4	-0.1
GMN				IAML		14 30 57.9	
	comp=E,76nm,0.5s						
GMN				IAML		14 30 58.6	
	comp=N,104nm,0.5s						
DSP	**Deep Springs**	**1.57**	**350**		Pb	14 30 37.0	-0.2
DSP				IAML		14 30 59.1	
	comp=E,130nm,0.5s						
TPNV	**Topopah Spring**	**1.59**	**44**		Pn	14 30 36.4	-0.1
TPNV				IAML		14 31 00.2	
	comp=E,120nm,0.9s						
TPNV				IAML		14 31 01.5	
	comp=E,102nm,0.4s						
BCW	**Bitter Crk WRg**	**1.70**	**239**		Pn	14 30 38.4	+0.5
BCW				IAML		14 31 16.3	
	comp=N,126nm,1.1s						
BCW				IAML		14 31 22.2	
	comp=E,130nm,0.8s						
PASC	**Pasadena Art C**	**1.70**	**196**		Pn	14 30 36.2	-1.7
PASC				IAML		14 31 03.2	
	comp=N,58nm,0.5s						
PASC				IAML		14 31 03.3	
	comp=E,85nm,1.0s						
MZP	**Montezuma Peak**	**1.89**	**6**		Pb	14 30 43.1	+0.4
MLAC	**Mammoth, Mammo**	**2.05**	**332**		Pb	14 30 45.6	+0.2
MCSM	**Casa Diablo Ho**	**2.10**	**331**		Pb	14 30 46.4	0.0
SHPR	**Sheep Range**	**2.12**	**70**	Pn	Pn	14 30 43.7	0.0
ELS	**Elsinore Mount**	**2.17**	**175**	Pn	Pn	14 30 43.2	-1.1
ELS				IAML		14 31 19.4	
	comp=N,59nm,0.5s						
ELS				IAML		14 31 19.6	
	comp=E,74nm,0.7s						
POB	**Polly Butte**	**2.20**	**164**		Pn	14 30 43.7	-1.1
TPH	**Tonopah**	**2.28**	**8**		Pb	14 30 49.8	+0.5
PMD	**Palm Desert**	**2.40**	**154**	Pn	Pn	14 30 45.4	-2.1
PMD				IAML		14 31 26.6	
	comp=E,44nm,0.5s						
PFO	**Pinyon Flats O**	**2.40**	**156**		Pg	14 30 52.7	-1.1
PFO				IAML		14 31 29.2	
	comp=E,29nm,0.9s						
PFO				IAML		14 31 30.6	
	comp=E,32nm,1.0s						
NV11	**Mina Array Sit**	**2.64**	**351**	Pn	Pn	14 30 50.1	-0.9
NVAR	**Mina Array Bea**	**2.66**	**349**	Pn	Pn	14 30 50.7	-0.6
RYN	**Ryan**	**2.90**	**346**		Pg	14 31 02.3	-0.9
R11B	**Troy Canyon, C**	**3.01**	**32**		Pg	14 30 53.2	-2.9
WAKR	**Walker**	**3.04**	**332**	Pn	Pn	14 30 55.1	-1.4
CMB	**Columbia Colle**	**3.12**	**316**	Pn	Pn	14 30 56.6	-0.9
CMB				IAML		14 31 46.6	
	comp=E,21nm,0.7s						
CMB				IAML		14 31 49.2	
	comp=N,26nm,0.6s						
SPR3	**Spring Creek 3**	**4.12**	**39**	Pg	Pb	14 31 23.7	+2.9

NEIC ***06*** *14:33:30.3±1.9,35°.659N±0°.009×117°.44W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.9km az=166.0*

PAS 06 14:33:30.7±1.3,35°.635N±0°.010×117°.43W±0°.01, h3km±1km, ML3.1/23**, ML2.7**/24(NEIC)**, Error ellipse: s-maj=1.6km s-min=1.4km az=45.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.12**	**153**		Pg	14 33 33.5	+0.4
CCCA					Sg	14 33 35.8	+1.0
LRMC	**Laurel Mtn Rad**	**0.26**	**233**	Pg	Pg	14 33 35.6	-0.1
LRMC	**Laurel Mtn Rad**	**0.26**	**233**		Sg	14 33 39.5	+0.5
SRTC	**Snort**	**0.27**	**283**		Pg	14 33 36.3	+0.5
TOW	**Tower One**	**0.32**	**303**		Pg	14 33 37.9	+1.0
MPMC	**Manual Prospec**	**0.42**	**354**		Pg	14 33 38.6	-0.3
WNMM	**Nine Mile Cany**	**0.44**	**299**		Pg	14 33 39.3	+0.2
WVPM	**Volcano Peak E**	**0.44**	**315**		Pg	14 33 39.1	-0.1
DTP	**Desert Tortois**	**0.50**	**223**		Sg	14 33 46.8	+0.1
WRVM	**Rose V. Centra**	**0.53**	**315**		Pg	14 33 40.4	-0.4
GSC	**Goldstone, Bar**	**0.61**	**123**	Pg	Pg	14 33 42.3	-0.1

WHFM	**Hanning Flat**	**0.75**	**275**		Pg	14 33 44.7	-0.3
ADO	**Adelanto Recei**	**1.08**	**180**		Pb	14 33 51.9	-0.2
DSCC	**Desert Studies**	**1.19**	**114**		Pg	14 33 52.9	-0.6
DSCC					Sg	14 34 08.9	-0.1
HEC	**Hector,Ludlow**	**1.21**	**132**		Pg	14 33 53.0	-0.8
HEC					Sg	14 34 09.0	-0.4
LEOC	**Leona Valley**	**1.23**	**216**		Pn	14 33 54.8	-0.1
TUQ	**Turquoise Moun**	**1.25**	**99**		Pg	14 33 53.7	-0.8
CJV	**Casa Juvan**	**1.25**	**208**		Pg	14 33 54.7	+0.2
WCT	**Wildcat Mounta**	**1.33**	**29**		Pg	14 33 55.6	-0.5
WCT				IAML		14 34 16.3	
	comp=E,150nm,0.5s						
BBRC	**Big Bear Solar**	**1.43**	**163**		Pn	14 33 57.5	-0.3
PASC	**Pasadena Art C**	**1.59**	**203**		Pb	14 34 02.2	-0.5
PASC				IAML		14 34 23.0	
	comp=N,74nm,0.4s						
PASC				IAML		14 34 24.6	
	comp=E,90nm,0.7s						
GTM	**Goat Mountain**	**1.60**	**146**		Sb	14 34 21.9	+0.3
GMRC	**Granite Mounta**	**1.68**	**120**		Sb	14 34 23.8	-0.2
VOG	**Valley Oaks Go**	**1.72**	**294**		Pn	14 34 00.9	-0.7
MTUM	**Tungsten Hills**	**1.94**	**332**		Pb	14 34 07.3	+0.4
HMTC	**Hemet**	**1.95**	**169**		Pn	14 34 03.8	-1.0
ELS	**Elsinore Mount**	**1.98**	**180**	Pn	Pn	14 34 04.0	-1.3
ELS				IAML		14 34 34.7	
	comp=E,64nm,0.7s						
V12A	**Nelson**	**2.10**	**87**	Pn	Pn	14 34 05.0	-1.9
V12A				IAML		14 34 35.1	
	comp=E,47nm,0.6s						
CRY	**Cary Ranch**	**2.14**	**164**		Pb	14 34 10.3	+0.1
FRD	**Ford Ranch, An**	**2.24**	**162**		Pb	14 34 12.3	+0.4
W13A	**Hualapai Mount**	**2.95**	**99**	Pn	Pn	14 34 17.2	-1.4
W13A				IAML		14 35 06.3	
	comp=E,21nm,0.5s						
W13A				IAML		14 35 08.1	
	comp=N,27nm,0.6s						
YUH	**Yuha Desert**	**3.23**	**157**	Pn	Pn	14 34 20.6	-1.8

IDC ***06*** *14:35:02.9±0.7,32°.48N×93°.58E,h0km,mb3.9/18, mbtmp3.8/22,ML3.6/4,MS3.5/1,Error ellipse: s-maj=24.2km s-min=13.7km az=48.0*

ISC 06 14:35:06.6±0.5,32°.52N±0°.05×93°.53E±0°.08,h22km,n28, σ1§76/31,mb3.9/17,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**3.47**	**217**	P	**Pb**	**14 36 04.8**	**-2.9**
LSA				S	**Sb**	**14 36 55.5**	**+5.9**
LSA				pmax	pmax		
	comp=Z,45nm,0.7s						
LSA				LR	LR		
	comp=N,470nm,4.0s						
LSA				LR	LR		
	comp=Z,380nm,4.3s						
GOMU	**GeErMu**	**3.82**	**16**	Pn	**Pn**	**14 36 05.7**	**+1.2**
GOMU				Pg	**Pb**	**14 36 14.5**	**+0.9**
GOMU				Sn	**Sb**	**14 36 58.4**	**-1.2**
GOMU				Sg	Sn	14 37 08.1	+19
GOMU				smax	smax		
	comp=N,9.0nm,0.9s						
GOMU				smax	smax		
	comp=E,21nm,1.1s						
GOMU				LR	LR		
	comp=N,740nm,4.5s						
GOMU				LR	LR		
	comp=E,600nm,4.4s						
GOMU				LR	LR		
	comp=Z,550nm,4.3s						
GTA	**Gaotai**	**8.56**	**35**	*e*P	**Pn**	**14 37 11.9**	**+2.6**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TNCH	**TengChong**	**8.65**	**148**	*e*P	**Pn**	**14 37 13.4**	**+2.7**
TNCH				pmax	pmax		
	comp=Z,150nm,3.7s						
TNCH				LR	LR		
	comp=N,230nm,3.6s						
TNCH				LR	LR		
	comp=E,290nm,3.2s						
TNCH				LR	LR		
	comp=Z,190nm,5.9s						
CMAR	**Chiang Mai Arr**	**14.83**	**160**	Pn	**Pn**	**14 38 32.2**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=335,slow=11,SNR=6.9						
	comp=Z,0.8nm,0.7s						
MKAR	**Makanchi Array**	**16.65**	**332**	Pn	**Pn**	**14 38 56.7**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=144,slow=14,SNR=8.1						
	comp=Z,0.2nm,0.5s						
AAK	**Ala-Archa**	**18.12**	**309**	P	**P**	**14 39 18.2**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=137,slow=13,SNR=4.1						
	comp=Z,1nm,0.5s						
SONM	**Songino Array**	**18.14**	**29**	P	**Pn**	**14 39 16.3**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=218,slow=14,SNR=6.1						
	comp=Z,1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**21.21**	**333**	P	**P**	**14 39 50.8**	**+0.1**
	comp=Z,4.0nm,0.7s,baz=139,slow=11,SNR=29						
	comp=Z,4.0nm,0.7s						
ZALV	**Zalesovo Beam**	**22.30**	**346**	P	**P**	**14 40 03.2**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=168,slow=7.6,SNR=5.3						
	comp=Z,1.4nm,0.6s						
BVAR	**Borovoye Array**	**26.41**	**328**	P	**P**	**14 40 43.0**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=156,slow=11,SNR=2.6						
	comp=Z,0.7nm,0.6s						
KSRS	**Korea Array**	**28.51**	**70**	P	**P**	**14 41 00.5**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=272,slow=10.0,SNR=2.9						
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**48.13**	**296**	P	**P**	**14 43 45.0**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=91,slow=7.4,SNR=7.3						
	comp=Z,1.3nm,0.8s						
PETK	**Petropavlovsk-**	**49.55**	**45**	P	**P**	**14 43 55.2**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=277,slow=12,SNR=4.7						
	comp=Z,0.7nm,0.7s						
AKASG	**Malin Array Be**	**49.77**	**311**	P	**P**	**14 43 58.0**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=78,slow=6.5,SNR=2.7						
AKASG				LR	LR	15 08 52.0	
	comp=Z,44nm,18.1s,baz=50,slow=41						
	comp=Z,0.4nm,0.4s						
FINES	**FINESS Array B**	**51.33**	**325**	P	**P**	**14 44 08.4**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=96,slow=7.7,SNR=7.4						
	comp=Z,1.1nm,0.6s						
ARCES	**ARCESS Array B**	**52.26**	**336**	P	**P**	**14 44 14.8**	**-1.1**
	comp=Z,3.6nm,0.8s,baz=96,slow=8.2,SNR=2.7						
	comp=Z,3.6nm,0.8s						
HFS	**Hagfors**	**57.46**	**324**	P	**P**	**14 44 53.4**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=60,slow=9.0,SNR=11						
	comp=Z,1.8nm,0.5s						
NB2	**NORSAR Subarra**	**58.51**	**326**	P	**P**	**14 45 00.3**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=79,slow=6.9						
NOA	**NORSAR Array B**	**58.51**	**326**	P	**P**	**14 45 00.2**	**-0.7**
	comp=Z,1.0nm,0.2s,baz=79,slow=6.9,SNR=7.2						
	comp=Z,1.0nm,0.2s						
GERES	**GERESS Array B**	**59.98**	**311**	P	**P**	**14 45 12.4**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=77,slow=7.8,SNR=3.4						
	comp=Z,0.8nm,0.7s						
WRA	**Warramunga Arr**	**65.16**	**137**	P	**P**	**14 45 45.5**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=329,slow=6.4,SNR=10						
	comp=Z,0.8nm,0.9s						
ASAR	**Alice Springs**	**67.88**	**140**	P	**P**	**14 46 03.9**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=324,slow=6.4,SNR=42						
	comp=Z,2.6nm,0.7s						
ILAR	**Eielson Array**	**72.26**	**23**	P	**P**	**14 46 29.5**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=314,slow=6.1,SNR=3.0						
	comp=Z,0.2nm,0.6s						
ESDC	**Sonseca Array**	**75.21**	**308**	P	**P**	**14 46 48.5**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=55,slow=5.6,SNR=4.2						
	comp=Z,0.4nm,0.8s						
YKA	**Yellowknife Ar**	**82.65**	**13**	P	**P**	**14 47 26.5**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=330,slow=5.5,SNR=4.5						
	comp=Z,0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**84.57**	**282**	P	**P**	**14 47 38.1**	**-0.6**
	comp=Z,2.5nm,0.3s,baz=42,slow=5.6,SNR=1.4						
	comp=Z,2.5nm,0.3s						
QSPA	**South Pole Qui**	**122.30**	**180**	PKP	**PKPdf**	**14 53 57.7**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=252,slow=1.8,SNR=8.9						

LDG ***06*** *15:00:56.7±0.1,49°.50N×6°.31E,h5km,Ml2.6/18,Error ellipse: s-maj=1.5km s-min=1.0km az=69.0*
BGR ***06*** *15:00:56.9±0.3,49°.48N×6°.35E,h10km,ML1.6/6,Error ellipse: s-maj=3.3km s-min=2.2km az=73.0*
UCC ***06*** *15:00:57.6±0.7,49°.54N×6°.26E,h12km±2km,ML1.8*
STR ***06*** *15:00:57.1±0.4,49°.N±2°×°±°,h4km,MLv2.1/12,LOCSAT earthModelID haslach_taup-2.11 preliminary*
BNS ***06*** *15:00:57.9±0.8,49°.59N×6°.40E,h4km±3km,ML1.6*
ISC 06 15:00:56.9±0.8,49°.54N±0°.01×6°.34E±0°.02,h17km±5km, n77,σ1§13/148,3C-20D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMG	**Wormeldange-Ha**	**0.08**	**23**	⇓P*g*	**Pg**	**15 01 00.2**	**0.0**
WMG				S*g*	**Sg**	**15 01 02.3**	**-0.1**
WLF	**Walferdange**	**0.18**	**316**	κP	**Pg**	**15 01 01.2**	**-0.1**
WLF				*d*S	**Sg**	**15 01 04.0**	**-0.4**
WLF	**Walferdange**	**0.18**	**316**	⇓*i*P*g*	**Pg**	**15 01 01.2**	**-0.1**
WLF				S*g*	**Sg**	**15 01 04.0**	**-0.4**
WLF	**Walferdange**	**0.18**	**316**	P*g*	**Pg**	**15 01 01.2**	**-0.1**
WLF				S*g*	**Sg**	**15 01 04.0**	**-0.4**
NEUF	**Neufchef**	**0.29**	**225**	P*g*	**Pg**	**15 01 02.4**	**-0.8**
NEUF				S*g*	**Sg**	**15 01 05.9**	**-1.5**
DUP	**Duppenweiler**	**0.32**	**113**	⇑*i*P*g*	**Pg**	**15 01 03.4**	**-0.1**
DUP				S*g*	**Sg**	**15 01 07.5**	**-0.6**
RIVT	**Riveris**	**0.32**	**58**	⇑*i*P*g*	**Pg**	**15 01 03.2**	**-0.5**
RIVT				*e*S*g*	**Sg**	**15 01 07.9**	**-0.5**
LVIA	**Vianden**	**0.41**	**347**	κP	**Pg**	**15 01 05.5**	**+0.3**
LVIA				*d*S	**Sg**	**15 01 11.1**	**+0.2**
	comp=Z,32nm,0.2s						
LKLB	**Kalborn**	**0.58**	**345**	*d*P	**Pg**	**15 01 08.7**	**+0.2**
LKLB				*d*S	**Sg**	**15 01 16.9**	**+0.6**
LOH	**Wallersheim-Lo**	**0.66**	**11**	⇑P*g*	**Pg**	**15 01 10.2**	**+0.3**
MANO	**Manonville**	**0.76**	**201**	P*g*	**Pg**	**15 01 11.3**	**-0.4**
MANO				S*g*	**Sg**	**15 01 21.4**	**-0.3**
VOEL	**Voellerdingen**	**0.77**	**138**	P*g*	**Pg**	**15 01 11.4**	**-0.4**
VOEL				S*g*	**Sg**	**15 01 21.3**	**-0.6**
HILG	**Hillesheim**	**0.79**	**16**	*e*P*g*	**Pg**	**15 01 12.2**	**0.0**
HILG				*e*S*g*	**Sg**	**15 01 21.9**	**-0.7**
	comp=Z,44nm,0.3s						
BHOU	**Houvegnez**	**0.85**	**345**	*d*P	**Pb**	**15 01 12.9**	**-0.3**
ABH	**Alteburg**	**0.85**	**66**	P*g*	**Pb**	**15 01 12.6**	**-0.7**
ABH				PmP		15 01 13.7	
ABH	**Alteburg**	**0.85**	**66**	P*g*	**Pb**	**15 01 12.5**	**-0.7**
ABH				S*g*	**Sg**	**15 01 25.8**	**+1.1**
BGG	**Burgeitz**	**0.93**	**43**	*e*P*g*	**Pb**	**15 01 13.7**	**-0.9**
BGG				*e*S*g*	**Sb**	**15 01 26.1**	**-0.5**
	comp=Z,27nm,0.3s						
LAGB	**Langenfeld Gru**	**0.96**	**30**	P*g*	**Pb**	**15 01 14.7**	**-0.4**
CIEL	**Dossenheim-sur**	**0.97**	**136**	P*g*	**Pb**	**15 01 15.1**	**-0.2**
CIEL				S*g*	**Sb**	**15 01 27.5**	**-0.3**
PEB	**Petersbachel**	**1.00**	**118**	Sn	**Sb**	**15 01 28.1**	**-0.5**
IMS	**Imsbach**	**1.02**	**86**	P*g*	**Pb**	**15 01 16.1**	**+0.1**
OCHT	**Ochtendung**	**1.04**	**39**	P*	**Pb**	**15 01 15.5**	**-0.9**
LEMB	**Lembach**	**1.05**	**118**	P*g*	**Pb**	**15 01 16.2**	**-0.5**
LEMB				S*g*	**Sb**	**15 01 29.3**	**-0.9**
PAGF	**Fort de Pagny**	**1.06**	**203**	*e*P*g*	**Pb**	**15 01 16.1**	**-0.7**
PAGF				*e*S*g*	**Sb**	**15 01 29.6**	**-0.8**
	comp=Z,34nm,0.2s						
MEM	**Membach**	**1.10**	**349**	*d*P	**Pb**	**15 01 17.4**	**0.0**
MEM				*d*P	**Pb**	**15 01 17.4**	**0.0**
MEM				*d*S	**Sb**	**15 01 31.8**	**+0.4**
MEM	**Membach**	**1.10**	**349**	Pn	**Pb**	**15 01 17.4**	**0.0**
MEM				P*g*	**Pn**	**15 01 17.9**	**+0.4**
MEM				S*	**Sb**	**15 01 31.9**	**+0.4**
STB	**Steinbach**	**1.11**	**17**	*e*P*g*	**Pb**	**15 01 17.3**	**-0.2**
STB				*e*S*g*	**Sb**	**15 01 31.0**	**-0.7**
	comp=Z,12nm,0.3s						
BCLA	**Clavier**	**1.11**	**323**	*d*P	**Pb**	**15 01 17.6**	**0.0**
BCLA				*d*S	**Sb**	**15 01 32.4**	**+0.5**
KLL	**Kalltalsperre**	**1.11**	**359**	*e*P*g*	**Pb**	**15 01 17.7**	**0.0**
KLL				*e*S*g*	**Sb**	**15 01 32.0**	**+0.1**
	comp=Z,8.5nm,0.4s						
DREG	**Dreilaegerbach**	**1.13**	**356**	*e*P*g*	**Pb**	**15 01 18.0**	**0.0**
DREG				*e*S*g*	**Sb**	**15 01 32.3**	**-0.2**
	comp=Z,10nm,0.2s						
GIVF	**Givet**	**1.14**	**301**	*e*P*g*	**Pb**	**15 01 18.5**	**+0.4**
GIVF				*e*S*g*	**Sb**	**15 01 32.8**	**+0.2**
	comp=Z,29nm,0.2s						
XAFF	**Xaffevillers**	**1.14**	**171**	P*g*	**Pn**	**15 01 17.5**	**-0.7**
XAFF				S*g*	**Sb**	**15 01 32.2**	**-0.6**
HOHE	**HOHENGOEFT**	**1.16**	**139**	P*g*	**Pn**	**15 01 17.8**	**-0.4**
HOHE				S*g*	**Sb**	**15 01 32.7**	**-0.3**
KTD	**Kalmit**	**1.16**	**100**	*e*S*g*	**Sb**	**15 01 33.5**	**+0.3**
BGES	**Gesves**	**1.18**	**317**	*d*P	**Pn**	**15 01 18.9**	**+0.3**
BGES				*d*S	**Sb**	**15 01 33.7**	**0.0**
	comp=E,12nm,0.2s						
NAST	**IGS Nastaetten**	**1.18**	**56**	*e*P*g*	**Pn**	**15 01 18.9**	**+0.2**
NAST				*e*S*g*	**Sb**	**15 01 33.6**	**-0.3**
	comp=E,45nm,0.2s						
SAVF	**Savonnieres en**	**1.22**	**221**	*e*P*g*	**Pn**	**15 01 19.5**	**+0.3**
SAVF	**Savonnieres en**	**1.22**	**221**	*e*P*g*	**Pn**	**15 01 19.7**	**+0.5**
SAVF				*e*S*g*	**Sb**	**15 01 34.5**	**-0.5**
	comp=E,9.2nm,0.2s						
SAVF				*e*S*g*	**Sn**	**15 01 34.8**	**-0.5**
	comp=E,8.1nm,0.2s						
SAVF	**Savonnieres en**	**1.22**	**221**	Pn	**Pn**	**15 01 19.3**	**+0.1**
SAVF				S*g*	**Sb**	**15 01 35.1**	**+0.1**
ROTT	**Steinweiler**	**1.25**	**108**	*e*S*g*	**Sn**	**15 01 37.1**	**+1.1**
DOU	**Dourbes**	**1.26**	**297**	*d*P	**Pn**	**15 01 20.4**	**+0.6**
DOU				*d*S	**Sb**	**15 01 35.5**	**-0.8**
	comp=E,19nm,0.2s						
KOE	**Koeppel**	**1.26**	**45**	*e*P*g*	**Pn**	**15 01 19.9**	**+0.1**
KOE				*e*S*g*	**Sb**	**15 01 35.7**	**-0.5**
	comp=E,13nm,0.3s						
CDF	**Champ du Feu**	**1.28**	**151**	*e*P*g*	**Pn**	**15 01 20.0**	**-0.1**
CDF				*e*S*g*	**Sb**	**15 01 35.7**	**-1.1**
	comp=E,5.3nm,0.2s						
ETNF	**Estrennes**	**1.29**	**189**	Pn	**Pn**	**15 01 19.8**	**-0.4**
ETNF				S*g*	**Sb**	**15 01 35.9**	**-1.2**
WLS	**Welschbruch**	**1.31**	**149**	Pn	**Pn**	**15 01 20.1**	**-0.3**
WLS				S*g*	**Sb**	**15 01 37.6**	**+0.1**
WLS	**Welschbruch**	**1.31**	**149**	Pn	**Pn**	**15 01 20.1**	**-0.3**
WLS				S*g*	**Sb**	**15 01 37.4**	**-0.1**
GWBE	**Wiesbaden**	**1.32**	**64**	Pn	**Pn**	**15 01 20.0**	**-0.5**
GWBE				P*g*	**Pb**	**15 01 21.5**	**+0.3**
BODE	**Bodenheim**	**1.32**	**73**	*e*P*g*	**Pn**	**15 01 21.9**	**+1.3**
BODE				*e*S*g*	**Sb**	**15 01 39.3**	**+1.4**
MEZF	**Maizieres J'vi**	**1.34**	**220**	*e*P*g*	**Pn**	**15 01 20.8**	**0.0**
MEZF				*e*S*g*	**Sn**	**15 01 38.1**	**-0.1**
	comp=E,9.3nm,0.2s						
ECH	**Echery**	**1.43**	**158**	*e*Pn	**Pn**	**15 01 21.3**	**-0.7**
ECH				*e*P*g*	**Pb**	**15 01 22.4**	**-0.6**
ECH				*e*S*g*	**Sn**	**15 01 40.7**	**+0.3**
ECH	**Echery**	**1.43**	**158**	Pn	**Pn**	**15 01 21.5**	**-0.6**
ECH				P*g*	**Pb**	**15 01 22.8**	**-0.2**
ECH				S*n*	**Sn**	**15 01 40.8**	**+0.3**
BABA	**Baden-Baden-Ne**	**1.46**	**123**	P*g*	**Pb**	**15 01 24.2**	**+0.6**
BAIF	**Baives**	**1.48**	**292**	*e*P*g*	**Pn**	**15 01 24.1**	**+1.4**
BAIF				*e*S*g*	**Sn**	**15 01 41.1**	**-0.6**
	comp=E,13nm,0.2s						
TNS	**Taunus Mts**	**1.52**	**62**	Pn	**Pn**	**15 01 22.7**	**-0.7**
TNS				P*g*	**Pb**	**15 01 25.3**	**+0.6**
TNS				S*g*	**Sg**	**15 01 46.1**	**0.0**
HAU	**Haudompre**	**1.53**	**180**	*e*P*g*	**Pn**	**15 01 23.9**	**+0.4**
HAU				*e*S*g*	**Sn**	**15 01 43.3**	**+0.3**
	comp=E,9.3nm,0.2s						
BIW	**Bindweide**	**1.54**	**38**	P*g*	**Pn**	**15 01 24.9**	**+1.4**
SFTF	**Sexfontaines**	**1.59**	**213**	*e*P*g*	**Pn**	**15 01 25.5**	**+1.3**
SFTF				*e*S*g*	**Sn**	**15 01 45.3**	**+1.0**
	comp=E,6.7nm,0.2s						
WALT	**Westhalten**	**1.69**	**158**	Pn	**Pn**	**15 01 26.3**	**+0.7**
WALT				S*n*	**Sb**	**15 01 48.9**	**+0.4**
HINF	**Hinteralfeld**	**1.75**	**169**	*e*P*g*	**Pn**	**15 01 27.9**	**+1.3**
HINF				*e*S*g*	**Sn**	**15 01 49.8**	**+1.3**
	comp=E,4.7nm,0.2s						
BFO	**Black Forest**	**1.78**	**132**	*e*Pn	**Pn**	**15 01 26.9**	**-0.1**
BFO				*e*P*g*	**Pb**	**15 01 29.9**	**+0.8**
BFO				*e*S*n*	**Sn**	**15 01 47.5**	**-1.7**
BFO				*e*S*g*	**Sb**	**15 01 51.3**	**+0.2**
KIZ	**Kirchzarten**	**1.89**	**146**	Pn	**Pn**	**15 01 28.9**	**+0.4**
KIZ				P*g*	**Pb**	**15 01 31.7**	**+0.7**
KIZ				S*n*	**Sn**	**15 01 51.0**	**-1.0**
KIZ				S*g*	**Sb**	**15 01 56.4**	**+2.0**
ENDD	**Endenburg**	**2.04**	**153**	Pn	**Pn**	**15 01 31.1**	**+0.5**
ENDD				S*g*	**Sb**	**15 02 00.6**	**+1.8**
BERGE	**Lenzkirch (DE)**	**2.06**	**143**	*e*Pn	**Pn**	**15 01 31.6**	**+0.7**
BERGE				*e*P*g*	**Pb**	**15 01 34.9**	**+1.0**
BERGE				*e*S*g*	**Sb**	**15 01 59.8**	**+0.6**
METMA	**Mettma DE**	**2.22**	**144**	*e*P*g*	**Pb**	**15 01 37.3**	**+0.7**
METMA				*e*S*g*	**Sb**	**15 02 06.1**	**+2.3**
SLE	**Schleitheim**	**2.27**	**140**	*e*P*g*	**Pb**	**15 01 38.9**	**+1.4**
SLE	**Schleitheim**	**2.27**	**140**	Pn	**Pn**	**15 01 33.4**	**-0.3**
SLE				Sn	**Sb**	**15 02 01.4**	**0.0**
CHMF	**Charmoille**	**2.30**	**175**	Pn	**Pn**	**15 01 33.1**	**-0.9**
EMING	**Emmingen-Lipti**	**2.33**	**134**	*e*S*g*	**Sb**	**15 02 09.0**	**+2.0**
LOR	**Lormes**	**2.81**	**217**	*e*Pn	**Pn**	**15 01 40.0**	**-1.0**
LOR	**Lormes**	**2.81**	**217**	*e*P*g*	**Pb**	**15 01 48.0**	**+1.4**
LOR				*e*S*n*	**Sn**	**15 02 11.3**	**-3.2**
LOR				*e*S*g*	**Sb**	**15 02 22.8**	**+2.1**
	comp=E,2.4nm,0.2s						
CABF	**La Chapelle**	**2.93**	**183**	*e*Pn	**Pn**	**15 01 41.9**	**-0.9**
CABF	**La Chapelle**	**2.93**	**183**	*e*P*g*	**Pb**	**15 01 50.1**	**+1.4**
CABF				*e*S*g*	**Sb**	**15 02 27.4**	**+3.1**
	comp=E,0.5nm,0.2s						
SSF	**Saint Saulge**	**3.12**	**218**	*e*Pn	**Pn**	**15 01 44.1**	**-1.2**
SSF	**Saint Saulge**	**3.12**	**218**	*e*P*g*	**Pb**	**15 01 53.6**	**+1.8**
SSF				*e*S*n*	**Sn**	**15 02 19.5**	**-2.6**
SSF				*e*S*g*	**Sb**	**15 02 33.2**	**+3.6**
	comp=E,4.2nm,0.4s						
SMF	**Signal de Mont**	**3.34**	**211**	*e*P*g*	**Pb**	**15 01 58.1**	**+2.4**
SMF				*e*S*n*	**Sn**	**15 02 24.4**	**-3.3**
SMF				*e*S*g*	**Sb**	**15 02 41.1**	**+5.0**
	comp=E,1.8nm,0.2s						
TCF	**Toulx Ste Croi**	**4.28**	**222**	*e*S*g*	**Sg**	**15 03 09.6**	**-4.5**
	comp=E,1.1nm,0.3s						
GEC2	**GERESS Array S**	**4.88**	**95**	*e*Pn	**Pn**	**15 02 10.3**	**+0.8**

NEIC ***06*** *15:07:05.3±1.2,35°.671N±0°.010×117°.51W±0°.01, h5km±1km,Error ellipse: s-maj=2.9km s-min=1.7km az=300.0*

PAS 06 15:07:06.0±1.0,35°.668N±0°.003×117°.52W±0°.01, h7km±4km,ML3.3/18,ML2.8/60(NEIC),Error ellipse: s-maj=1.5km s-min=0.4km az=99.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCCA	**Chr Cany lake**	**0.19**	**139**		Pg	15 07 10.3	+0.5
SRTC	**Snort**	**0.19**	**277**		Pg	15 07 10.3	+0.4
SRTC					Sg	15 07 13.1	+0.6
LRMC	**Laurel Mtn Rad**	**0.23**	**216**		Pg	15 07 10.6	0.0
LRMC	**Laurel Mtn Rad**	**0.23**	**216**	IAML		15 07 14.4	
	comp=E,4μm,0.3s						
LRMC				IAML		15 07 15.0	
	comp=N,6μm,0.2s						
TOW	**Tower One**	**0.25**	**305**		Pg	15 07 11.2	+0.3
WNMM	**Nine Mile Cany**	**0.36**	**299**		Pg	15 07 13.0	-0.1
WNMM					Sg	15 07 18.3	+0.5
WVPM	**Volcano Peak E**	**0.37**	**319**		Pg	15 07 13.1	-0.3
WVPM					Sg	15 07 18.4	+0.1
MPMC	**Manual Prospec**	**0.39**	**3**		Pg	15 07 13.3	-0.4
MPMC					Sg	15 07 18.9	+0.1
DTP	**Desert Tortois**	**0.48**	**214**		Pg	15 07 14.9	-0.4
DTP					Sg	15 07 21.7	+0.1
WBSM	**Bird Springs**	**0.52**	**256**		Pg	15 07 15.9	-0.3
WBSM					Sg	15 07 23.0	0.0
QSM	**Queen of Sheba**	**0.60**	**60**		Pg	15 07 17.3	-0.4
QSM				IAML		15 07 25.6	
	comp=E,694nm,0.5s						
QSM				IAML		15 07 29.4	
	comp=N,811nm,0.2s						
QSM	**Queen of Sheba**	**0.60**	**60**		Sg	15 07 25.4	-0.2
CCAC	**Calif City Air**	**0.66**	**219**		Pg	15 07 18.2	-0.5
CCAC				IAML		15 07 28.5	
	comp=N,433nm,0.4s						
CCAC				IAML		15 07 32.5	
	comp=E,345nm,0.6s						
GSC	**Goldstone, Bar**	**0.69**	**122**		Pg	15 07 18.6	-0.6
GSC				IAML		15 07 28.4	
	comp=N,653nm,0.4s						
ISA	**Isabella, Lake**	**0.78**	**270**		Pg	15 07 20.3	-0.7
ISA	**Isabella, Lake**	**0.78**	**270**		Sg	15 07 30.5	-0.6
HYS	**Haystack Butte**	**0.80**	**183**		Pg	15 07 20.8	-0.6
HYS					Sg	15 07 31.7	-0.2
GWY	**Greenwater Val**	**0.86**	**53**		Pg	15 07 21.9	-0.7
GWY				IAML		15 07 40.4	
	comp=E,374nm,0.5s						
CWC	**Cottonwood Cre**	**0.90**	**330**		Pg	15 07 23.2	0.0
CGO	**Cerro Gordo**	**0.91**	**345**		Pg	15 07 23.0	-0.5
CGO					Sg	15 07 35.5	+0.1
SHOC	**Shoshone, Teco**	**1.04**	**77**		Sg	15 07 39.4	+0.1
SPG2	**Springville 2**	**1.15**	**298**		Pg	15 07 26.8	-1.2
DSCC	**Desert Studies**	**1.27**	**114**		Pn	15 07 28.2	-2.0
AMDNV	**Amargosa**	**1.27**	**52**		Pn	15 07 29.2	-1.0
TUQ	**Turquoise Moun**	**1.32**	**100**		Pn	15 07 29.

MPMC					Sg		15 08 35.3	+0.3
WVPM	**Volcano Peak E**	**0.40**	**316**		Pg		15 08 29.2	-0.7
WRVM	**Rose V. Centra**	**0.48**	**315**		Pg		15 08 30.5	-0.9
DTP	**Desert Tortois**	**0.50**	**218**		Pg		15 08 31.2	-0.4
MFS	**McCloud Flat S**	**0.55**	**326**		Pg		15 08 31.9	-0.8
QSM	**Queen of Sheba**	**0.57**	**58**		Pg		15 08 32.7	-0.4
QSM				IAML			15 08 41.0	
	comp=N,386nm,0.5s							
QSM				IAML			15 08 41.2	
	comp=E,418nm,0.2s							
GSC	**Goldstone, Bar**	**0.65**	**123**	Pg	Pg		15 08 33.9	-0.6
GSC				IAML			15 08 43.2	
	comp=E,515nm,0.4s							
GSC				IAML			15 08 43.3	
	comp=N,305nm,0.3s							
CCAC	**Calif City Air**	**0.68**	**221**	Pg	Pg		15 08 34.6	-0.5
CCAC				IAML			15 08 48.7	
	comp=N,426nm,0.4s							
HYS	**Haystack Butte**	**0.80**	**186**		Pb		15 08 38.0	-0.5
ISA	**Isabella, Lake**	**0.82**	**270**		Pg		15 08 36.4	-1.4
ISA				IAML			15 08 48.1	
	comp=N,262nm,0.6s							
ISA				IAML			15 08 48.4	
	comp=E,306nm,0.2s							
GWY	**Greenwater Val**	**0.83**	**51**		Pg		15 08 38.1	0.0
GWY	**Greenwater Val**	**0.83**	**51**	IAML			15 08 51.3	
	comp=N,196nm,0.3s							
GWY				IAML			15 08 52.3	
	comp=E,385nm,0.4s							
SPG2	**Springville 2**	**1.18**	**297**		Pg		15 08 43.4	-1.3
ALPC	**Antelope**	**1.19**	**215**		Sb		15 09 00.6	-0.1
DSCC	**Desert Studies**	**1.23**	**115**		Sg		15 09 00.6	-1.0
CJV	**Casa Juvan**	**1.26**	**206**		Pb		15 08 46.3	0.0
CJV					Sg		15 09 02.5	+0.1
TUQ	**Turquoise Moun**	**1.28**	**100**		Pn		15 08 45.3	-1.3
WCT	**Wildcat Mounta**	**1.32**	**31**		Pn		15 08 45.2	-1.9
GRAC	**Grapevine Rang**	**1.33**	**4**		Pn		15 08 45.5	-1.8
CHFC	**Chilao Flat St**	**1.40**	**199**		Pg		15 08 48.9	0.0
BFSC	**Mount Baldy Ra**	**1.43**	**186**		Pb		15 08 49.0	-0.2
OSI	**Osito Audit: C**	**1.47**	**225**		Pn		15 08 48.7	-0.4
OSI				IAML			15 09 10.9	
	comp=N,138nm,0.9s							
OSI				IAML			15 09 13.7	
	comp=E,142nm,0.7s							
MWC	**Mount Wilson**	**1.51**	**199**		Pn		15 08 50.2	+0.2
MWC				IAML			15 09 13.8	
	comp=E,142nm,0.2s							
LCH	**Last Change Ra**	**1.57**	**355**		Pn		15 08 49.7	-1.0
PASC	**Pasadena Art C**	**1.60**	**202**	Pg	Pn		15 08 50.2	-0.8
PASC				IAML			15 09 15.4	
	comp=N,91nm,0.4s							
PASC				IAML			15 09 16.5	
	comp=E,110nm,0.4s							
TPNV	**Topopah Spring**	**1.62**	**37**	Pg	Pb		15 08 52.6	+0.2
TPNV				IAML			15 09 15.6	
	comp=E,70nm,0.6s							
TPNV				IAML			15 09 22.0	
	comp=E,74nm,0.8s							
GMN	**Gold Mountain**	**1.64**	**6**	Pg	Pb		15 08 52.9	-0.1
GMN				IAML			15 09 46.1	
	comp=E,95nm,0.5s							
BCW	**Bitter Crk WRg**	**1.75**	**246**	Pn	Pn		15 08 52.2	-0.9
BCW				IAML			15 09 57.1	
	comp=N,94nm,0.9s							
BLAC	**Blackrock camp**	**1.82**	**150**		Pb		15 08 55.9	0.0
CRGC	**Crocker Grade**	**1.89**	**258**		Pb		15 08 56.6	-0.4
ELS	**Elsinore Mount**	**2.01**	**179**	Pn	Pn		15 08 56.1	-0.5
ELS				IAML			15 09 31.9	
	comp=E,57nm,0.6s							
SHPR	**Sheep Range**	**2.05**	**65**		Pb		15 09 00.4	+0.5
PMD	**Palm Desert**	**2.20**	**156**	Pg	Pb		15 09 02.9	+0.6
PFO	**Pinyon Flats O**	**2.21**	**158**	Pg	Pb		15 09 02.9	+0.4
CTCC	**Cactus City**	**2.34**	**148**		Pn		15 09 00.5	-0.8
DPP	**Dos Picos Cty**	**2.69**	**171**		Pb		15 09 10.6	-0.2
NV11	**Mina Array Sit**	**2.82**	**349**	Pg	Pg		15 09 15.2	-0.9
NV11				IAML			15 10 43.7	
	comp=E,21nm,1.4s							

NEIC ***06*** *15:09:14.9±1.1,35°.883N±0°.009×117°.714W±0°.007, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.6km az=39.0*

PAS 06 15:09:15.3±1.4, 35°.883N±0°.009×117°.72W±0°.01, h4km±1km, ML3.3/23, ML2.8/46(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=88.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**204**		Pg	15 09 18.0	+1.0
WVPM	**Volcano Peak E**	**0.10**	**311**		Pg	15 09 17.6	+0.2
WNMM	**Nine Mile Cany**	**0.15**	**255**		Pg	15 09 18.6	+0.3
WNMM					Sg	15 09 21.1	+0.9
WRVM	**Rose V. Centra**	**0.18**	**313**		Pg	15 09 19.0	+0.1
WRVM					Sg	15 09 21.8	+0.5
MFS	**McCloud Flat S**	**0.26**	**336**		Pg	15 09 20.0	-0.3
MFS					Sg	15 09 24.2	+0.5
MPMC	**Manual Prospec**	**0.26**	**48**		Pg	15 09 20.4	0.0
MPMC					Sg	15 09 24.2	+0.5
LRMC	**Laurel Mtn Rad**	**0.40**	**175**	Pg	Pg	15 09 22.7	-0.4
LRMC	**Laurel Mtn Rad**	**0.40**	**175**		Sg	15 09 28.9	+0.5
WORM	**Onyx Ranch**	**0.46**	**246**		Pg	15 09 24.1	-0.1
CCCA	**Chr Cany lake**	**0.46**	**141**		Pg	15 09 24.4	+0.2
ISA	**Isabella, Lake**	**0.65**	**250**		Pg	15 09 27.5	-0.2
ISA				IAML		15 09 37.9	
	comp=E,895nm,0.2s						
QSM	**Queen of Sheba**	**0.70**	**83**		Pg	15 09 28.0	-0.7
QSM				IAML		15 09 41.6	
	comp=E,685nm,0.6s						
QSM				IAML		15 09 42.7	
	comp=N,730nm,0.5s						
CCAC	**Calif City Air**	**0.77**	**198**		Pg	15 09 29.4	-0.6
CCAC				IAML		15 09 44.7	
	comp=N,389nm,0.6s						
SPG2	**Springville 2**	**0.90**	**291**		Pg	15 09 31.9	-0.7
SPG2					Sg	15 09 44.3	0.0
GWY	**Greenwater Val**	**0.91**	**70**		Pg	15 09 32.4	-0.3
GWY	**Greenwater Val**	**0.91**	**70**	IAML		15 09 47.6	
	comp=N,524nm,0.5s						
GSC	**Goldstone, Bar**	**0.95**	**128**		Sg	15 09 45.5	-0.2
GSC	**Goldstone, Bar**	**0.95**	**128**		Pg	15 09 32.6	-0.8
GRAC	**Grapevine Rang**	**1.15**	**14**		Pg	15 09 36.7	-0.6
GRAC				IAML		15 09 57.6	
	comp=N,362nm,0.4s						
WCT	**Wildcat Mounta**	**1.27**	**44**		Pg	15 09 39.1	-0.5
WCT				IAML		15 10 00.3	
	comp=E,242nm,0.6s						
WCT				IAML		15 10 00.4	
	comp=N,173nm,0.8s						
AMDNV	**Amargosa**	**1.30**	**64**		Pg	15 09 39.8	-0.4
LEOC	**Leona Valley**	**1.34**	**201**		Pn	15 09 40.5	-0.4
LCH	**Last Change Ra**	**1.35**	**3**		Pn	15 09 40.7	-0.4
VOG	**Valley Oaks Go**	**1.41**	**289**		Pn	15 09 41.4	-0.4
GMN	**Gold Mountain**	**1.46**	**15**		Pn	15 09 42.4	-0.3
GMN				IAML		15 10 05.9	
	comp=E,92nm,0.6s						
GMN				IAML		15 10 09.4	
	comp=N,148nm,0.6s						
DSP	**Deep Springs**	**1.50**	**352**		Pn	15 09 42.4	-0.5
OSI	**Osito Audit: C**	**1.51**	**213**	Pg	Pg	15 09 45.2	+1.1
OSI				IAML		15 10 10.4	
	comp=E,168nm,0.7s						
OSI				IAML		15 10 12.1	
	comp=N,114nm,0.5s						
TUQ	**Turquoise Moun**	**1.53**	**106**		Pn	15 09 41.9	-1.6
TPNV	**Topopah Spring**	**1.60**	**48**		Pn	15 09 44.1	-0.4
TPNV				IAML		15 10 09.1	
	comp=N,181nm,0.4s						
TPNV				IAML		15 10 09.1	
	comp=N,196nm,0.8s						
MWC	**Mount Wilson**	**1.68**	**189**	Pg	Pb	15 09 46.9	0.0
MWC				IAML		15 10 12.6	
	comp=E,109nm,0.4s						
MWC				IAML		15 10 15.3	
	comp=N,114nm,0.5s						
PASC	**Pasadena Art C**	**1.75**	**193**		Pn	15 09 45.4	-1.0
CRGC	**Crocker Grade**	**1.75**	**249**		Pb	15 09 47.6	-0.5
MTPC	**Mountain Pass**	**1.81**	**102**		Pn	15 09 45.9	-1.6
KCC	**Kaiser Creek**	**1.93**	**319**		Pb	15 09 50.4	-0.6
BENR	**Benton**	**1.95**	**340**		Pb	15 09 51.7	+0.1
MLAC	**Mammoth, Mammo**	**1.96**	**333**		Pb	15 09 51.9	+0.2
MCSM	**Casa Diablo Ho**	**2.01**	**332**		Pb	15 09 52.7	+0.1
BBSC	**Beaumont Base**	**2.05**	**162**		Pn	15 09 49.4	-1.2
TPH	**Tonopah**	**2.22**	**10**		Pb	15 09 56.5	+0.3
ELS	**Elsinore Mount**	**2.24**	**174**	Pn	Pn	15 09 52.5	-0.8
ELS				IAML		15 10 28.2	
	comp=E,65nm,0.3s						
ELS				IAML		15 10 28.6	
	comp=N,49nm,0.6s						
V12A	**Nelson**	**2.34**	**93**		Pg	15 10 00.7	+0.6
V12A				IAML		15 10 33.5	
	comp=N,42nm,1.0s						
V12A				IAML		15 10 38.8	
	comp=E,42nm,0.6s						
LHV	**Little Huntoon**	**2.44**	**345**		Pg	15 10 01.8	-0.3
LHV				IAML		15 10 21.1	
	comp=N,34nm,0.7s						
LHV				IAML		15 10 43.5	
	comp=E,33nm,0.9s						
PMPB	**Monarch Peak**	**2.52**	**278**	Pn	Pn	15 09 56.0	-1.1
NV11	**Mina Array Sit**	**2.57**	**352**		Pn	15 09 56.3	-1.5
NVAR	**Mina Array Bea**	**2.58**	**350**	Pg	Pg	15 10 05.0	+0.2
MYLM	**Yosemite Lake**	**2.63**	**305**		Pb	15 10 01.9	-1.2
RYN	**Ryan**	**2.81**	**347**		Pg	15 10 07.9	-1.3
WAKR	**Walker**	**2.95**	**333**		Pb	15 10 09.6	+1.0
R11B	**Troy Canyon, C**	**3.00**	**34**	Pg	Pg	15 10 11.3	-1.4

IDC ***06*** *15:11:21.1±1.1,25°.52N×128°.42E, h0km, mb3.7/9, mbtmp3.7/12, ML3.6/2, MS3.7/2, Error ellipse: s-maj=40.8km s-min=17.0km az=80.0*

NIED ***06*** *15:11:24.6,25°.62N×128°.54E, h60km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr=3.84; Mθθ 0.88; Mφφ 2.95; Mrθ -0.70; Mθφ 3.37; Mφr -2.79; Fault plane solution: M0 5.53000×10^14 NP1: φs 237.00000°, δ 33.00000°, λ -58.00000°. NP2: φs 21.00000°, δ 62.00000°, λ -109.00000°.*

JMA ***06*** *15:11:24.6±0.4,26°.1N×12°.9E±°, h60km, MV3.6/24, NEAR OKINAWAJIMA ISLAND*

ISC 06 15:11:21.8±3.3, 25°.54N±0°.05×128°.60E±0°.05, h13km±21km, n43, σ1°59/52, mb3.7/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**0.95**	**309**	*i* P	**Pn**	**15 11 41.0**	**+0.1**
JJT3				*e*S	**Sb**	**15 11 53.4**	**+0.7**
JNTH	**Nagotoyohara**	**1.11**	**332**	P	**Pb**	**15 11 42.6**	**-0.2**
JNTH				*e*S	**Sb**	**15 11 55.3**	**-1.8**
JOW	**Kunigami**	**1.32**	**347**	Pn	**Pn**	**15 11 46.1**	**+0.1**
	101nm,0.3s,baz=145,slow=16,SNR=567						
JOW				LR	LR	15 11 49.9	
	comp=Z,48nm,21.0s,baz=143,slow=22						
JOW				Sn	**Sb**	**15 12 00.8**	**-2.6**
	224nm,0.3s,baz=76,slow=29,SNR=33						
JOW	**Kunigami**	**1.32**	**347**	P	**Pn**	**15 11 46.1**	**+0.1**
JOW				*e*S	**Sb**	**15 12 01.5**	**-1.9**
JYRO	**Yoronjima**	**1.48**	**355**	P	**Pn**	**15 11 48.5**	**+0.2**
JIH	**Iheya**	**1.59**	**339**	*e*P	**Pb**	**15 11 50.4**	**-0.7**
JAGN	**Aguni-jima**	**1.61**	**311**	P	**Pn**	**15 11 50.2**	**+0.3**
JKE	**Kume jima 2**	**1.81**	**296**	P	**Pn**	**15 11 52.5**	**-0.3**
JKE				*e*S	**Sn**	**15 12 12.8**	**-2.9**
JOKE	**Okinoerabujima**	**1.81**	**359**	*e*P	**Pn**	**15 11 53.2**	**+0.4**
JTK	**Tokunoshima**	**2.26**	**8**	P	**Pn**	**15 11 59.4**	**+0.5**
JTK				*e*S	**Sn**	**15 12 24.2**	**-2.5**
JMZ	**Minamidaito 2**	**2.38**	**83**	P	**Pn**	**15 12 00.1**	**-0.5**
JMZ				*e*S	**Sn**	**15 12 26.0**	**-3.7**
JKDJ	**Kitadaitoujima**	**2.46**	**80**	*e*P	**Pn**	**15 12 01.5**	**-0.2**
JKDJ				*e*S	**Sn**	**15 12 29.0**	**-2.7**
JAMN	**Amaminishikomi**	**2.74**	**11**	*e*P	**Pn**	**15 12 06.1**	**+0.6**
JAM	**Amami Oshima**	**3.00**	**17**	*e*P	**Pn**	**15 12 09.3**	**+0.3**
JAM				*e*S	**Sn**	**15 12 43.0**	**-1.9**
JZK	**Kikaishima**	**3.02**	**24**	*e*P	**Pn**	**15 12 10.7**	**+1.3**
JZK				*e*S	**Sn**	**15 12 44.9**	**-0.6**
JMJ	**Miyako jima 2**	**3.08**	**257**	P	**Pn**	**15 12 10.3**	**+0.1**
JTAJ	**Takarajima**	**3.64**	**8**	*e*P	**Pn**	**15 12 18.1**	**+0.2**
JNN	**Nakanoshima**	**4.43**	**14**	*e*P	**Pn**	**15 12 29.7**	**+0.9**
JYAK	**Yakushimahirau**	**4.97**	**19**	*e*P	**Pn**	**15 12 36.8**	**+0.6**
YOJ	**Yonaguni jima**	**5.19**	**259**	P	**Pn**	**15 12 38.0**	**-1.1**
JMTN	**Minamitane**	**5.25**	**22**	*e*P	**Pn**	**15 12 40.7**	**+0.7**
JTN	**Tanegashima 3**	**5.51**	**22**	*e*P	**Pn**	**15 12 44.6**	**+1.0**
NACB	**Ninganchiao**	**6.51**	**259**	P	**Pn**	**15 12 55.5**	**-1.8**
YHNB	**Yeheng**	**6.61**	**264**	P	**Pn**	**15 12 59.4**	**+0.6**
YULB	**Yu-li**	**6.99**	**254**	P	**Pn**	**15 13 00.7**	**-3.3**
SSLB	**Suanglung**	**7.17**	**258**	P	**Pn**	**15 13 05.0**	**-1.5**
TWGBT	**Beinan**	**7.38**	**250**	P	**Pn**	**15 13 06.2**	**-3.2**
TPUB	**Ta-pu**	**7.60**	**255**	P	**Pn**	**15 13 11.2**	**-1.2**
	47nm,1.8s						
JNU	**Nakatsue**	**7.81**	**14**	Pn	**Pn**	**15 13 17.0**	**+1.7**
	0.7nm,0.3s,baz=188,slow=16,SNR=11						
JNU				Sn	**Sn**	**15 14 41.1**	**-2.5**
	0.3nm,0.3s,baz=152,slow=23,SNR=1.7						
	3.4nm,0.4s						
KSRS	**Korea Array**	**11.89**	**357**	Pn	**Pn**	**15 14 12.7**	**+1.6**
	0.8nm,0.8s,baz=141,slow=16,SNR=2.9						
JCJ	**Chichijima**	**12.28**	**80**	LR	LR	15 17 38.0	
	comp=Z,537nm,21.6s,baz=134,slow=30						
USRK	**Ussuriysk Ar.**	**18.82**	**8**	P	**Pn**	**15 15 44.5**	**+2.8**
	0.2nm,0.3s,baz=176,slow=8.3,SNR=2.1						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**42.24**	**312**	P	**P**	**15 19 15.0**	**+0.2**
	0.7nm,0.5s,baz=97,slow=10,SNR=16						
	0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**43.00**	**323**	P	**P**	**15 19 19.7**	**-1.1**
	0.4nm,0.3s,baz=94,slow=10,SNR=1.8						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**45.55**	**172**	P	**P**	**15 19 42.3**	**+0.8**
	0.6nm,0.7s,baz=352,slow=8.5,SNR=6.3						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**45.58**	**317**	P	**P**	**15 19 41.8**	**+0.3**
	0.5nm,0.5s,baz=105,slow=8.5,SNR=5.4						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**49.18**	**174**	P	**P**	**15 20 11.1**	**+1.3**
	0.4nm,0.8s,baz=8.0,slow=15,SNR=4.8						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**51.01**	**319**	P	**P**	**15 20 24.6**	**+1.2**
	0.7nm,0.6s,baz=92,slow=12,SNR=3.3						
	0.7nm,0.6s						
KBZ	**Khabaz**	**69.86**	**310**	P	**P**	**15 22 34.5**	**+2.2**
	4.0nm,0.8s,baz=109,slow=5.2,SNR=6.8						
FINES	**FINESS Array B**	**73.63**	**331**	P	**P**	**15 22 54.2**	**-0.5**
	1.3nm,0.9s,baz=72,slow=14,SNR=3.6						
	1.3nm,0.9s						
AKASG	**Malin Array Be**	**76.27**	**320**	P	**P**	**15 23 11.4**	**+1.2**
	0.2nm,0.3s,baz=72,slow=3.0,SNR=2.0						
	0.2nm,0.3s						
BRTR	**Keskin Array B**	**77.72**	**308**	P	**P**	**15 23 19.6**	**+0.8**
	0.7nm,0.7s,baz=70,slow=5.4,SNR=4.0						
	0.7nm,0.7s						
DAVOX	**Davos/Dischmat**	**89.25**	**323**	LR	LR	16 07 49.1	
	comp=Z,23nm,19.2s,baz=264,slow=38						

NEIC ***06*** *15:12:00.8±1.2,35°.66N±0°.01×117°.55W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.6km az=33.0*

PAS 06 15:12:01.5±1.3, 35°.651N±0°.004×117°.56W±0°.01, h4km±3km, ML3.1/23, ML2.8/46(NEIC), Error ellipse: s-maj=1.3km s-min=0.4km az=115.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.16**	**285**		Pg	15 12 05.1	+0.5
LRMC	**Laurel Mtn Rad**	**0.20**	**210**		Pg	15 12 05.5	+0.1
LRMC	**Laurel Mtn Rad**	**0.20**	**210**	IAML		15 12 09.1	
	comp=E,5μm,0.2s						
LRMC				IAML		15 12 09.2	
	comp=N,9μm,0.3s						
CCCA	**Chr Cany lake**	**0.20**	**128**		Pg	15 12 06.0	+0.6
TOW	**Tower One**	**0.23**	**314**		Pg	15 12 06.4	+0.5
WNMM	**Nine Mile Cany**	**0.34**	**305**		Pg	15 12 08.1	+0.1
WNMM					Sg	15 12 13.1	+0.7
WVPM	**Volcano Peak E**	**0.36**	**325**		Pg	15 12 08.3	-0.2
WVPM					Sg	15 12 14.0	+0.7
MPMC	**Manual Prospec**	**0.41**	**8**		Pg	15 12 09.3	-0.2
WRVM	**Rose V. Centra**	**0.44**	**323**		Pg	15 12 10.1	+0.1
DTP	**Desert Tortois**	**0.45**	**211**		Pg	15 12 09.8	-0.2
WBSM	**Bird Springs**	**0.48**	**257**		Pg	15 12 10.7	-0.1
MFS	**McCloud Flat S**	**0.52**	**333**		Pg	15 12 11.4	-0.1
WORM	**Onyx Ranch**	**0.56**	**275**		Pg	15 12 11.9	-0.2
CCAC	**Calif City Air**	**0.62**	**217**	Pg	Pg	15 12 13.2	-0.1
CCAC				IAML		15 12 23.8	
	comp=E,392nm,0.6s						
CCAC				IAML		15 12 23.9	
	comp=N,344nm,0.6s						
WHFM	**Hanning Flat**	**0.64**	**274**		Pg	15 12 13.6	-0.2
QSM	**Queen of Sheba**	**0.65**	**61**		Pg	15 12 13.7	-0.1
QSM	**Queen of Sheba**	**0.65**	**61**	IAML		15 12 22.5	
	comp=E,845nm,0.3s						
QSM				IAML		15 12 23.6	
	comp=N,1μm,0.3s						
GSC	**Goldstone, Bar**	**0.71**	**119**		Pg	15 12 14.8	-0.2
GSC				IAML		15 12 27.8	
	comp=N,639nm,0.3s						
GSC	**Goldstone, Bar**	**0.71**	**119**		Sg	15 12 24.5	+0.2
ISA	**Isabella, Lake**	**0.74**	**271**		Pg	15 12 15.4	-0.3
ISA				IAML		15 12 25.7	
	comp=N,588nm,0.2s						
GWY	**Greenwater Val**	**0.90**	**53**	IAML		15 12 33.5	
	comp=N,338nm,0.4s						
GWY				IAML		15 12 35.8	
	comp=E,447nm,0.4s						
RRX	**Edison Barstow**	**0.90**	**149**		Pb	15 12 19.6	-0.1
CGO	**Cerro Gordo**	**0.92**	**348**		Pb	15 12 20.3	+0.1
SHOC	**Shoshone, Teco**	**1.08**	**76**		Pg	15 12 21.5	-0.6
SPG2	**Springville 2**	**1.12**	**300**		Pg	15 12 22.1	-0.8
DSCC	**Desert Studies**	**1.29**	**113**		Pg	15 12 24.3	-2.0
GRAC	**Grapevine Rang**	**1.35**	**7**		Pn	15 12 26.0	-1.2
GRAC				IAML		15 12 50.1	
	comp=N,240nm,0.7s						
GRAC				IAML		15 12 54.1	
	comp=E,188nm,0.5s						
WCT	**Wildcat Mounta**	**1.37**	**33**		Pn	15 12 26.1	-1.4
WCT				IAML		15 12 48.9	
	comp=E,135nm,0.4s						
OSI	**Osito Audit: C**	**1.41**	**223**		Pn	15 12 25.9	-2.1
OSI				IAML		15 12 53.1	
	comp=E,104nm,0.5s						
PASC	**Pasadena Art C**	**1.56**	**199**		Pn	15 12 29.0	-1.1
PASC				IAML		15 12 54.9	
	comp=E,106nm,0.8s						
MTPC	**Mountain Pass**	**1.65**	**95**		Pn	15 12 29.7	-1.7
GMN	**Gold Mountain**	**1.66**	**8**		Pn	15 12 30.3	-1.4
BCW	**Bitter Crk WRg**	**1.67**	**245**		Pn	15 12 30.2	-1.5
BCW				IAML		15 12 58.2	
	comp=E,102nm,1.0s						
BCW				IAML		15 13 10.5	
	comp=N,86nm,1.3s						
TPNV	**Topopah Spring**	**1.67**	**39**		Pn	15 12 30.6	-1.1
TPNV				IAML		15 12 57.1	
	comp=N,145nm,0.5s						
TPNV				IAML		15 12 59.1	
	comp=N,122nm,0.6s						
DSP	**Deep Springs**	**1.75**	**349**		Pn	15 12 31.4	-1.2
SHPR	**Sheep Range**	**2.12**	**66**		Sb	15 13 08.1	+0.7
SHPR	**Sheep Range**	**2.12**	**66**	Pn	Pn	15 12 37.4	-0.6
V12A	**Nelson**	**2.21**	**87**	Pn	Pn	15 12 37.4	-1.6
V12A				IAML		15 13 14.9	
	comp=E,39nm,0.3s						
TPH	**Tonopah**	**2.44**	**6**	Pn	Pn	15 12 41.7	-0.6
TPH				IAML		15 13 30.3	
	comp=E,77nm,0.9s						
PRN	**Pahroc Range**	**2.68**	**48**	Pn	Pn	15 12 44.9	-0.6
PRN				IAML		15 13 32.6	
	comp=N,41nm,0.5s						
PRN				IAML		15 13 36.9	
	comp=E,40nm,0.6s						
BLYC	**Blythe**	**3.14**	**126**	Pn	Pn	15 12 49.4	-2.3
BLYC				IAML		15 13 43.5	
	comp=E,24nm,0.5s						
BLYC				IAML		15 13 48.3	
	comp=N,22nm,0.7s						

MEX ***06*** *15:19:48.7±0.8, 14°.62N×93°.31W, h10km, MD4.0*

GCG ***06*** *15:19:49.1±1.5, 14°.61N×93°.14W, h59km±32km, MD3.8, ML3.9, MW3.1*

ISC 06 15:19:44.6±1.5, 14°.43N±0°.06×93°.27W±0°.04, h32km±14km, n24, σ1°69/42, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.08**	**64**	*e*P	**Pb**	**15 20 05.6**	**+0.8**
THIG				*e*S	**Sn**	**15 20 18.9**	**+1.4**
THIG		**1.08**	**64**	*i* P	**Pb**	**15 20 05.2**	**+0.4**
THIG				*i* S	**Sn**	**15 20 18.7**	**+1.1**
THIG				IAML		15 20 20.2	
	comp=N,2μm,0.3s						
PATR	**El Naranjo**	**1.22**	**55**	*e*P	**Pb**	**15 20 06.8**	**-0.4**
PATR				*e*S	**Sn**	**15 20 20.8**	**-0.3**
SMCA	**Catarina**	**1.23**	**69**	*i* P	**Pb**	**15 20 07.6**	**+0.3**
	comp=Z,170nm,1.1s						
SMCA				*i* S	**Sn**	**15 20 22.0**	**+0.8**
SMCA				IAML		15 20 23.1	
	comp=E,2μm,0.1s						
PCIG		**1.27**	**2**	*e*P	**Pn**	**15 20 06.0**	**-0.1**
PCIG				*e*S	**Sn**	**15 20 19.5**	**-2.7**
PAVE	**Pavencul**	**1.30**	**54**	*e*P	**Pb**	**15 20 08.0**	**-0.7**
PAVE				*e*S	**Sn**	**15 20 23.4**	**+0.1**
RTAL	**Retalhuleu**	**1.53**	**86**	*e*P	**Pb**	**15 20 12.7**	**+0.4**
RTAL				*e*S	**Sb**	**15 20 31.9**	**+0.5**
QUEO	**Labor Ovalle**	**1.76**	**75**	*i* S	**Sb**	**15 20 37.1**	**-1.0**
QUEO				IAML		15 20 38.4	
	comp=N,4μm,0.2s						
SOKI	**Kika Raxquin**	**1.85**	**77**	*i* P	**Pb**	**15 20 18.0**	**0.0**
STG8	**El Palmar, Qui**	**1.86**	**89**	*i* P	**Pn**	**15 20 14.0**	**-0.5**
STG8				*i* S	**Sn**	**15 20 33.2**	**-3.8**
STG8				IAML		15 20 35.1	
	comp=N,2μm,0.1s						
STG0	**El Palmar, Qui**	**1.87**	**90**	*i* P	**Pn**	**15 20 14.2**	**-0.3**
STG0

	comp=E,2µm,0.5s								
HMBC	**Humberstone**	**0.62**	**289**	*e*P		**Pn**	**15 21 51.4**	**-0.3**
HMBC				*e*S		**Sn**	**15 22 05.3**	**-0.3**
HMBC				IAML			15 22 07.9	
	comp=Z,2µm,0.6s								
PB11	**IPOC Station P**	**0.81**	**333**	⇑*i*P		**Pn**	**15 21 53.5**	**+0.2**
PB11				*i* S		**Sn**	**15 22 08.1**	**-0.3**
PB11				IAML			15 22 08.9	
	comp=N,5µm,0.2s								
PB11	**IPOC Station P**	**0.81**	**333**	*e*P		**Pn**	**15 21 53.6**	**+0.3**
PB11				*e*S		**Sn**	**15 22 07.7**	**-0.6**
PB11				IAML			15 22 09.9	
	comp=Z,2µm,0.3s								
GO01	**Chusmiza**	**0.81**	**5**	⇓*i*P		**Pn**	**15 21 53.8**	**+0.1**
GO01				*i* S		**Sn**	**15 22 08.4**	**-0.7**
GO01				IAML			15 22 10.0	
	comp=N,6µm,0.1s								
GO01	**Chusmiza**	**0.81**	**5**	*e*P		**Pn**	**15 21 53.6**	**-0.2**
GO01				*e*S		**Sn**	**15 22 08.1**	**-1.0**
TA02	**Huaiquique**	**0.84**	**284**	*e*P		**Pn**	**15 21 54.1**	**+0.7**
TA02				*e*S		**Sn**	**15 22 08.8**	**+0.2**
TA02	**Huaiquique**	**0.84**	**284**	*e*P		**Pn**	**15 21 53.6**	**+0.3**
TA02				*e*S		**Sn**	**15 22 09.3**	**+0.7**
TA02				IAML			15 22 10.3	
	comp=Z,2µm,0.1s								
TA01	**Diego Aracena**	**0.86**	**264**	⇑*i*P		**Pn**	**15 21 54.1**	**+0.6**
TA01				*i* S		**Sn**	**15 22 09.0**	**+0.1**
TA01				IAML			15 22 10.1	
	comp=E,732nm,0.3s								
TA01	**Diego Aracena**	**0.86**	**264**	*e*P		**Pn**	**15 21 53.9**	**+0.3**
TA01				*e*S		**Sn**	**15 22 08.8**	**-0.1**
TA01				IAML			15 22 12.1	
	comp=Z,214nm,0.5s								
PB09	**IPOC Station P**	**1.31**	**179**	⇑*i*P		**Pn**	**15 21 59.6**	**+1.2**
PB09				*i* S		**Sn**	**15 22 18.7**	**+1.2**
PB09				IAML			15 22 21.0	
	comp=E,483nm,0.3s								
PB09	**IPOC Station P**	**1.31**	**179**	*e*P		**Pn**	**15 21 58.2**	**-0.2**
PB09				*e*S		**Sn**	**15 22 18.1**	**+0.6**
PB09				IAML			15 22 22.2	
	comp=Z,380nm,0.6s								
PX02	**IPOC Station P**	**1.75**	**330**	*e*P		**Pn**	**15 22 02.8**	**-0.8**
PB16	**IPOC Station P**	**2.15**	**354**	⇑*i*P		**Pn**	**15 22 10.1**	**+1.1**
PB16				*i* S		**Sn**	**15 22 37.3**	**+1.1**
PB16				IAML			15 22 40.7	
	comp=E,105nm,0.6s								
PB06	**IPOC Station P**	**2.23**	**187**	*e*P		**Pn**	**15 22 10.6**	**+1.0**
PB06				IAML			15 22 43.8	
	comp=N,157nm,0.4s								
PB05	**IPOC Station P**	**2.52**	**200**	*e*P		**Pn**	**15 22 14.1**	**+0.9**
PB05				*e*P		**Sn**	**15 22 38.4**	**-5.5**
PB05				IAML			15 22 44.2	
	comp=E,79nm,0.3s								

*NEIC **06** 15:22:26.2±1.3,35°.908N±0°.010×117°.72W±0°.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.1km az=352.0*

PAS 06 15:22:26.7±1.1,35°.902N±0°.010×117°.74W±0°.02, h2km±4km, ML3.5/21, ML3.1/88(NEIC), Error ellipse: s-maj=2.0km s-min=1.5km az=113.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.08**	**306**		Pg	15 22 28.6	+0.2
TOW	**Tower One**	**0.10**	**194**		Pg	15 22 29.2	+0.6
WNMM	**Nine Mile Cany**	**0.15**	**247**		Pg	15 22 29.9	+0.3
WRVM	**Rose V. Centra**	**0.16**	**310**		Pg	15 22 30.0	+0.1
MFS	**McCloud Flat S**	**0.24**	**336**		Pg	15 22 31.4	+0.2
MFS					Sg	15 22 35.0	+0.6
MPMC	**Manual Prospec**	**0.25**	**52**		Sg	15 22 35.5	+0.5
LRMC	**Laurel Mtn Rad**	**0.42**	**174**		Pg	15 22 34.8	0.0
LRMC					Sg	15 22 41.1	+0.8
LRMC	**Laurel Mtn Rad**	**0.42**	**174**	IAML		15 22 41.3	
	comp=E,5µm,0.4s						
LRMC				IAML		15 22 42.7	
	comp=N,3µm,0.2s						
WORM	**Onyx Ranch**	**0.46**	**244**		Pg	15 22 35.4	-0.1
CCCA	**Chr Cany lake**	**0.48**	**141**		Pg	15 22 36.4	+0.5
CCCA					Sg	15 22 43.8	+1.6
WBSM	**Bird Springs**	**0.49**	**222**		Pg	15 22 36.1	0.0
WBSM					Sg	15 22 43.3	+0.9
CWC	**Cottonwood Cre**	**0.60**	**333**		Pg	15 22 38.9	+0.6
DTP	**Desert Tortois**	**0.64**	**188**		Pg	15 22 38.7	-0.2
ISA	**Isabella, Lake**	**0.65**	**249**		Pg	15 22 38.8	-0.3
ISA				IAML		15 22 48.1	
	comp=N,2µm,0.3s						
ISA				IAML		15 22 49.2	
	comp=E,2µm,0.3s						
WASM	**Alta Sierra Ca**	**0.69**	**257**		Pg	15 22 39.7	-0.1
QSM	**Queen of Sheba**	**0.71**	**85**		Pg	15 22 39.9	-0.3
CCAC	**Calif City Air**	**0.78**	**197**		Pg	15 22 41.2	-0.4
CCAC				IAML		15 22 56.9	
	comp=E,645nm,0.4s						
CCAC				IAML		15 22 56.9	
	comp=N,690nm,0.4s						
SPG2	**Springville 2**	**0.89**	**290**		Pg	15 22 43.3	-0.4
GWY	**Greenwater Val**	**0.91**	**72**	IAML		15 23 02.2	
	comp=N,857nm,0.4s						
GWY				IAML		15 23 02.6	
	comp=E,976nm,0.4s						
GSC	**Goldstone, Bar**	**0.97**	**128**		Sg	15 22 57.7	0.0
GSC	**Goldstone, Bar**	**0.97**	**128**		Pg	15 22 44.5	-0.7
EDW2	**Edwards Air Fo**	**1.04**	**192**		Pb	15 22 47.1	-0.3
HYS	**Haystack Butte**	**1.04**	**172**		Pg	15 22 46.0	-0.7
VES	**Vestal, Richgr**	**1.10**	**267**		Pg	15 22 47.4	-0.3
SGV	**South Grapevin**	**1.22**	**28**		Pg	15 22 50.1	+0.1
WCT	**Wildcat Mounta**	**1.26**	**45**	Pg	Pg	15 22 50.2	-0.7
WCT				IAML		15 23 10.0	
	comp=N,288nm,0.7s						
WCT				IAML		15 23 10.3	
	comp=E,443nm,0.8s						
GMN	**Gold Mountain**	**1.45**	**15**		Pn	15 22 53.3	-0.8
GMN				IAML		15 23 19.4	
	comp=N,196nm,0.8s						
OSI	**Osito Audit: C**	**1.52**	**212**		Pn	15 22 54.5	-0.4
OSI				IAML		15 23 18.0	
	comp=E,394nm,0.7s						
OSI				IAML		15 23 21.5	
	comp=N,221nm,0.7s						
TUQ	**Turquoise Moun**	**1.55**	**107**		Pn	15 22 55.3	-0.1
TPNV	**Topopah Spring**	**1.59**	**48**		Pn	15 22 55.0	-0.9
TPNV				IAML		15 23 20.7	
	comp=N,313nm,0.5s						
TPNV				IAML		15 23 21.9	
	comp=N,241nm,0.6s						
MTUM	**Tungsten Hills**	**1.59**	**336**		Pn	15 22 56.5	+0.4
BCW	**Bitter Crk WRg**	**1.67**	**235**		Pb	15 22 57.7	-0.6
MZP	**Montezuma Peak**	**1.82**	**9**	Pn	Pn	15 22 59.3	0.0
SHPR	**Sheep Range**	**2.17**	**73**		Pn	15 23 03.4	-0.5
TPH	**Tonopah**	**2.21**	**11**		Pb	15 23 07.9	+0.5
EW2	**E Wide Canyon**	**2.24**	**150**		Pn	15 23 04.0	-0.8
ELS	**Elsinore Mount**	**2.26**	**173**	Pn	Pn	15 23 04.2	-0.9
ELS				IAML		15 23 40.2	
	comp=E,94nm,0.3s						
ELS				IAML		15 23 42.0	
	comp=N,72nm,0.8s						
POB	**Polly Butte**	**2.31**	**163**		Pg	15 23 10.4	-0.5
V12A	**Nelson**	**2.35**	**93**		Pn	15 23 05.3	-1.0
V12A				IAML		15 23 48.4	
	comp=E,94nm,0.5s						
V12A				IAML		15 23 48.8	
	comp=N,89nm,0.6s						
S11A	**Rachel**	**2.36**	**42**	Pn	Pn	15 23 06.3	-0.3
LHV	**Little Huntoon**	**2.42**	**346**	Pn	Pn	15 23 06.0	-1.2
LHV				IAML		15 23 56.1	
	comp=N,61nm,1.2s						
PMD	**Palm Desert**	**2.51**	**153**	Pn	Pn	15 23 07.2	-1.3
PMD				IAML		15 23 51.7	
	comp=E,124nm,0.8s						
PMD				IAML		15 23 53.1	
	comp=N,72nm,0.5s						
PFO	**Pinyon Flats O**	**2.52**	**155**		Pn	15 23 07.5	-1.2
PFO				IAML		15 23 51.7	
	comp=N,92nm,1.1s						
PFO				IAML		15 23 53.2	
	comp=N,85nm,0.7s						
NV11	**Mina Array Sit**	**2.55**	**353**		Pn	15 23 09.8	+0.6
NVAR	**Mina Array Bea**	**2.56**	**350**		Pn	15 23 09.0	-0.4
MYLM	**Yosemite Lake**	**2.62**	**305**		Pb	15 23 12.9	-1.3
PRN	**Pahroc Range**	**2.63**	**54**	Pn	Pn	15 23 10.0	-0.3
RYN	**Ryan**	**2.79**	**347**		Pg	15 23 19.5	-0.7
WAKR	**Walker**	**2.93**	**333**	Pg	Pg	15 23 21.9	-1.0
SLH	**Sleepy Hollow**	**2.97**	**155**		Pg	15 23 22.2	-1.4
R11B	**Troy Canyon, C**	**2.99**	**34**	Pg	Pb	15 23 22.3	+1.6
R11B				IAML		15 24 01.6	
	comp=N,40nm,0.6s						
R11B				IAML		15 24 01.6	
	comp=E,71nm,0.6s						
CMB	**Columbia Colle**	**3.01**	**316**	Pg	Pg	15 23 24.0	-0.3
CMB				IAML		15 24 12.1	
	comp=N,42nm,0.6s						
W13A	**Hualapai Mount**	**3.24**	**103**		Pn	15 23 17.4	-1.3
W13A				IAML		15 24 18.9	
	comp=N,39nm,0.7s						
YUH	**Yuha Desert**	**3.58**	**155**		Pg	15 23 33.6	-1.7
CCUT	**Cedar City**	**3.88**	**64**	Pn	Pn	15 23 26.9	-0.6
PSUT	**Pine Spring**	**4.06**	**49**	IAML		15 24 44.1	
	comp=N,32nm,1.2s						
PSUT				IAML		15 24 46.6	
	comp=E,31nm,1.3s						
SPR3	**Spring Creek 3**	**4.11**	**40**	IAML		15 24 36.9	
	comp=E,36nm,0.8s						
SPR3				IAML		15 24 38.1	
	comp=N,36nm,0.9s						
BEKR	**Beckworth**	**4.47**	**333**	IAML		15 24 56.0	
	comp=N,14nm,0.5s						
BEKR				IAML		15 25 07.3	
	comp=E,24nm,0.9s						
ELK	**Elko**	**5.22**	**21**		Pn	15 23 45.4	-0.5
ELK				IAML		15 25 12.8	
	comp=E,13nm,0.8s						
ELK				IAML		15 25 14.3	
	comp=E,7.2nm,0.7s						
X16A	**Lo Mia Camp, P**	**5.37**	**104**	Pn	Pn	15 23 47.8	-0.1
X16A				IAML		15 25 36.7	
	comp=N,6.3nm,1.8s						
X16A				IAML		15 25 40.7	
	comp=E,6.7nm,1.3s						

*NEIC **06** 15:23:28.1±1.3,35°.85N±0°.01×117°.67W±0°.01,h8km±8km, Error ellipse: s-maj=1.9km s-min=1.1km az=216.0*

PAS 06 15:23:28.6±1.2,35°.85N±0°.01×117°.66W±0°.01,h8km±8km, ML3.2/7,ML3.0/52(NEIC), Error ellipse: s-maj=1.7km s-min=1.5km az=198.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.16**	**310**		Pg	15 23 32.0	0.0
SRTC	**Snort**	**0.17**	**204**		Pg	15 23 32.5	+0.3
WNMM	**Nine Mile Cany**	**0.20**	**269**		Pg	15 23 33.0	+0.4
WRVM	**Rose V. Centra**	**0.24**	**311**		Pg	15 23 33.4	-0.1
MPMC	**Manual Prospec**	**0.26**	**34**		Pg	15 23 33.5	-0.3
MFS	**McCloud Flat S**	**0.31**	**330**		Pg	15 23 34.7	-0.2
LRMC	**Laurel Mtn Rad**	**0.37**	**182**	Pg	Pg	15 23 35.5	-0.3
LRMC	**Laurel Mtn Rad**	**0.37**	**182**		Sg	15 23 41.2	+0.5
CCCA	**Chr Cany lake**	**0.40**	**143**		Pg	15 23 36.6	+0.1
CCCA					Sg	15 23 42.7	+1.0
WORM	**Onyx Ranch**	**0.49**	**253**		Pg	15 23 37.7	-0.5
WBSM	**Bird Springs**	**0.49**	**232**		Pg	15 23 37.8	-0.4
WHFM	**Hanning Flat**	**0.58**	**255**		Pg	15 23 39.3	-0.5
QSM	**Queen of Sheba**	**0.66**	**79**		Pg	15 23 40.7	-0.5
CWC	**Cottonwood Cre**	**0.68**	**330**		Pg	15 23 41.7	-0.1
ISA	**Isabella, Lake**	**0.68**	**255**	Pg	Pg	15 23 41.2	-0.6
ISA				IAML		15 23 52.2	
	comp=N,766nm,0.2s						
ISA				IAML		15 23 52.2	
	comp=E,876nm,0.3s						
WASM	**Alta Sierra Ca**	**0.73**	**262**		Pg	15 23 42.2	-0.6
CCAC	**Calif City Air**	**0.75**	**203**	Pg	Pg	15 23 42.4	-0.7
CCAC				IAML		15 23 56.4	
	comp=N,451nm,0.3s						
GWY	**Greenwater Val**	**0.88**	**67**		Pg	15 23 45.1	-0.3
GWY	**Greenwater Val**	**0.88**	**67**	IAML		15 24 01.0	
	comp=N,854nm,0.4s						
GSC	**Goldstone, Bar**	**0.89**	**128**	Pg	Pg	15 23 44.6	-1.1
GSC				IAML		15 23 59.3	
	comp=N,451nm,0.5s						
GRAC	**Grapevine Rang**	**1.17**	**12**	Pg	Pg	15 23 50.1	-1.0
GRAC				IAML		15 24 07.2	
	comp=E,478nm,0.3s						
GRAC				IAML		15 24 08.3	
	comp=N,386nm,0.7s						
WCT	**Wildcat Mounta**	**1.26**	**41**		Pn	15 23 51.9	-0.7
WCT	**Wildcat Mounta**	**1.26**	**41**	IAML		15 24 13.7	
	comp=E,210nm,0.6s						
VOG	**Valley Oaks Go**	**1.47**	**289**		Pn	15 23 54.4	-1.0
TUQ	**Turquoise Moun**	**1.48**	**106**		Pn	15 23 55.3	-0.3
GMN	**Gold Mountain**	**1.49**	**13**		Pb	15 23 56.8	+0.2
DSP	**Deep Springs**	**1.54**	**351**		Pn	15 23 56.1	-0.3
DSP				IAML		15 24 18.5	
	comp=E,142nm,0.3s						
DSP				IAML		15 24 18.6	
	comp=N,115nm,0.5s						
TPNV	**Topopah Spring**	**1.58**	**46**	Pg	Pb	15 23 58.5	+0.2
TPNV				IAML		15 24 21.9	
	comp=N,309nm,0.6s						
TPNV				IAML		15 24 23.9	
	comp=N,280nm,0.5s						
MWC	**Mount Wilson**	**1.65**	**191**	Pg	Pb	15 23 59.8	+0.4
MWC				IAML		15 24 22.8	
	comp=N,161nm,0.5s						
MWC				IAML		15 24 24.8	
	comp=E,119nm,0.5s						
MTUM	**Tungsten Hills**	**1.67**	**335**		Pb	15 23 59.4	-0.3
BCW	**Bitter Crk WRg**	**1.69**	**238**	Pn	Pn	15 23 57.5	-1.0
BCW				IAML		15 24 24.0	
	comp=N,286nm,0.6s						
PASC	**Pasadena Art C**	**1.72**	**195**		Pb	15 24 00.7	+0.2
MTPC	**Mountain Pass**	**1.76**	**101**		Pn	15 23 57.6	-1.8
MZP	**Montezuma Peak**	**1.86**	**7**		Pg	15 24 03.8	-0.6
SHPR	**Sheep Range**	**2.13**	**71**	Pn	Pn	15 24 03.3	-1.3
ELS	**Elsinore Mount**	**2.20**	**175**	Pg	Pb	15 24 09.3	+0.7
ELS				IAML		15 24 40.7	
	comp=E,106nm,0.5s						
ELS				IAML		15 24 42.7	
	comp=N,66nm,0.8s						
TPH	**Tonopah**	**2.25**	**9**	Pg	Pb	15 24 10.4	+0.7
V12A	**Nelson**	**2.29**	**92**	Pn	Pn	15 24 05.1	-1.7
V12A				IAML		15 24 44.3	
	comp=E,60nm,0.6s						
V12A				IAML		15 24 46.4	
	comp=N,63nm,0.7s						
PMD	**Palm Desert**	**2.44**	**154**	Pn	Pn	15 24 08.0	-0.6
PMD				IAML		15 24 48.6	
	comp=E,76nm,0.7s						
ORV	**Oroville**	**4.79**	**322**	IAML		15 25 26.7	
	comp=N,6.7nm,3.0s						
ORV				IAML		15 26 02.9	
	comp=E,10nm,0.8s						

*NEIC **06** 15:30:49.2±2.3,35°.69N±0°.01×117°.54W±0°.02,h10km±2km, Error ellipse: s-maj=3.0km s-min=2.4km az=331.0*

PAS 06 15:30:49.9±2.3,35°.693N±0°.010×117°.55W±0°.01, h8km±8km,ML3.4/19,ML2.9/74(NEIC), Error ellipse: s-maj=1.8km s-min=0.5km az=219.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.16**	**270**		Pg	15 30 53.7	+0.4
SRTC					Sg	15 30 57.1	+1.5
TOW	**Tower One**	**0.21**	**304**		Pg	15 30 54.5	+0.3
CCCA	**Chr Cany lake**	**0.23**	**137**		Pg	15 30 54.9	+0.4
LRMC	**Laurel Mtn Rad**	**0.24**	**206**		Pg	15 30 54.7	-0.1
LRMC	**Laurel Mtn Rad**	**0.24**	**206**	IAML		15 30 58.5	
	comp=N,4µm,0.2s						
LRMC				IAML		15 30 58.6	
	comp=E,5µm,0.4s						
WNMM	**Nine Mile Cany**	**0.32**	**298**		Pg	15 30 56.2	-0.1
WVPM	**Volcano Peak E**	**0.33**	**320**		Pg	15 30 56.3	-0.3
WVPM					Sg	15 31 01.3	+0.3
MPMC	**Manual Prospec**	**0.37**	**8**		Pg	15 30 56.9	-0.3
DTP	**Desert Tortois**	**0.49**	**209**		Sg	15 31 06.2	+0.4
MFS	**McCloud Flat S**	**0.49**	**330**		Pg	15 30 59.1	-0.3
WBSM	**Bird Springs**	**0.50**	**252**		Pg	15 30 59.4	-0.4
WORM	**Onyx Ranch**	**0.56**	**270**		Pg	15 31 00.3	-0.5
QSM	**Queen of Sheba**	**0.62**	**64**		Pg	15 31 01.5	-0.5
WHFM	**Hanning Flat**	**0.65**	**270**		Pg	15 31 01.9	-0.5
CCAC	**Calif City Air**	**0.66**	**215**		Pg	15 31 02.2	-0.5
CCAC				IAML		15 31 11.8	
	comp=N,630nm,0.2s						
CCAC				IAML		15 31 12.5	
	comp=E,524nm,0.3s						
GSC	**Goldstone, Bar**	**0.72**	**122**		Pg	15 31 03.3	-0.6
GSC				IAML		15 31 15.5	
	comp=N,1µm,0.3s						
ISA	**Isabella, Lake**	**0.75**	**268**		Pg	15 31 01.9	-2.5
GWY	**Greenwater Val**	**0.87**	**55**		Pg	15 31 05.9	-0.8
CGO	**Cerro Gordo**	**0.88**	**347**		Pb	15 31 07.6	-0.1
EDW2	**Edwards Air Fo**	**0.89**	**204**		Pg	15 31 06.0	-1.0
SHOC	**Shoshone, Teco**	**1.06**	**78**		Pg	15 31 09.8	-0.4
SPG2	**Springville 2**	**1.11**	**298**		Pg	15 31 10.0	-1.2
TJR	**Tejon Ranch**	**1.18**	**236**		Pb	15 31 11.7	-0.8
ARVC	**Arvin**	**1.19**	**242**		Pg	15 31 12.7	0.0
AMDNV	**Amargosa**	**1.28**	**53**		Pn	15 31 12.3	-1.8
DSCC	**Desert Studies**	**1.31**	**114**		Pn	15 31 12.2	-2.2
GRAC	**Grapevine Rang**	**1.31**	**7**		Pn	15 31 13.6	-0.9
GRAC				IAML		15 31 38.6	
	comp=E,395nm,0.4s						
GRAC				IAML		15 31 38.9	
	comp=N,337nm,0.7s						
HEC	**Hector,Ludlow**	**1.32**	**130**		Pn	15 31 12.8	-1.9
WCT	**Wildcat Mounta**	**1.33**	**34**		Pn	15 31 13.3	-1.6
TUQ	**Turquoise Moun**	**1.35**	**100**		Pn	15 31 14.3	-0.9
OSI	**Osito Audit: C**	**1.44**	**222**		Pn	15 31 16.4	0.0
OSI				IAML		15 31 38.4	
	comp=E,148nm,0.8s						
OSI				IAML		15 31 38.6	
	comp=N,129nm,1.0s						
MWC	**Mount Wilson**	**1.52**	**196**		Pb	15 31 18.2	-0.3
MWC				IAML		15 31 40.8	
	comp=E,284nm,0.3s						
LCH	**Last Change Ra**	**1.54**	**357**		Pn	15 31 16.8	-1.0
PASC	**Pasadena Art C**	**1.60**	**199**		Pn	15 31 17.5	-1.0
PASC				IAML		15 31 44.3	
	comp=E,156nm,0.7s						
PASC				IAML		15 31 47.9	
	comp=N,132nm,0.4s						
GMN	**Gold Mountain**	**1.62**	**8**		Pn	15 31 18.0	-1.1
GMN				IAML		15 31 43.0	
	comp=N,107nm,0.5s						
TPNV	**Topopah Spring**	**1.64**	**40**		Pg	15 31 20.9	-0.4
TPNV				IAML		15 31 44.0	
	comp=N,122nm,0.7s						
TPNV				IAML		15 31 46.8	
	comp=N,134nm,0.4s						
BCW	**Bitter Crk WRg**	**1.70**	**244**	Pn	Pn	15 31 18.2	-1.7
BCW				IAML		15 31 46.7	
	comp=N,220nm,0.6s						
BCW				IAML		15 31 48.4	
	comp=E,186nm,0.8s						
DSP	**Deep Springs**	**1.71**	**349**	Pn	Pn	15 31 19.1	-0.8
DSP				IAML		15 31 47.3	
	comp=E,81nm,0.9s						
BLAC	**Blackrock camp**	**1.88**	**149**		Pn	15 31 21.3	-1.2
MZP	**Montezuma Peak**	**2.01**	**4**		Pg	15 31 27.7	-0.8
ELS	**Elsinore Mount**	**2.04**	**177**		Pn	15 31 23.9	-0.8
ELS				IAML		15 31 56.2	
	comp=E,171nm,0.2s						
ELS				IAML		15 31 57.7	
	comp=N,99nm,0.4s						
SHPR	**Sheep Range**	**2.10**	**67**	Pn	Pn	15 31 24.0	-1.5
SHPR				IAML		15 31 57.6	
	comp=N,56nm,0.7s						
V12A	**Nelson**	**2.20**	**88**	Pn	Pn	15 31 25.4	-1.5
V12A				IAML		15 32 00.0	
	comp=N,103nm,0.4s						
V12A				IAML		15 32 06.2	
	comp=E,83nm,0.5s						
PMD	**Palm Desert**	**2.26**	**154**	Pn	Pn	15 31 26.0	-1.6
PMD				IAML		15 32 05.2	
	comp=E,72nm,0.5s						
PFO	**Pinyon Flats O**	**2.26**	**156**	Pn	Pn	15 31 26.3	-1.4
TPH	**Tonopah**	**2.39**	**6**		Pg	15 31 34.7	-1.1
GORC	**Green Oak Ranc**	**2.55**	**174**		Pb	15 31 35.3	-0.6
BORC	**Borrego Spring**	**2.59**	**158**		Pn	15 31 32.4	+0.2
PRN	**Pahroc Range**	**2.64**	**49**		Pg	15 31 40.6	0.0
PRN				IAML		15 32 19.1	
	comp=N,61nm,0.8s						
PRN				IAML		15 32 25.9	
	comp=E,60nm,0.8s						
LHV	**Little Huntoon**	**2.66**	**344**		Pg	15 31 41.9	+0.9
LHV				IAML		15 32 21.0	
	comp=E,40nm,1.5s						
NV11	**Mina Array Sit**	**2.78**	**350**	Pn	Pn	15 31 33.5	-1.4
NVAR	**Mina Array Bea**	**2.80**	**348**	Pn	Pn	15 31 34.6	-0.5
W13A	**Hualapai Mount**	**3.06**	**100**	Pn	Pn	15 31 37.2	-1.5
W13A				IAML		15 32 29.3	
	comp=E,35nm,0.7s						
W13A				IAML		15 32 29.7	
	comp=N,36nm,1.2s						
BLYC	**Blythe**	**3.16**	**127**		Pn	15 31 37.5	-2.5
BLYC				IAML		15 32 34.9	
	comp=E,24nm,0.6s						
GLA	**Glamis**	**3.47**	**139**	Pn	Pn	15 31 41.8	-2.4
GLA				IAML		15 32 45.8	
	comp=N,40nm,0.6s						
LCMT	**Little Creek M**	**3.72**	**68**	Pn	Pn	15 31 48.1	+0.4
CCUT	**Cedar City**	**3.85**	**60**		Pg	15 32 02.3	-1.4
CCUT				IAML		15 32 53.9	
	comp=N,13nm,1.4s						
PSUT	**Pine Spring**	**4.10**	**45**	Pn	Pn	15 31 52.0	-1.1
PSUT				IAML		15 33 11.6	
	comp=E,11nm,0.9s						
PSUT				IAML		15 33 13.6	
	comp=N,11nm,1.0s						
Y14A	**Wickenburg**	**4.13**	**114**	Pn	Pn	15 31 52.6	-0.8
Y14A				IAML		15 33 03.1	
	comp=E,20nm,0.6s						
Y14A				IAML		15 33 13.2	
	comp=N,23nm,0.7s						

*NEIC **06** 15:32:43.3±1.4,35°.879N±0°.008×117°.70W±0°.03, h5km±1km, Error ellipse: s-maj=4.2km s-min=2.9km az=285.0*

PAS 06 15:32:43.8±1.3,35°.88N±0°.02×117°.71W±0°.01,h4km±5km, ML3.2/24,ML2.9/62(NEIC), Error ellipse: s-maj=2.4km s-min=1.7km az=169.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**212**		Pg	15 32 46.1	+0.6
WVPM	**Volcano Peak E**	**0.11**	**308**		Pg	15 32 46.4	+0.2
WNMM	**Nine Mile Cany**	**0.16**	**257**		Pg	15 32 47.2	+0.2
WNMM					Sg	15 32 49.9	+0.7
SRTC	**Snort**	**0.19**	**190**		Pg	15 32 48.0	+0.5
SRTC					Sg	15 32 52.0	+1.9
WRVM	**Rose V. Centra**	**0.20**	**311**

comp=N,105nm,0.7s
DSP Deep Springs 1.50 352 Pn 15 33 11.6 +0.1
DSP IAML 15 33 33.5
comp=E,106nm,0.7s
TUQ Turquoise Moun 1.52 106 Pn 15 33 10.6 -1.3
CHFC Chilao Flat St 1.56 190 Pb 15 33 13.3 -0.1
TPNV Topopah Spring 1.59 47 Pn 15 33 12.2 -0.7
TPNV IAML 15 33 37.7
comp=E,150nm,0.4s
TPNV IAML 15 33 40.2
comp=E,136nm,0.7s
MWC Mount Wilson 1.68 190 Pn 15 33 12.3 -1.8
MWC IAML 15 33 38.8
comp=E,165nm,0.6s
MWC IAML 15 33 43.3
comp=N,139nm,0.7s
BCW Bitter Crk WRg 1.68 237 Pn 15 33 13.4 -0.6
SIL Silver Peak 1.69 154 Pb 15 33 15.7 +0.2
PASC Pasadena Art C 1.75 193 Pn Pn 15 33 13.3 -1.6
MZP Montezuma Peak 1.84 8 Pg 15 33 19.5 +0.5
SHPR Sheep Range 2.15 72 Pn Pn 15 33 20.5 -0.1
TPH Tonopah 2.23 10 Pg 15 33 26.1 -0.4
ELS Elsinore Mount 2.24 174 Pn Pn 15 33 21.5 -0.2
ELS IAML 15 33 56.5
comp=E,44nm,0.5s
V12A Nelson 2.33 93 Pg 15 33 29.4 +1.0
V12A IAML 15 33 59.4
comp=N,77nm,0.8s
V12A IAML 15 34 04.3
comp=E,48nm,0.6s
S11A Rachel 2.36 41 Pg 15 33 29.1 0.0
S11A IAML 15 34 08.0
comp=N,80nm,1.1s
LHV Little Huntoon 2.45 345 Pg Pg 15 33 29.9 -0.9
LHV IAML 15 34 08.2
comp=N,35nm,1.4s
LHV IAML 15 34 09.7
comp=E,35nm,1.7s
PMD Palm Desert 2.48 153 Pn Pn 15 33 23.7 -1.3
PMD IAML 15 34 07.8
comp=E,43nm,1.2s
PFO Pinyon Flats O 2.49 155 Pn Pn 15 33 23.9 -1.3
PFO IAML 15 34 07.7
comp=E,46nm,1.1s
PFO IAML 15 34 08.9
comp=E,38nm,0.9s
PMPB Monarch Peak 2.53 279 Pb 15 33 30.6 +0.8
NV11 Mina Array Sit 2.57 352 Pg 15 33 33.5 +0.4
NVAR Mina Array Bea 2.59 350 Pg 15 33 33.7 +0.3
PRN Pahroc Range 2.62 54 Pn Pn 15 33 26.9 -0.1
PRN IAML 15 34 15.0
comp=E,49nm,0.9s
PRN IAML 15 34 16.2
comp=N,55nm,0.6s
RYN Ryan 2.82 347 Pg 15 33 38.9 +1.1
Q09A Carvers 2.98 8 Pn Pn 15 33 30.4 -1.6
R11B Troy Canyon, C 2.99 34 Pn Pn 15 33 30.7 -1.4
CMB Columbia Colle 3.04 316 Pg Pg 15 33 40.7 -1.3
CMB IAML 15 34 19.9
comp=N,24nm,0.4s
CMB IAML 15 34 31.5
comp=E,19nm,0.6s
W13A Hualapai Mount 3.21 103 Pn Pn 15 33 34.2 -1.1

STR 06 15:33:51.8±0.9, 45°N±5°×±°, h16km, MLv0.9/7, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRN	**Grenoble**	**0.07**	**25**	Pg	Pg	15 33 54.6	-0.4
GRN				Sg	Sg	15 33 57.1	0.0
ORIF	**Oris-en-Rattie**	**0.29**	**154**	Pg	Pg	15 33 57.8	-0.2
ORIF				Sg	Sg	15 34 02.1	-0.1
SSB	**Saint Sauveur**	**0.83**	**278**	Pg	Pg	15 34 08.0	+0.2
OG35	**Corcelles**	**0.87**	**354**	Pg	Pg	15 34 08.8	+0.1

*SKO **06** 15:37:07.3, 43°.19N×20°.68E, h0km, ML2.9*
*BEO **06** 15:37:10.5±0.2, 42°.95N×20°.73E, h0km, ML2.7/17*
*RHSSO **06** 15:37:11.0±0.6, 43°.00N×20°.62E, h4km±2km, ML2.7/10*
*PDG **06** 15:37:12.0±0.1, 42°.94N×20°.48E, h13km, ML2.6/12, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*

ISC 06 15:37:09.5±1.0, 42°.96N±0°.02×20°.68E±0°.01, h7km±9km, n97, σ1s01/164, 24C-21D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SELS	**Selova**	**0.41**	**51**	*e*Pg	**Pg**	**15 37 17.4**	**-0.2**
SELS				*e*Sg	**Sg**	**15 37 23.0**	**0.0**
IVA	**Berane**	**0.59**	**262**	⇓*i*Pg	**Pg**	**15 37 20.7**	**-0.2**
IVA				*i* Sg	**Sg**	**15 37 28.0**	**-0.5**
SJES	**Sjenica**	**0.60**	**300**	⇑*i*Pg	**Pg**	**15 37 21.3**	**+0.1**
SJES				*e*Sg	**Sg**	**15 37 29.4**	**+0.4**
SJES	**Sjenica**	**0.60**	**300**	*e*Pg	**Pg**	**15 37 21.2**	**+0.1**
SJES				*e*Sg	**Sb**	**15 37 30.1**	**-1.0**
GOCS	**Kraljevo Serbi**	**0.62**	**13**	*e*Pg	**Pg**	**15 37 21.4**	**-0.1**
GOCS				*e*Sg	**Sg**	**15 37 30.0**	**+0.4**
IVAS	**Ivanjica**	**0.73**	**328**	*e*Pg	**Pg**	**15 37 23.1**	**-0.4**
IVAS				*e*Sg	**Sb**	**15 37 34.1**	**-0.6**
BARS	**Barje**	**0.84**	**99**	⇑*i*Pg	**Pg**	**15 37 24.8**	**-0.9**
BARS				*i* Sg	**Sb**	**15 37 38.2**	**+0.1**
BARS	**Barje**	**0.84**	**99**	*e*Pg	**Pg**	**15 37 25.0**	**-0.8**
BARS				*e*Sg	**Sg**	**15 37 37.2**	**+0.4**
KOME	**Kolasin**	**0.86**	**263**	⇓*i*Pg	**Pg**	**15 37 25.5**	**-0.6**
KOME				*i* Sg	**Sg**	**15 37 37.2**	**-0.2**
GRUS	**Gruza**	**0.93**	**1**	*e*Pg	**Pb**	**15 37 27.9**	**0.0**
GRUS				*e*Sg	**Sb**	**15 37 41.6**	**+1.2**
BOVS	**Bovan**	**1.01**	**48**	⇑P	**Pb**	**15 37 29.5**	**+0.2**
BOVS				⇓S	**Sg**	**15 37 42.2**	**+0.2**
BOVS	**Bovan**	**1.01**	**48**	*e*Pg	**Pb**	**15 37 29.2**	**-0.1**
BOVS				*e*Sg	**Sg**	**15 37 42.5**	**+0.6**
PLE	**Pljevlja**	**1.02**	**292**	⇑*i*Pg	**Pb**	**15 37 29.0**	**0.0**
PLE				*e*Sg	**Sb**	**15 37 43.4**	**+0.3**
SKO	**Skopje**	**1.14**	**150**	*e*Pg	**Pg**	**15 37 29.6**	**-1.7**
SKO				*e*Sg	**Sb**	**15 37 46.6**	**+0.2**
RUDO	**Rudo**	**1.16**	**305**	*e*Pg	**Pg**	**15 37 30.3**	**-1.5**
RUDO				*e*Sg	**Sg**	**15 37 45.9**	**-1.0**
PDG	**Podgorica**	**1.18**	**244**	*e*Pg	**Pg**	**15 37 31.4**	**-0.7**
PDG				*e*Sg	**Sn**	**15 37 47.8**	**-0.8**
PDG	**Podgorica**	**1.18**	**244**	*e*Pg	**Pg**	**15 37 31.4**	**-0.7**
PDG				*e*Sg	**Sn**	**15 37 49.5**	**+0.9**
PDG	**Podgorica**	**1.18**	**244**	*e*Pg	**Pg**	**15 37 31.6**	**-0.5**
PDG				*i* Sg	**Sn**	**15 37 48.5**	**-0.1**
DIVS	**Divibare**	**1.24**	**336**	*e*Pg	**Pb**	**15 37 33.4**	**0.0**
DIVS				*e*Sg	**Sn**	**15 37 51.6**	**+1.2**
TRUS	**Trudelj**	**1.28**	**351**	*e*Pg	**Pn**	**15 37 33.7**	**-0.1**
NKME	**Niksic**	**1.29**	**262**	⇓*i*Pg	**Pn**	**15 37 33.6**	**-0.3**
NKME				*i* Sg	**Sn**	**15 37 51.8**	**+0.4**
BBLS	**Lazi&#263i**	**1.30**	**315**	⇑*i*Pg	**Pn**	**15 37 33.4**	**-0.7**
BBLS				*e*Sg	**Sb**	**15 37 50.6**	**-0.6**
BBLS	**Lazi&#263i**	**1.30**	**315**	*e*Pg	**Pn**	**15 37 33.6**	**-0.5**
UPM	**Unac-Piva**	**1.32**	**281**	⇑*i*Pg	**Pn**	**15 37 34.2**	**-0.4**
UPM				*e*Sg	**Sb**	**15 37 50.8**	**-1.2**
UPM	**Unac-Piva**	**1.32**	**281**	⇑*i*Pg	**Pn**	**15 37 34.2**	**-0.4**
DRME	**Dracevica, Mon**	**1.35**	**236**	*e*Pg	**Pn**	**15 37 34.2**	**-0.5**
DRME				*e*Sg	**Sn**	**15 37 52.9**	**0.0**
DRME	**Dracevica, Mon**	**1.35**	**236**	⇓*i*Pg	**Pb**	**15 37 34.8**	**-0.3**
DRME				*i* Sg	**Sn**	**15 37 54.4**	**+1.5**
SVIS	**Svilajnac**	**1.36**	**16**	*e*Pg	**Pn**	**15 37 34.9**	**0.0**
SVIS				*e*Sg	**Sg**	**15 37 54.3**	**+1.0**
CEME	**Cevo**	**1.36**	**253**	⇓*i*Pg	**Pn**	**15 37 34.4**	**-0.6**
CEME				*i* Sg	**Sn**	**15 37 54.5**	**+1.2**
BOSS	**Bosilegrad**	**1.40**	**109**	*e*Pg	**Pn**	**15 37 34.4**	**-1.1**
BOSS				*e*Sg	**Sb**	**15 37 52.9**	**-1.2**
ZAGS	**Zajecar**	**1.42**	**52**	*e*Pg	**Pn**	**15 37 35.7**	**+0.1**
ULC	**Ulcinj**	**1.46**	**227**	⇓*i*Pg	**Pg**	**15 37 37.1**	**-0.4**
ULC				*e*Sg	**Sg**	**15 37 58.7**	**+2.3**
ZAPS	**Zavoj**	**1.46**	**77**	*e*Pg	**Pn**	**15 37 36.2**	**-0.1**
ZAPS				*e*Sg	**Sg**	**15 37 56.6**	**0.0**
BUM	**Brajici-Budva**	**1.48**	**244**	⇑*i*Pg	**Pg**	**15 37 37.3**	**-0.5**
BUM				*i* Sg	**Sg**	**15 37 58.7**	**+1.8**
BORS2	**Bor- Borsko je**	**1.49**	**40**	*e*Pg	**Pn**	**15 37 35.2**	**-1.5**
BRY	**Bratogost**	**1.57**	**269**	*e*Pn	**Pb**	**15 37 38.4**	**-0.6**
BRY				*e*Sn	**Sg**	**15 37 59.6**	**-0.6**
BRY	**Bratogost**	**1.57**	**269**	⇑*i*Pg	**Pg**	**15 37 39.4**	**-0.3**
BRY				*e*Sg	**Sg**	**15 38 01.0**	**+0.8**
BLKB	**Belogradchik**	**1.60**	**65**	⇑S	**Sn**	**15 37 59.6**	**+0.5**
BLKB	**Belogradchik**	**1.60**	**65**	*e*Pg	**Pn**	**15 37 38.8**	**+0.6**
BLKB				*e*Sg	**Sb**	**15 38 00.0**	**+0.2**
KUBS	**Kucevo**	**1.62**	**26**	*e*Pn	**Pb**	**15 37 39.4**	**-0.3**
HCY	**Herceg Novi**	**1.69**	**253**	*e*Pn	**Pg**	**15 37 41.2**	**-0.8**
HCY				*e*Sn	**Sb**	**15 38 02.7**	**+0.3**
HCY	**Herceg Novi**	**1.69**	**253**	*e*Pg	**Pb**	**15 37 41.1**	**+0.2**
HCY				*e*Sg	**Sg**	**15 38 03.6**	**-0.3**
TIR	**Tirane**	**1.72**	**201**	⇓S	**Sg**	**15 38 09.6**	**+4.7**
TIR	**Tirane**	**1.72**	**201**	*e*Pn	**Pb**	**15 37 40.5**	**-0.9**
TREB	**Trebinje**	**1.73**	**263**	*e*Pn	**Pb**	**15 37 41.6**	**0.0**
TREB				*e*Sn	**Sg**	**15 38 04.3**	**-0.9**
AVAS	**Avala Beograd**	**1.74**	**356**	*e*Pn	**Pb**	**15 37 41.2**	**-0.6**
AVAS				*e*Sg	**Sg**	**15 38 06.8**	**+1.4**
TEKS	**Tekeris**	**1.79**	**333**	*e*Pn	**Pb**	**15 37 42.5**	**-0.2**
TEKS				*e*Sn	**Sb**	**15 38 05.0**	**-0.4**
TEKS	**Tekeris**	**1.79**	**333**	*e*Pn	**Pg**	**15 37 43.7**	**-0.2**
TEKS				*e*Sn	**Sg**	**15 38 07.6**	**+0.4**
OHR	**Ohrid**	**1.85**	**177**	*e*Pn	**Pg**	**15 37 44.3**	**-0.7**
OHR				*e*Sn	**Sg**	**15 38 11.5**	**+2.6**
OHR				*e*Lg	Lg	15 38 13.4	
	comp=N,98nm,0.8s						
OHR				*e*Lg	Lg	15 38 17.4	
	comp=E,87nm,0.7s						
VTS	**Vitosha**	**1.91**	**99**	*e*Pn	**Pn**	**15 37 42.1**	**-0.5**
VTS				*e*Sn	**Sb**	**15 38 02.2**	**-0.6**
MDVR	**Moldovita**	**1.97**	**22**	⇓P	**Pn**	**15 37 43.3**	**0.0**
MDVR				⇓S	**Sn**	**15 38 07.5**	**-0.7**
MDVR	**Moldovita**	**1.97**	**22**	*e*Pn	**Pn**	**15 37 43.2**	**-0.1**
MDVR				*e*Sn	**Sb**	**15 38 10.9**	**+0.5**
PUNG	**Punghina**	**2.10**	**50**	⇓S	**Sn**	**15 38 11.7**	**+0.3**
KKB	**Krupnik**	**2.13**	**121**	*e*Pn	**Pn**	**15 37 45.1**	**-0.4**
KKB				*e*Sn	**Sn**	**15 38 12.6**	**+0.5**
STON	**Ston**	**2.19**	**269**	⇑*i*Pn	**Pb**	**15 37 48.3**	**-1.1**
STON				*e*Sn	**Sn**	**15 38 14.7**	**+1.1**
STON	**Ston**	**2.19**	**269**	*e*Pn	**Pb**	**15 37 48.6**	**-0.8**
STON				*e*Sn	**Sg**	**15 38 18.3**	**-1.6**
VRSS	**Vrsac**	**2.21**	**12**	*e*Pn	**Pn**	**15 37 47.6**	**+1.0**
FNA	**Florina**	**2.24**	**166**	*e*Pn	**Pb**	**15 37 49.5**	**-0.8**
FNA				*e*Sn	**Sg**	**15 38 21.8**	**+0.4**
FNA	**Florina**	**2.24**	**166**	*e*Pn	**Pb**	**15 37 49.5**	**-0.8**
RMGR	**Halanga-Turnu**	**2.24**	**40**	⇑S	**Sn**	**15 38 14.4**	**-0.4**
FRGS	**Fruska Gora**	**2.29**	**344**	*e*Pn	**Pn**	**15 37 48.5**	**+0.9**
FRGS				*e*Sn	**Sn**	**15 38 16.3**	**+0.3**
FRGS	**Fruska Gora**	**2.29**	**344**	*e*Pn	**Pb**	**15 37 50.6**	**-0.5**
HERR	**Herculane**	**2.29**	**33**	⇓P	**Pn**	**15 37 48.1**	**+0.4**
HERR				⇓S	**Sn**	**15 38 15.7**	**-0.5**
KNT	**Kendrikon**	**2.44**	**137**	*e*Pn	**Pn**	**15 37 49.6**	**-0.2**
SRE	**Strehaia**	**2.50**	**46**	⇓P	**Pn**	**15 37 52.0**	**+1.5**
SRE				⇓S	**Sn**	**15 38 20.6**	**-0.6**
MMB	**Musomishta**	**2.68**	**121**	*e*Pn	**Pn**	**15 37 51.8**	**-1.3**
BZS	**Buzias**	**2.74**	**14**	⇑P	**Pn**	**15 37 54.1**	**+0.3**
BZS				⇓S	**Sn**	**15 38 26.6**	**-0.6**
BZS	**Buzias**	**2.74**	**14**	*e*Pn	**Pn**	**15 37 54.9**	**+1.1**
SRS	**Serrai**	**2.84**	**129**	*e*Pn	**Pn**	**15 37 55.2**	**-0.1**
GZR	**Gura Zlata**	**2.86**	**31**	⇑P	**Pn**	**15 37 56.6**	**+1.0**
GZR				⇓S	**Sn**	**15 38 29.8**	**-0.4**
SURR	**Surduc**	**2.98**	**20**	⇑P	**Pn**	**15 37 57.0**	**-0.1**
SURR				⇑S	**Sn**	**15 38 31.3**	**-1.8**
BLY	**Banja Luka**	**3.10**	**306**	*e*Pn	**Pn**	**15 37 59.7**	**+0.9**
BLY				*e*Sn	**Sn**	**15 38 35.9**	**-0.1**
LOT	**Lotru**	**3.33**	**41**	⇑S	**Sn**	**15 38 42.5**	**+0.5**
A050A	**Klekovaca**	**3.37**	**298**	*e*Pn	**Pn**	**15 38 03.3**	**+0.7**
A050A				*e*Sn	**Sn**	**15 38 43.0**	**+0.1**
SIRR	**Siria**	**3.38**	**12**	⇓P	**Pn**	**15 38 03.6**	**+0.9**
SIRR				⇑S	**Sn**	**15 38 41.4**	**-1.5**
A051A	**Mrakovica**	**3.41**	**308**	*e*Pn	**Pn**	**15 38 04.0**	**+0.9**
A051A				*e*Sn	**Sn**	**15 38 43.5**	**-0.3**
MORH	**Mrgy, Hungar**	**3.56**	**337**	⇓P	**Pn**	**15 38 05.6**	**+0.4**
VOIR		**4.00**	**50**	⇑P	**Pn**	**15 38 11.6**	**+0.4**
VOIR				⇑S	**Sn**	**15 38 58.7**	**+0.3**
DRGR		**4.09**	**20**	⇑P	**Pn**	**15 38 13.4**	**+0.9**
DRGR				⇑S	**Sn**	**15 38 58.5**	**-2.2**
MARR	**Marisel-Cluj**	**4.10**	**24**	⇓P	**Pn**	**15 38 13.6**	**+1.0**
MARR				⇑S	**Sn**	**15 39 00.3**	**-0.6**
PSZ	**Piszkesteto**	**4.99**	**354**	⇓P	**Pn**	**15 38 25.6**	**+0.8**
PSZ				⇑S	**Sn**	**15 39 21.9**	**-0.9**
SOKA	**Soboth**	**5.47**	**315**	*i* Pn	**Pn**	**15 38 33.3**	**+1.9**
	comp=E,1.4nm,0.5s						
SOKA				*i* Sn	**Sn**	**15 39 34.1**	**-0.5**
	comp=E,0.8nm,0.4s						
OBKA	**Obir**	**5.63**	**311**	*e*Pn	**Pn**	**15 38 34.4**	**+0.8**
OBKA	**Obir**	**5.63**	**311**	*i* Pn	**Pn**	**15 38 35.5**	**+1.9**
	comp=E,2.2nm,0.5s						
OBKA				*e*Sn	**Sn**	**15 39 39.7**	**+1.2**
	comp=E,1.0nm,0.4s						
ARSA	**Arzberg**	**5.63**	**321**	*e*Pn	**Pn**	**15 38 34.6**	**+1.0**
	comp=E,2.1nm,0.3s						
ARSA				*i* Sn	**Sn**	**15 39 36.6**	**-2.0**
	comp=E,1.4nm,0.4s						
RONA	**Rosalia, Austr**	**5.66**	**328**	*e*Pn	**Pn**	**15 38 34.4**	**+0.5**
	comp=E,0.3nm,0.2s						
RONA				*e*Sn	**Sn**	**15 39 38.4**	**-0.8**
	comp=E,0.4nm,0.2s						
VYHS	**Vyhne**	**5.68**	**348**	*e*PN	**Pn**	**15 38 37.1**	**+2.8**
CONA	**Conrad Observa**	**6.01**	**327**	*i* Pn	**Pn**	**15 38 39.8**	**+0.9**
	comp=E,0.5nm,0.3s						
CONA				*e*Sn	**Sn**	**15 39 48.3**	**+0.3**
	comp=E,1.2nm,0.4s						
MYKA	**Terra Mystica**	**6.21**	**309**	*e*Pn	**Pn**	**15 38 42.0**	**+0.4**
	comp=E,0.6nm,0.3s						
KBA	**Koelnbreinsper**	**6.63**	**311**	*e*Pn	**Pn**	**15 38 48.8**	**+1.4**
	comp=E,0.9nm,0.2s						
MOA	**Molln**	**6.65**	**319**	*e*Pn	**Pn**	**15 38 49.3**	**+1.6**
	comp=E,0.4nm,0.2s						
BIOA	**Bad Ischl, Aus**	**6.86**	**316**	*e*Pn	**Pn**	**15 38 52.0**	**+1.6**
	comp=E,1.7nm,0.3s						
ABTA	**Abfaltersbach**	**6.93**	**306**	*i* Pn	**Pn**	**15 38 52.6**	**+1.1**
	comp=E,1.6nm,0.5s						
MORC	**Moravsky Berou**	**7.16**	**343**	*e*PG	**Pn**	**15 38 58.1**	**+3.6**
MORC				*e*SG		15 39 07.4	
LESA	**Schwarzleotal**	**7.20**	**311**	*i* Pn	**Pn**	**15 38 56.4**	**+1.1**
	comp=E,0.6nm,0.2s						
LESA				*e*Sn	**Sn**	**15 40 16.8**	**-0.5**
	comp=E,1.5nm,0.6s						
WTTA	**Wattenberg**	**7.71**	**307**	*i* Pn	**Pn**	**15 39 03.4**	**+1.2**
	comp=E,1.4nm,0.5s						
MOTA	**Moosalm**	**8.06**	**306**	*i* Pn	**Pn**	**15 39 08.7**	**+1.6**
	comp=E,1.3nm,0.4s						

*NEIC **06** 15:45:10.8±1.1, 36°.11N±0°.02×117°.87W±0°.02, h5km±1km, Error ellipse: s-maj=3.2km s-min=2.9km az=213.0*

PAS 06 15:45:10.9±1.6, 36°.11N±0°.01×117°.88W±0°.02, h7km±4km, ML3.1/49, ML3.0/48(NEIC), Error ellipse: s-maj=2.5km s-min=1.9km az=79.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MFS	**McCloud Flat S**	**0.02**	**73**		Pg	15 45 12.4	-0.1
MFS					Sg	15 45 13.5	0.0
WRVM	**Rose V. Centra**	**0.10**	**183**		Pg	15 45 13.4	+0.1
WRVM					Sg	15 45 15.3	+0.3
WVPM	**Volcano Peak E**	**0.17**	**161**		Pg	15 45 14.4	0.0
WVPM					Sg	15 45 17.1	+0.2
WNMM	**Nine Mile Cany**	**0.27**	**184**		Pg	15 45 16.1	0.0
TOW	**Tower One**	**0.32**	**162**		Sg	15 45 22.2	+0.9
MPMC	**Manual Prospec**	**0.32**	**99**		Pg	15 45 17.2	-0.1
MPMC					Sg	15 45 21.9	+0.3
CGO	**Cerro Gordo**	**0.44**	**8**		Pg	15 45 19.4	-0.3
LRMC	**Laurel Mtn Rad**	**0.65**	**165**	Pg	Pg	15 45 23.1	-0.3
ISA	**Isabella, Lake**	**0.66**	**227**		Pg	15 45 23.5	0.0
ISA				IAML		15 45 32.7	
	comp=E,450nm,0.4s						
ISA				IAML		15 45 32.7	
	comp=N,569nm,0.3s						
QSM	**Queen of Sheba**	**0.83**	**100**		Pg	15 45 27.2	+0.2
CCAC	**Calif City Air**	**0.96**	**187**		Pg	15 45 28.9	-0.5
CCAC				IAML		15 45 45.9	
	comp=N,397nm,0.5s						
CCAC				IAML		15 45 45.9	
	comp=E,407nm,0.5s						
GRAC	**Grapevine Rang**	**0.98**	**25**		Pg	15 45 29.3	-0.4
GRAC				IAML		15 45 46.0	
	comp=E,263nm,0.4s						
GWY	**Greenwater Val**	**0.99**	**85**		Pg	15 45 29.5	-0.3
GWY				IAML		15 46 06.2	
	comp=E,314nm,0.4s						
GWY				IAML		15 46 06.6	
	comp=N,476nm,0.4s						
SGV	**South Grapevin**	**1.11**	**38**		Pb	15 45 32.5	0.0
WCT	**Wildcat Mounta**	**1.22**	**56**		Pg	15 45 33.3	-1.0
DSP	**Deep Springs**	**1.26**	**357**		Pn	15 45 34.0	-0.9
HYS	**Haystack Butte**	**1.27**	**168**		Pg	15 45 35.3	0.0
BHPR	**Bishop**	**1.28**	**338**		Pn	15 45 34.9	-0.5
GMN	**Gold Mountain**	**1.29**	**23**		Pn	15 45 34.8	-0.8
GMN				IAML		15 46 12.9	
	comp=N,335nm,0.6s						
GMN				IAML		15 46 14.0	
	comp=E,160nm,0.6s						
MTUM	**Tungsten Hills**	**1.36**	**336**		Pn	15 45 36.1	-0.3
TPNV	**Topopah Spring**	**1.56**	**57**		Pn	15 45 38.6	-0.6
TPNV				IAML		15 46 36.4	
	comp=E,382nm,0.6s						
LRRC	**Littlerock Res**	**1.58**	**184**		Pg	15 45 41.1	-0.1
MZP	**Montezuma Peak**	**1.64**	**14**	Pg	Pb	15 45 41.9	+0.3
MZP				IAML		15 46 18.5	
	comp=N,102nm,0.8s						
BCW	**Bitter Crk WRg**	**1.71**	**227**		Pb	15 45 42.0	-0.7
PASC	**Pasadena Art C**	**1.95**	**187**	Pn	Pn	15 45 44.4	0.0
PASC				IAML		15 46 54.2	
	comp=N,136nm,0.8s						
TPH	**Tonopah**	**2.03**	**15**		Pb	15 45 48.9	+0.6
TSCN	**Private Proper**	**2.08**	**255**		Pb	15 45 48.0	-1.0
LHV	**Little Huntoon**	**2.19**	**347**		Pg	15 45 52.3	-0.7
LHV				IAML		15 47 06.5	
	comp=N,178nm,1.3s						
SHPR	**Sheep Range**	**2.23**	**79**		Pn	15 45 47.8	-0.7
SHPR				IAML		15 46 59.6	
	comp=N,55nm,1.0s						
SHPR				IAML		15 47 03.0	
	comp=E,54nm,0.6s						
PMPB	**Monarch Peak**	**2.36**	**273**		Pn	15 45 49.9	-0.3
ELS	**Elsinore Mount**	**2.48**	**171**	Pn	Pn	15 45 50.4	-1.4
ELS				IAML		15 47 10.6	
	comp=N,63nm,0.7s						
ELS				IAML		15 47 11.7	
	comp=E,94nm,1.5s						
V12A	**Nelson**	**2.49**	**98**	Pg	Pg	15 45 58.5	-0.1
RYN	**Ryan**	**2.56**	**349**	Pg	Pg	15 45 59.1	-0.9
RYN				IAML		15 47 18.1	
	comp=N,51nm,0.6s						
WAKR	**Walker**	**2.69**	**333**	Pg	Pb	15 46 00.8	+1.3
WAKR					Sg	15 46 36.2	-1.2
WAKR				IAML		15 47 21.6	
	comp=E,74nm,1.4s						
WAKR				IAML		15 47 29.5	
	comp=N,85nm,0.8s						
Q09A	**Carvers**	**2.78**	**11**	Pg	Pg	15 46 02.9	-1.2

*NEIC **06** 15:45:45.9±1.6, 36°.09N±0°.01×117°.82W±0°.01, h5km±1km, Error ellipse: s-maj=2.3km s-min=2.1km az=69.0*
*IDC **06** 15:45:47.0±2.3, 36°.14N×117°.76W, h0km, mb3.1/1, mbtmp3.1/3, ML2.9/2, MS2.7/2, Error ellipse: s-maj=46.6km s-min=12.7km az=63.0*
*PAS **06** 15:45:46.0±1.2, 36°.10N±0°.01×117°.83W±0°.01, h2km±1km, Mwr3.6/6, ML3.3/86(NEIC), Error ellipse: s-maj=1.8km s-min=1.5km az=137.0*

ISC 06 15:45:45.7±0.8, 36°.09N±0°.02×117°.81W±0°.02, h9km±6km, n77, σ1s00/78, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MFS	**McCloud Flat S**	**0.05**	**306**		**Pg**	**15 45 47.0**	**-0.7**
WRVM	**Rose V. Centra**	**0.10**	**219**		**Pg**	**15 45 48.3**	**-0.1**
WVPM	**Volcano Peak E**	**0.14**	**183**		**Pg**	**15 45 49.1**	**+0.2**
WVPM					**Sg**	**15 45 51.6**	**+0.4**
WNMM	**Nine Mile Cany**	**0.26**	**197**		**Pg**	**15 45 51.1**	**+0.2**
MPMC	**Manual Prospec**	**0.26**	**97**		**Pg**	**15 45 51.5**	**+0.4**
MPMC					**Sg**	**15 45 55.6**	**+1.0**
CGO	**Cerro Gordo**	**0.46**	**1**		**Pg**	**15 45 54.2**	**-0.2**
WORM	**Onyx Ranch**	**0.53**	**222**		**Pg**	**15 45 55.9**	**-0.1**
WHFM	**Hanning Flat**	**0.59**	**228**		Pn	15 46 05.3	+4.9
WBSM	**Bird Springs**	**0.61**	**206**		**Pg**	**15 45 57.7**	**+0.1**
WBSM					**Sg**	**15 46 06.5**	**+0.7**
LRMC	**Laurel Mtn Rad**	**0.62**	**170**		**Pg**	**15 45 58.3**	**+0.6**
LRMC					**Sb**	**15 46 06.9**	**-0.7**
LRMC	**Laurel Mtn Rad**	**0.62**	**170**	IAML		15 46 07.5	
	comp=E,2μm,0.5s						
LRMC				IAML		15 46 07.7	
	comp=N,1μm,0.3s						
CCCA	**Chr Cany lake**	**0.67**	**147**		**Pb**	**15 45 59.5**	**-0.1**
CCCA					**Sg**	**15 46 07.4**	**0.0**
ISA	**Isabella, Lake**	**0.69**	**232**	Pg	**Pg**	**15 45 58.9**	**-0.1**
ISA				IAML		15 46 08.7	
	comp=E,3μm,0.3s						
QSM	**Queen of Sheba**	**0.77**	**99**		**Pg**	**15 46 00.9**	**+0.3**
QSM	**Queen of Sheba**	**0.77**	**99**		**Sg**	**15 46 11.6**	**+0.9**
SPG2	**Springville 2**	**0.78**	**278**		**Pg**	**15 46 00.3**	**-0.5**
DTP	**Desert Tortois**	**0.82**	**182**		**Pg**	**15 46 01.6**	**0.0**
GWY	**Greenwater Val**	**0.93**	**84**		**Pg**	**15 46 03.8**	**+0.2**
GWY				IAML		15 46 20.0	
	comp=E,1μm,0.5s						
CCAC	**Calif City Air**	**0.95**	**190**	Pg	**Pg**	**15

	comp=E,108nm,0.4s							
POB	**Polly Butte**	**2.51**	**163**		**Pn**	**15 46 28.0**	**+1.3**	
PRN	**Pahroc Range**	**2.58**	**59**		**Pg**	**15 46 34.0**	**-1.1**	
RYN	**Ryan**	**2.60**	**348**	Pg	**Pg**	**15 46 35.1**	**-0.4**	
RYN				IAML		15 47 20.9		
	comp=E,90nm,1.5s							
PMD	**Palm Desert**	**2.71**	**154**	Pg	**Pg**	**15 46 36.6**	**-1.0**	
PFO	**Pinyon Flats O**	**2.71**	**155**		**Pn**	**15 46 30.4**	**+0.8**	
FRD	**Ford Ranch, An**	**2.77**	**159**		**Pn**	**15 46 31.6**	**+1.2**	
R11B	**Troy Canyon, C**	**2.87**	**38**	Pn	**Pn**	**15 46 32.0**	**+0.2**	
R11B				IAML		15 47 22.4		
	comp=E,76nm,0.8s							
W13A	**Hualapai Mount**	**3.35**	**106**		**Pn**	**15 46 38.9**	**+0.5**	
W13A				IAML		15 47 37.5		
	comp=N,61nm,0.7s							
W13A				IAML		15 47 37.7		
	comp=E,47nm,0.6s							
BLYC	**Blythe**	**3.57**	**130**		**Pn**	**15 46 41.2**	**-0.1**	
BLYC				IAML		15 47 42.1		
	comp=N,58nm,0.8s							
BLYC				IAML		15 47 57.5		
	comp=E,48nm,0.8s							
LCMT	**Little Creek M**	**3.79**	**75**		**Pn**	**15 46 46.0**	**+1.6**	
LCMT				IAML		15 47 49.9		
	comp=N,30nm,1.4s							
CBX	**Cerro Bola**	**3.88**	**166**		**Pn**	**15 46 47.2**	**+1.4**	
GLA	**Glamis**	**3.90**	**140**	Pn	**Pn**	**15 46 45.5**	**-0.5**	
GLA				IAML		15 48 05.5		
	comp=N,70nm,1.3s							
GLA				IAML		15 48 05.8		
	comp=E,75nm,0.9s							
SZCU	**Shurtz Canyon**	**4.07**	**67**		**Pn**	**15 46 49.3**	**+0.9**	
KNB	**Kanab**	**4.12**	**76**	IAML		15 47 59.4		
	comp=N,45nm,1.1s							
KNB				IAML		15 48 02.1		
	comp=E,28nm,1.1s							
Y14A	**Wickenburg**	**4.49**	**117**	IAML		15 48 12.8		
	comp=E,29nm,0.7s							
Y14A				IAML		15 48 14.9		
	comp=N,43nm,0.7s							
WUAZ	**Wupatki**	**5.26**	**94**		**Pg**	**15 47 22.6**	**-3.9**	
WUAZ				IAML		15 48 35.4		
	comp=N,29nm,2.0s							
WUAZ				IAML		15 48 48.0		
	comp=N,28nm,1.8s							
NEW	**Newport**	**12.18**	**2**	LR	LR	15 53 48.4		
	comp=N,38nm,20.8s,baz=158,slow=40							
TXAR	**Lajitas Array**	**13.67**	**116**	Pn	**P**	**15 49 05.3**	**-3.4**	
	baz=300,slow=13,SNR=4.5							
TXAR				LR	LR	15 54 45.6		
	comp=N,25nm,19.3s,baz=338,slow=39							
	comp=N,0.4nm,0.8s							
ILAR	**Eielson Array**	**33.56**	**338**	P	**P**	**15 52 28.6**	**+2.9**	
	comp=N,0.2nm,0.5s,baz=137,slow=8.4,SNR=2.5							
	comp=N,0.2nm,0.5s							

*IDC **06** 15:46:19.5±3.1,34˚.45N×139˚.79E,h0km,mb3.5/2, mbtmp3.4/3,ML2.2/1,Error ellipse: s-maj=98.6km s-min=25.9km az=69.0*
*JMA **06** 15:46:22.7±0.2,35˚.2N±0˚.6×14˚1E±˚,h57km±2km, MV2.5/30,KUJUKURI COAST BOSO PEN*
ISC 06 15:46:22.0±1.3,35˚.15N±0˚.09×140˚.6E±0˚.1,h67km,n16, σ1s23/12,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.23**	**269**	P	**Pn**	**15 46 31.8**	**-0.6**
KTR				*eS*	**Sn**	**15 46 38.7**	**-1.4**
BSO4	**Boso 4**	**0.27**	**233**	P	**Pn**	**15 46 32.5**	**-0.1**
JKUC	**kamogawauchiur**	**0.33**	**271**	P	**Pn**	**15 46 32.5**	**-0.6**
BSO3	**Boso 3**	**0.36**	**192**	*eP*	**Pn**	**15 46 33.3**	**+0.3**
JSMT	**Sammumatsuo**	**0.51**	**346**	P	**Pn**	**15 46 34.5**	**-0.1**
JSMT				*eS*	**Sn**	**15 46 42.4**	**-1.4**
BSO1	**Boso 1**	**0.59**	**148**	*eP*	**Pn**	**15 46 35.7**	**+0.9**
JOD2	**Odawara 2**	**1.25**	**276**	*eP*	**Pn**	**15 46 43.0**	**-0.5**
MJAR	**Matsushiro Arr**	**2.39**	**306**	Pn	**Pn**	**15 46 59.6**	**+0.7**
	0.5nm,0.3s,baz=149,slow=15,SNR=47						
MJAR				Sn	**Sn**	**15 47 29.8**	**+2.7**
	0.4nm,0.3s,baz=61,slow=27,SNR=6.1						
	2.6nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**27.82**	**117**	T	T	16 21 51.7	
	baz=309,slow=75,SNR=6.0						
H11N1	**WAKE ISLAND Hy**	**27.83**	**117**	T	T	16 21 31.6	
	baz=309,slow=75,SNR=5.0						
H11N3	**WAKE ISLAND Hy**	**27.84**	**117**	T	T	16 21 41.5	
	baz=309,slow=75,SNR=3.5						
SONM	**Songino Array**	**28.34**	**307**	P	P	15 52 15.7	+6.1
	0.4nm,0.5s,baz=114,slow=8.7,SNR=2.3						
	0.4nm,0.5s						
H11S1	**WAKE ISLAND Hy**	**28.46**	**119**	T	T	16 22 04.0	
	baz=311,slow=76,SNR=5.8						
H11S3	**WAKE ISLAND Hy**	**28.46**	**119**	T	T	16 22 05.6	
	baz=311,slow=76,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**28.48**	**119**	T	T	16 22 08.9	
	baz=311,slow=76,SNR=4.0						
WRA	**Warramunga Arr**	**55.11**	**187**	P	**P**	**15 55 47.3**	**-0.1**
	0.5nm,0.9s,baz=1.5,slow=7.6,SNR=3.0						
	0.5nm,0.9s						

*IDC **06** 15:47:07.8±2.0,17˚.15S×166˚.98E,h0km,mb3.7/4, mbtmp4.1/6,ML4.9/2,MS3.2/2,Error ellipse: s-maj=43.3km s-min=30.4km az=106.0*
*NOU **06** 15:47:10.5,17˚.18S×167˚.03E,h7km,MLv4.9/20,Vanuatu Islands*
ISC 06 15:47:11.6±0.8,17˚.21S±0˚.06×167˚.02E±0˚.06,h25km,n22, σ0s99/22,mb3.8/4,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**1.16**	**19**	P	**Pn**	**15 47 31.4**	**-0.9**
VLAKA	**Lakatoro**	**1.16**	**19**	S	**Sn**	**15 47 46.7**	**-0.7**
DVP	**Devils Point**	**1.23**	**115**	P	**Pb**	**15 47 33.7**	**-0.5**
DVP	**Devils Point**	**1.23**	**115**	S	**Sb**	**15 47 49.8**	**+0.2**
INH	**Isangel**	**3.16**	**138**	P	**Pn**	**15 48 00.7**	**+0.9**
KOUNC	**Koumac, New Ca**	**4.21**	**217**	P	**Pn**	**15 48 15.1**	**+0.8**
DZM	**Mont Dzumac**	**4.87**	**186**	Pn	**Pn**	**15 48 24.0**	**+0.6**
	12nm,0.3s,baz=30,slow=20,SNR=385						
DZM				Sn	**Sn**	**15 49 17.8**	**-1.2**
	15nm,0.3s,baz=326,slow=22,SNR=3.8						
DZM				LR	LR	15 50 12.6	
	comp=Z,192nm,18.1s,baz=349,slow=38						
	28nm,0.3s						
DZM	**Mont Dzumac**	**4.87**	**186**	P	**Pn**	**15 48 24.1**	**+0.7**
OUENC	**Ouen Island, N**	**5.18**	**182**	P	**Pn**	**15 48 28.7**	**+1.0**
LUES	**Luesalemba Tem**	**6.60**	**350**	P	**Pn**	**15 48 48.1**	**+1.0**
HURO	**Huro Makira**	**8.34**	**323**	P	**Pn**	**15 49 11.2**	**+0.1**
NGOA	**Tingoa Renbel**	**8.78**	**309**	P	**Pn**	**15 49 16.7**	**-0.3**
HNR	**Honiara**	**10.35**	**317**	Pn	**Pn**	**15 49 38.2**	**-0.4**
	34nm,0.3s,baz=162,slow=7.3,SNR=14						
	156nm,0.6s						
HNR	**Honiara**	**10.35**	**317**	P	**Pn**	**15 49 40.0**	**+1.4**
ALEG	**Aligegeo Malai**	**10.42**	**323**	P	**Pn**	**15 49 42.0**	**+2.4**
SAVO	**Savo Central**	**10.65**	**318**	P	**Pn**	**15 49 44.0**	**+1.3**
TATA	**Tatamba Isabel**	**11.24**	**320**	P	**Pn**	**15 49 51.2**	**+0.4**
STKA	**Stephens Creek**	**27.26**	**233**	P	**P**	**15 52 53.0**	**-1.0**
	2.7nm,0.9s,baz=53,slow=15,SNR=3.4						
	2.7nm,0.9s						
WRA	**Warramunga Arr**	**31.07**	**260**	P	**P**	**15 53 27.6**	**-0.5**
	0.2nm,0.9s,baz=83,slow=8.2,SNR=2.0						
	0.2nm,0.9s						
ASAR	**Alice Springs**	**31.64**	**253**	P	**P**	**15 53 32.8**	**-0.3**
	1.3nm,0.8s,baz=82,slow=8.6,SNR=26						
	1.3nm,0.8s						
SONM	**Songino Array**	**84.34**	**324**	LR	LR	16 35 51.7	
	comp=Z,15nm,19.6s,baz=264,slow=35						
ILAR	**Eielson Array**	**88.95**	**18**	P	**P**	**16 00 03.5**	**-0.2**
	0.3nm,0.6s,baz=235,slow=3.2,SNR=4.2						
	0.3nm,0.6s						

DJA 06 15:51:15.2±0.7,11˚S±10˚×11˚9E±˚,h100km±22km,M2.9/1, MLv3.8/6,MLv2.9/1,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.65**	**32**	P	Pn	15 51 44.0	+0.6
WBSI				S	Sn	15 52 05.0	+0.2
PLAI	**Plampang**	**2.32**	**342**	P	Pn	15 51 52.3	+0.3
PLAI				S	Sn	15 52 20.2	0.0
EDFI	**Ende, Flores**	**3.89**	**54**	P	Pn	15 52 13.5	+0.5
EDFI				S	Sn	15 52 58.2	+0.5
MMRI	**Maumere**	**4.39**	**57**	P	Pn	15 52 19.7	-0.1
MMRI				S	Sn	15 53 10.1	+0.2
JAGI	**Jajag, Banyuwa**	**4.99**	**301**	P	Pn	15 52 26.9	-1.0
BATI	**Baumata**	**5.14**	**81**	P	Pn	15 52 29.1	-0.8
GMJI	**Gumukmas**	**5.70**	**299**	P	Pn	15 52 37.7	+0.3

*IDC **06** 15:56:43.0±3.9,43˚.39N×105˚.41W,h0km,mbtmp3.0/2, ML3.3/2,Error ellipse: s-maj=79.0km s-min=26.6km az=175.0*
*NEIC **06** 15:56:43.4±1.4,43˚.63N±0˚.06×105˚.36W±0˚.08,h0km±1km, ML2.4/20,Error ellipse: s-maj=13.9km s-min=3.2km az=316.0*
ISC 06 15:56:43.3±1.8,43˚.6N±0˚.1×105˚.24W±0˚.08,h0km,n12, σ1s62/10,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**59**		**Pn**	**15 57 04.3**	**-0.7**
K22A	**Casper**	**1.34**	**225**		**Pn**	**15 57 07.8**	**-1.6**
K22A				IAML		15 57 29.6	
	62nm,0.4s						
RLMT	**Red Lodge**	**3.26**	**299**	Pn	**Pn**	**15 57 33.3**	**-2.6**
RLMT				IAML		15 58 27.0	
	9.0nm,0.6s						
RLMT				IAML		15 59 00.3	
	7.9nm,0.9s						
PD31	**Pinedale Array**	**3.27**	**257**	Pn	**Pn**	**15 57 35.9**	**-0.1**
PDAR	**Pinedale Array**	**3.27**	**257**	Pn	**Pn**	**15 57 37.5**	**+1.6**
	0.4nm,0.3s,baz=72,slow=19,SNR=3.8						
PDAR				Lg	Lg	15 58 19.5	
	1.6nm,0.3s,baz=78,slow=26,SNR=3.7						
	1.7nm,0.6s						
BW06	**Boulder Array**	**3.27**	**257**		**Pn**	**15 57 37.6**	**+1.6**
BW06				IAML		15 58 24.9	
	9.5nm,0.6s						
YNE	**Yellowstone No**	**3.70**	**294**		**Pn**	**15 57 42.4**	**+0.4**
YNE				IAML		15 58 41.9	
	comp=E,14nm,1.1s						
YNE				IAML		15 58 42.6	
	comp=N,14nm,0.8s						
LOHW	**Long Hollow**	**3.89**	**272**		**Pn**	**15 57 46.0**	**+1.4**
LOHW				IAML		15 58 45.2	
	comp=N,5.7nm,0.9s						
LOHW				IAML		15 58 48.5	
	comp=N,6.6nm,0.8s						
FXWY	**Fox Creek**	**4.20**	**272**		**Pn**	**15 57 48.8**	**0.0**
FXWY				IAML		15 59 04.3	
	comp=N,4.2nm,3.0s						
ULM	**Lac du Bonnet**	**9.23**	**41**	Lg	Lg	16 01 31.5	
	comp=N,0.1nm,0.3s,baz=329,slow=7.8,SNR=1.9						
I56US	**NEWPORT INFRAS**	**9.50**	**304**	I	I	16 54 20.0	
	baz=117,slow=313,SNR=3.3						
NVAR	**Mina Array Bea**	**11.14**	**247**	Pn	**Pn**	**15 59 22.8**	**-1.2**
	comp=N,0.3nm,0.3s,baz=41,slow=15,SNR=2.0						
	comp=N,0.4nm,0.4s						

*NEIC **06** 15:59:28.7±1.5,35˚.87N±0˚.01×117˚.68W±0˚.01,h5km±1km, Error ellipse: s-maj=2.9km s-min=2.0km az=60.0*
PAS 06 15:59:29.3±1.6,35˚.881N±0˚.010×117˚.70W±0˚.02, h2km±4km,ML3.5/22,ML3.3/120(NEIC),Error ellipse: s-maj=1.9km s-min=1.5km az=108.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.09**	**216**		Pg	15 59 31.6	+0.6
WVPM	**Volcano Peak E**	**0.12**	**306**		Sg	15 59 34.1	+0.9
WNMM	**Nine Mile Cany**	**0.17**	**257**		Pg	15 59 33.0	+0.4
MFS	**McCloud Flat S**	**0.27**	**332**		Pg	15 59 34.4	0.0
LRMC	**Laurel Mtn Rad**	**0.40**	**178**	Pg	Pg	15 59 36.9	0.0
LRMC	**Laurel Mtn Rad**	**0.40**	**178**		Sg	15 59 42.9	+0.7
LRMC	**Laurel Mtn Rad**	**0.40**	**178**	IAML		15 59 43.2	
	comp=N,4µm,0.2s						
LRMC				IAML		15 59 44.0	
	comp=E,4µm,0.2s						
WORM	**Onyx Ranch**	**0.48**	**247**		Pg	15 59 38.4	0.0
WORM					Sg	15 59 45.0	+0.4
WBSM	**Bird Springs**	**0.49**	**226**		Pg	15 59 38.8	0.0
ISA	**Isabella, Lake**	**0.67**	**251**		Pg	15 59 41.8	-0.2
ISA	**Isabella, Lake**	**0.67**	**251**		Sg	15 59 51.1	+0.5
ISA	**Isabella, Lake**	**0.67**	**251**	IAML		15 59 51.3	
	comp=N,3µm,0.5s						
ISA				IAML		15 59 51.4	
	comp=E,1µm,0.6s						
CGO	**Cerro Gordo**	**0.67**	**353**		Pg	15 59 41.9	-0.3
CGO					Sg	15 59 51.7	+0.7
QSM	**Queen of Sheba**	**0.68**	**83**		Pg	15 59 42.7	+0.4
QSM				IAML		15 59 55.5	
	comp=E,2µm,0.4s						
QSM				IAML		15 59 55.6	
	comp=N,2µm,0.7s						
CCAC	**Calif City Air**	**0.77**	**200**		Pg	15 59 43.7	-0.3
CCAC				IAML		15 59 54.9	
	comp=E,1µm,0.5s						
CCAC				IAML		15 59 58.6	
	comp=N,2µm,0.3s						
GWY	**Greenwater Val**	**0.89**	**70**		Pg	15 59 46.1	-0.3
GWY				IAML		15 59 58.9	
	comp=N,2µm,0.4s						
SPG2	**Springville 2**	**0.92**	**291**		Pg	15 59 46.4	-0.5
GSC	**Goldstone, Bar**	**0.93**	**128**		Pg	15 59 46.5	-0.6
GSC				IAML		16 00 03.0	
	comp=N,766nm,0.5s						
GSC				IAML		16 00 03.4	
	comp=E,1µm,0.5s						
GRAC	**Grapevine Rang**	**1.15**	**14**		Pg	15 59 50.8	-0.4
GRAC				IAML		16 00 12.4	
	comp=N,1µm,0.8s						
SHOC	**Shoshone, Teco**	**1.16**	**89**		Pg	15 59 50.8	-0.7
WCT	**Wildcat Mounta**	**1.26**	**43**		Pg	15 59 52.8	-0.6
WCT				IAML		16 00 12.7	
	comp=E,542nm,0.7s						
VOG	**Valley Oaks Go**	**1.43**	**288**		Pn	15 59 55.9	-0.3
GMN	**Gold Mountain**	**1.46**	**14**		Pn	15 59 56.6	-0.3
GMN				IAML		16 00 19.4	
	comp=N,399nm,0.6s						
GMN				IAML		16 00 20.1	
	comp=E,324nm,0.5s						
DSP	**Deep Springs**	**1.50**	**352**		Pn	15 59 56.9	-0.3
DSP				IAML		16 00 19.3	
	comp=N,271nm,0.4s						
DSP				IAML		16 00 19.7	
	comp=E,378nm,0.4s						
OSI	**Osito Audit: C**	**1.52**	**214**		Pn	15 59 57.3	-0.1
OSI				IAML		16 00 25.3	
	comp=N,383nm,0.5s						
OSI				IAML		16 00 26.6	
	comp=E,372nm,0.7s						
TPNV	**Topopah Spring**	**1.58**	**47**		Pn	15 59 57.5	-1.0
TPNV				IAML		16 00 25.1	
	comp=E,453nm,0.5s						
TPNV				IAML		16 00 26.2	
	comp=E,487nm,0.5s						
MWC	**Mount Wilson**	**1.68**	**190**		Pn	15 59 59.1	-0.7
MWC				IAML		16 00 24.7	
	comp=N,472nm,0.5s						
BCW	**Bitter Crk WRg**	**1.68**	**237**		Pn	15 59 59.4	-0.5
PASC	**Pasadena Art C**	**1.75**	**193**		Pn	15 59 59.6	-1.0
PASC				IAML		16 00 26.2	
	comp=E,204nm,0.9s						
MZP	**Montezuma Peak**	**1.83**	**8**		Pn	16 00 01.8	-0.2
KCC	**Kaiser Creek**	**1.94**	**318**		Pb	16 00 05.0	-0.4
SHPR	**Sheep Range**	**2.15**	**72**		Pn	16 00 06.1	-0.2
TPH	**Tonopah**	**2.22**	**10**		Pn	16 00 07.5	+0.1
TPC	**Twentynine Pal**	**2.23**	**142**		Pn	16 00 06.1	-1.2
ELS	**Elsinore Mount**	**2.24**	**174**		Pn	16 00 06.5	-0.9
ELS				IAML		16 00 46.7	
	comp=E,128nm,0.8s						
ELS				IAML		16 00 46.7	
	comp=N,110nm,0.6s						
V12A	**Nelson**	**2.32**	**93**		Pn	16 00 07.6	-1.0
V12A				IAML		16 00 45.1	
	comp=N,266nm,0.6s						
V12A				IAML		16 00 47.7	
	comp=E,178nm,0.6s						
S11A	**Rachel**	**2.36**	**41**		Pn	16 00 08.9	-0.2
LHV	**Little Huntoon**	**2.45**	**345**		Pn	16 00 10.5	+0.3
LHV				IAML		16 00 51.5	
	comp=N,106nm,0.5s						
LHV				IAML		16 00 56.1	
	comp=E,142nm,0.8s						
PMD	**Palm Desert**	**2.48**	**154**	Pn	Pn	16 00 09.2	-1.4
PFO	**Pinyon Flats O**	**2.48**	**155**		Pn	16 00 09.5	-1.4
PMPB	**Monarch Peak**	**2.54**	**278**		Pn	16 00 12.2	+0.7
NV11	**Mina Array Sit**	**2.57**	**352**		Pn	16 00 12.4	+0.3
PRN	**Pahroc Range**	**2.62**	**54**		Pn	16 00 12.4	-0.3
PRN				IAML		16 01 00.1	
	comp=E,217nm,0.9s						
PRN				IAML		16 01 10.4	
	comp=N,214nm,0.9s						
RYN	**Ryan**	**2.82**	**347**		Pn	16 00 15.4	-0.1
WAKR	**Walker**	**2.96**	**333**		Pb	16 00 24.1	+1.2
R11B	**Troy Canyon, C**	**2.99**	**34**		Pb	16 00 24.5	+1.2
R11B				IAML		16 01 06.1	
	comp=E,72nm,1.2s						
W13A	**Hualapai Mount**	**3.21**	**103**		Pn	16 00 19.9	-1.0
W13A				IAML		16 01 14.4	
	comp=E,53nm,0.8s						
BLYC	**Blythe**	**3.37**	**128**		Pn	16 00 20.6	-2.3
BLYC				IAML		16 01 21.4	
	comp=E,45nm,0.6s						
BLYC				IAML		16 01 25.9	
	comp=N,65nm,0.7s						
MPK	**Martis Peak**	**3.88**	**332**	IAML		16 01 44.2	
	comp=E,65nm,0.8s						
AFDM	**Forest Hills D**	**4.02**	**321**	IAML		16 01 38.4	
	comp=N,42nm,0.6s						
AFDM				IAML		16 01 44.0	
	comp=E,68nm,0.8s						
PSUT	**Pine Spring**	**4.05**	**48**	IAML		16 01 49.1	
	comp=E,42nm,1.3s						
PSUT				IAML		16 01 52.0	
	comp=N,33nm,1.2s						
KNB	**Kanab**	**4.09**	**72**	IAML		16 01 38.9	
	comp=N,30nm,1.3s						
KNB				IAML		16 01 40.9	
	comp=E,26nm,1.0s						
SPR3	**Spring Creek 3**	**4.11**	**40**	IAML		16 01 44.4	
	comp=E,29nm,1.2s						
SPR3				IAML		16 01 51.2	
	comp=N,34nm,1.4s						
ESJX	**Sierra Juarez**	**4.13**	**159**	IAML		16 01 41.9	
	comp=N,23nm,0.6s						
ESJX				IAML		16 03 10.1	
	comp=E,33nm,0.5s						
Y14A	**Wickenburg**	**4.32**	**115**	IAML		16 03 19.7	
	comp=E,42nm,0.6s						
BEKR	**Beckworth**	**4.50**	**333**	IAML		16 02 01.6	
	comp=E,35nm,0.7s						
BEKR				IAML		16 02 11.4	
	comp=N,20nm,0.8s						
VTX	**Valle De La Tr**	**4.75**	**160**	IAML		16 02 02.6	
	comp=N,24nm,0.8s						
VTX				IAML		16 02 07.7	
	comp=E,33nm,0.9s						
X16A	**Lo Mia Camp, P**	**5.33**	**104**	IAML		16 02 26.1	
	comp=N,12nm,1.2s						
X16A				IAML		16 03 49.8	
	comp=E,14nm,1.0s						

*NEIC **06** 16:01:07.0±1.7,35˚.579N±0˚.008×117˚.34W±0˚.02, h5km±2km,Error ellipse: s-maj=3.0km s-min=2.1km az=202.0*
PAS 06 16:01:08.2±1.3,35˚.59N±0˚.01×117˚.39W±0˚.02,h4km±6km, ML3.3/22,MLv3.2/54(NEIC),Error ellipse: s-maj=2.1km s-min=1.6km az=124.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mtn Rad**	**0.26**	**244**	Pg	Pg	16 01 13.3	0.0
LRMC	**Laurel Mtn Rad**	**0.26**	**244**		Sg	16 01 17.4	+0.6
SRTC	**Snort**	**0.31**	**289**		Pg	16 01 14.5	+0.3
TOW	**Tower One**	**0.37**	**306**		Pg	16 01 15.8	+0.4
MPMC	**Manual Prospec**	**0.47**	**351**		Pg	16 01 17.0	-0.4
WNMM	**Nine Mile Cany**	**0.48**	**301**		Pg	16 01 17.9	+0.4
DTP	**Desert Tortois**	**0.49**	**229**		Pg	16 01 17.5	-0.2
GSC	**Goldstone, Bar**	**0.56**	**121**	Pg	Pg	16 01 19.0	0.0
GSC				IAML		16 01 27.0	
	comp=N,2µm,0.4s						
QSM	**Queen of Sheba**	**0.57**	**49**		Pg	16 01 18.9	-0.2
QSM	**Queen of Sheba**	**0.57**	**49**	IAML		16 01 27.0	
	comp=N,2µm,0.5s						
QSM				IAML		16 01 29.0	
	comp=E,1µm,0.3s						
CCAC	**Calif City Air**	**0.67**	**229**	Pg	Pg	16 01 21.0	-0.2
RRX	**Edison Barstow**	**0.79**	**155**		Pg	16 01 23.1	-0.2
GWY	**Greenwater Val**	**0.83**	**45**		Pg	16 01 23.8	-0.5
ISA	**Isabella, Lake**	**0.88**	**275**	Pg	Pg	16 01 24.6	-0.6
ISA				IAML		16 01 38.6	
	comp=E,1µm,0.5s						
DSCC	**Desert Studies**	**1.15**	**113**		Pg	16 01 29.1	-1.1
TUQ	**Turquoise Moun**	**1.21**	**97**		Pg	16 01 30.2	-1.3
AMDNV	**Amargosa**	**1.25**	**46**		Pg	16 01 31.0	-1.1
WCT	**Wildcat Mounta**	**1.35**	**27**	IAML		16 01 53.0	
	comp=N,530nm,0.4s						
WCT				IAML		16 01 53.6	
	comp=E,553nm,0.4s						
BFSC	**Mount Baldy Ra**	**1.37**	**189**		Pn	16 01 34.1	-0.2
GRAC	**Grapevine Rang**	**1.40**	**1**		Pn	16 01 33.9	-0.7
GRAC				IAML		16 01 57.7	
	comp=N,424nm,0.4s						
GRAC				IAML		16 02 04.8	
	comp=E,512nm,0.6s						
OSI	**Osito Audit: C**	**1.46**	**229**		Pn	16 01 33.5	-2.0
OSI				IAML		16 01 59.6	
	comp=N,504nm,0.6s						
OSI				IAML		16 02 01.1	
	comp=E,440nm,0.7s						
MWC	**Mount Wilson**	**1.47**	**202**		Pn	16 01 35.0	-0.7
MWC				IAML		16 02 01.6	
	comp=E,379nm,0.3s						
PASC	**Pasadena Art C**	**1.56**	**205**		Pn	16 01 36.0	-0.8
PASC				IAML		16 02 00.6	
	comp=N,238nm,0.5s						
PASC				IAML		16 02 02.7	
	comp=E,289nm,0.5s						
GMRC	**Granite Mounta**	**1.63**	**119**		Pn	16 01 34.7	-3.2
TPNV	**Topopah Spring**	**1.64**	**34**		Pn	16 01 37.1	-0.9
TPNV				IAML		16 02 05.1	
	comp=E,408nm,0.5s						
TPNV				IAML		16 02 06.2	
	comp=E,300nm,0.5s						
BCW	**Bitter Crk WRg**	**1.78**	**249**	Pn	Pb	16 01 40.8	-0.6
BCW				IAML		16 02 08.2	
	comp=N,235nm,0.5s						
BCW				IAML		16 02 09.9	
	comp=E,196nm,0.8s						
DSP	**Deep Springs**	**1.83**	**346**	Pn	Pn	16 01 40.1	-0.3
ELS	**Elsinore Mount**	**1.94**	**181**	Pn	Pn	16 01 41.2	-0.8
ELS				IAML		16 02 11.3	
	comp=E,137nm,0.5s						
BACC	**Bachelor Mtn.**	**2.00**	**172**		Pn	16 01 42.1	-0.7
SHPR	**Sheep Range**	**2.03**	**63**	Pn	Pn	16 01 42.4	-0.9
SHPR				IAML		16 02 15.8	
	comp=E,96nm,0.6s						
V12A	**Nelson**	**2.08**	**86**	Pn	Pn	16 01 42.4

VIE ***06*** *16:06:49.8±0.6,51˚.52N×15˚.99E,h0km,mb2.3/4,ml2.6/4, Error ellipse: s-maj=4.5km s-min=3.6km az=37.0 85 km NW of Wroclaw Suspected Mining induced.*

IDC ***06*** *16:06:50.7±1.3,51˚.50N×16˚.08E,h0km,mbtmp3.0/3, ML2.0/2,Error ellipse: s-maj=24.4km s-min=10.1km az=131.0*

PRU ***06*** *16:06:52.0,51˚.49N×16˚.14E,h0km*

ISC 06 16:06:48.6±0.9,51˚.59N±0˚.04×16˚.14E±0˚.03,h0km,n40, σ0s70/75,Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.76**	**172**	*e*Pg		**Pg**	**16 07 03.8**	**+0.7**
KSP				*e*Sg		**Sg**	**16 07 13.6**	**+0.6**
CHVC	**Chvalec**	**1.01**	**183**	*e*PG		**Pb**	**16 07 08.6**	**-0.4**
CHVC				*e*SG		**Sg**	**16 07 21.6**	**+0.6**
	comp=Z,28nm,0.4s							
OSTC	**Ostas**	**1.04**	**177**	*e*PG		**Pb**	**16 07 09.3**	**-0.2**
OSTC				*e*SG		**Sg**	**16 07 22.4**	**+0.4**
UPC	**Upice**	**1.09**	**184**	*e*PG		**Pb**	**16 07 10.0**	**-0.3**
UPC				*e*SG		**Sg**	**16 07 22.7**	**-0.9**
DPC	**Dobruska-Polom**	**1.25**	**174**	*e*PG		**Pg**	**16 07 12.6**	**0.0**
DPC				*e*SG		**Sg**	**16 07 28.7**	**0.0**
	comp=Z,19nm,0.5s							
PIVO	**Bartosovice**	**1.43**	**169**	*e*Pg		**Pn**	**16 07 15.7**	**-0.2**
	baz=351							
PIVO				*e*Sg		**Sg**	**16 07 33.3**	**-1.3**
	42nm,0.3s,baz=351							
PVCC	**Panska Ves**	**1.45**	**223**	*e*PG		**Pb**	**16 07 16.9**	**+0.4**
BRG	**Berggiesshubel**	**1.56**	**243**	Pg		**Pg**	**16 07 18.6**	**+0.2**
BRG				Sg		**Sg**	**16 07 39.3**	**+0.8**
BRG				Amp			16 07 39.8	
	comp=Z,35nm,0.4s							
KRLC	**Kraliky**	**1.57**	**165**	*e*PG		**Pb**	**16 07 18.3**	**-0.3**
KRLC				*e*SG		**Sn**	**16 07 38.0**	**-0.9**
	comp=Z,19nm,0.3s							
PRA	**Prague**	**1.87**	**216**	*e*SG		**Sg**	**16 07 48.2**	**-0.4**
	comp=Z,24nm,0.7s							
GOPC	**GO Pecny, Ondr**	**1.89**	**208**	*e*PN		**Pn**	**16 07 21.8**	**-0.3**
GOPC				*e*PG		**Pb**	**16 07 23.9**	**0.0**
PRU	**Pruhonice**	**1.90**	**213**	*e*PN		**Pn**	**16 07 22.3**	**0.0**
PRU				*e*PG		**Pb**	**16 07 24.3**	**+0.2**
PRU				*e*SG		**Sg**	**16 07 49.7**	**+0.1**
	comp=Z,20nm,0.6s							
STEB	**Steborice**	**1.96**	**147**	*e*PN		**Pn**	**16 07 22.7**	**-0.4**
STEB				*e*PG		**Pb**	**16 07 25.3**	**+0.1**
STEB				*e*SG		**Sg**	**16 07 51.9**	**+0.4**
	comp=Z,24nm,0.3s							
CLL	**Collm**	**1.98**	**263**	*e*Pn		**Pn**	**16 07 23.0**	**-0.4**
CLL				*i* Pg		**Pb**	**16 07 25.9**	**+0.4**
CLL				*i* x		x	16 07 29.8	
CLL				*i* Sg		**Sg**	**16 07 52.8**	**+0.6**
	comp=Z,19nm,0.4s							
MORC	**Moravsky Berou**	**2.03**	**153**	*e*PN			16 16 39.9	
MORC				*e*SG			16 17 05.1	
MORC	**Moravsky Berou**	**2.03**	**153**	*e*Pn		**Pn**	**16 07 23.9**	**-0.2**
	baz=335							
MORC				*e*Sg		**Sb**	**16 07 51.8**	**-0.3**
	comp=Z,12nm,0.3s,baz=335							
OKC	**Ostrava-Krasne**	**2.17**	**143**	*e*SG		**Sb**	**16 07 56.7**	**+0.4**
	comp=Z,15nm,0.7s							
VRAC	**Vranov**	**2.31**	**173**	*e*PN		**Pn**	**16 07 28.3**	**+0.4**
VRAC				*e*SG		**Sb**	**16 08 00.4**	**+0.3**
VRAC	**Vranov**	**2.31**	**173**	*e*PN			16 16 43.1	
VRAC	**Vranov**	**2.31**	**173**	*e*Pn		**Pn**	**16 07 28.2**	**+0.4**
	baz=354							
VRAC				*e*Sg		**Sb**	**16 08 00.3**	**+0.2**
	comp=Z,13nm,0.5s,baz=354							
TREC	**Trest**	**2.34**	**190**	*e*SG		**Sb**	**16 08 02.3**	**+1.3**
ZVC	**Zvikov**	**2.49**	**211**	*e*PG		**Pb**	**16 07 35.0**	**+0.8**
ZVC				*e*SG		**Sg**	**16 08 08.5**	**0.0**
KRUC	**Moravsky**	**2.54**	**176**	*e*Pn		**Pn**	**16 07 31.6**	**+0.5**
	baz=357							
KRUC				*e*Sg		**Sb**	**16 08 08.2**	**+1.4**
	comp=Z,12nm,0.6s,baz=357							
OJC	**Ojcow**	**2.70**	**119**	*e*Pg		**Pg**	**16 07 41.5**	**+1.3**
OJC				*e*Sg		**Sg**	**16 08 15.7**	**+0.5**
NKC	**Novy Kostel**	**2.70**	**241**	*e*PN		**Pn**	**16 07 34.0**	**+0.7**
NKC				*e*PG		**Pg**	**16 07 40.4**	**0.0**
NKC				*e*SG		**Sg**	**16 08 15.4**	**0.0**
	comp=Z,33nm,0.4s							
JAVC	**Velka Javorina**	**2.91**	**160**	*e*PN		**Pn**	**16 07 36.6**	**+0.3**
JAVC	**Velka Javorina**	**2.91**	**160**	*e*Pn		**Pn**	**16 07 36.5**	**+0.3**
	baz=341							
KHC	**Kasperske Hory**	**2.96**	**215**	*e*PN		**Pn**	**16 07 37.0**	**+0.1**
KHC				*e*PG		**Pb**	**16 07 43.1**	**+0.9**
KHC				*e*SN		**Sn**	**16 08 12.0**	**-1.1**
KHC				*e*SG		**Sg**	**16 08 22.4**	**-1.2**
	comp=Z,7.3nm,0.4s							
CKRC	**Cesky Krumlov**	**3.01**	**204**	*e*PN		**Pn**	**16 07 38.5**	**+0.9**
CKRC				*e*PG		**Pb**	**16 07 44.2**	**+1.0**
CKRC				*e*SG		**Sg**	**16 08 24.8**	**-0.6**
GERES	**GERESS Array B**	**3.16**	**211**	Pn		**Pn**	**16 07 40.7**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=30,slow=13,SNR=14							
GERES				Pg		**Pb**	**16 07 46.4**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=28,slow=16,SNR=23							
GERES				Sn		**Sn**	**16 08 17.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=28,slow=26,SNR=1.4							
GERES				Lg		Lg	16 08 26.2	
	comp=Z,0.4nm,0.3s,baz=30,slow=26,SNR=10							
	comp=Z,1.5nm,0.3s							
LANS	**Liptovska Anna**	**3.25**	**138**	*e*SG		**Sg**	**16 08 33.8**	**+1.0**
MODS	**Modra-Piesok**	**3.31**	**167**	*e*PG		**Pg**	**16 07 51.6**	**-0.4**
MODS				*e*SG		**Sg**	**16 08 33.9**	**-0.9**
VYHS	**Vyhne**	**3.56**	**150**	*e*PN		**Pn**	**16 07 45.0**	**-0.1**
VYHS				*e*PG		**Pg**	**16 07 55.2**	**-1.6**
VYHS				*e*SG		**Sg**	**16 08 43.3**	**+0.4**
CONA	**Conrad Observa**	**3.67**	**183**	*i* Pn		**Pn**	**16 07 47.6**	**+0.8**
	comp=Z,0.7nm,0.2s							
CONA				*i* Sn		**Sn**	**16 08 31.0**	**+0.2**
	comp=Z,5.9nm,0.4s							
RONA	**Rosalia, Austr**	**3.90**	**178**	*e*Pn		**Pn**	**16 07 50.3**	**+0.5**
	comp=Z,0.9nm,0.4s							
RONA				*i* Sn		**Sn**	**16 08 36.8**	**+0.5**
	comp=Z,2.3nm,0.4s							
STHS	**Stebnicka Huta**	**3.92**	**122**	*e*PG		**Pg**	**16 08 05.5**	**+1.7**
MOA	**Molln**	**3.94**	**199**	*i* Pn		**Pn**	**16 07 50.9**	**+0.6**
	comp=Z,1.5nm,0.2s							
MOA				*i* Sn		**Sn**	**16 08 37.6**	**+0.4**
	comp=Z,4.3nm,0.4s							
ARSA	**Arzberg**	**4.37**	**185**	*i* Pn		**Pn**	**16 07 56.4**	**+0.2**
	comp=Z,1.4nm,0.3s							
ARSA				*i* Sn		**Sn**	**16 08 47.8**	**+0.1**
	comp=Z,5.4nm,0.9s							
AKASG	**Malin Array Be**	**8.28**	**91**	Pn		**Pn**	**16 08 48.5**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=285,slow=12,SNR=2.1							
FINES	**FINESS Array B**	**11.28**	**25**	Pn		**Pn**	**16 09 29.4**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=212,slow=13,SNR=3.3							
	comp=Z,0.8nm,0.6s							

NEIC ***06*** *16:07:24.4±0.9,35˚.68N±0˚.01×117˚.49W±0˚.02,h5km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=100.0*

PAS ***06*** *16:07:25.7±1.8,35˚.69N±0˚.01×117˚.55W±0˚.02,h3km±5km, ML3.4/19,ML3.1/98(NEIC),Error ellipse: s-maj=2.1km s-min=1.6km az=114.0*

IDC ***06*** *16:07:25.6±0.8,35˚.70N×117˚.36W,h0km,mb3.4/1, mbtmp3.3/6,ML3.5/5, Error ellipse: s-maj=22.3km s-min=5.8km az=75.0*

ISC 06 16:07:26.0±1.1,35˚.67N±0˚.02×117˚.51W±0˚.02,h4km±12km, n65,σ1s16/71,Central California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SRTC	**Snort**	**0.20**	**276**			**Pg**	**16 07 29.5**	**-0.4**
SRTC						**Sg**	**16 07 32.8**	**+0.4**
LRMC	**Laurel Mtn Rad**	**0.24**	**216**			**Pg**	**16 07 30.3**	**-0.3**
LRMC	**Laurel Mtn Rad**	**0.24**	**216**	IAML			16 07 34.1	
	comp=E,10μm,0.3s							
LRMC				IAML			16 07 34.4	
	comp=N,17μm,0.2s							
TOW	**Tower One**	**0.25**	**304**			**Pg**	**16 07 30.4**	**-0.4**
TOW						**Sg**	**16 07 34.5**	**+0.4**
WNMM	**Nine Mile Cany**	**0.36**	**298**			**Pg**	**16 07 32.3**	**-0.7**
WVPM	**Volcano Peak E**	**0.37**	**318**			**Pg**	**16 07 32.4**	**-0.8**
MPMC	**Manual Prospec**	**0.39**	**2**			**Pg**	**16 07 32.7**	**-0.8**
MPMC						**Sg**	**16 07 38.5**	**-0.2**
WRVM	**Rose V. Centra**	**0.46**	**318**			**Pg**	**16 07 33.9**	**-0.9**
DTP	**Desert Tortois**	**0.49**	**214**			**Pg**	**16 07 34.9**	**-0.5**
DTP						**Sg**	**16 07 41.6**	**0.0**
MFS	**McCloud Flat S**	**0.53**	**328**			**Pg**	**16 07 35.0**	**-1.1**
MFS						**Sg**	**16 07 42.6**	**-0.4**
WBSM	**Bird Springs**	**0.53**	**256**			**Pg**	**16 07 35.4**	**-0.8**
QSM	**Queen of Sheba**	**0.60**	**60**			**Pg**	**16 07 37.3**	**-0.1**
QSM						IAML	16 07 50.3	
	comp=N,786nm,0.9s							
QSM						IAML	16 07 52.3	
	comp=E,871nm,0.4s							
CCAC	**Calif City Air**	**0.66**	**219**			**Pg**	**16 07 38.2**	**-0.5**
CCAC						IAML	16 07 47.8	
	comp=N,1μm,0.3s							
CCAC						IAML	16 07 47.9	
	comp=E,1μm,0.3s							
GSC	**Goldstone, Bar**	**0.68**	**122**			**Pg**	**16 07 39.2**	**+0.1**
GSC						IAML	16 07 50.4	
	comp=N,1μm,0.4s							
ISA	**Isabella, Lake**	**0.79**	**270**			**Pg**	**16 07 40.0**	**-1.0**
ISA						IAML	16 07 51.6	
	comp=N,873nm,0.3s							
ISA						IAML	16 07 53.6	
	comp=E,731nm,0.2s							
GWY	**Greenwater Val**	**0.85**	**53**			**Pg**	**16 07 41.9**	**-0.4**
GWY						IAML	16 07 57.7	
	comp=E,1μm,0.5s							
GWY						IAML	16 07 58.9	
	comp=N,792nm,0.7s							
DSCC	**Desert Studies**	**1.26**	**114**			**Pg**	**16 07 48.9**	**-1.3**
AMDNV	**Amargosa**	**1.27**	**52**			**Pg**	**16 07 48.9**	**-1.3**
TUQ	**Turquoise Moun**	**1.31**	**100**			**Pg**	**16 07 50.6**	**-0.6**
GRAC	**Grapevine Rang**	**1.33**	**5**			**Pg**	**16 07 50.4**	**-1.0**
WCT	**Wildcat Mounta**	**1.33**	**32**			**Pg**	**16 07 50.0**	**-1.4**
WCT						IAML	16 08 09.1	
	comp=E,222nm,0.5s							
OSI	**Osito Audit: C**	**1.45**	**224**			**Pn**	**16 07 52.3**	**-0.8**
OSI						IAML	16 08 15.9	
	comp=E,345nm,0.8s							
OSI						IAML	16 08 19.8	
	comp=N,271nm,0.6s							
MWC	**Mount Wilson**	**1.51**	**197**			**Pn**	**16 07 52.9**	**-1.2**
PASC	**Pasadena Art C**	**1.60**	**201**			**Pn**	**16 07 54.1**	**-0.9**
PASC						IAML	16 08 19.3	
	comp=E,352nm,0.8s							
PASC						IAML	16 08 21.0	
	comp=N,213nm,0.3s							
MTPC	**Mountain Pass**	**1.60**	**96**			**Pn**	**16 07 54.4**	**-0.9**
TPNV	**Topopah Spring**	**1.63**	**38**			**Pn**	**16 07 54.5**	**-1.1**
TPNV						IAML	16 08 20.4	
	comp=N,301nm,0.4s							
TPNV						IAML	16 08 20.6	
	comp=N,315nm,0.5s							
GMN	**Gold Mountain**	**1.64**	**7**			**Pn**	**16 07 54.8**	**-1.1**
GMN						IAML	16 08 20.2	
	comp=N,216nm,0.6s							
GMN						IAML	16 08 22.1	
	comp=E,159nm,0.5s							
BCW	**Bitter Crk WRg**	**1.72**	**245**			**Pn**	**16 07 56.2**	**-0.6**
BCW						IAML	16 08 24.0	
	comp=N,282nm,0.9s							
BCW						IAML	16 08 47.4	
	comp=E,229nm,1.0s							
DSP	**Deep Springs**	**1.74**	**348**			**Pn**	**16 07 56.0**	**-0.9**
DSP						IAML	16 08 21.6	
	comp=E,150nm,0.4s							
ELS	**Elsinore Mount**	**2.02**	**178**			**Pn**	**16 08 00.0**	**-0.9**
ELS						IAML	16 08 36.4	
	comp=E,112nm,0.6s							
DANC	**Danby, Needles**	**2.03**	**120**			**Pn**	**16 07 59.4**	**-1.6**
MZP	**Montezuma Peak**	**2.03**	**3**			**Pn**	**16 08 00.3**	**-0.9**
MZP						IAML	16 08 34.0	
	comp=E,96nm,0.5s							
SHPR	**Sheep Range**	**2.08**	**66**			**Pn**	**16 08 00.8**	**-1.0**
V12A	**Nelson**	**2.16**	**88**			**Pn**	**16 08 01.8**	**-1.1**
V12A						IAML	16 08 37.3	
	comp=N,121nm,0.5s							
V12A						IAML	16 08 45.0	
	comp=E,110nm,0.5s							
PMD	**Palm Desert**	**2.22**	**155**	Pn		**Pn**	**16 08 02.4**	**-1.3**
PFO	**Pinyon Flats O**	**2.23**	**157**			**Pn**	**16 08 02.6**	**-1.2**
PFO	**Pinyon Flats O**	**2.23**	**157**	Pn		**Pn**	**16 08 02.6**	**-1.2**
	comp=E,12nm,0.3s,baz=342,slow=17,SNR=22							
PFO				Pg		**Pb**	**16 08 06.7**	**-0.3**
	comp=E,12nm,0.3s,baz=339,slow=16,SNR=12							
PFO				Lg		Lg	16 08 35.5	
	comp=E,14nm,0.3s,baz=58,slow=19,SNR=7.5							
	comp=E,26nm,0.3s							
XPFO	**Pinon Flat**	**2.23**	**157**			**Pn**	**16 08 02.8**	**-1.1**
TPH	**Tonopah**	**2.41**	**5**			**Pn**	**16 08 05.7**	**-0.8**
S11A	**Rachel**	**2.43**	**35**	Pn		**Pn**	**16 08 05.9**	**-0.7**
S11A						IAML	16 08 52.6	
	comp=N,120nm,0.9s							
S11A						IAML	16 08 56.2	
	comp=E,175nm,0.6s							
PRN	**Pahroc Range**	**2.63**	**48**			**Pn**	**16 08 09.0**	**-0.4**
PRN						IAML	16 08 53.6	
	comp=N,104nm,0.7s							
PRN						IAML	16 08 57.0	
	comp=E,98nm,0.7s							
LHV	**Little Huntoon**	**2.70**	**343**			**Pg**	**16 08 17.0**	**-0.7**
LHV						IAML	16 08 55.5	
	comp=N,72nm,0.5s							
LHV						IAML	16 08 59.7	
	comp=E,76nm,1.0s							
PMPB	**Monarch Peak**	**2.73**	**282**	Pn		**Pn**	**16 08 09.5**	**-1.1**
NV11	**Mina Array Sit**	**2.80**	**350**			**Pn**	**16 08 11.2**	**-0.5**
NVAR	**Mina Array Bea**	**2.83**	**347**	Pn		**Pn**	**16 08 11.5**	**-0.6**
	comp=E,3.5nm,0.3s,baz=168,slow=12,SNR=10							
NVAR				Pg		**Pg**	**16 08 18.5**	**-1.7**
	comp=E,8.1nm,0.3s,baz=166,slow=16,SNR=12							
NVAR				Lg		Lg	16 08 54.5	
	comp=E,6.9nm,0.3s,baz=166,slow=31,SNR=5.9							
	comp=E,2.3nm,0.3s							
W13A	**Hualapai Mount**	**3.02**	**100**			**Pn**	**16 08 13.9**	**-0.9**
W13A						IAML	16 09 05.1	
	comp=N,37nm,1.0s							
W13A						IAML	16 09 08.8	
	comp=E,40nm,0.9s							
RYN	**Ryan**	**3.06**	**345**			**Pn**	**16 08 15.1**	**-0.3**
R11B	**Troy Canyon, C**	**3.08**	**29**			**Pn**	**16 08 14.3**	**-1.4**
BLYC	**Blythe**	**3.12**	**127**			**Pn**	**16 08 13.9**	**-2.0**
BLYC						IAML	16 09 10.7	
	comp=N,73nm,0.8s							
BLYC						IAML	16 09 18.8	
	comp=E,54nm,0.9s							
WAKR	**Walker**	**3.22**	**332**			**Pb**	**16 08 25.2**	**+1.4**
YUH	**Yuha Desert**	**3.29**	**156**			**Pg**	**16 08 28.2**	**-0.8**
CMB	**Columbia Colle**	**3.30**	**316**			**Pg**	**16 08 27.0**	**-2.2**
CMB						IAML	16 09 13.7	
	comp=E,42nm,0.6s							
CMB						IAML	16 09 15.3	
	comp=N,44nm,0.9s							
CBX	**Cerro Bola**	**3.42**	**168**			**Pn**	**16 08 19.6**	**-0.6**
GLA	**Glamis**	**3.43**	**139**	Pn		**Pn**	**16 08 18.1**	**-2.1**
ESJX	**Sierra Juarez**	**3.88**	**160**			**Pb**	**16 08 37.5**	**+2.4**
PSUT	**Pine Spring**	**4.09**	**45**			**Pg**	**16 08 43.7**	**-0.6**
PSUT						IAML	16 09 40.1	
	comp=N,19nm,0.7s							
PSUT						IAML	16 09 50.9	
	comp=E,23nm,0.9s							
Y14A	**Wickenburg**	**4.09**	**114**	Pn		**Pn**	**16 08 28.8**	**-0.5**
Y14A						IAML	16 09 45.9	
	comp=E,38nm,0.8s							
SPR3	**Spring Creek 3**	**4.18**	**36**			**Pg**	**16 08 44.3**	**-1.8**
SPR3						IAML	16 09 45.4	
	comp=E,17nm,1.1s							
SPR3						IAML	16 09 48.6	
	comp=N,15nm,0.8s							
113A	**Mohawk Valley,**	**4.24**	**132**			**Pn**	**16 08 28.7**	**-2.7**
X16A	**Lo Mia Camp, P**	**5.13**	**102**	Pn		**Pn**	**16 08 44.3**	**+0.5**
X16A						IAML	16 10 15.6	
	comp=N,9.8nm,1.0s							
X16A						IAML	16 10 16.2	
	comp=E,9.7nm,1.0s							
ELK	**Elko**	**5.37**	**19**	Pn		**Pn**	**16 08 47.3**	**+0.1**
	comp=E,0.3nm,0.3s,baz=218,slow=16,SNR=1.3							
ELK				Pg		**Pb**	**16 09 04.0**	**+3.5**
	comp=E,0.9nm,0.3s,baz=243,slow=16,SNR=3.8							
ELK				Lg		Lg	16 10 13.3	
	comp=E,1.8nm,0.3s,baz=132,slow=21,SNR=12							
	comp=E,1.5nm,0.5s							
ANMO	**Albuquerque**	**9.06**	**91**	Lg		Lg	16 12 09.9	
	comp=E,0.1nm,0.3s,baz=274,slow=14,SNR=2.3							
NEW	**Newport**	**12.59**	**1**	Pn		**Pn**	**16 10 25.2**	**-0.6**
	comp=E,0.1nm,0.3s,baz=234,slow=19,SNR=2.2							
	comp=E,0.6nm,0.3s							
TXAR	**Lajitas Array**	**13.28**	**115**	Pn		**Pn**	**16 10 36.3**	**+1.0**
	comp=E,0.1nm,0.3s,baz=292,slow=12,SNR=6.5							
	comp=E,0.1nm,0.3s							
ULM	**Lac du Bonnet**	**21.41**	**40**	P		**P**	**16 12 14.3**	**-0.4**
	comp=E,1.4nm,0.8s,baz=280,slow=4.9,SNR=3.2							
	comp=E,1.4nm,0.8s							

NEIC ***06*** *16:10:10.3±1.7,36˚.06N±0˚.01×117˚.81W±0˚.02,h5km±1km, Error ellipse: s-maj=3.0km s-min=2.8km az=125.0*

PAS 06 16:10:10.2±1.2,36˚.08N±0˚.01×117˚.84W±0˚.01,h1km±1km, ML3.1/25,ML3.0/52(NEIC),Error ellipse: s-maj=1.9km s-min=1.0km az=215.0,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MFS	**McCloud Flat S**	**0.04**	**344**			**Pg**	**16 10 11.3**	**+0.2**
WRVM	**Rose V. Centra**	**0.08**	**209**			**Pg**	**16 10 12.1**	**+0.2**
WVPM	**Volcano Peak E**	**0.13**	**171**			**Pg**	**16 10 13.0**	**+0.2**
WNMM	**Nine Mile Cany**	**0.24**	**192**			**Pg**	**16 10 15.0**	**+0.2**
TOW	**Tower One**	**0.28**	**167**			**Pg**	**16 10 16.3**	**+0.8**
TOW						**Sb**	**16 10 21.2**	**-2.0**
MPMC	**Manual Prospec**	**0.29**	**94**			**Pg**	**16 10 16.0**	**+0.3**
SRTC	**Snort**	**0.39**	**169**			**Pg**	**16 10 18.5**	**+0.8**
SRTC						**Sb**	**16 10 25.1**	**-1.6**
CGO	**Cerro Gordo**	**0.47**	**4**			**Pg**	**16 10 19.7**	**+0.4**
WHFM	**Hanning Flat**	**0.56**	**227**			**Pg**	**16 10 21.0**	**0.0**
WBSM	**Bird Springs**	**0.59**	**204**			**Pg**	**16 10 21.6**	**0.0**
LRMC	**Laurel Mtn Rad**	**0.61**	**168**			**Pg**	**16 10 22.2**	**+0.2**
LRMC	**Laurel Mtn Rad**	**0.61**	**168**	IAML			16 10 31.2	
	comp=E,2μm,0.4s							
LRMC				IAML			16 10 32.5	
	comp=N,685nm,0.2s							
ISA	**Isabella, Lake**	**0.66**	**231**			**Pg**	**16 10 22.8**	**-0.1**
ISA				IAML			16 10 32.2	
	comp=N,791nm,0.5s							
ISA				IAML			16 10 32.6	
	comp=E,560nm,0.3s							
ISA	**Isabella, Lake**	**0.66**	**231**			**Sg**	**16 10 32.0**	**+0.6**
QSM	**Queen of Sheba**	**0.80**	**98**			**Pg**	**16 10 25.4**	**-0.1**
QSM				IAML			16 10 42.3	
	comp=N,681nm,0.6s							
QSM				IAML			16 10 43.1	
	comp=E,604nm,0.6s							
DTP	**Desert Tortois**	**0.81**	**180**			**Pg**	**16 10 25.8**	**0.0**
CCAC	**Calif City Air**	**0.94**	**189**			**Pg**	**16 10 27.8**	**-0.4**
CCAC	**Calif City Air**	**0.94**	**189**			**Sg**	**16 10 40.7**	**+0.4**
GWY	**Greenwater Val**	**0.96**	**83**			**Pg**	**16 10 28.4**	**-0.1**
GWY				IAML			16 10 48.5	
	comp=N,712nm,0.6s							
GRAC	**Grapevine Rang**	**0.99**	**23**			**Pg**	**16 10 28.8**	**-0.5**
GRAC				IAML			16 10 50.7	
	comp=N,487nm,1.1s							
GRAC				IAML			16 10 51.3	
	comp=E,561nm,0.7s							
GSC	**Goldstone, Bar**	**1.15**	**132**			**Pg**	**16 10 31.6**	**-0.6**
GSC				IAML			16 10 53.2	
	comp=E,274nm,0.7s							
WCT	**Wildcat Mounta**	**1.21**	**54**			**Pg**	**16 10 32.9**	**-0.6**
WCT				IAML			16 10 55.7	
	comp=E,269nm,0.6s							
WCT				IAML			16 10 56.1	
	comp=N,178nm,0.8s							
ARVC	**Arvin**	**1.25**	**221**			**Pg**	**16 10 33.7**	**-0.4**
DSP	**Deep Springs**	**1.29**	**355**			**Pg**	**16 10 34.2**	**-0.9**
TPNV	**Topopah Spring**	**1.55**	**55**			**Pn**	**16 10 38.4**	**-0.7**
TPNV				IAML			16 11 05.0	
	comp=N,280nm,0.8s							
TPNV				IAML			16 11 05.9	
	comp=N,263nm,0.9s							
MZP	**Montezuma Peak**	**1.66**	**13**			**Pg**	**16 10 43.1**	**+1.0**
BCW	**Bitter Crk WRg**	**1.71**	**229**			**Pn**	**16 10 41.2**	**-0.2**
BENR	**Benton**	**1.74**	**340**			**Pn**	**16 10 42.5**	**+0.6**
MCSM	**Casa Diablo Ho**	**1.79**	**332**			**Pb**	**16 10 43.7**	**-0.4**
TPH	**Tonopah**	**2.05**	**14**			**Pg**	**16 10 50.3**	**+0.7**
TPH				IAML			16 11 20.2	
	comp=E,186nm,1.0s							
SHPR	**Sheep Range**	**2.21**	**78**			**Pn**	**16 10 47.4**	**-0.8**
PSMM	**Smith Mountain**	**2.23**	**271**			**Pb**	**16 10 50.3**	**-1.1**
LHV	**Little Huntoon**	**2.23**	**346**			**Pg**	**16 10 53.9**	**+0.8**
LHV				IAML			16 11 27.5	
	comp=E,68nm,1.5s							
LHV				IAML			16 11 30.3	
	comp=N,75nm,1.2s							
S11A	**Rachel**	**2.29**	**46**			**Pn**	**16 10 48.9**	**-0.5**
NV11	**Mina Array Sit**	**2.36**	**354**			**Pg**	**16 10 55.6**	**+0.1**
NVAR	**Mina Array Bea**	**2.38**	**351**			**Pn**	**16 10 50.4**	**-0.2**
PMPB	**Monarch Peak**	**2.40**	**274**			**Pn**	**16 10 52.2**	**+1.5**
MYLM	**Yosemite Lake**	**2.45**	**303**			**Pb**	**16 10 54.1**	**-0.9**
PRN	**Pahroc Range**	**2.60**	**59**			**Pn**	**16 10 51.5**	**-2.2**
PFO	**Pinyon Flats O**	**2.71**	**155**			**Pg**	**16 11 02.9**	**+0.7**
PFO	**Pinyon Flats O**	**2.71**	**155**			**Pn**	**16 10 54.9**	**-0.3**
WAKR	**Walker

PASC	**Pasadena Art C**	**1.57**	**204**			Pn		16 12 53.0	-1.0
PASC					IAML			16 13 18.2	
	comp=E,110nm,0.5s								
PASC					IAML			16 13 22.5	
	comp=N,107nm,0.6s								
TPNV	**Topopah Spring**	**1.64**	**35**			Pn		16 12 54.0	-1.0
TPNV					IAML			16 13 19.8	
	comp=N,131nm,0.5s								
TPNV					IAML			16 13 20.8	
	comp=N,169nm,0.6s								
GMN	**Gold Mountain**	**1.69**	**4**			Pn		16 12 55.2	-0.7
GMN					IAML			16 13 23.6	
	comp=N,92nm,0.5s								
DSP	**Deep Springs**	**1.81**	**346**			Pn		16 12 56.7	-0.6
BHPR	**Bishop**	**1.90**	**333**			Pb		16 13 00.6	0.0
DANC	**Danby, Needles**	**1.93**	**120**			Pn		16 12 56.9	-2.0
ELS	**Elsinore Mount**	**1.96**	**180**			Pn		16 12 58.3	-1.1
ELS					IAML			16 13 27.8	
	comp=E,165nm,0.3s								
ELS					IAML			16 13 27.9	
	comp=N,84nm,0.3s								
SHPR	**Sheep Range**	**2.03**	**63**			Pn		16 12 59.5	-1.0
MZP	**Montezuma Peak**	**2.09**	**1**			Pn		16 13 00.7	-0.7
V12A	**Nelson**	**2.09**	**86**			Pn		16 12 59.7	-1.6
V12A					IAML			16 13 32.4	
	comp=N,65nm,0.5s								
V12A					IAML			16 13 38.3	
	comp=E,66nm,0.4s								
CRY	**Cary Ranch**	**2.11**	**164**			Pn		16 13 00.8	-0.8
PMD	**Palm Desert**	**2.13**	**156**			Pn		16 13 00.2	-1.6
PMD	**Palm Desert**	**2.13**	**156**		IAML			16 13 34.0	
	comp=N,63nm,0.4s								
PMD					IAML			16 13 34.5	
	comp=E,97nm,0.3s								
PFO	**Pinyon Flats O**	**2.14**	**158**			Pn		16 13 00.4	-1.6
PFO					IAML			16 13 33.3	
	comp=E,70nm,0.4s								
XPFO	**Pinon Flat**	**2.15**	**158**			Pn		16 13 00.6	-1.5
FRD	**Ford Ranch, An**	**2.21**	**162**			Pn		16 13 01.9	-1.1
TPH	**Tonopah**	**2.47**	**4**			Pn		16 13 06.5	0.0
PRN	**Pahroc Range**	**2.62**	**46**			Pg		16 13 15.6	+0.2
PRN					IAML			16 13 54.8	
	comp=N,75nm,0.5s								
PRN					IAML			16 13 58.1	
	comp=E,84nm,0.6s								
LHV	**Little Huntoon**	**2.78**	**342**			Pg		16 13 18.2	-0.2
LHV					IAML			16 13 59.6	
	comp=N,33nm,0.8s								
LHV					IAML			16 14 00.2	
	comp=E,40nm,0.6s								
PMPB	**Monarch Peak**	**2.81**	**283**	Pn		Pn		16 13 10.8	-0.4
PMPB					IAML			16 13 59.5	
	comp=N,80nm,1.0s								
NV11	**Mina Array Sit**	**2.88**	**348**			Pg		16 13 19.1	-1.3
NVAR	**Mina Array Bea**	**2.90**	**346**			Pg		16 13 19.7	-1.2
W13A	**Hualapai Mount**	**2.93**	**99**			Pn		16 13 11.4	-1.5
W13A					IAML			16 14 02.7	
	comp=N,30nm,0.8s								
W13A					IAML			16 14 03.8	
	comp=E,33nm,0.8s								
BLYC	**Blythe**	**3.02**	**127**			Pn		16 13 11.5	-2.4
BLYC					IAML			16 14 02.5	
	comp=E,57nm,0.6s								
RYN	**Ryan**	**3.14**	**344**	Pn		Pn		16 13 15.5	-0.2
YUH	**Yuha Desert**	**3.20**	**157**			Pg		16 13 25.6	-1.0
CBX	**Cerro Bola**	**3.35**	**169**			Pn		16 13 18.0	-0.5
LCMT	**Little Creek M**	**3.65**	**66**			Pn		16 13 22.5	-0.2
ESJX	**Sierra Juarez**	**3.80**	**161**			Pn		16 13 24.2	-0.6

KRSC 06 16:17:15.5±0.8, **56°.00N×164°.25E, h15**km±9km, **MI3.9, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.83**	**285**	*eP*	Pb	16 17 30.8	-0.7
KBG	**Krutoberegovo**	**0.90**	**287**	*eP*	Pb	16 17 32.0	-0.8
KBG				*eS*	Sb	16 17 43.9	-0.7
BKI	**Bering**	**1.26**	**129**	*eP*	Pn	16 17 38.4	-0.1
BKI				*eS*	Sn	16 17 55.3	+0.1
SMKR	**Semkarok**	**1.66**	**292**	*eP*	Pn	16 17 44.3	+0.2
BDR	**Baidarnaya**	**1.79**	**290**	*eS*	Sb	16 18 09.9	-0.3
KLY	**Klyuchi**	**2.04**	**280**	*eP*	Pn	16 17 48.8	-0.4
MKZ	**Mys Kozlova**	**2.04**	**226**	*eP*	Pb	16 17 50.8	-1.4
MKZ				*eS*	Sn	16 18 15.8	+1.4
KIRR	**Kirishev**	**2.20**	**270**	*eP*	Pn	16 17 53.0	+1.5
KPT	**Kopyto**	**2.27**	**271**	*eP*	Pb	16 17 54.7	-1.4
KMNR	**Kamenistaya**	**2.27**	**265**	*eP*	Pb	16 17 55.8	-0.5
TUMD	**Tumrok D**	**2.33**	**251**	*eP*	Pb	16 17 56.1	-1.0
SDLR	**Sedlovina**	**4.14**	**231**	*eP*	Pn	16 18 21.7	+3.5
SMAR	**Somma**	**4.19**	**231**	*eP*	Pn	16 18 22.5	+3.5
KRX	**Arik**	**4.19**	**233**	*eP*	Pn	16 18 22.6	+3.7
AVH	**Avacha**	**4.22**	**232**	*eP*	Pn	16 18 23.1	+3.9
UGLR	**Uglovaya**	**4.22**	**231**	*eP*	Pn	16 18 22.7	+3.5
KOK	**Koryaka**	**4.24**	**233**	*eP*	Pn	16 18 23.5	+3.9
GNL	**Ganaly**	**4.32**	**240**	*eP*	Pn	16 18 25.1	+4.5
DALK	**Dalny**	**4.37**	**229**	*eP*	Pn	16 18 24.5	+3.2
PET	**Petropavlovsk**	**4.42**	**230**	*eP*	Pn	16 18 25.5	+3.6
GRL	**Gorelyy**	**5.00**	**229**	*eP*	Pn	16 18 34.5	+4.5
MTVR	**Mutnovka**	**5.01**	**228**	*eP*	Pn	16 18 34.3	+4.2
ASAK	**Asacha**	**5.20**	**228**	*eP*	Pn	16 18 37.6	+4.9

*IDC **06** 16:22:27.7±2.3, 20°.41S×179°.16W, h590km±22km, mb2.7/4, mbtmp3.6/5, Error ellipse: s-maj=39.8km s-min=28.1km az=145.0*

ISC 06 16:22:28.7±1.2, **20°.4S±0°.3×179°.2W±0°.3, h600**km, **n8,** σ1**$23/7, mb3.2/4, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.73**	**316**	P	P	16 23 50.7	-1.8
	3.6nm,0.4s,baz=131,slow=18,SNR=7.5						
ASAR	**Alice Springs**	**43.42**	**257**	P	**P**	**16 29 40.2**	**0.0**
	0.7nm,0.5s,baz=91,slow=8.3,SNR=35						
ASAR				PcP	**PcP**	**16 31 15.0**	**+0.2**
	0.5nm,1.0s,baz=107,slow=4.0,SNR=2.0						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**43.47**	**262**	P	**P**	**16 29 40.6**	**0.0**
	0.3nm,0.5s,baz=97,slow=7.2,SNR=16						
	0.3nm,0.5s						
QSPA	**South Pole Qui**	**69.63**	**180**	P	**P**	**16 32 38.8**	**0.0**
	1.1nm,1.1s,baz=51,slow=8.9,SNR=1.9						
	1.1nm,1.1s						
ILAR	**Eielson Array**	**88.51**	**13**	P	**P**	**16 34 18.1**	**+0.2**
	0.3nm,0.9s,baz=198,slow=5.7,SNR=3.0						
	0.3nm,0.9s						
HFS	**Hagfors**	**139.29**	**350**	PKhKP	PKPpre	16 40 41.6	
	1.4nm,0.8s,baz=66,slow=7.0,SNR=1.7						
AKASG	**Malin Array Be**	**142.40**	**330**	PKP	**PKPdf**	**16 40 51.9**	**-2.0**
	0.7nm,0.4s,baz=45,slow=4.8,SNR=4.9						
BRTR	**Keskin Array B**	**145.94**	**312**	PKPbc	**PKPdf**	**16 41 02.0**	**+1.4**
	0.3nm,0.7s,baz=48,slow=6.4,SNR=1.4						

*IDC **06** 16:26:02.2±1.4, 4°.27S×102°.13E, h0km, mb4.0/13, mbtmp4.0/13, Error ellipse: s-maj=48.3km s-min=17.9km az=52.0*

*DJA **06** 16:26:06.4±0.6, 5°.2°×10°.2E±°, h16km±6km, M4.4/1, MLv4.4/12, MLv4.4/1*

*NEIC **06** 16:26:08.4±2.4, 4°.5S±0°.1×102°.13E±0°.09, h52km±9km, mb4.2/14, Error ellipse: s-maj=17.6km s-min=10.7km az=216.0*

ISC 06 16:26:07.4±1.6, **4°.56S±0°.09×102°.01E±0°.09, h51**km±14km, **n59,** σ1**$08/51, mb4.2/20, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.96**	**78**		**Pn**	**16 26 24.1**	**-0.6**
MNAI	**Manna**	**0.96**	**78**	P	**Pn**	**16 26 24.5**	**-0.1**
MNAI				S	**Sn**	**16 26 36.5**	**-0.8**
KSI	**Kapahiang**	**1.07**	**33**	P	**Pn**	**16 26 26.3**	**+0.1**
KSI				S	**Sn**	**16 26 40.6**	**+0.5**
LHSI	**Lahat**	**1.68**	**64**	P	**Pn**	**16 26 34.8**	**+0.5**
LHSI				S	**Sn**	**16 26 56.7**	**+2.0**
LWLI	**Liwa**	**2.09**	**103**	P	**Pn**	**16 26 40.1**	**0.0**
LWLI				S	**Sn**	**16 27 06.6**	**+1.6**
MDSI	**Maura Dua**	**2.16**	**88**	P	**Pn**	**16 26 41.4**	**+0.4**
MDSI				S	**Sn**	**16 27 08.0**	**+1.4**
CGJI	**Cibinong**	**4.19**	**119**	P	**Pn**	**16 27 08.1**	**-0.7**
SISI	**Saibi**	**4.34**	**318**	P	**Pn**	**16 27 12.3**	**+1.4**
PPI	**Padang Panjang**	**4.39**	**338**	P	Pn	16 27 19.8	+8.3
CNJI	**Cibinong**	**5.77**	**118**	P	**Pn**	**16 27 29.9**	**-0.7**
MYKOM	**Kota Tinggi**	**6.57**	**16**	Pn	**Pn**	**16 27 42.3**	**+0.8**
GSI	**Gunungsitoli**	**7.32**	**323**		**Pn**	**16 27 52.9**	**+1.1**
GSI	**Gunungsitoli**	**7.32**	**323**	P	**Pn**	**16 27 51.8**	**0.0**
UGM	**Wanagama**	**9.09**	**112**	Pn	**Pn**	**16 28 16.9**	**+0.8**
JAGI	**Jajag, Banyuwa**	**12.67**	**108**	Pn	**Pn**	**16 29 02.6**	**-2.4**
UBPT	**Khong Chiam**	**20.01**	**10**	P	**P**	**16 30 34.8**	**-1.3**
PHRA	**Phrae**	**22.98**	**356**	P	**P**	**16 31 08.2**	**+0.3**
PHRA				IAmb	IAmb	16 31 09.3	
	comp=Z,9.0nm,1.4s						
CMAR	**Chiang Mai Arr**	**23.07**	**353**	P	**P**	**16 31 08.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**23.07**	**353**	P	**P**	**16 31 08.1**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=169,slow=9.3,SNR=12						
	comp=Z,1.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**26.74**	**122**	P	**P**	**16 31 41.9**	**-0.5**
H08S2	**Diego Garcia H**	**29.51**	**263**	T	T	17 02 39.6	
	baz=85,slow=74,SNR=2.1						
H08S3	**Diego Garcia H**	**29.52**	**263**	T	T	17 02 38.3	
	baz=85,slow=74,SNR=44						
H08S1	**Diego Carcia H**	**29.52**	**263**	T	T	17 02 39.1	
	baz=85,slow=74,SNR=6.6						
MTN	**Manton Dam**	**29.91**	**108**	P	**P**	**16 32 11.9**	**+1.1**
MTN				IAmb	IAmb	16 32 31.3	
	comp=Z,14nm,1.4s						
H01W3	**Cape Leeuwin H**	**32.19**	**161**	T	T	17 06 27.0	
	baz=339,slow=76,SNR=5.2						
H01W2	**Cape Leeuwin H**	**32.21**	**161**	T	T	17 06 25.8	
	baz=339,slow=76,SNR=6.6						
H01W1	**Cape Leeuwin H**	**32.21**	**161**	T	T	17 06 28.1	
	baz=339,slow=76,SNR=6.2						
WB0	**Warramunga Arr**	**34.97**	**118**	P	**P**	**16 32 55.5**	**+0.4**
WB0				IAmb	IAmb	16 33 38.5	
	comp=Z,4.1nm,1.2s						
WRA	**Warramunga Arr**	**34.99**	**119**	P	**P**	**16 32 56.8**	**+1.6**
WRA	**Warramunga Arr**	**34.99**	**119**	P	**P**	**16 32 55.1**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=304,slow=8.5,SNR=6.4						
	comp=Z,0.2nm,0.5s						
WR8	**Warramunga Arr**	**35.13**	**119**	P	**P**	**16 32 56.2**	**-0.3**
WR8				IAmb	IAmb	16 33 24.8	
	comp=Z,5.6nm,1.2s						
EVN	**Everest**	**35.50**	**336**	P	**P**	**16 32 60.0**	**-0.2**
EVN				IAmb	IAmb	16 33 10.4	
	comp=Z,3.8nm,0.7s						
ASAR	**Alice Springs**	**36.14**	**125**	P	**P**	**16 33 06.0**	**+0.9**
ASAR	**Alice Springs**	**36.14**	**125**	P	**P**	**16 33 08.8**	**+3.7**
	comp=Z,0.9nm,0.3s,baz=295,slow=7.8,SNR=38						
	comp=Z,0.9nm,0.3s						
AS31	**Alice Springs**	**36.14**	**125**	P	**P**	**16 33 05.3**	**+0.2**
KSRS	**Korea Array**	**48.26**	**28**	P	**P**	**16 34 42.5**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=239,slow=6.9,SNR=2.7						
	comp=Z,1.0nm,0.9s						
SONM	**Songino Array**	**52.32**	**4**	P	**P**	**16 35 14.1**	**0.0**
SONM				IAmb	IAmb	16 35 15.7	
	comp=Z,1.4nm,0.6s						
SONM	**Songino Array**	**52.32**	**4**	P	**P**	**16 35 14.7**	**+0.6**
	comp=Z,2.1nm,0.5s,baz=187,slow=11,SNR=11						
	comp=Z,2.1nm,0.5s						
MJAR	**Matsushiro Arr**	**53.06**	**37**	P	**P**	**16 35 17.6**	**-2.1**
	comp=Z,0.6nm,0.6s,baz=210,slow=7.8,SNR=1.7						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**54.03**	**343**	P	**P**	**16 35 27.4**	**+0.8**
MKAR	**Makanchi Array**	**54.03**	**343**	P	**P**	**16 35 27.0**	**+0.3**
	comp=Z,2.6nm,0.5s,baz=153,slow=9.0,SNR=38						
	comp=Z,2.6nm,0.5s						
USRK	**Ussuriysk Ar.**	**55.52**	**26**	P	**P**	**16 35 36.9**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=218,slow=4.8,SNR=6.5						
	comp=Z,1.7nm,0.5s						
KURBB	**Kurchatov Arra**	**58.57**	**343**	P	**P**	**16 35 58.5**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=161,slow=6.7,SNR=9.1						
	comp=Z,0.6nm,0.6s						
KURK	**Kurchatov**	**58.62**	**343**	P	**P**	**16 35 58.9**	**-0.3**
KURK				IAmb	IAmb	16 36 00.3	
	comp=Z,1.5nm,0.8s						
H04N2	**CROZET ISLANDS**	**59.98**	**218**	T	T	17 40 56.1	
	baz=62,slow=74,SNR=26						
H04N1	**CROZET ISLANDS**	**60.00**	**218**	T	T	17 40 57.3	
	baz=62,slow=74,SNR=32						
H04N3	**CROZET ISLANDS**	**60.00**	**218**	T	T	17 40 55.2	
	baz=62,slow=74,SNR=29						
ZAA0	**Zalesovo Array**	**60.05**	**348**	P	**P**	**16 36 08.0**	**-1.0**
ZALV	**Zalesovo Beam**	**60.05**	**348**		**P**	**16 36 08.0**	**-1.0**
ZALV	**Zalesovo Beam**	**60.05**	**348**	P	**P**	**16 36 08.7**	**-0.3**
	comp=Z,3.6nm,0.4s,baz=158,slow=6.0,SNR=20						
	comp=Z,3.6nm,0.4s						
H04S1	**CROZET ISLANDS**	**60.24**	**217**	T	T	17 41 12.1	
	baz=61,slow=75,SNR=16						
H04S3	**CROZET ISLANDS**	**60.25**	**217**	T	T	17 41 11.7	
	baz=61,slow=75,SNR=28						
H04S2	**CROZET ISLANDS**	**60.25**	**217**	T	T	17 41 13.0	
	baz=61,slow=75,SNR=27						
BVAR	**Borovoye Array**	**63.27**	**339**	P	**P**	**16 36 30.7**	**0.0**
	comp=Z,1.7nm,0.4s						
	comp=Z,1.7nm,0.4s						
BRVK	**Borovoye**	**63.34**	**339**	P	**P**	**16 36 30.8**	**-0.3**
AB31	**Akbulak array**	**64.84**	**331**	P	**P**	**16 36 40.9**	**-0.2**
AB31				IAmb	IAmb	16 36 42.6	
	comp=Z,1.7nm,1.0s						
ABKAR	**Akbulak array**	**64.84**	**331**	P	**P**	**16 36 41.0**	**-0.1**
ARTI	**Arti**	**70.39**	**336**	P	**P**	**16 37 15.5**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=62,slow=2.3,SNR=3.2						
	comp=Z,1.4nm,0.5s						
FINES	**FINESS Array B**	**87.30**	**332**	P	**P**	**16 38 50.1**	**+1.7**
	comp=Z,1.3nm,0.9s,baz=102,slow=9.7,SNR=3.8						
	comp=Z,1.3nm,0.9s						

*NEIC **06** 16:31:50.2±1.6, 35°.672N±0°.009×117°.510W±0°.009, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.7km az=309.0*

PAS 06 16:31:50.7±1.4, **35°.680N±0°.010×117°.53W±0°.01, h5**km±2km, **ML3.1**/21, **ML2.5**/58(NEIC), **Error ellipse: s-maj=1.7km s-min=1.4km az=108.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.18**	**274**		Pg	16 31 54.7	+0.5
CCCA	**Chr Cany lake**	**0.21**	**138**		Pg	16 31 55.2	+0.5
TOW	**Tower One**	**0.23**	**304**		Pg	16 31 55.7	+0.5
LRMC	**Laurel Mtn Rad**	**0.23**	**212**		Pg	16 31 55.3	0.0
LRMC					Sg	16 31 58.7	+0.3
LRMC	**Laurel Mtn Rad**	**0.23**	**212**	IAML		16 31 59.4	
	comp=N,3μm,0.2s						
LRMC				IAML		16 31 59.7	
	comp=E,3μm,0.2s						
WNMM	**Nine Mile Cany**	**0.34**	**298**		Pg	16 31 57.4	0.0
WVPM	**Volcano Peak E**	**0.35**	**319**		Pg	16 31 57.6	-0.1
MPMC	**Manual Prospec**	**0.38**	**5**		Pg	16 31 58.0	-0.2
MPMC					Sg	16 32 03.4	+0.3
MPMC	**Manual Prospec**	**0.38**	**5**	IAML		16 32 05.1	
	comp=E,1μm,0.4s						
MPMC				IAML		16 32 05.2	
	comp=N,794nm,0.5s						
MFS	**Mcloud Flat S**	**0.51**	**329**		Pg	16 32 00.4	-0.1
QSM	**Queen of Sheba**	**0.61**	**62**		Sg	16 32 10.4	0.0
GSC	**Goldstone, Bar**	**0.70**	**122**	Pg	Pg	16 32 03.5	-0.7
HYS	**Haystack Butte**	**0.81**	**182**		Pb	16 32 07.0	-0.4
GWY	**Greenwater Val**	**0.86**	**54**		Pg	16 32 07.1	-0.3
GWY				IAML		16 32 21.0	
	comp=N,241nm,0.4s						
GWY	**Greenwater Val**	**0.86**	**54**		Sg	16 32 19.1	+0.6
CWC	**Cottonwood Cre**	**0.88**	**330**	Pg	Pg	16 32 06.7	-0.9
CWC				IAML		16 32 22.3	
	comp=N,162nm,0.2s						
CWC				IAML		16 32 22.5	
	comp=E,150nm,0.2s						
EDW2	**Edwards Air Fo**	**0.88**	**206**		Pg	16 32 07.9	+0.3
EDW2					Sb	16 32 20.5	-0.2
TPO	**Tropico Hills**	**0.98**	**216**		Pg	16 32 09.3	-0.2
SBB	**Saddle Back Bu**	**1.02**	**194**		Pg	16 32 09.7	-0.5
SHOC	**Shoshone, Teco**	**1.04**	**78**		Pg	16 32 10.3	-0.4
ADO	**Adelanto Recei**	**1.13**	**176**		Sb	16 32 28.4	+0.6
SPG2	**Springville 2**	**1.13**	**298**		Pg	16 32 11.3	-1.1
VTV	**Victorville**	**1.13**	**171**		Sb	16 32 27.7	-0.1
ARVC	**Arvin**	**1.20**	**243**		Pn	16 32 14.4	+0.3
CJV	**Casa Juvan**	**1.25**	**204**		Pg	16 32 14.0	-0.7
AMDNV	**Amargosa**	**1.27**	**52**		Pg	16 32 14.5	-0.6
DSCC	**Desert Studies**	**1.28**	**114**		Pg	16 32 14.1	-1.3
GRAC	**Grapevine Rang**	**1.32**	**6**		Pb	16 32 16.4	+0.4
WCT	**Wildcat Mounta**	**1.33**	**33**		Pn	16 32 14.0	-2.1
WCT				IAML		16 32 34.8	
	comp=E,85nm,0.4s						
WCT				IAML		16 32 34.9	
	comp=N,67nm,0.6s						
TUQ	**Turquoise Moun**	**1.33**	**100**		Pn	16 32 14.8	-1.4
BFSC	**Mount Baldy Ra**	**1.44**	**184**		Pn	16 32 16.0	-1.7
BFSC				IAML		16 32 37.2	
	comp=E,102nm,0.5s						
BFSC				IAML		16 32 37.4	
	comp=N,106nm,0.2s						
MWC	**Mount Wilson**	**1.52**	**197**		Pn	16 32 17.4	-1.4
PASC	**Pasadena Art C**	**1.60**	**200**		Pn	16 32 17.4	-2.3
PASC				IAML		16 32 45.6	
	comp=E,83nm,0.5s						
PASC				IAML		16 32 45.8	
	comp=N,47nm,0.5s						
MTPC	**Mountain Pass**	**1.62**	**96**		Pn	16 32 18.3	-1.9
GMN	**Gold Mountain**	**1.63**	**8**		Pg	16 32 22.8	+0.7
TPNV	**Topopah Spring**	**1.64**	**39**		Pn	16 32 18.4	-2.0
TPNV				IAML		16 32 47.0	
	comp=N,44nm,0.6s						
TPNV				IAML		16 32 47.6	
	comp=N,72nm,1.1s						
DSP	**Deep Springs**	**1.72**	**348**		Pg	16 32 23.4	-0.3
DSP				IAML		16 32 46.5	
	comp=E,48nm,0.4s						
GMRC	**Granite Mounta**	**1.77**	**120**		Pn	16 32 23.0	+0.8
ELS	**Elsinore Mount**	**2.03**	**178**		Pn	16 32 24.8	-0.8
ELS				IAML		16 33 00.7	
	comp=E,51nm,0.6s						
ELS				IAML		16 33 02.4	
	comp=N,44nm,0.6s						
SHPR	**Sheep Range**	**2.09**	**66**		Pn	16 32 25.1	-1.5
V12A	**Nelson**	**2.18**	**88**	Pn	Pn	16 32 26.2	-1.6
V12A				IAML		16 32 59.9	
	comp=N,23nm,1.1s						
V12A				IAML		16 33 05.8	
	comp=E,29nm,0.5s						
BENR	**Benton**	**2.20**	**338**		Pb	16 32 31.5	+0.3
PMD	**Palm Desert**	**2.24**	**155**	Pn	Pn	16 32 27.6	-1.0
PMD				IAML		16 33 03.1	
	comp=E,34nm,0.6s						
PMD				IAML		16 33 05.8	
	comp=N,28nm,0.3s						
PFO	**Pinyon Flats O**	**2.24**	**156**		Pn	16 32 27.8	-0.9
PFO				IAML		16 33 08.8	
	comp=N,31nm,0.9s						
TPH	**Tonopah**	**2.40**	**6**		Pg	16 32 36.2	-0.6
LHV	**Little Huntoon**	**2.68**	**343**		Pg	16 32 41.3	-0.8
LHV				IAML		16 33 25.3	
	comp=N,15nm,0.7s						
LHV				IAML		16 33 43.0	
	comp=E,14nm,1.0s						
BSM	**San Miguel Isl**	**2.84**	**236**		Pn	16 32 35.3	-1.5
W13A	**Hualapai Mount**	**3.04**	**100**		Pn	16 32 38.0	-1.6
SPR3	**Spring Creek 3**	**4.18**	**37**	IAML		16 34 08.8	
	comp=E,5.4nm,1.1s						
SPR3				IAML		16 34 31.6	
	comp=N,4.7nm,4.2s						
BEKR	**Beckworth**	**4.74**	**333**	IAML		16 34 30.9	
	comp=E,7.6nm,0.8s						
BEKR				IAML		16 34 36.2	
	comp=N,5.0nm,3.6s						

*TEH **06** 16:35:17.5, 38°.41N×44°.13E, h10km±104km*
*AFAD **06** 16:35:17.0, 38°.35N×44°.13E, h7km±4km, ML3.0*
*AZER **06** 16:35:18.9, 38°.33N×44°.15E, h2km, ml3.1*

ISC 06 16:35:17.8±1.1, **38°.35N±0°.02×44°.12E±0°.02, h5**km±10km, **n35,** σ1**$69/60, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.33**	**342**	P	**Pg**	**16 35 23.2**	**-1.1**
OZAP				S	**Sg**	**16 35 28.7**	**+0.1**
OZAP				*i*	IAML	16 35 31.0	
	comp=N,3μm,0.7s						
OZAP				*i*	IAML	16 35 35.0	
	comp=E,3μm,0.5s						
TVAN	**Van**	**0.59**	**288**	P	**Pg**	**16 35 28.1**	**-1.1**
TVAN				S	**Sb**	**16 35 38.3**	**-1.2**
TVAN				*i*	IAML	16 35 54.0	
	comp=N,1μm,0.8s						
TVAN				*i*	IAML	16 35 55.0	
	comp=E,1μm,0.7s						
YOVA	**Hakkari_Yksek**	**0.77**	**170**	P	**Pb**	**16 35 33.0**	**-0.8**
YOVA				S	**Sn**	**16 35 47.3**	**-0.3**
YOVA				*i*	IAML	16 35 52.0	
	comp=E,388nm,0.8s						
YOVA				*i*	IAML	16 35 54.0	
	comp=N,323nm,0.5s						
CLDR	**Caldiran**	**0.81**	**349**	P	Pg	16 35 28.4	-4.9
GEVA	**Gevas**	**0.84**	**268**	P	**Pg**	**16 35 32.4**	**-1.4**
GEVA				S	**Sb**	**16 35 45.8**	**-0.7**
GEVA				*i*	IAML	16 35 50.0	
	comp=N,575nm,0.4s						
GEVA				*i*	IAML	16 35 53.0	
	comp=E,521nm,0.4s						
HAKT	**HAKKARI**	**0.85**	**203**	P	**Pg**	**16 35 33.5**	**-0.7**
HAKT				S	**Sn**	**16 35 49.4**	**-0.3**
HAKT				*i*	IAML	16 35 50.0	
	comp=E,500nm,0.7s						
HAKT				*i*	IAML	16 35 55.0	
	comp=N,513nm,0.3s						
HAKT	**HAKKARI**	**0.85**	**203**	P	**Pg**	**16 35 33.8**	**-0.4**
HAKT				S	**Sn**	**16 35 49.3**	**-0.4**
MAKU	**Maku**	**1.10**	**23**	Pg	**Pg**	**16 35 36.7**	**-2.2**
MAKU				Sg	**Sg**	**16 35 52.2**	**-0.9**
CUKT	**Cukurca**	**1.17**	**200

QRD	**Qoradiz**	**2.73**	**65**	P		**Pb**	**16 36 04.3**	**-2.8**
QRD				S		**Sb**	**16 36 38.4**	**-2.5**
GANJ	**Ganja**	**2.86**	**36**	P		**Pn**	**16 36 05.7**	**+1.7**
GANJ				S		**Sb**	**16 36 41.6**	**-2.9**
QZX	**Qazax, Azerbai**	**2.87**	**19**	P		**Pb**	**16 36 06.4**	**-3.1**
QZX				S		**Sn**	**16 36 40.9**	**+1.7**
YRD	**Yardimli**	**3.27**	**79**	P		**Pn**	**16 36 11.8**	**+1.9**
YRD				S		**Sn**	**16 36 50.7**	**+1.3**
LRK	**Lerik**	**3.32**	**84**	P		**Pn**	**16 36 12.2**	**+1.7**
LRK				S		**Sn**	**16 36 51.9**	**+1.4**
LKRN	**Lenkeran, Azer**	**3.67**	**83**	P		**Pn**	**16 36 16.8**	**+1.6**
LKRN				S		**Sn**	**16 36 59.7**	**+0.9**
IDHR	**Dehrash**	**4.07**	**153**	Pn		**Pn**	**16 36 23.3**	**+2.3**

*NEIC **06** 16:36:05.0±2.5,35°.58N±0°.01×117°.50W±0°.01,h11km±1km, Error ellipse: s-maj=2.8km s-min=2.3km az=192.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; M_{rr}-0.12; $M_{\theta\theta}$-1.47; $M_{\phi\phi}$1.59; $M_{r\theta}$0.09; $M_{\theta\phi}$0.12; $M_{\phi r}$-0.49; Fault plane solution: $M_0$1.62000×10¹⁵ NP1: ϕ_s136.60000°,δ83.01000°,λ166.15000°. NP2: ϕ_s228.32000°,δ76.25000°,λ7.20000°. Principal axes: T 1.7237, Plg15.0000°, Azm92.0000°; N -0.2359, Plg75.0000°, Azm290.0000°; P -1.4878, Plg5.0000°, Azm183.0000°;*

*IDC **06** 16:36:05.0±0.7,35°.55N×117°.46W,h0km,mb3.4/3, mbtmp3.5/10,ML3.9/7,MS3.1/15 Error ellipse: s-maj=16.0km s-min=5.1km az=73.0*

*NEIC **06** 16:36:05.7,35°.62N×117°.45W,h24km*

*PAS **06** 16:36:05.8±2.9,35°.57N±0°.01×117°.52W±0°.01,h10km±5km, ML4.3/176,mb4.0/7(NEIC),ML4.1/118(NEIC), Mwr4.1/132(NEIC),Error ellipse: s-maj=2.1km s-min=0.8km az=214.0*

ISC 06 16:36:05.3±0.8,35°.56N±0°.02×117°.51W±0°.02,h15km±5km, n115,σ1§34/113,mb3.5/4,MS3.1/11,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.12**	**107**		**Pb**	**16 36 09.3**	**-0.1**
CCCA					**Sg**	**16 36 12.1**	**+0.8**
LRMC	**Laurel Mtn Rad**	**0.16**	**240**		**Pg**	**16 36 09.3**	**-0.2**
LRMC	**Laurel Mtn Rad**	**0.16**	**240**	IAML		16 36 12.7	
	comp=N,159µm,0.4s						
LRMC				IAML		16 36 12.8	
	comp=E,131µm,0.3s						
SRTC	**Snort**	**0.23**	**304**		**Pb**	**16 36 10.7**	**-0.6**
CLC	**China Lake**	**0.27**	**344**		**Pg**	**16 36 10.8**	**-0.3**
CLC					**Sg**	**16 36 14.7**	**-0.2**
TOW	**Tower One**	**0.32**	**320**		**Pb**	**16 36 12.2**	**-0.6**
TOW					**Sb**	**16 36 17.4**	**-0.5**
DTP	**Desert Tortois**	**0.40**	**223**		**Pg**	**16 36 13.3**	**-0.1**
DTP					**Sg**	**16 36 18.9**	**0.0**
WNMM	**Nine Mile Cany**	**0.43**	**311**		**Pg**	**16 36 13.9**	**0.0**
WVPM	**Volcano Peak E**	**0.46**	**327**		**Pg**	**16 36 14.2**	**-0.4**
WVPM					**Sg**	**16 36 20.8**	**-0.1**
MPMC	**Manual Prospec**	**0.50**	**2**		**Pg**	**16 36 14.8**	**-0.4**
MPMC					**Sg**	**16 36 21.9**	**-0.1**
MPMC	**Manual Prospec**	**0.50**	**2**	IAML		16 36 22.4	
	comp=N,8µm,0.6s						
MPMC				IAML		16 36 24.2	
	comp=E,10µm,0.7s						
WCSM	**Coso Springs S**	**0.51**	**336**		**Pg**	**16 36 15.2**	**-0.3**
WCSM					**Sg**	**16 36 22.1**	**-0.2**
WBSM	**Bird Springs**	**0.51**	**268**		**Pg**	**16 36 15.3**	**-0.3**
WBSM					**Sg**	**16 36 22.4**	**-0.1**
WRVM	**Rose V. Centra**	**0.54**	**325**		**Pg**	**16 36 15.6**	**-0.4**
WRVM					**Sg**	**16 36 23.1**	**-0.3**
CCAC	**Calif City Air**	**0.58**	**226**		**Sg**	**16 36 24.6**	**+0.1**
WORM	**Onyx Ranch**	**0.61**	**283**		**Sg**	**16 36 16.9**	**-0.5**
WORM					**Sg**	**16 36 24.8**	**-0.7**
MFS	**McCloud Flat S**	**0.62**	**333**		**Pg**	**16 36 17.2**	**-0.4**
MFS					**Sg**	**16 36 25.8**	**-0.1**
GSC	**Goldstone, Bar**	**0.63**	**114**		**Pb**	**16 36 17.7**	**-0.3**
GSC				IAML		16 36 33.3	
	comp=E,15µm,0.5s						
QSM	**Queen of Sheba**	**0.66**	**52**		**Pb**	**16 36 18.1**	**-0.4**
QSM				Sg	**Sb**	**16 36 27.1**	**-0.4**
HYS	**Haystack Butte**	**0.70**	**184**		**Pg**	**16 36 18.8**	**-0.1**
HYS					**Sg**	**16 36 28.1**	**0.0**
WHFM	**Hanning Flat**	**0.70**	**281**		**Pg**	**16 36 18.4**	**-0.5**
WHFM					**Sg**	**16 36 27.4**	**-0.8**
EDW2	**Edwards Air Fo**	**0.79**	**210**		**Sg**	**16 36 31.3**	**+0.4**
ISA	**Isabella, Lake**	**0.79**	**278**		**Pg**	**16 36 20.1**	**-0.6**
ISA					**Sg**	**16 36 30.4**	**-0.8**
RRX	**Edison Barstow**	**0.80**	**148**		**Sb**	**16 36 31.9**	**+0.3**
WASM	**Alta Sierra Ca**	**0.87**	**282**		**Pg**	**16 36 21.6**	**-0.6**
WASM					**Sg**	**16 36 33.4**	**-0.3**
TPO	**Tropico Hills**	**0.90**	**221**		**Pg**	**16 36 22.4**	**-0.3**
SBB	**Saddle Back Bu**	**0.91**	**197**		**Pg**	**16 36 22.5**	**-0.4**
SBB					**Sg**	**16 36 34.8**	**0.0**
GWY	**Greenwater Val**	**0.93**	**47**		**Pb**	**16 36 23.0**	**-0.1**
GWY	**Greenwater Val**	**0.93**	**47**		**Sb**	**16 36 35.2**	**0.0**
CWC	**Cottonwood Cre**	**0.99**	**332**		**Pb**	**16 36 24.3**	**0.0**
CWC	**Cottonwood Cre**	**0.99**	**332**	IAML		16 36 38.5	
	comp=N,4µm,0.2s						
CWC				IAML		16 36 40.0	
	comp=E,3µm,0.5s						
VTV	**Victorville**	**1.01**	**172**		**Pg**	**16 36 24.5**	**-0.2**
VTV					**Sn**	**16 36 39.5**	**+0.6**
ADO	**Adelanto Recei**	**1.01**	**176**		**Pb**	**16 36 24.8**	**+0.3**
CGO	**Cerro Gordo**	**1.02**	**347**		**Pg**	**16 36 24.2**	**-0.8**
TEJ	**El Tejon**	**1.02**	**251**		**Pg**	**16 36 23.9**	**-1.0**
FURC	**Furnace Creek,**	**1.05**	**30**		**Sn**	**16 36 39.8**	**+0.1**
SHOC	**Shoshone, Teco**	**1.06**	**71**		**Pg**	**16 36 25.1**	**-0.6**
ALPC	**Antelope**	**1.09**	**217**		**Pg**	**16 36 25.8**	**-0.5**
LRRC	**Littlerock Res**	**1.12**	**203**		**Pb**	**16 36 26.2**	**0.0**
BFSC	**Mount Baldy Ra**	**1.32**	**185**		**Pn**	**16 36 29.5**	**+0.2**
SIL	**Silver Peak**	**1.33**	**155**		**Pn**	**16 36 29.7**	**+0.2**
WCT	**Wildcat Mounta**	**1.42**	**30**		**Pn**	**16 36 30.7**	**0.0**
WCT				IAML		16 36 51.9	
	comp=E,3µm,0.7s						
WCT				IAML		16 36 56.8	
	comp=N,3µm,0.7s						
GRAC	**Grapevine Rang**	**1.44**	**5**		**Pn**	**16 36 31.1**	**+0.2**
GRAC				IAML		16 36 56.3	
	comp=N,4µm,0.8s						
GRAC				IAML		16 36 56.6	
	comp=E,4µm,0.7s						
PASC	**Pasadena Art C**	**1.49**	**202**		**Pn**	**16 36 31.8**	**+0.3**
LCGC	**La Cienega, Cu**	**1.71**	**205**		**Pg**	**16 36 39.9**	**+1.7**
TPNV	**Topopah Spring**	**1.72**	**36**		**Pn**	**16 36 35.1**	**+0.2**
GMN	**Gold Mountain**	**1.75**	**7**		**Pn**	**16 36 35.8**	**+0.5**
GMN				IAML		16 37 11.3	
	comp=N,2µm,0.7s						
BLAC	**Blackrock camp**	**1.75**	**148**		**Pn**	**16 36 35.3**	**+0.2**
DSP	**Deep Springs**	**1.84**	**349**		**Pn**	**16 36 36.9**	**+0.5**
ELS	**Elsinore Mount**	**1.91**	**178**		**Pn**	**16 36 37.7**	**+0.4**
MURC	**Murrieta**	**1.97**	**172**		**Pn**	**16 36 38.7**	**+0.5**
BACC	**Bachelor Mtn.**	**1.98**	**169**		**Pn**	**16 36 38.6**	**+0.3**
PMD	**Palm Desert**	**2.12**	**154**	IAML		16 37 18.4	
	comp=E,1µm,1.2s						
SHPR	**Sheep Range**	**2.12**	**63**		**Pn**	**16 36 40.8**	**+0.4**
SHPR				IAML		16 37 15.8	
	comp=N,1µm,0.6s						
SHPR				IAML		16 37 23.8	
	comp=E,927nm,0.8s						
PFO	**Pinyon Flats O**	**2.13**	**156**		**Pn**	**16 36 40.4**	**0.0**
PFO				IAML		16 37 19.0	
	comp=E,1µm,2.1s						
PFO				IAML		16 37 19.6	
	comp=E,1µm,0.8s						
PFO	**Pinyon Flats O**	**2.13**	**156**	Pn	**Pn**	**16 36 40.6**	**+0.2**
	comp=E,8.9nm,0.3s,baz=341,slow=14,SNR=58						
PFO				Pg	**Pb**	**16 36 44.6**	**+1.0**
	comp=E,61nm,0.3s,baz=337,slow=15,SNR=84						
PFO				Sn	**Sn**	**16 37 06.3**	**-0.3**
	comp=E,42nm,0.3s,baz=311,slow=18,SNR=5.4						
PFO				LR	LR	16 37 09.0	
	comp=E,118nm,19.6s,baz=326,slow=30						
PFO				Lg	Lg	16 37 12.0	
	comp=E,169nm,0.3s,baz=247,slow=21,SNR=7.5						
	comp=E,85nm,0.3s						
MZP	**Montezuma Peak**	**2.14**	**3**		**Pn**	**16 36 41.3**	**+0.6**
V12A	**Nelson**	**2.17**	**85**		**Pn**	**16 36 40.7**	**-0.2**
V12A				IAML		16 37 35.7	
	comp=N,764nm,0.8s						
MATG	**Mataguay Scout**	**2.46**	**163**		**Pn**	**16 36 45.5**	**+0.6**
TPH	**Tonopah**	**2.52**	**5**		**Pn**	**16 36 46.5**	**+0.7**
CPE	**Camp Elliot**	**2.69**	**173**	IAML		16 37 35.1	
	comp=N,491nm,0.6s						
CPE				IAML		16 37 35.3	
	comp=E,547nm,0.7s						
PRN	**Pahroc Range**	**2.71**	**46**		**Pn**	**16 36 49.0**	**+0.7**
EML	**El Monte Cty P**	**2.72**	**168**		**Pn**	**16 36 49.2**	**+0.8**
PMPB	**Monarch Peak**	**2.75**	**285**		**Pn**	**16 36 49.5**	**+0.6**
PMPB				IAML		16 37 38.3	
	comp=N,1µm,0.9s						
PMPB				IAML		16 37 40.3	
	comp=E,1µm,1.0s						
LHV	**Little Huntoon**	**2.80**	**344**		**Pn**	**16 36 50.9**	**+1.4**
LHV				IAML		16 37 40.5	
	comp=E,682nm,0.8s						
LHV				IAML		16 37 51.6	
	comp=N,578nm,1.2s						
NV11	**Mina Array Sit**	**2.91**	**350**		**Pn**	**16 36 52.2**	**+1.0**
NVAR	**Mina Array Bea**	**2.93**	**348**		**Pn**	**16 36 52.3**	**+0.7**
NVAR	**Mina Array Bea**	**2.93**	**348**	Pn	**Pn**	**16 36 52.5**	**+1.0**
	comp=N,8.1nm,0.3s,baz=171,slow=15,SNR=79						
NVAR				Pg	**Pg**	**16 36 59.9**	**-1.7**
	comp=N,56nm,0.3s,baz=168,slow=15,SNR=112						
NVAR				Lg	Lg	16 37 38.9	
	comp=N,14nm,0.3s,baz=161,slow=33,SNR=4.2						
	comp=N,14nm,0.5s						
W13A	**Hualapai Mount**	**3.00**	**98**		**Pn**	**16 36 52.4**	**-0.1**
W13A				IAML		16 37 50.3	
	comp=E,348nm,0.9s						
BBGB	**Big Mountain B**	**3.04**	**291**		**Pn**	**16 36 54.7**	**+1.9**
BLYC	**Blythe**	**3.05**	**125**		**Pn**	**16 36 52.1**	**-0.8**
BLYC				IAML		16 37 43.4	
	comp=E,872nm,0.6s						
BLYC				IAML		16 37 45.9	
	comp=N,976nm,0.6s						
RYN	**Ryan**	**3.17**	**345**		**Pn**	**16 36 55.8**	**+1.1**
R11B	**Troy Canyon, C**	**3.18**	**28**		**Pn**	**16 36 55.0**	**+0.1**
R11B				IAML		16 37 50.1	
	comp=E,302nm,0.6s						
CBX	**Cerro Bola**	**3.31**	**168**		**Pn**	**16 36 57.9**	**+1.2**
GLA	**Glamis**	**3.34**	**138**		**Pn**	**16 36 56.5**	**-0.6**
CMB	**Columbia Colle**	**3.38**	**318**	IAML		16 37 54.2	
	comp=E,742nm,1.5s						
CMB				IAML		16 37 55.7	
	comp=N,572nm,1.1s						
SAO	**San Andreas Ge**	**3.41**	**292**		**Pn**	**16 36 58.8**	**+1.0**
CCUT	**Cedar City**	**3.88**	**58**	IAML		16 38 07.7	
	comp=N,311nm,0.6s						
CCUT				IAML		16 38 13.9	
	comp=E,273nm,0.9s						
Y14A	**Wickenburg**	**4.05**	**112**	IAML		16 38 20.2	
	comp=N,440nm,0.7s						
Y14A				IAML		16 38 26.4	
	comp=E,330nm,1.1s						
KNB	**Kanab**	**4.06**	**68**	IAML		16 38 15.7	
	comp=N,222nm,1.6s						
KNB				IAML		16 38 19.4	
	comp=E,241nm,0.8s						
SZCU	**Shurtz Canyon**	**4.10**	**59**		**Pn**	**16 37 09.1**	**+1.5**
SZCU				IAML		16 38 29.3	
	comp=E,177nm,0.6s						
SZCU				IAML		16 38 32.3	
	comp=N,215nm,1.3s						
PSUT	**Pine Spring**	**4.17**	**43**	IAML		16 38 26.7	
	comp=E,429nm,1.1s						
113A	**Mohawk Valley,**	**4.17**	**131**	IAML		16 38 20.3	
	comp=E,210nm,1.7s						
113A				IAML		16 38 31.3	
	comp=N,173nm,1.6s						
SPR3	**Spring Creek 3**	**4.27**	**35**	IAML		16 38 20.6	
	comp=N,275nm,1.2s						
SPR3				IAML		16 38 21.6	
	comp=E,342nm,1.3s						
AFDM	**Forest Hills D**	**4.37**	**322**	IAML		16 38 27.6	
	comp=E,403nm,1.0s						
AFDM				IAML		16 38 31.5	
	comp=N,335nm,0.9s						
BEKR	**Beckworth**	**4.86**	**333**	IAML		16 38 51.4	
	comp=N,230nm,0.9s						
WUAZ	**Wupatki**	**5.00**	**89**	IAML		16 38 57.8	
	comp=N,179nm,0.9s						
WUAZ				IAML		16 38 59.9	
	comp=N,175nm,1.6s						
ORV	**Oroville**	**5.09**	**323**	IAML		16 38 55.5	
	comp=E,212nm,1.0s						
ORV				IAML		16 38 56.0	
	comp=N,178nm,1.2s						
X16A	**Lo Mia Camp, P**	**5.11**	**101**	IAML		16 38 58.4	
	comp=N,130nm,1.1s						
X16A				IAML		16 39 00.2	
	comp=E,104nm,1.2s						
214A	**Organ Pipe Nat**	**5.31**	**131**		**Pn**	**16 37 23.0**	**-1.1**
214A				IAML		16 39 08.2	
	comp=N,144nm,1.3s						
214A				IAML		16 39 09.6	
	comp=E,157nm,1.3s						
ELK	**Elko**	**5.48**	**18**	Pn	**Pn**	**16 37 28.1**	**+1.5**
	comp=E,1.3nm,0.3s,baz=213,slow=9.8,SNR=25						
ELK				Pg	**Pb**	**16 37 45.0**	**+4.2**
	comp=E,1.1nm,0.3s,baz=234,slow=12,SNR=8.5						
ELK				Sn	**Sn**	**16 38 31.0**	**+1.7**
	comp=E,1.8nm,0.3s,baz=244,slow=17,SNR=1.5						
ELK				Lg	Lg	16 38 56.9	
	comp=E,10nm,0.3s,baz=276,slow=16,SNR=8.8						
	comp=E,5.3nm,0.4s						
YBH	**Yreka Blue Hor**	**7.38**	**328**	Pn	**Pn**	**16 37 56.6**	**+4.1**
	baz=164,slow=7.4,SNR=1.4						
YBH				Sn	**Sn**	**16 39 19.7**	**+3.6**
	baz=158,slow=14,SNR=3.5						
YBH				Lg	Lg	16 39 52.6	
	baz=195,slow=5.1,SNR=6.4						
YBH				LR	LR	16 40 36.5	
	comp=E,8.9nm,20.7s,baz=186,slow=37						
ANMO	**Albuquerque**	**9.06**	**91**	Pn	**Pn**	**16 38 18.1**	**+2.4**
	comp=E,0.3nm,0.3s,baz=358,slow=12,SNR=4.4						
ANMO				Lg	Lg	16 40 48.4	
	comp=E,0.3nm,0.3s,baz=267,slow=12,SNR=4.6						
	comp=E,1.4nm,0.5s						
PDAR	**Pinedale Array**	**9.48**	**38**	Pn	**Pn**	**16 38 25.9**	**+4.5**
	comp=E,0.4nm,0.3s,baz=224,slow=10,SNR=4.6						
PDAR				Lg	Lg	16 40 58.4	
	comp=E,0.3nm,0.3s,baz=221,slow=13,SNR=1.2						
PDAR				LR	LR	16 41 27.2	
	comp=E,34nm,21.9s,baz=222,slow=34						
	comp=E,0.7nm,0.4s						
NEW	**Newport**	**12.70**	**1**	Pn	**Pn**	**16 39 07.0**	**+1.7**
	comp=E,0.1nm,0.3s,baz=92,slow=6.0,SNR=3.2						
NEW				Lg	Lg	16 42 46.5	
	comp=E,0.1nm,0.3s,baz=103,slow=18,SNR=1.2						
NEW				LR	LR	16 45 01.3	
	comp=E,56nm,19.9s,baz=214,slow=42						
	comp=E,0.8nm,0.7s						
TXAR	**Lajitas Array**	**13.23**	**114**	Pn	**Pn**	**16 39 14.8**	**+2.1**
	comp=E,0.4nm,0.3s,baz=292,slow=13,SNR=32						
TXAR				LR	LR	16 44 50.0	
	comp=E,48nm,21.7s,baz=280,slow=40						
	comp=E,0.8nm,0.4s						
SGCY	**Sterling City**	**14.11**	**100**		**Pn**	**16 39 20.3**	**-4.3**
LLLB	**Lillooet**	**15.37**	**349**	Pn	**Pn**	**16 39 36.3**	**-5.3**
LLLB				IAmb	IAmb	16 39 50.8	
	comp=Z,5.0nm,0.7s						
TUL3	**Leonard**	**17.64**	**83**	P	**Pn**	**16 40 10.1**	**-0.3**
TUL3				IAmb	IAmb	16 40 13.9	
	comp=Z,8.8nm,0.8s						
MIAR	**Mount Ida**	**19.61**	**86**	P	**P**	**16 40 30.1**	**-3.0**
MIAR				IAmb	IAmb	16 40 38.5	
	comp=Z,9.9nm,1.0s						
AGMN	**Agassiz Nation**	**20.44**	**45**	P	**P**	**16 40 40.7**	**-1.3**
AGMN				IAmb	IAmb	16 40 55.4	
	comp=Z,3.9nm,1.0s						
ULM	**Lac du Bonnet**	**21.49**	**40**	P	**P**	**16 40 52.2**	**-1.1**
ULM	**Lac du Bonnet**	**21.49**	**40**	P	**P**	**16 40 56.8**	**+3.5**
	comp=Z,5.9nm,0.8s,baz=213,slow=11,SNR=5.0						
ULM				LR	LR	16 49 39.2	
	comp=Z,72nm,18.4s,baz=196,slow=38						
	comp=Z,5.9nm,0.8s						
DLBC	**Dease Lake**	**24.34**	**344**	LR	LR	16 51 48.6	
	comp=Z,9.4nm,20.1s,baz=139,slow=39						
TBO	**Thunder Bay**	**24.45**	**49**	P	**P**	**16 41 22.5**	**-0.9**
TBO				IAmb	IAmb	16 41 25.2	
	comp=Z,3.6nm,0.8s						
YKA	**Yellowknife Ar**	**27.02**	**3**	P	**P**	**16 41 48.1**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=189,slow=9.4,SNR=6.3						
YKA				LR	LR	16 53 18.4	
	comp=Z,33nm,19.3s,baz=240,slow=38						
	comp=Z,0.3nm,0.7s						
CMIG	**Matias Romero**	**27.27**	**127**	LR	LR	16 52 53.4	
	comp=Z,59nm,21.2s,baz=192,slow=37						
TKL	**Tuckaleechee C**	**27.35**	**80**	LR	LR	16 52 01.6	
	comp=Z,46nm,20.2s,baz=184,slow=35						
SADO	**Sadowa**	**30.49**	**61**	LR	LR	16 55 31.0	
	comp=Z,49nm,20.8s,baz=318,slow=38						
KDAK	**Kodiak Island**	**32.18**	**325**	LR	LR	16 53 12.9	
	comp=Z,57nm,18.1s,baz=146,slow=32						
ILAR	**Eielson Array**	**34.15**	**338**	P	**P**	**16 42 50.1**	**+0.8**
	comp=Z,0.1nm,0.6s,baz=120,slow=6.2,SNR=1.6						
	comp=Z,0.1nm,0.6s						
JTS	**Las Juntas de**	**38.82**	**122**	LR	LR	16 59 49.2	
	comp=Z,54nm,18.0s,baz=282,slow=37						
SCHQ	**Schefferville**	**39.54**	**45**	LR	LR	16 58 57.2	
	comp=Z,42nm,19.9s,baz=229,slow=35						
RAR	**Rarotonga**	**69.22**	**222**	LR	LR	17 10 00.1	
	comp=Z,40nm,21.7s,baz=308,slow=29						
NOA	**NORSAR Array B**	**75.08**	**23**	LR	LR	17 19 59.0	
	comp=Z,11nm,18.6s,baz=0.0,slow=35						

*NEIC **06** 16:38:00.7±0.9,35°.596N±0°.009×117°.38W±0°.01, h5km±1km,Error ellipse: s-maj=2.4km s-min=1.7km az=230.0*

PAS 06 16:38:01.4±1.0,35°.595N±0°.009×117°.38W±0°.01, h4km±2km,ML3.5/25,ML2.9/38(NEIC),Error ellipse: s-maj=1.5km s-min=1.3km az=57.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.07**	**172**		Pg	16 38 03.4	+0.5
LRMC	**Laurel Mtn Rad**	**0.28**	**245**		Sg	16 38 10.7	+0.4
LRMC	**Laurel Mtn Rad**	**0.28**	**245**	Pg	Pg	16 38 06.7	0.0
LRMC				IAML		16 38 11.1	
	comp=N,5µm,0.2s						
LRMC				IAML		16 38 11.2	
	comp=E,4µm,0.3s						
SRTC	**Snort**	**0.32**	**288**		Pg	16 38 07.9	+0.4
TOW	**Tower One**	**0.38**	**304**		Pg	16 38 09.2	+0.5
MPMC	**Manual Prospec**	**0.47**	**349**		Pg	16 38 10.2	-0.2
MPMC					Sg	16 38 17.1	+0.4
MPMC	**Manual Prospec**	**0.47**	**349**	IAML		16 38 17.2	
	comp=E,809nm,0.6s						
MPMC				IAML		16 38 17.5	
	comp=N,782nm,0.4s						
DTP	**Desert Tortois**	**0.50**	**230**		Pg	16 38 10.8	-0.3
WVPM	**Volcano Peak E**	**0.50**	**315**		Pg	16 38 11.0	-0.1
GSC	**Goldstone, Bar**	**0.55**	**122**	Pg	Pg	16 38 11.6	-0.3
QSM	**Queen of Sheba**	**0.55**	**48**		Pg	16 38 12.1	+0.1
QSM	**Queen of Sheba**	**0.55**	**48**	IAML		16 38 25.0	
	comp=N,660nm,0.2s						
WRVM	**Rose V. Centra**	**0.59**	**315**		Pg	16 38 12.4	-0.2
WBSM	**Bird Springs**	**0.62**	**265**		Pg	16 38 13.1	-0.3
CCAC	**Calif City Air**	**0.69**	**230**		Sg	16 38 23.9	+0.5
HYS	**Haystack Butte**	**0.75**	**192**		Pg	16 38 15.6	-0.1
HYS					Sg	16 38 25.3	-0.1
WHFM	**Hanning Flat**	**0.80**	**278**		Pg	16 38 16.1	-0.6
GWY	**Greenwater Val**	**0.82**	**44**	Pg	Pg	16 38 16.9	-0.3
GWY				IAML		16 38 33.6	
	comp=N,482nm,0.6s						
GWY				IAML		16 38 39.9	
	comp=E,504nm,0.5s						
ISA	**Isabella, Lake**	**0.90**	**275**		Pg	16 38 17.9	-0.7
SBB	**Saddle Back Bu**	**0.98**	**202**		Pg	16 38 19.5	-0.6
CWC	**Cottonwood Cre**	**1.02**	**326**	Pg	Pg	16 38 20.2	-0.6
CWC				IAML		16 38 37.5	
	comp=E,243nm,0.2s						
SPG2	**Springville 2**	**1.28**	**299**		Pg	16 38 25.1	-0.9
WCT	**Wildcat Mounta**	**1.34**	**27**		Pn	16 38 26.1	-0.9
BFSC	**Mount Baldy Ra**	**1.37**	**190**		Pn	16 38 27.0	-0.4
BFSC				IAML		16 38 45.8	
	comp=E,268nm,0.7s						
MWC	**Mount Wilson**	**1.48**	**202**		Pn	16 38 28.5	-0.4
GTM	**Goat Mountain**	**1.54**	**147**		Pn	16 38 30.0	+0.2
PASC	**Pasadena Art C**	**1.57**	**205**		Pn	16 38 28.8	-1.2
PASC				IAML		16 38 53.7	
	comp=N,186nm,0.6s						
PASC				IAML		16 38 55.6	
	comp=E,142nm,0.4s						
TPNV	**Topopah Spring**	**1.63**	**34**		Pn	16 38 30.2	-0.8
TPNV				IAML		16 38 56.5	
	comp=E,214nm,1.0s						
TPNV				IAML		16 38 57.3	
	comp=E,165nm,0.6s						
DSP	**Deep Springs**	**1.83**	**345**	Pn	Pn	16 38 33.3	-0.3
DSP				IAML		16 38 45.4	
	comp=E,92nm,1.3s						
POB	**Polly Butte**	**1.94**	**169**		Pn	16 38 34.4	-0.8
ELS	**Elsinore Mount**	**1.94**	**181**	Pn	Pn	16 38 34.4	-0.9
ELS				IAML		16 39 04.1	
	comp=E,128nm,0.4s						
ELS				IAML		16 39 11.2	
	comp=N,80nm,0.5s						
V12A	**Nelson**	**2.06**	**86**	Pn	Pn	16 38 35.4	-1.5
V12A				IAML		16 39 07.3	
	comp=N,75nm,0.6s						
V12A				IAML		16 39 07.6	
	comp=E,111nm,1.2s						
PMD	**Palm Desert**	**2.11**	**157**	Pn	Pn	16 38 36.0	-1.5
PFO	**Pinyon Flats O**	**2.12**	**159**	Pn	Pn	16 38 36.7	-1.0
W13A	**Hualapai Mount**	**2.90**	**99**	Pn	Pn	16 38 47.0	-1.5

*NEIC **06** 16:41:12.5±1.6,35°.91N±0°.01×99°.47W±0°.02,h13km±6km, Error ellipse: s-maj=2.5km s-min=1.5km az=139.0*

NEIC 06 16:41:12.4±0.9,35°.91N±0°.01×99°.47W±0°.02,h7km±5km, mb_Lg2.5/45,ML2.9/21,ML2.9/18,Error ellipse: s-maj=2.9km s-min=1.7km az=106.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELIS	**Ellis County**	**0.16**	**15**		Pg	16 41 16.4	+0.7
ELIS				IAML		16

comp=Z,13nm,0.7s
PLPT Palo Pinto 3.24 163 Pg 16 42 13.3 -1.1
PLPT IAmb_Lg 16 43 00.9
comp=Z,13nm,0.8s
ABTX Abilene, Hawle 3.29 183 Pn 16 42 05.1 +0.7
POST Post 3.30 211 IAmb_Lg 16 43 03.3
comp=Z,14nm,0.7s
MSTX Muleshoe 3.34 235 IAmb_Lg 16 42 56.1
comp=Z,13nm,1.1s
FW07 Weatherford 3.49 156 IAmb_Lg 16 43 04.8
comp=Z,12nm,0.8s
RLO Rose Lookout 3.61 85 Pn Pn 16 42 08.8 +0.1
FW14 Alvarado 3.98 151 IAmb_Lg 16 43 16.3
comp=Z,10nm,0.8s
U38A Gravette 4.14 81 Pn 16 42 16.5 +0.3
SGCY Sterling City 4.22 200 IAmb_Lg 16 43 32.7
comp=Z,8.4nm,0.8s
BRDY Brady 4.63 175 IAmb_Lg 16 43 42.5
comp=Z,12nm,0.8s
MIAR Mount Ida 5.01 104 IAmb_Lg 16 44 04.9
comp=Z,7.2nm,0.8s
MNHN Monahans 5.33 212 IAmb_Lg 16 44 08.0
comp=Z,7.3nm,0.7s
JCT Junction City 5.43 183 IAmb_Lg 16 44 16.3
comp=Z,10.0nm,0.8s
Q24A Divide 5.45 306 IAmb_Lg 16 44 12.8
comp=Z,10nm,1.0s
X40A Basin Creek Fa 5.61 103 IAmb_Lg 16 44 17.7
comp=Z,9.7nm,1.0s
WHAR Wooly Hollow 5.88 94 IAmb_Lg 16 44 32.0
comp=Z,7.2nm,1.0s
FCAR Ozark Folk Cen 5.96 88 IAmb_Lg 16 44 22.0
comp=Z,9.4nm,1.0s
R40A Maddies Statio 6.22 65 IAmb_Lg 16 44 31.9
comp=Z,6.9nm,0.8s
P40A Paris 6.90 56 IAmb_Lg 16 44 51.9
comp=Z,7.3nm,0.7s
PBMO Poplar Bluff 7.34 81 IAmb_Lg 16 45 10.5
comp=Z,7.2nm,0.7s
FVM French Village 7.53 71 IAmb_Lg 16 45 13.4
comp=Z,8.4nm,0.9s

NEIC ***06*** *16:42:04.7±1.7,35°.861N±0°.008×117°.69W±0°.01, h5km±3km, Error ellipse: s-maj=1.6km s-min=0.6km az=131.0*

PAS 06 16:42:05.1±1.0, 35°.88N±0°.01×117°.72W±0°.01, h3km±3km, ML3.5/135, ML3.2/50(NEIC), Error ellipse: s-maj=1.7km s-min=1.5km az=156.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**210**		Pg	16 42 07.4	+0.7
CLC	**China Lake**	**0.12**	**122**		Pg	16 42 07.5	0.0
CLC					Sg	16 42 09.3	+0.4
WNMM	**Nine Mile Cany**	**0.16**	**257**		Pg	16 42 08.5	+0.3
WNMM					Sg	16 42 11.2	+0.9
WRVM	**Rose V. Centra**	**0.19**	**313**		Pg	16 42 09.1	+0.2
WRVM					Sg	16 42 11.9	+0.5
MPMC	**Manual Prospec**	**0.26**	**46**		Pg	16 42 10.2	0.0
MPMC					Sg	16 42 13.9	+0.4
MPMC	**Manual Prospec**	**0.26**	**46**	IAML		16 42 14.1	
MPMC	comp=E,7μm,0.3s			IAML		16 42 15.6	
LRMC	**Laurel Mtn Rad**	**0.40**	**176**		Pg	16 42 12.7	-0.1
LRMC					Sg	16 42 18.4	+0.5
LRMC	**Laurel Mtn Rad**	**0.40**	**176**	IAML		16 42 18.8	
LRMC	comp=E,4μm,0.4s			IAML		16 42 19.5	
CCCA	**Chr Cany lake**	**0.45**	**141**		Pg	16 42 12.4	-1.5
WORM	**Onyx Ranch**	**0.46**	**247**		Pg	16 42 13.9	-0.1
WBSM	**Bird Springs**	**0.48**	**225**		Pg	16 42 14.3	-0.1
WBSM					Sg	16 42 21.1	+0.4
WHFM	**Hanning Flat**	**0.55**	**251**		Pg	16 42 15.5	-0.1
DTP	**Desert Tortois**	**0.62**	**190**		Pg	16 42 16.6	-0.3
DTP					Sg	16 42 25.2	+0.2
CWC	**Cottonwood Cre**	**0.63**	**332**		Pg	16 42 17.5	+0.1
CWC					Sg	16 42 25.8	+0.2
CWC	**Cottonwood Cre**	**0.63**	**332**	IAML		16 42 29.4	
CWC	comp=E,1μm,0.2s			IAML		16 42 29.7	
ISA	**Isabella, Lake**	**0.65**	**251**		Pg	16 42 17.5	-0.1
ISA					Sg	16 42 26.1	0.0
CGO	**Cerro Gordo**	**0.68**	**354**		Pg	16 42 17.7	-0.4
CGO					Sg	16 42 27.6	+0.7
QSM	**Queen of Sheba**	**0.69**	**83**		Pg	16 42 17.9	-0.5
QSM				IAML		16 42 31.0	
QSM	comp=N,2μm,0.5s			IAML		16 42 31.2	
QSM	**Queen of Sheba**	**0.69**	**83**		Sg	16 42 27.4	0.0
WASM	**Alta Sierra Ca**	**0.70**	**259**		Sg	16 42 27.8	+0.3
CCAC	**Calif City Air**	**0.76**	**199**		Sg	16 42 30.0	+0.3
GWY	**Greenwater Val**	**0.90**	**70**		Sg	16 42 34.3	+0.1
GWY	**Greenwater Val**	**0.90**	**70**		Pg	16 42 22.2	-0.3
GWY				IAML		16 42 40.2	
FURC	**Furnace Creek,**	**0.91**	**49**		Pg	16 42 22.5	-0.1
FURC					Sg	16 42 34.9	+0.6
SPG2	**Springville 2**	**0.91**	**291**		Sg	16 42 21.9	-0.7
SPG2					Sg	16 42 33.9	-0.4
GSC	**Goldstone, Bar**	**0.94**	**127**		Sg	16 42 35.0	-0.3
GSC	**Goldstone, Bar**	**0.94**	**127**		Pg	16 42 22.4	-0.7
GSC	comp=N,819nm,0.3s			IAML		16 42 37.3	
TPO	**Tropico Hills**	**1.08**	**203**		Sg	16 42 39.5	-0.3
GRAC	**Grapevine Rang**	**1.15**	**14**		Pg	16 42 26.5	-0.7
GRAC	comp=N,771nm,0.5s			IAML		16 42 46.6	
RRX	**Edison Barstow**	**1.16**	**149**		Pg	16 42 26.6	-0.8
RRX					Sb	16 42 43.5	+0.3
SHOC	**Shoshone, Teco**	**1.17**	**88**		Pg	16 42 26.7	-0.8
SHOC					Sg	16 42 42.0	-0.1
SBB	**Saddle Back Bu**	**1.19**	**184**		Sg	16 42 26.7	-1.2
TJR	**Tejon Ranch**	**1.19**	**225**		Sg	16 42 42.5	-0.9
BAKC	**Calstate**	**1.25**	**245**		Pg	16 42 28.6	-0.4
WCT	**Wildcat Mounta**	**1.27**	**44**		Pg	16 42 28.6	-0.9
WCT	comp=E,366nm,0.6s			IAML		16 42 47.8	
ALPC	**Antelope**	**1.28**	**202**		Pg	16 42 28.5	-1.2
LEOC	**Leona Valley**	**1.33**	**201**		Pg	16 42 29.3	-1.4
LRRC	**Littlerock Res**	**1.37**	**191**		Pn	16 42 29.6	-1.5
CJV	**Casa Juvan**	**1.39**	**195**		Pn	16 42 29.9	-1.6
CJV					Sg	16 42 49.3	-0.5
VOG	**Valley Oaks Go**	**1.42**	**289**		Pn	16 42 31.3	-0.5
VOG					Sb	16 42 49.4	-1.4
JNH	**Juniper Hills**	**1.44**	**188**		Pn	16 42 30.8	-1.5
GMN	**Gold Mountain**	**1.47**	**14**		Pn	16 42 32.4	-0.3
GMN	comp=N,193nm,0.5s			IAML		16 42 56.4	
DSP	**Deep Springs**	**1.50**	**352**		Pn	16 42 32.3	-0.7
CHFC	**Chilao Flat St**	**1.56**	**189**		Pb	16 42 34.4	-0.4
BCW	**Bitter Crk WRg**	**1.67**	**236**		Pg	16 42 37.0	-0.2
MWC	**Mount Wilson**	**1.67**	**190**	IAML		16 43 01.5	
PASC	comp=E,413nm,0.5s			IAML		16 43 04.7	
PASC	**Pasadena Art C**	**1.75**	**193**		Pn	16 42 35.3	-1.1
CRGC	**Crocker Grade**	**1.76**	**249**		Pn	16 42 37.1	+0.5
PSRC	**Puddingstone R**	**1.78**	**182**		Pn	16 42 36.4	-0.4
SVD	**Seven Oaks Dam**	**1.84**	**164**		Pb	16 42 38.9	-0.6
MZP	**Montezuma Peak**	**1.84**	**8**		Pb	16 42 39.6	0.0
MLAC	**Mammoth, Mammo**	**1.97**	**333**		Pb	16 42 41.9	+0.2
GMRC	**Granite Mounta**	**2.00**	**122**		Pn	16 42 37.6	-2.4
MCSM	**Casa Diablo Ho**	**2.02**	**332**		Pb	16 42 42.6	0.0
TPH	**Tonopah**	**2.23**	**10**		Pb	16 42 46.5	+0.3
TPH	comp=E,237nm,0.3s			IAML		16 43 18.1	
ELS	**Elsinore Mount**	**2.24**	**174**		Pn	16 42 41.9	-1.2
ELS	comp=E,82nm,0.5s			IAML		16 43 20.6	
ELS	comp=N,101nm,1.1s			IAML		16 43 23.1	
CRY	**Cary Ranch**	**2.44**	**160**		Pn	16 42 45.1	-0.9
PMD	**Palm Desert**	**2.48**	**153**	IAML		16 43 33.2	
PFO	**Pinyon Flats O**	**2.49**	**155**		Pn	16 42 45.1	-1.5
PFO	comp=E,80nm,1.5s			IAML		16 43 29.0	
PFO	comp=E,66nm,0.9s			IAML		16 43 30.1	
MYLM	**Yosemite Lake**	**2.64**	**305**		Pb	16 42 52.0	-1.1
DPP	**Dos Picos Cty**	**2.94**	**167**		Pb	16 42 58.0	-0.2
WAKR	**Walker**	**2.96**	**333**		Pb	16 42 59.6	+1.0
WAKR	comp=E,48nm,0.6s			IAML		16 43 48.3	
WAKR	comp=N,45nm,0.9s			IAML		16 43 52.0	
R11B	**Troy Canyon, C**	**3.00**	**34**	Pg	Pg	16 43 01.4	-1.2
GLA	**Glamis**	**3.69**	**139**		Pg	16 43 13.5	-2.4
LCMT	**Little Creek M**	**3.78**	**71**	Pn	Pn	16 43 04.5	+0.1
PAHR	**Pah Rah Range**	**4.04**	**341**		Pg	16 43 20.2	-2.5
PSUT	**Pine Spring**	**4.07**	**48**	Pg	Pg	16 43 22.4	-0.6
ELK	**Elko**	**5.24**	**21**		Pn	16 43 24.7	+0.2

IDC ***06*** *16:42:16.8±2.2,20°.66S×179°.57E, h353km±18km, mb3.1/7, mbtmp3.8/8, Error ellipse: s-maj=33.7km s-min=22.5km az=89.0*

ISC 06 16:42:16.1±1.6, 20°.7S±0°.2×179°.7E±0°.3, h350km, n9, σ1§24/9, mb3.5/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.30**	**332**	P	**Pn**	**16 43 18.7**	**+0.3**
ASAR	11nm,0.6s,baz=173,slow=8.1,SNR=16 **Alice Springs** 0.5nm,0.7s,baz=86,slow=6.9,SNR=11	**42.34**	**257**	P	**P**	**16 49 36.1**	**-1.2**
WRA	0.5nm,0.7s **Warramunga Arr** 0.5nm,0.4s,baz=91,slow=8.4,SNR=22	**42.40**	**263**	P	**P**	**16 49 38.0**	**+0.1**
VNDA	0.5nm,0.4s **Vanda** 0.9nm,0.7s,baz=0.0,slow=8.1,SNR=6.9	**57.55**	**185**	P	**P**	**16 51 30.3**	**+0.7**
MJAR	0.9nm,0.7s **Matsushiro Arr** 0.7nm,0.7s,baz=155,slow=6.6,SNR=1.5	**69.08**	**325**	P	**P**	**16 52 45.4**	**+0.2**
KSRS	0.7nm,0.7s **Korea Array** 1.0nm,1.0s,baz=115,slow=8.2,SNR=1.7	**75.59**	**320**	P	**P**	**16 53 24.1**	**+1.0**
USRK	1.0nm,1.0s **Ussurisk Ar.** 1.8nm,0.9s,baz=131,slow=4.0,SNR=3.0	**77.90**	**327**	P	**P**	**16 53 35.7**	**-0.1**
CMAR	1.8nm,0.9s **Chiang Mai Arr** 1.0nm,0.8s,baz=109,slow=4.7,SNR=5.9	**88.11**	**290**	P	**P**	**16 54 29.3**	**+1.0**
BRTR	1.0nm,0.8s **Keskin Array B** 0.3nm,0.5s,baz=90,slow=3.9,SNR=2.2	**145.31**	**311**	PKPbc	**PKPdf**	**17 01 10.7**	**-2.3**

NEIC ***06*** *16:47:19.9±2.4,35°.80N±0°.03×117°.72W±0°.04, h5km±1km, Error ellipse: s-maj=5.7km s-min=4.6km az=134.0*

PAS 06 16:47:21.5±1.5, 35°.89N±0°.05×117.73W±0°.03, h5km±6km, ML3.0/105, ML2.6/44(NEIC), Error ellipse: s-maj=7.3km s-min=1.9km az=204.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**199**		Pg	16 47 26.2	+2.9
WNMM	**Nine Mile Cany**	**0.15**	**254**		Pg	16 47 27.0	+2.6
SRTC	**Snort**	**0.19**	**184**		Pg	16 47 25.7	+0.4
SRTC					Sg	16 47 29.5	+1.6
MFS	**McCloud Flat S**	**0.25**	**337**		Pg	16 47 26.5	0.0
MPMC	**Manual Prospec**	**0.26**	**49**		Pg	16 47 26.6	-0.1
MPMC	**Manual Prospec**	**0.26**	**49**	IAML		16 47 30.5	
MPMC	comp=N,1μm,0.5s			IAML		16 47 30.9	
WORM	comp=E,954nm,0.3s **Onyx Ranch**	**0.46**	**246**		Pg	16 47 30.0	-0.3
WHFM	**Hanning Flat**	**0.54**	**250**		Pg	16 47 31.6	-0.3
CWC	**Cottonwood Cre**	**0.62**	**333**		Pg	16 47 33.5	+0.1
CWC	**Cottonwood Cre**	**0.62**	**333**		Sg	16 47 33.7	-7.9
CWC				IAML		16 47 42.5	
CWC	comp=E,533nm,0.2s			IAML		16 47 45.4	
ISA	comp=N,486nm,0.2s **Isabella, Lake**	**0.64**	**250**		Pg	16 47 33.5	-0.3
CGO	**Cerro Gordo**	**0.67**	**355**		Pg	16 47 34.3	-0.1
CGO					Sg	16 47 43.6	+0.6
QSM	**Queen of Sheba**	**0.70**	**83**	Pg	Pg	16 47 33.7	-1.3
QSM	comp=E,434nm,0.5s			IAML		16 47 47.5	
CCAC	**Calif City Air**	**0.77**	**198**		Pg	16 47 35.5	-0.7
SPG2	**Springville 2**	**0.90**	**291**		Pg	16 47 37.8	-0.9
GWY	**Greenwater Val**	**0.91**	**70**		Pg	16 47 38.7	-0.3
GWY	**Greenwater Val**	**0.91**	**70**	IAML		16 47 53.7	
GSC	comp=N,219nm,0.4s **Goldstone, Bar**	**0.95**	**127**	Pn	Pn	16 47 42.6	+1.0
AMDNV	**Amargosa**	**1.30**	**64**		Pn	16 47 45.9	-0.4
GMN	**Gold Mountain**	**1.46**	**15**		Pn	16 47 46.7	-2.1
GMN	comp=N,51nm,0.4s			IAML		16 48 11.9	
TPNV	**Topopah Spring**	**1.60**	**48**		Pn	16 47 47.1	-3.5
TPNV	comp=N,91nm,0.6s			IAML		16 48 15.6	
MTUM	**Tungsten Hills**	**1.61**	**336**		Pb	16 47 51.4	-0.4
MWC	**Mount Wilson**	**1.68**	**189**		Pn	16 47 48.6	-3.1
MWC	comp=E,80nm,0.6s			IAML		16 48 12.7	
MZP	**Montezuma Peak**	**1.83**	**9**		Pb	16 47 56.1	+0.5
SHPR	**Sheep Range**	**2.17**	**73**		Pn	16 47 57.7	-0.7
ELS	**Elsinore Mount**	**2.25**	**174**	Pn	Pn	16 47 57.6	-1.7
ELS				IAML		16 49 10.7	
ELS	comp=E,36nm,0.3s			IAML		16 49 14.6	
V12A	comp=N,22nm,0.7s **Nelson**	**2.35**	**93**		Pg	16 48 05.4	-1.0
V12A				IAML		16 49 14.8	
V12A	comp=N,26nm,0.9s			IAML		16 49 16.8	
LHV	comp=E,18nm,0.5s **Little Huntoon**	**2.44**	**346**	Pg	Pg	16 48 07.5	-0.8
LHV				IAML		16 48 22.1	
LHV	comp=E,19nm,1.1s			IAML		16 48 47.5	
NV11	comp=N,20nm,1.9s **Mina Array Sit**	**2.56**	**353**		Pg	16 48 09.5	-1.1
NVAR	**Mina Array Bea**	**2.58**	**350**	Pg	Pb	16 48 09.6	+1.2
PRN	**Pahroc Range**	**2.64**	**54**	Pg	Pg	16 48 11.6	-0.5
BBGB	**Big Mountain B**	**2.76**	**285**	Pn	Pn	16 48 05.8	-0.7
RYN	**Ryan**	**2.81**	**347**	Pg	Pg	16 48 14.9	-0.4
WAKR	**Walker**	**2.95**	**333**	Pn	Pn	16 48 08.5	-0.6
WAKR	comp=E,19nm,0.5s			IAML		16 48 55.8	
WAKR	comp=N,13nm,0.6s			IAML		16 49 13.8	
CMB	**Columbia Colle**	**3.02**	**316**	Pn	Pn	16 48 08.8	-1.2
CMB				IAML		16 48 57.4	
CMB	comp=N,19nm,0.6s			IAML		16 49 00.9	
LCMT	comp=E,17nm,1.1s **Little Creek M**	**3.79**	**71**	Pn	Pn	16 48 20.1	-0.6

NEIC ***06*** *16:59:17.0±1.5,24°.47S±0°.09×179°.4W±0°.2, h470km±12km, mb4.4/28, Error ellipse: s-maj=23.2km s-min=12.9km az=83.0*

IDC ***06*** *16:59:23.9±1.7,24°.41S×179°.86E, h498km±17km, mb3.3/9, mbtmp4.0/11, Error ellipse: s-maj=19.1km s-min=18.1km az=139.0*

ISC 06 16:59:23.8±0.7, 24°.49S±0°.09×179°.9E±0°.1, h500km, n49, σ1§19/46, mb4.3/21, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.14**	**158**	P	P	17 00 43.4	-8.5
MSVF	**Nonsavu**	**6.93**	**345**	P	**P**	**17 01 07.2**	**-2.3**
MSVF	**Nonsavu**	**6.93**	**345**	P	**P**	**17 01 09.8**	**+0.2**
DZM	2.8nm,0.5s,baz=127,slow=20,SNR=5.2 **Mont Dzumac**	**12.58**	**278**	P	**P**	**17 02 10.5**	**+1.9**
DZM	**Mont Dzumac** 9.1nm,0.8s,baz=164,slow=23,SNR=2.0	**12.58**	**278**	P	**P**	**17 02 11.2**	**+2.6**
URZ	**Urewera** 2.1nm,0.4s,baz=336,slow=18,SNR=1.4	**13.93**	**189**	P	**P**	**17 02 23.7**	**+1.2**
URZ				S	**S**	**17 04 48.6**	**-1.4**
MRZ	9.1nm,0.9s,baz=9.0,slow=19,SNR=3.2 **Mangatainoka R**	**16.52**	**192**	P	**P**	**17 02 49.0**	**-0.7**
NNZ	**Nelson**	**17.54**	**196**	P	**P**	**17 03 00.7**	**+1.0**
THZ	**Tophouse**	**18.18**	**197**	P	**P**	**17 03 06.0**	**+0.3**
RPZ	**Rata Peaks** 7.7nm,1.0s,baz=22,slow=19,SNR=2.0	**20.50**	**199**	P	**P**	**17 03 28.3**	**+1.6**
EIDS	7.7nm,1.0s **Eidsvold**	**26.11**	**262**	P	**P**	**17 04 18.4**	**+1.3**
EIDS				IAmb	IAmb	17 04 41.5	
CAN	comp=Z,28nm,1.4s **Canberra**	**28.75**	**241**	P	**P**	**17 04 42.2**	**+1.9**
CAN				IAmb	IAmb	17 05 21.1	
CTAO	comp=Z,23nm,1.5s **Charters Tower**	**31.37**	**271**	P	**P**	**17 05 03.4**	**+0.3**
CTAO				IAmb	IAmb	17 05 04.6	
TOO	comp=Z,11nm,0.7s **Toolangi**	**32.04**	**238**	P	**P**	**17 05 08.1**	**-0.5**
TAU	**Tasmania Unive**	**32.45**	**227**	P	**P**	**17 05 11.3**	**-0.7**
STKA	**Stephens Creek**	**34.40**	**249**	P	**P**	**17 05 28.5**	**-0.2**
STKA				IAmb	IAmb	17 05 59.9	
STKA	comp=Z,30nm,1.3s **Stephens Creek**	**34.40**	**249**	P	**P**	**17 05 29.4**	**+0.7**
COEN	comp=Z,2.5nm,0.5s,baz=98,slow=12,SNR=12 comp=Z,2.5nm,0.5s **Coen**	**36.10**	**280**	P	**P**	**17 05 43.5**	**+0.4**
COEN				IAmb	IAmb	17 05 46.7	
AS31	comp=Z,7.0nm,0.9s **Alice Springs**	**41.83**	**261**	P	**P**	**17 06 29.4**	**0.0**
ASAR	**Alice Springs**	**41.83**	**261**	P	**P**	**17 06 29.2**	**-0.3**
ASAR	**Alice Springs**	**41.83**	**261**	P	**P**	**17 06 29.4**	**-0.1**
ASAR	comp=Z,1.7nm,0.5s,baz=92,slow=6.8,SNR=88			ScP	**ScP**	**17 11 17.4**	**+0.9**
WR0	comp=Z,0.4nm,0.8s,baz=114,slow=4.5,SNR=5.3 comp=Z,1.7nm,0.5s **Warramunga Arr**	**42.07**	**267**	P	**P**	**17 06 30.9**	**-0.4**
WR8	**Warramunga Arr**	**42.11**	**267**	P	**P**	**17 06 31.2**	**-0.5**
WB2	**Warramunga Arr**	**42.24**	**267**	P	**P**	**17 06 32.4**	**-0.4**
WB2	comp=Z,6.9nm,0.5s			IAmb	IAmb	17 06 32.6	
WRAB	**Tennant Creek**	**42.25**	**267**	P	**P**	**17 06 32.1**	**-0.7**
WRAB	comp=Z,4.6nm,0.5s			IAmb	IAmb	17 06 32.5	
WB0	**Warramunga Arr**	**42.25**	**267**	P	**P**	**17 06 32.3**	**-0.5**
WB0	comp=Z,6.5nm,0.6s			IAmb	IAmb	17 06 32.9	
WRA	**Warramunga Arr**	**42.26**	**267**	P	**P**	**17 06 31.9**	**-0.9**
WRA	**Warramunga Arr**	**42.26**	**267**	P	**P**	**17 06 32.3**	**-0.6**
WRA	comp=Z,5.1nm,0.5s,baz=100,slow=8.2,SNR=117 comp=Z,1.5nm,0.8s,baz=107,slow=3.8,SNR=9.4 comp=Z,5.1nm,0.5s			ScP	**ScP**	**17 11 19.3**	**+1.0**
FORT	**Forrest**	**46.00**	**250**	P	**P**	**17 07 00.5**	**-1.2**
FORT	comp=Z,7.9nm,0.9s			IAmb	IAmb	17 07 15.8	
MTN	**Manton Dam**	**47.39**	**275**	P	**P**	**17 07 10.7**	**-1.7**
KNRA	**Kununurra**	**48.57**	**270**	P	**P**	**17 07 21.3**	**0.0**
KNRA	comp=Z,15nm,1.1s			IAmb	IAmb	17 07 21.9	
BYL	**Byron's Ledge**	**49.91**	**31**	P	P	17 07 22.3	-8.8
NWAO	**Narrogin (SRO)**	**54.89**	**246**	P	**P**	**17 08 05.1**	**-1.7**
MBWA	**Marble Bar**	**55.16**	**261**	P	**P**	**17 08 06.9**	**-2.0**
MBWA	comp=Z,16nm,1.3s			IAmb	IAmb	17 08 25.9	
MORW	**Morawa**	**56.57**	**250**	P	**P**	**17 08 17.4**	**-1.1**
MORW	comp=Z,36nm,1.4s			IAmb	IAmb	17 08 19.3	
TOLI2	**Tolitoli**	**62.62**	**285**	P	**P**	**17 08 58.6**	**-0.6**
TOLI2	comp=Z,11nm,1.4s			IAmb	IAmb	17 09 02.9	
QSPA	**South Pole Qui**	**65.60**	**180**	P	**P**	**17 09 18.4**	**+1.0**
QSPA	**South Pole Qui** comp=Z,1.2nm,0.8s,baz=337,slow=0.2,SNR=12 comp=Z,1.2nm,0.6s	**65.60**	**180**	P	**P**	**17 09 18.4**	**+1.0**
KKM	**Kota Kinabalu**	**68.97**	**287**	P	**P**	**17 09 37.5**	**-1.5**
KKM	comp=Z,13nm,1.0s			IAmb	IAmb	17 10 15.3	
JNU	**Nakatsue**	**73.89**	**319**	P	P	17 10 04.3	-3.1
SNAA	**Sanae** comp=Z,0.3nm,0.5s,baz=163,slow=4.2,SNR=1.3 comp=Z,0.3nm,0.5s	**84.08**	**179**	P	**P**	**17 11 00.3**	**-0.8**
CMAR	**Chiang Mai Arr** comp=Z,0.6nm,0.8s,baz=104,slow=5.5,SNR=3.1 comp=Z,0.6nm,0.8s	**89.62**	**290**	P	**P**	**17 11 28.7**	**+0.5**
TXAR	**Lajitas Array** comp=Z,0.6nm,0.8s,baz=214,slow=5.7,SNR=9.5 comp=Z,0.6nm,0.8s	**90.84**	**58**	P	**P**	**17 11 33.6**	**-0.1**
PDAR	**Pinedale Array** comp=Z,0.1nm,0.5s,baz=240,slow=12,SNR=3.7 comp=Z,0.1nm,0.5s	**93.19**	**44**	P	**P**	**17 11 44.4**	**-0.1**
KURBB	**Kurchatov Arra** comp=Z,0.1nm,0.4s,baz=142,slow=1.6,SNR=2.1	**115.59**	**316**	PKP	**PKPdf**	**17 17 10.2**	**+1.9**
FINES	**FINESS Array B** comp=Z,0.6nm,0.6s,baz=325,slow=12,SNR=1.4	**138.97**	**341**	PKhKP	PKPpre	17 17 49.3	
NOA	**NORSAR Array B** comp=Z,1.0nm,0.9s,baz=56,slow=1.5,SNR=2.7	**142.64**	**351**	PKhKP	PKPpre	17 17 54.9	
HFS	**Hagfors** comp=Z,3.2nm,1.0s,baz=28,slow=3.5,SNR=5.9	**143.10**	**349**	PKhKP	PKPpre	17 17 55.3	
BRTR	**Keskin Array B** comp=Z,0.7nm,0.6s,baz=104,slow=4.1,SNR=4.6	**147.84**	**306**	PKPbc	**PKPdf**	**17 18 10.9**	**+2.2**

IDC ***06*** *17:00:31.9±0.9, 15°.37S×70°.14W, h215km±8km, mb3.3/7, mbtmp3.9/10, Error ellipse: s-maj=30.3km s-min=12.9km az=29.0*

VAO ***06*** *17:00:33.2±0.8, 15°.62S×70°.08W, h230km±6km, mb4.0*

ISC 06 17:00:31.8±0.7, 15°.6S±0°.1×70°.21W±0°.07, h224km, n35, σ1§10/34, mb3.5/6, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 221nm,0.5s,baz=297,slow=5.9,SNR=31	**2.13**	**111**	P	**Pn**	**17 01 14.8**	**+0.7**
LPAZ	54nm,0.6s,baz=37,slow=20,SNR=9.9			S	**S**	**17 01 46.7**	**-0.2**
LPAZ	**La Paz**	**2.13**	**111**	eP	**Pn**	**17 01 14.9**	**+0.8**
NNA	**Nana** 5.7nm,0.3s,baz=125,slow=8.4,SNR=2.0	**7.35**	**298**	P	**Pn**	**17 02 15.8**	**-1.1**
NNA	7.1nm,0.4s,baz=207,slow=13,SNR=1.7			S	**S**	**17 03 38.1**	**-2.7**
SIV	**San Ignacio** 4.0nm,0.8s,baz=272,slow=11,SNR=18	**8.81**	**94**	P	**Pn**	**17 02 34.1**	**-1.4**
BBSD	**Serra de San D**	**9.36**	**101**	eP	**Pn**	**17 02 41.6**	**-0.9**
TEFE	**Tefe**	**13.16**	**25**	eP	**Pn**	**17 03 30.9**	**+0.3**
PDRB	**Porto dos Gac**	**13.67**	**75**	eP	**P**	**17 03 37.8**	**-0.8**
CLDB	**Colider**	**14.78**	**73**	eP	**P**	**17 03 51.2**	**+0.3**
MACA	**Manacapuru-AM**	**15.47**	**38**	eP	**Pn**	**17 03 59.3**	**+0.4**
CPUP	**Villa Florida**	**16.11**	**134**	eP	**P**	**17 04 04.0**	**-1.4**
NPGB	**Novo Progresso**	**16.82**	**62**	eP	**Pn**	**17 04 14.8**	**-0.2**
OTAV	**Otavalo**	**17.67**	**332**	eP	**Pn**	**17 04 26.0**	**+0.6**
ITTB	**Itaituba**	**18.05**	**54**	eP	**P**	**17 04 27.8**	**+0.9**
SNDB	**Serra Nova Dou**	**18.71**	**81**	eP	**P**	**17 04 32.0**	**-2.0**
PCMB	**Pacaembu**	**18.94**	**111**	eP	**P**	**17 04 36.4**	**+0.1**
PTGB	**Pitanga**	**19.31**	**121**	eP	**P**	**17 04 39.5**	**-0.8**
H03N1	**Juan Fernandez** baz=26,slow=73,SNR=3.5	**19.48**	**202**	T	T	17 23 25.5	
H03N2	**Juan Fernandez** baz=26,slow=73,SNR=5.2	**19.49**	**202**	T	T	17 23 00.4	
H03N3	**Juan Fernandez** baz=26,slow=73,SNR=6.5	**19.50**	**202**	T	T	17 23 11.8	
BOAV	**Boa Vista**	**20.24**	**29**	eP	**P**	**17 04 51.7**	**+1.4**
FRTB	**Fartura**	**20.94**	**115**	eP	**P**	**17 04 56.7**	**-1.0**
IPMB	**Ipameri, GO**	**21.20**	**100**	eP	**P**	**17 04 59.9**	**-0.5**
PRPB	**Parauapebas**	**22.07**	**67**	eP	**P**	**17 05 10.1**	**+1.2**
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=153,slow=7.0,SNR=1.7 0.1nm,0.5s	**55.09**	**324**	P	**P**	**17 09 41.7**	**+0.7**
SNAA	**Sanae** 0.5nm,0.7s,baz=240,slow=3.3,SNR=5.8 0.5nm,0.

NEIC ***06*** *17:05:05.9±2.4, 19°.0N±0°.2×68°.59W±0°.04, h35km±2km, ML2.4/14, Md2.9/10(RSPR), Error ellipse: s-maj=28.9km s-min=3.1km az=12.0*
RSPR ***06*** *17:05:05.1, 18°.83N×68°.81W, h50km±1km, MD2.9/10*
ISC 06 17:05:02.9±1.5, 19°.04N±0°.07×68°.56W±0°.03, h12km±11km, n30, σ0s64/37, 6C-4D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HIDR	**Higuey Centro**	**0.47**	**199**	*i*	**Pb**	**17 05 13.3**	**+0.1**
HIDR	**Higuey Centro**	**0.47**	**199**	*eS*	**Sb**	**17 05 19.6**	**-0.4**
SMDR	**Samana, DR**	**0.65**	**293**	*eP*	**Pb**	**17 05 16.6**	**+0.3**
SMDR	**Samana, DR**	**0.65**	**293**	*eS*	**Sn**	**17 05 28.1**	**-0.1**
IDE	**Isla Desecheo**	**1.21**	**122**		**Pg**	**17 05 26.4**	**+0.2**
IDE					**Sn**	**17 05 41.7**	**-0.4**
IDE	**Isla Desecheo**	**1.21**	**122**	*eP*	**Pg**	**17 05 26.4**	**+0.2**
IDE	**Isla Desecheo**	**1.21**	**122**	*eS*	**Sn**	**17 05 41.7**	**-0.4**
AGPR	**Aguadilla, PR**	**1.48**	**112**		**Pb**	**17 05 30.4**	**0.0**
AGPR					**Sn**	**17 05 47.3**	**-1.4**
AGPR				IAML		17 05 51.1	
	comp=E,67nm,2.8s						
AGPR				IAML		17 06 12.9	
	comp=N,55nm,2.6s						
AGPR	**Aguadilla, PR**	**1.48**	**112**	*eP*	**Pb**	**17 05 30.7**	**+0.3**
AGPR	**Aguadilla, PR**	**1.48**	**112**	*eS*	**Sg**	**17 05 51.0**	**+0.4**
LSP	**Las Mesas**	**1.63**	**121**		**Pb**	**17 05 33.5**	**+0.4**
LSP					**Sb**	**17 05 54.1**	**+0.5**
LSP	**Las Mesas**	**1.63**	**121**	*eP*	**Pb**	**17 05 33.5**	**+0.4**
LSP	**Las Mesas**	**1.63**	**121**	*eS*	**Sb**	**17 05 54.1**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.71**	**126**		**Pn**	**17 05 32.5**	**-0.1**
CRPR				IAML		17 05 52.4	
	comp=N,34nm,3.0s						
CRPR					**Sn**	**17 05 54.4**	**-0.1**
CRPR				IAML		17 06 29.5	
	comp=E,31nm,1.9s						
CRPR	**Cabo Rojo, PR**	**1.71**	**126**	*eP*	**Pb**	**17 05 34.6**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.71**	**126**	*eS*	**Sg**	**17 05 57.1**	**-0.9**
MLPR	**Magueyes Islan**	**1.78**	**126**	*eP*	**Pb**	**17 05 35.8**	**+0.2**
MLPR	**Magueyes Islan**	**1.78**	**126**	*eS*	**Sb**	**17 05 57.9**	**0.0**
AOPR	**Arecibo Observ**	**1.84**	**112**		**Pn**	**17 05 34.5**	**+0.1**
AOPR					**Sb**	**17 05 59.0**	**-0.6**
AOPR				IAML		17 06 25.5	
	comp=N,34nm,2.6s						
AOPR	**Arecibo Observ**	**1.84**	**112**	*eP*	**Pb**	**17 05 36.0**	**-0.5**
AOPR	**Arecibo Observ**	**1.84**	**112**	*eS*	**Sb**	**17 06 00.5**	**+0.9**
UUPR	**Utuado, UPR, P**	**1.91**	**114**		**Pn**	**17 05 35.7**	**+0.4**
UUPR					**Sn**	**17 05 60.0**	**+0.7**
UUPR	**Utuado, UPR, P**	**1.91**	**114**	*eP*	**Pb**	**17 05 37.0**	**-0.7**
UUPR	**Utuado, UPR, P**	**1.91**	**114**	*eS*	**Sb**	**17 06 01.8**	**+0.4**
CELP	**Cerrillos**	**2.10**	**117**		**Pn**	**17 05 38.5**	**+0.5**
CELP					**Sb**	**17 06 06.8**	**-0.3**
CELP	**Cerrillos**	**2.10**	**117**	*eP*	**Pb**	**17 05 41.0**	**0.0**
CELP	**Cerrillos**	**2.10**	**117**	*eS*	**Sb**	**17 06 07.1**	**-0.1**
ECPR	**Experimental S**	**2.20**	**109**	*eS*	**Sn**	**17 06 08.0**	**+1.5**
GCPR	**Guaynabo City**	**2.45**	**107**	Pn	**Pb**	**17 05 45.2**	**-1.8**
GCPR				IAML		17 07 09.0	
	comp=N,16nm,2.4s						
SDDR	**Presa de Saban**	**2.59**	**269**	Pn	**Pn**	**17 05 44.4**	**-0.3**
SDDR				IAML		17 06 06.3	
	comp=N,19nm,2.5s						
SDDR				IAML		17 06 13.8	
	comp=N,24nm,3.5s						

SSNC ***06*** *17:08:34.7±1.6, 18°.67N×70°.34W, h8km±9km, MD3.5, ML3.5, MW2.7*
OSPL ***06*** *17:08:38.7±2.6, 18°.51N×70°.66W, h0km±10km, ML3.3*
SDD ***06*** *17:08:39.0±2.2, 18°.52N×70°.62W, h23km±12km, MD3.6, ML3.5, MW3.7*
ISC 06 17:08:37.4±1.0, 18°.53N±0°.03×70°.63W±0°.02, h25km±11km, n25, σ1s00/52, 7C-6D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABDR	**Alto Bandera**	**0.28**	**360**	*e*Pg	**Pn**	**17 08 45.1**	**-1.2**
ABDR				⇑*e*Sg	**Sn**	**17 08 50.6**	**-1.3**
ABDR				IAML		17 08 51.5	
	comp=N,9μm,0.4s						
BANI	**BANI**	**0.29**	**118**	*e*Pg	**Pn**	**17 08 45.6**	**-0.6**
BANI				*e*Sg	**Sb**	**17 08 49.4**	**+0.2**
BANI				IAML		17 08 52.0	
	comp=N,16μm,0.3s						
BRH1	**Barahona**	**0.55**	**234**	⇑*e*Pg	**Pb**	**17 08 48.6**	**+0.1**
BRH1				⇓*e*Sg	**Sn**	**17 08 57.2**	**-0.7**
SDD	**Santo Domingo**	**0.68**	**96**	*e*Pg	**Pn**	**17 08 51.3**	**-0.2**
SDD				*e*Sg	**Sb**	**17 09 00.4**	**+0.7**
SDD				*e*Sg	**Sn**	**17 09 01.4**	**+0.2**
SDD				IAML		17 09 05.0	
	comp=N,155nm,0.2s						
SDD	**Santo Domingo**	**0.68**	**96**	*i* P	**Pn**	**17 08 51.2**	**-0.2**
SDD				*e*S	**Sn**	**17 09 01.2**	**0.0**
PODR	**Polo**	**0.72**	**240**	⇑*e*Pg	**Pb**	**17 08 51.3**	**-0.2**
PODR				⇓*e*Sg	**Sb**	**17 09 01.8**	**+0.7**
PODR				IAML		17 09 03.0	
	comp=N,2μm,0.5s						
PODR	**Polo**	**0.72**	**240**	*i* P	**Pb**	**17 08 51.3**	**-0.2**
PODR				*e*S	**Sb**	**17 09 01.7**	**+0.7**
SDDR	**Presa de Saban**	**0.77**	**306**	*e*P	**Pb**	**17 08 51.8**	**-0.5**
SDDR				*e*S	**Sb**	**17 09 01.9**	**-0.6**
SDDR				*e*Sg	**Sn**	**17 09 03.0**	**-0.5**
SDDR				IAML		17 09 03.2	
	comp=N,3μm,0.4s						
SDDR				IAML		17 09 04.2	
	comp=N,2μm,0.2s						
SDDR	**Presa de Saban**	**0.77**	**306**	*e*Pg	**Pb**	**17 08 51.8**	**-0.5**
SDDR				*e*Sg	**Sb**	**17 09 02.3**	**-0.1**
SDDR				IAML		17 09 03.2	
	comp=N,3μm,0.3s						
SDDR	**Presa de Saban**	**0.77**	**306**	*i* P	**Pb**	**17 08 51.8**	**-0.5**
SDDR				*e*S	**Sb**	**17 09 02.1**	**-0.3**
SDDR				IAML		17 09 04.4	
	comp=Z,1μm,0.2s						
LODU1	**El Espartillar**	**0.82**	**258**	*i* P	**Pb**	**17 08 53.0**	**-0.1**
LODU1				*e*S	**Sb**	**17 09 04.2**	**+0.3**
LODU1				IAML		17 09 13.7	
	comp=Z,1μm,0.4s						
SC01	**Santiago de lo**	**0.90**	**354**	⇓*e*Pg	**Pn**	**17 08 55.0**	**+0.5**
SC01				⇓*e*Sg	**Sn**	**17 09 07.8**	**+1.2**
SC01				IAML		17 09 07.9	
	comp=N,1μm,0.5s						
SC01	**Santiago de lo**	**0.90**	**354**	*i* P	**Pn**	**17 08 54.9**	**+0.5**
SC01				*e*S	**Sn**	**17 09 07.8**	**+1.2**
SC01				IAML		17 09 09.1	
	comp=Z,740nm,0.3s						
LONA1	**Toro Cenizo, N**	**1.11**	**40**	*i* P	**Pb**	**17 08 58.2**	**+0.2**
LONA1				*e*S	**Sn**	**17 09 13.7**	**+1.9**
JIDR	**Jimani**	**1.16**	**268**	*e*Pg	**Pn**	**17 08 58.1**	**0.0**
JIDR				*e*Sg	**Sn**	**17 09 16.5**	**+3.4**
JIDR				IAML		17 09 17.2	
	comp=N,538nm,0.2s						
LOBH	**Bahia de las A**	**1.17**	**236**	*i* P	**Pb**	**17 08 58.7**	**-0.3**
LOBH				*e*S	**Sb**	**17 09 12.8**	**-0.9**
LOBH				IAML		17 09 19.5	
	comp=Z,506nm,0.5s						
LOPP1	**Punta Rusia, P**	**1.42**	**338**	*i* P	**Pb**	**17 09 03.1**	**-0.2**
LOPP1				*e*S	**Sb**	**17 09 23.4**	**+2.3**
LOPP1				IAML		17 09 24.7	
	comp=Z,472nm,0.9s						
LODA1	**ITESIL, Dajabo**	**1.44**	**315**	*i* P	**Pb**	**17 09 03.1**	**-0.4**
LODA1				*e*S	**Sn**	**17 09 19.7**	**-0.2**
LODA1				IAML		17 09 22.4	
	comp=Z,1μm,0.3s						
SMDR	**Samana, DR**	**1.56**	**61**	⇑*e*Pg	**Pb**	**17 09 04.6**	**-1.0**
SMDR				⇓*e*Sg	**Sb**	**17 09 25.2**	**+0.4**
SMDR				IAML		17 09 30.2	
	comp=N,297nm,0.7s						
PAPH	**Port-au-Prince**	**1.59**	**270**	*e*P	**Pn**	**17 09 04.6**	**+0.7**
PAPH				*e*S	**Sb**	**17 09 26.2**	**+0.5**
PAPH				IAML		17 09 30.5	
	comp=N,315nm,0.4s						
PAPH				IAML		17 09 32.4	
	comp=E,278nm,0.4s						
PAPH	**Port-au-Prince**	**1.59**	**270**	*i* P	**Pn**	**17 09 04.7**	**+0.8**
PAPH				*e*S	**Sb**	**17 09 27.5**	**+1.8**
MCDR	**Montecristi**	**1.67**	**324**	⇑*e*Pg	**Pb**	**17 09 06.9**	**-0.6**
MCDR				⇑*e*Sg	**Sb**	**17 09 28.6**	**+0.5**
MCDR				IAML		17 09 32.3	
	comp=N,1μm,0.7s						
MASC	**Masc**	**3.78**	**296**	*e*P	**Pn**	**17 09 33.7**	**-0.4**
MASC				*e*S	**Sn**	**17 10 17.9**	**+0.2**
MASC				IAML		17 10 20.5	
	comp=N,34nm,0.6s						
MASC				IAML		17 10 25.7	
	comp=E,25nm,0.7s						
QMBU	**Quimbuelo**	**4.29**	**293**	*e*P	**Pn**	**17 09 40.5**	**-0.6**
QMBU				*e*S	**Sn**	**17 10 30.4**	**+0.1**
QMBU				IAML		17 10 32.0	
	comp=N,18nm,0.2s						
QMBU				IAML		17 10 32.8	
	comp=E,21nm,0.4s						
RCC	**Rio Carpintero**	**5.00**	**288**	*e*P	**Pn**	**17 09 50.3**	**-0.7**
RCC				*e*S	**Sn**	**17 10 45.0**	**-3.0**
RCC				IAML		17 10 49.9	
	comp=N,14nm,1.0s						
RCC				IAML		17 10 54.0	
	comp=E,13nm,1.6s						

NEIC ***06*** *17:09:00.7±2.5, 35°.99N±0°.01×117°.27W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.9km az=338.0*
PAS 06 17:09:01.5±3.1, 35°.961N±0°.007×117°.27W±0°.01, h3km±3km, ML3.3/23, ML3.0/118(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=99.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPMC	**Manual Prospec**	**0.20**	**299**	Pg	Pg	17 09 05.4	0.0
MPMC				Sg	Sg	17 09 08.3	+0.2
QSM	**Queen of Sheba**	**0.33**	**89**		Pg	17 09 07.7	-0.2
QSM	**Queen of Sheba**	**0.33**	**89**		Sg	17 09 12.3	+0.2
TOW	**Tower One**	**0.43**	**249**		Pg	17 09 10.1	+0.4
TOW					Sg	17 09 16.8	+1.5
CCCA	**Chr Cany lake**	**0.44**	**190**		Pg	17 09 10.3	+0.3
WVPM	**Volcano Peak E**	**0.44**	**269**		Pg	17 09 10.1	+0.1
WVPM					Sg	17 09 16.2	+0.5
SRTC	**Snort**	**0.47**	**235**		Pg	17 09 10.7	+0.2
SRTC					Sb	17 09 18.3	-1.6
MFS	**McCloud Flat S**	**0.50**	**288**		Pg	17 09 11.0	-0.1
GWY	**Greenwater Val**	**0.54**	**65**		Pg	17 09 11.7	-0.1
GWY					Sg	17 09 18.8	0.0
GWY				IAML		17 09 24.5	
	comp=N,2μm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.58**	**215**	Pg	Pg	17 09 12.4	-0.3
CGO	**Cerro Gordo**	**0.73**	**324**		Pg	17 09 15.1	-0.4
GSC	**Goldstone, Bar**	**0.76**	**150**	Pg	Pg	17 09 15.9	-0.1
GSC				IAML		17 09 29.6	
	comp=N,1μm,0.5s						
CWC	**Cottonwood Cre**	**0.81**	**306**	Pg	Pg	17 09 16.6	-0.4
CWC				IAML		17 09 30.9	
	comp=E,403nm,0.3s						
SHOC	**Shoshone, Teco**	**0.81**	**94**		Pg	17 09 17.5	+0.4
DTP	**Desert Tortois**	**0.83**	**214**		Pg	17 09 17.0	-0.5
AMDNV	**Amargosa**	**0.94**	**58**		Pg	17 09 19.1	-0.5
WCT	**Wildcat Mounta**	**0.98**	**32**		Pg	17 09 19.7	-0.6
WCT				IAML		17 09 35.7	
	comp=N,491nm,0.6s						
WCT				IAML		17 09 37.4	
	comp=E,461nm,0.5s						
CCAC	**Calif City Air**	**1.01**	**217**		Pg	17 09 20.2	-0.7
CCAC					Sg	17 09 34.2	+0.3
ISA	**Isabella, Lake**	**1.02**	**253**		Pg	17 09 20.2	-0.9
GRAC	**Grapevine Rang**	**1.04**	**356**		Pg	17 09 20.7	-0.7
TUQ	**Turquoise Moun**	**1.22**	**115**		Pg	17 09 23.9	-0.9
SPG2	**Springville 2**	**1.23**	**282**		Pb	17 09 25.4	-0.1
DSCC	**Desert Studies**	**1.25**	**130**		Pg	17 09 24.3	-1.3
TPNV	**Topopah Spring**	**1.29**	**40**		Pg	17 09 25.5	-0.7
GMN	**Gold Mountain**	**1.34**	**0**		Pg	17 09 26.2	-0.9
GMN				IAML		17 09 50.4	
	comp=E,225nm,0.5s						
GMN				IAML		17 09 53.7	
	comp=N,275nm,0.7s						
HEC	**Hector,Ludlow**	**1.36**	**146**		Pn	17 09 27.0	-0.6
DSP	**Deep Springs**	**1.51**	**338**		Pn	17 09 28.7	-0.8
MZP	**Montezuma Peak**	**1.74**	**357**		Pn	17 09 31.0	-1.9
BFSC	**Mount Baldy Ra**	**1.75**	**191**		Pn	17 09 31.6	-1.3
BFSC				IAML		17 10 02.3	
	comp=E,104nm,0.7s						
BFSC				IAML		17 10 05.9	
	comp=N,106nm,0.8s						
OSI	**Osito Audit: C**	**1.79**	**222**	Pn	Pn	17 09 32.2	-1.2
OSI				IAML		17 10 01.9	
	comp=N,101nm,0.6s						
OSI				IAML		17 10 08.2	
	comp=E,139nm,0.8s						
SHPR	**Sheep Range**	**1.79**	**72**		Pn	17 09 32.2	-1.3
MWC	**Mount Wilson**	**1.85**	**201**	Pn	Pn	17 09 33.0	-1.3
MWC				IAML		17 10 04.0	
	comp=E,90nm,0.7s						
MWC				IAML		17 10 14.3	
	comp=N,129nm,1.0s						
SVD	**Seven Oaks Dam**	**1.86**	**176**		Pb	17 09 36.5	+0.4
PASC	**Pasadena Art C**	**1.94**	**203**		Pn	17 09 34.0	-1.3
PASC				IAML		17 10 07.5	
	comp=E,90nm,0.8s						
V12A	**Nelson**	**1.98**	**96**		Pn	17 09 34.5	-1.5
V12A				IAML		17 10 07.9	
	comp=N,99nm,1.4s						
V12A				IAML		17 10 17.1	
	comp=E,112nm,0.9s						
DANC	**Danby, Needles**	**2.03**	**130**		Pb	17 09 38.5	-0.6
BLCC	**Black Canyon**	**2.06**	**214**		Pg	17 09 40.7	-0.3
S11A	**Rachel**	**2.08**	**36**		Pn	17 09 36.0	-1.4
S11A				IAML		17 10 13.6	
	comp=N,213nm,0.7s						
TPH	**Tonopah**	**2.11**	**1**		Pn	17 09 36.7	-1.2
CRGC	**Crocker Grade**	**2.12**	**251**		Pb	17 09 40.4	-0.3
PRN	**Pahroc Range**	**2.30**	**50**		Pn	17 09 39.7	-0.7
PRN				IAML		17 10 21.9	
	comp=N,149nm,0.5s						
ELS	**Elsinore Mount**	**2.31**	**183**		Pn	17 09 39.5	-1.0
PMD	**Palm Desert**	**2.42**	**162**	Pn	Pn	17 09 40.6	-1.4
PFO	**Pinyon Flats O**	**2.44**	**164**		Pn	17 09 41.1	-1.3
LHV	**Little Huntoon**	**2.49**	**337**		Pn	17 09 42.5	-0.4
LHV				IAML		17 10 34.8	
	comp=E,77nm,1.1s						
LHV				IAML		17 10 38.3	
	comp=N,54nm,0.9s						
NV11	**Mina Array Sit**	**2.56**	**344**		Pn	17 09 43.6	-0.5
NVAR	**Mina Array Bea**	**2.60**	**342**		Pn	17 09 42.6	-2.1
R11B	**Troy Canyon, C**	**2.74**	**29**		Pn	17 09 45.2	-1.3
R11B				IAML		17 10 29.1	
	comp=N,40nm,0.4s						
R11B				IAML		17 10 31.4	
	comp=E,41nm,0.7s						
RYN	**Ryan**	**2.84**	**340**		Pn	17 09 46.8	-1.1
PMPB	**Monarch Peak**	**2.87**	**276**		Pn	17 09 47.4	-0.8
Q09A	**Carvers**	**2.87**	**1**		Pn	17 09 47.4	-0.9
W13A	**Hualapai Mount**	**2.89**	**106**		Pn	17 09 47.3	-1.4
W13A				IAML		17 10 34.7	
	comp=N,50nm,0.6s						
W13A				IAML		17 10 36.9	
	comp=E,43nm,0.7s						
WAKR	**Walker**	**3.07**	**326**		Pn	17 09 50.0	-1.1
BBGB	**Big Mountain B**	**3.10**	**283**		Pn	17 09 50.1	-1.4
BLYC	**Blythe**	**3.16**	**133**		Pn	17 09 50.3	-1.9
BLYC				IAML		17 10 48.6	
	comp=N,64nm,0.6s						
BLYC				IAML		17 10 49.3	
	comp=E,48nm,0.6s						
CMB	**Columbia Colle**	**3.24**	**311**		Pn	17 09 51.4	-1.9
CMB				IAML		17 10 42.7	
	comp=N,28nm,0.6s						
LCMT	**Little Creek M**	**3.41**	**71**		Pn	17 09 53.7	-2.1
YUH	**Yuha Desert**	**3.49**	**161**		Pn	17 09 54.8	-1.8
CCUT	**Cedar City**	**3.52**	**62**		Pn	17 09 55.0	-2.3
CCUT				IAML		17 10 58.9	
	comp=N,21nm,0.8s						
GLA	**Glamis**	**3.54**	**144**		Pn	17 09 54.8	-2.5
GLA				IAML		17 11 04.0	
	comp=N,42nm,1.1s						
CBX	**Cerro Bola**	**3.67**	**172**		Pn	17 09 57.1	-2.2
SZCU	**Shurtz Canyon**	**3.73**	**63**		Pn	17 09 57.8	-2.5
SZCU				IAML		17 11 01.1	
	comp=N,19nm,0.3s						
SZCU				IAML		17 11 03.4	
	comp=E,20nm,0.3s						
KNB	**Kanab**	**3.74**	**72**		Pn	17 09 57.7	-2.6
KNB				IAML		17 11 10.4	
	comp=N,26nm,1.0s						
KNB				IAML		17 11 10.8	
	comp=E,24nm,1.4s						
PSUT	**Pine Spring**	**3.75**	**46**	IAML		17 11 10.2	
	comp=N,33nm,1.1s						
PSUT				IAML		17 11 13.6	
	comp=E,40nm,1.2s						
SPR3	**Spring Creek 3**	**3.83**	**37**	IAML		17 11 02.8	
	comp=E,36nm,0.7s						
SPR3				IAML		17 11 06.2	
	comp=N,25nm,1.0s						
Y14A	**Wickenburg**	**4.04**	**119**	IAML		17 11 14.0	
	comp=N,31nm,0.8s						
Y14A				IAML		17 11 16.4	
	comp=E,29nm,0.7s						
ESJX	**Sierra Juarez**	**4.10**	**164**	IAML		17 12 30.6	
	comp=E,37nm,0.1s						
AFDM	**Forest Hills D**	**4.19**	**316**	IAML		17 11 21.1	
	comp=E,18nm,1.1s						
AFDM				IAML		17 11 23.2	
	comp=N,14nm,1.1s						
113A	**Mohawk Valley,**	**4.31**	**137**	IAML		17 11 30.2	
	comp=E,12nm,0.8s						
113A				IAML		17 11 31.3	
	comp=N,12nm,0.8s						
WUAZ	**Wupatki**	**4.82**	**94**	IAML		17 11 33.0	
	comp=N,20nm,0.5s						
X16A	**Lo Mia Camp, P**	**5.02**	**106**	IAML		17 12 02.1	
	comp=E,6.3nm,2.6s						
ELK	**Elko**	**5.04**	**18**	IAML		17 11 48.0	
	comp=E,8.4nm,0.6s						
ELK				IAML		17 11 48.0	
	comp=E,7.6nm,1.0s						
HMU	**Henry Mountain**	**5.59**	**67**		Pn	17 10 23.4	-2.5
TMUT	**Trail Mountain**	**5.85**	**54**		Pn	17 10 26.0	-3.5
X18A	**Snowflake**	**6.16**	**101**		Pn	17 10 30.2	-3.3
SRU	**San Rafael Swe**	**6.22**	**58**		Pn	17 10 31.7	-2.6
HVU	**Hansel Valley**	**6.79**	**30**		Pn	17 10 39.5	-2.6

NEIC ***06*** *17:14:16.7±1.2, 35°.63N±0°.01×117°.43W±0°.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.9km az=158.0*
PAS 06 17:14:17.3±1.3, 35°.64N±0°.01×117°.43W±0°.01, h3km±3km, ML3.1/156, ML2.7/66(NEIC), Error ellipse: s-maj=1.8km s-min=1.1km az=215.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCCA	**Chr Cany lake**	**0.12**	**153**		Pg	17 14 20.3	+0.6
CLC	**China Lake**	**0.22**	**323**		Pg	17 14 21.7	0.0
CLC					Sg	17 14 25.1	+0.5
LRMC	**Laurel Mtn Rad**	**0.26**	**232**		Pg	17 14 22.2	0.0
LRMC					Sg	17 14 25.9	+0.3
SRTC	**Snort**	**0.26**	**282**		Pn	17 14 27.5	-0.7
TOW	**Tower One**	**0.32**	**303**		Pg	17 14 24.1	+0.6
MPMC	**Manual Prospec**	**0.42**	**354**		Pg	17 14 25.4	-0.1
MPMC					Sg	17 14 31.4	+0.3
MPMC	**Manual Prospec**	**0.42**	**354**	IAML		17 14 31.7	
	comp=N,2μm,0.4s						
MPMC				IAML		17 14 31.7	
	comp=E,1μm,0.4s						
WNMM	**Nine Mile Cany**	**0.43**	**298**		Pg	17 14 25.8	+0.1
WVPM	**Volcano Peak E**	**0.44**	**315**		Pg	17 14 25.8	0.0
WVPM					Sg	17 14 32.5	+0.9
WRVM	**Rose V. Centra**	**0.52**	**315**		Pg	17 14 27.4	0.0
WRVM					Sg	17 14 34.8	+0.6
QSM	**Queen of Sheba**	**0.56**	**54**		Pg	17 14 28.0	-0.2
QSM				IAML		17 14 36.5	
	comp=E,523nm,0.2s						
QSM				IAML		17 14 39.6	
	comp=N,463nm,0.4s						
WBSM	**Bird Springs**	**0.58**	**260**		Pg	17 14 27.1	-1.5
MFS	**McCloud Flat S**	**0.59**	**325**		Pg	17 14 28.4	-0.3
GSC	**Goldstone, Bar**	**0.61**	**123**	Pg	Pg	17 14 28.6	-0.5
GSC				IAML		17 14 38.2	
	comp=E,638nm,0.5s						
WORM	**Onyx Ranch**	**0.66**	**275**		Sg	17 14 38.5	-0.1
CCAC	**Calif City Air**	**0.68**	**225**		Sg	17 14 39.8	+0.7
WHFM	**Hanning Flat**	**0.75**	**275**		Pg	17 14 31.3	-0.3
HYS	**Haystack Butte**	**0.78**	**188**		Sg	17 14 42.4	0.0
GWY	**Greenwater Val**	**0.83**	**48**		Pg	17 14 33.4	+0.1
GWY				IAML		17 14 50.3	
	comp=E,381nm,0.4s						
ISA	**Isabella, Lake**	**0.85**	**272**	Pg	Pg	17 14 33.2	-0.4
ISA				Sg	Sg	17 14 43.7	-0.9
CWC	**Cottonwood Cre**	**0.96**	**327**	Pg	Pg	17 14 35.1	-0.6
CWC				IAML		17 14 49.2	
	comp=N,165nm,0.2s						
CGO	**Cerro Gordo**	**0.96**	**342**		Pg	17 14 33.9	-1.9
DSCC	**Desert Studies**	**1.19**	**114**		Pg	17 14 39.4	-0.9
SPG2	**Springville 2**	**1.22**	**298**		Pg	17 14 39.9	-0.8
TUQ	**Turquoise Moun**	**1.25**	**99**		Pg	17 14 40.4	-0.8
JNH	**Juniper Hills**	**1.26**	**200**		Pb	17 14 41.7	-0.2
WCT	**Wildcat Mounta**	**1.33**	**29**		Pg	17 14 42.3	-0.4
WCT				IAML		17 15 01.7	
	comp=N,111nm,0.4s						
BFSC	**Mount Baldy Ra**	**1.41**	**188**		Pn	17 14 43.6	-0.4
BFSC				IAML		17 15 03.1	
	comp=N,123nm,0.6s						
BFSC				IAML		17 15 03.3	
	comp=E,120nm,0.5s						
SSK	**Sunset Peak**	**1.44**	**189**		Pn	17 14 41.3	-3.2
OSI	**Osito Audit: C**	**1.47**	**226**		Pn	17 14 44.8	0.0
OSI				IAML		17 15 08.0	
	comp=E,172nm,1.0s						
MWC	**Mount Wilson**	**1.50**	**200**	Pn	Pn	17 14 45.1	-0.2
MWC				IAML		17 15 09.7	
	comp=N,116nm,0.6s						
MWC				IAML		17 15 11.4	
	comp=E,110nm,0.5s						
MWC	**Mount Wilson**	**1.50**	**200**		Pn	17 14 44.4	-1.0
DECC	**Green Verdugo**	**1.56**	**208**		Pn	17 14 44.8	-1.3
PASC	**Pasadena Art C**	**1.59**	**203**		Pn	17 14 46.3	-0.1
PASC				IAML		17 15 14.5	
	comp=E,77nm,0.5s						
TPNV	**Topopah Spring**	**1.62**	**36**		Pn	17 14 47.2	+0.1
TPNV				IAML		17 15 12.8	
	comp=E,94nm,0.6s						
TPNV				IAML		17 15 15.4	
	comp=E,88nm,0.

NEIC ***06*** *17:18:19.8±1.6, 35°.48N±0°.02×117°.29W±0°.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.8km az=196.0*

PAS 06 17:18:21.4±1.3, 35°.57N±0°.01×117°.36W±0°.02, h2km±4km, ML3.0/25, ML2.9/84(NEIC), Error ellipse: s-maj=2.0km s-min=1.9km az=202.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.05**	**184**		Pg	17 18 22.8	+0.4
LRMC	**Laurel Mtn Rad**	**0.28**	**251**		Pg	17 18 26.9	+0.1
LRMC					Sg	17 18 31.2	+0.8
LRMC	**Laurel Mtn Rad**	**0.28**	**251**	IAML		17 18 31.5	
	comp=N,3μm,0.3s						
LRMC				IAML		17 18 31.9	
	comp=E,2μm,0.5s						
SRTC	**Snort**	**0.34**	**291**		Pg	17 18 28.4	+0.4
TOW	**Tower One**	**0.41**	**306**		Pg	17 18 29.7	+0.5
MPMC	**Manual Prospec**	**0.50**	**348**		Pg	17 18 30.9	-0.1
MPMC	**Manual Prospec**	**0.50**	**348**	IAML		17 18 38.4	
	comp=N,1μm,0.4s						
MPMC				IAML		17 18 39.4	
	comp=E,1μm,0.5s						
DTP	**Desert Tortois**	**0.50**	**233**		Pg	17 18 31.2	+0.2
GSC	**Goldstone, Bar**	**0.53**	**121**	Pg	Pg	17 18 31.5	0.0
GSC				IAML		17 18 39.4	
	comp=N,761nm,0.3s						
GSC				IAML		17 18 43.4	
	comp=E,1μm,0.4s						
WVPM	**Volcano Peak E**	**0.53**	**316**		Pg	17 18 31.9	+0.2
QSM	**Queen of Sheba**	**0.56**	**45**		Pg	17 18 32.3	+0.1
QSM	**Queen of Sheba**	**0.56**	**45**	IAML		17 18 40.6	
	comp=N,628nm,0.9s						
QSM				IAML		17 18 42.4	
	comp=E,710nm,0.6s						
WBSM	**Bird Springs**	**0.64**	**267**		Pg	17 18 33.3	-0.3
WBSM					Sg	17 18 42.4	+0.4
WORM	**Onyx Ranch**	**0.73**	**280**		Sg	17 18 44.8	-0.1
GWY	**Greenwater Val**	**0.83**	**42**		Pg	17 18 37.2	-0.1
GWY	**Greenwater Val**	**0.83**	**42**	IAML		17 18 53.2	
	comp=E,627nm,0.5s						
ISA	**Isabella, Lake**	**0.91**	**276**		Pg	17 18 38.4	-0.6
WASM	**Alta Sierra Ca**	**0.99**	**280**		Pg	17 18 39.8	-0.6
WASM					Sg	17 18 53.6	+0.4
CGO	**Cerro Gordo**	**1.04**	**340**		Pb	17 18 41.9	-0.5
CGO					Sb	17 18 56.2	-0.4
CWC	**Cottonwood Cre**	**1.04**	**326**	Pg	Pg	17 18 41.7	+0.3
CWC				IAML		17 18 59.3	
	comp=E,242nm,0.3s						
CWC				IAML		17 18 59.6	
	comp=N,267nm,0.2s						
BFSC	**Mount Baldy Ra**	**1.35**	**191**	Pg	Pg	17 18 46.8	-0.6
WCT	**Wildcat Mounta**	**1.35**	**26**	Pg	Pg	17 18 46.3	-1.1
WCT				IAML		17 19 09.5	
	comp=E,176nm,0.4s						
GRAC	**Grapevine Rang**	**1.42**	**360**		Pn	17 18 47.6	-0.7
TPNV	**Topopah Spring**	**1.64**	**33**		Pn	17 18 50.4	-1.1
TPNV				IAML		17 19 18.5	
	comp=E,190nm,0.6s						
TPNV				IAML		17 19 21.7	
	comp=E,121nm,0.7s						
DSP	**Deep Springs**	**1.86**	**345**		Pn	17 18 53.5	-0.8
DSP				IAML		17 19 22.0	
	comp=E,98nm,0.3s						
DSP				IAML		17 19 23.2	
	comp=N,90nm,0.4s						
ELS	**Elsinore Mount**	**1.92**	**182**		Pn	17 18 55.5	+0.3
MZP	**Montezuma Peak**	**2.12**	**360**		Pn	17 18 57.3	-0.9
CTCC	**Cactus City**	**2.22**	**149**		Pn	17 18 58.5	-0.8
S11A	**Rachel**	**2.44**	**32**		Pn	17 19 01.9	-0.5
S11A				IAML		17 19 53.3	
	comp=N,84nm,0.6s						
TPH	**Tonopah**	**2.50**	**2**		Pn	17 19 02.4	-0.9
PRN	**Pahroc Range**	**2.61**	**45**		Pn	17 19 04.7	-0.1
LHV	**Little Huntoon**	**2.83**	**341**		Pn	17 19 07.8	+0.2
LHV				IAML		17 19 57.4	
	comp=N,69nm,1.5s						
LHV				IAML		17 19 59.1	
	comp=E,68nm,0.9s						
W13A	**Hualapai Mount**	**2.88**	**98**		Pn	17 19 07.1	-1.4
W13A				IAML		17 19 57.0	
	comp=N,43nm,1.1s						
W13A				IAML		17 19 57.7	
	comp=E,41nm,0.6s						
NV11	**Mina Array Sit**	**2.92**	**348**		Pn	17 19 08.6	-0.5
NV11				IAML		17 19 58.6	
	comp=E,29nm,1.4s						
NVAR	**Mina Array Bea**	**2.95**	**345**	Pn	Pn	17 19 09.4	-0.1
BLYC	**Blythe**	**2.96**	**127**		Pn	17 19 09.2	-0.2
BLYC				IAML		17 19 59.9	
	comp=E,39nm,0.9s						
BLYC				IAML		17 20 07.6	
	comp=N,39nm,0.7s						
R11B	**Troy Canyon, C**	**3.12**	**27**	Pn	Pn	17 19 11.6	-0.1
YUH	**Yuha Desert**	**3.15**	**157**		Pn	17 19 11.8	-0.2
RYN	**Ryan**	**3.19**	**343**		Pn	17 19 13.0	+0.2
GLA	**Glamis**	**3.27**	**139**	Pn	Pn	17 19 14.6	+0.8
GLA				IAML		17 20 18.0	
	comp=N,44nm,0.7s						
WAKR	**Walker**	**3.37**	**331**		Pn	17 19 14.4	-0.8
WAKR				IAML		17 20 19.8	
	comp=E,18nm,0.9s						
CMB	**Columbia Colle**	**3.46**	**316**	Pn	Pn	17 19 15.6	-0.7
CMB				IAML		17 20 16.5	
	comp=E,22nm,0.5s						
CMB				IAML		17 20 19.5	
	comp=N,34nm,0.7s						
LCMT	**Little Creek M**	**3.62**	**65**		Pn	17 19 18.2	-0.5
ESJX	**Sierra Juarez**	**3.75**	**161**		Pn	17 19 21.1	+0.6
ESJX				IAML		17 21 46.3	
	comp=N,24nm,0.1s						
CCUT	**Cedar City**	**3.77**	**57**		Pn	17 19 21.3	+0.4
Y14A	**Wickenburg**	**3.94**	**113**		Pn	17 19 21.1	-1.8
PSUT	**Pine Spring**	**4.07**	**42**		Pn	17 19 26.2	+1.3
PSUT				IAML		17 20 38.6	
	comp=E,17nm,0.9s						
PSUT				IAML		17 20 40.6	
	comp=N,12nm,0.9s						
SPR3	**Spring Creek 3**	**4.19**	**34**		Pn	17 19 28.7	+2.1
SPR3				IAML		17 20 39.2	
	comp=N,11nm,1.0s						
AFDM	**Forest Hills D**	**4.43**	**321**	Pn	Pn	17 19 30.3	+0.6
AFDM				IAML		17 20 46.2	
	comp=E,18nm,0.8s						
AFDM				IAML		17 20 51.7	
	comp=N,14nm,1.0s						
X16A	**Lo Mia Camp, P**	**4.99**	**102**		Pn	17 19 37.2	-0.4
X16A				IAML		17 21 08.0	
	comp=N,8.9nm,1.2s						
X16A				IAML		17 21 09.7	
	comp=E,8.4nm,0.9s						

KRNET ***06*** *17:28:32.6±0.1, 43°.01N×77°.49E, h21km, mb2.6*
SOME ***06*** *17:28:32.6, 43°.05N×77°.50E, h5km*
NNC ***06*** *17:28:32.2±0.3, 43°.02N×77°.48E, h3km±2km, mb2.8, mpv2.8, Error ellipse: s-maj=3.0km s-min=1.6km az=0.0*

ISC 06 17:28:31.7±1.1, 42°.98N±0°.02×77°.46E±0°.02, h11km±10km, n33, σ0°.41/65, 4C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOTS	**Kotyrbulak**	**0.36**	**314**	P	**Pb**	**17 28 40.0**	**-0.2**
	15nm,0.1s						
KOTS				S	**Sb**	**17 28 45.3**	**-0.7**
	35nm,0.2s						
KOTS	**Kotyrbulak**	**0.36**	**314**	*eP*	**Pb**	**17 28 40.0**	**-0.2**
KOTS				*eS*	**Sb**	**17 28 45.3**	**-0.7**
KOTS	**Kotyrbulak**	**0.36**	**314**	*eP*	**Pb**	**17 28 40.0**	**-0.2**
	15nm,0.1s						
KOTS				*eS*	**Sb**	**17 28 45.3**	**-0.7**
	35nm,0.2s						
TNSS	**Tian-Shan**	**0.38**	**278**	P	**Pb**	**17 28 40.5**	**-0.2**
	0.7nm,0.1s						
TNSS				S	**Sb**	**17 28 46.6**	**-0.3**
	6.5nm,0.1s						
TNSS	**Tian-Shan**	**0.38**	**278**	*eP*	**Pb**	**17 28 40.6**	**-0.2**
TNSS				*eS*	**Sb**	**17 28 46.6**	**-0.3**
TNSS	**Tian-Shan**	**0.38**	**278**	*eP*	**Pb**	**17 28 40.5**	**-0.2**
	0.7nm,0.1s						
TNSS				*eS*	**Sb**	**17 28 46.6**	**-0.3**
	6.5nm,0.1s						
SATY	**Saty**	**0.70**	**84**	P	**Pb**	**17 28 45.7**	**-0.3**
	2.2nm,0.1s						
SATY				S	**Sg**	**17 28 54.8**	**+0.4**
	32nm,0.1s						
SATY	**Saty**	**0.70**	**84**	*eP*	**Pb**	**17 28 45.7**	**-0.3**
SATY				*eS*	**Sg**	**17 28 54.8**	**+0.4**
MTBS	**Maitube**	**0.77**	**281**	P	**Pb**	**17 28 47.5**	**+0.3**
	1.0nm,0.1s						
MTBS				S	**Sb**	**17 28 58.2**	**+0.4**
	3.7nm,0.2s						
MTBS	**Maitube**	**0.77**	**281**	*eP*	**Pb**	**17 28 47.5**	**+0.3**
MTBS				*eS*	**Sb**	**17 28 58.2**	**+0.4**
MTBS	**Maitube**	**0.77**	**281**	*eP*	**Pb**	**17 28 47.5**	**+0.3**
	1.0nm,0.1s						
MTBS				*eS*	**Sb**	**17 28 58.2**	**+0.4**
	3.7nm,0.2s						
PRZ	**Przheval'sk**	**0.85**	**126**	⇓*eP*	**Pb**	**17 28 48.7**	**0.0**
PRZ				⇓*eS*	**Sb**	**17 29 00.0**	**-0.2**
KDJ	**Kajisay**	**0.88**	**194**	⇑*eP*	**Pn**	**17 28 49.3**	**-0.9**
KDJ				⇑*eS*	**Sb**	**17 29 01.3**	**+0.4**
KTBS	**Karatobe**	**0.92**	**322**	P	**Pb**	**17 28 49.8**	**0.0**
	2.3nm,0.1s						
KTBS				S	**Sb**	**17 29 02.2**	**+0.1**
	7.6nm,0.2s						
KTBS	**Karatobe**	**0.92**	**322**	*eP*	**Pb**	**17 28 49.8**	**0.0**
KTBS				*eS*	**Sb**	**17 29 02.2**	**+0.1**
CHKK	**Chushkaly**	**0.94**	**338**	P	**Pg**	**17 28 49.7**	**-0.1**
	3.7nm,0.0s						
CHKK				S	**Sg**	**17 29 02.2**	**+0.2**
	8.3nm,0.1s						
CHKK	**Chushkaly**	**0.94**	**338**	*eP*	**Pg**	**17 28 49.7**	**-0.1**
CHKK				*eS*	**Sg**	**17 29 02.2**	**+0.2**
CHKK	**Chushkaly**	**0.94**	**338**	*eP*	**Pg**	**17 28 49.7**	**-0.1**
	3.7nm,0.0s						
CHKK				*eS*	**Sg**	**17 29 02.2**	**+0.2**
	8.3nm,0.1s						
KST	**Kastek**	**1.10**	**274**	P	**Pn**	**17 28 53.4**	**+0.2**
	0.9nm,0.1s						
KST				S	**Sn**	**17 29 08.4**	**-0.1**
	2.7nm,0.2s						
KST	**Kastek**	**1.10**	**274**	*eP*	**Pn**	**17 28 53.4**	**+0.2**
KST				*eS*	**Sn**	**17 29 08.4**	**-0.1**
KST	**Kastek**	**1.10**	**274**	*eP*	**Pn**	**17 28 53.4**	**+0.2**
	0.9nm,0.1s						
KST				*eS*	**Sn**	**17 29 08.4**	**-0.1**
	2.7nm,0.2s						
KUU	**Kurty**	**1.22**	**318**	P	**Pb**	**17 28 55.0**	**+0.1**
	2.5nm,0.1s						
KUU				S	**Sg**	**17 29 11.1**	**0.0**
	7.5nm,0.2s						
KUU	**Kurty**	**1.22**	**318**	*eP*	**Pb**	**17 28 55.0**	**+0.1**
KUU				*eS*	**Sg**	**17 29 11.1**	**0.0**
KUU	**Kurty**	**1.22**	**318**	*eP*	**Pb**	**17 28 55.0**	**+0.1**
	2.5nm,0.1s						
KUU				*eS*	**Sg**	**17 29 11.1**	**0.0**
	7.5nm,0.2s						
BOOM	**Boomskoye usch**	**1.23**	**247**	⇓*eP*	**Pg**	**17 28 55.5**	**+0.2**
BOOM				⇓*eS*	**Sn**	**17 29 12.8**	**+1.2**
ARXS	**Arharly**	**1.26**	**12**	P	**Pn**	**17 28 55.2**	**-0.2**
	2.5nm,0.2s						
ARXS				S	**Sb**	**17 29 11.6**	**-0.1**
	6.4nm,0.1s						
BLB	**Baldybastay**	**1.33**	**33**	P	**Pn**	**17 28 56.4**	**-0.1**
	1.4nm,0.1s						
BLB				S	**Sb**	**17 29 13.8**	**-0.3**
	29nm,0.1s						
KRBS	**Karabastau**	**1.49**	**299**	P	**Pb**	**17 28 59.7**	**+0.3**
	0.8nm,0.2s						
KRBS				S	**Sg**	**17 29 19.2**	**-0.3**
	12nm,0.2s						
KRBS	**Karabastau**	**1.49**	**299**	*eP*	**Pb**	**17 28 59.7**	**+0.3**
KRBS				*eS*	**Sg**	**17 29 19.2**	**-0.3**
KNOS	**Konyrlen**	**1.85**	**42**	P	**Pb**	**17 29 05.8**	**+0.1**
	0.1nm,0.1s						
KNOS				S	**Sb**	**17 29 29.7**	**+0.7**
	10nm,0.1s						
NRN	**Naryn**	**1.89**	**216**	⇑*eP*	**Pg**	**17 29 07.6**	**-0.5**
NRN				⇑*eS*	**Sg**	**17 29 32.9**	**+0.3**
KTMS	**Ketmen**	**2.16**	**77**	Pg	**Pb**	**17 29 11.8**	**+0.8**
	0.4nm,0.2s						
KTMS				Lg	Lg	17 29 39.9	
	2.7nm,0.2s						
KTMS	**Ketmen**	**2.16**	**77**	*eP*	**Pb**	**17 29 11.8**	**+0.8**
	0.4nm,0.2s						
KTMS				*eS*	**Sg**	**17 29 39.9**	**-1.3**
	2.7nm,0.2s						

NEIC ***06*** *17:31:21.5±1.4, 35°.78N±0°.02×117°.60W±0°.02, h10km±8km, Error ellipse: s-maj=2.6km s-min=1.5km az=157.0*

PAS 06 17:31:22.2±1.2, 35°.78N±0°.02×117°.62W±0°.01, h7km±5km, ML3.1/19, ML2.6/104(NEIC), Error ellipse: s-maj=2.2km s-min=1.5km az=156.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.12**	**283**		Pg	17 31 25.4	+0.5
SRTC	**Snort**	**0.14**	**231**		Pg	17 31 25.6	+0.4
WVPM	**Volcano Peak E**	**0.23**	**316**		Pg	17 31 26.9	-0.1
WVPM					Sg	17 31 30.8	+0.6
WNMM	**Nine Mile Cany**	**0.24**	**285**		Pg	17 31 27.0	0.0
MPMC	**Manual Prospec**	**0.29**	**20**		Pg	17 31 27.9	-0.2
MPMC					Sg	17 31 32.4	+0.3
MPMC	**Manual Prospec**	**0.29**	**20**	IAML		17 31 32.5	
	comp=E,1μm,0.5s						
MPMC				IAML		17 31 32.5	
	comp=N,2μm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.30**	**190**		Pg	17 31 28.1	-0.2
LRMC	**Laurel Mtn Rad**	**0.30**	**190**	IAML		17 31 33.4	
	comp=N,5μm,0.2s						
LRMC				IAML		17 31 33.7	
	comp=E,4μm,0.2s						
WRVM	**Rose V. Centra**	**0.32**	**316**		Pg	17 31 28.0	-0.5
MFS	**McCloud Flat S**	**0.39**	**330**		Pg	17 31 29.7	-0.1
MFS					Sg	17 31 35.4	+0.4
WORM	**Onyx Ranch**	**0.52**	**261**		Pg	17 31 31.8	-0.4
DTP	**Desert Tortois**	**0.55**	**200**		Pg	17 31 32.2	-0.5
QSM	**Queen of Sheba**	**0.63**	**73**		Pg	17 31 33.8	-0.6
CCAC	**Calif City Air**	**0.71**	**208**		Pg	17 31 35.4	-0.5
ISA	**Isabella, Lake**	**0.71**	**261**		Pg	17 31 35.4	-0.5
CWC	**Cottonwood Cre**	**0.76**	**330**		Pg	17 31 36.1	-0.7
CWC				IAML		17 31 47.8	
	comp=N,195nm,0.2s						
CWC				IAML		17 31 49.0	
	comp=E,164nm,0.2s						
CGO	**Cerro Gordo**	**0.78**	**349**		Pg	17 31 36.7	-0.6
GSC	**Goldstone, Bar**	**0.81**	**126**		Pg	17 31 37.0	-0.9
GSC				IAML		17 31 51.0	
	comp=N,218nm,0.3s						
GWY	**Greenwater Val**	**0.87**	**62**		Pg	17 31 38.4	-0.5
SHOC	**Shoshone, Teco**	**1.10**	**83**		Pg	17 31 43.2	-0.1
GRAC	**Grapevine Rang**	**1.23**	**9**		Pb	17 31 44.7	-1.0
WCT	**Wildcat Mounta**	**1.29**	**38**		Pn	17 31 45.2	-1.5
WCT				IAML		17 32 04.4	
	comp=N,72nm,0.2s						
WCT				IAML		17 32 07.1	
	comp=E,93nm,0.2s						
OSI	**Osito Audit: C**	**1.48**	**218**		Pn	17 31 48.7	-0.5
OSI				IAML		17 32 12.0	
	comp=E,77nm,0.7s						
OSI				IAML		17 32 17.6	
	comp=N,60nm,0.8s						
CHFC	**Chilao Flat St**	**1.48**	**193**		Pb	17 31 50.1	0.0
BFSC	**Mount Baldy Ra**	**1.54**	**181**		Pn	17 31 50.0	-0.1
BFSC				IAML		17 32 12.2	
	comp=N,105nm,0.3s						
BFSC				IAML		17 32 14.2	
	comp=E,115nm,0.7s						
GMN	**Gold Mountain**	**1.54**	**11**		Pn	17 31 49.4	-1.0
GMN				IAML		17 31 58.9	
	comp=N,73nm,0.5s						
MWC	**Mount Wilson**	**1.59**	**193**		Pn	17 31 50.5	-0.5
MWC				IAML		17 32 19.7	
	comp=E,101nm,0.5s						
TPNV	**Topopah Spring**	**1.60**	**43**		Pn	17 31 49.8	-1.3
TPNV				IAML		17 32 15.7	
	comp=E,96nm,0.5s						
DSP	**Deep Springs**	**1.61**	**350**		Pn	17 31 50.1	-0.9
DSP				IAML		17 32 14.5	
	comp=E,51nm,0.5s						
PASC	**Pasadena Art C**	**1.67**	**196**		Pn	17 31 52.0	+0.1
PASC				IAML		17 32 18.7	
	comp=E,49nm,0.9s						
GMRC	**Granite Mounta**	**1.88**	**121**		Pn	17 31 52.5	-2.4
MZP	**Montezuma Peak**	**1.93**	**5**		Pn	17 31 54.5	-1.1
MLAC	**Mammoth, Mammo**	**2.09**	**332**		Pb	17 32 00.9	+0.4
SHPR	**Sheep Range**	**2.12**	**69**		Pn	17 31 57.1	-1.0
SHPR				IAML		17 32 28.8	
	comp=N,34nm,0.8s						
SHPR				IAML		17 32 28.9	
	comp=E,28nm,0.6s						
ELS	**Elsinore Mount**	**2.13**	**176**		Pn	17 31 57.2	-1.0
ELS				IAML		17 32 29.5	
	comp=N,34nm,0.3s						
ELS				IAML		17 32 30.2	
	comp=E,40nm,0.3s						
V12A	**Nelson**	**2.25**	**91**		Pn	17 31 59.3	-0.6
V12A				IAML		17 32 35.0	
	comp=N,49nm,0.6s						
V12A				IAML		17 32 36.7	
	comp=E,49nm,0.5s						
TPH	**Tonopah**	**2.31**	**8**		Pn	17 32 00.1	-0.8
PMD	**Palm Desert**	**2.36**	**154**	Pn	Pn	17 32 00.2	-1.1
PFO	**Pinyon Flats O**	**2.36**	**156**	Pn	Pn	17 32 00.7	-0.8
S11A	**Rachel**	**2.39**	**38**		Pn	17 32 00.9	-1.0
S11A				IAML		17 32 44.7	
	comp=N,49nm,0.8s						
LHV	**Little Huntoon**	**2.57**	**344**		Pn	17 32 03.8	-0.3
LHV				IAML		17 32 52.3	
	comp=E,16nm,1.8s						
PMPB	**Monarch Peak**	**2.62**	**280**	Pn	Pn	17 32 04.7	-0.2
PRN	**Pahroc Range**	**2.63**	**51**		Pn	17 32 04.7	-0.5
PRN				IAML		17 32 55.2	
	comp=E,30nm,0.4s						
PRN				IAML		17 32 55.9	
	comp=N,38nm,0.8s						
NV11	**Mina Array Sit**	**2.68**	**351**		Pn	17 32 04.4	-1.5
NVAR	**Mina Array Bea**	**2.70**	**348**		Pn	17 32 04.9	-1.3
BBGB	**Big Mountain B**	**2.88**	**287**	Pn	Pn	17 32 07.9	-0.7
RYN	**Ryan**	**2.93**	**346**		Pn	17 32 08.0	-1.4
R11B	**Troy Canyon, C**	**3.03**	**32**		Pn	17 32 09.4	-1.3
WAKR	**Walker**	**3.08**	**332**	Pn	Pn	17 32 11.8	+0.4
W13A	**Hualapai Mount**	**3.12**	**102**	Pn	Pn	17 32 11.3	-0.7
CMB	**Columbia Colle**	**3.16**	**316**		Pn	17 32 11.4	-1.0
CMB				IAML		17 33 06.8	
	comp=N,11nm,1.9s						
SAO	**San Andreas Ge**	**3.25**	**289**	Pn	Pn	17 32 14.3	+0.8
BLYC	**Blythe**	**3.25**	**128**	Pn	Pn	17 32 13.4	-0.2
BLYC				IAML		17 33 05.6	
	comp=N,24nm,0.5s						
BLYC				IAML		17 33 05.9	
	comp=E,17nm,0.5s						
YUH	**Yuha Desert**	**3.43**	**155**		Pn	17 32 15.8	-0.2
CBX	**Cerro Bola**	**3.55**	**167**	Pn	Pn	17 32 18.2	+0.4
GLA	**Glamis**	**3.57**	**139**	Pn	Pn	17 32 17.9	-0.1
GLA				IAML		17 33 24.8	
	comp=N,18nm,0.8s						
LCMT	**Little Creek M**	**3.73**	**70**	Pn	Pn	17 32 18.4	-2.0
CCUT	**Cedar City**	**3.85**	**61**		Pn	17 32 20.4	-1.6
CCUT				IAML		17 33 24.9	
	comp=E,6.4nm,4.0s						
CCUT				IAML		17 33 28.9	
	comp=N,7.2nm,0.6s						
ESJX	**Sierra Juarez**	**4.01**	**159**	Pn	Pn	17 32 20.8	-3.5
PSUT	**Pine Spring**	**4.07**	**46**		Pn	17 32 21.4	-3.6
PSUT				IAML		17 33 38.5	
	comp=N,7.8nm,0.9s						
PSUT				IAML		17 33 40.7	
	comp=E,7.0nm,1.8s						
AFDM	**Forest Hills D**	**4.14**	**321**	Pn	Pn	17 32 24.1	-1.7
AFDM				IAML		17 33 38.9	
	comp=N,5.9nm,1.6s						
AFDM				IAML		17 33 44.0	
	comp=E,6.0nm,0.9s						
SPR3	**Spring Creek 3**	**4.14**	**38**		Pn	17 32 22.6	-3.5
SPR3				IAML		17 33 35.7	
	comp=E,6.0nm,2.1s						
SPR3				IAML		17 33 37.3	
	comp=N,5.4nm,1.0s						
Y14A	**Wickenburg**	**4.21**	**115**	Pn	Pn	17 32 24.6	-2.3
Y14A				IAML		17 33 38.9	
	comp=N,10nm,0.6s						
Y14A				IAML		17 33 40.0	
	comp=E,9.4nm,0.9s						
BEKR	**Beckworth**	**4.62**	**333**	Pn	Pn	17 32 30.9	-1.7
BEKR				IAML		17 33 55.4	
	comp=N,4.4nm,3.9s						
BEKR				IAML		17 33 56.4	
	comp=E,6.2nm,1.0s						
ELK	**Elko**	**5.30**	**20**		Pn	17 32 38.6	-3.3
ELK				IAML		17 34 12.5	
	comp=E,2.0nm,0.8s						

NEIC ***06*** *17:41:32.0±2.8, 35°.869N±0°.010×117°.69W±0°.01, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.6km az=355.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-3.07; $M_{\theta\theta}$-4.04; $M_{\phi\phi}$7.11; $M_{r\theta}$-5.28; $M_{\theta\phi}$-4.93; $M_{r\phi}$2.08; Fault plane solution: $M_0$9.73000×10^{14} NP1:ϕ_s120.80000°, δ77.16000°, λ-138.57000°. NP2: ϕ_s19.70000°, δ49.83000°, λ-16.91000°. Principal axes: T 10.1801, Plg17.0000°, Azm245.0000°; N -0.9674, Plg47.0000°, Azm135.0000°; P -9.2127, Plg38.0000°, Azm349.0000°;*

IDC ***06*** *17:41:33.1±0.8, 35°.90N×117°.73W, h0km, mb3.8/4, mbtmp3.7/9, ML3.9/5, MS2.7/11 Error ellipse: s-maj=16.9km s-min=6.2km az=77.0*

PAS ***06*** *17:41:33.2±2.1, 35°.87N±0°.01×117°.72W±0°.01, h8km±2km, Mwr4.0/6, mb4.0/4(NEIC), ML4.0/136(NEIC), Mwr3.9/108(NEIC), Error ellipse: s-maj=1.5km s-min=1.5km az=188.0*

NEIC ***06*** *17:41:33.2, 35°.87N×117°.72W, h8km*

ISC 06 17:41:33.2±0.7, 35°.87N±0°.01×117°.70W±0°.02, h13km±4km, n154, σ0°.89/175, mb3.9/6, MS3.0/4, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**219**		**Pg**	**17 41 35.6**	**-0.4**
TOW					**Sg**	**17 41 38.2**	**+0.2**
CLC	**China Lake**	**0.10**	**121**		**Pg**	**17 41 35.8**	**-0.5**
CLC					**Sg**	**17 41 37.7**	**-0.8**
WVPM	**Volcano Peak E**	**0.12**	**312**		**Pg**	**17 41 35.9**	**-0.7**
JRC2	**Joshua Ridge**	**0.14**	**323**		**Pg**	**17 41 36.2**	**-0.7**
JRC2					**Sg**	**17 41 38.5**	**-1.0**
WNMM	**Nine Mile Cany**	**0.17**	**261**		**Pg**	**17 41 36.5**	**-0.6**
WNMM					**Sg**	**17 41 39.3**	**-0.5**
WCSM	**Coso Springs S**	**0.17**	**342**		**Pg**	**17 41 36.5**	**-0.7**
WCSM					**Sg**	**17 41 38.9**	**-1.1**
SRTC	**Snort**	**0.18**	**192**		**Pg**	**17 41 37.3**	**-0.1**
SRTC					**Sg**	**17 41 40.9**	**+0.7**
WRVM	**Rose V. Centra**	**0.20**	**313**		**Pg**	**17 41 37.2**	**-0.6**
WRVM					**Sg**	**17 41 40.2**	**-0.8**
MPMC	**Manual Prospec**	**0.26**	**43**	Pg	**Pb**	**17 41 38.4**	**-1.4**
MPMC				IAML		17 41 42.4	
	comp=E,

comp=E,8μm,0.4s
GWY IAML 17 42 09.9
comp=N,5μm,0.4s
FURC Furnace Creek, 0.91 48 Pb 17 41 50.5 -0.2
FURC Sb 17 42 02.7 +0.1
SPG2 Springville 2 0.92 291 Pg 17 41 49.8 -1.2
SPG2 Sg 17 42 01.5 -1.6
GSC Goldstone, Bar 0.93 127 Sg 17 42 02.7 -0.5
GSC Goldstone, Bar 0.93 127 Pg 17 41 50.3 -0.8
GSC IAML 17 42 04.9
comp=N,5μm,0.6s
GSC IAML 17 42 06.7
comp=E,6μm,0.4s
HYS Haystack Butte 1.01 174 Pg 17 41 51.7 -0.9
HYS Sb 17 42 05.3 -0.3
EDW2 Edwards Air Fo 1.01 194 Pg 17 41 51.5 -1.2
EDW2 Sg 17 42 04.6 -1.4
TEJ El Tejon 1.02 232 Pg 17 41 51.6 -1.3
TEJ Sg 17 42 04.8 -1.5
TPO Tropico Hills 1.08 204 Pg 17 41 52.9 -1.0
TPO Sg 17 42 06.9 -1.0
MAGC SCE Magundon P 1.11 243 Pb 17 41 53.8 -0.5
VES Vestal, Richgr 1.12 269 Pb 17 41 53.8 -0.6
VES Sg 17 42 08.2 -1.2
RRX Edison Barstow 1.15 150 Pb 17 41 54.5 -0.4
RRX Sn 17 42 11.3 +0.9
GRAC Grapevine Rang 1.16 14 Pb 17 41 54.5 -0.6
GRAC Grapevine Rang 1.16 14 Pg Pg 17 41 53.9 -1.6
GRAC Grapevine Rang 1.16 14 Sg Sg 17 42 09.1 -1.5
GRAC IAML 17 42 16.4
comp=N,5μm,0.7s
SHOC Shoshone, Teco 1.16 88 Pg 17 41 54.1 -1.5
SHOC Sb 17 42 10.7 +0.6
ARVC Arvin 1.18 231 Pg 17 41 54.7 -1.2
SBB Saddle Back Bu 1.18 185 Pg 17 41 54.6 -1.3
SBB Sg 17 42 09.8 -1.5
TJR Tejon Ranch 1.19 226 Pg 17 41 54.5 -1.6
TJR Sg 17 42 10.0 -1.6
SGV South Grapevin 1.23 26 Pg 17 41 55.9 -1.1
THC Tehachapi Micr 1.24 220 Pg 17 41 55.2 -1.7
BAKC Calstate 1.25 246 Pg 17 41 56.4 -0.9
TIN Tinemaha, Big 1.26 340 Pn 17 41 56.4 -0.1
WCT Wildcat Mounta 1.27 43 Pn 17 41 56.1 -0.5
WCT IAML 17 42 16.2
comp=N,2μm,0.6s
WCT IAML 17 42 18.0
comp=E,3μm,0.8s
AMDNV Amargosa 1.29 63 Pn 17 41 56.1 -0.7
LEOC Leona Valley 1.33 202 Pn 17 41 56.9 -0.6
LCH Last Change Ra 1.36 2 Pn 17 41 57.8 -0.2
LRRC Littlerock Res 1.36 191 Pn 17 41 57.4 -0.5
CJV Casa Juvan 1.38 195 Pn 17 41 57.6 -0.6
VOG Valley Oaks Go 1.43 289 Pb 17 41 59.1 -0.5
GMN Gold Mountain 1.47 14 Pn 17 41 59.4 -0.2
GMN IAML 17 42 23.2
comp=N,2μm,0.5s
DSCC Desert Studies 1.49 119 Pn 17 41 58.8 -0.9
OSI Osito Audit: C 1.50 214 Pn 17 42 00.0 +0.2
OSI Osito Audit: C 1.50 214 IAML 17 42 23.7
comp=E,3μm,0.6s
OSI IAML 17 42 29.0
comp=N,2μm,0.9s
DSP Deep Springs 1.51 352 Pn 17 41 59.9 0.0
TPNV Topopah Spring 1.59 47 Pn 17 42 01.0 -0.2
TPNV IAML 17 42 28.1
comp=N,2μm,0.7s
TPNV IAML 17 42 28.7
comp=N,2μm,1.1s
MWC Mount Wilson 1.67 190 IAML 17 42 27.5
comp=E,3μm,0.6s
SIL Silver Peak 1.68 154 Pg 17 42 04.2 -1.3
PASC Pasadena Art C 1.74 193 Pn 17 42 02.9 -0.1
MTPC Mountain Pass 1.79 102 Pn 17 42 03.2 -0.7
BLCC Black Canyon 1.81 206 Pn 17 42 04.1 +0.2
CARC Carrizo Plain 1.83 253 Pb 17 42 06.3 -0.2
MZP Montezuma Peak 1.85 8 Pn 17 42 04.7 -0.1
KCC Kaiser Creek 1.95 319 Pb 17 42 08.6 +0.1
BENR Benton 1.97 340 Pn 17 42 07.0 +0.5
MLAC Mammoth, Mammo 1.98 333 Pg 17 42 09.6 -1.5
PKM Mcpherson Peak 1.98 241 Pb 17 42 08.7 -0.5
SHPR Sheep Range 2.15 72 Pn Pn 17 42 08.9 +0.1
ELS Elsinore Mount 2.23 174 Pn Pn 17 42 09.9 +0.1
ELS IAML 17 42 46.2
comp=E,1μm,0.3s
ELS IAML 17 42 50.6
comp=N,834nm,0.7s
TPH Tonopah 2.24 10 Pn 17 42 10.2 +0.1
V12A Nelson 2.32 93 Pn Pn 17 42 10.4 -0.7
V12A IAML 17 42 50.7
comp=N,766nm,0.6s
V12A IAML 17 42 57.1
comp=E,835nm,0.6s
S11A Rachel 2.37 41 Pn 17 42 11.4 -0.4
LHV Little Huntoon 2.46 345 Pn 17 42 13.6 +0.7
LHV IAML 17 43 00.5
comp=E,619nm,1.0s
LHV IAML 17 43 07.3
comp=N,565nm,1.0s
PMD Palm Desert 2.47 153 IAML 17 42 55.5
comp=E,572nm,0.6s
PFO Pinyon Flats O 2.47 155 Pn Pn 17 42 12.9 -0.3
PFO IAML 17 42 54.6
comp=E,617nm,0.6s
PFO Pinyon Flats O 2.47 155 Pn Pb 17 42 15.3 -2.2
comp=E,16nm,0.3s,baz=345,slow=16,SNR=19
PFO Pg **Pg 17 42 18.9 -1.7**
comp=E,66nm,0.3s,baz=336,slow=14,SNR=41
PFO Lg Lg 17 42 51.1
comp=E,116nm,0.3s,baz=52,slow=19,SNR=12
PFO LR LR 17 42 59.2
comp=E,42nm,19.9s,baz=38,slow=34
comp=E,178nm,0.4s
PMPB Monarch Peak 2.53 279 Pn 17 42 14.2 +0.2
NV11 Mina Array Sit 2.58 352 Pn 17 42 14.8 0.0
NVAR Mina Array Bea 2.60 350 Pn 17 42 15.3 +0.2
NVAR Mina Array Bea 2.60 350 Pn **Pn 17 42 15.7 +0.6**
comp=E,16nm,0.3s,baz=172,slow=12,SNR=66
NVAR Pg **Pg 17 42 21.3 -1.7**
comp=E,101nm,0.3s,baz=174,slow=16,SNR=68
NVAR LR LR 17 42 56.5
comp=E,46nm,18.2s,baz=181,slow=33
comp=E,24nm,0.5s
PRN Pahroc Range 2.63 53 Pn 17 42 15.8 +0.4
PRN IAML 17 43 13.4
comp=N,1μm,0.8s
BBGB Big Mountain B 2.79 286 Pn 17 42 17.9 +0.4
RYN Ryan 2.83 347 Pn 17 42 18.5 +0.3
WAKR Walker 2.97 333 Pn 17 42 20.7 +0.5
WAKR IAML 17 43 08.2
comp=E,358nm,0.5s
Q09A Carvers 2.99 8 Pn 17 42 20.8 +0.4
R11B Troy Canyon, C 3.00 34 Pn 17 42 20.7 +0.1
R11B IAML 17 43 10.4
comp=E,534nm,1.3s
CMB Columbia Colle 3.05 316 Pn 17 42 21.3 +0.3
CMB IAML 17 43 12.6
comp=E,477nm,0.7s
CMB IAML 17 43 16.6
comp=N,481nm,0.8s
SAO San Andreas Ge 3.15 288 Pn **Pn 17 42 22.3 -0.2**
W13A Hualapai Mount 3.21 103 Pn 17 42 23.0 -0.5
W13A IAML 17 43 20.1
comp=E,315nm,0.7s
W13A IAML 17 43 23.7
comp=N,303nm,1.4s
BLYC Blythe 3.36 128 Pn 17 42 24.2 -1.2
BLYC IAML 17 43 25.3
comp=E,328nm,1.2s
BLYC IAML 17 43 31.1
comp=N,360nm,1.0s
TJX Tijuana 3.39 171 Pn 17 42 25.0 -0.7
TKX Tecate 3.42 164 Pn 17 42 25.3 -0.8
TKX IAML 17 43 22.0
comp=N,347nm,0.5s
YUH Yuha Desert 3.54 155 Pn 17 42 27.4 -0.3
CBX Cerro Bola 3.65 166 Pn 17 42 29.4 0.0
GLA Glamis 3.68 139 Pn 17 42 28.5 -1.2
GLA IAML 17 43 32.9
comp=N,452nm,0.7s
LCMT Little Creek M 3.77 71 Pn 17 42 31.0 -0.1
CCUT Cedar City 3.87 63 Pn 17 42 32.5 0.0
MPK Martis Peak 3.89 332 Pn 17 42 32.6 -0.2
CPBX Cerro Prieto 3.97 149 Pn 17 42 33.4 -0.4
AFDM Forest Hills D 4.03 321 Pn 17 42 34.1 -0.4
AFDM IAML 17 43 46.7
comp=N,213nm,0.6s
PAHR Pah Rah Range 4.06 341 Pn 17 42 34.8 -0.2
PSUT Pine Spring 4.07 48 Pn 17 42 34.8 -0.4
PSUT IAML 17 43 44.4
comp=E,275nm,1.1s
PSUT IAML 17 43 48.3
comp=N,276nm,1.3s
CCX Cicese 4.08 167 Pn 17 42 35.0 -0.2
CCX IAML 17 43 44.5
comp=E,314nm,0.8s
KNB Kanab 4.10 72 Pn 17 42 35.5 -0.1
KNB IAML 17 43 57.1
comp=E,129nm,1.0s
KNB IAML 17 43 57.5
comp=N,138nm,1.6s
SPR3 Spring Creek 3 4.12 40 Pn 17 42 35.5 -0.6
SPR3 IAML 17 43 55.6
comp=N,191nm,0.9s
ESJX Sierra Juarez 4.12 159 Pn 17 42 36.3 +0.3
ESJX IAML 17 43 43.8
comp=E,208nm,0.5s
Y14A Wickenburg 4.32 115 Pn 17 42 39.3 +0.8
Y14A IAML 17 43 53.1
comp=E,269nm,0.7s
113A Mohawk Valley, 4.49 132 Pn 17 42 41.3 +0.5
BEKR Beckworth 4.51 333 Pn 17 42 41.1 -0.1
BEKR IAML 17 44 04.3
comp=E,246nm,0.6s
BEKR IAML 17 44 11.1
comp=N,126nm,0.9s
VTX Valle De La Tr 4.74 160 Pn 17 42 44.0 -0.4
VTX IAML 17 44 04.1
comp=E,179nm,1.0s
VTX IAML 17 44 19.1
comp=N,132nm,1.4s
ORV Oroville 4.75 322 Pn 17 42 44.6 +0.1
ORV IAML 17 44 05.9
comp=N,84nm,0.9s
ORV IAML 17 44 07.8
comp=E,142nm,0.8s
WUAZ Wupatki 5.16 92 Pn 17 42 50.0 -0.3
ELK Elko 5.24 21 Pn 17 42 52.2 +0.8
ELK IAML 17 44 21.0
comp=E,63nm,0.7s
ELK Elko 5.24 21 Pn **Pn 17 42 52.4 +1.0**
comp=E,1.7nm,0.3s,baz=177,slow=23,SNR=47
ELK Lg Lg 17 44 16.6
comp=E,16nm,0.3s,baz=78,slow=14,SNR=17
ELK LR LR 17 44 26.8
comp=E,32nm,21.6s,baz=202,slow=33
comp=E,4.8nm,0.3s
X16A Lo Mia Camp, P 5.33 104 Pn 17 42 53.2 +0.6
X16A IAML 17 44 30.4
comp=E,64nm,1.1s
X16A IAML 17 44 39.7
comp=N,66nm,1.2s
SFX San Felipe 5.38 153 Pn 17 42 52.9 -0.1
SFX IAML 17 44 27.5
comp=E,91nm,1.2s
SFX IAML 17 44 29.1
comp=N,103nm,1.1s
214A Organ Pipe Nat 5.64 132 Pn 17 42 55.9 -0.8
HATC Hat Creek Radi 5.75 330 Pn 17 42 58.1 -0.2
O02D Mt. Diablo Mer 5.88 319 Pn 17 42 59.0 -1.1
BGU Big Grassy Mou 6.24 35 Pn 17 43 04.3 -0.8
MPU Maple Canyon 6.34 47 Pn 17 43 04.2 -2.2
X18A Snowflake 6.49 100 Pn 17 43 06.6 -1.9
W18A Petrified Fore 6.54 94 Pn 17 43 07.8 -1.4
WVOR Wild Horse Val 6.60 354 Pn 17 43 08.7 -1.2
CTU Camp Tracy 6.72 42 Pn **Pn 17 43 10.9 -0.7**
JLU Jordanelle 6.82 44 Pn 17 43 11.0 -2.1
YBH Yreka Blue Hor 7.04 328 Pg **Pb 17 43 34.1 -1.2**
baz=163,slow=8.0,SNR=5.1
YBH Lg Lg 17 45 11.0
baz=188,slow=17,SNR=3.0
TCUT Toone Canyon 7.20 41 Pn **Pn 17 43 16.9 -1.4**
PV05 Paradox Valley 7.23 70 Pn 17 43 18.8 0.0
PV11 David Mesa, Pa 7.46 68 Pn 17 43 20.6 -1.3
PV03 Paradox Valley 7.47 69 Pn 17 43 21.7 -0.3
J08A Circle Bar Ran 7.50 356 Pn 17 43 20.9 -1.4
PV12 Saucer Basin, 7.52 68 Pn 17 43 21.7 -1.0
PV02 Paradox Valley 7.54 69 Pn 17 43 22.0 -1.0
MFID Camas Ranch 7.67 10 Pn **Pn 17 43 24.6 -0.1**
319A Douglas 8.33 120 Pn **Pn 17 43 33.1 -0.6**
ANMO Albuquerque 9.23 92 Pg Pn 17 44 20.2 +34
comp=N,0.3nm,0.3s,baz=28,slow=14,SNR=10
ANMO Lg Lg 17 46 22.1
comp=N,0.2nm,0.3s,baz=127,slow=21,SNR=9.2
ANMO LR LR 17 47 43.4
comp=N,57nm,18.9s,baz=0.5,slow=40
PDAR Pinedale Array 9.34 40 Pn Pn 17 43 53.6 +6.0
comp=N,0.2nm,0.3s,baz=229,slow=13,SNR=9.5
PDAR Lg Lg 17 46 27.2
comp=N,0.1nm,0.3s,baz=211,slow=29,SNR=6.1
PDAR LR LR 17 47 37.8
comp=N,61nm,21.5s,baz=221,slow=39
comp=N,1.6nm,0.7s
NEW Newport 12.39 2 Lg Lg 17 48 03.7
baz=216,slow=22
NEW LR LR 17 48 50.3
comp=N,34nm,20.9s,baz=186,slow=35
LPIG La Paz 13.36 149 LR LR 17 50 13.3
comp=N,92nm,18.4s,baz=78,slow=39
TXAR Lajitas Array 13.50 115 Pn **Pn 17 44 47.6 +3.1**
comp=N,0.1nm,0.3s,baz=302,slow=16,SNR=8.2
comp=N,0.1nm,0.4s
FW16 Waxahatchie 17.54 95 P P 17 45 38.5 0.0
ECSD EROS Data Cent 17.98 58 Pn **Pn 17 45 42.8 +0.1**
ULM Lac du Bonnet 21.36 41 P P 17 46 20.9 +0.9
comp=N,2.4nm,0.6s,baz=221,slow=8.0,SNR=5.6
comp=N,2.4nm,0.6s
FFC Flin Flon 21.77 25 P 17 46 24.3 0.0
FFC IAmb IAmb 17 46 29.6
comp=Z,7.0nm,1.2s
DLBC Dease Lake 24.01 344 LR LR 17 56 12.2
comp=Z,8.8nm,21.6s,baz=148,slow=37
YKAW1 Yellowknife Wh 26.71 3 P P 17 47 11.9 +0.1
YKAW1 IAmb IAmb 17 47 16.2
comp=Z,4.1nm,0.9s
YKA Yellowknife Ar 26.72 3 P P 17 47 12.8 +0.9
comp=Z,1.3nm,0.8s,baz=187,slow=9.0,SNR=14
YKA LR LR 17 58 35.9
comp=Z,51nm,21.2s,baz=250,slow=38
comp=Z,1.3nm,0.8s
SADO Sadowa 30.48 61 LR LR 18 01 49.9
comp=Z,26nm,21.3s,baz=352,slow=40
ILAR Eielson Array 33.80 338 P P 17 48 16.4 +1.9
comp=Z,0.7nm,1.0s,baz=132,slow=8.8,SNR=6.6
comp=Z,0.7nm,1.0s
FRB Frobisher Bay 40.65 31 LR LR 18 06 07.5
comp=Z,42nm,18.2s,baz=263,slow=36
BVAR Borovoye Array 91.19 355 P **P 17 54 38.6 +0.9**
comp=Z,0.7nm,0.7s,baz=357,slow=6.2,SNR=4.8
comp=Z,0.7nm,0.7s

WEL ***06*** *17:52:18.4±1.0,33.˚S±8.˚×17.˚8W±2.˚2, h12km, mB5.7/6, ML5.4/11, MLv5.4/11, Mw(mB)5.3/6, Error ellipse: s-maj=30.2km s-min=4.2km az=108.7, confirmed*
BJI ***06*** *17:52:19.4, 33.˚05S×178.˚27W, h17km, mB5.2/1, mb5.0/12, Ms4.8/2, Ms7 4.6/1*
NEIC ***06*** *17:52:21.1±1.8, 32.˚83S±0.˚07×178.˚35W±0.˚06, h10km±1km, mb5.1/23, Error ellipse: s-maj=12.7km s-min=8.6km az=185.0*
MOS ***06*** *17:52:22.2±0.9, 32.˚73S×178.˚71W, h17km, mb5.2/11, Error ellipse: s-maj=17.0km s-min=10.6km az=107.4*
GCMT ***06*** *17:52:24.1±0.4, 32.˚80S±0.˚04×178.˚03W±0.˚03, h23km±1km, MW4.9/75, Moment Tensor Solution. s30,c35; s75,c96; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.99±.20; Mθθ -0.81±.12; Mϕϕ -2.18±.12; Mrθ 0.35±.22; Mϕϕ -0.48±.07; Mϕr 1.19±.17; Best double couple: Mo 2.93700×10^16 NP1: ϕs 198.00000°, δ 33.00000°, λ 91.00000°. NP2: ϕs 17.00000°, δ 57.00000°, λ 90.00000°. Principal axes: T 3.2650, Plg78.0000°, Azm286.0000°; N -0.6530, Plg0.0000°, Azm17.0000°; P -2.6090, Plg12.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NOU ***06*** *17:52:26.5, 33.˚20S×178.˚23W, h45km, mb5.0/19, South of Kermadec Islands*
IDC ***06*** *17:52:27.2±1.9, 32.˚62S×178.˚64W, h46km±16km, mb4.1/12, mbtmp4.3/13, ML5.1/2, MS4.1/33, Error ellipse: s-maj=15.7km s-min=14.6km az=27.0*
ISC 06 17:52:23.9±0.3, 32.˚85S±0.˚04×178.˚28W±0.˚06, h32km, n370, σ1 $77/384, mb5.0/43, MS4.2/33, 9C-5D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.59**	**5**	P	Pn	17 53 11.6	-5.8
GLKZ				S	**Sn**	**17 53 55.0**	**-3.7**
RAO	**Raoul Island**	**3.60**	**5**		**Pn**	**17 53 15.0**	**-2.5**
RAO	**Raoul Island**	**3.60**	**5**	P	**Pn**	**17 53 17.5**	**0.0**
	130nm,0.3s,baz=241,slow=16,SNR=4.8						
RAO				S	**Sn**	**17 53 53.7**	**-5.3**
	2μm,0.5s,baz=46,slow=20,SNR=4.9						
RIZ	**Raoul Island**	**3.61**	**5**	S	**Sn**	**17 53 54.9**	**-4.3**
MXZ	**Matakaoa Point**	**5.46**	**210**		**Pn**	**17 53 40.3**	**-2.8**
MXZ	**Matakaoa Point**	**5.46**	**210**	P	**Pn**	**17 53 42.6**	**-0.5**
MXZ	**Matakaoa Point**	**5.46**	**210**	P	**Pn**	**17 53 41.3**	**-1.8**
MXZ				S	**Sn**	**17 54 44.3**	**-0.5**
WMGZ	**Waiomatatini S**	**5.64**	**208**	P	**Pn**	**17 53 44.5**	**-1.0**
WMGZ				S	**Sn**	**17 54 49.9**	**+0.7**
PKGZ	**Pakihiroa**	**5.82**	**210**	P	**Pn**	**17 53 46.0**	**-2.0**
PKGZ				S	**Sn**	**17 54 53.1**	**-0.4**
HAZ	**Te Kaha**	**5.85**	**212**	P	**Pn**	**17 53 47.0**	**-1.4**
HAZ				S	**Sn**	**17 54 55.6**	**+1.2**
PUZ	**Puketiti**	**5.92**	**208**	P	**Pn**	**17 53 46.9**	**-2.5**
PUZ				S	**Sn**	**17 54 56.0**	**-0.1**
RUGZ	**Raukumara Rang**	**6.07**	**212**	P	**Pn**	**17 53 50.2**	**-1.4**
TWGZ	**Tauwhareparae**	**6.12**	**209**	P	**Pn**	**17 53 50.6**	**-1.6**
TWGZ				S	**Sn**	**17 55 00.3**	**-0.8**
GRZ	**Great Barrier**	**6.18**	**235**	P	Pn	17 53 59.5	+6.6
KUZ	**Kuaotunu**	**6.28**	**230**	P	**Pn**	**17 53 54.6**	**+0.3**
KUZ	**Kuaotunu**	**6.28**	**230**	P	**Pn**	**17 53 56.2**	**+1.9**
CNGZ	**Carnagh Statio**	**6.30**	**206**	P	**Pn**	**17 53 52.2**	**-2.4**
CNGZ				S	**Sn**	**17 55 05.3**	**-0.1**
WHRZ	**Whale Island**	**6.32**	**217**	P	**Pn**	**17 53 56.4**	**+1.6**
WHRZ				S	**Sn**	**17 55 08.6**	**+2.7**
TKGZ	**Te Karaka**	**6.40**	**208**	P	**Pn**	**17 53 54.6**	**-1.3**
TKGZ				S	**Sn**	**17 55 06.8**	**-1.1**
MWZ	**Matawai**	**6.45**	**211**	P	**Pn**	**17 53 54.8**	**-1.8**
MWZ				S	**Sn**	**17 55 07.4**	**-1.7**
OPRZ	**Ohinepanea**	**6.53**	**219**	P	**Pn**	**17 53 57.4**	**-0.2**
OPRZ				S	**Sn**	**17 55 12.8**	**+1.8**
MARZ	**Manawahe**	**6.57**	**217**	P	**Pn**	**17 53 58.8**	**+0.5**
MARZ				S	**Sn**	**17 55 13.2**	**+1.1**
URZ	**Urewera**	**6.57**	**214**	P	**Pn**	**17 53 55.5**	**-2.7**
	35nm,0.4s,baz=256,slow=2.3,SNR=47						
URZ				S	**Sn**	**17 55 09.7**	**-2.3**
	206nm,0.5s,baz=252,slow=23,SNR=9.9						
URZ	**Urewera**	**6.57**	**214**	P	**Pn**	**17 53 56.5**	**-1.8**
URZ	**Urewera**	**6.57**	**214**	P	**Pn**	**17 53 56.5**	**-1.8**
TGZ	**Tauranga**	**6.60**	**221**	P	**Pn**	**17 53 59.4**	**+0.7**
RAGZ	**Rawiri**	**6.63**	**211**	P	**Pn**	**17 53 57.6**	**-1.5**
RAGZ				S	**Sn**	**17 55 11.5**	**-2.2**
EDRZ	**Edgecumbe**	**6.63**	**216**	P	**Pn**	**17 54 00.3**	**+1.1**
EDRZ				S	**Sn**	**17 55 13.2**	**-0.4**
RIGZ	**Rimuhau**	**6.67**	**208**	P	**Pn**	**17 53 58.1**	**-1.5**
RIGZ				S	**Sn**	**17 55 12.9**	**-1.6**
WIAZ	**Waiheke Island**	**6.69**	**232**	P	**Pn**	**17 54 01.0**	**+1.1**
LIRZ	**Lichensteins R**	**6.73**	**219**	P	**Pn**	**17 54 04.6**	**+4.0**
ABAZ	**Army Bay**	**6.79**	**235**	P	Pn	17 54 06.5	+5.2
PRGZ	**Paritu Road**	**6.81**	**206**	P	**Pn**	**17 53 59.2**	**-2.4**
PRGZ				S	**Sn**	**17 55 15.4**	**-2.5**
OMRZ	**Omania**	**6.82**	**218**	P	**Pn**	**17 54 02.8**	**+1.1**
KARZ	**Kaharoa**	**6.82**	**219**	P	**Pn**	**17 53 58.9**	**-2.8**
WCZ	**Waipu Caves**	**6.83**	**241**	P	**Pn**	**17 54 04.2**	**+2.4**
MBAZ	**Motutapu North**	**6.83**	**233**	P	**Pn**	**17 54 02.8**	**+0.9**
TARZ	**Mount Tarawera**	**6.85**	**217**	P	**Pn**	**17 54 04.4**	**+2.2**
MKAZ	**Moumakai**	**6.85**	**230**	P	**Pn**	**17 54 04.2**	**+1.9**
SNGZ	**Shannon Statio**	**6.90**	**210**	P	**Pn**	**17 54 01.9**	**-0.9**
SNGZ				S	**Sn**	**17 55 18.8**	**-1.5**
MUGZ	**Murupara**	**6.91**	**214**	P	**Pn**	**17 54 01.4**	**-1.5**
MUGZ				S	**Sn**	**17 55 17.3**	**-3.0**
ETAZ	**East Tamaki Re**	**6.92**	**232**	P	**Pn**	**17 54 04.0**	**+1.0**
RTZ	**Ruatahuna**	**6.92**	**212**		**Pn**	**17 54 00.7**	**-2.4**
RRRZ	**Republican Roa**	**6.92**	**216**	P	**Pn**	**17 54 05.5**	**+2.4**
RRRZ				S	**Sn**	**17 55 20.6**	**-0.2**
HLRZ	**Highlands Stat**	**6.94**	**218**	P	**Pn**	**17 54 01.8**	**-1.6**
KNZ	**Kokohu**	**6.97**	**207**	P	**Pn**	**17 54 02.6**	**-1.2**
KNZ				S	**Sn**	**17 55 17.4**	**-4.6**
MHGZ	**Mahia Peninsul**	**7.00**	**205**	P	**Pn**	**17 54 02.4**	**-1.8**
MHGZ				S	**Sn**	**17 55 20.8**	**-1.9**
TOZ	**Tahuroa Road**	**7.04**	**225**		**Pn**	**17 54 02.5**	**-2.2**
HSRZ	**Hossack Road**	**7.04**	**218**	P	**Pn**	**17 54 07.9**	**+3.2**
RVAZ	**Riverhead Bore**	**7.05**	**234**	P	**Pn**	**17 54 05.8**	**+1.0**
PRRZ	**Plateau Road**	**7.11**	**216**	P	**Pn**	**17 54 01.6**	**-4.1**
PRRZ				S	**Sn**	**17 55 22.8**	**-2.9**
RAHZ	**Arahi**	**7.12**	**211**	P	**Pn**	**17 54 04.4**	**-1.4**
RAHZ				S	**Sn**	**17 55 22.8**	**-2.9**
WTAZ	**Waiatarua**	**7.14**	**233**	P	Pn	17 54 11.9	+5.8
OUZ	**Omahuta**	**7.14**	**248**	P	**Pn**	**17 54 08.5**	**+2.3**
OUZ	**Omahuta**	**7.14**	**248**	P	**Pn**	**17 54 09.8**	**+3.7**
AWAZ	**Awhitu Peninsu**	**7.17**	**232**	P	**Pn**	**17 54 05.8**	**-0.6**
MTHZ	**Maungataniwha**	**7.18**	**212**	P	**Pn**	**17 54 06.3**	**-0.3**
MTHZ				S	**Sn**	**17 55 26.6**	**-0.5**
ALRZ	**Allen Road**	**7.18**	**216**	P	**Pn**	**17 54 06.6**	**0.0**
ALRZ				S	**Sn**	**17 55 26.3**	**-0.8**
WHHZ	**Waihua**	**7.19**	**209**	P	**Pn**	**17 54 07.0**	**+0.1**
WHHZ				S	**Sn**	**17 55 26.0**	**-1.4**
WPRZ	**Whakapapatarin**	**7.24**	**217**	P	**Pn**	**17 54 07.9**	**+0.5**
MRHZ	**Matea Rd**	**7.36**	**214**	P	**Pn**	**17 54 07.8**	**-1.3**
MRHZ				S	**Sn**	**17 55 27.4**	**-4.1**
KUTZ	**Kaahu Road**	**7.39**	**219**	P	**Pn**	**17 54 10.2**	**+0.6**
NMHZ	**Naumai**	**7.39**	**211**	P	**Pn**	**17 54 09.1**	**-0.5**
NMHZ				S	**Sn**	**17 55 30.0**	**-2.5**
TLZ	**Tolley Road**	**7.43**	**221**	P	**Pn**	**17 54 11.2**	**+1.1**
ARHZ	**Aropaoanui**	**7.45**	**210**	P	**Pn**	**17 54 09.7**	**-0.7**
ARHZ				S	**Sn**	**17 55 33.0**	**-0.8**
WHTZ	**Whakaora**	**7.45**	**217**	P	**Pn**	**17 54 11.8**	**+1.4**
BKZ	**Black Stump Fm**	**7.59**	**212**		**Pn**	**17 54 10.0**	**-2.3**
BKZ	**Black Stump Fm**	**7.59**	**212**	P	**Pn**	**17 54 09.9**	**-2.4**
BKZ	**Black Stump Fm**	**7.59**	**212**	P	**Pn**	**17 54 10.0**	**-2.3**
BKZ				S	**Sn**	**17 55 35.1**	**-2.1**
RATZ	**Rangitukua**	**7.70**	**217**	P	**Pn**	**17 54 13.5**	**-0.3**
MCHZ	**McNeill Hill**	**7.73**	**210**	P	**Pn**	**17 54 13.1**	**-1.1**
MCHZ				S	**Sn**	**17 55 39.4**	**-1.2**
RITZ	**Rihia Road**	**7.74**	**216**	P	**Pn**	**17 54 13.8**	**-0.5**
RITZ				S	**Sn**	**17 55 40.8**	**-0.2**
CKHZ	**Cape Kidnapper**	**7.75**	**208**	P	**Pn**	**17 54 14.0**	**-0.6**
CKHZ				S	**Sn**	**17 55 36.6**	**-4.6**
KATZ	**Kakaramea**	**7.82**	**217**	P	**Pn**	**17 54 15.6**	**0.0**
KATZ				S	**Sn**	**17 55 43.7**	**+0.6**
KWHZ	**Kaweka Forest**	**7.83**	**212**	P	**Pn**	**17 54 14.7**	**-0.9**
KWHZ				S	**Sn**	**17 55 40.4**	**-2.8**
TMVZ	**Te Maari**	**7.92**	**216**	P	**Pn**	**17 54 15.7**	**-1.2**
TMVZ				S	**Sn**	**17 55 43.3**	**-2.3**
NTVZ	**North Tongarir**	**7.92**	**216**	P	**Pn**	**17 54 16.0**	**-0.9**
NTVZ				S	**Sn**	**17 55 43.6**	**-2.0**
ETVZ	**East Tongariro**	**7.94**	**216**	P	**Pn**	**17 54 16.1**	**-1.0**
ETVZ				S	**Sn**	**17 55 43.0**	**-2.8**
KRVZ	**Karewarewa**	**7.94**	**217**	P	**Pn**	**17 54 17.3**	**+0.1**
KRVZ				S	**Sn**	**17 55 43.0**	**-2.9**
HIZ	**Hauiti**	**7.94**	**223**		**Pn**	**17 54 16.6**	**-0.5**
HIZ	**Hauiti**	**7.94**	**223**	P	**Pn**	**17 54 17.0**	**-0.1**
HIZ	**Hauiti**	**7.94**	**223**	P	**Pn**	**17 54 18.8**	**+1.7**
KAHZ	**Kahuranaki**	**7.95**	**208**	P	**Pn**	**17 54 12.9**	**-4.3**
KAHZ				S	**Sn**	**17 55 42.9**	**-3.2**
OTVZ	**Oturere**	**7.98**	**216**	P	**Pn**	**17 54 16.6**	**-1.1**
OTVZ				S	**Sn**	**17 55 44.8**	**-2.2**
NNVZ	**North Ngauruho**	**7.98**	**217**	P	**Pn**	**17 54 18.8**	**+1.0**
WTVZ	**West Tongariro**	**7.98**	**217**	P	**Pn**	**17 54 16.7**	**-1.1**
SNVZ	**South Ngauruho**	**8.01**	**216**	P	**Pn**	**17 54 17.0**	**-1.2**
SNVZ				S	**Sn**	**17 55 45.8**	**-2.0**
NGZ	**Ngauruhoe**	**8.02**	**216**	P	**Pn**	**17 54 17.8**	**-0.5**
TWVZ	**Taurewa**	**8.02**	**218**	P	**Pn**	**17 54 18.5**	**+0.2**
KRHZ	**Kereru**	**8.03**	**211**	P	**Pn**	**17 54 15.7**	**-2.7**
KRHZ				S	**Sn**	**17 55 42.6**	**-5.5**
TUVZ	**Tukino**	**8.06**	**216**	P	**Pn**	**17 54 19.3**	**+0.4**
COVZ	**Chateau Observ**	**8.07**	**217**	P	**Pn**	**17 54 20.0**	**+1.1**
FWVZ	**Far West T-bar**	**8.11**	**216**	P	**Pn**	**17 54 18.8**	**-0.7**
WHVZ	**Whangaehu Hut**	**8.11**	**216**	P	**Pn**	**17 54 19.3**	**-0.3**
MAVZ	**Matarangi**	**8.11**	**216**	P	**Pn**	**17 54 20.2**	**+0.5**
MOVZ	**Moawhango**	**8.12**	**215**	P	**Pn**	**17 54 18.2**	**-1.5**
TRVZ	**Turoa**	**8.14**	**216**	P	**Pn**	**17 54 20.7**	**+0.7**
PXZ	**Pawanui**	**8.16**	**207**	P	**Pn**	**17 54 18.3**	**-1.7**

VRZ Vera Road 8.42 220 P Pn 17 54 23.1 -0.6
PRHZ Porangahau 8.45 207 P Pn 17 54 21.3 -2.7
TSZ Takapari Road 8.55 211 P Pn 17 54 22.6 -2.9
DVHZ Dannevirke 8.67 209 P Pn 17 54 23.2 -3.9
WAZ Wanganui 8.77 216 P Pn 17 54 27.3 -1.2
NEZ North Egmont 8.89 222 P Pn 17 54 33.0 +2.8
POWZ Post Office Ro 8.91 211 P Pn 17 54 30.4 0.0
KHEZ Kahui Hut 8.95 222 P Pn 17 54 31.5 +0.5
KHEZ Kahui Hut 8.95 222 P Pn 17 54 35.7 +4.7
BFZ Birch Farm 8.96 208 P Pn 17 54 27.7 -3.3
PRWZ Pori Road 8.96 209 P Pn 17 54 29.3 -1.8
MRZ Mangatainoka R 9.21 211 P Pn 17 54 30.5 -4.1
HOWZ Holdsworth Sta 9.44 210 P Pn 17 54 34.3 -3.3
TMWZ Te Maipa 9.46 208 P Pn 17 54 34.5 -3.5
OGWZ Otaki Gorge 9.52 212 P Pn 17 54 34.4 -4.3
MTW Mount Morrison 9.66 209 P Pn 17 54 36.3 -4.4
KIW Kapiti Island 9.67 212 P Pn 17 54 37.1 -3.8
CAW Cannon Point 9.80 211 P Pn 17 54 38.2 -4.4
DUWZ D'Urville Isla 10.09 216 P Pn 17 54 44.1 -2.5
PLWZ Palliser 10.11 209 Pn Pn 17 54 41.7 -5.1
SNZO South Karori 10.13 212 P Pn 17 54 44.8 -2.2
TUWZ Tuamarina 10.57 214 P Pn 17 54 49.1 -4.0
NNZ Nelson 10.68 216 P Pn 17 54 51.5 -3.0
CTZ Chatham Island 10.94 174 P Pn 17 54 56.8 -1.4
CTZ Chatham Island 10.94 174 P Pn 17 54 57.5 -0.7
KHZ Kahutara 11.53 212 P Pn 17 55 03.0 -3.2
OXZ Oxford 12.93 213 Pn 17 55 20.4 -4.9
RPZ Rata Peaks 13.69 215 Pn 17 55 30.1 -5.6
RPZ Rata Peaks 13.69 215 P Pn 17 55 27.0 -8.7
12nm,0.5s,baz=51,slow=13,SNR=13
RPZ S Sn 17 57 52.3 -14
20nm,0.5s,baz=312,slow=21,SNR=9.6
JCZ Jackson Bay 15.08 218 P Pn 17 55 51.2 -3.5
MSVF Nonsavu 15.42 347 Pn 17 55 59.1 -0.1
MSVF Nonsavu 15.42 347 P Pn 17 55 58.1 -1.1
0.4nm,0.3s,baz=145,slow=11,SNR=3.5
MSVF LR LR 18 01 11.1
comp=Z,1μm,18.3s,baz=161,slow=35
6.8nm,0.8s
MSVF Nonsavu 15.42 347 P Pn 17 55 59.1 -0.1
MSVF pmax pmax
comp=Z,52nm,1.6s
SYZ Scrubby Hill 16.72 212 P Pn 17 56 14.4 -1.2
DZM Mont Dzumac 17.27 305 P Pn 17 56 21.0 -1.8
DZM IAmb IAmb 17 56 27.9
comp=Z,32nm,1.0s
DZM Mont Dzumac 17.27 305 ePn Pn 17 56 20.8 -2.0
comp=Z,165nm,1.2s
DZM eLR LR 18 00 17.0
comp=Z,2μm,22.9s
DZM Mont Dzumac 17.27 305 P P 17 56 24.4 +0.3
comp=Z,28nm,1.0s,baz=132,slow=15,SNR=5.2
DZM LR LR 18 01 55.3
comp=Z,2μm,18.8s,baz=168,slow=34
DZM Mont Dzumac 17.27 305 P P 17 56 27.2 +3.1
KOUNC Koumac, New Ca 19.78 304 P Pn 17 56 54.6 +1.4
RAR Rarotonga 20.12 59 LR LR 18 05 36.4
comp=Z,240nm,18.3s,baz=220,slow=39
ARMA Armidale 25.70 267 P P 17 57 50.0 -1.3
ARMA IAmb IAmb 17 58 01.8
comp=Z,86nm,1.8s
ARMA Armidale 25.70 267 P P 17 57 53.6 +2.3
CNB Canberra Magne 26.85 256 P P 17 58 03.9 +2.2
comp=Z,24nm,1.3s
CNB Canberra Magne 26.85 256 P P 17 58 02.7 +1.0
TBI Tubuai 27.06 77 eS S 18 02 41.2 +1.8
comp=Z,1μm,27.0s
TBI eLR LR 18 04 46.2
comp=Z,2μm,27.8s
TBI eLR LR 18 04 49.9
comp=Z,759nm,25.0s
EIDS Eidsvold 27.72 278 P P 17 58 10.6 +1.1
comp=Z,40nm,1.1s
EIDS Eidsvold 27.72 278 P P 17 58 10.9 +1.4
YNG Young 27.73 258 P P 17 58 31.4 +22
MOO Moorlands 28.80 241 P P 17 58 19.9 +0.9
comp=Z,29nm,1.0s
MOO Moorlands 28.80 241 P P 17 58 19.8 +0.9
PPT2 Papeete2 29.96 67 eP P 17 58 25.9 -3.6
comp=Z,24nm,22.0s
PPT2 eS S 18 03 28.1 +2.8
comp=Z,301nm,23.0s
PPT2 eLR LR 18 06 08.4
comp=Z,513nm,27.2s
PPT2 eLR LR 18 06 09.4
comp=Z,342nm,25.5s
PPT Papeete 29.98 66 LR LR 18 10 30.1
comp=Z,132nm,18.7s,baz=236,slow=36
CMSA Cobar Meteorol 30.43 263 P P 17 58 34.7 +1.2
comp=Z,54nm,1.0s
HNR Honiara 30.78 314 LR LR 18 09 59.7
comp=Z,313nm,18.2s,baz=150,slow=35
QLP Quilpie 33.03 271 P P 17 58 57.5 +1.2
comp=Z,45nm,1.6s
STKA Stephens Creek 33.77 261 P P 17 59 03.1 +0.3
comp=Z,53nm,2.1s
STKA Stephens Creek 33.77 261 P P 17 59 03.4 +0.6
comp=Z,3.4nm,0.8s,baz=95,slow=8.0,SNR=4.2
STKA PcP PcP 18 01 41.4 -0.2
comp=Z,3.4nm,0.8s,baz=130,slow=4.4,SNR=2.9
STKA LR LR 18 12 02.7
comp=Z,849nm,18.2s,baz=69,slow=35
comp=Z,3.4nm,0.8s
STKA Stephens Creek 33.77 261 iP P 17 59 00.2 -2.6
CTAO Charters Tower 34.03 283 P 17 59 04.8 -0.4
CTAO Charters Tower 34.03 283 P P 17 59 04.8 -0.4
CTAO pmax pmax
comp=Z,32nm,0.6s
MTSU Mount Surprise 36.59 284 P P 17 59 28.6 +1.3
comp=Z,20nm,1.1s
QIS Mount Isa 39.32 277 P P 17 59 50.0 -0.2
comp=Z,22nm,1.0s
RABL Rabaul 39.70 310 P P 17 59 52.7 -0.7
COEN Coen 39.78 289 P 17 59 54.4 +0.4
COEN IAmb IAmb 18 00 08.6
comp=Z,19nm,0.7s
COEN Coen 39.78 289 P P 17 59 55.0 +0.9
comp=Z,31nm,0.9s
TAOE Nuku Hiva Isla 42.53 65 eLR LR 18 11 57.8
comp=Z,282nm,25.0s
AS31 Alice Springs 42.80 270 P 18 00 18.6 -0.3
AS31 IAmb IAmb 18 00 32.5
comp=Z,11nm,0.8s
AS31 Alice Springs 42.80 270 P P 18 00 18.3 -0.6
comp=Z,17nm,0.8s
ASAR Alice Springs 42.80 270 P P 18 00 18.4 -0.5
comp=Z,18nm,0.6s,baz=111,slow=7.8,SNR=416
ASAR PcP PcP 18 02 09.3 -0.6
comp=Z,1.8nm,0.8s,baz=128,slow=4.6,SNR=1.7
ASAR ScP ScP 18 05 58.0 -0.5
comp=Z,1.0nm,1.1s,baz=128,slow=4.9,SNR=3.5
ASAR S S 18 06 38.2 -2.9
comp=Z,2.4nm,0.9s,baz=108,slow=16,SNR=9.7
ASAR LR LR 18 17 43.8
comp=Z,279nm,18.1s,baz=117,slow=36
comp=Z,18nm,0.6s
WR8 Warramunga Arr 43.87 275 P 18 00 26.6 -0.9
WR8 IAmb IAmb 18 00 41.2
comp=Z,40nm,0.9s
WRAB Tennant Creek 44.00 275 iP P 18 00 27.8 -0.8
WRAB pmax pmax
comp=Z,38nm,0.8s
WRA Warramunga Arr 44.01 275 P 18 00 27.2 -1.4
WRA Warramunga Arr 44.01 275 P P 18 00 27.9 -0.8
comp=Z,38nm,0.6s,baz=116,slow=7.6,SNR=287
WRA ScP ScP 18 06 03.1 -0.3
comp=Z,2.5nm,1.1s,baz=122,slow=3.4,SNR=4.7
WRA S S 18 06 53.5 -5.3
comp=Z,3.8nm,1.0s,baz=112,slow=15,SNR=5.6
WRA LR LR 18 17 16.7
comp=Z,315nm,20.8s,baz=18,slow=34
FORT Forrest 45.24 258 P 18 00 37.2 -1.1
FORT IAmb IAmb 18 00 38.0
comp=Z,18nm,0.7s
FORT Forrest 45.24 258 P P 18 00 37.2 -1.1
VNDA Vanda 45.64 186 P P 18 00 44.5 +3.7
comp=Z,0.7nm,0.7s,baz=3.9,slow=6.9,SNR=9.3
VNDA LR LR 18 16 39.8
comp=Z,154nm,18.5s,baz=8.0,slow=32
comp=Z,0.7nm,0.7s
WRKA Warakurna 46.98 265 P P 18 00 51.0 -1.2
JAY Jayapura 48.85 299 LR LR 18 21 21.3
comp=Z,160nm,18.5s,baz=88,slow=36
KDU Kakadu 49.15 282 P P 18 01 07.7 -1.2
MTN Manton Dam 50.17 281 P 18 01 14.9 -1.8

MTN IAmb IAmb 18 01 29.7
comp=Z,21nm,0.8s
MTN Manton Dam 50.17 281 P P 18 01 15.1 -1.7
KNRA Kununurra 50.70 276 P 18 01 19.7 -1.0
KNRA IAmb IAmb 18 01 21.1
comp=Z,16nm,1.1s
KNRA Kununurra 50.70 276 P P 18 01 19.7 -1.0
FITZ Fitzroy Crossi 52.16 272 P 18 01 30.6 -1.0
FITZ Fitzroy Crossi 52.16 272 P P 18 01 30.8 -0.9
FITZ Fitzroy Crossi 52.16 272 LR LR 18 23 12.5
comp=Z,602nm,19.0s,baz=114,slow=36
CASY Casey 52.87 209 P 18 01 36.9 +0.6
CASY IAmb IAmb 18 01 37.6
comp=Z,15nm,0.8s
NWAO Narrogin (SRO) 53.34 251 LR LR 18 24 15.3
comp=Z,182nm,18.1s,baz=54,slow=36
QSPA South Pole Qui 57.26 180 P 18 02 09.1 +1.0
QSPA South Pole Qui 57.26 180 P P 18 02 11.4 +3.3
comp=Z,6.6nm,0.8s,baz=342,slow=1.0,SNR=18
QSPA LR LR 18 24 28.7
comp=Z,227nm,19.0s,baz=45,slow=33
comp=Z,6.6nm,0.8s
SOEI Soe 57.50 280 P P 18 02 08.6 -1.9
BATI Baumata 57.76 279 LR LR 18 26 56.9
comp=Z,388nm,19.0s,baz=174,slow=36
GUMO Guam 58.07 317 LR LR 18 24 36.2
comp=Z,103nm,20.2s,baz=102,slow=33
KAPI Kappang 63.84 282 LR LR 18 31 23.3
comp=Z,243nm,18.1s,baz=96,slow=37
DAV Davao City (W) 66.46 296 LR LR 18 31 36.3
comp=Z,73nm,20.1s,baz=150,slow=36
TOLI2 Tolitoli 66.52 288 P P 18 03 08.4 -2.6
TOLI2 IAmb IAmb 18 03 10.8
comp=Z,8.4nm,0.8s
MPSI Mapaga 66.78 286 P P 18 03 11.5 -1.1
SMKI Samarinda 68.51 284 P P 18 03 27.0 +3.5
MAW Mawson 69.94 201 P P 18 03 31.1 -0.4
comp=Z,4.3nm,0.9s,baz=124,slow=8.5,SNR=6.3
MAW LR LR 18 33 17.5
comp=Z,225nm,19.9s,baz=102,slow=35
USHA Ushuaia 74.03 146 LR LR 18 30 55.0
comp=Z,181nm,19.2s,baz=347,slow=31
SBUM Sibu 74.24 283 P P 18 03 57.2 -1.0
SYO Syowa Base 74.68 193 ieP P 18 04 00.2 +0.4
TROLL Troll, Antarti 75.42 180 ↓P P 18 04 06.0 +1.7
comp=Z,150nm,0.5s
SNAA Sanae 75.72 179 ↓P P 18 04 08.1 +2.3
comp=Z,301nm,1.1s
SNAA Sanae 75.72 179 P 18 04 07.1 +1.3
SNAA IAmb IAmb 18 04 17.3
comp=Z,17nm,1.1s
SNAA Sanae 75.72 179 P P 18 04 08.1 +2.3
comp=Z,1.0nm,0.7s,baz=188,slow=14,SNR=5.8
SNAA LR LR 18 36 38.0
comp=Z,99nm,18.1s,baz=136,slow=35
comp=Z,1.0nm,0.7s
SNAA Sanae 75.72 179 iP P 18 04 08.4 +2.6
SNAA pmax pmax
comp=Z,13nm,1.0s
VNA2 Neumayer--Watz 76.31 177 ↓P P 18 04 10.3 +1.1
comp=Z,32nm,0.6s,baz=168,slow=5.4
VNA1 Neumayer--Stat 76.54 177 ↓P P 18 04 11.9 +1.5
comp=Z,22nm,0.8s
H03S2 Juan Fernandez 79.32 123 T T 19 33 18.8
baz=236,slow=74,SNR=6.3
H03S1 Juan Fernandez 79.33 123 T T 19 33 19.9
baz=236,slow=74,SNR=6.3
H03S3 Juan Fernandez 79.33 123 T T 19 33 07.2
baz=236,slow=74,SNR=6.1
H03N3 Juan Fernandez 79.52 123 T T 19 33 34.8
baz=240,slow=72,SNR=8.1
H03N2 Juan Fernandez 79.52 123 T T 19 33 23.9
baz=240,slow=72,SNR=5.1
H03N1 Juan Fernandez 79.54 123 T T 19 33 34.5
baz=240,slow=72,SNR=11
MJAR Matsushiro Arr 80.12 326 P P 18 04 29.7 -0.9
comp=Z,2.0nm,0.9s,baz=146,slow=8.8,SNR=2.8
comp=Z,2.0nm,0.9s
PLCA Paso Flores 81.01 133 P P 18 04 38.5 +2.8
comp=Z,2.3nm,1.2s,baz=274,slow=2.7,SNR=4.2
PLCA LR LR 18 33 57.7
comp=Z,67nm,18.8s,baz=220,slow=31
comp=Z,2.3nm,1.2s
PSI Prapat 85.46 276 LR LR 18 43 33.6
comp=Z,226nm,20.4s,baz=129,slow=36
LPIG La Paz 86.03 58 LR LR 18 38 50.1
comp=Z,115nm,18.0s,baz=214,slow=32
KSRS Korea Array 86.06 320 P P 18 05 01.2 0.0
comp=Z,1.8nm,0.9s,baz=144,slow=5.6,SNR=5.6
comp=Z,1.8nm,0.9s
YSS Yuzhno-Sakhali 86.85 334 P P 18 05 05.2 +0.3
YSS IAmb IAmb 18 05 06.8
comp=Z,11nm,0.8s
YSS Yuzhno-Sakhali 86.85 334 eP P 18 05 05.6 +0.7
YSS eS S 18 15 41.0 +0.6
YSS pmax pmax
comp=Z,10.0nm,0.8s
NJ2 Nanjing 87.66 311 eP P 18 05 11.0 +1.8
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
PET Petropavlovsk 87.85 346 iP P 18 05 11.3 +1.8
PET pmax pmax
comp=Z,4.0nm,1.0s
PET Petropavlovsk 87.85 346 P P 18 05 09.0 -0.5
comp=Z,8.1nm,0.9s
PEA0B Petropavlovsk- 88.12 346 P P 18 05 10.3 -0.6
PEA0B Petropavlovsk- 88.12 346 iP P 18 05 11.0 +0.1
PETK Petropavlovsk- 88.12 346 P P 18 05 09.9 -1.0
PETK Petropavlovsk- 88.12 346 P P 18 05 10.8 -0.1
comp=Z,3.8nm,0.8s,baz=111,slow=6.9,SNR=12
comp=Z,3.8nm,0.8s
MSHR Mys Shultsa 88.23 325 iP P 18 05 12.0 +0.4
PSTR Posyet 88.45 325 iP P 18 05 13.1 +0.4
USA0B Ussuriysk Arra 89.07 327 iP P 18 05 16.0 +0.4
USRK Ussuriysk Ar. 89.07 327 P P 18 05 16.6 +1.0
comp=Z,1.8nm,0.6s,baz=191,slow=2.9,SNR=4.2
comp=Z,1.8nm,0.6s
YBH Yreka Blue Hor 90.11 38 LR LR 18 41 02.2
comp=Z,7.6nm,18.5s,baz=176,slow=32
NVAR Mina Array Bea 90.20 43 P P 18 05 23.8 +2.5
comp=Z,1.8nm,0.8s,baz=249,slow=4.0,SNR=4.7
comp=Z,1.8nm,0.8s
TYV Tymovskoe 90.20 336 eP P 18 05 21.8 +1.1
TYV pmax pmax
comp=Z,100nm,4.9s
TYV pmax pmax
comp=Z,16nm,0.9s
CHGN Chignik 90.40 11 P P 18 05 21.2 -0.2
CHGN IAmb IAmb 18 05 37.4
comp=Z,15nm,0.9s
NNA Nana 92.97 106 LR LR 18 38 19.2
comp=Z,93nm,20.7s,baz=226,slow=30
NNA Nana 92.97 106 iP P 18 05 31.8 -2.8
KLR Kul'dur 93.03 330 iP P 18 05 34.4 +0.6
KLR pmax pmax
comp=Z,3.0nm,1.1s
CMIG Matias Romero 93.73 72 LR LR 18 41 00.3
comp=Z,32nm,18.4s,baz=180,slow=31
N15K Kwethluk River 93.89 9 P P 18 05 36.8 -0.8
N15K IAmb IAmb 18 05 53.4
comp=Z,8.2nm,0.8s
TXAR Lajitas Array 93.91 58 P P 18 05 40.8 +2.3
comp=Z,0.4nm,0.9s,baz=211,slow=4.4,SNR=2.2
comp=Z,0.4nm,0.9s
CMAR Chiang Mai Arr 93.98 289 PP PP 18 09 23.9 -1.7
comp=Z,0.5nm,0.6s,baz=115,slow=7.2,SNR=3.1
CMAR LR LR 18 50 31.0
comp=Z,32nm,19.2s,baz=0.0,slow=37
ATAH Atahualpa 94.40 101 LR LR 18 41 19.7
comp=Z,68nm,18.3s,baz=284,slow=31
MA2 Magadan 95.59 345 LR LR 18 43 18.8
comp=Z,103nm,21.9s,baz=168,slow=32
MA2 Magadan 95.59 345 P P 18 05 44.9 -0.4
PZH PanZhiHua 96.22 297 P P 18 05 48.2 -1.0
CD2 Chengdu 97.19 302 eP Pdif 18 05 55.0 +1.5
LPAZ La Paz 97.35 115 LR LR 18 41 40.8
comp=Z,30nm,20.1s,baz=240,slow=30
NEW Newport 97.49 36 LR LR 18 44 52.8
comp=Z,156nm,18.7s,baz=197,slow=32
HHC Hu-ho-hao-te 97.76 314 eP Pdif 18 05 57.1 +1.2
HHC pmax pmax
comp=Z,12nm,0.6s
PDAR Pinedale Array 98.07 44 LR LR 18 43 51.6
comp=Z,54nm,20.1s,baz=222,slow=31
JTS Las Juntas de 98.27 83 LR LR 18 45 50.1
comp=Z,61nm,18.0s,baz=230,slow=32
CPUP Villa Florida 98.64 129 LR LR 18 45 05.6

comp=Z,18nm,19.3s,baz=90,slow=32
LZH Lanzhou 99.99 306 eP Pdif 18 06 03.8 -2.2
LZH pmax pmax
comp=Z,14nm,1.2s
BILL Bilibino 101.25 354 iP Pdif 18 06 11.5 +0.9
BILL pmax pmax
comp=Z,2.0nm,1.0s
YKA Yellowknife Ar 107.75 26 PKKP 18 22 15.8
comp=Z,0.6nm,0.9s,baz=37,slow=3.5,SNR=5.6
WMQ Urumqi 114.54 307 ePKP PKiKP 18 11 01.4 +0.8
MK31 Makanchi Array 119.15 309 ciPKIKP PKiKP 18 11 09.9 +0.6
MKAR Makanchi Array 119.15 309 PKP PKPdf 18 11 09.0 -0.3
MKAR Makanchi Array 119.15 309 PKP PKPdf 18 11 09.2 -0.1
comp=Z,1.5nm,0.6s,baz=207,slow=1.6,SNR=21
MKAR Makanchi Array 119.15 309 ciPKIKP PKiKP 18 11 09.5 +0.2
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MAKZ Makanchi 119.36 309 PKPdf 18 11 08.8 -0.9
MAKZ Makanchi 119.36 309 PKIKP PKPdf 18 11 08.8 -0.9
ZALV Zalesovo Beam 119.69 318 PKPdf 18 11 09.1 -1.0
ZALV Zalesovo Beam 119.69 318 PKP PKPdf 18 11 09.6 -0.4
comp=Z,1.5nm,0.6s,baz=187,slow=1.2,SNR=7.1
KURK Kurchatov 122.55 313 PKPdf 18 11 14.9 -0.7
KURK Kurchatov 122.55 313 ciPKIKP PKiKP 18 11 15.9 +0.1
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURBB Kurchatov Arra 122.59 313 PKP PKPdf 18 11 15.5 -0.2
comp=Z,3.5nm,0.7s,baz=114,slow=2.1,SNR=41
AAK Ala-Archa 123.25 303 iPKIKP PKPdf 18 11 16.5 -1.0
GAR Garm 125.29 297 PKPdf 18 11 21.5 0.0
KKAR Karatay Array 126.20 302 PKPdf 18 11 22.5 -0.4
KKAR Karatay Array 126.20 302 PKIKP PKPdf 18 11 22.5 -0.4
BVAR Borovoye Array 127.97 314 PKP PKiKP 18 11 26.9 +0.3
comp=Z,4.1nm,0.6s,baz=99,slow=1.3,SNR=26
ABKAR Akbulak array 134.29 309 PKPdf 18 11 38.3 +0.3
ARTI Arti 134.91 319 PKiKP 18 11 40.1 -0.3
ARTI Arti 134.91 319 iPKIKP PKiKP 18 11 39.6 -0.8
ARTI 18 14 15.3
ARTI SS SS 18 32 02.1 -3.0
ARCES ARCESS Array B 140.93 347 PKhKP PKPpre 18 11 44.2
comp=Z,3.8nm,0.7s,baz=3.5,slow=2.4,SNR=12
ARCES PKP PKPdf 18 11 48.3 -1.4
comp=Z,3.8nm,0.7s,baz=50,slow=2.3,SNR=2.2
KLMR Klimovskoe 142.79 330 ePKIKP PKPdf 18 11 53.5 +0.3
KLMR pmax pmax
comp=Z,12nm,1.2s
GNI Garni 144.93 294 ciPKIKP PKPdf 18 11 59.4 +1.5
GNI pmax pmax
comp=Z,20nm,1.7s
VRH Novokhopyorsk 145.62 314 ePKP2 PKPdf 18 11 56.8 -1.6
VRH pmax pmax
comp=Z,20nm,0.8s
GOF Gofitskoye 145.99 303 cePKIKP PKPab 18 12 00.6 -0.1
MOS Moscow 146.19 323 iPKP2 PKPbc 18 11 59.9 -0.4
MOS pmax pmax
comp=Z,105nm,0.7s
KBZ Khabaz 146.22 301 PKPbc PKPbc 18 12 00.5 -0.3
comp=Z,12nm,1.0s,baz=68,slow=2.7,SNR=10
KBZ Khabaz 146.22 301 iPKIKP PKPdf 18 11 59.7 0.0
KIV Kislovodsk 146.35 301 iPKP2 PKPbc 18 12 00.9 -0.5
KIV pmax pmax
comp=Z,8.0nm,1.0s
SHA1 Shidzhatmaz 146.39 301 iPKIKP PKPdf 18 12 00.0 -0.4
LPSR Galich'ya Gora 146.80 318 ePKP2 PKPbc 18 12 02.3 +0.1
LPSR pmax pmax
comp=Z,71nm,1.1s
VORR Voronezh 146.97 316 ePKIKP PKPdf 18 12 00.6 -0.1
VORR pmax pmax
comp=Z,40nm,0.9s
OBN Obninsk 147.01 323 ciPKP2 PKPbc 18 12 02.6 -0.1
OBN pmax pmax
comp=Z,25nm,0.9s
OBN MLR MLR
comp=Z,51nm,21.0s
VSR Storozhevoye 147.15 315 ePKIKP PKPdf 18 12 00.3 -0.7
VSR pmax pmax
comp=Z,20nm,1.0s
VORD Divnogorie 147.15 315 ePKIKP PKPdf 18 12 01.5 +0.5
VORD pmax pmax
comp=Z,10.0nm,1.0s
FIA1 FINESS Array S 147.35 338 PKPbc 18 12 03.1 -0.4
FINES FINESS Array B 147.35 338 PKPbc 18 12 03.0 -0.5
FINES FINESS Array B 147.35 338 PKPbc PKPbc 18 12 03.5 0.0
comp=Z,38nm,0.8s,baz=42,slow=3.6,SNR=175
LABN Labinsk 147.68 303 ePKIKP PKPdf 18 12 02.0 -0.2
LABN pmax pmax
comp=Z,23nm,0.7s
ERBR Yeremizino-Bor 147.68 305 iPKP2 PKPbc 18 12 05.4 +0.5
ERBR pmax pmax
comp=Z,25nm,0.6s
VSLR Vesyoloye 148.32 301 iPKIKP PKPbc 18 12 04.9 -1.8
SOC Sochi 148.53 301 ePKIKP PKPdf 18 12 04.2 +0.6
SOC e 18 15 38.6
SOC ePPP PPP 18 18 55.2
SOC eSS SS 18 34 44.8 +0.5
SOC eSSS SSS 18 40 21.5
VSU Vasula 149.34 334 ciPKIKP PKPdf 18 12 05.8 +1.4
VSU pmax pmax
comp=Z,56nm,1.0s
ANN Anapa 149.97 304 iPKHKP PKPpre 18 12 10.5
ANN pmax pmax
comp=Z,54nm,0.8s
NB2 NORSAR Subarra 151.13 350 PKP PKiKP 18 12 13.4 -0.2
comp=Z,8.7nm,0.7s,baz=16,slow=2.6
NOA NORSAR Array B 151.13 350 PKPbc PKPbc 18 12 13.2 +0.1
comp=Z,5.8nm,0.7s,baz=13,slow=4.1,SNR=36
MNK Minsk 151.55 327 iPKP PKPbc 18 12 13.4 -0.8
comp=E,8.0nm,0.9s
MNK i PKP PKPbc 18 12 13.4 -0.8
comp=N,8.0nm,0.9s
MNK iPKP PKPbc 18 12 13.4 -0.8
comp=Z,24nm,0.8s,baz=51
MNK iSKP 18 15 18.8
MNK iPKS PP 18 15 36.0 -18
MNK iPP PP 18 15 59.3 +5.4
MNK iPPP PPP 18 18 42.1
MNK iSKS SKSdf 18 19 26.4 +14
MNK iSS SS 18 35 21.0 +4.6
MNK Minsk 151.55 327 iPKIKP PKPbc 18 12 13.3 -0.8
MNK i 18 15 59.3
MNK i 18 19 26.4
MNK iSS SS 18 35 21.0 +4.6
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=Z,24nm,0.8s
MNK pmax pmax
comp=E,8.0nm,0.9s
HFS Hagfors 151.59 347 PKPbc PKPbc 18 12 14.0 -0.1
comp=E,16nm,0.7s,baz=25,slow=3.8,SNR=24
HFS Hagfors 151.59 347 PKIKP PKPbc 18 12 14.0 -0.1
NACGM Naroch 151.78 329 ePKIKP PKiKP 18 12 15.6 +0.6
comp=Z,29nm,1.0s,baz=48
MMAI Mount Meron Ar 151.80 280 PKPbc PKiKP 18 12 16.3 +0.4
comp=Z,13nm,0.6s,baz=94,slow=3.3,SNR=31
SIM Simferopol' 152.23 305 iPKIKP PKPbc 18 12 13.7 -2.4
SIM e 18 12 25.0
SIM pmax pmax
comp=Z,40nm,0.7s
PABE Paberze 152.53 332 PKPdf PKPdf 18 12 07.0 -2.4
PABE PKPbc 18 12 15.7 -0.6
AKASG Malin Array Be 153.06 320 PKPbc 18 12 16.5 -1.2
AKASG Malin Array Be 153.06 320 PKPbc PKiKP 18 12 17.9 0.0
comp=Z,3.1nm,0.4s,baz=57,slow=2.4,SNR=23
AKASG Malin Array Be 153.06 320 PKIKP PKPbc 18 12 16.5 -1.2
AKBB Malin Array Si 153.06 320 ciPKIKP PKiKP 18 12 18.1 +0.3
KIEV Kiev 153.07 320 PKPbc 18 12 16.5 -1.2
KIEV Kiev 153.07 320 PKIKP PKPbc 18 12 16.5 -1.2
DBIC Dimbokro 153.24 165 PKPbc PKiKP 18 12 23.5 +4.2
comp=Z,7.7nm,0.9s,baz=219,slow=5.7,SNR=3.8
ILGA Ilgaz 153.27 297 PKPdf PKPdf 18 12 08.6 -2.7
BR131 Keskin Array S 153.47 294 PKPbc 18 12 17.4 -1.8
BR131 Keskin Array S 153.47 294 PKIKP PKPbc 18 12 17.4 -1.8
BRTR Keskin Array B 153.47 294 PKPbc 18 12 17.2 -2.0
BRTR Keskin Array B 153.47 294 PKPbc PKiKP 18 12 19.2 0.0
comp=Z,5.0nm,0.5s,baz=141,slow=3.9,SNR=27
BRTR Keskin Array B 153.47 294 PKIKP PKPbc 18 12 17.2 -2.0
ANTO Ankara 154.10 295 PKiKP 18 12 20.5 0.0
ANTO Ankara 154.10 295 PKIKP PKiKP 18 12 20.5 0.0
RNPP9 Sopachiv 154.40 324 PKP PKPdf 18 12 11.3 -0.9
EKA Eskdalemuir Ar 157.27 7 PKPab PKPab 18 12 48.4 +1.4
comp=Z,4.2nm,1.2s,baz=3.4,slow=3.9,SNR=3.8
MORC Moravsky Berou 159.41 330 ePKP PKPab 18 12 55.1 -1.5
DPC Dobruska-Polom 159.46 333 ePKPAB PKPab 18 12 56.8 0.0

DPC	Dobruska-Polom	159.46	333	*e*PKP2	PKPab	18 12 56.8	0.0	
VYHS	Vyhne	159.76	326	*e*PKP2	PKPab	18 12 58.3	+0.2	
VYHS	Vyhne	159.76	326	*e*PKP	PKPab	18 12 58.3	+0.2	
CLL	Collm	159.79	339	*e*PKP2	PKPab	18 12 41.0	-17	
CLL				pmax	pmax			
	comp=Z,6.0nm,0.7s							
BRG	Berggiesshubel	159.87	337	*e*PKP	PKPab	18 12 58.5	0.0	
BRG				Amp		18 13 00.5		
	comp=Z,3.8nm,0.8s							
BRG	Berggiesshubel	159.87	337	P	PKPab	18 13 11.9	+13	
BRG				Amp		18 13 12.4		
	comp=Z,2.6nm,0.8s							
BRG				PP	PP	18 17 22.1	+42	
BRG				Amp		18 17 23.3		
	comp=Z,10nm,1.6s							
PVCC	Panska Ves	159.96	336	*e*PKPAB	PKPab	18 12 59.5	+0.7	
PVCC	Panska Ves	159.96	336	*e*PKP2	PKPab	18 12 59.5	+0.7	
JAVC	Velka Javorina	160.04	328	*e*PKP	PKPab	18 12 59.8	+0.4	
VRAC	Vranov	160.16	330	*e*PKP	PKPab	18 12 58.5	-1.3	
TORD	Torodi Ar. Bea	160.38	180	PKP	PKPdf	18 12 22.2	+1.3	
	comp=Z,1.1nm,1.0s,baz=113,slow=0.9,SNR=4.1							
TORD				PKPab	PKPab	18 13 03.3	+1.8	
	comp=Z,1.0nm,0.6s,baz=176,slow=1.4,SNR=3.8							
KRUC	Moravsky	160.44	330	*e*PKP	PKPab	18 13 00.0	-1.0	
ZVC	Zvikov	161.00	334	*e*PKPAB	PKPab	18 13 03.3	-0.1	
CKRC	Cesky Krumlov	161.47	333	*e*PKPAB	PKPab	18 13 05.2	-0.3	
CKRC	Cesky Krumlov	161.47	333	*e*PKP2	PKPab	18 13 05.2	-0.3	
KHC	Kasperske Hory	161.48	335	*e*PKPAB	PKPab	18 13 05.8	+0.2	
KHC	Kasperske Hory	161.48	335	*e*PKP2	PKPab	18 13 05.8	+0.2	
RONA	Rosalia, Austr	161.51	328	*i* PKP	PKPab	18 13 05.9	+0.1	
	comp=Z,4.5nm,0.9s							
CONA	Conrad Observa	161.53	329	*i* PKP	PKPab	18 13 06.0	0.0	
	comp=Z,4.0nm,1.0s							
GERES	GERESS Array B	161.67	334	PKPab	PKPab	18 13 05.9	-0.6	
	comp=Z,1.3nm,0.8s,baz=20,slow=5.1,SNR=7.2							
ARSA	Arzberg	162.20	328	*e*PKP	PKPab	18 13 08.8	0.0	
	comp=Z,1.2nm,0.5s							
BCLA	Clavier	162.25	352	*d*PKPdf	PKPdf	18 12 23.2	+1.5	
MOA	Molln	162.27	331	*e*PKP	PKPab	18 13 08.2	-0.9	
	comp=Z,5.1nm,1.4s							
BIOA	Bad Ischl, Aus	162.65	332	*i* PKP	PKPab	18 13 11.2	+0.4	
	comp=Z,4.9nm,1.3s							
SOKA	Soboth	162.85	327	*e*PKP	PKPab	18 13 12.9	+1.1	
	comp=Z,1.4nm,0.9s							
OBKA	Obir	163.19	328	*e*PKP	PKPab	18 13 13.3	0.0	
	comp=Z,3.4nm,1.2s							
LESA	Schwarzleotal	163.24	333	*e*PKP	PKPab	18 13 13.3	-0.1	
	comp=Z,5.9nm,1.3s							
KBA	Koelnbreinsper	163.26	331	*e*PKP	PKPab	18 13 12.6	-1.1	
	comp=Z,3.4nm,1.1s							
MYKA	Terra Mystica	163.50	330	*e*PKP	PKPab	18 13 13.7	-0.8	
	comp=Z,1.1nm,0.5s							
WATA	Walderalm	163.71	335	*e*PKP	PKPab	18 13 16.6	+1.1	
	comp=Z,4.4nm,1.4s							
WTTA	Wattenberg	163.75	335	*e*PKP	PKPab	18 13 15.6	-0.2	
	comp=Z,3.3nm,1.1s							
RETA	Reutte	163.85	337	*i* PKP	PKPab	18 13 16.5	+0.4	
	comp=Z,5.3nm,1.0s							
MOTA	Moosalm	163.86	336	*i* PKP	PKPab	18 13 16.0	-0.2	
	comp=Z,3.8nm,0.9s							
SQTA	Sankt Quirin	163.94	336	*i* PKP	PKPab	18 13 16.5	0.0	
	comp=Z,2.3nm,0.6s							
FETA	Feichten	164.27	337	*i* PKP	PKPab	18 13 18.1	+0.1	
	comp=Z,4.8nm,1.2s							
DAVA	Damuels	164.31	339	*e*PKP	PKPab	18 13 17.9	-0.2	
	comp=Z,2.5nm,0.6s							
ESDC	Sonseca Array	171.79	32	PKP	PKPdf	18 12 31.0	+1.7	
	comp=Z,0.5nm,1.0s,baz=19,slow=2.6,SNR=2.7							
ESDC				PKPab	PKPab	18 13 52.1	+0.7	
	comp=Z,0.3nm,0.8s,baz=340,slow=6.4,SNR=2.3							

*IDC **06** 17:59:12.8±2.4,35.°75N×117.°81W,h0km,mb3.3/1, mbtmp3.2/4,ML3.7/3,MS2.7/6,Error ellipse: s-maj=37.4km s-min=11.5km az=60.0*

*PAS **06** 17:59:14.8±2.0,35.°90N±0.°01×117.°74W±0.°01,h3km±3km, Mwr3.9/6,ML3.8/136(NEIC),Error ellipse: s-maj=1.7km s-min=1.4km az=133.0*

*NEIC **06** 17:59:14.1±2.0,35.°899N±0.°010×117.°71W±0.°01, h5km±1km,Error ellipse: s-maj=2.8km s-min=1.8km az=331.0*

ISC 06 17:59:14.7±0.8,35.°88N±0.°02×117.°72W±0.°02,h10km±7km, n110,σ0s94/114,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOW	Tower One	0.08	206		Pg	17 59 17.3	+0.3
WVPM	Volcano Peak E	0.10	310		Pg	17 59 16.8	-0.6
WNMM	Nine Mile Cany	0.16	255		Pg	17 59 18.0	0.0
WNMM					Sg	17 59 20.6	+0.2
WRVM	Rose V. Centra	0.19	312		Pg	17 59 18.3	-0.5
SRTC	Snort	0.19	187		Pg	17 59 19.4	+0.6
MPMC	Manual Prospec	0.26	47	Pg	Pg	17 59 19.7	-0.3
MPMC				Sg	Sg	17 59 23.2	-0.3
MPMC				IAML		17 59 23.6	
	comp=E,17µm,0.7s						
MFS	McCloud Flat S	0.26	335		Pg	17 59 19.5	-0.5
LRMC	Laurel Mtn Rad	0.40	176	Pg	Pg	17 59 22.7	+0.1
LRMC				IAML		17 59 29.9	
	comp=N,11µm,0.6s						
LRMC	Laurel Mtn Rad	0.40	176		Sb	17 59 29.5	-0.9
WORM	Onyx Ranch	0.46	247		Pg	17 59 23.5	-0.2
WBSM	Bird Springs	0.48	225		Sb	17 59 31.4	-1.3
DTP	Desert Tortois	0.62	190		Pg	17 59 26.7	-0.1
DTP					Sb	17 59 35.5	-1.1
CWC	Cottonwood Cre	0.63	332		Pg	17 59 26.4	-0.5
CWC					Sg	17 59 34.5	-0.7
CWC				IAML		17 59 35.6	
	comp=E,6µm,0.3s						
CWC				IAML		17 59 35.6	
	comp=N,4µm,0.3s						
ISA	Isabella, Lake	0.65	251		Pg	17 59 27.0	-0.3
ISA					Sg	17 59 35.8	-0.1
QSM	Queen of Sheba	0.70	83		Pg	17 59 27.6	-0.6
QSM				IAML		17 59 41.2	
	comp=E,6µm,0.6s						
QSM				IAML		17 59 42.4	
	comp=N,7µm,0.8s						
QSM	Queen of Sheba	0.70	83		Sg	17 59 37.5	+0.3
CCAC	Calif City Air	0.77	199		Pg	17 59 29.4	-0.1
CCAC					Sb	17 59 40.3	-0.4
GWY	Greenwater Val	0.90	70		Pg	17 59 31.9	-0.2
GWY				IAML		17 59 47.5	
	comp=E,5µm,0.9s						
GWY				IAML		17 59 47.5	
	comp=N,4µm,0.6s						
GSC	Goldstone, Bar	0.94	128		Pg	17 59 32.4	-0.5
GSC				Sg	Sb	17 59 46.0	+0.1
GSC				IAML		17 59 48.0	
	comp=N,3µm,0.7s						
TPO	Tropico Hills	1.08	203		Pg	17 59 35.0	-0.5
GRAC	Grapevine Rang	1.15	14		Pb	17 59 35.9	-0.8
GRAC				IAML		17 59 56.5	
	comp=N,3µm,0.6s						
GRAC				IAML		17 59 57.8	
	comp=E,3µm,0.8s						
ARVC	Arvin	1.18	231		Pb	17 59 36.7	-0.5
WCT	Wildcat Mounta	1.27	44		Pn	17 59 37.9	-0.8
WCT				IAML		17 59 57.4	
	comp=N,1µm,1.3s						
WCT				IAML		18 00 00.6	
	comp=E,2µm,1.1s						
AMDNV	Amargosa	1.30	64		Pn	17 59 38.1	-0.8
LEOC	Leona Valley	1.34	201		Pn	17 59 39.3	-0.2
GMN	Gold Mountain	1.46	15		Pn	17 59 41.2	-0.3
DSP	Deep Springs	1.50	352		Pn	17 59 41.4	-0.3
DSP				IAML		18 00 05.8	
	comp=E,1µm,0.8s						
OSI	Osito Audit: C	1.51	213		Pn	17 59 41.5	-0.4
OSI				IAML		18 00 10.7	
	comp=E,1µm,0.8s						
OSI				IAML		18 00 15.3	
	comp=N,814nm,1.0s						
DSCC	Desert Studies	1.51	119		Pn	17 59 40.9	-0.9
TPNV	Topopah Spring	1.59	48		Pn	17 59 42.8	-0.4
TPNV				IAML		18 00 08.9	
	comp=N,1µm,0.7s						
TPNV				IAML		18 00 12.6	
	comp=N,1µm,1.1s						
BFSC	Mount Baldy Ra	1.64	178		Pn	17 59 44.0	+0.2
BFSC				IAML		18 00 08.0	
	comp=E,690nm,1.0s						
BFSC				IAML		18 00 09.5	
	comp=N,660nm,0.8s						
MWC	Mount Wilson	1.68	190		Pn	17 59 44.1	-0.3
MWC				IAML		18 00 10.8	
	comp=E,929nm,0.4s						
MWC				IAML		18 00 10.8	
	comp=N,893nm,0.5s						
PASC	Pasadena Art C	1.75	193		Pn	17 59 44.9	-0.3
MTPC	Mountain Pass	1.81	102		Pn	17 59 45.6	-0.5
MZP	Montezuma Peak	1.83	8		Pn	17 59 46.3	-0.3
KCC	Kaiser Creek	1.93	319		Pb	17 59 49.6	-0.4
MLAC	Mammoth, Mammo	1.96	333		Pb	17 59 50.8	+0.1
PKM	Mcpherson Peak	1.98	241		Pb	17 59 50.5	-0.4
SHPR	Sheep Range	2.16	73		Pn	17 59 51.2	+0.2
TPH	Tonopah	2.23	10		Pn	17 59 51.4	-0.5
ELS	Elsinore Mount	2.24	174		Pn	17 59 52.2	+0.2
ELS				IAML		18 00 31.8	
	comp=E,396nm,1.2s						
POB	Polly Butte	2.29	163		Pn	17 59 53.0	+0.4
PKD	Bear Valley Ra	2.29	272		Pn	17 59 53.6	+0.9
V12A	Nelson	2.34	93		Pn	17 59 52.8	-0.6
V12A				IAML		18 00 31.5	
	comp=N,511nm,1.1s						
V12A				IAML		18 00 38.6	
	comp=E,377nm,0.6s						
S11A	Rachel	2.37	41		Pn	17 59 53.8	0.0
LHV	Little Huntoon	2.45	345		Pn	17 59 55.3	+0.6
LHV				IAML		18 00 36.9	
	comp=E,381nm,1.4s						
LHV				IAML		18 00 49.0	
	comp=N,379nm,1.4s						
PMD	Palm Desert	2.49	153	Pn	Pn	17 59 54.8	-0.5
PMD				IAML		18 00 36.9	
	comp=E,301nm,1.0s						
PFO	Pinyon Flats O	2.49	155		Pn	17 59 55.1	-0.3
PFO				IAML		18 00 40.1	
	comp=E,267nm,1.3s						
PFO				IAML		18 00 40.2	
	comp=E,388nm,1.0s						
PMPB	Monarch Peak	2.52	278		Pn	17 59 56.9	+1.1
NV11	Mina Array Sit	2.57	352		Pn	17 59 56.6	+0.1
NVAR	Mina Array Bea	2.58	350		Pn	17 59 56.8	0.0
NVAR	Mina Array Bea	2.58	350	Pn	Pn	17 59 57.2	+0.3
	comp=E,3.0nm,0.3s,baz=173,slow=15,SNR=37						
NVAR				Pg	Pb	18 00 02.6	+1.3
	comp=E,38nm,0.3s,baz=169,slow=15,SNR=102						
NVAR				LR	LR	18 00 36.2	
	comp=E,18nm,19.8s,baz=12,slow=31						
NVAR				Lg	Lg	18 00 37.8	
	comp=E,28nm,0.3s,baz=182,slow=29,SNR=4.6						
	comp=E,6.0nm,0.5s						
PRN	Pahroc Range	2.63	54		Pn	17 59 57.5	+0.1
PRN				IAML		18 00 48.9	
	comp=N,534nm,1.1s						
MYLM	Yosemite Lake	2.64	305		Pb	18 00 01.1	-1.0
NEE2	Needles Airpor	2.77	113		Pn	17 59 58.4	-0.8
NEE2				IAML		18 00 50.9	
	comp=N,507nm,0.8s						
NEE2				IAML		18 00 53.1	
	comp=E,548nm,0.7s						
BBGB	Big Mountain B	2.77	285		Pn	18 00 00.4	+1.0
RYN	Ryan	2.81	347		Pn	18 00 00.2	+0.3
WAKR	Walker	2.96	333		Pn	18 00 03.7	+1.8
WAKR				IAML		18 00 49.2	
	comp=E,196nm,0.5s						
WAKR				IAML		18 00 57.5	
	comp=N,174nm,1.1s						
Q09A	Carvers	2.98	8		Pn	18 00 02.6	+0.4
R11B	Troy Canyon, C	3.00	34		Pn	18 00 02.7	+0.3
R11B				IAML		18 00 55.8	
	comp=E,201nm,1.2s						
CMB	Columbia Colle	3.03	316		Pn	18 00 03.4	+0.6
CMB				IAML		18 00 49.6	
	comp=E,196nm,0.4s						
CMB				IAML		18 00 53.8	
	comp=N,224nm,0.6s						
SAO	San Andreas Ge	3.14	287		Pn	18 00 04.1	-0.1
W13A	Hualapai Mount	3.23	103		Pn	18 00 05.2	-0.4
BLYC	Blythe	3.38	128		Pn	18 00 06.7	-0.9
BLYC				IAML		18 01 14.0	
	comp=E,118nm,0.9s						
BLYC				IAML		18 01 14.0	
	comp=N,138nm,0.9s						
TJX	Tijuana	3.41	171		Pn	18 00 08.3	+0.3
TKX	Tecate	3.43	164		Pn	18 00 08.1	-0.3
TKX				IAML		18 02 17.9	
	comp=N,135nm,0.1s						
YUH	Yuha Desert	3.55	155		Pn	18 00 09.9	0.0
CBX	Cerro Bola	3.67	166		Pn	18 00 12.8	+1.1
GLA	Glamis	3.70	139		Pn	18 00 10.6	-1.4
LCMT	Little Creek M	3.78	71		Pn	18 00 14.2	+0.9
MPK	Martis Peak	3.87	332		Pn	18 00 12.4	+1.6
CCUT	Cedar City	3.88	63		Pn	18 00 15.8	+1.2
CCUT				IAML		18 01 23.5	
	comp=N,91nm,1.8s						
AFDM	Forest Hills D	4.01	321		Pn	18 00 19.0	+2.8
AFDM				IAML		18 01 21.4	
	comp=E,162nm,0.7s						
AFDM				IAML		18 01 26.0	
	comp=N,121nm,0.7s						
PSUT	Pine Spring	4.06	48		Pn	18 00 18.3	+1.1
PSUT				IAML		18 01 32.0	
	comp=N,147nm,1.1s						
PSUT				IAML		18 01 34.7	
	comp=E,184nm,1.6s						
SZCU	Shurtz Canyon	4.09	64		Pn	18 00 17.9	+0.4
CCX	Cicese	4.10	167		Pn	18 00 18.2	+0.8
CCX				IAML		18 01 29.0	
	comp=N,120nm,0.9s						
CCX				IAML		18 01 33.3	
	comp=E,170nm,1.5s						
KNB	Kanab	4.11	73		Pn	18 00 18.6	+0.9
KNB				IAML		18 01 29.2	
	comp=E,109nm,1.1s						
KNB				IAML		18 01 37.9	
	comp=N,150nm,1.3s						
SPR3	Spring Creek 3	4.12	40		Pn	18 00 17.9	-0.1
SPR3				IAML		18 01 26.9	
	comp=N,121nm,0.8s						
SPR3				IAML		18 01 27.4	
	comp=E,124nm,1.0s						
ESJX	Sierra Juarez	4.14	159		Pn	18 00 18.3	+0.1
ESJX				IAML		18 01 26.8	
	comp=N,85nm,1.4s						
ESJX				IAML		18 01 30.8	
	comp=E,116nm,1.1s						
Y14A	Wickenburg	4.33	115		Pn	18 00 19.9	-0.9
Y14A				IAML		18 01 36.5	
	comp=N,109nm,0.9s						
Y14A				IAML		18 01 45.9	
	comp=E,88nm,0.7s						
BEKR	Beckworth	4.49	333		Pn	18 00 22.1	-0.9
BEKR				IAML		18 01 49.3	
	comp=N,87nm,0.6s						
113A	Mohawk Valley,	4.51	132		Pn	18 00 21.2	-1.9
ORV	Oroville	4.74	322		Pn	18 00 24.4	-1.8
ORV				IAML		18 01 43.8	
	comp=N,48nm,0.7s						
ORV				IAML		18 01 44.0	
	comp=E,65nm,0.7s						
VTX	Valle De La Tr	4.76	160		Pn	18 00 26.1	-0.5
VTX				IAML		18 01 48.0	
	comp=E,91nm,0.8s						
WUAZ	Wupatki	5.18	92		Pn	18 00 31.8	-0.7
ELK	Elko	5.23	21		Pn	18 00 33.6	+0.4
X16A	Lo Mia Camp, P	5.35	104		Pn	18 00 34.9	+0.1
X16A				IAML		18 02 22.5	
	comp=E,42nm,1.3s						
SFX	San Felipe	5.39	153		Pn	18 00 35.1	-0.1
214A	Organ Pipe Nat	5.66	132		Pn	18 00 37.5	-1.4
HATC	Hat Creek Radi	5.74	330		Pn	18 00 39.0	-1.1
BGU	Big Grassy Mou	6.24	35		Pn	18 00 45.8	-1.2
W18A	Petrified Fore	6.56	94		Pn	18 00 51.1	-0.3
TCUT	Toone Canyon	7.20	42		Pn	18 00 57.6	-2.7
PV10	Paradox Valley	7.37	68		Pn	18 01 02.0	-0.6
PV19	Morning Glory	7.39	68		Pn	18 01 08.1	-1.1
PV18	Skein Mesa, Pa	7.43	69		Pn	18 01 02.2	-1.2
PV13	Radium Mtn., P	7.47	70		Pn	18 01 01.8	-2.3
PV03	Paradox Valley	7.48	69		Pn	18 01 02.6	-1.4
PV22	Blue Mesa, Par	7.60	67		Pn	18 01 06.9	+1.1
PV07	Paradox Valley	7.68	68		Pn	18 01 06.1	-0.8
DUN6	Lazy B Ranch	7.88	112		Pn	18 01 09.9	+0.4
HLID	Hailey	8.08	17	Pn	Pn	18 01 12.5	+0.2
319A	Douglas	8.35	120		Pn	18 01 15.6	-0.3
ANMO	Albuquerque	9.24	93	LR	LR	18 04 37.1	
	comp=E,51nm,20.9s,baz=16,slow=35						
PDAR	Pinedale Array	9.34	40	Pn	Pn	18 01 33.1	+3.6
	comp=E,0.1nm,0.3s,baz=234,slow=14,SNR=6.2						
PDAR				LR	LR	18 05 14.3	
	comp=E,16nm,19.4s,baz=167,slow=38						
	comp=E,0.8nm,0.8s						
NEW	Newport	12.38	2	LR	LR	18 06 41.7	
	comp=E,52nm,21.9s,baz=186,slow=36						
TXAR	Lajitas Array	13.52	115	Pn	Pn	18 02 29.0	+2.3
	comp=E,0.1nm,0.3s,baz=295,slow=13,SNR=7.1						
	comp=E,0.2nm,0.4s						
YKA	Yellowknife Ar	26.71	3	P	P	18 04 55.2	+1.3
	comp=E,0.3nm,0.7s,baz=190,slow=9.2,SNR=4.0						
	comp=E,0.3nm,0.7s						
KDAK	Kodiak Island	31.82	324	LR	LR	18 15 35.7	
	comp=E,64nm,19.0s,baz=144,slow=31						
ILAR	Eielson Array	33.78	338	LR	LR	18 19 04.2	
	comp=E,47nm,20.4s,baz=12,slow=35						

*IDC **06** 18:04:07.3±3.0,32.°86S×178.°44W,h0km,mb3.7/2, mbtmp3.7/3,ML3.4/1,Error ellipse: s-maj=68.5km s-min=35.8km az=116.0*

*WEL **06** 18:04:12.6±1.0,33.°3S±0.°1×17.°8W±1.°6,h12km,M4.2/6, mB4.9/4,ML4.5/15,MLv4.2/6,Mw(mB)4.2/4,Error ellipse: s-maj=22.8km s-min=6.9km az=118.0,confirmed*

ISC 06 18:04:07.5±2.0,33.°1S±0.°1×177.°7W±0.°2,h26km,n25, σ1s87/43,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	Waiomatatini S	5.69	213	P	Pn	18 05 33.9	+3.6
WMGZ				S	Sn	18 06 32.2	-2.6
PKGZ	Pakihiroa	5.89	214	P	Pn	18 05 33.9	+0.9
PKGZ				S	Sn	18 06 40.9	+1.2
HAZ	Te Kaha	5.95	217	P	Pn	18 05 36.5	+2.7
HAZ				S	Sn	18 06 42.7	+1.6
PUZ	Puketiti	5.97	212	P	Pn	18 05 35.6	+1.4
PUZ				S	Sn	18 06 42.5	+0.8
RUGZ	Raukumara Rang	6.16	216	P	Pn	18 05 38.6	+1.7
RUGZ				S	Sn	18 06 47.7	+1.1
TWGZ	Tauwhareparae	6.18	213	P	Pn	18 05 39.6	+2.5
TWGZ				S	Sn	18 06 48.2	+1.3
CNGZ	Carnagh Statio	6.33	210	P	Pn	18 05 40.7	+1.5
CNGZ				S	Sn	18 06 51.9	+1.2
TKGZ	Te Karaka	6.46	213	P	Pn	18 05 42.2	+1.4
TKGZ				S	Sn	18 06 53.9	+0.2
MWZ	Matawai	6.52	215	P	Pn	18 05 42.7	+0.9
MWZ				S	Sn	18 06 54.4	-0.9
URZ	Urewera	6.67	218	Pn	Pn	18 05 44.5	+0.7
	0.9nm,0.3s,baz=0.0,slow=20,SNR=12						
URZ				Sn	Sn	18 06 57.3	-1.7
	1.5nm,0.3s,baz=200,slow=21,SNR=5.7						
	4.5nm,0.6s						
URZ	Urewera	6.67	218	P	Pn	18 05 45.1	+1.4
URZ				S	Sn	18 06 56.2	-2.7
RAGZ	Rawiri	6.70	215	S	Sn	18 06 59.9	+0.1
RIGZ	Rimuhau	6.71	212	P	Pn	18 05 45.5	+1.1
RIGZ				S	Sn	18 06 57.2	-2.8
PRGZ	Paritu Road	6.84	210	S	Sn	18 07 02.1	-1.0
SNGZ	Shannon Statio	6.97	214	P	Pn	18 05 48.3	+0.4
SNGZ				S	Sn	18 07 06.0	-0.2
RTZ	Ruatahuna	7.01	216	P	Pn	18 05 48.4	-0.1
RTZ				S	Sn	18 07 03.2	-4.2
MUGZ	Murupara	7.01	218	P	Pn	18 05 50.7	+2.2
MUGZ				S	Sn	18 07 05.0	-2.3
ETAZ	East Tamaki Re	7.17	235	P	Pn	18 05 53.8	+3.1
RAHZ	Arahi	7.19	214	P	Pn	18 05 49.2	-1.8
RAHZ				S	Sn	18 07 11.2	-0.7
MTHZ	Maungataniwha	7.26	216	P	Pn	18 05 54.7	+2.7
MTHZ				S	Sn	18 07 12.9	-0.6
OUZ	Omahuta	7.52	251	P	Pn	18 05 57.0	+1.6
BKZ	Black Stump Fm	7.68	216	P	Pn	18 05 59.1	+1.5
BKZ				S	Sn	18 07 21.2	-2.5
ASAR	Alice Springs	43.27	270	P	P	18 12 06.0	-1.1
	0.3nm,0.3s,baz=111,slow=7.8,SNR=18						
	0.3nm,0.3s						
WRA	Warramunga Arr	44.50	275	P	P	18 12 15.6	-1.4
	0.8nm,0.5s,baz=114,slow=7.7,SNR=16						
	0.8nm,0.5s						
FINES	FINESS Array B	147.73	339	PKPbc	PKiKP	18 23 51.0	0.0
	1.7nm,0.8s,baz=64,slow=4.3,SNR=7.2						

*HVO **06** 18:07:02.3±1.1,19.°36N±0.°03×154.°98W±0.°02,h-0km±8km, Error ellipse: s-maj=5.0km s-min=1.2km az=139.0*

NEIC 06 18:07:03.5±1.1,19.°35N±0.°03×154.°97W±0.°02,h5km±1km, ML3.0/42,ML2.9/43(HVO),Error ellipse: s-maj=5.7km s-min=2.8km az=319.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKA	Jonika Flow	0.09	340		Pg	18 07 05.4	-0.1
JOKA				IAML		18 07 07.6	
	comp=E,10µm,0.6s						
JOKA	Jonika Flow	0.09	340		Sg	18 07 07.1	+0.3
JCUZ	Jacuzzi	0.13	286		Pg	18 07 06.1	0.0
JCUZ					Sg	18 07 08.2	+0.3
NPOC	North of Pu'u	0.14	289		Pg	18 07 06.3	0.0
NPOC					Sg	18 07 08.7	+0.6
STCH	Steam Cracks	0.15	284		Pg	18 07 06.5	0.0
STCH					Sg	18 07 08.9	+0.4
STCH	Steam Cracks	0.15	284	IAML		18 07 09.2	
	comp=E,6µm,0.5s						
STCH				IAML		18 07 09.4	
	comp=N,4µm,0.2s						
KNHH	Kane Nui o Ham	0.19	279		Pg	18 07 07.2	-0.1
PUH	Pauahi	0.23	276		Pg	18 07 07.8	-0.2
PUH					Sg	18 07 11.2	0.0
PUH	Pauahi	0.23	276	IAML		18 07 13.0	
	comp=N,1µm,0.6s						
PUH				IAML		18 07 14.7	
	comp=E,1µm,0.6s						
BYL	Byron's Ledge	0.28	283		Pg	18 07 08.5	-0.5
BYL					Sg	18 07 13.4	+0.7
BYL	Byron's Ledge	0.28	283	IAML		18 07 16.5	
	comp=E,2µm,0.6s						
BYL				IAML		18 07 17.6	
	comp=N,2µm,0.5s						
HATHI	Halema'uma'u T	0.28	285		Pg	18 07 08.5	-0.5
HATHI				IAML		18 07 15.7	
	comp=E,3µm,0.3s						
HATHI	Halema'uma'u T	0

comp=E,3μm,0.4s
HMH IAML 18 07 27.8
comp=N,5μm,0.5s
MWH Mokuaweoweo 0.60 283 Pg 18 07 14.1 -1.1
MWH Sg 18 07 23.4 +0.2
MWH Mokuaweoweo 0.60 283 IAML 18 07 35.1
comp=E,1μm,0.6s
HPO Honuapo 0.61 245 Pg 18 07 15.5 +0.4
KHU Kahuku 0.62 261 Pg 18 07 14.0 -1.4
KHU Sg 18 07 23.7 +0.3
KHU Kahuku 0.62 261 IAML 18 07 24.9
comp=N,858nm,0.4s
KHU IAML 18 07 25.1
comp=E,685nm,0.4s
ALEP Alea Permanent 0.66 287 Pg 18 07 14.7 -1.6
ALEP Sg 18 07 24.6 -0.3
POHA Pohakuloa 0.67 308 Pg 18 07 14.6 -1.7
POHA Sg 18 07 23.9 -1.1
HUH Hualalai 0.88 292 Pg 18 07 18.1 -2.3
MHA Mahukona 1.21 314 Pg 18 07 21.2 -5.5
HLK Haleakala 1.84 320 Pn Pn 18 07 31.5 -4.5

IDC 06 18:09:09.2±3.3, 33°20S×178°34W, h0km, mb3.2/2, mbtmp3.3/3, ML2.8/1, Error ellipse: s-maj=76.7km s-min=37.9km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.26**	**215**	Pn	Pn	18 10 41.8	-0.9
	0.2nm,0.3s,baz=72,slow=3.2,SNR=1.2						
URZ				Sn	Sn	18 11 55.8	+0.8
	0.3nm,0.3s,baz=339,slow=24,SNR=0.8 4.3nm,0.8s						
ASAR	**Alice Springs**	**42.75**	**270**	P	P	18 17 08.9	+0.4
	0.2nm,0.5s,baz=115,slow=8.6,SNR=5.4 0.2nm,0.5s						
WRA	**Warramunga Arr**	**43.99**	**275**	P	P	18 17 18.2	-0.3
	0.2nm,0.5s,baz=115,slow=8.2,SNR=4.2 0.2nm,0.5s						
FINES	**FINESS Array B**	**147.65**	**338**	PKPbc	PKPbc	18 28 54.0	-0.8
	0.5nm,0.7s,baz=62,slow=3.3,SNR=4.2						

*IDC **06** 18:11:18.0±5.5, 46°34N×152°31E, h0km, mb3.7/6, mbtmp3.6/8, ML2.2/2, MS3.2/2, Error ellipse: s-maj=127.4km s-min=35.4km az=137.0*
*MOS **06** 18:11:18.0±1.0, 45°90N×153°12E, h48km, mb4.1/1, Error ellipse: s-maj=18.0km s-min=11.0km az=45.4*
*SKHL **06** 18:11:20.5±0.3, 45°90N×153°00E, h77km±7km, mb4.6/4*
ISC 06 18:11:18.2±1.9, 45°9N±0°2×153°1E±0°2, h31km, n32, σ1°82/32, mb3.9/6, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.73**	**262**	*e*PN	**Pn**	**18 12 15.8**	**+2.1**
KUR				*e*S	**Sn**	**18 12 56.8**	**+0.3**
KUR				pmax	pmax		
	comp=Z,66nm,0.3s						
KUR				smax	smax		
	comp=N,112nm,0.6s						
KUR				smax	smax		
	comp=E,35nm,0.2s						
KUR	**Kuril'sk**	**3.73**	**262**	*e*P	**Pn**	**18 12 15.7**	**+2.1**
KUR				AMB	AMB	18 12 18.8	
	comp=E,80nm,0.5s						
KUR				*e*S	**Sn**	**18 12 55.9**	**-0.6**
KUR				A	A	18 13 07.0	
	comp=E,110nm,0.6s						
KUR				A	A	18 13 07.0	
	comp=E,130nm,0.6s						
SHO	**Shikotan**	**4.88**	**248**	*c i*PN	**Pn**	**18 12 31.2**	**+1.7**
SHO				pmax	pmax		
	comp=Z,40nm,0.3s						
SHO				pmax	pmax		
	comp=N,14nm,0.4s						
SHO				pmax	pmax		
	comp=E,20nm,0.4s						
SHO	**Shikotan**	**4.88**	**248**	*i* P	**Pn**	**18 12 31.2**	**+1.7**
SHO				AMB	AMB	18 12 33.6	
	comp=E,40nm,0.3s						
SHO				*e*S	**Sn**	**18 13 24.0**	**-0.9**
SHO				A	A	18 13 29.2	
	comp=E,40nm,0.3s						
SHO				A	A	18 13 29.2	
	comp=E,30nm,0.3s						
SKR	**Severo-Kuril's**	**5.22**	**22**	*e*PN	**Pn**	**18 12 34.5**	**+0.4**
SKR				pmax	pmax		
	comp=Z,26nm,0.8s						
SKR				MLR	MLR		
	comp=Z,500nm,10.0s						
SKR	**Severo-Kuril's**	**5.22**	**22**	*e*P	**Pn**	**18 12 35.6**	**+1.5**
SKR				AMB	AMB	18 12 35.9	
	comp=Z,30nm,0.5s						
SKR				*e*S	**Sn**	**18 13 31.0**	**-2.2**
SKR				A	A	18 13 40.9	
	comp=Z,30nm,0.5s						
SKR				A	A	18 13 40.9	
	comp=Z,20nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.46**	**253**	*e*PN	**Pn**	**18 12 38.9**	**+1.6**
YUK				pmax	pmax		
	comp=Z,64nm,0.4s						
YUK				pmax	pmax		
	comp=E,28nm,0.3s						
YUK				pmax	pmax		
	comp=N,34nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.46**	**253**	*e*P	**Pn**	**18 12 39.0**	**+1.6**
YUK				AMB	AMB	18 12 41.9	
	comp=N,40nm,0.3s						
YUK				*e*S	**Sn**	**18 13 38.1**	**-0.9**
YUK				A	A	18 13 43.5	
	comp=N,110nm,0.5s						
YUK				A	A	18 13 43.5	
	comp=N,60nm,0.5s						
GLVR	**Golovnino**	**5.80**	**251**	*e*PN	**Pn**	**18 12 44.0**	**+1.9**
GLVR	**Golovnino**	**5.80**	**251**	*e*P	**Pn**	**18 12 44.0**	**+1.9**
GLVR				*e*S	**Sn**	**18 13 47.9**	**+0.4**
GLVR				A	A	18 13 50.8	
	comp=N,120nm,0.3s						
GLVR				A	A	18 13 50.8	
	comp=N,70nm,0.3s						
NMR	**Nemuro--Hokkai**	**5.83**	**247**	‖ *i*PN	**Pn**	**18 12 42.3**	**-0.1**
NMR	**Nemuro--Hokkai**	**5.83**	**247**	*i* P	**Pn**	**18 12 42.6**	**+0.2**
NMR				*e*S	**Sn**	**18 13 44.4**	**-3.7**
RUSJ	**Misakicho**	**5.84**	**255**	*e*PN	**Pn**	**18 12 46.0**	**+3.3**
AKK	**Akkeshi**	**6.56**	**247**	*e*P	**Pn**	**18 12 52.5**	**0.0**
AKK				*e*S	**Sn**	**18 14 01.7**	**-4.6**
PETK	**Petropavlovsk-**	**7.84**	**21**	Pn	**Pn**	**18 13 11.8**	**+1.8**
	comp=N,0.2nm,0.3s,baz=194,slow=14,SNR=12 comp=N,0.7nm,0.5s						
PET	**Petropavlovsk**	**8.02**	**25**	*e*S	**Sn**	**18 14 40.0**	**-2.0**
MJAR	**Matsushiro Arr**	**14.56**	**235**	Pn	**Pn**	**18 14 43.5**	**+1.5**
	baz=29,slow=11,SNR=2.1 comp=N,0.7nm,0.7s						
KLR	**Kul'dur**	**14.79**	**291**	LR	LR	18 20 37.7	
	comp=N,20nm,18.0s,baz=124,slow=40						
H11N2	**WAKE ISLAND Hy**	**28.44**	**152**	T	T	18 47 48.8	
	baz=337						
H11N1	**WAKE ISLAND Hy**	**28.46**	**152**	T	T	18 47 54.8	
	baz=337						
H11N3	**WAKE ISLAND Hy**	**28.46**	**152**	T	T	18 47 55.0	
	baz=337						
H11S1	**WAKE ISLAND Hy**	**29.52**	**153**	T	T	18 49 11.6	
	baz=339						
H11S3	**WAKE ISLAND Hy**	**29.53**	**153**	T	T	18 49 04.4	
	baz=339						
H11S2	**WAKE ISLAND Hy**	**29.54**	**153**	T	T	18 49 08.5	
	baz=339						
MKAR	**Makanchi Array**	**47.34**	**298**	P	**P**	**18 19 48.8**	**-0.1**
	comp=N,0.2nm,0.7s,baz=68,slow=6.8,SNR=2.3 comp=N,0.2nm,0.7s						
KURK	**Kurchatov**	**47.85**	**304**	P	**P**	**18 19 52.1**	**-0.7**
KURBB	**Kurchatov Arra**	**47.94**	**304**	P	**P**	**18 19 52.1**	**-1.4**
	comp=N,0.1nm,0.4s,baz=70,slow=7.5,SNR=2.2 comp=N,0.1nm,0.4s						
FINES	**FINESS Array B**	**64.83**	**335**	P	**P**	**18 21 53.6**	**0.0**
	comp=N,1.8nm,0.9s,baz=30,slow=7.0,SNR=4.3 comp=N,1.8nm,0.9s						
ULM	**Lac du Bonnet**	**67.19**	**41**	LR	LR	18 52 20.7	
	comp=N,80nm,19.8s,baz=237,slow=37						
NOA	**NORSAR Array B**	**69.06**	**341**	P	**P**	**18 22 21.2**	**+0.6**
	comp=N,0.9nm,0.2s,baz=27,slow=6.3,SNR=3.8 comp=N,0.9nm,0.2s						
HFS	**Hagfors**	**69.28**	**340**	P	**P**	**18 22 22.3**	**+0.4**
	comp=N,1.3nm,0.6s,baz=36,slow=5.4,SNR=9.5 comp=N,1.3nm,0.6s						
AKASG	**Malin Array Be**	**72.27**	**326**	P	**P**	**18 22 40.5**	**+0.2**
	comp=N,0.2nm,0.3s,baz=38,slow=6.0,SNR=1.6 comp=N,0.2nm,0.3s						

*NEIC **06** 18:13:15.6±1.2, 35°.921N±0°.009×117°.72W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.8km az=319.0*
PAS 06 18:13:16.1±1.3, 35°.918N±0°.009×117°.72W±0°.01, h2km±3km, ML3.3/25, ML3.1/112(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=85.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**291**		Pg	18 13 18.2	+0.3
TOW	**Tower One**	**0.12**	**200**		Pg	18 13 18.9	+0.6
WRVM	**Rose V. Centra**	**0.17**	**303**		Pg	18 13 19.7	+0.3
WNMM	**Nine Mile Cany**	**0.17**	**244**		Pg	18 13 19.8	+0.4
SRTC	**Snort**	**0.23**	**187**		Pg	18 13 21.0	+0.5
MFS	**McCloud Flat S**	**0.23**	**330**		Pg	18 13 20.8	+0.2
MFS					Sg	18 13 24.4	+0.8
LRMC	**Laurel Mtn Rad**	**0.44**	**176**		Pg	18 13 24.4	-0.1
LRMC				IAML		18 13 31.2	
	comp=N,2μm,0.2s						
LRMC				IAML		18 13 32.1	
	comp=E,3μm,0.2s						
LRMC	**Laurel Mtn Rad**	**0.44**	**176**		Sg	18 13 31.0	+0.7
CCCA	**Chr Cany lake**	**0.48**	**144**		Pg	18 13 26.0	+0.6
WBSM	**Bird Springs**	**0.51**	**222**		Pg	18 13 26.0	+0.1
CWC	**Cottonwood Cre**	**0.60**	**331**	Pg	Pg	18 13 27.7	+0.1
CWC				IAML		18 13 36.9	
	comp=N,761nm,0.2s						
CWC				Sg	Sg	18 13 36.0	+0.6
CGO	**Cerro Gordo**	**0.64**	**354**		Pg	18 13 28.4	0.0
ISA	**Isabella, Lake**	**0.67**	**248**		Pg	18 13 28.8	-0.1
QSM	**Queen of Sheba**	**0.69**	**86**		Pg	18 13 28.8	-0.6
QSM					Sg	18 13 38.4	+0.1
QSM				IAML		18 13 42.6	
	comp=E,1μm,0.5s						
QSM				IAML		18 13 44.1	
	comp=N,1μm,0.7s						
CCAC	**Calif City Air**	**0.80**	**198**		Pg	18 13 31.2	-0.3
CCAC					Sg	18 13 42.5	+0.6
GWY	**Greenwater Val**	**0.89**	**72**		Pg	18 13 32.8	-0.4
GWY					Sg	18 13 44.8	0.0
GWY				IAML		18 13 52.0	
	comp=N,827nm,0.6s						
SPG2	**Springville 2**	**0.90**	**289**		Pg	18 13 32.9	-0.5
GSC	**Goldstone, Bar**	**0.96**	**129**		Pg	18 13 33.8	-0.8
GSC				Sg	Sg	18 13 46.9	-0.2
GSC				IAML		18 13 49.6	
	comp=N,658nm,0.6s						
GRAC	**Grapevine Rang**	**1.11**	**15**		Pg	18 13 36.8	-0.6
GRAC				IAML		18 14 03.3	
	comp=E,722nm,0.7s						
VES	**Vestal, Richgr**	**1.11**	**266**		Pg	18 13 37.1	-0.3
TPO	**Tropico Hills**	**1.12**	**202**		Pg	18 13 36.8	-0.7
SBB	**Saddle Back Bu**	**1.23**	**184**		Pg	18 13 39.5	-0.2
WCT	**Wildcat Mounta**	**1.24**	**45**		Pg	18 13 39.1	-0.8
WCT					Sg	18 13 55.3	-0.6
WCT				IAML		18 13 58.8	
	comp=N,287nm,0.7s						
WCT				IAML		18 14 00.5	
	comp=E,436nm,0.9s						
VOG	**Valley Oaks Go**	**1.41**	**287**		Pn	18 13 42.3	-0.4
LRRC	**Littlerock Res**	**1.41**	**191**		Pg	18 13 43.7	+0.5
CJV	**Casa Juvan**	**1.43**	**194**		Pb	18 13 43.7	+0.2
GMN	**Gold Mountain**	**1.43**	**15**		Pn	18 13 42.5	-0.8
GMN				IAML		18 14 06.4	
	comp=N,188nm,0.6s						
GMN				IAML		18 14 06.6	
	comp=E,173nm,0.9s						
DSP	**Deep Springs**	**1.46**	**352**		Pn	18 13 42.8	-0.7
DSP					Sb	18 14 02.3	-0.8
TUQ	**Turquoise Moun**	**1.54**	**108**		Pn	18 13 43.1	-1.6
TPNV	**Topopah Spring**	**1.57**	**49**		Pn	18 13 44.5	-0.7
TPNV				IAML		18 14 10.1	
	comp=E,339nm,0.8s						
TPNV				IAML		18 14 11.2	
	comp=E,275nm,0.8s						
MWC	**Mount Wilson**	**1.71**	**190**	IAML		18 14 12.6	
	comp=N,257nm,0.5s						
MWC				IAML		18 14 13.9	
	comp=E,189nm,0.5s						
PASC	**Pasadena Art C**	**1.78**	**193**		Pn	18 13 47.1	-0.9
MZP	**Montezuma Peak**	**1.80**	**8**		Pn	18 13 47.3	-1.1
SHPR	**Sheep Range**	**2.15**	**73**		Pn	18 13 52.5	-0.6
TSCN	**Private Proper**	**2.17**	**261**		Pn	18 13 54.1	+0.8
TPH	**Tonopah**	**2.19**	**10**		Pn	18 13 52.8	-1.0
ELS	**Elsinore Mount**	**2.28**	**174**		Pn	18 13 54.0	-0.8
V12A	**Nelson**	**2.34**	**94**		Pn	18 13 54.1	-1.6
V12A				IAML		18 14 35.4	
	comp=N,98nm,0.6s						
V12A				IAML		18 14 38.2	
	comp=E,81nm,0.5s						
S11A	**Rachel**	**2.34**	**42**		Pn	18 13 54.9	-0.9
LHV	**Little Huntoon**	**2.41**	**345**		Pn	18 13 55.7	-0.9
LHV				IAML		18 14 41.6	
	comp=E,64nm,1.0s						
LHV				IAML		18 14 43.6	
	comp=N,58nm,1.6s						
PMPB	**Monarch Peak**	**2.52**	**278**		Pn	18 13 57.8	-0.3
PFO	**Pinyon Flats O**	**2.52**	**155**		Pn	18 13 56.9	-1.3
PFO				IAML		18 14 41.2	
	comp=N,71nm,1.4s						
PFO	**Pinyon Flats O**	**2.52**	**155**		Pb	18 14 02.3	+0.1
NV11	**Mina Array Sit**	**2.53**	**352**		Pn	18 13 57.2	-1.2
NVAR	**Mina Array Bea**	**2.55**	**350**		Pn	18 13 57.3	-1.4
PRN	**Pahroc Range**	**2.61**	**54**		Pn	18 13 58.8	-0.7
PRN				IAML		18 14 51.6	
	comp=E,125nm,0.6s						
BBGB	**Big Mountain B**	**2.77**	**285**		Pn	18 14 00.7	-0.8
RYN	**Ryan**	**2.78**	**347**		Pn	18 14 00.7	-1.1
WAKR	**Walker**	**2.92**	**332**		Pn	18 14 02.4	-1.4
Q09A	**Carvers**	**2.94**	**8**		Pn	18 14 03.8	-0.3
Q09A				IAML		18 14 22.2	
	comp=N,101nm,0.7s						
R11B	**Troy Canyon, C**	**2.96**	**34**		Pn	18 14 02.7	-1.7
R11B				IAML		18 14 52.1	
	comp=E,50nm,1.2s						
CMB	**Columbia Colle**	**3.01**	**315**		Pn	18 14 05.0	+0.2
CMB				IAML		18 14 49.8	
	comp=N,49nm,0.3s						
CMB				IAML		18 14 57.4	
	comp=E,48nm,0.7s						
SAO	**San Andreas Ge**	**3.13**	**287**		Pn	18 14 06.2	-0.3
W13A	**Hualapai Mount**	**3.23**	**104**		Pn	18 14 06.5	-1.5
W13A				IAML		18 15 02.6	
	comp=N,26nm,0.5s						
W13A				IAML		18 15 03.0	
	comp=E,29nm,0.7s						
BLYC	**Blythe**	**3.40**	**129**		Pn	18 14 08.3	-1.9
BLYC				IAML		18 15 08.5	
	comp=N,52nm,0.8s						
BLYC				IAML		18 15 08.6	
	comp=E,47nm,0.8s						
YUH	**Yuha Desert**	**3.58**	**155**		Pn	18 14 12.0	-0.7
CBX	**Cerro Bola**	**3.70**	**166**		Pn	18 14 12.9	-1.5
GLA	**Glamis**	**3.72**	**139**		Pn	18 14 12.1	-2.6
LCMT	**Little Creek M**	**3.77**	**72**		Pn	18 14 14.7	-0.6
CCUT	**Cedar City**	**3.86**	**64**		Pn	18 14 16.2	-0.5
AFDM	**Forest Hills D**	**3.98**	**320**		Pn	18 14 17.4	-0.9
AFDM				IAML		18 15 25.1	
	comp=E,39nm,0.7s						
AFDM				IAML		18 15 25.1	
	comp=N,29nm,0.7s						
PAHR	**Pah Rah Range**	**4.01**	**341**		Pn	18 14 17.2	-1.5
PSUT	**Pine Spring**	**4.04**	**49**		Pn	18 14 18.8	-0.4
PSUT				IAML		18 15 33.9	
	comp=N,26nm,0.7s						
PSUT				IAML		18 15 35.4	
	comp=E,37nm,1.3s						
SPR3	**Spring Creek 3**	**4.09**	**40**		Pn	18 14 19.7	-0.2
SPR3				IAML		18 15 26.9	
	comp=N,28nm,0.9s						
SPR3				IAML		18 15 31.1	
	comp=E,23nm,1.2s						
KNB	**Kanab**	**4.09**	**73**		Pn	18 14 19.6	-0.3
KNB				IAML		18 15 38.9	
	comp=N,17nm,1.2s						
KNB				IAML		18 15 51.5	
	comp=E,15nm,1.4s						
ESJX	**Sierra Juarez**	**4.17**	**159**		Pn	18 14 20.0	-1.0
Y14A	**Wickenburg**	**4.34**	**116**		Pn	18 14 21.6	-1.6
Y14A				IAML		18 15 42.2	
	comp=E,20nm,0.5s						
BEKR	**Beckworth**	**4.46**	**333**		Pn	18 14 23.9	-1.0
BEKR				IAML		18 15 51.3	
	comp=E,28nm,1.2s						
BEKR				IAML		18 15 53.2	
	comp=N,15nm,0.9s						
113A	**Mohawk Valley,**	**4.53**	**133**	Pn	Pn	18 14 25.6	-0.2
113A				IAML		18 15 45.2	
	comp=N,10nm,1.3s						
113A				IAML		18 15 54.5	
	comp=E,9.9nm,1.0s						
WUAZ	**Wupatki**	**5.17**	**93**		Pn	18 14 32.7	-2.0
WUAZ				IAML		18 16 04.4	
	comp=E,14nm,0.8s						
ELK	**Elko**	**5.20**	**21**		Pn	18 14 35.3	+0.2
ELK				IAML		18 16 01.5	
	comp=E,9.0nm,0.7s						
X16A	**Lo Mia Camp, P**	**5.35**	**104**		Pn	18 14 36.6	-0.6
X16A				IAML		18 16 21.2	
	comp=N,7.1nm,1.1s						
HMU	**Henry Mountain**	**5.94**	**68**		Pn	18 14 46.8	+1.5

*IDC **06** 18:14:39.8±3.8, 6°32S×147°40E, h82km±33km, mb3.5/5, mbtmp3.7/7, Error ellipse: s-maj=37.5km s-min=19.9km az=110.0*
ISC 06 18:14:37.2±1.5, 6°3S±0°.1×147°6E±0°2, h63km, n8, σ1°04/9, mb3.8/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**7.80**	**299**	P	**Pn**	**18 16 29.0**	**+0.8**
	3.2nm,0.8s,baz=143,slow=8.6,SNR=5.2						
WRA	**Warramunga Arr**	**18.66**	**222**	P	**P**	**18 18 49.9**	**-0.3**
	0.9nm,0.6s,baz=48,slow=11,SNR=9.4						
ASAR	**Alice Springs**	**21.68**	**216**	P	**P**	**18 19 23.4**	**+0.5**
	0.6nm,0.4s,baz=50,slow=8.7,SNR=28						
ASAR				S	**S**	**18 23 18.5**	**-1.1**
	0.3nm,0.8s,baz=38,slow=23,SNR=4.9 0.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**24.37**	**239**	P	**P**	**18 19 49.7**	**+0.1**
	3.0nm,0.7s,baz=40,slow=11,SNR=9.5 3.0nm,0.7s						
STKA	**Stephens Creek**	**26.03**	**192**	P	**P**	**18 20 04.5**	**-0.1**
	1.3nm,0.7s,baz=8.1,slow=14,SNR=4.3 1.3nm,0.7s						
QSPA	**South Pole Qui**	**83.65**	**180**	P	**P**	**18 26 59.9**	**+1.0**
	1.0nm,1.0s,baz=336,slow=1.1,SNR=5.6 1.0nm,1.0s						
BVAR	**Borovoye Array**	**87.35**	**324**	P	**P**	**18 27 15.6**	**-1.7**
	0.4nm,0.5s,baz=123,slow=4.7,SNR=2.3 0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**145.70**	**284**	PKPbc	**PKPdf**	**18 34 10.1**	**+0.5**
	1.7nm,0.7s,baz=72,slow=4.2,SNR=11						

*NEIC **06** 18:19:38.6±2.2, 35°.45N±0°.01×117°.31W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.9km az=249.0*
PAS 06 18:19:39.6±2.6, 35°.45N±0°.01×117°.33W±0°.01, h4km, ML3.5/232, ML3.2/128(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=211.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.08**	**338**		Pg	18 19 41.8	+0.4
CCCA					Sg	18 19 43.5	+0.8
LRMC	**Laurel Mtn Rad**	**0.29**	**276**		Pg	18 19 45.3	0.0
LRMC					Sg	18 19 49.6	+0.5
LRMC	**Laurel Mtn Rad**	**0.29**	**276**	IAML		18 19 50.4	
	comp=N,6μm,0.5s						
LRMC				IAML		18 19 51.0	
	comp=E,4μm,0.2s						
SRTC	**Snort**	**0.42**	**305**		Pg	18 19 48.0	+0.3
SRTC					Sg	18 19 54.7	+1.4
CLC	**China Lake**	**0.43**	**329**		Pg	18 19 47.7	-0.2
CLC					Sg	18 19 53.7	+0.2
GSC	**Goldstone, Bar**	**0.45**	**109**		Pg	18 19 48.3	0.0
GSC					Sg	18 19 54.4	+0.3
GSC	**Goldstone, Bar**	**0.45**	**109**	IAML		18 19 54.6	
	comp=N,3μm,0.4s						
GSC				IAML		18 19 54.7	
	comp=E,3μm,0.5s						
DTP	**Desert Tortois**	**0.46**	**247**		Pg	18 19 48.5	0.0
DTP					Sg	18 19 54.5	+0.1
TOW	**Tower One**	**0.51**	**316**		Pg	18 19 49.6	+0.2
TOW					Sg	18 19 57.4	+1.4
WNMM	**Nine Mile Cany**	**0.61**	**310**		Pg	18 19 51.2	-0.2
HYS	**Haystack Butte**	**0.61**	**199**		Pg	18 19 51.0	-0.5
HYS					Sg	18 19 59.5	+0.1
MPMC	**Manual Prospec**	**0.62**	**348**		Pg	18 19 51.2	-0.5
MPMC					Sg	18 19 59.7	-0.1
RRX	**Edison Barstow**	**0.63**	**155**		Pg	18 19 51.7	0.0
CCAC	**Calif City Air**	**0.64**	**243**		Pg	18 19 51.8	0.0
QSM	**Queen of Sheba**	**0.64**	**36**		Pg	18 19 51.4	-0.4
QSM				IAML		18 20 04.2	
	comp=E,2μm,0.2s						
QSM				IAML		18 20 04.2	
	comp=N,2μm,0.4s						
WCSM	**Coso Springs S**	**0.68**	**328**		Sg	18 20 01.5	-0.1
WORM	**Onyx Ranch**	**0.79**	**289**		Sg	18 20 04.3	-0.6
WHFM	**Hanning Flat**	**0.87**	**287**		Pg	18 19 55.7	-0.6
VTV	**Victorville**	**0.89**	**180**		Pg	18 19 56.1	-0.4
ADO	**Adelanto Recei**	**0.90**	**186**		Pg	18 19 56.6	-0.3
GWY	**Greenwater Val**	**0.91**	**36**		Pg	18 19 56.5	-0.6
ISA	**Isabella, Lake**	**0.96**	**283**		Pg	18 19 57.3	-0.7
SHOC	**Shoshone, Teco**	**0.97**	**62**		Pg	18 19 58.1	-0.1
DSCC	**Desert Studies**	**1.05**	**107**		Pg	18 19 58.9	-0.8
DSCC					Sg	18 20 13.6	+0.4
CWC	**Cottonwood Cre**	**1.16**	**329**	Pg	Pg	18 20 01.5	-0.4
CWC				IAML		18 20 18.4	
	comp=N,283nm,0.2s						
THC	**Tehachapi Micr**	**1.22**	**244**		Pg	18 20 02.2	-0.8
BFSC	**Mount Baldy Ra**	**1.24**	**193**	Pg	Pg	18 20 02.1	-1.2
BFSC				IAML		18 20 22.8	
	comp=E,363nm,0.4s						
BFSC				IAML		18 20 23.1	
	comp=N,350nm,0.9s						
AMDNV	**Amargosa**	**1.31**	**40**		Pn	18 20 03.1	-1.6
SVD	**Seven Oaks Dam**	**1.35**	**172**		Sg	18 20 22.5	-0.5
MWC	**Mount Wilson**	**1.36**	**206**	IAML		18 20 28.0	
	comp=N,416nm,0.4s						
MWC				IAML		18 20 32.0	
	comp=E,412nm,0.4s						
SPG2	**Springville 2**	**1.39**	**303**		Pn	18 20 04.9	-0.9
GTM	**Goat Mountain**	**1.40**	**145**		Pn	18 20 05.8	-0.2
OSI	**Osito Audit: C**	**1.42**	**234**		Pn	18 20 05.2	-1.0
DECC	**Green Verdugo**	**1.45**	**215**		Pn	18 20 06.0	-0.6
RVR	**Riverside**	**1.45**	**182**		Pn	18 20 05.4	-1.2
PASC	**Pasadena Art C**	**1.46**	**209**		Pn	18 20 05.6	-1.1
PASC				IAML		18 20 30.8	
	comp=E,209nm,0.8s						
WCT	**Wildcat Mounta**	**1.46**	**23**		Pn	18 20 05.2	-1.6
WCT				IAML		18 20 28.4	
	comp=N,197nm,0.4s						
WCT				IAML		18 20 33.5	
	comp=E,270nm,0.5s						
GRAC	**Grapevine Rang**	**1.55**	**359**		Pn	18 20 07.1	-0.9
TPNV	**Topopah Spring**	**1.73**	**30**		Pn	18 20 09.2	-1.4
TPNV				IAML		18 20 38.1	
	comp=E,310nm,0.6s						
TPNV				IAML		18 20 38.6	
	comp=E,327nm,0.5s						
ELS	**Elsinore Mount**	**1.80**	**183**		Pn	18 20 10.2	-1

V12A				IAML		18 20 45.1		
	comp=E,297nm,0.4s							
SHPR	**Sheep Range**	**2.05**	**58**		Pn	18 20 13.6	-1.5	
BHPR	**Bishop**	**2.07**	**333**		Pb	18 20 18.2	+0.2	
MZP	**Montezuma Peak**	**2.25**	**359**		Pn	18 20 16.0	-1.9	
BORC	**Borrego Spring**	**2.30**	**161**		Pn	18 20 18.2	-0.1	
NEE2	**Needles Airpor**	**2.32**	**106**		Pn	18 20 16.5	-2.1	
S11A	**Rachel**	**2.54**	**30**		Pn	18 20 20.2	-1.5	
S11A				IAML		18 21 06.8		
	comp=E,155nm,1.1s							
S11A				IAML		18 21 26.7		
	comp=N,135nm,0.8s							
TPH	**Tonopah**	**2.62**	**2**		Pn	18 20 21.9	-1.1	
PRN	**Pahroc Range**	**2.68**	**43**		Pn	18 20 22.6	-1.1	
PRN				IAML		18 21 09.9		
	comp=N,101nm,0.3s							
PRN				IAML		18 21 17.4		
	comp=E,102nm,0.8s							
W13A	**Hualapai Mount**	**2.84**	**96**		Pn	18 20 24.3	-1.6	
W13A				IAML		18 21 13.0		
	comp=E,69nm,0.8s							
W13A				IAML		18 21 22.4		
	comp=N,79nm,1.2s							
BLYC	**Blythe**	**2.87**	**125**		Pn	18 20 24.0	-2.1	
BLYC				IAML		18 21 10.3		
	comp=N,67nm,0.8s							
BLYC				IAML		18 21 15.5		
	comp=E,74nm,0.9s							
PMPB	**Monarch Peak**	**2.92**	**286**		Pn	18 20 26.4	-0.6	
PMPB				IAML		18 21 20.5		
	comp=N,101nm,0.8s							
PMPB				IAML		18 21 28.2		
	comp=E,92nm,0.9s							
TKX	**Tecate**	**2.93**	**168**		Pn	18 20 25.8	-1.2	
LHV	**Little Huntoon**	**2.95**	**342**		Pn	18 20 27.1	-0.2	
LHV				IAML		18 21 24.7		
	comp=E,63nm,0.9s							
LHV				IAML		18 21 24.7		
	comp=N,53nm,1.6s							
YUH	**Yuha Desert**	**3.03**	**157**		Pn	18 20 26.8	-1.5	
NV11	**Mina Array Sit**	**3.05**	**348**		Pn	18 20 27.5	-1.3	
NVAR	**Mina Array Bea**	**3.08**	**346**		Pn	18 20 27.7	-1.5	
GLA	**Glamis**	**3.16**	**138**		Pn	18 20 28.5	-1.7	
CBX	**Cerro Bola**	**3.17**	**170**		Pn	18 20 29.1	-1.4	
BBGB	**Big Mountain B**	**3.21**	**292**		Pn	18 20 30.6	-0.4	
R11B	**Troy Canyon, C**	**3.21**	**25**		Pn	18 20 29.7	-1.4	
RYN	**Ryan**	**3.32**	**344**		Pn	18 20 31.6	-0.9	
WAKR	**Walker**	**3.49**	**332**		Pn	18 20 33.4	-1.5	
CMB	**Columbia Colle**	**3.56**	**317**	Pn	Pn	18 20 34.0	-1.8	
CMB				IAML		18 21 35.6		
	comp=N,26nm,0.8s							
SAO	**San Andreas Ge**	**3.59**	**293**		Pn	18 20 34.1	-1.9	
ESJX	**Sierra Juarez**	**3.62**	**161**		Pn	18 20 35.2	-1.4	
ESJX				IAML		18 22 24.4		
	comp=N,49nm,0.1s							
ESJX				IAML		18 22 44.5		
	comp=E,70nm,0.1s							
LCMT	**Little Creek M**	**3.65**	**63**		Pn	18 20 36.4	-0.7	
CCUT	**Cedar City**	**3.82**	**56**		Pn	18 20 38.8	-0.7	
Y14A	**Wickenburg**	**3.87**	**112**		Pn	18 20 38.1	-1.8	
Y14A				IAML		18 21 47.5		
	comp=N,51nm,0.3s							
Y14A				IAML		18 21 51.7		
	comp=E,51nm,0.5s							
KNB	**Kanab**	**3.96**	**65**		Pn	18 20 40.9	-0.5	
KNB				IAML		18 21 47.6		
	comp=E,26nm,1.0s							
KNB				IAML		18 21 50.8		
	comp=N,18nm,0.8s							
113A	**Mohawk Valley,**	**3.98**	**131**		Pn	18 20 38.9	-2.6	
SZCU	**Shurtz Canyon**	**4.03**	**57**		Pn	18 20 41.2	-1.1	
SZCU				IAML		18 21 47.8		
	comp=E,18nm,0.3s							
PSUT	**Pine Spring**	**4.15**	**41**		Pn	18 20 42.0	-2.0	
PSUT				IAML		18 22 06.8		
	comp=N,18nm,1.1s							
PSUT				IAML		18 22 09.1		
	comp=E,23nm,1.2s							
VTX	**Valle De La Tr**	**4.25**	**162**	Pn	Pn	18 20 43.6	-1.6	
SPR3	**Spring Creek 3**	**4.28**	**33**		Pn	18 20 44.1	-1.7	
SPR3				IAML		18 22 07.8		
	comp=N,17nm,1.2s							
MPK	**Martis Peak**	**4.40**	**332**	Pn	Pn	18 20 48.6	+1.1	
AFDM	**Forest Hills D**	**4.55**	**321**		Pn	18 20 49.9	+0.7	
AFDM				IAML		18 22 09.1		
	comp=N,12nm,1.2s							
AFDM				IAML		18 22 11.4		
	comp=E,14nm,1.0s							
PAHR	**Pah Rah Range**	**4.55**	**340**		Pn	18 20 48.8	-0.6	
WUAZ	**Wupatki**	**4.86**	**87**		Pn	18 20 52.8	-0.8	
X16A	**Lo Mia Camp, P**	**4.94**	**100**		Pn	18 20 54.0	-0.9	
X16A				IAML		18 22 20.7		
	comp=N,8.5nm,0.7s							
X16A				IAML		18 22 27.3		
	comp=E,10.0nm,1.3s							
214A	**Organ Pipe Nat**	**5.13**	**132**	Pn	Pn	18 20 54.6	-2.6	
214A				IAML		18 22 33.0		
	comp=N,9.5nm,1.0s							
214A				IAML		18 22 34.3		
	comp=E,9.0nm,0.7s							
MCCM	**Marconi Confer**	**5.21**	**303**	Pn	Pn	18 20 56.6	-1.6	
ELK	**Elko**	**5.54**	**17**		Pn	18 21 00.8	-2.3	
HMU	**Henry Mountain**	**5.85**	**63**	Pn	Pn	18 21 06.0	-1.3	
DUG	**Dugway, Tooele**	**5.94**	**36**		Pn	18 21 07.4	-1.0	
X18A	**Snowflake**	**6.12**	**96**		Pn	18 21 08.2	-2.9	
W18A	**Petrified Fore**	**6.22**	**91**	Pn	Pn	18 21 09.5	-2.9	
TUC	**Tucson**	**6.28**	**118**	Pn	Pn	18 21 10.9	-2.2	
BGU	**Big Grassy Mou**	**6.43**	**30**	Pn	Pn	18 21 15.2	0.0	
PV10	**Paradox Valley**	**7.25**	**64**		Pn	18 21 26.1	-0.5	
HVU	**Hansel Valley**	**7.26**	**28**		Pn	18 21 27.8	+1.2	
PV19	**Morning Glory**	**7.27**	**64**		Pn	18 21 25.2	-1.6	
PV23	**Carpenter Ridg**	**7.30**	**63**		Pn	18 21 25.7	-1.6	
PV18	**Skein Mesa, Pa**	**7.30**	**65**		Pn	18 21 25.3	-2.0	

*NEIC **06** 18:23:07.5±1.8,35°.588N±0°.010×117°.35W±0°.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.7km az=195.0*

PAS 06 18:23:08.7±2.1,35°.597N±0°.010×117°.39W±0°.01, h2km±4km, ML3.1/24, ML2.9/64(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=212.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.07**	**164**		Pg	18 23 10.9	+0.7
LRMC	**Laurel Mtn Rad**	**0.27**	**244**		Pg	18 23 13.8	0.0
LRMC				Sg	Sg	18 23 17.5	+0.2
TOW	**Tower One**	**0.37**	**305**		Pg	18 23 16.3	+0.5
MPMC	**Manual Prospec**	**0.47**	**350**	Pg	Pg	18 23 17.4	-0.3
MPMC				Sg	Sg	18 23 23.9	+0.1
WVPM	**Volcano Peak E**	**0.49**	**315**		Pg	18 23 18.4	+0.2
DTP	**Desert Tortois**	**0.50**	**229**		Pg	18 23 18.0	-0.2
GSC	**Goldstone, Bar**	**0.56**	**122**	Pg	Pg	18 23 19.4	0.0
GSC				Sg	Sg	18 23 27.1	+0.4
GSC				IAML		18 23 27.5	
	comp=N,924nm,0.3s						
QSM	**Queen of Sheba**	**0.56**	**49**	Pg	Pg	18 23 19.7	+0.2
QSM				Sg	Sg	18 23 27.2	+0.5
QSM				IAML		18 23 27.7	
	comp=E,870nm,0.3s						
QSM				IAML		18 23 32.7	
	comp=N,967nm,0.2s						
WRVM	**Rose V. Centra**	**0.58**	**315**		Sg	18 23 27.9	+0.6
WBSM	**Bird Springs**	**0.61**	**265**		Pg	18 23 20.4	-0.1
WBSM					Sg	18 23 28.5	+0.1
CACC	**Calif City Air**	**0.68**	**229**		Pg	18 23 21.4	-0.2
GWY	**Greenwater Val**	**0.83**	**45**		Pg	18 23 24.6	0.0
GWY					Sg	18 23 35.3	-0.1
ISA	**Isabella, Lake**	**0.89**	**275**		Pg	18 23 25.3	-0.4
WASM	**Alta Sierra Ca**	**0.96**	**279**		Pg	18 23 27.1	0.0
CWC	**Cottonwood Cre**	**1.01**	**327**	Pg	Pg	18 23 26.9	-1.1
CWC				Sg	Sg	18 23 41.1	-0.1
CWC				IAML		18 23 45.4	
	comp=N,196nm,0.1s						
TUQ	**Turquoise Moun**	**1.21**	**97**		Pg	18 23 30.9	-0.9
WCT	**Wildcat Mounta**	**1.34**	**27**		Pg	18 23 33.0	-1.5
WCT				IAML		18 23 54.2	
	comp=E,186nm,0.4s						
WCT				IAML		18 23 55.4	
	comp=N,150nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.37**	**189**		Pn	18 23 33.5	-1.5
BFSC				IAML		18 23 54.3	
	comp=N,154nm,0.5s						
BFSC				IAML		18 23 57.2	
	comp=E,137nm,0.5s						
OSI	**Osito Audit: C**	**1.47**	**229**		Pn	18 23 34.4	-1.8
OSI				IAML		18 23 60.0	
	comp=N,251nm,0.5s						
MWC	**Mount Wilson**	**1.48**	**202**		Pn	18 23 34.7	-1.8
MWC				IAML		18 23 58.6	
	comp=N,196nm,0.3s						
MWC				IAML		18 23 58.8	
	comp=E,151nm,0.2s						
PSRC	**Puddingstone R**	**1.54**	**193**		Pb	18 23 37.8	-0.1
PASC	**Pasadena Art C**	**1.56**	**205**		Pn	18 23 36.0	-1.5
PASC				IAML		18 24 03.4	
	comp=E,100nm,0.4s						
GMRC	**Granite Mounta**	**1.63**	**119**		Sb	18 24 00.7	0.0
GMRC	**Granite Mounta**	**1.63**	**119**		Pn	18 23 36.2	-2.4
TPNV	**Topopah Spring**	**1.63**	**34**		Pn	18 23 37.4	-1.2
TPNV				IAML		18 24 04.9	
	comp=E,169nm,0.6s						
GMN	**Gold Mountain**	**1.70**	**3**		Pn	18 23 38.2	-1.4
DSP	**Deep Springs**	**1.83**	**345**		Pn	18 23 40.2	-0.9
HMTC	**Hemet**	**1.91**	**170**		Pn	18 23 41.3	-1.0
ELS	**Elsinore Mount**	**1.94**	**181**	Pn	Pn	18 23 41.7	-1.1
ELS				IAML		18 24 10.8	
	comp=E,56nm,0.3s						
ELS				IAML		18 24 11.0	
	comp=N,51nm,0.6s						
SHPR	**Sheep Range**	**2.02**	**63**		Pn	18 23 42.9	-1.0
V12A	**Nelson**	**2.07**	**86**		Pn	18 23 42.9	-1.6
V12A				IAML		18 24 22.6	
	comp=N,54nm,0.5s						
CRY	**Cary Ranch**	**2.10**	**165**		Pn	18 23 44.2	-0.7
MZP	**Montezuma Peak**	**2.10**	**0**	Pn	Pn	18 23 43.7	-1.4
PMD	**Palm Desert**	**2.12**	**156**	Pn	Pn	18 23 43.6	-1.5
PMD				IAML		18 24 17.2	
	comp=E,72nm,0.4s						
PFO	**Pinyon Flats O**	**2.12**	**159**		Pn	18 23 44.0	-1.3
PFO				IAML		18 24 23.5	
	comp=E,48nm,0.5s						
S11A	**Rachel**	**2.43**	**32**		Pn	18 23 48.8	-0.8
S11A				IAML		18 24 37.0	
	comp=E,89nm,0.5s						
TPH	**Tonopah**	**2.48**	**3**		Pn	18 23 49.6	-0.6
PRN	**Pahroc Range**	**2.61**	**46**		Pn	18 23 51.4	-0.6
LHV	**Little Huntoon**	**2.80**	**342**		Pn	18 23 53.9	-0.5
LHV				IAML		18 24 43.6	
	comp=E,24nm,1.0s						
CBX	**Cerro Bola**	**3.33**	**169**		Pn	18 24 01.7	-0.2
LCMT	**Little Creek M**	**3.63**	**66**		Pn	18 24 05.5	-0.6
Y14A	**Wickenburg**	**3.97**	**113**		Pn	18 24 09.2	-1.4
Y14A				IAML		18 25 16.1	
	comp=N,22nm,0.7s						
Y14A				IAML		18 25 20.1	
	comp=E,19nm,0.3s						
SZCU	**Shurtz Canyon**	**4.00**	**59**		Pn	18 24 11.0	-0.2
SZCU				IAML		18 25 15.2	
	comp=E,10nm,0.3s						
SZCU				IAML		18 25 16.7	
	comp=N,8.8nm,0.6s						
ELK	**Elko**	**5.41**	**18**	Pn	Pn	18 24 30.4	-0.2
X18A	**Snowflake**	**6.19**	**98**		Pn	18 24 41.2	-0.1

*IDC **06** 18:23:42.1±7.0,19°.13N×146°.75E,h203km±45km,mb2.9/5, mbtmp3.5/6, Error ellipse: s-maj=151.6km s-min=22.4km az=83.0*

ISC 06 18:23:45.0±3.2,19°.0N±0°.1×14°.6E±°,h200km,n6,σ1s34/7, mb3.1/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.46**	**188**	P	**Pn**	**18 25 07.0**	**+1.6**
	12nm,0.7s,baz=352,slow=17,SNR=1.8						
GUMO				S	**Sn**	**18 26 07.2**	**-1.6**
	7.8nm,0.5s,baz=237,slow=23,SNR=1.7						
WRA	**Warramunga Arr**	**40.28**	**197**	P	**P**	**18 31 02.8**	**-0.1**
	0.3nm,0.5s,baz=25,slow=9.1,SNR=7.3						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**43.95**	**196**	P	**P**	**18 31 32.2**	**-0.3**
	0.2nm,0.4s,baz=12,slow=6.1,SNR=5.5						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**61.03**	**318**	P	**P**	**18 33 37.8**	**+0.4**
	0.2nm,0.5s,baz=93,slow=6.9,SNR=3.4						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**66.18**	**320**	P	**P**	**18 34 11.7**	**+0.6**
	0.4nm,0.6s,baz=80,slow=8.1,SNR=3.8						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**86.56**	**335**	P	**P**	**18 36 04.2**	**-1.1**
	0.3nm,0.3s,baz=72,slow=6.2,SNR=6.9						
	0.3nm,0.3s						

*NEIC **06** 18:30:38.9±1.8,35°.730N±0°.006×117°.56W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.6km az=205.0*

PAS 06 18:30:39.8±1.4,35°.72N±0°.01×117°.56W±0°.01, h5km±3km, ML3.3/19, ML2.9/111(NEIC), Error ellipse: s-maj=1.8km s-min=1.5km az=188.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.16**	**261**		Pg	18 30 43.5	+0.5
TOW	**Tower One**	**0.19**	**299**		Pg	18 30 42.2	-1.4
CCCA	**Chr Cany lake**	**0.25**	**140**		Pg	18 30 45.3	+0.7
CCCA					Sg	18 30 49.5	+1.6
LRMC	**Laurel Mtn Rad**	**0.26**	**203**		Pg	18 30 44.9	0.0
LRMC				IAML		18 30 49.7	
	comp=N,4μm,0.1s						
LRMC	**Laurel Mtn Rad**	**0.26**	**203**		Sg	18 30 49.1	+0.9
LRMC				IAML		18 30 45.7	
	comp=E,4μm,0.2s						
WNMM	**Nine Mile Cany**	**0.31**	**294**		Pg	18 30 45.8	0.0
WNMM					Sg	18 30 50.6	+0.7
WVPM	**Volcano Peak E**	**0.31**	**318**		Pg	18 30 45.9	-0.1
WVPM					Sg	18 30 50.6	+0.5
MPMC	**Manual Prospec**	**0.35**	**9**	Pg	Pg	18 30 46.3	-0.3
MPMC				IAML		18 30 53.5	
	comp=E,1μm,0.5s						
WRVM	**Rose V. Centra**	**0.40**	**317**		Pg	18 30 47.2	-0.3
WRVM					Sg	18 30 52.8	0.0
DTP	**Desert Tortois**	**0.51**	**208**		Pg	18 30 49.1	-0.4
WBSM	**Bird Springs**	**0.51**	**250**		Pg	18 30 49.3	-0.3
QSM	**Queen of Sheba**	**0.61**	**66**		Pg	18 30 51.2	-0.4
QSM					Sg	18 30 59.5	-0.1
WHFM	**Hanning Flat**	**0.64**	**268**		Pg	18 30 51.7	-0.5
CCAC	**Calif City Air**	**0.68**	**214**		Pg	18 30 52.4	-0.4
GSC	**Goldstone, Bar**	**0.74**	**124**		Pg	18 30 53.4	-0.6
ISA	**Isabella, Lake**	**0.75**	**266**		Pg	18 30 53.5	-0.7
WASM	**Alta Sierra Ca**	**0.81**	**272**		Pg	18 30 53.1	-2.3
CWC	**Cottonwood Cre**	**0.84**	**330**	Pg	Pg	18 30 55.6	-0.3
CWC					Sg	18 31 06.2	-0.6
CWC				IAML		18 31 08.5	
	comp=N,439nm,0.2s						
CWC				IAML		18 31 08.8	
	comp=E,535nm,0.2s						
HYS	**Haystack Butte**	**0.85**	**181**		Pg	18 30 51.4	-4.7
CGO	**Cerro Gordo**	**0.86**	**347**		Pg	18 30 56.0	-0.2
GWY	**Greenwater Val**	**0.86**	**57**		Pg	18 30 55.7	-0.6
GWY					Sg	18 31 06.9	-0.6
SPG2	**Springville 2**	**1.09**	**297**		Pg	18 30 59.6	-1.2
GRAC	**Grapevine Rang**	**1.29**	**7**		Pn	18 31 03.0	-1.5
GRAC				IAML		18 31 10.8	
	comp=E,330nm,0.4s						
GRAC				IAML		18 31 28.6	
	comp=N,288nm,0.6s						
WCT	**Wildcat Mounta**	**1.31**	**35**		Pn	18 31 03.1	-1.7
WCT				IAML		18 31 23.4	
	comp=N,308nm,0.5s						
WCT				IAML		18 31 23.8	
	comp=E,285nm,0.4s						
DSCC	**Desert Studies**	**1.32**	**115**		Pn	18 31 03.7	-1.1
TUQ	**Turquoise Moun**	**1.36**	**101**		Pn	18 31 04.0	-1.6
OSI	**Osito Audit: C**	**1.46**	**221**		Pn	18 31 05.8	-1.0
OSI				IAML		18 31 28.6	
	comp=E,242nm,0.6s						
OSI				IAML		18 31 28.7	
	comp=N,300nm,1.0s						
BFSC	**Mount Baldy Ra**	**1.48**	**183**		Pn	18 31 06.6	-0.5
BFSC				IAML		18 31 27.4	
	comp=E,259nm,0.3s						
BFSC				IAML		18 31 27.7	
	comp=N,227nm,0.4s						
MWC	**Mount Wilson**	**1.54**	**196**		Pn	18 31 07.2	-0.9
MWC				IAML		18 31 31.0	
	comp=N,272nm,0.3s						
MWC				IAML		18 31 33.6	
	comp=E,256nm,0.4s						
GMN	**Gold Mountain**	**1.60**	**9**		Pn	18 31 07.5	-1.4
TPNV	**Topopah Spring**	**1.62**	**40**		Pn	18 31 07.7	-1.5
TPNV				IAML		18 31 34.0	
	comp=E,225nm,0.5s						
TPNV				IAML		18 31 35.9	
	comp=E,227nm,0.7s						
PASC	**Pasadena Art C**	**1.62**	**199**		Pn	18 31 08.0	-1.1
PASC				IAML		18 31 33.9	
	comp=N,96nm,0.6s						
PASC				IAML		18 31 35.4	
	comp=E,136nm,0.6s						
DSP	**Deep Springs**	**1.68**	**349**		Pn	18 31 08.8	-1.0
DSP				IAML		18 31 34.3	
	comp=E,94nm,0.4s						
GMRC	**Granite Mounta**	**1.81**	**120**		Pn	18 31 09.2	-2.6
MZP	**Montezuma Peak**	**1.99**	**4**		Pn	18 31 12.8	-1.5
ELS	**Elsinore Mount**	**2.07**	**177**		Pn	18 31 14.0	-1.2
ELS				IAML		18 31 46.9	
	comp=N,63nm,0.4s						
ELS				IAML		18 31 47.7	
	comp=E,96nm,0.3s						
SHPR	**Sheep Range**	**2.10**	**67**		Pn	18 31 14.4	-1.3
SHPR				IAML		18 31 48.2	
	comp=N,55nm,0.6s						
V12A	**Nelson**	**2.20**	**89**		Pn	18 31 15.9	-1.2
V12A				IAML		18 31 54.2	
	comp=E,52nm,0.5s						
PMD	**Palm Desert**	**2.28**	**154**	Pn	Pn	18 31 16.5	-1.6
PMD				IAML		18 31 54.0	
	comp=E,67nm,0.8s						
PMD				IAML		18 31 55.9	
	comp=N,46nm,0.6s						
PFO	**Pinyon Flats O**	**2.29**	**156**		Pn	18 31 16.8	-1.4
PFO				IAML		18 31 57.2	
	comp=N,70nm,1.7s						
BZNA	**Buzz No.'s Pla**	**2.34**	**161**		Pn	18 31 17.1	-1.9
TPH	**Tonopah**	**2.37**	**6**		Pn	18 31 18.1	-1.4
S11A	**Rachel**	**2.41**	**37**		Pn	18 31 19.0	-1.0
NEE2	**Needles Airpor**	**2.58**	**111**	Pn	Pn	18 31 20.1	-2.2
PRN	**Pahroc Range**	**2.63**	**49**	Pn	Pn	18 31 22.1	-0.9
LHV	**Little Huntoon**	**2.64**	**344**		Pn	18 31 22.0	-1.0
LHV				IAML		18 32 08.4	
	comp=N,42nm,0.5s						
LHV				IAML		18 32 10.5	
	comp=E,46nm,0.6s						
PMPB	**Monarch Peak**	**2.68**	**282**		Pn	18 31 22.5	-1.1
PMPB				IAML		18 32 11.3	
	comp=N,82nm,1.0s						
PMPB				IAML		18 32 21.5	
	comp=E,84nm,0.7s						
NV11	**Mina Array Sit**	**2.75**	**350**		Pn	18 31 24.0	-0.7
NVAR	**Mina Array Bea**	**2.77**	**348**		Pn	18 31 24.4	-0.7
BBGB	**Big Mountain B**	**2.95**	**288**	Pn	Pn	18 31 26.7	-0.6
RYN	**Ryan**	**3.01**	**345**		Pn	18 31 27.3	-0.9
W13A	**Hualapai Mount**	**3.06**	**101**		Pn	18 31 27.1	-1.9
R11B	**Troy Canyon, C**	**3.07**	**30**		Pn	18 31 27.9	-1.1
Q09A	**Carvers**	**3.13**	**5**	Pn	Pn	18 31 29.6	-0.3
WAKR	**Walker**	**3.16**	**332**	Pn	Pn	18 31 29.1	-1.3
BLYC	**Blythe**	**3.18**	**127**	Pn	Pn	18 31 29.1	-1.2
BLYC				IAML		18 32 20.9	
	comp=N,57nm,0.5s						
CMB	**Columbia Colle**	**3.24**	**316**		Pn	18 31 30.6	-0.7
CMB				IAML		18 32 25.5	
	comp=N,30nm,0.6s						
CMB				IAML		18 32 26.5	
	comp=E,23nm,1.1s						
SAO	**San Andreas Ge**	**3.31**	**290**	Pn	Pn	18 31 31.6	-0.6
YUH	**Yuha Desert**	**3.35**	**156**	Pn	Pn	18 31 31.7	-1.0
LCMT	**Little Creek M**	**3.71**	**68**		Pn	18 31 37.5	-0.4
CCUT	**Cedar City**	**3.84**	**60**		Pn	18 31 40.6	+0.9
CCUT				IAML		18 32 43.6	
	comp=N,20nm,1.5s						
CCUT				IAML		18 32 52.7	
	comp=E,13nm,1.3s						
CCX	**Cicese**	**3.91**	**169**	Pn	Pn	18 31 41.0	+0.6
ESJX	**Sierra Juarez**	**3.94**	**160**	Pn	Pn	18 31 40.3	-0.6
ESJX				IAML		18 32 59.8	
	comp=N,29nm,0.1s						
KNB	**Kanab**	**4.04**	**70**	Pn	Pn	18 31 42.2	-0.2
KNB				IAML		18 32 50.4	
	comp=E,13nm,1.1s						
KNB				IAML		18 32 57.5	
	comp=N,14nm,1.4s						
Y14A	**Wickenburg**	**4.14**	**114**		Pn	18 31 42.4	-1.3
Y14A				IAML		18 32 53.6	
	comp=E,27nm,0.4s						
Y14A				IAML		18 32 54.1	
	comp=N,26nm,0.5s						
SPR3	**Spring Creek 3**	**4.17**	**37**		Pn	18 31 43.3	-0.9
SPR3				IAML		18 32 53.7	
	comp=N,12nm,0.6s						
SPR3				IAML		18 32 55.7	
	comp=E,14nm,0.6s						
AFDM	**Forest Hills D**	**4.22**	**321**	Pn	Pn	18 31 44.0	-0.7
AFDM				IAML		18 32 57.8	
	comp=N,14nm,0.8s						
AFDM				IAML		18 33 02.3	
	comp=E,15nm,0.7s						
113A	**Mohawk Valley,**	**4.30**	**132**	Pn	Pn	18 31 46.0	+0.2
113A				IAML		18 32 58.2	
	comp=E,10.0nm,0.8s						
BEKR	**Beckworth**	**4.70**	**333**		Pn	18 31 50.6	-0.8
BEKR				IAML		18 33 16.1	
	comp=E,15nm,0.6s						
BEKR				IAML		18 33 22.8	
	comp=N,6.7nm,1.2s						
ELK	**Elko**	**5.34**	**19**	Pn	Pn	18 32 00.2	-0.2
HATC	**Hat Creek Radi**	**5.95**	**330**	Pn	Pn	18 32 07.0	-1.5
X18A	**Snowflake**	**6.35**	**99**		Pn	18 32 14.3	+0.2

*NEIC **06** 18:36:49.4±1.9,35°.900N±0°.006×117°.74W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.8km az=156.0*

*PAS **06** 18:36:50.1±1.7,35°.91N±0°.01×117°.74W±0°.01, h2km±3km, Mwr3.7/6, ML3.7/138(NEIC), Error ellipse: s-maj=1.7km s-min=1.6km az=185.0*

*IDC **06** 18:36:50.9±0.8,35°.90N×117°.62W, h0km, mb3.5/1, mbtmp3.2/6, ML3.5/5, MS3.3/1, Error ellipse: s-maj=18.2km s-min=5.8km az=77.0*

ISC 06 18:36:50.5±0.9,35°.91N±0°.02×117°.74W±0°.02, h12km±6km, n106, σ1s07/115, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.07**	**299**		**Pg**	**18 36 51.8**	**-1.4

GSC	**Goldstone, Bar**	**0.97**	**129**			**Pg**	**18 37 07.8**	**-1.5**
GSC					**Sg**	**Sg**	**18 37 21.1**	**-0.9**
EDW2	**Edwards Air Fo**	**1.05**	**192**			**Pg**	**18 37 09.1**	**-1.7**
GRAC	**Grapevine Rang**	**1.12**	**15**			**Pg**	**18 37 11.1**	**-1.0**
GRAC					**Sg**	**Sg**	**18 37 26.7**	**0.0**
GRAC					IAML		18 37 29.3	
	comp=N,2µm,0.8s							
GRAC					IAML		18 37 36.6	
	comp=E,2µm,0.8s							
WCT	**Wildcat Mounta**	**1.25**	**45**			**Pg**	**18 37 13.4**	**-1.3**
WCT						**Sg**	**18 37 29.9**	**-1.1**
WCT					IAML		18 37 33.2	
	comp=E,1µm,0.6s							
WCT					IAML		18 37 33.3	
	comp=N,988nm,0.7s							
VOG	**Valley Oaks Go**	**1.39**	**287**			**Pn**	**18 37 15.8**	**-0.1**
GMN	**Gold Mountain**	**1.44**	**15**			**Pn**	**18 37 16.3**	**-0.3**
GMN					IAML		18 37 42.7	
	comp=N,612nm,0.8s							
DSP	**Deep Springs**	**1.47**	**353**			**Pn**	**18 37 17.0**	**+0.2**
OSI	**Osito Audit: C**	**1.53**	**212**			**Pn**	**18 37 17.6**	**-0.1**
OSI					IAML		18 37 41.4	
	comp=E,1µm,0.8s							
OSI					IAML		18 37 49.4	
	comp=N,778nm,0.7s							
DSCC	**Desert Studies**	**1.54**	**120**			**Pn**	**18 37 16.6**	**-1.2**
TPNV	**Topopah Spring**	**1.58**	**49**			**Pn**	**18 37 18.5**	**-0.2**
TPNV					IAML		18 37 44.0	
	comp=N,1µm,0.8s							
TPNV					IAML		18 37 44.8	
	comp=N,1µm,0.9s							
BFSC	**Mount Baldy Ra**	**1.67**	**178**			**Pn**	**18 37 18.6**	**-1.2**
MWC	**Mount Wilson**	**1.71**	**189**			**Pn**	**18 37 19.6**	**-0.8**
MWC					IAML		18 37 51.2	
	comp=N,963nm,0.6s							
MWC					IAML		18 37 51.3	
	comp=E,701nm,0.7s							
PASC	**Pasadena Art C**	**1.78**	**192**			**Pn**	**18 37 20.2**	**-0.9**
MZP	**Montezuma Peak**	**1.81**	**9**			**Pn**	**18 37 21.5**	**-0.3**
MTPC	**Mountain Pass**	**1.83**	**103**			**Pn**	**18 37 21.1**	**-0.9**
SHPR	**Sheep Range**	**2.17**	**73**			**Pn**	**18 37 26.2**	**-0.4**
TPH	**Tonopah**	**2.20**	**11**			**Pn**	**18 37 26.6**	**-0.5**
ELS	**Elsinore Mount**	**2.27**	**173**			**Pn**	**18 37 27.1**	**-0.9**
ELS					IAML		18 38 07.9	
	comp=E,235nm,0.9s							
S11A	**Rachel**	**2.35**	**42**			**Pn**	**18 37 28.8**	**-0.4**
V12A	**Nelson**	**2.35**	**94**			**Pn**	**18 37 28.3**	**-0.8**
V12A					IAML		18 38 11.9	
	comp=E,278nm,0.5s							
V12A					IAML		18 38 12.2	
	comp=N,301nm,0.9s							
LHV	**Little Huntoon**	**2.41**	**345**			**Pn**	**18 37 29.6**	**-0.2**
LHV					IAML		18 38 19.6	
	comp=N,208nm,1.2s							
PMPB	**Monarch Peak**	**2.50**	**278**			**Pn**	**18 37 30.8**	**-0.3**
PMD	**Palm Desert**	**2.52**	**153**	Pn		**Pn**	**18 37 30.3**	**-1.1**
PMD					IAML		18 38 15.2	
	comp=E,362nm,0.8s							
PFO	**Pinyon Flats O**	**2.52**	**155**			**Pn**	**18 37 30.9**	**-0.7**
PFO					IAML		18 38 15.1	
	comp=E,303nm,1.1s							
PFO					IAML		18 38 16.7	
	comp=E,286nm,0.7s							
PFO	**Pinyon Flats O**	**2.52**	**155**	Pn		**Pn**	**18 37 31.0**	**-0.5**
	comp=E,10nm,0.3s,baz=338,slow=14,SNR=14							
PFO				Pg		**Pb**	**18 37 37.0**	**+1.1**
	comp=E,14nm,0.3s,baz=334,slow=17,SNR=19							
PFO				Lg	Lg		18 38 09.1	
	comp=E,87nm,0.3s,baz=231,slow=23,SNR=22 comp=E,6.6nm,0.4s							
NV11	**Mina Array Sit**	**2.54**	**353**			**Pn**	**18 37 31.9**	**+0.2**
NVAR	**Mina Array Bea**	**2.55**	**350**			**Pn**	**18 37 32.3**	**+0.3**
NVAR	**Mina Array Bea**	**2.55**	**350**	Pn		**Pn**	**18 37 33.3**	**+1.3**
	comp=E,2.2nm,0.3s,baz=171,slow=12,SNR=17							
NVAR				Pg		**Pg**	**18 37 38.6**	**-0.9**
	comp=E,10nm,0.3s,baz=172,slow=16,SNR=19							
NVAR				Lg	Lg		18 38 13.2	
	comp=E,12nm,0.3s,baz=171,slow=30,SNR=3.3 comp=E,6.6nm,0.4s							
MYLM	**Yosemite Lake**	**2.61**	**305**			**Pb**	**18 37 36.0**	**-1.3**
PRN	**Pahroc Range**	**2.62**	**55**			**Pn**	**18 37 33.1**	**+0.2**
PRN					IAML		18 38 26.6	
	comp=N,479nm,0.7s							
BBGB	**Big Mountain B**	**2.75**	**285**			**Pn**	**18 37 35.0**	**+0.3**
RYN	**Ryan**	**2.78**	**347**			**Pn**	**18 37 35.5**	**+0.4**
NEE2	**Needles Airpor**	**2.79**	**113**			**Pn**	**18 37 33.6**	**-1.5**
BORC	**Borrego Spring**	**2.85**	**157**			**Pn**	**18 37 37.4**	**+1.4**
WAKR	**Walker**	**2.92**	**333**			**Pn**	**18 37 38.7**	**+0.7**
WAKR					IAML		18 38 24.4	
	comp=E,150nm,0.5s							
Q09A	**Carvers**	**2.95**	**8**			**Pn**	**18 37 38.1**	**+0.7**
R11B	**Troy Canyon, C**	**2.98**	**35**			**Pn**	**18 37 37.8**	**0.0**
R11B					IAML		18 38 24.9	
	comp=N,134nm,0.6s							
R11B					IAML		18 38 24.9	
	comp=E,236nm,0.6s							
DPP	**Dos Picos Cty**	**2.98**	**167**			**Pn**	**18 37 39.3**	**+1.5**
CMB	**Columbia Colle**	**3.00**	**316**			**Pn**	**18 37 38.5**	**+0.6**
CMB					IAML		18 38 29.2	
	comp=N,195nm,0.5s							
CMB					IAML		18 38 34.5	
	comp=E,157nm,0.7s							
SAO	**San Andreas Ge**	**3.11**	**287**			**Pn**	**18 37 39.7**	**+0.1**
W13A	**Hualapai Mount**	**3.25**	**103**			**Pn**	**18 37 40.4**	**-1.2**
W13A					IAML		18 38 42.3	
	comp=N,135nm,0.7s							
BLYC	**Blythe**	**3.41**	**128**			**Pn**	**18 37 41.9**	**-1.7**
BLYC					IAML		18 38 42.5	
	comp=N,180nm,0.8s							
BLYC					IAML		18 38 47.0	
	comp=E,189nm,0.7s							
TJX	**Tijuana**	**3.44**	**170**			**Pn**	**18 37 43.5**	**-0.5**
TKX	**Tecate**	**3.46**	**164**			**Pn**	**18 37 44.0**	**-0.3**
TKX					IAML		18 38 59.9	
	comp=N,167nm,0.1s							
YUH	**Yuha Desert**	**3.59**	**155**			**Pn**	**18 37 45.8**	**-0.2**
CBX	**Cerro Bola**	**3.70**	**166**			**Pn**	**18 37 47.2**	**-0.5**
GLA	**Glamis**	**3.73**	**139**			**Pn**	**18 37 47.9**	**-0.1**
LCMT	**Little Creek M**	**3.78**	**72**			**Pn**	**18 37 49.5**	**+0.6**
MPK	**Martis Peak**	**3.84**	**332**			**Pn**	**18 37 50.0**	**+0.3**
CCUT	**Cedar City**	**3.87**	**64**			**Pn**	**18 37 51.0**	**+0.9**
AFDM	**Forest Hills D**	**3.98**	**321**			**Pn**	**18 37 51.0**	**-0.4**
AFDM					IAML		18 39 02.6	
	comp=N,116nm,1.1s							
AFDM					IAML		18 39 03.1	
	comp=E,140nm,0.7s							
PAHR	**Pah Rah Range**	**4.00**	**341**			**Pn**	**18 37 53.3**	**+1.4**
PSUT	**Pine Spring**	**4.05**	**49**			**Pn**	**18 37 53.5**	**+0.9**
PSUT					IAML		18 39 07.5	
	comp=N,112nm,1.3s							
PSUT					IAML		18 39 10.1	
	comp=E,129nm,1.3s							
SZCU	**Shurtz Canyon**	**4.09**	**64**			**Pn**	**18 37 53.8**	**+0.6**
SPR3	**Spring Creek 3**	**4.10**	**40**			**Pn**	**18 37 52.8**	**-0.6**
SPR3					IAML		18 39 00.2	
	comp=E,146nm,0.8s							
SPR3					IAML		18 39 01.5	
	comp=N,126nm,0.8s							
KNB	**Kanab**	**4.11**	**73**			**Pn**	**18 37 54.3**	**+0.9**
KNB					IAML		18 39 09.8	
	comp=E,51nm,0.9s							
KNB					IAML		18 39 14.1	
	comp=N,53nm,1.2s							
CCX	**Cicese**	**4.13**	**167**			**Pn**	**18 37 54.0**	**+0.5**
CCX					IAML		18 38 41.1	
	comp=E,120nm,0.1s							
CCX					IAML		18 40 31.7	
	comp=N,144nm,0.1s							
ESJX	**Sierra Juarez**	**4.17**	**159**			**Pn**	**18 37 53.9**	**-0.3**
ESJX					IAML		18 39 01.2	
	comp=E,82nm,0.5s							
ESJX					IAML		18 39 06.7	
	comp=N,53nm,0.5s							
Y14A	**Wickenburg**	**4.36**	**116**			**Pn**	**18 37 55.9**	**-0.7**
Y14A					IAML		18 39 14.3	
	comp=E,92nm,0.8s							
BEKR	**Beckworth**	**4.46**	**333**			**Pn**	**18 37 57.6**	**-0.5**
BEKR					IAML		18 39 26.9	
	comp=N,58nm,0.7s							
BEKR					IAML		18 39 30.7	
	comp=E,88nm,0.8s							
113A	**Mohawk Valley,**	**4.54**	**133**			**Pn**	**18 37 59.5**	**+0.4**
113A					IAML		18 39 14.5	
	comp=N,40nm,0.8s							
113A					IAML		18 39 31.5	
	comp=E,52nm,1.1s							
ORV	**Oroville**	**4.70**	**322**			**Pn**	**18 38 01.0**	**-0.4**
ORV					IAML		18 39 29.3	
	comp=E,59nm,1.0s							
ORV					IAML		18 39 32.2	
	comp=N,41nm,0.9s							
VTX	**Valle De La Tr**	**4.79**	**160**			**Pn**	**18 38 02.8**	**+0.1**
GDXM	**Geysers**	**4.96**	**307**	Pn		**Pn**	**18 38 05.0**	**0.0**
WUAZ	**Wupatki**	**5.19**	**93**			**Pn**	**18 38 09.0**	**+0.8**
WUAZ					IAML		18 39 34.6	
	comp=N,64nm,0.8s							
WUAZ					IAML		18 39 39.0	
	comp=N,66nm,1.8s							
ELK	**Elko**	**5.21**	**21**			**Pn**	**18 38 08.7**	**+0.2**
ELK					IAML		18 39 36.0	
	comp=N,38nm,0.8s							
ELK					IAML		18 39 37.4	
	comp=N,24nm,0.7s							
ELK	**Elko**	**5.21**	**21**	Pn		**Pn**	**18 38 10.5**	**+2.0**
	comp=N,0.9nm,0.3s,baz=214,slow=14,SNR=7.2							
ELK				Lg	Lg		18 39 33.5	
	comp=N,10nm,0.3s,baz=101,slow=24,SNR=19 comp=N,2.3nm,0.4s							
X16A	**Lo Mia Camp, P**	**5.37**	**104**			**Pn**	**18 38 10.9**	**+0.2**
X16A					IAML		18 39 55.1	
	comp=N,28nm,1.2s							
X16A					IAML		18 40 03.6	
	comp=E,22nm,1.2s							
SFX	**San Felipe**	**5.43**	**153**			**Pn**	**18 38 10.9**	**-0.4**
214A	**Organ Pipe Nat**	**5.69**	**133**			**Pn**	**18 38 13.7**	**-1.2**
HATC	**Hat Creek Radi**	**5.70**	**330**			**Pn**	**18 38 14.4**	**-0.8**
DUG	**Dugway, Tooele**	**5.78**	**41**			**Pn**	**18 38 14.7**	**-1.5**
Q16A	**Castle Valley**	**6.02**	**58**			**Pn**	**18 38 18.8**	**-0.9**
MPU	**Maple Canyon**	**6.33**	**48**			**Pn**	**18 38 21.9**	**-2.0**
WVOR	**Wild Horse Val**	**6.55**	**354**	Pn		**Pn**	**18 38 25.5**	**-1.3**
SRU	**San Rafael Swe**	**6.56**	**59**			**Pn**	**18 38 25.9**	**-1.1**
TUC	**Tucson**	**6.79**	**120**	Pn		**Pn**	**18 38 29.6**	**-0.5**
TCUT	**Toone Canyon**	**7.18**	**42**	Pn		**Pn**	**18 38 33.5**	**-2.1**
PV10	**Paradox Valley**	**7.37**	**68**			**Pn**	**18 38 37.0**	**-1.2**
PV20	**West Nyswonger**	**7.41**	**68**			**Pn**	**18 38 37.2**	**-1.5**
PV18	**Skein Mesa, Pa**	**7.43**	**69**			**Pn**	**18 38 37.1**	**-1.9**
PV04	**Paradox Valley**	**7.47**	**68**			**Pn**	**18 38 38.0**	**-1.6**
PV13	**Radium Mtn., P**	**7.47**	**70**			**Pn**	**18 38 38.6**	**-1.1**
PV03	**Paradox Valley**	**7.48**	**69**			**Pn**	**18 38 39.4**	**-0.3**
MVCO	**Mesa Verde**	**7.55**	**77**			**Pn**	**18 38 39.7**	**-0.9**
PV22	**Blue Mesa, Par**	**7.60**	**67**			**Pn**	**18 38 40.2**	**-1.2**
PV01	**Paradox Valley**	**7.66**	**70**			**Pn**	**18 38 41.7**	**-0.5**
PV07	**Paradox Valley**	**7.68**	**68**			**Pn**	**18 38 42.5**	**+0.1**
ANMO	**Albuquerque**	**9.26**	**93**	Lg	Lg		18 41 39.0	
	comp=E,0.1nm,0.3s,baz=228,slow=22,SNR=1.7							
ANMO				LR	LR		18 42 52.3	
	comp=E,174nm,18.2s,baz=325,slow=40							
PDAR	**Pinedale Array**	**9.32**	**40**	Pn		**Pn**	**18 39 08.6**	**+3.6**
	comp=E,0.1nm,0.3s,baz=238,slow=14,SNR=6.2							
PDAR				Lg	Lg		18 41 42.0	
	comp=E,0.1nm,0.3s,baz=225,slow=28,SNR=5.9 comp=E,0.7nm,0.8s							
TXAR	**Lajitas Array**	**13.54**	**115**	Pn		**Pn**	**18 40 04.8**	**+2.1**
	baz=294,slow=14,SNR=5.5 comp=E,0.1nm,0.3s							
YKA	**Yellowknife Ar**	**26.68**	**3**	P		**P**	**18 42 32.4**	**+3.3**
	comp=E,0.6nm,0.8s,baz=188,slow=9.1,SNR=6.1 comp=E,0.6nm,0.8s							

*SOME **06** 18:40:56.2, 40.90N×83.25E, h15km*
*NNC **06** 18:41:01.9±5.1, 41.02N×82.88E, h4km±24km, mb3.6, mpv3.3, Error ellipse: s-maj=33.8km s-min=32.7km az=20.0*

ISC 06 18:41:12.0±2.9, **41.8N**±0.1×**82.9E**±0.1, **h10**km, **n13,** σ1§**42**/17, **7C-1D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.47**	**312**	Pg	**Pb**	**18 41 56.8**	**+0.3**
	3.0nm,0.3s						
KTMS				Lg	Lg	18 42 40.9	
	26nm,0.3s						
KTMS	**Ketmen**	**2.47**	**312**	*e*P	**Pb**	**18 41 56.8**	**+0.3**
	3.0nm,0.3s						
KTMS				*e*S	Sg	18 42 40.9	+10
	26nm,0.3s						
SHLS	**Shalkode**	**2.85**	**299**	Pg	**Pn**	**18 41 58.0**	**+0.3**
	6.0nm,0.2s						
SHLS				Lg	Lg	18 42 43.3	
	134nm,0.4s						
SHLS	**Shalkode**	**2.85**	**299**	*e*P	**Pn**	**18 41 58.0**	**+0.3**
	6.0nm,0.2s						
SHLS				*e*S	**Sg**	**18 42 43.3**	**-0.4**
	134nm,0.4s						
PDGK	**Podgornoye**	**2.92**	**302**	⇑Pn	**Pn**	**18 41 58.0**	**-0.5**
	9.0nm,0.6s						
PDGK				⇑Lg	Lg	18 42 49.5	
	56nm,0.8s						
SATY	**Saty**	**3.53**	**292**	Pg	**Pb**	**18 42 12.5**	**-2.1**
	2.2nm,0.2s						
SATY				Lg	Lg	18 43 08.9	
	27nm,0.2s						
KNOS	**Konyrlen**	**3.71**	**314**	Pg	**Pb**	**18 42 20.4**	**+2.8**
	4.8nm,0.6s						
KNOS				Lg	Lg	18 43 21.1	
	18nm,0.3s						
BLB	**Baldybastay**	**3.94**	**307**	Pg	**Pb**	**18 42 23.3**	**+1.6**
	5.8nm,0.2s						
BLB				Lg	Lg	18 43 26.5	
	13nm,0.3s						
ARXS	**Arharly**	**4.40**	**304**	Pg	**Pb**	**18 42 30.5**	**+1.0**
	1.6nm,0.3s						
ARXS				Lg	Lg	18 43 39.0	
	8.6nm,0.4s						
MK31	**Makanchi Array**	**4.98**	**355**	⇑Pn	**Pn**	**18 42 26.5**	**-0.3**
	0.2nm,0.4s,baz=186,slow=13,SNR=8.2						
MK31				⇑Pg	**Pg**	**18 42 48.2**	**+0.8**
	1.1nm,0.4s,baz=174,slow=16,SNR=10						
MK31				⇑Lg	Lg	18 44 05.2	
	6.1nm,0.8s,baz=186,slow=26,SNR=4.2						
MAKZ	**Makanchi**	**5.02**	**353**	⇑Pn	**Pn**	**18 42 27.0**	**-0.3**
	0.3nm,0.5s						
MAKZ				⇑Sn	**Sb**	**18 43 37.2**	**-3.1**
	1.2nm,0.6s						
MAKZ				⇓Lg	Lg	18 44 04.2	
	5.0nm,1.0s						
KST	**Kastek**	**5.26**	**286**	Pg	**Pb**	**18 42 44.3**	**+0.3**
	1.2nm,0.2s						
KST				Lg	Lg	18 44 01.6	
	9.5nm,0.6s						
KST	**Kastek**	**5.26**	**286**	*e*P	**Pb**	**18 42 44.3**	**+0.3**
	1.2nm,0.2s						
KST				*e*S	**Sg**	**18 44 01.6**	**+0.8**
	9.5nm,0.6s						

*NEIC **06** 18:46:25.1±2.6, 35.65N±0.01×117.44W±0.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.8km az=188.0*
*IDC **06** 18:46:26.4±0.8, 35.64N×117.44W, h0km, mb3.8/1, mbtmp3.3/6, ML3.7/5, MS3.0/5, Error ellipse: s-maj=18.4km s-min=5.8km az=76.0*
*PAS **06** 18:46:26.3±2.8, 35.65N±0.01×117.47W±0.01, h4km±2km, Mwr3.9/6, ML3.7/130(NEIC), Error ellipse: s-maj=1.6km s-min=1.5km az=190.0*

ISC 06 18:46:25.8±0.9, **35.64N**±0.02×**117.47W**±0.02, **h11**km±9km, **n119,** σ0§**88**/124, **Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.14**	**142**		**Pb**	**18 46 29.7**	**-0.9**
LRMC	**Laurel Mtn Rad**	**0.23**	**227**		**Pg**	**18 46 31.0**	**+0.2**
LRMC					**Sg**	**18 46 34.7**	**+0.6**
TOW	**Tower One**	**0.29**	**306**		**Sb**	**18 46 37.6**	**-0.4**
WNMM	**Nine Mile Cany**	**0.41**	**300**		**Pb**	**18 46 34.3**	**-0.8**
WVPM	**Volcano Peak E**	**0.42**	**318**		**Pg**	**18 46 34.3**	**+0.2**
MPMC	**Manual Prospec**	**0.42**	**358**	Pg	**Pg**	**18 46 33.8**	**-0.4**
MPMC				Sg	**Sg**	**18 46 39.5**	**-0.3**
DTP	**Desert Tortois**	**0.48**	**219**		**Pb**	**18 46 35.5**	**-0.9**
DTP					**Sb**	**18 46 42.5**	**-1.0**
WRVM	**Rose V. Centra**	**0.50**	**318**		**Pg**	**18 46 35.8**	**+0.1**
WBSM	**Bird Springs**	**0.55**	**260**		**Pb**	**18 46 36.8**	**-0.8**
WBSM					**Sb**	**18 46 45.0**	**-0.6**
QSM	**Queen of Sheba**	**0.59**	**56**		**Pg**	**18 46 37.2**	**-0.2**
QSM				Sg	**Sg**	**18 46 45.0**	**-0.1**
QSM				IAML		18 46 45.9	
	comp=N,8µm,0.7s						
QSM				IAML		18 46 46.7	
	comp=E,9µm,0.6s						
GSC	**Goldstone, Bar**	**0.64**	**122**	Pg	**Pg**	**18 46 38.4**	**+0.1**
GSC				Sg	**Sg**	**18 46 46.9**	**+0.1**
GSC				IAML		18 46 48.1	
	comp=E,6µm,0.5s						
GSC				IAML		18 46 48.1	
	comp=N,6µm,0.5s						
HYS	**Haystack Butte**	**0.78**	**186**		**Pb**	**18 46 40.9**	**-0.6**
ISA	**Isabella, Lake**	**0.81**	**272**		**Pg**	**18 46 41.5**	**-0.1**
GWY	**Greenwater Val**	**0.85**	**50**		**Pg**	**18 46 41.7**	**-0.6**
GWY				Sg	**Sg**	**18 46 53.0**	**-0.4**
EDW2	**Edwards Air Fo**	**0.87**	**210**		**Pb**	**18 46 42.5**	**-0.5**
CWC	**Cottonwood Cre**	**0.94**	**329**		**Pg**	**18 46 43.4**	**-0.6**
CWC				Sg	**Sb**	**18 46 56.6**	**-0.2**
CGO	**Cerro Gordo**	**0.95**	**344**		**Pg**	**18 46 43.5**	**-0.6**
SHOC	**Shoshone, Teco**	**1.01**	**75**		**Pn**	**18 46 45.6**	**-0.3**
VTV	**Victorville**	**1.08**	**174**		**Pn**	**18 46 47.5**	**+0.4**
ARVC	**Arvin**	**1.22**	**246**		**Pg**	**18 46 48.9**	**-0.4**
AMDNV	**Amargosa**	**1.26**	**50**		**Pb**	**18 46 49.6**	**-0.1**
TUQ	**Turquoise Moun**	**1.28**	**99**		**Pb**	**18 46 49.9**	**-0.2**
WCT	**Wildcat Mounta**	**1.34**	**31**		**Pn**	**18 46 50.3**	**-0.3**
WCT				Sg	**Sb**	**18 47 07.5**	**-0.8**
WCT				IAML		18 47 11.6	
	comp=E,2µm,0.5s						
WCT				IAML		18 47 12.5	
	comp=N,1µm,0.8s						
GRAC	**Grapevine Rang**	**1.36**	**4**		**Pb**	**18 46 50.9**	**-0.4**
GRAC				IAML		18 47 15.8	
	comp=E,2µm,0.8s						
BFSC	**Mount Baldy Ra**	**1.41**	**186**		**Pb**	**18 46 52.1**	**0.0**
BFSC				IAML		18 47 13.0	
	comp=E,862nm,0.6s						
BFSC				IAML		18 47 14.0	
	comp=N,957nm,0.7s						
OSI	**Osito Audit: C**	**1.45**	**225**		**Pb**	**18 46 52.4**	**-0.4**
OSI				IAML		18 47 15.8	
	comp=E,2µm,1.2s						
OSI				IAML		18 47 18.8	
	comp=N,2µm,0.8s						
MWC	**Mount Wilson**	**1.49**	**199**		**Pn**	**18 46 52.4**	**-0.4**
MWC				IAML		18 47 17.3	
	comp=N,1µm,0.4s						
MWC				IAML		18 47 17.7	
	comp=E,1µm,0.6s						
MTPC	**Mountain Pass**	**1.57**	**95**		**Pn**	**18 46 53.7**	**-0.1**
PASC	**Pasadena Art C**	**1.58**	**202**		**Pn**	**18 46 53.6**	**-0.2**
PASC				IAML		18 47 19.5	
	comp=N,626nm,0.6s						
PASC				IAML		18 47 23.4	
	comp=E,762nm,0.7s						
TPNV	**Topopah Spring**	**1.64**	**37**		**Pn**	**18 46 54.5**	**-0.3**
GMN	**Gold Mountain**	**1.67**	**6**		**Pn**	**18 46 54.8**	**-0.4**
GMN				IAML		18 47 06.3	
	comp=N,590nm,0.6s						
BLCC	**Black Canyon**	**1.71**	**216**		**Pb**	**18 46 56.6**	**-0.6**
GMRC	**Granite Mounta**	**1.71**	**119**		**Pn**	**18 46 54.9**	**-0.8**
DSP	**Deep Springs**	**1.77**	**347**		**Pn**	**18 46 56.0**	**-0.4**
BHPR	**Bishop**	**1.85**	**334**		**Pg**	**18 47 00.6**	**-0.8**
CRGC	**Crocker Grade**	**1.88**	**258**		**Pb**	**18 47 00.7**	**+0.4**
DANC	**Danby, Needles**	**1.98**	**120**		**Pg**	**18 47 02.8**	**-1.1**
ELS	**Elsinore Mount**	**1.99**	**179**		**Pn**	**18 46 59.3**	**-0.2**
ELS				IAML		18 47 39.0	
	comp=N,382nm,0.8s						
MZP	**Montezuma Peak**	**2.06**	**2**		**Pn**	**18 47 00.1**	**-0.5**
SHPR	**Sheep Range**	**2.06**	**65**	Pn	**Pn**	**18 47 00.8**	**+0.2**
V12A	**Nelson**	**2.14**	**87**		**Pn**	**18 47 01.1**	**-0.4**
V12A				IAML		18 47 38.1	
	comp=N,328nm,0.6s						
V12A				IAML		18 47 42.4	
	comp=E,298nm,0.6s						
PMD	**Palm Desert**	**2.18**	**155**	Pn	**Pn**	**18 47 02.1**	**0.0**
PFO	**Pinyon Flats O**	**2.19**	**157**		**Pn**	**18 47 02.5**	**+0.2**
PFO				IAML		18 47 44.6	
	comp=E,305nm,1.2s						
PFO	**Pinyon Flats O**	**2.19**	**157**	Pn	**Pn**	**18 47 02.6**	**+0.3**
	comp=E,28nm,0.3s,baz=337,slow=14,SNR=80						
PFO				Pg	**Pg**	**18 47 07.3**	**-0.6**
	comp=E,28nm,0.3s,baz=335,slow=15,SNR=52						
PFO				Lg	Lg	18 47 35.3	
	comp=E,70nm,0.3s,baz=240,slow=20,SNR=12 comp=E,46nm,0.4s						
IRM	**Iron Mountain**	**2.42**	**127**		**Pn**	**18 47 04.9**	**-0.4**
S11A	**Rachel**	**2.44**	**34**		**Pn**	**18 47 05.9**	**+0.2**
TPH	**Tonopah**	**2.44**	**5**		**Pn**	**18 47 05.8**	**0.0**
NEE2	**Needles Airpor**	**2.49**	**110**		**Pn**	**18 47 05.9**	**-0.5**
PRN	**Pahroc Range**	**2.63**	**47**		**Pn**	**18 47 09.0**	**+0.6**
LHV	**Little Huntoon**	**2.73**	**343**		**Pn**	**18 47 10.5**	**+0.9**
LHV				IAML		18 47 58.7	
	comp=E,216nm,0.8s						
LHV				IAML		18 48 05.9	
	comp=N,272nm,1.6s						
PMPB	**Monarch Peak**	**2.76**	**283**		**Pn**	**18 47 10.7**	**+0.6**
PMPB				IAML		18 48 05.9	
	comp=E,456nm,1.0s						
NV11	**Mina Array Sit**	**2.84**	**349**		**Pn**	**18 47 11.4**	**+0.1**
NVAR	**Mina Array Bea**	**2.86**	**347**		**Pn**	**18 47 11.3**	**-0.3**
NVAR	**Mina Array Bea**	**2.86**	**347**	Pn	**Pn**	**18 47 12.8**	**+1.1**
	comp=E,2.3nm,0.3s,baz=171,slow=16,SNR=22						
NVAR				Pg	**Pg**	**18 47 19.1**	**-1.7**
	comp=E,22nm,0.3s,baz=165,slow=16,SNR=70						
NVAR				Lg	Lg	18 47 58.9	
	comp=E,6.6nm,0.3s,baz=166,slow=29,SNR=2.3 comp=E,2.4nm,0.3s						
W13A	**Hualapai Mount**	**2.98**	**99**		**Pn**	**18 47 12.6**	**-0.7**
W13A				IAML		18 48 05.1	
	comp=N,206nm,1.4s						
W13A				IAML		18 48 07.4	
	com

comp=E,82nm,1.4s
113A IAML 18 48 46.0
AFDM Forest Hills D 4.32 321 Pn 18 47 31.6 0.0
AFDM IAML 18 48 46.5
comp=E,170nm,0.9s
AFDM IAML 18 48 48.9
comp=N,91nm,1.2s
PAHR Pah Rah Range 4.33 340 Pn 18 47 32.4 +0.5
VTX Valle De La Tr 4.46 161 Pn 18 47 36.1 +2.6
VTX IAML 18 48 52.0
comp=E,100nm,2.2s
VTX IAML 18 49 21.4
comp=N,59nm,0.5s
BEKR Beckworth 4.80 332 Pn 18 47 39.1 +0.8
WUAZ Wupatki 4.97 90 Pn 18 47 42.2 +1.6
WUAZ IAML 18 49 07.9
comp=N,95nm,1.4s
WUAZ IAML 18 49 19.2
comp=N,81nm,1.0s
SFX San Felipe 5.09 154 IAML 18 49 21.5
comp=E,40nm,1.5s
SFX IAML 18 49 22.4
comp=N,35nm,1.4s
X16A Lo Mia Camp, P 5.10 102 Pn 18 47 43.4 +1.1
X16A IAML 18 49 17.1
comp=E,59nm,1.0s
X16A IAML 18 49 24.4
comp=N,45nm,1.5s
214A Organ Pipe Nat 5.34 132 Pn 18 47 44.9 -0.7
214A IAML 18 49 27.9
comp=N,49nm,1.6s
214A IAML 18 49 29.8
comp=E,45nm,1.1s
ELK Elko 5.39 18 Pn 18 47 46.6 +0.2
ELK IAML 18 49 18.4
comp=E,22nm,0.8s
ELK Elko 5.39 18 Pn **Pn 18 47 47.9 +1.5**
comp=E,0.4nm,0.3s,baz=209,slow=10,SNR=6.8
ELK Lg Lg 18 49 15.7
comp=E,3.5nm,0.3s,baz=331,slow=7.6,SNR=12
ELK LR LR 18 49 34.8
comp=E,199nm,18.7s,baz=207,slow=35
comp=E,1.2nm,0.4s
DUG Dugway, Tooele 5.85 38 Pn 18 47 50.5 -2.2
Q16A Castle Valley 6.00 55 Pn 18 47 55.0 +0.3
HATC Hat Creek Radi 6.05 330 Pn 18 47 55.0 -0.3
TMUT Trail Mountain 6.18 52 Pn 18 47 57.4 +0.2
X18A Snowflake 6.27 98 Pn 18 47 59.9 +1.4
BGU Big Grassy Mou 6.33 32 Pn 18 48 00.3 +1.1
TUC Tucson 6.47 119 Pn **Pn 18 48 01.2 0.0**
WVOR Wild Horse Val 6.84 353 Pn 18 48 06.0 -0.2
PV05 Paradox Valley 7.14 68 Pn 18 48 12.8 +2.4
HVU Hansel Valley 7.15 30 Pn 18 48 10.1 -0.3
BSUT Blindstream Ca 7.20 45 Pn 18 48 11.8 +0.3
PV10 Paradox Valley 7.28 65 Pn 18 48 11.5 -0.9
PV14 Lion Creek, Pa 7.29 66 Pn 18 48 13.9 +1.4
PV20 West Nyswonger 7.32 66 Pn 18 48 11.4 -1.5
YBH Yreka Blue Hor 7.33 328 Lg Lg 18 50 14.2
baz=42,slow=6.3,SNR=4.2
PV18 Skein Mesa, Pa 7.33 67 Pn 18 48 13.0 -0.1
PV16 Nyswonger Mesa 7.35 66 Pn 18 48 13.0 -0.3
PV11 David Mesa, Pa 7.38 66 Pn 18 48 13.7 0.0
MVCO Mesa Verde 7.40 75 Pn 18 48 12.6 -1.5
PV02 Paradox Valley 7.45 67 Pn 18 48 14.3 -0.5
PV22 Blue Mesa, Par 7.52 65 Pn 18 48 14.9 -0.7
HWUT Hardware Ranch 7.54 36 Pn 18 48 15.4 -0.5
PV01 Paradox Valley 7.56 68 Pn 18 48 14.6 -1.5
PV07 Paradox Valley 7.59 66 Pn 18 48 12.8 -3.8
O20A White River Ci 8.57 56 Pn 18 48 30.1 +0.1
CRNM Carthage 8.99 98 Pn **Pn 18 48 36.4 +0.6**
ANMO Albuquerque 9.03 91 Lg Lg 18 51 06.6
comp=E,0.1nm,0.3s,baz=254,slow=17,SNR=6.1
ANMO LR LR 18 51 56.0
comp=E,137nm,21.6s,baz=344,slow=37
PDAR Pinedale Array 9.40 38 Pn Pn 18 48 47.0 +5.6
comp=E,0.1nm,0.3s,baz=246,slow=9.4,SNR=3.7
PDAR Lg Lg 18 51 21.1
comp=E,0.1nm,0.3s,baz=228,slow=27,SNR=2.6
PDAR LR LR 18 53 08.1
comp=E,80nm,18.8s,baz=216,slow=43
comp=E,0.3nm,0.7s
NEW Newport 12.62 1 LR LR 18 53 45.2
comp=E,212nm,18.8s,baz=194,slow=35
TXAR Lajitas Array 13.24 114 Pn **Pn 18 49 36.3 +2.5**
comp=E,0.2nm,0.3s,baz=300,slow=14,SNR=5.8
comp=E,0.2nm,0.4s
ULM Lac du Bonnet 21.41 40 P **P 18 51 15.3 +1.8**
comp=E,3.2nm,0.7s,baz=225,slow=11,SNR=6.2
comp=E,3.2nm,0.7s
DLBC Dease Lake 24.28 344 LR LR 19 02 29.5
comp=E,7.5nm,19.0s,baz=116,slow=40

*NEIC **06** 18:47:45.6±2.2, 35°.679N±0°.009×117°.51W±0°.02, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.5km az=296.0*
PAS 06 18:47:46.4±2.0, 35°.70N±0°.02×117°.48W±0°.02, h4km±4km, ML3.2/5, ML3.0/54(NEIC), Error ellipse: s-maj=2.3km s-min=2.0km az=220.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
CCCA	**Chr Cany lake**	**0.20**	**151**		Pg	18 47 50.1	-0.1
SRTC	**Snort**	**0.22**	**269**		Pg	18 47 51.0	+0.4
SRTC					Sg	18 47 54.2	+0.7
TOW	**Tower One**	**0.25**	**296**		Pg	18 47 51.6	+0.2
LRMC	**Laurel Mtn Rad**	**0.27**	**217**		Pg	18 47 52.5	+0.8
LRMC	**Laurel Mtn Rad**	**0.27**	**217**	IAML		18 47 53.3	
	comp=E,4μm,0.2s						
LRMC				IAML		18 47 57.0	
	comp=N,6μm,0.3s						
WVPM	**Volcano Peak E**	**0.37**	**313**		Pg	18 47 53.4	-0.2
WNMM	**Nine Mile Cany**	**0.37**	**293**		Sg	18 47 57.9	-0.5
WRVM	**Rose V. Centra**	**0.45**	**313**		Pg	18 47 54.8	-0.3
WRVM					Sg	18 48 00.3	-0.8
MFS	**McCloud Flat S**	**0.52**	**324**		Pg	18 47 56.2	-0.1
DTP	**Desert Tortois**	**0.52**	**215**		Pg	18 47 56.7	+0.3
QSM	**Queen of Sheba**	**0.57**	**62**	Pg	Pb	18 47 58.9	0.0
GSC	**Goldstone, Bar**	**0.68**	**125**		Pg	18 47 58.7	-0.7
GSC	**Goldstone, Bar**	**0.68**	**125**		Sg	18 48 00.8	-7.4
GSC				IAML		18 48 14.5	
	comp=N,708nm,0.5s						
GSC				IAML		18 48 15.4	
	comp=E,1μm,0.4s						
ISA	**Isabella, Lake**	**0.81**	**268**		Pg	18 48 01.1	-0.8
GWY	**Greenwater Val**	**0.82**	**53**	Pg	Pb	18 48 03.2	-0.2
CWC	**Cottonwood Cre**	**0.89**	**327**		Pg	18 48 03.2	-0.2
CWC				IAML		18 48 16.1	
	comp=N,614nm,0.2s						
CWC				IAML		18 48 16.6	
	comp=E,671nm,0.2s						
SBB	**Saddle Back Bu**	**1.04**	**196**		Pb	18 48 06.8	-0.3
AMDNV	**Amargosa**	**1.23**	**52**		Pg	18 48 08.3	-1.7
THC	**Tehachapi Micr**	**1.25**	**231**		Pg	18 48 09.8	-0.5
WCT	**Wildcat Mounta**	**1.29**	**32**		Pg	18 48 10.9	-0.3
GRAC	**Grapevine Rang**	**1.30**	**4**		Pg	18 48 11.0	-0.3
GRAC				IAML		18 48 30.8	
	comp=E,422nm,0.9s						
GRAC				IAML		18 48 33.1	
	comp=N,406nm,0.6s						
JNH	**Juniper Hills**	**1.31**	**197**		Pg	18 48 11.4	0.0
BFSC	**Mount Baldy Ra**	**1.46**	**186**		Pn	18 48 13.6	-0.2
BFSC				IAML		18 48 35.4	
	comp=N,319nm,0.4s						
OSI	**Osito Audit: C**	**1.48**	**224**		Pn	18 48 13.8	-0.2
OSI				IAML		18 48 36.5	
	comp=E,206nm,0.8s						
OSI				IAML		18 48 38.3	
	comp=N,209nm,0.6s						
MWC	**Mount Wilson**	**1.54**	**198**		Pn	18 48 14.9	0.0
MWC				IAML		18 48 38.3	
	comp=N,322nm,0.5s						
TPNV	**Topopah Spring**	**1.60**	**38**		Pn	18 48 15.5	-0.2
TPNV				IAML		18 48 42.5	
	comp=N,177nm,0.9s						
TPNV				IAML		18 48 44.8	
	comp=N,178nm,1.1s						
GMN	**Gold Mountain**	**1.61**	**6**		Pn	18 48 15.3	-0.5
PASC	**Pasadena Art C**	**1.63**	**201**		Pn	18 48 15.8	0.0
PASC				IAML		18 48 43.8	
	comp=E,180nm,0.3s						
PASC				IAML		18 48 43.9	
	comp=N,141nm,0.9s						
DSP	**Deep Springs**	**1.71**	**347**		Pn	18 48 16.6	-0.4
DSP				IAML		18 48 41.7	
	comp=N,120nm,0.5s						
DSP				IAML		18 48 41.9	
	comp=E,151nm,0.6s						
MZP	**Montezuma Peak**	**2.00**	**2**	Pn	Pn	18 48 21.1	-0.2
ELS	**Elsinore Mount**	**2.05**	**179**	Pn	Pn	18 48 21.5	-0.2
ELS				IAML		18 48 54.3	
	comp=N,76nm,0.3s						
ELS				IAML		18 48 55.0	
	comp=E,126nm,0.3s						
SHPR	**Sheep Range**	**2.05**	**66**	Pn	Pn	18 48 21.7	-0.1
V12A	**Nelson**	**2.14**	**88**	Pn	Pn	18 48 22.6	-0.4
V12A				IAML		18 48 34.6	
	comp=E,81nm,1.2s						
PMD	**Palm Desert**	**2.24**	**156**	Pn	Pn	18 48 23.8	-0.4
PMD				IAML		18 49 02.0	
	comp=E,80nm,0.5s						
PFO	**Pinyon Flats O**	**2.25**	**158**	Pn	Pn	18 48 24.3	-0.2
PFO				IAML		18 49 04.9	
	comp=E,62nm,1.8s						
XPFO	**Pinon Flat**	**2.25**	**158**		Pn	18 48 24.4	-0.1
TRAM	**Private Proper**	**2.27**	**270**		Pn	18 48 21.4	-3.4
TPH	**Tonopah**	**2.38**	**5**	Pn	Pn	18 48 26.3	-0.1
NEE2	**Needles Airpor**	**2.52**	**111**	Pn	Pn	18 48 27.6	-0.6
W13A	**Hualapai Mount**	**3.00**	**100**	Pn	Pn	18 48 35.0	+0.1
R11B	**Troy Canyon, C**	**3.05**	**29**	Pn	Pn	18 48 34.1	-1.5
BLYC	**Blythe**	**3.12**	**128**	Pn	Pn	18 48 35.7	-0.6
BLYC				IAML		18 49 11.8	
	comp=N,59nm,1.4s						
BLYC				IAML		18 49 29.3	
	comp=E,66nm,1.4s						
Q09A	**Carvers**	**3.14**	**4**	Pn	Pn	18 48 35.0	-1.8
DUG	**Dugway, Tooele**	**5.81**	**38**	Pn	Pn	18 49 11.9	-1.6

*NEIC **06** 18:51:57.0±2.2, 35°.57N±0°.05×140°.83E±0°.09, h50km±4km, mb4.5/103, Mwr4.4/14, Error ellipse: s-maj=10.6km s-min=6.7km az=105.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr=1.43; Mθθ=0.29; Mφφ=1.71; Mrθ=0.70; Mrφ=-0.85; Mθφ=4.30; Fault plane solution: Mo=4.71000×10^15 NP1:φs187.15000°, δ80.80000°, λ-76.74000°. NP2:φs311.31000°, δ16.09000°, λ-144.77000°. Principal axes: T 4.7365, Plg34.0000°, Azm266.0000°; N -0.0495, Plg13.0000°, Azm5.0000°; P -4.6870, Plg52.0000°, Azm113.0000°;*
*MOS **06** 18:51:56.5±1.6, 35°.68N×140°.96E, h48km, mb4.5/17 Error ellipse: s-maj=8.8km s-min=5.3km az=102.7*
*NEIC **06** 18:51:56.9, 35°.57N×140°.88E, h48km*
*JMA **06** 18:51:58.2±0.2, 35°.7N±0°.5×140°.7E±0°.7, h48km±1km, MD4.3/39, MV4.1/39, NEAR CHOSHI CITY*
JMA Felt II J1 at NEAR CHOSHI CITY .
*NIED **06** 18:51:58.2, 35°.66N×140°.73E, h48km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr0.06; Mθθ0.81; Mφφ-0.87; Mrθ1.08; Mθφ-1.16; Mφr5.17; Fault plane solution: Mo5.38000×10^15 NP1: φs259.00000°, δ9.00000°, λ159.00000°. NP2:φs9.00000°, δ87.00000°, λ81.00000°.*
*IDC **06** 18:52:00.5±2.1, 35°.58N×140°.58E, h60km±18km, mb3.9/25, mbtmp4.2/28, MS3.4/22 Error ellipse: s-maj=15.2km s-min=13.5km az=98.0*
ISC 06 18:51:56.4±0.6, 35°.57N±0°.04×140°.86E±0°.05, h43km±4km, n282, σ1°92/266, mb4.4/88, MS3.5/20, 8C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.34**	**283**	⇓*e*P	**Pn**	**18 52 06.9**	**+1.5**
JSMT				⇓eS	**Sn**	**18 52 13.8**	**+2.1**
JSMT	**Sammumatsuo**	**0.34**	**283**	A	A	18 52 06.9	
	comp=N,114nm,0.3s,comp=E,144nm,0.9s						
JIHU	**Itakohorinouch**	**0.48**	**326**	*i* P	**Pn**	**18 52 08.2**	**+1.2**
JIHU				eS	**Sn**	**18 52 15.6**	**+1.0**
JIHU	**Itakohorinouch**	**0.48**	**326**	A	A	18 52 08.2	
	comp=N,105nm,2.0s,comp=E,83nm,2.5s						
JKUC	**kamogawauchiur**	**0.68**	**233**	A	A	18 52 11.3	
	comp=N,19nm,1.8s,comp=E,18nm,1.4s						
BSO4	**Boso 4**	**0.72**	**217**	P	**Pn**	**18 52 12.7**	**+2.7**
JHYU	**Hitachinakayam**	**0.80**	**344**	A	A	18 52 11.8	
	comp=N,23nm,1.0s,comp=E,14nm,1.7s						
BSO3	**Boso 3**	**0.82**	**201**	*e*P	**Pn**	**18 52 13.9**	**+2.7**
JYT	**Yasato**	**0.85**	**321**	⇓*i* P	**Pn**	**18 52 12.0**	**0.0**
JYT				⇓eS	**Sn**	**18 52 21.7**	**-1.6**
JYT	**Yasato**	**0.85**	**321**	A	A	18 52 12.0	
	comp=N,29nm,0.5s,comp=E,31nm,0.3s						
TOK	**Tokyo**	**0.91**	**278**	A	A	18 52 13.2	
	comp=N,35nm,1.3s,comp=E,42nm,1.0s						
BSO1	**Boso 1**	**0.92**	**174**	P	**Pn**	**18 52 16.1**	**+3.7**
TATJ	**Tateyama 2**	**0.96**	**236**	A	A	18 52 15.1	
	comp=N,16nm,2.8s,comp=E,19nm,0.5s						
JYO	**Yokosk**	**1.04**	**251**	A	A	18 52 15.7	
	comp=N,20nm,0.4s,comp=E,20nm,0.7s						
JHO	**Hitachi**	**1.07**	**347**	A	A	18 52 15.6	
	comp=N,7.0nm,0.7s,comp=E,8.0nm,1.4s						
JSGW	**Sagamiharawaka**	**1.35**	**272**	A	A	18 52 19.6	
	comp=N,7.0nm,1.7s,comp=E,6.0nm,0.8s						
JAG	**Ashikaga**	**1.43**	**307**	⇓*i*P	**Pn**	**18 52 19.6**	**-0.2**
JAG	**Ashikaga**	**1.43**	**307**	A	A	18 52 19.6	
	comp=N,5.0nm,0.8s,comp=E,4.0nm,0.8s						
JIM2	**Oshima 3**	**1.45**	**235**	*e*P	**Pn**	**18 52 21.0**	**+0.8**
JIM2				eS	**Sn**	**18 52 37.5**	**-0.5**
JIM2	**Oshima 3**	**1.45**	**235**	A	A	18 52 21.0	
	comp=N,15nm,0.4s,comp=E,16nm,0.5s						
JOD2	**Odawara 2**	**1.48**	**259**	⇓*i*P	**Pn**	**18 52 21.5**	**+0.9**
JOD2				⇓eS	**Sn**	**18 52 37.9**	**-0.8**
JOD2	**Odawara 2**	**1.48**	**259**	A	A	18 52 21.5	
	comp=N,9.0nm,2.4s,comp=E,6.0nm,4.7s						
JSB	**Shiboa**	**1.59**	**332**	A	A	18 52 22.8	
	comp=N,10.0nm,3.3s,comp=E,10.0nm,3.7s						
JHTM	**Izuhatsuma**	**1.63**	**249**	A	A	18 52 24.3	
	comp=N,17nm,0.9s,comp=E,15nm,0.6s						
JKT	**Katashina**	**1.77**	**313**	A	A	18 52 25.3	
	comp=N,10.0nm,0.5s,comp=E,10.0nm,0.4s						
JFNN	**Fujinakano**	**1.82**	**259**	A	A	18 52 26.6	
	comp=N,11nm,2.5s,comp=E,11nm,3.7s						
JMM	**Marumori**	**2.29**	**359**		**Pn**	**18 52 32.9**	**+1.1**
JMM				Sn	**Sn**	**18 53 00.2**	**+1.4**
JMM	**Marumori**	**2.29**	**359**	P	**Pn**	**18 52 34.3**	**+2.6**
JMM	**Marumori**	**2.29**	**359**	S	**Sn**	**18 53 01.2**	**+2.5**
MJA0	**Matsu Arr-Jizo**	**2.33**	**295**	*e*P	**Pn**	**18 52 33.8**	**+1.5**
MJA0				pmax	pmax		
	comp=Z,18nm,0.3s						
MJAR	**Matsushiro Arr**	**2.36**	**295**		**Pn**	**18 52 33.5**	**+0.9**
MJAR	**Matsushiro Arr**	**2.36**	**295**	P	**Pn**	**18 52 33.9**	**+1.2**
	comp=Z,57nm,0.3s,baz=100,slow=14,SNR=943						
MJAR				LR	LR	18 53 40.3	
	comp=Z,1μm,21.7s,baz=186,slow=46						
MAJO	**Matsushiro**	**2.36**	**295**		**Pn**	**18 52 34.0**	**+1.3**
MAJO	**Matsushiro**	**2.36**	**295**	P	**Pn**	**18 52 34.8**	**+2.1**
MAJO	**Matsushiro**	**2.36**	**295**	*i* P	**Pn**	**18 52 34.4**	**+1.7**
MJB9	**Matsu-Tunnel**	**2.36**	**295**		**Pn**	**18 52 34.8**	**+2.1**
JSG	**Sagara**	**2.37**	**249**		**Pn**	**18 52 34.5**	**+1.7**
JSG	**Sagara**	**2.37**	**249**	P	**Pn**	**18 52 35.3**	**+2.6**
JHJ2	**Mitsune**	**2.60**	**200**		**Pn**	**18 52 37.8**	**+1.9**
JHJ2				Sn	**Sn**	**18 53 07.7**	**+1.5**
JHJ2	**Mitsune**	**2.60**	**200**	S	**Sn**	**18 53 09.6**	**+3.4**
JHJ2	**Mitsune**	**2.60**	**200**	P	**Pn**	**18 52 37.9**	**+2.0**
JGF	**Kuroka**	**2.86**	**272**		**Pn**	**18 52 41.5**	**+2.0**
JGF	**Kuroka**	**2.86**	**272**	P	**Pn**	**18 52 42.3**	**+2.8**
INU	**Inuyama**	**3.15**	**267**		**Pn**	**18 52 44.8**	**+1.3**
INU	**Inuyama**	**3.15**	**267**	P	**Pn**	**18 52 45.4**	**+2.0**
JSD	**Sado**	**3.23**	**320**	P	**Pn**	**18 52 46.4**	**+1.8**
JTM	**Tenmabayashi**	**5.21**	**2**		**Pn**	**18 53 14.0**	**+2.2**
JTM				Sn	**Sn**	**18 54 11.3**	**+0.7**
JTM	**Tenmabayashi**	**5.21**	**2**	P	**Pn**	**18 53 13.7**	**+1.9**
JMN	**Monobe**	**6.04**	**254**		**Pn**	**18 53 23.0**	**-0.2**
JMN	**Monobe**	**6.04**	**254**	P	**Pn**	**18 53 25.8**	**+2.6**
ERM	**Erimo**	**6.68**	**15**		**Pn**	**18 53 31.6**	**-0.4**
ERM	**Erimo**	**6.68**	**15**	P	**Pn**	**18 53 31.7**	**-0.3**
ERM	**Erimo**	**6.68**	**15**	*ce*P	**Pn**	**18 53 32.0**	**0.0**
ERM				pmax	pmax		
	comp=Z,27nm,1.0s						
JEM	**Erimo**	**6.68**	**15**	P	**Pn**	**18 53 32.9**	**+0.9**
JCJ	**Chichijima**	**8.52**	**172**		**Pn**	**18 53 57.2**	**-0.1**
JCJ	**Chichijima**	**8.52**	**172**	P	**Pn**	**18 53 55.9**	**-1.3**
JCJ				S	**Sn**	**18 55 24.8**	**-7.3**
JCJ	**Chichijima**	**8.52**	**172**	P	**Pn**	**18 53 57.9**	**+0.6**
JNU	**Nakatsue**	**8.61**	**256**		**Pn**	**18 53 58.3**	**-0.2**
JNU	**Nakatsue**	**8.61**	**256**	P	**Pn**	**18 54 00.9**	**+2.4**
	comp=Z,18nm,1.0s,baz=59,slow=3.5,SNR=6.5						
JNU				LR	LR	18 57 41.9	
	comp=Z,574nm,19.5s,baz=38,slow=41						
JNU	**Nakatsue**	**8.61**	**256**	P	**Pn**	**18 54 01.2**	**+2.7**
ASAJ	**Asahikawa**	**8.64**	**8**	P	**Pn**	**18 53 58.5**	**-0.3**
	comp=Z,11nm,0.4s,baz=211,slow=16,SNR=29						
ASAJ				S	**Sn**	**18 55 30.8**	**-4.1**
	comp=Z,7.4nm,0.5s,baz=272,slow=32,SNR=2.2						
JKA	**Kamikawa-asahi**	**8.64**	**8**		**Pn**	**18 53 58.0**	**-0.8**
NMR	**Nemuro--Hokkai**	**8.65**	**24**	*e*P	**Pn**	**18 53 57.3**	**-1.6**
NMR				eS	**Sn**	**18 55 28.2**	**-6.9**
GLVR	**Golovnino**	**8.91**	**22**	*e*P	**Pn**	**18 54 02.6**	**+0.1**
GLVR				eS	**Sn**	**18 55 34.1**	**-7.4**
RUSJ	**Misakicho**	**9.17**	**20**	*e*P	**Pn**	**18 54 06.5**	**+0.5**
RUSJ				eS	**Sn**	**18 55 41.3**	**-6.5**
YUK	**Yuzh-Kuril'sk**	**9.29**	**23**	*e*P	**Pn**	**18 54 06.9**	**-0.7**
YUK				eS	**Sn**	**18 55 42.6**	**-8.1**
YUK				pmax	pmax		
	comp=Z,67nm,0.3s						
YUK				pmax	pmax		
	comp=E,24nm,0.2s						
YUK				pmax	pmax		
	comp=N,27nm,0.4s						
SHO	**Shikotan**	**9.48**	**27**	*e*P	**Pn**	**18 54 09.3**	**-1.0**
SHO				eS	**Sn**	**18 55 47.7**	**-7.7**
SHO				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SHO				pmax	pmax		
	comp=E,5.0nm,0.3s						
SHO				pmax	pmax		
	comp=N,2.0nm,0.2s						
TEY	**Ternei**	**10.00**	**342**	*e*P	Pn	18 54 10.9	-6.5
MSHR	**Mys Shultsa**	**10.29**	**316**	*ce*P	Pn	18 54 27.1	+5.8
MSHR				pmax	pmax		
	comp=Z,16nm,1.0s						
KSRS	**Korea Array**	**10.58**	**284**	P	**Pn**	**18 54 30.1**	**+4.7**
	comp=Z,7.6nm,0.8s,baz=101,slow=13,SNR=20						
KSRS	**Korea Array**	**10.58**	**284**	*e*P	Pn	18 54 30.9	+5.5
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSAR	**Wonju Array Be**	**10.61**	**284**	Pn	**Pn**	**18 54 23.9**	**-2.0**
KS19	**Wonju Array Si**	**10.63**	**284**		**Pn**	**18 54 23.6**	**-2.5**
USA0B	**Ussuriysk Arra**	**10.98**	**324**	Pn	**Pn**	**18 54 28.8**	**-2.1**
USA0B	**Ussuriysk Arra**	**10.98**	**324**	*i* P	Pn	18 54 35.9	+5.0
USRK	**Ussuriysk Ar.**	**10.98**	**324**	Pn	**Pn**	**18 54 29.4**	**-1.5**
USRK	**Ussuriysk Ar.**	**10.98**	**324**	P	**Pn**	**18 54 33.5**	**+2.6**
	comp=Z,3.1nm,0.6s,baz=142,slow=13,SNR=5.5						
USRK				LR	LR	18 58 27.1	
	comp=Z,236nm,18.5s,baz=155,slow=36						
KUR	**Kuril'sk**	**11.03**	**27**	*e*P	**Pn**	**18 54 27.5**	**-3.9**
YSS	**Yuzhno-Sakhali**	**11.46**	**7**		**Pn**	**18 54 36.2**	**-1.2**
YSS	**Yuzhno-Sakhali**	**11.46**	**7**	P	**Pn**	**18 54 38.4**	**+1.0**
YSS	**Yuzhno-Sakhali**	**11.46**	**7**	*e*P	**Pn**	**18 54 38.5**	**+1.0**
YSS				eS	**Sn**	**18 56 45.0**	**+1.0**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				MLR	MLR		
	comp=Z,200nm,18.0s						
CN2	**Changchun**	**14.42**	**309**	P	**P**	**18 55 21.8**	**-2.0**
KLR	**Kul'dur**	**15.20**	**337**	P	**Pn**	**18 55 27.8**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=159,slow=12,SNR=5.3						
KLR				LR	LR	19 01 21.4	
	comp=Z,121nm,18.8s,baz=154,slow=37						
KLR	**Kul'dur**	**15.20**	**337**	*i* P	**P**	**18 55 30.8**	**-1.6**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TYV	**Tymovskoe**	**15.34**	**4**	*e*P	**Pn**	**18 55 30.6**	**+0.8**
TYV				pmax	pmax		
	comp=Z,100nm,5.1s						
TYV				pmax	pmax		
	comp=Z,11nm,1.2s						
NJ2	**Nanjing**	**18.61**	**265**	*e*P	**P**	**18 56 09.2**	**-1.0**
TIA	**Tai'an**	**19.24**	**279**	P	**P**	**18 56 16.0**	**-1.1**
BJI	**Beijing**	**19.99**	**290**	P	**P**	**18 56 25.1**	**-0.1**
BJT	**Baijiatuan**	**19.99**	**290**	P	**P**	**18 56 23.3**	**-2.0**
NACB	**Ninganchiao**	**20.16**	**241**		**P**	**18 56 24.9**	**-2.3**
ZEA	**Zeya**	**20.52**	**336**	*e*P	**P**	**18 56 29.5**	**-1.3**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SSLB	**Suanglung**	**20.86**	**241**	P	**P**	**18 56 31.4**	**-3.4**
SSLB				IAmb	IAmb	18 56 50.9	
	comp=Z,22nm,1.3s						
YULB	**Yu-li**	**20.87**	**240**	P	**P**	**18 56 31.4**	**-3.5**
HNS	**HongShan**	**21.09**	**283**	⇑P	**P**	**18 56 35.0**	**-2.1**
PEA0B	**Petropavlovsk-**	**21.18**	**29**	P	**P**	**18 56 35.2**	**-2.7**
PEA0B	**Petropavlovsk-**	**21.18**	**29**	*i* P	**P**	**18 56 41.2**	**+3.2**
PETK	**Petropavlovsk-**	**21.18**	**29**		**P**	**18 56 35.6**	**-2.4**
PETK	**Petropavlovsk-**	**21.18**	**29**	P	**P**	**18 56 41.5**	**+3.5**
	comp=Z,5.3nm,0.9s,baz=212,slow=8.1,SNR=6.7						
PETK				LR	LR	19 04 18.2	
	comp=Z,46nm,21.2s,baz=224,slow=35						
	comp=Z,5.3nm,0.9s						
TPUB	**Ta-pu**	**21.40**	**241**	P	**P**	**18 56 37.3**	**-3.2**
TPUB				IAmb	IAmb	18 56 40.3	
	comp=Z,18nm,0.9s						
PET	**Petropavlovsk**	**21.50**	**30**	*i* P	**P**	**18 56 44.8**	**+3.4**
PET				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GUMO	**Guam**	**22.18**	**170**	LR	LR	19 05 09.3	
	comp=Z,56nm,18.9s,baz=14,slow=36						
HHC	**Hu-ho-hao-te**	**23.56**	**292**	*e*P	**P**	**18 57 03.5**	**+0.4**
MA2	**Magadan**	**24.88**	**12**	P	**P**	**18 57 12.8**	**-2.0**
MA2	**Magadan**	**24.88**	**12**	LR	LR	19 07 46.0	
	comp=Z,42nm,18.1s,baz=172,slow=38						
ENH	**Enshi**	**26.80**	**268**		**P**	**18 57 30.7**	**-1.9**
YAK	**Yakutsk**	**27.41**	**349**	P	**P**	**18 57 37.0**	**-0.6**
YAK				IAmb	IAmb	18 57 46.7	
	comp=Z,14nm,0.8s						
YAK	**Yakutsk**	**27.41**	**349**	LR	LR	19 08 01.9	
	comp=Z,54nm,19.8s,baz=158,slow=35						
YAK	**Yakutsk**	**27.41**	**349**	*e*P	**P**	**18 57 36.9**	**-0.7**
YAK				pmax	pmax		
	comp=Z,11nm,0.8s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**27.82**	**118**	T	T	19 26 55.7	
	baz=309,slow=75,SNR=152						
H11N1

CMAR Chiang Mai Arr 40.71 256 P **P** **18 59 33.2 +0.2**
comp=Z,0.8nm,0.7s,baz=48,slow=7.2,SNR=5.6
CMAR LR LR 19 17 45.3
comp=Z,54nm,18.2s,baz=70,slow=38
comp=Z,0.8nm,0.7s
CMAR Chiang Mai Arr 40.71 256 *e*P **P** **18 59 33.4 +0.3**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
LSA Lhasa 41.91 277 **P** **18 59 42.5 -1.0**
LSA IAmb IAmb 18 59 50.7
comp=Z,6.0nm,0.6s
SBUM Sibu 42.31 225 P **P** **18 59 45.5 -0.7**
TNA Tin City 42.35 29 P **P** **18 59 46.2 +0.3**
TNA IAmb IAmb 18 59 50.8
comp=Z,9.7nm,1.4s
ZAA0 Zalesovo Array 42.59 314 **P** **18 59 46.9 -1.1**
ZALV Zalesovo Beam 42.59 314 **P** **18 59 47.4 -0.6**
ZALV Zalesovo Beam 42.59 314 P **P** **18 59 49.1 +1.1**
comp=Z,5.1nm,0.7s,baz=90,slow=7.4,SNR=19
ZALV LR LR 19 16 35.9
comp=Z,39nm,21.1s,baz=98,slow=35
comp=Z,5.1nm,0.7s
L14K Kuka Creek 43.57 36 P **P** **18 59 55.3 -0.5**
L14K IAmb IAmb 19 00 11.8
comp=Z,10.0nm,1.5s
M14K Bethel 43.83 37 P **P** **18 59 57.8 -0.1**
M14K IAmb IAmb 19 00 03.0
comp=Z,5.1nm,0.8s
N14K Kuskokwak Cree 43.85 38 P **P** **18 59 56.5 -1.5**
N14K IAmb IAmb 19 00 34.5
comp=Z,5.9nm,0.9s
SDPT Sand Point 44.15 44 P **P** **18 59 59.6 -1.0**
C16K Lisburne Hills 44.21 26 P **P** **18 59 59.9 -1.0**
C16K IAmb IAmb 19 00 15.9
comp=Z,15nm,1.1s
NRIK Noril'sk 44.42 336 LR LR 19 19 18.2
comp=Z,50nm,20.1s,baz=148,slow=37
NRIK Noril'sk 44.42 336 *i* P **P** **19 00 04.0 +1.5**
NRIK pmax pmax
comp=Z,6.0nm,1.0s
MK31 Makanchi Array 44.53 303 P **P** **19 00 04.8 +1.0**
MK31 Makanchi Array 44.53 303 *ce*P **P** **19 00 04.3 +0.5**
MKAR Makanchi Array 44.53 303 **P** **19 00 04.7 +0.9**
MKAR Makanchi Array 44.53 303 P **P** **19 00 04.8 +1.0**
comp=Z,4.9nm,0.7s,baz=88,slow=9.9,SNR=44
MKAR LR LR 19 19 13.3
comp=Z,58nm,19.4s,baz=92,slow=37
comp=Z,4.9nm,0.7s
N15K Kwethluk River 44.67 38 P **P** **19 00 03.5 -1.2**
N15K IAmb IAmb 19 00 26.8
comp=Z,9.4nm,1.4s
MAKZ Makanchi 44.74 303 **P** **19 00 06.4 +0.9**
MAKZ IAmb IAmb 19 00 07.5
comp=Z,5.0nm,0.9s
L16K Owhat River 45.15 35 P **P** **19 00 07.9 -0.6**
F17K Baldwin Pennin 45.22 29 P **P** **19 00 08.1 -0.8**
F17K IAmb IAmb 19 00 26.8
comp=Z,6.2nm,0.9s
M16K Timber Creek 45.31 36 P **P** **19 00 09.3 -0.5**
O16K Kokwok River B 45.63 39 P **P** **19 00 10.7 -1.5**
P16K Nushagak River 45.65 39 P **P** **19 00 11.3 -1.1**
E18K Tukpahlearik C 45.69 27 P **P** **19 00 11.2 -1.5**
E18K IAmb IAmb 19 00 32.3
comp=Z,5.7nm,1.0s
C18K Utukok River 45.79 26 P **P** **19 00 12.3 -1.2**
C18K IAmb IAmb 19 00 29.6
comp=Z,5.5nm,0.8s
K17K Iditarod 45.81 34 P **P** **19 00 12.9 -0.8**
K17K IAmb IAmb 19 00 19.0
comp=Z,4.2nm,0.8s
M17K Holitna River 46.08 36 P **P** **19 00 14.8 -1.1**
M17K IAmb IAmb 19 00 21.1
comp=Z,4.1nm,0.9s
EVN Everest 46.09 276 **P** **19 00 15.2 -1.9**
H18K Honhosa River 46.13 31 P **P** **19 00 15.7 -0.5**
G18K Tagagawik 46.14 30 **P** **19 00 14.5 -1.7**
G18K IAmb IAmb 19 00 35.9
comp=Z,3.9nm,0.8s
N17K Nushagak Hills 46.14 37 P **P** **19 00 15.3 -1.1**
N17K IAmb IAmb 19 00 26.8
comp=Z,5.7nm,1.4s
C19K Lookout Ridge 46.47 25 P **P** **19 00 16.9 -1.9**
KURK Kurchatov 46.50 309 **P** **19 00 19.5 +0.3**
KURK Kurchatov 46.50 309 *ce*P **P** **19 00 19.7 +0.5**
KURK pmax pmax
comp=Z,18nm,1.0s
L18K Granite Mounta 46.51 35 P **P** **19 00 18.1 -1.0**
KURBB Kurchatov Arra 46.56 309 P **P** **19 00 20.5 +0.7**
comp=Z,4.7nm,0.5s,baz=84,slow=8.2,SNR=56
KURBB LR LR 19 20 24.8
comp=Z,60nm,18.9s,baz=174,slow=37
comp=Z,4.7nm,0.5s
G19K Purcell Mounta 46.81 30 P **P** **19 00 22.9 +1.4**
D19K Kuna River 46.85 26 P **P** **19 00 23.1 +1.3**
D19K IAmb IAmb 19 00 40.1
comp=Z,14nm,1.4s
E19K Redstone River 46.97 28 **P** **19 00 23.0 +0.3**
E19K IAmb IAmb 19 00 42.8
comp=Z,5.7nm,0.9s
D20K Etivluk River 47.43 26 P **P** **19 00 26.7 +0.4**
D20K IAmb IAmb 19 00 46.0
comp=Z,3.7nm,0.9s
KULM Kulim 47.70 240 P **P** **19 00 27.5 -1.5**
KULM IAmb IAmb 19 00 33.3
comp=Z,5.1nm,0.9s
SOEI Soe 47.73 202 P **P** **19 00 28.1 -1.2**
WUS Wushi 47.77 296 P **P** **19 00 28.2 -1.2**
K20K Telida 47.79 34 **P** **19 00 29.1 -0.1**
J20K Nowinta River 47.81 32 P **P** **19 00 28.8 -0.5**
J20K IAmb IAmb 19 00 44.2
comp=Z,7.4nm,1.5s
Q19K Cape Douglas, 47.90 40 P **P** **19 00 28.0 -2.1**
IPM Ipoh 48.01 239 P **P** **19 00 29.4 -2.0**
IPM IAmb IAmb 19 00 54.7
comp=Z,5.5nm,1.1s
ARXS Arharly 48.07 301 *i* P **P** **19 00 32.2 +0.5**
OHAK Old Harbor 48.14 42 P **P** **19 00 30.3 -1.6**
OHAK IAmb IAmb 19 00 45.0
comp=Z,4.9nm,1.1s
IMAR Indian Mountai 48.14 30 P **P** **19 00 32.2 +0.3**
HNR Honiara 48.25 154 LR LR 19 19 56.9
comp=Z,17nm,20.9s,baz=342,slow=35
G21K Allakaket 48.29 29 P **P** **19 00 33.2 +0.3**
B21K Ikpikpuk River 48.30 25 **P** **19 00 33.3 +0.4**
B21K IAmb IAmb 19 00 51.9
comp=Z,5.0nm,0.8s
BATI Baumata 48.34 203 P **P** **19 00 36.1 +2.2**
comp=Z,19nm,0.6s,baz=28,slow=3.9,SNR=2.9
comp=Z,19nm,0.6s
E21K Killik River 48.35 27 P **P** **19 00 33.6 +0.1**
E21K IAmb IAmb 19 00 52.8
comp=Z,4.9nm,0.9s
KDAK Kodiak Island 48.49 41 P **P** **19 00 34.6 0.0**
KDAK Kodiak Island 48.49 41 LR LR 19 20 36.3
comp=Z,30nm,21.9s,baz=230,slow=35
D22K Ayikyak River 48.87 26 **P** **19 00 37.6 +0.2**
D22K IAmb IAmb 19 00 56.4
comp=Z,10nm,1.3s
KDJ Kajisay 49.01 298 P **P** **19 00 37.9 -1.2**
KDJ IAmb IAmb 19 01 21.1
comp=Z,5.4nm,0.8s
MTN Manton Dam 49.02 193 P **P** **19 00 38.9 -0.1**
E22K Anaktuvuk Pass 49.11 27 **P** **19 00 38.3 -1.0**
E22K IAmb IAmb 19 00 58.2
comp=Z,4.0nm,0.9s
MLY Manley 49.33 31 P **P** **19 00 40.2 -0.8**
BOOM Boomskoye usch 49.81 299 P **P** **19 00 45.6 +0.4**
BOOM IAmb IAmb 19 01 07.7
comp=Z,7.5nm,1.0s
E23K Chandalar 49.92 27 P **P** **19 00 46.2 +0.7**
E23K IAmb IAmb 19 01 07.0
comp=Z,5.6nm,0.9s
NEA2 Nenana 50.03 32 P **P** **19 00 47.7 +1.3**
NEA2 IAmb IAmb 19 01 04.9
comp=Z,6.5nm,1.2s
NRN Naryn 50.05 297 P **P** **19 00 47.2 +0.1**
NRN IAmb IAmb 19 00 51.6
comp=Z,5.5nm,1.2s
GHO Glory Hole Cre 50.16 36 P **P** **19 00 46.3 -1.1**
GHO IAmb IAmb 19 00 57.9
comp=Z,9.1nm,1.4s
KSH Kashi 50.61 295 P **P** **19 00 51.9 +0.7**
AAK Ala-Archa 50.80 299 LR LR 19 23 11.6
comp=Z,88nm,21.4s,baz=98,slow=37
AAK Ala-Archa 50.80 299 *i* P **P** **19 00 52.9 +0.2**
AAK pmax pmax
comp=Z,2.0nm,0.8s
HDA Harding Lake 50.96 32 P **P** **19 00 54.0 +0.7**
IL31 50.97 32 P **P** **19 00 53.1 -0.2**
IL31 IAmb IAmb 19 00 57.0
comp=Z,2.5nm,0.8s
ILAR Eielson Array 50.97 32 P **P** **19 00 52.3 -1.1**
ILAR Eielson Array 50.97 32 P **P** **19 00 56.3 +2.9**
comp=Z,1.7nm,0.7s,baz=271,slow=6.2,SNR=21
comp=Z,1.7nm,0.7s
BVAR Borovoye Array 51.24 313 P **P** **19 00 56.6 +1.0**
comp=Z,3.0nm,0.6s,baz=78,slow=7.7,SNR=13
BVAR LR LR 19 23 41.6
comp=Z,46nm,18.0s,baz=93,slow=37
comp=Z,3.0nm,0.6s
BMAR Burnt Mountain 51.83 28 P **P** **19 00 59.3 -0.6**
F26K Sheenjek River 51.99 28 P **P** **19 00 59.4 -1.6**
F26K IAmb IAmb 19 01 20.9
comp=Z,5.7nm,1.1s
G26K Porcupine Rive 52.16 29 P **P** **19 01 01.6 -0.6**
G26K IAmb IAmb 19 01 15.0
comp=Z,6.2nm,1.5s
KNRA Kununurra 52.24 195 **P** **19 01 02.3 -1.0**
ARSB Arslanbob 52.26 298 P **P** **19 01 03.1 -0.4**
DOT Dot Lake 52.27 33 P **P** **19 01 03.0 -0.2**
DOT IAmb IAmb 19 01 33.4
comp=Z,4.5nm,1.0s
SCRK Sand Creek 52.28 33 **P** **19 01 02.9 -0.4**
L27K Beaver Creek, 53.34 34 P **P** **19 01 11.5 +0.4**
BCAR Beaver Creek A 53.36 34 P **P** **19 01 11.3 +0.1**
KK31 Karatay Array 53.48 301 **P** **19 01 12.1 -0.3**
KK31 IAmb IAmb 19 01 26.9
comp=Z,4.7nm,0.9s
KKAR Karatay Array 53.48 301 P **P** **19 01 12.1 -0.3**
KKAR IAmb IAmb 19 01 26.9
comp=Z,4.9nm,0.9s
KKAR Karatay Array 53.48 301 **P** **19 01 11.8 -0.6**
F28M Old Crow 53.62 28 P **P** **19 01 12.1 -1.0**
I28M Miner Creek 53.85 31 **P** **19 01 15.0 +0.2**
I28M IAmb IAmb 19 01 36.8
comp=Z,2.8nm,0.8s
BTK Batken 54.21 297 P **P** **19 01 17.5 -0.3**
BTK IAmb IAmb 19 01 40.9
comp=Z,8.0nm,1.4s
G29M Pine Creek 54.42 29 P **P** **19 01 18.8 -0.1**
G29M IAmb IAmb 19 01 24.3
comp=Z,11nm,1.3s
L29M L29M 54.99 33 P **P** **19 01 24.1 +1.0**
L29M IAmb IAmb 19 01 28.7
comp=Z,3.8nm,0.8s
FITZ Fitzroy Crossi 55.29 198 **P** **19 01 26.6 +1.0**
I30M Mount Dempster 55.36 31 **P** **19 01 27.3 +1.5**
I30M IAmb IAmb 19 01 30.6
comp=Z,3.9nm,0.8s
WB0 Warramunga Arr 55.37 187 **P** **19 01 26.8 +0.6**
WRAB Tennant Creek 55.54 187 P **P** **19 01 28.0 +0.6**
WR8 Warramunga Arr 55.55 187 **P** **19 01 27.6 +0.1**
WRA Warramunga Arr 55.55 187 P **P** **19 01 27.6 +0.1**
WRA Warramunga Arr 55.55 187 P **P** **19 01 28.9 +1.4**
comp=Z,2.5nm,0.5s,baz=0.8,slow=7.6,SNR=47
comp=Z,2.5nm,0.5s
WRA Warramunga Arr 55.55 187 *e*P **P** **19 01 30.3 +2.8**
WRA pmax pmax
comp=Z,3.0nm,0.5s
SVE Sverdlovsk 55.96 319 *e*P **P** **19 01 31.4 +1.4**
SVE pmax pmax
comp=Z,10.0nm,0.9s
ARTI Arti 57.27 319 **P** **19 01 40.0 +0.6**
ARTI PcP **PcP** **19 02 32.9 -0.4**
ARTI Arti 57.27 319 *c i*P **P** **19 01 40.4 +1.0**
ARTI *PP **sP** **19 01 57.9 +1.3**
ARTI 19 02 31.1
ARTI S **S** **19 09 34.0 +1.8**
ARTI SS **SS** **19 13 22.7 +1.4**
ARTI pmax pmax
comp=Z,10.0nm,0.6s
AB31 Akbulak array 58.55 311 **P** **19 01 48.4 -0.1**
AB31 IAmb IAmb 19 01 50.2
comp=Z,8.3nm,1.2s
ABKAR Akbulak array 58.55 311 **P** **19 01 49.0 +0.5**
ABKAR Akbulak array 58.55 311 P **P** **19 01 48.8 +0.4**
ABKAR IAmb IAmb 19 01 50.2
comp=Z,8.3nm,1.2s
AS31 Alice Springs 59.28 187 **P** **19 01 53.0 -0.8**
ASAR Alice Springs 59.28 187 P **P** **19 01 52.2 -1.5**
ASAR Alice Springs 59.28 187 P **P** **19 01 55.5 +1.8**
comp=Z,0.7nm,0.5s,baz=358,slow=6.8,SNR=19
comp=Z,0.7nm,0.5s
MBWA Marble Bar 59.87 203 P **P** **19 01 56.0 -1.8**
ARCES ARCESS Array B 65.21 340 P **P** **19 02 34.0 +1.1**
comp=Z,2.0nm,0.8s,baz=56,slow=5.6,SNR=1.5
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 65.21 340 P **P** **19 02 34.0 +1.1**
YKA Yellowknife Ar 65.30 30 P **P** **19 02 35.9 +2.3**
comp=Z,0.5nm,0.9s,baz=306,slow=7.1,SNR=4.7
comp=Z,0.5nm,0.9s
YKA Yellowknife Ar 65.30 30 *e*P **P** **19 02 38.1 +4.5**
STKA Stephens Creek 67.09 179 P **P** **19 02 42.3 -3.0**
MORW Morawa 68.42 203 P **P** **19 02 54.4 +0.7**
OBN Obninsk 69.00 323 *i* P **P** **19 02 56.3 -0.8**
OBN *i* 19 03 09.8
OBN *i* 19 03 21.8
OBN *i* 19 05 32.0
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,55nm,18.0s
FIA1 FINESS Array S 69.90 332 P **P** **19 03 02.6 +0.1**
FINES FINESS Array B 69.90 332 P **P** **19 03 02.7 +0.1**
FINES FINESS Array B 69.90 332 P **P** **19 03 03.8 +1.2**
comp=Z,2.0nm,0.8s,baz=57,slow=6.0,SNR=12
comp=Z,2.0nm,0.8s
FINES FINESS Array B 69.90 332 *e*P **P** **19 03 03.9 +1.3**
FINES pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 71.52 311 P **P** **19 03 14.4 +1.7**
comp=Z,3.5nm,0.8s,baz=34,slow=6.8,SNR=5.5
comp=Z,3.5nm,0.8s
KBZ Khabaz 71.52 311 *e*P **P** **19 03 13.6 +0.9**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 71.53 311 *e*P **P** **19 03 14.4 +1.4**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,31nm,18.0s
GNI Garni 72.22 307 LR LR 19 37 04.0
comp=Z,35nm,19.5s,baz=56,slow=38
AKASG Malin Array Be 75.18 322 P **P** **19 03 35.0 +0.8**
comp=Z,1.5nm,0.5s,baz=49,slow=6.5,SNR=11
comp=Z,1.5nm,0.5s
AKBB Malin Array Si 75.18 322 *ce*P **P** **19 03 35.4 +1.2**
HFS Hagfors 75.24 336 P **P** **19 03 35.2 +0.9**
comp=Z,2.8nm,0.9s,baz=352,slow=2.9,SNR=6.8
comp=Z,1.2nm,0.7s
HFS LR LR 19 39 16.9
comp=Z,57nm,19.5s,baz=58,slow=38
comp=Z,2.8nm,0.9s
NB2 NORSAR Subarra 75.36 337 P **P** **19 03 36.7 +1.6**
comp=Z,1.1nm,0.7s,baz=40,slow=6.2
NOA NORSAR Array B 75.36 337 P **P** **19 03 36.5 +1.4**
comp=Z,2.4nm,0.2s,baz=58,slow=8.0,SNR=8.0
comp=Z,2.4nm,0.2s
NVAR Mina Array Bea 76.23 53 P **P** **19 03 44.8 +4.1**
comp=Z,1.8nm,0.6s,baz=291,slow=5.3,SNR=5.9
comp=Z,1.8nm,0.6s
PDAR Pinedale Array 79.01 45 P **P** **19 03 59.5 +3.2**
comp=Z,1.2nm,0.7s,baz=295,slow=2.2,SNR=12
comp=Z,1.2nm,0.7s
BRTR Keskin Array B 79.49 311 P **P** **19 04 00.1 +1.4**
comp=Z,1.5nm,0.8s,baz=108,slow=4.0,SNR=8.8
comp=Z,1.5nm,0.8s
BRTR Keskin Array B 79.49 311 *e*P **P** **19 04 00.8 +2.1**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
PFO Pinyon Flats O 80.23 56 LR LR 19 33 11.0
comp=Z,44nm,19.5s,baz=70,slow=31
RAYN Ar Rayn 80.80 292 **P** **19 04 04.4 -1.5**
RAYN IAmb IAmb 19 04 08.0
comp=Z,4.5nm,0.8s
CLL Collm 82.14 330 *e*P **P** **19 04 13.0 +0.5**
CLL *e*PP **pP** **19 04 27.0 +1.8**
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 82.14 330 *e*P **P** **19 04 13.0 +0.5**
comp=Z,4.0nm,0.9s
CLL *e*pP **pP** **19 04 27.0 +1.8**

MMAI Mount Meron Ar 82.45 305 P **P** **19 04 15.7 +1.2**
comp=Z,0.9nm,0.6s,baz=35,slow=5.3,SNR=2.5
comp=Z,0.9nm,0.6s
GERES GERESS Array B 83.72 328 P **P** **19 04 22.2 +1.3**
comp=Z,0.3nm,0.5s,baz=15,slow=5.8,SNR=4.2
comp=Z,0.3nm,0.5s
GERES GERESS Array B 83.72 328 *e*P **P** **19 04 23.5 +2.7**
EKA Eskdalemuir Ar 84.36 340 P **P** **19 04 24.3 +0.5**
comp=Z,1.4nm,0.9s,baz=25,slow=6.3,SNR=2.3
comp=Z,1.4nm,0.9s
PPT Papeete 84.39 116 LR LR 19 34 03.0
comp=Z,29nm,21.8s,baz=345,slow=30
TXAR Lajitas Array 91.37 52 P **P** **19 05 01.3 +3.1**
comp=Z,0.9nm,0.8s,baz=300,slow=3.8,SNR=12
comp=Z,0.9nm,0.8s
H03N2 Juan Fernandez 147.29 98 T T 21 56 24.6
baz=289,slow=76,SNR=11
H03N3 Juan Fernandez 147.30 98 T T 21 56 21.9
baz=289,slow=76,SNR=8.2
H03N1 Juan Fernandez 147.31 98 T T 21 56 24.7
baz=289,slow=76,SNR=11
LPAZ La Paz 147.81 61 PKPbc **PKPab** **19 11 40.3 -0.1**
comp=Z,1.6nm,0.7s,baz=344,slow=7.4,SNR=5.8

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*NEIC **06** 18:56:38.5±1.4,35°.64N±0°.01×117°.58W±0°.01,h13km±6km, Error ellipse: s-maj=1.7km s-min=1.5km az=87.0*
PAS 06 18:56:39.2±1.7,35°.63N±0°.01×117°.58W±0°.01,h9km±7km, ML3.3/20,ML3.0/120(NEIC),Error ellipse: s-maj=1.8km s-min=1.5km az=67.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SRTC	**Snort**	**0.15**	**295**			Pg	18 56 42.9	+0.4
LRMC	**Laurel Mtn Rad**	**0.17**	**209**		Pg	Pg	18 56 42.9	0.0
LRMC					Sg	Sg	18 56 45.7	+0.3
CCCA	**Chr Cany lake**	**0.20**	**120**			Pg	18 56 43.7	+0.2
CCCA						Sg	18 56 47.3	+0.9
TOW	**Tower One**	**0.23**	**321**			Pg	18 56 44.4	+0.4
WNMM	**Nine Mile Cany**	**0.34**	**309**			Pg	18 56 45.8	-0.1
WNMM						Sg	18 56 50.9	+0.4
WVPM	**Volcano Peak E**	**0.37**	**329**			Sg	18 56 51.8	+0.2
DTP	**Desert Tortois**	**0.42**	**211**			Sg	18 56 52.9	-0.1
MPMC	**Manual Prospec**	**0.43**	**10**		Pg	Pg	18 56 47.2	-0.6
MPMC						Sg	18 56 53.3	-0.3
WRVM	**Rose V. Centra**	**0.45**	**327**			Pg	18 56 47.8	-0.4
WRVM						Sg	18 56 54.2	+0.1
MFS	**McCloud Flat S**	**0.54**	**336**			Pg	18 56 49.5	-0.2
WORM	**Onyx Ranch**	**0.54**	**277**			Pg	18 56 49.3	-0.5
CCAC	**Calif City Air**	**0.59**	**217**			Sg	18 56 58.7	+0.2
WHFM	**Hanning Flat**	**0.63**	**276**			Pg	18 56 50.8	-0.5
QSM	**Queen of Sheba**	**0.67**	**60**			Pg	18 56 50.9	-1.3
QSM						Sg	18 57 00.3	-0.7
GSC	**Goldstone, Bar**	**0.71**	**117**		Pg	Pg	18 56 52.2	-0.8
GSC					Sg	Sg	18 57 01.6	-0.7
ISA	**Isabella, Lake**	**0.73**	**273**		Pg	Pg	18 56 52.7	-0.6
HYS	**Haystack Butte**	**0.76**	**179**			Pg	18 56 53.2	-0.7
RRX	**Edison Barstow**	**0.89**	**147**			Pg	18 56 56.5	+0.2
RRX						Sb	18 57 08.5	-0.4
CWC	**Cottonwood Cre**	**0.91**	**334**		Pg	Pg	18 56 56.3	-0.3
CWC					IAML		18 57 09.2	
	comp=E,346nm,0.2s							
CWC					IAML		18 57 09.3	
	comp=N,364nm,0.1s							
GWY	**Greenwater Val**	**0.93**	**53**			Pg	18 56 56.1	-0.9
SBB	**Saddle Back Bu**	**0.96**	**192**			Pg	18 56 56.7	-0.9
SBB						Sb	18 57 10.6	-0.2
SHOC	**Shoshone, Teco**	**1.10**	**75**			Pg	18 56 59.8	-0.4
TJR	**Tejon Ranch**	**1.12**	**238**			Pg	18 56 59.5	-1.3
LRRC	**Littlerock Res**	**1.16**	**199**			Pg	18 57 01.1	-0.3
AMDNV	**Amargosa**	**1.34**	**52**			Pn	18 57 03.8	-0.2
TUQ	**Turquoise Moun**	**1.37**	**98**			Pn	18 57 03.7	-0.9
GRAC	**Grapevine Rang**	**1.38**	**7**			Pn	18 57 03.2	-1.4
GRAC					IAML		18 57 29.1	
	comp=N,272nm,0.8s							
GRAC					IAML		18 57 32.4	
	comp=E,241nm,0.7s							
OSI	**Osito Audit: C**	**1.38**	**223**		Pn	Pn	18 57 04.0	-0.7
BFSC	**Mount Baldy Ra**	**1.39**	**183**		Pn	Pn	18 57 04.1	-0.8
BFSC					IAML		18 57 25.1	
	comp=E,137nm,0.5s							
BFSC					IAML		18 57 28.4	
	comp=N,166nm,0.6s							
WCT	**Wildcat Mounta**	**1.40**	**33**			Pn	18 57 03.1	-1.8
WCT					IAML		18 57 24.9	
	comp=E,343nm,0.5s							
WCT					IAML		18 57 25.1	
	comp=N,223nm,0.6s							
MWC	**Mount Wilson**	**1.46**	**196**			Pn	18 57 04.7	-1.2
MWC					IAML		18 57 27.1	
	comp=E,291nm,0.2s							
PASC	**Pasadena Art C**	**1.54**	**199**			Pn	18 57 06.4	-0.4
PASC					IAML		18 57 29.5	
	comp=N,209nm,0.5s							
PASC					IAML		18 57 31.8	
	comp=E,278nm,0.5s							
MTPC	**Mountain Pass**	**1.66**	**94**			Pn	18 57 06.8	-1.8
GMN	**Gold Mountain**	**1.69**	**9**			Pn	18 57 08.0	-1.1
TPNV	**Topopah Spring**	**1.70**	**39**			Pn	18 57 09.2	0.0
TPNV					IAML		18 57 37.3	
	comp=E,164nm,0.5s							
DSP	**Deep Springs**	**1.77**	**350**			Pn	18 57 09.3	-0.7
CRGC	**Crocker Grade**	**1.79**	**258**			Pb	18 57 12.1	-0.2
ELS	**Elsinore Mount**	**1.98**	**176**			Pn	18 57 13.1	+0.1
ELS					IAML		18 57 43.4	
	comp=E,100nm,0.2s							
MZP	**Montezuma Peak**	**2.07**	**4**		Pn	Pn	18 57 14.1	-0.3
SHPR	**Sheep Range**	**2.15**	**65**			Pn	18 57 14.6	-0.8
SHPR					IAML		18 57 48.4	
	comp=N,87nm,0.7s							
PMD	**Palm Desert**	**2.21**	**153**		Pn	Pn	18 57 16.2	+0.2
PMD					IAML		18 57 52.8	
	comp=E,107nm,0.4s							
PMD					IAML		18 57 54.9	
	comp=N,76nm,0.6s							
PFO	**Pinyon Flats O**	**2.21**	**155**			Pn	18 57 14.8	-1.5
PFO					IAML		18 57 50.6	
	comp=N,104nm,0.8s							
PFO					IAML		18 57 54.8	
	comp=N,97nm,0.8s							
TPH	**Tonopah**	**2.46**	**7**			Pn	18 57 19.1	-0.6
S11A	**Rachel**	**2.50**	**36**			Pn	18 57 19.6	-0.6
MATG	**Mataguay Scout**	**2.54**	**162**			Pb	18 57 25.9	+0.8
NEE2	**Needles Airpor**	**2.57**	**109**		Pn	Pn	18 57 19.2	-1.9
PMPB	**Monarch Peak**	**2.68**	**284**			Pn	18 57 21.8	-0.7
PMPB					IAML		18 58 10.3	
	comp=E,86nm,0.8s							
PMPB					IAML		18 58 26.7	
	comp=N,86nm,1.1s							
PRN	**Pahroc Range**	**2.70**	**48**			Pn	18 57 21.7	-1.3
PRN					IAML		18 58 13.6	
	comp=E,91nm,1.1s							
PRN					IAML		18 58 17.1	
	comp=N,97nm,0.5s							
LHV	**Little Huntoon**	**2.72**	**345**			Pn	18 57 21.9	-1.1
LHV					IAML		18 58 13.9	
	comp=E,34nm,0.6s							
NV11	**Mina Array Sit**	**2.84**	**351**			Pn	18 57 24.2	-0.6
NVAR	**Mina Array Bea**	**2.85**	**349**			Pn	18 57 24.7	-0.4
BBGB	**Big Mountain B**	**2.96**	**290**			Pn	18 57 25.6	-0.8
W13A	**Hualapai Mount**	**3.07**	**99**			Pn	18 57 26.2	-1.8
RYN	**Ryan**	**3.09**	**346**			Pn	18 57 27.4	-0.8
BLYC	**Blythe**	**3.14**	**126**			Pn	18 57 27.2	-1.6
BLYC					IAML		18 58 21.1	
	comp=E,52nm,0.6s							
R11B	**Troy Canyon, C**	**3.15**	**30**			Pn	18 57 28.3	-0.8
R11B					IAML		18 58 19.4	
	comp=E,26nm,0.6s							
TKX	**Tecate**	**3.16**	**165**			Pn	18 57 27.8	-1.3
Q09A	**Carvers**	**3.22**	**6**		Pn	Pn	18 57 28.7	-1.3
Q09A						IAML	18 58 22.1	
	comp=N,51nm,0.7s							
Q09A						IAML	18 58 25.6	
	comp=E,64nm,0.8s							
WAKR	**Walker**	**3.23**	**333**			Pn	18 57 29.1	-1.2
WAKR						IAML	18 58 34.8	
	comp=E,26nm,0.9s							
YUH	**Yuha Desert**	**3.28**	**155**			Pn	18 57 29.8	-0.9
CMB	**Columbia Colle**	**3.29**	**318**			Pn	18 57 29.5	-1.4
CMB						IAML	18 58 24.3	
	comp=E,42nm,1.0s							
CMB						IAML	18 58 24.7	
	comp=N,42nm,0.6s							
SAO	**San Andreas Ge**	**3.33**	**291**		Pn	Pn	18 57 32.0	+0.6

CBX	**Cerro Bola**	**3.39**	**167**	Pn	Pn	18 57 31.7	-0.8
GLA	**Glamis**	**3.44**	**138**		Pn	18 57 32.4	-0.6
LCMT	**Little Creek M**	**3.77**	**67**		Pn	18 57 36.8	-0.8
ESJX	**Sierra Juarez**	**3.86**	**159**		Pn	18 57 37.9	-1.1
ESJX				IAML		18 58 40.3	
	comp=E,26nm,0.6s						
ESJX				IAML		18 58 44.6	
	comp=N,20nm,0.6s						
CCUT	**Cedar City**	**3.90**	**59**		Pn	18 57 38.6	-0.9
CCUT				IAML		18 58 44.6	
	comp=N,14nm,1.4s						
KNB	**Kanab**	**4.09**	**69**		Pn	18 57 41.3	-0.7
KNB				IAML		18 58 51.6	
	comp=E,12nm,0.6s						
KNB				IAML		18 59 01.4	
	comp=N,13nm,1.7s						
SZCU	**Shurtz Canyon**	**4.11**	**60**		Pn	18 57 42.5	+0.1
SZCU				IAML		18 58 52.6	
	comp=E,13nm,0.8s						
SZCU				IAML		18 58 58.8	
	comp=N,11nm,0.7s						
PSUT	**Pine Spring**	**4.16**	**45**		Pn	18 57 42.9	-0.2
PSUT				IAML		18 59 02.9	
	comp=N,17nm,1.5s						
PSUT				IAML		18 59 04.7	
	comp=E,16nm,0.6s						
SPR3	**Spring Creek 3**	**4.25**	**37**		Pn	18 57 41.8	-2.5
SPR3				IAML		18 58 57.4	
	comp=N,14nm,0.7s						
SPR3				IAML		18 58 59.4	
	comp=E,16nm,0.9s						
113A	**Mohawk Valley,**	**4.26**	**131**		Pn	18 57 44.6	+0.4
113A				IAML		18 58 53.2	
	comp=E,10nm,1.3s						
113A				IAML		18 59 05.9	
	comp=N,11nm,1.0s						
AFDM	**Forest Hills D**	**4.28**	**322**		Pn	18 57 43.1	-1.3
AFDM				IAML		18 58 56.6	
	comp=N,17nm,0.6s						
AFDM				IAML		18 59 03.5	
	comp=E,24nm,0.7s						
PAHR	**Pah Rah Range**	**4.32**	**341**		Pn	18 57 43.1	-2.1
BEKR	**Beckworth**	**4.77**	**333**		Pn	18 57 50.0	-1.4
BEKR				IAML		18 59 16.3	
	comp=E,20nm,0.8s						
BEKR				IAML		18 59 27.9	
	comp=N,9.3nm,0.6s						
WUAZ	**Wupatki**	**5.06**	**89**		Pn	18 57 55.1	-0.4
WUAZ				IAML		18 59 43.6	
	comp=N,14nm,1.3s						
WUAZ				IAML		18 59 44.8	
	comp=N,12nm,0.9s						
X16A	**Lo Mia Camp, P**	**5.18**	**102**		Pn	18 57 56.2	-0.9
ELK	**Elko**	**5.43**	**19**		Pn	18 58 00.1	-0.4
X18A	**Snowflake**	**6.35**	**98**		Pn	18 58 12.4	-0.7

*NEIC **06** 18:58:58.6±1.5,35°.900N±0°.010×117°.648W±0°.008, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.7km az=317.0*

PAS 06 18:58:59.3±1.3, 35°.900N±0°.005×117°.68W±0°.02, h3km±4km, ML3.1/24, ML2.7/88(NEIC), Error ellipse: s-maj=2.8km s-min=0.8km az=95.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.12**	**218**		Pg	18 59 02.1	+0.5
TOW					Sg	18 59 04.9	+1.7
WVPM	**Volcano Peak E**	**0.12**	**293**		Pg	18 59 02.0	+0.2
WNMM	**Nine Mile Cany**	**0.19**	**253**		Pg	18 59 03.2	+0.2
WRVM	**Rose V. Centra**	**0.20**	**302**		Pg	18 59 03.5	+0.2
SRTC	**Snort**	**0.22**	**196**		Pg	18 59 03.9	+0.4
SRTC					Sg	18 59 08.0	+1.7
MFS	**McCloud Flat S**	**0.26**	**326**		Pg	18 59 04.5	+0.1
MFS					Sg	18 59 08.5	+0.7
LRMC	**Laurel Mtn Rad**	**0.42**	**181**		Pg	18 59 07.2	-0.2
LRMC	**Laurel Mtn Rad**	**0.42**	**181**	IAML		18 59 13.9	
	comp=N,1μm,0.3s						
LRMC				IAML		18 59 14.3	
	comp=E,1μm,0.3s						
WORM	**Onyx Ranch**	**0.50**	**246**		Pg	18 59 08.7	-0.2
CWC	**Cottonwood Cre**	**0.63**	**329**	Pg	Pg	18 59 11.5	+0.1
CWC				IAML		18 59 21.6	
	comp=N,308nm,0.2s						
CWC				IAML		18 59 24.8	
	comp=E,305nm,0.2s						
QSM	**Queen of Sheba**	**0.66**	**84**		Pg	18 59 11.9	-0.1
QSM				IAML		18 59 25.7	
	comp=E,551nm,0.6s						
QSM				IAML		18 59 27.0	
	comp=N,455nm,0.2s						
ISA	**Isabella, Lake**	**0.69**	**250**		Sg	18 59 22.3	+0.9
ISA	**Isabella, Lake**	**0.69**	**250**		Pg	18 59 12.2	-0.3
WASM	**Alta Sierra Ca**	**0.73**	**258**		Pg	18 59 13.2	-0.2
CCAC	**Calif City Air**	**0.80**	**200**		Pg	18 59 14.1	-0.4
GWY	**Greenwater Val**	**0.87**	**70**		Pg	18 59 15.7	-0.2
GWY				IAML		18 59 32.6	
	comp=N,330nm,0.4s						
GWY				IAML		18 59 32.8	
	comp=E,448nm,0.5s						
GSC	**Goldstone, Bar**	**0.93**	**130**		Pg	18 59 16.3	-0.8
GSC				IAML		18 59 31.5	
	comp=N,370nm,0.8s						
GRAC	**Grapevine Rang**	**1.12**	**13**		Pg	18 59 20.0	-0.8
GRAC				IAML		18 59 37.5	
	comp=E,209nm,0.5s						
GRAC				IAML		18 59 41.3	
	comp=N,193nm,0.6s						
RRX	**Edison Barstow**	**1.16**	**151**		Pg	18 59 21.6	0.0
WCT	**Wildcat Mounta**	**1.23**	**43**		Pg	18 59 22.1	-0.8
WCT				IAML		18 59 41.2	
	comp=N,91nm,0.9s						
WCT				IAML		18 59 43.3	
	comp=E,133nm,0.8s						
GMN	**Gold Mountain**	**1.44**	**13**		Pn	18 59 25.7	-0.8
VOG	**Valley Oaks Go**	**1.44**	**287**		Pn	18 59 26.0	-0.3
DSP	**Deep Springs**	**1.49**	**351**		Pn	18 59 26.7	-0.2
TPNV	**Topopah Spring**	**1.56**	**47**		Pn	18 59 27.1	-0.9
TPNV				IAML		18 59 51.1	
	comp=E,106nm,0.6s						
TPNV				IAML		18 59 52.9	
	comp=E,143nm,1.1s						
CHFC	**Chilao Flat St**	**1.59**	**190**		Pb	18 59 29.3	-0.1
MTUM	**Tungsten Hills**	**1.62**	**334**		Pb	18 59 29.8	-0.1
BFSC	**Mount Baldy Ra**	**1.66**	**179**		Pn	18 59 29.2	-0.2
MWC	**Mount Wilson**	**1.70**	**191**		Pn	18 59 30.4	+0.3
PASC	**Pasadena Art C**	**1.77**	**194**	Pn	Pn	18 59 30.1	-0.8
MZP	**Montezuma Peak**	**1.81**	**7**		Pn	18 59 31.6	0.0
SHPR	**Sheep Range**	**2.12**	**73**	Pn	Pn	18 59 35.3	-0.5
TPH	**Tonopah**	**2.20**	**9**		Pn	18 59 36.3	-0.6
ELS	**Elsinore Mount**	**2.26**	**175**		Pn	18 59 36.8	-0.8
ELS						19 00 12.9	
	comp=E,34nm,0.5s						
ELS				IAML		19 00 17.3	
	comp=N,31nm,0.3s						
V12A	**Nelson**	**2.30**	**93**		Pn	18 59 37.2	-1.0
V12A				IAML		19 00 19.9	
	comp=N,44nm,0.5s						
V12A				IAML		19 00 20.0	
	comp=E,34nm,0.6s						
S11A	**Rachel**	**2.33**	**41**	Pn	Pn	18 59 39.2	+0.6
LHV	**Little Huntoon**	**2.44**	**345**	Pn	Pn	18 59 40.6	+0.6
LHV				IAML		19 00 29.0	
	comp=N,26nm,1.5s						
PMD	**Palm Desert**	**2.49**	**154**	Pn	Pn	18 59 39.4	-1.3
PMD				IAML		19 00 21.3	
	comp=E,33nm,0.5s						
PFO	**Pinyon Flats O**	**2.49**	**156**	Pn	Pn	18 59 39.6	-1.3
PFO				IAML		19 00 20.9	
	comp=E,31nm,0.8s						
PFO				IAML		19 00 24.6	
	comp=E,27nm,0.8s						
PMPB	**Monarch Peak**	**2.55**	**278**	Pn	Pn	18 59 40.9	-0.7
NV11	**Mina Array Sit**	**2.56**	**352**	Pn	Pn	18 59 40.6	-1.2
NVAR	**Mina Array Bea**	**2.57**	**349**	Pn	Pn	18 59 40.7	-1.4
PRN	**Pahroc Range**	**2.59**	**54**	Pn	Pn	18 59 40.9	-1.3
PRN				IAML		19 01 09.9	
	comp=E,56nm,0.8s						
NEE2	**Needles Airpor**	**2.74**	**113**	Pn	Pn	18 59 43.8	-0.4
BBGB	**Big Mountain B**	**2.80**	**285**	Pn	Pn	18 59 44.4	-0.7
RYN	**Ryan**	**2.81**	**346**	Pn	Pn	18 59 44.6	-0.6
WAKR	**Walker**	**2.96**	**332**	Pn	Pn	18 59 46.2	-1.0
R11B	**Troy Canyon, C**	**2.96**	**34**	Pn	Pn	18 59 46.0	-1.3
R11B				IAML		19 00 35.8	
	comp=E,16nm,1.1s						
CMB	**Columbia Colle**	**3.04**	**315**	Pn	Pn	18 59 47.6	-0.7
CMB				IAML		19 00 38.5	
	comp=E,14nm,0.7s						
CMB				IAML		19 00 40.4	
	comp=N,20nm,0.6s						
SAO	**San Andreas Ge**	**3.16**	**287**	Pn	Pn	18 59 48.9	-1.1
W13A	**Hualapai Mount**	**3.19**	**103**	Pn	Pn	18 59 49.1	-1.5
W13A				IAML		19 00 44.2	
	comp=E,16nm,1.0s						
W13A				IAML		19 00 45.9	
	comp=N,17nm,0.8s						
YUH	**Yuha Desert**	**3.56**	**155**		Pn	18 59 54.0	-1.4
YUH				IAML		19 01 29.9	
	comp=N,11nm,4.3s						
CBX	**Cerro Bola**	**3.68**	**166**		Pn	18 59 56.6	-0.5
GLA	**Glamis**	**3.69**	**140**		Pn	18 59 56.3	-1.0
LCMT	**Little Creek M**	**3.74**	**71**	Pn	Pn	18 59 57.8	-0.2
CCUT	**Cedar City**	**3.84**	**63**	Pn	Pn	18 59 59.4	-0.1
PSUT	**Pine Spring**	**4.03**	**48**	Pn	Pn	19 00 00.8	-1.2
PSUT				IAML		19 01 11.0	
	comp=N,9.0nm,1.4s						
PSUT				IAML		19 01 14.6	
	comp=E,11nm,1.1s						
Y14A	**Wickenburg**	**4.31**	**116**	Pn	Pn	19 00 04.8	-1.0
Y14A				IAML		19 01 51.6	
	comp=E,13nm,0.3s						

*NEIC **06** 18:59:41.0±0.9, 35°.586N±0°.008×117°.403W±0°.009, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.7km az=305.0*

PAS 06 18:59:41.6±0.7, 35°.570N±0°.010×117°.41W±0°.01, h6km±3km, ML3.0/25, ML2.7/40(NEIC), Error ellipse: s-maj=1.4km s-min=1.3km az=52.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.06**	**143**		Pg	18 59 43.7	+0.5
LRMC	**Laurel Mtn Rad**	**0.24**	**248**		Pg	18 59 46.3	-0.1
LRMC				Sg	Sg	18 59 49.8	+0.1
LRMC				IAML		18 59 50.4	
	comp=E,2μm,0.3s						
LRMC				IAML		18 59 51.1	
	comp=N,2μm,0.4s						
SRTC	**Snort**	**0.30**	**294**		Pg	18 59 47.9	+0.3
TOW	**Tower One**	**0.38**	**309**		Sg	18 59 54.2	+0.3
DTP	**Desert Tortois**	**0.47**	**230**		Pg	18 59 50.4	-0.3
DTP					Sg	18 59 56.8	0.0
WVPM	**Volcano Peak E**	**0.51**	**319**		Pg	18 59 51.3	0.0
GSC	**Goldstone, Bar**	**0.56**	**118**	Pg	Pg	18 59 52.0	-0.4
GSC				Sg	Sg	18 59 59.5	-0.2
WRVM	**Rose V. Centra**	**0.59**	**318**		Pg	18 59 52.7	-0.2
QSM	**Queen of Sheba**	**0.59**	**48**		Pg	18 59 52.6	-0.4
QSM					Sg	19 00 00.4	-0.2
WBSM	**Bird Springs**	**0.60**	**267**		Pg	18 59 52.8	-0.4
MFS	**McCloud Flat S**	**0.66**	**326**		Pg	18 59 54.0	-0.3
MFS					Sg	19 00 03.0	+0.1
WORM	**Onyx Ranch**	**0.69**	**281**		Pg	18 59 54.4	-0.6
WHFM	**Hanning Flat**	**0.78**	**280**		Pg	18 59 55.9	-0.6
GWY	**Greenwater Val**	**0.86**	**44**	Sg	Sg	19 00 08.8	-0.5
GWY	**Greenwater Val**	**0.86**	**44**		Pg	18 59 57.7	-0.4
ISA	**Isabella, Lake**	**0.88**	**276**	Sg	Sg	19 00 09.0	-0.8
ISA	**Isabella, Lake**	**0.88**	**276**		Pg	18 59 57.7	-0.7
DSCC	**Desert Studies**	**1.15**	**111**		Pg	19 00 02.6	-1.0
HEC	**Hector,Ludlow**	**1.15**	**130**		Sg	19 00 17.6	-0.9
HOLC	**Holcomb Ridge**	**1.17**	**198**		Pg	19 00 03.1	-0.8
TUQ	**Turquoise Moun**	**1.22**	**96**		Pg	19 00 03.8	-1.1
AMDNV	**Amargosa**	**1.27**	**46**		Pb	19 00 05.9	0.0
CHFC	**Chilao Flat St**	**1.33**	**203**		Pn	19 00 06.8	-0.1
CHFC					Sb	19 00 24.4	-0.1
BFSC	**Mount Baldy Ra**	**1.34**	**189**	Pg	Pn	19 00 06.7	-0.3
BFSC				IAML		19 00 24.9	
	comp=E,118nm,0.7s						
BFSC				IAML		19 00 25.7	
	comp=N,141nm,0.6s						
WCT	**Wildcat Mounta**	**1.37**	**27**		Pn	19 00 05.9	-1.5
WCT				IAML		19 00 27.3	
	comp=N,87nm,0.5s						
WCT				IAML		19 00 28.4	
	comp=E,98nm,0.5s						
GRAC	**Grapevine Rang**	**1.42**	**1**		Pn	19 00 07.2	-0.8
GRAC				IAML		19 00 32.9	
	comp=E,116nm,0.6s						
GRAC				IAML		19 00 35.9	
	comp=N,102nm,0.7s						
MWC	**Mount Wilson**	**1.45**	**202**		Pn	19 00 08.5	0.0
MWC				IAML		19 00 29.0	
	comp=E,161nm,0.3s						
MWC				IAML		19 00 30.2	
	comp=N,176nm,0.3s						
PSRC	**Puddingstone R**	**1.51**	**193**		Pb	19 00 09.9	-0.1
PASC	**Pasadena Art C**	**1.54**	**205**		Pn	19 00 09.0	-0.5
PASC				IAML		19 00 32.8	
	comp=N,98nm,0.6s						
PASC				IAML		19 00 34.3	
	comp=E,84nm,0.5s						
TPNV	**Topopah Spring**	**1.66**	**34**		Pn	19 00 11.0	-0.5
TPNV				IAML		19 00 38.2	
	comp=E,88nm,0.6s						
TPNV				IAML		19 00 39.1	
	comp=E,116nm,0.6s						
GMN	**Gold Mountain**	**1.73**	**4**	Pn	Pn	19 00 11.6	-0.8
DSP	**Deep Springs**	**1.85**	**346**	Pn	Pn	19 00 13.3	-0.6
PMD	**Palm Desert**	**2.10**	**156**	Pn	Pn	19 00 16.4	-0.8
PMD				IAML		19 00 49.2	
	comp=E,32nm,0.6s						
PMD				IAML		19 00 49.4	
	comp=N,39nm,0.5s						
PFO	**Pinyon Flats O**	**2.10**	**158**		Pn	19 00 15.9	-1.5
MZP	**Montezuma Peak**	**2.13**	**0**	Pn	Pn	19 00 16.5	-1.3
W13A	**Hualapai Mount**	**2.92**	**98**		Pn	19 00 27.1	-1.6
W13A				IAML		19 00 50.0	
	comp=N,14nm,0.6s						
BBGB	**Big Mountain B**	**3.11**	**290**		Pn	19 00 30.5	-0.8
R11B	**Troy Canyon, C**	**3.13**	**27**	Pn	Pn	19 00 31.5	-0.1
CBX	**Cerro Bola**	**3.31**	**169**	Pn	Pn	19 00 33.5	-0.4
WAKR	**Walker**	**3.35**	**332**		Pn	19 00 32.7	-1.9
WAKR				IAML		19 01 07.5	
	comp=N,9.5nm,2.7s						
CCX	**Cicese**	**3.74**	**170**	Pn	Pn	19 00 37.8	-2.1
ESJX	**Sierra Juarez**	**3.76**	**161**		Pn	19 00 38.1	-2.2
BEKR	**Beckworth**	**4.89**	**332**	Pn	Pn	19 00 55.0	-0.7

*IDC **06** 19:04:04.9±6.3,6°.39S×129°.16E,h194km±73km, mb3.1/2, mbtmp4.1/6, Error ellipse: s-maj=58.5km s-min=25.5km az=44.0*

*DJA **06** 19:04:05.6±0.6,6°.5±4°×12°.9E±°, h290km±14km, M4.8/2, mB5.2/1,mb5.2/1,MLv4.3/13,MLv4.6/2,Mw(mB)4.7/1*

*NEIC **06** 19:04:07.0±1.4,6°.35S±0°.10×129°.10E±0°.10,h218km±9km, mb4.0/3, Error ellipse: s-maj=15.5km s-min=11.6km az=135.0*

ISC 06 19:04:05.7±0.8, 6°.43S±0°.05×129°.17E±0°.06, h250km, n29, σ2s64/35, mb3.4/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.62**	**126**	Pn	Pn	19 04 54.2	-0.1
SAUI				Sn	S	19 05 30.4	-2.1
SAUI	**Saumlaki**	**2.62**	**126**	P	Pn	19 04 56.3	+2.1
MSAI	**Masohi**	**3.07**	**356**	P	Pn	19 05 00.9	+1.8
NLAI	**Namlea**	**3.78**	**327**	P	Pn	19 05 09.2	+2.2
FAKI	**Fak Fak**	**4.64**	**42**	Pn	Pn	19 05 17.3	0.0
FAKI	**Fak Fak**	**4.64**	**42**	P	Pn	19 05 17.4	+0.1
FAKI				S	S	19 06 09.2	-5.0
KMPI	**Kaimana, Papua**	**5.29**	**59**	P	Pn	19 05 26.7	+1.6
	1.3nm5μm308nm,0.7s						
SANI	**Sanana**	**5.38**	**324**	P	Pn	19 05 26.2	-0.1
SOEI	**Soe**	**5.87**	**235**	Pn	Pn	19 05 33.1	+0.7
SOEI	**Soe**	**5.87**	**235**	P	Pn	19 05 33.4	+1.0
SWI	**Sorong**	**5.91**	**21**	P	Pn	19 05 33.3	+0.5
SWI				S	S	19 06 35.7	-6.7
BATI	**Baumata**	**6.62**	**235**	P	Pn	19 05 42.1	+0.4
	27nm,0.4s,baz=100,slow=6.1,SNR=11						
BATI				S	S	19 06 55.6	-2.9
	38nm,0.4s,baz=27,slow=18,SNR=8.3						
BATI	**Baumata**	**6.62**	**235**	P	Pn	19 05 42.0	+0.4
MTN	**Manton Dam**	**6.66**	**163**		Pn	19 05 43.3	+1.1
RKPI	**Ransiki, Papua**	**6.99**	**46**	P	Pn	19 05 46.9	+0.6
KNRA	**Kununurra**	**9.20**	**182**		Pn	19 06 14.7	+0.5
FITZ	**Fitzroy Crossi**	**12.10**	**196**		Pn	19 06 50.9	+0.2
FITZ	**Fitzroy Crossi**	**12.10**	**196**	P	Pn	19 06 50.7	+0.1
	4.9nm,0.5s,baz=16,slow=11,SNR=39						
FITZ				S	S	19 08 58.6	-7.0
	2.7nm,0.4s,baz=11,slow=16,SNR=4.2						
WB0	**Warramunga Arr**	**14.20**	**160**	Pn	P	19 07 16.9	+0.1
WRA	**Warramunga Arr**	**14.34**	**160**	Pn	Pn	19 07 17.8	-0.4
WRA	**Warramunga Arr**	**14.34**	**160**	P	P	19 07 18.9	+0.5
	1.0nm,0.3s,baz=339,slow=13,SNR=27						
WRA				S	S	19 09 52.8	-4.2
	1.6nm,0.5s,baz=331,slow=22,SNR=7.6						
COEN	**Coen**	**15.68**	**120**		Pn	19 07 36.8	+2.6
COEN				IAmb	IAmb	19 07 40.3	
	comp=Z,13nm,1.0s						
AS31	**Alice Springs**	**17.73**	**166**		Pn	19 07 59.5	+1.2
AS31				IAmb	IAmb	19 08 03.5	
	comp=Z,4.1nm,0.6s						
ASAR	**Alice Springs**	**17.73**	**166**		Pn	19 07 59.5	+1.1
ASAR	**Alice Springs**	**17.73**	**166**	P	Pn	19 07 59.9	+1.5
	comp=Z,8.2nm,0.4s,baz=345,slow=11,SNR=104						
ASAR				S	S	19 11 06.1	-0.5
	comp=Z,0.3nm,0.5s,baz=342,slow=23,SNR=5.3						
PETK	**Petropavlovsk-**	**64.05**	**19**	P	P	19 14 17.8	+5.0
	comp=Z,0.8nm,0.6s,baz=176,slow=5.5,SNR=2.8						
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**67.30**	**327**	P	P	19 14 37.6	+3.8
MKAR	**Makanchi Array**	**67.30**	**327**	P	P	19 14 38.1	+4.4
	comp=Z,0.1nm,0.4s,baz=120,slow=7.4,SNR=4.2						
	comp=Z,0.1nm,0.4s						
MAKZ	**Makanchi**	**67.48**	**327**	P	P	19 14 37.7	+2.8
MAKZ				IAmb	IAmb	19 15 02.3	
	comp=Z,0.9nm,1.1s						

*IDC **06** 19:21:09.9±1.0,6°.10S×142°.86E,h0km,mb4.0/8, mbtmp4.0/10,ML3.9/2, Error ellipse: s-maj=36.7km s-min=17.8km az=95.0*

*NEIC **06** 19:21:13.2±2.7,6°.19S±0°.08×142°.51E±0°.06,h10km±1km, mb4.2/9, Error ellipse: s-maj=12.8km s-min=9.5km az=188.0*

ISC 06 19:21:12.9±0.6, 6°.30S±0°.06×142°.41E±0°.08, h10km, n29, σ2s28/31, mb4.2/9, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.12**	**336**	Pn	Pn	19 22 15.4	-0.5
	2.3nm,0.3s,baz=169,slow=7.9,SNR=20						
JAY				Sn	Sn	19 23 05.7	+1.3
	2.7nm,0.3s,baz=230,slow=21,SNR=4.6						
	12nm,0.5s						
MANU	**Manus Island**	**6.50**	**50**	Pn	Pn	19 22 46.7	-2.0
COEN	**Coen**	**7.65**	**174**	Pn	Pn	19 23 06.5	+2.0
RABL	**Rabaul**	**9.94**	**78**	Pn	Pn	19 23 35.6	-0.3
FAKI	**Fak Fak**	**10.67**	**288**	Pn	Pn	19 23 46.8	+0.9
MTN	**Manton Dam**	**12.88**	**239**		Pn	19 24 17.0	+0.9
WB0	**Warramunga Arr**	**15.49**	**209**		Pn	19 24 52.1	+0.4
WB0				IAmb	IAmb	19 25 03.2	
	comp=Z,10nm,0.9s						
WRA	**Warramunga Arr**	**15.67**	**209**		Pn	19 24 54.2	+0.3
WRA	**Warramunga Arr**	**15.67**	**209**	Pn	Pn	19 24 53.8	-0.1
	comp=Z,1.6nm,0.3s,baz=30,slow=13,SNR=40						
WRA				Sn	Sn	19 27 45.0	-2.8
	comp=Z,0.3nm,0.3s,baz=22,slow=22,SNR=5.7						
WRA				Lg	Lg	19 29 32.4	
	comp=Z,0.2nm,0.3s,baz=36,slow=27,SNR=1.5						
KNRA	**Kununurra**	**16.31**	**234**		Pn	19 25 02.7	+0.5
KNRA				IAmb	IAmb	19 25 09.6	
	comp=Z,20nm,1.2s						
AS31	**Alice Springs**	**19.11**	**204**		Pn	19 25 38.7	+1.8
AS31				IAmb	IAmb	19 25 43.5	
	comp=Z,4.0nm,0.9s						
ASAR	**Alice Springs**	**19.11**	**204**		P	19 25 38.4	+2.3
ASAR	**Alice Springs**	**19.11**	**204**	P	Pn	19 25 39.4	+2.4
	comp=Z,1.0nm,0.3s,baz=33,slow=10,SNR=54						
ASAR				S	Sn	19 29 06.7	-4.6
	comp=Z,1.1nm,0.7s,baz=17,slow=28,SNR=4.2						
ASAR				Lg	Lg	19 31 27.7	
	comp=Z,0.1nm,0.3s,baz=75,slow=36,SNR=1.4						
	comp=Z,11nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.13**	**233**		P	19 25 49.6	+2.4
FITZ	**Fitzroy Crossi**	**20.13**	**233**	P	P	19 25 49.7	+2.4
	comp=Z,2.9nm,0.4s,baz=52,slow=12,SNR=22						
FITZ				S	S	19 29 25.0	-8.5
	comp=Z,1.1nm,0.5s,baz=65,slow=19,SNR=1.8						
FITZ				Lg	Lg	19 31 56.6	
	comp=Z,0.1nm,0.3s,baz=156,slow=20,SNR=3.7						
	comp=Z,2.9nm,0.4s						
STKA	**Stephens Creek**	**25.46**	**182**	P	P	19 26 41.6	+0.5
STKA	**Stephens Creek**	**25.46**	**182**	P	P	19 26 41.9	+0.8
	comp=Z,1.7nm,0.7s,baz=360,slow=12,SNR=3.2						
	comp=Z,1.7nm,0.7s						
PETK	**Petropavlovsk-**	**60.58**	**11**	P	P	19 31 20.0	-3.5
	comp=Z,1.9nm,0.9s,baz=164,slow=6.9,SNR=4.6						
	comp=Z,1.9nm,0.9s						
MKAR	**Makanchi Array**	**74.86**	**322**	P	P	19 32 53.4	-0.4
MKAR	**Makanchi Array**	**74.86**	**322**	P	P	19 32 53.5	-0.3
	comp=Z,0.6nm,0.3s,baz=104,slow=4.7,SNR=4.7						
	comp=Z,0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**78.77**	**324**	P	P	19 33 14.3	-1.4
	comp=Z,0.4nm,0.7s,baz=111,slow=5.1,SNR=3.1						
	comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**83.67**	**180**	P	P	19 33 41.6	-0.1
QSPA	**South Pole Qui**	**83.67**	**180**	P	P	19 33 41.6	-0.1
	comp=Z,2.2nm,1.2s,baz=309,slow=1.2,SNR=2.7						
	comp=Z,2.2nm,1.2s						
BVAR	**Borovoye Array**	**84.34**	**325**	P	P	19 33 45.1	-0.1
	comp=Z,1.5nm,0.7s,baz=125,slow=5.5,SNR=11						
	comp=Z,1.5nm,0.7s						
ILAR	**Eielson Array**	**87.57**	**24**	P	P	19 33 57.5	-3.4
	comp=Z,0.9nm,0.7s,baz=260,slow=4.7,SNR=10.0						
	comp=Z,0.9nm,0.7s						
F24K	**Squaw Lake**	**88.16**	**21**	P	P	19 34 02.3	-1.5
F24K				IAmb	IAmb	19 34 07.7	
	comp=Z,1.8nm,0.9s						
M27K	**Edge Creek, AK**	**88.96**	**27**	P	P	19 34 06.7	-1.0
M27K				I

ARVC	**Arvin**	**1.22**	**231**			Pn	19 37 57.3	+0.2
WCT	**Wildcat Mounta**	**1.23**	**43**			Pg	19 37 56.1	-0.6
WCT					IAML		19 38 14.3	
	comp=E,122nm,0.4s							
WCT					IAML		19 38 16.9	
	comp=N,104nm,0.7s							
GMN	**Gold Mountain**	**1.44**	**13**			Pn	19 37 59.8	-0.7
GMN					IAML		19 38 23.3	
	comp=N,99nm,0.5s							
VOG	**Valley Oaks Go**	**1.44**	**287**			Pn	19 37 59.8	-0.5
DSP	**Deep Springs**	**1.48**	**351**			Pn	19 38 00.3	-0.5
DSP						Sb	19 38 20.2	-0.6
DSP					IAML		19 38 22.3	
	comp=N,105nm,0.5s							
DSP					IAML		19 38 22.3	
	comp=E,134nm,0.8s							
TUQ	**Turquoise Moun**	**1.50**	**107**			Pn	19 37 59.2	-2.0
TPNV	**Topopah Spring**	**1.56**	**47**			Pn	19 38 01.3	-0.8
TPNV					IAML		19 38 27.0	
	comp=E,174nm,0.6s							
TPNV					IAML		19 38 29.4	
	comp=E,120nm,0.8s							
MZP	**Montezuma Peak**	**1.81**	**7**			Pn	19 38 05.1	-0.5
CLTC	**Calectric**	**1.83**	**171**			Pb	19 38 07.0	-0.3
SHPR	**Sheep Range**	**2.12**	**73**			Pn	19 38 09.3	-0.5
TPH	**Tonopah**	**2.20**	**9**			Pn	19 38 10.9	0.0
TSCN	**Private Proper**	**2.20**	**261**			Pn	19 38 12.1	+1.3
ELS	**Elsinore Mount**	**2.26**	**175**			Pn	19 38 11.0	-0.6
POB	**Polly Butte**	**2.29**	**164**			Pn	19 38 11.6	-0.5
V12A	**Nelson**	**2.31**	**94**			Pn	19 38 11.2	-1.1
V12A					IAML		19 38 48.2	
	comp=N,77nm,0.5s							
V12A					IAML		19 38 50.8	
	comp=E,60nm,0.5s							
S11A	**Rachel**	**2.33**	**41**			Pn	19 38 12.3	-0.4
LHV	**Little Huntoon**	**2.44**	**345**			Pn	19 38 14.5	+0.6
LHV					IAML		19 38 54.6	
	comp=N,34nm,0.6s							
LHV					IAML		19 38 57.6	
	comp=E,47nm,1.1s							
PMD	**Palm Desert**	**2.49**	**154**	Pn	Pn		19 38 14.5	-0.2
PMD					IAML		19 39 11.6	
	comp=N,32nm,0.6s							
PMD					IAML		19 39 12.4	
	comp=E,28nm,0.4s							
PFO	**Pinyon Flats O**	**2.50**	**156**			Pn	19 38 13.9	-1.0
PFO					IAML		19 39 19.0	
	comp=E,29nm,0.8s							
NV11	**Mina Array Sit**	**2.56**	**352**			Pn	19 38 15.1	-0.6
NVAR	**Mina Array Bea**	**2.57**	**349**			Pn	19 38 15.8	-0.3
PRN	**Pahroc Range**	**2.59**	**54**			Pn	19 38 15.5	-0.8
PRN					IAML		19 39 05.7	
	comp=N,58nm,1.0s							
Q09A	**Carvers**	**2.95**	**8**	Pn	Pn		19 38 20.7	-0.6
R11B	**Troy Canyon, C**	**2.96**	**34**			Pn	19 38 20.8	-0.5
W13A	**Hualapai Mount**	**3.20**	**103**			Pn	19 38 24.4	-0.2
CBX	**Cerro Bola**	**3.68**	**166**	Pn		Pn	19 38 31.1	0.0
LCMT	**Little Creek M**	**3.74**	**71**			Pn	19 38 32.4	+0.3
CCUT	**Cedar City**	**3.84**	**63**			Pn	19 38 33.6	+0.2
KNB	**Kanab**	**4.07**	**73**	Pn	Pn		19 38 36.9	+0.3
ELK	**Elko**	**5.20**	**21**			Pn	19 38 52.3	+0.1

NEIC ***06*** *19:37:59.3±1.0,35°.656N±0°.009×117°.508W±0°.003, h5km,1km, Error ellipse: s-maj=2.6km s-min=1.6km az=229.0*

PAS 06 19:37:59.8±1.1**,35°.658N**±0°.008×**117°.50W**±0°.01**, h3**km,2km, ML3.0**/26**, ML2.6**/20(NEIC)**, Error ellipse: s-maj=1.4km s-min=1.0km az=53.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.17**	**140**		Pg	19 38 03.8	+0.7
SRTC	**Snort**	**0.20**	**280**		Pg	19 38 04.2	+0.5
LRMC	**Laurel Mtn Rad**	**0.23**	**219**		Pg	19 38 04.3	+0.1
LRMC					Sg	19 38 07.6	+0.4
TOW	**Tower One**	**0.26**	**305**		Pg	19 38 05.3	+0.5
WNMM	**Nine Mile Cany**	**0.38**	**300**		Pg	19 38 07.9	+0.9
WVPM	**Volcano Peak E**	**0.39**	**319**		Pg	19 38 07.5	+0.3
MPMC	**Manual Prospec**	**0.40**	**2**	Pg	Pg	19 38 07.3	-0.2
MPMC				Sg	Sg	19 38 13.0	+0.2
MPMC				IAML		19 38 13.4	
	comp=E,452nm,0.5s						
WRVM	**Rose V. Centra**	**0.47**	**318**		Pg	19 38 08.9	+0.1
DTP	**Desert Tortois**	**0.48**	**216**		Pg	19 38 08.9	0.0
DTP					Sg	19 38 15.5	+0.3
WBSM	**Bird Springs**	**0.53**	**257**		Pg	19 38 09.8	-0.1
WBSM					Sg	19 38 17.3	+0.4
MFS	**McCloud Flat S**	**0.54**	**328**		Sg	19 38 17.8	+0.7
QSM	**Queen of Sheba**	**0.60**	**59**	Pg	Pg	19 38 11.3	+0.1
QSM					Sg	19 38 19.1	+0.1
QSM				IAML		19 38 20.6	
	comp=N,703nm,0.4s						
WORM	**Onyx Ranch**	**0.60**	**274**		Pg	19 38 11.1	-0.2
GSC	**Goldstone, Bar**	**0.67**	**122**	Sg	Sg	19 38 21.8	+0.5
WHFM	**Hanning Flat**	**0.69**	**273**		Pg	19 38 12.7	-0.3
ISA	**Isabella, Lake**	**0.79**	**271**		Pg	19 38 14.5	-0.4
HYS	**Haystack Butte**	**0.79**	**184**		Pb	19 38 16.1	-0.2
WASM	**Alta Sierra Ca**	**0.86**	**276**		Sg	19 38 27.8	+0.4
EDW2	**Edwards Air Fo**	**0.87**	**208**		Pb	19 38 17.4	-0.2
CWC	**Cottonwood Cre**	**0.91**	**329**	Pg	Pg	19 38 17.3	+0.1
HOLC	**Holcomb Ridge**	**1.23**	**193**		Sb	19 38 39.9	-0.1
JNH	**Juniper Hills**	**1.26**	**197**		Sb	19 38 40.9	-0.1
SIL	**Silver Peak**	**1.42**	**157**		Pg	19 38 27.0	0.0
CLTC	**Calectric**	**1.57**	**174**		Pn	19 38 26.8	-1.8
PASC	**Pasadena Art C**	**1.59**	**201**		Pn	19 38 28.7	-0.1
PASC				IAML		19 38 54.5	
	comp=E,103nm,0.4s						
PASC				IAML		19 38 55.2	
	comp=N,59nm,0.4s						
ELS	**Elsinore Mount**	**2.01**	**178**		Pn	19 38 34.3	-0.3
PRN	**Pahroc Range**	**2.63**	**48**	Pn	Pn	19 38 44.0	+0.6
W13A	**Hualapai Mount**	**3.01**	**100**	Pn	Pn	19 38 47.2	-1.4
W13A				IAML		19 39 17.9	
	comp=N,18nm,1.1s						
W13A				IAML		19 39 20.6	
	comp=E,21nm,1.0s						
113A	**Mohawk Valley,**	**4.23**	**132**	Pn	Pn	19 39 04.7	-0.4
113A				IAML		19 40 13.8	
	comp=E,6.3nm,2.0s						
113A				IAML		19 40 56.2	
	comp=N,5.9nm,3.6s						

AFAD ***06*** *19:43:04.5,35°.37N×30°.37E,h17km±4km, ML2.5*
ISK ***06*** *19:43:05.5,35°.47N×30°.43E,h9km, ML2.8/23*
GII ***06*** *19:43:05.7±0.0,35°.369N±0°.001×30°.372E±0°.001,h17km, Mws2.9,confirmed*
NIC ***06*** *19:43:07.8,35°.54N×30°.36E,h34km±31km, Ml2.5/10*

ISC 06 19:43:04.8±1.6**,35°.40N**±0°.03×**30°.32E**±0°.03**, h14**km±12km**, n76,σ**0**94/92, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMR	**Demre-Antalya**	**0.90**	**338**	Pg	**Pn**	**19 43 23.2**	**+0.2**
DEMR				Sg	**Sn**	**19 43 35.9**	**+0.1**
AKUM	**Antalya-Kumluc**	**0.92**	**1**	P	**Pb**	**19 43 22.1**	**-0.4**
AKUM				S	**Sn**	**19 43 35.5**	**-0.7**
AKUM				*i* IAML		19 43 44.0	
	comp=E,294nm,0.7s						
AKUM				*i* IAML		19 43 48.0	
	comp=N,321nm,0.7s						
KSL	**Kastellorizon**	**0.96**	**321**	P	**Pb**	**19 43 22.3**	**-0.9**
KSL				S	**Sb**	**19 43 35.8**	**+0.1**
KSL				AML	AML	19 43 43.0	
	1.1nm,0.5s						
KSL				AML	AML	19 43 46.3	
	0.8nm,0.6s						
AKAS	**Kas**	**1.01**	**325**	Pg	**Pg**	**19 43 24.9**	**+0.5**
AKAS				Sg	**Sn**	**19 43 40.1**	**+1.3**
AKAS	**Kas**	**1.01**	**325**	P	**Pn**	**19 43 25.2**	**+0.6**
AKAS				S	**Sn**	**19 43 40.1**	**+1.3**
IZZE	**Mula-Seydike**	**1.36**	**320**	P	**Pn**	**19 43 28.1**	**-1.2**
IZZE				*i* IAML		19 44 07.0	
	comp=E,159nm,0.4s						
ELL	**Elmali**	**1.39**	**346**	Pn	**Pg**	**19 43 31.2**	**-0.3**
ANTB	**Antalya**	**1.52**	**10**	Pn	**Pb**	**19 43 32.7**	**0.0**
KNIK	**Mula-Seydike**	**1.56**	**337**	P	**Pn**	**19 43 31.7**	**-0.6**
KNIK				S	**Sb**	**19 43 52.5**	**-0.7**
KNIK				*i* IAML		19 44 14.0	
	comp=N,62nm,0.6s						
KNIK				*i* IAML		19 44 17.0	
	comp=E,61nm,0.7s						

FETY	**Fethiye**	**1.59**	**321**	Pn	**Pb**	**19 43 34.9**	**+1.0**
KORT	**Korkueli**	**1.60**	**1**	Pn	**Pb**	**19 43 33.9**	**-0.2**
AKMS	**Akamas**	**1.69**	**102**	P	**Pn**	**19 43 34.8**	**+0.9**
AKMS				S	**Sn**	**19 43 55.8**	**+0.5**
AKMS				AML	AML	19 43 57.3	
	0.3nm,0.7s						
AKMS				AML	AML	19 43 57.4	
	0.3nm,0.8s						
CAME	**Cameli-Denizli**	**1.75**	**332**	Pn	**Pb**	**19 43 36.5**	**-0.2**
SABU	**Mula-Dalaman**	**1.79**	**323**	P	**Pn**	**19 43 34.4**	**-0.9**
SABU				*i* IAML		19 44 22.0	
	comp=E,59nm,0.9s						
SABU				*i* IAML		19 44 23.0	
	comp=N,58nm,0.8s						
GAZI	**Gazipasa**	**1.82**	**62**	Pn	**Pn**	**19 43 35.7**	**0.0**
GAZI	**Gazipasa**	**1.82**	**62**	P	**Pn**	**19 43 35.9**	**+0.2**
GAZI				S	**Sn**	**19 43 57.2**	**-1.3**
GAZI				*i* IAML		19 44 14.0	
	comp=N,57nm,0.6s						
GAZI				*i* IAML		19 44 30.0	
	comp=E,48nm,0.8s						
ALFC	**Alefka**	**1.88**	**97**	P	**Pb**	**19 43 37.9**	**-1.0**
ALFC				S	**Sn**	**19 44 00.3**	**+0.3**
ALFC				AML	AML	19 44 00.3	
	0.1nm,0.6s						
ALFC				AML	AML	19 44 01.4	
	0.1nm,0.5s						
NATA	**Nata**	**1.94**	**108**	P	**Pb**	**19 43 39.4**	**-0.6**
NATA				S	**Sn**	**19 44 02.6**	**+1.0**
NATA				AML	AML	19 44 30.1	
	0.3nm,0.9s						
NATA				AML	AML	19 44 36.2	
	0.2nm,0.9s						
DALY	**Dalyan (Mula)**	**1.96**	**317**	Pn	**Pb**	**19 43 39.9**	**-0.2**
BCK	**Bucak**	**2.07**	**6**	Pn	**Pn**	**19 43 39.9**	**+0.8**
TROD	**Troodos**	**2.13**	**102**	P	**Pn**	**19 43 40.8**	**+0.7**
TROD				S	**Sn**	**19 44 07.7**	**+1.2**
TROD				AML	AML	19 44 22.9	
	0.1nm,0.5s						
TROD				AML	AML	19 44 24.2	
	0.1nm,0.5s						
TURN	**Turunc**	**2.17**	**310**	Pn	**Pb**	**19 43 43.2**	**-0.6**
APOL	**The Sanctuary**	**2.21**	**109**	P	**Pn**	**19 43 42.4**	**+1.5**
APOL				S	**Sn**	**19 44 09.2**	**+1.1**
APOL				AML	AML	19 44 22.3	
	0.1nm,0.5s						
APOL				AML	AML	19 44 23.7	
	0.1nm,0.7s						
XYLS	**Xyliatos**	**2.27**	**99**	P	**Pn**	**19 43 42.6**	**+0.8**
XYLS				S	**Sn**	**19 44 10.7**	**+1.1**
XYLS				AML	AML	19 44 15.1	
	0.1nm,0.5s						
XYLS				AML	AML	19 44 17.8	
	0.1nm,0.5s						
SEYD	**Seydisehir-KON**	**2.34**	**31**	Pn	**Pn**	**19 43 43.8**	**+0.8**
SEYD				Sn	**Sn**	**19 44 11.6**	**0.0**
SEDI	**Konya, Seydise**	**2.35**	**29**	P	**Pn**	**19 43 44.0**	**+0.9**
SEDI				S	**Sb**	**19 44 13.1**	**-2.8**
SEDI				*i* IAML		19 44 43.0	
	comp=E,30nm,0.6s						
SEDI				*i* IAML		19 44 52.0	
	comp=N,25nm,1.1s						
TEKE	**Tekeli-Mersin**	**2.39**	**71**	Pn	**Pn**	**19 43 44.3**	**+0.9**
ASGA	**Asgata**	**2.48**	**104**	P	**Pn**	**19 43 46.4**	**+1.8**
ASGA				S	**Sn**	**19 44 15.8**	**+1.1**
ASGA				AML	AML	19 44 20.7	
	0.1nm,0.6s						
ASGA				AML	AML	19 44 25.6	
	0.1nm,0.4s						
CSS	**Mathiatis**	**2.50**	**99**	Pn	**Pn**	**19 43 46.6**	**+1.5**
CSS	**Mathiatis**	**2.50**	**99**	P	**Pn**	**19 43 44.8**	**-0.2**
CSS	**Mathiatis**	**2.50**	**99**	P	**Pn**	**19 43 46.6**	**+1.5**
CSS				AML	AML	19 44 49.2	
CSS				AML	AML	19 44 54.2	
BERE	**Bereket-Mersin**	**2.54**	**67**	Pn	**Pn**	**19 43 46.7**	**+1.1**
KARP	**Karpathos**	**2.58**	**274**	P	**Pn**	**19 43 47.8**	**+1.6**
LFK	**Lefkose**	**2.63**	**92**	Pn	**Pn**	**19 43 47.9**	**+1.1**
MVOU	**Mavrovouni**	**2.74**	**97**	P	**Pn**	**19 43 49.9**	**+1.6**
MVOU				AML	AML	19 44 31.2	
	0.1nm,1.1s						
MVOU				AML	AML	19 44 31.6	
	0.1nm,0.5s						
IKL	**Isikli**	**2.86**	**72**	Pn	**Pn**	**19 43 51.2**	**+1.3**
KEBE	**Keben-Mersin**	**2.94**	**68**	Pn	**Pn**	**19 43 52.4**	**+1.2**
KONT	**Konya--Tatoy**	**3.02**	**32**	Pn	**Pn**	**19 43 53.8**	**+1.6**
LADK	**Ladik-KONYA**	**3.24**	**30**	Pn	**Pn**	**19 43 56.7**	**+1.4**
KIZK	**Mersin**	**3.28**	**70**	Pn	**Pn**	**19 43 57.5**	**+1.8**
YESY	**Yesilyurt**	**3.64**	**48**	Pn	**Pn**	**19 44 02.2**	**+1.5**
APE	**Apeiranthos**	**4.21**	**295**	P	**Pn**	**19 44 10.1**	**+1.5**
OFRI	**`Ofer**	**4.76**	**124**	S	**Sn**	**19 45 10.4**	**-0.7**
OFRI	**`Ofer**	**4.76**	**124**	P	**Pn**	**19 44 16.4**	**+0.2**
MMC7	**Mount Meron ar**	**4.83**	**118**	P	**Pn**	**19 44 17.6**	**+0.6**
MMA0B	**Mount Meron ar**	**4.84**	**118**	S	**Sn**	**19 45 12.7**	**-0.3**
MMA0B	**Mount Meron ar**	**4.84**	**118**	P	**Pn**	**19 44 17.4**	**+0.2**
KOZT	**Kozan**	**4.90**	**63**	Pn	**Pn**	**19 44 20.6**	**+2.6**
GEM	**Giv'at Ha'Em**	**4.93**	**115**	S	**Sn**	**19 45 14.7**	**-0.6**
GEM	**Giv'at Ha'Em**	**4.93**	**115**	P	**Pn**	**19 44 18.9**	**+0.4**
NATI	**Neve Ativ**	**4.96**	**114**	S	**Sn**	**19 45 16.7**	**-0.3**
NATI	**Neve Ativ**	**4.96**	**114**	P	**Pn**	**19 44 19.1**	**+0.3**
MMLI	**Mount Malkishu**	**5.17**	**123**	S	**Sn**	**19 45 20.4**	**-0.7**
MMLI	**Mount Malkishu**	**5.17**	**123**	P	**Pn**	**19 44 21.9**	**+0.2**
HMDT	**Nahal Hemdat**	**5.35**	**124**	S	**Sn**	**19 45 25.4**	**-0.1**
HMDT	**Nahal Hemdat**	**5.35**	**124**	P	**Pn**	**19 44 24.4**	**+0.2**
KZIT	**Kziot**	**5.64**	**142**	S	**Sn**	**19 45 31.9**	**-0.7**
KZIT	**Kziot**	**5.64**	**142**	P	**Pn**	**19 44 28.1**	**0.0**
YTIR	**Yattir**	**5.68**	**134**	S	**Sn**	**19 45 33.7**	**-0.2**
YTIR	**Yattir**	**5.68**	**134**	P	**Pn**	**19 44 28.9**	**0.0**
DSI	**Dead Sea**	**5.70**	**131**	S	**Sn**	**19 45 33.9**	**-0.2**
DSI	**Dead Sea**	**5.70**	**131**	P	**Pn**	**19 44 29.1**	**+0.2**
MSBI	**Mazada**	**5.86**	**133**	S	**Sn**	**19 45 37.9**	**-0.2**
MSBI	**Mazada**	**5.86**	**133**	P	**Pn**	**19 44 31.4**	**+0.2**
GHAJ	**Ghor Haditha**	**6.00**	**131**	S	**Sn**	**19 45 41.2**	**-0.3**
GHAJ	**Ghor Haditha**	**6.00**	**131**	P	**Pn**	**19 44 33.1**	**+0.1**
PRNI	**Paran**	**6.39**	**141**	S	**Sn**	**19 45 50.9**	**-0.3**
PRNI	**Paran**	**6.39**	**141**	P	**Pn**	**19 44 39.1**	**+0.6**
KRMI	**Paran Flat**	**6.44**	**144**	S	**Sn**	**19 45 52.2**	**-0.3**
KRMI	**Paran Flat**	**6.44**	**144**	P	**Pn**	**19 44 39.4**	**+0.2**
HRFI	**Mount Harif**	**6.66**	**142**	S	**Sn**	**19 45 57.5**	**-0.5**
HRFI	**Mount Harif**	**6.66**	**142**	P	**Pn**	**19 44 42.6**	**+0.4**
MBRI	**Mt Berech**	**6.80**	**144**	S	**Sn**	**19 46 01.5**	**0.0**
MBRI	**Mt Berech**	**6.80**	**144**	P	**Pn**	**19 44 44.9**	**+0.7**
EIL	**Elat**	**6.92**	**144**	S	**Sn**	**19 46 04.0**	**-0.4**
EIL	**Elat**	**6.92**	**144**	P	**Pn**	**19 44 46.4**	**+0.6**

NEIC ***06*** *19:46:23.4±1.1,35°.888N±0°.008×117°.713W±0°.007, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.6km az=16.0*

PAS 06 19:46:23.8±1.0**,35°.892N**±0°.005×**117°.72W**±0°.01**, h4**km,3km**, ML3.3**/22**, ML3.0**/68(NEIC)**, Error ellipse: s-maj=1.5km s-min=0.4km az=121.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.09**	**202**		Pg	19 46 26.2	+0.5
WVPM	**Volcano Peak E**	**0.10**	**307**		Pg	19 46 25.9	+0.1
CLC	**China Lake**	**0.13**	**127**	Pg	Pg	19 46 26.4	0.0
CLC				Sg	Sg	19 46 28.5	+0.4
CLC				IAML		19 46 29.4	
	comp=N,5μm,0.2s						
CLC				IAML		19 46 29.6	
	comp=E,5μm,0.2s						
WNMM	**Nine Mile Cany**	**0.15**	**252**		Pg	19 46 27.1	+0.2
WNMM					Sg	19 46 29.7	+0.8
SRTC	**Snort**	**0.20**	**186**		Pg	19 46 28.2	+0.4
SRTC					Sg	19 46 32.2	+1.8
MPMC	**Manual Prospec**	**0.25**	**49**	Pg	Pg	19 46 28.8	0.0
MPMC				Sg	Sg	19 46 32.5	+0.4
MPMC				IAML		19 46 33.1	
	comp=E,3μm,0.5s						
LRMC	**Laurel Mtn Rad**	**0.41**	**175**		Pg	19 46 31.6	-0.2
LRMC				Sg	Sg	19 46 37.6	+0.4
CCCA	**Chr Cany lake**	**0.47**	**141**		Pg	19 46 32.6	-0.2
CWC	**Cottonwood Cre**	**0.62**	**332**	Pg	Pg	19 46 35.8	+0.1
DTP	**Desert Tortois**	**0.63**	**189**		Pg	19 46 35.5	-0.4
ISA	**Isabella, Lake**	**0.65**	**250**		Pg	19 46 36.1	-0.3
ISA				Sg	Sg	19 46 44.5	-0.3
CGO	**Cerro Gordo**	**0.66**	**354**		Pg	19 46 36.5	0.0
WASM	**Alta Sierra Ca**	**0.69**	**257**		Pg	19 46 36.9	-0.2
QSM	**Queen of Sheba**	**0.70**	**84**		Pg	19 46 37.0	-0.3
QSM					Sg	19 46 46.4	+0.1
QSM				IAML		19 46 50.1	
	comp=E,848nm,0.7s						
QSM				IAML		19 46 51.6	
	comp=N,932nm,0.7s						
CCAC	**Calif City Air**	**0.78**	**198**		Pg	19 46 38.2	-0.4
SPG2	**Springville 2**	**0.90**	**290**		Pg	19 46 40.3	-0.8
GWY	**Greenwater Val**	**0.90**	**71**	Pg	Pg	19 46 41.1	0.0
GWY				Sg	Sg	19 46 52.8	-0.1
GWY				IAML		19 47 00.3	
	comp=N,691nm,0.6s						
GSC	**Goldstone, Bar**	**0.95**	**128**		Pg	19 46 41.4	-0.7
GSC				Sg	Sg	19 46 54.5	+0.1
GSC				IAML		19 46 56.8	
	comp=N,616nm,0.4s						
VES	**Vestal, Richgr**	**1.11**	**268**		Pg	19 46 44.5	-0.5
GRAC	**Grapevine Rang**	**1.14**	**15**		Pg	19 46 45.0	-0.7
GRAC				IAML		19 47 02.0	
	comp=E,407nm,0.6s						
RRX	**Edison Barstow**	**1.18**	**149**		Pb	19 46 46.6	-0.1
ARVC	**Arvin**	**1.18**	**230**		Pg	19 46 45.6	-0.8
WCT	**Wildcat Mounta**	**1.26**	**44**		Pg	19 46 47.3	-0.8
WCT					Sg	19 47 04.2	-0.2
WCT				IAML		19 47 08.9	
	comp=N,181nm,0.8s						
WCT				IAML		19 47 09.6	
	comp=E,225nm,0.6s						
GMN	**Gold Mountain**	**1.45**	**15**		Pn	19 46 50.6	-0.6
GMN				IAML		19 47 17.7	
	comp=N,152nm,0.6s						
DSP	**Deep Springs**	**1.49**	**352**		Pn	19 46 51.0	-0.3
OSI	**Osito Audit: C**	**1.52**	**213**		Pn	19 46 51.2	-0.6
OSI				IAML		19 47 19.9	
	comp=E,181nm,0.8s						
OSI				IAML		19 47 21.5	
	comp=N,142nm,0.8s						
TPNV	**Topopah Spring**	**1.59**	**48**		Pn	19 46 52.2	-0.7
TPNV				IAML		19 47 17.6	
	comp=N,228nm,0.8s						
TPNV				IAML		19 47 25.7	
	comp=N,170nm,0.8s						
MTUM	**Tungsten Hills**	**1.61**	**335**		Pn	19 46 53.6	+0.4
BCW	**Bitter Crk WRg**	**1.68**	**236**		Pb	19 46 55.0	-0.3
MWC	**Mount Wilson**	**1.69**	**189**		Pn	19 46 53.2	-1.0
MWC				IAML		19 47 18.9	
	comp=N,230nm,0.5s						
MWC				IAML		19 47 20.0	
	comp=E,207nm,0.7s						
CRGC	**Crocker Grade**	**1.76**	**249**		Pn	19 46 55.8	+0.6
PASC	**Pasadena Art C**	**1.76**	**193**		Pn	19 46 54.4	-0.7
SHPR	**Sheep Range**	**2.16**	**73**		Pn	19 47 00.4	-0.4
TPC	**Twentynine Pal**	**2.25**	**142**		Pn	19 47 00.8	-1.1
ELS	**Elsinore Mount**	**2.25**	**174**		Pn	19 47 00.7	-1.2
ELS				IAML		19 47 37.1	
	comp=E,110nm,0.3s						
ELS				IAML		19 47 42.0	
	comp=N,81nm,0.6s						
POB	**Polly Butte**	**2.30**	**163**		Pn	19 47 02.1	-0.4
V12A	**Nelson**	**2.34**	**93**		Pn	19 47 02.6	-0.5
V12A				IAML		19 47 40.1	
	comp=N,84nm,1.0s						
V12A				IAML		19 47 47.4	
	comp=E,68nm,0.6s						
PMD	**Palm Desert**	**2.50**	**153**	Pn	Pn	19 47 03.8	-1.4
PMD					IAML	19 47 48.2	
	comp=E,102nm,0.8s						
PMD					IAML	19 47 51.4	
	comp=N,72nm,0.5s						
PFO	**Pinyon Flats O**	**2.50**	**155**		Pn	19 47 04.2	-1.2
PFO					IAML	19 47 48.2	
	comp=N,71nm,1.2s						
PFO					IAML	19 47 49.7	
	comp=N,60nm,0.7s						
NVAR	**Mina Array Bea**	**2.58**	**350**	Pn	Pn	19 47 05.3	-1.2
RYN	**Ryan**	**2.81**	**347**		Pn	19 47 09.5	-0.2
SAO	**San Andreas Ge**	**3.13**	**287**		Pn	19 47 12.3	-1.7
W13A	**Hualapai Mount**	**3.23**	**103**		Pn	19 47 14.1	-1.5
W13A				IAML		19 48 10.2	
	comp=N,24nm,0.8s						
BLYC	**Blythe**	**3.39**	**128**		Pn	19 47 15.7	-1.9
BLYC				IAML		19 48 14.8	
	comp=E,47nm,0.5s						
YUH	**Yuha Desert**	**3.56**	**155**		Pn	19 47 19.2	-0.7
YUH				IAML		19 48 28.8	
	comp=N,18nm,1.2s						
CBX	**Cerro Bola**	**3.68**	**166**		Pn	19 47 20.3	-1.2
SPR3	**Spring Creek 3**	**4.11**	**40**		Pn	19 47 27.6	-0.2
SPR3				IAML		19 48 33.9	
	comp=E,16nm,0.7s						
SPR3				IAML		19 48 34.5	
	comp=N,15nm,1.1s						
ESJX	**Sierra Juarez**	**4.15**	**159**		Pn	19 47 28.3	+0.2
ELK	**Elko**	**5.22**	**21**	Pn	Pn	19 47 42.8	-0.2
X16A	**Lo Mia Camp, P**	**5.35**	**104**		Pn	19 47 44.0	-0.7
X16A				IAML		19 49 31.2	
	comp=E,5.6nm,1.6s						
X16A				IAML		19 50 34.9	
	comp=N,5.4nm,4.8s						

NEIC ***06*** *19:49:03.9±1.9,35°.858N±0°.009×117°.67W±0°.01, h5km,Error ellipse: s-maj=1.9km s-min=1.5km az=80.0*

PAS 06 19:49:04.6±1.7**,35°.861N**±0°.004×**117°.68W**±0°.01**, h7**km±3km**, ML3.6**/18**, ML3.2**/78(NEIC)**, Error ellipse: s-maj=1.5km s-min=0.4km az=103.0, Central California**

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s | Res ISC |
|---|---|---|---|---|---|---

CJV	**Casa Juvan**	**1.38**	**196**		Pb	19 49 30.8	0.0
VOG	**Valley Oaks Go**	**1.45**	**289**		Pn	19 49 30.9	-0.3
GMN	**Gold Mountain**	**1.48**	**13**		Pn	19 49 30.8	-1.1
GMN				IAML		19 49 53.4	
	comp=E,216nm,0.5s						
GMN				IAML		19 49 54.6	
	comp=N,355nm,0.5s						
OSI	**Osito Audit: C**	**1.51**	**215**		Pn	19 49 32.5	+0.4
OSI				IAML		19 49 54.7	
	comp=E,397nm,0.7s						
OSI				IAML		19 49 57.6	
	comp=N,301nm,0.8s						
DSP	**Deep Springs**	**1.52**	**351**		Pn	19 49 31.5	-0.7
DSP					Sn	19 49 51.9	-0.4
TPNV	**Topopah Spring**	**1.59**	**46**		Pn	19 49 32.1	-1.2
BFSC	**Mount Baldy Ra**	**1.62**	**179**		Pn	19 49 32.9	-0.8
BFSC				IAML		19 49 56.9	
	comp=E,388nm,0.6s						
MWC	**Mount Wilson**	**1.66**	**191**		Pn	19 49 34.0	-0.3
MWC				IAML		19 49 59.0	
	comp=N,523nm,0.6s						
PASC	**Pasadena Art C**	**1.73**	**194**		Pn	19 49 34.4	-0.8
PASC				IAML		19 50 01.2	
	comp=E,185nm,0.9s						
CRGC	**Crocker Grade**	**1.77**	**250**		Pb	19 49 36.7	-0.8
MTPC	**Mountain Pass**	**1.77**	**102**		Pn	19 49 34.2	-1.7
MZP	**Montezuma Peak**	**1.85**	**7**		Pn	19 49 36.4	-0.7
KCC	**Kaiser Creek**	**1.96**	**318**		Pb	19 49 40.5	-0.3
PKM	**Mcpherson Peak**	**1.99**	**241**		Pb	19 49 40.5	-0.8
SHPR	**Sheep Range**	**2.14**	**72**	Pn	Pn	19 49 40.0	-0.9
ELS	**Elsinore Mount**	**2.22**	**174**		Pn	19 49 41.0	-0.9
ELS				IAML		19 50 17.2	
	comp=E,169nm,0.6s						
ELS				IAML		19 50 21.6	
	comp=N,127nm,0.7s						
TPH	**Tonopah**	**2.24**	**9**	Pn	Pn	19 49 41.8	-0.6
POB	**Polly Butte**	**2.26**	**164**		Pn	19 49 41.9	-0.6
V12A	**Nelson**	**2.31**	**93**		Pn	19 49 41.9	-1.3
V12A				IAML		19 50 21.0	
	comp=E,123nm,0.6s						
V12A				IAML		19 50 24.9	
	comp=N,128nm,0.6s						
S11A	**Rachel**	**2.36**	**41**		Pn	19 49 43.1	-0.8
PFO	**Pinyon Flats O**	**2.46**	**155**		Pn	19 49 44.0	-1.3
PFO				IAML		19 50 27.6	
	comp=N,121nm,1.3s						
PFO				IAML		19 50 31.4	
	comp=N,75nm,0.8s						
LHV	**Little Huntoon**	**2.47**	**345**	Pn	Pn	19 49 45.5	+0.2
LHV				IAML		19 50 05.7	
	comp=E,75nm,0.6s						
LHV				IAML		19 50 30.6	
	comp=N,77nm,0.6s						
NV11	**Mina Array Sit**	**2.59**	**352**		Pn	19 49 46.5	-0.6
NVAR	**Mina Array Bea**	**2.61**	**349**		Pn	19 49 46.9	-0.6
PRN	**Pahroc Range**	**2.62**	**53**		Pn	19 49 46.7	-0.8
RYN	**Ryan**	**2.84**	**347**		Pn	19 49 50.5	0.0
SAO	**San Andreas Ge**	**3.17**	**288**		Pn	19 49 53.7	-1.2
W13A	**Hualapai Mount**	**3.19**	**103**		Pn	19 49 53.8	-1.6
W13A				IAML		19 50 47.1	
	comp=N,45nm,0.5s						
W13A				IAML		19 50 50.3	
	comp=E,42nm,0.7s						
YUH	**Yuha Desert**	**3.52**	**155**		Pn	19 49 58.9	-0.8
CBX	**Cerro Bola**	**3.64**	**166**		Pn	19 50 00.2	-1.3
LCMT	**Little Creek M**	**3.76**	**71**		Pn	19 50 02.9	-0.2
CCUT	**Cedar City**	**3.86**	**63**		Pn	19 50 04.3	-0.3
PAHR	**Pah Rah Range**	**4.07**	**341**		Pn	19 50 07.0	-0.4
ELK	**Elko**	**5.24**	**21**		Pn	19 50 23.5	-0.1
ELK				IAML		19 51 53.2	
	comp=E,9.1nm,0.6s						
ELK				IAML		19 51 54.6	
	comp=E,9.9nm,0.5s						

NEIC ***06*** *19:54:29.2±0.9, 35°.89N±0°.01×117°.73W±0°.01, h4km±2km, Error ellipse: s-maj=1.6km s-min=1.4km az=163.0*

PAS 06 19:54:29.8±1.0, 35°.896N±0°.007×117°.73W±0°.01, h4km±3km, ML3.3/20, ML2.9/68(NEIC), Error ellipse: s-maj=1.4km s-min=0.9km az=81.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**306**		Pg	19 54 32.0	+0.2
CLC	**China Lake**	**0.13**	**127**	Pg	Pg	19 54 32.5	0.0
CLC				Sg	Sg	19 54 34.6	+0.3
CLC				IAML		19 54 35.2	
	comp=N,2μm,0.2s						
WNMM	**Nine Mile Cany**	**0.15**	**250**		Pg	19 54 33.0	+0.2
WRVM	**Rose V. Centra**	**0.17**	**310**		Pg	19 54 33.4	+0.1
SRTC	**Snort**	**0.20**	**185**		Pg	19 54 34.2	+0.4
MFS	**McCloud Flat S**	**0.24**	**335**		Pg	19 54 34.6	0.0
MPMC	**Manual Prospec**	**0.25**	**50**	Pg	Pg	19 54 34.8	0.0
MPMC				Sg	Sg	19 54 38.4	+0.2
MPMC				IAML		19 54 38.6	
	comp=N,3μm,0.4s						
MPMC				IAML		19 54 38.7	
	comp=E,2μm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.42**	**175**		Pg	19 54 37.6	-0.3
LRMC					Sg	19 54 43.6	+0.2
WORM	**Onyx Ranch**	**0.47**	**245**		Pg	19 54 38.5	-0.2
CCCA	**Chr Cany lake**	**0.47**	**141**		Pg	19 54 39.2	+0.2
WBSM	**Bird Springs**	**0.49**	**223**		Sg	19 54 45.9	+0.2
CWC	**Cottonwood Cre**	**0.61**	**332**	Pg	Pg	19 54 41.5	-0.2
DTP	**Desert Tortois**	**0.63**	**189**		Sg	19 54 50.2	0.0
ISA	**Isabella, Lake**	**0.65**	**249**		Pg	19 54 42.1	-0.3
ISA				Sg	Sg	19 54 50.3	-0.5
WASM	**Alta Sierra Ca**	**0.69**	**257**		Pg	19 54 42.9	-0.3
WASM					Sg	19 54 52.2	0.0
QSM	**Queen of Sheba**	**0.70**	**84**		Pg	19 54 43.3	0.0
QSM					Sg	19 54 52.5	+0.1
QSM				IAML		19 54 53.7	
	comp=E,914nm,0.3s						
QSM				IAML		19 54 58.8	
	comp=N,1μm,0.6s						
CCAC	**Calif City Air**	**0.78**	**198**		Pg	19 54 44.2	-0.5
SPG2	**Springville 2**	**0.90**	**290**		Pg	19 54 46.2	-0.8
GSC	**Goldstone, Bar**	**0.96**	**128**	Pg	Pg	19 54 47.3	-0.9
GSC				IAML		19 55 02.8	
	comp=N,573nm,0.3s						
TEJ	**El Tejon**	**1.03**	**230**		Pg	19 54 48.5	-1.0
VES	**Vestal, Richgr**	**1.10**	**268**		Pg	19 54 50.5	-0.5
RRX	**Edison Barstow**	**1.18**	**149**		Pg	19 54 52.6	+0.1
SGV	**South Grapevin**	**1.22**	**27**		Pg	19 54 52.8	-0.4
THC	**Tehachapi Micr**	**1.25**	**218**		Pg	19 54 52.4	-1.4
BAKC	**Calstate**	**1.25**	**244**		Sb	19 55 10.4	0.0
WCT	**Wildcat Mounta**	**1.26**	**44**	Pg	Pg	19 54 53.3	-0.7
WCT				IAML		19 55 14.1	
	comp=N,141nm,0.6s						
WCT				IAML		19 55 15.6	
	comp=E,161nm,1.0s						
AMDNV	**Amargosa**	**1.29**	**64**		Pn	19 54 54.3	-0.4
CJV	**Casa Juvan**	**1.41**	**194**		Pb	19 54 56.7	0.0
VOG	**Valley Oaks Go**	**1.41**	**288**		Pn	19 54 55.7	-0.4
OSI	**Osito Audit: C**	**1.52**	**213**		Pn	19 54 57.5	-0.3
OSI				IAML		19 55 33.8	
	comp=E,102nm,0.9s						
TUQ	**Turquoise Moun**	**1.54**	**107**		Pn	19 54 58.2	0.0
TPNV	**Topopah Spring**	**1.59**	**48**		Pn	19 54 58.6	-0.2
TPNV				IAML		19 55 22.1	
	comp=E,154nm,0.4s						
TPNV				IAML		19 55 23.4	
	comp=E,184nm,0.8s						
MWC	**Mount Wilson**	**1.69**	**189**		Pn	19 54 59.8	-0.5
MWC				IAML		19 55 26.0	
	comp=E,255nm,0.6s						
PASC	**Pasadena Art C**	**1.76**	**192**		Pn	19 55 00.4	-0.7
MZP	**Montezuma Peak**	**1.82**	**9**	Pn	Pn	19 55 01.2	-1.0
BENR	**Benton**	**1.94**	**340**		Pb	19 55 05.8	-0.1
SHPR	**Sheep Range**	**2.16**	**73**	Pn	Pn	19 55 05.6	-1.2
ELS	**Elsinore Mount**	**2.26**	**174**		Pn	19 55 07.0	-1.0
ELS				IAML		19 55 43.8	
	comp=N,66nm,0.5s						
ELS				IAML		19 55 45.8	
	comp=E,69nm,0.5s						
V12A	**Nelson**	**2.34**	**93**	Pn	Pn	19 55 08.0	-1.2
V12A				IAML		19 55 46.3	
	comp=N,56nm,0.6s						
V12A				IAML		19 55 48.1	
	comp=E,74nm,0.5s						
PMD	**Palm Desert**	**2.50**	**153**	Pn	Pn	19 55 09.9	-1.3
PMD				IAML		19 55 50.6	
	comp=N,52nm,0.5s						
PMD				IAML		19 55 54.1	
	comp=E,66nm,1.0s						
PFO	**Pinyon Flats O**	**2.51**	**155**		Pn	19 55 10.8	-0.7
PFO				IAML		19 55 56.1	
	comp=E,60nm,1.0s						
PFO				IAML		19 55 56.6	
	comp=E,45nm,1.0s						
PMPB	**Monarch Peak**	**2.51**	**278**		Pn	19 55 11.0	-0.4
NVAR	**Mina Array Bea**	**2.57**	**350**		Pn	19 55 12.1	-0.3
PRN	**Pahroc Range**	**2.63**	**54**		Pn	19 55 13.0	-0.1
PRN				IAML		19 56 02.5	
	comp=N,73nm,0.9s						
PRN				IAML		19 56 03.1	
	comp=E,88nm,0.9s						
BBGB	**Big Mountain B**	**2.76**	**285**		Pn	19 55 14.2	-0.8
NEE2	**Needles Airpor**	**2.78**	**113**	Pn	Pn	19 55 13.7	-1.4
W13A	**Hualapai Mount**	**3.23**	**103**		Pn	19 55 20.1	-1.4
W13A				IAML		19 56 16.2	
	comp=N,24nm,1.2s						
W13A				IAML		19 56 17.0	
	comp=E,22nm,0.8s						
BLYC	**Blythe**	**3.40**	**128**	Pn	Pn	19 55 23.2	-0.3
BLYC				IAML		19 56 24.3	
	comp=E,25nm,0.5s						
BLYC				IAML		19 56 28.5	
	comp=N,24nm,0.7s						
CBX	**Cerro Bola**	**3.68**	**166**		Pn	19 55 27.3	-0.3
GLA	**Glamis**	**3.71**	**139**		Pn	19 55 27.9	-0.1
LCMT	**Little Creek M**	**3.78**	**72**		Pn	19 55 29.7	+0.7
CCUT	**Cedar City**	**3.88**	**63**		Pn	19 55 30.5	+0.1
AFDM	**Forest Hills D**	**3.99**	**321**		Pn	19 55 32.3	+0.4
AFDM				IAML		19 56 39.9	
	comp=E,17nm,0.5s						
AFDM				IAML		19 56 41.0	
	comp=N,15nm,0.7s						
ESJX	**Sierra Juarez**	**4.15**	**159**		Pn	19 55 33.3	-0.8
ELK	**Elko**	**5.22**	**21**		Pn	19 55 45.9	-3.0
X16A	**Lo Mia Camp, P**	**5.36**	**104**		Pn	19 55 49.4	-1.3
X16A				IAML		19 57 38.5	
	comp=E,3.7nm,2.1s						
X16A				IAML		19 58 52.8	
	comp=N,4.5nm,4.6s						

WEL 06 20:08:45.5±1.4, 31°S±9°×17°9E±4°4, h12km, M4.3/5, mB4.8/5, ML4.7/9, MLv4.4/4, Mw(mB)4.0/5, Error ellipse: s-maj=57.7km s-min=10.5km az=96.3, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.19**	**185**	P	Pn	20 10 16.9	+0.1
MXZ				S	Sn	20 11 30.5	+3.1
HAZ	**Te Kaha**	**6.43**	**189**	P	Pn	20 10 21.2	+1.1
HAZ				S	Sn	20 11 36.7	+3.3
WMGZ	**Waiomatatini S**	**6.44**	**184**	P	Pn	20 10 21.2	+1.1
WMGZ				S	Sn	20 11 32.3	-1.2
RUGZ	**Raukumara Rang**	**6.65**	**189**	P	Pn	20 10 23.1	-0.1
RUGZ				S	Sn	20 11 36.7	-2.3
PUZ	**Puketiti**	**6.70**	**185**	P	Pn	20 10 23.6	-0.2
PUZ				S	Sn	20 11 39.6	-0.4
TWGZ	**Tauwhareparae**	**6.83**	**187**	P	Pn	20 10 26.2	+0.7
TWGZ				S	Sn	20 11 44.5	+1.3
URZ	**Urewera**	**7.03**	**192**	P	Pn	20 10 28.1	-0.1
URZ				S	Sn	20 11 50.7	+2.6
RAGZ	**Rawiri**	**7.21**	**190**	P	Pn	20 10 30.5	-0.3
RAGZ				S	Sn	20 11 56.7	+4.0
MUGZ	**Murupara**	**7.31**	**194**	P	Pn	20 10 31.9	-0.2
RIGZ	**Rimuhau**	**7.37**	**188**	P	Pn	20 10 31.6	-1.4
RIGZ				S	Sn	20 11 54.2	-2.5
RAHZ	**Arahi**	**7.67**	**191**	P	Pn	20 10 35.8	-1.3
RAHZ				S	Sn	20 12 02.4	-1.6
NMHZ	**Naumai**	**7.90**	**192**	P	Pn	20 10 38.1	-2.2
NMHZ				S	Sn	20 12 09.8	+0.1
RITZ	**Rihia Road**	**8.00**	**198**	P	Pn	20 10 40.1	-1.5
BKZ	**Black Stump Fm**	**8.03**	**194**	P	Pn	20 10 39.2	-2.8
BKZ				S	Sn	20 12 11.0	-1.7

IDC 06 20:14:53.9±1.4, 17°.82S×176°.18E, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=96.4km s-min=20.0km az=174.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.78**	**88**	Pn	Pn	20 15 26.7	+0.7
	6.6nm,0.3s,baz=267,slow=18,SNR=29						
MSVF				Sn	Sn	20 15 48.9	-0.6
	9.1nm,0.3s,baz=217,slow=20,SNR=4.8						
WRA	**Warramunga Arr**	**39.58**	**260**	P	P	20 22 26.9	-0.5
	0.5nm,0.9s,baz=92,slow=8.5,SNR=2.2						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**39.86**	**254**	P	P	20 22 29.7	+0.1
	0.6nm,0.6s,baz=87,slow=9.0,SNR=10						
	0.6nm,0.6s						
GERES	**GERESS Array B**	**145.94**	**339**	PKPbc	PKPdf	20 34 34.6	-0.4
	0.5nm,0.8s,baz=26,slow=2.6,SNR=1.8						

NEIC ***06*** *20:22:33.6±0.9, 35°.812N±0°.007×117°.63W±0°.01, h11km±5km, Error ellipse: s-maj=1.7km s-min=0.9km az=65.0*

PAS 06 20:22:34.2±1.0, 35°.811N±0°.009×117°.64W±0°.01, h7km±1km, ML3.1/24, ML2.8/40(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=70.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.03**	**81**	Pg	Pg	20 22 35.7	+0.1
CLC				Sg	Sg	20 22 37.0	+0.4
TOW	**Tower One**	**0.10**	**269**		Pg	20 22 37.0	+0.5
TOW					Sg	20 22 39.8	+1.7
SRTC	**Snort**	**0.15**	**218**		Pg	20 22 37.6	+0.4
WVPM	**Volcano Peak E**	**0.20**	**314**		Pg	20 22 38.3	0.0
WVPM					Sg	20 22 41.5	+0.4
WNMM	**Nine Mile Cany**	**0.22**	**279**		Pg	20 22 38.6	+0.1
WNMM					Sg	20 22 42.2	+0.8
MPMC	**Manual Prospec**	**0.28**	**26**	Pg	Pg	20 22 39.4	-0.3
MPMC				Sg	Sg	20 22 43.4	0.0
MPMC				IAML		20 22 43.6	
	comp=N,1μm,0.2s						
MPMC				IAML		20 22 45.3	
	comp=E,1μm,0.4s						
WRVM	**Rose V. Centra**	**0.28**	**314**		Pg	20 22 39.7	-0.1
LRMC	**Laurel Mtn Rad**	**0.33**	**186**	Pg	Pg	20 22 40.4	-0.3
LRMC					Sg	20 22 45.4	+0.3
LRMC				IAML		20 22 45.6	
	comp=E,1μm,0.5s						
LRMC				IAML		20 22 45.9	
	comp=N,900nm,0.2s						
MFS	**McCloud Flat S**	**0.35**	**330**		Pb	20 22 44.2	+1.3
WBSM	**Bird Springs**	**0.49**	**236**		Pg	20 22 43.3	-0.4
WBSM					Sg	20 22 50.3	+0.1
WHFM	**Hanning Flat**	**0.59**	**259**		Pg	20 22 45.1	-0.4
WHFM					Sg	20 22 53.1	-0.1
QSM	**Queen of Sheba**	**0.64**	**76**	Pg	Pg	20 22 45.9	-0.6
QSM					Sg	20 22 54.4	-0.5
ISA	**Isabella, Lake**	**0.70**	**258**		Sg	20 22 56.3	-0.3
CWC	**Cottonwood Cre**	**0.72**	**330**	Pg	Pg	20 22 47.8	-0.3
CWC				IAML		20 23 01.8	
	comp=N,303nm,0.1s						
CCAC	**Calif City Air**	**0.73**	**205**		Pg	20 22 47.6	-0.6
GSC	**Goldstone, Bar**	**0.85**	**127**	Pg	Pg	20 22 49.5	-0.9
GSC				IAML		20 23 03.6	
	comp=E,484nm,0.7s						
GSC				IAML		20 23 03.8	
	comp=N,403nm,0.5s						
GSC	**Goldstone, Bar**	**0.85**	**127**		Sg	20 23 01.0	-0.5
GWY	**Greenwater Val**	**0.87**	**64**		Pg	20 22 50.6	-0.3
GWY					Sg	20 23 01.7	-0.5
GWY				IAML		20 23 04.5	
	comp=N,503nm,0.4s						
RRX	**Edison Barstow**	**1.07**	**151**		Pg	20 22 54.5	-0.2
GRAC	**Grapevine Rang**	**1.20**	**10**		Pg	20 22 56.5	-0.8
GRAC				IAML		20 23 14.6	
	comp=N,214nm,0.8s						
GRAC				IAML		20 23 18.1	
	comp=E,290nm,0.4s						
WCT	**Wildcat Mounta**	**1.28**	**40**		Pn	20 22 57.8	-0.8
WCT				IAML		20 23 17.8	
	comp=E,140nm,0.4s						
CHFC	**Chilao Flat St**	**1.51**	**192**		Pb	20 23 02.5	-0.1
GMN	**Gold Mountain**	**1.52**	**11**		Pn	20 23 02.0	0.0
GMN				IAML		20 23 25.4	
	comp=N,77nm,0.6s						
DSP	**Deep Springs**	**1.58**	**350**		Pn	20 23 02.0	-0.6
TPNV	**Topopah Spring**	**1.59**	**44**		Pn	20 23 01.8	-1.2
TPNV				IAML		20 23 27.9	
	comp=N,126nm,0.5s						
TPNV				IAML		20 23 31.3	
	comp=N,117nm,0.6s						
PASC	**Pasadena Art C**	**1.70**	**196**		Pn	20 23 04.4	+0.2
PASC				IAML		20 23 30.4	
	comp=E,72nm,0.9s						
MTUM	**Tungsten Hills**	**1.71**	**334**		Pb	20 23 06.0	-0.1
MLAC	**Mammoth, Mammo**	**2.06**	**332**		Pb	20 23 12.3	+0.3
MCSM	**Casa Diablo Ho**	**2.10**	**331**		Pb	20 23 13.2	+0.4
SHPR	**Sheep Range**	**2.12**	**70**		Pn	20 23 09.4	-0.9
S11A	**Rachel**	**2.38**	**39**		Pn	20 23 11.7	-2.0
PRN	**Pahroc Range**	**2.62**	**52**		Pn	20 23 15.5	-1.6
PRN				IAML		20 24 01.4	
	comp=E,50nm,0.5s						
BORC	**Borrego Spring**	**2.73**	**158**		Pb	20 23 23.2	-0.1
W13A	**Hualapai Mount**	**3.14**	**102**		Pn	20 23 22.4	-1.9
LCMT	**Little Creek M**	**3.74**	**70**		Pn	20 23 31.0	-1.5
CCUT	**Cedar City**	**3.85**	**62**		Pn	20 23 33.1	-1.0

NEIC ***06*** *20:23:43.9±0.6, 34°.019N±0°.004×117°.23W±0°.01, h20km±2km, Error ellipse: s-maj=1.7km s-min=0.6km az=101.0*

PAS 06 20:23:44.7±0.7, 34°.02N±0°.01×117°.22W±0°.01, h16km±2km, ML3.0/16, ML2.6/36(NEIC), Error ellipse: s-maj=1.9km s-min=1.6km az=224.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFT	**Crafton Hills**	**0.09**	**80**		Pg	20 23 47.9	-0.2
CFSC	**Central Fire S**	**0.10**	**328**		Pg	20 23 48.0	-0.2
RSBC	**Riverside Bore**	**0.10**	**243**		Pg	20 23 47.9	-0.2
RSBC	**Riverside Bore**	**0.10**	**243**		Pg	20 23 47.8	-0.3
RSBC					Sg	20 23 50.4	0.0
HLNC	**Highland**	**0.10**	**360**		Pg	20 23 47.9	-0.2
HLNC					Sb	20 23 50.6	-0.1
CLTC	**Calectric**	**0.11**	**312**		Sb	20 23 51.6	+0.6
RVR	**Riverside**	**0.13**	**259**		Pg	20 23 48.1	-0.3
RVR					Sg	20 23 50.9	-0.1
SVD	**Seven Oaks Dam**	**0.13**	**49**		Pg	20 23 48.2	-0.3
FON	**Fontana**	**0.20**	**294**		Sg	20 23 52.5	-0.1
BBSC	**Beaumont Base**	**0.22**	**116**		Pg	20 23 49.8	0.0
MLSC	**Mira Loma**	**0.28**	**267**		Pg	20 23 50.5	-0.3
ELS	**Elsinore Mount**	**0.41**	**205**	Pg	Pg	20 23 52.5	-0.5
BFSC	**Mount Baldy Ra**	**0.42**	**301**	Pg	Pg	20 23 52.5	-0.8
BFSC				Sg	Sg	20 23 58.5	-0.7
BFSC				IAML		20 23 59.1	
	comp=N,650nm,0.1s						
BFSC				IAML		20 24 00.0	
	comp=E,389nm,0.2s						
VTV	**Victorville**	**0.55**	**350**		Pg	20 23 55.2	-0.4
SNDA	**J Saunders Pla**	**0.69**	**133**		Pg	20 23 57.7	-0.5
BLAC	**Blackrock camp**	**0.69**	**86**		Pg	20 23 57.5	-0.7
MWC	**Mount Wilson**	**0.72**	**287**	Pg	Pg	20 23 57.7	-1.2
MWC				Sg	Sg	20 24 07.4	-1.1
MWC				IAML		20 24 10.9	
	comp=N,452nm,0.3s						
PFO	**Pinyon Flats O**	**0.75**	**123**	Pg	Pg	20 23 58.2	-1.1
PFO				Sg	Sg	20 24 08.3	-1.0
GTM	**Goat Mountain**	**0.77**	**69**		Pg	20 23 58.4	-1.2
PMD	**Palm Desert**	**0.79**	**118**	Pg	Pb	20 23 58.9	-1.1
PMD				Sg	Sb	20 24 09.3	-1.3
PMD				IAML		20 24 10.1	
	comp=E,183nm,0.2s						
PASC	**Pasadena Art C**	**0.82**	**281**	Pg	Pb	20 23 59.1	-1.4
PASC				Sg	Sb	20 24 09.7	-1.5
PASC				IAML		20 24 12.0	
	comp=N,258nm,0.4s						
PASC				IAML		20 24 12.2	
	comp=E,419nm,0.3s						
RRX	**Edison Barstow**	**0.87**	**12**		Pb	20 24 00.8	-0.7
CJV	**Casa Juvan**	**0.92**	**304**		Pb	20 24 01.2	-1.1
GSC	**Goldstone, Bar**	**1.32**	**15**	Pn	Pn	20 24 07.8	-0.8
OSI	**Osito Audit: C**	**1.38**	**296**	Pn	Pn	20 24 08.4	-0.9
OSI				IAML		20 24 28.7	
	comp=N,70nm,0.6s						
OSI				IAML		20 24 28.7	
	comp=E,93nm,0.6s						
TKX	**Tecate**	**1.54**	**160**		Pn	20 24 10.8	-0.7
YUH	**Yuha Desert**	**1.75**	**141**		Pn	20 24 15.1	+0.8
YUH				IAML		20 24 39.5	
	comp=N,40nm,0.8s						
CBX	**Cerro Bola**	**1.76**	**165**		Pn	20 24 14.3	-0.3
QSM	**Queen of Sheba**	**1.96**	**8**	Pn	Pn	20 24 17.6	+0.3
ESJX	**Sierra Juarez**	**2.27**	**152**	Pn	Pn	20 24 21.3	-0.4
ESJX				IAML		20 24 54.4	
	comp=E,38nm,0.2s						
ESJX				IAML		20 24 57.3	
	comp=N,25nm,0.3s						
V12A	**Nelson**	**2.59**	**48**	Pn	Pn	20 24 25.2	-0.7
V12A				IAML		20 25 44.3	
	comp=N,19nm,0.5s						
V12A				IAML		20 25 45.5	
	comp=E,19nm,0.4s						
SHPR	**Sheep Range**	**3.00**	**34**	Pn	Pn	20 24 31.5	-0.1
DSP	**Deep Springs**	**3.40**	**350**	Pn	Pn	20 24 37.5	+0.5
DSP				IAML		20 25 30.7	
	comp=N,15nm,0.3s						
DSP				IAML		20 25 30.9	
	comp=E,19nm,0.3s						
Y14A	**Wickenburg**	**3.50**	**90**		Pn	20 24 38.4	-0.1
Y14A				IAML		20 25 35.3	
	comp=N,16nm,0.3s						

IDC 06 20:27:25.3±3.3, 31°.48N×140°.17E, h0km, mb3.4/3, mbtmp3.3/4, ML1.6/1, Error ellipse: s-maj=147.8km s-min=27.3km az=75.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**5.30**	**343**	Pn	Pn	20 28 44.6	-1.2
	baz=159,slow=13,SNR=2.0						
	1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**48.77**	**312**	P	P	20 36 12.2	+0.4
	0.3nm,0.7s,baz=96,slow=8.8,SNR=3.0						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**51.44**	**187**	P	P	20 36 32.0	-0.3
	0.4nm,0.6s,baz=3.6,slow=7.7,SNR=7.1						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**55.16**	**187**	P	P

TGIG		**2.71**	**14**	*eP*	Pn	20 33 54.2	-0.2
TGIG				IAML		20 34 04.6	
	comp=Z,151nm,0.6s						

KRSC 06 20:39:03.2±1.1, 56°23N×164°30E, h53km±18km, MI3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.83**	**269**	*eP*	Pn	20 39 18.4	-0.4
KBG	**Krutoberegovo**	**0.89**	**273**	*eP*	Pn	20 39 19.4	-0.1
KBG				*eS*	Sn	20 39 31.6	+0.1
BKI	**Bering**	**1.39**	**137**	*eP*	Pn	20 39 28.4	+2.1
BKI				*eS*	Sn	20 39 46.1	+2.6
SMKR	**Semkarok**	**1.62**	**284**	*eP*	Pn	20 39 31.5	+2.1
ZLN	**Zelenaya**	**1.97**	**265**	*eP*	Pn	20 39 37.6	+3.3
CIRR	**Tsirk**	**1.99**	**268**	*eP*	Pn	20 39 37.9	+3.3
KLY	**Klyuchi**	**2.04**	**274**	*eP*	Pn	20 39 36.3	+1.3
BZGR	**Bezymyannyi-Gr**	**2.04**	**263**	*eP*	Pn	20 39 38.4	+3.1
BZWR	**Bezymyannyi-We**	**2.15**	**265**	*eP*	Pn	20 39 40.1	+3.3
MKZ	**Mys Kozlova**	**2.23**	**222**	*eP*	Pn	20 39 39.6	+2.0
MKZ				*eS*	Sn	20 40 05.7	+1.8
KIRR	**Kirishev**	**2.24**	**265**	*eP*	Pn	20 39 40.9	+2.9
KPT	**Kopyto**	**2.30**	**265**	*eP*	Pn	20 39 42.6	+3.8
KMNR	**Kamenistaya**	**2.33**	**260**	*eP*	Pn	20 39 42.3	+3.1
TUMD	**Tumrok D**	**2.44**	**247**	*eP*	Pn	20 39 43.3	+2.8
TUMD				*eS*	Sn	20 40 12.5	+3.4
KOZ	**Kozyrevsk**	**2.48**	**268**	*eP*	Pn	20 39 44.9	+3.7
SRDR	**Sredinnyy**	**2.56**	**274**	*eP*	Pn	20 39 45.7	+3.4
OSSR	**Ossora**	**3.11**	**348**	*eP*	Pn	20 39 52.0	+2.3
OSSR				*eS*	Sn	20 40 26.8	+1.3
ESO	**Esso**	**3.15**	**267**	*eP*	Pn	20 39 54.9	+4.5
KII	**Karymskiy**	**3.55**	**234**	*eP*	Pn	20 39 59.8	+4.0
SPN	**Mys Shipunski**	**4.00**	**220**	*eP*	Pn	20 40 04.8	+2.9
SPN				*eS*	Sn	20 40 48.6	+1.2
NLC	**Nalytchevo**	**4.20**	**225**	*eP*	Pn	20 40 08.1	+3.4
NLC				*eS*	Sn	20 40 54.9	+2.5
SDLR	**Sedlovina**	**4.31**	**229**	*eP*	Pn	20 40 09.9	+3.6
KRER	**Koryakskii**	**4.35**	**230**	*eP*	Pn	20 40 12.2	+5.3
KRX	**Arik**	**4.35**	**231**	*eP*	Pn	20 40 11.1	+4.2
SMAR	**Somma**	**4.36**	**229**	*eP*	Pn	20 40 10.6	+3.6
AVH	**Avacha**	**4.38**	**230**	*eP*	Pn	20 40 11.5	+4.2
UGLR	**Uglovaya**	**4.38**	**229**	*eP*	Pn	20 40 10.8	+3.5
KOK	**Koryaka**	**4.41**	**231**	*eP*	Pn	20 40 11.4	+3.8
GNL	**Ganaly**	**4.46**	**238**	*eP*	Pn	20 40 12.3	+4.0
KRMR	**Karymshinskiy**	**4.95**	**229**	*eS*	Sn	20 41 14.3	+3.5
GRL	**Gorelyy**	**5.18**	**227**	*eP*	Pn	20 40 22.4	+4.2
MTVR	**Mutnovka**	**5.18**	**226**	*eP*	Pn	20 40 22.8	+4.5
ASAK	**Asacha**	**5.37**	**227**	*eP*	Pn	20 40 25.4	+4.5

*NEIC **06** 20:41:30.3±1.2, 35°.698N±0°.008×117°.510W±0°.009, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.6km az=283.0*

PAS 06 20:41:30.7±1.4, 35°.692N±0°.008×117°.51W±0°.01, h2km±1km, ML3.4/19, ML3.2/104(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=46.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.14**	**331**	Pg	Pg	20 41 33.8	+0.3
CLC				Sg	Sg	20 41 36.0	+0.6
CLC				IAML		20 41 36.2	
	comp=N,9μm,0.2s						
CLC				IAML		20 41 36.3	
	comp=E,15μm,0.5s						
SRTC	**Snort**	**0.19**	**270**		Pg	20 41 35.1	+0.7
SRTC					Sg	20 41 38.8	+1.9
CCCA	**Chr Cany lake**	**0.21**	**144**	Pg	Pg	20 41 35.5	+0.8
TOW	**Tower One**	**0.23**	**300**		Pg	20 41 36.0	+0.8
LRMC	**Laurel Mtn Rad**	**0.25**	**213**	Pg	Pg	20 41 35.8	+0.2
LRMC				Sg	Sg	20 41 39.5	+0.7
WNMM	**Nine Mile Cany**	**0.35**	**295**		Pg	20 41 37.8	+0.3
WNMM					Sg	20 41 43.2	+1.2
WVPM	**Volcano Peak E**	**0.36**	**316**		Pg	20 41 37.8	+0.3
MPMC	**Manual Prospec**	**0.37**	**3**	Pg	Pg	20 41 37.9	+0.1
MPMC				Sg	Sg	20 41 42.9	+0.4
MPMC				IAML		20 41 44.8	
	comp=N,2μm,0.5s						
MPMC				IAML		20 41 45.1	
	comp=E,2μm,0.5s						
WRVM	**Rose V. Centra**	**0.44**	**316**		Pg	20 41 39.3	+0.1
DTP	**Desert Tortois**	**0.50**	**213**		Pg	20 41 40.3	-0.1
MFS	**McCloud Flat S**	**0.51**	**327**		Pg	20 41 40.6	+0.1
WBSM	**Bird Springs**	**0.53**	**253**		Pg	20 41 41.0	0.0
QSM	**Queen of Sheba**	**0.59**	**62**		Pg	20 41 42.1	0.0
QSM				IAML		20 41 55.5	
	comp=N,936nm,0.2s						
QSM				IAML		20 41 55.5	
	comp=E,979nm,0.3s						
CCAC	**Calif City Air**	**0.68**	**218**		Sg	20 41 53.2	+0.8
GSC	**Goldstone, Bar**	**0.70**	**124**		Pg	20 41 44.0	0.0
GSC				Sg	Sg	20 41 53.4	+0.3
ISA	**Isabella, Lake**	**0.78**	**268**		Pg	20 41 45.5	-0.2
ISA				Sg	Sg	20 41 55.8	-0.1
ISA				IAML		20 41 56.5	
	comp=N,1μm,0.3s						
GWY	**Greenwater Val**	**0.84**	**54**		Pg	20 41 46.7	-0.2
GWY					Sg	20 41 58.9	+1.1
GWY				IAML		20 42 01.5	
	comp=N,671nm,0.4s						
GWY				IAML		20 42 03.9	
	comp=E,1μm,0.5s						
CWC	**Cottonwood Cre**	**0.88**	**329**	Pg	Pg	20 41 47.4	-0.2
CWC				IAML		20 42 03.2	
	comp=E,524nm,0.2s						
CWC				IAML		20 42 03.3	
	comp=N,781nm,0.2s						
CGO	**Cerro Gordo**	**0.89**	**345**		Pg	20 41 47.6	-0.1
EDW2	**Edwards Air Fo**	**0.90**	**206**		Sb	20 42 02.2	+0.7
RRX	**Edison Barstow**	**0.92**	**152**		Pg	20 41 48.1	-0.2
TPO	**Tropico Hills**	**1.00**	**216**		Pg	20 41 49.5	-0.3
TPO					Sb	20 42 04.1	-0.3
TPO				IAML		20 42 05.8	
	comp=E,1μm,0.7s						
SPG2	**Springville 2**	**1.14**	**297**		Pg	20 41 51.8	-0.7
ALPC	**Antelope**	**1.19**	**213**		Sb	20 42 10.2	+0.3
ARVC	**Arvin**	**1.21**	**243**		Pg	20 41 54.1	+0.2
AMDNV	**Amargosa**	**1.25**	**52**		Pg	20 41 53.5	-1.2
CJV	**Casa Juvan**	**1.27**	**204**		Pg	20 41 55.2	+0.2
DSCC	**Desert Studies**	**1.27**	**115**		Pg	20 41 54.3	-0.8
GRAC	**Grapevine Rang**	**1.31**	**5**		Pg	20 41 55.1	-0.7
GRAC				IAML		20 42 17.7	
	comp=E,704nm,0.6s						
WCT	**Wildcat Mounta**	**1.31**	**33**		Pg	20 41 54.7	-1.2
TUQ	**Turquoise Moun**	**1.32**	**101**		Pg	20 41 54.8	-1.2
OSI	**Osito Audit: C**	**1.46**	**223**		Pn	20 41 57.0	-1.2
OSI				IAML		20 42 22.8	
	comp=N,297nm,0.7s						
BBRC	**Big Bear Solar**	**1.51**	**161**		Pg	20 41 59.6	+0.1
MWC	**Mount Wilson**	**1.53**	**197**		Pn	20 41 58.2	-1.0
MWC				IAML		20 42 21.8	
	comp=N,513nm,0.5s						
MWC				IAML		20 42 22.5	
	comp=E,483nm,0.5s						
MTPC	**Mountain Pass**	**1.61**	**97**		Pn	20 41 58.7	-1.7
MTPC				IAML		20 42 23.1	
	comp=E,458nm,0.2s						
PASC	**Pasadena Art C**	**1.61**	**200**		Pn	20 41 59.0	-1.3
PASC				IAML		20 42 25.2	
	comp=E,225nm,0.7s						
PASC				IAML		20 42 25.6	
	comp=N,172nm,0.5s						
TPNV	**Topopah Spring**	**1.62**	**39**		Pn	20 41 59.2	-1.2
TPNV				IAML		20 42 24.9	
	comp=N,257nm,0.5s						
TPNV				IAML		20 42 28.4	
	comp=N,194nm,0.5s						
GMN	**Gold Mountain**	**1.62**	**7**		Pn	20 41 59.4	-1.1
GMN				IAML		20 42 25.3	
	comp=N,183nm,0.7s						
DSP	**Deep Springs**	**1.71**	**348**		Pn	20 42 00.8	-0.8
CRGC	**Crocker Grade**	**1.86**	**257**		Pb	20 42 05.3	-0.2
ELS	**Elsinore Mount**	**2.04**	**178**		Pn	20 42 05.3	-0.9
ELS				IAML		20 42 36.5	
	comp=E,104nm,0.4s						
SHPR	**Sheep Range**	**2.07**	**66**		Pn	20 42 05.7	-1.0
V12A	**Nelson**	**2.17**	**88**		Pn	20 42 06.3	-1.7
V12A				IAML		20 42 41.5	
	comp=N,164nm,0.5s						
V12A				IAML		20 42 46.3	
	comp=E,98nm,0.8s						
KCC	**Kaiser Creek**	**2.18**	**319**		Pb	20 42 10.9	-0.1
PMD	**Palm Desert**	**2.24**	**155**	Pn	Pn	20 42 07.8	-1.1
PMD				IAML		20 42 45.6	
	comp=N,90nm,0.5s						
PMD				IAML		20 42 47.6	
	comp=E,110nm,0.6s						
PMD	**Palm Desert**	**2.24**	**155**		Pb	20 42 12.7	+0.8
PFO	**Pinyon Flats O**	**2.25**	**157**		Pn	20 42 07.6	-1.4
PFO				IAML		20 42 45.0	
	comp=E,120nm,0.8s						
BZNA	**Buzz No.'s Pla**	**2.30**	**162**		Pb	20 42 13.6	+0.6
TPH	**Tonopah**	**2.39**	**6**		Pn	20 42 10.2	-1.0
BORC	**Borrego Spring**	**2.58**	**159**	Pn	Pn	20 42 12.3	-1.2
BORC				IAML		20 42 57.3	
	comp=E,95nm,0.8s						
BORC				IAML		20 42 59.6	
	comp=N,87nm,0.7s						
LHV	**Little Huntoon**	**2.67**	**343**		Pn	20 42 15.1	+0.3
LHV				IAML		20 43 08.3	
	comp=E,75nm,0.8s						
LHV				IAML		20 43 11.8	
	comp=N,58nm,0.9s						
JUEM	**Julian Eagle M**	**2.71**	**164**		Pb	20 42 19.2	-0.8
NV11	**Mina Array Sit**	**2.78**	**350**		Pn	20 42 15.9	-0.6
NVAR	**Mina Array Bea**	**2.81**	**347**		Pn	20 42 16.4	-0.4
W13A	**Hualapai Mount**	**3.02**	**100**		Pn	20 42 18.5	-1.3
W13A				IAML		20 43 10.2	
	comp=N,69nm,0.6s						
W13A				IAML		20 43 12.5	
	comp=E,43nm,0.5s						
RYN	**Ryan**	**3.04**	**345**		Pn	20 42 19.9	-0.1
R11B	**Troy Canyon, C**	**3.07**	**30**		Pn	20 42 20.8	+0.4
BLYC	**Blythe**	**3.13**	**127**		Pn	20 42 18.9	-2.2
BLYC				IAML		20 43 11.6	
	comp=E,103nm,0.7s						
YUH	**Yuha Desert**	**3.31**	**156**		Pn	20 42 21.7	-1.8
SAO	**San Andreas Ge**	**3.36**	**290**		Pn	20 42 23.8	-0.4
GLA	**Glamis**	**3.44**	**139**		Pn	20 42 23.2	-2.2
ESJX	**Sierra Juarez**	**3.90**	**160**		Pn	20 42 31.0	-0.8
ESJX				IAML		20 43 34.6	
	comp=N,32nm,0.4s						
ESJX				IAML		20 43 37.4	
	comp=E,30nm,1.2s						
Y14A	**Wickenburg**	**4.10**	**114**		Pn	20 42 32.7	-1.8
Y14A				IAML		20 43 43.7	
	comp=E,56nm,0.7s						
Y14A				IAML		20 43 45.2	
	comp=N,53nm,0.6s						
MPK	**Martis Peak**	**4.12**	**332**	Pn	Pn	20 42 34.1	-0.8
113A	**Mohawk Valley,**	**4.26**	**132**		Pn	20 42 33.7	-2.9
113A				IAML		20 43 47.1	
	comp=N,18nm,0.7s						
113A				IAML		20 43 53.2	
	comp=E,17nm,0.9s						
PAHR	**Pah Rah Range**	**4.27**	**340**		Pn	20 42 37.2	+0.2
WUAZ	**Wupatki**	**5.00**	**90**		Pn	20 42 46.5	-0.6
X16A	**Lo Mia Camp, P**	**5.14**	**103**	Pn	Pn	20 42 48.6	-0.3
X16A				IAML		20 44 20.4	
	comp=E,14nm,1.0s						
X16A				IAML		20 44 25.8	
	comp=N,12nm,0.9s						
ELK	**Elko**	**5.35**	**19**		Pn	20 42 50.8	-1.1

*NEIC **06** 21:05:24.0±1.6, 35°.718N±0°.010×117°.601W±0°.007, h10km±6km, Error ellipse: s-maj=1.6km s-min=0.3km az=206.0*

PAS 06 21:05:24.7±2.0, 35°.728N±0°.009×117°.61W±0°.01, h6km±2km, ML3.5/17, ML3.2/124(NEIC), Error ellipse: s-maj=1.4km s-min=1.3km az=77.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.09**	**6**	Pg	Pg	21 05 27.2	+0.4
CLC				Sg	Sg	21 05 29.2	+1.0
SRTC	**Snort**	**0.12**	**253**		Pg	21 05 27.9	+0.6
TOW	**Tower One**	**0.15**	**303**		Pg	21 05 28.4	+0.6
TOW					Sg	21 05 31.8	+2.0
LRMC	**Laurel Mtn Rad**	**0.26**	**194**		Pg	21 05 29.5	-0.2
LRMC				Sg	Sg	21 05 33.1	0.0
LRMC				IAML		21 05 33.5	
	comp=E,5μm,0.5s						
LRMC				IAML		21 05 34.5	
	comp=N,6μm,0.3s						
WNMM	**Nine Mile Cany**	**0.27**	**296**		Pg	21 05 30.0	+0.1
WNMM					Sg	21 05 34.5	+1.0
WVPM	**Volcano Peak E**	**0.28**	**323**		Pg	21 05 29.5	-0.8
WVPM					Sg	21 05 34.6	+0.6
CCCA	**Chr Cany lake**	**0.28**	**135**		Pg	21 05 30.3	+0.1
CCCA				Sg	Sg	21 05 34.4	+0.3
MPMC	**Manual Prospec**	**0.34**	**16**	Pg	Pg	21 05 31.4	-0.1
MPMC				Sg	Sg	21 05 36.2	+0.1
MPMC				IAML		21 05 36.8	
	comp=N,5μm,0.5s						
WRVM	**Rose V. Centra**	**0.36**	**321**		Pg	21 05 31.0	-0.8
MFS	**McCloud Flat S**	**0.44**	**333**		Pg	21 05 32.3	-1.0
MFS					Sg	21 05 39.8	+0.8
QSM	**Queen of Sheba**	**0.65**	**68**		Pg	21 05 36.6	-0.6
QSM					Sg	21 05 45.2	-0.4
ISA	**Isabella, Lake**	**0.71**	**265**		Pg	21 05 37.6	-0.7
ISA				Sg	Sg	21 05 47.0	-0.5
ISA				IAML		21 05 48.1	
	comp=E,1μm,0.5s						
ISA				IAML		21 05 48.7	
	comp=N,1μm,0.2s						
GSC	**Goldstone, Bar**	**0.78**	**123**		Pg	21 05 38.8	-0.9
GSC				Sg	Sg	21 05 49.0	-0.9
CWC	**Cottonwood Cre**	**0.81**	**332**		Pg	21 05 39.9	-0.3
CWC					Sg	21 05 50.7	-0.1
CWC				IAML		21 05 51.6	
	comp=E,963nm,0.2s						
CWC				IAML		21 05 52.0	
	comp=N,1μm,0.2s						
CGO	**Cerro Gordo**	**0.84**	**349**		Pg	21 05 40.3	-0.5
CGO					Sg	21 05 52.4	+0.7
GWY	**Greenwater Val**	**0.89**	**59**		Pg	21 05 40.9	-0.9
GWY					Sg	21 05 52.6	-0.8
GWY				IAML		21 05 54.8	
	comp=N,1μm,0.3s						
GWY				IAML		21 05 55.0	
	comp=E,1μm,0.3s						
EDW2	**Edwards Air Fo**	**0.90**	**201**		Pg	21 05 41.8	-0.2
FURC	**Furnace Creek,**	**0.95**	**39**		Sb	21 05 56.0	-0.5
TPO	**Tropico Hills**	**0.99**	**211**		Pg	21 05 42.6	-1.0
TPO					Sg	21 05 56.0	-0.5
TPO				IAML		21 06 01.2	
	comp=E,991nm,0.7s						
SPG2	**Springville 2**	**1.05**	**297**		Pg	21 05 43.8	-1.0
ARVC	**Arvin**	**1.16**	**239**		Pg	21 05 45.6	-1.4
GRAC	**Grapevine Rang**	**1.28**	**9**		Pn	21 05 48.0	-1.2
GRAC				IAML		21 06 08.6	
	comp=E,523nm,0.4s						
GRAC				IAML		21 06 08.8	
	comp=N,672nm,0.7s						
AMDNV	**Amargosa**	**1.30**	**56**		Pn	21 05 47.3	-2.0
JNH	**Juniper Hills**	**1.31**	**193**		Pn	21 05 49.1	-0.5
WCT	**Wildcat Mounta**	**1.33**	**36**		Pn	21 05 48.1	-1.8
WCT					Sg	21 06 07.0	-0.4
WCT				IAML		21 06 08.6	
	comp=E,572nm,0.5s						
WCT				IAML		21 06 08.8	
	comp=N,606nm,0.5s						
DSCC	**Desert Studies**	**1.36**	**115**		Pn	21 05 47.7	-2.6
TUQ	**Turquoise Moun**	**1.40**	**101**		Pn	21 05 48.6	-2.4
CHFC	**Chilao Flat St**	**1.43**	**194**		Pg	21 05 52.1	-0.1
OSI	**Osito Audit: C**	**1.44**	**220**		Pn	21 05 50.1	-1.2
OSI				IAML		21 06 12.2	
	comp=N,425nm,0.6s						
BFSC	**Mount Baldy Ra**	**1.49**	**182**		Pn	21 05 50.6	-1.5
BFSC				IAML		21 06 13.1	
	comp=E,176nm,0.5s						
MWC	**Mount Wilson**	**1.54**	**194**		Pn	21 05 51.3	-1.7
MWC				IAML		21 06 16.8	
	comp=E,461nm,0.6s						
GMN	**Gold Mountain**	**1.59**	**10**		Pn	21 05 52.5	-1.2
PASC	**Pasadena Art C**	**1.62**	**197**		Pn	21 05 52.1	-1.8
PASC				IAML		21 06 19.4	
	comp=E,428nm,0.5s						
PASC				IAML		21 06 20.1	
	comp=N,262nm,0.5s						
TPNV	**Topopah Spring**	**1.64**	**42**		Pn	21 05 52.9	-1.4
TPNV				IAML		21 06 20.4	
	comp=N,346nm,0.5s						
DSP	**Deep Springs**	**1.67**	**350**		Pn	21 05 53.4	-1.0
DSP					Sn	21 06 16.3	+0.2
MTPC	**Mountain Pass**	**1.69**	**98**		Pn	21 05 52.8	-2.2
MTPC				IAML		21 06 18.8	
	comp=E,211nm,0.3s						
MTPC				IAML		21 06 21.8	
	comp=N,154nm,0.2s						
MZP	**Montezuma Peak**	**1.98**	**5**		Pn	21 05 57.4	-1.6
ELS	**Elsinore Mount**	**2.08**	**176**		Pn	21 05 58.6	-1.6
ELS				IAML		21 06 35.7	
	comp=E,98nm,0.7s						
SHPR	**Sheep Range**	**2.13**	**68**		Pn	21 05 59.7	-1.3
V12A	**Nelson**	**2.24**	**89**		Pn	21 06 00.5	-2.0
V12A				IAML		21 06 42.1	
	comp=E,128nm,0.4s						
PFO	**Pinyon Flats O**	**2.31**	**156**		Pn	21 06 01.3	-2.2
PFO				IAML		21 06 43.3	
	comp=E,74nm,1.1s						
PFO				IAML		21 06 43.7	
	comp=E,85nm,0.8s						
TPH	**Tonopah**	**2.36**	**7**		Pn	21 06 03.2	-1.0
S11A	**Rachel**	**2.43**	**37**		Pn	21 06 04.0	-1.1
S11A				IAML		21 06 48.3	
	comp=E,216nm,0.8s						
S11A				IAML		21 06 52.5	
	comp=N,177nm,0.6s						
LHV	**Little Huntoon**	**2.62**	**344**		Pn	21 06 07.7	+0.2
NEE2	**Needles Airpor**	**2.63**	**111**		Pn	21 06 05.2	-2.5
NEE2				IAML		21 06 59.6	
	comp=E,180nm,0.7s						
PMPB	**Monarch Peak**	**2.63**	**282**		Pn	21 06 06.6	-1.2
MATG	**Mataguay Scout**	**2.64**	**162**		Pn	21 06 06.7	-1.3
PRN	**Pahroc Range**	**2.66**	**50**		Pn	21 06 07.0	-1.2
PRN				IAML		21 06 55.9	
	comp=N,128nm,0.6s						
PRN				IAML		21 06 56.6	
	comp=E,119nm,0.8s						
NV11	**Mina Array Sit**	**2.73**	**351**		Pn	21 06 09.3	0.0
NVAR	**Mina Array Bea**	**2.75**	**349**		Pn	21 06 10.0	+0.4
BBGB	**Big Mountain B**	**2.90**	**288**		Pn	21 06 12.0	+0.4
RYN	**Ryan**	**2.99**	**346**		Pn	21 06 12.9	+0.2
R11B	**Troy Canyon, C**	**3.08**	**31**		Pn	21 06 13.1	-0.9
R11B				IAML		21 07 03.5	
	comp=E,48nm,0.8s						
W13A	**Hualapai Mount**	**3.10**	**101**		Pn	21 06 12.4	-2.1
W13A				IAML		21 07 07.0	
	comp=N,42nm,0.6s						
CMB	**Columbia Colle**	**3.20**	**317**		Pn	21 06 15.7	0.0
CMB				IAML		21 07 09.4	
	comp=N,48nm,0.7s						
CMB				IAML		21 07 10.8	
	comp=E,42nm,0.5s						
SAO	**San Andreas Ge**	**3.27**	**290**		Pn	21 06 16.0	-0.5
YUH	**Yuha Desert**	**3.38**	**155**		Pn	21 06 17.2	-0.7
CBX	**Cerro Bola**	**3.50**	**167**		Pn	21 06 18.7	-1.0
GLA	**Glamis**	**3.52**	**138**		Pn	21 06 19.3	-0.8
GLA				IAML		21 07 19.1	
	comp=N,68nm,0.7s						
LCMT	**Little Creek M**	**3.75**	**69**		Pn	21 06 22.2	-1.0
CCUT	**Cedar City**	**3.87**	**61**		Pn	21 06 24.4	-0.5
KNB	**Kanab**	**4.07**	**70**		Pn	21 06 27.0	-0.7
KNB				IAML		21 07 35.6	
	comp=E,24nm,0.7s						
SZCU	**Shurtz Canyon**	**4.08**	**62**		Pn	21 06 26.4	-1.5
SZCU				IAML		21 07 43.1	
	comp=E,17nm,0.4s						
PSUT	**Pine Spring**	**4.10**	**46**		Pn	21 06 27.3	-0.9
PSUT				IAML		21 07 43.9	
	comp=N,25nm,0.9s						
PSUT				IAML		21 07 48.3	
	comp=E,30nm,1.0s						
Y14A	**Wickenburg**	**4.19**	**114**		Pn	21 06 26.7	-2.4
Y14A				IAML		21 07 38.5	
	comp=E,34nm,0.6s						
Y14A				IAML		21 07 38.8	
	comp=N,41nm,0.9s						
113A	**Mohawk Valley,**	**4.34**	**132**		Pn	21 06 28.9	-2.3
113A				IAML		21 07 48.4	
	comp=E,14nm,0.8s						
WUAZ	**Wupatki**	**5.08**	**91**	Pn	Pn	21 06 40.5	-1.0
WUAZ				IAML		21 08 07.6	
	comp=E,19nm,1.2s						
WUAZ				IAML		21 08 15.2	
	comp=E,19nm,1.1s						
X16A	**Lo Mia Camp, P**	**5.22**	**103**		Pn	21 06 42.5	-1.0
ELK	**Elko**	**5.34**	**20**	Pn	Pn	21 06 44.8	-0.4
ELK				IAML		21 08 17.1	
	comp=E,8.4nm,0.7s						
X18A	**Snowflake**	**6.39**	**99**	Pn	Pn	21 06 59.4	-0.1

*NEIC **06** 21:07:44.0±1.6, 35°.957N±0°.010×117°.26W±0°.01, h3km±4km, Error ellipse: s-maj=1.7km s-min=0.6km az=139.0*

PAS 06 21:07:44.8±1.6, 35°.96N±0°.01×117°.28W±0°.01, h2km±1km, ML3.2/29, ML3.0/60(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=177.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.20**	**299**	Pg	Pg	21 07 48.8	+0.2
MPMC				Sg	Sg	21 07 51.8	+0.6
CLC	**China Lake**	**0.30**	**241**	Pg	Pg	21 07 50.5	0.0
CLC				IAML		21 07 55.0	
	comp=N,1μm,0.7s						
QSM	**Queen of Sheba**	**0.33**	**90**		Sg	21 07 55.5	+0.1
TOW	**Tower One**	**0.42**	**249**		Pg	21 07 53.6	+0.7
WVPM	**Volcano Peak E**	**0.44**	**268**		Pg	21 07 53.5	+0.3
WVPM					Sg	21 07 59.8	+0.9
SRTC	**Snort**	**0.47**	**235**		Pg	21 07 54.1	+0.3
MFS	**McCloud Flat S**	**0.49**	**288**		Pg	21 07 54.4	+0.1
MFS					Sg	21 08 01.3	+0.6
GWY	**Greenwater Val**	**0.54**	**66**		Pg	21 07 55.2	0.0
GWY					Sg	21 08 02.3	+0.1
GWY				IAML		21 08 07.5	
	comp=N,1μm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.58**	**214**		Pg	21 07 54.8	-1.2
LRMC				Sg	Sg	21 08 03.5	-0.1
LRMC				IAML		21 08 06.9	
	comp=N,551nm,0.6s						
LRMC				IAML		21 08 08.8	
	comp=E,611nm,0.7s						
FURC	**Furnace Creek,**	**0.60**	**34**		Pg	21 07 56.8	+0.4
CGO	**Cerro Gordo**	**0.72**	**324**		Pg	21 07 58.5	-0.2
GSC	**Goldstone, Bar**	**0.76**	**150**		Pg	21 07 58.7

	comp=N,117nm,0.9s						
MWC				IAML		21 08 53.3	
	comp=E,84nm,1.0s						
PASC	**Pasadena Art C**	**1.94**	**203**		Pn	21 08 18.4	-0.3
V12A	**Nelson**	**1.98**	**96**		Pn	21 08 18.7	-0.8
V12A				IAML		21 08 51.3	
	comp=N,103nm,1.7s						
V12A				IAML		21 08 56.5	
	comp=E,90nm,0.6s						
TPH	**Tonopah**	**2.11**	**1**		Pn	21 08 20.2	-1.1
PRN	**Pahroc Range**	**2.30**	**51**		Pn	21 08 22.6	-1.2
ELS	**Elsinore Mount**	**2.31**	**183**		Pn	21 08 23.0	-1.0
PMD	**Palm Desert**	**2.43**	**162**	Pn	Pn	21 08 23.9	-1.5
PFO	**Pinyon Flats O**	**2.44**	**164**		Pn	21 08 25.0	-0.8
PFO				IAML		21 09 11.3	
	comp=E,43nm,1.6s						
NVAR	**Mina Array Bea**	**2.59**	**342**		Pn	21 08 28.1	+0.1
RYN	**Ryan**	**2.84**	**340**		Pn	21 08 30.9	-0.4
W13A	**Hualapai Mount**	**2.90**	**106**		Pn	21 08 30.6	-1.6
BLYC	**Blythe**	**3.16**	**133**		Pn	21 08 33.9	-1.7
BLYC				IAML		21 09 32.0	
	comp=N,46nm,0.6s						
BLYC				IAML		21 09 34.3	
	comp=E,34nm,0.9s						
LCMT	**Little Creek M**	**3.41**	**71**	Pn	Pn	21 08 38.4	-0.8
CCUT	**Cedar City**	**3.52**	**62**		Pn	21 08 40.1	-0.6
KNB	**Kanab**	**3.74**	**72**	Pn	Pn	21 08 43.3	-0.4
ELK	**Elko**	**5.04**	**18**		Pn	21 09 01.7	+0.1
ELK				IAML		21 10 31.4	
	comp=E,8.8nm,0.6s						
ELK				IAML		21 10 31.4	
	comp=E,9.8nm,0.6s						

NEIC ***06*** *21:14:59.3±0.9,35°.896N±0°.010×117°.68W±0°.01, h3km±2km, Error ellipse: s-maj=1.5km s-min=1.4km az=77.0*

PAS 06 21:14:59.8±1.1, 35°.902N±0°.010×117°.67W±0°.01, h3km±3km, ML3.1/25, ML3.0/38(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=157.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.10**	**145**	Pg	Pg	21 15 01.9	0.0
CLC				Sg	Sg	21 15 03.5	+0.2
CLC				IAML		21 15 03.8	
	comp=N,6μm,0.2s						
TOW	**Tower One**	**0.12**	**219**		Pg	21 15 02.6	+0.4
TOW					Sg	21 15 05.4	+1.7
WNMM	**Nine Mile Cany**	**0.20**	**253**		Pg	21 15 03.9	+0.2
MPMC	**Manual Prospec**	**0.21**	**43**	Pg	Pg	21 15 04.2	+0.2
MFS	**McCloud Flat S**	**0.26**	**325**		Pg	21 15 05.1	+0.2
MFS					Sg	21 15 09.2	+0.8
LRMC	**Laurel Mtn Rad**	**0.42**	**181**	Pg	Pg	21 15 07.8	-0.2
LRMC				Sg	Sg	21 15 13.8	+0.4
LRMC				IAML		21 15 14.9	
	comp=N,2μm,0.6s						
LRMC				IAML		21 15 15.4	
	comp=E,1μm,0.4s						
CCCA	**Chr Cany lake**	**0.45**	**146**		Pg	21 15 08.8	+0.3
CCCA				Sg	Sg	21 15 15.5	+1.1
WORM	**Onyx Ranch**	**0.51**	**246**		Pg	21 15 09.4	-0.1
WBSM	**Bird Springs**	**0.53**	**226**		Pg	21 15 09.8	-0.2
WHFM	**Hanning Flat**	**0.59**	**250**		Pg	21 15 11.0	-0.1
CWC	**Cottonwood Cre**	**0.63**	**328**	Pg	Pg	21 15 11.7	-0.2
CWC				IAML		21 15 24.4	
	comp=N,523nm,0.2s						
QSM	**Queen of Sheba**	**0.66**	**84**	Pg	Pg	21 15 12.6	+0.2
QSM				IAML		21 15 26.1	
	comp=E,1μm,0.5s						
QSM				IAML		21 15 26.9	
	comp=N,716nm,0.4s						
ISA	**Isabella, Lake**	**0.69**	**250**	Pg	Pg	21 15 12.7	-0.5
ISA				Sg	Sg	21 15 21.7	-0.4
ISA				IAML		21 15 23.1	
	comp=N,640nm,0.2s						
ISA				IAML		21 15 24.0	
	comp=E,853nm,0.2s						
FURC	**Furnace Creek,**	**0.86**	**49**		Sb	21 15 28.6	-0.9
GSC	**Goldstone, Bar**	**0.93**	**130**	Pg	Pg	21 15 16.9	-0.6
GSC				IAML		21 15 33.1	
	comp=N,493nm,0.7s						
SPG2	**Springville 2**	**0.94**	**289**		Pg	21 15 17.1	-0.7
TPO	**Tropico Hills**	**1.12**	**204**	Pg	Pg	21 15 20.6	-0.6
TPO				IAML		21 15 38.5	
	comp=N,460nm,0.8s						
TPO				IAML		21 15 41.5	
	comp=E,365nm,0.7s						
GRAC	**Grapevine Rang**	**1.12**	**13**	Pg	Pg	21 15 21.0	-0.3
GRAC				IAML		21 15 27.3	
	comp=E,324nm,0.5s						
GRAC				IAML		21 15 44.7	
	comp=N,253nm,0.6s						
WCT	**Wildcat Mounta**	**1.23**	**43**		Sg	21 15 39.0	-0.2
LRRC	**Litllerock Res**	**1.40**	**192**		Pg	21 15 26.8	+0.1
GMN	**Gold Mountain**	**1.43**	**13**		Pg	21 15 26.6	-0.4
VOG	**Valley Oaks Go**	**1.45**	**287**		Pn	21 15 26.6	-0.4
JNH	**Juniper Hills**	**1.47**	**189**		Pg	21 15 27.9	0.0
DSP	**Deep Springs**	**1.48**	**351**		Pn	21 15 27.1	-0.3
DSP					Sb	21 15 47.0	-0.3
DSCC	**Desert Studies**	**1.49**	**120**		Pn	21 15 27.0	-0.5
OSI	**Osito Audit: C**	**1.55**	**214**		Sn	21 15 48.8	-0.2
TPNV	**Topopah Spring**	**1.55**	**47**		Pn	21 15 28.1	-0.4
TPNV				IAML		21 15 51.9	
	comp=N,174nm,0.6s						
TPNV				IAML		21 15 54.6	
	comp=N,153nm,0.6s						
MTUM	**Tungsten Hills**	**1.62**	**334**		Pb	21 15 30.1	-0.4
MWC	**Mount Wilson**	**1.70**	**191**		Pn	21 15 29.5	-1.2
MWC				IAML		21 15 55.6	
	comp=N,195nm,0.5s						
MWC				IAML		21 15 57.0	
	comp=E,169nm,0.5s						
CLTC	**Calectric**	**1.83**	**171**		Pb	21 15 33.5	-0.4
MCSM	**Casa Diablo Ho**	**2.01**	**331**		Pb	21 15 37.3	+0.1
NVAR	**Mina Array Bea**	**2.57**	**349**		Pn	21 15 42.3	-0.4
WAKR	**Walker**	**2.96**	**332**		Pn	21 15 47.2	-0.7

NEIC ***06*** *21:28:41.3±1.1,35°.884N±0°.004×117°.67W±0°.01, h2km±1km, Error ellipse: s-maj=1.4km s-min=0.4km az=113.0*

PAS 06 21:28:41.9±0.9, 35°.895N±0°.010×117°.68W±0°.01, h2km±2km, ML3.0/24, ML2.8/64(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=75.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.10**	**139**	Pg	Pg	21 28 44.1	+0.1
CLC				Sg	Sg	21 28 45.7	+0.4
CLC				IAML		21 28 46.0	
	comp=N,4μm,0.3s						
CLC				IAML		21 28 46.1	
	comp=E,3μm,0.5s						
TOW	**Tower One**	**0.11**	**218**		Pg	21 28 44.7	+0.6
WNMM	**Nine Mile Cany**	**0.19**	**254**		Pg	21 28 45.9	+0.3
WNMM					Sg	21 28 49.2	+1.2
WRVM	**Rose V. Centra**	**0.20**	**304**		Pg	21 28 46.1	+0.3
MPMC	**Manual Prospec**	**0.23**	**44**	Pg	Pg	21 28 46.5	+0.1
MPMC				Sg	Sg	21 28 49.8	+0.5
MPMC				IAML		21 28 50.0	
	comp=E,2μm,0.3s						
MFS	**McCloud Flat S**	**0.26**	**328**		Pg	21 28 46.0	-1.1
MFS					Sg	21 28 51.2	+0.8
LRMC	**Laurel Mtn Rad**	**0.41**	**180**		Pg	21 28 49.9	0.0
LRMC				Sg	Sg	21 28 55.9	+0.6
LRMC				IAML		21 28 57.4	
	comp=N,989nm,0.4s						
LRMC				IAML		21 28 59.5	
	comp=E,933nm,0.6s						
CCCA	**Chr Cany lake**	**0.45**	**145**		Pg	21 28 51.0	+0.4
CWC	**Cottonwood Cre**	**0.63**	**329**		Pg	21 28 54.6	+0.6
CWC				IAML		21 29 05.5	
	comp=N,432nm,0.2s						
CWC				IAML		21 29 07.5	
	comp=E,445nm,0.2s						
QSM	**Queen of Sheba**	**0.66**	**84**		Pg	21 28 54.4	-0.3
QSM				Sg	Sg	21 29 03.5	+0.2
QSM				IAML		21 29 09.2	
	comp=N,704nm,0.4s						
ISA	**Isabella, Lake**	**0.69**	**250**		Pg	21 28 54.9	-0.2
ISA				Sg	Sg	21 29 03.5	-0.4
ISA				IAML		21 29 04.4	
	comp=N,417nm,0.5s						
ISA				IAML		21 29 06.0	
	comp=E,467nm,0.3s						
GWY	**Greenwater Val**	**0.87**	**70**		Pg	21 28 58.5	-0.2
GWY					Sg	21 29 10.2	+0.3
GWY				IAML		21 29 15.5	
	comp=N,494nm,0.4s						
GSC	**Goldstone, Bar**	**0.93**	**129**		Pg	21 28 59.1	-0.6
GSC				IAML		21 29 14.4	
	comp=N,262nm,0.7s						
GSC				IAML		21 29 15.2	
	comp=E,403nm,0.4s						
SPG2	**Springville 2**	**0.93**	**289**		Pg	21 28 59.2	-0.6
EDW2	**Edwards Air Fo**	**1.04**	**194**		Pg	21 29 01.1	-0.8
TEJ	**El Tejon**	**1.06**	**231**		Pg	21 29 01.5	-0.7
TPO	**Tropico Hills**	**1.11**	**204**		Pg	21 29 02.5	-0.7
TPO					Sg	21 29 18.0	+0.5
TPO				IAML		21 29 20.6	
	comp=N,324nm,0.7s						
TPO				IAML		21 29 22.2	
	comp=E,226nm,0.8s						
GRAC	**Grapevine Rang**	**1.13**	**13**		Pg	21 29 03.2	-0.4
GRAC				IAML		21 29 09.5	
	comp=E,192nm,0.5s						
GRAC				IAML		21 29 25.0	
	comp=N,173nm,0.7s						
WCT	**Wildcat Mounta**	**1.24**	**43**		Pg	21 29 05.1	-0.5
WCT				IAML		21 29 24.7	
	comp=E,151nm,0.8s						
AMDNV	**Amargosa**	**1.26**	**63**		Pg	21 29 06.2	0.0
VOG	**Valley Oaks Go**	**1.44**	**288**		Pn	21 29 08.7	-0.4
GMN	**Gold Mountain**	**1.44**	**13**		Pn	21 29 08.6	-0.8
DSP	**Deep Springs**	**1.49**	**351**		Pn	21 29 09.2	-0.5
DSP					Sb	21 29 29.6	-0.1
DSP				IAML		21 29 31.3	
	comp=E,87nm,0.6s						
TUQ	**Turquoise Moun**	**1.50**	**107**		Pn	21 29 08.7	-1.3
TPNV	**Topopah Spring**	**1.56**	**47**		Pn	21 29 10.3	-0.6
TPNV				IAML		21 29 34.2	
	comp=E,147nm,0.4s						
TPNV				IAML		21 29 36.9	
	comp=E,143nm,0.5s						
CHFC	**Chilao Flat St**	**1.58**	**190**		Pb	21 29 11.7	-0.3
MTPC	**Mountain Pass**	**1.78**	**103**	Pn	Pn	21 29 12.3	-1.5
MTPC				IAML		21 29 39.3	
	comp=N,98nm,0.4s						
MTPC				IAML		21 29 41.1	
	comp=E,136nm,0.3s						
ELS	**Elsinore Mount**	**2.25**	**175**		Pn	21 29 19.8	-0.4
ELS				IAML		21 29 56.2	
	comp=E,34nm,0.3s						
NJQ	**Nojoqui County**	**2.45**	**237**		Pn	21 29 21.7	-1.3
NVAR	**Mina Array Bea**	**2.58**	**349**		Pn	21 29 25.5	+0.6
PRN	**Pahroc Range**	**2.60**	**54**	Pn	Pn	21 29 25.2	+0.1
PRN				IAML		21 30 16.6	
	comp=E,60nm,0.8s						
SBI	**Santa Barbara**	**2.65**	**205**		Pn	21 29 26.7	+1.0
R11B	**Troy Canyon, C**	**2.97**	**34**		Pn	21 29 28.9	-1.3
CMB	**Columbia Colle**	**3.04**	**315**		Pn	21 29 29.4	-1.7
CMB				IAML		21 30 16.7	
	comp=N,22nm,0.4s						
CMB				IAML		21 30 22.5	
	comp=E,20nm,0.8s						
W13A	**Hualapai Mount**	**3.20**	**103**		Pn	21 29 32.0	-1.4
YUH	**Yuha Desert**	**3.55**	**155**		Pn	21 29 38.4	+0.4
CBX	**Cerro Bola**	**3.67**	**166**		Pn	21 29 39.2	-0.6
CCUT	**Cedar City**	**3.84**	**63**		Pn	21 29 42.0	-0.3
KNB	**Kanab**	**4.07**	**73**	Pn	Pn	21 29 45.8	+0.4
KNB				IAML		21 30 52.2	
	comp=E,8.0nm,1.6s						
KNB				IAML		21 31 03.5	
	comp=N,10nm,1.1s						
ELK	**Elko**	**5.21**	**21**		Pn	21 30 00.9	-0.2

IDC ***06*** *21:35:04.4±1.8,32°.21S×178°.63W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=56.3km s-min=39.9km az=35.0*

ISC 06 21:35:07.8±2.4,32°.9S±0°.2×178°.5W±0°.4, h32km, n6, σ0.44/6, mb3.5/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.48**	**212**	Pn	**Pn**	**21 36 41.2**	**+0.2**
	1.2nm,0.3s,baz=339,slow=18,SNR=2.3						
URZ				Sn	**Sn**	**21 37 53.4**	**-0.3**
	0.4nm,0.3s,baz=128,slow=19,SNR=2.0						
ASAR	**Alice Springs**	**42.62**	**270**	P	**P**	**21 43 01.6**	**+0.2**
	0.4nm,0.5s,baz=108,slow=7.4,SNR=10						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**43.83**	**275**	P	**P**	**21 43 11.0**	**-0.2**
	0.9nm,0.5s,baz=115,slow=7.7,SNR=22						
	0.9nm,0.5s						
QSPA	**South Pole Qui**	**57.27**	**180**	P	P	21 44 58.0	+5.9
	0.3nm,0.6s,baz=74,slow=7.4,SNR=1.1						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**147.28**	**338**	PKPbc	**PKPbc**	**21 54 46.8**	**-0.5**
	2.6nm,1.0s,baz=48,slow=4.1,SNR=8.8						
MMAI	**Mount Meron Ar**	**151.62**	**280**	PKPbc	**PKiKP**	**21 54 59.8**	**+0.3**
	0.3nm,0.3s,baz=99,slow=8.9,SNR=1.8						

NEIC ***06*** *21:41:24.6±1.8,35°.689N±0°.009×117°.47W±0°.01, h7km±4km, Error ellipse: s-maj=1.7km s-min=0.9km az=51.0*

PAS 06 21:41:25.3±1.7, 35°.691N±0°.004×117°.48W±0°.02, h5km±2km, ML3.0/23, ML2.8/92(NEIC), Error ellipse: s-maj=1.8km s-min=0.6km az=94.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.16**	**322**	Pg	Pg	21 41 28.6	+0.1
CLC				Sg	Sg	21 41 30.9	+0.3
CLC				IAML		21 41 31.2	
	comp=E,4μm,0.2s						
CLC				IAML		21 41 31.3	
	comp=N,3μm,0.2s						
CCCA	**Chr Cany lake**	**0.19**	**151**		Pg	21 41 28.4	-0.7
SRTC	**Snort**	**0.22**	**270**		Pg	21 41 30.0	+0.3
TOW	**Tower One**	**0.26**	**297**		Pg	21 41 30.7	+0.3
TOW					Sg	21 41 35.1	+1.3
LRMC	**Laurel Mtn Rad**	**0.27**	**218**		Pg	21 41 30.8	+0.2
LRMC					Sg	21 41 34.6	+0.5
LRMC				IAML		21 41 35.5	
	comp=N,2μm,0.3s						
LRMC				IAML		21 41 37.1	
	comp=E,2μm,0.2s						
MPMC	**Manual Prospec**	**0.37**	**359**	Pg	Pg	21 41 32.4	-0.1
WNMM	**Nine Mile Cany**	**0.38**	**294**		Sg	21 41 37.5	0.0
WRVM	**Rose V. Centra**	**0.46**	**314**		Pg	21 41 33.8	-0.4
DTP	**Desert Tortois**	**0.52**	**215**		Pg	21 41 35.2	0.0
MFS	**McCloud Flat S**	**0.52**	**324**		Sg	21 41 42.4	+0.1
WBSM	**Bird Springs**	**0.56**	**254**		Pg	21 41 35.7	-0.4
QSM	**Queen of Sheba**	**0.57**	**61**		Pg	21 41 36.4	+0.2
QSM				IAML		21 41 48.5	
	comp=E,669nm,0.2s						
QSM				IAML		21 41 53.1	
	comp=N,581nm,0.2s						
WORM	**Onyx Ranch**	**0.62**	**271**		Sg	21 41 44.8	-0.6
GSC	**Goldstone, Bar**	**0.67**	**125**		Pg	21 41 37.7	-0.6
CCAC	**Calif City Air**	**0.69**	**219**		Pg	21 41 38.5	-0.1
ISA	**Isabella, Lake**	**0.81**	**268**		Pg	21 41 39.7	-1.1
ISA				IAML		21 41 59.4	
	comp=N,371nm,0.4s						
ISA				IAML		21 42 01.1	
	comp=E,221nm,0.5s						
GWY	**Greenwater Val**	**0.82**	**53**		Pg	21 41 41.6	+0.5
TPO	**Tropico Hills**	**1.02**	**217**		Pg	21 41 44.4	-0.4
AMDNV	**Amargosa**	**1.23**	**52**		Pg	21 41 48.9	-0.1
DSCC	**Desert Studies**	**1.25**	**116**		Pg	21 41 48.2	-1.1
TUQ	**Turquoise Moun**	**1.29**	**101**		Pg	21 41 49.3	-0.8
WCT	**Wildcat Mounta**	**1.30**	**32**		Pn	21 41 48.8	-1.4
WCT					Sg	21 42 07.2	+0.1
WCT				IAML		21 42 16.1	
	comp=E,125nm,0.5s						
WCT				IAML		21 42 16.4	
	comp=N,109nm,0.5s						
GRAC	**Grapevine Rang**	**1.30**	**4**		Pn	21 41 49.8	-0.5
GRAC				IAML		21 42 11.0	
	comp=E,155nm,0.5s						
GRAC				IAML		21 42 19.6	
	comp=N,225nm,0.7s						
MWC	**Mount Wilson**	**1.54**	**198**		Pn	21 41 52.9	-0.7
MWC				IAML		21 42 14.9	
	comp=N,281nm,0.5s						
MTPC	**Mountain Pass**	**1.58**	**97**		Pn	21 41 52.7	-1.5
MTPC				IAML		21 42 16.6	
	comp=N,179nm,0.5s						
MTPC				IAML		21 42 16.9	
	comp=E,262nm,0.2s						
TPNV	**Topopah Spring**	**1.60**	**38**		Pn	21 41 53.3	-1.1
TPNV				IAML		21 42 24.0	
	comp=E,161nm,0.4s						
TPNV				IAML		21 42 24.1	
	comp=E,251nm,0.9s						
GMN	**Gold Mountain**	**1.62**	**6**		Pn	21 41 53.5	-1.2
PASC	**Pasadena Art C**	**1.62**	**201**		Pn	21 41 53.4	-1.2
PASC				IAML		21 42 18.7	
	comp=E,151nm,0.6s						
PASC				IAML		21 42 18.9	
	comp=N,142nm,0.4s						
DSP	**Deep Springs**	**1.72**	**347**		Pn	21 41 55.2	-0.7
ELS	**Elsinore Mount**	**2.04**	**179**		Pn	21 41 59.6	-0.8
ELS				IAML		21 42 28.5	
	comp=N,78nm,0.5s						
ELS				IAML		21 42 29.0	
	comp=E,109nm,0.4s						
SHPR	**Sheep Range**	**2.05**	**66**	Pn	Pn	21 41 60.0	-0.6
V12A	**Nelson**	**2.14**	**88**		Pn	21 42 00.4	-1.4
V12A				IAML		21 42 37.2	
	comp=N,53nm,1.0s						
V12A				IAML		21 42 41.2	
	comp=E,64nm,0.6s						
PMD	**Palm Desert**	**2.23**	**156**	Pn	Pn	21 42 01.7	-1.2
PMD				IAML		21 42 43.2	
	comp=E,33nm,0.7s						
PFO	**Pinyon Flats O**	**2.24**	**158**		Pn	21 42 02.1	-1.1
PFO				IAML		21 42 42.0	
	comp=E,34nm,1.0s						
SNDA	**J Saunders Pla**	**2.25**	**161**		Pb	21 42 06.4	-0.2
PRN	**Pahroc Range**	**2.60**	**48**		Pn	21 42 08.7	+0.5
PRN				IAML		21 43 04.7	
	comp=N,81nm,0.6s						
PRN				IAML		21 43 04.7	
	comp=E,94nm,0.7s						
LHV	**Little Huntoon**	**2.68**	**342**		Pn	21 42 09.9	+0.8
LHV				IAML		21 43 19.4	
	comp=E,21nm,1.1s						
DPP	**Dos Picos Cty**	**2.72**	**170**	Pn	Pn	21 42 08.8	-0.9
DPP				IAML		21 42 48.9	
	comp=E,43nm,0.6s						
DPP				IAML		21 42 49.4	
	comp=N,20nm,0.5s						
DPD	**Davis Peak**	**2.73**	**261**		Pb	21 42 14.8	+0.1
NV11	**Mina Array Sit**	**2.79**	**349**		Pn	21 42 10.5	-0.3
NVAR	**Mina Array Bea**	**2.81**	**347**		Pn	21 42 11.0	-0.1
W13A	**Hualapai Mount**	**3.00**	**100**		Pn	21 42 12.6	-1.1
W13A				IAML		21 43 01.7	
	comp=N,28nm,0.3s						
W13A				IAML		21 43 06.1	
	comp=E,23nm,0.5s						
RYN	**Ryan**	**3.05**	**344**	Pn	Pn	21 42 13.8	-0.5
BLYC	**Blythe**	**3.11**	**128**		Pn	21 42 12.7	-2.3
BLYC				IAML		21 43 02.7	
	comp=N,43nm,0.5s						
BLYC				IAML		21 43 05.2	
	comp=E,42nm,0.7s						
WAKR	**Walker**	**3.21**	**331**		Pn	21 42 16.7	0.0
YUH	**Yuha Desert**	**3.30**	**157**		Pn	21 42 16.4	-1.2
GLA	**Glamis**	**3.43**	**139**		Pn	21 42 19.1	-0.3
CBX	**Cerro Bola**	**3.44**	**168**		Pn	21 42 19.4	-0.3
LCMT	**Little Creek M**	**3.66**	**68**		Pn	21 42 22.1	-0.6
CCUT	**Cedar City**	**3.80**	**60**		Pn	21 42 23.8	-0.9
ESJX	**Sierra Juarez**	**3.89**	**160**		Pn	21 42 26.6	+0.7
KNB	**Kanab**	**3.98**	**69**		Pn	21 42 27.4	+0.2
KNB				IAML		21 43 40.4	
	comp=E,8.4nm,1.0s						
KNB				IAML		21 43 41.0	
	comp=N,12nm,1.6s						
Y14A	**Wickenburg**	**4.08**	**114**		Pn	21 42 27.9	-0.4
Y14A				IAML		21 43 34.1	
	comp=N,28nm,0.4s						
Y14A				IAML		21 43 38.8	
	comp=E,25nm,0.5s						

IDC ***06*** *21:59:47.4±10.0,56°.08S×27°.02W, h180km±91km, mb3.4/4, mbtmp4.0/5, Error ellipse: s-maj=73.3km s-min=28.1km az=106.0*

ISC 06 21:59:39.5±1.5, 55°.9S±0°.2×27°.3W±0°.5, h112km, n7, σ1.814/7, mb3.8/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.88**	**156**	P	**P**	**22 03 51.7**	**+1.0**
	3.5nm,0.4s,baz=311,slow=13,SNR=59						
QSPA	**South Pole Qui**	**34.33**	**180**	P	**P**	**22 06 15.1**	**+0.1**
	1.3nm,0.5s,baz=189,slow=1.3,SNR=18						
	1.3nm,0.5s						
MAW	**Mawson**	**40.28**	**144**	P	**P**	**22 07 03.9**	**-1.0**
	1.0nm,0.7s,baz=260,slow=11,SNR=2.0						
	1.0nm,0.7s						
VNDA	**Vanda**	**46.70**	**183**	P	**P**	**22 07 56.4**	**+0.2**
	0.6nm,0.6s,baz=184,slow=7.8,SNR=2.2						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**72.97**	**30**	P	**P**	**22 10 57.5**	**+1.0**
	0.7nm,0.4s,baz=198,slow=6.7,SNR=9.4						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**124.29**	**28**	PKP	**PKPdf**	**22 18 22.1**	**-1.4**
	2.1nm,1.0s,baz=222,slow=1.9,SNR=6.0						
SONM	**Songino Array**	**150.76**	**86**	PKPbc	**PKPbc**	**22 19 17.3**	**-0.3**
	1.7nm,0.5s,baz=222,slow=3.5,SNR=11						

IDC 06 22:02:41.7±5.7, 22°.17S×169°.99E, h0km, mb3.6/3, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=129.4km s-min=62.6km az=18.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.29**	**271**	Pn	Pn	22 03 35.6	+0.9
	3.0nm,0.3s,baz=93,slow=19,SNR=33						
DZM				Sn	Sn	22 04 13.6	-1.0
	0.4nm,0.3s,baz=81,slow=19,SNR=1.3						
	6.8nm,0.3s						
STKA	**Stephens Creek**	**27.01**	**243**	P	P	22 08 25.5	-0.1
	1.6nm,0.7s,baz=117,slow=6.8,SNR=3.1						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**33.22**	**260**	P	P	22 09 20.6	-0.1
	0.4nm,0.9s,baz=88,slow=8.9,SNR=2.5						
	0.4nm,0.9s						
WRA	**Warramunga Arr**	**33.30**	**267**	P	P	22 09 21.2	-0.2
	0.3nm,0.5s,baz=100,slow=8.2,SNR=7.2						
	0.3nm,0.5s						

NEIC ***06*** *22:04:08.8±1.1,35°.635N±0°.010×117°.43W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=2.1km az=152.0*

PAS 06 22:04:09.6±1.4, 35°.63N±0°.01×117°.46W±0°.01, h3km±4km, ML3.0/181, ML2.7/96(NEIC), Error ellipse: s-maj=1.9km s-min=1.3km az=50.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.13**	**143**	Pg	Pg	22 04 12.7	+0.6
CCCA					Sg	22 04 15.2	+1.3
CLC	**China Lake**	**0.22**	**329**		Pg	22 04 13.9	0.0
CLC					Sg	22 04 17.3	+0.

QSM					IAML			22 04 34.3		
	comp=N,454nm,0.1s									
GSC	**Goldstone, Bar**	**0.62**	**121**		Pg	Pg		22 04 21.6	0.0	
GSC					IAML			22 04 30.8		
	comp=E,804nm,0.4s									
GSC					IAML			22 04 35.8		
	comp=N,558nm,0.8s									
GSC	**Goldstone, Bar**	**0.62**	**121**			Sg		22 04 30.2	+0.6	
WORM	**Onyx Ranch**	**0.64**	**276**			Pg		22 04 21.8	-0.1	
CCAC	**Calif City Air**	**0.66**	**224**			Pg		22 04 22.1	-0.2	
WHFM	**Hanning Flat**	**0.73**	**276**			Pg		22 04 23.3	-0.2	
HYS	**Haystack Butte**	**0.77**	**187**			Pg		22 04 23.9	-0.5	
ISA	**Isabella, Lake**	**0.83**	**273**			Pg		22 04 25.0	-0.5	
ISA					IAML			22 04 39.9		
	comp=N,196nm,0.4s									
RRX	**Edison Barstow**	**0.84**	**153**			Pg		22 04 25.6	-0.1	
GWY	**Greenwater Val**	**0.85**	**49**			Pg		22 04 25.5	-0.4	
GWY					IAML			22 04 40.8		
	comp=N,517nm,0.3s									
EDW2	**Edwards Air Fo**	**0.86**	**211**			Pg		22 04 25.6	-0.6	
WASM	**Alta Sierra Ca**	**0.90**	**277**			Pg		22 04 26.6	-0.3	
TPO	**Tropico Hills**	**0.98**	**220**		Pg	Pg		22 04 27.9	-0.5	
TPO					IAML			22 04 46.3		
	comp=N,438nm,0.5s									
WCT	**Wildcat Mounta**	**1.34**	**30**			Pg		22 04 34.2	-1.2	
WCT					IAML			22 04 54.6		
	comp=N,152nm,0.5s									
WCT					IAML			22 04 55.5		
	comp=E,232nm,0.5s									
GRAC	**Grapevine Rang**	**1.37**	**3**			Pn		22 04 34.9	-0.8	
OSI	**Osito Audit: C**	**1.45**	**226**			Pn		22 04 36.0	-0.9	
OSI					IAML			22 04 59.9		
	comp=N,202nm,0.6s									
OSI					IAML			22 05 00.3		
	comp=E,146nm,0.6s									
MWC	**Mount Wilson**	**1.49**	**200**			Pn		22 04 36.4	-1.0	
MWC					IAML			22 05 00.8		
	comp=E,146nm,0.4s									
MWC					IAML			22 05 00.8		
	comp=N,139nm,0.5s									
MTPC	**Mountain Pass**	**1.56**	**95**			Pn		22 04 37.0	-1.4	
MTPC					IAML			22 05 03.2		
	comp=E,100nm,0.4s									
MTPC					IAML			22 05 03.7		
	comp=N,82nm,0.2s									
PASC	**Pasadena Art C**	**1.57**	**203**			Pn		22 04 37.7	-0.7	
PASC					IAML			22 05 05.2		
	comp=E,70nm,0.5s									
PASC					IAML			22 05 05.5		
	comp=N,81nm,0.5s									
TPNV	**Topopah Spring**	**1.64**	**36**			Pn		22 04 38.8	-0.8	
TPNV					IAML			22 05 03.4		
	comp=N,101nm,0.6s									
TPNV					IAML			22 05 07.3		
	comp=N,150nm,0.5s									
GMN	**Gold Mountain**	**1.68**	**5**			Pn		22 04 39.4	-0.8	
DSP	**Deep Springs**	**1.79**	**347**			Pn		22 04 41.0	-0.3	
ELS	**Elsinore Mount**	**1.98**	**179**			Pn		22 04 43.3	-0.8	
ELS					IAML			22 05 14.4		
	comp=E,44nm,0.4s									
ELS					IAML			22 05 21.3		
	comp=N,50nm,0.5s									
SHPR	**Sheep Range**	**2.06**	**64**			Pn		22 04 44.7	-0.6	
MZP	**Montezuma Peak**	**2.07**	**2**			Pn		22 04 44.6	-0.9	
V12A	**Nelson**	**2.12**	**87**			Pn		22 04 44.7	-1.5	
V12A					IAML			22 05 26.1		
	comp=E,35nm,0.5s									
PFO	**Pinyon Flats O**	**2.17**	**157**			Pn		22 04 45.6	-1.2	
PFO					IAML			22 05 21.3		
	comp=E,33nm,0.5s									
TPH	**Tonopah**	**2.45**	**4**			Pn		22 04 50.0	-0.7	
NEE2	**Needles Airpor**	**2.48**	**109**		Pn	Pn		22 04 49.1	-1.8	
PRN	**Pahroc Range**	**2.63**	**47**			Pn		22 04 52.2	-0.9	
PRN					IAML			22 05 38.9		
	comp=E,49nm,0.8s									
PRN					IAML			22 05 48.7		
	comp=N,45nm,0.8s									
LHV	**Little Huntoon**	**2.75**	**343**			Pn		22 04 54.7	+0.1	
LHV					IAML			22 05 43.5		
	comp=E,25nm,0.6s									
PMPB	**Monarch Peak**	**2.77**	**283**		Pn	Pn		22 04 55.8	+0.7	
PMPB					IAML			22 06 13.3		
	comp=E,42nm,4.6s									
NV11	**Mina Array Sit**	**2.85**	**349**			Pn		22 04 56.3	+0.1	
NVAR	**Mina Array Bea**	**2.88**	**347**			Pn		22 04 56.6	0.0	
W13A	**Hualapai Mount**	**2.97**	**99**			Pn		22 04 56.8	-1.1	
W13A					IAML			22 05 49.0		
	comp=N,17nm,0.6s									
BLYC	**Blythe**	**3.06**	**127**			Pn		22 04 56.9	-2.0	
BLYC					IAML			22 05 48.8		
	comp=E,27nm,0.5s									
BLYC					IAML			22 05 49.8		
	comp=N,24nm,0.9s									
RYN	**Ryan**	**3.11**	**344**			Pn		22 04 59.8	0.0	
YUH	**Yuha Desert**	**3.23**	**156**		Pn	Pn		22 05 00.3	-1.0	
CBX	**Cerro Bola**	**3.37**	**168**		Pn	Pn		22 05 03.2	-0.2	
LCMT	**Little Creek M**	**3.67**	**67**			Pn		22 05 07.5	0.0	
CCUT	**Cedar City**	**3.81**	**59**			Pn		22 05 08.9	-0.6	
ESJX	**Sierra Juarez**	**3.83**	**160**			Pn		22 05 08.8	-0.9	
KNB	**Kanab**	**3.99**	**68**			Pn		22 05 11.4	-0.5	
KNB					IAML			22 06 20.4		
	comp=N,7.3nm,2.9s									
KNB					IAML			22 06 35.5		
	comp=E,7.7nm,2.3s									

*IDC **06** 22:10:01.2±0.6,26˚93N×140˚41E,h425km±5km,mb3.6/21, mbtmp4.4/24,Error ellipse: s-maj=14.1km s-min=10.2km az=67.0*

*NEIC **06** 22:10:03.3±1.6,27˚1N±0˚1×140˚3E±0˚1,h435km±8km, mb4.1/71,Error ellipse: s-maj=17.5km s-min=15.2km az=146.0*

*JMA **06** 22:10:06.0±0.2,27˚N±2˚×14˚1E±˚,h423km,MV4.3/20,W OFF OGASAWARA*

ISC 06 22:10:03.1±0.4,27˚02N±0˚07×140˚44E±0˚07,h443km, n368,σ1ϕ08/381,mb4.0/57,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.56**	**87**	P		**P**	**22 11 00.1**	**-0.5**
CBIJ				*eS*		**S**	**22 11 42.7**	**-4.7**
JCJ	**Chichijima**	**1.56**	**87**			**P**	**22 10 59.6**	**-1.1**
JCJ						**S**	**22 11 43.3**	**-4.0**
JCJ	**Chichijima**	**1.56**	**87**	P		P	22 10 57.4	-3.3
JCJ				S		**S**	**22 11 42.1**	**-5.3**
JHH2	**Haha-jima-NKT2**	**1.60**	**104**	P		**P**	**22 11 01.2**	**+0.3**
JHH2				S		**S**	**22 11 45.1**	**-2.6**
JHH2	**Haha-jima-NKT2**	**1.60**	**104**	A		A	22 11 01.2	
	comp=N,4.0nm,0.4s,comp=E,6.0nm,0.3s							
JHJ2	**Mitsune**	**6.09**	**355**	P		**P**	**22 11 38.0**	**+0.1**
BSO3	**Boso 3**	**7.75**	**0**	*eP*		**P**	**22 11 55.7**	**+0.3**
BSO3				*eS*		**S**	**22 13 21.4**	**-6.0**
JIE	**Ise**	**8.02**	**337**	P		**P**	**22 12 00.6**	**+2.2**
JKN2	**Miekihoku**	**8.04**	**334**	*eP*		**P**	**22 12 02.2**	**+3.6**
JMN	**Monobe**	**8.76**	**321**	P		**P**	**22 12 06.7**	**+0.1**
INU	**Inuyama**	**8.80**	**341**	P		**P**	**22 12 05.8**	**-1.2**
JGF	**Kuroka**	**8.95**	**344**	P		**P**	**22 12 07.4**	**-1.2**
MJAR	**Matsushiro Arr**	**9.68**	**349**			**P**	**22 12 13.6**	**-3.0**
MJAR	**Matsushiro Arr**	**9.68**	**349**	P		**P**	**22 12 15.7**	**-0.9**
	comp=E,1.1nm,0.3s,baz=86,slow=9.3,SNR=5.0							
MJAR				S		**S**	**22 14 03.3**	**-3.2**
	comp=E,1.9nm,0.6s,baz=153,slow=8.0,SNR=2.4							
MJB9	**Matsu-Tunnel**	**9.68**	**349**	P		**P**	**22 12 14.5**	**-2.1**
JAMN	**Amaminishikomi**	**10.07**	**280**	*eP*		**P**	**22 12 22.4**	**+1.5**
JNU	**Nakatsue**	**10.27**	**309**	P		**P**	**22 12 24.7**	**+1.6**
JNU	**Nakatsue**	**10.27**	**309**	P		**P**	**22 12 26.0**	**+2.9**
	comp=E,4.6nm,0.5s,baz=126,slow=5.4,SNR=14							
JSJ	**Shimokoshiki**	**10.44**	**299**	*eP*		**P**	**22 12 26.4**	**+1.4**
JMM	**Marumori**	**10.82**	**1**	P		**P**	**22 12 29.4**	**+0.5**
JOW	**Kunigami**	**10.86**	**272**	P		**P**	**22 12 30.2**	**+0.5**
JOW	**Kunigami**	**10.86**	**272**	P		**P**	**22 12 30.9**	**+1.3**
	comp=E,28nm,0.4s,baz=109,slow=16,SNR=15							
JOW	**Kunigami**	**10.86**	**272**	*eP*		**P**	**22 12 30.7**	**+1.1**
KSRS	**Korea Array**	**14.83**	**318**	P		**P**	**22 13 12.4**	**0.0**
	comp=E,0.7nm,0.7s,baz=144,slow=9.9,SNR=5.3							
ERM	**Erimo**	**15.12**	**8**	P		**P**	**22 13 16.7**	**+1.2**
ASAJ	**Asahikawa**	**17.14**	**5**	P		**P**	**22 13 38.0**	**+1.1**
	comp=E,4.5nm,0.6s,baz=196,slow=9.3,SNR=9.0							
USA0B	**Ussuriysk Arra**	**18.45**	**340**	P		**P**	**22 13 50.0**	**-0.2**
USA0B				IAmb		IAmb	22 13 52.7	
	comp=Z,8.6nm,0.8s							
USRK	**Ussuriysk Ar.**	**18.45**	**340**	P		**P**	**22 13 50.3**	**0.0**
USRK	**Ussuriysk Ar.**	**18.45**	**340**	P		**P**	**22 13 50.9**	**+0.6**
	comp=Z,6.9nm,0.7s,baz=170,slow=9.5,SNR=20							
PEA0B	**Petropavlovsk-**	**29.05**	**22**	P		**P**	**22 15 25.9**	**+0.6**
PEA0B				IAmb		IAmb	22 15 50.3	
	comp=Z,15nm,1.5s							
PETK	**Petropavlovsk-**	**29.05**	**22**	P		**P**	**22 15 26.4**	**+1.0**
PETK	**Petropavlovsk-**	**29.05**	**22**	P		**P**	**22 15 26.7**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=215,slow=4.5,SNR=7.5							
	comp=Z,1.0nm,0.5s							
SONM	**Songino Array**	**33.70**	**317**	P		**P**	**22 16 06.1**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=135,slow=7.8,SNR=4.5							
SONM				PcP		**PcP**	**22 18 33.5**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=142,slow=2.5,SNR=4.7							
	comp=Z,0.9nm,0.7s							
MIDW	**Midway**	**37.27**	**78**	P		**P**	**22 16 36.4**	**+0.8**
KIWB	**Kanaga Island**	**40.27**	**40**	P		**P**	**22 17 01.1**	**+1.3**
KULM	**Kulim**	**43.62**	**247**	P		**P**	**22 17 26.9**	**0.0**
KULM				IAmb		IAmb	22 17 50.7	
	comp=Z,7.9nm,1.2s							
TIXI	**Tiksi**	**45.13**	**355**	P		**P**	**22 17 37.6**	**-0.3**
TIXI				IAmb		IAmb	22 17 47.6	
	comp=Z,13nm,1.4s							
NIKH	**Nikolski High**	**45.45**	**41**	P		**P**	**22 17 41.3**	**+0.8**
	baz=256							
SPIA	**Saint Paul Isl**	**45.91**	**35**	P		**P**	**22 17 44.8**	**+0.7**
	baz=250							
P08K	**Saint George I**	**46.09**	**36**	P		**P**	**22 17 45.8**	**+0.4**
	baz=252							
WB0	**Warramunga Arr**	**46.88**	**188**	P		**P**	**22 17 51.6**	**-0.3**
UNV	**Unalaska Valle**	**47.02**	**40**	P		**P**	**22 17 53.1**	**+0.6**
	baz=257							
WR8	**Warramunga Arr**	**47.05**	**188**	P		**P**	**22 17 52.9**	**-0.4**
WR8				IAmb		IAmb	22 18 18.0	
	comp=Z,5.9nm,0.9s							
WRA	**Warramunga Arr**	**47.06**	**188**	P		**P**	**22 17 52.7**	**-0.6**
WRA	**Warramunga Arr**	**47.06**	**188**	P		**P**	**22 17 52.4**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=4.7,slow=7.6,SNR=16							
WRA				ScP		**ScP**	**22 22 26.6**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=6.7,slow=4.6,SNR=2.7							
	comp=Z,2.0nm,0.6s							
LVA	**Lava Point**	**47.36**	**40**	P		**P**	**22 17 55.7**	**+0.5**
AKUT	**Akutan**	**47.51**	**40**	P		**P**	**22 17 57.1**	**+0.8**
GAMB	**Gambell**	**47.87**	**26**	P		**P**	**22 17 59.7**	**+0.8**
	baz=243							
ZAA0	**Zalesovo Array**	**48.53**	**319**	P		**P**	**22 18 03.1**	**-0.9**
ZAA0				IAmb		IAmb	22 18 04.2	
	comp=Z,5.1nm,0.8s							
ZALV	**Zalesovo Beam**	**48.53**	**319**			**P**	**22 18 03.2**	**-0.8**
ZALV	**Zalesovo Beam**	**48.53**	**319**	P		**P**	**22 18 03.7**	**-0.3**
	comp=Z,3.0nm,0.3s,baz=107,slow=7.4,SNR=15							
ZALV				PcP		**PcP**	**22 19 21.4**	**-0.3**
	comp=Z,2.2nm,0.4s,baz=116,slow=3.8,SNR=9.0							
ZALV				ScP		**ScP**	**22 22 32.6**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=100,slow=6.2,SNR=2.6							
	comp=Z,3.0nm,0.3s							
MKAR	**Makanchi Array**	**49.32**	**310**	P		**P**	**22 18 09.5**	**-0.6**
MKAR	**Makanchi Array**	**49.32**	**310**	P		**P**	**22 18 10.1**	**0.0**
	comp=Z,1.2nm,0.4s,baz=87,slow=10,SNR=24							
MKAR				PcP		**PcP**	**22 19 24.2**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=81,slow=7.5,SNR=7.9							
MKAR				ScP		**ScP**	**22 22 36.7**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=76,slow=5.0,SNR=6.6							
	comp=Z,1.2nm,0.4s							
MAKZ	**Makanchi**	**49.54**	**310**	P		**P**	**22 18 11.4**	**-0.3**
S12K	**Black Hills**	**49.92**	**39**	P		**P**	**22 18 14.3**	**0.0**
S12K	**Black Hills**	**49.92**	**39**	P		**P**	**22 18 14.8**	**+0.5**
	baz=260							
TNA	**Tin City**	**50.11**	**25**	P		**P**	**22 18 16.1**	**+0.5**
	baz=246							
K13K	**Kusilvak Mount**	**50.15**	**30**	P		**P**	**22 18 16.8**	**+0.9**
	baz=252							
M13K	**Dall Lake**	**50.31**	**32**	P		**P**	**22 18 18.0**	**+0.9**
	baz=255							
F14K	**Arctic Creek**	**50.69**	**26**	P		**P**	**22 18 20.4**	**+0.6**
	baz=248							
ANM	**Nome**	**50.73**	**27**	P		**P**	**22 18 21.3**	**+1.2**
	baz=249							
SDPT	**Sand Point**	**50.75**	**39**	P		**P**	**22 18 20.5**	**+0.2**
	baz=261							
ASAR	**Alice Springs**	**50.79**	**188**	P		**P**	**22 18 20.5**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=350,slow=3.9,SNR=5.3							
ASAR				ScP		**ScP**	**22 22 42.8**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=356,slow=6.4,SNR=1.8							
	comp=Z,1.0nm,0.9s							
L14K	**Kuka Creek**	**50.88**	**31**	P		**P**	**22 18 23.4**	**+2.1**
L14K	**Kuka Creek**	**50.88**	**31**	P		**P**	**22 18 22.1**	**+0.9**
	baz=254							
J14K	**Nanvranak Lak**	**50.89**	**29**	P		**P**	**22 18 22.4**	**+1.1**
	baz=252							
N14K	**Kuskokwak Cree**	**51.00**	**33**	P		**P**	**22 18 22.9**	**+0.8**
	baz=257							
O14K	**Tigyukauivet M**	**51.05**	**34**	P		**P**	**22 18 24.1**	**+1.5**
O14K	**Tigyukauivet M**	**51.05**	**34**	P		**P**	**22 18 23.6**	**+1.1**
	baz=258							
M14K	**Bethel**	**51.07**	**32**	P		**P**	**22 18 23.3**	**+0.6**
	baz=256							
CHNA	**Chernabura Isl**	**51.18**	**40**	P		**P**	**22 18 23.9**	**+0.4**
	baz=262							
G15K	**Niukluk**	**51.41**	**27**	P		**P**	**22 18 25.7**	**+0.6**
	baz=250							
F15K	**North Star Dit**	**51.42**	**26**	P		**P**	**22 18 26.0**	**+0.8**
	baz=249							
L15K	**Ungalak Mounta**	**51.52**	**31**	P		**P**	**22 18 26.7**	**+0.7**
	baz=255							
M15K	**Kasigluk River**	**51.66**	**32**	P		**P**	**22 18 27.6**	**+0.6**
	baz=257							
K15K	**Wolf Creek Mou**	**51.66**	**30**	P		**P**	**22 18 28.7**	**+1.7**
K15K	**Wolf Creek Mou**	**51.66**	**30**	P		**P**	**22 18 27.1**	**+0.1**
	baz=255							
O15K	**Ungalikthiuk R**	**51.76**	**34**	P		**P**	**22 18 28.8**	**+1.1**
O15K	**Ungalikthiuk R**	**51.76**	**34**	P		**P**	**22 18 28.2**	**+0.5**
	baz=259							
N15K	**Kwethluk River**	**51.83**	**33**	P		**P**	**22 18 29.4**	**+1.1**
	baz=258,SNR=5.1							
KURK	**Kurchatov**	**51.93**	**315**			**P**	**22 18 28.9**	**-0.2**
KURK				IAmb		IAmb	22 18 29.7	
	comp=Z,13nm,1.2s							
KURBB	**Kurchatov Arra**	**51.98**	**314**	P		**P**	**22 18 29.4**	**-0.1**
	comp=Z,7.9nm,0.6s,baz=92,slow=7.9,SNR=34							
KURBB				PcP		**PcP**	**22 19 33.6**	**-1.1**
	comp=Z,2.2nm,0.3s,baz=93,slow=3.8,SNR=4.3							
	comp=Z,7.9nm,0.6s							
CHGN	**Chignik**	**52.03**	**38**	P		**P**	**22 18 30.0**	**+0.3**
	baz=262							
C16K	**Lisburne Hills**	**52.15**	**22**	P		**P**	**22 18 31.0**	**+0.6**
	baz=246							
NRIK	**Noril'sk**	**52.15**	**339**			**P**	**22 18 30.6**	**+0.2**
NRIK				IAmb		IAmb	22 18 31.3	
	comp=Z,9.6nm,0.8s							
NRIK	**Noril'sk**	**52.15**	**339**	P		**P**	**22 18 30.6**	**+0.2**
	comp=Z,7.8nm,0.4s,baz=120,slow=4.7,SNR=7.6							
	comp=Z,7.8nm,0.4s							
G16K	**Koyuk River**	**52.21**	**26**	P		**P**	**22 18 31.6**	**+0.7**
	baz=252							
J16K	**Anvik River**	**52.33**	**29**	P		**P**	**22 18 33.4**	**+1.6**
	baz=255							
I17K	**Unalakleet**	**52.45**	**29**	P		**P**	**22 18 33.6**	**+1.0**
	baz=254							
L16K	**Owhat River**	**52.46**	**31**	P		**P**	**22 18 33.2**	**+0.5**
	baz=257							
N16K	**Nishlik Lake**	**52.54**	**33**	P		**P**	**22 18 33.9**	**+0.5**
	baz=259							
M16K	**Timber Creek**	**52.56**	**32**	P		**P**	**22 18 34.0**	**+0.6**
	baz=258							
P16K	**Nushagak River**	**52.67**	**35**	P		**P**	**22 18 34.9**	**+0.6**
	baz=261							
O16K	**Kokwok River B**	**52.71**	**34**	P		**P**	**22 18 35.1**	**+0.5**
	baz=260							
D17K	**Noatak River**	**52.72**	**24**	P		**P**	**22 18 35.5**	**+1.0**
	baz=249							
RDOG	**Red Dog Mine**	**52.91**	**23**	P		**P**	**22 18 36.8**	**+0.9**
	baz=249							
G17K	**Kwalik Mounta**	**52.92**	**27**	P		**P**	**22 18 36.9**	**+0.8**
	baz=253							
E17K	**Hotham Inlet**	**52.96**	**25**	P		**P**	**22 18 36.4**	**+0.1**
	baz=251							
C17K	**DeLong Mountai**	**52.97**	**23**	P		**P**	**22 18 37.6**	**+1.2**
	baz=249							
F17K	**Baldwin Pennin**	**52.97**	**25**	P		**P**	**22 18 37.4**	**+1.1**
	baz=252							
J17K	**VABM Dome**	**53.03**	**29**			**P**	**22 18 38.9**	**+2.1**
J17K	**VABM Dome**	**53.03**	**29**	P		**P**	**22 18 37.1**	**+0.2**
	baz=256							
H17K	**Granite Mounta**	**53.07**	**27**	P		**P**	**22 18 37.5**	**+0.5**
	baz=254							
L17K	**Donlin**	**53.10**	**31**	P		**P**	**22 18 38.4**	**+1.0**
	baz=258							
K17K	**Iditarod**	**53.22**	**30**	P		**P**	**22 18 38.2**	**0.0**
	baz=258,SNR=10							
O17K	**Koliganek Bris**	**53.24**	**34**	P		**P**	**22 18 39.2**	**+0.8**
	baz=261							
N17K	**Nushagak Hills**	**53.32**	**33**	P		**P**	**22 18 40.0**	**+1.0**
	baz=260							
R17L	**Mt. Peulik Vol**	**53.32**	**37**	P		**P**	**22 18 39.8**	**+0.7**
	baz=263							
M17K	**Holitna River**	**53.35**	**32**	P		**P**	**22 18 41.2**	**+2.0**
M17K	**Holitna River**	**53.35**	**32**	P		**P**	**22 18 40.2**	**+1.0**
	baz=260							
P17K	**Kvichak River**	**53.48**	**35**	P		**P**	**22 18 41.3**	**+1.2**
	baz=262							
E18K	**Tukpahlearik C**	**53.52**	**24**	P		**P**	**22 18 41.6**	**+1.3**
	baz=252							
CHIR	**Chirikof Islan**	**53.54**	**39**	P		**P**	**22 18 42.0**	**+1.4**
CHIR	**Chirikof Islan**	**53.54**	**39**	P		**P**	**22 18 41.5**	**+0.9**
	baz=265							
F18K	**Selawik**	**53.63**	**25**	P		**P**	**22 18 41.9**	**+0.8**
	baz=254							
Q17K	**Contact Creek**	**53.65**	**36**	P		**P**	**22 18 42.5**	**+1.0**
	baz=263							
C18K	**Utukok River**	**53.71**	**23**	P		**P**	**22 18 42.6**	**+0.9**
	baz=251							
B18K	**Kokolik River**	**53.75**	**22**	P		**P**	**22 18 42.9**	**+1.0**
	baz=249							
H18K	**Honhosa River**	**53.76**	**27**	P		**P**	**22 18 43.3**	**+1.2**
	baz=256							
G18K	**Tagagawik**	**53.83**	**26**	P		**P**	**22 18 43.8**	**+1.2**
	baz=255							
L18K	**Granite Mounta**	**53.85**	**31**	P		**P**	**22 18 44.1**	**+1.4**
	baz=260							
BOOM	**Boomskoye usch**	**53.97**	**304**	P		**P**	**22 18 44.8**	**+0.6**
N18K	**Kilae Creek**	**53.97**	**33**	P		**P**	**22 18 44.6**	**+1.0**
	baz=261							
J18K	**Innoko River**	**54.08**	**30**	P		**P**	**22 18 45.9**	**+1.6**
	baz=259							
P18K	**Big Mountain,**	**54.12**	**35**	P		**P**	**22 18 45.9**	**+1.2**
	baz=263							
M18K	**Stony River**	**54.13**	**32**	P		**P**	**22 18 46.1**	**+1.4**
	baz=261							
Q18K	**Katmai Hardscr**	**54.15**	**36**	P		**P**	**22 18 45.6**	**+0.5**
	baz=264							
O18K	**Koktuh Hills**	**54.19**	**34**	P		**P**	**22 18 46.9**	**+1.6**
	baz=263							
GCSA	**Galena City Sc**	**54.28**	**28**	P		**P**	**22 18 46.7**	**+1.1**
	baz=258							
A19K	**Wainwright**	**54.28**	**21**	P		**P**	**22 18 46.1**	**+0.5**
	baz=250							
C19K	**Lookout Ridge**	**54.41**	**22**	P		**P**	**22 18 47.4**	**+0.7**
	baz=252							
G19K	**Purcell Mounta**	**54.51**	**26**	P		**P**	**22 18 48.0**	**+0.7**
	baz=256							
H19K	**Roundabout Mou**	**54.62**	**27**	P		**P**	**22 18 49.2**	**+1.0**
	baz=258,SNR=9.7							
J19K	**Poorman**	**54.66**	**29**	P		**P**	**22 18 49.2**	**+0.8**
	baz=259							
N19K	**Bonanza Creek**	**54.68**	**33**	P		**P**	**22 18 48.9**	**+0.2**
	baz=263							
O19K	**Port Alsworth**	**54.68**	**34**	P		**P**	**22 18 49.5**	**+0.9**
	baz=263							
L19K	**White Mountain**	**54.70**	**31**	P		**P**	**22 18 49.6**	**+0.8**
	baz=261							
D19K	**Kuna River**	**54.74**	**23**	P		**P**	**22 18 50.0**	**+1.1**
	baz=254							
E19K	**Redstone River**	**54.78**	**25**	P		**P**	**22 18 50.0**	**+0.8**
	baz=255							
M19K	**Big River Lodg**	**54.87**	**32**	P		**P**	**22 18 50.8**	**+0.8**
	baz=262							
Q19K	**Cape Douglas,**	**54.88**	**35**	P		**P**	**22 18 50.9**	**+0.7**
	baz=265							
OHAK	**Old Harbor**	**54.94**	**37**	P		**P**	**22 18 51.7**	**+1.2**
	baz=266							
P19K	**Oil Pt**	**55.16**	**35**	P		**P**	**22 18 53.0**	**+0.9**
	baz=265							
L20K	**Farewell, AK**	**55.19**	**31**	P		**P**	**22 18 53.1**	**+0.8**
	baz=262							
K20K	**Telida**	**55.23**	**30**	P		**P**	**22 18 53.5**	**+1.0**
	baz=261,SNR=7.0							
F20K	**Avaraart Lake**	**55.25**	**25**	P		**P**	**22 18 53.3**	**+0.8**
	baz=257							
H20K	**Anotleneega Mo**	**55.26**	**27**	P		**P**	**22 18 53.2**	**+0.5**
	baz=259,SNR=5.6							
I20K	**Naaghedeneel**	**55.30**	**28**	P		**P**	**22 18 54.0**	**+1.2**
	baz=260							
D20K	**Etivluk River**	**55.33**	**23**	P		**P**	**22 18 53.8**	**+0.7**
	baz=255,SNR=9.4							
J20K	**Nowinta River**	**55.33**	**29**	P		**P**	**22 18 54.1**	**+1.0**
	baz=261,SNR=10							
KDAK	**Kodiak Island**	**55.35**	**37**	P		**P**	**22 18 54.3**	**+0.9**
KDA

comp=Z,7.3nm,1.1s
PMR Palmer 57.33 32 P P 22 19 07.6 +0.5
baz=267
COLD Coldfoot 57.40 26 P P 22 19 08.9 +1.4
COLD Coldfoot 57.40 26 P P 22 19 08.2 +0.7
baz=262
G23K Bananza Creek 57.41 26 P P 22 19 08.6 +1.0
baz=263,SNR=5.7
D23K Nanushuk River 57.49 24 P P 22 19 08.7 +0.6
baz=261,SNR=5.3
H23K Yukon River 57.49 27 P P 22 19 08.4 +0.2
baz=264
I23K Minto, Yukon-K 57.50 28 P P 22 19 08.7 +0.5
baz=264
MCK McKinley 57.56 30 P 22 19 10.1 +1.4
MCK McKinley 57.56 30 P P 22 19 08.8 +0.1
baz=266,SNR=6.9
NEA2 Nenana 57.57 29 P P 22 19 09.3 +0.6
baz=265,SNR=7.4
RND Reindeer 57.57 30 P P 22 19 09.5 +0.7
RND IAmb IAmb 22 19 10.0
comp=Z,7.4nm,0.6s
KNK Knik Glacier 57.64 33 P P 22 19 09.6 +0.3
baz=268
C23K Itkillik River 57.66 23 P P 22 19 09.9 +0.8
baz=260
WAT1 Susitna Watana 57.67 31 P P 22 19 09.7 +0.2
baz=267
PWL Port Wells 57.68 33 P P 22 19 10.2 +0.6
PWL IAmb IAmb 22 19 10.9
comp=Z,6.7nm,0.7s
PWL Port Wells 57.68 33 P P 22 19 10.0 +0.5
baz=268
E23K Chandalar 57.74 25 P P 22 19 11.2 +1.3
baz=262,SNR=6.9
TOLK Toolik Lake Re 57.84 24 P P 22 19 10.5 0.0
baz=262
KK31 Karatay Array 57.87 306 P P 22 19 10.9 -0.2
KK31 IAmb IAmb 22 19 12.2
comp=Z,4.2nm,0.8s
KKAR Karatay Array 57.87 306 P P 22 19 11.0 -0.1
WRH Wood River Hil 57.98 29 P P 22 19 12.0 +0.5
M23K Glacier View 58.01 32 P P 22 19 12.4 +0.7
baz=268
WAT6 Susitna Watana 58.03 31 P P 22 19 11.9 -0.2
baz=268,SNR=5.7
CCB Clear Creek Bu 58.12 29 P P 22 19 12.5 +0.1
P23K Montague Islan 58.12 34 P P 22 19 12.4 -0.1
baz=270
E24K Your Creek 58.16 25 P P 22 19 13.6 +0.9
baz=264,SNR=6.5
D24K Happy Valley 58.17 23 P P 22 19 13.8 +1.1
baz=262,SNR=5.0
H24K Noodor Dome 58.18 27 P P 22 19 13.8 +0.9
baz=265,SNR=5.2
SCM Sheep Creek Mo 58.20 32 P P 22 19 14.1 +1.0
SCM IAmb IAmb 22 19 14.8
comp=Z,6.4nm,0.5s
SCM Sheep Creek Mo 58.20 32 P P 22 19 14.3 +1.2
baz=268
DHY Denali Highway 58.22 31 P P 22 19 14.7 +1.3
baz=268
GLI Glacier Island 58.29 33 P P 22 19 14.9 +1.3
baz=269
C24K Franklin Bluff 58.29 23 P P 22 19 14.4 +0.9
baz=262
POKR Poker Flat Res 58.31 28 P P 22 19 13.2 -0.6
baz=266
F24K Squaw Lake 58.33 25 P P 22 19 14.5 +0.7
baz=264,SNR=7.8
G24K Hadweenzic Riv 58.41 26 P P 22 19 15.1 +0.7
baz=265
HDA Harding Lake 58.48 29 P P 22 19 15.1 +0.2
baz=267
ILAR Eielson Array 58.52 29 P P 22 19 13.2 -2.0
ILAR Eielson Array 58.52 29 P P 22 19 14.5 -0.7
comp=Z,1.6nm,0.6s,baz=253,slow=5.8,SNR=18
comp=Z,1.6nm,0.6s
Q23K Middleton Isla 58.66 35 P P 22 19 17.5 +1.4
baz=271
M24K Tolsona, Glenn 58.75 32 P P 22 19 17.9 +1.1
baz=269
KLU Klutina 58.86 33 P P 22 19 18.8 +1.2
baz=270
EYAK Cordova Ski Ar 58.95 34 P P 22 19 19.4 +1.3
baz=271
G25K Bearman Lake 58.96 26 P P 22 19 19.5 +1.4
baz=266
K24K Donnelly Dome 58.96 30 P P 22 19 19.1 +0.9
baz=269
H25L Birch Creek 59.05 27 P P 22 19 19.7 +1.1
baz=267
D25K Kavik River 59.06 23 P P 22 19 20.1 +1.3
baz=265,SNR=9.3
PAX Paxson 59.09 31 P P 22 19 20.3 +1.1
PAX Paxson 59.09 31 P P 22 19 19.9 +0.8
baz=269
PRP Porcupine Dome 59.13 28 P P 22 19 20.2 +0.8
baz=268
J25K Salcha River, 59.16 29 P P 22 19 20.3 +0.7
baz=268
F25K Christian Rive 59.19 25 P P 22 19 20.1 +0.4
baz=266
HARP HAARP 59.23 31 P P 22 19 20.9 +0.9
baz=270
E25K Arctic Village 59.26 25 P P 22 19 21.1 +1.0
baz=266
RIDG Independent Ri 59.38 30 P 22 19 21.9 +0.8
RIDG IAmb IAmb 22 19 22.4
comp=Z,5.8nm,0.5s
RIDG Independent Ri 59.38 30 P P 22 19 21.4 +0.4
baz=270
N25K Chitina, Valde 59.49 32 P P 22 19 22.4 +0.5
baz=271
BMRM Bremner River 59.50 33 P P 22 19 22.1 +0.2
baz=271
BMAR Burnt Mountain 59.59 26 P P 22 19 24.2 +1.8
C26K Camden Bay 59.62 23 P P 22 19 23.4 +1.0
baz=266
KAIM Kayak Island 59.62 34 P P 22 19 23.5 +0.8
baz=272
DOT Dot Lake 59.73 30 P P 22 19 23.9 +0.6
DOT IAmb IAmb 22 19 24.9
comp=Z,5.9nm,0.8s
SCRK Sand Creek 59.76 30 P 22 19 24.2 +0.4
SCRK IAmb IAmb 22 19 25.1
comp=Z,7.0nm,0.5s
SCRK Sand Creek 59.76 30 P P 22 19 24.1 +0.4
baz=270,SNR=14
SIMJ Simiganj 59.77 301 P P 22 19 23.4 -0.8
SIMJ IAmb IAmb 22 19 25.2
comp=Z,5.2nm,0.9s
F26K Sheenjek River 59.77 25 P P 22 19 24.8 +1.2
baz=268
G26K Porcupine Rive 59.88 26 P P 22 19 25.1 +0.8
baz=269
J26L Joseph Creek 59.94 29 P P 22 19 25.5 +0.6
baz=270,SNR=7.3
C27K Jago River 60.02 23 P P 22 19 25.8 +0.6
baz=267
L26K Log Cabin Wild 60.05 31 P P 22 19 26.2 +0.6
baz=271,SNR=7.0
MCARA McCarthy VSAT 60.26 33 P P 22 19 27.7 +0.8
baz=272
K27K Chicken 60.60 30 P P 22 19 29.6 +0.5
baz=272
KBL Kabul 60.66 296 P 22 19 30.2 -0.1
KBL IAmb IAmb 22 19 31.6
comp=Z,6.4nm,1.0s
G27K Doyon Strip 60.72 26 P P 22 19 30.1 +0.2
baz=271
E27K Coleen River 60.74 25 P P 22 19 30.6 +0.5
baz=270
L27K Beaver Creek, 60.75 31 P P 22 19 30.6 +0.4
baz=273
M27K Edge Creek, AK 60.76 31 P P 22 19 30.8 +0.4
baz=273
I27K Kandik River 60.76 28 P P 22 19 30.8 +0.6
baz=271
BCAR Beaver Creek A 60.77 31 P P 22 19 31.1 +0.8
H27K Steamboat Moun 60.78 27 P P 22 19 30.5 +0.2
baz=271
D27M Malcolm River 60.98 24 P P 22 19 32.0 +0.4
baz=270
CTG Chitna Glacier 61.09 33 P P 22 19 32.7 0.0
baz=274
F28M Old Crow 61.40 25 P P 22 19 34.7 +0.3
baz=272

YUK3 Moose Creek 61.46 32 P P 22 19 35.3 +0.2
baz=274
I28M Miner Creek 61.46 28 P P 22 19 35.3 +0.3
baz=273,SNR=7.2
E28M Babbage River 61.50 24 P P 22 19 35.3 +0.2
baz=272
O28M Mount Upton 61.67 33 P P 22 19 37.0 +0.4
baz=275
D28M Stokes Point 61.77 23 P P 22 19 37.8 +1.1
baz=272
DAWY Dawson 61.78 29 P P 22 19 37.7 +0.7
baz=274
H29M Whitestone 62.06 27 P P 22 19 39.9 +1.1
baz=274
E29M Blow River 62.12 24 P P 22 19 39.8 +0.8
baz=273
I29M Ogilvie Camp, 62.15 28 P P 22 19 39.9 +0.5
baz=274
G29M Pine Creek 62.16 26 P P 22 19 39.8 +0.4
baz=274,SNR=5.8
PNL Peninsula 62.18 34 P P 22 19 39.3 -0.3
baz=276
M29M Somme Creek 62.34 31 P P 22 19 40.7 -0.1
baz=276,SNR=8.9
YUK4 Talbot Arm 62.36 32 P P 22 19 41.8 +0.8
baz=276
L29M L29M 62.42 30 P P 22 19 41.3 +0.1
baz=276
O29M Mount Kennedy 62.51 34 P P 22 19 42.6 +0.6
baz=277
YUK6 Outpost Mounta 62.54 33 P P 22 19 42.1 -0.2
baz=277
K29M Barlow Dome 62.62 30 P 22 19 44.0 +1.4
K29M Barlow Dome 62.62 30 P P 22 19 43.0 +0.4
baz=276,SNR=5.4
EPYK Eagle Plains 62.72 27 P P 22 19 43.4 +0.4
baz=275,SNR=5.0
G30M tAoh Zraii Nji 62.86 26 P P 22 19 45.0 +1.1
baz=275
F30M Barrier River 62.97 25 P P 22 19 45.7 +1.1
baz=276
I30M Mount Dempster 62.97 28 P P 22 19 45.3 +0.5
baz=276
HYT Haines Junctio 62.98 33 P P 22 19 46.8 +1.9
HYT IAmb IAmb 22 19 47.6
comp=Z,4.9nm,1.0s
HYT Haines Junctio 62.98 33 P P 22 19 45.5 +0.6
baz=278
P29M Windy Craggy 63.02 34 P P 22 19 45.6 +0.5
baz=278
J30M Hart River 63.06 29 P P 22 19 45.9 +0.5
baz=277
M30M Minto, Yukon 63.09 31 P P 22 19 46.0 +0.5
baz=277
N30M Aishikik Lake 63.09 32 P P 22 19 46.1 +0.4
baz=278
G31M Satah River 63.63 26 P P 22 19 49.2 +0.4
baz=277
ARTI Arti 63.63 322 P 22 19 48.6 -0.5
O30N Mendenhall 63.67 33 P P 22 19 49.8 +0.5
baz=279
N31M Braeburn, Yuko 63.71 32 P P 22 19 50.4 +0.8
baz=279
PLBC Pleasant Camp 63.73 34 P P 22 19 50.8 +1.1
baz=279
INK Inuvik 63.74 24 P P 22 19 50.1 +0.6
baz=277
H31M Peel River 63.74 27 P P 22 19 50.6 +0.9
baz=278
AB31 Akbulak array 64.03 314 P 22 19 51.5 -0.3
AB31 IAmb IAmb 22 19 52.3
comp=Z,3.5nm,0.8s
ABKAR Akbulak array 64.03 314 P 22 19 51.4 -0.4
M31M Drury Creek, Y 64.25 31 P P 22 19 53.7 +0.7
baz=279
SKAG Skagway 64.25 34 P P 22 19 54.5 +1.5
baz=280
WHY Whitehorse 64.27 33 P P 22 19 54.5 +1.3
baz=280
R32K Eaglecrest 64.89 36 P P 22 19 58.0 +1.0
baz=281
S32K Killisnoo 65.01 36 P P 22 19 58.7 +0.9
baz=282
P32M Atlin 65.04 34 P P 22 19 59.2 +1.1
baz=281
P33M Teslin, Yukon 65.36 33 P P 22 20 01.8 +1.6
baz=282
MMPY Sheldon Lake, 65.61 30 P P 22 20 03.2 +1.6
baz=282
CRAG Craig 66.23 38 P P 22 20 06.5 +1.0
baz=284
S34M Telegraph Cree 66.72 36 P P 22 20 09.2 +0.6
baz=284
DLBC Dease Lake 67.16 35 P P 22 20 11.8 +0.4
baz=285
TGTN Hyland Airport 67.23 31 P P 22 20 12.2 +0.4
baz=285
T35M Bob Quinn 67.41 36 P P 22 20 13.4 +0.4
baz=285
TOAD Toad River Com 69.44 34 P P 22 20 25.9 +0.6
baz=288
SPITS Spitsbergen Ar 70.17 350 P P 22 20 29.9 +0.5
comp=Z,5.5nm,0.8s,baz=107,slow=11,SNR=5.3
comp=Z,5.5nm,0.8s
EUNU Eureka 70.18 8 P P 22 20 30.3 +0.9
EUNU IAmb IAmb 22 20 31.0
comp=Z,3.1nm,0.8s
KEV Kevo 72.53 340 P P 22 20 43.6 +0.3
YKA Yellowknife Ar 72.94 28 P P 22 20 46.2 +0.5
comp=Z,1.7nm,0.6s,baz=263,slow=10,SNR=12
comp=Z,1.7nm,0.6s
ARCES ARCESS Array B 73.09 341 P P 22 20 47.1 +0.5
ARCES ARCESS Array B 73.09 341 P P 22 20 47.0 +0.5
comp=Z,2.7nm,0.5s,baz=72,slow=8.0,SNR=23
comp=Z,2.7nm,0.5s
NLWA Neilton Lookou 74.25 45 P P 22 20 55.7 +2.0
NLWA IAmb IAmb 22 20 56.7
comp=Z,11nm,1.4s
HOOD Mount Hood Mea 76.48 46 P P 22 21 07.9 +1.5
B08A Colville Reser 76.64 42 P P 22 21 08.3 +1.3
B08A IAmb IAmb 22 21 09.2
comp=Z,3.2nm,0.8s
KBZ Khabaz 76.92 312 P P 22 21 09.2 +0.6
comp=Z,4.1nm,0.8s,baz=130,slow=1.0,SNR=6.2
comp=Z,4.1nm,0.8s
FIA1 FINESS Array S 77.32 333 P 22 21 10.3 -0.1
FINES FINESS Array B 77.32 333 P P 22 21 10.2 -0.2
comp=Z,15nm,0.4s,baz=67,slow=4.9,SNR=327
KEF Keuruu 77.39 334 eP P 22 21 09.9 -0.9
PINE Pine Mountain 77.59 47 P 22 21 13.9 +1.4
PINE IAmb IAmb 22 21 15.5
comp=Z,4.6nm,0.8s
ARBE Arbavere 78.48 332 eP P 22 21 16.3 -0.4
MEF Metsahovi 78.69 333 eP P 22 21 17.1 -0.8
ILON Igloolik, Nuna 79.13 14 P P 22 21 20.1 0.0
ILON IAmb IAmb 22 21 31.1
comp=Z,9.4nm,1.5s
RAF Rauma 79.26 334 eP P 22 21 20.2 -0.7
BMO Blue Mountains 79.45 45 P P 22 21 23.7 +1.2
BEKR Beckworth 79.70 51 P 22 21 25.1 +1.2
BEKR IAmb IAmb 22 21 25.8
comp=Z,4.1nm,0.7s
MTSE Matsula 79.81 332 eP P 22 21 23.7 -0.1
KOPT Kop Dagi 80.14 310 P P 22 21 27.6 +1.2
KOPT IAmb IAmb 22 21 36.3
comp=Z,3.3nm,0.9s
MFID Camas Ranch 81.07 46 P P 22 21 32.2 +1.2
MFID IAmb IAmb 22 21 33.4
comp=Z,3.3nm,0.9s
VSVD Vaisvydziai 81.37 329 eP P 22 21 31.3 -0.8
PABE Paberze 81.64 329 P P 22 21 33.4 0.0
PABE Paberze 81.64 329 eP P 22 21 32.9 -0.6
AKASG Malin Array Be 81.75 323 P P 22 21 33.6 -0.6
comp=Z,5.3nm,0.6s,baz=53,slow=5.2,SNR=29
comp=Z,5.3nm,0.6s
AKBB Malin Array Si 81.75 323 P P 22 21 33.7 -0.4
NVAR Mina Array Bea 81.78 51 P P 22 21 35.7 +0.8
comp=Z,1.7nm,0.7s,baz=289,slow=6.1,SNR=4.8
comp=Z,1.7nm,0.7s
PBUR Paburge 82.25 330 eP P 22 21 35.4 -1.2
BOZ Bozeman (W) 82.59 42 P P 22 21 39.6 +0.8
BOZ IAmb IAmb 22 21 40.9
comp=Z,3.5nm,1.1s
HFS Hagfors 82.87 336 P P 22 21 38.8 -0.9
comp=Z,5.4nm,0.5s,baz=134,slow=2.6,SNR=65
comp=Z,5.4nm,0.5s
NC405 NORSAR Array S 82.87 338 P P 22 21 39.1 -0.6

NB2 NORSAR Subarra 83.09 338 P P 22 21 40.1 -0.8
comp=Z,2.3nm,0.5s,baz=45,slow=4.8
NOA NORSAR Array B 83.09 338 P P 22 21 40.0 -0.8
comp=Z,4.1nm,0.5s,baz=54,slow=6.5,SNR=24
comp=Z,4.1nm,0.5s
RAYN Ar Rayn 83.75 293 P 22 21 45.3 +0.4
RAYN IAmb IAmb 22 21 46.0
comp=Z,3.9nm,0.7s
BRTR Keskin Array B 84.91 312 P P 22 21 49.7 -0.7
BRTR Keskin Array B 84.91 312 P P 22 21 49.4 -1.0
comp=Z,1.0nm,0.7s,baz=94,slow=3.8,SNR=7.5
comp=Z,1.0nm,0.7s
PDAR Pinedale Array 85.35 44 P P 22 21 53.0 +0.4
comp=Z,0.4nm,0.7s,baz=263,slow=6.0,SNR=5.1
comp=Z,0.4nm,0.7s
BUR08 Bucovina Ar. S 85.66 322 P P 22 21 53.2 -0.6
BUR08 IAmb IAmb 22 21 54.7
comp=Z,2.2nm,0.8s
BURAR Bucovina Array 85.67 322 P P 22 21 53.5 -0.5
BURAR IAmb IAmb 22 21 54.7
comp=Z,2.1nm,0.8s
GERES GERESS Array B 90.76 328 P P 22 22 17.0 -0.8
comp=Z,1.4nm,0.7s,baz=35,slow=4.9,SNR=12
comp=Z,1.4nm,0.7s
QSPA South Pole Qui 116.80 180 PKP PKPdf 22 27 55.0 -0.4
comp=Z,0.3nm,0.6s,baz=345,slow=4.9,SNR=1.3
TORD Torodi Ar. Bea 123.45 310 PKP PKPdf 22 28 08.7 -1.0
comp=Z,0.7nm,0.6s,baz=26,slow=1.5,SNR=6.2
SNAA Sanae 130.91 194 SKPbc SKPbc 22 31 03.9 -0.8
comp=Z,1.7nm,1.0s,baz=148,slow=1.6,SNR=4.2
PLCA Paso Flores 151.03 126 PKPbc PKPbc 22 29 05.9 +0.8
comp=Z,1.0nm,0.4s,baz=190,slow=6.1,SNR=4.5
LPAZ La Paz 151.44 74 PKPbc PKPbc 22 29 08.6 +1.2
comp=Z,2.6nm,0.7s,baz=299,slow=2.3,SNR=12

IDC ***06*** *22:10:06.1±0.6,22°.05S×170°.16E,h0km,mb4.3/16, mbtmp4.3/20,ML4.5/4,MS4.1/44,Error ellipse: s-maj=18.5km s-min=15.8km az=98.0*
NEIC ***06*** *22:10:09.2±1.5,22°.05S±0°.09×170°.04E±0°.08,h10km±1km, mb4.9/47,Error ellipse: s-maj=15.0km s-min=12.4km az=169.0*
BJI ***06*** *22:10:11.8,21°.49S×170°.57E,h40km,mB5.1/6,mb4.7/21, Ms4.8/2,Ms7 4.6/3*
GCMT ***06*** *22:10:12.2±0.3,21°.95S±0°.01×170°.08E±0°.02,h16km±1km, MW4.9/95,Moment Tensor Solution. s31,c37; s95,c131; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.92±.15; Mθθ3.11±.13; Mϕϕ-1.19±.09; Mrθ-0.49±.27; Mrϕ0.98±.09; Mθϕ-1.29±.36; Best double couple: Ms3.16800×10^16 NP1:ϕ290.00000°,δ49.00000°,λ-37.00000°. NP2: ϕ47.00000°,δ63.00000°,λ-132.00000°. Principal axes: T 3.4330, Plg8.0000°, Azm166.0000°; N -0.5300, Plg37.0000°, Azm69.0000°; P -2.9030, Plg52.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 22:10:10.5±0.4,22°.04S±0°.07×170°.06E±0°.06,h25km,n190,
σ1§01/152,mb4.7/37,MS4.1/49,9C-19D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.35**	**269**			**Pn**	**22 11 01.6**	**+0.1**
DZM	**Mont Dzumac**	**3.35**	**269**	*e*Pn		**Pn**	**22 11 00.5**	**-1.0**
	198nm,0.9s							
DZM				*e*Sn		Sn	22 11 31.6	-9.0
DZM				eLR		LR	22 11 39.8	
	5μm,23.9s							
DZM	**Mont Dzumac**	**3.35**	**269**	Pn		**Pn**	**22 11 01.4**	**-0.1**
	26nm,0.3s,baz=134,slow=11,SNR=172							
DZM				Sn		**Sn**	**22 11 41.9**	**+1.3**
	13nm,0.3s,baz=100,slow=13,SNR=5.7							
	77nm,0.3s							
MSVF	**Nonsavu**	**8.65**	**62**	Pn		**Pn**	**22 12 15.3**	**+1.1**
MSVF	**Nonsavu**	**8.65**	**62**	Pn		**Pn**	**22 12 10.8**	**-3.5**
	0.4nm,0.3s,baz=232,slow=7.3,SNR=7.3							
	2.0nm,0.6s							
HNR	**Honiara**	**15.86**	**321**			**Pn**	**22 13 52.3**	**+0.1**
HNR					IAmb	IAmb	22 13 58.7	
	comp=Z,130nm,1.1s							
HNR	**Honiara**	**15.86**	**321**	Pn		**Pn**	**22 13 51.6**	**-0.6**
	comp=Z,9.0nm,0.3s,baz=208,slow=4.0,SNR=4.3							
HNR					LR	LR	22 19 12.1	
	comp=Z,389nm,19.4s,baz=122,slow=34							
	comp=Z,28nm,0.3s							
FUNA	**Funafuti**	**16.06**	**35**	Pn		**Pn**	**22 13 54.6**	**-0.1**
FUNA					IAmb	IAmb	22 13 59.5	
	comp=Z,98nm,1.0s							
TOZ	**Tahuroa Road**	**16.33**	**164**	Pn		**Pn**	**22 13 58.6**	**+0.5**
URZ	**Urewera**	**17.27**	**161**	P		**Pn**	**22 14 06.2**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=305,slow=16,SNR=1.7							
URZ					LR	LR	22 19 26.7	
	comp=Z,2μm,19.4s,baz=330,slow=32							
	comp=Z,4.4nm,0.7s							
EIDS	**Eidsvold**	**17.69**	**255**			**P**	**22 14 16.5**	**+0.5**
MRZ	**Mangatainoka R**	**19.14**	**167**	P		**P**	**22 14 31.8**	**-0.1**
MRZ					IAmb	IAmb	22 14 42.9	
	comp=Z,107nm,1.3s							
RPZ	**Rata Peaks**	**21.63**	**178**	LR		LR	22 22 10.7	
	comp=Z,1μm,20.4s,baz=339,slow=34							
CTAO	**Charters Tower**	**22.30**	**271**	P		**P**	**22 15 06.0**	**-0.2**
CTAO					IAmb	IAmb	22 15 27.5	
	comp=Z,41nm,1.4s							
CAN	**Canberra**	**22.67**	**230**			**P**	**22 15 10.1**	**0.0**
CAN					IAmb	IAmb	22 15 23.9	
	comp=Z,39nm,1.2s							
TOO	**Toolangi**	**26.23**	**228**	P		**P**	**22 15 44.2**	**+0.6**
COEN	**Coen**	**26.77**	**283**	P		**P**	**22 15 48.3**	**-0.3**
COEN					IAmb	IAmb	22 16 03.6	
	comp=Z,24nm,1.2s							
STKA	**Stephens Creek**	**27.13**	**243**			**P**	**22 15 51.6**	**-0.1**
STKA	**Stephens Creek**	**27.13**	**243**	P		**P**	**22 15 52.0**	**+0.3**
	comp=Z,5.2nm,0.8s,baz=91,slow=13,SNR=14							
STKA					LR	LR	22 25 58.6	
	comp=Z,381nm,18.4s,baz=68,slow=35							
	comp=Z,5.2nm,0.8s							
RAR	**Rarotonga**	**28.04**	**94**	LR		LR	22 24 37.0	
	comp=Z,109nm,20.6s,baz=286,slow=31							
AS31	**Alice Springs**	**33.30**	**260**	P		**P**	**22 16 45.9**	**-0.6**
ASAR	**Alice Springs**	**33.30**	**260**	P		**P**	**22 16 47.0**	**+0.5**
ASAR	**Alice Springs**	**33.30**	**260**	P		**P**	**22 16 45.3**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=86,slow=8.9,SNR=18							
ASAR					PcP	**PcP**	**22 19 28.8**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=109,slow=3.0,SNR=4.8							
ASAR					LR	LR	22 29 55.0	
	comp=Z,428nm,20.3s,baz=92,slow=36							
	comp=Z,2.0nm,0.8s							
WB0	**Warramunga Arr**	**33.35**	**267**			**P**	**22 16 46.1**	**-0.8**
WRA	**Warramunga Arr**	**33.37**	**267**			**P**	**22 16 45.7**	**-1.3**
WRA	**Warramunga Arr**	**33.37**	**267**	P		**P**	**22 16 45.8**	**-1.3**
	comp=Z,2.0nm,0.4s,baz=98,slow=8.1,SNR=34							
WRA					LR	LR	22 30 52.3	
	comp=Z,893nm,18.1s,baz=120,slow=37							
	comp=Z,2.0nm,0.4s							
JAY	**Jayapura**	**34.50**	**300**	LR		LR	22 29 52.5	
	comp=Z,125nm,20.1s,baz=267,slow=34							
TBI	**Tubuai**	**37.28**	**100**	*e*S		**S**	**22 23 11.6**	**+4.8**
	comp=Z,746nm,29.5s							
TBI				*e*LQ		LQ	22 25 42.0	
	comp=Z,3μm,40.2s							
TBI				*e*LR		LR	22 27 20.4	
	comp=Z,938nm,30.0s							
MTN	**Manton Dam**	**38.15**	**277**	P		**P**	**22 17 27.8**	**-0.3**
MTN					IAmb	IAmb	22 17 37.2	
	comp=Z,18nm,0.8s							
PPT2	**Papeete2**	**38.15**	**91**	*e*S		S	22 23 10.1	-10
	comp=Z,41nm,22.5s							
PPT2				*e*LQ		LQ	22 26 12.7	
	comp=Z,575nm,28.0s							
PPT2				*e*LR		LR	22 27 51.7	
	comp=Z,156nm,25.2s							
PPT2				*e*LR		LR	22 27 53.0	
	comp=Z,243nm,24.8s							
PPT	**Papeete**	**38.16**	**91**	LR		LR	22 29 06.5	
	comp=Z,216nm,20.0s,baz=287,slow=30							
KNRA	**Kununurra**	**39.50**	**272**			**P**	**22 17 38.8**	**-0.6**
FAKI	**Fak Fak**	**41.33**	**292**	P		**P**	**22 17 53.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**41.80**	**267**	P		**P**	**22 17 58.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**41.80**	**267**	LR		LR	22 35 54.7	
	comp=Z,658nm,18.5s,baz=102,slow=37							
GUMO	**Guam**	**43.18**	**323**	LR		LR	22 35 30.0	
	comp=Z,234nm,18.7s,baz=120,slow=35							
SOEI	**Soe**	**45.53**	**278**	P		**P**	**22 18 28.9**	**+0.2**
BATI	**Baumata**	**45.93**	**277**	LR		LR	22 38 13.3	

comp=Z,564nm,18.6s,baz=142,slow=37
MBWA Marble Bar 46.63 261 P P 22 18 37.2 +0.1
NWAO Narrogin (SRO) 47.67 245 P P **22 18 45.0 -0.1**
NWAO Narrogin (SRO) 47.67 245 LR LR 22 38 06.0
comp=Z,240nm,19.5s,baz=87,slow=35
TAOE Nuku Hiva Isla 49.54 83 *e*LR LR 22 33 02.7
comp=Z,190nm,22.7s
KAPI Kappang 51.49 282 LR LR 22 43 14.3
comp=Z,115nm,19.1s,baz=106,slow=38
DAV Davao City (W) 52.31 299 LR LR 22 40 52.6
comp=Z,46nm,19.8s,baz=122,slow=35
TOLI2 Tolitoli 53.27 289 P P **22 19 27.4 -0.2**
TOLI2 IAmb IAmb 22 19 36.9
comp=Z,22nm,0.9s
VNDA Vanda 55.67 182 P P **22 19 45.0 +0.9**
VNDA Vanda 55.67 182 P P **22 19 43.4 -0.7**
comp=Z,0.7nm,0.5s,baz=357,slow=8.1,SNR=5.9
VNDA LR LR 22 40 09.6
comp=Z,314nm,19.7s,baz=18,slow=32
comp=Z,0.7nm,0.5s
SBA Scott Base 55.89 181 P 22 19 46.9 +1.2
SBA IAmb IAmb 22 20 07.1
comp=Z,23nm,1.3s
KKM Kota Kinabalu 59.65 291 P P **22 20 13.3 +0.1**
TGY Tagaytay City 60.08 302 LR LR 22 40 38.3
comp=Z,65nm,22.0s,baz=22,slow=30
SBUM Sibu 61.47 286 P P **22 20 25.6 +0.1**
SBUM IAmb IAmb 22 20 46.7
comp=Z,12nm,1.9s
KSM Kuching 62.76 284 P P **22 20 34.3 +0.1**
JOW Kunigami 63.22 318 LR LR 22 45 14.8
comp=Z,95nm,21.6s,baz=289,slow=33
JGF Kuroka 65.17 331 P P **22 20 50.3 +0.8**
MJAR Matsushiro Arr 65.58 332 P P **22 20 51.9 -0.3**
MJAR IAmb IAmb 22 21 00.2
comp=Z,12nm,1.4s
MJAR Matsushiro Arr 65.58 332 P P **22 20 51.3 -0.9**
comp=Z,4.5nm,1.0s,baz=161,slow=6.6,SNR=5.5
MJAR LR LR 22 46 46.9
comp=Z,93nm,21.8s,baz=122,slow=34
comp=Z,4.5nm,1.0s
JNU Nakatsue 66.39 325 LR LR 22 46 44.6
comp=Z,84nm,21.9s,baz=139,slow=33
QSPA South Pole Qui 68.03 180 P P **22 21 07.7 +0.1**
QSPA IAmb IAmb 22 21 42.7
comp=Z,17nm,1.1s
QSPA South Pole Qui 68.03 180 P P **22 21 07.8 +0.1**
comp=Z,6.8nm,1.0s,baz=30,slow=4.3,SNR=10
QSPA LR LR 22 47 14.2
comp=Z,121nm,19.8s,baz=27,slow=33
comp=Z,6.8nm,1.0s
ASAJ Asahikawa 70.48 339 LR LR 22 49 35.2
comp=Z,103nm,19.6s,baz=176,slow=34
KSRS Korea Array 71.24 326 P P **22 21 27.6 +0.1**
comp=Z,2.4nm,0.8s,baz=135,slow=5.3,SNR=5.8
comp=Z,2.4nm,0.8s
KSAR Wonju Array Be 71.25 326 P P **22 21 28.3 +0.7**
IPM Ipoh 72.42 282 P P **22 21 35.0 -0.3**
IPM IAmb IAmb 22 21 44.8
comp=Z,8.7nm,0.8s
NJ2 Nanjing 72.75 316 *e*P P **22 21 37.7 +1.0**
NJ2 pmax pmax
comp=Z,26nm,0.8s
KULM Kulim 73.10 283 P P **22 21 39.1 -0.2**
KULM IAmb IAmb 22 21 40.9
comp=Z,37nm,1.9s
RPSI Rantau Prapat 73.61 280 P P **22 21 41.6 -0.7**
RPSI IAmb IAmb 22 21 51.3
comp=Z,11nm,1.1s
PSI Prapat 73.65 280 LR LR 22 56 20.6
comp=Z,196nm,18.5s,baz=137,slow=38
GSI Gunungsitoli 74.29 278 P P **22 21 46.9 +0.6**
USA0B Ussuriysk Arra 74.57 333 P P **22 21 47.3 +0.2**
USA0B IAmb IAmb 22 22 45.1
comp=Z,6.9nm,0.8s
USRK Ussuriysk Ar. 74.57 333 P P **22 21 47.4 +0.2**
comp=Z,2.5nm,0.8s,baz=142,slow=4.6,SNR=5.9
USRK LR LR 22 52 40.1
comp=Z,99nm,19.9s,baz=181,slow=34
comp=Z,2.5nm,0.8s
PETK Petropavlovsk- 75.60 352 P P **22 21 52.4 -0.5**
PETK Petropavlovsk- 75.60 352 P P **22 21 52.6 -0.3**
comp=Z,2.6nm,0.9s,baz=71,slow=6.2,SNR=5.9
PETK LR LR 22 49 08.1
comp=Z,247nm,21.3s,baz=155,slow=31
comp=Z,2.6nm,0.9s
MAW Mawson 76.14 202 P P **22 21 56.6 +0.7**
comp=Z,2.1nm,0.8s,baz=120,slow=5.0,SNR=4.9
MAW LR LR 22 51 30.0
comp=Z,128nm,18.4s,baz=12,slow=33
comp=Z,2.1nm,0.8s
CN2 Changchun 77.24 329 P P **22 22 02.7 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KLR Kul'dur 78.73 336 P P **22 22 10.9 +0.4**
comp=Z,0.9nm,0.5s,baz=180,slow=4.0,SNR=4.4
KLR LR LR 22 55 22.6
comp=Z,132nm,19.6s,baz=159,slow=34
comp=Z,0.9nm,0.5s
BELA Belgrano 2 79.25 175 P 22 22 12.0 -1.2
PHRA Phrae 79.29 295 P P **22 22 13.4 -0.9**
CMAR Chiang Mai Arr 80.35 294 P 22 22 20.2 +0.1
CMAR Chiang Mai Arr 80.35 294 P P **22 22 22.0 +1.9**
comp=Z,1.5nm,0.5s,baz=137,slow=4.3,SNR=12
CMAR LR LR 23 00 55.1
comp=Z,21nm,19.0s,baz=190,slow=38
comp=Z,1.5nm,0.5s
CHTO Chiang Mai 80.51 295 P 22 22 21.6 +0.6
CHTO IAmb IAmb 22 22 32.0
comp=Z,11nm,0.9s
SMAI San Martin Ant 80.94 161 P P **22 22 23.1 +0.7**
SMAI IAmb IAmb 22 22 36.4
comp=Z,16nm,1.4s
PZH PanZhiHua 81.86 303 P P **22 22 30.1 +2.0**
CD2 Chengdu 82.54 307 *e*P P **22 22 33.0 +1.5**
MA2 Magadan 82.85 350 LR LR 22 53 55.7
comp=Z,276nm,21.8s,baz=140,slow=32
O14K Tigyukauivet M 84.37 14 P P **22 22 40.8 +0.7**
O14K IAmb IAmb 22 22 47.2
comp=Z,15nm,1.5s
N14K Kuskokwak Cree 84.88 14 P P **22 22 43.2 +0.6**
N14K IAmb IAmb 22 22 46.6
comp=Z,8.6nm,1.1s
LZH Lanzhou 85.17 312 *e*P P **22 22 46.4 +1.4**
LZH pmax pmax
comp=Z,13nm,1.2s
KDAK Kodiak Island 85.41 19 LR LR 23 02 03.0
comp=Z,69nm,18.5s,baz=210,slow=36
N15K Kwethluk River 85.46 14 P P **22 22 46.0 +0.3**
SEY Seymchan 85.84 352 LR LR 22 55 33.5
comp=Z,262nm,22.0s,baz=190,slow=32
Q19K Cape Douglas, 86.05 18 P P **22 22 49.1 +0.5**
SNAA Sanae 86.41 182 P 22 22 49.3 -1.2
SNAA IAmb IAmb 22 23 00.6
comp=Z,25nm,1.7s
SNAA Sanae 86.41 182 P P **22 22 49.2 -1.3**
comp=Z,2.7nm,0.9s,baz=206,slow=6.2,SNR=7.0
SNAA LR LR 23 00 13.7
comp=Z,156nm,18.5s,baz=148,slow=35
comp=Z,2.7nm,0.9s
M16K Timber Creek 86.48 15 P P **22 22 50.8 +0.2**
SHL Shillong 89.34 298 P P **22 23 03.3 -2.1**
SHL IAmb IAmb 22 23 04.0
comp=Z,9.3nm,0.9s
ULN Ulaanbaatar 89.56 323 P 22 23 05.5 -0.4
ULN IAmb IAmb 22 23 09.6
comp=Z,9.7nm,1.4s
GTA Gaotai 89.60 313 *e*P P **22 23 07.6 +1.4**
GTA pmax pmax
comp=Z,3.0nm,1.1s
YAK Yakutsk 89.76 342 LR LR 23 03 12.1
comp=Z,110nm,18.6s,baz=136,slow=36
SONM Songino Array 89.91 323 P 22 23 07.3 -0.2
SONM IAmb IAmb 22 23 16.6
comp=Z,7.5nm,1.2s
SONM Songino Array 89.91 323 P P **22 23 07.3 -0.2**
comp=Z,4.0nm,1.1s,baz=144,slow=5.0,SNR=11
SONM LR LR 23 05 16.4
comp=Z,52nm,18.6s,baz=100,slow=37
comp=Z,4.0nm,1.1s
LPIG La Paz 89.94 64 LR LR 22 58 41.3
comp=Z,68nm,18.4s,baz=230,slow=32
NVAR Mina Array Bea 90.08 48 P P **22 23 08.2 -0.4**
comp=Z,0.7nm,0.7s,baz=259,slow=6.5,SNR=2.5
comp=Z,0.7nm,0.7s
BBB Bella Bella 91.39 33 LR LR 22 59 10.9
comp=Z,44nm,18.4s,baz=203,slow=32

ILAR Eielson Array 92.67 17 P P **22 23 18.1 -1.6**
comp=Z,0.5nm,0.7s,baz=232,slow=5.3,SNR=7.3
ILAR LR LR 23 05 08.2
comp=Z,76nm,18.5s,baz=206,slow=36
comp=Z,0.5nm,0.7s
ELK Elko 93.24 47 LR LR 22 59 37.1
comp=Z,48nm,18.7s,baz=180,slow=32
DLBC Dease Lake 94.17 27 LR LR 22 56 29.2
comp=Z,7.4nm,22.0s,baz=186,slow=30
NEW Newport 95.42 40 LR LR 23 03 17.1
comp=Z,58nm,18.2s,baz=206,slow=34
PLCA Paso Flores 95.94 138 LR LR 22 56 08.5
comp=Z,65nm,21.2s,baz=232,slow=29
ANMO Albuquerque 97.25 55 LR LR 23 01 47.7
comp=Z,61nm,18.4s,baz=332,slow=32
TIXI Tiksi 97.63 348 LR LR 23 04 04.6
comp=Z,72nm,19.5s,baz=180,slow=33
PDAR Pinedale Array 97.95 47 LR LR 23 04 53.6
comp=Z,21nm,18.4s,baz=242,slow=34
INK Inuvik 98.95 18 LR LR 23 02 13.2
comp=Z,46nm,21.7s,baz=244,slow=32
WMQ Urumqi 99.69 313 *e*P **Pdif 22 23 54.0 +1.8**
WMQ LR LR
comp=Z,410nm,24.2s
FINES FINESS Array B 133.46 337 PKP **PKPdf 22 29 23.0 -1.1**
comp=Z,1.5nm,0.9s,baz=57,slow=5.1,SNR=3.4
DIKM Dikmen 137.48 308 ⇓P PKiKP 22 29 51.3 +17
AKASG Malin Array Be 138.19 323 PKP **PKPdf 22 29 31.6 -1.6**
comp=Z,0.2nm,0.3s,baz=80,slow=1.1,SNR=1.7
BZK Bozkurt 138.31 309 ⇓P PKiKP 22 29 44.7 +8.9
BRTR Keskin Array B 139.10 306 PKP **PKPdf 22 29 35.2 -0.2**
comp=Z,0.3nm,0.6s,baz=116,slow=3.4,SNR=2.3
TURR Turia 142.26 318 ⇑P **PKiKP 22 29 44.4 +0.6**
MARR Marisel-Cluj 143.71 321 ⇑P PKPab 22 29 40.1 -0.1
DRGR 143.88 321 ⇑P PKPbc 22 29 41.9 +0.4
LOT Lotru 143.93 318 ⇓P PKPab 22 29 40.9 -0.3
VLAD Vladila 144.21 316 ⇓P **PKPab 22 29 41.1 -0.9**
DEV Deva 144.24 320 ⇓P PKPbc 22 29 42.9 +0.4
CAVK Edirne/Enez-Ca 144.32 310 ⇓P **PKiKP 22 29 50.1 +1.9**
EZN Ezine 144.58 308 ⇓P PKPbc 22 29 43.9 +0.5
GZR Gura Zlata 144.57 319 ⇓P PKPbc 22 29 43.7 +0.1
SURR Surduc 144.78 320 ⇓P **PKPab 22 29 42.9 -1.2**
SIRR Siria 144.78 321 ⇑P **PKPdf 22 29 45.7 +0.5**
PSZ Piszkesteto 144.83 324 ⇓P **PKPab 22 29 44.2 -0.1**
MORC Moravsky Berou 144.85 329 *e*PKP PKPbc 22 29 44.5 +0.1
MORC Moravsky Berou 144.85 329 ⇑P PKPbc 22 29 44.7 +0.3
KRLC Kraliky 145.01 330 *e*PKP **PKPbc 22 29 44.9 0.0**
KRLC AMS AMS 23 35 00.0
comp=Z,100nm,21.1s
DPC Dobruska-Polom 145.04 330 *e*PKP **PKPab 22 29 45.2 +0.2**
DPC *ep*PKP **pPKPdf 22 29 52.9 +0.5**
VYHS Vyhne 145.04 326 *e*PKP **PKPab 22 29 45.3 +0.3**
VYHS *e* 22 29 53.3
HERR Herculane 145.04 318 ⇑P **PKPab 22 29 45.2 +0.1**
UPC Upice 145.07 331 *e*PKP **PKPbc 22 29 45.0 0.0**
UPC AMS AMS 23 29 00.0
comp=Z,200nm,21.3s
DJES Djerdap 145.09 318 ⇓P **PKiKP 22 29 52.1 +2.5**
BZS Buzias 145.15 320 ⇓P **PKPbc 22 29 45.0 -0.4**
JAVC Velka Javorina 145.40 327 *e*PKP **PKPab 22 29 46.7 +0.3**
MDVR Moldovita 145.53 319 ⇑P **PKPab 22 29 47.3 +0.3**
VRAC Vranov 145.63 329 *e*PKP **PKPbc 22 29 46.9 +0.1**
VRAC *e* 22 29 55.0
VRAC Vranov 145.63 329 ⇓P **PKPdf 22 29 46.7 +0.2**
PVCC Panska Ves 145.69 332 *ex* x 22 29 55.6
BRG Berggiesshubel 145.71 333 *e*PKP **PKPbc 22 29 47.0 0.0**
BRG Amp 22 29 49.4
comp=Z,22nm,1.0s
BRG Berggiesshubel 145.71 333 P **PKiKP 22 29 55.7 +5.0**
BRG Amp 22 29 56.4
comp=Z,27nm,0.8s
BRG Berggiesshubel 145.71 333 P PKiKP 22 30 04.5 +14
BRG Amp 22 30 06.0
comp=Z,12nm,0.8s
BRG PP **PP 22 33 06.4 -1.0**
BRG Amp 22 33 07.4
comp=Z,3.8nm,1.2s
CLL Collm 145.77 334 *i* PKPbc **PKPdf 22 29 46.3 -0.4**
comp=Z,19nm,1.0s
CLL *i* x x 22 29 48.7
comp=Z,16nm,0.9s
CLL *i* x x 22 29 54.9
comp=Z,27nm,0.9s
CLL *e*PP **PP 22 33 07.0 -0.8**
CLL AMS AMS 23 35 00.0
comp=Z,100nm,22.0s
KRUC Moravsky 145.89 329 *e*PKP **PKPbc 22 29 47.5 -0.1**
KRUC *e* 22 29 56.0
MODS Modra-Piesok 145.91 327 *e*PKP **PKPdf 22 29 47.4 +0.3**
MODS *e* 22 29 55.2
PRU Pruhonice 146.10 331 *e*PKP **PKPbc 22 29 48.5 +0.3**
PRU *ex* x 22 29 56.7
PRU AMS AMS 23 31 10.0
comp=Z,100nm,21.2s
BOVS Bovan 146.10 317 ⇑P **PKPbc 22 29 48.5 +0.1**
TREC Trest 146.16 330 *e*PKP **PKPbc 22 29 48.4 -0.1**
TREC *ex* x 22 29 57.1
EKA Eskdalemuir Ar 146.37 353 PKPbc **PKPdf 22 29 47.3 -0.3**
comp=Z,3.6nm,0.6s,baz=345,slow=2.4,SNR=14
ESK Eskdalemuir 146.39 353 PKPdf **PKPbc 22 29 48.6 -0.3**
MORH Mrgy, Hungar 146.53 323 ⇓P **PKPbc 22 29 50.1 +0.4**
ZVC Zvikov 146.65 331 *e*PKP **PKPab 22 29 50.6 -0.4**
RONA Rosalia, Austr 146.85 327 *i* PKP **PKPbc 22 29 50.7 +0.1**
comp=Z,3.3nm,0.6s
CONA Conrad Observa 146.92 328 *i* PKP **PKPbc 22 29 50.8 0.0**
comp=Z,3.0nm,0.7s
CKRC Cesky Krumlov 147.04 330 *e*PKP **PKPbc 22 29 51.3 +0.2**
CKRC *ex* x 22 29 59.5
CKRC AMS AMS 23 32 10.0
comp=Z,100nm,22.6s
KHC Kasperske Hory 147.15 331 *e*PKP **PKPbc 22 29 51.3 -0.1**
GEC2 GERESS Array S 147.31 331 PKPbc 22 29 51.6 -0.4
GERES GERESS Array B 147.31 331 PKPbc 22 29 51.7 -0.2
GERES GERESS Array B 147.31 331 PKPbc **PKPbc 22 29 51.5 -0.4**
comp=Z,7.0nm,0.9s,baz=45,slow=2.1,SNR=27
ARSA Arzberg 147.54 327 *i* PKP **PKiKP 22 29 54.8 +0.2**
comp=Z,1.6nm,0.6s
FNA Florina 147.63 312 PKPbc 22 29 52.1 -0.9
MOA Molln 147.75 329 *i* PKP **PKiKP 22 29 55.0 -0.1**
comp=Z,3.9nm,0.8s
BIOA Bad Ischl, Aus 148.16 329 *i* PKP **PKPbc 22 29 54.0 -0.2**
comp=Z,0.8nm,0.4s
SOKA Soboth 148.18 327 *i* PKP **PKPbc 22 29 53.9 -0.4**
comp=Z,4.1nm,0.8s
PDG Podgorica 148.26 317 ⇓P **PKPbc 22 29 54.2 -0.4**
OBKA Obir 148.54 327 *e*PKiKP **PKiKP 22 29 56.8 0.0**
comp=Z,10nm,1.2s
KBA Koelnbreinsper 148.74 329 *i* PKP **PKPbc 22 29 56.0 +0.1**
comp=Z,11nm,1.6s
LESA Schwarzleotal 148.81 330 *i* pPKP **PKPbc 22 29 55.2 -0.7**
comp=Z,2.8nm,0.5s
BTNL Ternell 148.85 340 *d*PKP **PKPbc 22 29 55.5 -0.4**
MEM Membach 148.87 340 *d*PKP **PKPbc 22 29 55.7 -0.1**
MYKA Terra Mystica 148.91 328 *e*PKP **PKPbc 22 29 56.7 +0.5**
comp=Z,1.4nm,0.4s
STU Stuttgart 149.28 335 PKPbc **PKPbc 22 29 56.5 -0.4**
ABTA Abfaltersbach 149.38 329 *ep*PKP **PKPbc 22 29 56.6 -0.7**
comp=Z,4.8nm,0.8s
WATA Walderalm 149.38 331 *i* PKP **PKiKP 22 29 58.2 -0.4**
comp=Z,5.0nm,0.9s
WTTA Wattenberg 149.41 331 *e*PKP **PKPbc 22 29 57.7 +0.2**
comp=Z,8.6nm,1.0s
BMRD Maredsous 149.51 341 *d*PKP **PKPbc 22 29 57.2 -0.3**
MOTA Moosalm 149.59 331 *i* PKP **PKPbc 22 29 57.5 -0.4**
comp=Z,6.8nm,1.0s
RETA Reutte 149.63 332 *i* PKP **PKiKP 22 29 58.9 -0.1**
comp=Z,1.7nm,0.7s
SQTA Sankt Quirin 149.63 331 *i* PKP **PKPbc 22 29 57.7 -0.3**
comp=Z,7.5nm,1.1s
WLF Walferdange 149.64 339 PKPbc **PKPbc 22 29 57.5 -0.3**
WLF Walferdange 149.64 339 *d*PKP **PKPbc 22 29 57.7 -0.1**
DOU Dourbes 149.75 341 *d*PKP **PKPdf 22 29 54.1 +0.8**
FETA Feichten 150.00 331 *i* pPKP **PKPbc 22 29 58.3 -0.7**
comp=Z,4.0nm,0.8s
DAVA Damuels 150.17 332 *i* PKP **PKPbc 22 29 59.0 -0.4**
comp=Z,9.5nm,1.1s
FUORN Ofenpass-Fuorn 150.51 331 PKPbc **PKPbc 22 30 00.1 -0.2**

PDG ***06*** *22:38:57.8±0.3, 43.°05N×19.°91E, h7km±1km, ML1.9/12, Error ellipse: s-maj=0.7km s-min=1.6km az=0.0*
RHSSO ***06*** *22:38:57.7±0.4, 43.°08N×19.°95E, h5km±2km, ML1.7/5*
BEO 06 22:38:58.6±0.2, 43.°05N×19.°96E, h0km, ML1.7/17, 14C-12D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVA	**Berane**	**0.18**	**196**	⇓*i*	Pg	22 39 01.0	-1.0
IVA				*i*	Sg	22 39 04.0	-0.3
SJES	**Sjenica**	**0.22**	**3**	*e*	Pg	22 39 00.7	-2.1
SJES				*e*	Sg	22 39 04.7	-0.9
SJES	**Sjenica**	**0.22**	**3**	*e*	Pg	22 39 02.0	-0.8
SJES				*e*	Sg	22 39 05.2	-0.4
KOME	**Kolasin**	**0.38**	**239**	⇓*i*	Pg	22 39 04.5	-1.4
KOME				*e*	Sg	22 39 09.8	-1.0
PLE	**Pljevlja**	**0.51**	**305**	⇑*i*	Pg	22 39 06.8	-1.5
PLE				*e*	Sg	22 39 14.0	-0.8
IVAS	**Ivanjica**	**0.55**	**15**	*e*	Pg	22 39 07.2	-1.9
IVAS				*e*	Sg	22 39 15.1	-1.2
RUDO	**Rudo**	**0.72**	**323**	*e*	Pg	22 39 09.5	-2.8
RUDO				*e*	Sg	22 39 19.5	-2.1
RUDO	**Rudo**	**0.72**	**323**	*e*	Pg	22 39 09.5	-2.8
RUDO				*e*	Sg	22 39 20.3	-1.3
UPM	**Unac-Piva**	**0.79**	**282**	*e*	Pg	22 39 12.0	-1.7
UPM				*e*	Sg	22 39 22.7	-1.2
UPM	**Unac-Piva**	**0.79**	**282**	⇓*i*	Pg	22 39 12.0	-1.7
UPM				*i*	Sg	22 39 22.9	-1.0
NKME	**Niksic**	**0.79**	**250**	*e*	Pg	22 39 11.8	-1.9
NKME				*i*	Sg	22 39 23.9	-0.1
PDG	**Podgorica**	**0.80**	**220**	*e*	Pg	22 39 11.8	-2.2
PDG				*e*	Sg	22 39 23.9	-0.5
PDG	**Podgorica**	**0.80**	**220**	⇑P	Pg	22 39 12.1	-1.9
PDG				⇑S	Sg	22 39 23.4	-1.0
PDG	**Podgorica**	**0.80**	**220**	*e*	Pg	22 39 12.2	-1.8
PDG				*e*	Sb	22 39 26.2	-0.6
PDG	**Podgorica**	**0.80**	**220**	⇓*i*	Pg	22 39 11.9	-2.1
PDG				*e*	Sg	22 39 24.8	+0.4
GOCS	**Kraljevo Serbi**	**0.84**	**52**	*e*	Pg	22 39 13.4	-1.4
GOCS				*e*	Sg	22 39 26.9	+1.2
SELS	**Selova**	**0.87**	**78**	*e*	Pg	22 39 14.1	-1.1
SELS				*e*	Sg	22 39 24.5	-1.9
BBLS	**Lazi&#263i**	**0.91**	**334**	*e*	Pg	22 39 13.7	-2.4
BBLS				*e*	Sg	22 39 26.0	-2.0
BBLS	**Lazi&#263i**	**0.91**	**334**	*e*	Pg	22 39 14.1	-2.0
BBLS				*e*	Sg	22 39 27.6	-0.4
CEME	**Cevo**	**0.91**	**237**	⇑*i*	Pg	22 39 13.7	-2.4
CEME				*i*	Sg	22 39 28.0	+0.1
GRUS	**Gruza**	**1.01**	**33**	*e*	Pg	22 39 16.7	+1.2
GRUS				*e*	Sg	22 39 31.2	+0.2
KLINJ	**Klinje**	**1.01**	**278**	*e*	Pg	22 39 15.3	-2.7
KLINJ				*e*	Sg	22 39 29.5	-1.7
DRME	**Dracevica, Mon**	**1.03**	**214**	*e*	Pg	22 39 16.6	-1.7
DRME				*e*	Sg	22 39 31.0	-0.7
DRME	**Dracevica, Mon**	**1.03**	**214**	⇑*i*	Pg	22 39 16.5	-1.8
DRME				*e*	Sb	22 39 32.6	-0.8
BRY	**Bratogost**	**1.05**	**263**	*e*	Pg	22 39 16.5	-2.3
BRY				*e*	Sg	22 39 31.5	-0.9
BRY	**Bratogost**	**1.05**	**263**	⇓*i*	Pg	22 39 16.2	-2.6
BRY				*i*	Sg	22 39 32.9	+0.5
DIVS	**Divibare**	**1.05**	**1**	*e*	Pg	22 39 18.0	-0.8
DIVS				*e*	Sg	22 39 33.2	+0.7
BUM	**Brajici-Budva**	**1.08**	**227**	⇑*i*	Pg	22 39 17.5	-1.8
BUM				*i*	Sb	22 39 34.2	-0.7
ULC	**Ulcinj**	**1.20**	**206**	⇓*i*	Pg	22 39 20.5	-1.1
ULC				*i*	Sb	22 39 38.5	+0.1
TRUS	**Trudelj**	**1.22**	**15**	*e*	Pg	22 39 21.3	-0.7
TRUS				*e*	Sb	22 39 38.6	-0.3
TREB	**Trebinje**	**1.23**	**255**	*e*	Pg	22 39 20.0	-2.1
TREB				*e*	Sg	22 39 37.0	-1.0
HCY	**Herceg Novi**	**1.23**	**242**	*e*	Pg	22 39 20.5	-1.7
HCY				*e*	Sg	22 39 37.6	-0.6
HCY	**Herceg Novi**	**1.23**	**242**	⇓*i*	Pg	22 39 20.2	-2.0
HCY				*i*	Sb	22 39 39.3	+0.1
BARS	**Barje**	**1.38**	**99**	*e*	Pg	22 39 24.0	-1.1
BARS				*e*	Sn	22 39 44.0	-0.1
DBRK	**Dubrovnik**	**1.38**	**255**	*e*	Pn	22 39 23.0	-2.1
DBRK				*e*	Sg	22 39 42.9	-0.1
BOVS	**Bovan**	**1.40**	**65**	⇑P	Pn	22 39 25.1	-0.3
BOVS				⇑S	Sg	22 39 43.8	+0.1
TEKS	**Tekeris**	**1.54**	**348**	*e*	Pn	22 39 25.5	-1.8
TEKS				*e*	Sn	22 39 45.6	-2.3
TEKS	**Tekeris**	**1.54**	**348**	*e*	Pg	22 39 27.1	-0.2
TEKS				*e*	Sn	22 39 48.4	-0.4
STON	**Ston**	**1.67**	**265**	*e*	Pn	22 39 27.1	-1.9
STON				*e*	Sn	22 39 48.8	-2.3
STON	**Ston**	**1.67**	**265**	*e*	Pg	22 39 29.0	0.0
STON				*e*	Sg	22 39 52.8	+0.6
STON	**Ston**	**1.67**	**265**	*e*	Pn	22 39 29.6	+0.5
STON					Sn	22 39 51.9	+0.2
TIR	**Tirane**	**1.70**	**182**	⇑S	Sn	22 39 38.3	-14
ZAGS	**Zajecar**	**1.83**	**64**	*e*	Pg	22 39 31.4	+0.2
ZAGS				*e*	Sg	22 39 57.7	+0.5
KUBS	**Kucevo**	**1.85**	**42**	*e*	Pg	22 39 31.1	-0.5
KUBS				*e*	Sn	22 39 55.6	-0.1
ZAPS	**Zavoj**	**1.97**	**82**	*e*	Pg	22 39 32.1	-1.2
ZAPS				*e*	Sb	22 40 00.9	+0.4
BLKB	**Belogradchik**	**2.06**	**73**	⇓S	Sn	22 39 57.8	-3.2
RICI	**Ricice**	**2.11**	**283**	*i*	Pn	Pb	22 39 36.9	-0.9
RICI					Sn	Sb	22 40 05.2	+0.6
MDVR	**Moldovita**	**2.15**	**36**	⇑P	Pb	22 39 37.9	-0.5
MDVR				⇑S	Sg	22 40 07.6	+0.1
MAKA	**Makarska**	**2.16**	**277**	*e*	Pn	Pn	22 39 37.0	+1.2
MAKA					Sn	Sb	22 40 05.9	-0.1
LSTV	**Lastovo**	**2.27**	**264**	*e*	Pn	Pn	22 39 37.6	+0.2
VRSS	**Vrsac**	**2.30**	**25**	*e*	Pg	Pb	22 39 40.7	-0.2
VRSS				*e*	Sg	Sg	22 40 12.1	-0.3
BZS	**Buzias**	**2.83**	**24**	⇑P	Pn	22 39 47.4	+2.3
BZS				⇑S	Sb	22 40 27.2	+1.9
SRE	**Strehaia**	**2.85**	**54**	⇓S	Sn	22 40 22.4	+2.1
A050A	**Klekovaca**	**2.87**	**301**	*e*	Pn	Pn	22 39 44.4	-1.3
GZR	**Gura Zlata**	**3.10**	**40**	⇑P	Pn	22 39 50.7	+1.9
GZR				⇓S	Sb	22 40 30.7	-2.3
SURR	**Surduc**	**3.12**	**29**	⇓P	Pn	22 39 51.2	+2.2
SURR				⇓S	Sb	22 40 32.8	-0.8
T25A	**Trinidad**	**0.50**	**74**		Pg	22 25 54.0	+0.4
T25A				Sg	Sg	22 26 00.6	+0.3
T25A				IAML		22 26 00.9	
	comp=N,83nm,0.2s						
T25A				IAML		22 26 01.0	
	comp=E,92nm,0.3s						
SDCO	**Great Sand Dun**	**0.83**	**332**	Pg	Pg	22 25 59.5	-0.4
SDCO				Sg	Sg	22 26 10.7	-0.2
RTBA	**Rita Blanca**	**1.92**	**107**		Pn	22 26 17.4	+0.8
ANMO	**Albuquerque**	**2.37**	**210**	Pn	Pn	22 26 23.8	+0.8

TEH ***06*** *22:41:35.8, 34.°88N×61.°69E, h7km±31km*
IDC ***06*** *22:41:36.4±2.0, 34.°79N×61.°92E, h0km, mb3.9/5, mbtmp3.7/7, ML2.7/2, Error ellipse: s-maj=49.6km s-min=26.8km az=52.0*
ISC 06 22:41:38.1±1.0, 34.°88N±0.°05×61.°8E±0.°1, h10km, n28, σ0s74/26, mb3.9/5, Northwestern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBJM	**Torbat-e-JAM**	**1.23**	**289**	Pg	Pb	22 41 59.0	-2.5
JRKH	**Jarkhoshk**	**1.54**	**312**	Pg	**Pn**	**22 42 04.2**	**-1.5**
SHRT	**Shahrakht**	**1.73**	**225**	Pg	**Pn**	**22 42 07.5**	**-0.7**
IMYA	**Miami**	**1.99**	**318**	Pn	**Pn**	**22 42 11.6**	**-0.3**
TBHD	**Torbat heydari**	**2.13**	**285**	Pn	**Pn**	**22 42 14.0**	**+0.1**
IMOG	**Moghan**	**2.32**	**303**	Pn	**Pn**	**22 42 15.8**	**-0.9**
IKRD	**Kardeh**	**2.63**	**317**	Pn	**Pn**	**22 42 21.0**	**+0.2**
IDAH	**Dahanechah**	**2.65**	**217**	Pn	**Pn**	**22 42 20.9**	**-0.2**
AFRZ	**Afriz**	**2.69**	**238**	Pn	**Pn**	**22 42 21.7**	**+0.1**
IPAY	**Payeh**	**2.74**	**306**	Pn	**Pn**	**22 42 23.3**	**+1.0**
IAKL	**Akhelmad**	**2.98**	**306**	Pn	**Pn**	**22 42 26.0**	**+0.3**
IKOO	**Kooshah**	**3.35**	**224**	Pn	**Pn**	**22 42 30.7**	**-0.1**
IEMG	**Emamgholi**	**3.57**	**316**	Pn	**Pn**	**22 42 34.2**	**+0.5**
BSRN	**Basiran**	**3.64**	**218**	Pn	**Pn**	**22 42 34.5**	**-0.1**
SBZV	**Sabzevar**	**3.70**	**295**	Pn	**Pn**	**22 42 35.3**	**-0.1**
NHDN	**Nehbandan**	**3.76**	**203**	Pn	**Pn**	**22 42 37.2**	**+1.0**
TAPT	**Tabas- Tapeh t**	**3.78**	**271**	Pn	**Pn**	**22 42 36.2**	**-0.3**
TNSJ	**Nastanj**	**4.35**	**259**	Pn	**Pn**	**22 42 44.5**	**+0.1**
TPRV	**Parvadeh(T

baz=209,slow=12,SNR=2.5
0.7nm,0.6s
KURBB **Kurchatov Arra 19.91 33** P **P** **22 46 09.9 +0.2**
baz=232,slow=12,SNR=5.3
0.3nm,0.6s
ZALV **Zalesovo Beam 25.00 33** P **P** **22 47 02.1 +0.3**
0.9nm,0.5s,baz=218,slow=9.4,SNR=3.7
0.9nm,0.5s
FINES **FINESS Array B 34.90 331** P **P** **22 48 29.8 +0.3**
1.8nm,0.9s,baz=132,slow=11,SNR=3.7
1.8nm,0.9s
CMAR **Chiang Mai Arr 36.79 107** P P 22 48 44.5 -1.7
1.1nm,0.3s,baz=295,slow=7.9,SNR=4.4
1.1nm,0.3s
ARCES **ARCESS Array B 40.00 341** P **P** **22 49 14.2 +1.6**
2.7nm,0.9s,baz=126,slow=9.3,SNR=1.5
2.7nm,0.9s
WRA **Warramunga Arr 87.79 116** P **P** **22 54 26.9 -0.8**
0.2nm,0.5s,baz=309,slow=5.0,SNR=2.2
0.2nm,0.5s

*NNC **06** 22:42:56.9±2.5,41°.30N×78°.82E,h0km,mb3.5,mpv3.2,*
Error ellipse: s-maj=17.6km s-min=10.7km az=171.0
*KRNET **06** 22:42:56.0±0.1,41°.31N×78°.95E,mb2.6*
*SOME **06** 22:42:57.0,41°.33N×78°.85E,h10km*
ISC 06 22:42:56.9±2.1,41°.30N±0°.08×78°.81E±0°.05,h0km±13km, n24,σ1§40/38,12C-2D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.23**	**346**	⇑*eP*		**Pg**	**22 43 20.1**	**-0.3**
PRZ				⇑*eS*		**Sn**	**22 43 37.7**	**-1.1**
KDJ	**Kajisay**	**1.48**	**305**	⇑*eP*		**Pb**	**22 43 25.1**	**-0.3**
KDJ				⇑*eS*		**Sg**	**22 43 46.5**	**+2.1**
SATY	**Saty**	**1.79**	**350**	P		**Pg**	**22 43 30.8**	**-0.3**
	20nm,0.4s							
SATY				S		**Sg**	**22 43 55.0**	**+0.7**
	40nm,0.3s							
SHLS	**Shalkode**	**1.92**	**14**	Pg		**Pg**	**22 43 34.0**	**+0.3**
	43nm,0.3s							
SHLS				Lg		Lg	22 44 00.7	
	97nm,0.4s							
SHLS	**Shalkode**	**1.92**	**14**	*eP*		**Pg**	**22 43 34.0**	**+0.3**
	43nm,0.3s							
SHLS				*eS*		**Sg**	**22 44 00.7**	**+2.0**
	97nm,0.4s							
NRN	**Naryn**	**2.12**	**275**	⇑*eP*		**Pb**	**22 43 36.5**	**+0.1**
NRN				⇑*eS*		**Sg**	**22 44 06.1**	**+1.0**
ULHL	**Ulahol**	**2.15**	**297**	⇑*eP*		**Pb**	**22 43 36.4**	**-0.3**
ULHL				⇑*eS*		**Sg**	**22 44 05.8**	**0.0**
KOTS	**Kotyrbulak**	**2.31**	**327**	Pg		**Pg**	**22 43 40.0**	**-1.2**
	3.2nm,0.1s							
KOTS				Lg		Lg	22 44 12.0	
	36nm,0.6s							
KOTS	**Kotyrbulak**	**2.31**	**327**	*eP*		**Pg**	**22 43 40.0**	**-1.2**
	3.4nm,0.2s							
KOTS				*eS*		**Sg**	**22 44 10.9**	**-0.3**
	36nm,0.3s							
IZV	**Izvestkoviy**	**2.39**	**317**	Pg		**Pb**	**22 43 41.3**	**+0.5**
	3.0nm,0.4s							
IZV				Lg		Lg	22 44 14.5	
	24nm,0.6s							
IZV	**Izvestkoviy**	**2.39**	**317**	*eP*		**Pb**	**22 43 41.3**	**+0.5**
	2.7nm,0.2s							
IZV				*eS*		**Sg**	**22 44 13.1**	**-0.5**
	15nm,0.2s							
KTMS	**Ketmen**	**2.43**	**27**	Pg		**Pb**	**22 43 40.1**	**-1.5**
	5.9nm,0.4s							
KTMS				Lg		Lg	22 44 11.0	
	27nm,0.7s							
KTMS	**Ketmen**	**2.43**	**27**	*eP*		**Pb**	**22 43 41.1**	**-0.5**
	2.8nm,0.2s							
KTMS				*eS*		**Sg**	**22 44 12.7**	**-2.4**
	43nm,0.7s							
BOOM	**Boomskoye usch**	**2.46**	**300**	⇑*eP*		**Pb**	**22 43 40.5**	**-1.5**
BOOM				⇑*eS*		**Sb**	**22 44 13.0**	**+0.2**
MTBS	**Maitube**	**2.55**	**317**	Pg		**Pb**	**22 43 42.8**	**-0.7**
	2.5nm,0.3s							
MTBS				Lg		Lg	22 44 15.9	
	10nm,0.3s							
MTBS	**Maitube**	**2.55**	**317**	*eP*		**Pb**	**22 43 42.8**	**-0.7**
	2.5nm,0.3s							
MTBS				*eS*		**Sb**	**22 44 15.9**	**+0.4**
	10nm,0.3s							
KST	**Kastek**	**2.75**	**310**	Pg		**Pb**	**22 43 44.9**	**-2.0**
	1.8nm,0.2s							
KST				Lg		Lg	22 44 20.4	
	5.2nm,0.5s							
KST	**Kastek**	**2.75**	**310**	*eP*		**Pb**	**22 43 46.7**	**-0.2**
	0.9nm,0.3s							
KST				*eS*		**Sb**	**22 44 22.5**	**+1.4**
	12nm,0.5s							
BLB	**Baldybastay**	**2.81**	**355**	Pg		**Pb**	**22 43 48.0**	**0.0**
	8.9nm,0.3s							
BLB				Lg		Lg	22 44 24.6	
	13nm,0.5s							
KTBS	**Karatobe**	**2.88**	**328**	Pg		**Pb**	**22 43 49.1**	**-0.1**
	1.8nm,0.2s							
KTBS				Lg		Lg	22 44 26.5	
	13nm,0.6s							
TKM2	**Tokmak 2**	**2.89**	**305**	⇑*eP*		**Pb**	**22 43 46.6**	**-2.8**
TKM2				⇑*eS*		**Sb**	**22 44 23.5**	**-1.9**
ARXS	**Arharly**	**3.00**	**346**	Pg		**Pb**	**22 43 51.9**	**+0.6**
	0.9nm,0.3s							
ARXS				Lg		Lg	22 44 31.5	
	28nm,0.4s							
KRBS	**Karabastau**	**3.34**	**317**	Pg		**Pb**	**22 43 58.4**	**+1.4**
	0.9nm,0.4s							
KRBS				Lg		Lg	22 44 42.8	
	3.6nm,0.4s							
UCH	**Uchtor**	**3.35**	**288**	⇓*eP*		**Pn**	**22 43 53.3**	**+2.4**
UCH				⇓*eS*		**Sb**	**22 44 35.1**	**-3.7**

*NEIC **06** 22:51:35.2±1.8,35°.641N±0°.009×117°.44W±0°.01,*
h5km±2km,Error ellipse: s-maj=1.6km s-min=1.2km
az=52.0
PAS 06 22:51:35.8±1.8,35°.634N±0°.009×117°.45W±0°.01,
h3km±2km,ML3.1/24,ML2.8/84(NEIC),Error ellipse:
s-maj=1.5km s-min=1.3km az=56.0,Central California

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.13**	**147**		Pg	Pg	22 51 39.1	+0.7
CCCA					Sg	Sg	22 51 41.5	+1.4
CLC	**China Lake**	**0.22**	**327**		Pg	Pg	22 51 40.1	+0.1
CLC					Sg	Sg	22 51 43.3	+0.5
CLC					IAML		22 51 43.7	
	comp=E,3μm,0.3s							
LRMC	**Laurel Mtn Rad**	**0.24**	**231**			Pg	22 51 40.6	+0.1
LRMC					Sg	Sg	22 51 43.9	+0.2
LRMC					IAML		22 51 44.8	
	comp=N,2μm,0.2s							
LRMC					IAML		22 51 44.8	
	comp=E,2μm,0.2s							
SRTC	**Snort**	**0.25**	**283**			Pg	22 51 41.1	+0.5
TOW	**Tower One**	**0.31**	**305**			Pg	22 51 42.4	+0.6
MPMC	**Manual Prospec**	**0.42**	**356**			Pg	22 51 43.9	-0.2
MPMC					Sg	Sg	22 51 49.8	+0.2
MPMC					IAML		22 51 50.2	
	comp=N,1μm,0.5s							
WNMM	**Nine Mile Cany**	**0.42**	**300**			Pg	22 51 44.3	+0.3
WVPM	**Volcano Peak E**	**0.43**	**317**			Pg	22 51 44.3	+0.1
WVPM						Sg	22 51 50.5	+0.7
DTP	**Desert Tortois**	**0.49**	**221**			Pg	22 51 44.9	-0.2
WBSM	**Bird Springs**	**0.57**	**260**			Pg	22 51 46.5	-0.2
WBSM						Sg	22 51 54.2	+0.1
QSM	**Queen of Sheba**	**0.58**	**55**			Pg	22 51 47.1	+0.2
QSM					IAML		22 51 58.7	
	comp=E,528nm,0.5s							
QSM					IAML		22 51 58.7	
	comp=N,558nm,0.4s							
GSC	**Goldstone, Bar**	**0.62**	**122**	Pg		Pg	22 51 47.6	-0.1
WORM	**Onyx Ranch**	**0.65**	**276**			Pg	22 51 47.9	-0.4
CCAC	**Calif City Air**	**0.67**	**224**			Pg	22 51 48.5	-0.1
CCAC						Sg	22 51 58.1	+0.8
HYS	**Haystack Butte**	**0.78**	**187**			Pg	22 51 50.4	-0.3
ISA	**Isabella, Lake**	**0.83**	**272**		Pg	Pg	22 51 51.2	-0.6
ISA					IAML		22 52 03.0	
	comp=E,331nm,0.2s							
ISA					IAML		22 52 05.3	
	comp=N,335nm,0.4s							
GWY	**Greenwater Val**	**0.84**	**49**		Pg	Pg	22 51 51.6	-0.3
GWY					IAML		22 52 09.2	
	comp=N,298nm,0.3s							
GWY					IAML		22 52 09.2	
	comp=E,312nm,0.4s							
RRX	**Edison Barstow**	**0.84**	**154**			Pg	22 51 51.7	-0.2
EDW2	**Edwards Air Fo**	**0.87**	**211**			Pb	22 51 53.2	-0.4
CWC	**Cottonwood Cre**	**0.95**	**328**		Pg	Pg	22 51 53.7	-0.4
CWC					IAML		22 52 10.3	
	comp=E,216nm,0.2s							
CWC					IAML		22 52 11.9	
	comp=N,219nm,0.2s							
CGO	**Cerro Gordo**	**0.96**	**343**			Pb	22 51 54.8	-0.4
TPO	**Tropico Hills**	**0.99**	**220**			Pg	22 51 55.1	+0.4
SBB	**Saddle Back Bu**	**0.99**	**198**			Sg	22 52 07.6	-0.1
DSCC	**Desert Studies**	**1.21**	**114**			Sg	22 52 14.0	-0.5
SPG2	**Springville 2**	**1.21**	**298**			Pg	22 51 58.1	-0.8
AMDNV	**Amargosa**	**1.25**	**49**			Pb	22 52 00.0	0.0
TUQ	**Turquoise Moun**	**1.26**	**99**			Pg	22 51 59.2	-0.8
BFSC	**Mount Baldy Ra**	**1.40**	**187**			Pn	22 52 01.5	-0.9
BFSC					IAML		22 52 21.9	
	comp=E,177nm,0.2s							
BFSC					IAML		22 52 22.0	
	comp=N,201nm,0.3s							
MWC	**Mount Wilson**	**1.49**	**200**			Pn	22 52 02.5	-1.2
MWC					IAML		22 52 25.4	
	comp=N,203nm,0.8s							
MTPC	**Mountain Pass**	**1.56**	**95**			Pn	22 52 02.9	-1.6
MTPC					IAML		22 52 26.5	
	comp=N,179nm,0.2s							
PASC	**Pasadena Art C**	**1.58**	**203**			Pn	22 52 03.5	-1.2
PASC					IAML		22 52 27.9	
	comp=N,82nm,0.6s							
PASC					IAML		22 52 28.9	
	comp=E,84nm,0.5s							
LCH	**Last Change Ra**	**1.60**	**354**			Pn	22 52 04.2	-1.0
TPNV	**Topopah Spring**	**1.63**	**36**			Pn	22 52 04.7	-0.9
TPNV					IAML		22 52 33.1	
	comp=E,83nm,0.7s							
TPNV					IAML		22 52 33.7	
	comp=E,76nm,0.5s							
GMN	**Gold Mountain**	**1.67**	**5**			Pn	22 52 04.9	-1.2
GMN					IAML		22 52 31.4	
	comp=N,75nm,0.5s							
DSP	**Deep Springs**	**1.78**	**347**			Pn	22 52 06.8	-0.7
DSP					IAML		22 52 33.2	
	comp=N,69nm,0.4s							
DSP					IAML		22 52 33.5	
	comp=E,63nm,0.3s							
ELS	**Elsinore Mount**	**1.98**	**179**			Pn	22 52 09.3	-1.0
ELS					IAML		22 52 40.0	
	comp=E,59nm,0.3s							
SHPR	**Sheep Range**	**2.05**	**64**			Pn	22 52 10.3	-1.1
MZP	**Montezuma Peak**	**2.06**	**1**			Pn	22 52 11.0	-0.6
V12A	**Nelson**	**2.12**	**87**			Pn	22 52 10.6	-1.6
CRY	**Cary Ranch**	**2.15**	**164**			Pn	22 52 11.7	-0.9
PMD	**Palm Desert**	**2.17**	**156**		Pn	Pn	22 52 10.9	-1.9
PMD					IAML		22 52 46.1	
	comp=E,54nm,0.4s							
PFO	**Pinyon Flats O**	**2.18**	**158**		Pn	Pn	22 52 11.6	-1.5
PFO					IAML		22 52 48.0	
	comp=E,42nm,0.8s							
TPH	**Tonopah**	**2.44**	**4**			Pn	22 52 16.1	-0.6
NEE2	**Needles Airpor**	**2.48**	**110**			Pn	22 52 14.8	-2.2
SBI	**Santa Barbara**	**2.51**	**212**			Pb	22 52 20.1	-1.5
LHV	**Little Huntoon**	**2.75**	**342**		Pn	Pn	22 52 20.9	+0.2
LHV					IAML		22 53 15.9	
	comp=E,27nm,1.1s							
NV11	**Mina Array Sit**	**2.85**	**349**		Pn	Pn	22 52 21.7	-0.6
NVAR	**Mina Array Bea**	**2.87**	**347**			Pn	22 52 22.1	-0.6
W13A	**Hualapai Mount**	**2.96**	**99**			Pn	22 52 22.6	-1.3
W13A					IAML		22 53 13.8	
	comp=N,24nm,0.6s							
RYN	**Ryan**	**3.11**	**344**			Pn	22 52 25.7	-0.2
YUH	**Yuha Desert**	**3.24**	**157**			Pn	22 52 25.9	-1.6
CBX	**Cerro Bola**	**3.38**	**169**			Pn	22 52 28.5	-1.1
SAO	**San Andreas Ge**	**3.42**	**290**		Pn	Pn	22 52 30.8	+0.8
113A	**Mohawk Valley,**	**4.18**	**132**			Pn	22 52 39.3	-1.2
113A					IAML		22 53 50.4	
	comp=E,7.6nm,0.7s							
BEKR	**Beckworth**	**4.81**	**332**			Pn	22 52 47.1	-2.2
BEKR					IAML		22 54 01.5	
	comp=N,5.9nm,3.7s							
BEKR					IAML		22 54 14.8	
	comp=E,9.8nm,1.1s							
X16A	**Lo Mia Camp, P**	**5.08**	**102**			Pn	22 52 51.7	-1.3
X16A					IAML		22 54 25.9	
	comp=E,4.9nm,1.3s							
X16A					IAML		22 54 27.9	
	comp=N,5.1nm,2.1s							
214A	**Organ Pipe Nat**	**5.33**	**132**		Pn	Pn	22 52 53.3	-2.9
214A					IAML		22 54 32.5	
	comp=N,5.6nm,1.1s							
214A					IAML		22 54 33.6	
	comp=E,7.0nm,1.1s							
ELK	**Elko**	**5.39**	**18**			Pn	22 52 55.5	-1.8
DUG	**Dugway, Tooele**	**5.84**	**37**		Pn	Pn	22 53 01.2	-2.2

*IDC **06** 22:54:09.1±2.4,32°.85S×178°.40W,h0km,mb3.9/2,*
mbtmp3.9/3,ML3.8/1,Error ellipse: s-maj=62.0km
s-min=34.4km az=123.0
*WEL **06** 22:54:14.3±1.2,33°.5±11°×17°8W±1°8,h12km,M4.1/7,*
mB4.5/4,ML4.6/12,MLv4.2/7,Mw(mB)3.7/4, Error ellipse:
s-maj=26.1km s-min=8.2km az=116.4,confirmed
ISC 06 22:54:13.0±1.7,33°.0S±0°.1×178°.1W±0°.2,h34km,n21,
σ1§67/32,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**5.64**	**210**		P	**Pn**	**22 55 35.9**	**+1.4**
WMGZ					S	**Sn**	**22 56 40.1**	**+2.0**
PKGZ	**Pakihiroa**	**5.83**	**212**		P	**Pn**	**22 55 36.7**	**-0.3**
PKGZ					S	**Sn**	**22 56 42.7**	**+0.1**
HAZ	**Te Kaha**	**5.87**	**214**		P	**Pn**	**22 55 38.8**	**+1.2**
HAZ					S	**Sn**	**22 56 46.4**	**+2.6**
PUZ	**Puketiti**	**5.92**	**209**		P	**Pn**	**22 55 40.3**	**+2.0**
PUZ					S	**Sn**	**22 56 44.9**	**-0.2**
RUGZ	**Raukumara Rang**	**6.09**	**214**		P	**Pn**	**22 55 40.9**	**+0.2**
RUGZ					S	**Sn**	**22 56 50.6**	**+1.3**
TWGZ	**Tauwhareparae**	**6.13**	**211**		S	**Sn**	**22 56 51.5**	**+1.4**
CNGZ	**Carnagh Statio**	**6.30**	**208**		P	**Pn**	**22 55 40.6**	**-2.9**
TKGZ	**Te Karaka**	**6.41**	**210**		P	**Pn**	**22 55 45.9**	**+1.0**
TKGZ					S	**Sn**	**22 56 57.6**	**+0.7**
MWZ	**Matawai**	**6.46**	**213**		P	**Pn**	**22 55 47.0**	**+1.3**
MWZ					S	**Sn**	**22 56 57.8**	**-0.4**
URZ	**Urewera**	**6.60**	**215**		Pn	**Pn**	**22 55 46.8**	**-0.7**
URZ	2.2nm,0.3s,baz=333,slow=2.3,SNR=9.9 2.3nm,0.3s,baz=41,slow=19,SNR=8.5 4.6nm,0.3s				Sn	**Sn**	**22 57 00.3**	**-1.2**
URZ	**Urewera**	**6.60**	**215**	P		**Pn**	**22 55 47.3**	**-0.2**
URZ				S		**Sn**	**22 57 00.5**	**-1.0**
RIGZ	**Rimuhau**	**6.67**	**209**	P		**Pn**	**22 55 49.4**	**+0.8**
RIGZ				S		**Sn**	**22 57 03.1**	**-0.2**
MUGZ	**Murupara**	**6.93**	**216**	P		Pn	22 55 46.1	-6.0
MUGZ				S		**Sn**	**22 57 05.1**	**-4.7**
WCZ	**Waipu Caves**	**6.95**	**243**	P		Pn	22 55 59.7	+7.4
RAHZ	**Arahi**	**7.13**	**212**	P		**Pn**	**22 55 57.9**	**+2.9**
RAHZ				S		**Sn**	**22 57 12.5**	**-2.3**
MTHZ	**Maungataniwha**	**7.20**	**214**	P		**Pn**	**22 55 56.4**	**+0.6**
MTHZ				S		**Sn**	**22 57 16.0**	**-0.3**
OUZ	**Omahuta**	**7.29**	**250**	P		**Pn**	**22 55 58.7**	**+1.7**
ASAR	**Alice Springs**	**42.99**	**270**	P		**P**	**23 02 08.2**	**-1.1**
	0.9nm,0.6s,baz=107,slow=7.4,SNR=9.7 0.9nm,0.6s							
WRA	**Warramunga Arr**	**44.21**	**275**	P		**P**	**23 02 17.6**	**-1.4**
	1.2nm,0.5s,baz=115,slow=7.7,SNR=17 1.2nm,0.5s							
FINES	**FINESS Array B**	**147.51**	**339**	PKPbc		**PKPbc**	**23 13 53.1**	**+0.4**
	0.8nm,0.5s,baz=46,slow=4.0,SNR=9.8							
BRTR	**Keskin Array B**	**153.68**	**294**	PKPbc		**PKiKP**	**23 14 09.0**	**+0.5**
	0.2nm,0.5s,baz=90,slow=2.3,SNR=2.0							

*IDC **06** 22:56:05.5±1.6,32°.89S×178°.35W,h0km,mb4.0/2,*
mbtmp4.0/3,ML3.1/1,Error ellipse: s-maj=56.1km
s-min=31.2km az=135.0
*WEL **06** 22:56:06.1±0.8,33°.5±7°×17°8W±1°8,h12km,M4.4/7,*
mB4.7/1,ML4.8/13,MLv4.4/7,Mw(mB)4.0/1,Error ellipse:
s-maj=25.0km s-min=3.9km az=109.3,confirmed
ISC 06 22:56:08.2±1.0,32°.87S±0°.07×178°.0W±0°.1,h34km,n26,
σ1§94/41,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.60**	**2**		P	**Pn**	**22 57 01.0**	**-0.5**
GLKZ					S	**Sn**	**22 57 38.7**	**-4.1**
WMGZ	**Waiomatatini S**	**5.73**	**209**		P	**Pn**	**22 57 31.2**	**+0.4**
WMGZ					S	**Sn**	**22 58 35.3**	**-0.1**
PKGZ	**Pakihiroa**	**5.91**	**211**		P	**Pn**	**22 57 32.4**	**-0.9**
PKGZ					S	**Sn**	**22 58 40.3**	**+0.4**
HAZ	**Te Kaha**	**5.96**	**214**		P	**Pn**	**22 57 34.2**	**+0.3**
HAZ					S	**Sn**	**22 58 40.1**	**-0.8**
PUZ	**Puketiti**	**6.01**	**209**		P	**Pn**	**22 57 34.5**	**-0.2**
PUZ					S	**Sn**	**22 58 42.2**	**-0.1**
RUGZ	**Raukumara Rang**	**6.17**	**213**		P	**Pn**	**22 57 36.9**	**-0.2**
RUGZ					S	**Sn**	**22 58 44.6**	**-1.9**
TWGZ	**Tauwhareparae**	**6.21**	**210**		P	**Pn**	**22 57 41.4**	**+3.9**
TWGZ					S	**Sn**	**22 58 47.9**	**+0.6**
CNGZ	**Carnagh Statio**	**6.38**	**208**		S	**Sn**	**22 58 50.7**	**-0.8**
TKGZ	**Te Karaka**	**6.49**	**210**		P	**Pn**	**22 57 39.4**	**-1.9**
TKGZ					S	**Sn**	**22 58 49.0**	**-5.1**
MWZ	**Matawai**	**6.54**	**212**		P	**Pn**	**22 57 42.4**	**+0.3**
MWZ					S	**Sn**	**22 58 54.4**	**-1.1**
URZ	**Urewera**	**6.68**	**215**		Pn	**Pn**	**22 57 42.4**	**-1.4**
URZ	0.4nm,0.3s,baz=345,slow=20,SNR=1.7 5.7nm,0.3s,baz=52,slow=8.1,SNR=6.0 5.9nm,0.4s				Sn	**Sn**	**22 58 57.4**	**-1.3**
URZ	**Urewera**	**6.68**	**215**	P		**Pn**	**22 57 41.4**	**-2.4**
URZ				S		**Sn**	**22 58 55.9**	**-2.8**
RIGZ	**Rimuhau**	**6.75**	**209**	P		**Pn**	**22 57 46.5**	**+1.6**
RIGZ				S		**Sn**	**22 59 01.6**	**+1.0**
PRGZ	**Paritu Road**	**6.89**	**208**	S		**Sn**	**22 59 03.7**	**-0.3**
WCZ	**Waipu Caves**	**7.00**	**242**	P		Pn	22 57 55.7	+7.4
WCZ				S		**Sn**	**22 59 06.1**	**-0.7**
MUGZ	**Murupara**	**7.01**	**216**	P		**Pn**	**22 57 45.8**	**-2.7**
MUGZ				S		**Sn**	**22 59 04.5**	**-2.5**
RAHZ	**Arahi**	**7.22**	**212**	P		**Pn**	**22 57 49.2**	**-2.1**
RAHZ				S		**Sn**	**22 59 08.5**	**-3.6**
MTHZ	**Maungataniwha**	**7.28**	**213**	P		**Pn**	**22 57 53.0**	**+0.9**
MTHZ				S		**Sn**	**22 59 12.9**	**-0.6**
OUZ	**Omahuta**	**7.33**	**249**	P		**Pn**	**22 57 55.3**	**+2.4**
ASAR	**Alice Springs**	**43.01**	**270**	P		**P**	**23 04 05.0**	**+0.4**
	0.9nm,0.6s,baz=105,slow=7.6,SNR=10 0.9nm,0.6s							
WRA	**Warramunga Arr**	**44.22**	**275**	P		**P**	**23 04 14.3**	**0.0**
	1.6nm,0.6s,baz=115,slow=7.8,SNR=16 1.6nm,0.6s							
BVAR	**Borovoye Array**	**128.13**	**314**	PKP		**PKiKP**	**23 15 13.2**	**+2.3**
	0.3nm,0.4s,baz=90,slow=3.4,SNR=2.7							
FINES	**FINESS Array B**	**147.44**	**339**	PKPbc		**PKiKP**	**23 15 50.0**	**+0.1**
	1.1nm,0.5s,baz=31,slow=3.3,SNR=12							
HFS	**Hagfors**	**151.65**	**348**	PKPbc		**PKiKP**	**23 16 00.3**	**+1.7**
	2.1nm,0.9s,baz=22,slow=3.1,SNR=4.1							
MMAI	**Mount Meron Ar**	**152.00**	**280**	PKPbc		**PKiKP**	**23 16 02.0**	**+1.7**
	0.6nm,0.5s,baz=80,slow=9.2,SNR=2.3							
BRTR	**Keskin Array B**	**153.66**	**294**	PKPbc		**PKiKP**	**23 16 05.4**	**+1.7**
	0.3nm,0.5s,baz=61,slow=2.9,SNR=4.5							

*NEIC **06** 23:21:33.3±1.8,35°.699N±0°.009×117°.50W±0°.01,*
h5km,Error ellipse: s-maj=1.7km s-min=1.5km az=48.0
*IDC **06** 23:21:34.1±0.7,35°.76N×117°.24W,h0km,mb3.4/2,*
mbtmp3.2/7,ML3.4/5,MS2.3/3,Error ellipse: s-maj=14.7km
s-min=5.7km az=75.0
*PAS **06** 23:21:34.2±1.7,35°.700N±0°.010×117°.51W±0°.01,*
h7km±3km,Mwr3.7/6,ML3.7/129(NEIC),Error ellipse:
s-maj=1.5km s-min=1.3km az=221.0
ISC 06 23:21:34.1±0.8,35°.70N±0°.02×117°.50W±0°.02,h13km±6km,
n92,σ1§74/102,Central California

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.14**	**326**		Pg	**Pg**	**23 21 37.2**	**-0.5**
CLC					Sg	**Sg**	**23 21 39.4**	**-0.9**
CLC					IAML		23 21 39.8	
	comp=E,34μm,0.4s							
SRTC	**Snort**	**0.20**	**269**			**Pg**	**23 21 38.5**	**-0.1**
CCCA	**Chr Cany lake**	**0.20**	**147**		Pg	**Pg**	**23 21 38.8**	**+0.2**
CCCA					Sg	**Sg**	**23 21 42.4**	**+0.6**
CCCA					IAML		23 21 44.7	
	comp=E,22μm,0.4s							
TOW	**Tower One**	**0.24**	**298**			**Pg**	**23 21 39.3**	**0.0**
TOW						**Sg**	**23 21 43.7**	**+0.9**
LRMC	**Laurel Mtn Rad**	**0.26**	**214**		Pg	**Pg**	**23 21 39.2**	**-0.4**
LRMC						**Sg**	**23 21 43.1**	**-0.4**
WNMM	**Nine Mile Cany**	**0.36**	**294**			**Pg**	**23 21 41.0**	**-0.4**
WNMM						**Sg**	**23 21 46.2**	**0.0**
MPMC	**Manual Prospec**	**0.36**	**1**		Pg	**Pg**	**23 21 41.0**	**-0.5**
MPMC					Sg	**Sg**	**23 21 46.0**	**-0.5**
WVPM	**Volcano Peak E**	**0.36**	**314**			**Pg**	**23 21 41.0**	**-0.5**
DTP	**Desert Tortois**	**0.51**	**213**			**Pg**	**23 21 43.6**	**-0.6**
DTP						**Sg**	**23 21 50.7**	**-0.3**
WBSM	**Bird Springs**	**0.55**	**253**			**Sg**	**23 21 51.6**	**-0.5**
QSM	**Queen of Sheba**	**0.58**	**62**			**Pg**	**23 21 45.1**	**-0.4**
QSM					Sg	**Sb**	**23 21 53.1**	**-1.2**
QSM					IAML		23 21 53.5	
	comp=N,4μm,0.5s							
WORM	**Onyx Ranch**	**0.60**	**270**			**Sg**	**23 21 53.0**	**-0.9**
CCAC	**Calif City Air**	**0.69**	**218**			**Sg**	**23 21 56.6**	**+0.1**
GSC	**Goldstone, Bar**	**0.69**	**125**			**Pg**	**23 21 47.1**	**-0.4**
GSC					Sg	**Sg**	**23 21 56.4**	**-0.2**
GSC					IAML		23 21 57.0	
	comp=E,6μm,0.6s							
GSC					IAML		23 21 57.5	
	comp=N,3μm,0.5s							
ISA	**Isabella, Lake**	**0.79**	**268**			**Pg**	**23 21 48.6**	**-0.9**
ISA					IAML		23 21 59.6	
	comp=E,4μm,0.2s							
GWY	**Greenwater Val**	**0.83**	**54**

PASC	**Pasadena Art C**	**1.62**	**201**		**Pn**	**23 22 01.8**	**-0.7**
PASC				IAML		23 22 27.1	
	comp=N,1µm,0.5s						
VOG	**Valley Oaks Go**	**1.65**	**293**		**Pb**	**23 22 03.9**	**-0.4**
CFT	**Crafton Hills**	**1.69**	**169**		**Pg**	**23 22 05.8**	**-0.7**
DSP	**Deep Springs**	**1.71**	**347**		**Pn**	**23 22 03.6**	**0.0**
DSP				IAML		23 22 29.2	
	comp=N,583nm,0.5s						
DSP				IAML		23 22 29.4	
	comp=E,571nm,0.6s						
MZP	**Montezuma Peak**	**2.00**	**3**		**Pn**	**23 22 07.8**	**-0.1**
ELS	**Elsinore Mount**	**2.04**	**178**		**Pn**	**23 22 08.2**	**-0.1**
ELS				IAML		23 22 45.2	
	comp=E,740nm,0.5s						
ELS				IAML		23 22 45.4	
	comp=N,510nm,0.5s						
PKM	**Mcpherson Peak**	**2.06**	**248**		**Pb**	**23 22 11.1**	**-0.3**
SHPR	**Sheep Range**	**2.06**	**66**		**Pn**	**23 22 08.6**	**0.0**
V12A	**Nelson**	**2.16**	**88**		**Pn**	**23 22 09.1**	**-0.8**
V12A				IAML		23 22 44.9	
	comp=E,324nm,0.5s						
V12A				IAML		23 22 49.8	
	comp=N,438nm,1.0s						
PMD	**Palm Desert**	**2.24**	**155**		**Pn**	**23 22 10.2**	**-0.8**
PMD	**Palm Desert**	**2.24**	**155**	IAML		23 22 50.4	
	comp=E,364nm,0.7s						
PFO	**Pinyon Flats O**	**2.25**	**157**		**Pn**	**23 22 10.5**	**-0.6**
PFO	**Pinyon Flats O**	**2.25**	**157**	Pn	**Pn**	**23 22 10.6**	**-0.6**
	comp=E,4.7nm,0.3s,baz=340,slow=14,SNR=12						
PFO				Pg	**Pg**	**23 22 15.8**	**-1.4**
	comp=E,45nm,0.3s,baz=338,slow=15,SNR=56						
PFO				Lg	Lg	23 22 45.6	
	comp=E,64nm,0.3s,baz=221,slow=20,SNR=13						
PFO				LR	LR	23 23 15.3	
	comp=E,105nm,18.9s,baz=266,slow=45						
	comp=E,55nm,0.3s						
BZNA	**Buzz No.'s Pla**	**2.31**	**162**		**Pn**	**23 22 11.9**	**0.0**
TPH	**Tonopah**	**2.38**	**5**		**Pn**	**23 22 13.3**	**+0.2**
PRN	**Pahroc Range**	**2.61**	**48**		**Pn**	**23 22 16.0**	**-0.1**
PRN				IAML		23 23 08.3	
	comp=N,302nm,1.0s						
PRN				IAML		23 23 12.4	
	comp=E,256nm,0.7s						
LHV	**Little Huntoon**	**2.67**	**343**		**Pn**	**23 22 17.8**	**+1.0**
LHV				IAML		23 23 02.6	
	comp=N,319nm,0.6s						
LHV				IAML		23 23 07.7	
	comp=E,287nm,0.6s						
PMPB	**Monarch Peak**	**2.73**	**282**		**Pn**	**23 22 18.4**	**+0.7**
NV11	**Mina Array Sit**	**2.78**	**349**		**Pn**	**23 22 18.7**	**+0.3**
NVAR	**Mina Array Bea**	**2.80**	**347**		**Pn**	**23 22 19.1**	**+0.2**
NVAR	**Mina Array Bea**	**2.80**	**347**	Pn	**Pn**	**23 22 19.4**	**+0.6**
	comp=E,11nm,0.3s,baz=172,slow=13,SNR=50						
NVAR				Pg	**Pg**	**23 22 26.4**	**-1.5**
	comp=E,36nm,0.3s,baz=166,slow=15,SNR=33						
NVAR				Lg	Lg	23 23 02.3	
	comp=E,28nm,0.3s,baz=166,slow=32,SNR=2.8						
NVAR				LR	LR	23 23 15.5	
	comp=E,25nm,20.3s,baz=187,slow=37						
	comp=E,11nm,0.5s						
BBGB	**Big Mountain B**	**3.00**	**288**		**Pn**	**23 22 21.4**	**0.0**
W13A	**Hualapai Mount**	**3.01**	**100**		**Pn**	**23 22 20.8**	**-0.9**
W13A				IAML		23 23 13.0	
	comp=N,239nm,1.2s						
W13A				IAML		23 23 13.1	
	comp=E,157nm,0.8s						
RYN	**Ryan**	**3.04**	**345**		**Pn**	**23 22 22.2**	**+0.1**
R11B	**Troy Canyon, C**	**3.06**	**29**		**Pn**	**23 22 22.5**	**+0.1**
R11B				IAML		23 23 12.6	
	comp=E,150nm,1.0s						
BLYC	**Blythe**	**3.13**	**128**		**Pn**	**23 22 21.7**	**-1.4**
BLYC				IAML		23 23 14.1	
	comp=N,274nm,0.5s						
BLYC				IAML		23 23 14.2	
	comp=E,337nm,0.5s						
Q09A	**Carvers**	**3.14**	**5**		**Pn**	**23 22 24.4**	**+1.0**
WAKR	**Walker**	**3.20**	**332**		**Pn**	**23 22 25.2**	**+0.9**
WAKR				IAML		23 23 30.2	
	comp=N,124nm,0.5s						
CMB	**Columbia Colle**	**3.29**	**316**		**Pn**	**23 22 26.1**	**+0.8**
CMB				IAML		23 23 24.6	
	comp=N,179nm,0.5s						
CMB				IAML		23 23 26.6	
	comp=E,150nm,0.5s						
YUH	**Yuha Desert**	**3.31**	**156**		**Pn**	**23 22 24.6**	**-1.0**
SAO	**San Andreas Ge**	**3.36**	**290**		**Pn**	**23 22 25.6**	**-0.8**
GLA	**Glamis**	**3.44**	**139**		**Pn**	**23 22 25.8**	**-1.6**
GLA				IAML		23 23 31.9	
	comp=N,271nm,0.7s						
GLA				IAML		23 23 34.1	
	comp=E,238nm,0.9s						
CBX	**Cerro Bola**	**3.45**	**168**		**Pn**	**23 22 27.9**	**+0.3**
LCMT	**Little Creek M**	**3.68**	**68**		**Pn**	**23 22 31.0**	**+0.2**
CCUT	**Cedar City**	**3.81**	**60**		**Pn**	**23 22 33.2**	**+0.5**
KNB	**Kanab**	**4.00**	**69**		**Pn**	**23 22 35.6**	**+0.4**
SZCU	**Shurtz Canyon**	**4.02**	**61**		**Pn**	**23 22 36.1**	**+0.5**
PSUT	**Pine Spring**	**4.06**	**45**		**Pn**	**23 22 36.2**	**+0.1**
PSUT				IAML		23 23 51.1	
	comp=E,60nm,1.0s						
PSUT				IAML		23 23 53.1	
	comp=N,64nm,0.8s						
Y14A	**Wickenburg**	**4.09**	**114**		**Pn**	**23 22 35.8**	**-0.6**
SPR3	**Spring Creek 3**	**4.15**	**37**		**Pn**	**23 22 37.8**	**+0.3**
SPR3				IAML		23 23 45.3	
	comp=E,73nm,1.2s						
SPR3				IAML		23 23 49.8	
	comp=N,67nm,1.0s						
113A	**Mohawk Valley,**	**4.25**	**132**		**Pn**	**23 22 38.7**	**+0.1**
AFDM	**Forest Hills D**	**4.26**	**321**	Pn	**Pn**	**23 22 39.1**	**+0.3**
AFDM				IAML		23 23 50.3	
	comp=E,87nm,0.6s						
AFDM				IAML		23 23 51.4	
	comp=N,95nm,0.5s						
PAHR	**Pah Rah Range**	**4.27**	**340**		**Pn**	**23 22 39.5**	**+0.5**
BEKR	**Beckworth**	**4.74**	**332**		**Pn**	**23 22 46.5**	**+1.1**
BEKR				IAML		23 24 16.3	
	comp=E,96nm,0.6s						
BEKR				IAML		23 24 19.9	
	comp=N,47nm,0.8s						
WUAZ	**Wupatki**	**4.99**	**90**		**Pn**	**23 22 50.1**	**+1.1**
WUAZ				IAML		23 24 13.2	
	comp=N,83nm,1.0s						
WUAZ				IAML		23 24 21.6	
	comp=N,64nm,0.9s						
X16A	**Lo Mia Camp, P**	**5.13**	**103**	Pn	**Pn**	**23 22 51.5**	**+0.7**
X16A				IAML		23 24 22.6	
	comp=E,35nm,0.8s						
X16A				IAML		23 24 22.9	
	comp=N,40nm,0.7s						
ELK	**Elko**	**5.34**	**19**	Pn	**Pn**	**23 22 54.0**	**+0.2**
	comp=N,0.6nm,0.3s,baz=220,slow=11,SNR=5.7						
ELK				Lg	Lg	23 24 21.2	
	comp=N,12nm,0.3s,baz=105,slow=19,SNR=13						
ELK				LR	LR	23 24 33.8	
	comp=N,41nm,21.6s,baz=174,slow=34						
	comp=N,1.3nm,0.4s						
DUG	**Dugway, Tooele**	**5.82**	**38**		**Pn**	**23 22 59.3**	**-1.0**
HMU	**Henry Mountain**	**5.87**	**66**		**Pn**	**23 23 02.4**	**+1.5**
X18A	**Snowflake**	**6.30**	**98**	Pn	**Pn**	**23 23 08.5**	**+1.7**
TUC	**Tucson**	**6.52**	**119**		**Pn**	**23 23 09.5**	**-0.3**
WVOR	**Wild Horse Val**	**6.79**	**353**	Pn	**Pn**	**23 23 14.6**	**+1.2**
YBH	**Yreka Blue Hor**	**7.27**	**328**	Pn	Pn	23 23 25.2	+5.1
	baz=154,slow=9.2,SNR=1.6						
YBH				Lg	Lg	23 25 21.9	
	baz=150,slow=8.1,SNR=3.9						
PV07	**Paradox Valley**	**7.59**	**66**	Pn	**Pn**	**23 23 24.5**	**-0.1**
ANMO	**Albuquerque**	**9.06**	**92**	Pn	**Pn**	**23 23 43.1**	**-1.6**
	comp=N,0.1nm,0.3s,baz=221,slow=20,SNR=3.4						
ANMO				Pg		23 24 17.2	
	comp=N,0.2nm,0.3s,baz=349,slow=5.2,SNR=8.8						
ANMO				Lg	Lg	23 26 14.0	
	comp=N,0.1nm,0.3s,baz=288,slow=20,SNR=10						
	comp=N,0.5nm,0.5s						
PDAR	**Pinedale Array**	**9.37**	**39**	Pn	**Pn**	**23 23 48.5**	**-0.5**
	comp=N,0.1nm,0.3s,baz=220,slow=14,SNR=1.8						
PDAR				Lg	Lg	23 26 21.2	
	baz=196,slow=26,SNR=1.3						
	comp=N,0.1nm,0.4s						
ULM	**Lac du Bonnet**	**21.38**	**40**	P	**P**	**23 26 22.6**	**+1.3**
	comp=N,2.9nm,0.9s,baz=225,slow=10.0,SNR=4.4						
	comp=N,2.9nm,0.9s						
ILAR	**Eielson Array**	**34.02**	**338**	P	**P**	**23 28 19.2**	**+1.8**
	comp=N,0.3nm,1.0s,baz=132,slow=7.4,SNR=2.7						
	comp=N,0.3nm,1.0s						

*UPP **06** 23:22:48.6±0.1, 67.82N×20.21E, h0km, ML2.0, Unknown*
*HEL **06** 23:22:48.0±0.2, 67.79N×20.12E, h0km, ML1.7, Suspected explosion Hypocentre not reviewed by the ISC*
*IDC **06** 23:22:49.1±1.2, 67.85N×20.53E, h0km, mbtmp3.0/4, ML1.9/4, Error ellipse: s-maj=18.5km s-min=7.3km az=119.0*

ISC 06 23:22:48.5±1.2, **67.80N**±0.03×**20.25E**±0.03, **h2**km±13km, **n14**, σ0**.57**/**23**, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.16**	**12**	P	**Pg**	**23 22 51.6**	**0.0**
KUA				S	**Sg**	**23 22 53.6**	**0.0**
RATU	**Laukkuluspa**	**0.25**	**276**	P	**Pg**	**23 22 53.2**	**-0.1**
RATU				S	**Sg**	**23 22 56.4**	**-0.1**
KOVU	**Salmi**	**0.42**	**355**	P	**Pg**	**23 22 56.4**	**-0.3**
KOVU				S	**Sg**	**23 23 01.9**	**-0.3**
MASU	**Masugnsbyn**	**0.75**	**117**	P	**Pg**	**23 23 03.2**	**+0.3**
MASU				S	**Sb**	**23 23 13.9**	**-1.1**
SALU	**Saltoluokta**	**0.79**	**238**	P	**Pg**	**23 23 03.4**	**-0.3**
SALU				S	**Sg**	**23 23 14.5**	**+0.6**
SALU	**Saltoluokta**	**0.79**	**238**	*eP*	**Pg**	**23 23 03.3**	**-0.3**
KIF	**Kilpisjarvi**	**1.23**	**9**	*eP*	**Pg**	**23 23 11.9**	**-0.1**
KIF	**Kilpisjarvi**	**1.23**	**9**	PB		23 23 11.4	
	baz=193						
KIF				MSG		23 23 26.9	
	comp=Z,11nm,0.2s						
KIF				SB		23 23 27.8	
PAJU	**Pajala**	**1.35**	**124**	P	**Pg**	**23 23 13.8**	**-0.6**
PAJU				S	**Sb**	**23 23 32.3**	**0.0**
PAJU	**Pajala**	**1.35**	**124**	PG		23 23 13.3	
	baz=301						
PAJU				SG		23 23 32.1	
HEF	**Hetta**	**1.42**	**63**	PN		23 23 14.7	
HEF				MSG		23 23 32.1	
	comp=Z,4.1nm,0.2s						
HEF				SG		23 23 33.2	
ERTU	**Ertsjaerv**	**1.46**	**148**	P	**Pn**	**23 23 15.7**	**-0.2**
ERTU				S	**Sb**	**23 23 35.7**	**+0.2**
ERTU	**Ertsjaerv**	**1.46**	**148**	PN		23 23 15.4	
ERTU				SN		23 23 35.9	
KTK1	**Kautokeino**	**1.64**	**41**	PG		23 23 18.5	
KTK1				SN		23 23 41.2	
HARU	**Harads**	**1.67**	**170**	P	**Pn**	**23 23 19.1**	**+0.4**
HARU				S	**Sg**	**23 23 42.1**	**+0.1**
TRO	**Tromso**	**1.90**	**346**	PG		23 23 22.3	
TRO				SG		23 23 47.5	
KALU	**Kalix**	**2.31**	**146**	PG		23 23 29.1	
	baz=326						
KALU				SG		23 23 59.3	
TOF	**Tornio**	**2.36**	**135**	PG		23 23 30.1	
TOF				MSG		23 23 58.5	
	comp=Z,2.3nm,0.2s						
TOF				SG		23 24 01.3	
RNF	**Rovaniemi**	**2.54**	**115**	PG		23 23 32.9	
RNF				SG		23 24 06.6	
ARA0	**ARCESS Array S**	**2.59**	**45**	PB		23 23 33.0	
ARA0				SB		23 24 06.7	
ARCES	**ARCESS Array B**	**2.59**	**45**	Pn	**Pn**	**23 23 32.2**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=234,slow=14,SNR=21						
ARCES				Lg	Lg	23 24 06.0	
	comp=Z,1.0nm,0.3s,baz=230,slow=23,SNR=9.7						
	comp=Z,1.3nm,0.4s						
RAJF	**Raja-Jooseppi**	**3.09**	**74**	PN		23 23 38.7	
RAJF				SB		23 24 21.6	
RANF	**Ranua**	**3.14**	**122**	PG		23 23 44.2	
RANF				SG		23 24 25.9	
KEV	**Kevo**	**3.15**	**48**	SN		23 24 18.6	
OUL	**Oulu**	**3.55**	**138**	SG		23 24 37.4	
VRF	**Varrio**	**3.56**	**87**	PG		23 23 52.8	
OLKF	**Oulanka, Finla**	**3.88**	**108**	PG		23 23 58.8	
KU6	**Riekki**	**4.19**	**111**	PG		23 24 04.1	
	baz=295						
KU6				SG		23 24 59.2	
FINES	**FINESS Array B**	**6.85**	**156**	Pn	**Pn**	**23 24 31.3**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=349,slow=13,SNR=3.5						
FINES				Sn	**Sn**	**23 25 47.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=344,slow=21,SNR=4.1						
FINES				Lg	Lg	23 26 24.9	
	comp=Z,0.4nm,0.3s,baz=335,slow=26,SNR=9.3						
	comp=Z,1.3nm,0.9s						
NOA	**NORSAR Array B**	**7.82**	**214**	Pn	**Pn**	**23 24 42.8**	**-0.4**
	baz=27,slow=11,SNR=1.5						
NOA				Lg	Lg	23 26 55.5	
	baz=33,slow=22,SNR=5.2						
	comp=Z,0.4nm,0.2s						
HFS	**Hagfors**	**8.21**	**204**	Pn	**Pn**	**23 24 49.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=20,slow=13,SNR=0.9						
	comp=Z,0.9nm,0.9s						

*NEIC **06** 23:26:21.6±1.4, 35.777N±0.009×117.58W±0.01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.8km az=300.0*

PAS 06 23:26:22.1±1.4, **35.777N**±0.009×**117.590W**±0.009, **h1**km±1km, **ML3.2**/21, **ML3.0**/107(NEIC), **Error ellipse: s-maj=1.3km s-min=1.0km az=162.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.04**	**351**	Pg	Pg	23 26 23.4	+0.5
CLC				Sg	Sg	23 26 24.4	+0.9
TOW	**Tower One**	**0.14**	**283**		Pg	23 26 25.7	+0.8
SRTC	**Snort**	**0.15**	**237**		Pg	23 26 25.8	+0.7
WVPM	**Volcano Peak E**	**0.25**	**313**		Pg	23 26 27.4	+0.5
WNMM	**Nine Mile Cany**	**0.26**	**285**		Pg	23 26 27.6	+0.5
MPMC	**Manual Prospec**	**0.29**	**16**	Pg	Pg	23 26 28.0	+0.3
MPMC				Sg	Sg	23 26 32.3	+0.8
MPMC				IAML		23 26 32.6	
	comp=N,2µm,0.6s						
MPMC				IAML		23 26 33.5	
	comp=E,2µm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.31**	**194**		Pg	23 26 28.1	+0.2
LRMC				Sg	Sg	23 26 32.6	+0.7
LRMC				IAML		23 26 33.3	
	comp=N,3µm,0.4s						
CCCA	**Chr Cany lake**	**0.31**	**144**	Pg	Pg	23 26 28.9	+0.8
CCCA				Sg	Sg	23 26 33.8	+1.7
WRVM	**Rose V. Centra**	**0.34**	**314**		Pg	23 26 28.9	+0.3
MFS	**McCloud Flat S**	**0.40**	**328**		Pg	23 26 30.1	+0.3
WBSM	**Bird Springs**	**0.51**	**242**		Pg	23 26 31.9	+0.1
DTP	**Desert Tortois**	**0.55**	**202**		Pg	23 26 32.5	-0.1
QSM	**Queen of Sheba**	**0.61**	**72**		Pg	23 26 33.9	0.0
QSM					Sg	23 26 42.2	+0.3
QSM				IAML		23 26 43.7	
	comp=E,815nm,0.5s						
QSM				IAML		23 26 48.3	
	comp=N,841nm,0.5s						
CCAC	**Calif City Air**	**0.71**	**209**		Pg	23 26 35.7	0.0
ISA	**Isabella, Lake**	**0.73**	**261**		Pg	23 26 35.9	-0.1
ISA				Sg	Sg	23 26 45.5	0.0
ISA				IAML		23 26 46.3	
	comp=N,571nm,0.6s						
ISA				IAML		23 26 47.1	
	comp=E,617nm,0.2s						
CWC	**Cottonwood Cre**	**0.77**	**329**	Pg	Pg	23 26 37.4	+0.5
CWC				IAML		23 26 51.0	
	comp=E,370nm,0.3s						
CWC				IAML		23 26 52.4	
	comp=N,424nm,0.2s						
GSC	**Goldstone, Bar**	**0.80**	**126**		Pg	23 26 37.3	0.0
GSC				IAML		23 26 48.5	
	comp=E,899nm,0.4s						
GSC				IAML		23 26 48.6	
	comp=N,491nm,0.3s						
GWY	**Greenwater Val**	**0.85**	**61**		Pg	23 26 38.4	+0.1
GWY					Sg	23 26 49.7	+0.3
GWY				IAML		23 26 53.7	
	comp=N,848nm,0.3s						
EDW2	**Edwards Air Fo**	**0.95**	**200**		Pg	23 26 39.9	-0.4
TPO	**Tropico Hills**	**1.04**	**210**		Pg	23 26 41.6	-0.3
TPO					Sg	23 26 55.6	+0.3
SPG2	**Springville 2**	**1.04**	**294**		Pg	23 26 41.5	-0.6
GRAC	**Grapevine Rang**	**1.23**	**8**		Pg	23 26 45.4	-0.3
GRAC				IAML		23 27 07.8	
	comp=E,453nm,0.8s						
WCT	**Wildcat Mounta**	**1.28**	**37**		Pg	23 26 46.0	-0.6
WCT					Sg	23 27 03.3	+0.1
WCT				IAML		23 27 04.5	
	comp=N,132nm,0.4s						
WCT				IAML		23 27 07.5	
	comp=E,168nm,0.3s						
HOLC	**Holcomb Ridge**	**1.33**	**189**		Pg	23 26 47.4	-0.2
DSCC	**Desert Studies**	**1.37**	**117**		Pg	23 26 47.4	-0.9
OSI	**Osito Audit: C**	**1.49**	**219**		Pn	23 26 49.7	-0.2
OSI				IAML		23 27 12.4	
	comp=E,346nm,0.7s						
OSI				IAML		23 27 14.7	
	comp=N,268nm,0.7s						
BFSC	**Mount Baldy Ra**	**1.54**	**182**		Pn	23 26 50.1	-0.6
BFSC				IAML		23 27 11.9	
	comp=E,217nm,0.3s						
BFSC				IAML		23 27 14.2	
	comp=N,189nm,0.7s						
GMN	**Gold Mountain**	**1.54**	**10**		Pn	23 26 50.1	-0.8
GMN				IAML		23 26 57.0	
	comp=N,102nm,0.4s						
TPNV	**Topopah Spring**	**1.59**	**42**		Pn	23 26 50.5	-1.0
TPNV				IAML		23 27 15.5	
	comp=N,174nm,0.5s						
TPNV				IAML		23 27 18.4	
	comp=N,225nm,0.7s						
MWC	**Mount Wilson**	**1.60**	**194**		Pn	23 26 50.9	-0.7
DSP	**Deep Springs**	**1.62**	**349**		Pn	23 26 51.1	-0.7
DSP					Sn	23 27 13.3	+0.1
DSP				IAML		23 27 15.2	
	comp=E,109nm,0.7s						
MTPC	**Mountain Pass**	**1.68**	**99**		Pn	23 26 51.0	-1.8
MTPC				IAML		23 27 17.3	
	comp=N,145nm,0.4s						
MTPC				IAML		23 27 17.6	
	comp=E,166nm,0.2s						
MZP	**Montezuma Peak**	**1.93**	**5**		Pn	23 26 55.7	-0.6
SHPR	**Sheep Range**	**2.10**	**69**		Pn	23 26 57.9	-0.6
ELS	**Elsinore Mount**	**2.13**	**176**		Pn	23 26 58.1	-0.7
ELS				IAML		23 27 36.0	
	comp=E,72nm,0.7s						
V12A	**Nelson**	**2.23**	**90**		Pn	23 26 59.2	-1.0
V12A				IAML		23 27 34.8	
	comp=N,94nm,0.5s						
V12A				IAML		23 27 37.5	
	comp=E,50nm,0.5s						
TPH	**Tonopah**	**2.31**	**7**		Pn	23 27 00.8	-0.7
PMD	**Palm Desert**	**2.35**	**154**	Pn	Pn	23 26 59.7	-2.1
PMD				IAML		23 27 38.7	
	comp=E,47nm,0.6s						
PFO	**Pinyon Flats O**	**2.35**	**156**		Pn	23 27 00.7	-1.3
PFO				IAML		23 27 39.2	
	comp=E,48nm,0.6s						
S11A	**Rachel**	**2.38**	**38**		Pn	23 27 01.8	-0.6
S11A				IAML		23 27 43.0	
	comp=N,131nm,0.9s						
LHV	**Little Huntoon**	**2.58**	**344**		Pn	23 27 05.7	+0.9
LHV				IAML		23 28 00.4	
	comp=E,34nm,1.0s						
PRN	**Pahroc Range**	**2.61**	**51**		Pn	23 27 04.8	-0.8
PRN				IAML		23 27 58.4	
	comp=N,72nm,1.3s						
PRN				IAML		23 28 02.7	
	comp=E,90nm,0.9s						
PMPB	**Monarch Peak**	**2.64**	**280**		Pn	23 27 05.3	-0.6
PMPB				IAML		23 27 57.3	
	comp=N,95nm,1.0s						
PMPB				IAML		23 28 08.8	
	comp=E,96nm,1.4s						
NV11	**Mina Array Sit**	**2.69**	**350**		Pn	23 27 06.6	0.0
NVAR	**Mina Array Bea**	**2.71**	**348**		Pn	23 27 06.0	-1.0
DPP	**Dos Picos Cty**	**2.82**	**169**	Pn	Pn	23 27 07.2	-1.2
DPP				IAML		23 27 51.6	
	comp=E,39nm,0.4s						
BBGB	**Big Mountain B**	**2.90**	**287**		Pn	23 27 09.2	-0.3
RYN	**Ryan**	**2.94**	**346**		Pn	23 27 09.9	-0.2
R11B	**Troy Canyon, C**	**3.03**	**31**		Pn	23 27 10.9	-0.4
R11B				IAML		23 28 01.2	
	comp=E,25nm,0.7s						
W13A	**Hualapai Mount**	**3.10**	**102**		Pn	23 27 09.6	-2.7
W13A				IAML		23 28 12.0	
	comp=N,22nm,1.0s						
CMB	**Columbia Colle**	**3.18**	**316**		Pn	23 27 11.2	-2.0
CMB				IAML		23 28 07.1	
	comp=E,34nm,0.6s						
CMB				IAML		23 28 10.2	
	comp=N,29nm,0.7s						
BLYC	**Blythe**	**3.23**	**128**		Pn	23 27 12.5	-1.4
BLYC				IAML		23 28 07.1	
	comp=E,34nm,0.5s						
BLYC				IAML		23 28 12.7	
	comp=N,38nm,0.6s						
SAO	**San Andreas Ge**	**3.27**	**289**		Pn	23 27 12.7	-1.8
YUH	**Yuha Desert**	**3.41**	**156**		Pn	23 27 15.2	-1.3
CBX	**Cerro Bola**	**3.54**	**167**		Pn	23 27 17.4	-0.9
GLA	**Glamis**	**3.55**	**139**		Pn	23 27 17.2	-1.2
GLA				IAML		23 28 24.1	
	comp=N,50nm,0.8s						
LCMT	**Little Creek M**	**3.72**	**69**		Pn	23 27 20.7	0.0
CCUT	**Cedar City**	**3.83**	**61**		Pn	23 27 21.4	-1.1
Y14A	**Wickenburg**	**4.19**	**115**		Pn	23 27 26.3	-0.9
Y14A				IAML		23 28 37.3	
	comp=E,17nm,0.8s						
Y14A				IAML		23 28 40.4	
	comp=N,27nm,0.8s						
ELK	**Elko**	**5.29**	**20**		Pn	23 27 42.3	-0.2
ELK				IAML		23 29 13.2	
	comp=N,6.8nm,0.7s						

*NEIC **06** 23:34:09.3±1.4, 35.870N±0.010×117.66W±0.01, h6km±2km, Error ellipse: s-maj=1.6km s-min=1.4km az=128.0*

PAS 06 23:34:09.8±1.2, **35.874N**±0.010×**117.662W**±0.008, **h5**km±2km, **ML3.5**/17, **ML3.1**/86(NEIC), **Error ellipse: s-maj=1.5km s-min=0.8km az=153.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.08**	**138**	Pg	Pg	23 34 11.8	+0.1
CLC				Sg	Sg	23 34 13.3	+0.4
CLC				IAML		23 34 13.6	
	comp=E,25µm,0.3s						
TOW	**Tower One**	**0.10**	**232**		Pg	23 34 12.6	+0.5
TOW					Sg	23 34 15.5	+1.9
WVPM	**Volcano Peak E**	**0.15**	**301**		Pg	23 34 13.0	+0.1
WVPM					Sg	23 34 15.3	+0.4
SRTC	**Snort**	**0.20**	**201**		Pg	23 34 14.1	+0.4
WNMM	**Nine Mile Cany**	**0.20**	**261**		Pg	23 34 13.8	+0.1
WNMM					Sg	23 34 17.0	+0.6
WRVM	**Rose V. Centra**	**0.23**	**306**		Pg	23 34 14.4	0.0
MPMC	**Manual Prospec**	**0.23**	**37**	Pg	Pg	23 34 14.5	0.0
MPMC				Sg	Sg	23 34 17.8	+0.3
MPMC				IAML		23 34 18.2	
	comp=N,3µm,0.5s						
MPMC				IAML		23 34 20.9	
	comp=E,3µm,0.5s						
MFS	**McCloud Flat S**	**0.29**	**327**		P

GRAC				Sg	Sg	23 34 46.8	+0.1	
GRAC				IAML		23 34 47.8		
	comp=E,808nm,0.4s							
GRAC				IAML		23 34 48.3		
	comp=N,540nm,0.5s							
WCT	**Wildcat Mounta**	**1.24**	**42**		Pg	23 34 32.5	-1.2	
WCT				Sg	Sg	23 34 49.3	-0.5	
WCT				IAML		23 34 53.6		
	comp=N,227nm,0.7s							
THC	**Tehachapi Micr**	**1.26**	**221**		Pg	23 34 32.8	-1.3	
GMN	**Gold Mountain**	**1.46**	**13**		Pn	23 34 36.8	-0.3	
VOG	**Valley Oaks Go**	**1.46**	**288**		Pn	23 34 36.5	-0.3	
TUQ	**Turquoise Moun**	**1.48**	**107**		Pn	23 34 35.7	-1.5	
DSP	**Deep Springs**	**1.51**	**351**		Pn	23 34 37.3	-0.2	
DSP					Sn	23 34 57.3	-0.3	
DSP				IAML		23 34 59.2		
	comp=N,332nm,0.5s							
OSI	**Osito Audit: C**	**1.53**	**215**		Pb	23 34 38.3	-0.4	
OSI				IAML		23 35 02.3		
	comp=N,138nm,0.8s							
OSI				IAML		23 35 08.5		
	comp=E,156nm,0.7s							
TPNV	**Topopah Spring**	**1.56**	**46**		Pn	23 34 37.6	-0.9	
TPNV				IAML		23 35 01.2		
	comp=E,206nm,0.6s							
TPNV				IAML		23 35 06.1		
	comp=E,229nm,0.9s							
MTUM	**Tungsten Hills**	**1.65**	**334**		Pn	23 34 39.1	-0.4	
MWC	**Mount Wilson**	**1.68**	**191**		Pn	23 34 40.6	+0.6	
MWC				IAML		23 35 08.8		
	comp=N,215nm,0.6s							
MWC				IAML		23 35 13.6		
	comp=E,181nm,0.9s							
PASC	**Pasadena Art C**	**1.75**	**194**		Pn	23 34 40.0	-0.8	
MZP	**Montezuma Peak**	**1.84**	**7**		Pn	23 34 42.0	-0.3	
KCC	**Kaiser Creek**	**1.97**	**318**		Pb	23 34 45.5	-0.6	
SHPR	**Sheep Range**	**2.12**	**72**		Pn	23 34 45.7	-0.4	
ELS	**Elsinore Mount**	**2.23**	**175**		Pn	23 34 47.2	-0.3	
ELS				IAML		23 35 22.9		
	comp=E,107nm,0.4s							
ELS				IAML		23 35 23.7		
	comp=N,82nm,0.6s							
V12A	**Nelson**	**2.29**	**93**		Pn	23 34 46.6	-1.8	
V12A				IAML		23 35 24.0		
	comp=N,110nm,0.5s							
V12A				IAML		23 35 29.2		
	comp=E,108nm,0.6s							
S11A	**Rachel**	**2.34**	**40**		Pn	23 34 47.3	-1.8	
S11A				IAML		23 35 33.4		
	comp=E,184nm,1.1s							
S11A				IAML		23 35 35.5		
	comp=N,115nm,1.0s							
PMD	**Palm Desert**	**2.46**	**154**	Pn	Pn	23 34 48.9	-1.7	
PMD				IAML		23 35 31.8		
	comp=E,75nm,0.5s							
PFO	**Pinyon Flats O**	**2.46**	**156**		Pn	23 34 49.3	-1.4	
PFO				IAML		23 35 33.5		
	comp=E,55nm,0.9s							
PFO				IAML		23 35 33.6		
	comp=E,61nm,0.8s							
LHV	**Little Huntoon**	**2.47**	**344**		Pn	23 34 51.2	+0.5	
LHV				IAML		23 35 29.9		
	comp=N,68nm,0.4s							
LHV				IAML		23 35 31.5		
	comp=E,107nm,0.7s							
NV11	**Mina Array Sit**	**2.58**	**351**		Pn	23 34 52.6	+0.2	
PRN	**Pahroc Range**	**2.60**	**53**		Pn	23 34 51.8	-0.9	
PRN				IAML		23 35 47.0		
	comp=N,101nm,0.6s							
PRN				IAML		23 35 49.3		
	comp=E,88nm,1.1s							
NEE2	**Needles Airpor**	**2.72**	**113**	Pn	Pn	23 34 52.3	-1.9	
RYN	**Ryan**	**2.83**	**346**		Pn	23 34 55.8	-0.1	
R11B	**Troy Canyon, C**	**2.98**	**33**		Pn	23 34 57.3	-0.6	
CMB	**Columbia Colle**	**3.07**	**315**		Pn	23 34 59.7	+0.7	
CMB				IAML		23 35 49.4		
	comp=E,37nm,0.8s							
CMB				IAML		23 35 51.1		
	comp=N,44nm,0.7s							
W13A	**Hualapai Mount**	**3.18**	**103**		Pn	23 34 59.1	-1.5	
W13A				IAML		23 35 52.0		
	comp=N,49nm,0.4s							
W13A				IAML		23 35 55.6		
	comp=E,38nm,0.8s							
SAO	**San Andreas Ge**	**3.18**	**287**		Pn	23 35 00.2	-0.4	
LCMT	**Little Creek M**	**3.74**	**71**		Pn	23 35 07.7	-0.7	
PAHR	**Pah Rah Range**	**4.06**	**341**		Pn	23 35 12.3	-0.5	
Y14A	**Wickenburg**	**4.29**	**115**		Pn	23 35 15.6	-0.1	
Y14A				IAML		23 36 32.1		
	comp=N,37nm,0.9s							
Y14A				IAML		23 36 34.6		
	comp=E,28nm,0.8s							

*PAS **06** 23:38:31.9±1.4,36°03N±0°01×117°85W±0°02,h-1km, ML3.4/24,ML3.1/83(NEIC),Error ellipse: s-maj=2.0km s-min=1.5km az=110.0*

NEIC 06 23:38:32.2±1.6,36°022N±0°010×117°824W±0°008, h5km±1km,Error ellipse: s-maj=2.9km s-min=1.8km az=94.0,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRVM	**Rose V. Centra**	**0.06**	**255**		Pg	23 38 32.6	-1.1
WVPM	**Volcano Peak E**	**0.07**	**175**		Pg	23 38 33.3	-0.6
MFS	**McCloud Flat S**	**0.10**	**345**		Pg	23 38 33.5	-0.8
WNMM	**Nine Mile Cany**	**0.19**	**200**		Pg	23 38 35.3	-0.6
TOW	**Tower One**	**0.22**	**167**		Pg	23 38 37.9	+1.4
MPMC	**Manual Prospec**	**0.27**	**82**	Pg	Pg	23 38 38.5	+1.0
CLC	**China Lake**	**0.28**	**138**	Pg	Pg	23 38 38.6	+1.0
CLC				IAML		23 38 43.1	
	comp=N,2μm,0.4s						
CLC				IAML		23 38 43.2	
	comp=E,2μm,0.6s						
SRTC	**Snort**	**0.34**	**169**		Pg	23 38 38.8	+0.1
SRTC					Sb	23 38 44.8	-1.6
CWC	**Cottonwood Cre**	**0.47**	**334**	Pg	Pg	23 38 41.6	+0.4
CWC				Sg	Sg	23 38 47.7	+0.4
CWC				IAML		23 38 48.3	
	comp=E,1μm,0.2s						
CWC				IAML		23 38 48.7	
	comp=N,1μm,0.2s						
WORM	**Onyx Ranch**	**0.47**	**226**		Pg	23 38 40.3	-0.9
WHFM	**Hanning Flat**	**0.54**	**233**		Pg	23 38 43.0	+0.5
LRMC	**Laurel Mtn Rad**	**0.55**	**168**	Pg	Pg	23 38 43.4	+0.6
LRMC				Sg	Sg	23 38 50.0	-0.1
LRMC				IAML		23 38 52.0	
	comp=E,2μm,0.6s						
LRMC				IAML		23 38 52.3	
	comp=N,1μm,0.4s						
CCCA	**Chr Cany lake**	**0.62**	**143**		Pb	23 38 45.2	-0.4
ISA	**Isabella, Lake**	**0.64**	**236**		Pg	23 38 44.8	+0.3
ISA				Sg	Sg	23 38 53.0	+0.2
ISA				IAML		23 38 53.5	
	comp=E,2μm,0.4s						
ISA				IAML		23 38 53.5	
	comp=N,2μm,0.4s						
QSM	**Queen of Sheba**	**0.78**	**94**	Pg	Pg	23 38 47.1	0.0
QSM				IAML		23 38 51.4	
	comp=E,464nm,0.3s						
QSM				IAML		23 38 51.5	
	comp=N,506nm,0.5s						
GWY	**Greenwater Val**	**0.95**	**80**		Pb	23 38 51.2	0.0
GWY				IAML		23 39 07.7	
	comp=E,667nm,0.3s						
GWY				IAML		23 39 08.0	
	comp=N,620nm,0.4s						
GRAC	**Grapevine Rang**	**1.04**	**21**	Pg	Pg	23 38 52.0	-0.1
GRAC				IAML		23 39 12.4	
	comp=E,599nm,0.8s						
GRAC				IAML		23 39 12.8	
	comp=N,776nm,0.9s						
GSC	**Goldstone, Bar**	**1.10**	**131**		Pg	23 38 53.4	+0.2
GSC				IAML		23 39 11.1	
	comp=N,322nm,0.5s						
TPO	**Tropico Hills**	**1.19**	**196**		Pn	23 38 55.8	+0.3
TPO				IAML		23 39 11.7	
	comp=N,338nm,0.8s						
TPO				IAML		23 39 16.1	
	comp=E,470nm,0.7s						
WCT	**Wildcat Mounta**	**1.23**	**51**	Pg	Pn	23 38 56.2	0.0
WCT				IAML		23 39 15.6	
	comp=N,158nm,0.8s						
WCT				IAML		23 39 17.2	
	comp=E,274nm,0.6s						

DSP	**Deep Springs**	**1.35**	**355**		Pn	23 38 57.6	0.0	
GMN	**Gold Mountain**	**1.35**	**19**		Pn	23 38 57.7	-0.3	
GMN				IAML		23 39 20.0		
	comp=N,227nm,0.6s							
MZP	**Montezuma Peak**	**1.71**	**12**		Pb	23 39 03.8	-0.5	
CRGC	**Crocker Grade**	**1.73**	**244**		Pb	23 39 04.6	0.0	
MLAC	**Mammoth, Mammo**	**1.80**	**333**		Pb	23 39 06.1	+0.3	
PASC	**Pasadena Art C**	**1.87**	**189**		Pn	23 39 05.4	+0.5	
PASC				IAML		23 39 35.5		
	comp=E,76nm,0.3s							
GMRC	**Granite Mounta**	**2.16**	**124**		Pn	23 39 08.4	-0.5	
SHPR	**Sheep Range**	**2.21**	**77**		Pn	23 39 10.4	+0.8	
LHV	**Little Huntoon**	**2.29**	**346**		Pn	23 39 12.0	+1.4	
LHV				IAML		23 39 51.4		
	comp=E,88nm,1.3s							
LHV				IAML		23 39 56.3		
	comp=N,77nm,1.4s							
S11A	**Rachel**	**2.32**	**45**		Pb	23 39 12.9	-1.7	
ELS	**Elsinore Mount**	**2.39**	**172**		Pn	23 39 13.1	+1.0	
ELS				IAML		23 39 56.9		
	comp=N,45nm,0.7s							
PMPB	**Monarch Peak**	**2.42**	**275**		Pn	23 39 13.7	+1.2	
PMPB				IAML		23 39 57.9		
	comp=E,151nm,0.7s							
PMPB				IAML		23 39 58.7		
	comp=N,167nm,0.8s							
NV11	**Mina Array Sit**	**2.42**	**354**		Pn	23 39 13.6	+1.0	
NVAR	**Mina Array Bea**	**2.43**	**351**		Pn	23 39 14.0	+1.2	
MYLM	**Yosemite Lake**	**2.49**	**304**		Pb	23 39 17.5	+0.1	
RAMR	**Ramage Ranch**	**2.50**	**262**		Pn	23 39 15.1	+1.5	
PRN	**Pahroc Range**	**2.62**	**57**		Pn	23 39 15.7	+0.4	
PRN				IAML		23 40 06.0		
	comp=N,91nm,0.8s							
PFO	**Pinyon Flats O**	**2.65**	**155**		Pn	23 39 16.3	+0.6	
BBGB	**Big Mountain B**	**2.66**	**283**		Pn	23 39 17.0	+1.2	
RYN	**Ryan**	**2.66**	**348**		Pn	23 39 17.0	+1.1	
CMB	**Columbia Colle**	**2.87**	**315**		Pn	23 39 20.6	+2.0	
CMB				IAML		23 40 02.3		
	comp=N,70nm,0.4s							
CMB				IAML		23 40 07.6		
	comp=E,93nm,0.6s							
NEE2	**Needles Airpor**	**2.90**	**115**	Pn	Pn	23 39 18.4	-0.6	
NEE2				IAML		23 40 14.7		
	comp=E,66nm,0.6s							
NEE2				IAML		23 40 16.0		
	comp=N,70nm,0.9s							
MATG	**Mataguay Scout**	**2.98**	**161**		Pn	23 39 18.9	-1.2	
LCMT	**Little Creek M**	**3.82**	**74**		Pn	23 39 31.2	-0.5	
CBX	**Cerro Bola**	**3.82**	**165**		Pn	23 39 32.2	+0.4	
CBX				IAML		23 40 36.7		
	comp=N,50nm,1.0s							
GLA	**Glamis**	**3.86**	**139**	Pn	Pn	23 39 31.2	-1.1	
GLA				IAML		23 40 41.2		
	comp=N,32nm,0.8s							
CCUT	**Cedar City**	**3.89**	**66**		Pn	23 39 34.1	+1.3	
Y14A	**Wickenburg**	**4.47**	**116**		Pn	23 39 40.3	-0.3	
Y14A				IAML		23 40 57.8		
	comp=E,12nm,0.8s							
Y14A				IAML		23 41 02.3		
	comp=N,16nm,1.1s							
ELK	**Elko**	**5.13**	**23**		Pn	23 39 50.6	+0.7	
ELK				IAML		23 41 21.5		
	comp=N,6.5nm,1.2s							
X16A	**Lo Mia Camp, P**	**5.46**	**105**		Pn	23 39 55.7	+1.3	
HMU	**Henry Mountain**	**5.98**	**69**	Pn	Pn	23 40 02.4	+0.7	

*IDC **06** 23:50:41.2±0.5,35°81N×117°67W,h0km,mb4.1/14, mbtmp4.0/20,ML4.0/6,MS3.8/37,Error ellipse: s-maj=10.9km s-min=5.1km az=77.0*

*PAS **06** 23:50:42.0±1.4,35°82N±0°01×117°663W±0°004, h7km±3km,Mwr4.5/6,mb4.3/46(NEIC),ML4.6/135(NEIC), Mwr4.5/137(NEIC),Error ellipse: s-maj=1.7km s-min=0.5km az=184.0*

*NEIC **06** 23:50:41.9,35°82N×117°66W,h3km*

*NEIC **06** 23:50:41.2±1.6,35°81N±0°01×117°66W±0°02,h5km±3km, Error ellipse: s-maj=2.4km s-min=1.9km az=79.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.04; $M_{\theta\theta}$-5.18; $M_{\phi\phi}$4.14; $M_{r\theta}$-2.61; $M_{r\phi}$-3.29; $M_{\theta\phi}$0.99; Fault plane solution: $M_0$6.42000×10^{15} NP1: ϕ_s295.72000°,δ86.37000°,λ153.08000° NP2: ϕ_s27.56000°,δ63.13000°,λ4.07000°. Principal axes: T 5.8658, Plg21.0000°, Azm248.0000°; N 0.9892, Plg63.0000°, Azm109.0000°; P -6.8550, Plg16.0000°, Azm345.0000°;*

ISC 06 23:50:42.4±0.7,35°82N±0°02×117°65W±0°02,h9km±4km, n492,n0s86/486,mb4.3/33,MS3.9/31,1C,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.04**	**94**		Pg	23 50 43.6	-0.6
CLC					Sg	23 50 44.9	-0.6
CLC				IAML		23 50 45.2	
	comp=E,320μm,0.3s						
CLC				IAML		23 50 45.2	
	comp=N,677μm,0.7s						
TOW	**Tower One**	**0.09**	**264**		Pg	23 50 44.5	-0.3
TOW					Sg	23 50 46.9	+0.4
SRTC	**Snort**	**0.15**	**213**		Pg	23 50 45.4	-0.2
SRTC					Sg	23 50 48.6	+0.6
WVPM	**Volcano Peak E**	**0.19**	**314**		Pg	23 50 45.7	-0.7
WVPM					Sg	23 50 48.5	-0.6
JRC2	**Joshua Ridge**	**0.21**	**322**		Pg	23 50 46.1	-0.6
JRC2					Sg	23 50 49.1	-0.6
WNMM	**Nine Mile Cany**	**0.21**	**277**		Pg	23 50 46.0	-0.6
WNMM					Sg	23 50 49.2	-0.4
WCSM	**Coso Springs S**	**0.23**	**335**		Pg	23 50 46.3	-0.7
MPMC	**Manual Prospec**	**0.27**	**29**		Pg	23 50 47.4	-0.6
MPMC					Sg	23 50 51.3	-0.3
MPMC				IAML		23 50 53.4	
	comp=E,140μm,0.7s						
WRVM	**Rose V. Centra**	**0.27**	**314**		Pg	23 50 47.1	-0.8
WRVM					Sg	23 50 50.8	-0.7
LRMC	**Laurel Mtn Rad**	**0.34**	**185**		Pg	23 50 48.5	-0.6
MFS	**McCloud Flat S**	**0.34**	**331**		Pg	23 50 48.4	-0.8
MFS					Sg	23 50 53.2	-0.6
CCCA	**Chr Cany lake**	**0.37**	**142**		Pg	23 50 49.8	0.0
CCCA				IAML		23 50 58.1	
	comp=E,111μm,1.1s						
WBSM	**Bird Springs**	**0.49**	**235**		Pg	23 50 51.1	-0.8
WBSM					Sg	23 50 57.8	-0.6
WORM	**Onyx Ranch**	**0.50**	**256**		Pg	23 50 51.1	-1.0
WORM					Sg	23 50 57.8	-0.9
DTP	**Desert Tortois**	**0.57**	**196**		Pg	23 50 52.6	-0.9
DTP					Sg	23 51 00.5	-0.6
WHFM	**Hanning Flat**	**0.58**	**258**		Pg	23 50 52.7	-0.9
WHFM					Sg	23 51 00.7	-0.6
QSM	**Queen of Sheba**	**0.65**	**77**		Pg	23 50 54.2	-0.8
QSM					Sg	23 51 03.2	-0.3
QSM				IAML		23 51 05.8	
	comp=E,18μm,0.6s						
QSM				IAML		23 51 07.3	
	comp=N,26μm,0.6s						
ISA	**Isabella, Lake**	**0.69**	**257**		Pg	23 50 54.7	-1.0
ISA				IAML		23 51 04.8	
	comp=N,25μm,0.3s						
ISA				IAML		23 51 04.9	
	comp=E,18μm,0.5s						
CWC	**Cottonwood Cre**	**0.71**	**331**		Pg	23 50 55.1	-1.0
CWC					Sg	23 51 04.6	-0.9
CCAC	**Calif City Air**	**0.73**	**204**		Pg	23 50 55.6	-0.8
CGO	**Cerro Gordo**	**0.74**	**350**		Pg	23 50 55.5	-1.2
WASM	**Alta Sierra Ca**	**0.74**	**264**		Pg	23 50 55.7	-1.0
GSC	**Goldstone, Bar**	**0.86**	**127**		Pg	23 50 58.1	-0.9
GSC				IAML		23 51 10.5	
	comp=E,35μm,0.6s						
GSC				IAML		23 51 10.5	
	comp=N,23μm,0.7s						
GWY	**Greenwater Val**	**0.88**	**65**		Pg	23 50 58.5	-0.8
GWY				IAML		23 51 13.7	
	comp=E,27μm,0.6s						
GWY				IAML		23 51 21.1	
	comp=N,16μm,1.0s						
FURC	**Furnace Creek,**	**0.91**	**44**		Pb	23 50 59.5	-0.8
HYS	**Haystack Butte**	**0.95**	**176**		Pg	23 50 59.6	-1.2
EDW2	**Edwards Air Fo**	**0.98**	**197**		Pg	23 50 59.7	-1.4
SPG2	**Springville 2**	**0.98**	**293**		Pg	23 50 59.7	-1.6
TEJ	**El Tejon**	**1.03**	**236**		Pg	23 51 00.4	-1.8
TPO	**Tropico Hills**	**1.05**	**207**		Pg	23 51 01.3	-1.3
RRX	**Edison Barstow**	**1.08**	**150**		Pg	23 51 02.2	-1.0

SHOC	**Shoshone, Teco**	**1.12**	**85**		Pg	23 51 02.8	-1.0	
MAGC	**SCE Magundon P**	**1.13**	**247**		Pg	23 51 02.9	-1.3	
SBB	**Saddle Back Bu**	**1.14**	**187**		Pg	23 51 02.7	-1.5	
VES	**Vestal, Richgr**	**1.17**	**271**		Pg	23 51 03.4	-1.4	
ARVC	**Arvin**	**1.19**	**235**		Pg	23 51 03.5	-1.7	
TJR	**Tejon Ranch**	**1.19**	**229**		Pg	23 51 03.2	-2.0	
GRAC	**Grapevine Rang**	**1.20**	**11**		Pg	23 51 04.2	-1.2	
GRAC				IAML		23 51 24.9		
	comp=E,18μm,0.9s							
GRAC				IAML		23 51 25.0		
	comp=N,23μm,0.8s							
THC	**Tehachapi Micr**	**1.23**	**223**		Pg	23 51 03.9	-2.1	
ALPC	**Antelope**	**1.25**	**205**		Pg	23 51 04.8	-1.5	
SGV	**South Grapevin**	**1.26**	**23**		Pg	23 51 05.3	-1.4	
AMDNV	**Amargosa**	**1.27**	**60**		Pg	23 51 04.9	-2.0	
WCT	**Wildcat Mounta**	**1.28**	**40**		Pg	23 51 05.2	-1.7	
WCT				IAML		23 51 24.9		
	comp=E,12μm,0.8s							
WCT				IAML		23 51 24.9		
	comp=N,7μm,1.0s							
BAKC	**Calstate**	**1.28**	**249**		Pg	23 51 05.5	-1.4	
ADO	**Adelanto Recei**	**1.28**	**172**		Pg	23 51 06.0	-0.9	
VTV	**Victorville**	**1.28**	**168**		Pg	23 51 05.9	-1.1	
LEOC	**Leona Valley**	**1.30**	**205**		Pg	23 51 05.4	-1.9	
TIN	**Tinemaha, Big**	**1.32**	**339**		Pg	23 51 06.3	-1.4	
LRRC	**Littlerock Res**	**1.33**	**194**		Pn	23 51 05.8	-1.3	
CJV	**Casa Juvan**	**1.35**	**198**		Pn	23 51 06.3	-1.2	
HOLC	**Holcomb Ridge**	**1.37**	**187**		Pn	23 51 06.5	-1.3	
JNH	**Juniper Hills**	**1.39**	**190**		Pn	23 51 06.8	-1.3	
LCH	**Last Change Ra**	**1.41**	**0**		Pn	23 51 07.3	-1.1	
DSCC	**Desert Studies**	**1.43**	**118**		Pn	23 51 06.8	-1.8	
TUQ	**Turquoise Moun**	**1.46**	**105**		Pn	23 51 07.8	-1.3	
HEC	**Hector,Ludlow**	**1.46**	**132**		Pn	23 51 07.5	-1.5	
OSI	**Osito Audit: C**	**1.49**	**217**		Pn	23 51 08.1	-1.3	
OSI				IAML		23 51 32.7		
	comp=N,10μm,0.7s							
OSI				IAML		23 51 34.5		
	comp=E,10μm,0.7s							
VOG	**Valley Oaks Go**	**1.49**	**290**		Pn	23 51 08.5	-0.9	
GMN	**Gold Mountain**	**1.51**	**12**		Pn	23 51 09.1	-0.8	
GMN				IAML		23 51 33.5		
	comp=N,7μm,0.6s							
CHFC	**Chilao Flat St**	**1.51**	**192**		Pn	23 51 08.5	-1.3	
DSP	**Deep Springs**	**1.57**	**351**		Pn	23 51 09.8	-0.7	
PDE	**Pardee, Santa**	**1.57**	**209**		Pn	23 51 09.6	-1.0	
BFSC	**Mount Baldy Ra**	**1.58**	**180**		Pn	23 51 10.8	+0.1	
BFSC					Sn	23 51 30.9	-0.4	
BFSC				IAML		23 51 33.0		
	comp=E,7μm,0.9s							
BFSC				IAML		23 51 34.8		
	comp=N,7μm,0.9s							
TPNV	**Topopah Spring**	**1.60**	**45**		Pn	23 51 10.0	-1.0	
TPNV				IAML		23 51 36.1		
	comp=N,11μm,0.9s							
TPNV				IAML		23 51 38.6		
	comp=N,10μm,1.0s							
SSK	**Sunset Peak**	**1.60**	**181**		Pn	23 51 10.3	-0.9	
SS2	**San Sevaine**	**1.61**	**176**		Pn	23 51 10.1	-0.9	
SIL	**Silver Peak**	**1.61**	**155**		Pn	23 51 09.9	-1.4	
POCCA	**Poleta Canyon**	**1.62**	**342**		Pb	23 51 11.9	-0.8	
BHPR	**Bishop**	**1.62**	**336**		Pn	23 51 10.8	-0.7	
MWC	**Mount Wilson**	**1.63**	**192**		Pn	23 51 10.5	-1.0	
DECC	**Green Verdugo**	**1.66**	**200**		Pn	23 51 10.8	-0.9	
BBRC	**Big Bear Solar**	**1.66**	**159**		Pb	23 51 12.7	-0.7	
OAT	**Oat Mountain**	**1.67**	**209**		Pn	23 51 11.2	-0.8	
BCW	**Bitter Crk WRg**	**1.69**	**239**		Pn	23 51 10.8	-1.3	
MTUM	**Tungsten Hills**	**1.70**	**335**		Pn	23 51 11.8	-0.6	
PASC	**Pasadena Art C**	**1.70**	**195**		Pn	23 51 11.3	-1.0	
PASC				IAML		23 51 37.3		
	comp=E,6μm,1.1s							
CACC	**Caltech Cellar**	**1.72**	**193**		Pn	23 51 12.2	-0.4	
FON	**Fontana**	**1.72**	**174**		Pn	23 51 11.9	-0.7	
PSRC	**Puddingstone R**	**1.73**	**184**		Pn	23 51 12.0	-0.7	
HLNC	**Highland**	**1.73**	**168**		Pb	23 51 14.0	-0.3	
CFSC	**Central Fire S**	**1.74**	**170**		Pb	23 51 14.3	-0.2	
HLLC	**North Hollywoo**	**1.74**	**200**		Pg	23 51 14.6	-1.1	
MTPC	**Mountain Pass**	**1.74**	**100**		Pn	23 51 11.4	-1.6	
MTPC				IAML		23 51 39.9		
	comp=E,5μm,0.9s							
MTPC				IAML		23 51 41.2		
	comp=N,7μm,0.8s							
CLTC	**Calectric**	**1.74**	**171**		Pg	23 51 14.7	-1.2	
SVD	**Seven Oaks Dam**	**1.77**	**165**		Pn	23 51 12.5	-0.7	
GR2C	**Griffith Obs.**	**1.78**	**198**		Pn	23 51 13.3	-0.1	
BLCC	**Black Canyon**	**1.78**	**208**		Pn	23 51 12.7	-0.7	
CRGC	**Crocker Grade**	**1.79**	**252**		Pn	23 51 13.1	-0.5	
GVRC	**Garvey Reservo**	**1.81**	**192**		Pn	23 51 13.5	-0.2	
MLSC	**Mira Loma**	**1.81**	**178**		Pn	23 51 13.0	-0.8	
GTM	**Goat Mountain**	**1.85**	**145**		Pn	23 51 13.0	-1.5	
RSBC	**Riverside Bore**	**1.86**	**172**		Pn	23 51 13.9	-0.6	
CARC	**Carrizo Plain**	**1.86**	**255**		Pn	23 51 13.8	-0.7	
MZP	**Montezuma Peak**	**1.89**	**6**		Pn	23 51 14.5	-0.6	
GMRC	**Granite Mounta**	**1.93**	**122**		Pn	23 51 13.4	-2.1	
PKM	**Mcpherson Peak**	**2.00**	**243**		Pn	23 51 15.5	-1.1	
BLAC	**Blackrock camp**	**2.03**	**149**		Pn	23 51 15.8	-1.1	
MLAC	**Mammoth, Mammo**	**2.04**	**333**		Pn	23 51 16.2	-1.0	
SHPR	**Sheep Range**	**2.13**	**70**		Pn	23 51 17.5	-0.8	
HMTC	**Hemet**	**2.17**	**166**		Pn	23 51 17.8	-0.9	
ELS	**Elsinore Mount**	**2.17**	**175**		Pn	23 51 17.9	-0.9	
ELS				IAML		23 51 54.9		
	comp=N,3μm,0.7s							
ELS				IAML		23 51 57.2		
	comp=E,5μm,1.3s							
POB	**Polly Butte**	**2.21**	**164**		Pn	23 51 18.6	-0.8	
V12A	**Nelson**	**2.28**	**92**		Pn	23 51 19.0	-1.3	
V12A				IAML		23 51 57.8		
	comp=N,4μm,1.4s							
V12A				IAML		23 52 04.0		
	comp=E,3μm,0.9s							
TPH	**Tonopah**	**2.28**	**9**		Pn	23 51 19.9	-0.5	
S11A	**Rachel**

CBX Cerro Bola 3.59 167 Pn 23 51 37.9 -0.5
GLA Glamis 3.61 139 Pn 23 51 36.6 -2.0
GLA IAML 23 52 44.5
comp=N,1µm,1.0s
LCMT Little Creek M 3.75 70 Pn 23 51 40.5 0.0
CCUT Cedar City 3.85 62 Pn 23 51 42.3 +0.2
ESJX Sierra Juarez 4.06 159 Pn 23 51 44.3 -0.6
ESJX IAML 23 52 55.2
comp=E,822nm,1.3s
PSUT Pine Spring 4.07 47 Pn 23 51 44.3 -0.7
PSUT IAML 23 52 59.2
comp=N,1µm,1.0s
SZCU Shurtz Canyon 4.07 63 Pn 23 51 43.0 -2.1
KNB Kanab 4.07 72 Pn 23 51 45.5 +0.4
KNB IAML 23 52 57.2
comp=N,650nm,1.1s
KNB IAML 23 53 00.7
comp=E,515nm,0.9s
AFDM Forest Hills D 4.09 321 Pn 23 51 46.0 +0.8
AFDM IAML 23 53 00.8
comp=N,918nm,1.0s
AFDM IAML 23 53 04.9
comp=E,1µm,0.8s
PAHR Pah Rah Range 4.12 341 Pn 23 51 45.7 +0.1
SPR3 Spring Creek 3 4.13 39 Pn 23 51 44.3 -1.6
SPR3 IAML 23 52 53.7
comp=E,817nm,0.8s
SPR3 IAML 23 52 56.9
comp=N,826nm,1.0s
MCCM Marconi Confer 4.79 301 Pn Pn 23 51 54.2 -0.5
MCCM IAML 23 53 12.0
comp=N,555nm,1.1s
MCCM IAML 23 53 16.7
comp=E,501nm,1.6s
GDXM Geysers 5.07 308 Pn 23 51 58.4 -0.3
GDXM IAML 23 53 25.1
comp=E,238nm,1.1s
ELK Elko 5.27 20 Pn 23 52 01.7 +0.2
ELK IAML 23 53 32.3
comp=E,409nm,1.0s
ELK IAML 23 53 32.7
comp=E,215nm,0.8s
ELK Elko 5.27 20 Pn Pn 23 52 01.9 +0.3
comp=E,6.4nm,0.3s,baz=215,slow=9.7,SNR=75
ELK Pg Pb 23 52 14.1 -0.7
comp=E,44nm,0.3s,baz=212,slow=15,SNR=30
ELK Sn Sn 23 53 01.9 -0.7
comp=E,6.5nm,0.3s,baz=188,slow=13,SNR=3.3
ELK Lg Lg 23 53 26.6
comp=E,29nm,0.3s,baz=292,slow=11,SNR=13
ELK LR LR 23 54 30.5
comp=E,934nm,18.4s,baz=200,slow=43
comp=E,16nm,0.4s
X16A Lo Mia Camp, P 5.28 104 Pn 23 52 01.8 +0.1
X16A IAML 23 53 37.5
comp=E,319nm,1.2s
X16A IAML 23 53 53.6
comp=N,276nm,3.8s
DUG Dugway, Tooele 5.80 40 Pn Pn 23 52 08.9 +0.1
O02D Mt. Diablo Mer 5.95 319 Pn 23 52 11.8 +1.0
Q16A Castle Valley 6.01 57 Pn Pn 23 52 11.9 +0.2
W18A Petrified Fore 6.50 94 Pn Pn 23 52 19.8 +1.4
WVOR Wild Horse Val 6.65 354 Pn Pn 23 52 21.5 +1.1
TUC Tucson 6.69 120 Pn 23 52 19.2 -1.7
YBH Yreka Blue Hor 7.10 328 Pn Pn 23 52 27.2 +0.6
baz=122,slow=5.0,SNR=14
YBH Lg Lg 23 54 23.4
baz=158,slow=11,SNR=4.7
YBH LR LR 23 55 04.5
comp=N,30nm,21.3s,baz=148,slow=37
K05A Summer Lake 7.34 341 Pn Pn 23 52 29.9 0.0
319A Douglas 8.27 120 Pn 23 52 42.1 -0.5
BMO Blue Mountains 9.03 2 Pn Pn 23 52 54.0 +1.0
ANMO Albuquerque 9.18 92 Pn Pn 23 52 56.4 +1.2
comp=N,0.1nm,0.3s,baz=210,slow=16,SNR=1.4
ANMO Pg 23 53 27.3
comp=N,0.2nm,0.3s,baz=5.3,slow=12,SNR=4.5
ANMO Lg Lg 23 55 27.5
comp=N,0.8nm,0.3s,baz=292,slow=19,SNR=12
ANMO LR LR 23 56 48.3
comp=N,231nm,18.4s,baz=9.0,slow=40
PDAR Pinedale Array 9.35 40 Pn Pn 23 52 58.4 +0.8
PDAR Pinedale Array 9.35 40 Pn Pn 23 52 59.8 +2.3
comp=N,0.2nm,0.3s,baz=224,slow=12,SNR=16
PDAR Lg Lg 23 55 33.7
comp=N,0.4nm,0.3s,baz=225,slow=21,SNR=5.8
PDAR LR LR 23 56 47.5
comp=N,302nm,20.1s,baz=222,slow=39
comp=N,1.8nm,0.7s
MSO Missoula 11.35 13 Pn Pn 23 53 24.9 +0.1
MSTX Muleshoe 12.36 94 Pn Pn 23 53 39.5 +0.9
NEW Newport 12.44 2 Pn Pn 23 53 40.6 +0.9
comp=N,0.1nm,0.3s,baz=169,slow=9.2,SNR=3.7
NEW Lg Lg 23 57 13.0
comp=N,0.1nm,0.3s,baz=270,slow=21,SNR=3.3
comp=N,2.9nm,0.9s
RSSD Black Hills 13.32 47 Pn Pn 23 53 52.3 +0.5
TXAR Lajitas Array 13.44 115 Pn Pn 23 53 54.9 +1.4
comp=N,0.2nm,0.3s,baz=285,slow=12,SNR=5.6
TXAR Lg Lg 23 57 47.6
comp=N,0.1nm,0.3s,baz=288,slow=28,SNR=8.7
TXAR LR LR 23 59 32.2
comp=N,124nm,18.9s,baz=298,slow=40
comp=N,0.7nm,0.5s
EGMT Eagleton 13.53 23 Pn Pn 23 53 55.9 +1.4
SAND Sanderson 14.29 110 Pn Pn 23 54 07.2 +2.1
LLLB Lillooet 15.10 350 Pn Pn 23 54 15.8 -0.1
LLLB IAmb IAmb 23 54 24.6
comp=Z,17nm,1.1s
R32A Long Quarter, 15.33 75 Pn Pn 23 54 19.0 0.0
K30B Basset 15.54 58 Pn Pn 23 54 22.1 +0.3
JCT Junction City 15.86 105 Pn Pn 23 54 25.6 -0.4
KAN12 Harper NE Stat 15.86 79 Pn Pn 23 54 26.6 +0.7
BRDY Brady 16.19 101 Pn Pn 23 54 31.2 +1.0
FW03 Perrin-Whitt E 16.39 94 P P 23 54 34.5 -1.1
E28A Huff 16.65 45 Pn Pn 23 54 35.5 -0.4
SUSD Miller 16.66 53 Pn Pn 23 54 36.7 +0.6
SUSD IAmb IAmb 23 54 45.4
comp=Z,29nm,1.2s
Z35A Perchaven, San 16.98 92 Pn Pn 23 54 40.5 +0.3
DEOK Depew 17.15 84 Pn Pn 23 54 42.1 -0.2
DEOK IAmb IAmb 23 54 51.9
comp=Z,18nm,1.1s
TUL3 Leonard 17.72 83 P Pn 23 54 49.3 0.0
TUL3 IAmb IAmb 23 54 55.6
comp=Z,29nm,1.4s
ECSD EROS Data Cent 17.97 58 P 23 54 52.4 -0.5
N35A Tabor 17.97 67 P 23 54 52.7 -0.3
BBB Bella Bella 17.98 339 LR LR 00 02 30.8
comp=Z,381nm,18.1s,baz=180,slow=40
MDND Maddock 17.98 43 P 23 54 53.1 0.0
MDND IAmb IAmb 23 54 58.6
comp=Z,16nm,1.0s
U38A Gravette 18.80 81 P 23 55 01.3 -0.9
F33A 5 Mile Ranch, 18.96 52 P 23 55 03.2 -0.6
NATX Nacogdoches 19.52 95 P P 23 55 09.9 -0.2
NATX IAmb IAmb 23 55 29.1
comp=Z,20nm,1.4s
MIAR Mount Ida 19.71 87 P P 23 55 12.0 -0.1
MIAR IAmb IAmb 23 55 18.0
comp=Z,22nm,1.2s
AGMN Agassiz Nation 20.34 45 P P 23 55 18.1 -0.8
AGMN IAmb IAmb 23 55 28.1
comp=Z,9.6nm,0.9s
R40A Maddies Statio 20.39 75 P P 23 55 20.1 +0.6
FCAR Ozark Folk Cen 20.68 82 P P 23 55 22.0 -0.6
FCAR IAmb IAmb 23 55 31.4
comp=Z,18nm,1.4s
SPMN Marine on St. 21.02 56 P P 23 55 26.7 +0.4
SPMN IAmb IAmb 23 55 34.3
comp=Z,24nm,1.3s
CCM Cathedral Cave 21.20 76 P P 23 55 27.0 -1.3
CCM IAmb IAmb 23 55 37.3
comp=Z,17nm,1.4s
ULM Lac du Bonnet 21.37 41 P 23 55 28.3 -1.7
ULM IAmb IAmb 23 55 49.0
comp=Z,10.0nm,0.9s
ULM Lac du Bonnet 21.37 41 P P 23 55 30.5 +0.5
comp=Z,3.0nm,0.6s,baz=228,slow=11,SNR=5.2
ULM LR LR 00 04 22.0
comp=Z,348nm,18.1s,baz=260,slow=38
comp=Z,3.0nm,0.6s
FFC Flin Flon 21.79 25 P 23 55 33.5 -1.0
PBMO Poplar Bluff 21.94 79 P P 23 55 36.1 -0.1
PBMO IAmb IAmb 23 55 42.2
comp=Z,11nm,1.1s
EPLO Experimental L 22.25 44 P 23 55 38.9 -0.6
EPLO IAmb IAmb 23 55 46.0
comp=Z,17nm,1.3s
CRAG Craig 22.34 336 P P 23 55 39.8 -0.5
baz=145
CGM3 Cape Girardeau 22.50 78 P P 23 55 42.2 -0.1
T35M Bob Quinn 22.81 342 P P 23 55 45.8 +0.5
baz=153
U33K Whale Pass 22.87 337 P P 23 55 45.9 0.0
baz=146
WRAK Wrangell Islan 22.89 339 P P 23 55 46.5 +0.3
baz=148
Q44A Meyer Farm, Va 22.93 74 P P 23 55 46.7 0.0
TOAD Toad River Com 23.58 350 P P 23 55 54.1 +0.9
baz=164
COWI Conover 23.74 56 P P 23 55 54.6 -0.3
COWI IAmb IAmb 23 56 06.5
comp=Z,9.4nm,0.8s
S34M Telegraph Cree 23.86 342 P P 23 55 56.5 +0.7
baz=152
DLBC Dease Lake 24.07 344 P P 23 55 59.9 +2.0
comp=Z,0.2nm,0.7s,baz=144,slow=12,SNR=5.5
DLBC LR LR 00 06 18.4
comp=Z,33nm,18.5s,baz=152,slow=39
DLBC Dease Lake 24.07 344 P P 23 55 58.1 +0.2
baz=155
SIT Sitka 24.34 336 P P 23 56 01.1 +0.8
baz=143
TBO Thunder Bay 24.37 50 P P 23 56 00.2 -0.5
S32K Killisnoo 24.44 338 P P 23 56 02.1 +0.9
baz=145
T47A Sharon Grove 24.56 78 P P 23 56 02.3 -0.3
KOTAN Kotaneelee Air 24.68 352 P P 23 56 03.8 +0.4
baz=168
Q32M Nakina River 25.07 342 P P 23 56 07.4 +0.2
baz=151
R32K Eaglecrest 25.09 339 P P 23 56 07.6 +0.4
baz=146
R33M Jennings River 25.14 344 P P 23 56 08.7 +0.9
baz=154
S31K Pelican 25.36 337 P P 23 56 09.9 +0.4
baz=143
P32M Atlin 25.98 341 P P 23 56 15.7 +0.4
baz=149
P33M Teslin, Yukon 26.30 343 P P 23 56 19.1 +0.9
baz=151
SKAG Skagway 26.31 340 P P 23 56 18.4 +0.2
baz=146
PLBC Pleasant Camp 26.61 339 P P 23 56 21.9 +1.0
baz=144
YKAW1 Yellowknife Wh 26.76 3 P P 23 56 21.2 -1.0
YKAW1 IAmb IAmb 23 56 28.4
comp=Z,11nm,1.3s
YKA Yellowknife Ar 26.77 3 P P 23 56 23.0 +0.8
YKA Yellowknife Ar 26.77 3 P P 23 56 22.5 +0.2
comp=Z,1.3nm,0.8s,baz=188,slow=8.3,SNR=6.0
YKA LR LR 00 07 36.3
comp=Z,228nm,18.3s,baz=233,slow=38
comp=Z,1.3nm,0.8s
TKL Tuckaleechee C 27.42 80 LR LR 00 08 15.4
comp=Z,74nm,21.8s,baz=290,slow=38
CMIG Matias Romero 27.51 127 LR LR 00 06 24.6
comp=Z,206nm,21.3s,baz=192,slow=34
PNL Peninsula 27.73 336 P P 23 56 31.1 +0.1
baz=140
MMPY Sheldon Lake, 28.14 347 P P 23 56 33.9 -0.8
baz=156
PINM Pinnacle 28.34 336 P P 23 56 36.5 0.0
baz=139
YUK6 Outpost Mounta 28.41 339 P P 23 56 36.6 -0.6
baz=143
M31M Drury Creek, Y 28.42 344 P P 23 56 36.1 -1.0
baz=151
N30M Ashikik Lake 28.46 340 P P 23 56 37.3 -0.3
baz=146
YUK4 Talbot Arm 28.81 339 P P 23 56 40.8 0.0
baz=143
O28M Mount Upton 28.83 337 P P 23 56 40.4 -0.7
baz=140
MESA MESA 28.97 335 P P 23 56 41.4 -0.8
baz=136
YUK8 Steele Glacier 29.09 338 P P 23 56 42.6 -0.8
baz=141
M30M Mio, Yukon 29.32 342 P P 23 56 45.7 +0.6
baz=147
BGLC Bering Glacier 29.40 334 P P 23 56 46.4 +0.7
baz=134
M29M Somme Creek 29.64 340 P P 23 56 48.5 +0.5
baz=144
KAIM Kayak Island 29.68 333 P P 23 56 47.8 -0.5
baz=132
YUK3 Moose Creek 29.69 338 P P 23 56 48.7 +0.1
baz=141
Q23K Middleton Isla 30.10 331 P P 23 56 51.9 -0.1
baz=129
L29M L29M 30.10 342 P P 23 56 52.4 +0.3
baz=146
MCARA McCarthy VSAT 30.21 336 P P 23 56 53.2 +0.3
baz=136
BVCY Beaver Creek 30.30 339 P P 23 56 54.1 +0.3
baz=141
BMRM Bremner River 30.46 334 P P 23 56 55.4 +0.2
baz=133
SADO Sadowa 30.46 61 LR LR 00 10 08.9
comp=Z,112nm,19.2s,baz=330,slow=38
K29M Barlow Dome 30.57 343 P P 23 56 55.9 -0.4
K29M IAmb IAmb 23 57 04.0
comp=Z,5.1nm,1.1s
K29M Barlow Dome 30.57 343 P P 23 56 55.3 -0.9
baz=147
M27K Edge Creek, AK 30.57 338 P P 23 56 55.7 -0.6
baz=139
EYAK Cordova Ski Ar 30.59 333 P P 23 56 55.9 -0.4
baz=131
P23K Montague Islan 30.87 331 P P 23 56 58.6 -0.2
baz=128
N25K Chitina, Valde 30.90 335 P P 23 56 58.9 -0.3
baz=134
J30M Hart River 30.92 344 P P 23 56 59.1 -0.3
baz=150
M26K Nabesna, AK 30.95 337 P P 23 56 59.3 -0.2
baz=138
L27K Beaver Creek, 31.09 339 P P 23 57 00.9 +0.1
baz=140
DAWY Dawson 31.21 342 P P 23 57 02.0 +0.1
baz=144
KLU Klutina 31.28 334 P P 23 57 02.3 -0.2
baz=132
GLI Glacier Island 31.31 332 P P 23 57 02.5 -0.1
baz=130
I30M Mount Dempster 31.49 345 P P 23 57 04.2 -0.2
baz=150
L26K Log Cabin Wild 31.52 338 P P 23 57 05.0 +0.5
baz=138
H31M Peel River 31.60 347 P P 23 57 05.4 +0.2
baz=154
SEW Seward 31.76 330 P P 23 57 07.1 +0.6
baz=126
PWL Port Wells 31.77 332 P P 23 57 07.0 +0.3
baz=128
M24K Tolsona, Glenn 31.79 335 P P 23 57 07.2 +0.3
baz=133
K27K Chicken 31.90 340 P P 23 57 07.0 -0.9
baz=141
KDAK Kodiak Island 31.91 325 LR LR 00 08 09.2
comp=Z,152nm,18.9s,baz=123,slow=33
KDAK Kodiak Island 31.91 325 P P 23 57 07.2 -0.7
baz=118
OHAK Old Harbor 31.98 323 P P 23 57 08.4 -0.2
baz=117
O22K Cooper Landing 32.09 330 P P 23 57 09.7 +0.2
baz=126
M23K Glacier View 32.13 333 P P 23 57 10.4 +0.5
baz=130
SII Sitkinak Islan 32.14 322 P P 23 57 10.2 +0.1
baz=115
PAX Paxson 32.15 336 P P 23 57 10.2 +0.1
baz=135
Q20K Shuyak Island 32.22 326 P P 23 57 10.8 +0.1
baz=120
SCRK Sand Creek 32.41 339 P P 23 57 12.8 +0.3
baz=138,SNR=10.0
HOM Homer 32.43 328 P P 23 57 13.0 +0.5
baz=122
RC01 Rabbit Creek A 32.45 331 P P 23 57 12.9 +0.2
baz=126
I28M Miner Creek 32.48 343 P P 23 57 12.7 -0.3
baz=145,SNR=5.5
RIDG Independent Ri 32.50 338 P P 23 57 12.9 -0.3
baz=136
PMR Palmer 32.52 332 P P 23 57 13.7 +0.4
baz=128
EPYK Eagle Plains 32.56 346 P P 23 57 14.2 +0.6
baz=150
CHIR Chirikof Islan 32.59 320 P P 23 57 12.8 -1.1
baz=112
G31M Satah River 32.60 348 P P 23 57 13.7 -0.2
baz=154
WAT6 Susitna Watana 32.65 335 P P 23 57 13.7 -0.9
baz=131
J26L Joseph Creek 32.69 339 P P 23 57 13.9 -0.9
baz=139
R18K Karluk 32.70 323 P P 23 57 14.4 -0.5
baz=116
H29M Whitestone 32.77 345 P P 23 57 15.4 -0.1
baz=148
K24K Donnelly Dome 32.84 337 P P 23 57 15.4 -0.6
baz=135
DHY Denali Highway 32.85 335 P P 23 57 16.7 +0.3
baz=132
Q19K Cape Douglas, 32.95 326 P P 23 57 17.1 0.0
baz=119
F31M Tsiigehtchic 32.98 349 P P 23 57 17.0 -0.2
baz=156
M22K Willow 33.00 332 P P 23 57 17.6 +0.2
baz=127
G30M tAoh Zraii Nji 33.00 347 P P 23 57 17.4 -0.1
baz=152
I27K Kandik River 33.02 342 P P 23 57 17.8 +0.1
baz=143
SUA Susitna One 33.07 331 P P 23 57 18.4 +0.2
baz=126
O20K Slope Mountain 33.07 328 P P 23 57 18.2 0.0
baz=121
WAT1 Susitna Watana 33.10 334 P P 23 57 18.4 0.0
baz=130
P19K Oil Pt 33.12 327 P P 23 57 18.3 -0.3
baz=120
I26K Coal Creek Min 33.19 341 P P 23 57 18.6 -0.4
baz=140
G29M Pine Creek 33.29 346 P P 23 57 19.9 -0.1
baz=148
J25K Salcha River, 33.29 339 P P 23 57 20.6 +0.5
baz=136
Q18K Katmai Hardscr 33.45 325 P P 23 57 21.2 -0.3
baz=117
CUT Chulitna 33.45 333 P P 23 57 21.1 -0.3
baz=127
F30M Barrier River 33.48 348 P P 23 57 21.8 +0.2
baz=153
SPCR Spurr Chakacha 33.50 330 P P 23 57 21.7 -0.2
baz=123
H27K Steamboat Moun 33.50 343 P P 23 57 22.2 +0.3
baz=144
HDA Harding Lake 33.63 337 P P 23 57 23.2 +0.3
baz=134
R17L Mt. Peulik Vol 33.66 323 P P 23 57 23.2 -0.2
baz=114
SKT Skwentna 33.67 332 P P 23 57 23.5 +0.1
baz=125
Q17K Contact Creek 33.69 324 P P 23 57 23.3 -0.4
baz=115
INK Inuvik 33.75 349 LR LR 00 12 59.5
comp=Z,223nm,20.2s,baz=156,slow=40
INK Inuvik 33.75 349 P P 23 57 24.2 +0.3
baz=156
MCK McKinley 33.82 335 P P 23 57 25.6 +1.0
baz=131
ILAR Eielson Array 33.86 338 P P 23 57 26.2 +1.2
comp=Z,2.4nm,0.8s,baz=151,slow=7.0,SNR=14
ILAR PcP PcP 00 00 04.0 +0.5
comp=Z,0.9nm,0.9s,baz=177,slow=2.0,SNR=5.4
comp=Z,2.4nm,0.8s
P18K Big Mountain, 33.88 326 P P 23 57 26.0 +0.8
baz=117
G27K Doyon Strip 34.00 343 P P 23 57 27.6 +1.4
baz=144
PRP Porcupine Dome 34.00 340 P P 23 57 27.3 +0.9
baz=137
O18K Koktuh Hills 34.09 327 P P 23 57 28.2 +1.1
baz=118
TRF Thorofare Moun 34.10 334 P P 23 57 28.1 +0.8
baz=129
CHGN Chignik 34.22 320 P P 23 57 29.4 +1.2
baz=109
COLA College 34.23 338 P P 23 57 28.7 +0.6
baz=133
N19K Bonanza Creek 34.24 329 P P 23 57 28.8 +0.4
baz=120
M20K Styx River 34.24 331 P P 23 57 29.3 +0.9
baz=123
POKR Poker Plat Res 34.27 338 P P 23 57 28.9 +0.4
baz=134
P17K Kvichak River 34.35 325 P P 23 57 29.8 +0.6
baz=116
CHNA Chernabura Isl 34.41 317 P P 23 57 29.8 0.0
baz=106
NEA2 Nenana 34.43 337 P P 23 57 29.6 -0.3
baz=132
PPLA Purkeypile 34.45 333 P P 23 57 30.1 -0.2
baz=126
E29M Blow River 34.55 347 P P 23 57 31.2 +0.3
baz=150
G26K Porcupine Rive 34.63 342 P P 23 57 33.3 +1.8
baz=141,SNR=11
H25L Birch Creek 34.64 340 P P 23 57 32.9 +1.2
baz=138
CAST Castle Rocks 34.72 333 P P 23 57 31.5 -1.0
CAST Castle Rocks 34.72 333 P P 23 57 33.7 +1.2
baz=126
BPAW Bear Paw Mtn. 34.75 335 P P 23 57 32.8 +0.1
BPAW IAmb IAmb 23 57 38.7
comp=Z,4.7nm,0.9s
BPAW Bear Paw Mtn. 34.75 335 P P 23 57 32.7 -0.1
baz=128
M19K Big River Lodg 34.76 330 P P 23 57 33.4 +0.6
baz=122
N18K Kilae Creek 34.78 328 P P 23 57 33.1 +0.1
baz=118
S14K Fog Glacier 34.82 319 P P 23 57 34.5 +1.0
baz=108
L20K Farewell, AK 34.87 331 P P 23 57 35.6 +1.8
baz=123,SNR=8.4
I23K Minto, Yukon-K 34.89 337 P P 23 57 35.0 +1.2
baz=132
O17K Koliganek Bris 34.91 326 P P 23 57 35.3 +1.3
baz=116
H24K Noodor Dome 34.91 339 P P 23 57 34.3 +0.2
baz=134
P16K Nushagak River 35.01 324 P P 23 57 35.6 +0.7
baz=114
E28M Babbage River 35.04 346 P P 23 57 35.3 +0.2
baz=148
SDPT Sand Point 35.05 317 P P 23 57 36.0 +0.7
baz=106
CHUM Lake Minchumin 35.08 334 P P 23 57 34.4 -1.2
baz=126
G25K Bearman Lake 35.08 341 P P 23 57 35.8 +0.3
baz=138,SNR=5.3
L19K White Mountain 35.09 330 P P 23 57 36.0 +0.3
baz=121
E27K Coleen River 35.11 345 P P 23 57 36.5 +0.7
baz=145
M18K Stony River 35.14 329 P P 23 57 36.8 +0.7
baz=119
MLY Manley 35.26 336 P P 23 57 36.8 -0.3
MLY IAmb IAmb 23 57 43.8
comp=Z,3.7nm,0.8s
MLY Manley 35.26 336 P P 23 57 37.2 +0.2
baz=130,SNR=6.1
N17K Nushagak Hills 35.28 327 P P 23 57 37.5 +0.2
baz=116
O16K Kokwok River B 35.29 325 P P 23 57 37.7 +0.3
baz=114
F26K Sheenjek River 35.30 343 P P 23 57 36.9 -0.5
baz=141
H23K Yukon River 35.40 338 P P 23 57 38.8 +0.5
baz=132
G24K Hadweenzic Riv 35.41 340 P P 23 57 38.8 +0.5
baz=136
K20K Telida 35.42 332 P P 23 57 39.2 +0.7
K20K Telida 35.42 332 P P 23 57 39.5 +1.0
baz=124,SNR=16
D28M Stokes Point 35.52 347 P P 23 57 39.8 +0.6
baz=150

F25K **Christian Rive** 35.59 342 P P 23 57 40.9 +1.0
baz=139
M17K **Holitna River** 35.78 328 P P 23 57 42.5 +0.9
baz=117,SNR=6.2
L18K **Granite Mounta** 35.85 330 P P 23 57 42.8 +0.6
baz=119
D27M **Malcolm River** 35.86 346 P P 23 57 42.9 +0.7
baz=147
J20K **Nowinta River** 35.91 334 P P 23 57 43.3 +0.6
baz=124
O15K **Ungalikthiuk R** 35.94 324 P P 23 57 43.7 +0.7
baz=112
N16K **Nishlik Lake** 35.96 326 P P 23 57 43.8 +0.6
baz=114
E25K **Arctic Village** 35.97 343 P P 23 57 43.5 +0.3
E25K IAmb IAmb 23 57 49.6
comp=Z,4.6nm,0.9s
E25K **Arctic Village** 35.97 343 P P 23 57 42.9 -0.3
baz=140
S12K **Black Hills** 36.01 318 P P 23 57 43.7 +0.1
baz=105
H22K **Ishtalitna Cre** 36.02 337 P P 23 57 44.2 +0.6
baz=130,SNR=9.3
F24K **Squaw Lake** 36.11 341 P P 23 57 44.7 +0.3
baz=136
G23K **Bananza Creek** 36.15 339 P P 23 57 45.1 +0.4
baz=132
M16K **Timber Creek** 36.28 327 P P 23 57 45.8 0.0
M16K IAmb IAmb 23 57 52.0
comp=Z,3.9nm,0.9s
M16K **Timber Creek** 36.28 327 P P 23 57 46.8 +1.0
baz=115
H21K **Melozitna Rive** 36.33 336 P P 23 57 47.4 +1.1
H21K IAmb IAmb 23 57 53.8
comp=Z,5.7nm,0.9s
H21K **Melozitna Rive** 36.33 336 P P 23 57 47.8 +1.6
baz=128,SNR=10
J19K **Poorman** 36.35 333 P P 23 57 48.4 +1.9
baz=122,SNR=6.7
I20K **Naaghedeneel** 36.38 334 P P 23 57 46.4 -0.3
I20K **Naaghedeneel** 36.38 334 P P 23 57 47.5 +0.9
baz=125
N15K **Kwethluk River** 36.44 325 P P 23 57 47.7 +0.5
baz=113
A36M **Sachs Harbour** 36.45 356 P P 23 57 46.6 -0.5
baz=170
L17K **Donlin** 36.48 329 P P 23 57 48.2 +0.6
baz=117
J18K **Innoko River** 36.49 332 P P 23 57 47.8 +0.2
J18K IAmb IAmb 23 57 52.8
comp=Z,3.7nm,0.9s
J18K **Innoko River** 36.49 332 P P 23 57 48.6 +1.0
baz=121
COLD **Coldfoot** 36.55 339 P P 23 57 48.5 +0.4
baz=133
O14K **Tigyukauivet M** 36.66 324 P P 23 57 49.6 +0.5
baz=110
E24K **Your Creek** 36.67 341 P P 23 57 49.8 +0.6
baz=136
C27K **Jago River** 36.73 345 P P 23 57 50.8 +1.1
baz=143
K17K **Iditarod** 36.75 330 P P 23 57 51.1 +1.2
baz=118
L16K **Owhat River** 36.79 328 P P 23 57 50.2 0.0
L16K **Owhat River** 36.79 328 P P 23 57 50.5 +0.3
baz=115
IMAR **Indian Mountai** 36.83 336 P 23 57 51.3 +0.8
M15K **Kasigluk River** 36.92 326 P P 23 57 51.4 +0.1
baz=113
H20K **Anotleneega Mo** 36.92 335 P P 23 57 51.6 +0.3
baz=125
E23K **Chandalar** 36.96 341 P P 23 57 52.7 +1.0
baz=134
D25K **Kavik River** 37.08 344 P P 23 57 53.4 +0.7
baz=140
G21K **Allakaket** 37.08 337 P P 23 57 53.4 +0.8
baz=128
N14K **Kuskokwak Cree** 37.10 325 P P 23 57 53.7 +0.9
baz=110
GCSA **Galena City Sc** 37.22 333 P P 23 57 54.8 +1.1
baz=122
C26K **Camden Bay** 37.22 345 P P 23 57 53.8 0.0
baz=142
F22K **John River** 37.31 339 P P 23 57 56.0 +1.5
baz=131
TOLK **Toolik Lake Re** 37.36 341 P P 23 57 56.5 +1.5
baz=135
J17K **VABM Dome** 37.38 331 P P 23 57 56.4 +1.2
baz=118
H19K **Roundabout Mou** 37.48 335 P P 23 57 56.8 +0.8
baz=123
F21K **Alatna River** 37.51 338 P P 23 57 57.3 +1.0
baz=129
M14K **Bethel** 37.52 326 P P 23 57 57.1 +0.7
baz=111
D24K **Happy Valley** 37.54 342 P P 23 57 58.0 +1.6
baz=136
E22K **Anaktuvuk Pass** 37.62 340 P P 23 57 58.8 +1.6
baz=132
L15K **Ungalak Mounta** 37.66 327 P P 23 57 58.9 +1.4
baz=113
D23K **Nanushuk River** 37.88 341 P P 23 58 00.7 +1.4
baz=134
K15K **Wolf Creek Mou** 37.92 328 P P 23 58 01.1 +1.4
baz=114
C24K **Franklin Bluff** 37.92 343 P P 23 58 00.1 +0.4
baz=137
J16K **Anvik River** 37.95 330 P P 23 58 00.2 +0.3
baz=116
H18K **Honhosa River** 37.97 333 P P 23 58 01.1 +1.0
baz=120
G19K **Purcell Mounta** 38.04 335 P P 23 57 59.2 -1.5
baz=123
M13K **Dall Lake** 38.05 325 P P 23 58 00.1 -0.7
baz=109
L14K **Kuka Creek** 38.06 326 P P 23 58 00.3 -0.7
baz=111
F20K **Avaraart Lake** 38.11 337 P P 23 58 02.5 +1.3
baz=126
UNV **Unalaska Valle** 38.17 314 P P 23 58 02.2 +0.3
baz=98
I17K **Unalakleet** 38.25 331 P P 23 58 03.7 +1.2
baz=116
D22K **Ayikyak River** 38.35 340 P P 23 58 03.0 -0.3
baz=131
E21K **Killik River** 38.43 339 P P 23 58 05.2 +1.2
baz=129
H17K **Granite Mounta** 38.43 333 P P 23 58 04.8 +0.7
baz=118
G18K **Tagagawik** 38.45 334 P P 23 58 04.6 +0.4
baz=121
C23K **Itkillik River** 38.47 342 P P 23 58 03.7 -0.6
baz=135
F19K **Shaleruckik Mo** 38.65 336 P P 23 58 05.4 -0.5
baz=123
E19K **Redstone River** 38.82 337 P P 23 58 05.8 -1.5
baz=124
J14K **Nanvaranak Lak** 38.96 328 P P 23 58 06.9 -1.6
baz=112
E20K **Nigu River** 38.96 338 P P 23 58 08.2 -0.3
baz=126
G17K **Kiwalik Mounta** 38.98 333 P P 23 58 08.6 0.0
baz=118
JTS **Las Juntas de** 39.06 122 LR LR 00 14 45.2
comp=Z,105nm,19.1s,baz=302,slow=37
C21K **Knifeblade Rid** 39.11 340 P P 23 58 09.5 -0.2
baz=129
K13K **Kusilvak Mount** 39.15 327 P P 23 58 09.7 -0.4
baz=110
F18K **Selawik** 39.16 335 P P 23 58 09.9 -0.2
baz=121
B21K **Ikpikpuk River** 39.36 341 P P 23 58 11.5 -0.2
baz=130
D20K **Etivluk River** 39.36 339 P P 23 58 11.3 -0.5
baz=126
M11K **Mekoryuk** 39.38 324 P P 23 58 11.3 -0.7
baz=106
SCHQ **Schefferville** 39.44 45 LR LR 00 13 37.3
comp=Z,96nm,19.9s,baz=263,slow=35
NIKH **Nikolski High** 39.47 312 P P 23 58 12.4 -0.5
baz=95
B22K **Teshekpuk Lake** 39.52 342 P P 23 58 13.4 +0.4
baz=132,SNR=6.4
G16K **Koyuk River** 39.56 332 P P 23 58 13.1 -0.3
baz=116
F17K **Baldwin Pennin** 39.64 334 P P 23 58 13.9 -0.2
baz=119
D19K **Kuna River** 39.68 338 P P 23 58 14.2 -0.3
baz=124
E18K **Tukpahlearik C** 39.90 336 P P 23 58 15.4 -0.9
baz=120
G15K **Niukluk** 40.03 331 P P 23 58 17.1 -0.3
baz=114
E17K **Hotham Inlet** 40.15 335 P P 23 58 18.2 -0.2
baz=119
P08K **Saint George I** 40.29 318 P P 23 58 19.2 -0.4
baz=98
B20K **Meade River** 40.29 340 P P 23 58 19.1 -0.3
baz=127
A22K **Sinclair Lake** 40.34 342 P P 23 58 19.5 -0.4
baz=130
ANM **Nome** 40.39 330 P P 23 58 19.8 -0.6
baz=112
RES **Resolute Bay** 40.46 9 LR LR 00 15 47.9
comp=Z,164nm,18.4s,baz=49,slow=37
C19K **Lookout Ridge** 40.47 338 P P 23 58 20.6 -0.5
baz=123
F15K **North Star Dit** 40.56 332 P P 23 58 21.3 -0.5
baz=114
FRB **Frobisher Bay** 40.67 31 P P 23 58 23.2 +0.6
comp=Z,12nm,0.9s,baz=239,slow=6.7,SNR=5.3
FRB LR LR 00 16 05.7
comp=Z,154nm,19.2s,baz=272,slow=38
comp=Z,12nm,0.9s
C18K **Utukok River** 40.72 337 P P 23 58 22.9 -0.3
baz=121
SPIA **Saint Paul Isl** 40.76 318 P P 23 58 23.6 +0.2
baz=98
D17K **Noatak River** 40.87 335 P P 23 58 24.9 +0.6
baz=118
A21K **Barrow** 40.96 342 P P 23 58 26.0 +1.0
baz=129
F14K **Arctic Creek** 41.11 332 P P 23 58 26.3 0.0
baz=112
C17K **DeLong Mountai** 41.27 336 P P 23 58 27.2 -0.4
baz=118
B18K **Kokolik River** 41.28 338 P P 23 58 26.3 -1.3
baz=121
TNA **Tin City** 41.76 331 P P 23 58 31.6 0.0
baz=110
C16K **Lisburne Hills** 41.89 336 P P 23 58 31.1 -1.6
baz=116
GAMB **Gambell** 42.78 328 P P 23 58 38.5 -1.5
baz=104
SEY **Seymchan** 58.78 328 LR LR 00 26 05.5
comp=Z,48nm,18.9s,baz=126,slow=36
PETK **Petropavlovsk-** 59.30 316 P P 00 00 44.3 0.0
comp=Z,3.8nm,0.7s,baz=91,slow=12,SNR=5.9
PETK LR LR 00 23 49.6
comp=Z,27nm,19.7s,baz=39,slow=34
comp=Z,3.8nm,0.7s
MA2 **Magadan** 60.65 324 LR LR 00 25 56.1
comp=Z,48nm,19.1s,baz=94,slow=35
PPT **Papeete** 61.10 215 P P 00 00 56.5 -0.5
comp=Z,58nm,1.0s,baz=54,slow=19,SNR=2.4
PPT2 **Papeete2** 61.12 215 *e*LR LR 00 18 53.1
comp=Z,68nm,23.5s
PPT2 *e*LR LR 00 18 57.5
comp=Z,123nm,24.0s
SPITS **Spitsbergen Ar** 63.02 10 LR LR 00 28 59.3
comp=Z,134nm,18.1s,baz=299,slow=36
TIXI **Tiksi** 63.25 341 LR LR 00 29 47.8
comp=Z,58nm,18.2s,baz=28,slow=37
LPAZ **La Paz** 69.86 129 P P 00 01 56.4 +1.9
comp=Z,1.0nm,0.9s,baz=326,slow=3.8,SNR=3.6
comp=Z,1.0nm,0.9s
ARCES **ARCESS Array B** 71.54 13 LR LR 00 35 34.9
comp=Z,60nm,18.6s,baz=328,slow=38
SIV **San Ignacio** 74.27 123 LR LR 00 35 25.5
comp=Z,64nm,18.4s,baz=276,slow=36
NOA **NORSAR Array B** 74.88 23 LR LR 00 36 46.3
comp=Z,27nm,19.6s,baz=300,slow=37
HFS **Hagfors** 76.37 23 LR LR 00 35 32.4
comp=Z,75nm,19.7s,baz=314,slow=35
USRK **Ussuriysk Ar.** 78.38 316 P P 00 02 43.1 -0.2
comp=Z,2.8nm,0.8s,baz=61,slow=3.3,SNR=5.2
comp=Z,2.8nm,0.8s
BNX **BinXian** 79.87 320 ⇑P P 00 02 51.8 +0.4
BNX pmax pmax
comp=Z,6.0nm,1.0s
ESDC **Sonseca Array** 83.19 45 P P 00 03 10.3 +1.1
comp=Z,0.6nm,0.9s,baz=327,slow=7.7,SNR=5.1
comp=Z,0.6nm,0.9s
KSRS **Korea Array** 85.10 313 P P 00 03 19.0 +0.2
comp=Z,1.8nm,1.0s,baz=51,slow=6.4,SNR=3.2
comp=Z,1.8nm,1.0s
DAVOX **Davs/Dischmat** 85.24 33 LR LR 00 43 07.4
comp=Z,62nm,18.2s,baz=271,slow=37
GERES **GERESS Array B** 85.26 30 P P 00 03 20.0 +0.4
comp=Z,0.4nm,0.8s,baz=350,slow=10,SNR=2.4
comp=Z,0.4nm,0.8s
VRAC **Vranov** 86.02 28 LR LR 00 43 06.8
comp=Z,50nm,18.6s,baz=318,slow=37
SONM **Songino Array** 87.88 332 P P 00 03 33.4 +0.9
comp=Z,0.9nm,0.8s,baz=32,slow=4.2,SNR=3.6
comp=Z,0.9nm,0.8s
ARTI **Arti** 88.09 2 LR LR 00 48 41.1
comp=Z,44nm,18.0s,baz=348,slow=40
ZALV **Zalesovo Beam** 88.51 347 P P 00 03 38.4 +3.3
comp=Z,1.0nm,0.7s,baz=62,slow=3.5,SNR=3.7
ZALV LR LR 00 47 11.1
comp=Z,25nm,21.2s,baz=23,slow=38
AKASG **Malin Array Be** 89.03 20 P P 00 03 36.5 -1.1
comp=Z,0.3nm,0.5s,baz=336,slow=4.3,SNR=1.8
AKASG LR LR 00 42 47.6
comp=Z,57nm,19.3s,baz=360,slow=35
comp=Z,0.3nm,0.5s
BELG **Belogornoye** 91.22 9 LR LR 00 46 48.4
comp=Z,73nm,18.2s,baz=311,slow=37
BVAR **Borovoye Array** 91.25 355 P P 00 03 48.0 0.0
comp=Z,1.7nm,0.7s
BVAR LR LR 00 50 26.0
comp=Z,52nm,18.6s,baz=346,slow=39
comp=Z,1.7nm,0.7s
DZM **Mont Dzumac** 91.95 244 *e*LR LR 00 33 06.0
comp=Z,57nm,24.4s
MLR **Muntele Rosu** 92.64 25 LR LR 00 48 50.4
comp=Z,86nm,18.2s,baz=328,slow=38
KURBB **Kurchatov Arra** 92.75 350 P P 00 03 55.4 +0.5
comp=Z,1.3nm,0.9s,baz=12,slow=4.6,SNR=11
comp=Z,1.3nm,0.9s
AKTO **Aktyubinsk** 94.03 3 LR LR 00 48 59.2
comp=Z,71nm,22.0s,baz=350,slow=37
NJ2 **Nanjing** 94.20 315 *e*P P 00 04 01.0 -1.0
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
WMQ **Urumqi** 97.45 342 *e*P Pdif 00 04 18.1 +1.4
WMQ LR LR
comp=Z,150nm,21.5s
LZH **Lanzhou** 98.71 327 *e*P Pdif 00 04 29.6 +7.0
LZH pP sP 00 04 37.4 +11
LZH pmax pmax
comp=Z,11nm,1.2s
WRA **Warramunga Arr** 115.72 263 PKP **PKPdf** 00 09 24.5 -1.2
comp=Z,0.5nm,0.8s,baz=65,slow=2.2,SNR=3.3
QSPA **South Pole Qui** 125.65 180 PKP **PKiKP** 00 09 43.6 -0.1
comp=Z,1.2nm,0.8s,baz=61,slow=0.8,SNR=3.5
MAW **Mawson** 148.17 180 PKPbc **PKPbc** 00 10 27.6 0.0
comp=Z,3.5nm,0.8s,baz=201,slow=7.4,SNR=6.2

NEIC ***06*** *23:56:33.9±1.6,35°.817N±0°.009×117°.65W±0°.02, h10km±4km, Error ellipse: s-maj=1.9km s-min=1.2km az=77.0*

PAS 06 23:56:34.6±1.6, 35°.820N±0°.010×117°.66W±0°.01, h6km±2km, ML3.6/17, ML3.3/108(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=149.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.05**	**95**	Pg	Pg	23 56 36.1	0.0
CLC				Sg	Sg	23 56 37.4	+0.2
TOW	**Tower One**	**0.09**	**263**		Pg	23 56 37.1	+0.5
TOW					Sg	23 56 39.5	+1.5
SRTC	**Snort**	**0.15**	**210**		Pg	23 56 38.0	+0.3
SRTC					Sg	23 56 41.2	+1.5
WVPM	**Volcano Peak E**	**0.18**	**315**		Pg	23 56 38.3	-0.1
WNMM	**Nine Mile Cany**	**0.20**	**276**		Pg	23 56 38.6	0.0
WRVM	**Rose V. Centra**	**0.27**	**315**		Pg	23 56 39.7	-0.1
MPMC	**Manual Prospec**	**0.27**	**30**	Pg	Pg	23 56 39.9	-0.2
MPMC				Sg	Sg	23 56 43.9	+0.2
MPMC				IAML		23 56 44.1	
	comp=E,7μm,0.5s						
LRMC	**Laurel Mtn Rad**	**0.34**	**183**	Pg	Pg	23 56 41.1	-0.2
LRMC				Sg	Sg	23 56 46.0	+0.2
CCCA	**Chr Cany lake**	**0.38**	**141**		Pg	23 56 42.3	+0.3
CCCA				Sg	Sg	23 56 48.1	+1.1
WORM	**Onyx Ranch**	**0.49**	**255**		Pg	23 56 43.7	-0.4
DTP	**Desert Tortois**	**0.57**	**195**		Pg	23 56 45.1	-0.5
QSM	**Queen of Sheba**	**0.66**	**77**		Pg	23 56 46.9	-0.4
QSM				Sg	Sg	23 56 55.3	-0.5
QSM				IAML		23 56 57.6	
	comp=N,2μm,0.4s						
QSM				IAML		23 56 57.8	
	comp=E,2μm,0.5s						
ISA	**Isabella, Lake**	**0.68**	**257**		Pg	23 56 47.3	-0.4
ISA				Sg	Sg	23 56 55.6	-1.0
CWC	**Cottonwood Cre**	**0.71**	**331**		Pg	23 56 48.2	0.0
CWC	**Cottonwood Cre**	**0.71**	**331**	IAML		23 56 58.2	
	comp=N,798nm,0.2s						
CWC				IAML		23 57 00.8	
	comp=E,1μm,0.2s						
CCAC	**Calif City Air**	**0.73**	**204**		Pg	23 56 48.1	-0.5
GSC	**Goldstone, Bar**	**0.87**	**126**		Pg	23 56 50.6	-0.7
GSC				IAML		23 57 05.2	
	comp=E,2μm,0.5s						
GSC				IAML		23 57 05.3	
	comp=N,1μm,0.5s						
GWY	**Greenwater Val**	**0.88**	**65**		Pg	23 56 51.1	-0.5
GWY				Sg	Sg	23 57 02.5	-0.5
GWY				IAML		23 57 09.1	
	comp=E,1μm,0.4s						
TPO	**Tropico Hills**	**1.05**	**207**		Pg	23 56 53.8	-1.0
TPO				IAML		23 57 11.2	
	comp=N,699nm,0.6s						
TPO				IAML		23 57 13.3	
	comp=E,541nm,0.7s						
VES	**Vestal, Richgr**	**1.16**	**271**		Pg	23 56 56.4	-0.4
GRAC	**Grapevine Rang**	**1.20**	**11**		Pg	23 56 56.8	-0.8
GRAC				IAML		23 57 18.3	
	comp=N,990nm,0.5s						
WCT	**Wildcat Mounta**	**1.28**	**40**		Pn	23 56 57.9	-1.3
WCT				IAML		23 57 17.1	
	comp=E,342nm,0.4s						
AMDNV	**Amargosa**	**1.28**	**60**		Pn	23 56 57.4	-1.7
LEOC	**Leona Valley**	**1.30**	**204**		Pn	23 56 58.0	-1.4
TIN	**Tinemaha, Big**	**1.31**	**340**		Pn	23 56 59.2	-0.5
LCH	**Last Change Ra**	**1.41**	**0**		Pn	23 57 00.1	-0.9
DSCC	**Desert Studies**	**1.44**	**118**		Pn	23 57 00.6	-0.7
TUQ	**Turquoise Moun**	**1.46**	**105**		Pn	23 57 01.0	-0.7
VOG	**Valley Oaks Go**	**1.48**	**290**		Pn	23 57 01.7	-0.2
OSI	**Osito Audit: C**	**1.49**	**216**		Pn	23 57 01.7	-0.3
OSI				IAML		23 57 33.4	
	comp=E,249nm,0.7s						
GMN	**Gold Mountain**	**1.51**	**12**		Pn	23 57 01.8	-0.7
GMN				IAML		23 57 24.4	
	comp=E,238nm,0.3s						
GMN				IAML		23 57 25.8	
	comp=N,280nm,0.6s						
DSP	**Deep Springs**	**1.57**	**351**		Pn	23 57 02.3	-0.7
DSP					Sn	23 57 23.5	-0.2
DSP				IAML		23 57 25.7	
	comp=E,319nm,0.3s						
DSP				IAML		23 57 26.2	
	comp=N,235nm,0.6s						
BFSC	**Mount Baldy Ra**	**1.58**	**180**		Pn	23 57 02.6	-0.7
BFSC					Sb	23 57 24.5	0.0
BFSC				IAML		23 57 26.0	
	comp=E,585nm,0.2s						
BFSC				IAML		23 57 28.0	
	comp=N,393nm,0.4s						
TPNV	**Topopah Spring**	**1.60**	**45**		Pn	23 57 02.7	-1.0
TPNV				IAML		23 57 28.4	
	comp=N,311nm,0.7s						
TPNV				IAML		23 57 30.5	
	comp=N,294nm,0.7s						
MWC	**Mount Wilson**	**1.63**	**192**		Pn	23 57 03.0	-1.0
PASC	**Pasadena Art C**	**1.70**	**195**		Pn	23 57 03.8	-1.1
PASC				IAML		23 57 29.8	
	comp=E,195nm,0.9s						
PASC				IAML		23 57 36.5	
	comp=N,187nm,0.4s						
MZP	**Montezuma Peak**	**1.89**	**7**		Pn	23 57 07.0	-0.8
PKM	**Mcpherson Peak**	**1.99**	**243**		Pb	23 57 10.6	-0.8
KCC	**Kaiser Creek**	**2.01**	**319**		Pb	23 57 11.2	-0.4
SHPR	**Sheep Range**	**2.13**	**71**		Pn	23 57 10.3	-0.7
ELS	**Elsinore Mount**	**2.18**	**175**		Pn	23 57 10.4	-1.0
ELS				IAML		23 57 44.7	
	comp=N,238nm,0.3s						
ELS				IAML		23 57 45.0	
	comp=E,256nm,0.6s						
POB	**Polly Butte**	**2.21**	**164**		Pn	23 57 11.1	-0.9
MURC	**Murrieta**	**2.25**	**170**		Pb	23 57 16.4	+0.7
TPH	**Tonopah**	**2.28**	**9**		Pn	23 57 12.4	-0.6
V12A	**Nelson**	**2.29**	**92**		Pn	23 57 13.6	+0.6
V12A				IAML		23 57 49.2	
	comp=N,159nm,0.7s						
V12A				IAML		23 57 50.4	
	comp=E,143nm,0.5s						
S11A	**Rachel**	**2.38**	**40**		Pn	23 57 14.5	+0.1
S11A				IAML		23 58 02.3	
	comp=E,259nm,0.8s						
S11A				IAML		23 58 02.5	
	comp=N,211nm,0.8s						
PMD	**Palm Desert**	**2.41**	**154**	Pn	Pn	23 57 14.5	-0.1
PMD				IAML		23 57 59.3	
	comp=N,92nm,0.7s						
PMD				IAML		23 58 00.5	
	comp=E,133nm,0.8s						
PFO	**Pinyon Flats O**	**2.42**	**156**		Pn	23 57 13.4	-1.4
PFO				IAML		23 57 57.7	
	comp=E,110nm,0.7s						
LHV	**Little Huntoon**	**2.52**	**345**		Pn	23 57 16.3	+0.2
LHV				IAML		23 58 02.4	
	comp=E,112nm,1.3s						
LHV				IAML		23 58 06.7	
	comp=N,86nm,1.5s						
PMPB	**Monarch Peak**	**2.58**	**280**		Pn	23 57 16.9	-0.1
PMPB				IAML		23 58 09.6	
	comp=N,221nm,0.9s						
RAMR	**Ramage Ranch**	**2.62**	**267**		Pn	23 57 19.2	+1.7
PRN	**Pahroc Range**	**2.63**	**52**		Pn	23 57 17.3	-0.5
PRN				IAML		23 58 05.5	
	comp=E,130nm,0.8s						
PRN				IAML		23 58 08.5	
	comp=N,124nm,0.8s						
NV11	**Mina Array Sit**	**2.64**	**351**	Pn	Pn	23 57 17.2	-0.6
NVAR	**Mina Array Bea**	**2.66**	**349**	Pn	Pn	23 57 18.6	+0.4
RYN	**Ryan**	**2.89**	**346**		Pn	23 57 21.1	-0.3
WAKR	**Walker**	**3.03**	**333**		Pn	23 57 22.8	-0.5
W13A	**Hualapai Mount**	**3.16**	**102**		Pn	23 57 24.3	-0.8
SAO	**San Andreas Ge**	**3.20**	**288**		Pn	23 57 25.5	0.0
BLYC	**Blythe**	**3.31**	**128**		Pn	23 57 26.9	0.0
BLYC				IAML		23 58 20.0	
	comp=N,77nm,0.4s						
BLYC				IAML		23 58 20.3	
	comp=E,81nm,0.5s						
YUH	**Yuha Desert**	**3.48**	**155**		Pn	23 57 29.9	+0.6
CBX	**Cerro Bola**	**3.59**	**166**		Pn	23 57 30.8	-0.3
GLA	**Glamis**	**3.62**	**139**		Pn	23 57 30.6	-0.6
GLA				IAML		23 58 38.5	
	comp=N,88nm,0.6s						
LCMT	**Little Creek M**	**3.75**	**70**	Pn	Pn	23 57 32.6	-0.6
LCMT				IAML		00 00 00.3	
	comp=N,80nm,2.1s						
CCUT	**Cedar City**	**3.86**	**62**	Pn	Pn	23 57 34.6	-0.2
ESJX	**Sierra Juarez**	**4.06**	**159**		Pn	23 57 36.8	-0.7
ESJX				IAML		00 00 05.2	
	comp=N,60nm,0.1s						
PSUT	**Pine Spring**	**4.07**	**47**		Pn	23 57 37.6	-0.1
PSUT				IAML		23 58 51.1	
	comp=E,24nm,0.9s						
KNB	**Kanab**	**4.08**	**72**	Pn	Pn	23 57 38.1	+0.4
KNB				IAML		23 58 48.6	
	comp=E,28nm,1.4s						
Y14A	**Wickenburg**	**4.26**	**115**		Pn	23 57 39.7	-0.4
Y14A				IAML		23 58 52.2	
	comp=E,31nm,0.7s						
Y14A				IAML		23 58 53.9	
	comp=N,47nm,0.5s						
113A	**Mohawk Valley,**	**4.43**	**132**	Pn	Pn	23 57 41.7	-0.7
ELK	**Elko**	**5.27**	**20**	Pn	Pn	23 57 54.9	+0.7
ELK				IAML		23 59 24.6	
	comp=N,11nm,0.7s						
214A	**Organ Pipe Nat**	**5.58**	**132**	Pn	Pn	23 57 57.3	-0.9

NEIC ***07*** *00:08:56.0±1.9,35°.68N±0°.01×117°.52W±0°.01, h11km±5km, Error ellipse: s-maj=1.7km s-min=1.5km az=95.0*

PAS 07 00:08:56.8±1.8, 35°.683N±0°.009×117°.52W±0°.01,

h8km±7km, ML3.0/23, ML2.7/88(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=95.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.14**	**336**	Pg	Pg	00 08 59.9	-0.1
CLC				Sg	Sg	00 09 02.3	+0.1
SRTC	**Snort**	**0.18**	**273**		Pg	00 09 00.9	+0.3
CCCA	**Chr Cany lake**	**0.20**	**140**		Pg	00 09 01.3	+0.3
CCCA					Sg	00 09 04.8	+1.0
TOW	**Tower One**	**0.23**	**303**		Pg	00 09 01.8	+0.3
LRMC	**Laurel Mtn Rad**	**0.24**	**212**		Pg	00 09 01.4	-0.2
LRMC					Sg	00 09 05.0	0.0
WNMM	**Nine Mile Cany**	**0.35**	**297**		Pg	00 09 03.5	-0.1
WVPM	**Volcano Peak E**	**0.36**	**318**		Pg	00 09 03.7	-0.2
MPMC	**Manual Prospec**	**0.38**	**4**		Pg	00 09 03.8	-0.4
MPMC					Sg	00 09 09.2	-0.1
MPMC				IAML		00 09 09.6	
	comp=N,960nm,0.5s						
MPMC				IAML		00 09 09.6	
	comp=E,980nm,0.6s						
WRVM	**Rose V. Centra**	**0.44**	**318**		Pg	00 09 05.0	-0.3
QSM	**Queen of Sheba**	**0.60**	**62**		Pg	00 09 08.0	-0.5
QSM					Sg	00 09 16.1	-0.3
QSM				IAML		00 09 16.6	
	comp=E,632nm,0.3s						
GSC	**Goldstone, Bar**	**0.70**	**123**		Pg	00 09 09.7	-0.6
GSC				Sg	Sg	00 09 19.1	-0.3
GSC				IAML		00 09 19.6	
	comp=N,632nm,0.4s						
ISA	**Isabella, Lake**	**0.77**	**269**		Pg	00 09 10.9	-0.8
ISA				Sg	Sg	00 09 21.3	-0.5
ISA				IAML		00 09 21.8	
	comp=E,199nm,0.5s						
WASM	**Alta Sierra Ca**	**0.84**	**274**		Pg	00 09 12.4	-0.6
GWY	**Greenwater Val**	**0.86**	**54**		Pg	00 09 13.1	-0.2
GWY				IAML		00 09 26.7	
	comp=N,431nm,0.4s						
TPO	**Tropico Hills**	**0.99**	**216**	Pg	Pg	00 09 15.2	-0.6
TPO					Sg	00 09 28.3	-0.3
TPO				IAML		00 09 34.4	
	comp=E,325nm,0.9s						
TPO				IAML		00 09 36.2	
	comp=N,208nm,0.7s						
TEJ	**El Tejon**	**1.05**	**245**		Pg	00 09 15.7	-1.3
LEOC	**Leona Valley**	**1.23**	**212**		Pb	00 09 20.2	-0.1
AMDNV	**Amargosa**	**1.27**	**52**		Pn	00 09 20.4	-0.4
DSCC	**Desert Studies**	**1.28**	**115**		Pn	00 09 19.9	-1.0
GRAC	**Grapevine Rang**	**1.32**	**6**		Pn	00 09 20.9	-0.6
GRAC				IAML		00 09 42.7	
	comp=N,162nm,0.5s						
GRAC				IAML		00 09 48.2	
	comp=E,137nm,0.4s						
WCT	**Wildcat Mounta**	**1.32**	**33**		Pn	00 09 20.2	-1.4
WCT				IAML		00 09 40.8	
	comp=N,92nm,0.7s						
WCT				IAML		00 09 41.0	
	comp=E,126nm,0.4s						
TUQ	**Turquoise Moun**	**1.33**	**100**		Pn	00 09 20.5	-1.2
BFSC	**Mount Baldy Ra**	**1.45**	**184**		Pn	00 09 23.3	0.0
BFSC				IAML		00 09 44.0	
	comp=N,71nm,0.7s						
BFSC				IAML		00 09 46.6	
	comp=E,107nm,0.6s						
OSI	**Osito Audit: C**	**1.45**	**223**		Pn	00 09 22.5	-0.8
OSI				IAML		00 09 45.7	
	comp=N,83nm,0.8s						
OSI				IAML		00 09 50.6	
	comp=E,91nm,0.7s						
MWC	**Mount Wilson**	**1.52**	**197**	Pn	Pn	00 09 23.6	-0.8
MWC				IAML		00 09 46.7	
	comp=E,133nm,0.5s						
MWC				IAML		00 09 49.4	
	comp=N,117nm,0.3s						
GMN	**Gold Mountain**	**1.63**	**7**		Pn	00 09 24.8	-1.1
GMN				IAML		00 09 51.6	
	comp=N,51nm,0.5s						
TPNV	**Topopah Spring**	**1.63**	**39**		Pn	00 09 24.8	-1.1
TPNV				IAML		00 09 50.6	
	comp=N,110nm,0.5s						
TPNV				IAML		00 09 52.3	
	comp=N,106nm,0.5s						
DSP	**Deep Springs**	**1.72**	**348**		Pn	00 09 26.1	-0.8
MZP	**Montezuma Peak**	**2.02**	**3**		Pn	00 09 30.6	-0.7
SMMC	**Simmler**	**2.05**	**260**		Pn	00 09 29.3	-2.2
SHPR	**Sheep Range**	**2.08**	**66**		Pn	00 09 31.6	-0.5
V12A	**Nelson**	**2.18**	**88**		Pn	00 09 32.0	-1.3
V12A				IAML		00 10 11.8	
	comp=E,35nn,0.4s						
PFO	**Pinyon Flats O**	**2.25**	**157**		Pn	00 09 33.1	-1.2
TPH	**Tonopah**	**2.40**	**6**		Pn	00 09 35.6	-0.9
TPH				IAML		00 10 18.9	
	comp=N,77nm,0.8s						
TPH				IAML		00 10 26.8	
	comp=E,59nm,0.7s						
S11A	**Rachel**	**2.42**	**36**		Pn	00 09 36.8	0.0
S11A				IAML		00 10 20.4	
	comp=E,55nm,0.7s						
S11A				IAML		00 10 28.6	
	comp=N,47nm,0.7s						
NJQ	**Nojoqui County**	**2.46**	**243**		Pb	00 09 40.6	-0.6
PRN	**Pahroc Range**	**2.63**	**48**		Pn	00 09 38.9	-0.8
PRN				IAML		00 10 23.7	
	comp=N,33nm,0.4s						
PRN				IAML		00 10 23.7	
	comp=E,26nm,0.6s						
LHV	**Little Huntoon**	**2.68**	**343**		Pn	00 09 40.3	+0.1
LHV				IAML		00 10 34.9	
	comp=N,20nm,1.4s						
LHV				IAML		00 10 35.8	
	comp=E,19nm,1.5s						
DPD	**Davis Peak**	**2.70**	**261**		Pn	00 09 40.3	-0.1
NVAR	**Mina Array Bea**	**2.81**	**347**		Pn	00 09 41.7	-0.5
W13A	**Hualapai Mount**	**3.03**	**100**		Pn	00 09 43.7	-1.5
W13A				IAML		00 10 34.8	
	comp=N,14nm,1.1s						
RYN	**Ryan**	**3.05**	**345**		Pn	00 09 45.2	-0.1
BLYC	**Blythe**	**3.13**	**127**	Pn	Pn	00 09 44.0	-2.4
BLYC				IAML		00 10 36.9	
	comp=E,29nm,0.6s						
BLYC				IAML		00 10 38.6	
	comp=N,31nm,0.6s						
YUH	**Yuha Desert**	**3.31**	**156**	Pn	Pn	00 09 47.2	-1.6
CBX	**Cerro Bola**	**3.44**	**168**	Pn	Pn	00 09 49.8	-0.9
GLA	**Glamis**	**3.44**	**139**	Pn	Pn	00 09 48.6	-2.1
GLA				IAML		00 10 49.1	
	comp=N,29nm,0.7s						
ESJX	**Sierra Juarez**	**3.90**	**160**	Pn	Pn	00 09 56.6	-0.5
KNB	**Kanab**	**4.02**	**69**		Pn	00 09 57.9	-0.9
KNB				IAML		00 11 32.8	
	comp=N,6.3nm,3.6s						
Y14A	**Wickenburg**	**4.11**	**114**		Pn	00 09 58.4	-1.4
Y14A				IAML		00 11 11.6	
	comp=N,13nm,0.7s						
Y14A				IAML		00 11 12.5	
	comp=E,10nm,0.6s						
U15A	**North Rim**	**4.30**	**79**		Pn	00 10 03.0	+0.2
U15A				IAML		00 11 16.9	
	comp=E,5.2nm,1.3s						
U15A				IAML		00 11 33.6	
	comp=N,6.6nm,4.9s						
ELK	**Elko**	**5.36**	**19**	Pn	Pn	00 10 17.2	-0.1

KRSC 07 00:19:22.3±1.0, 56°.14N×164°.11E, h15km±7km, Ml3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.73**	**276**	*eP*	Pg	00 19 35.8	-0.7
KBG	**Krutoberegovo**	**0.79**	**279**	*eP*	Pg	00 19 36.3	-1.4
KBG				*eS*	Sg	00 19 47.7	-0.5
BKI	**Bering**	**1.41**	**131**	*eP*	Pn	00 19 47.0	-0.5
SMKR	**Semkarok**	**1.54**	**288**	*eP*	Pn	00 19 49.2	-0.1
BDR	**Baidarnaya**	**1.67**	**286**	*eS*	Sb	00 20 13.9	+0.2
SRKR	**Sorokina**	**1.72**	**289**	*eS*	Sn	00 20 13.9	+0.4
ZLN	**Zelenaya**	**1.86**	**268**	*eP*	Pb	00 19 55.3	-0.7
BZGR	**Bezymyannyi-Gr**	**1.93**	**266**	*eP*	Pb	00 19 56.7	-0.5
KLY	**Klyuchi**	**1.94**	**277**	*eP*	Pn	00 19 54.4	-0.3
BZWR	**Bezymyannyi-We**	**2.04**	**267**	*eP*	Pb	00 19 58.4	-0.7
BZMR	**Bezymyannaya**	**2.04**	**266**	*eP*	Pb	00 19 58.0	-1.2
MKZ	**Mys Kozlova**	**2.09**	**222**	*eP*	Pn	00 19 58.0	+1.3
MKZ				*eS*	Sn	00 20 23.4	+1.0
KIRR	**Kirishev**	**2.12**	**267**	*eP*	Pn	00 19 58.9	+1.5
KPT	**Kopyto**	**2.19**	**267**	*eP*	Pb	00 20 00.8	-0.8
KMNR	**Kamenistaya**	**2.21**	**262**	*eP*	Pb	00 20 01.4	-0.7
TUMD	**Tumrok D**	**2.30**	**248**	*eP*	Pb	00 20 02.2	-1.4
SRDR	**Sredinnyy**	**2.46**	**276**	*eP*	Pn	00 20 03.9	+1.9
ESO	**Esso**	**3.04**	**268**	*eP*	Pn	00 20 13.0	+3.1
SDLR	**Sedlovina**	**4.17**	**229**	*eP*	Pn	00 20 29.5	+4.0
KRER	**Koryakskii**	**4.21**	**230**	*eP*	Pn	00 20 30.3	+4.2
SMAR	**Somma**	**4.22**	**229**	*eP*	Pn	00 20 30.3	+4.1
AVH	**Avacha**	**4.24**	**230**	*eP*	Pn	00 20 31.0	+4.5
UGLR	**Uglovaya**	**4.25**	**228**	*eP*	Pn	00 20 30.7	+4.2
ASAK	**Asacha**	**5.23**	**227**	*eP*	Pn	00 20 44.1	+4.1

IDC 07 00:36:51.0±2.6, 17°.40S×178°.85W, h616km±21km, mb2.6/4, mbtmp3.5/5, Error ellipse: s-maj=132.3km s-min=25.8km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.97**	**263**	P	P	00 38 11.4	0.0
	8.8nm,0.7s,baz=134,slow=15,SNR=5.3						
WRA	**Warramunga Arr**	**44.31**	**259**	P	P	00 44 08.4	+0.1
	0.2nm,0.5s,baz=94,slow=7.0,SNR=5.7						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**44.52**	**254**	P	P	00 44 09.8	-0.1
	0.7nm,0.5s,baz=87,slow=8.9,SNR=12						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**85.49**	**13**	P	P	00 48 24.6	-0.1
	0.3nm,0.8s,baz=206,slow=3.9,SNR=3.0						
	0.3nm,0.8s						
TXAR	**Lajitas Array**	**86.08**	**58**	P	P	00 48 28.5	0.0
	0.2nm,0.5s,baz=259,slow=3.2,SNR=3.2						
	0.2nm,0.5s						

*NEIC **07** 00:41:51.6±1.8, 35°.832N±0°.009×117°.65W±0°.01, h6km, Error ellipse: s-maj=1.5km s-min=1.4km az=100.0*

PAS 07 00:41:52.1±1.9, 35°.827N±0°.008×117°.66W±0°.01, h3km±2km, Mwr3.5/4, ML3.3/112(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=78.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.06**	**101**		Pg	00 41 53.7	+0.4
CLC				Sg	Sg	00 41 54.9	+0.8
CLC				IAML		00 41 55.2	
	comp=N,50μm,0.4s						
CLC				IAML		00 41 55.2	
	comp=E,23μm,0.2s						
TOW	**Tower One**	**0.08**	**258**		Pg	00 41 54.4	+0.7
TOW					Sg	00 41 56.8	+1.9
SRTC	**Snort**	**0.15**	**207**		Pg	00 41 55.5	+0.5
SRTC					Sg	00 41 57.9	+0.9
WVPM	**Volcano Peak E**	**0.17**	**315**		Pg	00 41 55.7	+0.1
WVPM					Sg	00 41 58.4	+0.6
WNMM	**Nine Mile Cany**	**0.20**	**275**		Pg	00 41 56.1	+0.2
WRVM	**Rose V. Centra**	**0.26**	**315**		Pg	00 41 57.1	+0.1
WRVM					Sg	00 42 00.8	+0.4
MPMC	**Manual Prospec**	**0.27**	**32**	Pg	Pg	00 41 57.5	+0.1
MPMC					Sg	00 42 01.4	+0.4
MPMC				IAML		00 42 01.7	
	comp=E,9μm,0.5s						
MPMC				IAML		00 42 02.1	
	comp=N,10μm,0.5s						
LRMC	**Laurel Mtn Rad**	**0.35**	**182**		Pg	00 41 58.7	-0.1
LRMC					Sg	00 42 03.9	+0.6
CCCA	**Chr Cany lake**	**0.39**	**141**		Pg	00 42 00.0	+0.5
CCCA				Sg	Sg	00 42 05.8	+1.3
DTP	**Desert Tortois**	**0.58**	**195**		Pg	00 42 02.8	-0.3
QSM	**Queen of Sheba**	**0.66**	**78**		Pg	00 42 04.4	-0.3
QSM				Sg	Sg	00 42 13.2	-0.1
QSM				IAML		00 42 17.9	
	comp=N,2μm,0.5s						
QSM				IAML		00 42 18.9	
	comp=E,1μm,0.3s						
ISA	**Isabella, Lake**	**0.68**	**256**		Pg	00 42 04.8	-0.3
ISA				Sg	Sg	00 42 13.9	+0.1
ISA				IAML		00 42 14.7	
	comp=E,1μm,0.2s						
ISA				IAML		00 42 14.9	
	comp=N,986nm,0.4s						
CWC	**Cottonwood Cre**	**0.70**	**331**	Pg	Pg	00 42 05.1	-0.4
CWC					Sg	00 42 14.7	+0.1
CWC				IAML		00 42 15.4	
	comp=N,2μm,0.1s						
CWC				IAML		00 42 18.6	
	comp=E,2μm,0.1s						
WASM	**Alta Sierra Ca**	**0.73**	**263**		Sg	00 42 16.0	+0.4
GSC	**Goldstone, Bar**	**0.87**	**127**		Pg	00 42 08.4	-0.4
GSC				IAML		00 42 20.8	
	comp=N,1μm,0.7s						
TPO	**Tropico Hills**	**1.05**	**206**		Pg	00 42 11.5	-0.7
TPO					Sg	00 42 25.7	-0.2
ARVC	**Arvin**	**1.18**	**234**		Pg	00 42 13.7	-1.0
GRAC	**Grapevine Rang**	**1.19**	**12**		Pg	00 42 14.2	-0.7
GRAC				IAML		00 42 34.8	
	comp=N,1μm,0.7s						
ALPC	**Antelope**	**1.25**	**205**		Sb	00 42 32.8	-0.1
BAKC	**Calstate**	**1.27**	**248**		Sb	00 42 33.1	-0.2
WCT	**Wildcat Mounta**	**1.28**	**41**		Pg	00 42 15.6	-1.0
WCT					Sg	00 42 32.8	-0.4
WCT				IAML		00 42 34.9	
	comp=E,736nm,0.6s						
WCT				IAML		00 42 36.1	
	comp=N,420nm,0.6s						
CJV	**Casa Juvan**	**1.35**	**197**		Sb	00 42 35.8	0.0
TUQ	**Turquoise Moun**	**1.47**	**105**		Pn	00 42 18.1	-1.5
VOG	**Valley Oaks Go**	**1.48**	**290**		Pn	00 42 19.2	-0.3
OSI	**Osito Audit: C**	**1.49**	**216**		Pn	00 42 18.6	-1.2
OSI				IAML		00 42 42.9	
	comp=N,442nm,0.7s						
OSI				IAML		00 42 45.4	
	comp=E,478nm,0.6s						
GMN	**Gold Mountain**	**1.51**	**12**		Pn	00 42 19.2	-1.0
GMN				IAML		00 42 43.4	
	comp=N,331nm,0.6s						
DSP	**Deep Springs**	**1.56**	**351**		Pn	00 42 19.9	-0.8
DSP					Sn	00 42 41.1	-0.3
BFSC	**Mount Baldy Ra**	**1.58**	**180**		Pn	00 42 21.4	+0.2
BFSC				IAML		00 42 44.0	
	comp=E,420nm,0.3s						
BFSC				IAML		00 42 44.3	
	comp=N,369nm,0.5s						
TPNV	**Topopah Spring**	**1.60**	**45**		Pn	00 42 20.2	-1.2
TPNV				IAML		00 42 46.4	
	comp=N,558nm,0.5s						
MWC	**Mount Wilson**	**1.63**	**192**		Pn	00 42 20.9	-1.0
MTUM	**Tungsten Hills**	**1.69**	**335**		Pb	00 42 23.4	-0.5
PASC	**Pasadena Art C**	**1.71**	**195**		Pn	00 42 22.0	-0.7
PASC				IAML		00 42 47.4	
	comp=E,296nm,0.9s						
PASC				IAML		00 42 49.8	
	comp=N,202nm,0.5s						
MTPC	**Mountain Pass**	**1.75**	**101**		Pn	00 42 21.6	-1.9
MTPC				IAML		00 42 50.3	
	comp=N,329nm,0.5s						
MTPC				IAML		00 42 50.9	
	comp=E,231nm,0.5s						
CARC	**Carrizo Plain**	**1.85**	**254**		Pb	00 42 26.0	-0.6
MZP	**Montezuma Peak**	**1.88**	**7**		Pn	00 42 24.7	-0.7
PKM	**Mcpherson Peak**	**1.99**	**243**		Pn	00 42 27.7	+0.9
SHPR	**Sheep Range**	**2.14**	**71**		Pn	00 42 27.9	-0.9
TPC	**Twentynine Pal**	**2.17**	**142**		Pn	00 42 27.9	-1.3
ELS	**Elsinore Mount**	**2.18**	**175**		Pn	00 42 28.6	-0.8
ELS				IAML		00 43 02.9	
	comp=E,222nm,0.3s						
ELS				IAML		00 43 03.8	
	comp=N,182nm,0.5s						
POB	**Polly Butte**	**2.22**	**164**		Pn	00 42 29.2	-0.7
TPH	**Tonopah**	**2.27**	**9**		Pn	00 42 30.2	-0.5
V12A	**Nelson**	**2.29**	**92**		Pn	00 42 29.9	-0.9
V12A				IAML		00 43 06.1	
	comp=N,150nm,0.9s						
V12A				IAML		00 43 12.4	
	comp=E,145nm,0.5s						
PMD	**Palm Desert**	**2.42**	**154**	Pn	Pn	00 42 31.1	-1.4
PFO	**Pinyon Flats O**	**2.42**	**155**		Pn	00 42 31.1	-1.6
LHV	**Little Huntoon**	**2.51**	**345**		Pn	00 42 33.8	+0.1
LHV				IAML		00 43 21.3	
	comp=E,94nm,0.7s						
LHV				IAML		00 43 24.8	
	comp=N,93nm,1.5s						
PMPB	**Monarch Peak**	**2.57**	**280**		Pn	00 42 34.0	-0.7
RAMR	**Ramage Ranch**	**2.62**	**267**		Pn	00 42 36.2	+1.0
PRN	**Pahroc Range**	**2.63**	**52**		Pn	00 42 35.0	-0.6
PRN				IAML		00 43 22.4	
	comp=N,207nm,1.0s						
PRN				IAML		00 43 25.0	
	comp=E,240nm,0.8s						
NV11	**Mina Array Sit**	**2.63**	**352**		Pn	00 42 35.1	-0.5
NVAR	**Mina Array Bea**	**2.65**	**349**		Pn	00 42 35.1	-0.7
BBGB	**Big Mountain B**	**2.83**	**286**		Pn	00 42 36.5	-1.8
RYN	**Ryan**	**2.88**	**346**		Pn	00 42 38.6	-0.5
Q09A	**Carvers**	**3.03**	**7**		Pn	00 42 41.1	+0.1
Q09A				IAML		00 43 38.7	
	comp=E,177nm,1.0s						
W13A	**Hualapai Mount**	**3.17**	**102**		Pn	00 42 41.4	-1.7
SAO	**San Andreas Ge**	**3.20**	**288**		Pn	00 42 42.4	-0.8
BLYC	**Blythe**	**3.31**	**128**		Pn	00 42 42.6	-2.2
BLYC				IAML		00 43 37.5	
	comp=N,72nm,0.6s						
BLYC				IAML		00 43 41.1	
	comp=E,63nm,1.0s						
TKX	**Tecate**	**3.37**	**165**		Pn	00 42 44.6	-1.0
YUH	**Yuha Desert**	**3.48**	**155**		Pn	00 42 46.0	-1.2
CBX	**Cerro Bola**	**3.60**	**166**		Pn	00 42 48.1	-0.8
LCMT	**Little Creek M**	**3.76**	**70**		Pn	00 42 50.6	-0.5
CCUT	**Cedar City**	**3.86**	**62**		Pn	00 42 52.1	-0.5
CCX	**Cicese**	**4.04**	**168**	Pn	Pn	00 42 54.7	0.0
PSUT	**Pine Spring**	**4.07**	**47**		Pn	00 42 55.3	-0.1
PSUT				IAML		00 44 11.3	
	comp=N,46nm,0.9s						
PSUT				IAML		00 44 12.5	
	comp=E,52nm,1.5s						
ESJX	**Sierra Juarez**	**4.07**	**159**		Pn	00 42 54.1	-1.3
ESJX				IAML		00 44 28.0	
	comp=N,29nm,0.1s						
ESJX				IAML		00 44 33.8	
	comp=E,61nm,0.1s						
KNB	**Kanab**	**4.08**	**72**		Pn	00 42 54.8	-0.8
PAHR	**Pah Rah Range**	**4.11**	**341**		Pn	00 42 55.7	-0.2
Y14A	**Wickenburg**	**4.27**	**115**		Pn	00 42 56.4	-1.6
Y14A				IAML		00 44 09.5	
	comp=E,48nm,0.7s						
U15A	**North Rim**	**4.39**	**81**		Pn	00 42 58.5	-1.4
U15A				IAML		00 44 17.3	
	comp=E,30nm,0.8s						
U15A				IAML		00 44 35.4	
	comp=N,21nm,0.9s						
ELK	**Elko**	**5.27**	**20**		Pn	00 43 12.0	+0.1
ELK				IAML		00 44 42.5	
	comp=N,15nm,0.7s						
X16A	**Lo Mia Camp, P**	**5.29**	**104**		Pn	00 43 11.6	-0.6
X16A				IAML		00 44 47.6	
	comp=E,12nm,1.2s						
X16A				IAML		00 44 58.0	
	comp=N,9.8nm,1.3s						
DUG	**Dugway, Tooele**	**5.80**	**40**		Pn	00 43 18.9	-0.2

IDC 07 00:44:33.3±16.0, 20°.02S×177°.25W, h403km±106km, mb2.7/2, mbtmp3.6/3, Error ellipse: s-maj=305.0km s-min=45.0km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.00**	**296**	P	P	00 45 55.5	+0.1
	15nm,0.6s,baz=129,slow=22,SNR=21						
ASAR	**Alice Springs**	**45.32**	**256**	P	P	00 52 13.9	+0.5
	0.5nm,0.4s,baz=89,slow=9.1,SNR=11						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**45.37**	**261**	P	P	00 52 12.6	-1.2
	0.2nm,0.4s,baz=98,slow=6.8,SNR=1.8						
	0.2nm,0.4s						
GERES	**GERESS Array B**	**149.93**	**346**	PKPbc	PKPbc	01 03 36.2	-0.5
	0.2nm,0.4s,baz=27,slow=4.9,SNR=2.1						

*IDC **07** 00:50:38.9±1.4, 14°.48S×177°.05W, h0km, mb3.7/5, mbtmp3.6/6, ML4.7/1, MS3.9/43, Error ellipse: s-maj=94.4km s-min=21.3km az=148.0*

*NEIC **07** 00:50:43.9±1.4, 14°.77S±0°.10×177°.43W±0°.07, h10km±1km, mb4.6/17, Error ellipse: s-maj=20.0km s-min=2.8km az=33.0*

*GCMT **07** 00:50:44.9±0.3, 14°.64S±0°.02×176°.88W±0°.02, h13km±1km, MW4.8/98, Moment Tensor Solution. s10,c10; s98,c121; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.48±.09; $M_{\theta\theta}$1.74±.09; $M_{\phi\phi}$-1.26±.07; $M_{r\theta}$-0.09±.18; $M_{r\phi}$-1.12±.09; $M_{\theta\phi}$-0.85±.24; Best double couple: M_o2.09900×10^{16} NP1:ϕs67.00000°,δ67.00000°,λ-163.00000°. NP2: ϕs330.00000°,δ74.00000°,λ-24.00000°. Principal axes: T 2.1270, Plg4.0000°, Azm19.0000°; N -0.0520, Plg62.0000°, Azm118.0000°; P -2.0720, Plg28.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 00:50:42.6±0.6, 14°.8S±0°.1×177°.30W±0°.08, h10km, n80, σ1s71/35, mb4.5/14, MS4.0/39, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**0.91**	**300**		**Pg**	**00 50 59.6**	**-0.6**
FUTU					**Sg**	**00 51 10.0**	**-2.2**
MSVF	**Nonsavu**	**5.35**	**236**	Pn	**Pn**	**00 52 01.9**	**-0.8**
MSVF	**Nonsavu**	**5.35**	**236**	Pn	**Pn**	**00 52 05.2**	**+2.5**
	0.7nm,0.3s,baz=89,slow=10,SNR=5.0						
MSVF				LR	LR	00 53 50.2	
	comp=Z,508nm,20.0s,baz=306,slow=34						
	4.9nm,0.9s						
RAO	**Raoul Island**	**14.43**	**182**	LR	LR	00 58 43.0	
	comp=Z,1μm,20.2s,baz=14,slow=33						
DZM	**Mont Dzumac**	**17.04**	**242**	*e*LR	LR	00 58 53.3	
	459nm,25.6s						
DZM	**Mont Dzumac**	**17.04**	**242**	LR	LR	01 00 02.7	
	comp=Z,286nm,19.7s,baz=52,slow=32						
RAR	**Rarotonga**	**17.86**	**114**	LR	LR	00 59 55.4	
	comp=Z,445nm,18.0s,baz=300,slow=31						
HNR	**Honiara**	**22.86**	**281**	LR	LR	01 03 45.0	
	comp=Z,307nm,18.8s,baz=124,slow=34						
URZ	**Urewera**	**23.92**	**191**	LR	LR	01 03 48.7	
	comp=Z,805nm,20.9s,baz=24,slow=33						
PPT	**Papeete**	**26.77**	**100**	LR	LR	01 03 56.3	
	comp=Z,134nm,20.4s,baz=282,slow=30						
PPT2	**Papeete2**	**26.77**	**100**	*e*S	S	01 00 39.5	-20
	401nm,30.8s						
PPT2				*e*LR	LR	01 02 37.4	
	695nm,26.5s						
PPT2				*e*LR	LR	01 02 45.4	
	423nm,29.2s						
TBI	**Tubuai**	**27.63**	**112**	*e*S	**S**	**01 01 06.9**	**-5.5**
	1μm,27.5s						
TBI				*e*LR	LR	01 03 09.9	
	4μm,27.2s						
TBI				*e*LR	LR	01 03 20.4	
	1μm,29.5s						
H11S2	**WAKE ISLAND Hy**	**36.61**	**334**	T	T	01 36 41.5	
	baz=153,slow=76,SNR=8.4						

GUMO	**Guam**	**46.85**	**305**	LR	LR	01 15 58.0		
	comp=Z,46nm,19.8s,baz=106,slow=32							
FITZ	**Fitzroy Crossi**	**54.65**	**258**	LR	LR	01 22 39.2		
	comp=Z,211nm,18.2s,baz=99,slow=35							
NWAO	**Narrogin (SRO)**	**61.65**	**240**	LR	LR	01 26 16.8		
	comp=Z,112nm,19.8s,baz=109,slow=34							
JOW	**Kunigami**	**67.09**	**308**	LR	LR	01 25 03.2		
	comp=Z,58nm,20.1s,baz=280,slow=31							
JNU	**Nakatsue**	**68.65**	**315**	LR	LR	01 29 00.6		
	comp=Z,32nm,19.9s,baz=106,slow=34							
ASAJ	**Asahikawa**	**69.07**	**330**	LR	LR	01 28 35.2		
	comp=Z,50nm,19.8s,baz=174,slow=33							
PETK	**Petropavlovsk-**	**70.94**	**344**	P	**P**	**01 02 02.1**	**+2.1**	
PETK	**Petropavlovsk-**	**70.94**	**344**	LR	LR	01 29 23.8		
	comp=Z,56nm,18.9s,baz=150,slow=33							
KDAK	**Kodiak Island**	**75.11**	**13**	LR	LR	01 28 12.5		
	comp=Z,158nm,21.8s,baz=209,slow=30							
QSPA	**South Pole Qui**	**75.27**	**180**		**P**	**01 02 24.6**	**-1.1**	
QSPA				IAmb	IAmb	01 02 35.1		
	comp=Z,9.1nm,1.2s							
QSPA	**South Pole Qui**	**75.27**	**180**	LR	LR	01 30 36.5		
	comp=Z,99nm,22.0s,baz=44,slow=32							
PFO	**Pinyon Flats O**	**75.30**	**49**	LR	LR	01 28 23.5		
	comp=Z,135nm,19.0s,baz=235,slow=30							
YBH	**Yreka Blue Hor**	**75.43**	**39**	LR	LR	01 28 27.9		
	comp=Z,10nm,20.3s,baz=250,slow=30							
LPIG	**La Paz**	**75.95**	**60**	LR	LR	01 26 56.4		
	comp=Z,55nm,19.0s,baz=190,slow=29							
P18K	**Big Mountain,**	**76.05**	**11**	P	**P**	**01 02 31.2**	**+1.2**	
M17K	**Holitna River**	**77.54**	**10**	P	**P**	**01 02 40.1**	**+1.8**	
M17K				IAmb	IAmb	01 02 43.2		
	comp=Z,4.6nm,0.9s							
KLR	**Kul'dur**	**77.98**	**329**	LR	LR	01 31 05.3		
	comp=Z,52nm,21.9s,baz=136,slow=31							
SLKM	**Skilak Lake**	**78.10**	**13**	P	**P**	**01 02 43.3**	**+1.8**	
MA2	**Magadan**	**78.47**	**344**	LR	LR	01 34 19.0		
	comp=Z,33nm,19.4s,baz=94,slow=34							
TUC	**Tucson**	**78.95**	**52**		**P**	**01 02 47.9**	**+1.0**	
BBB	**Bella Bella**	**79.06**	**28**	LR	LR	01 29 20.5		
	comp=Z,104nm,20.6s,baz=196,slow=30							
PMR	**Palmer**	**79.31**	**13**	P	**P**	**01 02 49.5**	**+1.5**	
PMR				IAmb	IAmb	01 02 52.8		
	comp=Z,7.5nm,1.2s							
SEY	**Seymchan**	**80.98**	**346**	LR	LR	01 32 40.0		
	comp=Z,90nm,21.4s,baz=140,slow=31							
HYT	**Haines Junctio**	**81.75**	**18**	P	**P**	**01 03 03.1**	**+1.7**	
HYT				IAmb	IAmb	01 03 20.3		
	comp=Z,6.7nm,1.3s							
WRH	**Wood River Hil**	**82.09**	**12**	P	**P**	**01 03 04.3**	**+1.4**	
WRH				IAmb	IAmb	01 03 06.4		
	comp=Z,8.7nm,1.4s							
CCB	**Clear Creek Bu**	**82.30**	**12**		**P**	**01 03 04.0**	**0.0**	
CCB				IAmb	IAmb	01 03 06.7		
	comp=Z,4.1nm,1.2s							
NEW	**Newport**	**82.36**	**36**	LR	LR	01 32 10.9		
	comp=Z,84nm,21.1s,baz=198,slow=30							
DLBC	**Dease Lake**	**82.54**	**23**	LR	LR	01 32 33.2		
	comp=Z,23nm,20.1s,baz=208,slow=31							
ILAR	**Eielson Array**	**82.60**	**13**		**P**	**01 03 06.6**	**+0.9**	
ILAR	**Eielson Array**	**82.60**	**13**	P	P	01 03 01.4	-4.2	
	comp=Z,0.7nm,1.1s,baz=211,slow=8.4,SNR=8.0							
ILAR				LR	LR	01 32 43.5		
	comp=Z,90nm,21.8s,baz=236,slow=31							
	comp=Z,0.7nm,1.1s							
PV01	**Paradox Valley**	**83.05**	**48**	P	**P**	**01 03 08.9**	**0.0**	
PV01				IAmb	IAmb	01 03 10.5		
	comp=Z,5.7nm,1.1s							
ANMO	**Albuquerque**	**83.32**	**51**	P	**P**	**01 03 10.0**	**-0.3**	
ANMO				IAmb	IAmb	01 03 14.0		
	comp=Z,5.6nm,1.3s							
ANMO	**Albuquerque**	**83.32**	**51**	LR	LR	01 33 37.6		
	comp=Z,101nm,18.6s,baz=324,slow=31							
TXAR	**Lajitas Array**	**83.42**	**57**		**P**	**01 03 08.9**	**-1.9**	
TXAR	**Lajitas Array**	**83.42**	**57**	P	P	01 03 06.2	-4.6	
	comp=Z,0.2nm,0.9s,baz=283,slow=1.4,SNR=10							
TXAR				LR	LR	01 32 37.6		
	comp=Z,55nm,19.3s,baz=232,slow=30							
	comp=Z,0.2nm,0.9s							
COLD	**Coldfoot**	**84.15**	**10**	P	**P**	**01 03 15.3**	**+1.8**	
PDAR	**Pinedale Array**	**84.35**	**43**		**P**	**01 03 16.0**	**+0.6**	
PDAR	**Pinedale Array**	**84.35**	**43**	P	**P**	**01 03 12.2**	**-3.2**	
	comp=Z,0.3nm,0.6s,baz=225,slow=4.0,SNR=6.6							
PDAR				LR	LR	01 33 21.9		
	comp=Z,47nm,21.4s,baz=236,slow=30							
	comp=Z,0.3nm,0.6s							
BELA	**Belgrano 2**	**85.13**	**173**	P	**P**	**01 03 20.6**	**+2.0**	
BELA				IAmb	IAmb	01 03 27.5		
	comp=Z,5.9nm,1.3s							
YAK	**Yakutsk**	**87.07**	**338**	LR	LR	01 37 22.0		
	comp=Z,20nm,20.4s,baz=90,slow=32							
HNDO	**Hondo**	**87.09**	**59**	P	**P**	**01 03 28.9**	**-0.2**	
MAW	**Mawson**	**87.16**	**199**	LR	LR	01 39 57.2		
	comp=Z,194nm,18.8s,baz=81,slow=34							
INK	**Inuvik**	**88.59**	**15**	LR	LR	01 35 55.2		
	comp=Z,71nm,21.9s,baz=244,slow=31							
CMAR	**Chiang Mai Arr**	**88.84**	**289**	LR	LR	01 39 01.8		
	comp=Z,35nm,21.7s,baz=200,slow=33							
YKA	**Yellowknife Ar**	**91.05**	**24**	LR	LR	01 37 30.7		
	comp=Z,206nm,20.8s,baz=240,slow=31							
PLCA	**Paso Flores**	**92.71**	**133**	LR	LR	01 41 25.7		
	comp=Z,50nm,18.4s,baz=236,slow=33							
TIXI	**Tiksi**	**93.40**	**345**	LR	LR	01 42 19.6		
	comp=Z,98nm,20.4s,baz=176,slow=33							
ULM	**Lac du Bonnet**	**95.83**	**40**	LR	LR	01 40 45.5		
	comp=Z,96nm,20.6s,baz=246,slow=32							
BRDH	**Bariadhala**	**96.52**	**292**	LR	LR	01 47 49.4		
	comp=Z,41nm,21.6s,baz=156,slow=36							
ATAH	**Atahualpa**	**96.74**	**99**	LR	LR	01 37 23.8		
	comp=Z,79nm,21.5s,baz=297,slow=29							
BRTR	**Keskin Array B**	**143.24**	**319**	PKP	PKPab	01 10 14.2	+0.8	
	comp=Z,1.4nm,0.9s,baz=72,slow=1.7,SNR=8.4							
MMAI	**Mount Meron Ar**	**145.21**	**307**	PKPbc	**PKPbc**	**01 10 19.1**	**-1.7**	
	comp=Z,6.1nm,0.9s,baz=56,slow=3.6,SNR=7.7							
RDO	**Rodhopi**	**147.07**	**327**		**PKPdf**	**01 10 25.5**	**+1.5**	
FNA	**Florina**	**149.39**	**331**	PKPbc	**PKPbc**	**01 10 32.3**	**0.0**	

NEIC ***07*** *00:53:50.8±1.4,35.°646N±0.°004×117.°44W±0.°01, h8km±8km, Error ellipse: s-maj=1.5km s-min=0.5km az=103.0*

PAS 07 00:53:51.3±1.2,35.°648N±0.°007×117.°45W±0.°01, h10km±6km, ML3.1/24, ML2.7/76(NEIC), Error ellipse: s-maj=1.8km s-min=1.0km az=96.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.14**	**150**	Pg	Pg	00 53 54.8	+0.3
CCCA					Sg	00 53 57.6	+0.9
CLC	**China Lake**	**0.21**	**325**	Pg	Pg	00 53 55.4	-0.2
CLC				Sg	Sg	00 53 58.6	+0.1
SRTC	**Snort**	**0.25**	**280**		Pg	00 53 56.5	+0.2
LRMC	**Laurel Mtn Rad**	**0.25**	**228**		Pg	00 53 56.0	-0.4
LRMC				Sg	Sg	00 53 59.9	-0.1
TOW	**Tower One**	**0.30**	**302**		Pg	00 53 57.5	+0.2
TOW					Sb	00 54 02.0	-0.5
MPMC	**Manual Prospec**	**0.41**	**356**	Pg	Pg	00 53 58.9	-0.6
MPMC				Sg	Sg	00 54 04.8	-0.1
MPMC				IAML		00 54 05.2	
	comp=N,617nm,0.5s						
MPMC				IAML		00 54 05.6	
	comp=E,592nm,0.6s						
WVPM	**Volcano Peak E**	**0.42**	**315**		Pg	00 53 59.4	-0.3
DTP	**Desert Tortois**	**0.50**	**220**		Pg	00 54 00.6	-0.4
DTP					Sg	00 54 07.2	-0.4
WRVM	**Rose V. Centra**	**0.51**	**315**		Pg	00 54 00.7	-0.5
QSM	**Queen of Sheba**	**0.57**	**56**		Pg	00 54 02.0	-0.3
QSM				Sg	Sg	00 54 09.4	-0.5
MFS	**McCloud Flat S**	**0.57**	**325**		Pg	00 54 02.0	-0.5
GSC	**Goldstone, Bar**	**0.63**	**123**		Pg	00 54 02.8	-0.7
GSC				Sg	Sg	00 54 11.1	-0.6
GSC				IAML		00 54 11.7	
	comp=E,810nm,0.4s						
GSC				IAML		00 54 12.0	
	comp=N,464nm,0.3s						
GWY	**Greenwater Val**	**0.83**	**50**	Pg	Pg	00 54 06.9	-0.4
GWY				Sg	Sg	00 54 17.4	-0.8
ISA	**Isabella, Lake**	**0.83**	**271**		Pg	00 54 06.3	-1.0
ISA				IAML		00 54 19.8	
	comp=N,201nm,0.2s						
ISA				IAML		00 54 20.2	
	comp=E,259nm,0.6s						
EDW2	**Edwards Air Fo**	**0.88**	**210**		Pg	00 54 07.5	-0.9
WASM	**Alta Sierra Ca**	**0.91**	**276**		Pg	00 54 07.8	-0.9
CWC	**Cottonwood Cre**	**0.94**	**327**	Pg	Pg	00 54 08.6	-0.8
CWC				IAML		00 54 22.5	
	comp=N,247nm,0.2s						
CWC				IAML		00 54 22.8	
	comp=E,222nm,0.3s						
CGO	**Cerro Gordo**	**0.94**	**343**		Pg	00 54 09.2	-0.4
TPO	**Tropico Hills**	**1.00**	**220**		Pg	00 54 09.8	-0.7
TPO					Sg	00 54 23.5	+0.1
SPG2	**Springville 2**	**1.20**	**298**		Pb	00 54 13.1	-1.1
AMDNV	**Amargosa**	**1.24**	**49**		Pn	00 54 14.4	-0.3
TUQ	**Turquoise Moun**	**1.26**	**99**		Pn	00 54 14.1	-1.0
WCT	**Wildcat Mounta**	**1.32**	**30**		Pn	00 54 14.5	-1.4
GRAC	**Grapevine Rang**	**1.35**	**3**		Pn	00 54 15.1	-1.2
GRAC				IAML		00 54 39.0	
	comp=E,113nm,0.7s						
GRAC				IAML		00 54 39.0	
	comp=N,113nm,0.6s						
CHFC	**Chilao Flat St**	**1.39**	**200**		Pb	00 54 17.4	-0.1
BFSC	**Mount Baldy Ra**	**1.42**	**187**	Pn	Pn	00 54 16.4	-0.8
OSI	**Osito Audit: C**	**1.47**	**226**	Pn	Pn	00 54 18.0	+0.1
OSI				IAML		00 54 40.0	
	comp=N,204nm,0.9s						
MWC	**Mount Wilson**	**1.50**	**200**	Pn	Pn	00 54 17.5	-1.0
MWC				IAML		00 54 41.2	
	comp=E,109nm,0.3s						
MWC				IAML		00 54 41.5	
	comp=N,114nm,0.6s						
MTPC	**Mountain Pass**	**1.56**	**95**	Pn	Pn	00 54 17.6	-1.6
MTPC				IAML		00 54 43.5	
	comp=N,80nm,0.3s						
MTPC				IAML		00 54 44.5	
	comp=E,84nm,0.2s						
PASC	**Pasadena Art C**	**1.59**	**202**		Pn	00 54 18.8	-0.8
PASC				IAML		00 54 45.6	
	comp=E,72nm,0.4s						
PASC				IAML		00 54 46.7	
	comp=N,65nm,0.5s						
TPNV	**Topopah Spring**	**1.62**	**36**	Pn	Pn	00 54 19.1	-1.0
TPNV				IAML		00 54 45.1	
	comp=N,96nm,0.6s						
TPNV				IAML		00 54 47.8	
	comp=N,148nm,0.5s						
DSP	**Deep Springs**	**1.77**	**346**		Pn	00 54 21.2	-0.8
DSP				IAML		00 54 49.1	
	comp=E,42nm,0.3s						
EW2	**E Wide Canyon**	**1.91**	**153**		Pg	00 54 27.2	-0.6
TPC	**Twentynine Pal**	**1.92**	**143**		Pg	00 54 27.7	-0.5
SHPR	**Sheep Range**	**2.04**	**65**	Pn	Pn	00 54 25.2	-0.7
SHPR				IAML		00 54 57.0	
	comp=N,40nm,0.6s						
MZP	**Montezuma Peak**	**2.05**	**1**		Pn	00 54 25.4	-0.7
V12A	**Nelson**	**2.12**	**87**	Pn	Pn	00 54 25.1	-1.8
V12A				IAML		00 55 04.7	
	comp=E,32nm,0.6s						
TPH	**Tonopah**	**2.43**	**4**	Pn	Pn	00 54 30.6	-0.7
TPH				IAML		00 55 13.4	
	comp=E,73nm,1.1s						
MATG	**Mataguay Scout**	**2.53**	**165**		Pb	00 54 37.6	+0.8
LHV	**Little Huntoon**	**2.73**	**342**		Pn	00 54 33.6	-1.5
LHV				IAML		00 55 22.9	
	comp=N,15nm,0.6s						
LHV				IAML		00 55 25.8	
	comp=E,20nm,0.7s						
NV11	**Mina Array Sit**	**2.84**	**349**		Pn	00 54 36.1	-0.7
YUH	**Yuha Desert**	**3.25**	**157**	Pn	Pn	00 54 41.2	-1.1
GLA	**Glamis**	**3.38**	**139**		Pn	00 54 43.1	-1.0
GLA				IAML		00 55 50.3	
	comp=N,29nm,0.7s						
LCMT	**Little Creek M**	**3.66**	**67**		Pn	00 54 47.7	-0.4
CCUT	**Cedar City**	**3.80**	**59**	Pn	Pn	00 54 49.7	-0.4
CCUT				IAML		00 55 49.8	
	comp=N,9.8nm,0.7s						
ESJX	**Sierra Juarez**	**3.84**	**161**	Pn	Pn	00 54 50.1	-0.5
ESJX				IAML		00 55 52.6	
	comp=N,8.0nm,0.9s						
ESJX				IAML		00 56 03.0	
	comp=E,9.5nm,2.2s						
KNB	**Kanab**	**3.98**	**69**		Pn	00 54 52.3	-0.3
KNB				IAML		00 56 00.6	
	comp=E,7.5nm,1.3s						
KNB				IAML		00 56 04.6	
	comp=N,6.9nm,1.3s						
Y14A	**Wickenburg**	**4.04**	**114**		Pn	00 54 52.3	-0.9
Y14A				IAML		00 56 01.7	
	comp=E,16nm,0.4s						
Y14A				IAML		00 56 03.6	
	comp=N,14nm,0.5s						
ELK	**Elko**	**5.38**	**18**		Pn	00 55 11.6	-0.2

IDC ***07*** *01:03:47.9±1.0, 14.°18S×177.°33W, h0km, mb3.7/6, mbtmp3.7/6, MS3.4/4, Error ellipse: s-maj=50.8km s-min=25.6km az=145.0*

ISC 07 01:03:53.3±1.0, 14.°2S±0.°3×177.°4W±0.°3, h35km, n16, σ1°33/6, mb3.7/6, MS3.3/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**22.67**	**279**	LR	LR	01 16 56.8	
	comp=Z,74nm,18.3s,baz=28,slow=35						
PPT	**Papeete**	**26.95**	**101**	LR	LR	01 17 38.4	
	comp=Z,87nm,20.4s,baz=282,slow=31						
H11S2	**WAKE ISLAND Hy**	**36.03**	**334**	T	T	01 49 52.8	
	baz=154						
H11S3	**WAKE ISLAND Hy**	**36.04**	**334**	T	T	01 49 53.8	
	baz=154						
H11S1	**WAKE ISLAND Hy**	**36.05**	**334**	T	T	01 49 54.6	
	baz=154						
H11N3	**WAKE ISLAND Hy**	**37.04**	**335**	T	T	01 51 13.4	
	baz=157						
H11N1	**WAKE ISLAND Hy**	**37.04**	**335**	T	T	01 51 11.1	
	baz=157						
H11N2	**WAKE ISLAND Hy**	**37.06**	**335**	T	T	01 51 08.9	
	baz=157						
STKA	**Stephens Creek**	**41.38**	**238**	LR	LR	01 27 30.7	
	comp=Z,37nm,18.8s,baz=32,slow=34						
WRA	**Warramunga Arr**	**46.39**	**256**	P	**P**	**01 12 17.6**	**+0.9**
	0.7nm,1.0s,baz=88,slow=6.8,SNR=3.9						
	0.7nm,1.0s						
ASAR	**Alice Springs**	**46.85**	**251**	P	**P**	**01 12 20.1**	**-0.2**
	1.3nm,0.7s,baz=83,slow=8.5,SNR=12						
	1.3nm,0.7s						
QSPA	**South Pole Qui**	**75.88**	**180**	P	**P**	**01 15 35.5**	**-0.6**
	2.7nm,1.0s,baz=33,slow=2.6,SNR=4.8						
	2.7nm,1.0s						
KLR	**Kul'dur**	**77.42**	**329**	LR	LR	01 45 46.0	
	comp=Z,45nm,19.7s,baz=145,slow=32						
ILAR	**Eielson Array**	**82.03**	**13**	P	**P**	**01 16 08.4**	**-1.1**
	0.1nm,0.5s,baz=229,slow=5.5,SNR=1.5						
	0.1nm,0.5s						
TXAR	**Lajitas Array**	**83.17**	**58**	P	**P**	**01 16 17.9**	**+1.6**
	0.5nm,0.9s,baz=251,slow=5.0,SNR=4.5						
	0.5nm,0.9s						
PDAR	**Pinedale Array**	**83.97**	**43**	P	**P**	**01 16 19.8**	**-0.5**
	0.6nm,0.8s,baz=229,slow=4.8,SNR=5.3						
	0.6nm,0.8s						

NEIC ***07*** *01:05:06.5±1.8,35.°683N±0.°010×117.°51W±0.°01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.8km az=205.0*

PAS 07 01:05:06.9±1.9,35.°669N±0.°009×117.°51W±0.°01, h2km±3km, ML3.4/19, ML3.2/108(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=147.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.16**	**334**	Pg	Pg	01 05 10.4	+0.3
CLC				IAML		01 05 13.2	
	comp=N,11μm,0.3s						
CLC				IAML		01 05 13.5	
	comp=E,7μm,0.5s						
CCCA	**Chr Cany lake**	**0.19**	**140**		Pg	01 05 11.4	+0.8
CCCA					Sg	01 05 11.5	-1.5
SRTC	**Snort**	**0.19**	**277**		Pg	01 05 09.4	-1.3
LRMC	**Laurel Mtn Rad**	**0.23**	**216**		Pg	01 05 11.7	+0.3
LRMC	**Laurel Mtn Rad**	**0.23**	**216**		Sg	01 05 15.3	+0.7
TOW	**Tower One**	**0.25**	**304**		Pg	01 05 12.4	+0.7
TOW					Sg	01 05 17.1	+2.1
WNMM	**Nine Mile Cany**	**0.36**	**299**		Pg	01 05 11.5	-2.4
WNMM					Sg	01 05 14.2	-4.4
WVPM	**Volcano Peak E**	**0.37**	**318**		Pg	01 05 14.4	+0.2
WVPM					Sg	01 05 19.7	+0.7
WRVM	**Rose V. Centra**	**0.46**	**318**		Pg	01 05 15.8	+0.1
WRVM					Sg	01 05 22.4	+0.7
DTP	**Desert Tortois**	**0.48**	**214**		Pg	01 05 16.1	-0.1
DTP					Sg	01 05 22.8	+0.3
MFS	**McCloud Flat S**	**0.53**	**328**		Pg	01 05 17.1	+0.1
QSM	**Queen of Sheba**	**0.60**	**60**		Pg	01 05 18.4	0.0
QSM					Sg	01 05 26.6	+0.4
CCAC	**Calif City Air**	**0.66**	**219**		Pg	01 05 19.6	0.0
GSC	**Goldstone, Bar**	**0.68**	**122**		Pg	01 05 20.0	0.0
GSC				IAML		01 05 30.6	
	comp=N,2μm,0.4s						
ISA	**Isabella, Lake**	**0.78**	**270**		Pg	01 05 21.6	-0.4
ISA	**Isabella, Lake**	**0.78**	**270**		Sg	01 05 32.7	+0.5
GWY	**Greenwater Val**	**0.86**	**53**		Pg	01 05 23.3	-0.1
GWY				IAML		01 05 37.5	
	comp=N,2μm,0.6s						
GWY				IAML		01 05 39.9	
	comp=E,2μm,0.5s						
CWC	**Cottonwood Cre**	**0.90**	**329**		Pg	01 05 24.1	-0.1
CWC				IAML		01 05 37.6	
	comp=N,557nm,0.2s						
CWC				IAML		01 05 38.2	
	comp=E,582nm,0.2s						
CGO	**Cerro Gordo**	**0.91**	**345**		Pg	01 05 23.9	-0.5
HOLC	**Holcomb Ridge**	**1.24**	**193**		Sb	01 05 47.4	-0.2
DSCC	**Desert Studies**	**1.26**	**114**		Pg	01 05 29.8	-1.3
DSCC					Sg	01 05 47.2	-0.4
AMDNV	**Amargosa**	**1.27**	**52**		Pg	01 05 29.9	-1.4
TUQ	**Turquoise Moun**	**1.32**	**100**		Pg	01 05 31.2	-0.9
TUQ					Sg	01 05 49.0	-0.2
GRAC	**Grapevine Rang**	**1.33**	**5**		Pg	01 05 31.6	-0.8
GRAC				IAML		01 05 57.3	
	comp=E,761nm,0.6s						
GRAC				IAML		01 05 58.1	
	comp=N,752nm,0.7s						
WCT	**Wildcat Mounta**	**1.33**	**32**		Pg	01 05 31.1	-1.4
WCT				IAML		01 05 51.7	
	comp=E,402nm,0.4s						
BFSC	**Mount Baldy Ra**	**1.43**	**185**	IAML		01 05 53.3	
	comp=E,339nm,0.7s						
BFSC				IAML		01 05 53.8	
	comp=N,270nm,0.5s						
OSI	**Osito Audit: C**	**1.45**	**224**		Pn	01 05 34.4	+0.2
OSI	**Osito Audit: C**	**1.45**	**224**	IAML		01 05 56.7	
	comp=E,668nm,0.8s						
OSI				IAML		01 05 58.1	
	comp=N,734nm,0.9s						
SSK	**Sunset Peak**	**1.46**	**186**		Pn	01 05 34.0	-0.5
PASC	**Pasadena Art C**	**1.59**	**201**		Pn	01 05 35.1	-1.0
PASC				IAML		01 06 01.0	
	comp=E,440nm,0.5s						
PASC				IAML		01 06 01.3	
	comp=N,314nm,0.6s						
MTPC	**Mountain Pass**	**1.61**	**96**	IAML		01 05 58.6	
	comp=N,353nm,0.3s						
MTPC				IAML		01 05 58.8	
	comp=E,445nm,0.4s						
TPNV	**Topopah Spring**	**1.63**	**38**		Pn	01 05 35.6	-1.2
TPNV				IAML		01 06 01.3	
	comp=E,317nm,0.5s						
TPNV				IAML		01 06 02.8	
	comp=E,347nm,0.5s						
GMN	**Gold Mountain**	**1.64**	**7**		Pn	01 05 36.0	-1.0
GMN				IAML		01 06 10.7	
	comp=N,176nm,0.6s						
VOG	**Valley Oaks Go**	**1.65**	**294**		Pn	01 05 37.3	+0.4
DSP	**Deep Springs**	**1.74**	**348**		Pn	01 05 37.3	-0.8
TPC	**Twentynine Pal**	**1.97**	**142**		Pb	01 05 44.0	+0.5
ELS	**Elsinore Mount**	**2.02**	**178**		Pn	01 05 41.0	-1.1
MZP	**Montezuma Peak**	**2.03**	**3**		Pn	01 05 41.8	-0.6
SHPR	**Sheep Range**	**2.08**	**66**		Pn	01 05 42.0	-0.9
V12A	**Nelson**	**2.17**	**88**		Pn	01 05 42.5	-1.6
V12A				IAML		01 06 23.1	
	comp=N,105nm,0.5s						
V12A				IAML		01 06 25.2	
	comp=E,104nm,0.5s						
PMD	**Palm Desert**	**2.22**	**155**	IAML		01 06 19.3	
	comp=N,96nm,0.5s						
PMD				IAML		01 06 23.1	
	comp=E,110nm,0.5s						
PFO	**Pinyon Flats O**	**2.23**	**157**		Pn	01 05 43.5	-1.5
PFO				IAML		01 06 18.6	
	comp=E,98nm,0.6s						
CTW	**Cottonwood Mou**	**2.40**	**145**		Pg	01 05 52.1	-0.9
TPH	**Tonopah**	**2.41**	**5**		Pn	01 05 47.0	-0.5
NEE2	**Needles Airpor**	**2.53**	**110**		Pn	01 05 48.1	-0.9
LHV	**Little Huntoon**	**2.70**	**343**		Pn	01 05 51.2	-0.1
LHV				IAML		01 06 42.7	
	comp=E,90nm,0.8s						
PSAM	**San Ardo**	**2.77**	**278**		Pn	01 05 50.5	-1.8
NV11	**Mina Array Sit**	**2.81**	**350**		Pn	01 05 52.6	-0.3
NVAR	**Mina Array Bea**	**2.83**	**347**		Pn	01 05 53.0	-0.4
MTRP	**Mission Trails**	**2.87**	**172**		Pb	01 05 56.7	-2.1
W13A	**Hualapai Mount**	**3.02**	**100**		Pn	01 05 54.5	-1.4
W13A				IAML		01 06 45.1	
	comp=E,50nm,0.5s						
W13A				IAML		01 06 46.0	
	comp=N,61nm,0.9s						
BLYC	**Blythe**	**3.12**	**127**		Pn	01 05 55.3	-1.8
BLYC				IAML		01 06 48.6	
	comp=N,99nm,0.8s						
BLYC				IAML		01 06 50.9	
	comp=E,86nm,0.5s						
YUH	**Yuha Desert**	**3.29**	**156**		Pn	01 05 57.2	-2.2
CBX	**Cerro Bola**	**3.42**	**168**	Pn	Pn	01 06 00.6	-0.8
ESJX	**Sierra Juarez**	**3.88**	**160**		Pn	01 06 08.8	-1.0
ESJX				IAML		01 07 09.9	
	comp=N,25nm,0.7s						
ESJX				IAML		01 07 13.3	
	comp=E,26nm,0.7s						
KNB	**Kanab**	**4.02**	**69**		Pn	01 06 09.6	0.0
KNB				IAML		01 07 20.0	
	comp=E,26nm,0.9s						
PSUT	**Pine Spring**	**4.09**	**45**	IAML		01 07 17.3	
	comp=N,23nm,0.9s						
PSUT				IAML		01 07 26.8

CCCA	**Chr Cany lake**	**0.49**	**142**			Pg	01 24 05.4	+0.4
WBSM	**Bird Springs**	**0.50**	**221**			Pg	01 24 05.1	0.0
WBSM						Sg	01 24 12.3	+0.6
WHFM	**Hanning Flat**	**0.55**	**247**			Pg	01 24 06.0	-0.1
CWC	**Cottonwood Cre**	**0.59**	**332**	Pg		Pg	01 24 07.1	+0.2
CWC					IAML		01 24 19.0	
	comp=N,914nm,0.2s							
CWC	**Cottonwood Cre**	**0.59**	**332**			Sg	01 24 15.2	+0.5
ISA	**Isabella, Lake**	**0.65**	**248**			Pg	01 24 08.0	-0.1
ISA					IAML		01 24 17.2	
	comp=N,1µm,0.4s							
ISA					IAML		01 24 17.8	
	comp=E,1µm,0.3s							
WASM	**Alta Sierra Ca**	**0.69**	**255**			Pg	01 24 08.7	-0.1
QSM	**Queen of Sheba**	**0.70**	**86**			Pg	01 24 09.1	+0.1
QSM					IAML		01 24 22.4	
	comp=N,1µm,0.4s							
QSM					IAML		01 24 22.7	
	comp=E,987nm,0.5s							
CCAC	**Calif City Air**	**0.80**	**197**			Pg	01 24 10.4	-0.3
SPG2	**Springville 2**	**0.89**	**289**			Pg	01 24 11.9	-0.7
GWY	**Greenwater Val**	**0.90**	**72**	IAML			01 24 29.9	
	comp=E,652nm,0.6s							
GWY					IAML		01 24 31.9	
	comp=N,554nm,0.7s							
GSC	**Goldstone, Bar**	**0.97**	**129**			Pg	01 24 13.9	-0.2
TPO	**Tropico Hills**	**1.11**	**202**			Pg	01 24 16.1	-0.8
TPO	**Tropico Hills**	**1.11**	**202**	IAML			01 24 37.9	
	comp=E,570nm,0.8s							
GRAC	**Grapevine Rang**	**1.12**	**15**			Pg	01 24 16.7	-0.3
GRAC					IAML		01 24 38.0	
	comp=E,556nm,0.6s							
GRAC					IAML		01 24 38.7	
	comp=N,588nm,0.8s							
WCT	**Wildcat Mounta**	**1.25**	**45**			Pg	01 24 19.1	-0.4
WCT					IAML		01 24 36.7	
	comp=E,282nm,0.5s							
VOG	**Valley Oaks Go**	**1.40**	**287**			Pn	01 24 21.4	-0.6
GMN	**Gold Mountain**	**1.43**	**15**			Pn	01 24 22.3	-0.4
DSP	**Deep Springs**	**1.46**	**353**			Pn	01 24 22.6	-0.3
OSI	**Osito Audit: C**	**1.53**	**212**	IAML			01 24 47.1	
	comp=E,253nm,0.7s							
TUQ	**Turquoise Moun**	**1.55**	**107**			Pn	01 24 22.8	-1.4
TPNV	**Topopah Spring**	**1.58**	**49**			Pn	01 24 24.2	-0.5
TPNV					IAML		01 24 49.3	
	comp=E,236nm,0.8s							
TPNV					IAML		01 24 51.2	
	comp=E,252nm,1.1s							
MZP	**Montezuma Peak**	**1.80**	**9**			Pn	01 24 27.9	0.0
MTPC	**Mountain Pass**	**1.82**	**103**	IAML			01 24 54.6	
	comp=N,195nm,0.8s							
MTPC					IAML		01 24 56.1	
	comp=E,192nm,0.5s							
SMMC	**Simmler**	**1.94**	**253**			Pn	01 24 27.9	-1.6
GMRC	**Granite Mounta**	**2.04**	**123**			Pn	01 24 28.9	-2.0
ELS	**Elsinore Mount**	**2.28**	**174**			Pn	01 24 33.3	-0.9
POB	**Polly Butte**	**2.32**	**163**			Pn	01 24 34.2	-0.6
S11A	**Rachel**	**2.35**	**42**			Pb	01 24 37.2	-1.4
V12A	**Nelson**	**2.35**	**94**			Pn	01 24 34.0	-1.2
V12A					IAML		01 25 15.7	
	comp=N,86nm,0.8s							
V12A					IAML		01 25 18.1	
	comp=E,78nm,0.5s							
PMPB	**Monarch Peak**	**2.50**	**278**			Pn	01 24 36.0	-1.2
PMPB					IAML		01 25 23.8	
	comp=E,110nm,0.7s							
PFO	**Pinyon Flats O**	**2.53**	**155**			Pn	01 24 36.0	-1.7
PFO					IAML		01 25 20.7	
	comp=E,69nm,1.2s							
NVAR	**Mina Array Bea**	**2.55**	**350**			Pn	01 24 39.2	+1.1
MYLM	**Yosemite Lake**	**2.61**	**305**			Pb	01 24 41.8	-1.2
GATR	**Gnd/Air Tx Cnt**	**2.64**	**240**			Pn	01 24 36.1	-3.1
SAO	**San Andreas Ge**	**3.12**	**287**			Pn	01 24 47.3	+1.6
CBX	**Cerro Bola**	**3.70**	**166**	Pn		Pn	01 24 53.5	-0.3
LCMT	**Little Creek M**	**3.78**	**72**			Pn	01 24 54.2	-0.7
CCUT	**Cedar City**	**3.87**	**64**			Pn	01 24 56.9	+0.6
KNB	**Kanab**	**4.11**	**73**			Pn	01 24 59.5	0.0

*NEIC **07** 01:30:51.4±1.6, 35°.680N±0°.010×117°.50W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.8km az=289.0*

PAS 07 01:30:52.5±1.3, 35°.69N±0°.01×117°.53W±0°.01, h7km±1km, ML3.3/22, MLJ3.0/102(NEIC), Error ellipse: s-maj=1.7km s-min=1.5km az=57.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.14**	**338**	Pg	Pg	01 30 55.4	0.0
SRTC	**Snort**	**0.17**	**271**		Pg	01 30 56.4	+0.4
CCCA	**Chr Cany lake**	**0.21**	**140**		Pg	01 30 57.2	+0.4
TOW	**Tower One**	**0.22**	**303**		Pg	01 30 57.3	+0.3
LRMC	**Laurel Mtn Rad**	**0.24**	**210**		Pg	01 30 57.2	-0.1
LRMC					Sg	01 31 00.7	+0.2
LRMC					IAML	01 31 01.8	
	comp=E,4µm,0.2s						
WNMM	**Nine Mile Cany**	**0.34**	**297**		Pg	01 30 59.0	-0.2
WNMM					Sg	01 31 04.2	+0.5
WVPM	**Volcano Peak E**	**0.35**	**319**		Pg	01 30 59.3	-0.1
MPMC	**Manual Prospec**	**0.37**	**6**	Pg	Pg	01 30 59.5	-0.3
WRVM	**Rose V. Centra**	**0.43**	**318**		Pg	01 31 00.6	-0.3
WRVM					Sg	01 31 06.5	0.0
DTP	**Desert Tortois**	**0.49**	**211**		Pg	01 31 01.6	-0.4
DTP					Sg	01 31 08.5	+0.1
MFS	**McCloud Flat S**	**0.50**	**329**		Pg	01 31 02.0	-0.2
WBSM	**Bird Springs**	**0.52**	**253**		Pg	01 31 02.2	-0.3
WORM	**Onyx Ranch**	**0.58**	**271**		Pg	01 31 03.1	-0.5
QSM	**Queen of Sheba**	**0.61**	**63**		Pg	01 31 03.8	-0.5
QSM					Sg	01 31 11.9	-0.3
QSM					IAML	01 31 12.6	
	comp=E,1µm,0.3s						
QSM					IAML	01 31 13.2	
	comp=N,1µm,0.2s						
GSC	**Goldstone, Bar**	**0.71**	**123**		Pg	01 31 05.8	-0.4
GSC					IAML	01 31 15.7	
	comp=N,977nm,0.2s						
ISA	**Isabella, Lake**	**0.77**	**268**		Pg	01 31 06.6	-0.6
ISA					IAML	01 31 17.4	
	comp=N,710nm,0.3s						
ISA					IAML	01 31 17.6	
	comp=E,937nm,0.4s						
HYS	**Haystack Butte**	**0.82**	**182**		Pg	01 31 07.6	-0.8
GWY	**Greenwater Val**	**0.86**	**54**	IAML		01 31 23.6	
	comp=E,860nm,0.4s						
CGO	**Cerro Gordo**	**0.89**	**346**		Pg	01 31 09.1	-0.5
RRX	**Edison Barstow**	**0.92**	**151**		Sg	01 31 22.3	+0.1
TPO	**Tropico Hills**	**0.99**	**215**	IAML		01 31 26.4	
	comp=N,515nm,0.6s						
ARVC	**Arvin**	**1.20**	**242**		Pg	01 31 15.2	-0.3
AMDNV	**Amargosa**	**1.27**	**53**		Pn	01 31 15.0	-1.7
GRAC	**Grapevine Rang**	**1.31**	**6**		Pn	01 31 16.5	-0.9
GRAC					IAML	01 31 38.5	
	comp=E,379nm,0.5s						
WCT	**Wildcat Mounta**	**1.32**	**33**		Pn	01 31 16.2	-1.4
WCT					IAML	01 31 36.5	
	comp=N,194nm,0.5s						
WCT					IAML	01 31 38.5	
	comp=E,266nm,0.4s						
TUQ	**Turquoise Moun**	**1.34**	**100**		Pn	01 31 15.9	-1.9
OSI	**Osito Audit: C**	**1.45**	**223**		Pn	01 31 19.1	-0.2
OSI					IAML	01 31 41.6	
	comp=N,264nm,0.8s						
OSI					IAML	01 31 43.8	
	comp=E,204nm,1.0s						
BFSC	**Mount Baldy Ra**	**1.45**	**184**	IAML		01 31 39.8	
	comp=N,117nm,0.4s						
BFSC					IAML	01 31 42.0	
	comp=E,183nm,0.5s						
MWC	**Mount Wilson**	**1.52**	**197**		Pn	01 31 19.4	-1.0
MWC					IAML	01 31 44.8	
	comp=E,230nm,0.6s						
MWC					IAML	01 31 46.1	
	comp=N,232nm,0.5s						
PASC	**Pasadena Art C**	**1.60**	**200**		Pn	01 31 20.6	-0.8
PASC					IAML	01 31 47.4	
	comp=E,186nm,0.8s						
PASC					IAML	01 31 48.5	
	comp=N,92nm,0.6s						
GMN	**Gold Mountain**	**1.62**	**8**		Pn	01 31 21.8	-0.1
MTPC	**Mountain Pass**	**1.63**	**97**		Pn	01 31 20.1	-1.7
MTPC					IAML	01 31 46.2	
	comp=E,210nm,0.3s						
MTPC					IAML	01 31 46.6	
	comp=N,176nm,0.2s						

TPNV	**Topopah Spring**	**1.63**	**39**			Pn	01 31 20.7	-1.2
TPNV					IAML		01 31 45.4	
	comp=N,216nm,0.3s							
TPNV					IAML		01 31 48.9	
	comp=N,266nm,0.5s							
DSP	**Deep Springs**	**1.71**	**348**			Pn	01 31 22.2	-0.7
ELS	**Elsinore Mount**	**2.04**	**177**			Pn	01 31 26.0	-1.4
POB	**Polly Butte**	**2.06**	**166**			Pn	01 31 27.1	-0.6
SHPR	**Sheep Range**	**2.09**	**66**			Pn	01 31 27.1	-1.0
V12A	**Nelson**	**2.18**	**88**			Pn	01 31 28.0	-1.4
V12A					IAML		01 32 03.6	
	comp=N,81nm,0.4s							
V12A					IAML		01 32 08.5	
	comp=E,107nm,0.6s							
PFO	**Pinyon Flats O**	**2.25**	**157**			Pn	01 31 28.9	-1.5
PFO					IAML		01 32 05.8	
	comp=E,45nm,0.6s							
NEE2	**Needles Airpor**	**2.56**	**110**			Pn	01 31 32.5	-2.0
PRN	**Pahroc Range**	**2.63**	**49**			Pn	01 31 34.9	-0.8
PRN					IAML		01 32 19.1	
	comp=E,61nm,0.9s							
PRN					IAML		01 32 26.0	
	comp=N,65nm,0.4s							
LHV	**Little Huntoon**	**2.67**	**343**			Pn	01 31 36.5	+0.5
LHV					IAML		01 32 38.4	
	comp=N,30nm,1.2s							
NV11	**Mina Array Sit**	**2.78**	**350**			Pn	01 31 37.4	-0.3
NVAR	**Mina Array Bea**	**2.80**	**348**			Pn	01 31 37.6	-0.4
W13A	**Hualapai Mount**	**3.04**	**100**	IAML			01 32 31.0	
	comp=N,25nm,0.9s							
R11B	**Troy Canyon, C**	**3.08**	**30**			Pn	01 31 44.5	+2.6
BLYC	**Blythe**	**3.14**	**127**			Pn	01 31 40.2	-2.3
BLYC					IAML		01 32 32.8	
	comp=E,54nm,0.5s							
BLYC					IAML		01 32 33.4	
	comp=N,53nm,0.5s							
CBX	**Cerro Bola**	**3.44**	**168**			Pn	01 31 46.7	0.0
GLA	**Glamis**	**3.45**	**139**			Pn	01 31 44.6	-2.3
ESJX	**Sierra Juarez**	**3.90**	**160**	IAML			01 34 22.8	
	comp=N,18nm,0.1s							
ESJX					IAML		01 34 25.1	
	comp=E,23nm,0.1s							
KNB	**Kanab**	**4.03**	**69**	IAML			01 33 15.1	
	comp=N,11nm,1.0s							
PSUT	**Pine Spring**	**4.09**	**45**	IAML			01 33 13.8	
	comp=N,10nm,0.7s							
PSUT					IAML		01 33 18.4	
	comp=E,13nm,1.0s							
Y14A	**Wickenburg**	**4.12**	**114**	IAML			01 33 05.4	
	comp=E,24nm,0.5s							
Y14A					IAML		01 33 08.2	
	comp=N,31nm,0.5s							
113A	**Mohawk Valley,**	**4.27**	**132**	IAML			01 33 08.2	
	comp=E,9.4nm,0.7s							
113A					IAML		01 33 09.4	
	comp=N,9.1nm,0.6s							
U15A	**North Rim**	**4.31**	**79**	IAML			01 33 11.4	
	comp=E,14nm,0.9s							
U15A					IAML		01 33 12.7	
	comp=N,14nm,1.2s							
X16A	**Lo Mia Camp, P**	**5.16**	**102**			Pn	01 32 09.7	-0.7
X16A					IAML		01 33 42.1	
	comp=E,5.2nm,1.2s							
X16A					IAML		01 33 47.4	
	comp=N,5.3nm,1.6s							

*NEIC **07** 01:32:22.7±0.8, 35°.956N±0°.010×117°.71W±0°.01, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.9km az=237.0*

PAS 07 01:32:23.0±0.7, 35°.951N±0°.009×117°.71W±0°.01, h2km, ML3.0/26, ML2.7/40(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=107.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**269**		Pg	01 32 24.4	-0.3
TOW	**Tower One**	**0.15**	**197**		Pg	01 32 26.5	+0.6
WRVM	**Rose V. Centra**	**0.15**	**291**		Pg	01 32 26.4	+0.3
CLC	**China Lake**	**0.16**	**145**	Pg	Pg	01 32 26.3	+0.1
WNMM	**Nine Mile Cany**	**0.19**	**235**		Pg	01 32 27.0	+0.4
WNMM					Sg	01 32 30.0	+0.9
MFS	**McCloud Flat S**	**0.20**	**325**		Pg	01 32 27.2	+0.3
MPMC	**Manual Prospec**	**0.21**	**59**	Pg	Pg	01 32 27.4	+0.3
MPMC				IAML		01 32 31.9	
	comp=N,2µm,0.5s						
MPMC				IAML		01 32 33.2	
	comp=E,1µm,0.4s						
SRTC	**Snort**	**0.26**	**187**		Pg	01 32 28.6	+0.6
LRMC	**Laurel Mtn Rad**	**0.47**	**177**		Pg	01 32 32.0	0.0
LRMC					Sg	01 32 38.6	+0.5
CCCA	**Chr Cany lake**	**0.51**	**146**	Pg	Pg	01 32 33.2	+0.5
WBSM	**Bird Springs**	**0.54**	**220**		Pg	01 32 33.4	0.0
CWC	**Cottonwood Cre**	**0.57**	**329**	Pg	Pg	01 32 34.3	+0.3
WHFM	**Hanning Flat**	**0.58**	**244**		Pg	01 32 34.0	0.0
CGO	**Cerro Gordo**	**0.60**	**353**		Pg	01 32 34.6	+0.1
ISA	**Isabella, Lake**	**0.68**	**245**	Pg	Pg	01 32 36.1	0.0
QSM	**Queen of Sheba**	**0.69**	**89**	Pg	Pg	01 32 36.0	-0.1
QSM				IAML		01 32 47.0	
	comp=N,356nm,0.4s						
QSM				IAML		01 32 49.5	
	comp=E,470nm,0.5s						
DTP	**Desert Tortois**	**0.69**	**189**		Pg	01 32 36.0	-0.2
GWY	**Greenwater Val**	**0.88**	**74**	Pg	Pg	01 32 39.8	0.0
GWY				IAML		01 32 56.5	
	comp=N,325nm,0.5s						
GWY				IAML		01 32 58.0	
	comp=E,347nm,0.5s						
SPG2	**Springville 2**	**0.89**	**287**		Pg	01 32 39.7	-0.4
GSC	**Goldstone, Bar**	**0.98**	**131**	Pg	Pg	01 32 41.2	-0.6
GSC				IAML		01 32 57.0	
	comp=N,205nm,0.6s						
GSC				IAML		01 32 57.8	
	comp=E,336nm,0.7s						
GRAC	**Grapevine Rang**	**1.08**	**15**		Pg	01 32 43.2	-0.5
HYS	**Haystack Butte**	**1.09**	**174**		Pb	01 32 44.4	-0.3
TPO	**Tropico Hills**	**1.15**	**202**	IAML		01 33 05.7	
	comp=N,182nm,0.8s						
TPO				IAML		01 33 07.2	
	comp=E,169nm,0.7s						
WCT	**Wildcat Mounta**	**1.21**	**46**		Pg	01 32 45.8	-0.5
WCT				IAML		01 33 08.7	
	comp=E,108nm,0.8s						
ARVC	**Arvin**	**1.23**	**228**		Pg	01 32 46.0	-0.6
GMN	**Gold Mountain**	**1.40**	**15**		Pg	01 32 49.3	-0.4
GMN				IAML		01 33 11.8	
	comp=N,129nm,0.5s						
GMN				IAML		01 33 12.1	
	comp=E,99nm,0.5s						
VOG	**Valley Oaks Go**	**1.40**	**286**		Pn	01 32 49.1	-0.5
DSP	**Deep Springs**	**1.43**	**352**		Pn	01 32 49.6	-0.4
DSP				IAML		01 33 10.5	
	comp=E,78nm,0.2s						
TPNV	**Topopah Spring**	**1.54**	**49**		Pn	01 32 50.2	-1.5
TPNV				IAML		01 33 15.7	
	comp=E,111nm,0.8s						
TPNV				IAML		01 33 16.6	
	comp=E,105nm,0.9s						
TUQ	**Turquoise Moun**	**1.54**	**109**		Pn	01 32 51.8	+0.1
OSI	**Osito Audit: C**	**1.57**	**212**	IAML		01 33 19.8	
	comp=N,71nm,0.8s						
FIGC	**Figueroa Mtn.**	**2.23**	**237**		Pb	01 33 02.9	-1.1
CMB	**Columbia Colle**	**2.98**	**315**		Pb	01 33 15.5	-1.4
ELK	**Elko**	**5.17**	**21**		Pn	01 33 39.2	-2.4
ELK				IAML		01 35 09.4	
	comp=N,3.4nm,0.7s						

*NEIC **07** 01:49:04.3±0.3, 36°.361N±0°.009×98°.156W±0°.009, h7km±2km, Error ellipse: s-maj=1.3km s-min=1.1km az=172.0*

NEIC 07 01:49:04.2±0.3, 36°.359N±0°.009×98°.159W±0°.006, h5km±1km, mb_Lg2.3/26, ML2.5/50, ML2.6/52, Error ellipse: s-maj=2.5km s-min=1.6km az=27.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.20**	**44**		Pg	01 49 08.8	+0.6
CROK				Sg	Sg	01 49 12.0	+1.1
CROK				IAML		01 49 12.1	
	comp=E,2µm,0.3s						
CROK				IAML		01 49 12.1	
	comp=N,2µm,0.3s						
OK038	**West end E0370**	**0.48**	**284**		Pg	01 49 14.1	+0.5
OK038					Sg	01 49 21.0	+1.2
OK038				IAML		01 49 25.5	
	comp=N,633nm,0.2s						
GC02	**Grant County #**	**0.55**	**26**		Pg	01 49 15.0	+0.3
KAN14	**Manchester OK**	**0.62**	**15**		Pg	01 49 16.3	+0.2
KAN14				IAML		01 49 25.5	
	comp=E,255nm,0.2s						
KAN17	**Caldwell West**	**0.75**	**25**		Pg	01 49 18.7	0.0
KAN17				IAML		01 49 34.0	
	comp=N,248nm,0.3s						
KAN10	**Anthony SW Sta**	**0.76**	**4**		Pg	01 49 19.0	+0.1
KAN10					Sg	01 49 29.6	+0.8
OK029	**Liberty Lake**	**0.80**	**134**		Pg	01 49 19.5	0.0
OK029				IAML		01 49 33.0	
	comp=N,250nm,0.4s						
OK029				IAML		01 49 33.2	
	comp=N,297nm,0.4s						
BCOK	**Bluff Creek, N**	**0.83**	**147**		Pg	01 49 20.1	0.0
BCOK					Sg	01 49 31.6	+0.8
CSTR	**Hydro, Custer**	**0.83**	**211**		Pg	01 49 20.5	+0.3
CSTR					Sb	01 49 32.2	-0.4
KAN13	**South Haven SW**	**0.85**	**40**		Pg	01 49 20.5	0.0
KAN13				IAML		01 49 35.9	
	comp=E,289nm,0.2s						
KAN01	**Argonia South**	**0.85**	**22**		Pg	01 49 20.5	-0.1
BLOK	**Blackwell**	**0.86**	**62**		Pg	01 49 20.6	0.0
KAN08	**Anthony NE Sta**	**0.88**	**10**		Pg	01 49 21.1	0.0
KAN08					Pb	01 49 21.2	-0.7
KAN08					Sg	01 49 32.9	+0.4
KAN09	**Caldwell North**	**0.89**	**29**		Pg	01 49 21.2	0.0
KAN09					Sg	01 49 33.1	+0.3
KAN12	**Harper NE Stat**	**0.94**	**8**		Pg	01 49 22.2	-0.1
KAN12					Sg	01 49 35.0	+0.4
KAN12				IAML		01 49 44.2	
	comp=N,195nm,0.3s						
KAN12				IAML		01 49 46.3	
	comp=E,220nm,0.4s						
OK048	**Pawnee Station**	**0.98**	**86**		Pg	01 49 22.8	-0.2
OK004	**Okla Sci Mus**	**1.00**	**146**		Pg	01 49 23.2	-0.2
OK004					Sg	01 49 36.8	+0.5
OKCSW	**OKLAHOMA CITY**	**1.12**	**148**	IAML		01 49 42.1	
	comp=E,144nm,0.1s						
OK052	**Battle Ridge R**	**1.16**	**108**		Pg	01 49 25.9	-0.4
OK052					Sg	01 49 41.2	-0.1
OK052				IAML		01 49 43.8	
	comp=E,151nm,0.2s						
QUOK	**Quay**	**1.19**	**99**		Pg	01 49 26.4	-0.5
QUOK					Sg	01 49 42.2	-0.1
FNO	**Franklin**	**1.26**	**151**		Pg	01 49 27.6	-0.7
FNO					Sg	01 49 44.7	0.0
FNO				IAML		01 49 46.0	
	comp=E,136nm,0.2s						
FNO				IAML		01 49 46.3	
	comp=N,109nm,0.2s						
T35A	**Sooner Cattle**	**1.44**	**67**		Pn	01 49 30.8	-0.1
T35A					Sb	01 49 49.6	-0.5
DEOK	**Depew**	**1.44**	**110**		Pn	01 49 30.8	-0.1
DEOK					Sb	01 49 50.1	-0.1
WMOK	**Wichita Mounta**	**1.70**	**198**		Pn	01 49 34.6	+0.1
WMOK				IAmb_Lg		01 50 00.2	
	comp=Z,18nm,0.9s						
X34A	**Smith Ranch, M**	**1.77**	**171**		Pn	01 49 35.3	-0.3
TUL3	**Leonard**	**1.97**	**102**		Pn	01 49 38.9	+0.7
R32A	**Long Quarter,**	**2.11**	**348**		Pb	01 49 42.0	-0.8
SMWD	**Samnorwood**	**2.11**	**234**		Pn	01 49 41.5	+1.3
LOOK	**Love County**	**2.49**	**161**		Pb	01 49 49.3	-0.2
WTFS	**Witchita Falls**	**2.60**	**186**		Pb	01 49 49.7	-1.6
HHAR	**Hobbs**	**3.41**	**90**		Pn	01 49 59.3	+1.3
HHAR				IAmb_Lg		01 50 57.1	
	comp=Z,8.1nm,1.0s						
DKNS	**Dickens**	**3.52**	**221**	IAmb_Lg		01 50 60.0	
	comp=Z,11nm,0.9s						
ABTX	**Abilene, Hawle**	**3.92**	**199**	IAmb_Lg		01 51 13.8	
	comp=Z,5.2nm,0.8s						
SN05	**Snyder 5**	**4.14**	**214**	IAmb_Lg		01 51 21.2	
	comp=Z,9.1nm,0.8s						
MIAR	**Mount Ida**	**4.16**	**114**	IAmb_Lg		01 51 22.9	
	comp=Z,7.5nm,0.9s						
POST	**Post**	**4.29**	**221**	IAmb_Lg		01 51 26.4	
	comp=Z,7.9nm,1.1s						
X40A	**Basin Creek Fa**	**4.73**	**112**	IAmb_Lg		01 51 46.4	
	comp=Z,8.1nm,1.0s						
P38A	**Dawn**	**4.90**	**47**	IAmb_Lg		01 51 49.8	
	comp=Z,4.5nm,0.9s						
R40A	**Maddies Statio**	**5.08**	**66**	IAmb_Lg		01 51 50.3	
	comp=Z,4.1nm,0.9s						
T25A	**Trinidad**	**5.08**	**281**	IAmb_Lg		01 51 50.4	
	comp=Z,5.6nm,0.8s						
L34A	**Svendsen Farm,**	**5.77**	**13**	IAmb_Lg		01 52 23.3	
	comp=Z,8.0nm,0.8s						
CCM	**Cathedral Cave**	**5.77**	**71**	IAmb_Lg		01 52 08.8	
	comp=Z,4.6nm,0.8s						
PBMO	**Poplar Bluff**	**6.23**	**84**	IAmb_Lg		01 52 22.2	
	comp=Z,4.8nm,0.8s						

IDC 07 01:59:10.0±2.2, 19°.63N×143°.33E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=309.9km s-min=27.7km az=109.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.30**	**193**	P	P	02 06 49.7	+0.4
	2.1nm,0.9s,baz=15,slow=8.1,SNR=21						
WRA				PcP	PcP	02 08 51.4	-1.7
	0.2nm,0.5s,baz=20,slow=3.5,SNR=2.3						
	2.1nm,0.9s						
ASAR	**Alice Springs**	**44.01**	**192**	P	P	02 07 19.2	-0.3
	0.6nm,0.6s,baz=18,slow=8.6,SNR=7.8						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**63.81**	**27**	P	P	02 09 44.2	+0.3
	0.4nm,0.6s,baz=265,slow=5.0,SNR=4.4						
	0.4nm,0.6s						

*IDC **07** 02:01:11.7±2.5, 59°.97N×153°.96W, h109km±38km, mb3.4/5, mbtmp3.7/9, Error ellipse: s-maj=46.4km s-min=25.6km az=112.0*

*NEIC **07** 02:01:13.1±1.5, 59°.89N±0°.04×153°.42W±0°.08, h143km±4km, Error ellipse: s-maj=5.7km s-min=5.6km az=143.0*

*AEIC **07** 02:01:14.1±1.4, 59°.90N±0°.03×153°.39W±0°.04, h140km±4km, ML3.0, ML3.3/192(NEIC), Error ellipse: s-maj=5.7km s-min=1.3km az=149.0*

ISC 07 02:01:13.0±0.7, 59°.87N±0°.03×153°.36W±0°.04, h145km±5km, n202, σ1°23/216, mb3.6/5, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILSW	**Iliamna Southw**	**0.16**	**44**		**Pn**	**02 01 32.1**	**-0.6**
ILSW				Sn	**Sn**	**02 01 46.5**	**-1.2**
ILSW

HOM Sn Sn 02 01 54.6 +0.5
HOM IAML 02 01 56.1
comp=E,834nm,0.4s
HOM IAML 02 01 56.7
comp=N,713nm,0.5s
O18K Koktuh Hills 0.93 270 Pn 02 01 36.0 -0.7
O18K Sn Sn 02 01 53.3 -1.4
Q19K Cape Douglas, 0.96 189 Pn 02 01 36.9 0.0
Q19K Sn Sn 02 01 55.0 -0.2
Q19K IAML 02 01 55.0
comp=E,646nm,0.7s
P18K Big Mountain, 1.06 244 Pn 02 01 37.2 -0.7
P18K Sn Sn 02 01 54.4 -2.4
P18K IAML 02 01 56.0
comp=N,70nm,0.7s
N19K Bonanza Creek 1.10 330 Pn 02 01 37.6 -0.6
N19K Sn Sn 02 01 55.6 -1.9
N19K IAML 02 01 55.9
comp=E,244nm,0.7s
N19K IAML 02 01 56.5
comp=N,338nm,0.6s
CNPM China Poot 1.13 107 Pn 02 01 38.7 +0.2
CNPM Sn Sn 02 01 57.2 -0.7
CNPM IAML 02 01 58.2
comp=N,779nm,0.3s
CNPM IAML 02 01 58.8
comp=E,532nm,0.5s
BRLK Bradley Lake 1.25 94 Pn 02 01 39.9 +0.3
BRLK Sn Sn 02 01 59.4 -0.6
BRLK IAML 02 02 00.4
comp=N,559nm,0.4s
BRLK IAML 02 02 00.6
comp=E,302nm,0.5s
SYI Shuyak Island 1.36 158 Pn 02 01 40.9 +0.3
SYI Sn Sn 02 02 01.3 -0.5
CAPN Captain Cook N 1.42 50 Pn 02 01 42.4 +1.2
CAPN Sn Sn 02 02 03.1 +0.3
SPCR Spurr Chakacha 1.45 23 Sn 02 02 02.8 -0.8
SPU Mount Spurr 1.47 26 Pn 02 01 41.9 +0.1
SPU Sn Sn 02 02 02.9 -1.0
SPU IAML 02 02 04.7
comp=N,133nm,0.8s
SPU IAML 02 02 05.2
comp=E,183nm,0.6s
N18K Kilae Creek 1.50 304 Pn 02 01 41.7 -0.4
N18K Sn Sn 02 02 02.7 -1.8
N18K IAML 02 02 03.2
comp=E,63nm,0.7s
KAHG Katmai Hook Gl 1.51 204 Sn 02 02 04.1 -0.6
SLKM Skilak Lake 1.69 67 Pn 02 01 44.5 +0.2
SLKM Sn Sn 02 02 07.0 -1.3
STLK Strandline Lak 1.80 24 Pn 02 01 45.6 +0.1
STLK Sn Sn 02 02 09.5 -0.9
STLK IAML 02 02 10.1
comp=E,74nm,0.8s
STLK IAML 02 02 12.5
comp=N,59nm,0.5s
O22K Cooper Landing 1.92 70 Pn 02 01 47.4 +0.6
O22K Sn Sn 02 02 11.4 -1.3
ACHA Angle Creek He 1.95 212 Pn 02 01 47.4 +0.2
SEW Seward 1.98 82 Pn 02 01 47.7 +0.3
SEW Sn Sn 02 02 12.3 -1.6
SEW IAML 02 02 13.0
comp=N,240nm,0.4s
SEW IAML 02 02 18.9
comp=E,233nm,0.6s
FIS Fire Island 2.01 49 Pn Pn 02 01 48.7 +0.9
FIS Sn 02 02 12.7 -1.9
FIS IAML 02 02 17.1
comp=E,391nm,0.8s
N17K Nushagak Hills 2.02 291 Pn 02 01 48.1 +0.1
M20K Styx River 2.02 3 Pn 02 01 48.1 0.0
M20K Sn Sn 02 02 14.5 -0.5
SUA Susitna One 2.05 38 IAML 02 02 17.5
comp=E,383nm,0.5s
M19K Big River Lodg 2.10 347 Pn 02 01 48.4 -0.6
KDAK Kodiak Island 2.13 169 Pn 02 01 48.5 -0.9
KDAK IAML 02 02 17.3
comp=E,266nm,0.4s
KDAK IAML 02 02 17.4
comp=E,295nm,0.4s
KDAK Kodiak Island 2.13 169 P Pn 02 01 48.4 -0.9
comp=E,25nm,0.4s,baz=355,slow=7.4,SNR=249
KDAK S Sn 02 02 15.2 -2.0
comp=E,133nm,0.3s,baz=178,slow=15,SNR=43
RC01 Rabbit Creek A 2.17 54 Pn 02 01 49.5 -0.3
RC01 Sn Sn 02 02 16.4 -1.7
RC01 IAML 02 02 19.1
comp=N,306nm,0.3s
SKT Skwentna 2.30 22 IAML 02 02 21.2
comp=E,96nm,0.5s
SKT IAML 02 02 21.9
comp=N,90nm,0.6s
O16K Kokwok River B 2.41 265 Pn 02 01 53.1 +0.4
M22K Willow 2.47 39 Pn 02 01 53.3 0.0
P16K Nushagak River 2.51 252 Pn Pn 02 01 54.6 +0.7
P16K IAML 02 02 35.2
comp=N,37nm,1.3s
P16K IAML 02 03 11.9
comp=E,38nm,1.0s
M17K Holitna River 2.53 309 Pn 02 01 54.0 -0.2
M17K IAML 02 02 26.9
comp=E,33nm,1.1s
OHAK Old Harbor 2.66 179 Pn 02 01 54.7 -1.0
OHAK IAML 02 02 27.5
comp=N,121nm,0.4s
OHAK IAML 02 02 27.9
comp=E,98nm,0.4s
OHAK Old Harbor 2.66 179 P Pn 02 01 54.5 -1.2
OHAK Old Harbor 2.66 179 S Sn 02 02 26.1 -2.6
PWL Port Wells 2.69 66 Pn 02 01 56.4 +0.3
PWL IAML 02 02 29.5
comp=E,181nm,0.3s
PWL IAML 02 02 34.0
comp=N,197nm,0.4s
PMR Palmer 2.70 48 S Sn 02 02 26.8 -2.9
PLK4 Peulik 4 2.73 216 Sn 02 01 57.5 +0.7
PLK4 IAML 02 02 35.0
comp=N,45nm,0.7s
PLK4 IAML 02 02 35.0
comp=E,48nm,0.8s
L18K Granite Mounta 2.86 327 Pn 02 01 57.5 -0.7
L18K IAML 02 02 32.5
comp=N,21nm,0.9s
KNK Knik Glacier 2.87 55 Pn Pn 02 01 57.7 -0.7
KNK IAML 02 02 32.8
comp=N,169nm,0.5s
KNK IAML 02 02 32.8
comp=E,158nm,0.3s
GHO Glory Hole Cre 2.89 47 IAML 02 02 35.8
comp=N,96nm,0.4s
GHO IAML 02 02 42.3
comp=E,120nm,0.6s
CUT Chulitna 2.95 29 Pn 02 01 59.4 0.0
M16K Timber Creek 3.00 295 Pn 02 02 00.2 +0.1
PPLA Purkeypile 3.09 10 Pn 02 02 01.4 +0.1
PPLA Purkeypile 3.09 10 IAML 02 02 40.1
comp=E,32nm,1.2s
PPLA IAML 02 03 12.0
comp=N,19nm,0.9s
GLI Glacier Island 3.27 69 Pn Pn 02 02 03.3 -0.2
GLI IAML 02 02 42.8
comp=N,108nm,0.7s
GLI IAML 02 02 44.8
comp=E,128nm,0.6s
SII Sitkinak Islan 3.35 188 Pn Pn 02 02 03.8 -0.8
SII IAML 02 02 47.3
comp=N,104nm,0.8s
SII Sitkinak Islan 3.35 188 P Pn 02 02 03.9 -0.7
SII Sitkinak Islan 3.35 188 S Sn 02 02 42.7 -1.8
O15K Ungalikthiuk R 3.37 261 Pn 02 02 05.9 +1.1
O15K IAML 02 02 47.2
comp=N,14nm,1.1s
N15K Kwethluk River 3.39 278 Pn 02 02 06.1 +1.0
HIN Hinchinbrook I 3.47 78 Pn Pn 02 02 06.5 +0.4
HIN IAML 02 02 47.3
comp=N,121nm,0.8s
HIN IAML 02 02 50.3
comp=E,100nm,0.6s
K20K Telida 3.52 355 Pn 02 02 06.5 -0.1
L16K Owhat River 3.52 304 Pn 02 02 06.9 +0.2
FID Port Fidalgo 3.54 73 Pn 02 02 06.6 -0.4
SCM Sheep Creek Mo 3.55 54 Pn 02 02 06.4 -0.8
Q23K Middleton Isla 3.59 94 Pn Pn 02 02 08.6 +1.0

Q23K IAML 02 03 30.1
comp=N,96nm,1.4s
Q23K IAML 02 04 09.8
comp=E,91nm,1.1s
K17K Iditarod 3.72 322 IAML 02 02 53.8
comp=N,11nm,1.1s
EYAK Cordova Ski Ar 3.86 77 Pn Pn 02 02 11.6 +0.4
EYAK IAML 02 02 56.6
comp=E,44nm,0.3s
EYAK Cordova Ski Ar 3.86 77 P Pn 02 02 11.5 +0.4
EYAK Cordova Ski Ar 3.86 77 S Sn 02 02 54.8 -1.5
KTH Kantishna Hill 3.87 16 IAML 02 03 00.1
comp=E,24nm,0.6s
KTH IAML 02 03 18.6
comp=N,21nm,0.7s
TRF Thorofare Moun 3.88 21 Pn 02 02 11.0 -0.5
TRF IAML 02 02 58.5
comp=N,46nm,0.5s
TRF IAML 02 02 58.7
comp=E,38nm,0.4s
DIV Divide 3.96 68 Pn Pn 02 02 13.7 +1.1
DIV IAML 02 02 59.1
comp=E,47nm,0.5s
KLU Klutina 4.00 63 Pn 02 02 13.4 +0.3
O14K Tigyukauivet M 4.07 265 Pn Pn 02 02 14.8 +1.0
RND Reindeer 4.15 29 IAML 02 03 02.9
comp=N,24nm,0.5s
RND IAML 02 03 05.5
comp=E,25nm,0.5s
M24K Tolsona, Glenn 4.16 54 Pn 02 02 14.9 -0.2
N14K Kuskokwak Cree 4.19 274 Pn Pn 02 02 16.2 +0.7
N14K IAML 02 03 49.7
comp=E,6.6nm,1.1s
N14K IAML 02 04 33.7
comp=N,8.0nm,1.1s
CHIR Chirikof Islan 4.24 198 Pn Pn 02 02 15.0 -1.1
CHIR IAML 02 03 03.0
comp=E,22nm,1.0s
CHIR IAML 02 03 03.5
comp=N,46nm,0.6s
CHIR Chirikof Islan 4.24 198 P Pn 02 02 14.7 -1.4
CHIR Chirikof Islan 4.24 198 S Sn 02 03 01.7 -3.5
DHY Denali Highway 4.31 39 IAML 02 03 06.8
comp=E,49nm,0.5s
DHY IAML 02 03 08.5
comp=N,46nm,0.5s
J20K Nowinta River 4.34 355 IAML 02 03 36.8
comp=E,6.9nm,1.1s
J20K IAML 02 04 02.0
comp=N,6.9nm,1.2s
M14K Bethel 4.37 285 Pn Pn 02 02 18.5 +0.8
L15K Ungalak Mounta 4.38 298 Pn Pn 02 02 17.6 -0.3
RAGM Ragged Mountai 4.38 79 Pn Pn 02 02 18.3 +0.3
BPAW Bear Paw Mtn. 4.39 14 IAML 02 03 05.7
comp=N,10nm,0.7s
BPAW IAML 02 03 14.1
comp=E,9.5nm,0.8s
MCK McKinley 4.41 27 Pn 02 02 18.2 -0.1
MCK IAML 02 03 08.2
comp=N,19nm,0.5s
MCK IAML 02 03 10.7
comp=E,32nm,0.6s
CHGN Chignik 4.47 219 Pn 02 02 19.0 -0.2
CHGN IAML 02 03 10.9
comp=E,44nm,0.1s
CHGN IAML 02 04 16.3
comp=N,38nm,0.1s
BMRM Bremner River 4.48 72 Pn Pn 02 02 20.1 +0.8
BMRM IAML 02 03 10.4
comp=E,62nm,0.4s
KAIM Kayak Island 4.50 85 Pn Pn 02 02 20.3 +0.6
KAIM IAML 02 03 17.3
comp=N,60nm,1.1s
HMT Hamilton 4.58 80 Pn Pn 02 02 21.5 +0.8
N25K Chitina, Valde 4.64 64 Pn 02 02 21.4 -0.1
K15K Wolf Creek Mou 4.65 305 Pn 02 02 21.8 +0.3
BWN Browne 4.69 21 IAML 02 03 45.1
comp=E,24nm,1.1s
BWN IAML 02 04 46.2
comp=N,30nm,1.0s
VNHG Veniaminof 1 4.78 223 Pn 02 02 24.3 +0.8
SUCK Suckling Hills 4.82 83 Pn Pn 02 02 25.7 +1.9
SUCK IAML 02 03 19.6
comp=N,34nm,0.4s
SUCK IAML 02 03 27.3
comp=E,24nm,0.8s
L14K Kuka Creek 4.82 292 Pn Pn 02 02 25.1 +1.2
L14K IAML 02 03 07.8
comp=E,6.7nm,1.4s
L14K IAML 02 03 20.5
comp=N,4.7nm,1.0s
BERG Berg Lake 4.86 80 Pn 02 02 25.3 +1.0
WACK Wrangell Chich 4.89 60 Pn 02 02 25.5 +0.6
PAX Paxson 4.90 47 IAML 02 03 20.4
comp=N,32nm,0.6s
PAX IAML 02 03 22.2
comp=E,26nm,0.5s
GLB Gilahina Butte 4.96 67 Pn 02 02 26.6 +1.0
GLB IAML 02 03 22.1
comp=N,31nm,0.3s
GLB IAML 02 03 22.5
comp=E,24nm,0.4s
I20K Naaghedeneel 4.97 354 Pn 02 02 25.0 -0.7
I20K IAML 02 03 05.7
comp=N,16nm,0.8s
I20K IAML 02 04 05.8
comp=E,18nm,1.1s
M13K Dall Lake 5.02 281 Pn Pn 02 02 27.4 +1.0
NEA2 Nenana 5.14 21 IAML 02 03 27.2
comp=N,7.6nm,0.7s
NEA2 IAML 02 03 28.1
comp=E,5.7nm,0.6s
CRQM Cirque 5.16 76 Pn Pn 02 02 27.7 -0.8
WRH Wood River Hil 5.23 26 IAML 02 03 26.9
comp=N,8.3nm,1.0s
WRH IAML 02 03 28.3
comp=E,11nm,0.9s
WAX Waxell Ridge 5.28 79 Pn Pn 02 02 31.7 +1.7
MCARA McCarthy VSAT 5.31 69 Pn Pn 02 02 31.9 +1.6
K24K Donnelly Dome 5.33 39 Pn 02 02 31.0 +0.4
BARK Barkley Ridge 5.46 80 Pn 02 02 33.3 +0.9
ISLE Juniper Island 5.54 78 Pn Pn 02 02 33.8 +0.3
PTPK Patty Peak 5.54 72 Pn 02 02 34.2 +0.6
KIAG Kiagna River 5.56 74 Pn 02 02 34.1 +0.4
MENT Mentasta 5.56 52 Pn Pn 02 02 34.5 +0.9
I23K Minto, Yukon-K 5.61 18 Pn 02 02 33.5 -0.8
M26K Nabesna, AK 5.62 59 Pn 02 02 35.7 +1.1
COLA College 5.64 25 Pn 02 02 34.1 -0.5
COLA College 5.64 25 P Pn 02 02 33.6 -1.0
MESA MESA 5.73 82 Pn Pn 02 02 38.1 +2.0
IL31 5.77 29 Pn 02 02 35.5 -0.8
ILAR Eielson Array 5.77 29 Pn 02 02 35.6 -0.7
ILAR Eielson Array 5.77 29 P Pn 02 02 35.4 -1.0
comp=E,12nm,0.4s,baz=217,slow=13,SNR=229
ILAR S Sn 02 03 35.5 -6.0
comp=E,4.2nm,0.5s,baz=214,slow=23,SNR=11
DOT Dot Lake 5.82 45 Pn 02 02 37.0 0.0
YAH Yahtse 5.83 80 Pn Pn 02 02 38.1 +0.7
GRNC Granite Creek 5.84 76 Pn Pn 02 02 37.9 +0.3
SDPT Sand Point 5.93 223 P Pn 02 02 36.5 -2.1
CTGM Chitina Glacie 6.06 74 Pn 02 02 40.9 +0.5
CHNA Chernabura Isl 6.07 216 P Pn 02 02 38.8 -1.7
CNBA Chernabura Isl 6.08 216 Pn Pn 02 02 41.8 +1.2
H22K Ishtalitna Cre 6.11 8 Pn 02 02 40.0 -1.0
IMAR Indian Mountai 6.14 359 Pn 02 02 41.2 -0.1
LOGN Logan Glacier 6.21 76 Pn Pn 02 02 44.5 +2.0
H23K Yukon River 6.23 15 Pn 02 02 42.6 +0.1
S12K Black Hills 6.25 232 Pn Pn 02 02 44.7 +1.8
BCAR Beaver Creek A 6.40 55 Pn Pn 02 02 45.0 +0.1
J26L Joseph Creek 6.52 40 Pn 02 02 45.7 -0.8
PCA Pinnacle 6.58 82 Pn Pn 02 02 49.0 +1.7
G21K Allakaket 6.67 360 Pn 02 02 48.0 -0.4
G16K Koyuk River 6.92 327 Pn Pn 02 02 50.9 -0.8
PNL Peninsula 7.06 86 Pn 02 02 54.1 +0.5
PNL Peninsula 7.06 86 P Pn 02 02 55.7 +2.1
F19K Shaleruckik Mo 7.26 346 Pn 02 02 56.7 +0.5
F21K Alatna River 7.38 360 Pn 02 02 58.4 +0.5
F17K Baldwin Pennin 7.49 335 Pn Pn 02 03 00.8 +1.4
M29M Somme Creek 7.65 64 Pn 02 03 02.0 +0.3
DAWY Dawson 7.80 51 Pn Pn 02 03 04.4 +0.8
F15K North Star Dit 7.80 323 Pn Pn 02 03 03.8 +0.2
E19K Redstone River 7.81 349 Pn 02 03 04.1 +0.6
I27K Kandik River 7.87 38 Pn 02 03 03.8 -0.8
HYT Haines Junctio 7.92 76 Pn Pn 02 03 07.1 +1.8

L29M L29M 7.97 59 Pn Pn 02 03 06.7 +0.8
F24K Squaw Lake 8.05 15 Pn 02 03 06.5 -0.4
N30M Ashikik Lake 8.15 72 Pn Pn 02 03 08.5 +0.2
E18K Tukpahlearik C 8.23 340 Pn Pn 02 03 10.1 +0.9
G26K Porcupine Rive 8.29 27 Pn 02 03 08.0 -2.0
I28M Miner Creek 8.32 42 Pn 02 03 09.7 -0.9
E22K Anaktuvuk Pass 8.32 4 Pn Pn 02 03 11.0 +0.4
M30M Minto, Yukon 8.44 64 Pn Pn 02 03 13.0 +1.0
K29M Barlow Dome 8.47 55 Pn Pn 02 03 13.3 +0.7
BMAR Burnt Mountain 8.52 23 Pn 02 03 12.1 -1.1
G27K Doyon Strip 8.71 32 Pn 02 03 15.2 -0.5
F26K Sheenjek River 8.84 23 Pn Pn 02 03 15.9 -1.5
AKUT Akutan 8.87 235 P Pn 02 03 14.7 -3.2
D19K Tuna River 8.90 349 Pn Pn 02 03 18.5 +0.3
TOLK Toolik Lake Re 8.96 9 Pn 02 03 18.2 -0.7
D20K Etivluk River 8.99 352 Pn Pn 02 03 19.1 -0.2
S31K Pelican 9.06 95 Pn Pn 02 03 22.9 +2.6
D23K Nanushuk River 9.20 6 Pn Pn 02 03 22.1 -0.1
WHY Whitehorse 9.22 77 Pn Pn 02 03 23.1 +0.6
H29M Whitestone 9.30 40 Pn Pn 02 03 24.1 +0.6
C18K Utukok River 9.44 342 Pn Pn 02 03 24.6 -0.8
I30M Mount Dempster 9.48 48 Pn Pn 02 03 27.1 +1.1
GAMB Gambell 9.50 302 Pn Pn 02 03 28.3 +2.1
F28M Old Crow 9.78 32 Pn Pn 02 03 28.8 -1.1
E27K Coleen River 9.79 27 Pn Pn 02 03 29.1 -0.9
R32K Eaglecrest 9.83 91 Pn Pn 02 03 34.3 +3.7
G29M Pine Creek 9.83 38 Pn Pn 02 03 31.3 +0.7
SIT Sitka 9.86 99 Pn Pn 02 03 33.9 +3.0
P32M Atlin 9.92 83 Pn Pn 02 03 33.8 +1.9
EPYK Eagle Plains 9.94 42 Pn Pn 02 03 33.3 +1.3
D25K Kavik River 9.94 14 Pn 02 03 31.2 -0.9
S32K Killisnoo 10.07 96 Pn Pn 02 03 37.5 +3.8
H31M Peel River 10.50 47 Pn Pn 02 03 39.7 +0.2
C27K Jago River 10.61 19 Pn Pn 02 03 41.3 +0.5
Q32M Nakina River 10.78 86 Pn Pn 02 03 46.8 +3.4
E29M Blow River 10.85 32 Pn Pn 02 03 44.0 0.0
G31M Satah River 11.06 42 Pn Pn 02 03 46.7 0.0
R33M Jennings River 11.33 83 Pn Pn 02 03 52.9 +2.3
CRAG Craig 11.68 103 Pn Pn 02 03 57.0 +2.0
DLBC Dease Lake 12.05 87 P P 02 04 04.4 -2.2
comp=E,0.1nm,0.3s,baz=243,slow=16,SNR=8.0
INK Inuvik 12.05 37 Pn Pn 02 04 00.4 +0.7
INK Inuvik 12.05 37 P Pn 02 04 01.1 +1.4
comp=E,1.9nm,0.6s,baz=198,slow=16,SNR=4.5
T35M Bob Quinn 12.43 93 Pn P 02 04 08.9 -1.9
MOBC Moresby Island 13.55 110 P P 02 04 23.9 +0.6
SONM Songino Array 54.72 306 P P 02 10 28.3 +1.4
comp=E,0.3nm,0.5s,baz=54,slow=7.3,SNR=2.3
comp=E,0.3nm,0.5s
ZALV Zalesovo Beam 57.37 323 P P 02 10 46.5 +1.0
comp=E,1.8nm,0.5s,baz=23,slow=8.2,SNR=7.8
comp=E,1.8nm,0.5s
BVAR Borovoye Array 62.10 332 P P 02 11 18.3 +0.5
comp=E,0.7nm,0.5s
comp=E,0.7nm,0.5s
KURBB Kurchatov Arra 62.14 325 P P 02 11 18.6 +0.5
comp=E,0.3nm,0.4s,baz=26,slow=7.2,SNR=2.6
comp=E,0.3nm,0.4s
MKAR Makanchi Array 64.42 321 P P 02 11 33.3 +0.1
comp=E,0.2nm,0.5s,baz=34,slow=9.2,SNR=2.4
comp=E,0.2nm,0.5s

IDC 07 02:05:40.0±10.0, 15°.93S×173°.93W, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=251.6km s-min=44.0km az=33.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.33**	**240**	P	P	02 13 44.4	+0.3
	0.9nm,0.4s,baz=77,slow=9.2,SNR=4.1						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**49.23**	**257**	P	P	02 14 30.0	-0.7
	0.4nm,0.5s,baz=95,slow=7.5,SNR=9.5						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**49.46**	**252**	P	P	02 14 32.5	+0.1
	5.0nm,0.6s,baz=88,slow=8.1,SNR=100						
	5.0nm,0.6s						
VNDA	**Vanda**	**62.80**	**186**	P	P	02 16 06.9	0.0
	0.6nm,0.3s,baz=6.6,slow=4.3,SNR=9.9						
	0.6nm,0.3s						

NEIC ***07*** *02:06:03.6±3.2, 35°.757N±0°.008×117°.578W±0°.009, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.8km az=26.0*

PAS 07 02:06:04.4±2.8, 35°.792N±0°.009×117°.59W±0°.01, h7km±4km, Mwr3.6/4, ML3.6/140(NEIC), Error ellipse: s-maj=1.6km s-min=1.2km az=57.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.02**	**352**	Pg	Pg	02 06 06.9	+1.1
TOW	**Tower One**	**0.14**	**277**		Pg	02 06 07.7	+0.3
WVPM	**Volcano Peak E**	**0.24**	**311**		Pg	02 06 08.7	-0.5
WVPM					Sg	02 06 11.4	-1.1
WNMM	**Nine Mile Cany**	**0.26**	**281**		Pg	02 06 09.1	-0.4
MPMC	**Manual Prospec**	**0.28**	**18**	Pg	Pg	02 06 10.5	+0.5
MPMC					Sg	02 06 13.9	+0.2
MPMC				IAML		02 06 16.5	
	comp=N,6μm,0.4s						
MPMC				IAML		02 06 16.8	
	comp=E,10μm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.32**	**193**	Pg	Pg	02 06 10.5	-0.2
LRMC					Sg	02 06 14.6	-0.4
LRMC				IAML		02 06 15.6	
	comp=N,12μm,0.3s						
LRMC				IAML		02 06 15.9	
	comp=E,13μm,0.4s						
WRVM	**Rose V. Centra**	**0.32**	**312**		Pg	02 06 10.1	-0.7
WRVM					Sb	02 06 17.2	-0.9
CCCA	**Chr Cany lake**	**0.33**	**145**	Pg	Pg	02 06 10.5	-0.3
CCCA				Sg	Sg	02 06 15.4	+0.3
WBSM	**Bird Springs**	**0.51**	**240**		Pg	02 06 14.2	-0.1
WBSM					Sg	02 06 21.6	+0.5
WORM	**Onyx Ranch**	**0.54**	**260**		Sg	02 06 20.6	-1.2
DTP	**Desert Tortois**	**0.56**	**201**		Pg	02 06 14.8	-0.5
QSM	**Queen of Sheba**	**0.61**	**73**		Pg	02 06 15.8	-0.4
QSM					Sg	02 06 23.9	-0.3
QSM				IAML		02 06 25.0	
	comp=E,6μm,0.2s						
QSM				IAML		02 06 25.3	
	comp=N,5μm,0.2s						
CCAC	**Calif City Air**	**0.72**	**209**		Pg	02 06 18.0	-0.4
ISA	**Isabella, Lake**	**0.73**	**260**		Pg	02 06 17.8	-0.6
ISA				IAML		02 06 29.3	
	comp=E,2μm,0.4s						
ISA				IAML		02 06 29.4	
	comp=N,2μm,0.4s						
CWC	**Cottonwood Cre**	**0.76**	**329**		Sb	02 06 30.6	0.0
CWC				IAML		02 06 33.8	
	comp=E,2μm,0.3s						
CWC				IAML		02 06 34.6	
	comp=N,2μm,0.2s						
CWC	**Cottonwood Cre**	**0.76**	**329**		Pg	02 06 18.6	-0.4
CGO	**Cerro Gordo**	**0.78**	**347**		Pg	02 06 19.0	-0.4
WASM	**Alta Sierra Ca**	**0.79**	**266**		Pg	02 06 18.7	-0.8
GSC	**Goldstone, Bar**	**0.81**	**127**		Pg	02 06 17.7	-2.2
GSC				IAML		02 06 29.7	
	comp=N,3μm,0.4s						
GSC	**Goldstone, Bar**	**0.81**	**127**		Sg	02 06 29.3	-1.1
SHOC	**Shoshone, Teco**	**1.08**	**84**		Pg	02 06 24.6	-0.5
MAGC	**SCE Magundon P**	**1.17**	**249**		Pg	02 06 26.6	-0.2
VES	**Vestal, Richgr**	**1.21**	**273**		Pg	02 06 27.4	-0.2
GRAC	**Grapevine Rang**	**1.22**	**9**		Pg	02 06 27.4	-0.4
GRAC				IAML		02 06 51.7	
	comp=E,2μm,0.5s						
GRAC				IAML		02 06 51.9	
	comp=N,2μm,0.5s						
AMDNV	**Amargosa**	**1.25**	**58**		Pn	02 06 26.8	-1.5
WCT	**Wildcat Mounta**	**1.27**	**38**		Pn	02 06 28.3	-0.3
WCT				IAML		02 06 47.0	
	comp=E,1μm,0.5s						
WCT				IAML		02 06 47.2	
	comp=N,1μm,0.7s						
OSI	**Osito Audit: C**	**1.50**	**219**		Pn	02 06 31.9	+0.2
OSI				IAML		02 06 54.9	
	comp=N,1μm,0.8s						
OSI				IAML		02 06 56.0	
	comp=E,1μm,0.6s						
GMN	**Gold Mountain**	**1.53**	**10**		Pn	02 06 31.9	-0.5
GMN				IAML		02 06 39.3	
	comp=N,777nm,0.4s						
VOG	**Valley Oaks Go**	**1.54**	**291**		Pg	02 06 33.6	-0.3

BFSC	**Mount Baldy Ra**	**1.55**	**182**			Pn	02 06 32.1	-0.4
BFSC				IAML			02 06 53.8	
	comp=N,450nm,0.4s							
BFSC				IAML			02 07 00.4	
	comp=E,457nm,0.9s							
TPNV	**Topopah Spring**	**1.58**	**43**	Pg		Pg	02 06 34.5	-0.3
TPNV				IAML			02 06 58.3	
	comp=E,1μm,0.6s							
TPNV				IAML			02 07 00.4	
	comp=E,1μm,0.5s							
DSP	**Deep Springs**	**1.60**	**349**			Pn	02 06 33.1	0.0
MWC	**Mount Wilson**	**1.61**	**194**	Pg		Pb	02 06 34.5	-0.1
PASC	**Pasadena Art C**	**1.69**	**197**	IAML			02 07 00.7	
	comp=E,772nm,0.5s							
PASC				IAML			02 07 02.6	
	comp=N,420nm,0.3s							
MZP	**Montezuma Peak**	**1.91**	**5**			Pn	02 06 37.0	-0.7
SHPR	**Sheep Range**	**2.09**	**69**			Pn	02 06 39.0	-1.0
ELS	**Elsinore Mount**	**2.14**	**176**			Pn	02 06 39.2	-1.5
ELS				IAML			02 07 18.8	
	comp=E,265nm,0.7s							
BACC	**Bachelor Mtn.**	**2.22**	**168**			Pn	02 06 40.1	-1.6
V12A	**Nelson**	**2.23**	**91**			Pn	02 06 40.9	-1.0
V12A				IAML			02 07 16.6	
	comp=N,305nm,0.6s							
V12A				IAML			02 07 18.6	
	comp=E,285nm,0.5s							
TPH	**Tonopah**	**2.30**	**7**			Pn	02 06 41.8	-1.1
TPH				Pg		Pg	02 06 48.0	-0.5
PMD	**Palm Desert**	**2.36**	**155**	Pn		Pn	02 06 41.6	-2.0
PMD				Pg		Pb	02 06 47.9	+0.6
PMD				IAML			02 07 28.1	
	comp=E,238nm,0.6s							
PFO	**Pinyon Flats O**	**2.37**	**156**			Pn	02 06 41.9	-1.9
PFO				IAML			02 07 21.0	
	comp=E,216nm,0.8s							
S11A	**Rachel**	**2.37**	**38**			Pn	02 06 43.3	-0.6
S11A				IAML			02 07 22.8	
	comp=E,473nm,0.6s							
S11A				IAML			02 07 28.9	
	comp=N,433nm,0.9s							
LHV	**Little Huntoon**	**2.56**	**344**			Pg	02 06 52.1	-1.3
LHV				IAML			02 07 39.4	
	comp=E,160nm,1.1s							
PRN	**Pahroc Range**	**2.60**	**51**			Pn	02 06 47.0	0.0
PRN				IAML			02 07 34.8	
	comp=E,296nm,0.6s							
PRN				IAML			02 07 44.4	
	comp=N,360nm,0.6s							
PMPB	**Monarch Peak**	**2.63**	**280**			Pn	02 06 47.0	-0.4
NEE2	**Needles Airpor**	**2.64**	**112**			Pg	02 06 53.8	-1.2
NV11	**Mina Array Sit**	**2.67**	**350**	Pn		Pn	02 06 47.8	-0.3
NVAR	**Mina Array Bea**	**2.69**	**348**			Pn	02 06 48.4	0.0
BBGB	**Big Mountain B**	**2.90**	**287**			Pn	02 06 51.1	0.0
RYN	**Ryan**	**2.93**	**346**			Pg	02 07 00.1	-0.4
R11B	**Troy Canyon, C**	**3.02**	**32**			Pb	02 06 59.8	+1.3
R11B				IAML			02 07 41.8	
	comp=E,100nm,0.7s							
Q09A	**Carvers**	**3.06**	**6**			Pg	02 07 01.6	-1.3
WAKR	**Walker**	**3.08**	**332**	Pn		Pn	02 06 52.0	-1.7
WAKR						Pg	02 07 01.8	-1.7
W13A	**Hualapai Mount**	**3.10**	**102**	IAML			02 07 45.4	
	comp=N,108nm,0.9s							
W13A				IAML			02 07 47.7	
	comp=E,104nm,0.8s							
CMB	**Columbia Colle**	**3.17**	**316**			Pn	02 06 54.9	+0.2
CMB				IAML			02 07 49.7	
	comp=N,129nm,0.7s							
CMB				IAML			02 07 50.6	
	comp=E,134nm,0.9s							
BLYC	**Blythe**	**3.25**	**128**			Pn	02 06 53.9	-1.8
BLYC				IAML			02 07 48.4	
	comp=E,184nm,0.6s							
SAO	**San Andreas Ge**	**3.26**	**288**			Pn	02 06 56.5	+0.5
TJX	**Tijuana**	**3.30**	**172**			Pn	02 06 54.6	-1.9
TKX	**Tecate**	**3.32**	**165**			Pn	02 06 56.7	-0.1
TKX				IAML			02 07 48.3	
	comp=N,102nm,0.3s							
TKX				IAML			02 07 50.5	
	comp=E,122nm,0.5s							
YUH	**Yuha Desert**	**3.43**	**156**			Pb	02 07 06.7	+1.2
GLA	**Glamis**	**3.56**	**139**			Pn	02 06 59.4	-0.8
LCMT	**Little Creek M**	**3.71**	**70**			Pn	02 07 03.3	+1.0
CCUT	**Cedar City**	**3.83**	**61**	Pg		Pg	02 07 16.4	-1.4
CPBX	**Cerro Prieto**	**3.86**	**150**	Pn		Pn	02 07 03.3	-0.9
CCX	**Cicese**	**3.99**	**169**	Pn		Pn	02 07 05.5	-0.4
CCX				IAML			02 08 13.2	
	comp=E,67nm,0.6s							
CCX				IAML			02 08 41.0	
	comp=N,56nm,0.1s							
ESJX	**Sierra Juarez**	**4.02**	**160**	IAML			02 08 20.4	
	comp=E,83nm,0.1s							
KNB	**Kanab**	**4.04**	**71**	IAML			02 08 23.2	
	comp=N,44nm,1.1s							
PSUT	**Pine Spring**	**4.05**	**46**	IAML			02 08 15.8	
	comp=N,58nm,0.6s							
PSUT				IAML			02 08 25.8	
	comp=E,59nm,1.2s							
SPR3	**Spring Creek 3**	**4.12**	**38**	IAML			02 08 22.7	
	comp=N,51nm,1.1s							
SPR3				IAML			02 08 26.7	
	comp=E,46nm,1.7s							
AFDM	**Forest Hills D**	**4.14**	**321**	IAML			02 08 18.9	
	comp=E,71nm,0.9s							
AFDM				IAML			02 08 20.4	
	comp=N,68nm,0.7s							
Y14A	**Wickenburg**	**4.20**	**115**	IAML			02 08 18.4	
	comp=E,98nm,0.6s							
Y14A				IAML			02 08 23.0	
	comp=N,117nm,1.1s							
113A	**Mohawk Valley,**	**4.37**	**132**	IAML			02 08 28.9	
	comp=N,35nm,0.8s							
113A				IAML			02 08 32.2	
	comp=E,40nm,0.8s							
BEKR	**Beckworth**	**4.62**	**333**	IAML			02 08 41.6	
	comp=E,63nm,0.7s							
BEKR				IAML			02 08 44.3	
	comp=N,29nm,1.1s							
VTX	**Valle De La Tr**	**4.64**	**161**			LR	02 08 32.2	
X16A	**Lo Mia Camp, P**	**5.23**	**103**	IAML			02 08 53.6	
	comp=N,19nm,1.0s							

*IDC **07** 02:06:08.4±4.4,30.°03N×142.°98E, h0km, mb3.5/4, mbtmp3.5/6, ML2.7/1, MS3.5/1, Error ellipse: s-maj=155.1km s-min=22.0km az=75.0*

ISC 07 02:06:14.8±3.4, 30.°0N±0.°2×142.°2E±0.°8, h35km, n7, σ2s 00/8, mb3.6/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**		**2.86** **181**	Pn	**Pn**	**02 06 57.4**	**-0.5**
	23nm,0.3s,baz=0.0,slow=0.0						
JCJ				Sn	**Sn**	**02 07 30.1**	**-1.0**
MJAR	**Matsushiro Arr**		**7.37** **334**	Pn	**Pn**	**02 07 58.7**	**-1.2**
	0.1nm,0.3s,baz=152,slow=12,SNR=9.1						
MJAR				Sn	**Sn**	**02 09 20.3**	**-2.0**
	0.1nm,0.3s,baz=111,slow=18,SNR=4.6 1.2nm,0.4s						
BRDH	**Bariadhala**		**45.63** **273**	LR	LR	02 38 12.6	
	comp=Z,52nm,18.2s,baz=106,slow=42						
MKAR	**Makanchi Array**		**48.72** **308**	P	**P**	**02 14 58.0**	**+2.1**
	0.4nm,0.7s,baz=91,slow=8.4,SNR=3.9 0.4nm,0.7s						
WRA	**Warramunga Arr**		**50.20** **190**	P	**P**	**02 15 07.1**	**-0.2**
	0.7nm,0.7s,baz=9.3,slow=7.7,SNR=5.3 0.7nm,0.7s						
KURBB	**Kurchatov Arra**		**51.10** **313**	P	**P**	**02 15 16.7**	**+2.9**
	0.3nm,0.4s,baz=92,slow=6.8,SNR=5.0 0.3nm,0.4s						
ASAR	**Alice Springs**		**53.92** **189**	P	**P**	**02 15 35.0**	**+0.1**
	0.2nm,0.8s,baz=14,slow=7.7,SNR=1.5 0.2nm,0.8s						

IDC 07 02:09:17.7±3.0, 32.°75S×178.°34W, h0km, mb3.4/2, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=74.7km s-min=45.6km az=124.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**		**6.63** **213**	Pn	Pn	02 10 55.9	-0.5
	0.5nm,0.3s,baz=255,slow=2.5,SNR=8.0						
URZ				Sn	Sn	02 12 06.7	-5.9
	1.2nm,0.3s,baz=116,slow=20,SNR=6.4 7.3nm,0.9s						

ASAR	**Alice Springs**		**42.75** **270**	P		P	02 17 17.1	+0.1
	0.2nm,0.4s,baz=108,slow=7.2,SNR=4.3 0.2nm,0.4s							
WRA	**Warramunga Arr**		**43.95** **275**	P		P	02 17 26.5	-0.2
	0.4nm,0.4s,baz=114,slow=7.7,SNR=6.3 0.4nm,0.4s							
FINES	**FINESS Array B**		**147.23** **338**	PKPbc		PKPbc	02 29 01.5	-0.7
	0.5nm,0.5s,baz=29,slow=3.2,SNR=7.6							

*NEIC **07** 02:10:47.9±2.0, 35.°592N±0.°010×117.°38W±0.°01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.9km az=124.0*

PAS 07 02:10:48.9±1.4, 35.°60N±0.°01×117.°41W±0.°01, h6km±3km, ML3.2/23, ML3.0/110(NEIC), Error ellipse: s-maj=1.8km s-min=1.5km az=144.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**		**0.08** **156**		Pg	02 10 51.2	+0.5
CCCA				Sg	Sg	02 10 53.0	+0.9
LRMC	**Laurel Mtn Rad**		**0.26** **243**	Sg	Sg	02 10 57.6	+0.3
LRMC	**Laurel Mtn Rad**		**0.26** **243**		Sg	02 10 53.9	0.0
CLC	**China Lake**		**0.27** **324**	Pg	Pg	02 10 53.9	-0.2
CLC				IAML		02 10 58.1	
	comp=N,3μm,0.3s						
CLC				IAML		02 10 58.1	
	comp=E,2μm,0.4s						
SRTC	**Snort**		**0.30** **289**		Pg	02 10 54.9	+0.2
SRTC					Sg	02 10 59.4	+0.8
TOW	**Tower One**		**0.36** **306**		Sb	02 11 02.4	-1.3
MPMC	**Manual Prospec**		**0.46** **352**		Sg	02 11 04.1	0.0
MPMC				IAML		02 11 04.7	
	comp=N,760nm,0.6s						
MPMC				IAML		02 11 06.1	
	comp=E,1μm,0.7s						
MPMC	**Manual Prospec**		**0.46** **352**		Pg	02 10 57.5	-0.4
WVPM	**Volcano Peak E**		**0.48** **316**		Pg	02 10 58.2	-0.1
DTP	**Desert Tortois**		**0.49** **228**		Pg	02 10 58.0	-0.3
DTP					Sg	02 11 04.7	0.0
WRVM	**Rose V. Centra**		**0.57** **316**		Pg	02 10 59.5	-0.3
QSM	**Queen of Sheba**		**0.57** **50**		Pg	02 10 59.6	-0.2
QSM				IAML		02 11 07.8	
	comp=E,1μm,0.4s						
QSM				IAML		02 11 08.2	
	comp=N,1μm,0.5s						
GSC	**Goldstone, Bar**		**0.57** **121**		Pg	02 10 59.6	-0.2
GSC				IAML		02 11 07.7	
	comp=N,1μm,0.4s						
GWY	**Greenwater Val**		**0.84** **45**		Pg	02 11 04.5	-0.5
GWY				IAML		02 11 19.7	
	comp=E,802nm,0.5s						
ISA	**Isabella, Lake**		**0.87** **275**	IAML		02 11 19.4	
	comp=N,727nm,0.5s						
ISA				IAML		02 11 19.8	
	comp=E,695nm,0.5s						
TEJ	**El Tejon**		**1.11** **251**		Pg	02 11 08.9	-1.3
TUQ	**Turquoise Moun**		**1.22** **97**		Pg	02 11 11.2	-1.1
AMDNV	**Amargosa**		**1.25** **47**		Pb	02 11 11.1	-1.7
SPG2	**Springville 2**		**1.26** **299**		Pg	02 11 11.9	-1.2
WCT	**Wildcat Mounta**		**1.35** **28**		Pn	02 11 12.8	-1.5
WCT				IAML		02 11 33.8	
	comp=N,342nm,0.5s						
WCT				IAML		02 11 34.8	
	comp=E,356nm,0.4s						
BFSC	**Mount Baldy Ra**		**1.37** **189**		Pn	02 11 14.1	-0.5
GRAC	**Grapevine Rang**		**1.40** **1**		Pn	02 11 14.2	-0.7
GRAC				IAML		02 11 37.6	
	comp=N,288nm,1.1s						
GRAC				IAML		02 11 40.9	
	comp=E,230nm,0.6s						
PASC	**Pasadena Art C**		**1.56** **204**		Pn	02 11 16.2	-1.0
PASC				IAML		02 11 41.8	
	comp=E,283nm,0.3s						
PASC				IAML		02 11 43.8	
	comp=N,222nm,0.5s						
TPNV	**Topopah Spring**		**1.64** **34**		Pn	02 11 17.3	-1.1
TPNV				IAML		02 11 44.3	
	comp=N,243nm,0.9s						
GMRC	**Granite Mounta**		**1.64** **119**		Pn	02 11 16.2	-2.2
GMN	**Gold Mountain**		**1.70** **4**		Pn	02 11 18.5	-0.9
GMN				IAML		02 11 48.8	
	comp=N,99nm,0.6s						
DSP	**Deep Springs**		**1.83** **346**		Pn	02 11 20.1	-0.7
DSP				IAML		02 11 51.9	
	comp=E,74nm,0.9s						
ELS	**Elsinore Mount**		**1.94** **181**		Pn	02 11 21.6	-0.9
ELS				IAML		02 11 52.3	
	comp=N,101nm,0.4s						
ELS				IAML		02 11 53.8	
	comp=E,155nm,0.5s						
SHPR	**Sheep Range**		**2.03** **63**		Pn	02 11 23.0	-0.8
V12A	**Nelson**		**2.08** **86**		Pn	02 11 22.8	-1.7
V12A				IAML		02 11 57.8	
	comp=N,56nm,0.5s						
CRY	**Cary Ranch**		**2.10** **165**		Pb	02 11 27.7	+0.2
PMD	**Palm Desert**		**2.12** **156**	IAML		02 12 02.5	
	comp=E,59nm,0.5s						
PFO	**Pinyon Flats O**		**2.13** **158**		Pn	02 11 23.9	-1.2
TPH	**Tonopah**		**2.48** **3**		Pn	02 11 29.4	-0.6
SBI	**Santa Barbara**		**2.50** **213**		Pn	02 11 28.6	-1.4
DPP	**Dos Picos Cty**		**2.62** **171**	IAML		02 12 16.2	
	comp=E,71nm,0.7s						
DPP				IAML		02 12 18.3	
	comp=N,33nm,0.7s						
LHV	**Little Huntoon**		**2.79** **342**		Pn	02 11 34.4	+0.4
LHV				IAML		02 12 23.2	
	comp=E,40nm,1.1s						
LHV				IAML		02 12 30.7	
	comp=N,36nm,1.7s						
NV11	**Mina Array Sit**		**2.89** **348**		Pn	02 11 35.2	-0.4
NVAR	**Mina Array Bea**		**2.92** **346**		Pn	02 11 35.3	-0.7
W13A	**Hualapai Mount**		**2.92** **99**		Pn	02 11 34.7	-1.3
W13A				IAML		02 12 23.2	
	comp=E,27nm,0.5s						
W13A				IAML		02 12 25.3	
	comp=N,26nm,0.6s						
BLYC	**Blythe**		**3.00** **127**	IAML		02 12 25.6	
	comp=N,46nm,0.5s						
BLYC				IAML		02 12 29.0	
	comp=E,39nm,0.6s						
R11B	**Troy Canyon, C**		**3.11** **27**	IAML		02 12 29.3	
	comp=E,24nm,0.6s						
WAKR	**Walker**		**3.33** **331**	IAML		02 12 56.0	
	comp=N,18nm,1.0s						
CBX	**Cerro Bola**		**3.33** **169**		Pn	02 11 40.4	-1.2
CMB	**Columbia Colle**		**3.41** **316**	IAML		02 12 40.3	
	comp=N,27nm,0.8s						
CMB				IAML		02 12 44.9	
	comp=E,31nm,0.7s						
ESJX	**Sierra Juarez**		**3.78** **161**	IAML		02 14 02.2	
	comp=E,30nm,0.1s						
PSUT	**Pine Spring**		**4.08** **43**	IAML		02 13 00.9	
	comp=N,17nm,0.6s						
PSUT				IAML		02 13 07.0	
	comp=E,17nm,1.0s						
SPR3	**Spring Creek 3**		**4.19** **35**	IAML		02 13 02.3	
	comp=E,14nm,1.3s						
U15A	**North Rim**		**4.23** **77**	IAML		02 13 02.8	
	comp=E,13nm,1.2s						
AFDM	**Forest Hills D**		**4.39** **321**	IAML		02 13 12.0	
	comp=E,21nm,0.7s						
AFDM				IAML		02 13 16.3	
	comp=N,9.8nm,0.9s						
BEKR	**Beckworth**		**4.86** **332**	IAML		02 13 32.2	
	comp=E,16nm,0.7s						
BEKR				IAML		02 13 35.1	
	comp=N,8.9nm,0.7s						
X16A	**Lo Mia Camp, P**		**5.03** **102**	IAML		02 13 33.4	
	comp=E,5.2nm,1.1s						
X16A				IAML		02 13 35.2	
	comp=N,6.3nm,1.1s						

*KRSC **07** 02:11:27.3±1.5, 56.°07N×164.°72E, h49km±21km, Ml3.7*
*IDC **07** 02:11:30.9±2.4, 56.°20N×164.°09E, h0km, mb3.4/2, mbtmp3.3/3, ML2.3/1, Error ellipse: s-maj=945.0km s-min=24.3km az=142.0*

ISC 07 02:11:30.2±1.3, 56.°10N±0.°06×164.°79E±0.°05, h35km, n38, σ1s 67/44, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**		**1.11** **277**	*eP*	**Pn**	**02 11 46.3**	**-2.9**
KBTR				*eS*	**Sn**	**02 11 59.8**	**-3.5**

BKI	**Bering**		**1.11** **143**	*eP*		**Pn**	**02 11 48.1**	**-1.1**
BKI				*eS*		**Sn**	**02 12 02.5**	**-0.8**
KBG	**Krutoberegovo**		**1.18** **279**	*eP*		**Pn**	**02 11 47.7**	**-2.4**
KBG				*eS*		**Sn**	**02 12 02.1**	**-2.8**
SMKR	**Semkarok**		**1.92** **286**	*eP*		**Pn**	**02 11 59.5**	**-0.8**
SMKR				*eS*		**Sn**	**02 12 21.3**	**-1.9**
BDR	**Baidarnaya**		**2.05** **285**	*eS*		**Sn**	**02 12 26.9**	**+0.3**
SRKR	**Sorokina**		**2.09** **287**	*eS*		**Sn**	**02 12 27.7**	**+0.1**
BZGR	**Bezymyannyi-Gr**		**2.31** **268**	*eP*		**Pn**	**02 12 05.7**	**0.0**
KLY	**Klyuchi**		**2.32** **277**	*eP*		**Pn**	**02 12 03.9**	**-2.0**
KLY				*eS*		**Sn**	**02 12 31.2**	**-2.0**
MKZ	**Mys Kozlova**		**2.33** **230**	*eP*		**Pn**	**02 12 04.4**	**-1.6**
MKZ				*eS*		**Sn**	**02 12 30.8**	**-2.6**
BZWR	**Bezymyannyi-We**		**2.42** **269**	*eP*		**Pn**	**02 12 07.3**	**0.0**
BZMR	**Bezymyannaya**		**2.42** **268**	*eP*		**Pn**	**02 12 07.3**	**0.0**
KIRR	**Kirishev**		**2.50** **269**	*eP*		**Pn**	**02 12 09.1**	**+0.6**
KPT	**Kopyto**		**2.57** **269**	*eP*		**Pn**	**02 12 09.9**	**+0.6**
KMNR	**Kamenistaya**		**2.59** **264**	*eP*		**Pn**	**02 12 10.3**	**+0.8**
TUMD	**Tumrok D**		**2.65** **252**	*eP*		**Pn**	**02 12 10.1**	**-0.2**
TUMD				*eS*		**Sn**	**02 12 41.6**	**+0.5**
SRDR	**Sredinnyy**		**2.84** **277**	*eP*		**Pn**	**02 12 13.6**	**+0.5**
SRDR				*eS*		**Sn**	**02 12 47.8**	**+1.7**
OSSR	**Ossora**		**3.30** **344**	*eP*		**Pn**	**02 12 17.8**	**-1.5**
ESO	**Esso**		**3.42** **270**	*eP*		**Pn**	**02 12 22.7**	**+1.7**
KII	**Karymskiy**		**3.70** **238**	*eP*		**Pn**	**02 12 25.3**	**+0.4**
SPN	**Mys Shipunski**		**4.09** **225**	*eP*		**Pn**	**02 12 29.8**	**-0.3**
SPN				*eS*		**Sn**	**02 13 11.4**	**-5.2**
SDLR	**Sedlovina**		**4.44** **233**	*eP*		**Pn**	**02 12 35.1**	**+0.1**
KRER	**Koryakskii**		**4.48** **234**	*eP*		**Pn**	**02 12 35.9**	**+0.1**
SMAR	**Somma**		**4.49** **233**	*eP*		**Pn**	**02 12 35.9**	**+0.1**
KRX	**Arik**		**4.49** **235**	*eP*		**Pn**	**02 12 36.5**	**+0.7**
UGLR	**Uglovaya**		**4.51** **233**	*eP*		**Pn**	**02 12 36.2**	**+0.2**
AVH	**Avacha**		**4.51** **234**	*eP*		**Pn**	**02 12 36.2**	**+0.1**
KOK	**Koryaka**		**4.54** **234**	*eP*		**Pn**	**02 12 36.6**	**+0.2**
GNL	**Ganaly**		**4.63** **242**	*eP*		**Pn**	**02 12 38.4**	**+0.8**
PETK	**Petropavlovsk-**		**5.09** **237**	Pn		**Pn**	**02 12 44.7**	**+0.7**
	0.7nm,0.3s,baz=75,slow=17,SNR=6.5							
PETK					Sn	**Sn**	**02 13 41.5**	**+0.1**
	0.1nm,0.3s,baz=334,slow=9.6,SNR=2.1 0.8nm,0.3s							
GRL	**Gorelyy**		**5.30** **231**	*eP*		**Pn**	**02 12 48.1**	**+1.3**
MTVR	**Mutnovka**		**5.30** **230**	*eP*		**Pn**	**02 12 47.4**	**+0.5**
ASAK	**Asacha**		**5.49** **230**	*eP*		**Pn**	**02 12 50.6**	**+1.2**
KMSK	**Kamenskaya**		**6.43** **6**	*eP*		**Pn**	**02 13 03.0**	**+0.8**
ILAR	**Eielson Array**		**24.77** **50**	P		P	02 16 55.8	+7.7
	0.3nm,0.8s,baz=276,slow=10,SNR=4.1 0.3nm,0.8s							
MJAR	**Matsushiro Arr**		**26.54** **234**	P		**P**	**02 17 08.3**	**+3.8**
	1.0nm,0.6s,baz=42,slow=9.7,SNR=2.5 1.0nm,0.6s							
H11N2	**WAKE ISLAND Hy**		**36.34** **177**	T		T	02 57 20.5	
	baz=357,slow=76,SNR=21							
H11N3	**WAKE ISLAND Hy**		**36.35** **177**	T		T	02 57 32.5	
	baz=357,slow=76,SNR=14							
H11N1	**WAKE ISLAND Hy**		**36.36** **177**	T		T	02 57 26.9	
	baz=357,slow=76,SNR=22							

*PAS **07** 02:17:01.9±1.4, 35.°603N±0.°006×117.°47W±0.°01, h4km±4km, Mwr3.6/7, ML3.5/146(NEIC), Error ellipse: s-maj=1.7km s-min=0.8km az=76.0*
*NEIC **07** 02:17:01.1±1.4, 35.°60N±0.°01×117.°46W±0.°01, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.1km az=247.0*
*IDC **07** 02:17:02.0±0.8, 35.°61N×117.°34W, h0km, mb3.6/1, mbtmp3.2/6, ML3.4/5, MS2.6/2, Error ellipse: s-maj=17.7km s-min=5.7km az=76.0*

ISC 07 02:17:02.1±0.9, 35.°58N±0.°02×117.°43W±0.°02, h9km±8km, n80, σ1s 11/82, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**		**0.08** **135**	Pg	**Pg**	**02 17 04.5**	**+0.2**
CCCA				IAML		02 17 07.1	
	comp=E,31μm,0.6s						
LRMC	**Laurel Mtn Rad**		**0.23** **244**		**Pg**	**02 17 05.9**	**-0.8**
LRMC				Sg	**Sg**	**02 17 09.5**	**-0.3**
LRMC				IAML		02 17 09.8	
	comp=E,16μm,0.6s						
CLC	**China Lake**		**0.27** **330**	Pg	**Pg**	**02 17 06.3**	**-1.2**
CLC				IAML		02 17 10.3	
	comp=E,13μm,0.6s						
CLC				IAML		02 17 10.3	
	comp=N,11μm,0.5s						
SRTC	**Snort**		**0.28** **293**		**Pg**	**02 17 06.9**	**-0.7**
TOW	**Tower One**		**0.35** **310**		**Pg**	**02 17 08.3**	**-0.7**
DTP	**Desert Tortois**		**0.46** **227**		**Pg**	**02 17 10.3**	**-0.7**
WNMM	**Nine Mile Cany**		**0.47** **304**		**Pg**	**02 17 10.1**	**-1.0**
MPMC	**Manual Prospec**		**0.48** **355**		**Pg**	**02 17 10.3**	**-1.1**
MPMC					**Sg**	**02 17 16.8**	**-1.0**
MPMC				IAML		02 17 18.6	
	comp=N,5μm,0.6s						
MPMC				IAML		02 17 19.8	
	comp=E,6μm,0.8s						
WVPM	**Volcano Peak E**		**0.48** **320**		**Pg**	**02 17 10.4**	**-1.1**
WRVM	**Rose V. Centra**		**0.56** **319**		**Pg**	**02 17 11.8**	**-1.3**
WBSM	**Bird Springs**		**0.58** **266**		**Pg**	**02 17 12.4**	**-0.9**
WBSM					**Sg**	**02 17 20.1**	**-0.8**
GSC	**Goldstone, Bar**		**0.58** **118**		**Pb**	**02 17 13.5**	**-1.0**
GSC				IAML		02 17 23.9	
	comp=E,3μm,0.5s						
QSM	**Queen of Sheba**		**0.60** **50**		**Pg**	**02 17 13.3**	**-0.4**
QSM				IAML		02 17 23.5	
	comp=N,3μm,0.9s						
QSM				IAML		02 17 25.4	
	comp=E,2μm,0.6s						
MFS	**McCloud Flat S**		**0.64** **327**		**Pg**	**02 17 13.2**	**-1.2**
ISA	**Isabella, Lake**		**0.85** **276**		**Pg**	**02 17 17.0**	**-1.5**
ISA				Sg	**Sg**	**02 17 28.1**	**-1.4**
ISA				IAML		02 17 28.7	
	comp=N,2μm,0.8s						
ISA				IAML		02 17 28.9	
	comp=E,2μm,0.5s						
GWY	**Greenwater Val**		**0.87** **46**	IAML		02 17 36.7	
	comp=N,2μm,0.5s						
TPO	**Tropico Hills**		**0.96** **223**		**Pg**	**02 17 19.8**	**-0.7**
TPO				IAML		02 17 35.9	
	comp=E,2μm,0.8s						
TPO				IAML		02 17 37.9	
	comp=N,2μm,1.1s						
CWC	**Cottonwood Cre**		**1.00** **329**	Pg	**Pg**	**02 17 20.2**	**-1.2**
CGO	**Cerro Gordo**		**1.01** **343**

comp=E,342nm,0.8s
ELS Elsinore Mount 1.93 180 Pn 02 17 35.1 -0.1
ELS IAML 02 18 03.3
comp=E,418nm,0.7s
ELS IAML 02 18 04.7
comp=N,285nm,0.8s
SHPR Sheep Range 2.06 63 Pn 02 17 36.9 -0.2
V12A Nelson 2.11 85 Pn 02 17 37.0 -0.7
V12A IAML 02 18 10.2
comp=N,546nm,0.9s
V12A IAML 02 18 13.7
comp=E,338nm,0.7s
MZP Montezuma Peak 2.12 1 Pn 02 17 37.5 -0.4
PMD Palm Desert 2.12 155 Pn Pn 02 17 37.1 -0.5
PMD IAML 02 18 10.9
comp=E,322nm,0.5s
PMD IAML 02 18 12.4
comp=N,278nm,0.7s
PFO Pinyon Flats O 2.12 157 Pn 02 17 37.6 -0.2
PFO IAML 02 18 13.2
comp=N,241nm,0.7s
PFO Pinyon Flats O 2.12 157 Pn Pn 02 17 37.5 -0.4
comp=N,9.6nm,0.3s,baz=338,slow=10,SNR=40
PFO Pg **Pg 02 17 42.0 -0.7**
comp=N,14nm,0.3s,baz=333,slow=16,SNR=30
PFO Lg Lg 02 18 09.0
comp=N,36nm,0.3s,baz=70,slow=8.2,SNR=20
comp=N,21nm,0.3s
NEE2 Needles Airpor 2.44 109 Pn 02 17 41.4 -0.8
MATG Mataguay Scout 2.46 164 Pn 02 17 43.7 +1.1
TPH Tonopah 2.50 4 Pn 02 17 42.8 -0.3
PRN Pahroc Range 2.65 46 Pn 02 17 44.7 -0.4
PRN IAML 02 18 34.1
comp=E,369nm,0.8s
LHV Little Huntoon 2.80 342 Pn 02 17 47.0 -0.1
LHV IAML 02 18 36.2
comp=N,215nm,0.7s
LHV IAML 02 18 38.3
comp=E,228nm,0.7s
PMPB Monarch Peak 2.81 284 Pn 02 17 47.0 -0.2
NV11 Mina Array Sit 2.90 349 Pn 02 17 48.0 -0.6
NV11 IAML 02 18 38.3
comp=E,181nm,1.4s
NVAR Mina Array Bea 2.93 346 Pn **Pn 02 17 49.1 0.0**
comp=E,1.7nm,0.3s,baz=166,slow=12,SNR=16
NVAR Pg **Pb 02 17 55.7 +1.1**
comp=E,6.6nm,0.3s,baz=166,slow=15,SNR=30
NVAR Lg Lg 02 18 34.6
comp=E,7.6nm,0.3s,baz=155,slow=32,SNR=7.9
comp=E,1.9nm,0.5s
W13A Hualapai Mount 2.94 98 Pn 02 17 48.7 -0.6
W13A IAML 02 18 39.9
comp=N,145nm,1.1s
W13A IAML 02 18 41.5
comp=E,139nm,0.9s
BLYC Blythe 3.01 126 IAML 02 18 40.6
comp=E,142nm,0.6s
BLYC IAML 02 18 43.9
comp=N,158nm,1.0s
TJX Tijuana 3.08 174 Pn 02 17 50.7 -0.2
TKX Tecate 3.08 167 Pn 02 17 51.5 +0.5
TKX IAML 02 18 41.5
comp=N,147nm,0.5s
BBGB Big Mountain B 3.09 290 Pn 02 17 50.9 -0.3
YUH Yuha Desert 3.18 156 Pg 02 18 02.4 -0.6
CBX Cerro Bola 3.32 169 Pn 02 17 55.1 +0.7
CMB Columbia Colle 3.41 317 IAML 02 18 54.1
comp=E,94nm,1.0s
CMB IAML 02 18 59.5
comp=N,79nm,0.6s
SAO San Andreas Ge 3.46 291 Pn 02 17 55.6 -0.5
LCMT Little Creek M 3.67 66 Pn 02 17 60.0 +0.7
ESJX Sierra Juarez 3.77 160 Pg 02 18 12.4 -2.0
ESJX IAML 02 19 07.6
comp=E,81nm,0.7s
ESJX IAML 02 19 18.3
comp=N,75nm,0.1s
CCUT Cedar City 3.82 58 Pg 02 18 13.0 -2.3
CCUT IAML 02 19 06.1
comp=N,55nm,0.9s
KNB Kanab 3.99 68 Pn 02 18 04.5 +0.8
KNB IAML 02 19 12.8
comp=E,83nm,1.0s
KNB IAML 02 19 18.3
comp=N,72nm,1.4s
SZCU Shurtz Canyon 4.03 59 Pn 02 18 04.0 -0.3
SZCU Pg **Pg 02 18 17.5 -1.8**
PSUT Pine Spring 4.11 43 Pn 02 18 05.2 -0.1
PSUT Pg **Pg 02 18 19.1 -1.6**
PSUT IAML 02 19 21.2
comp=N,48nm,0.8s
PSUT IAML 02 19 24.4
comp=E,67nm,1.1s
113A Mohawk Valley, 4.14 132 Pg **Pg 02 18 20.0 -1.3**
SPR3 Spring Creek 3 4.21 35 Pn 02 18 06.4 -0.4
SPR3 Pg **Pg 02 18 19.8 -3.0**
SPR3 IAML 02 19 20.7
comp=N,40nm,1.0s
SPR3 IAML 02 19 25.8
comp=E,43nm,1.0s
U15A North Rim 4.25 77 IAML 02 19 18.5
comp=N,78nm,1.1s
AFDM Forest Hills D 4.39 321 Pb 02 18 21.2 +1.9
AFDM IAML 02 19 22.2
comp=N,37nm,1.1s
AFDM IAML 02 19 24.7
comp=E,43nm,1.2s
BEKR Beckworth 4.87 332 Pn 02 18 15.4 -0.3
BEKR IAML 02 19 46.1
comp=N,28nm,0.9s
BEKR IAML 02 19 48.4
comp=E,50nm,0.8s
WUAZ Wupatki 4.94 89 Pn 02 18 16.9 +0.3
X16A Lo Mia Camp, P 5.05 102 IAML 02 19 56.1
comp=N,34nm,1.1s
X16A IAML 02 20 06.0
comp=E,22nm,0.9s
ORV Oroville 5.12 322 IAML 02 19 47.6
comp=E,28nm,0.9s
214A Organ Pipe Nat 5.28 132 IAML 02 19 58.2
comp=E,22nm,0.8s
214A IAML 02 20 09.4
comp=N,22nm,1.6s
ELK Elko 5.44 18 Pn Pn 02 18 23.9 +0.3
comp=N,0.2nm,0.3s,baz=210,slow=14,SNR=5.7
ELK Pg **Pb 02 18 41.0 +3.7**
comp=N,2.1nm,0.3s,baz=206,slow=15,SNR=26
ELK Lg Lg 02 19 52.8
comp=N,2.1nm,0.3s,baz=140,slow=21,SNR=7.6
ELK LR LR 02 20 56.9
comp=N,67nm,18.7s,baz=176,slow=44
comp=N,1.3nm,0.5s
ANMO Albuquerque 9.00 91 Lg Lg 02 21 42.0
comp=N,0.2nm,0.3s,baz=279,slow=19,SNR=11
PDAR Pinedale Array 9.42 38 Pn Pn 02 19 21.5 +3.3
baz=231,slow=10,SNR=4.8
PDAR Lg Lg 02 21 56.9
baz=205,slow=15,SNR=1.0
PDAR LR LR 02 22 43.3
comp=N,34nm,18.8s,baz=162,slow=36
comp=N,0.5nm,0.8s
TXAR Lajitas Array 13.18 114 Pn Pn 02 20 10.5 +0.9
comp=N,0.1nm,0.3s,baz=291,slow=13,SNR=9.0
TXAR Lg Lg 02 23 55.6
baz=285,slow=28,SNR=5.4
comp=N,0.2nm,0.4s
ULM Lac du Bonnet 21.43 40 P P 02 21 51.1 +0.7
comp=N,2.7nm,0.8s,baz=254,slow=10,SNR=5.1
comp=N,2.7nm,0.8s

*KRSC **07** 02:21:52.0±0.9,56°.16N×164°.45E,h54km±19km,Ml4.0*
*IDC **07** 02:21:52.6±0.7,55°.59N×165°.10E,h0km,mb3.8/13, mbtmp3.8/15,ML3.1/2,MS2.8/3,Error ellipse: s-maj=26.4km s-min=14.0km az=158.0*
*MOS **07** 02:21:55.2±0.9,56°.06N×164°.32E,h41km,mb4.4/6,Error ellipse: s-maj=9.9km s-min=5.0km az=53.0*
ISC 07 02:21:55.5±0.5,**56°.01N**±0°.05×**164°.50E**±0°.04,**h16**km,**n112,** σ1**9**81/107,**mb3.9**/18,**1C,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.96**	**283**	PN	Pb	02 22 07.8	-6.0
KBTR	**Krutoberegovo**	**0.96**	**283**	*e*P	Pb	02 22 07.9	-5.9
KBG	**Krutoberegovo**	**1.04**	**285**	PN	Pb	02 22 09.3	-5.7
KBG	**Krutoberegovo**	**1.04**	**285**	*e*P	Pb	02 22 09.3	-5.7
BKI	**Bering**	**1.16**	**133**	PN	**Pn**	**02 22 15.7**	**-1.2**
BKI				S	**Sb**	**02 22 32.5**	**+0.7**
BKI	**Bering**	**1.16**	**133**	*i* P	**Pn**	**02 22 15.7**	**-1.2**
BKI				*i* S	**Sb**	**02 22 32.6**	**+0.7**
ZLN	**Zelenaya**	**2.08**	**272**	PN	**Pn**	**02 22 27.1**	**-2.6**
ZLN	**Zelenaya**	**2.08**	**272**	*e*P	**Pn**	**02 22 27.2**	**-2.6**
BZGR	**Bezymyannyi-Gr**	**2.14**	**270**	PN	**Pn**	**02 22 27.9**	**-2.7**
BZGR	**Bezymyannyi-Gr**	**2.14**	**270**	*e*P	**Pn**	**02 22 28.0**	**-2.7**
MKZ	**Mys Kozlova**	**2.15**	**229**	PN	**Pn**	**02 22 28.2**	**-2.4**
MKZ	**Mys Kozlova**	**2.15**	**229**	*e*P	**Pn**	**02 22 28.2**	**-2.4**
KLY	**Klyuchi**	**2.18**	**280**	PN	Pn	02 22 25.7	-5.2
KLY	**Klyuchi**	**2.18**	**280**	*e*P	Pn	02 22 25.7	-5.2
BZWR	**Bezymyannyi-We**	**2.25**	**271**	PN	**Pn**	**02 22 29.5**	**-2.6**
BZWR	**Bezymyannyi-We**	**2.25**	**271**	*e*P	**Pn**	**02 22 29.6**	**-2.6**
BZMR	**Bezymyannaya**	**2.26**	**270**	PN	**Pn**	**02 22 29.5**	**-2.7**
BZMR	**Bezymyannaya**	**2.26**	**270**	*e*P	**Pn**	**02 22 29.5**	**-2.7**
KIRR	**Kirishev**	**2.34**	**270**	PN	**Pn**	**02 22 30.6**	**-2.8**
KIRR	**Kirishev**	**2.34**	**270**	*e*P	**Pn**	**02 22 30.6**	**-2.8**
KPT	**Kopyto**	**2.41**	**271**	PN	**Pn**	**02 22 32.0**	**-2.2**
KPT	**Kopyto**	**2.41**	**271**	*e*P	**Pn**	**02 22 32.1**	**-2.2**
KMNR	**Kamenistaya**	**2.42**	**266**	PN	**Pn**	**02 22 31.9**	**-2.5**
KMNR	**Kamenistaya**	**2.42**	**266**	*e*P	**Pn**	**02 22 31.9**	**-2.5**
TUMD	**Tumrok D**	**2.46**	**253**	PN	**Pn**	**02 22 32.2**	**-2.7**
TUMD				S	**Sn**	**02 23 01.5**	**-3.2**
TUMD	**Tumrok D**	**2.46**	**253**	*e*P	**Pn**	**02 22 32.3**	**-2.7**
TUMD				*e*S	**Sn**	**02 23 01.6**	**-3.2**
KOZ	**Kozyrevsk**	**2.60**	**273**	PN	**Pn**	**02 22 35.4**	**-1.4**
KOZ	**Kozyrevsk**	**2.60**	**273**	*e*P	**Pn**	**02 22 35.4**	**-1.4**
SRDR	**Sredinnyy**	**2.69**	**279**	PN	**Pn**	**02 22 35.4**	**-2.7**
SRDR	**Sredinnyy**	**2.69**	**279**	*e*P	**Pn**	**02 22 35.5**	**-2.7**
ESO	**Esso**	**3.26**	**271**	PN	**Pn**	**02 22 44.8**	**-1.1**
ESO	**Esso**	**3.26**	**271**	*e*P	**Pn**	**02 22 44.9**	**-1.1**
OSSR	**Ossora**	**3.35**	**347**	PN	Pn	02 22 41.4	-5.6
OSSR	**Ossora**	**3.35**	**347**	*e*P	Pn	02 22 41.4	-5.6
KII	**Karymskiy**	**3.52**	**238**	PN	**Pn**	**02 22 48.3**	**-1.1**
KII	**Karymskiy**	**3.52**	**238**	*e*P	**Pn**	**02 22 48.3**	**-1.1**
SPN	**Mys Shipunski**	**3.91**	**224**	PN	**Pn**	**02 22 52.2**	**-2.5**
SPN	**Mys Shipunski**	**3.91**	**224**	*e*P	**Pn**	**02 22 52.3**	**-2.5**
NLC	**Nalytchevo**	**4.13**	**229**	PN	**Pn**	**02 22 56.5**	**-1.3**
NLC				S	**Sn**	**02 23 45.0**	**-0.7**
NLC	**Nalytchevo**	**4.13**	**229**	*e*P	**Pn**	**02 22 56.6**	**-1.3**
NLC				*e*S	**Sn**	**02 23 45.1**	**-0.7**
SDLR	**Sedlovina**	**4.26**	**232**	PN	**Pn**	**02 22 58.7**	**-1.0**
SDLR	**Sedlovina**	**4.26**	**232**	*e*P	**Pn**	**02 22 58.7**	**-1.0**
KRER	**Koryakskii**	**4.30**	**233**	PN	**Pn**	**02 22 59.6**	**-0.7**
KRER	**Koryakskii**	**4.30**	**233**	*e*P	**Pn**	**02 22 59.6**	**-0.7**
SMAR	**Somma**	**4.30**	**233**	PN	**Pn**	**02 22 59.6**	**-0.8**
SMAR	**Somma**	**4.30**	**233**	*e*P	**Pn**	**02 22 59.7**	**-0.8**
KRX	**Arik**	**4.31**	**234**	PN	**Pn**	**02 23 00.0**	**-0.4**
KRX	**Arik**	**4.31**	**234**	*e*P	**Pn**	**02 23 00.0**	**-0.4**
UGLR	**Uglovaya**	**4.33**	**232**	PN	**Pn**	**02 22 59.5**	**-1.1**
UGLR	**Uglovaya**	**4.33**	**232**	*e*P	**Pn**	**02 22 59.6**	**-1.1**
AVH	**Avacha**	**4.33**	**233**	PN	**Pn**	**02 23 00.1**	**-0.5**
AVH	**Avacha**	**4.33**	**233**	*e*P	**Pn**	**02 23 00.1**	**-0.5**
KOK	**Koryaka**	**4.36**	**234**	PN	**Pn**	**02 23 00.5**	**-0.5**
KOK	**Koryaka**	**4.36**	**234**	*e*P	**Pn**	**02 23 00.5**	**-0.5**
GNL	**Ganaly**	**4.44**	**241**	PN	**Pn**	**02 23 01.4**	**-0.8**
GNL	**Ganaly**	**4.44**	**241**	*e*P	**Pn**	**02 23 01.4**	**-0.8**
DALK	**Dalny**	**4.48**	**231**	PN	**Pn**	**02 23 01.0**	**-1.6**
DALK	**Dalny**	**4.48**	**231**	*e*P	**Pn**	**02 23 01.1**	**-1.6**
PET	**Petropavlovsk**	**4.53**	**231**	*e*PN	**Pn**	**02 23 02.6**	**-0.7**
PET				*e*S	**Sn**	**02 23 54.8**	**-0.8**
PET				pmax	pmax		
	comp=Z,47nm,0.4s						
PET				smax	smax		
	comp=N,42nm,0.7s						
PET				smax	smax		
	comp=E,49nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,15.0s						
PET	**Petropavlovsk**	**4.53**	**231**	*e*P	**Pn**	**02 23 02.0**	**-1.3**
KRMR	**Karymshinskiy**	**4.89**	**232**	PN	**Pn**	**02 23 08.8**	**+0.5**
KRMR	**Karymshinskiy**	**4.89**	**232**	*e*P	**Pn**	**02 23 08.8**	**+0.5**
PEA0B	**Petropavlovsk-**	**4.91**	**237**	PN	**Pn**	**02 23 08.6**	**+0.1**
PETK	**Petropavlovsk-**	**4.91**	**237**	Pn	**Pn**	**02 23 07.3**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=71,slow=19,SNR=10						
PETK				Sn	**Sn**	**02 24 06.0**	**+1.0**
	baz=258,slow=40						
PETK				LR	LR	02 25 12.4	
	comp=Z,127nm,20.1s,baz=51,slow=40						
	comp=Z,3.8nm,0.6s						
RUS	**Russkaya**	**5.01**	**227**	PN	**Pn**	**02 23 09.0**	**-0.9**
RUS	**Russkaya**	**5.01**	**227**	*e*P	**Pn**	**02 23 09.1**	**-0.9**
GRL	**Gorelyy**	**5.11**	**230**	PN	**Pn**	**02 23 11.3**	**-0.1**
GRL	**Gorelyy**	**5.11**	**230**	*e*P	**Pn**	**02 23 11.3**	**-0.1**
MTVR	**Mutnovka**	**5.12**	**229**	PN	**Pn**	**02 23 11.5**	**0.0**
MTVR	**Mutnovka**	**5.12**	**229**	*e*P	**Pn**	**02 23 11.5**	**0.0**
APC	**Apacha**	**5.28**	**237**	PN	**Pn**	**02 23 13.0**	**-0.5**
APC	**Apacha**	**5.28**	**237**	*e*P	**Pn**	**02 23 13.1**	**-0.5**
ASAK	**Asacha**	**5.31**	**230**	PN	**Pn**	**02 23 14.1**	**0.0**
ASAK	**Asacha**	**5.31**	**230**	*e*P	**Pn**	**02 23 14.1**	**0.0**
MIPR	**Malaya Ipel'ka**	**5.89**	**234**	PN	**Pn**	**02 23 21.9**	**0.0**
MIPR	**Malaya Ipel'ka**	**5.89**	**234**	*e*P	**Pn**	**02 23 21.9**	**0.0**
KMSK	**Kamenskaya**	**6.54**	**7**	PN	**Pn**	**02 23 26.9**	**-3.9**
KMSK	**Kamenskaya**	**6.54**	**7**	*e*P	**Pn**	**02 23 27.0**	**-3.9**
SKR	**Severo-Kuril's**	**7.32**	**227**	*e*PN	Pn	02 23 30.4	-11
SKR				MLR	MLR		
	comp=Z,800nm,18.0s						
MA2	**Magadan**	**8.16**	**302**	LR	LR	02 27 06.6	
	comp=Z,53nm,18.9s,baz=127,slow=36						
BILL	**Bilibino**	**12.11**	**3**	*i* PN	**Pn**	**02 24 48.2**	**+1.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ASAJ	**Asahikawa**	**18.32**	**239**	P	**Pn**	**02 26 09.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=39,slow=6.5,SNR=5.1						
	comp=Z,5.4nm,0.8s						
YAK	**Yakutsk**	**18.73**	**303**	LR	LR	02 33 05.6	
	comp=Z,29nm,19.7s,baz=102,slow=35						
KDAK	**Kodiak Island**	**23.22**	**68**	P	**P**	**02 26 59.1**	**-2.3**
	comp=Z,2.7nm,0.7s,baz=293,slow=8.6,SNR=4.4						
	comp=Z,2.7nm,0.7s						
ILAR	**Eielson Array**	**24.95**	**50**	P	**P**	**02 27 16.2**	**-1.4**
	comp=Z,0.8nm,1.0s,baz=272,slow=9.4,SNR=7.4						
	comp=Z,0.8nm,1.0s						
PSTR	**Posyet**	**25.41**	**253**	*i* P	**P**	**02 27 23.0**	**+1.1**
MJA0	**Matsu Arr-Jizo**	**26.34**	**233**	*e*P	**P**	**02 27 32.1**	**+1.6**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MJAR	**Matsushiro Arr**	**26.36**	**233**	P	**P**	**02 27 30.0**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=42,slow=8.5,SNR=5.5						
	comp=Z,1.1nm,0.5s						
MJAR	**Matsushiro Arr**	**26.36**	**233**	P	**P**	**02 27 30.0**	**-0.7**
NRIK	**Noril'sk**	**35.06**	**323**	*i* P	**P**	**02 28 46.1**	**-1.0**
NRIK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SONM	**Songino Array**	**35.77**	**282**	P	**P**	**02 28 56.4**	**+2.8**
	comp=Z,0.8nm,0.5s,baz=52,slow=9.3,SNR=5.4						
	comp=Z,0.8nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**36.26**	**176**	T	T	03 07 41.9	
	baz=357,slow=76,SNR=69						
H11N3	**WAKE ISLAND Hy**	**36.27**	**176**	T	T	03 07 47.0	
	baz=357,slow=76,SNR=55						
H11N1	**WAKE ISLAND Hy**	**36.28**	**176**	T	T	03 07 43.7	
	baz=357,slow=76,SNR=49						
KURK	**Kurchatov**	**48.37**	**302**	*i* P	**P**	**02 30 37.9**	**+1.8**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KURBB	**Kurchatov Arra**	**48.48**	**302**	P	**P**	**02 30 39.4**	**+2.5**
	comp=Z,0.4nm,0.5s,baz=56,slow=7.3,SNR=4.2						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**49.20**	**296**	P	**P**	**02 30 45.1**	**+2.6**
	comp=Z,0.4nm,0.5s,baz=48,slow=5.2,SNR=4.7						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**49.20**	**296**	*e*P	**P**	**02 30 45.5**	**+3.0**
ARTI	**Arti**	**53.07**	**318**	*e* /P	**P**	**02 31 11.6**	**+0.2**
ARTI						02 33 07.1	
ARTI				S	**S**	**02 38 41.6**	**+1.2**
ARTI				SS	**SS**	**02 42 18.5**	**-0.4**
ARTI				pmax	pmax		
	comp=Z,7.0nm,1.7s						
PDAR	**Pinedale Array**	**53.91**	**65**	P	**P**	**02 31 16.7**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=326,slow=8.1,SNR=6.8						
	comp=Z,0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**61.25**	**260**	P	**P**	**02 32 12.3**	**+2.6**
	comp=Z,1.1nm,0.3s,baz=36,slow=6.6,SNR=4.9						
	comp=Z,1.1nm,0.3s						
OBN	**Obninsk**	**61.40**	**329**	*e*P	**P**	**02 32 12.5**	**+2.3**
OBN				*e*		02 34 23.3	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TXAR	**Lajitas Array**	**67.20**	**71**	P	**P**	**02 32 47.5**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=303,slow=3.6,SNR=12						
	comp=Z,0.9nm,0.7s						
AKASG	**Malin Array Be**	**67.37**	**331**	P	**P**	**02 32 52.7**	**+3.3**
	comp=Z,0.4nm,0.4s,baz=28,slow=6.9,SNR=1.9						
	comp=Z,0.4nm,0.4s						
KIV	**Kislovodsk**	**69.00**	**319**	*e*P	**P**	**02 33 02.5**	**+2.7**
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KBZ	**Khabaz**	**69.12**	**319**	P	P	02 33 04.8	+4.5
	comp=Z,2.8nm,0.9s,baz=58,slow=4.0,SNR=3.8						
	comp=Z,2.8nm,0.9s						
KBZ	**Khabaz**	**69.12**	**319**	*e*P	**P**	**02 33 03.3**	**+2.9**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**79.84**	**209**	P	**P**	**02 34 01.1**	**-1.8**
	comp=Z,0.6nm,1.0s,baz=12,slow=5.9,SNR=2.4						
	comp=Z,0.6nm,1.0s						
ASAR	**Alice Springs**	**83.51**	**208**	P	**P**	**02 34 21.4**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=19,slow=5.9,SNR=4.6						
	comp=Z,0.2nm,0.6s						
CMLA	**Cha da Macela**	**86.21**	**8**	*i* P	**P**	**02 34 36.0**	**+0.2**
QSPA	**South Pole Qui**	**145.76**	**180**	PKPbc	**PKPdf**	**02 41 30.1**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=87,slow=0.5,SNR=6.5						
NVL	**N'lazarevskaya**	**161.08**	**208**	*e*PKP2	**PKPab**	**02 42 34.1**	**-2.5**
NVL				pmax	pmax		
	comp=Z,9.0nm,0.6s						

IDC 07 02:28:01.1±7.5,**17°.13S**×**178°.15W,h608**km±25km, **mb2.6/3,mbtmp3.5/4,Error ellipse: s-maj=305.4km s-min=35.2km az=142.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.68**	**260**	P	P	02 29 25.1	0.0
	6.8nm,0.9s,baz=163,slow=7.9,SNR=3.7						
WRA	**Warramunga Arr**	**45.02**	**259**	P	P	02 35 24.4	-0.1
	0.2nm,0.4s,baz=95,slow=7.4,SNR=6.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**45.25**	**253**	P	P	02 35 26.1	-0.1
	1.0nm,0.5s,baz=86,slow=9.0,SNR=14						
	1.0nm,0.5s						
ILAR	**Eielson Array**	**85.07**	**13**	P	P	02 39 33.3	-0.1
	0.2nm,0.6s,baz=194,slow=3.3,SNR=1.7						
	0.2nm,0.6s						

*GII **07** 02:38:30.7±0.0,33°.34N±0°.02×35°.836E±0°.006,h1km, Mws2.6,confirmed*
*JSO **07** 02:38:32.2±1.1,33°.N±9°×3°.6E±°,h5km±3km,M2.6/16, ML2.7/14,MLv2.6/16,MLv2.6/16*
*GRAL **07** 02:38:32.3±0.3,33°.37N×35°.81E,h1km±2km,MD3.2*
ISC 07 02:38:30.5±0.9,**33°.39N**±0°.02×**35°.87E**±0°.04,**h11**km±6km, **n75,**σ0**64/91,Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHBL	**Chebaa**	**0.11**	**249**	*e*P	**Pg**	**02 38 33.5**	**0.0**
RCY	**Rachaya**	**0.11**	**347**	*e*P	**Pb**	**02 38 34.5**	**-0.3**
RCY				*e*S	**Sg**	**02 38 36.2**	**+0.5**
NATI	**Neve Ativ**	**0.17**	**221**	P	**Pg**	**02 38 34.1**	**-0.1**
NATI				S	**Sg**	**02 38 36.0**	**-0.7**
NATI	**Neve Ativ**	**0.17**	**221**	P	**Pg**	**02 38 34.1**	**-0.1**
QRWL	**Qaraoun**	**0.22**	**316**	*e*P	**Pb**	**02 38 35.9**	**-0.7**
GEM	**Giv'at Ha'Em**	**0.24**	**224**	P	**Pg**	**02 38 35.4**	**-0.1**
GEM	**Giv'at Ha'Em**	**0.24**	**224**	S	**Sg**	**02 38 39.0**	**0.0**
GEM	**Giv'at Ha'Em**	**0.24**	**224**	P	**Pg**	**02 38 35.2**	**-0.3**
GOSH	**HaGoshrim**	**0.26**	**230**	P	**Pg**	**02 38 35.9**	**0.0**
MTLA	**Metula**	**0.26**	**246**	P	**Pg**	**02 38 35.9**	**0.0**
MTLA				S	**Sg**	**02 38 40.1**	**+0.5**
MSAM	**Misgav Am**	**0.30**	**242**	P	**Pg**	**02 38 36.7**	**+0.1**
MSAM				S	**Sg**	**02 38 41.7**	**+1.1**
LVBS	**Lehavot Habash**	**0.30**	**216**	P	**Pg**	**02 38 36.7**	**0.0**
LVBS				S	**Sg**	**02 38 41.3**	**+0.6**
KIRY	**Kiryat Shemona**	**0.31**	**234**	P	**Pg**	**02 38 36.9**	**+0.2**
KIRY				S	**Sg**	**02 38 41.5**	**+0.7**
YFTH	**Yftach**	**0.37**	**226**	P	**Pg**	**02 38 37.8**	**0.0**
YFTH				S	**Sg**	**02 38 43.8**	**+1.0**
KDZV	**Kedmat Zvi**	**0.39**	**202**	P	**Pg**	**02 38 38.5**	**+0.4**
KDZV				S	**Sg**	**02 38 44.0**	**+0.8**
HULT	**Hulata**	**0.40**	**212**	P	**Pg**	**02 38 38.6**	**+0.3**
DQRL	**Deir Qamar**	**0.40**	**322**	*e*P	**Pb**	**02 38 39.3**	**-0.4**
KSHT	**Keshet**	**0.41**	**186**	S	**Sg**	**02 38 44.7**	**+0.7**
KSHT	**Keshet**	**0.41**	**186**	P	**Pg**	**02 38 39.0**	**+0.4**
ZAHL	**Zahle**	**0.47**	**2**	*e*P	**Pb**	**02 38 41.0**	**+0.2**
HDNS	**Had-Ness**	**0.49**	**202**	P	**Pg**	**02 38 40.5**	**+0.3**
HDNS				S	**Sg**	**02 38 47.6**	**+0.9**
RSPN	**Rosh Pina**	**0.49**	**213**	P	**Pg**	**02 38 40.3**	**+0.1**
RSPN				S	**Sg**	**02 38 47.4**	**+0.7**
ZEFT	**Zefat**	**0.52**	**217**	P	**Pg**	**02 38 40.7**	**0.0**
AMID	**Amiad**	**0.53**	**211**	P	**Pg**	**02 38 40.9**	**0.0**
AMID				S	**Sb**	**02 38 48.8**	**-0.7**
MMA0B	**Mount Meron ar**	**0.54**	**226**	S	**Sb**	**02 38 49.3**	**-0.4**
MMA0B	**Mount Meron ar**	**0.54**	**226**	P	**Pg**	**02 38 40.9**	**0.0**
MMC7	**Mount Meron ar**	**0.54**	**228**	P	**Pg**	**02 38 41.1**	**+0.1**
BHL	**Bhannes**	**0.55**	**341**	*e*P	**Pb**	**02 38 42.0**	**-0.1**
BHL				*e*S	**Sb**	**02 38 49.3**	**-0.7**
KNHM	**Kefar Nahum**	**0.56**	**206**	P	**Pg**	**02 38 41.3**	**0.0**
RMOT	**Ramot**	**0.56**	**198**	P	**Pg**	**02 38 41.6**	**+0.3**
ZRT	**Zar'it**	**0.56**	**240**	P	**Pg**	**02 38 41.4**	**0.0**
MGDL	**Migdal**	**0.62**	**209**	P	**Pg**	**02 38 42.6**	**0.0**
MGDL				S	**Sb**	**02 38 52.0**	**-0.1**
HNTI	**Hanita**	**0.65**	**243**	P	**Pb**	**02 38 43.5**	**-0.4**
HNTI	**Hanita**	**0.65**	**243**	S	**Sb**	**02 38 53.5**	**+0.5**
HNTI	**Hanita**	**0.65**	**243**	P	**Pg**	**02 38 43.3**	**+0.2**
GOLA	**Golan Heights**	**0.70**	**195**	P	**Pg**	**02 38 44.2**	**+0.2**
GOLA				S	**Sb**	**02 38 53.8**	**-0.4**
SHGL	**Shaar Hagolan**	**0.73**	**197**	P	**Pn**	**02 38 45.8**	**-0.9**
MNHA	**Menahamia**	**0.77**	**200**	P	**Pg**	**02 38 45.5**	**+0.2**
AFK	**Afek**	**0.83**	**229**	P	**Pg**	**02 38 46.3**	**-0.1**
HWQ	**Hawqa**	**0.89**	**4**	*e*P	**Pn**	**02 38 48.8**	**-0.3**
HWQ				*e*S	**Sn**	**02 39 00.6**	**-1.4**
ALON	**ALONIM**	**0.90**	**223**	P	**Pb**	**02 38 47.2**	**-0.9**
HTEC	**Technion Haifa**	**0.93**	**230**	P	**Pb**	**02 38 48.1**	**-0.5**
HT

AFI	**Afiamalu**	**10.00**	**19**	Pn	Pn	02 57 05.6	-4.6
RAR	**Rarotonga**	**14.36**	**84**	Pn	Pn	02 58 01.4	-8.4
RAR	**Rarotonga**	**14.36**	**84**	Pn	Pn	02 58 05.6	-4.2
	5.6nm,0.3s,baz=224,slow=9.4,SNR=5.7						
URZ	**Urewera**	**16.20**	**202**	Pn	**Pn**	**02 58 32.3**	**-1.6**
	0.4nm,0.3s,baz=66,slow=8.7,SNR=1.1						
URZ				Sn	Sn	03 01 18.5	-14
	0.2nm,0.3s,baz=129,slow=19,SNR=2.2						
	3.8nm,0.9s						
DZM	**Mont Dzumac**	**17.08**	**271**	P	**P**	**02 58 49.5**	**+2.7**
KHZ	**Kahutara**	**21.14**	**204**	P	**P**	**02 59 31.0**	**-0.1**
KHZ				IAmb	IAmb	02 59 33.5	
	comp=Z,58nm,1.5s						
PPT	**Papeete**	**24.59**	**81**	LR	LR	03 08 51.5	
	comp=Z,112nm,18.9s,baz=312,slow=34						
EIDS	**Eidsvold**	**30.81**	**259**	P	**P**	**03 01 01.8**	**0.0**
CTAO	**Charters Tower**	**35.97**	**268**	P	**P**	**03 01 46.2**	**-0.8**
COEN	**Coen**	**40.51**	**276**	P	**P**	**03 02 24.5**	**-0.6**
COEN				IAmb	IAmb	03 02 57.9	
	comp=Z,22nm,1.5s						
ASAR	**Alice Springs**	**46.53**	**259**	P	**P**	**03 03 14.3**	**+0.6**
ASAR	**Alice Springs**	**46.53**	**259**	P	**P**	**03 03 12.7**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=88,slow=6.2,SNR=13						
	comp=Z,1.0nm,0.8s						
WR8	**Warramunga Arr**	**46.77**	**264**	P	**P**	**03 03 13.7**	**-1.8**
WR8				IAmb	IAmb	03 03 36.7	
	comp=Z,13nm,1.4s						
WB0	**Warramunga Arr**	**46.91**	**264**	P	**P**	**03 03 14.9**	**-1.8**
WRA	**Warramunga Arr**	**46.92**	**264**	P	**P**	**03 03 14.3**	**-2.5**
	comp=Z,1.3nm,0.6s,baz=92,slow=8.4,SNR=24						
WRA				LR	LR	03 20 41.9	
	comp=Z,42nm,21.1s,baz=12,slow=33						
	comp=Z,1.3nm,0.6s						
FORT	**Forrest**	**50.67**	**249**	P	**P**	**03 03 44.1**	**-1.3**
FORT				IAmb	IAmb	03 04 08.5	
	comp=Z,8.0nm,1.0s						
KNRA	**Kununurra**	**53.19**	**268**	P	**P**	**03 04 03.8**	**-0.5**
KNRA				IAmb	IAmb	03 04 04.0	
	comp=Z,6.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**55.34**	**264**	P	**P**	**03 04 18.9**	**-1.1**
QSPA	**South Pole Qui**	**66.64**	**180**	P	**P**	**03 05 35.9**	**-0.3**
	comp=Z,2.4nm,1.1s,baz=55,slow=0.4,SNR=4.5						
	comp=Z,2.4nm,1.1s						
TOLI2	**Tolitoli**	**66.84**	**282**	P	**P**	**03 05 38.3**	**+0.2**
TOLI2				IAmb	IAmb	03 06 02.6	
	comp=Z,9.9nm,1.4s						
ATKA	**Atka Island**	**75.33**	**1**	P	**P**	**03 06 24.9**	**-3.7**
PETK	**Petropavlovsk-**	**79.82**	**344**	P	**P**	**03 06 54.5**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=128,slow=6.6,SNR=6.5						
	comp=Z,1.9nm,0.7s						
USRK	**Ussuriysk Ar.**	**82.91**	**325**	P	**P**	**03 07 12.5**	**+2.2**
	comp=Z,3.5nm,0.8s,baz=82,slow=5.4,SNR=6.1						
	comp=Z,3.5nm,0.8s						
TROLL	**Troll, Antarti**	**84.78**	**179**	⇓P	**P**	**03 07 21.9**	**+2.1**
	comp=Z,52nm,0.6s						
SNAA	**Sanae**	**84.98**	**178**	⇓P	**P**	**03 07 22.0**	**+1.2**
	comp=Z,11nm,0.9s						
SNAA	**Sanae**	**84.98**	**178**	P	**P**	**03 07 21.9**	**+1.2**
	comp=Z,0.8nm,1.0s,baz=166,slow=8.3,SNR=1.8						
	comp=Z,0.8nm,1.0s						
VNA2	**Neumayer--Watz**	**85.49**	**176**	⇓P	**P**	**03 07 25.1**	**+2.0**
	comp=Z,1.8nm,0.8s,baz=157,slow=2.3						
CMAR	**Chiang Mai Arr**	**93.61**	**288**	P	**P**	**03 08 02.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**93.61**	**288**	P	**P**	**03 08 04.3**	**+1.8**
	comp=Z,1.3nm,0.2s,baz=119,slow=3.4,SNR=10.0						
	comp=Z,1.3nm,0.2s						
AKASG	**Malin Array Be**	**146.88**	**331**	PKPbc	**PKPbc**	**03 14 27.7**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=42,slow=4.5,SNR=8.4						
BRTR	**Keskin Array B**	**150.80**	**311**	PKPbc	**PKPbc**	**03 14 38.8**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=123,slow=4.6,SNR=5.1						

*IDC **07** 02:56:28.7±1.5,24°.54N×121°.49E,h0km,mb3.9/3, mbtmp3.8/4,ML3.3/1,MS3.2/5,Error ellipse: s-maj=94.1km s-min=25.6km az=78.0*

*ASIES **07** 02:56:29.9,24°.86N×122°.21E,h6km,ML3.7,Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-2.00; Mθθ2.74; Mϕϕ-0.74; Mrθ0.51; Mrϕ1.63; Mθϕ-1.10; Fault plane solution: M0 3.18304×10¹⁴ NP1:ϕ₁36.84000°, δ55.39000°, λ-138.17000°. NP2:ϕ₂279.90000°, δ56.71000°, λ-42.80000°. Principal axes: T Plg0.7730°, Azm338.6380°; N Plg37.8260°, Azm69.2390°; P Plg52.1630°, Azm247.6430°;*

*TAP **07** 02:56:29.9,24°.86N×122°.21E,h6km,ML3.7,C*

*JMA **07** 02:56:30.7±0.2,24°.8N±0°.8×122°.2E±0°.3,h52km±3km, MV3.3/12,TAIWAN REGION*

ISC 07 02:56:29.6±1.0,24°.86N±0°.02×122°.24E±0°.02,h9km±7km, n151,σ0s98/255,mb3.8/3,MS2.9/5,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.27**	**303**	*i* P	**Pg**	**02 56 35.6**	**+0.6**
TWB1				S	**Sg**	**02 56 39.1**	**+0.3**
EGS		**0.28**	**267**	*i* P	**Pg**	**02 56 35.7**	**+0.5**
EGS				*i* S	**Sg**	**02 56 39.8**	**+0.8**
NTC	**Toucheng**	**0.37**	**269**	*i* P	**Pb**	**02 56 37.7**	**-0.7**
NTC				eS	**Sb**	**02 56 45.8**	**+1.5**
TIPB	**Shuangxi**	**0.39**	**286**	P	**Pg**	**02 56 37.8**	**+0.5**
TIPB				S	**Sb**	**02 56 43.7**	**-1.2**
SXI1	**Grass Mountain**	**0.40**	**305**	*i* P	**Pb**	**02 56 38.3**	**-0.7**
SXI1				*i* S	**Sb**	**02 56 44.1**	**-1.2**
TWC	**Suao**	**0.44**	**235**	P	**Pg**	**02 56 37.7**	**-0.4**
TWC				eS	**Sg**	**02 56 42.6**	**-1.3**
EOS2	**EOS2**	**0.44**	**181**	eP	**Pb**	**02 56 39.6**	**+0.1**
EOS2				*i* S	**Sb**	**02 56 46.8**	**+0.7**
ILA	**Ilan**	**0.46**	**258**	eP	**Pb**	**02 56 39.7**	**-0.2**
ILA				eS	**Sb**	**02 56 47.2**	**+0.4**
ESAO	**Su ao**	**0.46**	**232**	P	**Pg**	**02 56 38.4**	**-0.2**
ESAO				eS	**Sg**	**02 56 43.2**	**-1.4**
NWF	**Wu-fen Shan**	**0.47**	**297**	eP	**Pb**	**02 56 40.9**	**+0.8**
NWF				S	**Sb**	**02 56 46.0**	**-1.1**
WFSB	**Wu-fen Shan**	**0.47**	**297**	eP	**Pb**	**02 56 41.2**	**+1.2**
WFSB				S	**Sb**	**02 56 46.4**	**-0.6**
TNOU	**National Taiwa**	**0.51**	**304**	P	**Pb**	**02 56 40.5**	**-0.3**
TNOU				S	**Sb**	**02 56 47.7**	**-0.7**
NDS	**Dongshan**	**0.53**	**245**	eP	**Pg**	**02 56 38.8**	**-1.1**
NDS				eS	**Sg**	**02 56 46.2**	**-0.7**
TWE	**Neicheng**	**0.54**	**255**	eP	**Pg**	**02 56 40.0**	**-0.1**
TWE				S	**Sg**	**02 56 47.4**	**+0.2**
EOS3	**EOS3**	**0.58**	**173**	eP	**Pb**	**02 56 42.4**	**+0.6**
EOS3				eS	**Sb**	**02 56 52.0**	**+1.9**
EWUT	**Wuta**	**0.59**	**225**	eP	**Pg**	**02 56 41.5**	**+0.4**
EWUT				eS	**Sg**	**02 56 48.3**	**-0.5**
FUSB	**Fushanzhiwuyua**	**0.60**	**260**	*i* P	**Pb**	**02 56 42.2**	**-0.1**
FUSB				eS	**Sg**	**02 56 49.2**	**0.0**
TWA	**Mucha**	**0.61**	**281**	P	**Pb**	**02 56 43.1**	**+0.7**
TWA				eS	**Sb**	**02 56 51.8**	**+0.6**
NWRT	**Kuosheng**	**0.63**	**303**	P	**Pb**	**02 56 42.7**	**0.0**
NWRT				S	**Sb**	**02 56 50.9**	**-0.7**
ENA	**Nanau**	**0.63**	**226**	*i* P	**Pg**	**02 56 41.9**	**+0.1**
ENA				eS	**Sg**	**02 56 48.9**	**-1.1**
ENTT	**Nioudou**	**0.65**	**250**	eP	**Pg**	**02 56 42.5**	**+0.3**
ENTT				eS	**Sg**	**02 56 50.4**	**-0.4**
NHDH	**Xindian Distri**	**0.66**	**279**	*i* P	**Pb**	**02 56 44.1**	**+0.9**
NHDH				S	**Sb**	**02 56 53.1**	**+0.6**
YM01	**YM01**	**0.67**	**295**	*i* P	**Pb**	**02 56 43.8**	**+0.3**
YM01				S	**Sb**	**02 56 54.1**	**+1.1**
YM08	**YM08**	**0.67**	**299**	eP	**Pb**	**02 56 43.5**	**0.0**
YM08				S	**Sb**	**02 56 53.2**	**+0.1**
NWLT	**Wulai**	**0.68**	**263**	eP	**Pb**	**02 56 43.7**	**0.0**
NWLT				S	**Sb**	**02 56 52.4**	**-0.7**
TAP	**Taipei**	**0.69**	**285**	eP	**Pn**	**02 56 45.1**	**-0.5**
TAP				S	**Sb**	**02 56 54.5**	**+1.1**
TATO	**Taipei**	**0.69**	**280**	P	**Pb**	**02 56 44.7**	**+0.8**
TATO	**Taipei**	**0.69**	**280**	P	**Pb**	**02 56 44.4**	**+0.6**
TATO				S	**Sb**	**02 56 54.1**	**+0.6**
ZUZH	**Zhuzihu**	**0.70**	**295**	eP	**Pb**	**02 56 44.1**	**+0.1**
ZUZH				S	**Sb**	**02 56 54.2**	**+0.5**
EAHA	**Aohua**	**0.70**	**221**	eP	**Pg**	**02 56 43.4**	**+0.3**
EAHA				eS	**Sg**	**02 56 51.5**	**-0.8**
TWY	**Chenhua**	**0.71**	**305**	eP	**Pb**	**02 56 44.5**	**+0.3**
EHP	**Heping Village**	**0.71**	**220**	P	**Pg**	**02 56 43.4**	**0.0**
EHP				eS	**Sg**	**02 56 52.7**	**0.0**
LATG	**Datong**	**0.73**	**243**	*i* P	**Pb**	**02 56 44.2**	**-0.3**
LATG				eS	**Sg**	**02 56 53.0**	**-0.2**
NSM	**Shimen**	**0.73**	**306**	P	**Pn**	**02 56 45.7**	**-0.4**
NSM				S	**Sb**	**02 56 55.9**	**+1.4**
ANP	**Anpu**	**0.73**	**296**	eP	**Pn**	**02 56 45.8**	**-0.4**
EOS4	**EOS4**	**0.74**	**174**	eP	**Pb**	**02 56 44.9**	**+0.4**
EOS4				eS	**Sb**	**02 56 55.6**	**+1.0**
JYNG	**Yonagunijimaku**	**0.76**	**122**	P	**Pb**	**02 56 45.7**	**+0.6**
JYNG				eS	**Sb**	**02 56 56.3**	**+0.8**
NTST	**Danshui**	**0.78**	**293**	*i* P	**Pn**	**02 56 46.5**	**-0.3**
NTST				*i* S	**Sn**	**02 56 57.3**	**-1.3**
PCYT	**Pengchaiyu**	**0.78**	**349**	*i* P	**Pb**	**02 56 45.8**	**+0.4**
PCYT				S	**Sn**	**02 56 58.1**	**-0.5**
TWS1	**Kuangyinshan**	**0.78**	**288**	*i* P	**Pn**	**02 56 46.4**	**-0.5**
TWS1				S	**Sb**	**02 56 57.2**	**+1.1**
YOJ	**Yonaguni jima**	**0.81**	**119**	P	**Pb**	**02 56 46.7**	**+0.9**
YOJ	**Yonaguni jima**	**0.81**	**119**	P	**Pg**	**02 56 46.3**	**+1.1**
YOJ				eS	**Sb**	**02 56 57.7**	**+0.9**
YOJ	**Yonaguni jima**	**0.81**	**119**	eP	**Pb**	**02 56 46.5**	**+0.7**
YOJ				eS	**Sb**	**02 56 57.8**	**+0.9**
YHNB	**Yeheng**	**0.81**	**256**	P	**Pb**	**02 56 46.4**	**+0.5**
YHNB	**Yeheng**	**0.81**	**256**	S	**Sb**	**02 56 57.3**	**+0.3**
YHNB	**Yeheng**	**0.81**	**256**	eP	**Pb**	**02 56 45.5**	**-0.4**
YHNB				S	**Sb**	**02 56 56.1**	**-0.9**
NSK	**Sanguang**	**0.82**	**257**	*i* P	**Pg**	**02 56 45.5**	**0.0**
NSK				eS	**Sb**	**02 56 57.6**	**+0.3**
NTY	**Taoyuan**	**0.87**	**279**	P	**Pb**	**02 56 47.4**	**+0.6**
NTY				S	**Sn**	**02 56 59.6**	**-1.1**
NNSB	**Datong**	**0.89**	**241**	eP	**Pg**	**02 56 46.9**	**+0.1**
NNSB				eS	**Sb**	**02 56 59.5**	**+0.1**
NNSH	**Datong**	**0.89**	**241**	P	**Pg**	**02 56 46.7**	**-0.1**
NNSH				S	**Sb**	**02 56 59.7**	**+0.3**
NNS	**Nan Shan**	**0.89**	**242**	eP	**Pb**	**02 56 47.2**	**-0.2**
NNS				S	**Sb**	**02 56 59.5**	**0.0**
ETL	**Fush Village**	**0.90**	**219**	eP	**Pg**	**02 56 46.8**	**-0.1**
ETL				eS	**Sg**	**02 56 57.9**	**-0.7**
NACB	**Ninganchiao**	**0.90**	**221**	P	**Pg**	**02 56 46.8**	**-0.3**
NACB	**Ninganchiao**	**0.90**	**221**	P	**Pg**	**02 56 46.7**	**-0.3**
NACB				eS	**Sg**	**02 56 57.5**	**-1.3**
ETLH	**Xiulin Townshi**	**0.95**	**227**	eP	**Pg**	**02 56 48.0**	**0.0**
ETLH				eS	**Sg**	**02 56 58.0**	**0.0**
KSHI	**Guanxi Townshi**	**0.97**	**265**	eP	**Pn**	**02 56 49.6**	**+0.2**
KSHI				eS	**Sb**	**02 57 01.0**	**-0.5**
TWD	**Chiawan**	**0.97**	**217**	*i* P	**Pg**	**02 56 47.8**	**-0.6**
TWD				eS	**Sg**	**02 56 59.7**	**-1.3**
NFF	**Wufeng Townshi**	**1.05**	**258**	eP	**Pn**	**02 56 50.5**	**0.0**
NFF				S	**Sn**	**02 57 05.1**	**-0.2**
FUSS	**Fushou**	**1.09**	**236**	P	**Pg**	**02 56 50.5**	**-0.2**
FUSS				eS	**Sg**	**02 57 03.6**	**-1.4**
HSN1	**Hsinchu**	**1.11**	**266**	eP	**Pn**	**02 56 53.1**	**+1.7**
HSN1				eS	**Sn**	**02 57 09.1**	**+2.2**
ETM	**Tongmen**	**1.12**	**217**	eP	**Pg**	**02 56 50.5**	**-0.8**
ETM				eS	**Sg**	**02 57 04.8**	**-1.1**
LXIB	**Xiulin Townshi**	**1.13**	**222**	eP	**Pg**	**02 56 50.8**	**-0.5**
LXIB				eS	**Sg**	**02 57 05.6**	**-0.3**
LIOB	**Emei**	**1.13**	**259**	P	**Pn**	**02 56 53.1**	**+1.4**
LIOB				S	**Sn**	**02 57 08.8**	**+1.4**
WHF	**Hehuan Shan**	**1.14**	**231**	*i* P	**Pb**	**02 56 51.7**	**-0.1**
WHF				eS	**Sg**	**02 57 05.9**	**-0.5**
SBCB	**Hsinchu**	**1.14**	**267**	eP	**Pn**	**02 56 52.9**	**+1.1**
SBCB				eS	**Sn**	**02 57 09.1**	**+1.5**
TWT	**Tachien**	**1.14**	**238**	eP	**Pn**	**02 56 52.5**	**+0.6**
TWT				eS	**Sn**	**02 57 07.4**	**-0.5**
NSTT	**Nanjuang**	**1.15**	**259**	P	**Pn**	**02 56 52.8**	**+0.9**
NSTT				S	**Sn**	**02 57 09.1**	**+1.3**
TEYL	**Yanliau Villag**	**1.15**	**211**	eP	**Pn**	**02 56 53.0**	**+1.1**
TEYL				eS	**Sn**	**02 57 09.9**	**+2.1**
TDCB	**Techi**	**1.16**	**239**	eP	**Pn**	**02 56 52.5**	**+0.4**
TDCB				eS	**Sb**	**02 57 07.0**	**0.0**
SHUL	**Shoufeng**	**1.24**	**210**	eP	**Pn**	**02 56 54.0**	**+0.9**
SHUL				S	**Sn**	**02 57 12.6**	**+2.7**
ESL	**Shilin**	**1.28**	**215**	eP	**Pn**	**02 56 53.9**	**+0.2**
ESL				eS	**Sg**	**02 57 07.9**	**-2.9**
WHP	**Taichung City**	**1.31**	**244**	eP	**Pg**	**02 56 55.7**	**+0.8**
WHP				eS	**Sg**	**02 57 10.8**	**-1.1**
OWD	**Renai**	**1.33**	**227**	*i* P	**Pn**	**02 56 54.7**	**+0.2**
OWD				eS	**Sg**	**02 57 10.6**	**-1.8**
WUSB	**Renai**	**1.34**	**230**	*i* P	**Pg**	**02 56 55.5**	**+0.1**
WUSB				S	**Sb**	**02 57 12.6**	**+0.2**
NMLH	**Miaoli**	**1.36**	**256**	eP	**Pg**	**02 56 56.3**	**+0.6**
NMLH				eS	**Sn**	**02 57 15.4**	**+2.5**
WARBT	**Fenglin Townsh**	**1.38**	**215**	eP	**Pn**	**02 56 55.3**	**+0.2**
WARBT				eS	**Sn**	**02 57 14.1**	**+0.6**
EGFH	**Guangfu**	**1.40**	**212**	eP	**Pn**	**02 56 54.8**	**-0.6**
EGFH				eS	**Sg**	**02 57 15.7**	**+1.0**
NSY	**Sanyi**	**1.42**	**252**	eP	**Pg**	**02 56 58.6**	**+1.7**
NSY				eS	**Sg**	**02 57 18.2**	**+2.9**
TWQ1	**Liyutan**	**1.43**	**249**	P	**Pg**	**02 56 58.0**	**+0.9**
TWQ1				eS	**Sg**	**02 57 15.9**	**+0.2**
WPL	**Puli Township**	**1.44**	**234**	eP	**Pg**	**02 56 58.5**	**+1.1**
WPL				eS	**Sn**	**02 57 15.3**	**+0.3**
WCS	**Beigang Elemen**	**1.45**	**237**	eP	**Pg**	**02 56 58.2**	**+0.7**
WCS				eS	**Sb**	**02 57 15.2**	**-0.3**
DPDB	**Guoxing**	**1.45**	**236**	P	**Pg**	**02 56 58.0**	**+0.4**
DPDB				eS	**Sg**	**02 57 16.9**	**+0.4**
IRIF	**Iriomote-Funau**	**1.46**	**111**	eP	**Pn**	**02 56 54.6**	**-1.5**
VWDT	**VWDT**	**1.49**	**222**	eP	**Pg**	**02 56 58.1**	**-0.1**
VWDT				eS	**Sg**	**02 57 19.1**	**+1.5**
HGSD	**Ruisui**	**1.55**	**209**	eP	**Pg**	**02 56 59.5**	**0.0**
HGSD				eS	**Sg**	**02 57 21.2**	**+1.6**
SMLT	**Sun Moon Lake**	**1.56**	**232**	eP	**Pg**	**02 56 59.7**	**0.0**
SMLT				eS	**Sg**	**02 57 22.5**	**+2.5**
TYC	**Yuchr**	**1.58**	**233**	eP	**Pg**	**02 57 00.1**	**+0.1**
TYC				eS	**Sg**	**02 57 21.3**	**+0.8**
SSLB	**Suanglung**	**1.59**	**228**	P	**Pb**	**02 56 59.6**	**+0.4**
SSLB	**Suanglung**	**1.59**	**228**	eP	**Pb**	**02 56 59.5**	**+0.4**
SSLB				S	**Sb**	**02 57 19.3**	**0.0**
EHY	**Hungye**	**1.59**	**212**	P	**Pn**	**02 56 58.1**	**+0.2**
EHY				eS	**Sn**	**02 57 18.4**	**-0.2**
EHYH	**Wanrong**	**1.59**	**211**	P	**Pn**	**02 56 58.2**	**+0.2**
TCU	**Taichung**	**1.59**	**244**	eP	**Pg**	**02 57 01.9**	**+1.7**
TCU				eS	**Sg**	**02 57 22.9**	**+2.0**
WWF	**Wufeng**	**1.62**	**240**	P	**Pg**	**02 57 01.5**	**+0.7**
WWF				eS	**Sg**	**02 57 24.5**	**+2.6**
HATJ	**Hateruma jima**	**1.64**	**119**	eP	**Pn**	**02 56 58.0**	**-0.5**
YULB	**Yu-li**	**1.70**	**211**	P	**Pb**	**02 57 01.3**	**+0.2**
YULB	**Yu-li**	**1.70**	**211**	eP	**Pn**	**02 56 59.6**	**+0.1**
YULB				eS	**Sn**	**02 57 22.2**	**+0.8**
WHYT	**Xinyi Township**	**1.72**	**228**	eP	**Pg**	**02 57 02.1**	**-0.5**
WHYT				eS	**Sg**	**02 57 26.8**	**+1.9**
WNT	**Mingjian**	**1.72**	**236**	P	**Pg**	**02 57 03.1**	**+0.3**
WNT				eS	**Sg**	**02 57 26.4**	**+1.3**
WJS	**Zhushan**	**1.73**	**233**	eP	**Pg**	**02 57 03.0**	**+0.2**
WJS				eS	**Sg**	**02 57 27.1**	**+2.0**
JKRS	**Kuro-shima**	**1.73**	**111**	eP	**Pn**	**02 57 00.3**	**+0.4**
JKRS				eS	**Sn**	**02 57 21.3**	**-0.7**
TWF1	**Yuli**	**1.73**	**210**	eP	**Pb**	**02 57 01.1**	**-0.5**
TWF1				eS	**Sn**	**02 57 20.9**	**-1.3**
JU	**Ishigaki jima**	**1.80**	**106**	eP	**Pn**	**02 57 02.3**	**+1.4**
YUS	**Yu-Shan**	**1.80**	**221**	P	**Pb**	**02 57 02.7**	**+0.4**
YUS				eS	**Sg**	**02 57 27.6**	**-0.1**
CHKH	**Chenggong**	**1.83**	**205**	eP	**Pb**	**02 57 03.3**	**-0.1**
CHKH				eS	**Sn**	**02 57 25.4**	**+0.7**
FULB	**Fuli**	**1.87**	**208**	eP	**Pn**	**02 57 02.9**	**+1.0**
FULB				eS	**Sb**	**02 57 28.1**	**+0.7**
ALS	**Alishan**	**1.88**	**225**	eP	**Pg**	**02 57 05.3**	**-0.4**
ALS				eS	**Sg**	**02 57 29.7**	**-0.4**
CHN5	**Tsauling**	**1.90**	**229**	eP	**Pb**	**02 57 05.2**	**+0.6**
CHN5				eS	**Sg**	**02 57 32.5**	**+1.6**
JISG	**Ishigakijimahi**	**1.90**	**98**	eP	**Pn**	**02 57 01.2**	**-1.0**
CHKT	**Chengkung**	**1.93**	**205**	P	**Pn**	**02 57 02.1**	**-0.6**
CHKT				eS	**Sn**	**02 57 25.1**	**-1.9**
WDLH	**Douliu**	**1.94**	**233**	eP	**Pb**	**02 57 04.6**	**-0.6**
WDLH				eS	**Sg**	**02 57 32.4**	**+0.3**
EHD	**Haiduan**	**1.95**	**209**	eP	**Pn**	**02 57 04.2**	**+1.2**
EHD				eS	**Sn**	**02 57 28.1**	**+0.5**
RLNB	**Erlin**	**1.97**	**241**	eS	**Sb**	**02 57 30.7**	**+0.4**
ELDTW	**Lidau**	**2.01**	**214**	eP	**Pb**	**02 57 05.6**	**-0.8**
ELDTW				eS	**Sn**	**02 57 29.6**	**+0.5**
WTK	**Tuku**	**2.06**	**236**	eP	**Pn**	**02 57 04.7**	**+0.3**
WTK				eS	**Sg**	**02 57 34.9**	**-0.8**
WCKO	**Fanlu**	**2.06**	**227**	eP	**Pb**	**02 57 07.5**	**+0.3**
WCKO				eS	**Sg**	**02 57 35.5**	**-0.3**
EDH	**Donghe**	**2.07**	**205**	eP	**Pn**	**02 57 05.9**	**+1.4**
EDH				eS	**Sn**	**02 57 30.3**	**-0.1**
CHN4	**Tsaushan**	**2.13**	**225**	P	**Pb**	**02 57 08.4**	**0.0**
CHN4				eS	**Sg**	**02 57 37.0**	**-1.1**
TPUB	**Ta-pu**	**2.14**	**224**	P	**Pb**	**02 57 08.7**	**+0.1**
TPUB	**Ta-pu**	**2.14**	**224**	eP	**Pb**	**02 57 08.8**	**+0.2**
TPUB				eS	**Sg**	**02 57 36.7**	**-1.8**
CHY	**Chiayi**	**2.14**	**231**	eP	**Pb**	**02 57 07.8**	**-0.9**
STYH	**Taoyuan**	**2.15**	**219**	eP	**Pb**	**02 57 07.8**	**-1.0**
STYT	**Tauyuan**	**2.17**	**219**	eP	**Pn**	**02 57 07.8**	**+1.8**
STYT				eS	**Sb**	**02 57 36.7**	**+0.5**
WTP	**Ta-pu**	**2.19**	**223**	eP	**Pb**	**02 57 09.3**	**-0.2**
LONT	**Longtian**	**2.20**	**208**	eP	**Pn**	**02 57 07.4**	**+1.1**
LONT				eS	**Sn**	**02 57 35.5**	**+1.8**
TWK	**Hsinying**	**2.26**	**226**	P	**Pb**	**02 57 10.5**	**-0.1**
WSL	**Shuilin Townsh**	**2.27**	**234**	eP	**Pb**	**02 57 09.5**	**-1.3**
SNST	**Tainan City**	**2.28**	**225**	P	**Pb**	**02 57 10.5**	**-0.6**
CHN1	**Nanshi**	**2.29**	**223**	eP	**Pb**	**02 57 10.9**	**-0.2**
LDUT	**Ludao**	**2.29**	**198**	P	**Pn**	**02 57 06.9**	**-0.7**
LDUT				eS	**Sn**	**02 57 33.9**	**-2.0**
TWGBT	**Beinan**	**2.30**	**208**	P	**Pb**	**02 57 10.0**	**-1.3**
TWGBT	**Beinan**	**2.30**	**208**	P	**Pn**	**02 57 08.4**	**+0.7**
TWGBT				eS	**Sn**	**02 57 36.2**	**+0.1**
TWG	**Pinlang**	**2.30**	**208**	eP	**Pn**	**02 57 08.6**	**+0.9**
TWG				eS	**Sn**	**02 57 36.3**	**+0.2**
SGST	**Jiashian**	**2.33**	**221**	eP	**Pn**	**02 57 10.0**	**+1.8**
ICHU	**Yijhu**	**2.33**	**231**	eP	**Pb**	**02 57 11.7**	**-0.2**
MATB	**Ma-tsu**	**2.44**	**302**	P	**Pn**	**02 57 11.4**	**+1.8**
SHHT	**Tainan City**	**2.52**	**224**	eP	**Pn**	**02 57 12.8**	**+2.0**
SCST	**Cishan**	**2.54**	**219**	eP	**Pb**	**02 57 14.6**	**-0.7**
VWUC	**VWUC**	**2.54**	**273**	eP	**Pn**	**02 57 10.1**	**-0.9**
MASBT	**Mashibuluo**	**2.68**	**214**	P	**Pn**	**02 57 15.5**	**+2.5**
EAST	**Anshuo**	**2.78**	**208**	eP	**Pn**	**02 57 14.8**	**+0.5**
PHUB	**P'eng-hu**	**2.78**	**242**	P	**Pn**	**02 57 15.3**	**+1.0**
TAWH	**Dawu Township**	**2.80**	**207**	eP	**Pn**	**02 57 16.7**	**+2.1**
SCZT	**Fangliau**	**2.89**	**211**	eP	**Pb**	**02 57 19.5**	**-1.8**
KSRS	**Korea Array**	**13.46**	**20**	Pn	**P**	**02 59 48.5**	**-1.7**
	0.1nm,0.3s,baz=198,slow=12,SNR=4.5						
	0.8nm,0.7s						
KLR	**Kul'dur**	**25.44**	**15**	LR	LR	03 12 59.7	
	comp=Z,19nm,18.4s,baz=242,slow=38						
SONM	**Songino Array**	**26.14**	**335**	P	**P**	**03 02 04.6**	**+0.5**
	0.5nm,0.5s,baz=132,slow=8.0,SNR=2.4						
SONM				LR	LR	03 12 54.3	
	comp=Z,30nm,18.7s,baz=124,slow=38						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**40.21**	**326**	LR	LR	03 21 59.8	
	comp=Z,15nm,20.8s,baz=82,slow=38						
WRA	**Warramunga Arr**	**46.07**	**164**	P	**P**	**03 04 53.6**	**-0.4**
	3.6nm,0.7s,baz=346,slow=8.7,SNR=16						
	3.6nm,0.7s						
ASAR	**Alice Springs**	**49.55**	**166**	P	**P**	**03 05 20.2**	**-0.8**
	0.9nm,0.8s,baz=340,slow=9.3,SNR=6.8						
	0.9nm,0.8s						
ARTI	**Arti**	**55.24**	**323**	LR	LR	03 30 04.7	
	comp=Z,31nm,18.3s,baz=257,slow=37						
ULM	**Lac du Bonnet**	**97.95**	**24**	LR	LR	03 59 51.7	
	comp=Z,40nm,18.2s,baz=334,slow=39						

*KRNET **07** 02:57:02.5±0.1,42°.10N×78°.82E,h14km,mb3.0*

*SOME **07** 02:57:03.3,42°.08N×78°.78E,h15km*

*NNC **07** 02:57:04.1±0.8,42°.20N×78°.83E,h0km,mb3.6,mpv3.3, Error ellipse:

KUU	**Kurty**	**2.54**	**317**	*eP*	**Pb**	**02 57 48.8**	**+0.4**
	2.1nm,0.1s							
KUU				*eS*	**Sb**	**02 58 21.5**	**+2.1**
	27nm,0.2s							
UCH	**Uchtor**	**3.15**	**274**	⇓*eP*	**Pb**	**02 57 56.5**	**-2.6**
UCH				⇓*eS*	**Sb**	**02 58 35.4**	**-1.9**
SGDS	**Sogindy**	**3.33**	**296**	Pg	**Pb**	**02 58 03.6**	**+1.6**
	2.4nm,0.6s							
SGDS				Lg	Lg	02 58 46.3		
	10nm,0.5s							
BTLS	**Baital**	**4.52**	**313**	*eP*	**Pg**	**02 58 27.0**	**-3.0**
	1.2nm,0.1s							
BTLS				*eS*	**Sg**	**02 59 26.8**	**-1.8**
	1.2nm,0.2s							
MK31	**Makanchi Array**	**5.37**	**27**	Pn	**Pn**	**02 58 22.8**	**+0.1**
	0.3nm,0.3s,baz=206,slow=14,SNR=16							
MK31				⇓Sn	**Sn**	**02 59 26.9**	**+2.8**
	0.2nm,0.3s,baz=194,slow=20,SNR=3.6							
MK31				⇑Lg	Lg	02 59 48.6		
	1.0nm,0.6s,baz=203,slow=30,SNR=3.5							

*NEIC **07** 02:59:17.1±1.4,35.°801N±0.°010×117.°62W±0.°01, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.7km az=42.0*

PAS 07 02:59:17.5±1.5,**35.°803N**±0.°007×**117.°63W**±0.°01, **h3**km±2km,**ML3.4**/19,**ML3.1**/118(NEIC),**Error ellipse: s-maj=1.6km s-min=0.9km az=66.0**,**Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.03**	**66**	Pg	Pg	02 59 18.9	+0.6
TOW	**Tower One**	**0.11**	**273**		Pg	02 59 20.3	+0.7
TOW					Sg	02 59 23.1	+2.1
SRTC	**Snort**	**0.14**	**220**		Pg	02 59 20.9	+0.5
WVPM	**Volcano Peak E**	**0.21**	**315**		Pg	02 59 21.7	+0.1
WVPM					Sg	02 59 25.1	+0.8
WNMM	**Nine Mile Cany**	**0.22**	**280**		Pg	02 59 22.0	+0.2
WRVM	**Rose V. Centra**	**0.29**	**315**		Sg	02 59 27.6	+0.7
LRMC	**Laurel Mtn Rad**	**0.33**	**187**	Pg	Pg	02 59 23.7	-0.1
LRMC				Sg	Sg	02 59 28.7	+0.7
LRMC				IAML		02 59 28.9	
	comp=E,4μm,0.6s						
LRMC				IAML		02 59 30.4	
	comp=N,3μm,0.2s						
CCCA	**Chr Cany lake**	**0.35**	**142**		Pg	02 59 24.9	+0.6
CCCA	**Chr Cany lake**	**0.35**	**142**	IAML		02 59 30.9	
	comp=N,10μm,0.5s						
CCCA				IAML		02 59 31.1	
	comp=E,8μm,0.9s						
MFS	**McCloud Flat S**	**0.36**	**330**		Pg	02 59 24.5	0.0
MFS					Sg	02 59 29.9	+0.6
WORM	**Onyx Ranch**	**0.51**	**258**		Pg	02 59 27.0	-0.2
DTP	**Desert Tortois**	**0.56**	**198**		Pg	02 59 28.0	-0.3
QSM	**Queen of Sheba**	**0.64**	**75**	Pg	Pg	02 59 29.3	-0.5
QSM					Sg	02 59 38.2	0.0
QSM				IAML		02 59 40.4	
	comp=E,2μm,0.6s						
ISA	**Isabella, Lake**	**0.70**	**259**		Pg	02 59 30.6	-0.3
ISA				IAML		02 59 41.5	
	comp=N,1μm,0.2s						
ISA	**Isabella, Lake**	**0.70**	**259**		Sg	02 59 40.5	+0.6
CCAC	**Calif City Air**	**0.72**	**206**		Pg	02 59 31.1	-0.2
CWC	**Cottonwood Cre**	**0.73**	**330**	Pg	Pg	02 59 31.3	-0.2
CWC				Sg	Sg	02 59 41.1	+0.1
CWC				IAML		02 59 41.7	
	comp=N,564nm,0.1s						
CWC				IAML		02 59 46.2	
	comp=E,656nm,0.3s						
WASM	**Alta Sierra Ca**	**0.75**	**265**		Pg	02 59 31.7	-0.2
GSC	**Goldstone, Bar**	**0.84**	**126**	Pg	Pg	02 59 33.0	-0.6
GSC				IAML		02 59 49.1	
	comp=N,655nm,0.5s						
SPG2	**Springville 2**	**1.00**	**294**		Pg	02 59 35.9	-0.8
TPO	**Tropico Hills**	**1.04**	**208**	IAML		02 59 56.2	
	comp=E,680nm,0.8s						
VES	**Vestal, Richgr**	**1.18**	**272**		Pg	02 59 39.5	-0.6
ARVC	**Arvin**	**1.19**	**236**		Pg	02 59 39.6	-0.6
GRAC	**Grapevine Rang**	**1.21**	**10**		Pg	02 59 40.1	-0.6
GRAC				IAML		02 59 59.8	
	comp=N,594nm,0.5s						
GRAC				IAML		03 00 04.9	
	comp=E,579nm,0.5s						
ADO	**Adelanto Recei**	**1.26**	**172**		Pg	02 59 41.8	+0.1
WCT	**Wildcat Mounta**	**1.28**	**39**		Pg	02 59 41.4	-0.6
WCT	**Wildcat Mounta**	**1.28**	**39**	IAML		03 00 00.2	
	comp=E,201nm,0.5s						
WCT				IAML		03 00 01.6	
	comp=N,242nm,0.6s						
CJV	**Casa Juvan**	**1.34**	**198**		Pb	02 59 43.5	+0.2
DSCC	**Desert Studies**	**1.41**	**117**		Pn	02 59 41.8	-2.3
TUQ	**Turquoise Moun**	**1.44**	**104**		Pn	02 59 42.7	-1.9
OSI	**Osito Audit: C**	**1.48**	**217**		Pn	02 59 44.4	-0.8
OSI				IAML		03 00 11.1	
	comp=N,155nm,1.1s						
OSI				IAML		03 00 11.3	
	comp=E,195nm,0.7s						
CHFC	**Chilao Flat St**	**1.50**	**192**		Pn	02 59 45.1	-0.4
GMN	**Gold Mountain**	**1.52**	**11**		Pn	02 59 45.9	0.0
GMN				IAML		02 59 54.3	
	comp=N,157nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.56**	**181**		Pn	02 59 46.1	-0.2
BFSC					Sb	03 00 07.5	+0.1
BFSC				IAML		03 00 08.3	
	comp=N,294nm,0.4s						
BFSC				IAML		03 00 08.3	
	comp=E,213nm,0.4s						
DSP	**Deep Springs**	**1.59**	**350**		Pn	02 59 46.2	-0.3
DSP				IAML		03 00 09.4	
	comp=E,310nm,0.4s						
DSP				IAML		03 00 09.9	
	comp=N,161nm,0.6s						
SIL	**Silver Peak**	**1.59**	**155**		Pn	02 59 47.2	+0.4
TPNV	**Topopah Spring**	**1.60**	**44**		Pn	02 59 45.9	-1.0
TPNV				IAML		03 00 12.5	
	comp=N,246nm,0.5s						
TPNV				IAML		03 00 12.7	
	comp=N,238nm,0.6s						
MWC	**Mount Wilson**	**1.61**	**193**		Pn	02 59 46.4	-0.6
MWC				IAML		03 00 10.7	
	comp=E,255nm,0.3s						
MWC				IAML		03 00 11.7	
	comp=N,354nm,0.5s						
PASC	**Pasadena Art C**	**1.69**	**196**		Pn	02 59 48.4	+0.5
PASC				IAML		03 00 16.7	
	comp=E,179nm,0.5s						
SVD	**Seven Oaks Dam**	**1.75**	**165**		Pg	02 59 50.6	-0.4
BLCC	**Black Canyon**	**1.77**	**209**		Pn	02 59 47.2	-2.0
MZP	**Montezuma Peak**	**1.91**	**6**		Pb	02 59 53.2	+0.1
GMRC	**Granite Mounta**	**1.91**	**122**		Pn	02 59 48.5	-2.6
KCC	**Kaiser Creek**	**2.04**	**319**		Pb	02 59 54.8	-0.4
SHPR	**Sheep Range**	**2.12**	**70**		Pn	02 59 52.9	-1.2
ELS	**Elsinore Mount**	**2.16**	**175**		Pb	02 59 57.4	+0.2
ELS				IAML		03 00 29.1	
	comp=N,106nm,0.7s						
ELS				IAML		03 00 31.6	
	comp=E,109nm,1.3s						
TPH	**Tonopah**	**2.29**	**8**		Pb	03 00 00.0	+0.4
S11A	**Rachel**	**2.38**	**39**		Pg	03 00 02.1	-1.0
PMD	**Palm Desert**	**2.39**	**154**		Pn	02 59 56.5	-1.0
PMD	**Palm Desert**	**2.39**	**154**	IAML		03 00 37.8	
	comp=E,98nm,1.6s						
PMD				IAML		03 00 43.1	
	comp=N,74nm,0.8s						
PFO	**Pinyon Flats O**	**2.39**	**156**		Pb	03 00 02.0	+0.8
PFO				IAML		03 00 38.2	
	comp=N,60nm,1.3s						
PFO				IAML		03 00 38.4	
	comp=N,113nm,1.6s						
XPFO	**Pinon Flat**	**2.39**	**156**		Pn	02 59 56.5	-1.2
LHV	**Little Huntoon**	**2.54**	**344**		Pg	03 00 05.1	-1.0
LHV				IAML		03 00 44.3	
	comp=N,51nm,1.1s						
LHV				IAML		03 00 46.1	
	comp=E,76nm,1.8s						
PMPB	**Monarch Peak**	**2.60**	**280**		Pb	03 00 05.8	+1.0
NV11	**Mina Array Sit**	**2.66**	**351**		Pb	03 00 07.1	+1.3
NEE2	**Needles Airpor**	**2.67**	**112**		Pn	02 59 59.4	-2.1
NVAR	**Mina Array Bea**	**2.68**	**349**		Pb	03 00 06.5	+0.3
MYLM	**Yosemite Lake**	**2.74**	**306**		Pb	03 00 06.5	-0.7
BBGB	**Big Mountain B**	**2.86**	**287**		Sg	03 00 48.7	-0.8
RYN	**Ryan**	**2.91**	**346**		Pg	03 00 12.2	-1.0
BLYC	**Blythe**	**3.28**	**128**	IAML		03 01 09.9	
	comp=E,41nm,0.9s						
BLYC				IAML		03 01 09.9	
	comp=N,41nm,0.9s						
CCUT	**Cedar City**	**3.85**	**62**	IAML		03 01 27.6	
	comp=E,18nm,1.9s						
ESJX	**Sierra Juarez**	**4.04**	**159**	IAML		03 01 24.6	
	comp=E,29nm,1.0s						
ESJX				IAML		03 01 24.6	
	comp=N,19nm,0.8s						
KNB	**Kanab**	**4.07**	**71**	IAML		03 01 31.1	
	comp=E,18nm,1.0s						
KNB				IAML		03 01 37.1	
	comp=N,19nm,1.2s						
PSUT	**Pine Spring**	**4.07**	**47**	IAML		03 01 30.9	
	comp=E,28nm,0.9s						
PSUT				IAML		03 01 39.0	
	comp=N,22nm,0.8s						
AFDM	**Forest Hills D**	**4.11**	**321**	IAML		03 01 32.6	
	comp=N,21nm,1.1s						
AFDM				IAML		03 01 33.9	
	comp=E,24nm,0.9s						
SPR3	**Spring Creek 3**	**4.13**	**39**	IAML		03 01 29.0	
	comp=N,22nm,0.8s						
SPR3				IAML		03 01 30.6	
	comp=E,17nm,0.8s						
Y14A	**Wickenburg**	**4.24**	**115**	IAML		03 01 36.5	
	comp=E,23nm,0.7s						
Y14A				IAML		03 01 38.3	
	comp=N,31nm,0.7s						
U15A	**North Rim**	**4.37**	**80**	IAML		03 01 44.7	
	comp=E,20nm,1.0s						
U15A				IAML		03 01 46.5	
	comp=N,22nm,0.9s						
113A	**Mohawk Valley,**	**4.41**	**132**	IAML		03 01 44.7	
	comp=N,11nm,1.4s						
113A				IAML		03 01 49.8	
	comp=E,12nm,1.1s						
X16A	**Lo Mia Camp, P**	**5.26**	**103**	IAML		03 02 17.6	
	comp=N,6.3nm,1.2s						

*IDC **07** 03:13:12.0±0.7,35.°78N×117.°44W,h0km,mb3.5/1, mbtmp3.2/6,ML3.6/5,MS2.5/2,Error ellipse: s-maj=15.8km s-min=5.6km az=74.0*

*NEIC **07** 03:13:11.7±1.7,35.°752N±0.°008×117.°59W±0.°01, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.6km az=220.0*

*PAS **07** 03:13:12.5±2.0,35.°747N±0.°009×117.°59W±0.°01, h7km±4km, Mwr3.6/6,ML3.7/152(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=87.0*

ISC 07 03:13:12.7±0.8,**35.75N**±0.°02×**117.57W**±0.°02,**h13**km±6km, **n84**,σ1s**09**/**77**,**Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.07**	**344**	Pg	**Pg**	**03 13 14.8**	**-0.7**
CLC				IAML		03 13 16.7	
	comp=N,64μm,0.2s						
CLC				IAML		03 13 16.7	
	comp=E,46μm,0.1s						
SRTC	**Snort**	**0.15**	**249**		**Pg**	**03 13 16.0**	**-0.4**
TOW	**Tower One**	**0.17**	**292**		**Pg**	**03 13 16.2**	**-0.5**
CCCA	**Chr Cany lake**	**0.28**	**142**	Pg	**Pg**	**03 13 18.6**	**+0.1**
LRMC	**Laurel Mtn Rad**	**0.28**	**198**		**Pg**	**03 13 18.0**	**-0.6**
LRMC				Sg	**Sg**	**03 13 22.2**	**-0.3**
LRMC				IAML		03 13 22.9	
	comp=N,11μm,0.3s						
LRMC				IAML		03 13 24.2	
	comp=E,8μm,0.2s						
WVPM	**Volcano Peak E**	**0.28**	**316**		**Pg**	**03 13 17.8**	**-0.9**
WVPM					**Sg**	**03 13 22.0**	**-0.7**
WNMM	**Nine Mile Cany**	**0.29**	**290**		**Pg**	**03 13 17.8**	**-0.9**
WNMM					**Sg**	**03 13 22.0**	**-0.6**
MPMC	**Manual Prospec**	**0.32**	**12**	Pg	**Pg**	**03 13 18.7**	**-0.7**
MPMC				IAML		03 13 23.7	
	comp=N,14μm,0.5s						
WRVM	**Rose V. Centra**	**0.37**	**316**		**Pg**	**03 13 19.2**	**-1.0**
WRVM					**Sg**	**03 13 24.4**	**-0.7**
DTP	**Desert Tortois**	**0.53**	**205**		**Pg**	**03 13 22.1**	**-1.0**
WORM	**Onyx Ranch**	**0.55**	**265**		**Pg**	**03 13 22.2**	**-1.3**
QSM	**Queen of Sheba**	**0.61**	**69**		**Pg**	**03 13 24.1**	**-0.6**
QSM	**Queen of Sheba**	**0.61**	**69**		**Sg**	**03 13 32.7**	**-0.1**
CCAC	**Calif City Air**	**0.69**	**212**		**Sg**	**03 13 34.9**	**-0.5**
ISA	**Isabella, Lake**	**0.74**	**264**		**Pg**	**03 13 25.8**	**-1.3**
ISA				IAML		03 13 35.8	
	comp=N,4μm,0.6s						
ISA				IAML		03 13 36.4	
	comp=E,4μm,0.2s						
ISA	**Isabella, Lake**	**0.74**	**264**		**Sg**	**03 13 35.3**	**-1.5**
GSC	**Goldstone, Bar**	**0.77**	**125**		**Pg**	**03 13 26.9**	**-0.7**
GSC				Sg	**Sg**	**03 13 37.2**	**-0.5**
GSC				IAML		03 13 42.1	
	comp=N,3μm,0.4s						
CWC	**Cottonwood Cre**	**0.81**	**330**	IAML		03 13 39.2	
	comp=E,3μm,0.2s						
CWC				IAML		03 13 39.3	
	comp=N,4μm,0.2s						
CGO	**Cerro Gordo**	**0.82**	**347**		**Pg**	**03 13 27.5**	**-1.3**
TPO	**Tropico Hills**	**1.02**	**212**	Sg	**Sg**	**03 13 44.6**	**-1.1**
SPG2	**Springville 2**	**1.07**	**295**		**Pg**	**03 13 31.5**	**-1.8**
ADO	**Adelanto Recei**	**1.20**	**174**		**Pg**	**03 13 35.2**	**-0.6**
ADO					**Sb**	**03 13 51.3**	**+0.5**
ARVC	**Arvin**	**1.20**	**239**		**Pg**	**03 13 34.3**	**-1.5**
ALPC	**Antelope**	**1.21**	**210**		**Pg**	**03 13 34.7**	**-1.4**
GRAC	**Grapevine Rang**	**1.26**	**8**		**Pn**	**03 13 35.5**	**-0.7**
GRAC				IAML		03 13 42.9	
	comp=E,2μm,0.3s						
GRAC				IAML		03 13 55.9	
	comp=N,2μm,0.4s						
WCT	**Wildcat Mounta**	**1.30**	**36**		**Pn**	**03 13 35.5**	**-1.2**
WCT				IAML		03 13 55.5	
	comp=E,2μm,0.4s						
WCT				IAML		03 13 55.8	
	comp=N,934nm,0.7s						
DSCC	**Desert Studies**	**1.34**	**116**		**Pn**	**03 13 35.5**	**-1.7**
TIN	**Tinemaha, Big**	**1.41**	**338**		**Pn**	**03 13 37.8**	**-0.4**
OSI	**Osito Audit: C**	**1.47**	**220**		**Pn**	**03 13 38.9**	**-0.1**
OSI				IAML		03 14 01.8	
	comp=N,1μm,0.8s						
OSI				IAML		03 14 03.7	
	comp=E,1μm,0.8s						
BFSC	**Mount Baldy Ra**	**1.50**	**183**	IAML		03 14 03.6	
	comp=N,818nm,0.4s						
BFSC				IAML		03 14 03.9	
	comp=E,802nm,0.7s						
MWC	**Mount Wilson**	**1.57**	**195**		**Pn**	**03 13 40.6**	**+0.1**
MWC				IAML		03 14 04.6	
	comp=N,1μm,0.4s						
MWC				IAML		03 14 05.0	
	comp=E,1μm,0.5s						
GMN	**Gold Mountain**	**1.57**	**9**		**Pn**	**03 13 39.9**	**-0.8**
GMN				IAML		03 13 47.1	
	comp=N,666nm,0.4s						
VOG	**Valley Oaks Go**	**1.57**	**292**		**Pn**	**03 13 40.4**	**-0.1**
TPNV	**Topopah Spring**	**1.61**	**41**		**Pn**	**03 13 40.2**	**-0.9**
TPNV				IAML		03 14 06.9	
	comp=N,1μm,0.4s						
PASC	**Pasadena Art C**	**1.65**	**198**		**Pn**	**03 13 40.8**	**-0.7**
PASC				IAML		03 14 06.4	
	comp=N,598nm,0.8s						
PASC				IAML		03 14 07.4	
	comp=E,908nm,0.5s						
DSP	**Deep Springs**	**1.65**	**349**		**Pn**	**03 13 40.8**	**-0.6**
DSP				IAML		03 14 05.8	
	comp=E,599nm,0.5s						
MTPC	**Mountain Pass**	**1.67**	**98**		**Pn**	**03 13 40.5**	**-1.4**
MTPC	**Mountain Pass**	**1.67**	**98**	IAML		03 14 07.8	
	comp=N,511nm,0.3s						
MTPC				IAML		03 14 07.9	
	comp=E,473nm,0.3s						
MZP	**Montezuma Peak**	**1.96**	**4**		**Pn**	**03 13 45.3**	**-0.6**
ELS	**Elsinore Mount**	**2.10**	**177**		**Pn**	**03 13 46.8**	**-0.9**
ELS				IAML		03 14 21.0	
	comp=E,470nm,0.3s						
ELS				IAML		03 14 22.4	
	comp=N,407nm,0.5s						
SHPR	**Sheep Range**	**2.10**	**68**		**Pn**	**03 13 47.2**	**-0.6**
SHPR				IAML		03 14 19.9	
	comp=E,292nm,0.8s						
SHPR				IAML		03 14 20.5	
	comp=N,387nm,0.8s						
V12A	**Nelson**	**2.21**	**90**		**Pn**	**03 13 48.1**	**-1.3**
PMD	**Palm Desert**	**2.31**	**154**	Pn	**Pn**	**03 13 49.8**	**-0.8**
PMD				IAML		03 14 29.9	
	comp=E,354nm,0.5s						
PMD				IAML		03 14 35.7	
	comp=N,253nm,0.8s						
PFO	**Pinyon Flats O**	**2.32**	**156**		**Pn**	**03 13 49.6**	**-1.1**
PFO				IAML		03 14 31.1	
	comp=N,270nm,1.4s						
PFO	**Pinyon Flats O**	**2.32**	**156**	Pn	**Pn**	**03 13 49.7**	**-1.1**
	comp=N,2.0nm,0.3s,baz=344,slow=15,SNR=44						
PFO				Pg	**Pb**	**03 13 55.2**	**+0.7**
	comp=N,20nm,0.3s,baz=339,slow=15,SNR=40						
PFO				Lg	Lg	03 14 24.9	
	comp=N,96nm,0.3s,baz=5.8,slow=9.1,SNR=8.3						
	comp=N,6.3nm,0.3s						
TPH	**Tonopah**	**2.34**	**7**		**Pn**	**03 13 50.7**	**-0.5**
S11A	**Rachel**	**2.40**	**37**		**Pn**	**03 13 51.4**	**-0.5**
IRM	**Iron Mountain**	**2.55**	**128**		**Pn**	**03 13 51.9**	**-2.0**
LHV	**Little Huntoon**	**2.61**	**344**		**Pn**	**03 13 54.9**	**+0.3**
LHV				IAML		03 14 40.1	
	comp=N,200nm,0.5s						
LHV				IAML		03 14 42.7	
	comp=E,210nm,1.0s						
PRN	**Pahroc Range**	**2.62**	**50**		**Pn**	**03 13 54.5**	**-0.5**
PRN				IAML		03 14 50.3	
	comp=N,437nm,0.6s						
PRN				IAML		03 14 50.3	
	comp=E,448nm,0.8s						
PMPB	**Monarch Peak**	**2.66**	**281**		**Pn**	**03 13 55.1**	**-0.3**
PMPB				IAML		03 14 48.1	
	comp=E,378nm,0.8s						
PMPB				IAML		03 14 50.0	
	comp=N,465nm,0.8s						
NV11	**Mina Array Sit**	**2.72**	**350**		**Pn**	**03 13 56.0**	**-0.3**
NVAR	**Mina Array Bea**	**2.74**	**348**		**Pn**	**03 13 56.0**	**-0.7**
NVAR	**Mina Array Bea**	**2.74**	**348**	Pn	**Pn**	**03 13 56.4**	**-0.3**
	comp=N,9.1nm,0.3s,baz=164,slow=15,SNR=90						
NVAR				Pg	**Pb**	**03 14 02.8**	**+1.0**
	comp=N,40nm,0.3s,baz=165,slow=18,SNR=42						
NVAR				Lg	Lg	03 14 38.6	
	comp=N,7.0nm,0.3s,baz=174,slow=31,SNR=3.6						
	comp=N,4.8nm,0.3s						
BBGB	**Big Mountain B**	**2.92**	**288**		**Pn**	**03 13 58.6**	**-0.5**
RYN	**Ryan**	**2.98**	**346**		**Pn**	**03 13 59.6**	**-0.3**
Q09A	**Carvers**	**3.10**	**6**		**Pn**	**03 14 00.2**	**-1.3**
Q09A				IAML		03 15 01.6	
	comp=N,310nm,1.0s						
WAKR	**Walker**	**3.13**	**332**		**Pb**	**03 14 10.2**	**+1.7**
BLYC	**Blythe**	**3.20**	**128**		**Pn**	**03 14 03.0**	**+0.2**
BLYC				IAML		03 14 54.4	
	comp=N,150nm,0.8s						
BLYC				IAML		03 14 57.7	
	comp=E,227nm,0.7s						
CMB	**Columbia Colle**	**3.21**	**316**		**Pn**	**03 14 03.7**	**+0.7**
CMB				IAML		03 15 00.1	
	comp=N,131nm,0.7s						
TJX	**Tijuana**	**3.26**	**172**		**Pn**	**03 14 05.1**	**+1.5**
TKX	**Tecate**	**3.27**	**166**		**Pn**	**03 14 04.0**	**+0.2**
TKX				IAML		03 14 55.2	
	comp=N,172nm,0.3s						
SAO	**San Andreas Ge**	**3.29**	**289**		**Pn**	**03 14 04.0**	**0.0**
CBX	**Cerro Bola**	**3.51**	**167**		**Pn**	**03 14 07.7**	**+0.5**
LCMT	**Little Creek M**	**3.71**	**69**		**Pn**	**03 14 09.5**	**-0.5**
CCUT	**Cedar City**	**3.83**	**61**	IAML		03 15 16.7	
	comp=N,83nm,1.3s						
ESJX	**Sierra Juarez**	**3.97**	**160**		**Pg**	**03 14 26.6**	**-2.2**
ESJX				IAML		03 15 17.2	
	comp=N,87nm,0.8s						
ESJX				IAML		03 15 18.4	
	comp=E,117nm,0.6s						
KNB	**Kanab**	**4.04**	**70**	IAML		03 15 26.1	
	comp=N,78nm,1.1s						
MPK	**Martis Peak**	**4.05**	**332**	IAML		03 15 43.1	
	comp=E,149nm,0.8s						
SZCU	**Shurtz Canyon**	**4.05**	**62**	IAML		03 15 22.0	
	comp=E,59nm,0.9s						
PSUT	**Pine Spring**	**4.07**	**46**	IAML		03 15 24.5	
	comp=E,67nm,0.6s						
PSUT				IAML		03 15 33.4	
	comp=N,92nm,1.2s						
SPR3	**Spring Creek 3**	**4.15**	**38**	IAML		03 15 25.2	
	comp=E,63nm,0.6s						
SPR3				IAML		03 15 26.2	
	comp=N,63nm,0.8s						
Y14A	**Wickenburg**	**4.17**	**114**	IAML		03 15 27.7	
	comp=E,61nm,0.5s						
Y14A				IAML		03 15 31.0	
	comp=N,111nm,0.6s						
AFDM	**Forest Hills D**	**4.19**	**321**	IAML		03 15 27.2	
	comp=N,79nm,0.5s						
AFDM				IAML		03 15 28.7	
	comp=E,83nm,1.0s						
VTX	**Valle De La Tr**	**4.59**	**161**	IAML		03 15 36.8	
	comp=E,90nm,0.7s						
VTX				IAML		03 15 36.9	
	comp=N,80nm,0.6s						
BEKR	**Beckworth**	**4.67**	**333**	IAML		03 15 48.9	
	comp=E,63nm,0.8s						
BEKR				IAML		03 15 51.8	
	comp=N,37nm,1.1s						
ORV	**Oroville**	**4.92**	**322**	IAML		03 15 52.4	
	comp=E,36nm,0.8s						
WUAZ	**Wupatki**	**5.05**	**91**	IAML		03 15 52.8	
	comp=E,57nm,1.2s						
ELK	**Elko**	**5.32**	**20**	Pn	**Pn**	**03 14 32.4**	**+0.3**
	comp=E,1.7nm,0.3s,baz=220,slow=10,SNR=23						
ELK				Pg	**Pg**	**03 14 51.7**	**-2.9**
	comp=E,3.6nm,0.3s,baz=216,slow=16,SNR=23						
ELK				Lg	Lg	03 15 57.5	
	comp=E,6.1nm,0.3s,baz=294,slow=23,SNR=9.9						
	comp=E,3.0nm,0.3s						
YBH	**Yreka Blue Hor**	**7.20**	**328**	Pn	**Pn**	**03 15 01.3**	**+3.5**
	baz=16,slow=16,SNR=1.3						
YBH				Lg	Lg	03 16 58.7	
	baz=202,slow=2.0,SNR=3.7						
ANMO	**Albuquerque**	**9.12**	**92**	Pg	Pn	03 15 53.6	+29
	comp=E,0.1nm,0.3s,baz=245,slow=8.2,SNR=3.1						
ANMO				Lg	Lg	03 17 57.1	
	comp=E,0.1nm,0.3s,baz=296,slow=23,SNR=5.8						
ANMO				LR	LR	03 19 25.6	
	comp=E,37nm,21.6s,baz=306,slow=42						
PDAR	**Pinedale Array**	**9.37**	**39**	Pn	**Pn**	**03 15 29.3**	**+1.6**
	comp=E,0.1nm,0.3s,baz=219,slow=14,SNR=3.0						
PDAR				Lg	Lg	03 18 04.5	
	comp=E,0.1nm,0.3s,baz=222,slow=31,SNR=3.0						
PDAR				LR	LR	03 19 07.0	
	comp=E,26nm,18.6s,baz=102,slow=38						
	comp=E,0.3nm,0.7s						
TXAR	**Lajitas Array**	**13.35**	**115**	Pn	**Pn**	**03 16 23.8**	**+1.7**
	comp=E,0.1nm,0.3s,baz=293,slow=13,SNR=10.0						
	comp=E,0.2nm,0.4s						
ULM	**Lac du Bonnet**	**21.38**	**41**	P	**P**	**03 18 00.3**	**+0.3**
	comp=E,1.4nm,0.6s,baz=230,slow=11,SNR=3.6						
	comp=E,1.4nm,0.6s						

IDC 07 03:13:33.8±2.9,**32.°84S**×**178.°58W**,**h0**km,**m

σ1ᵍ**08**/32, **mb4.0**/17, **North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.59**	**269**	P	**Pn**	**03 14 15.8**	**-1.2**
DAV	**Davao City (W)**	**4.15**	**323**	LR	LR	03 15 34.2	
	comp=Z,125nm,20.2s,baz=342,slow=31						
KMSI	**Cibinong**	**5.21**	**233**	P	Pn	03 15 10.2	+18
MRSI	**Marisa**	**6.98**	**242**	P	**Pn**	**03 15 18.4**	**+2.0**
	922nm115nm,0.7s						
TOLI2	**Tolitoli**	**7.79**	**250**		**Pn**	**03 15 26.7**	**-0.7**
APSI	**Ampana**	**7.96**	**234**	P	Pn	03 15 36.0	+6.3
	92nm,1.2s						
MYLDM	**Lahad Datu**	**9.69**	**279**		**Pn**	**03 15 55.7**	**+2.4**
GUMO	**Guam**	**19.21**	**58**	LR	LR	03 23 33.6	
	comp=Z,61nm,21.1s,baz=58,slow=32						
KNRA	**Kununurra**	**19.32**	**178**	P	**P**	**03 17 54.2**	**+0.1**
KNRA				IAmb	IAmb	03 18 29.7	
	comp=Z,14nm,1,2s						
FITZ	**Fitzroy Crossi**	**21.85**	**186**	P	**P**	**03 18 22.8**	**+1.4**
JOW	**Kunigami**	**22.95**	**0**	LR	LR	03 25 18.7	
	comp=Z,36nm,19.7s,baz=331,slow=31						
WB0	**Warramunga Arr**	**24.18**	**165**	P	**P**	**03 18 44.3**	**+0.5**
WB0				IAmb	IAmb	03 18 56.4	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**24.33**	**166**	P	**P**	**03 18 44.8**	**-0.5**
	comp=Z,2.4nm,0.9s,baz=346,slow=10,SNR=9.1						
	comp=Z,2.4nm,0.9s						
WR8	**Warramunga Arr**	**24.38**	**165**	P	**P**	**03 18 45.6**	**-0.2**
WR8				IAmb	IAmb	03 19 24.3	
	comp=Z,7.5nm,1.2s						
ASAR	**Alice Springs**	**27.83**	**169**	P	**P**	**03 19 15.5**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=6.9,slow=7.3,SNR=5.7						
ASAR				PcP	**PcP**	**03 22 31.8**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=15,slow=3.8,SNR=2.8						
	comp=Z,0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**32.06**	**299**	P	**P**	**03 19 54.5**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=114,slow=7.9,SNR=4.1						
CMAR				LR	LR	03 35 06.4	
	comp=Z,36nm,18.3s,baz=240,slow=40						
	comp=Z,0.8nm,0.3s						
STKA	**Stephens Creek**	**37.69**	**161**	P	**P**	**03 20 41.8**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=3.6,slow=8.7,SNR=3.6						
	comp=Z,1.7nm,0.7s						
SHL	**Shillong**	**40.98**	**306**	P	**P**	**03 21 08.2**	**-2.0**
KLR	**Kul'dur**	**45.41**	**3**	LR	LR	03 40 49.2	
	comp=Z,28nm,19.6s,baz=238,slow=36						
ULN	**Ulaanbaatar**	**47.53**	**341**	P	**P**	**03 22 02.1**	**0.0**
ULN				IAmb	IAmb	03 22 03.2	
	comp=Z,4.4nm,0.8s						
SONM	**Songino Array**	**47.73**	**340**	P	**P**	**03 22 03.6**	**0.0**
SONM				IAmb	IAmb	03 22 04.6	
	comp=Z,2.7nm,1.1s						
SONM	**Songino Array**	**47.73**	**340**	P	**P**	**03 22 03.2**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=156,slow=8.8,SNR=6.8						
SONM				LR	LR	03 45 20.4	
	comp=Z,32nm,18.6s,baz=120,slow=40						
	comp=Z,1.5nm,0.8s						
MKAR	**Makanchi Array**	**58.33**	**325**	P	**P**	**03 23 21.7**	**+0.3**
MKAR	**Makanchi Array**	**58.33**	**325**	P	**P**	**03 23 22.2**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=117,slow=8.0,SNR=8.7						
	comp=Z,0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**61.20**	**332**	P	**P**	**03 23 40.7**	**-0.1**
ZALV	**Zalesovo Beam**	**61.20**	**332**	P	**P**	**03 23 41.2**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=131,slow=6.5,SNR=2.3						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**62.47**	**327**	P	**P**	**03 23 48.8**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=122,slow=5.9,SNR=16						
	comp=Z,1.4nm,0.7s						
BVAR	**Borovoye Array**	**68.06**	**327**	P	**P**	**03 24 26.0**	**+0.5**
	comp=Z,1.1nm,0.7s						
	comp=Z,1.1nm,0.7s						
AB31	**Akbulak array**	**73.01**	**321**	P	**P**	**03 24 54.7**	**-0.9**
ABKAR	**Akbulak array**	**73.01**	**321**	P	**P**	**03 24 54.7**	**-0.9**
ARTI	**Arti**	**75.74**	**327**	LR	LR	03 58 44.9	
	comp=Z,25nm,21.4s,baz=332,slow=36						
E19K	**Redstone River**	**80.68**	**22**	P	**P**	**03 25 39.0**	**+0.7**
E19K				IAmb	IAmb	03 25 40.6	
	comp=Z,4.2nm,1.1s						
MLY	**Manley**	**82.87**	**25**		**P**	**03 25 51.0**	**+1.0**
MLY				IAmb	IAmb	03 25 52.6	
	comp=Z,4.5nm,1.2s						
G23K	**Bananza Creek**	**83.34**	**23**		**P**	**03 25 53.8**	**+1.4**
G23K				IAmb	IAmb	03 25 55.1	
	comp=Z,4.6nm,1.0s						
H23K	**Yukon River**	**83.45**	**24**	P	**P**	**03 25 54.5**	**+1.6**
E23K	**Chandalar**	**83.64**	**22**		**P**	**03 25 55.1**	**+1.2**
G24K	**Hadweenzic Riv**	**84.35**	**23**		**P**	**03 25 58.3**	**+0.8**
G24K				IAmb	IAmb	03 25 59.9	
	comp=Z,3.7nm,0.9s						
ILAR	**Eielson Array**	**84.48**	**25**	P	**P**	**03 25 57.6**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=239,slow=6.8,SNR=4.8						
	comp=Z,0.7nm,0.9s						

*SVSA **07** 03:19:05.5±1.2,39°.40N×29°.85W,h5ᵏᵐ,ML3.5(INMG), Error ellipse: s-maj=12.5km s-min=5.3km az=53.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Crista Mdia Atlntico N*

*IDC **07** 03:19:06.1±3.2,40°.31N×30°.18W,h0ᵏᵐ,mb3.4/3, mbtmp3.5/3,MS3.3/3,Error ellipse: s-maj=158.8km s-min=30.8km az=177.0*

ISC 07 03:19:04.5±1.3,39°.3N±0°.1×29°.59W±0°.10,h10ᵏᵐ,n26,
σ1ᵍ**23**/33, **12C, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.94**	**132**	*e*P	**Pn**	**03 19 23.4**	**-0.4**
PCED				*e*S	**Sn**	**03 19 36.9**	**-0.5**
PCED				*i* IAML		03 19 38.2	
PCED				*i* IAML		03 19 38.4	
PCED				*i* IAML		03 19 40.9	
CALA	**Caldeira**	**0.98**	**134**	*e*P	**Pn**	**03 19 24.1**	**-0.3**
CALA				*e*S	**Sn**	**03 19 38.0**	**-0.3**
CALA				*i* IAML		03 19 40.3	
CALA				*i* IAML		03 19 41.0	
CALA				*i* IAML		03 19 41.6	
PFCBR	**Castelo Branco**	**1.01**	**137**	*e*P	**Pn**	**03 19 24.5**	**-0.2**
PFCBR				*e*S	**Sn**	**03 19 38.8**	**-0.2**
PFCBR				*i* IAML		03 19 39.5	
PFCBR				*i* IAML		03 19 39.6	
PFCBR				*i* IAML		03 19 40.6	
HOR	**Horta**	**1.06**	**134**	*e*P	**Pn**	**03 19 25.2**	**-0.2**
HOR				*e*S	**Sn**	**03 19 40.0**	**-0.1**
HOR				*i* IAML		03 19 40.7	
HOR				*i* IAML		03 19 41.5	
HOR				*i* IAML		03 19 41.7	
PCAN	**Candelaria**	**1.18**	**133**	*e*P	**Pn**	**03 19 27.2**	**0.0**
PCAN				*e*S	**Sn**	**03 19 43.5**	**+0.3**
PCAN				*i* IAML		03 19 44.6	
PCAN				*i* IAML		03 19 45.1	
PCAN				*i* IAML		03 19 45.4	
ROSA	**Rosais**	**1.19**	**117**	*e*P	**Pb**	**03 19 26.5**	**-0.7**
ROSA				*e*S	**Sn**	**03 19 42.8**	**-0.6**
ROSA				*i* IAML		03 19 45.6	
ROSA				*i* IAML		03 19 47.2	
ROSA				*i* IAML		03 19 47.5	
PICO	**Pico**	**1.19**	**130**	*e*P	**Pn**	**03 19 27.3**	**0.0**
PICO				*e*S	**Sn**	**03 19 43.8**	**+0.2**
PICO				*i* IAML		03 19 45.8	
PICO				*i* IAML		03 19 46.3	
PICO				*i* IAML		03 19 47.2	
SRBC	**Serra Branca**	**1.23**	**100**	*e*P	**Pn**	**03 19 25.7**	**-2.1**
PGRA	**Graciosa**	**1.27**	**100**	*e*P	Pg	03 19 40.4	+11
PGRA				*e*S	Sn	03 19 57.4	+12
PGRA				*i* IAML		03 19 58.5	
PGRA				*i* IAML		03 20 00.6	
PGRA				*i* IAML		03 20 04.4	
PPNO	**Prainha do Nor**	**1.31**	**127**	*e*P	**Pb**	**03 19 28.7**	**-0.5**
PMAN	**Manadas**	**1.33**	**118**	*e*P	**Pn**	**03 19 28.5**	**-0.7**
PMAN				*e*S	**Sn**	**03 19 46.5**	**-0.5**
PMAN				*i* IAML		03 19 50.5	
PMAN				*i* IAML		03 19 50.7	
PMAN				*i* IAML		03 19 52.6	
PID	**Ribeirinha**	**1.42**	**125**	*e*P	**Pn**	**03 19 30.2**	**-0.1**
PID				*e*S	**Sg**	**03 19 49.2**	**-0.9**
PID				*i* IAML		03 19 54.4	
PID				*i* IAML		03 19 55.8	
PID				*i* IAML		03 19 56.7	
ADH	**Angra Heroismo**	**1.94**	**108**	*e*P	**Pn**	**03 19 34.2**	**-3.3**
ADH				*i* IAML		03 20 02.0	
ADH				*i* IAML		03 20 02.1	
ADH				*i* IAML		03 20 03.1	
PAGU	**Agualva, Azore**	**1.94**	**104**	*e*P	**Pn**	**03 19 37.2**	**-0.4**
PAGU				*i* IAML		03 20 04.9	
PAGU				*i* IAML		03 20 06.3	
PAGU				*i* IAML		03 20 06.5	
PSCM	**Serra do Cume**	**2.01**	**106**	*e*P	**Pn**	**03 19 38.4**	**-0.2**
PSCM				*i* IAML		03 20 08.5	
PSCM				*i* IAML		03 20 08.8	
PSCM				*i* IAML		03 20 08.9	
PSET	**Sete Cidades**	**3.36**	**114**	*e*P	**Pn**	**03 19 57.6**	**+0.5**
CMLA	**Cha da Macela**	**3.53**	**114**	*e*P	**Pn**	**03 20 00.1**	**+0.7**
PGRON	**Lagoa das Cont**	**3.63**	**113**	*e*P	**Pn**	**03 20 01.7**	**+0.8**
BART	**Pico Bartolome**	**3.77**	**112**	*e*P	**Pn**	**03 20 03.3**	**+0.5**
PSMA	**Santa Maria**	**4.19**	**121**	*e*P	**Pn**	**03 20 08.8**	**+0.4**
PSMA				*e*S	**Sn**	**03 20 56.7**	**-0.8**
PSMA				*i* IAML		03 20 59.1	
PSMA				*i* IAML		03 20 59.2	
PSMA				*i* IAML		03 20 59.3	
PSMN	**Pico do Norte,**	**4.22**	**121**	*e*P	**Pn**	**03 20 09.1**	**+0.1**
PSMN				*i* IAML		03 21 00.3	
PSMN				*i* IAML		03 21 01.6	
PSMN				*i* IAML		03 21 03.9	
ESDC	**Sonseca Array**	**19.77**	**81**	P	**Pn**	**03 23 40.9**	**+4.6**
	1.3nm,0.9s,baz=288,slow=9.3,SNR=10						
ESDC				LR	LR	03 29 42.1	
	comp=Z,44nm,19.9s,baz=260,slow=32						
	1.3nm,0.9s						
VAE	**Valguarnera**	**34.29**	**79**	LR	LR	03 38 25.8	
	comp=Z,96nm,19.1s,baz=150,slow=34						
SADO	**Sadowa**	**36.76**	**295**	LR	LR	03 39 37.4	
	comp=Z,35nm,19.6s,baz=334,slow=34						
TXAR	**Lajitas Array**	**60.45**	**285**	P	**P**	**03 29 12.8**	**-1.8**
	0.3nm,0.6s,baz=69,slow=7.0,SNR=6.4						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**74.97**	**41**	P	**P**	**03 30 46.5**	**+0.6**
	0.3nm,0.7s,baz=311,slow=5.2,SNR=3.6						
	0.3nm,0.7s						

*NEIC **07** 03:23:26.0±1.3,35°.88N±0°.01×117°.70W±0°.02,h5ᵏᵐ±2ᵏᵐ, Error ellipse: s-maj=3.1km s-min=2.7km az=293.0*

PAS 07 03:23:26.7±0.9,35°.87N±0°.01×117°.71W±0°.02,h7ᵏᵐ±5ᵏᵐ,
ML3.4/20, **ML3.0**/144(NEIC), **Error ellipse: s-maj=2.5km s-min=1.6km az=100.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**212**		Pg	03 23 29.1	+0.5
CLC	**China Lake**	**0.11**	**121**	Pg	Pg	03 23 29.2	0.0
CLC				IAML		03 23 31.6	
	comp=E,5μm,0.5s						
WVPM	**Volcano Peak E**	**0.11**	**312**		Pg	03 23 29.3	0.0
WNMM	**Nine Mile Cany**	**0.16**	**259**		Pg	03 23 30.0	0.0
SRTC	**Snort**	**0.18**	**189**		Pg	03 23 30.7	+0.3
WRVM	**Rose V. Centra**	**0.20**	**313**		Pg	03 23 30.5	-0.2
WRVM					Sg	03 23 33.7	+0.3
MPMC	**Manual Prospec**	**0.26**	**45**	Pg	Pg	03 23 31.8	-0.1
MPMC				IAML		03 23 36.2	
	comp=E,2μm,0.7s						
MPMC				IAML		03 23 37.5	
	comp=N,2μm,0.7s						
MFS	**McCloud Flat S**	**0.27**	**335**		Pg	03 23 30.7	-1.4
LRMC	**Laurel Mtn Rad**	**0.39**	**176**	Pg	Pg	03 23 34.1	-0.3
LRMC					Sg	03 23 39.9	+0.3
CCCA	**Chr Cany lake**	**0.45**	**141**		Pg	03 23 35.5	+0.1
CCCA					Sg	03 23 42.2	+0.9
WORM	**Onyx Ranch**	**0.47**	**248**		Pg	03 23 35.3	-0.5
WBSM	**Bird Springs**	**0.48**	**226**		Pg	03 23 35.7	-0.3
CWC	**Cottonwood Cre**	**0.64**	**332**		Sg	03 23 39.5	-8.0
CWC	**Cottonwood Cre**	**0.64**	**332**	Pg	Pg	03 23 38.8	-0.3
CWC				IAML		03 23 49.6	
	comp=N,456nm,0.2s						
CWC				IAML		03 23 50.8	
	comp=E,532nm,0.2s						
ISA	**Isabella, Lake**	**0.65**	**251**		Pg	03 23 38.8	-0.5
ISA				IAML		03 23 48.3	
	comp=N,888nm,0.3s						
ISA				IAML		03 23 49.4	
	comp=E,1μm,0.2s						
CGO	**Cerro Gordo**	**0.68**	**354**		Pg	03 23 39.8	-0.1
QSM	**Queen of Sheba**	**0.69**	**82**		Pg	03 23 39.5	-0.5
QSM				IAML		03 23 52.8	
	comp=E,745nm,0.8s						
QSM				IAML		03 23 54.1	
	comp=N,837nm,0.7s						
CCAC	**Calif City Air**	**0.76**	**199**		Pg	03 23 40.9	-0.4
CCAC					Sg	03 23 51.0	-0.2
GWY	**Greenwater Val**	**0.90**	**69**	IAML		03 24 01.9	
	comp=N,732nm,0.5s						
GWY				IAML		03 24 02.1	
	comp=E,664nm,0.4s						
GSC	**Goldstone, Bar**	**0.93**	**127**		Pg	03 23 43.9	-0.8
GSC				IAML		03 23 59.7	
	comp=N,361nm,0.9s						
GSC				IAML		03 24 02.4	
	comp=E,526nm,0.6s						
HYS	**Haystack Butte**	**1.01**	**173**		Pg	03 23 45.3	-0.9
GRAC	**Grapevine Rang**	**1.16**	**14**		Pg	03 23 48.1	-0.8
ARVC	**Arvin**	**1.18**	**231**		Pg	03 23 48.3	-1.0
BAKC	**Calstate**	**1.25**	**245**		Pn	03 23 49.9	-0.7
WCT	**Wildcat Mounta**	**1.27**	**43**		Pn	03 23 49.7	-1.4
WCT				IAML		03 24 09.3	
	comp=E,191nm,0.7s						
WCT				IAML		03 24 09.8	
	comp=N,226nm,0.5s						
VOG	**Valley Oaks Go**	**1.42**	**289**		Pn	03 23 52.8	-0.2
GMN	**Gold Mountain**	**1.47**	**14**		Pn	03 23 53.1	-0.9
GMN				IAML		03 24 16.8	
	comp=E,150nm,0.8s						
GMN				IAML		03 24 17.1	
	comp=N,182nm,0.6s						
OSI	**Osito Audit: C**	**1.50**	**214**		Pn	03 23 53.7	-0.5
OSI				IAML		03 24 23.0	
	comp=N,250nm,1.1s						
OSI				IAML		03 24 23.1	
	comp=E,325nm,0.8s						
TUQ	**Turquoise Moun**	**1.52**	**106**		Pn	03 23 53.0	-1.5
CHFC	**Chilao Flat St**	**1.56**	**190**		Pb	03 23 56.1	+0.1
TPNV	**Topopah Spring**	**1.60**	**47**		Pn	03 23 55.1	-0.4
TPNV				IAML		03 24 20.9	
	comp=E,215nm,0.8s						
TPNV				IAML		03 24 21.7	
	comp=E,186nm,0.7s						
BFSC	**Mount Baldy Ra**	**1.63**	**178**		Pn	03 23 55.9	-0.1
BFSC				IAML		03 24 24.6	
	comp=E,172nm,1.1s						
MWC	**Mount Wilson**	**1.67**	**190**		Pn	03 23 56.3	-0.3
MWC				IAML		03 24 21.0	
	comp=E,266nm,0.6s						
PASC	**Pasadena Art C**	**1.74**	**193**		Pn	03 23 56.9	-0.5
PASC				IAML		03 24 30.5	
	comp=E,106nm,0.6s						
MTPC	**Mountain Pass**	**1.80**	**102**		Pn	03 23 57.0	-1.4
MTPC	**Mountain Pass**	**1.80**	**102**	IAML		03 24 24.3	
	comp=N,170nm,0.8s						
MTPC				IAML		03 24 25.8	
	comp=E,161nm,0.7s						
MZP	**Montezuma Peak**	**1.84**	**8**		Pn	03 23 57.9	-1.2
SHPR	**Sheep Range**	**2.16**	**72**		Pb	03 24 06.1	-0.2
ELS	**Elsinore Mount**	**2.23**	**174**		Pn	03 24 03.8	-0.4
ELS				IAML		03 24 39.5	
	comp=N,76nm,0.9s						
ELS				IAML		03 24 39.5	
	comp=E,77nm,0.5s						
TPH	**Tonopah**	**2.23**	**10**		Pn	03 24 03.2	-1.1
V12A	**Nelson**	**2.33**	**93**		Pn	03 24 05.9	+0.3
V12A				IAML		03 24 44.2	
	comp=N,66nm,0.7s						
V12A				IAML		03 24 52.4	
	comp=E,56nm,1.1s						
S11A	**Rachel**	**2.37**	**41**		Pb	03 24 10.6	+0.8
LHV	**Little Huntoon**	**2.46**	**345**		Pn	03 24 08.0	+0.8
LHV				IAML		03 24 52.0	
	comp=N,57nm,1.1s						
LHV				IAML		03 24 54.0	
	comp=E,72nm,1.1s						
PMD	**Palm Desert**	**2.48**	**153**	Pn	Pn	03 24 08.1	+0.6
PFO	**Pinyon Flats O**	**2.48**	**155**		Pn	03 24 08.0	+0.3
PMPB	**Monarch Peak**	**2.52**	**279**		Pn	03 24 09.2	+0.9
NVAR	**Mina Array Bea**	**2.59**	**350**		Pn	03 24 09.2	-0.1
PRN	**Pahroc Range**	**2.63**	**54**		Pb	03 24 15.7	+1.4
PRN				IAML		03 25 04.0	
	comp=E,89nm,0.7s						
PRN				IAML		03 25 06.9	
	comp=N,82nm,0.7s						
MYLM	**Yosemite Lake**	**2.65**	**305**		Pb	03 24 13.9	-0.5
NEE2	**Needles Airpor**	**2.76**	**113**	Pn	Pn	03 24 11.7	+0.3
NEE2				IAML		03 24 58.6	
	comp=E,98nm,0.7s						
BBGB	**Big Mountain B**	**2.78**	**286**		Pn	03 24 11.8	0.0
RYN	**Ryan**	**2.83**	**347**		Pg	03 24 19.4	-1.4
DPP	**Dos Picos Cty**	**2.94**	**167**		Pn	03 24 14.3	+0.4
DPP				IAML		03 24 59.3	
	comp=E,55nm,1.0s						
WAKR	**Walker**	**2.96**	**333**	IAML		03 25 01.4	
	comp=E,33nm,0.5s						
R11B	**Troy Canyon, C**	**3.00**	**34**	IAML		03 25 04.0	
	comp=E,42nm,1.3s						
CMB	**Columbia Colle**	**3.04**	**316**		Pn	03 24 16.2	+0.9
CMB				IAML		03 25 03.4	
	comp=N,51nm,0.6s						
CMB				IAML		03 25 04.8	
	comp=E,47nm,0.7s						
SAO	**San Andreas Ge**	**3.14**	**288**		Pn	03 24 16.8	+0.1
W13A	**Hualapai Mount**	**3.22**	**103**	IAML		03 25 17.3	
	comp=N,33nm,1.4s						
BLYC	**Blythe**	**3.37**	**128**		Pn	03 24 18.9	-0.9
BLYC				IAML		03 25 22.5	
	comp=E,34nm,1.2s						
BLYC				IAML		03 25 24.6	
	comp=N,30nm,0.9s						
CBX	**Cerro Bola**	**3.66**	**166**		Pn	03 24 24.4	+0.6
GLA	**Glamis**	**3.69**	**139**	IAML		03 25 36.7	
	comp=N,34nm,0.9s						
LCMT	**Little Creek M**	**3.78**	**71**		Pn	03 24 24.4	-1.2
LCMT				Pg	Pb	03 24 36.0	+2.2
CCUT	**Cedar City**	**3.88**	**63**		Pg	03 24 38.4	-2.6
MPK	**Martis Peak**	**3.88**	**332**	Pn	Pn	03 24 26.5	-0.6
AFDM	**Forest Hills D**	**4.02**	**321**	IAML		03 25 36.8	
	comp=E,32nm,0.8s						
AFDM				IAML		03 25 40.1	
	comp=N,21nm,0.8s						
PSUT	**Pine Spring**	**4.07**	**48**	IAML		03 25 41.9	
	comp=N,28nm,1.3s						
PSUT				IAML		03 25 45.8	
	comp=E,29nm,1.7s						
KNB	**Kanab**	**4.11**	**72**	IAML		03 25 51.1	
	comp=N,13nm,1.6s						
SPR3	**Spring Creek 3**	**4.12**	**40**	IAML		03 25 37.4	
	comp=E,28nm,0.8s						
SPR3				IAML		03 25 44.7	
	comp=N,17nm,1.0s						
Y14A	**Wickenburg**	**4.32**	**115**	IAML		03 25 47.1	
	comp=E,22nm,0.7s						
U15A	**North Rim**	**4.42**	**81**	IAML		03 25 51.1	
	comp=E,17nm,0.9s						
U15A				IAML		03 25 59.4	
	comp=N,11nm,0.9s						
113A	**Mohawk Valley,**	**4.50**	**132**	IAML		03 25 59.1	
	comp=N,9.5nm,1.7s						
BEKR	**Beckworth**	**4.50**	**333**	IAML		03 26 02.7	
	comp=N,18nm,0.8s						
ELK	**Elko**	**5.24**	**21**	IAML		03 26 15.8	
	comp=N,5.9nm,0.5s						
X16A	**Lo Mia Camp, P**	**5.34**	**104**	IAML		03 26 23.9	
	comp=E,6.5nm,1.3s						
X16A				IAML		03 26 33.3	
	comp=N,7.3nm,1.2s						

IDC 07 03:31:45.3±5.5,16°.58S×175°.28W,h0ᵏᵐ,mb4.0/3, mbtmp4.0/3,Error ellipse: s-maj=175.5km s-min=108.4km az=156.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.88**	**241**	P	P	03 39 38.1	+0.5
	0.5nm,0.3s,baz=86,slow=13,SNR=3.1						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**47.82**	**258**	P	P	03 40 24.9	-0.2
	0.5nm,0.4s,baz=96,slow=7.4,SNR=15						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**48.03**	**253**	P	P	03 40 26.4	-0.4
	2.5nm,0.6s,baz=86,slow=8.6,SNR=41						
ASAR				PcP	PcP	03 41 54.4	-0.4
	0.3nm,0.5s,baz=98,slow=3.1,SNR=2.5						
	2.5nm,0.6s						

*TEH **07** 03:31:52.5,34°.30N×45°.64E,h8ᵏᵐ±99ᵏᵐ*

*ISN **07** 03:31:52.5±1.5,34°.34N×45°.67E,h18ᵏᵐ±11ᵏᵐ,ML3.0*

ISC 07 03:31:53.2±1.0,34°.34N±0°.04×45°.64E±0°.05,h18ᵏᵐ,n11,
σ0ᵍ**99**/14, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.17**	**347**	Pg	**Pb**	**03 31 57.1**	**-0.3**
GLG1	**Gilan-e-Gharb**	**0.32**	**135**	Pg	**Pg**	**03 31 58.2**	**-1.9**
IDHR	**Dehrash**	**0.72**	**60**	Pg	**Pb**	**03 32 06.5**	**-0.7**
IGHG	**Ghaleghazi**	**0.77**	**91**	Pg	**Pb**	**03 32 07.9**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.16**	**93**	Sg	**Sg**	**03 32 31.7**	**+0.7**
ILIN	**Lien**	**1.24**	**62**	Pg	**Pb**	**03 32 16.2**	**0.0**
IBDR	**Badra**	**1.25**	**169**	*e*Pg	**Pb**	**03 32 16.0**	**-0.2**
IBDR				*e*Sg	**Sb**	**03 32 31.0**	**-1.0**
IBDR				AML	AML	03 32 37.6	
	comp=N,293nm,0.4s						
IKRK	**Kirkuk**	**1.50**	**315**	*e*Pn	**Pn**	**03 32 20.0**	**+0.8**
IKRK				*e*Sn	**Sg**	**03 32 42.0**	**+0.3**
IKRK				AML	AML	03 32 45.7	
	comp=N,363nm,0.4s						
IKRK				AML	AML	03 32 46.0	
	comp=E,367nm,0.5s						
IKRK				AML	AML	03 32 51.6	
	comp=Z,103nm,0.5s						
SNQR	**Sonqor, Kerman**	**1.72**	**72**	Pg	**Pb**	**03 32 25.2**	**+0.7**
IBZA	**Bozab**	**1.84**	**85**	Pn	**Pb**	**03 32 26.8**	**+0.2**
RAFI	**Al-Rafai**	**2.64**	**171**	*e*Pn	**Pn**	**03 32 36.0**	**+1.1**
RAFI				*e*Sn	**Sn**	**03 33 08.0**	**+1.6**

*ISN **07** 03:39:01.9±1.0,34°.31N×45°.62E,h7ᵏᵐ±6ᵏᵐ,ML2.8*

*TEH **07** 03:39:02.6,34°.28N×45°.64E,h8ᵏᵐ±57ᵏᵐ*

ISC 07 03:39:04.1±1.0,34°.30N±0°.04×45°.67E±0°.05,h18ᵏᵐ,n12,
σ1ᵍ**32**/16, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-

WHFM	**Hanning Flat**	**0.59**	**245**			Pg		03 51 01.7	0.0
GWY	**Greenwater Val**	**0.86**	**74**			Pg		03 51 07.0	0.0
GWY					IAML			03 51 29.2	
	comp=N,380nm,0.5s								
SPG2	**Springville 2**	**0.90**	**286**			Pg		03 51 07.4	-0.3
GSC	**Goldstone, Bar**	**0.97**	**131**		Pg	Pg		03 51 09.2	+0.1
GSC					IAML			03 51 29.1	
	comp=N,343nm,0.7s								
WCT	**Wildcat Mounta**	**1.21**	**45**		Pg	Pg		03 51 13.4	-0.2
WCT					IAML			03 51 40.2	
	comp=E,130nm,0.4s								
WCT					IAML			03 51 41.1	
	comp=N,112nm,0.6s								
AMDNV	**Amargosa**	**1.25**	**66**			Pg		03 51 14.4	+0.1
GMN	**Gold Mountain**	**1.39**	**14**			Pb		03 51 17.8	+0.3
GMN					IAML			03 51 48.5	
	comp=N,108nm,0.7s								
VOG	**Valley Oaks Go**	**1.42**	**286**			Pn		03 51 16.9	-0.4
DSP	**Deep Springs**	**1.44**	**351**			Pn		03 51 17.4	-0.2
BFSC	**Mount Baldy Ra**	**1.71**	**179**			Pn		03 51 21.4	0.0
MWC	**Mount Wilson**	**1.75**	**190**			Pn		03 51 21.6	-0.5
MWC					IAML			03 51 51.1	
	comp=N,146nm,0.6s								
SIL	**Silver Peak**	**1.75**	**156**			Pn		03 51 22.2	+0.1
PASC	**Pasadena Art C**	**1.82**	**193**			Pb		03 51 24.1	-0.4
PASC					IAML			03 51 54.9	
	comp=E,63nm,0.5s								
GMRC	**Granite Mounta**	**2.03**	**124**			Pb		03 51 27.9	-0.2
TPH	**Tonopah**	**2.15**	**10**			Pn		03 51 26.4	-1.3
EW2	**E Wide Canyon**	**2.27**	**152**			Pb		03 51 31.9	-0.3
POB	**Polly Butte**	**2.34**	**164**			Pb		03 51 33.2	-0.3
LHV	**Little Huntoon**	**2.39**	**345**			Pn		03 51 30.9	+0.3
LHV					IAML			03 52 26.4	
	comp=N,26nm,1.7s								
LHV					IAML			03 52 30.5	
	comp=E,27nm,2.0s								
NV11	**Mina Array Sit**	**2.50**	**352**			Pn		03 51 32.9	+0.4
NVAR	**Mina Array Bea**	**2.52**	**349**			Pn		03 51 33.0	+0.2
PMPB	**Monarch Peak**	**2.53**	**277**	Pn		Pn		03 51 33.2	+0.5
PMD	**Palm Desert**	**2.54**	**154**	IAML				03 52 15.0	
	comp=N,23nm,0.7s								
PMD					IAML			03 52 16.2	
	comp=E,35nm,0.5s								
RYN	**Ryan**	**2.75**	**346**			Pn		03 51 36.1	+0.2
BBGB	**Big Mountain B**	**2.77**	**284**	Pn		Pn		03 51 36.4	+0.3
NEE2	**Needles Airpor**	**2.78**	**114**	Pn		Pn		03 51 36.9	+0.8
R11B	**Troy Canyon, C**	**2.93**	**35**			Pn		03 51 38.5	+0.2
R11B					IAML			03 52 33.9	
	comp=E,17nm,1.0s								
CMB	**Columbia Colle**	**3.00**	**315**			Pn		03 51 39.2	+0.1
CMB					IAML			03 52 31.4	
	comp=E,23nm,0.6s								
CMB					IAML			03 52 37.3	
	comp=N,29nm,0.6s								
W13A	**Hualapai Mount**	**3.22**	**104**			Pn		03 51 41.6	-0.8
W13A					IAML			03 52 35.4	
	comp=E,12nm,0.5s								
W13A					IAML			03 52 47.9	
	comp=N,17nm,1.1s								
BLYC	**Blythe**	**3.41**	**129**			Pn		03 51 45.1	+0.4
BLYC					IAML			03 52 42.4	
	comp=N,29nm,0.4s								
BLYC					IAML			03 52 42.7	
	comp=E,22nm,0.5s								
AFDM	**Forest Hills D**	**3.97**	**320**		IAML			03 53 07.5	
	comp=E,20nm,1.0s								
AFDM					IAML			03 53 07.9	
	comp=N,12nm,1.1s								
PSUT	**Pine Spring**	**4.00**	**49**		IAML			03 53 07.8	
	comp=E,13nm,2.1s								
PSUT					IAML			03 53 10.2	
	comp=N,9.7nm,1.0s								
SPR3	**Spring Creek 3**	**4.05**	**40**		IAML			03 53 07.2	
	comp=E,7.2nm,0.6s								
SPR3					IAML			03 53 08.1	
	comp=N,9.2nm,0.6s								
KNB	**Kanab**	**4.07**	**73**		IAML			03 53 24.4	
	comp=N,7.4nm,1.6s								
ESJX	**Sierra Juarez**	**4.19**	**159**		IAML			03 53 03.5	
	comp=N,8.8nm,0.4s								
ESJX					IAML			03 53 05.3	
	comp=E,10nm,0.7s								
Y14A	**Wickenburg**	**4.34**	**116**		IAML			03 53 18.6	
	comp=E,12nm,1.1s								
U15A	**North Rim**	**4.40**	**82**		IAML			03 53 20.7	
	comp=N,5.8nm,0.7s								
U15A					IAML			03 53 25.1	
	comp=E,9.8nm,1.4s								
BEKR	**Beckworth**	**4.44**	**332**		IAML			03 53 30.3	
	comp=N,7.4nm,0.5s								

ASIES ***07*** *03:51:03.4,23°.29N×120°.13E,h12km,ML4.0,Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.21; $M_{\theta\theta}$1.52; $M_{\phi\phi}$-1.32; $M_{r\theta}$-0.00; $M_{\theta\phi}$0.25; $M_{\phi r}$-0.12; Fault plane solution: $M_0$1.45859×10^{14} NP1: ϕ_s309.81000°,δ85.33000°,λ-3.96000°. NP2:ϕ_s40.13000°, δ86.06000°,λ-175.32000°. Principal axes: T Plg0.5100°, Azm174.9440°; N Plg83.8800°, Azm80.1830°; P Plg6.0990°, Azm264.9990°;*

TAP ***07*** *03:51:03.4,23°.29N×120°.13E,h12km,ML4.0,B*

ISC 07 03:51:03.8±0.8,23°.30N±0°.01×120°.12E±0°.02,h18km±1km, n152,$_{o}$0$_{s}$81/259,14C-21D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN8	**Yiju**	**0.10**	**62**	⇓*e*P	**Pg**	**03 51 07.0**	**-0.6**
CHN8				*i* S	**Sg**	**03 51 10.3**	**+0.2**
SCLT	**Jiali**	**0.14**	**150**	⇑*i*P	**Pb**	**03 51 07.5**	**+0.7**
SCLT				S	**Sg**	**03 51 11.5**	**+0.6**
TSCK	**Chigu Township**	**0.15**	**190**	⇑P	**Pb**	**03 51 07.7**	**+0.6**
TSCK				S	**Sg**	**03 51 11.9**	**+0.8**
ICHU	**Yijhu**	**0.16**	**68**	⇓*i*P	**Pb**	**03 51 07.9**	**+0.5**
ICHU				*i* S	**Sg**	**03 51 11.9**	**+0.6**
SSHA	**Shanhua**	**0.23**	**136**	⇑*i*P	**Pg**	**03 51 08.5**	**-0.7**
SSHA				*i* S	**Sg**	**03 51 13.8**	**+0.9**
WSL	**Shuilin Townsh**	**0.24**	**25**	⇑*i*P	**Pb**	**03 51 09.6**	**+0.1**
WSL				S	**Sg**	**03 51 14.9**	**+1.5**
TAI1	**Yung-k'ang**	**0.28**	**158**	⇑*i*P	**Pb**	**03 51 10.2**	**0.0**
TAI1				*i* S	**Sb**	**03 51 15.9**	**+1.5**
CHN3	**Shinhua**	**0.32**	**134**	*e*P	**Pb**	**03 51 11.0**	**0.0**
CHN3				*i* S	**Sb**	**03 51 17.1**	**+1.2**
TWK	**Hsinying**	**0.34**	**95**	⇓*i*P	**Pb**	**03 51 11.3**	**-0.2**
TWK				*e*S	**Sb**	**03 51 17.9**	**+1.3**
CHY	**Chiayi**	**0.34**	**55**	*e*P	**Pb**	**03 51 11.5**	**0.0**
CHY				*e*S	**Sb**	**03 51 17.3**	**+0.7**
SHHT	**Tainan City**	**0.35**	**142**	*e*P	**Pb**	**03 51 11.5**	**-0.1**
SHHT				S	**Sb**	**03 51 17.9**	**+1.1**
WSF	**Szhu**	**0.35**	**16**	⇑*i*P	**Pb**	**03 51 11.5**	**-0.1**
WSF				*e*S	**Sb**	**03 51 18.0**	**+1.2**
SNST	**Tainan City**	**0.36**	**103**	*i* P	**Pb**	**03 51 11.3**	**-0.5**
CHN2	**Minshiung**	**0.40**	**55**	*e*P	**Pb**	**03 51 12.3**	**-0.1**
CHN2				*i* S	**Sb**	**03 51 19.3**	**+1.0**
WDGT	**Dungji**	**0.42**	**265**	⇓*i*P	**Pg**	**03 51 12.3**	**-0.2**
WDGT				*i* S	**Sb**	**03 51 18.7**	**-0.2**
WTK	**Tuku**	**0.46**	**33**	⇑*i*P	**Pb**	**03 51 13.5**	**+0.1**
WTK				*e*S	**Sb**	**03 51 21.5**	**+1.5**
WTP	**Ta-pu**	**0.46**	**97**	⇓*i*P	**Pb**	**03 51 13.1**	**-0.3**
WTP				*e*S	**Sb**	**03 51 21.1**	**+1.1**
WCKO	**Fanlu**	**0.47**	**73**	⇓*i*P	**Pb**	**03 51 13.3**	**-0.3**
WCKO				*i* S	**Sb**	**03 51 20.9**	**+0.6**
TPUB	**Ta-pu**	**0.47**	**90**	P	**Pb**	**03 51 13.0**	**-0.6**
TPUB	**Ta-pu**	**0.47**	**90**	⇓*i*P	**Pb**	**03 51 13.1**	**-0.6**
TPUB				*e*S	**Sb**	**03 51 20.6**	**+0.3**
SCST	**Cishan**	**0.54**	**140**	⇑P	**Pn**	**03 51 15.8**	**-0.8**
SCST				S	**Sn**	**03 51 25.6**	**+0.5**
PHUB	**P'eng-hu**	**0.54**	**293**	⇓*i*P	**Pg**	**03 51 14.2**	**-0.5**
PHUB				*i* S	**Sg**	**03 51 21.9**	**-0.2**
WDLH	**Douliu**	**0.55**	**45**	*i* P	**Pb**	**03 51 15.1**	**+0.2**
WDLH				*i* S	**Sb**	**03 51 23.4**	**+1.1**
TWM1	**Shoushan**	**0.55**	**149**	*e*P	**Pb**	**03 51 15.7**	**+0.8**
TWM1				*e*S	**Sn**	**03 51 26.3**	**+0.8**
WGK	**Gukeng**	**0.56**	**47**	⇑*i*P	**Pb**	**03 51 15.6**	**+0.5**
WGK				*i* S	**Sb**	**03 51 24.5**	**+1.8**
WDL	**Douliou City**	**0.57**	**43**	*e*P	**Pb**	**03 51 15.7**	**+0.5**
WDL				*i* S	**Sb**	**03 51 24.7**	**+1.8**
PNG	**Penghu**	**0.58**	**297**	⇓*i*P	**Pg**	**03 51 14.9**	**-0.5**
PNG				*e*S	**Sg**	**03 51 23.1**	**-0.1**
SNJT	**Kaohsiung City**	**0.58**	**160**	*e*P	**Pb**	**03 51 16.3**	**+1.0**
SNJT				*e*S	**Sn**	**03 51 26.9**	**+0.8**
WTCT	**Ta-ch'eng**	**0.58**	**15**	*e*P	**Pg**	**03 51 15.1**	**-0.4**
WTCT				*i* S	**Sb**	**03 51 24.6**	**+1.4**
CHN5	**Tsauling**	**0.59**	**60**	⇓*i*P	**Pb**	**03 51 15.5**	**-0.1**
CHN5				*i* S	**Sb**	**03 51 24.8**	**+1.1**
STYH	**Taoyuan**	**0.62**	**102**	P	**Pb**	**03 51 15.9**	**-0.2**
STYH				*e*S	**Sb**	**03 51 25.3**	**+1.0**
VCHM	**Qimei**	**0.64**	**262**	⇓*i*P	**Pg**	**03 51 16.1**	**-0.4**
VCHM				*i* S	**Sb**	**03 51 25.4**	**+0.5**
WRL	**Guolierlin Hig**	**0.65**	**22**	*e*P	**Pb**	**03 51 16.8**	**+0.2**
WRL				*e*S	**Sb**	**03 51 26.4**	**+1.3**
ALS	**Alishan**	**0.67**	**72**	⇓*i*P	**Pb**	**03 51 17.1**	**0.0**
ALS				*i* S	**Sb**	**03 51 27.4**	**+1.4**
SGLT	**Jiouru**	**0.67**	**149**	P	**Pn**	**03 51 18.5**	**+0.2**
SGLT				*e*S	**Sn**	**03 51 29.3**	**+1.0**
WSSB	**Gushan**	**0.67**	**168**	*e*P	**Pn**	**03 51 18.0**	**-0.4**
SSD	**Sandimen**	**0.73**	**139**	⇑P	**Pb**	**03 51 18.1**	**+0.1**
SSD				S	**Sn**	**03 51 29.4**	**-0.4**
WJS	**Zhushan**	**0.77**	**47**	*e*P	**Pb**	**03 51 18.8**	**+0.2**
WJS				*e*S	**Sb**	**03 51 30.0**	**+1.4**
TSMG	**Majia**	**0.77**	**140**	*e*P	**Pb**	**03 51 18.6**	**0.0**
TSMG				*e*S	**Sn**	**03 51 30.3**	**-0.5**
WNT	**Mingjian**	**0.78**	**42**	⇑P	**Pb**	**03 51 18.9**	**+0.2**
WNT				*e*S	**Sb**	**03 51 30.3**	**+1.3**
WHYT	**Xinyi Township**	**0.78**	**60**	⇑*i*P	**Pb**	**03 51 18.8**	**-0.1**
WHYT				S	**Sb**	**03 51 30.1**	**+0.9**
MASBT	**Mashibuluo**	**0.83**	**145**	*e*P	**Pb**	**03 51 20.2**	**+0.4**
MASBT				*e*S	**Sn**	**03 51 32.6**	**+0.2**
ELDTW	**Lidau**	**0.84**	**97**	*e*P	**Pb**	**03 51 19.8**	**-0.1**
ELDTW				*i* S	**Sb**	**03 51 31.9**	**+1.1**
WCH1	**Changhua City**	**0.86**	**27**	P	**Pb**	**03 51 20.5**	**+0.3**
WCH1				*e*S	**Sn**	**03 51 33.4**	**+0.2**
WCHH	**Zhanghua**	**0.88**	**27**	⇑P	**Pb**	**03 51 20.7**	**+0.2**
WCHH				*i* S	**Sn**	**03 51 33.8**	**+0.3**
TYC	**Yuchr**	**0.91**	**48**	P	**Pb**	**03 51 21.0**	**0.0**
TYC				*e*S	**Sb**	**03 51 34.0**	**+1.2**
SSLB	**Suanglung**	**0.91**	**58**	P	**Pg**	**03 51 20.8**	**-0.8**
SSLB	**Suanglung**	**0.91**	**58**	S	**Sn**	**03 51 34.2**	**-0.2**
SSLB	**Suanglung**	**0.91**	**58**	⇓*i*P	**Pg**	**03 51 20.6**	**-0.9**
SSLB				*e*S	**Sb**	**03 51 33.8**	**+0.9**
SMLT	**Sun Moon Lake**	**0.92**	**51**	⇓*i*P	**Pb**	**03 51 21.3**	**-0.1**
SMLT				*i* S	**Sn**	**03 51 34.7**	**-0.2**
WLCH	**Liuqiu**	**0.97**	**166**	*e*P	**Pn**	**03 51 23.4**	**+0.9**
TCU	**Taichung**	**0.99**	**31**	*e*P	**Pb**	**03 51 22.5**	**+0.1**
TCU				*e*S	**Sn**	**03 51 36.6**	**+0.4**
TWG	**Pinlang**	**1.00**	**118**	*e*P	**Pn**	**03 51 23.1**	**+0.2**
TWG				*i* S	**Sn**	**03 51 37.3**	**+0.7**
TWGBT	**Beinan**	**1.01**	**118**	P	**Pn**	**03 51 23.1**	**0.0**
TWGBT	**Beinan**	**1.01**	**118**	*e*P	**Pb**	**03 51 22.7**	**0.0**
TWGBT				*e*S	**Sn**	**03 51 37.5**	**+0.8**
LONT	**Longtian**	**1.01**	**113**	*e*P	**Pn**	**03 51 23.1**	**-0.1**
LONT				*e*S	**Sn**	**03 51 37.7**	**+0.8**
EHD	**Haiduan**	**1.01**	**98**	⇓P	**Pb**	**03 51 22.8**	**-0.1**
EHD				*e*S	**Sn**	**03 51 36.9**	**0.0**
SCZT	**Fangliau**	**1.03**	**153**	P	**Pn**	**03 51 23.4**	**0.0**
SCZT				*e*S	**Sn**	**03 51 39.1**	**+1.7**
ECS	**Chishang**	**1.03**	**101**	*e*P	**Pn**	**03 51 23.7**	**+0.2**
ECS				S	**Sn**	**03 51 38.9**	**+1.5**
ECL	**Taimali**	**1.04**	**132**	P	**Pg**	**03 51 23.4**	**-0.7**
ECL				*i* S	**Sb**	**03 51 37.4**	**+0.7**
VWDT	**VWDT**	**1.04**	**64**	*e*P	**Pg**	**03 51 23.5**	**-0.6**
VWDT				*e*S	**Sn**	**03 51 37.8**	**+0.1**
WCS	**Beigang Elemen**	**1.05**	**44**	*i* P	**Pb**	**03 51 23.4**	**-0.1**
WCS				S	**Sn**	**03 51 38.1**	**+0.3**
TWF1	**Yuli**	**1.09**	**87**	⇓*i*P	**Pb**	**03 51 24.0**	**-0.1**
TWF1				S	**Sn**	**03 51 39.6**	**+0.8**
FULB	**Fuli**	**1.09**	**95**	⇓*i*P	**Pn**	**03 51 24.8**	**+0.6**
YULB	**Yu-li**	**1.09**	**85**	P	**Pb**	**03 51 24.0**	**-0.1**
YULB	**Yu-li**	**1.09**	**85**	⇓*i*P	**Pb**	**03 51 23.9**	**-0.3**
YULB				*e*S	**Sn**	**03 51 39.2**	**+0.4**
TTN	**Taitung**	**1.09**	**120**	*e*P	**Pn**	**03 51 24.9**	**+0.7**
TTN				*e*S	**Sn**	**03 51 41.5**	**+2.7**
EYUL	**Yuli**	**1.11**	**87**	*e*P	**Pn**	**03 51 24.6**	**+0.2**
EYUL				*e*S	**Sn**	**03 51 40.3**	**+1.1**
EHY	**Hungye**	**1.13**	**79**	⇓P	**Pb**	**03 51 24.7**	**-0.1**
EHY				*e*S	**Sn**	**03 51 40.3**	**+0.6**
EAST	**Anshuo**	**1.14**	**143**	⇓P	**Pn**	**03 51 25.2**	**+0.4**
EAST				S	**Sn**	**03 51 41.5**	**+1.5**
EDH	**Donghe**	**1.14**	**106**	*e*P	**Pg**	**03 51 25.4**	**-0.6**
EDH				*e*S	**Sn**	**03 51 41.8**	**+1.8**
EHYH	**Wanrong**	**1.15**	**80**	P	**Pn**	**03 51 25.2**	**+0.3**
EHYH				S	**Sn**	**03 51 40.6**	**+0.5**
WDJ	**Dajia District**	**1.15**	**25**	*e*P	**Pn**	**03 51 25.4**	**+0.4**
WDJ				*i* S	**Sn**	**03 51 42.4**	**+2.2**
WUSB	**Renai**	**1.15**	**53**	*e*P	**Pb**	**03 51 24.6**	**-0.7**
WUSB				S	**Sg**	**03 51 40.3**	**-0.9**
CHKT	**Chengkung**	**1.17**	**100**	*e*P	**Pg**	**03 51 26.2**	**-0.2**
CHKT				*e*S	**Sn**	**03 51 43.2**	**+2.6**
OWD	**Renai**	**1.17**	**56**	*e*P	**Pb**	**03 51 25.6**	**0.0**
OWD				*i* S	**Sb**	**03 51 40.9**	**+0.4**
CHKH	**Chenggong**	**1.18**	**95**	*e*P	**Pg**	**03 51 26.2**	**-0.5**
TAW	**Tawu**	**1.18**	**142**	*e*P	**Pb**	**03 51 25.5**	**-0.2**
TAW				*e*S	**Sn**	**03 51 42.0**	**+1.0**
TAWH	**Dawu Township**	**1.19**	**143**	*e*P	**Pb**	**03 51 25.6**	**-0.3**
TAWH				*e*S	**Sn**	**03 51 42.0**	**+0.7**
TWQ1	**Liyutan**	**1.20**	**30**	P	**Pg**	**03 51 26.6**	**-0.6**
TWQ1				*i* S	**Sn**	**03 51 43.6**	**+1.9**
HGSD	**Ruisui**	**1.22**	**81**	⇓P	**Pg**	**03 51 26.7**	**-0.7**
HGSD				*e*S	**Sn**	**03 51 43.7**	**+1.8**
ECBN	**Changbin**	**1.23**	**89**	*e*P	**Pg**	**03 51 27.2**	**-0.4**
WHP	**Taichung City**	**1.23**	**38**	*e*P	**Pb**	**03 51 26.8**	**+0.1**
WHP				*e*S	**Sn**	**03 51 44.5**	**+2.0**
WARBT	**Fenglin Townsh**	**1.24**	**70**	*e*P	**Pn**	**03 51 26.6**	**+0.3**
WARBT				*e*S	**Sb**	**03 51 42.6**	**+0.3**
SLIU	**Shizi**	**1.25**	**150**	*e*P	**Pn**	**03 51 26.2**	**-0.2**
NSY	**Sanyi**	**1.26**	**28**	⇑*i*P	**Pg**	**03 51 27.8**	**-0.4**
NSY				S	**Sg**	**03 51 45.4**	**+0.7**
EGFH	**Guangfu**	**1.26**	**73**	*i* P	**Pg**	**03 51 27.3**	**-0.9**
EGFH				*e*S	**Sg**	**03 51 43.9**	**-0.8**
ESL	**Shilin**	**1.31**	**67**	*i* P	**Pg**	**03 51 28.6**	**-0.6**
ESL				*e*S	**Sg**	**03 51 45.8**	**-0.6**
TDCB	**Techi**	**1.35**	**45**	*e*P	**Pn**	**03 51 28.1**	**+0.3**
TDCB				*e*S	**Sb**	**03 51 45.6**	**0.0**
WHF	**Hehuan Shan**	**1.35**	**51**	*e*P	**Pb**	**03 51 29.0**	**+0.2**
WHF				*e*S	**Sg**	**03 51 47.0**	**-0.6**
TWT	**Tachien**	**1.36**	**45**	*e*P	**Pb**	**03 51 28.7**	**-0.1**
TWT				*e*S	**Sn**	**03 51 46.5**	**+0.8**
TEGC	**Jichi Village**	**1.37**	**72**	*e*P	**Pg**	**03 51 29.4**	**-0.9**
NMLH	**Miaoli**	**1.38**	**26**	*i* P	**Pb**	**03 51 29.3**	**+0.2**
NMLH				*e*S	**Sg**	**03 51 48.9**	**+0.4**
LXIB	**Xiulin Townshi**	**1.39**	**59**	*e*P	**Pb**	**03 51 29.2**	**-0.2**
LXIB				*e*S	**Sg**	**03 51 47.5**	**-1.3**
LDUT	**Ludao**	**1.39**	**116**	*e*P	**Pb**	**03 51 29.0**	**-0.3**
LDUT				*e*S	**Sg**	**03 51 47.6**	**-1.3**
FUSS	**Fushou**	**1.40**	**47**	*e*P	**Pb**	**03 51 29.3**	**-0.3**
FUSS				*e*S	**Sn**	**03 51 47.7**	**+0.9**
HEN	**Hengchun**	**1.41**	**156**	*e*P	**Pg**	**03 51 29.9**	**-1.2**
SHUL	**Shoufeng**	**1.41**	**70**	*e*P	**Pb**	**03 51 29.8**	**+0.1**
SHUL				*e*S	**Sg**	**03 51 49.2**	**-0.4**
ETM	**Tongmen**	**1.43**	**62**	*e*P	**Pb**	**03 51 29.7**	**-0.2**
ETM				*e*S	**Sn**	**03 51 47.5**	**+0.5**
SMST	**Manzhou Townsh**	**1.44**	**152**	*e*P	**Pn**	**03 51 28.9**	**-0.1**
TEYL	**Yanliau Villag**	**1.47**	**67**	*e*P	**Pg**	**03 51 31.1**	**-1.2**
TWK1	**Hengchun**	**1.49**	**155**	*e*P	**Pn**	**03 51 29.7**	**-0.1**
TWK1				*e*S	**Sn**	**03 51 49.4**	**+0.7**
TWKBT	**Hengchun**	**1.50**	**154**	*e*P	**Pn**	**03 51 29.6**	**-0.1**
TWKBT				*e*S	**Sn**	**03 51 48.9**	**+0.1**
HWA	**Hwalien**	**1.52**	**63**	*e*P	**Pb**	**03 51 31.3**	**-0.2**
HWA				*e*S	**Sg**	**03 51 52.4**	**-0.6**
ETLH	**Xiulin Townshi**	**1.54**	**54**	*e*P	**Pb**	**03 51 31.6**	**-0.3**
ETLH				*e*S	**Sg**	**03 51 52.0**	**-1.5**
NSTT	**Nanjuang**	**1.55**	**31**	*e*P	**Pb**	**03 51 32.0**	**0.0**
NSTT				*i* S	**Sb**	**03 51 52.4**	**+1.1**
TWD	**Chiawan**	**1.56**	**60**	*e*P	**Pb**	**03 51 32.2**	**0.0**
TWD				S	**Sb**	**03 51 52.5**	**+0.9**
TSEB	**Hengchuen, Pin**	**1.57**	**152**	*e*P	**Pn**	**03 51 30.6**	**-0.2**
TSEB				*e*S	**Sn**	**03 51 51.1**	**+0.5**
LIOB	**Emei**	**1.57**	**31**	*e*P	**Pn**	**03 51 31.0**	**+0.2**
LIOB				*e*S	**Sb**	**03 51 52.1**	**+0.1**
NACB	**Ninganchiao**	**1.61**	**57**	P	**Pb**	**03 51 33.0**	**0.0**
NACB	**Ninganchiao**	**1.61**	**57**	S	**Sg**	**03 51 54.7**	**-1.2**
NACB	**Ninganchiao**	**1.61**	**57**	*e*P	**Pb**	**03 51 33.0**	**0.0**
NACB				S	**Sb**	**03 51 53.9**	**+0.9**
NFF	**Wufeng Townshi**	**1.61**	**34**	*e*P	**Pn**	**03 51 31.7**	**+0.3**
NFF				*i* S	**Sb**	**03 51 53.6**	**+0.5**
NNSB	**Datong**	**1.61**	**46**	*e*P	**Pb**	**03 51 32.9**	**-0.3**
NNSB				*e*S	**Sb**	**03 51 54.1**	**+0.9**
NNS	**Nan Shan**	**1.62**	**45**	*e*P	**Pb**	**03 51 33.1**	**-0.1**
NNS				S	**Sb**	**03 51 54.5**	**+1.2**
SBCB	**Hsinchu**	**1.69**	**28**	*e*P	**Pn**	**03 51 32.0**	**-0.3**
SBCB				*e*S	**Sg**	**03 51 56.8**	**-1.5**
HSN	**Hsinchu**	**1.69**	**27**	*e*P	**Pb**	**03 51 33.8**	**-0.5**
HSN				*e*S	**Sg**	**03 51 57.3**	**-1.0**
KSHI	**Guanxi Townshi**	**1.76**	**33**	P	**Pn**	**03 51 34.1**	**+0.7**
KSHI				*e*S	**Sn**	**03 51 56.6**	**+1.3**
NSK	**Sanguang**	**1.78**	**39**	*e*P	**Pn**	**03 51 34.8**	**+1.1**
NSK				*i* S	**Sb**	**03 51 58.6**	**+0.7**
LATG	**Datong**	**1.78**	**46**	P	**Pb**	**03 51 35.5**	**-0.5**
LATG				*e*S	**Sb**	**03 51 59.2**	**+1.1**
YHNB	**Yeheng**	**1.79**	**40**	P	**Pn**	**03 51 34.8**	**+1.0**
YHNB	**Yeheng**	**1.79**	**40**	S	**Sb**	**03 51 58.8**	**+0.7**
YHNB	**Yeheng**	**1.79**	**40**	*e*P	**Pn**	**03 51 34.8**	**+1.0**
YHNB				*e*S	**Sb**	**03 51 57.8**	**-0.3**
VWUC	**VWUC**	**1.79**	**340**	*e*P	**Pn**	**03 51 33.3**	**-0.5**
EAHA	**Aohua**	**1.81**	**55**	*e*P	**Pn**	**03 51 35.1**	**+1.1**
ENA	**Nanau**	**1.86**	**53**	*e*P	**Pb**	**03 51 36.5**	**-0.8**
ENTT	**Nioudou**	**1.88**	**45**	*e*P	**Pb**	**03 51 36.9**	**-0.8**
KNM	**Kinmen**	**1.90**	**306**	*e*P	**Pn**	**03 51 36.6**	**+1.3**
EWUT	**Wuta**	**1.90**	**53**	*e*P	**Pb**	**03 51 37.5**	**-0.5**
EWUT				*e*S	**Sb**	**03 52 01.3**	**-0.1**
NWLT	**Wulai**	**1.94**	**40**	*e*P	**Pn**	**03 51 36.6**	**+0.7**
PTMZ	**Houxiangcun**	**1.96**	**332**	*e*P	**Pn**	**03 51 35.5**	**-0.6**
KNMB	**Chin-men Tao**	**1.96**	**307**	*e*P	**Pn**	**03 51 36.0**	**-0.2**
NDS	**Dongshan**	**1.98**	**47**	*e*P	**Pn**	**03 51 37.6**	**+1.2**
NDS				*e*S	**Sb**	**03 52 03.8**	**+0.3**
FUSB	**Fushanzhiwuyua**	**1.98**	**42**	*e*P	**Pn**	**03 51 37.4**	**+0.9**
TWE	**Neicheng**	**2.00**	**45**	*e*P	**Pb**	**03 51 38.5**	**-1.3**
TWE				*i* S	**Sb**	**03 52 05.3**	**+1.0**
ESAO	**Su ao**	**2.03**	**51**	*e*P	**Pb**	**03 51 40.2**	**+0.1**
TWC	**Suao**	**2.05**	**50**	*e*P	**Pb**	**03 51 39.2**	**-1.4**
TWC				*e*S	**Sb**	**03 52 06.3**	**+0.6**
TATO	**Taipei**	**2.09**	**37**	P	**Pb**	**03 51 40.8**	**-0.3**
TWA	**Mucha**	**2.14**	**38**	*e*P	**Pn**	**03 51 38.9**	**+0.2**
ZPLA	**Ao Xicun**	**2.26**	**287**	*e*P	**Pn**	**03 51 39.8**	**-0.4**
ZUZH	**Zhuzihu**	**2.27**	**35**	*e*P	**Pn**	**03 51 41.3**	**+0.9**
YM01	**YM01**	**2.27**	**36**	*e*P	**Pn**	**03 51 40.4**	**0.0**
ANP	**Anpu**	**2.27**	**34**	*e*P	**Pn**	**03 51 41.4**	**+0.9**
TIPB	**Shuangxi**	**2.28**	**43**	*e*P	**Pn**	**03 51 41.8**	**+1.2**
TWY	**Chenhua**	**2.39**	**34**	*e*P	**Pn**	**03 51 43.5**	**+1.5**
SXI1	**Grass Mountain**	**2.40**	**42**	*e*P	**Pn**	**03 51 42.6**	**+0.3**
TWB1	**Santiao Chiao**	**2.41**	**45**	*e*P	**Pn**	**03 51 43.2**	**+0.9**
DSXP	**Dongshan**	**2.50**	**280**	*e*P

*IDC **07** 04:03:22.4±2.7, 18°45S×174°27W, h107km±23km, mb4.3/19, mbtmp4.6/20, MS3.8/42. Error ellipse: s-maj=15.6km s-min=10.8km az=140.0*

ISC 07 04:03:14.2±0.3, 18°58S±0'06×173°36W±0'04, h43km, n764, σ1§47/613, mb5.0/186, MS3.9/40, 29C-24D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.75**	**98**		**Pn**	**04 04 07.4**	**-2.2**
NIUE	**Niue**	**3.75**	**98**	P	**Pn**	**04 04 08.0**	**-1.6**
NIUE	**Niue**	**3.75**	**98**	S	**Sn**	**04 04 45.5**	**-7.1**
NIUE	**Niue**	**3.75**	**98**	P	**Pn**	**04 04 08.0**	**-1.6**
NIUE				S	**Sn**	**04 04 46.3**	**-6.3**
LKBA	**Tubou, Lakemba**	**4.72**	**273**	P	Pn	04 04 30.3	+7.4
AFI	**Afiamalu**	**5.06**	**24**		**Pn**	**04 04 24.6**	**-3.1**
AFI	**Afiamalu**	**5.06**	**24**	P	**Pn**	**04 04 24.5**	**-3.1**
AFI	**Afiamalu**	**5.06**	**24**	P	**Pn**	**04 04 24.0**	**-3.6**
AFI	**Afiamalu**	**5.06**	**24**	P	**Pn**	**04 04 25.0**	**-2.6**
TAVE	**Taveuni**	**6.06**	**287**	P	Pn	04 04 49.0	+7.7
DGTI	**Dogotuki**	**6.52**	**289**	P	Pn	04 04 54.8	+7.2
MSVF	**Nonsavu**	**7.74**	**275**		Pn	04 05 13.2	+8.8
MSVF	**Nonsavu**	**7.74**	**275**	P	Pn	04 05 12.8	+8.3
	271nm,1.0s,baz=115,slow=12,SNR=78						
MSVF				LR	LR	04 07 44.5	
	comp=Z,2μm,20.7s,baz=100,slow=36						
MSVF	**Nonsavu**	**7.74**	**275**	P	Pn	04 05 12.8	+8.4
MSVF	**Nonsavu**	**7.74**	**275**	P	Pn	04 05 13.2	+8.8
YSA	**Yasawairara**	**8.38**	**282**	P	Pn	04 05 22.7	+10
RAR	**Rarotonga**	**13.51**	**104**		**Pn**	**04 06 22.0**	**-1.2**
RAR	**Rarotonga**	**13.51**	**104**	LR	LR	04 10 39.6	
	comp=Z,283nm,19.9s,baz=286,slow=31						
RAR	**Rarotonga**	**13.51**	**104**	P	**Pn**	**04 06 22.0**	**-1.2**
RAR	**Rarotonga**	**13.51**	**104**	P	**Pn**	**04 06 21.6**	**-1.7**
OUENC	**Ouen Island, N**	**18.48**	**255**	P	**Pn**	**04 07 30.0**	**+2.9**
DZM	**Mont Dzumac**	**18.80**	**256**	P	**Pn**	**04 07 32.5**	**+1.5**
DZM	**Mont Dzumac**	**18.80**	**256**	*e*S	**Sn**	**04 10 55.1**	**-5.5**
	157nm,26.5s						
DZM				*e*LR	LR	04 11 50.4	
	1μm,25.4s						
DZM	**Mont Dzumac**	**18.80**	**256**	P	**Pn**	**04 07 30.3**	**-0.7**
	13nm,0.8s,baz=83,slow=19,SNR=7.1						
DZM				LR	LR	04 13 45.9	
	comp=Z,625nm,18.6s,baz=72,slow=34						
OUZ	**Omahuta**	**19.96**	**211**	P	**Pn**	**04 07 46.0**	**+1.3**
GRZ	**Great Barrier**	**19.97**	**206**	P	**Pn**	**04 07 45.2**	**+0.5**
WCZ	**Waipu Caves**	**20.19**	**209**	P	Pn	04 07 47.2	-0.2
KUZ	**Kuaotunu**	**20.29**	**205**	P	Pn	04 07 48.8	+0.3
KUZ	**Kuaotunu**	**20.29**	**205**	P	Pn	04 07 48.7	+0.2
HAZ	**Te Kaha**	**20.46**	**199**	P	Pn	04 07 49.7	-0.8
WIAZ	**Waiheke Island**	**20.57**	**206**	P	Pn	04 07 51.5	-0.3
PUZ	**Puketiti**	**20.61**	**198**	P	Pn	04 07 50.8	-1.5
MBAZ	**Motutapu North**	**20.64**	**206**	P	Pn	04 07 52.2	-0.5
RUGZ	**Raukumara Rang**	**20.68**	**199**	P	Pn	04 07 52.4	-0.9
TWGZ	**Tauwhareparae**	**20.78**	**198**	P	Pn	04 07 53.9	-0.5
ETAZ	**East Tamaki Re**	**20.79**	**206**	P	Pn	04 07 53.8	-0.6
MKAZ	**Moumakai**	**20.82**	**205**	P	Pn	04 07 54.2	-0.6
WTAZ	**Waiatarua**	**20.92**	**207**	P	Pn	04 07 55.0	-1.0
OPRZ	**Ohinepanea**	**20.95**	**202**	P	Pn	04 07 56.3	0.0
AWAZ	**Awhitu Peninsu**	**21.00**	**206**	P	**P**	**04 07 55.4**	**+1.5**
TKGZ	**Te Karaka**	**21.07**	**198**	P	**P**	**04 07 57.5**	**+2.9**
MWZ	**Matawai**	**21.07**	**199**	P	**P**	**04 07 57.4**	**+2.6**
EDRZ	**Edgecumbe**	**21.12**	**201**	P	**P**	**04 07 56.5**	**+1.2**
URZ	**Urewera**	**21.13**	**200**	P	**P**	**04 07 55.4**	**+0.1**
	57nm,0.5s,baz=348,slow=3.0,SNR=63						
URZ	**Urewera**	**21.13**	**200**	P	**P**	**04 07 55.6**	**+0.2**
KMRZ	**Kaimai**	**21.17**	**203**	P	**P**	**04 07 58.8**	**+3.0**
KARZ	**Kaharoa**	**21.21**	**202**	P	**P**	**04 07 59.5**	**+3.3**
TOZ	**Tahuroa Road**	**21.23**	**204**		**P**	**04 07 58.6**	**+2.1**
TOZ				IAmb	IAmb	04 08 00.0	
	comp=Z,96nm,0.9s						
TOZ	**Tahuroa Road**	**21.23**	**204**	P	**P**	**04 07 59.0**	**+2.6**
OMRZ	**Omania**	**21.24**	**202**	P	**P**	**04 07 58.5**	**+1.9**
RAGZ	**Rawiri**	**21.25**	**199**	P	**P**	**04 07 57.5**	**+0.8**
RIGZ	**Rimuhau**	**21.34**	**198**	P	**P**	**04 07 59.9**	**+2.3**
MUGZ	**Murupara**	**21.44**	**200**	P	**P**	**04 07 59.9**	**+1.2**
RTZ	**Ruatahuna**	**21.50**	**200**		**P**	**04 08 00.3**	**+0.9**
RTZ				IAmb	IAmb	04 08 01.9	
	comp=Z,66nm,0.6s						
RTZ	**Ruatahuna**	**21.50**	**200**	P	**P**	**04 08 00.4**	**+1.0**
PRGZ	**Paritu Road**	**21.50**	**198**	P	**P**	**04 08 02.8**	**+3.5**
HRRZ	**Handcock Road**	**21.53**	**202**	P	**P**	**04 07 58.9**	**-0.7**
SNGZ	**Shannon Statio**	**21.54**	**199**	P	**P**	**04 08 01.6**	**+1.9**
PRRZ	**Plateau Road**	**21.59**	**201**	P	**P**	**04 08 01.8**	**+1.6**
RAHZ	**Arahi**	**21.74**	**199**	P	**P**	**04 08 02.9**	**+1.0**
MTHZ	**Maungataniwha**	**21.76**	**200**	P	**P**	**04 08 03.3**	**+1.2**
NMHZ	**Naumai**	**21.99**	**200**	P	**P**	**04 08 06.3**	**+1.7**
BKZ	**Black Stump Fm**	**22.16**	**200**		**P**	**04 08 05.5**	**-0.9**
BKZ	**Black Stump Fm**	**22.16**	**200**	P	**P**	**04 08 06.4**	**0.0**
BKZ	**Black Stump Fm**	**22.16**	**200**	P	**P**	**04 08 05.9**	**-0.6**
HIZ	**Hauiti**	**22.16**	**204**		**P**	**04 08 08.0**	**+1.5**
HIZ	**Hauiti**	**22.16**	**204**	P	**P**	**04 08 09.0**	**+2.6**
HIZ	**Hauiti**	**22.16**	**204**	P	**P**	**04 08 09.0**	**+2.6**
MCHZ	**McNeill Hill**	**22.34**	**200**	P	**P**	**04 08 09.6**	**+1.2**
OTVZ	**Oturere**	**22.43**	**202**	P	**P**	**04 08 08.6**	**-0.9**
FWVZ	**Far West T-bar**	**22.56**	**202**	P	**P**	**04 08 12.1**	**+1.2**
MAVZ	**Matarangi**	**22.56**	**202**	P	**P**	**04 08 12.2**	**+1.1**
WHVZ	**Whangaehu Hut**	**22.57**	**202**	P	**P**	**04 08 11.5**	**+0.5**
KAHZ	**Kahuranaki**	**22.61**	**199**	P	**P**	**04 08 12.4**	**+1.2**
VRZ	**Vera Road**	**22.73**	**203**	P	**P**	**04 08 15.3**	**+2.8**
PXZ	**Pawanui**	**22.83**	**199**	P	**P**	**04 08 14.6**	**+1.1**
PNHZ	**Pukenui**	**22.93**	**200**	P	**P**	**04 08 14.9**	**+0.3**
PPT2	**Papeete2**	**23.10**	**91**	*e*P	**P**	**04 08 14.6**	**-2.0**
	comp=Z,198nm,29.8s						
PPT2				*e*S	**S**	**04 12 25.9**	**+1.0**
	comp=Z,609nm,26.5s						
PPT2				*e*LR	LR	04 13 39.6	
	comp=Z,1μm,28.5s						
PPT2				*e*LR	LR	04 13 51.5	
	comp=Z,1μm,26.5s						
PPT	**Papeete**	**23.10**	**91**	LR	LR	04 14 44.7	
	comp=Z,325nm,21.3s,baz=278,slow=29						
TBI	**Tubuai**	**23.26**	**106**	*e*P	**P**	**04 08 12.5**	**-5.5**
	comp=Z,583nm,27.5s						
TBI				*e*S	**S**	**04 12 24.2**	**-3.0**
	comp=Z,1μm,28.2s						
TBI				*e*LR	LR	04 13 40.8	
	comp=Z,1μm,30.2s						
TBI				*e*LR	LR	04 13 47.6	
	comp=Z,4μm,28.0s						
MRZ	**Mangatainoka R**	**23.81**	**200**	P	**P**	**04 08 22.9**	**-0.2**
MRZ				IAmb	IAmb	04 08 32.0	
	comp=Z,96nm,1.7s						
TUWZ	**Tuamarina**	**25.05**	**202**	P	**P**	**04 08 35.4**	**+1.0**
THZ	**Tophouse**	**25.72**	**203**		**P**	**04 08 41.1**	**+0.5**
KHZ	**Kahutara**	**26.06**	**202**	P	**P**	**04 08 44.4**	**+0.8**
KHZ				IAmb	IAmb	04 08 54.0	
	comp=Z,51nm,1.3s						
KHZ	**Kahutara**	**26.06**	**202**	P	**P**	**04 08 44.6**	**+1.1**
DSZ	**Denniston Nort**	**26.13**	**205**		**P**	**04 08 46.4**	**+2.1**
DSZ				IAmb	IAmb	04 08 48.5	
	comp=Z,43nm,0.8s						
GVZ	**Greta Valley S**	**26.72**	**202**	P	**P**	**04 08 51.0**	**+1.4**
LTZ	**Lake Taylor**	**26.84**	**203**		**P**	**04 08 52.4**	**+1.8**
HNR	**Honiara**	**26.96**	**286**	LR	LR	04 18 08.3	
	comp=Z,164nm,19.8s,baz=145,slow=33						
INZ	**Inchbonnie**	**27.10**	**204**		**P**	**04 08 53.6**	**+0.7**
OXZ	**Oxford**	**27.39**	**203**	P	**P**	**04 08 57.5**	**+1.9**
OXZ				IAmb	IAmb	04 08 59.7	
	comp=Z,32nm,0.8s						
RPZ	**Rata Peaks**	**28.09**	**204**	P	**P**	**04 09 04.1**	**+2.3**
FOZ	**Fox Glacier**	**28.43**	**205**	P	**P**	**04 09 07.2**	**+2.5**
WHZ	**Wether Hill Ro**	**31.13**	**205**	P	**P**	**04 09 30.9**	**+2.3**
EIDS	**Eidsvold**	**33.14**	**252**	P	**P**	**04 09 44.7**	**-1.9**
ARMA	**Armidale**	**33.41**	**243**	P	**P**	**04 09 48.9**	**-0.2**
TAOE	**Nuku Hiva Isla**	**34.09**	**78**	*e*LR	LR	04 18 51.1	
	comp=Z,543nm,26.3s						
CAN	**Canberra**	**36.81**	**235**	P	**P**	**04 10 17.0**	**-1.2**
CAN	**Canberra**	**36.81**	**235**	P	**P**	**04 10 17.0**	**-1.2**
CAN				pmax	pmax		
	comp=Z,35nm,1.7s						
CTAO	**Charters Tower**	**37.61**	**261**		**P**	**04 10 23.9**	**-1.2**
CTAO	**Charters Tower**	**37.61**	**261**	P	**P**	**04 10 23.9**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,17nm,0.8s						
TOO	**Toolangi**	**40.17**	**233**	P	**P**	**04 10 45.2**	**-1.1**
TOO	**Toolangi**	**40.17**	**233**	P	**P**	**04 10 45.2**	**-1.1**
TOO				pmax	pmax		
	comp=Z,13nm,1.7s						
TAU	**Tasmania Unive**	**40.73**	**225**	P	**P**	**04 10 51.8**	**+1.0**
TAU	**Tasmania Unive**	**40.73**	**225**	P	**P**	**04 10 51.8**	**+1.0**
TAU				pmax	pmax		
	comp=Z,18nm,1.1s						
COEN	**Coen**	**41.43**	**270**	P	**P**	**04 10 55.0**	**-2.0**
STKA	**Stephens Creek**	**42.14**	**243**		**P**	**04 11 01.5**	**-1.1**
STKA				IAmb	IAmb	04 11 02.4	
	comp=Z,33nm,0.9s						
STKA	**Stephens Creek**	**42.14**	**243**	P	**P**	**04 11 01.3**	**-1.2**
	comp=Z,7.6nm,0.9s,baz=76,slow=8.3,SNR=9.8						
STKA				LR	LR	04 27 03.6	
	comp=Z,152nm,19.2s,baz=46,slow=34						
	comp=Z,7.6nm,0.9s						
STKA	**Stephens Creek**	**42.14**	**243**	P	**P**	**04 11 01.4**	**-1.1**
STKA	**Stephens Creek**	**42.14**	**243**	P	**P**	**04 11 01.5**	**-1.1**
STKA				pmax	pmax		
	comp=Z,33nm,0.9s						
H11N3	**WAKE ISLAND Hy**	**42.48**	**333**	T	T	04 56 18.0	
	baz=152						
H11N1	**WAKE ISLAND Hy**	**42.49**	**333**	T	T	04 56 18.0	
	baz=152						
H11N2	**WAKE ISLAND Hy**	**42.50**	**333**	T	T	04 56 23.0	
	baz=152						
JAY	**Jayapura**	**47.26**	**284**	LR	LR	04 30 29.4	
	comp=Z,143nm,21.8s,baz=242,slow=35						
WR8	**Warramunga Arr**	**48.61**	**259**	P	**P**	**04 11 51.7**	**-2.3**
WB0	**Warramunga Arr**	**48.74**	**260**	IAmb	IAmb	04 11 53.4	
	comp=Z,9.2nm,0.7s						
WB2	**Warramunga Arr**	**48.75**	**259**	P	**P**	**04 11 53.4**	**-1.7**
WB2				IAmb	IAmb	04 11 58.9	
	comp=Z,18nm,1.2s						
WRAB	**Tennant Creek**	**48.75**	**259**	P	**P**	**04 11 53.8**	**-1.3**
WRAB				IAmb	IAmb	04 12 49.7	
	comp=Z,14nm,0.6s						
WRAB	**Tennant Creek**	**48.75**	**259**	*i* P	**P**	**04 11 57.1**	**+2.0**
WRAB				pmax	pmax		
	comp=Z,14nm,1.1s						
WB1	**Warramunga Ar.**	**48.76**	**259**	P	**P**	**04 11 53.0**	**-2.1**
WRA	**Warramunga Arr**	**48.76**	**259**		**P**	**04 11 53.1**	**-2.0**
WRA	**Warramunga Arr**	**48.76**	**259**	P	**P**	**04 11 53.0**	**-2.2**
	comp=Z,5.5nm,0.6s,baz=96,slow=6.8,SNR=53						
WRA				PcP	**PcP**	**04 13 18.9**	**-0.9**
	comp=Z,2.1nm,0.4s,baz=95,slow=3.3,SNR=4.1						
WRA				S	**S**	**04 18 46.5**	**-9.0**
	comp=Z,1.2nm,0.9s,baz=93,slow=13,SNR=5.0						
WRA				LR	LR	04 31 46.7	
	comp=Z,175nm,19.4s,baz=70,slow=35						
	comp=Z,5.5nm,0.6s						
WRA	**Warramunga Arr**	**48.76**	**259**	P	**P**	**04 11 53.2**	**-2.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**48.78**	**255**		**P**	**04 11 53.3**	**-2.0**
ASAR	**Alice Springs**	**48.78**	**255**	P	**P**	**04 11 53.5**	**-1.8**
	comp=Z,13nm,0.7s,baz=94,slow=7.6,SNR=45						
ASAR				PcP	**PcP**	**04 13 19.9**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=104,slow=3.9,SNR=5.9						
ASAR				S	**S**	**04 18 47.5**	**-8.1**
	comp=Z,1.9nm,0.8s,baz=95,slow=15,SNR=12						
ASAR				LR	LR	04 31 35.0	
	comp=Z,147nm,19.4s,baz=105,slow=35						
	comp=Z,13nm,0.7s						
ASAR	**Alice Springs**	**48.78**	**255**	P	**P**	**04 11 53.3**	**-2.0**
GUMO	**Guam**	**51.74**	**305**	LR	LR	04 32 45.2	
	comp=Z,70nm,19.9s,baz=106,slow=34						
MTN	**Manton Dam**	**53.10**	**268**		**P**	**04 12 25.3**	**-2.5**
MTN				IAmb	IAmb	04 12 26.6	
	comp=Z,16nm,0.9s						
FORT	**Forrest**	**53.64**	**245**	P	**P**	**04 12 29.5**	**-2.1**
FORT				IAmb	IAmb	04 12 35.5	
	comp=Z,10nm,0.8s						
KNRA	**Kununurra**	**54.72**	**264**	IAmb	IAmb	04 12 43.7	
	comp=Z,12nm,0.6s						
FITZ	**Fitzroy Crossi**	**57.18**	**260**	P	**P**	**04 12 56.0**	**-1.3**
	comp=Z,2.3nm,0.3s,baz=143,slow=4.9,SNR=16						
FITZ				LR	LR	04 36 18.2	
	comp=Z,237nm,19.7s,baz=104,slow=35						
	comp=Z,2.3nm,0.3s						
SBA	**Scott Base**	**60.06**	**185**	P	**P**	**04 13 18.9**	**+2.5**
SBA	**Scott Base**	**60.06**	**185**	P	**P**	**04 13 18.9**	**+2.5**
SBA				pmax	pmax		
	comp=Z,55nm,1.9s						
VNDA	**Vanda**	**60.19**	**186**		**P**	**04 13 19.7**	**+2.5**
VNDA	**Vanda**	**60.19**	**186**	P	**P**	**04 13 20.0**	**+2.8**
	comp=Z,4.5nm,0.9s,baz=5.4,slow=6.4,SNR=14						
VNDA				LR	LR	04 35 09.7	
	comp=Z,26nm,21.0s,baz=322,slow=32						
	comp=Z,4.5nm,0.9s						
VNDA	**Vanda**	**60.19**	**186**	P	**P**	**04 13 19.7**	**+2.5**
VNDA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MBWA	**Marble Bar**	**62.10**	**255**	P	**P**	**04 13 28.8**	**-2.3**
NWAO	**Narrogin (SRO)**	**62.72**	**242**	LR	LR	04 38 51.9	
	comp=Z,106nm,18.2s,baz=28,slow=34						
DAV	**Davao City (W)**	**64.92**	**287**	LR	LR	04 37 41.2	
	comp=Z,36nm,20.3s,baz=164,slow=32						
KAPI	**Kappang**	**66.05**	**273**	LR	LR	04 40 42.4	
	comp=Z,81nm,19.3s,baz=93,slow=34						
TOLI2	**Tolitoli**	**67.09**	**279**	P	**P**	**04 14 03.6**	**-0.1**
JMZ	**Minamidaito 2**	**69.26**	**308**	P	**P**	**04 14 14.4**	**-2.6**
KIWB	**Kanaga Island**	**70.19**	**358**	P	**P**	**04 14 21.7**	**-0.6**
MJAR	**Matsushiro Arr**	**71.09**	**321**	P	**P**	**04 14 26.9**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=139,slow=7.6,SNR=5.8						
	comp=Z,2.0nm,0.8s						
NIKH	**Nikolski High**	**71.38**	**3**	P	**P**	**04 14 29.7**	**+0.2**
	baz=185						
QSPA	**South Pole Qui**	**71.48**	**180**		**P**	**04 14 32.4**	**+2.1**
QSPA	**South Pole Qui**	**71.48**	**180**	P	**P**	**04 14 32.1**	**+1.9**
	comp=Z,22nm,0.9s,baz=34,slow=0.9,SNR=74						
	comp=Z,22nm,0.9s						
JOW	**Kunigami**	**72.03**	**307**	LR	LR	04 39 15.2	
	comp=Z,74nm,20.0s,baz=282,slow=30						
JNU	**Nakatsue**	**73.66**	**314**	LR	LR	04 41 42.8	
	comp=Z,55nm,21.5s,baz=147,slow=31						
UGM	**Wanagama**	**73.94**	**267**	P	**P**	**04 14 44.5**	**-1.1**
ASAJ	**Asahikawa**	**74.01**	**329**	P	**P**	**04 14 44.2**	**-1.1**
	comp=Z,5.3nm,0.8s,baz=89,slow=4.5,SNR=4.7						
	comp=Z,5.3nm,0.8s						
CHNA	**Chernabura Isl**	**74.12**	**9**	P	**P**	**04 14 46.0**	**+0.3**
	baz=194						
SDPT	**Sand Point**	**74.51**	**8**	P	**P**	**04 14 44.2**	**-3.7**
SDPT	**Sand Point**	**74.51**	**8**	P	**P**	**04 14 48.5**	**+0.6**
	baz=193						
S12K	**Black Hills**	**74.66**	**7**	P	**P**	**04 14 47.7**	**-1.1**
S12K	**Black Hills**	**74.66**	**7**	P	**P**	**04 14 48.6**	**-0.3**
	baz=192						
LPIG	**La Paz**	**75.08**	**58**	LR	LR	04 38 43.2	
	comp=Z,62nm,20.7s,baz=198,slow=28						
PFO	**Pinyon Flats O**	**75.41**	**47**	LR	LR	04 38 51.9	
	comp=Z,67nm,20.8s,baz=238,slow=28						
PETK	**Petropavlovsk-**	**75.52**	**343**	P	**P**	**04 14 53.9**	**+0.1**
PETK	**Petropavlovsk-**	**75.52**	**343**	P	**P**	**04 14 53.5**	**-0.3**
	comp=Z,3.7nm,0.7s,baz=117,slow=9.0,SNR=12						
PETK				LR	LR	04 44 21.6	
	comp=Z,22nm,20.0s,baz=157,slow=33						
	comp=Z,3.7nm,0.7s						
PETK	**Petropavlovsk-**	**75.52**	**343**	P	**P**	**04 14 53.9**	**+0.1**
SPIA	**Saint Paul Isl**	**75.53**	**2**	P	**P**	**04 14 53.7**	**0.0**
	baz=184						
YSS	**Yuzhno-Sakhali**	**76.03**	**331**	*e*P	P	04 15 03.2	+6.4
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WAKR	**Walker**	**76.31**	**41**	IAmb	IAmb	04 15 01.4	
	comp=Z,12nm,0.9s						
YBH	**Yreka Blue Hor**	**76.39**	**37**	IAmb	IAmb	04 15 01.8	
	comp=Z,17nm,1.0s						
YBH	**Yreka Blue Hor**	**76.39**	**37**	LR	LR	04 40 26.0	
	comp=Z,6.7nm,21.9s,baz=240,slow=29						
DSP	**Deep Springs**	**76.56**	**43**	IAmb	IAmb	04 15 02.9	
	comp=Z,23nm,1.3s						
SII	**Sitkinak Islan**	**76.66**	**11**	P	**P**	**04 15 00.0**	**-0.2**
	baz=199						
LHV	**Little Huntoon**	**76.75**	**42**	IAmb	IAmb	04 15 03.9	
	comp=Z,19nm,1.1s						
113A	**Mohawk Valley,**	**76.83**	**49**	IAmb	IAmb	04 15 04.2	
	comp=Z,40nm,1.8s						
L04D	**Klamath Falls**	**76.93**	**37**	IAmb	IAmb	04 15 04.6	
	comp=Z,20nm,1.0s						
NVAR	**Mina Array Bea**	**76.98**	**42**		**P**	**04 15 04.3**	**+1.5**
NVAR	**Mina Array Bea**	**76.98**	**42**	P	**P**	**04 15 03.9**	**+1.2**
	comp=Z,8.2nm,0.8s,baz=226,slow=9.0,SNR=32						
NVAR				LR	LR	04 40 48.0	
	comp=Z,86nm,21.3s,baz=238,slow=29						
	comp=Z,8.2nm,0.8s						
GMN	**Gold Mountain**	**76.98**	**43**	IAmb	IAmb	04 15 05.0	
	comp=Z,15nm,1.0s						
KSM	**Kuching**	**77.06**	**276**	IAmb	IAmb	04 15 05.4	
	comp=Z,12nm,0.8s						
NV11	**Mina Array Sit**	**77.07**	**42**	IAmb	IAmb	04 15 05.6	
	comp=Z,26nm,1.2s						
PAHR	**Pah Rah Range**	**77.08**	**40**	IAmb	IAmb	04 15 05.6	
	comp=Z,40nm,1.7s						
214A	**Organ Pipe Nat**	**77.08**	**50**	IAmb	IAmb	04 15 05.9	
	comp=Z,24nm,1.5s						
R17L	**Mt. Peulik Vol**	**77.31**	**10**	P	**P**	**04 15 04.0**	**+0.1**
	baz=197						
I03D	**Drain, OR**	**77.32**	**35**	IAmb	IAmb	04 15 06.6	
	comp=Z,28nm,1.4s						
OHAK	**Old Harbor**	**77.45**	**11**	P	**P**	**04 15 04.8**	**+0.2**
	baz=200						
R18K	**Karluk**	**77.57**	**11**	P	**P**	**04 15 04.0**	**-1.3**
	baz=199						
V12A	**Nelson**	**77.68**	**46**	IAmb	IAmb	04 16 30.1	
	comp=Z,11nm,0.5s						
BUCK	**Buck Mountain**	**77.85**	**35**	IAmb	IAmb	04 15 09.8	
	comp=Z,26nm,1.3s						
Y14A	**Wickenburg**	**77.99**	**48**	IAmb	IAmb	04 15 10.7	
	comp=Z,14nm,1.1s						
Q17K	**Contact Creek**	**77.99**	**10**	P	**P**	**04 15 07.0**	**-0.8**
	baz=197						
K05A	**Summer Lake**	**78.06**	**37**	IAmb	IAmb	04 15 11.2	
	comp=Z,25nm,1.0s						
KDAK	**Kodiak Island**	**78.11**	**11**	P	**P**	**04 15 07.8**	**-0.5**
	baz=200						
KSRS	**Korea Array**	**78.13**	**316**	P	**P**	**04 15 09.4**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=113,slow=5.6,SNR=4.8						
	comp=Z,1.4nm,0.8s						
H04D	**Lebanon**	**78.20**	**35**	IAmb	IAmb	04 15 11.5	
	comp=Z,24nm,1.2s						
O14K	**Tigyukauivet M**	**78.24**	**7**	P	**P**	**04 15 08.6**	**-0.3**
	baz=192						
O15K	**Ungalikthiuk R**	**78.33**	**7**	P	**P**	**04 15 09.3**	**-0.1**
	baz=194						
PRN	**Pahroc Range**	**78.49**	**44**	IAmb	IAmb	04 15 13.9	
	comp=Z,28nm,1.3s						
Q18K	**Katmai Hardscr**	**78.50**	**10**	P	**P**	**04 15 10.4**	**-0.2**
	baz=198						
H04A	**Detroit Lake**	**78.60**	**35**	IAmb	IAmb	04 15 13.2	
	comp=Z,21nm,1.3s						
PINE	**Pine Mountain**	**78.71**	**36**	IAmb	IAmb	04 15 14.8	
	comp=Z,30nm,1.1s						
TUC	**Tucson**	**78.74**	**50**		**P**	**04 15 14.1**	**+1.6**
TUC	**Tucson**	**78.74**	**50**	P	**P**	**04 15 14.1**	**+1.6**
TUC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
P17K	**Kvichak River**	**78.80**	**9**	P	**P**	**04 15 12.3**	**+0.2**
	baz=197						
I05D	**Terrebonne, OR**	**78.84**	**35**	IAmb	IAmb	04 15 15.1	
	comp=Z,24nm,1.4s						
N14K	**Kuskokwak Cree**	**78.85**	**6**	P	**P**	**04 15 12.6**	**+0.4**
	baz=192						
Q20K	**Shuyak Island**	**78.92**	**11**	P	**P**	**04 15 12.3**	**-0.4**
	baz=201						
M11K	**Mekoryuk**	**78.93**	**4**	P	**P**	**04 15 12.0**	**-0.7**
	baz=187						
O16K	**Kokwok River B**	**78.95**	**8**	P	**P**	**04 15 10.9**	**-2.0**
O16K	**Kokwok River B**	**78.95**	**8**	P	**P**	**04 15 12.9**	**0.0**
	baz=195						
SMAI	**San Martin Ant**	**78.98**	**159**		**P**	**04 15 14.6**	**+1.5**
SMAI				IAmb	IAmb	04 15 16.1	
	comp=Z,17nm,1.1s						
Q19K	**Cape Douglas,**	**79.00**	**11**	P	**P**	**04 15 13.2**	**0.0**
	baz=200						
E03A	**Lebam**	**79.10**	**33**	IAmb	IAmb	04 15 16.3	
	comp=Z,28nm,1.0s						
P18K	**Big Mountain,**	**79.17**	**10**	IAmb	IAmb	04 15 31.9	
	comp=Z,17nm,0.9s						
P18K	**Big Mountain,**	**79.17**	**10**	P	**P**	**04 15 14.1**	**-0.1**
	baz=198						
WVOR	**Wild Horse Val**	**79.19**	**38**	IAmb	IAmb	04 18 05.7	
	comp=Z,23nm,0.8s						
N15K	**Kwethluk River**	**79.26**	**7**	P	**P**	**04 15 14.6**	**-0.1**
	baz=193						
O17K	**Koliganek Bris**	**79.26**	**9**	P	**P**	**04 15 14.9**	**+0.3**
	baz=196						
HOOD	**Mount Hood Mea**	**79.30**	**35**	IAmb	IAmb	04 15 17.2	
	comp=

comp=Z,27nm,1.9s
L18K Granite Mounta 81.67 8 P P 04 15 28.1 +0.6
baz=196
M19K Big River Lodg 81.70 9 P P 04 15 27.7 +0.1
baz=199
RC01 Rabbit Creek A 81.73 12 P P 04 15 28.0 +0.2
baz=203
NJ2 Nanjing 81.74 308 eP P 04 15 30.7 +2.2
NJ2 pmax pmax
comp=Z,16nm,0.8s
PWL Port Wells 81.79 12 P P 04 15 28.3 +0.2
baz=204
KAIM Kayak Island 81.81 14 P P 04 15 28.5 +0.3
baz=208
D08A Wollman Farm, 81.87 34 IAmb IAmb 04 15 31.1
comp=Z,24nm,1.0s
V35K Ketchikan 81.87 23 P P 04 15 29.0 +0.4
baz=220
M20K Styx River 81.87 10 P P 04 15 29.1 +0.5
baz=200
SUA Susitna One 81.89 11 P P 04 15 29.2 +0.4
baz=202
L19K White Mountain 81.89 9 P P 04 15 29.3 +0.7
baz=198
U33K Whale Pass 81.94 22 P P 04 15 29.6 +0.6
baz=219
K17K Iditarod 81.95 7 P P 04 15 29.7 +0.7
baz=195
E09A Wood Farm, Sta 81.95 35 IAmb IAmb 04 15 31.1
comp=Z,14nm,1.1s
GLI Glacier Island 82.07 13 P P 04 15 29.4 -0.2
baz=206
F10A Beach Ranch, E 82.13 36 IAmb IAmb 04 15 32.1
comp=Z,20nm,1.1s
SKT Skwentna 82.23 10 P P 04 15 30.5 +0.1
baz=201
J16K Anvik River 82.25 6 IAmb IAmb 04 15 50.5
comp=Z,14nm,1.0s
J16K Anvik River 82.25 6 P P 04 15 30.9 +0.4
baz=193
KNK Knik Glacier 82.27 12 P P 04 15 31.4 +0.7
baz=204
PLID Pearl Lake 82.30 37 IAmb IAmb 04 15 33.5
comp=Z,21nm,1.5s
PMR Palmer 82.31 12 P P 04 15 31.3 +0.5
baz=204
L20K Farewell, AK 82.32 9 P P 04 15 31.3 +0.4
baz=199
VHRN Van Horn 82.36 54 IAmb IAmb 04 15 34.5
comp=Z,11nm,0.7s
SRU San Rafael Swe 82.40 45 IAmb IAmb 04 15 34.6
comp=Z,15nm,1.3s
WRAK Wrangell Islan 82.45 22 P P 04 15 32.3 +0.6
baz=219
B08A Colville Reser 82.46 33 IAmb IAmb 04 15 33.4
comp=Z,18nm,1.1s
MNTX Cornudas Mount 82.47 53 IAmb IAmb 04 15 34.7
comp=Z,8.9nm,0.8s
GHO Glory Hole Cre 82.51 12 IAmb IAmb 04 15 50.2
comp=Z,10nm,0.9s
S32K Killisnoo 82.52 20 P P 04 15 32.5 +0.5
baz=217
J17K VABM Dome 82.52 7 P P 04 15 32.4 +0.5
baz=194
LLLB Lillooet 82.64 30 IAmb IAmb 04 15 34.6
comp=Z,20nm,1.1s
BNM Barren Site 82.68 50 P 04 15 34.4 +0.6
BMRM Bremner River 82.69 14 P P 04 15 33.0 0.0
BMRM IAmb IAmb 04 15 52.1
comp=Z,19nm,1.4s
BMRM Bremner River 82.69 14 P P 04 15 33.5 +0.5
baz=208
TXAR Lajitas Array 82.74 56 P 04 15 35.2 +1.2
TXAR Lajitas Array 82.74 56 P P 04 15 35.9 +1.9
comp=Z,9.6nm,1.1s,baz=223,slow=5.1,SNR=55
comp=Z,9.6nm,1.1s
TXAR Lajitas Array 82.74 56 P P 04 15 35.2 +1.2
MVCO Mesa Verde 82.82 47 P P 04 15 35.5 +1.1
I17K Unalakleet 82.84 6 P P 04 15 33.6 +0.1
baz=192
PV05 Paradox Valley 82.84 46 P P 04 15 36.2 +1.8
YAH Yahtse 82.85 15 P P 04 15 34.2 +0.2
YAH IAmb IAmb 04 15 35.6
comp=Z,6.7nm,0.7s
P18A Preston Nutter 82.86 44 P P 04 15 35.7 +1.1
CRQE Cirque 82.86 15 P P 04 15 34.1 +0.2
baz=209
KLU Klutina 82.87 13 P P 04 15 34.5 +0.6
KLU Klutina 82.87 13 P P 04 15 33.9 +0.1
baz=207
J18K Innoko River 82.87 8 IAmb IAmb 04 15 52.6
comp=Z,8.5nm,0.8s
J18K Innoko River 82.87 8 P P 04 15 34.5 +0.8
baz=196
PNL Peninsula 82.88 17 P P 04 15 34.1 +0.3
baz=213
SCM Sheep Creek Mo 82.88 12 IAmb IAmb 04 15 35.0
comp=Z,8.1nm,0.6s
SCM Sheep Creek Mo 82.88 12 P P 04 15 34.3 +0.4
baz=205
KLR Kul'dur 82.94 328 P P 04 15 37.0 +2.5
comp=Z,1.1nm,0.6s,baz=96,slow=5.4,SNR=4.1
PPLA Purkeypile 82.98 10 P P 04 15 35.0 +0.5
baz=201
BSUT Blindstream Ca 82.99 43 P 04 15 35.9 +0.6
BSUT IAmb IAmb 04 15 41.4
comp=Z,19nm,1.9s
PV10 Paradox Valley 83.03 46 P P 04 15 36.4 +0.9
PV19 Morning Glory 83.03 46 P P 04 15 35.4 0.0
PV17 East Wray Mesa 83.03 46 P P 04 15 36.0 +0.6
PV17 IAmb IAmb 04 15 37.9
comp=Z,13nm,1.0s
PV14 Lion Creek, Pa 83.04 46 P P 04 15 36.2 +0.7
PV14 IAmb IAmb 04 15 37.9
comp=Z,16nm,0.9s
HWUT Hardware Ranch 83.04 42 P P 04 15 35.5 +0.1
HWUT IAmb IAmb 04 15 38.2
comp=Z,18nm,1.7s
MA2 Magadan 83.05 343 LR LR 04 45 09.0
comp=Z,42nm,21.5s,baz=120,slow=30
PV18 Skein Mesa, Pa 83.05 46 P 04 15 36.3 +0.7
PV20 West Nyswonger 83.06 46 P P 04 15 36.3 +0.8
PV13 Radium Mtn., P 83.07 46 P P 04 15 36.5 +0.8
PV13 IAmb IAmb 04 15 38.1
comp=Z,14nm,1.1s
PV16 Nyswonger Mesa 83.08 46 P P 04 15 36.4 +0.7
PV16 IAmb IAmb 04 15 38.1
comp=Z,8.3nm,1.0s
PV23 Carpenter Ridg 83.08 46 P P 04 15 36.7 +0.9
PV03 Paradox Valley 83.10 46 P P 04 15 36.2 +0.4
PV03 IAmb IAmb 04 15 38.1
comp=Z,11nm,1.0s
PV11 David Mesa, Pa 83.10 46 P P 04 15 36.7 +0.9
K20K Telida 83.13 9 P 04 15 36.5 +1.5
K20K Telida 83.13 9 P P 04 15 35.7 +0.6
baz=199
PV04 Paradox Valley 83.13 46 P P 04 15 35.6 -0.3
PV04 IAmb IAmb 04 15 38.4
comp=Z,13nm,1.0s
PV02 Paradox Valley 83.15 46 P P 04 15 36.9 +0.9
PV12 Saucer Basin, 83.16 46 P P 04 15 36.8 +0.7
PV21 Cone Mtn., Par 83.16 46 P P 04 15 36.9 +0.7
PV21 IAmb IAmb 04 15 38.1
comp=Z,12nm,0.7s
GRNC Granite Creek 83.17 15 P P 04 15 36.0 +0.4
GRNC IAmb IAmb 04 15 38.1
comp=Z,19nm,1.6s
ANMO Albuquerque 83.17 50 LR LR 04 46 40.6
comp=Z,51nm,18.7s,baz=322,slow=31
R32K Eaglecrest 83.18 20 P P 04 15 36.6 +1.2
baz=217
BNX BinXian 83.19 323 ‖P P 04 15 36.4 +0.6
BNX pmax pmax
comp=Z,6.0nm,1.6s
ALPN Alpine 83.22 55 P 04 15 37.5 +1.0
ALPN IAmb IAmb 04 15 39.3
comp=Z,20nm,1.1s
PV01 Paradox Valley 83.23 46 P P 04 15 36.9 +0.4
PV01 IAmb IAmb 04 15 38.8
comp=Z,15nm,1.1s
N25K Chitina, Valde 83.26 14 P P 04 15 36.5 +0.6
baz=208
PV22 Blue Mesa, Par 83.28 46 P 04 15 37.0 +0.3
GLB Gilahina Butte 83.29 14 P P 04 15 36.7 +0.6
GLB IAmb IAmb 04 15 38.4
comp=Z,17nm,1.6s
P29M Windy Craggy 83.31 18 P P 04 15 36.9 +0.8
P29M IAmb IAmb 04 16 23.4
comp=Z,14nm,1.4s
P29M Windy Craggy 83.31 18 P P 04 15 37.3 +1.2
baz=214
PV07 Paradox Valley 83.33 46 P P 04 15 37.9 +0.9
PV07 IAmb IAmb 04 15 39.3
comp=Z,13nm,1.2s
M24K Tolsona, Glenn 83.37 13 P P 04 15 37.5 +1.1
baz=206
PV15 Paradox Valley 83.39 46 P P 04 15 37.9 +0.5
PV15 IAmb IAmb 04 15 39.6
comp=Z,13nm,1.0s
MCARA McCarthy VSAT 83.42 14 P P 04 15 37.5 +0.9
MCARA IAmb IAmb 04 17 06.9
comp=Z,6.6nm,0.7s
LOGN Logan Glacier 83.44 16 P P 04 15 37.4 +0.5
LOGN IAmb IAmb 04 15 38.2
comp=Z,5.9nm,0.6s
CTG Chitna Glacier 83.47 15 P P 04 15 37.8 +0.7
baz=211
BARN Barnard Glacie 83.47 15 P P 04 15 37.6 +0.5
BARN IAmb IAmb 04 15 39.7
comp=Z,5.5nm,0.6s
CTGM Chitina Glacie 83.47 15 P P 04 15 37.3 +0.2
CTGM IAmb IAmb 04 15 38.0
comp=Z,5.9nm,0.7s
PECS Pecos 83.48 54 P P 04 15 38.1 +0.4
PECS IAmb IAmb 04 15 40.5
comp=Z,18nm,1.6s
WAT6 Susitna Watana 83.48 12 P P 04 15 37.6 +0.5
baz=205
CAST Castle Rocks 83.49 10 P P 04 15 37.0 +0.1
baz=201
J19K Poorman 83.52 8 P P 04 15 37.6 +0.6
baz=197
WAT1 Susitna Watana 83.55 11 P P 04 15 37.7 +0.3
baz=204
PLBC Pleasant Camp 83.57 18 P P 04 15 37.9 +0.5
baz=216
NEW Newport 83.57 34 LR LR 04 45 00.5
comp=Z,59nm,21.2s,baz=215,slow=30
O28M Mount Upton 83.60 16 P P 04 15 38.0 +0.1
O28M Mount Upton 83.60 16 P P 04 15 38.0 +0.1
baz=212
T35M Bob Quinn 83.63 22 P P 04 15 38.2 +0.4
baz=221
O29M Mount Kennedy 83.63 17 P P 04 15 38.4 +0.5
baz=213
G15K Niukluk 83.65 4 P P 04 15 38.0 +0.3
baz=189
TRF Thorofare Moun 83.81 10 IAmb IAmb 04 15 57.0
comp=Z,8.3nm,0.8s
TRF Thorofare Moun 83.81 10 P P 04 15 38.6 -0.2
baz=202,SNR=5.8
H03S2 Juan Fernandez 83.82 123 T T 05 48 25.1
baz=250,slow=75,SNR=128
H03S1 Juan Fernandez 83.83 123 T T 05 48 27.1
baz=250,slow=75,SNR=99
H03S3 Juan Fernandez 83.83 123 T T 05 48 25.9
baz=250,slow=75,SNR=94
CLNB Carlsbad 83.86 53 P P 04 15 40.5 +0.8
SKAG Skagway 83.88 19 P P 04 15 40.1 +1.2
SKAG IAmb IAmb 04 15 41.5
comp=Z,20nm,1.5s
SKAG Skagway 83.88 19 P P 04 15 39.7 +0.8
baz=216
CHUM Lake Minchumin 83.89 9 P P 04 15 39.1 +0.2
baz=200
J20K Nowinta River 83.89 9 P P 04 15 39.3 +0.3
baz=199
H03N2 Juan Fernandez 83.94 123 T T 05 48 22.9
baz=257,slow=73,SNR=30
H03N3 Juan Fernandez 83.94 123 T T 05 48 27.8
baz=257,slow=73,SNR=27
H17K Granite Mounta 83.94 6 P P 04 15 39.9 +0.7
baz=193
AHID Auburn Hatcher 83.95 41 P P 04 15 40.7 +0.7
AHID IAmb IAmb 04 15 42.2
comp=Z,11nm,1.1s
H03N1 Juan Fernandez 83.95 123 T T 05 48 26.7
baz=257,slow=73,SNR=22
CLN7 Carlsbad 7 83.98 53 P P 04 15 41.2 +0.9
F14K Arctic Creek 83.99 3 P P 04 15 39.9 +0.5
baz=187
MCMT McKenzie Canyo 84.00 39 P 04 15 41.1 +0.8
DHY Denali Highway 84.00 12 P P 04 15 40.5 +0.7
DHY IAmb IAmb 04 16 12.1
comp=Z,15nm,1.8s
DHY Denali Highway 84.00 12 P P 04 15 39.9 +0.2
baz=205
TNA Tin City 84.00 2 P P 04 15 40.0 +0.5
baz=186
S34M Telegraph Cree 84.03 21 P 04 15 40.6 +0.8
S34M IAmb IAmb 04 15 42.1
comp=Z,20nm,1.5s
S34M Telegraph Cree 84.03 21 P P 04 15 39.8 0.0
baz=220
RND Reindeer 84.03 11 P P 04 15 40.1 +0.3
RND IAmb IAmb 04 15 58.7
comp=Z,14nm,0.9s
RND Reindeer 84.03 11 P P 04 15 40.1 +0.3
RND pmax pmax
comp=Z,14nm,0.9s
HTMS Hat Mesa 84.14 53 P P 04 15 41.9 +0.8
YUK8 Steele Glacier 84.14 16 P P 04 15 40.7 +0.1
baz=212
G16K Koyuk River 84.17 5 P P 04 15 41.2 +0.8
baz=191
CPRX Cap Rock 84.21 53 P P 04 15 43.6 +2.1
SAND Sanderson 84.22 56 P 04 15 42.3 +0.8
SAND IAmb IAmb 04 15 43.9
comp=Z,12nm,1.0s
PAX Paxson 84.29 13 P P 04 15 41.5 +0.4
baz=207
BPAW Bear Paw Mtn. 84.30 10 P P 04 15 41.5 +0.4
baz=202
H18K Honhosa River 84.31 7 P P 04 15 42.1 +1.0
baz=195
MCK McKinley 84.31 11 IAmb IAmb 04 15 59.8
comp=Z,15nm,0.9s
MCK McKinley 84.31 11 P P 04 15 41.7 +0.6
baz=204
MNHN Monahans 84.32 54 IAmb IAmb 04 15 44.4
comp=Z,9.9nm,0.9s
M26K Nabesna, AK 84.32 14 IAmb IAmb 04 16 00.1
comp=Z,13nm,1.2s
M26K Nabesna, AK 84.32 14 P P 04 15 42.2 +0.9
baz=209
HYT Haines Junctio 84.36 17 IAmb IAmb 04 15 43.7
comp=Z,14nm,1.5s
HYT Haines Junctio 84.36 17 P P 04 15 42.4 +0.8
baz=214
YUK3 Moose Creek 84.39 15 P P 04 15 42.5 +0.7
baz=212
G17K Kiwalik Mounta 84.42 5 P P 04 15 42.8 +1.1
baz=192
Q32M Nakina River 84.45 20 IAmb IAmb 04 15 44.4
comp=Z,26nm,1.6s
Q32M Nakina River 84.45 20 P P 04 15 43.2 +1.0
baz=219
FXWY Fox Creek 84.45 40 IAmb IAmb 04 15 45.0
comp=Z,11nm,1.4s
MSO Missoula 84.48 37 IAmb IAmb 04 15 44.0
comp=Z,13nm,1.4s
P32M Atlin 84.48 19 P P 04 15 43.2 +1.1
baz=218
YUK4 Talbot Arm 84.49 16 P P 04 15 43.7 +1.3
baz=213
WHN Wuhan 84.52 305 P P 04 15 41.7 -1.2
SNOW Snow King Moun 84.53 41 IAmb IAmb 04 15 45.2
comp=Z,11nm,0.9s
M27K Edge Creek, AK 84.54 14 IAmb IAmb 04 16 01.7
comp=Z,9.6nm,1.1s
M27K Edge Creek, AK 84.54 14 P P 04 15 43.3 +0.8
baz=210,SNR=5.7
MAW Mawson 84.66 199 P P 04 15 44.3 +1.3
comp=Z,3.8nm,0.9s,baz=152,slow=7.6,SNR=5.9
comp=Z,3.8nm,0.9s
LOHW Long Hollow 84.70 41 IAmb IAmb 04 15 45.9
comp=Z,17nm,1.6s
O30N Mendenhall 84.72 18 P P 04 15 44.3 +1.0
baz=216,SNR=7.7
L26K Log Cabin Wild 84.79 13 IAmb IAmb 04 16 03.1
comp=Z,12nm,1.4s
L26K Log Cabin Wild 84.79 13 P P 04 15 44.7 +1.1
baz=209
DLBC Dease Lake 84.81 21 P P 04 15 44.6 +0.8
baz=221
BVCY Beaver Creek 84.83 15 P P 04 15 45.0 +1.2
baz=211
COYC Coyhaique 84.87 136 P 04 15 46.3 +1.8
H19K Roundabout Mou 84.89 7 P P 04 15 45.2 +1.3
baz=196
PDAR Pinedale Array 84.92 42 P 04 15 45.4 +0.5
PDAR Pinedale Array 84.92 42 P P 04 15 45.6 +0.6
comp=Z,2.2nm,0.8s,baz=216,slow=3.7,SNR=23
PDAR LR LR 04 46 45.6
comp=Z,47nm,21.3s,baz=222,slow=31
comp=Z,2.2nm,0.8s
YHB Horse Butte 84.94 39 IAmb IAmb 04 15 47.8
comp=Z,15nm,1.2s
K24K Donnelly Dome 84.97 12 P P 04 15 45.0 +0.5
baz=207
WHY Whitehorse 84.98 18 IAmb IAmb 04 15 46.0
comp=Z,11nm,1.0s
WHY Whitehorse 84.98 18 P P 04 15 45.3 +0.6
baz=217
G18K Tagagawik 85.00 6 IAmb IAmb 04 16 04.2
comp=Z,9.4nm,1.1s
G18K Tagagawik 85.00 6 P P 04 15 45.4 +0.9
baz=194
N30M Aishikik Lake 85.00 17 P P 04 15 45.2 +0.4
baz=215
H20K Anotleneega Mo 85.05 8 P P 04 15 45.4 +0.6
baz=198
NEA2 Nenana 85.08 10 P P 04 15 45.7 +0.7
baz=204
RIDG Independent Ri 85.11 13 IAmb IAmb 04 16 03.8
comp=Z,10nm,1.1s
RIDG Independent Ri 85.11 13 P P 04 15 45.7 +0.5
baz=208
BOZ Bozeman (W) 85.14 39 IAmb IAmb 04 15 48.1
comp=Z,26nm,1.6s
L27K Beaver Creek, 85.17 14 P P 04 15 46.1 +0.6
baz=210
BCAR Beaver Creek A 85.18 14 P P 04 15 46.5 +0.9
MLY Manley 85.21 10 IAmb IAmb 04 16 04.0
comp=Z,8.9nm,1.1s
MLY Manley 85.21 10 P P 04 15 46.0 +0.3
baz=202,SNR=6.1
R33M Jennings River 85.21 20 IAmb IAmb 04 15 48.0
comp=Z,26nm,1.6s
R33M Jennings River 85.21 20 P P 04 15 46.4 +0.5
baz=220,SNR=7.0
P33M Teslin, Yukon 85.25 19 P P 04 15 46.4 +0.3
baz=219
HDA Harding Lake 85.29 11 IAmb IAmb 04 16 04.8
comp=Z,12nm,0.8s
HDA Harding Lake 85.29 11 P P 04 15 46.5 +0.5
baz=206,SNR=5.4
F17K Baldwin Pennin 85.29 5 P P 04 15 46.7 +0.7
baz=192
CCB Clear Creek Bu 85.35 11 IAmb IAmb 04 16 04.5
comp=Z,12nm,0.8s
CMIG Matias Romero 85.35 70 LR LR 04 44 29.1
comp=Z,80nm,22.0s,baz=234,slow=29
N31M Braeburn, Yuko 85.39 17 IAmb IAmb 04 15 48.5
comp=Z,8.3nm,1.0s
N31M Braeburn, Yuko 85.39 17 P P 04 15 46.9 +0.3
baz=216
G19K Purcell Mounta 85.41 7 P P 04 15 47.5 +0.9
baz=196
OZNA Ozona 85.41 55 IAmb IAmb 04 15 49.2
comp=Z,9.3nm,0.9s
M29M Somme Creek 85.46 16 P P 04 15 47.4 +0.4
baz=213
SEY Seymchan 85.46 345 P P 04 15 46.7 -0.2
comp=Z,5.9nm,0.8s,baz=162,slow=5.2,SNR=11
SEY LR LR 04 55 36.2
comp=Z,20nm,18.2s,baz=158,slow=37
comp=Z,5.9nm,0.8s
SEY Seymchan 85.46 345 *i* P P 04 15 48.4 +1.5
SEY pmax pmax
comp=Z,5.0nm,0.9s
H21K Melozitna Rive 85.49 9 IAmb IAmb 04 16 06.7
comp=Z,13nm,1.2s
H21K Melozitna Rive 85.49 9 P P 04 15 47.6 +0.6
baz=200,SNR=5.7
SCRK Sand Creek 85.49 13 P P 04 15 47.4 +0.2
baz=208,SNR=5.9
I23K Minto, Yukon-K 85.54 10 P P 04 15 47.9 +0.7
baz=203
COLA College 85.55 11 P P 04 15 46.8 -0.5
COLA College 85.55 11 *i* P P 04 15 48.1 +0.8
COLA pmax pmax
comp=Z,8.0nm,0.9s
COLA College 85.55 11 P P 04 15 47.8 +0.5
baz=205
F18K Selawik 85.59 6 P P 04 15 48.0 +0.6
baz=194
IL31 85.63 11 IAmb IAmb 04 16 07.3
comp=Z,13nm,1.4s
ILAR Eielson Array 85.63 11 P 04 15 47.8 +0.1
ILAR Eielson Array 85.63 11 P P 04 15 47.6 -0.1
comp=Z,1.9nm,0.7s,baz=197,slow=5.1,SNR=33
ILAR LR LR 04 54 09.5
comp=Z,22nm,18.3s,baz=256,slow=36
comp=Z,1.9nm,0.7s
ILAR Eielson Array 85.63 11 P P 04 15 47.8 +0.1
IMAR Indian Mountai 85.67 8 P P 04 15 48.1 +0.2
833A Chaparral WMA, 85.73 58 IAmb IAmb 04 15 51.6
comp=Z,17nm,1.1s
J25K Salcha River, 85.78 12 IAmb IAmb 04 16 07.2
comp=Z,8.3nm,0.8s
J25K Salcha River, 85.78 12 P P 04 15 48.8 +0.3
baz=207,SNR=6.7
E17K Hotham Inlet 85.88 5 P P 04 15 49.4 +0.6
baz=191
LL02 Futaleuf 85.89 134 IAmb IAmb 04 15 52.9
comp=Z,18nm,1.1s
H22K Ishtalitna Cre 85.92 9 P P 04 15 49.4 +0.3
baz=201,SNR=9.0
K27K Chicken 85.95 13 P P 04 15 49.9 +0.6
baz=210
M30M Minto, Yukon 86.00 16 P P 04 15 49.9 +0.2
baz=215,SNR=5.9
F19K Shaleruckik Mo 86.00 6 IAmb IAmb 04 16 08.2
comp=Z,10.0nm,1.0s
F19K Shaleruckik Mo 86.00 6 P P 04 15 50.4 +0.9
baz=195
J26L Joseph Creek 86.04 13 IAmb IAmb 04 16 09.8
comp=Z,11nm,0.9s
J26L Joseph Creek 86.04 13 P P 04 15 50.8 +0.9
baz=209,SNR=14
L29M L29M 86.10 15 P P 04 15 50.8 +0.7
baz=214,SNR=14
H23K Yukon River 86.14 10 P P 04 15 51.3 +1.0
baz=203
G21K Allakaket 86.20 8 IAmb IAmb 04 16 09.6
comp=Z,8.3nm,0.9s
G21K Allakaket 86.20 8 P P 04 15 51.6 +1.1
baz=199
JCT Junction City 86.27 56 IAmb IAmb 04 15 53.8
comp=Z,16nm,1.2s
E18K Tukpahlearik C 86.31 5 IAmb IAmb 04 16 10.0
comp=Z,12nm,1.0s
E18K Tukpahlearik C 86.31 5 P P 04 15 52.1 +1.1
baz=193
M31M Drury Creek, Y 86.36 17 P P 04 15 52.1 +0.7
baz=217
D17K Noatak River 86.39 4 P P 04 15 52.4 +1.0
baz=190
H24K Noodor Dome 86.43 10 P P 04 15 52.3 +0.6
baz=205
F20K Avaraart Lake 86.44 7 P P 04 15 51.9 +0.3
baz=197
WTLY Watson Lake, Y 86.48 21 P P 04 15 52.5 +0.5
baz=222
PRP Porcupine Dome 86.56 11 IAmb IAmb 04 16 11.7
comp=Z,13nm,1.0s
PRP Porcupine Dome 86.56 11 P P 04 15 52.6 +0.2
baz=207,SNR=7.2
DAWY Dawson 86.59 14 IAmb IAmb 04 16 11.7
comp=Z,9.2nm,1.0s
DAWY Dawson 86.59 14 P P 04 15 53.2 +0.6
baz=212,SNR=12
AMTX Amarillo 86.65 52 IAmb IAmb 04 15 55.9
comp=Z,16nm,1.0s
E19K Redstone River 86.66 6 IAmb IAmb 04 16 12.3
comp=Z,14nm,1.2s
E19K Redstone River 86.66 6 P P 04 15 53.5 +0.7
baz=196
FARO Faro, Yukon 86.68 18 P P 04 15 53.5 +0.5
baz=218
DKNS Dickens 86.71 53 IAmb IAmb 04 15 56.5

	comp=Z,15nm,0.9s						
RDOG	**Red Dog Mine**	86.76	4	P		P	04 15 54.3 +1.1
	baz=190						
TOAD	**Toad River Com**	86.83	23	P		P	04 15 54.4 +0.6
	baz=225						
C16K	**Lisburne Hills**	86.83	3	P		P	04 15 54.4 +0.9
	baz=188						
I26K	**Coal Creek Min**	86.84	12	P		P	04 15 54.2 +0.6
	baz=209						
G22K	**Bettles**	86.86	9	P		P	04 15 54.6 +0.9
	baz=201						
K29M	**Barlow Dome**	86.86	15	P		P	04 15 54.8 +0.8
	baz=214,SNR=5.9						
F21K	**Alatna River**	86.88	8	P		P	04 15 54.5 +0.7
	baz=199						
G23K	**Bananza Creek**	86.88	9	P		P	04 15 54.3 +0.4
	baz=202						
MAYO	**Mayo, Yukon**	87.07	16	P		P	04 15 55.5 +0.7
	baz=216						
C17K	**DeLong Mountai**	87.16	4	P		P	04 15 55.8 +0.6
	baz=190						
H25L	**Birch Creek**	87.18	11	P		P	04 15 56.1 +0.8
	baz=206						
HNS	**HongShan**	87.19	311	⇓P		P	04 15 59.4 +3.4
G24K	**Hadweenzic Riv**	87.28	10	P		P	04 15 56.3 +0.6
	baz=205						
F22K	**John River**	87.32	8	P		P	04 15 56.5 +0.6
	baz=200						
COLD	**Coldfoot**	87.34	9	P		P	04 15 57.1 +1.0
	baz=202						
I27K	**Kandik River**	87.41	13	P		P	04 15 57.5 +1.0
	baz=210						
C18K	**Utukok River**	87.47	5	P		P	04 15 57.7 +1.0
	baz=192						
E20K	**Nigu River**	87.55	6	P		P	04 15 58.1 +1.0
	baz=197						
G25K	**Bearman Lake**	87.58	11	P		P	04 15 57.9 +0.7
	baz=206						
D19K	**Kuna River**	87.58	6	P		P	04 15 58.1 +0.9
	baz=195						
BILL	**Bilibino**	87.59	353	*i* P		P	04 15 57.8 +0.6
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MMPY	**Sheldon Lake,**	87.59	18	IAmb	IAmb		04 15 59.5
	comp=Z,25nm,1.8s						
MMPY	**Sheldon Lake,**	87.59	18	P		P	04 15 58.3 +0.9
	baz=220						
I28M	**Miner Creek**	87.64	13	P		P	04 15 58.6 +0.9
	baz=212						
PLCA	**Paso Flores**	87.71	132	P		P	04 16 00.7 +1.9
	comp=Z,2.8nm,0.8s,baz=267,slow=5.0,SNR=7.2						
PLCA				LR		LR	04 45 49.9
	comp=Z,51nm,20.2s,baz=248,slow=29						
	comp=Z,2.8nm,0.8s						
J30M	**Hart River**	87.76	15	IAmb	IAmb		04 16 00.0
	comp=Z,26nm,2.0s						
J30M	**Hart River**	87.76	15	P		P	04 15 59.2 +0.9
	baz=215						
ZEA	**Zeya**	87.92	329	*e*P		P	04 16 01.9 +2.8
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
I29M	**Ogilvie Camp,**	87.94	14	P		P	04 15 59.7 +0.7
	baz=214						
D20K	**Eltivluk River**	87.94	6	P		P	04 15 59.8 +0.9
	baz=196						
E22K	**Anaktuvuk Pass**	87.96	8	P		P	04 16 00.3 +1.3
	baz=201						
F24K	**Squaw Lake**	87.96	10	P		P	04 16 00.2 +1.2
	baz=204						
E21K	**Killik River**	87.97	7	P		P	04 16 00.3 +1.2
	baz=199						
H27K	**Steamboat Moun**	87.98	13	P		P	04 16 00.2 +1.0
	baz=210						
C19K	**Lookout Ridge**	88.04	5	P		P	04 16 00.8 +1.3
	baz=194						
B18K	**Kokolik River**	88.13	4	P		P	04 16 01.4 +1.7
	baz=191						
KOTAN	**Kotaneelee Air**	88.15	22	P		P	04 16 01.1 +1.0
	baz=226						
G26K	**Porcupine Rive**	88.16	11	IAmb	IAmb		04 16 20.0
	comp=Z,9.0nm,1.0s						
G26K	**Porcupine Rive**	88.16	11	P		P	04 16 00.8 +0.9
	baz=208						
E23K	**Chandalar**	88.19	9	P		P	04 16 01.1 +0.9
	baz=203						
PSI	**Prapat**	88.25	274	LR		LR	04 55 07.9
	comp=Z,126nm,18.7s,baz=187,slow=35						
I30M	**Mount Dempster**	88.28	15	P		P	04 16 01.6 +0.8
	baz=215,SNR=5.5						
E24K	**Your Creek**	88.38	9	P		P	04 16 01.6 +0.6
	baz=204						
F25K	**Christian Rive**	88.40	10	P		P	04 16 02.4 +1.3
	baz=207						
G27K	**Doyon Strip**	88.45	12	P		P	04 16 02.4 +1.0
	baz=210						
D22K	**Ayikyak River**	88.55	8	IAmb	IAmb		04 16 30.4
	comp=Z,16nm,1.8s						
D22K	**Ayikyak River**	88.55	8	P		P	04 16 02.5 +0.8
	baz=200						
C21K	**Knifeblade Rid**	88.56	7	P		P	04 16 02.8 +1.0
	baz=198						
H29M	**Whitestone**	88.64	14	P		P	04 16 03.2 +0.9
	baz=213						
FW07	**Weatherford**	88.73	55	IAmb	IAmb		04 16 06.2
	comp=Z,16nm,1.0s						
TOLK	**Toolik Lake Re**	88.74	9	P		P	04 16 03.9 +1.2
	baz=203						
F26K	**Sheenjek River**	88.75	11	P		P	04 16 04.2 +1.4
	baz=208						
WMOK	**Wichita Mounta**	88.77	53	IAmb	IAmb		04 16 05.7
	comp=Z,22nm,1.9s						
D23K	**Nanushuk River**	88.89	8	P		P	04 16 04.9 +1.6
	baz=202						
E25K	**Arctic Village**	88.89	10	P		P	04 16 04.9 +1.5
	baz=207						
A19K	**Wainwright**	89.00	4	P		P	04 16 05.0 +1.2
	baz=192						
B21K	**Ikpikpuk River**	89.02	7	P		P	04 16 05.5 +1.5
	baz=198						
B20K	**Meade River**	89.14	6	P		P	04 16 06.5 +2.0
	baz=196						
EPYK	**Eagle Plains**	89.14	14	P		P	04 16 06.0 +1.3
	baz=215						
HKT	**Hockley**	89.23	58	*i* P		P	04 16 07.6 +1.8
HKT				pmax	pmax		
	comp=Z,8.0nm,1.5s						
H31M	**Peel River**	89.25	15	P		P	04 16 06.4 +1.2
	baz=217						
G29M	**Pine Creek**	89.30	13	P		P	04 16 06.7 +1.4
	baz=214						
D24K	**Happy Valley**	89.32	9	P		P	04 16 06.7 +1.4
	baz=204						
SYO	**Syowa Base**	89.41	191	⇓ *i* P		P	04 16 06.6 +0.6
SYO	**Syowa Base**	89.41	191	⇑ *i* pP		P	04 16 10.0 +4.0
F28M	**Old Crow**	89.50	12	P		P	04 16 07.3 +1.0
	baz=212						
TROLL	**Troll, Antarti**	89.61	179	⇑P		P	04 16 07.8 +0.7
	comp=Z,522nm,0.8s						
E27K	**Coleen River**	89.66	12	P		P	04 16 08.2 +1.1
	baz=210						
C23K	**Itkillik River**	89.71	8	P		P	04 16 08.3 +1.1
	baz=202						
G30M	**tAoh Zraii Nji**	89.76	14	P		P	04 16 08.3 +0.7
	baz=215						
SNAA	**Sanae**	89.77	177	⇑P		P	04 16 08.3 +0.5
	comp=Z,162nm,0.7s						
SNAA	**Sanae**	89.77	177			P	04 16 08.4 +0.6
SNAA				IAmb		IAmb	04 16 09.5
	comp=Z,10nm,0.9s						
SNAA	**Sanae**	89.77	177	P		P	04 16 08.4 +0.6
	comp=Z,8.4nm,0.8s,baz=218,slow=4.6,SNR=32						
SNAA				LR		LR	04 51 19.5
	comp=Z,44nm,21.1s,baz=108,slow=32						
	comp=Z,8.4nm,0.8s						
SNAA	**Sanae**	89.77	177	*ce*P		P	04 16 08.7 +0.9
SNAA				pmax	pmax		
	comp=Z,12nm,1.0s						
MT01	**Popeta**	89.81	126	P		P	04 16 10.4 +1.7
D25K	**Kavik River**	89.84	9	P		P	04 16 09.0 +1.1
	baz=206						
C24K	**Franklin Bluff**	89.86	9	P		P	04 16 08.9 +1.0
	baz=204						
G31M	**Satah River**	90.17	15	P		P	04 16 10.1 +0.7
	baz=217						
VNA2	**Neumayer--Watz**	90.23	176	⇑P		P	04 16 10.8 +0.9
	comp=Z,13nm,0.6s,baz=183,slow=3.8						
A22K	**Sinclair Lake**	90.31	6	P		P	04 16 10.5 +0.6
	baz=198						

E28M	**Babbage River**	90.41	12	P		P	04 16 11.1 +0.6
	baz=212						
VNA1	**Neumayer--Stat**	90.44	175	⇑P		P	04 16 11.8 +1.0
	comp=Z,13nm,1.0s						
HHC	**Hu-ho-hao-te**	90.86	313	*e*P		P	04 16 12.3 -1.1
HHC				pmax	pmax		
	comp=Z,8.0nm,1.2s						
HHC				pmax	pmax		
	comp=Z,62nm,5.0s						
YAK	**Yakutsk**	91.85	337	LR		LR	05 00 58.7
	comp=Z,17nm,18.0s,baz=100,slow=38						
YAK	**Yakutsk**	91.85	337	*e*P		P	04 16 19.8 +2.6
YAK				*e**PP		PcP	04 16 22.8 +4.7
YAK				*e*			04 19 57.0
YAK				*e*S		SKSac	04 26 52.2 +5.9
YAK				*e*			04 27 26.2
YAK				*e*SS		SS	04 33 34.4 +10
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,72nm,3.4s						
YAK				pmax	pmax		
	comp=E,22nm,4.2s						
YAK				smax	smax		
	comp=E,78nm,3.8s						
YAK				smax	smax		
	comp=N,53nm,3.5s						
JTS	**Las Juntas de**	92.20	80			P	04 16 22.4 +2.3
JTS	**Las Juntas de**	92.20	80	LR		LR	04 49 47.5
	comp=N,46nm,18.4s,baz=274,slow=30						
JTS	**Las Juntas de**	92.20	80	P		P	04 16 22.4 +2.3
JTS				pmax	pmax		
	comp=Z,25nm,1.0s						
ZON	**Zonda**	92.70	124	IAmb	IAmb		04 16 26.3
	comp=Z,15nm,1.4s						
NNA	**Nana**	92.75	104	LR		LR	04 48 48.0
	comp=Z,43nm,21.6s,baz=290,slow=29						
ATAH	**Atahualpa**	92.90	98	LR		LR	04 47 48.3
	comp=Z,72nm,19.4s,baz=296,slow=29						
HHAR	**Hobbs**	93.01	53	IAmb	IAmb		04 16 26.0
	comp=Z,17nm,1.6s						
YKA	**Yellowknife Ar**	93.17	24	P		P	04 16 23.8 +0.4
	comp=Z,1.5nm,0.8s,baz=241,slow=4.1,SNR=6.6						
YKA				LR		LR	04 56 10.0
	comp=Z,34nm,18.6s,baz=66,slow=34						
	comp=Z,1.5nm,0.8s						
CMAR	**Chiang Mai Arr**	93.19	288	*ce*P		P	04 16 27.1 +2.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PZH	**PanZhiHua**	93.30	297	P		P	04 16 26.3 +1.3
WHAR	**Wooly Hollow**	93.92	54	IAmb	IAmb		04 16 30.0
	comp=Z,10nm,1.1s						
LZH	**Lanzhou**	94.75	306	*e*P		P	04 16 27.8 -3.7
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
LCAR	**Lake Charles**	95.05	54	IAmb	IAmb		04 16 34.7
	comp=Z,13nm,1.3s						
ULM	**Lac du Bonnet**	96.66	39	LR		LR	04 53 15.1
	comp=Z,90nm,21.8s,baz=251,slow=31						
SONM	**Songino Array**	96.91	318	LR		LR	04 55 45.1
	comp=Z,33nm,20.6s,baz=94,slow=33						
LPAZ	**La Paz**	99.13	111	LR		LR	04 51 09.8
	comp=Z,70nm,21.4s,baz=253,slow=29						
WMQ	**Urumqi**	108.63	311	Pdif		Pdif	04 17 35.8 +2.5
MK31	**Makanchi Array**	112.72	314	*c i* PKIKP		PKiKP	04 21 50.0 +3.9
KURK	**Kurchatov**	115.22	318	*c i* PKIKP		PKPdf	04 21 54.0 +3.3
KURK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KURBB	**Kurchatov Arra**	115.28	318	PKP		PKPdf	04 21 50.4 -0.5
	comp=Z,0.5nm,0.2s,baz=94,slow=1.4,SNR=1.6						
BVAR	**Borovoye Array**	120.09	321	PKP		PKiKP	04 21 59.8 -0.4
ARTI	**Arti**	125.89	327	*i* PKIKP		PKiKP	04 22 14.5 +3.0
ARTI							04 24 09.9
ARTI							04 29 25.7
ARTI				SS		SS	04 41 03.6 +1.4
ARCES	**ARCESS Array B**	127.68	352	PKP		PKiKP	04 22 13.9 -0.9
	comp=Z,2.8nm,0.7s,baz=26,slow=2.0,SNR=9.7						
BELG	**Belogornoye**	133.29	326	PKP		PKPdf	04 22 24.8 -0.4
	comp=Z,6.3nm,0.8s,baz=318,slow=8.6,SNR=3.9						
FINES	**FINESS Array B**	134.93	347	PKP		PKPdf	04 22 26.9 -1.1
	comp=Z,1.6nm,0.7s,baz=36,slow=2.6,SNR=10						
FINES	**FINESS Array B**	134.93	347	*c i* PKIKP		PKiKP	04 22 37.4 +7.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
OBN	**Obninsk**	136.81	335	⇓ *e*PKIKP		PKiKP	04 22 35.4 +1.9
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIV	**Kislovodsk**	140.30	318	*e*PKIKP		PKiKP	04 22 41.7 +0.5
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MNK	**Minsk**	140.46	340	*i* PKIKP		PKiKP	04 22 39.2 -1.8
MNK				*i*			04 25 38.7
MNK				*i* PPP		PPP	04 29 43.4
MNK				*i*			04 29 49.4
MNK				*i* SS		SS	04 44 05.3 +7.5
MNK				*i* SSS		SSS	04 49 19.6
MNK				pmax	pmax		
	comp=N,10.0nm,0.9s						
MNK				pmax	pmax		
	comp=E,17nm,0.9s						
MNK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MNK				MLR	MLR		
	comp=E,42nm,21.0s						
MNK				MLR	MLR		
	comp=N,35nm,21.0s						
MNK				MLR	MLR		
	comp=Z,40nm,19.0s						
EKA	**Eskdalemuir Ar**	142.63	9	PKP		PKPdf	04 22 41.4 -0.9
	comp=Z,1.1nm,0.8s,baz=344,slow=1.8,SNR=4.3						
AK03	**Malin Array Si**	143.05	336	PKP		PKPbc	04 22 40.4 +0.3
AKASG	**Malin Array Be**	143.06	335	PKhKP		PKPpre	04 22 39.6
	comp=Z,0.4nm,0.3s,baz=44,slow=4.2,SNR=5.8						
AKASG	**Malin Array Be**	143.06	335	*c i* PKIKP		PKiKP	04 22 51.7 +5.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKBB	**Malin Array Si**	143.06	335	PKP		PKPbc	04 22 40.5 +0.4
RNPP9	**Sopachiv**	143.71	339	PKP		PKPbc	04 22 41.6 -0.3
RNPP5	**Staryi Chortor**	143.86	339	PKP		PKPbc	04 22 41.8 -0.6
HLM1	**Long Mynd**	145.40	10	*e*P		PKPab	04 22 46.5 -0.9
SORM	**Soroca**	145.43	334	⇓P		PKPab	04 22 46.6 -1.0
RSBS	**Rosebush, Pemb**	145.61	12	*e*P		PKPab	04 22 48.2 0.0
KMPD	**K-Podol'skiy**	145.86	336	PKP		PKPdf	04 22 45.7 -2.4
MCH1	**Michaelchurch**	145.89	10	*e*P		PKPab	04 22 48.8 -0.4
MONM	**Monmouth**	146.07	10	*e*P		PKPab	04 22 49.8 -0.2
MILM	**Milestii Mici**	146.16	332	⇑P		PKPab	04 22 49.8 -0.6
STRD	**Stroud**	146.23	9	*e*P		PKPab	04 22 49.8 -0.7
OJC	**Ojcow**	146.60	344	*e*PKP		PKPbc	04 22 49.8 -1.2
KSP	**Ksiaz**	146.81	348	*e*PKP		PKiKP	04 22 52.6 -1.6
WOL	**Wolverton**	146.82	8	*e*P		PKPab	04 22 52.1 -0.7
CLL	**Collm**	146.90	352	*i* PKIKP		PKPab	04 22 52.3 -0.8
CLL				*i*			04 22 55.4
CLL				pmax	pmax		
	comp=Z,17nm,1.3s						
CLL	**Collm**	146.90	352	*i* PKPbc		PKPab	04 22 52.3 -0.8
	comp=Z,17nm,1.3s						
CLL				*i* (PKPab)		PKiKP	04 22 55.4 +1.1
	comp=Z,15nm,1.1s						
CLL				*e*PP		PP	04 26 16.0 +0.6
CLL				*e*SKPbc		SKiKP	04 26 32.0 +4.8
STHS	**Stebnicka Huta**	146.92	342	*e*PKP2		PKiKP	04 22 55.7 +1.2
STHS	**Stebnicka Huta**	146.92	342	*e*PKP		PKiKP	04 22 55.7 +1.2
SBD	**Saint Breward**	146.94	13	*e*P		PKPab	04 22 52.2 -1.1
KOLS	**Kolonicke sedl**	147.03	340	*e*PKP2		PKPab	04 22 53.2 -0.6
KOLS	**Kolonicke sedl**	147.03	340	*e*PKP		PKPab	04 22 53.2 -0.6
KOLS				*e*			04 23 02.8
OSTC	**Ostas**	147.10	348	*e*PKP		PKiKP	04 22 53.9 -0.9
OSTC	**Ostas**	147.10	348	*e*PKP2		PKiKP	04 22 53.9 -0.9
CHVC	**Chvalec**	147.10	348	*e*PKP		PKPab	04 22 52.9 -1.1
CHVC	**Chvalec**	147.10	348	*e*PKIKP		PKPab	04 22 52.9 -1.1
BURAR	**Bucovina Array**	147.11	336			PKPab	04 22 53.1 -1.1
BURAR	**Bucovina Array**	147.11	336	⇑P		PKiKP	04 22 54.4 -0.6
BRG	**Berggiesshubel**	147.19	351	*e*PKP		PKPab	04 22 53.6 -0.7
BRG				Amp			04 22 54.5
	comp=Z,4.2nm,0.8s						
BRG	**Berggiesshubel**	147.19	351	P		PKiKP	04 22 56.9 +2.0
BRG				Amp			04 22 58.2
	comp=Z,5.3nm,0.8s						
NIE	**Niedzica**	147.19	343	*e*PKP		PKiKP	04 22 53.9 -1.2
DYA	**Yadsworthy**	147.22	12	*e*P		PKPbc	04 22 52.3 -0.4
DPC	**Dobruska-Polom**	147.28	348	*e*PKP		PKiKP	04 22 54.1 -1.1
DPC	**Dobruska-Polom**	147.28	348	*e*PKP2		PKiKP	04 22 54.1 -1.1
STEB	**Steborice**	147.36	346	*e*PKP		PKPab	04 22 53.8 -1.2
TESR	**Tescani**	147.42	333	⇑P		PKPdf	04 22 50.8 -0.1

PVCC	**Panska Ves**	147.42	350	*e*PKP		PKiKP	04 22 56.8 +1.3
PVCC	**Panska Ves**	147.42	350	*e*PKP2		PKiKP	04 22 56.8 +1.3
KRLC	**Kraliky**	147.44	347	*e*PKP		PKPab	04 22 54.3 -1.1
KRLC	**Kraliky**	147.44	347	*e*PKP2		PKPab	04 22 54.3 -1.1
MORC	**Moravsky Berou**	147.56	346	*e*PKP		PKiKP	04 22 54.1 -1.7
MORC	**Moravsky Berou**	147.56	346	⇓P		PKiKP	04 22 54.4 -1.4
LANS	**Liptovska Anna**	147.66	344	*e*PKP2		PKPab	04 22 57.1 +0.8
LANS	**Liptovska Anna**	147.66	344	*e*PKP		PKPab	04 22 57.1 +0.8
LANS				*e*			04 23 06.0
BMR	**Baia Mare**	147.70	338	⇑P		PKPab	04 22 58.4 +2.0
CFR	**Carcaliu**	147.77	330	⇑P		PKPbc	04 22 54.3 -0.1
UCC	**Uccle**	147.82	2	*d*PKP		PKiKP	04 22 55.2 -1.0
BEBN	**Eben Emael**	147.85	1	*d*PKP		PKiKP	04 22 55.0 -1.3
MAUC	**Maruska**	147.88	346	*e*PKP		PKiKP	04 22 55.7 -0.8
ARCR	**ARCALIA**	147.88	336	⇑P		PKiKP	04 22 55.5 -1.0
VRI	**Vrincioaia**	147.89	332	⇑P		PKPab	04 22 55.8 -0.9
PLOR	**Plostina**	147.94	333	⇑P		PKPab	04 22 56.6 -0.9
PRU	**Pruhonice**	147.95	350	*e*PKP		PKPab	04 23 00.0 +2.7
PRU	**Pruhonice**	147.95	350	*e*PKP2		PKPab	04 23 00.0 +2.7
KECS	**Kecovo**	147.98	342	*e*PKIKP		PKPbc	04 22 54.3 -0.5
KECS	**Kecovo**	147.98	342	*e*PKP		PKPbc	04 22 54.3 -0.5
MEM	**Membach**	148.04	0	*d*PKP		PKiKP	04 22 55.6 -1.1
BSTI	**Sart Tilman**	148.07	1	*d*PKP		PKiKP	04 22 55.6 -1.2
BTNL	**Ternell**	148.07	0	*d*PKP		PKiKP	04 22 55.4 -1.5
TIRR	**Tirgusor**	148.17	329	⇓P		PKiKP	04 22 55.9 -1.2
VRAC	**Vranov**	148.21	347	*e*PKP		PKPbc	04 22 55.3 -0.1
VRAC	**Vranov**	148.21	347	PKPbc		PKPbc	04 22 54.2 -1.2
	comp=Z,4.2nm,0.9s,baz=7.4,slow=4.0,SNR=4.3						
BCLA	**Clavier**	148.23	1	*d*PKP		PKiKP	04 22 55.9 -1.2
HARR	**Harsova**	148.23	330	⇑P		PKiKP	04 22 56.4 -0.9
BRTR	**Keskin Array B**	148.27	317			PKPbc	04 22 55.6 -0.5
BRTR	**Keskin Array B**	148.27	317	PKPbc		PKPbc	04 22 55.9 -0.2
	comp=Z,3.2nm,0.8s,baz=66,slow=2.8,SNR=12						
BRTR	**Keskin Array B**	148.27	317	PKIKP		PKPbc	04 22 55.6 -0.5
BHOU	**Houvegnez**	148.30	0	*d*PKP		PKiKP	04 22 56.4 -0.9
BMRD	**Maredsous**	148.33	2	*d*PKPdf		PKPbc	04 22 53.8 -1.9
DOPR	**Dopca**	148.38	334	⇑P		PKPbc	04 22 55.2 -0.9
JAVC	**Velka Javorina**	148.39	345	*e*PKP		PKPab	04 22 58.1 -1.1
KIRS	**Kirsehir-Merke**	148.41	316	⇓P		PKiKP	04 22 56.9 -1.0
VYHS	**Vyhne**	148.43	344	*e*PKIKP		PKiKP	04 22 56.6 -1.0
VYHS				*e*			04 22 59.9
VYHS	**Vyhne**	148.43	344	*e*PKP		PKiKP	04 22 56.6 -1.0
VYHS				*e*			04 22 59.9
VYHS				*e*			04 23 08.8
CJR	**Cluj-Napoca**	148.48	337	⇑P		PKiKP	04 22 56.7 -1.2
KRUC	**Moravsky**	148.48	347	*e*PKP		PKiKP	04 22 56.9 -0.8
MLR	**Muntele Rosu**	148.53	333	⇑P		PKiKP	04 22 57.1 -1.0
DOU	**Dourbes**	148.53	2	*d*PKP		PKiKP	04 22 57.1 -0.6
ISR	**Istrita**	148.55	332	⇓P		PKiKP	04 22 57.7 -0.4
MARR	**Marisel-Cluj**	148.69	337	⇓P		PKiKP	04 22 57.6 -0.7
JSA	**Saint Aubin**	148.74	11	*e*P		PKiKP	04 22 57.3 -0.9
MODS	**Modra-Piesok**	148.93	346	*e*PKIKP		PKiKP	04 22 57.2 -1.5
MODS				*e*			04 23 00.8
MODS				*e*			04 23 04.5
MODS	**Modra-Piesok**	148.93	346	*e*PKP		PKiKP	04 22 57.2 -1.5
MODS				*e*			04 23 00.8
MODS				*e*			04 23 04.5
KHC	**Kasperske Hory**	148.94	351	*e*PKP		PKPdf	04 22 52.0 -1.4
KHC				*ep*PKP		PKiKP	04 22 57.7 -1.0
KHC	**Kasperske Hory**	148.94	351	*e*PKHKP		PKPpre	04 22 52.0
KHC				*e*			04 22 57.7
VOIR		148.95	334	⇓P		PKiKP	04 22 58.4 -0.5
WLF	**Walferdange**	148.99	360	*d*PKP		PKiKP	04 22 59.0 +0.3
CKRC	**Cesky Krumlov**	149.12	349	*e*PKP		PKiKP	04 22 58.3 -0.8
CKRC	**Cesky Krumlov**	149.12	349	*e*PKIKP		PKiKP	04 22 58.3 -0.8
ARR	**Arges**	149.18	334	⇑P		PKPab	04 23 00.3 -2.2
GERES	**GERESS Array B**	149.20	350	PKPbc		PKPbc	04 22 58.8 -0.6
	comp=Z,4.1nm,0.9s,baz=41,slow=2.2,SNR=13						
MBAR	**Mbarara**	149.22	234	*c i* PKP2		PKPab	04 23 02.1 -1.7
MBAR				pmax	pmax		
	comp=Z,8.0nm,1.3s						
DEV	**Deva**	149.44	337	⇑P		PKiKP	04 22 59.7 0.0
CONA	**Conrad Observa**	149.67	347	*e*PKP		PKiKP	04 23 00.1 -0.2
	comp=Z,12nm,1.1s,SNR=6.5						
RONA	**Rosalia, Austr**	149.79	346	*e*PKP		PKiKP	04 23 00.6 +0.1
	comp=Z,8.9nm,1.1s						
SURR	**Surduc**	149.83	337	⇓P		PKPbc	04 22 58.9 -0.7
GZR	**Gura Zlata**	149.90	336	⇑P		PKiKP	04 22 59.5 -1.4
MOA	**Molln**	150.06	349	*e*PKP		PKiKP	04 23 00.5 -0.5
	comp=Z,4.1nm,0.8s						
MMAI	**Mount Meron Ar**	150.11	304	PKPbc		PKiKP	04 23 01.9 +0.3
	comp=Z,5.8nm,0.8s,baz=75,slow=6.1,SNR=5.7						
BFO	**Black Forest**	150.27	357			PKiKP	04 23 01.7 +0.3
BFO	**Black Forest**	150.27	357	PKIKP		PKiKP	04 23 01.7 +0.3
BIOA	**Bad Ischl, Aus**	150.32	350	*ep*PKP		PKPbc	04 22 59.7 -1.1
	comp=Z,2.3nm,0.6s						
ARSA	**Arzberg**	150.39	347	*ep*PKP		PKiKP	04 23 00.7 -1.0
	comp=Z,2.9nm,0.9s						
HERR

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.06**	**55**	*eP*	**Pb**	**04 05 11.0**	**0.0**
LESP3				*eS*	**Sb**	**04 05 15.2**	**+0.6**
LPPC	**Paso Canoas**	**0.16**	**0⇑**	*eP*	**Pn**	**04 05 11.4**	**-0.4**
LPPC				*eS*	**Sb**	**04 05 16.3**	**+0.6**
NELY	**Ciudad Neily**	**0.30**	**339⇑**	*eP*	**Pb**	**04 05 12.7**	**-0.5**
NELY				*eS*	**Sn**	**04 05 18.7**	**-0.3**
DVD	**David**	**0.39**	**81**	*eP*	**Pb**	**04 05 14.3**	**-0.1**
DVD				*eS*	**Sn**	**04 05 21.6**	**+0.3**
CSTBL	**De las Acacias**	**0.40**	**84⇓**	*eP*	**Pb**	**04 05 14.4**	**-0.1**
FITO	**Golfito**	**0.40**	**309⇑**	*eP*	**Pb**	**04 05 13.1**	**-1.4**
FITO				*eS*	**Sb**	**04 05 19.4**	**-1.2**
LOCO3	**Loma Colorada,**	**0.42**	**85**	*eP*	**Pb**	**04 05 14.8**	**-0.1**
LOCO3				*eS*	**Sn**	**04 05 22.1**	**+0.1**
MLIR3	**Monte Lirio, C**	**0.42**	**2**	*eP*	**Pb**	**04 05 15.1**	**+0.2**
MLIR3				*eS*	**Sn**	**04 05 21.6**	**-0.6**
EDAD	**Golfito**	**0.43**	**311⇑**	*eP*	**Pb**	**04 05 13.5**	**-1.4**
EDAD				*eS*	**Sb**	**04 05 20.3**	**-1.2**
CLLRA	**Cordillera,**	**0.43**	**31⇓**	*eP*	**Pb**	**04 05 14.9**	**-0.2**
RSRNO	**Rio Sereno**	**0.44**	**357⇓**	*eP*	**Pb**	**04 05 15.4**	**+0.1**
BRU2	**Volcan**	**0.45**	**19⇓**	*eP*	**Pb**	**04 05 15.1**	**-0.2**
BRU2	**Volcan**	**0.45**	**19**	*eP*	**Pb**	**04 05 15.1**	**-0.2**
BRU2				*eS*	**Sn**	**04 05 23.0**	**+0.1**
TBS2		**0.46**	**23**	*eP*	**Pn**	**04 05 16.1**	**+0.1**
SCLRA	**Santa Clara, W**	**0.46**	**7⇑**	*eP*	**Pb**	**04 05 15.6**	**0.0**
VITO	**San Vito**	**0.46**	**344⇑**	*eP*	**Pb**	**04 05 15.4**	**-0.2**
VITO				*eS*	**Sn**	**04 05 23.9**	**+0.6**
PTAR3	**Potrerillos Ar**	**0.47**	**47**	*eP*	**Pb**	**04 05 15.5**	**-0.1**
PTAR3				*eS*	**Sb**	**04 05 22.1**	**-0.4**
BC3P	**Paso Ancho**	**0.50**	**27**	*eP*	**Pb**	**04 05 15.7**	**-0.5**
BC3P				*eS*	**Sn**	**04 05 24.0**	**-0.3**
BQTLY	**Boquete Panama**	**0.54**	**44⇓**	*eP*	**Pb**	**04 05 16.3**	**-0.5**
GUAL3	**Gualaca, Chiri**	**0.56**	**73**	*eP*	**Pb**	**04 05 16.4**	**-0.6**
GUAL3				AMP		04 05 16.7	
	comp=Z,7μm,0.1s						
GUAL3				*eS*	**Sb**	**04 05 21.2**	**-3.7**
ALCO	**Alturas Coton,**	**0.57**	**1⇑**	*eP*	**Pb**	**04 05 16.5**	**-0.9**
PSOM3	**Paja de Sombre**	**0.60**	**59**	*eP*	**Pb**	**04 05 16.9**	**-0.8**
PSOM3				*eS*	**Sb**	**04 05 26.0**	**0.0**
EDP2	**Potrero Grande**	**0.72**	**333⇑**	*eP*	**Pn**	**04 05 18.8**	**-0.8**
EDP2				*eS*	**Sn**	**04 05 29.9**	**+0.3**
PBNVO	**Pueblo Nuevo,**	**0.82**	**51⇓**	*eP*	**Pn**	**04 05 20.1**	**-0.8**
RBALA	**Bur**	**0.85**	**53⇓**	*eP*	**Pn**	**04 05 20.8**	**-0.5**
PANP	**Palmar Norte**	**0.85**	**314⇑**	*eP*	**Pn**	**04 05 20.1**	**-1.1**
PANP				*eS*	**Sn**	**04 05 32.2**	**-0.4**
BURE	**Buenos Aires**	**0.94**	**328**	*eP*	**Pn**	**04 05 21.6**	**-0.9**
DRK0	**Durika**	**0.97**	**336⇑**	*eP*	**Pn**	**04 05 22.0**	**-1.2**
DRK0	**Durika**	**0.97**	**336**	*eP*	**Pn**	**04 05 22.2**	**-1.0**
DRK0				*eS*	**Sn**	**04 05 35.5**	**-0.5**
DRK0	**Durika**	**0.97**	**336**	P	**Pn**	**04 05 22.2**	**-1.0**
RMDIO	**Remedios, Chir**	**1.01**	**98**	*eP*	**Pn**	**04 05 23.3**	**-0.2**
EDPE	**Pejibaye, P**	**1.06**	**317⇑**	*eP*	**Pn**	**04 05 23.6**	**-0.7**
OCHAL	**Ojochal**	**1.07**	**312**	P	**Pn**	**04 05 23.6**	**-0.8**
OCHAL	**Ojochal**	**1.07**	**312**	*S*	**Sn**	**04 05 37.7**	**-0.5**
KKNTU	**Kakint²**	**1.12**	**65⇓**	*eP*	**Pn**	**04 05 24.4**	**-0.6**
PDCAN	**Manzana , Fuen**	**1.13**	**94**	*eP*	**Pn**	**04 05 24.6**	**-0.7**
ISBTO	**Bastimentos Is**	**1.15**	**33**	*eP*	**Pb**	**04 05 26.8**	**-0.1**
SAJE	**San Jernim**	**1.17**	**326⇑**	*eP*	**Pn**	**04 05 24.8**	**-1.1**
BRIBI	**Bribri**	**1.24**	**1**	*eP*	**Pb**	**04 05 28.1**	**-0.3**
VERH	**Veragua Rainfo**	**1.58**	**347⇑**	*eP*	**Pn**	**04 05 31.6**	**+0.2**
LLNJ	**Naranjito**	**1.66**	**311**	*eP*	**Pn**	**04 05 32.7**	**+0.3**
PIEC	**Cerro El Cedra**	**1.66**	**318**	*eP*	**Pn**	**04 05 32.2**	**-0.6**
GMAL	**Guarumal, Vera**	**1.70**	**111**	*eP*	**Pn**	**04 05 32.8**	**-0.3**
GMAL				*eS*	**Sn**	**04 05 54.0**	**+0.2**
RSUS3	**Rio de Jesus,**	**1.71**	**103**	*eP*	**Pn**	**04 05 33.1**	**-0.1**
RSUS3				*eS*	**Sn**	**04 05 53.8**	**-0.1**
RAZU	**San Marcos de**	**1.73**	**318**	*eP*	**Pn**	**04 05 34.7**	**+1.1**
VINA	**Juan Vinas**	**1.76**	**329**	*eP*	**Pn**	**04 05 34.3**	**+0.4**
VERB	**Verbena**	**1.78**	**332**	*eP*	**Pn**	**04 05 34.8**	**+0.6**
LCR2	**La Lucha 2**	**1.78**	**320⇑**	*eP*	**Pn**	**04 05 33.6**	**-0.7**
LCR2	**La Lucha 2**	**1.78**	**320**	P	**Pn**	**04 05 34.1**	**-0.2**
LCR2	**La Lucha 2**	**1.78**	**320**	*S*	**Sn**	**04 05 57.3**	**+1.2**
RVSTA	**Santa Teresita**	**1.78**	**333⇑**	*eP*	**Pn**	**04 05 35.0**	**+0.8**
PCAYA	**Pacayas**	**1.81**	**328**	*eP*	**Pn**	**04 05 35.2**	**+0.4**
PICV	**PH. Pirrs**	**1.83**	**313**	*eP*	**Pn**	**04 05 35.0**	**+0.2**
ABRB	**Las Abras (San**	**1.84**	**332**	*eP*	**Pn**	**04 05 35.8**	**+0.7**
RAFA	**San Farael, Vo**	**1.84**	**329**	*eP*	**Pn**	**04 05 35.6**	**+0.3**
PAR1A	**Puntarenas Pro**	**1.85**	**311⇓**	*eP*	**Pn**	**04 05 35.7**	**+0.6**
CVTV	**Tajo**	**1.85**	**331⇑**	*eP*	**Pn**	**04 05 36.1**	**+0.6**
CVTQ	**Turrialba Volc**	**1.86**	**331⇑**	*eP*	**Pn**	**04 05 36.1**	**+0.6**
STIA3	**Santiago, Vera**	**1.87**	**98**	*eP*	**Pn**	**04 05 35.9**	**+0.6**
STIA3				*eS*	**Sn**	**04 05 58.0**	**+0.1**
VTR0	**Volcan Turrial**	**1.87**	**331⇑**	*eP*	**Pn**	**04 05 36.3**	**+0.6**
CALO3	**Calobre, Verag**	**1.98**	**91**	*eP*	**Pn**	**04 05 37.1**	**+0.2**
CALO3				AMP		04 05 39.7	
	comp=Z,1μm,0.1s						
CALO3				*eS*	**Sn**	**04 06 01.6**	**+1.1**
BELE	**Belen**	**2.08**	**320**	*eP*	**Pn**	**04 05 39.2**	**+0.9**
VBV1	**V. Barva**	**2.13**	**324**	*eP*	**Pn**	**04 05 39.6**	**+0.4**
CARI	**Cariari**	**2.17**	**336**	*eP*	**Pn**	**04 05 40.5**	**+1.1**
TCS1	**Tacares**	**2.20**	**319**	P	**Pn**	**04 05 41.4**	**+1.4**
CRIS3	**El Cristo, Coc**	**2.20**	**93**	*eP*	**Pn**	**04 05 41.1**	**+1.2**
CRIS3				*eS*	**Sn**	**04 06 05.6**	**-0.5**
CACAO	**El Cacao, Vera**	**2.21**	**117**	*eP*	**Pn**	**04 05 40.5**	**+0.5**
CACAO				*eS*	**Sn**	**04 06 06.4**	**+0.2**
TRT2	**Tortugero**	**2.34**	**338**	*eP*	**Pn**	**04 05 42.3**	**+0.4**
TRT2	**Tortugero**	**2.34**	**338**	P	**Pn**	**04 05 42.8**	**+1.0**
TRT2	**Tortugero**	**2.34**	**338**	*S*	**Sn**	**04 06 12.3**	**+2.7**
AZU	**Azuero**	**2.60**	**103**	*eP*	**Pn**	**04 05 47.7**	**+2.2**
AZU				⇓*eS*	**Sn**	**04 06 16.0**	**-0.1**
SOCE	**Pocosol**	**2.66**	**319**	P	**Pn**	**04 05 47.9**	**+1.6**
SOCE	**Pocosol**	**2.66**	**319**	*S*	**Sn**	**04 06 20.0**	**+2.6**
VARE2	**V. Arenal**	**2.78**	**318**	*eP*	**Pn**	**04 05 48.9**	**+0.9**
COVE	**Coope Vega, Sa**	**2.80**	**327**	P	**Pn**	**04 05 50.1**	**+2.1**
COVE	**Coope Vega, Sa**	**2.80**	**327**	*S*	**Sn**	**04 06 24.0**	**+3.2**
JTS	**Las Juntas de**	**2.83**	**313⇓**	*eP*	**Pn**	**04 05 48.5**	**0.0**
JTS	**Las Juntas de**	**2.83**	**313**	*eP*	**Pn**	**04 05 48.8**	**+0.3**
JTS				*eS*	**Sn**	**04 06 21.8**	**+0.3**
BCIP	**Isla Barro Col**	**3.07**	**75**	*eP*	**Pn**	**04 05 53.1**	**+1.2**
ACON	**Acoyapa**	**4.25**	**327**	*eP*	**Pn**	**04 06 08.8**	**+0.7**

*PRE **07** 04:14:23.9±1.2,23°.84S×27°.27E, h0km, ML2.4, Suspected explosion*
*BGSI **07** 04:14:24.2±1.3,23°.77S×27°.19E, h12km±12km, ML2.6*
ISC 07 04:14:20.9±1.0,**23°.68S**±0°.04×**27°.11E**±0°.04,**h0km,n13,**
σ1=**78**/25,**South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MREMI	**Moremi**	**1.15**	**16**	*i* P	**Pn**	**04 14 45.0**	**+0.8**
MREMI				IAML		04 15 04.0	
	comp=N,174nm,0.3s						
LPHEP	**Lephephe**	**1.19**	**285**	*i* P	**Pn**	**04 14 46.2**	**+1.3**
LPHEP				*i* S	**Sn**	**04 15 03.3**	**+1.3**
LPHEP				IAML		04 15 06.4	
	comp=N,144nm,0.4s						
HRAO	**HartRAO**	**2.26**	**167**	*eP*	**Pb**	**04 15 01.6**	**-1.2**
HRAO				*eS*	**Sn**	**04 15 27.2**	**-1.3**
HRAO				IAML		04 15 32.8	
	comp=Z,26nm,0.4s						
KDWAN	**Kaudwane**	**2.27**	**277**	*i* P	**Pb**	**04 15 02.1**	**-0.8**
KDWAN				*i* S	**Sn**	**04 15 27.8**	**-0.8**
KDWAN				IAML		04 15 37.0	
	comp=E,89nm,0.1s						
BROLN	**Tlhalogang**	**2.57**	**5**	*i* P	**Pn**	**04 15 05.5**	**+1.5**
BROLN				*i* S	**Sn**	**04 15 35.7**	**-0.4**
BROLN				IAML		04 15 44.9	
	comp=E,23nm,0.4s						
MUSN	**Musina, Limpop**	**2.88**	**62**	*eP*	**Pb**	**04 15 11.4**	**-1.9**
MUSN				*eS*	**Sn**	**04 15 44.7**	**+1.1**
MUSN				IAML		04 15 56.7	
	comp=Z,20nm,0.7s						
MAKGR	**Makgori**	**2.99**	**224**	*i* P	**Pn**	**04 15 09.5**	**-0.2**
MAKGR				*i* S	**Sn**	**04 15 43.8**	**-2.5**
MAKGR				IAML		04 15 59.1	
	comp=N,91nm,0.4s						
SKOMA	**Sekoma**	**3.02**	**253**	*i* P	**Pn**	**04 15 10.3**	**+0.2**
SKOMA				*i* S	**Sn**	**04 15 45.1**	**-2.0**
SKOMA				IAML		04 16 04.2	
	comp=N,38nm,0.2s						
PILG	**Pilgrimsrest,**	**3.51**	**112**	*eP*	**Pn**	**04 15 18.5**	**+1.5**
PILG				*eS*	**Sn**	**04 15 57.6**	**-1.7**
PILG				IAML		04 16 13.5	
	comp=Z,12nm,0.3s						
SWZ	**Schweizer**	**3.84**	**204**	*eP*	**Pn**	**04 15 25.1**	**+3.7**
SWZ				*eS*	**Sn**	**04 16 08.1**	**+0.6**
SWZ				IAML		04 16 21.6	
	comp=Z,15nm,0.2s						
MOPA	**Mopani**	**3.93**	**89**	*eP*	**Pn**	**04 15 24.6**	**+2.0**
MOPA				*eS*	**Sn**	**04 16 09.3**	**-0.2**
MOPA				IAML		04 16 25.5	
	comp=Z,29nm,0.2s						
BOSA	**Boshof**	**5.19**	**198**	*eP*	**Pn**	**04 15 42.5**	**+2.5**
BOSA				*eS*	**Sn**	**04 16 39.2**	**-1.5**
BOSA				IAML		04 17 10.8	
	comp=Z,6.3nm,0.4s						
ALKP	**Alkanpan, Nort**	**7.60**	**214**	*eP*	**Pn**	**04 16 16.2**	**+3.1**
ALKP				*eS*	**Sn**	**04 17 38.4**	**-1.6**
ALKP				IAML		04 18 21.7	
	comp=Z,7.0nm,0.5s						

*MDD **07** 04:20:59.4±1.1,36°.21N×1°.62E, h14km±20km, Mb3.8/11, M_mb3.1/11, Error ellipse: s-maj=23.8km s-min=5.0km az=139.0*
*CRAAG **07** 04:21:01.1,36°.24N×1°.57E, Ml2.7, Algerie 06km NE Oued-Fodda*
ISC 07 04:20:58.8±1.2,**36°.28N**±0°.05×**1°.54E**±0°.04,**h14km,n25,**
σ2=**93**/36,**7C,Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.02**	**315**	P	**Pg**	**04 21 03.9**	**+2.5**
ECHA	**Ech Chlef**	**0.19**	**228**	P	**Pg**	**04 21 03.0**	**-0.2**
EANR	**'Ain N'Sour**	**0.49**	**228**	P	**Pn**	**04 21 11.5**	**+0.1**
EDDR	**Deurdeur**	**0.61**	**117**	P	**Pn**	**04 21 13.5**	**+0.4**
ABKD	**Sidi Amar**	**0.67**	**67**	P	**Pn**	**04 21 15.2**	**+1.4**
EKMS	**Oued Kramis**	**0.73**	**273**	P	**Pn**	**04 21 15.9**	**+1.2**
OJGS	**Djebel Guires**	**1.01**	**220**	P	**Pn**	**04 21 20.3**	**+1.7**
CART	**Cartagena**	**2.42**	**303**	Sn	**Sn**	**04 22 04.8**	**-2.6**
CART				Pn	**Pn**	**04 21 38.5**	**+0.5**
EIBI	**Ibiza**	**2.75**	**357**	Pn	**Pn**	**04 21 44.7**	**+2.2**
EIBI				Sn	**Sn**	**04 22 13.6**	**-1.8**
EIBI	**Ibiza**	**2.75**	**357**	P	**Pn**	**04 21 44.7**	**+2.2**
EIBI				S	**Sn**	**04 22 13.9**	**-1.6**
EBEN2	**Beniarda presa**	**2.76**	**331**	P	**Pn**	**04 21 42.6**	**0.0**
EBEN2				⇑*i*Vmb_VC		04 21 51.4	
	402nm,SNR=1.4						
EBEN2				S	**Sn**	**04 22 13.3**	**-2.6**
EZAR	**Zarzadilla de**	**3.04**	**303**	S	Sn	04 21 48.3	-34
ENIJ	**Nijar**	**3.10**	**284**	Pn	**Pn**	**04 21 48.8**	**+1.5**
ENIJ				Sn	**Sn**	**04 22 21.2**	**-2.9**
ENIJ	**Nijar**	**3.10**	**284**	P	**Pn**	**04 21 47.5**	**+0.2**
ENIJ				⇑*i*Vmb_VC		04 21 56.5	
	137nm,SNR=1.1						
ENIJ				S	**Sn**	**04 22 21.8**	**-2.3**
ETOS	**Mallorca**	**3.62**	**16**	P	**Pn**	**04 21 54.9**	**+0.4**
ETOS				⇑*i*Vmb_VC		04 21 59.0	
	203nm,SNR=1.0						
ETOS				S	**Sn**	**04 22 31.6**	**-5.5**
EQES	**Quesada**	**3.99**	**294**	P	**Pn**	**04 22 00.4**	**+0.7**
EQES				⇑*i*Vmb_VC		04 22 05.4	
	84nm,SNR=1.9						
EQES				S	**Sn**	**04 22 45.6**	**-0.7**
EQTA	**Presa de Quent**	**4.11**	**284**	Pn	**Pn**	**04 22 04.3**	**+3.0**
ELGU	**Los Guajares,**	**4.20**	**280**	Pn	**Pn**	**04 22 04.7**	**+2.2**
ELGU	**Los Guajares,**	**4.20**	**280**	P	**Pn**	**04 22 03.6**	**+1.1**
ELGU				⇑*i*Vmb_VC		04 22 06.6	
	138nm,SNR=1.8						
ELGU				S	**Sn**	**04 22 49.6**	**-1.9**
EMOS	**Mosqueruela**	**4.38**	**339**	P	**Pn**	**04 22 07.0**	**+2.0**
EMOS				⇑*i*Vmb_VC		04 22 09.0	
	132nm,SNR=1.7						
EMOS				S	**Sn**	**04 22 53.8**	**-2.0**
ERTA	**Horta de San J**	**4.76**	**349**	S	**Sn**	**04 23 04.5**	**-0.7**
PSIM	**Granatula de C**	**4.92**	**303**	P	**Pn**	**04 22 13.6**	**+1.3**
PSIM				S	**Sn**	**04 23 07.1**	**-1.9**
EPOB	**Poblet**	**5.08**	**356**	S	**Sn**	**04 23 09.7**	**-3.3**
EMIJ	**Mijas**	**5.10**	**275**	P	**Pn**	**04 22 15.3**	**+0.5**
EMIJ				⇑*i*Vmb_VC		04 22 19.6	
	96nm,SNR=1.5						
EMIJ				S	**Sn**	**04 23 12.0**	**-1.6**
EADA	**Adamuz**	**5.24**	**293**	S	**Sn**	**04 23 16.0**	**-0.9**

*SJA **07** 04:21:31.6±0.6,28°.50S×72°.17W, h10km±9km, ML3.5, MW3.5*
*GUC **07** 04:21:41.1±0.7,28°.64S×71°.32W, h49km±2km, ML3.0*
ISC 07 04:21:38.2±1.7,**28°.58S**±0°.03×**71°.62W**±0°.07,**h9km**±10km,
n25,σ2=**93**/48,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.61**	**53**	*eP*	**Pg**	**04 21 51.8**	**+1.8**
AC04				*i* S	**Sg**	**04 21 59.3**	**+1.3**
AC04				IAML		04 21 59.7	
	comp=E,4μm,0.2s						
LCO	**Las Campanas**	**0.92**	**118**	*eP*	**Pg**	**04 21 54.9**	**-1.0**
LCO				*i* S	**Sg**	**04 22 04.5**	**-3.4**
CO05	**La Serena**	**1.38**	**166**	*eP*	**Pn**	**04 22 03.2**	**-0.4**
CO05				*i* S	**Sg**	**04 22 20.1**	**-2.5**
CO05				IAML		04 22 24.1	
	comp=E,461nm,0.3s						
GO03	**Copiapo**	**1.57**	**52**	*eP*	**Pn**	**04 22 05.2**	**-1.1**
GO03				*i* S	**Sn**	**04 22 23.9**	**-2.9**
GO03				IAML		04 22 26.6	
	comp=E,410nm,0.4s						
GO03	**Copiapo**	**1.57**	**52**	*eP*	**Pn**	**04 22 05.3**	**-1.1**
AC06	**Mina Casimiro**	**1.65**	**43**	*eP*	**Pn**	**04 22 07.3**	**-0.1**
AC06				*i* S	**Sn**	**04 22 26.6**	**-2.2**
AC06				IAML		04 22 30.4	
	comp=E,242nm,0.2s						
GO04	**Tololo Observa**	**1.75**	**156**	*eP*	**Pn**	**04 22 08.1**	**-0.8**
GO04				*i* S	**Sn**	**04 22 28.6**	**-2.8**
GO04	**Tololo Observa**	**1.75**	**156**	*eP*	**Pn**	**04 22 08.5**	**-0.4**
GO04				*eS*	**Sn**	**04 22 31.4**	**0.0**
CO01	**Juntas del Tor**	**1.93**	**137**	*eP*	**Pn**	**04 22 09.0**	**-0.5**
CO01				*i* S	**Sn**	**04 22 31.7**	**-4.2**
CO01				IAML		04 22 34.4	
	comp=N,346nm,0.1s						
CO06	**Fray Jorge**	**2.09**	**180**	*eP*	**Pn**	**04 22 13.0**	**-0.4**
CO06				*i* S	**Sn**	**04 22 37.7**	**-1.8**
CO06				IAML		04 22 57.0	
	comp=E,86nm,0.7s						
CO03	**El Pedregal**	**2.40**	**160**	*eP*	**Pn**	**04 22 17.2**	**-0.5**
CO03				*i* S	**Sn**	**04 22 44.5**	**-2.7**
CO03	**El Pedregal**	**2.40**	**160**	*eP*	**Pn**	**04 22 17.4**	**-0.3**
CO03				*eS*	**Sn**	**04 22 47.7**	**+0.4**
CO03				IAML		04 22 57.7	
	comp=Z,86nm,0.5s						
AROD	**Rodeo**	**2.46**	**131**	*eP*	**Pn**	**04 22 19.9**	**+1.2**
AROD				*eS*	**Sn**	**04 22 49.3**	**+0.3**
CO02	**Combarbal**	**2.67**	**168**	*eP*	**Pn**	**04 22 20.9**	**-0.6**
CO02				*eS*	**Sb**	**04 23 04.7**	**+5.4**
CO02				IAML		04 23 06.1	
	comp=Z,172nm,0.3s						
ACDV	**Cuesta del Vie**	**2.70**	**127**	*eP*	**Pn**	**04 22 23.4**	**+1.5**
ACDV				*eS*	**Sn**	**04 22 57.9**	**+3.1**
AC02	**Maricunga**	**2.81**	**52**	*eP*	**Pn**	**04 22 23.7**	**-0.1**
AC02				*eS*	**Sn**	**04 22 59.7**	**+1.7**
AC02				IAML		04 23 08.3	
	comp=Z,75nm,0.3s						
AGUA	**GUANDACOL**	**2.89**	**109**	*eP*	**Pn**	**04 22 26.1**	**+1.6**
AGUA				IAML		04 23 00.4	
	comp=Z,64nm,0.2s						
AGUA				*eS*	**Sn**	**04 23 00.5**	**+1.1**
ACCO	**Cerro Coronel**	**3.00**	**133**	*eP*	**Pn**	**04 22 28.0**	**+1.8**
ACCO				*eS*	**Sn**	**04 23 08.5**	**+6.1**
VCA	**Vinchina**	**3.01**	**94**	*eP*	**Pn**	**04 22 28.3**	**+2.1**
VCA				*eS*	**Sb**	**04 23 10.2**	**+1.2**
VCA				IAML		04 23 20.1	
	comp=Z,58nm,0.8s						
RTLS	**Leoncito**	**3.79**	**148**	*eP*	**Pn**	**04 22 39.3**	**+2.2**
RTLS				*eS*	**Sn**	**04 23 21.2**	**-0.7**
RTLS				IAML		04 23 37.0	
	comp=Z,84nm,1.9s						
RTLL	**Cerro Villicun**	**3.87**	**136**	*eP*	**Pn**	**04 22 39.2**	**+1.2**
RTLL				*eS*	**Sn**	**04 23 23.4**	**-0.1**
ACLC	**CERRO LA CRUZ**	**4.18**	**103**	*eP*	**Pn**	**04 22 42.2**	**-0.1**
AVFE	**Valle Fertil**	**4.18**	**121**	*eP*	**Pn**	**04 22 42.2**	**0.0**
AVFE				*eS*	**Sn**	**04 23 28.5**	**-2.7**
AVFE				IAML		04 23 51.7	
	comp=Z,24nm,0.8s						
APLL	**PUNTA DE LOS L**	**4.80**	**113**	*eP*	**Pn**	**04 22 50.2**	**-0.5**
CYA	**Choya**	**5.12**	**90**	*eP*	**Pn**	**04 22 54.5**	**-0.7**
CYA				*eS*	**Sn**	**04 23 49.3**	**-5.2**
CYA				*eS*	**Sn**	**04 23 49.7**	**-4.8**

*MOS **07** 04:25:17.8±1.1,45°.00N×146°.39E, h199km, mb4.5/1, Error ellipse: s-maj=15.6km s-min=11.0km az=74.3*
*SKHL **07** 04:25:18.6±0.5,44°.80N×146°.40E, h176km±2km, mb4.9/3, msha5.4/2*
*JMA **07** 04:25:19.6±0.3,45°.N±1°.×14°.6E±°, h193km±2km, MV3.6/36, NEAR ETOROFU ISLAND*
*IDC **07** 04:25:20.2±1.4,45°.11N×146°.23E, h200km±12km, mb3.3/12, mbtmp3.8/16, MS3.1/1, Error ellipse: s-maj=18.6km s-min=14.2km az=135.0*
ISC 07 04:25:18.9±0.7,**44°.85N**±0°.05×**146°.45E**±0°.05,**h194km**±6km,
n51,σ1=**10**/71,**mb3.4**/12,**3C-2D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.91**	**208**	*c i* PN	**Pn**	**04 25 47.7**	**+0.3**
YUK				*i* S	**Sn**	**04 26 09.5**	**+0.1**
YUK				pmax	pmax		
	comp=N,64nm,0.2s						
YUK				pmax	pmax		
	comp=E,49nm,0.2s						
YUK				pmax	pmax		
	comp=Z,146nm,0.2s						
YUK				smax	smax		
	comp=N,682nm,0.2s						
YUK				smax	smax		
	comp=E,565nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.91**	**208**	*i* P	**Pn**	**04 25 47.7**	**+0.3**
YUK				AMB	AMB	04 25 50.4	
	comp=E,120nm,0.2s						
YUK				*i* S	**Sn**	**04 26 10.8**	**+1.4**
YUK				A	A	04 26 11.0	
	comp=E,550nm,0.6s						
YUK				A	A	04 26 11.0	
	comp=E,680nm,0.6s						
SHO	**Shikotan**	**1.01**	**164**	*d i* PN	**Pn**	**04 25 49.0**	**+0.9**
SHO				*i* S	**Sn**	**04 26 10.2**	**-0.4**
SHO				pmax	pmax		
	comp=Z,542nm,0.1s						
SHO				pmax	pmax		
	comp=N,182nm,0.2s						
SHO				pmax	pmax		
	comp=E,195nm,0.2s						
SHO				smax	smax		
	comp=N,1μm,0.2s						
SHO				smax	smax		
	comp=E,994nm,0.3s						
SHO	**Shikotan**	**1.01**	**164**	*i* P	**Pn**	**04 25 48.8**	**+0.7**
SHO				AMB	AMB	04 25 49.2	
	comp=E,300nm,0.2s						
SHO				*i* S	**Sn**	**04 26 10.2**	**-0.4**
SHO				A	A	04 26 11.8	
	comp=E,1μm,0.4s						
SHO				A	A	04 26 11.8	
	comp=E,990nm,0.4s						
KUR	**Kuril'sk**	**1.08**	**68**	*de* PN	**Pn**	**04 25 48.0**	**-0.5**
KUR				S	**Sn**	**04 26 11.7**	**+0.2**
KUR				pmax	pmax		
	comp=Z,579nm,0.4s						
KUR				pmax	pmax		
	comp=N,136nm,0.2s						
KUR				pmax	pmax		
	comp=E,205nm,0.2s						
KUR	**Kuril'sk**	**1.08**	**68**	*e* P	**Pn**	**04 25 48.5**	**0.0**
KUR				AMB	AMB	04 25 49.4	
	comp=E,540nm,0.4s						
KUR				*eS*	**Sn**	**04 26 10.8**	**-0.7**
RUSJ	**Misakicho**	**1.13**	**230⇑**	*i* PN	**Pn**	**04 25 49.0**	**+0.1**
RUSJ				S	**Sn**	**04 26 15.1**	**+2.9**
JRA	**Rausu**	**1.31**	**227**	P	**Pn**	**04 25 50.6**	**+0.2**
JRA				*eS*	**Sn**	**04 26 14.2**	**-0.5**
JNSB	**Nemuroshibetsu**	**1.49**	**225**	*eP*	**Pn**	**04 25 52.5**	**+0.6**
JNSB				*eS*	**Sn**	**04 26 17.9**	**+0.4**
NMR	**Nemuro--Hokkai**	**1.56**	**200⇑**	*i* PN	**Pn**	**04 25 52.1**	**-0.5**
NMR				*i* S	**Sn**	**04 26 17.1**	**-1.6**
NMR	**Nemuro--Hokkai**	**1.56**	**200**	*i* P	**Pn**	**04 25 52.1**	**-0.5**
NMR				*i* S	**Sn**	**04 26 17.1**	**-1.6**
NEM2	**Nemuro 2**	**1.56**	**199**	P	**Pn**	**04 25 52.1**	**-0.5**
NEM2				*eS*	**Sn**	**04 26 16.6**	**-2.1**
JNK	**Nakash**	**1.77**	**225**	P	**Pn**	**04 25 55.1**	**+0.5**
JKHN	**Kushirohamanak**	**1.99**	**208**	P

PAS 07 04:26:57.6±2.2, 35°580N±0°007×117°61W±0°01, h10km±5km, ML3.3/21, ML2.9/120(NEIC), Error ellipse: s-maj=1.7km s-min=1.0km az=106.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mtn Rad**	**0.12**	**210**	Pg	Pg	04 27 00.4	-0.1
LRMC				Sg	Sg	04 27 02.6	+0.1
SRTC	**Snort**	**0.16**	**315**		Pg	04 27 01.4	+0.4
CCCA	**Chr Cany lake**	**0.21**	**105**		Pg	04 27 02.3	+0.3
CCCA				Sg	Sg	04 27 05.8	+0.9
CLC	**China Lake**	**0.23**	**3**	Pg	Pg	04 27 02.3	-0.1
CLC				IAML		04 27 06.2	
	comp=N,3μm,0.2s						
TOW	**Tower One**	**0.26**	**332**		Pg	04 27 02.6	-0.3
WNMM	**Nine Mile Cany**	**0.35**	**318**		Pg	04 27 04.1	-0.5
WNMM					Sg	04 27 09.5	+0.2
DTP	**Desert Tortois**	**0.36**	**211**		Pg	04 27 04.4	-0.5
WVPM	**Volcano Peak E**	**0.40**	**336**		Sg	04 27 11.7	+0.7
WRVM	**Rose V. Centra**	**0.48**	**332**		Sg	04 27 13.7	+0.2
MPMC	**Manual Prospec**	**0.49**	**12**		Pg	04 27 06.7	-0.4
MPMC					Sg	04 27 13.6	0.0
MPMC				IAML		04 27 13.9	
	comp=N,1μm,0.6s						
MPMC				IAML		04 27 15.6	
	comp=E,1μm,0.5s						
WORM	**Onyx Ranch**	**0.53**	**283**		Pg	04 27 07.2	-0.6
MFS	**McCloud Flat S**	**0.57**	**340**		Pg	04 27 08.2	-0.5
ISA	**Isabella, Lake**	**0.71**	**277**		Pg	04 27 10.5	-0.7
ISA				Sg	Sg	04 27 19.8	-0.7
ISA				IAML		04 27 20.5	
	comp=E,582nm,0.4s						
ISA				IAML		04 27 21.1	
	comp=N,595nm,0.3s						
GSC	**Goldstone, Bar**	**0.71**	**113**		Pg	04 27 10.8	-0.6
GSC				Sg	Sg	04 27 20.6	-0.2
QSM	**Queen of Sheba**	**0.72**	**57**		Pg	04 27 10.9	-0.6
QSM				Sg	Sg	04 27 20.4	-0.4
CWC	**Cottonwood Cre**	**0.94**	**336**	IAML		04 27 29.1	
	comp=E,581nm,0.2s						
GWY	**Greenwater Val**	**0.98**	**51**		Pg	04 27 15.5	-0.9
ARVC	**Arvin**	**1.09**	**246**		Pg	04 27 17.4	-1.2
BFSC	**Mount Baldy Ra**	**1.34**	**182**		Pn	04 27 21.2	-1.3
BFSC				IAML		04 27 41.7	
	comp=N,194nm,0.2s						
AMDNV	**Amargosa**	**1.39**	**51**		Pn	04 27 21.4	-1.7
MWC	**Mount Wilson**	**1.40**	**195**		Pn	04 27 23.1	-0.4
GRAC	**Grapevine Rang**	**1.43**	**8**		Pn	04 27 22.9	-0.8
GRAC				IAML		04 27 47.7	
	comp=N,285nm,0.7s						
GRAC				IAML		04 27 48.4	
	comp=E,236nm,0.3s						
WCT	**Wildcat Mounta**	**1.45**	**33**		Pn	04 27 22.5	-1.5
WCT				IAML		04 27 45.1	
	comp=E,211nm,0.5s						
WCT				IAML		04 27 46.1	
	comp=N,167nm,0.4s						
PASC	**Pasadena Art C**	**1.48**	**199**		Pn	04 27 23.8	-0.6
PASC				IAML		04 27 46.1	
	comp=N,275nm,0.5s						
PASC				IAML		04 27 48.4	
	comp=E,268nm,0.6s						
CHNC	**Chino**	**1.58**	**182**		Pg	04 27 27.5	-0.4
MTPC	**Mountain Pass**	**1.68**	**93**		Pn	04 27 25.5	-1.8
MTPC				IAML		04 27 53.2	
	comp=N,122nm,0.4s						
MTPC				IAML		04 27 53.5	
	comp=E,155nm,0.2s						
GMN	**Gold Mountain**	**1.74**	**9**		Pn	04 27 27.2	-0.9
TPNV	**Topopah Spring**	**1.75**	**38**		Pn	04 27 27.1	-1.2
TPNV				IAML		04 27 55.5	
	comp=E,169nm,0.6s						
TPNV				IAML		04 27 57.9	
	comp=E,226nm,0.6s						
BHPR	**Bishop**	**1.85**	**338**		Pn	04 27 29.2	-0.5
ELS	**Elsinore Mount**	**1.93**	**175**		Pn	04 27 29.5	-1.1
DGR	**Domenigoni Val**	**1.99**	**165**		Pn	04 27 30.8	+0.9
DANC	**Danby, Needles**	**2.06**	**117**		Pb	04 27 35.3	+0.2
MZP	**Montezuma Peak**	**2.12**	**5**		Pn	04 27 32.9	-0.6
CRY	**Cary Ranch**	**2.14**	**160**		Pb	04 27 37.3	+0.8
PMD	**Palm Desert**	**2.18**	**152**		Pn	04 27 32.4	-1.6
PMD	**Palm Desert**	**2.18**	**152**	IAML		04 28 07.5	
	comp=E,115nm,0.3s						
PMD				IAML		04 28 08.2	
	comp=N,83nm,0.5s						
PFO	**Pinyon Flats O**	**2.18**	**154**		Pn	04 27 32.7	-1.5
PFO				IAML		04 28 08.8	
	comp=N,54nm,0.3s						
PFO				IAML		04 28 12.2	
	comp=N,49nm,0.7s						
SHPR	**Sheep Range**	**2.19**	**64**		Pn	04 27 33.3	-1.0
SHPR				IAML		04 28 08.3	
	comp=N,51nm,0.8s						
V12A	**Nelson**	**2.25**	**85**		Pn	04 27 33.3	-1.8
V12A				IAML		04 28 14.7	
	comp=E,43nm,0.3s						
TPH	**Tonopah**	**2.51**	**7**		Pn	04 27 38.2	-0.5
GATR	**Gnd/Air Tx Cnt**	**2.58**	**247**		Pn	04 27 39.7	+0.2
LHV	**Little Huntoon**	**2.76**	**345**		Pn	04 27 42.2	+0.3
LHV				IAML		04 28 31.1	
	comp=E,29nm,0.8s						
NV11	**Mina Array Sit**	**2.88**	**351**		Pn	04 27 43.6	-0.2
NVAR	**Mina Array Bea**	**2.90**	**349**		Pn	04 27 43.9	-0.2
W13A	**Hualapai Mount**	**3.08**	**98**	IAML		04 28 37.4	
	comp=N,26nm,0.5s						
BLYC	**Blythe**	**3.13**	**125**	IAML		04 28 40.1	
	comp=N,50nm,0.6s						
R11B	**Troy Canyon, C**	**3.21**	**30**	IAML		04 28 39.5	
	comp=E,20nm,0.7s						
WAKR	**Walker**	**3.26**	**334**	IAML		04 28 55.2	
	comp=N,20nm,1.0s						
WAKR				IAML		04 28 59.0	
	comp=E,21nm,0.6s						
CMB	**Columbia Colle**	**3.31**	**319**	IAML		04 28 41.5	
	comp=E,35nm,0.9s						
CMB				IAML		04 28 45.9	
	comp=N,44nm,0.7s						
CBX	**Cerro Bola**	**3.35**	**166**	IAML		04 28 51.7	
	comp=N,46nm,0.7s						
ESJX	**Sierra Juarez**	**3.83**	**158**	IAML		04 29 00.4	
	comp=E,13nm,0.6s						
ESJX				IAML		04 29 01.1	
	comp=N,12nm,0.6s						
KNB	**Kanab**	**4.13**	**68**	IAML		04 29 13.7	
	comp=N,12nm,1.2s						
Y14A	**Wickenburg**	**4.13**	**112**	IAML		04 29 16.0	
	comp=E,25nm,0.5s						
PSUT	**Pine Spring**	**4.21**	**44**	IAML		04 29 19.7	
	comp=N,15nm,1.5s						
PSUT				IAML		04 29 20.4	
	comp=E,14nm,1.5s						
113A	**Mohawk Valley,**	**4.25**	**130**	IAML		04 29 17.2	
	comp=N,9.3nm,1.1s						
113A				IAML		04 29 17.4	
	comp=E,12nm,1.1s						
SPR3	**Spring Creek 3**	**4.30**	**37**	IAML		04 29 16.4	
	comp=E,11nm,1.0s						
SPR3				IAML		04 29 19.8	
	comp=N,12nm,1.0s						
U15A	**North Rim**	**4.40**	**77**	IAML		04 29 14.6	
	comp=E,9.5nm,1.1s						
WUAZ	**Wupatki**	**5.09**	**89**	IAML		04 29 15.8	
	comp=E,7.2nm,3.5s						
WUAZ				IAML		04 30 29.1	
	comp=E,7.2nm,3.3s						
X16A	**Lo Mia Camp, P**	**5.20**	**101**	IAML		04 29 44.4	
	comp=E,5.5nm,1.1s						
X16A				IAML		04 29 57.4	
	comp=N,4.2nm,1.3s						

*NEIC **07** 04:56:30.7±1.9, 35°69N±0°01×117°53W±0°01, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.0km az=285.0*

PAS 07 04:56:31.3±1.9, 35°70N±0°01×117°53W±0°02, h6km±4km, ML3.1/20, ML2.7/98(NEIC), Error ellipse: s-maj=2.6km s-min=1.3km az=112.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.13**	**334**	Pg	Pg	04 56 34.3	+0.1
SRTC	**Snort**	**0.18**	**269**		Pg	04 56 35.4	+0.4
CCCA	**Chr Cany lake**	**0.21**	**142**		Pg	04 56 36.0	+0.4
CCCA				Sg	Sg	04 56 39.4	+0.9
TOW	**Tower One**	**0.23**	**300**		Pg	04 56 36.2	+0.4
LRMC	**Laurel Mtn Rad**	**0.25**	**211**		Pg	04 56 36.1	-0.2
LRMC					Sg	04 56 39.9	+0.3
WNMM	**Nine Mile Cany**	**0.34**	**296**		Pg	04 56 37.9	-0.1
WVPM	**Volcano Peak E**	**0.35**	**317**		Pg	04 56 38.0	-0.2
WVPM					Sg	04 56 43.0	+0.3
MPMC	**Manual Prospec**	**0.36**	**5**	Pg	Pg	04 56 38.2	-0.3
MPMC				IAML		04 56 45.2	
	comp=N,813nm,0.4s						
MPMC				IAML		04 56 45.4	
	comp=E,1μm,0.7s						
WRVM	**Rose V. Centra**	**0.43**	**317**		Pg	04 56 39.4	-0.3
QSM	**Queen of Sheba**	**0.60**	**63**		Pg	04 56 42.6	-0.2
QSM					Sg	04 56 50.6	-0.1
GSC	**Goldstone, Bar**	**0.71**	**124**		Pg	04 56 44.4	-0.5
GSC				Sg	Sg	04 56 53.9	-0.2
GSC				IAML		04 56 56.8	
	comp=N,648nm,0.3s						
GWY	**Greenwater Val**	**0.85**	**55**		Pg	04 56 47.7	0.0
GWY				IAML		04 57 01.7	
	comp=N,418nm,0.3s						
GWY				IAML		04 57 02.0	
	comp=E,404nm,0.4s						
CWC	**Cottonwood Cre**	**0.87**	**329**	IAML		04 57 00.9	
	comp=E,157nm,0.2s						
CWC				IAML		04 57 04.3	
	comp=N,171nm,0.2s						
CGO	**Cerro Gordo**	**0.88**	**345**		Pg	04 56 48.6	+0.3
TPO	**Tropico Hills**	**1.00**	**215**	IAML		04 57 09.5	
	comp=N,256nm,0.4s						
TPO				IAML		04 57 09.6	
	comp=E,234nm,0.8s						
SBB	**Saddle Back Bu**	**1.03**	**194**		Pg	04 56 50.5	-0.7
ARVC	**Arvin**	**1.21**	**242**		Pg	04 56 53.9	-0.6
THC	**Tehachapi Micr**	**1.22**	**230**		Pg	04 56 54.2	-0.5
LEOC	**Leona Valley**	**1.24**	**211**		Pg	04 56 53.5	-1.5
GRAC	**Grapevine Rang**	**1.30**	**6**		Pn	04 56 55.9	-0.2
GRAC				IAML		04 57 17.0	
	comp=E,190nm,0.4s						
GRAC				IAML		04 57 19.5	
	comp=N,190nm,0.9s						
WCT	**Wildcat Mounta**	**1.31**	**33**		Pn	04 56 55.0	-1.3
WCT				IAML		04 57 14.7	
	comp=E,129nm,0.4s						
WCT				IAML		04 57 14.9	
	comp=N,103nm,0.4s						
CHFC	**Chilao Flat St**	**1.42**	**197**		Pb	04 56 58.0	-0.2
BFSC	**Mount Baldy Ra**	**1.46**	**184**		Pn	04 56 58.4	+0.1
BFSC				IAML		04 57 17.9	
	comp=E,110nm,0.6s						
BFSC				IAML		04 57 19.8	
	comp=N,86nm,0.3s						
OSI	**Osito Audit: C**	**1.46**	**223**		Pn	04 56 57.1	-1.1
OSI				IAML		04 57 20.4	
	comp=N,130nm,0.5s						
OSI				IAML		04 57 22.3	
	comp=E,121nm,0.6s						
MWC	**Mount Wilson**	**1.53**	**197**		Pn	04 56 58.6	-0.8
MWC				IAML		04 57 21.6	
	comp=E,190nm,0.5s						
MWC				IAML		04 57 22.1	
	comp=N,178nm,0.3s						
PASC	**Pasadena Art C**	**1.61**	**200**		Pn	04 56 59.7	-0.6
PASC				IAML		04 57 25.4	
	comp=N,62nm,0.3s						
PASC				IAML		04 57 26.7	
	comp=E,116nm,0.4s						
GMN	**Gold Mountain**	**1.62**	**8**		Pn	04 57 00.2	-0.4
MTPC	**Mountain Pass**	**1.62**	**97**		Pn	04 56 58.3	-2.2
MTPC				Pn	Pb	04 56 58.6	-3.1
MTPC				IAML		04 57 23.0	
	comp=N,168nm,0.3s						
TPNV	**Topopah Spring**	**1.62**	**39**		Pn	04 56 59.4	-1.1
TPNV				IAML		04 57 25.4	
	comp=N,128nm,0.3s						
TPNV				IAML		04 57 27.0	
	comp=N,111nm,0.4s						
DSP	**Deep Springs**	**1.71**	**348**		Pn	04 57 01.1	-0.5
GMRC	**Granite Mounta**	**1.78**	**120**		Pn	04 57 00.1	-2.6
MTUM	**Tungsten Hills**	**1.85**	**333**		Pb	04 57 05.7	0.0
MZP	**Montezuma Peak**	**2.00**	**3**	Pn	Pn	04 57 04.6	-1.3
ELS	**Elsinore Mount**	**2.04**	**178**		Pn	04 57 05.9	-0.4
ELS				IAML		04 57 42.1	
	comp=E,57nm,0.5s						
ELS				IAML		04 57 43.1	
	comp=N,32nm,0.6s						
POB	**Polly Butte**	**2.06**	**166**		Pn	04 57 05.7	-0.9
SHPR	**Sheep Range**	**2.08**	**66**		Pn	04 57 06.2	-0.6
V12A	**Nelson**	**2.18**	**88**		Pn	04 57 07.6	-0.5
V12A				IAML		04 57 42.0	
	comp=N,51nm,0.4s						
V12A				IAML		04 57 47.0	
	comp=E,66nm,0.5s						
PMD	**Palm Desert**	**2.25**	**155**	Pg	Pb	04 57 13.1	+0.8
PMD				IAML		04 57 44.8	
	comp=E,38nm,0.5s						
PFO	**Pinyon Flats O**	**2.26**	**157**		Pb	04 57 12.8	+0.2
TPH	**Tonopah**	**2.39**	**6**		Pb	04 57 15.6	+0.8
S11A	**Rachel**	**2.41**	**36**		Pn	04 57 11.6	+0.1
S11A				IAML		04 57 55.0	
	comp=N,41nm,0.7s						
S11A				IAML		04 57 55.4	
	comp=E,50nm,0.8s						
NEE2	**Needles Airpor**	**2.55**	**110**	Pg	Pb	04 57 18.1	+0.6
NEE2				IAML		04 57 56.6	
	comp=E,62nm,0.4s						
PRN	**Pahroc Range**	**2.62**	**49**		Pg	04 57 20.4	-1.2
PRN				IAML		04 57 57.6	
	comp=E,45nm,0.5s						
PRN				IAML		04 58 04.2	
	comp=N,46nm,0.5s						
LHV	**Little Huntoon**	**2.67**	**343**		Pg	04 57 21.6	-0.8
NV11	**Mina Array Sit**	**2.78**	**350**		Pg	04 57 23.8	-0.8
NVAR	**Mina Array Bea**	**2.80**	**347**		Pg	04 57 23.6	-1.4
BLYC	**Blythe**	**3.14**	**127**		Pn	04 57 19.4	-1.9
BLYC				IAML		04 58 11.2	
	comp=N,27nm,0.5s						
BLYC				IAML		04 58 11.8	
	comp=E,27nm,0.6s						
CMB	**Columbia Colle**	**3.27**	**316**		Pn	04 57 23.5	+0.4
CMB				IAML		04 58 18.0	
	comp=N,14nm,0.7s						
CMB				IAML		04 58 19.1	
	comp=E,14nm,1.1s						
KNB	**Kanab**	**4.02**	**69**	IAML		04 58 40.9	
	comp=E,6.8nm,1.2s						
KNB				IAML		04 58 51.2	
	comp=N,7.6nm,1.7s						
PSUT	**Pine Spring**	**4.08**	**45**	IAML		04 58 48.5	
	comp=E,7.9nm,1.4s						
SPR3	**Spring Creek 3**	**4.17**	**37**	IAML		04 58 49.6	
	comp=E,6.5nm,1.2s						
SPR3				IAML		04 58 51.0	
	comp=N,6.2nm,1.0s						
WUAZ	**Wupatki**	**5.01**	**90**	IAML		04 59 10.2	
	comp=N,7.9nm,1.0s						

IDC 07 04:57:40.9±5.2, 29°36S×177°83W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=261.5km s-min=80.3km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.32**	**266**	P	P	05 05 44.3	-0.6
	0.3nm,0.6s,baz=109,slow=8.3,SNR=1.7 0.3nm,0.6s						
WRA	**Warramunga Arr**	**44.22**	**271**	P	P	05 05 52.5	+0.4
	0.3nm,0.5s,baz=112,slow=8.0,SNR=5.9 0.3nm,0.5s						
FINES	**FINESS Array B**	**144.22**	**341**	PKP	PKPdf	05 17 17.3	-0.8
	1.1nm,0.7s,baz=42,slow=3.1,SNR=8.5						

*IDC **07** 05:28:43.9±1.2, 29°66N×132°28E, h0km, mb3.5/6, mbtmp3.6/9, ML3.4/3, MS3.2/4, Error ellipse: s-maj=37.4km s-min=20.4km az=83.0*

*NIED **07** 05:28:46.0±2.9, 29°72N×132°28E, h70km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}=10.02; $M_{\theta\theta}$4.34; $M_{\phi\phi}$5.69; $M_{r\theta}$-0.06; $M_{\theta\phi}$-1.07; $M_{\phi r}$5.26; Fault plane solution: $M_0$9.62000×10^{14} NP1: ϕ_s333.00000°, δ30.00000°, λ-102.00000°. NP2: ϕ_s167.00000°, δ61.00000°, λ-83.00000°.*

*JMA **07** 05:28:46.0±0.2, 29°7N±0°6×132°3E±0°9, h70km, MV3.7/34, N PHILIPPINE BASIN*

ISC 07 05:28:45.5±1.7, 29°69N±0°07×132°3E±0°1, h77km±40km, n28, σ1ᵍ40/33, mb3.5/6, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**1.43**	**300**	P	**Pn**	**05 29 09.6**	**-0.2**
JMTN				S	**Sn**	**05 29 27.8**	**-0.3**
JTN	**Tanegashima 3**	**1.51**	**310**	*i* P	**Pn**	**05 29 10.7**	**-0.3**
JTN				S	**Sn**	**05 29 29.9**	**-0.2**
JYAK	**Yakushimahirau**	**1.67**	**290**	*i* P	**Pn**	**05 29 13.0**	**+0.1**
JYAK				S	**Sn**	**05 29 33.5**	**-0.2**
JTSR	**Tashiro 2**	**1.91**	**321**	*i* P	**Pn**	**05 29 16.2**	**0.0**
JTSR				S	**Sn**	**05 29 38.9**	**-0.6**
JNAR	**Kushima--Naru**	**2.05**	**334**	*i* P	**Pn**	**05 29 18.7**	**+0.7**
JNAR				S	**Sn**	**05 29 42.7**	**0.0**
JNKG	**Nichinankitago**	**2.13**	**338**	*i* P	**Pn**	**05 29 20.0**	**+0.9**
JNKG				S	**Sn**	**05 29 44.7**	**0.0**
JNN	**Nakanoshima**	**2.14**	**275**	*i* P	**Pn**	**05 29 19.9**	**+0.7**
JTZ	**Takazaki**	**2.45**	**335**	*i* P	**Pn**	**05 29 24.3**	**+0.9**
JTZ				S	**Sn**	**05 29 52.6**	**+0.1**
JAM	**Amami Oshima**	**2.70**	**243**	P	**Pn**	**05 29 27.1**	**+0.4**
JAM				*e*S	**Sn**	**05 29 59.0**	**+0.5**
JTAJ	**Takarajima**	**2.78**	**260**	P	**Pn**	**05 29 28.9**	**+1.1**
JSJ	**Shimokoshiki**	**3.00**	**312**	P	**Pn**	**05 29 30.1**	**-0.7**
JSJ				S	**Sn**	**05 30 04.2**	**-1.5**
JAMN	**Amaminishikomi**	**3.12**	**243**	*i* P	**Pn**	**05 29 33.0**	**+0.6**
JIU3	**Izumi3**	**3.13**	**336**	P	**Pn**	**05 29 33.8**	**+1.1**
JTO	**Tosashimizu**	**3.19**	**7**	P	**Pn**	**05 29 33.9**	**+0.5**
JTO				S	**Sn**	**05 30 06.2**	**-4.1**
JTK	**Tokunoshima**	**3.52**	**238**	P	**Pn**	**05 29 38.8**	**+0.8**
JTK				S	**Sn**	**05 30 18.4**	**-0.1**
JNU	**Nakatsue**	**3.64**	**340**	Pn	**Pn**	**05 29 41.2**	**+1.7**
	3.0nm,0.3s,baz=186,slow=11,SNR=28						
JNU				Sn	**Sn**	**05 30 20.7**	**-0.7**
	3.5nm,0.3s,baz=190,slow=6.4,SNR=5.9 9.3nm,0.4s						
JNA	**Nagahama**	**3.86**	**2**	P	**Pn**	**05 29 44.0**	**+1.5**
JNA				S	**Sn**	**05 30 23.7**	**-2.9**
JOW	**Kunigami**	**4.57**	**232**	Pn	**Pn**	**05 29 52.3**	**+0.1**
	6.9nm,0.3s,baz=107,slow=24,SNR=26						
JOW				Sn	**Sn**	**05 30 41.9**	**-2.2**
	6.6nm,0.3s,baz=253,slow=28,SNR=6.6 17nm,0.3s						
MJAR	**Matsushiro Arr**	**8.43**	**34**	Pn	**Pn**	**05 30 48.2**	**+3.3**
	0.2nm,0.3s,baz=203,slow=12,SNR=13 1.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**32.36**	**257**	LR	LR	05 48 59.0	
	comp=Z,16nm,18.9s,baz=210,slow=38						
MKAR	**Makanchi Array**	**42.09**	**308**	P	P	05 36 37.8	+7.9
	0.6nm,0.9s,baz=96,slow=7.4,SNR=3.5 0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**44.99**	**313**	P	P	05 37 01.1	+8.1
	0.5nm,0.8s,baz=103,slow=9.0,SNR=3.7						
KURBB				LR	LR	05 58 16.3	
	comp=Z,34nm,18.7s,baz=166,slow=39 0.5nm,0.8s						
WRA	**Warramunga Arr**	**49.38**	**178**	P	P	05 37 34.4	+7.0
	0.2nm,0.6s,baz=357,slow=7.5,SNR=2.3 0.2nm,0.6s						
ASAR	**Alice Springs**	**53.07**	**178**	P	P	05 38 03.4	+8.4
	0.4nm,0.8s,baz=10,slow=14,SNR=5.5 0.4nm,0.8s						
ARTI	**Arti**	**57.09**	**320**	LR	LR	06 06 37.7	
	comp=Z,24nm,19.8s,baz=65,slow=40						
AKTO	**Aktyubinsk**	**58.04**	**313**	LR	LR	06 05 37.8	
	comp=Z,27nm,18.1s,baz=304,slow=38						
FINES	**FINESS Array B**	**71.63**	**331**	P	P	05 40 05.4	+7.0
	1.5nm,0.8s,baz=63,slow=5.1,SNR=5.7 1.5nm,0.8s						
BRTR	**Keskin Array B**	**77.74**	**309**	P	P	05 40 44.4	+10
	0.2nm,0.3s,baz=67,slow=5.2,SNR=4.2 0.2nm,0.3s						

*NEIC **07** 05:38:14.7±2.3, 35°768N±0°010×117°57W±0°01, h9km±5km, Error ellipse: s-maj=1.5km s-min=1.4km az=46.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.73; $M_{\theta\theta}$-3.72; $M_{\phi\phi}$4.45; $M_{r\theta}$4.38; $M_{\theta\phi}$1.27; $M_{\phi r}$2.27; Fault plane solution: $M_0$6.56000×10^{15} NP1: ϕ_s232.66000°, δ85.11000°, λ-48.47000°. NP2: ϕ_s328.15000°, δ41.77000°, λ-172.65000°. Principal axes: T 6.2101, Plg28.0000°, Azm291.0000°; N 0.6541, Plg41.0000°, Azm48.0000°; P -6.8642, Plg36.0000°, Azm178.0000°;*

*IDC **07** 05:38:14.0±0.6, 35°70N×117°51W, h0km, mb4.1/13, mbtmp4.1/18, ML4.0/6, MS3.7/46 Error ellipse: s-maj=15.3km s-min=6.4km az=69.0*

*NEIC **07** 05:38:15.5, 35°77N×117°58W, h11km*

*PAS **07** 05:38:15.5±1.9, 35°768N±0°010×117°58W±0°01, h11km±5km, Mwr4.5/6, mb4.4/35(NEIC), ML4.7/138(NEIC), Mwr4.5/162(NEIC), Error ellipse: s-maj=1.6km s-min=1.5km az=74.0*

ISC 07 05:38:15.3±0.8, 35°72N±0°02×117°57W±0°02, h11km±5km, n450, σ0ᵍ92/430, mb4.4/28, MS3.8/40, 1D, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.10**	**346**		**Pg**	**05 38 17.5**	**-0.6**
CLC					**Sg**	**05 38 19.2**	**-0.9**
CLC				IAML		05 38 19.5	
	comp=N,673μm,0.5s						
CLC				IAML		05 38 19.5	
	comp=E,318μm,0.3s						
SRTC	**Snort**	**0.15**	**259**		**Pg**	**05 38 19.3**	**+0.6**
SRTC					**Sg**	**05 38 22.7**	**+1.5**
TOW	**Tower One**	**0.18**	**299**		**Pg**	**05 38 19.4**	**+0.1**
TOW					**Sg**	**05 38 23.0**	**+0.9**
CCCA	**Chr Cany lake**	**0.26**	**140**		**Pb**	**05 38 21.8**	**-0.2**
CCCA					**Sb**	**05 38 26.5**	**0.0**
LRMC	**Laurel Mtn Rad**	**0.26**	**201**	Pg	**Pb**	**05 38 21.3**	**-0.8**
LRMC				IAML		05 38 26.7	
	comp=E,115μm,0.7s						
WNMM	**Nine Mile Cany**	**0.30**	**294**		**Pg**	**05 38 21.0**	**-0.4**
WNMM					**Sg**	**05 38 25.3**	**-0.1**
WVPM	**Volcano Peak E**	**0.30**	**319**		**Pg**	**05 38 20.8**	**-0.7**
WVPM					**Sg**	**05 38 25.0**	**-0.7**
MPMC	**Manual Prospec**	**0.34**	**11**	Pg	**Pg**	**05 38 21.3**	**-1.0**
MPMC					**Sg**	**05 38 25.7**	**-1.2**
MPMC				IAML		05 38 26.1	
	comp=E,97μm,0.7s						
MPMC				IAML		05 38 26.2	
	comp=N,92μm,0.5s						
WCSM	**Coso Springs S**	**0.34**	**332**		**Pg**	**05 38 21.3**	**-1.0**
WCSM					**Sg**	**05 38 25.7**	**-1.2**
WRVM	**Rose V. Centra**	**0.39**	**318**		**Pg**	**05 38 22.2**	**-0.8**
WRVM					**Sg**	**05 38 27.2**	**-1.1**
MFS	**McCloud Flat S**	**0.46**	**330**		**Pg**	**05 38 23.4**	**-0.9**
MFS					**Sg**	**05 38 29.4**	**-1.1**
WBSM	**Bird Springs**	**0.50**	**249**		**Pg**	**05 38 25.1**	**0.0**
WBSM					**Sg**	**05 38 32.1**	**+0.4**
DTP	**Desert Tortois**	**0.51**	**207**		**Pb**	**05 38 25.5**	**-0.7**
DTP					**Sb**	**05 38 32.9**	**-0.8**
WORM	**Onyx Ranch**	**0.55**	**268**		**Pg**	**05 38 25.5**	**-

comp=E,38µm,0.5s
EDW2 Edwards Air Fo 0.91 203 Pg 05 38 32.6 -0.2
FURC Furnace Creek, 0.94 37 Pb 05 38 32.7 -0.9
RRX Edison Barstow 0.96 151 Pn 05 38 34.1 -0.7
TPO Tropico Hills 1.00 213 Pn 05 38 34.5 -0.8
TPO IAML 05 38 52.5
comp=N,28µm,0.9s
TEJ El Tejon 1.04 242 Pb 05 38 34.2 -1.1
SBB Saddle Back Bu 1.05 192 Pg 05 38 35.3 -0.2
SHOC Shoshone, Teco 1.07 80 Pb 05 38 34.8 -0.9
SPG2 Springville 2 1.08 297 Pb 05 38 34.7 -1.4
MAGC SCE Magumdon P 1.16 252 Pn 05 38 36.9 -0.6
ADO Adelanto Recei 1.17 175 Pg 05 38 37.5 -0.3
VTV Victorville 1.17 170 Pg 05 38 37.3 -0.6
TJR Tejon Ranch 1.18 235 Pn 05 38 36.9 -1.0
ARVC Arvin 1.19 240 Pn 05 38 37.2 -0.7
ALPC Antelope 1.19 210 Pb 05 38 37.5 -0.5
THC Tehachapi Micr 1.21 228 Pb 05 38 37.6 -0.7
VES Vestal, Richgr 1.24 276 Pn 05 38 37.9 -0.7
LEOC Leona Valley 1.24 209 Pb 05 38 38.1 -0.7
LRRC Littlerock Res 1.25 198 Pb 05 38 38.3 -0.6
AMDNV Amargosa 1.27 55 Pn 05 38 37.5 -1.5
CJV Casa Juvan 1.28 202 Pb 05 38 38.6 -0.8
HOLC Holcomb Ridge 1.28 190 Pb 05 38 38.7 -0.7
GRAC Grapevine Rang 1.28 7 Pn 05 38 38.3 -0.9
GRAC IAML 05 38 56.4
comp=E,24µm,0.3s
GRAC IAML 05 38 58.3
comp=N,23µm,0.4s
BAKC Calstate 1.31 254 Pb 05 38 39.5 -0.3
JNH Juniper Hills 1.31 194 Pb 05 38 39.1 -0.8
WCT Wildcat Mounta 1.31 35 Pn 05 38 39.0 -0.7
WCT IAML 05 38 57.7
comp=E,17µm,0.5s
WCT IAML 05 39 00.9
comp=N,13µm,0.7s
BTPC Burnt Peak 1.32 219 Pb 05 38 39.4 -0.9
DSCC Desert Studies 1.33 115 Pn 05 38 38.5 -1.2
SGV South Grapevin 1.33 19 Pn 05 38 38.6 -1.3
HEC Hector,Ludlow 1.34 131 Pn 05 38 39.3 -0.8
TUQ Turquoise Moun 1.37 101 Pn 05 38 39.4 -1.1
CHFC Chilao Flat St 1.43 195 Pn 05 38 40.9 -0.5
TIN Tinemaha, Big 1.43 338 Pn 05 38 40.5 -0.9
OSI Osito Audit: C 1.45 221 Pn Pb 05 38 41.4 -1.0
OSI IAML 05 39 08.1
comp=E,8µm,0.8s
OSI IAML 05 39 10.5
comp=N,9µm,1.1s
BFSC Mount Baldy Ra 1.48 183 Pb 05 38 41.8 -1.1
BFSC IAML 05 39 07.1
comp=E,7µm,1.0s
SIL Silver Peak 1.50 156 Pn 05 38 41.8 -0.5
SSK Sunset Peak 1.51 184 Pb 05 38 42.4 -1.0
LCH Last Change Ra 1.51 358 Pn 05 38 41.3 -1.1
PDE Pardee, Santa 1.52 213 Pb 05 38 42.4 -1.1
MWC Mount Wilson 1.55 195 Pn Pb 05 38 43.0 -1.1
MWC IAML 05 39 09.4
comp=E,11µm,0.9s
MWC IAML 05 39 11.0
comp=N,9µm,0.9s
BBRC Big Bear Solar 1.55 160 Pn 05 38 42.6 -0.4
MPI Mount Pinos, F 1.58 235 Pn 05 38 42.5 -1.0
VOG Valley Oaks Go 1.59 293 Pn 05 38 42.7 -0.7
DEC Green Verdugo 1.59 203 Pb 05 38 43.4 -1.4
GMN Gold Mountain 1.60 9 Pn 05 38 42.8 -0.9
GMN IAML 05 39 10.6
comp=N,6µm,0.5s
OAT Oat Mountain 1.62 212 Pb 05 38 43.9 -1.3
FON Fontana 1.62 176 Pb 05 38 43.8 -1.4
HLNC Highland 1.62 170 Pb 05 38 44.0 -1.3
PASC Pasadena Art C 1.63 198 Pb 05 38 44.0 -1.3
PASC IAML 05 39 12.8
comp=N,9µm,1.0s
PASC IAML 05 39 13.3
comp=E,6µm,0.8s
CFSC Central Fire S 1.63 172 Pb 05 38 44.1 -1.3
CLTC Calectric 1.64 173 Pb 05 38 44.5 -1.0
PSRC Puddingstone R 1.64 187 Pb 05 38 44.4 -1.1
CACC Caltech Cellar 1.64 196 Pb 05 38 44.5 -1.1
SVD Seven Oaks Dam 1.66 166 Pn 05 38 44.2 -0.1
MTPC Mountain Pass 1.66 98 Pn 05 38 43.4 -1.1
MTPC IAML 05 39 09.2
comp=N,7µm,1.1s
MTPC IAML 05 39 11.2
comp=E,6µm,0.7s
HLLC North Hollywoo 1.67 203 Pb 05 38 44.8 -1.3
DSP Deep Springs 1.68 349 Pn 05 38 43.7 -0.8
BCW Bitter Crk WRg 1.70 243 Pn 05 38 44.4 -0.5
GR2C Griffith Obs. 1.71 201 Pn 05 38 44.9 -0.1
MLSC Mira Loma 1.71 180 Pb 05 38 45.1 -1.6
CHNC Chino 1.72 183 Pb 05 38 45.5 -1.4
GVRC Garvey Reservo 1.73 195 Pb 05 38 45.8 -1.2
BLCC Black Canyon 1.73 212 Pb 05 38 45.5 -1.6
RVR Riverside 1.73 175 Pn 05 38 45.2 -0.1
GTM Goat Mountain 1.74 145 Pn 05 38 44.7 -0.8
BHPR Bishop 1.74 335 Pn 05 38 44.9 -0.8
RHC Rose Hills Cem 1.75 192 Pb 05 38 45.9 -1.6
RSBC Riverside Bore 1.75 173 Pn 05 38 45.7 +0.1
DJJ Donna J Jenkin 1.77 205 Pn 05 38 45.8 0.0
MTUM Tungsten Hills 1.82 334 Pn 05 38 45.9 -0.7
CRGC Crocker Grade 1.82 255 Pn 05 38 46.1 -0.6
MZP Montezuma Peak 1.98 4 Pn 05 38 47.9 -1.1
ELS Elsinore Mount 2.07 177 Pn 05 38 49.9 -0.2
ELS IAML 05 39 25.4
comp=E,3µm,1.0s
SHPR Sheep Range 2.10 67 Pn 05 38 50.1 -0.5
SHPR IAML 05 39 21.5
comp=N,4µm,0.8s
SHPR IAML 05 39 22.1
comp=E,4µm,0.9s
V12A Nelson 2.21 89 Pn 05 38 51.4 -0.6
V12A IAML 05 39 27.7
comp=N,5µm,0.6s
PMD Palm Desert 2.29 154 Pn Pn 05 38 52.5 -0.5
PMD IAML 05 39 37.7
comp=E,3µm,1.6s
PFO Pinyon Flats O 2.29 156 Pn 05 38 52.9 -0.4
PFO IAML 05 39 34.5
comp=E,4µm,1.7s
PFO IAML 05 39 35.3
comp=E,3µm,0.9s
PFO Pinyon Flats O 2.29 156 Pn Pn 05 38 52.8 -0.4
comp=E,14nm,0.3s,baz=343,slow=8.9,SNR=149
PFO Pg Pg 05 38 58.0 -1.3
comp=E,203nm,0.3s,baz=333,slow=12,SNR=84
PFO Lg Lg 05 39 28.7
comp=E,360nm,0.3s,baz=61,slow=20,SNR=20
comp=E,199nm,0.7s
I57US PINON FLAT INF 2.30 156 I I 05 54 20.0
baz=336,slow=303,SNR=1.0
TPH Tonopah 2.37 7 Pn 05 38 53.6 -0.6
NEE2 Needles Airpor 2.59 111 Pn Pn 05 38 56.2 -1.0
PRN Pahroc Range 2.63 50 Pn 05 38 57.6 -0.3
PRN IAML 05 39 43.2
comp=N,5µm,0.7s
PRN IAML 05 39 52.8
comp=E,4µm,0.9s
LHV Little Huntoon 2.63 344 Pn 05 38 58.0 +0.2
LHV IAML 05 39 44.0
comp=N,2µm,1.2s
LHV IAML 05 39 48.3
comp=E,3µm,0.6s
PMPB Monarch Peak 2.67 282 Pn 05 38 58.0 -0.3
NV11 Mina Array Sit 2.75 350 Pn 05 38 59.0 -0.5
DPP Dos Picos Cty 2.76 169 Pn Pn 05 38 59.6 0.0
DPP IAML 05 39 48.2
comp=E,3µm,1.0s
NVAR Mina Array Bea 2.77 348 Pn 05 38 59.4 -0.4
NVAR Mina Array Bea 2.77 348 Pn Pn 05 38 59.3 -0.5
comp=E,44nm,0.3s,baz=182,slow=15,SNR=391
NVAR Pg Pb 05 39 05.7 +0.7
comp=E,323nm,0.3s,baz=159,slow=17,SNR=109
NVAR Lg Lg 05 39 41.9
comp=E,158nm,0.3s,baz=101,slow=17,SNR=6.4
NVAR LR LR 05 40 21.8
comp=E,2µm,19.4s,baz=180,slow=46
comp=E,36nm,0.3s
BBGB Big Mountain B 2.94 288 Pn 05 39 01.8 -0.2
RYN Ryan 3.00 346 Pn 05 39 02.6 -0.4
W13A Hualapai Mount 3.07 101 Pn 05 39 03.1 -0.9
W13A IAML 05 39 56.0
comp=N,1µm,1.0s
Q09A Carvers 3.12 6 Pn 05 39 04.7 +0.1

WAKR Walker 3.15 332 Pn 05 39 05.5 +0.5
WAKR IAML 05 39 58.5
comp=N,1µm,1.2s
BLYC Blythe 3.19 127 Pn 05 39 04.2 -1.2
BLYC IAML 05 40 05.9
comp=E,2µm,0.8s
CMB Columbia Colle 3.23 316 Pn 05 39 07.2 +1.2
CMB IAML 05 39 59.3
comp=N,2µm,0.9s
CMB IAML 05 40 01.0
comp=E,2µm,0.8s
TJX Tijuana 3.23 172 Pn 05 39 07.0 +1.0
TKX Tecate 3.24 166 Pn 05 39 06.6 +0.4
TKX IAML 05 39 59.5
comp=E,2µm,0.7s
SAO San Andreas Ge 3.30 290 Pn 05 39 06.5 -0.4
YUH Yuha Desert 3.35 156 Pn 05 39 06.9 -0.8
CBX Cerro Bola 3.48 167 Pn 05 39 10.4 +0.9
GLA Glamis 3.50 139 Pn 05 39 08.4 -1.3
LCMT Little Creek M 3.72 68 Pn 05 39 13.3 +0.5
CCUT Cedar City 3.84 60 Pn 05 39 15.3 +0.7
CCUT IAML 05 40 19.2
comp=N,1µm,1.4s
CCX Cicese 3.92 169 Pn Pn 05 39 16.5 +1.2
CCX IAML 05 40 27.4
comp=N,1µm,0.9s
CCX IAML 05 40 29.1
comp=E,1µm,1.2s
ESJX Sierra Juarez 3.94 160 Pn 05 39 16.5 +0.6
ESJX IAML 05 40 26.2
comp=E,1µm,1.2s
KNB Kanab 4.04 70 Pn 05 39 17.8 +0.5
KNB IAML 05 40 28.4
comp=E,750nm,0.8s
KNB IAML 05 40 28.7
comp=N,1µm,1.2s
SZCU Shurtz Canyon 4.06 61 Pn 05 39 18.1 +0.6
Y14A Wickenburg 4.15 114 Pn 05 39 17.9 -0.8
Y14A IAML 05 40 29.8
comp=E,1µm,0.7s
PAHR Pah Rah Range 4.23 341 Pn 05 39 20.0 +0.2
113A Mohawk Valley, 4.31 132 Pn Pn 05 39 19.5 -1.3
113A IAML 05 40 32.5
comp=E,765nm,1.0s
113A IAML 05 40 32.6
comp=N,662nm,1.0s
U15A North Rim 4.33 79 Pn 05 39 22.0 +0.6
U15A IAML 05 40 34.7
comp=E,1µm,0.8s
U15A IAML 05 40 35.8
comp=N,1µm,0.8s
MCCM Marconi Confer 4.89 301 Pn 05 39 27.7 -1.1
MCCM IAML 05 40 53.7
comp=E,382nm,1.4s
WUAZ Wupatki 5.05 91 Pn 05 39 32.2 +1.0
X16A Lo Mia Camp, P 5.19 103 Pn 05 39 33.4 +0.3
X16A IAML 05 41 03.4
comp=E,314nm,1.4s
X16A IAML 05 41 18.3
comp=N,350nm,1.2s
ELK Elko 5.34 19 Pn 05 39 35.2 +0.1
ELK IAML 05 41 06.7
comp=N,326nm,0.7s
ELK IAML 05 41 06.7
comp=N,275nm,0.9s
ELK Elko 5.34 19 Pn **Pn 05 39 35.2 +0.1**
comp=N,4.9nm,0.3s,baz=204,slow=7.9,SNR=38
ELK Pg **Pb 05 39 53.4 +4.6**
comp=N,27nm,0.3s,baz=220,slow=13,SNR=30
ELK Lg Lg 05 41 00.9
comp=N,62nm,0.3s,baz=304,slow=20,SNR=13
ELK LR LR 05 42 04.2
comp=N,1µm,20.4s,baz=210,slow=43
comp=N,14nm,0.4s
214A Organ Pipe Nat 5.46 132 Pn 05 39 35.0 -1.6
X18A Snowflake 6.36 99 Pn 05 39 50.3 +1.2
TUC Tucson 6.58 119 Pn 05 39 51.1 -0.9
WVOR Wild Horse Val 6.75 353 Pn **Pn 05 39 53.7 -0.8**
JCC Jacoby Creek, 7.19 317 Pn **Pn 05 39 59.2 -1.1**
YBH Yreka Blue Hor 7.22 328 Pn **Pn 05 40 03.4 +2.5**
baz=160,slow=6.3,SNR=16
YBH Lg Lg 05 42 02.9
baz=96,slow=2.0,SNR=9.4
YBH LR LR 05 43 21.4
comp=N,50nm,18.8s,baz=136,slow=42
DUN6 Lazy B Ranch 7.71 112 Pn 05 40 08.0 +0.5
J05D Fort Rock, OR 8.07 341 Pn **Pn 05 40 13.3 +0.8**
319A Douglas 8.16 120 Pn 05 40 13.5 -0.3
PINE Pine Mountain 8.47 343 Pn 05 40 17.8 -0.2
I07A Izee 8.48 350 Pn 05 40 17.6 -0.5
HSIG 8.71 138 Pn 05 40 21.3 +0.1
ANMO Albuquerque 9.11 92 Pn **Pn 05 40 27.0 +0.1**
comp=N,0.2nm,0.3s,baz=12,slow=11,SNR=11
ANMO Pg 05 40 57.5
comp=N,0.7nm,0.3s,baz=355,slow=13,SNR=6.8
ANMO Lg Lg 05 42 57.8
comp=N,0.8nm,0.3s,baz=290,slow=15,SNR=4.6
PDAR Pinedale Array 9.38 39 Pn Pn 05 40 35.9 +5.2
comp=N,0.2nm,0.3s,baz=230,slow=12,SNR=20
PDAR Lg Lg 05 43 10.1
comp=N,0.5nm,0.3s,baz=124,slow=13,SNR=4.3
PDAR LR LR 05 43 46.2
comp=N,132nm,18.4s,baz=221,slow=36
HAWA Hanford 10.76 353 Pn 05 40 48.2 -1.1
MNTX Cornudas Mount 10.91 108 Pn 05 40 51.6 +0.2
NEW Newport 12.54 1 Pn **Pn 05 41 16.7 +3.1**
comp=N,0.2nm,0.3s,baz=186,slow=18,SNR=4.3
NEW Lg Lg 05 44 52.7
comp=N,0.1nm,0.3s,baz=78,slow=16,SNR=4.4
NEW LR LR 05 46 41.2
comp=N,436nm,18.6s,baz=186,slow=40
comp=N,1.9nm,0.7s
ALPN Alpine 12.84 111 Pn 05 41 18.1 +0.2
LPIG La Paz 13.17 150 LR LR 05 46 00.3
comp=N,305nm,20.4s,baz=354,slow=36
TXAR Lajitas Array 13.34 115 Pn 05 41 25.9 +1.3
TXAR Lajitas Array 13.34 115 Pn **Pn 05 41 26.8 +2.1**
comp=N,0.6nm,0.3s,baz=294,slow=13,SNR=34
TXAR Lg Lg 05 45 13.7
comp=N,0.2nm,0.3s,baz=302,slow=31,SNR=4.9
comp=N,1.6nm,0.4s
SGCY Sterling City 14.19 101 Pn 05 41 36.8 +0.6
WTFS Witchita Falls 15.83 92 Pn 05 41 57.9 -0.2
WTFS IAmb IAmb 05 42 19.8
comp=Z,36nm,1.1s
KAN14 Manchester OK 15.85 80 Pn **Pn 05 41 56.7 -1.7**
833A Chaparral WMA, 17.07 110 IAmb IAmb 05 42 23.5
comp=Z,49nm,1.2s
BBB Bella Bella 18.09 339 LR LR 05 49 24.0
comp=Z,408nm,20.8s,baz=162,slow=37
ZAIG Zacatecas 18.35 131 P **Pn 05 42 28.8 -1.3**
P38A Dawn 19.41 71 P 05 42 40.9 -0.5
MIAR Mount Ida 19.65 86 P 05 42 43.7 -0.4
MIAR IAmb IAmb 05 42 51.3
comp=Z,34nm,1.2s
R40A Maddies Statio 20.35 75 P **P 05 42 51.3 -0.3**
R40A IAmb IAmb 05 43 01.6
comp=Z,12nm,0.8s
Z41A Richland Creek 20.55 90 P **P 05 42 51.6 -2.3**
Z41A IAmb IAmb 05 43 04.4
comp=Z,24nm,1.2s
FCAR Ozark Folk Cen 20.62 82 P **P 05 42 54.2 -0.4**
FCAR IAmb IAmb 05 43 01.9
comp=Z,32nm,1.4s
SPMN Marine on St. 21.03 56 P 05 42 57.0 -1.9
CCM Cathedral Cave 21.16 76 P 05 42 59.7 -0.7
CCM IAmb IAmb 05 43 10.5
comp=Z,14nm,1.1s
LCAR Lake Charles 21.38 81 P 05 43 02.4 -0.4
LCAR IAmb IAmb 05 43 11.2
comp=Z,22nm,1.3s
ULM Lac du Bonnet 21.40 41 P 05 43 02.3 -0.6
ULM Lac du Bonnet 21.40 41 P **P 05 43 04.0 +1.1**
comp=Z,22nm,1.0s,baz=231,slow=11,SNR=31
ULM LR LR 05 51 08.0
comp=Z,116nm,21.3s,baz=304,slow=36
comp=Z,22nm,1.0s
FFC Flin Flon 21.86 25 P 05 43 06.7 -1.1
FFC IAmb IAmb 05 43 13.7
comp=Z,19nm,0.9s
E38A The Farm, Brul 22.30 53 P **P 05 43 12.3 -0.3**
CRAG Craig 22.45 336 P **P 05 43 13.9 -0.2**
baz=145
SIUC Southern Illin 22.78 77 P **P 05 43 17.7 -0.1**
SIUC IAmb IAmb 05 43 24.7
comp=Z,19nm,1.3s

U33K Whale Pass 22.98 337 P P 05 43 20.3 +0.6
baz=146
DLBC Dease Lake 24.18 344 LR LR 05 53 46.4
comp=Z,87nm,18.6s,baz=140,slow=38
DLBC Dease Lake 24.18 344 P P 05 43 31.7 +0.2
baz=155
TBO Thunder Bay 24.38 49 P 05 43 32.4 -1.0
TBO IAmb IAmb 05 43 40.3
comp=Z,11nm,0.9s
Z47A Carrollton 24.41 87 P 05 43 33.8 -0.1
SIT Sitka 24.46 336 P P 05 43 34.7 +0.7
baz=143
T47A Sharon Grove 24.52 78 P 05 43 33.3 -1.5
KOTAN Kotaneelee Air 24.78 352 P P 05 43 37.4 +0.4
baz=167
Q32M Nakina River 25.18 342 P P 05 43 40.6 -0.2
baz=151
CLTN Cedars of Leba 25.25 80 P P 05 43 40.5 -0.8
CLTN IAmb IAmb 05 43 50.5
comp=Z,9.2nm,1.1s
R33M Jennings River 25.25 344 P P 05 43 41.9 +0.6
baz=154
LRAL Lakeview Retre 25.32 87 P 05 43 41.8 -0.3
LRAL IAmb IAmb 05 43 50.9
comp=Z,11nm,1.2s
WTLY Watson Lake, Y 25.47 347 P P 05 43 43.7 +0.5
baz=158
P32M Atlin 26.10 341 P P 05 43 49.2 +0.3
baz=149
W50A Signal Mountai 26.22 82 P 05 43 49.7 -0.5
P33M Teslin, Yukon 26.41 343 P P 05 43 52.2 +0.4
baz=151
SKAG Skagway 26.43 340 P P 05 43 52.6 +0.9
baz=146
YKA Yellowknife Ar 26.86 3 P P 05 43 58.2 +2.6
comp=Z,3.8nm,1.1s,baz=188,slow=8.5,SNR=4.8
YKA LR LR 05 54 38.6
comp=Z,138nm,18.1s,baz=158,slow=37
comp=Z,3.8nm,1.1s
P29M Windy Craggy 27.29 338 P P 05 43 59.4 -0.2
baz=142
WHY Whitehorse 27.32 341 P P 05 44 00.3 +0.3
baz=148
TKL Tuckaleechee C 27.37 80 LR LR 05 55 20.0
comp=Z,171nm,20.3s,baz=272,slow=38
CMIG Matias Romero 27.40 127 LR LR 05 56 23.7
comp=Z,354nm,19.0s,baz=280,slow=40
O30N Mendenhall 27.73 340 P P 05 44 04.4 +0.9
baz=146
HYT Haines Junctio 28.18 339 P P 05 44 07.7 +0.1
baz=144
MMPY Sheldon Lake, 28.25 347 P P 05 44 08.1 0.0
baz=156
N31M Braeburn, Yuko 28.25 342 P P 05 44 07.9 -0.3
baz=148
FARO Faro, Yukon 28.32 344 P P 05 44 09.0 +0.2
baz=152
YUK6 Outpost Mounta 28.52 339 P P 05 44 11.2 +0.4
baz=143
M31M Drury Creek, Y 28.53 343 P P 05 44 10.6 0.0
baz=150
N30M Aishikik Lake 28.58 340 P P 05 44 11.3 +0.1
baz=145
O28M Mount Upton 28.95 337 P P 05 44 14.9 +0.2
baz=140
M30M Minto, Yukon 29.43 342 P P 05 44 19.4 +0.7
baz=147
M29M Somme Creek 29.76 340 P P 05 44 22.5 +0.9
baz=144
L29M L29M 30.22 342 P P 05 44 26.3 +0.7
baz=145
SADO Sadowa 30.45 61 LR LR 05 57 48.5
comp=Z,36nm,18.2s,baz=311,slow=39
K29M Barlow Dome 30.68 343 P P 05 44 30.4 +0.6
baz=147
M27K Edge Creek, AK 30.68 338 P P 05 44 30.8 +1.0
baz=139
EYAK Cordova Ski Ar 30.71 333 P P 05 44 31.1 +1.2
baz=131
N25K Chitina, Valde 31.02 335 P P 05 44 33.4 +0.7
baz=134
J30M Hart River 31.03 344 P P 05 44 33.9 +1.1
baz=150
L27K Beaver Creek, 31.20 339 P P 05 44 35.0 +0.7
baz=140
DAWY Dawson 31.33 342 P P 05 44 35.3 -0.1
DAWY IAmb IAmb 05 44 38.3
comp=Z,4.8nm,1.2s
DAWY Dawson 31.33 342 P P 05 44 36.0 +0.5
baz=144
I30M Mount Dempster 31.60 345 P P 05 44 38.7 +0.8
baz=150
H31M Peel River 31.71 347 P P 05 44 39.4 +0.6
baz=154
SEW Seward 31.88 330 P P 05 44 40.5 +0.3
baz=126
K27K Chicken 32.02 340 P P 05 44 41.9 +0.5
baz=140
KDAK Kodiak Island 32.02 325 LR LR 05 56 06.5
comp=Z,259nm,18.1s,baz=116,slow=33
KDAK Kodiak Island 32.02 325 P P 05 44 41.7 +0.2
baz=118
OHAK Old Harbor 32.10 323 P P 05 44 42.5 +0.3
baz=117
SCM Sheep Creek Mo 32.13 334 P P 05 44 41.8 -0.7
SCM Sheep Creek Mo 32.13 334 P P 05 44 42.9 +0.4
baz=131
I29M Ogilvie Camp, 32.14 344 P P 05 44 44.0 +1.5
baz=147
M23K Glacier View 32.25 333 P P 05 44 44.5 +1.0
baz=130
PAX Paxson 32.26 336 P P 05 44 44.7 +1.0
baz=134
Q20K Shuyak Island 32.34 326 P P 05 44 44.5 +0.2
baz=120
SCRK Sand Creek 32.53 339 P 05 44 45.3 -0.7
SCRK IAmb IAmb 05 44 48.9
comp=Z,5.8nm,1.1s
SCRK Sand Creek 32.53 339 P P 05 44 46.8 +0.7
baz=138,SNR=5.7
HOM Homer 32.55 328 P P 05 44 46.8 +0.7
baz=122
I28M Miner Creek 32.59 343 P 05 44 46.2 -0.4
I28M IAmb IAmb 05 44 48.5
comp=Z,4.0nm,0.7s
I28M Miner Creek 32.59 343 P P 05 44 46.9 +0.3
baz=145,SNR=6.6
RIDG Independent Ri 32.62 338 P P 05 44 47.8 +1.0
baz=136
PMR Palmer 32.64 332 P P 05 44 47.5 +0.6
baz=128
EPYK Eagle Plains 32.67 346 P P 05 44 48.0 +0.9
baz=150
G31M Satah River 32.71 348 P P 05 44 48.5 +1.1
baz=154
WAT6 Susitna Watana 32.77 335 P P 05 44 49.2 +1.0
baz=131
J26L Joseph Creek 32.80 339 P P 05 44 49.6 +1.2
baz=139
R18K Karluk 32.82 323 P P 05 44 49.4 +0.9
baz=116
H29M Whitestone 32.88 345 P P 05 44 50.1 +1.1
baz=148
CAPN Captain Cook N 32.95 330 P P 05 44 50.3 +0.7
baz=124
K24K Donnelly Dome 32.95 337 P P 05 44 50.8 +1.1
baz=135
DHY Denali Highway 32.97 335 P P 05 44 50.9 +1.0
baz=132
Q19K Cape Douglas, 33.06 326 P P 05 44 51.5 +0.8
baz=119
G30M tAoh Zraii Nji 33.11 347 P P 05 44 51.5 +0.5
baz=152
I27K Kandik River 33.13 342 P P 05 44 51.8 +0.6
baz=143
SUA Susitna One 33.19 331 P P 05 44 52.5 +0.6
baz=126
O20K Slope Mountain 33.19 328 P P 05 44 52.1 +0.3
baz=121
WAT1 Susitna Watana 33.21 334 P P 05 44 52.6 +0.6
baz=130
P19K Oil Pt 33.23 327 P P 05 44 52.7 +0.6
baz=120
I26K Coal Creek Min 33.30 341 P P 05 44 53.4 +0.8
baz=140
G29M Pine Creek 33.40 346 P P 05 44 54.2 +0.6
baz=149
J25K Salcha River, 33.41 339 P 05 44 53.1 -0.5

J25K **Salcha River,** **33.41 339** P **P** **05 44 54.3 +0.6**
baz=136
Q18K **Katmai Hardscr** **33.56 325** P **P** **05 44 55.4 +0.2**
baz=116
F30M **Barrier River** **33.59 347** P **P** **05 44 56.3 +1.1**
baz=153
H27K **Steamboat Moun** **33.62 343** P **P** **05 44 54.8 -0.6**
H27K IAmb IAmb 05 45 03.2
comp=Z,4.0nm,1.1s
H27K **Steamboat Moun** **33.62 343** P **P** **05 44 56.1 +0.7**
baz=143
HDA **Harding Lake** **33.74 337** P **P** **05 44 56.9 +0.3**
baz=134
R17L **Mt. Peulik Vol** **33.78 323** P **P** **05 44 57.6 +0.6**
baz=114
SKT **Skwentna** **33.79 332** P **P** **05 44 57.9 +1.0**
baz=125
Q17K **Contact Creek** **33.81 324** P **P** **05 44 58.1 +0.8**
baz=115,SNR=6.0
INK **Inuvik** **33.85 349** LR LR 05 59 18.5
comp=Z,324nm,18.9s,baz=167,slow=37
INK **Inuvik** **33.85 349** P **P** **05 44 58.1 +0.7**
baz=156
MCK **McKinley** **33.93 335** P **P** **05 44 59.2 +1.0**
baz=131
ILAR **Eielson Array** **33.98 338** **P** **05 44 58.4 -0.2**
ILAR **Eielson Array** **33.98 338** P **P** **05 45 00.1 +1.5**
comp=Z,2.1nm,0.8s,baz=154,slow=7.5,SNR=28
ILAR LR LR 05 59 54.0
comp=Z,151nm,18.1s,baz=174,slow=38
comp=Z,2.1nm,0.8s
P18K **Big Mountain,** **34.00 326** P **P** **05 44 59.2 +0.3**
baz=117
G27K **Doyon Strip** **34.11 343** P **P** **05 45 00.5 +0.8**
baz=144
PRP **Porcupine Dome** **34.12 340** P **P** **05 45 00.9 +1.0**
baz=137
O18K **Koktuh Hills** **34.21 327** P **P** **05 45 00.7 +0.1**
baz=118
TRF **Thorofare Moun** **34.22 334** P **P** **05 45 01.2 +0.3**
baz=129
N19K **Bonanza Creek** **34.36 329** P **P** **05 45 01.7 -0.3**
N19K **Bonanza Creek** **34.36 329** P **P** **05 45 02.5 +0.5**
baz=120
M20K **Styx River** **34.36 331** P **P** **05 45 02.9 +0.8**
baz=123
F28M **Old Crow** **34.38 345** P **P** **05 45 02.9 +0.8**
baz=147
P17K **Kvichak River** **34.47 325** P **P** **05 45 03.5 +0.7**
baz=116
CHNA **Chernabura Isl** **34.53 317** P **P** **05 45 04.1 +0.7**
baz=106
NEA2 **Nenana** **34.54 337** P **P** **05 45 03.9 +0.4**
baz=131
PPLA **Purkeypile** **34.57 333** P **P** **05 45 04.6 +0.7**
baz=126
E29M **Blow River** **34.66 347** P **P** **05 45 05.3 +1.0**
baz=150
G26K **Porcupine Rive** **34.74 342** P **P** **05 45 06.1 +1.1**
baz=141,SNR=8.5
H25L **Birch Creek** **34.75 340** P **P** **05 45 06.4 +1.2**
baz=138
CAST **Castle Rocks** **34.84 334** P **P** **05 45 07.1 +1.0**
baz=126
BPAW **Bear Paw Mtn.** **34.87 335** P **P** **05 45 06.9 +0.6**
baz=128
M19K **Big River Lodg** **34.88 330** P **P** **05 45 07.3 +0.9**
baz=122
N18K **Kilae Creek** **34.90 328** P **P** **05 45 07.5 +1.0**
baz=118
S14K **Fog Glacier** **34.94 319** P **P** **05 45 07.3 +0.3**
baz=108
L20K **Farewell, AK** **34.98 331** P **P** **05 45 08.0 +0.7**
baz=123,SNR=9.5
I23K **Minto, Yukon-K** **35.01 337** P **P** **05 45 08.5 +1.1**
baz=132
O17K **Koliganek Bris** **35.02 326** P **P** **05 45 08.4 +0.8**
baz=116
H24K **Noodor Dome** **35.03 339** P **P** **05 45 08.4 +0.7**
baz=134
E28M **Babbage River** **35.15 346** P **P** **05 45 09.4 +0.7**
baz=148
G25K **Bearman Lake** **35.20 341** P **P** **05 45 10.3 +1.3**
baz=138,SNR=8.3
CHUM **Lake Minchumin** **35.20 334** P **P** **05 45 09.6 +0.5**
baz=126
L19K **White Mountain** **35.21 330** P **P** **05 45 09.9 +0.6**
baz=121
E27K **Coleen River** **35.22 345** P **P** **05 45 10.4 +1.1**
baz=145
M18K **Stony River** **35.26 329** P **P** **05 45 10.4 +0.8**
baz=119,SNR=5.1
MLY **Manley** **35.37 336** P **P** **05 45 11.8 +1.1**
baz=130
N17K **Nushagak Hills** **35.40 327** P **P** **05 45 11.5 +0.7**
baz=116,SNR=5.0
O16K **Kokwok River B** **35.41 325** P **P** **05 45 11.7 +0.8**
baz=114
F26K **Sheenjek River** **35.41 343** P **P** **05 45 12.0 +1.1**
baz=141,SNR=10
H23K **Yukon River** **35.52 338** P **P** **05 45 13.0 +1.2**
baz=132
G24K **Hadweenzic Riv** **35.52 340** P **P** **05 45 13.0 +1.1**
baz=136
K20K **Telida** **35.54 333** P **P** **05 45 13.0 +0.9**
baz=124,SNR=13
D28M **Stokes Point** **35.63 347** P **P** **05 45 13.7 +1.0**
baz=150
F25K **Christian Rive** **35.70 342** P **P** **05 45 15.0 +1.6**
baz=139,SNR=6.1
M17K **Holitna River** **35.90 328** P **P** **05 45 16.2 +1.1**
baz=117,SNR=6.6
L18K **Granite Mounta** **35.97 330** P **P** **05 45 16.5 +0.8**
baz=119
J20K **Nowinta River** **36.03 334** **P** **05 45 16.2 0.0**
J20K IAmb IAmb 05 45 18.1
comp=Z,5.1nm,0.7s
J20K **Nowinta River** **36.03 334** P **P** **05 45 16.9 +0.7**
baz=124,SNR=7.0
O15K **Ungalikthiuk R** **36.06 324** P **P** **05 45 17.6 +1.1**
baz=112
N16K **Nishlik Lake** **36.08 326** P **P** **05 45 17.9 +1.2**
baz=114,SNR=5.5
E25K **Arctic Village** **36.08 343** P **P** **05 45 17.7 +1.1**
baz=140,SNR=5.4
S12K **Black Hills** **36.12 318** P **P** **05 45 18.0 +0.9**
baz=105
H22K **Ishtalitna Cre** **36.13 337** P **P** **05 45 18.1 +1.0**
baz=130,SNR=8.3
F24K **Squaw Lake** **36.23 341** P **P** **05 45 18.6 +0.7**
baz=136
G23K **Bananza Creek** **36.26 339** P **P** **05 45 18.9 +0.7**
baz=132
M16K **Timber Creek** **36.40 327** P **P** **05 45 20.1 +0.7**
baz=115
H21K **Melozitna Rive** **36.44 336** P **P** **05 45 21.4 +1.6**
baz=128,SNR=10
J19K **Poorman** **36.47 333** P **P** **05 45 21.0 +1.0**
baz=122,SNR=12
I20K **Naaghedeneel** **36.50 334** P **P** **05 45 21.3 +1.1**
baz=125,SNR=5.1
N15K **Kwethluk River** **36.56 325** P **P** **05 45 21.6 +0.8**
baz=113
L17K **Donlin** **36.60 329** P **P** **05 45 21.9 +0.7**
baz=117
J18K **Innoko River** **36.60 332** **P** **05 45 20.6 -0.6**
J18K IAmb IAmb 05 45 23.0
comp=Z,4.4nm,0.8s
J18K **Innoko River** **36.60 332** P **P** **05 45 21.9 +0.7**
baz=120,SNR=6.5
COLD **Coldfoot** **36.66 339** P **P** **05 45 22.3 +0.7**
baz=133
O14K **Tigyukauivet M** **36.78 324** P **P** **05 45 23.6 +0.9**
baz=110
E24K **Your Creek** **36.79 341** P **P** **05 45 23.6 +0.9**
baz=136
G22K **Bettles** **36.84 338** P **P** **05 45 24.0 +1.0**
baz=131
C27K **Jago River** **36.84 345** P **P** **05 45 24.0 +0.9**
baz=143,SNR=6.5
K17K **Iditarod** **36.87 330** P **P** **05 45 24.4 +1.0**
baz=118,SNR=6.3
L16K **Owhat River** **36.91 328** P **P** **05 45 24.7 +1.0**
baz=115,SNR=10.0
M15K **Kasigluk River** **37.04 326** P **P** **05 45 25.9 +1.1**
baz=113
H20K **Anotleneega Mo** **37.04 335** P **P** **05 45 25.7 +0.9**
baz=125,SNR=9.4

E23K **Chandalar** **37.08 341** P **P** **05 45 26.8 +1.6**
baz=134
D25K **Kavik River** **37.19 344** P **P** **05 45 27.3 +1.1**
baz=140
G21K **Allakaket** **37.20 337** P **P** **05 45 27.4 +1.2**
baz=128
N14K **Kuskokwak Cree** **37.21 325** P **P** **05 45 27.1 +0.7**
baz=110
C26K **Camden Bay** **37.33 345** P **P** **05 45 28.3 +1.1**
baz=142
GCSA **Galena City Sc** **37.33 333** P **P** **05 45 28.3 +1.0**
baz=122
F22K **John River** **37.42 339** P **P** **05 45 28.9 +0.8**
baz=130
TOLK **Toolik Lake Re** **37.47 341** P **P** **05 45 29.8 +1.2**
baz=135
J17K **VABM Dome** **37.50 331** P **P** **05 45 29.6 +0.8**
baz=118
H19K **Roundabout Mou** **37.60 335** P **P** **05 45 30.6 +1.0**
baz=123,SNR=5.1
M14K **Bethel** **37.64 326** P **P** **05 45 30.7 +0.8**
baz=111,SNR=6.1
E22K **Anaktuvuk Pass** **37.73 340** P **P** **05 45 31.8 +1.1**
baz=132
L15K **Ungalak Mounta** **37.77 327** P **P** **05 45 32.5 +1.4**
baz=113
D23K **Nanushuk River** **37.99 341** P **P** **05 45 34.1 +1.3**
baz=134
C24K **Franklin Bluff** **38.04 343** P **P** **05 45 34.5 +1.3**
baz=137
K15K **Wolf Creek Mou** **38.04 328** P **P** **05 45 34.2 +0.9**
baz=114
J16K **Anvik River** **38.06 330** P **P** **05 45 34.7 +1.2**
baz=116,SNR=6.0
H18K **Honhosa River** **38.08 333** P **P** **05 45 34.7 +1.1**
baz=120
G19K **Purcell Mounta** **38.16 335** P **P** **05 45 35.3 +1.0**
baz=123
M13K **Dall Lake** **38.16 325** P **P** **05 45 34.9 +0.6**
baz=109
L14K **Kuka Creek** **38.18 326** P **P** **05 45 35.4 +0.9**
baz=111
F20K **Avaraart Lake** **38.22 337** P **P** **05 45 36.1 +1.4**
baz=126
UNV **Unalaska Valle** **38.28 314** P **P** **05 45 35.1 -0.3**
baz=98
I17K **Unalakleet** **38.37 331** P **P** **05 45 36.0 -0.1**
baz=116
D22K **Ayikyak River** **38.47 340** P **P** **05 45 38.0 +1.1**
baz=131
E21K **Killik River** **38.54 339** P **P** **05 45 38.3 +0.7**
baz=129
H17K **Granite Mounta** **38.55 333** P **P** **05 45 38.9 +1.3**
baz=118
G18K **Tagagawik** **38.57 334** P **P** **05 45 38.8 +1.1**
baz=121
C23K **Itkillik River** **38.58 342** P **P** **05 45 38.8 +1.1**
baz=135
F19K **Shaleruckik Mo** **38.77 336** P **P** **05 45 40.2 +0.9**
baz=123
E19K **Redstone River** **38.94 337** P **P** **05 45 41.9 +1.1**
baz=124,SNR=5.2
JTS **Las Juntas de** **38.95 122** LR LR 06 03 14.8
comp=Z,183nm,19.1s,baz=300,slow=39
E20K **Nigu River** **39.08 338** P **P** **05 45 42.6 +0.6**
baz=126
J14K **Nanvaranak Lak** **39.08 328** P **P** **05 45 42.9 +0.9**
baz=112
G17K **Kiwalik Mounta** **39.09 333** P **P** **05 45 42.7 +0.6**
baz=118,SNR=5.3
C21K **Knifeblade Rid** **39.22 340** P **P** **05 45 43.8 +0.6**
baz=129
K13K **Kusilvak Mount** **39.27 327** P **P** **05 45 44.6 +1.0**
baz=110
F18K **Selawik** **39.28 335** P **P** **05 45 44.4 +0.8**
baz=120
SCHQ **Schefferville** **39.46 45** LR LR 06 02 30.2
comp=Z,586nm,18.3s,baz=293,slow=37
B21K **Ikpikpuk River** **39.47 341** P **P** **05 45 45.9 +0.7**
baz=130
D20K **Etivluk River** **39.48 339** P **P** **05 45 46.3 +0.9**
baz=126
M11K **Mekoryuk** **39.50 324** P **P** **05 45 46.7 +1.1**
baz=106
NIKH **Nikolski High** **39.58 312** P **P** **05 45 46.9 +0.5**
baz=95
B22K **Teshekpuk Lake** **39.63 342** P **P** **05 45 47.3 +0.8**
baz=132
G16K **Koyuk River** **39.68 332** P **P** **05 45 48.3 +1.3**
baz=116
F17K **Baldwin Pennin** **39.76 334** P **P** **05 45 48.2 +0.6**
baz=118
D19K **Kuna River** **39.80 338** P **P** **05 45 49.1 +1.0**
baz=124
E18K **Tukpahlearik C** **40.02 336** P **P** **05 45 51.0 +1.2**
baz=120
G15K **Niukluk** **40.15 331** P **P** **05 45 52.0 +1.0**
baz=114
E17K **Hotham Inlet** **40.27 335** P **P** **05 45 52.7 +0.8**
baz=118
P08K **Saint George I** **40.41 318** P **P** **05 45 53.8 +0.7**
baz=98
B20K **Meade River** **40.41 340** P **P** **05 45 54.0 +1.0**
baz=127
ANM **Nome** **40.51 330** P **P** **05 45 54.3 +0.4**
baz=112
RES **Resolute Bay** **40.55 9** LR LR 06 04 20.3
comp=Z,216nm,18.1s,baz=158,slow=39
C19K **Lookout Ridge** **40.59 338** P **P** **05 45 55.2 +0.6**
baz=123
F15K **North Star Dit** **40.67 332** P **P** **05 45 55.7 +0.4**
baz=114
FRB **Frobisher Bay** **40.72 31** LR LR 06 03 53.4
comp=Z,88nm,18.4s,baz=294,slow=38
C18K **Utukok River** **40.84 337** P **P** **05 45 57.5 +0.8**
baz=121
SPIA **Saint Paul Isl** **40.87 319** P **P** **05 45 57.6 +0.7**
baz=98
D17K **Noatak River** **40.99 335** P **P** **05 45 58.6 +0.8**
baz=118
F14K **Arctic Creek** **41.23 332** P **P** **05 46 00.5 +0.6**
baz=112
B18K **Kokolik River** **41.39 338** P **P** **05 46 01.4 +0.2**
baz=121
TNA **Tin City** **41.88 331** P **P** **05 46 05.9 +0.8**
baz=110
C16K **Lisburne Hills** **42.01 336** P **P** **05 46 06.9 +0.8**
baz=116
GAMB **Gambell** **42.90 328** P **P** **05 46 13.9 +0.5**
baz=104
SFJD **Kangerlussuaq** **48.72 29** LR LR 06 07 38.5
comp=Z,50nm,20.8s,baz=260,slow=36
ATAH **Atahualpa** **56.34 131** LR LR 06 09 46.3
comp=Z,50nm,18.3s,baz=360,slow=34
SEY **Seymchan** **58.90 328** LR LR 06 13 16.1
comp=Z,91nm,18.0s,baz=123,slow=36
PETK **Petropavlovsk-** **59.42 316** **P** **05 48 17.2 -0.5**
PETK **Petropavlovsk-** **59.42 316** P **P** **05 48 18.2 +0.5**
comp=Z,5.6nm,0.8s,baz=76,slow=12,SNR=10.0
PETK LR LR 06 11 21.5
comp=Z,22nm,19.0s,baz=135,slow=33
comp=Z,5.6nm,0.8s
MA2 **Magadan** **60.77 324** LR LR 06 13 55.3
comp=Z,72nm,18.6s,baz=141,slow=35
BORG **Borgarnes** **60.85 29** LR LR 06 17 10.4
comp=Z,58nm,18.7s,baz=297,slow=38
PPT2 **Papeete2** **61.08 215** *e*LR LR 06 06 35.7
comp=Z,63nm,24.5s
SPITS **Spitsbergen Ar** **63.11 10** LR LR 06 16 39.3
comp=Z,142nm,18.6s,baz=316,slow=36
TIXI **Tiksi** **63.37 341** LR LR 06 18 45.6
comp=Z,47nm,18.4s,baz=36,slow=38
TBI **Tubuai** **66.05 212** *e*LR LR 06 08 46.7
comp=Z,407nm,26.2s
MDP **Montagnes des** **66.75 101** LR LR 06 22 17.1
comp=Z,45nm,18.9s,baz=304,slow=40
LPAZ **La Paz** **69.75 129** P **P** **05 49 25.1 -1.2**
comp=Z,1.2nm,0.8s,baz=114,slow=21,SNR=5.6
LPAZ LR LR 06 17 48.6
comp=Z,53nm,20.2s,baz=316,slow=34
comp=Z,1.2nm,0.8s
ARCES **ARCESS Array B** **71.62 13** LR LR 06 22 43.0
comp=Z,54nm,19.1s,baz=317,slow=37
NRIK **Norilʹsk** **73.62 351** LR LR 06 24 55.6
comp=Z,18nm,19.2s,baz=8.5,slow=38
SIV **San Ignacio** **74.17 124** P **P** **05 49 52.3 +0.2**
comp=Z,1.2nm,0.6s,baz=284,slow=6.1,SNR=7.6
SIV LR LR 06 22 34.4
comp=Z,54nm,18.2s,baz=286,slow=36
comp=Z,1.2nm,0.6s
NOA **NORSAR Array B** **74.95 23** LR LR 06 23 15.5
comp=Z,28nm,18.6s,baz=325,slow=36
KLR **Kulʹdur** **75.49 321** LR LR 06 26 09.4
comp=Z,18nm,18.1s,baz=303,slow=38
HFS **Hagfors** **76.43 23** LR LR 06 25 21.8
comp=Z,64nm,18.7s,baz=329,slow=37
USRK **Usuriysk Ar.** **78.50 317** P **P** **05 50 16.3 -0.1**
FINES **FINESS Array B** **78.76 17** P **P** **05 50 18.2 +0.7**
comp=Z,1.1nm,0.8s,baz=354,slow=6.2,SNR=3.5
comp=Z,1.1nm,0.8s
BNX **BinXian** **79.99 320** ⇓P **P** **05 50 24.7 +0.1**
BNX pmax pmax
comp=Z,6.0nm,1.1s
ESDC **Sonseca Array** **83.22 45** P **P** **05 50 42.7 +0.9**
comp=Z,0.4nm,0.9s,baz=312,slow=4.5,SNR=2.5
comp=Z,0.4nm,0.9s
CPUP **Villa Florida** **83.91 128** LR LR 06 28 31.8
comp=Z,11nm,18.4s,baz=196,slow=36
KSRS **Korea Array** **85.22 313** P **P** **05 50 52.4 +0.5**
comp=Z,0.8nm,0.7s,baz=47,slow=4.1,SNR=3.0
comp=Z,0.8nm,0.7s
VRAC **Vranov** **86.08 28** LR LR 06 31 19.9
comp=Z,53nm,18.8s,baz=283,slow=37
PLCA **Paso Flores** **87.49 146** LR LR 06 21 41.1
comp=Z,53nm,20.1s,baz=28,slow=30
SONM **Songino Array** **88.00 332** P **P** **05 51 06.6 +1.0**
comp=Z,0.4nm,0.4s,baz=46,slow=4.2,SNR=2.5
SONM LR LR 06 30 33.3
comp=Z,58nm,19.5s,baz=38,slow=36
comp=Z,0.4nm,0.4s
ARTI **Arti** **88.19 2** LR LR 06 33 46.1
comp=Z,76nm,21.2s,baz=14,slow=38
GUMO **Guam** **88.19 285** LR LR 06 22 25.3
comp=Z,14nm,21.0s,baz=57,slow=30
ZALV **Zalesovo Beam** **88.62 347** P **P** **05 51 08.6 +0.5**
comp=Z,1.0nm,0.6s,baz=356,slow=6.7,SNR=4.4
ZALV LR LR 06 36 33.3
comp=Z,30nm,18.7s,baz=9.5,slow=40
comp=Z,1.0nm,0.6s
AKASG **Malin Array Be** **89.10 20** LR LR 06 33 26.9
comp=Z,51nm,18.1s,baz=314,slow=37
BVAR **Borovoye Array** **91.35 355** P **P** **05 51 21.8 +0.9**
comp=Z,1.3nm,0.6s
BVAR LR LR 06 38 40.9
comp=Z,64nm,18.6s,baz=359,slow=40
comp=Z,1.3nm,0.6s
HHC **Hu-ho-hao-te** **91.44 325** *e*P **P** **05 51 19.6 -2.2**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,110nm,5.3s
MLR **Muntele Rosu** **92.70 25** LR LR 06 36 32.2
comp=Z,54nm,18.0s,baz=326,slow=38
KURBB **Kurchatov Arra** **92.86 350** P **P** **05 51 27.9 -0.1**
comp=Z,1.1nm,0.8s,baz=14,slow=4.4,SNR=8.8
comp=Z,1.1nm,0.8s
MKAR **Makanchi Array** **95.94 346** LR LR 06 40 55.4
comp=Z,35nm,19.1s,baz=332,slow=39
QSPA **South Pole Qui** **125.55 180** PKP **PKPdf** **05 57 15.3 -0.4**
comp=Z,1.0nm,1.0s,baz=19,slow=1.3,SNR=6.5
MAW **Mawson** **148.07 180** PKPbc **PKiKP** **05 58 00.5 -1.2**
comp=Z,3.9nm,0.8s,baz=191,slow=4.2,SNR=9.7

*IDC **07** 05:48:47.0± 1.5, 19°.09N× 46°.13W, h0km, mb3.9/7, mbtmp3.9/7, MS3.4/4, Error ellipse: s-maj=37.4km s-min=33.6km az=148.0*
ISC 07 05:48:49.4±1.3, 19°.1N±0°.2× 46°.2W±0°.2, h15km, n15, σ0.6 26/7, mb3.9/7, MS3.4/4, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKL	**Tuckaleechee C**	**37.02**	**304**	LR	LR	06 07 29.4	
	comp=Z,42nm,21.0s,baz=152,slow=30						
H10N3	**ASCENSION HYDR**	**41.08**	**128**	T	T	06 39 56.8	
	baz=311,slow=75,SNR=35						
H10N2	**ASCENSION HYDR**	**41.09**	**128**	T	T	06 40 00.9	
	baz=311,slow=75,SNR=24						
H10N1	**ASCENSION HYDR**	**41.10**	**128**	T	T	06 40 13.8	
	baz=311,slow=75,SNR=48						
LPAZ	**La Paz**		**41.26 213**	P	**P**	**05 56 34.9**	**0.0**
	0.9nm,0.7s,baz=32,slow=7.1,SNR=3.5						
	0.9nm,0.7s						
H10S3	**ASCENSION HYDR**	**41.70**	**129**	T	T	06 40 47.1	
	baz=310,slow=74,SNR=44						
H10S2	**ASCENSION HYDR**	**41.71**	**129**	T	T	06 40 48.3	
	baz=270,slow=74,SNR=32						
DBIC	**Dimbokro**		**41.98 101**	LR	LR	06 11 34.4	
	comp=Z,72nm,19.4s,baz=206,slow=33						
TXAR	**Lajitas Array**		**53.00 293**	P	**P**	**05 58 05.8**	**-0.2**
	0.7nm,0.9s,baz=88,slow=7.6,SNR=6.1						
TXAR				LR	LR	06 20 22.1	
	comp=Z,14nm,20.4s,baz=79,slow=36						
	0.7nm,0.9s						
ANMO	**Albuquerque**	**55.25**	**300**	LR	LR	06 21 09.7	
	comp=Z,51nm,18.8s,baz=219,slow=35						
PDAR	**Pinedale Array**	**57.90**	**309**	P	**P**	**05 58 41.3**	**+0.1**
	1.0nm,0.9s,baz=92,slow=7.4,SNR=7.4						
	1.0nm,0.9s						
ELK	**Elko**	**62.12**	**307**	P	**P**	**05 59 10.6**	**+0.3**
	1.3nm,0.8s,baz=70,slow=4.1,SNR=5.5						
	1.3nm,0.8s						
NEW	**Newport**	**63.41**	**315**	P	**P**	**05 59 18.2**	**-0.3**
	3.0nm,0.9s,baz=147,slow=4.5,SNR=6.2						
	3.0nm,0.9s						
BRTR	**Keskin Array B**	**70.36**	**54**	P	**P**	**06 00 03.0**	**-0.1**
	0.8nm,0.9s,baz=286,slow=4.5,SNR=4.3						
	0.8nm,0.9s						
ILAR	**Eielson Array**	**77.42**	**334**	P	**P**	**06 00 43.9**	**+0.2**
	1.6nm,0.9s,baz=68,slow=4.6,SNR=8.6						
	1.6nm,0.9s						

*ISU **07** 06:00:50, 40°.63N× 72°.62E, h11km*
*KRNET **07** 06:00:51.6± 0.1, 40°.52N× 72°.60E, h15km, mb2.9*
*SOME **07** 06:00:53.1, 40°.57N× 72°.68E, h5km*
*NNC **07** 06:00:54.6± 4.1, 40°.64N× 72°.59E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=32.6km s-min=12.8km az=174.0*
ISC 07 06:00:50.6±0.9, 40°.54N±0°.03× 72°.63E±0°.02, h16km±7km, n27, σ1.8 06/46, 27C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.12**	**100**	⇑*e*P	**Pg**	**06 00 54.3**	**-0.1**
OHH				⇑*e*S	**Sb**	**06 00 56.4**	**-0.8**
TSTA	**Tashata**	**0.12**	**286**	P	**Pb**	**06 00 53.4**	**-1.2**
ARSB	**Arslanbob**	**0.82**	**19**	⇑*e*P	**Pn**	**06 01 08.0**	**+0.3**
ARSB				⇑*e*S	**Sn**	**06 01 19.9**	**+0.3**
SFK	**Sufi-Kurgan**	**0.85**	**128**	⇑*e*P	**Pn**	**06 01 07.9**	**-0.3**
SFK				⇑*e*S	**Sn**	**06 01 19.9**	**-0.5**
CHMI	**Chimion**	**0.89**	**252**	S	**Sn**	**06 01 21.5**	**+0.4**
SALK	**Salom-Alik**	**0.96**	**69**	⇑*e*P	**Pn**	**06 01 10.5**	**+0.8**
SALK				⇑*e*S	**Sn**	**06 01 24.4**	**+1.2**
DRK	**Karamyk**	**1.24**	**211**	⇓*e*P	**Pg**	**06 01 14.8**	**+0.2**
DRK				⇓*e*S	**Sn**	**06 01 30.6**	**+0.5**
ARK	**Arkit**	**1.35**	**338**	⇑*e*P	**Pg**	**06 01 17.5**	**+0.8**
ARK				⇑*e*S	**Sg**	**06 01 36.2**	**+1.9**
BTK	**Batken**	**1.47**	**251**	⇑*e*P	**Pg**	**06 01 18.6**	**-0.3**
BTK				⇑*e*S	**Sg**	**06 01 38.4**	**+0.3**
TRKS	**Terek-Say**	**1.50**	**312**	⇑*e*P	**Pg**	**06 01 18.7**	**-0.8**
TRKS				⇑*e*S	**Sg**	**06 01 38.4**	**-0.6**
AML	**Almayashu**	**1.78**	**26**	⇑*e*P	**Pg**	**06 01 25.4**	**+0.6**
AML				⇑*e*S	**Sg**	**06 01 50.0**	**+2.1**
MNAS	**Manas**	**1.94**	**357**	⇑*e*P	**Pg**	**06 01 28.1**	**+0.1**
MNAS				⇑*e*S	**Sg**	**06 01 54.7**	**+1.5**
UCH	**Uchtor**	**2.20**	**39**	⇓*e*P	**Pg**	**06 01 31.9**	**-1.0**
UCH				⇓*e*S	**Sg**	**06 02 01.3**	**-0.1**
MRKS	**Merke**	**2.24**	**11**	Pg	**Pg**	**06 01 34.5**	**+0.8**
	12nm,0.4s						
MRKS				Lg	Lg	06 02 04.4	
	50nm,0.6s						
MRKS	**Merke**	**2.24**	**11**	*e*P	**Pg**	**06 01 34.5**	**+0.8**
	5.2nm,0.2s						
MRKS				*e*S	**Sg**	**06 02 04.4**	**+1.6**
	31nm,0.4s						
EKS2	**Erkin-Say**	**2.28**	**22**	⇓*e*P	**Pg**	**06 01 32.9**	**-1.6**
EKS2				⇓*e*S	**Sg**	**06 02 02.9**	**-1.2**
GAR	**Garm**	**2.36**	**230**	⇑*e*P	**Pb**	**06 01 33.0**	**+0.2**
GAR				⇑*e*S	**Sb**	**06 02 03.2**	**+1.5**
AAK	**Ala-Archa**	**2.52**	**33**	⇑Pg	**Pg**	**06 01 39.6**	**+0.7**
	2.9nm,0.5s						
AAK				⇓Lg	Lg	06 02 13.2	
	2.9nm,0.4s						
AAK	**Ala-Archa**	**2.52**	**33**	⇑*e*P	**Pb**	**06 01 36.1**	**+0.6**
AAK				⇑*e*S	**Sg**	**06 02 08.7**	**-2.8**

IUG	**Iuzhnay**	**2.53**	**310**	Pg	**Pg**	**06 01 40.0**	**+0.9**
	27nm,0.2s						
IUG				Lg	Lg	06 02 13.7	
	23nm,0.3s						
NRN	**Naryn**	**2.70**	**70⇑**	*eP*	**Pb**	**06 01 38.4**	**-0.3**
NRN			⇑	*eS*	**Sb**	**06 02 12.5**	**+0.8**
KK31	**Karatay Array**	**3.01**	**329**	Pg	**Pb**	**06 01 42.5**	**-1.4**
	0.8nm,0.4s,baz=147,slow=13,SNR=15						
KK31				Lg	Lg	06 02 22.2	
	6.4nm,0.4s,baz=140,slow=29,SNR=6.4						
BOOM	**Boomskoye usch**	**3.15**	**51⇑**	*eP*	**Pb**	**06 01 45.2**	**-1.2**
BOOM			⇑	*eS*	**Sb**	**06 02 24.0**	**-0.7**
BRLS	**Borolday**	**3.25**	**321**	Pg	**Pg**	**06 01 51.6**	**-1.2**
	2.1nm,0.3s						
BRLS				Lg	Lg	06 02 33.7	
	4.2nm,0.2s						
BRLS	**Borolday**	**3.25**	**321**	*eP*	**Pg**	**06 01 51.6**	**-1.2**
	2.1nm,0.2s						
BRLS				*eS*	**Sg**	**06 02 33.7**	**-1.2**
	4.2nm,0.2s						
KST	**Kastek**	**3.53**	**44**	Pg	**Pg**	**06 01 57.8**	**-0.4**
	1.2nm,0.4s						
KST				Lg	Lg	06 02 44.0	
	4.9nm,0.5s						
KST	**Kastek**	**3.53**	**44**	*eP*	**Pg**	**06 01 57.8**	**-0.4**
	0.5nm,0.1s						
KST				*eS*	**Sg**	**06 02 44.4**	**+0.5**
	4.2nm,0.3s						

*NEIC **07** 06:07:06.0±1.6,35°.680N±0°.003×117°.51W±0°.01, h7km±4km, Error ellipse: s-maj=1.5km s-min=0.3km az=91.0*

PAS 07 06:07:06.5±1.4,**35°.666N**±0°.009×**117°.52W**±0°.01, **h7**km±4km,**ML3.6**/17,**ML3.3**/116(NEIC),**Error ellipse: s-maj=1.5km s-min=1.3km az=88.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.16**	**338**	Pg	Pg	06 07 09.9	0.0
CLC				Sg	Sg	06 07 12.6	+0.4
CLC				IAML		06 07 12.8	
	comp=N,15μm,0.2s						
CLC				IAML		06 07 12.9	
	comp=E,15μm,0.4s						
CCCA	**Chr Cany lake**	**0.19**	**137**		Pg	06 07 10.8	+0.4
LRMC	**Laurel Mtn Rad**	**0.23**	**215**		Pg	06 07 10.9	-0.2
LRMC				Sg	Sg	06 07 14.4	+0.3
LRMC				IAML		06 07 14.8	
	comp=E,6μm,0.4s						
LRMC				IAML		06 07 15.2	
	comp=N,9μm,0.3s						
TOW	**Tower One**	**0.24**	**306**		Pg	06 07 11.7	+0.4
WNMM	**Nine Mile Cany**	**0.36**	**300**		Pg	06 07 13.4	-0.1
WVPM	**Volcano Peak E**	**0.37**	**320**		Pg	06 07 13.6	-0.3
DTP	**Desert Tortois**	**0.48**	**214**		Pg	06 07 15.3	-0.5
DTP					Sg	06 07 22.2	+0.2
WBSM	**Bird Springs**	**0.52**	**256**		Pg	06 07 16.2	-0.3
WBSM					Sg	06 07 23.3	-0.1
WORM	**Onyx Ranch**	**0.59**	**273**		Sg	06 07 25.0	-0.5
QSM	**Queen of Sheba**	**0.61**	**61**		Pg	06 07 17.9	-0.4
QSM					Sg	06 07 25.9	-0.3
CCAC	**Calif City Air**	**0.65**	**218**		Pg	06 07 18.6	-0.4
CCAC					Sg	06 07 27.8	+0.2
WHFM	**Hanning Flat**	**0.67**	**273**		Pg	06 07 18.9	-0.6
WHFM					Sg	06 07 27.8	-0.5
GSC	**Goldstone, Bar**	**0.69**	**122**	Pg	Pg	06 07 19.4	-0.4
GSC				IAML		06 07 31.6	
	comp=N,2μm,0.2s						
GSC				IAML		06 07 31.9	
	comp=E,2μm,0.5s						
ISA	**Isabella, Lake**	**0.77**	**270**		Pg	06 07 20.7	-0.7
ISA	**Isabella, Lake**	**0.77**	**270**	IAML		06 07 31.1	
	comp=N,2μm,0.4s						
ISA				IAML		06 07 31.4	
	comp=E,2μm,0.2s						
HYS	**Haystack Butte**	**0.80**	**183**		Pg	06 07 21.3	-0.6
HYS					Sg	06 07 31.7	-0.6
WASM	**Alta Sierra Ca**	**0.84**	**275**		Pg	06 07 22.1	-0.7
WASM					Sg	06 07 33.3	-0.5
GWY	**Greenwater Val**	**0.87**	**53**		Pg	06 07 22.5	-0.7
EDW2	**Edwards Air Fo**	**0.87**	**206**		Pg	06 07 22.4	-0.9
CWC	**Cottonwood Cre**	**0.89**	**330**		Pg	06 07 23.1	-0.6
CWC				IAML		06 07 37.9	
	comp=E,631nm,0.3s						
RRX	**Edison Barstow**	**0.90**	**151**		Pg	06 07 23.2	-0.6
CGO	**Cerro Gordo**	**0.91**	**346**		Pg	06 07 23.5	-0.5
CGO					Sg	06 07 36.1	+0.2
FURC	**Furnace Creek,**	**0.96**	**34**		Sb	06 07 38.0	-0.4
TPO	**Tropico Hills**	**0.97**	**216**		Pg	06 07 24.7	-0.5
TPO				IAML		06 07 40.2	
	comp=N,1μm,0.7s						
TPO				IAML		06 07 44.5	
	comp=E,779nm,0.5s						
SBB	**Saddle Back Bu**	**1.01**	**194**		Pg	06 07 25.3	-0.5
TEJ	**El Tejon**	**1.05**	**246**		Pg	06 07 25.4	-1.2
ADO	**Adelanto Recei**	**1.11**	**176**		Pg	06 07 27.8	-0.1
ADO					Sn	06 07 43.8	-0.5
SPG2	**Springville 2**	**1.14**	**298**		Pg	06 07 27.2	-1.2
SPG2					Sg	06 07 42.1	-1.1
ALPC	**Antelope**	**1.17**	**213**		Sg	06 07 44.0	+0.1
ARVC	**Arvin**	**1.20**	**244**		Pn	06 07 29.6	0.0
ARVC					Sg	06 07 44.0	-0.9
THC	**Tehachapi Micr**	**1.20**	**231**		Pg	06 07 28.5	-1.0
LRRC	**Littlerock Res**	**1.21**	**200**		Sb	06 07 45.6	+0.1
LEOC	**Leona Valley**	**1.21**	**212**		Pg	06 07 28.7	-1.1
HOLC	**Holcomb Ridge**	**1.23**	**192**		Pg	06 07 28.6	-1.6
HOLC					Sg	06 07 45.9	-0.2
CJV	**Casa Juvan**	**1.24**	**204**		Pn	06 07 30.5	+0.1
CJV					Sb	06 07 46.5	-0.1
JNH	**Juniper Hills**	**1.27**	**196**		Pn	06 07 29.3	-1.5
JNH					Sg	06 07 47.1	-0.1
DSCC	**Desert Studies**	**1.27**	**114**		Pn	06 07 29.4	-1.3
DSCC					Sg	06 07 47.4	0.0
AMDNV	**Amargosa**	**1.28**	**52**		Pn	06 07 28.9	-1.9
HEC	**Hector,Ludlow**	**1.28**	**130**		Pn	06 07 29.1	-1.9
HEC					Sn	06 07 48.1	-0.3
VES	**Vestal, Richgr**	**1.28**	**278**		Pn	06 07 30.2	-0.6
VES					Sb	06 07 47.0	-0.6
TUQ	**Turquoise Moun**	**1.32**	**100**		Pn	06 07 30.4	-1.1
TUQ					Sb	06 07 48.9	-0.1
BAKC	**Calstate**	**1.33**	**256**		Sb	06 07 48.8	-0.2
GRAC	**Grapevine Rang**	**1.33**	**5**		Pn	06 07 30.9	-0.8
WCT	**Wildcat Mounta**	**1.34**	**33**		Pn	06 07 30.1	-1.6
WCT				IAML		06 07 53.3	
	comp=E,369nm,0.5s						
SGV	**South Grapevin**	**1.37**	**17**		Pn	06 07 30.9	-1.3
SGV					Sb	06 07 50.3	-0.1
CHFC	**Chilao Flat St**	**1.39**	**197**		Pb	06 07 32.8	-0.1
CHFC					Sb	06 07 50.3	-0.7
BFSC	**Mount Baldy Ra**	**1.43**	**184**		Pn	06 07 31.6	-1.4
BFSC					Sb	06 07 52.0	0.0
BFSC				IAML		06 07 52.2	
	comp=E,420nm,0.6s						
BFSC				IAML		06 07 52.5	
	comp=N,397nm,0.4s						
SIL	**Silver Peak**	**1.43**	**156**		Pn	06 07 32.9	-0.2
SIL					Sg	06 07 52.7	+0.1
SSK	**Sunset Peak**	**1.46**	**186**		Pn	06 07 32.3	-1.2
BBRC	**Big Bear Solar**	**1.48**	**160**		Pn	06 07 34.0	+0.1
TIN	**Tinemaha, Big**	**1.50**	**338**		Pb	06 07 34.4	-0.4
MWC	**Mount Wilson**	**1.50**	**197**		Pn	06 07 33.5	-0.6
MWC				IAML		06 07 56.0	
	comp=N,677nm,0.6s						
MWC				IAML		06 07 56.1	
	comp=E,624nm,0.5s						
MWC	**Mount Wilson**	**1.50**	**197**		Sn	06 07 54.0	0.0
LCH	**Last Change Ra**	**1.57**	**356**		Pn	06 07 33.9	-1.0
PASC	**Pasadena Art C**	**1.59**	**200**		Pn	06 07 34.5	-0.6
PASC				IAML		06 08 01.7	
	comp=N,291nm,0.9s						
PASC				IAML		06 08 03.1	
	comp=E,324nm,0.5s						
PSRC	**Puddingstone R**	**1.59**	**189**		Pn	06 07 34.2	-0.9
OAT	**Oat Mountain**	**1.59**	**214**		Pb	06 07 36.6	+0.3
SVD	**Seven Oaks Dam**	**1.59**	**167**		Pb	06 07 35.9	-0.4
MTPC	**Mountain Pass**	**1.62**	**96**		Pn	06 07 33.9	-1.7
MTPC				IAML		06 07 58.0	
	comp=E,569nm,0.3s						
MTPC				IAML		06 07 59.1	
	comp=N,546nm,0.2s						
TPNV	**Topopah Spring**	**1.64**	**38**		Pn	06 07 34.7	-1.3
TPNV				IAML		06 08 02.4	
	comp=N,515nm,0.5s						
TPNV				IAML		06 08 03.9	
	comp=N,311nm,0.7s						
VOG	**Valley Oaks Go**	**1.64**	**294**		Pn	06 07 36.2	+0.4
GMN	**Gold Mountain**	**1.65**	**7**		Pn	06 07 34.7	-1.3
GMN				IAML		06 08 03.4	
	comp=N,305nm,0.4s						
GTM	**Goat Mountain**	**1.67**	**145**		Pn	06 07 36.9	+0.6
BLCC	**Black Canyon**	**1.70**	**214**		Pg	06 07 37.7	-0.5
DJJ	**Donna J Jenkin**	**1.73**	**206**		Pg	06 07 39.3	-0.4
DSP	**Deep Springs**	**1.74**	**348**		Pn	06 07 36.3	-0.8
DSP				IAML		06 08 04.8	
	comp=E,208nm,0.8s						
GMRC	**Granite Mounta**	**1.76**	**119**		Pn	06 07 35.0	-2.6
BHPR	**Bishop**	**1.81**	**335**		Pb	06 07 40.0	0.0
BLAC	**Blackrock camp**	**1.85**	**149**		Pn	06 07 37.2	-1.5
CRGC	**Crocker Grade**	**1.85**	**257**		Pb	06 07 40.4	-0.3
MTUM	**Tungsten Hills**	**1.88**	**334**		Pb	06 07 41.2	-0.1
DEVC	**Devers**	**1.89**	**155**		Pn	06 07 39.3	0.0
EW2	**E Wide Canyon**	**1.95**	**152**		Pn	06 07 38.6	-1.4
TPC	**Twentynine Pal**	**1.97**	**142**		Pn	06 07 38.7	-1.7
ELS	**Elsinore Mount**	**2.02**	**178**		Pn	06 07 39.8	-1.2
ELS				IAML		06 08 16.5	
	comp=E,200nm,0.6s						
DANC	**Danby, Needles**	**2.03**	**120**		Pb	06 07 43.9	+0.1
MZP	**Montezuma Peak**	**2.03**	**3**		Pn	06 07 40.8	-0.7
POB	**Polly Butte**	**2.04**	**166**		Pn	06 07 40.2	-1.1
SMMC	**Simmler**	**2.05**	**261**		Pn	06 07 42.2	+0.8
DGR	**Domenigoni Val**	**2.06**	**168**		Pn	06 07 40.6	-0.9
MURC	**Murrieta**	**2.08**	**172**		Pn	06 07 40.7	-1.1
SHPR	**Sheep Range**	**2.09**	**66**		Pn	06 07 41.3	-0.8
V12A	**Nelson**	**2.18**	**88**		Pn	06 07 41.9	-1.3
V12A				IAML		06 08 16.2	
	comp=N,213nm,0.8s						
V12A				IAML		06 08 21.6	
	comp=E,197nm,0.5s						
CRY	**Cary Ranch**	**2.19**	**163**		Pb	06 07 47.0	+0.4
BENR	**Benton**	**2.21**	**338**		Pb	06 07 47.1	+0.1
PMD	**Palm Desert**	**2.22**	**155**		Pn	06 07 42.3	-1.5
PMD				IAML		06 08 17.2	
	comp=E,128nm,0.5s						
MLAC	**Mammoth, Mammo**	**2.23**	**332**		Pb	06 07 47.5	+0.3
PFO	**Pinyon Flats O**	**2.23**	**157**		Pn	06 07 42.8	-1.2
SNDA	**J Saunders Pla**	**2.24**	**160**		Pb	06 07 47.8	+0.4
MCSM	**Casa Diablo Ho**	**2.27**	**331**		Pb	06 07 48.4	+0.3
FRD	**Ford Ranch, An**	**2.29**	**160**		Pb	06 07 48.7	+0.4
TPH	**Tonopah**	**2.42**	**6**		Pn	06 07 46.0	-0.6
BORC	**Borrego Spring**	**2.56**	**159**	Pn	Pn	06 07 47.2	-1.2
BORC				IAML		06 08 28.4	
	comp=E,114nm,0.8s						
BORC				IAML		06 08 31.6	
	comp=N,111nm,1.0s						
PRN	**Pahroc Range**	**2.64**	**48**		Pn	06 07 49.0	-0.7
PRN				IAML		06 08 39.1	
	comp=N,148nm,0.5s						
PRN				IAML		06 08 45.6	
	comp=E,178nm,0.7s						
GATR	**Gnd/Air Tx Cnt**	**2.68**	**246**		Pn	06 07 49.0	-1.1
LHV	**Little Huntoon**	**2.70**	**343**		Pn	06 07 50.7	+0.4
LHV				IAML		06 08 35.9	
	comp=E,91nm,0.6s						
LHV				IAML		06 08 36.3	
	comp=N,80nm,0.7s						
DPP	**Dos Picos Cty**	**2.70**	**170**	Pn	Pn	06 07 49.3	-1.1
DPP				IAML		06 08 31.3	
	comp=E,137nm,0.7s						
PMPB	**Monarch Peak**	**2.72**	**283**		Pn	06 07 50.0	-0.6
NV11	**Mina Array Sit**	**2.81**	**350**		Pn	06 07 51.5	-0.4
NVAR	**Mina Array Bea**	**2.83**	**347**		Pn	06 07 51.8	-0.5
BBGB	**Big Mountain B**	**2.99**	**289**		Pn	06 07 54.0	-0.4
W13A	**Hualapai Mount**	**3.03**	**100**		Pn	06 07 53.6	-1.4
W13A				IAML		06 08 45.1	
	comp=E,97nm,0.8s						
W13A				IAML		06 08 45.6	
	comp=N,90nm,1.2s						
RYN	**Ryan**	**3.06**	**345**		Pn	06 07 55.4	-0.1
R11B	**Troy Canyon, C**	**3.10**	**30**		Pn	06 07 54.7	-1.3
BLYC	**Blythe**	**3.12**	**127**		Pn	06 07 54.0	-2.2
BLYC				IAML		06 08 55.3	
	comp=N,59nm,0.8s						
BLYC				IAML		06 09 02.1	
	comp=E,64nm,0.8s						
Q09A	**Carvers**	**3.17**	**5**		Pn	06 07 57.4	+0.3
YUH	**Yuha Desert**	**3.29**	**156**	Pn	Pn	06 07 56.7	-1.8
SAO	**San Andreas Ge**	**3.36**	**290**		Pn	06 07 59.1	-0.3
CBX	**Cerro Bola**	**3.42**	**168**		Pn	06 07 60.0	-0.4
GLA	**Glamis**	**3.43**	**139**		Pn	06 07 58.0	-2.5
GLA				IAML		06 09 00.0	
	comp=E,117nm,0.8s						
GLA				IAML		06 09 01.0	
	comp=N,84nm,0.6s						
CCUT	**Cedar City**	**3.84**	**59**		Pn	06 08 06.3	0.0
ESJX	**Sierra Juarez**	**3.88**	**160**	Pn	Pn	06 08 06.1	-0.6
ESJX				IAML		06 09 13.4	
	comp=E,34nm,1.3s						
Y14A	**Wickenburg**	**4.10**	**114**		Pn	06 08 08.1	-1.6
Y14A				IAML		06 09 22.4	
	comp=E,46nm,0.5s						
113A	**Mohawk Valley,**	**4.25**	**132**	Pn	Pn	06 08 09.2	-2.4
U15A	**North Rim**	**4.31**	**78**		Pn	06 08 12.3	-0.4
U15A				IAML		06 09 21.4	
	comp=E,49nm,0.9s						
U15A				IAML		06 09 22.9	
	comp=N,49nm,0.9s						
X16A	**Lo Mia Camp, P**	**5.14**	**102**	Pn	Pn	06 08 23.6	-0.5
X16A				IAML		06 09 56.2	
	comp=N,12nm,1.2s						
ELK	**Elko**	**5.38**	**19**		Pn	06 08 27.3	-0.1
ELK				IAML		06 09 58.9	
	comp=N,12nm,0.6s						
214A	**Organ Pipe Nat**	**5.39**	**132**	Pn	Pn	06 08 24.8	-2.6
214A				IAML		06 10 12.8	
	comp=E,13nm,1.0s						
X18A	**Snowflake**	**6.31**	**98**	Pn	Pn	06 08 40.2	+0.1
TUC	**Tucson**	**6.52**	**119**	Pn	Pn	06 08 41.0	-2.0

*NEIC **07** 06:16:32.6±1.2,35°.76N±0°.01×117°.578W±0°.004, h6km±3km, Error ellipse: s-maj=1.6km s-min=0.6km az=188.0*

PAS 07 06:16:32.8±1.1,**35°.753N**±0°.006×**117°.57W**±0°.01, **h4**km±2km,**ML3.0**/24,**ML2.7**/36(NEIC),**Error ellipse: s-maj=1.5km s-min=0.8km az=115.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.07**	**342**	Pg	Pg	06 16 34.6	+0.3
SRTC	**Snort**	**0.16**	**247**		Pg	06 16 36.4	+0.5
SRTC					Sg	06 16 38.9	+0.9
TOW	**Tower One**	**0.17**	**290**		Pg	06 16 36.6	+0.5
WVPM	**Volcano Peak E**	**0.28**	**315**		Pg	06 16 38.2	0.0
WVPM					Sg	06 16 42.4	+0.4
CCCA	**Chr Cany lake**	**0.28**	**143**		Pg	06 16 37.2	-1.1
CCCA	**Chr Cany lake**	**0.28**	**143**	IAML		06 16 44.0	
	comp=N,4μm,0.5s						
CCCA				IAML		06 16 44.1	
	comp=E,4μm,0.6s						
WNMM	**Nine Mile Cany**	**0.28**	**288**		Pg	06 16 38.4	+0.1
WNMM					Sg	06 16 42.7	+0.7
LRMC	**Laurel Mtn Rad**	**0.29**	**198**		Pg	06 16 38.4	0.0
LRMC				IAML		06 16 44.1	
	comp=N,1μm,0.2s						
LRMC				IAML		06 16 44.6	
	comp=E,789nm,0.2s						
WRVM	**Rose V. Centra**	**0.36**	**315**		Pg	06 16 39.7	-0.2
MFS	**McCloud Flat S**	**0.43**	**328**		Pg	06 16 41.0	-0.1
MFS					Sg	06 16 47.0	+0.2
WBSM	**Bird Springs**	**0.51**	**245**		Pg	06 16 42.4	-0.3
DTP	**Desert Tortois**	**0.53**	**205**		Pg	06 16 42.9	-0.2
WORM	**Onyx Ranch**	**0.55**	**264**		Pg	06 16 43.0	-0.3
WHFM	**Hanning Flat**	**0.64**	**265**		Pg	06 16 44.6	-0.4
ISA	**Isabella, Lake**	**0.74**	**263**		Sg	06 16 56.5	-0.1
GSC	**Goldstone, Bar**	**0.77**	**126**		Sg	06 16 57.7	+0.1
CWC	**Cottonwood Cre**	**0.80**	**329**		Pg	06 16 48.0	-0.2
CWC				IAML		06 17 00.3	
	comp=E,216nm,0.2s						
CWC				IAML		06 17 00.3	
	comp=N,196nm,0.2s						
WASM	**Alta Sierra Ca**	**0.80**	**269**		Sg	06 16 58.4	-0.2
GWY	**Greenwater Val**	**0.85**	**59**	Pg	Pg	06 16 48.8	-0.4
HYS	**Haystack Butte**	**0.89**	**180**		Pb	06 16 50.5	-0.3
EDW2	**Edwards Air Fo**	**0.94**	**202**		Pb	06 16 51.3	-0.3
TPO	**Tropico Hills**	**1.02**	**212**	Pg	Pg	06 16 52.3	-0.1
TPO				IAML		06 17 08.2	
	comp=N,316nm,0.8s						
SPG2	**Springville 2**	**1.07**	**295**		Sg	06 17 06.3	-0.8
VES	**Vestal, Richgr**	**1.23**	**275**		Sg	06 17 12.2	-0.3
GRAC	**Grapevine Rang**	**1.25**	**8**		Pg	06 16 56.1	-0.7
GRAC				IAML		06 17 16.4	
	comp=N,120nm,0.8s						
GRAC				IAML		06 17 17.5	
	comp=E,175nm,0.6s						
WCT	**Wildcat Mounta**	**1.29**	**36**		Pg	06 16 57.0	-0.5
CJV	**Casa Juvan**	**1.31**	**201**		Sg	06 17 14.9	+0.1
HOLC	**Holcomb Ridge**	**1.31**	**190**		Pg	06 16 57.3	-0.7
HEC	**Hector,Ludlow**	**1.37**	**132**		Pn	06 16 58.0	-0.7
HEC					Sg	06 17 16.6	-0.2
OSI	**Osito Audit: C**	**1.48**	**220**		Pn	06 16 59.2	-1.0
OSI				IAML		06 17 10.3	
	comp=E,81nm,0.6s						
OSI				IAML		06 17 13.7	
	comp=N,78nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.51**	**183**		Pn	06 17 00.4	-0.4
BFSC				IAML		06 17 21.3	
	comp=E,72nm,0.6s						
SSK	**Sunset Peak**	**1.54**	**184**		Pb	06 17 02.1	+0.1
GMN	**Gold Mountain**	**1.56**	**9**		Pn	06 17 01.9	+0.3
MWC	**Mount Wilson**	**1.58**	**195**		Pb	06 17 02.6	0.0
MWC				IAML		06 17 25.7	
	comp=E,87nm,0.7s						
MWC				IAML		06 17 27.4	
	comp=N,102nm,0.6s						
MTPC	**Mountain Pass**	**1.67**	**99**		Pn	06 17 01.3	-1.7
MTPC				IAML		06 17 26.5	
	comp=N,70nm,0.4s						
MTPC				IAML		06 17 26.7	
	comp=E,72nm,0.4s						
PSRC	**Puddingstone R**	**1.67**	**187**		Pg	06 17 04.5	-0.3
MTUM	**Tungsten Hills**	**1.79**	**334**		Pb	06 17 05.9	-0.3
NV11	**Mina Array Sit**	**2.71**	**350**	Pn	Pn	06 17 17.0	-0.3

*IDC **07** 06:25:23.9±1.2,56°.47N×148°.58W, h0km, mb3.5/8, mbtmp3.5/13,ML3.2/5,MS3.2/20, Error ellipse: s-maj=26.6km s-min=17.1km az=30.0*
*NEIC **07** 06:25:25.5±1.3,56°.51N±0°.09×148°.60W±0°.08, h22km±9km, ML3.9/98,ML3.7(AEIC), Error ellipse: s-maj=12.7km s-min=6.0km az=169.0*
*AEIC **07** 06:25:28.9±1.2,56°.53N±0°.08×148°.60W±0°.10, h11km±7km, Error ellipse: s-maj=12.5km s-min=7.4km az=163.0*

ISC 07 06:25:25.3±0.8,**56°.64N**±0°.07×**148°.57W**±0°.05,**h10**km, **n255,σ1°15/234,mb3.7**/7,**MS3.2**/18,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.46**	**299**		**Pn**	**06 26 04.5**	**-1.0**
KDAK	**Kodiak Island**	**2.46**	**299**		**Sn**	**06 26 33.9**	**-1.7**
KDAK	**Kodiak Island**	**2.46**	**299**	Pn	**Pn**	**06 26 04.3**	**-1.2**
	11nm,0.3s,baz=155,slow=8.9,SNR=200						
KDAK				Sn	**Sn**	**06 26 32.1**	**-3.5**
	11nm,0.3s,baz=233,slow=20,SNR=5.1						
KDAK				LR	LR	06 27 18.7	
	comp=Z,606nm,21.0s,baz=189,slow=45						
	24nm,0.3s						
OHAK	**Old Harbor**	**2.65**	**285**		**Pn**	**06 26 06.1**	**-1.9**
OHAK	**Old Harbor**	**2.65**	**285**		**Sn**	**06 26 35.9**	**-4.3**
OHAK	**Old Harbor**	**2.65**	**285**	P	**Pn**	**06 26 05.9**	**-2.1**
SYI	**Shuyak Island**	**2.85**	**315**		**Pn**	**06 26 10.3**	**-0.4**
SYI	**Shuyak Island**	**2.85**	**315**		**Sn**	**06 26 43.3**	**-1.7**
Q23K	**Middleton Isla**	**3.04**	**22**	Pn	**Pn**	**06 26 12.9**	**-0.3**
Q23K				IAML		06 26 56.2	
	comp=E,241nm,0.8s						
Q23K	**Middleton Isla**	**3.04**	**22**		**Sn**	**06 26 48.0**	**-1.7**
CNPM	**China Poot**	**3.22**	**335**		**Pn**	**06 26 15.8**	**0.0**
CNPM	**China Poot**	**3.22**	**335**		**Sn**	**06 26 52.7**	**-1.6**
R18K	**Karluk**	**3.34**	**289**		**Pn**	**06 26 16.4**	**-1.1**
R18K					**Sn**	**06 26 53.0**	**-4.1**
R18K	**Karluk**	**3.34**	**289**	IAML		06 27 01.1	
	comp=N,326nm,0.5s						
R18K				IAML		06 27 01.9	
	comp=E,431nm,0.4s						
BRLK	**Bradley Lake**	**3.36**	**340**		**Pn**	**06 26 17.7**	**-0.1**
BRLK				IAML		06 26 58.8	
	comp=E,157nm,0.5s						
P23K	**Montague Islan**	**3.42**	**10**		**Pn**	**06 26 18.5**	**-0.1**
P23K					**Sn**	**06 26 56.8**	**-2.5**
P23K	**Montague Islan**	**3.42**	**10**	IAML		06 26 59.4	
	comp=E,174nm,0.7s						
P23K				IAML		06 27 09.2	
	comp=N,211nm,0.7s						
HOM	**Homer**	**3.44**	**333**		**Pn**	**06 26 19.4**	**+0.5**
HOM				IAML		06 27 04.2	
	comp=E,370nm,0.8s						
HOM				IAML		06 27 05.4	
	comp=N,357nm,1.0s						
SEW	**Seward**	**3.50**	**353**		**Pn**	**06 26 19.4**	**-0.4**
Q19K	**Cape Douglas,**	**3.56**	**312**		**Pn**	**06 26 20.8**	**+0.3**
KAHG	**Katmai Hook Gl**	**3.72**	**302**		**Pn**	**06 26 23.2**	**+0.5**
AU22	**Augustine Moun**	**3.74**	**319**		**Pn**	**06 26 23.0**	**0.0**
AUCH	**Augustine Cone**	**3.77**	**318**		**Pn**	**06 26 23.8**	**+0.4**
O22K	**Cooper Landing**	**3.90**	**352**		**Pn**	**06 26 25.7**	**+0.6**
P19K	**Oil Pt**	**3.90**	**323**		**Pn**	**06 26 25.4**	**+0.1**
CAHL	**Cahill**	**3.91**	**294**		**Pn**	**06 26 26.2**	**+0.8**
HIN	**Hinchinbrook I**	**3.92**	**15**		**Pn**	**06 26 25.6**	**+0.1**
HIN				IAML		06 27 13.2	
	comp=E,218nm,0.9s						
KAIM	**Kayak Island**	**3.96**	**32**		**Pn**	**06 26 26.3**	**+0.3**
KAIM	**Kayak Island**	**3.96**	**32**		**Sn**	**06 27 11.8**	**-0.6**
SLKM	**Skilak Lake**	**3.97**	**348**

RC01 IAML 06 27 27.2
comp=E,167nm,0.6s
RC01 IAML 06 27 29.6
comp=N,116nm,0.6s
PLK1 Peulik 1 4.52 288 Pn Pn 06 26 33.1 -0.6
RDJH Redoubt Jeurge 4.54 333 Pn 06 26 35.0 +0.9
NCT North Crescent 4.54 332 Pn 06 26 33.9 -0.3
BERG Berg Lake 4.55 32 Pn 06 26 34.4 +0.3
GRIN Grindle Hills 4.58 35 Pn 06 26 34.8 +0.3
PLBL Peulik Blue Cr 4.61 287 Pn 06 26 34.8 -0.2
O19K Port Alsworth 4.67 322 Pn 06 26 35.5 -0.7
KHIT Khitrov Hills 4.72 34 Pn 06 26 36.6 0.0
DIV Divide 4.73 17 Pn 06 26 37.1 +0.5
O18K Koktuh Hills 4.76 315 Pn 06 26 36.7 -0.3
O18K IAML 06 27 36.6
comp=N,76nm,0.7s
KNK Knik Glacier 4.79 1 Pn Pn 06 26 38.4 +1.0
KNK IAML 06 27 41.4
comp=N,62nm,0.7s
KNK IAML 06 27 43.4
comp=E,92nm,0.7s
BMRM Bremner River 4.80 24 Pn 06 26 38.0 +0.4
BMRM IAML 06 27 32.7
comp=E,79nm,0.6s
BMRM IAML 06 27 36.3
comp=N,79nm,0.6s
WAX Waxell Ridge 4.85 36 Pn 06 26 38.7 +0.4
SPU Mount Spurr 4.90 340 Pn 06 26 38.8 -0.1
SPU IAML 06 27 37.2
comp=E,54nm,0.6s
P17K Kvichak River 4.92 305 Pn 06 26 38.8 -0.3
SUA Susitna One 4.97 348 Pn 06 26 39.6 -0.4
SUA Susitna One 4.97 348 IAML 06 27 41.1
comp=E,64nm,0.7s
MESA MESA 4.97 42 Pn 06 26 40.3 +0.3
MESA IAML 06 27 45.4
comp=E,72nm,0.7s
MESA IAML 06 27 49.0
comp=N,86nm,1.0s
PMR Palmer 4.98 357 Pn **Pn 06 26 40.0 +0.1**
PMR IAML 06 27 36.6
comp=N,60nm,1.0s
PMR IAML 06 27 38.1
comp=E,82nm,0.8s
PMR Palmer 4.98 357 P **Pn 06 26 40.1 +0.1**
CRQM Cirque 5.00 32 Pn 06 26 40.8 +0.3
CRQM IAML 06 27 49.5
comp=E,93nm,1.0s
CRQM IAML 06 27 49.8
comp=N,103nm,1.0s
KLU Klutina 5.05 15 Pn 06 26 41.9 +0.7
KLU IAML 06 27 44.5
comp=E,63nm,0.8s
KLU IAML 06 27 50.2
comp=N,69nm,0.9s
TGL Tana Glacier 5.10 34 Pn 06 26 42.2 +0.5
TGL IAML 06 27 40.2
comp=N,107nm,0.5s
ISLE Juniper Island 5.14 37 Pn 06 26 42.6 +0.3
ISLE IAML 06 27 47.4
comp=E,61nm,0.9s
ISLE IAML 06 27 49.8
comp=N,71nm,0.9s
BAGL Bagley Icefiel 5.14 39 Pn 06 26 42.4 +0.2
GHO Glory Hole Cr 5.15 358 Pn 06 26 43.3 +0.9
STLK Strandline Lak 5.16 342 Pn 06 26 43.2 +0.7
STLK IAML 06 27 42.4
comp=N,88nm,0.6s
STLK IAML 06 27 44.8
comp=E,57nm,0.9s
YAH Yahtse 5.17 41 Pn 06 26 42.9 0.0
YAH IAML 06 27 59.9
comp=N,52nm,1.1s
N19K Bonanza Creek 5.20 326 Pn 06 26 42.6 -0.4
N19K IAML 06 28 03.0
comp=E,47nm,0.7s
SCM Sheep Creek Mo 5.25 6 Pn 06 26 45.1 +1.4
SCM IAML 06 27 49.4
comp=N,79nm,0.8s
SCM IAML 06 27 53.9
comp=E,89nm,1.1s
RKAV Rock Avalanche 5.28 43 Pn 06 26 44.6 +0.4
VRDI Verde Repeater 5.31 28 Pn 06 26 45.1 +0.4
ANPB Aniakchak Plen 5.35 276 Pn 06 26 44.2 -1.0
KIAG Kiagna River 5.37 34 Pn 06 26 45.6 0.0
N25K Chitina, Valde 5.38 21 Pn 06 26 46.4 +0.8
SAMH Samovar Hills 5.39 46 Pn 06 26 45.8 +0.1
GLB Gilahina Butte 5.41 25 Pn 06 26 46.3 +0.4
GRNC Granite Creek 5.43 38 Pn 06 26 46.6 +0.3
TABL Table Mountain 5.44 43 Pn 06 26 47.0 +0.4
BALM Baldy 5.46 34 Pn 06 26 46.5 -0.2
CHGN Chignik 5.47 271 Pn 06 26 44.7 -2.0
O17K Koliganek Bris 5.49 308 Pn 06 26 46.6 -0.4
PTPK Patty Peak 5.55 32 Pn 06 26 48.0 0.0
MCARA McCarthy VSAT 5.55 29 Pn 06 26 48.1 +0.2
N18K Kilae Creek 5.57 320 Pn 06 26 48.0 -0.1
SKT Skwentna 5.57 345 Pn 06 26 48.2 +0.1
P16K Nushagak River 5.57 299 Pn 06 26 48.3 +0.2
PCA Pinnacle 5.58 48 Pn 06 26 48.2 -0.1
M24K Tolsona, Glenn 5.62 12 Pn 06 26 50.4 +1.6
BARN Barnard Glacie 5.70 36 Pn 06 26 50.5 +0.4
PNL Peninsula 5.73 54 Pn 06 26 50.2 -0.1
PNL Peninsula 5.73 54 P **Pn 06 26 50.7 +0.4**
CTGM Chitina Glacie 5.74 38 Pn 06 26 50.7 +0.2
M20K Styx River 5.75 338 Pn 06 26 50.6 -0.1
LOGN Logan Glacier 5.75 40 Pn 06 26 51.0 +0.2
BCPM Bancas Point 5.76 51 Pn **Pn 06 26 51.5 +0.7**
WACK Wrangell Chich 5.78 20 Pn 06 26 51.9 +0.6
O16K Kokwok River B 5.85 304 Pn 06 26 51.7 -0.2
N17K Nushagak Hills 5.96 314 Pn 06 26 53.2 -0.1
WAT6 Susitna Watana 5.97 4 Pn 06 26 54.3 +0.5
O28M Mount Upton 6.02 43 Pn 06 26 54.9 +0.4
HARP HAARP 6.03 15 Pn 06 26 55.5 +1.0
VNFG Fog Glacier, M 6.10 271 Pn 06 26 54.2 -1.2
M18K Stony River 6.13 325 Pn 06 26 54.8 -1.1
WAT1 Susitna Watana 6.21 0 Pn 06 26 57.2 +0.3
WAT7 Susitna Watana 6.21 359 Pn 06 26 57.4 +0.4
O29M Mount Kennedy 6.40 51 Pn 06 26 59.8 +0.2
L19K White Mountain 6.41 333 Pn 06 26 59.2 -0.6
M26K Nabesna, AK 6.43 24 Pn 06 27 00.3 +0.3
P29M Windy Craggy 6.47 58 Pn 06 27 00.8 +0.3
CHNA Chernabura Isl 6.48 258 P **Pn 06 26 58.7 -1.9**
DHY Denali Highway 6.48 5 Pn 06 27 02.2 +1.4
CNBA Chernabura Isl 6.49 258 Pn **Pn 06 26 58.7 -1.9**
YUK2 White River 6.51 34 Pn 06 27 01.6 +0.5
O15K Ungalikthiuk R 6.51 298 Pn 06 27 01.4 +0.4
PAX Paxson 6.54 13 Pn 06 27 02.8 +1.3
N16K Nishlik Lake 6.57 310 Pn 06 27 01.9 0.0
M17K Holitna River 6.61 320 Pn 06 27 02.4 0.0
M27K Edge Creek, AK 6.67 28 Pn 06 27 04.3 +1.0
MENT Mentasta 6.77 19 Pn 06 27 05.5 +0.8
SDPT Sand Point 6.80 264 Pn 06 27 04.4 -0.6
SDPT Sand Point 6.80 264 P **Pn 06 27 05.1 +0.1**
S31K Pelican 6.82 74 Pn 06 27 03.7 -1.5
YUK6 Outpost Mounta 6.83 47 Pn 06 27 07.0 +1.4
TRF Thorofare Moun 6.89 354 Pn 06 27 07.7 +1.4
L26K Log Cabin Wild 6.92 20 Pn 06 27 08.7 +2.1
M16K Timber Creek 6.95 313 Pn 06 27 07.2 +0.1
L18K Granite Mounta 6.96 327 Pn 06 27 06.8 -0.3
N15K Kwethluk River 7.01 305 Pn 06 27 07.9 0.0
CAST Castle Rocks 7.02 347 Pn 06 27 08.3 +0.3
P30M Million Dollar 7.03 55 Pn 06 27 07.8 -0.4
PLBC Pleasant Camp 7.07 61 Pn 06 27 08.4 -0.2
MCK McKinley 7.12 359 Pn 06 27 10.8 +1.4
HYT Haines Junctio 7.12 49 Pn 06 27 10.4 +0.9
O14K Tigyukauivet M 7.24 296 Pn 06 27 11.6 +0.5
L27K Beaver Creek, 7.28 25 Pn 06 27 12.4 +0.8
SIT Sitka 7.28 81 Pn 06 27 08.8 -2.7
SIT Sitka 7.28 81 P **Pn 06 27 08.4 -3.1**
BCAR Beaver Creek A 7.29 25 Pn 06 27 12.3 +0.6
RIDG Independent Ri 7.36 13 Pn 06 27 13.9 +1.2
DOT Dot Lake 7.38 16 Pn 06 27 14.6 +1.6
L17K Donlin 7.41 322 Pn 06 27 12.7 -0.7
M15K Kasigluk River 7.51 308 Pn 06 27 14.5 -0.1
L16K Owhat River 7.56 317 Pn 06 27 15.2 -0.2
SKAG Skagway 7.57 63 Pn 06 27 15.9 +0.4
SKAG Skagway 7.57 63 P **Pn 06 27 16.3 +0.8**
BPAW Bear Paw Mtn. 7.58 352 Pn 06 27 16.1 +0.4
S12K Black Hills 7.59 269 Pn 06 27 15.2 -0.6
N30M Aishikik Lake 7.64 46 Pn 06 27 17.2 +0.7
N14K Kuskokwak Cree 7.65 301 Pn 06 27 17.1 +0.5
S32K Killisnoo 7.68 78 Pn 06 27 15.2 -1.8
O30N Mendenhall 7.70 52 Pn 06 27 18.1 +0.7
SCRK Sand Creek 7.70 15 Pn 06 27 17.8 +0.4
M29M Somme Creek 7.75 37 Pn 06 27 19.3 +1.1
R32K Eaglecrest 7.75 72 Pn 06 27 18.1 0.0
JIS Juneau Island 7.83 72 Pn 06 27 18.4 -0.7
JIS Juneau Island 7.83 72 P **Pn 06 27 18.5 -0.5**
K17K Iditarod 7.83 325 Pn 06 27 18.4 -0.7
WRH Wood River Hil 7.86 2 Pn 06 27 21.1 +1.6
J18K Innoko River 7.96 333 Pn 06 27 20.7 -0.2
NEA2 Nenana 7.98 358 Pn 06 27 21.7 +0.5
CCB Clear Creek Bu 8.04 2 Pn 06 27 23.5 +1.5
J20K Nowinta River 8.04 342 Pn 06 27 22.2 +0.1
J25K Salcha River, 8.15 10 Pn 06 27 23.8 +0.2
J19K Poorman 8.16 338 Pn 06 27 23.1 -0.5
N31M Braeburn, Yuko 8.18 48 Pn 06 27 24.8 +0.9
WHY Whitehorse 8.19 55 Pn 06 27 24.8 +0.7
IL31 8.20 5 Pn 06 27 25.1 +1.0
ILAR Eielson Array 8.20 5 Pn **Pn 06 27 24.9 +0.7**
comp=E,0.6nm,0.3s,baz=188,slow=14,SNR=26
ILAR Sn **Sn 06 28 53.2 -3.6**
comp=E,0.9nm,0.3s,baz=189,slow=23,SNR=9.2
comp=E,1.2nm,0.4s
J26L Joseph Creek 8.26 15 Pn 06 27 26.4 +1.3
COLA College 8.27 2 P **Pn 06 27 26.2 +1.1**
L29M L29M 8.34 35 Pn 06 27 27.5 +1.4
P32M Hilin 8.40 63 Pn 06 27 27.1 +0.2
M30M Minto, Yukon 8.42 40 Pn 06 27 28.0 +0.7
MLY Manley 8.48 354 Pn 06 27 28.1 0.0
I23K Minto, Yukon-K 8.55 358 Pn 06 27 28.3 -0.5
J17K VABM Dome 8.57 327 Pn 06 27 28.0 -1.2
L14K Kuka Creek 8.67 309 Pn 06 27 30.8 +0.2
K15K Wolf Creek Mou 8.69 316 Pn 06 27 31.0 +0.2
DAWY Dawson 8.72 28 Pn 06 27 32.2 +0.8
CRAG Craig 8.73 91 P **Pn 06 27 27.7 -3.7**
J16K Anvik River 8.98 323 Pn **Pn 06 27 34.2 -0.6**
P33M Teslin, Yukon 9.00 60 Pn 06 27 35.4 +0.1
PRP Porcupine Dome 9.03 8 Pn 06 27 36.5 +0.8
K29M Barlow Dome 9.06 33 Pn 06 27 37.0 +0.9
I26K Coal Creek Min 9.08 15 Pn 06 27 36.1 -0.1
M31M Drury Creek, Y 9.12 46 Pn 06 27 38.0 +1.3
H23K Yukon River 9.23 358 Pn 06 27 39.3 +1.0
H21K Melozitna Rive 9.27 349 Pn 06 27 38.6 -0.2
FARO Faro, Yukon 9.55 48 Pn 06 27 44.3 +1.6
I27K Kandik River 9.59 18 Pn 06 27 43.3 0.0
IMAR Indian Mountai 9.70 347 Pn 06 27 44.6 -0.1
R33M Jennings River 9.73 66 Pn 06 27 46.2 +0.9
H18K Honhosa River 9.77 335 Pn **Pn 06 27 44.9 -0.7**
J30M Hart River 9.96 32 Pn 06 27 50.0 +1.6
I29M Ogilvie Camp, 10.05 25 Pn 06 27 50.7 +1.2
FYU Fort Yukon 10.09 8 Pn 06 27 49.7 -0.2
G24K Hadweenzic Riv 10.11 2 Pn 06 27 51.4 +1.1
DLBC Dease Lake 10.13 72 Pn **Pn 06 27 50.8 +0.1**
baz=185,slow=17,SNR=4.3
DLBC Sn **Sn 06 29 38.1 -6.1**
baz=252,slow=20,SNR=2.0
comp=E,0.1nm,0.3s
H27K Steamboat Moun 10.19 16 Pn 06 27 52.0 +0.6
I30M Mount Dempster 10.43 29 Pn 06 27 57.4 +2.6
G18K Tagagawik 10.46 337 Pn **Pn 06 27 56.0 +0.9**
MMPY Sheldon Lake, 10.59 48 Pn 06 27 58.3 +1.3
COLD Coldfoot 10.65 357 Pn 06 27 58.5 +0.8
H29M Whitestone 10.76 23 Pn **Pn 06 27 59.9 +0.7**
BBB Bella Bella 12.71 102 LR LR 06 32 22.4
comp=E,130nm,18.3s,baz=330,slow=33
INK Inuvik 13.55 24 Pn **Pn 06 28 39.7 +2.4**
comp=E,0.2nm,0.3s,baz=208,slow=9.8,SNR=3.9
INK LR LR 06 34 15.8
comp=E,98nm,18.8s,baz=231,slow=39
comp=E,4.4nm,0.9s
YKA Yellowknife Ar 18.01 57 P **Pn 06 29 35.6 +0.2**
comp=E,0.1nm,0.3s,baz=268,slow=10,SNR=2.8
comp=E,1.4nm,0.8s
NEW Newport 20.76 100 P **P 06 30 04.1 -1.9**
comp=E,0.5nm,0.4s,baz=328,slow=13,SNR=4.0
NEW LR LR 06 36 33.8
comp=E,96nm,20.3s,baz=307,slow=32
comp=E,0.5nm,0.4s
YBH Yreka Blue Hor 22.35 121 LR LR 06 36 52.7
comp=E,5.7nm,19.3s,baz=305,slow=31
RES Resolute Bay 27.06 28 LR LR 06 42 27.5
comp=E,68nm,18.1s,baz=336,slow=38
PDAR Pinedale Array 28.35 103 P **P 06 31 19.0 -0.5**
comp=E,0.1nm,0.6s,baz=315,slow=8.7,SNR=1.8
comp=E,0.1nm,0.6s
PETK Petropavlovsk- 30.45 286 LR LR 06 42 46.9
comp=E,24nm,20.7s,baz=93,slow=34
MA2 Magadan 31.21 301 LR LR 06 45 04.4
comp=E,57nm,18.9s,baz=97,slow=38
ULM Lac du Bonnet 31.35 79 LR LR 06 43 41.3
comp=E,59nm,18.1s,baz=292,slow=35
PFO Pinyon Flats O 31.81 123 LR LR 06 42 10.5
comp=E,46nm,20.1s,baz=357,slow=32
TIXI Tiksi 35.58 327 LR LR 06 47 00.2
comp=E,20nm,20.1s,baz=14,slow=36
ANMO Albuquerque 35.71 109 LR LR 06 44 38.9
comp=E,42nm,20.4s,baz=7.5,slow=32
FRB Frobisher Bay 37.90 45 LR LR 06 48 32.4
comp=E,52nm,18.5s,baz=335,slow=36
TXAR Lajitas Array 41.59 112 P **P 06 33 14.5 +1.3**
comp=E,0.2nm,0.7s,baz=331,slow=7.4,SNR=2.9
TXAR LR LR 06 49 26.1
comp=E,29nm,18.6s,baz=252,slow=35
comp=E,0.2nm,0.7s
SFJD Kangerlussuaq 42.57 35 LR LR 06 51 05.4
comp=E,38nm,19.0s,baz=300,slow=36
SCHQ Schefferville 43.47 56 LR LR 06 51 33.3
comp=E,37nm,19.0s,baz=258,slow=36
KLR Kul'dur 46.02 296 LR LR 06 54 20.2
comp=E,14nm,18.0s,baz=270,slow=38
TKL Tuckaleechee C 47.52 88 LR LR 06 54 06.3
comp=E,57nm,18.3s,baz=306,slow=36
NRIK Noril'sk 47.93 337 LR LR 06 57 41.5
comp=E,41nm,18.4s,baz=50,slow=40
H11N2 WAKE ISLAND Hy 49.40 240 T T 07 27 58.3
baz=30,slow=76,SNR=6.7
H11N3 WAKE ISLAND Hy 49.41 240 T T 07 28 11.4
baz=30,slow=76,SNR=10
H11N1 WAKE ISLAND Hy 49.42 240 T T 07 28 03.2
baz=30,slow=76,SNR=3.9
H11S1 WAKE ISLAND Hy 50.55 240 T T 07 29 38.9
baz=30,slow=74
H11S2 WAKE ISLAND Hy 50.56 240 T T 07 29 39.4
baz=30,slow=74
H11S3 WAKE ISLAND Hy 50.56 240 T T 07 29 28.4
baz=30
BORG Borgarnes 52.45 26 LR LR 06 56 40.4
comp=E,30nm,19.7s,baz=310,slow=36
SONM Songino Array 58.71 310 P **P 06 35 24.4 +1.5**
comp=E,0.4nm,0.4s,baz=48,slow=6.6,SNR=3.6
comp=E,0.4nm,0.4s
NOA NORSAR Array B 61.59 11 LR LR 07 04 50.9
comp=E,6.8nm,19.4s,baz=215,slow=38
FINES FINESS Array B 62.18 3 P **P 06 35 47.7 +1.6**
comp=E,1.2nm,0.6s,baz=353,slow=6.1,SNR=6.0
comp=E,1.2nm,0.6s
KURBB Kurchatov Arra 66.23 329 P **P 06 36 13.5 +0.6**
comp=E,0.3nm,0.5s,baz=28,slow=6.8,SNR=4.6
comp=E,0.3nm,0.5s
MKAR Makanchi Array 68.53 325 P **P 06 36 27.7 +0.1**
comp=E,0.3nm,0.5s,baz=31,slow=7.8,SNR=4.6
comp=E,0.3nm,0.5s
ESDC Sonseca Array 79.49 27 P **P 06 37 33.9 +2.2**
comp=E,0.4nm,0.9s,baz=11,slow=5.2,SNR=2.6
comp=E,0.4nm,0.9s

WEL ***07*** *06:34:24.9±0.7,33°S±4°×17°8W±1°2,h12km,mB5.3/13, ML5.2/24,MLv5.0/21,Mw(mB)4.7/13, Error ellipse: s-maj=16.4km s-min=3.1km az=105.7,confirmed*
NEIC ***07*** *06:34:29.6±1.9,32°29S±0°04×178°8W±0°2,h35km±2km, mb4.9/36, Error ellipse: s-maj=25.5km s-min=3.0km az=103.0*
IDC ***07*** *06:34:32.9±2.1,32°06S×178°70W,h70km±18km,mb4.0/10, mbtmp4.3/12,MS3.5/12, Error ellipse: s-maj=20.2km s-min=13.2km az=98.0*
ISC 07 06:34:28.6±0.4,32°31S±0°04×178°56W±0°08,h33km, n136,σ1§80/137,mb4.8/31,MS3.6/10,6C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.09**	**10**	P		**Pn**	**06 35 15.1**	**+0.1**
GLKZ				S		**Sn**	**06 35 50.2**	**-0.6**
RAO	**Raoul Island**	**3.10**	**10**	Pn		**Pn**	**06 35 15.5**	**+0.3**
RAO Sn **Sn 06 35 52.2 +1.1**
RAO Raoul Island 3.10 10 P **Pn 06 35 16.1 +0.9**
286nm,0.3s,baz=101,slow=19,SNR=1.5
RAO S **Sn 06 35 50.1 -0.9**
668nm,0.4s,baz=285,slow=23,SNR=4.6
RAO LR LR 06 36 30.7
comp=Z,615nm,19.7s,baz=150,slow=41
RIZ Raoul Island 3.11 10 P **Pn 06 35 17.5 +2.2**
RIZ S **Sn 06 35 51.2 -0.1**
MXZ Matakaoa Point 5.83 205 Pn **Pn 06 35 52.8 +0.1**
MXZ Matakaoa Point 5.83 205 P **Pn 06 35 53.0 +0.3**
MXZ S **Sn 06 37 00.5 +2.1**
WMGZ Waiomatatini S 6.03 203 P **Pn 06 35 56.5 +1.1**
PKGZ Pakihiroa 6.19 206 P **Pn 06 35 58.5 +1.0**
PKGZ S **Sn 06 37 05.0 -2.1**
HAZ Te Kaha 6.20 208 P **Pn 06 35 58.8 +1.0**
HAZ S **Sn 06 37 11.6 +4.0**
PUZ Puketiti 6.31 204 P **Pn 06 35 59.4 +0.2**
PUZ S **Sn 06 37 09.8 -0.3**
GRZ Great Barrier 6.32 230 P **Pn 06 36 03.9 +4.5**
RUGZ Raukumara Rang 6.43 208 P **Pn 06 36 01.7 +0.8**
RUGZ S **Sn 06 37 15.1 +1.9**
KUZ Kuaotunu 6.47 225 P Pn 06 36 06.6 +5.2
TWGZ Tauwhareparae 6.50 205 P **Pn 06 36 03.2 +1.3**
TWGZ S **Sn 06 37 16.0 +1.1**
CNGZ Carnagh Statio 6.70 202 P **Pn 06 36 04.8 +0.2**
CNGZ S **Sn 06 37 21.8 +2.1**
TKGZ Te Karaka 6.78 205 P **Pn 06 36 08.5 +2.8**
TKGZ S **Sn 06 37 24.3 +2.6**
MWZ Matawai 6.80 207 P **Pn 06 36 05.2 -0.9**
MWZ S **Sn 06 37 23.5 +1.0**
OPRZ Ohinepanea 6.82 215 P **Pn 06 36 09.4 +3.2**
WIAZ Waiheke Island 6.86 228 P **Pn 06 36 10.4 +3.6**
WCZ Waipu Caves 6.91 236 P Pn 06 36 12.7 +5.3
URZ Urewera 6.91 210 P **Pn 06 36 06.9 -0.5**
26nm,0.4s,baz=354,slow=9.2,SNR=38
URZ S **Sn 06 37 24.1 -0.8**
54nm,0.4s,baz=317,slow=20,SNR=10.0
URZ Urewera 6.91 210 P **Pn 06 36 07.1 -0.4**
URZ S **Sn 06 37 23.5 -1.4**
ABAZ Army Bay 6.93 230 P Pn 06 36 14.4 +6.6
RAGZ Rawiri 6.99 207 P **Pn 06 36 09.0 +0.4**
RAGZ S **Sn 06 37 28.7 +1.7**
MBAZ Motutapu North 6.99 229 P Pn 06 36 16.9 +8.3
MKAZ Moumakai 7.04 226 P **Pn 06 36 12.9 +3.6**
RIGZ Rimuhau 7.05 204 P **Pn 06 36 09.2 -0.3**
RIGZ S **Sn 06 37 26.2 -2.2**
OUZ Omahuta 7.15 244 P **Pn 06 36 14.9 +4.2**
PRGZ Paritu Road 7.20 203 P **Pn 06 36 09.8 -1.8**
PRGZ S **Sn 06 37 29.5 -2.7**
MUGZ Murupara 7.24 211 P **Pn 06 36 12.2 +0.3**
MUGZ S **Sn 06 37 34.1 +1.1**
RTZ Ruatahuna 7.26 209 Pn 06 36 13.7 +1.2
SNGZ Shannon Statio 7.27 206 P **Pn 06 36 13.3 +0.9**
TOZ Tahuroa Road 7.28 220 P **Pn 06 36 17.0 +4.5**
WTAZ Waiatarua 7.30 229 P Pn 06 36 18.4 +5.5
AWAZ Awhitu Peninsu 7.33 228 P Pn 06 36 21.1 +7.8
MHGZ Mahia Peninsul 7.40 202 P **Pn 06 36 13.8 -1.3**
MHGZ S **Sn 06 37 35.7 -1.4**
BKZ Black Stump Fm 7.93 209 Pn 06 36 19.7 -1.9
HIZ Hauiti 8.19 219 Pn **Pn 06 36 24.7 -0.4**
WAZ Wanganui 9.08 213 P **Pn 06 36 36.7 -0.6**
RPZ Rata Peaks 14.01 213 P **Pn 06 37 42.3 -2.3**
3.8nm,0.4s,baz=27,slow=22,SNR=1.3
RPZ S Sn 06 40 04.8 -14
6.9nm,0.4s,baz=314,slow=19,SNR=7.4
MSVF Nonsavu 14.84 347 P **Pn 06 37 56.2 +0.1**
2.9nm,0.3s,baz=260,slow=9.8,SNR=5.0
MSVF LR LR 06 42 25.5
comp=Z,229nm,19.4s,baz=209,slow=32
NIUE Niue 15.29 33 P 06 38 15.0 +8.4
DZM Mont Dzumac 16.78 304 P 06 38 24.0 +0.9
DZM IAmb IAmb 06 38 27.1
comp=Z,24nm,1.2s
DZM Mont Dzumac 16.78 304 *e*P **Pn 06 38 18.0 -3.2**
comp=Z,53nm,28.1s
DZM *e*LR LR 06 42 10.7
comp=Z,495nm,25.2s
DZM Mont Dzumac 16.78 304 P **P 06 38 27.8 +4.7**
comp=Z,10nm,0.7s,baz=102,slow=18,SNR=5.5
RAR Rarotonga 20.06 61 LR LR 06 44 56.7
comp=Z,34nm,21.1s,baz=303,slow=31
ARMA Armidale 25.49 266 P **P 06 39 50.3 -3.7**
TBI Tubuai 27.17 78 *e*LR LR 06 47 02.2
comp=Z,764nm,28.2s
EIDS Eidsvold 27.42 277 P **P 06 40 09.9 -1.4**
TAU Tasmania Unive 28.85 239 P **P 06 40 20.6 -3.3**
TAU IAmb IAmb 06 40 43.6
comp=Z,20nm,1.4s
PPT2 Papeete2 29.97 68 *e*LR LR 06 48 15.1
comp=Z,120nm,25.8s
PPT Papeete 29.98 68 LR LR 06 53 43.0
comp=Z,28nm,18.3s,baz=154,slow=38
HNR Honiara 30.24 314 P **P 06 40 39.0 +2.7**
STKA Stephens Creek 33.63 260 P **P 06 41 03.8 -2.3**
STKA IAmb IAmb 06 41 32.7
comp=Z,28nm,1.3s
STKA Stephens Creek 33.63 260 P **P 06 41 06.9 +0.9**
comp=Z,1.5nm,0.5s,baz=100,slow=14,SNR=4.7
STKA LR LR 06 52 24.0
comp=Z,110nm,20.0s,baz=30,slow=32
comp=Z,1.5nm,0.5s
CTAO Charters Tower 33.69 282 P 06 41 06.1 -0.6
CTAO IAmb IAmb 06 41 10.5
comp=Z,10nm,0.6s
COEN Coen 39.38 289 P **P 06 41 55.1 -0.2**
COEN IAmb IAmb 06 41 56.7
comp=Z,11nm,0.7s
DRV Dumont d'Urvil 42.20 203 P **P 06 42 18.3 +0.4**
AS31 Alice Springs 42.57 269 P 06 42 20.4 -1.1
ASAR Alice Springs 42.57 269 P **P 06 42 19.2 -2.3**
ASAR Alice Springs 42.57 269 P **P 06 42 20.8 -0.8**
comp=Z,4.6nm,0.5s,baz=106,slow=7.2,SNR=69
ASAR PcP **PcP 06 44 13.2 -0.4**
comp=Z,0.4nm,0.7s,baz=123,slow=3.4,SNR=2.2
ASAR LR LR 06 59 42.0
comp=Z,76nm,18.1s,baz=92,slow=36
comp=Z,4.6nm,0.5s
WR0 Warramunga Arr 43.55 275 P **P 06 42 27.8 -1.7**
WR0 IAmb IAmb 06 42 30.0
comp=Z,13nm,0.6s
WR8 Warramunga Arr 43.59 275 P 06 42 28.5 -1.3
WR8 IAmb IAmb 06 42 30.0
comp=Z,18nm,0.8s
WB2 Warramunga Arr 43.72 274 P **P 06 42 29.7 -1.1**
WB2 IAmb IAmb 06 42 31.0
comp=Z,26nm,0.9s
WRAB Tennant Creek 43.73 274 P **P 06 42 29.4 -1.5**
WRAB IAmb IAmb 06 42 30.9
comp=Z,19nm,0.8s
WRA Warramunga Arr 43.73 274 P 06 42 29.4 -1.5
WRA Warramunga Arr 43.73 274 P **P 06 42 30.1 -0.9**
comp=Z,14nm,0.3s,baz=112,slow=8.0,SNR=174
WRA PcP **PcP 06 44 15.9 -1.7**
comp=Z,0.8nm,0.8s,baz=124,slow=3.3,SNR=2.2
WB0 Warramunga Arr 43.76 275 P 06 42 29.9 -1.2
WB0 IAmb IAmb 06 42 31.3
comp=Z,30nm,0.8s
FORT Forrest 45.12 257 P **P 06 42 40.2 -1.7**
FORT IAmb IAmb 06 42 41.2
comp=Z,8.0nm,0.9s
SBA Scott Base 46.10 184 P 06 42 51.2 +2.2
SBA IAmb IAmb 06 42 57.4
comp=Z,9.9nm,1.1s
VNDA Vanda 46.15 186 P **P 06 42 51.9 +2.5**
VNDA Vanda 46.15 186 P **P 06 42 52.3 +2.9**
comp=Z,1.1nm,0.6s,baz=22,slow=6.2,SNR=6.9
comp=Z,1.1nm,0.6s
MTN Manten Dam 49.84 281 P 06 43 17.1 -1.6
KNRA Kununurra 50.41 276 P 06 43 21.4 -1.6
KNRA IAmb IAmb 06 43 31.0
comp=Z,14nm,1.2s
CCD Concordia, Ant 50.99 196 P **P 06 43 28.3 +1.2**
CCD PcP **PcP 06 44 43.2 +0.3**
FITZ Fitzroy Crossi 51.91 272 P 06 43 31.9 -2.4
CASY Casey 53.23 209 P **P 06 43 42.5 -0.9**
CASY IAmb IAmb 06 43 53.0
comp=Z,31nm,1.4s
NWAO Narrogin (SRO) 53.30 251 P 06 43 41.9 -2.5
MORW Morawa 55.55 255 P 06 43 59.2 -1.7
MORW IAmb IAmb 06 44 04.3
comp=Z,22nm,1.4s
QSPA South Pole Qui 57.80 180 P 06 44 19.3 +2.8
QSPA IAmb IAmb 06 44 25.3

	comp=Z,10nm,0.8s							
QSPA	**South Pole Qui**	**57.80**	**180**	P		**P**	**06 44 19.6**	**+3.2**
	comp=Z,7.7nm,0.6s,baz=359,slow=0.8,SNR=58							
	comp=Z,7.7nm,0.6s							
QSPA	**South Pole Qui**	**57.80**	**180**	P		**P**	**06 44 20.0**	**+3.6**
QSPA				sP		**pwP**	**06 44 31.7**	**+1.0**
KAPI	**Kappang**	**63.50**	**281**	LR		LR	07 13 44.0	
	comp=Z,68nm,18.1s,baz=70,slow=37							
JAGI	**Jajag, Banyuwa**	**66.34**	**275**	P		**P**	**06 45 13.2**	**-1.2**
BELA	**Belgrano 2**	**67.96**	**172**			**P**	**06 45 24.2**	**+0.6**
MAW	**Mawson**	**70.36**	**201**	P		**P**	**06 45 38.9**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=132,slow=5.5,SNR=19							
	comp=Z,1.6nm,0.5s							
SYO	**Syowa Base**	**75.15**	**193**	*eP*		**P**	**06 46 07.4**	**+0.4**
SYO	**Syowa Base**	**75.15**	**193**	*ep*	P	pP	06 46 18.0	+1.7
TROLL	**Troll, Antarti**	**75.96**	**180**	⇑P		**P**	**06 46 13.3**	**+1.5**
	comp=Z,286nm,0.8s							
SNAA	**Sanae**	**76.26**	**179**	⇑P		**P**	**06 46 14.8**	**+1.3**
	comp=Z,72nm,0.4s							
SNAA	**Sanae**	**76.26**	**179**			**P**	**06 46 13.6**	**+0.1**
SNAA	**Sanae**	**76.26**	**179**	P		**P**	**06 46 14.4**	**+1.0**
	comp=Z,2.9nm,0.5s,baz=181,slow=12,SNR=20							
	comp=Z,2.9nm,0.5s							
VNA2	**Neumayer--Watz**	**76.86**	**177**	⇑P		**P**	**06 46 18.2**	**+1.4**
	comp=Z,17nm,0.6s,baz=173,slow=5.4							
VNA1	**Neumayer--Stat**	**77.09**	**177**	⇑P		**P**	**06 46 19.7**	**+1.7**
	comp=Z,11nm,0.8s							
MJAR	**Matsushiro Arr**	**79.55**	**326**	P		**P**	**06 46 31.5**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=168,slow=4.5,SNR=1.7							
	comp=Z,0.7nm,0.3s							
H03S2	**Juan Fernandez**	**79.81**	**124**	T		T	08 15 06.2	
	baz=236,slow=74,SNR=23							
H03S1	**Juan Fernandez**	**79.82**	**124**	T		T	08 15 07.4	
	baz=236,slow=74,SNR=20							
H03S3	**Juan Fernandez**	**79.83**	**124**	T		T	08 15 06.3	
	baz=236,slow=74,SNR=35							
H03N3	**Juan Fernandez**	**80.01**	**123**	T		T	08 15 16.6	
	baz=241,slow=72,SNR=112							
H03N2	**Juan Fernandez**	**80.01**	**123**	T		T	08 15 17.4	
	baz=241,slow=72,SNR=84							
H03N1	**Juan Fernandez**	**80.03**	**123**	T		T	08 15 17.3	
	baz=241,slow=72,SNR=218							
JNU	**Nakatsue**	**80.67**	**319**	LR		LR	07 18 57.8	
	comp=Z,36nm,18.2s,baz=228,slow=33							
PLCA	**Paso Flores**	**81.55**	**133**	P		**P**	**06 46 45.4**	**+2.3**
	comp=Z,1.3nm,0.9s,baz=214,slow=7.3,SNR=3.0							
	comp=Z,1.3nm,0.9s							
KIWB	**Kanaga Island**	**83.81**	**1**	P		**P**	**06 46 55.1**	**+1.0**
ADK	**Adak**	**83.85**	**1**	P		**P**	**06 46 57.0**	**+2.7**
PSI	**Prapat**	**85.16**	**276**	LR		LR	07 25 49.1	
	comp=Z,75nm,19.0s,baz=205,slow=36							
NJ2	**Nanjing**	**87.13**	**311**	*eP*		**P**	**06 47 13.5**	**+2.4**
NJ2				pmax		pmax		
	comp=Z,13nm,1.1s							
PETK	**Petropavlovsk-**	**87.54**	**346**	P		**P**	**06 47 11.7**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=115,slow=6.5,SNR=6.5							
PETK				LR		LR	07 21 21.3	
	comp=Z,12nm,19.5s,baz=176,slow=32							
	comp=Z,1.5nm,0.7s							
PFO	**Pinyon Flats O**	**87.85**	**48**	LR		LR	07 17 37.2	
	comp=Z,27nm,21.6s,baz=211,slow=29							
SDPT	**Sand Point**	**88.68**	**10**	P		**P**	**06 47 19.9**	**+2.0**
S12K	**Black Hills**	**88.80**	**9**	P		**P**	**06 47 18.2**	**-0.3**
CHGN	**Chignik**	**89.92**	**11**	P		**P**	**06 47 24.2**	**+0.5**
CHGN				IAmb		IAmb	06 47 38.1	
	comp=Z,12nm,1.1s							
CMAR	**Chiang Mai Arr**	**93.58**	**289**	LR		LR	07 31 44.7	
	comp=Z,9.5nm,18.6s,baz=100,slow=37							
O18K	**Koktuh Hills**	**93.83**	**12**	P		**P**	**06 47 41.7**	**-0.1**
O18K				IAmb		IAmb	06 47 47.2	
	comp=Z,3.2nm,0.9s							
K15K	**Wolf Creek Mou**	**95.27**	**8**	P		**P**	**06 47 48.3**	**-0.1**
K15K				IAmb		IAmb	06 47 58.3	
	comp=Z,5.5nm,1.4s							
PZH	**PanZhiHua**	**95.77**	**298**	P		**P**	**06 47 52.8**	**+1.1**
HHC	**Hu-ho-hao-te**	**97.22**	**314**	*eP*		**P**	**06 47 58.7**	**+0.8**
HHC				pmax		pmax		
	comp=Z,7.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,150nm,4.9s							
PDAR	**Pinedale Array**	**97.84**	**44**	P		**P**	**06 48 00.6**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=218,slow=4.3,SNR=1.9							
	comp=Z,0.2nm,0.6s							
MKAR	**Makanchi Array**	**118.62**	**309**	PKP		**PKPdf**	**06 53 10.9**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=153,slow=1.6,SNR=3.0							
ZALV	**Zalesovo Beam**	**119.13**	**318**	PKP		**PKPdf**	**06 53 12.8**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=80,slow=4.8,SNR=1.9							
KURBB	**Kurchatov Arra**	**122.05**	**313**	PKP		**PKPdf**	**06 53 16.7**	**-2.4**
	comp=Z,1.0nm,0.4s,baz=109,slow=2.0,SNR=7.2							
BVAR	**Borovoye Array**	**127.42**	**315**	PKP		**PKPdf**	**06 53 28.0**	**-1.5**
SPITS	**Spitsbergen Ar**	**133.57**	**356**	PKP		**PKPdf**	**06 53 39.1**	**-1.3**
	comp=Z,6.2nm,0.8s,baz=115,slow=6.5,SNR=4.1							
ARCES	**ARCESS Array B**	**140.35**	**347**	PKhKP		PKPpre	06 53 46.0	
	comp=Z,3.3nm,0.9s,baz=52,slow=2.0,SNR=3.6							
ARCES				PKP		**PKPdf**	**06 53 53.1**	**-0.1**
	comp=Z,3.8nm,0.9s,baz=8.7,slow=1.6,SNR=7.7							
KBZ	**Khabaz**	**145.74**	**302**	PKPbc		**PKPdf**	**06 54 02.6**	**-0.8**
	comp=Z,4.9nm,0.9s,baz=332,slow=0.1,SNR=7.0							
FINES	**FINESS Array B**	**146.76**	**339**	PKPbc		**PKPdf**	**06 54 04.8**	**+0.2**
	comp=Z,9.2nm,0.7s,baz=55,slow=3.9,SNR=37							
NB2	**NORSAR Subarra**	**150.56**	**350**	PKP		**PKPbc**	**06 54 15.4**	**-0.9**
	comp=Z,2.8nm,0.5s,baz=16,slow=2.6							
NOA	**NORSAR Array B**	**150.56**	**350**	PKPbc		**PKPbc**	**06 54 15.2**	**-1.0**
	comp=Z,4.4nm,0.5s,baz=16,slow=4.2,SNR=27							
HFS	**Hagfors**	**151.01**	**347**	PKPbc		**PKPbc**	**06 54 16.0**	**-1.3**
	comp=Z,6.5nm,0.5s,baz=128,slow=2.2,SNR=56							
MMAI	**Mount Meron Ar**	**151.47**	**281**	PKPbc		**PKPbc**	**06 54 18.9**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=229,slow=3.3,SNR=1.5							
AKASG	**Malin Array Be**	**152.49**	**320**	PKPbc		**PKPbc**	**06 54 19.6**	**-1.3**
	comp=Z,3.1nm,0.7s,baz=81,slow=1.5,SNR=8.2							
BRTR	**Keskin Array B**	**153.03**	**295**	PKPbc		**PKPbc**	**06 54 20.9**	**-1.9**
	comp=Z,0.5nm,0.4s,baz=128,slow=4.2,SNR=4.5							
DBIC	**Dimbokro**	**153.82**	**166**	PKPbc		**PKPbc**	**06 54 24.2**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=191,slow=3.6,SNR=1.3							
EKA	**Eskdalemuir Ar**	**156.76**	**7**	PKPab		**PKPab**	**06 54 48.5**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=350,slow=5.4,SNR=1.9							
TORD	**Torodi Ar. Bea**	**160.92**	**181**	PKPab		**PKPab**	**06 55 07.9**	**-0.4**
	comp=Z,2.8nm,0.6s,baz=161,slow=2.3,SNR=2.0							
GERES	**GERESS Array B**	**161.08**	**334**	PKPab		**PKPab**	**06 55 06.8**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=1.8,slow=5.6,SNR=2.4							

*IDC **07** 06:53:35.9±8.8, 12°.55N×93°.81E, h118km±72km, mb3.2/6, mbtmp3.6/7, Error ellipse: s-maj=85.5km s-min=17.6km az=61.0*

ISC 07 06:53:33.2±1.2, 12°.5N±0°.1×93°.6E±0°.2, h100km, n9, σ0§41/10, mb3.6/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.87**	**40**	P	**Pn**	**06 55 25.4**	**+0.3**
	4.4nm,0.6s,baz=234,slow=14,SNR=29						
MKAR	**Makanchi Array**	**35.54**	**347**	P	**P**	**07 00 20.9**	**+0.2**
	0.2nm,0.4s,baz=107,slow=16,SNR=3.7						
	0.2nm,0.4s						
SONM	**Songino Array**	**36.86**	**14**	P	**P**	**07 00 31.6**	**-0.4**
	0.4nm,0.5s,baz=195,slow=8.2,SNR=2.2						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**40.02**	**345**	P	**P**	**07 00 58.6**	**+0.4**
	0.4nm,0.6s,baz=157,slow=7.7,SNR=2.2						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**41.98**	**352**	P	**P**	**07 01 14.1**	**-0.2**
	1.0nm,0.3s,baz=167,slow=8.8,SNR=3.5						
	1.0nm,0.3s						
WRA	**Warramunga Arr**	**51.40**	**128**	P	**P**	**07 02 28.4**	**+0.1**
	0.3nm,0.5s,baz=306,slow=9.4,SNR=8.4						
WRA				PcP	**PcP**	**07 03 41.1**	**-0.5**
	0.3nm,0.6s,baz=318,slow=4.0,SNR=2.2						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**53.29**	**132**	P	**P**	**07 02 42.5**	**+0.2**
	0.5nm,0.4s,baz=309,slow=6.8,SNR=14						
	0.5nm,0.4s						
TXAR	**Lajitas Array**	**135.23**	**22**	PKP	**PKiKP**	**07 12 43.2**	**-0.3**
	0.1nm,0.4s,baz=6.2,slow=0.1,SNR=4.4						
PLCA	**Paso Flores**	**148.58**	**203**	PKPbc	**PKPbc**	**07 13 09.5**	**+0.5**
	0.7nm,0.8s,baz=214,slow=3.6,SNR=1.2						

WEL 07 06:57:24.2±1.2, 34°S±7°×18°0E±°, h12km, mB4.7/3, ML4.3/14, MLv4.3/10, Mw(mB)3.9/3, Error ellipse: s-maj=11.6km s-min=8.4km az=65.9, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.98**	**194**	P	Pn	06 58 24.9	-0.2
MXZ				S	Sn	06 59 13.3	+1.7
MXZ				T	T	07 02 13.1	
WMGZ	**Waiomatatini S**	**4.21**	**192**	P	Pn	06 58 27.8	-0.4
WMGZ				S	Sn	06 59 18.0	+0.8
HAZ	**Te Kaha**	**4.29**	**199**	P	Pn	06 58 30.7	+1.5
HAZ				S	Sn	06 59 19.7	+0.6
PUZ	**Puketiti**	**4.48**	**193**	P	Pn	06 58 30.6	-1.3
PUZ				S	Sn	06 59 22.9	-1.1
RUGZ	**Raukumara Rang**	**4.51**	**199**	P	Pn	06 58 32.8	+0.3
RUGZ				S	Sn	06 59 27.8	+2.9
TWGZ	**Tauwhareparae**	**4.64**	**195**	P	Pn	06 58 33.7	-0.4
WCZ	**Waipu Caves**	**4.80**	**241**	P	Pn	06 58 37.5	+1.2
CNGZ	**Carnagh Statio**	**4.89**	**192**	P	Pn	06 58 36.4	-1.2
MWZ	**Matawai**	**4.90**	**199**	P	Pn	06 58 37.5	-0.3
TKGZ	**Te Karaka**	**4.92**	**195**	P	Pn	06 58 37.8	-0.1
URZ	**Urewera**	**4.95**	**202**	P	Pn	06 58 38.2	-0.2
RAGZ	**Rawiri**	**5.08**	**199**	P	Pn	06 58 41.1	+0.9
OUZ	**Omahuta**	**5.12**	**251**	P	Pn	06 58 41.5	+0.8
OUZ				S	Sn	06 59 38.8	-0.8
RIGZ	**Rimuhau**	**5.19**	**195**	P	Pn	06 58 41.7	-0.1
MUGZ	**Murupara**	**5.26**	**204**	P	Pn	06 58 41.6	-1.0
MUGZ				S	Sn	06 59 44.7	+1.5
PRGZ	**Paritu Road**	**5.38**	**194**	P	Pn	06 58 42.2	-2.1
RAHZ	**Arahi**	**5.56**	**200**	P	Pn	06 58 47.3	+0.5
BKZ	**Black Stump Fm**	**5.97**	**203**	P	Pn	06 58 54.4	+1.9

*NEIC **07** 06:57:27.4±1.7, 35°.655N±0°.010×117°.45W±0°.01, h3km±4km, Error ellipse: s-maj=1.6km s-min=1.4km az=224.0*

PAS 07 06:57:27.9±1.5, 35°.646N±0°.010×117°.45W±0°.01, h3km±3km, ML3.2/23, ML3.2/88(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=60.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.14**	**149**		Pg	06 57 31.2	+0.6
CLC	**China Lake**	**0.21**	**326**		Pg	06 57 31.9	+0.1
CLC				IAML		06 57 35.5	
	comp=N,5μm,0.5s						
CLC				IAML		06 57 35.5	
	comp=E,8μm,0.8s						
LRMC	**Laurel Mtn Rad**	**0.25**	**228**		Pg	06 57 32.8	+0.1
TOW	**Tower One**	**0.30**	**303**		Pg	06 57 34.3	+0.6
MPMC	**Manual Prospec**	**0.41**	**356**		Pg	06 57 35.7	-0.2
MPMC					Sg	06 57 41.6	+0.4
MPMC				IAML		06 57 42.1	
	comp=E,2μm,0.4s						
MPMC				IAML		06 57 42.3	
	comp=N,2μm,0.6s						
WNMM	**Nine Mile Cany**	**0.42**	**298**		Pg	06 57 36.1	+0.2
WVPM	**Volcano Peak E**	**0.42**	**316**		Pg	06 57 36.2	+0.1
DTP	**Desert Tortois**	**0.49**	**220**		Pg	06 57 37.2	-0.1
WRVM	**Rose V. Centra**	**0.51**	**316**		Pg	06 57 37.6	0.0
WRVM					Sg	06 57 45.1	+0.9
WBSM	**Bird Springs**	**0.57**	**259**		Pg	06 57 38.7	-0.1
MFS	**McCloud Flat S**	**0.57**	**325**		Pg	06 57 38.9	0.0
QSM	**Queen of Sheba**	**0.57**	**56**		Pg	06 57 38.8	-0.1
QSM				IAML		06 57 47.3	
	comp=E,863nm,0.8s						
QSM				IAML		06 57 47.4	
	comp=N,1μm,0.8s						
GSC	**Goldstone, Bar**	**0.63**	**123**		Pg	06 57 39.8	-0.1
GSC				IAML		06 57 48.9	
	comp=N,2μm,0.6s						
GSC				IAML		06 57 49.4	
	comp=E,2μm,0.5s						
GSC	**Goldstone, Bar**	**0.63**	**123**		Sg	06 57 48.8	+0.7
CCAC	**Calif City Air**	**0.67**	**223**		Pg	06 57 40.7	-0.1
CCAC					Sg	06 57 50.0	+0.5
WHFM	**Hanning Flat**	**0.73**	**274**		Pg	06 57 41.6	-0.9
HYS	**Haystack Butte**	**0.79**	**187**		Pg	06 57 42.5	-0.5
ISA	**Isabella, Lake**	**0.83**	**271**		Pg	06 57 43.4	-0.4
ISA				IAML		06 57 57.9	
	comp=N,608nm,0.7s						
ISA	**Isabella, Lake**	**0.83**	**271**		Sg	06 57 54.5	-0.1
GWY	**Greenwater Val**	**0.83**	**50**		Pg	06 57 43.3	-0.6
GWY				IAML		06 58 00.2	
	comp=N,1μm,0.8s						
GWY				IAML		06 58 00.2	
	comp=E,821nm,0.7s						
EDW2	**Edwards Air Fo**	**0.88**	**210**		Pg	06 57 44.1	-0.6
WASM	**Alta Sierra Ca**	**0.90**	**276**		Pg	06 57 44.8	-0.4
CWC	**Cottonwood Cre**	**0.94**	**328**		Pg	06 57 45.9	0.0
CGO	**Cerro Gordo**	**0.95**	**343**		Pg	06 57 45.8	-0.3
TPO	**Tropico Hills**	**0.99**	**220**		Pg	06 57 46.5	-0.4
SBB	**Saddle Back Bu**	**1.00**	**198**		Pg	06 57 46.4	-0.7
TEJ	**El Tejon**	**1.09**	**248**		Pg	06 57 47.7	-1.1
ADO	**Adelanto Recei**	**1.09**	**179**		Pb	06 57 49.6	+0.1
SPG2	**Springville 2**	**1.20**	**298**		Pg	06 57 50.0	-0.9
SPG2					Sg	06 58 05.8	-0.6
DSCC	**Desert Studies**	**1.21**	**114**		Pg	06 57 50.3	-0.8
LRRC	**Littlerock Res**	**1.21**	**203**		Pg	06 57 50.3	-0.8
HOLC	**Holcomb Ridge**	**1.23**	**195**		Pg	06 57 50.5	-0.9
HOLC					Sb	06 58 08.0	-0.1
LEOC	**Leona Valley**	**1.23**	**215**		Pg	06 57 50.8	-0.6
ARVC	**Arvin**	**1.24**	**246**		Pg	06 57 50.7	-0.9
ARVC					Sg	06 58 07.2	-0.5
AMDNV	**Amargosa**	**1.25**	**49**		Pg	06 57 51.4	-0.4
CJV	**Casa Juvan**	**1.25**	**207**		Pg	06 57 51.8	0.0
JNH	**Juniper Hills**	**1.26**	**199**		Pg	06 57 51.1	-1.0
TUQ	**Turquoise Moun**	**1.27**	**99**		Pg	06 57 51.2	-0.9
WCT	**Wildcat Mounta**	**1.33**	**30**		Pg	06 57 52.6	-0.7
WCT				IAML		06 58 13.2	
	comp=E,204nm,0.5s						
VES	**Vestal, Richgr**	**1.34**	**279**		Pn	06 57 53.0	-0.5
GRAC	**Grapevine Rang**	**1.35**	**3**		Pn	06 57 53.2	-0.5
GRAC				IAML		06 58 15.6	
	comp=E,396nm,0.7s						
SGV	**South Grapevin**	**1.38**	**14**		Pn	06 57 54.0	-0.2
BAKC	**Calstate**	**1.38**	**258**		Pn	06 57 53.8	-0.2
CHFC	**Chilao Flat St**	**1.39**	**200**		Pn	06 57 53.0	-1.4
CHFC					Sn	06 58 13.2	-0.2
SIL	**Silver Peak**	**1.39**	**158**		Pn	06 57 54.4	-0.1
BFSC	**Mount Baldy Ra**	**1.41**	**187**		Pn	06 57 53.4	-1.2
BFSC				IAML		06 58 14.0	
	comp=E,293nm,0.6s						
BFSC				IAML		06 58 14.3	
	comp=N,229nm,0.6s						
SSK	**Sunset Peak**	**1.45**	**188**		Pn	06 57 54.2	-0.9
BBRC	**Big Bear Solar**	**1.45**	**162**		Pn	06 57 55.4	+0.1
OSI	**Osito Audit: C**	**1.46**	**226**		Pn	06 57 54.7	-0.6
MWC	**Mount Wilson**	**1.50**	**199**		Pn	06 57 54.7	-1.3
MWC				IAML		06 58 18.1	
	comp=N,500nm,0.5s						
MWC				IAML		06 58 18.2	
	comp=E,329nm,0.6s						
MTPC	**Mountain Pass**	**1.56**	**95**		Pn	06 57 55.3	-1.4
SVD	**Seven Oaks Dam**	**1.56**	**169**		Pg	06 57 57.9	0.0
DECC	**Green Verdugo**	**1.56**	**208**		Pb	06 57 57.5	0.0
PSRC	**Puddingstone R**	**1.58**	**191**		Pb	06 57 57.6	-0.1
PASC	**Pasadena Art C**	**1.59**	**202**		Pn	06 57 56.2	-0.7
PASC				IAML		06 58 20.6	
	comp=N,192nm,0.6s						
PASC				IAML		06 58 23.1	
	comp=E,325nm,0.6s						
GTM	**Goat Mountain**	**1.62**	**146**		Pb	06 57 58.2	-0.3
TPNV	**Topopah Spring**	**1.62**	**36**		Pn	06 57 57.3	-0.3
TPNV				IAML		06 58 22.8	
	comp=E,226nm,1.1s						
TPNV				IAML		06 58 24.0	
	comp=E,316nm,0.7s						
GMRC	**Granite Mounta**	**1.70**	**120**		Pn	06 57 56.5	-2.2
DJJ	**Donna J Jenkin**	**1.74**	**208**		Pb	06 58 00.9	+0.4
DSP	**Deep Springs**	**1.77**	**347**		Pn	06 57 59.0	-0.4
BLAC	**Blackrock camp**	**1.80**	**151**		Pb	06 58 01.5	-0.1
BHPR	**Bishop**	**1.85**	**334**		Pb	06 58 02.8	+0.3
CRGC	**Crocker Grade**	**1.90**	**258**		Pb	06 58 03.1	-0.2
EW2	**E Wide Canyon**	**1.91**	**153**		Pb	06 58 03.8	+0.4
TPC	**Twentynine Pal**	**1.92**	**143**		Pn	06 58 00.3	-1.3
MTUM	**Tungsten Hills**	**1.93**	**333**		Pb	06 58 04.1	+0.3
HMTC	**Hemet**	**1.97**	**169**		Pn	06 58 01.2	-1.0
ELS	**Elsinore Mount**	**1.99**	**179**		Pn	06 58 01.9	-0.7
POB	**Polly Butte**	**2.00**	**167**		Pn	06 58 01.8	-0.9
DGR	**Domenigoni Val**	**2.02**	**169**		Pn	06 58 02.3	-0.7
SHPR	**Sheep Range**	**2.05**	**65**		Pn	06 58 03.3	-0.2
MURC	**Murrieta**	**2.05**	**174**		Pn	06 58 03.1	-0.2
V12A	**Nelson**	**2.12**	**87**		Pn	06 58 03.0	-1.3
PMD	**Palm Desert**	**2.18**	**156**		Pn	06 58 03.6	-1.5
PMD				IAML		06 58 46.7	
	comp=E,98nm,0.8s						
PFO	**Pinyon Flats O**	**2.19**	**158**		Pn	06 58 04.1	-1.2
PFO				IAML		06 58 45.9	
	comp=E,79nm,1.2s						
FRD	**Ford Ranch, An**	**2.26**	**162**		Pb	06 58 09.7	+0.3
FRD	**Ford Ranch, An**	**2.26**	**162**		Pb	06 58 09.6	+0.3
TPH	**Tonopah**	**2.43**	**4**		Pn	06 58 08.5	-0.2
NEE2	**Needles Airpor**	**2.48**	**110**		Pn	06 58 07.6	-1.6
DPP	**Dos Picos Cty**	**2.67**	**171**	Pn	Pn	06 58 11.2	-0.7
DPP				IAML		06 58 52.8	
	comp=E,87nm,0.7s						
PMPB	**Monarch Peak**	**2.77**	**283**		Pn	06 58 13.0	-0.4
PMPB				IAML		06 59 02.4	
	comp=N,138nm,0.9s						
PMPB				IAML		06 59 10.2	
	comp=E,152nm,0.8s						
NV11	**Mina Array Sit**	**2.84**	**349**		Pn	06 58 14.8	+0.5
W13A	**Hualapai Mount**	**2.97**	**100**		Pn	06 58 15.1	-1.0
W13A				IAML		06 59 06.2	
	comp=N,44nm,0.8s						
TKX	**Tecate**	**3.15**	**167**	Pn	Pn	06 58 17.2	-1.3
TKX				IAML		06 58 38.2	
	comp=N,48nm,0.1s						
TKX				IAML		06 59 08.4	
	comp=E,43nm,0.6s						
GLA	**Glamis**	**3.38**	**139**		Pn	06 58 19.8	-1.8
ESJX	**Sierra Juarez**	**3.84**	**161**	Pn	Pn	06 58 27.5	-0.6
ESJX				IAML		06 59 34.9	
	comp=E,21nm,1.1s						
Y14A	**Wickenburg**	**4.04**	**114**	Pn	Pn	06 58 30.2	-0.5
Y14A				IAML		06 59 41.3	
	comp=N,51nm,0.7s						
Y14A				IAML		06 59 46.0	
	comp=E,27nm,0.5s						
113A	**Mohawk Valley,**	**4.19**	**132**	Pn	Pn	06 58 31.0	-1.8
113A				IAML		06 59 47.0	
	comp=E,18nm,1.4s						
113A				IAML		06 59 47.1	
	comp=N,19nm,1.1s						
214A	**Organ Pipe Nat**	**5.34**	**132**	Pn	Pn	06 58 46.2	-2.4
214A				IAML		07 00 25.5	
	comp=N,11nm,1.0s						
214A				IAML		07 00 32.3	
	comp=E,12nm,0.8s						

*PAS **07** 07:09:38.8±2.1, 35°.62N±0°.01×117°.44W±0°.01, h3km±3km, ML3.7/17, ML3.5/114(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=47.0*

*NEIC **07** 07:09:38.1±1.9, 35°.62N±0°.01×117°.44W±0°.01, h6km±3km, Error ellipse: s-maj=1.6km s-min=1.3km az=205.0*

*IDC **07** 07:09:39.1±0.7, 35°.63N×117°.26W, h0km, mb3.8/1, mbtmp3.4/6, ML3.5/4, MS3.1/1, Error ellipse: s-maj=14.6km s-min=5.2km az=74.0*

ISC 07 07:09:39.2±0.9, 35°.61N±0°.02×117°.43W±0°.02, h9km±7km, n144, σ0§90/156, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.10**	**146**		**Pg**	**07 09 41.5**	**-0.2**
LRMC	**Laurel Mtn Rad**	**0.24**	**238**		**Pg**	**07 09 43.7**	**-0.5**
LRMC				IAML		07 09 49.4	
	comp=E,14μm,0.4s						
CLC	**China Lake**	**0.25**	**327**		**Sg**	**07 09 47.1**	**-0.6**
CLC	**China Lake**	**0.25**	**327**	Pg	**Pg**	**07 09 43.5**	**-0.8**
CLC				IAML		07 09 47.2	
	comp=N,19μm,0.3s						
CLC				IAML		07 09 47.6	
	comp=E,9μm,0.5s						
SRTC	**Snort**	**0.27**	**288**		**Pg**	**07 09 44.4**	**-0.3**
SRTC					**Sg**	**07 09 49.1**	**+0.7**
WNMM	**Nine Mile Cany**	**0.45**	**301**		**Pg**	**07 09 47.5**	**-0.6**
MPMC	**Manual Prospec**	**0.45**	**354**		**Pg**	**07 09 47.2**	**-0.9**
MPMC				IAML		07 09 53.7	
	comp=E,5μm,0.3s						
MPMC				IAML		07 09 53.8	
	comp=N,6μm,0.4s						
WVPM	**Volcano Peak E**	**0.46**	**318**		**Pg**	**07 09 47.6**	**-0.7**
DTP	**Desert Tortois**	**0.48**	**225**		**Pg**	**07 09 47.9**	**-0.7**
WRVM	**Rose V. Centra**	**0.55**	**317**		**Pg**	**07 09 49.0**	**-0.8**
WRVM					**Sg**	**07 09 56.7**	**-0.3**
QSM	**Queen of Sheba**	**0.58**	**52**		**Pg**	**07 09 50.0**	**-0.6**
QSM	

MTPC Mountain Pass 1.54 94 Pn 07 10 05.6 -1.4
MTPC IAML 07 10 29.8
comp=E,707nm,0.2s
MTPC IAML 07 10 30.2
comp=N,707nm,0.5s
DECC Green Verdugo 1.54 209 Pn 07 10 06.5 -0.4
PSRC Puddingstone R 1.54 192 Pn 07 10 06.8 -0.2
PASC Pasadena Art C 1.56 204 Pn 07 10 06.8 -0.4
PASC IAML 07 10 31.0
comp=N,380nm,0.5s
PASC IAML 07 10 35.4
comp=E,432nm,0.5s
GTM Goat Mountain 1.58 146 Pn 07 10 08.2 +0.7
TIN Tinemaha, Big 1.58 336 Pg 07 10 08.8 -0.8
CFT Crafton Hills 1.59 170 Pb 07 10 09.2 +0.3
OAT Oat Mountain 1.59 218 Pn 07 10 07.4 -0.3
MLSC Mira Loma 1.60 184 Pb 07 10 09.2 +0.2
RVR Riverside 1.61 178 Pn 07 10 07.5 -0.4
CHNC Chino 1.62 187 Pb 07 10 09.8 +0.6
LCH Last Change Ra 1.63 354 Pn 07 10 07.7 -0.6
TPNV Topopah Spring 1.64 35 Pn 07 10 07.9 -0.6
TPNV IAML 07 10 34.2
comp=E,790nm,0.6s
TPNV IAML 07 10 36.4
comp=E,906nm,0.5s
GR2C Griffith Obs. 1.65 206 Pb 07 10 10.3 +0.5
GMRC Granite Mounta 1.67 119 Pn 07 10 06.9 -1.8
RHC Rose Hills Cem 1.67 197 Pn 07 10 08.4 -0.3
GMN Gold Mountain 1.69 5 Pn 07 10 08.9 -0.3
BLCC Black Canyon 1.70 217 Pn 07 10 08.8 -0.3
DJJ Donna J Jenkin 1.72 210 Pn 07 10 08.6 -0.7
PEC Perris 1.73 172 Pn 07 10 09.5 +0.1
BCW Bitter Crk WRg 1.75 248 Pn 07 10 08.8 -1.1
BLAC Blackrock camp 1.76 150 Pn 07 10 09.1 -0.9
DSP Deep Springs 1.81 346 Pn 07 10 10.1 -0.5
EW2 E Wide Canyon 1.86 153 Pn 07 10 10.7 -0.7
TPC Twentynine Pal 1.88 142 Pn 07 10 10.6 -1.0
BHPR Bishop 1.89 334 Pb 07 10 14.1 0.0
CRGC Crocker Grade 1.91 260 Pn 07 10 11.9 -0.8
HMTC Hemet 1.93 169 Pn 07 10 11.7 -0.5
ELS Elsinore Mount 1.96 180 Pn 07 10 12.5 -0.2
ELS IAML 07 10 40.8
comp=N,477nm,0.5s
ELS IAML 07 10 42.5
comp=E,463nm,0.5s
POB Polly Butte 1.96 168 Pn 07 10 12.4 -0.3
MTUM Tungsten Hills 1.97 333 Pb 07 10 15.2 -0.1
DGR Domenigoni Val 1.98 170 Pn 07 10 12.9 -0.1
MURC Murrieta 2.01 174 Pn 07 10 13.5 +0.1
BACC Bachelor Mtn. 2.02 171 Pn 07 10 13.2 -0.2
FMP Fort Macarthur 2.02 201 Pb 07 10 16.6 +0.5
RPV Rancho Palos V 2.02 204 Pn 07 10 13.5 -0.1
SHPR Sheep Range 2.05 63 Pn 07 10 13.5 -0.5
MZP Montezuma Peak 2.09 1 Pn Pn 07 10 14.3 -0.3
V12A Nelson 2.10 86 Pn Pn 07 10 13.7 -1.1
V12A IAML 07 10 48.6
comp=N,276nm,0.5s
V12A IAML 07 10 48.6
comp=E,221nm,0.4s
CRY Cary Ranch 2.12 164 Pn 07 10 14.6 -0.3
PMD Palm Desert 2.14 156 Pn 07 10 14.1 -1.1
PMD Palm Desert 2.14 156 Pn 07 10 14.2 -0.9
PMD IAML 07 10 47.5
comp=E,270nm,0.5s
PMD IAML 07 10 49.0
comp=N,322nm,0.6s
PFO Pinyon Flats O 2.15 158 Pn 07 10 14.8 -0.6
PFO IAML 07 10 47.4
comp=N,251nm,0.5s
PFO Pinyon Flats O 2.15 158 Pn **Pn 07 10 14.5 -0.8**
comp=N,5.9nm,0.3s,baz=347,slow=15,SNR=12
PFO Pg **Pb 07 10 18.7 +0.4**
comp=N,5.5nm,0.3s,baz=346,slow=14,SNR=20
PFO Sn **Sn 07 10 41.2 -0.9**
comp=N,17nm,0.3s,baz=349,slow=7.0,SNR=5.5
PFO Lg Lg 07 10 46.4
comp=N,113nm,0.3s,baz=66,slow=16,SNR=18
comp=N,57nm,0.2s
XPFO Pinon Flat 2.15 158 Pn 07 10 14.5 -0.9
SNDA J Saunders Pla 2.16 162 Pn 07 10 15.1 -0.4
BZNA Buzz No.'s Pla 2.20 163 Pn 07 10 15.8 -0.3
FRD Ford Ranch, An 2.22 162 Pn 07 10 15.9 -0.4
FRD Ford Ranch, An 2.22 162 Pn 07 10 15.8 -0.4
CIAC Catalina I. Ai 2.34 201 Pn 07 10 17.3 -0.7
IRM Iron Mountain 2.37 127 Pn 07 10 16.6 -1.7
HAY Hayfield 2.38 142 Pn 07 10 17.4 -1.0
TPH Tonopah 2.47 4 Pn 07 10 19.8 0.0
JUEM Julian Eagle M 2.61 164 Pn 07 10 21.8 0.0
PRN Pahroc Range 2.63 46 Pn Pn 07 10 21.8 -0.1
DPP Dos Picos Cty 2.63 171 Pn Pn 07 10 21.6 -0.4
DPP IAML 07 11 02.9
comp=N,206nm,0.4s
LHV Little Huntoon 2.77 342 Pn 07 10 24.3 +0.5
LHV IAML 07 11 15.0
comp=E,138nm,0.6s
PMPB Monarch Peak 2.80 283 Pn Pn 07 10 24.2 -0.1
NV11 Mina Array Sit 2.88 349 Pn 07 10 25.5 0.0
NVAR Mina Array Bea 2.90 346 Pn 07 10 25.5 -0.3
NVAR Mina Array Bea 2.90 346 Pn Pn 07 10 26.3 +0.5
comp=E,2.7nm,0.3s,baz=26,slow=18,SNR=16
NVAR Pg **Pb 07 10 32.4 +1.1**
comp=E,8.7nm,0.3s,baz=169,slow=14,SNR=15
NVAR Lg Lg 07 11 10.8
comp=E,11nm,0.3s,baz=273,slow=25,SNR=7.2
comp=E,1.7nm,0.3s
W13A Hualapai Mount 2.94 99 Pn 07 10 25.4 -1.0
W13A IAML 07 11 16.5
comp=N,143nm,0.6s
BLYC Blythe 3.03 127 Pn Pn 07 10 25.8 -1.6
BLYC IAML 07 11 17.0
comp=N,151nm,0.5s
BLYC IAML 07 11 21.5
comp=E,150nm,0.6s
RYN Ryan 3.14 344 Pn Pn 07 10 29.2 +0.1
YUH Yuha Desert 3.21 157 Pn Pn 07 10 28.4 -1.4
GLA Glamis 3.34 139 Pn 07 10 30.0 -1.6
GLA IAML 07 11 35.9
comp=N,173nm,0.7s
SAO San Andreas Ge 3.45 291 Pn 07 10 32.8 -0.4
LCMT Little Creek M 3.66 66 Pn 07 10 36.5 +0.3
ESJX Sierra Juarez 3.80 161 Pn 07 10 38.0 -0.1
ESJX IAML 07 11 41.5
comp=E,86nm,0.5s
ESJX IAML 07 11 43.5
comp=N,69nm,0.6s
CCUT Cedar City 3.81 58 Pn 07 10 38.7 +0.5
KNB Kanab 3.98 68 Pn 07 10 40.9 +0.3
KNB IAML 07 11 44.0
comp=E,57nm,0.7s
KNB IAML 07 11 48.5
comp=N,58nm,1.4s
Y14A Wickenburg 4.01 113 Pn 07 10 39.5 -1.4
Y14A IAML 07 11 48.1
comp=E,77nm,0.5s
Y14A IAML 07 11 55.9
comp=N,86nm,0.8s
U15A North Rim 4.25 77 Pn 07 10 45.0 +0.6
U15A IAML 07 11 58.5
comp=N,47nm,0.9s
U15A IAML 07 12 01.7
comp=E,65nm,0.8s
PAHR Pah Rah Range 4.38 340 Pn Pn 07 10 46.6 +0.6
WUAZ Wupatki 4.94 89 Pn 07 10 54.3 +0.5
WUAZ IAML 07 12 17.4
comp=E,60nm,0.6s
X16A Lo Mia Camp, P 5.06 102 Pn 07 10 55.6 +0.2
X16A IAML 07 12 22.3
comp=E,25nm,1.3s
X16A IAML 07 12 41.8
comp=N,20nm,1.1s
ELK Elko 5.41 18 Pn Pn 07 11 00.5 +0.1
ELK Elko 5.41 18 Pn Pn 07 11 01.1 +0.8
comp=N,0.4nm,0.3s,baz=196,slow=15,SNR=7.9
ELK Lg Lg 07 12 27.4
comp=N,5.1nm,0.3s,baz=308,slow=22,SNR=14
comp=N,1.4nm,0.4s
X18A Snowflake 6.23 98 Pn 07 11 12.3 +0.7
WVOR Wild Horse Val 6.88 353 Pn Pn 07 11 19.6 -0.7
YBH Yreka Blue Hor 7.38 328 Pn Pn 07 11 31.4 +4.2
baz=180,slow=3.8,SNR=1.7
YBH Lg Lg 07 13 31.5
baz=92,slow=5.0,SNR=2.7
ANMO Albuquerque 9.00 91 Pg Pn 07 12 21.0 +31
comp=N,0.2nm,0.3s,baz=355,slow=11,SNR=9.5
ANMO Lg Lg 07 14 19.0
comp=N,0.1nm,0.3s,baz=261,slow=17,SNR=6.0
PDAR Pinedale Array 9.40 38 Pn Pn 07 11 56.4 +1.3
comp=N,0.3nm,0.6s,baz=223,slow=10,SNR=3.8
PDAR Lg Lg 07 14 32.8
comp=N,0.1nm,0.3s,baz=228,slow=29,SNR=1.7
TXAR Lajitas Array 13.19 114 Pn Pn 07 12 48.4 +1.6
comp=N,0.2nm,0.3s,baz=293,slow=13,SNR=20
comp=N,0.4nm,0.3s
BBB Bella Bella 18.24 339 LR LR 07 21 21.8
comp=N,55nm,20.0s,baz=105,slow=38
ULM Lac du Bonnet 21.41 40 P P 07 14 28.2 +0.9
comp=N,2.7nm,0.6s,baz=232,slow=12,SNR=6.3
comp=N,2.7nm,0.6s

*NEIC **07** 07:13:02.4±1.5, 35°.903N±0°.009×117°.69W±0°.01, h3km±3km, Error ellipse: s-maj=1.4km s-min=1.3km az=88.0*
PAS 07 07:13:02.6±1.4, 35°.909N±0°.009×117°.71W±0°.01, h2km±1km, ML3.2/24, ML3.1/48(NEIC), Error ellipse: s-maj=1.4km s-min=1.1km az=207.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.11**	**204**		Pg	07 13 08.3	+3.5
CLC	**China Lake**	**0.13**	**136**	Pg	Pg	07 13 05.3	+0.2
WNMM	**Nine Mile Cany**	**0.17**	**248**		Pg	07 13 06.3	+0.4
WNMM					Sg	07 13 09.3	+1.1
WRVM	**Rose V. Centra**	**0.18**	**304**		Pg	07 13 06.4	+0.3
WRVM					Sg	07 13 09.2	+0.7
SRTC	**Snort**	**0.22**	**189**		Sg	07 13 11.8	+2.1
MPMC	**Manual Prospec**	**0.23**	**50**		Pg	07 13 07.3	+0.1
MPMC				IAML		07 13 10.9	
comp=E,5μm,0.4s							
MPMC				IAML		07 13 12.4	
comp=N,5μm,0.7s							
LRMC	**Laurel Mtn Rad**	**0.43**	**177**		Pg	07 13 10.9	0.0
LRMC					Sg	07 13 17.2	+0.8
LRMC				IAML		07 13 17.4	
comp=N,2μm,0.2s							
CCCA	**Chr Cany lake**	**0.47**	**144**		Pg	07 13 12.2	+0.5
CCCA				IAML		07 13 22.6	
comp=E,2μm,0.6s							
WORM	**Onyx Ranch**	**0.48**	**244**		Pg	07 13 11.9	0.0
WBSM	**Bird Springs**	**0.51**	**223**		Pg	07 13 12.5	+0.1
WBSM					Sg	07 13 19.8	+0.7
WHFM	**Hanning Flat**	**0.56**	**248**		Pg	07 13 13.4	0.0
WHFM					Sg	07 13 21.1	+0.4
CWC	**Cottonwood Cre**	**0.61**	**331**		Pg	07 13 14.6	+0.3
CWC				IAML		07 13 24.4	
comp=N,526nm,0.2s							
CWC				IAML		07 13 26.9	
comp=E,676nm,0.2s							
CGO	**Cerro Gordo**	**0.65**	**353**		Pg	07 13 15.1	+0.1
DTP	**Desert Tortois**	**0.65**	**190**		Pg	07 13 15.0	-0.1
ISA	**Isabella, Lake**	**0.67**	**249**		Pg	07 13 15.5	0.0
ISA				IAML		07 13 24.6	
comp=N,1μm,0.4s							
ISA				IAML		07 13 26.0	
comp=E,1μm,0.2s							
ISA	**Isabella, Lake**	**0.67**	**249**		Sg	07 13 24.5	+0.4
QSM	**Queen of Sheba**	**0.68**	**85**		Pg	07 13 15.7	-0.1
WASM	**Alta Sierra Ca**	**0.71**	**256**		Pg	07 13 16.3	0.0
WASM					Sg	07 13 25.9	+0.4
CCAC	**Calif City Air**	**0.80**	**198**		Pg	07 13 17.7	-0.2
CCAC					Sg	07 13 28.7	+0.5
GWY	**Greenwater Val**	**0.89**	**72**		Pg	07 13 19.8	+0.1
GWY					Sg	07 13 31.6	+0.4
GWY				IAML		07 13 36.7	
comp=N,646nm,0.7s							
SPG2	**Springville 2**	**0.91**	**289**		Pg	07 13 19.4	-0.6
SPG2					Sg	07 13 31.5	-0.3
GSC	**Goldstone, Bar**	**0.95**	**129**		Pg	07 13 20.3	-0.6
GSC				IAML		07 13 35.8	
comp=N,660nm,0.5s							
GSC				IAML		07 13 37.4	
comp=E,629nm,0.5s							
GSC	**Goldstone, Bar**	**0.95**	**129**		Sg	07 13 34.0	+0.8
TEJ	**El Tejon**	**1.05**	**230**		Pg	07 13 22.0	-0.7
HYS	**Haystack Butte**	**1.05**	**174**		Pg	07 13 22.5	-0.3
TPO	**Tropico Hills**	**1.11**	**203**	Pg	Pb	07 13 24.6	0.0
TPO				IAML		07 13 41.5	
comp=N,528nm,0.7s							
TPO				IAML		07 13 45.6	
comp=E,578nm,0.7s							
GRAC	**Grapevine Rang**	**1.12**	**14**		Pg	07 13 23.8	-0.3
GRAC				IAML		07 13 39.7	
comp=N,600nm,0.6s							
GRAC	**Grapevine Rang**	**1.12**	**14**		Sb	07 13 39.3	-0.5
VES	**Vestal, Richgr**	**1.12**	**267**		Sg	07 13 38.9	+0.3
SHOC	**Shoshone, Teco**	**1.16**	**90**		Sg	07 13 40.4	+0.4
SGV	**South Grapevin**	**1.20**	**27**		Pg	07 13 25.4	-0.3
TIN	**Tinemaha, Big**	**1.22**	**340**		Pb	07 13 26.4	-0.1
TIN					Sb	07 13 42.4	-0.3
WCT	**Wildcat Mounta**	**1.24**	**44**		Pg	07 13 25.8	-0.7
AMDNV	**Amargosa**	**1.28**	**64**		Pg	07 13 26.0	-1.1
AMDNV					Sg	07 13 43.3	-0.3
LCH	**Last Change Ra**	**1.32**	**2**		Pg	07 13 27.7	-0.3
LRRC	**Littlerock Res**	**1.40**	**191**		Pb	07 13 29.8	+0.2
VOG	**Valley Oaks Go**	**1.42**	**287**		Pn	07 13 28.9	-0.5
CJV	**Casa Juvan**	**1.42**	**195**		Sb	07 13 48.5	-0.1
GMN	**Gold Mountain**	**1.44**	**14**		Pb	07 13 30.6	+0.3
GMN				IAML		07 13 52.0	
comp=N,170nm,0.5s							
HOLC	**Holcomb Ridge**	**1.45**	**184**		Sg	07 13 49.2	-0.1
JNH	**Juniper Hills**	**1.47**	**188**		Sn	07 13 50.2	-0.1
DSP	**Deep Springs**	**1.47**	**352**		Pg	07 13 30.9	0.0
DSP					Sb	07 13 49.2	-0.8
DSP				IAML		07 13 52.1	
comp=E,180nm,0.6s							
DSCC	**Desert Studies**	**1.52**	**120**		Sg	07 13 51.3	0.0
BHPR	**Bishop**	**1.52**	**336**		Pn	07 13 31.4	+0.3
TUQ	**Turquoise Moun**	**1.53**	**107**		Pn	07 13 30.9	-0.2
TUQ					Sn	07 13 51.5	-0.1
OSI	**Osito Audit: C**	**1.54**	**213**		Pn	07 13 30.8	-0.4
OSI				IAML		07 13 59.2	
comp=E,148nm,0.7s							
HEC	**Hector,Ludlow**	**1.56**	**133**		Sg	07 13 52.6	0.0
TPNV	**Topopah Spring**	**1.57**	**48**		Pn	07 13 30.7	-1.0
TPNV				IAML		07 13 41.4	
comp=E,135nm,0.5s							
CHFC	**Chilao Flat St**	**1.59**	**189**		Sb	07 13 53.5	-0.1
MTUM	**Tungsten Hills**	**1.60**	**335**		Pb	07 13 32.7	-0.3
MWC	**Mount Wilson**	**1.71**	**190**		Pn	07 13 29.5	-4.1
MWC				IAML		07 13 58.6	
comp=N,159nm,0.4s							
MWC				IAML		07 13 59.8	
comp=E,116nm,0.4s							
MLAC	**Mammoth, Mammo**	**1.94**	**333**		Pb	07 13 39.1	+0.2
MCSM	**Casa Diablo Ho**	**1.99**	**331**		Pb	07 13 40.0	+0.2
PMPB	**Monarch Peak**	**2.52**	**278**	Pn	Pn	07 13 44.7	-0.1
NV11	**Mina Array Sit**	**2.54**	**352**		Pn	07 13 44.8	-0.3
GLA	**Glamis**	**3.71**	**139**	Pn	Pn	07 13 59.0	-2.1
GLA				IAML		07 15 07.4	
comp=N,28nm,0.6s							
GLA				IAML		07 15 10.0	
comp=E,37nm,0.6s							

IDC 07 07:17:30.1±3.8, 8°.18S×148°.76E, h0km, mb3.0/2, mbtmp3.1/3, ML3.3/1, Error ellipse: s-maj=104.8km s-min=36.9km az=114.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.21**	**229**	P	Pn	07 21 42.9	-1.7
0.1nm,0.3s,baz=51,slow=11,SNR=2.5							
0.3nm,0.5s							
ASAR	**Alice Springs**	**20.97**	**221**	P	P	07 22 13.8	-1.2
0.4nm,0.8s,baz=57,slow=9.6,SNR=5.0							
0.4nm,0.8s							
MKAR	**Makanchi Array**	**80.28**	**320**	P	P	07 29 44.3	+1.3
0.1nm,0.4s,baz=122,slow=7.1,SNR=2.0							
0.1nm,0.4s							

*NEIC **07** 07:19:14.0±2.4, 35°.780N±0°.004×117°.64W±0°.01, h8km±7km, ML3.4/17, ML3.2/108(NEIC), Error ellipse: s-maj=1.6km s-min=0.7km az=99.0, Central California*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.05**	**46**	Pg	Pg	07 19 16.4	+0.2
CLC				IAML		07 19 18.2	
comp=N,11μm,0.3s							
CLC				IAML		07 19 18.3	
comp=E,10μm,0.3s							
TOW	**Tower One**	**0.10**	**286**		Pg	07 19 17.4	+0.4
SRTC	**Snort**	**0.12**	**225**		Pg	07 19 17.7	+0.4
WVPM	**Volcano Peak E**	**0.22**	**320**		Pg	07 19 18.8	-0.1
WVPM					Sg	07 19 22.5	+0.4
WNMM	**Nine Mile Cany**	**0.22**	**286**		Pg	07 19 18.9	0.0
LRMC	**Laurel Mtn Rad**	**0.30**	**186**		Pg	07 19 20.3	-0.2
LRMC				IAML		07 19 26.2	
comp=E,6μm,0.4s							
MPMC	**Manual Prospec**	**0.30**	**24**		Pg	07 19 20.3	-0.3
MPMC				IAML		07 19 25.1	
comp=N,3μm,0.3s							
WRVM	**Rose V. Centra**	**0.30**	**319**		Pg	07 19 20.2	-0.3
CCCA	**Chr Cany lake**	**0.34**	**138**	Pg	Pg	07 19 21.3	+0.1
CCCA					Sg	07 19 26.6	+0.9
MFS	**McCloud Flat S**	**0.38**	**333**		Pg	07 19 21.7	-0.3
MFS					Sg	07 19 27.1	+0.2
WBSM	**Bird Springs**	**0.47**	**239**		Sg	07 19 29.9	0.0
DTP	**Desert Tortois**	**0.54**	**198**		Pg	07 19 24.3	-0.5
WHFM	**Hanning Flat**	**0.58**	**262**		Pg	07 19 25.2	-0.5
QSM	**Queen of Sheba**	**0.66**	**73**		Pg	07 19 26.5	-0.6
QSM				IAML		07 19 36.7	
comp=E,2μm,0.3s							
QSM				IAML		07 19 41.2	
comp=N,2μm,0.5s							
ISA	**Isabella, Lake**	**0.69**	**260**		Pg	07 19 27.1	-0.6
ISA				IAML		07 19 36.7	
comp=N,818nm,0.3s							
ISA				IAML		07 19 38.3	
comp=E,722nm,0.3s							
CCAC	**Calif City Air**	**0.70**	**206**		Pg	07 19 27.3	-0.5
CCAC					Sg	07 19 36.8	-0.1
WASM	**Alta Sierra Ca**	**0.74**	**267**		Pg	07 19 28.3	-0.6
CWC	**Cottonwood Cre**	**0.75**	**332**		Pg	07 19 28.4	-0.5
CWC					Sg	07 19 38.1	-0.5
CWC				IAML		07 19 40.4	
comp=E,1μm,0.2s							
CWC				IAML		07 19 40.4	
comp=N,921nm,0.2s							
CGO	**Cerro Gordo**	**0.78**	**350**		Pg	07 19 28.8	-0.8
GSC	**Goldstone, Bar**	**0.83**	**125**		Pg	07 19 29.8	-0.6
GSC	**Goldstone, Bar**	**0.83**	**125**		Sg	07 19 40.9	-0.4
GWY	**Greenwater Val**	**0.89**	**63**		Pg	07 19 31.0	-0.5
GWY				Sg	Sg	07 19 42.8	-0.3
GWY				IAML		07 19 46.1	
comp=E,1μm,0.4s							
HYS	**Haystack Butte**	**0.92**	**176**		Pg	07 19 31.2	-0.9
EDW2	**Edwards Air Fo**	**0.94**	**198**		Pg	07 19 31.5	-1.1
SPG2	**Springville 2**	**1.00**	**295**		Pg	07 19 32.6	-1.1
TEJ	**El Tejon**	**1.02**	**238**		Pg	07 19 32.7	-1.3
TPO	**Tropico Hills**	**1.02**	**208**		Pg	07 19 33.1	-0.9
TPO					Sg	07 19 47.1	-0.2
TPO				IAML		07 19 49.3	
comp=E,1μm,0.7s							
TPO				IAML		07 19 49.9	
comp=N,953nm,0.5s							
RRX	**Edison Barstow**	**1.05**	**150**		Pg	07 19 33.8	-0.8
SBB	**Saddle Back Bu**	**1.10**	**188**		Pg	07 19 34.4	-1.1
SBB					Sg	07 19 50.0	+0.1
SHOC	**Shoshone, Teco**	**1.12**	**83**		Sb	07 19 50.9	+0.2
VES	**Vestal, Richgr**	**1.17**	**273**		Pb	07 19 36.0	-0.9
VES					Sg	07 19 52.2	0.0
THC	**Tehachapi Micr**	**1.21**	**224**		Pg	07 19 36.7	-0.9
GRAC	**Grapevine Rang**	**1.23**	**10**		Pb	07 19 37.2	-0.8
GRAC				IAML		07 19 59.9	
comp=E,727nm,0.6s							
VTV	**Victorville**	**1.24**	**168**		Pn	07 19 37.5	-0.6
VTV					Sn	07 19 54.8	-0.3
LEOC	**Leona Valley**	**1.27**	**206**		Pn	07 19 37.0	-1.5
BAKC	**Calstate**	**1.27**	**250**		Pn	07 19 37.8	-0.6
BAKC					Sg	07 19 55.4	+0.1
AMDNV	**Amargosa**	**1.29**	**58**		Pn	07 19 36.9	-1.8
LRRC	**Littlerock Res**	**1.29**	**194**		Pn	07 19 38.2	-0.5
SGV	**South Grapevin**	**1.29**	**22**		Pn	07 19 37.7	-1.2
SGV					Sb	07 19 54.9	-1.1
WCT	**Wildcat Mounta**	**1.30**	**39**		Pn	07 19 37.6	-1.4
WCT					Sb	07 19 55.6	-0.5
WCT				IAML		07 19 57.4	
comp=E,569nm,0.4s							
WCT				IAML		07 19 57.6	
comp=N,471nm,0.8s							
CJV	**Casa Juvan**	**1.31**	**198**		Pn	07 19 38.8	-0.4
CJV					Sg	07 19 56.7	0.0
HOLC	**Holcomb Ridge**	**1.33**	**187**		Pn	07 19 38.7	-0.7
HOLC					Sn	07 19 57.4	+0.1
JNH	**Juniper Hills**	**1.35**	**191**		Pn	07 19 38.3	-1.5
DSCC	**Desert Studies**	**1.41**	**116**		Pn	07 19 38.2	-2.1
TUQ	**Turquoise Moun**	**1.44**	**103**		Pn	07 19 39.0	-1.9
TUQ					Sn	07 20 00.1	-0.1
LCH	**Last Change Ra**	**1.45**	**360**		Pn	07 19 40.1	-1.0
CHFC	**Chilao Flat St**	**1.48**	**192**		Pn	07 19 41.2	-0.2
CHFC					Sb	07 20 01.6	+0.4
VOG	**Valley Oaks Go**	**1.51**	**291**		Pn	07 19 42.0	+0.2
VOG					Sb	07 20 02.1	+0.2
GMN	**Gold Mountain**	**1.55**	**11**		Pn	07 19 41.7	-0.9
GMN				IAML		07 19 51.1	
comp=N,180nm,0.5s							
SSK	**Sunset Peak**	**1.57**	**182**		Pb	07 19 43.7	-0.1
SIL	**Silver Peak**	**1.58**	**155**		Pb	07 19 43.8	-0.1
MWC	**Mount Wilson**	**1.59**	**193**		Pn	07 19 42.3	-0.7
MWC				IAML		07 20 06.2	
comp=E,407nm,0.5s							
MWC				IAML		07 20 07.2	
comp=N,413nm,0.5s							
DSP	**Deep Springs**	**1.61**	**351**		Pn	07 19 42.5	-0.6
TPNV	**Topopah Spring**	**1.62**	**44**		Pn	07 19 42.4	-1.1
TPNV				IAML		07 20 12.8	
comp=N,400nm,0.7s							
BBRC	**Big Bear Solar**	**1.63**	**158**		Pb	07 19 44.2	-0.6
DECC	**Green Verdugo**	**1.63**	**201**		Pn	07 19 42.7	-0.7
BHPR	**Bishop**	**1.66**	**336**		Pb	07 19 45.4	-0.1
PASC	**Pasadena Art C**	**1.67**	**196**		Pn	07 19 43.1	-0.8
PASC				IAML		07 20 09.5	
comp=E,219nm,0.9s							
BCW	**Bitter Crk WRg**	**1.67**	**240**		Pb	07 19 45.1	-0.4
PSRC	**Puddingstone R**	**1.69**	**185**		Pg	07 19 46.4	-0.4
MTPC	**Mountain Pass**	**1.73**	**99**		Pn	07 19 43.2	-1.7
MTPC				IAML		07 20 09.0	
comp=E,260nm,0.3s							
MTPC				IAML		07 20 10.6	
comp=N,278nm,0.3s							
SVD	**Seven Oaks Dam**	**1.73**	**165**		Pb	07 19 46.9	+0.4
MTUM	**Tungsten Hills**	**1.74**	**335**		Pn	07 19 44.5	-0.6
BLCC	**Black Canyon**	**1.75**	**209**		Pn	07 19 44.3	-0.8
GVRC	**Garvey Reservo**	**1.77**	**193**		Pb	07 19 47.6	+0.5
CRGC	**Crocker Grade**	**1.78**	**253**		Pb	07 19 47.0	-0.4
DJJ	**Donna J Jenkin**	**1.80**	**202**		Pb	07 19 48.0	+0.4
GTM	**Goat Mountain**	**1.82**	**144**		Pb	07 19 47.7	-0.3
GMRC	**Granite Mounta**	**1.90**	**121**		Pn	07 19 44.8	-2.4
MZP	**Montezuma Peak**	**1.93**	**6**		Pn	07 19 47.3	-0.5
SMMC	**Simmler**	**1.98**	**257**		Pn	07 19 49.1	+0.9
BENR	**Benton**	**2.07**	**339**		Pb	07 19 52.5	+0.1
MLAC	**Mammoth, Mammo**	**2.08**	**333**		Pb	07 19 52.8	+0.2
TPC	**Twentynine Pal**	**2.12**	**141**		Pn	07 19 48.7	-1.5
MCSM	**Casa Diablo Ho**	**2.13**	**332**		Pb	07 19 53.7	+0.2
HMTC	**Hemet**	**2.13**	**166**		Pn	07 19 49.5	-0.8
ELS	**Elsinore Mount**	**2.13**	**175**		Pn	07 19 49.4	-1.1
ELS				IAML		07 20 25.0	
comp=E,132nm,0.4s							
ELS				IAML		07 20 25.7	
comp=N,104nm,0.6s							
SHPR	**Sheep Range**	**2.13**	**69**		Pn	07 19 49.6	-1.0
POB	**Polly Butte**	**2.17**	**164**		Pn	07 19 50.0	-1.0
DGR	**Domenigoni Val**	**2.19**	**166**		Pn	07 19 50.3	-0.9
MURC	**Murrieta**	**2.21**	**170**		Pb	07 19 55.1	+0.5
BACC	**Bachelor Mtn.**	**2.22**	**167**		Pb	07 19 55.1	+0.3
V12A	**Nelson**	**2.27**	**91**		Pn	07 19 50.7	-1.6
V12A				IAML

PSMM	**Smith Mountain**	**2.41**	**278**			Pb	07 19 56.8	-1.4
LHV	**Little Huntoon**	**2.56**	**345**			Pn	07 19 56.5	+0.3
RAMR	**Ramage Ranch**	**2.63**	**268**			Pn	07 19 58.9	+1.7
GORC	**Green Oak Ranc**	**2.64**	**172**			Pb	07 20 02.3	+0.3
PRN	**Pahroc Range**	**2.64**	**51**			Pn	07 19 56.8	-0.7
PRN					IAML		07 20 46.4	
	comp=N,138nm,0.6s							
PRN					IAML		07 20 50.6	
	comp=E,140nm,0.8s							
NV11	**Mina Array Sit**	**2.68**	**351**			Pn	07 19 57.7	-0.3
NVAR	**Mina Array Bea**	**2.70**	**349**			Pn	07 19 57.9	-0.4
RYN	**Ryan**	**2.93**	**346**			Pn	07 20 01.4	-0.1
R11B	**Troy Canyon, C**	**3.05**	**32**			Pn	07 20 03.4	+0.3
R11B					IAML		07 20 52.2	
	comp=E,46nm,1.1s							
W13A	**Hualapai Mount**	**3.14**	**101**			Pn	07 20 02.6	-1.8
W13A					IAML		07 20 56.9	
	comp=N,59nm,0.9s							
BLYC	**Blythe**	**3.27**	**127**			Pn	07 20 03.8	-2.2
BLYC					IAML		07 22 06.7	
	comp=E,87nm,0.5s							
BLYC					IAML		07 22 08.5	
	comp=N,75nm,0.6s							
TKX	**Tecate**	**3.32**	**165**			Pn	07 20 05.6	-1.0
TKX					IAML		07 20 58.7	
	comp=N,53nm,0.3s							
TKX					IAML		07 20 58.9	
	comp=E,92nm,0.3s							
YUH	**Yuha Desert**	**3.43**	**155**			Pn	07 20 06.2	-2.0
CBX	**Cerro Bola**	**3.55**	**167**			Pn	07 20 09.4	-0.6
LCMT	**Little Creek M**	**3.75**	**70**			Pn	07 20 12.6	-0.2
CCUT	**Cedar City**	**3.87**	**62**			Pn	07 20 14.3	-0.1
PSUT	**Pine Spring**	**4.09**	**47**	Pn		Pn	07 20 17.3	-0.1
PSUT					IAML		07 21 35.9	
	comp=E,27nm,1.5s							
PSUT					IAML		07 21 37.8	
	comp=N,23nm,0.8s							
Y14A	**Wickenburg**	**4.23**	**114**			Pn	07 20 17.3	-2.0
Y14A					IAML		07 21 32.2	
	comp=N,46nm,0.6s							
Y14A					IAML		07 21 34.1	
	comp=E,32nm,0.8s							
U15A	**North Rim**	**4.38**	**80**			Pn	07 20 21.8	+0.2
U15A					IAML		07 22 45.0	
	comp=E,22nm,0.8s							
U15A					IAML		07 22 45.7	
	comp=N,24nm,1.2s							
X16A	**Lo Mia Camp, P**	**5.26**	**103**			Pn	07 20 33.3	-0.2
X18A	**Snowflake**	**6.42**	**99**	Pn		Pn	07 20 50.2	+0.7

NEIC ***07*** *07:20:25.7±1.7,35°.704N±0°.008×117°.54W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.5km az=163.0*

PAS 07 07:20:26.1±1.9**,35°.691N**±0°.009×**117°.54W**±0°.01**,**
h7km±3km**,ML3.5**/18**,ML3.2**/46(NEIC)**,Error ellipse:**
s-maj=1.5km s-min=1.3km az=76.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.13**	**339**		Pg	07 20 29.2	+0.2
CCCA	**Chr Cany lake**	**0.22**	**139**	Pg	Pg	07 20 30.9	+0.4
CCCA					Sg	07 20 34.7	+1.2
TOW	**Tower One**	**0.22**	**303**		Pg	07 20 30.9	+0.4
LRMC	**Laurel Mtn Rad**	**0.24**	**209**		Pg	07 20 30.9	0.0
LRMC					Sg	07 20 34.5	+0.3
LRMC				IAML		07 20 34.8	
	comp=E,4μm,0.4s						
LRMC				IAML		07 20 35.5	
	comp=N,5μm,0.3s						
WNMM	**Nine Mile Cany**	**0.33**	**297**		Pg	07 20 32.6	0.0
WVPM	**Volcano Peak E**	**0.34**	**319**		Pg	07 20 32.7	-0.2
WVPM					Sg	07 20 37.8	+0.3
MPMC	**Manual Prospec**	**0.37**	**6**		Pg	07 20 33.1	-0.3
MPMC					Sg	07 20 38.5	+0.2
MPMC				IAML		07 20 39.2	
	comp=N,2μm,0.6s						
MPMC				IAML		07 20 40.5	
	comp=E,2μm,0.6s						
WRVM	**Rose V. Centra**	**0.43**	**318**		Pg	07 20 34.2	-0.3
DTP	**Desert Tortois**	**0.49**	**211**		Pg	07 20 35.2	-0.4
DTP					Sg	07 20 42.2	+0.2
MFS	**McCloud Flat S**	**0.50**	**329**		Pg	07 20 35.6	-0.2
WBSM	**Bird Springs**	**0.51**	**253**		Pg	07 20 35.8	-0.3
WORM	**Onyx Ranch**	**0.57**	**271**		Pg	07 20 36.7	-0.5
QSM	**Queen of Sheba**	**0.61**	**63**		Pg	07 20 37.6	-0.3
QSM					Sg	07 20 45.7	-0.2
QSM				IAML		07 20 45.9	
	comp=E,1μm,0.5s						
QSM				IAML		07 20 49.3	
	comp=N,2μm,0.5s						
WHFM	**Hanning Flat**	**0.66**	**271**		Sg	07 20 47.4	-0.1
CCAC	**Calif City Air**	**0.66**	**216**		Pg	07 20 38.5	-0.4
CCAC					Sg	07 20 47.9	+0.3
GSC	**Goldstone, Bar**	**0.71**	**123**	Pg	Pg	07 20 39.3	-0.5
GSC				IAML		07 20 49.2	
	comp=N,964nm,0.3s						
GSC				IAML		07 20 49.6	
	comp=E,1μm,0.5s						
ISA	**Isabella, Lake**	**0.76**	**268**	Pg	Pg	07 20 40.2	-0.5
ISA				IAML		07 20 50.8	
	comp=E,948nm,0.2s						
ISA				IAML		07 20 51.0	
	comp=N,828nm,0.2s						
ISA	**Isabella, Lake**	**0.76**	**268**		Sg	07 20 50.6	-0.1
HYS	**Haystack Butte**	**0.82**	**182**		Pg	07 20 41.2	-0.8
WASM	**Alta Sierra Ca**	**0.83**	**274**		Pg	07 20 41.5	-0.6
GWY	**Greenwater Val**	**0.86**	**55**		Pg	07 20 42.7	0.0
GWY					Sg	07 20 53.9	-0.1
GWY				IAML		07 20 58.6	
	comp=N,937nm,0.7s						
CWC	**Cottonwood Cre**	**0.87**	**330**	Pg	Pg	07 20 42.8	0.0
CWC				IAML		07 20 57.7	
	comp=N,460nm,0.2s						
CGO	**Cerro Gordo**	**0.88**	**346**		Pg	07 20 42.5	-0.7
EDW2	**Edwards Air Fo**	**0.89**	**205**		Pg	07 20 43.6	+0.4
EDW2					Sb	07 20 56.5	+0.4
RRX	**Edison Barstow**	**0.93**	**151**		Pg	07 20 44.3	+0.3
RRX					Sb	07 20 57.3	+0.2
TPO	**Tropico Hills**	**0.99**	**215**		Pg	07 20 44.4	-0.7
TPO					Sg	07 20 58.3	+0.4
SBB	**Saddle Back Bu**	**1.03**	**193**		Pg	07 20 44.9	-1.0
SBB					Sg	07 20 59.4	+0.2
SPG2	**Springville 2**	**1.12**	**297**		Pg	07 20 46.5	-1.2
SPG2					Sg	07 21 01.5	-0.7
ALPC	**Antelope**	**1.18**	**212**		Sb	07 21 04.6	+0.1
ARVC	**Arvin**	**1.20**	**242**		Sg	07 21 03.6	-0.9
LEOC	**Leona Valley**	**1.23**	**211**		Sn	07 21 06.7	-0.2
LRRC	**Littlerock Res**	**1.23**	**199**		Pb	07 20 48.8	-0.9
HOLC	**Holcomb Ridge**	**1.25**	**192**		Pg	07 20 49.4	-0.9
HOLC					Sn	07 21 07.3	-0.2
CJV	**Casa Juvan**	**1.26**	**203**		Pg	07 20 49.8	-0.5
CJV					Sb	07 21 06.9	+0.1
VES	**Vestal, Richgr**	**1.27**	**277**		Pn	07 20 49.6	-0.7
VES					Sg	07 21 06.4	-0.5
AMDNV	**Amargosa**	**1.27**	**53**		Pn	07 20 49.7	-0.6
JNH	**Juniper Hills**	**1.29**	**195**		Pn	07 20 50.1	-0.6
JNH					Sb	07 21 07.9	+0.3
DSCC	**Desert Studies**	**1.29**	**115**		Pn	07 20 49.5	-1.2
DSCC					Sb	07 21 07.6	-0.1
HEC	**Hector,Ludlow**	**1.31**	**131**		Sb	07 21 08.0	-0.1
GRAC	**Grapevine Rang**	**1.31**	**6**		Pn	07 20 50.1	-0.9
GRAC				IAML		07 21 14.3	
	comp=N,424nm,0.7s						
GRAC				IAML		07 21 17.3	
	comp=E,390nm,0.6s						
WCT	**Wildcat Mounta**	**1.32**	**34**		Pn	07 20 50.8	-0.4
WCT				IAML		07 21 10.0	
	comp=E,274nm,0.5s						
WCT				IAML		07 21 10.2	
	comp=N,247nm,0.7s						
TUQ	**Turquoise Moun**	**1.34**	**100**		Pn	07 20 49.9	-1.6
TUQ					Sb	07 21 08.8	-0.4
SGV	**South Grapevin**	**1.35**	**17**		Pn	07 20 51.5	-0.1
CHFC	**Chilao Flat St**	**1.41**	**197**		Pn	07 20 52.2	-0.2
CHFC					Sb	07 21 11.3	+0.1
BFSC	**Mount Baldy Ra**	**1.45**	**184**		Pn	07 20 52.6	-0.4
BFSC					Sb	07 21 12.0	-0.4
BFSC				IAML		07 21 12.5	
	comp=N,287nm,0.4s						
BFSC				IAML		07 21 12.8	
	comp=E,330nm,0.3s						
SIL	**Silver Peak**	**1.46**	**156**		Pb	07 20 54.0	+0.2
SIL					Sg	07 21 13.7	+0.6
SSK	**Sunset Peak**	**1.48**	**185**		Pb	07 20 54.0	-0.1
BBRC	**Big Bear Solar**	**1.51**	**160**		Sg	07 21 15.0	+0.2
MWC	**Mount Wilson**	**1.52**	**196**		Pb	07 20 54.6	-0.2
MWC	**Mount Wilson**	**1.52**	**196**		Pn	07 20 54.0	-0.1
MWC	**Mount Wilson**	**1.52**	**196**	IAML		07 21 16.2	
	comp=E,350nm,0.4s						
MWC				IAML		07 21 17.3	
	comp=N,456nm,0.3s						
DECC	**Green Verdugo**	**1.57**	**205**		Pb	07 20 55.6	0.0
OAT	**Oat Mountain**	**1.61**	**214**		Pb	07 20 56.5	+0.3
PSRC	**Puddingstone R**	**1.61**	**188**		Pb	07 20 56.6	+0.3
VOG	**Valley Oaks Go**	**1.62**	**293**		Pn	07 20 55.6	+0.4
GMN	**Gold Mountain**	**1.62**	**8**		Pn	07 20 54.5	-0.9
SVD	**Seven Oaks Dam**	**1.62**	**167**		Pg	07 20 57.0	-0.2
SVD					Sb	07 21 17.7	+0.5
MTPC	**Mountain Pass**	**1.63**	**97**		Pn	07 20 53.6	-1.9
MTPC				IAML		07 21 18.1	
	comp=E,174nm,0.3s						
GR2C	**Griffith Obs.**	**1.69**	**202**		Pb	07 20 57.7	+0.2
GTM	**Goat Mountain**	**1.70**	**145**		Sb	07 21 20.0	+0.6
DSP	**Deep Springs**	**1.71**	**348**		Pn	07 20 56.0	-0.4
BLCC	**Black Canyon**	**1.72**	**213**		Pg	07 20 59.0	-0.1
DJJ	**Donna J Jenkin**	**1.75**	**206**		Pb	07 20 58.0	-0.6
CRGC	**Crocker Grade**	**1.84**	**257**		Pb	07 21 00.1	-0.1
MZP	**Montezuma Peak**	**2.01**	**4**		Pn	07 21 00.2	-0.6
HMTC	**Hemet**	**2.03**	**167**		Pn	07 20 59.9	-1.0
MURC	**Murrieta**	**2.10**	**172**		Pb	07 21 05.0	+0.3
CRY	**Cary Ranch**	**2.22**	**162**		Pn	07 21 02.7	-0.8
PFO	**Pinyon Flats O**	**2.26**	**156**	Pn	Pn	07 21 02.6	-1.5
PFO				IAML		07 21 48.5	
	comp=E,79nm,0.9s						
XPFO	**Pinon Flat**	**2.26**	**156**		Pn	07 21 02.5	-1.6
W13A	**Hualapai Mount**	**3.04**	**100**	Pn	Pn	07 21 13.3	-1.7

FUNV ***07*** *07:22:22.6,7°.48N×72°.22W,h5km,MW3.8*
RSNC ***07*** *07:22:22.9±0.0,8°.N±1°×7°.2W±°, h5km±3km, M2.9, ML2.7, MLv3.6*

ISC 07 07:22:19.8±1.4**,7°.62N**±0°.02×**72°.38W**±0°.03**,h7**km±12km**,**
n25,σ1°88/46,1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.42**	**229**	P	**Pb**	**07 22 28.7**	**-1.2**
PAMC				S	**Sg**	**07 22 34.5**	**+0.7**
OCAC	**Ocana**	**1.12**	**303**	P	**Pn**	**07 22 43.1**	**+1.1**
OCAC				S	**Sn**	**07 22 59.2**	**+1.5**
BARC	**Barichara**	**1.30**	**218**	P	**Pn**	**07 22 43.8**	**-0.7**
BARC				S	**Sb**	**07 23 00.1**	**-1.5**
TAMC	**Tame, Arauca**	**1.31**	**154**	P	**Pb**	**07 22 44.0**	**-0.8**
TAMC				S	**Sb**	**07 23 00.5**	**-1.4**
BRJC	**Barrancabermej**	**1.50**	**245**	P	**Pg**	**07 22 49.0**	**+0.4**
BRJC				S	**Sg**	**07 23 08.9**	**+0.8**
SOCV	**Socops**	**1.65**	**66**	*eP*	**Pb**	**07 22 50.6**	**+0.2**
SOCV				*eS*	**Sb**	**07 23 11.5**	**+0.1**
RUSC	**La Rusia**	**1.85**	**202**	P	**Pb**	**07 22 53.4**	**-0.9**
RUSC				S	**Sb**	**07 23 16.0**	**-1.9**
SDV	**Santo Domingo**	**2.14**	**54**	P	**Pb**	**07 22 59.0**	**+0.1**
SDV				S	**Sb**	**07 23 25.2**	**-0.5**
PTBC	**PUERTO BERRIO,**	**2.33**	**243**	P	**Pb**	**07 23 00.4**	**-1.7**
PTBC				S	**Sb**	**07 23 30.9**	**-0.1**
MCQV	**Machiques**	**2.42**	**356**	*eP*	**Pb**	**07 23 02.6**	**-1.1**
MCQV				*eS*	**Sb**	**07 23 34.0**	**+0.3**
ZARC	**Zaragoza, Cauc**	**2.46**	**267**	P	**Pb**	**07 23 03.5**	**-0.9**
ZARC				S	**Sb**	**07 23 36.6**	**+1.7**
SPBC	**San Pablo de B**	**2.58**	**221**	P	**Pb**	**07 23 05.1**	**-1.3**
SPBC				S	**Sb**	**07 23 37.7**	**-0.7**
ARGC	**Ariguani, Magd**	**2.89**	**320**	P	**Pb**	**07 23 10.0**	**-1.7**
ARGC				S	**Sb**	**07 23 47.8**	**+0.5**
NORC	**Norcasia**	**3.21**	**231**	P	**Pb**	**07 23 15.7**	**-1.5**
NORC				P	**Pb**	**07 23 15.7**	**-1.5**
CHIC	**Chingaza**	**3.26**	**204**	P	**Pn**	**07 23 13.6**	**+1.9**
CHIC				S	**Sb**	**07 23 55.4**	**-3.0**
CRJC	**Cerrejon, Guaj**	**3.41**	**352**	P	**Pn**	**07 23 15.7**	**+2.2**
CRJC				S	**Sb**	**07 23 59.1**	**-3.3**
HELC	**Santa Helena**	**3.44**	**246**	P	**Pb**	**07 23 18.8**	**-2.4**
SJCC	**San Jacinto, C**	**3.58**	**309**	P	**Pb**	**07 23 20.5**	**-2.9**
SJCC				S	**Sb**	**07 24 07.0**	**-0.1**
VILC	**Villavicencio,**	**3.72**	**201**	P	**Pn**	**07 23 19.7**	**+1.9**
VILC				S	**Sn**	**07 24 05.4**	**+3.4**
TEPV	**Terepaima**	**3.92**	**53**	*eP*	**Pn**	**07 23 21.6**	**+1.2**
TEPV				*eS*	**Sn**	**07 24 05.4**	**-1.3**
BAUV	**El Baul**	**4.49**	**73**	*eP*	**Pn**	**07 23 28.0**	**-0.2**
BAUV				*eS*	**Sn**	**07 24 17.8**	**-2.9**
BENV	**Beln**	**5.26**	**63**	*eP*	**Pn**	**07 23 39.5**	**+0.5**
BENV				*eS*	**Sn**	**07 24 36.7**	**-3.3**
CACV	**CAICARA DEL OR**	**5.79**	**90**	*eP*	Pn	07 23 52.5	+6.4
CACV				*eS*	**Sn**	**07 24 58.7**	**+5.9**
TACV	**Tcata**	**5.85**	**64**	*eP*	**Pn**	**07 23 46.9**	**-0.1**
FUNV	**FUNVISIS**	**6.18**	**62**	*eP*	**Pn**	**07 23 51.6**	**0.0**

RSNC 07 07:23:33.3±0.0**,5°N**±1°×**7°6W**±°**,h94**km±1km**,M3.2,mB3.1,**
mb3.1,ML3.0,MLv3.6,Mw(mB)1.8,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	**San Jos del P**	**0.41**	**196**	P	Pn	07 23 47.2	-0.7
PLMC				S	Sn	07 23 58.9	+0.1
CBOC	**Ciudad Bolivar**	**0.58**	**16**	P	Pn	07 23 48.7	-0.7
CBOC				S	Sn	07 24 01.2	-0.1
CMAN1	**Manizales, Cal**	**0.68**	**109**	P	Pn	07 23 50.2	-0.1
CMAN1				S	Sn	07 24 02.9	-0.1
NIZA	**Niza - Manizal**	**0.74**	**109**	P	Pn	07 23 50.4	-0.4
NIZA				S	Sn	07 24 03.8	-0.1
GUY2C	**Guyana, Caldas**	**0.81**	**95**	P	Pn	07 23 51.0	-0.7
GUY2C				S	Sn	07 24 05.0	-0.5
RECRC	**Villamaria, Ca**	**0.88**	**112**	P	Pn	07 23 52.4	-0.2
RECRC				S	Sn	07 24 07.2	+0.2
HELC	**Santa Helena**	**1.09**	**36**	P	Pn	07 23 53.9	-0.8
HELC				S	Sn	07 24 10.3	-0.4
ANIL	**Santa Ana**	**1.11**	**136**	P	Pn	07 23 54.1	-0.7
ANIL				S	Sn	07 24 10.9	-0.1
YOTC	**Yotoco, Valle**	**1.32**	**188**	P	Pn	07 23 56.3	-0.9
YOTC				S	Sn	07 24 15.1	-0.1
NORC	**Norcasia**	**1.32**	**79**	P	Pn	07 23 56.5	-0.6
NORC				S	Sn	07 24 14.9	-0.2
SOLC	**Bahia Solano**	**1.54**	**307**	P	Pn	07 23 59.8	+0.1
SOLC				S	Sn	07 24 20.4	+0.6
ORTC	**Ortega, Tolima**	**1.66**	**146**	P	Pn	07 24 01.2	-0.2
ORTC				S	Sn	07 24 23.5	+0.9
DBBC	**Dabeiba**	**1.71**	**359**	P	Pn	07 24 01.8	-0.2
DBBC				S	Sn	07 24 25.4	+1.7
MALC	**Bahia Malaga**	**1.73**	**222**	P	Pn	07 24 01.9	-0.2
MALC				S	Sn	07 24 24.4	+0.3
ROSC	**El Rosal**	**1.90**	**104**	P	Pn	07 24 05.4	+0.7
PRAC	**Prado**	**2.03**	**141**	P	Pn	07 24 05.9	-0.2
PRAC				S	Sn	07 24 30.9	-0.2
PTBC	**PUERTO BERRIO,**	**2.10**	**54**	P	Pn	07 24 06.5	-0.5
PTBC				S	Sn	07 24 32.1	-0.7
SPBC	**San Pablo de B**	**2.12**	**80**	P	Pn	07 24 06.8	-0.5
SPBC				S	Sn	07 24 32.5	-0.8
JAMC	**Jamundi, Valle**	**2.13**	**194**	P	Pn	07 24 06.4	-1.2
JAMC				S	Sn	07 24 33.8	0.0
PTAC	**Punta Ardita,**	**2.45**	**318**	P	Pn	07 24 10.2	-1.4
PTAC				S	Sn	07 24 39.2	-1.8
UREC	**San Jos de Ur**	**2.52**	**15**	P	Pn	07 24 13.0	+0.5
UREC				S	Sn	07 24 42.3	-0.3
ZARC	**Zaragoza, Cauc**	**2.54**	**31**	P	Pn	07 24 13.2	+0.4
ZARC				S	Sn	07 24 42.8	-0.3
APAC	**Apartado, Choc**	**2.62**	**351**	P	Pn	07 24 16.4	+2.6
BETC	**Betania**	**2.70**	**164**	P	Pn	07 24 14.3	-0.7
BETC				S	Sn	07 24 45.6	-1.4
URMC	**La Uribe, Meta**	**2.71**	**139**	P	Pn	07 24 14.5	-0.7
URMC				S	Sn	07 24 46.6	-0.7
VILC	**Villavicencio,**	**2.74**	**115**	P	Pn	07 24 17.7	+2.2
BRJC	**Barrancabermej**	**2.93**	**55**	P	Pn	07 24 17.6	-0.4
BRJC				S	Sn	07 24 51.6	-0.8
RUSC	**La Rusia**	**3.13**	**79**	P	Pn	07 24 21.3	+0.2
GARC	**Garzon, Huila**	**3.17**	**168**	P	Pn	07 24 20.5	-0.9
GARC				S	Sn	07 24 56.5	-2.0
BAIC	**Barichara**	**3.24**	**66**	P	Pn	07 24 22.2	-0.1
BBAC	**Balboa, Cauca**	**3.43**	**198**	P	Pn	07 24 24.6	-0.3
BBAC				S	Sn	07 25 04.3	-0.5
FLOC	**Florencia**	**3.73**	**172**	P	Pn	07 24 27.8	-1.0
FLOC				S	Sn	07 25 09.5	-2.3
CRUC	**La Cruz**	**3.79**	**192**	P	Pn	07 24 30.1	+0.2
CRUC				S	Sn	07 25 12.3	-1.4
MACC	**Macarena, Meta**	**3.90**	**143**	P	Pn	07 24 29.8	-1.3
PAMC	**Pamplona, Colo**	**4.00**	**59**	P	Pn	07 24 32.9	0.0
PAMC				S	Sn	07 25 18.2	-0.8
OCAC	**Ocana**	**4.07**	**44**	P	Pn	07 24 33.2	-0.3
OCAC				S	Sn	07 25 18.0	-2.1
TAMC	**Tame, Arauca**	**4.50**	**75**	P	Pn	07 24 38.6	-0.6
TAMC				S	Sn	07 25 29.9	-0.6
AZU	**Azuero**	**4.77**	**301**	P	Pn	07 24 42.1	-0.8
AZU				S	Sn	07 25 35.2	-1.8
CACAO	**El Cacao, Vera**	**5.09**	**294**	P	Pn	07 24 46.2	-1.0
	0.0nm22nm0.4nm,1.7s						
CACAO				S	Sn	07 25 43.3	-1.4
	0.0nm22nm0.4nm,1.7s						
BCIP	**Isla Barro Col**	**5.29**	**317**	P	Pn	07 24 48.1	-1.8
BCIP				S	Sn	07 25 48.2	-1.5

NEIC ***07*** *07:31:06.4±1.8,35°.832N±0°.009×117°.638W±0°.007, h8km±5km, Error ellipse: s-maj=1.3km s-min=0.7km az=166.0*

PAS 07 07:31:06.7±1.8**,35°.827N**±0°.009×**117°.64W**±0°.01**,**
h7km**,ML3.0**/21**,ML2.9**/46(NEIC)**,Error ellipse:**
s-maj=1.4km s-min=1.3km az=115.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.04**	**106**		Pg	07 31 08.4	+0.1
TOW	**Tower One**	**0.10**	**260**		Pg	07 31 09.5	+0.5
SRTC	**Snort**	**0.16**	**212**		Pg	07 31 10.3	+0.3
SRTC					Sg	07 31 13.7	+1.5
WVPM	**Volcano Peak E**	**0.19**	**311**		Pg	07 31 10.5	0.0
WVPM					Sg	07 31 13.6	+0.5
WNMM	**Nine Mile Cany**	**0.21**	**274**		Sg	07 31 14.5	+0.7
MPMC	**Manual Prospec**	**0.26**	**29**		Pg	07 31 11.7	-0.3
MPMC					Sg	07 31 15.6	+0.1
MPMC				IAML		07 31 15.8	
	comp=E,2μm,0.3s						
MPMC				IAML		07 31 15.9	
	comp=N,2μm,0.6s						
WRVM	**Rose V. Centra**	**0.27**	**312**		Pg	07 31 12.0	-0.1
MFS	**McCloud Flat S**	**0.34**	**330**		Sg	07 31 18.1	+0.2
LRMC	**Laurel Mtn Rad**	**0.35**	**185**		Pg	07 31 13.1	-0.4
LRMC					Sg	07 31 18.3	+0.2
CCCA	**Chr Cany lake**	**0.38**	**143**		Pg	07 31 14.1	0.0
CCCA					Sg	07 31 20.1	+1.0
WBSM	**Bird Springs**	**0.50**	**234**		Pg	07 31 15.9	-0.4
WBSM					Sg	07 31 22.9	+0.1
WORM	**Onyx Ranch**	**0.50**	**255**		Pg	07 31 15.9	-0.5
DTP	**Desert Tortois**	**0.58**	**196**		Pg	07 31 17.4	-0.5
DTP					Sg	07 31 25.4	-0.1
WHFM	**Hanning Flat**	**0.59**	**257**		Pg	07 31 17.5	-0.5
WHFM					Sg	07 31 25.3	-0.5
QSM	**Queen of Sheba**	**0.65**	**77**	Pg	Pg	07 31 19.0	-0.2
QSM				IAML		07 31 29.1	
	comp=N,501nm,0.2s						
QSM				IAML		07 31 29.4	
	comp=E,759nm,0.2s						
CWC	**Cottonwood Cre**	**0.71**	**330**	Pg	Pg	07 31 19.9	-0.4
CWC				IAML		07 31 34.5	
	comp=E,343nm,0.2s						
CGO	**Cerro Gordo**	**0.73**	**350**		Pg	07 31 21.4	+0.6
CCAC	**Calif City Air**	**0.74**	**204**		Pg	07 31 20.1	-0.8
CCAC					Sg	07 31 30.5	0.0
WASM	**Alta Sierra Ca**	**0.75**	**263**		Sg	07 31 30.4	-0.5
GSC	**Goldstone, Bar**	**0.86**	**127**		Pg	07 31 22.4	-0.9
GSC				IAML		07 31 36.5	
	comp=N,346nm,0.8s						
GSC	**Goldstone, Bar**	**0.86**	**127**		Sg	07 31 33.9	-0.6
GWY	**Greenwater Val**	**0.87**	**65**		Pg	07 31 23.1	-0.3
GWY				IAML		07 31 40.5	
	comp=N,544nm,0.4s						
GWY				IAML		07 31 41.4	
	comp=E,531nm,0.3s						
FURC	**Furnace Creek,**	**0.90**	**44**		Sg	07 31 36.1	+0.4
HYS	**Haystack Butte**	**0.96**	**176**		Pg	07 31 24.8	-0.4
SPG2	**Springville 2**	**0.98**	**293**		Sg	07 31 37.4	-1.0
EDW2	**Edwards Air Fo**	**0.99**	**197**		Pg	07 31 25.2	-0.5
EDW2					Sg	07 31 37.6	-0.8
TEJ	**El Tejon**	**1.04**	**235**		Pg	07 31 26.0	-0.7
TPO	**Tropico Hills**	**1.06**	**207**		Pg	07 31 26.5	-0.6
TPO				Sg	Sg	07 31 40.7	-0.1
TPO				IAML		07 31 42.8	
	comp=N,342nm,0.6s						
TPO				IAML		07 31 43.1	
	comp=E,294nm,0.4s						
RRX	**Edison Barstow**	**1.09**	**151**		Pg	07 31 26.8	-0.8
SHOC	**Shoshone, Teco**	**1.11**	**86**		Sg	07 31 42.4	-0.2
SBB	**Saddle Back Bu**	**1.15**	**187**		Pg	07 31 27.9	-0.8
VES	**Vestal, Richgr**	**1.17**	**271**		Sg	07 31 43.7	-0.6
GRAC	**Grapevine Rang**	**1.19**	**11**		Sg	07 31 45.0	0.0
ARVC	**Arvin**	**1.19**	**235**		Pg	07 31 29.1	-0.5
SGV	**South Grapevin**	**1.25**	**23**		Pg	07 31 30.0	-0.8
SGV					Sg	07 31 46.8	-0.2
**

ISC 07 07:45:09.1±0.9,0°35N±0.09×122°16E±0.06,h188km±7km, n11,σ0°95/17,mb3.7/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.25**	**300**	P	**Pn**	**07 45 34.8**	**+0.7**
MRSI				S	**Sn**	**07 45 51.6**	**-1.6**
LUWI	**Luwuk**	**1.51**	**156**	P	**Pn**	**07 45 42.8**	**+0.9**
LUWI				S	**Sn**	**07 46 07.0**	**-0.3**
KMSI	**Cibinong**	**1.84**	**83**	P	**Pn**	**07 45 45.3**	**+0.3**
KMSI				S	**Sn**	**07 46 13.9**	**+1.0**
MPSI	**Mapaga**	**2.26**	**270**	P	**Pn**	**07 45 50.6**	**+1.0**
MPSI				S	**Sn**	**07 46 20.4**	**-0.6**
PCI	**Palu**	**2.63**	**242**	P	**Pn**	**07 45 54.5**	**+0.6**
PCI				S	**Sn**	**07 46 28.3**	**-0.4**
TTSI	**Tana Toraja**	**4.10**	**215**	P	**Pn**	**07 46 12.7**	**+0.9**
KAPI	**Kappang** 7.0nm,0.4s,baz=32,slow=14,SNR=3.9	**5.84**	**204**	P	**Pn**	**07 46 35.4**	**+1.1**
KAPI				S	Sn	07 47 32.2	-9.2
WRA	**Warramunga Arr** 7.3nm,0.7s,baz=71,slow=18,SNR=1.4	**23.43**	**150**	P	**P**	**07 50 00.7**	**-1.0**
ASAR	**Alice Springs** 1.3nm,0.5s,baz=326,slow=11,SNR=34	**26.46**	**155**	P	**P**	**07 50 28.3**	**-0.7**
ASAR	1.3nm,0.5s			PcP	**PcP**	**07 53 48.6**	**-0.7**
STKA	**Stephens Creek** 0.4nm,0.3s,baz=345,slow=2.3,SNR=6.4	**36.96**	**152**	P	**P**	**07 52 00.1**	**-0.3**
	0.4nm,0.3s						
MKAR	**Makanchi Array** 1.3nm,0.5s,baz=315,slow=11,SNR=3.4	**57.88**	**329**	P	**P**	**07 54 42.1**	**+0.7**
	1.3nm,0.5s						
	0.2nm,0.4s,baz=132,slow=8.0,SNR=2.6						
	0.2nm,0.4s						

*IDC **07** 07:50:56.3±0.5,6°24S×147°66E,h0km,mb4.4/17, mbtmp4.4/19,ML4.6/2,MS3.5/9,Error ellipse: s-maj=21.6km s-min=12.5km az=87.0*

*NEIC **07** 07:51:05.6±1.0,6°18S±0°03×147°44E±0°10,h61km±7km, mb4.7/50,Error ellipse: s-maj=13.7km s-min=4.4km az=98.0*

*DJA **07** 07:51:06.1±1.5,6°S±8°×14°8E±1°5,h87km±6km,mb5.1/25*

ISC 07 07:51:05.1±0.4,6°28S±0°05×147°55E±0°06,h63km,n123, σ1ş57/121,mb4.6/51,1C-2D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**4.21**	**357**		**Pn**	**07 52 05.5**	**-1.3**
RABL	**Rabaul**	**5.04**	**66**		**Pn**	**07 52 19.2**	**+1.0**
JAY	**Jayapura** 6.5nm,0.3s,baz=63,slow=5.2,SNR=22	**7.78**	**298**	Pn	**Pn**	**07 52 57.6**	**+1.8**
JAY				Sn	**Sn**	**07 54 22.7**	**+0.1**
	0.7nm,0.3s,baz=65,slow=15,SNR=1.0						
JAY				LR	LR	07 56 19.9	
	comp=Z,564nm,20.1s,baz=250,slow=41						
JAY	**Jayapura** 79nm,0.8s	**7.78**	**298**	P	**Pn**	**07 52 57.3**	**+1.5**
GENI	**Genyem** 160nm,0.8s	**8.22**	**296**	P	**Pn**	**07 53 02.1**	**+0.3**
COEN	**Coen**	**8.76**	**209**		**Pn**	**07 53 09.8**	**+0.7**
SMPI	**Sarmi** 96nm,1.1s	**9.79**	**295**	P	**Pn**	**07 53 24.3**	**+1.0**
BAKI	**Biak** 83nm,0.9s	**12.49**	**293**	P	**Pn**	**07 54 03.5**	**+3.4**
HNR	**Honiara** comp=Z,66nm,20.8s,baz=196,slow=29	**12.67**	**105**	LR	LR	07 57 00.9	
CTAO	**Charters Tower**	**13.78**	**185**		**Pn**	**07 54 19.8**	**+2.2**
RKPI	**Ransiki, Papua** 81nm,0.7s	**14.16**	**289**	P	**Pn**	**07 54 25.0**	**+2.4**
FAKI	**Fak Fak**	**15.61**	**282**		**Pn**	**07 54 40.1**	**-1.3**
FAKI				IAmb	IAmb	07 54 46.1	
	comp=Z,72nm,0.8s						
FAKI	**Fak Fak** comp=Z,103nm,0.9s	**15.61**	**282**	P	**Pn**	**07 54 42.5**	**+1.1**
SWI	**Sorong** comp=Z,100nm,0.8s	**17.12**	**288**	P	**Pn**	**07 54 58.8**	**-1.6**
MTN	**Manton Dam**	**17.45**	**247**		**Pn**	**07 55 04.2**	**-0.1**
MTN				IAmb	IAmb	07 55 22.9	
	comp=Z,39nm,1.4s						
WB0	**Warramunga Arr**	**18.53**	**222**		**P**	**07 55 16.2**	**-0.5**
WR8	**Warramunga Arr**	**18.59**	**222**		**P**	**07 55 16.9**	**-0.4**
WRAB	**Tennant Creek**	**18.67**	**222**	P	**P**	**07 55 17.7**	**-0.5**
WRA	**Warramunga Arr**	**18.69**	**222**		**P**	**07 55 17.5**	**-0.9**
WRA	**Warramunga Arr** comp=Z,1.8nm,0.3s,baz=44,slow=12,SNR=56	**18.69**	**222**	P	**P**	**07 55 18.1**	**-0.3**
WRA				S	S	07 58 36.7	-11
	comp=Z,5.5nm,1.0s,baz=48,slow=23,SNR=7.4						
WRA				PcP	**PcP**	**07 59 44.8**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=26,slow=1.6,SNR=4.6						
WRA				LR	LR	08 03 18.7	
	comp=Z,218nm,20.8s,baz=10.0,slow=40						
WRA				ScP	**ScP**	**08 03 20.5**	**+5.4**
	comp=Z,2.0nm,1.0s,baz=41,slow=2.8,SNR=4.7						
	comp=Z,11nm,0.7s						
AAI	**Ambon** comp=Z,174nm,0.7s	**19.45**	**277**	P	**Pn**	**07 55 28.0**	**-0.6**
GUMO	**Guam**	**19.92**	**352**	P	**P**	**07 55 30.9**	**-0.9**
GUMO				IAmb	IAmb	07 55 33.8	
	comp=Z,43nm,0.8s						
GUMO	**Guam** comp=Z,1.8nm,0.3s,baz=183,slow=14,SNR=5.0	**19.92**	**352**	P	**P**	**07 55 31.4**	**-0.5**
GUMO				LR	LR	08 03 11.7	
	comp=Z,139nm,18.6s,baz=170,slow=37						
	comp=Z,31nm,0.7s						
NLAI	**Namlea** comp=Z,71nm,0.6s	**20.60**	**277**	P	Pn	07 55 40.8	-1.3
KNRA	**Kununurra**	**20.66**	**242**		**P**	**07 55 38.9**	**-0.9**
KNRA				IAmb	IAmb	07 55 54.5	
	comp=Z,16nm,0.6s						
AS31	**Alice Springs**	**21.70**	**216**	P	**P**	**07 55 51.5**	**+0.5**
ASAR	**Alice Springs**	**21.70**	**216**	P	**P**	**07 55 50.9**	**-0.2**
ASAR	**Alice Springs** comp=Z,6.0nm,0.3s,baz=52,slow=8.1,SNR=89	**21.70**	**216**	P	**P**	**07 55 51.4**	**+0.3**
ASAR				S	**S**	**07 59 44.8**	**-3.3**
	comp=Z,1.2nm,0.8s,baz=35,slow=21,SNR=3.7						
ASAR				ScP	**ScP**	**08 03 27.6**	**+5.4**
	comp=Z,2.3nm,0.9s,baz=38,slow=3.4,SNR=4.8						
	comp=Z,6.0nm,0.3s						
SANI	**Sanana** comp=Z,70nm,0.9s	**21.91**	**280**	P	**P**	**07 55 51.1**	**-2.2**
SOEI	**Soe**	**23.31**	**260**	P	**P**	**07 56 05.6**	**-2.5**
SOEI				IAmb	IAmb	07 56 18.8	
	comp=Z,49nm,0.8s						
SOEI	**Soe** comp=Z,67nm,0.8s	**23.31**	**260**	P	**P**	**07 56 08.8**	**+0.8**
BATI	**Baumata** comp=Z,92nm,0.7s,baz=89,slow=1.5,SNR=10	**23.96**	**259**	P	**P**	**07 56 14.6**	**+0.8**
BATI	**Baumata** comp=Z,131nm,0.8s	**23.96**	**259**	P	**P**	**07 56 14.5**	**+0.7**
DZM	**Mont Dzumac** comp=Z,7.6nm,1.0s,baz=285,slow=20,SNR=1.4	**24.07**	**133**	P	**P**	**07 56 14.0**	**-0.9**
	comp=Z,7.6nm,1.0s						
ARMA	**Armidale**	**24.32**	**171**	P	**P**	**07 56 17.5**	**+0.5**
ARMA				IAmb	IAmb	07 56 37.1	
	comp=Z,25nm,1.4s						
FITZ	**Fitzroy Crossi**	**24.39**	**239**	P	**P**	**07 56 17.1**	**-0.6**
FITZ				IAmb	IAmb	07 56 19.4	
	comp=Z,15nm,0.8s						
FITZ	**Fitzroy Crossi** comp=Z,236nm,20.0s,baz=56,slow=41	**24.39**	**239**	LR	LR	08 07 40.0	
MMRI	**Maumere**	**25.21**	**263**	P	**P**	**07 56 24.0**	**-1.2**
MMRI	**Maumere**	**25.21**	**263**	P	**P**	**07 56 25.2**	**0.0**
LUWI	**Luwuk**	**25.26**	**281**	P	**P**	**07 56 24.5**	**-1.2**
LUWI	**Luwuk**	**25.26**	**281**	P	**P**	**07 56 26.5**	**+0.8**
EDFI	**Ende, Flores** comp=Z,34nm,0.8s	**25.75**	**263**	P	**P**	**07 56 27.6**	**-2.7**
STKA	**Stephens Creek**	**26.07**	**192**	P	**P**	**07 56 33.3**	**+0.5**
STKA				IAmb	IAmb	07 56 47.5	
	comp=Z,62nm,1.3s						
STKA	**Stephens Creek** comp=Z,6.2nm,0.7s,baz=8.6,slow=9.1,SNR=11	**26.07**	**192**	P	**P**	**07 56 32.9**	**+0.1**
	comp=Z,6.2nm,0.7s						
APSI	**Ampana** comp=Z,80nm,1.0s	**26.39**	**281**	P	**P**	**07 56 35.6**	**-0.3**
KAPI	**Kappang** comp=Z,71nm,18.0s,baz=107,slow=41	**27.69**	**271**	LR	LR	08 10 04.7	
TOLI2	**Tolitoli**	**27.71**	**284**	P	**P**	**07 56 45.8**	**-2.0**
TOLI2				IAmb	IAmb	07 56 53.2	
	comp=Z,18nm,1.0s						
TTSI	**Tana Toraja** comp=Z,21nm,1.4s	**27.82**	**275**	P	**P**	**07 56 48.9**	**+0.1**
PCI	**Palu**	**28.16**	**280**	P	**P**	**07 56 52.3**	**+0.5**
MPSI	**Mapaga** comp=Z,8.2nm,0.7s	**28.37**	**282**	P	**P**	**07 56 52.8**	**-0.9**
FORT	**Forrest**	**30.47**	**214**	P	**P**	**07 57 12.3**	**+0.2**
FORT				IAmb	IAmb	07 57 12.6	
	comp=Z,16nm,1.2s						
MBWA	**Marble Bar**	**30.73**	**238**	P	**P**	**07 57 14.1**	**-0.4**
MBWA				IAmb	IAmb	07 57 15.6	
	comp=Z,13nm,0.7s						
MSVF	**Nonsavu** comp=Z,8.3nm,0.9s,baz=253,slow=19,SNR=2.5	**31.87**	**114**	P	**P**	**07 57 20.8**	**-3.8**
KKM	**Kota Kinabalu**	**33.59**	**291**	P	**P**	**07 57 37.3**	**-2.5**
KKM				IAmb	IAmb	07 57 50.6	
	comp=Z,6.3nm,0.8s						
SBUM	**Sibu**	**36.33**	**283**	P	**P**	**07 58 02.6**	**-0.7**
MORW	**Morawa**	**37.40**	**229**	P	**P**	**07 58 12.1**	**0.0**
MORW				IAmb	IAmb	07 58 12.5	
	comp=Z,29nm,1.5s						
KSM	**Kuching**	**37.97**	**280**	P	**P**	**07 58 16.2**	**-1.0**
KSM				IAmb	IAmb	07 58 17.8	
	comp=Z,8.3nm,0.7s						
NWAO	**Narrogin (SRO)**	**38.69**	**223**	P	**P**	**07 58 23.0**	**-0.1**
NWAO	**Narrogin (SRO)** comp=Z,142nm,19.8s,baz=202,slow=39	**38.69**	**223**	LR	LR	08 15 52.0	
YOJ	**Yonaguni jima**	**38.80**	**323**	P	**P**	**07 58 23.6**	**-0.3**
YULB	**Yu-li**	**39.09**	**320**	P	**P**	**07 58 25.1**	**-1.3**
SSLB	**Suanglung**	**39.59**	**320**	P	**P**	**07 58 28.8**	**-1.8**
SSLB				IAmb	IAmb	07 58 38.9	
	comp=Z,23nm,1.1s						
RTZ	**Ruatahuna**	**41.77**	**145**		**P**	**07 58 46.5**	**-1.9**
BKZ	**Black Stump Fm**	**41.87**	**146**	P	**P**	**07 58 47.1**	**-2.1**
JNU	**Nakatsue** comp=Z,25nm,20.3s,baz=158,slow=35	**42.27**	**339**	LR	LR	08 15 39.8	
MJAR	**Matsushiro Arr**	**43.49**	**349**	P	**P**	**07 59 02.0**	**-0.2**
MJAR				IAmb	IAmb	07 59 04.0	
	comp=Z,9.9nm,1.2s						
MJAR	**Matsushiro Arr** comp=Z,8.6nm,1.0s,baz=168,slow=7.5,SNR=11	**43.49**	**349**	P	**P**	**07 59 01.2**	**-1.1**
	comp=Z,8.6nm,1.0s						
MAJO	**Matsushiro**	**43.49**	**349**	P	**P**	**07 59 01.7**	**-0.6**
MAJO				IAmb	IAmb	07 59 21.0	
	comp=Z,27nm,1.4s						
MYKOM	**Kota Tinggi** comp=Z,24nm,0.9s	**44.36**	**279**	IAmb	IAmb	07 59 10.7	
BKNI	**Bangkinang**	**46.88**	**276**	P	**P**	**07 59 29.6**	**-0.1**
NJ2	**Nanjing**	**46.92**	**326**	*e*P	**P**	**07 59 30.9**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,12nm,0.9s						
KSRS	**Korea Array** comp=Z,3.6nm,0.9s,baz=152,slow=8.5,SNR=10	**47.21**	**339**	P	**P**	**07 59 31.2**	**-0.4**
	comp=Z,3.6nm,0.9s						
JTM	**Tenmabayashi**	**47.21**	**353**	P	**P**	**07 59 32.5**	**+0.8**
KSAR	**Wonju Array Be**	**47.21**	**339**	P	**P**	**07 59 32.0**	**+0.3**
RPSI	**Rantau Prapat**	**49.36**	**279**	P	**P**	**07 59 47.6**	**-1.1**
RPSI				IAmb	IAmb	07 59 51.3	
	comp=Z,11nm,0.9s						
PSI	**Prapat** comp=Z,6.8nm,0.4s,baz=94,slow=6.5,SNR=8.0	**49.38**	**279**	P	**P**	**07 59 48.4**	**-0.7**
	comp=Z,6.8nm,0.4s						
GSI	**Gunungsitoli**	**50.45**	**277**	P	**P**	**07 59 55.9**	**-1.2**
USRK	**Ussuriysk Ar.** comp=Z,3.2nm,0.7s,baz=205,slow=7.8,SNR=5.4	**52.17**	**346**	P	**P**	**08 00 09.7**	**+0.4**
	comp=Z,3.2nm,0.7s						
LYN	**LuoYang**	**52.40**	**323**	P	**P**	**08 00 13.2**	**+2.0**
LYN				pmax	pmax		
	comp=Z,19nm,0.7s						
HNS	**HongShan**	**53.17**	**327**	⇓P	**P**	**08 00 15.9**	**-0.9**
HNS				pmax	pmax		
	comp=Z,20nm,0.9s						
CMAR	**Chiang Mai Arr**	**53.87**	**298**	P	**P**	**08 00 20.4**	**-1.9**
CMAR	**Chiang Mai Arr** comp=Z,1.4nm,0.3s,baz=113,slow=6.4,SNR=4.6	**53.87**	**298**	P	**P**	**08 00 22.7**	**+0.4**
	comp=Z,1.4nm,0.3s						
BNX	**BinXian**	**54.83**	**343**	⇑P	**P**	**08 00 29.7**	**+0.9**
BNX				pmax	pmax		
	comp=Z,1.0nm,0.2s						
PZH	**PanZhiHua**	**55.06**	**308**	P	**P**	**08 00 32.9**	**+1.9**
HHC	**Hu-ho-hao-te**	**57.36**	**328**	*e*P	**P**	**08 00 50.6**	**+3.5**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,73nm,4.9s						
BTO	**Baotou**	**58.01**	**327**	*e*P	**P**	**08 00 49.3**	**-2.3**
BTO				PP	**PP**	**08 03 02.9**	**+2.0**
BTO				S	**S**	**08 08 43.1**	**-4.6**
BTO				pmax	pmax		
	comp=Z,21nm,0.6s						
BTO				pmax	pmax		
	comp=Z,140nm,5.4s						
BTO				LR	LR		
	comp=Z,200nm,7.0s						
BTO				LR	LR		
	comp=Z,110nm,4.0s						
BTO				LR	LR		
	comp=Z,110nm,4.9s						
LZH	**Lanzhou**	**58.78**	**319**	*e*P	**P**	**08 01 00.6**	**+3.4**
LZH				pP	pP	08 01 11.6	-2.4
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PETK	**Petropavlovsk-**	**59.79**	**7**	P	**P**	**08 01 03.6**	**0.0**
PETK	**Petropavlovsk-** comp=Z,5.3nm,0.8s,baz=190,slow=8.8,SNR=14	**59.79**	**7**	P	**P**	**08 01 04.2**	**+0.7**
	comp=Z,5.3nm,0.8s						
GTA	**Gaotai**	**63.31**	**320**	*e*P	**P**	**08 01 30.7**	**+2.9**
GTA				sP	sP	08 01 55.0	+3.2
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ULN	**Ulaanbaatar**	**64.62**	**331**	P	**P**	**08 01 35.8**	**-0.4**
ULN				IAmb	IAmb	08 01 37.3	
	comp=Z,8.4nm,0.6s						
SONM	**Songino Array**	**64.92**	**331**	P	**P**	**08 01 37.5**	**-0.7**
SONM				IAmb	IAmb	08 01 42.2	
	comp=Z,5.7nm,1.1s						
SONM	**Songino Array** comp=Z,3.9nm,0.9s,baz=145,slow=5.4,SNR=12	**64.92**	**331**	P	**P**	**08 01 38.2**	**0.0**
	comp=Z,3.9nm,0.9s						
CASY	**Casey**	**65.13**	**196**	P	**P**	**08 01 39.8**	**+0.8**
CASY				IAmb	IAmb	08 01 50.5	
	comp=Z,24nm,1.4s						
ADK	**Adak**	**65.50**	**23**	P	**P**	**08 01 41.5**	**-0.1**
VNDA	**Vanda**	**71.60**	**177**	P	**P**	**08 02 20.9**	**+1.6**
VNDA	**Vanda** comp=Z,2.5nm,0.6s,baz=334,slow=7.2,SNR=12	**71.60**	**177**	P	**P**	**08 02 19.1**	**-0.2**
	comp=Z,2.5nm,0.6s						
WMQ	**Urumqi**	**73.36**	**319**	*e*P	**P**	**08 02 32.3**	**+1.9**
WMQ				LR	LR		
	comp=Z,670nm,18.9s						
WMQ				LR	LR		
	comp=Z,1μm,22.5s						
WMQ				LR	LR		
	comp=Z,390nm,22.5s						
S12K	**Black Hills**	**74.38**	**27**	P	**P**	**08 02 36.6**	**+0.5**
S12K				IAmb	IAmb	08 02 55.2	
	comp=Z,23nm,1.4s						
MKAR	**Makanchi Array**	**78.06**	**320**	P	**P**	**08 02 56.2**	**-1.0**
MKAR	**Makanchi Array** comp=Z,1.8nm,0.7s,baz=106,slow=6.5,SNR=16	**78.06**	**320**	P	**P**	**08 02 56.1**	**-1.1**
	comp=Z,1.8nm,0.7s						
MAKZ	**Makanchi**	**78.27**	**320**	P	**P**	**08 02 57.2**	**-1.1**
ZALV	**Zalesovo Beam**	**79.54**	**328**		**P**	**08 03 03.5**	**-1.6**
ZALV	**Zalesovo Beam** comp=Z,2.0nm,0.5s,baz=116,slow=6.8,SNR=7.5	**79.54**	**328**	P	**P**	**08 03 03.4**	**-1.7**
	comp=Z,2.0nm,0.5s						
KURK	**Kurchatov**	**81.76**	**323**	P	**P**	**08 03 16.1**	**-0.9**
KURBB	**Kurchatov Arra** comp=Z,1.5nm,0.9s,baz=115,slow=4.0,SNR=11	**81.78**	**323**	P	**P**	**08 03 17.4**	**+0.3**
	comp=Z,1.5nm,0.9s						
G18K	**Tagagawik**	**81.83**	**20**	P	**P**	**08 03 17.2**	**+0.1**
MAW	**Mawson** comp=Z,1.5nm,0.8s,baz=118,slow=5.7,SNR=4.6	**82.20**	**203**	P	**P**	**08 03 18.9**	**-0.1**
	comp=Z,1.5nm,0.8s						
H19K	**Roundabout Mou** comp=Z,6.6nm,1.3s	**82.37**	**20**	IAmb	IAmb	08 03 25.9	
IMAR	**Indian Mountai**	**83.56**	**21**	P	**P**	**08 03 25.7**	**-0.3**
QSPA	**South Pole Qui** comp=Z,6.2nm,0.7s,baz=306,slow=0.7,SNR=6.0	**83.69**	**180**	P	**P**	**08 03 26.9**	**0.0**
	comp=Z,6.2nm,0.7s						
KK31	**Karatay Array**	**84.88**	**314**		**P**	**08 03 32.5**	**-0.8**
KK31				IAmb	IAmb	08 03 36.3	
	comp=Z,5.1nm,1.1s						
KKAR	**Karatay Array**	**84.88**	**314**	P	**P**	**08 03 31.7**	**-1.6**
KKAR				IAmb	IAmb	08 03 36.3	
	comp=Z,5.3nm,1.1s						
KKAR	**Karatay Array**	**84.88**	**314**	P	**P**	**08 03 31.9**	**-1.3**
ILAR	**Eielson Array** comp=Z,0.9nm,0.7s,baz=252,slow=4.6,SNR=13	**85.52**	**23**	P	**P**	**08 03 34.4**	**-1.6**
	comp=Z,0.9nm,0.7s						
SYO	**Syowa Base**	**90.52**	**200**	⇓*e*PcP	**PcP**	**08 04 02.0**	**+1.1**
YBH	**Yreka Blue Hor** comp=Z,7.8nm,21.9s,baz=222,slow=31	**93.94**	**49**	LR	LR	08 39 53.2	
PLCA	**Paso Flores** comp=Z,1.5nm,0.8s,baz=229,slow=5.0,SNR=4.5	**121.59**	**147**	PKP	**PKiKP**	**08 09 52.8**	**+0.5**
GERES	**GERESS Array B** comp=Z,0.5nm,0.7s,baz=90,slow=1.3,SNR=4.3	**122.45**	**326**	PKP	**PKPdf**	**08 09 52.5**	**-1.0**
SIV	**San Ignacio** comp=Z,1.5nm,0.6s,baz=246,slow=4.3,SNR=11	**144.05**	**128**	PKP	PKPbc	08 10 33.4	+0.7
TORD	**Torodi Ar. Bea** comp=Z,1.1nm,0.8s,baz=56,slow=4.0,SNR=8.9	**145.69**	**284**	PKPbc	**PKPdf**	**08 10 37.4**	**-0.2**
DBIC	**Dimbokro** comp=Z,2.3nm,0.6s,baz=99,slow=3.3,SNR=6.5	**152.58**	**272**	PKPbc	**PKiKP**	**08 10 56.2**	**+0.4**
DBIC				PKPab	**PKPab**	**08 11 06.3**	**0.0**
	comp=Z,8.7nm,0.7s,baz=84,slow=1.2,SNR=7.0						
BDFB	**Brasilia** comp=Z,6.6nm,0.8s,baz=110,slow=1.3,SNR=10	**153.31**	**145**	PKPbc	**PKiKP**	**08 10 58.6**	**+1.1**

*WEL **07** 07:53:31.1±1.0,34°S±6°×17°9E±°,h12km,M4.7/18, mB5.2/7,ML4.9/18,MLv4.8/18,Mw(mB)4.6/7,Error ellipse: s-maj=11.4km s-min=7.5km az=81.3,confirmed*

*IDC **07** 07:53:36.8±2.5,34°04S×179°50E,h64km±22km,mb4.2/5, mbtmp4.5/7,Error ellipse: s-maj=24.2km s-min=17.9km az=94.0*

ISC 07 07:53:32.9±1.1,33°83S±0°08×179°6E±0°1,h35km,n41, σ1ş74/44,mb4.6/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.88**	**196**	P	**Pn**	**07 54 29.7**	**-0.2**
MXZ				S	**Sn**	**07 55 17.5**	**+3.3**
MXZ				T	T	07 58 09.4	
WMGZ	**Waiomatatini S**	**4.10**	**194**	P	**Pn**	**07 54 32.5**	**-0.5**
WMGZ				S	**Sn**	**07 55 22.1**	**+2.3**
WMGZ				T	T	07 59 14.2	
HAZ	**Te Kaha**	**4.20**	**201**	P	**Pn**	**07 54 36.3**	**+1.9**
HAZ				S	**Sn**	**07 55 23.2**	**+1.1**
PKGZ	**Pakihiroa**	**4.22**	**197**	P	**Pn**	**07 54 35.2**	**+0.4**
PKGZ				S	**Sn**	**07 55 24.4**	**+1.7**
PUZ	**Puketiti**	**4.38**	**194**	P	**Pn**	**07 54 36.0**	**-0.9**
PUZ				S	**Sn**	**07 55 37.0**	**+0.4**
RUGZ	**Raukumara Rang**	**4.42**	**201**	P	**Pn**	**07 54 34.8**	**-2.7**
OPRZ	**Ohinepanea**	**4.72**	**211**	P	**Pn**	**07 54 44.0**	**+2.4**
TGRZ	**Tauranga**	**4.76**	**214**	P	**Pn**	**07 54 42.4**	**+0.3**
CNGZ	**Carnagh Statio**	**4.78**	**194**	P	**Pn**	**07 54 39.9**	**-2.5**
MWZ	**Matawai**	**4.80**	**200**	P	**Pn**	**07 54 43.3**	**+0.5**
MWZ				S	**Sn**	**07 55 37.2**	**0.0**
TKGZ	**Te Karaka**	**4.82**	**197**	P	**Pn**	**07 54 46.2**	**+3.2**
TKGZ				S	**Sn**	**07 55 37.5**	**0.0**
WCZ	**Waipu Caves**	**4.83**	**243**	P	**Pn**	**07 54 43.2**	**+0.2**
URZ	**Urewera** 57nm,0.5s,baz=336,slow=12,SNR=6.2	**4.87**	**204**	P	**Pn**	**07 54 42.8**	**-0.8**
URZ				S	**Sn**	**07 55 37.5**	**-1.2**
	89nm,0.6s,baz=332,slow=23,SNR=0.8						
URZ	**Urewera**	**4.87**	**204**	P	**Pn**	**07 54 42.2**	**-1.4**
RAGZ	**Rawiri**	**4.99**	**200**	P	**Pn**	**07 54 44.4**	**-1.0**
RAO	**Raoul Island** 822nm,0.4s,baz=53,slow=20,SNR=3.6	**5.02**	**25**	P	Pn	07 54 53.6	+7.9
RIGZ	**Rimuhau**	**5.09**	**197**	P	Pn	07 54 42.0	-4.7
RIGZ				S	**Sn**	**07 55 43.6**	**-0.7**
OUZ	**Omahuta**	**5.17**	**253**	S	**Sn**	**07 55 43.1**	**-3.2**
PRGZ	**Paritu Road**	**5.27**	**195**	P	**Pn**	**07 54 47.1**	**-2.1**
PRGZ				S	**Sn**	**07 55 46.7**	**-2.1**
SNGZ	**Shannon Statio**	**5.28**	**200**	P	**Pn**	**07 54 47.1**	**-2.1**
SNGZ				S	**Sn**	**07 55 49.9**	**+1.1**
RAHZ	**Arahi**	**5.47**	**201**	P	**Pn**	**07 54 50.7**	**-1.3**
MTHZ	**Maungataniwha**	**5.49**	**203**	P	**Pn**	**07 54 51.3**	**-1.0**
NMHZ	**Naumai**	**5.73**	**203**	P	**Pn**	**07 54 54.3**	**-1.2**
BKZ	**Black Stump Fm**	**5.89**	**205**	P	**Pn**	**07 54 56.5**	**-1.3**
KAHZ	**Kahuranaki**	**6.35**	**200**	P	**Pn**	**07 55 00.6**	**-3.4**
VRZ	**Vera Road**	**6.58**	**215**	P	**Pn**	**07 55 09.9**	**+2.8**
TSZ	**Takapari Road**	**6.87**	**204**	P	**Pn**	**07 55 08.7**	**-2.5**
RPZ	**Rata Peaks** 5.8nm,0.7s,baz=25,slow=10,SNR=1.1	**11.92**	**212**	P	**Pn**	**07 56 20.1**	**-0.1**
ASAR	**Alice Springs** 14nm,0.9s,baz=111,slow=7.5,SNR=20	**41.07**	**272**	P	**P**	**08 01 13.8**	**+0.5**
	14nm,0.9s						
WRA	**Warramunga Arr** 8.3nm,0.7s,baz=118,slow=8.1,SNR=14	**42.38**	**277**	P	**P**	**08 01 24.1**	**+0.1**
	8.3nm,0.7s						
QSPA	**South Pole Qui** 6.5nm,0.6s,baz=18,slow=5.6,SNR=34	**56.28**	**180**	P	**P**	**08 03 10.0**	**+0.2**
	6.5nm,0.6s						
SNAA	**Sanae** 2.0nm,0.9s,baz=199,slow=7.7,SNR=5.3	**74.78**	**179**	P	**P**	**08 05 06.8**	**-2.1**
	2.0nm,0.9s						
H03S2	**Juan Fernandez** baz=234,slow=74,SNR=3.8	**80.23**	**124**	T	T	09 33 58.5	
H03S1	**Juan Fernandez** baz=234,slow=74,SNR=3.4	**80.24**	**124**	T	T	09 33 56.3	
H03S3	**Juan Fernandez** baz=234,slow=74,SNR=4.2	**80.24**	**124**	T	T	09 33 54.7	
H03N3	**Juan Fernandez** baz=239,slow=72,SNR=45	**80.44**	**124**	T	T	09 34 05.1	
H03N2	**Juan Fernandez** baz=239,slow=72,SNR=32	**80.44**	**124**	T	T	09 34 06.2	
H03N1	**Juan Fernandez** baz=239,slow=72,SNR=37	**80.46**	**124**	T	T	09 34 10.5	
PLCA	**Paso Flores** 1.5nm,0.9s,baz=212,slow=5.6,SNR=4.4	**81.61**	**134**	P	**P**	**08 05 48.3**	**+0.8**
	1.5nm,0.9s						
KURBB	**Kurchatov Arra** 0.3nm,0.7s,baz=114,sl

baz=234,slow=74,SNR=5.3
H03S1 Juan Fernandez 79.74 124 T T 09 37 47.5
baz=234,slow=74,SNR=4.1
H03S3 Juan Fernandez 79.75 124 T T 09 37 41.1
baz=234,slow=74,SNR=5.2
H03N3 Juan Fernandez 79.94 123 T T 09 37 49.9
baz=237,slow=72
H03N2 Juan Fernandez 79.95 123 T T 09 37 46.9
baz=237,slow=72
H03N1 Juan Fernandez 79.96 123 T T 09 37 47.2
baz=237,slow=72
FINES FINESS Array B 147.88 337 PKPbc **PKPdf 08 16 59.5 -0.5**
comp=E,0.6nm,0.6s,baz=62,slow=3.8,SNR=3.6

*IDC **07** 07:59:52.3±0.5,23˚.36S×175˚.40W, h0km,mb4.3/19, mbtmp4.3/19,MS4.0/11,Error ellipse: s-maj=21.8km s-min=15.8km az=115.0*
*NEIC **07** 07:59:53.0±1.3,23˚.4S±0˚.1×175˚.0W±0˚.1,h10km±1km, mb4.8/44,Error ellipse: s-maj=22.5km s-min=16.6km az=113.0*
*GCMT **07** 07:59:57.0±0.4,23˚.30S±0˚.04×174˚.90W±0˚.03,h23km, MW4.9/73,Moment Tensor Solution. s31,c34; s73,c80; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.93±.17; Mθθ-1.06±.11; Mφφ-1.86±.11; Mrθ-0.15±.19; Mθφ-0.39±.07; Mφr0.03±.16; Best double couple: M◎2.47600×10¹⁶ NP1:ϕ20.00000˚,δ45.00000˚,λ87.00000˚. NP2: ϕ204.00000˚,δ45.00000˚,λ93.00000˚. Principal axes: T 2.9360, Plg88.0000˚, Azm195.0000˚; N -0.9110, Plg2.0000˚, Azm22.0000˚; P -2.0150, Plg0.0000˚, Azm292.0000˚; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 07:59:55.5±0.4,23˚.42S±0˚.08×174˚.93W±0˚.06,h29km, n122,σ1ᵎ91/122,mb4.8/50,MS4.0/11,5C-1D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.36**	**48**		**Pn**	**08 01 24.2**	**-3.1**
MSVF	**Nonsavu**	**8.67**	**309**		**Pn**	**08 02 01.7**	**+2.5**
MSVF	**Nonsavu**	**8.67**	**309**	Pn	**Pn**	**08 02 01.2**	**+2.0**
	3.5nm,0.3s,baz=136,slow=13,SNR=30						
AFI	**Afiamalu**	**9.91**	**18**	Pn	**Pn**	**08 02 13.0**	**-3.3**
RAR	**Rarotonga**	**14.20**	**84**	Pn	**Pn**	**08 03 12.8**	**-1.9**
RAR	**Rarotonga**	**14.20**	**84**	Pn	**Pn**	**08 03 12.3**	**-2.4**
	5.5nm,0.3s,baz=265,slow=6.0,SNR=6.4						
RAR				Sn	Sn	08 05 39.5	-12
	1.3nm,0.3s,baz=332,slow=22,SNR=1.9						
DZM	**Mont Dzumac**	**17.23**	**271**	*e*LR	LR	08 07 52.0	
	401nm,21.1s						
DZM	**Mont Dzumac**	**17.23**	**271**	Pn	**P**	**08 03 55.7**	**0.0**
	0.5nm,0.3s,baz=102,slow=16,SNR=5.2						
RPZ	**Rata Peaks**	**23.31**	**206**	P	**P**	**08 05 01.5**	**+0.5**
	6.1nm,0.6s,baz=12,slow=20,SNR=2.3						
	6.1nm,0.6s						
TBI	**Tubuai**	**23.37**	**95**	*e*S	**S**	**08 09 08.4**	**-4.7**
	1μm,27.2s						
TBI				*e*LR	LR	08 10 32.5	
	2μm,21.8s						
PPT2	**Papeete2**	**24.43**	**81**	*e*S	**S**	**08 09 27.3**	**-2.9**
	515nm,24.0s						
PPT2				*e*LR	LR	08 10 56.8	
	496nm,21.2s						
PPT2				*e*LR	LR	08 11 03.9	
	460nm,21.8s						
ARMA	**Armidale**	**30.54**	**250**	P	**P**	**08 06 04.9**	**-1.8**
EIDS	**Eidsvold**	**30.97**	**259**	P	**P**	**08 06 08.0**	**-2.4**
CAN	**Canberra**	**33.42**	**241**	P	**P**	**08 06 30.6**	**-1.3**
CAN				IAmb	IAmb	08 06 44.5	
	comp=Z,12nm,1.2s						
CTAO	**Charters Tower**	**36.13**	**268**	P	**P**	**08 06 53.5**	**-1.9**
CTAO				IAmb	IAmb	08 06 54.8	
	comp=Z,11nm,0.6s						
TOO	**Toolangi**	**36.63**	**238**	P	**P**	**08 06 57.9**	**-1.6**
TAU	**Tasmania Unive**	**36.71**	**229**	P	**P**	**08 06 59.0**	**-1.0**
TAU				IAmb	IAmb	08 07 24.0	
	comp=Z,16nm,1.4s						
STKA	**Stephens Creek**	**39.21**	**248**	P	**P**	**08 07 17.9**	**-3.4**
STKA	**Stephens Creek**	**39.21**	**248**	P	**P**	**08 07 18.6**	**-2.7**
	comp=Z,1.7nm,0.5s,baz=105,slow=12,SNR=3.6						
STKA				LR	LR	08 22 43.4	
	comp=Z,348nm,19.1s,baz=54,slow=35						
	comp=Z,1.7nm,0.5s						
COEN	**Coen**	**40.66**	**276**	P	**P**	**08 07 31.2**	**-2.3**
AS31	**Alice Springs**	**46.69**	**259**	P	**P**	**08 08 20.4**	**-1.7**
ASAR	**Alice Springs**	**46.70**	**259**	P	**P**	**08 08 20.8**	**-1.3**
ASAR	**Alice Springs**	**46.70**	**259**	P	**P**	**08 08 19.6**	**-2.5**
	comp=Z,3.5nm,0.8s,baz=93,slow=8.3,SNR=9.8						
ASAR				PcP	**PcP**	**08 09 56.1**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=94,slow=4.2,SNR=2.1						
ASAR				LR	LR	08 27 55.4	
	comp=Z,376nm,18.3s,baz=106,slow=36						
	comp=Z,3.5nm,0.8s						
WR8	**Warramunga Arr**	**46.93**	**264**		**P**	**08 08 20.9**	**-3.0**
WR8				IAmb	IAmb	08 08 23.3	
	comp=Z,16nm,1.5s						
WB0	**Warramunga Arr**	**47.07**	**264**		**P**	**08 08 21.9**	**-3.2**
WB0				IAmb	IAmb	08 08 26.0	
	comp=Z,7.2nm,0.8s						
WRA	**Warramunga Arr**	**47.08**	**264**		**P**	**08 08 21.8**	**-3.3**
WRA	**Warramunga Arr**	**47.08**	**264**	P	**P**	**08 08 21.5**	**-3.6**
	comp=Z,4.4nm,0.7s,baz=102,slow=8.1,SNR=30						
WRA				PcP	**PcP**	**08 09 55.6**	**-1.3**
	comp=Z,2.7nm,1.1s,baz=111,slow=3.2,SNR=3.1						
WRA				LR	LR	08 27 54.7	
	comp=Z,347nm,18.6s,baz=47,slow=36						
	comp=Z,4.4nm,0.7s						
FORT	**Forrest**	**50.83**	**249**	P	**P**	**08 08 50.7**	**-2.9**
FORT				IAmb	IAmb	08 08 51.8	
	comp=Z,6.7nm,0.6s						
MTN	**Manton Dam**	**52.07**	**272**	P	**P**	**08 09 00.8**	**-2.4**
MTN				IAmb	IAmb	08 09 04.5	
	comp=Z,8.8nm,0.6s						
KNRA	**Kununurra**	**53.35**	**267**		**P**	**08 09 10.9**	**-1.7**
SBA	**Scott Base**	**55.19**	**185**	P	**P**	**08 09 25.4**	**+0.3**
SBA				IAmb	IAmb	08 09 38.4	
	comp=Z,15nm,1.4s						
VNDA	**Vanda**	**55.30**	**186**	P	**P**	**08 09 27.3**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=16,slow=6.0,SNR=3.5						
VNDA				LR	LR	08 28 16.7	
	comp=Z,65nm,21.5s,baz=358,slow=31						
	comp=Z,0.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**55.50**	**264**		**P**	**08 09 27.0**	**-1.2**
SOEI	**Soe**	**59.45**	**272**	P	**P**	**08 09 54.9**	**-1.4**
NWAO	**Narrogin (SRO)**	**59.65**	**244**	LR	LR	08 34 52.6	
	comp=Z,149nm,18.3s,baz=116,slow=35						
KAPI	**Kappang**	**65.39**	**275**	LR	LR	08 38 57.3	
	comp=Z,95nm,18.9s,baz=102,slow=36						
QSPA	**South Pole Qui**	**66.67**	**180**	P	**P**	**08 10 44.6**	**+1.1**
QSPA				IAmb	IAmb	08 10 59.0	
	comp=Z,13nm,1.4s						
QSPA	**South Pole Qui**	**66.67**	**180**	P	**P**	**08 10 45.6**	**+2.1**
	comp=Z,2.8nm,0.9s,baz=88,slow=1.3,SNR=6.2						
	comp=Z,2.8nm,0.9s						
TOLI2	**Tolitoli**	**66.99**	**282**	P	**P**	**08 10 45.2**	**-1.0**
TOLI2				IAmb	IAmb	08 10 48.3	
	comp=Z,6.3nm,0.7s						
MJAR	**Matsushiro Arr**	**74.24**	**322**	P	**P**	**08 11 28.5**	**-1.4**
	comp=Z,2.4nm,0.7s,baz=152,slow=6.3,SNR=5.9						
	comp=Z,2.4nm,0.7s						
BELA	**Belgrano 2**	**76.30**	**172**		**P**	**08 11 41.5**	**+0.4**
KSM	**Kuching**	**76.63**	**278**	P	**P**	**08 11 42.8**	**-1.3**
KSM				IAmb	IAmb	08 11 45.0	
	comp=Z,8.0nm,0.9s						
PET	**Petropavlovsk**	**79.51**	**344**	P	**P**	**08 11 59.1**	**0.0**
PET				IAmb	IAmb	08 12 06.1	
	comp=Z,14nm,1.0s						
YSS	**Yuzhno-Sakhali**	**79.78**	**332**		**P**	**08 11 59.9**	**-0.9**
MAW	**Mawson**	**79.78**	**199**	P	**P**	**08 12 01.6**	**+1.0**
	comp=Z,3.2nm,0.8s,baz=130,slow=6.1,SNR=8.9						
	comp=Z,3.2nm,0.8s						
PEA0B	**Petropavlovsk-**	**79.83**	**344**		**P**	**08 11 59.9**	**-1.0**
PEA0B				IAmb	IAmb	08 12 15.4	
	comp=Z,11nm,0.9s						
PETK	**Petropavlovsk-**	**79.83**	**344**		**P**	**08 12 00.3**	**-0.6**
PETK	**Petropavlovsk-**	**79.83**	**344**	P	**P**	**08 12 01.7**	**+0.8**
	comp=Z,8.1nm,0.8s,baz=138,slow=7.2,SNR=15						
	comp=Z,8.1nm,0.8s						
YBH	**Yreka Blue Hor**	**80.84**	**37**	P	**P**	**08 12 09.3**	**+2.6**
	comp=Z,0.1nm,0.9s,baz=21,slow=7.9,SNR=4.1						
KSRS	**Korea Array**	**80.95**	**317**	P	**P**	**08 12 07.7**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=127,slow=5.8,SNR=7.4						
	comp=Z,2.1nm,0.7s						
NVAR	**Mina Array Bea**	**81.24**	**42**	P	**P**	**08 12 12.1**	**+3.0**
	comp=Z,1.2nm,0.7s,baz=258,slow=4.7,SNR=4.7						
NVAR				LR	LR	08 46 12.2	
	comp=Z,117nm,18.0s,baz=210,slow=34						
	comp=Z,1.2nm,0.7s						
ACHA	**Angle Creek He**	**82.94**	**10**	P	**P**	**08 12 18.1**	**+0.8**
ACHA				IAmb	IAmb	08 12 25.2	
	comp=Z,7.8nm,1.4s						
USA0B	**Ussuriysk Arra**	**82.97**	**325**		**P**	**08 12 17.9**	**+0.1**
USRK	**Ussuriysk Ar.**	**82.97**	**325**		**P**	**08 12 17.4**	**-0.3**
USRK	**Ussuriysk Ar.**	**82.97**	**325**	P	**P**	**08 12 19.1**	**+1.4**
	comp=Z,8.1nm,0.7s,baz=147,slow=4.7,SNR=16						
	comp=Z,8.1nm,0.7s						
NJ2	**Nanjing**	**83.92**	**309**	*e*P	**P**	**08 12 24.3**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,17nm,0.9s						
I07A	**Izee**	**84.16**	**37**		**P**	**08 12 24.9**	**+0.9**
J08A	**Circle Bar Ran**	**84.27**	**38**	P	**P**	**08 12 24.7**	**+0.1**
SYO	**Syowa Base**	**84.50**	**192**	*e*P	**P**	**08 12 25.8**	**+0.5**
MDJ	**Mudanjiang**	**84.54**	**324**	P	**P**	**08 12 27.5**	**+1.8**
MDJ				pmax	pmax		
	comp=Z,19nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,160nm,4.5s						
TROLL	**Troll, Antarti**	**84.81**	**179**	⇑P	**P**	**08 12 28.5**	**+1.5**
	comp=Z,224nm,0.7s						
O19K	**Port Alsworth**	**85.00**	**10**	P	**P**	**08 12 28.3**	**+0.7**
O19K				IAmb	IAmb	08 12 30.4	
	comp=Z,6.3nm,0.8s						
SNAA	**Sanae**	**85.01**	**177**	⇑P	**P**	**08 12 28.9**	**+0.9**
	comp=Z,44nm,0.8s						
SNAA	**Sanae**	**85.01**	**177**		**P**	**08 12 28.7**	**+0.8**
SNAA				IAmb	IAmb	08 12 54.4	
	comp=Z,8.2nm,1.4s						
SNAA	**Sanae**	**85.01**	**177**	P	**P**	**08 12 28.9**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=186,slow=5.4,SNR=5.6						
	comp=Z,1.5nm,0.8s						
L14K	**Kuka Creek**	**85.03**	**6**		**P**	**08 12 28.6**	**+0.8**
L14K				IAmb	IAmb	08 12 51.1	
	comp=Z,8.1nm,1.1s						
PLCA	**Paso Flores**	**85.21**	**132**	LR	LR	08 43 37.2	
	comp=Z,68nm,20.2s,baz=246,slow=31						
VNA2	**Neumayer--Watz**	**85.51**	**176**	⇑P	**P**	**08 12 31.6**	**+1.2**
	comp=Z,4.9nm,0.7s,baz=167,slow=3.1						
VNA1	**Neumayer--Stat**	**85.72**	**176**	⇑P	**P**	**08 12 33.4**	**+2.0**
	comp=Z,6.7nm,0.8s						
TXAR	**Lajitas Array**	**86.27**	**56**	P	**P**	**08 12 37.4**	**+2.5**
	comp=Z,0.3nm,0.7s,baz=203,slow=9.2,SNR=4.7						
	comp=Z,0.3nm,0.7s						
CN2	**Changchun**	**86.34**	**321**	P	**P**	**08 12 35.8**	**+1.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BNX	**BinXian**	**86.44**	**324**	⇑P	**P**	**08 12 35.7**	**+0.5**
BNX				sP	**pP**	**08 12 40.4**	**-1.2**
BNX				pmax	pmax		
	comp=Z,18nm,1.1s						
KLR	**Kul'dur**	**86.48**	**328**	P	**P**	**08 12 35.3**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=202,slow=1.0,SNR=7.0						
	comp=Z,1.8nm,0.7s						
ANMO	**Albuquerque**	**87.04**	**50**	P	**P**	**08 12 41.6**	**+2.9**
	comp=Z,0.3nm,0.3s,baz=219,slow=6.5,SNR=2.2						
	comp=Z,0.3nm,0.3s						
RPSI	**Rantau Prapat**	**87.52**	**274**		**P**	**08 12 40.3**	**-0.9**
N25K	**Chitina, Valde**	**88.17**	**14**	P	**P**	**08 12 44.0**	**+0.7**
N25K				IAmb	IAmb	08 12 58.9	
	comp=Z,4.5nm,1.1s						
GSI	**Gunungsitoli**	**88.21**	**272**		**P**	**08 12 44.1**	**-0.4**
TRF	**Thorofare Moun**	**88.73**	**11**	IAmb	IAmb	08 12 48.2	
	comp=Z,4.5nm,0.8s						
PDAR	**Pinedale Array**	**89.17**	**42**	P	**P**	**08 12 51.3**	**+2.6**
	comp=Z,0.5nm,0.8s,baz=222,slow=2.0,SNR=5.2						
PDAR				LR	LR	08 51 33.6	
	comp=Z,56nm,18.1s,baz=206,slow=35						
	comp=Z,0.5nm,0.8s						
SRIT	**Nakonsritamara**	**89.25**	**280**		**P**	**08 12 48.6**	**-0.8**
M27K	**Edge Creek, AK**	**89.45**	**15**	P	**P**	**08 12 50.0**	**+0.6**
M27K				IAmb	IAmb	08 12 52.1	
	comp=Z,4.7nm,1.1s						
LYN	**LuoYang**	**89.79**	**308**	P	**P**	**08 12 52.3**	**+0.8**
LYN				pmax	pmax		
	comp=Z,42nm,0.7s						
ENH	**Enshi**	**90.02**	**303**		**P**	**08 12 52.4**	**-0.3**
WRH	**Wood River Hil**	**90.05**	**11**	P	**P**	**08 12 52.9**	**+0.9**
WRH				IAmb	IAmb	08 13 20.4	
	comp=Z,5.5nm,1.2s						
CCB	**Clear Creek Bu**	**90.27**	**11**		**P**	**08 12 53.8**	**+0.9**
ILAR	**Eielson Array**	**90.55**	**12**		**P**	**08 12 54.1**	**-0.2**
ILAR	**Eielson Array**	**90.55**	**12**	P	**P**	**08 12 55.1**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=230,slow=4.2,SNR=6.8						
	comp=Z,0.7nm,0.9s						
J26L	**Joseph Creek**	**90.96**	**13**		**P**	**08 12 57.1**	**+0.8**
J26L				IAmb	IAmb	08 13 12.5	
	comp=Z,4.4nm,0.9s						
KMI	**Kunming**	**93.19**	**296**	P	**P**	**08 13 10.0**	**+2.2**
KMI				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC	**Hu-ho-hao-te**	**93.42**	**313**	*e*P	**P**	**08 13 08.7**	**+0.4**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,82nm,4.4s						
CMAR	**Chiang Mai Arr**	**93.75**	**288**		**P**	**08 13 10.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**93.75**	**288**	P	**P**	**08 13 11.0**	**+0.8**
	comp=Z,8.3nm,0.9s,baz=126,slow=3.1,SNR=27						
	comp=Z,8.3nm,0.9s						
CHTO	**Chiang Mai**	**93.89**	**289**	P	**P**	**08 13 09.1**	**-1.8**
YAK	**Yakutsk**	**95.88**	**337**	LR	LR	08 51 15.7	
	comp=Z,42nm,21.3s,baz=142,slow=32						
LZH	**Lanzhou**	**96.79**	**306**	*e*P	**P**	**08 13 27.0**	**+3.1**
LZH				sP	pwP	08 13 38.5	-3.6
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
SONM	**Songino Array**	**99.81**	**318**	LR	LR	08 53 18.2	
	comp=Z,26nm,20.1s,baz=220,slow=32						
GTA	**Gaotai**	**101.01**	**308**	*e*P	**Pdif**	**08 13 48.9**	**+6.2**
GTA				pP		08 13 54.8	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**115.26**	**312**	PKP	**PKiKP**	**08 18 34.6**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=48,slow=1.8,SNR=3.9						
KURBB	**Kurchatov Arra**	**118.11**	**316**	PKP	**PKPdf**	**08 18 39.3**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=77,slow=1.8,SNR=6.6						
BVAR	**Borovoye Array**	**123.14**	**319**	PKhKP	PKPpre	08 18 45.3	
FINES	**FINESS Array B**	**139.34**	**345**	PKP	**PKiKP**	**08 19 21.6**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=335,slow=2.0,SNR=2.5						
SUW	**Suwalki**	**146.54**	**341**	*e*PKP	**PKPab**	**08 19 34.9**	**+0.1**
AKASG	**Malin Array Be**	**146.93**	**332**	PKPbc	**PKPbc**	**08 19 34.6**	**-0.4**
	comp=Z,4.3nm,0.7s,baz=40,slow=4.4,SNR=16						
EKA	**Eskdalemuir Ar**	**147.54**	**9**	PKPbc	**PKPbc**	**08 19 37.1**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=218,slow=24,SNR=3.4						
BEL	**Belsk**	**149.16**	**341**	*e*PKP	**PKiKP**	**08 19 42.4**	**+0.3**
OJC	**Ojcow**	**150.87**	**340**	*e*PKP	**PKiKP**	**08 19 46.1**	**+0.4**
BRTR	**Keskin Array B**	**150.90**	**311**	PKPbc	**PKiKP**	**08 19 46.3**	**0.0**
	comp=Z,2.5nm,0.8s,baz=134,slow=3.6,SNR=13						
STHS	**Stebnicka Huta**	**151.09**	**338**	*e*PKP	**PKiKP**	**08 19 48.1**	**+1.9**
KOLS	**Kolonicke sedl**	**151.13**	**336**	*e*PKP	**PKPab**	**08 19 57.5**	**+4.0**
KSP	**Ksiaz**	**151.26**	**345**	*e*PKP	**PKiKP**	**08 19 47.3**	**+0.8**
NIE	**Niedzica**	**151.41**	**339**	*e*PKP	**PKiKP**	**08 19 47.9**	**+1.0**
CLL	**Collm**	**151.49**	**350**	*e*PKPdf	**PKPdf**	**08 19 42.0**	**+1.7**
CLL				*i* PKPbc	**pPKPdf**	**08 19 47.3**	**0.0**
	comp=Z,10.0nm,1.2s						
CLL				*e*PKPab	**PKPab**	**08 19 55.0**	**+0.2**
CLL				*e*SKPdf	**SKPdf**	**08 23 14.0**	**+2.2**
CLL				*e*PP	**PP**	**08 23 25.0**	**-0.1**
MMAI	**Mount Meron Ar**	**151.70**	**297**	PKPbc	**PKiKP**	**08 19 47.9**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=52,slow=5.4,SNR=3.9						
BRG	**Berggiesshubel**	**151.74**	**348**	*e*PKP	**PKiKP**	**08 19 48.1**	**+0.7**
BRG				Amp		08 19 49.5	
	comp=Z,5.6nm,1.0s						
BRG	**Berggiesshubel**	**151.74**	**348**	P	**PKiKP**	**08 19 50.4**	**+2.9**
BRG				Amp		08 19 51.4	
	comp=Z,5.2nm,0.9s						
BRG	**Berggiesshubel**	**151.74**	**348**	P	**PKPab**	**08 19 56.5**	**+0.6**
BRG				Amp		08 19 56.9	
	comp=Z,3.5nm,0.8s						
BRG	**Berggiesshubel**	**151.74**	**348**	P	**PKPab**	**08 20 03.1**	**+7.2**
BRG				Amp		08 20 04.0	
	comp=Z,4.3nm,0.9s						
BRG	**Berggiesshubel**	**151.74**	**348**	P	PKPab	08 20 08.5	+13
BRG				Amp		08 20 09.7	
	comp=Z,4.7nm,1.0s						
LANS	**Liptovska Anna**	**151.91**	**340**	*e*PKP	**PKiKP**	**08 19 50.7**	**+2.7**
MORC	**Moravsky Berou**	**151.93**	**343**	*e*PKP	**PKiKP**	**08 19 48.9**	**+0.9**
VYHS	**Vyhne**	**152.69**	**340**	*e*PKP	**PKiKP**	**08 19 51.4**	**+1.8**
KRUC	**Moravsky**	**152.88**	**344**	*e*PKP	**PKiKP**	**08 19 51.0**	**+1.1**
MODS	**Modra-Piesok**	**153.27**	**342**	*e*PKP	**PKiKP**	**08 19 52.2**	**+1.4**
GERES	**GERESS Array B**	**153.72**	**347**	PKPbc	**PKiKP**	**08 19 52.6**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=29,slow=6.2,SNR=1.9						

*PAS **07** 08:03:25.6±0.9,36˚.086N±0˚.010×117˚.85W±0˚.01, h0km±1km,Mwr3.7/4,ML3.6/114(NEIC),Error ellipse: s-maj=1.5km s-min=1.4km az=68.0*
*NEIC **07** 08:03:25.3±0.8,36˚.079N±0˚.009×117˚.84W±0˚.01, h1km±1km,Error ellipse: s-maj=1.5km s-min=1.4km az=82.0*
*IDC **07** 08:03:25.8±0.8,36˚.08N×118˚.00W, h0km, mb3.4/2, mbtmp3.3/8,ML3.4/6,MS3.0/2,Error ellipse: s-maj=15.0km s-min=5.7km az=70.0*
ISC 07 08:03:25.4±0.9,36˚.08N±0˚.01×117˚.86W±0˚.02,h6km±6km, n120,σ1ᵎ06/139,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MFS	**McCloud Flat S**	**0.04**	**3**		**Pg**	**08 03 26.5**	**-0.3**
WRVM	**Rose V. Centra**	**0.08**	**200**		**Pg**	**08 03 27.5**	**+0.2**
WVPM	**Volcano Peak E**	**0.14**	**166**		**Pg**	**08 03 28.5**	**+0.2**
WVPM					**Sg**	**08 03 30.9**	**+0.7**
WNMM	**Nine Mile Cany**	**0.24**	**189**		**Pg**	**08 03 30.6**	**+0.5**
TOW	**Tower One**	**0.28**	**164**		**Pg**	**08 03 31.8**	**+0.9**
TOW					**Sb**	**08 03 36.9**	**-1.1**
MPMC	**Manual Prospec**	**0.30**	**94**		**Pg**	**08 03 31.5**	**+0.2**
MPMC				Sg	**Sg**	**08 03 35.7**	**+0.4**
CLC	**China Lake**	**0.34**	**141**		**Pg**	**08 03 32.3**	**+0.3**
CLC				Sg	**Sg**	**08 03 37.1**	**+0.6**
SRTC	**Snort**	**0.40**	**167**		**Pn**	**08 03 40.6**	**+2.8**
CWC	**Cottonwood Cre**	**0.40**	**333**		**Pg**	**08 03 33.4**	**+0.2**
CWC					**Sg**	**08 03 39.1**	**+0.6**
CWC				IAML		08 03 39.7	
	comp=E,9μm,0.3s						
CWC				IAML		08 03 42.9	
	comp=N,6μm,0.2s						
CGO	**Cerro Gordo**	**0.47**	**5**		**Pg**	**08 03 34.6**	**+0.1**
WORM	**Onyx Ranch**	**0.50**	**219**		**Pg**	**08 03 35.2**	**+0.3**
WORM					**Sg**	**08 03 42.2**	**+0.8**
WHFM	**Hanning Flat**	**0.55**	**226**		**Pg**	**08 03 36.4**	**+0.3**
WBSM	**Bird Springs**	**0.59**	**203**		**Pg**	**08 03 37.1**	**+0.3**
LRMC	**Laurel Mtn Rad**	**0.62**	**167**		**Pg**	**08 03 37.5**	**+0.2**
LRMC				Sg	**Sg**	**08 03 46.1**	**+0.8**
LRMC				IAML		08 03 46.6	
	comp=E,4μm,0.5s						
LRMC				IAML		08 03 47.0	
	comp=N,3μm,0.3s						
ISA	**Isabella, Lake**	**0.65**	**230**		**Pg**	**08 03 38.2**	**+0.3**
ISA				IAML		08 03 47.6	
	comp=E,2μm,0.5s						
ISA				IAML		08 03 47.6	
	comp=N,2μm,0.5s						
CCCA	**Chr Cany lake**	**0.69**	**144**		**Pg**	**08 03 39.1**	**+0.6**
CCCA				Sg	**Sb**	**08 03 49.1**	**-0.4**
CCCA				IAML		08 03 50.9	
	comp=E,5μm,0.6s						
SPG2	**Springville 2**	**0.74**	**279**		**Pg**	**08 03 39.7**	**0.0**
QSM	**Queen of Sheba**	**0.81**	**98**		**Pg**	**08 03 41.1**	**+0.1**
QSM					**Sg**	**08 03 51.7**	**+0.2**
DTP	**Desert Tortois**	**0.81**	**179**		**Pg**	**08 03 41.1**	**+0.2**
CCAC	**Calif City Air**	**0.94**	**188**		**Pg**	**08 03 43.5**	**+0.1**
CCAC					**Sb**	**08 03 56.3**	**-0.4**
GWY	**Greenwater Val**	**0.97**	**83**		**Pg**	**08 03 43.9**	**-0.1**
GWY					**Sg**	**08 03 57.0**	**+0.4**
GWY				IAML		08 04 00.7	
	comp=N,3μm,0.6s						
GRAC	**Grapevine Rang**	**0.99**	**23**		**Pg**	**08 03 44.3**	**-0.2**
GRAC				IAML		08 04 03.3	
	comp=N,2μm,0.9s						
GRAC				IAML		08 04 04.2	
	comp=E,3μm,0.6s						
TIN	**Tinemaha, Big**	**1.02**	**343**		**Pg**	**08 03 45.1**	**+0.2**
TIN					**Sb**	**08 03 59.3**	**+0.1**
VES	**Vestal, Richgr**	**1.02**	**257**		**Pg**	**08 03 45.2**	**+0.2**
VES					**Sb**	**08 03 59.5**	**+0.3**
TEJ	**El Tejon**	**1.09**	**219**		**Pg**	**08 03 45.9**	**-0.3**
SGV	**South Grapevin**	**1.12**	**36**		**Pg**	**08 03 46.6**	**-0.2**
GSC	**Goldstone, Bar**	**1.16**	**132**	Pg	**Pb**	**08 03 47.2**	**-0.7**
GSC				IAML		08 04 05.8	
	comp=N,1μm,0.7s						
GSC				IAML		08 04 08.0	
	comp=E,2μm,0.7s						
LCH	**Last Change Ra**	**1.16**	**8**		**Pb**	**08 03 47.0**	**-1.0**
LCH					**Sg**	**08 04 03.3**	**+0.5**
WCT	**Wildcat Mounta**	**1.22**	**54**		**Pn**	**08 03 48.3**	**-0.8**
WCT				IAML		08 04 09.3	
	comp=N,960nm,0.7s						
WCT				IAML

LHV					IAML		08 04 44.5	
	comp=E,459nm,0.9s							
LHV					IAML		08 04 47.1	
	comp=N,441nm,1.6s							
S11A	**Rachel**	**2.30**	**47**	Pn	**Pn**		**08 04 04.8**	**+0.7**
BLAC	**Blackrock camp**	**2.34**	**149**		**Pn**		**08 04 05.5**	**+0.9**
NV11	**Mina Array Sit**	**2.36**	**354**		**Pn**		**08 04 06.1**	**+1.3**
NVAR	**Mina Array Bea**	**2.37**	**351**	Pn	**Pn**		**08 04 06.1**	**+1.0**
	comp=N,12nm,0.3s,baz=174,slow=19,SNR=33							
NVAR				Pg		**Pg**	**08 04 10.0**	**-0.8**
	comp=N,20nm,0.3s,baz=174,slow=17,SNR=27							
NVAR				Lg	Lg		08 04 41.4	
	comp=N,19nm,0.3s,baz=171,slow=28,SNR=6.0							
	comp=N,7.5nm,0.5s							
PMPB	**Monarch Peak**	**2.39**	**274**		**Pb**		**08 04 07.3**	**-1.6**
MYLM	**Yosemite Lake**	**2.44**	**303**		**Pb**		**08 04 09.1**	**-0.5**
EW2	**E Wide Canyon**	**2.44**	**150**		**Pn**		**08 04 07.0**	**+1.1**
ELS	**Elsinore Mount**	**2.45**	**172**		**Pn**		**08 04 06.6**	**+0.5**
PSAM	**San Ardo**	**2.46**	**270**		**Pb**		**08 04 08.0**	**-2.0**
V12A	**Nelson**	**2.47**	**97**	Pn	**Pn**		**08 04 06.2**	**0.0**
V12A				IAML			08 04 47.0	
	comp=N,334nm,1.1s							
V12A				IAML			08 04 47.5	
	comp=E,326nm,0.5s							
TPC	**Twentynine Pal**	**2.47**	**143**		**Pn**		**08 04 06.6**	**+0.3**
RAMR	**Ramage Ranch**	**2.49**	**261**		**Pn**		**08 04 08.3**	**+1.9**
POB	**Polly Butte**	**2.51**	**162**		**Pn**		**08 04 07.8**	**+0.9**
DPD	**Davis Peak**	**2.53**	**251**		**Pb**		**08 04 09.4**	**-1.8**
RYN	**Ryan**	**2.60**	**348**		**Pn**		**08 04 09.9**	**+1.8**
RYN				IAML			08 04 56.6	
	comp=E,179nm,1.3s							
PRN	**Pahroc Range**	**2.61**	**59**	Pn	**Pn**		**08 04 09.1**	**+0.7**
CRY	**Cary Ranch**	**2.67**	**160**		**Pn**		**08 04 09.9**	**+0.7**
PCCM	**Crazy Canyon**	**2.68**	**271**		**Pb**		**08 04 11.4**	**-2.4**
PMD	**Palm Desert**	**2.72**	**153**		**Pn**		**08 04 10.4**	**+0.8**
PFO	**Pinyon Flats O**	**2.72**	**155**		**Pn**		**08 04 10.4**	**+0.6**
PFO	**Pinyon Flats O**	**2.72**	**155**	Pn	**Pn**		**08 04 10.1**	**+0.3**
	comp=E,2.3nm,0.3s,baz=339,slow=14,SNR=8.9							
PFO				Pg		**Pg**	**08 04 16.6**	**-0.9**
	comp=E,18nm,0.3s,baz=332,slow=14,SNR=45							
PFO				Lg	Lg		08 04 52.5	
	comp=E,18nm,0.3s,baz=229,slow=19,SNR=11							
	comp=E,5.4nm,0.3s							
BSGM	**Shirttail Gulc**	**2.77**	**278**		**Pb**		**08 04 12.7**	**-2.5**
FRD	**Ford Ranch, An**	**2.78**	**158**		**Pn**		**08 04 11.3**	**+0.7**
R11B	**Troy Canyon, C**	**2.90**	**38**		**Pn**		**08 04 12.7**	**+0.4**
R11B				IAML			08 05 02.6	
	comp=E,137nm,0.8s							
NEE2	**Needles Airpor**	**2.95**	**115**		**Pn**		**08 04 12.7**	**-0.2**
NEE2				IAML			08 05 10.3	
	comp=N,337nm,0.8s							
SAO	**San Andreas Ge**	**2.97**	**284**		**Pb**		**08 04 15.9**	**-2.9**
BORC	**Borrego Spring**	**3.05**	**157**	Pn	**Pn**		**08 04 15.3**	**+1.1**
BORC				IAML			08 05 05.7	
	comp=N,110nm,0.8s							
BORC				IAML			08 05 12.4	
	comp=E,135nm,1.1s							
DPP	**Dos Picos Cty**	**3.17**	**166**	Pn	**Pn**		**08 04 16.5**	**+0.7**
W13A	**Hualapai Mount**	**3.38**	**106**		**Pn**		**08 04 18.9**	**-0.1**
W13A				IAML			08 05 14.8	
	comp=E,102nm,0.6s							
W13A				IAML			08 05 16.9	
	comp=N,127nm,1.3s							
BLYC	**Blythe**	**3.59**	**129**		**Pn**		**08 04 21.2**	**-0.4**
BLYC				IAML			08 05 22.6	
	comp=N,89nm,0.8s							
BLYC				IAML			08 05 26.9	
	comp=E,78nm,0.9s							
YUH	**Yuha Desert**	**3.78**	**154**		**Pn**		**08 04 24.9**	**+0.7**
LCMT	**Little Creek M**	**3.83**	**75**		**Pn**		**08 04 26.0**	**+1.0**
CBX	**Cerro Bola**	**3.89**	**165**		**Pn**		**08 04 27.2**	**+1.4**
CBX				IAML			08 05 31.9	
	comp=N,147nm,1.3s							
GLA	**Glamis**	**3.92**	**140**		**Pn**		**08 04 25.6**	**-0.6**
GLA				IAML			08 05 38.7	
	comp=N,117nm,0.7s							
GLA				IAML			08 05 39.4	
	comp=E,126nm,0.9s							
Y14A	**Wickenburg**	**4.52**	**117**		**Pn**		**08 04 34.4**	**-0.1**
Y14A				IAML			08 06 00.1	
	comp=N,71nm,1.1s							
Y14A				IAML			08 06 06.0	
	comp=E,74nm,1.6s							
ELK	**Elko**	**5.09**	**23**	Pn	**Pn**		**08 04 43.8**	**+1.3**
ELK				IAML			08 06 08.5	
	comp=E,24nm,0.8s							
ELK	**Elko**	**5.09**	**23**	Pn	**Pn**		**08 04 44.0**	**+1.6**
	comp=E,3.2nm,0.3s,baz=212,slow=8.8,SNR=55							
ELK				Lg	Lg		08 06 06.9	
	comp=E,5.4nm,0.3s,baz=293,slow=21,SNR=9.7							
	comp=E,5.7nm,0.3s							
X16A	**Lo Mia Camp, P**	**5.51**	**106**		**Pn**		**08 04 49.1**	**+1.0**
214A	**Organ Pipe Nat**	**5.87**	**133**	Pn	**Pn**		**08 04 53.2**	**+0.2**
YBH	**Yreka Blue Hor**	**6.79**	**328**	Pn	**Pn**		**08 05 07.5**	**+1.8**
YBH				Sn	**Sn**		**08 06 23.6**	**+0.2**
	baz=166,slow=13,SNR=2.0							
YBH				Lg	Lg		08 06 55.4	
	baz=168,slow=19,SNR=3.6							
TUC	**Tucson**	**6.96**	**121**		**Pn**		**08 05 07.9**	**-0.1**
PDAR	**Pinedale Array**	**9.26**	**41**	Pn	**Pn**		**08 05 44.1**	**+4.4**
	comp=E,0.1nm,0.3s,baz=220,slow=12,SNR=7.3							
	comp=E,0.6nm,0.7s							
ANMO	**Albuquerque**	**9.36**	**94**	Pn	**Pn**		**08 05 45.1**	**+4.0**
	baz=351,slow=8.3,SNR=3.1							
ANMO				Pg			08 06 19.3	
	comp=E,0.1nm,0.3s,baz=221,slow=19,SNR=12							
ANMO				Lg	Lg		08 08 16.4	
	comp=E,0.1nm,0.3s,baz=256,slow=19,SNR=4.1							
ANMO				LR	LR		08 09 40.4	
	comp=E,147nm,18.8s,baz=10,slow=40							
	comp=E,0.2nm,0.3s							
TXAR	**Lajitas Array**	**13.71**	**115**	Pn	**P**		**08 06 45.4**	**-3.9**
	baz=297,slow=11,SNR=7.9							
TXAR				Lg	Lg		08 10 40.3	
	baz=285,slow=24,SNR=3.5							
TXAR				LR	LR		08 12 13.0	
	comp=E,35nm,21.9s,baz=176,slow=38							
	comp=E,0.5nm,0.8s							
ULM	**Lac du Bonnet**	**21.28**	**41**	P	**P**		**08 08 13.2**	**+0.8**
	comp=E,1.7nm,0.9s,baz=238,slow=10,SNR=3.3							
	comp=E,1.7nm,0.9s							
ILAR	**Eielson Array**	**33.56**	**338**	P	**P**		**08 10 08.2**	**+2.4**
	comp=E,0.3nm,0.7s,baz=135,slow=9.0,SNR=6.4							
	comp=E,0.3nm,0.7s							

*PAS **07** 08:38:27.4±2.0, 35°.557N±0°.010×117°.39W±0°.01, h-1$^{km}_{s}$1^{km}, ML3.2/24, ML3.1/74(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=224.0*

NEIC 07 08:38:27.1±2.0, 35°.571N±0°.010×117°.368W±0°.009, h1$^{km}_{s}$1^{km}, Error ellipse: s-maj=1.5km s-min=1.1km az=186.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.05**	**176**	Pg	Pg	08 38 28.4	+0.4
CCCA					Sg	08 38 28.6	-0.1
CCCA				IAML		08 38 28.7	
	comp=E,29μm,0.3s						
CCCA				IAML		08 38 28.8	
	comp=N,46μm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.27**	**250**		Pg	08 38 32.7	+0.4
LRMC				IAML		08 38 37.9	
	comp=E,3μm,0.3s						
LRMC				IAML		08 38 39.8	
	comp=N,4μm,0.3s						
CLC	**China Lake**	**0.31**	**323**		Pg	08 38 33.8	+0.8
CLC				IAML		08 38 41.3	
	comp=E,2μm,0.5s						
SRTC	**Snort**	**0.33**	**291**		Pg	08 38 34.5	+1.0
SRTC					Sb	08 38 40.5	-1.3
TOW	**Tower One**	**0.40**	**307**		Pb	08 38 36.0	-1.1
DTP	**Desert Tortois**	**0.49**	**232**		Pg	08 38 36.6	+0.1
MPMC	**Manual Prospec**	**0.50**	**349**		Pg	08 38 37.5	+0.8
WVPM	**Volcano Peak E**	**0.53**	**316**		Pg	08 38 37.9	+0.7
GSC	**Goldstone, Bar**	**0.53**	**120**		Pg	08 38 38.3	+0.9
GSC				IAML		08 38 48.2	
	comp=N,2μm,0.4s						
GSC	**Goldstone, Bar**	**0.53**	**120**		Sb	08 38 46.0	-1.5
QSM	**Queen of Sheba**	**0.57**	**46**		Pb	08 38 39.0	-0.9
CCAC	**Calif City Air**	**0.68**	**232**		Pg	08 38 40.2	+0.1
WORM	**Onyx Ranch**	**0.72**	**280**		Pg	08 38 41.3	+0.3
HYS	**Haystack Butte**	**0.72**	**193**		Pb	08 38 43.0	+0.5
WHFM	**Hanning Flat**	**0.81**	**279**		Pg	08 38 42.8	+0.2
GWY	**Greenwater Val**	**0.84**	**43**		Pb	08 38 44.0	-0.6
GWY				IAML		08 39 03.3	
	comp=N,899nm,0.4s						
EDW2	**Edwards Air Fo**	**0.86**	**217**		Pg	08 38 43.2	-0.4
ISA	**Isabella, Lake**	**0.91**	**276**		Pg	08 38 44.6	+0.1
ISA				IAML		08 38 60.0	
	comp=N,544nm,0.5s						
ISA				IAML		08 39 02.9	
	comp=E,800nm,0.6s						
ISA	**Isabella, Lake**	**0.91**	**276**		Sg	08 38 56.4	+0.1
SBB	**Saddle Back Bu**	**0.96**	**203**		Pg	08 38 45.0	-0.5
SBB					Sg	08 38 57.7	-0.2
WASM	**Alta Sierra Ca**	**0.98**	**280**		Pg	08 38 46.1	+0.1
WASM					Sg	08 38 59.2	+0.5
TPO	**Tropico Hills**	**0.99**	**226**		Pg	08 38 46.0	0.0
CGO	**Cerro Gordo**	**1.04**	**340**		Pn	08 38 48.8	-0.4
CWC	**Cottonwood Cre**	**1.04**	**327**		Pg	08 38 47.5	+0.4
DSCC	**Desert Studies**	**1.12**	**112**		Pg	08 38 48.8	+0.3
TEJ	**El Tejon**	**1.13**	**253**		Pb	08 38 49.5	0.0
LRRC	**Littlerock Res**	**1.18**	**208**		Pb	08 38 50.0	-0.2
HOLC	**Holcomb Ridge**	**1.18**	**200**		Pg	08 38 49.0	-0.8
HOLC					Sb	08 39 06.5	+0.4
TUQ	**Turquoise Moun**	**1.19**	**96**		Pb	08 38 50.6	+0.1
TUQ					Sn	08 39 07.2	-0.7
LEOC	**Leona Valley**	**1.21**	**220**		Pb	08 38 51.0	0.0
CJV	**Casa Juvan**	**1.22**	**212**		Pb	08 38 50.9	-0.1
JNH	**Juniper Hills**	**1.22**	**203**		Pg	08 38 50.0	-0.5
JNH					Sb	08 39 07.7	+0.3
AMDNV	**Amargosa**	**1.25**	**45**		Pg	08 38 51.0	-0.1
ARVC	**Arvin**	**1.27**	**250**		Pn	08 38 52.0	0.0
SPG2	**Springville 2**	**1.30**	**299**		Pg	08 38 51.6	-0.4
SPG2					Sg	08 39 08.8	0.0
SIL	**Silver Peak**	**1.30**	**160**		Pg	08 38 51.8	-0.2
CHFC	**Chilao Flat St**	**1.35**	**204**		Pg	08 38 53.0	0.0
CHFC					Sb	08 39 11.2	+0.1
BFSC	**Mount Baldy Ra**	**1.35**	**190**		Pg	08 38 52.6	-0.4
BFSC				IAML		08 39 16.5	
	comp=N,222nm,0.7s						
BFSC				IAML		08 39 21.0	
	comp=E,228nm,0.9s						
BBRC	**Big Bear Solar**	**1.36**	**164**		Pg	08 38 52.7	-0.4
WCT	**Wildcat Mounta**	**1.36**	**26**		Pg	08 38 53.1	-0.1
SSK	**Sunset Peak**	**1.38**	**191**		Pg	08 38 53.6	0.0
GRAC	**Grapevine Rang**	**1.42**	**0**		Pb	08 38 54.6	+0.1
GRAC				IAML		08 39 20.3	
	comp=N,356nm,0.7s						
GRAC				IAML		08 39 36.0	
	comp=E,268nm,0.9s						
VES	**Vestal, Richgr**	**1.42**	**281**		Sn	08 39 13.6	+0.1
SGV	**South Grapevin**	**1.43**	**11**		Pn	08 38 54.2	-0.2
MWC	**Mount Wilson**	**1.46**	**203**		Pg	08 38 55.0	-0.1
MWC				IAML		08 39 18.6	
	comp=N,235nm,0.5s						
MWC				IAML		08 39 20.1	
	comp=E,311nm,0.9s						
OSI	**Osito Audit: C**	**1.47**	**230**		Pn	08 38 53.3	-1.4
SVD	**Seven Oaks Dam**	**1.48**	**171**		Pn	08 38 54.9	0.0
SVD					Sn	08 39 15.8	+0.9
MTPC	**Mountain Pass**	**1.48**	**93**		Pn	08 38 54.9	-0.3
MTPC				IAML		08 39 19.1	
	comp=N,262nm,0.5s						
MTPC				IAML		08 39 19.5	
	comp=E,234nm,0.6s						
PDE	**Pardee, Santa**	**1.50**	**222**		Pn	08 38 53.1	-2.1
PSRC	**Puddingstone R**	**1.52**	**194**		Pn	08 38 55.5	+0.1
DECC	**Green Verdugo**	**1.54**	**211**		Pg	08 38 56.6	+0.1
PASC	**Pasadena Art C**	**1.55**	**206**		Pn	08 38 55.6	-0.3
PASC				IAML		08 39 21.0	
	comp=N,139nm,0.6s						
PASC				IAML		08 39 23.2	
	comp=E,173nm,0.9s						
PASC	**Pasadena Art C**	**1.55**	**206**		Sn	08 39 16.2	-0.4
GMRC	**Granite Mounta**	**1.60**	**119**		Pn	08 38 55.4	-1.3
TPNV	**Topopah Spring**	**1.65**	**33**		Pn	08 38 57.4	+0.1
TPNV				IAML		08 39 30.5	
	comp=E,207nm,0.9s						
TPNV				IAML		08 39 35.5	
	comp=E,186nm,1.0s						
BLAC	**Blackrock camp**	**1.70**	**151**		Pg	08 38 59.9	+0.1
GMN	**Gold Mountain**	**1.73**	**3**		Pn	08 38 58.6	+0.1
EW2	**E Wide Canyon**	**1.81**	**154**		Pg	08 39 01.8	0.0
TPC	**Twentynine Pal**	**1.82**	**143**		Pn	08 39 00.2	+0.6
DSP	**Deep Springs**	**1.86**	**345**		Pn	08 39 00.2	+0.1
HMTC	**Hemet**	**1.88**	**171**		Pn	08 39 00.2	-0.3
ELS	**Elsinore Mount**	**1.92**	**181**	Pn	Pn	08 39 00.7	-0.3
ELS				IAML		08 39 31.5	
	comp=N,93nm,0.6s						
SHPR	**Sheep Range**	**2.02**	**62**		Pn	08 39 02.6	+0.1
XPFO	**Pinon Flat**	**2.10**	**159**		Pb	08 39 06.6	+0.6
SNDA	**J Saunders Pla**	**2.11**	**163**		Pg	08 39 07.1	-0.5
MZP	**Montezuma Peak**	**2.13**	**360**		Pn	08 39 04.3	+0.3
FRD	**Ford Ranch, An**	**2.17**	**163**		Pb	08 39 07.7	+0.5
BORC	**Borrego Spring**	**2.43**	**161**	Pn	Pn	08 39 07.8	-0.1
BORC				IAML		08 39 52.1	
	comp=E,79nm,0.8s						
BORC				IAML		08 39 56.9	
	comp=N,84nm,0.8s						
SBI	**Santa Barbara**	**2.50**	**214**		Pn	08 39 10.5	+1.6
TPH	**Tonopah**	**2.50**	**3**		Pn	08 39 09.8	+0.7
DPP	**Dos Picos Cty**	**2.59**	**172**	Pn	Pn	08 39 09.8	-0.3
DPP				IAML		08 39 49.9	
	comp=E,73nm,0.5s						
LHV	**Little Huntoon**	**2.83**	**342**	Pn	Pn	08 39 14.4	+1.1
LHV				IAML		08 40 05.0	
	comp=E,68nm,0.8s						
LHV				IAML		08 40 09.0	
	comp=N,58nm,0.9s						
W13A	**Hualapai Mount**	**2.89**	**98**		Pn	08 39 14.6	+0.1
W13A				IAML		08 40 12.6	
	comp=E,55nm,0.9s						
W13A				IAML		08 40 17.2	
	comp=N,67nm,1.3s						
BLYC	**Blythe**	**2.97**	**127**		Pn	08 39 14.7	-0.6
BLYC				IAML		08 40 16.0	
	comp=N,60nm,0.8s						
BLYC				IAML		08 40 16.2	
	comp=E,70nm,0.8s						
RYN	**Ryan**	**3.19**	**344**	Pn	Pn	08 39 19.4	+0.9
GLA	**Glamis**	**3.28**	**139**	Pn	Pn	08 39 19.2	-0.5
CBX	**Cerro Bola**	**3.30**	**170**		Pn	08 39 20.3	+0.2
ESJX	**Sierra Juarez**	**3.75**	**161**	Pn	Pn	08 39 26.4	+0.1
KNB	**Kanab**	**3.94**	**67**		Pn	08 39 29.1	+0.1
KNB				IAML		08 40 47.9	
	comp=N,28nm,1.8s						
KNB				IAML		08 40 49.2	
	comp=E,30nm,1.1s						
113A	**Mohawk Valley,**	**4.09**	**132**	Pn	Pn	08 39 30.8	0.0
214A	**Organ Pipe Nat**	**5.23**	**132**	Pn	Pn	08 39 46.5	0.0

*NEIC **07** 08:39:05.3±0.8, 35°.673N±0°.009×117°.539W±0°.008, h2$^{km}_{s}$3^{km}, Error ellipse: s-maj=1.4km s-min=0.6km az=210.0*

PAS 07 08:39:05.6±0.7, 35°.677N±0°.008×117°.543W±0°.009, h0$^{km}_{s}$1^{km}, ML3.0/25, ML2.8/30(NEIC), Error ellipse: s-maj=1.1km s-min=1.0km az=187.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.15**	**342**		Pg	08 39 07.5	-0.9
CLC	**China Lake**	**0.15**	**342**	Sg	Sg	08 39 11.1	+0.8
CLC				IAML		08 39 11.3	
	comp=N,2μm,0.3s						
CLC				IAML		08 39 11.3	
	comp=E,4μm,0.4s						
SRTC	**Snort**	**0.17**	**275**		Pg	08 39 09.6	+0.7
CCCA	**Chr Cany lake**	**0.21**	**136**		Pg	08 39 09.3	-0.3
CCCA	**Chr Cany lake**	**0.21**	**136**		Sg	08 39 10.4	-1.9
CCCA				IAML		08 39 14.8	
	comp=N,5μm,0.6s						
CCCA				IAML		08 39 15.8	
	comp=E,5μm,0.7s						
TOW	**Tower One**	**0.22**	**306**		Pg	08 39 10.6	+0.8
LRMC	**Laurel Mtn Rad**	**0.23**	**210**		Pg	08 39 10.2	+0.3
LRMC				IAML		08 39 14.2	
	comp=E,2μm,0.2s						
LRMC				IAML		08 39 14.4	
	comp=N,2μm,0.2s						
WNMM	**Nine Mile Cany**	**0.34**	**299**		Pg	08 39 12.5	+0.4
WVPM	**Volcano Peak E**	**0.35**	**321**		Pg	08 39 12.8	+0.5
WVPM					Sg	08 39 18.2	+1.3
MPMC	**Manual Prospec**	**0.38**	**6**	Pg	Pg	08 39 13.2	+0.3
WRVM	**Rose V. Centra**	**0.43**	**320**		Pg	08 39 14.3	+0.4
WRVM					Sg	08 39 20.5	+0.9
DTP	**Desert Tortois**	**0.48**	**211**		Pg	08 39 14.8	+0.1
MFS	**McCloud Flat S**	**0.51**	**330**		Pg	08 39 15.7	+0.4
MFS					Sg	08 39 23.1	+1.2
WORM	**Onyx Ranch**	**0.57**	**272**		Pg	08 39 16.5	0.0
QSM	**Queen of Sheba**	**0.62**	**62**	Pg	Pg	08 39 17.7	+0.2
QSM				IAML		08 39 26.4	
	comp=E,469nm,0.6s						
QSM				IAML		08 39 28.5	
	comp=N,437nm,0.6s						
WHFM	**Hanning Flat**	**0.66**	**272**		Pg	08 39 18.2	0.0
GSC	**Goldstone, Bar**	**0.71**	**122**		Sg	08 39 29.2	+0.9
GSC	**Goldstone, Bar**	**0.71**	**122**	Pg	Pg	08 39 19.4	+0.3
GSC				IAML		08 39 29.4	
	comp=N,607nm,1.0s						
ISA	**Isabella, Lake**	**0.76**	**269**	Pg	Pg	08 39 20.0	-0.1
ISA				IAML		08 39 30.8	
	comp=E,275nm,0.5s						
ISA				IAML		08 39 31.0	
	comp=N,248nm,0.4s						
HYS	**Haystack Butte**	**0.81**	**182**		Pg	08 39 21.0	-0.1
WASM	**Alta Sierra Ca**	**0.83**	**275**		Pg	08 39 21.4	0.0
EDW2	**Edwards Air Fo**	**0.88**	**205**		Pg	08 39 22.0	-0.3
TPO	**Tropico Hills**	**0.97**	**215**	Pg	Pg	08 39 24.1	-0.2
SBB	**Saddle Back Bu**	**1.01**	**193**		Pg	08 39 24.7	-0.3
SBB					Sb	08 39 40.0	+0.1
SPG2	**Springville 2**	**1.12**	**298**		Pg	08 39 26.6	-0.5
SPG2					Sg	08 39 41.6	0.0
HOLC	**Holcomb Ridge**	**1.24**	**192**		Pb	08 39 29.7	-0.2
HOLC					Sb	08 39 46.3	-0.1
CJV	**Casa Juvan**	**1.25**	**204**		Pb	08 39 29.8	-0.2
CJV					Sb	08 39 46.9	+0.3
VES	**Vestal, Richgr**	**1.27**	**278**		Sg	08 39 46.5	+0.3
BFSC	**Mount Baldy Ra**	**1.44**	**184**		Pn	08 39 32.0	-1.0
BFSC				IAML		08 39 53.1	
	comp=E,98nm,0.3s						
MWC	**Mount Wilson**	**1.51**	**196**		Pn	08 39 33.8	-0.2
MWC				IAML		08 39 55.9	
	comp=N,122nm,0.6s						
MWC				IAML		08 39 59.0	
	comp=E,132nm,0.8s						
PSRC	**Puddingstone R**	**1.60**	**188**		Pb	08 39 36.0	+0.1
MTPC	**Mountain Pass**	**1.63**	**96**		Pn	08 39 34.1	-1.5
MTPC				IAML		08 40 00.7	
	comp=E,80nm,0.3s						

*SOME **07** 08:42:55.5, 44°.07N×83°.62E, h10^{km}*
*NNC **07** 08:42:59.4±3.3, 43°.82N×83°.38E, h0^{km}, mb3.0, mpv2.6, Error ellipse: s-maj=30.0km s-min=9.3km az=122.0*

ISC 07 08:42:55.9±4.3, 43°.6N±0°.2×83°.9E±0°.2, h10^{km}, n5, σ1§41/7, 5C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.58**	**268**	*e*P	**Pb**	**08 43 41.5**	**-0.8**
	5.2nm,0.1s						
KTMS				*e*S	**Sb**	**08 44 14.5**	**+0.3**
	7.9nm,0.2s						
PDGK	**Podgornoye**	**3.22**	**267**	⇓Pg	**Pb**	**08 43 51.3**	**-1.9**
	1.7nm,0.4s						
PDGK				⇑Lg	Lg	08 44 31.6	
	8.6nm,0.6s						
SHLS	**Shalkode**	**3.26**	**264**	*e*P	**Pn**	**08 43 48.4**	**+1.2**
	11nm,0.1s						
SHLS				*e*S	**Sn**	**08 44 26.7**	**+0.6**
	44nm,0.2s						
MK31	**Makanchi Array**	**3.41**	**341**	⇑Pg	**Pb**	**08 43 55.3**	**-1.2**
	0.6nm,0.3s,baz=164,slow=14,SNR=23						
MK31				⇑Lg	Lg	08 44 36.2	
	1.0nm,0.2s,baz=160,slow=29,SNR=9.3						
MAKZ	**Makanchi**	**3.51**	**338**	⇑Pg	**Pb**	**08 43 57.6**	**-0.5**
	1.0nm,0.4s						
MAKZ				⇑Lg	Lg	08 44 38.3	
	2.9nm,0.6s						

*CRAAG **07** 08:47:15.7, 36°.38N×2°.47E, Ml3.0, Algerie 01km NW Boumedfa*
*MDD **07** 08:47:19.5±1.6, 36°.53N×2°.61E, h22$^{km}_{s}$20^{km}, Mb3.9/5, M_mb3.2/5, Error ellipse: s-maj=20.9km s-min=6.2km az=132.0*

ISC 07 08:47:16.2±1.0, 36°.47N±0°.06×2°.52E±0°.05, h18^{km}, n10, σ1§51/13, 3C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABKD	**Sidi Amar**	**0.18**	**292**	P	**Pb**	**08 47 21.0**	**+0.4**
EMHD	**Djebel Mahouad**	**0.44**	**127**	P	**Pb**	**08 47 26.1**	**+0.5**
EDDR	**Deurdeur**	**0.52**	**208**	P	**Pg**	**08 47 26.0**	**-0.8**
ABA	**Alger-Bouzarea**	**0.54**	**51**	P	**Pn**	**08 47 29.6**	**+0.6**
AKED	**El Kharrouba**	**0.75**	**75**	P	**Pn**	**08 47 32.3**	**+0.4**
ABRIN	**Birine**	**0.97**	**149**	P	**Pb**	**08 47 35.3**	**+0.7**
EIBI	**Ibiza**	**2.72**	**340**	P	**Pn**	**08 48 00.8**	**+1.8**
EIBI				⇑*i*Vmb_VC		08 48 01.8	
	490nm,SNR=2.0						
EIBI				S	**Sn**	**08 48 29.9**	**-1.6**
ETOS	**Mallorca**	**3.31**	**4**	P	**Pn**	**08 48 08.9**	**+1.8**
ETOS				⇑*i*Vmb_VC		08 48 10.6	
	272nm,SNR=1.3						
ETOS				S	**Sn**	**08 48 43.7**	**-2.2**
EMOS	**Mosqueruela**	**4.54**	**330**	P	**Pn**	**08 48 25.8**	**+1.6**
EMOS				⇑*i*Vmb_VC		08 48 34.5	
	92nm,SNR=1.3						
EMOS				S	**Sn**	**08 49 15.3**	**-1.4**
EQES	**Quesada**	**4.66

NEUV eS Sb 08 51 29.8 -2.5
CMIG Matias Romero 2.25 49 Pn Pn 08 51 01.1 -0.2
48nm,0.3s,baz=248,slow=13,SNR=360
CMIG Pg Pb 08 51 04.0 -1.0
317nm,0.3s,baz=233,slow=10,SNR=46
CMIG Lg Lg 08 51 35.4
1µm,0.3s,baz=144,slow=17,SNR=31
299nm,0.5s
HLIG Huajuapan de L 2.44 334 Pn 08 51 05.4 +1.1
HLIG Sn 08 51 32.6 -1.4
HLIG Huajuapan de L 2.44 334 eP Pn 08 51 05.4 +1.1
HLIG eS Sn 08 51 32.6 -1.4
MGIG Malinaltepec 2.47 311 Pn 08 51 02.5 -2.1
MGIG Sn 08 51 26.4 -8.2
MGIG Malinaltepec 2.47 311 eP Pn 08 51 02.5 -2.1
MGIG eS Sn 08 51 26.4 -8.2
TOIG Toxpalan 2.48 351 Pn 08 51 06.1 +1.4
TOIG Sn 08 51 34.5 -0.3
TOIG Toxpalan 2.48 351 eP Pn 08 51 06.1 +1.4
TOIG eS Sn 08 51 34.5 -0.3
CRIG Cruz Grande 2.61 295 Pn 08 51 08.0 +1.7
CRIG Sn 08 51 29.7 -8.0
CRIG Cruz Grande 2.61 295 eP Pn 08 51 08.0 +1.7
CRIG eS Sn 08 51 29.7 -8.0
TLIG Tlapa 2.65 317 Pn 08 51 09.2 +2.3
TLIG Sn Sb 08 51 43.6 -0.7
TLIG Tlapa 2.65 317 eP Pn 08 51 05.9 -1.0
TLIG eS Sn 08 51 40.9 +2.0
FTIG Fresnillo de T 2.67 329 Pn 08 51 06.8 -0.4
FTIG Sn 08 51 42.5 +3.1
FTIG Fresnillo de T 2.67 329 eP Pn 08 51 06.8 -0.4
FTIG eS Sn 08 51 42.5 +3.1
HMTT Tlapaneco 2.82 320 Pn 08 51 12.8 +3.6
HMTT Sb 08 51 47.4 -1.7
HMTT Tlapaneco 2.82 320 eP Pn 08 51 12.8 +3.6
HMTT *i* S Sb 08 51 47.4 -1.7
TPIG Tehuac#an 2.85 347 Pb 08 51 13.6 -1.9
TPIG Sn 08 51 43.5 -0.5
TPIG Tehuac#an 2.85 347 eP Pb 08 51 13.6 -1.9
TPIG eS Sn 08 51 43.5 -0.5
THEZ Tehuacan 2.92 347 Pn 08 51 11.3 +0.6
THEZ Sn 08 51 45.6 -0.1
THEZ Tehuacan 2.92 347 eP Sn 08 51 11.3 +0.6
THEZ eS Sn 08 51 45.6 -0.1
UXUV UXUV 2.95 55 Pn 08 51 10.9 -0.1
UXUV Sb 08 51 50.9 -2.0
UXUV UXUV 2.95 55 eP Pn 08 51 10.9 -0.1
UXUV eS Sb 08 51 50.9 -2.0
MIHL Minatitlan 3.11 41 Pb 08 51 18.9 -0.8
MIHL Sg 08 51 59.5 -5.1
MIHL Minatitlan 3.11 41 eP Pb 08 51 18.9 -0.8
MIHL eS Sg 08 51 59.5 -5.1
DAIG Los Arroyos 3.18 296 Pn 08 51 11.4 -2.8
DAIG Sn 08 51 44.0 -7.9
DAIG Los Arroyos 3.18 296 eP Pn 08 51 11.4 -2.8
DAIG eS Sn 08 51 44.0 -7.9
TUIG Tuzandepetl 3.22 42 eP Pn 08 51 14.0 -0.7
TUIG eS Sb 08 51 56.4 -4.2
TUIG Tuzandepetl 3.22 42 P Pn 08 51 15.8 +1.1
PMUV Sontecomapan 3.26 27 Pn 08 51 14.2 -1.1
PMUV Sb 08 51 59.0 -2.8
PMUV Sontecomapan 3.26 27 eP Pn 08 51 14.2 -1.1
PMUV eS Sb 08 51 59.0 -2.8
VNTA La Mica 3.28 293 Sn 08 51 44.5 -10
VNTA La Mica 3.28 293 eS Sn 08 51 44.5 -10
PCIG 3.33 88 Pn 08 51 15.6 -0.6
PCIG Sn 08 51 53.0 -2.5
PCIG 3.33 88 eP Pn 08 51 15.6 -0.6
PCIG eS Sn 08 51 53.0 -2.5
ACP2 Acapulco 3.33 292 Sn 08 51 43.9 -12
ACP2 Acapulco 3.33 292 eS Sn 08 51 43.9 -12
POHV Veracruz 3.47 350 Pn 08 51 21.2 +2.5
POHV Sn 08 52 00.2 +0.4
POHV Veracruz 3.47 350 eP Pn 08 51 21.2 +2.5
POHV eS Sn 08 52 00.2 +0.4
TGIG 3.60 71 Pn 08 51 21.2 +1.2
TGIG Sb 08 52 06.4 -5.2
TGIG 3.60 71 eP Pn 08 51 21.2 +1.2
TGIG eS Sb 08 52 06.4 -5.2
TGIG 3.60 71 *i* P Pn 08 51 21.6 +1.7
TGBT Tuxtla Gutierr 3.63 71 Pn 08 51 24.2 +4.0
TGBT Sn 08 52 01.6 -1.3
TGBT Tuxtla Gutierr 3.63 71 eP Pn 08 51 24.2 +4.0
TGBT eS Sn 08 52 01.6 -1.3
MEIG Mezcala 3.63 309 Pn 08 51 19.6 -0.9
MEIG Sn 08 51 59.7 -3.5
MEIG Mezcala 3.63 309 eP Pn 08 51 19.6 -0.9
MEIG eS Sn 08 51 59.7 -3.5
PHPU Puebla 3.69 337 Pn 08 51 20.7 -0.7
PHPU Sn 08 52 02.6 -2.2
PHPU Puebla 3.69 337 eP Pn 08 51 20.7 -0.7
PHPU eS Sn 08 52 02.6 -2.2
JAUV Jalcomulco 3.72 358 Pn 08 51 20.6 -1.1
JAUV Sn 08 52 05.7 +0.4
JAUV Jalcomulco 3.72 358 eP Pn 08 51 20.6 -1.1
JAUV eS Sn 08 52 05.7 +0.4
CAIG El Cayaco 3.73 293 Pn 08 51 19.5 -2.2
CAIG Sn 08 51 57.3 -8.2
CAIG El Cayaco 3.73 293 eP Pn 08 51 19.5 -2.2
CAIG eS Sn 08 51 57.3 -8.2
PBCV Popocatepetl 3.80 332 eP Pn 08 51 27.1 +4.2
PBCV eS Sn 08 52 01.1 -6.4
PLIG Platanillo 3.86 316 Pn 08 51 25.5 +1.9
PLIG Sn 08 52 04.7 -4.1
PLIG Platanillo 3.86 316 eP Pn 08 51 25.5 +1.9
PLIG eS Sn 08 52 04.7 -4.1
PBXN Popocatepetl 3.86 331 eP Pn 08 51 28.3 +4.3
PBXN eS Sn 08 52 08.5 -0.9
PPM Popocatepetl 3.90 332 eP Pn 08 51 26.1 +1.6
PPM eS Sn 08 52 08.0 -2.3
PPIG Popocatepetl 3.90 332 Pn 08 51 26.1 +1.6
PPIG Sn 08 52 08.0 -2.3
ATYC Atoyac 3.94 294 Sn 08 52 05.1 -5.5
ATYC Atoyac 3.94 294 eS Sn 08 52 05.1 -5.5
YAIG Yautepec 3.95 325 Pn 08 51 25.9 +1.1
YAIG Sn 08 52 07.4 -3.7
YAIG Yautepec 3.95 325 eP Pn 08 51 25.9 +1.1
YAIG eS Sn 08 52 07.4 -3.7
AMVM AMECAMECA 4.03 330 Sn 08 52 09.2 -4.0
AMVM AMECAMECA 4.03 330 *e* Pb 08 51 34.4 -1.1
AMVM eS Sn 08 52 09.2 -4.0
LVIG Laguna Verde 4.08 3 eP Pn 08 51 24.4 -2.1
LVIG eS Sn 08 52 09.1 -5.0
MPVM San Francisco 4.20 328 Pn 08 51 32.3 +3.9
MPVM Sn 08 52 16.4 -0.9
MPVM San Francisco 4.20 328 eP Pn 08 51 32.3 +3.9
MPVM eS Sn 08 52 16.4 -0.9
MAVM Malinalco, Edo 4.27 321 Pn 08 51 29.8 +0.4
MAVM Sn 08 52 15.6 -3.5
MAVM Malinalco, Edo 4.27 321 eP Pn 08 51 29.8 +0.4
MAVM eS Sn 08 52 15.6 -3.5
THVM De Xico 4.27 329 Pn 08 51 34.2 +4.7
THVM Sn 08 52 19.2 0.0
THVM De Xico 4.27 329 eP Pn 08 51 34.2 +4.7
THVM eS Sn 08 52 19.2 0.0
TLVM San Miguel Top 4.28 327 Pn 08 51 33.8 +4.2
TLVM Sn 08 52 18.8 -0.7
TLVM San Miguel Top 4.28 327 eP Pn 08 51 33.8 +4.2
TLVM eS Sn 08 52 18.8 -0.7
PATR El Naranjo 4.31 96 Pn 08 51 29.9 0.0
PATR Sn 08 52 18.9 -1.2
PATR El Naranjo 4.31 96 eP Pn 08 51 29.9 0.0
PATR eS Sn 08 52 18.9 -1.2
THIG 4.31 99 Pn 08 51 28.1 -1.6
THIG Sn 08 52 16.7 -3.1
THIG 4.31 99 eP Pn 08 51 28.1 -1.6
THIG eS Sn 08 52 16.7 -3.1
TXVM Universitario 4.35 331 *e* Pb 08 51 40.0 -1.0
TXVM 08 52 27.2 *e*
PAVE Pavencul 4.36 95 Pn 08 51 31.0 +0.4
PAVE Sn 08 52 18.9 -2.3
PAVE Pavencul 4.36 95 eP Pn 08 51 31.0 +0.4
PAVE eS Sn 08 52 18.9 -2.3
CNCY Coyoacan 4.38 327 eP Pn 08 51 33.7 +2.8
CNCY eS Sn 08 52 23.1 +1.3
UNM Universidad Na 4.39 327 Pn 08 51 33.3 +2.2
UNM Universidad Na 4.39 327 eP Pn 08 51 32.8 +1.7
UNM eS Sn 08 52 19.9 -2.3
CUP5 Mexico City 4.39 327 Pn 08 51 31.2 +0.1
CUP5 Sn 08 52 19.6 -2.6

CUP5 Mexico City 4.39 327 eP Pn 08 51 31.2 +0.1
CUP5 eS Sn 08 52 19.6 -2.6
ARIG Puente Sto Nin 4.40 307 Pn 08 51 30.3 -0.7
ARIG Sn 08 52 17.6 -4.4
ARIG Puente Sto Nin 4.40 307 eP Pn 08 51 30.3 -0.7
ARIG eS Sn 08 52 17.6 -4.4
COVM Coyoacan 4.40 328 Pn 08 51 37.0 +5.9
COVM Sn 08 52 23.8 +1.5
COVM Coyoacan 4.40 328 eP Pn 08 51 37.0 +5.9
COVM eS Sn 08 52 23.8 +1.5
CCIG Comitan 4.41 81 Pn 08 51 31.4 +0.1
CCIG Comitan 4.41 81 eP Pn 08 51 30.7 -0.6
CCIG eS Sn 08 52 25.6 +3.2
CCIG Comitan 4.41 81 *i* P Pn 08 51 33.6 +2.4
CCIG Comitan 4.41 81 P Pn 08 51 32.6 +1.4
CCIG Comitan 4.41 81 S Sn 08 52 14.5 -8.0
AOVM Tlapan 4.42 325 Pn 08 51 35.7 +4.0
AOVM Sn 08 52 21.2 -1.8
AOVM Tlapan 4.42 325 eP Pn 08 51 35.7 +4.0
AOVM eS Sn 08 52 21.2 -1.8
BJVM Benito Juarez 4.42 328 *e* Pn 08 51 37.2 +5.7
BJVM *e* 08 52 26.7
VRVM Mexico City 4.43 329 *e* Pb 08 51 38.9 -3.5
VRVM *e* 08 52 25.4
INVM La Marquesa 4.47 325 Pn 08 51 32.5 +0.2
INVM Sn 08 52 20.7 -3.5
INVM La Marquesa 4.47 325 eP Pn 08 51 32.5 +0.2
INVM eS Sn 08 52 20.7 -3.5
CJVM Cuajimalpa 4.47 326 Pn 08 51 37.1 +4.9
CJVM Sn 08 52 24.1 -0.1
CJVM Cuajimalpa 4.47 326 eP Pn 08 51 37.1 +4.9
CJVM eS Sn 08 52 24.1 -0.1
APVM Azcapotzalco 4.54 328 *e* Pb 08 51 39.9 -4.3
APVM *e* 08 52 26.9
VTVM Tizayuca 4.58 334 Pn 08 51 38.5 +4.8
VTVM Sn 08 52 28.6 +1.7
VTVM Tizayuca 4.58 334 eP Pn 08 51 38.5 +4.8
VTVM eS Sn 08 52 28.6 +1.7
TEJU Tejupilco 4.66 315 Pn 08 51 38.1 +3.5
TEJU Sn 08 52 25.1 -3.5
TEJU Tejupilco 4.66 315 eP Pn 08 51 38.1 +3.5
TEJU *i* S Sn 08 52 25.1 -3.5
ZUVM ZUMPANGO 4.76 332 Pn 08 51 38.4 +2.2
ZUVM Sn 08 52 30.7 -0.7
ZUVM ZUMPANGO 4.76 332 eP Pn 08 51 38.4 +2.2
ZUVM eS Sn 08 52 30.7 -0.7
RTAL Retalhuleu 4.93 102 Pn 08 51 39.1 +0.9
RTAL Retalhuleu 4.93 102 eP Pn 08 51 39.8 +1.5
RTAL eS Sn 08 52 33.3 -1.8
RTAL Retalhuleu 4.93 102 P Pn 08 51 40.3 +2.1
RTAL Retalhuleu 4.93 102 S Sn 08 52 29.7 -5.3
HUEH Huehuetenango 4.99 93 Pn 08 51 40.3 +1.0
HUEH Huehuetenango 4.99 93 eP Pn 08 51 41.7 +2.4
HUEH eS Sn 08 52 32.5 -4.4
HUEH Huehuetenango 4.99 93 *i* P Pn 08 51 41.7 +2.4
ZIIG Zihuatanejo 5.00 294 Pn 08 51 37.5 -1.7
ZIIG Sn 08 52 26.5 -10
ZIIG Zihuatanejo 5.00 294 eP Pn 08 51 37.5 -1.7
ZIIG eS Sn 08 52 26.5 -10
ATVM ATLACOMULCO 5.10 324 Pn 08 51 40.3 -0.6
ATVM Sn 08 52 39.8 +0.1
ATVM ATLACOMULCO 5.10 324 eP Pn 08 51 40.3 -0.6
ATVM eS Sn 08 52 39.8 +0.1
DEIG Demacu 5.17 335 *e* Pn 08 51 43.0 +1.3
DEIG *e* 08 52 45.3
STG8 El Palmar, Qui 5.27 102 *i* P Pn 08 51 40.0 -3.2
STG0 El Palmar, Qui 5.29 102 *i* P Pn 08 51 40.2 -3.1
ACIG Acambay 5.30 325 *e* Pb 08 51 53.7 -3.5
ACIG *e* 08 52 47.1
MOIG Morelia 5.90 314 Pn 08 51 53.3 +1.5
MOIG Morelia 5.90 314 eP Pn 08 51 51.1 -0.7
MOIG eS Sn 08 52 49.6 -10
CTUV Llano Grande 6.03 345 *e* Pn 08 51 57.2 +3.8
CTUV *e* 08 53 04.2
JRQG Juriquilla Cam 6.20 325 *e* Pb 08 52 16.8 +4.4
JRQG *e* 08 53 02.6
SCIG Sabancuy 6.20 57 *e* Pn 08 51 54.0 -1.7
SCIG *e* 08 53 01.1
SCIG Sabancuy 6.20 57 *i* P Pn 08 51 55.9 +0.2
SCIG Sabancuy 6.20 57 P Pn 08 51 54.4 -1.3
SCIG Sabancuy 6.20 57 S Sn 08 52 58.4 -8.1
PETF Flores 6.66 78 Pn 08 52 02.5 +0.5
PETF Flores 6.66 78 eP Pn 08 52 00.8 -1.2
PETF eS Sn 08 53 15.4 -2.3
PETF Flores 6.66 78 *i* P Pn 08 52 02.8 +0.8
PETF Flores 6.66 78 P Pn 08 52 02.6 +0.6
PETF Flores 6.66 78 S Sn 08 53 08.7 -9.0
FAME Alcaldia de Sa 6.68 105 S Sn 08 53 14.1 -4.1
FAME Alcaldia de Sa 6.68 105 P Pn 08 52 04.2 +1.9
IGIG Irapuato, Guan 6.75 320 *e* Pg 08 52 29.4 -4.6
IGIG *e* 08 53 25.7
NUBE Las Nubes 6.88 104 *i* P Pn 08 52 07.3 +2.1
NUBE Las Nubes 6.88 104 P Pn 08 52 07.2 +1.9
NUBE Las Nubes 6.88 104 S Sn 08 53 17.8 -5.6
MMIG Aquila 6.91 293 Pn 08 53 03.8 -1.8
MMIG Sn 08 53 15.1 -8.9
MMIG Aquila 6.91 293 eP Pn 08 53 03.8 -1.8
MMIG eS Sn 08 53 15.1 -8.9
RPIG Rio Verde 6.97 334 *e* 08 53 47.4
ESQI Esquipulas 7.16 98 Pn 08 52 09.2 +0.2
ESQI Esquipulas 7.16 98 P Pn 08 52 09.3 +0.3
MNGA Volcan de Coli 7.65 301 eP Pn 08 52 17.0 +1.1
MNGA eS Sn 08 53 39.7 -2.8
INCO Volcan de Coli 7.67 301 *e* Pn 08 52 17.2 +1.0
INCO *e* 08 53 47.7
SOMAC Volcano de Col 7.69 301 *e* Pn 08 52 18.2 +1.8
SOMAC *e* 08 53 45.8
CDAR Ciudad de Arme 7.75 296 *e* Pn 08 52 16.9 0.0
CDAR *e* 08 53 47.8
GTIG Gomez Farias 7.77 343 Pn 08 52 20.0 +2.8
GTIG Sn 08 53 42.0 -3.1
GTIG Gomez Farias 7.77 343 eP Pn 08 52 20.0 +2.8
GTIG eS Sn 08 53 42.0 -3.1
COEG Centro de Oper 7.80 104 P Pn 08 52 20.9 +3.1
CEGR Campo Tres 7.81 300 *e* Pn 08 52 19.5 +1.5
CEGR *e* 08 53 45.8
MYIG Merida 8.45 50 *e* Pn 08 52 25.2 -1.4
MYIG *e* 08 53 47.7
CIHU Emiliano Zapat 8.50 296 *e* Pn 08 52 26.2 -1.1
CIHU *e* 08 54 00.3
CJM Chamela 8.87 297 eP Pn 08 52 32.8 +0.4
CJM eS Sn 08 54 07.9 -4.1
ZAIG Zacatecas 9.03 323 Pn 08 52 35.4 +0.6
ZAIG Zacatecas 9.03 323 eP Pn 08 52 37.5 +2.7
TEIG Tepich 9.21 59 Pn 08 52 33.9 -3.1
TGUH Tegucigalpa,Un 9.22 99 Pn 08 52 37.5 +0.2
LNIG Linares 9.59 345 eP Pn 08 52 48.0 +5.8
LNIG *e* 08 54 29.6
CRIN San Cristobal 9.77 106 Pn 08 52 46.1 +1.3
CNGN Cerro Negro 10.16 107 Pn 08 52 52.1 +1.9
BOAB BOACO BROADBAN 11.13 105 Pn Pn 08 53 04.1 +0.7
ACON Acoyapa 11.74 107 Pn Pn 08 53 12.6 +0.8
PDIG Papasquiaro 12.43 320 Pn 08 53 20.5 -0.9
PDIG Sn 08 55 33.8 -6.0
PDIG Papasquiaro 12.43 320 eP Pn 08 53 20.5 -0.9
PDIG eS Sn 08 55 33.8 -6.0
JTS Las Juntas de 12.59 114 Pn 08 53 24.1 +0.7
JTS Las Juntas de 12.59 114 Pn Pn 08 53 24.0 +0.6
2.6nm,0.3s,baz=326,slow=7.2,SNR=15
JTS Sn Sn 08 55 45.4 +1.9
baz=302,slow=19
2.7nm,0.4s
SOCE Pocosol 12.85 112 Pn Pn 08 53 27.5 +0.6
833A Chaparral WMA, 12.88 349 Pn 08 53 29.8 +2.5
SSIG Sanalona 13.42 315 Pn 08 53 33.4 -1.2
SSIG Sanalona 13.42 315 eP Pn 08 53 33.4 -1.2
SSIG *e* 08 56 24.9
LCR2 La Lucha 2 13.67 114 Pn 08 53 39.1 +0.9
HPIG 14.02 325 Pn 08 53 45.5 +2.4
HNDO Hondo 14.04 351 Pn 08 53 44.9 +1.7
MLDN Muldoon 14.10 359 Pn Pn 08 53 44.5 +0.6
DRIO Del Rio 14.21 346 Pn 08 53 47.5 +2.1
HKT Hockley 14.28 3 Pn 08 53 45.5 -0.7
JCT Junction City 15.06 350 Pn 08 53 58.0 +1.0
TXAR Lajitas Array 15.09 336 Pn 08 53 58.3 +0.8
TXAR Lajitas Array 15.09 336 Pn Pn 08 54 00.3 +2.8
0.5nm,0.3s,baz=158,slow=12,SNR=36
TXAR Lg Lg 08 58 21.1
baz=160,slow=23,SNR=5.7
2.7nm,0.6s

TX31 Lajitas Ar. Si 15.09 336 Pn 08 53 57.9 +0.4
435B Jarrell 15.11 357 Pn 08 53 58.1 +0.5
SAND Sanderson 15.12 342 Pn 08 53 58.7 +0.9
BRU2 Volcan 15.25 115 Pn 08 54 01.4 +1.7
BRU2 IAmb IAmb 08 54 09.7
comp=Z,28nm,0.8s
441A DeRidder 15.39 11 Pn 08 54 01.4 +0.1
441A IAmb IAmb 08 54 08.9
comp=Z,20nm,0.5s
BRDY Brady 15.73 353 Pn 08 54 05.9 +0.1
OZNA Ozona 15.76 346 Pn 08 54 06.5 +0.2
OZNA IAmb IAmb 08 54 17.0
comp=Z,29nm,1.0s
ALPN Alpine 16.01 338 Pn 08 54 09.8 +0.2
NATX Nacogdoches 16.16 6 Pn Pn 08 54 10.1 -1.3
NATX IAmb IAmb 08 54 18.4
comp=Z,64nm,1.4s
WHTX Lake Whitney, 16.31 358 Pn 08 54 13.5 +0.4
WHTX IAmb IAmb 08 54 34.4
comp=Z,21nm,0.7s
237A Washetta, Mont 16.32 3 Pn 08 54 13.6 +0.3
MNHN Monahans 16.60 341 P Pn 08 54 18.3 +1.3
FW13 Cleburne 16.66 358 Pn 08 54 17.5 -0.2
FW14 Alvarado 16.70 358 IAmb IAmb 08 54 38.4
comp=Z,30nm,1.0s
SGCY Sterling City 16.72 347 Pn 08 54 18.9 +0.4
VHRN Van Horn 16.90 335 P 08 54 23.6 +0.7
TREL Terrell 17.04 2 Pn Pn 08 54 21.9 -0.5
TREL IAmb IAmb 08 54 43.1
comp=Z,25nm,0.8s
ABTX Abilene, Hawle 17.14 351 Pn 08 54 23.6 -0.1
ABTX IAmb IAmb 08 54 30.0
comp=Z,27nm,0.8s
PLPT Palo Pinto 17.18 355 Pn 08 54 24.0 -0.2
PLPT IAmb IAmb 08 54 30.3
comp=Z,31nm,0.9s
ODSA Odessa 17.27 343 IAmb IAmb 08 54 32.5
comp=Z,60nm,0.8s
FW03 Perrin-Whitt E 17.38 356 IAmb IAmb 08 54 32.6
comp=Z,26nm,0.7s
VBMS Vicksburg 17.44 18 P Pn 08 54 27.5 0.0
Z38A Mt. Pleasant 17.62 5 P Pn 08 54 29.9 +0.2
Z38A IAmb IAmb 08 54 38.0
comp=Z,27nm,0.8s
Z35A Perchaven, San 17.64 358 P Pn 08 54 29.4 -0.5
Z35A IAmb IAmb 08 54 51.5
comp=Z,43nm,1.2s
143A Socs Landing, 17.66 15 IAmb IAmb 08 54 35.1
comp=Z,61nm,1.4s
Z41A Richland Creek 17.90 11 IAmb IAmb 08 54 42.1
comp=Z,35nm,0.7s
POST Post 17.91 347 P Pn 08 54 33.5 +0.2
POST IAmb IAmb 08 54 39.2
comp=Z,33nm,0.8s
WTFS Witchita Falls 18.13 355 Pn 08 54 35.9 -0.1
WLAR White Oak Lake 18.27 10 IAmb IAmb 08 55 05.8
comp=Z,26nm,0.7s
DKNS Dickens 18.37 349 IAmb IAmb 08 54 45.8
comp=Z,21nm,0.7s
HSIG 18.74 318 P Pn 08 54 44.8 +1.4
X34A Smith Ranch, M 18.92 357 IAmb IAmb 08 55 13.9
comp=Z,41nm,1.1s
MIAR Mount Ida 19.04 8 IAmb IAmb 08 54 51.6
comp=Z,44nm,0.8s
MSTX Muleshoe 19.08 344 P P 08 54 47.7 +0.9
MSTX IAmb IAmb 08 54 51.9
comp=Z,42nm,0.9s
UALR University of 19.46 11 IAmb IAmb 08 54 55.5
comp=Z,26nm,0.8s
FNO Franklin 19.56 358 IAmb IAmb 08 55 03.8
comp=Z,23nm,1.0s
AMTX Amarillo 19.70 348 IAmb IAmb 08 54 59.7
comp=Z,17nm,0.8s
OXF Oxford 19.91 18 P P 08 54 55.1 -0.6
OXF IAmb IAmb 08 54 57.0
comp=Z,22nm,0.9s
DEOK Depew 20.13 0 IAmb IAmb 08 55 03.2
comp=Z,56nm,1.1s
TUL3 Leonard 20.22 2 P 08 54 58.8 -0.3
TUL3 IAmb IAmb 08 55 05.9
comp=Z,26nm,0.7s
DUN6 Lazy B Ranch 20.28 328 P P 08 55 01.2 +1.2
DUN6 IAmb IAmb 08 55 06.8
comp=Z,46nm,1.1s
OK052 Battle Ridge R 20.28 360 IAmb IAmb 08 55 04.9
comp=Z,33nm,0.9s
Y49A Blount Mountai 20.38 25 P 08 54 60.0 -0.9
CRNM Carthage 20.38 335 P 08 55 02.8 +1.6
QUOK Quay 20.46 360 P P 08 55 01.8 +0.1
QUOK IAmb IAmb 08 55 07.5
comp=Z,35nm,0.9s
RLO Rose Lookout 20.51 4 IAmb IAmb 08 55 16.2
comp=Z,15nm,0.8s
BNM Barren Site 20.51 336 P P 08 55 04.5 +1.9
FCAR Ozark Folk Cen 20.59 11 IAmb IAmb 08 55 07.5
comp=Z,19nm,0.7s
X48A Hartselle 20.65 23 P 08 55 02.7 -1.1
HHAR Hobbs 20.71 6 IAmb IAmb 08 55 12.3
comp=Z,15nm,0.9s
PLAL Pickwick Lake 20.76 20 P 08 55 04.0 -1.0
U38A Gravette 20.83 5 P 08 55 05.9 +0.2
U38A IAmb IAmb 08 55 13.4
comp=Z,20nm,0.8s
OK038 West end E0370 20.85 355 IAmb IAmb 08 55 13.9
comp=Z,33nm,0.9s
154A Montrose 20.92 34 IAmb IAmb 08 55 27.5
comp=Z,26nm,0.7s
TUC Tucson 20.99 325 P 08 55 09.3 +1.7
ANMO Albuquerque 21.15 337 P P 08 55 10.9 +1.4
comp=Z,8.4nm,0.7s,baz=239,slow=12,SNR=29
ANMO Lg Lg 09 01 24.8
comp=Z,0.1nm,0.3s,baz=310,slow=19,SNR=0.9
ANMO LR LR 09 04 16.7
comp=Z,313nm,19.4s,baz=250,slow=40
comp=Z,8.4nm,0.7s
KAN13 South Haven SW 21.31 358 IAmb IAmb 08 55 17.8
comp=Z,30nm,0.9s
KAN17 Caldwell West 21.35 358 IAmb IAmb 08 55 18.2
comp=Z,27nm,0.8s
RTBA Rita Blanca 21.42 347 IAmb IAmb 08 55 16.9
comp=Z,41nm,1.1s
KAN09 Caldwell North 21.44 358 IAmb IAmb 08 55 19.1
comp=Z,40nm,1.0s
KAN01 Argonia South 21.46 358 IAmb IAmb 08 55 19.3
comp=Z,31nm,0.8s
SWET Sewanee 21.75 24 IAmb IAmb 08 55 29.2
comp=Z,12nm,0.7s
PBMO Poplar Bluff 21.79 14 IAmb IAmb 08 55 20.1
comp=Z,41nm,1.0s
V48A Smith Brothers 21.88 22 IAmb IAmb 08 55 22.9
comp=Z,21nm,1.1s
WVT Waverly 21.89 19 P 08 55 15.7 -1.5
WVT IAmb IAmb 08 55 44.5
comp=Z,11nm,0.7s
214A Organ Pipe Nat 21.92 321 P 08 55 19.3 +1.8
214A IAmb IAmb 08 55 23.6
comp=Z,29nm,1.4s
X18A Snowflake 22.29 330 IAmb IAmb 08 55 28.2
comp=Z,19nm,0.9s
T45A Paducah 22.47 17 P P 08 55 22.7 -0.6
T25A Trinidad 22.50 344 IAmb IAmb 08 55 32.3
comp=Z,36nm,1.1s
CPCT Cooper Cave 22.54 27 IAmb IAmb 08 55 26.9
comp=Z,13nm,0.8s
W18A Petrified Fore 22.67 331 IAmb IAmb 08 55 32.5
comp=Z,24nm,1.3s
R32A Long Quarter, 22.78 356 IAmb IAmb 08 55 32.0
comp=Z,27nm,0.9s
CCM Cathedral Cave 22.85 11 P 08 55 26.8 -0.6
CCM IAmb IAmb 08 55 32.0
comp=Z,17nm,0.8s
BG3 Lake Jocassee 22.89 30 IAmb IAmb 08 55 57.6
comp=Z,16nm,1.1s
T47A Sharon Grove 22.91 20 IAmb IAmb 08 55 45.9
comp=Z,26nm,0.8s
S44A Arbondale 22.94 15 IAmb IAmb 08 55 50.4
comp=Z,14nm,0.7s
U49A Red Boiling Sp 22.95 23 IAmb IAmb 08 55 47.0
comp=Z,15nm,0.7s
X16A Lo Mia Camp, P 22.95 327 IAmb IAmb 08 55 36.5
comp=Z,14nm,0.9s
SIUC Southern Illin 22.97 15 IAmb IAmb 08 55 31.6
comp=Z,36nm,1.3s
TKL Tuckaleechee C 23.04 28 LR LR 09 05 47.8
comp=Z,67nm,19.1s,baz=200,slow=40
113A Mohawk Valley, 23.06 321 P P 08 55 31.4 +1.8

CBKS	Cedar Bluff	23.26	354		P	08 55 32.4	+0.8
SDCO	Great Sand Dun	23.38	342	P	P	08 55 33.8	+0.7
Y14A	Wickenburg	23.44	324		P	08 55 33.9	+0.4
Y14A	comp=Z,14nm,1.1s			IAmb	IAmb	08 55 38.8	
OTAV	Otavalo	23.61	129		P	08 55 37.8	+2.0
OTAV	Otavalo	23.61	129	eP	P	08 55 38.9	+3.1
USIN	University of	23.63	18		P	08 55 35.1	-0.1
USIN	comp=Z,19nm,0.8s			IAmb	IAmb	08 55 56.2	
WUAZ	Wupatki	23.78	329	IAmb	IAmb	08 55 43.6	
KSCO	comp=Z,27nm,1.1s Kaye Shedlock'	23.88	348	IAmb	IAmb	08 55 42.9	
TZTN	comp=Z,30nm,1.3s Tazewell	23.89	27	IAmb	IAmb	08 55 42.1	
P38A	comp=Z,17nm,1.1s Dawn	24.07	6	IAmb	IAmb	08 55 43.3	
WCI	comp=Z,32nm,1.4s Wyandotte Cave	24.30	20		P	08 55 41.2	-0.4
U54A	Nelsons Funny	24.66	30	IAmb	IAmb	08 55 47.2	
R49A	comp=Z,19nm,1.2s Shelbyville	24.75	22	IAmb	IAmb	08 55 50.4	
S51A	comp=Z,30nm,1.4s Beattyville	24.79	25	IAmb	IAmb	08 55 47.9	
PV13	comp=Z,15nm,0.9s Radium Mtn., P	24.87	337	IAmb	IAmb	08 55 53.5	
PV05	comp=Z,16nm,0.8s Paradox Valley	24.91	336	IAmb	IAmb	08 55 53.8	
FLOC	comp=Z,13nm,0.9s Florencia	24.99	122		P	08 55 48.5	+0.4
PV11	David Mesa, Pa comp=Z,20nm,1.0s	25.02	337	IAmb	IAmb	08 55 56.5	
PV17	East Wray Mesa comp=Z,28nm,1.1s	25.03	337	IAmb	IAmb	08 55 55.0	
RUSC	La Rusia	25.08	110		P	08 55 50.2	+0.8
PV20	West Nyswonger comp=Z,23nm,0.9s	25.09	337	IAmb	IAmb	08 55 55.5	
ISCO	Idaho Springs comp=Z,34nm,1.5s	25.32	344	IAmb	IAmb	08 55 58.9	
SDV	Santo Domingo comp=Z,102nm,18.9s,baz=273,slow=38	26.29	102	LR	LR	09 06 58.8	
O20A	White River Ci comp=Z,28nm,1.3s	26.42	340	IAmb	IAmb	08 56 07.0	
Q16A	Castle Valley comp=Z,13nm,1.1s	26.47	334	IAmb	IAmb	08 56 09.5	
N47A	Urbana comp=Z,20nm,0.9s	26.91	19	IAmb	IAmb	08 56 17.5	
P52A	Corning comp=Z,27nm,1.1s	27.09	25	IAmb	IAmb	08 56 10.5	
P53A	Whipple comp=Z,19nm,0.9s	27.28	26	IAmb	IAmb	08 56 17.7	
BSUT	Blindstream Ca comp=Z,9.1nm,1.0s	27.68	336	IAmb	IAmb	08 56 42.0	
JFWS	Jewell Farm comp=Z,14nm,0.8s	27.75	10	IAmb	IAmb	08 56 31.8	
O53A	New Philadelph comp=Z,20nm,1.2s	27.99	26	IAmb	IAmb	08 56 18.6	
K22A	Casper comp=Z,9.4nm,0.9s	28.23	345	IAmb	IAmb	08 56 22.5	
TCUT	Toone Canyon comp=Z,24nm,1.3s	28.43	336	IAmb	IAmb	08 56 25.3	
BAUV	El Baul	28.73	100	P	P	08 56 22.7	+0.9
BAUV	comp=Z,18nm,1.0s			IAmb	IAmb	08 56 27.5	
ATAH	Atahualpa comp=Z,117nm,18.1s,baz=300,slow=32	28.97	140	LR	LR	09 05 56.1	
PDAR	Pinedale Array	29.22	340	P	P	08 56 25.8	-0.3
PDAR	Pinedale Array comp=Z,1.9nm,0.7s,baz=137,slow=10,SNR=16 comp=Z,1.9nm,0.7s	29.22	340	P	P	08 56 26.9	+0.8
SPMN	Marine on St. comp=Z,13nm,0.9s	29.68	6	IAmb	IAmb	08 56 34.5	
AHID	Auburn Hatcher	29.74	338	P	P	08 56 31.2	+0.5
LOHW	Long Hollow comp=Z,12nm,0.9s	30.32	340	IAmb	IAmb	08 56 41.5	
TPAW	Teton Pass comp=Z,5.9nm,0.9s	30.33	339	IAmb	IAmb	08 56 45.6	
E38A	The Farm, Brul comp=Z,7.4nm,0.8s	31.18	7	IAmb	IAmb	08 57 02.3	
YHB	Horse Butte comp=Z,6.9nm,0.9s	31.52	340	IAmb	IAmb	08 56 57.6	
YHL	Hebgen Lake comp=Z,13nm,1.2s	31.61	340	IAmb	IAmb	08 56 55.1	
PCRV	Puerto La Cruz comp=Z,84nm,19.0s,slow=37	31.67	96	LR	LR	09 09 48.4	
HLID	Hailey comp=Z,11nm,1.4s	31.69	335	IAmb	IAmb	08 56 53.5	
BOZ	Bozeman (W) comp=Z,7.6nm,1.1s	32.42	340	IAmb	IAmb	08 57 01.0	
AGMN	Agassiz Nation comp=Z,7.0nm,0.8s	32.59	1	IAmb	IAmb	08 57 16.0	
WVOR	Wild Horse Val comp=Z,14nm,1.4s	32.70	329	IAmb	IAmb	08 57 02.5	
CZSB	Cruzeiro do Su	33.20	133	P	P	08 57 03.0	+1.9
CZSB	Cruzeiro do Su	33.20	133	eP	P	08 57 03.9	+2.8
J08A	Circle Bar Ran comp=Z,4.3nm,0.8s	33.32	330	IAmb	IAmb	08 57 07.3	
MSO	Missoula comp=Z,8.2nm,0.9s	34.27	339	IAmb	IAmb	08 57 15.6	
YBH	Yreka Blue Hor comp=Z,6.7nm,20.4s,baz=165,slow=34	34.36	324	LR	LR	09 10 09.0	
ULM	Lac du Bonnet comp=Z,2.1nm,0.7s,baz=173,slow=13,SNR=4.2 comp=Z,2.1nm,0.7s	34.54	1	P	P	08 57 11.7	-0.7
G08A	Pilot Rock comp=Z,5.4nm,1.1s	35.02	332	IAmb	IAmb	08 57 21.8	
H04A	Detroit Lake comp=Z,14nm,1.2s	36.11	329	IAmb	IAmb	08 57 31.3	
HOOD	Mount Hood Mea comp=Z,15nm,1.1s	36.30	330	IAmb	IAmb	08 57 34.0	
NEW	Newport comp=Z,8.0nm,1.3s	36.64	337	IAmb	IAmb	08 57 35.3	
NEW	Newport comp=Z,146nm,18.9s,baz=166,slow=38	36.64	337	LR	LR	09 13 36.5	
LTY	Liberty comp=Z,22nm,1.5s	37.29	333	IAmb	IAmb	08 57 41.6	
NLWA	Neilton Lookou comp=Z,16nm,1.4s	38.86	330	IAmb	IAmb	08 57 55.2	
FFC	Flin Flon	39.23	355	P	P	08 57 52.0	-0.3
LPAZ	La Paz	42.42	137	P	P	08 58 21.0	+1.3
LPAZ	comp=Z,5.6nm,0.7s			IAmb	IAmb	08 58 21.7	
LPAZ	La Paz comp=Z,5.8nm,0.7s,baz=327,slow=6.3,SNR=32 comp=Z,5.8nm,0.7s	42.42	137	P	P	08 58 20.9	+1.1
LPAZ	La Paz	42.42	137	eP	P	08 58 20.8	+1.1
PB16	IPOC Station P comp=Z,14nm,1.0s	43.07	141	IAmb	IAmb	08 58 28.1	
GO01	Chusmiza comp=Z,8.1nm,0.9s	44.27	141	IAmb	IAmb	08 58 37.6	
PB01	IPOC Station P comp=Z,13nm,1.1s	45.17	143	IAmb	IAmb	08 58 44.7	
SCHQ	Schefferville comp=Z,3.6nm,0.9s,baz=245,slow=11,SNR=2.4 comp=Z,3.6nm,0.9s	45.42	24	P	P	08 58 41.5	-1.2
NPGB	Novo Progresso	46.71	116	eP	P	08 58 52.6	-0.8
SIV	San Ignacio comp=Z,105nm,18.3s,baz=232,slow=35	47.14	130	LR	LR	09 17 51.2	
PTLB	Pontes e Lacer	48.25	128		P	08 59 05.8	+0.5
PTLB	comp=Z,7.7nm,1.0s			IAmb	IAmb	08 59 06.4	
PTLB	Pontes e Lacer	48.25	128	eP	P	08 59 05.5	+0.2
BBSD	Serra de San D	48.25	131	eP	P	08 59 05.0	-0.3
CLDB	Colider	48.28	121	eP	P	08 59 04.7	-0.9
AC02	Maricunga	49.97	147	P	P	08 59 20.7	+1.7
P33M	Teslin, Yukon comp=Z,7.9nm,1.4s	51.65	338	IAmb	IAmb	08 59 54.5	
FRB	Frobisher Bay comp=Z,3.5nm,0.7s,baz=266,slow=7.2,SNR=1.5 comp=Z,3.5nm,0.7s	51.85	15	P	P	08 59 31.8	-0.2
SNDB	Serra Nova Dou	52.62	119	eP	P	08 59 39.2	+0.7
MMPY	Sheldon Lake, comp=Z,13nm,1.4s	52.84	341	IAmb	IAmb	08 59 46.1	
MURT	Porto Murtinho	53.29	133	eP	P	08 59 42.7	-0.6
N31M	Braeburn, Yuko comp=Z,12nm,1.4s	53.59	338	IAmb	IAmb	08 59 48.0	
HYT	Haines Junctio comp=Z,5.2nm,1.2s	53.80	337	IAmb	IAmb	08 59 50.7	
ZON	Zonda comp=Z,7.7nm,1.2s	54.05	150	IAmb	IAmb	08 59 50.9	
SMTB	Santa Maria do	54.36	113	eP	P	08 59 51.6	+0.3
ILON	Igloolik, Nuna	54.52	6	P	P	08 59 51.7	+0.2
ILON	comp=Z,5.6nm,1.0s			IAmb	IAmb	09 00 09.6	
CPUP	Villa Florida comp=Z,0.6nm,0.7s,baz=3.1,slow=11,SNR=4.6 comp=Z,0.6nm,0.7s	56.59	137	P	P	09 00 06.5	-0.6
BCAR	Beaver Creek A	56.77	337	P	P	09 00 09.4	+1.5
G31M	Satah River	56.84	343	P	P	09 00 08.7	+0.4
G31M	comp=Z,7.2nm,0.9s			IAmb	IAmb	09 00 13.1	
BDFB	Brasilia comp=Z,3.1nm,0.7s,baz=274,slow=12,SNR=4.3 comp=Z,3.1nm,0.7s	57.22	121	P	P	09 00 12.5	+0.6
K27K	Chicken comp=Z,13nm,1.4s	57.44	338	IAmb	IAmb	09 00 18.8	
DOT	Dot Lake comp=Z,7.0nm,1.2s	57.95	337	IAmb	IAmb	09 00 22.1	
PAX	Paxson comp=Z,5.3nm,1.2s	58.12	336	IAmb	IAmb	09 00 22.3	
KDAK	Kodiak Island comp=Z,141nm,18.1s,baz=84,slow=36	58.98	329	LR	LR	09 25 55.0	
SFJD	Kangerlussuaq comp=Z,32nm,18.8s,baz=291,slow=40	59.41	19	LR	LR	09 30 20.4	
HDA	Harding Lake comp=Z,4.1nm,1.0s	59.43	337	IAmb	IAmb	09 00 27.7	
PRP	Porcupine Dome comp=Z,6.1nm,1.2s	59.50	339	IAmb	IAmb	09 00 35.3	
ILAR	Eielson Array	59.60	338	P	P	09 00 28.8	+1.2
ILAR	Eielson Array comp=Z,3.1nm,1.0s,baz=140,slow=4.6,SNR=27	59.60	338	P	P	09 00 28.0	+0.4
ILAR	comp=Z,86nm,18.4s,baz=98,slow=38 comp=Z,3.1nm,1.0s			LR	LR	09 28 28.3	
BMAR	Burnt Mountain	60.25	341	P	P	09 00 33.2	+1.1
TRF	Thorofare Moun	60.27	335	P	P	09 00 33.4	+0.9
KTH	Kantishna Hill comp=Z,5.8nm,1.0s	60.57	335	IAmb	IAmb	09 00 40.3	
I23K	Minto, Yukon-K comp=Z,8.0nm,0.9s	60.70	337	IAmb	IAmb	09 00 36.7	
BPAW	Bear Paw Mtn. comp=Z,7.5nm,1.3s	60.84	336	IAmb	IAmb	09 00 41.0	
E25K	Arctic Village comp=Z,7.4nm,1.4s	60.95	341	IAmb	IAmb	09 00 42.3	
CAST	Castle Rocks	60.98	335		P	09 00 37.0	-0.2
CAST	comp=Z,5.2nm,0.9s			IAmb	IAmb	09 00 37.9	
PLCA	Paso Flores comp=Z,5.9nm,0.7s,baz=321,slow=8.1,SNR=25 comp=Z,5.9nm,0.7s	61.09	158	P	P	09 00 39.0	+0.7
PLCA	Paso Flores	61.09	158	eP	P	09 00 38.9	+0.7
MLY	Manley comp=Z,6.9nm,1.1s	61.16	337	IAmb	IAmb	09 00 46.5	
COLD	Coldfoot comp=Z,6.7nm,1.3s	62.00	339	IAmb	IAmb	09 00 56.2	
TOLK	Toolik Lake Re comp=Z,4.0nm,1.1s	62.48	341	IAmb	IAmb	09 00 52.4	
M14K	Bethel	64.47	330	P	P	09 01 01.0	+0.6
M14K	comp=Z,6.5nm,1.1s			IAmb	IAmb	09 01 08.5	
EKA	Eskdalemuir Ar comp=Z,0.6nm,0.6s,baz=266,slow=4.7,SNR=4.1 comp=Z,0.6nm,0.6s	79.28	35	P	P	09 02 29.4	-0.1
SPITS	Spitsbergen Ar comp=Z,43nm,18.0s,baz=308,slow=38	79.39	11	LR	LR	09 40 21.5	
ESDC	Sonseca Array comp=Z,0.8nm,0.8s,baz=295,slow=4.6,SNR=7.3 comp=Z,0.8nm,0.8s	82.24	51	P	P	09 02 46.3	+0.6
SEY	Seymchan comp=Z,1.2nm,0.6s,baz=71,slow=17,SNR=3.5	85.39	335	P	P	09 03 01.6	+0.3
SEY	comp=Z,43nm,19.4s,baz=21,slow=38 comp=Z,1.2nm,0.6s			LR	LR	09 45 13.7	
PETK	Petropavlovsk- comp=Z,1.9nm,0.9s,baz=69,slow=9.7,SNR=3.9 comp=Z,1.9nm,0.9s	86.73	324	P	P	09 03 09.1	+1.0
TIXI	Tiksi comp=Z,6.2nm,0.6s,baz=31,slow=5.8,SNR=5.7	87.70	347	P	P	09 03 12.4	0.0
TIXI	comp=Z,19nm,20.5s,baz=23,slow=38 comp=Z,6.2nm,0.6s			LR	LR	09 45 23.5	
MODS	Modra-Piesok	93.51	38	eP	P	09 03 42.8	+2.8
STHS	Stebnicka Huta	95.27	35	eP	P	09 03 48.2	+0.1
HHC	Hu-ho-hao-te	118.00	336	eP	PKPdf	09 09 11.1	-0.3
HHC	comp=Z,8.0nm,0.6s			pmax	pmax		
HHC	comp=Z,48nm,3.5s			pmax	pmax		
NJ2	Nanjing	121.64	325	eP	PKiKP	09 09 20.1	+1.5
NJ2	comp=Z,10.0nm,1.0s			pmax	pmax		
STKA	Stephens Creek comp=Z,2.9nm,0.7s,baz=0.0,slow=0.0,SNR=11	124.88	242	PKP	PKPdf	09 09 24.6	0.0
MAW	Mawson comp=Z,4.6nm,1.0s,baz=197,slow=1.5,SNR=9.2	126.38	170	PKP	PKPdf	09 09 26.4	+0.1
WRA	Warramunga Arr comp=Z,2.3nm,0.7s,baz=85,slow=2.6,SNR=20	131.38	257	PKP	PKPdf	09 09 37.5	+0.2
ASAR	Alice Springs comp=Z,1.1nm,0.8s,baz=78,slow=2.1,SNR=11	131.90	252	PKP	PKPdf	09 09 37.9	-0.4
PZH	PanZhiHua	134.46	337	PKP	PKPdf	09 09 43.8	+0.6

NEIC ***07*** *08:54:18.1±1.3,35°.913N±0°.009×117°.71W±0°.01,*
h2km±3km, Error ellipse: s-maj=1.4km s-min=1.3km
az=99.0

PAS 07 08:54:18.6±1.4,35°.918N±0°.005×117°.72W±0°.01,
h2km±2km, ML3.1/24, ML2.9/92(NEIC), Error ellipse:
s-maj=1.4km s-min=0.8km az=96.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	Volcano Peak E	0.08	292		Pg	08 54 20.6	+0.3
TOW	Tower One	0.11	198		Pg	08 54 21.4	+0.5
CLC	China Lake	0.14	135	Pg	Pg	08 54 21.5	+0.1
CLC					Sg	08 54 23.7	+0.4
CLC	comp=N,4µm,0.2s			IAML		08 54 24.8	
CLC	comp=E,3µm,0.2s			IAML		08 54 25.1	
WRVM	Rose V. Centra	0.16	303		Pg	08 54 22.1	+0.2
WNMM	Nine Mile Cany	0.17	244		Pg	08 54 22.1	+0.3
WNMM					Sg	08 54 25.0	+1.0
SRTC	Snort	0.23	186		Pg	08 54 23.5	+0.5
MFS	McCloud Flat S	0.23	331		Pg	08 54 23.2	+0.2
MFS					Sg	08 54 26.8	+0.8
MPMC	Manual Prospec	0.23	53	Pg	Pg	08 54 23.3	+0.2
LRMC	Laurel Mtn Rad	0.44	176		Pg	08 54 26.9	-0.1
LRMC	comp=N,1µm,0.3s			IAML		08 54 33.6	
WORM	Onyx Ranch	0.48	243		Pg	08 54 27.7	-0.1
CCCA	Chr Cany lake	0.49	143		Pg	08 54 28.4	+0.5
CCCA					Sg	08 54 35.8	+1.6
WBSM	Bird Springs	0.51	222		Pg	08 54 28.4	0.0
WBSM					Sg	08 54 35.7	+0.7
WHFM	Hanning Flat	0.56	247		Pg	08 54 29.2	0.0
CWC	Cottonwood Cre	0.60	331		Pg	08 54 30.4	+0.3
CWC	comp=N,555nm,0.2s			IAML		08 54 42.0	
CWC	comp=E,482nm,0.2s			IAML		08 54 42.1	
CGO	Cerro Gordo	0.64	354		Pg	08 54 30.7	-0.1
DTP	Desert Tortois	0.66	189		Pg	08 54 30.9	-0.3
ISA	Isabella, Lake	0.66	248		Pg	08 54 31.4	+0.1
ISA	comp=N,691nm,0.4s			IAML		08 54 40.6	
ISA	comp=E,670nm,0.3s			IAML		08 54 41.2	
ISA	Isabella, Lake	0.66	248		Sg	08 54 40.2	+0.3
QSM	Queen of Sheba	0.69	86		Pg	08 54 32.0	+0.1
QSM					Sg	08 54 40.9	0.0
QSM	comp=E,846nm,0.5s			IAML		08 54 45.2	
QSM	comp=N,728nm,0.5s			IAML		08 54 46.5	
WASM	Alta Sierra Ca	0.70	255		Pg	08 54 32.0	-0.1
WASM					Sg	08 54 41.6	+0.4
CCAC	Calif City Air	0.80	198		Pg	08 54 33.6	-0.3
CCAC					Sg	08 54 44.8	+0.5
GWY	Greenwater Val	0.89	72		Pg	08 54 35.8	+0.1
GWY					Sg	08 54 47.3	-0.1
GWY	comp=E,437nm,0.4s			IAML		08 54 50.1	
GWY	comp=N,458nm,0.6s			IAML		08 54 54.7	
SPG2	Springville 2	0.89	289		Pg	08 54 35.1	-0.6
GSC	Goldstone, Bar	0.97	129		Pg	08 54 36.8	-0.3
GSC	comp=N,456nm,0.5s			IAML		08 54 55.8	
GSC	Goldstone, Bar	0.97	129		Sg	08 54 49.8	+0.2
TEJ	El Tejon	1.05	229		Pg	08 54 37.8	-0.8
EDW2	Edwards Air Fo	1.06	192		Pg	08 54 38.0	-0.9
HYS	Haystack Butte	1.06	173		Pg	08 54 38.2	-0.7
VES	Vestal, Richgr	1.11	266		Pg	08 54 39.5	-0.4
VES					Sg	08 54 53.9	-0.4
GRAC	Grapevine Rang	1.11	15		Pg	08 54 39.5	-0.5
GRAC	comp=E,372nm,0.7s			IAML		08 54 58.6	
GRAC	comp=N,355nm,0.7s			IAML		08 55 01.6	
TPO	Tropico Hills	1.12	202		Pg	08 54 39.3	-0.7
TPO	comp=E,350nm,0.8s			IAML		08 55 01.2	
RRX	Edison Barstow	1.20	150		Pb	08 54 41.9	0.0
SGV	South Grapevin	1.20	27		Pg	08 54 41.4	-0.2
SGV					Sb	08 54 57.8	-0.2
ARVC	Arvin	1.20	229		Pg	08 54 40.9	-0.7
TJR	Tejon Ranch	1.22	224		Pg	08 54 41.4	-0.5
SBB	Saddle Back Bu	1.23	184		Pg	08 54 41.1	-1.0
WCT	Wildcat Mounta	1.24	45		Pg	08 54 42.0	-0.5
WCT	comp=N,148nm,0.7s			IAML		08 55 01.0	
WCT	comp=E,174nm,1.0s			IAML		08 55 02.2	
BAKC	Calstate	1.26	244		Sb	08 54 60.0	+0.2
AMDNV	Amargosa	1.28	65		Pg	08 54 42.1	-1.0
AMDNV					Sg	08 54 59.6	-0.2
LCH	Last Change Ra	1.31	3		Sb	08 55 01.2	-0.2
LEOC	Leona Valley	1.37	201		Pn	08 54 44.6	-0.2
VOG	Valley Oaks Go	1.40	287		Pn	08 54 44.6	-0.5
LRRC	Littlerock Res	1.41	190		Pn	08 54 44.1	-1.2
CJV	Casa Juvan	1.43	194		Pb	08 54 46.1	+0.1
GMN	Gold Mountain	1.43	15		Pn	08 54 45.3	-0.4
GMN	comp=N,97nm,0.6s			IAML		08 55 08.3	
HOLC	Holcomb Ridge	1.46	184		Pn	08 54 44.7	-1.3
DSP	Deep Springs	1.46	352		Pn	08 54 45.6	-0.4
JNH	Juniper Hills	1.48	187		Pn	08 54 45.1	-1.2
BHPR	Bishop	1.51	336		Pn	08 54 47.0	+0.1
OSI	Osito Audit: C	1.54	213		Pn	08 54 46.6	-0.5
OSI	comp=E,117nm,0.7s			IAML		08 55 14.0	
OSI	comp=N,87nm,0.9s			IAML		08 55 14.9	
TUQ	Turquoise Moun	1.54	108		Pn	08 54 45.8	-1.4
TPNV	Topopah Spring	1.57	49		Pn	08 54 47.0	-0.6
TPNV	comp=N,168nm,0.8s			IAML		08 55 12.1	
TPNV	comp=N,178nm,0.9s			IAML		08 55 12.8	
MTUM	Tungsten Hills	1.58	335		Pb	08 54 48.5	-0.2
CHFC	Chilao Flat St	1.60	189		Pb	08 54 48.8	-0.2
BFSC	Mount Baldy Ra	1.68	178		Pn	08 54 48.9	-0.1
BFSC	comp=E,75nm,0.7s			IAML		08 55 12.5	
BFSC	comp=N,106nm,0.4s			IAML		08 55 13.2	
SSK	Sunset Peak	1.70	179		Pn	08 54 49.4	-0.1
MWC	Mount Wilson	1.71	189		Pn	08 54 49.0	-0.6
MWC	comp=E,76nm,0.6s			IAML		08 55 18.0	
MWC	comp=N,93nm,0.5s			IAML		08 55 21.7	
SIL	Silver Peak	1.73	155		Pb	08 54 51.2	+0.1
CRGC	Crocker Grade	1.77	248		Pb	08 54 51.3	-0.5
PASC	Pasadena Art C	1.78	192		Pn	08 54 49.7	-0.7
MZP	Montezuma Peak	1.80	9		Pn	08 54 50.2	-0.7
MTPC	Mountain Pass	1.82	103		Pn	08 54 49.5	-1.5
MTPC	comp=E,148nm,0.3s			IAML		08 55 17.9	
MTPC	comp=N,124nm,0.5s			IAML		08 55 19.2	
BENR	Benton	1.92	339		Pb	08 54 54.4	-0.1
MLAC	Mammoth, Mammo	1.93	333		Pb	08 54 54.7	+0.1
MCSM	Casa Diablo Ho	1.98	332		Pb	08 54 55.8	+0.3
GMRC	Granite Mounta	2.03	123		Pn	08 54 51.1	-2.0
SHPR	Sheep Range	2.15	73	Pn	Pn	08 54 55.3	-0.3
TPC	Twentynine Pal	2.27	142		Pn	08 54 56.3	-0.9
ELS	Elsinore Mount	2.28	174		Pn	08 54 56.7	-0.5
HMTC	Hemet	2.28	165		Pn	08 54 56.7	-0.5
POB	Polly Butte	2.32	163		Pn	08 54 57.1	-0.7
V12A	Nelson	2.34	94		Pn	08 54 56.9	-1.2
V12A	comp=N,49nm,0.6s			IAML		08 55 38.1	
V12A	comp=E,51nm,0.5s			IAML		08 55 41.2	
MURC	Murrieta	2.35	169		Pn	08 54 57.5	-0.7
PMD	Palm Desert	2.52	154		Pn	08 54 59.4	-1.1
PMD	comp=N,32nm,0.4s			IAML		08 55 40.3	
PMD	comp=E,50nm,0.7s			IAML		08 55 46.2	
PFO	Pinyon Flats O	2.52	155		Pn	08 54 59.5	-1.2
PFO	comp=E,31nm,0.3s			IAML		08 55 40.8	
PFO	comp=E,45nm,1.2s			IAML		08 55 43.7	
PRN	Pahroc Range	2.61	55		Pn	08 55 01.7	-0.2
PRN	comp=E,56nm,1.0s			IAML		08 55 48.6	
PRN	comp=N,59nm,0.5s			IAML		08 55 52.6	
MYLM	Yosemite Lake	2.62	305		Pb	08 55 05.1	-1.1
NEE2	Needles Airpor	2.78	113	Pn	Pn	08 55 02.4	-1.8
WAKR	Walker	2.92	333		Pn	08 55 04.0	-2.2
DPP	Dos Picos Cty	2.98	167	Pn	Pn	08 55 06.0	-0.9
DPP	comp=E,48nm,0.8s			IAML		08 55 52.9	
W13A	Hualapai Mount	3.23	104	Pn	Pn	08 55 09.3	-1.3
W13A	comp=N,18nm,0.8s			IAML		08 56 15.2	
YUH	Yuha Desert	3.58	155	Pn	Pn	08 55 14.5	-0.7
CBX	Cerro Bola	3.70	166	Pn	Pn	08 55 16.7	-0.1
MPK	Martis Peak	3.84	332	IAML		08 56 40.2	
Y14A	comp=E,24nm,1.4s			IAML		08 56 44.0	
Y14A	comp=N,19nm,0.8s			IAML		08 57 57.1	
Y14A	comp=E,15nm,0.6s						

NEIC ***07*** *08:56:39.7±2.0,35°.685N±0°.005×117°.48W±0°.01,*
h2km±1km, Error ellipse: s-maj=1.3km s-min=0.8km
az=75.0

PAS 07 08:56:40.1±1.8,35°.682N±0°.009×117°.49W±0°.01,
h1km±1km, ML3.2/23, ML3.1/102(NEIC), Error ellipse:
s-maj=1.5km s-min=1.2km az=64.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	China Lake	0.16	328		Pg	08 56 43.4	+0.2
CLC					Sg	08 56 45.9	+0.6
CLC	comp=E,6µm,0.6s			IAML		08 56 46.2	
CLC	comp=N,6µm,0.4s			IAML		08 56 46.2	
CCCA	Chr Cany lake	0.19	146		Pg	08 56 44.5	+0.8
SRTC	Snort	0.21	273		Pg	08 56 44.8	+0.7
LRMC	Laurel Mtn Rad	0.25	217		Pg	08 56 45.2	+0.2
TOW	Tower One	0.25	300		Pg	08 56 45.8	+0.7
TOW					Sb	08 56 50.4	-2.1
WNMM	Nine Mile Cany	0.37	296		Pg	08 56 47.6	+0.4
WVPM	Volcano Peak E	0.38	316		Pg	08 56 47.7	+0.4
WVPM					Sg	08 56 53.7	+1.5
MPMC	Manual Prospec	0.38	1		Pg	08 56 47.6	+0.2
MPMC	comp=E,3µm,0.6s			IAML		08 56 55.7	
MPMC	comp=N,2µm,0.6s			IAML		08 56 57.6	
WRVM	Rose V. Centra	0.46	315		Pg	08 56 49.2	+0.2
DTP	Desert Tortois	0.50	215		Pg	08 56 49.8	0.0
DTP					Sg	08 56 56.9	+0.7
MFS	McCloud Flat S	0.52	326		Pg	08 56 50.6	+0.4
WBSM	Bird Springs	0.55	255		Pg	08 56 50.7	+0.1
QSM	Queen of Sheba	0.58	61		Pg	08 56 51.5	+0.2
QSM					Sg	08 56 59.5	+0.6
WORM	Onyx Ranch	0.61	272

WHFM						Sg	08 57 02.9	+0.4
ISA	**Isabella, Lake**	**0.80**	**269**			Pg	08 56 55.3	-0.1
ISA				IAML			08 57 06.7	
	comp=N,616nm,0.3s							
ISA				IAML			08 57 06.7	
	comp=E,673nm,0.5s							
ISA	**Isabella, Lake**	**0.80**	**269**			Sg	08 57 06.5	+0.7
HYS	**Haystack Butte**	**0.82**	**184**			Pg	08 56 55.5	-0.3
GWY	**Greenwater Val**	**0.84**	**53**			Pg	08 56 56.3	+0.1
WASM	**Alta Sierra Ca**	**0.87**	**274**			Pg	08 56 56.7	-0.1
WASM						Sg	08 57 08.6	+0.6
CWC	**Cottonwood Cre**	**0.89**	**328**			Pg	08 56 57.6	+0.3
EDW2	**Edwards Air Fo**	**0.90**	**207**			Pg	08 56 56.8	-0.5
RRX	**Edison Barstow**	**0.90**	**153**			Pg	08 56 57.5	+0.1
CGO	**Cerro Gordo**	**0.90**	**344**			Pg	08 56 57.4	-0.1
CGO						Sb	08 57 10.9	-0.6
TPO	**Tropico Hills**	**1.00**	**217**			Pg	08 56 59.0	-0.3
SBB	**Saddle Back Bu**	**1.03**	**195**			Pg	08 56 59.3	-0.5
VTV	**Victorville**	**1.13**	**173**			Sb	08 57 18.2	+0.6
ADO	**Adelanto Recei**	**1.13**	**177**			Pb	08 57 02.6	+0.1
SPG2	**Springville 2**	**1.16**	**297**			Pg	08 57 01.7	-0.6
SPG2						Sg	08 57 17.1	-0.2
ARVC	**Arvin**	**1.22**	**244**			Pn	08 57 04.4	0.0
THC	**Tehachapi Micr**	**1.23**	**231**			Pg	08 57 03.2	-0.5
LRRC	**Littlerock Res**	**1.23**	**201**			Pg	08 57 03.0	-0.7
LRRC						Sn	08 57 21.2	-0.5
LEOC	**Leona Valley**	**1.24**	**213**			Pb	08 57 04.3	-0.1
AMDNV	**Amargosa**	**1.25**	**52**			Pg	08 57 03.8	-0.3
AMDNV						Sb	08 57 21.3	+0.2
HOLC	**Holcomb Ridge**	**1.25**	**193**			Pg	08 57 03.4	-0.7
HOLC						Sb	08 57 21.5	+0.2
DSCC	**Desert Studies**	**1.26**	**115**			Pg	08 57 03.1	-1.1
CJV	**Casa Juvan**	**1.27**	**205**			Pg	08 57 04.5	+0.1
HEC	**Hector,Ludlow**	**1.27**	**132**			Pg	08 57 03.8	-0.8
HEC						Sg	08 57 21.0	0.0
JNH	**Juniper Hills**	**1.29**	**197**			Pg	08 57 04.1	-0.7
JNH						Sn	08 57 23.0	-0.3
TUQ	**Turquoise Moun**	**1.30**	**100**			Pg	08 57 04.0	-1.2
WCT	**Wildcat Mounta**	**1.31**	**32**			Pg	08 57 04.6	-0.7
WCT				IAML			08 57 24.5	
	comp=N,268nm,0.4s							
WCT				IAML			08 57 26.8	
	comp=E,232nm,0.5s							
GRAC	**Grapevine Rang**	**1.32**	**4**			Pg	08 57 05.1	-0.3
GRAC				IAML			08 57 28.1	
	comp=N,500nm,0.7s							
SGV	**South Grapevin**	**1.35**	**16**			Pg	08 57 05.3	-0.7
CHFC	**Chilao Flat St**	**1.41**	**198**			Pn	08 57 06.8	-0.4
CHFC						Sn	08 57 26.6	+0.1
SIL	**Silver Peak**	**1.44**	**157**			Pg	08 57 07.7	0.0
BFSC	**Mount Baldy Ra**	**1.45**	**185**			Pn	08 57 06.7	-0.8
BFSC				IAML			08 57 28.2	
	comp=N,215nm,0.5s							
OSI	**Osito Audit: C**	**1.47**	**224**			Pb	08 57 08.2	0.0
OSI				IAML			08 57 30.1	
	comp=N,259nm,0.5s							
OSI				IAML			08 57 38.9	
	comp=E,282nm,0.9s							
SSK	**Sunset Peak**	**1.48**	**186**			Pn	08 57 07.3	-0.7
BBRC	**Big Bear Solar**	**1.49**	**161**			Pn	08 57 08.0	-0.2
MWC	**Mount Wilson**	**1.53**	**198**			Pn	08 57 08.0	-0.7
MWC				IAML			08 57 31.5	
	comp=N,328nm,0.6s							
MWC				IAML			08 57 32.8	
	comp=E,275nm,0.5s							
LCH	**Last Change Ra**	**1.55**	**356**			Pn	08 57 08.7	-0.4
MTPC	**Mountain Pass**	**1.59**	**97**			Pn	08 57 08.2	-1.4
MTPC				IAML			08 57 34.4	
	comp=N,294nm,0.7s							
MTPC				IAML			08 57 34.5	
	comp=E,259nm,0.4s							
SVD	**Seven Oaks Dam**	**1.60**	**168**			Pg	08 57 11.2	+0.3
PSRC	**Puddingstone R**	**1.61**	**189**			Pn	08 57 09.2	-0.5
PASC	**Pasadena Art C**	**1.61**	**201**			Pn	08 57 09.1	-0.6
PASC				IAML			08 57 35.0	
	comp=E,200nm,0.5s							
TPNV	**Topopah Spring**	**1.61**	**38**			Pn	08 57 09.3	-0.6
TPNV				IAML			08 57 34.9	
	comp=E,251nm,0.8s							
TPNV				IAML			08 57 36.6	
	comp=E,278nm,0.4s							
OAT	**Oat Mountain**	**1.62**	**215**			Pg	08 57 11.5	+0.3
GTM	**Goat Mountain**	**1.67**	**146**			Pb	08 57 11.5	-0.2
RVR	**Riverside**	**1.69**	**177**			Pb	08 57 11.9	0.0
GVRC	**Garvey Reservo**	**1.71**	**198**			Pg	08 57 12.9	+0.1
BLCC	**Black Canyon**	**1.73**	**214**			Pn	08 57 10.9	-0.5
GMRC	**Granite Mounta**	**1.75**	**120**			Pn	08 57 09.7	-2.0
DJJ	**Donna J Jenkin**	**1.76**	**207**			Pb	08 57 13.5	+0.3
BHPR	**Bishop**	**1.80**	**334**			Pb	08 57 14.0	-0.1
BLAC	**Blackrock camp**	**1.85**	**150**			Pg	08 57 15.3	-0.2
CRGC	**Crocker Grade**	**1.87**	**257**			Pb	08 57 15.2	0.0
MTUM	**Tungsten Hills**	**1.88**	**333**			Pb	08 57 15.5	+0.1
TPC	**Twentynine Pal**	**1.97**	**143**			Pn	08 57 13.9	-0.8
HMTC	**Hemet**	**2.01**	**168**			Pn	08 57 14.5	-0.7
MZP	**Montezuma Peak**	**2.02**	**2**			Pn	08 57 14.8	-0.7
ELS	**Elsinore Mount**	**2.03**	**178**			Pn	08 57 14.9	-0.7
ELS				IAML			08 57 53.3	
	comp=N,107nm,0.6s							
POB	**Polly Butte**	**2.04**	**167**			Pn	08 57 15.2	-0.6
SHPR	**Sheep Range**	**2.06**	**66**			Pn	08 57 16.7	+0.6
DGR	**Domenigoni Val**	**2.07**	**169**			Pn	08 57 15.5	-0.5
MURC	**Murrieta**	**2.09**	**173**			Pn	08 57 15.9	-0.4
V12A	**Nelson**	**2.15**	**88**			Pn	08 57 16.0	-1.2
V12A				IAML			08 57 56.8	
	comp=E,109nm,0.4s							
V12A				IAML			08 57 57.0	
	comp=N,88nm,0.7s							
PMD	**Palm Desert**	**2.23**	**155**			Pn	08 57 17.1	-1.1
PFO	**Pinyon Flats O**	**2.23**	**157**			Pn	08 57 17.6	-0.8
PFO				IAML			08 57 55.3	
	comp=N,98nm,0.8s							
SNDA	**J Saunders Pla**	**2.25**	**161**			Pn	08 57 18.1	-0.4
FRD	**Ford Ranch, An**	**2.30**	**161**			Pb	08 57 23.0	+0.5
FRD	**Ford Ranch, An**	**2.30**	**161**			Pb	08 57 23.0	+0.5
PLM	**Palomar**	**2.38**	**167**			Pn	08 57 20.0	-0.5
TPH	**Tonopah**	**2.40**	**5**			Pn	08 57 20.1	-0.6
TPH				IAML			08 58 04.9	
	comp=E,156nm,0.9s							
NEE2	**Needles Airpor**	**2.52**	**110**			Pn	08 57 21.0	-1.2
LHV	**Little Huntoon**	**2.69**	**343**			Pn	08 57 25.7	+1.2
LHV				IAML			08 58 16.1	
	comp=E,61nm,0.7s							
DPP	**Dos Picos Cty**	**2.71**	**170**	Pn	Pn		08 57 24.0	-0.9
DPP				IAML			08 58 06.0	
	comp=E,107nm,0.8s							
NV11	**Mina Array Sit**	**2.80**	**349**			Pn	08 57 26.1	0.0
NVAR	**Mina Array Bea**	**2.82**	**347**			Pn	08 57 27.1	+0.6
MYLM	**Yosemite Lake**	**2.91**	**307**			Pb	08 57 32.4	-0.3
W13A	**Hualapai Mount**	**3.00**	**100**			Pn	08 57 28.2	-0.9
RYN	**Ryan**	**3.05**	**345**	Pn	Pn		08 57 30.3	+0.6
BLYC	**Blythe**	**3.11**	**127**			Pn	08 57 28.4	-1.9
BLYC				IAML			08 58 24.1	
	comp=N,72nm,0.9s							
BLYC				IAML			08 58 24.1	
	comp=E,54nm,0.4s							
GLA	**Glamis**	**3.43**	**139**	Pn	Pn		08 57 33.3	-1.4
CBX	**Cerro Bola**	**3.43**	**168**	Pn	Pn		08 57 34.7	-0.2
ESJX	**Sierra Juarez**	**3.89**	**160**	Pn	Pn		08 57 40.8	-0.3
ESJX				IAML			08 58 45.6	
	comp=E,28nm,0.5s							
Y14A	**Wickenburg**	**4.08**	**114**	Pn	Pn		08 57 42.7	-1.0
Y14A				IAML			08 58 52.0	
	comp=N,40nm,0.8s							
Y14A				IAML			08 58 57.6	
	comp=E,39nm,0.6s							
U15A	**North Rim**	**4.28**	**78**	Pn	Pn		08 57 47.3	+0.6
U15A				IAML			08 58 57.9	
	comp=N,22nm,0.9s							
U15A				IAML			08 58 59.4	
	comp=E,33nm,1.1s							
WUAZ	**Wupatki**	**4.99**	**90**	Pn	Pn		08 57 56.8	+0.5
WUAZ				IAML			08 59 20.8	
	comp=E,22nm,1.3s							
X16A	**Lo Mia Camp, P**	**5.12**	**103**	Pn	Pn		08 57 58.2	+0.1
X16A				IAML			08 59 35.6	
	comp=N,8.2nm,1.0s							
214A	**Organ Pipe Nat**	**5.38**	**132**	Pn	Pn		08 58 00.2	-1.4
214A				IAML			08 59 46.4	
	comp=N,8.9nm,1.0s							
214A				IAML			08 59 46.0	
	comp=E,9.1nm,1.4s							

*SNET **07** 09:01:08.1±0.7, 13.25N×89.95W, h34km±6km, ML2.8*
*CATAC **07** 09:01:08.2±1.0, 13.6N:6.9×9.0W±., h21km±9km, M2.9/8, MLv2.9/8, Error ellipse: s-maj=14.4km s-min=9.6km az=158.5, confirmed*
*GCG **07** 09:01:09.3±0.7, 13.36N×89.98W, h34km±4km, MD3.8, ML3.0*

ISC 07 09:01:08.6±2.0, 13.2N±0.1×89.85W±0.05, h29km, n28, σ1.9 02/32, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEVE	**Cerro Verde**	**0.67**	**19**	*eP*	**Pn**	**09 01 21.7**	**-0.7**
CEVE				*eS*	**Sn**	**09 01 32.5**	**+0.5**
CEVE				IAML		09 01 32.8	
	comp=Z,726nm,0.3s						
CEVE	**Cerro Verde**	**0.67**	**19**	P	**Pb**	**09 01 21.4**	**-0.5**
CEVE	**Cerro Verde**	**0.67**	**19**	S	**Sb**	**09 01 31.6**	**+0.5**
NUBE	**Las Nubes**	**0.71**	**5**	*eP*	**Pn**	**09 01 21.4**	**-1.5**
NUBE				*eS*	**Sb**	**09 01 30.8**	**-1.3**
BOQS	**Boqueron**	**0.77**	**45**	*eP*	**Pb**	**09 01 23.8**	**+0.1**
UEES	**Universidad Ev**	**0.79**	**48**	P	**Pb**	**09 01 24.0**	**+0.2**
UEES	**Universidad Ev**	**0.79**	**48**	S	**Sb**	**09 01 35.3**	**+1.0**
LOMA	**Loma Larga**	**0.80**	**55**	P	**Pb**	**09 01 23.7**	**-0.3**
LOMA	**Loma Larga**	**0.80**	**55**	S	**Sn**	**09 01 35.6**	**+0.6**
LOAL	**Lomas de Alarc**	**0.81**	**5**	P	**Pn**	**09 01 23.0**	**-1.1**
LOAL	**Lomas de Alarc**	**0.81**	**5**	S	**Sb**	**09 01 33.7**	**-1.0**
LFRS	**El Faro**	**0.88**	**60**	*eP*	**Pn**	**09 01 24.7**	**-0.4**
PAVA	**Las Pavas**	**1.03**	**59**	P	**Pb**	**09 01 27.8**	**-0.1**
PAVA	**Las Pavas**	**1.03**	**59**	S	**Sb**	**09 01 42.4**	**+1.3**
COEG	**Centro de Oper**	**1.03**	**65**	*eP*	**Pb**	**09 01 27.8**	**-0.1**
COEG				*eS*	**Sb**	**09 01 42.3**	**+1.2**
COEG				IAML		09 01 43.3	
	comp=Z,134nm,0.2s						
COEG	**Centro de Oper**	**1.03**	**65**	P	**Pb**	**09 01 27.8**	**-0.1**
TECO	**Alcaldia de Te**	**1.09**	**71**	P	**Pb**	**09 01 28.6**	**-0.4**
TECO	**Alcaldia de Te**	**1.09**	**71**	S	**Sb**	**09 01 43.4**	**+0.5**
UESV	**Universidad de**	**1.12**	**67**	P	**Pb**	**09 01 29.1**	**-0.3**
UESV	**Universidad de**	**1.12**	**67**	S	**Sb**	**09 01 44.5**	**+0.8**
SCLA	**Alcaldia de Sa**	**1.20**	**65**	S	**Sb**	**09 01 47.1**	**+1.2**
SCLA	**Alcaldia de Sa**	**1.20**	**65**	P	**Pb**	**09 01 30.6**	**-0.2**
FG16	**Alotenango, Sa**	**1.25**	**329**	*eP*	**Pb**	**09 01 33.1**	**+1.3**
FG16				*eS*	**Sb**	**09 01 50.9**	**+3.2**
PQSS	**Presa 15 de Se**	**1.32**	**71**	P	**Pb**	**09 01 32.0**	**-0.9**
PQSS	**Presa 15 de Se**	**1.32**	**71**	S	**Sb**	**09 01 49.8**	**+0.4**
ESQI	**Esquipulas**	**1.45**	**20**	*eP*	**Pn**	**09 01 32.0**	**-1.0**
SARH	**Santa Rosa de**	**1.90**	**34**	*eP*	**Pn**	**09 01 38.9**	**-0.2**
STG0	**El Palmar, Qui**	**1.90**	**310**	*eP*	**Pb**	**09 01 41.8**	**-1.0**

NEIC 07 09:04:23.0±0.2, 37.66N±0.02×105.49W±0.02, h6km±4km, ML1.4/16, Error ellipse: s-maj=2.8km s-min=2.6km az=53.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDCO	**Great Sand Dun**	**0.09**	**353**	Pg	Pg	09 04 25.5	+0.3
SDCO				Sg	Sg	09 04 27.2	+0.5
SDCO				IAML		09 04 28.1	
	261nm,0.1s						
T25A	**Trinidad**	**1.00**	**121**	Pg	Pg	09 04 41.9	-0.3
T25A				Sg	Sg	09 04 55.1	-0.2
T25A				IAML		09 04 55.2	
	comp=N,8.6nm,1.4s						
S22A	**4UR Ranch, Cre**	**1.07**	**275**	Pg	Pg	09 04 43.1	-0.4
S22A				IAML		09 05 03.4	
	comp=E,7.4nm,0.1s						
Q24A	**Divide**	**1.33**	**11**		Pn	09 04 47.8	-0.6
Q24A				IAML		09 05 06.1	
	comp=E,4.8nm,0.2s						
Q24A				IAML		09 05 06.2	
	comp=N,9.1nm,0.2s						
MVCO	**Mesa Verde**	**2.44**	**260**	Pn	Pn	09 05 03.5	-0.1
PV02	**Paradox Valley**	**2.63**	**283**	Pn	Pn	09 05 05.8	-0.4
PV12	**Saucer Basin,**	**2.70**	**285**	Pn	Pn	09 05 07.0	-0.2

TRN 07 09:08:22.6, 9.61N×62.45W, h36km, MD3.7, Venezuela., Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DMDM	**Guralp CMG5TDE**	**1.40**	**39**	*eP*	Pn	09 08 46.1	+0.5
DMDM				*eS*	Sn	09 09 02.5	-0.2
PSKH	**Kent House, Po**	**1.40**	**41**	*eP*	Pn	09 08 46.4	+0.8
PSKH				*eS*	Sn	09 09 03.1	+0.3
TRN	**Trinidad (W)**	**1.46**	**45**	*eP*	Pn	09 08 46.6	+0.2
TRN				*eS*	Sn	09 09 03.9	-0.3
PCRV	**Puerto La Cruz**	**2.23**	**285**	*eP*	Pn	09 08 57.2	+0.2
PCRV				*eS*	Sn	09 09 02.0	-3.2
GRFF	**Grenada Fort F**	**2.52**	**16**	*eS*	Sn	09 09 30.2	-0.4
GRGR	**Grenville**	**2.62**	**17**	*eP*	Pn	09 09 02.9	+0.4
GRGR				*eS*	Sn	09 09 32.7	-0.4
GRW	**Mount Saint Ca**	**2.65**	**17**	*eS*	Sn	09 09 33.2	-0.6
GRSS	**Sisters**	**2.79**	**17**	*eP*	Pn	09 09 06.0	+1.2
GRSS				*eS*	Sn	09 09 37.2	0.0
GCMP	**Grenada, Carri**	**3.03**	**19**	*eS*	Sn	09 09 42.2	-0.9

*NEIC **07** 09:09:24.8±1.9, 35.674N±0.009×117.52W±0.01, h10km±2km, Error ellipse: s-maj=3.0km s-min=1.9km az=165.0*

PAS 07 09:09:25.1±1.8, 35.673N±0.009×117.52W±0.01, h7km±4km, ML3.1/20, ML3.0/96(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=61.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.15**	**336**		Sg	09 09 31.1	+0.6
CLC	**China Lake**	**0.15**	**336**		Pg	09 09 28.3	0.0
CLC				IAML		09 09 31.2	
	comp=N,4μm,0.1s						
CLC				IAML		09 09 31.3	
	comp=E,5μm,0.4s						
SRTC	**Snort**	**0.19**	**276**		Pg	09 09 29.3	+0.4
CCCA	**Chr Cany lake**	**0.20**	**139**		Sg	09 09 33.0	+1.3
CCCA	**Chr Cany lake**	**0.20**	**139**	Pg	Pg	09 09 29.4	+0.3
CCCA				IAML		09 09 33.1	
	comp=E,5μm,0.4s						
CCCA				IAML		09 09 33.1	
	comp=N,13μm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.23**	**214**		Pg	09 09 29.6	-0.2
LRMC				IAML		09 09 33.5	
	comp=E,3μm,0.4s						
LRMC				IAML		09 09 33.6	
	comp=N,5μm,0.1s						
TOW	**Tower One**	**0.24**	**304**		Pg	09 09 30.4	+0.5
TOW					Sg	09 09 34.8	+1.7
WNMM	**Nine Mile Cany**	**0.35**	**299**		Pg	09 09 32.1	0.0
WVPM	**Volcano Peak E**	**0.37**	**319**		Pg	09 09 32.1	-0.2
WVPM					Sg	09 09 37.6	+0.5
MPMC	**Manual Prospec**	**0.39**	**4**		Sg	09 09 37.9	+0.1
MPMC	**Manual Prospec**	**0.39**	**4**		Pg	09 09 32.4	-0.3
MPMC				IAML		09 09 38.4	
	comp=N,959nm,0.6s						
MPMC				IAML		09 09 38.4	
	comp=E,1μm,0.4s						
WRVM	**Rose V. Centra**	**0.45**	**318**		Pg	09 09 33.5	-0.3
DTP	**Desert Tortois**	**0.48**	**213**		Pg	09 09 34.1	-0.4
DTP					Sg	09 09 40.6	-0.2
MFS	**McCloud Flat S**	**0.52**	**329**		Pg	09 09 33.3	-1.9
WBSM	**Bird Springs**	**0.52**	**255**		Pg	09 09 34.8	-0.4
WBSM					Sg	09 09 42.2	+0.1
WORM	**Onyx Ranch**	**0.59**	**272**		Pg	09 09 35.9	-0.5
WORM					Sg	09 09 43.6	-0.5
QSM	**Queen of Sheba**	**0.60**	**61**		Pg	09 09 36.3	-0.5
QSM					Sg	09 09 44.0	-0.7
QSM				IAML		09 09 44.7	
	comp=E,762nm,0.4s						
QSM				IAML		09 09 44.9	
	comp=N,957nm,0.5s						
CCAC	**Calif City Air**	**0.66**	**218**		Pg	09 09 37.4	-0.4
CCAC					Sg	09 09 46.5	+0.2
WHFM	**Hanning Flat**	**0.68**	**272**		Pg	09 09 37.5	-0.6
WHFM					Sg	09 09 46.4	-0.5
GSC	**Goldstone, Bar**	**0.69**	**122**		Sg	09 09 47.2	-0.2
GSC	**Goldstone, Bar**	**0.69**	**122**	Pg	Pg	09 09 37.6	-0.8
GSC				IAML		09 09 47.7	
	comp=E,870nm,0.5s						
GSC				IAML		09 09 50.0	
	comp=N,863nm,0.3s						
ISA	**Isabella, Lake**	**0.78**	**270**		Pg	09 09 39.2	-0.9
HYS	**Haystack Butte**	**0.81**	**183**		Pg	09 09 39.9	-0.8
HYS					Sg	09 09 50.4	-0.7
WASM	**Alta Sierra Ca**	**0.85**	**275**		Pg	09 09 40.7	-0.7
WASM					Sg	09 09 52.1	-0.2
GWY	**Greenwater Val**	**0.86**	**53**		Sg	09 09 52.6	-0.2
GWY	**Greenwater Val**	**0.86**	**53**		Pg	09 09 40.9	-0.8
GWY				IAML		09 09 54.9	
	comp=E,478nm,0.5s						
GWY				IAML		09 09 55.1	
	comp=N,500nm,0.3s						
EDW2	**Edwards Air Fo**	**0.88**	**206**		Pg	09 09 42.0	0.0
EDW2					Sg	09 09 53.4	-0.1
CWC	**Cottonwood Cre**	**0.89**	**330**		Pg	09 09 41.8	-0.4
CWC				IAML		09 10 14.7	
	comp=N,344nm,0.2s						
RRX	**Edison Barstow**	**0.90**	**152**		Pg	09 09 41.8	-0.6
CGO	**Cerro Gordo**	**0.91**	**345**		Pg	09 09 42.0	-0.5
TPO	**Tropico Hills**	**0.98**	**216**		Sg	09 09 56.6	-0.1
TPO	**Tropico Hills**	**0.98**	**216**		Pg	09 09 43.8	-0.2
TPO				IAML		09 10 03.3	
	comp=E,434nm,0.9s						
TPO				IAML		09 10 04.0	
	comp=N,554nm,0.7s						
SBB	**Saddle Back Bu**	**1.01**	**194**		Pg	09 09 43.9	-0.7
TEJ	**El Tejon**	**1.05**	**245**		Pg	09 09 44.0	-1.3
ALPC	**Antelope**	**1.17**	**213**		Sb	09 10 03.3	+0.1
ARVC	**Arvin**	**1.20**	**243**		Pg	09 09 46.9	-1.3
ARVC					Sb	09 10 03.9	0.0
THC	**Tehachapi Micr**	**1.21**	**231**		Pg	09 09 47.1	-1.1
HOLC	**Holcomb Ridge**	**1.24**	**192**		Pg	09 09 47.2	-1.7
CJV	**Casa Juvan**	**1.25**	**204**		Pg	09 09 48.5	-0.6
AMDNV	**Amargosa**	**1.27**	**52**		Pn	09 09 47.4	-1.9
AMDNV					Sb	09 10 05.6	-0.3
DSCC	**Desert Studies**	**1.27**	**114**		Pn	09 09 48.3	-1.0
DSCC					Sb	09 10 05.4	-0.6
JNH	**Juniper Hills**	**1.27**	**196**		Pn	09 09 49.3	-0.1
JNH					Sg	09 10 06.0	0.0
VES	**Vestal, Richgr**	**1.28**	**278**		Sb	09 10 05.9	-0.4
HEC	**Hector,Ludlow**	**1.28**	**131**		Pn	09 09 48.7	-0.9
HEC					Sb	09 10 06.2	-0.2
TUQ	**Turquoise Moun**	**1.32**	**100**		Pn	09 09 48.5	-1.7
GRAC	**Grapevine Rang**	**1.33**	**5**		Pn	09 09 49.4	-0.7
GRAC				IAML		09 10 31.2	
	comp=E,243nm,0.5s						
WCT	**Wildcat Mounta**	**1.33**	**33**		Sb	09 10 07.8	+0.1
WCT	**Wildcat Mounta**	**1.33**	**33**		Pn	09 09 48.5	-1.7
WCT				IAML		09 10 09.6	
	comp=E,187nm,0.3s						
SGV	**South Grapevin**	**1.36**	**17**		Pn	09 09 49.4	-1.3
SGV					Sb	09 10 08.7	-0.1
CHFC	**Chilao Flat St**	**1.40**	**197**		Pn	09 09 51.4	+0.2
CHFC					Sb	09 10 09.7	-0.1
BFSC	**Mount Baldy Ra**	**1.44**	**185**		Pn	09 09 51.0	-0.6
SIL	**Silver Peak**	**1.44**	**156**		Pn	09 09 51.5	-0.2
OSI	**Osito Audit: C**	**1.45**	**223**		Sn	09 10 10.0	-0.1
OSI	**Osito Audit: C**	**1.45**	**223**		Pn	09 09 51.4	-0.3
OSI				IAML		09 10 13.4	
	comp=E,200nm,0.8s						
OSI				IAML		09 10 13.8	
	comp=N,275nm,0.9s						
BBRC	**Big Bear Solar**	**1.49**	**161**		Pn	09 09 52.5	-0.1
MWC	**Mount Wilson**	**1.51**	**197**		Sg	09 10 13.5	-0.2
MWC	**Mount Wilson**	**1.51**	**197**		Pn	09 09 51.3	-1.5
MWC				IAML		09 10 14.7	
	comp=N,228nm,0.7s						
MWC				IAML		09 10 14.8	
	comp=E,220nm,0.5s						
LCH	**Last Change Ra**	**1.56**	**356**		Pn	09 09 53.8	+0.4
LCH					Sg	09 10 15.0	-0.3
DECC	**Green Verdugo**	**1.57**	**205**		Sg	09 10 15.1	-0.3
PASC	**Pasadena Art C**	**1.59**	**200**		Sb	09 10 15.5	+0.3
PASC	**Pasadena Art C**	**1.59**	**200**		Pn	09 09 52.5	-1.3
PASC				IAML		09 10 17.1	
	comp=N,142nm,0.5s						
PASC				IAML		09 10 19.7	
	comp=E,131nm,0.3s						
PSRC	**Puddingstone R**	**1.59**	**189**		Pn	09 09 54.3	+0.5
SVD	**Seven Oaks Dam**	**1.60**	**167**		Pb	09 09 55.2	+0.2
MTPC	**Mountain Pass**	**1.61**	**96**		Pn	09 09 52.2	-1.9
MTPC	**Mountain Pass**	**1.61**	**96**	IAML		09 10 17.5	
	comp=N,206nm,0.2s						
MTPC				IAML		09 10 18.2	
	comp=E,136nm,0.3s						
TPNV	**Topopah Spring**	**1.64**	**39**		Pn	09 09 53.1	-1.4
GMN	**Gold Mountain**	**1.64**	**7**		Pn	09 09 54.1	-0.5
GMN				IAML		09 10 50.6	
	comp=N,257nm,0.6s						
GMN				IAML		09 10 55.7	
	comp=E,122nm,0.7s						
GTM	**Goat Mountain**	**1.68**	**145**		Pn	09 09 55.5	+0.6
GR2C	**Griffith Obs**	**1.68**	**203**		Sg	09 10 18.4	-0.6
DSP	**Deep Springs**	**1.73**	**348**		Pn	09 09 55.0	-0.7
DSP				IAML		09 10 52.5	
	comp=E,158nm,0.8s						
GMRC	**Granite Mounta**	**1.76**	**120**		Pn	09 09 53.5	-2.6
BHPR	**Bishop**	**1.80**	**335**		Pb	09 09 58.5	0.0

TOW					Sg	09 10 07.9	+1.8	
CLC	**China Lake**	**0.14**	**144**		Pg	09 10 04.7	+0.1	
CLC	**China Lake**	**0.14**	**144**	IAML		09 10 07.2		
	comp=E,3μm,0.4s							
CLC				IAML		09 10 07.2		
	comp=N,4μm,0.5s							
WRVM	**Rose V. Centra**	**0.17**	**296**		Pg	09 10 05.2	+0.2	
WNMM	**Nine Mile Cany**	**0.19**	**241**		Pg	09 10 05.5	+0.2	
MPMC	**Manual Prospec**	**0.21**	**54**	Pg	Pg	09 10 06.0	+0.1	
MPMC				IAML		09 10 09.6		
	comp=E,4μm,0.6s							
MPMC				IAML		09 10 10.8		
	comp=N,6μm,1.0s							
MFS	**McCloud Flat S**	**0.22**	**326**		Pg	09 10 06.2	+0.2	
MFS					Sg	09 10 09.9	+0.9	
SRTC	**Snort**	**0.24**	**189**		Pg	09 10 06.9	+0.5	
SRTC					Sg	09 10 11.5	+1.9	
LRMC	**Laurel Mtn Rad**	**0.45**	**178**	Pg	Pg	09 10 10.3	-0.1	
LRMC				IAML		09 10 18.0		
	comp=N,3μm,0.2s							
LRMC				IAML		09 10 18.2		
	comp=E,3μm,0.2s							
CCCA	**Chr Cany lake**	**0.49**	**146**		Sg	09 10 18.8	+1.3	
WORM	**Onyx Ranch**	**0.50**	**242**		Pg	09 10 11.1	-0.2	
WBSM	**Bird Springs**	**0.53**	**222**		Pg	09 10 11.8	-0.1	
WBSM					Sg	09 10 19.7	+0.9	
WHFM	**Hanning Flat**	**0.58**	**246**		Sg	09 10 20.5	+0.3	
CWC	**Cottonwood Cre**	**0.59**	**329**		Pg	09 10 13.9	+0.8	
CGO	**Cerro Gordo**	**0.62**	**353**		Sg	09 10 23.2	+1.4	
QSM	**Queen of Sheba**	**0.68**	**87**		Pg	09 10 14.2	-0.5	
QSM	**Queen of Sheba**	**0.68**	**87**	IAML		09 10 30.0		
	comp=E,2μm,0.5s							
QSM				IAML		09 10 30.2		
	comp=N,2μm,0.7s							
ISA	**Isabella, Lake**	**0.68**	**247**	Pg	Pg	09 10 14.7	-0.1	
ISA				IAML		09 10 25.1		
	comp=E,2μm,0.2s							
ISA				IAML		09 10 30.1		
	comp=N,1μm,0.4s							
ISA	**Isabella, Lake**	**0.68**	**247**		Sg	09 10 24.2	+0.6	
WASM	**Alta Sierra Ca**	**0.72**	**255**		Pg	09 10 15.4	-0.2	
WASM					Sg	09 10 25.6	+0.7	
CCAC	**Calif City Air**	**0.82**	**198**		Sg	09 10 28.7	+0.6	
GWY	**Greenwater Val**	**0.88**	**73**		Sg	09 10 30.7	+0.9	
GWY	**Greenwater Val**	**0.88**	**73**		Pg	09 10 18.3	-0.2	
GWY				IAML		09 10 31.0		
	comp=N,1μm,0.5s							
GWY				IAML		09 10 31.6		
	comp=E,1μm,0.5s							
SPG2	**Springville 2**	**0.90**	**288**		Pg	09 10 18.4	-0.6	
SPG2					Sg	09 10 30.5	-0.3	
GSC	**Goldstone, Bar**	**0.96**	**130**	Pg	Pg	09 10 19.9	-0.3	
GSC				IAML		09 10 36.4		
	comp=N,1μm,0.8s							
TEJ	**El Tejon**	**1.07**	**229**		Pg	09 10 21.4	-0.7	
EDW2	**Edwards Air Fo**	**1.08**	**193**		Pg	09 10 20.8	-1.6	
GRAC	**Grapevine Rang**	**1.09**	**14**	Pg	Pb	09 10 23.3	-0.1	
GRAC				IAML		09 10 43.4		
	comp=E,1μm,0.7s							
GRAC				IAML		09 10 44.5		
	comp=N,795nm,1.1s							
VES	**Vestal, Richgr**	**1.13**	**266**		Pg	09 10 22.9	-0.4	
VES					Sb	09 10 38.5	-0.4	
TPO	**Tropico Hills**	**1.14**	**202**		Pg	09 10 22.7	-0.8	
TPO	**Tropico Hills**	**1.14**	**202**	IAML		09 10 45.5		
	comp=E,875nm,0.8s							
SHOC	**Shoshone, Teco**	**1.16**	**91**		Sg	09 10 36.3	-2.7	
SGV	**South Grapevin**	**1.18**	**27**		Pg	09 10 24.4	+0.1	
SGV					Sg	09 10 39.9	+0.3	
RRX	**Edison Barstow**	**1.20**	**151**		Pb	09 10 25.1	-0.1	
WCT	**Wildcat Mounta**	**1.22**	**45**		Pg	09 10 24.9	-0.3	
WCT	**Wildcat Mounta**	**1.22**	**45**	IAML		09 10 44.2		
	comp=N,371nm,0.7s							
WCT				IAML		09 10 44.8		
	comp=E,434nm,0.5s							
ARVC	**Arvin**	**1.22**	**229**		Pg	09 10 24.8	-0.3	
SBB	**Saddle Back Bu**	**1.25**	**185**		Pg	09 10 22.7	-2.9	
AMDNV	**Amargosa**	**1.26**	**65**		Pg	09 10 25.4	-0.5	
AMDNV					Sg	09 10 42.4	+0.2	
BAKC	**Calstate**	**1.28**	**243**		Pg	09 10 25.9	-0.5	
BAKC					Sb	09 10 43.6	+0.1	
GMN	**Gold Mountain**	**1.41**	**14**		Pn	09 10 28.3	-0.4	
VOG	**Valley Oaks Go**	**1.41**	**286**		Pn	09 10 28.0	-0.4	
VOG					Sg	09 10 46.0	-1.2	
CJV	**Casa Juvan**	**1.45**	**195**		Pn	09 10 27.0	-2.0	
CJV					Sn	09 10 48.5	0.0	
DSP	**Deep Springs**	**1.45**	**352**		Pn	09 10 28.2	-0.7	
HOLC	**Holcomb Ridge**	**1.48**	**185**		Pn	09 10 26.3	-3.0	
JNH	**Juniper Hills**	**1.50**	**188**		Pn	09 10 27.2	-2.5	
TPNV	**Topopah Spring**	**1.55**	**49**		Pn	09 10 29.8	-0.7	
TPNV				IAML		09 10 54.2		
	comp=E,461nm,0.9s							
TPNV				IAML		09 10 56.4		
	comp=E,451nm,0.7s							
HEC	**Hector,Ludlow**	**1.57**	**134**		Sg	09 10 52.0	-0.1	
CHFC	**Chilao Flat St**	**1.62**	**190**		Sg	09 10 53.5	-0.2	
MWC	**Mount Wilson**	**1.73**	**190**		Pn	09 10 32.1	-0.8	
MWC				IAML		09 10 58.6		
	comp=N,392nm,0.3s							
MWC				IAML		09 11 00.2		
	comp=E,311nm,0.4s							
MZP	**Montezuma Peak**	**1.78**	**8**	Pn	Pn	09 10 32.2	-1.6	
BBRC	**Big Bear Solar**	**1.79**	**159**		Pg	09 10 35.7	-0.2	
CRGC	**Crocker Grade**	**1.79**	**248**		Pb	09 10 34.8	-0.4	
PASC	**Pasadena Art C**	**1.80**	**193**	Pn	Pn	09 10 33.4	-0.4	
MCSM	**Casa Diablo Ho**	**1.97**	**331**		Pn	09 10 37.4	+1.0	
TPH	**Tonopah**	**2.17**	**10**	Pn	Pn	09 10 39.3	+0.2	
TSCN	**Private Proper**	**2.19**	**261**		Pb	09 10 40.9	-1.1	
S11A	**Rachel**	**2.32**	**42**	Pn	Pn	09 10 41.0	0.0	
NV11	**Mina Array Sit**	**2.52**	**352**	Pn	Pn	09 10 43.4	-0.4	
PMPB	**Monarch Peak**	**2.53**	**277**	Pn	Pn	09 10 42.4	-1.4	
PRN	**Pahroc Range**	**2.59**	**55**	Pn	Pn	09 10 43.9	-0.8	
BBGB	**Big Mountain B**	**2.77**	**284**	Pn	Pn	09 10 45.6	-1.6	
SAO	**San Andreas Ge**	**3.13**	**286**		Pn	09 10 51.6	-0.5	
W13A	**Hualapai Mount**	**3.22**	**104**	Pn	Pn	09 10 51.7	-1.8	
YUH	**Yuha Desert**	**3.59**	**155**	Pn	Pn	09 10 57.0	-1.3	
LCMT	**Little Creek M**	**3.75**	**72**	Pn	Pn	09 11 00.7	0.0	
CCUT	**Cedar City**	**3.84**	**64**	Pn	Pn	09 11 02.1	+0.1	
KNB	**Kanab**	**4.08**	**73**	Pn	Pn	09 11 04.7	-0.6	
CCX	**Cicese**	**4.14**	**168**	Pn	Pn	09 11 05.7	-0.2	
CCX				IAML		09 12 17.3		
	comp=N,27nm,1.3s							
CCX				IAML		09 12 22.6		
	comp=E,38nm,0.9s							
ESJX	**Sierra Juarez**	**4.18**	**159**		Pn	09 11 05.7	-1.0	
ELK	**Elko**	**5.18**	**21**		Pn	09 11 19.8	-0.6	
ELK				IAML		09 12 48.5		
	comp=E,12nm,0.7s							
ELK				IAML		09 12 48.5		
	comp=E,7.9nm,0.8s							
X16A	**Lo Mia Camp, P**	**5.35**	**105**		Pn	09 11 22.1	-0.6	
X16A				IAML		09 12 56.4		
	comp=N,13nm,1.3s							
X16A				IAML		09 13 02.0		
	comp=E,12nm,1.0s							

NEIC ***07*** *09:10:21.2±1.1,35°.75N±0°.01×117°.517W±0°.008, h7km±5km, Error ellipse: s-maj=2.0km s-min=0.9km az=180.0*

PAS 07 09:10:22.3±0.9**,35°.76N**±0°.02×**117°.57W**±0°.02**,h6**km±2km**,**ML3.1**/24**,ML3.1**/18(NEIC)**,Error ellipse: s-maj=2.3km s-min=2.1km az=128.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.06**	**340**		Pg	09 10 23.9	0.0
CLC	**China Lake**	**0.06**	**340**	IAML		09 10 25.4	
CLC	comp=N,10μm,0.4s			IAML		09 10 25.5	
	comp=E,5μm,0.2s						
SRTC	**Snort**	**0.16**	**245**		Pg	09 10 25.9	+0.3
TOW	**Tower One**	**0.16**	**288**		Pg	09 10 26.0	+0.3
WVPM	**Volcano Peak E**	**0.28**	**314**		Sg	09 10 32.0	+0.6
WNMM	**Nine Mile Cany**	**0.28**	**287**		Sg	09 10 32.0	+0.4
LRMC	**Laurel Mtn Rad**	**0.29**	**198**		Pg	09 10 27.9	-0.2
LRMC				IAML		09 10 32.6	
	comp=E,2μm,0.4s						
LRMC				IAML		09 10 33.0	
	comp=N,2μm,0.1s						
MPMC	**Manual Prospec**	**0.30**	**13**		Sg	09 10 28.2	-4.3
MPMC	**Manual Prospec**	**0.30**	**13**	Pg	Pg	09 10 28.1	-0.3
MPMC	comp=N,419nm,0.7s			IAML		09 10 29.4	
MPMC				IAML		09 10 29.5	
	comp=E,676nm,0.8s						
WRVM	**Rose V. Centra**	**0.36**	**314**		Pg	09 10 29.2	-0.1
WBSM	**Bird Springs**	**0.51**	**244**		Pg	09 10 31.8	-0.4
WBSM					Sg	09 10 38.9	0.0
WORM	**Onyx Ranch**	**0.55**	**264**		Sg	09 10 39.9	-0.2
ISA	**Isabella, Lake**	**0.74**	**263**	Pg	Pg	09 10 35.9	-0.6
ISA	comp=N,351nm,0.5s			IAML		09 10 39.9	
WASM	**Alta Sierra Ca**	**0.80**	**269**		Sg	09 10 47.9	-0.2
BFSC	**Mount Baldy Ra**	**1.52**	**183**		Pn	09 10 48.6	-1.5
BFSC	comp=E,153nm,0.5s			IAML		09 10 56.4	
BFSC	comp=N,184nm,0.7s			IAML		09 11 02.2	
PDE	**Pardee, Santa**	**1.55**	**212**		Pb	09 10 51.2	-0.3
MWC	**Mount Wilson**	**1.58**	**195**		Pn	09 10 49.9	-1.1
TPNV	**Topopah Spring**	**1.60**	**42**		Pn	09 10 50.8	-0.4
TPNV	comp=N,335nm,1.1s			IAML		09 10 58.3	
CLTC	**Calectric**	**1.68**	**173**		Pn	09 10 50.0	-2.1
WUAZ	**Wupatki**	**5.05**	**91**	Pn	Pn	09 11 37.0	-1.8
214A	**Organ Pipe Nat**	**5.48**	**132**	Pn	Pn	09 11 45.6	+1.1
DUG	**Dugway, Tooele**	**5.81**	**39**	Pn	Pn	09 11 47.9	-1.2
HATC	**Hat Creek Radi**	**5.90**	**330**	Pn	Pn	09 11 49.6	-0.7
O02D	**Mt. Diablo Mer**	**6.03**	**319**	Pn	Pn	09 11 51.5	-0.6
X18A	**Snowflake**	**6.36**	**99**	Pn	Pn	09 11 57.7	+0.9
SRU	**San Rafael Swe**	**6.53**	**57**	Pn	Pn	09 11 59.3	+0.3

IDC ***07*** *09:14:10.0±1.8, 1°.16N×126°.32E, h0km, mb3.5/4, mbtmp3.5/4, MS2.9/2, Error ellipse: s-maj=186.8km s-min=21.0km az=66.0*

DJA ***07*** *09:14:24.1±0.3, 0°.5±2°×12°.4E±°, h111km±6km, M4.8/1, MLv4.3/13, MLv4.8/1*

ISC 07 09:14:24.3±0.9**, 0°.24S**±0°.05×**124°.10E**±0°.04**,h100**km**,n18,** σ1°.19/23**,mb3.3/4,Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.82**	**352**	P	**Pn**	**09 14 44.1**	**+1.2**
KMSI				S	**Sn**	**09 14 59.2**	**+2.4**
LUWI	**Luwuk**	**1.55**	**239**	P	**Pn**	**09 14 51.6**	**+0.4**
LUWI				S	**Sn**	**09 15 14.0**	**+2.5**
MRSI	**Marisa**	**2.27**	**288**	P	**Pn**	**09 14 59.7**	**-0.7**
MRSI				S	**Sn**	**09 15 28.1**	**0.0**
APSI	**Ampana**	**2.54**	**255**	P	**Pn**	**09 15 03.6**	**-0.3**
SANI	**Sanana**	**2.61**	**134**	P	**Pn**	**09 15 04.8**	**-0.1**
SANI				S	**Sn**	**09 15 35.5**	**-0.6**
TNTI	**Ternate**	**3.42**	**73**	P	**Pn**	**09 15 15.5**	**-0.3**
TNTI				S	**Sn**	**09 15 56.3**	**+0.8**
KDI	**Kendari**	**3.98**	**202**	P	**Pn**	**09 15 23.7**	**+0.4**
NLAI	**Namlea**	**4.23**	**135**	P	**Pn**	**09 15 27.0**	**+0.3**
NLAI				S	**Sn**	**09 16 15.9**	**+0.9**
MPSI	**Mapaga**	**4.24**	**278**	P	**Pn**	**09 15 27.5**	**+0.8**
MPSI				S	**Sn**	**09 16 15.7**	**+0.5**
PCI	**Palu**	**4.31**	**261**	P	**Pn**	**09 15 26.9**	**-0.9**
TTSI	**Tana Toraja**	**5.10**	**237**	P	**Pn**	**09 15 38.3**	**-0.2**
SPSI	**Sidrap Palu**	**5.69**	**229**	P	**Pn**	**09 15 46.7**	**+0.2**
WRA	**Warramunga Arr**	**22.00**	**153**	P	**P**	**09 19 11.5**	**+0.9**
	0.4nm,0.6s,baz=340,slow=9.3,SNR=6.2 0.4nm,0.6s						
ASAR	**Alice Springs** 0.3nm,0.5s,baz=344,slow=9.4,SNR=10 0.3nm,0.5s	**25.16**	**158**	P	**P**	**09 19 41.8**	**+1.3**
JNU	**Nakatsue** comp=Z,22nm,20.0s,baz=110,slow=40	**33.79**	**10**	LR	LR	09 35 33.6	
MKAR	**Makanchi Array** 0.7nm,0.4s,baz=123,slow=8.1,SNR=14 0.7nm,0.4s	**59.39**	**328**	P	**P**	**09 24 14.7**	**-1.6**
PETK	**Petropavlovsk-** comp=Z,10nm,21.6s,baz=101,slow=34	**60.08**	**23**	LR	LR	09 46 51.7	
KURBB	**Kurchatov Arra** 0.6nm,0.7s,baz=135,slow=6.6,SNR=6.3 0.6nm,0.7s	**63.72**	**330**	P	**P**	**09 24 43.1**	**-2.2**

NEIC ***07*** *09:15:04.9±0.7, 19°.17N±0°.01×155°.654W±0°.009, h10km±1km, Error ellipse: s-maj=2.9km s-min=2.3km az=277.0*

HVO 07 09:15:04.8±0.7**,19°.17N**±0°.01×**155°.654W**±0°.009**, h10**km±3km**,ML2.6**/25**,ML2.5**/38(NEIC)**,Error ellipse: s-maj=1.6km s-min=1.1km az=204.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHU	**Kahuku**	**0.08**	**27**		Pg	09 15 07.6	+0.2
KHU					Sg	09 15 09.6	+0.3
KHU	**Kahuku**	**0.08**	**27**	IAML		09 15 09.8	
KHU	comp=N,3μm,0.3s			IAML		09 15 09.9	
	comp=E,3μm,0.3s						
HPO	**Honuapo**	**0.13**	**131**		Pg	09 15 08.1	+0.4
HTC	**Hot Caves**	**0.25**	**75**		Pg	09 15 10.1	+0.1
AIN	**Ainahou**	**0.27**	**43**		Pg	09 15 10.4	0.0
AIN	**Ainahou**	**0.27**	**43**	IAML		09 15 16.2	
AIN	comp=E,1μm,0.3s			IAML		09 15 16.6	
	comp=N,2μm,0.2s						
MWH	**Mokuaweoweo**	**0.32**	**10**		Pg	09 15 11.0	-0.3
MWH	**Mokuaweoweo**	**0.32**	**10**	IAML		09 15 16.0	
MWH	comp=E,409nm,1.2s			IAML		09 15 19.3	
	comp=N,514nm,0.5s						
HLP	**Hilina Pali**	**0.35**	**69**		Pg	09 15 12.2	+0.4
HLP	**Hilina Pali**	**0.35**	**69**	IAML		09 15 22.6	
HLP	comp=N,851nm,0.5s			IAML		09 15 23.3	
	comp=E,738nm,0.5s						
ALEP	**Alea Permanent**	**0.37**	**1**		Pg	09 15 12.0	-0.3
ALEP					Sg	09 15 17.1	-0.1
CPH	**Captain Cook**	**0.40**	**322**		Pg	09 15 12.4	-0.3
SDHH	**Sand Hill**	**0.40**	**58**		Sg	09 15 18.7	+0.5
MLH	**Mauna Loa**	**0.41**	**38**		Pg	09 15 12.9	0.0
MLH	**Mauna Loa**	**0.41**	**38**	IAML		09 15 25.4	
MLH	comp=N,588nm,0.4s			IAML		09 15 25.6	
	comp=E,396nm,0.5s						
WRMHI	**West Rim**	**0.41**	**55**		Pg	09 15 13.0	+0.1
WRMHI					Sg	09 15 19.0	+0.7
UWE	**Uwekahuna**	**0.42**	**54**	Pg	Pg	09 15 13.1	-0.1
RIM	**Rim**	**0.42**	**58**		Sb	09 15 20.0	-1.0
OBL	**Observatory Le**	**0.43**	**55**		Sg	09 15 19.8	+0.9
KKO	**Keanakako'i**	**0.43**	**59**		Pg	09 15 13.3	0.0
UWB	**Uwekahuna Bluf**	**0.43**	**55**		Pg	09 15 13.3	-0.1
UWB					Sg	09 15 19.4	+0.2
BYL	**Byron's Ledge**	**0.44**	**57**	Pg	Pg	09 15 13.4	-0.1
SBLHI	**Steaming Bluff**	**0.44**	**55**		Pg	09 15 13.4	-0.2
SBLHI					Sg	09 15 19.6	+0.2
HATHI	**Halema'uma'u T**	**0.45**	**56**		Pg	09 15 13.6	0.0
HATHI	**Halema'uma'u T**	**0.45**	**56**	IAML		09 15 21.6	
HATHI	comp=N,358nm,0.1s			IAML		09 15 23.8	
	comp=E,356nm,0.4s						
HMH	**Humu'ula Sheep**	**0.46**	**21**		Pg	09 15 13.6	-0.3
HMH				IAML		09 15 22.5	
HMH	comp=N,609nm,0.4s			IAML		09 15 22.6	
	comp=E,448nm,0.2s						
RSD	**Rainshed**	**0.46**	**51**		Sb	09 15 21.2	-0.8
PUH	**Pauahi**	**0.46**	**64**	Pg	Pg	09 15 13.2	-0.6
PUH				IAML		09 15 28.6	
	comp=N,238nm,0.7s						
KNHH	**Kane Nui o Ham**	**0.50**	**66**	Pg	Pg	09 15 14.1	-0.5
HUH	**Hualalai**	**0.54**	**341**		Pg	09 15 14.9	-0.4
STCH	**Steam Cracks**	**0.54**	**67**	Pg	Pg	09 15 14.9	-0.5
POHA	**Pohakuloa**	**0.59**	**11**		Pg	09 15 15.3	-1.1
POHA	**Pohakuloa**	**0.59**	**11**	IAML		09 15 31.0	
	comp=N,163nm,0.5s						

IDC ***07*** *09:19:01.6±2.0, 2°.61N×95°.48E, h0km, mb3.7/5, mbtmp3.7/7, ML4.0/2, MS2.8/1, Error ellipse: s-maj=64.3km s-min=21.1km az=52.0*

DJA ***07*** *09:19:02.9±0.9, 3°.N±4°×9°.6E±°, h10km, M3.9/1, MLv3.8/8, MLv3.9/1*

ISC 07 09:19:05.5±1.4**,2°.66N**±0°.08×**95°.6E**±0°.1**,h25**km**,n23,** σ1°.24/13**,mb3.7/5,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.75**	**109**	P	**Pb**	**09 19 17.6**	**-2.3**
MLSI	**Meulaboh, Aceh**	**1.78**	**26**	P	**Pn**	**09 19 36.2**	**+1.6**
MLSI				S	**Sb**	**09 19 59.9**	**+0.6**
GSI	**Gunungsitoli**	**2.37**	**125**	P	**Pn**	**09 19 43.6**	**+0.8**
GSI				S	**Sn**	**09 20 12.9**	**+1.7**
LHMI	**Lhok Sumawe**	**2.88**	**27**	P	**Pn**	**09 19 49.8**	**+0.1**
PSI	**Prapat** 2.2nm,0.3s,baz=322,slow=7.2,SNR=6.2	**3.30**	**87**	Pn	**Pn**	**09 19 56.6**	**+0.9**
PSI				LR	LR	09 21 18.7	
	comp=Z,134nm,18.2s,baz=179,slow=40 5.1nm,0.3s						
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,baz=200,slow=11,SNR=5.1 0.9nm,0.3s	**16.04**	**11**	Pn	**Pn**	**09 22 48.0**	**-1.5**
H08S2	**Diego Garcia H** baz=66,slow=76,SNR=33	**25.24**	**246**	T	T	09 50 32.8	
H08S3	**Diego Garcia H** baz=66,slow=76,SNR=42	**25.24**	**246**	T	T	09 50 35.5	
H08S1	**Diego Carcia H** baz=66,slow=76,SNR=20	**25.26**	**246**	T	T	09 50 35.1	
H01W3	**Cape Leeuwin H** baz=332,slow=76,SNR=20	**41.19**	**157**	T	T	10 10 30.3	
H01W2	**Cape Leeuwin H** baz=332,slow=76,SNR=22	**41.21**	**157**	T	T	10 10 31.2	
H01W1	**Cape Leeuwin H** baz=332,slow=76,SNR=21	**41.21**	**157**	T	T	10 10 31.5	
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=295,slow=8.7,SNR=2.1 0.4nm,0.7s	**44.14**	**122**	P	**P**	**09 27 12.5**	**+0.1**
MKAR	**Makanchi Array** 1.3nm,0.5s,baz=163,slow=7.8,SNR=16 1.3nm,0.5s	**45.47**	**347**	P	**P**	**09 27 22.2**	**-0.3**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=302,slow=7.7,SNR=5.2 0.2nm,0.5s	**45.53**	**127**	P	**P**	**09 27 24.1**	**+0.7**
KURBB	**Kurchatov Arra** 0.3nm,0.4s,baz=156,slow=7.5,SNR=5.6 0.3nm,0.4s	**49.93**	**346**	P	**P**	**09 27 57.1**	**0.0**
ZALV	**Zalesovo Beam** 1.6nm,0.6s,baz=154,slow=4.8,SNR=6.0 1.6nm,0.6s	**51.89**	**352**	P	**P**	**09 28 12.4**	**+0.7**
H04N2	**CROZET ISLANDS** baz=50,slow=75,SNR=120	**62.11**	**213**	T	T	10 36 47.7	
H04N1	**CROZET ISLANDS** baz=50,slow=75,SNR=118	**62.12**	**213**	T	T	10 36 52.9	
H04N3	**CROZET ISLANDS** baz=50,slow=75,SNR=124	**62.13**	**213**	T	T	10 36 49.0	
H04S1	**CROZET ISLANDS** baz=51,slow=75,SNR=21	**62.47**	**212**	T	T	10 37 14.6	
H04S3	**CROZET ISLANDS** baz=51,slow=75,SNR=22	**62.48**	**212**	T	T	10 37 12.9	
H04S2	**CROZET ISLANDS** baz=51,slow=75,SNR=18	**62.49**	**212**	T	T	10 37 05.3	

UCR ***07*** *09:28:13.7±0.6, 8°.25N×82°.83W, h14km±4km, MW3.9*

CATAC ***07*** *09:28:14.4±0.8, 8°.N±5°×8°.3W±°, h9km±3km, M4.1/9, MLv4.1/9, Error ellipse: s-maj=12.0km s-min=9.8km az=60.5, confirmed*

UPA ***07*** *09:28:15.6±1.1, 8°.37N×82°.78W, h19km±1km, MW4.1*

ISC 07 09:28:13.4±1.2**, 8°.26N**±0°.05×**82°.84W**±0°.02**,h16**km±8km**, n71,** σ0°.75/99**,3C-19D,Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.15**	**19**	eP	**Pb**	**09 28 19.0**	**+1.0**
LESP3				eS	**Sb**	**09 28 22.2**	**+1.3**
LPPC	**Paso Canoas**	**0.27**	**0**	eP	**Pb**	**09 28 20.2**	**+0.2**
LPPC				eS	**Sb**	**09 28 24.9**	**+0.5**
CDITO	**Canoas**	**0.31**	**354**	P	**Pb**	**09 28 20.8**	**+0.1**
CDITO	**Canoas**	**0.31**	**354**	S	**Sb**	**09 28 25.9**	**+0.3**
NELY	**Ciudad Neily**	**0.40**	**345**	eP	**Pb**	**09 28 22.1**	**+0.5**
NELY				eS	**Sb**	**09 28 28.3**	**+0.2**
CSTBL	**De las Acacias**	**0.42**	**69**	eP	**Pb**	**09 28 22.9**	**+0.4**
DVD	**David**	**0.42**	**66**	eP	**Pb**	**09 28 22.9**	**+0.3**
DVD				eS	**Sb**	**09 28 28.7**	**0.0**
LOCO3	**Loma Colorada,**	**0.44**	**70**	eP	**Pb**	**09 28 23.3**	**+0.4**
LOCO3				eS	**Sb**	**09 28 29.6**	**+0.3**
LOMA3	**Las Lomas, Chi**	**0.47**	**69**	eP	**Pg**	**09 28 23.7**	**+0.7**
LOMA3				eS	**Sb**	**09 28 30.3**	**+0.1**
FITO	**Golfito**	**0.48**	**319**	eP	**Pg**	**09 28 22.8**	**-0.2**
FITO				eS	**Sg**	**09 28 29.4**	**0.0**
EDAD	**Golfito**	**0.51**	**320**	eP	**Pg**	**09 28 23.3**	**-0.2**
CLLRA	**Cordillera,**	**0.53**	**25**	eP	**Pg**	**09 28 24.3**	**+0.3**
MLIR3	**Monte Lirio, C**	**0.53**	**2**	eP	**Pb**	**09 28 24.6**	**+0.2**
MLIR3				eS	**Sb**	**09 28 32.0**	**0.0**
PTAR3	**Potrerillos Ar**	**0.55**	**38**	eP	**Pg**	**09 28 24.7**	**+0.4**
PTAR3				eS	**Sg**	**09 28 31.6**	**-0.1**
BRU2	**Volcan**	**0.55**	**15**	eP	**Pg**	**09 28 24.6**	**+0.2**
BRU2	**Volcan**	**0.55**	**15**	eP	**Pg**	**09 28 24.6**	**+0.2**
BRU2				eS	**Sb**	**09 28 32.4**	**-0.2**
BRU2	**Volcan**	**0.55**	**15**	iP	**Pg**	**09 28 24.7**	**+0.2**
BRU2				eS	**Sb**	**09 28 32.4**	**-0.2**
BRU2	**Volcan**	**0.55**	**15**	P	**Pg**	**09 28 24.6**	**+0.2**
RSRNO	**Rio Sereno**	**0.55**	**358**	eP	**Pb**	**09 28 25.1**	**+0.2**
TBS2		**0.56**	**19**	eP	**Pb**	**09 28 25.6**	**+0.6**
VITO	**San Vito**	**0.57**	**347**	eP	**Pb**	**09 28 25.2**	**+0.1**
VITO				eS	**Sb**	**09 28 33.9**	**+0.8**
SCLRA	**Santa Clara, W**	**0.57**	**6**	eP	**Pb**	**09 28 25.2**	**0.0**
BC3P	**Paso Ancho**	**0.60**	**22**	eP	**Pg**	**09 28 25.1**	**-0.2**
BC3P				eS	**Sb**	**09 28 33.8**	**-0.2**
GUAL3	**Gualaca, Chiri**	**0.60**	**63**	eP	**Pg**	**09 28 25.4**	**+0.1**
GUAL3				eS	**Sg**	**09 28 32.9**	**-0.4**
BQTLY	**Boquete Panama**	**0.62**	**37**	eP	**Pg**	**09 28 25.6**	**-0.1**
PSOM3	**Paja de Sombre**	**0.66**	**51**	eP	**Pg**

BCIP	**Isla Barro Col**	**3.10**	**73**	*eP*		**Pn**	**09 29 02.3**	**+0.5**
BCIP				*eS*		**Sn**	**09 29 37.3**	**-1.3**

*IDC **07** 09:29:57.5±1.4,7°.04S×129°.31E, h0km, mb4.0/3, mbtmp3.8/5, ML3.7/2, Error ellipse: s-maj=138.2km s-min=22.4km az=65.0*
*DJA **07** 09:30:10.7±0.4,7°.S±4°×13°.0E±°, h131km±12km, M4.6/1, MLv4.6/8, MLv4.6/1*
ISC 07 09:30:11.4±0.8, 7°.06S±0°.07×129°.91E±0°.06, h150km, n20, σ1°93/24, mb3.9/4, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.66**	**124**	P	**Pn**	**09 30 41.9**	**-0.8**
SAUI	**Saumlaki**	**1.66**	**124**	P	**Pn**	**09 30 41.8**	**-0.9**
SAUI				S	**Sn**	**09 31 05.2**	**-1.4**
FAKI	**Fak Fak**	**4.72**	**30**	P	**Pn**	**09 31 18.8**	**-2.5**
FAKI	**Fak Fak**	**4.72**	**30**	P	**Pn**	**09 31 19.0**	**-2.3**
DRS	**Darwin Rock St**	**5.43**	**170**	P	**Pn**	**09 31 29.7**	**-0.9**
MTN	**Manton Dam**	**5.88**	**168**	P	**Pn**	**09 31 36.0**	**-0.5**
KDU	**Kakadu**	**6.14**	**156**	P	**Pn**	**09 31 38.2**	**-1.8**
SOEI	**Soe**	**6.19**	**244**	P	**Pn**	**09 31 40.4**	**-0.5**
SOEI	**Soe**	**6.19**	**244**	P	**Pn**	**09 31 39.6**	**-1.3**
SOEI				S	**Sn**	**09 32 49.4**	**-1.5**
SWI	**Sorong**	**6.30**	**12**	P	**Pn**	**09 31 40.1**	**-2.1**
BATI	**Baumata**	**6.92**	**243**	P	**Pn**	**09 31 49.6**	**-1.0**
BATI				S	**Sn**	**09 33 07.0**	**-1.3**
RKPI	**Ransiki, Papua**	**6.96**	**38**	P	**Pn**	**09 31 49.7**	**-1.3**
EDFI	**Ende, Flores**	**8.32**	**258**	P	**Pn**	**09 32 08.7**	**-0.5**
BAKI	**Biak**	**8.49**	**47**	P	**Pn**	**09 32 12.8**	**+1.3**
BAKI				S	**Sn**	**09 33 43.5**	**-2.5**
WRA	**Warramunga Arr**	**13.51**	**162**	Pn	**Pn**	**09 33 14.1**	**-3.1**
	0.4nm,0.3s,baz=341,slow=14,SNR=21						
WRA				Sn	Sn	09 35 36.0	-11
	1.0nm,0.3s,baz=338,slow=23,SNR=13						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**16.95**	**167**	P	**Pn**	**09 33 59.9**	**0.0**
	0.3nm,0.3s,baz=338,slow=9.2,SNR=20						
ASAR				S	S	09 36 56.7	-12
	1.2nm,0.6s,baz=352,slow=25,SNR=6.2						
	0.9nm,0.7s						
STKA	**Stephens Creek**	**27.00**	**158**	P	**P**	**09 35 42.6**	**+3.2**
	1.6nm,1.0s,baz=347,slow=9.9,SNR=4.1						
	1.6nm,1.0s						
BNX	**BinXian**	**52.60**	**358**	⇓P	**P**	**09 39 12.6**	**+2.9**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MKAR	**Makanchi Array**	**68.22**	**327**	P	**P**	**09 40 58.5**	**+2.7**
	comp=Z,1.5nm,0.5s,baz=124,slow=8.0,SNR=12						
	comp=Z,1.5nm,0.5s						
KURBB	**Kurchatov Arra**	**72.51**	**329**	P	**P**	**09 41 23.6**	**+1.8**
	comp=Z,0.8nm,0.5s,baz=132,slow=4.9,SNR=8.1						
	comp=Z,0.8nm,0.5s						

*IDC **07** 09:31:45.3±1.3,29°.96N×142°.78E, h0km, mb3.7/8, mbtmp3.7/10, ML3.3/2, Error ellipse: s-maj=47.6km s-min=20.5km az=76.0*
*JMA **07** 09:31:50.8±0.6,31°.N±3°×14°.3E±°, h58km, MV3.9/18, FAR E OFF IZU ISLANDS*
ISC 07 09:31:54.0±1.5, 30°.7N±0°.2×143°.1E±0°.2, h45km, n14, σ1°11/14, mb3.8/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**5.68**	**324**	*eP*	**Pn**	**09 33 15.8**	**0.0**
JHO	**Hitachi**	**6.27**	**341**	*eP*	**Pn**	**09 33 23.9**	**+0.1**
JHO				*eS*	**Sn**	**09 34 35.2**	**+1.1**
JRY	**Ryogami san**	**6.37**	**327**	*eP*	**Pn**	**09 33 25.6**	**+0.4**
JAG	**Ashikaga**	**6.48**	**333**	*eP*	**Pn**	**09 33 26.8**	**0.0**
JAG				*eS*	**Sn**	**09 34 40.7**	**+1.3**
MJAR	**Matsushiro Arr**	**7.12**	**326**	Pn	**Pn**	**09 33 35.2**	**-0.4**
	0.2nm,0.3s,baz=157,slow=12,SNR=11						
MJAR				Sn	**Sn**	**09 34 54.8**	**-0.4**
	0.1nm,0.3s,baz=143,slow=24,SNR=4.3						
	2.8nm,0.6s						
ASAJ	**Asahikawa**	**13.40**	**358**	Pn	**P**	**09 35 07.8**	**-2.0**
	0.4nm,0.3s,baz=168,slow=12,SNR=4.2						
	1.3nm,0.5s						
KLR	**Kul'dur**	**20.41**	**338**	P	Pn	09 36 31.6	+2.1
	0.8nm,0.5s,baz=136,slow=5.5,SNR=4.1						
	0.8nm,0.5s						
SONM	**Songino Array**	**32.81**	**312**	P	**P**	**09 38 24.6**	**+1.5**
	0.5nm,0.3s,baz=111,slow=7.9,SNR=3.9						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**48.89**	**307**	P	**P**	**09 40 34.2**	**-1.1**
	0.9nm,0.7s,baz=94,slow=7.6,SNR=7.0						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**51.06**	**191**	P	P	09 40 42.9	-8.9
	0.9nm,0.6s,baz=9.0,slow=8.0,SNR=5.4						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**51.17**	**312**	P	**P**	**09 40 51.3**	**-1.1**
	0.5nm,0.5s,baz=91,slow=9.8,SNR=6.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**54.78**	**190**	P	P	09 41 12.1	-7.2
	0.2nm,0.4s,baz=5.4,slow=5.4,SNR=2.0						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**75.09**	**334**	P	**P**	**09 43 30.9**	**+0.1**
	1.9nm,1.0s,baz=35,slow=5.1,SNR=2.0						
	1.9nm,1.0s						
TXAR	**Lajitas Array**	**92.79**	**53**	P	**P**	**09 45 03.3**	**+1.2**
	0.3nm,0.9s,baz=328,slow=2.1,SNR=3.6						
	0.3nm,0.9s						

*IDC **07** 09:33:44.2±4.9, 36°.45N×71°.05E, h188km±42km, mb3.5/8, mbtmp4.0/14, Error ellipse: s-maj=39.2km s-min=15.5km az=35.0*
*NEIC **07** 09:33:44.9±1.9, 36°.55N±0°.07×70°.85E±0°.07, h194km±9km, mb4.1/6, Error ellipse: s-maj=10.9km s-min=8.5km az=167.0*
*NNC **07** 09:33:48.6±7.3, 37°.13N×70°.96E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=58.0km s-min=54.8km az=141.0*
ISC 07 09:33:44.5±0.7, 36°.57N±0°.06×71°.04E±0°.07, h188km, n59, σ1°68/67, mb3.8/12, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.50**	**347**		**Pn**	**09 34 28.6**	**+0.9**
KBL	**Kabul**	**2.60**	**219**		**Pn**	**09 34 28.5**	**-0.5**
DRK	**Karamyk**	**2.97**	**11**		**Pn**	**09 34 35.2**	**+1.7**
NIL	**Nilore**	**3.43**	**147**		**Pn**	**09 34 40.6**	**+1.8**
BTK	**Batken**	**3.49**	**357**		**Pn**	**09 34 41.1**	**+1.5**
KSH	**Kashi**	**4.88**	**51**	Pn	**Pn**	**09 34 55.3**	**-1.9**
KSH				Sn	**Sn**	**09 35 47.8**	**-6.5**
KSH				smax	smax		
	comp=N,100nm,0.5s						
KSH				smax	smax		
	comp=E,65nm,0.5s						
ARSB	**Arslanbob**	**4.98**	**17**		**Pn**	**09 34 59.3**	**+0.8**
JMU	**Jammu**	**4.99**	**139**	*eP*	**Pn**	**09 34 58.5**	**0.0**
JMU				*eS*	**Sn**	**09 35 53.4**	**-3.2**
JMU				IAML		09 35 57.2	
	comp=E,120nm,0.2s						
JMU				IAML		09 36 07.5	
	comp=E,148nm,0.5s						
THN	**Thein Dam**	**5.65**	**136**	*eP*	**Pn**	**09 35 07.7**	**+0.7**
THN				*eS*	**Sn**	**09 36 11.4**	**-0.6**
THN				IAML		09 36 14.5	
	comp=E,74nm,0.2s						
THN				IAML		09 36 29.0	
	comp=E,65nm,0.3s						
AML	**Almayashu**	**5.92**	**19**	P	**Pn**	**09 35 12.2**	**+1.2**
	SNR=67						
DHRM	**DHARAMSHALA**	**6.12**	**133**	*eP*	**Pn**	**09 35 14.3**	**+0.9**
DHRM				*eS*	**Sn**	**09 36 21.4**	**-2.0**
DHRM				IAML		09 36 25.4	
	comp=E,127nm,0.4s						
DHRM				IAML		09 36 26.3	
	comp=E,219nm,0.5s						
NRN	**Naryn**	**6.20**	**37**	Pn	**Pn**	**09 35 15.1**	**+0.6**
UCH	**Uchtor**	**6.26**	**24**	P	**Pn**	**09 35 16.6**	**+1.3**
	SNR=26						
EKS2	**Erkin-Say**	**6.44**	**18**	P	**Pn**	**09 35 18.7**	**+1.3**
	SNR=17						
KK31	**Karatay Array**	**6.54**	**357**		**Pn**	**09 35 18.6**	**0.0**
KK31	**Karatay Array**	**6.54**	**357**	⇓Pn	**Pn**	**09 35 18.8**	**+0.2**
	comp=E,5.7nm,0.3s,baz=185,slow=12,SNR=140						
KK31				⇑Sn	**Sn**	**09 36 28.0**	**-5.0**
	comp=E,16nm,0.4s,baz=193,slow=17,SNR=18						
KKAR	**Karatay Array**	**6.54**	**357**		**Pn**	**09 35 18.8**	**+0.2**
KKAR	**Karatay Array**	**6.54**	**357**		**Pn**	**09 35 18.7**	**+0.1**
AAK	**Ala-Archa**	**6.62**	**23**	P	**Pn**	**09 35 21.4**	**+1.6**
	SNR=7.7						
AAK	**Ala-Archa**	**6.62**	**23**		**Pn**	**09 35 21.0**	**+1.2**
AAK	**Ala-Archa**	**6.62**	**23**	⇑Pn	**Pn**	**09 35 21.0**	**+1.2**
	comp=E,1.8nm,0.4s						
AAK				⇑Sn	**Sn**	**09 36 34.9**	**-0.3**
	comp=E,14nm,0.9s						
AAK	**Ala-Archa**	**6.62**	**23**	P	**Pn**	**09 35 21.4**	**+1.6**
	comp=E,9.2nm,0.3s,baz=170,slow=5.5,SNR=14						
AAK				S	**Sn**	**09 36 35.8**	**+0.7**
	comp=E,13nm,0.6s,baz=321,slow=23,SNR=16						
BOOM	**Boomskoye usch**	**7.02**	**31**	Pn	**Pn**	**09 35 25.9**	**+0.9**
USP	**Ospenovka**	**7.20**	**21**	P	**Pn**	**09 35 28.2**	**+1.0**
	SNR=6.0						
TKM2	**Tokmak 2**	**7.25**	**28**	P	**Pn**	**09 35 29.5**	**+1.5**
	SNR=27						
TKM2	**Tokmak 2**	**7.25**	**28**	⇓Pn	**Pn**	**09 35 28.7**	**+0.7**
	comp=E,14nm,0.5s						
TKM2				⇓Sn	**Sn**	**09 36 46.8**	**-3.3**
	comp=E,3.6nm,0.7s						
SMLA	**Simla**	**7.44**	**135**	*eP*	**Pn**	**09 35 30.5**	**+0.1**
SMLA				*eS*	**Sn**	**09 36 50.6**	**-3.8**
HNLY	**HANLEY**	**7.54**	**118**	IAML		09 37 00.5	
	comp=E,45nm,0.8s						
HNLY				IAML		09 37 11.4	
	comp=E,76nm,0.6s						
KUDL	**Kundal**	**9.58**	**150**	*eP*	**Pn**	**09 35 57.1**	**-1.3**
KUDL				*eS*	Sn	09 37 36.5	-8.8
MAKZ	**Makanchi**	**13.08**	**35**	P	**Pn**	**09 36 46.1**	**-0.6**
MKAR	**Makanchi Array**	**13.21**	**36**	Pn	**Pn**	**09 36 46.0**	**+1.1**
MKAR	**Makanchi Array**	**13.21**	**36**	P	**Pn**	**09 36 47.1**	**+2.1**
	comp=E,1.2nm,0.8s,baz=210,slow=6.8,SNR=9.5						
WMQ	**Urumqi**	**14.63**	**55**	*eP*	**P**	**09 37 06.0**	**+2.0**
AB31	**Akbulak array**	**15.04**	**331**	P	**Pn**	**09 37 06.3**	**-1.3**
ABKAR	**Akbulak array**	**15.04**	**331**		**Pn**	**09 37 06.0**	**-1.6**
ABKAR	**Akbulak array**	**15.04**	**331**	P	**Pn**	**09 37 06.0**	**-1.6**
KURBB	**Kurchatov Arra**	**15.05**	**19**	P	**P**	**09 37 09.7**	**+1.2**
	comp=E,0.3nm,0.4s,baz=210,slow=11,SNR=4.8						
EVN	**Everest**	**15.85**	**118**	P	**P**	**09 37 17.9**	**-0.4**
EVN				IAmb	IAmb	09 37 22.8	
	comp=Z,6.7nm,0.4s						
BVAR	**Bovoye Array**	**16.46**	**359**	P	**P**	**09 37 24.9**	**+0.8**
	comp=Z,1.7nm,0.5s						
AKTO	**Aktyubinsk**	**16.74**	**330**	P	**Pn**	**09 37 28.6**	**+0.5**
	comp=Z,3.8nm,0.5s,baz=142,slow=8.6,SNR=11						
ZALV	**Zalesovo Beam**	**19.84**	**25**	P	**P**	**09 38 01.2**	**+0.5**
ZALV	**Zalesovo Beam**	**19.84**	**25**	P	**P**	**09 38 01.7**	**+0.9**
	comp=Z,1.7nm,0.3s,baz=233,slow=11,SNR=8.8						
PZH	**PanZhiHua**	**27.92**	**102**	P	**P**	**09 39 19.8**	**+2.5**
HHC	**Hu-ho-hao-te**	**31.71**	**70**	*eP*	**P**	**09 39 52.5**	**+1.9**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,98nm,4.6s						
AKASG	**Malin Array Be**	**32.93**	**309**	P	**P**	**09 39 59.8**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=82,slow=7.5,SNR=4.5						
	comp=Z,0.4nm,0.4s						
FIA1	**FINESS Array S**	**37.45**	**326**	P	**P**	**09 40 39.6**	**+0.3**
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**09 40 39.5**	**+0.1**
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**09 40 40.1**	**+0.7**
	comp=Z,6.1nm,1.2s,baz=115,slow=9.0,SNR=5.9						
	comp=Z,6.1nm,1.2s						
ARCES	**ARCESS Array B**	**41.10**	**338**	P	**P**	**09 41 10.2**	**+0.8**
	comp=Z,3.7nm,0.9s,baz=101,slow=6.3,SNR=6.0						
	comp=Z,3.7nm,0.9s						
HFS	**Hagfors**	**43.04**	**322**	P	**P**	**09 41 25.7**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=93,slow=12,SNR=5.8						
	comp=Z,1.1nm,0.6s						
NB2	**NORSAR Subarra**	**44.35**	**323**	P	**P**	**09 41 35.9**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.35**	**323**	P	**P**	**09 41 36.3**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=104,slow=7.3,SNR=3.9						
	comp=Z,0.5nm,0.3s						
E22K	**Anaktuvuk Pass**	**70.80**	**16**	P	**P**	**09 44 40.7**	**+0.6**
E22K				IAmb	IAmb	09 44 53.5	
	comp=Z,5.2nm,1.5s						
TOLK	**Toolik Lake Re**	**70.85**	**15**	P	**P**	**09 44 41.1**	**+0.7**
TOLK				IAmb	IAmb	09 44 42.3	
	comp=Z,2.0nm,0.5s						
COLD	**Coldfoot**	**71.90**	**16**	P	**P**	**09 44 45.8**	**-0.9**
COLD				IAmb	IAmb	09 45 26.0	
	comp=Z,2.5nm,1.3s						
L16K	**Owhat River**	**73.88**	**23**	P	**P**	**09 44 59.8**	**+1.5**
YKA	**Yellowknife Ar**	**81.18**	**3**	P	**P**	**09 45 38.5**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=327,slow=10,SNR=7.2						
	comp=Z,0.9nm,0.7s						
WRA	**Warramunga Arr**	**82.00**	**122**	P	**P**	**09 45 42.8**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=324,slow=4.9,SNR=21						
	comp=Z,0.9nm,0.5s						
ASAR	**Alice Springs**	**84.26**	**125**	P	**P**	**09 45 54.6**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=310,slow=5.1,SNR=20						
	comp=Z,1.2nm,0.6s						

*NEIC **07** 09:41:22.4±2.5, 35°.752N±0°.009×117°.54W±0°.01, h10km±1km, Error ellipse: s-maj=2.9km s-min=1.6km az=249.0*
PAS 07 09:41:23.0±2.2, 35°.747N±0°.010×117°.55W±0°.01, h8km±7km, Mwr3.5/4, ML3.3/112(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=220.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.08**	**329**		Sg	09 41 27.5	+0.6
CLC	**China Lake**	**0.08**	**329**	Pg	Pg	09 41 25.4	+0.1
CLC				IAML		09 41 27.6	
	comp=N,45μm,0.3s						
CLC				IAML		09 41 27.6	
	comp=E,35μm,0.3s						
SRTC	**Snort**	**0.17**	**252**		Pg	09 41 27.1	+0.4
SRTC					Sg	09 41 30.7	+1.5
TOW	**Tower One**	**0.19**	**289**		Pg	09 41 27.4	+0.4
CCCA	**Chr Cany lake**	**0.27**	**146**		Pg	09 41 28.7	+0.3
CCCA	**Chr Cany lake**	**0.27**	**146**	IAML		09 41 33.5	
	comp=E,18μm,0.4s						
CCCA				IAML		09 41 33.6	
	comp=N,39μm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.29**	**203**		Pg	09 41 28.6	-0.2
WVPM	**Volcano Peak E**	**0.30**	**313**		Pg	09 41 28.9	-0.2
WVPM					Sg	09 41 33.5	+0.5
WNMM	**Nine Mile Cany**	**0.31**	**288**		Pg	09 41 28.9	-0.2
WNMM					Sg	09 41 33.8	+0.6
MPMC	**Manual Prospec**	**0.31**	**8**		Pg	09 41 29.0	-0.4
MPMC				IAML		09 41 35.4	
	comp=E,4μm,0.5s						
MFS	**McCloud Flat S**	**0.45**	**326**		Pg	09 41 31.5	-0.3
MFS					Sg	09 41 37.7	0.0
DTP	**Desert Tortois**	**0.54**	**207**		Pg	09 41 32.9	-0.6
DTP					Sg	09 41 40.5	0.0
WORM	**Onyx Ranch**	**0.57**	**265**		Pg	09 41 33.4	-0.7
WORM					Sg	09 41 41.4	-0.2
QSM	**Queen of Sheba**	**0.59**	**68**		Sg	09 41 42.2	0.0
QSM	**Queen of Sheba**	**0.59**	**68**		Pg	09 41 33.9	-0.6
QSM				IAML		09 41 42.6	
	comp=E,3μm,0.4s						
QSM				IAML		09 41 44.1	
	comp=N,3μm,0.3s						
CCAC	**Calif City Air**	**0.71**	**213**		Pg	09 41 36.1	-0.5
CCAC					Sg	09 41 45.9	0.0
GSC	**Goldstone, Bar**	**0.75**	**126**		Sg	09 41 47.2	-0.1
GSC	**Goldstone, Bar**	**0.75**	**126**		Pg	09 41 36.8	-0.7
ISA	**Isabella, Lake**	**0.76**	**264**		Pg	09 41 36.7	-1.0
ISA				IAML		09 41 50.0	
	comp=N,2μm,0.2s						
ISA				IAML		09 41 50.1	
	comp=E,1μm,0.5s						
CWC	**Cottonwood Cre**	**0.82**	**328**		Sg	09 41 49.3	-0.1
CWC	**Cottonwood Cre**	**0.82**	**328**		Pg	09 41 38.0	-0.8
CWC				IAML		09 41 51.7	
	comp=N,2μm,0.2s						
CWC				IAML		09 41 51.8	
	comp=E,1μm,0.2s						
WASM	**Alta Sierra Ca**	**0.82**	**270**		Pg	09 41 38.1	-0.8
WASM					Sg	09 41 50.2	+0.6
CGO	**Cerro Gordo**	**0.83**	**346**		Pg	09 41 38.2	-0.9
GWY	**Greenwater Val**	**0.84**	**58**		Pg	09 41 38.5	-0.6
GWY					Sg	09 41 49.9	-0.2
GWY	**Greenwater Val**	**0.84**	**58**	IAML		09 41 52.7	
	comp=N,2μm,0.3s						
GWY				IAML		09 41 53.1	
	comp=E,2μm,0.3s						
HYS	**Haystack Butte**	**0.88**	**181**		Pg	09 41 39.1	-0.9
FURC	**Furnace Creek,**	**0.91**	**37**		Sg	09 41 52.3	+0.1
EDW2	**Edwards Air Fo**	**0.94**	**203**		Pg	09 41 40.0	-1.0
RRX	**Edison Barstow**	**0.98**	**153**		Pg	09 41 41.1	-0.7
TPO	**Tropico Hills**	**1.03**	**213**		Pg	09 41 42.0	-0.9
TPO					Sg	09 41 55.9	-0.3
SHOC	**Shoshone, Teco**	**1.04**	**81**		Pg	09 41 42.6	-0.5
TEJ	**El Tejon**	**1.07**	**241**		Pg	09 41 41.9	-1.6
TEJ					Sg	09 41 57.0	-0.4
SBB	**Saddle Back Bu**	**1.08**	**192**		Pg	09 41 42.5	-1.2
SBB					Sg	09 41 57.9	+0.1
SPG2	**Springville 2**	**1.09**	**295**		Pg	09 41 42.7	-1.3
SPG2					Sg	09 41 57.1	-1.0
MAGC	**SCE Magundon P**	**1.19**	**252**		Pb	09 41 44.9	-0.8
ADO	**Adelanto Recei**	**1.20**	**176**		Pb	09 41 45.7	-0.3
VTV	**Victorville**	**1.20**	**171**		Pb	09 41 45.4	-0.6
VTV					Sb	09 42 01.9	+0.3
TJR	**Tejon Ranch**	**1.21**	**234**		Pb	09 41 44.7	-1.5
THC	**Tehachapi Micr**	**1.24**	**228**		Pb	09 41 45.2	-1.5
AMDNV	**Amargosa**	**1.24**	**55**		Pn	09 41 44.7	-1.9
VES	**Vestal, Richgr**	**1.25**	**275**		Pn	09 41 45.8	-1.1
GRAC	**Grapevine Rang**	**1.25**	**7**		Pn	09 41 45.5	-1.4
GRAC				IAML		09 42 06.4	
	comp=E,760nm,0.5s						
GRAC				IAML		09 42 09.9	
	comp=N,608nm,0.9s						
LEOC	**Leona Valley**	**1.27**	**209**		Pn	09 41 45.5	-1.7
LRRC	**Littlerock Res**	**1.28**	**198**		Pn	09 41 46.5	-0.6
WCT	**Wildcat Mounta**	**1.28**	**35**		Pn	09 41 46.6	-0.7
WCT				IAML		09 42 05.4	
	comp=E,988nm,0.5s						
WCT				IAML		09 42 06.5	
	comp=N,752nm,0.4s						
SGV	**South Grapevin**	**1.30**	**18**		Pn	09 41 46.2	-1.4
CJV	**Casa Juvan**	**1.31**	**202**		Pn	09 41 47.3	-0.4
HOLC	**Holcomb Ridge**	**1.31**	**191**		Pn	09 41 45.9	-1.8
DSCC	**Desert Studies**	**1.32**	**117**		Pn	09 41 45.5	-2.3
BAKC	**Calstate**	**1.33**	**253**		Pn	09 41 47.4	-0.5
JNH	**Juniper Hills**	**1.34**	**195**		Pn	09 41 46.4	-1.7
TUQ	**Turquoise Moun**	**1.36**	**103**		Pn	09 41 46.3	-2.1
TIN	**Tinemaha, Big**	**1.42**	**337**		Pn	09 41 49.3	+0.1
CHFC	**Chilao Flat St**	**1.46**	**196**		Pn	09 41 49.8	-0.1
LCH	**Last Change Ra**	**1.48**	**357**		Pn	09 41 49.0	-1.2
OSI	**Osito Audit: C**	**1.48**	**221**		Pn	09 41 49.6	-0.4
OSI				IAML		09 42 12.7	
	comp=N,739nm,0.8s						
OSI				IAML		09 42 13.2	
	comp=E,667nm,0.5s						
SIL	**Silver Peak**	**1.52**	**157**		Pn	09 41 50.7	+0.1
SSK	**Sunset Peak**	**1.54**	**185**		Pn	09 41 49.6	-1.3
BBRC	**Big Bear Solar**	**1.57**	**161**		Pn	09 41 51.4	0.0
GMN	**Gold Mountain**	**1.57**	**8**		Pn	09 41 50.2	-1.2
MWC	**Mount Wilson**	**1.58**	**196**		Pn	09 41 50.4	-1.0
MWC				IAML		09 42 16.0	
	comp=E,710nm,0.5s						
TPNV	**Topopah Spring**	**1.59**	**41**		Pn	09 41 50.3	-1.4
TPNV				IAML		09 42 16.9	
	comp=E,717nm,0.5s						
VOG	**Valley Oaks Go**	**1.59**	**292**		Pn	09 41 51.9	+0.4
DECC	**Green Verdugo**	**1.62**	**204**		Pn	09 41 51.0	-0.9
MTPC	**Mountain Pass**	**1.65**	**99**		Pn	09 41 50.4	-2.0
MTPC	**Mountain Pass**	**1.65**	**99**	IAML		09 42 15.1	
	comp=E,315nm,0.3s						
MTPC				IAML		09 42 16.6	
	comp=N,334nm,0.3s						
DSP	**Deep Springs**	**1.66**	**348**		Pn	09 41 51.4	-0.9
PASC	**Pasadena Art C**	**1.66**	**199**		Pn	09 41 51.1	-1.2
PASC				IAML		09 42 19.2	
	comp=E,569nm,0.6s						
PASC				IAML		09 42 20.2	
	comp=N,356nm,0.5s						
PSRC	**Puddingstone R**	**1.67**	**187**		Pg	09 41 54.5	-0.5
SVD	**Seven Oaks Dam**	**1.68**	**167**		Pb	09 41 53.9	-0.3
POCCA	**Poleta Canyon**	**1.72**	**340**		Pb	09 41 54.5	-0.5
BCW	**Bitter Crk WRg**	**1.73**	**243**		Pb	09 41 54.6	-0.4
BHPR	**Bishop**	**1.73**	**334**		Pb	09 41 54.9	-0.2
GR2C	**Griffith Obs.**	**1.74**	**201**		Pb	09 41 55.8	+0.6
GTM	**Goat Mountain**	**1.75**	**146**		Pb	09 41 55.3	-0.1
GVRC	**Garvey Reservo**	**1.76**	**196**		Pb	09 41 55.7	+0.2
BLCC	**Black Canyon**	**1.76**	**212**		Pn	09 41 52.9	-1.0
DJJ	**Donna J Jenkin**	**1.80**	**205**		Pb	09 41 56.7	+0.5
MTUM	**Tungsten Hills**	**1.80**	**333**		Pb	09 41 56.1	-0.2
GMRC	**Granite Mounta**	**1.82**	**121**		Pn	09 41 52.1	-2.6
CRGC	**Crocker Grade**	**1.85**	**255**		Pb	09 41 56.5	-0.6
BLAC	**Blackrock camp**	**1.93**	**150**		Pn	09 41 54.9	-1.3
MZP	**Montezuma Peak**	**1.95**	**4**		Pn	09 41 55.8	-0.9
EW2	**E Wide Canyon**	**2.03**	**152**		Pn	09 41 56.3	-1.2
PKM	**Mcpherson Peak**	**2.04**	**246**		Pb	09 41 59.6	-0.8
TPC	**Twentynine Pal**	**2.05**	**143**		Pn	09 41 56.3	-1.5
SHPR	**Sheep Range**	**2.08**	**68**		Pn	09 41 57.0	-1.2
SHPR				IAML		09 42 30.3	
	comp=N,145nm,0.7s						
SHPR	

SPR3 IAML 09 43 41.8
comp=N,24nm,1.0s
SPR3 IAML 09 43 45.1
comp=E,26nm,1.9s
PAHR Pah Rah Range 4.21 340 Pn 09 42 27.6 -0.1
X16A Lo Mia Camp, P 5.18 103 Pn 09 42 40.4 -0.6
X16A IAML 09 44 12.6
comp=E,9.4nm,0.6s
X16A IAML 09 44 19.9
comp=N,10nm,1.3s
X18A Snowflake 6.34 99 Pn Pn 09 42 56.5 -0.4
W18A Petrified Fore 6.41 93 Pn Pn 09 42 56.9 -1.0

*NEIC **07** 09:46:49.4±1.7,35˚.682N±0˚.008×117˚.50W±0˚.01, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.5km az=177.0*
PAS 07 09:46:49.8±1.4,35˚.671N±0˚.008×117˚.513W±0˚.009, h3km±2km, ML3.0/22, ML2.6/114(NEIC), Error ellipse: s-maj=1.1km s-min=1.0km az=202.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.16**	**335**		Pg	09 46 53.1	+0.1
CLC					Sg	09 46 55.6	+0.6
CLC	**China Lake**	**0.16**	**335**	IAML		09 46 55.8	
	comp=N,3µm,0.3s						
CLC				IAML		09 46 55.8	
	comp=E,2µm,0.4s						
CCCA	**Chr Cany lake**	**0.19**	**140**		Pg	09 46 54.1	+0.7
CCCA					Sg	09 46 57.5	+1.6
CCCA	**Chr Cany lake**	**0.19**	**140**	IAML		09 46 57.6	
	comp=E,6µm,0.4s						
CCCA				IAML		09 46 58.0	
	comp=N,7µm,0.4s						
SRTC	**Snort**	**0.19**	**276**		Pg	09 46 54.1	+0.5
LRMC	**Laurel Mtn Rad**	**0.23**	**216**		Pg	09 46 54.4	+0.1
TOW	**Tower One**	**0.25**	**304**		Sg	09 46 59.7	+2.0
WNMM	**Nine Mile Cany**	**0.36**	**298**		Pg	09 46 56.9	+0.2
WVPM	**Volcano Peak E**	**0.37**	**318**		Pg	09 46 57.1	+0.1
MPMC	**Manual Prospec**	**0.39**	**3**		Pg	09 46 57.2	-0.1
MPMC					Sg	09 47 02.8	+0.4
MPMC	**Manual Prospec**	**0.39**	**3**	IAML		09 47 03.1	
	comp=N,494nm,0.4s						
MPMC				IAML		09 47 03.3	
	comp=E,480nm,0.3s						
WRVM	**Rose V. Centra**	**0.46**	**318**		Pg	09 46 58.5	0.0
DTP	**Desert Tortois**	**0.48**	**214**		Pg	09 46 58.9	-0.2
DTP					Sg	09 47 05.6	+0.2
MFS	**McCloud Flat S**	**0.53**	**328**		Pg	09 46 59.8	-0.1
MFS					Sg	09 47 07.3	+0.6
WBSM	**Bird Springs**	**0.53**	**256**		Sg	09 47 07.0	+0.3
WORM	**Onyx Ranch**	**0.59**	**273**		Pg	09 47 00.9	-0.3
WORM					Sg	09 47 08.8	-0.1
QSM	**Queen of Sheba**	**0.60**	**61**		Pg	09 47 01.1	-0.2
QSM	**Queen of Sheba**	**0.60**	**61**		Sg	09 47 09.4	+0.3
CCAC	**Calif City Air**	**0.66**	**219**		Pg	09 47 02.4	-0.1
CCAC					Sg	09 47 11.5	+0.5
GSC	**Goldstone, Bar**	**0.68**	**122**		Pg	09 47 02.3	-0.6
GSC	**Goldstone, Bar**	**0.68**	**122**		Sg	09 47 12.1	+0.3
ISA	**Isabella, Lake**	**0.78**	**270**		Pg	09 47 04.2	-0.6
ISA				IAML		09 47 15.4	
	comp=N,215nm,0.3s						
ISA				IAML		09 47 15.6	
	comp=E,302nm,0.3s						
ISA	**Isabella, Lake**	**0.78**	**270**		Sg	09 47 15.0	0.0
HYS	**Haystack Butte**	**0.81**	**183**		Pg	09 47 04.7	-0.5
WASM	**Alta Sierra Ca**	**0.85**	**275**		Pg	09 47 05.7	-0.4
WASM					Sg	09 47 17.3	+0.1
GWY	**Greenwater Val**	**0.86**	**53**		Pg	09 47 05.7	-0.5
GWY				IAML		09 47 20.1	
	comp=N,326nm,0.6s						
GWY				IAML		09 47 21.2	
	comp=E,345nm,0.4s						
GWY	**Greenwater Val**	**0.86**	**53**		Sg	09 47 17.1	-0.2
EDW2	**Edwards Air Fo**	**0.88**	**207**		Pg	09 47 06.0	-0.7
CWC	**Cottonwood Cre**	**0.90**	**329**		Pg	09 47 06.3	-0.6
CWC				IAML		09 47 19.3	
	comp=E,132nm,0.3s						
CWC				IAML		09 47 20.3	
	comp=N,173nm,0.2s						
RRX	**Edison Barstow**	**0.90**	**152**		Pg	09 47 06.7	-0.3
RRX					Sb	09 47 19.8	-0.6
CGO	**Cerro Gordo**	**0.91**	**345**		Pg	09 47 06.9	-0.3
TPO	**Tropico Hills**	**0.98**	**217**		Pg	09 47 08.2	-0.4
SBB	**Saddle Back Bu**	**1.01**	**195**		Pg	09 47 08.4	-0.8
SHOC	**Shoshone, Teco**	**1.03**	**77**		Pg	09 47 09.2	-0.4
SHOC					Sb	09 47 23.9	-0.3
TEJ	**El Tejon**	**1.06**	**246**		Pg	09 47 08.9	-1.2
VTV	**Victorville**	**1.12**	**172**		Pg	09 47 11.3	+0.1
VTV					Sb	09 47 26.9	+0.2
SPG2	**Springville 2**	**1.15**	**298**		Pg	09 47 10.9	-0.9
ALPC	**Antelope**	**1.17**	**214**		Sb	09 47 28.5	+0.2
ARVC	**Arvin**	**1.21**	**244**		Pg	09 47 11.9	-1.0
THC	**Tehachapi Micr**	**1.21**	**231**		Pg	09 47 12.0	-1.0
LRRC	**Littlerock Res**	**1.22**	**200**		Pg	09 47 12.5	-0.6
LRRC					Sb	09 47 29.6	+0.2
LEOC	**Leona Valley**	**1.22**	**212**		Pg	09 47 13.2	0.0
HOLC	**Holcomb Ridge**	**1.24**	**193**		Pg	09 47 12.4	-1.1
CJV	**Casa Juvan**	**1.25**	**205**		Pg	09 47 13.5	-0.2
CJV					Sb	09 47 30.4	-0.1
DSCC	**Desert Studies**	**1.27**	**114**		Pg	09 47 12.8	-1.2
DSCC					Sg	09 47 29.9	-0.6
AMDNV	**Amargosa**	**1.27**	**52**		Pg	09 47 12.6	-1.5
AMDNV					Sg	09 47 30.6	+0.1
JNH	**Juniper Hills**	**1.27**	**197**		Pg	09 47 13.1	-1.0
JNH					Sb	09 47 31.4	+0.2
HEC	**Hector,Ludlow**	**1.28**	**131**		Sg	09 47 30.6	-0.2
VES	**Vestal, Richgr**	**1.29**	**278**		Sg	09 47 31.0	-0.2
TUQ	**Turquoise Moun**	**1.32**	**100**		Pg	09 47 13.7	-1.3
GRAC	**Grapevine Rang**	**1.33**	**5**		Pn	09 47 13.9	-1.4
GRAC				IAML		09 47 37.9	
	comp=E,156nm,0.6s						
GRAC				IAML		09 47 40.7	
	comp=N,134nm,0.7s						
WCT	**Wildcat Mounta**	**1.33**	**32**		Pg	09 47 14.0	-1.3
WCT				IAML		09 47 33.7	
	comp=N,69nm,0.9s						
WCT				IAML		09 47 34.7	
	comp=E,94nm,0.5s						
SGV	**South Grapevin**	**1.36**	**16**		Pn	09 47 15.5	-0.3
SGV					Sb	09 47 33.8	-0.1
CHFC	**Chilao Flat St**	**1.40**	**198**		Pn	09 47 14.9	-1.4
CHFC					Sg	09 47 34.6	-0.1
BFSC	**Mount Baldy Ra**	**1.43**	**185**		Pn	09 47 15.4	-1.3
BFSC				IAML		09 47 39.7	
	comp=E,69nm,0.4s						
BFSC				IAML		09 47 41.6	
	comp=N,61nm,0.6s						
SIL	**Silver Peak**	**1.44**	**157**		Pn	09 47 16.4	-0.4
OSI	**Osito Audit: C**	**1.45**	**224**		Pn	09 47 16.2	-0.7
OSI				IAML		09 47 39.8	
	comp=E,134nm,0.8s						
OSI				IAML		09 47 40.4	
	comp=N,154nm,0.8s						
OSI	**Osito Audit: C**	**1.45**	**224**		Sn	09 47 36.5	+0.1
SSK	**Sunset Peak**	**1.46**	**186**		Pn	09 47 16.7	-0.5
BBRC	**Big Bear Solar**	**1.49**	**161**		Pn	09 47 17.4	-0.1
MWC	**Mount Wilson**	**1.51**	**197**		Pn	09 47 16.7	-1.2
LCH	**Last Change Ra**	**1.56**	**356**		Pn	09 47 18.1	-0.5
PSRC	**Puddingstone R**	**1.59**	**189**		Pn	09 47 18.3	-0.5
PASC	**Pasadena Art C**	**1.59**	**200**		Pn	09 47 17.2	-1.6
PASC				IAML		09 47 43.0	
	comp=E,85nm,0.4s						
PASC				IAML		09 47 44.1	
	comp=N,71nm,0.5s						
SVD	**Seven Oaks Dam**	**1.60**	**168**		Pb	09 47 19.6	-0.4
MTPC	**Mountain Pass**	**1.61**	**96**		Pn	09 47 17.5	-1.7
MTPC	**Mountain Pass**	**1.61**	**96**	IAML		09 47 41.3	
	comp=E,75nm,0.3s						
MTPC				IAML		09 47 42.9	
	comp=N,66nm,0.2s						
TPNV	**Topopah Spring**	**1.63**	**38**		Pn	09 47 17.9	-1.6
TPNV				IAML		09 47 43.8	
	comp=N,48nm,0.3s						
TPNV				IAML		09 47 45.2	
	comp=N,64nm,0.4s						
GMN	**Gold Mountain**	**1.64**	**7**		Pn	09 47 18.8	-0.9
GTM	**Goat Mountain**	**1.67**	**145**		Pb	09 47 21.3	+0.1
DSP	**Deep Springs**	**1.73**	**348**		Pn	09 47 20.1	-0.6
GMRC	**Granite Mounta**	**1.76**	**120**		Pn	09 47 18.8	-2.4
MTUM	**Tungsten Hills**	**1.88**	**334**		Pb	09 47 24.7	-0.1
TPC	**Twentynine Pal**	**1.97**	**142**		Pn	09 47 22.9	-1.2
HMTC	**Hemet**	**2.00**	**168**		Pn	09 47 23.4	-1.0
ELS	**Elsinore Mount**	**2.02**	**178**		Pn	09 47 23.4	-1.4
MZP	**Montezuma Peak**	**2.03**	**3**		Pn	09 47 24.4	-0.6
POB	**Polly Butte**	**2.04**	**166**		Pn	09 47 24.3	-0.7
DGR	**Domenigoni Val**	**2.06**	**168**		Pn	09 47 24.6	-0.7
SHPR	**Sheep Range**	**2.08**	**66**		Pn	09 47 24.5	-1.2
V12A	**Nelson**	**2.17**	**88**		Pn	09 47 25.3	-1.5
V12A				IAML		09 48 03.0	
	comp=N,27nm,0.4s						
CRY	**Cary Ranch**	**2.19**	**163**		Pb	09 47 30.5	+0.3
PMD	**Palm Desert**	**2.22**	**155**		Pn	09 47 25.9	-1.6
PMD				IAML		09 48 02.9	
	comp=E,31nm,0.5s						
MLAC	**Mammoth, Mammo**	**2.23**	**332**		Pb	09 47 31.1	+0.3
PFO	**Pinyon Flats O**	**2.23**	**157**		Pn	09 47 26.3	-1.4
PFO				IAML		09 48 01.3	
	comp=E,24nm,0.6s						
MCSM	**Casa Diablo Ho**	**2.27**	**331**		Pb	09 47 31.9	+0.3
FRD	**Ford Ranch, An**	**2.30**	**161**		Pb	09 47 32.3	+0.4
FRD	**Ford Ranch, An**	**2.30**	**161**		Pb	09 47 32.1	+0.2
TPH	**Tonopah**	**2.41**	**5**		Pn	09 47 29.4	-0.8
NJQ	**Nojoqui County**	**2.46**	**243**		Pn	09 47 32.0	+1.2
PRN	**Pahroc Range**	**2.63**	**48**		Pn	09 47 32.6	-0.6
PRN				IAML		09 48 16.6	
	comp=N,32nm,0.9s						
PRN				IAML		09 48 27.0	
	comp=E,27nm,0.7s						
LHV	**Little Huntoon**	**2.69**	**343**		Pn	09 47 34.3	+0.4
LHV				IAML		09 48 25.4	
	comp=E,17nm,1.1s						
PMPB	**Monarch Peak**	**2.72**	**282**	Pn	Pn	09 47 35.2	+0.8
NV11	**Mina Array Sit**	**2.80**	**350**		Pn	09 47 35.1	-0.5
NVAR	**Mina Array Bea**	**2.83**	**347**		Pn	09 47 34.9	-1.1
BBGB	**Big Mountain B**	**3.00**	**289**	Pn	Pn	09 47 37.8	-0.4
W13A	**Hualapai Mount**	**3.02**	**100**		Pn	09 47 37.1	-1.5
W13A				IAML		09 48 28.8	
	comp=N,14nm,0.9s						
RYN	**Ryan**	**3.06**	**345**	Pn	Pn	09 47 38.8	-0.4
CMB	**Columbia Colle**	**3.30**	**317**	Pn	Pn	09 47 43.0	+0.7
CMB				IAML		09 48 37.5	
	comp=N,11nm,0.7s						
CMB				IAML		09 48 38.6	
	comp=E,9.8nm,0.8s						
CBX	**Cerro Bola**	**3.42**	**168**	Pn	Pn	09 47 43.4	-0.7
LCMT	**Little Creek M**	**3.70**	**68**	Pn	Pn	09 47 47.7	-0.2
CCUT	**Cedar City**	**3.83**	**59**	Pn	Pn	09 47 48.9	-0.8
ESJX	**Sierra Juarez**	**3.88**	**160**	Pn	Pn	09 47 49.9	-0.5
ESJX				IAML		09 48 26.5	
	comp=E,8.0nm,5.0s						
KNB	**Kanab**	**4.02**	**69**	Pn	Pn	09 47 51.7	-0.7
KNB				IAML		09 48 54.0	
	comp=E,5.4nm,3.5s						
KNB				IAML		09 49 02.8	
	comp=N,5.7nm,2.2s						
PSUT	**Pine Spring**	**4.09**	**45**	Pn	Pn	09 47 52.9	-0.4
PSUT				IAML		09 49 00.3	
	comp=N,5.3nm,1.6s						
PSUT				IAML		09 49 10.1	
	comp=E,5.5nm,1.4s						
Y14A	**Wickenburg**	**4.09**	**114**	Pn	Pn	09 47 53.5	+0.3
Y14A				IAML		09 49 03.5	
	comp=E,12nm,0.6s						
Y14A				IAML		09 49 03.0	
	comp=N,14nm,0.5s						
SPR3	**Spring Creek 3**	**4.18**	**36**	Pn	Pn	09 47 55.5	+0.9
SPR3				IAML		09 49 07.6	
	comp=E,5.0nm,0.9s						
SPR3				IAML		09 49 13.2	
	comp=N,5.1nm,0.8s						
U15A	**North Rim**	**4.30**	**78**		Pn	09 47 56.5	+0.2
U15A				IAML		09 49 21.3	
	comp=E,5.0nm,2.9s						
U15A				IAML		09 49 32.6	
	comp=N,4.5nm,4.8s						
WUAZ	**Wupatki**	**5.00**	**90**	Pn	Pn	09 48 05.8	-0.1
WUAZ				IAML		09 49 38.4	
	comp=N,7.5nm,3.2s						
WUAZ				IAML		09 50 59.9	
	comp=N,4.6nm,3.5s						
ELK	**Elko**	**5.37**	**19**	Pn	Pn	09 48 11.7	+0.7

*IDC **07** 10:02:16.1±1.8,36˚.42N×139˚.79E, h98km±15km, mb3.3/8, mbtmp3.6/11, Error ellipse: s-maj=24.9km s-min=16.3km az=110.0*
*JMA **07** 10:02:17.2±0.1,36˚.4N±0˚.3×139˚.8E±0˚.4, h88km, MV3.3/39, SOUTHERN TOCHIGI PREF*
JMA Felt I J1 at SOUTHERN TOCHIGI PREF .
ISC 07 10:02:16.2±0.8,36˚.44N±0˚.05×139˚.76E±0˚.07, h99km±7km, n38,σ1ş01/42, mb3.6/8, 10D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAG	**Ashikaga**	**0.24**	**267**	⇓P	**Pn**	**10 02 30.3**	**-0.2**
JAG				⇓S	**Sn**	**10 02 40.0**	**-1.1**
JKT	**Katashina**	**0.52**	**309**	⇓P	**Pn**	**10 02 32.2**	**0.0**
JKT				⇓eS	**Sn**	**10 02 44.1**	**0.0**
JRY	**Ryogami san**	**0.81**	**239**	⇓P	**Pn**	**10 02 35.2**	**+0.6**
JRY				⇓S	**Sn**	**10 02 48.1**	**-0.3**
JUON	**Uonuma**	**0.95**	**324**	⇓P	**Pn**	**10 02 36.4**	**+0.3**
JUON				⇓eS	**Sn**	**10 02 50.9**	**0.0**
JFY	**Yanaizu**	**0.97**	**358**	⇓P	**Pn**	**10 02 36.6**	**+0.3**
JFY				⇓eS	**Sn**	**10 02 51.5**	**+0.3**
JOTO	**OTAMA OYAMA**	**1.21**	**22**	P	**Pn**	**10 02 39.6**	**+0.6**
JOTO				S	**Sn**	**10 02 57.1**	**+0.9**
MJAR	**Matsushiro Arr**	**1.25**	**275**	P	**Pn**	**10 02 39.8**	**+0.4**
	116nm,0.6s,baz=84,slow=12,SNR=329						
MJAR				S	**Sn**	**10 02 56.3**	**-0.7**
	49nm,0.5s,baz=64,slow=28,SNR=4.9						
MAJO	**Matsushiro**	**1.25**	**275**	P	**Pn**	**10 02 40.4**	**+0.9**
MAT	**Matsushiro**	**1.25**	**275**	P	**Pn**	**10 02 40.2**	**+0.7**
MAT				eS	**Sn**	**10 02 57.5**	**+0.5**
JOD2	**Odawara 2**	**1.29**	**205**	P	**Pn**	**10 02 40.1**	**+0.1**
JOD2				S	**Sn**	**10 02 57.5**	**-0.4**
JYN	**Shimob**	**1.36**	**227**	P	**Pn**	**10 02 41.9**	**+1.1**
JNS	**Sasagawa**	**1.42**	**346**	P	**Pn**	**10 02 42.0**	**+0.5**
JNS				eS	**Sn**	**10 03 00.6**	**+0.1**
JMM	**Marumori**	**1.65**	**30**	P	**Pn**	**10 02 45.1**	**+0.8**
JSD	**Sado**	**1.99**	**324**	P	**Pn**	**10 02 48.8**	**+0.1**
JGF	**Kuroka**	**2.12**	**247**	P	**Pn**	**10 02 51.8**	**+1.5**
JSG	**Sagara**	**2.18**	**216**	P	**Pn**	**10 02 54.0**	**+2.9**
INU	**Inuyama**	**2.48**	**245**	P	**Pn**	**10 02 56.0**	**+1.0**
JTM	**Tenmabayashi**	**4.46**	**13**	P	**Pn**	**10 03 23.3**	**+1.7**
JMN	**Monobe**	**5.53**	**242**	P	**Pn**	**10 03 38.3**	**+2.2**
ERM	**Erimo**	**6.16**	**24**	P	**Pn**	**10 03 43.2**	**-1.4**
JEM	**Erimo**	**6.16**	**24**	P	**Pn**	**10 03 45.0**	**+0.4**
ASAJ	**Asahikawa**	**7.97**	**15**	P	**Pn**	**10 04 07.3**	**-1.9**
	1.3nm,0.4s,baz=244,slow=14,SNR=4.2						
JNU	**Nakatsue**	**8.02**	**248**	P	**Pn**	**10 04 11.6**	**+1.6**
	2.8nm,0.6s,baz=307,slow=0.9,SNR=4.8						
KSRS	**Korea Array**	**9.53**	**280**	P	**Pn**	**10 04 30.9**	**+0.5**
	1.0nm,0.8s,baz=95,slow=14,SNR=5.6						
H11N2	**WAKE ISLAND Hy 29.02**	**118**		T	T	10 38 25.9	
	baz=313,slow=75,SNR=3.7						
H11N1	**WAKE ISLAND Hy 29.03**	**118**		T	T	10 38 25.3	
	baz=313,slow=75,SNR=5.1						
H11N3	**WAKE ISLAND Hy 29.04**	**118**		T	T	10 38 26.8	
	baz=313,slow=75,SNR=6.1						
H11S1	**WAKE ISLAND Hy 29.69**	**120**		T	T	10 39 15.4	
	baz=314,slow=75,SNR=6.1						
H11S3	**WAKE ISLAND Hy 29.69**	**120**		T	T	10 39 13.7	
	baz=314,slow=75,SNR=6.8						
H11S2	**WAKE ISLAND Hy 29.70**	**120**		T	T	10 39 17.9	
	baz=314,slow=75,SNR=5.7						
MKAR	**Makanchi Array**	**43.31**	**302**	P	**P**	**10 10 07.9**	**-0.3**
	0.4nm,0.7s,baz=80,slow=11,SNR=2.9						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**45.32**	**308**	P	**P**	**10 10 24.2**	**+0.1**
	1.2nm,0.5s,baz=83,slow=7.6,SNR=12						
	1.2nm,0.5s						
ILAR	**Eielson Array**	**50.71**	**32**	P	**P**	**10 11 04.9**	**-0.5**
	0.6nm,0.8s,baz=270,slow=6.2,SNR=8.5						
	0.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**55.86**	**196**	P	**P**	**10 11 42.5**	**-1.1**
	1.9nm,0.9s,baz=21,slow=8.6,SNR=2.0						
	1.9nm,0.9s						
WRA	**Warramunga Arr**	**56.31**	**186**	P	**P**	**10 11 46.5**	**-0.3**
	0.4nm,0.5s,baz=3.0,slow=7.3,SNR=13						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**60.03**	**186**	P	**P**	**10 12 12.1**	**-0.6**
	0.4nm,1.0s,baz=3.3,slow=7.5,SNR=5.1						
	0.4nm,1.0s						
PDAR	**Pinedale Array**	**79.03**	**45**	P	**P**	**10 14 10.2**	**+0.5**
	0.2nm,0.5s,baz=76,slow=1.0,SNR=4.4						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**91.53**	**51**	P	**P**	**10 15 13.1**	**+0.9**
	0.2nm,0.7s,baz=323,slow=3.7,SNR=3.3						
	0.2nm,0.7s						

*NEIC **07** 10:02:26.8±1.3,35˚.718N±0˚.005×117˚.49W±0˚.01, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.5km az=233.0*
PAS 07 10:02:27.5±1.4,35˚.717N±0˚.007×117˚.496W±0˚.008, h3km±2km, ML3.3/174, ML2.9/88(NEIC), Error ellipse: s-maj=1.1km s-min=0.9km az=157.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.13**	**320**		Pg	10 02 30.1	0.0
CLC				IAML		10 02 33.0	
	comp=E,4µm,0.4s						
CLC	**China Lake**	**0.13**	**320**		Sg	10 02 32.3	+0.4
SRTC	**Snort**	**0.21**	**263**		Pg	10 02 32.1	+0.6
SRTC					Sg	10 02 36.0	+1.7
TOW	**Tower One**	**0.24**	**293**		Pg	10 02 32.8	+0.7
LRMC	**Laurel Mtn Rad**	**0.28**	**213**		Pg	10 02 33.1	+0.1
LRMC					Sg	10 02 37.2	+0.5
LRMC	**Laurel Mtn Rad**	**0.28**	**213**	IAML		10 02 37.4	
	comp=E,7µm,0.4s						
LRMC				IAML		10 02 38.1	
	comp=N,8µm,0.2s						
MPMC	**Manual Prospec**	**0.34**	**1**		Pg	10 02 34.2	0.0
MPMC					Sg	10 02 39.0	+0.3
MPMC	**Manual Prospec**	**0.34**	**1**	IAML		10 02 39.3	
	comp=N,2µm,0.4s						
MPMC				IAML		10 02 39.6	
	comp=E,2µm,0.2s						
WVPM	**Volcano Peak E**	**0.35**	**312**		Pg	10 02 34.4	+0.1
WVPM					Sg	10 02 39.6	+0.7
WNMM	**Nine Mile Cany**	**0.35**	**291**		Pg	10 02 34.6	+0.3
WNMM					Sg	10 02 39.9	+0.9
WRVM	**Rose V. Centra**	**0.43**	**312**		Pg	10 02 35.9	0.0
WRVM					Sg	10 02 42.0	+0.4
MFS	**McCloud Flat S**	**0.49**	**324**		Pg	10 02 37.0	-0.1
MFS					Sg	10 02 43.9	+0.4
DTP	**Desert Tortois**	**0.53**	**213**		Pg	10 02 37.5	-0.2
DTP					Sg	10 02 44.7	+0.1
WBSM	**Bird Springs**	**0.55**	**251**		Pg	10 02 38.0	-0.1
WBSM					Sg	10 02 45.8	+0.4
QSM	**Queen of Sheba**	**0.57**	**64**		Pg	10 02 38.4	0.0
QSM					Sg	10 02 46.3	+0.5
QSM	**Queen of Sheba**	**0.57**	**64**	IAML		10 02 47.5	
	comp=N,618nm,0.2s						
QSM				IAML		10 02 48.5	
	comp=E,691nm,0.3s						
WORM	**Onyx Ranch**	**0.61**	**268**		Pg	10 02 39.0	-0.2
WHFM	**Hanning Flat**	**0.69**	**269**		Pg	10 02 39.0	-1.8
WHFM					Sg	10 02 49.8	-0.1
GSC	**Goldstone, Bar**	**0.70**	**126**		Pg	10 02 40.5	-0.5
GSC				IAML		10 02 50.7	
	comp=N,557nm,0.7s						
GSC				IAML		10 02 50.7	
	comp=E,934nm,0.4s						
GSC	**Goldstone, Bar**	**0.70**	**126**		Sg	10 02 50.5	+0.5
CCAC	**Calif City Air**	**0.70**	**217**		Pg	10 02 39.2	-1.8
ISA	**Isabella, Lake**	**0.80**	**266**		Pg	10 02 42.4	-0.5
GWY	**Greenwater Val**	**0.82**	**55**		Pg	10 02 41.9	-1.3
GWY				IAML		10 02 58.6	
	comp=E,766nm,0.3s						
GWY				IAML		10 02 59.7	
	comp=N,645nm,0.7s						
HYS	**Haystack Butte**	**0.85**	**184**		Pg	10 02 43.2	-0.7
CWC	**Cottonwood Cre**	**0.86**	**327**		Pg	10 02 43.2	-0.9
WASM	**Alta Sierra Ca**	**0.86**	**272**		Pg	10 02 42.2	-1.9
CGO	**Cerro Gordo**	**0.87**	**343**		Pb	10 02 45.1	-0.4
EDW2	**Edwards Air Fo**	**0.93**	**206**		Pg	10 02 44.5	-0.8
RRX	**Edison Barstow**	**0.93**	**154**		Pg	10 02 44.6	-0.8
TPO	**Tropico Hills**	**1.03**	**216**		Pg	10 02 46.4	-0.9
SBB	**Saddle Back Bu**	**1.06**	**195**		Pg	10 02 46.1	-1.7
SPG2	**Springville 2**	**1.14**	**295**		Sg	10 03 03.7	-0.4
VTV	**Victorville**	**1.16**	**173**		Sg	10 03 04.5	-0.3
AMDNV	**Amargosa**	**1.23**	**53**		Pg	10 02 48.5	-2.6
ARVC	**Arvin**	**1.24**	**242**		Pg	10 02 49.9	-1.3
THC	**Tehachapi Micr**	**1.25**	**230**		Pg	10 02 50.4	-1.0
LRRC	**Littlerock Res**	**1.27**	**200**		Pg	10 02 51.5	-0.2
LRRC					Sg	10 03 07.8	-0.4
DSCC	**Desert Studies**	**1.27**	**116**		Pg	10 02 51.0	-0.9
DSCC					Sg	10 03 07.1	-1.4
GRAC	**Grapevine Rang**	**1.28**	**5**		Pg	10 02 50.9	-1.2
WCT	**Wildcat Mounta**	**1.28**	**33**		Pg	10 02 50.1	-2.1
HOLC	**Holcomb Ridge**	**1.29**	**193**		Pb	10 02 52.4	-0.1
CJV	**Casa Juvan**	**1.30**	**204**		Pg	10 02 51.1	-1.3
VES	**Vestal, Richgr**	**1.30**	**276**		Sg	10 03 08.9	-0.3
HEC	**Hector,Ludlow**	**1.30**	**133**		Pg	10 02 50.3	-2.2
TUQ	**Turquoise Moun**	**1.31**	**102**		Pg	10 02 50.3	-2.4
SGV	**South Grapevin**	**1.32**	**16**		Pg	10 02 50.9	-1.8
JNH	**Juniper Hills**	**1.32**	**197**		Pg	10 02 51.3	-1.6
CHFC	**Chilao Flat St**	**1.45**	**198**		Pb	10 02 55.1	-0.1
SIL	**Silver Peak**	**1.47**	**158**		Pn	10 02 53.7	-1.4
BFSC	**Mount Baldy Ra**	**1.48**	**185**		Pn	10 02 53.5	-1.7
BFSC				IAML		10 03 15

CMB					IAML			10 04 15.6	
	comp=E,28nm,0.7s								
CMB					IAML			10 04 16.0	
	comp=N,26nm,0.7s								
SAO	**San Andreas Ge**	**3.36**	**289**		Pn		Pn	10 03 20.2	-0.8
LCMT	**Little Creek M**	**3.67**	**68**				Pn	10 03 25.7	+0.5
CCUT	**Cedar City**	**3.79**	**60**		Pn		Pn	10 03 26.9	-0.2
ESJX	**Sierra Juarez**	**3.92**	**160**		Pn		Pn	10 03 28.0	-0.8
ESJX					IAML			10 04 32.1	
	comp=E,15nm,0.4s								
ESJX					IAML			10 04 34.2	
	comp=N,16nm,0.9s								
KNB	**Kanab**	**3.99**	**70**				Pn	10 03 29.8	0.0
KNB					IAML			10 04 42.8	
	comp=N,11nm,0.9s								
PSUT	**Pine Spring**	**4.05**	**45**		Pn		Pn	10 03 31.6	+1.1
PSUT					IAML			10 04 50.8	
	comp=E,19nm,1.2s								
PSUT					IAML			10 04 52.5	
	comp=N,14nm,1.3s								
Y14A	**Wickenburg**	**4.10**	**114**				Pn	10 03 30.6	-0.5
U15A	**North Rim**	**4.28**	**79**				Pn	10 03 33.3	-0.5
U15A					IAML			10 04 44.3	
	comp=N,12nm,0.9s								
U15A					IAML			10 04 45.6	
	comp=E,18nm,0.8s								

NEIC ***07*** *10:04:09.1±1.8,36.49N±0.06×70.76E±0.10,h191km±8km, mb4.4/13, Error ellipse: s-maj=11.3km s-min=9.1km az=75.0*

IDC ***07*** *10:04:09.2±5.2,36.52N×70.96E,h189km±46km, mb3.5/7, mbtmp4.1/13, Error ellipse: s-maj=41.4km s-min=15.3km az=36.0*

NNC ***07*** *10:04:10.2±3.0,36.98N×70.72E,h0km, mb4.5, mpv4.2, Error ellipse: s-maj=24.0km s-min=19.2km az=155.0*

ISC 07 10:04:09.6±0.5, 36.50N±0.05×70.92E±0.06, h200km, n77, σ1 876/89, mb3.8/12, 6C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.48**	**219**		**Pn**	**10 04 51.5**	**-2.0**
GAR	**Garm**	**2.55**	**349**		**Pn**	**10 04 52.8**	**-1.3**
DRK	**Karamyk**	**3.06**	**13**	Pn	**Pn**	**10 05 00.6**	**+0.3**
NIL	**Nilore**	**3.42**	**145**		**Pn**	**10 05 04.7**	**+0.3**
BTK	**Batken**	**3.56**	**359**		**Pn**	**10 05 05.4**	**-0.6**
JMU	**Jammu**	**5.00**	**138**	*e*P	**Pn**	**10 05 24.3**	**+0.3**
JMU				*e*S	**Sn**	**10 06 20.1**	**-2.5**
JMU				IAML		10 06 26.2	
	comp=E,186nm,0.5s						
JMU				IAML		10 06 40.6	
	comp=E,172nm,0.5s						
KSH	**Kashi**	**5.00**	**51**	Pn	**Pn**	**10 05 20.8**	**-3.3**
KSH				Sn	Sn	10 06 13.1	-10
KSH				smax	smax		
	comp=N,98nm,0.5s						
KSH				smax	smax		
	comp=E,78nm,0.4s						
ARSB	**Arslanbob**	**5.08**	**18**		**Pn**	**10 05 24.1**	**-1.1**
THN	**Thein Dam**	**5.67**	**134**	*e*P	**Pn**	**10 05 33.0**	**+0.4**
THN				*e*S	**Sn**	**10 06 36.7**	**-1.4**
THN				IAML		10 06 37.5	
	comp=E,259nm,0.3s						
THN				IAML		10 06 41.0	
	comp=N,196nm,0.3s						
AML	**Almayashu**	**6.03**	**20**	P	**Pn**	**10 05 37.4**	**-0.1**
	SNR=34						
DHRM	**DHARAMSHALA**	**6.14**	**132**	*e*P	**Pn**	**10 05 39.2**	**+0.2**
DHRM				*e*S	**Sn**	**10 06 46.7**	**-2.9**
DHRM				IAML		10 06 49.3	
	comp=E,331nm,0.2s						
DHRM				IAML		10 06 51.1	
	comp=N,254nm,0.5s						
NRN	**Naryn**	**6.32**	**37**		**Pn**	**10 05 41.0**	**-0.3**
UCH	**Uchtor**	**6.37**	**25**	P	**Pn**	**10 05 42.0**	**0.0**
	SNR=48						
EKS2	**Erkin-Say**	**6.54**	**19**	P	**Pn**	**10 05 44.0**	**0.0**
	SNR=34						
KK31	**Karatay Array**	**6.61**	**357**		**Pn**	**10 05 43.3**	**-1.4**
KK31	**Karatay Array**	**6.61**	**357**	⇓P	**Pn**	**10 05 43.7**	**-1.0**
	comp=N,8.7nm,0.2s,baz=184,slow=12,SNR=459						
KK31				⇑S	**Sn**	**10 06 54.7**	**-5.4**
	comp=N,54nm,0.7s,baz=195,slow=19,SNR=21						
KKAR	**Karatay Array**	**6.61**	**357**		**Pn**	**10 05 43.5**	**-1.1**
KKAR	**Karatay Array**	**6.61**	**357**		**Pn**	**10 05 43.3**	**-1.4**
AAK	**Ala-Archa**	**6.73**	**23**	P	**Pn**	**10 05 46.6**	**+0.3**
	SNR=11						
AAK	**Ala-Archa**	**6.73**	**23**		**Pn**	**10 05 46.3**	**0.0**
AAK	**Ala-Archa**	**6.73**	**23**	⇑P	**Pn**	**10 05 45.3**	**-1.0**
	comp=N,3.1nm,0.4s						
AAK				⇑S	**Sn**	**10 06 59.8**	**-3.4**
	comp=N,12nm,0.6s						
AAK	**Ala-Archa**	**6.73**	**23**	P	**Pn**	**10 05 45.6**	**-0.7**
	comp=N,17nm,0.3s,baz=192,slow=5.3,SNR=20						
AAK				S	**Sn**	**10 07 00.3**	**-2.8**
	comp=N,22nm,0.6s,baz=352,slow=12,SNR=18						
BHK	**Bhakra**	**6.82**	**136**	*e*P	**Pn**	**10 05 49.1**	**+1.6**
BHK				*ex*	x	10 07 01.0	
BHK				IAML		10 07 04.0	
	comp=E,100nm,0.3s						
BHK				IAML		10 07 04.4	
	comp=N,110nm,0.3s						
FRU1	**Bishkek**	**6.93**	**23**	Pn	**Pn**	**10 05 48.0**	**-0.9**
CHMS	**Chumysh**	**7.13**	**23**	⇑P	**Pn**	**10 05 50.9**	**-0.6**
	comp=N,12nm,0.7s						
CHMS				⇓S	**Sn**	**10 07 09.1**	**-3.4**
	comp=N,22nm,0.7s						
BOOM	**Boomskoye usch**	**7.14**	**31**		**Pn**	**10 05 52.0**	**+0.3**
USP	**Ospenovka**	**7.30**	**21**	P	**Pn**	**10 05 53.5**	**-0.3**
	SNR=37						
TKM2	**Tokmak 2**	**7.36**	**28**	P	**Pn**	**10 05 54.8**	**+0.2**
	SNR=30						
TKM2	**Tokmak 2**	**7.36**	**28**	⇑P	**Pn**	**10 05 54.2**	**-0.4**
	comp=N,17nm,0.4s						
TKM2				⇑S	**Sn**	**10 07 15.6**	**-2.6**
	comp=N,10nm,0.7s						
KDJ	**Kajisay**	**7.43**	**39**	Pn	**Pn**	**10 05 55.0**	**-0.5**
SMLA	**Simla**	**7.46**	**134**	*e*P	**Pn**	**10 05 55.5**	**-0.3**
SMLA				*e*S	**Sn**	**10 07 16.7**	**-3.6**
SMLA				IAML		10 07 19.3	
	comp=N,100nm,0.2s						
SMLA				IAML		10 07 20.2	
	comp=E,125nm,0.8s						
TARG	**Taragay, Kyrgy**	**7.48**	**44**		**Pn**	**10 05 56.0**	**-0.4**
HNLY	**HANLEY**	**7.60**	**117**	*e*P	**Pn**	**10 05 58.6**	**+0.4**
HNLY				*ex*	x	10 07 14.0	
KLP	**Kalpa**	**7.84**	**127**	*e*P	**Pn**	**10 06 01.0**	**-0.2**
KLP				*e*S	**Sn**	**10 07 25.9**	**-3.9**
PRZ	**Przheval'sk**	**8.32**	**42**	Pn	**Pn**	**10 06 07.6**	**+0.5**
KUDL	**Kundal**	**9.57**	**149**	*e*P	**Pn**	**10 06 21.7**	**-1.5**
KUDL				*e*S	Sn	10 08 01.5	-8.8
KUDL				IAML		10 08 05.4	
	comp=E,21nm,1.0s						
KUDL				IAML		10 08 14.7	
	comp=E,23nm,0.3s						
PTH	**Pithoragarh**	**10.43**	**129**	*e*S	**Sn**	**10 08 23.6**	**-7.6**
LGTI	**Lohaghat**	**10.52**	**129**	*e*S	Sn	10 08 22.2	-11
MAKZ	**Makanchi**	**13.20**	**35**		**Pn**	**10 07 09.4**	**0.0**
MKAR	**Makanchi Array**	**13.34**	**36**		**Pn**	**10 07 11.7**	**+0.5**
MKAR	**Makanchi Array**	**13.34**	**36**	P	**Pn**	**10 07 11.2**	**+0.1**
	comp=E,1.7nm,0.7s,baz=228,slow=16,SNR=16						
WMQ	**Urumqi**	**14.76**	**55**	*e*P	**P**	**10 07 31.4**	**+1.7**
AB31	**Akbulak array**	**15.06**	**331**		**Pn**	**10 07 30.7**	**-1.6**
AB31	**Akbulak array**	**15.06**	**331**	⇓P	**P**	**10 07 34.2**	**+1.3**
	comp=E,2.8nm,0.6s,baz=146,slow=12,SNR=49						
AB31				⇓S	**S**	**10 10 18.3**	**-1.1**
	comp=E,2.1nm,0.7s,baz=148,slow=24,SNR=4.6						
ABKAR	**Akbulak array**	**15.06**	**331**	P	**Pn**	**10 07 30.7**	**-1.6**
ABKAR	**Akbulak array**	**15.06**	**331**	P	**Pn**	**10 07 30.8**	**-1.5**
KURBB	**Kurchatov Arra**	**15.15**	**19**	P	**Pn**	**10 07 31.9**	**-1.5**
	comp=E,0.5nm,0.4s,baz=200,slow=11,SNR=8.6						
EVN	**Everest**	**15.91**	**118**		**Pn**	**10 07 43.4**	**0.0**
EVN				IAmb	IAmb	10 07 51.2	
	comp=Z,9.7nm,0.4s						
BVAR	**Borovoye Array**	**16.53**	**359**	P	**Pn**	**10 07 49.5**	**-0.6**
	comp=Z,2.1nm,0.4s						
AKTO	**Aktyubinsk**	**16.75**	**330**	P	**Pn**	**10 07 52.9**	**+0.1**
	comp=Z,20nm,0.9s,baz=143,slow=9.1,SNR=28						
UOSS	**Minazif**	**17.08**	**232**	P	**P**	**10 07 53.2**	**-2.2**
UOSS				IAmb	IAmb	10 08 07.6	
	comp=Z,26nm,1.5s						
ZAA0	**Zalesovo Array**	**19.95**	**25**	P	**P**	**10 08 27.1**	**+1.0**
ZAA0				IAmb	IAmb	10 08 28.6	
	comp=Z,4.8nm,0.7s						
ZALV	**Zalesovo Beam**	**19.95**	**25**	P	**P**	**10 08 25.9**	**-0.2**
ZALV	**Zalesovo Beam**	**19.95**	**25**	P	**P**	**10 08 25.5**	**-0.7**
	comp=Z,4.4nm,0.3s,baz=220,slow=11,SNR=24						
PZH	**PanZhiHua**	**28.00**	**102**	P	**P**	**10 09 44.6**	**+2.5**
SONM	**Songino Array**	**28.39**	**55**	P	**P**	**10 09 47.5**	**+2.1**
	comp=Z,0.5nm,0.4s,baz=246,slow=11,SNR=1.8						
	comp=Z,0.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**30.51**	**119**	P	**P**	**10 10 05.8**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=308,slow=9.3,SNR=4.1						
	comp=Z,0.4nm,0.3s						
HHC	**Hu-ho-hao-te**	**31.83**	**70**	*e*P	**P**	**10 10 17.4**	**+1.8**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,80nm,4.7s						
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**10 11 03.7**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=99,slow=12,SNR=6.9						
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**43.03**	**322**	P	**P**	**10 11 50.1**	**+1.0**
	comp=Z,2.4nm,0.8s,baz=104,slow=9.3,SNR=5.2						
	comp=Z,2.4nm,0.8s						
CLL	**Collm**	**43.14**	**309**	*e*P	**P**	**10 11 51.0**	**+0.9**
CLL				*ep*P	**pP**	**10 12 31.0**	**-2.2**
CLL				*e*PP	**PcP**	**10 13 36.0**	**+0.1**
CLL				*ep*PP		10 14 07.0	
NB2	**NORSAR Subarra**	**44.34**	**323**	P	**P**	**10 12 00.4**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=94,slow=7.9						
NOA	**NNSAR Array B**	**44.34**	**323**	P	**P**	**10 12 00.1**	**+0.4**
	comp=Z,2.1nm,0.3s,baz=96,slow=7.7,SNR=4.8						
	comp=Z,2.1nm,0.3s						
TIXI	**Tiksi**	**45.80**	**22**	P	**P**	**10 12 12.0**	**+1.2**
TIXI				IAmb	IAmb	10 12 13.5	
	comp=Z,7.6nm,0.9s						
JSG	**Sagara**	**53.70**	**71**	P	**P**	**10 13 10.4**	**-0.5**
COCO	**West Island**	**54.24**	**148**	P	**P**	**10 13 15.4**	**+0.6**
JHJ2	**Mitsune**	**55.57**	**72**	P	**P**	**10 13 24.7**	**+0.4**
JAGI	**Jajag, Banyuwa**	**60.39**	**129**	P	**P**	**10 13 58.5**	**+0.5**
JAGI				IAmb	IAmb	10 14 36.6	
	comp=Z,99nm,1.5s						
TOLK	**Toolik Lake Re**	**70.94**	**15**	P	**P**	**10 15 05.5**	**+0.8**
IMAR	**Indian Mountai**	**72.20**	**18**	P	**P**	**10 15 13.4**	**+1.2**
M14K	**Bethel**	**73.92**	**24**	P	**P**	**10 15 24.1**	**+1.7**
M14K				IAmb	IAmb	10 15 28.9	
	comp=Z,5.5nm,1.2s						
INK	**Inuvik**	**73.92**	**9**	P	**P**	**10 15 24.5**	**+2.3**
INK				IAmb	IAmb	10 15 50.4	
	comp=Z,3.9nm,1.1s						
L16K	**Owhat River**	**73.98**	**22**	P	**P**	**10 15 24.7**	**+2.0**
WRA	**Warramunga Arr**	**82.05**	**122**	P	**P**	**10 16 06.9**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=306,slow=5.4,SNR=5.3						
	comp=Z,0.7nm,0.4s						
AS31	**Alice Springs**	**84.31**	**125**	P	**P**	**10 16 19.0**	**-0.2**
ASAR	**Alice Springs**	**84.31**	**125**	P	**P**	**10 16 18.4**	**-0.8**
ASAR	**Alice Springs**	**84.31**	**125**	P	**P**	**10 16 19.6**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=313,slow=4.9,SNR=17						
	comp=Z,0.9nm,0.8s						

NEIC ***07*** *10:06:12.5±2.1,35.929N±0.008×117.72W±0.01, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.8km az=97.0*

PAS 07 10:06:13.0±1.9, 35.912N±0.008×117.74W±0.01, h2km±2km, Mwr 3.5/4, ML 3.3/124(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=93.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WVPM	**Volcano Peak E**	**0.08**	**300**		Pg	10 06 13.5	-1.1
TOW	**Tower One**	**0.10**	**193**		Pg	10 06 15.8	+0.7
TOW					Sg	10 06 18.4	+1.9
CLC	**China Lake**	**0.15**	**130**		Pg	10 06 16.1	+0.1
CLC					Sg	10 06 18.4	+0.6
CLC	**China Lake**	**0.15**	**130**	IAML		10 06 18.6	
	comp=N,7μm,0.7s						
CLC				IAML		10 06 18.7	
	comp=E,6μm,0.4s						
WNMM	**Nine Mile Cany**	**0.15**	**243**		Pg	10 06 16.4	+0.4
WRVM	**Rose V. Centra**	**0.16**	**308**		Pg	10 06 14.8	-1.3
SRTC	**Snort**	**0.22**	**183**		Pg	10 06 17.9	+0.6
SRTC					Sg	10 06 22.1	+1.9
MFS	**McCloud Flat S**	**0.23**	**335**		Pg	10 06 17.6	+0.1
MFS					Sg	10 06 21.1	+0.7
MPMC	**Manual Prospec**	**0.25**	**54**		Pg	10 06 17.8	0.0
MPMC				IAML		10 06 21.9	
	comp=N,7μm,0.5s						
MPMC				IAML		10 06 23.0	
	comp=E,7μm,0.6s						
LRMC	**Laurel Mtn Rad**	**0.43**	**174**		Sg	10 06 27.8	+0.8
LRMC	**Laurel Mtn Rad**	**0.43**	**174**		Pg	10 06 21.3	-0.1
LRMC				IAML		10 06 28.0	
	comp=E,7μm,0.5s						
LRMC				IAML		10 06 28.6	
	comp=N,3μm,0.3s						
WORM	**Onyx Ranch**	**0.47**	**242**		Pg	10 06 21.9	-0.1
CCCA	**Chr Cany lake**	**0.49**	**142**		Pg	10 06 22.9	+0.5
CCCA	**Chr Cany lake**	**0.49**	**142**	IAML		10 06 30.8	
	comp=E,12μm,0.6s						
CCCA				IAML		10 06 31.2	
	comp=N,18μm,0.6s						
WBSM	**Bird Springs**	**0.50**	**221**		Pg	10 06 22.6	0.0
WBSM					Sg	10 06 29.5	+0.4
WHFM	**Hanning Flat**	**0.54**	**247**		Pg	10 06 23.4	0.0
CWC	**Cottonwood Cre**	**0.60**	**332**		Pg	10 06 24.3	-0.2
CGO	**Cerro Gordo**	**0.64**	**355**		Pg	10 06 25.2	-0.2
DTP	**Desert Tortois**	**0.65**	**188**		Pg	10 06 25.2	-0.2
DTP					Sg	10 06 34.4	+0.5
ISA	**Isabella, Lake**	**0.65**	**248**		Sg	10 06 34.2	+0.3
ISA	**Isabella, Lake**	**0.65**	**248**		Pg	10 06 25.2	-0.3
ISA				IAML		10 06 35.1	
	comp=N,1μm,0.5s						
ISA				IAML		10 06 35.2	
	comp=E,2μm,0.3s						
WASM	**Alta Sierra Ca**	**0.69**	**256**		Pg	10 06 26.2	-0.1
WASM					Sg	10 06 35.6	+0.5
QSM	**Queen of Sheba**	**0.71**	**85**		Pg	10 06 26.1	-0.5
QSM				IAML		10 06 39.8	
	comp=N,1μm,0.6s						
QSM				IAML		10 06 40.3	
	comp=E,1μm,0.7s						
CCAC	**Calif City Air**	**0.79**	**197**		Pg	10 06 27.9	-0.3
SPG2	**Springville 2**	**0.88**	**289**		Pg	10 06 27.7	-2.2
SPG2					Sg	10 06 41.6	+0.2
GWY	**Greenwater Val**	**0.91**	**72**		Pg	10 06 30.1	-0.3
GWY				IAML		10 06 48.2	
	comp=E,905nm,0.7s						
GWY				IAML		10 06 52.2	
	comp=N,869nm,0.6s						
GSC	**Goldstone, Bar**	**0.97**	**128**		Sg	10 06 44.6	+0.4
GSC	**Goldstone, Bar**	**0.97**	**128**		Pg	10 06 31.1	-0.6
GSC				IAML		10 06 48.7	
	comp=N,1μm,0.8s						
TEJ	**El Tejon**	**1.03**	**229**		Pg	10 06 32.0	-0.8
EDW2	**Edwards Air Fo**	**1.05**	**192**		Pg	10 06 32.3	-0.9
HYS	**Haystack Butte**	**1.05**	**173**		Pg	10 06 32.6	-0.7
VES	**Vestal, Richgr**	**1.10**	**267**		Pg	10 06 33.7	-0.3
VES					Sg	10 06 48.6	+0.3
TPO	**Tropico Hills**	**1.11**	**201**		Pg	10 06 33.5	-0.7
TPO	**Tropico Hills**	**1.11**	**201**	IAML		10 06 55.4	
	comp=E,902nm,0.8s						
GRAC	**Grapevine Rang**	**1.12**	**15**		Pg	10 06 33.9	-0.6
GRAC				IAML		10 06 52.8	
	comp=N,999nm,0.8s						
GRAC				IAML		10 06 55.6	
	comp=E,1μm,0.7s						
SHOC	**Shoshone, Teco**	**1.19**	**90**		Pg	10 06 34.8	-1.0
ARVC	**Arvin**	**1.19**	**229**		Pg	10 06 35.1	-0.6
RRX	**Edison Barstow**	**1.20**	**150**		Pg	10 06 36.1	+0.1
RRX					Sb	10 06 52.1	-0.2
SGV	**South Grapevin**	**1.21**	**28**		Pg	10 06 34.2	-2.0
SBB	**Saddle Back Bu**	**1.22**	**183**		Pg	10 06 35.4	-1.0
BAKC	**Calstate**	**1.25**	**243**		Pg	10 06 36.6	-0.3
THC	**Tehachapi Micr**	**1.25**	**217**		Pg	10 06 35.9	-1.2
WCT	**Wildcat Mounta**	**1.26**	**45**		Pg	10 06 36.4	-0.7
WCT				IAML		10 06 55.7	
	comp=N,325nm,1.0s						
WCT				IAML		10 06 58.0	
	comp=E,386nm,1.1s						
AMDNV	**Amargosa**	**1.29**	**65**		Pg	10 06 36.6	-1.3
LCH	**Last Change Ra**	**1.32**	**3**		Pg	10 06 37.5	-0.9
LCH					Sb	10 06 55.9	-0.2
VTV	**Victorville**	**1.39**	**166**		Pn	10 06 39.0	-0.5
VOG	**Valley Oaks Go**	**1.39**	**288**		Pn	10 06 38.8	-0.7
LRRC	**Littlerock Res**	**1.40**	**190**		Pb	10 06 40.1	+0.2
CJV	**Casa Juvan**	**1.42**	**194**		Pb	10 06 40.4	+0.1
GMN	**Gold Mountain**	**1.44**	**15**		Pn	10 06 39.8	-0.5
HOLC	**Holcomb Ridge**	**1.45**	**184**		Pn	10 06 39.0	-1.4
HOLC					Sn	10 07 00.4	+0.3
DSP	**Deep Springs**	**1.47**	**353**		Pn	10 06 40.1	-0.4
JNH	**Juniper Hills**	**1.47**	**187**		Pn	10 06 39.4	-1.3
BHPR	**Bishop**	**1.51**	**337**		Pn	10 06 41.5	+0.2
OSI	**Osito Audit: C**	**1.53**	**212**		Pn	10 06 40.7	-0.7
OSI				IAML		10 07 04.7	
	comp=E,466nm,0.7s						
OSI				IAML		10 07 12.6	
	comp=N,313nm,0.8s						
DSCC	**Desert Studies**	**1.54**	**119**		Pn	10 06 39.7	-1.7
TUQ	**Turquoise Moun**	**1.55**	**107**		Pn	10 06 40.2	-1.5
TPNV	**Topopah Spring**	**1.58**	**49**		Pn	10 06 41.4	-0.9
TPNV				IAML		10 07 08.1	
	comp=N,442nm,1.1s						
TPNV				IAML		10 07 09.0	
	comp=N,454nm,0.9s						
MTUM	**Tungsten Hills**	**1.58**	**335**		Pn	10 06 42.7	+0.4
CHFC	**Chilao Flat St**	**1.59**	**189**		Pn	10 06 41.0	-1.4
CHFC					Sb	10 07 04.0	+0.1
BFSC	**Mount Baldy Ra**	**1.67**	**178**		Sg	10 07 06.7	0.0
BFSC	**Mount Baldy Ra**	**1.67**	**178**		Pn	10 06 42.1	-1.3
BFSC				IAML		10 07 07.2	
	comp=E,234nm,0.5s						
BFSC				IAML		10 07 07.5	
	comp=N,187nm,0.4s						
SSK	**Sunset Peak**	**1.70**	**179**		Pn	10 06 42.9	-0.9
MWC	**Mount Wilson**	**1.71**	**189**		Pn	10 06 43.3	-0.6
MWC				IAML		10 07 14.7	
	comp=N,400nm,0.5s						
MWC				IAML		10 07 16.8	
	comp=E,282nm,1.3s						
DECC	**Green Verdugo**	**1.73**	**197**		Pb	10 06 45.4	-0.1
SIL	**Silver Peak**	**1.73**	**154**		Pb	10 06 45.8	+0.1
CRGC	**Crocker Grade**	**1.75**	**248**		Pn	10 06 45.2	+0.7
PASC	**Pasadena Art C**	**1.77**	**192**		Pn	10 06 43.9	-0.8
BBRC	**Big Bear Solar**	**1.78**	**158**		Pb	10 06 45.9	-0.5
MZP	**Montezuma Peak**	**1.81**	**9**		Pn	10 06 44.9	-0.6
PSRC	**Puddingstone R**	**1.82**	**182**		Pn	10 06 44.7	-0.6
MTPC	**Mountain Pass**	**1.83**	**103**		Pn	10 06 44.1	-1.5
MTPC	**Mountain Pass**	**1.83**	**103**	IAML		10 07 13.9	
	comp=N,214nm,0.6s						
MTPC				IAML		10 07 14.9	
	comp=E,286nm,0.5s						
BLCC	**Black Canyon**	**1.83**	**205**		Pn	10 06 45.1	-0.5
CLTC	**Calectric**	**1.85**	**169**		Pn	10 06 45.6	-0.1
SVD	**Seven Oaks Dam**	**1.88**	**164**		Pg	10 06 48.7	-0.3
KCC	**Kaiser Creek**	**1.90**	**318**		Pb	10 06 47.7	-0.8
BENR	**Benton**	**1.92**	**340**		Pb	10 06 48.9	-0.1
MLAC	**Mammoth, Mammo**	**1.93**	**333**		Pb	10 06 48.9	-0.2
GTM	**Goat Mountain**	**1.97**	**145**		Pb	10 06 49.5	-0.2
MCSM	**Casa Diablo Ho**	**1.98**	**332**		Pb	10 06 49.7	-0.2
SHPR	**Sheep Range**	**2.17**	**73**		Pn	10 06 49.7	-0.6
TPH	**Tonopah**	**2.20**	**11**		Pn	10 06 50.4	-0.4
TPC	**Twentynine Pal**	**2.27**	**142**		Pn	10 06 50.3	-1.3
ELS	**Elsinore Mount**	**2.27**	**173**		Pn	10 06 50.9	-0.7
ELS				IAML		10 07 27.1	
	comp=E,112nm,0.3s						
HMTC	**Hemet**	**2.28**	**164**		Pn	10 06 50.7	-1.0
POB	**Polly Butte**	**2.32**	**163**		Pn	10 06 51.5	-0.8
MURC	**Murrieta**	**2.35**	**169**		Pn	10 06 51.9	-0.8
V12A	**Nelson**	**2.35**	**94**		Pn	10 06 51.4	-1.3
V12A				IAML		10 07 34.9	
	comp=E,104nm,0.5s						
V12A				IAML		10 07 44.4	
	comp=N,144nm,0.7s						
LHV	**Little Huntoon**	**2.41**	**345**		Pn	10 06 54.2	+0.7
LHV				IAML		10 07 40.6	
	comp=N,93nm,1.6s						
CRY	**Cary Ranch**	**2.48**	**160**		Pn	10 06 53.9	-0.7
PMPB	**Monarch Peak**	**2.50**	**278**		Pn	10 06 56.3	+1.5
PMD	**Palm Desert**	**2.52**	**153**		Pn	10 06 53.7	-1.3
PMD				IAML		10 07 36.3	
	comp=N,91nm,0.6s						
PMD				IAML		10 07 38.4	
	comp=E,164nm,0.9s						
PFO	**Pinyon Flats O**	**2.52**	**155**		Pn	10 06 54.0	-1.1
PFO				IAML		10 07 38.3	
	comp=E,144nm,1.1s						
PFO				IAML		10 07 39.5	
	comp=E,123nm,0.8s						
NV11	**Mina Array Sit**	**2.54**	**353**		Pn	10 06 55.5	+0.1
NVAR	**Mina Array Bea**	**2.55**	**350**		Pn	10 06 56.9	+1.2
PRN	**Pahroc Range**	**2.62**	**55**		Pn	10 06 56.2	-0.4
PRN				IAML		10 07 49.1	
	comp=E,181nm,0.8s						
PRN				IAML		10 07 49.9	
	comp=N,151nm,0.7s						
BBGB	**Big Mountain B**	**2.75**	**285**		Pn	10 06 59.3	+1.0
RYN	**Ryan**	**2.78**	**347**		Pn	10 06 60.0	+1.2
NEE2	**Needles Airpor**	**2.79**	**113**		Pn	10 06 56.8	-1.9
SAO	**San Andreas Ge**	**3.12**	**287**		Pn	10 07 03.9	+0.7
W13A	**Hualapai Mount**	**3.24**	**103**		Pn	10 07 03.5	-1.6
W13A				IAML		10 08 02.4	
	comp=E,46nm,0.7s						
W13A				IA

0.3nm,0.3s,baz=344,slow=9.6,SNR=17
ASAR S Sn 10 19 24.9 -15
0.5nm,0.5s,baz=344,slow=24,SNR=5.9
0.4nm,0.3s
MKAR Makanchi Array 67.82 327 P P 10 23 20.2 -0.3
0.3nm,0.6s,baz=119,slow=5.1,SNR=2.4
0.3nm,0.6s

*NEIC **07** 10:21:26.3±2.1,35°.659N×0°.010×117°.45W±0°.01, h10km±2km, Error ellipse: s-maj=3.0km s-min=1.9km az=247.0*

PAS 07 10:21:27.2±2.5,35°.659N±0°.010×117°.47W±0°.01, h8km±3km, ML3.5/18, **ML3.2**/118(NEIC), **Error ellipse: s-maj=1.5km s-min=1.4km az=64.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.16**	**148**		Pg	10 21 30.9	+0.4
CCCA					Sg	10 21 33.9	+1.1
CCCA	**Chr Cany lake**	**0.16**	**148**	IAML		10 21 34.1	
	comp=N,64μm,0.5s						
CCCA				IAML		10 21 36.1	
	comp=E,34μm,0.3s						
CLC	**China Lake**	**0.19**	**326**		Pg	10 21 31.1	-0.1
CLC					Sg	10 21 34.0	+0.2
CLC	**China Lake**	**0.19**	**326**	IAML		10 21 34.2	
	comp=N,12μm,0.2s						
CLC				IAML		10 21 34.3	
	comp=E,15μm,0.3s						
SRTC	**Snort**	**0.23**	**278**		Pg	10 21 32.2	+0.3
SRTC					Sg	10 21 36.5	+1.4
LRMC	**Laurel Mtn Rad**	**0.25**	**225**		Pg	10 21 32.1	-0.2
TOW	**Tower One**	**0.28**	**302**		Pg	10 21 33.2	+0.3
MPMC	**Manual Prospec**	**0.40**	**357**		Pg	10 21 34.7	-0.4
MPMC				IAML		10 21 40.8	
	comp=E,4μm,0.6s						
MPMC				IAML		10 21 41.1	
	comp=N,4μm,0.6s						
MPMC	**Manual Prospec**	**0.40**	**357**		Sg	10 21 40.4	0.0
WNMM	**Nine Mile Cany**	**0.40**	**297**		Pg	10 21 34.9	-0.1
WNMM					Sg	10 21 41.2	+0.8
WVPM	**Volcano Peak E**	**0.41**	**316**		Pg	10 21 35.0	-0.2
WVPM					Sg	10 21 40.8	+0.2
DTP	**Desert Tortois**	**0.50**	**218**		Pg	10 21 36.4	-0.5
MFS	**McCloud Flat S**	**0.56**	**325**		Pg	10 21 37.7	-0.3
MFS					Sg	10 21 45.4	+0.1
WBSM	**Bird Springs**	**0.56**	**258**		Pg	10 21 37.7	-0.4
WBSM					Sg	10 21 45.6	+0.1
QSM	**Queen of Sheba**	**0.57**	**58**		Pg	10 21 38.0	-0.3
QSM				IAML		10 21 46.0	
	comp=N,2μm,0.4s						
QSM				IAML		10 21 46.1	
	comp=E,2μm,0.3s						
GSC	**Goldstone, Bar**	**0.65**	**123**		Sg	10 21 48.2	+0.1
GSC	**Goldstone, Bar**	**0.65**	**123**		Pg	10 21 39.3	-0.4
GSC				IAML		10 21 48.4	
	comp=N,5μm,0.3s						
GSC				IAML		10 21 49.8	
	comp=E,4μm,0.4s						
CCAC	**Calif City Air**	**0.68**	**222**		Pg	10 21 39.8	-0.5
CCAC					Sg	10 21 49.2	+0.1
WHFM	**Hanning Flat**	**0.72**	**273**		Sg	10 21 50.5	0.0
HYS	**Haystack Butte**	**0.80**	**186**		Pg	10 21 41.9	-0.7
HYS					Sg	10 21 52.5	-0.5
ISA	**Isabella, Lake**	**0.82**	**271**		Pg	10 21 42.2	-0.8
ISA				IAML		10 21 53.9	
	comp=N,692nm,0.4s						
ISA				IAML		10 21 56.1	
	comp=E,916nm,0.2s						
GWY	**Greenwater Val**	**0.83**	**51**		Pg	10 21 42.9	-0.4
GWY				IAML		10 22 00.4	
	comp=E,1μm,0.5s						
GWY				IAML		10 22 02.7	
	comp=N,987nm,0.7s						
RRX	**Edison Barstow**	**0.87**	**154**		Pb	10 21 44.6	-0.1
EDW2	**Edwards Air Fo**	**0.89**	**209**		Pg	10 21 43.4	-0.9
WASM	**Alta Sierra Ca**	**0.89**	**275**		Pg	10 21 43.7	-0.7
WASM					Sg	10 21 55.7	-0.3
CWC	**Cottonwood Cre**	**0.92**	**328**		Sg	10 21 57.0	-0.1
CWC	**Cottonwood Cre**	**0.92**	**328**		Pg	10 21 44.8	-0.2
CWC				IAML		10 21 58.0	
	comp=N,936nm,0.2s						
CWC				IAML		10 21 59.8	
	comp=E,689nm,0.3s						
CGO	**Cerro Gordo**	**0.93**	**343**		Pg	10 21 44.3	-0.9
CGO					Sb	10 21 57.9	-0.6
FURC	**Furnace Creek,**	**0.94**	**31**		Sb	10 21 58.3	-0.2
TPO	**Tropico Hills**	**1.00**	**219**		Pg	10 21 45.5	-0.8
TPO					Sb	10 21 60.0	-0.1
TPO	**Tropico Hills**	**1.00**	**219**	IAML		10 22 05.1	
	comp=E,1μm,0.7s						
SHOC	**Shoshone, Teco**	**1.00**	**76**		Sb	10 22 00.0	-0.1
SBB	**Saddle Back Bu**	**1.01**	**197**		Pg	10 21 45.7	-1.0
SBB					Sb	10 22 00.2	-0.3
TEJ	**El Tejon**	**1.09**	**247**		Pg	10 21 46.7	-1.4
VTV	**Victorville**	**1.10**	**174**		Pg	10 21 48.3	-0.1
ADO	**Adelanto Recei**	**1.11**	**179**		Pg	10 21 48.1	-0.4
SPG2	**Springville 2**	**1.19**	**298**		Pg	10 21 48.8	-1.2
ALPC	**Antelope**	**1.19**	**215**		Sb	10 22 05.8	+0.3
TJR	**Tejon Ranch**	**1.22**	**239**		Pb	10 21 49.6	-1.0
LRRC	**Littlerock Res**	**1.22**	**202**		Pb	10 21 49.2	-1.3
DSCC	**Desert Studies**	**1.23**	**114**		Pb	10 21 48.8	-1.9
THC	**Tehachapi Micr**	**1.23**	**233**		Pb	10 21 50.3	-0.6
ARVC	**Arvin**	**1.23**	**245**		Pb	10 21 49.8	-1.0
LEOC	**Leona Valley**	**1.23**	**214**		Pb	10 21 49.5	-1.4
HOLC	**Holcomb Ridge**	**1.24**	**195**		Pb	10 21 49.5	-1.4
HEC	**Hector,Ludlow**	**1.24**	**131**		Pb	10 21 49.4	-1.6
AMDNV	**Amargosa**	**1.25**	**50**		Pn	10 21 49.4	-1.5
CJV	**Casa Juvan**	**1.26**	**206**		Pn	10 21 49.7	-1.5
JNH	**Juniper Hills**	**1.27**	**198**		Pn	10 21 50.0	-1.5
TUQ	**Turquoise Moun**	**1.28**	**100**		Pn	10 21 50.1	-1.5
WCT	**Wildcat Mounta**	**1.32**	**31**		Pn	10 21 50.7	-1.3
WCT				IAML		10 22 11.2	
	comp=E,374nm,0.5s						
WCT				IAML		10 22 12.4	
	comp=N,418nm,0.5s						
VES	**Vestal, Richgr**	**1.33**	**278**		Pn	10 21 51.4	-0.7
GRAC	**Grapevine Rang**	**1.34**	**3**		Pn	10 21 51.6	-0.7
SGV	**South Grapevin**	**1.36**	**15**		Pn	10 21 51.7	-1.0
BAKC	**Calstate**	**1.37**	**257**		Pn	10 21 52.5	-0.2
CHFC	**Chilao Flat St**	**1.40**	**199**		Pn	10 21 52.0	-1.2
SIL	**Silver Peak**	**1.41**	**158**		Pn	10 21 53.4	0.0
BFSC	**Mount Baldy Ra**	**1.43**	**186**		Pn	10 21 52.2	-1.3
BFSC				IAML		10 22 13.4	
	comp=E,509nm,0.4s						
BFSC				IAML		10 22 16.0	
	comp=N,386nm,0.5s						
SSK	**Sunset Peak**	**1.46**	**187**		Pn	10 21 53.0	-1.0
BBRC	**Big Bear Solar**	**1.46**	**162**		Pn	10 21 54.3	+0.1
OSI	**Osito Audit: C**	**1.47**	**225**		Pn	10 21 53.2	-0.9
OSI				IAML		10 22 16.1	
	comp=N,485nm,0.8s						
OSI				IAML		10 22 18.9	
	comp=E,399nm,1.0s						
MWC	**Mount Wilson**	**1.51**	**199**		Pn	10 21 53.6	-1.2
MWC				IAML		10 22 17.1	
	comp=E,577nm,0.4s						
MTPC	**Mountain Pass**	**1.57**	**96**		Pn	10 21 53.9	-1.7
MTPC				IAML		10 22 17.3	
	comp=N,324nm,0.4s						
MTPC				IAML		10 22 17.5	
	comp=E,450nm,0.3s						
DECC	**Green Verdugo**	**1.57**	**207**		Pn	10 21 54.6	-0.9
LCH	**Last Change Ra**	**1.58**	**355**		Pn	10 21 54.9	-0.8
SVD	**Seven Oaks Dam**	**1.58**	**169**		Pg	10 21 57.1	-0.3
PSRC	**Puddingstone R**	**1.59**	**190**		Pn	10 21 55.0	-0.6
PASC	**Pasadena Art C**	**1.60**	**202**		Pn	10 21 54.8	-1.0
PASC				IAML		10 22 21.8	
	comp=E,270nm,0.4s						
PASC				IAML		10 22 23.7	
	comp=N,362nm,0.4s						
TPNV	**Topopah Spring**	**1.62**	**37**		Pn	10 21 55.4	-0.9
TPNV				IAML		10 22 21.1	
	comp=N,295nm,0.4s						
TPNV				IAML		10 22 21.4	
	comp=N,295nm,0.6s						
GTM	**Goat Mountain**	**1.64**	**146**		Pb	10 21 57.7	0.0
GMN	**Gold Mountain**	**1.65**	**6**		Pn	10 21 55.7	-1.0
GMN				IAML		10 22 22.1	
	comp=N,230nm,0.5s						
RVR	**Riverside**	**1.66**	**177**		Pn	10 21 55.7	-1.0
VOG	**Valley Oaks Go**	**1.69**	**294**		Pb	10 21 57.9	-0.6
RHC	**Rose Hills Cem**	**1.71**	**195**		Pn	10 21 56.7	-0.7
BLCC	**Black Canyon**	**1.73**	**215**		Pn	10 21 56.9	-0.7
DJJ	**Donna J Jenkin**	**1.75**	**208**		Pn	10 21 56.9	-1.0
DSP	**Deep Springs**	**1.75**	**347**		Pn	10 21 57.5	-0.5
DSP				IAML		10 22 23.9	
	comp=E,254nm,0.3s						
BBSC	**Beaumont Base**	**1.78**	**167**		Pn	10 21 57.9	-0.5
BLAC	**Blackrock camp**	**1.82**	**151**		Pn	10 21 57.7	-1.2
BHPR	**Bishop**	**1.83**	**334**		Pn	10 21 58.5	-0.8
CRGC	**Crocker Grade**	**1.89**	**258**		Pb	10 22 01.9	-0.1
MTUM	**Tungsten Hills**	**1.91**	**333**		Pb	10 22 02.7	+0.3
EW2	**E Wide Canyon**	**1.92**	**153**		Pn	10 21 59.2	-1.2
TPC	**Twentynine Pal**	**1.94**	**143**		Pn	10 21 59.1	-1.5
HMTC	**Hemet**	**1.98**	**169**		Pn	10 22 00.1	-1.0
ELS	**Elsinore Mount**	**2.01**	**179**		Pn	10 22 00.5	-1.1
ELS				IAML		10 22 32.9	
	comp=N,141nm,0.4s						
ELS				IAML		10 22 33.5	
	comp=E,178nm,0.5s						
POB	**Polly Butte**	**2.02**	**167**		Pn	10 22 00.8	-0.8
DGR	**Domenigoni Val**	**2.04**	**169**		Pn	10 22 01.0	-0.9
MZP	**Montezuma Peak**	**2.04**	**2**		Pn	10 22 01.6	-0.6
SHPR	**Sheep Range**	**2.05**	**65**		Pn	10 22 01.5	-0.7
RPV	**Rancho Palos V**	**2.06**	**202**		Pn	10 22 01.6	-0.5
MURC	**Murrieta**	**2.07**	**174**		Pn	10 22 01.4	-0.9
BACC	**Bachelor Mtn.**	**2.07**	**170**		Pn	10 22 01.4	-1.0
V12A	**Nelson**	**2.13**	**87**		Pn	10 22 01.8	-1.5
CRY	**Cary Ranch**	**2.17**	**164**		Pn	10 22 03.0	-0.8
PMD	**Palm Desert**	**2.20**	**156**		Pn	10 22 02.6	-1.5
PMD				IAML		10 22 38.3	
	comp=E,130nm,0.4s						
PMD				IAML		10 22 39.7	
	comp=N,106nm,0.5s						
PFO	**Pinyon Flats O**	**2.21**	**158**		Pn	10 22 02.9	-1.4
PFO				IAML		10 22 40.1	
	comp=N,135nm,0.8s						
SNDA	**J Saunders Pla**	**2.22**	**161**		Pn	10 22 03.6	-0.9
BZNA	**Buzz No.'s Pla**	**2.26**	**163**		Pn	10 22 04.3	-0.8
FRD	**Ford Ranch, An**	**2.27**	**161**		Pn	10 22 04.4	-0.9
PLM	**Palomar**	**2.35**	**168**		Pn	10 22 05.6	-0.7
CIAC	**Catalina I. Ai**	**2.38**	**199**		Pn	10 22 05.5	-1.1
S11A	**Rachel**	**2.42**	**34**		Pn	10 22 05.7	-1.5
S11A				IAML		10 22 51.6	
	comp=E,186nm,0.9s						
S11A				IAML		10 23 00.3	
	comp=N,158nm,0.9s						
PRN	**Pahroc Range**	**2.61**	**47**		Pn	10 22 09.2	-0.7
PRN				IAML		10 22 58.9	
	comp=E,110nm,0.8s						
PRN				IAML		10 23 00.9	
	comp=N,111nm,0.8s						
LHV	**Little Huntoon**	**2.72**	**342**		Pn	10 22 11.4	+0.2
LHV				IAML		10 22 58.9	
	comp=E,105nm,0.8s						
LHV				IAML		10 23 06.5	
	comp=N,84nm,1.4s						
NV11	**Mina Array Sit**	**2.82**	**349**		Pn	10 22 11.9	-0.9
NVAR	**Mina Array Bea**	**2.84**	**347**		Pn	10 22 12.4	-0.7
W13A	**Hualapai Mount**	**2.98**	**100**		Pn	10 22 13.1	-1.9
W13A				IAML		10 23 08.9	
	comp=N,46nm,0.6s						
R11B	**Troy Canyon, C**	**3.08**	**29**		Pn	10 22 14.8	-1.5
R11B				IAML		10 23 06.3	
	comp=E,40nm,0.6s						
BLYC	**Blythe**	**3.08**	**127**		Pn	10 22 14.1	-2.2
BLYC				IAML		10 23 06.1	
	comp=E,116nm,0.6s						
BLYC				IAML		10 23 07.8	
	comp=N,118nm,0.6s						
RYN	**Ryan**	**3.08**	**344**		Pn	10 22 16.0	-0.4
TJX	**Tijuana**	**3.16**	**174**	Pn	Pn	10 22 17.2	-0.1
Q09A	**Carvers**	**3.18**	**4**	Pn	Pn	10 22 17.8	+0.1
YUH	**Yuha Desert**	**3.27**	**156**	Pn	Pn	10 22 17.1	-1.6
GLA	**Glamis**	**3.40**	**139**		Pn	10 22 18.1	-2.5
CBX	**Cerro Bola**	**3.40**	**168**		Pn	10 22 20.1	-0.7
SAO	**San Andreas Ge**	**3.40**	**290**	Pn	Pn	10 22 19.7	-0.9
LCMT	**Little Creek M**	**3.67**	**67**		Pn	10 22 23.7	-0.7
CCUT	**Cedar City**	**3.80**	**59**		Pn	10 22 26.4	+0.1
CCX	**Cicese**	**3.84**	**170**		Pn	10 22 25.8	-0.8
ESJX	**Sierra Juarez**	**3.86**	**160**		Pn	10 22 26.1	-1.0
ESJX				IAML		10 23 29.1	
	comp=N,34nm,0.8s						
ESJX				IAML		10 23 34.6	
	comp=E,41nm,1.2s						
KNB	**Kanab**	**3.99**	**69**		Pn	10 22 28.1	-0.7
Y14A	**Wickenburg**	**4.05**	**114**		Pn	10 22 27.9	-1.7
Y14A				IAML		10 23 38.7	
	comp=E,54nm,0.5s						
PSUT	**Pine Spring**	**4.07**	**44**		Pn	10 22 29.4	-0.6
PSUT				IAML		10 23 42.3	
	comp=E,23nm,0.9s						
SPR3	**Spring Creek 3**	**4.17**	**36**		Pn	10 22 29.8	-1.6
SPR3				IAML		10 23 41.3	
	comp=N,21nm,0.6s						
VTX	**Valle De La Tr**	**4.48**	**161**		Pn	10 22 34.1	-1.4
VTX				IAML		10 23 52.3	
	comp=N,19nm,0.9s						
VTX				IAML		10 23 52.4	
	comp=E,27nm,1.2s						
214A	**Organ Pipe Nat**	**5.35**	**132**		Pn	10 22 45.0	-2.5
214A				IAML		10 24 24.4	
	comp=N,14nm,0.7s						
214A				IAML		10 24 31.4	
	comp=E,15nm,0.9s						
ELK	**Elko**	**5.37**	**18**		Pn	10 22 48.1	+0.2
ELK				IAML		10 24 19.4	
	comp=E,7.4nm,0.5s						

*SDD **07** 10:22:05.4±1.3, 19°.75N×71°.67W, h8km±30km, MD2.8, ML1.9, MW2.5*
*OSPL **07** 10:22:05.1±1.6, 19°.77N×71°.66W, h15km±17km, ML1.5*

ISC 07 10:22:03.8±1.0, 19°.76N±0°.04×71°.57W±0°.05, h13km±10km, n8, σ1°.93/16, 4C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCDR	**Montecristi**	**0.15**	**327**	⇑*e*Pg	**Pg**	**10 22 07.6**	**+0.1**
MCDR				*e*Sg	**Sg**	**10 22 10.8**	**+0.7**
MCDR				IAML		10 22 14.0	
	comp=N,427nm,0.1s						
LODA1	**ITESIL, Dajabo**	**0.25**	**210**	*i* P	**Pb**	**10 22 09.7**	**-0.6**
LODA1				*e*S	**Sb**	**10 22 13.5**	**-1.1**
LODA1				IAML		10 22 14.3	
	comp=Z,778nm,1.1s						
LOPP1	**Punta Rusia, P**	**0.36**	**76**	*i* P	**Pn**	**10 22 13.4**	**-1.4**
LOPP1				*e*S	**Sb**	**10 22 19.0**	**+1.4**
LOPP1				IAML		10 22 20.6	
	comp=Z,44nm,2.7s						
REDR	**Restauracion**	**0.62**	**165**	⇑*e*Pg	**Pg**	**10 22 13.8**	**-2.1**
REDR				⇑*e*Sg	**Sg**	**10 22 20.4**	**-3.7**
REDR				IAML		10 22 20.9	
	comp=N,202nm,0.2s						
SDDR	**Presa de Saban**	**0.82**	**161**	⇑*e*Pg	**Pn**	**10 22 21.4**	**+0.2**
SDDR				⇓*e*Sg	**Sb**	**10 22 31.4**	**+0.3**
SDDR				IAML		10 22 33.6	
	comp=N,19nm,0.4s						
SDDR	**Presa de Saban**	**0.82**	**161**	*i* P	**Pn**	**10 22 21.4**	**+0.2**
SDDR				*e*S	**Sb**	**10 22 30.9**	**-0.1**
SDDR				IAML		10 22 32.0	
	comp=Z,16nm,0.6s						
SC01	**Santiago de lo**	**0.86**	**113**	*i* P	**Pg**	**10 22 21.0**	**+0.5**
SC01				*e*S	**Sn**	**10 22 34.7**	**+0.5**
LONE3	**El Aguacate, B**	**1.16**	**175**	*i* P	**Pg**	**10 22 29.0**	**+2.8**
LONE3				*e*S	**Sg**	**10 22 44.8**	**+3.5**
LONE3				IAML		10 22 46.1	
	comp=Z,9.4nm,1.5s						

*NEIC **07** 10:32:54.3±1.8, 35°.799N×0°.008×117°.61W±0°.01, h8km±8km, Error ellipse: s-maj=1.4km s-min=1.1km az=111.0*

PAS 07 10:32:54.7±1.7, 35°.797N±0°.010×117°.62W±0°.01, h6km±4km, ML3.4/18, **ML3.0**/106(NEIC), **Error ellipse: s-maj=1.5km s-min=1.3km az=53.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.03**	**48**		Pg	10 32 56.0	0.0
CLC	**China Lake**	**0.03**	**48**	IAML		10 32 57.2	
	comp=N,26μm,0.2s						
CLC				IAML		10 32 57.3	
	comp=E,15μm,0.2s						
TOW	**Tower One**	**0.12**	**276**		Pg	10 32 57.6	+0.4
SRTC	**Snort**	**0.15**	**224**		Pg	10 32 58.0	+0.3
WVPM	**Volcano Peak E**	**0.22**	**314**		Pg	10 32 59.1	0.0
WVPM					Sg	10 33 02.5	+0.4
WNMM	**Nine Mile Cany**	**0.23**	**281**		Sg	10 33 03.1	+0.7
MPMC	**Manual Prospec**	**0.28**	**23**		Pg	10 32 60.0	-0.4
MPMC				IAML		10 33 05.0	
	comp=N,3μm,0.5s						
MPMC				IAML		10 33 05.6	
	comp=E,2μm,0.3s						
WRVM	**Rose V. Centra**	**0.30**	**314**		Sg	10 33 04.9	+0.2
LRMC	**Laurel Mtn Rad**	**0.32**	**189**		Pg	10 33 00.6	-0.4
CCCA	**Chr Cany lake**	**0.34**	**142**		Pg	10 33 01.7	+0.3
CCCA					Sg	10 33 07.0	+1.1
CCCA	**Chr Cany lake**	**0.34**	**142**	IAML		10 33 07.3	
	comp=E,10μm,0.6s						
CCCA				IAML		10 33 08.8	
	comp=N,15μm,0.4s						
MFS	**McCloud Flat S**	**0.37**	**330**		Pg	10 33 01.9	-0.1
MFS					Sg	10 33 07.2	+0.3
DTP	**Desert Tortois**	**0.56**	**199**		Pg	10 33 04.9	-0.5
DTP					Sg	10 33 12.7	-0.1
WHFM	**Hanning Flat**	**0.60**	**261**		Sg	10 33 14.0	-0.1
QSM	**Queen of Sheba**	**0.64**	**75**		Pg	10 33 06.4	-0.5
QSM				IAML		10 33 15.6	
	comp=E,1μm,0.4s						
QSM				IAML		10 33 19.0	
	comp=N,1μm,0.7s						
QSM	**Queen of Sheba**	**0.64**	**75**		Sg	10 33 15.2	0.0
ISA	**Isabella, Lake**	**0.71**	**259**		Sg	10 33 18.2	+0.7
CCAC	**Calif City Air**	**0.72**	**207**		Pg	10 33 08.1	-0.4
CCAC					Sg	10 33 17.9	+0.1
CWC	**Cottonwood Cre**	**0.74**	**330**		Pg	10 33 09.0	0.0
CWC					Sg	10 33 18.6	0.0
CWC				IAML		10 33 20.1	
	comp=N,724nm,0.1s						
CWC				IAML		10 33 22.1	
	comp=E,855nm,0.2s						
WASM	**Alta Sierra Ca**	**0.76**	**266**		Pg	10 33 08.9	-0.4
CGO	**Cerro Gordo**	**0.77**	**349**		Pg	10 33 08.8	-0.6
GSC	**Goldstone, Bar**	**0.83**	**126**		Sg	10 33 21.2	-0.2
GSC	**Goldstone, Bar**	**0.83**	**126**		Pg	10 33 09.8	-0.8
GSC				IAML		10 33 21.6	
	comp=N,790nm,0.4s						
GWY	**Greenwater Val**	**0.86**	**63**		Pg	10 33 10.8	-0.6
GWY	**Greenwater Val**	**0.86**	**63**		Sg	10 33 22.4	-0.2
FURC	**Furnace Creek,**	**0.91**	**42**		Sb	10 33 24.7	-0.5
HYS	**Haystack Butte**	**0.93**	**177**		Pg	10 33 11.7	-0.9
EDW2	**Edwards Air Fo**	**0.96**	**198**		Pg	10 33 12.2	-0.9
SPG2	**Springville 2**	**1.01**	**294**		Pg	10 33 13.1	-1.0
TEJ	**El Tejon**	**1.04**	**237**		Pg	10 33 13.5	-1.1
TPO	**Tropico Hills**	**1.04**	**209**		Pg	10 33 13.8	-0.9
TPO					Sg	10 33 28.1	-0.1
TPO	**Tropico Hills**	**1.04**	**209**	IAML		10 33 30.7	
	comp=N,595nm,0.8s						
TPO				IAML		10 33 32.8	
	comp=E,516nm,0.6s						
RRX	**Edison Barstow**	**1.05**	**151**		Pg	10 33 14.3	-0.5
SBB	**Saddle Back Bu**	**1.12**	**189**		Pg	10 33 15.0	-1.2
SBB					Sb	10 33 31.0	-0.3
VES	**Vestal, Richgr**	**1.19**	**273**		Pg	10 33 16.7	-0.8
ARVC	**Arvin**	**1.19**	**236**		Pg	10 33 16.9	-0.6
ARVC					Sg	10 33 32.7	-0.3
TJR	**Tejon Ranch**	**1.20**	**230**		Pg	10 33 16.4	-1.2
TJR					Sg	10 33 32.2	-0.9
GRAC	**Grapevine Rang**	**1.21**	**10**		Pg	10 33 17.4	-0.5
GRAC				IAML		10 33 37.5	
	comp=E,555nm,0.6s						
GRAC				IAML		10 33 37.9	
	comp=N,504nm,0.7s						
THC	**Tehachapi Micr**	**1.23**	**224**		Pg	10 33 17.2	-1.1
AMDNV	**Amargosa**	**1.27**	**59**		Pn	10 33 17.3	-1.6
AMDNV					Sg	10 33 35.2	-0.3
SGV	**South Grapevin**	**1.27**	**22**		Pg	10 33 18.1	-1.0
WCT	**Wildcat Mounta**	**1.28**	**39**		Sg	10 33 35.7	-0.2
WCT	**Wildcat Mounta**	**1.28**	**39**		Pn	10 33 18.3	-0.8
WCT				IAML		10 33 37.3	
	comp=E,375nm,0.5s						
WCT				IAML		10 33 37.7	
	comp=N,320nm,0.8s						
BAKC	**Calstate**	**1.29**	**250**		Pn	10 33 18.5	-0.7
LEOC	**Leona Valley**	**1.29**	**206**		Pg	10 33 19.8	+0.3
LRRC	**Littlerock Res**	**1.31**	**195**		Pn	10 33 18.7	-0.8
CJV	**Casa Juvan**	**1.33**	**199**		Pg	10 33 20.4	+0.1
CJV					Sg	10 33 37.6	0.0
TIN	**Tinemaha, Big**	**1.35**	**339**		Pn	10 33 19.7	-0.5
HOLC	**Holcomb Ridge**	**1.35**	**188**		Pn	10 33 18.7	-1.4
HOLC					Sb	10 33 37.9	-0.1
JNH	**Juniper Hills**	**1.37**	**191**		Pn	10 33 19.2	-1.2
DSCC	**Desert Studies**	**1.40**	**117**		Pn	10 33 18.8	-2.0
DSCC					Sn	10 33 39.5	-0.1
HEC	**Hector,Ludlow**	**1.43**	**132**		Pn	10 33 19.5	-1.7
HEC					Sb	10 33 40.2	-0.1
TUQ	**Turquoise Moun**	**1.43**	**104**		Pn	10 33 19.8	-1.4
LCH	**Last Change Ra**	**1.43**	**359**		Pn	10 33 20.6	-0.8
OSI	**Osito Audit: C**	**1.48**	**218**		Pn	10 33 21.2	-0.7
OSI				IAML		10 33 49.0	
	comp=E,146nm,0.6s						
OSI				IAML		10 33 50.0	
	comp=N,160nm,0.5s						
CHFC	**Chilao Flat St**	**1.50**	**193**		Pb	10 33 22.8	-0.2
VOG	**Valley Oaks Go**	**1.52**	**291**		Pn	10 33 22.6	+0.3
VOG					Sb	10 33 42.9	+0.2
GMN	**Gold Mountain**	**1.53**	**11**		Pn	10 33 22.0	-0.7
GMN				IAML		10 33 31.3	
	comp=N,156nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.56**	**181**		Sb	10 33 44.1	+0.2
BFSC	**Mount Baldy Ra**	**1.56**	**181**		Pn	10 33 22.8	-0.2
BFSC				IAML		10 33 44.6	
	comp=E,310nm,0.3s						
BFSC				IAML		10 33 45.5	
	comp=N,276nm,0.3s						
SSK	**Sunset Peak**	**1.58**	**182**		Pb	10

V12A				IAML		10 34 15.3	
	comp=E,61nm,0.7s						
TPH	**Tonopah**	**2.30**	**8**		Pn	10 33 33.0	-0.3
CRY	**Cary Ranch**	**2.34**	**162**		Pn	10 33 33.0	-0.8
PMD	**Palm Desert**	**2.38**	**154**		Pn	10 33 32.5	-1.7
PMD				IAML		10 34 13.8	
	comp=E,83nm,0.8s						
PMD				IAML		10 34 19.6	
	comp=N,59nm,0.7s						
PFO	**Pinyon Flats O**	**2.38**	**156**		Pn	10 33 32.8	-1.6
PFO				IAML		10 34 15.0	
	comp=N,59nm,1.4s						
PFO				IAML		10 34 15.5	
	comp=N,56nm,0.9s						
LHV	**Little Huntoon**	**2.55**	**344**		Pn	10 33 36.7	+0.2
LHV				IAML		10 34 20.0	
	comp=N,47nm,0.6s						
LHV				IAML		10 34 22.8	
	comp=E,48nm,0.6s						
PMPB	**Monarch Peak**	**2.61**	**280**		Pn	10 33 38.0	+0.5
PRN	**Pahroc Range**	**2.62**	**51**		Pn	10 33 37.0	-0.6
PRN				IAML		10 34 27.8	
	comp=N,94nm,0.7s						
PRN				IAML		10 34 33.5	
	comp=E,99nm,0.9s						
NV11	**Mina Array Sit**	**2.66**	**351**		Pn	10 33 38.0	-0.3
NVAR	**Mina Array Bea**	**2.68**	**348**		Pn	10 33 38.2	-0.3
BBGB	**Big Mountain B**	**2.87**	**287**	Pn	Pn	10 33 40.2	-0.9
RYN	**Ryan**	**2.92**	**346**		Pn	10 33 41.5	-0.3
R11B	**Troy Canyon, C**	**3.02**	**32**		Pn	10 33 43.3	+0.1
R11B				IAML		10 34 33.3	
	comp=E,34nm,1.1s						
Q09A	**Carvers**	**3.05**	**6**		Pn	10 33 43.6	0.0
W13A	**Hualapai Mount**	**3.13**	**102**		Pn	10 33 43.1	-1.7
BLYC	**Blythe**	**3.27**	**128**		Pn	10 33 44.2	-2.2
BLYC				IAML		10 34 39.6	
	comp=N,48nm,0.5s						
BLYC				IAML		10 34 41.5	
	comp=E,52nm,0.7s						
CBX	**Cerro Bola**	**3.56**	**167**		Pn	10 33 50.8	+0.2
GLA	**Glamis**	**3.58**	**139**		Pn	10 33 48.6	-2.2
LCMT	**Little Creek M**	**3.73**	**70**		Pn	10 33 52.6	-0.4
CCUT	**Cedar City**	**3.84**	**62**		Pn	10 33 54.5	-0.1
KNB	**Kanab**	**4.06**	**71**		Pn	10 33 57.4	0.0
KNB				IAML		10 35 12.3	
	comp=N,13nm,1.1s						
PAHR	**Pah Rah Range**	**4.14**	**341**		Pn	10 33 59.0	+0.3
Y14A	**Wickenburg**	**4.22**	**115**		Pn	10 33 57.8	-1.8
Y14A				IAML		10 35 14.1	
	comp=N,28nm,1.1s						
Y14A				IAML		10 35 16.1	
	comp=E,20nm,0.4s						
X16A	**Lo Mia Camp, P**	**5.25**	**103**		Pn	10 34 13.4	-0.4
ELK	**Elko**	**5.28**	**20**		Pn	10 34 13.3	-1.0

*NEIC **07** 10:37:45.3±2.0, 35°.769N±0°.009×117°.58W±0°.01, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.6km az=265.0*

PAS 07 10:37:45.7±1.6, 35°.758N±0°.008×117°.591W±0°.005, h3km±3km, ML3.2/21, ML2.9/98(NEIC), Error ellipse: s-maj=1.3km s-min=0.4km az=159.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.06**	**355**		Pg	10 37 47.2	+0.2
CLC	**China Lake**	**0.06**	**355**	IAML		10 37 48.5	
	comp=N,30µm,0.2s						
CLC				IAML		10 37 48.6	
	comp=E,63µm,0.2s						
SRTC	**Snort**	**0.14**	**243**		Pg	10 37 49.0	+0.5
SRTC					Sg	10 37 52.1	+1.6
TOW	**Tower One**	**0.15**	**290**		Pg	10 37 49.2	+0.6
TOW					Sg	10 37 52.4	+1.8
WVPM	**Volcano Peak E**	**0.27**	**316**		Pg	10 37 51.0	+0.1
WVPM					Sg	10 37 55.5	+1.1
WNMM	**Nine Mile Cany**	**0.27**	**289**		Pg	10 37 51.2	+0.3
WNMM					Sg	10 37 55.4	+1.0
LRMC	**Laurel Mtn Rad**	**0.29**	**195**		Pg	10 37 51.1	-0.1
LRMC				IAML		10 37 56.6	
	comp=N,3µm,0.2s						
CCCA	**Chr Cany lake**	**0.30**	**141**		Pg	10 37 51.8	+0.4
MPMC	**Manual Prospec**	**0.31**	**15**		Pg	10 37 51.6	-0.1
MPMC				IAML		10 37 56.9	
	comp=N,1µm,0.5s						
MPMC				IAML		10 37 57.8	
	comp=E,1µm,0.4s						
WRVM	**Rose V. Centra**	**0.35**	**316**		Pg	10 37 52.4	0.0
WRVM					Sg	10 37 57.5	+0.5
MFS	**McCloud Flat S**	**0.42**	**329**		Pg	10 37 53.4	-0.4
MFS					Sg	10 37 59.8	+0.6
WBSM	**Bird Springs**	**0.50**	**244**		Sg	10 38 02.4	+0.7
DTP	**Desert Tortois**	**0.53**	**203**		Pg	10 37 55.6	-0.2
DTP					Sg	10 38 03.1	+0.4
WORM	**Onyx Ranch**	**0.53**	**264**		Sg	10 38 03.0	+0.2
QSM	**Queen of Sheba**	**0.62**	**70**		Sg	10 38 06.1	+0.4
QSM	**Queen of Sheba**	**0.62**	**70**		Pg	10 37 57.5	-0.1
QSM				IAML		10 38 06.2	
	comp=E,1µm,0.3s						
QSM				IAML		10 38 08.2	
	comp=N,871nm,0.2s						
CCAC	**Calif City Air**	**0.70**	**210**		Pg	10 37 58.8	-0.2
CCAC					Sg	10 38 08.7	+0.6
ISA	**Isabella, Lake**	**0.72**	**263**		Pg	10 37 59.1	-0.4
ISA				IAML		10 38 09.9	
	comp=N,532nm,0.2s						
ISA				IAML		10 38 10.0	
	comp=E,874nm,0.2s						
GSC	**Goldstone, Bar**	**0.79**	**125**		Sg	10 38 11.4	+0.4
GSC	**Goldstone, Bar**	**0.79**	**125**		Pg	10 38 00.4	-0.3
GSC				IAML		10 38 11.6	
	comp=N,492nm,0.5s						
GSC				IAML		10 38 14.4	
	comp=E,669nm,0.3s						
WASM	**Alta Sierra Ca**	**0.79**	**269**		Pg	10 38 00.5	-0.3
WASM					Sg	10 38 11.3	+0.3
CWC	**Cottonwood Cre**	**0.79**	**330**		Sg	10 38 11.9	+0.9
CWC	**Cottonwood Cre**	**0.79**	**330**		Pg	10 38 00.6	-0.2
CWC				IAML		10 38 13.4	
	comp=N,292nm,0.2s						
CGO	**Cerro Gordo**	**0.81**	**348**		Pg	10 38 01.5	+0.3
CGO					Sg	10 38 12.6	+0.9
GWY	**Greenwater Val**	**0.86**	**60**		Pg	10 38 01.9	-0.4
HYS	**Haystack Butte**	**0.89**	**179**		Pg	10 38 02.2	-0.5
EDW2	**Edwards Air Fo**	**0.93**	**201**		Pg	10 38 03.0	-0.6
RRX	**Edison Barstow**	**1.00**	**151**		Pg	10 38 04.6	-0.3
TPO	**Tropico Hills**	**1.02**	**211**		Pg	10 38 04.6	-0.6
TPO					Sg	10 38 18.8	+0.4
TPO	**Tropico Hills**	**1.02**	**211**	IAML		10 38 21.6	
	comp=N,460nm,1.0s						
TEJ	**El Tejon**	**1.04**	**240**		Pg	10 38 04.5	-1.1
SPG2	**Springville 2**	**1.05**	**295**		Pg	10 38 05.0	-0.8
SPG2					Sg	10 38 18.9	-0.6
SBB	**Saddle Back Bu**	**1.08**	**190**		Pg	10 38 05.7	-0.8
SBB					Sb	10 38 21.6	-0.1
ARVC	**Arvin**	**1.19**	**238**		Pg	10 38 08.3	-0.2
VTV	**Victorville**	**1.21**	**170**		Pg	10 38 09.1	+0.1
VTV					Sb	10 38 25.1	-0.3
VES	**Vestal, Richgr**	**1.22**	**274**		Pg	10 38 08.4	-0.6
VES					Sg	10 38 24.6	-0.2
THC	**Tehachapi Micr**	**1.22**	**226**		Pg	10 38 07.8	-1.2
GRAC	**Grapevine Rang**	**1.25**	**8**		Pg	10 38 09.2	-0.5
GRAC				IAML		10 38 33.0	
	comp=N,251nm,0.9s						
GRAC				IAML		10 38 36.0	
	comp=E,280nm,0.8s						
LEOC	**Leona Valley**	**1.27**	**208**		Pg	10 38 09.2	-0.8
AMDNV	**Amargosa**	**1.27**	**56**		Pg	10 38 08.8	-1.2
LRRC	**Littlerock Res**	**1.28**	**196**		Pg	10 38 10.0	-0.3
LRRC					Sb	10 38 27.3	+0.1
WCT	**Wildcat Mounta**	**1.29**	**37**		Sb	10 38 27.9	0.0
WCT	**Wildcat Mounta**	**1.29**	**37**		Pg	10 38 09.6	-0.9
WCT				IAML		10 38 30.9	
	comp=E,148nm,0.3s						
BAKC	**Calstate**	**1.30**	**252**		Pg	10 38 09.9	-0.7
SGV	**South Grapevin**	**1.30**	**20**		Pg	10 38 10.2	-0.5
SGV					Sg	10 38 27.6	+0.1
CJV	**Casa Juvan**	**1.30**	**200**		Pn	10 38 11.0	+0.1
HOLC	**Holcomb Ridge**	**1.31**	**189**		Pg	10 38 10.8	-0.1
HOLC					Sg	10 38 28.1	+0.2
JNH	**Juniper Hills**	**1.34**	**193**		Pg	10 38 10.4	-1.0
JNH					Sb	10 38 29.3	+0.1
DSCC	**Desert Studies**	**1.36**	**116**		Pn	10 38 09.7	-1.9
DSCC					Sg	10 38 28.9	-0.5
HEC	**Hector,Ludlow**	**1.38**	**132**		Pn	10 38 10.4	-1.6
HEC					Sg	10 38 30.2	+0.1
TUQ	**Turquoise Moun**	**1.40**	**103**		Pn	10 38 10.9	-1.3
CHFC	**Chilao Flat St**	**1.47**	**194**		Pb	10 38 13.5	-0.2
OSI	**Osito Audit: C**	**1.47**	**219**		Pn	10 38 12.5	-0.7
OSI				IAML		10 38 36.3	
	comp=E,104nm,0.8s						
OSI				IAML		10 38 36.8	
	comp=N,93nm,0.5s						
LCH	**Last Change Ra**	**1.47**	**358**		Pn	10 38 13.2	-0.1
BFSC	**Mount Baldy Ra**	**1.52**	**182**		Pn	10 38 13.4	-0.5
BFSC					Sn	10 38 33.8	-0.4
BFSC				IAML		10 38 35.3	
	comp=N,233nm,0.6s						
BFSC				IAML		10 38 35.4	
	comp=E,161nm,0.3s						
SIL	**Silver Peak**	**1.54**	**156**		Pn	10 38 14.6	+0.3
SSK	**Sunset Peak**	**1.54**	**183**		Pg	10 38 15.2	-0.1
VOG	**Valley Oaks Go**	**1.56**	**292**		Pb	10 38 15.1	-0.1
VOG					Sb	10 38 35.4	+0.1
GMN	**Gold Mountain**	**1.56**	**10**		Pn	10 38 14.1	-0.5
MWC	**Mount Wilson**	**1.58**	**194**		Pn	10 38 14.2	-0.5
BBRC	**Big Bear Solar**	**1.59**	**160**		Pn	10 38 15.3	+0.3
TPNV	**Topopah Spring**	**1.61**	**42**		Pn	10 38 14.6	-0.6
TPNV				IAML		10 38 39.1	
	comp=E,194nm,0.3s						
TPNV				IAML		10 38 39.2	
	comp=E,193nm,0.3s						
DECC	**Green Verdugo**	**1.62**	**202**		Pb	10 38 16.3	0.0
DSP	**Deep Springs**	**1.64**	**349**		Pn	10 38 14.8	-0.6
DSP				IAML		10 38 41.2	
	comp=E,75nm,0.8s						
OAT	**Oat Mountain**	**1.64**	**211**		Pg	10 38 17.0	-0.1
PASC	**Pasadena Art C**	**1.66**	**197**		Pn	10 38 14.9	-0.7
PASC				IAML		10 38 42.7	
	comp=E,118nm,1.1s						
PASC				IAML		10 38 43.2	
	comp=N,106nm,0.6s						
FON	**Fontana**	**1.66**	**176**		Sb	10 38 38.6	+0.3
PSRC	**Puddingstone R**	**1.67**	**186**		Pb	10 38 17.4	+0.3
MTPC	**Mountain Pass**	**1.68**	**99**		Pn	10 38 14.6	-1.6
MTPC	**Mountain Pass**	**1.68**	**99**	IAML		10 38 43.6	
	comp=E,225nm,0.4s						
MTPC				IAML		10 38 44.0	
	comp=N,147nm,0.4s						
BCW	**Bitter Crk WRg**	**1.70**	**242**		Pn	10 38 15.2	-1.2
BHPR	**Bishop**	**1.70**	**335**		Pb	10 38 17.6	-0.2
MLSC	**Mira Loma**	**1.75**	**179**		Sn	10 38 39.7	0.0
CHNC	**Chino**	**1.76**	**182**		Sn	10 38 40.2	+0.3
RVR	**Riverside**	**1.77**	**174**		Sn	10 38 39.2	-1.0
MTUM	**Tungsten Hills**	**1.77**	**334**		Pb	10 38 18.9	-0.1
GTM	**Goat Mountain**	**1.78**	**145**		Pb	10 38 18.5	-0.5
CRGC	**Crocker Grade**	**1.81**	**254**		Pb	10 38 18.8	-0.8
MZP	**Montezuma Peak**	**1.95**	**5**		Pn	10 38 20.2	+0.2
BLAC	**Blackrock camp**	**1.95**	**149**		Pn	10 38 18.9	-1.0
EW2	**E Wide Canyon**	**2.06**	**151**		Pn	10 38 20.1	-1.1
TPC	**Twentynine Pal**	**2.08**	**142**		Pn	10 38 20.1	-1.4
HMTC	**Hemet**	**2.10**	**167**		Pn	10 38 20.9	-0.9
SHPR	**Sheep Range**	**2.10**	**69**		Pn	10 38 21.1	-0.9
SHPR				IAML		10 38 54.7	
	comp=N,45nm,0.5s						
BENR	**Benton**	**2.11**	**338**		Pb	10 38 24.9	+0.2
ELS	**Elsinore Mount**	**2.11**	**176**		Pn	10 38 21.1	-0.8
ELS				IAML		10 38 59.1	
	comp=E,73nm,0.6s						
ELS				IAML		10 38 59.8	
	comp=N,88nm,0.6s						
POB	**Polly Butte**	**2.14**	**165**		Pn	10 38 21.6	-0.8
DGR	**Domenigoni Val**	**2.16**	**167**		Pn	10 38 21.9	-0.7
MCSM	**Casa Diablo Ho**	**2.17**	**331**		Pb	10 38 26.0	+0.2
MURC	**Murrieta**	**2.18**	**171**		Pn	10 38 22.2	-0.7
V12A	**Nelson**	**2.23**	**90**		Pn	10 38 22.3	-1.3
V12A				IAML		10 39 03.1	
	comp=N,72nm,0.6s						
V12A				IAML		10 39 03.9	
	comp=E,73nm,0.6s						
CRY	**Cary Ranch**	**2.30**	**162**		Pn	10 38 23.9	-0.8
PMD	**Palm Desert**	**2.33**	**154**		Pn	10 38 23.2	-1.7
TPH	**Tonopah**	**2.33**	**7**		Pn	10 38 24.9	-0.3
PFO	**Pinyon Flats O**	**2.33**	**156**		Pn	10 38 23.5	-1.6
XPFO	**Pinon Flat**	**2.34**	**156**		Pn	10 38 23.9	-1.3
FRD	**Ford Ranch, An**	**2.40**	**160**		Pn	10 38 25.2	-0.8
FRD	**Ford Ranch, An**	**2.40**	**160**		Pn	10 38 25.1	-0.9
PLM	**Palomar**	**2.47**	**166**		Pn	10 38 26.4	-0.7
LHV	**Little Huntoon**	**2.59**	**344**		Pn	10 38 28.5	-0.1
NEE2	**Needles Airpor**	**2.62**	**111**		Pn	10 38 27.0	-2.0
PRN	**Pahroc Range**	**2.62**	**50**		Pn	10 38 28.2	-1.0
PRN				IAML		10 39 18.9	
	comp=N,56nm,0.6s						
PRN				IAML		10 39 19.6	
	comp=E,47nm,0.5s						
NV11	**Mina Array Sit**	**2.71**	**351**		Pn	10 38 30.1	-0.2
NVAR	**Mina Array Bea**	**2.73**	**348**		Pn	10 38 30.3	-0.3
RYN	**Ryan**	**2.96**	**346**		Pn	10 38 34.7	+0.9
W13A	**Hualapai Mount**	**3.10**	**101**		Pn	10 38 34.3	-1.4
W13A				IAML		10 39 27.4	
	comp=E,22nm,0.5s						
W13A				IAML		10 39 35.3	
	comp=N,21nm,1.3s						
CMB	**Columbia Colle**	**3.19**	**316**		Pn	10 38 37.0	+0.1
CMB				IAML		10 39 31.1	
	comp=E,24nm,0.7s						
CMB				IAML		10 39 37.1	
	comp=N,22nm,0.7s						
YUH	**Yuha Desert**	**3.40**	**156**		Pn	10 38 38.1	-1.5
CBX	**Cerro Bola**	**3.52**	**167**		Pn	10 38 40.9	-0.5
LCMT	**Little Creek M**	**3.72**	**69**		Pn	10 38 43.3	-0.9
ESJX	**Sierra Juarez**	**3.98**	**159**		Pn	10 38 47.2	-0.7
ESJX				IAML		10 39 55.7	
	comp=E,14nm,1.1s						
KNB	**Kanab**	**4.05**	**71**		Pn	10 38 49.1	+0.4
KNB				IAML		10 40 02.2	
	comp=E,8.5nm,0.7s						
KNB				IAML		10 40 05.1	
	comp=N,13nm,1.2s						
VTX	**Valle De La Tr**	**4.61**	**160**		Pn	10 38 57.2	+0.9
VTX				IAML		10 39 48.0	
	comp=N,7.5nm,0.1s						
VTX				IAML		10 40 12.5	
	comp=E,9.6nm,0.8s						

IDC 07 10:41:12.0±1.4, 18°.84N×46°.48W, h0km, mb3.7/5, mbtmp3.7/5, MS3.2/1, Error ellipse: s-maj=40.9km s-min=32.1km az=124.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**18.68**	**271**	LR	LR	10 51 30.6	
	comp=Z,74nm,20.6s,baz=136,slow=33						
LPAZ	**La Paz**	**40.90**	**213**	P	P	10 48 57.0	+0.1
	1.5nm,0.8s,baz=16,slow=3.9,SNR=6.3						
	1.5nm,0.8s						
H10N3	**ASCENSION HYDR**	**41.20**	**127**	T	T	11 32 41.1	
	baz=310,slow=75,SNR=52						
H10N2	**ASCENSION HYDR**	**41.20**	**127**	T	T	11 32 41.6	
	baz=310,slow=75,SNR=52						
H10N1	**ASCENSION HYDR**	**41.21**	**127**	T	T	11 32 42.8	
	baz=310,slow=75,SNR=64						
H10S3	**ASCENSION HYDR**	**41.80**	**129**	T	T	11 33 05.8	
	baz=310,slow=74,SNR=34						
H10S2	**ASCENSION HYDR**	**41.82**	**129**	T	T	11 33 07.2	
	baz=270,slow=74,SNR=31						
TXAR	**Lajitas Array**	**52.80**	**293**	P	P	10 50 28.1	-1.4
	0.3nm,0.8s,baz=94,slow=6.8,SNR=3.6						
	0.3nm,0.8s						
PDAR	**Pinedale Array**	**57.80**	**309**	P	P	10 51 06.1	+0.6
	0.4nm,0.7s,baz=83,slow=4.9,SNR=4.1						
	0.4nm,0.7s						
BRTR	**Keskin Array B**	**70.75**	**54**	P	P	10 52 30.1	-0.3
	0.7nm,0.9s,baz=289,slow=3.8,SNR=4.2						
	0.7nm,0.9s						
ILAR	**Eielson Array**	**77.48**	**334**	P	P	10 53 09.6	+0.5
	0.9nm,0.7s,baz=75,slow=4.6,SNR=13						
	0.9nm,0.7s						

*IDC **07** 10:52:56.0±0.6, 18°.85N×46°.23W, h0km, mb4.2/19, mbtmp4.2/21, ML3.6/2, MS3.7/21, Error ellipse: s-maj=18.4km s-min=13.1km az=132.0*

*GCMT **07** 10:52:57.4±0.4, 18°.90N±0°.06×46°.16W±0°.03, h12km, MW4.6/74, Moment Tensor Solution. s16,c17; s74,c93; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.09±.06; Mθθ-0.08±.07; Mφφ 1.17±.05; Mrθ-0.04±.37; Mrφ 0.19±.05; Mθφ 0.16±.21; Best double couple: M0 1.15700×10^16^ NP1:φs 12.00000°, δ41.00000°, λ-84.00000°. NP2: φs 185.00000°, δ49.00000°, λ-95.00000°. Principal axes: T 1.2100, Plg4.0000°, Azm278.0000°; N -0.1040, Plg4.0000°, Azm188.0000°; P -1.1050, Plg85.0000°, Azm54.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **07** 10:52:58.4±1.4, 18°.78N±0°.06×46°.08W±0°.10, h10km±1km, mb4.9/94 Error ellipse: s-maj=17.2km s-min=5.5km az=119.0*

*INMG **07** 10:52:59.0±1.6, 18°.81N×46°.51W, h10km, M4.7, #DIST_RANGE: DISTANT*

ISC 07 10:52:58.5±0.3, 18°.83N±0°.06×46°.15W±0°.06, h15km, n392, s0°60/369, mb4.7/61, MS3.8/22, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVN	**Savane Anatole**	**14.91**	**257**	Pn	**Pn**	**10 56 27.9**	**-1.1**
BIM	**Bigot**	**14.92**	**256**	Pn	**Pn**	**10 56 28.5**	**-0.6**
MDP	**Montagnes des**	**15.04**	**206**	Pn	**Pn**	**10 56 29.4**	**-1.3**
	0.1nm,0.3s,baz=28,slow=15,SNR=4.2						
	5.8nm,0.9s						
TDBA	**Terre de Bas,**	**15.08**	**261**	Pn	**Pn**	**10 56 31.4**	**+0.2**
TDBA				IAmb	IAmb	10 56 39.6	
	comp=Z,112nm,1.3s						
HUMP	**Col San Antoni**	**18.70**	**271**	P	**Pn**	**10 57 16.8**	**-0.1**
GCPR	**Guaynabo City**	**18.91**	**272**	P	**Pn**	**10 57 20.3**	**+0.9**
SJG	**San Juan**	**18.99**	**271**	P	**P**	**10 57 19.6**	**-0.1**
SJG	**San Juan**	**18.99**	**271**	P	**P**	**10 57 17.0**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=162,slow=2.1,SNR=3.3						
	comp=Z,7.8nm,0.8s						
TMAB	**Tom-Au,PA,Br**	**21.16**	**185**	eP	**P**	**10 57 44.3**	**+1.0**
BOAV	**Boa Vista**	**21.56**	**222**		**P**	**10 57 47.7**	**+0.1**
BOAV				IAmb	IAmb	10 58 03.4	
	comp=Z,37nm,1.1s						
BOAV	**Boa Vista**	**21.56**	**222**	eP	**P**	**10 57 47.8**	**+0.1**
BAUV	**El Baul**	**23.39**	**248**		**P**	**10 58 06.6**	**-0.3**
NBCL	**Cascavel-CE**	**24.18**	**161**	eP	**P**	**10 58 15.9**	**+1.3**
ITTB	**Itaituba**	**24.91**	**203**	eP	**P**	**10 58 21.6**	**+0.4**
NBPB	**Pedra_Branca-C**	**25.07**	**164**	eP	**P**	**10 58 24.2**	**+1.6**
PRPB	**Parauapebas**	**25.11**	**189**	eP	**P**	**10 58 23.6**	**+0.6**
SDV	**Santo Domingo**	**25.71**	**251**	P	**P**	**10 58 29.2**	**+0.5**
SDV				IAmb	IAmb	10 58 41.0	
	comp=Z,33nm,1.3s						
SDV	**Santo Domingo**	**25.71**	**251**	eP	**P**	**10 58 29.2**	**+0.5**
NPGB	**Novo Progresso**	**27.27**	**200**	eP	**P**	**10 58 43.2**	**+0.7**
RUSC	**La Rusia**	**29.22**	**247**		**P**	**10 59 01.9**	**+1.3**
NBAN	**Anadia - AL**	**29.95**	**160**	eP	**P**	**10 59 08.0**	**+1.7**
PDRB	**Porto dos Gac**	**32.00**	**200**	eP	**P**	**10 59 25.5**	**+1.0**
BDFB	**Brasilia**	**34.30**	**183**	P	**P**	**10 59 45.2**	**+0.5**
	comp=Z,4.8nm,0.9s,baz=358,slow=15,SNR=4.6						
	comp=Z,4.8nm,0.9s						
SALV	**Santo Antonio**	**35.77**	**196**	eP	**P**	**10 59 58.2**	**+1.0**
154A	**Montrose**	**35.82**	**300**	P	**P**	**10 59 58.9**	**+1.3**
PTLB	**Pontes e Lacer**	**36.38**	**201**		**P**	**11 00 03.3**	**+0.9**
PTLB	**Pontes e Lacer**	**36.38**	**201**	eP	**P**	**11 00 03.8**	**+1.4**
V53A	**Saluda**	**36.40**	**305**	P	**P**	**11 00 03.2**	**+0.6**
V53A				IAmb	IAmb	11 00 04.9	
	comp=Z,15nm,1.4s						
OTAV	**Otavalo**	**36.69**	**243**		**P**	**11 00 06.7**	**+1.0**
OTAV	**Otavalo**	**36.69**	**243**	eP	**P**	**11 00 04.9**	**-0.9**
TKL	**Tuckaleechee C**	**37.15**	**305**	LR	LR	11 13 24.1	
	comp=Z,163nm,19.0s,baz=114,slow=33						
152A	**Waverly Hall**	**37.16**	**299**	P	**P**	**11 00 10.8**	**+1.8**
CZSB	**Cruzeiro do Su**	**37.18**	**227**		**P**	**11 00 09.0**	**-0.3**
CZSB				IAmb	IAmb	11 00 10.5	
	comp=Z,16nm,1.1s						
CZSB	**Cruzeiro do Su**	**37.18**	**227**	eP	**P**	**11 00 08.7**	**-0.6**
SADO	**Sadowa**	**37.72**	**321**	LR	LR	11 12 31.0	
	comp=Z,144nm,20.9s,baz=140,slow=31						
FPAL	**Fort Paine**	**38.31**	**302**		**P**	**11 00 19.7**	**+1.0**
BBSD	**Serra de San D**	**38.51**	**203**	eP	**P**	**11 00 20.9**	**+0.3**
COI	**Coimbra**	**38.74**	**48**	P	**P**	**11 00 19.9**	**-2.4**
COI				IAmb	IAmb	11 00 24.6	
	comp=Z,26nm,1.4s						
LRAL	**Lakeview Retre**	**39.11**	**299**		**P**	**11 00 26.1**	**+0.7**
MTE	**Manteigas**	**39.43**	**49**	P	**P**	**11 00 25.8**	**-2.4**
X48A	**Hartselle**	**39.44**	**302**	P	**P**	**11 00 29.6**	**+1.4**
V48A	**Smith Brothers**	**39.56**	**304**	P	**P**	**11 00 30.3**	**+1.1**
MDT	**Midelt**	**39.65**	**61**	LR	LR	11 15 42.3	
	comp=Z,77nm,18.4s,baz=242,slow=34						
T47A	**Sharon Grove**	**40.10**	**305**	P	**P**	**11 00 34.5**	**+0.8**
AQDB	**Aquidauana**	**40.17**	**194**	eP	**P**	**11 00 34.8**	**+0.5**
PLAL	**Pickwick Lake**	**40.38**	**302**		**P**	**11 00 36.9**	**+0.9**
PLAL				IAmb	IAmb	11 00 38.4	
	comp=Z,26nm,1.2s						
H10N3	**ASCENSION HYDR**	**40.94**	**128**	T	T	11 44 22.2	
	baz=310,slow=75,SNR=132						
ATAH	**Atahualpa**	**40.94**	**234**	LR	LR	11 19 22.9	
	comp=Z,58nm,19.4s,baz=31,slow=39						
H10N2	**ASCENSION HYDR**	**40.94**	**127**	T	T	11 44 22.8	
	baz=310,slow=75,SNR=136						
H10N1	**ASCENSION HYDR**	**40.96**	**127**	T	T	11 44 12.3	
	baz=310,slow=75,SNR=172						
LPAZ	**La Paz**	**41.06**	**213**		**P**	**11 00 42.5**	**+0.1**
LPAZ	**La Paz**	**41.06**	**213**	P	**P**	**11 00 41.5**	**-0.9**
	comp=Z,5.4nm,1.0s,baz=20,slow=7.5,SNR=13						
	comp=Z,5.4nm,1.0s						
LPAZ	**La Paz**	**41.06

OK052 Battle Ridge R 47.57 302 P P 11 01 34.4 +0.7
OK052 IAmb IAmb 11 01 35.1
comp=Z,21nm,1.2s
OK048 Pawnee Station 47.74 302 P 11 01 35.3 +0.3
OK048 IAmb IAmb 11 01 36.4
comp=Z,28nm,1.4s
FW13 Cleburne 47.76 297 P P 11 01 36.0 +0.7
WHTX Lake Whitney, 47.76 296 P 11 01 36.0 +0.7
435B Jarrell 47.81 295 P 11 01 36.2 +0.5
FW06 Azle 47.90 298 P P 11 01 37.4 +1.0
OK029 Liberty Lake 48.07 301 P P 11 01 38.1 +0.5
KAN13 South Haven SW 48.24 303 P P 11 01 38.9 -0.1
TAM Tamanrasset 48.27 76 P P 11 01 39.8 +0.2
FW03 Perrin-Whitt E 48.33 298 P P 11 01 39.9 +0.2
KAN09 Caldwell North 48.37 303 P P 11 01 39.9 -0.1
KAN09 IAmb IAmb 11 01 41.5
comp=Z,20nm,1.2s
KAN01 Argonia South 48.48 303 P P 11 01 41.4 +0.6
PLPT Palo Pinto 48.53 297 P 11 01 41.4 +0.2
CROK Carrier 48.58 302 P P 11 01 41.5 -0.1
KAN14 Manchester OK 48.62 303 P P 11 01 42.1 +0.2
CLF Chambon-Foret 48.71 42 P P 11 01 42.7 +0.4
EKA Eskdalemuir Ar 48.76 31 P P 11 01 42.4 -0.2
comp=Z,4.9nm,1.1s,baz=229,slow=7.4,SNR=5.7
comp=Z,4.9nm,1.1s
BORG Borgarnes 48.81 14 LR LR 11 17 09.4
comp=Z,54nm,20.6s,baz=178,slow=30
ULM Lac du Bonnet 50.28 320 P P 11 01 52.5 -1.8
comp=Z,3.1nm,1.0s,baz=118,slow=4.4,SNR=5.1
ULM LR LR 11 19 55.0
comp=Z,126nm,21.7s,baz=144,slow=32
comp=Z,3.1nm,1.0s
DRIO Del Rio 50.43 293 P 11 01 55.3 -0.5
DRIO IAmb IAmb 11 02 07.0
comp=Z,17nm,1.3s
SN05 Snyder 5 50.69 297 P 11 01 57.6 -0.2
SN05 IAmb IAmb 11 02 09.3
comp=Z,46nm,2.0s
DKNS Dickens 50.76 298 P P 11 01 57.8 -0.5
DKNS IAmb IAmb 11 02 14.3
comp=Z,12nm,1.1s
KEST Kesra 51.46 59 P P 11 02 04.3 +0.7
KEST IAmb IAmb 11 02 06.1
comp=Z,18nm,1.6s
KEST Kesra 51.46 59 P P 11 02 03.6 +0.1
comp=Z,3.8nm,0.9s,baz=292,slow=3.9,SNR=5.2
comp=Z,3.8nm,0.9s
TXAR Lajitas Array 53.09 293 P 11 02 15.6 -0.3
TXAR Lajitas Array 53.09 293 P P 11 02 15.7 -0.1
comp=Z,3.1nm,1.1s,baz=101,slow=6.7,SNR=17
comp=Z,3.1nm,1.1s
TX31 Lajitas Ar. Si 53.09 293 P 11 02 15.6 -0.3
MNTX Cornudas Mount 54.50 296 P P 11 02 25.9 0.0
MNTX IAmb IAmb 11 02 27.4
comp=Z,16nm,1.3s
ZON Zonda 54.56 204 P P 11 02 26.4 +0.2
ZON IAmb IAmb 11 03 01.3
comp=Z,43nm,2.0s
ISCO Idaho Springs 54.88 306 P 11 02 29.3 +0.3
ISCO IAmb IAmb 11 02 31.8
comp=Z,18nm,1.6s
VAE Valguarnera 55.62 57 LR LR 11 26 03.1
comp=Z,70nm,18.5s,baz=308,slow=36
PRED Cave del Predi 55.80 46 P P 11 02 35.1 -0.1
PRED IAmb IAmb 11 02 36.7
comp=Z,9.9nm,1.2s
GERES GERESS Array B 56.28 43 P P 11 02 38.7 0.0
comp=Z,0.4nm,0.7s,baz=254,slow=8.9,SNR=6.4
comp=Z,0.4nm,0.7s
CLL Collm 56.32 40 *i* P **P 11 02 39.8 +1.1**
comp=Z,13nm,1.6s
CLL *i* x x 11 02 44.9
comp=Z,4.0nm,0.9s
CLL AMS AMS 11 24 00.0
comp=Z,100nm,21.8s
JMIC Jan Mayen 56.71 14 LR LR 11 20 48.5
comp=Z,54nm,20.4s,baz=226,slow=30
CEL Celeste 56.81 56 P P 11 02 42.9 +0.4
CUC Castrocucco 56.81 54 P P 11 02 42.7 +0.2
ARSA Arzberg 57.25 45 P P 11 02 44.3 -1.1
ARSA IAmb IAmb 11 02 46.4
comp=Z,9.5nm,1.3s
PV13 Radium Mtn., P 57.30 304 P P 11 02 47.2 +0.9
PDAR Pinedale Array 58.05 309 P 11 02 50.6 -0.8
PDAR Pinedale Array 58.05 309 P P 11 02 51.0 -0.3
comp=Z,4.4nm,1.1s,baz=98,slow=6.1,SNR=23
PDAR LR LR 11 25 06.1
comp=Z,112nm,22.0s,baz=91,slow=33
comp=Z,4.4nm,1.1s
NOA NORSAR Array B 58.07 29 P P 11 02 50.9 -0.1
comp=Z,1.4nm,0.3s,baz=68,slow=2.7,SNR=3.5
NOA LR LR 11 23 40.3
comp=Z,49nm,19.3s,baz=255,slow=32
comp=Z,1.4nm,0.3s
MORC Moravsky Berou 58.91 43 P P 11 02 56.3 -0.7
MORC IAmb IAmb 11 03 01.0
comp=Z,15nm,1.8s
HFS Hagfors 58.94 30 P P 11 02 56.9 -0.1
comp=Z,3.4nm,0.8s,baz=247,slow=3.1,SNR=9.2
HFS LR LR 11 23 55.4
comp=Z,42nm,19.1s,baz=266,slow=32
comp=Z,3.4nm,0.8s
WUAZ Wupatki 59.38 301 P 11 03 01.3 +0.5
WUAZ IAmb IAmb 11 03 18.7
comp=Z,20nm,1.1s
BOZ Bozeman (W) 59.71 312 P 11 03 02.5 -0.3
LANS Liptovska Anna 60.09 44 *e* P **P 11 03 05.3 +0.1**
OJC Ojcow 60.41 42 P P 11 03 07.8 +0.5
FNA Florina 61.07 53 P P 11 03 12.7 +0.6
ELK Elko 62.26 307 P 11 03 20.0 -0.3
ELK IAmb IAmb 11 03 22.1
comp=Z,6.2nm,1.1s
PLCA Paso Flores 63.45 201 P P 11 03 28.0 +0.1
comp=Z,2.0nm,1.0s,baz=7.8,slow=9.0,SNR=2.9
comp=Z,2.0nm,1.0s
YKA Yellowknife Ar 63.54 331 LR LR 11 28 54.4
comp=Z,79nm,20.6s,baz=101,slow=34
RDO Rodhopi 64.21 53 P P 11 03 33.9 +1.0
RDO IAmb IAmb 11 03 35.6
comp=Z,12nm,1.2s
MLR Muntele Rosu 64.35 48 P 11 03 34.9 +1.0
MLR IAmb IAmb 11 03 37.0
comp=Z,21nm,1.4s
E08A Dider Farm, El 64.90 313 P P 11 03 37.2 -0.1
E08A IAmb IAmb 11 03 38.0
comp=Z,6.8nm,1.1s
FINES FINESS Array B 65.15 30 P P 11 03 38.9 +0.3
comp=Z,6.0nm,1.1s,baz=297,slow=10,SNR=4.7
FINES LR LR 11 27 45.3
comp=Z,36nm,18.7s,baz=244,slow=32
comp=Z,6.0nm,1.1s
ARCES ARCESS Array B 66.10 21 P P 11 03 45.2 +0.5
comp=Z,2.9nm,0.9s,baz=241,slow=6.2,SNR=5.2
comp=Z,2.9nm,0.9s
AKASG Malin Array Be 66.44 42 P P 11 03 46.5 -0.7
comp=Z,0.3nm,0.3s,baz=272,slow=6.0,SNR=4.4
comp=Z,0.3nm,0.3s
LLLB Lillooet 66.67 318 P 11 03 48.4 -0.4
LLLB IAmb IAmb 11 03 49.9
comp=Z,21nm,1.4s
WRGLY Wrigley 67.65 331 P P 11 03 55.1 +0.5
baz=92
YBH Yreka Blue Hor 67.82 308 LR LR 11 31 57.2
comp=Z,10nm,20.5s,baz=115,slow=35
KOTAN Kotaneelee Air 67.85 328 P P 11 03 56.1 +0.2
baz=91
TOAD Toad River Com 68.45 327 P P 11 03 59.6 -0.3
baz=89
A36M Sachs Harbour 68.86 341 P P 11 04 02.0 -0.1
baz=94
LIRD Liard River Hi 68.89 327 P P 11 04 02.7 +0.2
baz=89
TGTN Hyland Airport 69.89 330 P P 11 04 09.2 +0.4
baz=88
BR131 Keskin Array S 70.50 54 P P 11 04 13.6 +0.5
BRTR Keskin Array B 70.50 54 P P 11 04 13.6 +0.5
comp=Z,3.0nm,1.0s,baz=257,slow=4.9,SNR=15
comp=Z,3.0nm,1.0s
DLBC Dease Lake 70.97 326 P P 11 04 16.3 +0.9
baz=85
MMPY Sheldon Lake, 71.23 331 P P 11 04 17.4 +0.5
baz=85
T35M Bob Quinn 71.23 325 P P 11 04 17.3 +0.4
baz=84
R33M Jennings River 71.37 327 P P 11 04 18.3 +0.4
baz=84
S34M Telegraph Cree 71.61 326 P P 11 04 19.5 +0.3
baz=84
INK Inuvik 71.70 337 LR LR 11 34 40.7
comp=Z,84nm,18.9s,baz=84,slow=35
INK Inuvik 71.70 337 P P 11 04 19.7 +0.2
baz=85
F31M Tsiigehtchic 71.86 336 P P 11 04 20.3 -0.2
baz=85
Q32M Nakina River 72.08 327 P P 11 04 22.3 0.0
baz=83
G31M Satah River 72.12 336 P P 11 04 21.9 -0.2
baz=84
V35K Ketchikan 72.18 323 P P 11 04 23.5 +0.9
baz=83
P33M Teslin, Yukon 72.21 328 P P 11 04 23.0 +0.1
baz=83
FARO Faro, Yukon 72.23 331 P P 11 04 23.1 +0.1
baz=83
N32M Quiet Lake 72.23 329 P P 11 04 22.7 -0.2
baz=83
H31M Peel River 72.27 334 P P 11 04 22.9 -0.2
baz=84
WRAK Wrangell Islan 72.44 324 P P 11 04 24.7 +0.5
baz=82
F30M Barrier River 72.62 336 P P 11 04 25.2 +0.1
baz=83
M31M Drury Creek, Y 72.72 331 P P 11 04 26.7 +0.8
baz=82
P32M Atlin 72.74 328 P P 11 04 26.2 +0.2
baz=82
G30M tAoh Zraii Nji 72.87 336 P P 11 04 27.3 +0.6
baz=82
U33K Whale Pass 72.91 324 P P 11 04 27.3 +0.3
baz=82
CRAG Craig 73.01 324 P P 11 04 27.9 +0.3
baz=81
EPYK Eagle Plains 73.15 335 P P 11 04 28.5 +0.1
baz=82
WHY Whitehorse 73.17 329 P P 11 04 28.4 -0.2
baz=82
I30M Mount Dempster 73.18 334 P P 11 04 28.2 -0.4
baz=82
MAYO Mayo, Yukon 73.21 332 P P 11 04 28.7 0.0
baz=82
J30M Hart River 73.25 333 P P 11 04 29.0 -0.1
baz=81
E29M Blow River 73.30 337 P P 11 04 29.2 +0.1
baz=81
R32K Eaglecrest 73.34 327 P P 11 04 30.0 +0.5
baz=81
EIL Elat 73.41 64 LR LR 11 38 53.4
comp=Z,81nm,18.2s,baz=247,slow=38
D28M Stokes Point 73.46 338 P P 11 04 30.6 +0.6
baz=81
N31M Braeburn, Yuko 73.48 330 P P 11 04 30.6 +0.2
N31M IAmb IAmb 11 04 32.1
comp=Z,24nm,1.2s
N31M Braeburn, Yuko 73.48 330 P P 11 04 30.4 +0.1
baz=81
S32K Killisnoo 73.50 326 P P 11 04 30.9 +0.5
baz=81
SKAG Skagway 73.58 328 P P 11 04 30.7 -0.2
baz=81
G29M Pine Creek 73.58 336 P P 11 04 31.3 +0.5
baz=81
O30N Mendenhall 73.74 329 P P 11 04 32.3 +0.4
baz=80
M30M Minto, Yukon 73.77 331 P P 11 04 32.0 0.0
baz=80
H29M Whitestone 73.84 335 P P 11 04 32.6 +0.3
baz=80
E28M Babbage River 73.86 338 P P 11 04 32.5 +0.1
baz=80
K29M Barlow Dome 73.89 333 P P 11 04 32.8 0.0
baz=80
I29M Ogilvie Camp, 73.96 334 P P 11 04 33.3 +0.2
baz=80
SIT Sitka 73.97 325 P P 11 04 33.1 -0.1
baz=80
PLBC Pleasant Camp 74.10 328 P P 11 04 34.2 +0.3
baz=80
N30M Aishikik Lake 74.10 330 P P 11 04 33.8 -0.2
baz=80
F28M Old Crow 74.17 337 P P 11 04 34.9 +0.6
baz=79
D27M Malcolm River 74.25 338 P P 11 04 35.0 +0.2
baz=79
P30M Million Dollar 74.28 329 P P 11 04 35.3 +0.3
baz=80
L29M L29M 74.28 332 P P 11 04 35.1 +0.1
baz=79
S31K Pelican 74.29 326 P P 11 04 35.3 +0.3
baz=80
HYT Haines Junctio 74.41 329 P P 11 04 36.2 +0.3
baz=79
M29M Somme Creek 74.56 331 P P 11 04 36.6 -0.1
baz=79
I28M Miner Creek 74.61 334 P P 11 04 37.0 0.0
baz=78
DAWY Dawson 74.66 333 P P 11 04 37.4 +0.2
baz=79
E27K Coleen River 74.69 337 P P 11 04 37.2 -0.1
baz=78,SNR=8.9
P29M Windy Craggy 74.75 328 P P 11 04 38.2 +0.4
baz=79
YUK6 Outpost Mounta 74.80 330 P P 11 04 38.5 +0.2
baz=79
YUK4 Talbot Arm 74.86 330 P P 11 04 38.2 -0.4
baz=79
G27K Doyon Strip 75.01 336 P P 11 04 39.6 +0.5
baz=77
O29M Mount Kennedy 75.03 329 P P 11 04 39.0 -0.5
baz=78
H27K Steamboat Moun 75.09 335 P P 11 04 40.0 +0.3
baz=77
C27K Jago River 75.12 339 P P 11 04 40.1 +0.4
baz=76,SNR=9.3
I27K Kandik River 75.26 335 P P 11 04 40.6 0.0
baz=77
YUK8 Steele Glacier 75.40 330 P P 11 04 42.1 +0.3
baz=78
C26K Camden Bay 75.45 339 P P 11 04 42.2 +0.7
baz=75
PNL Peninsula 75.57 328 P P 11 04 43.1 +0.6
baz=77
YUK3 Moose Creek 75.62 331 P P 11 04 43.0 +0.1
baz=77
BVCY Beaver Creek 75.66 331 P P 11 04 43.0 +0.1
baz=77
O28M Mount Upton 75.71 330 P P 11 04 44.3 +0.6
baz=77
F26K Sheenjek River 75.75 337 P P 11 04 44.0 +0.7
baz=75,SNR=10
G26K Porcupine Rive 75.80 336 P P 11 04 44.4 +0.7
baz=76
K27K Chicken 75.82 333 P P 11 04 44.2 +0.3
baz=76
PINM Pinnacle 75.90 329 P P 11 04 44.8 +0.3
baz=77
L27K Beaver Creek, 75.94 332 P P 11 04 45.1 +0.5
baz=76
I26K Coal Creek Min 75.96 335 P P 11 04 44.9 +0.4
baz=76
BMAR Burnt Mountain 75.97 337 P P 11 04 45.4 +0.6
D25K Kavik River 76.10 339 P P 11 04 45.7 +0.3
baz=74
M27K Edge Creek, AK 76.13 331 P P 11 04 46.4 +0.6
baz=76
E25K Arctic Village 76.15 338 P P 11 04 45.8 +0.1
baz=74
CTG Chitna Glacier 76.22 330 P P 11 04 46.3 0.0
baz=76
F25K Christian Rive 76.32 337 P P 11 04 46.9 +0.2
baz=74,SNR=7.4
J26L Joseph Creek 76.33 334 P P 11 04 47.2 +0.3
baz=75
L26K Log Cabin Wild 76.62 332 P P 11 04 49.2 +0.7
baz=75
M26K Nabesna, AK 76.62 332 P P 11 04 48.9 +0.4
baz=75
SCRK Sand Creek 76.65 333 P P 11 04 48.9 +0.2
baz=75
MESA MESA 76.70 329 P P 11 04 49.2 0.0
baz=75
G25K Bearman Lake 76.73 336 P P 11 04 49.4 +0.5
baz=73
H25L Birch Creek 76.76 336 P P 11 04 49.8 +0.7
baz=74
C24K Franklin Bluff 76.77 340 P P 11 04 49.6 +0.5
baz=72
PRP Porcupine Dome 76.86 335 P P 11 04 50.0 +0.2
baz=74
MCARA McCarthy VSAT 76.90 331 P P 11 04 50.4 +0.4
baz=75
D24K Happy Valley 76.99 339 P P 11 04 51.0 +0.7
baz=71
J25K Salcha River, 77.05 334 P P 11 04 51.1 +0.2
baz=74
RIDG Independent Ri 77.08 333 P P 11 04 51.8 +0.8
baz=74
F24K Squaw Lake 77.17 337 P P 11 04 52.2 +0.7
baz=72,SNR=6.2
E24K Your Creek 77.21 338 P P 11 04 52.2 +0.5
baz=72
G24K Hadweenzic Riv 77.27 336 P P 11 04 52.4 +0.4
baz=72,SNR=9.9
C23K Itkillik River 77.36 340 P P 11 04 52.6 +0.3
baz=70
TOLK Toolik Lake Re 77.41 339 P P 11 04 52.8 0.0
baz=71
K24K Donnelly Dome 77.46 333 P P 11 04 53.2 0.0
baz=73
PAX Paxson 77.57 333 P P 11 04 53.4 -0.4
baz=73
N25K Chitina, Valde 77.57 331 P P 11 04 54.3 +0.4
baz=74
HARP HAARP 77.59 332 P P 11 04 53.7 -0.2
baz=73
E23K Chandalar 77.62 338 P P 11 04 54.2 +0.2
baz=70
ILAR Eielson Array 77.63 334 P P 11 04 53.8 -0.2
comp=Z,3.3nm,0.8s,baz=71,slow=4.7,SNR=34
comp=Z,3.3nm,0.8s
D23K Nanushuk River 77.68 339 P P 11 04 53.9 -0.4
baz=70
H24K Noodor Dome 77.69 336 P P 11 04 54.3 -0.1
baz=72,SNR=5.6
BMRM Bremner River 77.75 330 P P 11 04 54.7 -0.1
baz=73
HDA Harding Lake 77.77 334 P P 11 04 54.6 -0.2
baz=72
COLA College 77.99 335 P P 11 04 56.0 0.0
baz=71
CCB Clear Creek Bu 78.04 334 P P 11 04 55.9 -0.4
CCB IAmb IAmb 11 04 57.1
comp=Z,11nm,1.3s
B22K Teshekpuk Lake 78.07 341 P P 11 04 56.8 +0.5
baz=68
COLD Coldfoot 78.11 337 P P 11 04 57.1 +0.4
baz=70
M24K Tolsona, Glenn 78.14 332 P P 11 04 56.5 -0.5
baz=72
KLU Klutina 78.21 331 P P 11 04 57.2 -0.2
baz=72
G23K Bananza Creek 78.22 337 P P 11 04 57.8 +0.5
baz=70
A22K Sinclair Lake 78.28 342 P P 11 04 58.0 +0.5
baz=66
H23K Yukon River 78.35 336 P P 11 04 58.7 +0.7
baz=70
DHY Denali Highway 78.36 333 P P 11 04 58.3 0.0
baz=71
E22K Anaktuvuk Pass 78.36 338 P P 11 04 58.7 +0.6
baz=68
D22K Ayikyak River 78.39 339 P P 11 04 58.1 -0.1
baz=68
EYAK Cordova Ski Ar 78.41 330 P P 11 04 58.4 0.0
baz=72
I23K Minto, Yukon-K 78.50 335 P P 11 04 58.9 +0.1
baz=70
NEA2 Nenana 78.58 335 P P 11 04 59.6 +0.3
baz=70
A21K Barrow 78.64 342 P P 11 04 59.8 +0.4
baz=65
WAT6 Susitna Watana 78.68 332 P P 11 05 00.1 -0.1
baz=71
G22K Bettles 78.70 337 P P 11 04 60.0 +0.1
baz=69
F22K John River 78.73 338 P P 11 05 00.4 +0.3
baz=68
B21K Ikpikpuk River 78.73 340 P P 11 05 00.2 +0.2
baz=66
SCM Sheep Creek Mo 78.74 332 P P 11 05 00.3 -0.1
baz=71
GNI Garni 78.77 51 LR LR 11 39 19.3
comp=Z,13nm,19.9s,baz=274,slow=35
MCK McKinley 78.81 334 P P 11 05 00.6 0.0
baz=70
GLI Glacier Island 78.94 331 P P 11 05 01.1 -0.2
baz=71
WAT1 Susitna Watana 78.95 333 P P 11 05 01.9 +0.4
baz=70
C21K Knifeblade Rid 78.97 340 P P 11 05 01.5 +0.1
baz=66
E21K Killik River 78.99 339 P P 11 05 01.1 -0.4
baz=67
H22K Ishtalitna Cre 79.03 336 P P 11 05 01.8 0.0
baz=68,SNR=8.3
Q23K Middleton Isla 79.05 329 P P 11 05 01.8 -0.1
baz=72
MLY Manley 79.09 335 P P 11 05 01.9 -0.2
baz=69
F21K Alatna River 79.30 338 P P 11 05 02.9 -0.3
baz=67
P23K Montague Islan 79.37 330 P P 11 05 03.6 -0.1
baz=71
B20K Meade River 79.37 341 P P 11 05 04.0 +0.5
baz=64
KNK Knik Glacier 79.39 331 P P 11 05 03.9 +0.1
baz=70
TRF Thorofare Moun 79.48 334 P P 11 05 04.5 0.0
baz=69
PWL Port Wells 79.52 331 P P 11 05 04.5 0.0
baz=70
BPAW Bear Paw Mtn. 79.53 334 P P 11 05 04.3 -0.2
baz=68
G21K Allakaket 79.59 337 P P 11 05 04.6 -0.2
baz=67
PMR Palmer 79.63 332 P P 11 05 05.2 +0.2
baz=70
H21K Melozitna Rive 79.66 336 P P 11 05 05.2 0.0
baz=67,SNR=8.3
KTH Kantishna Hill 79.70 334 P P 11 05 05.0 -0.5
KTH IAmb IAmb 11 05 07.2
comp=Z,13nm,1.1s
D20K Etivluk River 79.76 340 P P 11 05 06.1 +0.4
baz=64
E20K Nigu River 79.82 339 P P 11 05 06.3 +0.2
baz=65
CUT Chulitna 79.84 333 P P 11 05 06.4 +0.1
baz=69
M22K Willow 80.01 332 P P 11 05 07.3 +0.2
baz=69
RC01 Rabbit Creek A 80.08 331 P P 11 05 07.3 -0.2
baz=69
CHUM Lake Minchumin 80.16 334 P P 11 05 07.9 0.0
baz=67
F20K Avaraart Lake 80.17 338 P P 11 05 08.5 +0.6
baz=65
CAST Castle Rocks 80.24 334 P P 11 05 08.5 +0.1
baz=67
SEW Seward 80.30 330 P P 11 05 09.0 +0.3
baz=69
D19K Kuna River 80.35 340 P P 11 05 08.8 -0.1
baz=63
SUA Susitna One 80.40 332 P P 11 05 09.5 +0.1
baz=68
A19K Wainwright 80.46 342 P P 11 05 09.4 0.0
baz=60
PPLA Purkeypile 80.48 333 P P 11 05 09.7 -0.2
baz=67
H20K Anotleneega Mo 80.52 336 P P 11 05 10.3 +0.4
baz=65,SNR=7.9
E19K Redstone River 80.52 339 P P 11 05 10.0 +0.1
baz=64
C19K Lookout Ridge 80.54 341 P P 11 05 10.5 +0.5
baz=62
SKT Skwentna 80.55 333 P P 11 05 10.2 +0.1
SKT IAmb IAmb 11 05 16.8
comp=Z,14nm,1.3s
SKT Skwentna 80.55 333 P P 11 05 10.3 +0.2
baz=68
I20K Naaghedeneel 80.65 336 P P 11 05 10.7 +0.2
baz=66
J20K Nowinta River 80.78 335 P P 11 05 10.8 -0.5
baz=66
F19K Shaleruckik Mo 80.99 338 P P 11 05 12.3 0.0

baz=63
G19K **Purcell Mounta** 81.06 337 P P 11 05 12.5 -0.2
baz=64
K20K **Telida** 81.08 334 P P 11 05 12.8 -0.2
baz=66
H19K **Roundabout Mou** 81.10 337 P P 11 05 13.0 +0.1
baz=64
B18K **Kokolik River** 81.10 341 P P 11 05 12.9 0.0
baz=60
C18K **Utukok River** 81.27 340 P P 11 05 13.6 -0.3
baz=60
M20K **Styx River** 81.29 333 P P 11 05 14.0 -0.2
baz=66
L20K **Farewell, AK** 81.37 333 P P 11 05 14.4 0.0
baz=66,SNR=5.3
J19K **Poorman** 81.44 335 P P 11 05 15.2 +0.4
baz=64
HOM **Homer** 81.49 330 P P 11 05 15.4 +0.3
baz=67
GCSA **Galena City Sc** 81.61 336 P P 11 05 15.8 +0.3
baz=64
E18K **Tukpahlearik C** 81.69 339 P P 11 05 16.0 0.0
baz=60
G18K **Tagagawik** 81.74 337 P P 11 05 16.3 0.0
baz=62
F18K **Selawik** 81.76 338 P P 11 05 16.4 0.0
baz=61
O20K **Slope Mountain** 81.78 331 P P 11 05 16.6 -0.1
baz=66
M19K **Big River Lodg** 81.82 333 P P 11 05 16.7 -0.2
baz=65
L19K **White Mountain** 81.90 333 P P 11 05 17.7 +0.4
baz=65
H18K **Honhosa River** 81.98 337 P P 11 05 17.6 -0.1
baz=62
C17K **DeLong Mountai** 81.99 341 P P 11 05 17.1 -0.5
baz=58
J18K **Innoko River** 82.11 335 P P 11 05 18.3 -0.1
baz=63,SNR=5.8
Q20K **Shuyak Island** 82.26 330 P P 11 05 19.0 -0.2
baz=66
E17K **Hotham Inlet** 82.27 339 P P 11 05 19.2 +0.1
baz=59
N19K **Bonanza Creek** 82.32 332 P P 11 05 19.5 -0.1
baz=65
ESPZ **Base Esperanza** 82.40 185 P P 11 05 19.8 +0.3
O19K **Port Alsworth** 82.51 331 P P 11 05 20.6 +0.2
baz=65
M18K **Stony River** 82.62 333 P P 11 05 21.3 +0.3
baz=64
G17K **Kiwalik Mounta** 82.66 338 P P 11 05 21.4 +0.3
baz=60
L18K **Granite Mounta** 82.66 334 P P 11 05 21.6 +0.4
baz=63
H17K **Granite Mounta** 82.66 337 P P 11 05 21.5 +0.3
baz=61
KDAK **Kodiak Island** 82.68 329 P P 11 05 21.7 +0.3
baz=66
C16K **Lisburne Hills** 82.78 341 P P 11 05 22.6 +0.9
baz=56
N18K **Kilae Creek** 83.00 332 P P 11 05 23.3 +0.2
baz=64
O18K **Koktuh Hills** 83.06 331 P P 11 05 23.6 +0.2
baz=64
J17K **VABM Dome** 83.09 335 P P 11 05 24.1 +0.7
baz=61
K17K **Iditarod** 83.10 335 P P 11 05 23.9 +0.4
baz=62
OHAK **Old Harbor** 83.26 328 P P 11 05 24.8 +0.4
baz=66
P18K **Big Mountain,** 83.27 331 P P 11 05 24.8 +0.3
baz=64
G16K **Koyuk River** 83.33 338 P P 11 05 25.0 +0.4
baz=59
M17K **Holitna River** 83.35 333 P P 11 05 25.2 +0.4
baz=63
L17K **Donlin** 83.37 334 P P 11 05 25.8 +0.9
baz=62
Q18K **Katmai Hardscr** 83.49 330 P P 11 05 26.4 +0.6
baz=64
R18K **Karluk** 83.69 329 P P 11 05 27.1 +0.5
baz=65
J16K **Anvik River** 83.74 336 P P 11 05 27.4 +0.6
baz=60
P17K **Kvichak River** 83.91 331 P P 11 05 28.3 +0.6
baz=63
O17K **Koliganek Bris** 83.95 332 P P 11 05 27.9 0.0
baz=63
F15K **North Star Dit** 83.97 339 P P 11 05 28.2 +0.4
baz=57
L16K **Owhat River** 84.06 334 P P 11 05 29.3 +0.8
baz=61
Q17K **Contact Creek** 84.07 330 P P 11 05 29.3 +0.6
baz=64
G15K **Niukluk** 84.14 338 P P 11 05 29.7 +0.9
baz=57
M16K **Timber Creek** 84.18 333 P P 11 05 30.1 +1.0
baz=61,SNR=6.6
Q16K **King Salmon** 84.25 331 P P 11 05 29.5 +0.1
baz=63
N16K **Nishlik Lake** 84.36 333 P P 11 05 30.4 +0.4
baz=61,SNR=8.5
O16K **Kokwok River B** 84.48 332 P P 11 05 31.0 +0.5
baz=62
R17L **Mt. Peulik Vol** 84.58 330 P P 11 05 31.7 +0.5
baz=63
K15K **Wolf Creek Mou** 84.61 335 P P 11 05 32.4 +1.1
baz=59
P16K **Nushagak River** 84.70 331 P P 11 05 32.6 +0.9
baz=62
M15K **Kasigluk River** 85.08 333 P P 11 05 34.5 +0.9
baz=60
N15K **Kwethluk River** 85.08 333 P P 11 05 34.4 +0.7
baz=60
J14K **Nanvaranak Lak** 85.17 336 P P 11 05 35.0 +1.0
baz=57
L14K **Kuka Creek** 85.58 334 P P 11 05 37.1 +1.0
baz=58
M14K **Bethel** 85.59 334 P P 11 05 37.1 +1.0
baz=59
N14K **Kuskokwak Cree** 85.90 333 P P 11 05 38.3 +0.7
baz=59
AB31 **Akbulak array** 85.97 39 P P 11 05 38.5 +0.2
AB31 IAmb IAmb 11 05 40.7
comp=Z,7.7nm,1.4s
ABKAR **Akbulak array** 85.97 39 P P 11 05 38.3 +0.1
ABKAR **Akbulak array** 85.97 39 P P 11 05 38.6 +0.4
ABKAR IAmb IAmb 11 05 40.7
comp=Z,7.7nm,1.4s
K13K **Kusilvak Mount** 86.05 335 P P 11 05 38.7 +0.3
baz=56
O14K **Tigyukauivet M** 86.06 332 P P 11 05 39.1 +0.6
baz=59
M13K **Dall Lake** 86.35 334 P P 11 05 40.3 +0.4
baz=58
CHNA **Chernabura Isl** 87.50 328 P P 11 05 46.0 +0.4
baz=60
M11K **Mekoryuk** 87.54 335 P P 11 05 46.1 +0.4
baz=55
SDPT **Sand Point** 87.68 329 P P 11 05 45.9 -0.5
baz=60
S12K **Black Hills** 88.27 329 P P 11 05 49.1 -0.2
baz=58
NIKH **Nikolski High** 93.09 329 P P 11 06 11.6 -0.2
baz=53
AAK **Ala-Archa** 98.03 40 LR LR 11 49 08.7
comp=Z,30nm,18.8s,baz=323,slow=34
PPT2 **Papeete2** 107.83 257 eLR LR 11 42 53.8
comp=Z,52nm,23.0s
PPT2 eLR LR 11 42 55.8
comp=Z,120nm,29.0s
TBI **Tubuai** 109.08 251 eLR LR 11 43 27.0
comp=Z,366nm,32.0s
DZM **Mont Dzumac** 149.32 258 eLR LR 12 02 02.9
comp=Z,63nm,25.8s

*IDC **07** 10:57:55.9±0.6, 18°.91N×46°.23W, h0km, mb4.1/19, mbtmp4.1/19, MS3.6/6, Error ellipse: s-maj=18.4km s-min=16.1km az=134.0*
*NEIC **07** 10:58:01.3±1.9, 19°.41N±0°.04×46°.1W±0°.1, h10km±1km, mb4.6/14, Error ellipse: s-maj=18.0km s-min=6.9km az=278.0*
*GCMT **07** 10:58:02.3±0.5, 18°.96N±0°.06×46°.28W±0°.03, h23km, MW4.8/75, Moment Tensor Solution. s18,c18; s75,c97; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-2.61±.20; Mθθ0.54±.12; Mϕϕ2.08±.12; Mrθ0.43±.28; Mϕθ0.32±.09; Mrϕ-0.17±.17; Best double couple: Mw2.41100×10^16^ NP1:ϕs199.00000°, δ45.00000°, λ-78.00000°. NP2: ϕs3.00000°, δ47.00000°, λ-101.00000°. Principal axes: T 2.1450, Plg1.0000°, Azm101.0000°; N 0.5390, Plg8.0000°, Azm11.0000°; P -2.6770, Plg82.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 10:57:58.8±0.5, 18°.9N±0°.1×46°.11W±0°.07, h15km, n49, σ1°69/37, mb4.3/23, MS3.7/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDSD	**La Dsirade Is**	**14.49**	**262**	Pn	**P**	**11 01 26.8**	**-3.3**
ILAM	**Ilet Lapin Mar**	**14.72**	**256**	Pn	**P**	**11 01 31.1**	**-1.5**
MAGL	**Barre de l'ile**	**14.77**	**261**	Pn	**P**	**11 01 31.9**	**-1.3**
ABD	**La Joyeuse, An**	**14.85**	**263**	Pn	**P**	**11 01 33.3**	**-0.8**
HUMP	**Col San Antoni**	**18.74**	**271**	P	**Pn**	**11 02 20.6**	**+3.0**
HUMP				IAmb	IAmb	11 02 22.2	
	comp=Z,40nm,1.4s						
PDPR	**Patillas Dam,**	**18.91**	**271**	P	**Pn**	**11 02 23.1**	**+3.4**
SJG	**San Juan**	**19.02**	**271**	P	**Pn**	**11 02 23.9**	**+2.8**
SJG				IAmb	IAmb	11 02 34.8	
	comp=Z,40nm,1.4s						
EMPR	**Esperanza - Ma**	**19.35**	**272**	P	**Pn**	**11 02 27.3**	**+2.3**
AOPR	**Arecibo Observ**	**19.57**	**272**	P	**Pn**	**11 02 29.4**	**+1.7**
PCRV	**Puerto La Cruz**	**19.91**	**247**	LR	LR	11 09 27.3	
	comp=Z,91nm,21.0s,slow=35						
BAUV	**El Baul**	**23.45**	**248**	P	**P**	**11 03 12.4**	**+4.6**
BAUV				IAmb	IAmb	11 03 24.8	
	comp=Z,35nm,1.2s						
RCBR	**Riachuelo**	**26.56**	**157**	P	P	11 03 44.4	+8.0
RCBR				IAmb	IAmb	11 04 13.8	
	comp=Z,20nm,1.2s						
RCBR	**Riachuelo**	**26.56**	**157**	LR	LR	11 11 15.3	
	comp=Z,53nm,21.9s,baz=344,slow=30						
BBTS	**Babate**	**28.61**	**94**	LR	LR	11 13 06.8	
	comp=Z,365nm,20.2s,baz=147,slow=32						
MACI	**Morro de la Ar**	**28.62**	**65**	P	**P**	**11 03 55.7**	**+0.7**
WES	**Weston**	**31.69**	**323**	P	**P**	**11 04 22.5**	**+0.8**
BDFB	**Brasilia**	**34.38**	**183**	P	**P**	**11 04 45.1**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=5.9,slow=8.3,SNR=3.6						
	comp=Z,2.1nm,0.6s						
JTS	**Las Juntas de**	**38.48**	**263**	LR	LR	11 20 11.4	
	comp=Z,89nm,21.3s,baz=97,slow=35						
H10N3	**ASCENSION HYDR**	**40.96**	**128**	T	T	11 49 26.2	
	baz=310,slow=75,SNR=176						
H10N2	**ASCENSION HYDR**	**40.96**	**128**	T	T	11 49 26.4	
	baz=310,slow=75,SNR=119						
H10N1	**ASCENSION HYDR**	**40.96**	**128**	T	T	11 49 27.7	
	baz=310,slow=75,SNR=163						
LPAZ	**La Paz**	**41.14**	**213**	P	**P**	**11 05 42.6**	**-0.7**
	comp=Z,2.8nm,0.7s,baz=20,slow=9.1,SNR=9.4						
	comp=Z,2.8nm,0.7s						
H10S3	**ASCENSION HYDR**	**41.57**	**129**	T	T	11 51 01.0	
	baz=310,slow=74,SNR=127						
H10S2	**ASCENSION HYDR**	**41.59**	**129**	T	T	11 51 02.3	
	baz=270,slow=74,SNR=125						
DBIC	**Dimbokro**	**41.91**	**101**	P	**P**	**11 05 50.3**	**+1.2**
DBIC				IAmb	IAmb	11 06 09.7	
	comp=Z,13nm,1.2s						
DBIC	**Dimbokro**	**41.91**	**101**	P	**P**	**11 05 49.3**	**+0.2**
	comp=Z,3.8nm,0.8s,baz=231,slow=3.2,SNR=3.4						
	comp=Z,3.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**46.20**	**90**	P	**P**	**11 06 24.2**	**+0.8**
TORD	**Torodi Ar. Bea**	**46.20**	**90**	P	**P**	**11 06 23.1**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=301,slow=9.0,SNR=11						
	comp=Z,2.5nm,0.9s						
CPUP	**Villa Florida**	**46.27**	**194**	P	**P**	**11 06 22.2**	**-1.5**
	comp=Z,1.0nm,0.9s,baz=247,slow=6.7,SNR=5.0						
	comp=Z,1.0nm,0.9s						
PLPT	**Palo Pinto**	**48.53**	**297**		**P**	**11 06 41.2**	**-0.3**
PLPT				IAmb	IAmb	11 06 42.1	
	comp=Z,7.2nm,0.9s						
EKA	**Eskdalemuir Ar**	**48.68**	**31**	P	**P**	**11 06 42.4**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=222,slow=12,SNR=3.9						
	comp=Z,1.2nm,0.8s						
EPLO	**Experimental L**	**48.74**	**320**	P	**P**	**11 06 42.2**	**-0.6**
EPLO				IAmb	IAmb	11 06 44.0	
	comp=Z,4.9nm,1.1s						
ULM	**Lac du Bonnet**	**50.24**	**320**	P	**P**	**11 06 52.6**	**-1.6**
	comp=Z,1.5nm,0.8s,baz=106,slow=12,SNR=3.0						
	comp=Z,1.5nm,0.8s						
KEST	**Kesra**	**51.39**	**59**	P	**P**	**11 07 03.2**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=327,slow=6.8,SNR=4.3						
	comp=Z,3.2nm,0.8s						
TXAR	**Lajitas Array**	**53.10**	**293**	P	**P**	**11 07 13.7**	**-2.4**
	comp=Z,0.6nm,0.7s,baz=109,slow=7.4,SNR=7.3						
	comp=Z,0.6nm,0.7s						
NOA	**NORSAR Array B**	**57.99**	**29**	P	**P**	**11 07 49.8**	**-0.8**
	comp=Z,0.7nm,0.2s,baz=233,slow=2.2,SNR=3.4						
	comp=Z,0.7nm,0.2s						
PDAR	**Pinedale Array**	**58.03**	**309**	P	**P**	**11 07 50.9**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=98,slow=8.1,SNR=9.1						
	comp=Z,1.1nm,0.8s						
HFS	**Hagfors**	**58.86**	**30**	P	**P**	**11 07 56.4**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=0.0,slow=1.5,SNR=4.6						
	comp=Z,2.5nm,0.7s						
FINES	**FINESS Array B**	**65.06**	**30**	P	**P**	**11 08 37.9**	**-0.5**
FINES	**FINESS Array B**	**65.06**	**30**	P	**P**	**11 08 37.4**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=224,slow=10.0,SNR=4.0						
	comp=Z,1.7nm,0.8s						
AKASG	**Malin Array Be**	**66.36**	**42**	P	**P**	**11 08 46.2**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=270,slow=5.9,SNR=6.2						
	comp=Z,1.9nm,0.7s						
BRTR	**Keskin Array B**	**70.43**	**54**	P	**P**	**11 09 13.9**	**+1.1**
	comp=Z,2.2nm,0.9s,baz=284,slow=5.0,SNR=10.0						
	comp=Z,2.2nm,0.9s						
KBZ	**Khabaz**	**76.48**	**48**	P	**P**	**11 09 50.0**	**+1.8**
	comp=Z,2.5nm,0.8s,baz=26,slow=2.0,SNR=3.6						
	comp=Z,2.5nm,0.8s						
ILAR	**Eielson Array**	**77.58**	**334**	P	**P**	**11 09 53.6**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=73,slow=4.8,SNR=44						
	comp=Z,3.2nm,0.7s						
O18K	**Koktuh Hills**	**83.01**	**331**	P	**P**	**11 10 22.2**	**-1.1**
O18K				IAmb	IAmb	11 10 23.3	
	comp=Z,9.7nm,1.4s						
BOSA	**Boshof**	**83.54**	**123**	P	**P**	**11 10 26.7**	**0.0**
	comp=Z,4.4nm,0.9s,baz=294,slow=6.4,SNR=3.6						
	comp=Z,4.4nm,0.9s						
NRIK	**Noril'sk**	**86.04**	**15**	LR	LR	11 45 40.2	
	comp=Z,30nm,19.9s,baz=336,slow=33						
KURBB	**Kurchatov Arra**	**95.42**	**32**	P	**P**	**11 11 23.0**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=316,slow=4.6,SNR=4.2						
	comp=Z,0.4nm,0.8s						
MKAR	**Makanchi Array**	**99.79**	**33**	LR	LR	11 55 30.5	
	comp=Z,32nm,18.2s,baz=308,slow=35						

*IDC **07** 10:59:12.0±0.8, 18°.92N×46°.19W, h0km, mb4.0/9, mbtmp4.0/9, MS4.0/2, Error ellipse: s-maj=24.7km s-min=22.3km az=163.0*

ISC 07 10:59:14.3±0.8, 18°.9N±0°.2×46°.2W±0°.1, h15km, n11, σ0°58/9, mb4.0/8, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**41.10**	**213**	P	**P**	**11 06 58.2**	**-0.3**
	2.8nm,0.9s,baz=41,slow=5.5,SNR=5.0						
	2.8nm,0.9s						
CPUP	**Villa Florida**	**46.26**	**194**	P	**P**	**11 07 39.5**	**+0.3**
	0.9nm,0.8s,baz=50,slow=1.1,SNR=4.0						
	0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**46.28**	**90**	P	**P**	**11 07 39.6**	**-0.1**
	2.3nm,0.9s,baz=300,slow=10,SNR=7.2						
	2.3nm,0.9s						
ULM	**Lac du Bonnet**	**50.18**	**320**	P	**P**	**11 08 08.8**	**-0.6**
	1.5nm,0.7s,baz=125,slow=8.3,SNR=3.6						
	1.5nm,0.7s						
TXAR	**Lajitas Array**	**53.01**	**293**	P	**P**	**11 08 31.2**	**+0.2**
	0.8nm,0.8s,baz=113,slow=8.3,SNR=4.7						
	0.8nm,0.8s						
DAVOX	**Davos/Dischmat**	**53.34**	**45**	LR	LR	11 28 30.2	
	comp=Z,98nm,19.2s,baz=263,slow=33						
ANMO	**Albuquerque**	**55.28**	**300**	LR	LR	11 30 48.1	
	comp=Z,208nm,19.2s,baz=184,slow=34						
PDAR	**Pinedale Array**	**57.95**	**309**	P	**P**	**11 09 06.2**	**-0.4**
	0.8nm,0.8s,baz=116,slow=8.6,SNR=4.9						
	0.8nm,0.8s						
AKASG	**Malin Array Be**	**66.41**	**42**	P	**P**	**11 10 02.5**	**-0.3**
	1.0nm,0.5s,baz=273,slow=5.6,SNR=5.0						
	1.0nm,0.5s						
BRTR	**Keskin Array B**	**70.50**	**54**	P	**P**	**11 10 28.9**	**+0.1**
	1.6nm,0.9s,baz=266,slow=5.0,SNR=6.9						
	1.6nm,0.9s						
ILAR	**Eielson Array**	**77.53**	**334**	P	**P**	**11 11 10.3**	**+1.1**
	2.4nm,0.7s,baz=73,slow=4.6,SNR=16						
	2.4nm,0.7s						

*NEIC **07** 11:22:15.5±2.1, 35°.811N±0°.009×117°.59W±0°.01, h10km±1km, Error ellipse: s-maj=2.6km s-min=1.6km az=23.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr-1.51; Mθθ-0.17; Mϕϕ1.68; Mrθ0.71; Mϕθ0.61; Mrϕ0.21; Fault plane solution: Mo1.87000×10^15^ NP1: ϕs217.86000°, δ55.85000°, λ-62.62000°. NP2: ϕs355.16000°, δ42.70000°, λ-124.14000°. Principal axes: T 1.9171, Plg7.0000°, Azm289.0000°; N -0.0980, Plg22.0000°, Azm22.0000°; P -1.8191, Plg66.0000°, Azm182.0000°;*
*IDC **07** 11:22:15.4±0.7, 35°.81N×117°.47W, h0km, mb3.6/2, mbtmp3.5/8, ML3.6/6, MS3.4/10 Error ellipse: s-maj=14.0km s-min=5.5km az=73.0*
*NEIC **07** 11:22:16.3, 35°.81N×117°.59W, h10km*
*PAS **07** 11:22:16.2±2.1, 35°.806N±0°.009×117°.59W±0°.01, h10km±3km, Mwr4.2/6, mb3.9/12(NEIC), ML4.1/118(NEIC), Mwr4.1/144(NEIC), Error ellipse: s-maj=1.4km s-min=1.4km az=141.0*

ISC 07 11:22:16.2±0.7, 35°.79N±0°.02×117°.59W±0°.02, h13km±4km, n167, σ0°81/180, MS3.4/9, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.02**	**350**		**Pg**	**11 22 18.1**	**-0.4**
CLC					**Sg**	**11 22 19.8**	**-0.4**
CLC	**China Lake**	**0.02**	**350**	IAML		11 22 20.1	
	comp=E,43μm,0.3s						
CLC				IAML		11 22 20.2	
	comp=N,112μm,0.4s						
TOW	**Tower One**	**0.14**	**277**		**Pg**	**11 22 19.8**	**+0.1**
TOW					**Sb**	**11 22 23.3**	**-0.4**
SRTC	**Snort**	**0.16**	**232**		**Pg**	**11 22 20.3**	**+0.3**
SRTC					**Sg**	**11 22 22.9**	**+0.2**
WVPM	**Volcano Peak E**	**0.24**	**311**		**Pg**	**11 22 20.9**	**-0.4**
WVPM					**Sg**	**11 22 24.6**	**-0.3**
JRC2	**Joshua Ridge**	**0.26**	**317**		**Pg**	**11 22 21.2**	**-0.5**
JRC2					**Sg**	**11 22 25.0**	**-0.4**
WNMM	**Nine Mile Cany**	**0.26**	**281**		**Pg**	**11 22 21.2**	**-0.3**
WNMM					**Sg**	**11 22 25.4**	**+0.2**
WCSM	**Coso Springs S**	**0.27**	**329**		**Pg**	**11 22 21.3**	**-0.6**
WCSM					**Sg**	**11 22 25.2**	**-0.5**
MPMC	**Manual Prospec**	**0.28**	**18**		**Pg**	**11 22 21.4**	**-0.6**
MPMC					**Sg**	**11 22 25.6**	**-0.5**
MPMC	**Manual Prospec**	**0.28**	**18**	IAML		11 22 25.9	
	comp=N,55μm,0.6s						
MPMC				IAML		11 22 25.9	
	comp=E,47μm,0.5s						
LRMC	**Laurel Mtn Rad**	**0.32**	**193**		**Sg**	**11 22 27.9**	**+0.7**
LRMC	**Laurel Mtn Rad**	**0.32**	**193**		**Pg**	**11 22 22.6**	**-0.1**
LRMC				IAML		11 22 28.4	
	comp=E,21μm,0.5s						
LRMC				IAML		11 22 29.1	
	comp=N,15μm,0.3s						
WRVM	**Rose V. Centra**	**0.32**	**312**		**Sg**	**11 22 22.3**	**-0.5**
WRVM					**Sg**	**11 22 26.9**	**-0.4**
CCCA	**Chr Cany lake**	**0.33**	**145**		**Pg**	**11 22 23.1**	**+0.3**
CCCA					**Sb**	**11 22 28.7**	**-0.4**
CCCA	**Chr Cany lake**	**0.33**	**145**	IAML		11 22 29.5	
	comp=E,45μm,0.6s						
CCCA				IAML		11 22 29.6	
	comp=N,64μm,0.6s						
MFS	**McCloud Flat S**	**0.39**	**327**		**Pg**	**11 22 23.6**	**-0.4**
MFS					**Sg**	**11 22 29.1**	**-0.1**
WBSM	**Bird Springs**	**0.51**	**240**		**Pg**	**11 22 25.9**	**-0.4**
WBSM					**Sg**	**11 22 33.1**	**0.0**
WORM	**Onyx Ranch**	**0.54**	**260**		**Pg**	**11 22 26.1**	**-0.6**
WORM					**Sg**	**11 22 33.4**	**-0.4**
DTP	**Desert Tortois**	**0.56**	**202**		**Pg**	**11 22 26.9**	**-0.4**
DTP					**Sg**	**11 22 34.8**	**+0.1**
QSM	**Queen of Sheba**	**0.61**	**74**		**Pg**	**11 22 27.4**	**-0.7**
QSM	**Queen of Sheba**	**0.61**	**74**		**Sg**	**11 22 35.7**	**-0.5**
WHFM	**Hanning Flat**	**0.62**	**261**		**Pg**	**11 22 27.8**	**-0.6**
WHFM					**Sg**	**11 22 36.2**	**-0.4**
CCAC	**Calif City Air**	**0.73**	**209**		**Pg**	**11 22 29.9**	**-0.4**
CCAC					**Sg**	**11 22 40.2**	**+0.4**
ISA	**Isabella, Lake**	**0.73**	**260**		**Sg**	**11 22 39.4**	**-0.5**
ISA	**Isabella, Lake**	**0.73**	**260**		**Pg**	**11 22 29.6**	**-0.7**
ISA				IAML		11 22 43.2	
	comp=N,6μm,0.6s						
ISA				IAML		11 22 43.3	
	comp=E,7μm,0.5s						
CWC	**Cottonwood Cre**	**0.76**	**329**		**Pg**	**11 22 30.2**	**-0.6**
CWC					**Sg**	**11 22 40.5**	**-0.3**
CWC	**Cottonwood Cre**	**0.76**	**329**	IAML		11 22 41.4	
	comp=E,6μm,0.5s						
CGO	**Cerro Gordo**	**0.78**	**347**		**Pg**	**11 22 30.4**	**-0.9**
CGO					**Sg**	**11 22 40.8**	**-0.7**
WASM	**Alta Sierra Ca**	**0.79**	**266**		**Pg**	**11 22 30.8**	**-0.7**
WASM					**Sg**	**11 22 41.5**	**-0.3**
GSC	**Goldstone, Bar**	**0.81**	**127**		**Pg**	**11 22 31.0**	**-0.8**
GWY	**Greenwater Val**	**0.84**	**62**		**Pg**	**11 22 31.9**	**-0.6**
GWY					**Sg**	**11 22 43.1**	**-0.5**
GWY	**Greenwater Val**	**0.84**	**62**	IAML		11 22 45.1	
	comp=N,11μm,0.3s						
FURC	**Furnace Creek,**	**0.90**	**41**		**Pg**	**11 22 33.2**	**-0.3**
FURC					**Sg**	**11 22 44.6**	**-0.6**
HYS	**Haystack Butte**	**0.93**	**179**		**Pg**	**11 22 33.5**	**-0.6**
EDW2	**Edwards Air Fo**	**0.97**	**200**		**Pb**	**11 22 34.0**	**-0.8**
SPG2	**Springville 2**	**1.03**	**293**		**Pb**	**11 22 34.8**	**-1.2**
RRX	**Edison Barstow**	**1.04**	**152**		**Pb**	**11 22 35.6**	**-0.4**
TPO	**Tropico Hills**	**1.05**	**210**		**Pb**	**11 22 35.6**	**-0.6**
TPO					**Sb**	**11 22 49.5**	**-0.4**
TPO	**Tropico Hills**	**1.05**	**210**	IAML		11 22 52.6	
	comp=N,6μm,1.2s						
TPO				IAML		11 22 53.4	
	comp=E,5μm,1.1s						
TEJ	**El Tejon**	**1.06**	**238**		**Pb**	**11 22 35.1**	**-1.3**
TEJ					**Sb**	**11 22 49.3**	**-0.8**
SHOC	**Shoshone, Teco**	**1.07**	**84**		**Pb**	**11 22 35.4**	**-1.3**
SHOC					**Sb**	**11 22 50.5**	**-0.1**
SBB	**Saddle Back Bu**	**1.12**	**190**		**Pg**	**11 22 38.1**	**+0.4**
SBB					**Sb**	**11 22 51.6**	**-0.3**
MAGC	**SCE Magundon P**	**1.17**	**249**		**Pn**	**11 22 38.0**	**-0.2**
ARVC	**Arvin**	**1.21**	**237**		**Pn**	**11 22 38.2**	**-0.6**
TJR	**Tejon Ranch**	**1.21**	**231**		**Pn**	**11 22 38.3**	**-0.5**
GRAC	**Grapevine Rang**	**1.21**	**9**		**Pn**	**11 22 38.5**	**-0.4**
VES	**Vestal, Richgr**	**1.21**	**273**		**Pn**	**11 22 38.5**	**-0.4**
THC	**Tehachapi Micr**	**1.24**	**225**		**Pn**	**11 22 38.9**	**-0.6**
ALPC	**Antelope**	**1.25**	**208**		**Pg**	**11 22 39.9**	**-0.2**
ADO	**Adelanto Recei**	**1.25**	**174**		**Pg**	**11 22 40.1**	**-0.1**
VTV	**Victorville**	**1.25**	**170**		**Pg**	**11 22 40.1**	**-0.1**
AMDNV	**Amargosa**	**1.25**	**58**		**Pn**	**11 22 37.9**	**-1.4**
WCT	**Wildcat Mounta**	**1.27**	**38**		**Pn**	**11 22 38.5**	**-1.2**
WCT				IAML		11 22 57.5	
	comp=N,5μm,0.5s						
WCT				IAML		11 22 57.9	
	comp=E,5μm,0.4s						
SGV	**South Grapevin**	**1.27**	**21**		**Pn**	**11 22 38.8**	**-1.0**
LEOC	**Leona Valley**	**1.30**	**207**		**Pn**	**11 22 39.2**	**-0.9**
BAKC	**Calstate**	**1.31**	**250**		**Pb**	**11 22 40.4**	**-0.3**
LRRC	**Littlerock Res**	**1.31**	**196**		**Pn**	**11 22 39.5**	**-0.8**
CJV	**Casa Juvan**	**1.34**	**200**		**Pn**	**11 22 39.8**	**-0.9**
HOLC	**Holcomb Ridge**	**1.35**	**189**		**Pn**	**11 22 39.9**	**-0.9**
TIN	**Tinemaha, Big**	**1.36**	**338**		**Pn**	**11 22 40.6**	**-0.4**
JNH	**Juniper Hills**	**1.38**	**193**		**Pn**	**11 22 40.4**	**-0.9**
DSCC	**Desert Studies**	**1.38**	**118**		**Pn**	**11 22 39.8**	**-1.3**
TUQ	**Turquoise Moun**	**1.41**	**104**		**Pn**	**11 22 40.3**	**-1.3**
HEC	**Hector,Ludlow**	**1.41**	**133**		**Pn**	**11 22 40.5**	**-1.1**
LCH	**Last Change Ra**	**1.44**	**358**		**Pn**	**11 22 41.4**	**-0.7**
OSI	**Osito Audit: C**	**1.50**	**219**		**Pn**	**11 22 42.0**	**-0.8**
OSI				IAML		11 23 11.2	
	comp=E,2μm,0.9s						
CHFC	**Chilao Flat St**	**1.50**	**194**		**Pn**	**11 22 42.1**	**-0.9**
VOG	**Valley Oaks Go**	**1.54**	**290**		**Pb**	**11 22 44.1**	**-0.5**
BFSC	**Mount Baldy Ra**	**1.55**	**182**		**Pn**	**11 22 43.0**	**-0.6**
BFSC				IAML		11 23 07.8	
	comp=E,2μm,0.5s						
BFSC				IAML		11 23 09.3	

MWC IAML 11 23 10.0
comp=N,2µm,0.6s
MWC IAML 11 23 10.8
comp=E,2µm,0.7s
BBRC Big Bear Solar 1.62 160 Pg 11 22 46.8 -0.5
DECC Green Verdugo 1.65 202 Pn 11 22 44.5 -0.4
POCCA Poleta Canyon 1.66 341 Pb 11 22 46.6 -0.1
BHPR Bishop 1.67 335 Pn 11 22 45.0 -0.3
OAT Oat Mountain 1.67 210 Pn 11 22 45.1 -0.2
MTPC Mountain Pass 1.69 100 Pn 11 22 44.4 -1.2
MTPC Mountain Pass 1.69 100 IAML 11 23 10.4
comp=E,2µm,0.4s
MTPC IAML 11 23 10.5
comp=N,2µm,0.7s
PASC Pasadena Art C 1.69 197 Pn 11 22 45.2 -0.3
PSRC Puddingstone R 1.71 186 Pn 11 22 45.5 -0.1
BCW Bitter Crk WRg 1.71 241 Pb 11 22 48.0 +0.4
MTUM Tungsten Hills 1.74 334 Pn 11 22 46.1 -0.3
BLCC Black Canyon 1.78 210 Pn 11 22 46.6 -0.1
GTM Goat Mountain 1.81 145 Pn 11 22 46.1 -1.0
RHC Rose Hills Cem 1.82 191 Pn 11 22 47.1 -0.2
CRGC Crocker Grade 1.82 253 Pb 11 22 49.0 -0.4
DJJ Donna J Jenkin 1.83 203 Pn 11 22 46.8 -0.5
GMRC Granite Mounta 1.87 122 Pn 11 22 46.3 -1.8
MZP Montezuma Peak 1.91 5 Pn 11 22 48.4 -0.3
BLAC Blackrock camp 1.98 150 Pn 11 22 48.9 -0.6
EW2 E Wide Canyon 2.09 152 Pn 11 22 50.3 -0.6
SHPR Sheep Range 2.09 69 Pn 11 22 51.0 -0.2
SHPR IAML 11 23 23.3
comp=E,1µm,0.8s
SHPR IAML 11 23 24.1
comp=N,1µm,0.8s
HMTC Hemet 2.13 167 Pn 11 22 51.1 -0.5
ELS Elsinore Mount 2.15 176 Pn 11 22 51.6 -0.1
ELS IAML 11 23 27.4
comp=E,1µm,0.4s
RPV Rancho Palos V 2.15 198 Pn 11 22 51.6 -0.1
POB Polly Butte 2.17 165 Pn 11 22 51.8 -0.3
DGR Domenigoni Val 2.19 167 Pn 11 22 52.0 -0.4
MURC Murrieta 2.21 171 Pn 11 22 52.3 -0.4
V12A Nelson 2.23 91 Pn 11 22 51.9 -1.1
V12A IAML 11 23 32.4
comp=E,1µm,0.5s
V12A IAML 11 23 33.2
comp=N,1µm,1.1s
TPH Tonopah 2.30 7 Pn 11 22 53.6 -0.4
PMD Palm Desert 2.36 155 Pn 11 22 53.9 -0.7
PMD IAML 11 23 36.0
comp=N,707nm,0.9s
PMD IAML 11 23 37.5
comp=E,755nm,0.9s
PFO Pinyon Flats O 2.37 156 Pn 11 22 54.2 -0.6
PFO IAML 11 23 34.5
comp=E,915nm,0.8s
PFO Pinyon Flats O 2.37 156 Pn **Pn 11 22 54.1 -0.8**
comp=E,6.3nm,0.3s,baz=343,slow=14,SNR=50
PFO Pg **Pb 11 22 59.0 +0.2**
comp=E,66nm,0.3s,baz=330,slow=13,SNR=56
PFO Lg Lg 11 23 30.1
comp=E,48nm,0.3s,baz=304,slow=16,SNR=5.2
comp=E,22nm,0.3s
LHV Little Huntoon 2.56 344 Pn 11 22 57.8 +0.4
LHV IAML 11 23 42.1
comp=N,959nm,0.5s
LHV IAML 11 23 46.7
comp=E,1µm,0.8s
PMPB Monarch Peak 2.64 280 Pn 11 22 59.4 +0.9
PMPB IAML 11 23 58.2
comp=E,2µm,0.8s
NEE2 Needles Airpor 2.64 112 Pn 11 22 57.3 -1.2
NEE2 IAML 11 23 54.7
comp=N,2µm,0.9s
NEE2 IAML 11 23 56.3
comp=E,1µm,0.9s
NV11 Mina Array Sit 2.67 350 Pn 11 22 58.9 -0.2
NVAR Mina Array Bea 2.69 348 Pn 11 22 58.9 -0.5
NVAR Mina Array Bea 2.69 348 Pn **Pn 11 22 59.4 -0.1**
comp=E,11nm,0.3s,baz=171,slow=13,SNR=142
NVAR Pg **Pb 11 23 05.6 +1.3**
comp=E,52nm,0.3s,baz=169,slow=15,SNR=45
NVAR Lg Lg 11 23 42.0
comp=E,25nm,0.3s,baz=180,slow=18,SNR=3.5
comp=E,13nm,0.4s
RYN Ryan 2.93 346 Pn 11 23 02.4 -0.1
Q09A Carvers 3.05 6 Pn 11 23 04.5 +0.2
WAKR Walker 3.08 332 Pn 11 23 05.0 +0.2
WAKR IAML 11 23 56.3
comp=E,379nm,0.7s
WAKR IAML 11 23 57.9
comp=N,496nm,1.5s
W13A Hualapai Mount 3.10 102 Pn 11 23 04.2 -0.9
W13A IAML 11 24 00.0
comp=N,384nm,0.9s
CMB Columbia Colle 3.17 316 Pn 11 23 06.1 +0.4
CMB IAML 11 23 59.1
comp=N,544nm,0.8s
CMB IAML 11 24 00.1
comp=E,546nm,1.0s
BLYC Blythe 3.25 128 Pn 11 23 05.5 -1.3
BLYC IAML 11 24 02.4
comp=N,560nm,1.2s
BLYC IAML 11 24 02.4
comp=E,678nm,1.2s
SAO San Andreas Ge 3.26 288 Pn Pn **11 23 06.9 -0.1**
TJX Tijuana 3.31 172 Pn 11 23 07.1 -0.5
TKX Tecate 3.32 165 Pn 11 23 07.5 -0.4
TKX IAML 11 24 01.6
comp=E,464nm,0.7s
YUH Yuha Desert 3.43 156 Pn 11 23 08.2 -1.1
CBX Cerro Bola 3.56 167 Pn 11 23 11.3 +0.1
GLA Glamis 3.56 139 Pn 11 23 09.5 -1.7
LCMT Little Creek M 3.71 70 Pn Pn **11 23 13.7 +0.4**
CCUT Cedar City 3.83 61 Pn Pn **11 23 15.7 +0.7**
CCUT IAML 11 24 25.1
comp=N,278nm,1.0s
CCUT IAML 11 24 29.3
comp=E,231nm,1.0s
SZCU Shurtz Canyon 4.04 62 Pn Pn **11 23 18.2 +0.2**
SZCU IAML 11 24 22.9
comp=E,198nm,0.4s
PSUT Pine Spring 4.05 46 Pn Pn **11 23 18.1 +0.1**
PSUT IAML 11 24 28.9
comp=E,321nm,1.0s
PSUT IAML 11 24 33.0
comp=N,377nm,0.7s
SPR3 Spring Creek 3 4.12 38 Pn 11 23 19.2 0.0
SPR3 IAML 11 24 27.0
comp=E,365nm,0.7s
SPR3 IAML 11 24 38.7
comp=N,222nm,1.2s
PAHR Pah Rah Range 4.16 341 Pn 11 23 19.9 +0.4
Y14A Wickenburg 4.20 115 Pn 11 23 18.9 -1.2
Y14A IAML 11 24 37.1
comp=E,241nm,0.5s
Y14A IAML 11 24 41.4
comp=N,365nm,1.1s
113A Mohawk Valley, 4.37 133 Pn 11 23 21.0 -1.3
WUAZ Wupatki 5.07 91 Pn **Pn 11 23 32.2 +0.2**
X16A Lo Mia Camp, P 5.23 103 Pn 11 23 33.5 -0.8
ELK Elko 5.28 20 Pn 11 23 34.9 0.0
ELK IAML 11 25 04.5
comp=N,93nm,0.5s
ELK Elko 5.28 20 Pn **Pn 11 23 35.5 +0.5**
comp=N,1.3nm,0.3s,baz=301,slow=8.1,SNR=30
ELK Pg **Pb 11 23 51.6 +3.2**
comp=N,5.6nm,0.3s,baz=229,slow=12,SNR=15
ELK Lg Lg 11 25 00.1
comp=N,37nm,0.3s,baz=266,slow=6.5,SNR=18
ELK LR LR 11 26 04.5
comp=N,443nm,18.3s,baz=149,slow=44
comp=N,6.6nm,0.5s
TUC Tucson 6.63 120 Pn 11 23 52.5 -0.9
CTU Camp Tracy 6.71 41 Pn **Pn 11 23 57.1 +2.5**
YBH Yreka Blue Hor 7.15 328 Pn **Pn 11 24 03.6 +3.1**
baz=159,slow=6.3,SNR=6.4
YBH Lg Lg 11 25 59.4
baz=315,slow=2.9,SNR=5.2
319A Douglas 8.21 120 Pn 11 24 14.8 -0.4
PINE Pine Mountain 8.39 343 Pn 11 24 15.9 -1.8
O20A White River Ci 8.56 57 Pn 11 24 19.6 -0.4
ANMO Albuquerque 9.13 92 Pn Pn **11 24 25.3 -2.6**
comp=N,0.1nm,0.3s,baz=205,slow=14,SNR=1.5
ANMO Pg 11 25 00.9
comp=N,0.2nm,0.3s,baz=7.4,slow=12,SNR=5.0
ANMO Lg Lg 11 26 58.9
comp=N,0.5nm,0.3s,baz=296,slow=21,SNR=6.9
comp=N,0.3nm,0.3s
PDAR Pinedale Array 9.34 39 Pn **Pn 11 24 32.5 +1.8**
comp=N,0.1nm,0.3s,baz=229,slow=12,SNR=15
PDAR Lg Lg 11 27 07.0
comp=N,0.2nm,0.3s,baz=226,slow=33,SNR=6.7
comp=N,1.6nm,0.8s
MNTX Cornudas Mount 10.95 108 Pn 11 24 53.2 +0.6
TX31 Lajitas Ar. Si 13.39 115 Pn 11 25 27.6 +1.6
TXAR Lajitas Array 13.39 115 Pn **Pn 11 25 27.8 +1.8**
comp=N,0.1nm,0.3s,baz=293,slow=12,SNR=10.0
comp=N,0.3nm,0.5s
LLLB Lillooet 15.13 349 Pn **Pn 11 25 49.6 0.0**
LLLB IAmb IAmb 11 26 01.8
comp=E,5.5nm,1.0s
CSTR Hydro, Custer 15.36 85 Pn **Pn 11 25 53.1 +0.4**
JCT Junction City 15.81 105 Pn **Pn 11 25 59.6 +1.0**
BRDY Brady 16.14 101 P P 11 26 05.0 -1.0
OK052 Battle Ridge R 16.85 83 P P 11 26 13.3 -0.6
OK052 IAmb IAmb 11 26 16.9
comp=Z,7.0nm,0.9s
F33A 5 Mile Ranch, 18.94 51 P Pn 11 26 37.2 -0.2
F33A IAmb IAmb 11 26 43.4
comp=Z,7.0nm,1.0s
MIAR Mount Ida 19.67 87 P Pn 11 26 46.2 -0.1
MIAR IAmb IAmb 11 26 51.5
comp=Z,13nm,1.4s
AGMN Agassiz Nation 20.33 45 P P 11 26 51.7 -0.3
ULM Lac du Bonnet 21.36 41 P P 11 27 03.5 +0.5
ULM IAmb IAmb 11 27 07.7
comp=Z,6.4nm,0.8s
ULM Lac du Bonnet 21.36 41 P P 11 27 03.6 +0.5
comp=Z,4.4nm,0.8s,baz=232,slow=9.5,SNR=7.0
ULM LR LR 11 35 42.1
comp=Z,80nm,19.3s,baz=181,slow=38
comp=Z,4.4nm,0.8s
PBMO Poplar Bluff 21.90 79 P P 11 27 09.1 +0.1
E38A The Farm, Brul 22.27 53 P P 11 27 12.7 -0.3
TKL Tuskaleechee C 27.38 80 LR LR 11 39 18.3
comp=Z,77nm,18.2s,baz=177,slow=38
CMIG Matias Romero 27.46 127 LR LR 11 40 12.5
comp=Z,96nm,18.7s,baz=276,slow=39
ILAR Eielson Array 33.91 338 P P 11 28 59.8 +1.2
comp=Z,0.5nm,1.0s,baz=153,slow=7.3,SNR=9.0
comp=Z,0.5nm,1.0s
RES Resolute Bay 40.48 9 LR LR 11 48 21.2
comp=Z,52nm,19.6s,baz=20,slow=39
FRB Frobisher Bay 40.67 31 LR LR 11 47 28.0
comp=Z,42nm,18.2s,baz=265,slow=37
BORG Borgarnes 60.80 29 LR LR 11 57 05.5
comp=Z,28nm,18.3s,baz=326,slow=34
TIXI Tiksi 63.29 341 LR LR 12 03 47.4
comp=Z,30nm,18.6s,baz=82,slow=39
VRAC Vranov 86.02 28 LR LR 12 17 02.0
comp=Z,22nm,18.2s,baz=296,slow=38
ZALV Zalesovo Beam 88.55 347 LR LR 12 19 43.6
comp=Z,18nm,19.2s,baz=82,slow=39

*NEIC **07** 11:33:49.4±1.7, 35°.583N±0°.007×117°.34W±0°.01, h1km±1km, Error ellipse: s-maj=1.4km s-min=1.0km az=79.0*
PAS 07 11:33:50.1±1.5, **35°.568N**±0°.006×**117°.35W**±0°.01, **h1**km±1km, **Mwr3.5**/6, **ML3.3**/106(NEIC), **Error ellipse: s-maj=1.4km s-min=0.9km az=80.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.04**	**195**		Sg	11 33 51.7	+0.2
CCCA	**Chr Cany lake**	**0.04**	**195**	Pg	Pg	11 33 51.6	+0.6
CCCA				IAML		11 33 52.1	
	comp=N,42µm,0.4s						
CCCA				IAML		11 33 52.2	
	comp=E,25µm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.28**	**252**	Pg	Pg	11 33 55.8	+0.3
LRMC					Sg	11 33 59.9	+0.6
CLC	**China Lake**	**0.32**	**321**		Pg	11 33 56.3	+0.1
CLC	**China Lake**	**0.32**	**321**	IAML		11 34 01.2	
	comp=N,4µm,0.4s						
CLC				IAML		11 34 01.9	
	comp=E,3µm,0.4s						
SRTC	**Snort**	**0.35**	**291**		Pg	11 33 57.4	+0.6
TOW	**Tower One**	**0.41**	**306**		Pg	11 33 58.6	+0.6
MPMC	**Manual Prospec**	**0.50**	**347**	Pg	Pg	11 33 59.8	+0.1
DTP	**Desert Tortois**	**0.50**	**234**		Pg	11 33 59.7	0.0
DTP					Sg	11 34 07.0	+0.8
GSC	**Goldstone, Bar**	**0.52**	**121**		Pg	11 34 00.1	+0.1
GSC				IAML		11 34 07.7	
	comp=N,2µm,0.6s						
GSC				IAML		11 34 11.0	
	comp=E,3µm,0.5s						
WNMM	**Nine Mile Cany**	**0.53**	**301**		Pg	11 34 00.4	+0.2
WVPM	**Volcano Peak E**	**0.54**	**315**		Pg	11 34 00.6	+0.2
QSM	**Queen of Sheba**	**0.56**	**45**		Pg	11 34 00.7	-0.1
QSM				IAML		11 34 09.3	
	comp=N,2µm,0.8s						
QSM				IAML		11 34 10.7	
	comp=E,2µm,0.7s						
WRVM	**Rose V. Centra**	**0.62**	**315**		Pg	11 34 02.0	0.0
WRVM					Sg	11 34 10.6	+0.6
WBSM	**Bird Springs**	**0.64**	**268**		Pg	11 34 02.5	+0.1
CCAC	**Calif City Air**	**0.68**	**233**		Pg	11 34 03.2	0.0
CCAC					Sg	11 34 13.3	+1.2
MFS	**McCloud Flat S**	**0.69**	**323**		Pg	11 34 03.3	+0.1
HYS	**Haystack Butte**	**0.72**	**194**		Pg	11 34 03.6	-0.4
HYS					Sg	11 34 13.7	+0.4
WORM	**Onyx Ranch**	**0.74**	**280**		Pg	11 34 01.2	-3.0
WORM					Sg	11 34 13.9	+0.1
RRX	**Edison Barstow**	**0.75**	**157**		Pg	11 34 04.5	+0.1
RRX					Sg	11 34 14.6	+0.5
WHFM	**Hanning Flat**	**0.82**	**279**		Pg	11 34 05.7	-0.2
WHFM					Sg	11 34 16.7	+0.2
GWY	**Greenwater Val**	**0.83**	**42**	Pg	Pg	11 34 05.5	-0.5
GWY				IAML		11 34 22.2	
	comp=N,2µm,0.6s						
EDW2	**Edwards Air Fo**	**0.86**	**218**		Pg	11 34 06.3	-0.4
ISA	**Isabella, Lake**	**0.92**	**276**		Sg	11 34 19.7	0.0
ISA	**Isabella, Lake**	**0.92**	**276**		Pg	11 34 07.0	-0.7
ISA				IAML		11 34 23.1	
	comp=N,2µm,0.5s						
SBB	**Saddle Back Bu**	**0.96**	**204**		Pg	11 34 08.1	-0.3
SBB					Sg	11 34 20.7	-0.1
TPO	**Tropico Hills**	**0.99**	**227**		Pg	11 34 08.8	-0.3
TPO	**Tropico Hills**	**0.99**	**227**	IAML		11 34 29.8	
	comp=N,2µm,0.8s						
WASM	**Alta Sierra Ca**	**1.00**	**280**		Pg	11 34 08.8	-0.4
WASM					Sg	11 34 22.1	0.0
VTV	**Victorville**	**1.00**	**179**		Pb	11 34 10.2	-0.1
VTV					Sb	11 34 24.6	+0.6
ADO	**Adelanto Recei**	**1.02**	**184**		Pb	11 34 10.9	+0.4
ADO					Sn	11 34 25.8	-0.7
CGO	**Cerro Gordo**	**1.05**	**340**		Pg	11 34 09.7	-0.5
CGO					Sb	11 34 25.2	-0.4
CWC	**Cottonwood Cre**	**1.05**	**326**		Pg	11 34 10.0	-0.2
CWC				IAML		11 34 27.9	
	comp=N,827nm,0.3s						
CWC				IAML		11 34 28.0	
	comp=E,798nm,0.3s						
DSCC	**Desert Studies**	**1.10**	**112**		Pg	11 34 10.6	-0.6
DSCC					Sb	11 34 26.6	-0.2
HEC	**Hector,Ludlow**	**1.11**	**131**		Pg	11 34 11.0	-0.4
HEC					Sg	11 34 26.3	+0.6
TEJ	**El Tejon**	**1.14**	**253**		Pg	11 34 11.0	-1.0
TUQ	**Turquoise Moun**	**1.17**	**96**		Pg	11 34 11.9	-0.6
TUQ					Sg	11 34 28.1	+0.4
HOLC	**Holcomb Ridge**	**1.18**	**200**		Pg	11 34 12.6	-0.1
HOLC					Sb	11 34 29.4	+0.3
LRRC	**Littlerock Res**	**1.18**	**208**		Pg	11 34 12.6	-0.1
LRRC					Sb	11 34 29.2	+0.3
LEOC	**Leona Valley**	**1.22**	**220**		Pg	11 34 12.9	-0.5
JNH	**Juniper Hills**	**1.22**	**204**		Pg	11 34 12.9	-0.6
JNH					Sn	11 34 31.1	-0.6
CJV	**Casa Juvan**	**1.22**	**212**		Pb	11 34 13.8	-0.2
CJV					Sb	11 34 30.6	+0.3
AMDNV	**Amargosa**	**1.24**	**44**		Pg	11 34 12.8	-0.9
AMDNV					Sg	11 34 29.6	-0.3
THC	**Tehachapi Micr**	**1.26**	**239**		Pg	11 34 13.6	-0.6
TJR	**Tejon Ranch**	**1.26**	**245**		Pg	11 34 13.4	-0.8
ARVC	**Arvin**	**1.29**	**250**		Pg	11 34 13.8	-0.9
SIL	**Silver Peak**	**1.29**	**160**		Pg	11 34 14.3	-0.5
SPG2	**Springville 2**	**1.31**	**299**		Pg	11 34 14.3	-0.9
SPG2					Sg	11 34 31.8	-0.5
BBRC	**Big Bear Solar**	**1.35**	**165**		Pg	11 34 15.4	-0.5
BFSC	**Mount Baldy Ra**	**1.35**	**191**		Pg	11 34 15.5	-0.4
CHFC	**Chilao Flat St**	**1.35**	**204**		Pg	11 34 15.8	-0.2
CHFC					Sb	11 34 33.8	-0.2
WCT	**Wildcat Mounta**	**1.36**	**25**		Pg	11 34 14.7	-1.4
WCT				IAML		11 34 38.4	
	comp=E,431nm,0.4s						
SSK	**Sunset Peak**	**1.38**	**192**		Pg	11 34 16.1	-0.5
GRAC	**Grapevine Rang**	**1.43**	**359**		Pn	11 34 16.1	-1.0
GRAC				IAML		11 34 40.2	
	comp=E,590nm,0.6s						
GRAC				IAML		11 34 41.9	
	comp=N,617nm,0.8s						
SGV	**South Grapevin**	**1.43**	**10**		Pn	11 34 16.2	-1.1
VES	**Vestal, Richgr**	**1.44**	**281**		Pn	11 34 17.1	-0.1
VES					Sb	11 34 36.4	0.0
MWC	**Mount Wilson**	**1.46**	**204**		Sn	11 34 37.8	+0.2
MWC	**Mount Wilson**	**1.46**	**204**		Pn	11 34 17.5	-0.3
MWC				IAML		11 34 43.3	
	comp=E,536nm,0.6s						
MWC				IAML		11 34 43.8	
	comp=N,516nm,0.8s						
MTPC	**Mountain Pass**	**1.47**	**93**		Sg	11 34 35.3	-1.9
MTPC	**Mountain Pass**	**1.47**	**93**		Pn	11 34 16.2	-1.6
MTPC				IAML		11 34 38.0	
	comp=E,368nm,0.7s						
MTPC				IAML		11 34 40.3	
	comp=N,288nm,0.7s						
CLTC	**Calectric**	**1.47**	**179**		Sn	11 34 38.5	+0.9
SVD	**Seven Oaks Dam**	**1.47**	**172**		Pg	11 34 18.9	+0.7
SVD					Sn	11 34 37.7	0.0
OSI	**Osito Audit: C**	**1.47**	**230**		Pn	11 34 16.7	-1.1
OSI				IAML		11 34 39.7	
	comp=E,774nm,0.5s						
GTM	**Goat Mountain**	**1.51**	**147**		Pn	11 34 18.1	-0.2
PSRC	**Puddingstone R**	**1.52**	**194**		Pn	11 34 18.4	0.0
PSRC					Sg	11 34 39.2	+0.4
DECC	**Green Verdugo**	**1.54**	**212**		Pb	11 34 19.4	0.0
PASC	**Pasadena Art C**	**1.55**	**206**		Sb	11 34 39.8	+0.1
PASC	**Pasadena Art C**	**1.55**	**206**		Pn	11 34 18.3	-0.5
PASC				IAML		11 34 47.4	
	comp=E,256nm,0.7s						
RVR	**Riverside**	**1.57**	**181**		Pn	11 34 18.9	-0.2
GMRC	**Granite Mounta**	**1.59**	**119**		Pn	11 34 17.1	-2.3
TPNV	**Topopah Spring**	**1.64**	**33**		Pn	11 34 19.2	-1.0
TPNV				IAML		11 34 45.0	
	comp=E,426nm,0.5s						
LCH	**Last Change Ra**	**1.68**	**352**		Pn	11 34 19.9	-0.8
PEC	**Perris**	**1.68**	**175**		Pn	11 34 20.1	-0.5
BLAC	**Blackrock camp**	**1.69**	**152**		Pn	11 34 20.2	-0.6
GMN	**Gold Mountain**	**1.73**	**2**		Pn	11 34 20.5	-1.0
EW2	**E Wide Canyon**	**1.80**	**154**		Pn	11 34 21.1	-1.1
TPC	**Twentynine Pal**	**1.81**	**143**		Pn	11 34 20.9	-1.5
VOG	**Valley Oaks Go**	**1.81**	**295**		Pb	11 34 23.3	-0.8
BREC	**Barre Substati**	**1.83**	**197**		Pb	11 34 23.6	-0.7
DSP	**Deep Springs**	**1.87**	**345**		Pn	11 34 22.1	-1.1
HMTC	**Hemet**	**1.88**	**171**		Pn	11 34 22.6	-0.7
POB	**Polly Butte**	**1.91**	**169**		Pn	11 34 23.0	-0.8
ELS	**Elsinore Mount**	**1.92**	**182**		Pn	11 34 23.3	-0.6
DGR	**Domenigoni Val**	**1.93**	**172**		Pn	11 34 23.5	-0.6
CRGC	**Crocker Grade**	**1.97**	**261**		Pb	11 34 26.6	-0.1
SHPR	**Sheep Range**	**2.01**	**62**		Pn	11 34 24.3	-0.9
V12A	**Nelson**	**2.04**	**85**		Pn	11 34 24.2	-1.5
V12A				IAML		11 34 55.8	
	comp=N,347nm,0.9s						
V12A				IAML		11 35 02.4	
	comp=E,288nm,0.5s						
CRY	**Cary Ranch**	**2.06**	**166**		Pn	11 34 25.8	-0.1
PMD	**Palm Desert**	**2.08**	**157**		Pn	11 34 24.4	-1.6
PMD				IAML		11 35 05.4	
	comp=E,158nm,0.7s						
PFO	**Pinyon Flats O**	**2.08**	**159**		Pn	11 34 25.4	-0.9
PFO				IAML		11 35 05.0	
	comp=E,150nm,0.9s						
XPFO	**Pinon Flat**	**2.09**	**159**		Pb	11 34 29.0	+0.2
PKM	**Mcpherson Peak**	**2.13**	**252**		Pb	11 34 29.4	-0.1
BZNA	**Buzz No.'s Pla**	**2.15**	**165**		Pb	11 34 30.2	+0.4
FRD	**Ford Ranch, An**	**2.16**	**163**		Pn	11 34 26.6	-0.6
CTW	**Cottonwood Mou**	**2.25**	**147**		Pn	11 34 27.1	-1.2
NEE2	**Needles Airpor**	**2.38**	**109**		Pn	11 34 28.5	-1.6
MATG	**Mataguay Scout**	**2.43**	**166**		Pb	11 34 35.6	+1.0
TPH	**Tonopah**	**2.50**	**2**		Pn	11 34 30.8	-1.3
PRN	**Pahroc Range**	**2.61**	**45**		Pn	11 34 32.8	-0.7
LHV	**Little Huntoon**	**2.83**	**341**		Pn	11 34 36.5	+0.1
LHV				IAML		11 35 26.3	
	comp=N,153nm,1.5s						
LHV				IAML		11 35 28.4	
	comp=E,169nm,0.7s						
W13A	**Hualapai Mount**	**2.87**	**98**		Pn	11 34 35.8	-1.4
W13A				IAML		11 35 31.8	
	comp=N,115nm,1.4s						
NV11	**Mina Array Sit**	**2.93**	**348**		Pn	11 34 37.2	-0.7
NV11				IAML		11 35 27.4	
	comp=E,62nm,1.4s						
BAR	**Barrett**	**2.94**	**169**	IAML		11 35 24.0	
	comp=N,68nm,0.2s						
BAR				IAML		11 35 26.6	
	comp=E,69nm,0.7s						
NVAR	**Mina Array Bea**	**2.96**	**345**		Pn	11 34 37.5	-0.9
YUH	**Yuha Desert**	**3.14**	**157**		Pn	11 34 39.4	-1.3
RYN	**Ryan**	**3.20**	**343**		Pn	11 34 41.1	-0.4
GLA	**Glamis**	**3.27**	**140**		Pn	11 34 40.1	-2.3
GLA				IAML		11 35 44.7	
	comp=N,118nm,0.9s						
CBX	**Cerro Bola**	**3.30**	**170**		Pn	11 34 43.2	+0.3
SAO	**San Andreas Ge**	**3.52**	**291**		Pn	11 34 45.9	0.0
LCMT	**Little Creek M**	**3.62**	**65**		Pn	11 34 47.0	-0.4
ESJX	**Sierra Juarez**	**3.74**	**161**		Pn	11 34 48.4	-0.7
ESJX				IAML		11 35 56.4	
	comp=E,32nm,0.7s						
KNB	**Kanab**	**3.93**	**67**		Pn	11 34 51.0	-0.7
KNB				IAML		11 35 58.1	
	comp=E,39nm,1.3s						
KNB				IAML		11 35 59.9	
	comp=N,60nm,1.0s						
113A	**Mohawk Valley,**	**4.08**	**132**		Pn	11 34 51.5	-2.0
113A				IAML		11 36 10.0	
	comp=E,25nm,0.8s						
113A				IAML		11 36 14.3	
	comp=N,27nm,0.9s						
PAHR	**Pah Rah Range**	**4.44**	**339**		Pn	11 34 58.5	-0.1
WUAZ	**Wupatki**	**4.87**	**89**		Pn	11 35 04.0	-0.7
WUAZ				IAML		11 36 32.4	
	comp=N,35nm,0.8s						
214A	**Organ Pipe Nat**	**5.22**	**132**		Pn	11 35 07.2	-2.1
214A				IAML		11 36 52.1	
	comp=E,16nm,1.4s						
214A				IAML		11 36 55.4	
	comp=N,13nm,1.1s						

*NEIC **07** 11:41:03.8±1.6, 35°.924N±0°.007×117°.70W±0°.01, h3km±3km, Error ellipse: s-maj=1.3km s-min=1.0km az=54.0*
PAS 07 11:41:04.2±1.6, **35°.917N**±0°.008×**117°.71W**±0°.01, **h1**km±1km, **ML3.2**/25, **ML3.0**/60(NEIC), **Error ellipse: s-maj=1.3km s-min=1.0km az=52.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**290**		Pg	11 41 06.3	+0.3
TOW	**Tower One**	**0.12**	**202**		Pg	11 41 06.8	+0.4
CLC	**China Lake**	**0.14**	**138**	Pg	Pg	11 41 06.9	+0.1
CLC				IAML		11 41 09.4	
	comp=N,3µm,0.2s						
WRVM	**Rose V. Centra**	**0.17**	**302**		Pg	11 41 07.8	+0.2
WNMM	**Nine Mile Cany**	**0.17**	**245**		Pg	11 41 08.1	+0.6
WNMM					Sg	11 41 11.0	+1.2
MPMC	**Manual Prospec**	**0.23**	**52**		Pg	11 41 08.7	+0.2
MPMC				IAML		11 41 14.7	
	comp=E,2µm,0.7s						
MPMC				IAML		11 41 14.0	
	comp=N,4µm,0.6s						
SRTC	**Snort**	**0.23**	**188**		Pg	11 41 09.1	+0.6
SRTC					Sg	11 41 13.4	+1.9
MFS	**McCloud Flat S**	**0.23**	**329**		Pg	11 41 08.9	+0.2
MFS					Sg	11 41 12.7	+0.9
LRMC	**Laurel Mtn Rad**	**0.44**	**177**		Sg	11 41 19.2	+1.0
LRMC	**Laurel Mtn Rad**	**0.44**	**177**		Pg	11 41 12.4	-0.2
LRMC				IAML		11 41 20.0	
	comp=N,2µm,0.4s						
LRMC				IAML		11 41 20.2	
	comp=E,2µm,0.4s						
CCCA	**Chr Cany lake**	**0.48**	**144**		Pg	11 41 14.0	+0.6

WORM	Onyx Ranch	0.49	243			Pg	11 41 13.6	+0.1	
WBSM	Bird Springs	0.52	223			Pg	11 41 14.1	0.0	
WBSM						Sg	11 41 21.6	+0.9	
WHFM	Hanning Flat	0.56	247			Pg	11 41 15.0	0.0	
CWC	Cottonwood Cre	0.60	330			Pg	11 41 15.8	0.0	
CWC					IAML		11 41 27.9		
	comp=N,575nm,0.2s								
CGO	Cerro Gordo	0.64	353			Pg	11 41 16.6	+0.2	
DTP	Desert Tortois	0.66	190			Pg	11 41 16.6	-0.2	
ISA	Isabella, Lake	0.67	248			Sg	11 41 26.2	+0.4	
ISA	Isabella, Lake	0.67	248			Pg	11 41 16.8	-0.2	
ISA					IAML		11 41 26.3		
	comp=N,954nm,0.5s								
ISA					IAML		11 41 27.2		
	comp=E,1µm,0.3s								
QSM	Queen of Sheba	0.68	86			Sg	11 41 26.8	+0.7	
QSM	Queen of Sheba	0.68	86			Pg	11 41 15.9	-1.3	
QSM					IAML		11 41 27.1		
	comp=N,1µm,0.6s								
WASM	Alta Sierra Ca	0.71	256			Pg	11 41 17.8	0.0	
CCAC	Calif City Air	0.80	198			Pg	11 41 19.3	-0.3	
CCAC						Sg	11 41 30.4	+0.5	
SPG2	Springville 2	0.90	289			Pg	11 41 20.9	-0.5	
GSC	Goldstone, Bar	0.96	130			Sg	11 41 35.2	+0.2	
GSC	Goldstone, Bar	0.96	130		Pg	Pg	11 41 22.2	-0.4	
GSC					IAML		11 41 38.0		
	comp=E,744nm,0.9s								
GSC					IAML		11 41 38.7		
	comp=N,413nm,0.6s								
TEJ	El Tejon	1.05	230			Pg	11 41 23.6	-0.8	
HYS	Haystack Butte	1.06	174			Pg	11 41 23.9	-0.5	
EDW2	Edwards Air Fo	1.06	193			Pb	11 41 25.1	-0.2	
GRAC	Grapevine Rang	1.11	14			Pg	11 41 24.8	-0.6	
GRAC					IAML		11 41 47.5		
	comp=E,463nm,0.6s								
GRAC					IAML		11 41 48.0		
	comp=N,333nm,0.8s								
VES	Vestal, Richgr	1.12	267			Pg	11 41 25.4	-0.3	
VES						Sg	11 41 39.9	-0.2	
SHOC	Shoshone, Teco	1.16	90			Pg	11 41 26.7	+0.2	
SGV	South Grapevin	1.19	27			Pg	11 41 26.8	-0.3	
ARVC	Arvin	1.21	230			Pg	11 41 26.9	-0.4	
SBB	Saddle Back Bu	1.23	184			Pg	11 41 27.6	-0.1	
WCT	Wildcat Mounta	1.24	45			Sg	11 41 44.0	+0.1	
WCT	Wildcat Mounta	1.24	45			Pg	11 41 27.2	-0.7	
WCT					IAML		11 41 46.4		
	comp=E,289nm,0.5s								
WCT					IAML		11 41 47.1		
	comp=N,189nm,0.9s								
BAKC	Calstate	1.27	244			Sb	11 41 46.0	+0.2	
AMDNV	Amargosa	1.27	65			Pg	11 41 28.4	-0.1	
LCH	Last Change Ra	1.31	2			Pg	11 41 29.2	-0.2	
LRRC	Littlerock Res	1.41	191			Pb	11 41 31.5	+0.2	
VOG	Valley Oaks Go	1.41	287			Pn	11 41 30.4	-0.5	
GMN	Gold Mountain	1.43	15			Pn	11 41 30.4	-1.0	
HOLC	Holcomb Ridge	1.46	184			Pn	11 41 31.6	-0.1	
DSP	Deep Springs	1.47	352			Pn	11 41 30.9	-0.8	
JNH	Juniper Hills	1.48	188			Pg	11 41 32.6	+0.1	
BHPR	Bishop	1.52	336			Pg	11 41 33.4	+0.2	
TUQ	Turquoise Moun	1.53	108			Pn	11 41 31.4	-1.4	
OSI	Osito Audit: C	1.54	213			Pn	11 41 31.7	-1.1	
OSI					IAML		11 42 03.1		
	comp=N,144nm,0.7s								
OSI					IAML		11 42 04.5		
	comp=E,152nm,0.7s								
TPNV	Topopah Spring	1.56	48			Pn	11 41 32.0	-1.2	
TPNV					IAML		11 41 58.4		
	comp=E,187nm,0.8s								
TPNV					IAML		11 42 00.5		
	comp=E,192nm,0.5s								
MTUM	Tungsten Hills	1.59	335			Pn	11 41 34.0	+0.4	
CHFC	Chilao Flat St	1.60	189			Pb	11 41 34.4	-0.3	
BFSC	Mount Baldy Ra	1.68	179			Pn	11 41 34.3	-0.4	
BFSC					IAML		11 41 58.2		
	comp=E,112nm,0.7s								
BFSC					IAML		11 41 58.9		
	comp=N,116nm,0.5s								
SSK	Sunset Peak	1.70	180			Pg	11 41 36.6	-0.2	
MWC	Mount Wilson	1.71	190			Pn	11 41 34.0	-1.2	
MWC					IAML		11 42 00.7		
	comp=E,138nm,0.5s								
MWC					IAML		11 42 01.4		
	comp=N,153nm,0.6s								
SIL	Silver Peak	1.73	155			Pb	11 41 36.9	+0.2	
BBRC	Big Bear Solar	1.77	158			Pg	11 41 37.9	-0.3	
PASC	Pasadena Art C	1.79	193			Pn	11 41 35.3	-0.8	
MZP	Montezuma Peak	1.80	8			Pn	11 41 35.5	-1.1	
MTPC	Mountain Pass	1.81	103			Pn	11 41 35.2	-1.3	
MTPC						Sn	11 41 58.1	-2.1	
MTPC	Mountain Pass	1.81	103		IAML		11 42 03.0		
	comp=N,98nm,0.6s								
MTPC					IAML		11 42 03.2		
	comp=E,201nm,0.4s								
PSRC	Puddingstone R	1.82	183			Pg	11 41 38.7	-0.4	
BLCC	Black Canyon	1.85	206			Pn	11 41 36.6	-0.4	
BENR	Benton	1.92	339			Pb	11 41 40.5	+0.3	
MLAC	Mammoth, Mammo	1.93	332			Pg	11 41 40.9	-0.3	
SMMC	Simmler	1.96	253			Pb	11 41 41.0	+0.3	
MCSM	Casa Diablo Ho	1.98	331			Pb	11 41 41.3	+0.1	
TPH	Tonopah	2.19	10		Pn	Pn	11 41 41.1	-0.7	
RPV	Rancho Palos V	2.24	195			Pn	11 41 41.8	-0.6	
ELS	Elsinore Mount	2.28	174			Pn	11 41 41.5	-1.4	
ELS					IAML		11 42 18.2		
	comp=E,65nm,0.3s								
POB	Polly Butte	2.32	164			Pn	11 41 43.0	-0.5	
DGR	Domenigoni Val	2.33	166			Pn	11 41 43.1	-0.6	
S11A	Rachel	2.33	42			Pn	11 41 42.9	-1.0	
PMD	Palm Desert	2.52	154			Pn	11 41 44.2	-1.9	
PMD					IAML		11 42 31.2		
	comp=E,52nm,0.7s								
PRN	Pahroc Range	2.60	54		Pn	Pn	11 41 46.3	-1.2	
PRN					IAML		11 42 38.2		
	comp=N,91nm,0.7s								
PRN					IAML		11 42 45.6		
	comp=E,111nm,0.8s								

*CATAC **07** 11:49:19.6±0.7,8˚N±5˚×8˚3W±˚, h2km±2km, M3.8/7, MLv3.8/7, Error ellipse: s-maj=12.4km s-min=3.7km az=24.1, confirmed*
*UCR **07** 11:49:20.4±0.8,8.˚49N×83.˚14W, h18km±2km, MW3.9*
*UPA **07** 11:49:20.9±0.7,8.˚57N×83.˚08W, h10km± 1km, MW4.0*
ISC 07 11:49:19.9±1.1,**8˚50N**±0˚04×**83˚15W**±0˚03,**h13**km±7km,
n82,σ0?**68**/105,**1C**,**Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITO	Golfito	0.12	358	eP	Pb	11 49 24.1	-0.1
FITO				eS	Sb	11 49 26.6	-0.4
EDAD	Golfito	0.15	354	eP	Pb	11 49 24.4	-0.3
EDAD				eS	Sg	11 49 27.2	+1.0
NELY	Ciudad Neily	0.25	53	eP	Pb	11 49 26.2	-0.1
NELY				eS	Sb	11 49 30.7	+0.1
CDITO	Canoas	0.28	75	P	Pb	11 49 26.7	-0.2
CDITO	Canoas	0.28	75	S	Sb	11 49 31.7	+0.2
LPPC	Paso Canoas	0.31	84	eP	Pb	11 49 27.1	-0.2
LPPC				eS	Sb	11 49 32.3	0.0
VITO	San Vito	0.36	29	eP	Pb	11 49 28.2	-0.1
LESP3	La Esperanza,	0.37	105	eP	Pb	11 49 28.2	-0.1
LESP3				eS	Sb	11 49 33.4	-0.6
RSRNO	Rio Sereno	0.42	42	eP	Pb	11 49 29.3	0.0
MLIR3	Monte Lirio, C	0.43	48	eP	Pg	11 49 28.3	-0.2
MLIR3				eS	Sg	11 49 33.8	-0.6
SCLRA	Santa Clara, W	0.49	48	eP	Pb	11 49 30.3	-0.2
EDP2	Potrero Grande	0.51	357	eP	Pb	11 49 30.6	-0.2
EDP2				eS	Sb	11 49 38.3	+0.1
BRU2	Volcan	0.54	57	eP	Pg	11 49 31.0	+0.4
BRU2				eS	Sb	11 49 38.8	-0.3
BRU2	Volcan	0.54	57	eP	Pg	11 49 30.9	+0.4
BRU2				eS	Sb	11 49 38.7	-0.3
BRU2	Volcan	0.54	57	P	Pg	11 49 30.9	+0.4
ALCO	Alturas Coton,	0.55	35	eP	Pg	11 49 30.7	+0.1
ALCO				eS	Sg	11 49 38.5	+0.5
PANP	Palmar Norte	0.55	326	eP	Pg	11 49 30.8	+0.1
TBS2		0.57	59	eP	Pb	11 49 32.4	+0.5
CLLRA	Cordillera,	0.58	65	eP	Pb	11 49 31.8	-0.3
BC3P	Paso Ancho	0.62	59	eP	Pg	11 49 32.1	+0.1
BC3P				eS	Sg	11 49 40.7	+0.4
PTAR3	Potrerillos Ar	0.67	73	eP	Pg	11 49 33.2	+0.2
PTAR3				eS	Sb	11 49 42.6	-0.3
DVD	David	0.69	95	eP	Pg	11 49 33.5	+0.1
DVD				eS	Sb	11 49 43.3	-0.1
BURE	Buenos Aires	0.69	344	eP	Pg	11 49 33.2	-0.2
CSTBL	De las Acacias	0.71	97	eP	Pg	11 49 33.6	0.0
BQTLY	Boquete Panama	0.73	69	eP	Pg	11 49 33.8	-0.2
LOCO3	Loma Colorada,	0.73	97	eP	Pg	11 49 34.1	+0.1
LOCO3				eS	Sb	11 49 44.7	+0.3
LOMA3	Las Lomas, Chi	0.75	95	eP	Pg	11 49 34.5	0.0
LOMA3				eS	Sb	11 49 44.9	-0.2
DRK0	Durika	0.77	353	eP	Pg	11 49 34.2	-0.6
DRK0	Durika	0.77	353	eP	Pg	11 49 34.2	-0.6
DRK0				eS	Sg	11 49 44.6	-0.3
DRK0	Durika	0.77	353	P	Pg	11 49 34.2	-0.6
DRK0	Durika	0.77	353	S	Sg	11 49 45.1	+0.3
OCHAL	Ojochal	0.77	320	P	Pg	11 49 34.4	-0.5
OCHAL	Ojochal	0.77	320	S	Sg	11 49 42.9	-2.1
EDPE	Pejibaye, P	0.78	328	eP	Pg	11 49 34.7	-0.3
PSOM3	Paja de Sombre	0.84	77	eP	Pg	11 49 35.6	-0.5
PSOM3				eS	Sg	11 49 47.0	-0.2
GUAL3	Gualaca, Chiri	0.84	88	eP	Pg	11 49 36.0	-0.3
GUAL3				eS	Sb	11 49 47.6	-0.1
SAJE	San Jernim	0.91	337	eP	Pb	11 49 36.6	-1.1
PBNVO	Pueblo Nuevo,	1.02	68	eP	Pb	11 49 38.0	-1.5
RBALA	Bur	1.05	69	eP	Pb	11 49 38.7	-1.3
BRIBI	Bribri	1.16	16	eP	Pb	11 49 42.1	+0.2
ISBTO	Bastimentos Is	1.25	48	eP	Pb	11 49 43.5	0.0
LLNJ	Naranjito	1.35	316	eP	Pn	11 49 44.5	0.0
KKNTU	Kakint[2]	1.37	76	eP	Pn	11 49 43.5	-1.2
PIEC	Cerro El Cedra	1.37	324	eP	Pn	11 49 44.5	-0.6
RAZU	San Marcos de	1.44	323	eP	Pb	11 49 46.5	-0.2
PISJ	San Jernim	1.48	320	eP	Pn	11 49 46.8	+0.4
ABE2	San Pablo	1.49	323	eP	Pb	11 49 47.5	-0.2
LCR2	La Lucha 2	1.50	326	eP	Pn	11 49 45.8	-0.9
LCR2	La Lucha 2	1.50	326	P	Pn	11 49 45.4	-1.3
LCR2	La Lucha 2	1.50	326	S	Sb	11 50 06.9	+0.2
VINA	Juan Vinas	1.51	337	eP	Pn	11 49 46.6	-0.2
PICV	PH. Pirrs	1.52	317	eP	Pn	11 49 46.9	-0.1
VERB	Verbena	1.53	339	eP	Pn	11 49 47.1	-0.1
PAR1A	Puntarenas Pro	1.54	315	eP	Pn	11 49 47.4	+0.3
RVSTA	Santa Teresita	1.55	341	eP	Pn	11 49 47.3	0.0
RESJ	San Isidro (Tu	1.60	342	eP	Pn	11 49 48.1	+0.1
ABRB	Las Abras (San	1.60	339	eP	Pn	11 49 48.0	-0.1
CVTV	Tajo	1.61	338	eP	Pn	11 49 47.7	-0.6
CVTQ	Turrialba Volc	1.61	338	eP	Pn	11 49 48.3	-0.2
IRES	Siquirres	1.62	348	eP	Pn	11 49 48.6	+0.3
VTR0	Volcan Turrial	1.62	338	eP	Pn	11 49 49.0	+0.3
ACOS	Acosta	1.63	322	eP	Pn	11 49 48.4	-0.1
RVLA	Villa Bonita	1.66	345	eP	Pn	11 49 49.2	+0.5
DOMI	Santo Domingo	1.74	328	eP	Pb	11 49 52.0	+0.2
SANTA	Santa Ana	1.75	324	eP	Pn	11 49 50.6	+0.5
HDC	Heredia	1.77	328	eP	Pb	11 49 52.4	0.0
VBV1	V. Barva	1.86	330	eP	Pn	11 49 51.8	0.0
ATEO	Atenas	1.91	320	eP	Pb	11 49 53.8	-0.9
TCS1	Tacares	1.91	324	P	Pb	11 49 53.6	-1.0
CARI	Cariari	1.94	343	eP	Pn	11 49 53.4	+0.8
GMAL	Guarumal, Vera	2.03	111	eP	Pn	11 49 53.9	0.0
GMAL				eS	Sn	11 50 19.6	+0.4
TRT2	Tortugero	2.12	344	eP	Pn	11 49 55.6	+0.4
TRT2	Tortugero	2.12	344	P	Pn	11 49 55.5	+0.4
TRT2	Tortugero	2.12	344	S	Sb	11 50 24.5	-0.1
JTS	Las Juntas de	2.52	315	eP	Pn	11 50 01.4	+0.8
JTS				eS	Sn	11 50 32.5	+1.3
INDI	Punta indio, G	2.69	300	P	Pn	11 50 03.8	+0.9
NICO	Nicoya	2.79	306	eP	Pn	11 50 06.2	+1.9
PLVR	Palo Verde	2.84	310	eP	Pn	11 50 06.7	+1.4
AZU	Azuero	2.93	104	eP	Pn	11 50 06.4	+0.2
AZU				⇑eS	Sn	11 50 41.4	0.0
BCIP	Isla Barro Col	3.34	78	eP	Pn	11 50 11.5	-0.4
BCIP				eS	Sn	11 50 49.3	-2.1
BCIP	Isla Barro Col	3.34	78	P	Pn	11 50 12.9	+1.0
BCIP				S	Sn	11 50 54.2	+2.8
ACON	Acoyapa	3.98	330	eP	Pn	11 50 21.4	+0.7

*NEIC **07** 12:14:29.7±1.4,57˚.02N±0˚.06×149˚.65W±0˚.09, h10km±2km, ML3.5/94, ML3.3(AEIC), Error ellipse: s-maj=10.7km s-min=7.0km az=150.0*
*AEIC **07** 12:14:34.5±1.2,57˚.03N±0˚.08×149˚.60W±0˚.10, h12km±7km, Error ellipse: s-maj=11.5km s-min=7.5km az=170.0*
ISC 07 12:14:28.6±1.3,**57˚02N**±0˚.07×**149˚62W**±0˚.05,**h10**km,
n153,σ1?**30**/151,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	1.78	297		Pn	12 14 59.6	+0.3
KDAK	Kodiak Island	1.78	297		Sn	12 15 20.2	-1.7
OHAK	Old Harbor	2.01	277		Pn	12 15 02.5	-0.1
OHAK	Old Harbor	2.01	277		Sn	12 15 25.3	-2.3
OHAK	Old Harbor	2.01	277	P	Pn	12 15 02.4	-0.1
OHAK	Old Harbor	2.01	277	S	Sn	12 15 25.1	-2.5
SYI	Shuyak Island	2.18	318		Pn	12 15 05.3	+0.5
SYI				IAML		12 15 31.9	
	comp=E,260nm,0.5s						
SYI				IAML		12 15 32.2	
	comp=N,248nm,0.4s						
SYI	Shuyak Island	2.18	318		Sn	12 15 30.9	-0.9
CNPM	China Poot	2.66	342		Pn	12 15 11.7	+0.3
CNPM				IAML		12 15 44.9	
	comp=E,160nm,0.4s						
R18K	Karluk	2.68	284		Pn	12 15 12.5	+0.8
R18K					Sn	12 15 42.9	-1.2
R18K	Karluk	2.68	284	IAML		12 15 44.3	
	comp=N,313nm,0.5s						
BRLK	Bradley Lake	2.83	347		Pn	12 15 14.0	+0.2
HOM	Homer	2.85	339		Pn	12 15 14.3	+0.2
HOM				IAML		12 15 50.1	
	comp=E,257nm,0.8s						
HOM	Homer	2.85	339		Sn	12 15 48.0	-0.4
Q19K	Cape Douglas,	2.87	313		Pn	12 15 15.5	+1.1
Q19K	Cape Douglas,	2.87	313		Sn	12 15 48.5	-0.6
Q23K	Middleton Isla	2.98	34		Pn	12 15 16.2	+0.5
Q23K	Middleton Isla	2.98	34	IAML		12 15 52.2	
	comp=E,118nm,1.1s						
KAPH	Katmai Pasha	2.98	304		Pn	12 15 18.0	+2.0
KAHG	Katmai Hook Gl	3.02	301		Pn	12 15 18.3	+1.8
AU22	Augustine Moun	3.08	322		Pn	12 15 18.7	+1.5
SEW	Seward	3.10	2		Pn	12 15 17.5	+0.1
SEW	Seward	3.10	2		Sn	12 15 51.2	-3.2
AUCH	Augustine Cone	3.10	321		Pn	12 15 19.2	+1.6
AUL	Augustine Lava	3.11	321		Pn	12 15 19.4	+1.7
P23K	Montague Islan	3.21	20		Pn	12 15 19.4	+0.5
P23K				IAML		12 15 57.4	
	comp=E,84nm,0.4s						
P23K				IAML		12 15 59.1	
	comp=N,93nm,0.7s						
P23K	Montague Islan	3.21	20		Sn	12 15 54.8	-2.4
CAHL	Cahill	3.23	291		Pn	12 15 21.2	+1.8
P19K	Oil Pt	3.26	326		Pn	12 15 20.3	+0.7
P19K	Oil Pt	3.26	326		Sn	12 15 57.4	-1.0
ACHA	Angle Creek He	3.29	294		Pn	12 15 21.9	+1.7
KAHC	Katmai Hardscr	3.31	302		Pn	12 15 22.1	+1.6
ANCK	Angle Creek	3.37	293		Pn	12 15 23.3	+2.0
O20K	Slope Mountain	3.45	334		Pn	12 15 23.4	+1.0
O20K					Sn	12 16 02.8	-0.5
ILS	Iliamna Low So	3.46	330		Pn	12 15 23.9	+1.4
O22K	Cooper Landing	3.48	359		Pn	12 15 23.1	+0.5
IVE	Iliamna Volcan	3.50	331		Pn	12 15 23.6	+0.6
ILSW	Iliamna Southw	3.50	330		Pn	12 15 22.6	-0.6
ILSW				IAML		12 16 04.8	
	comp=E,87nm,0.6s						
ILSW				IAML		12 16 05.1	
	comp=N,98nm,0.7s						
SLKM	Skilak Lake	3.52	355		Pn	12 15 23.5	+0.3
SLKM				IAML		12 16 05.2	
	comp=N,142nm,0.5s						
SLKM				IAML		12 16 06.7	
	comp=E,128nm,0.3s						
CNTC	Contact Creek	3.59	293		Pn	12 15 25.9	+1.6
PLK3	Peulik 3	3.66	283		Pn	12 15 26.3	+1.1
PLK2	Peulik 2	3.70	284		Pn	12 15 27.0	+1.3
HIN	Hinchinbrook I	3.76	24		Pn	12 15 27.1	+0.5
HIN				IAML		12 16 09.9	
	comp=N,71nm,0.5s						
HIN				IAML		12 16 09.9	
	comp=E,64nm,0.5s						
RED	Redoubt Volcan	3.79	336		Pn	12 15 27.0	0.0
RED	Redoubt Volcan	3.79	336	IAML		12 16 11.5	
	comp=E,110nm,0.4s						
RED				IAML		12 16 15.0	
	comp=N,92nm,0.7s						
P18K	Big Mountain,	3.80	311		Pn	12 15 27.2	0.0
RDSO	Redoubt South	3.81	336		Pn	12 15 27.4	0.0
RDT	Redoubt	3.85	339		Pn	12 15 27.7	-0.2
PLK1	Peulik 1	3.86	285		Pn	12 15 29.4	+1.5
RDWB	Redoubt West	3.86	336		Pn	12 15 28.4	+0.3
PWL	Port Wells	3.91	9		Pn	12 15 28.9	+0.2
PWL				IAML		12 16 13.1	
	comp=N,91nm,0.5s						
PLBL	Peulik Blue Cr	3.96	283		Pn	12 15 30.8	+1.5
KAIM	Kayak Island	4.00	41		Pn	12 15 31.0	+1.2
O19K	Port Alsworth	4.02	324		Pn	12 15 29.8	-0.3
EYAK	Cordova Ski Ar	4.08	28		Pn	12 15 31.5	+0.6
EYAK				IAML		12 16 17.7	
	comp=E,57nm,0.6s						
EYAK				IAML		12 16 17.9	
	comp=N,44nm,0.5s						
EYAK	Cordova Ski Ar	4.08	28	P	Pn	12 15 32.1	+1.3
FID	Port Fidalgo	4.08	22		Pn	12 15 31.4	+0.4
RC01	Rabbit Creek A	4.08	359		Pn	12 15 31.2	+0.2
RC01				IAML		12 16 18.3	
	comp=E,75nm,0.6s						
RC01				IAML		12 16 20.4	
	comp=N,68nm,0.5s						
O18K	Koktuh Hills	4.09	316		Pn	12 15 31.6	+0.5
O18K				IAML		12 16 18.8	
	comp=N,43nm,0.8s						
GLI	Glacier Island	4.09	18		Pn	12 15 31.6	+0.5
GLI				IAML		12 16 19.9	
	comp=E,43nm,0.5s						
Q16K	King Salmon	4.11	297		Pn	12 15 33.1	+1.8
P17K	Kvichak River	4.22	304		Pn	12 15 34.0	+1.1
RAGM	Ragged Mountai	4.25	35		Pn	12 15 34.5	+1.1
RAGM				IAML		12 16 22.9	
	comp=E,86nm,0.8s						
SUCK	Suckling Hills	4.33	43		Pn	12 15 35.6	+1.2
SUCK				IAML		12 16 25.0	
	comp=N,77nm,0.5s						
SUCK				IAML		12 16 28.6	
	comp=E,41nm,0.5s						
HMT	Hamilton	4.35	38		Pn	12 15 35.7	+1.1
BGLC	Bering Glacier	4.55	44		Pn	12 15 38.8	+1.4
DIV	Divide	4.58	24		Pn	12 15 39.0	+1.1
BERG	Berg Lake	4.58	40		Pn	12 15 38.7	+0.9
BERG				IAML		12 16 36.0	
	comp=N,58nm,0.5s						
PMR	Palmer	4.60	3		Pn	12 15 38.6	+0.7
PMR				IAML		12 16 29.5	
	comp=E,38nm,0.6s						
PMR				IAML		12 16 32.8	
	comp=N,34nm,0.6s						
PMR	Palmer	4.60	3	P	Pn	12 15 38.8	+0.8
STLK	Strandline Lak	4.64	347		Pn	12 15 38.7	0.0
STLK				IAML		12 16 32.7	
	comp=E,29nm,0.5s						
STLK				IAML		12 16 35.7	
	comp=N,29nm,0.6s						
BMRM	Bremner River	4.74	31		Pn	12 15 40.8	+0.8
BMRM				IAML		12 16 34.8	
	comp=N,36nm,0.5s						
BMRM				IAML		12 16 35.9	
	comp=E,31nm,0.5s						
ANPB	Aniakchak Plen	4.75	271		Pn	12 15 41.1	+1.0
GHO	Glory Hole Cre	4.78	4		Pn	12 15 41.9	+1.2
O17K	Koliganek Bris	4.80	308		Pn	12 15 41.5	+0.6
KLU	Klutina	4.87	21		Pn	12 15 43.0	+1.1
KLU				IAML		12 16 36.7	
	comp=N,41nm,0.3s						
KLU				IAML		12 16 40.1	
	comp=E,30nm,0.5s						
P16K	Nushagak River	4.88	298		Pn	12 15 43.8	+1.8
P16K	Nushagak River	4.88	298	IAML		12 16 51.1	
	comp=N,33nm,1.3s						
P16K				IAML		12 17 02.8	
	comp=E,45nm,1.2s						
M23K	Glacier View	4.89	11		Pn	12 15 43.6	+1.5
WAX	Waxell Ridge	4.93	43		Pn	12 15 43.5	+0.9
SCM	Sheep Creek Mo	4.97	13		Pn	12 15 44.9	+1.6
SCM				IAML		12 16 40.4	
	comp=N,36nm,0.7s						
SCM				IAML		12 16 41.9	
	comp=E,51nm,0.5s						
BARK	Barkley Ridge	5.03	45		Pn	12 15 45.6	+1.5
CRQM	Cirque	5.04	39		Pn	12 15 45.1	+0.9
CRQM				IAML		12 16 41.8	
	comp=E,37nm,0.4s						
TGL	Tana Glacier	5.14	40		Pn	12 15 47.0	+1.3
TGL				IAML		12 16 44.2	
	comp=E,38nm,0.6s						
TGL				IAML		12 16 46.0	
	comp=N,30nm,0.5s						
ISLE	Juniper Island	5.22	43		Pn	12 15 48.1	+1.4
ISLE				IAML		12 16 45.0	
	comp=N,26nm,0.9s						
ISLE				IAML		12 16 48.6	
	comp=E,29nm,0.7s						
N25K	Chitina, Valde	5.27	27		Pn	12 15 48.7	+1.3
N25K				IAML		12 16 47.5	
	comp=E,28nm,0.6s						
VRDI	Verde Repeater	5.28	34		Pn	12 15 48.8	+1.1
VRDI				IAML		12 16 48.4	
	comp=N,18nm,0.4s						
YAH	Yahtse	5.30	47		Pn	12 15 49.2	+1.2
YAH				IAML		12 16 51.5	
	comp=E,18nm,0.9s

M30M	Minto, Yukon	8.53	44		Pn	12 16 32.7 +0.7
DAWY	Dawson	8.67	31		Pn	12 16 35.9 +1.9
P32M	Atlin	8.76	66		Pn	12 16 36.0 +0.8
U33K	Whale Pass	9.16	89		Pn	12 16 39.6 -1.0
CRAG	Craig	9.32	93	P	Pn	12 16 41.5 -1.3

IDC 07 12:27:21.9±1.5, 7.65N×124.48E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=37.2km s-min=15.0km az=30.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.23	118	Pg	Pg	12 27 45.4	-0.1
	126nm,0.3s,baz=298,slow=2.5,SNR=7.1						
DAV				Lg	Lg	12 28 02.0	
	387nm,0.3s,baz=296,slow=23,SNR=13						
FITZ	Fitzroy Crossi	25.61	177	P	P	12 32 54.6	+1.5
	1.7nm,0.9s,baz=0.0,slow=5.1,SNR=1.8 1.7nm,0.9s						
WRA	Warramunga Arr	29.09	161	P	P	12 33 23.4	-0.9
	0.3nm,0.7s,baz=338,slow=8.9,SNR=2.6 0.3nm,0.7s						
ASAR	Alice Springs	32.46	164	P	P	12 33 53.6	-0.5
	0.5nm,0.5s,baz=342,slow=7.0,SNR=16 0.5nm,0.5s						
MKAR	Makanchi Array	53.08	325	P	P	12 36 41.1	0.0
	0.6nm,0.7s,baz=133,slow=7.1,SNR=6.1 0.6nm,0.7s						

*CATAC **07** 12:28:29.5±0.5, 15.3°N×9.2°W±°, h86km±3km, M3.8/10, MLv3.8/10, Error ellipse: s-maj=9.3km s-min=4.4km az=49.1, confirmed*
*MEX **07** 12:28:29.6±1.0, 14.82°N×92.41°W, h104km±8km, MD4.1*
*GCG **07** 12:28:30.3±1.6, 14.92°N×92.32°W, h86km±8km, MD3.8, ML3.8*

ISC 07 12:28:25.9±1.4, 14.73°N±0.05×92.37°W±0.04, h113km±7km, n36, σ2s20/51, 1C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.20	29	*i* P	Pn	12 28 42.5	+0.8
THIG				*i* S	Sn	12 28 53.4	-0.1
THIG		0.20	29	*e*P	Pn	12 28 42.2	+0.5
THIG				*e*S	Sn	12 28 53.1	-0.4
THIG				IAML		12 28 53.9	
	comp=E,5μm,0.1s						
SMCA	Catarina	0.31	66	*i* P	Pn	12 28 42.8	+0.7
SMCA				*e*S	Sn	12 28 52.8	-1.4
SMCA				IAML		12 28 56.3	
	comp=E,3μm,0.1s						
RTAL	Retalhuleu	0.68	107	*i* P	Pn	12 28 46.6	+2.2
RTAL				*i* S	Sn	12 29 00.0	+1.7
RTAL	Retalhuleu	0.68	107	P	Pn	12 28 46.6	+2.2
RTAL	Retalhuleu	0.68	107	S	Sn	12 28 60.0	+1.7
HUEH	Huehuetenango	1.02	55	*i* P	Pn	12 28 48.8	+1.0
HUEH				*i* S	Sn	12 29 04.3	0.0
STG8	El Palmar, Qui	1.02	106	*e*P	Pn	12 28 46.6	-1.2
STG8				*e*S	Sn	12 29 01.5	-2.8
STG0	El Palmar, Qui	1.04	107	*e*P	Pn	12 28 46.6	-1.3
STG0				*e*S	Sn	12 29 00.2	-4.3
STG0				IAML		12 29 04.2	
	comp=N,3μm,0.3s						
PCIG		1.27	320	*e*P	Pn	12 28 51.2	+1.0
PCIG				*e*S	Sn	12 29 07.3	-1.4
CCIG	Comitan	1.56	8	*e*P	Pn	12 28 55.1	+1.3
CCIG				*e*S	Sn	12 29 14.2	-0.9
CCIG	Comitan	1.56	8	*e*P	Pn	12 28 55.2	+1.3
CCIG				*e*S	Sn	12 29 14.4	-0.6
CCIG				IAML		12 29 18.5	
	comp=N,328nm,0.3s						
CCIG	Comitan	1.56	8	P	Pn	12 28 55.2	+1.3
FG8	Yepocapa, Chim	1.81	105	*e*P	Pn	12 28 55.5	-1.3
FG8				*e*S	Sn	12 29 16.1	-4.2
FG16	Alotenango, Sa	1.85	104	*e*P	Pn	12 28 57.6	+0.2
FG16				IAML		12 29 24.2	
	comp=N,2μm,0.2s						
TGIG		2.16	340	*e*P	Pn	12 29 00.7	-0.5
TGIG				*e*S	Sn	12 29 24.9	-3.3
NILT	Santiago Nilte	2.83	310	*e*P	Pn	12 29 12.2	+2.4
NILT				*e*S	Sn	12 29 45.2	+1.6
UXUV	UXUV	3.09	327	*e*P	Pn	12 29 15.2	+2.0
UXUV				*e*S	Sn	12 29 49.5	-0.2
PETF	Flores	3.24	48	*i* P	Pn	12 29 16.9	+1.7
PETF				*i* S	Sn	12 29 51.7	-1.6
PETF	Flores	3.24	48	P	Pn	12 29 17.1	+1.8
LOMA	Loma Larga	3.28	109	*e*P	Pn	12 29 21.1	+5.2
LOMA				IAML		12 29 22.5	
	comp=Z,310nm,0.1s						
LOMA	Loma Larga	3.28	109	P	Pn	12 29 21.0	+5.1
LFU	La Fuente	3.30	107	*e*P	Pn	12 29 20.7	+4.6
LBRS	Las Brisas	3.37	107	*e*P	Pn	12 29 19.8	+2.8
CMIG	Matias Romero	3.37	314	*e*P	Pn	12 29 18.5	+1.5
CMIG				*e*S	Sn	12 29 55.0	-1.5
LFRS	El Faro	3.39	109	*i* P	Pn	12 29 19.6	+2.3
PAVA	Las Pavas	3.48	106	P	Pn	12 29 19.9	+1.5
COEG	Centro de Oper	3.56	108	*e*P	Pn	12 29 20.8	+1.3
COEG				IAML		12 29 24.0	
	comp=Z,662nm,0.1s						
UESV	Universidad de	3.64	107	*e*P	Pn	12 29 22.1	+1.6
UESV	Universidad de	3.64	107	P	Pn	12 29 22.6	+2.0
SCLA	Alcaldia de Sa	3.67	106	P	Pn	12 29 23.5	+2.5
TECO	Alcaldia de Te	3.67	108	P	Pn	12 29 26.3	+5.3
HUIG	Huatulco	3.76	286	*e*P	Pn	12 29 23.5	+1.4
HUIG				*e*S	Sn	12 29 60.0	-5.6
PQSS	Presa 15 de Se	3.85	106	P	Pn	12 29 26.4	+3.0
SCIG	Sabancuy	4.36	15	*e*P	Pn	12 29 31.6	+1.4
SCIG				*e*S	Sn	12 30 16.3	-3.9
NEUV	Arroyo Zacate	4.44	312	*e*S	Sn	12 30 20.3	-1.7

CATAC 07 12:37:03.8±0.7, 11.7°N×3.8°W±°, h92km±7km, M3.1/7, MLv3.1/7, Error ellipse: s-maj=10.2km s-min=5.0km az=58.4, confirmed, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCE	Pocosol	0.23	128	P	Pn	12 37 18.3	+1.1
JTS	Las Juntas de	0.28	213	P	Pn	12 37 18.1	+0.7
JTS				S	Sn	12 37 29.9	+2.4
TCS1	Tacares	0.69	134	P	Pn	12 37 20.9	+0.4
CMARA	Lajas Hojancha	0.79	231	S	Sn	12 37 36.6	+1.8
CMARA	Lajas Hojancha	0.79	231	P	Pn	12 37 22.0	+0.5
INDI	Punta indio, G	0.95	227	P	Pn	12 37 23.1	0.0
INDI	Punta indio, G	0.95	227	S	Sn	12 37 38.7	+1.1
LCR2	La Lucha 2	1.10	135	P	Pn	12 37 25.1	0.0
LCR2	La Lucha 2	1.10	135	S	Sn	12 37 41.5	+0.5
ACON	Acoyapa	1.48	346	P	Pn	12 37 30.2	+0.7
ACON	Acoyapa	1.48	346	S	Sn	12 37 48.7	-0.1
OCHAL	Ojochal	1.82	141	S	Sn	12 37 56.7	+0.2
OCHAL	Ojochal	1.82	141	P	Pn	12 37 34.5	+0.7
DRK0	Durika	1.98	129	P	Pn	12 37 36.2	+0.2
DRK0	Durika	1.98	129	S	Sn	12 38 00.2	-0.3

*NEIC **07** 12:39:47.9±2.5, 35.655°N±0.008°×117.464°W±0.007, h2km±1km, Error ellipse: s-maj=1.2km s-min=0.7km az=167.0*

PAS 07 12:39:48.5±2.3, 35.646°N±0.008°×117.48°W±0.01, h3km±2km, ML3.3, ML3.1/90(NEIC), Error ellipse: s-maj=1.4km s-min=1.1km az=54.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	Chr Cany lake	0.15	142		Pg	12 39 52.1	+0.6
CCCA					Sg	12 39 55.2	+1.6
CCCA	Chr Cany lake	0.15	142	IAML		12 39 55.6	
	comp=N,18μm,0.4s						
CCCA				IAML		12 39 56.7	
	comp=E,20μm,0.2s						
CLC	China Lake	0.19	331		Pg	12 39 52.3	-0.1
CLC					Sg	12 39 55.3	+0.4
CLC				IAML		12 39 55.6	
	comp=E,4μm,0.6s						
CLC				IAML		12 39 56.1	
	comp=N,2μm,0.2s						
SRTC	Snort	0.22	282		Pg	12 39 53.4	+0.5
SRTC					Sg	12 39 57.4	+1.6
LRMC	Laurel Mtn Rad	0.23	225		Sg	12 39 56.9	+0.7
LRMC	Laurel Mtn Rad	0.23	225	Pg	Pg	12 39 53.4	+0.3
LRMC				IAML		12 39 57.0	
	comp=N,10μm,0.4s						
LRMC				IAML		12 39 57.5	
	comp=E,9μm,0.2s						
TOW	Tower One	0.28	305		Pg	12 39 54.5	+0.5
TOW					Sb	12 39 59.7	-1.7
WVPM	Volcano Peak E	0.41	318		Pg	12 39 56.6	+0.2
DTP	Desert Tortois	0.48	218		Pg	12 39 57.5	-0.2
WRVM	Rose V. Centra	0.49	318		Pg	12 39 58.0	0.0
WBSM	Bird Springs	0.55	259		Pg	12 39 58.9	-0.2
WBSM					Sg	12 40 06.7	+0.5
MFS	McCloud Flat S	0.56	327		Pg	12 39 59.2	-0.1
MFS					Sg	12 40 07.5	+1.0
QSM	Queen of Sheba	0.59	57		Pg	12 39 59.6	-0.3
QSM				IAML		12 40 10.6	
	comp=N,1μm,0.2s						
QSM				IAML		12 40 12.7	
	comp=E,1μm,0.2s						
WORM	Onyx Ranch	0.62	275		Pg	12 40 00.2	-0.2
WORM					Sg	12 40 08.6	0.0
GSC	Goldstone, Bar	0.65	122		Sg	12 40 09.8	+0.4
GSC	Goldstone, Bar	0.65	122		Pg	12 40 00.9	-0.1
GSC				IAML		12 40 10.0	
	comp=N,2μm,0.4s						
GSC				IAML		12 40 10.1	
	comp=E,3μm,0.6s						
CCAC	Calif City Air	0.66	222		Pg	12 40 01.0	-0.2
CCAC					Sg	12 40 10.4	+0.7
WHFM	Hanning Flat	0.71	274		Pg	12 40 01.8	-0.3
WHFM					Sg	12 40 12.0	+0.7
HYS	Haystack Butte	0.78	185		Pg	12 40 03.0	-0.5
ISA	Isabella, Lake	0.81	271		Sg	12 40 14.7	+0.2
ISA	Isabella, Lake	0.81	271		Pg	12 40 03.6	-0.4
ISA				IAML		12 40 16.4	
	comp=E,489nm,0.3s						
ISA				IAML		12 40 17.5	
	comp=N,406nm,0.3s						
RRX	Edison Barstow	0.86	153		Pg	12 40 04.8	-0.3
RRX					Sb	12 40 18.8	+0.7
EDW2	Edwards Air Fo	0.87	209		Pg	12 40 04.5	-0.7
WASM	Alta Sierra Ca	0.88	276		Pg	12 40 05.0	-0.4
CWC	Cottonwood Cre	0.93	329		Pg	12 40 06.0	-0.4
CWC				IAML		12 40 22.7	
	comp=N,408nm,0.2s						
CWC				IAML		12 40 23.7	
	comp=E,455nm,0.3s						
CGO	Cerro Gordo	0.94	344		Pg	12 40 05.9	-0.7
CGO					Sb	12 40 19.9	-0.7
FURC	Furnace Creek,	0.96	31		Sb	12 40 20.2	-0.7
TPO	Tropico Hills	0.98	219		Pg	12 40 06.7	-0.6
SBB	Saddle Back Bu	1.00	197		Pg	12 40 06.8	-0.8
SBB					Sb	12 40 21.5	-0.5
SHOC	Shoshone, Teco	1.01	75		Sb	12 40 22.6	+0.2
TEJ	El Tejon	1.07	248		Pg	12 40 07.9	-1.1
VTV	Victorville	1.09	173		Pb	12 40 09.8	-0.3
VTV					Sb	12 40 25.2	+0.5
ADO	Adelanto Recei	1.09	178		Pg	12 40 09.6	+0.1
ALPC	Antelope	1.17	215		Sb	12 40 26.9	0.0
SPG2	Springville 2	1.18	298		Pg	12 40 10.3	-0.9
TJR	Tejon Ranch	1.20	239		Pg	12 40 11.2	-0.4
LRRC	Littlerock Res	1.20	202		Sg	12 40 10.7	-0.9
LRRC					Sn	12 40 28.4	-0.5
THC	Tehachapi Micr	1.22	233		Pg	12 40 11.6	-0.2
LEOC	Leona Valley	1.22	214		Pg	12 40 11.0	-0.8
LEOC					Sb	12 40 28.5	+0.2
ARVC	Arvin	1.22	245		Pg	12 40 10.9	-1.0
HOLC	Holcomb Ridge	1.22	194		Pg	12 40 11.0	-0.9
HOLC					Sb	12 40 28.4	-0.1
DSCC	Desert Studies	1.23	114		Pg	12 40 10.7	-1.4
DSCC					Sg	12 40 27.5	-0.6
CJV	Casa Juvan	1.24	206		Pb	12 40 12.5	-0.1
CJV					Sb	12 40 29.5	+0.5
HEC	Hector,Ludlow	1.24	131		Pg	12 40 11.3	-1.1
JNH	Juniper Hills	1.26	198		Pg	12 40 11.7	-0.9
JNH					Sb	12 40 29.6	+0.1
AMDNV	Amargosa	1.26	50		Pg	12 40 11.4	-1.3
AMDNV					Sb	12 40 29.8	+0.2
TUQ	Turquoise Moun	1.29	99		Pg	12 40 12.0	-1.2
VES	Vestal, Richgr	1.32	279		Pn	12 40 13.1	-0.7
VES					Sg	12 40 30.7	-0.2
WCT	Wildcat Mounta	1.34	31		Pn	12 40 13.0	-1.2
WCT				IAML		12 40 33.2	
	comp=N,254nm,0.4s						
WCT				IAML		12 40 34.2	
	comp=E,354nm,0.4s						
GRAC	Grapevine Rang	1.35	4		Pn	12 40 13.7	-0.7
GRAC				IAML		12 40 37.6	
	comp=N,527nm,1.0s						
GRAC				IAML		12 40 39.1	
	comp=E,412nm,0.5s						
SGV	South Grapevin	1.38	15		Pn	12 40 13.8	-1.0
CHFC	Chilao Flat St	1.38	199		Pn	12 40 14.7	-0.2
CHFC					Sn	12 40 33.5	-0.2
SIL	Silver Peak	1.40	157		Pn	12 40 14.5	-0.6
SIL					Sn	12 40 34.9	+0.7
BFSC	Mount Baldy Ra	1.41	186		Sb	12 40 34.0	+0.1
BFSC	Mount Baldy Ra	1.41	186		Pn	12 40 14.2	-1.0
BFSC				IAML		12 40 34.8	
	comp=N,370nm,0.3s						
BFSC				IAML		12 40 34.9	
	comp=E,408nm,0.4s						
SSK	Sunset Peak	1.44	187		Pn	12 40 14.7	-1.0
OSI	Osito Audit: C	1.45	225		Sn	12 40 35.6	+0.5
OSI	Osito Audit: C	1.45	225		Pn	12 40 14.5	-1.2
OSI				IAML		12 40 37.2	
	comp=E,320nm,0.6s						
OSI				IAML		12 40 40.9	
	comp=N,406nm,0.8s						
BBRC	Big Bear Solar	1.46	161		Pn	12 40 15.5	-0.4
BBRC					Sn	12 40 36.0	+0.5
MWC	Mount Wilson	1.50	199		Pn	12 40 16.2	-0.2
MWC				IAML		12 40 38.5	
	comp=N,516nm,0.5s						
MWC				IAML		12 40 38.8	
	comp=E,363nm,0.6s						
TIN	Tinemaha, Big	1.53	337		Pb	12 40 17.4	-0.2
CLTC	Calectric	1.56	175		Pg	12 40 18.8	+0.5
DECC	Green Verdugo	1.56	207		Pn	12 40 16.6	-0.5
SVD	Seven Oaks Dam	1.57	168		Pb	12 40 18.2	0.0
SVD					Sb	12 40 38.6	+0.2
PSRC	Puddingstone R	1.57	190		Pn	12 40 16.8	-0.5
PSRC					Sg	12 40 39.5	+0.5
MTPC	Mountain Pass	1.58	95		Sn	12 40 36.0	-2.5
MTPC	Mountain Pass	1.58	95		Pn	12 40 16.0	-1.6
MTPC				IAML		12 40 39.5	
	comp=E,209nm,0.3s						
MTPC				IAML		12 40 41.6	
	comp=N,184nm,0.2s						
PASC	Pasadena Art C	1.58	202		Pn	12 40 16.9	-0.5
PASC				IAML		12 40 40.9	
	comp=N,170nm,0.6s						
PASC				IAML		12 40 45.5	
	comp=E,187nm,0.5s						
LCH	Last Change Ra	1.59	355		Pn	12 40 16.9	-0.8
GTM	Goat Mountain	1.63	145		Pb	12 40 19.1	-0.2
GTM					Sg	12 40 41.5	+0.4
TPNV	Topopah Spring	1.64	37		Pn	12 40 17.3	-1.0
TPNV				IAML		12 40 43.8	
	comp=E,309nm,0.7s						
TPNV				IAML		12 40 45.8	
	comp=E,335nm,0.6s						
MLSC	Mira Loma	1.64	182		Pb	12 40 19.1	-0.3
GMN	Gold Mountain	1.66	6		Pn	12 40 18.0	-0.8
RHC	Rose Hills Cem	1.70	195		Pg	12 40 21.2	+0.1
DSP	Deep Springs	1.77	347		Pn	12 40 19.3	-0.7
DSP				IAML		12 40 49.6	
	comp=E,109nm,0.8s						
PEC	Perris	1.77	171		Pn	12 40 19.5	-0.5
BLAC	Blackrock camp	1.81	150		Pg	12 40 23.1	-0.1
POCCA	Poleta Canyon	1.83	340		Pb	12 40 22.6	-0.1
BHPR	Bishop	1.84	334		Pb	12 40 22.5	-0.4
MTUM	Tungsten Hills	1.91	333		Pb	12 40 24.1	-0.1
EW2	E Wide Canyon	1.92	152		Pb	12 40 24.6	+0.5
TPC	Twentynine Pal	1.94	142		Pn	12 40 21.3	-1.1
ELS	Elsinore Mount	1.99	179		Pn	12 40 22.1	-1.0
ELS				IAML		12 40 52.4	
	comp=E,163nm,0.3s						
ELS				IAML		12 41 00.2	
	comp=N,207nm,0.5s						
POB	Polly Butte	2.01	167		Pn	12 40 22.8	-0.5
DGR	Domenigoni Val	2.03	169		Pn	12 40 23.1	-0.6
DGR					Pb	12 40 26.5	+0.5
MZP	Montezuma Peak	2.05	2		Pn	12 40 23.6	-0.5
MURC	Murrieta	2.05	173		Pn	12 40 23.4	-0.6
SHPR	Sheep Range	2.07	65		Pn	12 40 23.3	-0.9
V12A	Nelson	2.14	87		Pn	12 40 23.7	-1.6
CRY	Cary Ranch	2.16	163		Pn	12 40 25.1	-0.5
PMD	Palm Desert	2.19	155		Pn	12 40 24.3	-1.5
PMD				IAML		12 40 59.7	
	comp=N,84nm,0.6s						
PMD				IAML		12 41 00.4	
	comp=E,96nm,0.3s						
PFO	Pinyon Flats O	2.20	157		Pn	12 40 25.1	-0.9
PFO				IAML		12 41 07.2	
	comp=E,71nm,0.8s						
SNDA	J Saunders Pla	2.21	161		Pb	12 40 29.6	+0.4
BENR	Benton	2.24	337		Pb	12 40 30.0	+0.1
MLAC	Mammoth, Mammo	2.26	332		Pb	12 40 30.4	+0.3
FRD	Ford Ranch, An	2.27	161		Pg	12 40 31.2	-0.7
FRD	Ford Ranch, An	2.27	161		Pn	12 40 26.3	-0.6
MCSM	Casa Diablo Ho	2.31	331		Pb	12 40 31.3	+0.3
TPH	Tonopah	2.43	5		Pn	12 40 28.3	-1.0
TPH				IAML		12 41 09.1	
	comp=N,199nm,0.8s						
LHV	Little Huntoon	2.73	343		Pn	12 40 33.2	+0.1
LHV				IAML		12 41 31.4	
	comp=E,43nm,0.8s						
NV11	Mina Array Sit	2.83	349		Pn	12 40 34.1	-0.7
NVAR	Mina Array Bea	2.86	347		Pn	12 40 34.7	-0.5
W13A	Hualapai Mount	2.99	99		Pn	12 40 35.3	-1.6
W13A				IAML		12 41 30.5	
	comp=E,34nm,0.6s						
BBGB	Big Mountain B	3.03	289		Pn	12 40 37.2	-0.2
BAR	Barrett	3.03	167	IAML		12 41 22.6	
	comp=E,112nm,0.3s						
BAR				IAML		12 41 24.0	
	comp=N,99nm,0.2s						
BLYC	Blythe	3.08	127		Pn	12 40 36.5	-1.6
BLYC				IAML		12 41 28.0	
	comp=N,97nm,0.5s						
BLYC				IAML		12 41 28.5	
	comp=E,64nm,0.6s						
RYN	Ryan	3.09	345		Pn	12 40 38.2	-0.1
R11B	Troy Canyon, C	3.10	29		Pn	12 40 37.2	-1.3
TKX	Tecate	3.15	166		Pn	12 40 38.0	-1.1
YUH	Yuha Desert	3.26	156		Pn	12 40 41.0	+0.6
CBX	Cerro Bola	3.39	168		Pn	12 40 42.2	-0.2
GLA	Glamis	3.39	139		Pn	12 40 42.2	-0.2
ESJX	Sierra Juarez	3.85	160		Pn	12 40 48.1	-0.7
ESJX				IAML		12 41 50.6	
	comp=N,16nm,0.9s						
ESJX				IAML		12 41 53.2	
	comp=E,26nm,1.1s						

*NEIC **07** 13:04:26.0±1.8, 50.2°N±0.1°×174.5°E±0.2, h10km±2km, mb3.9/32, ML3.3(AEIC), Error ellipse: s-maj=23.5km s-min=22.1km az=288.0*
*IDC **07** 13:04:40.3±2.7, 51.96°N×175.90°E, h0km, mb3.1/2, mbtmp3.3/3, ML2.8/1, Error ellipse: s-maj=81.9km s-min=36.2km az=177.0*
*AEIC **07** 13:04:41.5±1.9, 51.4°N±0.2°×175.6°E±0.2, h26km±9km, Error ellipse: s-maj=26.9km s-min=14.5km az=201.0*

ISC 07 13:04:41.4±1.5, 51.4°N±0.2°×175.59°E±0.07, h21km, n45, σ1s26/37, mb3.8/9, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	Shemya	1.61	326	Pn	Pn	13 05 08.1	-0.5
AMKA	Amchitka	2.33	89		Pn	13 05 17.5	-0.8
KIWB	Kanaga Island	4.55	82		Pn	13 05 48.8	-0.1
ADK	Adak	4.84	81		Pn	13 05 52.5	-0.3
PETK	Petropavlovsk-	11.10	286	Pn	Pn	13 07 21.1	+2.4
	0.3nm,0.3s,baz=85,slow=19,SNR=16						
PETK				Sn	Sn	13 09 20.5	-1.5
	baz=73,slow=17 2.2nm,0.8s						
UNV	Unalaska Valle	11.15	70	Pn	Pn	13 07 21.1	+1.7
GAMB	Gambell	14.11	24	Pn	Pn	13 08 01.9	+2.3
GAMB					IAmb	IAmb	13 08 17.6
	comp=Z,5.7nm,1.1s						
SDPT	Sand Point	14.79	65	Pn	Pn	13 08 07.4	-1.7
CNBA	Chernabura Isl	15.26	67	Pn	Pn	13 08 13.1	-2.2
O14K	Tigyukauivet M	15.27	50		P	13 08 19.7	-0.5
O14K					IAmb	IAmb	13 08 29.5
	comp=Z,5.4nm,0.6s						
L14K	Kuka Creek	15.53	42	Pn	P	13 08 22.6	-0.5
M14K	Bethel	15.56	44		P	13 08 22.9	-0.4
M14K					IAmb	IAmb	13 08 24.7
	comp=Z,5.5nm,0.7s						
O15K	Ungalikthiuk R	15.94	51		P	13 08 26.8	-0.8
O15K					IAmb	IAmb	13 08 37.2
	comp=Z,6.6nm,0.7s						
N15K	Kwethluk River	16.16	48	P	P	13 08 30.6	+0.6
K15K	Wolf Creek Mou	16.49	40		P	13 08 34.3	+0.7
M16K	Timber Creek	17.00	46	P	P	13 08 40.1	+0.8
M17K	Holitna River	17.83	45	P	P	13 08 49.1	+0.6
K17K	Iditarod	18.01	41	P	P	13 08 50.7	+0.3
N19K	Bonanza Creek	18.99	49	IAmb	IAmb	13 09 21.7	
	comp=Z,5.5nm,0.7s						
G18K	Tagagawik	19.53	32	P	P	13 09 07.6	+0.4
G18K					IAmb	IAmb	13 09 12.6
	comp=Z,7.3nm,1.4s						
J19K	Poorman	19.66	39	P	P	13 09 09.3	+0.7
E18K	Tukpahlearik C	19.89	27	P	Pn	13 09 12.1	-0.5
E18K					IAmb	IAmb	13 09 19.1
	comp=Z,5.4nm,1.1s						
CNPM	China Poot	20.30	54		P	13 09 14.9	-0.6
J20K	Nowinta River	20.32	39	P	P	13 09 15.8	+0.1
J20K					IAmb	IAmb	13 09 22.8
	comp=Z,4.8nm,0.6s						
F19K	Shaleruckik Mo	20.37	31	P	P	13 09 16.0	-0.2
C18K	Utukok River	20.58	24	P	P	13 09 19.1	+0.6
C18K					IAmb	IAmb	13 09 38.0
	comp=Z,5.8nm,1.1s						
D20K	Etivluk River	21.87	27	P	P	13 09 33.4	+1.0
F21K	Alatna River	21.99	32	P	P	13 09 34.4	+0.7
F21K					IAmb	IAmb	13 09 36.8
	comp=Z,2.8nm,0.7s						
E22K	Anaktuvuk Pass	23.01	31	P	P	13 09 43.9	-0.6
E22K					IAmb	IAmb	13 09 46.4
	comp=Z,2.3nm,0.6s						
D22K	Ayikyak River	23.13	29	P	P	13 09 45.7	0.0
ILAR	Eielson Array	23.48	41	P	P	13 09 45.5	-3.6
	comp=Z,0.1nm,0.3s,baz=257,slow=7.9,SNR=5.5 comp=Z,0.1nm,0.3s						
C23K	Itkillik River	24.26	28	P	P	13 09 55.9	-0.7
VRDI	Verde Repeater	24.34	50	P	P	13 09 56.5	-1.1
VRDI					IAmb	IAmb	13 09 58.7
	comp=Z,2.6nm,0.7s						
J26L	Joseph Creek	24.79	42	P	P	13 09 59.3	-2.2
J26L					IAmb

MV5.2/39,SE OFF ETOROFU
*MOS **07** 13:05:39.4±1.1, 44˚.52N×148˚.48E, h60km, mb4.7/19, MS3.4/6, Error ellipse: s-maj=7.3km s-min=5.9km az=62.3*
MOS Felt (II-III) at Kuril'sk, Reydovo.
*NEIC **07** 13:05:40.7±1.3, 44˚.61N±0˚.04×148˚.3E±0˚.1, h48km±7km, mb4.7/137, Error ellipse: s-maj=14.5km s-min=1.2km az=110.0*
*SKHL **07** 13:05:40.5±0.1, 44˚.50N×148˚.50E, h72km±8km, mb5.5/6*
*IDC **07** 13:05:42.8±1.8, 44˚.64N×148˚.26E, h73km±16km, mb3.8/21, mbtmp4.2/29, MS3.6/39, Error ellipse: s-maj=15.0km s-min=11.2km az=137.0*
ISC 07 13:05:40.5±0.7, 44˚48N±0˚.05×148˚47E±0˚.05, h56km±5km, n539, σ1$29/479, mb4.6/109, MS3.7/40, 18C-15D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.86**	**331**	*c*	*i*	P	N	**Pn**	**13 05 55.2**	**-1.4**
KUR					*i*	S	N	**Sn**	**13 06 06.4**	**-2.1**
KUR						pmax	pmax			
	comp=N,750nm,0.5s									
KUR						pmax	pmax			
	comp=E,472nm,0.5s									
KUR						pmax	pmax			
	comp=Z,3μm,0.5s									
KUR						smax	smax			
	comp=E,123μm,2.3s									
KUR						smax	smax			
	comp=N,17μm,0.8s									
KUR						smax	smax			
	comp=E,17μm,0.8s									
KUR	**Kuril'sk**	**0.86**	**331**		*e*	P	**Pn**	**13 05 56.0**	**-0.6**
KUR						AMB	AMB	13 05 56.5		
	comp=E,3μm,0.5s									
KUR					*i*	S	**Sn**	**13 06 07.7**	**-0.8**
KUR						A	A	13 06 10.2		
	comp=E,37μm,0.8s									
KUR						A	A	13 06 10.2		
	comp=E,30μm,0.8s									
SHO	**Shikotan**	**1.33**	**243**	*d*	*i*	PN	**Pn**	**13 06 03.5**	**+0.7**
SHO					*i*	S	**Sn**	**13 06 18.7**	**-0.7**
SHO						pmax	pmax			
	comp=Z,634nm,0.3s									
SHO						pmax	pmax			
	comp=N,247nm,0.4s									
SHO						pmax	pmax			
	comp=E,279nm,0.4s									
SHO						smax	smax			
	comp=E,5μm,0.3s									
SHO						smax	smax			
	comp=N,2μm,0.2s									
SHO	**Shikotan**	**1.33**	**243**		*i*	P	**Pn**	**13 06 03.0**	**+0.2**
SHO						AMB	AMB	13 06 04.5		
	comp=N,630nm,0.3s									
SHO					*i*	S	**Sn**	**13 06 19.3**	**-0.1**
SHO						A	A	13 06 22.1		
	comp=N,2μm,0.3s									
SHO						A	A	13 06 22.1		
	comp=N,5μm,0.3s									
YUK	**Yuzh-Kuril'sk**	**1.93**	**257**	*d*	*i*	PN	**Pn**	**13 06 10.9**	**0.0**
YUK					*i*	S	**Sn**	**13 06 33.6**	**-0.3**
YUK						pmax	pmax			
	comp=N,441nm,0.2s									
YUK						pmax	pmax			
	comp=Z,3μm,0.2s									
YUK						pmax	pmax			
	comp=E,264nm,0.1s									
YUK						smax	smax			
	comp=N,6μm,0.5s									
YUK						smax	smax			
	comp=E,3μm,0.2s									
YUK	**Yuzh-Kuril'sk**	**1.93**	**257**		*i*	P	**Pn**	**13 06 10.9**	**0.0**
YUK						AMB	AMB	13 06 12.6		
	comp=E,3μm,0.2s									
YUK					*i*	S	**Sn**	**13 06 33.7**	**-0.2**
YUK						A	A	13 06 40.2		
	comp=E,6μm,0.4s									
YUK						A	A	13 06 40.2		
	comp=E,3μm,0.4s									
GLVR	**Golovnino**	**2.25**	**252**	⇓	*i*	PN	**Pn**	**13 06 15.6**	**+0.3**
GLVR						S	**Sn**	**13 06 41.7**	**-0.2**
GLVR						pmax	pmax			
	comp=Z,901nm,0.3s									
GLVR						pmax	pmax			
	comp=E,240nm,0.1s									
GLVR						pmax	pmax			
	comp=N,687nm,0.3s									
GLVR						smax	smax			
	comp=E,3μm,0.3s									
GLVR						smax	smax			
	comp=N,4μm,0.2s									
GLVR	**Golovnino**	**2.25**	**252**		*i*	P	**Pn**	**13 06 15.6**	**+0.3**
GLVR						AMB	AMB	13 06 21.8		
	comp=N,900nm,0.3s									
GLVR					*e*	S	**Sn**	**13 06 41.7**	**-0.2**
GLVR						A	A	13 06 48.5		
	comp=N,4μm,0.2s									
GLVR						A	A	13 06 48.5		
	comp=N,3μm,0.2s									
NEM2	**Nemuro 2**	**2.26**	**241**		*i*	P	**Pn**	**13 06 14.7**	**-0.7**
NEM2					*e*	S	**Sn**	**13 06 40.5**	**-1.7**
NMR	**Nemuro--Hokkai**	**2.27**	**242**	⇓	*i*	PN	**Pn**	**13 06 14.9**	**-0.7**
NMR					*i*	S	**Sn**	**13 06 40.4**	**-1.9**
NMR	**Nemuro--Hokkai**	**2.27**	**242**	⇑	*i*	P	**Pn**	**13 06 14.9**	**-0.7**
NMR					*i*	S	**Sn**	**13 06 40.5**	**-1.9**
RUSJ	**Misakicho**	**2.34**	**262**	⇑	*i*	PN	**Pn**	**13 06 17.7**	**+1.1**
RUSJ					*i*	S	**Sn**	**13 06 46.8**	**+2.6**
JRA	**Rausu**	**2.47**	**258**		*i*	P	**Pn**	**13 06 19.2**	**+0.9**
JRA					*e*	S	**Sn**	**13 06 48.0**	**+0.8**
JRA	**Rausu**	**2.47**	**258**			A	A	13 06 19.2		
	comp=N,5.0nm,3.5s,comp=E,6.0nm,2.1s									
JNSB	**Nemuroshibetsu**	**2.59**	**255**			P	**Pn**	**13 06 21.0**	**+1.0**
JNSB					*e*	S	**Sn**	**13 06 51.6**	**+1.3**
JNSB	**Nemuroshibetsu**	**2.59**	**255**			A	A	13 06 21.0		
	comp=N,9.0nm,3.4s,comp=E,9.0nm,2.2s									
JKHN	**Kushirohamanak**	**2.77**	**241**			P	**Pn**	**13 06 22.4**	**-0.1**
JKHN					*e*	S	**Sn**	**13 06 53.4**	**-1.3**
JNK	**Nakash**	**2.85**	**253**		*i*	P	**Pn**	**13 06 24.3**	**+0.8**
JNK					*e*	S	**Sn**	**13 06 56.3**	**-0.3**
AKK	**Akkeshi**	**3.01**	**242**		*e*	P	**Pn**	**13 06 25.4**	**-0.3**
JAK	**Akkeshi**	**3.11**	**243**		*i*	P	**Pn**	**13 06 27.0**	**-0.1**
JAK					*e*	S	**Sn**	**13 07 02.0**	**-1.0**
JAK	**Akkeshi**	**3.11**	**243**			A	A	13 06 27.0		
	comp=N,7.0nm,4.8s,comp=E,7.0nm,0.9s									
JTKR	**Abashiri--Toko**	**3.32**	**263**			P	**Pn**	**13 06 30.8**	**+0.9**
JAR	**Ashorobuto**	**3.60**	**252**		*i*	P	**Pn**	**13 06 35.3**	**+1.5**
JAR	**Ashorobuto**	**3.60**	**252**			A	A	13 06 35.3		
	comp=N,4.0nm,7.0s,comp=E,3.0nm,0.5s									
JOB	**Onbets**	**3.71**	**246**		*i*	P	**Pn**	**13 06 36.1**	**+0.8**
JOB					*e*	S	**Sn**	**13 07 17.8**	**+0.1**
JCH	**Churui**	**4.16**	**245**			P	**Pn**	**13 06 41.3**	**-0.1**
JCH	**Churui**	**4.16**	**245**			A	A	13 06 41.3		
	comp=N,8.0nm,3.6s,comp=E,5.0nm,2.7s									
JKK2	**Kamakawa 2**	**4.16**	**264**			P	**Pn**	**13 06 43.4**	**+1.9**
JSE	**Soyaes**	**4.22**	**279**			P	**Pn**	**13 06 43.2**	**+0.9**
JKA	**Kamikawa-asahi**	**4.23**	**267**				**Pn**	**13 06 43.1**	**+0.8**
JKA	**Kamikawa-asahi**	**4.23**	**267**		*e*	P	**Pn**	**13 06 43.5**	**+1.1**
ASAJ	**Asahikawa**	**4.23**	**267**			P	**Pn**	**13 06 43.5**	**+1.1**
	comp=E,31nm,0.3s,baz=53,slow=21,SNR=118									
ASAJ						S	**Sn**	**13 07 22.9**	**-7.6**
	comp=E,104nm,0.7s,baz=99,slow=17,SNR=3.8									
ASAJ						LR	LR	13 08 28.4		
	comp=E,2μm,21.2s,baz=88,slow=40									
JTHR	**Tokachihiroo**	**4.36**	**242**			A	A	13 06 44.9		
	comp=N,8.0nm,3.7s,comp=E,8.0nm,1.8s									
JEM	**Erimo**	**4.60**	**239**			A	A	13 06 48.2		
	comp=N,11nm,1.2s,comp=E,10.0nm,3.8s									
ERM	**Erimo**	**4.60**	**239**				**Pn**	**13 06 46.5**	**-0.9**
ERM	**Erimo**	**4.60**	**239**	*de*		PN	**Pn**	**13 06 50.3**	**+2.9**
YSS	**Yuzhno-Sakhali**	**4.70**	**304**				**Pn**	**13 06 46.4**	**-2.4**
YSS	**Yuzhno-Sakhali**	**4.70**	**304**	*ke*		PN	**Pn**	**13 06 49.4**	**+0.5**
YSS					*e*	S	**Sn**	**13 07 39.4**	**-2.7**
YSS						pmax	pmax			
	comp=Z,60nm,1.1s									
YSS						pmax	pmax			
	comp=E,50nm,1.0s									
YSS						pmax	pmax			
	comp=Z,100nm,4.0s									
YSS						smax	smax			
	comp=N,200nm,2.8s									
YSS						smax	smax			
	comp=E,200nm,2.2s									
YSS						smax	smax			
	comp=N,190nm,0.8s									
YSS						smax	smax			
	comp=E,120nm,0.5s									
YSS						MLR	MLR			
	comp=Z,700nm,18.0s									
YSS						MLR	MLR			
	comp=N,500nm,16.0s									
YSS						MLR	MLR			
	comp=E,500nm,17.0s									
YSS	**Yuzhno-Sakhali**	**4.70**	**304**		*e*	P	**Pn**	**13 06 49.4**	**+0.5**
YSS						AMB	AMB	13 06 50.2		
	comp=E,100nm,4.0s									
YSS					*e*	S	**Sn**	**13 07 39.4**	**-2.7**
YSS						A	A	13 07 43.0		
	comp=E,200nm,3.0s									
YSS						A	A	13 07 43.0		
	comp=E,200nm,3.0s									
JNBK	**Urakawa-nobuka**	**4.71**	**244**		*i*	P	**Pn**	**13 06 49.5**	**+0.5**
JNBK	**Urakawa-nobuka**	**4.71**	**244**			A	A	13 06 49.5		
	comp=N,13nm,1.8s,comp=E,15nm,1.6s									
JSS	**Shosan**	**4.74**	**271**			P	**Pn**	**13 06 52.7**	**+3.4**
JWK2	**Keihoku**	**4.74**	**282**			P	**Pn**	**13 06 52.2**	**+2.8**
JSHD	**Hidakashinhida**	**4.84**	**247**			A	A	13 06 51.9		
	comp=N,9.0nm,3.2s,comp=E,14nm,2.2s									
JRBN	**Rebuntou**	**5.34**	**283**			P	**Pn**	**13 06 59.1**	**+1.5**
JEW	**Eniwo**	**5.35**	**255**			P	**Pn**	**13 07 01.7**	**+3.9**
JOT	**Ohata**	**6.27**	**243**			P	**Pn**	**13 07 10.6**	**+0.3**
JOT					*e*	S	**Sn**	**13 08 18.4**	**-2.1**
JANG	**Nango**	**6.58**	**234**			P	**Pn**	**13 07 13.6**	**-1.0**
JANG					*e*	S	**Sn**	**13 08 24.3**	**-3.9**
JTM	**Tenmabayashi**	**6.59**	**238**				**Pn**	**13 07 14.3**	**-0.4**
TYV	**Tymovskoe**	**7.49**	**331**		*e*	PN	**Pn**	**13 07 30.5**	**+3.5**
TYV					*e*	S	**Sn**	**13 08 51.9**	**+1.4**
TYV						pmax	pmax			
	comp=Z,100nm,2.5s									
TYV						pmax	pmax			
	comp=Z,13nm,0.8s									
TYV						smax	smax			
	comp=N,17nm,1.3s									
TYV						smax	smax			
	comp=E,13nm,1.3s									
TYV						smax	smax			
	comp=N,400nm,3.1s									
TYV						smax	smax			
	comp=E,300nm,3.1s									
TYV	**Tymovskoe**	**7.49**	**331**		*e*	P	**Pn**	**13 07 30.5**	**+3.5**
TYV						AMB	AMB	13 07 31.1		
	comp=E,100nm,3.0s									
TYV					*e*	S	**Sn**	**13 08 51.9**	**+1.4**
TYV						A	A	13 09 03.7		
	comp=E,400nm,3.0s									
TYV						A	A	13 09 03.7		
	comp=E,300nm,3.0s									
SKR	**Severo-Kuril's**	**8.07**	**37**		*e*	PN	**Pn**	**13 07 35.3**	**+0.3**
SKR						pmax	pmax			
	comp=Z,281nm,0.6s									
SKR						MLR	MLR			
	comp=Z,900nm,15.0s									
SKR	**Severo-Kuril's**	**8.07**	**37**		*e*	P	**Pn**	**13 07 35.3**	**+0.3**
SKR						AMB	AMB	13 07 37.9		
	comp=E,280nm,0.6s									
SKR					*e*	S	**Sn**	**13 09 01.2**	**-3.5**
SKR						A	A	13 09 28.0		
	comp=Z,330nm,0.7s									
SKR						A	A	13 09 28.0		
	comp=Z,200nm,0.7s									
TEY	**Ternei**	**8.46**	**278**	⇑	*e*	PN	**Pn**	**13 07 36.4**	**-4.0**
TEY						pmax	pmax			
	comp=Z,30nm,1.1s									
TEY						pmax	pmax			
	comp=E,40nm,1.1s									
JMM	**Marumori**	**8.78**	**224**			Pn	**Pn**	**13 07 43.9**	**-0.9**
PAU	**Pauzhetka**	**8.95**	**36**		*e*	P	**Pn**	**13 07 48.2**	**+1.3**
PAU					*e*	S	**Sn**	**13 09 25.4**	**-0.7**
OKH	**Okha**	**9.77**	**340**		*e*	P	**Pn**	**13 08 00.4**	**+2.2**
NKL	**Nikolayevsk**	**10.07**	**332**		*e*	P	**Pn**	**13 08 04.0**	**+1.7**
GRNR	**Gornyy**	**10.27**	**312**	⇑	*i*	PN	**Pn**	**13 08 08.4**	**+3.3**
GRNR						pmax	pmax			
	comp=Z,9.0nm,1.1s									
GRNR						MLR	MLR			
	comp=E,80nm,20.0s									
GRNR						MLR	MLR			
	comp=N,100nm,22.0s									
GRNR						MLR	MLR			
	comp=Z,150nm,20.0s									
GRNR	**Gornyy**	**10.27**	**312**		*e*	P	**Pn**	**13 08 08.4**	**+3.3**
PEA0B	**Petropavlovsk-**	**10.55**	**32**				**Pn**	**13 08 07.5**	**-1.5**
PEA0B	**Petropavlovsk-**	**10.55**	**32**	*ce*	PN		**Pn**	**13 08 10.1**	**+1.2**
PETK	**Petropavlovsk-**	**10.55**	**32**		P		**Pn**	**13 08 09.4**	**+0.5**
	comp=Z,15nm,0.9s,baz=206,slow=11,SNR=29									
PETK						LR	LR	13 12 43.6		
	comp=Z,354nm,18.7s,baz=235,slow=40									
PET	**Petropavlovsk**	**10.86**	**35**			Pn	**Pn**	**13 08 10.5**	**-2.6**
PET	**Petropavlovsk**	**10.86**	**35**		*e*	PN	**Pn**	**13 08 12.6**	**-0.5**
PET						pmax	pmax			
	comp=Z,11nm,0.9s									
PET						MLR	MLR			
	comp=Z,500nm,17.0s									
PET						MLR	MLR			
	comp=Z,500nm,16.0s									
PET	**Petropavlovsk**	**10.86**	**35**		*e*	P	**Pn**	**13 08 12.6**	**-0.5**
MAJO	**Matsushiro**	**11.12**	**228**				**Pn**	**13 08 16.7**	**-0.1**
MAJO	**Matsushiro**	**11.12**	**228**	⇓	*e*	PN	**Pn**	**13 08 15.4**	**-1.4**
MJAR	**Matsushiro Arr**	**11.12**	**228**				**Pn**	**13 08 15.0**	**-1.8**
MJAR	**Matsushiro Arr**	**11.12**	**228**			P	**Pn**	**13 08 16.8**	**0.0**
	comp=Z,9.7nm,0.9s,baz=28,slow=13,SNR=20									
USA0B	**Ussuriysk Arra**	**11.81**	**274**				**Pn**	**13 08 25.1**	**-1.0**
USA0B	**Ussuriysk Arra**	**11.81**	**274**	⇓	*e*	PN	**Pn**	**13 08 26.7**	**+0.6**
USRK	**Ussuriysk Ar.**	**11.81**	**274**				**Pn**	**13 08 26.6**	**+0.5**
USRK	**Ussuriysk Ar.**	**11.81**	**274**			P	**Pn**	**13 08 26.2**	**+0.2**
	comp=Z,23nm,0.9s,baz=85,slow=12,SNR=19									
USRK						LR	LR	13 12 41.0		
	comp=Z,398nm,21.3s,baz=61,slow=36									
USRK	**Ussuriysk Ar.**	**11.81**	**274**			PN	**Pn**	**13 08 26.6**	**+0.5**
JGF	**Kuroka**	**12.29**	**228**			Pn	**Pn**	**13 08 31.8**	**-0.8**
KLR	**Kul'dur**	**12.38**	**298**			P	**Pn**	**13 08 34.6**	**+0.7**
	comp=Z,4.1nm,0.8s,baz=105,slow=13,SNR=17									
KLR						LR	LR	13 13 22.1		
	comp=Z,252nm,21.2s,baz=111,slow=38									
KLR	**Kul'dur**	**12.38**	**298**	⇑	*e*	PN	**Pn**	**13 08 36.4**	**+2.5**
KLR	**Kul'dur**	**12.38**	**298**		*e*	P	**Pn**	**13 08 34.3**	**+0.4**
INU	**Inuyama**	**12.66**	**228**				**Pn**	**13 08 37.4**	**-0.2**
MSHR	**Mys Shultsa**	**12.71**	**267**	⇑	*e*	PN	**Pn**	**13 08 37.7**	**-0.6**
PSTR	**Posyet**	**12.94**	**268**	⇓	*e*	PN	**Pn**	**13 08 42.5**	**+1.0**
PSTR	**Posyet**	**12.94**	**268**		*e*	P	**Pn**	**13 08 41.2**	**-0.3**
MDJ	**Mudanjiang**	**13.47**	**277**			P	**Pn**	**13 08 49.8**	**+1.1**
MDJ						pmax	pmax			
	comp=Z,7.0nm,1.2s									
BNX	**BinXian**	**14.93**	**282**	⇑		P	**Pn**	**13 09 09.6**	**+1.6**
BNX						S	Sn	13 11 19.0	-33	
BNX						pmax	pmax			
	comp=Z,8.0nm,1.1s									
BNX						pmax	pmax			
	comp=Z,85nm,3.3s									
BNX						LR	LR			
	comp=N,210nm,14.7s									
BNX						LR	LR			
	comp=E,280nm,20.6s									
BNX						LR	LR			
	comp=Z,260nm,19.5s									
MA2	**Magadan**	**15.18**		**4**		LR	LR	13 15 15.0		
	comp=Z,137nm,18.6s,baz=202,slow=38									
MA2	**Magadan**	**15.18**		**4**	*de*	P	**Pn**	**13 09 09.7**	**-1.5**
MA2	**Magadan**	**15.18**		**4**	*e*	P	**Pn**	**13 09 09.7**	**-1.5**
HEH	**HeiHe**	**15.37**	**300**		*e*	P	**P**	**13 09 15.4**	**-1.9**
HEH						pmax	pmax			
	comp=Z,6.0nm,0.8s									
HEH						LR	LR			
	comp=N,170nm,15.4s									
HEH						LR	LR			
	comp=E,250nm,16.8s									
HEH						LR	LR			
	comp=Z,290nm,16.2s									
ZEA	**Zeya**	**16.64**	**311**		*e*	P	**Pn**	**13 09 30.2**	**+0.5**
ZEA					*e*			13 12 33.7		
ZEA						pmax	pmax			
	comp=Z,10.0nm,1.1s									
ZEA						MLR	MLR			
	comp=Z,100nm,18.0s									
ZEA	**Zeya**	**16.64**	**311**		*e*	P	**Pn**	**13 09 30.2**	**+0.5**
KSRS	**Korea Array**	**17.01**	**253**			P	**Pn**	**13 09 34.6**	**+0.3**
	comp=Z,5.0nm,0.9s,baz=60,slow=12,SNR=13									
JNU	**Nakatsue**	**17.75**	**236**			P	**P**	**13 09 45.2**	**+1.3**
JNU	**Nakatsue**	**17.75**	**236**			P	**P**	**13 09 45.0**	**+1.1**
	comp=Z,14nm,0.9s,baz=47,slow=11,SNR=6.5									
JNU						LR	LR	13 16 51.4		
	comp=Z,77nm,18.4s,baz=36,slow=38									
SEY	**Seymchan**	**18.62**		**6**		P	**P**	**13 09 52.5**	**-0.6**
	comp=Z,7.6nm,0.9s,baz=184,slow=10.0,SNR=10.0									
SEY						LR	LR	13 17 17.2		
	comp=Z,150nm,18.3s,baz=195,slow=38									
SEY	**Seymchan**	**18.62**		**6**	⇓	*e* P	**P**	**13 09 52.0**	**-1.1**
SEY	**Seymchan**	**18.62**		**6**	*e*	P	**P**	**13 09 52.0**	**-1.1**
YAK	**Yakutsk**	**20.72**	**335**			P	**P**	**13 10 15.3**	**-0.6**
	comp=Z,6.4nm,0.4s,baz=340,slow=2.8,SNR=4.5									
YAK						LR	LR	13 18 06.2		
	comp=Z,75nm,19.7s,baz=134,slow=36									
	comp=Z,6.4nm,0.4s									
YAK	**Yakutsk**	**20.72**	**335**		*e*	P	Pn	13 10 20.6	+1.8	
YAK					*e*			13 10 40.8		
YAK					*e*			13 14 27.8		
YAK					*e*	SS	**SnSn**	**13 14 33.9**	**+6.9**	
YAK					*e*			13 21 43.6		
YAK						pmax	pmax			
	comp=Z,18nm,1.1s									
YAK						pmax	pmax			
	comp=N,6.0nm,1.2s									
YAK						pmax	pmax			
	comp=E,4.0nm,1.3s									
YAK						pmax	pmax			
	comp=Z,44nm,1.6s									
YAK						pmax	pmax			
	comp=N,23nm,1.8s									
YAK						pmax	pmax			
	comp=E,24nm,1.6s									
BJI	**Beijing**	**24.22**	**271**			P	**P**	**13 10 52.6**	**+0.8**	
BJI						pmax	pmax			
	comp=Z,7.0nm,1.2s									
BJI						pmax	pmax			
	comp=Z,31nm,5.5s									
BJI						LR	LR			
	comp=N,72nm,14.8s									
BJI						LR	LR			
	comp=E,76nm,16.8s									
BJI						LR	LR			
	comp=Z,110nm,22.8s									
BILL	**Bilibino**	**25.40**		**16**	⇑	*e* P	**P**	**13 11 00.9**	**-1.3**	
BILL	**Bilibino**	**25.40**		**16**	*e*	P	**P**	**13 11 00.9**	**-1.3**	
NJ2	**Nanjing**	**26.20**	**252**		*e*	P	**P**	**13 11 10.3**	**+0.4**	
NJ2						pmax	pmax			
	comp=Z,15nm,1.2s									
HNS	**HongShan**	**26.33**	**266**		⇓	P	**P**	**13 11 11.5**	**+0.5**	
HNS						pmax	pmax			
	comp=Z,15nm,1.3s									
HHC	**Hu-ho-hao-te**	**27.23**	**275**		*e*	P	**P**	**13 11 19.6**	**+0.4**	
HHC						pmax	pmax			
	comp=Z,16nm,0.7s									
HHC						pmax	pmax			
	comp=Z,64nm,4.5s									
HHC						LR	LR			
	comp=N,120nm,15.7s									
HHC						LR	LR			
	comp=E,170nm,19.6s									
HHC						LR	LR			
	comp=Z,200nm,16.5s									
SPIA	**Saint Paul Isl**	**28.53**		**49**		P	**P**	**13 11 30.6**	**+0.2**	
	baz=262									
ULN	**Ulaanbaatar**	**28.63**	**292**	⇑	*e*	P	**P**	**13 11 32.9**	**+1.2**	
ULN	**Ulaanbaatar**	**28.63**	**292**		*e*	P	**P**	**13 11 32.9**	**+1.2**	
P08K	**Saint George I**	**28.83**		**50**		P	**P**	**13 11 33.0**	**-0.1**	
	baz=263									
TIXI	**Tiksi**	**28.84**	**347**			LR	LR	13 22 39.2		
	comp=Z,60nm,19.8s,baz=165,slow=36									
NIKH	**Nikolski High**	**29.03**		**58**		P	**P**	**13 11 34.2**	**-0.7**	
	baz=271									
H11N2	**WAKE ISLAND Hy**	**29.06**	**142**			T	T	13 42 28.1		
	baz=334,slow=76									
SONM	**Songino Array**	**29.07**	**292**			P	**P**	**13 11 34.2**	**-1.4**	
	comp=Z,0.6nm,0.4s,baz=90,slow=7.4,SNR=4.7									
SONM						LR	LR	13 23 54.7		
	comp=Z,167nm,20.2s,baz=76,slow=38									
	comp=Z,0.6nm,0.4s									
H11N1	**WAKE ISLAND Hy**	**29.08**	**142**			T	T	13 42 29.9		
	baz=334,slow=76									
H11N3	**WAKE ISLAND Hy**	**29.08**	**142**			T	T	13 42 31.7		
	baz=334,slow=76									
GAMB	**Gambell**	**29.56**		**35**		P	**P**	**13 11 39.5**	**0.0**	
	baz=248									
H11S1	**WAKE ISLAND Hy**	**30.06**	**144**			T	T	13 43 33.4		
	baz=334,slow=76,SNR=2204									
H11S3	**WAKE ISLAND Hy**	**30.07**	**144**			T	T	13 43 44.8		
	baz=334,slow=76,SNR=1396									
H11S2	**WAKE ISLAND Hy**	**30.08**	**144**			T	T	13 43 40.5		
	baz=334,slow=76,SNR=1573									
UNV	**Unalaska Valle**	**30.43**		**56**		P	**P**	**13 11 47.8**	**+0.6**	
	baz=271									
M11K	**Mekoryuk**	**31.13**		**43**		P	**P**	**13 11 53.8**	**+0.5**	
	baz=260									
TNA	**Tin City**	**31.72**		**33**		P	**P**	**13 11 58.5**	**0.0**	
	baz=250									
K13K	**Kusilvak Mount**	**32.15**		**40**		P	**P**	**13 12 02.9**	**+0.6**	
	baz=259									
F14K	**Arctic Creek**	**32.32**		**34**		P	**P**	**13 12 03.7**	**-0.1**	
	baz=252									
ANM	**Nome**	**32.44**		**35**		P	**P**	**13 12 05.5**	**+0.7**	
	baz=254									
M13K	**Dall Lake**	**32.53**		**43**		P	**P**	**13 12 05.8**	**+0.2**	
	baz=263									
J14K	**Nanvaranak Lak**	**32.81**		**39**		P	**P**	**13 12 08.7**	**+0.6**	
	baz=259									
S12K	**Black Hills**	**32.97**		**52**		P	**P**	**13 12 09.1**	**-0.5**	
	baz=271									
L14K	**Kuka Creek**	**32.98**		**42**		P	**P**	**13 12 10.3**	**+0.7**	
	baz=262									
F15K	**North Star Dit**	**33.06**		**34**		P	**P**	**13 12 10.4**	**+0.2**	
	baz=254									

LZH LR LR
comp=Z,180nm,15.5s
M16K Timber Creek 34.74 43 P P 13 12 25.3 +0.4
baz=266,SNR=9.0
N16K Nishlik Lake 34.80 44 P P 13 12 26.1 +0.7
baz=267,SNR=19
H17K Granite Mounta 34.81 36 P P 13 12 26.0 +0.6
baz=260
J17K VABM Dome 34.92 39 P P 13 12 27.0 +0.6
baz=263
CHGN Chignik 34.99 51 P P 13 12 27.8 +0.7
baz=273
E18K Tukpahlearik C 35.08 31 P P 13 12 28.6 +0.9
baz=255
O16K Kokwok River B 35.10 45 P P 13 12 28.9 +0.9
baz=269,SNR=5.2
L17K Donlin 35.14 41 P P 13 12 28.9 +0.6
baz=265,SNR=5.9
P16K Nushagak River 35.15 46 P P 13 12 29.1 +0.7
baz=270
K17K Iditarod 35.20 40 P P 13 12 29.7 +0.9
baz=264
C18K Utukok River 35.20 29 P P 13 12 29.1 +0.2
baz=253
B18K Kokolik River 35.22 28 P P 13 12 29.6 +0.8
baz=251
F18K Selawik 35.25 33 P P 13 12 30.0 +0.8
baz=258
H18K Honhosa River 35.49 36 P P 13 12 31.5 +0.2
baz=261
M17K Holitna River 35.50 42 P P 13 12 32.3 +0.9
baz=267,SNR=16
G18K Tagagawik 35.50 34 P P 13 12 32.2 +0.9
baz=260,SNR=6.9
N17K Nushagak Hills 35.58 44 P P 13 12 33.2 +1.1
baz=268,SNR=9.2
O17K Koliganek Bris 35.61 45 P P 13 12 33.1 +0.8
baz=270,SNR=11
Q16K King Salmon 35.85 47 P P 13 12 34.8 +0.4
baz=272
C19K Lookout Ridge 35.89 29 P P 13 12 34.6 -0.1
baz=254
L18K Granite Mounta 35.90 41 P P 13 12 35.6 +0.8
baz=267
P17K Kvichak River 35.95 46 P P 13 12 35.9 +0.6
baz=271
J18K Innoko River 35.99 39 P P 13 12 36.5 +0.9
baz=265,SNR=9.2
F19K Shaleruckik Mo 36.03 33 P P 13 12 35.7 -0.1
baz=259
R17L Mt. Peulik Vol 36.04 49 P P 13 12 37.0 +0.8
baz=273
GCSA Galena City Sc 36.06 36 P P 13 12 36.3 +0.2
baz=263
GTA Gaotai 36.11 279 *e*P P 13 12 37.8 +0.7
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA LR LR
comp=N,140nm,12.7s
GTA LR LR
comp=E,89nm,13.8s
GTA LR LR
comp=Z,150nm,16.7s
G19K Purcell Mounta 36.17 34 P P 13 12 37.1 -0.1
baz=261
N18K Kilae Creek 36.23 43 P P 13 12 38.5 +0.9
baz=269,SNR=14
D19K Kuna River 36.26 30 P P 13 12 37.9 +0.1
baz=256
Q17K Contact Creek 36.27 48 P P 13 12 38.6 +0.5
baz=273
M18K Stony River 36.28 42 P P 13 12 39.0 +0.9
baz=268,SNR=6.8
H19K Roundabout Mou 36.34 35 P P 13 12 39.0 +0.4
baz=262,SNR=15
E19K Redstone River 36.36 32 P P 13 12 39.2 +0.5
baz=259
J19K Poorman 36.52 38 P P 13 12 40.7 +0.6
baz=265,SNR=16
O18K Koktuh Hills 36.57 45 P 13 12 41.4 +0.8
O18K IAmb IAmb 13 12 43.2
comp=Z,12nm,1.0s
O18K Koktuh Hills 36.57 45 P P 13 12 41.7 +1.1
baz=271,SNR=7.2
P18K Big Mountain, 36.57 46 P 13 12 42.0 +1.4
P18K Big Mountain, 36.57 46 P P 13 12 41.4 +0.8
baz=272,SNR=9.2
Q18K Katmai Hardscr 36.71 47 P P 13 12 42.4 +0.5
baz=273
L19K White Mountain 36.76 41 P P 13 12 42.4 +0.2
baz=268
D20K Etivluk River 36.84 30 P P 13 12 42.9 +0.1
baz=258
F20K Avaraart Lake 36.86 33 P P 13 12 43.7 +0.8
baz=261
E20K Nigu River 36.90 31 P P 13 12 43.9 +0.5
baz=259
N19K Bonanza Creek 36.92 43 P P 13 12 44.5 +0.9
baz=270
B20K Meade River 36.96 28 P P 13 12 43.6 -0.1
baz=256
M19K Big River Lodg 36.97 41 P P 13 12 44.5 +0.5
baz=269
H20K Anotleneega Mo 36.99 35 P P 13 12 44.3 +0.2
baz=264,SNR=5.9
O19K Port Alsworth 37.01 44 P P 13 12 44.8 +0.6
baz=271
R18K Karluk 37.07 49 P P 13 12 45.4 +0.5
baz=275
I20K Naaghedeneel 37.09 37 P P 13 12 45.5 +0.7
baz=265
K20K Telida 37.17 39 P P 13 12 45.9 +0.3
baz=267
J20K Nowinta River 37.18 38 P P 13 12 46.0 +0.3
baz=266,SNR=12
L20K Farewell, AK 37.22 40 P P 13 12 46.6 +0.5
baz=269
Q19K Cape Douglas, 37.40 46 P P 13 12 47.6 0.0
baz=274
CD2 Chengdu 37.42 264 P P 13 12 46.7 -1.5
CD2 pmax pmax
comp=Z,20nm,0.4s
A21K Barrow 37.48 26 P P 13 12 48.2 +0.1
baz=254
IMAR Indian Mountai 37.50 35 P P 13 12 49.1 +0.7
M20K Styx River 37.57 41 P P 13 12 49.4 +0.3
baz=270
P19K Oil Pt 37.57 45 P P 13 12 49.6 +0.5
baz=273
C21K Knifeblade Rid 37.58 29 P P 13 12 49.4 +0.3
baz=259
G21K Allakaket 37.66 34 P P 13 12 50.0 +0.2
baz=264
B21K Ikpikpuk River 37.73 29 P P 13 12 50.2 -0.1
baz=259
OHAK Old Harbor 37.73 49 P P 13 12 50.8 +0.4
baz=276
E21K Killik River 37.74 31 P P 13 12 50.5 +0.1
baz=261
F21K Alatna River 37.75 33 P P 13 12 51.1 +0.5
baz=263
O20K Slope Mountain 37.86 44 P P 13 12 52.2 +0.7
baz=273
H21K Melozitna Rive 37.86 35 P P 13 12 51.8 +0.3
baz=266,SNR=5.8
A22K Sinclair Lake 37.91 26 P P 13 12 52.1 +0.4
baz=257
CHUM Lake Minchumin 37.97 38 P P 13 12 53.0 +0.6
baz=268
PPLA Purkeypile 38.01 40 P P 13 12 53.4 +0.6
baz=270
N20K Mount Spurr 38.02 43 P P 13 12 53.7 +0.8
baz=272
SPCR Spurr Chakacha 38.02 43 P P 13 12 53.6 +0.7
baz=272
KDAK Kodiak Island 38.05 48 P P 13 12 53.6 +0.5
KDAK Kodiak Island 38.05 48‖ *e*P P 13 12 53.0 -0.1
KDAK Kodiak Island 38.05 48 P P 13 12 53.3 +0.1
baz=276
CAST Castle Rocks 38.06 39 P P 13 12 53.8 +0.6
baz=269,SNR=14
Q20K Shuyak Island 38.08 47 P P 13 12 53.3 0.0
baz=275
B22K Teshekpuk Lake 38.27 28 P P 13 12 55.4 +0.6
baz=259
D22K Ayikyak River 38.28 30 P P 13 12 55.5 +0.5
baz=262
SKT Skwentna 38.32 41 P P 13 12 56.1 +0.7
baz=272
H22K Ishtalitna Cre 38.47 35 P P 13 12 57.2 +0.7
baz=267
G22K Bettles 38.49 33 P P 13 12 56.6 -0.1
baz=265
E22K Anaktuvuk Pass 38.50 31 P 13 12 57.5 +0.7
E22K Anaktuvuk Pass 38.50 31 P P 13 12 57.2 +0.4
baz=263,SNR=6.5
BPAW Bear Paw Mtn. 38.56 38 P P 13 12 58.0 +0.7
baz=269,SNR=5.0
MLY Manley 38.69 36 P P 13 12 59.3 +0.8
baz=268,SNR=6.4
SUA Susitna One 38.71 42 P P 13 12 58.8 0.0
baz=273
TRF Thorofare Moun 38.87 39 P P 13 13 00.5 +0.4
baz=271
M22K Willow 39.00 42 P P 13 13 01.1 +0.1
baz=273
D23K Nanushuk River 39.01 30 P P 13 13 00.9 -0.2
baz=264
COLD Coldfoot 39.02 33 P P 13 13 01.5 +0.3
baz=266
G23K Bananza Creek 39.06 34 P P 13 13 02.0 +0.5
baz=267
NRIK Noril'sk 39.07 331 LR LR 13 29 45.7
comp=Z,49nm,19.1s,baz=116,slow=37
C23K Itkillik River 39.14 29 P P 13 13 02.8 +0.7
baz=262,SNR=6.6
H23K Yukon River 39.22 35 P P 13 13 03.3 +0.5
baz=268
RC01 Rabbit Creek A 39.22 43 IAmb IAmb 13 13 05.0
comp=Z,15nm,1.1s
RC01 Rabbit Creek A 39.22 43 P P 13 13 03.4 +0.5
baz=274,SNR=6.3
O22K Cooper Landing 39.27 44 P P 13 13 04.0 +0.7
baz=275
I23K Minto, Yukon-K 39.28 36 P P 13 13 03.5 +0.3
baz=269
E23K Chandalar 39.31 32 P P 13 13 03.7 +0.1
baz=266
TOLK Toolik Lake Re 39.37 31 P P 13 13 04.0 -0.1
baz=265
NEA2 Nenana 39.40 37 P P 13 13 05.0 +0.7
baz=270,SNR=7.1
SEW Seward 39.44 44 P P 13 13 04.7 0.0
baz=276
MCK McKinley 39.47 38 P 13 13 05.4 +0.4
MCK IAmb IAmb 13 13 06.6
comp=Z,6.8nm,0.8s
MCK McKinley 39.47 38 P P 13 13 05.4 +0.4
MCK pmax pmax
comp=Z,7.0nm,0.8s
MCK McKinley 39.47 38 P P 13 13 04.5 -0.5
baz=272
PMR Palmer 39.48 42 P P 13 13 05.6 +0.6
baz=274
RND Reindeer 39.52 39 IAmb IAmb 13 13 06.8
comp=Z,9.3nm,0.9s
WAT1 Susitna Watana 39.68 40 P P 13 13 07.1 +0.4
baz=273
D24K Happy Valley 39.69 30 P P 13 13 07.3 +0.6
baz=265
E24K Your Creek 39.73 32 P P 13 13 07.6 +0.5
baz=267
C24K Franklin Bluff 39.79 29 P P 13 13 07.7 +0.2
baz=264
KNK Knik Glacier 39.81 42 P P 13 13 08.7 +0.9
baz=275
H24K Noodor Dome 39.90 35 P P 13 13 09.1 +0.6
baz=270
COLA College 39.92 37‖ *e*P P 13 13 08.8 +0.2
COLA pmax pmax
comp=Z,9.0nm,0.9s
COLA College 39.92 37 P P 13 13 09.8 +1.2
baz=271
PWL Port Wells 39.92 43 IAmb IAmb 13 13 10.7
comp=Z,9.9nm,1.0s
PWL Port Wells 39.92 43 P P 13 13 09.2 +0.5
baz=276
F24K Squaw Lake 39.93 32 P P 13 13 09.1 +0.4
baz=268
WAT6 Susitna Watana 40.07 40 P P 13 13 10.5 +0.4
baz=274
G24K Hadweenzic Riv 40.07 34 P P 13 13 10.8 +0.9
baz=269,SNR=8.1
M23K Glacier View 40.13 41 P P 13 13 11.4 +0.9
baz=275
DHY Denali Highway 40.20 39 P 13 13 11.5 +0.3
DHY Denali Highway 40.20 39 P P 13 13 11.4 +0.3
baz=274,SNR=7.0
SCM Sheep Creek Mo 40.32 41 P P 13 13 12.7 +0.6
SCM IAmb IAmb 13 13 29.6
comp=Z,18nm,1.4s
SCM Sheep Creek Mo 40.32 41 P P 13 13 12.7 +0.6
SCM pmax pmax
comp=Z,17nm,1.4s
SCM Sheep Creek Mo 40.32 41 P P 13 13 12.9 +0.8
baz=275
HDA Harding Lake 40.32 37 P P 13 13 12.7 +0.7
HDA IAmb IAmb 13 13 13.8
comp=Z,8.3nm,0.9s
HDA Harding Lake 40.32 37 P P 13 13 13.2 +1.2
baz=272,SNR=6.3
IL31 40.33 37 IAmb IAmb 13 13 14.2
comp=Z,10.0nm,1.1s
ILAR Eielson Array 40.33 37 P 13 13 10.8 -1.3
ILAR Eielson Array 40.33 37 P P 13 13 12.0 -0.1
comp=Z,5.1nm,1.0s,baz=259,slow=6.7,SNR=33
comp=Z,5.1nm,1.0s
P23K Montague Islan 40.48 44 P P 13 13 14.1 +0.8
baz=277
GLI Glacier Island 40.52 43 P P 13 13 14.3 +0.6
baz=276
D25K Kavik River 40.57 30 P P 13 13 14.7 +0.7
baz=267
G25K Bearman Lake 40.62 34 P P 13 13 15.1 +0.8
baz=270
H25L Birch Creek 40.74 34 P P 13 13 15.9 +0.6
baz=271
F25K Christian Rive 40.80 32 P P 13 13 16.6 +0.7
baz=270
E25K Arctic Village 40.83 32 P P 13 13 16.7 +0.6
baz=269
M24K Tolsona, Glenn 40.83 41 P P 13 13 16.9 +0.6
baz=276
K24K Donnelly Dome 40.87 38 IAmb IAmb 13 13 18.3
comp=Z,19nm,1.1s
K24K Donnelly Dome 40.87 38 P P 13 13 16.8 +0.3
baz=274,SNR=8.9
PRP Porcupine Dome 40.88 36 P P 13 13 17.0 +0.2
baz=272
J25K Salcha River, 40.99 37 P P 13 13 17.5 -0.1
baz=274,SNR=5.1
KLU Klutina 41.02 42 P P 13 13 18.8 +0.9
KLU IAmb IAmb 13 13 20.6
comp=Z,11nm,1.1s
KLU Klutina 41.02 42 P P 13 13 19.3 +1.5
baz=277,SNR=5.4
PAX Paxson 41.08 39 P P 13 13 19.5 +1.2
baz=275
C26K Camden Bay 41.11 29 P P 13 13 19.6 +1.2
baz=268
EYAK Cordova Ski Ar 41.22 43 P P 13 13 20.9 +1.5
baz=278
HARP HAARP 41.28 40 P P 13 13 21.9 +2.0
baz=276
RIDG Independent Ri 41.29 38 P P 13 13 21.1 +1.1
baz=275,SNR=6.2
ZALV Zalesovo Beam 41.32 307 PcP PcP 13 15 18.0 +0.3
comp=Z,1.7nm,0.6s,baz=48,slow=2.2,SNR=6.8
ZALV LR LR 13 31 21.7
comp=Z,68nm,18.8s,baz=48,slow=37
F26K Sheenjek River 41.37 32 P P 13 13 21.3 +0.7
baz=271
PZH PanZhiHua 41.44 260 P P 13 13 22.1 +0.3
PZH pmax pmax
comp=Z,10.0nm,0.9s
C27K Jago River 41.52 29 P P 13 13 22.8 +1.0
baz=269
G26K Porcupine Rive 41.53 33 P P 13 13 22.9 +1.1
baz=272
KMI Kunming 41.60 258 P P 13 13 23.4 +0.2
KMI pmax pmax
comp=Z,16nm,1.1s
KMI LR LR
comp=Z,140nm,16.2s
N25K Chitina, Valde 41.63 41 P P 13 13 23.7 +0.8
baz=278
SCRK Sand Creek 41.64 38 P 13 13 22.8 -0.2
SCRK Sand Creek 41.64 38 P P 13 13 23.0 0.0
baz=276,SNR=12
BMRM Bremner River 41.72 42 IAmb IAmb 13 13 30.8
comp=Z,17nm,1.3s
BMRM Bremner River 41.72 42 P P 13 13 24.5 +0.9
baz=278
J26L Joseph Creek 41.78 37 P P 13 13 24.5 +0.4
baz=275
KAIM Kayak Island 41.97 44 P P 13 13 26.8 +1.3
baz=280
L26K Log Cabin Wild 42.03 39 P P 13 13 27.1 +1.1
baz=277,SNR=9.3
VRDI Verde Repeater 42.23 42 P P 13 13 27.9 -0.1
M26K Nabesna, AK 42.27 40 P P 13 13 29.4 +1.4
baz=278,SNR=13
E27K Coleen River 42.31 31 P P 13 13 29.4 +1.1
baz=273
G27K Doyon Strip 42.38 33 P P 13 13 30.7 +1.9
baz=274
MCARA McCarthy VSAT 42.41 42 P P 13 13 31.2 +2.0
baz=279
H27K Steamboat Moun 42.48 34 P P 13 13 31.1 +1.4
baz=275
K27K Chicken 42.48 38 P P 13 13 30.5 +0.8
baz=277
CRQE Cirque 42.48 43 P P 13 13 31.4 +1.5
baz=280
D27M Malcolm River 42.50 30 P P 13 13 31.2 +1.4
baz=272
I27K Kandik River 42.50 35 P P 13 13 31.4 +1.6
baz=276
WMQ Urumqi 42.71 291 *e*P P 13 13 33.4 +1.5
WMQ LR LR
comp=Z,200nm,24.1s
L27K Beaver Creek, 42.71 39 P P 13 13 33.1 +1.5
baz=278
BCAR Beaver Creek A 42.73 39 P 13 13 32.8 +1.0
M27K Edge Creek, AK 42.80 40 P P 13 13 33.7 +1.3
baz=279,SNR=11
F28M Old Crow 43.00 32 P P 13 13 35.1 +1.2
baz=275
E28M Babbage River 43.05 31 P P 13 13 35.3 +1.1
baz=274
GRNC Granite Creek 43.13 42 IAmb IAmb 13 13 37.8
comp=Z,10nm,0.8s
MESA MESA 43.14 43 P P 13 13 36.3 +1.0
baz=281
I28M Miner Creek 43.21 35 P P 13 13 36.5 +0.8
baz=277,SNR=14
BVCY Beaver Creek 43.26 40 P P 13 13 37.0 +1.0
baz=280,SNR=8.4
D28M Stokes Point 43.28 30 P P 13 13 36.9 +0.8
baz=274
CTG Chitna Glacier 43.29 42 P P 13 13 37.7 +1.3
baz=281
YUK3 Moose Creek 43.55 41 P P 13 13 39.8 +1.2
baz=281
DAWY Dawson 43.64 37 P P 13 13 40.3 +1.2
baz=279
E29M Blow River 43.67 31 P P 13 13 40.5 +1.2
baz=276
H29M Whitestone 43.75 34 P P 13 13 41.1 +1.2
baz=278
G29M Pine Creek 43.80 33 P P 13 13 40.6 +0.3
baz=278,SNR=5.3
O28M Mount Upton 43.88 42 P P 13 13 42.4 +1.1
baz=282
I29M Ogilvie Camp, 43.90 35 P P 13 13 42.0 +0.9
baz=279
YUK8 Steele Glacier 43.98 41 P P 13 13 43.5 +1.4
baz=282
PINM Pinnacle 43.99 43 P P 13 13 43.0 +1.0
baz=283
M29M Somme Creek 44.35 40 P P 13 13 46.0 +1.1
baz=282
L29M L29M 44.37 39 P P 13 13 46.5 +1.6
baz=281,SNR=10
EPYK Eagle Plains 44.39 34 P P 13 13 46.1 +1.1
baz=279,SNR=5.6
G30M tAoh Zraii Nji 44.49 33 P P 13 13 46.8 +1.0
baz=279
K29M Barlow Dome 44.49 37 P P 13 13 46.7 +0.7
baz=281,SNR=10
YUK4 Talbot Arm 44.49 41 P P 13 13 48.0 +1.8
baz=283
PNL Peninsula 44.51 44 P P 13 13 47.0 +0.9
baz=284
F30M Barrier River 44.56 32 P P 13 13 47.1 +0.8
baz=279
TNCH TengChong 44.63 261 P P 13 13 48.0 +0.4
TNCH sP pP 13 14 05.1 +2.9
TNCH PP **PP** **13 15 31.8 -0.7**
TNCH pmax pmax
comp=Z,23nm,1.0s
TNCH pmax pmax
comp=Z,130nm,3.3s
YUK6 Outpost Mounta 44.72 42 P P 13 13 48.7 +0.8
baz=283
I30M Mount Dempster 44.72 35 P P 13 13 48.9 +1.1
baz=281,SNR=17
J30M Hart River 44.86 36 P P 13 13 49.6 +0.6
baz=281,SNR=9.5
M30M Minto, Yukon 45.08 39 P P 13 13 52.0 +1.4
baz=283,SNR=7.1
MK31 Makanchi Array 45.09 297‖ *e*P P 13 13 50.8 -0.1
MKAR Makanchi Array 45.09 297 P P 13 13 50.4 -0.5
comp=Z,0.3nm,0.4s,baz=75,slow=9.1,SNR=9.6
MKAR PcP **PcP** **13 15 30.1 -0.5**
comp=Z,0.9nm,0.6s,baz=58,slow=5.4,SNR=4.2
MKAR ScP **ScP** **13 19 15.0 -3.2**
comp=Z,0.3nm,0.7s,baz=83,slow=3.8,SNR=3.7
MKAR LR LR 13 33 59.0
comp=Z,184nm,18.6s,baz=62,slow=38
comp=Z,0.3nm,0.4s
MKAR Makanchi Array 45.09 297 *i* P P 13 13 51.5 +0.6
MKAR Makanchi Array 45.09 297 *e*P P 13 13 51.5 +0.6
HYT Haines Junctio 45.15 42 P P 13 13 52.6 +1.4
baz=284,SNR=20
N30M Aishikik Lake 45.20 41 P P 13 13 52.7 +1.2
baz=284
MAYO Mayo, Yukon 45.25 38 P P 13 13 53.1 +1.2
baz=283
G31M Satah River 45.25 33 P P 13 13 53.1 +1.3
baz=281
INK Inuvik 45.29 31 LR LR 13 34 08.8
comp=Z,90nm,20.4s,baz=262,slow=38
INK Inuvik 45.29 31 P P 13 13 53.7 +1.6
baz=280
P29M Windy Craggy 45.34 43 P P 13 13 54.4 +1.7
baz=285,SNR=7.3
F31M Tsiigehtchic 45.36 32 P P 13 13 53.3 +0.7
baz=281
H31M Peel River 45.44 34 P P 13 13 55.2 +1.8
baz=282
P30M Million Dollar 45.59 43 P P 13 13 56.5 +1.8
baz=285,SNR=7.4
N31M Braeburn, Yuko 45.80 40 IAmb IAmb 13 13 59.6
comp=Z,12nm,1.0s
N31M Braeburn, Yuko 45.80 40 P P 13 13 58.0 +1.7
baz=285,SNR=7.5
O30N Mendenhall 45.84 41 P P 13 13 58.0 +1.4
baz=285
KURK Kurchatov 45.91 304‖ *e*P P 13 13 56.2 -1.0
KURK pmax pmax
comp=Z,6.0nm,2.7s
KURK Kurchatov 45.91 304 *e*P P 13 13 56.2 -1.0
KURBB Kurchatov Arra 46.00 304 P P 13 13 57.2 -0.7
comp=Z,0.4nm,0.4s,baz=68,slow=8.5,SNR=4.7
KURBB PcP **PcP** **13 15 33.6 -0.1**
comp=Z,0.9nm,0.7s,baz=66,slow=4.3,SNR=6.2
comp=Z,0.4nm,0.4s
PLBC Pleasant Camp 46.06 43 P P 13 14 00.0 +1.8
baz=286
M31M Drury Creek, Y 46.25 39 P P 13 14 01.6 +1.8
baz=285
WHY Whitehorse 46.44 41 P P 13 14 02.9 +1.5
baz=286
SKAG Skagway 46.56 43 P P 13 14 03.9 +1.7
baz=287
FARO Faro, Yukon 46.72 39 IAmb IAmb 13 14 06.0
comp=Z,5.5nm,0.8s
FARO Faro, Yukon 46.72 39 P P 13 14 04.8 +1.3
baz=286,SNR=8.3
N32M Quiet Lake 47.14 40 P P 13 14 07.9 +1.1
baz=287
SIT Sitka 47.30 46 P P 13 14 09.1 +1.0
baz=289

P32M	**Atlin**	**47.31**	**43**	P	**P**	**13 14 08.9**	**+0.8**	
	baz=288							
R32K	**Eaglecrest**	**47.33**	**44**	IAmb	IAmb	13 14 13.3		
	comp=Z,10nm,1.1s							
R32K	**Eaglecrest**	**47.33**	**44**	P	**P**	**13 14 08.6**	**+0.4**	
	baz=289							
MMPY	**Sheldon Lake,**	**47.54**	**38**	IAmb	IAmb	13 14 12.9		
	comp=Z,9.7nm,1.1s							
MMPY	**Sheldon Lake,**	**47.54**	**38**	P	**P**	**13 14 10.5**	**+0.6**	
	baz=287,SNR=9.5							
P33M	**Teslin, Yukon**	**47.55**	**42**	IAmb	IAmb	13 14 13.6		
	comp=Z,11nm,1.1s							
P33M	**Teslin, Yukon**	**47.55**	**42**	P	**P**	**13 14 11.0**	**+0.9**	
	baz=288,SNR=12							
Q32M	**Nakina River**	**48.22**	**43**	P	**P**	**13 14 15.9**	**+0.6**	
	baz=290							
CHTO	**Chiang Mai**	**48.40**	**254**	P	**P**	**13 14 17.6**	**+0.6**	
CHTO				IAmb	IAmb	13 14 18.9		
	comp=Z,8.6nm,1.0s							
CHTO	**Chiang Mai**	**48.40**	**254**	P	**P**	**13 14 17.6**	**+0.6**	
CHTO				pmax	pmax			
	comp=Z,9.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**48.64**	**254**	P	**P**	**13 14 19.3**	**+0.4**	
CMAR	**Chiang Mai Arr**	**48.64**	**254**	P	**P**	**13 14 19.1**	**+0.3**	
	comp=Z,1.6nm,0.9s,baz=42,slow=7.9,SNR=10							
CMAR				LR	LR	13 36 11.1		
	comp=Z,105nm,19.4s,baz=55,slow=38							
	comp=Z,1.6nm,0.9s							
CMAR	**Chiang Mai Arr**	**48.64**	**254**	P	**P**	**13 14 19.3**	**+0.4**	
R33M	**Jennings River**	**48.70**	**42**	P	**P**	**13 14 19.7**	**+0.8**	
	baz=290,SNR=5.7							
U33K	**Whale Pass**	**48.77**	**47**	P	**P**	**13 14 20.6**	**+1.3**	
	baz=291							
CRAG	**Craig**	**49.01**	**48**	P	**P**	**13 14 21.9**	**+0.7**	
	baz=292							
WRAK	**Wrangell Islan**	**49.07**	**46**	P	**P**	**13 14 23.0**	**+1.4**	
	baz=292							
S34M	**Telegraph Cree**	**49.14**	**44**	P	**P**	**13 14 23.5**	**+1.3**	
	baz=291							
TGTN	**Hyland Airport**	**49.22**	**39**	P	**P**	**13 14 24.1**	**+1.3**	
	baz=290							
DLBC	**Dease Lake**	**49.49**	**43**	P	**P**	**13 14 26.4**	**+1.4**	
	baz=292							
BVAR	**Borovoye Array**	**49.77**	**309**	LR	LR	13 37 02.4		
	comp=Z,107nm,18.2s,baz=64,slow=38							
V35K	**Ketchikan**	**49.86**	**47**	P	**P**	**13 14 29.1**	**+1.5**	
	baz=293							
T35M	**Bob Quinn**	**49.93**	**45**	IAmb	IAmb	13 14 32.4		
	comp=Z,11nm,0.9s							
T35M	**Bob Quinn**	**49.93**	**45**	P	**P**	**13 14 30.2**	**+1.9**	
	baz=293,SNR=5.2							
BRDH	**Bariadhala**	**50.99**	**264**	LR	LR	13 36 40.2		
	comp=Z,156nm,18.1s,baz=132,slow=36							
EVN	**Everest**	**51.22**	**273**		**P**	**13 14 39.0**	**-0.1**	
TOAD	**Toad River Com**	**51.64**	**41**	P	**P**	**13 14 43.6**	**+2.5**	
	baz=294,SNR=6.6							
AAK	**Ala-Archa**	**51.90**	**296**	LR	LR	13 38 56.9		
	comp=Z,63nm,18.6s,baz=73,slow=39							
RES	**Resolute Bay**	**53.99**	**17**	LR	LR	13 40 13.1		
	comp=Z,56nm,20.6s,baz=334,slow=38							
ARTI	**Arti**	**54.57**	**317**	LR	LR	13 40 32.3		
	comp=Z,58nm,18.2s,baz=52,slow=38							
ARTI	**Arti**	**54.57**	**317**	*c iP*	P	13 14 53.0	-10	
ARTI				pmax	pmax			
	comp=Z,1.0nm,0.4s							
HNR	**Honiara**	**54.66**	**166**	LR	LR	13 38 08.0		
	comp=Z,38nm,19.1s,baz=122,slow=36							
YKA	**Yellowknife Ar**	**54.66**	**34**	P	**P**	**13 15 04.3**	**+1.2**	
	comp=Z,3.9nm,0.9s,baz=302,slow=7.4,SNR=6.0							
	comp=Z,3.9nm,0.9s							
AB31	**Akbulak array**	**57.34**	**309**		**P**	**13 15 22.4**	**-0.1**	
ABKAR	**Akbulak array**	**57.34**	**309**	P	**P**	**13 15 22.3**	**-0.2**	
AKTO	**Aktyubinsk**	**57.78**	**311**	LR	LR	13 42 19.3		
	comp=Z,70nm,19.6s,baz=3.5,slow=38							
MTN	**Manton Dam**	**59.19**	**200**		**P**	**13 15 36.7**	**+1.1**	
LTY	**Liberty**	**59.74**	**52**	IAmb	IAmb	13 15 41.8		
	comp=Z,8.2nm,1.4s							
B08A	**Colville Reser**	**59.87**	**50**	IAmb	IAmb	13 15 42.5		
	comp=Z,5.4nm,0.9s							
PSI	**Prapat**	**60.15**	**241**	LR	LR	13 42 26.0		
	comp=Z,63nm,18.6s,baz=93,slow=37							
MXC	**Moxie City**	**60.34**	**53**	IAmb	IAmb	13 15 46.3		
	comp=Z,5.6nm,0.9s							
BLKN	**Baker Lake**	**60.39**	**27**	P	**P**	**13 15 43.3**	**0.0**	
BLKN				IAmb	IAmb	13 15 44.0		
	comp=Z,8.4nm,1.3s							
HAWA	**Hanford**	**60.88**	**52**		**P**	**13 15 48.4**	**+1.4**	
HAWA				IAmb	IAmb	13 15 49.8		
	comp=Z,7.3nm,1.1s							
I05D	**Terrebonne, OR**	**61.01**	**55**	IAmb	IAmb	13 15 51.0		
	comp=Z,5.3nm,0.8s							
NEW	**Newport**	**61.13**	**50**	IAmb	IAmb	13 15 51.2		
	comp=Z,6.3nm,0.9s							
J05D	**Fort Rock, OR**	**61.68**	**56**	IAmb	IAmb	13 15 56.5		
	comp=Z,8.2nm,1.0s							
YBH	**Yreka Blue Hor**	**61.70**	**58**		**P**	**13 15 54.5**	**+1.7**	
YBH				IAmb	IAmb	13 15 56.2		
	comp=Z,7.8nm,1.1s							
YBH	**Yreka Blue Hor**	**61.70**	**58**	P	**P**	**13 15 54.5**	**+1.7**	
YBH				pmax	pmax			
	comp=Z,8.0nm,1.2s							
PLID	**Pearl Lake**	**63.64**	**52**		**P**	**13 16 06.9**	**+1.1**	
MSO	**Missoula**	**63.72**	**49**	IAmb	IAmb	13 16 08.6		
	comp=Z,8.7nm,0.9s							
WVOR	**Wild Horse Val**	**63.73**	**56**	IAmb	IAmb	13 16 09.2		
	comp=Z,6.9nm,1.0s							
FFC	**Flin Flon**	**64.54**	**37**		**P**	**13 16 12.1**	**+0.8**	
FFC				IAmb	IAmb	13 16 13.3		
	comp=Z,8.3nm,0.9s							
FFC	**Flin Flon**	**64.54**	**37**	P	**P**	**13 16 12.1**	**+0.8**	
FFC				pmax	pmax			
	comp=Z,8.0nm,0.9s							
FINES	**FINESS Array B**	**64.65**	**333**	P	**P**	**13 16 09.4**	**-2.4**	
	comp=Z,1.3nm,0.6s,baz=31,slow=7.8,SNR=8.6							
	comp=Z,1.3nm,0.6s							
FINES	**FINESS Array B**	**64.65**	**333**	*i* P	**P**	**13 16 08.1**	**-3.7**	
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MPK	**Martis Peak**	**64.79**	**59**	IAmb	IAmb	13 16 16.9		
	comp=Z,10.0nm,0.9s							
PAHR	**Pah Rah Range**	**64.94**	**58**	IAmb	IAmb	13 16 16.9		
	comp=Z,7.6nm,1.1s							
EGMT	**Eagleton**	**65.20**	**46**	IAmb	IAmb	13 16 18.1		
	comp=Z,9.2nm,0.8s							
WB0	**Warramunga Arr**	**65.22**	**195**		**P**	**13 16 17.0**	**+1.1**	
WB0				IAmb	IAmb	13 16 17.9		
	comp=Z,13nm,1.2s							
OBN	**Obninsk**	**65.28**	**324**	*eP*	**P**	**13 16 12.1**	**-3.9**	
OBN				pmax	pmax			
	comp=Z,6.0nm,0.4s							
DLMT	**Dillon**	**65.36**	**50**	IAmb	IAmb	13 16 20.2		
	comp=Z,6.0nm,0.9s							
WRAB	**Tennant Creek**	**65.39**	**195**	*eP*	**P**	**13 16 17.4**	**+0.3**	
WRAB				pmax	pmax			
	comp=Z,10.0nm,1.2s							
WRA	**Warramunga Arr**	**65.40**	**195**	P	**P**	**13 16 17.8**	**+0.7**	
WRA	**Warramunga Arr**	**65.40**	**195**	P	**P**	**13 16 17.9**	**+0.7**	
	comp=Z,5.8nm,1.1s,baz=14,slow=6.7,SNR=16							
	comp=Z,5.8nm,1.1s							
WAKR	**Walker**	**65.64**	**59**	IAmb	IAmb	13 16 22.5		
	comp=Z,7.3nm,1.1s							
RYN	**Ryan**	**66.13**	**59**	IAmb	IAmb	13 16 25.3		
	comp=Z,5.7nm,0.9s							
NVAR	**Mina Array Bea**	**66.39**	**59**		**P**	**13 16 25.0**	**+1.3**	
NVAR	**Mina Array Bea**	**66.39**	**59**	P	**P**	**13 16 24.4**	**+0.6**	
	comp=Z,4.6nm,0.9s,baz=288,slow=6.8,SNR=12							
	comp=Z,4.6nm,0.9s							
YHL	**Hebgen Lake**	**66.46**	**50**	IAmb	IAmb	13 16 27.0		
	comp=Z,5.7nm,0.9s							
YHB	**Horse Butte**	**66.52**	**50**	IAmb	IAmb	13 16 27.2		
	comp=Z,7.3nm,0.8s							
YFT	**Old Faithful**	**66.91**	**50**	IAmb	IAmb	13 16 31.9		
	comp=Z,6.3nm,1.0s							
YNE	**Yellowstone No**	**67.00**	**49**	IAmb	IAmb	13 16 30.1		
	comp=Z,3.7nm,0.8s							
H17A	**Grant Village**	**67.09**	**50**	IAmb	IAmb	13 16 32.4		
	comp=Z,11nm,1.1s							
DSP	**Deep Springs**	**67.26**	**60**	IAmb	IAmb	13 16 32.3		
	comp=Z,7.4nm,1.1s							
RLMT	**Red Lodge**	**67.33**	**49**	IAmb	IAmb	13 16 33.4		
	comp=Z,7.0nm,1.2s							
FXWY	**Fox Creek**	**67.33**	**51**	IAmb	IAmb	13 16 32.8		
	comp=Z,5.2nm,1.1s							
TPAW	**Teton Pass**	**67.47**	**51**	IAmb	IAmb	13 16 34.0		
	comp=Z,9.3nm,0.9s							
SNOW	**Snow King Moun**	**67.59**	**51**	IAmb	IAmb	13 16 34.6		
	comp=Z,4.1nm,0.8s							

BW06	**Boulder Array**	**68.71**	**51**	IAmb	IAmb	13 16 40.5		
	comp=Z,5.5nm,1.0s							
PDAR	**Pinedale Array**	**68.71**	**51**	P	**P**	**13 16 39.1**	**+0.8**	
PDAR	**Pinedale Array**	**68.71**	**51**	P	**P**	**13 16 39.5**	**+1.2**	
	comp=Z,2.9nm,0.8s,baz=274,slow=2.2,SNR=24							
PDAR				LR	LR	13 47 53.4		
	comp=Z,19nm,19.4s,baz=254,slow=37							
	comp=Z,2.9nm,0.8s							
ASAR	**Alice Springs**	**69.11**	**194**	P	**P**	**13 16 41.5**	**+0.9**	
	comp=Z,2.4nm,1.0s,baz=10.0,slow=5.3,SNR=16							
ASAR				LR	LR	13 47 39.0		
	comp=Z,22nm,18.8s,baz=8.5,slow=36							
	comp=Z,2.4nm,1.0s							
PALK	**Pallekele**	**69.11**	**259**	LR	LR	13 50 25.5		
	comp=Z,65nm,18.1s,baz=144,slow=39							
MNK	**Minsk**	**69.22**	**328**	*i* P	**P**	**13 16 39.3**	**-1.7**	
MNK				*i* *PP	**pP**	**13 16 55.6**	**-0.9**	
MNK				*i*		13 19 12.5		
MNK				*i* PPP	PPP	13 20 49.4		
MNK				*i* S	**S**	**13 25 41.2**	**-1.2**	
MNK				*i* *SS	**sS**	**13 26 09.4**	**+0.9**	
MNK				*i* SS	**SS**	**13 30 17.4**	**+8.7**	
MNK				pmax	pmax			
	comp=Z,4.0nm,0.6s							
MNK				pmax	pmax			
	comp=N,20nm,1.0s							
MNK				pmax	pmax			
	comp=E,18nm,0.7s							
MNK				MLR	MLR			
	comp=N,185nm,23.0s							
MNK				MLR	MLR			
	comp=E,274nm,24.0s							
MNK				MLR	MLR			
	comp=Z,39nm,15.0s							
NB2	**NORSAR Subarra**	**69.26**	**339**	P	**P**	**13 16 40.4**	**-0.8**	
	comp=Z,0.7nm,0.4s,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**69.26**	**339**	P	**P**	**13 16 40.0**	**-1.2**	
	comp=Z,1.7nm,0.3s,baz=31,slow=6.6,SNR=13							
NOA				LR	LR	13 52 01.5		
	comp=Z,13nm,18.4s,baz=25,slow=40							
	comp=Z,1.7nm,0.3s							
NOA	**NORSAR Array B**	**69.26**	**339**	P	**P**	**13 16 40.0**	**-1.2**	
HFS	**Hagfors**	**69.38**	**338**	P	**P**	**13 16 40.2**	**-1.6**	
	comp=Z,1.4nm,0.6s,baz=57,slow=5.5,SNR=7.4							
HFS				LR	LR	13 52 06.3		
	comp=Z,31nm,19.3s,baz=22,slow=40							
	comp=Z,1.4nm,0.6s							
BSUT	**Blindstream Ca**	**69.50**	**53**	IAmb	IAmb	13 17 02.7		
	comp=Z,9.5nm,1.2s							
KIV	**Kislovodsk**	**69.98**	**312**	*eP*	**P**	**13 16 44.7**	**-1.3**	
KIV				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KIV				MLR	MLR			
	comp=Z,41nm,17.0s							
ULM	**Lac du Bonnet**	**70.34**	**38**	P	**P**	**13 16 47.8**	**-0.2**	
	comp=Z,2.0nm,0.6s,baz=293,slow=7.8,SNR=5.6							
ULM				LR	LR	13 48 42.5		
	comp=Z,24nm,18.3s,baz=270,slow=37							
	comp=Z,2.0nm,0.6s							
SRU	**San Rafael Swe**	**70.59**	**54**	IAmb	IAmb	13 16 52.2		
	comp=Z,7.5nm,1.0s							
BORG	**Borgarnes**	**70.82**	**355**	LR	LR	13 47 48.0		
	comp=Z,30nm,18.6s,baz=297,slow=36							
O20A	**White River Ci**	**71.20**	**52**	IAmb	IAmb	13 16 55.8		
	comp=Z,7.4nm,1.2s							
GNI	**Garni**	**71.44**	**308**	LR	LR	13 54 20.4		
	comp=Z,27nm,18.6s,baz=51,slow=41							
AGMN	**Agassiz Nation**	**71.78**	**39**	IAmb	IAmb	13 16 57.8		
	comp=Z,11nm,1.2s							
PV23	**Carpenter Ridg**	**71.90**	**54**	IAmb	IAmb	13 17 00.4		
	comp=Z,11nm,1.1s							
PV20	**West Nyswonger**	**72.00**	**54**	IAmb	IAmb	13 17 15.9		
	comp=Z,10nm,1.0s							
PV17	**East Wray Mesa**	**72.05**	**54**	IAmb	IAmb	13 17 01.1		
	comp=Z,7.4nm,0.8s							
PV18	**Skein Mesa, Pa**	**72.10**	**54**	IAmb	IAmb	13 17 16.0		
	comp=Z,14nm,1.1s							
PV05	**Paradox Valley**	**72.11**	**54**	IAmb	IAmb	13 17 01.6		
	comp=Z,6.4nm,0.9s							
PV13	**Radium Mtn., P**	**72.21**	**54**	IAmb	IAmb	13 17 02.2		
	comp=Z,4.8nm,0.7s							
F33A	**5 Mile Ranch,**	**73.39**	**41**	IAmb	IAmb	13 17 07.8		
	comp=Z,10nm,1.1s							
E38A	**The Farm, Brul**	**74.98**	**38**		**P**	**13 17 15.5**	**0.0**	
E38A				IAmb	IAmb	13 17 16.5		
	comp=Z,7.3nm,0.8s							
STKA	**Stephens Creek**	**76.25**	**186**	LR	LR	13 55 43.1		
	comp=Z,34nm,18.0s,baz=21,slow=39							
SCHQ	**Schefferville**	**76.61**	**20**	LR	LR	13 54 39.5		
	comp=Z,50nm,18.8s,baz=276,slow=38							
LANS	**Liptovska Anna**	**76.65**	**328**	*eP*	**P**	**13 17 25.5**	**+0.4**	
LANS				pmax	pmax			
	comp=Z,2.0nm,0.9s							
LANS	**Liptovska Anna**	**76.65**	**328**	*eP*	**P**	**13 17 25.5**	**+0.4**	
LANS				*eP*	**PP**	**13 20 13.6**	**-3.7**	
MLR	**Muntele Rosu**	**76.96**	**322**	LR	LR	13 54 34.0		
	comp=Z,38nm,18.2s,baz=42,slow=38							
CLL	**Collm**	**77.10**	**333**	*i* P	**P**	**13 17 26.3**	**-1.2**	
CLL				pmax	pmax			
	comp=Z,5.0nm,0.9s							
CLL	**Collm**	**77.10**	**333**	*i* P	**P**	**13 17 26.3**	**-1.2**	
	comp=Z,5.0nm,0.9s							
EKA	**Eskdalemuir Ar**	**77.69**	**344**	P	**P**	**13 17 30.2**	**-0.5**	
	comp=Z,0.8nm,0.4s,baz=16,slow=5.1,SNR=12							
	comp=Z,0.8nm,0.4s							
BRTR	**Keskin Array B**	**77.72**	**314**	P	**P**	**13 17 30.2**	**-1.2**	
	comp=Z,0.6nm,0.7s,baz=60,slow=7.3,SNR=4.9							
	comp=Z,0.6nm,0.7s							
BRTR	**Keskin Array B**	**77.72**	**314**	*i* P	**P**	**13 17 31.6**	**+0.2**	
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
MODS	**Modra-Piesok**	**78.11**	**329**	*eP*	**P**	**13 17 35.0**	**+1.8**	
MODS				pmax	pmax			
	comp=Z,13nm,1.2s							
MODS	**Modra-Piesok**	**78.11**	**329**	*eP*	**P**	**13 17 35.0**	**+1.8**	
KHC	**Kasperske Hory**	**78.77**	**332**	*eP*	**P**	**13 17 36.4**	**-0.5**	
KHC	**Kasperske Hory**	**78.77**	**332**	*eP*	**P**	**13 17 36.4**	**-0.5**	
GERES	**GERESS Array B**	**78.98**	**331**	P	**P**	**13 17 37.4**	**-0.7**	
	comp=Z,0.5nm,0.5s,baz=40,slow=5.7,SNR=5.6							
	comp=Z,0.5nm,0.5s							
TXAR	**Lajitas Array**	**81.45**	**57**		**P**	**13 17 52.8**	**+1.0**	
TXAR	**Lajitas Array**	**81.45**	**57**	P	**P**	**13 17 53.1**	**+1.4**	
	comp=Z,2.8nm,0.6s,baz=299,slow=4.1,SNR=38							
	comp=Z,2.8nm,0.6s							
ASF	**Jabal al Asfar**	**81.56**	**307**	LR	LR	14 00 13.4		
	comp=Z,35nm,18.2s,baz=138,slow=40							
CCM	**Cathedral Cave**	**81.74**	**44**		**P**	**13 17 53.6**	**+0.6**	
CCM				IAmb	IAmb	13 17 55.0		
	comp=Z,6.5nm,0.9s							
CCM	**Cathedral Cave**	**81.74**	**44**	P	**P**	**13 17 53.6**	**+0.6**	
CCM				pmax	pmax			
	comp=Z,7.0nm,0.9s							
MMAI	**Mount Meron Ar**	**81.78**	**309**	P	**P**	**13 17 54.0**	**+0.6**	
	comp=Z,1.6nm,0.5s,baz=53,slow=7.4,SNR=3.0							
	comp=Z,1.6nm,0.5s							
PBMO	**Poplar Bluff**	**83.14**	**44**	IAmb	IAmb	13 18 03.5		
	comp=Z,6.2nm,1.0s							
DRIO	**Del Rio**	**83.20**	**55**	IAmb	IAmb	13 18 02.8		
	comp=Z,5.5nm,1.0s							
MIAR	**Mount Ida**	**83.27**	**47**	IAmb	IAmb	13 18 18.3		
	comp=Z,7.3nm,1.1s							
PPT	**Papeete**	**83.59**	**122**	LR	LR	13 51 36.5		
	comp=Z,49nm,20.8s,baz=317,slow=33							
PPT2	**Papeete2**	**83.61**	**122**	*e*LR	LR	13 44 19.8		
	comp=Z,89nm,24.8s							
T47A	**Sharon Grove**	**84.59**	**42**	IAmb	IAmb	13 18 09.7		
	comp=Z,6.9nm,0.9s							
WVT	**Waverly**	**84.93**	**43**	P	**P**	**13 18 09.8**	**+0.4**	
WVT				IAmb	IAmb	13 18 10.8		
	comp=Z,3.8nm,0.8s							
WVT	**Waverly**	**84.93**	**43**	P	**P**	**13 18 09.8**	**+0.4**	
WVT				pmax	pmax			
	comp=Z,4.0nm,0.9s							
TKL	**Tuckaleechee C**	**87.23**	**40**	LR	LR	14 00 30.2		
	comp=Z,19nm,20.4s,baz=336,slow=38							
TBI	**Tubuai**	**88.11**	**126**	*e*LR	LR	13 46 26.4		
	comp=Z,2μm,39.0s							
RPZ	**Rata Peaks**	**90.09**	**164**	LR	LR	13 54 47.6		
	comp=Z,44nm,19.4s,baz=290,slow=33							
ESDC	**Sonseca Array**	**92.62**	**339**	P	**P**	**13 18 44.0**	**-2.0**	
	comp=Z,0.2nm,0.6s,baz=30,slow=3.9,SNR=4.0							
ESDC				LR	LR	14 07 57.0		
	comp=Z,50nm,18.1s,baz=68,slow=40							
	comp=Z,0.2nm,0.6s							
H03N2	**Juan Fernandez**	**142.01**	**90**	T	T	16 03 56.9		
	baz=304,slow=77,SNR=22							
H03N3	**Juan Fernandez**	**142.03**	**90**	T	T	16 03 53.2		
	baz=304,slow=77,SNR=24							
H03N1	**Juan Fernandez**	**142.03**	**90**	T	T	16 03 40.7		
	baz=304,slow=77,SNR=24							
SHEL	**Horse Pasture**	**144.18**	**314**	*i* PKIKP	**PKiKP**	**13 25 12.8**	**-1.0**	
TROLL	**Troll, Antarti**	**148.00**	**199**	⇑P	**PKiKP**	**13 25 19.4**	**-0.7**	
	comp=Z,200nm,1.0s							
SNAA	**Sanae**	**149.44**	**197**	⇑P	**PKPbc**	**13 25 22.1**	**+0.2**	
	comp=Z,40nm,0.9s							
SNAA	**Sanae**	**149.44**	**197**	PKPbc	**PKPbc**	**13 25 22.5**	**+0.6**	
	comp=Z,1.8nm,0.9s,baz=108,slow=1.2,SNR=5.4							
VNA2	**Neumayer--Watz**	**150.95**	**196**	⇑P	**PKiKP**	**13 25 26.4**	**+0.4**	
	comp=Z,4.0nm,0.7s,baz=129,slow=2.9							
PLCA	**Paso Flores**	**151.22**	**96**	PKPbc	**PKPbc**	**13 25 27.3**	**+0.1**	
	comp=Z,1.4nm,0.7s,baz=228,slow=1.5,SNR=6.8							
VNA1	**Neumayer--Stat**	**151.35**	**196**	⇑P	**PKiKP**	**13 25 27.9**	**+1.0**	
	comp=Z,3.3nm,1.0s							

IDC ***07*** *13:07:12.0±2.1, 34°.09S×58°.17E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=62.5km s-min=29.9km az=134.0*

ISC 07 13:07:15.3±2.2, 34°.1S±0°.4×58°.1E±0°.4, h22km, n9, σ0.9s19/6, mb4.1/5, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04N2	**CROZET ISLANDS**	**13.01**	**200**	T	T	13 23 38.2	
	baz=25,slow=74,SNR=133						
H04N1	**CROZET ISLANDS**	**13.01**	**200**	T	T	13 23 38.9	
	baz=25,slow=74,SNR=184						
H04N3	**CROZET ISLANDS**	**13.03**	**200**	T	T	13 23 36.1	
	baz=25,slow=74,SNR=90						
SNAA	**Sanae**	**48.97**	**202**	P	**P**	**13 15 59.9**	**+0.2**
	1.5nm,0.8s,baz=90,slow=8.9,SNR=9.7						
	1.5nm,0.8s						
QSPA	**South Pole Qui**	**56.11**	**180**	P	**P**	**13 16 52.5**	**-0.2**
	2.0nm,0.9s,baz=266,slow=0.7,SNR=5.8						
	2.0nm,0.9s						
VNDA	**Vanda**	**59.91**	**166**	P	**P**	**13 17 19.0**	**0.0**
	0.8nm,0.8s,baz=265,slow=11,SNR=4.8						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**65.83**	**103**	P	**P**	**13 17 59.5**	**+0.2**
	0.9nm,0.8s,baz=233,slow=6.4,SNR=8.3						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**67.97**	**100**	P	**P**	**13 18 12.9**	**0.0**
	1.2nm,0.7s,baz=236,slow=5.6,SNR=9.4						
	1.2nm,0.7s						
ILAR	**Eielson Array**	**145.71**	**19**	PKPbc	**PKPdf**	**13 26 51.0**	**-0.1**
	0.3nm,0.8s,baz=314,slow=4.9,SNR=2.5						

IDC ***07*** *13:10:25.1±1.0, 12°.74S×166°.12E, h0km, mb4.0/9, mbtmp4.1/10, ML5.0/1, MS3.5/8, Error ellipse: s-maj=31.6km s-min=23.9km az=112.0*

NEIC ***07*** *13:10:26.8±1.0, 12°.7S±0°.1×166°.12E±0°.07, h10km±1km, mb4.6/14, Error ellipse: s-maj=18.5km s-min=11.2km az=7.0*

ISC 07 13:10:26.7±0.7, 12°.79S±0°.09×166°.0E±0°.1, h10km, n36, σ1s00/31, mb4.3/14, MS3.5/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.85**	**299**		**Pn**	**13 12 06.8**	**-0.4**
HNR	**Honiara**	**6.85**	**299**	Pn	**Pn**	**13 12 07.5**	**+0.2**
	27nm,0.3s,baz=151,slow=5.6,SNR=13						
HNR				Sn	**Sn**	**13 13 23.4**	**-2.0**
	7.9nm,0.3s,baz=270,slow=16,SNR=3.8						
HNR				LR	LR	13 15 26.7	
	comp=Z,395nm,18.2s,baz=122,slow=44						
	108nm,0.3s						
DZM	**Mont Dzumac**	**9.24**	**178**	Pn	**Pn**	**13 12 38.7**	**-1.5**
MSVF	**Nonsavu**	**12.59**	**114**	LR	LR	13 17 05.8	
	comp=Z,155nm,19.2s,baz=302,slow=32						
PATS	**Pohnpei**	**20.96**	**338**	Pn	**P**	**13 15 11.3**	**+1.3**
COEN	**Coen**	**22.27**	**264**	P	**P**	**13 15 24.2**	**-0.1**
STKA	**Stephens Creek**	**29.41**	**226**	P	**P**	**13 16 31.9**	**+1.4**
	1.9nm,0.7s,baz=35,slow=9.4,SNR=4.6						
STKA				LR	LR	13 28 13.6	
	comp=Z,126nm,18.0s,baz=22,slow=36						
	1.9nm,0.7s						
OXZ	**Oxford**	**30.86**	**171**	P	**P**	**13 16 42.5**	**-0.7**
WB0	**Warramunga Arr**	**31.12**	**253**	P	**P**	**13 16 45.7**	**-0.1**
WB0				IAmb	IAmb	13 17 00.5	
	comp=Z,6.3nm,1.2s						
WRA	**Warramunga Arr**	**31.20**	**253**	LR	LR	13 27 30.8	
	comp=Z,98nm,20.8s,baz=354,slow=33						
AS31	**Alice Springs**	**32.31**	**246**	P	**P**	**13 16 56.2**	**0.0**
**

OCHAL **Ojochal** 0.80 66 S Sn 13 18 22.1 -0.1
OCHAL **Ojochal** 0.80 66 ⇓P Pn 13 18 10.1 -0.1
PAR1A **Puntarenas Pro** 0.83 9 eP Pb 13 18 09.7 +0.4
PICV **PH. Pirrs** 0.87 12 eP Pb 13 18 10.4 +0.4
PICV eS Sn 13 18 23.6 -0.5
BITO **Garabito Jaco** 0.88 344 eP Pg 13 18 09.6 +0.1
EDPE **Pejibaye, P** 0.89 64 eP Pn 13 18 11.3 -0.1
PISJ **San Jernim** 0.89 17 eP Pn 13 18 10.9 -0.7
PANP **Palmar Norte** 0.93 78 eP Pn 13 18 12.0 0.0
PANP eS Sn 13 18 26.3 +0.8
PIEC **Cerro El Cedra** 0.94 26 eP Pn 13 18 12.0 -0.4
RAZU **San Marcos de** 0.95 22 eP Pn 13 18 12.1 -0.3
LCR2 **La Lucha 2** 1.03 21 Pb 13 18 13.0 +0.1
LCR2 **La Lucha 2** 1.03 21 eP Pn 13 18 13.1 -0.5
LCR2 **La Lucha 2** 1.03 21 S Sn 13 18 27.9 -0.5
LCR2 **La Lucha 2** 1.03 21 ⇓P Pn 13 18 13.2 -0.5
SAJE **San Jernim** 1.03 56 eP Pn 13 18 14.0 +0.4
SAJE eS Sn 13 18 29.1 +0.7
ACOS **Acosta** 1.04 12 eP Pb 13 18 12.8 -0.1
BURE **Buenos Aires** 1.10 69 eP Pn 13 18 15.0 +0.6
ECI **Escuela Centro** 1.20 16 eP Pn 13 18 15.7 -0.2
SJS **Escuela Geolog** 1.21 15 eP Pb 13 18 15.7 -0.1
DRK0 **Durika** 1.22 66 eP Pg 13 18 16.5 +0.4
DRK0 **Durika** 1.22 66 eP Pg 13 18 16.9 +0.7
DRK0 eS Sn 13 18 34.4 +1.3
DRK0 **Durika** 1.22 66 ⇓P Pg 13 18 16.8 +0.7
CORON **Coronado** 1.25 17 eP Pg 13 18 16.9 +0.2
HDC **Heredia** 1.25 12 Pb 13 18 16.5 -0.1
HDC **Heredia** 1.25 12 eP Pb 13 18 16.4 -0.1
TCS1 **Tacares** 1.27 4 P Pg 13 18 17.2 +0.2
CVIMO **Finca Echandi** 1.32 19 eP Pg 13 18 17.9 0.0
VERB **Verbena** 1.32 30 eP Pg 13 18 18.4 -0.2
VBV1 **V. Barva** 1.36 12 eP Pb 13 18 18.3 -0.3
CVTQ **Turrialba Volc** 1.37 26 eP Pg 13 18 18.8 -0.1
VTCV **VTCV, Calle Va** 1.37 28 eP Pb 13 18 18.7 +0.1
CVTV **Tajo** 1.38 27 eP Pg 13 18 19.0 0.0
VTR0 **Volcan Turrial** 1.38 26 eP Pb 13 18 19.0 +0.1
ABRB **Las Abras (San** 1.39 28 eP Pg 13 18 19.2 -0.2
VITO **San Vito** 1.40 88 eP Pg 13 18 19.2 -0.2
RVSTA **Santa Teresita** 1.40 31 eP Pg 13 18 19.5 0.0
NELY **Ciudad Neily** 1.42 95 eP Pb 13 18 19.0 -0.4
RESJ **San Isidro (Tu** 1.45 30 eP Pg 13 18 20.1 -0.3
CDITO **Canoas** 1.50 97 S Sg 13 18 41.1 +0.1
CDITO **Canoas** 1.50 97 ⇓P Pn 13 18 20.0 +0.1
MLIR3 **Monte Lirio, C** 1.54 89 eP Pg 13 18 21.7 -0.5
MLIR3 eS Sg 13 18 43.9 +1.7
ALCO **Alturas Coton,** 1.54 83 eP Pb 13 18 20.8 -0.7
LPPC **Paso Canoas** 1.54 99 eP Pn 13 18 20.4 0.0
INDI **Punta indio, G** 1.55 315 P Pb 13 18 21.4 -0.2
CMARA **Lajas Hojancha** 1.61 320 P Pg 13 18 23.3 -0.2
JTS **Las Juntas de** 1.61 340 Pn 13 18 20.5 -0.9
JTS **Las Juntas de** 1.61 340 Pn Pn 13 18 19.4 -2.0
20nm,0.3s,baz=160,slow=6.8,SNR=29
JTS Sn Sn 13 18 39.5 -2.9
138nm,0.3s,baz=306,slow=21,SNR=7.1
JTS **Las Juntas de** 1.61 340 eP Pn 13 18 20.0 -1.4
JTS **Las Juntas de** 1.61 340 eP Pn 13 18 20.5 -0.9
JTS eS Sn 13 18 40.9 -1.6
JTS **Las Juntas de** 1.61 340 P Pb 13 18 22.7 0.0
LESP3 **La Esperanza,** 1.61 103⇑ eP Pn 13 18 21.6 +0.3
LESP3 eS Sg 13 18 43.7 -0.8
SOCE **Pocosol** 1.62 352 Pn 13 18 21.7 +0.1
SOCE **Pocosol** 1.62 352 ⇑P Pn 13 18 21.8 +0.3
BRU2 **Volcan** 1.67 89 Pn 13 18 22.8 +0.4
BRU2 **Volcan** 1.67 89 eP Pb 13 18 22.9 -0.8
BRU2 **Volcan** 1.67 89 ⇓P Pb 13 18 23.0 -0.7
BRU2 eS Sg 13 18 46.1 -0.2
BRU2 **Volcan** 1.67 89 S Sg 13 18 45.5 -0.9
BRU2 **Volcan** 1.67 89 ⇓P Pb 13 18 23.0 -0.7
CLLRA **Cordillera,** 1.75 91 eP Pb 13 18 24.1 -0.9
BC3P **Paso Ancho** 1.75 88 eP Pb 13 18 24.1 -1.0
BC3P eS Sg 13 18 49.0 0.0
PTAR3 **Potrerillos Ar** 1.86 92 eP Pb 13 18 26.2 -0.8
PTAR3 eS Sg 13 18 51.9 -0.7
BQSF3 **Alto Boquete,** 1.92 91 eP Pb 13 18 26.7 -1.4
BQSF3 eS Sb 13 18 52.9 +0.7
COVE **Coope Vega, Sa** 1.94 359 P Pb 13 18 26.9 -1.3
DVD **David** 1.94 100 eP Pn 13 18 26.5 +0.7
DVD eS Sb 13 18 52.9 +0.4
CSTBL **De las Acacias** 1.95 100 eP Pn 13 18 26.3 +0.3
LOCO3 **Loma Colorada,** 1.97 100⇓ eP Pn 13 18 27.1 +0.8
LOCO3 eS Sb 13 18 53.2 -0.3
LOMA3 **Las Lomas, Chi** 2.00 100 eP Pn 13 18 27.6 +0.9
PSOM3 **Paja de Sombre** 2.04 92 eP Pn 13 18 28.0 +0.7
PSOM3 eS Sb 13 18 55.6 +0.2
GUAL3 **Gualaca, Chiri** 2.07 96 eP Pb 13 18 29.0 -1.5
GUAL3 eS Sb 13 18 56.5 +0.1
CARN **Rivas** 2.65 335 P Pn 13 18 37.2 +1.5
BLUN **Bluefields** 3.27 10 P Pn 13 18 45.5 +1.3
ACON **Acoyapa** 3.27 346 Pn 13 18 44.4 +0.2
ACON **Acoyapa** 3.27 346 P Pn 13 18 46.1 +1.9
ESPN **Las Esperanzas** 3.40 1 Pn 13 18 46.1 +0.1
BOAB **BOACO BROADBAN** 3.87 341 Pn 13 18 53.7 +1.3
BOAB **BOACO BROADBAN** 3.87 341 P Pn 13 18 54.1 +1.7
SAPS **Ciudad Sandino** 3.92 330 P Pn 13 18 54.7 +1.5
COPN **Copaltepe** 4.03 327 P Pn 13 18 57.2 +2.6
CNGN **Cerro Negro** 4.35 329 Pn 13 19 00.1 +1.0
PKGN **Cerro Pekin** 4.64 327 P Pn 13 19 05.9 +2.9
CRIN **San Cristobal** 4.70 326 Pn 13 19 04.9 +0.9
CMIG **Matias Romero** 13.15 310 Pn Pn 13 20 59.3 -0.6
0.7nm,0.3s,baz=154,slow=9.7,SNR=6.7
1.8nm,0.8s
ATAH **Atahualpa** 16.89 159 LR LR 13 27 31.7
comp=Z,126nm,20.6s,baz=338,slow=34
SJG **San Juan** 20.00 60 LR LR 13 28 51.8
comp=Z,44nm,21.5s,baz=192,slow=33
152A **Waverly Hall** 23.78 359 P P 13 23 06.6 +0.8
152A IAmb IAmb 13 23 08.1
comp=Z,16nm,1.2s
DRIO **Del Rio** 25.58 326 P P 13 23 23.0 +0.7
BRDY **Brady** 26.22 331 P 13 23 28.1 0.0
W50A **Signal Mountai** 26.32 358 P P 13 23 27.8 -1.2
W50A IAmb IAmb 13 23 48.9
comp=Z,16nm,1.3s
TKL **Tuckaleechee C** 26.77 1 LR LR 13 33 23.8
comp=Z,53nm,21.7s,baz=167,slow=35
TXAR **Lajitas Array** 27.32 321 P P 13 23 37.5 -0.7
comp=Z,0.2nm,0.6s,baz=150,slow=10,SNR=4.7
comp=Z,0.2nm,0.6s
LPAZ **La Paz** 29.64 147 LR LR 13 36 47.7
comp=Z,66nm,21.1s,baz=317,slow=38
Q51A **Peebles** 30.14 2 P P 13 24 03.0 0.0
X16A **Lo Mia Camp, P** 35.62 320 P 13 24 52.6 +1.3
MVCO **Mesa Verde** 35.76 326 P P 13 24 53.8 +1.3
SADO **Sadowa** 36.15 6 LR LR 13 40 12.2
comp=Z,97nm,19.0s,baz=142,slow=37
113A **Mohawk Valley,** 36.17 316 P P 13 24 56.9 +1.1
PV03 **Paradox Valley** 36.71 327 P P 13 25 01.4 +0.9
PV12 **Saucer Basin,** 36.73 327 P P 13 25 01.2 +0.5
PV12 IAmb IAmb 13 25 04.3
comp=Z,10nm,0.9s
PV18 **Skein Mesa, Pa** 36.73 327 P 13 25 02.0 +1.2
PV18 IAmb IAmb 13 25 04.0
comp=Z,6.7nm,0.9s
PV19 **Morning Glory** 36.82 327 P P 13 25 02.2 +0.7
PFO **Pinyon Flats O** 38.52 315 LR LR 13 40 37.3
comp=Z,62nm,21.8s,baz=236,slow=36
ULM **Lac du Bonnet** 42.44 349 P P 13 25 45.7 -2.2
comp=Z,2.7nm,0.9s,baz=170,slow=8.6,SNR=4.4
comp=Z,2.7nm,0.9s
WVOR **Wild Horse Val** 45.04 324 IAmb IAmb 13 26 11.4
comp=Z,5.1nm,0.8s
L04D **Klamath Falls** 47.11 321 P P 13 26 26.1 +0.6
J04A **Umpqua Nationa** 47.57 323 P P 13 26 30.4 +1.3
H04A **Detroit Lake** 48.45 324 P P 13 26 35.5 -0.1
H04A IAmb IAmb 13 26 38.4
comp=Z,4.7nm,0.7s
PLCA **Paso Flores** 50.88 166 P P 13 26 55.1 +0.9
comp=Z,2.8nm,0.9s,baz=329,slow=8.5,SNR=4.9
comp=Z,2.8nm,0.9s
FRB **Frobisher Bay** 56.04 8 LR LR 13 51 24.2
comp=Z,76nm,20.3s,baz=306,slow=36
DLBC **Dease Lake** 60.51 334 LR LR 13 59 33.9
comp=Z,5.2nm,18.6s,baz=134,slow=41
O30N **Mendenhall** 64.37 335 IAmb IAmb 13 28 31.3
comp=Z,3.7nm,0.8s
BCAR **Beaver Creek A** 67.83 336 P 13 28 51.9 +0.7
L26K **Log Cabin Wild** 68.46 335 IAmb IAmb 13 28 57.2
comp=Z,3.6nm,0.9s
SCRK **Sand Creek** 69.11 336 P 13 29 00.1 +0.9
SCRK IAmb IAmb 13 29 01.3
comp=Z,2.4nm,0.9s

F28M **Old Crow** 69.24 340 IAmb IAmb 13 29 15.1
comp=Z,3.1nm,1.1s
PAX **Paxson** 69.32 335 P P 13 29 01.3 +0.7
PAX IAmb IAmb 13 29 09.4
comp=Z,2.8nm,0.8s
HDA **Harding Lake** 70.47 336 P P 13 29 07.9 +0.5
IL31 70.58 336 IAmb IAmb 13 29 16.9
comp=Z,2.6nm,0.8s
ILAR **Eielson Array** 70.58 336 P P 13 29 09.0 +0.8
ILAR **Eielson Array** 70.58 336 P P 13 29 09.1 +1.0
comp=Z,1.5nm,0.7s,baz=122,slow=4.3,SNR=18
comp=Z,1.5nm,0.7s
NEA2 **Nenana** 71.40 336 IAmb IAmb 13 29 22.2
comp=Z,2.9nm,0.8s
TRF **Thorofare Moun** 71.54 334 IAmb IAmb 13 29 23.1
comp=Z,4.6nm,0.9s
SKT **Skwentna** 71.65 333 IAmb IAmb 13 29 16.7
comp=Z,4.9nm,0.9s
I23K **Minto, Yukon-K** 71.70 336 IAmb IAmb 13 29 18.1
comp=Z,4.9nm,0.9s
BPAW **Bear Paw Mtn.** 72.03 335 IAmb IAmb 13 29 25.7
comp=Z,4.5nm,0.8s
CAST **Castle Rocks** 72.30 334 IAmb IAmb 13 29 19.9
comp=Z,2.8nm,0.9s
COLD **Coldfoot** 72.71 338 IAmb IAmb 13 29 24.1
comp=Z,3.8nm,1.0s
L16K **Owhat River** 75.27 332 IAmb IAmb 13 29 38.5
comp=Z,3.3nm,0.9s
ESDC **Sonseca Array** 77.10 51 P P 13 29 47.0 +0.1
ESDC **Sonseca Array** 77.10 51 P P 13 29 47.3 +0.4
comp=Z,2.2nm,1.1s,baz=283,slow=6.6,SNR=12
comp=Z,2.2nm,1.1s
EKA **Eskdalemuir Ar** 77.85 35 P P 13 29 49.8 -0.8
comp=Z,2.3nm,0.8s,baz=262,slow=6.8,SNR=5.9
comp=Z,2.3nm,0.8s
SPITS **Spitsbergen Ar** 83.67 12 LR LR 14 08 11.8
comp=Z,72nm,19.2s,baz=277,slow=36
NOA **NORSAR Array B** 85.10 29 P P 13 30 29.5 +0.5
comp=Z,0.7nm,0.8s,baz=279,slow=4.9,SNR=3.8
NOA LR LR 14 08 20.5
comp=Z,8.0nm,18.1s,baz=100,slow=36
comp=Z,0.7nm,0.8s
GERES **GERESS Array B** 88.74 41 P P 13 30 46.0 -1.2
comp=Z,0.6nm,0.7s,baz=266,slow=5.4,SNR=4.6
comp=Z,0.6nm,0.7s
VRAC **Vranov** 90.49 40 LR LR 14 06 30.8
comp=Z,23nm,19.1s,baz=22,slow=32
AKASG **Malin Array Be** 97.75 36 LR LR 14 18 05.2
comp=Z,18nm,18.6s,baz=8.0,slow=37
ASAR **Alice Springs** 140.52 243 PKhKP PKPpre 13 37 16.8
comp=Z,0.3nm,0.8s,baz=142,slow=3.4,SNR=2.0
ASAR PKP PKPdf 13 37 23.1 -0.4
comp=Z,0.7nm,0.8s,baz=103,slow=2.0,SNR=9.0
WRA **Warramunga Arr** 140.98 249 PKP PKPdf 13 37 24.2 -0.2
comp=Z,1.1nm,0.8s,baz=100,slow=2.5,SNR=11
CMAR **Chiang Mai Arr** 152.75 353 PKPbc PKPbc 13 37 50.0 -1.2
comp=Z,0.6nm,0.6s,baz=331,slow=2.0,SNR=6.1

TAP 07 13:20:15.6,24°.95N×122°.44E,h26km±1km, ML1.5,D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	0.41	278	eP	Pb	13 20 25.0	+0.6
TWB1				eS	Sb	13 20 31.4	+1.0
EGS		0.47	257	eP	Pn	13 20 26.3	-0.4
SXI1	**Grass Mountain**	0.53	286	*i* P	Pb	13 20 26.7	+0.3
SXI1				eS	Sb	13 20 34.1	+0.4
TIPB	**Shuangxi**	0.56	272	P	Pb	13 20 26.9	0.0
TIPB				eS	Sb	13 20 34.2	-0.2
EOS2	**EOS2**	0.56	200	eP	Pb	13 20 26.4	-0.4
EOS2				eS	Sb	13 20 34.4	+0.1
EOS3	**EOS3**	0.67	189	P	Pb	13 20 28.5	-0.1
EOS3				*i* S	Sn	13 20 38.4	-0.4
YOJ	**Yonaguni jima**	0.71	133	P	Pb	13 20 29.3	-0.1
YOJ				eS	Sb	13 20 38.4	-0.4
LATG	**Datong**	0.93	244	*i* P	Pn	13 20 33.0	0.0
LATG				eS	Sn	13 20 45.3	-0.2

JMA 07 13:20:34.2±0.2,23°.9N±0°.9×123°.3E±0°.4,h20km±2km, MV2.2/9,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	0.49	65	P	Pb	13 20 43.9	-0.2
HATJ				eS	Sb	13 20 50.9	+0.1
IRIF	**Iriomote-Funau**	0.61	37	P	Pb	13 20 45.8	-0.5
YOJ	**Yonaguni jima**	0.68	335	P	Pb	13 20 47.2	-0.1
YOJ				eS	Sb	13 20 56.1	-0.2
JYNG	**Yonagunijimaku**	0.69	330	P	Pb	13 20 47.5	-0.2
JYNG				eS	Sb	13 20 56.9	+0.1
JKRS	**Kuro-shima**	0.74	58	P	Pb	13 20 48.4	0.0
JKRS				eS	Sb	13 20 58.6	+0.6
JIJ	**Ishigaki jima**	0.91	55	P	Pb	13 20 51.2	0.0
JIJ				eS	Sb	13 21 02.8	-0.1
JISG	**Ishigakijimahi**	1.17	51	P	Pn	13 20 54.9	-0.4
JISG				S	Sn	13 21 10.8	+0.2

*NEIC **07** 13:23:51.7±0.8,35°.89N±0°.01×117°.68W±0°.01,h9km±5km, Error ellipse: s-maj=1.8km s-min=1.4km az=132.0*

PAS 07 13:23:52.3±0.6,35°.896N±0°.009×117°.692W±0°.007, h7km±2km,ML3.3/18,ML2.9/130(NEIC),Error ellipse: s-maj=1.4km s-min=0.6km az=206.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOW	**Tower One**	0.10	214		Pg	13 23 55.1	+0.4
TOW					Sg	13 23 57.9	+1.6
CLC	**China Lake**	0.11	136		Pg	13 23 54.7	-0.1
CLC				IAML		13 23 56.8	
	comp=E,8μm,0.2s						
CLC				IAML		13 23 58.5	
	comp=N,9μm,0.2s						
WVPM	**Volcano Peak E**	0.12	298		Pg	13 23 55.0	+0.1
SRTC	**Snort**	0.21	193		Sg	13 23 58.6	-0.7
MPMC	**Manual Prospec**	0.23	46		Pg	13 23 56.9	-0.1
MPMC				IAML		13 24 00.7	
	comp=N,4μm,0.4s						
MFS	**McCloud Flat S**	0.26	329		Pg	13 23 57.4	-0.1
LRMC	**Laurel Mtn Rad**	0.42	179		Pg	13 24 00.1	-0.3
LRMC				IAML		13 24 08.7	
	comp=N,2μm,0.2s						
LRMC	**Laurel Mtn Rad**	0.42	179		Sg	13 24 06.3	+0.4
CCCA	**Chy Caney lake**	0.46	144		Pg	13 24 01.2	+0.1
WORM	**Onyx Ranch**	0.49	246		Pg	13 24 01.4	-0.4
WBSM	**Bird Springs**	0.51	226		Pg	13 24 01.9	-0.3
WBSM					Sg	13 24 09.1	+0.2
WHFM	**Hanning Flat**	0.57	250		Pg	13 24 03.0	-0.3
CWC	**Cottonwood Cre**	0.63	330		Pg	13 24 04.1	-0.3
CWC				IAML		13 24 16.4	
	comp=N,666nm,0.2s						
CWC				IAML		13 24 16.7	
	comp=E,705nm,0.2s						
DTP	**Desert Tortois**	0.64	191		Pg	13 24 04.1	-0.6
DTP					Sg	13 24 13.2	+0.2
CGO	**Cerro Gordo**	0.66	352		Pg	13 24 04.8	-0.3
QSM	**Queen of Sheba**	0.67	84		Pg	13 24 04.7	-0.6
QSM				IAML		13 24 15.3	
	comp=E,1μm,0.2s						
QSM				IAML		13 24 18.3	
	comp=N,1μm,0.9s						
ISA	**Isabella, Lake**	0.68	250		Pg	13 24 04.9	-0.5
ISA				IAML		13 24 16.2	
	comp=N,1μm,0.3s						
SPG2	**Springville 2**	0.92	290		Pg	13 24 09.1	-0.9
GSC	**Goldstone, Bar**	0.94	129		Pg	13 24 09.3	-0.9
GSC				IAML		13 24 24.2	
	comp=N,385nm,0.4s						
TPO	**Tropico Hills**	1.11	203	IAML		13 24 30.3	
	comp=N,406nm,0.6s						
TPO				IAML		13 24 32.1	
	comp=E,390nm,0.5s						
GRAC	**Grapevine Rang**	1.13	13		Pg	13 24 13.3	-0.7
GRAC				IAML		13 24 34.5	
	comp=E,333nm,0.4s						
GRAC				IAML		13 24 34.5	
	comp=N,267nm,0.4s						
SHOC	**Shoshone, Teco**	1.15	89		Pg	13 24 13.0	-1.4
WCT	**Wildcat Mounta**	1.24	44		Pg	13 24 14.9	-1.2
WCT				IAML		13 24 35.8	
	comp=E,182nm,0.4s						

AMDNV **Amargosa** 1.27 64 Pn 13 24 14.9 -1.6
VOG **Valley Oaks Go** 1.43 288 Pn 13 24 18.7 -0.1
GMN **Gold Mountain** 1.44 14 Pn 13 24 18.4 -0.7
DSP **Deep Springs** 1.49 351 Pn 13 24 18.9 -0.7
DSP IAML 13 24 41.0
comp=E,147nm,0.4s
TUQ **Turquoise Moun** 1.51 107 Pn 13 24 18.4 -1.6
OSI **Osito Audit: C** 1.53 214 Pn 13 24 19.3 -1.0
OSI IAML 13 24 55.4
comp=E,102nm,0.6s
TPNV **Topopah Spring** 1.57 47 Pn 13 24 19.8 -1.0
TPNV IAML 13 24 45.2
comp=E,245nm,0.6s
TPNV IAML 13 24 45.3
comp=E,275nm,0.4s
BFSC **Mount Baldy Ra** 1.65 179 Pn 13 24 21.2 -0.7
BFSC IAML 13 24 48.7
comp=N,121nm,0.5s
BFSC IAML 13 24 49.0
comp=E,135nm,0.4s
MWC **Mount Wilson** 1.69 190 Pn 13 24 21.6 -1.0
MWC IAML 13 24 48.0
comp=N,174nm,0.5s
MWC IAML 13 24 49.1
comp=E,183nm,0.5s
PASC **Pasadena Art C** 1.77 193 Pn 13 24 21.9 -1.5
MTPC **Mountain Pass** 1.79 103 Pn 13 24 22.1 -1.8
MTPC IAML 13 24 52.5
comp=N,146nm,0.8s
MTPC IAML 13 24 53.8
comp=E,144nm,0.8s
MZP **Montezuma Peak** 1.82 8 Pn 13 24 23.1 -1.3
KCC **Kaiser Creek** 1.94 318 Pb 13 24 27.5 -0.5
SHPR **Sheep Range** 2.14 73 Pn 13 24 26.6 -2.0
TPH **Tonopah** 2.21 10 IAML 13 25 11.6
comp=E,128nm,1.1s
ELS **Elsinore Mount** 2.25 174 IAML 13 25 10.3
comp=E,56nm,1.3s
ELS IAML 13 25 10.9
comp=N,48nm,0.6s
V12A **Nelson** 2.31 93 IAML 13 25 09.8
comp=E,53nm,0.5s
V12A IAML 13 25 14.5
comp=N,61nm,1.1s
S11A **Rachel** 2.34 41 IAML 13 25 15.4
comp=N,108nm,1.1s
LHV **Little Huntoon** 2.44 345 IAML 13 25 20.3
comp=N,41nm,1.1s
LHV IAML 13 25 29.6
comp=E,37nm,1.6s
PMD **Palm Desert** 2.49 154 IAML 13 25 18.4
comp=E,38nm,0.5s
PRN **Pahroc Range** 2.60 54 IAML 13 25 24.2
comp=N,87nm,0.7s
PRN IAML 13 25 25.4
comp=E,84nm,0.7s
CMB **Columbia Colle** 3.04 315 IAML 13 25 29.3
comp=E,21nm,0.6s
CMB IAML 13 25 31.5
comp=N,22nm,0.6s
W13A **Hualapai Mount** 3.21 103 IAML 13 25 40.9
comp=E,29nm,0.8s
W13A IAML 13 25 44.6
comp=N,21nm,0.9s
BLYC **Blythe** 3.37 128 IAML 13 25 48.1
comp=N,35nm,0.7s
BLYC IAML 13 25 48.2
comp=E,32nm,0.7s
GLA **Glamis** 3.69 139 IAML 13 25 52.3
comp=N,30nm,0.7s
MPK **Martis Peak** 3.87 332 IAML 13 26 11.3
comp=E,29nm,0.9s
MPK IAML 13 26 13.4
comp=N,34nm,1.1s
AFDM **Forest Hills D** 4.01 320 IAML 13 26 03.2
comp=N,12nm,0.9s
AFDM IAML 13 26 06.5
comp=E,20nm,1.1s
PSUT **Pine Spring** 4.04 48 IAML 13 26 05.2
comp=N,14nm,0.9s
PSUT IAML 13 26 16.2
comp=E,16nm,1.1s
KNB **Kanab** 4.08 73 IAML 13 26 14.3
comp=E,10nm,1.7s
KNB IAML 13 26 17.6
comp=N,10nm,1.7s
SPR3 **Spring Creek 3** 4.09 40 IAML 13 26 04.5
comp=N,21nm,0.8s
SPR3 IAML 13 26 06.3
comp=E,14nm,0.9s
BEKR **Beckworth** 4.49 333 IAML 13 26 26.0
comp=N,8.4nm,0.8s
BEKR IAML 13 26 27.4
comp=E,20nm,0.8s

*DJA **07** 13:35:31.4±1.3,18°.N±8°×14°.7E±°,h70km±11km,mb5.0/18 IDC **07** 13:35:45.4±0.6,17°.14N×146°.08E,h110km±5km,mb3.7/20, mbtmp4.1/21,MS3.2/5,Error ellipse: s-maj=17.0km s-min=7.9km az=101.0*
*NEIC **07** 13:35:46.6±1.2,17°.12N±0°.09×146°.1E±0°.1,h110km±8km, mb4.5/56,Error ellipse: s-maj=18.6km s-min=11.9km az=104.0*

ISC 07 13:35:44.5±0.5,17°.14N±0°.05×146°.13E±0°.09,h98km,n92, σ1§29/71,mb4.5/55,1C,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	3.73	199		Pn	13 36 42.5	+2.4
GUMO	**Guam**	3.73	199	P	Pn	13 36 42.7	+2.6
	225nm,0.3s,baz=100,slow=2.7,SNR=64						
GUMO				S	Sn	13 37 24.3	+1.2
	263nm,0.4s,baz=323,slow=20,SNR=6.0						
PATS	**Pohnpei**	15.70	129	Pn	Pn	13 39 20.7	+0.4
MANU	**Manus Island**	19.10	176		Pn	13 40 01.9	+0.4
JOW	**Kunigami**	19.14	303	LR	LR	13 46 02.8	
	comp=Z,86nm,19.4s,baz=284,slow=32						
H11S3	**WAKE ISLAND Hy**	19.62	83	T	T	14 00 39.1	
	baz=269,slow=73,SNR=16						
H11S1	**WAKE ISLAND Hy**	19.64	83	T	T	14 00 52.3	
	baz=269,slow=73,SNR=17						
H11S2	**WAKE ISLAND Hy**	19.64	83	T	T	14 00 49.1	
	baz=269,slow=73,SNR=22						
H11N1	**WAKE ISLAND Hy**	19.87	79	T	T	14 01 06.1	
	baz=266,slow=74,SNR=58						
H11N2	**WAKE ISLAND Hy**	19.87	79	T	T	14 01 22.3	
	baz=266,slow=74,SNR=58						
H11N3	**WAKE ISLAND Hy**	19.88	79	T	T	14 01 01.2	
	baz=266,slow=74,SNR=52						
JAY	**Jayapura**	20.25	196	P	P	13 40 12.4	+0.1
	46nm,0.8s,baz=356,slow=5.7,SNR=10						
	46nm,0.8s						
JAY	**Jayapura**	20.25	196	P	Pn	13 40 14.4	-0.6
	75nm,1.0s						
SMPI	**Sarmi**	20.37	202	P	Pn	13 40 16.0	-0.4
	62nm,1.0s						
GENI	**Genyem**	20.47	197	P	P	13 40 15.5	+0.9
	134nm,1.5s						
MJAR	**Matsushiro Arr**	20.56	342	P	P	13 40 14.9	-0.5
	1.2nm,0.7s,baz=170,slow=9.4,SNR=5.6						
	1.2nm,0.7s						
MAJO	**Matsushiro**	20.56	342	P	P	13 40 15.1	-0.3
BAKI	**Biak**	20.72	209	P	Pn	13 40 19.8	-0.7
SRPI	**Serui, Papua**	21.26	208	P	P	13 40 24.8	+1.8
SWI	**Sorong**	23.12	221	P	P	13 40 41.4	-1.0
	60nm,1.1s						
NACB	**Ninganchiao**	23.98	291	P	P	13 40 50.2	+0.1
NACB				IAmb	IAmb	13 41 30.1	
	comp=Z,40nm,1.5s						
FAKI	**Fak Fak**	24.18	216	P	P	13 40 51.9	-0.1
	comp=Z,50nm,1.0s						
YHNB	**Yeheng**	24.28	292	P	P	13 40 53.7	+0.8
YHNB				IAmb	IAmb	13 40 59.0	
	comp=Z,22nm,1.0s						
KSRS	**Korea Array**	25.82	325	P	P	13 41 06.6	0.0
	comp=Z,0.6nm,0.6s,baz=156,slow=9.3,SNR=1.7						
KSRS				pP	pwP	13 41 30.6	-0.3
	comp=Z,1.4nm,0.7s,baz=152,slow=8.5,SNR=4.5						
	comp=Z,0.6nm,0.6s						
ASAJ	**Asahikawa**	27.06	354	P	P	13 41 17.4	-0.3
	comp=Z,3.0nm,0.6s,baz=163,slow=9.1,SNR=9.8						
ASAJ				LR	LR	13 51 58.1	
	comp=Z,32nm,21.2s,baz=182,slow=36						
	comp=Z,3.0nm,0.6s						
NJ2	**Nanjing**	28.80	306	*e*P	P	13 41 34.8	+1.5
NJ2				pmax	pmax		

comp=Z,16nm,1.4s
SAUI Saumlaki 28.95 212 P P 13 41 33.9 -0.9
MRSI Marisa 29.00 238 P P 13 41 34.7 -0.6
comp=Z,19nm,0.7s
LUWI Luwuk 29.26 234 P P 13 41 37.1 -0.5
MYLDM Lahad Datu 29.54 250 P P 13 41 40.3 +0.2
MYLDM IAmb IAmb 13 41 49.4
comp=Z,17nm,1.1s
TOLI2 Tolitoli 29.59 240 P P 13 41 40.7 +0.2
TOLI2 IAmb IAmb 13 41 41.8
comp=Z,9.9nm,0.7s
BNX BinXian 32.52 335 ⇑P **P 13 42 07.1 +1.1**
BNX pmax pmax
comp=Z,9.0nm,0.4s
TTSI Tana Toraja 32.81 235 P P 13 42 09.4 +0.5
comp=Z,29nm,0.7s
SPSI Sidrap Palu 33.42 234 P P 13 42 13.6 -0.6
comp=Z,26nm,0.9s
BNSI Bone 33.45 233 P P 13 42 14.6 +0.2
KLR Kul'dur 34.07 343 P P 13 42 17.1 -2.3
comp=Z,0.9nm,0.5s,baz=92,slow=17,SNR=2.2
KLR pP **pwP 13 42 43.4 -1.0**
comp=Z,2.9nm,0.7s,baz=153,slow=9.5,SNR=6.0
comp=Z,0.9nm,0.5s
PETK Petropavlovsk- 37.02 12 LR LR 13 54 50.2
comp=Z,24nm,21.2s,baz=182,slow=31
HHC Hu-ho-hao-te 37.99 316 *eP* **P 13 42 54.4 +1.3**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,82nm,5.2s
WR8 Warramunga Arr 38.59 198 P 13 42 57.3 -0.9
WR8 IAmb IAmb 13 43 01.7
comp=Z,7.0nm,0.8s
WRAB Tennant Creek 38.61 198 P P 13 42 57.5 -0.9
WRA Warramunga Arr 38.62 198 P P 13 42 57.4 -1.1
comp=Z,8.7nm,0.7s,baz=18,slow=9.6,SNR=37
WRA ScP **S 13 48 43.9 -4.0**
comp=Z,0.7nm,0.8s,baz=13,slow=4.2,SNR=5.0
comp=Z,8.7nm,0.7s
TWSI Taliwang, Sumb 38.69 231 P P 13 42 59.3 +0.2
FITZ Fitzroy Crossi 40.40 211 P 13 43 12.7 -0.5
FITZ Fitzroy Crossi 40.40 211 P P 13 43 12.8 -0.5
comp=Z,7.6nm,0.8s,baz=26,slow=7.1,SNR=28
comp=Z,7.6nm,0.8s
LZH Lanzhou 41.86 305 *eP* **P 13 43 22.7 -2.6**
LZH sP sP 13 43 59.5 +1.4
LZH pmax pmax
comp=Z,11nm,1.0s
LZH LR LR
comp=N,490nm,11.3s
LZH LR LR
comp=E,570nm,10.6s
LZH LR LR
comp=Z,600nm,9.6s
PZH PanZhiHua 42.07 291 P P 13 43 28.9 +1.8
AS31 Alice Springs 42.27 197 P P 13 43 28.6 +0.1
ASAR Alice Springs 42.28 197 P P 13 43 27.8 -0.8
comp=Z,1.3nm,0.7s,baz=16,slow=8.7,SNR=23
ASAR ScP **ScP 13 48 58.2 -4.3**
comp=Z,0.7nm,0.7s,baz=16,slow=4.9,SNR=6.6
comp=Z,1.3nm,0.7s
SONM Songino Array 44.62 322 P P 13 43 47.8 +0.5
comp=Z,0.8nm,0.6s,baz=135,slow=7.9,SNR=4.1
comp=Z,0.8nm,0.6s
CMAR Chiang Mai Arr 44.85 279 P P 13 43 50.3 +0.9
comp=Z,1.5nm,0.7s,baz=74,slow=6.5,SNR=12
comp=Z,1.5nm,0.7s
SEY Seymchan 45.95 4 P P 13 43 57.6 +0.2
comp=Z,0.6nm,0.5s,baz=213,slow=12,SNR=4.0
comp=Z,0.6nm,0.5s
STKA Stephens Creek 48.93 185 P P 13 44 19.9 -0.9
comp=Z,5.2nm,1.0s,baz=6.1,slow=8.2,SNR=4.9
comp=Z,5.2nm,1.0s
GSI Gunungsitoli 50.25 257 P 13 44 31.8 +0.5
CAN Canberra 52.24 177 P 13 44 47.2 +1.4
SDPT Sand Point 55.53 34 P 13 45 10.1 +0.7
NWAO Narrogin (SRO) 56.93 209 P P 13 45 17.8 -1.9
comp=Z,6.6nm,0.6s,baz=235,slow=5.5,SNR=2.0
comp=Z,6.6nm,0.6s
M14K Bethel 56.99 27 P 13 45 21.0 +1.3
M14K IAmb IAmb 13 46 00.1
comp=Z,5.8nm,0.9s
MKAR Makanchi Array 59.84 315 P P 13 45 38.9 -0.9
comp=Z,0.3nm,0.5s,baz=96,slow=7.1,SNR=4.2
MKAR pP **pP 13 46 04.3 +0.9**
comp=Z,1.1nm,0.8s,baz=104,slow=6.9,SNR=5.6
comp=Z,0.3nm,0.5s
KDAK Kodiak Island 60.44 33 P P 13 45 41.5 -2.2
comp=Z,1.3nm,0.4s,baz=86,slow=1.4,SNR=13
KDAK LR LR 14 14 33.1
comp=Z,20nm,18.1s,baz=238,slow=38
comp=Z,1.3nm,0.4s
CAST Castle Rocks 62.30 27 P 13 45 56.8 +0.6
KURBB Kurchatov Arra 62.75 319 P P 13 45 57.1 -2.2
comp=Z,0.8nm,0.7s,baz=99,slow=7.4,SNR=4.6
comp=Z,0.8nm,0.7s
BPAW Bear Paw Mtn. 62.97 26 P 13 46 01.0 +0.4
BPAW IAmb IAmb 13 46 39.8
comp=Z,6.2nm,0.8s
PWL Port Wells 63.31 30 P P 13 46 03.6 +0.7
MLY Manley 63.35 25 IAmb IAmb 13 46 15.4
comp=Z,6.7nm,1.3s
E22K Anaktuvuk Pass 63.94 22 IAmb IAmb 13 46 46.4
comp=Z,3.8nm,0.8s
ILAR Eielson Array 64.86 26 P P 13 46 11.9 -1.0
comp=Z,1.2nm,0.7s,baz=250,slow=5.4,SNR=15
comp=Z,1.2nm,0.7s
PAX Paxson 65.08 28 IAmb IAmb 13 46 44.8
comp=Z,4.1nm,0.8s
DOT Dot Lake 65.84 27 IAmb IAmb 13 46 20.4
comp=Z,4.5nm,0.7s
E25K Arctic Village 66.17 22 IAmb IAmb 13 46 52.5
comp=Z,5.3nm,1.3s
BMAR Burnt Mountain 66.38 23 P 13 46 24.0 +1.2
HYT Haines Junctio 68.55 31 IAmb IAmb 13 47 04.6
comp=Z,8.0nm,1.0s
G31M Satah River 70.30 24 IAmb IAmb 13 46 48.2
comp=Z,4.7nm,0.6s
J05D Fort Rock, OR 80.33 48 IAmb IAmb 13 47 47.4
comp=Z,6.1nm,0.6s
B08A Colville Reser 80.34 42 IAmb IAmb 13 47 46.9
comp=Z,4.2nm,0.7s
K05A Summer Lake 80.72 48 IAmb IAmb 13 47 50.0
comp=Z,8.3nm,1.0s
MPK Martis Peak 82.24 51 IAmb IAmb 13 47 58.7
comp=Z,8.0nm,1.1s
NVAR Mina Array Bea 83.78 52 P P 13 48 04.7 +1.2
NVAR Mina Array Bea 83.78 52 P P 13 48 04.9 +1.4
comp=Z,2.8nm,0.8s,baz=269,slow=6.0,SNR=13
NVAR pP **pwP 13 48 31.4 -0.6**
comp=Z,2.3nm,0.7s,baz=262,slow=6.2,SNR=5.9
comp=Z,2.8nm,0.8s
MFID Camas Ranch 84.08 47 IAmb IAmb 13 48 06.9
comp=Z,3.7nm,0.8s
ELK Elko 85.33 49 P 13 48 11.4 +0.1
ELK IAmb IAmb 13 48 13.5
comp=Z,4.7nm,1.1s
BOZ Bozeman (W) 86.21 43 IAmb IAmb 13 48 47.7
comp=Z,2.3nm,0.7s
PSUT Pine Spring 87.06 51 IAmb IAmb 13 48 21.8
comp=Z,4.0nm,0.9s
DUG Dugway, Tooele 87.26 49 IAmb IAmb 13 48 22.6
comp=Z,4.4nm,0.8s
HWUT Hardware Ranch 87.66 47 IAmb IAmb 13 48 24.4
comp=Z,5.8nm,0.8s
CCUT Cedar City 87.76 51 P P 13 48 23.4 +0.2
CCUT IAmb IAmb 13 48 25.8
comp=Z,4.4nm,1.3s
FFC Flin Flon 88.18 33 P 13 48 24.5 0.0
FFC IAmb IAmb 13 48 25.4
comp=Z,3.0nm,0.7s
FINES FINESS Array B 88.47 335 P P 13 48 26.0 +0.3
comp=Z,0.8nm,0.6s,baz=66,slow=4.8,SNR=4.4
FINES pP **pwP 13 48 54.6 +1.2**
comp=Z,1.2nm,0.7s,baz=51,slow=4.9,SNR=1.6
comp=Z,0.8nm,0.6s
PDAR Pinedale Array 88.62 46 P P 13 48 27.2 0.0
comp=Z,0.3nm,0.4s,baz=70,slow=1.7,SNR=6.1
PDAR pP **pwP 13 48 56.1 +0.1**
comp=Z,0.4nm,0.5s,baz=58,slow=1.2,SNR=3.9
comp=Z,0.3nm,0.4s
HMU Henry Mountain 89.57 50 IAmb IAmb 13 48 34.7
comp=Z,3.4nm,0.7s
NOA NORSAR Array B 94.17 340 LR LR 14 34 45.7
comp=Z,12nm,19.7s,baz=95,slow=38
VHRN Van Horn 96.73 55 IAmb IAmb 13 49 30.4
comp=Z,1.4nm,0.8s
LPAZ La Paz 147.20 94 PKPbc PKPbc 13 55 18.8 +0.7
comp=Z,4.9nm,0.7s,baz=299,slow=2.7,SNR=18

*IDC **07** 13:36:48.7±3.0,32.86S×178.47W,h0km,mb3.8/2, mbtmp3.8/3,ML3.4/1,Error ellipse: s-maj=72.1km s-min=36.0km az=116.0*
*WEL **07** 13:36:49.7±1.1,33.0S±8.1×17.8W±2.1,h12km,mB4.5/3, ML4.6/6,MLv4.1/3,Mw(mB)3.7/3,Error ellipse: s-maj=28.8km s-min=4.3km az=108.6,confirmed*
ISC 07 13:36:50.7±1.6,32.7S±0.1×178.6W±0.3,h10km,n18, σ1§12/30,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.52**	**10**	P		**Pn**	**13 37 44.9**	**-0.6**
GLKZ				S		**Sn**	**13 38 26.9**	**-0.2**
MXZ	**Matakaoa Point**	**5.43**	**207**	P		**Pn**	**13 38 11.9**	**+0.3**
MXZ				S		**Sn**	**13 39 14.8**	**+0.7**
WMGZ	**Waiomatatini S**	**5.61**	**205**	P		**Pn**	**13 38 15.5**	**+1.3**
WMGZ				S		**Sn**	**13 39 19.0**	**+0.2**
PKGZ	**Pakihiroa**	**5.78**	**207**	P		**Pn**	**13 38 16.4**	**-0.2**
PKGZ				S		**Sn**	**13 39 21.8**	**-1.1**
HAZ	**Te Kaha**	**5.80**	**209**	P		**Pn**	**13 38 18.0**	**+1.2**
HAZ				S		**Sn**	**13 39 24.5**	**+1.2**
PUZ	**Puketiti**	**5.90**	**205**	P		**Pn**	**13 38 19.1**	**+1.0**
PUZ				S		**Sn**	**13 39 24.7**	**-1.1**
RUGZ	**Raukumara Rang**	**6.02**	**209**	P		**Pn**	**13 38 19.6**	**-0.4**
RUGZ				S		**Sn**	**13 39 30.5**	**+1.4**
CNGZ	**Carnagh Statio**	**6.28**	**203**	P		**Pn**	**13 38 24.3**	**+0.8**
MWZ	**Matawai**	**6.40**	**208**	P		**Pn**	**13 38 23.5**	**-1.5**
MWZ				S		**Sn**	**13 39 37.8**	**-0.4**
URZ	**Urewera**	**6.51**	**211**	Pn		**Pn**	**13 38 25.5**	**-1.1**
	0.9nm,0.3s,baz=252,slow=4.5,SNR=14							
URZ				Sn		**Sn**	**13 39 39.4**	**-1.4**
	2.8nm,0.3s,baz=102,slow=20,SNR=6.7 7.3nm,0.8s							
URZ	**Urewera**	**6.51**	**211**	P		**Pn**	**13 38 26.8**	**+0.3**
URZ				S		**Sn**	**13 39 40.3**	**-0.5**
MUGZ	**Murupara**	**6.84**	**212**	P		**Pn**	**13 38 32.3**	**+1.2**
MUGZ				S		**Sn**	**13 39 47.6**	**-1.4**
OUZ	**Omahuta**	**6.91**	**247**	P		Pn	13 38 38.8	+6.8
MTHZ	**Maungataniwha**	**7.12**	**210**	P		**Pn**	**13 38 36.5**	**+1.5**
MTHZ				S		**Sn**	**13 39 55.1**	**-0.9**
BKZ	**Black Stump Fm**	**7.53**	**210**	P		**Pn**	**13 38 41.0**	**+0.3**
BKZ				S		**Sn**	**13 40 03.4**	**-2.7**
ASAR	**Alice Springs**	**42.50**	**270**	P		**P**	**13 44 46.6**	**+0.2**
	0.7nm,0.6s,baz=107,slow=7.3,SNR=6.1 0.7nm,0.6s							
WRA	**Warramunga Arr**	**43.70**	**275**	P		**P**	**13 44 57.5**	**+1.4**
	1.2nm,0.6s,baz=114,slow=7.8,SNR=5.7 1.2nm,0.6s							
FINES	**FINESS Array B**	**147.13**	**338**	PKPbc		**PKPbc**	**13 56 32.5**	**-0.7**
	0.8nm,0.7s,baz=48,slow=5.7,SNR=6.8							

*NEIC **07** 13:39:55.2±2.3,58.6S±0.1×25.4W±0.2,h35km±1km, mb4.7/29,Error ellipse: s-maj=24.3km s-min=14.6km az=224.0*
*IDC **07** 13:40:00.7±0.6,58.49S×25.69W,h88km±5km,mb4.2/10, mbtmp4.6/12,MS3.2/5,Error ellipse: s-maj=19.8km s-min=14.6km az=75.0*
ISC 07 13:39:55.2±0.5,58.61S±0.07×25.40W±0.08,h38km,n69, σ2§43/66,mb4.7/16,MS3.3/4,8C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.52**	**300**			**Pn**	**13 41 42.8**	**+0.8**
VNA1	**Neumayer--Stat**	**14.05**	**156**	⇑P		**P**	**13 43 17.3**	**-1.1**
	comp=Z,151nm,0.8s							
VNA1				⇑S		**Sn**	**13 45 44.1**	**-1.5**
VNA2	**Neumayer--Watz**	**14.45**	**156**	⇑P		**P**	**13 43 21.0**	**-1.9**
	comp=Z,31nm,0.5s,baz=315,slow=15							
VNA2				⇑S		Sn	13 45 47.4	-7.9
	baz=250,slow=32							
ESPZ	**Base Esperanza**	**15.94**	**239**	P		**P**	**13 43 39.0**	**-0.4**
SNAA	**Sanae**	**16.00**	**154**	⇑P		**P**	**13 43 42.7**	**+2.5**
	comp=Z,2μm,0.7s							
SNAA				⇑S		**Sn**	**13 46 28.1**	**-5.0**
	comp=E,60nm,0.5s							
SNAA	**Sanae**	**16.00**	**154**	P		**P**	**13 43 41.9**	**+1.7**
SNAA	**Sanae**	**16.00**	**154**	P		**P**	**13 43 42.6**	**+2.5**
	comp=E,48nm,0.6s,baz=320,slow=13,SNR=534							
SNAA				S		**Sn**	**13 46 26.1**	**-7.1**
	comp=E,8.5nm,0.5s,baz=315,slow=21,SNR=6.8							
SNAA				LR		LR	13 49 07.2	
	comp=E,56nm,18.8s,baz=320,slow=34							
TROLL	**Troll, Antarti**	**17.52**	**151**	⇑P		**P**	**13 44 00.4**	**+3.4**
	comp=Z,616nm,0.4s							
TROLL				⇑S		**Sn**	**13 47 05.4**	**-4.6**
PMSA	**Palmer Station**	**19.08**	**235**	P		**Pn**	**13 44 15.7**	**+0.7**
PMSA				IAmb	IAmb		13 44 22.0	
	comp=Z,60nm,0.9s							
PMSA	**Palmer Station**	**19.08**	**235**	P		**Pn**	**13 44 16.3**	**+1.3**
	comp=Z,30nm,0.7s,baz=86,slow=7.8,SNR=12							
BELA	**Belgrano 2**	**19.60**	**186**	P		**Pn**	**13 44 21.5**	**+0.3**
EFI	**East Falkland**	**19.76**	**276**	P		**Pn**	**13 44 22.4**	**-0.8**
SMAI	**San Martin Ant**	**20.54**	**225**	P		**P**	**13 44 31.4**	**+1.6**
MG02	**Cerro Sombrero**	**25.01**	**264**	P		**P**	**13 45 13.2**	**-1.8**
MG05	**Puerto Natales**	**27.30**	**264**	P		**P**	**13 45 33.8**	**-1.9**
GO09	**Cerro Castillo**	**27.44**	**265**	P		**P**	**13 45 34.9**	**-2.1**
GO09				IAmb	IAmb		13 46 09.3	
	comp=Z,24nm,1.3s							
QSPA	**South Pole Qui**	**31.63**	**180**	P		**P**	**13 46 16.5**	**+2.2**
QSPA				IAmb	IAmb		13 46 17.2	
	comp=Z,9.4nm,0.6s							
QSPA	**South Pole Qui**	**31.63**	**180**	P		**P**	**13 46 16.7**	**+2.5**
	comp=Z,6.9nm,0.5s,baz=340,slow=0.5,SNR=135							
QSPA				LR		LR	13 58 40.5	
	comp=Z,75nm,19.0s,baz=181,slow=35 comp=Z,6.9nm,0.5s							
PLTB	**Pedras Altas**	**32.94**	**312**	P		**P**	**13 46 25.7**	**0.0**
PLCA	**Paso Flores**	**33.45**	**282**	P		**P**	**13 46 29.4**	**-0.8**
PLCA				IAmb	IAmb		13 46 30.3	
	comp=Z,20nm,1.6s							
PLCA	**Paso Flores**	**33.45**	**282**	P		**P**	**13 46 28.9**	**-1.4**
	comp=Z,4.8nm,0.8s,baz=133,slow=7.6,SNR=11							
PLCA				LR		LR	13 59 19.8	
	comp=Z,42nm,18.2s,baz=146,slow=35 comp=Z,4.8nm,0.8s							
BI02	**San Fabin de**	**36.91**	**286**	P		**P**	**13 46 59.2**	**-0.8**
BI02				IAmb	IAmb		13 47 45.3	
	comp=Z,14nm,1.2s							
MAW	**Mawson**	**37.52**	**141**	P		**P**	**13 47 06.5**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=226,slow=10,SNR=6.9 comp=Z,0.8nm,0.5s							
BO01	**Tunca**	**38.60**	**289**	P		**P**	**13 47 14.1**	**-0.2**
BO01				IAmb	IAmb		13 48 02.3	
	comp=Z,21nm,1.5s							
MT08	**Bocatoma Ro**	**38.84**	**291**	P		**P**	**13 47 16.6**	**0.0**
MT08				IAmb	IAmb		13 47 18.3	
	comp=Z,11nm,1.1s							
MT09	**Talagante**	**39.05**	**289**	P		**P**	**13 47 16.7**	**-1.5**
MT09				IAmb	IAmb		13 47 18.3	
	comp=Z,13nm,0.8s							
MT01	**Popeta**	**39.11**	**289**	P		**P**	**13 47 17.1**	**-1.4**
CPUP	**Villa Florida**	**39.23**	**311**	LR		LR	14 04 58.5	
	comp=Z,5.4nm,18.8s,baz=24,slow=38							
PEL	**Peldehue**	**39.41**	**290**	P		**P**	**13 47 19.5**	**-1.6**
PEL				IAmb	IAmb		13 47 25.9	
	comp=Z,12nm,0.8s							
MT02	**Curacav**	**39.54**	**290**	P		**P**	**13 47 20.8**	**-1.3**
MT02				IAmb	IAmb		13 47 26.5	
	comp=Z,10nm,0.8s							
SBA	**Scott Base**	**43.58**	**184**	P		**P**	**13 47 56.8**	**+2.1**
VNDA	**Vanda**	**44.05**	**182**	P		**P**	**13 48 00.5**	**+2.0**
VNDA	**Vanda**	**44.05**	**182**	P		**P**	**13 48 00.9**	**+2.5**
	comp=Z,6.7nm,0.8s,baz=189,slow=6.9,SNR=39 comp=Z,6.7nm,0.8s							
H04S2	**CROZET ISLANDS**	**45.67**	**111**	T		T	14 38 52.9	
	baz=225,slow=75,SNR=53							
H04S3	**CROZET ISLANDS**	**45.69**	**111**	T		T	14 38 53.0	
	baz=225,slow=75,SNR=41							
H04S1	**CROZET ISLANDS**	**45.69**	**111**	T		T	14 38 49.6	
	baz=225,slow=75,SNR=50							
BOSA	**Boshof**	**45.76**	**72**	LR		LR	14 03 00.3	
	comp=Z,77nm,18.0s,baz=204,slow=30							
H10S2	**ASCENSION HYDR**	**50.22**	**14**	T		T	14 43 26.0	
	baz=33,slow=74,SNR=11							
H10S3	**ASCENSION HYDR**	**50.22**	**14**	T		T	14 43 23.2	
	baz=187,slow=74,SNR=30							
H10N1	**ASCENSION HYDR**	**51.34**	**14**	T		T	14 44 47.3	
	baz=187,slow=75,SNR=5.1							
H10N3	**ASCENSION HYDR**	**51.34**	**14**	T		T	14 44 47.0	
	baz=187,slow=75,SNR=13							
H10N2	**ASCENSION HYDR**	**51.35**	**14**	T		T	14 44 43.2	
	baz=187,slow=75,SNR=12							
LPAZ	**La Paz**	**52.65**	**305**	P		**P**	**13 49 05.7**	**-0.4**
LPAZ				IAmb	IAmb		13 49 12.5	
	comp=Z,14nm,1.9s							
LPAZ	**La Paz**	**52.65**	**305**	P		**P**	**13 49 05.7**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=145,slow=3.1,SNR=6.5 comp=Z,1.2nm,0.5s							
DBIC	**Dimbokro**	**67.14**	**22**	P		**P**	**13 50 45.2**	**+0.5**
DBIC	**Dimbokro**	**67.14**	**22**	P		**P**	**13 50 45.3**	**+0.5**
	comp=Z,1.8nm,0.4s,baz=208,slow=4.7,SNR=6.0							
DBIC				pP		**PcP**	**13 51 08.4**	**-4.2**
	comp=Z,5.8nm,0.8s,baz=235,slow=7.0,SNR=3.0 comp=Z,1.8nm,0.4s							
TORD	**Torodi Ar. Bea**	**74.85**	**27**	P		**P**	**13 51 32.2**	**+0.7**
TORD	**Torodi Ar. Bea**	**74.85**	**27**	P		**P**	**13 51 31.2**	**-0.3**
	comp=Z,5.5nm,0.4s,baz=203,slow=6.3,SNR=2.6							
TORD				pP	sP		13 51 55.1	+8.9
	comp=Z,4.7nm,0.5s,baz=211,slow=5.0,SNR=2.4 comp=Z,5.5nm,0.4s							
TAU	**Tasmania Unive**	**78.66**	**175**	P		**P**	**13 51 53.1**	**+0.4**
MRZ	**Mangatainoka R**	**79.56**	**196**	P		**P**	**13 51 57.9**	**+0.2**
NWAO	**Narrogin (SRO)**	**83.62**	**149**	P		**P**	**13 52 19.5**	**+0.2**
NWAO	**Narrogin (SRO)**	**83.62**	**149**	P		**P**	**13 52 19.1**	**-0.2**
	comp=Z,8.7nm,1.0s,baz=343,slow=16,SNR=1.8 comp=Z,8.7nm,1.0s							
CAN	**Canberra**	**86.30**	**175**	P		**P**	**13 52 33.0**	**+0.2**
FORT	**Forrest**	**88.23**	**157**	P		**P**	**13 52 42.6**	**+0.5**
STKA	**Stephens Creek**	**89.20**	**169**	P		**P**	**13 52 46.6**	**0.0**
	comp=Z,3.7nm,0.8s,baz=130,slow=4.4,SNR=6.0 comp=Z,3.7nm,0.8s							
ASAR	**Alice Springs**	**96.25**	**161**	P		**P**	**13 53 19.1**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=184,slow=4.1,SNR=50 comp=Z,2.1nm,0.6s							
WRA	**Warramunga Arr**	**99.96**	**161**	P		**Pdif**	**13 53 35.1**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=196,slow=5.1,SNR=2.8							
PDAR	**Pinedale Array**	**122.50**	**300**	PKP		**PKPdf**	**13 58 43.8**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=134,slow=4.3,SNR=4.4							
NOA	**NORSAR Array B**	**122.68**	**20**	PKP		**PKPdf**	**13 58 42.3**	**-2.8**
	comp=Z,0.6nm,0.7s,baz=207,slow=2.0,SNR=2.8							
ULM	**Lac du Bonnet**	**122.75**	**314**	PKP		**PKPdf**	**13 58 43.5**	**-2.1**
	comp=Z,0.5nm,0.4s,baz=139,slow=7.7,SNR=7.8							
NVAR	**Mina Array Bea**	**123.25**	**290**	PKP		**PKiKP**	**13 58 47.4**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=123,slow=5.5,SNR=4.2							
CMAR	**Chiang Mai Arr**	**123.26**	**110**	PKP		**PKPdf**	**13 58 47.5**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=228,slow=3.9,SNR=12							
CMAR				pPKP		**sPKPdf**	**13 59 12.9**	**+10**
	comp=Z,0.8nm,0.7s,baz=225,slow=3.9,SNR=2.3							
FINES	**FINESS Array B**	**126.20**	**28**	PKP		**PKPdf**	**13 58 51.2**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=104,slow=0.8,SNR=6.1							
FINES				pPKP		**sPKPdf**	**13 59 14.6**	**+7.1**
	comp=Z,0.7nm,0.6s,baz=146,slow=4.4,SNR=1.4							
MKAR	**Makanchi Array**	**136.75**	**73**	PKP		**PKPdf**	**13 59 11.5**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=270,slow=1.9,SNR=4.3							
YKA	**Yellowknife Ar**	**138.70**	**315**	PKP		**PKPdf**	**13 59 14.6**	**-0.8**
	comp=Z,6.6nm,0.7s,baz=126,slow=1.8,SNR=15							
ZALV	**Zalesovo Beam**	**142.58**	**66**	PKhKP		PKPpre	13 59 18.5	
	comp=Z,1.1nm,0.4s,baz=251,slow=2.4,SNR=4.3							
SONM	**Songino Array**	**149.85**	**90**	PKPbc		**PKPbc**	**13 59 40.0**	**-0.2**
	comp=Z,6.7nm,0.7s,baz=222,slow=2.4,SNR=25							
ILAR	**Eielson Array**	**152.50**	**308**	PKPbc		**PKPbc**	**13 59 44.2**	**-1.4**
	comp=Z,9.0nm,1.0s,baz=151,slow=1.7,SNR=42							
ILAR				pPKPbc		**pPKPab**	**14 00 07.1**	**-0.4**
	comp=Z,2.8nm,0.9s,baz=133,slow=2.2,SNR=5.0							
KSRS	**Korea Array**	**152.65**	**129**	PKPbc		**PKPbc**	**13 59 45.8**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=185,slow=2.8,SNR=5.4							

KRSC 07 13:41:17.1±1.6,56.13N×164.06E,h22km±26km,MI4.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.70**	**277**	*eP*		Pb	13 41 29.9	-0.7
KBG	**Krutoberegovo**	**0.77**	**280**	*eP*		Pb	13 41 31.0	-0.8
KBG				*eS*		Sb	13 41 42.1	+0.4
BKI	**Bering**	**1.43**	**130**	*eP*		Pb	13 41 43.6	+0.6
BKI				*eS*		Sb	13 42 02.6	+2.0
SMKR	**Semkarok**	**1.51**	**289**	*eP*		Pn	13 41 43.3	+0.4
SRKR	**Sorokina**	**1.69**	**289**	*eP*		Pb	13 41 47.6	0.0
ZLN	**Zelenaya**	**1.83**	**268**	*eP*		Pb	13 41 50.2	+0.3
CIRR	**Tsirk**	**1.85**	**271**	*eP*		Pb	13 41 50.3	-0.1
LGNR	**Argipova**	**1.89**	**270**	*eP*		Pb	13 41 51.4	+0.3
BZGR	**Bezymyannyi-Gr**	**1.90**	**266**	*eP*		Pb	13 41 51.0	-0.1
KLY	**Klyuchi**	**1.91**	**277**	*eP*		Pn	13 41 48.4	+0.1
BZWR	**Bezymyannyi-We**	**2.01**	**267**	*eP*		Pb	13 41 52.0	-1.0
BZMR	**Bezymyannaya**	**2.01**	**266**	*eP*		Pb	13 41 52.4	-0.7
MKZ	**Mys Kozlova**	**2.06**	**221**	*eP*		Pb	13 41 52.1	-1.7
MKZ				*eS*		Sb	13 42 17.5	-1.5
KIRR	**Kirishev**	**2.09**	**267**	*eP*		Pb	13 41 53.7	-0.7
KPT	**Kopyto**	**2.16**	**267**	*eP*		Pn	13 41 53.4	+1.6
KMNR	**Kamenistaya**	**2.18**	**262**	*eP*		Pb	13 41 55.0	-1.0
TUMD	**Tumrok D**	**2.27**	**247**	*eP*		Pb	13 41 56.1	-1.3
KOZ	**Kozyrevsk**	**2.35**	**270**	*eP*		Pb	13 41 57.5	-1.2
SRDR	**Sredinnyy**	**2.43**	**276**	*eP*		Pb	13 41 58.1	-2.1
ESO	**Esso**	**3.02**	**268**	*eP*		Pb	13 42 07.0	-3.0
OSSR	**Ossora**	**3.17**	**351**	*eP*		Pb	13 42 05.4	-0.2
SPN	**Mys Shipunski**	**3.84**	**219**	*eP*		Pn	13 42 16.3	+1.5
SPN				*eS*		Sn	13 42 58.9	-0.3
SDLR	**Sedlovina**	**4.14**	**229**	*eP*		Pn	13 42 22.8	+3.6
KRER	**Koryakskii**	**4.18**	**230**	*eP*		Pn	13 42 23.6	+3.9
KRK	**Arik**	**4.19**	**231**	*eP*		Pn	13 42 24.8	+5.1
SMAR	**Somma**	**4.19**	**229**	*eP*		Pn	13 42 23.3	+3.5
AVH	**Avacha**	**4.21**	**229**	*eP*		Pb	13 42 25.5	-5.0
UGLR	**Uglovaya**	**4.22**	**228**	*eP*		Pn	13 42 23.9	+3.7
KOK	**Koryaka**	**4.24**	**230**	*eP*		Pb	13 42 25.9	-5.0
GNL	**Ganaly**	**4.29**	**238**	*eP*		Pn	13 42 25.6	+4.4
DALK	**Dalny**	**4.38**	**227**	*eP*		Pn	13 42 25.1	+2.9
KRMR	**Karymshinskiy**	**4.78**	**229**	*eP*		Pn	13 42 32.9	+5.1
GRL	**Gorelyy**	**5.01**	**227**	*eP*		Pn	13 42 35.7	+4.6
MTVR	**Mutnovka**	**5.02**	**226**	*eP*		Pn	13 42 35.5

baz=122,slow=16,SNR=1.5
MKAR LR LR 13 55 49.7
comp=Z,29nm,18.6s,baz=156,slow=41
KDJ Kajisay 15.67 306 P **P** **13 49 03.0 +1.3**
CM31 Chiang Mai Arr 16.07 164 P **P** **13 49 06.2 +0.2**
CM31 IAmb IAmb 13 49 10.5
comp=Z,4.5nm,1.1s
CMAR Chiang Mai Arr 16.07 164 P **P** **13 49 06.1 +0.1**
CMAR Chiang Mai Arr 16.07 164 Pn **Pn** **13 49 03.6 +1.0**
comp=Z,0.1nm,0.3s,baz=335,slow=12,SNR=7.4
comp=Z,0.2nm,0.3s
SONM Songino Array 16.52 30 Pn **Pn** **13 49 08.8 +0.4**
comp=Z,0.1nm,0.3s,baz=218,slow=12,SNR=10
comp=Z,2.4nm,0.9s
FRU1 Bishkek 17.67 305 **P** **13 49 24.2 +0.5**
FRU1 IAmb IAmb 13 49 55.0
comp=Z,15nm,0.6s
AAK Ala-Archa 17.70 305 LR LR 13 57 22.4
comp=Z,90nm,20.2s,baz=130,slow=41
KURBB Kurchatov Arra 20.18 330 P **P** **13 49 51.9 +0.9**
comp=Z,1.2nm,0.3s,baz=142,slow=11,SNR=7.8
comp=Z,1.2nm,0.3s
KURK Kurchatov 20.21 330 P **P** **13 49 50.8 -0.6**
KK31 Karatay Array 20.61 303 P **P** **13 49 57.1 +1.4**
KK31 IAmb IAmb 13 50 03.7
comp=Z,4.4nm,1.1s
KKAR Karatay Array 20.61 303 P **P** **13 49 56.4 +0.6**
KBL Kabul 20.83 279 P **P** **13 49 59.0 +0.5**
KBL IAmb IAmb 13 50 02.4
comp=Z,14nm,0.8s
KULM Kulim 29.21 167 P **P** **13 51 17.7 -0.7**
BRTR Keskin Array B 48.02 295 P **P** **13 53 55.2 -0.8**
comp=Z,0.9nm,0.8s,baz=107,slow=6.6,SNR=5.4
comp=Z,0.9nm,0.8s
AKASG Malin Array Be 49.24 310 P **P** **13 54 03.8 -1.2**
comp=Z,0.3nm,0.3s,baz=85,slow=5.6,SNR=4.9
comp=Z,0.3nm,0.3s
FINES FINESS Array B 50.44 325 P **P** **13 54 14.5 +0.6**
comp=Z,1.4nm,0.7s,baz=77,slow=8.4,SNR=5.3
comp=Z,1.4nm,0.7s
MLR Muntele Rosu 52.28 304 LR LR 14 19 27.6
comp=Z,47nm,20.3s,baz=32,slow=39
NOA NORSAR Array B 57.61 325 P **P** **13 55 06.7 +0.3**
comp=Z,2.5nm,0.3s,baz=78,slow=6.8,SNR=3.4
comp=Z,2.5nm,0.3s
D19K Kuna River 64.84 23 P **P** **13 55 55.2 0.0**
WRA Warramunga Arr 65.87 138 P **P** **13 56 03.5 +1.1**
comp=Z,0.9nm,0.8s,baz=320,slow=8.9,SNR=7.3
comp=Z,0.9nm,0.8s
IMAR Indian Mountai 67.60 24 P **P** **13 56 13.4 +0.5**
ASAR Alice Springs 68.66 141 P **P** **13 56 22.2 +2.1**
comp=Z,1.4nm,0.8s,baz=325,slow=6.5,SNR=22
comp=Z,1.4nm,0.8s
ILAR Eielson Array 70.63 23 P **P** **13 56 32.1 +0.3**
comp=Z,0.4nm,0.9s,baz=297,slow=6.4,SNR=4.8
comp=Z,0.4nm,0.9s

GCG 07 13:51:40.0±0.3, 14°46N×90°64W, h3km±1km, MD3.8, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCG4	**OSOP**	**0.17**	**39**	*e*P		Pg	13 51 44.4	+1.1
ESSG	**Sabana Grande**	**0.20**	**249**	*i* P		Pg	13 51 44.8	+1.0
ESSG				*e*S		Sg	13 51 48.4	+2.0
FG8	**Yepocapa, Chim**	**0.21**	**158**	*e*P		Pg	13 51 46.9	+2.8
FG8				*e*S		Sg	13 51 52.2	+5.4
FG16	**Alotenango, Sa**	**0.22**	**145**	*e*P		Pg	13 51 45.5	+1.1
FG16				*e*S		Sg	13 51 49.5	+2.2
STG0	**El Palmar, Qui**	**0.68**	**268**	*e*P		Pn	13 51 58.5	+1.8
STG8	**El Palmar, Qui**	**0.69**	**270**	*e*P		Pn	13 51 59.0	+2.1

*MRB **07** 13:56:43.0±0.3, 41°.83N×2°.77E, h5km±3km, ML2.3/33, Error ellipse: s-maj=1.5km s-min=0.9km az=305.0*
*LDG **07** 13:56:43.3±0.1, 41°.86N×2°.77E, h5km, Ml2.8/14, Error ellipse: s-maj=2.5km s-min=1.7km az=143.0*
*MDD **07** 13:56:43.0±0.4, 41°.83N×2°.77E, h3km±3km, mb_Lg2.7/17, Error ellipse: s-maj=3.0km s-min=1.9km az=125.0*
ISC 07 13:56:42.5±0.9, 41°.82N±0°.02×2°.79E±0°.02, h15km±5km, n54, σ1°49/99, 6C-4D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCAS	**Cassa de la Se**	**0.11**	**53**	↑P		**Pg**	**13 56 45.5**	**-0.5**
CCAS				S		**Sg**	**13 56 47.4**	**-0.8**
CGIR	**Ginora - Unive**	**0.17**	**10**	↑P		**Pg**	**13 56 46.3**	**-0.5**
CGIR				S		**Sg**	**13 56 48.9**	**-0.8**
866nm,0.2s								
CFON	**Fontmartina**	**0.27**	**258**	↑P		**Pg**	**13 56 48.2**	**-0.2**
CFON				S		**Sg**	**13 56 52.1**	**-0.3**
641nm,0.2s								
CBEU	**Beuda**	**0.45**	**349**	↓P		**Pg**	**13 56 51.1**	**-0.4**
CBEU				S		**Sg**	**13 56 57.1**	**-0.5**
183nm,0.2s								
CPAL	**Palau Saverder**	**0.57**	**29**	↑P		**Pg**	**13 56 53.2**	**-0.5**
CPAL				S		**Sg**	**13 57 01.3**	**0.0**
47nm,0.1s								
CORI	**Orista**	**0.57**	**286**	↓P		**Pg**	**13 56 53.5**	**-0.4**
CORI				S		**Sg**	**13 57 01.0**	**-0.5**
128nm,0.2s								
EJON	**La Jonquera**	**0.64**	**7**	Pg		**Pg**	**13 56 54.6**	**-0.4**
EJON				Sg		**Sg**	**13 57 02.9**	**-0.6**
EJON				*i* lVmb_Lg			13 57 04.0	
CBRU	**Bruguera**	**0.65**	**316**	↑P		**Pg**	**13 56 54.9**	**-0.4**
CBRU				S		**Sg**	**13 57 03.7**	**-0.3**
40nm,0.1s								
SJAF	**Saint Jean de**	**0.67**	**6**	*e*P		**Pg**	**13 56 55.1**	**-0.5**
SJAF				S		**Sg**	**13 57 04.0**	**-0.5**
44nm,0.1s								
FILF	**Fillols**	**0.76**	**347**	↑P		**Pb**	**13 56 57.8**	**+0.3**
FILF				S		**Sb**	**13 57 08.3**	**+0.6**
111nm,0.2s								
VALC	**Valcebollere**	**0.79**	**316**	↓P		**Pg**	**13 56 57.4**	**-0.6**
VALC				S		**Sg**	**13 57 08.6**	**+0.2**
211nm,0.1s								
CGAR	**Garraf**	**0.84**	**232**	P		**Pg**	**13 56 58.7**	**-0.1**
CGAR				S		**Sb**	**13 57 10.4**	**+0.5**
26nm,0.3s								
CLLI	**Llivia**	**0.90**	**318**	P		**Pb**	**13 56 59.2**	**-0.7**
CLLI				S		**Sb**	**13 57 11.4**	**-0.2**
51nm,0.1s								
CARF	**Carcanieres**	**1.03**	**331**	↓P		**Pb**	**13 57 02.2**	**+0.1**
CARF				S		**Sb**	**13 57 15.9**	**+0.4**
47nm,0.6s								
ARBS	**La Rabassa**	**1.11**	**305**	*e*P		**Pb**	**13 57 03.4**	**-0.3**
ARBS				S		**Sb**	**13 57 18.7**	**+0.7**
73nm,0.2s								
PAND	**Andorre**	**1.16**	**308**	P		**Pn**	**13 57 04.5**	**+0.1**
PAND				S		**Sb**	**13 57 20.1**	**+0.7**
88nm,0.2s								
CORG	**Organya**	**1.17**	**291**	P		**Pn**	**13 57 04.2**	**-0.2**
CORG				S		**Sb**	**13 57 19.9**	**+0.5**
39nm,0.3s								
FNEB	**Nbias**	**1.20**	**335**	S		**Sn**	**13 57 21.1**	**+0.4**
39nm,0.2s								
CLAF	**Gruissan**	**1.33**	**10**	P		**Pb**	**13 57 07.2**	**0.0**
CLAF				S		**Sb**	**13 57 24.6**	**+0.4**
18nm,0.1s								
GENF	**Genat**	**1.35**	**318**	P		**Pn**	**13 57 07.5**	**+0.6**
GENF				S		**Sn**	**13 57 24.9**	**+0.3**
CSOR	**Sort**	**1.35**	**295**	P		**Pn**	**13 57 07.3**	**+0.4**
CSOR				S		**Sb**	**13 57 25.8**	**+1.1**
55nm,0.2s								
EPOB	**Poblet**	**1.36**	**251**	Pg		**Pn**	**13 57 07.5**	**+0.5**
EPOB				Sg		**Sb**	**13 57 25.9**	**+0.9**
EPOB				*i* lVmb_Lg			13 57 27.3	
EPOB	**Poblet**	**1.36**	**251**	P		**Pn**	**13 57 07.6**	**+0.5**
EPOB				S		**Sb**	**13 57 25.9**	**+0.9**
24nm,0.4s								
CEST	**Esterri de Car**	**1.38**	**305**	P		**Pn**	**13 57 07.8**	**+0.5**
CEST				S		**Sb**	**13 57 26.1**	**+0.5**
49nm,0.3s								
CTRM	**Tremp**	**1.45**	**284**	S		**Sb**	**13 57 28.7**	**+1.2**
SALF	**Salau**	**1.51**	**309**	P		**Pb**	**13 57 10.6**	**+0.2**
SALF				S		**Sb**	**13 57 30.2**	**+0.8**
32nm,0.2s								
CAVN	**Les Avellanes**	**1.52**	**273**	P		**Pb**	**13 57 10.3**	**-0.2**
CAVN				S		**Sb**	**13 57 30.7**	**+1.1**
MTLF	**Montolieu**	**1.58**	**345**	*e*Pg		**Pb**	**13 57 11.2**	**-0.2**
MTLF				*e*Sg		**Sn**	**13 57 31.0**	**+0.9**
31nm,0.3s								
CTRE	**Tremp**	**1.58**	**289**	P		**Pb**	**13 57 11.3**	**-0.2**
CTRE				S		**Sb**	**13 57 32.8**	**+1.4**
26nm,0.2s								
MLS	**Moulis**	**1.69**	**313**	S		**Sb**	**13 57 35.0**	**+0.5**
42nm,0.3s								
VAN2	**Vandellos 2**	**1.71**	**240**	S		**Sb**	**13 57 35.6**	**+0.7**
27nm,0.3s								
EBR	**Ebro Roquetas**	**2.00**	**241**	Lg		Lg	13 57 46.6	
ERTA	**Horta de San J**	**2.04**	**246**	Pn		**Pn**	**13 57 16.3**	**0.0**
ERTA				Sg		**Sb**	**13 57 46.0**	**+1.7**
ERTA				*i* lVmb_Lg			13 57 50.0	
ERTA	**Horta de San J**	**2.04**	**246**	P		**Pn**	**13 57 17.4**	**+1.1**
ERTA				S		**Sn**	**13 57 43.0**	**+1.6**
17nm,0.2s								
RESF	**Ens**	**2.07**	**299**	P		**Pn**	**13 57 17.8**	**+1.0**
RESF				S		**Sn**	**13 57 43.7**	**+1.4**
34nm,0.4s								
ECHI	**Chisagues Biel**	**2.10**	**295**	Lg		Lg	13 57 48.6	
EPF	**Esparros**	**2.18**	**305**	*e*Pg		**Pb**	**13 57 22.3**	**+0.6**
EPF				*e*Sg		**Sb**	**13 57 49.1**	**+0.6**
14nm,0.3s								
LASF	**Ste Croix**	**2.39**	**19**	*e*Pg		**Pb**	**13 57 26.5**	**+1.3**
LASF				*e*Sg		**Sb**	**13 57 56.7**	**+2.2**
6.1nm,0.2s								
ESAC	**San Caprasio**	**2.44**	**269**	P		**Pn**	**13 57 22.4**	**+0.6**
ESAC				S		**Sn**	**13 57 53.4**	**+2.0**
ETSF	**Etsaut**	**2.71**	**295**	*e*Pg		**Pb**	**13 57 31.6**	**+1.0**
ETSF				*e*Sg		**Sb**	**13 58 06.5**	**+2.9**
17nm,0.3s								
EMOS	**Mosqueruela**	**2.86**	**241**	S		**Sn**	**13 58 04.2**	**+2.2**
4.7nm,0.5s								
SMRF	**Simiane la Rot**	**2.97**	**43**	*e*Pn		**Pn**	**13 57 31.1**	**+1.9**
SMRF	**Simiane la Rot**	**2.97**	**43**	*e*Pg		**Pg**	**13 57 39.3**	**-0.2**
SMRF				*e*Sg		**Sg**	**13 58 16.1**	**-2.0**
2.5nm,0.3s								
EIBI	**Ibiza**	**3.00**	**202**	Pn		**Pn**	**13 57 28.5**	**-0.9**
EIBI				Sn		**Sn**	**13 58 01.5**	**-3.6**
EIBI				*i* lVmb_Lg			13 59 29.9	
LMR	**La Mourre**	**3.14**	**60**	*e*Pn		**Pn**	**13 57 30.9**	**-0.5**
LMR				*e*Sn		**Sn**	**13 58 06.1**	**-2.4**
2.3nm,0.3s								
CAF	**Calviac**	**3.15**	**351**	*e*Pg		**Pb**	**13 57 39.8**	**+1.6**
CAF				*e*Sn		**Sn**	**13 58 07.3**	**-1.6**
CAF				*e*Sg		**Sb**	**13 58 20.1**	**+3.7**
5.3nm,0.2s								
SJPF	**Ste Jean**	**3.24**	**295**	*e*Pn		**Pn**	**13 57 32.1**	**-0.7**
SJPF	**Ste Jean**	**3.24**	**295**	*e*Pg		**Pb**	**13 57 41.4**	**+1.7**
SJPF				*e*Sg		**Sg**	**13 58 23.4**	**-3.1**
12nm,0.3s								
OSSF	**Osses**	**3.32**	**297**	S		**Sn**	**13 58 14.2**	**+1.2**
6.0nm,0.4s								
VIVF	**Saint-Julien-l**	**3.33**	**24**	*e*Pg		**Pb**	**13 57 43.0**	**+1.7**
VIVF				*e*Sn		**Sn**	**13 58 11.0**	**-2.4**
VIVF				*e*Sg		**Sb**	**13 58 25.7**	**+4.0**
2.1nm,0.2s								
LFF	**La Frestale**	**3.46**	**335**	*e*Pg		**Pb**	**13 57 45.8**	**+2.4**
LFF				*e*Sg		**Sg**	**13 58 30.9**	**-2.7**
15nm,0.3s								
EALK	**Alkurruntz**	**3.47**	**295**	Pn		**Pn**	**13 57 37.0**	**+1.0**
EALK				Sn		**Sn**	**13 58 17.9**	**+1.0**
EALK				Sg		**Sg**	**13 58 31.3**	**-2.7**
EALK				*i* lVmb_Lg			13 58 36.2	
RJF	**Les Rejaudoux**	**3.61**	**346**	*e*Pg		**Pb**	**13 57 48.4**	**+2.5**
RJF				*e*Sg		**Sg**	**13 58 35.2**	**-3.1**
3.2nm,0.2s								
MFF	**Saint Martin d**	**5.23**	**337**	*e*Pg		**Pg**	**13 58 19.0**	**-3.6**
MFF				*e*Sg		**Sg**	**13 59 25.6**	**-4.6**
0.9nm,0.2s								

*CATAC **07** 13:56:55.4±0.6, 14°N±4°×9°2W±°, h31km±4km, M3.5/12, MLv3.5/12, Error ellipse: s-maj=8.9km s-min=3.3km az=28.5, confirmed*
*GCG **07** 13:56:56.4±0.5, 14°.28N×91°.48W, h65km±4km, MD3.7, ML4.0*
ISC 07 13:56:56.5±1.9, 14°.2N±0°.1×91°.45W±0°.08, h67km±10km, n20, σ2°44/27, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STG0	**El Palmar, Qui**	**0.29**	**21**	*e*P		**Pn**	**13 57 08.6**	**+1.1**
STG0				*e*S		**Sn**	**13 57 18.2**	**+2.7**
STG0				IAML			13 57 20.6	
comp=E,10μm,0.3s								
STG8	**El Palmar, Qui**	**0.30**	**18**	*e*P		**Pn**	**13 57 09.1**	**+1.3**
STG8				*e*S		**Sn**	**13 57 19.0**	**+3.1**
STG8				IAML			13 57 19.3	
comp=N,7μm,0.2s								
RTAL	**Retalhuleu**	**0.43**	**327**	P		**Pn**	**13 57 07.3**	**-1.3**
RTAL				S		**Sn**	**13 57 15.7**	**-1.6**
ESSG	**Sabana Grande**	**0.64**	**69**	*e*P		**Pn**	**13 57 10.3**	**-0.4**
ESSG				*e*S		**Sn**	**13 57 21.1**	**+0.1**
ESSG				IAML			13 57 22.5	
comp=N,2μm,0.1s								
SOKI	**Kika Raxquin**	**0.66**	**4**	*e*P		**Pn**	**13 57 10.8**	**-0.4**
SOKI				*e*S		**Sn**	**13 57 22.0**	**0.0**
SOKI				IAML			13 57 22.4	
comp=N,4μm,0.2s								
FG8	**Yepocapa, Chim**	**0.87**	**83**	*e*P		**Pn**	**13 57 09.9**	**-3.5**
FG8				*e*S		**Sn**	**13 57 20.1**	**-5.7**
FG16	**Alotenango, Sa**	**0.92**	**83**	*e*P		**Pn**	**13 57 10.8**	**-3.2**
FG16				*e*S		**Sn**	**13 57 22.1**	**-4.9**
FG16				IAML			13 57 27.0	
comp=N,12μm,0.2s								
SMCA	**Catarina**	**0.92**	**319**	*e*P		**Pn**	**13 57 12.1**	**-1.8**
SMCA				IAML			13 57 26.9	
comp=N,1μm,0.1s								
THIG		**1.08**	**313**	*e*P		**Pn**	**13 57 14.7**	**-1.3**
HUEH	**Huehuetenango**	**1.15**	**357**	S		**Sn**	**13 57 34.5**	**+2.1**
HUEH	**Huehuetenango**	**1.15**	**357**	P		**Pn**	**13 57 17.5**	**+0.3**
FAME	**Alcaldia de Sa**	**1.43**	**103**	P		**Pn**	**13 57 20.8**	**+0.3**
FAME	**Alcaldia de Sa**	**1.43**	**103**	S		**Sn**	**13 57 39.6**	**+1.1**
SLOZ	**Alcaldia de Sa**	**1.62**	**94**	S		**Sn**	**13 57 46.2**	**+3.0**
SLOZ	**Alcaldia de Sa**	**1.62**	**94**	P		**Pn**	**13 57 23.8**	**+0.7**
NUBE	**Las Nubes**	**1.64**	**99**	P		**Pn**	**13 57 24.2**	**+0.8**
NUBE	**Las Nubes**	**1.64**	**99**	S		**Sn**	**13 57 45.8**	**+2.0**
CEVE	**Cerro Verde**	**1.80**	**100**	S		**Sn**	**13 57 50.4**	**+2.6**
CEVE	**Cerro Verde**	**1.80**	**100**	P		**Pn**	**13 57 26.7**	**+1.0**
CCIG	**Comitan**	**2.21**	**343**	P		**Pn**	**13 57 31.2**	**0.0**

*NEIC **07** 14:21:34.3±0.7, 35°.641N±0°.007×117°.406W±0°.009, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.6km az=258.0*
PAS 07 14:21:35±0.7, 35°.645N±0°.005×117°.42W±0°.01, h4km±2km, ML3.3/20, ML3.0/130(NEIC), Error ellipse: s-maj=1.3km s-min=0.6km az=114.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCCA	**Chr Cany lake**	**0.13**	**158**		Sg	14 21 40.6	+1.3
CCCA	**Chr Cany lake**	**0.13**	**158**		Pg	14 21 38.0	+0.4
CCCA				IAML		14 21 40.8	
comp=N,90μm,0.5s							
CCCA				IAML		14 21 42.2	
comp=E,28μm,0.3s							
CLC	**China Lake**	**0.22**	**320**		Pg	14 21 39.2	-0.1
CLC				IAML		14 21 42.8	
comp=E,5μm,0.2s							
CLC				IAML		14 21 43.0	
comp=N,4μm,0.2s							
CLC	**China Lake**	**0.22**	**320**		Sg	14 21 42.7	+0.4
LRMC	**Laurel Mtn Rad**	**0.27**	**232**		Pg	14 21 40.2	0.0
SRTC	**Snort**	**0.27**	**280**		Pg	14 21 40.7	+0.4
SRTC					Sg	14 21 45.4	+1.6
TOW	**Tower One**	**0.32**	**301**		Pg	14 21 41.7	+0.5
WNMM	**Nine Mile Cany**	**0.44**	**297**		Pg	14 21 43.5	+0.1
QSM	**Queen of Sheba**	**0.55**	**55**		Pg	14 21 45.4	-0.2
QSM				IAML		14 21 56.6	
comp=N,1μm,0.3s							
QSM				IAML		14 21 59.9	
comp=E,1μm,0.2s							
GSC	**Goldstone, Bar**	**0.61**	**124**	IAML		14 21 55.9	
comp=E,1μm,0.5s							
CCAC	**Calif City Air**	**0.69**	**225**		Pg	14 21 47.9	-0.3
HYS	**Haystack Butte**	**0.79**	**189**		Pg	14 21 49.5	-0.6
GWY	**Greenwater Val**	**0.82**	**48**		Pg	14 21 50.0	-0.6
RRX	**Edison Barstow**	**0.84**	**155**		Pg	14 21 50.8	-0.4
ISA	**Isabella, Lake**	**0.86**	**272**		Pg	14 21 50.6	-0.8
ISA				IAML		14 22 05.9	
comp=E,911nm,0.2s							
CWC	**Cottonwood Cre**	**0.95**	**326**		Pg	14 21 52.8	-0.5
CWC				IAML		14 22 07.0	
comp=N,372nm,0.2s							
CWC				IAML		14 22 08.3	
comp=E,415nm,0.2s							
DSCC	**Desert Studies**	**1.19**	**115**		Pg	14 21 56.5	-1.3
SPG2	**Springville 2**	**1.22**	**297**		Pg	14 21 57.4	-1.1
AMDNV	**Amargosa**	**1.23**	**49**		Pg	14 21 57.3	-1.3
TUQ	**Turquoise Moun**	**1.24**	**99**		Pg	14 21 57.9	-0.9
WCT	**Wildcat Mounta**	**1.31**	**29**		Pg	14 21 58.7	-1.6
GRAC	**Grapevine Rang**	**1.35**	**2**		Pn	14 21 59.6	-1.0
BFSC	**Mount Baldy Ra**	**1.42**	**188**		Pn	14 22 00.2	-1.4
BFSC				IAML		14 22 21.3	
comp=E,176nm,0.2s							
BFSC				IAML		14 22 23.4	
comp=N,161nm,0.3s							
OSI	**Osito Audit: C**	**1.48**	**226**		Pn	14 22 01.3	-1.1
OSI				IAML		14 22 25.2	
comp=E,260nm,0.7s							
OSI				IAML		14 22 27.1	
comp=N,278nm,0.6s							
MWC	**Mount Wilson**	**1.51**	**200**		Pn	14 22 01.8	-1.2
MWC				IAML		14 22 25.5	
comp=E,246nm,0.7s							
MWC				IAML		14 22 26.6	
comp=N,276nm,0.6s							
PASC	**Pasadena Art C**	**1.60**	**203**		Pn	14 22 02.8	-1.2
PASC				IAML		14 22 28.7	
comp=N,114nm,0.6s							
PASC				IAML		14 22 30.4	
comp=E,163nm,0.7s							
TPNV	**Topopah Spring**	**1.61**	**36**		Pn	14 22 03.0	-1.3
GMN	**Gold Mountain**	**1.66**	**5**		Pn	14 22 03.9	-1.2
GMN				IAML		14 22 30.1	
comp=E,134nm,0.6s							
GMN				IAML		14 22 34.2	
comp=N,143nm,0.6s							
BCW	**Bitter Crk WRg**	**1.77**	**247**		Pn	14 22 05.2	-1.3
DSP	**Deep Springs**	**1.78**	**346**		Pn	14 22 05.5	-1.0
DSP				IAML		14 22 32.5	
comp=E,170nm,0.4s							
DSP				IAML		14 22 32.8	
comp=N,103nm,0.4s							
ELS	**Elsinore Mount**	**1.99**	**180**		Pn	14 22 08.2	-1.3
ELS				IAML		14 22 37.9	
comp=E,73nm,0.4s							
ELS				IAML		14 22 38.0	
comp=N,79nm,0.3s							
PMD	**Palm Desert**	**2.17**	**156**	IAML		14 22 46.2	
comp=N,58nm,0.7s							
PMD				IAML		14 22 46.6	
comp=E,72nm,0.5s							
PFO	**Pinyon Flats O**	**2.18**	**158**	IAML		14 22 47.5	
comp=E,70nm,0.6s							
PRN	**Pahroc Range**	**2.60**	**47**	IAML		14 23 04.8	
comp=N,110nm,0.8s							
PRN				IAML		14 23 05.1	
comp=E,90nm,0.6s							
LHV	**Little Huntoon**	**2.74**	**342**	IAML		14 23 07.9	
comp=E,80nm,0.7s							
LHV				IAML		14 23 15.6	
comp=N,49nm,1.1s							
PMPB	**Monarch Peak**	**2.80**	**283**	IAML		14 23 07.1	
comp=E,93nm,0.8s							
PMPB				IAML		14 23 18.9	
comp=N,88nm,0.8s							
BAR	**Barrett**	**3.02**	**168**	IAML		14 23 09.2	
comp=E,46nm,0.3s							
BAR				IAML		14 23 12.9	
comp=N,35nm,0.6s							
BLYC	**Blythe**	**3.05**	**128**	IAML		14 23 12.5	
comp=E,71nm,0.5s							
BLYC				IAML		14 23 14.3	
comp=N,59nm,0.8s							
R11B	**Troy Canyon, C**	**3.07**	**28**	IAML		14 23 13.5	
comp=E,33nm,0.4s							
RYN	**Ryan**	**3.10**	**344**	IAML		14 23 20.6	
comp=E,26nm,0.9s							
CMB	**Columbia Colle**	**3.37**	**316**	IAML		14 23 25.5	
comp=E,31nm,0.7s							
CMB				IAML		14 23 27.9	
comp=N,27nm,0.6s							
ESJX	**Sierra Juarez**	**3.83**	**161**	IAML		14 23 41.5	
comp=E,15nm,1.1s							
Y14A	**Wickenburg**	**4.01**	**114**	IAML		14 23 46.5	
comp=N,27nm,0.4s							
Y14A				IAML		14 23 49.9	
comp=E,22nm,0.4s							
PSUT	**Pine Spring**	**4.06**	**44**	IAML		14 23 56.0	
comp=E,19nm,1.1s							
PSUT				IAML		14 23 58.5	
comp=N,19nm,1.2s							
SPR3	**Spring Creek 3**	**4.16**	**35**	IAML		14 23 52.7	
comp=E,14nm,0.6s							
SPR3				IAML		14 23 55.1	
comp=N,16nm,0.9s							
MPK	**Martis Peak**	**4.19**	**331**	IAML		14 24 01.1	
comp=E,29nm,1.2s							
AFDM	**Forest Hills D**	**4.34**	**320**	IAML		14 23 52.9	
comp=E,15nm,0.7s							
AFDM				IAML		14 23 58.9	
comp=N,16nm,1.5s							
VTX	**Valle De La Tr**	**4.46**	**162**	IAML		14 24 11.5	
comp=E,25nm,0.1s							
VTX				IAML		14 24 11.5	
comp=N,23nm,0.1s							
BEKR	**Beckworth**	**4.81**	**332**	IAML		14 24 16.4	
comp=E,14nm,0.7s							
BEKR				IAML		14 24 19.6	
comp=N,6.7nm,0.8s							
WUAZ	**Wupatki**	**4.93**	**90**	IAML		14 24 19.7	
comp=N,12nm,0.4s							
WUAZ				IAML		14 24 20.1	
comp=N,9.5nm,0.6s							
ELK	**Elko**	**5.37**	**18**	IAML		14 24 27.2	
comp=N,6.7nm,0.5s							
ELK				IAML		14 24 27.5	
comp=N,4.5nm,0.8s							

*NEIC **07** 14:24:45.2±1.1, 23°.3S±0°.1×175°.6W±0°.1, h35km±2km, mb4.3/8, Error ellipse: s-maj=19.9km s-min=16.9km az=355.0*
*IDC **07** 14:24:54.8±5.0, 23°.67S×176°.11W, h91km±43km, mb3.5/6, mbtmp3.9/7, Error ellipse: s-maj=31.2km s-min=30.0km az=44.0*
ISC 07 14:24:47.5±1.0, 23°.5S±0°.1×176°.0W±0°.2, h33km, n20, σ0°78/18, mb4.1/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**7.17**	**54**	Pn	Pn	14 26 21.1	-9.0
NIUE				Sn	Sn	14 27 27.7	-23
MSVF	**Nonsavu**	**7.94**	**315**	Pn	**Pn**	**14 26 40.9**	**+0.2**
MSVF	**Nonsavu**	**7.94**	**315**	P	Pn	14 26 49.6	+8.9
6.7nm,0.7s,baz=103,slow=14,SNR=5.1							
MXZ	**Matakaoa Point**	**14.88**	**198**	Pn	**Pn**	**14 28 16.2**	**+0.7**
MSWZ	**Moikau Station**	**19.35**	**200**

CMAR	**Chiang Mai Arr**	**92.80**	**289**	P		**P**	14 37 59.3		**+2.1**
	comp=Z,0.4nm,0.4s,baz=114,slow=4.9,SNR=4.3								
	comp=Z,0.4nm,0.4s								
AKASG	**Malin Array Be**	**146.46**	**331**	PKPbc		**PKPbc**	14 44 25.3		**+0.2**
	comp=Z,0.7nm,0.7s,baz=43,slow=3.8,SNR=2.1								
BRTR	**Keskin Array B**	**150.14**	**310**	PKPbc		**PKPbc**	14 44 35.4		**+0.1**
	comp=Z,0.6nm,0.7s,baz=159,slow=4.3,SNR=4.2								

*IDC **07** 14:26:20.0±4.7, 23°.62S×175°.99W, h96km±41km, mb3.8/8, mbtmp4.1/9, MS3.3/5, Error ellipse: s-maj=29.6km s-min=24.4km az=79.0*

ISC 07 14:26:12.1±1.0, 23°.55±0°.2×175°.9W±0°.2, h33km, n15, σ1§10/10, mb4.1/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
MSVF	**Nonsavu**	**8.06**	**314**	P		Pn	14 28 15.7		**+8.6**
	7.7nm,0.7s,baz=102,slow=15,SNR=4.8								
MSVF				LR		LR	14 31 00.7		
	comp=Z,318nm,20.0s,baz=132,slow=35								
RAR	**Rarotonga**	**15.06**	**85**	LR		LR	14 33 40.9		
	comp=Z,80nm,21.6s,baz=278,slow=29								
DZM	**Mont Dzumac**	**16.37**	**271**	LR		LR	14 35 02.3		
	comp=Z,98nm,19.4s,baz=118,slow=32								
PPT	**Papeete**	**25.30**	**81**	LR		LR	14 40 56.7		
	comp=Z,80nm,18.6s,baz=234,slow=34								
HNR	**Honiara**	**27.01**	**297**	LR		LR	14 41 14.9		
	comp=Z,55nm,19.2s,baz=78,slow=33								
ASAR	**Alice Springs**	**45.84**	**259**	P		**P**	14 34 31.2		**-0.1**
	1.9nm,0.9s,baz=97,slow=7.8,SNR=8.9								
	1.9nm,0.9s								
WRA	**Warramunga Arr**	**46.21**	**264**	P		**P**	14 34 33.0		**-1.3**
	2.0nm,0.8s,baz=92,slow=8.5,SNR=8.6								
	2.0nm,0.8s								
VNDA	**Vanda**	**55.15**	**186**	P		**P**	14 35 41.2		**+0.3**
	1.3nm,1.1s,baz=29,slow=8.5,SNR=3.8								
	1.3nm,1.1s								
QSPA	**South Pole Qui**	**66.61**	**180**	P		**P**	14 36 59.6		**+0.5**
	2.0nm,0.8s,baz=354,slow=1.1,SNR=8.9								
	2.0nm,0.8s								
MAW	**Mawson**	**79.44**	**199**	P		**P**	14 38 15.3		**+0.6**
	2.4nm,0.9s,baz=108,slow=9.3,SNR=4.2								
	2.4nm,0.9s								
SNAA	**Sanae**	**84.99**	**178**	P		**P**	14 38 42.4		**-1.4**
	1.2nm,0.9s,baz=217,slow=10,SNR=3.6								
	1.2nm,0.9s								
TXAR	**Lajitas Array**	**87.02**	**56**	P		**P**	14 38 54.6		**0.0**
	0.9nm,0.9s,baz=219,slow=7.8,SNR=8.4								
	0.9nm,0.9s								
CMAR	**Chiang Mai Arr**	**92.95**	**289**	P		**P**	14 39 24.3		**+1.8**
	1.1nm,0.3s,baz=126,slow=3.1,SNR=5.4								
	1.1nm,0.3s								
AKASG	**Malin Array Be**	**146.56**	**331**	PKPbc		**PKPab**	14 45 50.4		**-0.6**
	1.8nm,0.7s,baz=43,slow=4.2,SNR=7.7								
BRTR	**Keskin Array B**	**150.27**	**310**	PKPbc		**PKiKP**	14 46 00.5		**-0.6**
	0.7nm,0.7s,baz=166,slow=5.7,SNR=4.0								

*NEIC **07** 14:28:18.3±1.0, 35°.664N±0°.010×117°.59W±0°.01, h10km±1km, Error ellipse: s-maj=3.0km s-min=2.0km az=311.0*

PAS 07 14:28:18.9±0.6, 35°.66N±0°.01×117°.585W±0°.008, h8km±5km, ML3.2/17, ML2.8/122(NEIC), Error ellipse: s-maj=1.8km s-min=0.7km az=199.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
SRTC	**Snort**	**0.14**	**285**			Pg	14 28 22.3		+0.4
CLC	**China Lake**	**0.16**	**356**			Pg	14 28 22.1		-0.1
CLC	**China Lake**	**0.16**	**356**			Sg	14 28 24.9		+0.3
LRMC	**Laurel Mtn Rad**	**0.19**	**204**			Pg	14 28 22.7		-0.2
LRMC					IAML		14 28 26.1		
	comp=E,4μm,0.6s								
LRMC					IAML		14 28 26.5		
	comp=N,3μm,0.2s								
TOW	**Tower One**	**0.21**	**316**			Pg	14 28 22.5		-0.7
TOW						Sg	14 28 27.6		+1.6
CCCA	**Chr Cany lake**	**0.22**	**126**			Pg	14 28 23.5		+0.2
CCCA	**Chr Cany lake**	**0.22**	**126**			Sg	14 28 27.5		+1.1
WNMM	**Nine Mile Cany**	**0.32**	**306**			Pg	14 28 25.1		-0.1
WNMM						Sg	14 28 30.0		+0.6
WVPM	**Volcano Peak E**	**0.35**	**327**			Pg	14 28 25.7		-0.1
WVPM						Sg	14 28 30.6		+0.2
MPMC	**Manual Prospec**	**0.41**	**11**			Pg	14 28 26.3		-0.6
WRVM	**Rose V. Centra**	**0.43**	**325**			Pg	14 28 26.9		-0.3
WRVM						Sg	14 28 33.0		0.0
DTP	**Desert Tortois**	**0.44**	**209**			Pg	14 28 27.0		-0.4
QSM	**Queen of Sheba**	**0.66**	**62**			Pg	14 28 30.8		-0.7
ISA	**Isabella, Lake**	**0.72**	**271**			Pg	14 28 32.0		-0.8
ISA					IAML		14 28 42.3		
	comp=N,447nm,0.4s								
ISA					IAML		14 28 43.4		
	comp=E,536nm,0.5s								
GSC	**Goldstone, Bar**	**0.73**	**119**			Pg	14 28 32.2		-0.7
GSC					IAML		14 28 42.5		
	comp=N,710nm,0.5s								
CWC	**Cottonwood Cre**	**0.88**	**333**			Pg	14 28 35.0		-0.8
CWC					IAML		14 28 47.9		
	comp=E,303nm,0.2s								
CWC					IAML		14 28 50.7		
	comp=N,335nm,0.2s								
CGO	**Cerro Gordo**	**0.91**	**349**			Pg	14 28 35.8		-0.6
CGO						Sg	14 28 48.7		+0.5
GWY	**Greenwater Val**	**0.91**	**54**			Pg	14 28 35.5		-0.9
GWY					IAML		14 28 49.7		
	comp=N,414nm,0.4s								
GWY					IAML		14 28 50.2		
	comp=E,487nm,0.3s								
TPO	**Tropico Hills**	**0.94**	**214**		IAML		14 28 55.8		
	comp=N,402nm,0.9s								
DSCC	**Desert Studies**	**1.31**	**113**			Pn	14 28 41.4		-2.2
AMDNV	**Amargosa**	**1.32**	**53**			Pn	14 28 41.8		-1.8
GRAC	**Grapevine Rang**	**1.35**	**7**			Pn	14 28 43.0		-1.1
GRAC					IAML		14 29 13.2		
	comp=N,262nm,0.5s								
GRAC					IAML		14 29 13.3		
	comp=E,191nm,0.3s								
WCT	**Wildcat Mounta**	**1.37**	**34**			Pn	14 28 42.9		-1.6
WCT					IAML		14 29 03.9		
	comp=N,104nm,0.5s								
WCT					IAML		14 29 04.1		
	comp=E,128nm,0.4s								
OSI	**Osito Audit: C**	**1.40**	**222**			Pn	14 28 43.8		-1.0
OSI					IAML		14 29 08.9		
	comp=E,98nm,0.8s								
SIL	**Silver Peak**	**1.45**	**154**			Pn	14 28 45.7		+0.1
MWC	**Mount Wilson**	**1.48**	**195**			Pn	14 28 45.2		-0.8
MWC					IAML		14 29 10.8		
	comp=N,168nm,0.6s								
MWC					IAML		14 29 11.8		
	comp=E,162nm,0.6s								
PASC	**Pasadena Art C**	**1.56**	**199**			Pn	14 28 46.1		-0.8
PASC					IAML		14 29 12.3		
	comp=E,75nm,0.8s								
GMN	**Gold Mountain**	**1.66**	**9**			Pn	14 28 47.5		-1.1
GMN					IAML		14 29 22.2		
	comp=N,75nm,0.6s								
MTPC	**Mountain Pass**	**1.67**	**95**			Pn	14 28 46.5		-2.0
MTPC					IAML		14 29 12.2		
	comp=E,166nm,0.2s								
MTPC					IAML		14 29 12.7		
	comp=N,133nm,0.3s								
TPNV	**Topopah Spring**	**1.68**	**40**			Pn	14 28 47.4		-1.3
TPNV					IAML		14 29 14.7		
	comp=N,153nm,0.3s								
TPNV					IAML		14 29 17.0		
	comp=N,114nm,0.6s								
DSP	**Deep Springs**	**1.74**	**350**			Pn	14 28 48.2		-1.1
DSP					IAML		14 29 22.8		
	comp=E,65nm,0.4s								
GMRC	**Granite Mounta**	**1.80**	**118**			Pn	14 28 47.9		-2.5
PKM	**Mcpherson Peak**	**1.98**	**248**			Pb	14 28 55.0		-0.2
ELS	**Elsinore Mount**	**2.01**	**176**		IAML		14 29 32.4		
	comp=E,46nm,0.9s								
V12A	**Nelson**	**2.23**	**87**		IAML		14 29 30.0		
	comp=N,54nm,0.8s								
V12A					IAML		14 29 35.8		
	comp=E,59nm,0.6s								
BORC	**Borrego Spring**	**2.57**	**158**		IAML		14 29 41.0		
	comp=E,64nm,0.8s								
BORC					IAML		14 29 55.6		
	comp=N,49nm,0.0s								
W13A	**Hualapai Mount**	**3.07**	**99**		IAML		14 30 00.2		
	comp=N,33nm,0.8s								
W13A					IAML		14 30 00.2		
	comp=E,22nm,0.6s								
BLYC	**Blythe**	**3.16**	**126**		IAML		14 30 02.4		
	comp=E,42nm,0.7s								
WAKR	**Walker**	**3.21**	**333**		IAML		14 30 22.8		
	comp=E,15nm,0.9s								
CMB	**Columbia Colle**	**3.27**	**317**		IAML		14 30 04.0		
	comp=E,30nm,0.6s								
CMB					IAML		14 30 04.4		
	comp=N,27nm,0.7s								
ESJX	**Sierra Juarez**	**3.89**	**159**		IAML		14 30 20.9		
	comp=N,9.9nm,0.8s								
ESJX					IAML		14 30 20.9		
	comp=E,12nm,1.1s								
KNB	**Kanab**	**4.08**	**69**		IAML		14 30 33.8		
	comp=E,12nm,1.0s								
KNB					IAML		14 30 34.7		
	comp=N,8.6nm,1.3s								
PSUT	**Pine Spring**	**4.14**	**45**		IAML		14 30 38.9		
	comp=E,10nm,0.7s								
PSUT					IAML		14 30 44.2		
	comp=N,8.9nm,1.1s								
Y14A	**Wickenburg**	**4.14**	**113**		IAML		14 30 35.3		
	comp=E,19nm,0.7s								
SPR3	**Spring Creek 3**	**4.22**	**37**		IAML		14 30 33.3		
	comp=N,6.6nm,0.9s								
SPR3					IAML		14 30 34.1		
	comp=E,9.1nm,0.8s								
AFDM	**Forest Hills D**	**4.25**	**322**		IAML		14 30 32.1		
	comp=E,18nm,0.9s								
AFDM					IAML		14 30 39.9		
	comp=N,14nm,0.6s								
113A	**Mohawk Valley,**	**4.28**	**131**		IAML		14 30 42.6		
	comp=N,7.2nm,1.6s								
113A					IAML		14 30 50.1		
	comp=E,8.3nm,1.2s								
BEKR	**Beckworth**	**4.74**	**333**		IAML		14 31 05.9		
	comp=N,6.9nm,1.0s								
X16A	**Lo Mia Camp, P**	**5.19**	**102**		IAML		14 31 07.5		
	comp=N,6.0nm,1.8s								
X16A					IAML		14 31 14.6		
	comp=E,6.6nm,0.8s								

IDC 07 14:34:39.5±2.3, 1°.40N×126°.92E, h0km, mb3.2/3, mbtmp3.2/3, MS2.9/1, Error ellipse: s-maj=179.5km s-min=28.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
WRA	**Warramunga Arr**	**22.42**	**161**	P		P	14 39 38.6		-1.4
	0.5nm,0.5s,baz=340,slow=11,SNR=5.3								
	0.5nm,0.5s								
ASAR	**Alice Springs**	**25.82**	**165**	P		P	14 40 13.7		+0.9
	0.2nm,0.4s,baz=346,slow=12,SNR=13								
	0.2nm,0.4s								
JNU	**Nakatsue**	**31.78**	**6**	LR		LR	15 00 06.5		
	comp=Z,19nm,18.0s,baz=48,slow=48								
MKAR	**Makanchi Array**	**59.57**	**326**	P		P	14 44 45.0		-0.1
	0.1nm,0.5s,baz=118,slow=7.4,SNR=2.4								
	0.1nm,0.5s								

*MOS **07** 14:37:49.2±1.2, 48°.07N×155°.15E, h17km, mb4.5/1, Error ellipse: s-maj=9.0km s-min=4.1km az=71.4*
*KRSC **07** 14:37:49.4±1.3, 48°.04N×155°.97E, h15km±21km, Ml4.4*
*SKHL **07** 14:37:51.9±0.2, 48°.00N×155°.30E, h53km±7km, mb4.8/6*
*NEIC **07** 14:37:54.2±1.6, 48°.35N±0°.09×154°.7E±0°.1, h35km±2km, mb4.2/33, Error ellipse: s-maj=19.8km s-min=3.1km az=137.0*
*IDC **07** 14:37:55.6±2.7, 48°.30N×154°.82E, h53km±24km, mb3.7/17, mbtmp4.0/22, ML3.6/5, MS3.2/9, Error ellipse: s-maj=19.1km s-min=13.1km az=124.0*

ISC 07 14:37:53.3±0.5, 48°.15N±0°.06×155°.02E±0°.06, h33km, n167, σ1§24/165, mb4.2/36, 6C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
SKR	**Severo-Kuril's**	**2.64**	**15**	*e*PN		**Pn**	**14 38 33.2**		**-0.3**
SKR				*e*S		**Sn**	**14 39 04.0**		**-0.3**
SKR				pmax		pmax			
	comp=Z,92nm,0.6s								
SKR				smax		smax			
	comp=N,255nm,0.5s								
SKR				smax		smax			
	comp=E,290nm,0.5s								
SKR	**Severo-Kuril's**	**2.64**	**15**	*e*P		**Pn**	**14 38 33.3**		**-0.2**
SKR	**Severo-Kuril's**	**2.64**	**15**	*e*P		**Pn**	**14 38 33.2**		**-0.3**
SKR				AMB		AMB	14 38 37.1		
	comp=E,160nm,0.5s								
SKR				*e*S		**Sn**	**14 39 04.0**		**-0.3**
SKR				A		A	14 39 16.9		
	comp=E,350nm,0.5s								
SKR				A		A	14 39 16.9		
	comp=E,310nm,0.5s								
PAU	**Pauzhetka**	**3.52**	**19**	PN		**Pn**	**14 38 46.4**		**+0.8**
PAU				S		**Sn**	**14 39 27.8**		**+1.8**
PAU	**Pauzhetka**	**3.52**	**19**	*e*P		**Pn**	**14 38 46.4**		**+0.8**
PAU				*e*S		**Sn**	**14 39 27.9**		**+1.8**
PAU	**Pauzhetka**	**3.52**	**19**	*e*P		**Pn**	**14 38 45.6**		**0.0**
PAU				AMB		AMB	14 39 05.5		
	comp=E,150nm,0.7s								
PAU				*e*S		**Sn**	**14 39 26.0**		**-0.1**
PAU				A		A	14 39 51.6		
	comp=E,390nm,0.5s								
PAU				A		A	14 39 51.6		
	comp=E,500nm,0.5s								
ASAK	**Asacha**	**4.63**	**22**	PN		**Pn**	**14 39 01.6**		**+0.8**
ASAK	**Asacha**	**4.63**	**22**	*e*P		**Pn**	**14 39 01.6**		**+0.8**
MTVR	**Mutnovka**	**4.79**	**24**	PN		**Pn**	**14 39 03.3**		**+0.1**
MTVR	**Mutnovka**	**4.79**	**24**	*e*P		**Pn**	**14 39 03.3**		**+0.1**
GRL	**Gorelyy**	**4.83**	**23**	PN		**Pn**	**14 39 04.7**		**+1.1**
GRL	**Gorelyy**	**4.83**	**23**	*e*P		**Pn**	**14 39 04.7**		**+1.1**
APC	**Apacha**	**4.98**	**15**	PN		**Pn**	**14 39 07.5**		**+2.0**
APC	**Apacha**	**4.98**	**15**	*e*P		**Pn**	**14 39 07.5**		**+2.0**
KRMR	**Karymshinskiy**	**5.09**	**22**	PN		**Pn**	**14 39 08.4**		**+1.3**
KRMR	**Karymshinskiy**	**5.09**	**22**	*e*P		**Pn**	**14 39 08.5**		**+1.3**
KRMR	**Karymshinskiy**	**5.09**	**22**	*e*P		**Pn**	**14 39 08.4**		**+1.3**
PEA0B	**Petropavlovsk-**	**5.25**	**18**			**Pn**	**14 39 09.3**		**-0.1**
PEA0B	**Petropavlovsk-**	**5.25**	**18**	*c* iPN		**Pn**	**14 39 10.1**		**+0.7**
PETK	**Petropavlovsk-**	**5.25**	**18**			**Pn**	**14 39 09.5**		**+0.1**
PETK	**Petropavlovsk-**	**5.25**	**18**	P		**Pn**	**14 39 09.7**		**+0.3**
	comp=E,1.5nm,0.3s,baz=178,slow=12,SNR=27								
PETK				LR		LR	14 41 31.3		
	comp=E,268nm,18.0s,baz=191,slow=42								
	comp=E,19nm,0.7s								
PET	**Petropavlovsk**	**5.40**	**24**			**Pn**	**14 39 10.0**		**-1.4**
PET	**Petropavlovsk**	**5.40**	**24**	*e*PN		**Pn**	**14 39 12.4**		**+1.0**
PET				pmax		pmax			
	comp=Z,16nm,0.6s								
PET	**Petropavlovsk**	**5.40**	**24**	*e*P		**Pn**	**14 39 10.0**		**-1.4**
PET				AMB		AMB	14 39 25.5		
	comp=Z,40nm,0.5s								
PET				*e*S		**Sn**	**14 40 11.6**		**-0.8**
DALK	**Dalny**	**5.44**	**24**	PN		**Pn**	**14 39 11.8**		**-0.1**
DALK	**Dalny**	**5.44**	**24**	*e*P		**Pn**	**14 39 11.8**		**-0.1**
UGLR	**Uglovaya**	**5.62**	**24**	PN		**Pn**	**14 39 14.7**		**+0.3**
UGLR	**Uglovaya**	**5.62**	**24**	*e*P		**Pn**	**14 39 14.7**		**+0.3**
KOK	**Koryaka**	**5.64**	**23**	PN		**Pn**	**14 39 15.4**		**+0.6**
KOK	**Koryaka**	**5.64**	**23**	*e*P		**Pn**	**14 39 15.4**		**+0.6**
KOK	**Koryaka**	**5.64**	**23**	*e*P		**Pn**	**14 39 15.4**		**+0.6**
AVH	**Avacha**	**5.64**	**23**	PN		**Pn**	**14 39 15.4**		**+0.6**
AVH	**Avacha**	**5.64**	**23**	*e*P		**Pn**	**14 39 15.5**		**+0.6**
SMAR	**Somma**	**5.66**	**24**	PN		**Pn**	**14 39 16.2**		**+1.1**
SMAR	**Somma**	**5.66**	**24**	*e*P		**Pn**	**14 39 16.2**		**+1.1**
KRER	**Koryakskii**	**5.68**	**23**	PN		**Pn**	**14 39 16.4**		**+1.0**
KRER	**Koryakskii**	**5.68**	**23**	*e*P		**Pn**	**14 39 16.5**		**+1.0**
SDLR	**Sedlovina**	**5.69**	**24**	PN		**Pn**	**14 39 15.5**		**0.0**
SDLR	**Sedlovina**	**5.69**	**24**	*e*P		**Pn**	**14 39 15.5**		**0.0**
KRX	**Arik**	**5.71**	**22**	PN		**Pn**	**14 39 16.7**		**+1.0**
KRX	**Arik**	**5.71**	**22**	*e*P		**Pn**	**14 39 16.8**		**+1.0**
KUR	**Kuril'sk**	**5.72**	**242**	PN		**Pn**	**14 39 18.3**		**+2.5**
KUR				pmax		pmax			
	comp=Z,174nm,0.6s								
KUR				pmax		pmax			
	comp=N,68nm,0.3s								
KUR				pmax		pmax			
	comp=E,34nm,0.3s								
KUR	**Kuril'sk**	**5.72**	**242**	*i* P		**Pn**	**14 39 18.3**		**+2.5**
KUR				AMB		AMB	14 39 21.0		
	comp=E,70nm,0.4s								
KUR				*i* S		**Sn**	**14 40 23.1**		**+2.9**
KUR				A		A	14 40 39.9		
	comp=E,120nm,0.7s								
KUR				A		A	14 40 39.9		
	comp=E,110nm,0.7s								
GNL	**Ganaly**	**5.86**	**17**	PN		**Pn**	**14 39 18.8**		**+1.1**
GNL	**Ganaly**	**5.86**	**17**	*e*P		**Pn**	**14 39 18.9**		**+1.1**
SPN	**Mys Shipunski**	**5.89**	**31**	PN		**Pn**	**14 39 17.7**		**-0.4**
SPN	**Mys Shipunski**	**5.89**	**31**	*e*P		**Pn**	**14 39 17.7**		**-0.4**
SHO	**Shikotan**	**7.13**	**236**	*d* iPN		**Pn**	**14 39 35.2**		**+0.1**
SHO				pmax		pmax			
	comp=Z,28nm,0.4s								
SHO				pmax		pmax			
	comp=N,14nm,0.3s								
SHO				pmax		pmax			
	comp=E,17nm,0.3s								
SHO	**Shikotan**	**7.13**	**236**	*i* P		**Pn**	**14 39 35.3**		**+0.1**
SHO				AMB		AMB	14 39 38.0		
	comp=E,30nm,0.6s								
SHO				*i* S		**Sn**	**14 40 51.5**		**-3.4**
SHO				A		A	14 40 58.1		
	comp=E,40nm,0.3s								
SHO				A		A	14 40 58.1		
	comp=E,40nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**7.58**	**241**	*i* PN		**Pn**	**14 39 41.9**		**+0.6**
YUK				pmax		pmax			
	comp=Z,115nm,0.3s								
YUK				pmax		pmax			
	comp=N,26nm,0.4s								
YUK				pmax		pmax			
	comp=E,25nm,0.2s								
YUK	**Yuzh-Kuril'sk**	**7.58**	**241**	*i* P		**Pn**	**14 39 42.3**		**+1.0**
YUK				AMB		AMB	14 39 42.8		
	comp=E,60nm,0.3s								
YUK				*i* S		**Sn**	**14 41 06.2**		**+0.2**
RUSJ	**Misakicho**	**7.90**	**243**	*e*PN		**Pn**	**14 39 49.7**		**+4.0**
NMR	**Nemuro--Hokkai**	**8.06**	**237**	*i* PN		**Pn**	**14 39 46.4**		**-1.5**
NMR	**Nemuro--Hokkai**	**8.06**	**237**	*i* P		**Pn**	**14 39 46.4**		**-1.5**
YSS	**Yuzhno-Sakhali**	**8.39**	**266**			**Pn**	**14 39 52.0**		**-0.4**
YSS	**Yuzhno-Sakhali**	**8.39**	**266**	*e*PN		**Pn**	**14 39 55.0**		**+2.6**
YSS				pmax		pmax			
	comp=Z,20nm,0.7s								
YSS				pmax		pmax			
	comp=Z,100nm,2.9s								
YSS				pmax		pmax			
	comp=E,100nm,2.8s								
YSS				MLR		MLR			
	comp=E,100nm,14.0s								
YSS				MLR		MLR			
	comp=Z,200nm,14.0s								
YSS	**Yuzhno-Sakhali**	**8.39**	**266**	*e*P		**Pn**	**14 39 55.0**		**+2.6**
YSS				*e*S		**Sn**	**14 41 25.5**		**-0.3**
TYV	**Tymovskoe**	**8.50**	**293**	*e*PN		**Pn**	**14 39 56.0**		**+2.1**
TYV				pmax		pmax			
	comp=Z,5.0nm,0.9s								
TYV				pmax		pmax			
	comp=Z,100nm,3.0s								
TYV	**Tymovskoe**	**8.50**	**293**	*e*P		**Pn**	**14 39 56.0**		**+2.1**
TYV				*e*S		**Sn**	**14 41 28.9**		**+0.4**
AKK	**Akkeshi**	**8.79**	**238**	*e*P		**Pn**	**14 39 56.8**		**-1.1**
JKA	**Kamikawa-asahi**	**9.52**	**250**			**Pn**	**14 40 09.2**		**+1.3**
JKA	**Kamikawa-asahi**	**9.52**	**250**	*e*P		**Pn**	**14 40 10.3**		**+2.4**
ASAJ	**Asahikawa**	**9.52**	**250**	P		**Pn**	**14 40 10.3**		**+2.4**
	comp=Z,2.1nm,0.3s,baz=63,slow=11,SNR=38								
ASAJ				LR		LR	14 43 35.2		
	comp=Z,100nm,19.1s,baz=50,slow=36								
	comp=Z,13nm,0.6s								
ERM	**Erimo**	**10.38**	**238**			**Pn**	**14 40 18.7**		**-1.1**
ERM	**Erimo**	**10.38**	**238**	*e*PN		**Pn**	**14 40 18.7**		**-1.1**
NKL	**Nikolayevsk**	**10.39**	**304**	*e*P		**Pn**	**14 40 22.0**		**+2.2**
MA2	**Magadan**	**11.72**	**349**	LR		LR	14 44 57.2		
	comp=Z,86nm,20.3s,baz=142,slow=36								
SEY	**Seymchan**	**14.90**	**355**	P		**Pn**	**14 41 22.0**		**+0.9**
SEY				LR		LR	14 47 31.7		
	comp=Z,0.1nm,0.3s,baz=140,slow=14,SNR=4.4								
	comp=Z,70nm,18.3s,baz=149,slow=39								
	comp=Z,0.8nm,0.5s								
KLR	**Kul'dur**	**15.40**	**283**	P		**Pn**	**14 41 28.7**		**+0.8**
	comp=Z,0.3nm,0.3s,baz=63,slow=9.9,SNR=6.4								
KLR				LR		LR	14 47 38.4		
	comp=Z,83nm,18.7s,baz=90,slow=38								
	comp=Z,0.8nm,0.8s								
KLR	**Kul'dur**	**15.40**	**283**	*e*P		**P**	**14 41 30.7**		**-1.5**
KLR				pmax		pmax			
	comp=Z,2.0nm,1.1s								
KLR	**Kul'dur**	**15.40**	**283**	*e*P		**Pn**	**14 41 27.6**		**-0.3**
USRK	**Ussuriysk Ar.**	**16.42**	**265**	P		**Pn**	**14 41 39.7**		**-1.3**
	comp=Z,0.3nm,0.3s,baz=62,slow=10,SNR=4.9								
USRK				LR		LR	14 47 31.5		
	comp=Z,63nm,19.5s,baz=55,slow=35								
	comp=Z,1.3nm,0.6s								
VLA	**Vladivostok**	**16.92**	**261**	*e*P		**P**	**14 41 49.8**		**+0.8**
MJA0	**Matsu Arr-Jizo**	**16.93**	**233**	*e*P		**P**	**14 41 49.3**		**0.0**
MJA0				pmax		pmax			
	comp=Z,2.0nm,0.6s								
MJAR	**Matsushiro Arr**	**16.95**	**233**	P		**Pn**	**14 41 46.0**		**-1.9**
	comp=Z,2.0nm,0.6s,baz=44,slow=9.6,SNR=7.1								
MSHR	**Mys Shultsa**	**17.64**	**260**	*e*P		**P**	**14 41 57.9**		**+0.9**
PSTR	**Posyet**	**17.84**	**261**	*e*P		**Pn**	**14 41 58.6**		**-0.1**
PSTR	**Posyet**	**17.84**	**261**	*e*P		**Pn**	**14 41 58.6**		**-0.1**
ZEA	**

D25K	**Kavik River**	**35.10**	**32**	P	**P**	**14 44 43.4**	**+0.4**
D25K				IAmb	IAmb	14 44 53.7		
	comp=Z,2.8nm,0.7s							
BMAR	**Burnt Mountain**	**35.63**	**35**	P	**P**	**14 44 48.9**	**+1.3**
G26K	**Porcupine Rive**	**35.94**	**36**	P	**P**	**14 44 51.0**	**+0.9**
G26K				IAmb	IAmb	14 44 52.4		
	comp=Z,2.3nm,0.8s							
MK31	**Makanchi Array**	**47.46**	**297**	*e*P	**P**	**14 46 22.9**	**-1.7**
MKAR	**Makanchi Array**	**47.46**	**297**	P	**P**	**14 46 22.2**	**-2.3**
MKAR	**Makanchi Array**	**47.46**	**297**	P	**P**	**14 46 22.7**	**-1.9**
	comp=Z,1.8nm,0.6s,baz=68,slow=8.3,SNR=20							
	comp=Z,1.8nm,0.6s							
EUNU	**Eureka**	**47.50**	**12**	P	**P**	**14 46 23.5**	**-1.0**
KURK	**Kurchatov**	**47.68**	**303**	P	**P**	**14 46 24.0**	**-2.1**
KURK	**Kurchatov**	**47.68**	**303**	*e*P	**P**	**14 46 24.7**	**-1.5**
KURK				pmax	pmax			
	comp=Z,9.0nm,1.7s							
KURK	**Kurchatov**	**47.68**	**303**	*e*P	**P**	**14 46 24.7**	**-1.5**
KURBB	**Kurchatov Arra**	**47.77**	**303**	P	**P**	**14 46 24.4**	**-2.4**
	comp=Z,3.6nm,0.6s,baz=67,slow=8.5,SNR=14							
	comp=Z,3.6nm,0.6s							
RES	**Resolute Bay**	**49.10**	**19**	P	**P**	**14 46 36.4**	**-0.4**
RES	**Resolute Bay**	**49.10**	**19**	P	**P**	**14 46 36.4**	**-0.4**
RES				pmax	pmax			
	comp=Z,6.0nm,1.2s							
CMAR	**Chiang Mai Arr**	**53.95**	**257**	P	**P**	**14 47 14.7**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=35,slow=7.1,SNR=8.7							
	comp=Z,0.9nm,0.6s							
BLKN	**Baker Lake**	**55.01**	**30**	P	**P**	**14 47 20.3**	**-0.5**
BLKN				IAmb	IAmb	14 47 21.7		
	comp=Z,4.1nm,0.8s							
AB31	**Akbulak array**	**58.52**	**310**	P	**P**	**14 47 44.3**	**-1.8**
AB31				IAmb	IAmb	14 48 21.1		
	comp=Z,2.4nm,1.3s							
ABKAR	**Akbulak array**	**58.52**	**310**	P	**P**	**14 47 43.9**	**-2.1**
PDAR	**Pinedale Array**	**62.88**	**55**	P	**P**	**14 48 16.4**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=275,slow=6.8,SNR=3.8							
	comp=Z,0.4nm,0.8s							
FINES	**FINESS Array B**	**63.32**	**335**	P	**P**	**14 48 17.3**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=45,slow=8.4,SNR=7.8							
	comp=Z,1.4nm,0.7s							
NOA	**NORSAR Array B**	**67.32**	**342**	P	**P**	**14 48 43.1**	**-1.2**
	comp=Z,1.1nm,0.2s,baz=25,slow=6.4,SNR=3.4							
	comp=Z,1.1nm,0.2s							
HFS	**Hagfors**	**67.59**	**340**	P	**P**	**14 48 45.1**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=90,slow=4.3,SNR=2.7							
	comp=Z,0.7nm,0.4s							
MSVF	**Nonsavu**	**68.74**	**156**	P	**P**	**14 48 55.2**	**+1.5**
MSVF	**Nonsavu**	**68.74**	**156**	P	**P**	**14 48 55.2**	**+1.5**
MSVF				pmax	pmax			
	comp=Z,13nm,1.2s							
WB0	**Warramunga Arr**	**70.08**	**201**	P	**P**	**14 49 02.2**	**+0.3**
WB0				IAmb	IAmb	14 49 39.8		
	comp=Z,5.4nm,1.2s							
WR8	**Warramunga Arr**	**70.24**	**201**	P	**P**	**14 49 03.0**	**+0.1**
WRA	**Warramunga Arr**	**70.27**	**201**	P	**P**	**14 49 02.9**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=17,slow=7.0,SNR=14							
	comp=Z,1.4nm,0.9s							
WRA	**Warramunga Arr**	**70.27**	**201**	*i* P	**P**	**14 49 06.5**	**+3.4**
FITZ	**Fitzroy Crossi**	**70.99**	**210**	P	**P**	**14 49 08.7**	**+1.3**
FITZ				IAmb	IAmb	14 49 08.9		
	comp=Z,2.2nm,1.3s							
FITZ	**Fitzroy Crossi**	**70.99**	**210**	P	**P**	**14 49 08.0**	**+0.5**
	comp=Z,2.6nm,0.9s,baz=22,slow=3.4,SNR=7.1							
	comp=Z,2.6nm,0.9s							
AKASG	**Malin Array Be**	**71.10**	**327**	P	**P**	**14 49 05.8**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=34,slow=6.6,SNR=2.3							
	comp=Z,0.3nm,0.4s							
AS31	**Alice Springs**	**73.95**	**200**	P	**P**	**14 49 26.0**	**+0.9**
ASAR	**Alice Springs**	**73.95**	**200**	P	**P**	**14 49 26.1**	**+1.0**
ASAR	**Alice Springs**	**73.95**	**200**	P	**P**	**14 49 26.0**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=14,slow=5.3,SNR=47							
	comp=Z,0.7nm,0.5s							
BURAR	**Bucovina Array**	**75.12**	**327**	P	**P**	**14 49 30.6**	**-1.3**
EKA	**Eskdalemuir Ar**	**75.28**	**347**	P	**P**	**14 49 31.9**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=18,slow=5.1,SNR=12							
	comp=Z,1.3nm,0.5s							
ESK	**Eskdalemuir**	**75.30**	**347**	P	**P**	**14 49 31.9**	**-0.7**
ESK	**Eskdalemuir**	**75.30**	**347**	P	**P**	**14 49 31.9**	**-0.7**
ESK				pmax	pmax			
	comp=Z,30nm,1.4s							
CHVC	**Chvalec**	**75.51**	**334**	*e*P	**P**	**14 49 33.6**	**-0.4**
CHVC	**Chvalec**	**75.51**	**334**	*e*P	**P**	**14 49 33.6**	**-0.4**
DPC	**Dobruska-Polom**	**75.65**	**334**	*e*P	**P**	**14 49 34.8**	**+0.1**
DPC	**Dobruska-Polom**	**75.65**	**334**	*e*P	**P**	**14 49 34.8**	**+0.1**
TX31	**Lajitas Ar. Si**	**75.68**	**62**	P	**P**	**14 49 36.0**	**+0.6**
TXAR	**Lajitas Array**	**75.69**	**62**	P	**P**	**14 49 35.9**	**+0.5**
TXAR	**Lajitas Array**	**75.69**	**62**	P	**P**	**14 49 36.3**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=296,slow=4.2,SNR=15							
	comp=Z,0.8nm,0.7s							
TXAR	**Lajitas Array**	**75.69**	**62**	P	**P**	**14 49 35.9**	**+0.5**
KHC	**Kasperske Hory**	**77.53**	**335**	*e*P	**P**	**14 49 45.3**	**-0.1**
KHC	**Kasperske Hory**	**77.53**	**335**	*e*P	**P**	**14 49 45.3**	**-0.1**
CKRC	**Cesky Krumlov**	**77.60**	**335**	*e*P	**P**	**14 49 45.1**	**-0.7**
CKRC	**Cesky Krumlov**	**77.60**	**335**	*e*P	**P**	**14 49 45.1**	**-0.7**
GERES	**GERESS Array B**	**77.75**	**335**	P	**P**	**14 49 46.3**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=40,slow=5.9,SNR=11							
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**78.25**	**318**	P	**P**	**14 49 49.2**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=64,slow=5.6,SNR=7.4							
	comp=Z,1.1nm,0.8s							
PRED	**Cave del Predi**	**79.97**	**334**	P	**P**	**14 49 57.5**	**-1.4**
PRED				IAmb	IAmb	14 49 57.6		
	comp=Z,6.9nm,1.5s							
FORT	**Forrest**	**82.20**	**203**	P	**P**	**14 50 11.2**	**+0.6**
H03N2	**Juan Fernandez**	**137.46**	**90**	T	T	17 30 31.4		
	baz=309,slow=77,SNR=17							
H03N1	**Juan Fernandez**	**137.48**	**90**	T	T	17 30 32.7		
	baz=309,slow=77,SNR=30							
H03N3	**Juan Fernandez**	**137.48**	**90**	T	T	17 30 22.9		
	baz=309,slow=77,SNR=24							

*NEIC **07** 14:46:40.1±0.5,35.°917N×0.°010×117.°70W±0.°01, h7km±1km, Error ellipse: s-maj=1.5km s-min=1.2km az=139.0*

PAS 07 14:46:40.5±0.8,35.°914N±0.°009×117.°712W±0.°007, h2km±1km, Mwr3.6/4, ML3.4/150(NEIC), **Error ellipse: s-maj=1.4km s-min=0.6km az=161.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**293**		Pg	14 46 42.7	+0.3
TOW	**Tower One**	**0.11**	**202**		Pg	14 46 43.3	+0.6
CLC	**China Lake**	**0.14**	**136**		Pg	14 46 43.1	0.0
WNMM	**Nine Mile Cany**	**0.17**	**246**		Pg	14 46 44.2	+0.4
WNMM					Sg	14 46 47.4	+1.3
SRTC	**Snort**	**0.22**	**188**		Sg	14 46 49.7	+1.9
MPMC	**Manual Prospec**	**0.23**	**51**		Pg	14 46 45.1	+0.1
MPMC				IAML		14 46 50.7	
	comp=E,8μm,0.5s						
MFS	**McCloud Flat S**	**0.23**	**330**		Pg	14 46 45.3	+0.2
MFS					Sg	14 46 49.0	+0.8
LRMC	**Laurel Mtn Rad**	**0.43**	**177**	Pg	Pg	14 46 48.7	-0.1
LRMC				IAML		14 46 55.7	
	comp=N,5μm,0.2s						
LRMC				IAML		14 46 56.8	
	comp=E,6μm,0.6s						
CCCA	**Chr Cany lake**	**0.48**	**144**		Pg	14 46 50.0	+0.3
WORM	**Onyx Ranch**	**0.48**	**243**		Pg	14 46 49.8	0.0
WBSM	**Bird Springs**	**0.51**	**223**		Pg	14 46 50.4	0.0
WBSM					Sg	14 46 58.0	+1.0
WHFM	**Hanning Flat**	**0.56**	**247**		Pg	14 46 51.3	0.0
WHFM					Sg	14 46 59.0	+0.5
CWC	**Cottonwood Cre**	**0.60**	**331**		Pg	14 46 51.9	-0.2
CWC				IAML		14 47 02.7	
	comp=E,2μm,0.2s						
CWC				IAML		14 47 04.2	
	comp=N,2μm,0.2s						
ISA	**Isabella, Lake**	**0.67**	**248**		Pg	14 46 53.2	-0.1
ISA				IAML		14 47 02.6	
	comp=N,3μm,0.4s						
ISA				IAML		14 47 03.3	
	comp=E,2μm,0.3s						
QSM	**Queen of Sheba**	**0.69**	**85**		Pg	14 46 53.3	-0.4
GWY	**Greenwater Val**	**0.89**	**72**		Pg	14 46 57.3	-0.3
GWY				IAML		14 47 14.8	
	comp=N,2μm,0.7s						
SPG2	**Springville 2**	**0.90**	**289**		Pg	14 46 57.3	-0.5
GSC	**Goldstone, Bar**	**0.96**	**129**		Pg	14 46 58.2	-0.7
GSC				IAML		14 47 14.2	
	comp=N,846nm,0.8s						
GSC				IAML		14 47 14.4	
	comp=E,2μm,0.8s						
GRAC	**Grapevine Rang**	**1.11**	**14**		Pg	14 47 01.4	-0.5
GRAC				IAML		14 47 08.1	
	comp=E,2μm,0.7s						
GRAC				IAML		14 47 19.1	
	comp=N,1μm,0.7s						
TPO	**Tropico Hills**	**1.12**	**202**	IAML		14 47 22.9	
	comp=E,1μm,0.9s						
TPO				IAML		14 47 23.0	
	comp=N,2μm,0.7s						
WCT	**Wildcat Mounta**	**1.24**	**45**		Pg	14 47 03.6	-0.7
WCT				IAML		14 47 22.9	
	comp=E,682nm,0.5s						
WCT				IAML		14 47 25.8	
	comp=N,446nm,0.7s						
THC	**Tehachapi Micr**	**1.27**	**218**		Pg	14 47 03.7	-1.1
VOG	**Valley Oaks Go**	**1.41**	**287**		Pn	14 47 06.8	-0.5
GMN	**Gold Mountain**	**1.43**	**15**		Pn	14 47 07.0	-0.8
GMN				IAML		14 47 31.6	
	comp=N,483nm,0.7s						
DSP	**Deep Springs**	**1.47**	**352**		Pn	14 47 07.3	-0.7
DSP				IAML		14 47 30.1	
	comp=E,384nm,0.7s						
BHPR	**Bishop**	**1.52**	**336**		Pn	14 47 09.0	0.0
TUQ	**Turquoise Moun**	**1.53**	**108**		Pn	14 47 07.6	-1.4
OSI	**Osito Audit: C**	**1.54**	**213**		Pn	14 47 08.6	-0.4
OSI				IAML		14 47 32.7	
	comp=E,548nm,0.8s						
OSI				IAML		14 47 36.4	
	comp=N,299nm,0.6s						
TPNV	**Topopah Spring**	**1.57**	**48**		Pn	14 47 08.7	-0.8
TPNV				IAML		14 47 34.8	
	comp=N,597nm,0.9s						
TPNV				IAML		14 47 40.2	
	comp=N,420nm,0.7s						
BFSC	**Mount Baldy Ra**	**1.67**	**178**		Pn	14 47 10.0	-1.0
BFSC				IAML		14 47 34.6	
	comp=E,265nm,0.8s						
BFSC				IAML		14 47 35.2	
	comp=N,284nm,0.6s						
MWC	**Mount Wilson**	**1.71**	**190**		Pn	14 47 10.6	-0.9
MWC				IAML		14 47 37.4	
	comp=N,500nm,0.6s						
MWC				IAML		14 47 38.0	
	comp=E,363nm,0.7s						
MZP	**Montezuma Peak**	**1.80**	**8**		Pn	14 47 12.3	-0.6
GTM	**Goat Mountain**	**1.96**	**145**		Pb	14 47 17.1	+0.1
SHPR	**Sheep Range**	**2.15**	**73**	IAML		14 47 54.1	
	comp=E,150nm,0.7s						
V12A	**Nelson**	**2.33**	**94**	IAML		14 47 57.7	
	comp=N,284nm,1.2s						
V12A				IAML		14 48 02.8	
	comp=E,216nm,0.6s						
LHV	**Little Huntoon**	**2.42**	**345**	IAML		14 48 04.0	
	comp=N,168nm,0.9s						
LHV				IAML		14 48 15.6	
	comp=E,188nm,1.4s						
PMD	**Palm Desert**	**2.51**	**154**	IAML		14 48 02.6	
	comp=E,116nm,0.7s						
PFO	**Pinyon Flats O**	**2.52**	**155**	IAML		14 48 05.7	
	comp=E,125nm,1.4s						
PRN	**Pahroc Range**	**2.61**	**54**	IAML		14 48 14.6	
	comp=N,242nm,0.7s						
PRN				IAML		14 48 22.0	
	comp=E,288nm,1.0s						
WAKR	**Walker**	**2.93**	**332**	IAML		14 48 17.7	
	comp=E,86nm,1.2s						
CMB	**Columbia Colle**	**3.01**	**315**	IAML		14 48 19.6	
	comp=N,107nm,1.1s						
CMB				IAML		14 48 20.3	
	comp=E,122nm,0.8s						
W13A	**Hualapai Mount**	**3.23**	**103**	IAML		14 48 26.3	
	comp=N,80nm,1.2s						
W13A				IAML		14 48 29.4	
	comp=E,85nm,0.6s						
BLYC	**Blythe**	**3.40**	**129**	IAML		14 48 33.1	
	comp=N,68nm,0.7s						
BLYC				IAML		14 48 33.2	
	comp=E,75nm,0.8s						
GLA	**Glamis**	**3.72**	**139**	IAML		14 48 54.9	
	comp=E,126nm,0.9s						
GLA				IAML		14 48 55.8	
	comp=N,85nm,0.8s						
MPK	**Martis Peak**	**3.84**	**332**	IAML		14 49 01.9	
	comp=E,108nm,1.0s						
AFDM	**Forest Hills D**	**3.99**	**320**	IAML		14 48 47.4	
	comp=E,90nm,0.8s						
AFDM				IAML		14 48 54.5	
	comp=N,69nm,0.9s						
PSUT	**Pine Spring**	**4.04**	**49**	IAML		14 48 58.1	
	comp=E,75nm,1.0s						
PSUT				IAML		14 48 58.2	
	comp=N,48nm,1.0s						
SPR3	**Spring Creek 3**	**4.09**	**40**	IAML		14 48 55.7	
	comp=E,51nm,1.3s						
SPR3				IAML		14 48 59.9	
	comp=N,40nm,1.4s						
KNB	**Kanab**	**4.09**	**73**	IAML		14 48 58.5	
	comp=E,44nm,0.9s						
KNB				IAML		14 49 03.4	
	comp=N,57nm,1.4s						
ESJX	**Sierra Juarez**	**4.17**	**159**	IAML		14 48 53.0	
	comp=E,43nm,0.8s						
ESJX				IAML		14 48 53.1	
	comp=N,33nm,1.2s						
Y14A	**Wickenburg**	**4.34**	**116**	IAML		14 49 04.9	
	comp=E,57nm,1.0s						
BEKR	**Beckworth**	**4.47**	**333**	IAML		14 49 14.9	
	comp=E,61nm,0.8s						
BEKR				IAML		14 49 18.6	
	comp=N,29nm,0.6s						
113A	**Mohawk Valley,**	**4.53**	**133**	IAML		14 49 21.3	
	comp=E,21nm,1.3s						
ORV	**Oroville**	**4.71**	**322**	IAML		14 49 14.1	
	comp=E,43nm,0.9s						
ORV				IAML		14 49 23.2	
	comp=N,28nm,1.1s						
VTX	**Valle De La Tr**	**4.79**	**160**	IAML		14 49 16.8	
	comp=N,49nm,1.0s						
VTX				IAML		14 49 20.8	
	comp=E,37nm,0.8s						
X16A	**Lo Mia Camp, P**	**5.35**	**104**	IAML		14 49 35.3	
	comp=N,14nm,1.1s						
X16A				IAML		14 49 46.8	
	comp=E,19nm,1.5s						

*GCG **07** 14:53:34.5±0.6, 13.°86N×90.°00W, h141km±5km, MD3.9*
*CATAC **07** 14:53:35.6±0.6, 14.°NL6×9.°0W±.°, h135km±3km, M2.9/11, MLv2.9/11, Error ellipse: s-maj=14.4km s-min=9.3km az=27.2, confirmed*

ISC 07 14:53:40.7±1.8, 13.°94N±0.°10×89.°82W±0.°05, h116km±10km, n24, σ1§99/25, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.05**	**139**	*e*P	**Pn**	**14 53 54.7**	**-2.1**
NUBE				*e*S	**Sn**	**14 54 09.7**	**+0.8**
NUBE	**Las Nubes**	**0.05**	**139**	P	**Pn**	**14 53 54.8**	**-2.1**
NUBE	**Las Nubes**	**0.05**	**139**	S	**Sn**	**14 54 10.7**	**+1.8**
LOAL	**Lomas de Alarc**	**0.07**	**32**	S	**Sn**	**14 54 10.3**	**+1.6**
LOAL	**Lomas de Alarc**	**0.07**	**32**	P	**Pn**	**14 53 54.9**	**-1.8**
SLOZ	**Alcaldia de Sa**	**0.09**	**21**	P	**Pn**	**14 53 54.8**	**-1.9**
SLOZ	**Alcaldia de Sa**	**0.09**	**21**	S	**Sn**	**14 54 10.2**	**+1.5**
FAME	**Alcaldia de Sa**	**0.22**	**243**	P	**Pn**	**14 53 54.5**	**-2.4**
FAME	**Alcaldia de Sa**	**0.22**	**243**	S	**Sn**	**14 54 09.3**	**+0.2**
CEVE	**Cerro Verde**	**0.22**	**121**	P	**Pn**	**14 53 55.8**	**-1.4**
CEVE	**Cerro Verde**	**0.22**	**121**	S	**Sn**	**14 54 12.5**	**+2.9**
FG16	**Alotenango, Sa**	**0.75**	**296**	*e*P	**Pn**	**14 53 59.5**	**-0.8**
ESQI	**Esquipulas**	**0.77**	**37**	S	**Sn**	**14 54 16.8**	**+1.7**
ESQI	**Esquipulas**	**0.77**	**37**	P	**Pn**	**14 53 58.4**	**-1.9**
FG8	**Yepocapa, Chim**	**0.79**	**294**	*e*P	**Pn**	**14 53 59.9**	**-0.7**
ESSG	**Sabana Grande**	**1.08**	**294**	*e*P	Pn	14 53 58.6	-4.6
SCLA	**Alcaldia de Sa**	**1.08**	**103**	P	**Pn**	**14 54 02.3**	**-1.0**
SCLA	**Alcaldia de Sa**	**1.08**	**103**	S	**Sn**	**14 54 23.4**	**+3.0**
PQSS	**Presa 15 de Se**	**1.26**	**104**	P	**Pn**	**14 54 03.6**	**-1.6**
SARH	**Santa Rosa de**	**1.32**	**51**	*e*P	**Pn**	**14 54 04.0**	**-1.8**
STG0	**El Palmar, Qui**	**1.56**	**288**	*e*P	**Pn**	**14 54 06.8**	**-1.9**
STG0				*e*S	**Sn**	**14 54 33.1**	**+3.1**
STG8	**El Palmar, Qui**	**1.57**	**289**	*e*P	**Pn**	**14 54 07.6**	**-1.4**
PKGN	**Cerro Pekin**	**3.04**	**114**	P	**Pn**	**14 54 27.0**	**-0.4**
COPN	**Copaltepe**	**3.60**	**119**	P	**Pn**	**14 54 32.9**	**-1.9**

*IDC **07** 15:08:37.3±1.6, 0.°49N×126.°07E, h10km±9km, mb6.2/42, mbtmp6.2/44, ML5.4/3, MS6.5/46, Error ellipse: s-maj=14.4km s-min=8.0km az=64.0*

*MOS **07** 15:08:37.9±1.1, 0.°51N×126.°07E, h26km, mb6.9/76, MS6.7/62, Error ellipse: s-maj=6.7km s-min=3.8km az=113.9*

*NEIC **07** 15:08:38.5, 0.°35N×126.°23E, h30km, Moment Tensor Solution. Duration: 16§3 Moment tensor: Scale 10^{19}Nm; M_{rr}1.87; $M_{\theta\theta}$0.89; $M_{\phi\phi}$-2.76; $M_{r\theta}$-1.08; $M_{r\phi}$-1.29; $M_{\theta\phi}$-0.31; Fault plane solution: $M_0$2.98000×10^{19} NP1: ϕ_s346.07000°, δ48.64000°, λ40.07000°. NP2: ϕ_s227.00000°, δ61.11000°, λ130.99000°. Principal axes: T 2.6095, Plg54.0000°, Azm189.0000°; N 0.6426, Plg35.0000°, Azm24.0000°; P -3.2522, Plg7.0000°, Azm289.0000°;*

*NEIC **07** 15:08:38.5, 0.°55N×126.°23E, h30km*

*IPGP **07** 15:08:39.0, 0.°55N×126.°23E, h14km, Mw7.0, Fault plane solution: NP1:ϕ_s338.00000°, δ45.00000°, λ32.00000°. NP2:ϕ_s225.00000°, δ68.00000°, λ131.00000°.*

*BJI **07** 15:08:39.5, 0.°43N×126.°21E, h50km, mB6.8/79, mb6.5/69, Ms6.9/99, Ms7 6.8/99*

*NEIC **07** 15:08:40.5±1.6, 0.°51N±0.°07×126.°19E±0.°05, h35km±1km, mb6.7/394, Ms_20 6.8/1079, Mwb6.8/80, Mww6.9/51, Error ellipse: s-maj=11.3km s-min=8.0km az=167.0, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}1.16; $M_{\theta\theta}$1.10; $M_{\phi\phi}$-2.26; $M_{r\theta}$-0.58; $M_{r\phi}$-1.11; $M_{\theta\phi}$-0.35; Fault plane solution: $M_0$2.35000×10^{19} NP1: ϕ_s336.93000°, δ57.89000°, λ23.90000°. NP2: ϕ_s233.68000°, δ69.93000°, λ145.53000°. Principal axes: T 1.7924, Plg38.0000°, Azm192.0000°; N 0.8706, Plg51.0000°, Azm27.0000°; P -2.6630, Plg8.0000°, Azm288.0000°;*

*NEIC **07** 15:08:40.5, 0.°52N×126.°21E, h35km*

*ISC-PP **07** 15:08:40, 0.°51N×126.°19E, h13km, Mwppsm6.8, Moment Tensor Solution. s51 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.48±.14; $M_{\theta\theta}$-0.03±.21; $M_{\phi\phi}$0.33±.18; $M_{r\theta}$-0.17±.10; $M_{\theta\phi}$-0.55±.14; $M_{r\phi}$-0.00±.09; Fault plane solution: $M_0$1.84000×10^{19} NP1:ϕ_s169.00000°, δ18.90000°, λ246.30000°. NP2:ϕ_s13.90000°, δ72.80000°, λ-82.20000°.*

*DJA **07** 15:08:42.0±0.1, 1.°N±1.°×12.°6E±.°, h47km±2km, M6.9/145, mB7.1/140, mb6.5/145, MLv6.9/24, Mw7.0/150, Mw(mB)7.0/140, MwMwp6.8/127, Mwp6.6/127*

*OSUNB **07** 15:08:45.0±0.5, 0.°55N×125.°92E, h66km±4km, mB6.8/11, Error ellipse: s-maj=2.9km s-min=4.2km az=0.0*

*GCMT **07** 15:08:46.5±0.0, 0.°55N×126.°10E, h30km, MW6.9/176, Moment Tensor Solution. s175,c436; s176,c862; Duration: 7§0 Moment tensor: Scale 10^{19}Nm; M_{rr}1.74±.01; $M_{\theta\theta}$1.20±.01; $M_{\phi\phi}$-2.94±.01; $M_{r\theta}$-0.80±.02; $M_{\theta\phi}$-1.40±.01; $M_{r\phi}$-0.51±.02; Best double couple: $M_0$2.91400×10^{19} NP1:ϕ_s342.00000°, δ51.00000°, λ35.00000°. NP2:ϕ_s228.00000°, δ64.00000°, λ135.00000°. Principal axes: T 2.3570, Plg49.0000°, Azm189.0000°; N 1.1130, Plg40.0000°, Azm25.0000°; P -3.4700, Plg8.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 07 15:08:41.7±0.3, 0.°46N±0.°02×126.°12E±0.°03, h44km±1km, h44km:pP-P, n2623, σ1§99/2510, **mb6.6**/379, **MS6.8**/679, **109C-119D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.29**	**76**		**Pn**	**15 09 00.6**	**-2.6**
TNTI	**Ternate**	**1.29**	**76**	P	**Pn**	**15 09 00.5**	**-2.8**
TNTI	**Ternate**	**1.29**	**76**	S	**Sn**	**15 09 19.0**	**-0.3**
TNTI	**Ternate**	**1.29**	**76**	P	**Pn**	**15 09 00.6**	**-2.6**
TNTI				S	**Sn**	**15 09 16.0**	**-3.3**
KMSI	**Cibinong**	**2.14**	**273**	P	**Pn**	**15 09 14.2**	**-0.8**
SANI	**Sanana**	**2.50**	**183**	P	**Pn**	**15 09 18.8**	**-1.1**
SANI	**Sanana**	**2.50**	**183**	P	**Pn**	**15 09 19.3**	**-0.6**
SANI	**Sanana**	**2.50**	**183**	P	**Pn**	**15 09 18.5**	**-1.4**
SGSI	**Sangihe**	**3.26**	**350**	P	**Pn**	**15 09 30.6**	**+0.2**
LUWI	**Luwuk**	**3.66**	**246**	P	**Pn**	**15 09 37.4**	**+1.5**
LUWI	**Luwuk**	**3.66**	**246**		**Pn**	**15 09 36.2**	**+0.2**
LUWI	**Luwuk**	**3.66**	**246**	P	**Pn**	**15 09 37.9**	**+2.0**
LUWI	**Luwuk**	**3.66**	**246**	P	**Pn**	**15 09 37.5**	**+1.6**
NLAI	**Namlea**	**3.80**	**165**	P	**Pn**	**15 09 37.4**	**-0.4**
MRSI	**Marisa**	**4.18**	**270**	P	**Pn**	**15 09 42.9**	**-0.1**
AAI	**Ambon**	**4.61**	**153**	P	**Pn**	**15 09 49.5**	**+0.5**
APSI	**Ampana**	**4.67**	**253**	P	**Pn**	**15 09 51.9**	**+2.1**
MSAI	**Masohi**	**4.71**	**143**	P	**Pn**	**15 09 51.9**	**+1.6**
SWI	**Sorong**	**5.31**	**104**	P	**Pn**	**15 09 57.9**	**-0.6**
	161μm7μm,1.1s						
TOLI2	**Tolitoli**	**5.38**	**277**		**Pn**	**15 09 58.6**	**-0.8**
TOLI2	**Tolitoli**	**5.38**	**277**	P	**Pn**	**15 10 00.6**	**+1.1**
KDI	**Kendari**	**5.61**	**219**	P	**Pn**	**15 10 03.5**	**+0.8**
MPSI	**Mapaga**	**6.22**	**269**	P	**Pn**	**15 10 12.7**	**+1.6**
	64nm10μm,2.1s						
BNDI	**Bandanaira**	**6.23**	**143**	P	**Pn**	**15 10 12.6**	**+1.4**
BNDI	**Bandanaira**	**6.23**	**143**	P	**Pn**	**15 10 11.1**	**-0.1**
PCI	**Palu**	**6.43**	**258**	P	**Pn**	**15 10 15.7**	**+1.8**
DAV	**Davao City (W)**	**6.59**	**355**	Pn	**Pn**	**15 10 16.4**	**+0.3**
	223nm,0.3s,baz=258,slow=6.9,SNR=16						
DAV				Sn	**Sn**	**15 11 30.2**	**+0.2**
	29nm,0.3s,baz=116,slow=22,SNR=1.9						
DAV	**Davao City (W)**	**6.59

BATI Baumata 10.87 193 P **Pn** **15 11 17.9 +3.0**
comp=Z,526µm comp=Z,7µm,1.1s
KKM Kota Kinabalu 11.34 300 **Pn** **15 11 22.2 +1.0**
KKM Kota Kinabalu 11.34 300 P **Pn** **15 11 24.0 +2.7**
WSI Waingapu 11.61 210 P **Pn** **15 11 26.4 +1.4**
comp=Z,364µm comp=Z,126µm comp=Z,7µm,1.2s
BASI Baing, Sumba 11.96 207 P **Pn** **15 11 30.8 +1.1**
comp=Z,484µm comp=Z,141µm comp=Z,5µm,1.2s
WBSI Waikabubak, Su 12.06 214 P **Pn** **15 11 32.2 +1.0**
comp=Z,280µm comp=Z,65µm comp=Z,4µm,0.9s
PLAI Plampang 12.42 222 P **Pn** **15 11 37.4 +1.4**
PLAI Plampang 12.42 222 P **Pn** **15 11 37.1 +1.1**
comp=Z,231µm comp=Z,70µm comp=Z,6µm,1.8s
SMPI Sarmi 12.82 101 P **Pn** **15 11 42.4 +0.9**
comp=Z,5µm,1.8s
TWSI Taliwang, Sumb 12.97 225 P **Pn** **15 11 43.8 +0.3**
comp=Z,236µm comp=Z,50µm comp=Z,4µm,1.3s
DRS Darwin Rock St 13.66 160 P **Pn** **15 11 53.1 +0.2**
SRBI Singaraja 13.79 232 P **Pn** **15 11 55.9 +1.1**
comp=Z,253µm comp=Z,77µm comp=Z,3µm,1.3s
SBUM Sibu 14.03 278 **Pn** **15 11 58.1 0.0**
SBUM Sibu 14.03 278 P **Pn** **15 11 58.3 +0.2**
MTN Manton Dam 14.12 160 **Pn** **15 11 56.9 -2.3**
MTN Manton Dam 14.12 160 P **Pn** **15 11 58.1 -1.1**
KMMI Kalianget 14.23 238 P **Pn** **15 12 03.3 +2.5**
comp=Z,319µm comp=Z,113µm comp=Z,5µm,2.1s
GENI Genyem 14.37 102 P **Pn** **15 12 02.4 -0.2**
GENI Genyem 14.37 102 P **Pn** **15 12 03.0 +0.4**
TGY Tagaytay City 14.49 340 Pn **Pn** **15 12 03.9 -0.4**
comp=Z,94nm,0.3s,baz=214,slow=2.0,SNR=24
TGY LR 15 17 51.8
comp=Z,373µm,20.8s,baz=164,slow=38
comp=Z,186nm,0.3s
KDU Kakadu 14.50 154 P **Pn** **15 12 01.6 -2.8**
STKI Sintang 14.65 269 P **Pn** **15 12 06.7 +0.4**
comp=Z,874µm comp=Z,70µm comp=Z,3µm,1.4s
BWJI Bawean 14.83 245 P **Pn** **15 12 10.4 +1.7**
comp=Z,426µm comp=Z,96µm comp=Z,6µm,1.5s
JAGI Jajag, Banyuwa 14.86 233 Pn **Pn** **15 12 09.5 +0.3**
JAGI Jajag, Banyuwa 14.86 233 P **P** **15 12 12.3 -1.9**
JAGI Jajag, Banyuwa 14.86 233 P **P** **15 12 11.8 -2.4**
comp=Z,228µm comp=Z,108µm comp=Z,8µm,1.5s
JAY Jayapura 14.88 102 Pn **Pn** **15 12 08.2 -1.2**
comp=Z,1.7nm,0.3s,baz=274,slow=13,SNR=35
JAY Sn **Sn** **15 14 53.0 -0.1**
comp=Z,1.0nm,0.3s,baz=80,slow=24,SNR=1.5
JAY LR LR 15 17 39.5
comp=Z,312µm,21.5s,baz=286,slow=36
JAY ScS **ScS** **15 24 31.6 +4.8**
comp=Z,20nm,1.3s,baz=287,slow=24,SNR=1.0
JAY Jayapura 14.88 102 P **Pn** **15 12 08.6 -0.8**
comp=Z,117µm comp=Z,3µm,3.0s
GMJI Gumukmas 15.32 235 P **Pn** **15 12 17.2 +2.0**
comp=Z,225µm comp=Z,70µm comp=Z,2µm,1.0s
GRJI Gresik 15.46 241 P **Pn** **15 12 18.8 +1.9**
comp=Z,360µm comp=Z,141µm comp=Z,6µm,2.3s
KSM Kuching 15.84 274 **Pn** **15 12 20.9 -0.9**
KSM Kuching 15.84 274 P **Pn** **15 12 23.4 +1.5**
TBJI Tambak Boyo 15.97 243 P **Pn** **15 12 24.5 +1.0**
comp=Z,357µm comp=Z,7µm,1.2s
KNRA Kununurra 16.25 171 **Pn** **15 12 25.9 -1.1**
KNRA IAmb IAmb 15 12 34.2
comp=Z,4µm,0.8s
NGJI Ngawi 16.56 242 P **P** **15 12 33.9 +0.9**
comp=Z,520µm comp=Z,162µm comp=Z,8µm,1.2s
PCJI Pacitan 17.20 240 P **P** **15 12 41.2 +1.1**
comp=Z,243µm comp=Z,9µm,2.0s
WOJI Wonogiri, Jawa 17.25 241 P **P** **15 12 41.2 +0.6**
comp=Z,275µm comp=Z,122µm comp=Z,8µm,1.8s
SMRI Semarang 17.33 244 **Pn** **15 12 40.5 -0.1**
SMRI IAmb IAmb 15 12 50.8
comp=Z,11µm,1.8s
SMRI Semarang 17.33 244 P **P** **15 12 42.1 +0.6**
SMRI Semarang 17.33 244 P **Pn** **15 12 40.5 -0.1**
comp=Z,44µm comp=Z,5µm,1.3s
UGM Wanagama 17.63 242 P **Pn** **15 12 44.6 +0.2**
UGM IAmb IAmb 15 12 51.0
comp=Z,6µm,1.6s
UGM Wanagama 17.63 242 P **P** **15 12 45.8 +0.9**
UGM Wanagama 17.63 242 P **P** **15 12 45.0 +0.1**
comp=Z,200µm comp=Z,108µm comp=Z,4µm,2.0s
SZP Santa 17.88 342 P **P** **15 12 49.1 +1.6**
FITZ Fitzroy Crossi 18.45 181 P **P** **15 12 52.8 -1.0**
FITZ Fitzroy Crossi 18.45 181 P **P** **15 12 52.5 -1.3**
comp=Z,12nm,0.3s,baz=20,slow=10.0,SNR=362
FITZ S **Sn** **15 16 16.5 -3.1**
comp=Z,90nm,0.7s,baz=248,slow=12,SNR=1.3
comp=Z,688nm,0.9s
FITZ Fitzroy Crossi 18.45 181 P **Pn** **15 12 54.5 +0.3**
TPI Tanjungpandan 18.73 260 P **P** **15 12 56.7 -0.3**
JCJI Jatiwangi 19.10 249 P **Pn** **15 13 02.4 +0.2**
comp=Z,364µm comp=Z,130µm comp=Z,7µm,1.9s
LEM Lembang 19.83 248 P **P** **15 13 09.2 0.0**
comp=Z,302µm comp=Z,56µm comp=Z,3µm,1.2s
BBJI Bungbulang 20.03 247 P **P** **15 13 11.4 +0.1**
CNJI Cibinong 20.45 247 P **P** **15 13 14.9 -0.9**
comp=Z,1µm,1.1s
TNG Tangerang 20.52 251 P Pn 15 13 17.9 -1.2
comp=Z,237µm comp=Z,66µm comp=Z,3µm,1.7s
DBJI Dramaga 20.55 250 P **P** **15 13 15.9 -0.9**
comp=Z,314µm comp=Z,91µm comp=Z,3µm,1.6s
SKJI Sukabumi 20.88 249 P **P** **15 13 19.8 -0.6**
SBJI Serang 21.00 252 P **P** **15 13 20.5 -1.2**
comp=Z,244µm comp=Z,55µm comp=Z,3µm,1.6s
MANU Manus Island 21.39 97 P **P** **15 13 23.9 -2.0**
MANU IAmb IAmb 15 13 38.4
comp=Z,3µm,1.6s
CGJI Cibinong 21.56 251 P **P** **15 13 26.3 -1.4**
comp=Z,183µm comp=Z,38µm comp=Z,2µm,0.7s
PMBI Palembang 21.60 261 P **P** **15 13 27.5 -0.7**
PMBI IAmb IAmb 15 13 37.1
comp=Z,5µm,1.2s
PMBI Palembang 21.60 261 P **P** **15 13 29.6 +1.4**
PMBI Palembang 21.60 261 P **P** **15 13 29.5 +1.4**
comp=Z,268µm comp=Z,56µm comp=Z,3µm,1.4s
BLSI Bandar Lampung 21.63 254 P **P** **15 13 28.9 +0.4**
comp=Z,857nm,0.5s
I07AU WARRAMUNGA INZ 21.81 159 P **P** **15 13 30.0 -0.3**
baz=324,slow=13,SNR=8.7
WRAB Tennant Creek 21.81 159 P **P** **15 13 28.3 -2.1**
WRAB Tennant Creek 21.81 159*c i* P **P** **15 13 29.3 -1.1**
WRAB pmax pmax
comp=Z,7µm,0.8s
WRAB MLR MLR
comp=Z,175µm,21.0s
WRA Warramunga Arr 21.82 159 P **P** **15 13 28.9 -1.5**
comp=Z,3µm,0.8s,baz=332,slow=12,SNR=409
WRA S **S** **15 17 25.1 -4.3**
comp=Z,381nm,1.1s,baz=347,slow=17,SNR=6.9
WRA ScP **ScP** **15 21 06.4 +3.0**
comp=Z,48nm,0.8s,baz=334,slow=2.6,SNR=4.6
WRA LR LR 15 22 49.0
comp=Z,176µm,22.0s,baz=336,slow=39
WRA ScS **ScS** **15 24 46.5 -1.6**
comp=Z,2.8nm,0.7s,baz=324,slow=39,SNR=4.9
WRA PKiKP **PKiKP** **15 25 17.8 +1.8**
comp=Z,3.8nm,0.7s,baz=306,slow=1.4,SNR=1.2
WRA P3KPbc 15 47 11.5
comp=Z,2.2nm,0.8s,baz=158,slow=3.5,SNR=7.4
comp=Z,3µm,0.8s
WRA Warramunga Arr 21.82 159 *i* P **P** **15 13 27.7 -2.7**
WRA pmax pmax
comp=Z,828nm,0.8s
KLI Kotabumi 21.89 256 P **P** **15 13 31.7 +0.5**
comp=Z,238µm comp=Z,45µm comp=Z,2µm,1.3s
WR8 Warramunga Arr 21.89 158 P **P** **15 13 29.0 -2.2**
COEN Coen 22.15 131 P **P** **15 13 31.5 -2.5**
COEN IAmb IAmb 15 13 48.5
comp=Z,3µm,0.9s
COEN Coen 22.15 131 P **P** **15 13 32.3 -1.7**
MYKOM Kota Tinggi 22.30 274 IAmb IAmb 15 13 42.9
comp=Z,7µm,1.9s
MYKOM IAMs_20 IAMs_20 15 23 21.7
comp=Z,304µm,22.0s
MYKOM Kota Tinggi 22.30 274 P **P** **15 13 34.7 -1.0**
MBWA Marble Bar 22.38 196 P **P** **15 13 34.4 -2.0**
MBWA IAmb IAmb 15 13 41.6
comp=Z,4µm,1.8s
MBWA Marble Bar 22.38 196 P **P** **15 13 35.6 -0.8**
MBWA P **P** **15 13 35.6 -0.8**
MBWA Marble Bar 22.38 196 P **P** **15 13 35.6 -0.8**
MBWA Marble Bar 22.38 196 P **P** **15 13 34.9 -1.5**
MBWA S **S** **15 17 40.9 +1.2**
MDSI Maura Dua 22.46 257 P **P** **15 13 36.0 -1.4**
comp=Z,233µm comp=Z,1µm,1.0s
GUMO Guam 22.69 54 P **P** **15 13 37.0 -2.8**

GUMO Guam 22.69 54 LR LR 15 21 51.4
comp=Z,141µm,19.5s,baz=231,slow=35
GUMO ScS ScS 15 24 52.0 +0.6
comp=Z,27nm,0.9s,baz=33,slow=19,SNR=1.2
GUMO Guam 22.69 54 P **P** **15 13 39.5 -0.3**
GUMO Guam 22.69 54 P **P** **15 13 37.0 -2.8**
GUMO pmax pmax
comp=Z,4µm,0.9s
GUMO MLR MLR
comp=Z,171µm,21.0s
LWLI Liwa 22.70 256 P **P** **15 13 38.7 -1.3**
comp=Z,210µm comp=Z,36µm comp=Z,3µm,0.8s
TWG Pinlang 22.76 348 P **P** **15 13 35.7 -4.8**
TWG IAMs_20 IAMs_20 15 23 55.7
comp=Z,281µm,22.0s
LHSI Lahat 22.98 259 P **P** **15 13 42.3 -0.5**
XMI Christmas Isla 23.03 241 P **P** **15 13 43.6 +0.2**
YULB Yu-li 23.27 349 IAMs_20 IAMs_20 15 23 50.3
comp=Z,293µm,21.0s
TPUB Ta-pu 23.32 347 IAMs_20 IAMs_20 15 23 42.7
comp=Z,417µm,22.0s
TPUB Ta-pu 23.32 347 P **P** **15 13 43.9 -2.2**
MNAI Manna 23.63 258 P **P** **15 13 47.3 -1.9**
MNAI Manna 23.63 258 P **P** **15 13 50.1 +0.9**
MNAI Manna 23.63 258 P **P** **15 13 48.5 -0.7**
comp=Z,217µm comp=Z,72µm comp=Z,3µm,0.7s
SSLB Suanglung 23.72 348 IAmb IAmb 15 14 01.6
comp=Z,2µm,1.0s
SSLB IAMs_20 IAMs_20 15 24 24.3
comp=Z,369µm,22.0s
SSLB Suanglung 23.72 348 P **P** **15 13 49.3 -0.7**
KSI Kapahiang 23.86 260 P **P** **15 13 52.0 +0.5**
comp=Z,236µm comp=Z,52µm comp=Z,2µm,0.8s
NACB Ninganchiao 23.98 350 P **P** **15 13 47.9 -4.4**
NACB Ninganchiao 23.98 350 P **P** **15 13 51.5 -0.8**
YOJ Yonaguni jima 24.05 353 IAmb IAmb 15 14 00.8
comp=Z,2µm,0.9s
YOJ Yonaguni jima 24.05 353 P **P** **15 13 53.9 +1.0**
QIZ Qiongzhong 24.40 320 IAMs_20 IAMs_20 15 23 00.7
comp=Z,347µm,20.0s
QIZ Qiongzhong 24.40 320 IAmb IAmb 15 14 06.0
comp=Z,3µm,1.8s
QIZ Qiongzhong 24.40 320 P **P** **15 13 55.3 -1.0**
QIZ pmax pmax
comp=Z,37µm,7.3s
QIZ LR LR
comp=Z,133µm,18.5s
QIZ LR LR
comp=Z,308µm,16.6s
QIZ Qiongzhong 24.40 320 P **P** **15 13 55.3 -1.0**
YHNB Yeheng 24.50 350 IAmb IAmb 15 14 08.3
comp=Z,2µm,1.1s
YHNB IAMs_20 IAMs_20 15 24 41.5
comp=Z,402µm,21.0s
YHNB Yeheng 24.50 350 P **P** **15 13 57.6 +0.4**
HKPS Hong Kong Po S 24.62 333 IAMs_20 IAMs_20 15 22 23.7
comp=Z,304µm,22.0s
HKC Hong Kong Obse 24.63 333 ⇑P **P** **15 13 58.0 -0.3**
QIS Mount Isa 24.71 148 P **P** **15 13 59.3 +0.2**
TATO Taipei 24.78 350 P **P** **15 13 57.0 -2.6**
TATO Taipei 24.78 350 IAMs_20 IAMs_20 15 25 02.1
comp=Z,289µm,22.0s
TATO Taipei 24.78 350 P **P** **15 14 00.9 +1.3**
TATO P **P** **15 14 00.9 +1.3**
TATO Taipei 24.78 350 P **P** **15 13 59.7 +0.1**
BKNI Bangkinang 25.08 270 P **P** **15 14 00.2 -2.3**
BKNI Bangkinang 25.08 270 P **P** **15 14 01.0 -1.5**
BKNI IAMs_20 IAMs_20 15 24 46.9
comp=Z,339µm,20.0s
BKNI Bangkinang 25.08 270 P **P** **15 14 03.7 +1.2**
BKNI Bangkinang 25.08 270 P **P** **15 14 01.9 -0.6**
comp=Z,238µm comp=Z,55µm comp=Z,3µm,1.8s
ASAR Alice Springs 25.15 163 P **P** **15 14 02.0 -0.9**
ASAR Alice Springs 25.15 163 P **P** **15 14 02.8 -0.2**
comp=Z,858nm,0.8s,baz=327,slow=4.0,SNR=575
ASAR S **S** **15 18 25.6 +0.4**
comp=Z,49nm,0.9s,baz=0.5,slow=12,SNR=2.9
ASAR ScP **ScP** **15 21 16.6 +4.3**
comp=Z,33nm,0.8s,baz=352,slow=2.9,SNR=4.5
ASAR ScS **ScS** **15 25 00.5 -0.5**
comp=Z,9.9nm,0.8s,baz=336,slow=6.4,SNR=4.4
ASAR PKiKP **PKiKP** **15 25 18.8 +1.0**
comp=Z,7.5nm,0.8s,baz=41,slow=1.7,SNR=3.4
ASAR P3KPbc 15 47 00.3
comp=Z,6.5nm,1.0s,baz=151,slow=4.1,SNR=5.5
comp=Z,858nm,0.8s
ASAR Alice Springs 25.15 163 P **P** **15 14 02.1 -0.9**
AS01 Alice Springs 25.16 163 P **P** **15 14 03.1 0.0**
IPM Ipoh 25.38 279 P **P** **15 14 05.8 +0.6**
QZH Quanzhou 25.41 344⇓ *i* P **P** **15 14 04.1 -1.2**
QZH S **S** **15 18 28.7 -0.4**
QZH pmax pmax
comp=Z,29µm,3.6s
QZH LR LR
comp=Z,292µm,22.3s
QZH LR LR
comp=Z,134µm,27.5s
QZH LR LR
comp=Z,389µm,24.2s
JMZ Minamidaito 2 25.69 11 IAMs_20 IAMs_20 15 25 38.7
comp=Z,236µm,19.0s
JMZ Minamidaito 2 25.69 11 P **P** **15 14 08.5 +0.7**
JMZ Minamidaito 2 25.69 11 P **P** **15 14 09.2 +1.4**
GZH Guangzhou 25.69 332 P **P** **15 14 09.9 +2.0**
GZH pP **sP** **15 14 22.0 -2.2**
GZH S **S** **15 18 38.2 +4.5**
GZH pmax pmax
comp=Z,570nm,1.0s
GZH LR LR
comp=Z,172µm,18.4s
GZH LR LR
comp=Z,198µm,19.6s
GZH LR LR
comp=Z,318µm,20.4s
MTSU Mount Surprise 25.73 137 P **P** **15 14 08.4 +0.1**
PPI Padang Panjang 25.74 268 P **P** **15 14 08.8 +0.3**
comp=Z,228µm comp=Z,28µm comp=Z,2µm,1.0s
KULM Kulim 25.88 281 P **P** **15 14 08.5 -1.2**
KULM IAmb IAmb 15 14 14.3
comp=Z,5µm,1.6s
KULM Kulim 25.88 281 P **P** **15 14 10.3 +0.6**
JOW Kunigami 26.30 4 IAmb IAmb 15 14 20.1
comp=Z,2µm,0.9s
JOW Kunigami 26.30 4 P **P** **15 14 15.1 +1.7**
JOW Kunigami 26.30 4 P **P** **15 14 14.8 +1.4**
RABL Rabaul 26.43 100 P **P** **15 14 13.0 -1.8**
RABL IAmb IAmb 15 14 23.3
comp=Z,2µm,0.8s
MNSI Mandailing Nat 26.54 271 P **P** **15 14 14.9 -0.8**
comp=Z,185µm comp=Z,18µm comp=Z,890nm,1.2s
SISI Saibi 27.09 266 P **P** **15 14 20.4 -0.2**
comp=Z,135µm comp=Z,31µm comp=Z,2µm,1.9s
PSI Prapat 27.28 275 P **P** **15 14 22.5 0.0**
SRIT Nakonsritamara 27.62 288 IAmb IAmb 15 14 30.4
comp=Z,2µm,1.3s
SRIT Nakonsritamara 27.62 288 P **P** **15 14 26.5 +1.1**
TSI Tuntungan 27.70 277 P **P** **15 14 25.1 -1.0**
comp=Z,150µm comp=Z,48µm comp=Z,3µm,1.7s
MEEK Meekatharra 27.89 194 P **P** **15 14 27.1 -0.6**
JAM Amami Oshima 27.99 7 P **P** **15 14 29.8 +1.3**
CTAO Charters Tower 28.39 137 P **P** **15 14 31.5 -0.8**
CTAO Charters Tower 28.39 137 P **P** **15 14 32.7 +0.4**
CTAO Charters Tower 28.39 137 P **P** **15 14 31.5 -0.8**
CTAO pmax pmax
comp=Z,691nm,1.1s
GSI Gunungsitoli 28.55 272 IAMs_20 IAMs_20 15 26 46.6
comp=Z,171µm,20.0s
GSI Gunungsitoli 28.55 272 P **P** **15 14 34.2 +0.4**
GSI Gunungsitoli 28.55 272 P **P** **15 14 31.2 -2.6**
comp=Z,191µm comp=Z,26µm comp=Z,2µm,1.7s
GULI GuiLin 29.00 330 P **P** **15 14 37.2 -0.4**
GULI S **S** **15 19 22.6 -3.3**
GULI pmax pmax
comp=Z,200nm,1.2s
GULI LR LR
comp=Z,192µm,15.7s
GULI LR LR
comp=Z,292µm,16.0s
GULI LR LR
comp=Z,321µm,20.4s
LHMI Lhok Sumawe 29.51 280 P **P** **15 14 44.5 +2.3**
LHMI Lhok Sumawe 29.51 280 P **P** **15 14 41.8 -0.4**
comp=Z,169µm comp=Z,25µm comp=Z,1µm,1.8s
MLSI Meulaboh, Aceh 29.92 278 P **P** **15 14 44.1 -1.8**
SLVN Son La 30.01 315 IAMs_20 IAMs_20 15 26 11.2
comp=Z,175µm,22.0s
SLVN Son La 30.01 315 P **P** **15 14 46.8 +0.2**
CNSH ChangSha 30.32 336 P **P** **15 14 48.9 -0.3**
CNSH S **S** **15 19 48.7 +2.2**
CNSH LR LR
comp=Z,97µm,16.6s
CNSH LR LR
comp=Z,194µm,17.0s
CNSH LR LR
comp=Z,162µm,22.7s
CBIJ Chichi jima 30.66 29 P **P** **15 14 53.0 +0.8**
JCJ Chichijima 30.66 29 IAmb IAmb 15 15 09.8
comp=Z,877nm,1.0s
JCJ Chichijima 30.66 29 P **P** **15 14 53.3 +1.1**
SSE Sheshan 30.83 352 P **P** **15 14 54.4 +0.8**
SSE S **S** **15 19 56.2 +1.9**
SSE pmax pmax
comp=Z,5µm,5.5s
SSE LR LR
comp=Z,10µm,22.4s
SSE LR LR
comp=Z,3µm,22.3s
MORW Morawa 30.90 197 P **P** **15 14 53.9 -0.5**
PHRA Phrae 31.11 307 IAmb IAmb 15 15 02.5
comp=Z,3µm,2.0s
FORT Forrest 31.12 177 IAmb IAmb 15 15 03.8
comp=Z,1µm,0.8s
JSU Suzuyama 31.15 7 P **P** **15 14 56.4 -0.1**
COCO West Island 31.67 246 P **P** **15 15 01.2 -0.1**
COCO West Island 31.67 246 P **P** **15 15 02.0 +0.8**
COCO S **S** **15 20 06.6 -1.3**
COCO West Island 31.67 246 P **P** **15 15 02.3 +1.0**
COCO West Island 31.67 246 P **P** **15 15 01.2 -0.1**
COCO pmax pmax
comp=Z,3µm,1.3s
COCO MLR MLR
comp=Z,72µm,22.0s
WHN Wuhan 31.94 341⇓ P **P** **15 15 03.1 -0.3**
WHN sP **sP** **15 15 24.7 +4.9**
WHN S **S** **15 20 09.5 -2.3**
WHN SS **SnSn** **15 22 06.9 +3.3**
WHN pmax pmax
comp=Z,2µm,1.3s
WHN pmax pmax
comp=Z,24µm,8.3s
WHN LR LR
comp=Z,335µm,18.4s
WHN LR LR
comp=Z,134µm,14.4s
WHN LR LR
comp=Z,754µm,24.5s
QLP Quilpie 32.06 148 P **P** **15 15 05.2 +0.6**
CM31 Chiang Mai Arr 32.12 305 IAmb IAmb 15 15 10.3
comp=Z,2µm,1.9s
CM31 Chiang Mai Arr 32.12 305 P **P** **15 15 07.0 +1.7**
SNR=180
CM31 P **P** **15 15 07.0 +1.7**
SNR=180
CMAR Chiang Mai Arr 32.12 305 P **P** **15 15 04.0 -1.3**
CMAR Chiang Mai Arr 32.12 305 P **P** **15 15 04.6 -0.7**
comp=Z,193nm,1.3s,baz=130,slow=7.2,SNR=103
CMAR PcP **PcP** **15 17 55.8 +1.9**
comp=Z,166nm,0.8s,baz=128,slow=3.0,SNR=21
CMAR S **S** **15 20 13.5 -1.5**
comp=Z,5.8nm,0.8s,baz=128,slow=3.5,SNR=1.2
CMAR ScP **ScP** **15 21 37.8 +3.6**
comp=Z,17nm,0.8s,baz=158,slow=2.4,SNR=5.9
CMAR PKiKP **PKiKP** **15 25 22.9 +0.7**
comp=Z,7.7nm,0.8s,baz=227,slow=1.1,SNR=7.8
CMAR ScS **ScS** **15 25 37.6 +4.4**
comp=Z,4.9nm,1.1s,baz=241,slow=1.0,SNR=1.7
CMAR P3KPbc 15 46 33.6
comp=Z,1.9nm,0.8s,baz=297,slow=5.8,SNR=9.0
CMAR P3KP 15 47 47.4
comp=Z,1.0nm,1.1s,baz=301,slow=3.3,SNR=1.0
comp=Z,193nm,1.3s
CMAR Chiang Mai Arr 32.12 305 *i* P **P** **15 15 04.5 -0.7**
CMAR pmax pmax
comp=Z,40nm,0.9s
NJ2 Nanjing 32.16 348⇓ P **P** **15 15 06.0 +0.6**
NJ2 S **S** **15 20 14.1 -1.1**
NJ2 pmax pmax
comp=Z,220nm,2.4s
NJ2 pmax pmax
comp=Z,17µm,10.4s
NJ2 LR LR
comp=Z,69µm,17.1s
NJ2 LR LR
comp=Z,56µm,21.8s
NJ2 LR LR
comp=Z,127µm,18.9s
BLDU Ballidu 32.17 195 P **P** **15 15 04.8 -0.7**
CHTO Chiang Mai 32.31 306 P **P** **15 15 05.5 -1.4**
CHTO IAmb IAmb 15 15 14.3
comp=Z,2µm,1.6s
CHTO Chiang Mai 32.31 306 P **P** **15 15 06.7 -0.2**
CHTO P **P** **15 15 06.7 -0.2**
CHTO S **S** **15 20 17.5 -0.4**
CHTO S **S** **15 20 17.5 -0.4**
CHTO Chiang Mai 32.31 306 P **P** **15 15 05.9 -0.9**
CHTO Chiang Mai 32.31 306 P **P** **15 15 05.5 -1.4**
CHTO pmax pmax
comp=Z,2µm,1.6s
CHTO MLR MLR
comp=Z,72µm,19.0s
CHTO Chiang Mai 32.31 306 P **P** **15 15 06.0 -0.9**
CHTO PcP **PcP** **15 17 56.9 +2.6**
CHTO Chiang Mai 32.31 306 P **P** **15 15 05.7 -1.1**
CHTO S **S** **15 20 15.9 -2.0**
PATS Pohnpei 32.73 78 P **P** **15 15 08.4 -2.3**
PATS IAmb IAmb 15 15 30.5
comp=Z,1µm,1.4s
PATS IAMs_20 IAMs_20 15 25 41.5
comp=Z,224µm,21.0s
PATS Pohnpei 32.73 78 P **P** **15 15 10.2 -0.4**
CMBY CAMPBELL BAY 32.76 282 *e* P **P** **15 15 10.8 -0.1**
CMBY IAmb IAmb 15 15 23.9
comp=Z,695nm,0.9s
JNU Nakatsue 32.80 7 IAmb IAmb 15 15 18.8
comp=Z,1µm,1.1s
JNU Nakatsue 32.80 7 LR LR 15 28 41.2
comp=Z,37µm,21.6s,baz=182,slow=37
JNU Nakatsue 32.80 7 P **P** **15 15 11.7 +0.7**
JNU Nakatsue 32.80 7 P **P** **15 15 11.0 0.0**
KLBR Kellerberrin 32.85 193 P **P** **15 15 10.8 -0.6**
KMI Kunming 33.34 319⇓ P **P** **15 15 16.2 +0.1**
KMI sP pwP 15 15 29.7 -0.4
KMI PP **PP** **15 16 31.9 -0.2**
KMI S **S** **15 20 32.0 -2.2**
KMI pmax pmax
comp=Z,650nm,2.5s
KMI pmax pmax
comp=Z,8µm,5.5s
KMI LR LR
comp=Z,148µm,21.4s
KMI LR LR
comp=Z,179µm,20.7s
KMI LR LR
comp=Z,306µm,21.5s
MUN Mundaring 33.60 195 P **P** **15 15 17.7 -0.3**
ENH Enshi 33.60 333 IAmb IAmb 15 15 24.5
comp=Z,740nm,0.9s
ENH Enshi 33.60 333 P **P** **15 15 18.6 +0.5**
ENH Enshi 33.60 333 P **P** **15 15 17.2 -0.9**
ENH PcP **PcP** **15 18 00.7 +2.9**
MTKN Mount Kenneth 33.67 196 P **P** **15 15 20.2 +1.6**
JMN Monobe 33.89 12 P **P** **15 15 21.2 +0.7**
JMN Monobe 33.89 12 P **P** **15 15 21.2 +0.7**
JTU Tsushima 34.03 5 P **P** **15 15 24.2 +2.6**
JTU Tsushima 34.03 5 P **P** **15 15 23.4 +1.7**
NWAO Narrogin (SRO) 34.25 193 P **P** **15 15 21.7 -1.9**
NWAO IAmb IAmb 15 15 48.9
comp=Z,2µm,1.4s
NWAO Narrogin (SRO) 34.25 193 LR LR 15 31 03.4
comp=Z,53µm,19.7s,baz=7.0,slow=39
NWAO Narrogin (SRO) 34.25 193 P **P** **15 15 22.1 -1.5**
NWAO P **P** **15 15 22.1 -1.5**
NWAO S **S** **15 20 49.1 +1.4**
NWAO S **S** **15 20 49.1 +1.4**
NWAO Narrogin (SRO) 34.25 193 P **P** **15 15 23.8 +0.2**
NWAO Narrogin (SRO) 34.25 193 P **P** **15 15 24.1 +0.5**
NWAO Narrogin (SRO) 34.25 193 P **P** **15 15 21.7 -1.9**
NWAO pmax pmax
comp=Z,2µm,1.4s
NWAO MLR MLR

comp=Z,68µm,21.0s
NWAO Narrogin (SRO) 34.25 193 P P 15 15 22.1 -1.5
GD1S Gladstone Soft 34.28 136 P P 15 15 24.4 +0.4
RMQ Roma 34.55 143 P P 15 15 26.7 +0.4
TATA Tatamba Isabel 34.70 105 P P 15 15 27.2 -0.6
SAVO Savo Central 34.89 107 P P 15 15 28.5 -0.9
PZH PanZhiHua 34.94 320 P P 15 15 28.8 -1.1
PZH PP **PnPn 15 16 45.3 -2.4**
PZH S **S 15 20 57.4 -1.4**
PZH pmax pmax
comp=Z,270nm,0.9s
PZH pmax pmax
comp=Z,7µm,3.7s
PZH LR LR
comp=Z,156µm,21.6s
PZH LR LR
comp=Z,151µm,23.5s
PZH LR LR
comp=Z,279µm,21.6s
JHS Saijyo 34.98 10 P P 15 15 30.6 +0.7
WHYH Whyalla 35.02 163 P P 15 15 30.0 -0.2
HNR Honiara 35.09 107 P P 15 15 29.0 -2.1
HNR Honiara 35.09 107 P P 15 15 30.4 -0.7
comp=Z,3µm,0.7s,baz=267,slow=1.5,SNR=193
HNR S **S 15 21 00.3 -0.7**
comp=Z,578nm,1.3s,baz=284,slow=20,SNR=4.5
HNR LR LR 15 31 24.9
comp=Z,51µm,21.3s,baz=267,slow=39
comp=Z,3µm,0.7s
HNR Honiara 35.09 107 P P 15 15 30.7 -0.4
HNR Honiara 35.09 107 P P 15 15 29.6 -1.5
JAD Aida 35.12 12 P P 15 15 31.1 0.0
JIE Ise 35.18 15 P P 15 15 32.0 +0.3
DGPR DIGLIPUR 35.22 292 *eP* **P 15 15 32.2 -0.1**
DGPR IAmb IAmb 15 16 11.0
comp=Z,646nm,1.4s
EIDS Eidsvold 35.24 139 IAmb IAmb 15 15 38.8
comp=Z,729nm,1.1s
EIDS IAMs_20 IAMs_20 15 32 06.4
comp=Z,172µm,22.0s
EIDS Eidsvold 35.24 139 P P 15 15 31.6 -0.7
STKA Stephens Creek 35.34 157 P P 15 15 32.9 -0.2
comp=Z,870nm,0.8s,baz=328,slow=8.9,SNR=446
STKA S **S 15 21 00.2 -4.3**
comp=Z,119nm,0.7s,baz=100,slow=17,SNR=5.5
STKA ScS **ScS 15 25 47.8 -1.8**
comp=Z,19nm,1.1s,baz=224,slow=23,SNR=1.1
STKA P3KPbc 15 46 20.9
comp=Z,7.6nm,1.1s,baz=171,slow=2.2,SNR=4.4
comp=Z,870nm,0.8s
STKA Stephens Creek 35.34 157 P P 15 15 32.9 -0.2
STKA Stephens Creek 35.34 157 *c iP* **P 15 15 32.6 -0.5**
ALEG Aligegeo Malai 35.64 106 P P 15 15 35.1 -0.8
JWT Wachi 35.71 13 P P 15 15 36.3 +0.1
TJN Taejon 35.76 2 P P 15 15 36.1 -0.4
TJN Taejon 35.76 2 P P 15 15 37.4 +0.9
TJN Taejon 35.76 2 *de* **P P 15 15 36.6 +0.1**
NGOA Tingoa Renbel 35.77 111 P P 15 15 38.2 +1.2
HTT Hallett 35.80 162 P P 15 15 37.2 +0.2
JSG Sagara 35.86 17 IAMs_20 IAMs_20 15 31 31.4
comp=Z,160µm,19.0s
JSG Sagara 35.86 17 P P 15 15 39.2 +1.8
JSG Sagara 35.86 17 P P 15 15 38.7 +1.3
INU Inuyama 36.17 15 IAmb IAmb 15 16 03.0
comp=Z,1µm,1.2s
INU Inuyama 36.17 15 P P 15 15 40.3 +0.2
INU Inuyama 36.17 15 P P 15 15 40.1 +0.1
TNCH TengChong 36.17 315 ⇓P **P 15 15 40.0 -0.5**
TNCH pP pwP 15 15 54.0 -0.5
TNCH sP sP 15 15 59.1 +2.5
TNCH PP **PP 15 17 04.4 +1.0**
TNCH S **S 15 21 11.8 -5.9**
TNCH sS sS 15 21 33.7 -2.6
TNCH pmax pmax
comp=Z,2µm,2.5s
TNCH pmax pmax
comp=Z,13µm,2.8s
TNCH LR LR
comp=Z,63µm,24.0s
TNCH LR LR
comp=Z,57µm,19.5s
TNCH LR LR
comp=Z,202µm,23.0s
LYN LuoYang 36.24 341 ⇓P **P 15 15 39.5 -1.2**
LYN S **S 15 21 19.5 +1.3**
LYN pmax pmax
comp=Z,84nm,0.7s
LYN pmax pmax
comp=Z,8µm,3.9s
LYN LR LR
comp=Z,107µm,19.9s
LYN LR LR
comp=Z,112µm,22.7s
LYN LR LR
comp=Z,270µm,24.7s
JGF Kuroka 36.49 15 IAmb IAmb 15 16 04.7
comp=Z,1µm,1.6s
JGF Kuroka 36.49 15 P P 15 15 43.1 +0.2
JGF Kuroka 36.49 15 P P 15 15 42.7 -0.2
TIA Tai'an 36.54 348 P P 15 15 42.5 -0.8
TIA S **S 15 21 15.6 -7.1**
TIA PcS PcS 15 22 08.7 +15
TIA ScS ScS 15 25 39.7 -16
TIA pmax pmax
comp=Z,16nm,0.8s
TIA pmax pmax
comp=Z,11µm,6.5s
TIA LR LR
comp=N,122µm,23.9s
TIA LR LR
comp=E,53µm,17.1s
TIA LR LR
comp=Z,223µm,24.9s
TIA Tai'an 36.54 348 P P 15 15 42.2 -1.1
TIA S **S 15 21 15.0 -7.7**
TIA pmax pmax
comp=Z,11µm,6.6s
TIA LR LR
comp=Z,122µm,25.0s
TIA LR LR
comp=Z,53µm,18.6s
TIA LR LR
comp=Z,223µm,20.8s
JOD2 Odawara 2 36.68 18 P P 15 15 44.8 +0.3
KSAR Wonju Array Be 36.84 2 P P 15 15 44.2 -1.5
KSAR Wonju Array Be 36.84 2 P P 15 15 44.2 -1.5
CMSA Cobar Meteorol 36.84 152 P P 15 15 45.3 -0.6
INCN Inchon 36.84 1 P P 15 15 44.7 -1.1
INCN Inchon 36.84 1 P P 15 15 47.0 +1.2
INCN P P 15 15 47.0 +1.2
INCN S **S 15 21 30.6 +3.2**
INCN S **S 15 21 30.6 +3.2**
INCN Inchon 36.84 1 P P 15 15 46.7 +0.9
INCN Inchon 36.84 1 P P 15 15 44.7 -1.1
INCN pmax pmax
comp=Z,414nm,1.0s
INCN MLR MLR
comp=Z,100µm,20.0s
KSRS Korea Array 36.85 2 P P 15 15 46.8 +0.9
comp=Z,171nm,0.8s,baz=182,slow=10.0,SNR=210
KSRS PcP **PcP 15 18 08.3 +1.3**
comp=Z,71nm,0.8s,baz=177,slow=2.5,SNR=9.6
KSRS S **S 15 21 26.4 -1.0**
comp=Z,3.3nm,0.9s,baz=154,slow=4.5,SNR=0.9
KSRS ScP **ScP 15 21 55.0 +4.5**
comp=Z,16nm,0.9s,baz=184,slow=3.1,SNR=5.0
KSRS PKiKP **PKiKP 15 25 27.1 +1.9**
comp=Z,3.9nm,1.0s,baz=250,slow=0.5,SNR=4.7
KSRS P3KPbc 15 46 13.5
comp=Z,0.9nm,0.8s,baz=305,slow=26,SNR=4.5
comp=Z,171nm,0.8s
H01W3 Cape Leeuwin H 36.90 197 P P 15 15 48.1 +2.0
baz=26,slow=6.9,SNR=23
H01W1 Cape Leeuwin H 36.91 196 P P 15 15 48.1 +2.0
baz=26,slow=6.9,SNR=30
H01W2 Cape Leeuwin H 36.92 197 P P 15 15 48.2 +2.0
baz=26,slow=6.9,SNR=26
CD2 Chengdu 36.97 327 P P 15 15 45.7 -1.4
CD2 PP **PP 15 17 10.8 -1.2**
CD2 S **S 15 21 25.2 -4.4**
CD2 sS ScP 15 21 50.2 -1.1
CD2 pmax pmax
comp=Z,170nm,0.8s
CD2 pmax pmax
comp=Z,13µm,3.5s
CD2 LR LR
comp=Z,241µm,21.6s
CD2 LR LR
comp=Z,60µm,18.4s
CD2 LR LR
comp=Z,239µm,19.7s
JGN Niukaw 37.07 15 P P 15 15 46.7 -1.1
GHSS Government Hou 37.08 163 P P 15 15 48.7 +0.8
XAN Xi'an 37.09 336 ⇓P **P 15 15 46.6 -1.4**
XAN S **S 15 21 30.2 -1.1**
XAN pmax pmax
comp=Z,250nm,0.9s
XAN pmax pmax
comp=Z,9µm,5.4s
XAN LR LR
comp=Z,179µm,24.7s
XAN LR LR
comp=Z,117µm,19.9s
XAN LR LR
comp=Z,229µm,20.9s
XAN Xi'an 37.09 336 P P 15 15 46.4 -1.7
HURO Huro Makira 37.21 108 P P 15 15 48.1 -1.1
JRY Ryogami san 37.32 17 P P 15 15 48.7 -1.2
HJU Haeju 37.40 359 P P 15 15 51.7 +1.2
HJU S **S 15 21 40.2 +4.5**
HJU AmB
comp=Z,52µm,6.1s
HJU AMS AMS
comp=Z,162µm,23.6s
MJAR Matsushiro Arr 37.61 16 P P 15 15 49.7 -2.6
MJAR Matsushiro Arr 37.61 16 P P 15 15 51.2 -1.2
comp=Z,413nm,0.9s,baz=182,slow=9.2,SNR=257
MJAR PP **PnPn 15 17 21.3 +1.2**
comp=Z,64nm,1.1s,baz=191,slow=8.8,SNR=0.7
MJAR PcP **PcP 15 18 11.2 +1.7**
comp=Z,94nm,0.8s,baz=165,slow=3.1,SNR=4.4
MJAR ScP **ScP 15 21 56.4 +2.9**
comp=Z,45nm,1.1s,baz=212,slow=4.2,SNR=5.2
MJAR PKiKP **PKiKP 15 25 27.1 +1.2**
comp=Z,1.2nm,0.7s,baz=192,slow=2.1,SNR=1.2
MJAR P3KPbc 15 46 11.7
comp=Z,3.3nm,0.9s,baz=30,slow=4.8,SNR=5.2
comp=Z,413nm,0.9s
MAJO Matsushiro 37.61 16 P P 15 15 50.1 -2.3
MAJO IAmb IAmb 15 16 03.7
comp=Z,2µm,1.4s
MAJO Matsushiro 37.61 16 IAMs_20 IAMs_20 15 33 40.5
comp=Z,132µm,20.0s
MAJO Matsushiro 37.61 16 P P 15 15 51.7 -0.7
MAJO Matsushiro 37.61 16 *d iP* **P 15 15 51.3 -1.1**
MAJO pmax pmax
comp=Z,2µm,2.2s
MAJO MLR MLR
comp=Z,112µm,17.0s
MAJO Matsushiro 37.61 16 P **P 15 15 51.3 -1.1**
MAJO pP **pP 15 16 00.4 -3.2**
MAJO Matsushiro 37.61 16 P **P 15 15 51.6 -0.7**
MAJO S **S 15 21 36.8 -2.2**
MAT Matsushiro 37.61 16 P P 15 15 51.1 -1.2
JYT Yasato 37.91 19 P P 15 15 53.4 -1.5
HNS HongShan 38.24 345 ⇓P **P 15 15 56.8 -0.8**
HNS pP **pP 15 16 09.2 +0.2**
HNS S **S 15 21 44.5 -3.9**
HNS pmax pmax
comp=Z,310nm,1.1s
HNS LR LR
comp=Z,123µm,24.5s
HNS LR LR
comp=Z,196µm,25.0s
DL2 Dalian 38.48 354 P P 15 16 00.1 +0.5
DL2 S **S 15 21 53.8 +1.7**
DL2 pmax pmax
comp=Z,2µm,0.7s
DL2 pmax pmax
comp=Z,29µm,7.1s
DL2 LR LR
comp=Z,54µm,23.5s
DL2 LR LR
comp=Z,136µm,19.0s
DL2 LR LR
comp=Z,144µm,19.1s
GC1S Gold Coast 1 S 38.72 140 P P 15 16 02.1 +0.3
SAIH SAIHA 38.97 307 *eP* **P 15 16 02.8 -1.4**
SAIH IAmb IAmb 15 16 14.4
comp=Z,4µm,0.6s
JSD Sado 39.03 15 P P 15 16 03.7 -0.5
JSD Sado 39.03 15 P P 15 16 03.3 -0.9
ARMA Armidale 39.14 144 IAmb IAmb 15 16 16.0
comp=Z,1µm,1.0s
ARMA Armidale 39.14 144 P P 15 16 06.1 +0.6
HHU Hamhung 39.30 2 P P 15 16 08.2 +1.8
HHU S **S 15 22 09.0 +4.6**
HHU AmB
HHU AMS AMS
comp=Z,26µm,4.8s
comp=Z,38µm,18.4s
IMP Imphal 39.43 310 *eP* **P 15 16 06.2 -1.7**
IMP *eP* **P 15 16 09.5 +1.6**
IMP IAmb IAmb 15 16 17.4
comp=Z,1µm,1.3s
IMP IAmb IAmb 15 16 25.7
comp=N,93nm,0.9s
IMP *eS* **S 15 22 05.2 -1.7**
SUJ Sinuiju 39.48 358 P **P 15 16 09.8 +1.9**
SUJ S **S 15 22 12.0 +4.8**
SUJ AmB
comp=Z,39µm,4.0s
SUJ AMS AMS
comp=Z,97µm,23.3s
JMM Marumori 39.60 18 P P 15 16 09.6 +0.6
JMM Marumori 39.60 18 P P 15 16 09.4 +0.4
AZL Aizawl 39.83 308 *eP* **P 15 16 10.2 -1.1**
AZL IAmb IAmb 15 16 39.2
comp=Z,4µm,2.0s
AZL *eS* **S 15 22 09.9 -3.1**
JYA Atsumi 39.95 17 P P 15 16 12.7 +0.8
BRDH Bariadhala 40.15 306 LR LR 15 33 41.8
comp=Z,117µm,21.9s,baz=125,slow=38
BJT Baijiatuan 40.40 348 P P 15 16 16.5 +0.9
BJT Baijiatuan 40.40 348 P P 15 16 15.0 -0.6
BJI Beijing 40.42 348 P P 15 16 15.0 -0.8
BJI S **S 15 22 17.8 -3.4**
BJI ScS **ScS 15 26 13.4 -4.8**
BJI pmax pmax
comp=Z,120nm,0.6s
BJI pmax pmax
comp=Z,6µm,4.3s
BJI LR LR
comp=Z,24µm,24.3s
BJI LR LR
comp=Z,26µm,22.5s
BJI LR LR
comp=Z,68µm,24.8s
MGCD Mangrove Creek 40.93 147 P P 15 16 20.8 +0.7
ZIRO ZIRO 41.02 314 *eP* **P 15 16 20.0 -1.1**
NTLH Newcastle Hard 41.02 146 P P 15 16 21.5 +0.7
LZH Lanzhou 41.04 332 ⇓P **P 15 16 20.9 -0.3**
LZH S **S 15 22 27.0 -4.0**
LZH sS sS 15 22 48.4 -1.3
LZH pmax pmax
comp=Z,920nm,1.3s
LZH pmax pmax
comp=Z,9µm,4.8s
LZH LR LR
comp=Z,234µm,17.5s
LZH LR LR
comp=Z,208µm,17.7s
LZH LR LR
comp=Z,281µm,23.5s
LUES Luesalemba Tem 41.08 107 P P 15 16 22.1 +0.5
SYDH Sydney Hard Ro 41.16 148 P P 15 16 22.8 +0.8
JOM Ohasama 41.23 18 P P 15 16 22.7 +0.2
SNY Shenyang 41.24 357 ⇓P **P 15 16 23.0 +0.5**
SNY S **S 15 22 33.8 +0.5**
SNY pmax pmax
comp=Z,2µm,0.8s
SNY pmax pmax
comp=Z,16µm,3.5s
SNY LR LR
comp=Z,65µm,20.4s
SNY LR LR
comp=Z,49µm,25.0s
SNY LR LR
comp=Z,107µm,22.4s
BRAT Ballarat 41.25 158 P P 15 16 23.5 +0.9
TEZP TEZPUR 41.27 312 *eP* **P 15 16 21.4 -1.7**
TEZP IAmb IAmb 15 16 30.7
comp=Z,1µm,1.4s
SHL Shillong 41.40 310 P P 15 16 19.7 -4.6
SHL IAmb IAmb 15 16 25.0
comp=Z,2µm,1.8s
SHL Shillong 41.40 310 *eP* **P 15 16 20.7 -3.6**
SHL IAmb IAmb 15 16 47.0
comp=Z,952nm,1.6s
SHL IAMs_20 IAMs_20 15 34 17.4
comp=Z,76µm,22.8s
SHL Shillong 41.40 310 P P 15 16 19.7 -4.6
SHL pmax pmax
comp=Z,2µm,1.8s
RIV Riverview 41.43 148 P P 15 16 25.2 +1.0
CAN Canberra 41.51 151 IAmb IAmb 15 16 48.0
comp=Z,3µm,1.7s
CAN IAMs_20 IAMs_20 15 35 52.1
comp=Z,88µm,19.0s
CAN Canberra 41.51 151 P P 15 16 25.4 +0.5
CAN Canberra 41.51 151 P P 15 16 25.6 +0.6
CNB Canberra Magne 41.68 151 P P 15 16 26.9 +0.5
WOLH Wollongong Har 41.73 149 P P 15 16 27.5 +0.9
TOO Toolangi 41.87 157 P P 15 16 27.6 -0.2
TOO Toolangi 41.87 157 P P 15 16 27.6 -0.2
TOO pmax pmax
comp=Z,1µm,1.7s
TOO MLR MLR
comp=Z,27µm,20.0s
GEXS Deakin Univers 41.96 158 P P 15 16 29.4 +1.0
MSHR Mys Shultsa 42.18 6 *d iP* **P 15 16 30.2 +0.1**
MSHR pmax pmax
comp=Z,2µm,1.4s
MSHR MLR MLR
comp=Z,72µm,19.0s
PSTR Posyet 42.21 5 *d iP* **P 15 16 31.1 +0.7**
HHC Hu-ho-hao-te 42.32 344 ⇓*iP* **P 15 16 31.1 -0.4**
HHC PP **PP 15 18 15.3 +5.1**
HHC S **S 15 22 50.0 +0.5**
HHC sS **SS 15 25 54.4 -5.1**
HHC ScS **ScS 15 26 28.9 -1.1**
HHC pmax pmax
comp=Z,240nm,1.6s
HHC pmax pmax
comp=Z,18µm,7.1s
HHC LR LR
comp=Z,114µm,22.7s
HHC LR LR
comp=Z,32µm,18.5s
HHC LR LR
comp=Z,189µm,22.7s
JTM Tenmabayashi 42.37 17 P P 15 16 31.6 -0.2
JTM IAmb IAmb 15 16 43.7
comp=Z,2µm,1.1s
JTM IAMs_20 IAMs_20 15 35 48.8
comp=Z,115µm,20.0s
JTM Tenmabayashi 42.37 17 P P 15 16 32.4 +0.6
JTM Tenmabayashi 42.37 17 P P 15 16 32.2 +0.4
TAWA Tawang 42.50 312 *eP* **P 15 16 34.1 +0.6**
TAWA IAmb IAmb 15 16 38.9
comp=Z,817nm,1.2s
BTO Baotou 42.55 342 *eP* **P 15 16 34.3 +0.9**
BTO pP **pP 15 16 40.6 -4.4**
BTO PP **PP 15 18 14.8 +2.1**
BTO SS SS 15 25 59.4 -4.7
BTO pmax pmax
comp=Z,10µm,5.0s
BTO LR LR
comp=Z,202µm,20.5s
BTO LR LR
comp=Z,73µm,15.8s
BTO LR LR
comp=Z,329µm,22.6s
KOUNC Koumac, New Ca 42.78 121 P P 15 16 36.0 +0.6
VLA Vladivostok 42.78 6 *c iP* **P 15 16 36.1 +1.0**
VLA pmax pmax
comp=Z,2µm,1.7s
VLA MLR MLR
comp=Z,68µm,20.0s
CAL Calcutta 42.81 304 *eP* **P 15 16 35.2 -0.3**
JOT Ohata 42.92 17 P P 15 16 36.6 +0.4
CN2 Changchun 43.16 359 P P 15 16 37.6 -0.5
CN2 PP **PP 15 18 21.1 +2.1**
CN2 PcP **PcP 15 18 29.1 +2.0**
CN2 S **S 15 23 04.0 +2.5**
CN2 pmax pmax
comp=Z,12µm,7.0s
CN2 LR LR
comp=Z,40µm,21.0s
CN2 LR LR
comp=Z,66µm,21.0s
CN2 LR LR
comp=Z,50µm,21.0s
SANVU Saraoutou 43.55 113 P P 15 16 42.0 +0.3
SANVU sP **pwP 15 16 55.9 -0.5**
H11S3 WAKE ISLAND Hy 43.67 63 T T 16 04 19.9
baz=252,slow=74,SNR=48
H11S2 WAKE ISLAND Hy 43.68 63 T T 16 04 15.3
baz=252,slow=74,SNR=65
H11S1 WAKE ISLAND Hy 43.68 63 T T 16 04 13.4
baz=252,slow=74,SNR=40
JSH Shimam 43.82 15 P P 15 16 44.4 +1.0
USA0B Ussuriysk Arra 43.86 6 IAmb IAmb 15 17 02.8
comp=Z,1µm,1.2s
USA0B Ussuriysk Arra 43.86 6 *d iP* **P 15 16 44.5 +0.7**
USRK Ussuriysk Ar. 43.86 6 P **P 15 16 44.3 +0.6**
comp=Z,387nm,0.7s,baz=187,slow=7.7,SNR=183
USRK PP **PcP 15 18 30.8 +1.3**
comp=Z,86nm,0.9s,baz=193,slow=11,SNR=1.9
USRK S **S 15 23 13.4 +1.6**
comp=Z,12nm,1.0s,baz=198,slow=5.5,SNR=1.8
comp=Z,387nm,0.7s
WAKE Wake Island 43.91 62 P P 15 16 43.6 -0.9
WAKE IAmb IAmb 15 16 49.9
comp=Z,2µm,1.1s
WAKE Wake Island 43.91 62 P P 15 16 45.3 +0.8
VLAKA Lakatoro 43.95 114 P P 15 16 45.6 +0.7
MDJ Mudanjiang 44.08 4 IAmb IAmb 15 16 51.9
comp=Z,1µm,1.0s
MDJ IAMs_20 IAMs_20 15 36 28.4
comp=Z,109µm,22.0s
MDJ Mudanjiang 44.08 4 P P 15 16 46.3 +0.9
MDJ sP sP 15 17 02.3 +0.2
MDJ S **S 15 23 14.5 -0.4**
MDJ pmax pmax
comp=Z,150nm,1.2s
MDJ pmax pmax
comp=Z,16µm,4.8s
MDJ LR LR
comp=Z,102µm,23.4s
MDJ LR LR
comp=Z,54µm,23.4s
MDJ LR LR
comp=Z,135µm,23.4s
MDJ Mudanjiang 44.08 4 P P 15 16 46.1 +0.6
MDJ Mudanjiang 44.08 4 P P 15 16 46.4 +0.9
ERM Erimo 44.13 18 P P 15 16 46.0 +0.1
ERM Erimo 44.13 18 P P 15 16 46.8 +0.9
ERM Erimo 44.13 18 *c iP* **P 15 16 46.2 +0.3**
ERM pmax pmax
comp=Z,1µm,1.7s
ERM Erimo 44.13 18 P P 15 16 47.9 +2.0
JEM Erimo 44.13 18 P P 15 16 46.9 +1.0
JEM Erimo 44.13 18 P P 15 16 46.5 +0.5
XLT XiLinHaoTe 44.17 350 *eP* **P 15 16 46.2 -0.2**
XLT S **S 15 23 16.0 -0.5**
XLT SS **SS 15 26 27.4 -8.2**
XLT pmax pmax
comp=Z,300nm,0.7s
XLT pmax pmax
comp=Z,15µm,4.0s
XLT LR LR
comp=Z,81µm,20.3s
XLT LR LR
comp=Z,57µm,22.0s
LSA Lhasa 44.20 314 P P 15 16 47.0 -0.3
LSA S **S 15 23 16.9 -1.3**
LSA LR LR
comp=Z,36µm,22.2s
LSA LR LR
comp=Z,116µm,30.4s
LSA Lhasa 44.20 314 P P 15 16 47.1 -0.3
H11N1 WAKE ISLAND Hy 44.27 62 T T 16 04 56.2
baz=251,slow=75,SNR=17
H11N2 WAKE ISLAND Hy 44.28 62 T T 16 04 55.8

baz=251,slow=75,SNR=6.1
H11N3 WAKE ISLAND Hy 44.28 62 T T 16 04 57.3
baz=251,slow=75,SNR=7.4
JPG JALPAIGURI 44.35 309 *e*P **P** **15 16 49.2 +1.3**
JEW Eniwo 44.38 16 P **P** **15 16 49.7 +1.8**
LHI Lord Howe Isla 44.56 139 P **P** **15 16 48.3 -1.3**
GTK Tadong 44.82 310 *e*P **P** **15 16 51.6 -0.3**
GTK IAmb IAmb 15 17 16.9
comp=Z,1μm,1.5s
BNX BinXian 45.10 1 ⇓P **P** **15 16 53.6 -0.1**
BNX pmax pmax
comp=Z,120nm,1.2s
BNX pmax pmax
comp=Z,9μm,5.7s
BNX LR LR
comp=Z,60μm,21.6s
BNX LR LR
comp=Z,34μm,19.6s
BNX LR LR
comp=Z,94μm,23.5s
NOUC Port Laguerre 45.13 122 P **P** **15 16 54.0 -0.2**
DVP Devils Point 45.16 116 P **P** **15 16 55.6 +1.1**
DZM Mont Dzumac 45.24 122 IAmb IAmb 15 17 10.3
comp=Z,854nm,1.2s
DZM Mont Dzumac 45.24 122 *e*P **P** **15 16 54.6 -0.6**
comp=Z,2μm,1.4s
DZM *e*S **S** **15 23 24.9 -7.8**
comp=Z,117μm,38.5s
DZM *e*SS **ScS** **15 26 47.8 -1.2**
comp=Z,86μm,28.6s
DZM *e*LQ LQ 15 27 34.7
comp=Z,181μm,35.6s
DZM *e*LR LR 15 29 38.6
comp=Z,239μm,25.9s
DZM Mont Dzumac 45.24 122 P **P** **15 16 55.4 +0.1**
comp=Z,262nm,1.0s,baz=307,slow=6.7,SNR=34
comp=Z,262nm,1.0s
DZM Mont Dzumac 45.24 122 P **P** **15 16 55.9 +0.7**
DZM Mont Dzumac 45.24 122 P **P** **15 16 55.3 +0.1**
DZM PcP **PcP** **15 18 37.2 +2.4**
TEY Ternei 45.35 10⇑ *e*P P 15 16 47.5 -8.1
TEY pmax pmax
comp=N,80nm,0.6s
TEY pmax pmax
comp=E,10.0nm,0.6s
TEY pmax pmax
comp=Z,150nm,0.6s
TEY pmax pmax
comp=N,700nm,2.7s
TEY pmax pmax
comp=Z,2μm,2.9s
TEY pmax pmax
comp=E,300nm,4.0s
TEY MLR MLR
comp=E,700nm,20.0s
TEY MLR MLR
comp=N,900nm,17.0s
TEY MLR MLR
comp=Z,400nm,22.0s
VIS Vishakhapatnam 45.42 295 *e*P **P** **15 16 57.0 +0.4**
VIS IAMs_20 IAMs_20 15 35 22.0
comp=Z,101μm,26.3s
GTA Gaotai 45.61 331 P **P** **15 16 58.0 0.0**
GTA PcP **PcP** **15 18 38.2 +2.4**
GTA S **S** **15 23 34.8 -2.9**
GTA pmax pmax
comp=Z,7μm,6.5s
GTA LR LR
comp=Z,82μm,20.4s
GTA LR LR
comp=Z,152μm,20.7s
GTA LR LR
comp=Z,225μm,20.7s
OUENC Ouen Island, N 45.71 123 P **P** **15 17 00.5 +1.6**
PALK Pallekele 45.78 280 P **P** **15 16 57.3 -2.3**
PALK IAmb IAmb 15 17 05.1
comp=Z,1μm,1.9s
PALK Pallekele 45.78 280 P **P** **15 16 58.8 -0.9**
PALK P **P** **15 16 58.8 -0.9**
PALK S **S** **15 23 36.6 -4.1**
PALK S **S** **15 23 36.6 -4.1**
PALK Pallekele 45.78 280 *d*iP **P** **15 16 57.2 -2.4**
PALK pmax pmax
comp=Z,781nm,1.8s
PALK MLR MLR
comp=Z,193μm,22.0s
PALK Pallekele 45.78 280 P **P** **15 16 57.5 -2.2**
GLAD Gladstone 45.79 157 P **P** **15 16 59.8 +0.6**
CORO Coronation Par 45.86 158 P **P** **15 17 00.7 +1.0**
ASAJ Asahikawa 45.88 17 LR LR 15 38 43.0
comp=Z,39μm,19.3s,baz=210,slow=39
ASAJ PKPPKP 15 48 31.2
comp=Z,11nm,1.1s,baz=22,slow=5.4,SNR=4.2
ASAJ Asahikawa 45.88 17 P **P** **15 17 00.7 +0.9**
JKA Kamikawa-asahi 45.88 17 IAmb IAmb 15 17 11.8
comp=Z,797nm,1.0s
GOMU GeErMu 45.91 324 P **P** **15 17 01.2 +0.5**
GOMU PP **PP** **15 18 48.4 -0.5**
GOMU S **S** **15 23 38.2 -4.4**
GOMU LR LR
comp=Z,66μm,19.5s
GOMU LR LR
comp=Z,75μm,19.2s
GOMU LR LR
comp=Z,130μm,19.3s
JMP Maruseppu 46.00 17 P **P** **15 17 01.8 +1.0**
MALK Mahakanadarawa 46.08 281 P **P** **15 17 00.2 -1.7**
EVN Everest 46.51 309 P **P** **15 17 04.7 -1.2**
MOO Moorlands 46.74 159 P **P** **15 17 07.7 +1.1**
INH Isangel 46.74 118 P **P** **15 17 07.5 +0.5**
JWK2 Keihoku 46.80 15 P **P** **15 17 08.1 +1.1**
YUK Yuzh-Kuril'sk 46.81 20 *e*P **P** **15 17 08.4 +1.3**
YUK *i* 15 19 01.7
YUK *i*S **S** **15 23 56.7 +2.3**
YUK pmax pmax
comp=Z,3μm,1.2s
YUK pmax pmax
comp=N,2μm,1.0s
YUK pmax pmax
comp=E,2μm,1.3s
YUK pmax pmax
comp=Z,2μm,1.8s
YUK MLR MLR
comp=N,46μm,20.0s
YUK MLR MLR
comp=Z,56μm,20.0s
YUK MLR MLR
comp=E,28μm,18.0s
MDRS Chennai 47.14 287 *e*P **P** **15 17 08.9 -1.3**
MDRS IAmb IAmb 15 17 15.7
comp=Z,1μm,1.4s
MDRS IAMs_20 IAMs_20 15 34 20.4
comp=Z,136μm,31.5s
TAU Tasmania Unive 47.19 159 P **P** **15 17 09.3 -0.8**
TAU IAmb IAmb 15 17 28.7
comp=Z,987nm,1.4s
TAU Tasmania Unive 47.19 159 P **P** **15 17 10.9 +0.8**
TAU Tasmania Unive 47.19 159 P **P** **15 17 09.3 -0.8**
TAU pmax pmax
comp=Z,987nm,1.4s
TAU Tasmania Unive 47.19 159 P **P** **15 17 10.5 +0.4**
TAU ScP **ScP** **15 22 35.3 +3.6**
VJD Vijayawada 47.55 292 *e*P **P** **15 17 13.6 +0.3**
BLSP Bilaspur 47.93 300 *e*P **P** **15 17 14.7 -1.5**
VAR Varanasi 48.37 304 *e*P **P** **15 17 21.7 +2.1**
YSS Yuzhno-Sakhali 48.54 15 P **P** **15 17 18.9 -1.6**
YSS Yuzhno-Sakhali 48.54 15 P **P** **15 17 21.2 +0.8**
YSS Yuzhno-Sakhali 48.54 15*α**e*P **P** **15 17 20.4 0.0**
YSS *e* 15 18 50.6
YSS *e* 15 19 13.0
YSS *e*S **S** **15 24 17.9 -0.9**
YSS *e*'SS **sS** **15 24 36.1 -1.8**
YSS *e* 15 27 13.6
YSS pmax pmax
comp=Z,600nm,0.7s
YSS pmax pmax
comp=E,270nm,0.9s
YSS pmax pmax
comp=Z,9μm,4.1s
YSS pmax pmax
comp=N,5μm,3.7s
YSS pmax pmax
comp=E,4μm,5.0s
YSS smax smax
comp=E,12μm,9.4s
YSS MLR MLR
comp=Z,27μm,22.0s
YSS Yuzhno-Sakhali 48.54 15 P **P** **15 17 20.8 +0.4**
KUR Kuril'sk 48.55 20*c i*P **P** **15 17 20.9 +0.3**
KUR *i*S **S** **15 24 19.4 +0.3**
KUR pmax pmax
comp=Z,19μm,5.9s
KUR pmax pmax
comp=Z,2μm,1.7s
KUR pmax pmax
comp=N,37μm,20.0s
KUR pmax pmax
comp=E,43μm,20.0s
KUR pmax pmax
comp=Z,44μm,20.0s
KLR Kul'dur 48.82 5 PKPPKP 15 48 26.3
comp=Z,3.2nm,0.7s,baz=59,slow=2.1,SNR=6.9
KLR Kul'dur 48.82 5*d*iP **P** **15 17 22.5 -0.1**
KLR pmax pmax
comp=Z,869nm,1.5s
KLR MLR MLR
comp=Z,81μm,22.0s
HIA Hailar 48.93 354 IAMs_20 IAMs_20 15 38 45.2
comp=Z,68μm,20.0s
HIA Hailar 48.93 354 P **P** **15 17 24.4 +0.9**
HIA Hailar 48.93 354 P **P** **15 17 24.3 +0.8**
KOD Kodaikanal 49.33 283 *e*P **P** **15 17 26.0 -1.5**
KOD IAmb IAmb 15 17 32.4
comp=Z,452nm,1.1s
ALBI Allahabad 49.38 304 *e*P **P** **15 17 25.5 -1.8**
ALBI IAmb IAmb 15 17 34.2
comp=Z,2μm,1.4s
TRD Trivandrum 49.61 281 *e*P **P** **15 17 28.3 -1.0**
TRD IAmb IAmb 15 17 34.2
comp=Z,713nm,1.2s
TRD IAMs_20 IAMs_20 15 34 17.2
comp=Z,64μm,24.5s
HEH HeiHe 49.62 1 *e*P **P** **15 17 28.9 +0.2**
HEH pP **pwP** **15 17 42.0 -1.0**
HEH sP **sP** **15 17 47.2 +2.0**
HEH S **S** **15 24 32.5 -1.4**
HEH sS **sS** **15 24 56.2 +3.1**
HEH pmax pmax
comp=Z,440nm,0.9s
HEH pmax pmax
comp=Z,15μm,4.1s
HEH LR LR
comp=Z,69μm,23.9s
HEH LR LR
comp=Z,58μm,18.2s
HEH LR LR
comp=Z,121μm,24.7s
HYB Hyderabad 49.72 293 *e*P **P** **15 17 29.7 -0.4**
HYB IVmB_BB 15 17 34.5
comp=Z,25μm,2.2s
HYB *e*S **S** **15 24 37.3 +0.8**
HYB IVMs_BB IVMs_BB 15 40 21.7
comp=Z,25μm,22.4s
ULN Ulaanbaatar 50.04 343 P **P** **15 17 31.1 -1.0**
ULN IAmb IAmb 15 17 39.3
comp=Z,981nm,1.2s
ULN Ulaanbaatar 50.04 343 P **P** **15 17 32.9 +0.8**
ULN P **P** **15 17 32.9 +0.8**
ULN S **S** **15 24 38.9 -1.3**
ULN S **S** **15 24 38.9 -1.3**
ULN Ulaanbaatar 50.04 343*d*iP **P** **15 17 32.0 -0.1**
ULN pmax pmax
comp=Z,817nm,1.1s
ULN MLR MLR
comp=Z,121μm,22.0s
ULN Ulaanbaatar 50.04 343 P **P** **15 17 32.2 +0.1**
SONM Songino Array 50.20 343 P **P** **15 17 32.4 -1.0**
SONM IAmb IAmb 15 17 40.3
comp=Z,970nm,1.4s
SONM Songino Array 50.20 343 P **P** **15 17 33.0 -0.3**
comp=Z,126nm,0.9s,baz=160,slow=8.2,SNR=138
SONM PcP **PcP** **15 18 53.0 +0.9**
comp=Z,72nm,0.8s,baz=169,slow=3.7,SNR=4.1
SONM S **S** **15 24 44.3 +1.9**
comp=Z,4.8nm,1.0s,baz=139,slow=4.9,SNR=1.2
SONM ScS **ScS** **15 27 19.8 -1.2**
comp=Z,1.1nm,0.6s,baz=129,slow=32,SNR=1.6
SONM LR LR 15 41 34.3
comp=Z,69μm,21.0s,baz=152,slow=39
SONM PKPPKP **P'P'df** **15 48 25.3 +2.0**
comp=Z,5.8nm,1.1s,baz=226,slow=1.8,SNR=5.2
SONM P4KPbc 15 55 06.1
comp=Z,1.0nm,0.6s,baz=166,slow=5.6,SNR=3.5
comp=Z,126nm,0.9s
UGL Uglegorsk 50.34 14 *e*P P 15 17 27.3 -6.9
UGL pmax pmax
comp=Z,1μm,1.1s
UGL pmax pmax
comp=Z,22μm,7.7s
UGL MLR MLR
comp=E,19μm,17.0s
UGL MLR MLR
comp=N,40μm,19.0s
UGL MLR MLR
comp=Z,35μm,20.0s
BRCI Bahraich 50.47 306 *e*P **P** **15 17 36.1 +0.5**
BRCI IAmb IAmb 15 17 46.5
comp=Z,5μm,1.6s
GRNR Gornyy 50.88 8⇑ *i*P **P** **15 17 39.1 +0.8**
GRNR *e* 15 18 55.7
GRNR pmax pmax
comp=N,40nm,0.8s
GRNR pmax pmax
comp=Z,110nm,0.7s
GRNR MLR MLR
comp=E,6μm,21.0s
GRNR MLR MLR
comp=N,24μm,19.0s
GRNR MLR MLR
comp=Z,39μm,19.0s
FRKB FARRUKHABAD 52.04 305 *e*P **P** **15 17 49.2 +1.8**
TYV Tymovskoe 52.15 13 *e*P **P** **15 17 49.9 +2.2**
TYV *e*S **S** **15 25 10.6 +1.7**
TYV pmax pmax
comp=Z,5μm,3.2s
TYV pmax pmax
comp=Z,220nm,1.3s
TYV smax smax
comp=N,7μm,5.7s
TYV smax smax
comp=E,13μm,5.7s
TYV smax smax
comp=N,67nm,2.2s
TYV smax smax
comp=E,57nm,2.2s
JHNI Jhansi 52.18 302 *e*P **P** **15 17 45.5 -3.0**
JHNI IAmb IAmb 15 17 54.2
comp=Z,1μm,1.6s
MNGI Mangalore 52.31 286 *e*P **P** **15 17 48.2 -1.4**
MNGI IAmb IAmb 15 17 54.2
comp=Z,244nm,0.7s
BHPL Bhopal 52.39 299 *e*P **P** **15 17 48.2 -1.9**
BHPL IAmb IAmb 15 17 55.7
comp=Z,320nm,0.7s
BHPL *e*S **S** **15 25 14.1 +0.8**
BHPL IAMs_20 IAMs_20 15 37 21.6
comp=Z,36μm,19.0s
PTH Pithoragarh 52.39 308 *e*P **P** **15 17 48.4 -1.8**
PTH IAmb IAmb 15 18 10.7
comp=Z,316nm,1.1s
CIT Chita 52.45 350 *e*P **P** **15 17 51.2 +1.1**
CIT *e* 15 19 04.8
CIT *e*S **S** **15 25 18.0 +4.8**
CIT *e* 15 27 36.0
CIT *e* 15 28 47.2
CIT pmax pmax
comp=Z,7μm,3.7s
NRDN NARMADA NAGAR 52.45 299 *e*P **P** **15 17 51.9 +1.3**
NRDN IAmb IAmb 15 17 59.0
comp=Z,1μm,1.4s
GUNA GUNA 52.93 301 *e*P **P** **15 17 52.3 -1.7**
GUNA IAmb IAmb 15 17 58.8
comp=Z,832nm,0.8s
ZEA Zeya 53.11 1 *e*P **P** **15 17 55.0 +0.3**
ZEA *e* 15 18 10.1
ZEA *e*S **S** **15 25 25.0 +3.1**
ZEA *e* 15 27 44.9
ZEA pmax pmax
comp=N,140nm,1.3s
ZEA pmax pmax
comp=Z,190nm,1.1s
ZEA pmax pmax
comp=N,2μm,6.0s
ZEA pmax pmax
comp=Z,3μm,5.1s
ZEA smax smax
comp=E,7μm,13.3s
ZEA MLR MLR
comp=N,28μm,23.0s
ZEA MLR MLR
comp=Z,34μm,22.0s
KAAM Kaadhehdhoo 53.12 270 P **P** **15 17 53.9 -1.7**
KAAM Kaadhehdhoo 53.12 270 P **P** **15 17 58.1 +2.5**
SNR=16
HMDM Hanimaadhoo 53.17 278 P **P** **15 17 55.4 -0.6**
HMDM IAmb IAmb 15 19 10.4
comp=Z,633nm,1.1s
HMDM Hanimaadhoo 53.17 278 P **P** **15 17 58.6 +2.7**
TKRD Thakurdwara 53.31 307 *e*P **P** **15 17 54.8 -1.9**
JOSI Joshimath 53.34 309 *e*P **P** **15 17 57.9 +0.8**
ZAK Zakamensk 53.41 342 *e*P **P** **15 17 57.0 -0.2**
ZAK pmax pmax
comp=Z,315nm,1.4s
YSA Yasawairara 53.50 111 P **P** **15 17 59.4 +1.1**
FUNA Funafuti 53.63 101 P **P** **15 17 58.5 -0.8**
FUNA Funafuti 53.63 101 P **P** **15 18 00.6 +1.3**
UGON Onchagaon 53.75 305 *e*P **P** **15 17 59.0 -0.9**
KAD Karad 53.75 291 *e*P **P** **15 17 58.8 -1.4**
NKL Nikolayevsk 53.89 11 *e*P **P** **15 17 58.7 -1.8**
NKL *e*S **S** **15 25 31.8 -0.7**
NKL pmax pmax
comp=N,1μm,1.4s
NKL pmax pmax
comp=Z,4μm,1.3s
NKL pmax pmax
comp=E,839nm,1.6s
NKL smax smax
comp=E,3μm,3.3s
NKL smax smax
comp=N,6μm,6.9s
NKL MLR MLR
comp=E,119μm,17.0s
NKL MLR MLR
comp=N,42μm,16.0s
NKL MLR MLR
comp=Z,127μm,19.0s
ASOR Ausora 54.03 306 *e*P **P** **15 18 03.3 +1.3**
ASOR IAmb IAmb 15 18 11.7
comp=Z,1μm,0.7s
H08S2 Diego Garcia H 54.07 260 P **P** **15 18 03.2 +1.0**
baz=51,slow=9.3,SNR=26
H08S3 Diego Garcia H 54.08 260 P **P** **15 18 03.3 +1.0**
baz=51,slow=9.3,SNR=20
H08S1 Diego Carcia H 54.09 260 P **P** **15 18 03.4 +1.0**
baz=51,slow=9.3,SNR=36
MERT Meerut 54.14 306 *e*P **P** **15 18 03.8 +1.0**
MSVF Nonsavu 54.18 112 P **P** **15 18 01.9 -1.4**
MSVF Nonsavu 54.18 112 PKP2bc 15 48 34.8
comp=Z,5.9nm,0.8s,baz=63,slow=4.5,SNR=2.1
MSVF Nonsavu 54.18 112 P **P** **15 18 05.4 +2.0**
MSVF Nonsavu 54.18 112*ce*P **P** **15 18 04.1 +0.7**
MSVF pmax pmax
comp=Z,2μm,1.4s
POO Poona 54.33 293 *e*P **P** **15 18 03.3 -1.1**
POO IAMs_20 IAMs_20 15 37 19.4
comp=Z,47μm,28.0s
JMIU JAMIA UNIVERSI 54.35 305 *e*P **P** **15 18 07.2 +2.9**
SONA Sohna 54.40 305 *e*P **P** **15 18 02.4 -2.3**
SONA IAmb IAmb 15 18 10.8
comp=Z,880nm,0.9s
LDR Lodi Road 54.42 305 *e*P **P** **15 18 05.1 +0.3**
DDI Dehra Dun 54.42 308 *e*P **P** **15 18 06.2 +1.3**
DDI IAmb IAmb 15 18 36.5
comp=Z,570nm,0.6s
DDI IAMs_20 IAMs_20 15 37 19.2
comp=Z,30μm,22.1s
AYAN Aya Nagar 54.45 305 *e*P **P** **15 18 02.2 -2.9**
AYAN IAmb IAmb 15 18 09.9
comp=Z,22μm,1.9s
NDI New Delhi 54.45 306 *e*P **P** **15 18 03.9 -1.2**
NPLP NPLP New Delhi 54.48 305 *e*P **P** **15 18 04.8 -0.4**
NPLP IAmb IAmb 15 18 10.7
comp=Z,240nm,0.8s
BHGR Bahadurgarh 54.68 305 *e*P **P** **15 18 08.2 +1.5**
IRK Irkutsk 54.76 344 *e*P **P** **15 18 07.1 +0.2**
IRK *e*S **S** **15 25 47.9 +3.5**
IRK pmax pmax
comp=Z,2μm,3.3s
KLP Kalpa 54.76 309 *e*P **P** **15 18 08.0 +0.3**
KLP IAmb IAmb 15 18 21.7
comp=Z,783nm,1.1s
GNR GANAUR 54.78 306 *e*P **P** **15 18 05.8 -1.7**
KUDL Kundal 54.85 305 *e*P **P** **15 18 05.1 -2.8**
KUDL IAmb IAmb 15 18 13.9
comp=Z,653nm,1.0s
WMQ Urumqi 55.07 327⇓ *i*P **P** **15 18 09.0 -0.4**
WMQ S **S** **15 25 47.1 -1.9**
WMQ ScS **ScS** **15 27 49.1 -6.1**
WMQ pmax pmax
comp=Z,620nm,1.1s
WMQ pmax pmax
comp=Z,7μm,3.7s
WMQ LR LR
comp=Z,82μm,16.1s
WMQ LR LR
comp=Z,56μm,20.3s
WMQ LR LR
comp=Z,58μm,24.3s
MOY Mondy 55.24 341 *e*P **P** **15 18 10.9 +0.4**
MOY *e* 15 25 55.2
MOY pmax pmax
comp=Z,2μm,2.4s
DGTI Dogotuki 55.43 110 P **P** **15 18 13.0 +0.6**
SMLA Simla 55.44 308 *e*P **P** **15 18 11.0 -1.1**
SMLA IAmb IAmb 15 18 27.1
comp=Z,1μm,1.1s
SMLA IAMs_20 IAMs_20 15 32 22.8
comp=Z,37μm,22.8s
TAVE Taveuni 55.85 111 P **P** **15 18 16.3 +0.9**
BHK Bhakra 56.15 308 *e*P **P** **15 18 15.4 -1.8**
BHK IAmb IAmb 15 18 28.3
comp=Z,3μm,1.6s
SKR Severo-Kuril's 56.15 23⇑ *i*P **P** **15 18 18.1 +1.3**
SKR *i*S **S** **15 26 02.8 0.0**
SKR pmax pmax
comp=Z,13μm,4.8s
SKR pmax pmax
comp=Z,772nm,1.1s
SKR smax smax
comp=N,9μm,11.2s
SKR smax smax
comp=E,21μm,8.7s
SKR MLR MLR
comp=Z,29μm,17.0s
DHRM DHARAMSHALA 56.57 309 *e*P **P** **15 18 18.9 -1.6**
DHRM IAmb IAmb 15 18 33.5
comp=Z,1μm,0.9s
BHV Bhavnagar 56.66 296 *e*P **P** **15 18 20.3 -0.7**
BHV IAmb IAmb 15 18 27.7
comp=Z,3μm,1.5s
OUZ Omahuta 56.72 134 IAMs_20 IAMs_20 15 45 33.9
comp=Z,79μm,18.0s
FUTU Fugatoga 57.08 107 P **P** **15 18 25.1 +1.0**
THN Thein Dam 57.09 309 *e*P **P** **15 18 22.4 -1.5**
THN IAmb IAmb 15 18 32.4
comp=Z,739nm,0.7s
LKBA Tubou, Lakemba 57.20 112 P **P** **15 18 25.1 +0.2**
BKNR BIKANER 57.47 303 *e*P **P** **15 18 25.3 -1.4**
BKNR IAmb IAmb 15 18 30.4
comp=Z,830nm,1.0s
SRGN SRI GANGA NAGA 57.61 306 *e*P **P** **15 18 26.7 -0.9**
SRGN IAmb IAmb 15 18 40.0
comp=Z,1μm,0.6s
JMU Jammu 57.84 309 *e*P **P** **15 18 29.8 +0.6**
JMU IAmb IAmb 15 18 40.4
comp=Z,828nm,0.8s
BOD Bodaibo 58.00 352 *e*P **P** **15 18 30.3 +0.5**
BOD pmax pmax
comp=Z,1μm,2.0s
DCZ Deep Cove 58.32 147 IAmb IAmb 15 18 43.4
comp=Z,503nm,1.1s
AWAZ Awhitu Peninsu 58.33 135 P **P** **15 18 36.2 +3.6**
JCZ Jackson Bay 58.37 145 P **P** **15 18 34.6 +1.8**
PYZ Puysegur Point 58.52 148 IAMs_20 IAMs_20 15 43 28.1
comp=Z,75μm,22.0s
PYZ Puysegur Point 58.52 148 P **P** **15 18 34.4 +0.7**

WUS Wushi 58.61 320 IAmb IAmb 15 18 51.5
comp=Z,840nm,1.2s
FOZ Fox Glacier 58.64 144 IAmb IAmb 15 18 41.8
comp=Z,513nm,1.2s
FOZ IAMs_20 IAMs_20 15 48 01.3
comp=Z,62µm,20.0s
PEA0B Petropavlovsk- 58.67 22 IAmb IAmb 15 18 41.2
comp=Z,1µm,1.1s
PEA0B Petropavlovsk- 58.67 22*c* *i*P **P** **15 18 35.2 +0.6**
PETK Petropavlovsk- 58.67 22 P **P** **15 18 34.1 -0.5**
PETK Petropavlovsk- 58.67 22 P **P** **15 18 34.7 0.0**
comp=Z,212nm,0.8s,baz=209,slow=8.2,SNR=217
PETK S **S** **15 26 36.6 +0.6**
comp=Z,0.6nm,0.3s,baz=67,slow=42,SNR=1.1
PETK LR LR 15 43 56.6
comp=Z,14µm,20.7s,baz=226,slow=36
PETK PKPPKP **P'P'df** **15 48 10.2 -0.7**
comp=Z,6.2nm,1.1s,baz=88,slow=9.0,SNR=4.6
comp=Z,212nm,0.8s
PETK Petropavlovsk- 58.67 22 P **P** **15 18 34.1 -0.5**
AIS Amsterdam Isla 58.70 224 P **P** **15 18 36.5 +1.4**
AIS IAmb IAmb 15 18 43.4
comp=Z,463nm,0.7s
MKAZ Moumakai 58.72 135 P **P** **15 18 36.3 +1.1**
MLZ Mavora Lakes 58.79 147 IAMs_20 IAMs_20 15 45 01.2
comp=Z,63µm,21.0s
QRZ Quartz Range 58.80 140 IAMs_20 IAMs_20 15 44 17.3
comp=Z,90µm,22.0s
QRZ Quartz Range 58.80 140 P **P** **15 18 34.3 -1.5**
DSZ Denniston Nort 58.84 141 IAMs_20 IAMs_20 15 47 34.3
comp=Z,62µm,20.0s
ZSN Zaisan 58.93 329 *e*P **P** **15 18 36.1 -0.5**
ZSN *e*S **S** **15 26 40.4 +0.8**
ZSN Zaisan 58.93 329 *e*P **P** **15 18 36.1 -0.5**
ZSN *e*S **S** **15 26 40.4 +0.8**
KUZ Kuaotunu 58.95 134 P **P** **15 18 39.3 +2.5**
KUZ Kuaotunu 58.95 134 P **P** **15 18 37.4 +0.6**
WKZ Wanaka 58.96 146 IAmb IAmb 15 18 54.3
comp=Z,2µm,1.7s
WKZ IAMs_20 IAMs_20 15 48 53.7
comp=Z,66µm,19.0s
PET Petropavlovsk 58.96 22 P **P** **15 18 35.8 -0.8**
PET IAmb IAmb 15 18 43.8
comp=Z,1µm,1.3s
PET Petropavlovsk 58.96 22 P **P** **15 18 37.3 +0.7**
PET Petropavlovsk 58.96 22*j* *i*P **P** **15 18 37.1 +0.5**
PET *e*S **S** **15 26 42.5 +2.8**
PET pmax pmax
comp=Z,567nm,1.6s
PET pmax pmax
comp=Z,15µm,7.4s
PET pmax pmax
comp=Z,9µm,14.4s
PET smax smax
comp=E,12µm,21.4s
PET smax smax
comp=E,18µm,27.0s
PET smax smax
comp=N,8µm,19.8s
PET MLR MLR
comp=Z,25µm,18.0s
PET MLR MLR
comp=Z,24µm,18.0s
WHZ Wether Hill Ro 59.02 147 IAmb IAmb 15 18 43.9
comp=Z,440nm,1.0s
JASL Jaisalmer 59.14 301 *e*P **P** **15 18 38.0 -0.4**
JASL IAmb IAmb 15 18 43.0
comp=Z,845nm,1.1s
INZ Inchbonnie 59.16 142 IAMs_20 IAMs_20 15 45 05.8
comp=Z,61µm,20.0s
HIZ Hauiti 59.17 137 IAMs_20 IAMs_20 15 46 21.1
comp=Z,75µm,22.0s
HIZ Hauiti 59.17 137 P **P** **15 18 41.9 +3.5**
TOZ Tahuroa Road 59.25 136 IAmb IAmb 15 18 57.4
comp=Z,1µm,1.6s
TOZ IAMs_20 IAMs_20 15 44 33.0
comp=Z,67µm,21.0s
TOZ Tahuroa Road 59.25 136 P **P** **15 18 40.2 +1.3**
BHUJ Bhuj 59.26 297 *e*P **P** **15 18 42.2 +3.0**
BHUJ IAMs_20 IAMs_20 15 35 18.0
comp=Z,46µm,23.7s
LBZ Lake Benmore 59.36 145 IAmb IAmb 15 18 46.6
comp=Z,727nm,1.0s
LBZ IAMs_20 IAMs_20 15 44 32.3
comp=Z,65µm,20.0s
VRZ Vera Road 59.41 137 P **P** **15 18 41.3 +1.3**
NIL Nilore 59.47 309 P **P** **15 18 39.0 -1.5**
NIL Nilore 59.47 309 IAMs_20 IAMs_20 15 45 52.8
comp=Z,69µm,22.0s
NIL Nilore 59.47 309 P **P** **15 18 38.7 -1.9**
NIL S **S** **15 26 42.7 -4.5**
NIL Nilore 59.47 309 P **P** **15 18 39.1 -1.5**
NIL pmax pmax
comp=Z,2µm,1.7s
NIL MLR MLR
comp=Z,69µm,22.0s
RPZ Rata Peaks 59.48 144 IAMs_20 IAMs_20 15 46 03.5
comp=Z,52µm,21.0s
RPZ Rata Peaks 59.48 144 P **P** **15 18 40.3 -0.1**
comp=Z,226nm,0.9s,baz=28,slow=5.1,SNR=14
RPZ LR LR 15 44 47.9
comp=Z,46µm,21.8s,baz=302,slow=36
comp=Z,226nm,0.9s
SHLS Shalkode 59.49 322*d* *i*P **P** **15 18 38.4 -2.3**
SHLS *e*S **S** **15 26 44.4 -2.8**
SHLS pmax pmax
comp=Z,687nm,1.3s
SHLS Shalkode 59.49 322*j* *i*P **P** **15 18 38.4 -2.3**
comp=Z,687nm,1.3s
SHLS *e*S **S** **15 26 44.4 -2.8**
THZ Tophouse 59.54 141 IAmb IAmb 15 18 59.2
comp=Z,1µm,1.9s
THZ IAMs_20 IAMs_20 15 44 14.9
comp=Z,83nm,21.0s
NNZ Nelson 59.55 140 IAMs_20 IAMs_20 15 44 49.2
comp=Z,79nm,21.0s
NNZ Nelson 59.55 140 P **P** **15 18 40.6 -0.3**
TLZ Tolley Road 59.56 136 P **P** **15 18 42.0 +0.9**
PDGK Podgornoye 59.57 322 P **P** **15 18 41.6 +0.4**
LTZ Lake Taylor 59.70 142 IAmb IAmb 15 19 02.6
comp=Z,551nm,1.2s
LTZ IAMs_20 IAMs_20 15 48 14.0
comp=Z,62µm,20.0s
TGRZ Tauranga 59.78 135 P **P** **15 18 43.0 +0.4**
OXZ Oxford 59.85 143 IAMs_20 IAMs_20 15 44 30.3
comp=Z,76µm,22.0s
WAZ Wanganui 59.87 138 P **P** **15 18 44.2 +1.1**
WATZ Wairara 59.87 136 P **P** **15 18 44.1 +0.8**
PKVZ Pokaka 59.88 137 P **P** **15 18 43.3 -0.1**
MK31 Makanchi Array 59.91 327 *i* P **P** **15 18 42.2 -1.1**
MK31 pmax pmax
comp=Z,345nm,0.6s
MKAR Makanchi Array 59.91 327 P **P** **15 18 42.1 -1.3**
comp=Z,190nm,0.5s,baz=126,slow=6.8,SNR=251
MKAR PcP **PcP** **15 19 30.3 +1.0**
comp=Z,196nm,0.6s,baz=133,slow=3.8,SNR=5.0
MKAR ScP **ScP** **15 23 28.4 +1.4**
comp=Z,21nm,0.9s,baz=174,slow=4.3,SNR=2.8
MKAR S **S** **15 26 50.5 -1.8**
comp=Z,80nm,1.3s,baz=146,slow=13,SNR=8.6
MKAR ScS **ScS** **15 28 30.9 +0.6**
comp=Z,3.6nm,0.9s,baz=79,slow=5.2,SNR=1.3
MKAR LR LR 15 45 19.1
comp=Z,176µm,21.4s,baz=124,slow=37
MKAR PKPPKP **P'P'df** **15 48 09.1 -0.6**
comp=Z,4.2nm,0.8s,baz=291,slow=3.4,SNR=3.8
comp=Z,190nm,0.5s
MKAR Makanchi Array 59.91 327 *i* P **P** **15 18 42.0 -1.3**
MKAR pmax pmax
comp=Z,193nm,0.5s
KSH Kashi 59.95 317 P **P** **15 18 43.9 0.0**
KSH S **S** **15 26 51.2 -2.1**
KSH pmax pmax
comp=Z,320nm,1.9s
KSH pmax pmax
comp=Z,8µm,7.7s
KSH LR LR
comp=Z,101µm,19.9s
KSH LR LR
comp=Z,30µm,22.7s
KSH LR LR
comp=Z,71µm,22.0s
NGZ Ngauruhoe 60.00 137 P **P** **15 18 44.8 +0.5**
ODZ Otahua Downs 60.01 145 IAMs_20 IAMs_20 15 48 49.6
comp=Z,64µm,21.0s
MAVZ Matarangi 60.02 137 P **P** **15 18 48.7 +4.1**
TRVZ Turoa 60.02 137 P **P** **15 18 46.1 +1.5**
OMRZ Omania 60.03 136 P **P** **15 18 44.7 +0.3**
HSRZ Hossack Road 60.04 136 P **P** **15 18 44.9 +0.5**
OPRZ Ohinepanea 60.04 135 P **P** **15 18 44.4 0.0**
TMVZ Te Maari 60.04 137 P **P** **15 18 44.9 +0.3**
ETVZ East Tongariro 60.06 137 P **P** **15 18 48.1 +3.5**
SYZ Scrubby Hill 60.07 147 P **P** **15 18 45.3 +0.9**
WNVZ Wahianoa 60.07 137 P **P** **15 18 44.6 -0.1**
MAKZ Makanchi 60.09 327 P **P** **15 18 43.3 -1.2**
MAKZ IAmb IAmb 15 18 50.7
comp=Z,536nm,0.8s
MAKZ Makanchi 60.09 327 P **P** **15 18 43.3 -1.2**
MAKZ pmax pmax
comp=Z,536nm,0.8s
MAKZ MLR MLR
comp=Z,232µm,22.0s
MAKZ Makanchi 60.09 327 P **P** **15 18 43.8 -0.8**
HLRZ Highlands Stat 60.09 136 P **P** **15 18 45.6 +0.9**
SATY Saty 60.09 321*d* *i*P **P** **15 18 44.4 -0.4**
SATY *e*S **S** **15 26 55.7 +0.7**
SATY pmax pmax
comp=Z,622nm,1.3s
SATY Saty 60.09 321*j* *i*P **P** **15 18 44.4 -0.4**
comp=Z,622nm,1.3s
SATY *e*S **S** **15 26 55.8 +0.7**
MOVZ Moawhango 60.22 137 P **P** **15 18 45.3 -0.4**
GVZ Greta Valley S 60.27 142 IAMs_20 IAMs_20 15 46 54.2
comp=Z,59µm,19.0s
CMWZ Cape Campbell 60.37 140 P **P** **15 18 45.0 -1.5**
KIW Kapiti Island 60.37 139 P **P** **15 18 45.0 -1.5**
KDJ Kajisay 60.40 320 IAmb IAmb 15 18 53.1
comp=Z,445nm,0.8s
MRHZ Matea Rd 60.40 136 P **P** **15 18 45.8 -1.1**
MQZ McQueen's Vall 60.44 143 IAmb IAmb 15 18 54.2
comp=Z,572nm,1.3s
SNZO South Karori 60.46 140 P **P** **15 18 44.8 -2.3**
SNZO IAmb IAmb 15 18 51.2
comp=Z,399nm,0.9s
SNZO South Karori 60.46 140 P **P** **15 18 46.3 -0.8**
MUGZ Murupara 60.48 136 P **P** **15 18 46.4 -1.0**
OGWZ Otaki Gorge 60.51 139 P **P** **15 18 45.7 -1.8**
BKZ Black Stump Fm 60.61 137 IAmb IAmb 15 18 54.8
comp=Z,1µm,1.6s
BKZ IAMs_20 IAMs_20 15 47 06.9
comp=Z,62µm,22.0s
BKZ Black Stump Fm 60.61 137 P **P** **15 18 46.4 -1.9**
BKZ Black Stump Fm 60.61 137 P **P** **15 18 47.4 -0.9**
BHW Baring Head 60.62 140 IAmb IAmb 15 19 04.1
comp=Z,717nm,1.6s
BHW IAMs_20 IAMs_20 15 45 23.2
comp=Z,52µm,21.0s
MIDW Midway 60.62 58 P **P** **15 18 49.3 +0.8**
URZ Urewera 60.62 135 P **P** **15 18 47.0 -1.3**
comp=Z,131nm,0.9s,baz=279,slow=3.3,SNR=21
URZ LR LR 15 45 59.8
comp=Z,48µm,20.7s,baz=306,slow=37
URZ PKP2bc 15 48 19.2
comp=Z,9.5nm,0.8s,baz=79,slow=3.4,SNR=5.7
comp=Z,131nm,0.9s
URZ Urewera 60.62 135 P **P** **15 18 49.1 +0.8**
URZ Urewera 60.62 135 P **P** **15 18 47.2 -1.2**
TSZ Takapari Road 60.67 138 P **P** **15 18 47.7 -1.0**
RTZ Ruatahuna 60.69 136 IAMs_20 IAMs_20 15 45 09.1
comp=Z,80µm,22.0s
RTZ Ruatahuna 60.69 136 P **P** **15 18 48.0 -0.9**
POWZ Post Office Ro 60.70 138 P **P** **15 18 47.7 -1.2**
MTHZ Maungataniwha 60.70 136 P **P** **15 18 47.6 -1.4**
MRZ Mangatainoka R 60.71 138 IAMs_20 IAMs_20 15 47 43.6
comp=Z,77µm,21.0s
MRZ Mangatainoka R 60.71 138 P **P** **15 18 47.5 -1.4**
KRHZ Kereru 60.75 137 P **P** **15 18 48.0 -1.2**
NMHZ Naumai 60.79 136 P **P** **15 18 49.5 -0.1**
MCHZ McNeill Hill 60.88 137 P **P** **15 18 49.6 -0.5**
RAHZ Arahi 60.90 136 P **P** **15 18 48.9 -1.4**
PRWZ Pori Road 60.92 138 P **P** **15 18 49.1 -1.2**
MWZ Matawai 60.95 135 P **P** **15 18 49.7 -0.9**
RAO Raoul Island 60.97 124 LR LR 15 44 58.2
comp=Z,17µm,19.0s,baz=295,slow=36
WPHZ Waipukurau 61.00 138 P **P** **15 18 49.7 -1.1**
ARHZ Aropaoanui 61.00 136 P **P** **15 18 50.4 -0.5**
TNSS Tian-Shan 61.00 321 *e*P **P** **15 18 50.4 -0.9**
TNSS Tian-Shan 61.00 321 *e*P **P** **15 18 50.4 -0.9**
SNGZ Shannon Statio 61.02 136 P **P** **15 18 50.2 -0.9**
ARXS Arharly 61.06 322 *e*P **P** **15 18 50.9 -0.4**
ULHL Ulahol 61.06 320 P **P** **15 18 51.4 -0.1**
SNR=37
WHHZ Waihua 61.08 136 P **P** **15 18 50.9 -0.5**
KNDC Almaty 61.08 321 P **P** **15 18 52.4 +0.9**
AAA Alma-Ata 61.11 321 *e*P **P** **15 18 51.1 -0.5**
AAA pmax pmax
comp=Z,696nm,1.2s
AAA MLR MLR
comp=Z,56µm,19.0s
AAA Alma-Ata 61.11 321 *e*P **P** **15 18 51.1 -0.5**
comp=Z,696nm,1.2s
AAA LR LR 15 45 53.3
comp=Z,56µm,18.6s
TDK Taldyqorghan 61.12 323 *e*P **P** **15 18 51.2 -0.4**
TDK *e*S **S** **15 27 08.6 +0.7**
TDK pmax pmax
comp=Z,791nm,1.1s
TDK MLR MLR
comp=Z,30µm,18.0s
TDK Taldyqorghan 61.12 323 *e*P **P** **15 18 51.3 -0.4**
comp=Z,791nm,1.1s
TDK *e*S **S** **15 27 08.6 +0.7**
TDK LR LR 15 45 49.1
comp=Z,30µm,17.8s
PKGZ Pakihiroa 61.13 135 P **P** **15 18 51.1 -0.8**
BFZ Birch Farm 61.16 138 P **P** **15 18 52.8 +0.8**
MXZ Matakaoa Point 61.16 134 IAmb IAmb 15 19 07.7
comp=Z,2µm,1.9s
MXZ Matakaoa Point 61.16 134 P **P** **15 18 52.4 +0.4**
KAHZ Kahuranaki 61.16 137 P **P** **15 18 51.4 -0.7**
TWGZ Tauwhareparae 61.20 135 P **P** **15 18 51.7 -0.6**
ANWZ Angora Road 61.21 138 P **P** **15 18 51.3 -1.0**
CKHZ Cape Kidnapper 61.24 137 P **P** **15 18 52.4 -0.1**
PXZ Pawanui 61.27 135 P **P** **15 18 51.5 -1.1**
RIGZ Rimuhau 61.28 136 P **P** **15 18 52.4 -0.4**
KNZ Kokohu 61.36 136 P **P** **15 18 54.4 +1.1**
BOOM Boomskoye usch 61.38 320 IAmb IAmb 15 19 30.9
comp=Z,725nm,1.4s
CHKK Chushkaly 61.39 321 *e*P **P** **15 18 52.6 -0.9**
CHKK Chushkaly 61.39 321 *e*P **P** **15 18 52.7 -0.9**
PRGZ Paritu Road 61.46 136 P **P** **15 18 54.2 +0.1**
YAK Yakutsk 61.47 2 P **P** **15 18 53.2 -0.5**
YAK Yakutsk 61.47 2 IAMs_20 IAMs_20 15 50 17.3
comp=Z,60µm,19.0s
YAK Yakutsk 61.47 2 PKPPKP 15 48 07.0
comp=Z,18nm,0.8s,baz=100,slow=2.3,SNR=3.2
YAK LR LR 15 49 33.6
comp=Z,30µm,18.0s,baz=183,slow=40
YAK Yakutsk 61.47 2*d* *i*P **P** **15 18 53.9 +0.3**
YAK *e**PP **pP** **15 19 03.6 -2.0**
YAK *e* 15 19 35.9
YAK *e* 15 21 09.7
YAK *e*PPP PPP 15 22 34.7
YAK *e*S **S** **15 27 13.1 +1.5**
YAK *e**SS **sS** **15 27 30.3 -1.7**
YAK *e* 15 28 42.8
YAK *e*SS **SS** **15 31 10.7 -2.5**
YAK pmax pmax
comp=Z,1µm,1.0s
YAK pmax pmax
comp=N,538nm,1.3s
YAK pmax pmax
comp=E,141nm,1.1s
YAK pmax pmax
comp=Z,4µm,3.8s
YAK pmax pmax
comp=N,3µm,4.0s
YAK pmax pmax
comp=E,1µm,4.1s
YAK smax smax
comp=N,9µm,4.1s
YAK smax smax
comp=E,6µm,1.8s
YAK MLR MLR
comp=Z,78µm,23.0s
YAK MLR MLR
comp=N,59µm,23.0s
YAK MLR MLR
comp=E,18µm,23.0s
YAK Yakutsk 61.47 2 P **P** **15 18 53.7 +0.1**
MHGZ Mahia Peninsul 61.58 136 P **P** **15 18 54.6 -0.3**
TKM2 Tokmak 2 61.81 320 P **P** **15 18 55.9 -0.7**
SNR=92
TKM2 Tokmak 2 61.81 320 *i* P **P** **15 18 56.4 -0.2**
TKM2 pmax pmax
comp=Z,580nm,1.3s
KUU Kurty 61.81 321 *e*P **P** **15 18 55.9 -0.5**
KUU pmax pmax
comp=Z,2µm,1.5s
KUU MLR MLR
comp=Z,48µm,19.0s
KUU Kurty 61.81 321 *e*P **P** **15 18 55.9 -0.5**
comp=Z,2µm,1.5s
KUU LR LR 15 46 11.0
comp=Z,48µm,18.8s
MA2 Magadan 62.00 14 P **P** **15 18 57.2 0.0**
MA2 IAmb IAmb 15 19 03.5
comp=Z,754nm,0.9s
MA2 Magadan 62.00 14 PKPPKP 15 48 04.6
comp=Z,6.5nm,0.7s,baz=0.0,slow=2.0,SNR=2.2
MA2 Magadan 62.00 14 P **P** **15 18 58.5 +1.2**
MA2 Magadan 62.00 14*d* *i*P **P** **15 18 58.1 +0.8**
MA2 pmax pmax
comp=Z,747nm,0.8s
MA2 MLR MLR
comp=Z,46µm,22.0s
MA2 Magadan 62.00 14 P **P** **15 18 55.1 -2.2**
comp=Z,31µmcomp=Z,1µm,1.1s
MA2 Magadan 62.00 14 P **P** **15 18 58.4 +1.1**
KBK Karagaybulak 62.10 319 P **P** **15 19 02.5 +4.0**
SNR=15
UCH Uchtor 62.19 319 P **P** **15 18 58.7 -0.7**
SNR=115
AAK Ala-Archa 62.39 319 P **P** **15 19 00.3 -0.1**
SNR=30
AAK Ala-Archa 62.39 319 P **P** **15 18 59.3 -1.1**
AAK IAmb IAmb 15 19 13.1
comp=Z,612nm,1.2s
AAK Ala-Archa 62.39 319 S **S** **15 27 22.9 -1.3**
comp=Z,2.6nm,0.4s,baz=214,slow=20,SNR=1.0
AAK LR LR 15 47 23.5
comp=Z,119µm,21.8s,baz=114,slow=37
AAK Ala-Archa 62.39 319 P **P** **15 19 01.3 +0.9**
AAK P **P** **15 19 01.3 +0.9**
AAK P **P** **15 19 01.3 +0.9**
AAK P **P** **15 19 01.3 +0.9**
AAK S **S** **15 27 23.4 -0.9**
AAK S **S** **15 27 23.4 -0.9**
AAK Ala-Archa 62.39 319*d* *i*P **P** **15 19 00.2 -0.2**
AAK pmax pmax
comp=Z,682nm,1.3s
AAK MLR MLR
comp=Z,138µm,23.0s
AAK Ala-Archa 62.39 319 *i* P **P** **15 19 00.4 -0.1**
SNR=61
AAK Ala-Archa 62.39 319 P **P** **15 19 00.2 -0.1**
AAK Ala-Archa 62.39 319 P **P** **15 18 59.9 -0.5**
AAK S **S** **15 27 20.7 -3.6**
CHMS Chumysh 62.39 320 P **P** **15 18 59.7 -0.6**
SNR=21
USP Ospenovka 62.68 320 P **P** **15 19 01.5 -0.7**
SNR=96
AML Almayashu 62.68 318 P **P** **15 19 02.6 0.0**
SNR=104
SGDS Sogindy 62.68 320 *e*P **P** **15 19 01.6 -0.7**
DRK Karamyk 62.84 315 IAmb IAmb 15 19 09.7
comp=Z,643nm,0.7s
EKS2 Erkin-Say 62.87 319 P **P** **15 19 03.3 -0.3**
SNR=65
KBU Kabul Universi 62.97 309 P **P** **15 19 02.0 -2.6**
KBL Kabul 63.05 309 P **P** **15 19 03.4 -1.6**
KBL IAmb IAmb 15 19 09.7
comp=Z,2µm,1.7s
KBL Kabul 63.05 309 P **P** **15 19 05.7 +0.6**
SNR=362
KBL P **P** **15 19 05.7 +0.6**
SNR=362
KBL S **S** **15 27 28.3 -4.7**
KBL S **S** **15 27 28.3 -4.7**
KBL Kabul 63.05 309 P **P** **15 19 03.4 -1.6**
KBL pmax pmax
comp=Z,2µm,1.7s
AFI Afiamalu 63.10 106 P **P** **15 19 04.2 -1.3**
AFI IAmb IAmb 15 19 38.9
comp=Z,493nm,1.1s
AFI Afiamalu 63.10 106 P **P** **15 19 06.7 +1.2**
AFI Afiamalu 63.10 106 P **P** **15 19 04.2 -1.3**
AFI pmax pmax
comp=Z,493nm,1.2s
ZAA0 Zalesovo Array 63.23 334 IAmb IAmb 15 19 20.3
comp=Z,1µm,1.4s
ZALV Zalesovo Beam 63.23 334 P **P** **15 19 03.8 -1.7**
ZALV Zalesovo Beam 63.23 334 P **P** **15 19 04.2 -1.4**
comp=Z,59nm,0.5s,baz=123,slow=5.3,SNR=76
ZALV S **S** **15 27 28.4 -5.5**
comp=Z,6.4nm,0.9s,baz=94,slow=7.9,SNR=1.7
ZALV ScS **SKSac** **15 28 52.9 -1.9**
comp=Z,5.2nm,0.9s,baz=226,slow=8.1,SNR=1.2
ZALV PKPPKP 15 48 01.0
comp=Z,3.4nm,0.9s,baz=259,slow=1.5,SNR=3.9
ZALV LR LR 15 49 21.5
comp=Z,28µm,19.5s,baz=136,slow=39
comp=Z,59nm,0.5s
BTK Batken 63.77 315 IAmb IAmb 15 19 28.6
comp=Z,702nm,1.1s
BTLS Baital 63.81 321*d* *i*P **P** **15 19 08.8 -0.7**
BTLS Baital 63.81 321*j* *i*P **P** **15 19 08.9 -0.7**
KURBB Kurchatov Arra 64.17 328 P **P** **15 19 10.9 -0.9**
comp=Z,476nm,0.7s,baz=130,slow=6.1,SNR=298
KURBB S **S** **15 27 41.3 -4.5**
comp=Z,1.4nm,0.9s,baz=234,slow=37,SNR=1.3
KURBB PKPPKP 15 48 04.2
comp=Z,10nm,0.9s,baz=293,slow=3.7,SNR=6.8
KURBB LR LR 15 48 21.3
comp=Z,40µm,19.2s,baz=134,slow=37
comp=Z,476nm,0.7s
KURBB Kurchatov Arra 64.17 328 P **P** **15 19 11.1 -0.7**
KURK Kurchatov 64.17 329 P **P** **15 19 11.0 -0.8**
KURK Kurchatov 64.17 329 IAMs_20 IAMs_20 15 43 37.0
comp=Z,42µm,19.0s
KURK Kurchatov 64.17 329 P **P** **15 19 11.8 -0.1**
KURK P **P** **15 19 11.8 -0.1**
KURK S **S** **15 27 43.3 -2.6**
KURK S **S** **15 27 43.3 -2.6**
KURK Kurchatov 64.17 329*de* P **P** **15 19 10.5 -1.3**
KURK pmax pmax
comp=Z,1µm,1.0s
KURK MLR MLR
comp=Z,42µm,21.0s
KURK Kurchatov 64.17 329 P **P** **15 19 11.1 -0.8**
KURK pP **pP** **15 19 21.6 -2.3**
SIMJ Simiganj 64.53 313 P **P** **15 19 13.4 -1.2**
DZA Taraz 64.59 318 *e*P **P** **15 19 14.0 -0.7**
DZA Taraz 64.59 318 *e*P **P** **15 19 14.1 -0.7**
IUG Iuzhnay 65.15 317 *e*P **P** **15 19 18.0 -0.5**
IUG *e*S **S** **15 27 59.0 +0.5**
IUG Iuzhnay 65.15 317 *e*P **P** **15 19 18.0 -0.5**
IUG *e*S **S** **15 27 59.1 +0.5**
KK31 Karatay Array 65.22 318 IAmb IAmb 15 19 38.9
comp=Z,692nm,1.2s
KK31 Karatay Array 65.22 318 *i* P **P** **15 19 18.0 -0.9**
KKAR Karatay Array 65.22 318 P **P** **15 19 17.6 -1.3**
KKAR Karatay Array 65.22 318 IAmb IAmb 15 19 38.9
comp=Z,726nm,1.2s
KKAR Karatay Array 65.22 318 P **P** **15 19 17.6 -1.3**
SEY Seymchan 65.33 13*d* *i*P **P** **15 19 20.6 +1.5**
SEY pmax pmax
comp=Z,2µm,1.5s
SEY MLR MLR
comp=Z,28µm,20.0s
JOHN Johnston Islan 65.35 72 P **P** **15 19 21.4 +1.3**
CHM Chimkent 65.51 317 *e*P **P** **15 19 20.3 -0.5**
CHM pmax pmax
comp=Z,1µm,1.6s
CHM Chimkent 65.51 317 *e*P **P** **15 19 20.4 -0.4**
comp=Z,1µm,1.6s
CHM LR LR 15 48 23.6
SMY Shemya 65.58 30 P **P** **15 19 22.2 +1.3**
NIUE Niue 65.63 111 P **P** **15 19 21.5 -0.4**
NIUE IAmb IAmb 15 19 31.6
comp=Z,742nm,1.1s
NIUE Niue 65.63 111 P **P** **15 19 22.6 +0.7**
BRLS Boroldoy 65.64 318*d* *i*P **P** **15 19 20.9 -0.7**
BRLS Boroldoy 65.64 318*j* *i*P **P** **15 19 20.9 -0.7**
BRZS Berezniki 67.01 326*d* *i*P **P** **15 19 29.8 -0.4**

BRZS eS S 15 28 21.4 +0.8
BRZS Berezniki 67.01 326 ‖*i* P P 15 19 29.9 -0.4
BRZS eS S 15 28 21.5 +0.8
CTZ Chatham Island 67.27 139 IAMs_20 IAMs_20 15 50 54.2
comp=Z,71µm,21.0s
CTZ Chatham Island 67.27 139 P P 15 19 32.8 +0.9
NGCH Negor - Chabah 67.29 297 P P 15 19 32.6 +0.2
SNR=7.8
NGCH S S 15 28 22.5 -2.4
CASY Casey 67.52 187 P P 15 19 33.4 +0.3
CASY IAmb IAmb 15 19 39.7
comp=Z,493nm,0.8s
CASY Casey 67.52 187 IAMs_20 IAMs_20 15 47 14.8
comp=Z,49µm,22.0s
CASY Casey 67.52 187 P P 15 19 33.5 +0.5
DRV Dumont d'Urvil 67.70 174 ⇑P P 15 19 33.7 -0.5
DRV P P 15 19 33.8 -0.4
JLN Jalan Bani Buh 68.31 294 P P 15 19 40.0 +1.1
JLN P P 15 19 40.0 +1.1
JLN S S 15 28 32.4 -4.8
JLN S S 15 28 32.4 -4.8
MHTO MHTO 69.48 292 P P 15 19 46.7 +0.5
SNR=89
MHTO P P 15 19 46.7 +0.5
SNR=89
MHTO S S 15 28 50.5 -0.5
MHTO S S 15 28 50.5 -0.5
BIDO Bidbid 69.69 295 P P 15 19 48.8 +1.3
SNR=62
BIDO P P 15 19 48.8 +1.3
SNR=62
BIDO S S 15 28 47.5 -6.0
BIDO S S 15 28 47.5 -6.0
SMDO Samad 69.69 294 P P 15 19 48.7 +1.1
SNR=38
SMDO P P 15 19 48.7 +1.1
SNR=38
SMDO S S 15 28 50.1 -3.6
SMDO S S 15 28 50.1 -3.6
KIWB Kanaga Island 69.73 34 IAmb IAmb 15 19 52.9
comp=Z,877nm,0.8s
BVA0 Borovoye Array 69.73 328 P P 15 19 45.8 -1.3
BVAR Borovoye Array 69.73 328 P P 15 19 46.7 -0.4
comp=Z,87nm,0.6s
BVAR PKPPKP P'P'df 15 47 52.8 -0.7
BVAR LR LR 15 51 03.2
comp=Z,72µm,21.8s,baz=116,slow=36
comp=Z,87nm,0.6s
DQM DQM 69.74 291 P P 15 19 48.1 +0.3
SNR=42
DQM P P 15 19 48.1 +0.3
SNR=42
DQM S S 15 28 50.4 -3.7
DQM S S 15 28 50.4 -3.7
BRVK Borovoye 69.80 328 P P 15 19 47.4 -0.2
BRVK sP pwP 15 20 02.4 +0.3
ADK Adak 70.00 34 P P 15 19 48.0 -0.8
ADK IAmb IAmb 15 19 59.6
comp=Z,726nm,0.9s
ADK Adak 70.00 34 P P 15 19 49.8 +1.0
ADK Adak 70.00 34 P P 15 19 48.0 -0.8
ADK pmax pmax
comp=Z,726nm,1.0s
ADK Adak 70.00 34 P P 15 19 48.9 +0.1
JASK Jask - Hormozg 70.29 297 P P 15 19 55.4 +4.3
SNR=35
JASK S S 15 28 58.6 -1.9
BSY Bisya 70.42 294 P P 15 19 53.2 +1.2
SNR=68
BSY S S 15 29 01.6 -0.6
HOQ Hoqain 70.44 295 P P 15 19 52.8 +0.7
SNR=76
HOQ S S 15 28 57.3 -5.0
MSEY Mahe Island 70.75 265 P P 15 19 53.1 -1.1
MSEY Mahe Island 70.75 265 P P 15 19 55.5 +1.3
MSEY S S 15 29 01.9 -4.4
MSEY Mahe Island 70.75 265 P P 15 19 53.1 -1.1
MSEY pmax pmax
comp=Z,4µm,1.8s
MSEY Mahe Island 70.75 265 *i* P P 15 19 54.2 0.0
SNR=46
MSEY Mahe Island 70.75 265 P P 15 19 54.6 +0.4
TIXI Tiksi 71.10 1 P P 15 19 53.7 -1.4
TIXI IAmb IAmb 15 20 07.3
comp=Z,1µm,1.6s
TIXI IAMs_20 IAMs_20 15 55 41.3
comp=Z,37µm,19.0s
TIXI Tiksi 71.10 1 LR LR 15 54 51.6
comp=Z,17µm,18.1s,baz=198,slow=39
TIXI Tiksi 71.10 1*d i* P P 15 19 54.7 -0.4
TIXI pmax pmax
comp=Z,964nm,1.5s
ARQ Araqi 71.12 294 P P 15 19 56.7 +0.5
SNR=45
ARQ S S 15 29 05.8 -4.4
SOHO SOHO 71.22 295 P P 15 19 58.5 +1.7
SOHO S S 15 29 06.8 -4.5
SOHO SOHO 71.22 295 *i* P P 15 19 55.7 -1.1
SNR=35
ATKA Atka Island 71.52 34 P P 15 19 58.8 +0.8
MDH Madha 71.60 296 P P 15 19 59.9 +0.8
SNR=7.2
MDH S S 15 29 12.6 -3.0
MDH Madha 71.60 296 *i* P P 15 19 58.3 -0.7
SNR=12
UOSS Minazif 71.63 296 P P 15 19 57.2 -2.1
UOSS Minazif 71.63 296 P P 15 19 59.8 +0.5
UOSS P P 15 19 60.0 +0.7
UOSS S S 15 29 11.5 -4.6
UOSS Minazif 71.63 296 *i* P P 15 19 57.6 -1.8
SNR=26
UOSS Minazif 71.63 296 P P 15 19 57.2 -2.1
UOSS Minazif 71.63 296 P P 15 19 56.7 -2.6
UOSS S S 15 29 11.2 -4.9
HATD Hatta, Dubai 71.68 296 P P 15 20 01.2 +1.6
SNR=43
HATD S S 15 29 08.7 -7.9
HATD Hatta, Dubai 71.68 296 *i* P P 15 19 58.4 -1.2
SNR=55
ASHO Ashiyiah 71.73 296 P P 15 20 01.5 +1.6
SNR=43
ASHO S S 15 29 15.6 -1.7
ASHO Ashiyiah 71.73 296 *i* P P 15 19 58.5 -1.4
SNR=64
MSFE Esma-Masafi 71.73 296 *i* P P 15 19 58.3 -1.6
SNR=44
MASF Masafi 71.74 296 P P 15 20 01.5 +1.6
SNR=30
MASF S S 15 29 19.5 +2.2
SHME Shamm 71.85 297 P P 15 20 02.2 +1.6
SNR=25
SHME S S 15 29 14.5 -4.0
SHME Shamm 71.85 297 *i* P P 15 19 59.4 -1.2
SNR=30
ALNE Al Ain 71.92 295 P P 15 20 02.3 +1.3
SNR=127
ALNE S S 15 29 15.8 -3.6
ALNE Al Ain 71.92 295 *i* P P 15 20 00.3 -0.7
SNR=63
DMTO DMTO 71.94 288 P P 15 20 03.2 +1.9
SNR=5.9
DMTO S S 15 29 15.5 -4.2
NAZ Nazwa, Dubai 72.13 296 P P 15 20 03.8 +1.6
SNR=20
NAZ Nazwa, Dubai 72.13 296 *i* P P 15 20 00.5 -1.8
SNR=26
FAQ Al Faqa, Dubai 72.16 296 P P 15 20 04.1 +1.7
SNR=41
FAQ S S 15 29 20.3 -1.8
FAQ Al Faqa, Dubai 72.16 296 *i* P P 15 20 00.7 -1.8
SNR=36
UMQ Umm Al-Quwin 72.20 297 P P 15 20 04.4 +1.7
SNR=9.7
UMQ S S 15 29 21.4 -1.1
UMQ Umm Al-Quwin 72.20 297 *i* P P 15 20 02.0 -0.7
SNR=15
UMZA Um Al Zommool 72.28 294 P P 15 20 02.2 -1.0
UMZA S S 15 29 20.2 -3.4
ASUD Al Ashush, Dub 72.38 296 P P 15 20 05.5 +1.7
SNR=54
ASUD Al Ashush, Dub 72.38 296 *i* P P 15 20 03.1 -0.7
SNR=73
RBK Rabkut 72.63 288 P P 15 20 07.1 +1.7
SNR=14
AJN Ajban 72.68 296 P P 15 20 06.6 +1.1
SNR=49
AJN S S 15 29 24.2 -3.8
AJN Ajban 72.68 296 *i* P P 15 20 04.4 -1.1
SNR=67
DOK Doka 72.80 289 P P 15 20 06.8 +0.5
SNR=26
DOK S S 15 29 28.5 -1.1
BILL Bilibino 72.85 15 P P 15 20 05.9 +0.2
BILL IAMs_20 IAMs_20 15 50 13.3
comp=Z,44µm,22.0s
BILL Bilibino 72.85 15*d i* P P 15 20 05.9 +0.2
BILL pmax pmax
comp=Z,542nm,1.5s
WHFO Wadi Hawf 73.07 288 P P 15 20 08.2 +0.2
SNR=16
WHFO S S 15 29 30.6 -2.2
NRIK Noril'sk 73.44 347 P P 15 20 08.7 -0.5
NRIK IAmb IAmb 15 20 14.7
comp=Z,848nm,0.8s
NRIK Noril'sk 73.44 347 P P 15 20 09.6 +0.4
comp=Z,709nm,0.7s,baz=134,slow=6.0,SNR=191
NRIK S S 15 29 31.8 -3.3
comp=Z,69nm,1.3s,baz=163,slow=24,SNR=8.7
NRIK PKPPKP P'P'df 15 47 45.0 -1.1
comp=Z,3.0nm,0.9s,baz=348,slow=3.4,SNR=4.5
NRIK LR LR 15 54 36.8
comp=Z,47µm,20.9s,baz=146,slow=38
comp=Z,709nm,0.7s
NRIK Noril'sk 73.44 347*d i* P P 15 20 09.2 0.0
NRIK pmax pmax
comp=Z,941nm,0.8s
NRIK MLR MLR
comp=Z,90µm,22.0s
ABTO Aybut 73.48 288 P P 15 20 09.4 -1.1
SNR=20
ABTO S S 15 29 30.7 -6.7
MZR Muzera 73.86 294 P P 15 20 13.7 +1.2
SNR=101
MZR S SKiKP 15 29 38.9 +0.5
MZR Muzera 73.86 294 *i* P P 15 20 11.9 -0.6
SNR=60
AB31 Akbulak array 74.30 321 *i* P P 15 20 13.7 -0.8
ABKAR Akbulak array 74.30 321 P P 15 20 13.9 -0.7
ABKAR Akbulak array 74.30 321 IAmb IAmb 15 20 19.4
comp=Z,396nm,0.9s
GHWR Ruwais 74.52 295 P P 15 20 18.1 +1.8
JRN Qarnain Island 74.65 296 P P 15 20 18.6 +1.5
SNR=17
JRN S S 15 29 45.0 -5.3
NIKH Nikolski High 74.83 35 IAmb IAmb 15 20 23.4
comp=Z,1µm,1.0s
NIKH Nikolski High 74.83 35 P P 15 20 19.9 +2.3
NIKH Nikolski High 74.83 35 P P 15 20 18.6 +1.1
baz=250,SNR=42
RAR Rarotonga 75.37 112 P P 15 20 19.1 -2.2
RAR IAmb IAmb 15 20 51.7
comp=Z,1µm,1.6s
RAR Rarotonga 75.37 112 LR LR 15 51 12.3
comp=Z,7µm,21.6s,baz=288,slow=34
RAR Rarotonga 75.37 112 P P 15 20 23.7 +2.4
RAR Rarotonga 75.37 112 P P 15 20 19.1 -2.2
RAR pmax pmax
comp=Z,1µm,1.6s
SLWR Sila 75.61 295 P P 15 20 24.3 +1.7
SPIA Saint Paul Isl 75.61 30 P P 15 20 24.3 +2.4
baz=248,SNR=56
P08K Saint George I 75.75 31 P P 15 20 25.1 +2.4
baz=248,SNR=66
AKTO Aktyubinsk 75.84 322 P P 15 20 22.9 -0.5
comp=Z,910nm,0.6s,baz=103,slow=6.2,SNR=258
AKTO S S 15 30 00.7 -1.9
comp=Z,70nm,1.3s,baz=329,slow=18,SNR=10.0
AKTO LR LR 15 55 19.3
comp=Z,82µm,21.8s,baz=107,slow=37
comp=Z,910nm,0.6s
TRNA Turayna 76.11 295 P P 15 20 27.2 +1.7
SNR=60
TRNA S S 15 30 01.2 -5.3
SVE Sverdlovsk 76.42 329*c i* P P 15 20 26.6 0.0
SVE *e* 15 23 12.8
SVE *e*PPP PPP 15 25 08.1
SVE *i* S S 15 30 05.2 -3.5
SVE pmax pmax
comp=Z,2µm,1.4s
SVE pmax pmax
comp=Z,6µm,9.0s
SVE MLR MLR
comp=Z,34µm,21.0s
XMAS Kiritimati 76.43 88 P P 15 20 28.7 +1.2
UNV Unalaska Valle 76.45 34 P P 15 20 28.3 +1.5
baz=252,SNR=92
SMRA Abu-Samra 76.46 295 P P 15 20 28.9 +1.5
SNR=106
SMRA S S 15 30 08.4 -1.9
KIP Kipapa 76.68 68 P P 15 20 31.2 +2.4
KIP Kipapa 76.68 68*de* P P 15 20 30.2 +1.4
KIP pmax pmax
comp=Z,616nm,1.1s
SBV Sambava 76.69 256 P P 15 20 32.1 +3.2
SNR=25
SAKB Bahrain 76.84 296 P P 15 20 31.2 +1.6
SAKB S S 15 30 13.2 -1.3
AKUT Akutan 76.95 34 P P 15 20 30.8 +1.2
ARTI Arti 77.45 328 P P 15 20 31.2 -1.2
ARTI Arti 77.45 328 P P 15 20 31.8 -0.6
comp=Z,660nm,0.6s,baz=113,slow=3.2,SNR=151
ARTI LR LR 15 57 33.1
comp=Z,28µm,20.1s,baz=102,slow=38
comp=Z,660nm,0.6s
ARTI Arti 77.45 328*c i* P P 15 20 31.6 -0.8
ARTI 15 20 45.9
ARTI S S 15 30 19.8 -0.1
ARTI SS SS 15 35 18.2 -1.2
ARTI SSS SSS 15 38 43.0
ARTI pmax pmax
comp=Z,1µm,1.4s
ARTI MLR MLR
comp=Z,66µm,22.0s
GAMB Gambell 77.61 24 P P 15 20 35.1 +2.0
baz=245
M11K Mekoryuk 78.72 28 P P 15 20 40.9 +1.5
baz=250
POHA Pohakuloa 78.88 70 P P 15 20 40.1 -1.3
POHA IAmb IAmb 15 20 47.9
comp=Z,712nm,1.1s
POHA Pohakuloa 78.88 70 P P 15 20 42.2 +0.8
MLH Mauna Loa 79.00 70 P P 15 20 40.1 -2.0
MLH IAmb IAmb 15 20 49.5
comp=Z,1µm,1.2s
RSD Rainshed 79.10 70 P P 15 20 40.7 -1.8
S12K Black Hills 79.44 33 IAmb IAmb 15 20 49.5
comp=Z,691nm,1.1s
S12K Black Hills 79.44 33 P P 15 20 44.5 +1.1
baz=255,SNR=224
H04N2 CROZET ISLANDS 79.50 223 P P 15 20 44.7 +1.1
baz=100,slow=4.6,SNR=14
H04N1 CROZET ISLANDS 79.52 223 P P 15 20 44.7 +1.0
baz=100,slow=4.6,SNR=7.3
H04N3 CROZET ISLANDS 79.52 223 P P 15 20 44.6 +0.9
baz=100,slow=4.6,SNR=15
H04S1 CROZET ISLANDS 79.57 222 P P 15 20 46.4 +2.4
baz=83,slow=6.8,SNR=5.2
H04S2 CROZET ISLANDS 79.58 222 P P 15 20 46.5 +2.3
baz=83,slow=6.8,SNR=8.3
H04S3 CROZET ISLANDS 79.59 222 P P 15 20 46.4 +2.3
baz=83,slow=6.8,SNR=8.0
ABPO Ambohimpanom 79.65 251 P P 15 20 45.9 +0.4
ABPO Ambohimpanom 79.65 251 P P 15 20 45.9 +0.4
ABPO pmax pmax
comp=Z,309nm,1.1s
KBD Kabd 79.67 299 P P 15 20 46.5 +1.3
KBD P P 15 20 46.7 +1.5
KBD S S 15 30 38.3 -6.4
TNA Tin City 79.82 23 P P 15 20 47.2 +2.0
baz=248
K13K Kusilvak Mount 79.94 27 P P 15 20 47.1 +1.2
baz=252
M13K Dall Lake 80.08 28 IAmb IAmb 15 20 53.3
comp=Z,610nm,1.0s
M13K Dall Lake 80.08 28 P P 15 20 48.3 +1.6
baz=253
SDPT Sand Point 80.23 34 P P 15 20 47.9 +0.3
SDPT Sand Point 80.23 34 P P 15 20 48.3 +0.7
baz=256,SNR=449
VOI Vohitsoka 80.27 248 P P 15 20 48.5 -0.3
VOI IAmb IAmb 15 20 58.4
comp=Z,2µm,1.7s
VOI IAMs_20 IAMs_20 15 55 28.8
comp=Z,55µm,22.0s
VOI Vohitsoka 80.27 248 P P 15 20 50.0 +1.2
SNR=51
VNDA Vanda 80.28 173 P P 15 20 47.7 +0.2
comp=Z,79nm,0.8s,baz=318,slow=6.0,SNR=344
VNDA S S 15 30 50.0 +0.6
comp=Z,1.2nm,1.1s,baz=135,slow=22,SNR=0.7
VNDA PKKP PKKPdf 15 39 23.5 +0.9
comp=Z,5.4nm,0.8s,baz=117,slow=0.6,SNR=9.5
VNDA PKPPKP 15 47 34.3
comp=Z,3.5nm,1.0s,baz=183,slow=2.6,SNR=4.0
VNDA LR LR 15 55 45.8
comp=Z,37µm,20.9s,baz=331,slow=35
comp=Z,79nm,0.8s
FOMA Nahampoana Res 80.35 245 P P 15 20 49.1 +0.2
FOMA IAmb IAmb 15 20 56.1
comp=Z,2µm,2.0s
F14K Arctic Creek 80.41 23 P P 15 20 50.1 +1.7
baz=250
ANM Nome 80.48 24 P P 15 20 50.5 +1.7
baz=251
MAW Mawson 80.50 200 P P 15 20 49.4 +0.6
comp=Z,203nm,1.0s,baz=62,slow=6.3,SNR=225
MAW S S 15 30 52.6 +0.7
comp=Z,4.7nm,1.2s,baz=182,slow=21,SNR=1.7
MAW PKKP PKKPdf 15 39 23.2 +1.2
comp=Z,2.0nm,0.8s,baz=210,slow=2.5,SNR=2.1
MAW PKKPbc PKKPbc 15 39 32.9 -0.2
comp=Z,12nm,0.9s,baz=213,slow=2.9,SNR=10
MAW PKPPKP 15 47 31.2
comp=Z,12nm,1.2s,baz=191,slow=3.7,SNR=5.5
MAW LR LR 15 54 33.2
comp=Z,25µm,20.6s,baz=60,slow=34
comp=Z,203nm,1.0s
CNBA Chernabura Isl 80.61 34 IAmb IAmb 15 20 55.0
comp=Z,1µm,1.2s
CHNA Chernabura Isl 80.61 34 P P 15 20 50.6 +0.9
CHNA Chernabura Isl 80.61 34 P P 15 20 50.6 +0.9
baz=257,SNR=167
L14K Kuka Creek 80.66 28 P P 15 20 51.2 +1.4
baz=254
J14K Nanvaranak Lak 80.67 26 IAmb IAmb 15 20 57.4
comp=Z,885nm,1.5s
J14K Nanvaranak Lak 80.67 26 P P 15 20 50.7 +0.9
baz=252,SNR=129
N14K Kuskokwak Cree 80.74 29 IAmb IAmb 15 20 56.7
comp=Z,1µm,1.1s
N14K Kuskokwak Cree 80.74 29 P P 15 20 51.5 +1.2
baz=255,SNR=406
O14K Tigyukauivet M 80.77 30 IAmb IAmb 15 20 57.4
comp=Z,898nm,1.1s
O14K Tigyukauivet M 80.77 30 P P 15 20 51.6 +1.2
baz=255,SNR=368
M14K Bethel 80.83 28 IAMs_20 IAMs_20 15 57 02.0
comp=Z,36µm,22.0s
M14K Bethel 80.83 28 P P 15 20 52.0 +1.3
baz=254,SNR=466
S14K Fog Glacier 80.95 33 P P 15 20 52.5 +0.8
baz=257,SNR=304
AKT Akhty 81.00 312 *e* P P 15 20 51.9 -0.4
AKT *e* 15 23 55.9
AKT *e*S S 15 30 53.9 -4.5
AKT *e*SSS SSS 15 39 41.1
AKT pmax pmax
comp=N,188nm,0.6s
AKT pmax pmax
comp=Z,1µm,0.7s
AKT pmax pmax
comp=E,286nm,0.7s
AKT pmax pmax
comp=Z,6µm,2.6s
AKT smax smax
comp=N,15µm,9.7s
AKT smax smax
comp=E,28µm,13.2s
AKT MLR MLR
comp=Z,41µm,25.0s
AKT MLR MLR
comp=E,59µm,26.0s
AKT MLR MLR
comp=N,46µm,24.0s
F15K North Star Dit 81.14 23 P P 15 20 53.0 +0.6
baz=251,SNR=122
G15K Niukluk 81.16 24 P P 15 20 52.7 +0.3
baz=252
SBA Scott Base 81.20 172 P P 15 20 52.8 +0.3
SBA Scott Base 81.20 172 IAMs_20 IAMs_20 15 56 28.5
comp=Z,34µm,22.0s
SBA Scott Base 81.20 172 P P 15 20 52.8 +0.3
SBA pmax pmax
comp=Z,586nm,1.5s
SBA MLR MLR
comp=Z,34µm,22.0s
RAYN Ar Rayn 81.21 294 P P 15 20 53.0 -0.6
RAYN IAmb IAmb 15 20 58.7
comp=Z,1µm,1.1s
RAYN Ar Rayn 81.21 294 P P 15 20 54.2 +0.5
RAYN S S 15 31 01.3 +0.1
RAYN Ar Rayn 81.21 294 ⇑P P 15 20 53.4 -0.2
RAYN Ar Rayn 81.21 294 *i* P P 15 20 53.4 -0.2
SNR=534
L15K Ungalak Mounta 81.30 27 P P 15 20 54.0 +0.8
baz=255
MAK Makhachkala 81.35 313 *e*P P 15 20 52.8 -1.1
MAK *e* 15 23 57.0
MAK *e*PPP PPP 15 25 49.3
MAK *e*S S 15 31 01.7 -0.1
MAK *e*SS SS 15 36 22.0 +3.5
MAK pmax pmax
comp=Z,2µm,1.9s
MAK pmax pmax
comp=Z,8µm,2.2s
MAK MLR MLR
comp=E,45µm,21.0s
MAK MLR MLR
comp=Z,51µm,21.0s
MAK MLR MLR
comp=N,45µm,20.0s
M15K Kasigluk River 81.42 28 P P 15 20 54.8 +0.9
baz=255,SNR=408
K15K Wolf Creek Mou 81.44 27 IAmb IAmb 15 21 04.9
comp=Z,920nm,1.1s
K15K Wolf Creek Mou 81.44 27 P P 15 20 55.1 +1.1
baz=254,SNR=399
O15K Ungalikthiuk R 81.47 30 IAmb IAmb 15 21 01.1
comp=Z,735nm,1.1s
O15K Ungalikthiuk R 81.47 30 P P 15 20 55.0 +0.8
baz=256
CHGN Chignik 81.58 33 IAmb IAmb 15 21 02.3
comp=Z,945nm,0.9s
CHGN IAMs_20 IAMs_20 15 54 06.7
comp=Z,38µm,22.0s
CHGN Chignik 81.58 33 P P 15 20 55.3 +0.5
baz=258,SNR=117
N15K Kwethluk River 81.58 29 IAmb IAmb 15 21 02.0
comp=Z,777nm,1.1s
N15K Kwethluk River 81.58 29 P P 15 20 55.6 +0.8
baz=256
C16K Lisburne Hills 81.74 20 IAmb IAmb 15 21 04.9
comp=Z,887nm,1.2s
C16K Lisburne Hills 81.74 20 P P 15 20 56.8 +1.3
baz=250,SNR=262
G16K Koyuk River 81.96 24 P P 15 20 57.8 +1.2
baz=253,SNR=159
J16K Anvik River 82.12 26 IAmb IAmb 15 21 09.1
comp=Z,789nm,0.9s
J16K Anvik River 82.12 26 P P 15 20 59.5 +2.0
baz=255,SNR=355
I17K Unalakleet 82.23 25 P P 15 20 59.7 +1.6
baz=255
L16K Owhat River 82.24 28 IAmb IAmb 15 21 17.3
comp=Z,1µm,1.2s
L16K Owhat River 82.24 28 P P 15 20 59.6 +1.4
baz=256,SNR=682
N16K Nishlik Lake 82.29 29 P P 15 21 00.2 +1.7
baz=257,SNR=446
M16K Timber Creek 82.32 28 IAMs_20 IAMs_20 15 57 58.4
comp=Z,37µm,21.0s
M16K Timber Creek 82.32 28 P P 15 21 00.1 +1.4
baz=257,SNR=433
D17K Noatak River 82.36 21 P P 15 21 00.7 +1.9
baz=252,SNR=802
P16K Nushagak River 82.36 30 IAMs_20 IAMs_20 15 54 08.6
comp=Z,33µm,22.0s
P16K Nushagak River 82.36 30 P P 15 21 00.0 +1.2
baz=258

O16K Kokwok River B 82.43 30 IAmb IAmb 15 21 12.1
comp=Z,805nm,1.1s
O16K Kokwok River B 82.43 30 P **P** **15 21 00.5 +1.3**
baz=258,SNR=463
RDOG Red Dog Mine 82.53 21 IAmb IAmb 15 21 12.3
comp=Z,755nm,1.1s
RDOG Red Dog Mine 82.53 21 P **P** **15 21 00.8 +1.1**
baz=252
C17K DeLong Mountai 82.57 21 P **P** **15 21 00.8 +1.0**
baz=252,SNR=331
BELG Belogornoye 82.62 323 P **P** **15 21 00.2 -0.1**
comp=Z,1µm,0.9s,baz=319,slow=0.6,SNR=136
BELG S **S** **15 31 09.0 -5.4**
comp=Z,42nm,1.1s,baz=47,slow=23,SNR=12
BELG LR LR 15 59 59.9
comp=Z,41µm,21.7s,baz=94,slow=37
comp=Z,1µm,0.9s
E17K Hotham Inlet 82.65 22 P **P** **15 21 02.0 +1.8**
baz=254,SNR=616
G17K Kiwalik Mounta 82.67 24 P **P** **15 21 01.8 +1.4**
baz=255,SNR=414
F17K Baldwin Pennin 82.69 23 IAmb IAmb 15 21 16.0
comp=Z,787nm,1.0s
F17K Baldwin Pennin 82.69 23 P **P** **15 21 02.0 +1.6**
baz=254
KIRV Kirov 82.69 329 P **P** **15 21 00.5 -0.1**
comp=Z,226nm,0.7s,baz=106,slow=3.3,SNR=64
KIRV LR LR 16 00 12.8
comp=Z,28µm,21.5s,baz=101,slow=37
comp=Z,226nm,0.7s
J17K VABM Dome 82.81 26 IAMs_20 IAMs_20 15 58 38.5
comp=Z,36µm,22.0s
J17K VABM Dome 82.81 26 P **P** **15 21 02.7 +1.6**
baz=256
H17K Granite Mounta 82.83 24 IAmb IAmb 15 21 12.7
comp=Z,939nm,0.9s
H17K Granite Mounta 82.83 24 P **P** **15 21 03.1 +1.9**
baz=256,SNR=686
L17K Donlin 82.88 27 P **P** **15 21 03.5 +2.0**
baz=257,SNR=937
R17L Mt. Peulik Vol 82.94 32 P **P** **15 21 02.1 +0.1**
baz=260
PLK4 Peulik 4 82.94 32 IAMs_20 IAMs_20 15 57 27.9
comp=Z,32µm,21.0s
O17K Koliganek Bris 82.96 30 P **P** **15 21 03.5 +1.5**
baz=259,SNR=734
Q16K King Salmon 82.97 31 P **P** **15 21 02.3 +0.2**
baz=259,SNR=52
K17K Iditarod 83.00 27 P **P** **15 21 03.7 +1.5**
baz=257
N17K Nushagak Hills 83.07 29 P **P** **15 21 03.9 +1.4**
baz=259,SNR=372
GNI Garni 83.11 310 P **P** **15 21 03.3 -0.1**
GNI IAmb IAmb 15 21 22.0
comp=Z,997nm,1.1s
GNI Garni 83.11 310 P **P** **15 21 04.1 +0.7**
comp=Z,94nm,0.9s,baz=173,slow=1.9,SNR=58
GNI S **S** **15 31 20.2 0.0**
comp=Z,5.5nm,0.6s,baz=77,slow=3.8,SNR=1.3
GNI LR LR 16 03 48.3
comp=Z,8µm,21.7s,baz=93,slow=40
comp=Z,94nm,0.9s
GNI Garni 83.11 310 P **P** **15 21 04.6 +1.2**
GNI S **S** **15 31 18.6 -1.7**
GNI Garni 83.11 310 *d* iP **P** **15 21 03.8 +0.4**
GNI pmax pmax
comp=Z,1µm,1.2s
GNI MLR MLR
comp=Z,28µm,25.0s
GNI Garni 83.11 310 P **P** **15 21 04.0 +0.6**
GNI Garni 83.11 310 P **P** **15 21 02.0 -1.4**
comp=Z,23µmcomp=Z,978nm,1.5s
M17K Holitna River 83.12 28 IAmb IAmb 15 21 22.3
M17K comp=Z,1µm,1.3s IAMs_20 IAMs_20 15 58 23.6
comp=Z,30µm,21.0s
M17K Holitna River 83.12 28 P **P** **15 21 03.8 +1.0**
baz=258,SNR=451
P17K Kvichak River 83.18 30 P **P** **15 21 03.9 +0.8**
baz=259,SNR=94
E18K Tukpahlearik C 83.20 22 P **P** **15 21 03.9 +0.9**
baz=255
Q17K Contact Creek 83.30 31 P **P** **15 21 04.6 +0.7**
baz=260
B18K Kokolik River 83.31 20 P **P** **15 21 05.3 +1.7**
baz=253
ATD Arta Tunnel 83.31 281 LR LR 15 56 58.1
comp=Z,964nm,21.9s,baz=80,slow=35
ATD Arta Tunnel 83.31 281 P **P** **15 21 07.1 +2.3**
SNR=132
ATD S **S** **15 31 15.8 -7.3**
C18K Utukok River 83.32 21 IAmb IAmb 15 21 16.1
comp=Z,793nm,1.1s
C18K Utukok River 83.32 21 P **P** **15 21 04.9 +1.1**
baz=254
F18K Selawik 83.35 23 P **P** **15 21 05.2 +1.3**
baz=256,SNR=250
H18K Honhosa River 83.52 24 P **P** **15 21 05.8 +1.0**
baz=257
OZAP Van, Ozalp-Mer 83.56 309 ⇓P **P** **15 21 06.7 +0.8**
G18K Tagagawik 83.57 24 IAmb IAmb 15 21 15.8
comp=Z,566nm,1.1s
G18K Tagagawik 83.57 24 P **P** **15 21 06.1 +1.0**
baz=257,SNR=384
ACHA Angle Creek He 83.58 31 IAmb IAmb 15 21 11.8
comp=Z,813nm,1.3s
L18K Granite Mounta 83.63 27 IAMs_20 IAMs_20 16 00 58.1
comp=Z,29µm,20.0s
L18K Granite Mounta 83.63 27 P **P** **15 21 07.0 +1.6**
baz=259
N18K Kilae Creek 83.72 29 P **P** **15 21 07.2 +1.3**
baz=260,SNR=394
A19K Wainwright 83.79 19 P **P** **15 21 08.0 +2.0**
baz=254
Q18K Katmai Hardscr 83.82 31 P **P** **15 21 06.9 +0.3**
baz=261,SNR=334
P18K Big Mountain, 83.83 30 IAmb IAmb 15 21 12.7
comp=Z,794nm,1.3s
P18K Big Mountain, 83.83 30 P **P** **15 21 06.7 +0.2**
baz=260,SNR=199
J18K Innoko River 83.86 26 P **P** **15 21 07.8 +1.2**
baz=259,SNR=638
M18K Stony River 83.90 28 P **P** **15 21 08.4 +1.6**
baz=260,SNR=785
O18K Koktuh Hills 83.92 30 P **P** **15 21 08.0 +1.0**
baz=260,SNR=364
R18K Karluk 83.94 32 P **P** **15 21 07.8 +0.7**
baz=261
C19K Lookout Ridge 84.00 20 P **P** **15 21 08.1 +0.9**
baz=255
GCSA Galena City Sc 84.05 25 P **P** **15 21 08.2 +0.8**
baz=258
F19K Shaleruckik Mo 84.13 23 P **P** **15 21 08.8 +1.0**
baz=257
G19K Purcell Mounta 84.25 23 P **P** **15 21 09.9 +1.4**
baz=258,SNR=826
D19K Kuna River 84.37 21 IAMs_20 IAMs_20 16 03 09.7
comp=Z,29µm,20.0s
D19K Kuna River 84.37 21 P **P** **15 21 09.9 +0.8**
baz=257
H19K Roundabout Mou 84.38 24 P **P** **15 21 10.6 +1.4**
baz=259,SNR=370
O19K Port Alsworth 84.41 30 P **P** **15 21 10.2 +0.8**
baz=261,SNR=72
N19K Bonanza Creek 84.43 29 IAMs_20 IAMs_20 15 57 51.3
comp=Z,33µm,22.0s
N19K Bonanza Creek 84.43 29 P **P** **15 21 10.5 +0.8**
baz=261
J19K Poorman 84.44 26 IAMs_20 IAMs_20 15 59 40.4
comp=Z,29µm,21.0s
J19K Poorman 84.44 26 P **P** **15 21 10.3 +0.8**
baz=260,SNR=326
E19K Redstone River 84.47 22 P **P** **15 21 10.8 +1.2**
baz=258
L19K White Mountain 84.47 28 P **P** **15 21 10.8 +1.1**
baz=260
OHAK Old Harbor 84.52 33 P **P** **15 21 11.5 +1.5**
OHAK Old Harbor 84.52 33 P **P** **15 21 11.0 +1.1**
baz=262,SNR=317
Q19K Cape Douglas, 84.56 31 P **P** **15 21 10.3 +0.1**
baz=262,SNR=153
M19K Big River Lodg 84.64 28 P **P** **15 21 11.7 +1.1**
baz=261
PAE Paea 84.71 108 *e*PKIKP **P** **15 21 14.7 +2.9**
comp=Z,162nm,1.4s
PAE Paea 84.71 108 *e*PP **PP** **15 24 23.6 -4.7**
comp=Z,1µm,26.9s
PAE *e*S **SKSac** **15 31 33.5 +0.4**
comp=Z,4µm,25.5s
PAE *e*SS **SS** **15 37 00.0 -9.3**
comp=Z,8µm,33.6s
PAE *e*LQ LQ 15 44 08.5
comp=Z,3µm,25.4s
PAE *e*LR LR 15 47 49.1
comp=Z,8µm,22.7s
PPT Papeete 84.71 108 P **P** **15 21 13.3 +1.5**
comp=Z,68nm,0.8s,baz=114,slow=4.0,SNR=6.2
comp=Z,68nm,0.8s
PPT2 Papeete2 84.71 108 *e*PKIKP **P** **15 21 13.4 +1.5**
comp=Z,462nm,1.5s
PPT2 Papeete2 84.71 108 *e*PP **PP** **15 24 26.5 -1.9**
comp=Z,8µm,28.8s
PPT2 *e*S **SKSac** **15 31 30.3 -3.0**
comp=Z,30µm,27.2s
PPT2 *e*SS **SS** **15 37 04.2 -5.3**
comp=Z,87µm,38.0s
PPT2 *e*LQ LQ 15 44 19.4
comp=Z,84µm,35.8s
PPT2 *e*LR LR 15 47 54.6
comp=Z,46µm,23.2s
PPT2 *e*LR LR 15 47 54.8
comp=Z,37µm,24.2s
PPTF Pamatai, Papee 84.72 108 P **P** **15 21 14.1 +2.2**
GOF Gofitskoye 84.78 315 *d* iP **P** **15 21 12.1 +0.5**
GOF *e*S **SKSac** **15 31 31.3 -1.2**
KBZ Khabaz 84.78 314 P **P** **15 21 11.9 +0.3**
comp=Z,433nm,1.1s,baz=90,slow=4.6,SNR=152
KBZ S **SKSac** **15 31 30.7 -1.8**
comp=Z,4.9nm,0.9s,baz=339,slow=23,SNR=2.3
KBZ PKPPKP **P'P'df** **15 47 27.1 -0.3**
comp=Z,0.6nm,0.3s,baz=348,slow=5.4,SNR=3.5
KBZ LR LR 16 03 30.5
comp=Z,26µm,20.7s,baz=74,slow=39
comp=Z,433nm,1.1s
KBZ Khabaz 84.78 314 *d* iP **P** **15 21 11.9 +0.3**
KBZ pmax pmax
comp=Z,1µm,1.4s
KBZ MLR MLR
comp=Z,31µm,21.0s
P19K Oil Pt 84.87 30 P **P** **15 21 12.6 +0.8**
baz=262,SNR=72
KVAR Kislovodsk Arr 84.94 314 P **P** **15 21 13.2 +0.6**
comp=Z,132nm,1.2s,baz=92,slow=23,SNR=19
comp=Z,132nm,1.2s
KIV Kislovodsk 84.94 314 P **P** **15 21 12.3 -0.3**
KIV Kislovodsk 84.94 314 P **P** **15 21 13.5 +0.9**
KIV S **SKSac** **15 31 33.0 -0.9**
KIV Kislovodsk 84.94 314 ⇑P **P** **15 21 13.4 +0.9**
KIV Kislovodsk 84.94 314 *e*P **P** **15 21 12.6 0.0**
KIV *e* 15 24 28.6
KIV *e*PPP PPP 15 26 23.3
KIV *e* 15 31 33.3
KIV pmax pmax
comp=Z,511nm,1.0s
KIV pmax pmax
comp=Z,1µm,4.1s
KIV Kislovodsk 84.94 314 *i* P **P** **15 21 12.2 -0.4**
SNR=96
KIV Kislovodsk 84.94 314 P **P** **15 21 11.2 -1.4**
comp=Z,19µmcomp=Z,917nm,2.4s
KIV Kislovodsk 84.94 314 P **P** **15 21 12.9 +0.3**
KIV S **S** **15 31 35.1 -3.3**
D20K Etivluk River 84.96 21 P **P** **15 21 13.2 +1.1**
baz=258
F20K Avaraart Lake 84.96 23 P **P** **15 21 13.0 +0.9**
baz=259
ILSW Iliamna Southw 84.96 30 IAmb IAmb 15 21 29.3
comp=Z,822nm,1.5s
KDAK Kodiak Island 84.96 32 P **P** **15 21 12.4 +0.2**
KDAK Kodiak Island 84.96 32 IAMs_20 IAMs_20 16 00 11.6
comp=Z,30µm,21.0s
KDAK Kodiak Island 84.96 32 PKPPKP 15 47 27.3
comp=Z,13nm,1.2s,baz=192,slow=1.0,SNR=3.5
KDAK LR LR 15 55 55.0
comp=Z,31µm,21.0s,baz=246,slow=33
KDAK Kodiak Island 84.96 32 *c* iP **P** **15 21 13.0 +0.8**
KDAK pmax pmax
comp=Z,660nm,1.1s
KDAK Kodiak Island 84.96 32 P **P** **15 21 13.0 +0.8**
baz=263
L20K Farewell, AK 84.97 27 P **P** **15 21 13.2 +1.0**
baz=261,SNR=199
K20K Telida 85.02 26 P **P** **15 21 13.6 +1.1**
baz=261
H20K Anotleneega Mo 85.02 24 P **P** **15 21 13.4 +1.0**
baz=260,SNR=143
E20K Nigu River 85.02 21 P **P** **15 21 13.4 +1.0**
baz=259
TVO Taravao 85.02 108 *e*PKIKP **P** **15 21 15.0 +1.5**
comp=Z,226nm,1.3s
TVO Taravao 85.02 108 *e*S **SKSac** **15 31 36.8 +1.6**
comp=Z,4µm,25.4s
TVO *e*SS **SS** **15 37 04.8 -9.3**
comp=Z,8µm,31.8s
TVO *e*LQ LQ 15 44 16.0
comp=Z,5µm,30.7s
TVO *e*LR LR 15 48 03.8
comp=Z,9µm,22.8s
B20K Meade River 85.04 20 IAMs_20 IAMs_20 16 02 24.1
comp=Z,35µm,21.0s
B20K Meade River 85.04 20 P **P** **15 21 13.7 +1.4**
baz=258
TBI Tubuai 85.05 113 *e*PKP2 **P** **15 21 14.2 +0.8**
comp=Z,876nm,1.2s
TBI Tubuai 85.05 113 *e*PP **PP** **15 24 33.0 +2.0**
comp=Z,31µm,30.8s
TBI *e*S **SKSac** **15 31 36.1 +1.0**
comp=Z,115µm,30.8s
TBI *e*SS **SS** **15 37 09.8 -4.4**
comp=Z,298µm,37.2s
TBI *e*LQ LQ 15 44 29.9
comp=Z,317µm,38.8s
TBI *e*LR LR 15 48 02.5
comp=Z,292µm,27.8s
TBI *e*LR LR 15 48 08.7
comp=Z,65µm,29.5s
I20K Naaghedeneel 85.07 25 P **P** **15 21 13.7 +1.1**
baz=260
J20K Nowinta River 85.11 26 P **P** **15 21 13.8 +0.9**
baz=261
Q20K Shuyak Island 85.17 31 P **P** **15 21 13.5 +0.2**
baz=263,SNR=67
SYI Shuyak Island 85.17 31 IAmb IAmb 15 21 39.9
comp=Z,945nm,1.2s
RED Redoubt Volcan 85.20 29 IAmb IAmb 15 21 19.1
comp=Z,865nm,1.2s
M20K Styx River 85.23 28 P **P** **15 21 14.5 +0.9**
baz=262
O20K Slope Mountain 85.23 30 P **P** **15 21 14.5 +0.8**
baz=263,SNR=28
HOMI Horasan 85.27 310 ⇑P **P** **15 21 16.1 +1.6**
A21K Barrow 85.49 18 P **P** **15 21 15.7 +1.1**
baz=258
IMAR Indian Mountai 85.56 24 P **P** **15 21 15.0 0.0**
N20K Mount Spurr 85.58 29 P **P** **15 21 16.2 +0.9**
baz=263
SPCR Spurr Chakacha 85.58 29 P **P** **15 21 16.3 +1.0**
baz=263,SNR=34
SPU Mount Spurr 85.65 29 IAmb IAmb 15 21 19.5
comp=Z,525nm,1.6s
HOM Homer 85.67 30 P **P** **15 21 16.9 +1.1**
baz=264,SNR=27
C21K Knifeblade Rid 85.69 21 P **P** **15 21 16.6 +0.9**
baz=260,SNR=66
G21K Allakaket 85.74 23 P **P** **15 21 16.6 +0.6**
baz=261
PPLA Purkeypile 85.80 27 IAMs_20 IAMs_20 16 01 10.3
comp=Z,28µm,21.0s
PPLA Purkeypile 85.80 27 P **P** **15 21 16.7 +0.2**
baz=263
B21K Ikpikpuk River 85.83 20 P **P** **15 21 17.7 +1.4**
baz=260
F21K Alatna River 85.86 23 P **P** **15 21 17.4 +0.8**
baz=261
E21K Killik River 85.86 21 P **P** **15 21 17.2 +0.6**
baz=261
CHUM Lake Minchumin 85.87 26 P **P** **15 21 17.1 +0.5**
baz=263,SNR=78
H21K Melozitna Rive 85.90 24 P **P** **15 21 17.2 +0.5**
baz=262
CAST Castle Rocks 85.91 27 IAmb IAmb 15 21 35.7
comp=Z,683nm,1.9s
CAST Castle Rocks 85.91 27 P **P** **15 21 17.4 +0.5**
baz=263,SNR=224
A22K Sinclair Lake 85.95 19 P **P** **15 21 18.1 +1.2**
baz=260
SKT Skwentna 85.99 28 IAMs_20 IAMs_20 15 59 08.5
comp=Z,31µm,21.0s
SKT Skwentna 85.99 28 P **P** **15 21 17.7 +0.4**
baz=263,SNR=128
CAPN Captain Cook N 86.04 29 IAMs_20 IAMs_20 15 57 28.8
comp=Z,31µm,22.0s
CAPN Captain Cook N 86.04 29 P **P** **15 21 18.0 +0.5**
baz=264,SNR=72
VRH Novokhopyorsk 86.12 321 *e*P **P** **15 21 17.3 -0.8**
VRH *e*S **SKSac** **15 31 39.8 -0.9**
VRH pmax pmax
comp=Z,2µm,0.7s
VRH pmax pmax
comp=Z,8µm,1.9s
VRH MLR MLR
comp=Z,45µm,23.0s
PMOR Pomariorio Ree 86.24 105 *e*P **P** **15 21 20.7 +1.3**
comp=Z,1µm,1.6s
PMOR Pomariorio Ree 86.24 105 *e*PP PP 15 24 32.7 -8.1
comp=Z,5µm,28.0s
PMOR *e*S **SKSac** **15 31 44.4 +1.6**
comp=Z,15µm,26.9s
PMOR *e*SS **SS** **15 37 28.8 -3.1**
comp=Z,33µm,33.9s
PMOR Pomariorio Ree 86.24 105 *e*LR LR 15 48 32.5
comp=Z,95µm,23.6s
SUA Susitna One 86.31 29 P **P** **15 21 19.6 +0.6**
baz=264
B22K Teshekpuk Lake 86.36 20 IAmb IAmb 15 21 26.1
comp=Z,427nm,0.8s
B22K Teshekpuk Lake 86.36 20 P **P** **15 21 19.4 +0.5**
baz=261
LABN Labinsk 86.39 315 *e*P **P** **15 21 20.4 +0.7**
LABN *e* 15 24 37.7
LABN *e*PPP PPP 15 26 41.9
LABN *e* 15 31 43.4
LABN *e* 15 31 54.5
LABN pmax pmax
comp=Z,1µm,1.4s
LABN pmax pmax
comp=E,107nm,1.6s
LABN pmax pmax
comp=N,199nm,1.4s
LABN MLR MLR
comp=E,94µm,20.0s
LABN MLR MLR
comp=Z,69µm,21.0s
LABN MLR MLR
comp=N,100µm,22.0s
D22K Ayikyak River 86.39 21 P **P** **15 21 20.0 +0.9**
baz=262
F22K John River 86.39 22 P **P** **15 21 19.9 +0.7**
baz=262
SLKM Skilak Lake 86.47 30 IAmb IAmb 15 21 38.0
comp=Z,846nm,1.2s
BPAW Bear Paw Mtn. 86.47 26 IAMs_20 IAMs_20 16 00 51.2
comp=Z,29µm,21.0s
BPAW Bear Paw Mtn. 86.47 26 P **P** **15 21 20.7 +1.0**
baz=264,SNR=83
VAH Vaihoa 86.50 105 *e*P **P** **15 21 21.1 +0.4**
comp=Z,442nm,1.6s
VAH Vaihoa 86.50 105 *e*PP **PP** **15 24 35.5 -7.4**
comp=Z,5µm,26.9s
VAH *e*S **SKSac** **15 31 46.5 +2.1**
comp=Z,9µm,26.6s
VAH *e*SS **SS** **15 37 25.5 -10**
comp=Z,22µm,32.8s
VAH Vaihoa 86.50 105 *e*LR LR 15 48 36.7
comp=Z,52µm,23.8s
H22K Ishtalitna Cre 86.51 24 P **P** **15 21 20.6 +0.8**
baz=263
FIS Fire Island 86.53 29 IAMs_20 IAMs_20 16 02 54.8
comp=Z,32µm,22.0s
G22K Bettles 86.58 23 P **P** **15 21 20.6 +0.5**
baz=263,SNR=163
E22K Anaktuvuk Pass 86.61 22 IAmb IAmb 15 21 26.4
comp=Z,321nm,0.9s
E22K Anaktuvuk Pass 86.61 22 P **P** **15 21 21.2 +0.9**
baz=263,SNR=385
ERBR Yeremizino-Bor 86.62 316 *e*P **P** **15 21 20.8 +0.1**
ERBR *e* 15 24 46.6
ERBR *e*PPP PPP 15 26 46.5
ERBR *e* 15 31 43.8
ERBR *e* 15 31 53.1
ERBR pmax pmax
comp=N,94nm,0.8s
ERBR pmax pmax
comp=Z,2µm,1.3s
ERBR pmax pmax
comp=E,334nm,1.4s
ERBR MLR MLR
comp=E,105µm,21.0s
ERBR MLR MLR
comp=Z,90µm,22.0s
ERBR MLR MLR
comp=N,9µm,13.0s
CUT Chulitna 86.63 28 IAMs_20 IAMs_20 16 03 02.3
comp=Z,29µm,20.0s
CUT Chulitna 86.63 28 P **P** **15 21 20.9 +0.5**
baz=264,SNR=9.7
M22K Willow 86.63 28 P **P** **15 21 20.8 +0.4**
baz=265,SNR=36
MLY Manley 86.68 25 P **P** **15 21 21.0 +0.3**
baz=264,SNR=305
O22K Cooper Landing 86.71 30 P **P** **15 21 20.8 -0.1**
baz=265,SNR=68
TRF Thorofare Moun 86.72 27 P **P** **15 21 21.2 +0.1**
baz=264,SNR=89
RC01 Rabbit Creek A 86.76 29 P **P** **15 21 21.5 +0.4**
baz=265,SNR=94
SEW Seward 86.82 30 IAmb IAmb 15 21 29.8
comp=Z,677nm,1.3s
SEW Seward 86.82 30 P **P** **15 21 21.9 +0.6**
baz=265,SNR=75
VSLR Vesyoloye 86.84 313 *d* iP **P** **15 21 21.6 -0.3**
VSLR pmax pmax
comp=Z,4µm,1.5s
SOC Sochi 87.07 313 *e*P **P** **15 21 21.1 -1.9**
SOC *e* 15 24 45.0
SOC *e*PPP PPP 15 26 38.8
SOC *e*S **SKSac** **15 31 44.8 -2.1**
SOC *e*SS **SS** **15 37 44.3 +1.4**
SOC pmax pmax
comp=Z,322nm,0.9s
SOC MLR MLR
comp=Z,16µm,21.0s
PMR Palmer 87.09 28 IAmb IAmb 15 21 32.9
comp=Z,314nm,1.0s
PMR Palmer 87.09 28 P **P** **15 21 23.6 +1.0**
PMR Palmer 87.09 28 P **P** **15 21 23.3 +0.6**
baz=266,SNR=74
COLD Coldfoot 87.12 23 IAmb IAmb 15 21 29.3
comp=Z,360nm,0.9s
COLD Coldfoot 87.12 23 P **P** **15 21 23.4 +0.7**
baz=264,SNR=628
D23K Nanushuk River 87.12 21 P **P** **15 21 23.2 +0.5**
baz=264
G23K Bananza Creek 87.14 23 P **P** **15 21 23.5 +0.6**
baz=264
BWN Browne 87.15 26 IAmb IAmb 15 21 30.9
comp=Z,352nm,1.1s
GHO Glory Hole Cre 87.20 28 IAMs_20 IAMs_20 16 00 07.5
comp=Z,28µm,21.0s
C23K Itkillik River 87.24 20 IAmb IAmb 15 21 34.1
comp=Z,729nm,1.0s
C23K Itkillik River 87.24 20 P **P** **15 21 23.6 +0.3**
baz=264
H23K Yukon River 87.25 24 P **P** **15 21 23.9 +0.4**
baz=265,SNR=252
I23K Minto, Yukon-K 87.27 25 IAmb IAmb 15 21 35.1
comp=Z,386nm,1.1s
I23K Minto, Yukon-K 87.27 25 P **P** **15 21 23.4 -0.1**
baz=265,SNR=487
MCK McKinley 87.34 26 P **P** **15 21 23.7 -0.2**
baz=266,SNR=72
NEA2 Nenana 87.35 25 P **P** **15 21 23.3 -0.6**
baz=266,SNR=94
KNK Knik Glacier 87.40 29 IAmb IAmb 15 21 35.3
comp=Z,311nm,1.0s
KNK Knik Glacier 87.40 29 P **P** **15 21 24.3 +0.1**
baz=266
FURI Furi 87.40 279 IAMs_20 IAMs_20 15 57 28.9
comp=Z,29µm,22.0s
PWL Port Wells 87.42 29 IAmb IAmb 15 21 34.7
comp=Z,330nm,0.9s
PWL Port Wells 87.42 29 P **P** **15 21 23.8 -0.5**
baz=266,SNR=109

E23K **Chandalar** 87.42 22 P P 15 21 24.9 +0.6
baz=265
WAT1 **Susitna Watana** 87.45 27 P P 15 21 24.3 -0.1
baz=266
TOLK **Toolik Lake Re** 87.49 21 IAmb IAmb 15 21 35.5
comp=Z,320nm,0.9s
TOLK **Toolik Lake Re** 87.49 21 P P 15 21 25.4 +0.8
baz=265,SNR=270
VORD **Divnogorie** 87.64 321 eP P 15 21 25.0 -0.5
VORD eS **SKSac** 15 31 45.7 -4.3
VORD pmax pmax
comp=Z,480nm,0.6s
VORD smax smax
comp=E,14μm,8.3s
VORR **Voronezh** 87.72 322 eP P 15 21 26.0 +0.1
VORR eS **SKSac** 15 31 46.5 -4.0
VORR pmax pmax
comp=Z,536nm,0.6s
VORR pmax pmax
comp=Z,700nm,0.7s
VORR MLR MLR
comp=Z,34μm,20.0s
VSR **Storozhevoye** 87.73 321 eP P 15 21 25.5 -0.5
VSR eS **SKSac** 15 31 52.4 +1.8
VSR pmax pmax
comp=Z,2μm,2.5s
VSR smax smax
comp=N,15μm,10.2s
VSR MLR MLR
comp=Z,69μm,26.0s
M23K **Glacier View** 87.77 28 P P 15 21 26.0 0.0
baz=267,SNR=62
D24K **Happy Valley** 87.81 21 IAmb IAmb 15 21 37.2
comp=Z,468nm,1.0s
D24K **Happy Valley** 87.81 21 P P 15 21 26.6 +0.6
baz=266,SNR=220
WAT6 **Susitna Watana** 87.81 28 P P 15 21 25.8 -0.5
baz=267,SNR=133
P23K **Montague Islan** 87.84 30 IAmb IAmb 15 21 32.3
comp=Z,474nm,1.1s
P23K **Montague Islan** 87.84 30 P P 15 21 26.7 +0.4
baz=267,SNR=48
E24K **Your Creek** 87.85 22 P P 15 21 26.9 +0.6
baz=266
C24K **Franklin Bluff** 87.89 20 IAmb IAmb 15 21 37.2
comp=Z,391nm,1.1s
C24K **Franklin Bluff** 87.89 20 P P 15 21 26.9 +0.5
baz=266,SNR=199
COLA **College** 87.89 25 P P 15 21 25.4 -1.1
COLA **College** 87.89 25 P P 15 21 27.0 +0.6
COLA **College** 87.89 25 *d* iP P 15 21 25.8 -0.6
COLA pmax pmax
comp=Z,64nm,0.8s
COLA MLR MLR
comp=Z,22μm,23.0s
COLA **College** 87.89 25 P P 15 21 26.5 +0.1
baz=266
COLA **College** 87.89 25 P P 15 21 26.0 -0.4
CCB **Clear Creek Bu** 87.90 25 IAmb IAmb 15 21 31.2
comp=Z,372nm,1.3s
LPSR **Galich'ya Gora** 87.92 322 eP P 15 21 25.8 -1.1
LPSR eS **SKSac** 15 31 51.3 -0.4
LPSR pmax pmax
comp=Z,1μm,1.9s
LPSR pmax pmax
comp=Z,9μm,3.5s
LPSR MLR MLR
comp=Z,53μm,20.0s
KLMR **Klimovskoe** 87.94 331 eP P 15 21 25.7 -1.0
KLMR e*PP pP 15 21 35.4 -3.8
KLMR S **SKSac** 15 31 50.6 -0.8
KLMR pmax pmax
comp=Z,887nm,1.2s
KLMR MLR MLR
comp=Z,77μm,21.0s
H24K **Noodor Dome** 87.94 24 P P 15 21 27.2 +0.5
baz=266
SCM **Sheep Creek Mo** 87.96 28 IAmb IAmb 15 21 42.5
comp=Z,573nm,1.0s
SCM **Sheep Creek Mo** 87.96 28 P P 15 21 27.1 +0.1
baz=267,SNR=130
DHY **Denali Highway** 88.00 27 P P 15 21 27.6 +0.4
baz=267,SNR=62
GLI **Glacier Island** 88.03 29 IAmb IAmb 15 21 35.0
comp=Z,253nm,0.9s
GLI IAMs_20 IAMs_20 16 03 25.4
comp=Z,31μm,22.0s
GLI **Glacier Island** 88.03 29 P P 15 21 27.6 +0.4
baz=267,SNR=76
F24K **Squaw Lake** 88.04 23 P P 15 21 27.8 +0.6
baz=266
KIBK **Kibwezi** 88.09 268 P P 15 21 29.4 +0.8
KIBK **Kibwezi** 88.09 268 IAMs_20 IAMs_20 15 58 08.8
comp=Z,44μm,22.0s
KIBK **Kibwezi** 88.09 268 P P 15 21 31.1 +2.4
SNR=136
G24K **Hadweenzic Riv** 88.15 23 P P 15 21 28.2 +0.5
baz=267
HDA **Harding Lake** 88.26 26 P P 15 21 27.8 -0.4
baz=267,SNR=130
ILAR **Eielson Array** 88.30 25 P P 15 21 26.8 -1.6
comp=Z,20nm,0.5s,baz=236,slow=5.0,SNR=111
ILAR PP **PP** 15 24 56.3 +0.2
comp=Z,26nm,1.0s,baz=256,slow=5.7,SNR=5.7
ILAR PKiKP **PKiKP** 15 26 30.7 +1.2
comp=Z,3.8nm,0.9s,baz=241,slow=3.5,SNR=1.1
ILAR S **SKSac** 15 31 52.4 -1.2
comp=Z,0.4nm,0.7s,baz=126,slow=37,SNR=1.6
ILAR ScS **ScS** 15 32 15.3 -0.4
comp=Z,8.9nm,1.2s,baz=268,slow=11,SNR=6.8
ILAR PKKP **PKKPdf** 15 39 09.3 +0.7
comp=Z,7.8nm,0.9s,baz=103,slow=1.1,SNR=11
ILAR PKKPbc **PKKPbc** 15 39 13.0 -1.5
comp=Z,7.9nm,0.9s,baz=56,slow=1.3,SNR=14
ILAR PKPPKP 15 47 19.2
comp=Z,2.9nm,1.1s,baz=55,slow=1.2,SNR=4.3
comp=Z,20nm,0.5s
HIN **Hinchinbrook I** 88.30 30 IAmb IAmb 15 21 34.7
comp=Z,543nm,1.4s
FID **Port Fidalgo** 88.33 29 IAmb IAmb 15 21 55.6
comp=Z,407nm,1.2s
Q23K **Middleton Isla** 88.35 31 P P 15 21 29.2 +0.6
baz=268
M24K **Tolsona, Glenn** 88.52 28 P P 15 21 30.3 +0.7
baz=268,SNR=122
KLU **Klutina** 88.62 29 IAMs_20 IAMs_20 16 01 13.0
comp=Z,29μm,22.0s
KLU **Klutina** 88.62 29 P P 15 21 30.5 +0.4
baz=268,SNR=48
EYAK **Cordova Ski Ar** 88.68 30 P P 15 21 30.9 +0.7
EYAK **Cordova Ski Ar** 88.68 30 P P 15 21 31.2 +1.0
baz=269,SNR=42
DIV **Divide** 88.68 29 IAmb IAmb 15 21 40.2
comp=Z,715nm,1.3s
D25K **Kavik River** 88.69 21 IAMs_20 IAMs_20 16 06 48.5
comp=Z,31μm,20.0s
D25K **Kavik River** 88.69 21 P P 15 21 30.5 +0.3
baz=268
G25K **Bearman Lake** 88.70 23 P P 15 21 30.8 +0.6
baz=268
ANN **Anapa** 88.74 315 eP P 15 21 29.9 -1.0
ANN e 15 31 55.8
ANN e 15 32 08.9
ANN pmax pmax
comp=N,285nm,1.0s
ANN pmax pmax
comp=E,297nm,1.0s
ANN pmax pmax
comp=Z,932nm,1.1s
ANN MLR MLR
comp=N,64μm,22.0s
ANN MLR MLR
comp=E,97μm,22.0s
ANN MLR MLR
comp=Z,56μm,20.0s
K24K **Donnelly Dome** 88.75 26 IAmb IAmb 15 21 40.3
comp=Z,440nm,0.9s
K24K IAMs_20 IAMs_20 16 00 26.3
comp=Z,29μm,22.0s
K24K **Donnelly Dome** 88.75 26 P P 15 21 30.8 +0.2
baz=268,SNR=119
MOS **Moscow** 88.77 326 eP P 15 21 29.4 -1.4
MOS eS **SKSac** 15 31 55.1 -1.5
MOS ePS **PnS** 15 33 12.4 -11
MOS pmax pmax
comp=N,168nm,0.9s
MOS pmax pmax
comp=Z,6μm,2.5s
MOS pmax pmax
comp=Z,2μm,1.9s
MOS pmax pmax
comp=E,436nm,1.3s
MOS smax smax
comp=E,32μm,6.2s
MOS smax smax
comp=N,17μm,3.6s
MOS MLR MLR
comp=Z,65μm,22.0s
H25L **Birch Creek** 88.80 24 P P 15 21 30.8 +0.1
baz=268,SNR=238
PAX **Paxson** 88.87 27 IAmb IAmb 15 21 36.6
comp=Z,285nm,1.1s
PAX **Paxson** 88.87 27 P P 15 21 31.3 +0.1
baz=269,SNR=220
KMBO **Kilima Mbogo** 88.88 269 P P 15 21 33.0 +0.5
KMBO **Kilima Mbogo** 88.88 269 IAMs_20 IAMs_20 15 57 55.4
comp=Z,42μm,22.0s
KMBO **Kilima Mbogo** 88.88 269 P P 15 21 35.1 +2.6
KMBO S **SKSac** 15 31 55.7 -3.8
KMBO **Kilima Mbogo** 88.88 269 P P 15 21 33.0 +0.5
KMBO pmax pmax
comp=Z,953nm,1.4s
KMBO **Kilima Mbogo** 88.88 269 *i* P P 15 21 33.5 +1.0
SNR=116
PRP **Porcupine Dome** 88.90 25 P P 15 21 31.0 -0.4
baz=269,SNR=31
F25K **Christian Rive** 88.90 23 P P 15 21 31.2 -0.1
baz=268
E25K **Arctic Village** 88.94 22 IAMs_20 IAMs_20 16 05 55.3
comp=Z,29μm,22.0s
E25K **Arctic Village** 88.94 22 P P 15 21 31.5 +0.1
baz=269,SNR=340
J25K **Salcha River,** 88.95 26 P P 15 21 31.5 -0.1
baz=269
HARP **HARP** 89.00 28 P P 15 21 31.7 -0.1
baz=269,SNR=40
FYU **Fort Yukon** 89.04 24 IAmb IAmb 15 21 43.6
comp=Z,444nm,1.2s
ASF **Jabal al Asfar** 89.10 302 S **SKSac** 15 31 59.2 -0.7
comp=Z,2.8nm,0.9s,baz=292,slow=12,SNR=1.5
ASF PKKPbc PKKPbc 15 39 12.7 +1.3
comp=Z,7.0nm,1.0s,baz=227,slow=7.5,SNR=4.2
ASF PKPPKP **P'P'df** 15 47 20.2 0.0
comp=Z,1.9nm,0.3s,baz=302,slow=3.9,SNR=6.5
RIDG **Independent Ri** 89.16 26 IAmb IAmb 15 21 37.5
comp=Z,285nm,0.9s
RIDG IAMs_20 IAMs_20 16 03 19.2
comp=Z,33μm,22.0s
RIDG **Independent Ri** 89.16 26 P P 15 21 32.3 -0.3
baz=269,SNR=227
SYO **Syowa Base** 89.17 201 ⇑ *i* P P 15 21 33.2 +0.8
SYO **Syowa Base** 89.17 201 ⇓ *i* PcP **PcP** 15 21 34.7 +0.9
SYO **Syowa Base** 89.17 201 ⇑ *i* sP sP 15 21 48.4 -1.1
RAGM **Ragged Mountai** 89.21 30 IAmb IAmb 15 21 57.3
comp=Z,389nm,1.3s
C26K **Camden Bay** 89.22 20 P P 15 21 32.8 +0.2
baz=269
BMRM **Bremner River** 89.25 29 IAmb IAmb 15 21 41.3
comp=Z,618nm,1.5s
BMRM **Bremner River** 89.25 29 P P 15 21 33.0 0.0
baz=270,SNR=84
N25K **Chitina, Valde** 89.26 29 IAMs_20 IAMs_20 16 01 21.8
comp=Z,38μm,22.0s
N25K **Chitina, Valde** 89.26 29 P P 15 21 33.1 +0.1
baz=270,SNR=97
BMAR **Burnt Mountain** 89.31 23 P P 15 21 33.3 +0.1
KAIM **Kayak Island** 89.33 30 IAmb IAmb 15 21 40.8
comp=Z,523nm,1.0s
KAIM **Kayak Island** 89.33 30 P P 15 21 33.0 -0.3
baz=270,SNR=39
OBN **Obninsk** 89.37 325 P P 15 21 32.7 -0.9
OBN **Obninsk** 89.37 325 P P 15 21 33.0 -0.6
comp=Z,252nm,0.7s,baz=35,slow=2.9,SNR=49
OBN S **SKSac** 15 31 57.4 -2.8
comp=Z,9.7nm,0.4s,baz=242,slow=23,SNR=5.3
OBN LR LR 16 03 12.7
comp=Z,52μm,21.6s,baz=32,slow=37
comp=Z,252nm,0.7s
OBN **Obninsk** 89.37 325 ⇓ *i* P P 15 21 34.2 +0.7
OBN **Obninsk** 89.37 325 *d* iP P 15 21 32.7 -0.9
OBN *i* 15 25 00.5
OBN *i* S **SKSac** 15 31 55.9 -4.2
OBN pmax pmax
comp=Z,1μm,1.3s
OBN MLR MLR
comp=Z,65μm,21.0s
OBN **Obninsk** 89.37 325 P P 15 21 32.1 -1.5
comp=Z,15μmcomp=Z,803nm,1.4s
HMT **Hamilton** 89.42 30 IAMs_20 IAMs_20 15 58 55.0
comp=Z,46μm,22.0s
F26K **Sheenjek River** 89.48 22 IAMs_20 IAMs_20 16 05 51.5
comp=Z,31μm,21.0s
F26K **Sheenjek River** 89.48 22 P P 15 21 34.4 +0.5
baz=270
FKH **Fakeheh** 89.50 304 eP P 15 21 35.5 +0.6
SCRK **Sand Creek** 89.54 26 P P 15 21 34.1 -0.3
baz=270,SNR=169
KHAM **Kharkiv** 89.57 320 P P 15 21 33.2 -1.5
G26K **Porcupine Rive** 89.62 23 P P 15 21 34.6 +0.1
baz=270
C27K **Jago River** 89.63 20 P P 15 21 34.7 +0.1
baz=270,SNR=342
GLB **Gilahina Butte** 89.63 29 IAmb IAmb 15 21 44.7
comp=Z,352nm,1.2s
MENT **Mentasta** 89.67 27 P P 15 21 35.9 +1.0
BEIL **Beino** 89.69 304 eP P 15 21 36.0 +0.3
BERG **Berg Lake** 89.69 30 IAmb IAmb 15 21 43.6
comp=Z,318nm,1.0s
BERG IAMs_20 IAMs_20 15 58 51.4
comp=Z,35μm,22.0s
J26L **Joseph Creek** 89.73 26 P P 15 21 35.1 -0.1
baz=270,SNR=266
L26K **Log Cabin Wild** 89.84 27 IAMs_20 IAMs_20 16 03 29.1
comp=Z,29μm,20.0s
L26K **Log Cabin Wild** 89.84 27 P P 15 21 35.8 +0.1
baz=271,SNR=48
HWQ **Hawqa** 89.89 304 eP P 15 21 37.1 +0.4
I26K **Coal Creek Min** 89.89 25 P P 15 21 36.1 +0.2
baz=271
BGLC **Bering Glacier** 89.90 30 P P 15 21 37.2 +1.2
baz=271
ZAHL **Zahle** 89.94 304 eP P 15 21 37.7 +0.7
CRQM **Cirque** 89.97 29 IAMs_20 IAMs_20 15 59 05.2
comp=Z,33μm,22.0s
RCY **Rachaya** 89.99 303 eP P 15 21 37.9 +0.7
CRQE **Cirque** 89.99 29 P P 15 21 36.7 +0.1
baz=271,SNR=31
M26K **Nabesna, AK** 90.01 28 IAMs_20 IAMs_20 16 02 43.6
comp=Z,41μm,22.0s
M26K **Nabesna, AK** 90.01 28 P P 15 21 36.8 +0.2
baz=271
MCARA **McCarthy VSAT** 90.01 29 P P 15 21 37.2 +0.7
baz=271,SNR=28
WAX **Waxell Ridge** 90.11 30 IAmb IAmb 15 21 45.2
comp=Z,233nm,0.8s
TGL **Tana Glacier** 90.12 29 IAmb IAmb 15 21 45.7
comp=Z,952nm,1.8s
TGL IAMs_20 IAMs_20 15 59 08.6
comp=Z,32μm,22.0s
BHL **Bhannes** 90.13 304 eP P 15 21 38.2 +0.4
LVZ **Lovozero** 90.13 338 P P 15 21 35.8 -1.2
LVZ **Lovozero** 90.13 338 *e* iP P 15 21 36.1 -0.9
LVZ pmax pmax
comp=Z,215nm,0.9s
LVZ **Lovozero** 90.13 338 P P 15 21 35.5 -1.5
comp=Z,6μmcomp=Z,252nm,1.0s
DIKM **Dikmen** 90.34 311 ⇑ P P 15 21 39.9 +1.4
DIKM **Dikmen** 90.34 311 P P 15 21 37.3 -1.2
comp=Z,9μmcomp=Z,153nm,2.2s
MMAI **Mount Meron Ar** 90.35 303 P P 15 21 39.0 +0.1
comp=Z,70nm,0.8s,baz=86,slow=5.1,SNR=35
MMAI S **SKSac** 15 32 06.9 -0.2
comp=Z,2.2nm,0.6s,baz=227,slow=52,SNR=2.1
comp=Z,70nm,0.8s
K27K **Chicken** 90.39 26 IAMs_20 IAMs_20 16 01 47.6
comp=Z,33μm,22.0s
K27K **Chicken** 90.39 26 P P 15 21 39.0 +0.8
baz=272
QSPA **South Pole Qui** 90.39 180 P P 15 21 38.3 0.0
comp=Z,196nm,0.9s,baz=324,slow=1.9,SNR=350
QSPA S **SKSac** 15 32 04.6 -1.4
comp=Z,22nm,1.1s,baz=266,slow=21,SNR=7.6
QSPA PKKPbc **PKKPbc** 15 39 11.2 +1.0
comp=Z,18nm,1.0s,baz=132,slow=0.3,SNR=4.3
QSPA PKPPKP **P'P'df** 15 47 18.3 +2.9
comp=Z,12nm,1.1s,baz=129,slow=1.1,SNR=4.7
QSPA LR LR 16 02 10.2
comp=Z,43μm,21.2s,baz=350,slow=36
comp=Z,196nm,0.9s
E27K **Coleen River** 90.43 22 IAMs_20 IAMs_20 16 08 27.6
comp=Z,33μm,21.0s
E27K **Coleen River** 90.43 22 P P 15 21 38.8 +0.4
baz=272,SNR=287
G27K **Doyon Strip** 90.46 23 P P 15 21 39.1 +0.5
baz=272,SNR=147
I27K **Kandik River** 90.53 25 P P 15 21 39.7 +0.8
baz=272,SNR=320
L27K **Beaver Creek,** 90.53 27 IAMs_20 IAMs_20 16 04 00.4
comp=Z,36μm,22.0s
L27K **Beaver Creek,** 90.53 27 P P 15 21 39.4 +0.4
baz=272
M27K **Edge Creek, AK** 90.53 28 IAMs_20 IAMs_20 16 05 07.4
comp=Z,42μm,21.0s
M27K **Edge Creek, AK** 90.53 28 P P 15 21 39.2 +0.1
baz=272
H27K **Steamboat Moun** 90.54 24 IAmb IAmb 15 22 16.4
comp=Z,400nm,1.4s
H27K **Steamboat Moun** 90.54 24 P P 15 21 39.7 +0.7
baz=272
BCAR **Beaver Creek A** 90.55 27 P P 15 21 38.5 -0.6
MESA **MESA** 90.57 30 P P 15 21 39.8 +0.4
baz=272
D27M **Malcolm River** 90.61 21 P P 15 21 39.7 +0.4
baz=273
APA **Apatity** 90.62 337 *i* P P 15 21 38.2 -1.0
APA *i* 15 32 05.1
APA *i* S **S** 15 32 30.9 -0.5
APA *i* PS **PnS** 15 33 39.0 -5.4
APA *i* SS SS 15 38 46.0 +13
APA MLR MLR
comp=Z,68μm,23.1s
GRNC **Granite Creek** 90.65 29 IAMs_20 IAMs_20 15 59 24.6
comp=Z,27μm,22.0s
BARN **Barnard Glacie** 90.68 29 IAmb IAmb 15 21 46.1
comp=Z,342nm,1.2s
LODK **Lodwar** 90.73 273 IAmb IAmb 15 21 53.0
comp=Z,553nm,1.6s
LODK IAMs_20 IAMs_20 16 00 36.4
comp=Z,37μm,22.0s
LODK **Lodwar** 90.73 273 P P 15 21 43.1 +2.1
SNR=139
EIL **Elat** 90.79 300 S **SKSac** 15 32 08.9 -0.7
comp=Z,12nm,1.2s,baz=221,slow=10,SNR=1.7
EIL PKKPbc PKKPbc 15 39 08.6 +1.7
comp=Z,5.0nm,0.7s,baz=341,slow=5.2,SNR=3.6
EIL LR LR 16 05 26.9
comp=Z,28μm,20.9s,baz=98,slow=38
CTG **Chitna Glacier** 90.84 29 P P 15 21 40.9 +0.4
baz=272,SNR=105
CTGM **Chitina Glacie** 90.84 29 IAMs_20 IAMs_20 15 59 31.7
comp=Z,27μm,22.0s
TABL **Table Mountain** 90.96 30 IAmb IAmb 15 21 51.0
comp=Z,469nm,1.0s
BVCY **Beaver Creek** 91.00 28 P P 15 21 42.0 +0.8
baz=273,SNR=114
LOGN **Logan Glacier** 91.01 29 IAmb IAmb 15 21 60.0
comp=Z,499nm,1.4s
LOGN IAMs_20 IAMs_20 15 59 46.2
comp=Z,27μm,22.0s
SIM **Simferopol'** 91.10 315 eP P 15 21 41.7 -0.2
SIM e 15 25 21.0
SIM eS **SKSac** 15 32 12.7 +2.0
SIM pmax pmax
comp=Z,1μm,3.2s
SIM pmax pmax
comp=Z,3μm,7.1s
SIM smax smax
comp=E,13μm,8.2s
F28M **Old Crow** 91.11 22 IAMs_20 IAMs_20 16 07 11.6
comp=Z,35μm,21.0s
F28M **Old Crow** 91.11 22 P P 15 21 41.8 +0.2
baz=274
E28M **Babbage River** 91.17 21 IAMs_20 IAMs_20 16 06 59.1
comp=Z,26μm,20.0s
E28M **Babbage River** 91.17 21 P P 15 21 42.3 +0.5
baz=274,SNR=362
YUK3 **Moose Creek** 91.22 28 P P 15 21 42.5 +0.1
baz=273,SNR=134
I28M **Miner Creek** 91.23 25 P P 15 21 42.3 +0.1
baz=274,SNR=368
BZK **Bozkurt** 91.27 312 ⇑ P P 15 21 44.2 +1.4
BZK **Bozkurt** 91.27 312 P P 15 21 41.6 -1.2
comp=Z,8μmcomp=Z,321nm,0.7s
D28M **Stokes Point** 91.40 21 P P 15 21 42.9 +0.1
baz=275
O28M **Mount Upton** 91.41 29 IAmb IAmb 15 21 49.6
comp=Z,212nm,1.0s
O28M **Mount Upton** 91.41 29 P P 15 21 42.8 -0.6
baz=273
PCA **Pinnacle** 91.42 30 IAmb IAmb 15 21 51.4
comp=Z,323nm,1.0s
PINM **Pinnacle** 91.42 30 P P 15 21 43.3 +0.1
baz=273
KIRS **Kirsehir-Merke** 91.42 309 ⇑ P P 15 21 43.5 -0.2
ILGA **Ilgaz** 91.52 311 IAmb IAmb 15 21 49.2
comp=Z,745nm,1.9s
DAWY **Dawson** 91.56 26 IAmb IAmb 15 21 53.8
comp=Z,221nm,1.0s
DAWY IAMs_20 IAMs_20 16 02 21.6
comp=Z,32μm,22.0s
DAWY **Dawson** 91.56 26 P P 15 21 44.1 +0.4
baz=274,SNR=305
YUK8 **Steele Glacier** 91.59 29 P P 15 21 44.2 0.0
baz=274
BR104 **Keskin Array S** 91.62 310 P P 15 21 43.3 -1.4
comp=Z,1μmcomp=Z,132nm,0.7s
BR131 **Keskin Array S** 91.62 310 P P 15 21 44.9 +0.2
SNR=121
BR131 S **SKSac** 15 32 07.7 -6.5
BR131 **Keskin Array S** 91.62 310 *d* iP P 15 21 43.5 -1.2
BRTR **Keskin Array B** 91.62 310 P P 15 21 43.2 -1.5
BRTR **Keskin Array B** 91.62 310 P P 15 21 43.6 -1.0
comp=Z,20nm,0.7s,baz=122,slow=4.2,SNR=87
BRTR PKKPbc **PKKPbc** 15 39 06.5 +1.0
comp=Z,2.2nm,0.7s,baz=222,slow=1.7,SNR=4.9
BRTR PKPPKP 15 47 21.0
comp=Z,1.0nm,0.8s,baz=188,slow=2.5,SNR=4.5
comp=Z,20nm,0.7s
BRTR **Keskin Array B** 91.62 310 *i* P P 15 21 43.7 -1.0
BRTR pmax pmax
comp=Z,22nm,0.7s
BR106 **Keskin Array S** 91.64 310 P P 15 21 43.4 -1.4
comp=Z,900nmcomp=Z,109nm,0.8s
BR105 **Keskin Array S** 91.64 310 P P 15 21 43.4 -1.4
comp=Z,963nmcomp=Z,124nm,0.8s
BCPM **Bancas Point** 91.74 30 IAMs_20 IAMs_20 16 00 55.5
comp=Z,26μm,21.0s
YKU2 **Yakutat** 91.75 31 IAMs_20 IAMs_20 16 00 13.8
comp=Z,37μm,22.0s
E29M **Blow River** 91.79 22 IAmb IAmb 15 21 52.9
comp=Z,337nm,1.4s
E29M **Blow River** 91.79 22 P P 15 21 44.7 0.0
baz=276
H29M **Whitestone** 91.81 24 IAMs_20 IAMs_20 16 09 21.3
comp=Z,24μm,19.0s
H29M **Whitestone** 91.81 24 P P 15 21 45.6 +0.8
baz=275,SNR=117
VADS **Vadso** 91.88 340 *e* P 15 21 44.0 -1.0
VADS eP P 15 21 44.0 -1.0
VADS ePP **PP** 15 25 23.1 -1.2
VADS IVmB_BB 15 25 42.5
comp=Z,5μm,9.8s
VADS *e* 15 32 10.4
VADS eSS SS 15 38 52.7 +1.5
VADS IVMs_BB IVMs_BB 16 02 46.0
comp=Z,13μm,23.3s
PNL **Peninsula** 91.88 30 P P 15 21 46.1 +0.8
PNL **Peninsula** 91.88 30 P P 15 21 45.8 +0.6
baz=274,SNR=30
G29M **Pine Creek** 91.89 23 P P 15 21 45.6 +0.4
baz=276
I29M **Ogilvie Camp,** 91.92 25 IAmb IAmb 15 21 54.8
comp=Z,203nm,1.1s
I29M **Ogilvie Camp,** 91.92 25 P P 15 21 45.5 +0.2
baz=275,SNR=291
CSS **Mathiatis** 92.03 305 IAmb IAmb 15 22 00.8
comp=Z,348nm,1.1s
CSS **Mathiatis** 92.03 305 P P 15 21 45.4 -1.1
comp=Z,8μmcomp=Z,296nm,1.1s
J29N **Klondike Camp** 92.04 26 IAmb IAmb 15 21 51.0
comp=Z,543nm,1.6s

J29N Klondike Camp 92.04 26 P P 15 21 46.1 +0.2
baz=275,SNR=16
CIDE Kastamonu/Cide 92.06 312 ⇑P P 15 21 47.4 +1.0
M29M Somme Creek 92.11 28 IAMs_20 IAMs_20 16 06 05.3
comp=Z,39μm,22.0s
M29M Somme Creek 92.11 28 P P 15 21 46.6 +0.2
baz=275
YUK4 Talbot Arm 92.12 29 P P 15 21 47.0 +0.4
baz=275,SNR=109
HOPEN Hopen 92.15 347 *eP* P 15 21 44.7 -1.5
HOPEN *ePP* PP 15 25 26.3 0.0
HOPEN IVmB_BB 15 25 48.8
comp=Z,7μm,4.2s
HOPEN *e* 15 32 14.2
HOPEN *e*SS SS 15 38 54.8 0.0
HOPEN IVMs_BB IVMs_BB 16 11 42.6
comp=Z,16μm,21.3s
L29M L29M 92.20 27 IAmb IAmb 15 21 52.8
comp=Z,472nm,1.1s
L29M IAMs_20 IAMs_20 16 05 01.8
comp=Z,27μm,22.0s
L29M L29M 92.20 27 P P 15 21 47.6 +0.8
baz=275
O29M Mount Kennedy 92.24 30 IAMs_20 IAMs_20 16 04 16.8
comp=Z,31μm,21.0s
O29M Mount Kennedy 92.24 30 P P 15 21 47.7 +0.7
baz=275
ANTO Ankara 92.27 310 P P 15 21 46.4 -1.2
ANTO Ankara 92.27 310 P P 15 21 48.4 +0.9
ANTO S SKSac 15 32 16.6 -1.1
ANTO Ankara 92.27 310 ⇓P P 15 21 48.3 +0.7
ANTO Ankara 92.27 310 ⇓P P 15 21 48.3 +0.7
ANTO Ankara 92.27 310 P P 15 21 46.3 -1.3
comp=Z,3μmcomp=Z,60nm,2.1s
ANTO Ankara 92.27 310 P P 15 21 46.8 -0.7
YUK6 Outpost Mounta 92.29 29 P P 15 21 47.5 +0.1
baz=275,SNR=53
K29M Barlow Dome 92.41 26 P P 15 21 47.6 -0.2
baz=276
EPYK Eagle Plains 92.46 24 IAmb IAmb 15 21 53.2
comp=Z,316nm,1.1s
EPYK Eagle Plains 92.46 24 P P 15 21 47.7 -0.1
baz=277,SNR=215
PUL Pulkovo 92.53 330⇑ *eP* P 15 21 48.8 +0.6
PUL pmax pmax
comp=Z,488nm,1.2s
PUL MLR MLR
comp=Z,70μm,23.0s
G30M tAoh Zraii Nji 92.58 23 IAMs_20 IAMs_20 16 09 49.6
comp=Z,25μm,21.0s
G30M tAoh Zraii Nji 92.58 23 P P 15 21 48.3 -0.1
baz=277
F30M Barrier River 92.67 22 IAmb IAmb 15 22 12.6
comp=Z,307nm,1.1s
F30M Barrier River 92.67 22 P P 15 21 48.8 +0.1
baz=278
HYT Haines Junctio 92.72 29 IAMs_20 IAMs_20 16 04 26.4
comp=Z,38μm,22.0s
HYT Haines Junctio 92.72 29 P P 15 21 48.7 -0.6
baz=276,SNR=132
P29M Windy Craggy 92.72 30 IAMs_20 IAMs_20 16 00 44.6
comp=Z,27μm,22.0s
P29M Windy Craggy 92.72 30 P P 15 21 48.7 -0.5
baz=276
KEV Kevo 92.73 340 P P 15 21 48.0 -0.9
KEV Kevo 92.73 340 P P 15 21 48.0 -0.9
KEV pmax pmax
comp=Z,128nm,0.9s
KEV Kevo 92.73 340 P P 15 21 48.8 -0.2
I30M Mount Dempster 92.74 25 P P 15 21 49.6 +0.3
baz=277
J30M Hart River 92.84 25 P P 15 21 49.8 +0.1
baz=277
N30M Aishikik Lake 92.86 29 IAMs_20 IAMs_20 16 03 44.9
comp=Z,37μm,22.0s
N30M Aishikik Lake 92.86 29 P P 15 21 50.0 +0.2
baz=276
M30M Minto, Yukon 92.87 27 IAmb IAmb 15 21 55.6
comp=Z,243nm,1.0s
M30M IAMs_20 IAMs_20 16 06 40.3
comp=Z,34μm,22.0s
M30M Minto, Yukon 92.87 27 P P 15 21 50.8 +1.0
baz=276,SNR=446
P30M Million Dollar 93.06 30 P P 15 21 51.2 +0.4
baz=276
MAYO Mayo, Yukon 93.15 26 IAMs_20 IAMs_20 16 05 52.7
comp=Z,27μm,21.0s
MAYO Mayo, Yukon 93.15 26 P P 15 21 51.8 +0.7
baz=277,SNR=35
ARA0 ARCESS Array S 93.29 340 *eP* P 15 21 50.0 -1.6
ARA0 IVmB_BB 15 22 16.8
comp=Z,4μm,4.3s
ARA0 *e*PP PP 15 25 36.0 +0.6
ARA0 *e* 15 32 21.2
ARA0 IVMs_BB IVMs_BB 16 03 25.0
comp=Z,13μm,22.0s
ARCES ARCESS Array B 93.29 340 P P 15 21 50.7 -0.8
ARCES IAmb IAmb 15 21 55.7
comp=Z,239nm,0.9s
ARCES ARCESS Array B 93.29 340 P P 15 21 50.6 -0.9
comp=Z,127nm,0.7s,baz=77,slow=5.2,SNR=106
ARCES PKiKP **PKiKP** 15 26 38.9 +1.1
comp=Z,12nm,0.9s,baz=99,slow=2.8,SNR=1.5
ARCES S **SKSac** 15 32 20.1 -1.9
comp=Z,5.3nm,1.0s,baz=111,slow=6.8,SNR=1.8
ARCES PKKP **PKKPbc** 15 39 01.1 -0.9
comp=Z,4.6nm,0.7s,baz=250,slow=2.9,SNR=9.8
ARCES LR LR 16 10 35.1
comp=Z,23μm,18.5s,baz=84,slow=40
comp=Z,127nm,0.7s
G31M Satah River 93.35 23 IAmb IAmb 15 22 01.3
comp=Z,405nm,1.1s
G31M Satah River 93.35 23 P P 15 21 51.8 0.0
baz=279,SNR=169
INK Inuvik 93.41 21 IAmb IAmb 15 21 57.1
comp=Z,248nm,1.0s
INK Inuvik 93.41 21 PKPPKP 15 47 08.8
comp=Z,3.3nm,0.3s,baz=147,slow=9.7,SNR=4.0
INK Inuvik 93.41 21 P P 15 21 51.8 -0.2
baz=280,SNR=130
O30N Mendenhall 93.42 29 IAmb IAmb 15 21 57.2
comp=Z,638nm,1.9s
O30N Mendenhall 93.42 29 P P 15 21 53.1 +0.8
baz=277,SNR=117
PLBC Pleasant Camp 93.44 30 P P 15 21 52.7 +0.3
baz=277,SNR=53
F31M Tsiigehtchic 93.47 22 IAmb IAmb 15 22 01.7
comp=Z,471nm,1.1s
F31M IAMs_20 IAMs_20 16 08 21.0
comp=Z,29μm,21.0s
F31M Tsiigehtchic 93.47 22 P P 15 21 52.4 0.0
baz=280,SNR=90
N31M Braeburn, Yuko 93.48 28 IAmb IAmb 15 22 00.1
comp=Z,371nm,1.0s
N31M IAMs_20 IAMs_20 16 04 03.3
comp=Z,30μm,22.0s
N31M Braeburn, Yuko 93.48 28 P P 15 21 52.9 +0.3
baz=277,SNR=276
H31M Peel River 93.50 24 IAmb IAmb 15 22 16.3
comp=Z,484nm,1.6s
H31M Peel River 93.50 24 P P 15 21 52.7 +0.1
baz=279
SPA0 Spitsbergen Ar 93.55 349 *eP* P 15 21 51.3 -1.3
SPA0 *ePP* PP 15 25 37.6 +0.3
SPA0 IVmB_BB 15 25 54.2
comp=Z,9μm,10.9s
SPA0 *e* 15 32 22.9
SPA0 IVMs_BB IVMs_BB 16 06 48.8
comp=Z,14μm,21.4s
SPITS Spitsbergen Ar 93.55 349 P P 15 21 52.2 -0.4
comp=Z,164nm,1.0s,baz=108,slow=11,SNR=42
SPITS PP PP 15 25 38.6 +1.3
comp=Z,54nm,1.0s,baz=66,slow=11,SNR=3.1
SPITS S SKSac 15 32 24.4 +1.2
comp=Z,4.9nm,0.9s,baz=135,slow=57,SNR=1.5
SPITS PKKPbc PKKPbc 15 39 01.5 0.0
comp=Z,8.4nm,0.9s,baz=239,slow=17,SNR=4.0
SPITS LR LR 16 08 20.1
comp=Z,34μm,21.8s,baz=62,slow=38
comp=Z,164nm,1.0s
SPITS Spitsbergen Ar 93.55 349 P P 15 21 52.0 -0.6
SPITS 15 25 38.6
SPITS 15 32 24.4
SPITS pmax pmax
comp=Z,442nm,1.1s
S31K Pelican 93.68 32 P P 15 21 54.0 +0.5
baz=277,SNR=25

HAMF Hammerfest 93.69 341 *eP* P 15 21 50.8 -2.5
HAMF *ePP* PP 15 25 36.8 -1.6
HAMF IVmB_BB 15 25 56.1
comp=Z,6μm,10.7s
HAMF *e* 15 32 21.7
HAMF IVMs_BB IVMs_BB 16 03 55.6
comp=Z,12μm,22.1s
TAOE Nuku Hiva Isla 93.76 99 IAMs_20 IAMs_20 15 56 19.7
comp=Z,37μm,22.0s
TAOE Nuku Hiva Isla 93.76 99 *e*PKIKP P 15 21 54.6 -0.4
comp=Z,5μm,31.3s
TAOE Nuku Hiva Isla 93.76 99 *e*PP PP 15 25 40.1 -0.7
comp=Z,3μm,32.0s
TAOE *e*S S 15 32 54.4 -7.5
comp=Z,18μm,34.2s
TAOE *e*SS SS 15 39 22.0 +0.8
comp=Z,30μm,33.4s
TAOE *e*LQ LQ 15 47 59.2
comp=Z,32μm,28.5s
TAOE *e*LR LR 15 52 01.5
comp=Z,69μm,23.1s
R31K City Hall, Gus 93.89 31 P P 15 21 55.0 +0.6
baz=277
SKAG Skagway 93.96 30 IAmb IAmb 15 22 08.1
comp=Z,240nm,0.8s
SKAG Skagway 93.96 30 P P 15 21 56.5 +1.7
SKAG Skagway 93.96 30 P P 15 21 55.4 +0.6
baz=278,SNR=92
PURM Purcari 93.98 317 ⇓P P 15 21 55.1 -0.1
PURM Purcari 93.98 317 P P 15 21 53.7 -1.5
comp=Z,9μmcomp=Z,468nm,1.8s
AK09 Malin Array Si 94.00 321 P P 15 21 53.7 -1.5
AK08 Malin Array Si 94.01 321 P P 15 21 53.7 -1.5
AK10 Malin Array Si 94.02 321 P P 15 21 53.8 -1.5
WHY Whitehorse 94.02 29 P P 15 21 55.7 +0.5
baz=278
AKASG Malin Array Be 94.03 321 P P 15 21 53.5 -1.8
AKASG IAmb IAmb 15 21 59.3
comp=Z,337nm,1.5s
AKASG Malin Array Be 94.03 321 P P 15 21 54.1 -1.2
comp=Z,47nm,1.0s,baz=75,slow=3.8,SNR=45
AKASG PP PP 15 25 41.7 0.0
comp=Z,10nm,0.9s,baz=74,slow=8.3,SNR=1.9
AKASG PKiKP **PKiKP** 15 26 41.2 +1.6
comp=Z,3.6nm,0.6s,baz=76,slow=2.4,SNR=4.1
AKASG ScS S 15 33 05.3 +2.8
comp=Z,2.3nm,0.8s,baz=89,slow=8.8,SNR=6.6
AKASG PKKPbc **PKKPbc** 15 38 59.9 +0.5
comp=Z,1.9nm,0.7s,baz=276,slow=3.2,SNR=5.1
AKASG PKPPKP P'P'df 15 47 17.7 +7.9
comp=Z,0.2nm,0.5s,baz=268,slow=3.0,SNR=5.4
AKASG LR LR 16 07 13.2
comp=Z,56μm,21.9s,baz=86,slow=37
comp=Z,47nm,1.0s
AKASG Malin Array Be 94.03 321 *i* P P 15 21 54.0 -1.2
AKASG pmax pmax
comp=Z,55nm,1.0s
AKBB Malin Array Si 94.03 321 *d*iP P 15 21 54.1 -1.2
AKBB Malin Array Si 94.03 321 P P 15 21 53.8 -1.5
M31M Drury Creek, Y 94.03 28 IAmb IAmb 15 22 13.2
comp=Z,292nm,1.1s
M31M Drury Creek, Y 94.03 28 P P 15 21 55.5 +0.4
baz=279,SNR=198
KIEV Kiev 94.03 321 P P 15 21 53.9 -1.5
KIEV Kiev 94.03 321 ⇑P P 15 21 54.3 -1.0
KIEV Kiev 94.03 321 ⇑P **PKKPbc** 15 38 57.7 -1.7
KIEV Kiev 94.03 321 ⇑P P 15 21 54.3 -1.0
KIEV Kiev 94.03 321 *i* P P 15 21 53.6 -1.8
SNR=68
KIEV Kiev 94.03 321 P P 15 21 53.8 -1.5
comp=Z,17μmcomp=Z,587nm,1.6s
BORA Eskisehir 94.06 310 IAmb IAmb 15 21 59.9
comp=Z,543nm,1.9s
BORA IAMs_20 IAMs_20 16 11 54.5
comp=Z,31μm,22.0s
KBS Kingsbay 94.09 350 P P 15 21 54.7 -0.3
KBS Kingsbay 94.09 350 *ce*P P 15 21 55.2 +0.1
KBS pmax pmax
comp=Z,98nm,1.0s
KBS Kingsbay 94.09 350 *eP* P 15 21 53.8 -1.3
KBS *eP* P 15 21 54.8 -0.3
KBS *e*PP PP 15 25 41.4 -0.1
KBS IVmB_BB 15 26 04.0
comp=Z,5μm,14.8s
KBS *e* 15 32 26.3
KBS IVMs_BB IVMs_BB 16 09 56.9
comp=Z,16μm,19.4s
KBS Kingsbay 94.09 350 *i* P P 15 21 55.2 +0.1
HSPB Hornsund (broa 94.12 348 *eP* P 15 21 54.9 -0.3
HSPB *ePP* PP 15 25 43.2 +1.5
HSPB *e*SKS SKSac 15 32 28.4 +2.1
HSPB *e*S SP 15 34 19.5 +3.0
HSPB *e*L L 16 02 49.7
comp=Z,47μm,30.5s
POGA Pongola 94.13 243 IAmb IAmb 15 22 03.1
comp=Z,276nm,0.9s
POGA IAMs_20 IAMs_20 15 58 14.3
comp=Z,36μm,22.0s
ISP Isparta 94.15 308 *d*iP P 15 21 54.8 -1.5
ISP pmax pmax
comp=Z,325nm,1.9s
KTK1 Kautokeino 94.18 339 *eP* P 15 21 55.4 -0.3
KTK1 *ePP* PP 15 25 42.1 -0.3
KTK1 *e* 15 32 27.8
KTK1 *e*SS SS 15 39 24.4 +0.3
KTK1 IVMs_BB IVMs_BB 16 07 03.2
comp=Z,10μm,22.9s
SIT Sitka 94.28 33 IAmb IAmb 15 22 02.6
comp=Z,272nm,1.1s
SIT Sitka 94.28 33 P P 15 21 57.4 +1.1
SIT Sitka 94.28 33 P P 15 21 57.2 +0.9
baz=277,SNR=37
FINES FINESS Array B 94.40 332 P P 15 21 55.2 -1.6
FINES FINESS Array B 94.40 332 P P 15 21 55.8 -1.0
comp=Z,44nm,0.7s,baz=90,slow=5.7,SNR=58
FINES PKiKP **PKiKP** 15 26 40.9 +1.0
comp=Z,19nm,0.8s,baz=60,slow=4.9,SNR=2.4
FINES PKKPbc **PKKPdf** 15 38 57.8 0.0
comp=Z,2.9nm,0.6s,baz=330,slow=6.6,SNR=4.8
FINES LR LR 16 07 55.1
comp=Z,39μm,20.8s,baz=76,slow=38
comp=Z,44nm,0.7s
MNK Minsk 94.42 325 *i* P P 15 21 57.0 0.0
comp=E,103nm,1.2s
MNK *i* P P 15 21 57.0 0.0
comp=Z,456nm,1.1s,baz=83
MNK *i* pP pP 15 22 07.6 -2.0
MNK *i* PP PP 15 25 44.5 -0.1
MNK *i* PPP PPP 15 27 46.0
MNK *i* S SKSac 15 32 29.3 +0.6
MNK *i* SS SS 15 39 30.8 +2.5
MNK *i* SSS SSS 15 43 13.0
MNK *i* LQ LQ 15 57 58.1
MNK *i* LRM MLR 16 06 11.5
comp=N,74μm,21.9s
MNK *i* LRM MLR 16 06 14.4
comp=Z,90μm,22.0s
MNK *i* LRM MLR 16 06 25.9
comp=E,28μm,21.7s
MNK Minsk 94.42 325 *eP* P 15 21 57.0 0.0
FARO Faro, Yukon 94.51 28 P P 15 21 58.1 +0.8
baz=280,SNR=644
VSU Vasula 94.53 329 *ce*P P 15 21 55.9 -1.5
VSU pmax pmax
comp=Z,286nm,1.3s
VSU MLR MLR
comp=Z,87μm,21.0s
R32K Eaglecrest 94.54 32 IAmb IAmb 15 22 04.4
comp=Z,241nm,1.2s
R32K Eaglecrest 94.54 32 P P 15 21 58.7 +1.2
baz=278,SNR=71
SILT Sile 94.58 311 ⇑P P 15 21 58.5 +0.4
JIS Juneau Island 94.61 32 P P 15 22 00.3 +2.5
S32K Killisnoo 94.63 32 P P 15 21 58.2 +0.3
baz=278,SNR=22
KIS Kishinev 94.66 317 *eP* P 15 21 57.0 -1.3
comp=Z,1μm,3.3s
KIS Kishinev 94.66 317 *i* PP PP 15 25 52.0 +5.3
KIS *i* SKS SKSac 15 32 29.0 -1.3
KIS *e*S S 15 33 04.0 -4.2
KIS Kishinev 94.66 317 *e*PS PS 15 34 20.0 -10
KIS *e*L L 16 01 09.0
KIS LRM MLR 16 05 34.0
comp=Z,10μm,24.0s
KIS Kishinev 94.66 317 *eP* P 15 21 57.0 -1.3
KIS *i* 15 25 52.0

KIS *i* 15 32 29.0
KIS *e*S S 15 33 04.0 -4.2
KIS *e*PS PS 15 34 20.0 -10
KIS pmax pmax
comp=Z,1μm,3.3s
KIS MLR MLR
comp=E,10μm,24.0s
KIS MLR MLR
comp=Z,11μm,24.0s
KIS Kishinev 94.66 317 P P 15 21 57.1 -1.3
comp=Z,3μmcomp=Z,124nm,1.1s
MILM Milestii Mici 94.67 317 ⇓*i*P P 15 21 56.7 -1.6
comp=Z,2μm,3.2s
MILM Milestii Mici 94.67 317 *i* PP PP 15 25 51.0 +4.2
MILM Milestii Mici 94.67 317 ⇑P P 15 21 57.2 -1.2
MILM Milestii Mici 94.67 317 *d*iP P 15 21 57.0 -1.3
MILM *i* 15 25 51.0
MILM *i* 15 32 28.0
MILM *i* S S 15 33 06.0 -2.3
MILM *e*PS PS 15 34 25.0 -4.7
MILM *e*PPS PPS 15 35 13.0
MILM pmax pmax
comp=Z,2μm,3.2s
MILM MLR MLR
comp=N,31μm,25.0s
MILM MLR MLR
comp=E,28μm,25.0s
MILM MLR MLR
comp=Z,31μm,25.0s
P32M Atlin 94.76 30 IAmb IAmb 15 22 07.5
comp=Z,591nm,1.9s
P32M IAMs_20 IAMs_20 16 02 10.3
comp=Z,27μm,22.0s
P32M Atlin 94.76 30 P P 15 21 59.2 +0.7
baz=279,SNR=65
N32M Quiet Lake 94.81 29 P P 15 21 59.0 +0.2
baz=280
SORM Soroca 94.85 318 ⇑P P 15 21 58.2 -1.0
SORM Soroca 94.85 318 ⇑P P 15 21 58.2 -1.0
SORM Soroca 94.85 318 P P 15 21 57.9 -1.3
comp=Z,6μmcomp=Z,213nm,1.3s
MI28 MI28,Pidlybu 94.98 321 P P 15 21 58.2 -1.5
NACGM Naroch 95.00 325 *eP* P 15 22 01.0 +1.3
KSL Kastellorizon 95.02 306 P P 15 21 58.8 -1.4
KLYT Kilyos 95.03 311 ⇑P P 15 21 59.5 -0.6
JETT Jettan, Norway 95.03 340 *eP* P 15 21 58.5 -1.1
JETT IVmB_BB 15 22 02.6
comp=Z,7μm,1.8s
JETT *e*PP PP 15 25 49.0 0.0
JETT *e* 15 32 30.7
JETT *e*SS SS 15 39 32.6 -3.7
LUBAR Lubar, Ukraine 95.04 320 P P 15 21 58.6 -1.4
P33M Teslin, Yukon 95.10 29 IAmb IAmb 15 22 04.7
comp=Z,556nm,1.9s
P33M IAMs_20 IAMs_20 16 02 39.3
comp=Z,36μm,22.0s
P33M Teslin, Yukon 95.10 29 P P 15 22 00.8 +0.6
baz=280,SNR=85
TPGR Topolog 95.14 315 ⇓P P 15 21 59.5 -1.1
TIRR Tirgusor 95.19 315 IAMs_20 IAMs_20 16 10 21.7
comp=Z,34μm,22.0s
TIRR Tirgusor 95.19 315 ⇓P P 15 22 00.3 -0.5
TIRR Tirgusor 95.19 315 ⇓P P 15 22 00.3 -0.5
TIRR Tirgusor 95.19 315 P P 15 21 59.4 -1.4
comp=Z,4μmcomp=Z,120nm,1.3s
A36M Sachs Harbour 95.27 17 P P 15 22 00.4 -0.1
baz=288
VLDR Vladesti 95.28 316 ⇑P P 15 22 02.0 +0.8
CFR Carcaliu 95.31 315 ⇓P P 15 22 00.8 -0.5
CFR Carcaliu 95.31 315 ⇓P P 15 22 00.8 -0.5
TATR Tatarca 95.33 316 ⇓P P 15 22 02.4 +1.0
SCTR Scanteiesti 95.36 316 ⇓P P 15 22 02.7 +1.2
FETY Fethiye 95.38 307 P P 15 22 01.6 -0.3
MBAR Mbarara 95.39 269 IAMs_20 IAMs_20 16 01 36.9
comp=Z,28μm,21.0s
MBAR Mbarara 95.39 269 P P 15 22 04.1 +1.5
MBAR S SKSac 15 32 31.3 -4.6
MBAR Mbarara 95.39 269 *de*P P 15 22 03.0 +0.4
MBAR pmax pmax
comp=Z,141nm,1.6s
MMPY Sheldon Lake, 95.39 27 IAmb IAmb 15 22 11.5
comp=Z,619nm,1.3s
MMPY IAMs_20 IAMs_20 16 08 07.9
comp=Z,32μm,22.0s
MMPY Sheldon Lake, 95.39 27 P P 15 22 01.7 +0.3
baz=281
VASR Vaslui 95.39 317 ⇑P P 15 22 00.8 -0.9
VARL Varlezi 95.44 316 ⇑P P 15 22 01.1 -0.7
TAVA DENIZLI_Tavas 95.45 308 ⇑P P 15 22 03.1 +0.8
NDNU Novodnistrovsk 95.45 319 P P 15 22 00.5 -1.4
NEGRR Negrea 95.46 316 ⇑P P 15 22 04.6 +2.6
PSN Preselentsi 95.47 314 P P 15 22 03.3 +1.2
SCHL Schela 95.49 316 ⇓P P 15 22 04.8 +2.7
SCHLR Schela 95.50 316 ⇑P P 15 22 05.6 +3.4
HARR Harsova 95.51 315 ⇑P P 15 21 59.3 -2.9
HARR Harsova 95.51 315 ⇑P P 15 21 59.3 -2.9
TRO Tromso 95.51 340 *eP* P 15 22 01.7 0.0
TRO *e*PP PP 15 25 51.9 -0.8
TRO IVmB_BB 15 26 10.7
comp=Z,4μm,9.4s
TRO *e* 15 32 32.6
TRO IVMs_BB IVMs_BB 16 04 45.8
comp=Z,17μm,21.6s
CTYL Yalikoy Yolu 95.57 312 ⇑P P 15 22 02.0 -0.6
CTYL Yalikoy Yolu 95.57 312 P P 15 22 01.3 -1.3
Q32M Nakina River 95.59 31 IAmb IAmb 15 22 52.9
comp=Z,381nm,1.6s
Q32M Nakina River 95.59 31 P P 15 22 02.5 0.0
baz=280
U33K Whale Pass 95.62 34 P P 15 22 03.0 +0.6
baz=279,SNR=26
MANT Manisa 95.64 309 IAmb IAmb 15 22 24.5
comp=Z,299nm,1.5s
CRAG Craig 95.72 34 P P 15 22 05.3 +2.4
CRAG Craig 95.72 34 P P 15 22 03.2 +0.3
baz=279,SNR=14
COSR Cosmesti PH 95.81 316 ⇑P P 15 22 05.9 +2.4
BAND Balkesir-Ban 95.82 310 ⇑P P 15 22 04.1 +0.3
PANC Panciu 95.93 316 ⇑P P 15 22 03.9 -0.2
WRAK Wrangell Islan 96.00 33 IAmb IAmb 15 22 10.1
comp=Z,181nm,0.9s
WRAK Wrangell Islan 96.00 33 P P 15 22 04.2 +0.1
baz=280,SNR=47
ODBI Odobesti 96.00 316 ⇑P P 15 22 07.1 +2.6
RNPP9 Sopachiv 96.03 322 P P 15 22 02.9 -1.5
PRD Provadia 96.05 313 P P 15 22 06.1 +1.4
KMPD K-Podol'skiy 96.06 319 P P 15 22 03.1 -1.5
RNPP5 Staryi Chortor 96.06 322 P P 15 22 03.0 -1.6
RNPP8 Varash 96.06 322 P P 15 22 03.0 -1.6
PHSR Pinarhisar 96.13 312 ⇑P P 15 22 06.0 +0.9
R33M Jennings River 96.17 30 P P 15 22 04.9 -0.2
baz=281
ARG Arkhangelos 96.19 306 IAmb IAmb 15 22 27.1
comp=Z,629nm,1.5s
ARG Arkhangelos 96.19 306 P P 15 22 05.6 0.0
TESR Tescani 96.19 317 ⇑P P 15 22 04.9 -0.4
TESR Tescani 96.19 317 P P 15 22 03.9 -1.4
comp=Z,8μmcomp=Z,478nm,1.6s
VRI Vrincioaia 96.22 316 ⇓P P 15 22 05.1 -0.4
VRI Vrincioaia 96.22 316 ⇓P P 15 22 05.1 -0.4
VRI Vrincioaia 96.22 316 P P 15 22 04.0 -1.5
comp=Z,7μmcomp=Z,322nm,2.3s
BISRR Bisoca 96.27 316 ⇓P P 15 22 07.6 +1.8
NOR Nord 96.27 355 *i* P P 15 22 04.6 -0.4
NOR IAmb IAmb 15 22 09.7
comp=Z,56nm,1.5s
PLOR Plostina 96.27 316 ⇑P P 15 22 05.3 -0.5
PLOR Plostina 96.27 316 ⇑P **PKKPbc** 15 38 52.0 -1.3
PLOR Plostina 96.27 316 ⇑P P 15 22 05.3 -0.5
S34M Telegraph Cree 96.38 32 P P 15 22 07.0 +1.1
baz=281,SNR=64
ONER Baraj Valea Uz 96.39 317 ⇓P P 15 22 08.3 +2.1
DIB Dawson Inlet, 96.46 36 IAMs_20 IAMs_20 16 03 57.8
comp=Z,23μm,21.0s
NEHR Nehoiu 96.57 316 ⇑P P 15 22 09.1 +2.0
DAT Datca 96.58 307 P P 15 22 07.1 -0.4
V35K Ketchikan 96.60 34 P P 15 22 06.8 -0.1
baz=280
SULR 96.70 315 ⇑P P 15 22 10.1 +2.4
BODT Bodrum 96.76 307 P P 15 22 08.5 +0.4
JMB Yambol 96.77 313 P P 15 22 07.6 -0.4
JMB Yambol 96.77 313 P P 15 22 07.9 -0.1
MOBC Moresby Island 96.78 36 IAMs_20 IAMs_20 16 04 07.0
comp=Z,26μm,22.0s

MLR Muntele Rosu 96.81 316 P **P** **15 22 07.9 -0.4**
comp=Z,64nm,1.0s,baz=35,slow=3.2,SNR=26
MLR PP **PP** **15 26 02.7 -0.9**
comp=Z,34nm,0.9s,baz=138,slow=5.2,SNR=3.6
MLR PKKPbc **PKKPbc** **15 38 51.4 -0.5**
comp=Z,5.4nm,0.6s,baz=232,slow=10.0,SNR=5.7
MLR LR LR 16 11 22.3
comp=Z,61µm,22.0s,baz=68,slow=39
comp=Z,64nm,1.0s
MLR Muntele Rosu 96.81 316 ⇑P **P** **15 22 08.1 -0.2**
MLR Muntele Rosu 96.81 316 ⇑P **PKKPbc** **15 38 50.8 -1.2**
MLR Muntele Rosu 96.81 316 P **P** **15 22 06.7 -1.6**
comp=Z,5µmcomp=Z,338nm,1.6s
BLCB Balcova 96.84 309 P **P** **15 22 09.4 +0.9**
DLBC Dease Lake 96.84 31 LR LR 16 02 34.4
comp=Z,1µm,21.9s,baz=265,slow=33
DLBC Dease Lake 96.84 31 P **P** **15 22 08.7 +0.6**
baz=282,SNR=54
BOSR Bodos 96.93 316 ⇑P **P** **15 22 10.1 +1.3**
TGTN Hyland Airport 97.00 28 P Pdif 15 22 08.9 0.0
baz=284
KSV Kosov 97.01 319 P **P** **15 22 07.5 -1.5**
BURAR Bucovina Array 97.01 318 P **P** **15 22 08.8 -0.3**
BURAR IAmb IAmb 15 22 13.3
comp=Z,193nm,0.8s
BURAR Bucovina Array 97.01 318 ⇑P Pdif 15 22 09.5 +0.2
BURAR Bucovina Array 97.01 318 ⇑P **PKKPbc** **15 38 48.0 -3.4**
BURAR Bucovina Array 97.01 318 ⇑P Pdif 15 22 09.5 +0.2
BUR08 Bucovina Ar. S 97.02 318 IAmb IAmb 15 22 31.6
comp=Z,298nm,1.1s
KARP Karpathos 97.03 306 IAMs_20 IAMs_20 16 11 43.5
comp=Z,28µm,22.0s
T35M Bob Quinn 97.03 32 IAMs_20 IAMs_20 16 03 44.4
comp=Z,24µm,21.0s
T35M Bob Quinn 97.03 32 P Pdif 15 22 09.9 +0.9
baz=282,SNR=40
SMG Samos 97.07 308 P Pdif 15 22 10.0 +0.4
SZH Strazhitsa 97.08 314 P **P** **15 22 08.9 -0.5**
SZH Strazhitsa 97.08 314 P **P** **15 22 09.0 -0.5**
WTLY Watson Lake, Y 97.09 29 IAmb IAmb 15 22 14.9
comp=Z,524nm,1.4s
WTLY IAMs_20 IAMs_20 16 03 49.9
comp=Z,27µm,21.0s
WTLY Watson Lake, Y 97.09 29 P Pdif 15 22 10.4 +1.2
baz=283
DOPR Dopca 97.13 316 ⇑P Pdif 15 22 10.4 +0.7
SUW Suwalki 97.22 325 *e*P **P** **15 22 09.0 -0.8**
SUW *e*PP PP 15 26 14.4 +8.1
SUW *e*SKS **SKSac** **15 32 43.7 +0.3**
SUW *e*S **ScS** **15 33 32.3 +1.9**
SUW *e*L L 16 07 39.3
comp=Z,88µm,22.9s
EZN Ezine 97.23 310 P **P** **15 22 10.0 -0.2**
EZN Ezine 97.23 310 ⇓P **P** **15 22 09.5 -0.7**
EZN Ezine 97.23 310 ⇓P **P** **15 22 09.5 -0.7**
EZN Ezine 97.23 310 P **P** **15 22 08.8 -1.4**
comp=Z,3µmcomp=Z,171nm,1.4s
ENEZ Enez 97.26 311 P **P** **15 22 09.7 -0.6**
MATP Matopo 97.30 250 P Pdif 15 22 11.5 +0.3
comp=Z,15nm,0.8s,baz=126,slow=3.9,SNR=18
MATP PP **PP** **15 26 05.5 -2.7**
comp=Z,37nm,1.2s,baz=82,slow=7.8,SNR=11
MATP PKiKP **PKiKP** **15 26 47.8 +1.5**
comp=Z,12nm,1.1s,baz=117,slow=4.5,SNR=1.4
MATP S **SKSac** **15 32 48.1 +2.5**
comp=Z,1.8nm,1.0s,baz=253,slow=22,SNR=7.2
MATP LR LR 16 00 32.9
comp=Z,8µm,21.7s,baz=94,slow=32
comp=Z,15nm,0.8s
STEI Steigen 97.31 339 *e*P **P** **15 22 08.7 -1.2**
STEI *e*PP **PP** **15 26 06.1 -0.5**
STEI IVmB_BB 15 26 24.9
comp=Z,5µm,8.8s
STEI *e*SS SS 15 40 08.1 -0.4
STEI IVMs_BB IVMs_BB 16 08 07.0
comp=Z,12µm,21.4s
ALN Alexandroupoli 97.32 311 IAmb IAmb 15 22 13.7
comp=Z,298nm,1.6s
ALN Alexandroupoli 97.32 311 P **P** **15 22 09.3 -1.2**
STNU Starunia 97.32 319 P **P** **15 22 08.9 -1.5**
U35K Hyder 97.37 33 P Pdif 15 22 11.4 +1.0
baz=282
VOIR 97.44 316 ⇑P Pdif 15 22 12.0 +0.8
VOIR 97.44 316 ⇑P Pdif 15 22 12.0 +0.8
VOIR 97.44 316 P **P** **15 22 09.5 -1.6**
comp=Z,3µmcomp=Z,56nm,2.5s
LVV L'vov 97.44 320 P **P** **15 22 09.4 -1.5**
FAUS Fauske 97.48 339 *e*P **P** **15 22 08.2 -2.5**
FAUS *e*PP **PP** **15 26 07.2 -0.7**
FAUS IVmB_BB 15 26 25.4
comp=Z,5µm,10.3s
FAUS *e* 15 32 40.1
FAUS IVMs_BB IVMs_BB 16 08 59.6
comp=Z,14µm,20.6s
GADA Gvkgeada 97.52 310 P **P** **15 22 10.3 -1.2**
CHOS Chios island 97.61 309 P **P** **15 22 10.5 -1.5**
TGMR Targu Mures 97.64 317 ⇑P Pdif 15 22 14.1 +2.1
RAKU Rahkiv 97.65 318 P **P** **15 22 10.2 -1.7**
SIGR SIGRI 97.67 310 P **P** **15 22 10.3 -1.8**
RDO Rodhopi 97.67 311 IAmb IAmb 15 22 15.9
comp=Z,344nm,2.0s
RDO Rodhopi 97.67 311 P **P** **15 22 10.5 -1.6**
ARCR ARCALIA 97.67 318 ⇓P Pdif 15 22 13.4 +1.3
ARR Arges 97.74 316 ⇑P Pdif 15 22 13.2 +0.7
ARR Arges 97.74 316 ⇓P **PKKPbc** **15 38 49.4 +0.1**
KDZ Kurdzhali 97.75 312 P **P** **15 22 11.4 -1.1**
SMTH Samothraki Isl 97.76 311 P **P** **15 22 10.5 -2.1**
LSZ Lusaka 97.77 255 IAMs_20 IAMs_20 16 03 30.2
comp=Z,38µm,21.0s
LSZ Lusaka 97.77 255 P Pdif 15 22 13.4 +0.1
comp=Z,64nm,0.9s,baz=102,slow=4.1,SNR=18
LSZ PP **PP** **15 26 09.0 -2.9**
comp=Z,119nm,1.3s,baz=82,slow=6.3,SNR=7.8
LSZ PKiKP **PKiKP** **15 26 48.1 +0.8**
comp=Z,22nm,0.8s,baz=238,slow=0.8,SNR=5.4
LSZ S **SKSac** **15 32 50.6 +2.5**
comp=Z,1.8nm,0.7s,baz=274,slow=22,SNR=11
LSZ PKKPbc **PKKPbc** **15 38 49.6 +1.3**
comp=Z,3.6nm,0.7s,baz=221,slow=2.9,SNR=4.0
LSZ LR LR 16 04 03.4
comp=Z,33µm,21.2s,baz=104,slow=34
comp=Z,64nm,0.9s
LSZ Lusaka 97.77 255 P Pdif 15 22 14.3 +1.0
LSZ S **SKSac** **15 32 47.0 -1.1**
LOF Lofoten 97.84 340 *e*P **P** **15 22 11.0 -1.2**
LOF *e*PP **PP** **15 26 09.2 -1.4**
LOF IVmB_BB 15 26 32.9
comp=Z,4µm,15.7s
LOF *e* 15 32 42.6
LOF *e*SS SS 15 40 18.7 +2.9
LOF IVMs_BB IVMs_BB 16 05 51.1
comp=Z,10µm,21.8s
TNR Turnu Rosu 97.95 316 ⇓P Pdif 15 22 17.0 +3.6
TNR Turnu Rosu 97.95 316 ⇓P Pdif 15 22 17.0 +3.6
SHIU Shidnytsya 97.97 320 P **P** **15 22 11.8 -1.6**
MEZ Mezhgor'ye 98.00 319 P **P** **15 22 12.0 -1.5**
LIA Limnos Island 98.10 310 P **P** **15 22 12.6 -1.5**
VLAD Vladila 98.11 314 ⇓P Pdif 15 22 15.2 +1.2
PLD Plovdiv 98.12 313 P Pdif 15 22 16.1 +1.9
BMR Baia Mare 98.15 318 ⇓P Pdif 15 22 15.3 +1.1
BMR Baia Mare 98.15 318 ⇓P Pdif 15 22 15.3 +1.1
RZN Rozhen 98.19 312 P **P** **15 22 13.9 -0.8**
RZN Rozhen 98.19 312 P **P** **15 22 14.2 -0.5**
MOR8 Moi Rana 98.21 338 *e*P **P** **15 22 11.5 -2.5**
MOR8 *e*PP **PP** **15 26 11.3 -2.3**
MOR8 IVmB_BB 15 26 30.4
comp=Z,5µm,10.3s
MOR8 *e* 15 32 47.8
MOR8 IVMs_BB IVMs_BB 16 11 25.0
comp=Z,12µm,21.1s
CJR Cluj-Napoca 98.24 317 ⇑P Pdif 15 22 15.3 +0.6
CJR Cluj-Napoca 98.24 317 ⇑P Pdif 15 22 15.3 +0.6
CBBR Cluj-Babes-Bol 98.27 317 ⇑P Pdif 15 22 15.4 +0.6
THERA Ancient Thera, 98.30 307 P **P** **15 22 14.7 -0.4**
KORU Korolevo 98.31 319 P **P** **15 22 13.3 -1.5**
KWP Kalwaria Pacla 98.32 320 *e*P **P** **15 22 14.4 -0.5**
KWP *e*PP **PP** **15 26 18.5 +3.5**
KWP *e*SKS **SKSac** **15 32 51.4 +2.1**
KWP *e*S **ScS** **15 33 40.6 +0.8**
KWP *e*L L 16 06 26.1
comp=Z,45µm,30.6s
KWP Kalwaria Pacla 98.32 320 P **P** **15 22 13.3 -1.6**
comp=Z,6µmcomp=Z,216nm,1.2s
LOT Lotru 98.33 316 ⇑P **P** **15 22 15.1 -0.1**

BRIU Brid 98.35 319 P **P** **15 22 13.5 -1.5**
BROLN Tlhalogang 98.36 249 *i* P Pdif 15 22 16.2 +0.3
GRHM Grahamstown, E 98.40 237 P Pdif 15 22 15.8 +0.1
GRHM IAmb IAmb 15 22 22.1
comp=Z,198nm,1.1s
VAGH Vaagaholmen 98.45 338 *e*P **P** **15 22 14.1 -0.9**
VAGH *e*PP **PP** **15 26 16.4 +1.1**
VAGH IVmB_BB 15 26 33.6
comp=Z,5µm,7.9s
VAGH *e* 15 32 47.6
VAGH IVMs_BB IVMs_BB 16 07 45.5
comp=Z,12µm,20.5s
KAVA Kavala 98.46 311 P **P** **15 22 15.4 -0.3**
PGB Panagyurishte 98.49 313 P Pdif 15 22 16.3 +0.4
MUKU Mukachevo 98.55 319 P **P** **15 22 14.4 -1.5**
MARR Marisel-Cluj 98.58 317 ⇑P Pdif 15 22 16.6 +0.3
MARR Marisel-Cluj 98.58 317 ⇑P **PKKPbc** **15 38 46.3 -0.8**
LIRD Liard River Hi 98.59 30 P Pdif 15 22 16.5 +0.6
baz=286
KONS Konsvik 98.59 338 *e*Pdif **P** **15 22 15.2 -0.4**
KONS IVmB_BB 15 22 20.6
comp=Z,2µm,3.4s
KONS *e*PP **PP** **15 26 14.9 -1.5**
KONS *e*SKSac **SKSac** **15 32 49.8 -0.2**
KONS *e*SP **SP** **15 35 08.3 +2.8**
KONS IVMs_BB IVMs_BB 16 07 59.9
comp=Z,13µm,23.9s
BERU Beregovo 98.62 319 P **P** **15 22 14.7 -1.5**
MPEP Malo Peshtene 98.68 314 P Pdif 15 22 17.7 +1.1
WRGLY Wrigley 98.68 25 P Pdif 15 22 17.1 +1.0
baz=288
STOK Stokkvaagen 98.69 338 *e*Pdif **P** **15 22 15.6 -0.5**
STOK IVmB_BB 15 22 19.3
comp=Z,2µm,3.5s
STOK *e*PP **PP** **15 26 15.9 -1.3**
STOK *e*SKSac **SKSac** **15 32 49.8 -0.7**
STOK *e*ScS **ScS** **15 33 42.6 +0.6**
STOK *e*SP SP 15 35 07.0 +0.5
STOK IVMs_BB IVMs_BB 16 02 31.8
comp=Z,10µm,27.3s
KOLS Kolonicke sedl 98.73 320 *e*P Pdif 15 22 18.3 +1.5
KOLS *e* 15 26 19.2
KOLS Kolonicke sedl 98.73 320 *e*PDIFF Pdif 15 22 18.3 +1.5
KOLS *e*PP **PP** **15 26 19.2 +1.1**
LEIR Leirfjorden 98.73 338 *e*Pdif **P** **15 22 15.8 -0.5**
LEIR IVmB_BB 15 22 18.9
comp=Z,1µm,1.6s
LEIR *e*PP **PP** **15 26 17.5 0.0**
LEIR *e*SKSac **SKSac** **15 32 50.3 -0.4**
LEIR *e*SP **SP** **15 35 08.7 +1.7**
LEIR *e*SS **SS** **15 40 30.1 +1.6**
LEIR IVMs_BB IVMs_BB 16 06 31.3
comp=Z,9µm,23.3s
HOLU Holmets 98.74 319 P **P** **15 22 15.2 -1.5**
UZHM Uzhgorod 98.78 319 P **P** **15 22 15.4 -1.5**
R9F13 Warsaw-Wawer 98.78 323 *e*P Pdif 15 22 18.8 +1.9
comp=Z,2.7nm,1.8s
R9F13 *e*PP PP 15 26 27.2 +8.9
R9F13 *i* S **SKSac** **15 32 58.8 +7.3**
R9F13 *e*SS SS 15 39 41.6 -48
DRGR 98.83 317 ⇓P Pdif 15 22 17.4 0.0
DRGR 98.83 317 ⇓P Pdif 15 22 17.4 +0.1
VALD Valchedram 98.85 314 P Pdif 15 22 18.6 +1.3
SRE Strehaia 98.85 315 ⇑P Pdif 15 22 18.2 +0.8
SRE Strehaia 98.85 315 ⇑P Pdif 15 22 18.2 +0.8
DEV Deva 98.86 317 ⇓P Pdif 15 22 18.1 +0.7
DEV Deva 98.86 317 ⇓P Pdif 15 22 18.1 +0.7
IDI Anoyia 98.90 306 S **SKSac** **15 32 53.9 +0.9**
comp=Z,21nm,1.2s,baz=90,slow=12,SNR=3.2
IDI PKKPbc PKKPbc 15 38 46.5 +0.8
comp=Z,5.9nm,0.6s,baz=267,slow=4.2,SNR=2.0
IDI LR LR 16 14 38.9
comp=Z,18µm,21.7s,baz=77,slow=40
MMB Musomishta 98.95 312 P **P** **15 22 16.5 -1.4**
GZR Gura Zlata 99.03 316 ⇑P Pdif 15 22 18.2 0.0
GZR Gura Zlata 99.03 316 ⇑P **PKKPbc** **15 38 45.0 -0.7**
GZR Gura Zlata 99.03 316 ⇑P **Pdif** **15 22 18.2 0.0**
PLNA Plana 99.04 313 P **Pdif** **15 22 19.5 +1.1**
BEL Belsk 99.08 323 *e*P **Pdif** **15 22 21.0 +2.9**
BEL *e*PP **PP** **15 26 22.2 +1.6**
BEL *e*SKS **SKSac** **15 32 55.7 +2.7**
BEL *e*S **S** **15 33 50.3 +4.4**
BEL *e*L L 16 08 47.7
comp=Z,23µm,23.0s
KYMI Kymi, Euboea I 99.10 309 P **Pdif** **15 22 18.7 +0.1**
PUNG Punghina 99.11 315 ⇑P **Pdif** **15 22 18.5 0.0**
VTS Vitosha 99.16 313 P **Pdif** **15 22 19.6 +0.6**
TOAD Toad River Com 99.17 30 P **Pdif** **15 22 19.4 +0.9**
baz=286
BBB Bella Bella 99.27 37 LR LR 16 02 31.2
comp=Z,12µm,19.7s,baz=276,slow=33
STHS Stebnicka Huta 99.30 320 *e*P **Pdif** **15 22 19.4 +0.1**
STHS Stebnicka Huta 99.30 320 *e*PDIFF **Pdif** **15 22 19.4 +0.1**
STHS *e*PP **PP** **15 26 16.2 -6.2**
STHS *e*PDIFF 15 42 54.7
DION Dionisos Attik 99.30 309 P **Pdif** **15 22 18.9 -0.6**
KKB Krupnik 99.36 312 P **Pdif** **15 22 20.0 +0.3**
PTL Penteli 99.36 309 P **Pdif** **15 22 18.1 -1.8**
HERR Herculane 99.37 316 ⇑P **Pdif** **15 22 19.7 0.0**
HERR Herculane 99.37 316 ⇑P **PKKPbc** **15 38 44.7 +0.1**
KOTAN Kotaneelee Air 99.37 29 P **Pdif** **15 22 19.9 +0.6**
baz=288
SURR Surduc 99.42 316 ⇓P **Pdif** **15 22 19.7 -0.2**
SURR Surduc 99.42 316 ⇑P **PKKPbc** **15 38 45.3 +0.8**
PEHC Pehcevo 99.54 312 *i* P **Pdif** **15 22 26.0 +5.4**
CHAN Chania 99.56 306 P **Pdif** **15 22 23.3 +2.6**
HOLB Holberg 99.59 38 IAMs_20 IAMs_20 15 59 55.7
comp=Z,26µm,20.0s
LPHEP Lephephe 99.60 247 IAMs_20 IAMs_20 16 03 17.4
comp=Z,38µm,22.0s
LPHEP Lephephe 99.60 247 *i* P **Pdif** **15 22 21.4 +0.1**
SIRR Siria 99.64 317 ⇓P **Pdif** **15 22 20.8 0.0**
LBTB Lobatse 99.73 245 P **Pdif** **15 22 22.1 +0.2**
comp=Z,18nm,0.8s,baz=109,slow=4.3,SNR=18
LBTB PP **PP** **15 26 24.0 -2.6**
comp=Z,67nm,1.4s,baz=96,slow=9.2,SNR=7.9
LBTB PKiKP **PKiKP** **15 26 51.4 +0.8**
comp=Z,13nm,0.8s,baz=196,slow=1.8,SNR=4.3
LBTB S **SKSac** **15 33 00.2 +2.6**
comp=Z,5.3nm,1.1s,baz=237,slow=21,SNR=1.2
LBTB LR LR 16 04 13.9
comp=Z,15µm,21.0s,baz=93,slow=34
comp=Z,18nm,0.8s
BOSA Boshof 99.76 241 P **Pdif** **15 22 22.2 +0.2**
comp=Z,66nm,1.0s,baz=95,slow=4.6,SNR=15
BOSA PP **PP** **15 26 23.4 -3.3**
comp=Z,64nm,1.2s,baz=106,slow=8.5,SNR=6.5
BOSA PKiKP **PKiKP** **15 26 51.4 +0.8**
comp=Z,49nm,1.4s,baz=140,slow=1.9,SNR=5.9
BOSA S **SKSac** **15 33 00.3 +2.7**
comp=Z,2.0nm,0.9s,baz=242,slow=21,SNR=1.0
BOSA PKKPbc **PKKPbc** **15 38 44.3 +1.2**
comp=Z,19nm,1.0s,baz=289,slow=4.1,SNR=8.1
BOSA LR LR 16 03 06.5
comp=Z,28µm,21.6s,baz=97,slow=33
comp=Z,66nm,1.0s
BOSA Boshof 99.76 241 P **Pdif** **15 22 23.5 +1.5**
NSS Namsos 99.77 336 *e*Pdif **Pdif** **15 22 20.5 -0.4**
NSS IVmB_BB 15 22 24.2
comp=Z,2µm,3.6s
NSS *e*PP **PP** **15 26 24.8 -0.7**
NSS *e*SKSac **SKSac** **15 32 55.6 -0.3**
NSS *e*SP SP 15 35 19.3 +1.0
NSS IVMs_BB IVMs_BB 16 08 23.4
comp=Z,21µm,24.3s
BZS Buzias 99.79 316 ⇑P **Pdif** **15 22 21.2 -0.3**
BZS Buzias 99.79 316 ⇑P **PKKPbc** **15 38 42.1 -1.3**
BZS Buzias 99.79 316 ⇑P **Pdif** **15 22 21.2 -0.3**
MDVR Moldovita 99.88 316 ⇑P **Pdif** **15 22 21.6 -0.4**
MDVR Moldovita 99.88 316 ⇑P **PKKPbc** **15 38 44.5 +1.2**
NIE Niedzica 99.90 320 *e*P **Pdif** **15 22 22.6 +0.6**
NIE *e*PP PP 15 26 38.3 +11
NIE *e*SKS **SKSac** **15 32 58.9 +1.6**
NIE *e*S **S** **15 33 56.4 +3.3**
NIE *e*L L 16 10 30.5
comp=Z,32µm,22.9s
NIE Niedzica 99.90 320 P **Pdif** **15 22 20.3 -1.7**
comp=Z,1µmcomp=Z,44nm,1.4s
KECS Kecovo 99.98 319 *e*P **Pdif** **15 22 25.0 +2.7**
KECS Kecovo 99.98 319 *e*PDIFF **Pdif** **15 22 25.0 +2.7**
OJC Ojcow 100.04 321 *e*P **Pdif** **15 22 22.4 -0.1**
OJC *e*PP **PP** **15 26 27.5 -0.6**
OJC *e*SKS 15 32 58.2
OJC *e*S **Sdif** **15 33 55.8 +1.6**
OJC *e*L L 16 07 42.1
comp=Z,34µm,26.4s
OJC Ojcow 100.04 321 P **Pdif** **15 22 20.9 -1.7**
comp=Z,3µmcomp=Z,84nm,1.5s
BOVS Bovan 100.09 314 ⇑P **Pdif** **15 22 21.9 -1.0**
BOVS Bovan 100.09 314 ⇑P **PKKPbc** **15 38 42.8 +0.3**
ANKY Antikythira Is 100.11 306 P **Pdif** **15 22 22.6 -0.5**
TROLL Troll, Antarti 100.34 195 ⇑P **Pdif** **15 22 24.7 +1.2**
comp=Z,970nm,0.9s
TROLL Troll, Antarti 100.34 195 SKSac **SKSac** **15 33 06.9 +8.1**
comp=Z,7.3nm,0.2s
DAG Danmarks Havn 100.39 352 P **Pdif** **15 22 23.8 +0.3**
DAG Danmarks Havn 100.39 352 *i* P **Pdif** **15 22 22.5 -1.0**
DAG IAmb IAmb 15 22 30.9
comp=Z,49nm,0.8s
PSZ Piszkesteto 100.49 319 IAMs_20 IAMs_20 16 10 53.4
comp=Z,32µm,22.0s
PSZ Piszkesteto 100.49 319 ⇑P **Pdif** **15 22 25.0 +0.3**
PSZ Piszkesteto 100.49 319 ⇑P **Pdif** **15 22 25.0 +0.3**
LANS Liptovska Anna 100.49 320 *e*P **Pdif** **15 22 26.5 +1.9**
LANS Liptovska Anna 100.49 320 *e*PDIFF **Pdif** **15 22 26.5 +1.9**
LANS *e*PP **PP** **15 26 24.4 -7.1**
KSANE Kasane 100.57 252 IAMs_20 IAMs_20 16 06 47.4
comp=Z,33µm,22.0s
SKO Skopje 100.58 313 *i* P **Pdif** **15 22 24.0 -1.2**
HFS Hagfors 100.60 332 P **Pdif** **15 22 23.7 -1.1**
comp=Z,26nm,0.8s,baz=88,slow=3.4,SNR=30
HFS PKKPbc **PKKPbc** **15 38 40.9 -0.8**
comp=Z,6.0nm,0.6s,baz=204,slow=2.9,SNR=9.3
VLX Vlachokerasia 100.63 308 P **Pdif** **15 22 25.0 -0.6**
KDWAN Kaudwane 100.70 246 IAMs_20 IAMs_20 16 03 39.5
comp=Z,38µm,22.0s
KDWAN Kaudwane 100.70 246 *i* P **Pdif** **15 22 28.1 +1.9**
GKP Gorka Klasztor 100.84 325 *e*P **Pdif** **15 22 28.0 +2.0**
GKP *e*PP **PP** **15 26 29.7 -4.2**
GKP *e*SKS 15 33 03.6
GKP *e*S **Sdif** **15 34 02.8 +2.2**
GKP *e*L L 16 09 32.1
comp=Z,63µm,24.1s
FNA Florina 100.84 312 IAMs_20 IAMs_20 16 13 28.5
comp=Z,33µm,22.0s
PHDHD Phuduhudu 101.03 250 IAMs_20 IAMs_20 16 03 06.4
comp=Z,35µm,22.0s
VYHS Vyhne 101.05 320 *e*P **Pdif** **15 22 27.4 +0.3**
VYHS *e* 15 26 33.4
VYHS Vyhne 101.05 320 *e*PDIFF **Pdif** **15 22 27.3 +0.2**
VYHS *e*PP **PP** **15 26 33.4 -2.3**
VYHS *e*PP PKPPKPdf 15 46 56.3
RES Resolute Bay 101.12 10 PKPPKP 15 46 54.2
comp=Z,2.1nm,0.9s,baz=194,slow=4.6,SNR=6.1
FRGS Fruska Gora 101.13 316 ⇓*i* P **Pdif** **15 22 26.8 -0.7**
OKC Ostrava-Krasne 101.17 321 *e*PDIFF **Pdif** **15 22 29.2 +1.7**
OKC *e*SKS **SKSac** **15 33 06.0 +2.6**
OKC Ostrava-Krasne 101.17 321 *e*P **Pdif** **15 22 29.2 +1.7**
OKC *e* 15 33 06.0
OHR Ohrid 101.21 312 *i* P **Pdif** **15 22 28.4 +0.3**
SKOMA Sekoma 101.28 245 *i* P **Pdif** **15 22 30.3 +1.6**
AXS Araxos 101.28 309 P **Pdif** **15 22 27.6 -0.7**
STEB Steborice 101.38 321 *e*PDIFF **Pdif** **15 22 29.4 +0.9**
NC602 NORSAR Array S 101.39 333 *e*Pdif **Pdif** **15 22 27.8 -0.5**
NC602 IVmB_BB 15 22 33.4
comp=Z,2µm,3.2s
NC602 *e*PP **PP** **15 26 37.8 0.0**
NC602 *e*SKSac **SKSac** **15 33 03.1 -0.8**
NC602 *e*SP **SP** **15 35 33.1 -2.6**
NC602 *e*SS **SS** **15 41 05.3 -0.4**
NC602 IVMs_BB IVMs_BB 16 10 28.6
comp=Z,30µm,24.0s
SJES Sjenica 101.40 314 ⇓*i* P **Pdif** **15 22 28.9 0.0**
KTLO Katakolo 101.41 308 P **Pdif** **15 22 28.7 -0.2**
NB2 NORSAR Subarra 101.42 333 P **Pdif** **15 22 27.0 -1.5**
comp=Z,82nm,1.0s,baz=68,slow=4.4
NB2 PKKP **PKKPbc** **15 38 37.4 -2.0**
comp=Z,2.6nm,0.7s,baz=235,slow=2.4
NB2 NORSAR Subarra 101.42 333 P **Pdif** **15 22 27.0 -1.5**
baz=68,slow=4.4
NOA NORSAR Array B 101.42 333 P **Pdif** **15 22 26.9 -1.5**
comp=Z,19nm,0.7s,baz=68,slow=4.6,SNR=58
NOA PP **PP** **15 26 37.9 -0.2**
comp=Z,21nm,0.9s,baz=64,slow=8.2,SNR=5.5
NOA PKKPbc **PKKPbc** **15 38 37.5 -2.0**
comp=Z,2.3nm,0.7s,baz=68,slow=3.2,SNR=15
TEKS Tekeris 101.45 316 *e*P **Pdif** **15 22 28.1 -0.9**
CBB Campbell River 101.46 39 IAMs_20 IAMs_20 16 01 02.1
comp=Z,33µm,21.0s
MAUC Maruska 101.49 321 *e*PDIFF **Pdif** **15 22 30.8 +1.8**
MAUC *e*PP **PKiKP** **15 26 57.4 +4.5**
IVA Berane 101.54 314 ⇓*i* P **Pdif** **15 22 28.9 -0.6**
MORC Moravsky Berou 101.56 321 *e*PDIFF **Pdif** **15 22 29.8 +0.4**
MORC *e*SKS 15 33 07.1
BSD Bornholm Skovb 101.61 327 *i* P **Pdif** **15 22 29.4 +0.1**
BBLS Lazi&#263i 101.68 315 ⇓*i* P **Pdif** **15 22 29.9 -0.2**
MORH Mrgy, Hungar 101.70 317 ⇓P **Pdif** **15 22 32.6 +2.6**
MORH Mrgy, Hungar 101.70 317 ⇑P **PKKPbc** **15 38 38.0 0.0**
MORH Mrgy, Hungar 101.70 317 P **Pdif** **15 22 28.2 -1.8**
comp=Z,2µmcomp=Z,60nm,1.6s
JAVC Velka Javorina 101.71 320 *e*PDIFF **Pdif** **15 22 31.4 +1.3**
JAVC *e*SKS 15 33 09.1
DEL Delary 101.74 328 *i* P **Pdif** **15 22 29.4 -0.6**
RUDO Rudo 101.76 315 *e*P **Pdif** **15 22 30.2 -0.2**
PLE Pljevlja 101.81 314 ⇓*i* P **Pdif** **15 22 30.0 -0.7**
KOME Kolasin 101.81 314 ⇓*i* P **Pdif** **15 22 30.0 -0.7**
TIR Tirane 101.86 312 IAMs_20 IAMs_20 16 14 24.5
comp=Z,32µm,22.0s
TIR Tirane 101.86 312 ⇑P **Pdif** **15 22 30.8 0.0**
TIR Tirane 101.86 312 ⇑P **Pdif** **15 22 30.8 0.0**
TIR Tirane 101.86 312 P **Pdif** **15 22 29.0 -1.8**
comp=Z,3µmcomp=Z,58nm,0.9s
BORU Boraas 101.92 330 *i* P **Pdif** **15 22 30.7 0.0**
SNAA Sanae 101.92 195 ⇑P **Pdif** **15 22 31.1 +0.6**
comp=Z,376nm,1.1s
SNAA Sanae 101.92 195 P **PP** **15 26 44.6 +3.0**
SNAA Sanae 101.92 195 SKSac **SKSac** **15 33 12.5 +6.2**
SNAA Sanae 101.92 195 IAMs_20 IAMs_20 16 07 38.3
comp=Z,29µm,20.0s
SNAA Sanae 101.92 195 P **Pdif** **15 22 30.8 +0.3**
comp=Z,16nm,1.0s,baz=211,slow=5.6,SNR=33
SNAA PP **PP** **15 26 40.9 -0.6**
comp=Z,32nm,1.1s,baz=94,slow=12,SNR=4.3
SNAA PKKPbc **PKKPbc** **15 38 37.8 -0.4**
comp=Z,20nm,0.9s,baz=270,slow=6.0,SNR=26
SNAA PKPPKP 15 46 55.9
comp=Z,4.9nm,1.1s,baz=228,slow=3.2,SNR=5.2
SNAA Sanae 101.92 195 *ce*P **Pdif** **15 22 31.4 +0.9**
SNAA pmax pmax
comp=Z,30nm,1.1s
SNAA MLR MLR
comp=Z,28µm,20.0s
KRLC Kraliky 101.96 322 *e*SKS **SKSac** **15 33 09.0 +1.7**
KRLC AMS AMS 16 11 10.0
comp=Z,48µm,23.7s
DOMB Dombas 101.97 335 *e*Pdif **Pdif** **15 22 30.0 -0.9**
DOMB IVmB_BB 15 22 36.3
comp=Z,2µm,3.4s
DOMB *e*SKSac **SKSac** **15 33 06.9 +0.2**
DOMB *e*SP SP 15 35 41.6 -0.2
DOMB *e*SS **SS** **15 41 12.9 -0.8**
DOMB IVMs_BB IVMs_BB 16 12 01.7
comp=Z,21µm,19.4s
BELA Belgrano 2 101.97 184 IAMs_20 IAMs_20 16 08 22.0
comp=Z,40µm,22.0s
KSP Ksiaz 102.06 322 *e*P **Pdif** **15 22 31.9 +0.4**
KSP *e*PP **PKiKP** **15 26 48.9 -5.0**
KSP *e*SKS 15 33 08.4
KSP *e*S **Sdif** **15 34 10.9 0.0**
KSP *e*L L 16 10 40.4
comp=Z,56µm,22.7s
KSP Ksiaz 102.06 322 P **Pdif** **15 22 29.7 -1.8**
comp=Z,2µmcomp=Z,79nm,1.4s
OSL Oslo 102.07 332 *e*Pdif **Pdif** **15 22 31.7 +0.4**
OSL IVmB_BB 15 22 37.1
comp=Z,2µm,2.5s
OSL *e*PP **PP** **15 26 42.3 -0.6**
OSL *e*SKSac **SKSac** **15 33 06.9 -0.3**
OSL *e*SS **SS** **15 41 13.9 -1.1**
OSL IVMs_BB IVMs_BB 16 10 12.5
comp=Z,25µm,25.2s
MODS Modra-Piesok 102.09 320 *e*P **Pdif** **15 22 31.7 0.0**
MODS Modra-Piesok 102.09 320 *e*PDIFF **Pdif** **15 22 31.7 0.0**
MODS *e*PP **PP** **15 26 36.2 -7.3**
PDG Podgorica 102.09 314 IAMs_20 IAMs_20 16 16 08.3
comp=Z,30µm,21.0s
PDG Podgorica 102.09 314 ⇓*i* P **Pdif** **15 22 30.9 -0.9**

PDG Podgorica 102.09 314 ⇑*i*P **Pdif 15 22 30.7 -1.1**
PDG Podgorica 102.09 314 ⇓*i*P **Pdif 15 22 31.3 -0.5**
FABU Falkenberg 102.16 329 *i* P **Pdif 15 22 32.5 +0.8**
NEEM North Greenlan 102.17 359 *i* P **Pdif 15 22 32.5 +0.7**
NEEM IAmb IAmb 15 22 36.7
comp=Z,59nm,1.0s
DPC Dobruska-Polom 102.17 322 *e*PDIFF **Pdif 15 22 33.6 +1.5**
DPC *e*SKS **SKSac 15 33 09.2 +0.9**
DPC AMS AMS 16 11 30.0
comp=Z,55µm,23.5s
DPC Dobruska-Polom 102.17 322 *e*P **Pdif 15 22 33.6 +1.5**
DPC *e* 15 33 09.2
DPC MLR MLR
comp=Z,55µm,23.5s
DPC Dobruska-Polom 102.17 322 P **Pdif 15 22 30.3 -1.8**
comp=Z,2µmcomp=Z,55nm,2.4s
OSTC Ostas 102.18 322 *e*PDIFF **Pdif 15 22 33.7 +1.6**
OSTC *e*SKS **SKSac 15 33 09.0 +0.7**
OSTC AMS AMS 16 11 30.0
comp=Z,59µm,23.4s
OSTC Ostas 102.18 322 *e*P **Pdif 15 22 33.7 +1.6**
OSTC *e* 15 33 09.0
OSTC MLR MLR
comp=Z,59µm,23.4s
DRME Dracevica, Mon 102.19 313 *e*P **Pdif 15 22 30.6 -1.7**
DRME Dracevica, Mon 102.19 313 ⇓*i*P **Pdif 15 22 31.6 -0.7**
ULC Ulcinj 102.19 313 ⇓*i*P **Pdif 15 22 32.3 0.0**
MPLH Magyarpolny 102.21 319 P **Pdif 15 22 30.5 -1.8**
comp=Z,7µmcomp=Z,363nm,1.5s
KEK Kerkira 102.22 311 P **Pdif 15 22 35.9 +3.4**
NKME Niksic 102.24 314 ⇓*i*P **Pdif 15 22 31.1 -1.4**
CHVC Chvalec 102.27 322 *e*PDIFF **Pdif 15 22 33.1 +0.6**
CHVC *e*SKS **SKSac 15 33 11.3 +2.6**
CHVC AMS AMS 16 11 30.0
comp=Z,60µm,23.6s
CHVC Chvalec 102.27 322 *e*P **Pdif 15 22 33.1 +0.6**
CHVC *e* 15 33 11.3
CHVC MLR MLR
comp=Z,60µm,23.6s
VRAC Vranov 102.28 321 *e*PDIFF **Pdif 15 22 32.8 +0.2**
VRAC *e*SKS 15 33 11.0
VRAC Vranov 102.28 321 ⇑P **Pdif 15 22 32.7 +0.2**
VRAC Vranov 102.28 321 ⇑P **Pdif 15 22 32.7 +0.2**
CEME Cevo 102.31 314 ⇓*i*P **Pdif 15 22 31.8 -1.1**
BJUU Bjuv 102.32 328 *i* P **Pdif 15 22 31.8 -0.7**
UPC Upice 102.32 322 *e*PDIFF **Pdif 15 22 34.0 +1.3**
UPC *e*SKS **SKSac 15 33 12.1 +3.2**
UPC AMS AMS 16 11 40.0
comp=Z,66µm,23.7s
UPC Upice 102.32 322 *e*P **Pdif 15 22 34.0 +1.3**
UPC *e* 15 33 12.1
UPC MLR MLR
comp=Z,66µm,23.7s
BUM Brajici-Budva 102.38 313 ⇓*i*P **Pdif 15 22 32.4 -0.8**
MOL Molde 102.38 335 *e*Pdif **Pdif 15 22 32.1 -0.6**
MOL IVmB_BB 15 22 38.8
comp=Z,2µm,2.5s
MOL *e*PP **PP 15 26 45.9 +0.8**
MOL *e*SKSac **SKSac 15 33 07.4 -1.2**
MOL *e*SP **SP 15 35 46.1 0.0**
MOL *e*SS **SS 15 41 21.6 +2.3**
MOL IVmS_BB IVmS_BB 16 11 53.3
comp=Z,24µm,22.3s
ONAU Onsala 102.43 330 *e*P **Pdif 15 22 32.4 -0.6**
KRUC Moravsky 102.47 321 *e*PDIFF **Pdif 15 22 33.4 0.0**
KRUC *e*SKS 15 33 12.0
BRY Bratogost 102.50 314 *e*P **Pdif 15 22 34.7 +0.8**
BRY Bratogost 102.50 314 ⇓*i*P **Pdif 15 22 32.5 -1.4**
CLRS Cowichan Lake 102.55 40 IAMs_20 IAMs_20 16 07 34.1
comp=Z,35µm,20.0s
HCY Herceg Novi 102.64 314 ⇓*i*P **Pdif 15 22 33.1 -1.2**
TREB Trebinje 102.68 314 *e*P **Pdif 15 22 35.0 +0.5**
KONO Kongsberg 102.70 332 *de*P **Pdif 15 22 33.9 -0.2**
KONO pmax pmax
comp=Z,83nm,1.7s
KONO MLR MLR
comp=Z,89µm,23.0s
KONO Kongsberg 102.70 332 *e*Pdif **Pdif 15 22 33.6 -0.5**
KONO IVmB_BB 15 22 39.2
comp=Z,1µm,2.4s
KONO *e*PP **PP 15 26 47.1 -0.5**
KONO *e*SKSac **SKSac 15 33 09.9 -0.4**
KONO *e*SS **SS 15 41 25.8 +1.9**
KONO IVmS_BB IVmS_BB 16 10 55.7
comp=Z,24µm,22.9s
YKA Yellowknife Ar 102.71 25 P **Pdif 15 22 34.6 +0.5**
comp=Z,19nm,0.8s,baz=303,slow=5.2,SNR=29
YKA PP **PP 15 26 44.9 -2.7**
comp=Z,6.4nm,0.7s,baz=292,slow=7.2,SNR=5.9
YKA PKiKP **PKiKP 15 26 56.2 +1.6**
comp=Z,3.8nm,0.6s,baz=312,slow=2.3,SNR=15
YKA PKKPbc **PKKPbc 15 38 33.7 -1.9**
comp=Z,6.5nm,0.8s,baz=103,slow=1.9,SNR=13
YKA PKPPKP **P'P'df 15 46 53.8 +1.2**
comp=Z,2.8nm,1.1s,baz=101,slow=2.3,SNR=4.5
AKN Aaknes 102.78 335 *e*Pdif **Pdif 15 22 34.0 -0.5**
JNE Jan Mayen East 102.81 346 *e*Pdif **Pdif 15 22 34.0 -0.4**
JNE *e*Pdif **Pdif 15 22 35.7 +1.3**
JNE IVmB_BB 15 22 41.7
comp=Z,3µm,2.8s
JNE *e*PP **PP 15 26 48.4 +0.3**
JNE *e*SKSac **SKSac 15 33 09.8 -0.5**
JNE *e*SS **SS 15 41 18.2 -6.6**
JNE IVmS_BB IVmS_BB 16 05 03.4
comp=Z,8µm,34.0s
JMIC Jan Mayen 102.87 346 *e*Pdif **Pdif 15 22 35.5 +0.8**
JMIC IVmB_BB 15 22 40.7
comp=Z,2µm,1.5s
JMIC IVmB_BB 15 22 51.6
comp=Z,2µm,6.7s
JMIC *e*PP **PP 15 26 49.4 +0.9**
JMIC *e*SKSac **SKSac 15 33 11.2 +0.6**
JMIC *e*SP SP 15 35 52.6 +1.7
JMIC *e*SS **SS 15 41 28.0 +2.4**
JMIC IVmS_BB IVmS_BB 16 07 02.9
comp=Z,9µm,25.9s
SKAR Skarslia 102.87 333 *e*Pdif **Pdif 15 22 35.6 +0.6**
SKAR IVmB_BB 15 22 41.1
comp=Z,2µm,2.8s
SKAR *e*PP **PP 15 26 48.1 -0.9**
SKAR *e*SKSac **SKSac 15 33 12.6 +1.5**
SKAR *e*SP SP 15 35 50.1 -1.4
SKAR *e*SS **SS 15 41 26.9 +0.6**
SKAR IVmS_BB IVmS_BB 16 11 45.0
comp=Z,33µm,23.8s
RONA Rosalia, Austr 102.90 319 *e*Pdiff **Pdif 15 22 35.0 -0.3**
comp=Z,37nm,1.4s,SNR=17
RONA *e*PKiKP **PKiKP 15 26 58.1 +2.6**
comp=Z,24nm,1.2s
JMI Jan Mayen 102.96 346 *e*Pdif **Pdif 15 22 34.4 -0.7**
JMI IVmB_BB 15 22 42.6
comp=Z,3µm,3.0s
JMI *e*PP **PP 15 26 49.3 +0.1**
JMI *e*SP SP 15 35 52.4 +0.5
JMI IVmS_BB IVmS_BB 16 07 07.8
comp=Z,9µm,24.6s
TREC Trest 102.98 321 *e*SKS **SKSac 15 33 14.3 +2.2**
TREC AMS AMS 16 11 40.0
comp=Z,44µm,25.0s
KGCAE Kacgae 102.99 247 *i* P **Pdif 15 22 39.5 +3.0**
BLY Banja Luka 103.04 316 *e*P **Pdif 15 22 38.3 +2.3**
STON Ston 103.11 314 *e*P **Pdif 15 22 34.7 -1.6**
CONA Conrad Observa 103.12 320 *e*Pdiff **Pdif 15 22 36.5 +0.1**
comp=Z,28nm,1.5s,SNR=19
CONA *e*PKiKP **PKiKP 15 26 59.1 +3.1**
comp=Z,28nm,1.2s
SCTE Santa Cesarea 103.15 311 IAMs_20 IAMs_20 16 14 18.9
comp=Z,25µm,22.0s
SUR Sutherland 103.16 237 P **Pdif 15 22 39.7 +2.7**
A051A Mrakovica 103.17 317 *e*P **Pdif 15 22 36.3 -0.4**
PVCC Panska Ves 103.20 322 *e*SKS **SKSac 15 33 15.5 +2.5**
PVCC AMS AMS 16 11 20.0
comp=Z,51µm,21.7s
WISH Wishkah 103.24 41 IAMs_20 IAMs_20 16 11 47.3
comp=Z,22µm,20.0s
GOPC GO Pecny, Ondr 103.24 322 *e*PDIFF **Pdif 15 22 39.0 +2.2**
GOPC AMS AMS 16 12 30.0
comp=Z,50µm,22.3s
GOPC GO Pecny, Ondr 103.24 322 *e*P **Pdif 15 22 39.0 +2.2**
GOPC MLR MLR
comp=Z,50µm,22.3s
KOGS Kog 103.25 318 *i* Pdiff **Pdif 15 22 36.2 -0.6**
KOGS *e*PP **PKiKP 15 26 59.1 +2.9**
KOGS *e*SKSac **SKSac 15 33 13.7 +0.3**
KOGS *e* 15 34 21.5
KOGS *e*PS PS 15 35 58.8 -3.4
KOGS *e* 15 41 54.8
GMARE Gumare 103.31 250 IAMs_20 IAMs_20 16 05 15.9
comp=Z,36µm,22.0s
PRU Pruhonice 103.37 322 *e*PDIFF **Pdif 15 22 38.8 +1.4**
PRU *e*SKS **SKSac 15 33 15.1 +1.3**
PRU AMS AMS 16 13 30.0
comp=Z,62µm,22.8s
PRU Pruhonice 103.37 322 *e*P **Pdif 15 22 38.8 +1.4**
PRU *e* 15 33 15.1
PRU MLR MLR
comp=Z,62µm,22.8s
RADR Rader Ridge 103.40 42 IAMs_20 IAMs_20 16 02 36.7
comp=Z,22µm,21.0s
PRA Prague 103.42 322 *e*SKS **SKSac 15 33 16.2 +2.2**
PRA AMS AMS 16 13 30.0
comp=Z,63µm,22.8s
LLLB Lillooet 103.45 37 IAMs_20 IAMs_20 16 02 21.5
comp=Z,30µm,22.0s
BRG Berggiesshubel 103.47 323 Amp 15 22 43.2
comp=Z,96nm,1.3s
BRG ⇓*e*Pif **Pdif 15 22 38.3 +0.6**
BRG Berggiesshubel 103.47 323 P **Pdif 15 22 48.7 +11**
BRG Amp 15 22 49.6
comp=Z,65nm,1.0s
BRG Berggiesshubel 103.47 323 P Pdif 15 22 56.4 +19
BRG Amp 15 23 01.3
comp=Z,45nm,1.0s
BRG Berggiesshubel 103.47 323 PP **PP 15 26 52.0 -1.7**
BRG Berggiesshubel 103.47 323 SP SP 15 35 59.0 +0.7
BRG Berggiesshubel 103.47 323 SS SS 15 41 38.0 +2.9
BRG PKPPKP 15 46 57.0
BRG Amp 15 47 01.1
comp=Z,33nm,1.9s
RICC Richard 103.48 323 *e*PP PP 15 26 36.1 -18
RICC *e*SKS **SKSac 15 33 15.9 +1.6**
RICC AMS AMS 16 11 30.0
comp=Z,57µm,22.0s
A04D Lummi Island 103.49 39 IAMs_20 IAMs_20 16 08 25.7
comp=Z,33µm,21.0s
ARSA Arzberg 103.52 319 IAMs_20 IAMs_20 16 13 05.6
comp=Z,34µm,21.0s
ARSA Arzberg 103.52 319 *i* Pdiff **Pdif 15 22 38.0 -0.1**
comp=Z,34nm,1.5s,SNR=18
ARSA *e*PP **PP 15 26 47.7 -6.6**
comp=Z,19nm,1.4s
VNA2 Neumayer--Watz 103.53 194 ⇑P **Pdif 15 22 38.8 +1.2**
comp=Z,18nm,0.6s,baz=132,slow=4.5
VNA2 Neumayer--Watz 103.53 194 ⇑P **PKiKP 15 26 57.3 +1.3**
comp=Z,2µm,3.5s,baz=136,slow=3.5
VNA2 Neumayer--Watz 103.53 194 SKSac **SKSac 15 33 19.5 +5.8**
baz=70,slow=32
E03A Lebam 103.53 42 IAMs_20 IAMs_20 16 02 41.9
comp=Z,22µm,21.0s
A050A Klekovaca 103.56 316 *e*P **Pdif 15 22 37.9 -0.5**
HYA Hoyanger 103.59 334 *e*Pdif **Pdif 15 22 33.1 -4.8**
HYA IVmB_BB 15 22 42.1
comp=Z,2µm,3.3s
HYA *e*PP **PP 15 26 53.2 -1.0**
HYA *e*SKSac **SKSac 15 33 11.1 -3.1**
HYA *e*SS **SS 15 41 32.5 -3.4**
HYA IVmS_BB IVmS_BB 16 12 20.6
comp=Z,22µm,24.3s
F03A Seaside 103.69 42 IAMs_20 IAMs_20 16 03 48.4
comp=Z,24µm,22.0s
HEBO Mount Hebo 103.74 43 IAMs_20 IAMs_20 16 03 56.8
comp=Z,25µm,21.0s
ZVC Zvikov 103.75 321 *e*PDIFF **Pdif 15 22 40.4 +1.3**
ZVC *e*SKS **SKSac 15 33 19.2 +3.6**
ZVC AMS AMS 16 12 20.0
comp=Z,45µm,23.1s
HOMB Homborsund 103.78 331 *e*Pdif **Pdif 15 22 39.5 +0.5**
HOMB IVmB_BB 15 22 51.6
comp=Z,1µm,5.1s
HOMB *e*PP **PKiKP 15 26 57.5 +0.8**
HOMB *e*SKSac **SKSac 15 33 17.2 +2.0**
HOMB *e*SP SP 15 35 59.6 -1.4
HOMB IVmS_BB IVmS_BB 16 11 02.9
comp=Z,14µm,23.4s
LKGWB Lokgwabe 103.78 245 IAMs_20 IAMs_20 16 06 40.4
comp=Z,25µm,22.0s
CKRC Cesky Krumlov 103.86 321 *e*PDIFF **Pdif 15 22 40.8 +1.2**
CKRC *e*SKS **SKSac 15 33 19.2 +3.0**
CKRC Cesky Krumlov 103.86 321 *e*P **Pdif 15 22 40.8 +1.2**
CKRC *e* 15 33 19.2
FOO Floro 103.87 335 *e*Pdif **Pdif 15 22 39.8 +0.6**
FOO IVmB_BB 15 22 54.5
comp=Z,2µm,8.7s
FOO *e*PP **PP 15 26 54.8 -1.5**
FOO *e*SKSac **SKSac 15 33 14.3 -1.2**
FOO *e*SS **SS 15 41 41.6 +1.7**
FOO IVmS_BB IVmS_BB 16 14 59.9
comp=Z,21µm,19.8s
CLL Collm 103.90 324 *e*P **Pdif 15 22 40.0 +0.3**
CLL *e* 15 26 58.0
CLL *e* 15 33 17.0
CLL *e*S **Sdif 15 34 29.0 +2.8**
CLL pmax pmax
comp=Z,114nm,1.6s
CLL MLR MLR
comp=Z,54µm,21.3s
CLL Collm 103.90 324 P **Pdif 15 22 37.9 -1.8**
comp=Z,2µmcomp=Z,37nm,2.2s
CLL Collm 103.90 324 *e*Pdif **Pdif 15 22 40.0 +0.3**
comp=Z,114nm,1.6s
CLL *i* pPdif **pPdif 15 22 45.7 -6.5**
CLL *ex* x 15 23 34.0
CLL *ex* x 15 25 47.0
CLL *ex* x 15 26 12.0
CLL *i* PP **PP 15 26 53.0 -3.9**
comp=Z,129nm,1.5s
CLL *e*(PKiKP) 15 26 58.0
CLL *e*pPP 15 27 03.0
comp=Z,93nm,1.3s
CLL *i* x x 15 27 06.2
comp=Z,103nm,1.2s
CLL *ex* x 15 27 18.0
CLL *e*PPP PPP 15 29 09.0
CLL *ex* x 15 32 12.0
CLL *e*SKSac **SKSac 15 33 17.0 +0.8**
CLL *e*Sdif SKKSac 15 34 29.0 +30
CLL *e*SP **SP 15 35 54.0 -8.8**
CLL *e*PPS PPS 15 37 04.0
CLL *es*PKKPdf 15 38 52.0
CLL *e*SS **SS 15 41 47.0 +6.1**
CLL *e*pSKKPbc 15 42 19.0
CLL *e*SSS SSS 15 45 42.0
CLL *e*PPPrev 15 46 27.0
CLL AMS AMS 16 11 00.0
comp=Z,54µm,21.3s
CLL AMS AMS 16 12 00.0
KEBM Edson Butte 103.92 46 IAMs_20 IAMs_20 16 02 17.7
comp=Z,25µm,22.0s
VNA1 Neumayer--Stat 103.92 194 ⇑P **Pdif 15 22 40.3 +1.0**
comp=Z,24nm,0.9s
VNA1 Neumayer--Stat 103.92 194 P **PP 15 27 00.3 +3.8**
VNA1 Neumayer--Stat 103.92 194 SKSac **SKSac 15 33 18.2 +2.8**
CRES Cresnjevec Ost 103.95 318 ⇓*i*P **Pdif 15 22 40.0 0.0**
ODD1 Odda 103.95 333 *e*Pdif **Pdif 15 22 40.0 +0.2**
ODD1 IVmB_BB 15 22 45.7
comp=Z,1µm,3.9s
ODD1 *e*PP **PP 15 26 56.9 -0.1**
ODD1 *e*SKSac **SKSac 15 33 15.5 -0.7**
ODD1 *e*SP SP 15 36 01.8 -1.1
ODD1 IVmS_BB IVmS_BB 16 12 08.7
comp=Z,31µm,21.6s
PERS Pernice 103.96 318 *e*Pdiff **Pdif 15 22 39.9 -0.2**
PERS *e* 15 25 44.5
I02E Swisshome, OR 103.96 44 IAMs_20 IAMs_20 16 02 05.6
comp=Z,26µm,22.0s
SOKA Soboth 104.00 319 *e*Pdiff **Pdif 15 22 40.0 -0.3**
comp=Z,34nm,1.4s,SNR=18
SOKA *e*PKiKP **PP 15 27 00.1 +2.2**
comp=Z,14nm,1.5s
F04D Rainier, OR 104.02 42 IAMs_20 IAMs_20 16 02 54.0
comp=Z,26µm,22.0s
GRTLG Ghanzi 104.04 248 IAMs_20 IAMs_20 16 06 54.1
comp=Z,34µm,20.0s
G03D McMinnville, O 104.08 43 IAMs_20 IAMs_20 16 04 07.7
comp=Z,33µm,22.0s
J01E Myrtle Point 104.14 45 IAMs_20 IAMs_20 16 11 01.4
comp=Z,21µm,20.0s
KBO Bosley Butte 104.16 46 IAMs_20 IAMs_20 16 09 37.0
comp=Z,26µm,20.0s
BOJS Bojanci 104.17 317 ⇓*i*P **Pdif 15 22 40.9 -0.1**
BOJS Bojanci 104.17 317 *i* Pdiff **Pdif 15 22 41.1 +0.1**
MOA Molln 104.17 320 *e*Pdiff **Pdif 15 22 41.1 +0.1**
comp=Z,81nm,1.7s,SNR=39
MOA *e*PKKP **PKKPbc 15 38 32.1 +1.3**
comp=Z,26nm,2.0s
MUD Monsted U'grnd 104.18 329 *e*P **Pdif 15 22 42.0 +1.3**
COR Corvallis 104.22 44 IAMs_20 IAMs_20 16 10 15.3
comp=Z,26µm,20.0s
KHC Kasperske Hory 104.23 321 *e*PDIFF **Pdif 15 22 42.0 +0.8**
KHC *e*PP **PKiKP 15 26 56.9 -1.0**
KHC *e*SKS **SKSac 15 33 18.6 +0.7**
KHC *ex* x 15 36 02.0
KHC *e*PKKP **PKKPbc 15 38 30.6 -0.1**
KHC AMS AMS 16 11 10.0
comp=Z,48µm,22.7s
KHC Kasperske Hory 104.23 321 *e*P **Pdif 15 22 42.0 +0.8**
KHC *e* 15 26 56.9
KHC *e* 15 33 18.6
KHC *e* 15 36 02.0
KHC MLR MLR
comp=Z,48µm,22.7s
KHC Kasperske Hory 104.23 321 P **Pdif 15 22 39.4 -1.8**
QNGWA Qangwa 104.23 250 IAMs_20 IAMs_20 16 07 11.3
comp=Z,31µm,21.0s
QNGWA Qangwa 104.23 250 *i* P **Pdif 15 22 45.5 +3.6**
GERES GERESS Array B 104.24 321 Pdiff **Pdif 15 22 41.5 +0.2**
comp=Z,28nm,1.2s,baz=63,slow=3.3,SNR=41
GERES PKiKP **PP 15 26 59.4 -0.3**
comp=Z,5.9nm,0.6s,baz=64,slow=1.7,SNR=10
GERES PKKPbc **PKKPbc 15 38 30.9 +0.1**
comp=Z,2.0nm,0.8s,baz=228,slow=1.2,SNR=3.6
GERES PKPPKP 15 46 52.3
comp=Z,1.2nm,1.0s,baz=243,slow=4.3,SNR=4.0
BLS5 Blasjo 104.25 333 *e*Pdif **Pdif 15 22 39.8 -1.2**
BLS5 IVmB_BB 15 22 47.3
comp=Z,1µm,2.6s
BLS5 *e*PP **PP 15 26 58.3 -0.9**
BLS5 *e*SKSac **SKSac 15 33 17.4 0.0**
BLS5 *e*SP **SP 15 36 03.5 -2.5**
BLS5 IVmS_BB IVmS_BB 16 12 17.3
comp=Z,36µm,23.0s
SUE Sulen 104.25 335 *e*Pdif **Pdif 15 22 40.0 -0.9**
SUE IVmB_BB 15 22 47.2
comp=Z,2µm,3.1s
SUE *e*PP **PKiKP 15 26 56.9 -0.6**
SUE *e*SKSac **SKSac 15 33 18.2 +0.9**
SUE *e*SP SP 15 36 04.5 -1.3
SUE IVmS_BB IVmS_BB 16 09 17.5
comp=Z,11µm,29.1s
BER Bergen 104.32 334 *e*Pdif **Pdif 15 22 41.1 -0.1**
BER IVmB_BB 15 22 47.4
comp=Z,1µm,3.2s
BER *e*PP **PKiKP 15 26 58.3 +0.7**
BER *e*SKSac **SKSac 15 33 20.6 +2.9**
BER *e*SP SP 15 36 01.2 -5.4
BER IVmS_BB IVmS_BB 16 12 40.0
comp=Z,23µm,22.4s
ASK Askoy 104.33 334 *e*Pdif **Pdif 15 22 40.9 -0.4**
ASK IVmB_BB 15 22 47.0
comp=Z,2µm,2.3s
ASK *e*PP **PP 15 26 59.2 -0.5**
ASK *e*SKSac **SKSac 15 33 17.4 -0.3**
ASK *e*SP **SP 15 36 01.6 -5.1**
ASK IVmS_BB IVmS_BB 16 07 23.5
comp=Z,11µm,35.1s
MATE Matera 104.34 312 ⇑P **PKKPbc 15 38 29.3 -0.6**
OBKA Obir 104.37 318 ⇓*i*P **Pdif 15 22 41.7 -0.3**
OBKA Obir 104.37 318 *e*Pdiff **Pdif 15 22 42.9 +0.9**
comp=Z,41nm,1.3s,SNR=11
OBKA *e*PKKP **PKKPbc 15 38 26.6 -3.6**
comp=Z,5.1nm,0.9s
SNART Snartemo 104.37 332 *e*Pdif **Pdif 15 22 41.8 +0.3**
SNART *e*PP **PKiKP 15 26 58.2 +0.4**
SNART *e*SKSac **SKSac 15 33 16.2 -1.8**
SNART *e*SP **SP 15 36 06.2 -1.0**
SNART IVmS_BB IVmS_BB 16 11 45.3
comp=Z,32µm,25.3s
I03D Drain, OR 104.41 45 IAMs_20 IAMs_20 16 02 29.6
comp=Z,23µm,21.0s
KSXB Camp Six Broad 104.50 46 IAMs_20 IAMs_20 16 08 14.1
comp=Z,31µm,20.0s
LJU Ljubljana 104.51 318 *ep*PKPab **Pdif 15 22 42.6 +0.1**
LJU *e*PP **PP 15 27 09.3 +7.6**
LJU *i* SKSac **SKSac 15 33 19.8 +0.5**
LJU *i* 15 34 38.6
LJU *e*PS **PS 15 36 09.4 -6.1**
LJU *e* 15 42 07.7
LJU *e* 15 51 55.5
BUCK Buck Mountain 104.54 44 IAMs_20 IAMs_20 16 03 46.9
comp=Z,27µm,21.0s
KRPM Rodgers 104.55 47 IAMs_20 IAMs_20 16 09 35.6
comp=Z,28µm,20.0s
NKC Novy Kostel 104.58 323 *e*PDIFF **Pdif 15 22 47.2 +4.4**
NKC *e*PP **PKiKP 15 26 58.8 +0.3**
NKC Novy Kostel 104.58 323 *e*P **Pdif 15 22 47.2 +4.4**
NKC *e* 15 26 58.8
BIOA Bad Ischl, Aus 104.62 320 *e*Pdiff **Pdif 15 22 42.6 -0.4**
comp=Z,16nm,1.3s,SNR=11
BIOA PKiKP **PKiKP 15 26 53.1 -5.6**
comp=Z,17nm,1.2s
H04D Lebanon 104.62 44 IAMs_20 IAMs_20 16 10 39.1
comp=Z,23µm,21.0s
JCC Jacoby Creek, 104.63 48 IAMs_20 IAMs_20 16 09 35.6
comp=Z,26µm,20.0s
TIP Timpagrande 104.63 311 ⇑P **Pdif 15 22 43.2 -0.2**
KMPM Mount Pierce 104.65 48 IAMs_20 IAMs_20 16 12 57.3
comp=Z,31µm,20.0s
CEY Cerknica 104.67 318 ⇓*i*P **Pdif 15 22 43.1 -0.1**
KOOLE Kule 104.83 246 IAMs_20 IAMs_20 16 05 30.8
comp=Z,33µm,22.0s
KHMM Horse Mountain 104.83 47 IAMs_20 IAMs_20 16 09 44.0
comp=Z,29µm,20.0s
KMY Karmoy 104.90 333 *e*Pdif **Pdif 15 22 43.7 -0.2**
KMY IVmB_BB 15 22 49.9
comp=Z,892nm,2.6s
KMY *e*PP **PP 15 27 04.3 +0.3**
KMY *e*SKSac **SKSac 15 33 18.4 -1.9**
KMY *e*SP **SP 15 36 09.9 -2.8**
KMY *e*SS **SS 15 41 55.8 +1.8**
KMY IVmS_BB IVmS_BB 16 12 35.8
comp=Z,28µm,22.9s
MYKA Terra Mystica 104.93 319 *e*Pdiff **Pdif 15 22 45.9 +1.4**
comp=Z,22nm,1.7s,SNR=6.3
H04A Detroit Lake 104.96 43 IAMs_20 IAMs_20 16 03 04.0
comp=Z,26µm,22.0s
KBA Koelnbreinsper 105.00 319 *e*Pdiff **Pdif 15 22 45.0 +0.1**
comp=Z,25nm,1.2s
KMRM Mail Ridge 105.00 48 IAMs_20 IAMs_20 16 04 10.8
comp=Z,35µm,21.0s
KULLO Kullorsuaq 105.03 1 *e*P **Pdif 15 22 46.6 +2.4**
BBOR Butler Butte 105.09 45 IAMs_20 IAMs_20 16 02 36.7
comp=Z,23µm,22.0s
TRI Trieste 105.12 318 IAMs_20 IAMs_20 16 15 08.0
comp=Z,37µm,22.0s
HOOD Mount Hood Mea 105.14 43 IAMs_20 IAMs_20 16 05 05.8
comp=Z,21µm,21.0s
SABO M.te Sabotino 105.15 318 IAMs_20 IAMs_20 16 15 18.2
comp=Z,23µm,22.0s
CUC Castrocucco 105.16 312 IAMs_20 IAMs_20 16 16 08.9
comp=Z,21µm,21.0s
LTY Liberty 105.22 40 IAMs_20 IAMs_20 16 09 20.9
comp=Z,34µm,20.0s
KCPM Cahto Peak 105.23 49 IAMs_20 IAMs_20 16 03 37.5
comp=Z,30µm,22.0s
LESA Schwarzleotal 105.32 320 *e*Pdiff **Pdif 15 22 45.6 -0.6**
comp=Z,41nm,1.3s,SNR=15
LESA *e*PKiKP **PKiKP 15 26 58.9 -1.1**
comp=Z,11nm,1.0s
YBH Yreka Blue Hor 105.37 46 IAMs_20 IAMs_20 16 09 21.1
comp=Z,34µm,20.0s
G05A Wamic 105.39 43 IAMs_20 IAMs_20 16 05 01.4
comp=Z,26µm,22.0s
POIN Pond Inlet 105.40 7 IAMs_20 IAMs_20 16 15 02.0
comp=Z,31µm,22.0s
J04A Umpqua Nationa 105.40 45 IAMs_20 IAMs_20 16 09 33.9
comp=Z,24µm,22.0s
L04D Klamath Falls 105.53 46 IAMs_20 IAMs_20 16 10 31.5
comp=Z,26µm,20.0s
I05D Terrebonne, OR 105.64 43 IAMs_20 IAMs_20 16 11 10.9
comp=Z,21µm,20.0s
ABTA Abfaltersbach 105.64 319 *e*Pdiff **Pdif 15 22 46.1 -1.5**
comp=Z,15nm,1.0s,SNR=11
ABTA *e*PKiKP **PKiKP 15 27 00.7 +0.1**
comp=Z,12nm,1.2s

ABTA ePKKP **PKKPbc** **15 38 19.0 -7.4**
comp=Z,11nm,1.3s
STAL **STALIGIAL** **105.66 319** IAMs_20 IAMs_20 16 14 14.2
comp=Z,29µm,22.0s
MXC **Moxie City** **105.68 41** IAMs_20 IAMs_20 16 08 48.8
comp=Z,25µm,21.0s
B08A **Colville Reser** **105.73 39** IAMs_20 IAMs_20 16 09 36.1
comp=Z,28µm,20.0s
HOPS **Hopland Field** **105.77 49** IAMs_20 IAMs_20 16 05 09.1
comp=Z,33µm,20.0s
K04D **Chiloquin, OR** **105.82 45** IAMs_20 IAMs_20 16 17 29.0
comp=Z,19µm,19.0s
CIMO **Cimolais** **105.82 319** IAMs_20 IAMs_20 16 16 36.4
comp=Z,26µm,22.0s
G06A **Carlson Farm,** **105.86 42** IAMs_20 IAMs_20 16 05 15.7
comp=Z,27µm,22.0s
E07A **Sunnyside** **105.97 41** IAMs_20 IAMs_20 16 09 07.6
comp=Z,27µm,20.0s
J05D **Fort Rock, OR** **106.00 45** IAMs_20 IAMs_20 16 03 40.8
comp=Z,25µm,22.0s
WTTA **Wattenberg** **106.05 320** ePdiff **Pdif** **15 22 49.1 -0.4**
comp=Z,68nm,1.4s,SNR=34
WTTA ePKiKP **PKiKP** **15 27 02.7 +1.2**
comp=Z,37nm,1.4s
WTTA ePKKP **PKKPbc** **15 38 25.0 -0.4**
comp=Z,25nm,1.7s
WATA **Walderalm** **106.06 320** ePdiff **Pdif** **15 22 48.7 -0.9**
comp=Z,55nm,1.3s,SNR=17
WATA ePKKP **PKKPbc** **15 38 25.4 +0.2**
comp=Z,9.5nm,0.9s
PINE **Pine Mountain** **106.07 44** IAMs_20 IAMs_20 16 04 45.4
comp=Z,20µm,21.0s
WAH2 **Wahluke Slope** **106.10 41** IAMs_20 IAMs_20 16 09 47.9
comp=Z,28µm,20.0s
SCO **Scoresbysund** **106.12 349** IAMs_20 IAMs_20 16 15 12.9
comp=Z,22µm,22.0s
F07A **Phinny Hill Vi** **106.13 42** IAMs_20 IAMs_20 16 05 18.9
comp=Z,22µm,22.0s
HAWA **Hanford** **106.24 41** IAMs_20 IAMs_20 16 09 15.6
comp=Z,32µm,20.0s
CAMP **Campotosto** **106.26 315** IAMs_20 IAMs_20 16 15 19.6
comp=Z,28µm,22.0s
AQU **L'Aquila** **106.31 315** P **Pdif** **15 22 50.2 -0.5**
SQTA **Sankt Quirin** **106.33 320** ePdiff **Pdif** **15 22 49.1 -1.7**
comp=Z,60nm,1.5s,SNR=23
SQTA ePKKP **PKKPbc** **15 38 19.9 -4.5**
comp=Z,8.4nm,1.3s
MOTA **Moosalm** **106.36 320** ePdiff **Pdif** **15 22 50.2 -0.8**
comp=Z,44nm,1.4s,SNR=12
MOTA ePKKP **PKKPbc** **15 38 22.2 -2.1**
comp=Z,5.4nm,0.8s
K05A **Summer Lake** **106.40 45** IAMs_20 IAMs_20 16 10 04.3
comp=Z,26µm,22.0s
D08A **Wollman Farm,** **106.42 40** IAMs_20 IAMs_20 16 04 29.4
comp=Z,27µm,22.0s
SUMG **Summit** **106.43 355** P **Pdif** **15 22 53.8 +2.8**
SUMG **Summit** **106.43 355** IAMs_20 IAMs_20 16 12 32.6
comp=Z,25µm,22.0s
SUMG **Summit** **106.43 355** *i* P **Pdif** **15 22 53.8 +2.8**
E08A **Dider Farm, El** **106.52 41** IAMs_20 IAMs_20 16 10 11.0
comp=Z,27µm,20.0s
HATC **Hat Creek Radi** **106.52 47** IAMs_20 IAMs_20 16 10 02.5
comp=Z,28µm,22.0s
RETA **Reutte** **106.53 320** ePdiff **Pdif** **15 22 52.3 +0.7**
comp=Z,28nm,1.5s
RETA ePKiKP **PKiKP** **15 27 04.5 +2.2**
comp=Z,22nm,1.2s
RETA ePKKP **PKKPbc** **15 38 27.5 +3.8**
comp=Z,13nm,1.4s
MURB **Monte Urbino** **106.67 316** IAMs_20 IAMs_20 16 13 04.5
comp=Z,29µm,22.0s
FETA **Feichten** **106.71 320** *i* Pdiff **Pdif** **15 22 50.7 -1.8**
comp=Z,30nm,1.5s,SNR=12
FETA e*p*PKiKP **PKiKP** **15 27 06.5 +3.8**
comp=Z,30nm,1.6s
YPT **Yellepit** **106.72 41** IAMs_20 IAMs_20 16 09 41.4
comp=Z,19µm,20.0s
G08A **Pilot Rock** **106.97 42** IAMs_20 IAMs_20 16 06 42.0
comp=Z,25µm,21.0s
I07A **Izee** **106.97 43** IAMs_20 IAMs_20 16 12 04.3
comp=Z,21µm,20.0s
E09A **Wood Farm, Sta** **107.10 41** IAMs_20 IAMs_20 16 10 37.5
comp=Z,25µm,21.0s
FUORN **Ofenpass-Fuorn** **107.15 320** IAMs_20 IAMs_20 16 18 06.4
comp=Z,27µm,21.0s
NEW **Newport** **107.15 39** IAMs_20 IAMs_20 16 08 55.6
comp=Z,35µm,21.0s
DAVA **Damuels** **107.17 320** ePdiff **Pdif** **15 22 54.5 0.0**
comp=Z,14nm,1.4s,SNR=6.9
DAVA PKiKP **PKiKP** **15 27 04.8 +1.2**
comp=Z,42nm,1.5s
DAVA PKKP **PKKPbc** **15 38 28.0 +6.1**
comp=Z,16nm,1.3s
LNOR **Lincton Mounta** **107.23 41** IAMs_20 IAMs_20 16 07 32.8
comp=Z,20µm,21.0s
AFDM **Forest Hills D** **107.37 49** IAMs_20 IAMs_20 16 06 21.4
comp=Z,25µm,22.0s
OSSC **Osservatorio P** **107.49 316** IAMs_20 IAMs_20 16 17 02.9
comp=Z,37µm,22.0s
SAO **San Andreas Ge** **107.56 51** IAMs_20 IAMs_20 16 13 17.5
comp=Z,23µm,20.0s
TSUM **Tsumeb** **107.64 250** IAMs_20 IAMs_20 16 09 26.5
comp=Z,30µm,22.0s
TSUM **Tsumeb** **107.64 250** Pdiff **Pdif** **15 22 59.8 +2.7**
comp=Z,2.3nm,0.3s,baz=58,slow=3.7,SNR=4.8
TSUM PKiKP **PKiKP** **15 27 05.8 +0.7**
comp=Z,11nm,0.8s,baz=120,slow=4.0,SNR=6.2
TSUM PP **PP** **15 27 22.7 -3.2**
comp=Z,9.4nm,0.8s,baz=98,slow=7.6,SNR=4.4
WIN **Windhoek** **107.71 247** IAMs_20 IAMs_20 16 11 15.5
comp=Z,34µm,21.0s
TUE **Stuetta** **107.79 320** IAMs_20 IAMs_20 16 16 32.5
comp=Z,29µm,22.0s
BBGB **Big Mountain B** **107.92 51** IAMs_20 IAMs_20 16 13 28.1
comp=Z,23µm,19.0s
CMB **Columbia Colle** **108.05 50** IAMs_20 IAMs_20 16 12 45.5
comp=Z,21µm,20.0s
PMPB **Monarch Peak** **108.20 52** IAMs_20 IAMs_20 16 08 30.5
comp=Z,28µm,20.0s
BTNL **Ternell** **108.21 324** *d*Pdif **Pdif** **15 23 03.1 +4.2**
BMO **Blue Mountains** **108.22 42** IAMs_20 IAMs_20 16 07 39.1
comp=Z,26µm,22.0s
MEM **Membach** **108.27 325** *d*Pdif **Pdif** **15 23 04.1 +5.0**
MEM *d*PP **PP** **15 27 27.9 -1.2**
PAHR **Pah Rah Range** **108.35 48** IAMs_20 IAMs_20 16 07 04.0
comp=Z,27µm,22.0s
BHOU **Houvegnez** **108.38 324** *d*Pdif **Pdif** **15 23 03.5 +3.8**
MSSA **Maissana** **108.41 317** IAMs_20 IAMs_20 16 17 24.3
comp=Z,33µm,22.0s
BSTI **Sart Tilman** **108.54 325** *d*Pdif **Pdif** **15 23 04.0 +3.7**
WLF **Walferdange** **108.57 324** IAMs_20 IAMs_20 16 16 57.6
comp=Z,33µm,21.0s
WLF **Walferdange** **108.57 324** *d*Pdif **Pdif** **15 23 03.0 +2.5**
BCLA **Clavier** **108.76 325** *d*Pdif **Pdif** **15 23 02.6 +1.3**
BGES **Gesves** **108.90 325** *d*Pdif **Pdif** **15 23 04.7 +2.8**
PLID **Pearl Lake** **109.00 41** IAMs_20 IAMs_20 16 08 05.9
comp=Z,29µm,21.0s
BMRD **Maredsous** **109.12 325** *d*Pdif **Pdif** **15 23 05.2 +2.3**
UCC **Uccle** **109.14 325** *d*Pdif **Pdif** **15 23 05.0 +2.1**
RYN **Ryan** **109.30 49** IAMs_20 IAMs_20 16 09 03.3
comp=Z,27µm,22.0s
DOU **Dourbes** **109.31 324** *d*Pdif **Pdif** **15 23 05.4 +1.7**
LHV **Little Huntoon** **109.42 49** IAMs_20 IAMs_20 16 14 54.6
comp=Z,23µm,20.0s
NVAR **Mina Array Bea** **109.52 49** Pdiff **Pdif** **15 23 06.0 +0.8**
comp=Z,18nm,1.0s,baz=263,slow=5.8,SNR=19
NVAR PKiKP **PKiKP** **15 27 10.1 +1.7**
comp=Z,9.8nm,0.8s,baz=262,slow=1.5,SNR=8.8
NVAR PP **PP** **15 27 41.1 +2.2**
comp=Z,8.6nm,0.9s,baz=293,slow=5.4,SNR=4.9
NVAR PKKPbc **PKKPbc** **15 38 13.3 -0.9**
comp=Z,3.4nm,0.7s,baz=138,slow=3.5,SNR=5.4
NVAR PKKPab **PKKPab** **15 38 25.7 +0.2**
comp=Z,10nm,0.9s,baz=124,slow=3.5,SNR=7.4
DRUM **Mains of Drumt** **109.61 333** IAMs_20 IAMs_20 16 15 35.2
comp=Z,75µm,23.5s
DSP **Deep Springs** **110.08 50** IAMs_20 IAMs_20 16 14 56.1
comp=Z,24µm,21.0s
LINV **Loch Inver, As** **110.08 335** e*P* PP 15 27 52.5 +11
LINV *e* 15 36 56.4
LINV IAMs_20 IAMs_20 16 16 42.8
comp=Z,50µm,20.6s
GDLE **Glaisdale, N Y** **110.16 330** e*P* PP 15 27 58.1 +16
GDLE *e* 15 36 58.6
ISA **Isabella, Lake** **110.17 52** IAMs_20 IAMs_20 16 11 25.6
comp=Z,31µm,20.0s
Q09A **Carvers** **110.24 48** IAMs_20 IAMs_20 16 13 42.2
comp=Z,23µm,20.0s
WACR **West Acre** **110.29 328** e*P* PP 15 27 57.5 +14
WACR *e* 15 36 54.9
WACR IAMs_20 IAMs_20 16 16 22.0
comp=Z,39µm,21.6s
ELMS **Elmsett, Ipswi** **110.41 327** e*P* PP 15 27 59.2 +15
ELMS *e* 15 36 55.3
ELMS IAMs_20 IAMs_20 16 18 13.4
comp=Z,42µm,19.5s
ILULI **Ilulissat** **110.43 359** IAMs_20 IAMs_20 16 14 04.4
comp=Z,26µm,22.0s
EDI **Edinburgh** **110.48 332** e*P* PP 15 27 53.1 +8.3
EDI *e* 15 36 58.6
EDI IAMs_20 IAMs_20 16 15 50.0
comp=Z,84µm,24.6s
EDMD **Edmundbyers** **110.51 331** e*P* PP 15 28 01.6 +17
EDMD *e* 15 37 01.3
EDMD IAMs_20 IAMs_20 16 15 05.3
comp=Z,56µm,25.9s
HLID **Hailey** **110.62 43** IAMs_20 IAMs_20 16 10 59.7
comp=Z,23µm,22.0s
GRAC **Grapevine Rang** **110.65 50** IAMs_20 IAMs_20 16 15 02.3
comp=Z,21µm,20.0s
BORG **Borgarnes** **110.75 346** IAMs_20 IAMs_20 16 16 48.7
comp=Z,20µm,21.0s
LEWI **Lewis, Hebride** **110.78 335** e*P* PP 15 27 57.8 +11
LEWI *e* 15 37 02.3
EKA **Eskdalemuir Ar** **110.81 332** Pdiff **Pdif** **15 23 10.1 -0.2**
comp=Z,12nm,1.2s,baz=80,slow=4.7,SNR=7.8
EKA PKiKP **PKiKP** **15 27 11.7 +1.8**
comp=Z,10nm,0.9s,baz=35,slow=2.6,SNR=9.6
EKA PKKPbc **PKKPbc** **15 38 08.9 -1.4**
comp=Z,4.7nm,0.6s,baz=241,slow=3.2,SNR=14
HPK **Haverah Park** **110.81 330** e*P* PP 15 28 03.6 +16
HPK *e* 15 37 03.6
HPK IAMs_20 IAMs_20 16 17 14.9
comp=Z,43µm,22.3s
ESK **Eskdalemuir** **110.84 332** e*P* **PP** **15 27 46.7 -0.7**
ESK *e* 15 37 03.4
ESK IAMs_20 IAMs_20 16 16 14.5
comp=Z,94µm,25.5s
ELK **Elko** **111.04 46** IAMs_20 IAMs_20 16 13 40.2
comp=Z,28µm,20.0s
DLMT **Dillon** **111.13 40** IAMs_20 IAMs_20 16 07 04.0
comp=Z,28µm,22.0s
PGBU **Glenifferbraes** **111.15 333** e*P* PP 15 27 59.5 +10
PGBU *e* 15 37 05.0
LBWR **Ladybower, Pea** **111.16 330** e*P* PP 15 28 04.3 +15
LBWR *e* 15 37 07.8
LBWR IAMs_20 IAMs_20 16 17 39.3
comp=Z,64µm,22.1s
KESW **Keswick, Cumbr** **111.20 331** e*P* PP 15 28 07.1 +17
KESW *e* 15 37 06.1
KESW IAMs_20 IAMs_20 16 15 38.3
comp=Z,61µm,24.6s
KEST **Kesra** **111.21 309** Pdiff **Pdif** **15 23 12.9 +0.3**
comp=Z,5.5nm,1.1s,baz=73,slow=1.2,SNR=10
KEST PKiKP **PKiKP** **15 27 12.5 +1.1**
comp=Z,15nm,0.7s,baz=53,slow=1.1,SNR=11
KEST PP **PP** **15 27 50.1 -1.0**
comp=Z,42nm,1.0s,baz=100,slow=6.1,SNR=6.2
KEST PKKPbc **PKKPbc** **15 38 08.5 +0.1**
comp=Z,6.2nm,0.6s,baz=234,slow=2.6,SNR=9.1
KEST PKKPab **PKKPab** **15 38 19.0 +1.2**
comp=Z,12nm,0.6s,baz=338,slow=3.1,SNR=8.2
WCT **Wildcat Mounta** **111.28 50** IAMs_20 IAMs_20 16 13 28.8
comp=Z,22µm,20.0s
CWF **Charnwood Fore** **111.30 329** e*P* **PP** **15 27 56.6 +5.9**
CWF *e* 15 37 06.5
CWF IAMs_20 IAMs_20 16 18 18.5
comp=Z,50µm,21.9s
LAWE **Loch Awe, Argy** **111.30 333** e*P* **PP** **15 27 48.4 -2.3**
LAWE *e* 15 37 08.3
LAWE IAMs_20 IAMs_20 16 16 37.2
comp=Z,84µm,21.5s
QSM **Queen of Sheba** **111.33 51** IAMs_20 IAMs_20 16 12 26.5
comp=Z,26µm,20.0s
SSB **Saint Sauveur** **111.35 320** IAMs_20 IAMs_20 16 16 50.7
comp=Z,32µm,22.0s
HMNX **Herstmonceux** **111.37 326** e*P* PP 15 28 19.4 +28
HMNX *e* 15 37 07.8
GWY **Greenwater Val** **111.42 51** IAMs_20 IAMs_20 16 10 45.8
comp=Z,23µm,21.0s
NEWG **New Galloway** **111.43 332** e*P* **PP** **15 27 54.5 +2.9**
NEWG *e* 15 37 08.6
NEWG IAMs_20 IAMs_20 16 16 18.3
comp=Z,82µm,24.1s
ELS **Elsinore Mount** **111.54 53** IAMs_20 IAMs_20 16 10 06.3
comp=Z,30µm,20.0s
STNC **Stoke** **111.57 329** e*P* PP 15 28 08.3 +16
STNC *e* 15 37 10.8
BOZ **Bozeman (W)** **111.65 40** IAMs_20 IAMs_20 16 13 29.9
comp=Z,23µm,21.0s
EGMT **Eagleton** **111.76 37** IAMs_20 IAMs_20 16 13 35.4
comp=Z,27µm,22.0s
GAL1 **Galloway** **111.80 332** e*P* **PP** **15 27 52.0 -2.3**
GAL1 *e* 15 37 10.8
GAL1 IAMs_20 IAMs_20 16 16 40.5
comp=Z,76µm,25.5s
SMAI **San Martin Ant** **111.84 175** IAMs_20 IAMs_20 16 14 41.6
comp=Z,30µm,21.0s
IOMK **Kirk Michael** **112.09 331** e*P* PP 15 28 13.4 +17
IOMK *e* 15 37 12.9
IOMK IAMs_20 IAMs_20 16 16 52.6
comp=Z,31µm,24.1s
FOEL **Foel Wylfa** **112.19 330** e*P* PP 15 28 12.1 +15
FOEL *e* 15 37 15.7
FOEL IAMs_20 IAMs_20 16 18 20.8
comp=Z,54µm,22.0s
HLM1 **Long Mynd** **112.22 329** e*P* PP 15 28 09.8 +12
HLM1 *e* 15 37 16.6
HLM1 IAMs_20 IAMs_20 16 18 11.6
comp=Z,61µm,22.2s
YHL **Hebgen Lake** **112.25 40** IAMs_20 IAMs_20 16 08 02.7
comp=Z,22µm,22.0s
STRD **Stroud** **112.25 328** e*P* PP 15 28 12.8 +15
STRD *e* 15 37 16.2
STRD IAMs_20 IAMs_20 16 19 09.5
comp=Z,43µm,20.1s
YHB **Horse Butte** **112.28 40** IAMs_20 IAMs_20 16 08 04.6
comp=Z,22µm,21.0s
SPR3 **Spring Creek 3** **112.29 47** IAMs_20 IAMs_20 16 15 39.4
comp=Z,18µm,21.0s
CLGH **Cloghs, Cushen** **112.33 333** e*P* **PP** **15 27 55.7 -2.3**
CLGH *e* 15 37 14.5
FFC **Flin Flon** **112.39 28** IAMs_20 IAMs_20 16 18 43.5
comp=Z,30µm,22.0s
HVU **Hansel Valley** **112.40 44** IAMs_20 IAMs_20 16 07 07.1
comp=Z,22µm,22.0s
CMAH **Djebel Manchou** **112.43 310** P **PKiKP** **15 27 13.7 0.0**
BGU **Big Grassy Mou** **112.54 45** IAMs_20 IAMs_20 16 13 54.9
comp=Z,26µm,20.0s
WPS **Cemaes, Angles** **112.55 331** e*P* PP 15 28 15.8 +16
WPS *e* 15 37 17.5
MONM **Monmouth** **112.55 328** e*P* PP 15 28 15.2 +15
MONM *e* 15 37 18.9
WLF1 **Llynfaes** **112.56 330** e*P* PP 15 28 16.6 +17
WLF1 *e* 15 37 18.3
MCH1 **Michaelchurch** **112.57 329** e*P* PP 15 28 13.8 +14
MCH1 *e* 15 37 18.0
MCH1 IAMs_20 IAMs_20 16 19 07.7
comp=Z,68µm,21.9s
YNM **Yellowstone No** **112.61 40** IAMs_20 IAMs_20 16 11 28.3
comp=Z,23µm,22.0s
YNR **Norris Junctio** **112.63 40** IAMs_20 IAMs_20 16 08 27.9
comp=Z,22µm,21.0s
SFJD **Kangerlussuaq** **112.65 359** IAMs_20 IAMs_20 16 15 10.9
comp=Z,20µm,22.0s
SFJD **Kangerlussuaq** **112.65 359** P **Pdif** **15 23 18.5 +0.3**
PSUT **Pine Spring** **112.80 47** IAMs_20 IAMs_20 16 17 22.9
comp=Z,22µm,20.0s
FXWY **Fox Creek** **112.85 41** IAMs_20 IAMs_20 16 09 03.8
comp=Z,24µm,22.0s
YNE **Yellowstone No** **112.94 40** IAMs_20 IAMs_20 16 08 38.9
comp=Z,29µm,22.0s
DUG **Dugway, Tooele** **112.96 45** IAMs_20 IAMs_20 16 14 04.1
comp=Z,22µm,20.0s
TPAW **Teton Pass** **112.97 42** IAMs_20 IAMs_20 16 09 05.7
comp=Z,22µm,21.0s
IDGL **Inch Island, C** **112.97 333** PKP **PKiKP** **15 27 17.1 +3.1**
CKFL **Kef-Lekhel** **113.04 310** P **PKiKP** **15 27 19.6 +4.7**
ILTH **Belurgan, Co L** **113.07 332** PKP **PKiKP** **15 27 17.9 +3.7**
SNOW **Snow King Moun** **113.11 42** IAMs_20 IAMs_20 16 09 20.6
comp=Z,27µm,22.0s
LOHW **Long Hollow** **113.14 41** IAMs_20 IAMs_20 16 09 24.5
comp=Z,26µm,22.0s
CTEI **Djebel Teioual** **113.39 310** P **PKiKP** **15 27 17.5 +1.9**
VTX **Valle De La Tr** **113.49 55** IAMs_20 IAMs_20 16 07 42.1
comp=Z,31µm,22.0s
CCUT **Cedar City** **113.50 48** IAMs_20 IAMs_20 16 12 03.6
comp=Z,32µm,22.0s
CTU **Camp Tracy** **113.53 45** IAMs_20 IAMs_20 16 14 37.0
comp=Z,24µm,20.0s
DSB **Dublin** **113.55 331** PP **PP** **15 28 09.1 +2.2**
DSB **Dublin** **113.55 331** IAMs_20 IAMs_20 16 18 17.4
comp=Z,27µm,22.0s
DSB **Dublin** **113.55 331** PKP **PKiKP** **15 27 19.9 +4.7**
EJON **La Jonquera** **113.59 318** PP **PP** **15 28 05.7 -2.0**
JSA **Saint Aubin** **113.61 326** e*P* PP 15 28 19.8 +12
JSA *e* 15 37 27.5
JSA IAMs_20 IAMs_20 16 18 32.8
comp=Z,74µm,21.2s
MAHO **Mahon** **113.63 314** PP **PP** **15 28 08.5 +0.5**
MAHO **Mahon** **113.63 314** IAMs_20 IAMs_20 16 20 04.0
comp=Z,22µm,22.0s
BLYC **Blythe** **113.83 53** IAMs_20 IAMs_20 16 09 18.8
comp=Z,27µm,22.0s
HTL **Hartland** **113.90 328** e*P* PP 15 28 23.5 +14
HTL *e* 15 37 30.5
HTL IAMs_20 IAMs_20 16 19 59.7
comp=Z,56µm,21.1s
DYA **Yadsworthy** **113.91 328** e*P* **PP** **15 28 16.4 +6.9**
DYA *e* 15 37 34.2
DYA IAMs_20 IAMs_20 16 18 49.8
comp=Z,49µm,23.4s
W13A **Hualapai Mount** **113.91 51** IAMs_20 IAMs_20 16 11 37.6
comp=Z,26µm,20.0s
SET **Setif** **114.11 310** P **PKiKP** **15 27 23.0 +6.1**
PDAR **Pinedale Array** **114.19 42** PKP **PKiKP** **15 27 17.2 +0.1**
comp=Z,8.1nm,0.7s,baz=329,slow=1.7,SNR=16
PDAR PP **PP** **15 28 13.9 +1.7**
comp=Z,11nm,1.0s,baz=304,slow=8.7,SNR=2.2
PDAR PKKPbc **PKKPbc** **15 37 58.4 -0.5**
comp=Z,4.7nm,0.5s,baz=117,slow=4.9,SNR=28
IWEX **Carrickbyrne,** **114.27 330** PKP PKPdf 15 27 18.1 +1.5
SFX **San Felipe** **114.36 55** IAMs_20 IAMs_20 16 11 25.0
comp=Z,28µm,21.0s
Q16A **Castle Valley** **114.62 46** IAMs_20 IAMs_20 16 15 01.0
comp=Z,23µm,22.0s
CEST **Esterri de Car** **114.63 318** IAMs_20 IAMs_20 16 23 43.7
comp=Z,27µm,22.0s
ETOS **Mallorca** **114.72 315** PP **PP** **15 28 15.6 -0.1**
CCA1 **Carnmenellis** **114.74 328** e*P* **PP** **15 28 09.9 -5.5**
CCA1 *e* 15 37 37.1
CCA1 IAMs_20 IAMs_20 16 20 47.3
comp=Z,50µm,20.5s
DGMT **Dagmar** **114.77 34** IAMs_20 IAMs_20 16 18 32.0
comp=Z,23µm,21.0s
IGLA **Glengowla, Co** **114.86 332** PKP PKPdf 15 27 18.3 +0.6
Y14A **Wickenburg** **114.97 52** IAMs_20 IAMs_20 16 10 08.0
comp=Z,27µm,21.0s
SRU **San Rafael Swe** **115.01 46** IAMs_20 IAMs_20 16 16 17.3
comp=Z,22µm,22.0s
HMU **Henry Mountain** **115.30 47** IAMs_20 IAMs_20 16 18 55.1
comp=Z,28µm,20.0s
PMSA **Palmer Station** **115.40 175** IAMs_20 IAMs_20 16 15 34.7
comp=Z,26µm,21.0s
PMSA **Palmer Station** **115.40 175** PP **PP** **15 28 18.2 -1.1**
comp=Z,1.1nm,1.0s,baz=212,slow=13,SNR=1.1
X16A **Lo Mia Camp, P** **116.04 51** IAMs_20 IAMs_20 16 14 46.0
comp=Z,28µm,22.0s
EIBI **Ibiza** **116.06 315** PP **PP** **15 28 19.6 -5.5**
O20A **White River Ci** **116.20 44** IAMs_20 IAMs_20 16 11 13.8
comp=Z,25µm,22.0s
VAL **Valentia** **116.22 332** PP PP 15 28 24.1 -1.4
VAL **Valentia** **116.22 332** PKP **PKPdf** **15 27 23.9 +3.6**
K22A **Casper** **116.25 41** IAMs_20 IAMs_20 16 10 32.6
comp=Z,28µm,22.0s
W18A **Petrified Fore** **117.10 50** IAMs_20 IAMs_20 16 13 46.1
comp=Z,28µm,20.0s
X18A **Snowflake** **117.15 50** IAMs_20 IAMs_20 16 11 27.5
comp=Z,27µm,21.0s
MVCO **Mesa Verde** **117.22 47** IAMs_20 IAMs_20 16 17 40.3
comp=Z,24µm,20.0s
ECHE **Chera** **117.44 316** PP PP 15 28 34.9 +0.1
MDND **Maddock** **117.67 33** IAMs_20 IAMs_20 16 19 43.5
comp=Z,26µm,20.0s
E28A **Huff** **117.80 35** IAMs_20 IAMs_20 16 17 18.0
comp=Z,21µm,21.0s
TAM **Tamanrasset** **117.81 296** IAMs_20 IAMs_20 16 18 20.2
comp=Z,17µm,21.0s
ULM **Lac du Bonnet** **118.10 29** PKP **PKPdf** **15 27 24.0 -0.1**
comp=Z,79nm,0.7s,baz=313,slow=1.7,SNR=47
ULM PP **PP** **15 28 39.9 +1.2**
comp=Z,37nm,1.1s,baz=323,slow=10,SNR=1.8
ULM PKKPbc **PKKPbc** **15 37 44.7 -0.4**
comp=Z,8.2nm,0.8s,baz=144,slow=4.1,SNR=7.0
ISCO **Idaho Springs** **118.17 43** IAMs_20 IAMs_20 16 10 45.6
comp=Z,29µm,22.0s
NRS **Narsarsuaq** **118.20 355** IAMs_20 IAMs_20 16 29 30.9
comp=Z,18µm,21.0s
CART **Cartagena** **118.33 314** PP PP 15 28 42.3 +1.3
IVI **Ivigtut** **118.34 357** IAMs_20 IAMs_20 16 22 36.6
comp=Z,21µm,21.0s
UCM **Universidad Co** **118.68 318** PKP **PKiKP** **15 27 26.8 +1.2**
SDCO **Great Sand Dun** **119.16 45** IAMs_20 IAMs_20 16 21 30.2
comp=Z,25µm,21.0s
AGMN **Agassiz Nation** **119.37 31** IAMs_20 IAMs_20 16 23 24.3
comp=Z,22µm,20.0s
ESDC **Sonseca Array** **119.46 317** PKP **PKiKP** **15 27 27.4 +0.3**
comp=Z,8.3nm,0.7s,baz=35,slow=2.1,SNR=24
ESDC PP **PP** **15 28 45.2 -3.6**
comp=Z,24nm,1.2s,baz=46,slow=8.0,SNR=5.1
ESDC PKKPbc **PKKPbc** **15 37 40.1 +0.1**
comp=Z,2.8nm,0.8s,baz=259,slow=3.4,SNR=10.0
EPLO **Experimental L** **119.52 29** IAMs_20 IAMs_20 16 24 05.1
comp=Z,25µm,22.0s
ANMO **Albuquerque** **119.65 49** IAMs_20 IAMs_20 16 13 23.5
comp=Z,23µm,22.0s
PAB **San Pablo** **119.78 317** IAMs_20 IAMs_20 16 24 03.4
comp=Z,18µm,20.0s
OGNE **Ogallala** **120.01 41** IAMs_20 IAMs_20 16 15 16.2
comp=Z,26µm,22.0s
SUSD **Miller** **120.02 36** IAMs_20 IAMs_20 16 17 09.9
comp=Z,22µm,20.0s
T25A **Trinidad** **120.21 46** IAMs_20 IAMs_20 16 14 42.9
comp=Z,19µm,22.0s
PBRG **Braganca** **120.22 321** ePdif **Pdif** **15 23 59.0 +6.4**
PBRG e*P*KPdf **PKiKP** **15 27 30.9 +2.4**
PBRG e*P*P **PP** **15 28 54.0 +0.3**
KUQ **Kuujjuuaa** **120.47 9** IAMs_20 IAMs_20 16 23 37.5
comp=Z,25µm,21.0s
K30B **Basset** **120.62 38** IAMs_20 IAMs_20 16 18 38.1
comp=Z,22µm,21.0s
F33A **5 Mile Ranch,** **120.69 33** IAMs_20 IAMs_20 16 19 22.5
comp=Z,27µm,21.0s
MVO **Moncorvo** **120.74 320** ePdif **Pdif** **15 23 59.7 +4.8**
MVO e*P*KPdf **PKiKP** **15 27 30.8 +1.1**
MVO e*P*P **PP** **15 28 59.1 +1.7**
MVO *i* x x 15 38 32.9
MVO e*S*S SS 15 45 30.6 +5.7
MVO e*x* x 15 58 58.9
MVO e*L*R LR 15 42.8
MVO *i* IAMs_20 IAMs_20 16 23 32.9
comp=Z,35µm,22.0s
PCAB **Cabril** **121.08 321** e*P*dif **Pdif** **15 23 57.4 +1.1**
PCAB e*P*KPdf **PKiKP** **15 27 30.9 +0.7**
PCAB e*P*P PP 15 29 08.4 +8.8
PGAV **Gavieira, Arco** **121.09 322** e*P*dif **Pdif** **15 24 00.8 +4.4**
PGAV e*P*KPdf **PKiKP** **15 27 31.8 +1.5**
PGAV e*P*P **PP** **15 29 02.2 +2.5**
PGAV *i* x x 15 38 43.8
PGAV e*S*S SS 15 45 42.5 +13
PGAV e*x* x 15 59 35.5
PGAV e*L*R LR 16 15 41.9
PGAV *i* IAMs_20 IAMs_20 16 23 06.2
comp=Z,19µm,24.0s
POLO **Lamas de Olo** **121.11 321** e*P*dif **Pdif** **15 24 02.5 +5.9**
POLO e*P*KPdf **PKiKP** **15 27 31.1 +0.7**
POLO e*P*P **PP** **15 29 01.9 +1.9**
PVRL **Vila Real** **121.12 321** e*P*KPdf **PKiKP** **15 27 32.0 +1.7**
MTE **Manteigas** **121.47 320** e*P*dif **Pdif** **15 24 02.5 +4.4**
MTE e*P*KPdf **PKiKP** **15 27 32.3 +1.2**
MTE e*P*P **PP** **15 29 05.3 +2.9**
MTE *i* x x 15 38 46.7
MTE e*S*S SS 15 45 42.2 +7.9
MTE e*x* x 15 59 10.7
MTE e*L*R LR 16 16 05.7
MTE *i* IAMs_20 IAMs_20 16 24 07.6
comp=Z,32µm,22.0s

PVIS Viseu 121.53 320 *e*Pdif **Pdif** 15 24 03.1 +4.7
PVIS *e*PKPdf **PKiKP** 15 27 31.4 +0.2
PVIS *e*PP **PP** 15 29 06.7 +3.9
PCBR Castelo Branco 121.72 319 *e*PKPdf **PKiKP** 15 27 32.3 +0.8
ECSD EROS Data Cent 121.80 35 IAMs_20 IAMs_20 16 18 04.0
comp=Z,23µm,22.0s
PMRV Marv??o 121.88 319 *e*Pdif **Pdif** 15 24 04.7 +4.7
PMRV *e*PKPdf **PKiKP** 15 27 33.0 +1.2
PMRV *e*PP **PP** 15 29 08.5 +3.3
PMRV *i* x x 15 38 51.0
PMRV *e*SS SS 15 45 38.1 -1.4
PMRV *ex* x 15 59 25.6
PMRV *e*LR LR 16 15 42.8
PMRV *i* IAMs_20 IAMs_20 16 23 33.2
comp=Z,18µm,20.0s
COI Coimbra 122.14 320 *e*Pdif **Pdif** 15 24 07.7 +6.7
COI *e*PKPdf **PKiKP** 15 27 34.2 +1.9
COI *e*PP **PP** 15 29 08.2 +1.4
BGNE Belgrade 122.23 38 IAMs_20 IAMs_20 16 21 31.8
comp=Z,19µm,22.0s
PCAS Casmilo, Conde 122.28 320 *e*Pdif **Pdif** 15 24 06.0 +4.3
PCAS *e*PKPdf **PKiKP** 15 27 33.2 +0.7
PCAS *e*PP **PP** 15 29 08.4 +0.7
PBAR Barrancos 122.29 317 *e*Pdif **Pdif** 15 24 07.2 +5.4
PBAR *e*PKPdf **PKiKP** 15 27 33.2 +0.6
PBAR *e*PP **PP** 15 29 11.4 +3.4
PSARD Sardoal 122.30 319 *e*Pdif **Pdif** 15 24 06.3 +4.5
PSARD *e*PKPdf **PKiKP** 15 27 33.5 +0.8
PSARD *e*PP **PP** 15 29 10.5 +2.5
PESTR Estremoz 122.31 318 *e*Pdif **Pdif** 15 24 08.4 +6.6
PESTR *e*PKPdf **PKiKP** 15 27 34.1 +1.4
PESTR *e*PP **PP** 15 29 14.9 +6.8
PMTG Montargil 122.62 319 *e*Pdif **Pdif** 15 24 07.2 +4.0
PMTG *e*PKPdf **PKiKP** 15 27 34.1 +0.8
PMTG *e*PP **PP** 15 29 13.4 +3.3
CBKS Cedar Bluff 122.62 42 IAMs_20 IAMs_20 16 20 55.4
comp=Z,26µm,22.0s
E38A The Farm, Brul 122.68 30 IAMs_20 IAMs_20 16 22 45.8
comp=Z,25µm,21.0s
EVO Evora 122.76 318 *e*Pdif **Pdif** 15 24 10.5 +6.7
EVO *e*PKPdf **PKiKP** 15 27 34.8 +1.2
EVO *e*PP **PP** 15 29 13.8 +2.7
MSTX Muleshoe 122.82 48 IAMs_20 IAMs_20 16 12 29.3
comp=Z,23µm,21.0s
PBEJ Beja 122.92 317 *e*Pdif **Pdif** 15 24 08.6 +4.0
PBEJ *e*PP **PP** 15 29 18.1 +5.9
MDT Midelt 123.03 310 PKKPbc PKKPbc 15 37 28.0 +1.7
comp=Z,5.4nm,0.8s,baz=276,slow=4.4,SNR=7.4
PVAQ Vaqueiros 123.14 317 *e*Pdif **Pdif** 15 24 09.1 +3.5
PVAQ *e*PKPdf **PKiKP** 15 27 34.7 +0.3
PVAQ *e*PP PP 15 29 26.4 +13
PVAQ *i* x x 15 39 01.8
PVAQ *e*SS SS 15 46 00.0 +4.4
PVAQ *e*LR LR 16 16 01.8
PVAQ *i* IAMs_20 IAMs_20 16 24 34.1
comp=Z,18µm,24.0s
PACT Alcochete 123.18 319 *e*PKPdf **PKiKP** 15 27 36.0 +1.6
PACT *e*PP **PP** 15 29 21.3 +7.4
AMTX Amarillo 123.21 47 IAMs_20 IAMs_20 16 17 49.4
comp=Z,20µm,20.0s
PCVE Castro Verde 123.25 317 *e*Pdif **Pdif** 15 24 12.5 +6.5
PCVE *e*PKPdf **PKiKP** 15 27 35.8 +1.3
PCVE *e*PP PP 15 29 05.4 -9.0
MESJ Messejana 123.26 317 *e*PKPdf **PKiKP** 15 27 34.6 0.0
MESJ *e*PP **PP** 15 29 15.5 +1.0
MESJ IAMs_20 IAMs_20 16 23 57.8
comp=Z,22µm,21.1s
MESJ Messejana 123.26 317 *e*PKIKP **PKiKP** 15 27 34.6 0.0
MESJ *e* 15 29 15.5
TORD Torodi Ar. Bea 123.29 286 PKP **PKiKP** 15 27 35.2 0.0
comp=Z,156nm,0.7s,baz=34,slow=3.1,SNR=47
TORD PP **PP** 15 29 15.4 -0.5
comp=Z,26nm,1.0s,baz=59,slow=6.5,SNR=2.5
TORD PKKPbc **PKKPab** 15 37 25.9 +0.9
comp=Z,50nm,0.7s,baz=300,slow=4.4,SNR=28
PBDV Barranco-do-Ve 123.37 317 *e*Pdif **Pdif** 15 24 11.0 +4.4
PBDV *e*PKPdf **PKiKP** 15 27 36.4 +1.5
PBDV *e*PP PP 15 29 28.0 +13
LIS Lisbon 123.42 319 *e*PKPdf **PKiKP** 15 27 34.9 0.0
LIS *e*PP **PP** 15 29 16.4 +0.9
LIS IAMs_20 IAMs_20 16 19 31.7
comp=E,38µm,28.0s
LIS Lisbon 123.42 319 *e*PKPdf **PKiKP** 15 27 37.7 +2.9
LIS *e*PP **PP** 15 29 18.2 +2.7
LIS Lisbon 123.42 319 *e*PKIKP **PKiKP** 15 27 34.9 0.0
LIS *e* 15 29 16.4
I37A Lemond, Waseca 123.44 33 IAMs_20 IAMs_20 16 21 16.2
comp=Z,26µm,22.0s
R32A Long Quarter, 123.51 42 IAMs_20 IAMs_20 16 21 33.9
comp=Z,18µm,21.0s
PTEO Sao Teotonio 123.75 317 *e*Pdif **Pdif** 15 24 14.4 +6.1
PTEO *e*PKPdf **PKiKP** 15 27 36.2 +0.6
PTEO *e*PP **PP** 15 29 20.6 +2.8
MORF Marmelete 123.83 317 *e*PKPdf **PKPdf** 15 27 35.6 +0.1
MORF *e*PP **PP** 15 29 19.2 +0.8
MORF IAMs_20 IAMs_20 16 24 56.6
comp=E,39µm,24.3s
MORF Marmelete 123.83 317 *e*PKPdf **PKiKP** 15 27 36.5 +0.7
MORF *e*PP **PP** 15 29 20.6 +2.2
MORF Marmelete 123.83 317 *e*PKIKP **PKPdf** 15 27 35.6 +0.1
MORF *e* 15 29 19.2
SCHQ Schefferville 123.87 9 PKP **PKiKP** 15 27 35.2 -0.1
comp=E,51nm,0.7s,baz=11,slow=2.8,SNR=37
SCHQ PP **PP** 15 29 20.7 +3.1
comp=E,16nm,1.0s,baz=359,slow=6.5,SNR=1.3
SCHQ PKKPbc **PKKPab** 15 37 21.4 -0.7
comp=E,18nm,0.9s,baz=155,slow=4.8,SNR=6.6
PFVI Vila Bisbo 124.04 317 *e*Pdif **Pdif** 15 24 15.6 +6.1
PFVI *e*PKPdf **PKiKP** 15 27 37.4 +1.3
PFVI *e*PP PP 15 29 32.6 +13
TXAR Lajitas Array 124.05 54 PKP **PKiKP** 15 27 37.0 +0.5
comp=E,23nm,0.7s,baz=245,slow=1.2,SNR=30
TXAR PP **PP** 15 29 21.3 +0.8
comp=E,5.0nm,0.9s,baz=335,slow=1.8,SNR=1.2
TXAR PKKPbc **PKKPab** 15 37 21.9 +0.2
comp=E,4.7nm,0.7s,baz=125,slow=4.4,SNR=15
ELIS Ellis County 124.25 44 IAMs_20 IAMs_20 16 21 22.8
comp=Z,22µm,21.0s
HOPE Hope Point 124.47 192 IAMs_20 IAMs_20 16 23 33.3
comp=Z,22µm,22.0s
USHA Ushuaia 124.50 170 PKP **PKiKP** 15 27 37.5 +1.0
comp=Z,85nm,0.9s,baz=218,slow=1.6,SNR=50
USHA PP **PP** 15 29 21.5 -0.3
comp=Z,8.4nm,0.7s,baz=110,slow=8.3,SNR=1.0
MG01 Puerto William 124.55 170 IAMs_20 IAMs_20 16 21 31.4
comp=Z,22µm,22.0s
SCIA State Center 124.89 35 IAMs_20 IAMs_20 16 22 41.8
comp=Z,20µm,22.0s
WMOK Wichita Mounta 125.37 45 IAMs_20 IAMs_20 16 22 49.5
comp=Z,20µm,21.0s
GO10 Punta Arenas 125.57 167 IAMs_20 IAMs_20 16 21 46.5
comp=Z,18µm,22.0s
N38A Joes South For 125.58 36 IAMs_20 IAMs_20 16 24 11.2
comp=Z,18µm,21.0s
MG04 Isla Riesco 125.73 167 IAMs_20 IAMs_20 16 26 21.8
comp=Z,18µm,21.0s
OK029 Liberty Lake 125.75 44 IAMs_20 IAMs_20 16 16 24.5
comp=Z,24µm,22.0s
ABTX Abilene, Hawle 125.76 48 IAMs_20 IAMs_20 16 23 38.2
comp=Z,21µm,20.0s
T35A Sooner Cattle 125.79 42 IAMs_20 IAMs_20 16 17 03.4
comp=Z,23µm,21.0s
JFWS Jewell Farm 125.88 33 IAMs_20 IAMs_20 16 24 46.8
comp=Z,22µm,22.0s
L40A Anamosa 125.92 34 IAMs_20 IAMs_20 16 31 01.0
comp=Z,21µm,20.0s
QUOK Quay 126.07 43 IAMs_20 IAMs_20 16 23 19.7
comp=Z,24µm,19.0s
OK052 Battle Ridge R 126.10 43 IAMs_20 IAMs_20 16 22 14.5
comp=Z,23µm,20.0s
P38A Dawn 126.13 38 IAMs_20 IAMs_20 16 25 11.7
comp=Z,24µm,20.0s
E46A Sault Ste Mari 126.25 26 IAMs_20 IAMs_20 16 22 41.0
comp=Z,27µm,21.0s
MG02 Cerro Sombrero 126.31 168 IAMs_20 IAMs_20 16 28 34.9
comp=Z,14µm,20.0s
DEOK Depew 126.39 43 IAMs_20 IAMs_20 16 22 11.2
comp=Z,24µm,22.0s
FW03 Perrin-Whitt E 126.73 47 IAMs_20 IAMs_20 16 19 56.6
comp=Z,26µm,22.0s
L42A Oliver, Polo 126.82 33 IAMs_20 IAMs_20 16 34 59.6
comp=Z,21µm,21.0s
TUL3 Leonard 126.83 43 IAMs_20 IAMs_20 16 24 10.9
comp=Z,26µm,21.0s

N41A Harden Midland 127.02 35 IAMs_20 IAMs_20 16 30 48.2
comp=Z,17µm,21.0s
FW07 Weatherford 127.10 47 IAMs_20 IAMs_20 16 20 08.4
comp=Z,25µm,21.0s
FW06 Azle 127.13 47 IAMs_20 IAMs_20 16 30 34.3
comp=Z,19µm,20.0s
Z35A Perchaven, San 127.17 46 IAMs_20 IAMs_20 16 19 08.3
comp=Z,25µm,21.0s
GLMI Grayling 127.30 27 IAMs_20 IAMs_20 16 18 41.0
comp=Z,22µm,22.0s
S39A Bolivar 127.43 39 IAMs_20 IAMs_20 16 16 38.0
comp=Z,26µm,22.0s
VLDQ Val d'Or 127.47 20 IAMs_20 IAMs_20 16 28 28.3
comp=Z,18µm,22.0s
FW14 Alvarado 127.68 47 IAMs_20 IAMs_20 16 20 19.9
comp=Z,14µm,20.0s
WHTX Lake Whitney, 127.69 48 IAMs_20 IAMs_20 16 24 56.2
comp=Z,23µm,21.0s
M44A Midewin, Midew 128.12 32 IAMs_20 IAMs_20 16 26 03.1
comp=Z,21µm,21.0s
P43A Skaggs, Pawnee 128.50 35 IAMs_20 IAMs_20 16 33 09.2
comp=Z,19µm,20.0s
CCM Cathedral Cave 128.50 38 IAMs_20 IAMs_20 16 30 29.6
comp=Z,21µm,22.0s
SLM Saint Louis 128.74 37 IAMs_20 IAMs_20 16 32 12.7
comp=Z,24µm,21.0s
237A Washetta, Mont 128.90 47 IAMs_20 IAMs_20 16 18 48.0
comp=Z,22µm,21.0s
ICQ Pointe Anglais 128.90 11 IAMs_20 IAMs_20 16 30 05.3
comp=Z,18µm,21.0s
BUKO Buck Lake 129.03 23 IAMs_20 IAMs_20 16 32 03.2
comp=Z,22µm,20.0s
FVM French Village 129.04 37 IAMs_20 IAMs_20 16 28 27.9
comp=Z,19µm,21.0s
SFIN Lafayette 129.34 33 IAMs_20 IAMs_20 16 26 50.3
comp=Z,19µm,21.0s
KVTX Kingsville 129.41 53 IAMs_20 IAMs_20 16 22 23.4
comp=Z,18µm,20.0s
LDAQ Lac Daran 129.46 15 IAMs_20 IAMs_20 16 34 00.3
comp=Z,18µm,22.0s
WHAR Wooly Hollow 129.53 41 IAMs_20 IAMs_20 16 17 44.1
comp=Z,23µm,22.0s
X40A Basin Creek Fa 129.63 42 IAMs_20 IAMs_20 16 19 22.0
comp=Z,26µm,22.0s
AAM Ann Arbor 129.68 29 IAMs_20 IAMs_20 16 22 20.0
comp=Z,25µm,21.0s
SADO Sadowa 129.69 23 IAMs_20 IAMs_20 16 25 56.7
comp=Z,24µm,21.0s
N47A Urbana 129.73 31 IAMs_20 IAMs_20 16 31 47.4
comp=Z,21µm,20.0s
PBMO Poplar Bluff 129.81 38 IAMs_20 IAMs_20 16 24 16.3
comp=Z,23µm,21.0s
P46A Rosedale 129.82 34 IAMs_20 IAMs_20 16 18 14.0
comp=Z,19µm,21.0s
NATX Nacogdoches 129.85 46 IAMs_20 IAMs_20 16 22 14.4
comp=Z,19µm,21.0s
WLAR White Oak Lake 129.90 43 IAMs_20 IAMs_20 16 27 27.2
comp=Z,21µm,20.0s
S44A Carbondale 129.94 37 IAMs_20 IAMs_20 16 27 57.5
comp=Z,21µm,22.0s
SIUC Southern Illin 129.95 37 IAMs_20 IAMs_20 16 27 56.7
comp=Z,23µm,22.0s
CGM3 Cape Girardeau 129.95 37 IAMs_20 IAMs_20 16 31 31.0
comp=Z,20µm,20.0s
TRQ Mont Tremblant 130.08 19 IAMs_20 IAMs_20 16 31 13.9
comp=Z,24µm,21.0s
SHEL Horse Pasture 130.10 249 IAMs_20 IAMs_20 16 25 55.6
comp=Z,20µm,22.0s
PARMO Parma 130.30 38 IAMs_20 IAMs_20 16 28 57.3
comp=Z,26µm,22.0s
DRLN Deer Lake 130.38 3 IAMs_20 IAMs_20 16 28 24.6
comp=Z,21µm,22.0s
O48B Fairland 130.46 31 IAMs_20 IAMs_20 16 19 20.9
comp=Z,22µm,22.0s
DELO Deloro Mine 130.49 22 IAMs_20 IAMs_20 16 25 39.8
comp=Z,20µm,22.0s
PVMO Portageville 130.49 38 IAMs_20 IAMs_20 16 24 47.4
comp=Z,24µm,21.0s
BLO Bloomington 130.51 33 IAMs_20 IAMs_20 16 30 27.2
comp=Z,25µm,22.0s
DBIC Dimbokro 130.57 279 PKhKP PKPpre 15 27 36.6
comp=Z,11nm,0.6s,baz=130,slow=1.5,SNR=11
DBIC PKP **PKPdf** 15 27 49.1 +0.2
comp=Z,107nm,0.7s,baz=121,slow=2.1,SNR=30
DBIC SKPbc **SKPab** 15 31 12.3 +3.0
comp=Z,104nm,1.0s,baz=108,slow=5.9,SNR=12
DBIC Dimbokro 130.57 279 PKP **PKPdf** 15 27 48.5 -0.5
GNAR Gosnell 130.58 39 IAMs_20 IAMs_20 16 19 00.7
comp=Z,24µm,22.0s
PEBM Pemiscott Bayo 130.58 39 IAMs_20 IAMs_20 16 25 44.8
comp=Z,22µm,22.0s
T45A Paducah 130.75 37 IAMs_20 IAMs_20 16 32 40.0
comp=Z,22µm,20.0s
LNXT Lenox 130.82 39 IAMs_20 IAMs_20 16 37 53.1
comp=Z,17µm,20.0s
D62A Allapoint, All 130.82 14 IAMs_20 IAMs_20 16 33 37.4
comp=Z,22µm,22.0s
P48A Milroy 130.90 32 IAMs_20 IAMs_20 16 26 49.5
comp=Z,22µm,22.0s
WBO Williamsburg 130.92 20 IAMs_20 IAMs_20 16 29 59.0
comp=Z,19µm,21.0s
MNTQ Montreal, Queb 131.02 18 IAMs_20 IAMs_20 16 29 55.6
comp=Z,23µm,22.0s
HALT Halls 131.04 39 IAMs_20 IAMs_20 16 27 16.8
comp=Z,20µm,22.0s
E62A Clayton Lake 131.14 14 IAMs_20 IAMs_20 16 33 18.8
comp=Z,17µm,21.0s
PECO Prince Edward 131.22 22 IAMs_20 IAMs_20 16 36 35.2
comp=Z,24µm,20.0s
BATG Bathurst New B 131.28 11 IAMs_20 IAMs_20 16 29 16.4
comp=Z,23µm,22.0s
N51A Ashland 131.36 29 IAMs_20 IAMs_20 16 21 33.4
comp=Z,26µm,22.0s
PMPST Porto Santo, M 131.40 317 *e*PKPdf **PKiKP** 15 27 52.9 +1.9
PMPST *e*PP **PP** 15 30 12.2 +3.9
PMPS Porto Santo 131.41 317 *e*PKPdf **PKiKP** 15 27 53.5 +2.5
441A DeRidder 131.46 47 IAMs_20 IAMs_20 16 22 18.8
comp=Z,24µm,22.0s
LONY Lake Ozonia 131.49 20 IAMs_20 IAMs_20 16 27 42.1
comp=Z,26µm,22.0s
ACSO Alum Creek Sta 131.59 30 IAMs_20 IAMs_20 16 26 10.6
comp=Z,21µm,21.0s
R49A Shelbyville 131.87 33 IAMs_20 IAMs_20 16 34 10.4
comp=Z,24µm,21.0s
PMAR Madeira 132.00 317 *e*PKPdf **PKiKP** 15 27 54.5 +2.0
PMAR *e*PP **PP** 15 30 15.2 +2.8
FUL Funchal 132.03 317 *e*PKPdf **PKiKP** 15 27 57.4 +5.1
FUL *e*PP **PP** 15 30 17.2 +4.9
J57A Williamstown 132.04 22 IAMs_20 IAMs_20 16 27 46.9
comp=Z,26µm,22.0s
P51A Williamsport 132.12 31 IAMs_20 IAMs_20 16 20 56.5
comp=Z,16µm,21.0s
PMOZ Porto Moniz, M 132.14 317 *e*PKPdf **PKiKP** 15 27 52.9 +0.3
PMOZ *e*PP **PP** 15 30 14.9 +1.8
PMOZ *e*SS SS 15 48 48.2 +61
PMOZ *ex* x 16 03 33.5
PMOZ *e*LR LR 16 20 48.2
PMOZ *i* IAMs_20 IAMs_20 16 31 25.2
comp=Z,11µm,22.0s
G62A West of Eustis 132.18 16 IAMs_20 IAMs_20 16 33 28.4
comp=Z,25µm,21.0s
Q51A Peebles 132.31 31 IAMs_20 IAMs_20 16 30 59.7
comp=Z,18µm,21.0s
VT1 Waterbury 132.34 18 IAMs_20 IAMs_20 16 25 34.8
comp=Z,20µm,21.0s
R50A Paris 132.34 33 IAMs_20 IAMs_20 16 23 32.6
comp=Z,20µm,20.0s
P52A Corning 132.47 30 IAMs_20 IAMs_20 16 33 13.7
comp=Z,21µm,22.0s
PKME Peaks-Kenny Pk 132.47 15 IAMs_20 IAMs_20 16 30 47.8
comp=Z,18µm,20.0s
J59A Piesco 132.53 20 PKPpre 15 27 42.6
J59A IAMs_20 IAMs_20 16 25 58.7
comp=Z,17µm,22.0s
H62A Milan 132.60 17 IAMs_20 IAMs_20 16 35 14.3
comp=Z,19µm,21.0s
LBNH Lisbon 132.68 18 IAMs_20 IAMs_20 16 25 06.4
comp=Z,21µm,21.0s
V48A Smith Brothers 132.69 37 IAMs_20 IAMs_20 16 24 52.4
comp=Z,21µm,21.0s
CLTN Cedars of Leba 132.75 36 IAMs_20 IAMs_20 16 32 34.8
comp=Z,14µm,21.0s
Q52A Bidwell 132.91 30 IAMs_20 IAMs_20 16 20 10.5
comp=Z,16µm,21.0s
G65A Princeton 132.94 13 IAMs_20 IAMs_20 16 25 03.4
comp=Z,16µm,22.0s
WVL Waterville 133.02 15 IAMs_20 IAMs_20 16 34 56.5
comp=Z,23µm,21.0s

HNH Hanover 133.05 18 IAMs_20 IAMs_20 16 27 58.3
comp=Z,23µm,22.0s
BINY Binghamton 133.09 23 PKPpre 15 27 43.3
GGN Saint George 133.18 13 IAMs_20 IAMs_20 16 34 37.7
comp=Z,19µm,22.0s
I63A Otisfield 133.24 17 IAMs_20 IAMs_20 16 33 24.4
comp=Z,24µm,22.0s
146A Union 133.26 42 IAMs_20 IAMs_20 16 27 09.1
comp=Z,19µm,22.0s
TRY Troy 133.47 20 IAMs_20 IAMs_20 16 31 45.4
comp=Z,17µm,21.0s
Z47A Carrollton 133.57 41 IAMs_20 IAMs_20 16 21 59.9
comp=Z,24µm,22.0s
SWET Sewanee 133.58 37 IAMs_20 IAMs_20 16 32 49.9
comp=Z,22µm,21.0s
BART Pico Bartolome 133.64 328 *e*PKP **PKiKP** 15 27 55.4 -0.1
BART *e*PP **PP** 15 30 25.7 +3.4
346A Big Creek Wild 133.74 44 IAMs_20 IAMs_20 16 24 44.8
comp=Z,25µm,22.0s
PGRON Lagoa das Cont 133.75 328 *e*PKP **PKiKP** 15 28 01.1 +5.4
PGRON *e*PP **PP** 15 30 27.9 +5.0
CMLA Cha da Macela 133.83 329 IAMs_20 IAMs_20 16 27 59.3
comp=Z,16µm,22.0s
CMLA Cha da Macela 133.83 329 *e*PKP **PKiKP** 15 27 58.8 +3.0
CMLA *e*PP **PP** 15 30 21.6 -1.8
PSET Sete Cidades 133.89 329 *e*PKP **PKiKP** 15 27 58.5 +2.6
PSET *e*PP **PP** 15 30 25.1 +1.3
PAGU Agualva, Azore 133.90 331 *e*PKP **PKiKP** 15 28 01.2 +5.3
PAGU *e*PP **PP** 15 30 18.6 -5.1
PSCM Serra do Cume 133.92 331 *e*PKP **PKiKP** 15 28 00.8 +4.9
PSCM *e*PP **PP** 15 30 21.6 -2.3
N58A Sunbury 133.95 24 IAMs_20 IAMs_20 16 32 32.5
comp=Z,22µm,21.0s
W50A Signal Mountai 133.96 36 IAMs_20 IAMs_20 16 33 19.0
comp=Z,21µm,21.0s
GO07 Milladeo Hill, 133.99 160 IAMs_20 IAMs_20 16 20 07.3
comp=Z,24µm,22.0s
ADH Angra Heroismo 134.01 331 *e*PKP **PKiKP** 15 27 57.5 +1.5
ADH *e*PP PP 15 30 34.8 +10
L61B Northampton 134.05 19 IAMs_20 IAMs_20 16 24 48.8
comp=Z,23µm,22.0s
PSMN Pico do Norte, 134.16 327 *e*PKP **PKiKP** 15 27 57.2 +0.7
PSMA Santa Maria 134.20 328 *e*PKP **PKiKP** 15 27 58.0 +1.5
PSMA *e*PP **PP** 15 30 28.4 +2.7
CPCT Cooper Cave 134.25 36 IAMs_20 IAMs_20 16 37 03.6
comp=Z,18µm,21.0s
LL07 Hotel Espejo d 134.30 160 IAMs_20 IAMs_20 16 21 01.6
comp=Z,18µm,22.0s
PMAN Manadas 134.44 331 *e*PKP **PKiKP** 15 27 57.4 +0.4
LL02 Futaleuf 134.52 162 IAMs_20 IAMs_20 16 25 02.3
comp=Z,21µm,22.0s
PID Ribeirinha 134.61 331 *e*PKP **PKiKP** 15 27 58.5 +1.1
PID *e*PP **PP** 15 30 30.9 +2.6
BCX Boston College 134.64 18 IAMs_20 IAMs_20 16 28 41.3
comp=Z,22µm,21.0s
X51A Calhoun 134.67 37 IAMs_20 IAMs_20 16 26 19.7
comp=Z,17µm,20.0s
PCED Cedros 134.74 332 *e*PKP **PKiKP** 15 28 03.9 +6.3
PCED *e*PP **PP** 15 30 32.7 +3.7
CALA Caldeira 134.77 332 *e*PKP **PKiKP** 15 28 01.2 +3.5
CALA *e*PKP **PKPdf** 15 28 02.0 +5.7
CALA *e*PP **PP** 15 30 25.7 -3.7
UCCT U. Connecticut 134.78 19 IAMs_20 IAMs_20 16 31 01.3
comp=Z,25µm,22.0s
LL01 San Ignacio de 135.06 161 IAMs_20 IAMs_20 16 29 06.8
comp=Z,16µm,20.0s
SDMD Soldier's Deli 135.09 25 IAMs_20 IAMs_20 16 33 25.9
comp=Z,16µm,20.0s
L64A Middleborough 135.10 18 IAMs_20 IAMs_20 16 26 10.6
comp=Z,22µm,21.0s
BLA Blacksburg 135.19 30 IAMs_20 IAMs_20 16 39 26.8
comp=Z,22µm,20.0s
BG3 Lake Jocassee 135.49 35 IAMs_20 IAMs_20 16 35 29.3
comp=Z,25µm,22.0s
M65A Busby, Falmout 135.50 18 IAMs_20 IAMs_20 16 26 11.2
comp=Z,24µm,22.0s
M65A Busby, Falmout 135.50 18 P **PKPdf** 15 27 57.8 +0.3
baz=336
BRAL Brewton 135.51 42 IAMs_20 IAMs_20 16 29 16.6
comp=Z,19µm,22.0s
LL05 Los Muermos 135.56 159 IAMs_20 IAMs_20 16 29 16.9
comp=Z,16µm,20.0s
Y52A Lilburn 135.63 37 IAMs_20 IAMs_20 16 34 30.1
comp=Z,22µm,20.0s
P61A Hammonton 135.72 23 IAMs_20 IAMs_20 16 28 38.2
comp=Z,19µm,22.0s
KMSC Kings Mountain 136.28 33 IAMs_20 IAMs_20 16 27 22.8
comp=Z,23µm,21.0s
352A Blakely 136.71 40 IAMs_20 IAMs_20 16 26 24.7
comp=Z,22µm,22.0s
T59A Double "B" Far 136.78 28 PKPpre 15 27 51.4
JSC Jenkinsville 136.95 34 IAMs_20 IAMs_20 16 38 29.9
comp=Z,21µm,20.0s
LR05 Currie 137.12 160 IAMs_20 IAMs_20 16 30 05.1
comp=Z,23µm,22.0s
PLCA Paso Flores 137.15 161 PKhKP PKPpre 15 27 49.8
comp=Z,13nm,1.2s,baz=189,slow=2.5,SNR=8.1
PLCA PKP **PKPdf** 15 28 00.9 +0.3
comp=Z,46nm,1.0s,baz=200,slow=4.0,SNR=18
PLCA SKPbc **SKiKP** 15 31 33.7 -1.7
comp=Z,27nm,0.8s,baz=226,slow=3.1,SNR=7.2
PLCA Paso Flores 137.15 161 PKiKP **PKPdf** 15 28 01.0 +0.3
PLCA Paso Flores 137.15 161 PKP **PKPdf** 15 27 59.4 -1.3
LR03 Panguipulli 137.52 159 IAMs_20 IAMs_20 16 28 05.9
comp=Z,21µm,22.0s
TIGA Tifton 137.58 39 IAMs_20 IAMs_20 16 30 37.0
comp=Z,23µm,21.0s
553A Crawfordville 137.87 41 IAMs_20 IAMs_20 16 23 35.9
comp=Z,21µm,21.0s
CCIG Comitan 138.76 64 P **PKPdf** 15 28 02.4 -2.0
257A Skidaway Islan 138.77 36 IAMs_20 IAMs_20 16 23 45.1
comp=Z,22µm,21.0s
656A Willston 139.65 40 IAMs_20 IAMs_20 16 37 51.9
comp=Z,20µm,21.0s
BI05 Punta Hualpn 139.71 156 IAMs_20 IAMs_20 16 29 42.9
comp=Z,13µm,21.0s
ASCN Ascension 139.92 258 IAMs_20 IAMs_20 16 23 40.4
comp=Z,19µm,22.0s
H10N1 ASCENSION HYDR 140.05 258 PKhKP PKPpre 15 27 59.0
baz=28,slow=3.1,SNR=6.2
H10N2 ASCENSION HYDR 140.06 258 PKhKP PKPpre 15 27 59.8
baz=28,slow=3.1,SNR=4.8
H10N3 ASCENSION HYDR 140.07 258 PKhKP PKPpre 15 27 59.9
baz=28,slow=3.1,SNR=7.1
BI02 San Fabin de 140.54 158 IAMs_20 IAMs_20 16 35 16.8
comp=Z,15µm,21.0s
PETF Flores 140.56 62 IAMs_20 IAMs_20 16 25 16.7
comp=Z,17µm,21.0s
PETF Flores 140.56 62 P **PKPdf** 15 28 03.6 -3.8
NUBE Las Nubes 141.69 67 P **PKPdf** 15 28 05.9 -3.9
TRQA Tornquist 141.85 170 IAMs_20 IAMs_20 16 26 35.3
comp=Z,19µm,22.0s
SARH Santa Rosa de 142.33 65 P **PKPdf** 15 28 06.7 -4.1
BO02 Sierra Bellavi 142.37 157 IAMs_20 IAMs_20 16 36 47.4
comp=Z,15µm,21.0s
PAVA Las Pavas 142.53 67 P **PKPdf** 15 28 08.5 -2.7
BO01 Tunca 142.60 156 IAMs_20 IAMs_20 16 37 22.5
comp=Z,15µm,20.0s
COEG Centro de Oper 142.61 67 P **PKPdf** 15 28 07.3 -4.0
060A Indiantown 142.63 41 IAMs_20 IAMs_20 16 41 38.0
comp=Z,19µm,22.0s
SCLA Alcaldia de Sa 142.72 66 P **PKPdf** 15 28 08.1 -3.3
TECO Alcaldia de Te 142.73 67 P **PKPdf** 15 28 08.3 -3.1
PQSS Presa 15 de Se 142.90 67 P **PKPdf** 15 28 08.3 -3.4
ALJI Alcalda de J 142.99 67 P **PKPdf** 15 28 10.6 -1.3
MT01 Popeta 142.99 156 IAMs_20 IAMs_20 16 32 08.9
comp=Z,16µm,22.0s
061Z Ochoppi 143.04 43 IAMs_20 IAMs_20 16 36 45.2
comp=Z,20µm,21.0s
BO04 La Punta 143.14 157 IAMs_20 IAMs_20 16 37 10.8
comp=Z,13µm,19.0s
PACA Pacayal 143.17 67 P **PKPdf** 15 28 11.0 -1.4
MT09 Talagante 143.18 156 IAMs_20 IAMs_20 16 37 38.7
comp=Z,14µm,20.0s
LMEL Las Melosas 143.43 157 IAMs_20 IAMs_20 16 36 58.3
comp=Z,14µm,21.0s
VA01 Torpederas 143.55 154 IAMs_20 IAMs_20 16 35 38.8
comp=Z,13µm,22.0s
MT02 Curacav 143.56 155 IAMs_20 IAMs_20 16 30 57.0
comp=Z,19µm,22.0s
MT05 Renca 143.61 156 IAMs_20 IAMs_20 16 37 17.3
comp=Z,18µm,21.0s
MT16 CCHEN 143.67 156 IAMs_20 IAMs_20 16 35 15.7
comp=Z,13µm,21.0s
CNCH Conchagua 143.69 67 P PKPbc 15 28 10.8 0.0
PEL Peldehue 143.85 156 IAMs_20 IAMs_20 16 37 04.7

comp=Z,12µm,20.0s
MT08 **Bocatoma Ro** 143.85 157 IAMs_20 IAMs_20 16 37 17.6
comp=Z,15µm,21.0s
TGUH **Tegucigalpa,Un** 143.93 65 P PKPbc 15 28 11.8 +0.3
POTN **Potosi Cosigui** 144.08 67 P **PKPab** **15 28 11.4 +0.1**
VA06 **Catapilco** 144.09 154 IAMs_20 IAMs_20 16 31 57.1
comp=Z,19µm,22.0s
CHOHN **Orocuina** 144.24 66 P PKPbc 15 28 12.8 +0.4
YUSH **Yuscaran** 144.36 65 P **PKPdf** **15 28 14.2 -0.1**
CAMR **Camarioca** 144.48 47 IAMs_20 IAMs_20 16 39 43.7
comp=Z,29µm,21.0s
CRIN **San Cristobal** 144.59 67 P **PKPdf** **15 28 14.2 -0.5**
PKGN **Cerro Pekin** 144.67 67 P **PKPdf** **15 28 15.5 +0.7**
OCON **Estacion meteo** 144.80 65 P **PKPdf** **15 28 15.5 +0.4**
HERN **Volcan Telica** 144.83 67 P **PKPdf** **15 28 14.9 -0.3**
POLN **Al Sur del Vol** 144.83 67 P **PKPdf** **15 28 16.1 +1.0**
PLRN **Geotermica Pol** 144.89 67 P PKPbc 15 28 14.7 +0.3
CNGA **Al SSO del Vol** 144.98 67 P **PKPdf** **15 28 16.3 +0.9**
CNGN **Cerro Negro** 144.99 67 P **PKPdf** **15 28 15.9 +0.5**
RCVN **Varillal2** 145.08 65 P **PKPdf** **15 28 17.3 +1.6**
MOMN **Momotombo** 145.16 67 P **PKPdf** **15 28 16.1 +0.4**
COPN **Copaltepe** 145.19 68 P **PKPdf** **15 28 17.1 +1.4**
MOM2 **El Cardon** 145.20 67 P **PKPdf** **15 28 15.9 +0.2**
APQ3 **Volcan Apoyequ** 145.36 67 P **PKPab** **15 28 17.1 +1.0**
CO02 **Combarbal** 145.38 154 IAMs_20 IAMs_20 16 27 41.4
comp=Z,14µm,21.0s
APQ2 **Apoyeque** 145.43 68 P **PKPab** **15 28 17.1 +0.8**
TISN **Laguna Tiscapa** 145.50 68 P **PKPab** **15 28 16.7 +0.1**
UNAN **Cigeo UNAN** 145.51 68 P **PKPab** **15 28 17.1 +0.5**
CRUN **El Crucero** 145.52 68 P **PKPbc** **15 28 16.5 0.0**
CO06 **Fray Jorge** 145.54 152 IAMs_20 IAMs_20 16 33 30.7
comp=Z,19µm,22.0s
MATN **Matagalpa** 145.55 66 P **PKPab** **15 28 17.5 +0.6**
WILN **Americas 2** 145.57 68 P **PKPab** **15 28 18.3 +1.5**
NANN **Nandasmo** 145.70 68 P **PKiKP** **15 28 19.2 -1.5**
BBSR **BB Station** 145.78 16 IAMs_20 IAMs_20 16 38 39.3
comp=Z,13µm,22.0s
BOAB **BOACO BROADBAN** 145.95 67 PKP **PKPbc** **15 28 17.9 +0.2**
BOAB **BOACO BROADBAN** 145.95 67 P **PKPab** **15 28 18.5 +0.3**
ZON **Zonda** 146.06 157 IAMs_20 IAMs_20 16 34 11.9
comp=Z,16µm,21.0s
MORN **Al O del Volca** 146.26 68 P **PKPab** **15 28 19.6 +0.1**
SIUN **Universidad Ur** 146.31 64 P **PKPab** **15 28 20.2 +0.6**
GO04 **Tololo Observa** 146.35 153 IAMs_20 IAMs_20 16 38 00.0
comp=Z,11µm,20.0s
CO05 **La Serena** 146.36 152 IAMs_20 IAMs_20 16 34 31.4
comp=Z,15µm,22.0s
SACV **Santiago Islan** 146.37 298 IAMs_20 IAMs_20 16 39 22.5
comp=Z,15µm,22.0s
CARN **Rivas** 146.49 69 P **PKiKP** **15 28 22.0 -0.3**
ACON **Acoyapa** 146.57 67 P **PKiKP** **15 28 22.0 -0.4**
CO01 **Juntas del Tor** 146.84 154 IAMs_20 IAMs_20 16 46 15.8
comp=Z,14µm,22.0s
INDI **Punta indio, G** 146.90 71 P **PKPab** **15 28 22.4 +0.5**
CMARA **Lajas Hojancha** 146.93 71 P **PKPab** **15 28 22.6 +0.5**
ESPN **Las Esperanzas** 147.29 66 IAMs_20 IAMs_20 16 23 54.6
comp=Z,12µm,22.0s
ESPN **Las Esperanzas** 147.29 66 P **PKPab** **15 28 23.7 +0.2**
JTS **Las Juntas de** 147.30 70 eP **PKPbc** **15 28 21.1 -0.6**
JTS **Las Juntas de** 147.30 70 P **PKPbc** **15 28 22.4 +0.7**
LCO **Las Campanas** 147.38 152 IAMs_20 IAMs_20 16 28 21.3
comp=Z,19µm,22.0s
BILN **Bilwi Airport** 147.43 63 P **PKiKP** **15 28 24.7 +0.5**
SOCE **Pocosol** 147.58 70 P **PKiKP** **15 28 23.9 -0.7**
COVE **Coope Vega, Sa** 147.68 69 P **PKPbc** **15 28 23.0 +0.3**
BLUN **Bluefields** 147.84 66 P **PKiKP** **15 28 24.1 -1.0**
AC04 **Llanos de Chal** 147.87 151 IAMs_20 IAMs_20 16 30 52.4
comp=Z,15µm,21.0s
TCS1 **Tacares** 147.98 70 P **PKPab** **15 28 26.7 +0.4**
HDC **Heredia** 148.17 70 eP **PKPdf** **15 28 19.1 -1.8**
GO03 **Copiapo** 148.79 151 IAMs_20 IAMs_20 16 40 37.7
comp=Z,13µm,21.0s
PLTB **Pedras Altas** 148.86 180 eP **PKPdf** **15 28 19.4 -2.0**
PLTB **Pedras Altas** 148.86 180 PKP **PKPdf** **15 28 22.5 +1.1**
DRK0 **Durika** 149.21 71 eP **PKiKP** **15 28 27.9 -0.3**
AC01 **Pan de Azucar** 149.80 149 IAMs_20 IAMs_20 16 40 44.7
comp=Z,15µm,22.0s
BRU2 **Volcan** 149.86 72 eP **PKiKP** **15 28 30.5 +1.0**
BRU2 eS 15 28 53.1
LESP3 **La Esperanza,** 149.87 72 eP **PKiKP** **15 28 31.5 +2.3**
AC02 **Maricunga** 149.95 152 IAMs_20 IAMs_20 16 41 19.4
comp=Z,13µm,22.0s
CHIV **Chivirico** 150.00 46 IAMs_20 IAMs_20 16 44 18.8
comp=Z,22µm,22.0s
BQSF3 **Alto Boquete,** 150.12 72 eP **PKPab** **15 28 33.5 -1.6**
DVD **David** 150.19 72 eP **PKPab** **15 28 34.1 -0.8**
CPSB **Cacapava Do Su** 150.22 181 eP **PKPdf** **15 28 21.3 -2.3**
CPSB **Cacapava Do Su** 150.22 181 PKP **PKPdf** **15 28 25.0 +1.4**
MTDJ **Mount Denham** 150.24 50 *i* P **PKPbc** **15 28 27.5 -1.7**
MCJ **Malvern** 150.30 51 *e* **PKiKP** **15 28 30.1 0.0**
NMDO **Nuevo Mundo** 150.62 43 IAMs_20 IAMs_20 16 29 29.1
comp=Z,17µm,22.0s
STH **Stony Hill** 150.88 50 *i* P **PKiKP** **15 28 31.4 +0.2**
GTBY **Guantanamo Bay** 150.96 45 IAMs_20 IAMs_20 16 35 13.1
comp=Z,15µm,22.0s
GO02 **Mina Guanaco** 151.13 149 IAMs_20 IAMs_20 16 33 58.7
comp=Z,15µm,21.0s
PB14 **IPOC Station P** 151.14 148 PKP **PKPbc** **15 28 29.0 -2.5**
PB14 **IPOC Station P** 151.14 148 IAMs_20 IAMs_20 16 28 06.2
comp=Z,11µm,20.0s
CNLB **Canela** 151.16 185 eP **PKPdf** **15 28 23.4 -1.8**
CNLB **Canela** 151.16 185 PKP **PKPdf** **15 28 27.5 +2.3**
GMAL **Guarumal, Vera** 151.53 73 eP **PKPbc** **15 28 30.0 -2.3**
GMAL eS **pPKPbc** **15 28 47.8 +2.8**
PB10 **IPOC Station P** 151.94 146 IAMs_20 IAMs_20 16 28 48.6
comp=Z,19µm,22.0s
CACAO **El Cacao, Vera** 152.00 73 eP **PKPbc** **15 28 32.9 -0.5**
GRTK **Grand Turk** 152.42 37 IAMs_20 IAMs_20 16 31 15.8
comp=Z,17µm,22.0s
AZU **Azuero** 152.44 72 eP **PKPdf** **15 28 29.0 +1.6**
AZU eS **pPKPbc** **15 28 47.4 +0.3**
ACHO3 **Achotines, Los** 152.64 73 eP **PKPdf** **15 28 24.7 -3.0**
ACHO3 **Achotines, Los** 152.64 73 eP **PKPdf** **15 28 30.2 +2.5**
ACHO3 eS **pPKPbc** **15 28 47.5 0.0**
PB05 **IPOC Station P** 152.66 146 IAMs_20 IAMs_20 16 32 49.7
comp=Z,17µm,22.0s
MAJ01 **Sao Joao Batis** 152.81 190 eP **PKPdf** **15 28 25.2 -2.4**
MAJ01 **Sao Joao Batis** 152.81 190 PKP **PKPdf** **15 28 29.0 +1.4**
ITAB **Concordia** 153.32 183 IAMs_20 IAMs_20 16 37 20.4
comp=Z,16µm,22.0s
ITAB **Concordia** 153.32 183 eP **PKPdf** **15 28 25.8 -2.6**
ITAB **Concordia** 153.32 183 PKP **PKPdf** **15 28 29.6 +1.3**
AF01 **San Pedro de A** 153.67 149 IAMs_20 IAMs_20 16 39 31.2
comp=Z,12µm,22.0s
PB09 **IPOC Station P** 154.04 146 IAMs_20 IAMs_20 16 37 15.1
comp=Z,18µm,22.0s
CPUP **Villa Florida** 154.06 173 PKP **PKPdf** **15 28 29.9 +0.4**
comp=Z,9.4nm,0.8s,baz=319,slow=0.7,SNR=35
CPUP PKPbc **pPKPdf** **15 28 38.4 +0.8**
comp=Z,54nm,1.0s,baz=84,slow=1.1,SNR=46
CPUP PP **PP** **15 32 25.1 +1.0**
comp=Z,8.8nm,0.9s,baz=269,slow=5.1,SNR=2.7
CPUP **Villa Florida** 154.06 173 PKP **PKPdf** **15 28 30.0 +0.6**
PB01 **IPOC Station P** 154.49 144 IAMs_20 IAMs_20 16 29 33.1
comp=Z,16µm,22.0s
NNA **Nana** 154.50 118 PKP **PKPdf** **15 28 30.6 +0.1**
comp=Z,27nm,1.0s,baz=336,slow=3.0,SNR=6.6
NNA PKPbc **PKiKP** **15 28 40.3 +1.4**
comp=Z,71nm,0.8s,baz=271,slow=0.7,SNR=14
NNA PP **PP** **15 32 31.1 +2.6**
comp=Z,5.1nm,0.4s,baz=236,slow=4.7,SNR=1.7
ATAH **Atahualpa** 154.67 106 PKP **PKPdf** **15 28 31.7 +0.5**
comp=Z,34nm,1.1s,baz=219,slow=2.1,SNR=18
ATAH PKPbc **pPKPdf** **15 28 41.9 -2.1**
comp=Z,116nm,0.9s,baz=186,slow=3.7,SNR=21
ATAH PKPab **PKPab** **15 28 55.7 +1.1**
comp=Z,141nm,0.7s,baz=199,slow=9.6,SNR=10
ATAH PP **PP** **15 32 31.6 +1.2**
comp=Z,7.9nm,0.8s,baz=222,slow=18,SNR=1.3
TA02 **Huaiquique** 154.69 142 IAMs_20 IAMs_20 16 44 56.8
comp=Z,16µm,21.0s
HMBC **Humberstone** 154.84 142 IAMs_20 IAMs_20 16 42 07.6
comp=Z,10µm,20.0s
TIJ01 **Guaruva-PR** 154.84 190 PKP **PKPdf** **15 28 32.1 +1.4**
PB11 **IPOC Station P** 155.37 142 IAMs_20 IAMs_20 16 37 34.7
comp=Z,18µm,22.0s
PB08 **IPOC Station P** 155.38 144 PKP **PKPdf** **15 28 35.3 +3.4**
OTAV **Otavalo** 155.42 88 eP **PKPdf** **15 28 29.1 -3.2**
OTAV **Otavalo** 155.42 88 PKP **PKPdf** **15 28 33.0 +0.7**
PET01 **Itanhaem-SP** 155.46 195 eP **PKPdf** **15 28 28.4 -3.0**
PET01 **Itanhaem-SP** 155.46 195 PKP **PKPdf** **15 28 33.5 +2.1**
SJPY **San Joaquin** 155.51 175 eP **PKPdf** **15 28 28.9 -2.6**
CAM01 **Campos-RJ** 155.65 208 PKP **PKPdf** **15 28 33.7 +2.0**
MAN01 **Angra dos Reis** 155.73 203 PKP **PKPdf** **15 28 34.6 +2.7**
SLP01 **Ubatuba-SP** 155.74 200 eP **PKPdf** **15 28 29.4 -2.6**
DUB01 **Friburgo-RJ** 155.76 207 PKP **PKPdf** **15 28 32.5 +0.6**
PTGB **Pitanga** 155.82 184 eP **PKPdf** **15 28 29.6 -2.4**
PTGB **Pitanga** 155.82 184 PKP **PKPdf** **15 28 32.7 +0.6**
PARB **Paraibuna** 155.88 199 PKP **PKPdf** **15 28 32.7 +0.5**
AP01 **Chacalluta** 155.95 139 IAMs_20 IAMs_20 16 30 35.5
comp=Z,12µm,20.0s
VAS01 **Vassouras-RJ** 156.05 204 eP **PKPdf** **15 28 29.6 -2.7**
VAS01 **Vassouras-RJ** 156.05 204 PKP **PKPdf** **15 28 34.8 +2.5**
SIM2 **UHE Simplicio** 156.10 206 PKP **PKPdf** **15 28 33.8 +1.5**
SPB **Sao Paulo** 156.17 195 IAMs_20 IAMs_20 16 36 33.5
comp=Z,15µm,22.0s
SPB **Sao Paulo** 156.17 195 eP **PKPdf** **15 28 30.2 -2.2**
PB16 **IPOC Station P** 156.52 140 IAMs_20 IAMs_20 16 44 08.4
comp=Z,13µm,21.0s
VAO **Valinhos** 156.61 196 IAMs_20 IAMs_20 16 36 37.3
comp=Z,17µm,22.0s
VAO **Valinhos** 156.61 196 eP **PKPdf** **15 28 30.8 -2.3**
VABB **Valinhos** 156.61 196 PKP **PKPdf** **15 28 35.7 +2.6**
FRTB **Fartura** 156.87 190 eP **PKPdf** **15 28 29.1 -4.3**
FRTB **Fartura** 156.87 190 PKP **PKPdf** **15 28 34.6 +1.2**
RIB01 **Linhares ES** 157.07 214 eP **PKPdf** **15 28 31.1 -2.6**
RIB01 **Linhares ES** 157.07 214 PKP **PKPdf** **15 28 36.6 +3.0**
PB18 **Visviri** 157.08 139 IAMs_20 IAMs_20 16 31 50.4
comp=Z,18µm,22.0s
AGPR **Aguadilla, PR** 157.13 34 IAMs_20 IAMs_20 16 54 49.4
comp=Z,10µm,21.0s
PRSN **Puerto Rico Se** 157.31 34 IAMs_20 IAMs_20 16 44 02.2
comp=Z,14µm,21.0s
AOPR **Arecibo Observ** 157.43 33 IAMs_20 IAMs_20 16 50 04.1
comp=Z,14µm,22.0s
BSCB **Bom Sucesso** 157.73 203 eP **PKPdf** **15 28 32.9 -1.7**
BSCB **Bom Sucesso** 157.73 203 PKP **PKPdf** **15 28 36.5 +2.0**
OBIP **Obispado Ponce** 157.76 34 IAMs_20 IAMs_20 16 53 37.8
comp=Z,13µm,22.0s
SJG **San Juan** 157.95 33 IAMs_20 IAMs_20 16 56 27.9
comp=Z,17µm,22.0s
SJG **San Juan** 157.95 33 eP **PKPdf** **15 28 37.2 +2.5**
SJMB **Sao Joao De Ma** 158.00 214 eP **PKPdf** **15 28 30.5 -4.3**
SJMB **Sao Joao De Ma** 158.00 214 PKP **PKPdf** **15 28 35.2 +0.4**
HUMP **Col San Antoni** 158.08 32 IAMs_20 IAMs_20 16 44 34.4
comp=Z,14µm,21.0s
PDPR **Patillas Dam,** 158.09 32 IAMs_20 IAMs_20 16 53 12.7
comp=Z,13µm,22.0s
GUA01 **Guaratinga, BA** 158.81 220 eP **PKPdf** **15 28 32.6 -3.2**
GUA01 **Guaratinga, BA** 158.81 220 PKP **PKPdf** **15 28 37.6 +1.7**
PCMB **Pacaembu** 158.83 187 eP **PKPdf** **15 28 33.5 -2.3**
PCMB **Pacaembu** 158.83 187 PKP **PKPdf** **15 28 36.2 +0.5**
BB19B **Bebedouro** 158.86 194 eP **PKPdf** **15 28 33.0 -2.9**
BB19B **Bebedouro** 158.86 194 PKP **PKPdf** **15 28 35.7 -0.2**
LPAZ **La Paz** 158.91 139 PKP **PKPdf** **15 28 37.2 +0.5**
comp=Z,28nm,0.9s,baz=16,slow=1.7,SNR=74
LPAZ PP **PP** **15 32 53.6 +0.8**
comp=Z,17nm,1.1s,baz=148,slow=7.3,SNR=2.2
LPAZ **La Paz** 158.91 139 eP **PKPdf** **15 28 33.5 -3.2**
LPAZ **La Paz** 158.91 139 PKP **PKPdf** **15 28 37.9 +1.2**
ROSC **El Rosal** 158.92 75 PKP **PKPdf** **15 28 37.1 +0.5**
comp=Z,121nm,1.0s,baz=76,slow=5.6,SNR=13
ROSC PKPab **PKPab** **15 29 13.6 +0.8**
comp=Z,172nm,0.7s,baz=355,slow=12,SNR=5.6
ROSC PP **PP** **15 32 55.2 +1.5**
comp=Z,27nm,0.7s,baz=239,slow=9.7,SNR=1.6
CAR01 **Carai MG** 159.40 216 PKP **PKPdf** **15 28 38.0 +1.4**
CMC01 **Camacan, BA** 159.50 223 eP **PKPdf** **15 28 34.2 -2.4**
CMC01 **Camacan, BA** 159.50 223 PKP **PKPdf** **15 28 37.7 +1.1**
DIAM **Diamantina, MG** 159.63 209 eP **PKPdf** **15 28 34.6 -2.4**
DIAM **Diamantina, MG** 159.63 209 PKP **PKPdf** **15 28 36.8 -0.2**
CZSB **Cruzeiro do Su** 159.90 112 IAMs_20 IAMs_20 16 33 42.1
comp=Z,16µm,22.0s
CZSB **Cruzeiro do Su** 159.90 112 eP **PKPdf** **15 28 33.1 -4.1**
CZSB **Cruzeiro do Su** 159.90 112 PKP **PKPdf** **15 28 37.4 +0.2**
BDQN **Bodoquena, MS** 159.94 172 eP **PKPdf** **15 28 33.0 -4.1**
AQDB **Aquidauana** 160.03 175 PKP **PKPdf** **15 28 38.0 +0.8**
SEUS **St. Eustatius** 160.04 26 IAMs_20 IAMs_20 16 42 59.5
comp=Z,18µm,22.0s
RPRD **Ribas do Rio P** 160.10 180 eP **PKPdf** **15 28 33.2 -4.1**
NBAN **Anadia - AL** 160.24 242 eP **PKPdf** **15 28 34.9 -2.7**
NBAN **Anadia - AL** 160.24 242 PKP **PKPdf** **15 28 38.1 +0.5**
SKI **Saint Kitts** 160.28 26 eP **PKPdf** **15 28 39.7 +2.2**
ANWB **Willy Bob** 160.38 23 eP **PKPdf** **15 28 39.9 +2.3**
NBPV **Pedro Velho** 160.53 252 PKP **PKPdf** **15 28 39.2 +1.3**
ITRB **Iturama** 160.56 190 eP **PKPdf** **15 28 34.7 -3.2**
ITRB **Iturama** 160.56 190 PKP **PKPdf** **15 28 38.0 +0.2**
PMNB **Patos De Minas** 160.60 202 eP **PKPdf** **15 28 33.9 -4.1**
PMNB **Patos De Minas** 160.60 202 PKP **PKPdf** **15 28 38.9 +0.9**
JQT1 **Jaguitai-MG** 160.87 209 PKP **PKPdf** **15 28 38.3 0.0**
NBLA **Lagarto - SE** 160.89 236 PKP **PKPdf** **15 28 38.7 +0.4**
SDV **Santo Domingo** 160.90 61 PKP **PKPab** **15 28 39.0 +0.4**
comp=Z,121nm,0.9s,baz=211,slow=0.7,SNR=28
SDV PKPab **PKPab** **15 29 23.0 +1.8**
comp=Z,76nm,0.6s,baz=253,slow=10,SNR=4.0
SDV PP **PP** **15 33 05.2 +1.4**
comp=Z,14nm,0.6s,baz=305,slow=7.2,SNR=1.9
SDV **Santo Domingo** 160.90 61 eP **PKPdf** **15 28 35.3 -3.3**
SDV **Santo Domingo** 160.90 61 PKP **PKPdf** **15 28 38.3 -0.2**
ANBD **Bethesda, Anti** 160.95 24 eP **PKPdf** **15 28 41.1 +2.9**
MBFL **Flemmings, Mon** 161.03 25 eP **PKPdf** **15 28 39.2 +0.8**
MLYT **Lee's Yard** 161.06 25 eP **PKPdf** **15 28 38.9 +0.5**
RCBR **Riachuelo** 161.28 253 PKP **PKPdf** **15 28 39.0 +0.2**
comp=Z,27nm,0.8s,baz=89,slow=2.9,SNR=18
RCBR PKPab **PKPab** **15 29 24.2 +1.5**
comp=Z,14nm,0.9s,baz=87,slow=13,SNR=6.3
RCBR PP **PP** **15 33 04.1 -2.0**
comp=Z,3.7nm,0.9s,baz=325,slow=18,SNR=1.8
RCBR **Riachuelo** 161.28 253 PKIKP **PKPdf** **15 28 39.0 +0.2**
RCBR **Riachuelo** 161.28 253 eP **PKPdf** **15 28 35.7 -3.1**
RCBR **Riachuelo** 161.28 253 PKP **PKPdf** **15 28 39.5 +0.7**
SFA1 **Serra Facao** 161.57 199 PKP **PKPdf** **15 28 39.6 +0.7**
DHSZ **Broadband at M** 161.64 25 eP **PKPdf** **15 28 40.8 +1.9**
ITU3 **Corumbazu** 161.68 195 PKP **PKPdf** **15 28 39.4 +0.3**
IPMB **Ipameri, GO** 161.72 197 eP **PKPdf** **15 28 37.5 -1.6**
IPMB **Ipameri, GO** 161.72 197 PKP **PKPdf** **15 28 39.4 +0.3**
C2SB **Chapadao do Su** 161.78 183 eP **PKPdf** **15 28 36.5 -2.6**
C2SB **Chapadao do Su** 161.78 183 PKP **PKPdf** **15 28 40.3 +1.2**
ATGZ **Broadband at L** 161.82 25 eP **PKPdf** **15 28 43.6 +4.5**
DSDZ **La Diserade, G** 161.89 23 eP **PKPdf** **15 28 40.0 +0.8**
MMLZ **Guadeloupe Bro** 161.89 25 eP **PKPdf** **15 28 40.6 +1.3**
BAT2 **UHE Batalha** 162.06 200 PKP **PKPdf** **15 28 40.4 +0.9**
TBG **Guadaloupe-3** 162.07 25 eP **PKPdf** **15 28 40.1 +0.7**
BBSD **Serra de San D** 162.11 159 eP **PKPdf** **15 28 36.7 -2.8**
NBPA **Parau_RN** 162.46 252 PKP **PKPdf** **15 28 40.7 +0.8**
DWS **Wesley** 162.46 24 eP **PKPdf** **15 28 41.8 +1.9**
DSLB **Salisbury** 162.53 25 eP **PKPdf** **15 28 41.4 +1.5**
MDN **Morne-Daniel** 162.65 25 eP **PKPdf** **15 28 43.4 +3.3**
DLDT **Laudat, Domini** 162.66 25 eP **PKPdf** **15 28 43.0 +2.9**
DRTD **Roseau, Domini** 162.68 25 eP **PKPdf** **15 28 44.2 +4.1**
JANB **Januaria** 162.69 213 eP **PKPdf** **15 28 37.3 -2.9**
JANB **Januaria** 162.69 213 PKP **PKPdf** **15 28 40.7 +0.5**
SIV **San Ignacio** 163.01 156 PKP **PKPdf** **15 28 40.8 +0.3**
comp=Z,53nm,0.8s,baz=191,slow=1.3,SNR=127
SIV PKPab **PKPab** **15 29 31.2 +1.3**
comp=Z,30nm,0.6s,baz=214,slow=3.5,SNR=9.2
SIV PP **PP** **15 33 13.3 -0.1**
comp=Z,5.1nm,0.8s,baz=289,slow=4.0,SNR=1.2
SVN **Savane Anatole** 163.18 25 eP **PKPdf** **15 28 42.1 +1.5**
ILAM **Ilet Lapin Mar** 163.36 24 eP **PKPdf** **15 28 43.8 +3.1**
NBMA **Muriti-CE** 163.44 245 PKP **PKPdf** **15 28 41.7 +0.8**
BIM **Bigot** 163.51 25 eP **PKPdf** **15 28 43.7 +2.8**
TBTG **Tabatinga, AM** 163.57 103 eP **PKPdf** **15 28 38.1 -2.9**
TBTG **Tabatinga, AM** 163.57 103 PKP **PKPdf** **15 28 41.2 +0.1**
BDFB **Brasilia** 163.84 201 PKP **PKPdf** **15 28 41.4 +0.1**
comp=Z,32nm,0.8s,baz=186,slow=2.2,SNR=21
BDFB PKPab **PKPab** **15 29 34.1 +0.5**
comp=Z,63nm,1.0s,baz=225,slow=1.3,SNR=6.2
BDFB PP **PP** **15 33 16.5 -1.2**
comp=Z,25nm,1.0s,baz=105,slow=8.6,SNR=2.3
BDFB **Brasilia** 163.84 201 PKP **PKPdf** **15 28 41.8 +0.5**
NBCL **Cascavel-CE** 163.98 256 eP **PKPdf** **15 28 38.4 -3.0**
NBCL **Cascavel-CE** 163.98 256 PKP **PKPdf** **15 28 42.0 +0.6**
SLBI **Saint Lucia, B** 163.99 26 eP **PKPdf** **15 28 42.1 +0.8**
PTLB **Pontes e Lacer** 164.23 161 eP **PKPdf** **15 28 38.8 -2.7**
PTLB **Pontes e Lacer** 164.23 161 PKP **PKPdf** **15 28 42.1 +0.6**
SALV **Santo Antonio** 164.55 173 eP **PKPdf** **15 28 39.0 -2.8**
SALV **Santo Antonio** 164.55 173 PKP **PKPdf** **15 28 42.4 +0.6**
SVT **Saint Vincent** 164.62 28 eP **PKPdf** **15 28 45.5 +3.6**
SVOC **Richmond Hill,** 164.64 28 eP **PKPdf** **15 28 43.0 +1.1**
ARAG **Araguaiana, MT** 164.71 188 eP **PKPdf** **15 28 39.2 -2.8**
NBPB **Pedra_Branca-C** 164.86 250 eP **PKPdf** **15 28 39.2 -3.0**
NBPB **Pedra_Branca-C** 164.86 250 PKP **PKPdf** **15 28 42.8 +0.6**
PCRV **Puerto La Cruz** 164.96 45 PKP **PKPdf** **15 28 42.5 +0.2**
comp=Z,32nm,1.1s,baz=13,slow=8.5,SNR=5.5
PCRV PKPab **PKPab** **15 29 38.9 +0.3**
comp=Z,20nm,0.8s,baz=144,slow=9.8,SNR=1.9
PCRV PP **PP** **15 33 25.8 +1.3**
comp=Z,16nm,1.2s,baz=122,slow=8.9,SNR=1.1
PCRV **Puerto La Cruz** 164.96 45 eP **PKPdf** **15 28 43.5 +1.2**
GCMP **Grenada, Carri** 165.12 30 eP **PKPdf** **15 28 44.0 +1.6**
SDBA **SAO DESIDERIO** 165.16 217 eP **PKPdf** **15 28 39.7 -2.8**
SDBA **SAO DESIDERIO** 165.16 217 PKP **PKPdf** **15 28 42.4 -0.1**
GRSS **Sisters** 165.18 31 eP **PKPdf** **15 28 45.9 +3.5**
GRW **Mount Saint Ca** 165.27 31 eP **PKPdf** **15 28 45.3 +2.7**
GRGR **Grenville** 165.30 31 eP **PKPdf** **15 28 43.6 +1.1**
LABB **Lıbrea** 165.33 127 PKP **PKPdf** **15 28 43.1 +0.5**
BBGH **Gun Hill** 165.36 22 eP **PKPdf** **15 28 48.0 +5.5**
MAS01 **UHE Manso** 165.54 172 PKP **PKPdf** **15 28 43.7 +1.0**
SBBR **Sobral** 166.01 256 PKP **PKPdf** **15 28 43.3 +0.2**
VILB **Vilhena** 166.10 153 eP **PKPdf** **15 28 40.6 -2.6**
VILB **Vilhena** 166.10 153 PKP **PKPdf** **15 28 43.8 +0.6**
CAN3 **Cana Brava** 166.27 204 PKP **PKPdf** **15 28 43.1 -0.2**
SSV2 **Sao Salvador** 166.47 204 PKP **PKPdf** **15 28 43.8 +0.3**
TPR **Prospect** 166.55 30 eP **PKPdf** **15 28 49.9 +6.3**
TRN **Trinidad (W)** 166.67 34 eP **PKPdf** **15 28 45.5 +1.9**
SGC2 **Sao Gabriel da** 166.90 89 PKP **PKPdf** **15 28 43.6 -0.2**
TPP **Pointe-a-Pierr** 166.91 35 eP **PKPdf** **15 28 47.6 +3.8**
NBPS **Pedro II - PI** 166.98 252 PKP **PKPdf** **15 28 43.5 -0.5**
SNDB **Serra Nova Dou** 168.28 193 eP **PKPdf** **15 28 42.1 -2.7**
SNDB **Serra Nova Dou** 168.28 193 PKP **PKPdf** **15 28 44.8 0.0**
PDRB **Porto dos Gac** 168.56 166 eP **PKPdf** **15 28 42.1 -2.9**
PDRB **Porto dos Gac** 168.56 166 PKP **PKPdf** **15 28 45.0 0.0**
TEFE **Tefe** 168.84 106 eP **PKPdf** **15 28 42.1 -3.1**
TEFE **Tefe** 168.84 106 PKP **PKPdf** **15 28 45.1 -0.1**
LAJE **UHE Lajeado** 169.04 210 PKP **PKPdf** **15 28 45.0 -0.3**
CLDB **Colider** 169.48 170 eP **PKPdf** **15 28 40.5 -5.1**
CLDB **Colider** 169.48 170 PKP **PKPdf** **15 28 45.6 0.0**
SMTB **Santa Maria do** 169.56 217 eP **PKPdf** **15 28 42.5 -3.1**
SMTB **Santa Maria do** 169.56 217 PKP **PKPdf** **15 28 45.6 -0.1**
PAL2 **UHE Estreito -** 170.96 226 PKP **PKPdf** **15 28 46.1 -0.4**
PAL01 **Palmeiras do T** 171.20 226 PKP **PKPdf** **15 28 46.5 0.0**
MACA **Manacapuru-AM** 172.69 112 eP **PKPdf** **15 28 45.4 -1.8**
MACA **Manacapuru-AM** 172.69 112 PKP **PKPdf** **15 28 47.2 0.0**
BOAV **Boa Vista** 172.78 67 eP **PKPdf** **15 28 46.8 -0.5**
BOAV **Boa Vista** 172.78 67 PKP **PKPdf** **15 28 47.3 0.0**
PRPB **Parauapebas** 173.02 215 eP **PKPdf** **15 28 44.3 -3.1**
PRPB **Parauapebas** 173.02 215 PKP **PKPdf** **15 28 47.4 0.0**
NPGB **Novo Progresso** 173.29 167 eP **PKPdf** **15 28 42.7 -4.8**
NPGB **Novo Progresso** 173.29 167 PKP **PKPdf** **15 28 47.4 0.0**
TMAB **Tom-Au,PA,Br** 173.91 252 eP **PKPdf** **15 28 43.8 -3.9**
TMAB **Tom-Au,PA,Br** 173.91 252 PKP **PKPdf** **15 28 47.8 +0.1**
MDP **Montagnes des** 174.34 347 PKP **PKPdf** **15 28 47.9 +0.1**
comp=Z,93nm,1.1s,baz=15,slow=0.6,SNR=20
MDP PKPab **PKPab** **15 30 19.6 -0.3**
comp=Z,149nm,0.9s,baz=353,slow=4.4,SNR=11
MDP PP **PP** **15 34 12.8 +2.4**
comp=Z,44nm,1.2s,baz=2.7,slow=5.5,SNR=7.5
ITTB **Itaituba** 175.70 155 eP **PKPdf** **15 28 47.8 -0.5**
ITTB **Itaituba** 175.70 155 PKP **PKPdf** **15 28 48.3 0.0**
BMO2 **UHE Belo Monte** 176.56 213 PKP **PKPdf** **15 28 48.2 -0.3**
BMO1 **UHE Belo Monte** 176.58 218 PKP **PKPdf** **15 28 47.8 -0.6**
ATM1 **UHE Belo Monte** 176.74 210 PKP **PKPdf** **15 28 48.0 -0.5**
CN01 **Coaracy Nunes** 177.03 298 PKP **PKPdf** **15 28 48.1 -0.4**
MAL2 **Monte Alegre,** 178.42 169 PKP **PKPdf** **15 28 48.4 -0.3**

IDC 07 15:23:21.3±1.9, 0.°94N×127.°03E, h0km, mb3.7/4, mbtmp3.8/4, Error ellipse: s-maj=173.3km s-min=22.8km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.96**	**161**	P		P		15 28 16.4	-0.4
	2.5nm,0.6s,baz=340,slow=11,SNR=9.1 2.5nm,0.6s								
ASAR	**Alice Springs**	**25.36**	**165**	P		P		15 28 50.6	+0.3
	2.2nm,0.8s,baz=345,slow=10,SNR=8.9 2.2nm,0.8s								
MKAR	**Makanchi Array**	**60.01**	**326**	P		P		15 33 30.3	+0.4
	0.5nm,0.6s,baz=116,slow=7.4,SNR=4.2 0.5nm,0.6s								
KURBB	**Kurchatov Arra**	**64.24**	**328**	P		P		15 33 57.7	-0.5
	0.4nm,0.6s,baz=134,slow=5.5,SNR=2.1 0.4nm,0.6s								

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*IDC **07** 15:24:30.0±1.2, 0.°64N×126.°20E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=69.5km s-min=22.1km az=71.0*
*NEIC **07** 15:24:38.0±1.3, 0.°4N±0.°1×126.°37E±0.°06, h35km±2km, mb4.6/9, Error ellipse: s-maj=17.2km s-min=9.6km az=354.0*

ISC 07 15:24:36.8±0.8, 0.°50N±0.°10×126.°32E±0.°07, h35km, n19, σ1s63/20, mb4.0/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.08**	**75**			**Pn**	**Pn**	**15 24 56.6**	**+1.2**
TNTI						Sn	**Sn**	**15 25 10.8**	**+1.6**
TOLI2	**Tolitoli**	**5.57**	**276**			**Pn**	**Pn**	**15 25 59.4**	**+2.2**
MYLDM	**Lahad Datu**	**9.09**	**301**			Pn	**Pn**	**15 26 48.3**	**+2.7**
KNRA	**Kununurra**	**16.25**	**172**			P	**Pn**	**15 28 23.9**	**+1.5**
KNRA						IAmb	IAmb	15 28 53.4	
	comp=Z,77nm,1.4s								
**BOXO

LUWI	**Luwuk**	**3.92**	**246**	Pn	**Pn**	**15 29 10.8**	**-0.6**
TOLI2	**Tolitoli**	**5.58**	**275**	Pn	**Pn**	**15 29 34.5**	**+0.3**
FAKI	**Fak Fak**	**6.87**	**121**	Pn	**Pn**	**15 29 52.6**	**+0.6**
MYLDM	**Lahad Datu**	**9.05**	**300**	Pn	**Pn**	**15 30 22.8**	**+0.7**
SBUM	**Sibu**	**14.23**	**278**	P	**P**	**15 31 40.5**	**+0.7**
KSM	**Kuching**	**16.05**	**273**	P	**P**	**15 32 01.0**	**+1.0**
KNRA	**Kununurra**	**16.34**	**172**	Pn	**Pn**	**15 32 00.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.59**	**182**	P	**P**	**15 32 27.8**	**-0.2**
WB0	**Warramunga Arr**	**21.72**	**159**	P	**P**	**15 33 00.7**	**-1.4**
WB0				IAmb	IAmb	15 33 05.2	
	comp=Z,23nm,1.1s						
WRAB	**Tennant Creek**	**21.86**	**159**	P	**P**	**15 33 01.4**	**-2.1**
WRAB				IAmb	IAmb	15 33 27.9	
	comp=Z,20nm,1.3s						
WRA	**Warramunga Arr**	**21.86**	**159**	P	**P**	**15 33 01.2**	**-2.4**
	comp=Z,9.8nm,0.8s,baz=336,slow=12,SNR=9.3						
	comp=Z,9.8nm,0.8s						
WR8	**Warramunga Arr**	**21.93**	**159**	P	**P**	**15 33 01.8**	**-2.6**
WR8				IAmb	IAmb	15 33 07.0	
	comp=Z,17nm,0.8s						
AS31	**Alice Springs**	**25.21**	**164**	P	**P**	**15 33 36.0**	**-0.4**
ASAR	**Alice Springs**	**25.21**	**164**	P	**P**	**15 33 36.2**	**-0.2**
ASAR	**Alice Springs**	**25.21**	**164**	P	**P**	**15 33 35.6**	**-0.8**
	comp=Z,8.2nm,0.8s,baz=348,slow=12,SNR=16						
	comp=Z,8.2nm,0.8s						
FORT	**Forrest**	**31.24**	**177**	P	**P**	**15 34 31.1**	**+0.9**
FORT				IAmb	IAmb	15 35 06.6	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**35.38**	**157**	P	**P**	**15 35 04.5**	**-1.7**
	comp=Z,2.2nm,0.8s,baz=318,slow=13,SNR=3.0						
	comp=Z,2.2nm,0.8s						
MJAR	**Matsushiro Arr**	**37.43**	**16**	P	**P**	**15 35 23.0**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=155,slow=9.6,SNR=4.1						
	comp=Z,0.7nm,0.5s						
ARMA	**Armidale**	**39.12**	**144**	P	**P**	**15 35 39.2**	**+1.0**
ARMA				IAmb	IAmb	15 35 45.0	
	comp=Z,26nm,1.3s						
TAU	**Tasmania Unive**	**47.24**	**159**	P	**P**	**15 36 44.1**	**+0.7**
SONM	**Songino Array**	**50.14**	**343**	P	**P**	**15 37 05.3**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=151,slow=5.9,SNR=2.1						
	comp=Z,0.6nm,0.6s						
PETK	**Petropavlovsk-**	**58.47**	**22**	P	**P**	**15 38 06.1**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=188,slow=4.0,SNR=8.7						
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**59.91**	**326**	P	**P**	**15 38 15.2**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=123,slow=8.2,SNR=8.7						
	comp=Z,1.5nm,0.6s						
MAKZ	**Makanchi**	**60.10**	**326**	P	**P**	**15 38 16.5**	**-1.0**
MAKZ				IAmb	IAmb	15 38 20.3	
	comp=Z,4.4nm,0.8s						
KURBB	**Kurchatov Arra**	**64.17**	**328**	P	**P**	**15 38 43.4**	**-1.3**
	comp=Z,2.4nm,0.2s,baz=128,slow=6.1,SNR=6.6						
	comp=Z,2.4nm,0.2s						
MSEY	**Mahe Island**	**70.97**	**265**	P	**P**	**15 39 28.8**	**+0.3**
NRIK	**Noril'sk**	**73.37**	**347**	P	**P**	**15 39 41.7**	**0.0**
NRIK				IAmb	IAmb	15 39 42.0	
	comp=Z,5.0nm,0.8s						
NRIK	**Noril'sk**	**73.37**	**347**	P	**P**	**15 39 40.9**	**-0.8**
	comp=Z,3.4nm,0.7s,baz=110,slow=8.6,SNR=3.6						
	comp=Z,3.4nm,0.7s						
AB31	**Akbulak array**	**74.33**	**321**	P	**P**	**15 39 46.5**	**-1.3**
AB31				IAmb	IAmb	15 40 07.5	
	comp=Z,12nm,1.3s						
ABKAR	**Akbulak array**	**74.33**	**321**	P	**P**	**15 39 47.1**	**-0.6**
AKTO	**Aktyubinsk**	**75.87**	**322**	P	**P**	**15 39 55.8**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=88,slow=3.5,SNR=4.0						
	comp=Z,2.7nm,0.6s						
M19K	**Big River Lodg**	**84.42**	**28**	P	**P**	**15 40 44.8**	**+2.3**
D20K	**Etiviluk River**	**84.76**	**21**	P	**P**	**15 40 46.1**	**+2.0**

*IDC **07** 15:29:11.0±0.5,0°.57N×126°.26E, h0km, mb4.4/25, mbtmp4.4/28, ML4.2/3, Error ellipse: s-maj=20.0km s-min=11.8km az=86.0*
*DJA **07** 15:29:14.2±0.2, 1°.N±2°×12°.6E±°, h10km, M4.3/2, MLv4.8/14, MLv4.3/2*
*NEIC **07** 15:29:16.2±1.9, 0°.52N±0°.07×126°.35E±0°.04, h35km±2km, mb4.9/28, Error ellipse: s-maj=12.1km s-min=5.2km az=164.0*

ISC 07 15:29:16.4±0.4, 0°.51N±0°.05×126°.26E±0°.05, h35km, n93, σ1§41/97, mb4.7/41, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.14**	**76**		**Pn**	**15 29 35.4**	**-0.4**
TNTI	**Ternate**	**1.14**	**76**	P	**Pn**	**15 29 36.2**	**+0.4**
TNTI				S	**Sn**	**15 29 54.2**	**+4.0**
KMSI	**Cibinong**	**2.28**	**272**	P	**Pn**	**15 29 49.8**	**-1.8**
KMSI				S	**Sn**	**15 30 18.8**	**+0.3**
SANI	**Sanana**	**2.55**	**186**	P	**Pn**	**15 29 53.8**	**-1.5**
SGSI	**Sangihe**	**3.24**	**347**	P	**Pn**	**15 30 03.9**	**-1.0**
NLAI	**Namlea**	**3.81**	**167**	P	**Pn**	**15 30 14.7**	**+2.0**
LUWI	**Luwuk**	**3.81**	**246**		**Pn**	**15 30 14.8**	**+2.1**
LUWI	**Luwuk**	**3.81**	**246**	P	**Pn**	**15 30 12.4**	**-0.3**
MRSI	**Marisa**	**4.32**	**270**	P	**Pn**	**15 30 18.3**	**-1.4**
AAI	**Ambon**	**4.59**	**155**	P	**Pn**	**15 30 25.1**	**+1.7**
MSAI	**Masohi**	**4.66**	**145**	P	**Pn**	**15 30 27.1**	**+2.7**
APSI	**Ampana**	**4.82**	**253**	P	**Pn**	**15 30 26.4**	**-0.2**
TOLI2	**Tolitoli**	**5.51**	**276**		**Pn**	**15 30 36.4**	**+0.4**
FAKI	**Fak Fak**	**6.88**	**120**	Pn	**Pn**	**15 30 54.1**	**-0.8**
KAPI	**Kappang**	**8.51**	**230**	Pn	**Pn**	**15 31 17.6**	**+0.5**
KAPI	**Kappang**	**8.51**	**230**	Pn	**Pn**	**15 31 17.1**	**0.0**
	1.9nm,0.3s,baz=32,slow=1.2,SNR=2.1						
KAPI				Sn	**Sn**	**15 32 53.0**	**+1.0**
	2.8nm,0.3s,baz=251,slow=17,SNR=1.6						
	8.4nm,0.4s						
MYLDM	**Lahad Datu**	**9.04**	**301**		**Pn**	**15 31 26.4**	**+2.0**
BATI	**Baumata**	**10.95**	**194**	Pn	**Pn**	**15 31 51.1**	**+0.4**
	1.9nm,0.3s,baz=290,slow=22,SNR=7.5						
	18nm,0.8s						
KKM	**Kota Kinabalu**	**11.44**	**299**	Pn	**Pn**	**15 31 58.8**	**+1.3**
MTN	**Manton Dam**	**14.11**	**160**	Pn	**Pn**	**15 32 33.7**	**-0.3**
SBUM	**Sibu**	**14.17**	**278**		**Pn**	**15 32 35.3**	**+0.6**
KSM	**Kuching**	**15.98**	**274**		**Pn**	**15 32 59.2**	**+0.4**
KNRA	**Kununurra**	**16.27**	**171**		**Pn**	**15 33 01.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**18.50**	**182**	P	**P**	**15 33 28.6**	**-1.1**
FITZ	**Fitzroy Crossi**	**18.50**	**182**	P	**P**	**15 33 29.1**	**-0.6**
	0.6nm,0.3s,baz=14,slow=7.1,SNR=7.2						
	7.1nm,0.9s						
WB0	**Warramunga Arr**	**21.67**	**159**		**P**	**15 34 02.9**	**-1.3**
WRAB	**Tennant Creek**	**21.80**	**159**	P	**P**	**15 34 04.5**	**-1.1**
WRA	**Warramunga Arr**	**21.81**	**159**	P	**P**	**15 34 04.5**	**-1.1**
	13nm,0.7s,baz=340,slow=11,SNR=25						
	13nm,0.7s						
WR8	**Warramunga Arr**	**21.88**	**159**		**P**	**15 34 05.5**	**-0.9**
WR8				IAmb	IAmb	15 34 24.7	
	comp=Z,45nm,0.8s						
MBWA	**Marble Bar**	**22.46**	**196**	P	**P**	**15 34 11.9**	**-0.7**
GUMO	**Guam**	**22.55**	**54**	P	**P**	**15 34 13.1**	**-0.6**
	comp=Z,22nm,0.7s,baz=181,slow=14,SNR=4.7						
	comp=Z,22nm,0.7s						
YULB	**Yu-li**	**23.26**	**348**	P	**P**	**15 34 19.4**	**-1.5**
YULB				IAmb	IAmb	15 34 23.9	
	comp=Z,53nm,1.6s						
AS31	**Alice Springs**	**25.15**	**163**		**P**	**15 34 37.7**	**-0.8**
ASAR	**Alice Springs**	**25.15**	**163**	P	**P**	**15 34 38.2**	**-0.3**
ASAR	**Alice Springs**	**25.15**	**163**	P	**P**	**15 34 39.0**	**+0.5**
	comp=Z,7.3nm,0.6s,baz=346,slow=13,SNR=22						
ASAR				ScP	**ScP**	**15 41 52.3**	**+3.5**
	comp=Z,0.5nm,0.6s,baz=316,slow=2.9,SNR=1.0						
	comp=Z,7.3nm,0.6s						
UBPT	**Khong Chiam**	**25.24**	**307**	P	**P**	**15 34 40.0**	**+0.6**
UBPT				IAmb	IAmb	15 34 51.2	
	comp=Z,45nm,1.6s						
JOW	**Kunigami**	**26.25**	**4**	P	**P**	**15 34 49.2**	**+0.8**
	comp=Z,18nm,0.7s,baz=220,slow=7.0,SNR=3.6						
	comp=Z,18nm,0.7s						
FORT	**Forrest**	**31.16**	**177**		**P**	**15 35 30.7**	**-1.4**
FORT				IAmb	IAmb	15 35 47.2	
	comp=Z,23nm,0.8s						
NJ2	**Nanjing**	**32.15**	**348**	*e*P	**P**	**15 35 42.2**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**32.22**	**305**	P	**P**	**15 35 41.5**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=117,slow=14,SNR=2.3						
CMAR				PcP	**PcP**	**15 38 29.8**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=179,slow=1.8,SNR=6.2						
	comp=Z,0.7nm,0.7s						
JNU	**Nakatsue**	**32.73**	**7**	P	**P**	**15 35 46.2**	**+0.3**
	comp=Z,13nm,1.0s,baz=224,slow=7.0,SNR=3.8						
	comp=Z,13nm,1.0s						
PZH	**PanZhiHua**	**35.00**	**320**	P	**P**	**15 36 08.2**	**+2.3**
STKA	**Stephens Creek**	**35.33**	**157**	P	**P**	**15 36 07.1**	**-1.4**
STKA	**Stephens Creek**	**35.33**	**157**	P	**P**	**15 36 08.2**	**-0.2**
	comp=Z,5.2nm,0.7s,baz=336,slow=9.0,SNR=7.1						
	comp=Z,5.2nm,0.7s						
JGF	**Kuroka**	**36.41**	**15**	P	**P**	**15 36 16.2**	**-1.5**
KSRS	**Korea Array**	**36.80**	**2**	P	**P**	**15 36 20.4**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=176,slow=9.7,SNR=5.6						
	comp=Z,1.1nm,0.7s						
MJAR	**Matsushiro Arr**	**37.53**	**16**	P	**P**	**15 36 25.8**	**-1.4**
MJAR	**Matsushiro Arr**	**37.53**	**16**	P	**P**	**15 36 25.6**	**-1.6**
	comp=Z,4.4nm,0.7s,baz=187,slow=9.2,SNR=9.7						
	comp=Z,2.4nm,0.7s						
LZH	**Lanzhou**	**41.07**	**332**	*e*P	P	15 37 02.6	+5.6
LZH				pP	pwP	15 37 09.5	0.0
LZH				sP	sP	15 37 14.9	+4.4
LZH				pmax	pmax		
	comp=Z,12nm,1.2s						
HHC	**Hu-ho-hao-te**	**42.32**	**343**	*e*P	**P**	**15 37 10.0**	**+3.0**
USRK	**Ussuriysk Ar.**	**43.80**	**6**	P	**P**	**15 37 18.9**	**0.0**
	comp=Z,2.8nm,0.6s,baz=194,slow=7.3,SNR=5.8						
	comp=Z,2.8nm,0.6s						
MDJ	**Mudanjiang**	**44.02**	**3**	P	**P**	**15 37 20.5**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GTA	**Gaotai**	**45.64**	**331**	*e*P	**P**	**15 37 37.2**	**+3.4**
GTA				pP	pP	15 37 45.3	+1.8
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
JKA	**Kamikawa-asahi**	**45.80**	**16**	P	**P**	**15 37 34.0**	**-0.7**
JKA				IAmb	IAmb	15 37 59.0	
	comp=Z,14nm,1.0s						
SONM	**Songino Array**	**50.20**	**343**	P	**P**	**15 38 07.4**	**-1.5**
	comp=Z,0.8nm,0.4s,baz=163,slow=7.8,SNR=3.6						
	comp=Z,0.8nm,0.4s						
WMQ	**Urumqi**	**55.11**	**327**	*e*P	**P**	**15 38 46.9**	**+1.6**
PETK	**Petropavlovsk-**	**58.58**	**22**	P	**P**	**15 39 09.3**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=185,slow=5.8,SNR=7.2						
	comp=Z,1.8nm,0.5s						
MKAR	**Makanchi Array**	**59.95**	**327**	P	**P**	**15 39 17.4**	**-1.8**
	comp=Z,3.1nm,0.5s,baz=122,slow=7.7,SNR=13						
	comp=Z,3.1nm,0.5s						
TUWZ	**Tuamarina**	**59.97**	**140**	P	**P**	**15 39 18.0**	**-1.4**
MAKZ	**Makanchi**	**60.13**	**326**	P	**P**	**15 39 18.9**	**-1.6**
MAKZ				IAmb	IAmb	15 39 34.8	
	comp=Z,7.1nm,0.7s						
MAKZ	**Makanchi**	**60.13**	**326**	P	**P**	**15 39 18.6**	**-1.9**
RTZ	**Ruatahuna**	**60.62**	**136**	P	**P**	**15 39 22.6**	**-1.5**
YAK	**Yakutsk**	**61.42**	**2**		**P**	**15 39 27.6**	**-1.3**
YAK	**Yakutsk**	**61.42**	**2**	P	**P**	**15 39 27.6**	**-1.3**
ZALV	**Zalesovo Beam**	**63.25**	**334**	P	**P**	**15 39 39.2**	**-2.1**
	comp=Z,1.9nm,0.6s,baz=129,slow=4.0,SNR=5.3						
	comp=Z,1.9nm,0.6s						
KURBB	**Kurchatov Arra**	**64.20**	**328**	P	**P**	**15 39 46.0**	**-1.6**
	comp=Z,4.3nm,0.7s,baz=126,slow=6.2,SNR=7.3						
	comp=Z,4.3nm,0.7s						
KURK	**Kurchatov**	**64.21**	**329**		**P**	**15 39 46.5**	**-1.2**
KURK				IAmb	IAmb	15 40 06.7	
	comp=Z,16nm,0.9s						
KURK	**Kurchatov**	**64.21**	**329**	P	**P**	**15 39 45.7**	**-2.0**
KURK				pP	**pP**	**15 39 56.0**	**-1.7**
DRV	**Dumont d'Urvil**	**67.73**	**174**	P	**P**	**15 40 09.2**	**-0.8**
BVAR	**Borovoye Array**	**69.77**	**328**	P	**P**	**15 40 22.7**	**-0.3**
	comp=Z,1.5nm,0.4s						
	comp=Z,1.5nm,0.4s						
TIXI	**Tiksi**	**71.05**	**1**	P	**P**	**15 40 29.0**	**-1.5**
NRIK	**Noril'sk**	**73.43**	**347**	P	**P**	**15 40 43.7**	**-1.1**
NRIK				IAmb	IAmb	15 40 59.2	
	comp=Z,13nm,0.8s						
NRIK	**Noril'sk**	**73.43**	**347**	P	**P**	**15 40 43.4**	**-1.4**
	comp=Z,3.2nm,0.6s,baz=110,slow=5.0,SNR=4.2						
	comp=Z,3.2nm,0.6s						
AB31	**Akbulak array**	**74.35**	**321**	P	**P**	**15 40 48.5**	**-2.0**
AB31				IAmb	IAmb	15 41 05.8	
	comp=Z,16nm,1.4s						
ABKAR	**Akbulak array**	**74.35**	**321**	P	**P**	**15 40 48.8**	**-1.7**
AKTO	**Aktyubinsk**	**75.89**	**322**	P	**P**	**15 40 58.1**	**-1.3**
	comp=Z,2.4nm,0.5s,baz=117,slow=6.5,SNR=4.2						
	comp=Z,2.4nm,0.5s						
ARTI	**Arti**	**77.48**	**328**	P	**P**	**15 41 06.0**	**-2.2**
ARTI				IAmb	IAmb	15 41 19.6	
	comp=Z,12nm,0.8s						
OPO	**Ambohidratompo**	**79.80**	**251**	P	**P**	**15 41 23.2**	**+1.2**
	comp=Z,3.3nm,0.9s,baz=123,slow=23,SNR=3.6						
	comp=Z,3.3nm,0.9s						
SDPT	**Sand Point**	**80.11**	**34**	P	**P**	**15 41 22.2**	**-0.4**
VNDA	**Vanda**	**80.31**	**173**	P	**P**	**15 41 22.4**	**-0.9**
VNDA				IAmb	IAmb	15 41 24.6	
	comp=Z,13nm,1.4s						
SBA	**Scott Base**	**81.23**	**172**	P	**P**	**15 41 27.8**	**-0.5**
BELG	**Belogornoye**	**82.67**	**323**	P	**P**	**15 41 36.4**	**+0.1**
	comp=Z,17nm,1.0s,baz=311,slow=4.9,SNR=2.8						
	comp=Z,17nm,1.0s						
J17K	**VABM Dome**	**82.71**	**26**	P	**P**	**15 41 35.0**	**-1.3**
J17K				IAmb	IAmb	15 41 56.9	
	comp=Z,11nm,0.9s						
KBZ	**Khabaz**	**84.85**	**314**	P	**P**	**15 41 49.3**	**+1.7**
	comp=Z,3.1nm,0.8s,baz=20,slow=2.4,SNR=4.0						
	comp=Z,3.1nm,0.8s						
IMAR	**Indian Mountai**	**85.46**	**24**	P	**P**	**15 41 49.8**	**-0.5**
H23K	**Yukon River**	**87.16**	**24**	P	**P**	**15 41 57.0**	**-1.7**
H23K				IAmb	IAmb	15 42 21.5	
	comp=Z,21nm,1.8s						
ASF	**Jabal al Asfar**	**89.20**	**302**	P	**P**	**15 42 10.6**	**+1.4**
	comp=Z,1.7nm,0.6s,baz=36,slow=1.5,SNR=3.7						
	comp=Z,1.7nm,0.6s						
SYO	**Syowa Base**	**89.27**	**201⇑**	*e*pP	pP	15 42 20.3	+1.5
MMAI	**Mount Meron Ar**	**90.45**	**303**	P	**P**	**15 42 15.9**	**+0.9**
	comp=Z,0.3nm,0.2s,baz=61,slow=17,SNR=5.8						
	comp=Z,0.3nm,0.2s						
ARCES	**ARCESS Array B**	**93.29**	**340**	P	**P**	**15 42 28.1**	**+0.9**
	comp=Z,4.1nm,1.1s,baz=82,slow=8.7,SNR=4.4						
	comp=Z,4.1nm,1.1s						
AKASG	**Malin Array Be**	**94.08**	**321**	P	**P**	**15 42 31.9**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=77,slow=4.0,SNR=2.1						
	comp=Z,0.8nm,0.7s						
TXAR	**Lajitas Array**	**123.91**	**54**	PKP	**PKPdf**	**15 48 11.3**	**-0.4**
	comp=Z,0.6nm,1.0s,baz=279,slow=1.9,SNR=2.5						
CPUP	**Villa Florida**	**154.09**	**173**	PKPbc	**PKPbc**	**15 49 14.0**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=344,slow=4.2,SNR=3.6						

*IDC **07** 15:34:20.3±0.9, 0°.63N×126°.31E, h0km, mb4.1/7, mbtmp4.1/9, ML3.6/2, Error ellipse: s-maj=37.9km s-min=16.2km az=78.0*
*NEIC **07** 15:34:25.3±0.8, 0°.6N±0°.1×126°.28E±0°.06, h35km±2km, mb4.4/16, Error ellipse: s-maj=17.4km s-min=9.6km az=168.0*

ISC 07 15:34:24.9±0.6, 0°.58N±0°.07×126°.24E±0°.08, h35km, n36, σ1§00/36, mb4.3/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.14**	**80**		**Pn**	**15 34 43.0**	**-1.3**
LUWI	**Luwuk**	**3.83**	**245**	Pn	**Pn**	**15 35 21.8**	**+0.5**
TOLI2	**Tolitoli**	**5.49**	**276**	Pn	**Pn**	**15 35 43.7**	**-0.5**
KAPI	**Kappang**	**8.54**	**229**	Pn	**Pn**	**15 36 25.6**	**-0.5**
KAPI	**Kappang**	**8.54**	**229**	Pn	**Pn**	**15 36 28.3**	**+2.2**
	1.9nm,0.3s,baz=54,slow=8.7,SNR=5.6						
	4.7nm,0.3s						
MYLDM	**Lahad Datu**	**8.98**	**301**	Pn	**Pn**	**15 36 29.9**	**-2.2**
SBUM	**Sibu**	**14.14**	**278**	P	**P**	**15 37 50.4**	**+0.5**
MTN	**Manton Dam**	**14.19**	**160**	Pn	**Pn**	**15 37 41.2**	**-2.2**
KNRA	**Kununurra**	**16.34**	**171**	P	**Pn**	**15 38 13.3**	**+1.6**
UGM	**Wanagama**	**17.80**	**241**	Pn	**Pn**	**15 38 27.8**	**-2.2**
FITZ	**Fitzroy Crossi**	**18.57**	**182**	P	**P**	**15 38 38.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**18.57**	**182**	P	**P**	**15 38 39.0**	**+0.1**
	0.1nm,0.3s,baz=4.4,slow=13,SNR=1.3						
	2.1nm,0.6s						
BOXOZ	**Borroloola**	**19.28**	**149**	P	**P**	**15 38 46.4**	**-0.3**
WB0	**Warramunga Arr**	**21.74**	**159**	P	**P**	**15 39 13.0**	**-0.4**
WB0				IAmb	IAmb	15 39 17.8	
	comp=Z,10nm,0.8s						
WRAB	**Tennant Creek**	**21.88**	**159**	P	**P**	**15 39 14.7**	**-0.2**
WRAB				IAmb	IAmb	15 39 19.8	
	comp=Z,8.4nm,0.7s						
WRA	**Warramunga Arr**	**21.88**	**159**	P	**P**	**15 39 15.3**	**+0.4**
	comp=Z,5.3nm,0.6s,baz=332,slow=11,SNR=26						
	comp=Z,5.3nm,0.6s						
WR8	**Warramunga Arr**	**21.95**	**159**	P	**P**	**15 39 15.4**	**-0.2**
WR8				IAmb	IAmb	15 39 58.4	
	comp=Z,20nm,1.4s						
COEN	**Coen**	**22.13**	**131**	P	**P**	**15 39 16.8**	**-0.9**
COEN				IAmb	IAmb	15 39 55.5	
	comp=Z,23nm,1.3s						
AS31	**Alice Springs**	**25.22**	**163**	P	**P**	**15 39 47.7**	**0.0**
ASAR	**Alice Springs**	**25.22**	**163**	P	**P**	**15 39 48.2**	**+0.6**
ASAR	**Alice Springs**	**25.22**	**163**	P	**P**	**15 39 48.9**	**+1.3**
	comp=Z,2.6nm,0.3s,baz=346,slow=11,SNR=28						
	comp=Z,2.6nm,0.3s						
FORT	**Forrest**	**31.23**	**177**	P	**P**	**15 40 41.2**	**0.0**
FORT				IAmb	IAmb	15 40 41.9	
	comp=Z,5.4nm,0.8s						
NWAO	**Narrogin (SRO)**	**34.39**	**193**	P	**P**	**15 41 08.8**	**-0.1**
STKA	**Stephens Creek**	**35.40**	**157**	P	**P**	**15 41 17.7**	**+0.1**
STKA	**Stephens Creek**	**35.40**	**157**	P	**P**	**15 41 17.3**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=320,slow=8.7,SNR=17						
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**37.46**	**16**	P	**P**	**15 41 36.1**	**+1.0**
	comp=Z,1.3nm,0.9s,baz=181,slow=9.5,SNR=2.5						
	comp=Z,1.3nm,0.9s						
PETK	**Petropavlovsk-**	**58.52**	**22**	P	**P**	**15 44 18.0**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=225,slow=7.8,SNR=1.8						
	comp=Z,0.7nm,0.7s						
MKAR	**Makanchi Array**	**59.87**	**327**	P	**P**	**15 44 27.3**	**+0.1**
MKAR	**Makanchi Array**	**59.87**	**327**	P	**P**	**15 44 27.5**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=119,slow=8.4,SNR=12						
	comp=Z,0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**64.13**	**328**	P	**P**	**15 44 55.8**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=124,slow=6.1,SNR=1.1						
	comp=Z,0.6nm,0.3s						
AB31	**Akbulak array**	**74.28**	**321**	P	**P**	**15 45 58.4**	**-0.2**
ABKAR	**Akbulak array**	**74.28**	**321**	P	**P**	**15 45 58.6**	**+0.1**
VNDA	**Vanda**	**80.38**	**173**	P	**P**	**15 46 32.9**	**+0.7**
VNDA				IAmb	IAmb	15 47 14.6	
	comp=Z,5.9nm,1.4s						
SBA	**Scott Base**	**81.30**	**172**	P	**P**	**15 46 38.8**	**+1.7**
N19K	**Bonanza Creek**	**84.26**	**29**	P	**P**	**15 46 52.7**	**-0.2**
P23K	**Montague Islan**	**87.67**	**30**	P	**P**	**15 47 09.9**	**+0.3**

*IDC **07** 15:35:31.3±0.6, 0°.55N×126°.14E, h0km, mb4.1/15, mbtmp4.1/18, ML3.8/3, Error ellipse: s-maj=27.4km s-min=12.9km az=81.0*
*NEIC **07** 15:35:33.8±0.6, 0°.52N±0°.08×126°.07E±0°.06, h13km±4km, mb4.7/21, Error ellipse: s-maj=11.8km s-min=8.4km az=169.0*

ISC 07 15:35:36.1±0.4, 0°.43N±0°.05×126°.08E±0°.07, h35km, n47, σ1§14/50, mb4.5/25, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.34**	**75**		**Pn**	**15 35 57.2**	**-1.0**
TOLI2	**Tolitoli**	**5.34**	**277**	Pn	**Pn**	**15 36 52.2**	**-1.1**
FAKI	**Fak Fak**	**7.01**	**118**	Pn	**Pn**	**15 37 14.5**	**-1.8**
KAPI	**Kappang**	**8.31**	**229**	Pn	**Pn**	**15 37 34.3**	**+0.2**
KAPI	**Kappang**	**8.31**	**229**	Pn	**Pn**	**15 37 35.3**	**+1.1**
	1.3nm,0.3s,baz=33,slow=8.0,SNR=2.9						
KAPI				Sn	**Sn**	**15 39 06.6**	**-0.3**
	2.6nm,0.3s,baz=151,slow=8.7,SNR=5.1						
	12nm,0.7s						
BATI	**Baumata**	**10.83**	**193**	Pn	**Pn**	**15 38 09.4**	**+0.6**
	1.5nm,0.3s,baz=113,slow=18,SNR=1.8						
BATI				Sn	**Sn**	**15 40 03.5**	**-5.4**
	6.5nm,0.3s,baz=284,slow=22,SNR=6.7						
	12nm,0.7s						
KNRA	**Kununurra**	**16.22**	**171**	Pn	**Pn**	**15 39 21.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**18.41**	**181**	P	**P**	**15 39 47.7**	**-0.7**
	0.1nm,0.3s,baz=85,slow=23,SNR=1.9						
	2.7nm,0.8s						
WB0	**Warramunga Arr**	**21.66**	**158**	P	**P**	**15 40 24.4**	**+0.6**
WB0				IAmb	IAmb	15 40 29.3	
	comp=Z,16nm,0.8s						
WRAB	**Tennant Creek**	**21.80**	**159**	P	**P**	**15 40 26.1**	**+0.9**
WRA	**Warramunga Arr**	**21.80**	**159**	P	**P**	**15 40 25.5**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=339,slow=11,SNR=12						
	com

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.32**	**77**	Pn	**Pn**	**15 37 11.5**	**-0.9**
TNTI	**Ternate**	**1.32**	**77**	P	**Pn**	**15 37 12.4**	**0.0**
TNTI				S	**Sn**	**15 37 30.6**	**+1.7**
LBMI	**Labuha**	**1.80**	**128**	P	**Pn**	**15 37 18.6**	**-0.5**
KMSI	**Cibinong**	**2.10**	**273**	P	**Pn**	**15 37 21.2**	**-1.9**
KMSI				S	**Sn**	**15 37 47.9**	**-0.1**
SANI	**Sanana**	**2.51**	**182**	P	**Pn**	**15 37 27.4**	**-1.4**
SANI				S	**Sn**	**15 37 58.4**	**+0.2**
TOLI2	**Tolitoli**	**5.33**	**277**	Pn	**Pn**	**15 38 08.6**	**+1.0**
KAPI	**Kappang**	**8.35**	**229**	Pn	**Pn**	**15 38 50.0**	**+1.0**
	0.3nm,0.3s,baz=223,slow=15,SNR=1.8 9.7nm,0.8s						
KNRA	**Kununurra**	**16.27**	**171**	P	**Pn**	**15 40 37.7**	**+1.3**
WB0	**Warramunga Arr**	**21.71**	**158**	P	**P**	**15 41 37.8**	**-0.8**
WRAB	**Tennant Creek**	**21.84**	**159**	P	**P**	**15 41 39.2**	**-0.9**
WRA	**Warramunga Arr**	**21.85**	**159**	P	**P**	**15 41 39.8**	**-0.3**
	3.7nm,0.6s,baz=336,slow=12,SNR=5.2 3.7nm,0.6s						
WR8	**Warramunga Arr**	**21.92**	**158**	P	**P**	**15 41 40.5**	**-0.4**
AS31	**Alice Springs**	**25.17**	**163**	P	**P**	**15 42 14.1**	**+1.3**
ASAR	**Alice Springs**	**25.17**	**163**	P	**P**	**15 42 14.0**	**+1.3**
	3.6nm,0.8s,baz=348,slow=13,SNR=4.4 3.6nm,0.8s						
STKA	**Stephens Creek**	**35.37**	**157**	P	**P**	**15 43 41.5**	**-1.3**
STKA	**Stephens Creek**	**35.37**	**157**	P	**P**	**15 43 41.3**	**-1.6**
	3.1nm,1.0s,baz=7.1,slow=8.1,SNR=2.0 3.1nm,1.0s						
MJAR	**Matsushiro Arr**	**37.61**	**16**	P	**P**	**15 44 00.5**	**-1.4**
	1.2nm,0.8s,baz=193,slow=10.0,SNR=2.5 1.2nm,0.8s						
PETK	**Petropavlovsk-**	**58.67**	**22**	P	**P**	**15 46 42.9**	**-1.4**
	1.4nm,0.8s,baz=220,slow=6.9,SNR=2.6 1.4nm,0.8s						
MKAR	**Makanchi Array**	**59.87**	**327**	P	**P**	**15 46 54.0**	**+1.3**
	0.7nm,0.6s,baz=116,slow=6.7,SNR=2.2 0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**64.13**	**329**	P	**P**	**15 47 22.2**	**+1.0**
	0.9nm,0.7s,baz=119,slow=5.9,SNR=2.3 0.9nm,0.7s						
SBA	**Scott Base**	**81.22**	**172**	P	**P**	**15 49 03.9**	**+1.6**
QSPA	**South Pole Qui**	**90.40**	**180**	P	**P**	**15 49 48.3**	**+0.2**
QSPA				IAmb	IAmb	15 50 18.1	
	comp=Z,5.8nm,1.3s						
BARN	**Barnard Glacie**	**90.69**	**29**	P	**P**	**15 49 49.6**	**0.0**

*IDC **07** 15:37:03.0±0.9, 0.53N×126.27E, h0km, mb4.2/11, mbtmp4.2/11, Error ellipse: s-maj=45.9km s-min=15.6km az=78.0*
*NEIC **07** 15:37:08.4±1.8, 0.48N±0.09×126.22E±0.08, h35km±2km, mb4.5/12, Error ellipse: s-maj=16.7km s-min=10.9km az=137.0*

ISC 07 15:37:08.1±0.6, 0.49N±0.08×126.22E±0.10, h35km, n27, σ0§85/28, mb4.5/17, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.18**	**76**	Pn	**Pn**	**15 37 27.9**	**-0.3**
TNTI				Sn	**Sn**	**15 37 43.7**	**+0.6**
FAKI	**Fak Fak**	**6.92**	**119**	Pn	**Pn**	**15 38 46.4**	**-0.7**
KNRA	**Kununurra**	**16.26**	**171**	P	**Pn**	**15 40 55.2**	**+1.3**
WB0	**Warramunga Arr**	**21.67**	**159**	P	**P**	**15 41 54.9**	**-1.0**
WRAB	**Tennant Creek**	**21.81**	**159**	P	**P**	**15 41 56.5**	**-0.8**
WRAB				IAmb	IAmb	15 42 00.9	
	comp=Z,19nm,0.8s						
WRA	**Warramunga Arr**	**21.81**	**159**	P	**P**	**15 41 56.6**	**-0.7**
WRA	**Warramunga Arr**	**21.81**	**159**	P	**P**	**15 41 56.7**	**-0.7**
	comp=Z,24nm,1.0s,baz=337,slow=11,SNR=9.6 comp=Z,24nm,1.0s						
WR8	**Warramunga Arr**	**21.88**	**159**	P	**P**	**15 41 57.5**	**-0.6**
WR8				IAmb	IAmb	15 42 02.2	
	comp=Z,21nm,1.0s						
AS31	**Alice Springs**	**25.15**	**163**	P	**P**	**15 42 30.6**	**+0.4**
ASAR	**Alice Springs**	**25.15**	**163**	P	**P**	**15 42 31.0**	**+0.8**
ASAR	**Alice Springs**	**25.15**	**163**	P	**P**	**15 42 31.6**	**+1.4**
	comp=Z,9.9nm,0.8s,baz=348,slow=12,SNR=10.0 comp=Z,9.9nm,0.8s						
STKA	**Stephens Creek**	**35.33**	**157**	P	**P**	**15 43 59.2**	**-1.0**
	comp=Z,5.4nm,0.8s,baz=326,slow=11,SNR=6.2 comp=Z,5.4nm,0.8s						
KSRS	**Korea Array**	**36.81**	**2**	P	**P**	**15 44 12.0**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=182,slow=9.0,SNR=2.9 comp=Z,1.1nm,0.8s						
MJAR	**Matsushiro Arr**	**37.55**	**16**	P	**P**	**15 44 18.1**	**-1.0**
	comp=Z,1.9nm,0.9s,baz=188,slow=9.6,SNR=4.8 comp=Z,1.9nm,0.9s						
USRK	**Ussuriysk Ar.**	**43.82**	**6**	P	**P**	**15 45 10.4**	**-0.3**
	comp=Z,3.8nm,0.9s,baz=188,slow=8.7,SNR=4.3 comp=Z,3.8nm,0.9s						
ASAJ	**Asahikawa**	**45.82**	**16**	P	**P**	**15 45 27.9**	**+1.2**
	comp=Z,2.4nm,0.8s,baz=142,slow=3.8,SNR=3.7 comp=Z,2.4nm,0.8s						
PETK	**Petropavlovsk-**	**58.61**	**22**	P	**P**	**15 47 00.9**	**-0.6**
	comp=Z,5.2nm,1.0s,baz=197,slow=5.0,SNR=6.9 comp=Z,5.2nm,1.0s						
MKAR	**Makanchi Array**	**59.93**	**327**	P	**P**	**15 47 11.0**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=128,slow=8.1,SNR=4.5 comp=Z,2.1nm,0.8s						
ZALV	**Zalesovo Beam**	**63.24**	**334**	P	**P**	**15 47 33.1**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=129,slow=3.9,SNR=3.0 comp=Z,1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**64.19**	**328**	P	**P**	**15 47 39.5**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=124,slow=6.2,SNR=4.9 comp=Z,1.3nm,0.7s						
NRIK	**Noril'sk**	**73.44**	**347**	P	**P**	**15 48 36.8**	**+0.3**
AB31	**Akbulak array**	**74.33**	**321**	P	**P**	**15 48 41.2**	**-0.9**
AB31				IAmb	IAmb	15 48 56.1	
	comp=Z,8.8nm,1.4s						
ABKAR	**Akbulak array**	**74.33**	**321**	P	**P**	**15 48 41.1**	**-1.0**
ABKAR				IAmb	IAmb	15 48 56.1	
	comp=Z,8.8nm,1.4s						
SBA	**Scott Base**	**81.22**	**172**	P	**P**	**15 49 20.7**	**+0.8**
SBA				IAmb	IAmb	15 49 39.1	
	comp=Z,7.1nm,1.4s						
D20K	**Etivluk River**	**84.89**	**21**	P	**P**	**15 49 40.3**	**+1.2**
D20K				IAmb	IAmb	15 49 57.1	
	comp=Z,3.0nm,0.9s						
QSPA	**South Pole Qui**	**90.42**	**180**	P	**P**	**15 50 05.9**	**0.0**
BCAR	**Beaver Creek A**	**90.48**	**27**	P	**P**	**15 50 06.9**	**+0.8**

*IDC **07** 15:38:46.2±1.7, 0.59N×126.39E, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=164.5km s-min=22.6km az=66.0*
*NEIC **07** 15:38:51.3±1.3, 0.4N±0.1×126.3E±0.1, h26km±9km, mb4.3/8, Error ellipse: s-maj=18.5km s-min=12.2km az=127.0*

ISC 07 15:38:51.5±1.1, 0.3N±0.1×126.2E±0.1, h35km, n16, σ1§35/16, mb4.2/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.22**	**69**		**Pn**	**15 39 12.6**	**+0.6**
FAKI	**Fak Fak**	**6.83**	**118**	Pn	**Pn**	**15 40 27.5**	**-1.8**
SOEI	**Soe**	**10.21**	**191**	Pn	**Pn**	**15 41 16.3**	**+0.4**
KNRA	**Kununurra**	**16.11**	**171**	Pn	**Pn**	**15 42 36.0**	**+0.6**
KNRA				IAmb	IAmb	15 43 07.4	
	comp=Z,24nm,1.4s						
WB0	**Warramunga Arr**	**21.52**	**159**	P	**P**	**15 43 37.7**	**0.0**
WB0				IAmb	IAmb	15 44 11.5	
	comp=Z,10nm,0.9s						
WRAB	**Tennant Creek**	**21.66**	**159**	P	**P**	**15 43 39.5**	**+0.3**
WRAB				IAmb	IAmb	15 44 13.1	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**21.66**	**159**	P	**P**	**15 43 39.6**	**+0.4**
	comp=Z,2.7nm,0.4s,baz=338,slow=11,SNR=6.3 comp=Z,2.7nm,0.4s						
WR8	**Warramunga Arr**	**21.73**	**159**	P	**P**	**15 43 40.4**	**+0.4**
AS31	**Alice Springs**	**25.00**	**163**	P	**P**	**15 44 14.2**	**+2.0**
ASAR	**Alice Springs**	**25.00**	**163**	P	**P**	**15 44 14.9**	**+2.6**
ASAR	**Alice Springs**	**25.00**	**163**	P	**P**	**15 44 14.4**	**+2.2**
	comp=Z,2.2nm,0.6s,baz=344,slow=9.7,SNR=5.8 comp=Z,2.2nm,0.6s						
FORT	**Forrest**	**30.99**	**177**	P	**P**	**15 45 06.5**	**+0.8**
FORT				IAmb	IAmb	15 45 38.6	
	comp=Z,5.2nm,0.9s						
STKA	**Stephens Creek**	**35.19**	**157**	P	**P**	**15 45 43.0**	**+0.7**
MKAR	**Makanchi Array**	**60.07**	**327**	P	**P**	**15 48 54.7**	**-0.5**
	comp=Z,3.4nm,0.8s,baz=120,slow=7.5,SNR=5.5 comp=Z,3.4nm,0.8s						
MAKZ	**Makanchi**	**60.25**	**326**	P	**P**	**15 48 55.6**	**-0.8**
KURBB	**Kurchatov Arra**	**64.33**	**328**	P	**P**	**15 49 22.2**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=133,slow=6.6,SNR=4.8 comp=Z,1.0nm,0.5s						

*IDC **07** 15:43:53.7±0.4, 0.53N×125.99E, h0km, mb4.6/29, mbtmp4.6/32, ML4.3/3, Error ellipse: s-maj=19.0km s-min=9.2km az=89.0*
*MOS **07** 15:43:57.9±0.9, 0.50N×126.08E, h45km, mb5.1/27, Error ellipse: s-maj=11.2km s-min=6.3km az=99.7*
*DJA **07** 15:43:58.9±0.7, 1.1N±1.1×126.2E±1.1, h18km±5km, M4.1/1, MLv4.8/25, MLv4.1/1*
*NEIC **07** 15:43:59.0±1.5, 0.52N±0.04×126.18E±0.05, h35km±1km, mb4.9/54, Error ellipse: s-maj=9.6km s-min=5.6km az=244.0*

ISC 07 15:43:59.3±0.3, 0.49N±0.04×126.11E±0.04, h35km, n381, σ1§18/389, mb4.9/76, 18C-7D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.29**	**77**		**Pn**	**15 44 19.8**	**-1.0**
TNTI	**Ternate**	**1.29**	**77**	P	**Pn**	**15 44 19.7**	**-1.0**
TNTI				S	**Sn**	**15 44 39.6**	**+2.8**
LBMI	**Labuha**	**1.79**	**129**	P	**Pn**	**15 44 27.9**	**+0.2**
LBMI				S	**Sn**	**15 44 52.7**	**+3.5**
KMSI	**Cibinong**	**2.13**	**272**	P	**Pn**	**15 44 32.7**	**+0.3**
KMSI				S	**Sn**	**15 45 00.5**	**+2.8**
SANI	**Sanana**	**2.53**	**183**	P	**Pn**	**15 44 38.3**	**+0.4**
SANI	**Sanana**	**2.53**	**183**	P	**Pn**	**15 44 38.1**	**+0.2**
SANI				S	**Sn**	**15 45 09.7**	**+2.3**
SGSI	**Sangihe**	**3.23**	**350**	P	**Pn**	**15 44 48.8**	**+1.3**
SGSI				S	**Sn**	**15 45 28.4**	**+3.7**
LUWI	**Luwuk**	**3.67**	**245**		**Pn**	**15 44 55.0**	**+1.4**
LUWI	**Luwuk**	**3.67**	**245**	P	**Pn**	**15 44 57.7**	**+4.1**
LUWI	**Luwuk**	**3.67**	**245**	P	**Pn**	**15 44 57.3**	**+3.7**
NLAI	**Namlea**	**3.83**	**165**	P	**Pn**	**15 44 57.4**	**+1.5**
NLAI				S	**Sn**	**15 45 41.4**	**+1.7**
MRSI	**Marisa**	**4.17**	**270**	P	**Pn**	**15 45 01.1**	**+0.6**
AAI	**Ambon**	**4.64**	**153**	P	**Pn**	**15 45 08.2**	**+1.2**
APSI	**Ampana**	**4.67**	**253**	P	**Pn**	**15 45 09.4**	**+2.0**
MSAI	**Masohi**	**4.74**	**144**	P	**Pn**	**15 45 11.2**	**+2.9**
SWI	**Sorong**	**5.32**	**105**	P	**Pn**	**15 45 18.4**	**+2.1**
TOLI2	**Tolitoli**	**5.36**	**277**		**Pn**	**15 45 17.2**	**+0.3**
TOLI2	**Tolitoli**	**5.36**	**277**	P	**Pn**	**15 45 18.4**	**+1.5**
KDI	**Kendari**	**5.63**	**218**	P	**Pn**	**15 45 22.3**	**+1.7**
MPSI	**Mapaga**	**6.21**	**269**	P	**Pn**	**15 45 31.7**	**+3.1**
BNDI	**Bandanaira**	**6.26**	**143**	P	**Pn**	**15 45 32.6**	**+3.4**
PCI	**Palu**	**6.42**	**258**	P	**Pn**	**15 45 33.1**	**+1.6**
BBSI	**Bau Bau**	**6.91**	**211**	P	**Pn**	**15 45 41.1**	**+2.9**
FAKI	**Fak Fak**	**7.01**	**119**	Pn	**Pn**	**15 45 40.1**	**+0.6**
FAKI	**Fak Fak**	**7.01**	**119**	P	**Pn**	**15 45 40.5**	**+1.0**
FAKI	**Fak Fak**	**7.01**	**119**	P	**Pn**	**15 45 40.1**	**+0.6**
TTSI	**Tana Toraja**	**7.20**	**241**	P	**Pn**	**15 45 44.1**	**+1.9**
BNSI	**Bone**	**7.72**	**231**	P	**Pn**	**15 45 51.0**	**+1.7**
SPSI	**Sidrap Palu**	**7.73**	**235**	P	**Pn**	**15 45 51.9**	**+2.5**
KAPI	**Kappang**	**8.38**	**229**		**Pn**	**15 45 58.7**	**+0.3**
KAPI	**Kappang**	**8.38**	**229**	Pn	**Pn**	**15 45 56.2**	**-2.1**
	11nm,0.3s,baz=95,slow=3.2,SNR=18						
KAPI				Sn	**Sn**	**15 47 32.0**	**+0.1**
	0.7nm,0.3s,baz=62,slow=15,SNR=1.3 10.0nm,0.5s						
KAPI	**Kappang**	**8.38**	**229**	P	**Pn**	**15 46 00.9**	**+2.5**
KAPI	**Kappang**	**8.38**	**229**	i*eP*	**Pn**	**15 45 59.6**	**+1.2**
KAPI				pmax	pmax		
	comp=Z,98nm,0.9s						
MYLDM	**Lahad Datu**	**8.91**	**302**	P	**Pn**	**15 46 09.5**	**+3.8**
BATI	**Baumata**	**10.90**	**193**	Pn	**Pn**	**15 46 31.2**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=107,slow=23,SNR=1.3						
BATI				Sn	**Sn**	**15 48 35.3**	**+1.5**
	comp=Z,1.4nm,0.3s,baz=348,slow=19,SNR=1.0 comp=Z,12nm,0.7s						
KKM	**Kota Kinabalu**	**11.31**	**299**		**Pn**	**15 46 38.5**	**-0.2**
KKM	**Kota Kinabalu**	**11.31**	**299**	P	**Pn**	**15 46 41.9**	**+3.3**
SBUM	**Sibu**	**14.02**	**278**		**Pn**	**15 47 15.2**	**-0.4**
SBUM	**Sibu**	**14.02**	**278**	P	**Pn**	**15 47 19.9**	**+4.3**
KDU	**Kakadu**	**14.54**	**154**	P	**Pn**	**15 47 22.7**	**+0.1**
KSM	**Kuching**	**15.83**	**274**	P	**P**	**15 47 43.9**	**+0.8**
KNRA	**Kununurra**	**16.28**	**171**		**Pn**	**15 47 45.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**18.48**	**181**	P	**P**	**15 48 10.5**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=22,slow=5.4,SNR=12 comp=Z,9.8nm,0.6s						
BBJI	**Bungbulang**	**20.04**	**246**	P	**P**	**15 48 30.1**	**+0.5**
WB0	**Warramunga Arr**	**21.71**	**158**		**P**	**15 48 46.4**	**-1.1**
WRAB	**Tennant Creek**	**21.85**	**159**	P	**P**	**15 48 47.9**	**-1.1**
WRAB	**Tennant Creek**	**21.85**	**159**	i*eP*	**P**	**15 48 48.1**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,106nm,0.9s						
WRA	**Warramunga Arr**	**21.85**	**159**	P	**P**	**15 48 48.0**	**-1.0**
	comp=Z,85nm,0.9s,baz=341,slow=11,SNR=47 comp=Z,85nm,0.9s						
WRA	**Warramunga Arr**	**21.85**	**159**	*i* P	**P**	**15 48 48.0**	**-1.0**
WRA				pmax	pmax		
	comp=Z,91nm,0.9s						
WR8	**Warramunga Arr**	**21.92**	**158**		**P**	**15 48 48.8**	**-0.9**
COEN	**Coen**	**22.18**	**131**	P	**P**	**15 48 52.6**	**0.0**
MBWA	**Marble Bar**	**22.40**	**196**		**P**	**15 48 53.7**	**-1.3**
MBWA				IAmb	IAmb	15 48 55.4	
	comp=Z,86nm,1.9s						
MBWA	**Marble Bar**	**22.40**	**196**	P	**P**	**15 48 54.1**	**-0.8**
GUMO	**Guam**	**22.68**	**54**	P	**P**	**15 48 57.9**	**-0.1**
	comp=Z,39nm,0.8s,baz=174,slow=6.3,SNR=6.0 comp=Z,39nm,0.8s						
TPUB	**Ta-pu**	**23.29**	**347**	P	**P**	**15 49 01.5**	**-2.6**
TPUB				IAmb	IAmb	15 49 15.2	
	comp=Z,45nm,0.9s						
QIS	**Mount Isa**	**24.74**	**148**	P	**P**	**15 49 18.2**	**+0.5**
AS31	**Alice Springs**	**25.18**	**163**		**P**	**15 49 21.4**	**-0.3**
ASAR	**Alice Springs**	**25.18**	**163**	P	**P**	**15 49 21.6**	**-0.1**
	comp=Z,46nm,1.0s,baz=347,slow=13,SNR=93 comp=Z,46nm,1.0s						
AS01	**Alice Springs**	**25.19**	**163**	P	**P**	**15 49 21.8**	**0.0**
IPM	**Ipoh**	**25.37**	**279**		**P**	**15 49 21.9**	**-1.6**
IPM				IAmb	IAmb	15 49 24.0	
	comp=Z,27nm,0.8s						
MTSU	**Mount Surprise**	**25.75**	**137**	P	**P**	**15 49 26.6**	**-0.3**
KULM	**Kulim**	**25.86**	**281**	P	**P**	**15 49 29.8**	**+1.8**
JOW	**Kunigami**	**26.27**	**4**	P	**P**	**15 49 31.6**	**+0.1**
	comp=Z,20nm,0.8s,baz=185,slow=11,SNR=3.6 comp=Z,20nm,0.8s						
RPSI	**Rantau Prapat**	**27.26**	**275**	P	**P**	**15 49 38.3**	**-2.3**
RPSI				IAmb	IAmb	15 49 40.7	
	comp=Z,46nm,1.3s						
PSI	**Prapat**	**27.27**	**275**	P	**P**	**15 49 38.3**	**-2.5**
PSI				pmax	pmax		
	comp=Z,46nm,1.3s						
MEEK	**Meekatharra**	**27.92**	**194**	P	**P**	**15 49 46.1**	**-0.3**
CTAO	**Charters Tower**	**28.42**	**137**	P	**P**	**15 49 49.7**	**-1.2**
CTAO	**Charters Tower**	**28.42**	**137**	P	**P**	**15 49 49.7**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,22nm,1.3s						
MORW	**Morawa**	**30.93**	**197**	P	**P**	**15 50 13.0**	**0.0**
FORT	**Forrest**	**31.15**	**177**		**P**	**15 50 14.3**	**-0.6**
FORT				IAmb	IAmb	15 50 16.2	
	comp=Z,19nm,0.7s						
CMAR	**Chiang Mai Arr**	**32.10**	**305**	P	**P**	**15 50 21.7**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=134,slow=8.7,SNR=6.5						
CMAR				PcP	**PcP**	**15 53 13.7**	**+1.2**
	comp=Z,3.4nm,0.9s,baz=139,slow=1.8,SNR=13 comp=Z,1.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.10**	**305**	*i* P	**P**	**15 50 22.7**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NJ2	**Nanjing**	**32.13**	**348**	*e*P	**P**	**15 50 25.2**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,28nm,1.1s						
BLDU	**Ballidu**	**32.20**	**195**	P	**P**	**15 50 23.8**	**-0.4**
NWAO	**Narrogin (SRO)**	**34.28**	**193**	P	**P**	**15 50 42.4**	**+0.1**
	comp=Z,5.0nm,0.6s,baz=20,slow=7.9,SNR=1.3 comp=Z,5.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**34.28**	**193**	P	**P**	**15 50 43.1**	**+0.8**
TATA	**Tatamba Isabel**	**34.72**	**105**	P	**P**	**15 50 46.3**	**0.0**
PZH	**PanZhiHua**	**34.91**	**320**	P	**P**	**15 50 50.2**	**+2.2**
STKA	**Stephens Creek**	**35.38**	**157**	P	**P**	**15 50 50.9**	**-0.8**
STKA	**Stephens Creek**	**35.38**	**157**	P	**P**	**15 50 51.6**	**-0.1**
	comp=Z,11nm,0.7s,baz=325,slow=9.3,SNR=30 comp=Z,11nm,0.7s						
STKA	**Stephens Creek**	**35.38**	**157**	P	**P**	**15 50 52.0**	**+0.3**
STKA	**Stephens Creek**	**35.38**	**157**	i*eP*	**P**	**15 50 51.2**	**-0.5**
HTT	**Hallett**	**35.83**	**162**	P	**P**	**15 50 54.8**	**-0.9**
INU	**Inuyama**	**36.14**	**15**	P	**P**	**15 50 56.5**	**-1.7**
INU				IAmb	IAmb	15 51 00.8	
	comp=Z,18nm,0.9s						
INU	**Inuyama**	**36.14**	**15**	P	**P**	**15 50 59.1**	**+0.9**
INU	**Inuyama**	**36.14**	**15**	P	**P**	**15 50 57.7**	**-0.6**
KSRS	**Korea Array**	**36.82**	**2**	P	**P**	**15 51 04.5**	**+0.5**
	comp=Z,3.2nm,0.8s,baz=179,slow=9.6,SNR=13						
KSRS				PcP	**PcP**	**15 53 26.4**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=190,slow=2.9,SNR=4.4 comp=Z,3.2nm,0.8s						
CMSA	**Cobar Meteorol**	**36.87**	**152**	P	**P**	**15 51 04.8**	**+0.3**
MAJO	**Matsushiro**	**37.58**	**16**	P	**P**	**15 51 09.4**	**-1.1**
MAJO				IAmb	IAmb	15 52 17.4	
	comp=Z,42nm,1.6s						
MAJO	**Matsushiro**	**37.58**	**16**	i*eP*	**P**	**15 51 09.1**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MJAR	**Matsushiro Arr**	**37.58**	**16**	P	**P**	**15 51 08.5**	**-2.1**
	comp=Z,9.8nm,1.0s,baz=184,slow=9.0,SNR=14 comp=Z,9.8nm,1.0s						
LZH	**Lanzhou**	**41.01**	**332**	*e*P	**P**	**15 51 39.7**	**+0.3**
LZH				sP	pP	15 51 50.7	+1.6
LZH				pmax	pmax		
	comp=Z,11nm,1.2s						
CAN	**Canberra**	**41.55**	**151**	P	**P**	**15 51 44.8**	**+1.1**
MSHR	**Mys Shultsa**	**42.15**	**6**	i*eP*	**P**	**15 51 47.2**	**-1.1**
MSHR				pmax	pmax		
	comp=Z,26nm,1.1s						
HHC	**Hu-ho-hao-te**	**42.28**	**344**	*e*P	**P**	**15 51 52.5**	**+2.8**
VLA	**Vladivostok**	**42.75**	**6**	i*eP*	**P**	**15 51 53.8**	**+0.6**
VLA				pmax	pmax		
	comp=Z,16nm,1.0s						
USRK	**Ussuriysk Ar.**	**43.83**	**6**	P	**P**	**15 52 01.0**	**-1.0**
USRK	**Ussuriysk Ar.**	**43.83**	**6**	P	**P**	**15 52 00.5**	**-1.5**
	comp=Z,8.3nm,0.8s,baz=192,slow=7.2,SNR=9.9 comp=Z,8.3nm,0.8s						
USA0B	**Ussuriysk Arra**	**43.83**	**6**	i*eP*	**P**	**15 52 02.3**	**+0.3**
MDJ	**Mudanjiang**	**44.05**	**4**	P	**P**	**15 52 04.2**	**+0.5**
MDJ				pmax	pmax		
	comp=Z,17nm,0.8s						
BNX	**BinXian**	**45.07**	**1**	i*P*	**P**	**15 52 11.2**	**-0.7**
BNX				S	**S**	**15 58 50.5**	**+2.0**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BNX				pmax	pmax		
	comp=Z,10μm,17.2s						
BNX				LR	LR		
	comp=N,5μm,20.6s						
BNX				LR	LR		
	comp=E,4μm,21.1s						
BNX				LR	LR		
	comp=Z,4μm,19.0s						
GTA	**Gaotai**	**45.58**	**331**	*e*P	**P**	**15 52 15.8**	**-0.4**
GTA				PcP	**PcP**	**15 53 55.4**	**+1.1**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ASAJ	**Asahikawa**	**45.85**	**17**	P	**P**	**15 52 16.4**	**-1.6**
	comp=Z,9.2nm,0.9s,baz=233,slow=7.7,SNR=17 comp=Z,9.2nm,0.9s						
YSS	**Yuzhno-Sakhali**	**48.51**	**15**	*e*P	**P**	**15 52 39.4**	**+0.7**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KLR	**Kul'dur**	**48.79**	**5**	P	**P**	**15 52 40.8**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=208,slow=3.3,SNR=8.2 comp=Z,3.0nm,0.7s						
KLR	**Kul'dur**	**48.79**	**5**	i*eP*	**P**	**15 52 40.4**	**-0.5**
KLR				pmax	pmax		
	comp=Z,16nm,1.4s						
HEH	**HeiHe**	**49.59**	**1**	*e*P	**P**	**15 52 46.6**	**-0.3**
HEH				pmax	pmax		
	comp=Z,11nm,0.9s						
ULN	**Ulaanbaatar**	**50.01**	**343**	i*eP*	**P**	**15 52 50.0**	**-0.4**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SONM	**Songino Array**	**50.17**	**343**	P	**P**	**15 52 50.9**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=163,slow=8.4,SNR=5.2						
SONM				PcP	**PcP**	**15 54 09.3**	**-1.3**
	comp=Z,3.0nm,0.9s,baz=156,slow=4.9,SNR=4.4 comp=Z,2.9nm,0.7s						
ZEA	**Zeya**	**53.08**	**1**	*e*P	**P**	**15 53 13.0**	**0.0**
WMQ	**Urumqi**	**55.04**	**327**	*e*P	**P**	**15 53 32.2**	**+4.6**
WMQ				pmax	pmax		
	comp=Z,20nm,0.7s						
PEA0B	**Petropavlovsk-**	**58.65**	**22**	P	**P**	**15 53 52.4**	**-0.5**
PEA0B				IAmb	IAmb	15 53 56.2	
	comp=Z,14nm,1.0s						
PEA0B	**Petropavlovsk-**	**58.65**	**22**	i*eP*	**P**	**15 53 52.9**	**0.0**
PETK	**Petropavlovsk-**	**58.65**	**22**	P	**P**	**15 53 52.4**	**-0.5**
PETK	**Petropavlovsk-**	**58.65**	**22**	P	**P**	**15 53 53.4**	**+0.4**
	comp=Z,10nm,0.9s,baz=206,slow=5.2,SNR=17 comp=Z,10nm,0.9s						
PETK	**Petropavlovsk-**	**58.65**	**22**	P	**P**	**15 53 52.4**	**-0.5**
MK31	**Makanchi Array**	**59.87**	**327**	i*eP*	**P**	**15 53 59.9**	**-1.7**
MKAR	**Makanchi Array**	**59.87**	**327**	P	**P**	**15 54 00.3**	**-1.3**
MKAR	**Mak

ARTI pmax pmax
comp=Z,19nm,1.0s
GAMB Gambell 77.59 24 P P 15 55 52.3 +0.8
baz=245
S12K Black Hills 79.42 33 P P 15 56 02.3 +0.5
baz=255
TNA Tin City 79.79 23 P P 15 56 04.0 +0.4
baz=246
K13K Kusilvak Mount 79.91 27 P P 15 56 05.3 +1.0
baz=252
M13K Dall Lake 80.05 28 P P 15 56 06.1 +1.0
baz=253
SDPT Sand Point 80.21 34 P P 15 56 05.6 -0.4
SDPT Sand Point 80.21 34 P P 15 56 06.7 +0.6
baz=256
VNDA Vanda 80.31 173 P P 15 56 06.0 -0.2
VNDA Vanda 80.31 173 P P 15 56 06.5 +0.2
comp=Z,5.6nm,0.7s,baz=315,slow=6.0,SNR=37
comp=Z,5.6nm,0.7s
VNDA Vanda 80.31 173 P P 15 56 06.1 -0.2
VNDA pmax pmax
comp=Z,6.0nm,0.8s
F14K Arctic Creek 80.38 23 P P 15 56 08.0 +1.2
baz=250
ANM Nome 80.45 24 P P 15 56 07.7 +0.4
baz=251
MAW Mawson 80.52 200 P P 15 56 07.3 -0.1
comp=Z,2.7nm,0.8s,baz=64,slow=1.2,SNR=5.2
comp=Z,2.7nm,0.8s
CHNA Chernabura Isl 80.59 34 P P 15 56 08.5 +0.3
baz=257
L14K Kuka Creek 80.63 28 P P 15 56 09.1 +0.9
baz=254
J14K Nanvaranak Lak 80.65 26 P P 15 56 09.3 +1.0
baz=253
N14K Kuskokwak Cree 80.72 29 P P 15 56 09.9 +1.2
baz=255
O14K Tigyukauivet M 80.75 30 P P 15 56 09.9 +1.0
baz=255,SNR=5.7
M14K Bethel 80.81 28 P P 15 56 10.1 +1.0
baz=254
S14K Fog Glacier 80.93 33 P P 15 56 10.7 +0.7
baz=257,SNR=5.3
AKT Akhty 80.97 312 *e*P P 15 56 08.8 -1.9
AKT pmax pmax
comp=Z,14nm,0.7s
F15K North Star Dit 81.12 23 P P 15 56 11.8 +1.0
baz=251
G15K Niukluk 81.13 24 P P 15 56 11.8 +0.9
baz=252
RAYN Ar Rayn 81.19 294 P P 15 56 11.1 -1.0
RAYN IAmb IAmb 15 56 14.7
comp=Z,15nm,1.1s
RAYN Ar Rayn 81.19 294 P P 15 56 11.1 -1.0
RAYN pmax pmax
comp=Z,15nm,1.2s
L15K Ungalak Mounta 81.28 27 P P 15 56 12.6 +0.9
baz=255
M15K Kasigluk River 81.40 28 P P 15 56 13.3 +1.0
baz=256
K15K Wolf Creek Mou 81.42 27 IAmb IAmb 15 56 14.7
comp=Z,12nm,1.0s
K15K Wolf Creek Mou 81.42 27 P P 15 56 14.1 +1.6
baz=254,SNR=6.9
O15K Ungalikthiuk R 81.45 30 P P 15 56 13.7 +1.1
baz=256
N15K Kwethluk River 81.55 29 P P 15 56 14.6 +1.4
baz=256
CHGN Chignik 81.56 33 P P 15 56 14.4 +1.2
baz=258
C16K Lisburne Hills 81.72 20 P P 15 56 15.4 +1.6
baz=250
G16K Koyuk River 81.93 24 P P 15 56 16.2 +1.1
baz=253
J16K Anvik River 82.09 26 IAmb IAmb 15 56 18.9
comp=Z,12nm,0.8s
J16K Anvik River 82.09 26 P P 15 56 16.9 +0.9
baz=255,SNR=7.0
I17K Unalakleet 82.21 25 P P 15 56 17.4 +0.9
baz=255
L16K Owhat River 82.21 28 P P 15 56 17.6 +1.0
baz=256
N16K Nishlik Lake 82.27 29 P P 15 56 17.7 +0.7
baz=257
M16K Timber Creek 82.30 28 P P 15 56 17.9 +0.9
baz=257
D17K Noatak River 82.34 21 P P 15 56 18.3 +1.2
baz=252
P16K Nushagak River 82.34 30 P P 15 56 18.4 +1.1
baz=258
O16K Kokwok River B 82.41 30 P P 15 56 18.8 +1.1
baz=258,SNR=6.2
C17K DeLong Mountai 82.54 21 P P 15 56 19.5 +1.2
baz=252,SNR=5.2
E17K Hotham Inlet 82.62 22 P P 15 56 20.2 +1.6
baz=254
G17K Kiwalik Mounta 82.65 24 P P 15 56 20.4 +1.6
baz=255,SNR=6.2
KIRV Kirov 82.66 329⇑ *i*P P 15 56 18.4 -0.6
F17K Baldwin Pennin 82.66 23 P P 15 56 20.4 +1.6
baz=254
J17K VABM Dome 82.79 26 P P 15 56 19.2 -0.3
J17K IAmb IAmb 15 56 22.4
comp=Z,17nm,0.9s
J17K VABM Dome 82.79 26 P P 15 56 21.2 +1.6
baz=257
H17K Granite Mounta 82.80 24 IAmb IAmb 15 56 21.9
comp=Z,17nm,0.9s
H17K Granite Mounta 82.80 24 P P 15 56 20.9 +1.3
baz=256,SNR=10
L17K Donlin 82.85 27 P P 15 56 21.5 +1.6
baz=257,SNR=8.9
R17L Mt. Peulik Vol 82.92 32 P P 15 56 20.8 +0.4
baz=260
O17K Koliganek Bris 82.94 30 P P 15 56 21.4 +1.0
baz=259
Q16K King Salmon 82.95 31 P P 15 56 21.9 +1.4
baz=259
K17K Iditarod 82.98 27 P P 15 56 22.0 +1.4
baz=257
N17K Nushagak Hills 83.04 29 P P 15 56 22.0 +1.0
baz=259
GNI Garni 83.08 310⇑ *e*P P 15 56 22.0 +0.2
GNI pmax pmax
comp=Z,9.0nm,1.4s
M17K Holitna River 83.10 28 IAmb IAmb 15 56 23.7
comp=Z,9.8nm,1.0s
M17K Holitna River 83.10 28 P P 15 56 22.8 +1.5
baz=258,SNR=7.2
E18K Tukpahlearik C 83.17 22 P P 15 56 22.7 +1.2
baz=255
Q17K Contact Creek 83.28 31 P P 15 56 22.4 +0.1
baz=260
B18K Kokolik River 83.28 20 P P 15 56 23.7 +1.7
baz=253
C18K Utukok River 83.29 21 IAmb IAmb 15 56 24.0
comp=Z,9.4nm,0.9s
C18K Utukok River 83.29 21 P P 15 56 23.2 +1.0
baz=254
F18K Selawik 83.32 23 P P 15 56 23.3 +1.0
baz=256
H18K Honhosa River 83.49 24 P P 15 56 24.7 +1.5
baz=257
G18K Tagagawik 83.55 24 P P 15 56 24.6 +1.1
baz=257
L18K Granite Mounta 83.61 27 P P 15 56 25.3 +1.4
baz=259
N18K Kilae Creek 83.70 29 P P 15 56 25.4 +1.0
baz=260
A19K Wainwright 83.76 19 P P 15 56 25.9 +1.4
baz=254
Q18K Katmai Hardscr 83.80 31 P P 15 56 25.4 +0.4
baz=261
P18K Big Mountain, 83.80 30 P P 15 56 25.2 +0.3
baz=260
J18K Innoko River 83.84 26 P P 15 56 26.1 +1.0
baz=259,SNR=8.1
M18K Stony River 83.88 28 P P 15 56 26.3 +1.1
baz=260
O18K Koktuh Hills 83.89 30 P P 15 56 26.1 +0.7
baz=260
C19K Lookout Ridge 83.97 20 P P 15 56 27.0 +1.4
baz=255
GCSA Galena City Sc 84.02 25 P P 15 56 27.2 +1.3
baz=258
F19K Shaleruckik Mo 84.10 23 P P 15 56 27.0 +0.7
baz=257
G19K Purcell Mounta 84.22 23 P P 15 56 28.1 +1.1
baz=258
D19K Kuna River 84.35 21 P P 15 56 28.7 +1.1
baz=257
H19K Roundabout Mou 84.36 24 P P 15 56 29.1 +1.5
baz=259
N19K Bonanza Creek 84.40 29 P P 15 56 28.9 +0.9
baz=261
J19K Poorman 84.42 26 P P 15 56 28.8 +0.8
baz=260
E19K Redstone River 84.44 22 P P 15 56 28.9 +0.9
baz=258
L19K White Mountain 84.45 28 P P 15 56 28.7 +0.5
baz=260
OHAK Old Harbor 84.49 33 IAmb IAmb 15 56 29.9
comp=Z,14nm,1.0s
OHAK Old Harbor 84.49 33 P P 15 56 28.8 +0.4
baz=262
Q19K Cape Douglas, 84.54 31 P P 15 56 28.8 +0.1
baz=262
M19K Big River Lodg 84.62 28 P P 15 56 30.0 +1.0
baz=261
KBZ Khabaz 84.75 314 P P 15 56 29.3 -0.7
comp=Z,6.3nm,1.0s,baz=183,slow=3.6,SNR=7.0
comp=Z,6.3nm,1.0s
KBZ Khabaz 84.75 314⇑ *i*P P 15 56 29.8 -0.2
KBZ pmax pmax
comp=Z,9.0nm,1.1s
KIV Kislovodsk 84.92 314 *e*P P 15 56 27.9 -3.1
KIV pmax pmax
comp=Z,7.0nm,1.0s
D20K Etivluk River 84.93 21 P P 15 56 31.4 +0.9
baz=258
F20K Avaraart Lake 84.94 23 P P 15 56 31.6 +1.2
baz=259
KDAK Kodiak Island 84.94 32 P P 15 56 31.5 +0.8
baz=263
L20K Farewell, AK 84.94 27 P P 15 56 31.2 +0.5
baz=261
K20K Telida 84.99 26 P P 15 56 31.3 +0.4
baz=261
E20K Nigu River 84.99 21 P P 15 56 31.2 +0.4
baz=259
H20K Anotleneega Mo 84.99 24 P P 15 56 31.2 +0.4
baz=260
B20K Meade River 85.01 20 P P 15 56 31.2 +0.4
baz=258
J20K Nowinta River 85.09 26 P P 15 56 31.8 +0.5
baz=261
C21K Knifeblade Rid 85.67 21 P P 15 56 34.7 +0.6
baz=260
G21K Allakaket 85.71 23 P P 15 56 34.9 +0.5
baz=261
B21K Ikpikpuk River 85.81 20 P P 15 56 35.4 +0.6
baz=262
E21K Killik River 85.84 21 P P 15 56 35.6 +0.6
baz=261
CHUM Lake Minchumin 85.84 26 P P 15 56 35.7 +0.6
baz=263
H21K Melozitna Rive 85.87 24 P P 15 56 35.7 +0.5
baz=262
CAST Castle Rocks 85.89 27 P P 15 56 35.6 +0.3
baz=263
A22K Sinclair Lake 85.93 19 P P 15 56 36.1 +0.8
baz=262
SKT Skwentna 85.97 28 P P 15 56 35.1 -0.6
baz=264
CAPN Captain Cook N 86.02 29 P P 15 56 35.1 -0.8
baz=264
SUA Susitna One 86.28 29 P P 15 56 36.9 -0.6
baz=264
BPAW Bear Paw Mtn. 86.45 26 P P 15 56 38.3 +0.2
baz=264
H22K Ishlitna Cre 86.49 24 P P 15 56 38.7 +0.4
baz=263
G22K Bettles 86.56 23 P P 15 56 38.4 -0.2
baz=263
E22K Anaktuvuk Pass 86.59 22 P P 15 56 38.7 0.0
baz=263
M22K Willow 86.61 28 P P 15 56 39.0 +0.1
baz=265
MLY Manley 86.66 25 P P 15 56 39.5 +0.4
baz=264
PMR Palmer 87.07 28 P P 15 56 41.1 0.0
baz=266
COLD Coldfoot 87.10 23 IAmb IAmb 15 56 43.3
comp=Z,6.4nm,0.9s
COLD Coldfoot 87.10 23 P P 15 56 42.0 +0.8
baz=264
D23K Nanushuk River 87.10 21 P P 15 56 42.0 +0.9
baz=264
G23K Banana Creek 87.12 23 P P 15 56 42.0 +0.6
baz=264
C23K Itkillik River 87.22 20 P P 15 56 42.4 +0.7
baz=264
H23K Yukon River 87.23 24 P P 15 56 42.1 +0.2
baz=265
I23K Minto, Yukon-K 87.25 25 P P 15 56 42.2 +0.2
baz=265
MCK McKinley 87.32 26 P P 15 56 42.0 -0.3
baz=266
NEA2 Nenana 87.33 25 P P 15 56 42.9 +0.5
baz=266
E23K Chandalar 87.40 22 P P 15 56 43.5 +0.7
baz=265
PWL Port Wells 87.40 29 P P 15 56 43.2 +0.4
baz=266
WAT1 Susitna Watana 87.43 27 P P 15 56 43.7 +0.8
baz=266
TOLK Toolik Lake Re 87.47 21 P P 15 56 43.4 +0.4
baz=265
D24K Happy Valley 87.78 21 IAmb IAmb 15 56 47.5
comp=Z,7.3nm,0.9s
D24K Happy Valley 87.78 21 P P 15 56 45.0 +0.6
baz=266
WAT6 Susitna Watana 87.79 28 P P 15 56 44.4 -0.4
baz=267
P23K Montague Islan 87.81 30 P P 15 56 44.7 0.0
baz=267
E24K Your Creek 87.82 22 P P 15 56 44.8 +0.1
baz=266
C24K Franklin Bluff 87.87 20 P P 15 56 45.5 +0.7
baz=266
KLMR Klimovskoe 87.91 331 *e*P P 15 56 42.9 -2.3
KLMR pmax pmax
comp=Z,20nm,1.6s
H24K Noodor Dome 87.91 24 P P 15 56 45.4 +0.2
baz=266
SCM Shep Creek Mo 87.94 28 P P 15 56 45.5 +0.1
baz=267
DHY Denali Highway 87.98 27 P P 15 56 45.6 -0.1
baz=267
GLI Glacier Island 88.01 29 P P 15 56 45.4 -0.3
baz=267
F24K Squaw Lake 88.01 23 P P 15 56 45.7 0.0
baz=266
G24K Hadweenzic Riv 88.13 23 P P 15 56 46.0 -0.2
baz=267
HDA Harding Lake 88.23 26 P P 15 56 45.5 -1.2
baz=267
ILAR Eielson Array 88.28 25 P P 15 56 45.0 -1.8
comp=Z,0.4nm,0.6s,baz=253,slow=4.7,SNR=8.5
comp=Z,0.4nm,0.6s
Q23K Middleton Isla 88.32 31 P P 15 56 47.6 +0.5
baz=268
M24K Tolsona, Glenn 88.50 28 P P 15 56 48.4 +0.3
baz=268
KLU Klutina 88.60 29 P P 15 56 48.9 +0.3
baz=268
EYAK Cordova Ski Ar 88.66 30 P P 15 56 48.9 +0.2
baz=269
D25K Kavik River 88.66 21 P P 15 56 48.7 +0.1
baz=268
G25K Bearman Lake 88.67 23 P P 15 56 48.8 +0.1
baz=268
K24K Donnelly Dome 88.72 26 P P 15 56 48.8 -0.3
baz=268
H25L Birch Creek 88.77 24 P P 15 56 49.6 +0.4
baz=268
PAX Paxson 88.84 27 P P 15 56 49.9 +0.2
baz=269
KMBO Kilima Mbogo 88.87 269 P P 15 56 49.6 -1.5
KMBO IAmb IAmb 15 56 53.5
comp=Z,12nm,1.4s
KMBO Kilima Mbogo 88.87 269 P P 15 56 49.6 -1.5
KMBO pmax pmax
comp=Z,12nm,1.5s
PRP Porcupine Dome 88.88 25 P P 15 56 49.9 +0.1
baz=269
F25K Christian Rive 88.88 23 P P 15 56 50.0 +0.2
baz=268
E25K Arctic Village 88.92 22 P P 15 56 50.0 +0.2
baz=269
J25K Salcha River, 88.92 26 P P 15 56 50.2 +0.2
baz=269
RIDG Independent Ri 89.14 26 IAmb IAmb 15 56 51.5
comp=Z,6.4nm,1.0s
RIDG Independent Ri 89.14 26 P P 15 56 50.9 -0.1
baz=269
N25K Chitina, Valde 89.23 29 P P 15 56 50.8 -0.7
baz=270
KAIM Kayak Island 89.31 30 P P 15 56 51.6 -0.2
baz=270
OBN Obninsk 89.34 325⇓ *e*P P 15 56 51.2 -0.8
OBN *e* 16 00 23.8
OBN pmax pmax
comp=Z,10.0nm,1.1s
F26K Sheenjek River 89.45 22 P P 15 56 52.8 +0.4
baz=270
SCRK Sand Creek 89.52 26 P P 15 56 52.3 -0.6
baz=270
G26K Porcupine Rive 89.59 23 P P 15 56 53.3 +0.3
baz=270
C27K Jago River 89.61 20 P P 15 56 53.6 +0.6
baz=270
J26L Joseph Creek 89.70 26 P P 15 56 53.7 0.0
baz=270
L26K Log Cabin Wild 89.81 27 P P 15 56 54.5 +0.4
baz=271
I26K Coal Creek Min 89.87 25 P P 15 56 54.3 0.0
baz=271
K27K Chicken 90.36 26 P P 15 56 57.4 +0.8
baz=272
E27K Coleen River 90.41 22 P P 15 56 57.4 +0.6
baz=272
QSPA South Pole Qui 90.42 180 P P 15 56 57.0 0.0
comp=Z,7.5nm,0.8s,baz=315,slow=0.8,SNR=32
comp=Z,7.5nm,0.8s
G27K Doyon Strip 90.44 23 P P 15 56 57.7 +0.6
baz=272
I27K Kandik River 90.50 25 P P 15 56 57.4 0.0
baz=272
L27K Beaver Creek, 90.50 27 P P 15 56 57.3 -0.1
baz=272
M27K Edge Creek, AK 90.51 28 P P 15 56 57.9 +0.3
baz=272
BCAR Beaver Creek A 90.52 27 P P 15 56 57.1 -0.4
D27M Malcolm River 90.59 21 P P 15 56 58.1 +0.4
baz=273
CTG Chitna Glacier 90.82 29 P P 15 56 58.8 -0.2
baz=272
BVCY Beaver Creek 90.98 28 P P 15 56 59.7 +0.1
baz=273
F28M Old Crow 91.09 22 P P 15 57 00.3 +0.3
baz=274
E28M Babbage River 91.14 21 P P 15 57 00.6 +0.3
baz=274
I28M Miner Creek 91.21 25 P P 15 57 01.1 +0.4
baz=274
DAWY Dawson 91.54 26 P P 15 57 01.9 -0.3
baz=274
BR131 Keskin Array S 91.59 310⇑ *e*P P 15 57 02.0 -1.1
BRTR Keskin Array B 91.59 310 P P 15 57 02.0 -1.1
comp=Z,1.1nm,0.7s,baz=126,slow=7.0,SNR=6.9
comp=Z,1.1nm,0.7s
BRTR Keskin Array B 91.59 310 *i*P P 15 57 03.7 +0.6
BRTR pmax pmax
comp=Z,1.0nm,0.6s
E29M Blow River 91.76 22 P P 15 57 02.8 -0.3
baz=276
G29M Pine Creek 91.86 23 P P 15 57 03.4 -0.2
baz=276
I29M Ogilvie Camp, 91.89 25 P P 15 57 03.6 -0.2
baz=275
M29M Somme Creek 92.09 28 P P 15 57 05.0 +0.2
baz=275
L29M L29M 92.18 27 P P 15 57 06.0 +0.8
baz=275
K29M Barlow Dome 92.38 26 P P 15 57 06.2 -0.1
baz=276
EPYK Eagle Plains 92.44 24 P P 15 57 06.3 0.0
baz=277
G30M tAoh Zraii Nji 92.56 23 P P 15 57 06.2 -0.7
baz=277
F30M Barrier River 92.64 22 P P 15 57 06.7 -0.5
baz=278
I30M Mount Dempster 92.72 25 P P 15 57 07.7 0.0
baz=277
J30M Hart River 92.81 25 P P 15 57 08.4 +0.2
baz=277
N30M Aishikik Lake 92.83 29 P P 15 57 08.4 +0.2
baz=276
M30M Minto, Yukon 92.85 27 P P 15 57 08.5 +0.2
baz=276
P30M Million Dollar 93.04 30 P P 15 57 09.3 0.0
baz=276
ARCES ARCESS Array B 93.25 340 P P 15 57 08.8 -1.2
comp=Z,3.7nm,0.9s,baz=79,slow=6.5,SNR=7.0
comp=Z,3.7nm,0.9s
G31M Satah River 93.33 23 P P 15 57 09.5 -0.8
baz=279
INK Inuvik 93.38 21 P P 15 57 10.0 -0.5
baz=280
F31M Tsiigehtchic 93.45 22 P P 15 57 10.6 -0.3
baz=280
N31M Braeburn, Yuko 93.45 28 P P 15 57 11.6 +0.5
baz=277
SKAG Skagway 93.94 30 P P 15 57 13.5 +0.2
baz=278
AKBB Malin Array Si 94.00 321⇑ *e*P P 15 57 12.7 -1.0
WHY Whitehorse 94.00 29 P P 15 57 13.5 -0.2
baz=278
M31M Drury Creek, Y 94.00 28 P P 15 57 13.5 -0.1
baz=279
SIT Sitka 94.26 33 P P 15 57 14.6 -0.2
baz=278
FINES FINESS Array B 94.37 332 P P 15 57 14.8 -0.4
comp=Z,1.2nm,0.8s,baz=349,slow=3.9,SNR=4.8
comp=Z,1.2nm,0.8s
FARO Faro, Yukon 94.48 28 P P 15 57 16.3 +0.5
baz=280
N32M Quiet Lake 94.79 29 P P 15 57 17.9 +0.7
baz=280
P33M Teslin, Yukon 95.08 29 P P 15 57 19.2 +0.6
baz=280
MMPY Sheldon Lake, 95.37 27 P P 15 57 20.8 +0.9
baz=282
Q32M Nakina River 95.57 31 P P 15 57 21.7 +0.6
baz=280
BURAR Bucovina Array 96.98 318 P P 15 57 26.3 -1.3
BURAR IAmb IAmb 15 57 29.2
comp=Z,3.3nm,0.9s
TORD Torodi Ar. Bea 123.27 286 PKP PKPdf 16 02 53.2 -0.4
comp=Z,2.6nm,0.9s,baz=28,slow=3.2,SNR=10
TORD PKKPbc PKKPbc 16 12 44.2 +0.8
comp=Z,2.3nm,0.8s,baz=304,slow=5.3,SNR=12
TXAR Lajitas Array 124.03 54 PKP PKPdf 16 02 55.2 +0.4
comp=Z,0.8nm,0.7s,baz=254,slow=1.1,SNR=12
PLCA Paso Flores 137.18 161 PKP PKPdf 16 03 19.8 +0.4
comp=Z,2.1nm,0.8s,baz=278,slow=1.2,SNR=4.8
CPUP Villa Florida 154.10 173 PKPbc PKiKP 16 03 57.2 +0.9
comp=Z,1.8nm,0.9s,baz=7.4,slow=0.4,SNR=9.8
CPUP PKPab PKPab 16 04 09.5 -0.1
comp=Z,1.5nm,0.8s,baz=30,slow=6.5,SNR=6.4
LPAZ La Paz 158.94 139 PKPab PKPab 16 04 32.6 +1.1
comp=Z,1.2nm,0.6s,baz=124,slow=4.3,SNR=3.7

IDC ***07*** *15:46:24.2±0.7, 0.40N×126.01E, h0km, mb4.0/14, mbtmp4.0/15, ML3.6/1, Error ellipse: s-maj=38.5km s-min=15.1km az=79.0*
NEIC ***07*** *15:46:30.0±2.2, 0.4N±0.1×126.26E±0.08, h35km±2km, mb4.6/14, Error ellipse: s-maj=21.7km s-min=11.8km az=162.0*

ISC 07 15:46:29.4±0.6, 0.41N±0.08×126.19E±0.10, h35km, n34, σ0.987/34, mb4.2/19, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.23**	**73**	Pn	**Pn**	**Pn**	**15 46 48.9**	**-1.3**
BKB	**Balikpapan**	**9.44**	**260**	Pn	**Pn**	**Pn**	**15 48 41.9**	**-1.1**
KNRA	**Kununurra**	**16.19**	**171**	P	**Pn**	**Pn**	**15 50 15.7**	**+1.4**
KNRA				IAmb	IAmb	IAmb	15 50 34.0	
	comp=Z,54nm,1.5s							
FITZ	**Fitzroy Crossi**	**18.40**	**182**	P	**P**	**P**	**15 50 41.6**	**0.0**
	comp=Z,0.1nm,0.3s,baz=18,slow=19,SNR=1.0							

comp=Z,2.1nm,0.8s
BOXOZ Borroloola 19.17 149 P P 15 50 47.9 -2.1
WRAB Tennant Creek 21.75 159 P P 15 51 17.1 -0.9
WRAB IAmb IAmb 15 51 44.0
comp=Z,39nm,1.4s
WRA Warramunga Arr 21.75 159 P P 15 51 17.4 -0.6
WRA Warramunga Arr 21.75 159 P P 15 51 18.1 +0.1
comp=Z,3.1nm,0.4s,baz=338,slow=11,SNR=5.2
comp=Z,3.1nm,0.4s
GUMO Guam 22.66 54 P P 15 51 27.9 +0.1
GUMO IAmb IAmb 15 51 44.8
comp=Z,21nm,0.7s
AS31 Alice Springs 25.08 163 P P 15 51 51.1 +0.3
AS31 IAmb IAmb 15 52 04.4
comp=Z,5.6nm,0.7s
ASAR Alice Springs 25.08 163 P P 15 51 51.5 +0.7
ASAR Alice Springs 25.08 163 P P 15 51 51.2 +0.3
comp=Z,1.4nm,0.4s,baz=345,slow=12,SNR=4.2
comp=Z,1.4nm,0.4s
STKA Stephens Creek 35.27 157 P P 15 53 21.1 +0.1
STKA Stephens Creek 35.27 157 P P 15 53 21.6 +0.7
comp=Z,2.4nm,0.6s,baz=330,slow=11,SNR=4.8
comp=Z,2.4nm,0.6s
KSRS Korea Array 36.89 2 P P 15 53 36.0 +1.3
comp=Z,0.8nm,0.9s,baz=180,slow=9.4,SNR=5.5
comp=Z,0.8nm,0.9s
MJAR Matsushiro Arr 37.64 16 P P 15 53 40.1 -1.0
comp=Z,0.4nm,0.5s,baz=174,slow=11,SNR=5.5
comp=Z,0.4nm,0.5s
USRK Ussuriysk Ar. 43.90 6 P P 15 54 33.2 +0.6
comp=Z,1.4nm,0.6s,baz=203,slow=8.0,SNR=2.0
comp=Z,1.4nm,0.6s
PEA0B Petropavlovsk- 58.69 22 P P 15 56 23.8 +0.5
PETK Petropavlovsk- 58.69 22 P P 15 56 23.9 +0.5
PETK Petropavlovsk- 58.69 22 P P 15 56 23.9 +0.6
comp=Z,1.5nm,0.8s,baz=177,slow=4.8,SNR=5.6
comp=Z,1.5nm,0.8s
MKAR Makanchi Array 59.98 327 P P 15 56 32.1 -0.3
comp=Z,1.3nm,0.4s,baz=120,slow=8.3,SNR=4.8
comp=Z,1.3nm,0.4s
MAKZ Makanchi 60.16 326 P P 15 56 33.1 -0.6
MAKZ IAmb IAmb 15 56 41.5
comp=Z,8.3nm,1.0s
YAK Yakutsk 61.52 2 P P 15 56 42.5 +0.1
comp=Z,4.9nm,0.5s,baz=203,slow=2.8,SNR=5.0
comp=Z,4.9nm,0.5s
ZALV Zalesovo Beam 63.30 334 P P 15 56 53.7 -0.8
comp=Z,0.4nm,0.3s,baz=115,slow=2.1,SNR=1.5
comp=Z,0.4nm,0.3s
KURBB Kurchatov Arra 64.24 328 P P 15 57 00.8 -0.1
comp=Z,0.9nm,0.5s,baz=133,slow=6.8,SNR=5.1
comp=Z,0.9nm,0.5s
KURK Kurchatov 64.25 329 P P 15 57 00.4 -0.5
NRIK Noril'sk 73.50 347 P P 15 57 58.2 +0.1
NRIK IAmb IAmb 15 58 06.5
comp=Z,7.9nm,0.7s
NRIK Noril'sk 73.50 347 P P 15 57 59.1 +1.0
comp=Z,2.7nm,0.8s,baz=139,slow=4.2,SNR=6.7
comp=Z,2.7nm,0.8s
SDPT Sand Point 80.23 34 P P 15 58 37.1 +0.8
C19K Lookout Ridge 84.02 20 P P 15 58 57.0 +1.0
D19K Kuna River 84.39 21 P P 15 58 59.0 +1.1
D19K IAmb IAmb 15 59 24.7
comp=Z,4.6nm,1.1s
KBZ Khabaz 84.86 314 P P 15 59 00.9 +0.3
comp=Z,1.4nm,0.8s,baz=199,slow=1.9,SNR=4.3
comp=Z,1.4nm,0.8s
BRTR Keskin Array B 91.70 310 P P 15 59 33.0 -0.7
comp=Z,0.4nm,0.7s,baz=132,slow=8.5,SNR=4.6
comp=Z,0.4nm,0.7s
TORD Torodi Ar. Bea 123.37 286 PKP PKPdf 16 05 22.3 -1.6
comp=Z,1.5nm,0.8s,baz=27,slow=3.0,SNR=5.3

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*NEIC **07** 15:48:11.3±0.7, 35°.829N±0°.009×117°.66W±0°.02, h9km±5km, Error ellipse: s-maj=1.9km s-min=1.4km az=81.0*

PAS 07 15:48:11.8±0.9, **35°.820N**±0°.008×**117°.66W**±0°.01, **h4**km±1km, **ML3.5**/18, **ML3.2**/130(NEIC), **Error ellipse: s-maj=1.7km s-min=1.2km az=81.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.05**	**95**	Pg	Pg	15 48 13.3	+0.2
CLC				IAML		15 48 14.9	
comp=E,22µm,0.2s							
TOW	**Tower One**	**0.08**	**262**		Pg	15 48 14.3	+0.7
SRTC	**Snort**	**0.15**	**209**		Pg	15 48 15.2	+0.5
WVPM	**Volcano Peak E**	**0.18**	**316**		Pg	15 48 15.5	+0.2
WVPM					Sg	15 48 18.1	+0.4
WNMM	**Nine Mile Cany**	**0.20**	**277**		Pg	15 48 15.8	+0.2
WRVM	**Rose V. Centra**	**0.26**	**315**		Pg	15 48 15.9	-1.0
WRVM					Sg	15 48 20.8	+0.4
MPMC	**Manual Prospec**	**0.28**	**31**	Pg	Pg	15 48 17.0	-0.1
MFS	**McCloud Flat S**	**0.34**	**332**		Pg	15 48 18.3	0.0
LRMC	**Laurel Mtn Rad**	**0.34**	**183**	Pg	Pg	15 48 18.2	-0.2
LRMC					Sg	15 48 22.8	0.0
LRMC				IAML		15 48 24.2	
comp=N,5µm,0.4s							
CCCA	**Chr Cany lake**	**0.38**	**141**		Pg	15 48 19.2	+0.1
WBSM	**Bird Springs**	**0.48**	**234**		Sg	15 48 27.7	+0.4
WORM	**Onyx Ranch**	**0.49**	**255**		Pg	15 48 20.8	-0.3
WORM					Sg	15 48 27.5	0.0
QSM	**Queen of Sheba**	**0.66**	**77**		Pg	15 48 24.3	-0.1
QSM				IAML		15 48 33.2	
comp=N,2µm,0.5s							
QSM				IAML		15 48 36.6	
comp=E,2µm,0.5s							
ISA	**Isabella, Lake**	**0.68**	**257**	Pg	Pg	15 48 24.5	-0.3
CWC	**Cottonwood Cre**	**0.70**	**331**	Pg	Pg	15 48 25.0	-0.3
CWC				IAML		15 48 35.8	
comp=E,906nm,0.2s							
CWC				IAML		15 48 39.6	
comp=N,1µm,0.2s							
CGO	**Cerro Gordo**	**0.74**	**351**		Pg	15 48 25.4	-0.6
GSC	**Goldstone, Bar**	**0.87**	**126**	IAML		15 48 40.2	
comp=E,872nm,0.5s							
GSC				IAML		15 48 41.5	
comp=N,723nm,0.6s							
GWY	**Greenwater Val**	**0.88**	**65**		Pg	15 48 28.4	-0.3
GWY				IAML		15 48 42.7	
comp=N,1µm,0.4s							
SPG2	**Springville 2**	**0.97**	**293**		Pg	15 48 29.5	-0.9
VES	**Vestal, Richgr**	**1.16**	**271**		Pg	15 48 33.2	-0.7
ARVC	**Arvin**	**1.18**	**234**		Pg	15 48 33.9	-0.4
GRAC	**Grapevine Rang**	**1.20**	**11**	IAML		15 48 50.7	
comp=E,560nm,0.5s							
GRAC				IAML		15 48 55.6	
comp=N,726nm,0.8s							
BAKC	**Calstate**	**1.27**	**248**		Sg	15 48 52.7	+0.2
WCT	**Wildcat Mounta**	**1.28**	**40**		Pg	15 48 35.0	-1.4
WCT				IAML		15 48 54.5	
comp=E,375nm,0.6s							
TUQ	**Turquoise Moun**	**1.47**	**105**		Pn	15 48 37.6	-1.6
VOG	**Valley Oaks Go**	**1.48**	**290**		Pn	15 48 39.0	-0.2
OSI	**Osito Audit: C**	**1.48**	**216**		Pn	15 48 37.2	-2.1
OSI				IAML		15 49 02.4	
comp=N,450nm,0.6s							
OSI				IAML		15 49 04.9	
comp=E,453nm,0.6s							
GMN	**Gold Mountain**	**1.51**	**12**		Pn	15 48 38.7	-1.2
GMN				IAML		15 48 48.0	
comp=N,222nm,0.5s							
DSP	**Deep Springs**	**1.57**	**351**		Pn	15 48 39.3	-1.1
DSP				IAML		15 49 02.8	
comp=E,325nm,0.5s							
BFSC	**Mount Baldy Ra**	**1.58**	**180**		Pn	15 48 39.4	-1.2
BFSC				IAML		15 49 03.4	
comp=E,377nm,0.2s							
BFSC				IAML		15 49 04.3	
comp=N,295nm,0.5s							
SIL	**Silver Peak**	**1.62**	**155**		Pb	15 48 42.4	+0.1
MWC	**Mount Wilson**	**1.63**	**192**		Pn	15 48 40.2	-1.2
PASC	**Pasadena Art C**	**1.70**	**195**		Pn	15 48 41.1	-1.2
PASC				IAML		15 49 06.8	
comp=E,234nm,0.9s							
PASC				IAML		15 49 09.1	
comp=N,162nm,0.7s							
PSRC	**Puddingstone R**	**1.73**	**184**		Pg	15 48 44.6	-0.3
MZP	**Montezuma Peak**	**1.89**	**7**		Pn	15 48 44.0	-1.1
ELS	**Elsinore Mount**	**2.18**	**175**	IAML		15 49 22.2	
comp=E,161nm,0.3s							
ELS				IAML		15 49 24.4	
comp=N,110nm,0.9s							
V12A	**Nelson**	**2.29**	**92**	IAML		15 49 27.1	
comp=N,100nm,0.5s							
V12A				IAML		15 49 28.0	
comp=E,80nm,0.5s							
PMD	**Palm Desert**	**2.41**	**154**	IAML		15 49 31.2	
comp=E,72nm,1.0s							
LHV	**Little Huntoon**	**2.52**	**345**	IAML		15 49 09.7	
comp=E,75nm,0.5s							
LHV				IAML		15 49 45.2	
comp=N,75nm,1.2s							
NEE2	**Needles Airpor**	**2.70**	**112**	IAML		15 49 45.2	
comp=N,122nm,0.5s							
NEE2				IAML		15 49 48.3	
comp=E,104nm,0.6s							
R11B	**Troy Canyon, C**	**3.02**	**33**	IAML		15 49 50.4	
comp=E,62nm,1.1s							
CMB	**Columbia Colle**	**3.11**	**316**	IAML		15 49 54.3	
comp=E,40nm,0.6s							
CMB				IAML		15 49 54.8	
comp=N,52nm,0.6s							
BLYC	**Blythe**	**3.31**	**128**	IAML		15 50 06.0	
comp=E,39nm,0.9s							
BLYC				IAML		15 50 07.5	
comp=N,40nm,0.8s							
GLA	**Glamis**	**3.62**	**139**	IAML		15 50 11.3	
comp=E,76nm,0.9s							
GLA				IAML		15 50 15.6	
comp=N,77nm,0.7s							
MPK	**Martis Peak**	**3.95**	**332**	IAML		15 50 34.3	
comp=N,54nm,1.0s							
MPK				IAML		15 50 40.2	
comp=E,38nm,1.1s							
ESJX	**Sierra Juarez**	**4.06**	**159**	IAML		15 50 25.3	
comp=E,26nm,1.1s							
PSUT	**Pine Spring**	**4.07**	**47**	IAML		15 50 25.6	
comp=N,40nm,1.2s							
PSUT				IAML		15 50 26.7	
comp=E,49nm,0.9s							
KNB	**Kanab**	**4.08**	**72**	IAML		15 50 23.5	
comp=E,20nm,2.3s							
AFDM	**Forest Hills D**	**4.09**	**321**	IAML		15 50 24.1	
comp=E,41nm,0.8s							
AFDM				IAML		15 50 28.4	
comp=N,30nm,1.1s							
SPR3	**Spring Creek 3**	**4.13**	**39**	IAML		15 50 24.4	
comp=E,24nm,1.6s							
SPR3				IAML		15 50 31.0	
comp=N,27nm,1.9s							
Y14A	**Wickenburg**	**4.26**	**115**	IAML		15 50 33.8	
comp=N,31nm,1.0s							
Y14A				IAML		15 50 36.6	
comp=E,20nm,0.8s							
BEKR	**Beckworth**	**4.57**	**333**	IAML		15 50 48.9	
comp=E,22nm,0.6s							
ELK	**Elko**	**5.27**	**20**	IAML		15 51 01.8	
comp=E,14nm,0.7s							
ELK				IAML		15 51 01.9	
comp=E,9.0nm,0.9s							

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*NEIC **07** 15:49:14.7±0.6, 35°.89N±0°.01×117°.703W±0°.007, h9km±6km, Error ellipse: s-maj=1.6km s-min=0.7km az=173.0*

PAS 07 15:49:15.1±0.8, **35°.868N**±0°.009×**117°.70W**±0°.01, **h3**km±3km, **ML3.3**/32, **ML2.9**/32(NEIC), **Error ellipse: s-maj=1.6km s-min=1.0km az=50.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**222**		Pg	15 49 11.3	+0.6
TOW					Sg	15 49 19.8	+1.9
CLC	**China Lake**	**0.10**	**122**	Pg	Pg	15 49 17.2	+0.1
WVPM	**Volcano Peak E**	**0.13**	**310**		Pg	15 49 17.8	+0.2
WVPM					Sg	15 49 19.9	+0.5
WNMM	**Nine Mile Cany**	**0.17**	**261**		Pg	15 49 18.6	+0.2
WNMM					Sg	15 49 21.5	+0.9
WRVM	**Rose V. Centra**	**0.21**	**312**		Pg	15 49 19.3	+0.1
WRVM					Sg	15 49 22.3	+0.3
MPMC	**Manual Prospec**	**0.26**	**42**		Pg	15 49 20.0	0.0
MPMC				IAML		15 49 25.6	
comp=N,3µm,0.5s							
MPMC				IAML		15 49 28.0	
comp=E,2µm,0.5s							
MFS	**McCloud Flat S**	**0.28**	**333**		Pg	15 49 20.6	0.0
LRMC	**Laurel Mtn Rad**	**0.39**	**178**		Pg	15 49 22.3	-0.3
LRMC				IAML		15 49 28.5	
comp=N,1µm,0.2s							
LRMC				IAML		15 49 33.1	
comp=E,2µm,0.5s							
LRMC	**Laurel Mtn Rad**	**0.39**	**178**		Sg	15 49 28.4	+0.7
CCCA	**Chr Cany lake**	**0.44**	**141**		Pg	15 49 23.7	+0.2
WORM	**Onyx Ranch**	**0.47**	**249**		Pg	15 49 24.0	-0.2
DTP	**Desert Tortois**	**0.61**	**191**		Pg	15 49 26.5	-0.4
CWC	**Cottonwood Cre**	**0.65**	**332**		Pg	15 49 27.6	0.0
CWC				IAML		15 49 36.9	
comp=N,554nm,0.2s							
CWC				IAML		15 49 37.6	
comp=E,510nm,0.2s							
ISA	**Isabella, Lake**	**0.66**	**252**		Pg	15 49 27.7	-0.2
ISA	**Isabella, Lake**	**0.66**	**252**	IAML		15 49 36.6	
comp=N,1µm,0.3s							
ISA				IAML		15 49 37.6	
comp=E,825nm,0.3s							
QSM	**Queen of Sheba**	**0.68**	**82**		Pg	15 49 27.9	-0.3
QSM				IAML		15 49 39.8	
comp=N,341nm,0.5s							
QSM				IAML		15 49 41.7	
comp=E,408nm,0.3s							
WASM	**Alta Sierra Ca**	**0.71**	**260**		Pg	15 49 28.5	-0.2
CCAC	**Calif City Air**	**0.76**	**200**		Pg	15 49 29.3	-0.4
GSC	**Goldstone, Bar**	**0.92**	**128**	Pg	Pg	15 49 32.4	-0.3
GSC				IAML		15 49 47.9	
comp=N,266nm,0.4s							
GSC				IAML		15 49 48.0	
comp=E,403nm,0.5s							
SPG2	**Springville 2**	**0.93**	**291**		Pg	15 49 32.1	-0.8
TPO	**Tropico Hills**	**1.08**	**204**	IAML		15 49 54.9	
comp=E,292nm,0.8s							
GRAC	**Grapevine Rang**	**1.16**	**13**		Pg	15 49 36.9	-0.4
GRAC	**Grapevine Rang**	**1.16**	**13**	IAML		15 49 56.7	
comp=E,291nm,0.7s							
GRAC				IAML		15 49 58.1	
comp=N,218nm,0.9s							
WCT	**Wildcat Mounta**	**1.27**	**43**		Pg	15 49 38.7	-0.7
MTUM	**Tungsten Hills**	**1.64**	**335**		Pb	15 49 45.6	-0.5
SIL	**Silver Peak**	**1.68**	**155**		Pb	15 49 46.8	+0.1
PSRC	**Puddingstone R**	**1.77**	**183**		Pg	15 49 48.8	-0.3
ORV	**Oroville**	**4.76**	**322**	IAML		15 51 29.1	
comp=N,7.1nm,3.4s							
ORV				IAML		15 51 30.1	
comp=E,11nm,4.2s							

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*IDC **07** 15:56:57.0±0.7, 0°.54N×126°.04E, h0km, mb4.1/10, mbtmp4.0/12, MLM.3.8/2, Error ellipse: s-maj=33.0km s-min=13.8km az=79.0*

*DJA **07** 15:57:00.3±0.9, 0°.N±2°×12°.6E±°, h13km±7km, M3.5/1, MLv4.0/13, MLv3.5/1*

*NEIC **07** 15:57:03.7±1.4, 0°.46N±0°.08×126°.32E±0°.03, h35km±2km, mb4.5/30, Error ellipse: s-maj=14.1km s-min=4.5km az=165.0*

ISC 07 15:57:02.6±0.5, **0°.47N**±0°.05×**126°.21E**±0°.05, **h35**km, **n58,** σ1§**10**/62, **mb4.4**/24, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.20**	**76**		Pn	15 57 22.8	-0.1
TNTI	**Ternate**	**1.20**	**76**	P	Pn	15 57 22.5	-0.4
TNTI				S	Sn	15 57 40.5	+2.5
KMSI	**Cibinong**	**2.23**	**273**	P	Pn	15 57 36.2	-0.9
KMSI				S	Sn	15 58 04.4	+1.0
SANI	**Sanana**	**2.51**	**185**	P	Pn	15 57 40.7	-0.3
SANI				S	Sn	15 58 10.5	0.0
LUWI	**Luwuk**	**3.75**	**246**		Pn	15 58 01.0	+2.9
LUWI	**Luwuk**	**3.75**	**246**	P	Pn	15 57 57.8	-0.2
NLAI	**Namlea**	**3.79**	**166**	P	Pn	15 57 58.8	+0.2
MRSI	**Marisa**	**4.27**	**270**	P	Pn	15 58 04.9	-0.2
AAI	**Ambon**	**4.58**	**154**	P	Pn	15 58 09.2	-0.3
APSI	**Ampana**	**4.76**	**253**	P	Pn	15 58 11.2	-0.7
TOLI2	**Tolitoli**	**5.46**	**277**	Pn	Pn	15 58 21.3	-0.3
KAPI	**Kappang**	**8.44**	**230**	Pn	Pn	15 59 05.8	+3.3
KAPI	**Kappang**	**8.44**	**230**	Pn	Pn	15 59 00.4	-2.1
2.0nm,0.3s,baz=130,slow=4.1,SNR=6.1							
3.4nm,0.5s							
MYLDM	**Lahad Datu**	**9.01**	**301**		Pn	15 59 13.5	+3.2
KSM	**Kuching**	**15.93**	**274**	Pn	P	16 00 47.1	-0.4
KSM				IAmb	IAmb	16 00 48.4	
comp=Z,16nm,0.7s							
FITZ	**Fitzroy Crossi**	**18.46**	**182**	P	P	16 01 15.6	+0.1
FITZ	**Fitzroy Crossi**	**18.46**	**182**	P	P	16 01 14.6	-1.0
comp=Z,0.1nm,0.3s,baz=335,slow=4.7,SNR=7.1							
comp=Z,0.8nm,0.4s							
BOXOZ	**Borroloola**	**19.21**	**149**	P	P	16 01 22.9	-0.8
WB0	**Warramunga Arr**	**21.66**	**159**	P	P	16 01 49.8	-0.5
WB0				IAmb	IAmb	16 02 05.2	
comp=Z,15nm,1.2s							
WRAB	**Tennant Creek**	**21.79**	**159**	P	P	16 01 51.5	-0.2
WRA	**Warramunga Arr**	**21.80**	**159**	P	P	16 01 51.6	-0.2
comp=Z,6.3nm,0.8s,baz=340,slow=11,SNR=33							
comp=Z,6.3nm,0.8s							
WR8	**Warramunga Arr**	**21.87**	**159**	P	P	16 01 52.2	-0.4
COEN	**Coen**	**22.09**	**131**	P	P	16 01 54.8	-0.1
COEN				IAmb	IAmb	16 02 04.2	
comp=Z,23nm,1.3s							
AS31	**Alice Springs**	**25.13**	**163**	P	P	16 02 24.6	0.0
ASAR	**Alice Springs**	**25.13**	**163**	P	P	16 02 24.9	+0.3
ASAR	**Alice Springs**	**25.13**	**163**	P	P	16 02 25.4	+0.9
comp=Z,1.6nm,0.4s,baz=347,slow=13,SNR=34							
comp=Z,1.6nm,0.4s							
MORW	**Morawa**	**30.94**	**197**	P	P	16 03 16.9	+0.5
MORW				IAmb	IAmb	16 03 28.0	
comp=Z,13nm,1.4s							
FORT	**Forrest**	**31.13**	**177**	P	P	16 03 18.1	+0.1
FORT				IAmb	IAmb	16 03 59.1	
comp=Z,7.6nm,1.1s							
STKA	**Stephens Creek**	**35.32**	**157**	P	P	16 03 54.9	+0.3
STKA	**Stephens Creek**	**35.32**	**157**	P	P	16 03 54.9	+0.3
comp=Z,1.0nm,0.3s,baz=329,slow=10,SNR=17							
comp=Z,1.0nm,0.3s							
JGF	**Kuroka**	**36.46**	**15**	P	P	16 04 05.0	+0.6
KSAR	**Wonju Array Be**	**36.82**	**2**	P	P	16 04 08.3	+0.9
KSRS	**Korea Array**	**36.84**	**2**	P	P	16 04 06.7	-0.8
comp=Z,0.6nm,0.6s,baz=179,slow=10,SNR=5.1							
comp=Z,0.6nm,0.6s							
MAJO	**Matsushiro**	**37.58**	**16**	P	P	16 04 13.3	-0.5
MAJO				IAmb	IAmb	16 04 26.9	
comp=Z,11nm,1.1s							
MJAR	**Matsushiro Arr**	**37.58**	**16**	P	P	16 04 12.9	-0.9
MJAR	**Matsushiro Arr**	**37.58**	**16**	P	P	16 04 13.4	-0.5
comp=Z,1.2nm,0.6s,baz=183,slow=9.5,SNR=9.4							
comp=Z,1.2nm,0.6s							
JTM	**Tenmabayashi**	**42.34**	**17**	P	P	16 04 53.8	+0.5
JKA	**Kamikawa-asahi**	**45.84**	**16**	P	P	16 05 21.6	+0.2
JKA				IAmb	IAmb	16 05 42.1	
comp=Z,17nm,1.5s							
PEA0B	**Petropavlovsk-**	**58.63**	**22**	P	P	16 06 57.0	+0.9
PETK	**Petropavlovsk-**	**58.63**	**22**	P	P	16 06 55.5	-0.7
comp=Z,1.6nm,0.6s,baz=188,slow=4.4,SNR=10							
comp=Z,1.6nm,0.6s							
MKAR	**Makanchi Array**	**59.95**	**327**	P	P	16 07 03.9	-1.6
comp=Z,0.8nm,0.3s,baz=118,slow=8.2,SNR=20							
MKAR				PcP	PcP	16 07 50.6	-0.9
comp=Z,0.7nm,0.6s,baz=114,slow=4.2,SNR=4.5							
comp=Z,0.8nm,0.3s							
MAKZ	**Makanchi**	**60.13**	**326**	P	P	16 07 06.8	+0.1
MAKZ				IAmb	IAmb	16 07 32.5	
comp=Z,3.8nm,1.4s							
ZALV	**Zalesovo Beam**	**63.25**	**334**	P	P	16 07 25.7	-1.9
comp=Z,0.7nm,0.6s,baz=99,slow=8.9,SNR=2.2							
comp=Z,0.7nm,0.6s							
KURBB	**Kurchatov Arra**	**64.20**	**328**	P	P	16 07 32.6	-1.3
comp=Z,0.8nm,0.4s,baz=132,slow=6.4,SNR=16							
comp=Z,0.8nm,0.4s							
KURK	**Kurchatov**	**64.21**	**329**	P	P	16 07 33.2	-0.7
KURK				IAmb	IAmb	16 07 33.7	
comp=Z,3.1nm,0.6s							
TIXI	**Tiksi**	**71.09**	**1**	P	P	16 08 16.4	-0.5
NRIK	**Noril'sk**	**73.45**	**347**	P	P	16 08 30.8	-0.3
NRIK				IAmb	IAmb	16 08 34.8	
comp=Z,5.5nm,1.1s							
NRIK	**Noril'sk**	**73.45**	**347**	P	P	16 08 30.4	-0.7
comp=Z,2.8nm,0.6s,baz=107,slow=6.7,SNR=3.9							
comp=Z,2.8nm,0.6s							
ABKAR	**Akbulak array**	**74.34**	**321**	P	P	16 08 35.6	-1.1
AKUT	**Akutan**	**76.89**	**34**	P	P	16 08 52.0	+0.9
SDPT	**Sand Point**	**80.17**	**34**	P	P	16 09 09.6	+0.3
F15K	**North Star Dit**	**81.10**	**23**	P	P	16 09 14.6	+0.6
F15K				IAmb	IAmb	16 09 58.5	
comp=Z,10.0nm,1.5s							
SBA	**Scott Base**	**81.20**	**172**	P	P	16 09 15.1	+0.8
L16K	**Owhat River**	**82.19**	**28**	P	P	16 09 20.9	+1.1
L16K				IAmb	IAmb	16 10 00.3	
comp=Z,5.2nm,1.2s							
H17K	**Granite Mounta**	**82.78**	**24**	P	P	16 09 24.4	+1.5
H17K				IAmb	IAmb	16 09 26.0	
comp=Z,3.0nm,0.7s							
C18K	**Utukok River**	**83.28**	**21**	P	P	16 09 26.3	+0.8
C18K				IAmb	IAmb	16 09 35.3	
comp=Z,11nm,1.5s							
C19K	**Lookout Ridge**	**83.96**	**20**	P	P	16 09 30.5	+1.6
C19K				IAmb	IAmb	16 09 56.8	
comp=Z,12nm,1.5s							
D19K	**Kuna River**	**84.33**	**21**	P	P	16 09 32.0	+1.1
D19K				IAmb	IAmb	16 09 43.3	
comp=Z,4.2nm,1.0s							

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*IDC **07** 16:00:50.1±0.6, 0°.52N×126°.18E, h0km, mb4.1/13, mbtmp4.1/14, ML3.8/1, Error ellipse: s-maj=44.1km s-min=13.0km az=80.0*

*DJA **07** 16:00:53.9±0.2, 1°N±2°×12°6E±°, h10km, M3.7/1, MLv4.0/11, MLv3.7/1*

*NEIC **07** 16:00:55.0±1.1, 0°.51N±0°.09×126°.15E±0°.04, h35km±2km, mb4.4/10, Error ellipse: s-maj=15.9km s-min=7.4km az=359.0*

ISC 07 16:00:55.2±0.5, **0°.54N**±0°.05×**126°.23E**±0°.04, **h35**km, **n38,** σ1§**41**/42, **mb4.3**/19, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.16**	**78**		Pn	16 01 14.6	-0.3
TNTI	**Ternate**	**1.16**	**78**	P	Pn	16 01 14.9	0.0
TNTI				S	Sn	16 01 31.9	+2.3
KMSI	**Cibinong**	**2.25**	**271**	P	Pn	16 01 30.1	+0.1
KMSI				S	Sn	16 02 00.5	+4.0
SANI	**Sanana**	**2.58**	**185**	P	Pn	16 01 33.8	-0.7
SANI				S	Sn	16 02 07.3	+2.6
LUWI	**Luwuk**	**3.80**	**246**	Pn	Pn	16 01 48.4	-2.8
LUWI	**Luwuk**	**3.80**	**246**	P	Pn	16 01 52.9	+1.6
NLAI	**Namlea**	**3.85**	**167**	P	Pn	16 01 52.9	+0.9
MRSI	**Marisa**	**4.29**	**269**	P	Pn	16 01 59.9	+1.9
AAI	**Ambon**	**4.63**	**155**	P	Pn	16 02 03.7	+0.9
TOLI2	**Tolitoli**	**5.48**	**276**	Pn	Pn	16 02 11.5	-2.9
KNRA	**Kununurra**	**16.30**	**171**	Pn	Pn	16 04 40.3	-1.3
FITZ	**Fitzroy Crossi**	**18.53**	**182**	P	P	16 05 07.7	-1.2
FITZ	**Fitzroy Crossi**	**18.53**	**182**	P	P	16 05 07.2	-1.6
0.2nm,0.3s,baz=12,slow=9.6,SNR=6.1							
1.9nm,0.9s							
WB0	**Warramunga Arr**	**21.71**	**159**	P	P	16 05 42.3	-1.1
WB0				IAmb	IAmb	16 05 46.3	
comp=Z,12nm,0.9s							
WRAB	**Tennant Creek**	**21.84**	**159**	P	P	16 05 43.9	-1

comp=Z,1.4nm,0.8s
USRK Ussuriysk Ar. 43.77 6 P **P** **16 08 56.1 -1.3**
comp=Z,2.0nm,0.8s,baz=190,slow=7.3,SNR=4.2
comp=Z,2.0nm,0.8s
SONM Songino Array 50.16 343 P **P** **16 09 48.1 +0.6**
comp=Z,0.9nm,0.5s,baz=154,slow=9.7,SNR=4.6
comp=Z,0.9nm,0.5s
PETK Petropavlovsk- 58.56 22 P **P** **16 10 48.3 +0.1**
PETK Petropavlovsk- 58.56 22 P **P** **16 10 50.4 +2.1**
comp=Z,0.7nm,0.4s,baz=189,slow=5.0,SNR=9.0
comp=Z,0.7nm,0.4s
BFZ Birch Farm 61.14 138 P **P** **16 11 05.3 -1.0**
ZALV Zalesovo Beam 63.20 334 P **P** **16 11 20.1 +0.4**
comp=Z,0.6nm,0.4s,baz=146,slow=4.1,SNR=3.7
comp=Z,0.6nm,0.4s
KURBB Kurchatov Arra 64.16 328 P **P** **16 11 26.5 +0.4**
comp=Z,2.7nm,0.8s,baz=128,slow=6.1,SNR=16
comp=Z,2.7nm,0.8s
KURK Kurchatov 64.17 329 P **P** **16 11 26.2 0.0**
KURK IAmb IAmb 16 11 28.3
comp=Z,5.4nm,0.7s
NRIK Noril'sk 73.39 347 P **P** **16 12 23.7 +0.4**
comp=Z,5.2nm,0.8s,baz=44,slow=1.2,SNR=5.5
comp=Z,5.2nm,0.8s
ABKAR Akbulak array 74.31 321 P **P** **16 12 28.5 -0.5**
VNDA Vanda 80.34 173 P **P** **16 13 02.8 +0.4**
comp=Z,0.5nm,0.6s,baz=347,slow=4.9,SNR=3.6
comp=Z,0.5nm,0.6s
QSPA South Pole Qui 90.47 180 P **P** **16 13 53.8 +0.7**
comp=Z,1.0nm,0.8s,baz=339,slow=3.8,SNR=2.9
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 123.38 286 PKP **PKPdf** **16 19 50.1 +0.4**
comp=Z,0.9nm,0.8s,baz=61,slow=3.5,SNR=4.6

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*IDC **07** 16:03:28.1±0.7,56˚.15N×149˚.92W, h0km, mb4.0/22, mbtmp4.0/26, ML3.7/4, Error ellipse: s-maj=21.5km s-min=12.5km az=21.0*
*ANF **07** 16:03:30.9±0.4,56˚.20N×149˚.94W, h0km, ML4.8/35, Error ellipse: s-maj=4.3km s-min=2.1km az=170.0*
*NEIC **07** 16:03:32.1±1.1,56˚.16N±0˚.09×149˚.9W±0˚.1, h22km±6km, mb4.3/59, ML4.5/76, ML4.4(AEIC), Error ellipse: s-maj=13.0km s-min=9.1km az=171.0*
*AEIC **07** 16:03:35.2±2.0,56˚.11N±0˚.09×149˚.81W±0˚.10, h9km±5km, Error ellipse: s-maj=13.8km s-min=7.6km az=166.0*
ISC 07 16:03:30.2±0.5,56˚.15N±0˚.06×149˚.82W±0˚.04, h10km, n372, σ1§47/362, mb4.2/46, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.19**	**301**		**Pn**	**16 04 06.8**	**+0.1**
OHAK	**Old Harbor**	**2.19**	**301**		**Sn**	**16 04 31.8**	**-2.1**
OHAK	**Old Harbor**	**2.19**	**301**	P	**Pn**	**16 04 06.8**	**+0.1**
OHAK	**Old Harbor**	**2.19**	**301**	P	**Pn**	**16 04 06.9**	**+0.3**
	baz=118,SNR=61						
OHAK				S	**Sn**	**16 04 31.7**	**-2.1**
	baz=118						
KDAK	**Kodiak Island**	**2.23**	**318**		**Pn**	**16 04 07.7**	**+0.6**
KDAK	**Kodiak Island**	**2.23**	**318**		**Sn**	**16 04 33.1**	**-1.6**
KDAK	**Kodiak Island**	**2.23**	**318**	Pn	**Pn**	**16 04 07.1**	**0.0**
	24nm,0.3s,baz=24,slow=2.6,SNR=1617						
KDAK				Sn	**Sn**	**16 04 32.6**	**-2.1**
	207nm,0.3s,baz=358,slow=20,SNR=18						
KDAK	**Kodiak Island**	**2.23**	**318**	P	**Pn**	**16 04 07.8**	**+0.6**
	baz=137						
KDAK				S	**Sn**	**16 04 33.2**	**-1.4**
	baz=137						
Q20K	**Shuyak Island**	**2.83**	**332**	P	**Pn**	**16 04 16.2**	**+0.8**
	baz=150,SNR=17						
Q20K				S	**Sn**	**16 04 49.0**	**-0.5**
	baz=150						
SYI	**Shuyak Island**	**2.83**	**332**		**Pn**	**16 04 16.0**	**+0.6**
SYI				IAML		16 04 50.2	
	comp=E,1μm,0.3s						
SYI				IAML		16 04 50.2	
	comp=N,1μm,0.5s						
SYI	**Shuyak Island**	**2.83**	**332**		**Sn**	**16 04 48.7**	**-0.8**
R18K	**Karluk**	**2.91**	**301**		**Pn**	**16 04 17.3**	**+0.7**
R18K					**Sn**	**16 04 50.0**	**-1.6**
R18K	**Karluk**	**2.91**	**301**	IAML		16 04 51.4	
	comp=N,1μm,0.5s						
R18K				IAML		16 05 00.7	
	comp=E,1μm,0.5s						
R18K	**Karluk**	**2.91**	**301**	P	**Pn**	**16 04 17.2**	**+0.7**
	baz=118,SNR=51						
R18K				S	**Sn**	**16 04 50.1**	**-1.5**
	baz=118						
Q19K	**Cape Douglas,**	**3.46**	**325**		**Pn**	**16 04 24.9**	**+0.8**
Q19K	**Cape Douglas,**	**3.46**	**325**		**Sn**	**16 05 04.6**	**-0.5**
Q19K	**Cape Douglas,**	**3.46**	**325**	P	**Pn**	**16 04 25.3**	**+1.1**
	baz=143,SNR=31						
Q19K				S	**Sn**	**16 05 04.7**	**-0.5**
	baz=143						
CNPM	**China Poot**	**3.46**	**348**		**Pn**	**16 04 24.4**	**+0.2**
CNPM				IAML		16 05 07.4	
	comp=E,975nm,0.5s						
CNPM	**China Poot**	**3.46**	**348**		**Sn**	**16 05 04.7**	**-0.5**
KAPH	**Katmai Pasha**	**3.47**	**317**		**Pn**	**16 04 25.8**	**+1.6**
KAPH					**Sn**	**16 05 03.9**	**-1.5**
KAHG	**Katmai Hook Gl**	**3.48**	**314**		**Pn**	**16 04 26.3**	**+1.9**
KAHG					**Sn**	**16 05 05.4**	**-0.1**
ACHA	**Angle Creek He**	**3.64**	**307**		**Pn**	**16 04 27.6**	**+1.0**
ACHA	**Angle Creek He**	**3.64**	**307**		**Sn**	**16 05 08.3**	**-1.3**
HOM	**Homer**	**3.65**	**345**		**Pn**	**16 04 27.2**	**+0.6**
HOM				IAML		16 05 12.3	
	comp=N,2μm,0.4s						
HOM				IAML		16 05 14.3	
	comp=E,2μm,0.7s						
HOM	**Homer**	**3.65**	**345**		**Sn**	**16 05 09.7**	**+0.1**
HOM	**Homer**	**3.65**	**345**	P	**Pn**	**16 04 27.5**	**+0.9**
	baz=164						
HOM				S	**Sn**	**16 05 09.8**	**+0.1**
	baz=164						
BRLK	**Bradley Lake**	**3.67**	**351**		**Pn**	**16 04 26.8**	**-0.1**
BRLK				IAML		16 05 12.0	
	comp=E,730nm,0.4s						
AU22	**Augustine Moun**	**3.74**	**331**		**Sn**	**16 05 12.5**	**+0.6**
KAHC	**Katmai Hardscr**	**3.76**	**314**		**Sn**	**16 05 11.8**	**-0.8**
Q18K	**Katmai Hardscr**	**3.76**	**314**	P	**Pn**	**16 04 30.0**	**+1.7**
	baz=130,SNR=58						
Q18K				S	**Sn**	**16 05 11.2**	**-1.5**
	baz=130						
Q23K	**Middleton Isla**	**3.77**	**28**		**Pn**	**16 04 28.7**	**+0.4**
Q23K	**Middleton Isla**	**3.77**	**28**	P	**Pn**	**16 04 28.7**	**+0.4**
	baz=212						
Q23K				S	**Sn**	**16 05 11.9**	**-0.8**
	baz=212						
Q23K				S	**Sn**	**16 05 11.9**	**-0.8**
	baz=212						
R17L	**Mt. Peulik Vol**	**3.88**	**295**	P	**Pn**	**16 04 30.8**	**+1.0**
	baz=110						
R17L				S	**Sn**	**16 05 13.6**	**-1.9**
	baz=110						
Q17K	**Contact Creek**	**3.92**	**305**	P	**Pn**	**16 04 31.6**	**+1.1**
	baz=120						
Q17K				S	**Sn**	**16 05 15.4**	**-1.1**
	baz=120						
P19K	**Oil Pt**	**3.95**	**334**		**Pn**	**16 04 31.6**	**+0.7**
P19K	**Oil Pt**	**3.95**	**334**	P	**Pn**	**16 04 32.0**	**+1.1**
	baz=152,SNR=16						
SEW	**Seward**	**3.97**	**3**		**Pn**	**16 04 30.7**	**-0.3**
SEW	**Seward**	**3.97**	**3**	P	**Pn**	**16 04 31.0**	**0.0**
	baz=184,SNR=38						
SEW				S	**Sn**	**16 05 15.1**	**-2.4**
	baz=184						
P23K	**Montague Islan**	**4.06**	**17**		**Pn**	**16 04 32.6**	**+0.3**
P23K				IAML		16 05 18.8	
	comp=E,506nm,0.3s						
P23K				IAML		16 05 21.6	
	comp=N,611nm,0.5s						
P23K	**Montague Islan**	**4.06**	**17**	P	**Pn**	**16 04 33.0**	**+0.7**
	baz=200,SNR=52						
P23K				S	**Sn**	**16 05 17.9**	**-2.0**
	baz=200						
O20K	**Slope Mountain**	**4.21**	**340**	P	**Pn**	**16 04 34.9**	**+0.5**
	baz=159,SNR=8.8						
ILSW	**Iliamna Southw**	**4.23**	**337**		**Pn**	**16 04 34.5**	**-0.2**
ILSW				IAML		16 05 24.1	
	comp=E,543nm,0.7s						
ILSW				IAML		16 05 26.7	
	comp=N,548nm,0.7s						
O22K	**Cooper Landing**	**4.34**	**1**		**Pn**	**16 04 36.1**	**0.0**
O22K	**Cooper Landing**	**4.34**	**1**	P	**Pn**	**16 04 36.4**	**+0.3**
	baz=181,SNR=28						
O22K				S	**Sn**	**16 05 26.6**	**-0.1**
	baz=181						
P18K	**Big Mountain,**	**4.35**	**320**		**Pn**	**16 04 36.4**	**+0.1**
P18K	**Big Mountain,**	**4.35**	**320**	P	**Pn**	**16 04 36.8**	**+0.5**
	baz=136,SNR=18						
P18K				S	**Sn**	**16 05 25.0**	**-2.1**
	baz=136						
SLKM	**Skilak Lake**	**4.37**	**357**		**Pn**	**16 04 36.4**	**-0.2**
Q16K	**King Salmon**	**4.48**	**307**	P	**Pn**	**16 04 38.9**	**+0.9**
	baz=122						
Q16K				S	**Sn**	**16 05 28.9**	**-1.2**
	baz=122						
RED	**Redoubt Volcan**	**4.55**	**341**	IAML		16 05 33.4	
	comp=E,560nm,0.5s						
RED				IAML		16 05 34.4	
	comp=N,359nm,0.4s						
HIN	**Hinchinbrook I**	**4.60**	**21**		**Pn**	**16 04 40.5**	**+0.7**
HIN				IAML		16 05 33.1	
	comp=E,523nm,0.7s						
HIN				IAML		16 05 34.5	
	comp=N,586nm,0.9s						
CAPN	**Captain Cook N**	**4.68**	**352**	Pn	**Pn**	**16 04 41.8**	**+1.1**
CAPN	**Captain Cook N**	**4.68**	**352**	P	**Pn**	**16 04 41.9**	**+1.1**
	baz=172						
P17K	**Kvichak River**	**4.68**	**313**	P	**Pn**	**16 04 42.3**	**+1.5**
	baz=128						
P17K				S	**Sn**	**16 05 33.6**	**-1.6**
	baz=128						
O18K	**Koktuh Hills**	**4.69**	**325**		**Pn**	**16 04 41.2**	**+0.3**
O18K				IAML		16 05 36.0	
	comp=E,297nm,0.8s						
O18K				IAML		16 05 37.9	
	comp=N,356nm,0.9s						
O18K	**Koktuh Hills**	**4.69**	**325**	P	**Pn**	**16 04 41.6**	**+0.6**
	baz=140,SNR=19						
O18K				S	**Sn**	**16 05 34.0**	**-1.4**
	baz=140						
O19K	**Port Alsworth**	**4.70**	**331**		**Pn**	**16 04 41.2**	**+0.2**
O19K	**Port Alsworth**	**4.70**	**331**	P	**Pn**	**16 04 41.5**	**+0.5**
	baz=148,SNR=16						
O19K				S	**Sn**	**16 05 34.7**	**-0.9**
	baz=148						
KAIM	**Kayak Island**	**4.75**	**35**		**Pn**	**16 04 42.6**	**+0.9**
KAIM				IAML		16 05 41.8	
	comp=E,573nm,0.6s						
KAIM				IAML		16 05 42.8	
	comp=N,443nm,0.5s						
KAIM	**Kayak Island**	**4.75**	**35**	P	**Pn**	**16 04 42.9**	**+1.2**
	baz=220,SNR=52						
KAIM				S	**Sn**	**16 05 34.4**	**-2.3**
	baz=220						
PWL	**Port Wells**	**4.78**	**9**		**Pn**	**16 04 42.5**	**+0.2**
PWL				IAML		16 05 37.2	
	comp=E,518nm,0.4s						
PWL				IAML		16 05 38.6	
	comp=N,549nm,0.7s						
PWL	**Port Wells**	**4.78**	**9**	P	**Pn**	**16 04 42.7**	**+0.5**
	baz=191,SNR=69						
PWL				S	**Sn**	**16 05 35.3**	**-2.3**
	baz=191						
CHGN	**Chignik**	**4.80**	**275**		**Pn**	**16 04 42.3**	**-0.1**
CHGN				IAML		16 05 38.2	
	comp=E,318nm,0.5s						
CHGN	**Chignik**	**4.80**	**275**	P	**Pn**	**16 04 42.9**	**+0.5**
	baz=88						
CHGN				S	**Sn**	**16 05 35.5**	**-2.6**
	baz=88						
EYAK	**Cordova Ski Ar**	**4.90**	**24**		**Pn**	**16 04 44.6**	**+0.8**
EYAK				IAML		16 05 41.2	
	comp=N,377nm,0.7s						
EYAK	**Cordova Ski Ar**	**4.90**	**24**	P	**Pn**	**16 04 44.7**	**+0.9**
EYAK	**Cordova Ski Ar**	**4.90**	**24**	P	**Pn**	**16 04 44.7**	**+0.9**
	baz=208,SNR=136						
EYAK				S	**Sn**	**16 05 38.4**	**-2.0**
	baz=208						
FID	**Port Fidalgo**	**4.93**	**19**		**Pn**	**16 04 44.5**	**+0.3**
FID				IAML		16 05 39.1	
	comp=E,425nm,0.6s						
FID				IAML		16 05 39.4	
	comp=N,274nm,0.3s						
GLI	**Glacier Island**	**4.95**	**16**		**Pn**	**16 04 44.8**	**+0.3**
GLI				IAML		16 05 42.6	
	comp=E,303nm,0.6s						
GLI	**Glacier Island**	**4.95**	**16**	P	**Pn**	**16 04 45.2**	**+0.7**
	baz=198,SNR=55						
GLI				S	**Sn**	**16 05 39.9**	**-1.8**
	baz=198						
RC01	**Rabbit Creek A**	**4.95**	**0**		**Pn**	**16 04 44.7**	**+0.2**
RC01				IAML		16 05 40.6	
	comp=E,431nm,0.5s						
RC01				IAML		16 05 42.9	
	comp=N,416nm,0.5s						
RC01	**Rabbit Creek A**	**4.95**	**0**	P	**Pn**	**16 04 44.9**	**+0.4**
	baz=181,SNR=46						
RC01				S	**Sn**	**16 05 39.4**	**-2.3**
	baz=181						
FIS	**Fire Island**	**5.01**	**358**		**Pn**	**16 04 45.7**	**+0.4**
SUCK	**Suckling Hills**	**5.07**	**37**	IAML		16 05 45.4	
	comp=N,348nm,0.4s						
SUCK				IAML		16 05 47.1	
	comp=E,248nm,0.7s						
SPU	**Mount Spurr**	**5.18**	**348**	IAML		16 05 49.6	
	comp=E,258nm,0.8s						
SPU				IAML		16 05 50.0	
	comp=N,242nm,0.7s						
SPCR	**Spurr Chakacha**	**5.21**	**347**	P	**Pn**	**16 04 48.4**	**+0.3**
	baz=166,SNR=7.3						
SPCR				S	**Sn**	**16 05 47.1**	**-1.2**
	baz=166						
P16K	**Nushagak River**	**5.26**	**307**	IAML		16 05 51.4	
	comp=N,281nm,0.8s						
P16K				IAML		16 05 52.0	
	comp=E,376nm,0.8s						
P16K	**Nushagak River**	**5.26**	**307**	P	**Pn**	**16 04 49.9**	**+1.2**
	baz=120						
BGLC	**Bering Glacier**	**5.27**	**38**	P	**Pn**	**16 04 50.6**	**+1.7**
	baz=224,SNR=12						
N19K	**Bonanza Creek**	**5.27**	**334**	P	**Pn**	**16 04 49.2**	**+0.1**
	baz=151,SNR=19						
O17K	**Koliganek Bris**	**5.31**	**316**	P	**Pn**	**16 04 50.2**	**+0.8**
	baz=130						
KNK	**Knik Glacier**	**5.32**	**7**	IAML		16 05 58.7	
	comp=N,236nm,0.4s						
KNK				IAML		16 06 02.8	
	comp=E,288nm,0.6s						
KNK	**Knik Glacier**	**5.32**	**7**	P	**Pn**	**16 04 50.1**	**+0.5**
	baz=189,SNR=5.4						
BERG	**Berg Lake**	**5.33**	**35**	IAML		16 05 54.0	
	comp=N,352nm,0.2s						
SUA	**Susitna One**	**5.35**	**355**	P	**Pn**	**16 04 50.1**	**0.0**
	baz=175						
S14K	**Fog Glacier**	**5.44**	**275**	P	**Pn**	**16 04 52.1**	**+0.9**
	baz=87,SNR=10						
PMR	**Palmer**	**5.47**	**3**	P	**Pn**	**16 04 52.0**	**+0.5**
PMR	**Palmer**	**5.47**	**3**	P	**Pn**	**16 04 52.1**	**+0.5**
	baz=185,SNR=86						
BMRM	**Bremner River**	**5.54**	**27**	P	**Pn**	**16 04 53.9**	**+1.2**
	baz=212,SNR=121						
N18K	**Kilae Creek**	**5.55**	**327**	P	**Pn**	**16 04 53.3**	**+0.6**
	baz=143,SNR=25						
O16K	**Kokwok River B**	**5.60**	**311**	P	**Pn**	**16 04 54.6**	**+1.2**
	baz=125,SNR=23						
CHNA	**Chernabura Isl**	**5.71**	**261**	P	**Pn**	**16 04 54.4**	**-0.6**
CHNA	**Chernabura Isl**	**5.71**	**261**	P	**Pn**	**16 04 54.4**	**-0.6**
	baz=72,SNR=31						
KLU	**Klutina**	**5.72**	**19**	P	**Pn**	**16 04 56.4**	**+1.3**
	baz=203,SNR=158						
M23K	**Glacier View**	**5.76**	**10**	P	**Pn**	**16 04 56.9**	**+1.3**
	baz=192,SNR=57						
MESA	**MESA**	**5.79**	**43**	P	**Pn**	**16 04 57.4**	**+1.1**
	baz=230,SNR=26						
CRQE	**Cirque**	**5.80**	**35**	P	**Pn**	**16 04 57.6**	**+1.2**
	baz=221,SNR=71						
SCM	**Sheep Creek Mo**	**5.84**	**12**	P	**Pn**	**16 04 58.0**	**+1.2**
	baz=194,SNR=48						
N17K	**Nushagak Hills**	**5.85**	**322**	P	**Pn**	**16 04 57.4**	**+0.5**
	baz=136,SNR=15						
SKT	**Skwentna**	**5.91**	**352**	P	**Pn**	**16 04 58.1**	**+0.4**
	baz=171,SNR=46						
M20K	**Styx River**	**6.00**	**345**	P	**Pn**	**16 04 59.0**	**+0.1**
	baz=162						
SDPT	**Sand Point**	**6.08**	**267**	P	**Pn**	**16 04 59.8**	**-0.1**
SDPT	**Sand Point**	**6.08**	**267**	P	**Pn**	**16 04 59.9**	**-0.1**
	baz=78,SNR=12						
N25K	**Chitina, Valde**	**6.10**	**24**	P	**Pn**	**16 05 01.8**	**+1.4**
	baz=209,SNR=86						
O15K	**Ungalikthiuk R**	**6.17**	**304**	P	**Pn**	**16 05 02.3**	**+1.1**
	baz=115,SNR=20						
M18K	**Stony River**	**6.19**	**332**	P	**Pn**	**16 05 01.7**	**+0.1**
	baz=148						
M19K	**Big River Lodg**	**6.23**	**340**	P	**Pn**	**16 05 02.3**	**+0.2**
	baz=156						
M24K	**Tolsona, Glenn**	**6.26**	**16**	P	**Pn**	**16 05 04.2**	**+1.7**
	baz=200,SNR=60						
CUT	**Chulitna**	**6.28**	**358**	P	**Pn**	**16 05 03.9**	**+1.2**
	baz=178,SNR=9.6						
MCARA	**McCarthy VSAT**	**6.32**	**31**	P	**Pn**	**16 05 04.7**	**+1.4**
	baz=217,SNR=59						
YKU2	**Yakutat**	**6.38**	**54**	P	**Pn**	**16 05 04.3**	**+0.3**
N16K	**Nishlik Lake**	**6.40**	**316**	P	**Pn**	**16 05 05.5**	**+1.1**
	baz=129,SNR=44						
PINM	**Pinnacle**	**6.42**	**48**	P	**Pn**	**16 05 06.5**	**+1.7**
	baz=236,SNR=123						
WAT6	**Susitna Watana**	**6.53**	**8**	P	**Pn**	**16 05 07.4**	**+1.1**
	baz=191,SNR=29						
CTG	**Chitna Glacier**	**6.55**	**39**	P	**Pn**	**16 05 07.8**	**+1.3**
	baz=227,SNR=66						
PNL	**Peninsula**	**6.57**	**53**	P	**Pn**	**16 05 08.0**	**+1.2**
PNL	**Peninsula**	**6.57**	**53**	P	**Pn**	**16 05 08.2**	**+1.4**
	baz=242,SNR=223						
L19K	**White Mountain**	**6.58**	**339**	P	**Pn**	**16 05 06.8**	**-0.1**
	baz=155,SNR=27						
M17K	**Holitna River**	**6.58**	**326**	P	**Pn**	**16 05 07.8**	**+0.9**
	baz=140,SNR=40						
L20K	**Farewell, AK**	**6.67**	**344**	P	**Pn**	**16 05 08.0**	**-0.2**
	baz=160,SNR=7.7						
HARP	**HAARP**	**6.70**	**19**	P	**Pn**	**16 05 10.5**	**+1.9**
	baz=203,SNR=76						
WAT1	**Susitna Watana**	**6.73**	**5**	P	**Pn**	**16 05 10.1**	**+1.2**
	baz=186						
N15K	**Kwethluk River**	**6.76**	**311**	P	**Pn**	**16 05 11.2**	**+1.8**
	baz=122,SNR=30						
M16K	**Timber Creek**	**6.83**	**319**	P	**Pn**	**16 05 11.3**	**+1.1**
	baz=132,SNR=24						
O28M	**Mount Upton**	**6.85**	**44**	P	**Pn**	**16 05 12.3**	**+1.5**
	baz=232,SNR=113						
PPLA	**Purkeypile**	**6.87**	**351**	P	**Pn**	**16 05 11.7**	**+0.7**
	baz=169						
O14K	**Tigyukauivet M**	**6.88**	**302**	P	**Pn**	**16 05 11.8**	**+0.9**
	baz=112,SNR=5.8						
S12K	**Black Hills**	**6.90**	**271**	P	**Pn**	**16 05 11.3**	**0.0**
	baz=81						
L18K	**Granite Mounta**	**7.03**	**333**	P	**Pn**	**16 05 13.0**	**0.0**
	baz=147						
DHY	**Denali Highway**	**7.05**	**9**	P	**Pn**	**16 05 14.8**	**+1.3**
	baz=192,SNR=59						
M26K	**Nabesna, AK**	**7.17**	**26**	P	**Pn**	**16 05 16.6**	**+1.6**
	baz=212,SNR=29						
PAX	**Paxson**	**7.18**	**16**	P	**Pn**	**16 05 16.7**	**+1.4**
	baz=200,SNR=50						
O29M	**Mount Kennedy**	**7.24**	**50**	P	**Pn**	**16 05 18.2**	**+2.1**
	baz=240,SNR=87						
M15K	**Kasigluk River**	**7.30**	**313**	P	**Pn**	**16 05 17.8**	**+1.1**
	baz=124,SNR=13						
P29M	**Windy Craggy**	**7.32**	**57**	P	**Pn**	**16 05 18.6**	**+1.5**
	baz=247						
TRF	**Thorofare Moun**	**7.32**	**358**	P	**Pn**	**16 05 17.8**	**+0.6**
	baz=178,SNR=25						
YUK8	**Steele Glacier**	**7.33**	**41**	P	**Pn**	**16 05 18.3**	**+0.8**
	baz=230,SNR=51						
N14K	**Kuskokwak Cree**	**7.34**	**306**	P	**Pn**	**16 05 18.6**	**+1.3**
	baz=116,SNR=11						
CAST	**Castle Rocks**	**7.38**	**352**	P	**Pn**	**16 05 18.5**	**+0.7**
	baz=170,SNR=90						
L17K	**Donlin**	**7.41**	**327**	P	**Pn**	**16 05 18.7**	**+0.5**
	baz=141,SNR=7.8						
YUK3	**Moose Creek**	**7.42**	**37**	P	**Pn**	**16 05 20.7**	**+2.1**
	baz=225,SNR=181						
M27K	**Edge Creek, AK**	**7.43**	**30**	P	**Pn**	**16 05 20.4**	**+1.8**
	baz=217,SNR=52						
MENT	**Mentasta**	**7.47**	**22**	P	**Pn**	**16 05 20.7**	**+1.6**
L16K	**Owhat River**	**7.48**	**322**	P	**Pn**	**16 05 19.8**	**+0.6**
	baz=134						
K20K	**Telida**	**7.54**	**345**	P	**Pn**	**16 05 19.7**	**-0.3**
	baz=162						
MCK	**McKinley**	**7.62**	**3**	P	**Pn**	**16 05 22.4**	**+1.3**
	baz=184,SNR=32						
S31K	**Pelican**	**7.62**	**71**	P	**Pn**	**16 05 20.5**	**-0.7**
	baz=262,SNR=23						
L26K	**Log Cabin Wild**	**7.63**	**23**	P	**Pn**	**16 05 23.8**	**+2.5**
	baz=209,SNR=28						
YUK6	**Outpost Mounta**	**7.67**	**47**	P	**Pn**	**16 05 24.5**	**+2.4**
	baz=237,SNR=314						
BVCY	**Beaver Creek**	**7.77**	**32**	P	**Pn**	**16 05 25.3**	**+2.1**
	baz=220,SNR=88						
YUK4	**Talbot Arm**	**7.79**	**44**	P	**Pn**	**16 05 27.3**	**+3.6**
	baz=233,SNR=156						
CHUM	**Lake Minchumin**	**7.85**	**352**	P	**Pn**	**16 05 24.6**	**+0.3**
	baz=170,SNR=40						
M14K	**Bethel**	**7.86**	**311**	P	**Pn**	**16 05 25.0**	**+0.6**
	baz=121						
K17K	**Iditarod**	**7.87**	**330**	P	**Pn**	**16 05 24.9**	**+0.4**
	baz=143						
P30M	**Million Dollar**	**7.88**	**54**	P	**Pn**	**16 05 26.8**	**+2.1**
	baz=246						
PLBC	**Pleasant Camp**	**7.91**	**60**	P	**Pn**	**16 05 26.7**	**+1.6**
	baz=251,SNR=139						
K24K	**Donnelly Dome**	**7.94**	**13**	P	**Pn**	**16 05 26.1**	**+0.6**
	baz=197,SNR=36						
R31K	**City Hall, Gus**	**7.96**	**68**	P	**Pn**	**16 05 26.5**	**+0.8**
	baz=260						
HYT	**Haines Junctio**	**7.96**	**49**	P	**Pn**	**16 05 27.8**	**+1.8**
	baz=240,SNR=52						
BPAW	**Bear Paw Mtn.**	**7.99**	**356**	P	**Pn**	**16 05 26.5**	**+0.2**
	baz=176,SNR=29						
RIDG	**Independent Ri**	**8.01**	**16**	P	**Pn**	**16 05 28.0**	**+1.5**
	baz=201,SNR=51						
L27K	**Beaver Creek,**	**8.02**	**27**	P	**Pn**	**16 05 27.9**	**+1.2**
	baz=214						
SIT	**Sitka**	**8.05**	**78**	P	Pn	16 05 25.2	-1.8
SIT	**Sitka**	**8.05**	**78**	P	Pn	16 05 25.4	-1.6
	baz=270						
J18K	**Innoko River**	**8.11**	**338**	P	**Pn**	**16 05 27.5**	**-0.3**
	baz=152,SNR=12						
L15K	**Ungalak Mounta**	**8.19**	**317**	P	**Pn**	**16 05 29.7**	**+0.8**
	baz=128						
M13K	**Dall Lake**	**8.31**	**306**	P	**Pn**	**16 05 31.1**	**+0.6**
	baz=115,SNR=7.9						
J20K	**Nowinta River**	**8.33**	**347**	P	**Pn**	**16 05 30.5**	**-0.3**
	baz=163,SNR=21						
SCRK	**Sand Creek**	**8.37**	**18**	P	**Pn**	**16 05 32.4**	**+1.0**
	baz=203,SNR=28						
J19K	**Poorman**	**8.38**	**342**	P	**Pn**	**16 05 31.3**	**-0.2**
	baz=158,SNR=8.5						
HDA	**Harding Lake**	**8.40**	**9**	P	**Pn**	**16 05 33.1**	**+1.3**
	baz=191,SNR=56						
SKAG	**Skagway**	**8.41**	**61**	P	**Pn**	**16 05 33.2**	**+1.2**
SKAG	**Skagway**	**8.41**	**61**	P	**Pn**	**16 05 33.6**	**+1.6**
	baz=253,SNR=28						
L14K	**Kuka Creek**	**8.46**	**313**	P	**Pn

baz=240,SNR=90
I23K **Minto, Yukon-K** 9.03 1 P Pn 16 05 41.7 +1.4
baz=182,SNR=29
WHY **Whitehorse** 9.04 54 P Pn 16 05 42.5 +1.9
baz=247,SNR=51
L29M **L29M** 9.13 35 P Pn 16 05 43.7 +1.8
baz=226,SNR=146
P32M **Atlin** 9.24 61 P Pn 16 05 44.6 +1.2
baz=255,SNR=34
M30M **Minto, Yukon** 9.24 41 P Pn 16 05 45.5 +2.1
baz=232,SNR=34
U33K **Whale Pass** 9.32 83 P Pn 16 05 43.2 -1.2
baz=277
AKUT **Akutan** 9.36 264 P Pn 16 05 45.0 +0.1
CRAG **Craig** 9.43 87 P Pn 16 05 44.0 -1.8
DAWY **Dawson** 9.47 29 P Pn 16 05 48.3 +1.8
baz=218,SNR=19
K13K **Kusilvak Mount** 9.58 313 P Pn 16 05 49.3 +1.4
baz=121
M11K **Mekoryuk** 9.61 303 P Pn 16 05 49.8 +1.5
baz=109
J14K **Nanvaranak Lak** 9.61 319 P Pn 16 05 49.8 +1.5
baz=128
PRP **Porcupine Dome** 9.62 11 P Pn 16 05 50.1 +1.4
baz=195,SNR=24
H21K **Melozitna Rive** 9.64 353 P Pn 16 05 49.0 +0.1
baz=170
H20K **Anotleneega Mo** 9.69 347 P Pn 16 05 50.8 +1.3
baz=163
H23K **Yukon River** 9.71 1 P Pn 16 05 50.6 +0.9
baz=181,SNR=25
WRAK **Wrangell Islan** 9.72 81 P Pn 16 05 51.1 +1.2
baz=276
I26K **Coal Creek Min** 9.74 17 P Pn 16 05 51.5 +1.4
baz=203
H24K **Noodor Dome** 9.76 5 P Pn 16 05 53.0 +2.5
baz=187,SNR=26
H22K **Ishtalitna Cre** 9.80 356 P Pn 16 05 52.2 +1.1
baz=175,SNR=37
Q32M **Nakina River** 9.84 66 P Pn 16 05 53.6 +1.9
baz=261,SNR=13
P33M **Teslin, Yukon** 9.85 59 P Pn 16 05 52.9 +1.2
baz=253,SNR=57
K29M **Barlow Dome** 9.85 33 P Pn 16 05 54.2 +2.4
baz=224
UNV **Unalaska Valle** 9.86 263 P Pn 16 05 51.0 -0.8
UNV **Unalaska Valle** 9.86 263 P Pn 16 05 51.1 -0.8
baz=70
H19K **Roundabout Mou** 9.94 344 P Pn 16 05 53.5 +0.6
baz=158
H18K **Honhosa River** 9.94 339 P Pn 16 05 53.2 +0.3
baz=152
M31M **Drury Creek, Y** 9.95 46 P Pn 16 05 55.4 +2.3
baz=240,SNR=76
N32M **Quiet Lake** 10.04 53 P Pn 16 05 56.8 +2.5
baz=248
H17K **Granite Mounta** 10.10 335 P Pn 16 05 55.7 +0.6
baz=146
J29N **Klondike Camp** 10.10 30 P Pn 16 05 57.7 +2.6
baz=220,SNR=5.2
MAYO **Mayo, Yukon** 10.21 37 P Pn 16 05 58.6 +2.0
baz=230
I27K **Kandik River** 10.28 19 P Pn 16 05 59.3 +1.8
baz=207,SNR=39
V35K **Ketchikan** 10.30 87 P Pn 16 05 58.2 +0.4
baz=282
H25L **Birch Creek** 10.33 9 P Pn 16 06 00.1 +2.0
baz=193,SNR=23
S34M **Telegraph Cree** 10.33 72 P Pn 16 05 59.8 +1.5
baz=268
H02S1 **DAWSON INLET T** 10.46 99 T T 16 17 14.4
SNR=3.6
I28M **Miner Creek** 10.48 23 P Pn 16 06 02.4 +2.0
baz=212,SNR=15
G21K **Allakaket** 10.54 352 P Pn 16 06 02.8 +1.6
baz=169
R33M **Jennings River** 10.57 64 P Pn 16 06 03.0 +1.4
baz=260,SNR=43
G23K **Bananza Creek** 10.60 360 P Pn 16 06 02.7 +0.8
baz=180
G19K **Purcell Mounta** 10.61 344 P Pn 16 06 03.4 +1.4
baz=158
G24K **Hadweenzic Riv** 10.64 5 P Pn 16 06 03.7 +1.2
baz=187,SNR=32
G18K **Tagagawik** 10.66 340 P Pn 16 06 04.2 +1.5
baz=153
J30M **Hart River** 10.74 33 P Pn 16 06 06.3 +2.4
baz=225,SNR=57
G25K **Bearman Lake** 10.79 8 P Pn 16 06 06.7 +2.2
baz=191
I29M **Ogilvie Camp,** 10.79 27 P Pn 16 06 06.9 +2.3
baz=217,SNR=16
G22K **Bettles** 10.84 356 P Pn 16 06 06.0 +0.9
baz=175
H27K **Steamboat Moun** 10.86 18 P Pn 16 06 06.9 +1.4
baz=206,SNR=15
DLBC **Dease Lake** 10.94 70 Pn Pn 16 06 07.5 +0.8
comp=N,0.3nm,0.3s,baz=282,slow=6.2,SNR=40
DLBC Sn Sn 16 08 05.0 -4.0
comp=N,0.1nm,0.3s,baz=169,slow=24,SNR=1.2
comp=N,0.8nm,0.4s
DLBC **Dease Lake** 10.94 70 P Pn 16 06 08.2 +1.5
baz=266,SNR=20
COLD **Coldfoot** 11.12 359 P Pn 16 06 09.3 +0.4
baz=179,SNR=15
I30M **Mount Dempster** 11.20 30 P Pn 16 06 12.9 +2.7
baz=222
G26K **Porcupine Rive** 11.20 12 P Pn 16 06 11.4 +1.3
baz=198,SNR=11
F21K **Alatna River** 11.24 353 P Pn 16 06 12.0 +1.3
baz=170,SNR=15
F20K **Avaraart Lake** 11.28 348 P Pn 16 06 12.6 +1.4
baz=163
F19K **Shaleruckik Mo** 11.36 344 P Pn 16 06 13.0 +0.8
baz=157
G27K **Doyon Strip** 11.37 17 P Pn 16 06 14.2 +1.8
baz=204,SNR=8.5
MMPY **Sheldon Lake,** 11.43 48 P Pn 16 06 15.8 +2.5
baz=244,SNR=51
F24K **Squaw Lake** 11.44 4 P Pn 16 06 15.6 +2.1
baz=186
H29M **Whitestone** 11.48 24 P Pn 16 06 16.2 +2.3
baz=214,SNR=6.9
NIKH **Nikolski High** 11.50 262 P Pn 16 06 16.2 +2.0
baz=66
F25K **Christian Rive** 11.64 8 P Pn 16 06 17.7 +1.5
baz=192,SNR=18
E19K **Redstone River** 11.86 346 P Pn 16 06 20.5 +1.4
baz=160
F26K **Sheenjek River** 11.88 11 P Pn 16 06 21.5 +2.1
baz=196,SNR=18
E23K **Chandalar** 11.95 0 P Pn 16 06 21.2 +0.8
baz=181
E24K **Your Creek** 11.98 2 P Pn 16 06 21.9 +1.1
baz=184,SNR=14
EPYK **Eagle Plains** 11.99 26 P Pn 16 06 24.1 +3.1
baz=218,SNR=18
E22K **Anaktuvuk Pass** 12.06 356 P Pn 16 06 23.2 +1.3
baz=175
G29M **Pine Creek** 12.14 23 P Pn 16 06 24.4 +1.4
baz=213
E25K **Arctic Village** 12.17 8 P Pn 16 06 25.4 +2.1
baz=192,SNR=14
H31M **Peel River** 12.21 31 P Pn 16 06 26.7 +2.8
baz=225,SNR=9.3
E17K **Hotham Inlet** 12.33 338 P Pn 16 06 25.9 +0.4
baz=147
TGTN **Hyland Airport** 12.35 55 P Pn 16 06 28.6 +2.7
baz=254,SNR=11
E18K **Tukpahlearik C** 12.38 340 P Pn 16 06 27.2 +1.0
baz=151
F28M **Old Crow** 12.39 18 P Pn 16 06 29.1 +2.6
baz=207,SNR=24
E21K **Killik River** 12.48 353 P Pn 16 06 29.8 +2.2
baz=169
E20K **Nigu River** 12.49 349 P Pn 16 06 29.6 +1.8
baz=164
TOLK **Toolik Lake Re** 12.53 0 P Pn 16 06 29.6 +1.2
baz=181,SNR=16
G30M **tAoh Zraii Nji** 12.60 25 P Pn 16 06 31.7 +2.4
baz=217
E27K **Coleen River** 12.65 14 P Pn 16 06 31.5 +1.5
baz=202,SNR=17
D22K **Ayikyak River** 12.84 355 P Pn 16 06 34.6 +2.1
baz=173
TNA **Tin City** 12.86 324 P Pn 16 06 35.0 +2.3
baz=129
D23K **Nanushuk River** 12.87 359 P Pn 16 06 35.0 +2.2
baz=178
D20K **Etivluk River** 12.98 349 P Pn 16 06 36.3 +1.9
baz=163
G31M **Satah River** 13.04 28 P Pn 16 06 38.1 +2.9
baz=222,SNR=21
D24K **Happy Valley** 13.06 2 P Pn 16 06 37.7 +2.2
baz=183
F30M **Barrier River** 13.21 24 P Pn 16 06 40.5 +2.9
baz=217,SNR=11
C21K **Knifeblade Rid** 13.24 352 P Pn 16 06 40.2 +2.2
baz=168
GAMB **Gambell** 13.30 314 P Pn 16 06 40.7 +2.0
baz=115
BBB **Bella Bella** 13.30 98 Pn Pn 16 06 38.1 -0.8
comp=N,0.2nm,0.3s,baz=282,slow=10,SNR=1.3
BBB Sn Sn 16 08 58.9 -7.7
comp=N,0.2nm,0.3s,baz=311,slow=2.6,SNR=1.9
comp=N,6.5nm,1.1s
D25K **Kavik River** 13.31 5 P Pn 16 06 41.8 +2.9
baz=189
E28M **Babbage River** 13.34 16 P Pn 16 06 43.2 +3.9
baz=206,SNR=21
E29M **Blow River** 13.43 19 P Pn 16 06 43.9 +3.4
baz=210,SNR=11
C18K **Utukok River** 13.56 342 P Pn 16 06 43.8 +1.4
baz=152
F31M **Tsiigehtchic** 13.57 27 P Pn 16 06 44.2 +1.8
baz=222,SNR=6.2
C24K **Franklin Bluff** 13.63 2 P Pn 16 06 45.3 +2.1
baz=183
B21K **Ikpikpuk River** 13.69 353 P Pn 16 06 45.5 +1.5
baz=169
C19K **Lookout Ridge** 13.72 345 P Pn 16 06 46.7 +2.1
baz=157
D27M **Malcolm River** 13.72 13 P Pn 16 06 48.4 +3.7
baz=202,SNR=10
C23K **Itkillik River** 13.74 359 P Pn 16 06 47.6 +2.9
baz=178,SNR=9.3
C27K **Jago River** 13.79 9 P Pn 16 06 48.3 +2.8
baz=195,SNR=14
C26K **Camden Bay** 13.99 7 P Pn 16 06 51.2 +3.2
baz=192,SNR=19
C16K **Lisburne Hills** 14.09 336 P Pn 16 06 51.4 +1.9
baz=142
D28M **Stokes Point** 14.12 16 P Pn 16 06 54.0 +4.1
baz=206
KOTAN **Kotaneelee Air** 14.13 63 P Pn 16 06 53.4 +3.2
baz=265,SNR=7.1
B20K **Meade River** 14.28 350 P Pn 16 06 52.8 +0.7
baz=163
INK **Inuvik** 14.29 25 Pn Pn 16 06 53.4 +1.2
comp=N,0.3nm,0.3s,baz=210,slow=14,SNR=35
comp=N,34nm,0.9s
INK **Inuvik** 14.29 25 P Pn 16 06 54.5 +2.2
baz=220,SNR=26
B18K **Kokolik River** 14.30 343 P Pn 16 06 54.5 +2.1
baz=152
B22K **Teshekpuk Lake** 14.33 355 P Pn 16 06 52.5 -0.3
baz=172
A19K **Wainwright** 14.94 345 P Pn 16 07 01.1 -0.1
baz=155
CLRS **Cowichan Lake** 17.20 104 lAmb lAmb 16 07 35.4
comp=Z,12nm,1.1s
YKA **Yellowknife Ar** 18.86 56 P P 16 07 50.4 +0.4
comp=Z,0.2nm,0.3s,baz=301,slow=6.3,SNR=5.2
comp=Z,0.8nm,0.6s
A36M **Sachs Harbour** 18.92 24 P P 16 07 52.2 +1.6
baz=226
MXC **Moxie City** 20.62 105 P P 16 08 10.6 +1.1
MXC lAmb lAmb 16 08 14.8
comp=Z,11nm,1.2s
H04D **Lebanon** 20.68 113 lAmb lAmb 16 08 16.3
comp=Z,33nm,1.4s
HOOD **Mount Hood Mea** 20.71 110 lAmb lAmb 16 08 16.3
comp=Z,15nm,1.1s
H04A **Detroit Lake** 20.86 112 P 16 08 12.6 +0.6
H04A lAmb lAmb 16 08 17.1
comp=Z,14nm,1.0s
D08A **Wollman Farm,** 21.08 103 lAmb lAmb 16 08 15.9
comp=Z,12nm,1.0s
NEW **Newport** 21.37 98 lAmb lAmb 16 08 21.7
comp=Z,8.6nm,1.0s
NEW **Newport** 21.37 98 P P 16 08 18.4 +0.9
comp=Z,8.0nm,1.0s,baz=316,slow=6.2,SNR=8.6
comp=Z,8.0nm,1.0s
I05D **Terrebonne, OR** 21.54 111 lAmb lAmb 16 08 22.9
comp=Z,9.3nm,1.1s
BBOR **Butler Butte** 21.88 116 lAmb lAmb 16 08 27.5
comp=Z,12nm,0.9s
J04A **Umpqua Nationa** 21.91 114 lAmb lAmb 16 08 27.8
comp=Z,17nm,0.9s
PINE **Pine Mountain** 22.12 112 lAmb lAmb 16 08 29.7
comp=Z,12nm,1.0s
J05D **Fort Rock, OR** 22.33 113 lAmb lAmb 16 08 31.8
comp=Z,15nm,0.9s
L04D **Klamath Falls** 22.56 117 lAmb lAmb 16 09 06.3
comp=Z,29nm,1.5s
I07A **Izee** 22.68 109 lAmb lAmb 16 08 33.3
comp=Z,9.7nm,1.3s
J08A **Circle Bar Ran** 23.71 109 lAmb lAmb 16 08 43.5
comp=Z,4.8nm,0.7s
HATC **Hat Creek Radi** 24.02 118 lAmb lAmb 16 08 47.1
comp=Z,15nm,1.0s
WVOR **Wild Horse Val** 24.28 111 lAmb lAmb 16 08 49.2
comp=Z,8.3nm,0.9s
MFID **Camas Ranch** 25.09 106 lAmb lAmb 16 08 57.5
comp=Z,5.1nm,1.0s
PAHR **Pah Rah Range** 25.90 117 lAmb lAmb 16 09 03.8
comp=Z,4.4nm,0.8s
NVAR **Mina Array Bea** 27.42 117 P P 16 09 16.6 +0.6
comp=Z,2.8nm,0.5s,baz=311,slow=7.7,SNR=7.0
comp=Z,2.8nm,0.5s
PDAR **Pinedale Array** 28.93 100 P P 16 09 29.2 -0.4
comp=Z,1.0nm,0.5s,baz=323,slow=4.8,SNR=16
comp=Z,1.0nm,0.5s
PETK **Petropavlovsk-** 29.93 287 P P 16 09 37.3 -0.7
comp=Z,0.9nm,0.8s,baz=69,slow=14,SNR=5.0
comp=Z,0.9nm,0.8s
SRU **San Rafael Swe** 30.95 107 lAmb lAmb 16 09 49.1
comp=Z,5.3nm,0.8s
RSSD **Black Hills** 31.12 93 P P 16 09 49.0 +0.1
ULM **Lac du Bonnet** 32.12 77 P P 16 09 57.6 +0.3
comp=Z,3.1nm,0.7s,baz=288,slow=8.0,SNR=5.3
comp=Z,3.1nm,0.7s
PV02 **Panax Valley** 32.57 106 lAmb lAmb 16 10 02.9
comp=Z,7.2nm,1.0s
Y14A **Wickenburg** 33.59 116 lAmb lAmb 16 10 10.7
comp=Z,11nm,0.5s
ECSD **EROS Data Cent** 35.52 87 lAmb lAmb 16 10 45.7
comp=Z,2.9nm,1.0s
EYMN **Ely** 35.80 78 P P 16 10 29.3 0.0
MSTX **Muleshoe** 38.94 105 lAmb lAmb 16 10 57.2
comp=Z,5.8nm,0.8s
VHRN **Van Horn** 40.22 110 P P 16 11 07.7 +0.9
WMOK **Wichita Mounta** 40.54 100 P P 16 11 09.8 +0.4
WMOK lAmb lAmb 16 11 10.6
comp=Z,4.3nm,0.8s
P40A **Paris** 40.87 89 lAmb lAmb 16 11 12.2
comp=Z,6.8nm,0.7s
TXAR **Lajitas Array** 42.06 110 P P 16 11 22.3 +0.3
TXAR **Lajitas Array** 42.06 110 P P 16 11 22.5 +0.5
comp=Z,2.4nm,0.8s,baz=318,slow=6.3,SNR=27
TXAR PcP PcP 16 13 15.3 -1.5
comp=Z,0.7nm,0.8s,baz=326,slow=2.6,SNR=5.0
comp=Z,2.4nm,0.8s
OZNA **Ozona** 42.16 106 P P 16 11 22.8 0.0
OZNA lAmb lAmb 16 11 23.6
comp=Z,6.2nm,0.7s
SAND **Sanderson** 42.39 108 lAmb lAmb 16 11 26.1
comp=Z,4.4nm,1.1s
MIAR **Mount Ida** 43.57 95 lAmb lAmb 16 11 34.7
comp=Z,4.3nm,0.7s
DRIO **Del Rio** 43.61 107 lAmb lAmb 16 11 34.8
comp=Z,7.4nm,0.7s
H11N2 **WAKE ISLAND Hy** 48.56 239 T T 17 03 27.3
baz=32,slow=76,SNR=17
H11N3 **WAKE ISLAND Hy** 48.57 239 T T 17 03 28.8
baz=32,slow=76,SNR=21
H11N1 **WAKE ISLAND Hy** 48.58 239 T T 17 03 29.7
baz=32,slow=76,SNR=13
H11S1 **WAKE ISLAND Hy** 49.70 239 T T 17 06 12.1
baz=28,slow=76,SNR=7.2
H11S2 **WAKE ISLAND Hy** 49.72 239 T T 17 06 14.1
baz=28,slow=76,SNR=6.3
H11S3 **WAKE ISLAND Hy** 49.72 239 T T 17 06 18.2
baz=28,slow=76,SNR=6.0
MJAR **Matsushiro Arr** 50.89 279 P P 16 12 30.3 -0.8
comp=Z,0.7nm,0.6s,baz=58,slow=8.4,SNR=4.6
comp=Z,0.7nm,0.6s
SONM **Songino Array** 58.49 310 P P 16 13 26.7 +0.4
comp=Z,1.1nm,0.5s,baz=46,slow=8.0,SNR=5.3
comp=Z,1.1nm,0.5s
ZALV **Zalesovo Beam** 61.51 327 P P 16 13 46.5 -0.1
comp=Z,1.2nm,0.5s,baz=60,slow=7.5,SNR=4.3
comp=Z,1.2nm,0.5s
HHC **Hu-ho-hao-te** 61.55 301 eP P 16 13 47.5 +0.2
HHC pmax pmax
comp=Z,22nm,0.5s
HHC pmax pmax
comp=Z,340nm,4.9s
NOA **NORSAR Array B** 62.19 10 P P 16 13 50.7 -0.5
comp=Z,0.8nm,0.2s,baz=336,slow=7.2,SNR=1.9
comp=Z,0.8nm,0.2s
FINES **FINESS Array B** 62.70 2 P P 16 13 54.2 -0.3
comp=Z,0.6nm,0.5s,baz=14,slow=8.5,SNR=5.1
comp=Z,0.6nm,0.5s
HFS **Hagfors** 63.32 9 P P 16 13 57.8 -0.9
comp=Z,1.9nm,0.9s,baz=225,slow=4.0,SNR=4.1
comp=Z,1.9nm,0.9s
EKA **Eskdalemuir Ar** 65.60 20 P P 16 14 13.0 -0.6
comp=Z,0.7nm,0.8s,baz=317,slow=6.0,SNR=4.3
comp=Z,0.7nm,0.8s
BVAR **Borovoye Array** 66.27 335 P P 16 14 17.7 -0.3
comp=Z,0.9nm,0.4s
comp=Z,0.9nm,0.4s
KURBB **Kurchatov Arra** 66.30 329 P P 16 14 17.2 -1.0
comp=Z,0.6nm,0.5s,baz=12,slow=5.7,SNR=1.4
comp=Z,0.6nm,0.5s
MKAR **Makanchi Array** 68.53 324 P P 16 14 31.8 -0.6
comp=Z,0.8nm,0.5s,baz=38,slow=7.3,SNR=4.1
comp=Z,0.8nm,0.5s
ABKAR **Akbulak array** 72.07 340 P 16 14 53.5 -0.5
AKASG **Malin Array Be** 73.51 1 P P 16 15 01.7 -0.8
comp=Z,0.6nm,0.5s,baz=360,slow=5.7,SNR=2.6
comp=Z,0.6nm,0.5s
GERES **GERESS Array B** 74.47 11 P P 16 15 08.1 -0.2
comp=Z,0.6nm,0.6s,baz=356,slow=5.5,SNR=7.9
comp=Z,0.6nm,0.6s
PZH **PanZhiHua** 77.92 300 P P 16 15 28.2 -0.2
ESDC **Sonseca Array** 80.23 26 P P 16 15 40.6 -0.1
comp=Z,1.6nm,0.8s,baz=334,slow=5.2,SNR=16
comp=Z,1.6nm,0.8s
BRTR **Keskin Array B** 84.44 357 P P 16 16 02.8 -0.1
comp=Z,0.5nm,0.7s,baz=37,slow=7.6,SNR=3.0
comp=Z,0.5nm,0.7s
CMAR **Chiang Mai Arr** 86.08 298 P P 16 16 10.4 -0.7
comp=Z,0.8nm,0.7s,baz=7.9,slow=5.3,SNR=8.2
comp=Z,0.8nm,0.7s
KEST **Kesra** 86.77 17 P P 16 16 13.8 -0.6
comp=Z,2.7nm,0.8s,baz=307,slow=2.7,SNR=4.1
comp=Z,2.7nm,0.8s
QSPA **South Pole Qui** 145.94 180 PKPbc PKPdf 16 23 06.7 -1.0
comp=Z,6.4nm,0.6s,baz=123,slow=0.7,SNR=50
BOSA **Boshof** 152.25 9 PKPbc PKPdf 16 23 24.2 +5.1
comp=Z,2.6nm,0.9s,baz=28,slow=2.5,SNR=8.0

NEIC ***07*** *16:07:60.0±0.7,35°.680N±0°.008×117°.51W±0°.01,*
h5km±1km, Error ellipse: s-maj=2.3km s-min=1.6km
az=31.0
PAS 07 16:08:00.6±0.7,35°.673N±0°.009×117°.53W±0°.01,
h8km±2km, ML3.1/21, ML2.6/84(NEIC), Error ellipse:
s-maj=1.5km s-min=1.2km az=50.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.15**	**338**		Sg	16 08 06.5	+0.4
CLC	**China Lake**	**0.15**	**338**		Pg	16 08 03.8	-0.1
CLC				IAML		16 08 06.6	
	comp=N,6μm,0.1s						
CLC				IAML		16 08 06.8	
	comp=E,7μm,0.2s						
SRTC	**Snort**	**0.18**	**276**		Pg	16 08 04.8	+0.4
CCCA	**Chr Cany lake**	**0.20**	**138**		Pg	16 08 05.0	+0.4
CCCA					Sg	16 08 08.6	+1.2
CCCA	**Chr Cany lake**	**0.20**	**138**	IAML		16 08 08.7	
	comp=E,6μm,0.5s						
CCCA				IAML		16 08 08.9	
	comp=N,4μm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.23**	**214**		Pg	16 08 05.0	-0.2
TOW	**Tower One**	**0.24**	**305**		Pg	16 08 05.7	+0.3
TOW					Sg	16 08 10.2	+1.6
WNMM	**Nine Mile Cany**	**0.35**	**299**		Pg	16 08 07.4	-0.1
WVPM	**Volcano Peak E**	**0.36**	**320**		Pg	16 08 07.6	-0.2
WRVM	**Rose V. Centra**	**0.45**	**319**		Pg	16 08 09.0	-0.3
DTP	**Desert Tortois**	**0.48**	**213**		Pg	16 08 09.4	-0.5
MFS	**McCloud Flat S**	**0.52**	**329**		Pg	16 08 10.5	-0.2
WORM	**Onyx Ranch**	**0.58**	**272**		Pg	16 08 11.4	-0.5
QSM	**Queen of Sheba**	**0.61**	**61**		Pg	16 08 11.6	-0.7
QSM				IAML		16 08 20.7	
	comp=E,494nm,0.4s						
GSC	**Goldstone, Bar**	**0.69**	**122**		Pg	16 08 13.4	-0.6
ISA	**Isabella, Lake**	**0.77**	**270**		Pg	16 08 14.7	-0.8
ISA				IAML		16 08 25.6	
	comp=N,212nm,0.4s						
ISA				IAML		16 08 25.7	
	comp=E,285nm,0.5s						
HYS	**Haystack Butte**	**0.81**	**183**		Pg	16 08 15.5	-0.7
GWY	**Greenwater Val**	**0.86**	**53**		Pg	16 08 16.5	-0.8
CWC	**Cottonwood Cre**	**0.89**	**330**		Pg	16 08 17.4	-0.3
CWC				IAML		16 08 29.4	
	comp=E,159nm,0.2s						
CWC				IAML		16 08 30.3	
	comp=N,169nm,0.2s						
TPO	**Tropico Hills**	**0.98**	**216**		Pg	16 08 18.5	-0.9
TPO				IAML		16 08 35.0	
	comp=N,299nm,0.7s						
HOLC	**Holcomb Ridge**	**1.24**	**192**		Pb	16 08 24.1	-0.3
AMDNV	**Amargosa**	**1.27**	**52**		Pn	16 08 23.1	-1.6
GRAC	**Grapevine Rang**	**1.33**	**6**		Pn	16 08 24.6	-0.9
GRAC				IAML		16 08 50.7	
	comp=E,156nm,0.5s						
TUQ	**Turquoise Moun**	**1.33**	**100**		Pn	16 08 24.2	-1.4
WCT	**Wildcat Mounta**	**1.33**	**33**		Pn	16 08 24.2	-1.5
WCT				IAML		16 08 50.0	
	comp=E,68nm,0.7s						
SGV	**South Grapevin**	**1.36**	**17**		Pn	16 08 25.0	-1.1
BFSC	**Mount Baldy Ra**	**1.43**	**184**		Pn	16 08 25.7	-1.4
BFSC				IAML		16 08 46.8	
	comp=N,101nm,0.4s						
BFSC				IAML		16 08 47.1	
	comp=E,97nm,0.4s						
MWC	**Mount Wilson**	**1.51**	**197**		Pn	16 08 27.7	-0.5
PASC	**Pasadena Art C**	**1.59**	**200**		Pn	16 08 28.6	-0.6
PASC				IAML		16 08 55.6	
	comp=N,58nm,0.6s						
PASC				IAML		16 08 57.1	
	comp=E,67nm,0.5s						
GMN	**Gold Mountain**	**1.64**	**7**		Pn	16 08 28.7	-1.3
GMN				IAML		16 08 37.7	
	comp=N,51nm,0.3s						
TPNV	**Topopah Spring**	**1.64**	**39**		Pn	16 08 28.8	-1.1
TPNV				IAML		16 08 54.8	
	comp=N,94nm,0.5s						
TPNV				IAML		16 08 56.5	
	comp=N,85nm,0.4s						
DSP	**Deep Springs**	**1.73**	**348**	Pn	Pn	16 08 30.3	-0.8
DSP				IAML		16 08 57.2	
	comp=E,39nm,0.3s						
ELS	**Elsinore Mount**	**2.02**	**178**	IAML		16 09 09.0	
	comp=N,35nm,0.4s						
ELS				IAML		16 09 10.7	
	comp=E,48nm,0.7s						
V12A	**Nelson**	**2.18**	**88**	IAML		16 09 09.6	
	comp=N,35nm,0.9s						
V12A				IAML		16 09 16.3	
	comp=E,48nm,0.6s						
PMD	**Palm Desert**	**2.23**	**155**	IAML		16 09 11.4	
	comp=E,35nm,0.5s						
PMD				IAML		16 09 14.8	
	comp=N,30nm,0.6s						
PFO	**Pinyon Flats O**	**2.24**	**157**	IAML		16 09 12.9	
	comp=N,23nm,0.6s						
PFO				IAML		16 09 13.1	
	comp=N,31nm,0.4s						
S11A	**Rachel**	**2.43**	**35**	IAML		16 09 26.1	
	comp=E,52nm,0.8s						
S11A				IAML		16 09 26.5	
	comp=N,40nm,0.9s						
PRN	**Pahroc Range**	**2.64**	**48**	IAML		16 09 29.9	
	comp=N,30nm,1.8s						
PRN				IAML		16 09 31.8	
	comp=E,33nm,4.2s						
LHV	**Little Huntoon**	**2.69**	**343**	IAML		16 09 35.9	
	comp=E,24nm,3.6s						
LHV				IAML		16 09 39.9	

comp=N,19nm,3.6s
W13A Hualapai Mount 3.03 100 IAML 16 09 38.7
comp=N,14nm,0.8s
W13A IAML 16 09 43.0
comp=E,12nm,0.7s
KNB Kanab 4.03 69 IAML 16 10 18.9
comp=N,9.8nm,3.5s
PSUT Pine Spring 4.09 45 IAML 16 10 16.6
comp=N,6.6nm,4.7s
Y14A Wickenburg 4.10 114 IAML 16 10 13.1
comp=E,14nm,0.5s
Y14A IAML 16 10 15.5
comp=N,19nm,0.6s

*NNC **07** 16:09:15.2±0.5,44°.48N×80°.58E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=9.2km s-min=2.8km az=125.0*
*SOME **07** 16:09:16.2,44°.43N×80°.75E,h20km*
ISC 07 16:09:13.3±1.3,44°.44N±0°.04×80°.74E±0°.04,h7km±12km, n31,σ1§48/43,13C-4D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.03**	**196**	*eP*	**Pn**	**16 09 34.8**	**+0.4**
	18nm,0.1s						
KTMS				*eS*	**Sn**	**16 09 48.3**	**-0.9**
	502nm,0.2s						
PDGK	**Podgornoye**	**1.43**	**219**	⇓P	**Pg**	**16 09 41.5**	**+0.8**
	16nm,0.3s						
PDGK				⇑S	**Sg**	**16 09 60.0**	**+0.7**
	338nm,0.5s						
SHLS	**Shalkode**	**1.58**	**216**	*eP*	**Pn**	**16 09 41.5**	**-0.4**
	174nm,0.2s						
SHLS				*eS*	**Sn**	**16 10 00.3**	**-2.4**
	393nm,0.2s						
TDK	**Taldyqorghan**	**1.75**	**290**	*eP*	**Pg**	**16 09 48.1**	**+1.1**
	105nm,0.5s						
TDK				*eS*	**Sg**	**16 10 11.2**	**+1.6**
	201nm,0.3s						
ARXS	**Arharly**	**2.10**	**265**	Pg	**Pg**	**16 09 53.1**	**-0.4**
	23nm,0.3s						
ARXS				Lg	Lg	16 10 20.1	
	130nm,0.6s						
MAKZ	**Makanchi**	**2.52**	**20**	⇑Pn	**Pb**	**16 09 58.9**	**-0.1**
	1.8nm,0.4s						
MAKZ				⇑Sn	**Sb**	**16 10 29.7**	**-0.6**
	9.9nm,0.3s						
MK31	**Makanchi Array**	**2.59**	**24**	Pn	**Pb**	**16 09 59.5**	**-0.7**
	1.5nm,0.3s,baz=206,slow=13,SNR=194						
MK31				⇑Sn	**Sn**	**16 10 30.2**	**+2.6**
	14nm,0.4s,baz=203,slow=28,SNR=7.5						
CHKK	**Chushkaly**	**2.76**	**259**	Pg	**Pb**	**16 10 03.7**	**+0.7**
	19nm,0.4s						
CHKK				Lg	Lg	16 10 39.6	
	151nm,0.4s						
CHKK	**Chushkaly**	**2.76**	**259**	*eP*	**Pg**	**16 10 06.4**	**+0.2**
	14nm,0.1s						
CHKK				*eS*	**Sg**	**16 10 42.7**	**+0.7**
	79nm,0.3s						
KOTS	**Kotyrbulak**	**2.88**	**247**	*eP*	**Pg**	**16 10 08.2**	**-0.4**
	22nm,0.4s						
KOTS				*eS*	**Sg**	**16 10 46.1**	**+0.1**
	194nm,0.6s						
KNDC	**Almaty**	**2.99**	**247**	⇑Pg	**Pg**	**16 10 11.5**	**+0.9**
	18nm,0.4s						
KNDC				⇑Lg	Lg	16 10 46.6	
	53nm,0.4s						
KTBS	**Karatobe**	**3.01**	**257**	Pg	**Pb**	**16 10 08.3**	**+1.0**
	6.7nm,0.4s						
KTBS				Lg	Lg	16 10 46.7	
	166nm,0.6s						
TNSS	**Tian-Shan**	**3.08**	**244**	Pg	**Pb**	**16 10 09.3**	**+0.5**
TNSS	**Tian-Shan**	**3.08**	**244**	*eP*	**Pg**	**16 10 12.0**	**-0.4**
	2.6nm,0.2s						
TNSS				*eS*	**Sg**	**16 10 52.3**	**0.0**
	9.6nm,0.2s						
KUU	**Kurty**	**3.21**	**262**	Lg	Lg	16 10 53.1	
	44nm,0.6s						
KUU	**Kurty**	**3.21**	**262**	*eP*	**Pg**	**16 10 14.0**	**-0.8**
	3.4nm,0.1s						
KUU				*eS*	**Sg**	**16 10 55.8**	**-0.6**
	43nm,0.2s						
IZV	**Izvestkoviy**	**3.30**	**246**	Pg	**Pb**	**16 10 13.8**	**+1.5**
	15nm,0.7s						
IZV	**Izvestkoviy**	**3.30**	**246**	*eP*	**Pg**	**16 10 16.0**	**-0.6**
	7.0nm,0.2s						
IZV				*eS*	**Sg**	**16 10 59.4**	**+0.1**
	50nm,0.4s						
MTBS	**Maitube**	**3.38**	**249**	Pg	**Pb**	**16 10 15.0**	**+1.4**
	15nm,0.4s						
MTBS				Lg	Lg	16 10 57.8	
	47nm,0.3s						
MTBS	**Maitube**	**3.38**	**249**	*eP*	**Pg**	**16 10 17.6**	**-0.6**
	15nm,0.4s						
MTBS				*eS*	**Sg**	**16 11 01.8**	**-0.1**
	46nm,0.3s						
KRBS	**Karabastau**	**3.72**	**260**	Pg	**Pb**	**16 10 21.1**	**+1.6**
	5.4nm,0.3s						
KRBS				Lg	Lg	16 11 08.1	
	15nm,0.4s						
KST	**Kastek**	**3.73**	**250**	*eP*	**Pg**	**16 10 23.4**	**-1.4**
	8.5nm,0.4s						
KST				*eS*	**Sg**	**16 11 12.1**	**-1.0**
	35nm,0.4s						
TKM2	**Tokmak 2**	**4.02**	**250**	⇑Pg	**Pg**	**16 10 28.4**	**-2.1**
	4.1nm,0.5s						
TKM2				⇑Lg	Lg	16 11 18.8	
	22nm,0.5s						
ZSN	**Zaisan**	**4.17**	**42**	Pg	**Pg**	**16 10 31.2**	**-1.9**
	1.4nm,0.2s						
ZSN				Lg	Lg	16 11 25.3	
	31nm,0.5s						
ZSN	**Zaisan**	**4.17**	**42**	*eP*	**Pg**	**16 10 32.4**	**-0.8**
	0.8nm,0.2s						
ZSN				*eS*	**Sg**	**16 11 27.4**	**+0.3**
	31nm,0.5s						
CHMS	**Chumysh**	**4.57**	**254**	⇓Pg	**Pb**	**16 10 36.9**	**+3.0**
	8.4nm,1.1s						
CHMS				⇑Lg	Lg	16 11 39.1	
	12nm,0.5s						
BTLS	**Baital**	**4.80**	**280**	*eP*	**Pg**	**16 10 43.6**	**-1.7**
	1.3nm,0.2s						
BTLS				*eS*	**Sg**	**16 11 46.5**	**-1.0**
	2.6nm,0.3s						
AAK	**Ala-Archa**	**4.88**	**251**	⇓Pg	**Pb**	**16 10 42.5**	**+3.2**
	2.5nm,0.7s						
AAK				⇑Lg	Lg	16 11 46.5	
	4.3nm,0.5s						
KURBB	**Kurchatov Arra**	**6.36**	**347**	⇑Lg	Lg	16 12 40.1	
	14nm,0.5s						
KURK	**Kurchatov**	**6.44**	**348**	⇑Lg	Lg	16 12 39.3	
	17nm,1.2s						
KK31	**Karatay Array**	**7.52**	**263**	⇓Pg	**Pg**	**16 11 32.9**	**-4.4**
	0.3nm,0.3s,baz=76,slow=15,SNR=8.3						
KK31				⇑Lg	Lg	16 13 10.9	
	2.2nm,0.5s,baz=73,slow=30,SNR=6.3						

*SJA **07** 16:12:15.4±0.7,21°.64S×66°.79W,h226km±5km, ML4.3, MW4.0*
*IDC **07** 16:12:15.9±1.4,21°.58S×66°.67W,h218km±16km,mb3.6/6, mbtmp4.2/11,Error ellipse: s-maj=21.6km s-min=13.3km az=103.0*
*VAO **07** 16:12:16.4±0.7,21°.49S×66°.63W,h216km±5km,mb4.4*
*NEIC **07** 16:12:16.2±1.4,21°.67S±0°.06×66°.90W±0°.08,h239km±7km, mb4.6/14,Error ellipse: s-maj=12.7km s-min=6.4km az=57.0*
*SCB **07** 16:12:17.0±1.4,21°.67S×66°.81W,h213km±10km,ML4.5/3, MW3.7,Error ellipse: s-maj=5.0km s-min=4.6km az=1.0*
ISC 07 16:12:15.2±0.6,21°.60S±0°.04×66°.76W±0°.04,h225km±6km, n132,σ1§46/151,mb4.4/10,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.10**	**72**	Pg	**Pn**	**16 12 50.0**	**+1.2**
MOCB				Sg	**S**	**16 13 14.5**	**-0.4**
MOCB				IAML		16 13 14.9	
	3μm,0.4s						
YJA	**Yavi**	**1.29**	**117**	*eP*	**Pn**	**16 12 51.3**	**+1.2**
YJA				*eS*	**S**	**16 13 17.8**	**+0.6**
YJA	**Yavi**	**1.29**	**117**	Pg	**Pn**	**16 12 51.6**	**+1.5**
AF01	**San Pedro de A**	**1.88**	**224**		**Pn**	**16 12 56.3**	**+1.4**
AF01	**San Pedro de A**	**1.88**	**224**	*eP*	Pn	16 13 05.2	+10
AF01				*eS*	**S**	**16 13 23.6**	**-2.2**
AF01				IAML		16 13 49.1	

comp=Z,446nm,0.5s
PB09 IPOC Station P 2.32 265 *eP* **Pn** **16 13 00.1 +1.1**
PB09 IPOC Station P 2.32 265 *eP* Pn **16 12 59.7 +0.7**
PB09 *eS* **S** **16 13 35.0 +1.9**
PB09 IAML 16 13 38.3
comp=Z,455nm,0.3s
PB09 IPOC Station P 2.32 265 Pg **Pn** **16 13 00.6 +1.6**
PB01 IPOC Station P 2.60 282 **Pn** **16 13 02.6 +0.6**
PB01 IPOC Station P 2.60 282 *eP* Pn **16 13 02.6 +0.6**
PB01 *eS* **S** **16 13 39.7 +1.3**
PB01 IAML 16 13 43.0
comp=Z,324nm,0.2s
PB01 IPOC Station P 2.60 282 Pg **Pn** **16 13 03.5 +1.5**
PB01 Sg **S** **16 13 38.1 -0.3**
PB01 IAML 16 13 41.5
comp=Z,575nm,0.2s
SALTA 2.64 172 *eP* **Pn** **16 13 04.8 +2.1**
PB08 IPOC Station P 2.67 303 **Pn** **16 13 04.4 +1.3**
PB08 IPOC Station P 2.67 303 *eP* **Pn** **16 13 04.6 +1.6**
PB08 *eS* **S** **16 13 41.5 +1.2**
PB08 IAML 16 13 42.1
comp=Z,330nm,0.8s
PB08 IPOC Station P 2.67 303 Pg **Pn** **16 13 04.8 +1.8**
PB06 IPOC Station P 2.83 247 **Pn** **16 13 04.8 +0.3**
PB06 IPOC Station P 2.83 247 *eP* **Pn** **16 13 05.0 +0.5**
PB06 *eS* **S** **16 13 43.1 +0.2**
PB06 IAML 16 13 47.3
comp=Z,900nm,0.2s
PB06 IPOC Station P 2.83 247 Pg **Pn** **16 13 05.8 +1.3**
GO01 Chusmiza 2.98 310 **Pn** **16 13 07.5 +0.9**
GO01 Chusmiza 2.98 310 *eP* **Pn** **16 13 07.3 +0.7**
GO01 *eS* **S** **16 13 50.4 +3.7**
GO01 Chusmiza 2.98 310 Pg **Pn** **16 13 07.8 +1.2**
AZAP Zapla 3.04 149 *eP* **Pn** **16 13 07.8 +0.9**
AZAP *eS* **S** **16 13 42.9 -4.5**
SOEO Opoqueri 3.20 340 Pg **Pn** **16 13 11.6 +2.5**
HMBC Humberstone 3.21 294 **Pn** **16 13 08.8 0.0**
HMBC Humberstone 3.21 294 *eP* **Pn** **16 13 08.9 +0.1**
HMBC *eS* **S** **16 13 49.6 -1.1**
HMBC IAML 16 13 53.6
comp=Z,778nm,0.3s
HMBC Humberstone 3.21 294 Pg **Pn** **16 13 09.3 +0.5**
PATCX Punta Patache 3.26 283 **Pn** **16 13 09.7 +0.3**
PATCX Punta Patache 3.26 283 *eP* **Pn** **16 13 09.9 +0.5**
PATCX *eS* **S** **16 13 51.4 -0.3**
PATCX IAML 16 13 52.1
comp=Z,224nm,0.4s
PB11 IPOC Station P 3.27 304 **Pn** **16 13 10.0 +0.4**
PB11 IPOC Station P 3.27 304 *eP* **Pn** **16 13 10.2 +0.6**
PB11 *eS* **S** **16 13 51.4 -0.7**
PB11 IAML 16 13 54.0
comp=Z,545nm,0.6s
PB11 IPOC Station P 3.27 304 Pg **Pn** **16 13 10.8 +1.2**
PB11 Sg **S** **16 13 51.2 -0.9**
PB11 IAML 16 13 52.4
comp=Z,1μm,0.2s
SLA San Lorenzo 3.31 160 *eP* **Pn** **16 13 12.2 +2.3**
TA01 Diego Aracena 3.36 287 **Pn** **16 13 10.3 -0.1**
TA01 Diego Aracena 3.36 287 *eP* **Pn** **16 13 09.7 -0.7**
TA01 *eS* **S** **16 13 51.9 -1.6**
TA01 IAML 16 13 53.5
comp=Z,216nm,0.3s
ALOL LOMAS DE OLMED 3.38 131 *eP* **Pn** **16 13 11.2 +0.6**
TA02 Huaiquique 3.42 292 **Pn** **16 13 10.9 -0.2**
TA02 Huaiquique 3.42 292 *eP* **Pn** **16 13 10.9 -0.2**
TA02 *eS* **S** **16 13 53.1 -1.7**
TA02 IAML 16 13 54.3
comp=Z,374nm,0.6s
PB05 IPOC Station P 3.42 248 **Pn** **16 13 11.3 +0.1**
PB05 IPOC Station P 3.42 248 *eP* **Pn** **16 13 11.2 0.0**
PB05 *eS* **S** **16 13 53.0 -2.1**
PB05 IAML 16 14 02.2
comp=Z,331nm,0.3s
PB05 IPOC Station P 3.42 248 Pg **Pn** **16 13 12.2 +1.0**
PB10 IPOC Station P 3.99 241 **Pn** **16 13 17.8 -0.1**
PB10 IPOC Station P 3.99 241 *eP* **Pn** **16 13 18.1 +0.3**
PB10 *eS* S 16 13 52.5 -15
PB10 IAML 16 14 06.5
comp=Z,605nm,0.2s
PB10 IPOC Station P 3.99 241 Pg **Pn** **16 13 18.2 +0.3**
PB16 IPOC Station P 4.15 321 **Pn** **16 13 22.1 +1.6**
PB16 IPOC Station P 4.15 321 *eP* Pn 16 13 16.8 -3.7
PB16 *eS* **S** **16 14 09.2 -2.5**
PB16 IAML 16 14 15.0
comp=Z,232nm,0.8s
PB16 IPOC Station P 4.15 321 Pg **Pn** **16 13 22.7 +2.2**
GO02 Mina Guanaco 4.40 216 **Pn** **16 13 23.6 +0.6**
GO02 Mina Guanaco 4.40 216 *eP* **Pn** **16 13 23.8 +0.7**
GO02 *eS* **S** **16 14 16.1 -0.5**
PB14 IPOC Station P 4.51 227 **Pn** **16 13 24.5 0.0**
PB14 IPOC Station P 4.51 227 *eP* **Pn** **16 13 24.9 +0.5**
PB14 *eS* S 16 14 03.8 -15
PB14 IAML 16 14 19.4
comp=Z,754nm,0.2s
PB14 IPOC Station P 4.51 227 Pg **Pn** **16 13 25.0 +0.5**
FSA Cafayete 4.54 171 *eP* Pn 16 13 11.3 -13
AP01 Chacalluta 4.66 313 Pn **Pn** **16 13 26.6 +0.5**
AP01 Chacalluta 4.66 313 *eS* **S** **16 14 19.5 -2.5**
AP01 IAML 16 14 27.1
comp=Z,582nm,0.2s
BBOJ La Paz, Jacaqu 4.80 343 Pg **Pn** **16 13 31.1 +2.7**
SOEJ Jacaque 4.80 343 Pg **Pn** **16 13 31.4 +3.0**
BBOE La Paz, Chanca 4.90 346 Pg **Pn** **16 13 32.6 +2.9**
BBOD La Paz, Gloria 5.24 340 Pg **Pn** **16 13 36.5 +2.6**
LPAZ La Paz 5.44 346 **Pn** **16 13 37.8 +1.3**
LPAZ La Paz 5.44 346 P **Pn** **16 13 38.3 +1.7**
comp=Z,48nm,0.3s,baz=141,slow=7.8,SNR=188
LPAZ S **S** **16 14 40.8 0.0**
comp=Z,40nm,0.6s,baz=332,slow=14,SNR=8.0
LPAZ La Paz 5.44 346 Pg **Pn** **16 13 38.3 +1.7**
LPAZ La Paz 5.44 346 *eP* **Pn** **16 13 37.2 +0.7**
LPAZ *eS* **S** **16 14 39.4 -1.5**
BBOB La Paz, Bander 5.59 346 Pg **Pn** **16 13 39.8 +1.6**
AC02 Maricunga 5.64 202 **Pn** **16 13 39.1 +0.3**
AC01 Pan de Azucar 5.73 217 **Pn** **16 13 38.2 -1.2**
AC06 Mina Casimiro 6.60 209 **Pn** **16 13 48.7 -1.8**
GO03 Copiapo 6.75 207 **Pn** **16 13 50.8 -1.7**
BBSD Serra de San D 7.28 54 *eP* **Pn** **16 13 58.1 -1.2**
SIV San Ignacio 7.75 45 P **Pn** **16 14 04.9 -0.6**
comp=Z,42nm,0.3s,baz=219,slow=10,SNR=196
SIV S **S** **16 15 28.3 -5.3**
comp=Z,7.2nm,0.4s,baz=182,slow=14,SNR=3.2
LCO Las Campanas 8.19 205 **Pn** **16 14 09.1 -2.1**
MURT Porto Murtinho 8.51 92 *eP* **Pn** **16 14 14.2 -0.8**
BDQN Bodoquena, MS 9.42 85 *eP* **Pn** **16 14 27.0 +0.3**
PTLB Pontes e Lacer 9.47 51 **Pn** **16 14 28.5 +1.1**
PTLB Pontes e Lacer 9.47 51 *eP* **Pn** **16 14 25.6 -1.8**
CPUP Villa Florida 9.82 120 P **Pn** **16 14 31.8 -0.1**
comp=Z,0.7nm,0.9s,baz=260,slow=12,SNR=3.7
CO03 El Pedregal 9.85 200 **Pn** **16 14 30.1 -2.2**
ZON Zonda 10.05 189 **Pn** **16 14 33.3 -1.4**
CO02 Combarbal 10.29 201 **Pn** **16 14 35.4 -2.4**
SJPY San Joaquin 10.36 111 *eP* **Pn** **16 14 38.0 -0.8**
VILB Vilhena 10.64 37 **Pn** **16 14 42.9 +0.5**
VILB Vilhena 10.64 37 *eP* **Pn** **16 14 40.6 -1.8**
SALV Santo Antonio 11.91 63 *eP* **Pn** **16 14 57.3 -1.2**
PEL Peldehue 12.01 196 Pn **Pn** **16 14 58.7 -0.9**
MT08 Bocatoma Ro 12.14 193 P **P** **16 15 03.6 -1.5**
BO02 Sierra Bellavi 13.61 194 **P** **16 15 20.1 -1.1**
PDRB Porto dos Gac 13.81 46 *eP* **Pn** **16 15 22.5 +0.4**
PTGB Pitanga 13.87 106 *eP* **P** **16 15 24.5 +0.4**
PCMB Pacaembu 14.41 93 *eP* **Pn** **16 15 29.5 0.0**
ITAB Concordia 14.45 116 P **P** **16 15 31.4 +0.9**
ITAB Concordia 14.45 116 *eP* **Pn** **16 15 27.8 -2.0**
CPSB Cacapava Do Su 14.83 129 *eP* **P** **16 15 36.2 +1.6**
CZSB Cruzeiro do Su 14.94 337 *eP* **P** **16 15 36.0 0.0**
ITRB Iturama 15.47 86 *eP* **Pn** **16 15 43.7 +1.5**
FRTB Fartura 15.99 99 *eP* **Pn** **16 15 49.4 +1.0**
BB19B Bebedouro 17.00 92 *eP* **P** **16 15 58.7 +0.1**
SNDB Serra Nova Dou 17.62 60 *eP* **P** **16 16 06.1 +0.7**
IPMB Ipameri, GO 17.82 82 *eP* **P** **16 16 08.4 +0.8**
NPGB Novo Progresso 18.19 39 *eP* **P** **16 16 11.4 -0.2**
VAO Valinhos 18.37 98 P **P** **16 16 14.4 +0.8**
VAO Valinhos 18.37 98 *eP* **P** **16 16 13.8 +0.2**
LR03 Panguipulli 18.60 194 IAmb IAmb 16 16 18.4
comp=Z,40nm,0.9s
BDFB Brasilia 18.72 75 **P** **16 16 18.6 +1.1**
BDFB IAmb IAmb 16 16 20.2
comp=Z,9.6nm,0.9s
BDFB Brasilia 18.72 75 P **P** **16 16 18.5 +1.1**
comp=Z,5.8nm,0.5s,baz=246,slow=9.9,SNR=13
MACA Manacapuru-AM 19.26 19 **P** **16 16 23.5 +0.3**
PLCA Paso Flores 19.34 189 P **Pn** **16 16 25.1 -2.6**
comp=Z,2.9nm,0.4s,baz=0.5,slow=10.0,SNR=30
ITTB Itaituba 20.20 34 *eP* **P** **16 16 32.9 -0.3**
BSCB Bom Sucesso 20.49 92 *eP* **P** **16 16 38.0 +1.6**
DIAM Diamantina, MG 21.94 85 *eP* **P** **16 16 51.5 +0.4**
JANB Januaria 22.27 77 *eP* **P** **16 16 54.0 0.0**
SMTB Santa Maria do 22.38 58 *eP* **P** **16 16 56.1 +1.1**
PRPB Parauapebas 22.45 49 *eP* **P** **16 16 54.7 -0.9**
SDBA SAO DESIDERIO 22.79 70 *eP* **P** **16 16 58.6 -0.2**
BOAV Boa Vista 24.62 15 P **P** **16 17 15.8 +0.5**
FDF Fort de France 36.53 9 P **P** **16 18 59.7 +0.2**
BOAB BOACO BROADBAN 36.60 330 P **P** **16 19 15.8 -1.0**
BOAB IAmb IAmb 16 19 30.7
comp=Z,23nm,1.0s
PDPR Patillas Dam, 39.38 1 P **P** **16 19 22.6 -0.7**
PDPR IAmb IAmb 16 19 38.4
comp=Z,16nm,1.1s
BLA Blacksburg 59.90 347 P **P** **16 21 56.8 -0.7**
BLA IAmb IAmb 16 21 60.0
comp=Z,18nm,0.6s
WVT Waverly 60.78 341 P **P** **16 22 03.0 -0.5**
SNAA Sanae 61.53 161 P **P** **16 22 08.7 +0.5**
comp=Z,1.0nm,0.9s,baz=281,slow=10,SNR=3.5
comp=Z,1.0nm,0.9s
QSPA South Pole Qui 68.59 180 P **P** **16 22 55.9 +2.2**
comp=Z,0.3nm,0.4s,baz=162,slow=1.0,SNR=7.3
comp=Z,0.3nm,0.4s
LCMT Little Creek M 72.93 323 P **P** **16 23 18.1 -2.1**
TORD Torodi Ar. Bea 75.51 69 P **P** **16 23 35.7 +0.4**
TORD IAmb IAmb 16 23 36.6
comp=Z,3.5nm,0.6s
TORD Torodi Ar. Bea 75.51 69 P **P** **16 23 35.9 +0.6**
comp=Z,6.3nm,0.5s,baz=257,slow=5.4,SNR=54
comp=Z,6.3nm,0.5s
BOSA Boshof 81.63 117 P **P** **16 24 09.9 +1.2**
BOSA IAmb IAmb 16 24 13.4
comp=Z,22nm,1.4s
BOSA Boshof 81.63 117 P **P** **16 24 09.7 +1.0**
comp=Z,8.8nm,1.1s,baz=256,slow=2.6,SNR=5.6
comp=Z,8.8nm,1.1s
LBTB Lobatse 83.15 114 P **P** **16 24 14.8 -1.9**
LBTB IAmb IAmb 16 24 39.0
comp=Z,19nm,1.5s
MAW Mawson 83.65 163 P **P** **16 24 20.3 +2.2**
comp=Z,0.5nm,0.6s,baz=190,slow=6.1,SNR=1.4
comp=Z,0.5nm,0.6s
ESDC Sonseca Array 84.51 44 P **P** **16 24 24.3 +1.3**
comp=Z,0.8nm,1.0s,baz=225,slow=5.6,SNR=5.9
comp=Z,0.8nm,1.0s
MODS Modra-Piesok 102.02 43 *e*PDIFF **Pdif** **16 25 43.5 -0.1**
MODS *e*PP **PP** **16 30 00.4 +2.1**
KOLS Kolonicke sedl 105.36 43 *e*PDIFF **Pdif** **16 25 54.7 -3.7**
ASAR Alice Springs 130.71 205 PKP **PKiKP** **16 31 01.7 +0.6**
comp=Z,0.2nm,0.7s,baz=146,slow=1.3,SNR=1.3
MKAR Makanchi Array 144.52 38 PKP **PKPdf** **16 31 25.9 +1.1**
comp=Z,3.8nm,0.7s,baz=312,slow=4.2,SNR=28

*KRNET **07** 16:12:47.4±0.1,40°.24N×77°.72E,h12km,mb2.9*
*NNC **07** 16:12:48.2±2.9,40°.22N×77°.43E,h0km,mb3.5,mpv3.3, Error ellipse: s-maj=20.4km s-min=17.8km az=48.0*
*SOME **07** 16:12:49.1,40°.27N×77°.48E,h10km*
ISC 07 16:12:51.2±2.8,40°.3N±0°.1×77°.54E±0°.06,h1km±14km,n25, σ1§20/39,11C-7D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.41**	**8**	⇑*eP*	**Pn**	**16 13 15.1**	**-3.3**
TARG				⇑*eS*	**Sg**	**16 13 35.4**	**-1.0**
NRN	**Naryn**	**1.60**	**314**	⇓*eP*	**Pb**	**16 13 20.4**	**-1.4**
NRN				⇓*eS*	**Sg**	**16 13 44.1**	**+1.5**
KDJ	**Kajisay**	**1.81**	**352**	⇑*eP*	**Pn**	**16 13 23.2**	**-0.6**
KDJ				⇑*eS*	**Sb**	**16 13 49.4**	**+0.8**
ULHL	**Ulahol**	**2.14**	**333**	⇓*eP*	**Pn**	**16 13 28.0**	**-0.3**
ULHL				⇓*eS*	**Sb**	**16 13 58.3**	**+0.1**
PRZ	**Przheval'sk**	**2.24**	**17**	⇑*eP*	**Pn**	**16 13 28.2**	**-1.5**
PRZ				⇑*eS*	**Sn**	**16 13 58.5**	**+0.4**
BOOM	**Boomskoye usch**	**2.46**	**331**	⇑*eP*	**Pn**	**16 13 33.3**	**+0.6**
BOOM				⇑*eS*	**Sb**	**16 14 06.9**	**-0.5**
TNSS	**Tian-Shan**	**2.73**	**351**	Pg	**Pb**	**16 13 41.6**	**+0.4**
	3.5nm,0.5s						
TNSS				Lg	Lg	16 14 19.7	
	7.3nm,0.7s						
TNSS	**Tian-Shan**	**2.73**	**351**	*eP*	**Pb**	**16 13 41.6**	**+0.4**
	2.1nm,0.2s						
TNSS				*eS*	**Sg**	**16 14 19.4**	**+0.3**
	7.6nm,0.3s						
IZV	**Izvestkoviy**	**2.79**	**346**	Pg	**Pb**	**16 13 42.2**	**+0.3**
	4.0nm,0.3s						
IZV				Lg	Lg	16 14 20.6	
	22nm,0.5s						
IZV	**Izvestkoviy**	**2.79**	**346**	*eP*	**Pb**	**16 13 42.2**	**+0.3**
	3.2nm,0.3s						
IZV				*eS*	**Sg**	**16 14 20.5**	**-0.2**
	13nm,0.3s						
SATY	**Saty**	**2.80**	**13**	Pg	**Pb**	**16 13 42.3**	**+0.2**
	8.9nm,0.6s						
SATY				Lg	Lg	16 14 20.3	
	18nm,0.8s						
KNDC	**Almaty**	**2.91**	**352**	⇓Pg	**Pn**	**16 13 40.3**	**+1.6**
	6.3nm,0.4s						
KNDC				⇑Lg	Lg	16 14 24.0	
	56nm,0.5s						
MTBS	**Maitube**	**2.91**	**344**	Pg	**Pb**	**16 13 44.7**	**+0.7**
	3.8nm,0.3s						
MTBS				Lg	Lg	16 14 24.7	
	15nm,0.3s						
MTBS	**Maitube**	**2.91**	**344**	*eP*	**Pb**	**16 13 44.7**	**+0.7**
	1.9nm,0.1s						
MTBS				*eS*	**Sg**	**16 14 24.7**	**0.0**
	7.9nm,0.1s						
KOTS	**Kotyrbulak**	**2.91**	**354**	Pg	**Pb**	**16 13 44.9**	**+0.9**
	5.8nm,0.4s						
KOTS				Lg	Lg	16 14 25.0	
	47nm,0.8s						
KOTS	**Kotyrbulak**	**2.91**	**354**	*eP*	**Pb**	**16 13 44.9**	**+0.9**
	5.8nm,0.3s						
KOTS				*eS*	**Sg**	**16 14 25.0**	**+0.2**
	47nm,0.4s						
KST	**Kastek**	**2.95**	**337**	Pg	**Pb**	**16 13 44.8**	**+0.1**
	3.0nm,0.4s						
KST				Lg	Lg	16 14 25.2	
	13nm,0.4s						
KST	**Kastek**	**2.95**	**337**	*eP*	**Pb**	**16 13 44.8**	**+0.1**
	1.9nm,0.2s						
KST				*eS*	**Sg**	**16 14 25.0**	**-0.9**
	13nm,0.4s						
UCH	**Uchtor**	**2.96**	**311**	⇑*eP*	**Pn**	**16 13 41.1**	**+1.3**
UCH				⇑*eS*	**Sb**	**16 14 20.3**	**-1.6**
TKM2	**Tokmak 2**	**2.96**	**331**	⇓Pg	**Pn**	**16 13 40.9**	**+1.2**
	1.6nm,0.5s						
TKM2				⇓Lg	Lg	16 14 24.7	
	9.3nm,0.8s						
SHLS	**Shalkode**	**3.17**	**26**	Pg	**Pg**	**16 13 51.5**	**-0.3**
	5.0nm,0.4s						
SHLS				Lg	Lg	16 14 36.6	
	24nm,0.8s						
SHLS	**Shalkode**	**3.17**	**26**	*eP*	**Pg**	**16 13 51.5**	**-0.3**
	1.5nm,0.2s						
SHLS				*eS*	**Sg**	**16 14 36.6**	**+3.7**
	12nm,0.4s						
KTBS	**Karatobe**	**3.43**	**350**	Pg	**Pb**	**16 13 52.9**	**0.0**
	2.3nm,0.5s						
KTBS				Lg	Lg	16 14 38.9	
	17nm,0.6s						
CHKK	**Chushkaly**	**3.54**	**354**	Pg	**Pb**	**16 13 55.5**	**+0.8**
	4.3nm,0.1s						
CHKK				Lg	Lg	16 14 43.4	
	15nm,0.4s						
CHKK	**Chushkaly**	**3.54**	**354**	*eP*	**Pb**	**16 13 55.5**	**+0.8**
	4.4nm,0.1s						
CHKK				*eS*	**Sg**	**16 14 43.4**	**-1.5**
	15nm,0.4s						

*IDC **07** 16:18:23.2±1.0,0°.43N×126°.01E,h0km,mb3.9/7, mbtmp3.8/8,ML3.2/1,Error ellipse: s-maj=62.4km s-min=18.0km az=73.0*
*DJA **07** 16:18:24.4±0.9,0°.N±2°×12°.6E±°,h11km±6km,M3.7/1, MLv4.0/9,MLv3.7/1*
ISC 07 16:18:28.2±0.8,0°.37N±0°.06×126°.11E±0°.05,h35km,n13, σ1§24/16,mb3.9/7,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op

TNTI				S	Sn	16 19 07.4	+1.0	
KMSI	**Cibinong**	**2.14**	**275**	P	Pn	16 19 00.2	-1.2	
KMSI				S	Sn	16 19 27.5	+0.7	
SANI	**Sanana**	**2.41**	**183**	P	Pn	16 19 03.2	-1.9	
SANI				S	Sn	16 19 33.1	-0.3	
SGSI	**Sangihe**	**3.34**	**350**	P	Pn	16 19 16.5	-1.5	
LUWI	**Luwuk**	**3.62**	**247**	P	Pn	16 19 20.4	-1.4	
FITZ	**Fitzroy Crossi**	**18.36**	**181**	P	**P**	16 22 40.0	+0.1	
	0.1nm,0.3s,baz=11,slow=10,SNR=1.1 0.8nm,0.6s							
WRA	**Warramunga Arr**	**21.74**	**159**	P	**P**	16 23 16.2	-0.5	
	2.4nm,0.7s,baz=337,slow=11,SNR=20 2.4nm,0.7s							
ASAR	**Alice Springs**	**25.06**	**163**	P	**P**	16 23 50.9	+1.4	
	1.2nm,0.5s,baz=345,slow=11,SNR=20 1.2nm,0.5s							
STKA	**Stephens Creek**	**35.26**	**157**	P	**P**	16 25 21.2	+1.6	
	1.7nm,0.6s,baz=333,slow=11,SNR=4.4 1.7nm,0.6s							
PETK	**Petropavlovsk-**	**58.76**	**22**	P	**P**	16 28 22.6	0.0	
	0.9nm,0.9s,baz=225,slow=7.8,SNR=1.2 0.9nm,0.9s							
MKAR	**Makanchi Array**	**59.98**	**327**	P	**P**	16 28 30.5	-0.6	
	0.2nm,0.3s,baz=120,slow=7.2,SNR=6.9 0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**64.24**	**329**	P	**P**	16 28 59.8	+0.1	
	0.5nm,0.3s,baz=139,slow=8.6,SNR=1.7 0.5nm,0.3s							
QSPA	**South Pole Qui**	**90.30**	**180**	P	**P**	16 31 25.5	+0.2	
	1.2nm,1.0s,baz=0.0,slow=3.0,SNR=5.6 1.2nm,1.0s							

*IDC **07** 16:18:38.4±0.7,0.°55N×126.°17E,h0km,mb4.0/15, mbtmp4.0/16,ML3.4/1,Error ellipse: s-maj=38.6km s-min=14.0km az=79.0*
*NEIC **07** 16:18:44.8±2.3,0.°56N±0.°09×126.°20E±0.°09,h35km±2km, mb4.5/23,Error ellipse: s-maj=16.3km s-min=13.5km az=138.0*

ISC 07 16:18:43.8±0.5,0.°53N±0.°07×126.°2E±0.°1,h35km,n43, σ1s10/45,mb4.4/26,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.19**	**79**				**Pn**	**16 19 03.9**	**-0.2**
SAUI	**Saumlaki**	**9.87**	**149**	Pn		Pn	**Pn**	**16 21 04.1**	**+0.7**
KSM	**Kuching**	**15.91**	**273**	P		**P**	**P**	**16 22 29.9**	**+1.4**
KSM						IAmb	IAmb	16 22 50.0	
	comp=Z,20nm,0.9s								
KNRA	**Kununurra**	**16.30**	**171**	Pn		Pn	**Pn**	**16 22 30.4**	**+0.2**
SMRI	**Semarang**	**17.43**	**244**	Pn		Pn	**Pn**	**16 22 43.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**18.52**	**182**	P		**P**	**P**	**16 22 57.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**18.52**	**182**	P		**P**	**P**	**16 22 56.0**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=15,slow=11,SNR=1.3 comp=Z,1.5nm,0.9s								
WRA	**Warramunga Arr**	**21.86**	**159**	P		**P**	**P**	**16 23 32.2**	**-1.4**
WRA	**Warramunga Arr**	**21.86**	**159**	P		**P**	**P**	**16 23 32.7**	**-0.9**
	comp=Z,3.8nm,0.6s,baz=337,slow=11,SNR=5.4 comp=Z,3.8nm,0.6s								
WR8	**Warramunga Arr**	**21.93**	**159**	P		**P**	**P**	**16 23 32.6**	**-1.8**
TPUB	**Ta-pu**	**23.27**	**347**	P		**P**	**P**	**16 23 46.1**	**-2.4**
TPUB						IAmb	IAmb	16 23 55.3	
	comp=Z,29nm,1.1s								
AS31	**Alice Springs**	**25.19**	**163**	P		**P**	**P**	**16 24 07.5**	**+1.1**
ASAR	**Alice Springs**	**25.19**	**163**	P		**P**	**P**	**16 24 08.0**	**+1.6**
ASAR	**Alice Springs**	**25.19**	**163**	P		**P**	**P**	**16 24 07.3**	**+0.9**
	comp=Z,1.4nm,0.3s,baz=343,slow=13,SNR=4.8								
ASAR						PcP	**PcP**	**16 27 39.4**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=309,slow=2.8,SNR=2.0 comp=Z,1.4nm,0.3s								
FORT	**Forrest**	**31.19**	**177**	P		**P**	**P**	**16 25 00.1**	**+0.3**
FORT						IAmb	IAmb	16 25 34.1	
	comp=Z,9.0nm,1.2s								
STKA	**Stephens Creek**	**35.38**	**157**	P		**P**	**P**	**16 25 36.0**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=323,slow=12,SNR=3.9 comp=Z,0.6nm,0.4s								
INU	**Inuyama**	**36.08**	**15**	P		**P**	**P**	**16 25 42.9**	**+0.7**
JGF	**Kuroka**	**36.40**	**15**	P		**P**	**P**	**16 25 45.9**	**+0.8**
JGF						IAmb	IAmb	16 26 02.9	
	comp=Z,21nm,1.5s								
KSRS	**Korea Array**	**36.77**	**2**	P		**P**	**P**	**16 25 49.0**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=182,slow=10,SNR=5.3 comp=Z,0.7nm,0.5s								
MAJO	**Matsushiro**	**37.52**	**16**	P		**P**	**P**	**16 25 54.7**	**+0.1**
MAJO						IAmb	IAmb	16 25 55.5	
	comp=Z,13nm,1.1s								
MJAR	**Matsushiro Arr**	**37.52**	**16**	P		**P**	**P**	**16 25 54.3**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=186,slow=9.7,SNR=9.8 comp=Z,1.2nm,0.5s								
USRK	**Ussuriysk Ar.**	**43.78**	**6**	P		**P**	**P**	**16 26 46.9**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=195,slow=9.0,SNR=5.0 comp=Z,1.4nm,0.5s								
KLR	**Kul'dur**	**48.74**	**5**	P		**P**	**P**	**16 27 23.2**	**-1.9**
	comp=Z,0.6nm,0.4s,baz=213,slow=9.3,SNR=2.5 comp=Z,0.6nm,0.4s								
SONM	**Songino Array**	**50.16**	**343**	P		**P**	**P**	**16 27 35.5**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=163,slow=7.3,SNR=3.2 comp=Z,0.5nm,0.4s								
PEA0B	**Petropavlovsk-**	**58.58**	**22**	P		**P**	**P**	**16 28 38.4**	**+1.4**
PEA0B						IAmb	IAmb	16 29 00.6	
	comp=Z,8.9nm,1.4s								
PETK	**Petropavlovsk-**	**58.58**	**22**	P		**P**	**P**	**16 28 37.9**	**+0.9**
PETK	**Petropavlovsk-**	**58.58**	**22**	P		**P**	**P**	**16 28 36.6**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=186,slow=4.2,SNR=8.1 comp=Z,1.5nm,0.7s								
MKAR	**Makanchi Array**	**59.89**	**327**	P		**P**	**P**	**16 28 46.3**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=119,slow=8.2,SNR=16								
MKAR						PcP	**PcP**	**16 29 32.6**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=115,slow=3.8,SNR=4.5 comp=Z,1.4nm,0.5s								
MAKZ	**Makanchi**	**60.07**	**326**	P		**P**	**P**	**16 28 47.7**	**+0.3**
MAKZ						IAmb	IAmb	16 28 49.1	
	comp=Z,1.8nm,0.6s								
ZALV	**Zalesovo Beam**	**63.19**	**334**	P		**P**	**P**	**16 29 06.5**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=116,slow=6.6,SNR=2.2 comp=Z,0.4nm,0.4s								
KURBB	**Kurchatov Arra**	**64.15**	**328**	P		**P**	**P**	**16 29 14.1**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=129,slow=5.9,SNR=9.4 comp=Z,1.9nm,0.6s								
KURK	**Kurchatov**	**64.15**	**329**	P		**P**	**P**	**16 29 14.3**	**-0.4**
KURK						IAmb	IAmb	16 29 15.9	
	comp=Z,3.7nm,0.6s								
TIXI	**Tiksi**	**71.03**	**1**	P		**P**	**P**	**16 29 58.1**	**+0.4**
NRIK	**Noril'sk**	**73.39**	**347**	P		**P**	**P**	**16 30 12.9**	**+1.0**
NRIK						IAmb	IAmb	16 30 32.1	
	comp=Z,3.0nm,0.8s								
NRIK	**Noril'sk**	**73.39**	**347**	P		**P**	**P**	**16 30 12.6**	**+0.7**
	comp=Z,3.5nm,0.8s,baz=124,slow=3.6,SNR=3.6 comp=Z,3.5nm,0.8s								
SDPT	**Sand Point**	**80.13**	**34**	P		**P**	**P**	**16 30 51.0**	**+0.8**
M16K	**Timber Creek**	**82.22**	**28**	P		**P**	**P**	**16 31 03.0**	**+1.8**
M16K						IAmb	IAmb	16 31 22.3	
	comp=Z,6.5nm,1.5s								
C18K	**Utukok River**	**83.22**	**21**	P		**P**	**P**	**16 31 08.2**	**+1.9**
C18K						IAmb	IAmb	16 31 13.7	
	comp=Z,5.0nm,1.2s								
D20K	**Etivluk River**	**84.86**	**21**	P		**P**	**P**	**16 31 15.7**	**+1.1**
D20K						IAmb	IAmb	16 31 36.9	
	comp=Z,3.8nm,1.2s								
I23K	**Minto, Yukon-K**	**87.17**	**25**	P		**P**	**P**	**16 31 26.6**	**+0.5**
I23K						IAmb	IAmb	16 31 58.7	
	comp=Z,4.6nm,1.4s								
HIN	**Hinchinbrook I**	**88.20**	**30**	P		**P**	**P**	**16 31 30.4**	**-0.8**
ILAR	**Eielson Array**	**88.20**	**25**	P		**P**	**P**	**16 31 29.1**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=269,slow=5.0,SNR=4.3 comp=Z,0.2nm,0.5s								
QSPA	**South Pole Qui**	**90.46**	**180**	P		**P**	**P**	**16 31 41.9**	**+0.1**
	comp=Z,1.3nm,1.1s,baz=353,slow=2.5,SNR=2.3 comp=Z,1.3nm,1.1s								

IDC 07 16:18:58.2±1.2,0.°51N×126.°16E,h0km,mb3.8/5, mbtmp3.9/5,Error ellipse: s-maj=60.4km s-min=22.4km az=79.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.85**	**159**	P		P	P	16 23 52.6	0.0
	1.6nm,0.4s,baz=339,slow=11,SNR=5.0 1.6nm,0.4s								
ASAR	**Alice Springs**	**25.18**	**163**	P		P	P	16 24 25.6	0.0
	2.3nm,0.8s,baz=344,slow=11,SNR=5.1 2.3nm,0.8s								
MJAR	**Matsushiro Arr**	**37.55**	**16**	P		P	P	16 26 14.1	-0.2
	1.6nm,0.9s,baz=186,slow=8.8,SNR=2.4 1.6nm,0.9s								
PETK	**Petropavlovsk-**	**58.61**	**22**	P		P	P	16 28 57.5	+0.5
	1.1nm,0.8s,baz=181,slow=6.5,SNR=2.0 1.1nm,0.8s								
MKAR	**Makanchi Array**	**59.89**	**327**	P		P	P	16 29 05.7	-0.3
	0.6nm,0.5s,baz=118,slow=8.6,SNR=3.6								
MKAR						PcP	PcP	16 29 52.0	-0.5
	0.3nm,0.5s,baz=108,slow=4.5,SNR=1.2 0.6nm,0.5s								

*IDC **07** 16:20:52.2±1.3,0.°49N×126.°11E,h0km,mb3.8/5, mbtmp3.8/5,Error ellipse: s-maj=144.8km s-min=20.6km az=66.0*
*NEIC **07** 16:20:56.3±1.1,0.°6N±0.°1×126.°18E±0.°03,h35km±2km, mb4.0/8,Error ellipse: s-maj=23.3km s-min=4.4km az=6.0*

ISC 07 16:20:56.6±0.7,0.°6N±0.°1×126.°2E±0.°1,h35km,n17, σ1s27/18,mb3.9/9,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.20**	**80**			Pn	**Pn**	**16 21 16.5**	**-0.4**
MYLDM	**Lahad Datu**	**8.94**	**301**			Pn	**Pn**	**16 23 01.9**	**-1.4**
KNRA	**Kununurra**	**16.33**	**171**			P	**Pn**	**16 24 44.7**	**+1.4**
FITZ	**Fitzroy Crossi**	**18.55**	**182**			P	**P**	**16 25 09.4**	**-1.1**
WB0	**Warramunga Arr**	**21.75**	**159**			P	**P**	**16 25 43.8**	**-1.5**
WB0						IAmb	IAmb	16 25 57.3	
	comp=Z,7.4nm,1.4s								
WRAB	**Tennant Creek**	**21.88**	**159**			P	**P**	**16 25 45.1**	**-1.6**
WRAB						IAmb	IAmb	16 25 53.0	
	comp=Z,5.8nm,1.1s								
WRA	**Warramunga Arr**	**21.89**	**159**	P			**P**	**16 25 45.7**	**-1.1**
	comp=Z,2.5nm,0.5s,baz=337,slow=11,SNR=10 comp=Z,2.5nm,0.5s								
WR8	**Warramunga Arr**	**21.96**	**159**	P			**P**	**16 25 45.4**	**-2.1**
WR8						IAmb	IAmb	16 25 48.2	
	comp=Z,3.8nm,0.5s								
ASAR	**Alice Springs**	**25.22**	**163**	P			**P**	**16 26 18.2**	**-1.2**
ASAR	**Alice Springs**	**25.22**	**163**	P			**P**	**16 26 20.1**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=351,slow=16,SNR=9.6 comp=Z,1.0nm,0.5s								
FORT	**Forrest**	**31.22**	**177**	P			**P**	**16 27 12.4**	**-0.4**
MKAR	**Makanchi Array**	**59.86**	**327**	P			**P**	**16 30 60.0**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=121,slow=7.6,SNR=4.4								
MKAR						PcP	**PcP**	**16 31 46.3**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=134,slow=4.2,SNR=1.1 comp=Z,0.3nm,0.4s								
ZALV	**Zalesovo Beam**	**63.16**	**334**	P			**P**	**16 31 21.0**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=139,slow=6.8,SNR=2.7 comp=Z,0.6nm,0.4s								
KURBB	**Kurchatov Arra**	**64.12**	**328**	P			**P**	**16 31 29.0**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=124,slow=6.9,SNR=3.4 comp=Z,0.6nm,0.8s								
VNDA	**Vanda**	**80.37**	**173**	P			**P**	**16 33 04.6**	**+0.7**
VNDA						IAmb	IAmb	16 33 27.1	
	comp=Z,3.9nm,1.5s								
GLI	**Glacier Island**	**87.91**	**29**	P			**P**	**16 33 42.2**	**-0.3**
BMAR	**Burnt Mountain**	**89.19**	**23**	P			**P**	**16 33 48.1**	**-0.4**

*IDC **07** 16:23:44.3±0.9,0.°48N×126.°12E,h0km,mb3.9/8, mbtmp3.8/9,ML3.3/1,Error ellipse: s-maj=63.2km s-min=16.3km az=72.0*
*DJA **07** 16:23:46.8±0.9,0.°N±2.°×12.°6E±.°,h12km±7km,M3.6/1, MLv3.9/13,MLv3.6/1*
*NEIC **07** 16:23:49.0±1.3,0.°46N±0.°06×126.°17E±0.°05,h35km±2km, mb4.2/7,Error ellipse: s-maj=11.1km s-min=9.1km az=197.0*

ISC 07 16:23:49.3±0.7,0.°45N±0.°06×126.°16E±0.°04,h35km,n28, σ0s94/31,mb4.1/12,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.25**	**75**				**Pn**	**16 24 09.2**	**-1.2**
TNTI						Sn	**Sn**	**16 24 25.3**	**-0.7**
TNTI	**Ternate**	**1.25**	**75**	P		P	**Pn**	**16 24 09.7**	**-0.6**
TNTI				S		S	**Sn**	**16 24 27.3**	**+1.3**
KMSI	**Cibinong**	**2.18**	**273**	P		P	**Pn**	**16 24 22.8**	**-0.3**
KMSI				S		S	**Sn**	**16 24 50.2**	**+1.3**
SANI	**Sanana**	**2.49**	**184**	P		P	**Pn**	**16 24 27.0**	**-0.4**
SGSI	**Sangihe**	**3.27**	**349**	P		P	**Pn**	**16 24 37.4**	**-0.8**
LUWI	**Luwuk**	**3.70**	**246**	Pn		Pn	**Pn**	**16 24 43.2**	**-0.9**
LUWI	**Luwuk**	**3.70**	**246**	P		P	**Pn**	**16 24 43.1**	**-0.9**
NLAI	**Namlea**	**3.79**	**166**	P		P	**Pn**	**16 24 44.8**	**-0.4**
MRSI	**Marisa**	**4.22**	**270**	P		P	**Pn**	**16 24 49.8**	**-1.4**
AAI	**Ambon**	**4.59**	**154**	P		P	**Pn**	**16 24 56.4**	**+0.1**
APSI	**Ampana**	**4.71**	**253**	P		P	**Pn**	**16 24 57.2**	**-0.7**
SOEI	**Soe**	**10.31**	**190**	Pn		Pn	**Pn**	**16 26 13.9**	**-1.2**
KNRA	**Kununurra**	**16.23**	**171**	P		P	**P**	**16 27 36.7**	**-0.9**
KNRA						IAmb	IAmb	16 27 43.1	
	comp=Z,6.6nm,0.8s								
FITZ	**Fitzroy Crossi**	**18.44**	**182**	P			**P**	**16 28 00.6**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=0.0,slow=10,SNR=1.3 comp=Z,0.9nm,0.6s								
WB0	**Warramunga Arr**	**21.66**	**159**	P			**P**	**16 28 35.6**	**-1.4**
WB0						IAmb	IAmb	16 28 41.5	
	comp=Z,8.1nm,0.8s								
WRAB	**Tennant Creek**	**21.79**	**159**	P			**P**	**16 28 37.4**	**-1.1**
WRAB						IAmb	IAmb	16 28 42.8	
	comp=Z,6.2nm,0.7s								
WRA	**Warramunga Arr**	**21.80**	**159**	P			**P**	**16 28 37.4**	**-1.1**
	comp=Z,4.7nm,0.6s,baz=338,slow=11,SNR=21 comp=Z,4.7nm,0.6s								
WR8	**Warramunga Arr**	**21.87**	**159**	P			**P**	**16 28 38.4**	**-0.9**
WR8						IAmb	IAmb	16 28 41.6	
	comp=Z,5.9nm,0.6s								
AS31	**Alice Springs**	**25.13**	**163**	P			**P**	**16 29 10.8**	**-0.4**
ASAR	**Alice Springs**	**25.13**	**163**	P			**P**	**16 29 11.5**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=352,slow=16,SNR=20 comp=Z,2.4nm,0.7s								
FORT	**Forrest**	**31.11**	**177**	P			**P**	**16 30 04.1**	**-0.5**
FORT						IAmb	IAmb	16 30 09.9	
	comp=Z,5.6nm,0.9s								
STKA	**Stephens Creek**	**35.32**	**157**	P			**P**	**16 30 43.3**	**+1.9**
	comp=Z,2.3nm,0.7s,baz=320,slow=10,SNR=5.6 comp=Z,2.3nm,0.7s								
SONM	**Songino Array**	**50.22**	**343**	P			**P**	**16 32 41.7**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=159,slow=6.2,SNR=2.0 comp=Z,0.3nm,0.3s								
PETK	**Petropavlovsk-**	**58.66**	**22**	P			**P**	**16 33 42.9**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=226,slow=7.5,SNR=1.5 comp=Z,0.4nm,0.6s								
MKAR	**Makanchi Array**	**59.93**	**327**	P			**P**	**16 33 52.4**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=116,slow=7.6,SNR=6.3 comp=Z,0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**64.19**	**328**	P			**P**	**16 34 20.6**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=131,slow=6.2,SNR=6.3 comp=Z,0.4nm,0.5s								
SDPT	**Sand Point**	**80.22**	**34**	P			**P**	**16 35 56.7**	**+0.5**
QSPA	**South Pole Qui**	**90.38**	**180**	P			**P**	**16 36 47.3**	**+0.4**
	comp=Z,1.2nm,1.0s,baz=334,slow=5.7,SNR=2.8 comp=Z,1.2nm,1.0s								

IDC 07 16:25:51.4±2.1,0.°63N×126.°05E,h0km,mb3.5/3, mbtmp3.6/3,Error ellipse: s-maj=175.9km s-min=28.3km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.00**	**159**	P		P	P	16 30 45.7	-1.7
	1.5nm,0.7s,baz=337,slow=11,SNR=5.3 1.5nm,0.7s								
ASAR	**Alice Springs**	**25.33**	**163**	P		P	P	16 31 21.4	+1.2
	0.7nm,0.6s,baz=343,slow=11,SNR=5.4 0.7nm,0.6s								
MKAR	**Makanchi Array**	**59.73**	**327**	P		P	P	16 35 57.9	-0.2
	0.4nm,0.7s,baz=118,slow=6.8,SNR=3.4 0.4nm,0.7s								

*IDC **07** 16:29:18.5±1.7,0.°84N×126.°69E,h0km,mb3.3/4, mbtmp3.3/4,Error ellipse: s-maj=172.7km s-min=22.5km az=66.0*
*DJA **07** 16:29:24.6±1.2,1.°N±4.°×12.°6E±.°,h12km±10km,MLv3.5/8*

ISC 07 16:29:25.1±1.0,0.°66N±0.°07×126.°20E±0.°07,h35km,n9, σ1s91/10,mb3.3/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.18**	**85**	P		P	**Pn**	**16 29 47.0**	**+2.0**
KMSI	**Cibinong**	**2.22**	**268**	P		P	**Pn**	**16 30 01.0**	**+1.6**
SANI	**Sanana**	**2.70**	**184**	P		P	**Pn**	**16 30 08.1**	**+2.1**
SGSI	**Sangihe**	**3.08**	**347**	P		P	**Pn**	**16 30 12.9**	**+1.6**
LUWI	**Luwuk**	**3.82**	**244**	P		P	**Pn**	**16 30 23.1**	**+1.7**
WRA	**Warramunga Arr**	**21.98**	**159**	P		P	**P**	**16 34 13.7**	**-2.5**
	0.6nm,0.8s,baz=339,slow=11,SNR=5.7 0.6nm,0.8s								
ASAR	**Alice Springs**	**25.32**	**163**	P		P	**P**	**16 34 47.8**	**-0.9**
	0.2nm,0.4s,baz=345,slow=11,SNR=7.9 0.2nm,0.4s								
MKAR	**Makanchi Array**	**59.78**	**327**	P		P	**P**	**16 39 26.9**	**+0.1**
	0.2nm,0.4s,baz=127,slow=6.9,SNR=4.4								
MKAR						PcP	**PcP**	**16 40 12.7**	**-0.5**
	0.2nm,0.5s,baz=133,slow=4.6,SNR=2.7 0.2nm,0.4s								
KURBB	**Kurchatov Arra**	**64.04**	**328**	P		P	**P**	**16 39 53.8**	**-1.5**
	0.2nm,0.3s,baz=138,slow=5.6,SNR=1.8 0.2nm,0.3s								

*IDC **07** 16:29:50.6±0.9,0.°39N×126.°05E,h0km,mb3.9/7, mbtmp3.9/8,ML3.4/1,Error ellipse: s-maj=59.0km s-min=17.4km az=72.0*
*NEIC **07** 16:29:54.7±0.6,0.°5N±0.°1×126.°27E±0.°06,h24km±8km, mb4.2/8,Error ellipse: s-maj=16.3km s-min=8.5km az=170.0*

ISC 07 16:29:55.6±0.7,0.°48N±0.°09×126.°29E±0.°09,h35km,n21, σ0s67/22,mb4.0/11,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.12**	**75**			Pn	**Pn**	**16 30 15.1**	**+0.3**
LUWI	**Luwuk**	**3.83**	**247**	Pn		Pn	**Pn**	**16 30 52.7**	**+0.6**
MYLDM	**Lahad Datu**	**9.07**	**301**	Pn		Pn	**Pn**	**16 32 03.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**18.47**	**182**				**P**	**16 34 07.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**18.47**	**182**	P			**P**	**16 34 07.3**	**-1.4**
	0.1nm,0.3s,baz=11,slow=11,SNR=1.7 1.4nm,0.8s								
WB0	**Warramunga Arr**	**21.64**	**159**	P			**P**	**16 34 42.8**	**-0.3**
WB0						IAmb	IAmb	16 34 47.2	
	comp=Z,5.2nm,0.8s								
WRAB	**Tennant Creek**	**21.77**	**159**	P			**P**	**16 34 44.4**	**-0.1**
WRAB						IAmb	IAmb	16 34 49.2	
	comp=Z,14nm,1.4s								
WRA	**Warramunga Arr**	**21.78**	**159**	P			**P**	**16 34 44.6**	**0.0**
	comp=Z,4.0nm,0.4s,baz=337,slow=11,SNR=41 comp=Z,4.0nm,0.4s								
WR8	**Warramunga Arr**	**21.85**	**159**	P			**P**	**16 34 45.1**	**-0.3**
WR8						IAmb	IAmb	16 34 46.5	
	comp=Z,6.4nm,0.5s								
AS31	**Alice Springs**	**25.12**	**163**	P			**P**	**16 35 17.8**	**+0.3**
ASAR	**Alice Springs**	**25.12**	**163**	P			**P**	**16 35 18.5**	**+1.0**
ASAR	**Alice Springs**	**25.12**	**163**	P			**P**	**16 35 17.5**	**0.0**
	comp=Z,1.9nm,0.5s,baz=341,slow=9.1,SNR=36 comp=Z,1.9nm,0.5s								
FORT	**Forrest**	**31.13**	**177**	P			**P**	**16 36 11.0**	**-0.1**
STKA	**Stephens Creek**	**35.30**	**157**	P			**P**	**16 36 47.7**	**+0.3**
STKA	**Stephens Creek**	**35.30**	**157**	P			**P**	**16 36 46.6**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=319,slow=9.0,SNR=2.9 comp=Z,1.3nm,0.6s								
PETK	**Petropavlovsk-**	**58.59**	**22**	P			**P**	**16 39 50.5**	**+1.6**
	comp=Z,1.1nm,0.9s,baz=219,slow=6.8,SNR=1.7 comp=Z,1.1nm,0.9s								
MKAR	**Makanchi Array**	**59.98**	**327**	P			**P**	**16 39 58.4**	**-0.3**
MKAR	**Makanchi Array**	**59.98**	**327**	P			**P**	**16 39 58.7**	**0.0**
	comp=Z,0.5nm,0.4s,baz=118,slow=7.8,SNR=8.0								
MKAR						PcP	**PcP**	**16 40 44.6**	**0.0**
	comp=Z,0.4nm,0.6s,baz=123,slow=4.5,SNR=4.0 comp=Z,0.5nm,0.4s								
MAKZ	**Makanchi**	**60.16**	**326**	P			**P**	**16 39 59.5**	**-0.5**
MAKZ						IAmb	IAmb	16 40 19.0	
	comp=Z,2.9nm,1.4s								
KURBB	**Kurchatov Arra**	**64.24**	**328**	P			**P**	**16 40 27.0**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=133,slow=6.5,SNR=4.5 comp=Z,0.5nm,0.5s								
QSPA	**South Pole Qui**	**90.41**	**180**	P			**P**	**16 42 53.6**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=283,slow=18,SNR=0.9 comp=Z,0.3nm,0.6s								

*IDC **07** 16:34:02.0±0.7,0.°37N×125.°91E,h0km,mb3.9/13, mbtmp3.9/13,Error ellipse: s-maj=38.9km s-min=14.3km az=77.0*
*DJA **07** 16:34:06.1±1.0,0.°N±2.°×12.°6E±.°,h17km±8km,MLv4.0/13*
*NEIC **07** 16:34:08.6±2.4,0.°53N±0.°08×126.°40E±0.°06,h35km±2km, mb4.2/12,Error ellipse: s-maj=15.2km s-min=8.9km az=150.0*

ISC 07 16:34:07.8±0.5,0.°44N±0.°06×126.°24E±0.°05,h35km,n42, σ1s64/45,mb4.1/19,1C,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.18**	**74**				**Pn**	**16 34 27.2**	**-0.5**
TNTI	**Ternate**	**1.18**	**74**	P			**Pn**	**16 34 28.9**	**+1.1**
TNTI				S			**Sn**	**16 34 46.0**	**+3.4**
**

TIXI	**Tiksi**	**71.12**	**1**	P	**P**	**16 45 21.6**	**-0.6**
TIXI				IAmb	IAmb	16 46 06.0	
	comp=Z,6.2nm,1.1s						
ABKAR	**Akbulak array**	**74.39**	**321**	P	**P**	**16 45 41.4**	**-0.8**
QSPA	**South Pole Qui**	**90.37**	**180**	P	**P**	**16 47 04.1**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=37,slow=5.1,SNR=1.7						
	comp=Z,0.8nm,0.9s						

IDC 07 16:35:39.0±2.1, 0°.67N×126°.96E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=251.8km s-min=22.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.72**	**161**	P	P	16 40 31.6	-0.5
	0.4nm,0.6s,baz=341,slow=11,SNR=1.5						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**25.11**	**165**	P	P	16 41 05.1	-0.7
	0.3nm,0.6s,baz=344,slow=9.6,SNR=0.7						
	0.3nm,0.6s						
STKA	**Stephens Creek**	**35.21**	**158**	P	P	16 42 36.1	+1.0
	0.9nm,0.5s,baz=355,slow=11,SNR=3.2						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**60.20**	**326**	P	P	16 45 49.1	+0.1
	0.3nm,0.6s,baz=123,slow=6.8,SNR=1.8						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**64.43**	**328**	P	P	16 46 17.0	-0.2
	0.3nm,0.7s,baz=115,slow=6.3,SNR=2.3						
	0.3nm,0.7s						

*IDC **07** 16:37:38.2±0.9, 28°.27N×104°.89E, h0km, mb3.8/14, mbtmp3.8/15, ML3.8/1, Error ellipse: s-maj=29.2km s-min=17.6km az=52.0*
*NEIC **07** 16:37:39.7±0.9, 28°.2N±0°.1×104°.9E±0°.1, h10km±2km, mb4.5/21, Error ellipse: s-maj=23.0km s-min=18.6km az=133.0*

ISC 07 16:37:43.5±0.9, 28°.2N±0°.1×104°.9E±0°.1, h35km, n43, σ0s63/42, mb4.1/24, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**4.53**	**62**		**Pn**	**16 38 50.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**11.15**	**210**	Pn	Pn	16 40 26.6	+6.1
	0.1nm,0.3s,baz=22,slow=11,SNR=10						
SONM	**Songino Array**	**19.60**	**3**	P	**P**	**16 42 08.8**	**0.0**
SONM	**Songino Array**	**19.60**	**3**	P	**P**	**16 42 08.3**	**-0.4**
	0.3nm,0.3s,baz=181,slow=14,SNR=4.5						
	0.7nm,0.5s						
KSRS	**Korea Array**	**21.41**	**59**	P	**P**	**16 42 27.6**	**-0.6**
	1.0nm,0.7s,baz=241,slow=11,SNR=1.8						
	1.0nm,0.7s						
JMZ	**Minamidaito 2**	**23.60**	**90**	P	**P**	**16 42 50.3**	**-0.9**
MKAR	**Makanchi Array**	**25.61**	**322**	P	**P**	**16 43 10.3**	**+0.8**
MKAR	**Makanchi Array**	**25.61**	**322**	P	**P**	**16 43 10.1**	**+0.6**
	1.0nm,0.7s,baz=132,slow=11,SNR=12						
	1.0nm,0.7s						
MAKZ	**Makanchi**	**25.78**	**322**	P	**P**	**16 43 11.8**	**+0.7**
USRK	**Ussuriysk Ar.**	**26.90**	**46**	P	**P**	**16 43 20.7**	**-0.5**
	1.2nm,0.6s,baz=248,slow=11,SNR=2.7						
	1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**29.59**	**336**	P	**P**	**16 43 43.5**	**-1.5**
	0.6nm,0.5s,baz=140,slow=9.1,SNR=1.7						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**29.94**	**326**	P	**P**	**16 43 47.9**	**-0.2**
	0.7nm,0.7s,baz=132,slow=9.5,SNR=7.7						
	0.7nm,0.7s						
AB31	**Akbulak array**	**40.09**	**314**	P	**P**	**16 45 16.1**	**+0.5**
ABKAR	**Akbulak array**	**40.09**	**314**	P	**P**	**16 45 15.7**	**+0.1**
NRIK	**Noril'sk**	**42.35**	**351**	P	**P**	**16 45 34.1**	**+0.3**
NRIK				IAmb	IAmb	16 46 09.8	
	comp=Z,8.3nm,1.3s						
NRIK	**Noril'sk**	**42.35**	**351**	P	**P**	**16 45 33.8**	**0.0**
	comp=Z,3.1nm,0.6s,baz=162,slow=9.6,SNR=4.0						
	comp=Z,3.1nm,0.6s						
WRA	**Warramunga Arr**	**55.74**	**146**	P	**P**	**16 47 17.1**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=336,slow=7.4,SNR=5.9						
	comp=Z,0.8nm,0.5s						
ASAR	**Alice Springs**	**58.71**	**149**	P	**P**	**16 47 37.9**	**0.0**
	comp=Z,0.7nm,0.5s,baz=337,slow=7.2,SNR=5.4						
	comp=Z,0.7nm,0.5s						
BRTR	**Keskin Array B**	**58.75**	**301**	P	**P**	**16 47 37.7**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=87,slow=7.4,SNR=2.1						
	comp=Z,0.4nm,0.6s						
ARCES	**ARCESS Array B**	**60.13**	**337**	P	**P**	**16 47 47.4**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=115,slow=7.1,SNR=1.7						
	comp=Z,1.9nm,0.8s						
C16K	**Lisburne Hills**	**64.02**	**24**	P	**P**	**16 48 12.9**	**-0.3**
C18K	**Utukok River**	**65.43**	**24**	P	**P**	**16 48 22.3**	**-0.2**
C18K				IAmb	IAmb	16 48 30.2	
	comp=Z,6.3nm,1.5s						
C19K	**Lookout Ridge**	**65.88**	**23**	P	**P**	**16 48 25.4**	**+0.2**
HFS	**Hagfors**	**66.51**	**327**	P	**P**	**16 48 29.5**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=106,slow=4.8,SNR=2.7						
	comp=Z,2.1nm,0.8s						
D19K	**Kuna River**	**66.56**	**24**	P	**P**	**16 48 29.7**	**0.0**
D19K				IAmb	IAmb	16 48 47.1	
	comp=Z,8.1nm,1.4s						
B21K	**Ikpikpuk River**	**67.39**	**22**	P	**P**	**16 48 35.4**	**+0.5**
NOA	**NORSAR Array B**	**67.42**	**328**	P	**P**	**16 48 34.7**	**-0.6**
	comp=Z,0.8nm,0.2s,baz=69,slow=5.4,SNR=1.5						
	comp=Z,0.8nm,0.2s						
J17K	**VABM Dome**	**67.77**	**29**	P	**P**	**16 48 37.7**	**+0.3**
J17K				IAmb	IAmb	16 48 58.0	
	comp=Z,7.6nm,1.4s						
C23K	**Itkillik River**	**68.61**	**21**	P	**P**	**16 48 42.8**	**+0.3**
C23K				IAmb	IAmb	16 49 21.8	
	comp=Z,2.3nm,0.8s						
J18K	**Innoko River**	**68.75**	**28**	P	**P**	**16 48 43.6**	**+0.1**
J18K				IAmb	IAmb	16 48 59.4	
	comp=Z,2.4nm,1.1s						
E22K	**Anaktuvuk Pass**	**68.89**	**23**	P	**P**	**16 48 44.3**	**0.0**
E22K				IAmb	IAmb	16 48 52.6	
	comp=Z,4.1nm,1.4s						
IMAR	**Indian Mountai**	**69.02**	**25**	P	**P**	**16 48 44.6**	**-0.5**
GERES	**GERESS Array B**	**70.02**	**315**	P	**P**	**16 48 52.4**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=52,slow=6.5,SNR=1.6						
	comp=Z,0.2nm,0.5s						
H23K	**Yukon River**	**70.66**	**25**	P	**P**	**16 48 55.5**	**+0.2**
N19K	**Bonanza Creek**	**70.72**	**31**	P	**P**	**16 48 56.4**	**+0.6**
N19K				IAmb	IAmb	16 49 22.8	
	comp=Z,6.7nm,1.4s						
NEA2	**Nenana**	**71.38**	**26**	P	**P**	**16 49 00.3**	**+0.7**
NEA2				IAmb	IAmb	16 49 05.1	
	comp=Z,1.7nm,0.8s						
BMAR	**Burnt Mountain**	**71.67**	**22**	P	**P**	**16 49 02.0**	**+0.6**
ILAR	**Eielson Array**	**72.13**	**25**	P	**P**	**16 49 02.3**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=307,slow=6.6,SNR=2.6						
	comp=Z,0.2nm,0.5s						
G26K	**Porcupine Rive**	**72.17**	**23**	P	**P**	**16 49 05.0**	**+0.6**
G26K				IAmb	IAmb	16 49 05.7	
	comp=Z,2.0nm,0.9s						
KDAK	**Kodiak Island**	**72.86**	**33**	P	**P**	**16 49 08.3**	**-0.2**
J26L	**Joseph Creek**	**73.51**	**25**	P	**P**	**16 49 11.7**	**-0.7**
BCAR	**Beaver Creek A**	**74.94**	**26**	P	**P**	**16 49 21.3**	**+0.5**
H31M	**Peel River**	**75.96**	**21**	P	**P**	**16 49 25.9**	**-0.5**
H31M				IAmb	IAmb	16 49 30.4	
	comp=Z,8.4nm,1.4s						

IDC 07 16:38:19.8±1.6, 0°.55N×126°.50E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=165.3km s-min=21.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.76**	**160**	P	P	16 43 12.6	-0.6
	0.8nm,0.6s,baz=339,slow=11,SNR=6.2						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**25.12**	**164**	P	P	16 43 46.4	-0.2
	0.6nm,0.6s,baz=341,slow=10,SNR=8.9						
	0.6nm,0.6s						
STKA	**Stephens Creek**	**35.27**	**157**	P	P	16 45 17.2	+0.8
	0.8nm,0.5s,baz=331,slow=10,SNR=1.6						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**60.04**	**326**	P	P	16 48 30.3	+1.6
	0.2nm,0.3s,baz=137,slow=6.9,SNR=2.1						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**64.29**	**328**	P	P	16 48 55.3	-1.7
	0.3nm,0.6s,baz=131,slow=6.7,SNR=2.5						
	0.3nm,0.6s						

*IDC **07** 16:39:08.2±0.6, 0°.55N×126°.18E, h0km, mb3.9/14, mbtmp3.9/16, ML3.9/2, Error ellipse: s-maj=28.2km s-min=12.6km az=81.0*

*DJA **07** 16:39:12.0±1.1, 0°.N±3°×12°.6E±°, h23km±10km, M3.8/1, MLv4.0/9, MLv3.8/1*
*NEIC **07** 16:39:15.2±1.2, 0°.56N±0°.08×126°.35E±0°.06, h40km±6km, mb4.3/25, Error ellipse: s-maj=12.4km s-min=8.2km az=162.0*

ISC 07 16:39:13.8±0.5, 0°.48N±0°.06×126°.24E±0°.05, h35km, n55, σ1s31/61, mb4.2/26, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.16**	**76**	Pn	**Pn**	**16 39 33.6**	**+0.1**
TNTI	**Ternate**	**1.16**	**76**	P	**Pn**	**16 39 33.9**	**+0.3**
TNTI				S	**Sn**	**16 39 51.9**	**+3.7**
KMSI	**Cibinong**	**2.27**	**272**	P	**Pn**	**16 39 47.3**	**-1.5**
KMSI				S	**Sn**	**16 40 13.4**	**-2.1**
SANI	**Sanana**	**2.53**	**186**	P	**Pn**	**16 39 49.8**	**-2.6**
LUWI	**Luwuk**	**3.79**	**246**		**Pn**	**16 40 13.2**	**+3.5**
LUWI	**Luwuk**	**3.79**	**246**	P	**Pn**	**16 40 07.0**	**-2.8**
NLAI	**Namlea**	**3.79**	**167**	P	**Pn**	**16 40 07.8**	**-2.1**
TOLI2	**Tolitoli**	**5.50**	**277**	Pn	**Pn**	**16 40 35.2**	**+1.9**
KAPI	**Kappang**	**8.48**	**230**	Pn	**Pn**	**16 41 17.4**	**+3.2**
KAPI	**Kappang**	**8.48**	**230**	Pn	**Pn**	**16 41 13.5**	**-0.7**
	2.3nm,0.3s,baz=66,slow=20,SNR=3.8						
KAPI				Sn	**Sn**	**16 42 50.8**	**+2.1**
	1.6nm,0.3s,baz=214,slow=18,SNR=1.5						
	6.8nm,0.3s						
KSM	**Kuching**	**15.96**	**274**	Pn	**P**	**16 42 58.8**	**-0.3**
KSM				IAmb	IAmb	16 43 04.6	
	comp=Z,20nm,1.0s						
KNRA	**Kununurra**	**16.25**	**171**	Pn	**Pn**	**16 43 01.2**	**+1.7**
FITZ	**Fitzroy Crossi**	**18.47**	**182**	P	**P**	**16 43 27.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**18.47**	**182**	P	**P**	**16 43 26.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=49,slow=8.0,SNR=5.2						
	comp=Z,2.0nm,0.8s						
BOXOZ	**Borroloola**	**19.20**	**149**	P	**P**	**16 43 34.7**	**-0.1**
WB0	**Warramunga Arr**	**21.65**	**159**	P	**P**	**16 44 01.6**	**+0.2**
WB0				IAmb	IAmb	16 44 09.1	
	comp=Z,12nm,0.8s						
WRAB	**Tennant Creek**	**21.79**	**159**	P	**P**	**16 44 02.8**	**-0.2**
WRAB				IAmb	IAmb	16 44 10.7	
	comp=Z,9.5nm,0.8s						
WRA	**Warramunga Arr**	**21.79**	**159**	P	**P**	**16 44 02.8**	**-0.2**
	comp=Z,7.6nm,0.6s,baz=339,slow=11,SNR=20						
WRA				PcP	**PcP**	**16 48 02.1**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=320,slow=1.5,SNR=1.6						
	comp=Z,7.6nm,0.6s						
WR8	**Warramunga Arr**	**21.86**	**159**	P	**P**	**16 44 03.8**	**0.0**
AS31	**Alice Springs**	**25.13**	**163**	P	**P**	**16 44 36.3**	**+0.5**
ASAR	**Alice Springs**	**25.13**	**163**	P	**P**	**16 44 36.8**	**+1.0**
ASAR	**Alice Springs**	**25.13**	**163**	P	**P**	**16 44 36.4**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=348,slow=13,SNR=30						
ASAR				PcP	**PcP**	**16 48 10.1**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=351,slow=2.3,SNR=4.9						
	comp=Z,3.3nm,0.8s						
FORT	**Forrest**	**31.14**	**177**	P	**P**	**16 45 30.6**	**+1.3**
FORT				IAmb	IAmb	16 45 47.1	
	comp=Z,4.7nm,0.9s						
STKA	**Stephens Creek**	**35.31**	**157**	P	**P**	**16 46 05.8**	**0.0**
STKA	**Stephens Creek**	**35.31**	**157**	P	**P**	**16 46 06.3**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=319,slow=8.8,SNR=13						
	comp=Z,1.7nm,0.6s						
KSRS	**Korea Array**	**36.82**	**2**	P	**P**	**16 46 18.7**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=173,slow=9.2,SNR=2.2						
	comp=Z,0.4nm,0.6s						
MJAR	**Matsushiro Arr**	**37.55**	**16**	P	**P**	**16 46 24.4**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=180,slow=9.4,SNR=4.6						
	comp=Z,0.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**43.83**	**6**	P	**P**	**16 47 15.0**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=180,slow=7.2,SNR=2.8						
	comp=Z,0.6nm,0.5s						
DZM	**Mont Dzumac**	**45.14**	**122**	P	**P**	**16 47 27.0**	**-0.5**
PETK	**Petropavlovsk-**	**58.60**	**22**	P	**P**	**16 49 06.7**	**-0.5**
PETK	**Petropavlovsk-**	**58.60**	**22**	P	**P**	**16 49 07.1**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=186,slow=5.7,SNR=6.9						
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**59.95**	**327**	P	**P**	**16 49 16.4**	**-0.4**
MKAR	**Makanchi Array**	**59.95**	**327**	P	**P**	**16 49 16.5**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=122,slow=8.7,SNR=11						
MKAR				PcP	**PcP**	**16 50 01.4**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=121,slow=4.2,SNR=3.9						
	comp=Z,1.4nm,0.6s						
MAKZ	**Makanchi**	**60.14**	**326**	P	**P**	**16 49 17.8**	**-0.1**
MAKZ				IAmb	IAmb	16 49 24.7	
	comp=Z,2.3nm,1.0s						
BKZ	**Black Stump Fm**	**60.54**	**137**	P	**P**	**16 49 21.0**	**+0.1**
ZALV	**Zalesovo Beam**	**63.26**	**334**	P	**P**	**16 49 38.2**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=81,slow=9.2,SNR=4.0						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**64.21**	**328**	P	**P**	**16 49 44.5**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=118,slow=6.4,SNR=11						
	comp=Z,0.7nm,0.5s						
KURK	**Kurchatov**	**64.22**	**329**	P	**P**	**16 49 44.3**	**-0.9**
KURK				IAmb	IAmb	16 49 51.6	
	comp=Z,2.5nm,0.7s						
BVAR	**Borovoye Array**	**69.78**	**328**	P	**P**	**16 50 18.3**	**-2.2**
	comp=Z,0.3nm,0.4s						
	comp=Z,0.3nm,0.4s						
BRVK	**Borovoye**	**69.85**	**328**	P	**P**	**16 50 21.1**	**+0.1**
TIXI	**Tiksi**	**71.08**	**1**	P	**P**	**16 50 28.0**	**0.0**
NRIK	**Noril'sk**	**73.45**	**347**	P	**P**	**16 50 42.9**	**+0.6**
NRIK				IAmb	IAmb	16 51 08.9	
	comp=Z,2.7nm,0.8s						
SDPT	**Sand Point**	**80.14**	**34**	P	**P**	**16 51 20.8**	**+0.6**
VNDA	**Vanda**	**80.29**	**173**	P	**P**	**16 51 19.1**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=308,slow=7.6,SNR=2.5						
	comp=Z,0.5nm,0.7s						
SBA	**Scott Base**	**81.21**	**172**	P	**P**	**16 51 26.5**	**+0.9**
SBA				IAmb	IAmb	16 51 59.8	
	comp=Z,3.7nm,1.4s						
H18K	**Honhosa River**	**83.45**	**24**	P	**P**	**16 51 37.8**	**+0.2**
H18K				IAmb	IAmb	16 52 20.9	
	comp=Z,3.2nm,1.1s						
J18K	**Innoko River**	**83.79**	**26**	P	**P**	**16 51 39.4**	**+0.1**
J18K				IAmb	IAmb	16 51 41.3	
	comp=Z,3.9nm,1.4s						
D19K	**Kuna River**	**84.31**	**21**	P	**P**	**16 51 43.3**	**+1.4**
D19K				IAmb	IAmb	16 51 44.4	
	comp=Z,7.1nm,1.4s						
IMAR	**Indian Mountai**	**85.49**	**24**	P	**P**	**16 51 48.8**	**+0.9**
H23K	**Yukon River**	**87.18**	**24**	P	**P**	**16 51 56.7**	**+0.5**
H23K				IAmb	IAmb	16 52 21.8	
	comp=Z,3.1nm,1.5s						
GLI	**Glacier Island**	**87.95**	**29**	P	**P**	**16 51 59.0**	**-1.0**
IL31		**88.23**	**25**	P	**P**	**16 52 01.0**	**-0.2**
IL31				IAmb	IAmb	16 52 05.2	
	comp=Z,1.8nm,1.2s						
ILAR	**Eielson Array**	**88.23**	**25**	P	**P**	**16 52 00.8**	**-0.4**
ILAR	**Eielson Array**	**88.23**	**25**	P	**P**	**16 51 59.5**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=313,slow=5.9,SNR=6.4						
	comp=Z,0.2nm,0.5s						
QSPA	**South Pole Qui**	**90.41**	**180**	P	**P**	**16 52 11.6**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=327,slow=3.9,SNR=6.0						
	comp=Z,1.1nm,0.8s						

*IDC **07** 16:41:57.3±0.9, 0°.40N×125°.98E, h0km, mb3.8/6, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=60.5km s-min=17.9km az=72.0*

ISC 07 16:42:02.4±1.0, 0°.3N±0°.1×126°.0E±0°.4, h35km, n7, σ0s61/8, mb3.9/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.33**	**181**	P	**Pn**	**16 46 14.4**	**+0.4**
	0.1nm,0.3s,baz=356,slow=14,SNR=1.4						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**21.77**	**158**	P	**P**	**16 46 50.5**	**-0.7**
	2.9nm,0.4s,baz=338,slow=11,SNR=19						
	2.9nm,0.4s						
ASAR	**Alice Springs**	**25.08**	**163**	P	**P**	**16 47 24.8**	**+0.9**
	1.1nm,0.5s,baz=341,slow=11,SNR=15						
	1.1nm,0.5s						
STKA	**Stephens Creek**	**35.30**	**157**	P	**P**	**16 48 53.9**	**-0.3**
	1.5nm,0.6s,baz=345,slow=8.6,SNR=3.2						
	1.5nm,0.6s						
PETK	**Petropavlovsk-**	**58.83**	**22**	P	**P**	**16 51 57.7**	**+0.3**
	0.9nm,0.8s,baz=214,slow=6.9,SNR=1.9						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**59.92**	**327**	P	**P**	**16 52 04.8**	**-0.2**
	0.3nm,0.4s,baz=122,slow=7.7,SNR=6.0						
MKAR				PcP	**PcP**	**16 52 50.7**	**-0.4**
	0.4nm,0.8s,baz=122,slow=5.4,SNR=2.4						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**64.19**	**329**	P	**P**	**16 52 33.6**	**+0.1**
	0.3nm,0.6s,baz=129,slow=6.0,SNR=3.5						
	0.3nm,0.6s						

*IDC **07** 16:43:27.1±0.8, 0°.32N×125°.62E, h0km, mb3.9/7, mbtmp3.9/8, ML3.4/1, MS4.4/2, Error ellipse: s-maj=73.5km s-min=15.6km az=71.0*
*DJA **07** 16:43:30.6±0.8, 0°.N±2°×12°.6E±°, h14km±6km, M3.7/3, MLv3.8/11, MLv3.7/3*
*NEIC **07** 16:43:31.5±0.6, 0°.6N±0°.1×126°.0E±0°.1, h35km±2km, mb4.3/12, Error ellipse: s-maj=22.2km s-min=18.0km az=176.0*

ISC 07 16:43:32.0±0.6, 0°.49N±0°.05×126°.02E±0°.05, h35km, n34, σ1s35/37, mb4.1/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.38**	**78**		**Pn**	**16 43 54.2**	**-0.5**
TNTI	**Ternate**	**1.38**	**78**	P	**Pn**	**16 43 54.9**	**+0.2**
TNTI				S	**Sn**	**16 44 14.4**	**+2.7**
KMSI	**Cibinong**	**2.04**	**272**	P	**Pn**	**16 44 04.3**	**+0.5**
KMSI				S	**Sn**	**16 44 30.3**	**+2.2**
SANI	**Sanana**	**2.52**	**181**	P	**Pn**	**16 44 10.3**	**-0.1**
SANI				S	**Sn**	**16 44 42.2**	**+2.2**
SGSI	**Sangihe**	**3.22**	**351**	P	**Pn**	**16 44 21.0**	**+1.0**
LUWI	**Luwuk**	**3.58**	**245**	P	**Pn**	**16 44 25.4**	**+0.3**
NLAI	**Namlea**	**3.85**	**164**	P	**Pn**	**16 44 29.5**	**+0.7**
MRSI	**Marisa**	**4.08**	**270**	P	**Pn**	**16 44 32.8**	**+0.9**
APSI	**Ampana**	**4.59**	**252**	P	**Pn**	**16 44 39.4**	**+0.5**
FAKI	**Fak Fak**	**7.09**	**119**	Pn	**Pn**	**16 45 15.2**	**+2.0**
KNRA	**Kununurra**	**16.29**	**171**	P	**P**	**16 47 21.3**	**+0.4**
UGM	**Wanagama**	**17.56**	**241**	P	**Pn**	**16 47 33.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**18.47**	**181**		**P**	**16 47 44.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**18.47**	**181**	P	**P**	**16 47 42.9**	**-2.1**
	0.1nm,0.3s,baz=16,slow=13,SNR=2.3						
	1.5nm,0.8s						
WB0	**Warramunga Arr**	**21.74**	**158**		**P**	**16 48 19.5**	**-1.0**
WB0				IAmb	IAmb	16 48 23.9	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**21.88**	**159**	P	**P**	**16 48 21.0**	**-1.0**
	comp=Z,6.7nm,0.9s,baz=336,slow=12,SNR=15						
	comp=Z,6.7nm,0.9s						
WR8	**Warramunga Arr**	**21.95**	**158**		**P**	**16 48 21.2**	**-1.6**
WR8				IAmb	IAmb	16 48 26.5	
	comp=Z,7.9nm,0.8s						
AS31	**Alice Springs**	**25.20**	**163**	P	**P**	**16 48 54.1**	**-0.4**
ASAR	**Alice Springs**	**25.20**	**163**	P	**P**	**16 48 54.4**	**-0.2**
ASAR	**Alice Springs**	**25.20**	**163**	P	**P**	**16 48 55.6**	**+1.0**
	comp=Z,1.6nm,0.4s,baz=345,slow=12,SNR=18						
	comp=Z,1.6nm,0.4s						
FORT	**Forrest**	**31.15**	**177**	P	**P**	**16 49 47.1**	**-0.5**
FORT				IAmb	IAmb	16 50 20.9	
	comp=Z,4.2nm,1.0s						
STKA	**Stephens Creek**	**35.41**	**157**	P	**P**	**16 50 24.1**	**-0.6**
STKA	**Stephens Creek**	**35.41**	**157**	P	**P**	**16 50 24.3**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=325,slow=9.5,SNR=8.6						
STKA				LR	LR	17 04 53.6	
	comp=Z,2µm,21.3s,baz=276,slow=36						
	comp=Z,1.2nm,0.5s						
USRK	**Ussuriysk Ar.**	**43.85**	**6**	P	**P**	**16 51 36.4**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=207,slow=12,SNR=4.1						
	comp=Z,1.1nm,0.8s						
SONM	**Songino Array**	**50.15**	**343**	P	**P**	**16 52 26.2**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=155,slow=11,SNR=1.7						
	comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**59.83**	**327**	P	**P**	**16 53 31.4**	**-2.5**
MKAR	**Makanchi Array**	**59.83**	**327**	P	**P**	**16 53 34.0**	**0.0**
	comp=Z,0.5nm,0.3s,baz=122,slow=7.5,SNR=11						
MKAR				PcP	**PcP**	**16 54 21.1**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=136,slow=4.5,SNR=1.6						
	comp=Z,0.5nm,0.3s						
MAKZ	**Makanchi**	**60.01**	**327**	P	**P**	**16 53 32.9**	**-2.3**
MAKZ				IAmb	IAmb	16 53 39.7	
	comp=Z,2.5nm,1.2s						
KURBB	**Kurchatov Arra**	**64.09**	**329**	P	**P**	**16 54 01.4**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=132,slow=6.1,SNR=7.8						
	comp=Z,0.5nm,0.5s						
KURK	**Kurchatov**	**64.10**	**329**		**P**	**16 54 01.6**	**-0.9**
KURK				IAmb	IAmb	16 54 09.4	
	comp=Z,1.9nm,0.8s						
GSTR	**Great Sitkin T**	**70.47**	**34**	P	**P**	**16 54 41.2**	**-1.7**
TIXI	**Tiksi**	**71.07**	**1**	P	**P**	**16 54 45.2**	**-0.9**
TIXI				IAmb	IAmb	16 54 53.0	
	comp=Z,6.5nm,1.1s						
ABKAR	**Akbulak array**	**74.21**	**322**	P	**P**	**16 55 04.0**	**-1.3**
ATD	**Arta Tunnel**	**83.21**	**281**	LR	LR	17 33 35.5	
	comp=Z,75nm,19.5s,baz=248,slow=36						

IDC 07 16:53:11.9±1.3, 0°.57N×126°.29E, h0km, mb3.3/5, mbtmp3.3/5, Error ellipse: s-maj=144.6km s-min=20.8km az=68.0, Northern Molucca Sea

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MLv3.5/10, MLv3.2/2

ISC 07 17:00:47.6±0.8, **0°39N**±0.06×**126°19E**±0.06, **h35**km, **n13**, σ**0$89**/14, **mb3.8**/7, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.24**	**72**	P	**Pn**	**17 01 08.5**	**+0.1**
TNTI				S	**Sn**	**17 01 25.0**	**+1.1**
KMSI	**Cibinong**	**2.22**	**275**	P	**Pn**	**17 01 21.7**	**-0.2**
SANI	**Sanana**	**2.43**	**185**	P	**Pn**	**17 01 25.7**	**+0.8**
SGSI	**Sangihe**	**3.34**	**349**	P	**Pn**	**17 01 38.7**	**+1.3**
LUWI	**Luwuk**	**3.70**	**247**	P	**Pn**	**17 01 43.7**	**+1.3**
NLAI	**Namlea**	**3.72**	**166**	P	**Pn**	**17 01 42.7**	**+0.1**
WRA	**Warramunga Arr**	**21.73**	**159**	P	**P**	**17 05 35.3**	**-0.7**
	1.3nm,0.4s,baz=337,slow=11,SNR=14						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**25.06**	**163**	P	**P**	**17 06 09.6**	**+0.7**
	1.1nm,0.5s,baz=344,slow=11,SNR=25						
	1.1nm,0.5s						
STKA	**Stephens Creek**	**35.25**	**157**	P	**P**	**17 07 39.3**	**+0.3**
	0.9nm,0.6s,baz=341,slow=12,SNR=1.7						
	0.9nm,0.6s						
PETK	**Petropavlovsk-**	**58.71**	**22**	P	**P**	**17 10 41.3**	**-0.4**
	0.5nm,0.6s,baz=229,slow=7.0,SNR=4.1						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**60.00**	**327**	P	**P**	**17 10 50.4**	**-0.5**
	0.4nm,0.5s,baz=119,slow=8.3,SNR=6.9						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**64.26**	**328**	P	**P**	**17 11 18.9**	**-0.4**
	0.5nm,0.5s,baz=133,slow=6.5,SNR=5.4						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**69.83**	**328**	P	**P**	**17 11 53.3**	**-1.3**
	0.3nm,0.3s						
	0.3nm,0.3s						

*NEIC **07** 17:01:05.7±1.6, 19°.4N±0°.1×68°.1W±0°.1, h10km±2km, ML2.3/12, Md2.7/6(RSPR), Error ellipse: s-maj=25.9km s-min=4.2km az=222.0*

*RSPR **07** 17:01:05.9, 19°.76N×67°.99W, h30km±28km, MD2.7/6*

*SDD **07** 17:01:08.6±3.2, 18°.97N×68°.25W, h0km±28km, MD2.8, ML1.9, MW2.3*

ISC 07 17:01:07.0±1.4, **19°09N**±0°.07×**68°25W**±0°.03, **h9**km±10km, **n42**, σ1$50/52, **9C-8D**, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.59**	**192**	⇑*e*Sg	**Sn**	**17 01 33.1**	**+1.8**
HIDR	**Higuey Centro**	**0.67**	**221**	*i* P	**Pg**	**17 01 17.3**	**-2.5**
HIDR				⇓*e*Sg	**Sg**	**17 01 27.0**	**-1.5**
HIDR				IAML		17 01 35.3	
	comp=N,34nm,0.2s						
MIDR	**Miches**	**0.76**	**262**	⇑*e*Sg	**Sn**	**17 01 37.7**	**+2.1**
MIDR				IAML		17 01 38.3	
	comp=N,8.9nm,0.1s						
SMDR	**Samana, DR**	**0.91**	**283**	⇓*e*P	**Pg**	**17 01 25.0**	**+0.6**
SMDR	**Samana, DR**	**0.91**	**283**	*e*S	**Sn**	**17 01 40.3**	**+1.2**
IDE	**Isla Desecheo**	**1.02**	**133**		**Pg**	**17 01 26.8**	**+0.2**
IDE					**Sb**	**17 01 41.2**	**+0.9**
IDE	**Isla Desecheo**	**1.02**	**133**	⇑*e*P	**Pg**	**17 01 26.8**	**+0.2**
IDE	**Isla Desecheo**	**1.02**	**133**	*e*S	**Sb**	**17 01 41.2**	**+0.9**
AGPR	**Aguadilla, PR**	**1.25**	**120**		**Pn**	**17 01 29.0**	**-1.6**
AGPR					**Sg**	**17 01 47.2**	**0.0**
AGPR	**Aguadilla, PR**	**1.25**	**120**	IAML		17 02 16.2	
	comp=N,45nm,2.4s						
AGPR				IAML		17 02 17.7	
	comp=E,51nm,2.2s						
AGPR	**Aguadilla, PR**	**1.25**	**120**	⇑*e*P	**Pn**	**17 01 29.0**	**-1.6**
AGPR	**Aguadilla, PR**	**1.25**	**120**	*e*S	**Sg**	**17 01 47.2**	**0.0**
AGPR	**Aguadilla, PR**	**1.25**	**120**	*i* P	**Pg**	**17 01 31.0**	**+0.1**
AGPR				*e*Sg	**Sb**	**17 01 45.5**	**-1.4**
AGPR				IAML		17 01 48.4	
	comp=N,16nm,0.1s						
AGPR	**Aguadilla, PR**	**1.25**	**120**	*i* P	**Pg**	**17 01 31.4**	**+0.5**
AGPR				*e*Sg	**Sg**	**17 01 47.2**	**0.0**
AGPR				IAML		17 02 18.4	
	comp=N,83nm,1.8s						
PRSN	**Puerto Rico Se**	**1.36**	**129**	Pn	**Pb**	**17 01 32.7**	**0.0**
LSP	**Las Mesas**	**1.44**	**129**		**Pb**	**17 01 34.0**	**+0.1**
LSP					**Sg**	**17 01 54.9**	**+1.7**
LSP	**Las Mesas**	**1.44**	**129**	⇓*e*P	**Pb**	**17 01 34.0**	**+0.1**
LSP	**Las Mesas**	**1.44**	**129**	*e*S	**Sg**	**17 01 54.9**	**+1.7**
CRPR	**Cabo Rojo, PR**	**1.53**	**135**		**Pb**	**17 01 35.7**	**+0.1**
CRPR					**Sg**	**17 01 57.9**	**+1.6**
CRPR	**Cabo Rojo, PR**	**1.53**	**135**	IAML		17 02 02.6	
	comp=N,29nm,2.0s						
CRPR	**Cabo Rojo, PR**	**1.53**	**135**	⇓*e*P	**Pb**	**17 01 35.7**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.53**	**135**	*e*S	**Sg**	**17 01 57.9**	**+1.6**
CRPR	**Cabo Rojo, PR**	**1.53**	**135**	*i* P	**Pb**	**17 01 36.1**	**+0.5**
CRPR				⇓*e*Sg	**Sn**	**17 01 55.4**	**+0.8**
CRPR				IAML		17 02 02.1	
	comp=N,35nm,2.3s						
CRPR	**Cabo Rojo, PR**	**1.53**	**135**	⇑*e*Sg	**Sg**	**17 01 58.6**	**+2.4**
CRPR				IAML		17 02 02.1	
	comp=N,35nm,2.3s						
MLPR	**Magueyes Islan**	**1.60**	**134**	⇓*e*P	**Pn**	**17 01 35.8**	**+0.3**
MLPR	**Magueyes Islan**	**1.60**	**134**	*e*S	**Sb**	**17 01 58.3**	**+1.2**
AOPR	**Arecibo Observ**	**1.60**	**117**		**Pn**	**17 01 34.6**	**-0.9**
AOPR				IAML		17 02 01.5	
	comp=N,25nm,1.5s						
AOPR	**Arecibo Observ**	**1.60**	**117**		**Sn**	**17 01 55.9**	**-0.5**
AOPR	**Arecibo Observ**	**1.60**	**117**	IAML		17 01 54.8	
	comp=E,31nm,2.8s						
AOPR	**Arecibo Observ**	**1.60**	**117**	⇓*e*P	**Pn**	**17 01 34.6**	**-0.9**
AOPR	**Arecibo Observ**	**1.60**	**117**	*e*S	**Sn**	**17 01 55.9**	**-0.5**
AOPR	**Arecibo Observ**	**1.60**	**117**	*i* P	**Pn**	**17 01 34.6**	**-0.9**
AOPR				⇑*e*Sg	**Sn**	**17 01 55.7**	**-0.7**
AOPR				IAML		17 02 04.1	
	comp=N,19nm,1.6s						
AOPR	**Arecibo Observ**	**1.60**	**117**	*i* P	**Pb**	**17 01 36.0**	**-0.8**
AOPR				*e*Sg	**Sn**	**17 01 49.3**	**-7.1**
AOPR				*e*Sg	**Sg**	**17 02 00.5**	**+1.9**
AOPR				IAML		17 02 04.1	
	comp=N,19nm,1.6s						
UUPR	**Utuado, UPR, P**	**1.68**	**120**		**Pn**	**17 01 35.5**	**-1.0**
UUPR					**Sn**	**17 01 57.9**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.68**	**120**	IAML		17 02 01.6	
	comp=N,60nm,0.3s						
UUPR	**Utuado, UPR, P**	**1.68**	**120**	⇑*e*P	**Pn**	**17 01 35.5**	**-1.0**
UUPR	**Utuado, UPR, P**	**1.68**	**120**	*e*S	**Sn**	**17 01 57.9**	**-0.3**
CELP	**Cerrillos**	**1.88**	**122**		**Pn**	**17 01 39.6**	**+0.2**
CELP					**Sn**	**17 02 03.5**	**+0.1**
CELP	**Cerrillos**	**1.88**	**122**	⇓*e*P	**Pn**	**17 01 39.6**	**+0.2**
CELP	**Cerrillos**	**1.88**	**122**	*e*S	**Sn**	**17 02 03.5**	**+0.1**
CELP	**Cerrillos**	**1.88**	**122**	⇑*i* P	**Pn**	**17 01 39.8**	**+0.4**
CELP				⇑*e*Sg	**Sn**	**17 02 03.7**	**+0.4**
CELP				IAML		17 02 07.3	
	comp=N,10nm,0.6s						
CELP	**Cerrillos**	**1.88**	**122**	*i* P	**Pb**	**17 01 40.6**	**-0.9**
CELP				IAML		17 02 15.8	
	comp=N,8.3nm,1.9s						

*IDC **07** 17:03:14.3±0.6, 0°.42N×126°.03E, h0km, mb4.0/13, mbtmp4.0/15, ML3.6/2, Error ellipse: s-maj=33.6km s-min=13.3km az=77.0*

*DJA **07** 17:03:17.5±0.7, 0°N±2°×12°6E±°, h12km±5km, M3.9/1, MLv4.5/18, MLv3.9/1*

*NEIC **07** 17:03:20.6±2.3, 0°.6N±0°.1×126°.35E±0°.04, h35km±2km, mb4.4/12, Error ellipse: s-maj=18.6km s-min=5.7km az=163.0*

ISC 07 17:03:19.8±0.5, **0°46N**±0°.04×**126°21E**±0°.04, **h35**km, **n48**, σ1$43/54, **mb4.3**/19, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.19**	**75**		**Pn**	**17 03 39.4**	**-0.6**
TNTI					**Sn**	**17 03 56.0**	**+1.0**
TNTI	**Ternate**	**1.19**	**75**	P	**Pn**	**17 03 39.6**	**-0.4**
TNTI				S	**Sn**	**17 03 57.8**	**+2.8**
KMSI	**Cibinong**	**2.23**	**273**	P	**Pn**	**17 03 53.4**	**-1.0**
KMSI				S	**Sn**	**17 04 22.2**	**+1.4**
SANI	**Sanana**	**2.50**	**185**	P	**Pn**	**17 03 56.9**	**-1.2**
SANI				S	**Sn**	**17 04 28.8**	**+1.4**
SGSI	**Sangihe**	**3.27**	**348**	P	**Pn**	**17 04 09.3**	**+0.6**
SGSI				S	**Sn**	**17 04 48.1**	**+1.6**
LUWI	**Luwuk**	**3.75**	**247**		**Pn**	**17 04 19.2**	**+4.0**
LUWI	**Luwuk**	**3.75**	**247**	P	**Pn**	**17 04 14.8**	**-0.4**
LUWI				S	**Sn**	**17 04 59.7**	**+1.5**
NLAI	**Namlea**	**3.78**	**166**	P	**Pn**	**17 04 15.8**	**+0.1**
MRSI	**Marisa**	**4.27**	**270**	P	**Pn**	**17 04 22.0**	**-0.4**
AAI	**Ambon**	**4.57**	**154**	P	**Pn**	**17 04 28.6**	**+2.0**
MSAI	**Masohi**	**4.66**	**144**	P	**Pn**	**17 04 27.7**	**0.0**
SWI	**Sorong**	**5.21**	**105**	P	**Pn**	**17 04 34.2**	**-1.2**
TOLI2	**Tolitoli**	**5.47**	**277**	Pn	**Pn**	**17 04 43.4**	**+4.5**
FAKI	**Fak Fak**	**6.91**	**119**	P	**Pn**	**17 04 59.1**	**+0.5**
BBSI	**Bau Bau**	**6.94**	**212**	P	**Pn**	**17 04 58.8**	**-0.3**
TTSI	**Tana Toraja**	**7.28**	**241**	P	**Pn**	**17 05 02.4**	**-1.4**
BNSI	**Bone**	**7.78**	**232**	P	**Pn**	**17 05 10.5**	**-0.2**
SPSI	**Sidrap Palu**	**7.80**	**236**	P	**Pn**	**17 05 12.2**	**+1.3**
KAPI	**Kappang**	**8.44**	**230**	Pn	**Pn**	17 05 15.0	-4.7
	1.0nm,0.3s,baz=188,slow=20,SNR=2.4						
	8.5nm,0.8s						
MYLDM	**Lahad Datu**	**9.02**	**301**	Pn	**Pn**	**17 05 30.4**	**+2.8**
KNRA	**Kununurra**	**16.23**	**171**		**Pn**	**17 07 05.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**18.45**	**182**	P	**P**	**17 07 30.1**	**-2.6**
FITZ	**Fitzroy Crossi**	**18.45**	**182**	P	**P**	**17 07 30.7**	**-1.9**
	0.1nm,0.3s,baz=48,slow=6.5,SNR=6.3						
	4.2nm,1.1s						
WB0	**Warramunga Arr**	**21.64**	**159**		**P**	**17 08 07.7**	**+0.4**
WB0				IAmb	IAmb	17 08 11.7	
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**21.79**	**159**	P	**P**	**17 08 07.7**	**-1.1**
WRA	**Warramunga Arr**	**21.79**	**159**	P	**P**	**17 08 08.7**	**-0.2**
	comp=Z,12nm,0.7s,baz=338,slow=11,SNR=22						
	comp=Z,12nm,0.7s						
WR8	**Warramunga Arr**	**21.86**	**159**		**P**	**17 08 09.4**	**-0.2**
WR8				IAmb	IAmb	17 08 17.0	
	comp=Z,9.4nm,0.7s						
AS31	**Alice Springs**	**25.12**	**163**		**P**	**17 08 42.7**	**+1.0**
AS31				IAmb	IAmb	17 08 50.4	
	comp=Z,2.5nm,0.6s						
ASAR	**Alice Springs**	**25.12**	**163**		**P**	**17 08 43.7**	**+2.1**
ASAR	**Alice Springs**	**25.12**	**163**	P	**P**	**17 08 42.1**	**+0.5**
	comp=Z,3.8nm,0.5s,baz=344,slow=11,SNR=39						
	comp=Z,3.8nm,0.5s						
JMZ	**Minamidaito 2**	**25.67**	**10**	P	**P**	**17 08 44.8**	**-1.8**
FORT	**Forrest**	**31.12**	**177**	P	**P**	**17 09 36.3**	**+1.1**
FORT				IAmb	IAmb	17 09 38.6	
	comp=Z,6.7nm,0.8s						
STKA	**Stephens Creek**	**35.31**	**157**	P	**P**	**17 10 12.0**	**+0.3**
STKA	**Stephens Creek**	**35.31**	**157**	P	**P**	**17 10 10.7**	**-1.1**
	comp=Z,3.0nm,0.7s,baz=324,slow=7.6,SNR=8.1						
	comp=Z,3.0nm,0.7s						
KSRS	**Korea Array**	**36.84**	**2**	P	**P**	**17 10 24.9**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=181,slow=9.7,SNR=2.5						
	comp=Z,0.8nm,0.8s						
MJAR	**Matsushiro Arr**	**37.58**	**16**	P	**P**	**17 10 30.5**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=188,slow=10,SNR=4.0						
	comp=Z,0.5nm,0.6s						
PETK	**Petropavlovsk-**	**58.63**	**22**	P	**P**	**17 13 14.2**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=153,slow=3.9,SNR=5.2						
	comp=Z,1.7nm,0.9s						
MKAR	**Makanchi Array**	**59.95**	**327**	P	**P**	**17 13 22.3**	**-0.4**
MKAR	**Makanchi Array**	**59.95**	**327**	P	**P**	**17 13 22.5**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=117,slow=7.4,SNR=12						
MKAR				PcP	**PcP**	**17 14 08.6**	**0.0**
	comp=Z,0.8nm,0.8s,baz=142,slow=4.0,SNR=1.5						
	comp=Z,1.2nm,0.5s						
MAKZ	**Makanchi**	**60.14**	**326**	P	**P**	**17 13 23.8**	**-0.1**
MAKZ				IAmb	IAmb	17 13 25.3	
	comp=Z,5.8nm,1.4s						
ZALV	**Zalesovo Beam**	**63.26**	**334**	P	**P**	**17 13 43.5**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=130,slow=5.8,SNR=2.2						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**64.22**	**328**	P	**P**	**17 13 50.7**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=128,slow=5.9,SNR=9.7						
	comp=Z,1.2nm,0.7s						
KURK	**Kurchatov**	**64.22**	**329**		**P**	**17 13 50.5**	**-0.7**
KURK				IAmb	IAmb	17 13 55.9	
	comp=Z,3.3nm,0.7s						
BVAR	**Borovoye Array**	**69.78**	**328**	P	**P**	**17 14 25.8**	**-0.7**
	comp=Z,0.3nm,0.3s						
	comp=Z,0.3nm,0.3s						
VNDA	**Vanda**	**80.27**	**173**	P	**P**	**17 15 25.6**	**-1.0**
	comp=Z,1.3nm,1.0s,baz=297,slow=6.2,SNR=5.5						
	comp=Z,1.3nm,1.0s						
QSPA	**South Pole Qui**	**90.39**	**180**	P	**P**	**17 16 16.3**	**-1.1**
QSPA	**South Pole Qui**	**90.39**	**180**	P	**P**	**17 16 17.7**	**+0.3**
	comp=Z,2.1nm,0.9s,baz=293,slow=2.4,SNR=8.3						
	comp=Z,2.1nm,0.9s						
BRTR	**Keskin Array B**	**91.69**	**310**	P	**P**	**17 16 23.7**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=97,slow=5.1,SNR=2.3						
	comp=Z,0.3nm,0.5s						

*IDC **07** 17:05:10.6±0.4, 0°.54N×125°.99E, h0km, mb4.5/25, mbtmp4.5/27, ML4.2/2, Error ellipse: s-maj=22.2km s-min=10.4km az=82.0*

*MOS **07** 17:05:14.1±1.0, 0°.47N×125°.91E, h36km, mb5.0/35, Error ellipse: s-maj=13.4km s-min=5.6km az=105.6*

*DJA **07** 17:05:14.8±0.1, 1°N±2°×12°6E±°, h10km, M4.2/1, MLv4.8/25, MLv4.2/1*

*BJI **07** 17:05:14.2, 0°.30N×126°.28E, h43km, mB5.1/6, mb4.6/38, Ms5.0/3, Ms7 4.9/4*

*NEIC **07** 17:05:15.5±2.1, 0°.54N±0°.08×126°.19E±0°.03, h31km±5km, mb4.9/86, Error ellipse: s-maj=11.7km s-min=3.6km az=186.0*

ISC 07 17:05:15.7±0.8, **0°49N**±0°.04×**126°19E**±0°.04, **h29**km±5km, **n474**, σ1$82/468, **mb4.8**/115, **19C-11D**, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.21**	**77**	Pn	**Pn**	**17 05 35.8**	**-0.7**
TNTI				Sn	**Sn**	**17 05 51.9**	**-0.1**
TNTI	**Ternate**	**1.21**	**77**	P	**Pn**	**17 05 35.2**	**-1.4**
TNTI				S	**Sn**	**17 05 51.4**	**-0.5**
TNTI	**Ternate**	**1.21**	**77**	P	**Pn**	**17 05 34.4**	**-2.2**
TNTI				S	**Sb**	**17 05 52.3**	**-0.8**
KMSI	**Cibinong**	**2.21**	**272**	P	**Pn**	**17 05 50.2**	**-0.3**
KMSI				S	**Sb**	**17 06 22.1**	**0.0**
SANI	**Sanana**	**2.54**	**185**	P	**Pn**	**17 05 54.8**	**-0.1**
SANI	**Sanana**	**2.54**	**185**	P	**Pn**	**17 05 54.1**	**-0.8**
SANI				S	**Sb**	**17 06 29.3**	**-2.0**
SGSI	**Sangihe**	**3.24**	**348**	P	**Pn**	**17 06 05.5**	**+0.9**
SGSI	**Sangihe**	**3.24**	**348**	P	**Pn**	**17 06 06.0**	**+1.4**
LUWI	**Luwuk**	**3.75**	**246**	Pn	**Pn**	**17 06 09.9**	**-1.6**
LUWI	**Luwuk**	**3.75**	**246**	P	**Pn**	**17 06 14.2**	**+2.6**
LUWI	**Luwuk**	**3.75**	**246**	P	**Pn**	**17 06 13.6**	**+2.0**
NLAI	**Namlea**	**3.82**	**166**	P	**Pn**	**17 06 13.8**	**+1.3**
MRSI	**Marisa**	**4.25**	**270**	P	**Pn**	**17 06 19.0**	**+0.5**
MRSI	**Marisa**	**4.25**	**270**	P	**Pn**	**17 06 19.5**	**+1.0**
AAI	**Ambon**	**4.61**	**154**	P	**Pn**	**17 06 25.8**	**+2.4**
AAI	**Ambon**	**4.61**	**154**	P	**Pn**	**17 06 24.8**	**+1.4**
MSAI	**Masohi**	**4.69**	**144**	P	**Pn**	17 06 29.1	+4.5
MSAI	**Masohi**	**4.69**	**144**	P	**Pn**	**17 06 27.6**	**+3.0**
APSI	**Ampana**	**4.75**	**253**	P	**Pn**	**17 06 27.6**	**+2.2**
SWI	**Sorong**	**5.24**	**105**	P	**Pn**	**17 06 34.1**	**+2.0**
SWI	**Sorong**	**5.24**	**105**	P	**Pn**	**17 06 31.9**	**-0.2**
TOLI2	**Tolitoli**	**5.45**	**276**		**Pn**	**17 06 35.7**	**+0.8**
TOLI2	**Tolitoli**	**5.45**	**276**	P	**Pn**	**17 06 37.4**	**+2.5**
KDI	**Kendari**	**5.69**	**219**	P	**Pn**	**17 06 40.5**	**+2.3**
BNDI	**Bandanaira**	**6.21**	**143**	P	**Pn**	**17 06 47.7**	**+2.3**
MPSI	**Mapaga**	**6.30**	**269**	P	**Pn**	**17 06 49.0**	**+2.4**
	0.3nm51nm,0.8s						
MPSI	**Mapaga**	**6.30**	**269**	P	**Pn**	**17 06 49.1**	**+2.4**
PCI	**Palu**	**6.51**	**258**	P	**Pn**	**17 06 52.3**	**+2.8**
	0.4nm108nm,0.8s						
PCI	**Palu**	**6.51**	**258**	P	**Pn**	**17 06 52.1**	**+2.6**
FAKI	**Fak Fak**	**6.94**	**119**	Pn	**Pn**	**17 06 55.8**	**+0.3**
FAKI	**Fak Fak**	**6.94**	**119**	P	**Pn**	**17 06 56.0**	**+0.5**
FAKI	**Fak Fak**	**6.94**	**119**	P	**Pn**	**17 06 55.6**	**+0.1**
BBSI	**Bau Bau**	**6.96**	**211**	P	**Pn**	**17 06 58.6**	**+2.9**
BBSI	**Bau Bau**	**6.96**	**211**	P	**Pn**	**17 06 59.1**	**+3.4**
TTSI	**Tana Toraja**	**7.28**	**241**	P	**Pn**	**17 07 01.0**	**+0.9**
	0.4nm113nm,0.7s						
TTSI	**Tana Toraja**	**7.28**	**241**	P	**Pn**	**17 07 01.8**	**+1.7**
BNSI	**Bone**	**7.79**	**231**	P	**Pn**	**17 07 08.9**	**+1.8**
	0.4nm95nm,1.2s						
BNSI	**Bone**	**7.79**	**231**	P	**Pn**	**17 07 09.5**	**+2.4**
SPSI	**Sidrap Palu**	**7.80**	**235**	P	**Pn**	**17 07 09.5**	**+2.3**
SPSI	**Sidrap Palu**	**7.80**	**235**	P	**Pn**	**17 07 09.6**	**+2.3**
RKPI	**Ransiki, Papua**	**8.23**	**104**	P	**Pn**	**17 07 13.8**	**+0.6**
KAPI	**Kappang**	**8.45**	**230**	Pn	**Pn**	**17 07 13.0**	**-3.2**
	3.7nm,0.3s,baz=138,slow=18,SNR=5.5						
KAPI				Sn	**Sn**	**17 08 47.9**	**-2.7**
	3.8nm,0.3s,baz=332,slow=2.1,SNR=1.3						
	5.0nm,0.2s						
KAPI	**Kappang**	**8.45**	**230**	⇑*e*P	**Pn**	**17 07 19.0**	**+2.8**
BSSI	**Bau Bau, Buton**	**8.71**	**221**	P	**Pn**	**17 07 21.9**	**+2.1**
MYLDM	**Lahad Datu**	**8.98**	**301**		**Pn**	**17 07 26.8**	**+3.3**
MYLDM	**Lahad Datu**	**8.98**	**301**	P	**Pn**	**17 07 26.5**	**+3.0**
BAKI	**Biak**	**10.05**	**100**	P	**Pn**	17 07 43.1	+4.9
	118nm,1.3s						
BAKI	**Biak**	**10.05**	**100**	P	**Pn**	**17 07 38.6**	**+0.4**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDFI	**Ende, Flores**	**10.22**	**206**	P	**Pn**	**17 07 43.5**	**+2.9**
	46nm,1.2s						
EDFI	**Ende, Flores**	**10.22**	**206**	P	**Pn**	**17 07 42.2**	**+1.6**
SOEI	**Soe**	**10.36**	**191**	P	**Pn**	**17 07 43.7**	**+1.2**
SOEI	**Soe**	**10.36**	**191**	P	Pn	17 07 47.3	+4.8
	70nm,0.9s						
SOEI	**Soe**	**10.36**	**191**	P	**Pn**	**17 07 45.9**	**+3.4**
BATI	**Baumata**	**10.93**	**193**	Pn	**Pn**	**17 07 52.2**	**+2.0**
	0.2nm,0.3s,baz=96,slow=23,SNR=1.5						
BATI	**Baumata**	**10.93**	**193**	P	**Pn**	**17 07 52.8**	**+2.6**
KKM	**Kota Kinabalu**	**11.38**	**299**		**Pn**	**17 08 00.1**	**+3.6**
KKM	**Kota Kinabalu**	**11.38**	**299**	P	**Pn**	**17 07 59.2**	**+2.7**
SMPI	**Sarmi**	**12.76**	**101**	P	**Pn**	**17 08 19.0**	**+3.8**
	37nm,1.6s						
SBUM	**Sibu**	**14.10**	**278**	P	**P**	**17 08 41.1**	**+0.1**
SBUM	**Sibu**	**14.10**	**278**	P	**Pn**	**17 08 35.6**	**+2.0**
MTN	**Manton Dam**	**14.13**	**160**		**Pn**	**17 08 34.8**	**+0.8**
GENI	**Genyem**	**14.30**	**102**	P	**P**	**17 08 40.3**	**-2.9**
	46nm,1.2s						
KDU	**Kakadu**	**14.50**	**155**	P	**Pn**	**17 08 39.8**	**+0.7**
STKI	**Sintang**	**14.72**	**268**	P	**Pn**	**17 08 43.5**	**+1.4**
	33nm,1.2s						
KSM	**Kuching**	**15.91**	**274**		**P**	**17 09 01.4**	**+0.2**
KNRA	**Kununurra**	**16.27**	**171**		**Pn**	**17 09 00.8**	**-1.4**
NGJI	**Ngawi**	**16.64**	**242**	P	**P**	**17 09 10.6**	**+1.4**
	95nm,0.9s						
NGJI	**Ngawi**	**16.64**	**242**	P	**P**	**17 09 10.3**	**+1.1**
PCJI	**Pacitan**	**17.28**	**240**	P	**P**	**17 09 16.6**	**+0.4**
WOJI	**Wonogiri, Jawa**	**17.33**	**241**	P	**P**	**17 09 18.9**	**+2.1**
SMRI	**Semarang**	**17.41**	**244**	P	**P**	**17 09 19.5**	**+1.8**
UGM	**Wanagama**	**17.72**	**242**	P	**P**	**17 09 23.8**	**+2.7**
FITZ	**Fitzroy Crossi**	**18.48**	**182**	P	**P**	**17 09 28.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**18.48**	**182**	P	**P**	**17 09 27.6**	**-1.9**
	0.4nm,0.3s,baz=17,slow=7.9,SNR=9.0						
	7.5nm,0.7s						
TPI	**Tanjungpandan**	**18.81**	**260**	P	**Pn**	**17 09 36.8**	**+3.0**
BBJI	**Bungbulang**	**20.11**	**247**	P	**P**	**17 09 48.1**	**+0.6**
	71nm,0.7s						
SBJI	**Serang**	**21.08**	**252**	P	**P**	**17 09 59.2**	**+1.3**
WB0	**Warramunga Arr**	**21.68**	**159**		**P**	**17 10 02.8**	**-1.5**
WRAB	**Tennant Creek**	**21.82**	**159**	P	**P**	**17 10 04.3**	**-1.4**
WRAB	**Tennant Creek**	**21.82**	**159**	P	**P**	**17 10 04.3**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,80nm,1.1s						
WRA	**Warramunga Arr**	**21.82**	**159**	P	**P**	**17 10 04.2**	**-1.6**
WRA	**Warramunga Arr**	**21.82**	**159**	P	**P**	**17 10 05.0**	**-0.8**
	comp=Z,44nm,0.7s,baz=338,slow=11,SNR=50						
WRA				S	**S**	**17 14 05.0**	**-0.7**
	comp=Z,2.3nm,1.0s,baz=340,slow=17,SNR=4.5						
	comp=Z,44nm,0.7s						
WRA	**Warramunga Arr**	**21.82**	**159**	P	**P**	**17 10 04.2**	**-1.6**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WR8	**Warramunga Arr**	**21.89**	**159**		**P**	**17 10 05.3**	**-1.2**
WR8				IAmb	IAmb	17 10 11.4	
	comp=Z,41nm,0.8s						
COEN	**Coen**	**22.11**	**131**		**P**	**17 10 06.1**	**-2.9**
COEN				IAmb	IAmb	17 10 18.5	
	comp=Z,48nm,1.1s						
MBWA	**Marble Bar**	**22.43**	**196**		**P**	**17 10 12.1**	**-0.2**
MBWA	**Marble Bar**	**22.43**	**

BNX LR LR
comp=Z,360nm,17.9s
BNX LR LR
comp=Z,800nm,20.6s
BNX LR LR
comp=Z,1μm,23.9s
GTA Gaotai 45.62 331 *e*P **P 17 13 33.0 -0.7**
GTA PcP **PcP 17 15 12.7 +1.0**
GTA pmax pmax
comp=Z,3.0nm,0.7s
ASAJ Asahikawa 45.82 16 P **P 17 13 35.8 +0.8**
ASAJ pmax pmax
comp=Z,24nm,1.4s
JKA Kamikawa-asahi 45.83 16 P **P 17 13 35.8 +0.8**
JKA lAmb lAmb 17 13 53.8
comp=Z,24nm,1.4s
EVN Everest 46.55 309 P **P 17 13 40.1 -1.7**
EVN lAmb lAmb 17 13 48.8
comp=Z,8.3nm,0.8s
YSS Yuzhno-Sakhali 48.48 15 *e*P **P 17 13 55.8 +0.1**
YSS pmax pmax
comp=Z,10.0nm,1.1s
KLR Kul'dur 48.78 5⇑ *e*P **P 17 13 58.0 0.0**
KLR pmax pmax
comp=Z,13nm,1.5s
HEH HeiHe 49.58 1 *e*P **P 17 14 03.6 -0.5**
HEH pmax pmax
comp=Z,11nm,0.8s
ULN Ulaanbaatar 50.03 343 **P 17 14 06.8 -0.9**
ULN Ulaanbaatar 50.03 343⇑ *e*P **P 17 14 07.9 +0.2**
ULN pmax pmax
comp=Z,8.0nm,1.1s
SONM Songino Array 50.19 343 P **P 17 14 06.4 -2.5**
comp=Z,2.1nm,0.6s,baz=161,slow=8.5,SNR=9.3
SONM PcP **PcP 17 15 27.9 0.0**
comp=Z,2.2nm,0.8s,baz=170,slow=4.6,SNR=3.8
comp=Z,2.1nm,0.6s
GRNR Gornyy 50.84 8⇑ *i*P **P 17 14 14.8 +1.2**
GRNR pmax pmax
comp=Z,4.0nm,0.8s
CIT Chita 52.43 350 *e*P **P 17 14 25.6 0.0**
CIT *e* 17 14 40.4
CIT *e* 17 15 32.4
CIT pmax pmax
comp=Z,60nm,1.4s
ZEA Zeya 53.07 1 *e*P **P 17 14 31.0 +0.8**
WMQ Urumqi 55.08 327 *e*P **P 17 14 46.9 +1.7**
WMQ LR LR
comp=Z,2μm,22.5s
MOY Mondy 55.24 341 *e*P **P 17 14 46.6 +0.5**
MOY pmax pmax
comp=Z,14nm,1.8s
BOD Bodaibo 57.97 352 *e*P **P 17 15 04.9 -0.4**
BOD pmax pmax
comp=Z,15nm,1.3s
PEA0B Petropavlovsk- 58.61 22⇑ *e*P **P 17 15 10.9 +1.0**
PETK Petropavlovsk- 58.61 22 P **P 17 15 10.2 +0.2**
PETK Petropavlovsk- 58.61 22 P **P 17 15 09.9 0.0**
comp=Z,3.8nm,0.5s,baz=197,slow=6.2,SNR=21
PETK PcP **PcP 17 15 59.8 0.0**
comp=Z,1.7nm,0.8s,baz=236,slow=7.6,SNR=0.9
comp=Z,3.8nm,0.5s
PET Petropavlovsk 58.90 22⇑ *e*P **P 17 15 12.6 +0.7**
PET pmax pmax
comp=Z,21nm,1.3s
ZSN Zaisan 58.94 328 *e*P **P 17 15 10.8 -1.5**
ZSN Zaisan 58.94 328 *e*P **P 17 15 10.9 -1.5**
SHLS Shalkode 59.51 322 *e*P **P 17 15 13.0 -3.5**
SHLS pmax pmax
comp=Z,4.0nm,0.9s
SHLS Shalkode 59.51 322 *e*P **P 17 15 13.0 -3.5**
comp=Z,4.1nm,0.9s
MK31 Makanchi Array 59.92 327⇑ *e*P **P 17 15 17.8 -1.3**
MKAR Makanchi Array 59.92 327 P **P 17 15 17.8 -1.3**
comp=Z,5.8nm,0.5s,baz=120,slow=8.1,SNR=44
MKAR PcP **PcP 17 16 04.2 -1.0**
comp=Z,1.6nm,0.5s,baz=120,slow=4.1,SNR=1.2
MKAR ScP **ScP 17 20 07.1 +2.6**
comp=Z,0.3nm,0.5s,baz=116,slow=8.2,SNR=4.4
comp=Z,5.8nm,0.5s
KSH Kashi 59.98 317 P P 17 15 24.2 +4.4
KSH pmax pmax
comp=Z,5.0nm,0.8s
MAKZ Makanchi 60.10 326 **P 17 15 18.7 -1.6**
MAKZ lAmb lAmb 17 15 20.4
comp=Z,7.0nm,0.6s
MAKZ Makanchi 60.10 326 P **P 17 15 18.7 -1.6**
MAKZ pmax pmax
comp=Z,7.0nm,0.6s
MAKZ Makanchi 60.10 326⇑ P **P 17 15 19.3 -1.1**
MAKZ PcP **PcP 17 16 05.3 -0.7**
SATY Saty 60.12 321 *e*P **P 17 15 18.7 -2.0**
SATY pmax pmax
comp=Z,5.0nm,0.8s
SATY Saty 60.12 321 *e*P **P 17 15 18.7 -2.0**
comp=Z,4.8nm,0.8s
TNSS Tian-Shan 61.02 321 *e*P **P 17 15 25.0 -2.2**
TNSS Tian-Shan 61.02 321 *e*P **P 17 15 25.0 -2.2**
AAA Alma-Ata 61.13 321 *e*P **P 17 15 25.8 -1.7**
AAA pmax pmax
comp=Z,4.0nm,0.5s
AAA Alma-Ata 61.13 321 *e*P **P 17 15 25.9 -1.7**
comp=Z,4.4nm,0.5s
TDK Taldyqorghan 61.14 323 *e*P **P 17 15 25.6 -1.8**
TDK pmax pmax
comp=Z,4.0nm,0.6s
TDK Taldyqorghan 61.14 323 *e*P **P 17 15 25.7 -1.8**
comp=Z,3.8nm,0.6s
YAK Yakutsk 61.44 2 *e*P **P 17 15 28.9 -0.2**
YAK *e*S **S 17 23 51.0 +2.9**
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK smax smax
comp=E,40nm,4.8s
YAK smax smax
comp=N,36nm,4.7s
YAK Yakutsk 61.44 2 P **P 17 15 29.1 0.0**
YAK PcP **PcP 17 16 10.3 -0.6**
MA2 Magadan 61.95 14⇑ *e*P **P 17 15 34.3 +1.7**
MA2 pmax pmax
comp=Z,49nm,1.8s
AAK Ala-Archa 62.41 319⇓ *e*P **P 17 15 34.4 -1.9**
AAK pmax pmax
comp=Z,1.0nm,0.9s
ZAA0 Zalesovo Array 63.23 334 **P 17 15 40.1 -1.2**
ZAA0 lAmb lAmb 17 15 59.2
comp=Z,6.9nm,1.1s
ZALV Zalesovo Beam 63.23 334 **P 17 15 39.4 -1.8**
ZALV Zalesovo Beam 63.23 334 P **P 17 15 39.5 -1.7**
comp=Z,2.9nm,0.6s,baz=140,slow=5.8,SNR=8.0
comp=Z,2.9nm,0.6s
ZALV Zalesovo Beam 63.23 334 P **P 17 15 39.4 -1.8**
BTLS Baital 63.83 321 *e*P **P 17 15 43.9 -1.5**
BTLS Baital 63.83 321 *e*P **P 17 15 44.0 -1.5**
KURBB Kurchatov Arra 64.18 328 P **P 17 15 45.9 -1.7**
comp=Z,6.8nm,0.6s,baz=131,slow=6.2,SNR=48
comp=Z,6.8nm,0.6s
KURK Kurchatov 64.18 329 **P 17 15 46.1 -1.5**
KURK Kurchatov 64.18 329⇑ *e*P **P 17 15 46.4 -1.2**
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 64.18 329 P **P 17 15 45.8 -1.8**
KURK pP **pP 17 15 57.3 +1.4**
SIMJ Simiganj 64.56 313 P **P 17 15 50.0 -0.5**
SIMJ lAmb lAmb 17 15 56.3
comp=Z,7.8nm,0.9s
IUG Iuzhnay 65.18 317 *e*P **P 17 15 52.6 -1.8**
IUG pmax pmax
comp=Z,7.0nm,0.9s
IUG Iuzhnay 65.18 317 *e*P **P 17 15 52.6 -1.8**
comp=Z,6.6nm,0.9s
KKAR Karatay Array 65.25 318 **P 17 15 52.8 -1.9**
KKAR Karatay Array 65.25 318 P **P 17 15 52.8 -1.9**
SEY Seymchan 65.28 13⇓ *e*P **P 17 15 56.9 +2.3**
SEY pmax pmax
comp=Z,8.0nm,1.0s
BRLS Boroldav 65.67 318 *e*P **P 17 15 55.6 -1.9**
BRLS Boroldav 65.67 318 *e*P **P 17 15 55.7 -1.9**
BRZS Berezniki 67.02 326 *e*P **P 17 16 04.6 -1.4**
BRZS Berezniki 67.02 326 *e*P **P 17 16 04.7 -1.4**
BVAR Borovoye Array 69.74 328 P **P 17 16 21.4 -1.6**
comp=Z,2.4nm,0.7s
comp=Z,2.4nm,0.7s
BRVK Borovoye 69.81 328 P **P 17 16 22.3 -1.1**
BRVK lAmb lAmb 17 16 29.0
comp=Z,12nm,1.2s
BRVK Borovoye 69.81 328 P **P 17 16 22.3 -1.1**
BRVK pmax pmax
comp=Z,12nm,1.2s
BRVK Borovoye 69.81 328 P **P 17 16 22.8 -0.6**
TIXI Tiksi 71.06 1 P **P 17 16 29.8 -0.8**
TIXI lAmb lAmb 17 16 42.9
comp=Z,14nm,1.2s
TIXI Tiksi 71.06 1⇓ *e*P **P 17 16 31.8 +1.2**
TIXI pmax pmax
comp=Z,9.0nm,1.1s
BILL Bilibino 72.80 15⇑ *e*P **P 17 16 40.9 -0.2**
BILL pmax pmax
comp=Z,8.0nm,2.0s
NRIK Noril'sk 73.43 347 lAmb lAmb 17 17 04.8
comp=Z,8.5nm,0.8s
NRIK Noril'sk 73.43 347 P **P 17 16 44.2 -0.6**
comp=Z,6.1nm,0.6s,baz=135,slow=6.8,SNR=6.8
comp=Z,6.1nm,0.6s
NRIK Noril'sk 73.43 347⇓ *e*P **P 17 16 43.9 -0.9**
ABKAR Akbulak array 74.32 321 **P 17 16 48.6 -1.9**
NIKH Nikolski High 74.76 35 P **P 17 16 54.1 +1.2**
baz=250
SPIA Saint Paul Isl 75.54 30 P **P 17 16 58.5 +1.2**
baz=248
UNV Unalaska Valle 76.38 34 P **P 17 17 03.6 +1.4**
baz=252
SVE Sverdlovsk 76.43 329 *e*P **P 17 17 01.8 -0.6**
SVE pmax pmax
comp=Z,16nm,1.2s
KIP Kipapa 76.60 68⇑ *e*P **P 17 17 02.3 -1.8**
KIP pmax pmax
comp=Z,20nm,1.0s
ARTI Arti 77.46 328 **P 17 17 06.0 -2.2**
ARTI Arti 77.46 328 *c i*P **P 17 17 06.8 -1.4**
ARTI S **S 17 26 54.3 -2.8**
ARTI pmax pmax
comp=Z,22nm,1.5s
GAMB Gambell 77.55 24 P **P 17 17 10.8 +2.3**
baz=245
M11K Mekoryuk 78.66 28 P **P 17 17 17.0 +2.2**
baz=250
S12K Black Hills 79.38 33 P **P 17 17 20.9 +2.0**
baz=255
TNA Tin City 79.76 23 P **P 17 17 22.4 +1.7**
baz=248
K13K Kusilvak Mount 79.87 27 lAmb lAmb 17 17 28.1
comp=Z,10nm,0.9s
K13K Kusilvak Mount 79.87 27 P **P 17 17 23.6 +2.2**
baz=252
M13K Dall Lake 80.01 28 P **P 17 17 24.1 +2.0**
baz=253
SDPT Sand Point 80.16 34 **P 17 17 23.2 +0.1**
SDPT Sand Point 80.16 34 P **P 17 17 23.4 +0.4**
baz=256,SNR=8.3
VNDA Vanda 80.31 173 **P 17 17 23.3 -0.2**
VNDA Vanda 80.31 173 P **P 17 17 23.2 -0.2**
comp=Z,3.2nm,0.8s,baz=317,slow=7.3,SNR=14
comp=Z,3.2nm,0.8s
F14K Arctic Creek 80.35 23 P **P 17 17 25.6 +1.7**
baz=250
CHNA Chernabura Isl 80.54 34 P **P 17 17 26.3 +1.2**
baz=257
MAW Mawson 80.55 200 P **P 17 17 24.8 -0.1**
comp=Z,2.9nm,0.8s,baz=68,slow=4.7,SNR=6.6
comp=Z,2.9nm,0.8s
L14K Kuka Creek 80.59 28 lAmb lAmb 17 17 39.8
comp=Z,11nm,1.0s
L14K Kuka Creek 80.59 28 P **P 17 17 27.4 +2.2**
baz=254
J14K Nanvaranak Lak 80.61 26 P **P 17 17 27.0 +1.7**
baz=252
N14K Kuskokwak Cree 80.67 29 lAmb lAmb 17 17 39.4
comp=Z,17nm,1.0s
N14K Kuskokwak Cree 80.67 29 P **P 17 17 27.4 +1.7**
baz=255
O14K Tigyukauivet M 80.71 30 P **P 17 17 27.7 +1.8**
baz=255
M14K Bethel 80.77 28 **P 17 17 25.9 -0.3**
M14K lAmb lAmb 17 17 30.4
comp=Z,11nm,0.8s
M14K Bethel 80.77 28 P **P 17 17 27.8 +1.6**
baz=254
S14K Fog Glacier 80.88 33 P **P 17 17 28.7 +1.7**
baz=257
AKT Akhty 81.03 312 *e*P **P 17 17 25.8 -2.4**
AKT *e*PPP PPP 17 22 18.7
AKT pmax pmax
comp=Z,6.0nm,0.6s
F15K North Star Dit 81.08 23 P **P 17 17 30.2 +2.3**
baz=251
G15K Niukluk 81.10 24 P **P 17 17 29.2 +1.3**
baz=252
SBA Scott Base 81.23 172 **P 17 17 27.9 -0.5**
SBA Scott Base 81.23 172 P **P 17 17 27.9 -0.5**
SBA pmax pmax
comp=Z,8.0nm,1.4s
L15K Ungalak Mounta 81.24 27 P **P 17 17 30.3 +1.6**
baz=255
M15K Kasigluk River 81.35 28 P **P 17 17 31.2 +1.9**
baz=255
K15K Wolf Creek Mou 81.38 27 P **P 17 17 31.4 +1.9**
baz=254
O15K Ungalikthiuk R 81.41 30 P **P 17 17 31.3 +1.6**
baz=256
CHGN Chignik 81.51 33 P **P 17 17 31.6 +1.3**
baz=258
N15K Kwethluk River 81.51 29 lAmb lAmb 17 17 36.7
comp=Z,9.9nm,1.0s
N15K Kwethluk River 81.51 29 P **P 17 17 32.3 +2.1**
baz=256
C16K Lisburne Hills 81.68 20 P **P 17 17 32.9 +1.9**
baz=250
J16K Anvik River 82.05 26 P **P 17 17 35.0 +2.0**
baz=255
L16K Owhat River 82.17 28 P **P 17 17 35.2 +1.5**
baz=256,SNR=6.8
N16K Nishlik Lake 82.22 29 P **P 17 17 35.4 +1.4**
baz=257
M16K Timber Creek 82.25 28 lAmb lAmb 17 17 51.4
comp=Z,6.1nm,0.8s
M16K Timber Creek 82.25 28 P **P 17 17 35.4 +1.2**
baz=257,SNR=6.5
P16K Nushagak River 82.30 30 P **P 17 17 36.0 +1.7**
baz=258
D17K Noatak River 82.30 21 P **P 17 17 36.5 +2.2**
baz=252,SNR=6.9
O16K Kokwok River B 82.36 30 lAmb lAmb 17 17 41.0
comp=Z,8.5nm,0.8s
O16K Kokwok River B 82.36 30 P **P 17 17 36.5 +1.8**
baz=258,SNR=6.9
C17K DeLong Mountai 82.51 21 P **P 17 17 36.8 +1.5**
baz=252
E17K Hotham Inlet 82.59 22 P **P 17 17 37.2 +1.5**
baz=254
G17K Kiwalik Mounta 82.61 24 P **P 17 17 37.3 +1.5**
baz=255
F17K Baldwin Pennin 82.63 23 P **P 17 17 37.8 +1.9**
baz=254
KIRV Kirov 82.70 329⇓ *e*P **P 17 17 36.2 -0.2**
J17K VABM Dome 82.75 26 P **P 17 17 38.6 +1.9**
baz=256,SNR=8.0
H17K Granite Mounta 82.77 24 lAmb lAmb 17 17 51.5
comp=Z,12nm,0.8s
H17K Granite Mounta 82.77 24 P **P 17 17 38.6 +1.9**
baz=256
L17K Donlin 82.81 27 P **P 17 17 38.8 +1.8**
baz=257,SNR=7.7
R17L Mt. Peulik Vol 82.87 32 P **P 17 17 39.0 +1.6**
baz=260
PLK4 Peulik 4 82.87 32 lAmb lAmb 17 17 42.8
comp=Z,13nm,0.9s
O17K Koliganek Bris 82.89 30 P **P 17 17 39.0 +1.6**
baz=259,SNR=5.8
K17K Iditarod 82.94 27 P **P 17 17 39.6 +2.0**
baz=257,SNR=9.9
N17K Nushagak Hills 83.00 29 lAmb lAmb 17 17 44.5
comp=Z,10.0nm,1.2s
N17K Nushagak Hills 83.00 29 P **P 17 17 40.0 +2.0**
baz=259
M17K Holitna River 83.06 28 P **P 17 17 40.2 +1.9**
baz=258,SNR=6.3
E18K Tukpahlearik C 83.14 22 P **P 17 17 40.1 +1.5**
baz=255
GNI Garni 83.14 310⇓ *e*P **P 17 17 39.1 -0.3**
GNI pmax pmax
comp=Z,13nm,1.6s
Q17K Contact Creek 83.23 31 P **P 17 17 40.4 +1.0**
baz=260
B18K Kokolik River 83.25 20 P **P 17 17 40.6 +1.5**
baz=253
C18K Utukok River 83.26 21 lAmb lAmb 17 18 03.9
comp=Z,6.7nm,0.8s
C18K Utukok River 83.26 21 P **P 17 17 40.7 +1.4**
baz=254
F18K Selawik 83.29 23 P **P 17 17 41.1 +1.7**
baz=256
H18K Honhosa River 83.46 24 P **P 17 17 41.6 +1.3**
baz=257
G18K Tagagawik 83.51 24 lAmb lAmb 17 17 47.0
comp=Z,9.2nm,1.2s
G18K Tagagawik 83.51 24 P **P 17 17 42.0 +1.4**
baz=257
L18K Granite Mounta 83.57 27 P **P 17 17 42.5 +1.6**
baz=259,SNR=19
N18K Kilae Creek 83.66 29 lAmb lAmb 17 17 45.3
comp=Z,7.8nm,1.2s
N18K Kilae Creek 83.66 29 P **P 17 17 43.3 +1.9**
baz=260
A19K Wainwright 83.73 19 P **P 17 17 43.1 +1.6**
baz=254
Q18K Katmai Hardscr 83.75 31 P **P 17 17 43.2 +1.1**
baz=261
P18K Big Mountain, 83.76 30 P **P 17 17 43.6 +1.6**
baz=260
J18K Innoko River 83.80 26 lAmb lAmb 17 17 46.1
comp=Z,9.9nm,1.1s
J18K Innoko River 83.80 26 P **P 17 17 43.6 +1.5**
baz=259,SNR=6.8
M18K Stony River 83.83 28 P **P 17 17 43.9 +1.7**
baz=260,SNR=11
O18K Koktuh Hills 83.85 30 P **P 17 17 44.0 +1.6**
baz=260
R18K Karluk 83.87 32 P **P 17 17 43.8 +1.3**
baz=261
C19K Lookout Ridge 83.94 20 P **P 17 17 44.6 +1.9**
baz=255
GCSA Galena City Sc 83.99 25 P **P 17 17 45.1 +2.1**
baz=258,SNR=5.8
F19K Shaleruckik Mo 84.07 23 P **P 17 17 45.5 +2.2**
baz=257
G19K Purcell Mounta 84.19 23 lAmb lAmb 17 17 48.9
comp=Z,10nm,0.9s
G19K Purcell Mounta 84.19 23 P **P 17 17 45.6 +1.6**
baz=258,SNR=9.1
NCK Nalchik 84.28 314⇓ *e*P **P 17 17 44.8 -0.2**
NCK pmax pmax
comp=Z,4.0nm,0.7s
GEVA Gevas 84.30 308 **P 17 17 43.2 -2.2**
D19K Kuna River 84.31 21 lAmb lAmb 17 18 07.4
comp=Z,8.3nm,0.9s
D19K Kuna River 84.31 21 P **P 17 17 46.0 +1.4**
baz=257
H19K Roundabout Mou 84.32 24 P **P 17 17 46.4 +1.8**
baz=259,SNR=10
N19K Bonanza Creek 84.36 29 P **P 17 17 46.7 +1.6**
baz=261,SNR=20
J19K Poorman 84.38 26 lAmb lAmb 17 17 52.4
comp=Z,16nm,1.5s
J19K Poorman 84.38 26 P **P 17 17 47.2 +2.2**
baz=260
L19K White Mountain 84.41 28 lAmb lAmb 17 17 50.1
comp=Z,11nm,1.1s
L19K White Mountain 84.41 28 P **P 17 17 47.2 +2.0**
baz=260,SNR=11
E19K Redstone River 84.41 22 P **P 17 17 47.0 +1.9**
baz=258
OHAK Old Harbor 84.45 33 P **P 17 17 46.9 +1.5**
baz=262
Q19K Cape Douglas, 84.49 31 P **P 17 17 46.5 +0.7**
baz=262
M19K Big River Lodg 84.58 28 P **P 17 17 47.9 +1.9**
baz=261,SNR=8.3
P19K Oil Pt 84.81 30 P **P 17 17 48.7 +1.4**
baz=262
KBZ Khabaz 84.81 314 P **P 17 17 46.9 -0.6**
comp=Z,3.8nm,0.9s,baz=224,slow=1.1,SNR=6.8
comp=Z,3.8nm,0.9s
KBZ Khabaz 84.81 314⇑ *e*P **P 17 17 47.0 -0.6**
KDAK Kodiak Island 84.89 32⇓ *e*P **P 17 17 49.1 +1.4**
KDAK pmax pmax
comp=Z,19nm,1.0s
KDAK Kodiak Island 84.89 32 P **P 17 17 49.1 +1.4**
baz=263
D20K Etivluk River 84.90 21 lAmb lAmb 17 18 12.5
comp=Z,6.0nm,0.8s
D20K Etivluk River 84.90 21 P **P 17 17 48.7 +1.2**
baz=258
F20K Avaraart Lake 84.90 23 P **P 17 17 49.4 +1.9**
baz=259
L20K Farewell, AK 84.90 27 P **P 17 17 49.6 +1.8**
baz=261
K20K Telida 84.95 26 P **P 17 17 49.5 +1.5**
baz=261
H20K Anotleneega Mo 84.96 24 P **P 17 17 49.4 +1.5**
baz=260
E20K Nigu River 84.96 21 P **P 17 17 49.4 +1.5**
baz=259
KIV Kislovodsk 84.97 314 *e*P **P 17 17 47.3 -1.3**
KIV pmax pmax
comp=Z,5.0nm,1.0s
B20K Meade River 84.98 20 P **P 17 17 49.7 +1.8**
baz=258
I20K Naaghedeneel 85.01 25 P **P 17 17 50.0 +1.9**
baz=260
J20K Nowinta River 85.05 26 P **P 17 17 50.4 +2.0**
baz=261
Q20K Shuyak Island 85.10 31 P **P 17 17 50.6 +1.9**
baz=263
M20K Styx River 85.16 28 P **P 17 17 51.2 +2.1**
baz=262
A21K Barrow 85.44 18 P **P 17 17 52.4 +2.3**
baz=258
SPCR Spurr Chakacha 85.51 29 P **P 17 17 52.9 +2.1**
baz=263
C21K Knifeblade Rid 85.63 21 P **P 17 17 52.8 +1.6**
baz=260
G21K Allakaket 85.68 23 P **P 17 17 53.2 +1.7**
baz=261
PPLA Purkeypile 85.73 27 P **P 17 17 53.2 +1.2**
baz=263
F21K Alatna River 85.79 23 P **P 17 17 53.5 +1.5**
baz=261
E21K Killik River 85.80 21 P **P 17 17 53.7 +1.6**
baz=261
CHUM Lake Minchumin 85.80 26 P **P 17 17 53.6 +1.4**
baz=263
H21K Melozitna Rive 85.83 24 P **P 17 17 53.4 +1.1**
baz=262
CAST Castle Rocks 85.85 27 P **P 17 17 53.1 +0.7**
baz=263
SKT Skwentna 85.93 28 P **P 17 17 53.6 +0.8**
baz=263
SUA Susitna One 86.24 29 lAmb lAmb 17 18 20.8
comp=Z,7.2nm,1.0s
SUA Susitna One 86.24 29 P **P 17 17 56.3 +1.8**
baz=264
D22K Ayikyak River 86.34 21 P **P 17 17 55.8 +1.1**
baz=262
BPAW Bear Paw Mtn. 86.41 26 P **P 17 17 56.1 +0.9**
baz=264
LABN Labinsk 86.42 315 *e*P **P 17 17 51.7 -3.9**
LABN pmax pmax
comp=Z,18nm,0.6s
H22K Ishtalitna Cre 86.45 24 P **P 17 17 56.2 +0.8**
baz=263
G22K Bettles 86.52 23 P **P 17 17 56.6 +1.0**
baz=263
E22K Anaktuvuk Pass 86.55 22 **P 17 17 55.4 -0.4**
E22K lAmb lAmb 17 18 07.2
comp=Z,4.6nm,0.8s
E22K Anaktuvuk Pass 86.55 22 P **P 17 17 57.1 +1.3**
baz=263
MLY Manley 86.62 25 P **P 17 17 57.9 +1.7**
baz=264
ERBR Yeremizino-Bor 86.64 316 *e*P **P 17 17 54.5 -2.2**
ERBR pmax pmax
comp=Z,8.0nm,0.4s
O22K Cooper Landing 86.65 30 P **P 17 17 58.1 +1.8**
baz=265
TRF Thorofare Moun 86.65 27 P **P 17 17 58.2 +1.6**
baz=264

RC01	**Rabbit Creek A** baz=265	86.69	29	P	P	17 17 58.5	+1.9
SEW	**Seward** baz=265	86.75	30	P	P	17 17 58.9	+2.0
VSLR	**Vesyoloye**	86.87	313⇑	*e*P	P	17 17 59.5	+1.7
VSLR	comp=Z,18nm,1.1s			pmax	pmax		
PMR	**Palmer** baz=266	87.03	28	P	P	17 18 00.3	+2.2
COLD	**Coldfoot** baz=264	87.06	23	P	P	17 17 59.9	+1.7
D23K	**Nanushuk River** baz=264	87.06	21	P	P	17 18 00.2	+1.9
G23K	**Bananza Creek** comp=Z,4.9nm,1.0s	87.08	23	IAmb	IAmb	17 18 02.6	
G23K	**Bananza Creek** baz=264	87.08	23	P	P	17 18 00.2	+1.8
C23K	**Itkillik River** baz=264	87.18	20	P	P	17 18 00.9	+2.1
H23K	**Yukon River** baz=265	87.19	24	P	P	17 18 00.9	+1.9
I23K	**Minto, Yukon-K** baz=265	87.21	25	P	P	17 18 00.9	+1.9
MCK	**McKinley** baz=266	87.28	26	P	P	17 18 00.7	+1.3
NEA2	**Nenana** baz=266	87.29	25	P	P	17 18 01.1	+1.7
KNK	**Knik Glacier** baz=266	87.33	29	P	P	17 18 01.6	+1.8
PWL	**Port Wells** baz=266	87.36	29	P	P	17 18 01.8	+2.0
E23K	**Chandalar** comp=Z,6.2nm,0.9s	87.36	22	IAmb	IAmb	17 18 06.6	
E23K	**Chandalar** baz=265	87.36	22	P	P	17 18 01.4	+1.6
WAT1	**Susitna Watana** baz=266	87.39	27	P	P	17 18 02.1	+2.1
TOLK	**Toolik Lake Re** baz=265	87.43	21	P	P	17 18 02.4	+2.3
M23K	**Glacier View** baz=267	87.71	28	P	P	17 18 04.1	+2.6
WAT6	**Susitna Watana** baz=267	87.75	28	P	P	17 18 04.1	+2.2
D24K	**Happy Valley** baz=266	87.75	21	P	P	17 18 04.2	+2.7
VSR	**Storozhevoye**	87.75	321	*e*P	P	17 17 58.7	-3.2
VSR	comp=Z,4.0nm,0.8s			pmax	pmax		
E24K	**Your Creek** baz=266	87.79	22	P	P	17 18 04.0	+2.1
C24K	**Franklin Bluff** baz=266	87.83	20	P	P	17 18 03.6	+1.7
H24K	**Noodor Dome** baz=266	87.88	24	P	P	17 18 04.4	+2.1
SCM	**Sheep Creek Mo** baz=267	87.90	28	P	P	17 18 04.2	+1.8
DHY	**Denali Highway** baz=267	87.94	27	P	P	17 18 05.0	+2.3
KLMR	**Klimovskoe**	87.94	331	*e*P	P	17 18 00.7	-1.9
KLMR	comp=Z,19nm,1.7s			pmax	pmax		
GLI	**Glacier Island** baz=267	87.96	29	P	P	17 18 05.0	+2.3
F24K	**Squaw Lake** baz=266	87.98	23	P	P	17 18 04.9	+2.1
G24K	**Hadweenzic Riv** baz=267	88.09	23	P	P	17 18 05.2	+1.9
HDA	**Harding Lake** baz=267	88.19	26	P	P	17 18 05.6	+1.9
ILAR	**Eielson Array** comp=Z,0.5nm,0.6s,baz=240,slow=5.1,SNR=7.0 comp=Z,0.5nm,0.6s	88.24	25	P	P	17 18 02.5	-1.5
Q23K	**Middleton Isla** baz=268	88.28	31	P	P	17 18 06.3	+2.1
M24K	**Tolsona, Glenn** baz=268	88.45	28	P	P	17 18 06.7	+1.6
KLU	**Klutina** baz=268	88.55	29	P	P	17 18 07.2	+1.6
D25K	**Kavik River** baz=268	88.63	21	P	P	17 18 07.0	+1.2
G25K	**Bearman Lake** baz=268	88.64	23	P	P	17 18 07.6	+1.9
K24K	**Donnelly Dome** baz=268	88.69	26	P	P	17 18 07.7	+1.6
H25L	**Birch Creek** baz=268	88.74	24	P	P	17 18 08.0	+1.7
ANN	**Anapa**	88.77	315	*e*P	P	17 17 58.0	-8.9
ANN	comp=Z,15nm,0.8s			pmax	pmax		
PAX	**Paxson** baz=269	88.80	27	P	P	17 18 08.4	+1.6
F25K	**Christian Rive** baz=268	88.84	23	P	P	17 18 08.7	+1.9
J25K	**Salcha River,** baz=269	88.88	26	P	P	17 18 08.3	+1.2
E25K	**Arctic Village** baz=269	88.89	22	P	P	17 18 08.4	+1.5
HARP	**HAARP** baz=269	88.94	28	P	P	17 18 09.2	+1.9
RIDG	**Independent Ri**	89.10	26	P	P	17 18 07.3	-0.7
RIDG	comp=Z,9.6nm,1.3s			IAmb	IAmb	17 18 35.2	
RIDG	**Independent Ri** baz=269	89.10	26	P	P	17 18 10.2	+2.1
BMRM	**Bremner River** baz=270	89.18	29	P	P	17 18 10.3	+1.7
SYO	**Syowa Base**	89.23	201⇓	*e*P	P	17 18 09.0	+0.5
KAIM	**Kayak Island** baz=270	89.27	30	P	P	17 18 10.6	+1.7
OBN	**Obninsk**	89.38	325	*e*P	P	17 18 09.4	-0.1
OBN				*e*		17 21 40.7	
OBN	comp=Z,7.0nm,0.8s			pmax	pmax		
F26K	**Sheenjek River** baz=270	89.42	22	P	P	17 18 10.7	+1.2
SCRK	**Sand Creek** baz=270	89.48	26	P	P	17 18 11.2	+1.2
C27K	**Jago River** baz=270	89.57	20	P	P	17 18 11.2	+1.0
J26L	**Joseph Creek** baz=270	89.66	26	P	P	17 18 11.6	+0.8
L26K	**Log Cabin Wild** baz=271	89.77	27	P	P	17 18 12.1	+0.9
I26K	**Coal Creek Min** baz=271	89.83	25	P	P	17 18 13.2	+1.8
BGLC	**Bering Glacier** baz=271	89.84	30	P	P	17 18 13.4	+1.9
M26K	**Nabesna, AK** baz=271	89.94	28	P	P	17 18 13.5	+1.4
MCARA	**McCarthy VSAT** baz=271	89.95	29	P	P	17 18 13.4	+1.3
K27K	**Chicken** baz=272	90.32	26	P	P	17 18 15.2	+1.5
E27K	**Coleen River** baz=272	90.37	22	P	P	17 18 15.3	+1.4
G27K	**Doyon Strip** baz=272	90.40	23	P	P	17 18 15.5	+1.4
QSPA	**South Pole Qui**	90.42	180		P	17 18 13.1	-1.2
QSPA	comp=Z,12nm,1.4s			IAmb	IAmb	17 18 36.5	
QSPA	**South Pole Qui** comp=Z,3.9nm,0.7s,baz=298,slow=1.3,SNR=28 comp=Z,3.9nm,0.7s	90.42	180	P	P	17 18 14.5	+0.2
I27K	**Kandik River** baz=272	90.46	25	P	P	17 18 15.8	+1.3
L27K	**Beaver Creek,** comp=Z,5.3nm,1.3s	90.46	27	IAmb	IAmb	17 18 38.6	
L27K	**Beaver Creek,** baz=272	90.46	27	P	P	17 18 15.8	+1.3
M27K	**Edge Creek, AK** baz=272	90.47	28	P	P	17 18 15.8	+1.1
BCAR	**Beaver Creek A**	90.48	27		P	17 18 14.1	-0.5
D27M	**Malcolm River** baz=273	90.55	21	P	P	17 18 15.8	+1.0
BVCY	**Beaver Creek** baz=273	90.94	28	P	P	17 18 18.3	+1.6
F28M	**Old Crow** baz=274	91.05	22	P	P	17 18 18.5	+1.4
E28M	**Babbage River** baz=274	91.11	21	P	P	17 18 18.7	+1.4
I28M	**Miner Creek** baz=274	91.17	25	P	P	17 18 18.8	+1.0
DAWY	**Dawson** baz=274	91.50	26	P	P	17 18 20.6	+1.4
YUK8	**Steele Glacier** baz=274	91.52	29	P	P	17 18 20.1	+0.4
BR131	**Keskin Array S**	91.66	310⇑	*e*P	P	17 18 18.4	-2.3
BRTR	**Keskin Array B**	91.66	310	P	P	17 18 18.0	-2.6
	comp=Z,1.1nm,0.7s,baz=129,slow=5.7,SNR=6.4 comp=Z,1.1nm,0.7s						
G29M	**Pine Creek** baz=276	91.83	23	P	P	17 18 22.6	+1.9
I29M	**Ogilvie Camp,** baz=275	91.86	25	P	P	17 18 22.6	+1.8
L29M	**L29M** baz=275	92.14	27	P	P	17 18 24.3	+2.0
K29M	**Barlow Dome** baz=276	92.34	26	P	P	17 18 25.3	+2.0
EPYK	**Eagle Plains** baz=277	92.40	24	P	P	17 18 25.4	+2.0
G30M	**tAoh Zraii Nji** baz=277	92.52	23	P	P	17 18 25.7	+1.7
F30M	**Barrier River** baz=278	92.61	22	P	P	17 18 26.1	+1.8
HYT	**Haines Junctio** baz=276	92.66	29	P	P	17 18 26.1	+1.3
P29M	**Windy Craggy** baz=276	92.66	30	P	P	17 18 26.5	+1.8
I30M	**Mount Dempster** baz=277	92.68	25	P	P	17 18 26.9	+2.0
N30M	**Aishikik Lake** baz=276	92.79	29	P	P	17 18 27.4	+2.1
M30M	**Minto, Yukon** baz=276	92.81	27	P	P	17 18 27.6	+2.2
P30M	**Million Dollar** baz=276	93.00	30	P	P	17 18 28.1	+1.8
ARCES	**ARCESS Array B** comp=Z,4.2nm,0.9s,baz=74,slow=6.4,SNR=5.3 comp=Z,4.2nm,0.9s	93.28	340	P	P	17 18 25.3	-2.0
N31M	**Braeburn, Yuko** baz=277	93.41	28	P	P	17 18 30.7	+2.5
H31M	**Peel River** baz=279	93.44	24	P	P	17 18 30.6	+2.4
SPITS	**Spitsbergen Ar** comp=Z,1.0nm,0.5s,baz=74,slow=5.1,SNR=1.5 comp=Z,1.0nm,0.5s	93.53	349	P	P	17 18 27.4	-0.9
SKAG	**Skagway** baz=278	93.89	30	P	P	17 18 32.5	+2.2
WHY	**Whitehorse** baz=278	93.95	29	P	P	17 18 32.7	+1.9
M31M	**Drury Creek, Y** baz=279	93.96	28	P	P	17 18 32.7	+2.1
AKASG	**Malin Array Be** comp=Z,0.2nm,0.4s,baz=65,slow=4.4,SNR=2.2 comp=Z,0.2nm,0.4s	94.05	321	P	P	17 18 29.8	-1.4
KBS	**Kingsbay**	94.07	350⇑	*e*P	P	17 18 30.9	+0.1
KBS	comp=Z,5.0nm,1.0s			pmax	pmax		
FINES	**FINESS Array B** comp=Z,0.5nm,0.6s,baz=40,slow=6.2,SNR=3.6 comp=Z,0.5nm,0.6s	94.41	332	P	P	17 18 30.8	-1.8
FARO	**Faro, Yukon** baz=280	94.44	28	P	P	17 18 35.1	+2.3
N32M	**Quiet Lake** baz=280	94.75	29	P	P	17 18 36.9	+2.6
P33M	**Teslin, Yukon** baz=280	95.03	29	P	P	17 18 37.7	+2.0
A36M	**Sachs Harbour** baz=288	95.21	17	P	P	17 18 38.3	+2.1
MMPY	**Sheldon Lake,** baz=281	95.33	27	P	P	17 18 38.9	+2.0
R33M	**Jennings River** baz=281	96.10	30	P	P	17 18 42.4	+1.8
S34M	**Telegraph Cree** baz=281	96.31	32	P	P	17 18 43.5	+2.0
HFS	**Hagfors** comp=Z,2.0nm,0.9s,baz=72,slow=5.1,SNR=2.0	100.61	332	P	Pdif	17 18 57.6	-3.1
CLL	**Collm**	103.92	324	*e*PKiKP	PKiKP	17 23 31.0	-2.1
KHC	**Kasperske Hory**	104.25	321	*e*P	Pdif	17 19 25.5	+8.3
KHC	**Kasperske Hory**	104.25	321	*e*P	Pdif	17 19 25.5	+8.3
TORD	**Torodi Ar. Bea** comp=Z,2.1nm,0.8s,baz=73,slow=2.0,SNR=4.0	123.35	286	PKP	PKPdf	17 24 10.1	-0.9
TXAR	**Lajitas Array** comp=Z,0.6nm,0.8s,baz=312,slow=1.5,SNR=6.3	123.97	54	PKP	PKPdf	17 24 11.7	-0.3

IDC 07 17:08:13.1±1.9, 0°.34N×125°.77E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=221.4km s-min=25.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 1.1nm,0.5s,baz=336,slow=11,SNR=2.1 1.1nm,0.5s	21.84	158	P	P	17 13 07.0	-0.4
ASAR	**Alice Springs** 0.4nm,0.4s,baz=344,slow=11,SNR=1.9 0.4nm,0.4s	25.14	162	P	P	17 13 40.4	+0.3
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=126,slow=7.8,SNR=1.6 0.3nm,0.6s	59.81	327	P	P	17 18 20.0	-0.4
KURBB	**Kurchatov Arra** 0.2nm,0.5s,baz=128,slow=6.1,SNR=1.3 0.2nm,0.5s	64.09	329	P	P	17 18 49.2	+0.3

IDC 07 17:12:08.1±1.9, 0°.84N×126°.74E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=177.5km s-min=23.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 1.4nm,0.7s,baz=339,slow=11,SNR=4.6 1.4nm,0.7s	21.95	161	P	P	17 17 03.0	-0.5
ASAR	**Alice Springs** 0.3nm,0.4s,baz=342,slow=9.2,SNR=8.5 0.3nm,0.4s	25.33	165	P	P	17 17 37.1	+0.3
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=126,slow=8.0,SNR=1.8 0.1nm,0.4s	59.94	326	P	P	17 22 16.5	+0.3
KURBB	**Kurchatov Arra** 0.3nm,0.7s,baz=121,slow=6.8,SNR=2.4 0.3nm,0.7s	64.18	328	P	P	17 22 44.1	-0.4

IDC 07 17:12:45.7±1.6, 0°.54N×126°.13E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=170.2km s-min=21.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 2.0nm,0.8s,baz=337,slow=11,SNR=7.3 2.0nm,0.8s	21.89	159	P	P	17 17 39.8	-0.7
ASAR	**Alice Springs** 0.7nm,0.5s,baz=344,slow=11,SNR=9.0 0.7nm,0.5s	25.22	163	P	P	17 18 13.9	+0.5
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=118,slow=8.3,SNR=7.0 0.4nm,0.5s	59.84	327	P	P	17 22 53.2	0.0
KURBB	**Kurchatov Arra** 0.4nm,0.5s,baz=127,slow=6.1,SNR=5.0 0.4nm,0.5s	64.11	328	P	P	17 23 21.6	-0.1

SDD 07 17:13:08.2±0.5, 18°.24N×70°.87W, h2km±38km, MD2.1, ML1.5, MW2.0, 1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PODR	**Polo**	0.40	260	*i* P	Pg	17 13 15.4	-0.4
BANI	**BANI**	0.51	72	*i* P	Pg	17 13 17.4	-0.6
BANI				⇓*e* Sg	Sg	17 13 23.9	-0.7
BANI	comp=N,64nm,0.2s			IAML		17 13 25.5	
BANI	**BANI**	0.51	72	*i* P	Pg	17 13 17.4	-0.6
BANI				*i* S	Sg	17 13 21.5	-3.1
BANI	comp=N,136nm,0.1s			IAML		17 13 25.2	
BAN1	**Bani Escuela**	0.51	85	*i* P	Pg	17 13 17.6	-0.5
NEDR	**Neiba UASD**	0.58	295	*i* P	Pg	17 13 19.0	-0.3
ABDR	**Alto Bandera**	0.62	22	*i* P	Pg	17 13 19.6	-0.5
ABDR				*i* S	Sg	17 13 27.4	-0.7
ABDR	comp=N,18nm,0.3s			IAML		17 13 28.6	
ABDR	**Alto Bandera**	0.62	22	*i* P	Pg	17 13 19.5	-0.6
ABDR				*i* S	Sg	17 13 27.4	-0.7
ABDR	comp=N,26nm,0.2s			IAML		17 13 28.4	
SDDR	**Presa de Saban**	0.84	332	*i* P	Pg	17 13 23.3	-1.1
SDDR				*i* S	Sg	17 13 34.6	-0.8
SDDR	comp=N,11nm,0.3s			IAML		17 13 39.4	
SDDR	**Presa de Saban**	0.84	332	*i* P	Pb	17 13 25.7	0.0
SDDR				*i* S	Sg	17 13 36.3	+1.0
SDDR				*i* S	Sb	17 13 36.9	-0.6
SDDR				IAML		17 13 38.5	
SDD	comp=N,15nm,1.2s **Santo Domingo**	0.93	76	*i* P	Pg	17 13 24.8	-1.3

*IDC **07** 17:15:24.6±0.6, 0°.56N×126°.17E, h0km, mb4.1/15, mbtmp4.1/16, ML3.9/1, Error ellipse: s-maj=41.5km s-min=12.4km az=76.0*

*DJA **07** 17:15:28.6±0.2, 1°.1±2°×12°.6E±°, h10km, M3.8/1, MLv4.3/22, MLv3.8/1*

*NEIC **07** 17:15:31.1±2.0, 0°.63N±0°.06×126°.34E±0°.07, h35km±2km, mb4.6/14, Error ellipse: s-maj=12.0km s-min=8.3km az=303.0*

ISC 07 17:15:30.2±0.5, 0°.54N±0°.06×126°.27E±0°.05, h35km, n66, σ1§44/70, mb4.3/23, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	1.12	78		Pn	17 15 49.9	+0.4
TNTI	**Ternate**	1.12	78	P	Pn	17 15 49.9	+0.4
TNTI	**Ternate**	1.12	78	P	Pn	17 15 49.4	-0.1
TNTI				S	Sn	17 16 06.5	+2.8
KMSI	**Cibinong**	2.29	271	P	Pn	17 16 03.5	-2.0
KMSI				S	Sn	17 16 35.2	+2.8
SANI	**Sanana**	2.59	186	P	Pn	17 16 10.1	+0.5
LUWI	**Luwuk**	3.83	246		Pn	17 16 30.7	+4.0
LUWI	**Luwuk**	3.83	246	P	Pn	17 16 28.3	+1.6
NLAI	**Namlea**	3.84	167	P	Pn	17 16 27.8	+0.9
MRSI	**Marisa**	4.33	269	P	Pn	17 16 36.7	+3.2
AAI	**Ambon**	4.62	155	P	Pn	17 16 38.8	+1.2
MSAI	**Masohi**	4.69	145	P	Pn	17 16 39.2	+0.7
APSI	**Ampana**	4.84	253	P	Pn	17 16 41.2	+0.6
SWI	**Sorong**	5.18	106	P	Pn	17 16 46.1	+0.7
TOLI2	**Tolitoli**	5.51	276	Pn	Pn	17 16 51.2	+1.3
TOLI2	**Tolitoli**	5.51	276	P	Pn	17 16 55.4	+5.5
KDI	**Kendari**	5.76	219	P	Pn	17 16 53.8	+0.5
BNDI	**Bandanaira**	6.20	144	P	Pn	17 17 00.2	+0.8
MPSI	**Mapaga**	6.37	268	P	Pn	17 17 02.6	+0.9
FAKI	**Fak Fak**	6.90	120	P	Pn	17 17 09.6	+0.7
BBSI	**Bau Bau**	7.03	212	P	Pn	17 17 12.3	+1.5
TTSI	**Tana Toraja**	7.36	241	P	Pn	17 17 16.2	+0.9
BNSI	**Bone**	7.87	231	P	Pn	17 17 22.6	+0.3
SPSI	**Sidrap Palu**	7.88	235	P	Pn	17 17 23.4	+0.9
KAPI	**Kappang** 3.4nm,0.3s,baz=82,slow=7.2,SNR=3.8	8.53	230	Pn	Pn	17 17 32.3	+1.0
MYLDM	**Lahad Datu**	9.02	301		Pn	17 17 40.3	+2.2
MYLDM	**Lahad Datu**	9.02	301	P	Pn	17 17 41.9	+3.8
SBUM	**Sibu**	14.17	278	P	P	17 18 55.1	-0.5
KDU	**Kakadu**	14.51	155	P	Pn	17 18 54.9	+1.7
KNRA	**Kununurra**	16.30	171		Pn	17 19 14.1	-2.5
FITZ	**Fitzroy Crossi**	18.53	182	P	P	17 19 43.0	-0.9
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=19,slow=7.4,SNR=9.6 3.7nm,0.8s	18.53	182	P	P	17 19 42.9	-1.0
WB0	**Warramunga Arr**	21.70	159		P	17 20 17.8	-0.5
WRAB	**Tennant Creek**	21.83	159	P	P	17 20 19.4	-0.4
WRAB	comp=Z,36nm,0.8s			IAmb	IAmb	17 20 24.8	
WRA	**Warramunga Arr**	21.84	159	P	P	17 20 19.3	-0.5
WRA	**Warramunga Arr** comp=Z,28nm,0.8s,baz=337,slow=12,SNR=48	21.84	159	P	P	17 20 19.6	-0.3
WRA				S	S	17 24 14.3	-5.2
	comp=Z,0.4nm,0.7s,baz=333,slow=17,SNR=1.7 comp=Z,28nm,0.8s						
WR8	**Warramunga Arr**	21.91	159		P	17 20 20.1	-0.5
WR8	comp=Z,26nm,0.9s			IAmb	IAmb	17 20 25.2	
COEN	**Coen**	22.09	131	P	P	17 20 23.4	+0.8
COEN	comp=Z,22nm,0.9s			IAmb	IAmb	17 20 30.4	
COEN	**Coen**	22.09	131	P	P	17 20 24.1	+1.5
QIS	**Mount Isa**	24.70	149	P	P	17 20 49.2	+0.9
AS31	**Alice Springs**	25.18	163	P	P	17 20 53.9	+1.3
AS31	comp=Z,4.1nm,0.5s			IAmb	IAmb	17 20 59.3	
ASAR	**Alice Springs**	25.18	163		P	17 20 53.5	+0.8
ASAR	**Alice Springs** comp=Z,9.3nm,0.8s,baz=345,slow=12,SNR=46	25.18	163	P	P	17 20 52.6	0.0
ASAR				PcP	PcP	17 24 27.2	+1.1
	comp=Z,0.3nm,0.7s,baz=354,slow=2.9,SNR=2.1 comp=Z,9.3nm,0.8s						
AS01	**Alice Springs**	25.19	163	P	P	17 20 54.5	+1.8
FORT	**Forrest**	31.19	177		P	17 21 46.4	+0.2
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.7s,baz=120,slow=3.5,SNR=4.3	32.20	305	PcP	PcP	17 24 43.0	-0.6
STKA	**Stephens Creek**	35.36	157		P	17 22 22.7	+0.2
STKA	**Stephens Creek** comp=Z,6.6nm,0.7s,baz=328,slow=9.0,SNR=16 comp=Z,6.6nm,0.7s	35.36	157	P	P	17 22 22.3	-0.3
STKA	**Stephens Creek**	35.36	157	P	P	17 22 23.1	+0.6
JGF	**Kuroka**	36.38	15	P	P	17 22 31.4	+0.1
JGF	comp=Z,9.7nm,1.1s			IAmb	IAmb	17 22 47.6	
KSRS	**Korea Array** comp=Z,0.7nm,0.7s,baz=182,slow=9.2,SNR=4.3 comp=Z,0.7nm,0.7s	36.77	2	P	P	17 22 33.9	-0.5
MJAR	**Matsushiro Arr** comp=Z,1.0nm,0.8s,baz=184,slow=9.2,SNR=5.9 comp=Z,1.0nm,0.8s	37.49	16	P	P	17 22 39.9	-0.8
CAN	**Canberra**	41.51	152	P	P	17 23 14.5	+0.2
CAN	comp=Z,6.7nm,1.0s			IAmb	IAmb	17 23 22.7	
USRK	**Ussuriysk Ar.** comp=Z,1.1nm,0.6s,baz=187,slow=5.8,SNR=2.1 comp=Z,1.1nm,0.6s	43.77	6	P	P	17 23 32.7	+0.3
SONM	**Songino Array** comp=Z,0.4nm,0.3s,baz=159,slow=8.9,SNR=3.6 comp=Z,0.4nm,0.3s	50.17	343	P	P	17 24 22.7	+0.2
MKAR	**Makanchi Array**	59.92	327		P	17 25 32.1	-0.8
MKAR	**Makanchi Array** comp=Z,1.6nm,0.6s,baz=121,slow=8.1,SNR=15	59.92	327	P	P	17 25 31.8	-1.0
MKAR				PcP	PcP	17 26 18.6	-0.4
	comp=Z,1.1nm,0.8s,baz=138,slow=4.8,SNR=1.7 comp=Z,1.6nm,0.6s						
MAKZ	**Makanchi**	60.10	326		P	17 25 34.3	+0.2
MAKZ	comp=Z,8.5nm,1.4s			IAmb	IAmb	17 25 37.6	
ZALV	**Zalesovo Beam** comp=Z,1.0nm,0.6s,baz=116,slow=6.6,SNR=5.4 comp=Z,1.0nm,0.6s	63.22	334	P	P	17 25 53.7	-1.2
KURBB	**Kurchatov Arra** comp=Z,0.9nm,0.5s,baz=133,slow=6.7,SNR=11 comp=Z,0.9nm,0.5s	64.18	328	P	P	17 26 00.2	-1.1
KURK	**Kurchatov**	64.18	329	P	P	17 26 00.6	-0.7
KURK	comp=Z,4.1nm,0.9s			IAmb	IAmb	17 26 24.4	
BVAR	**Borovoye Array** comp=Z,0.4nm,0.4s comp=Z,0.4nm,0.4s	69.74	328	P	P	17 26 36.7	0.0
NRIK	**Noril'sk** comp=Z,1.5nm,0.3s,baz=20,slow=2.0,SNR=1.7 comp=Z,1.5nm,0.3s	73.40	347	P	P	17 26 57.9	-0.5
VNDA	**Vanda** comp=Z,1.2nm,0.8s,baz=311,slow=5.3,SNR=7.5 comp=Z,1.2nm,0.8s	80.34	173	P	P	17 27 37.5	+0.1
ILAR	**Eielson Array** comp=Z,0.5nm,0.7s,baz=268,slow=3.0,SNR=4.9 comp=Z,0.5nm,0.7s	88.17	25	P	P	17 28 16.1	-1.2
QSPA	**South Pole Qui** comp=Z,1.0nm,0.6s,baz=66,slow=1.3,SNR=6.9 comp=Z,1.0nm,0.6s	90.47	180	P	P	17 28 28.4	+0.2
TORD	**Torodi Ar. Bea** comp=Z,1.1nm,0.5s,baz=72,slow=1.9,SNR=2.1	123.41	286	PKP	PKPdf	17 34 23.4	-1.4

*IDC **07** 17:15:42.2±8.2, 2°.70S×138°.40E, h0km, mb3.4/2, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=148.8km s-min=25.8km az=147.0*

*DJA **07** 17:15:43.2±0.6, 3°.5±3°×13°.8E±°, h13km±4km, M3.3/1, MLv3.4/6, MLv3.3/1*

ISC 07 17:15:42.2±3.1, 2°.65S±0°.09×138°.37E±0°.04, h4km±22km, n11, σ0§88/17, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	0.74	27	P	Pb	17 15 57.2	-0.4
SMPI				S	Sg	17 16 06.5	+0.6
GENI	**Genyem**	1.79	88	P	Pn	17 16 13.3	-0.6
GENI				S	Sn	17 16 37.1	0.0
SRPI	**Serui, Papua**	2.27	290	P	Pn	17 16 18.0	-2.4
SRPI				S	Sn	17 16 48.9	+0.1
JAY	**Jayapura** 3.0nm,0.3s,baz=245,slow=14,SNR=16	2.33	87	Pn	Pn	17 16 21.7	+0.3
JAY				Sn	Sn	17 16 51.3	+0.8

3.8nm,0.3s,baz=106,slow=14,SNR=5.7
16nm,0.5s

JAY	**Jayapura**	**2.33**	**87**	P		**Pn**	17 16 20.9	**-0.5**
JAY				S		**Sn**	17 16 49.7	**-0.8**
BAKI	**Biak**	**2.69**	**303**	P		**Pn**	17 16 26.7	**+0.5**
BAKI				S		**Sn**	17 16 59.3	**+0.1**
RKPI	**Ransiki, Papua**	**4.34**	**285**	P		**Pn**	17 16 49.7	**+0.7**
FAKI	**Fak Fak**	**6.12**	**267**	P		**Pn**	17 17 13.8	**+0.3**
WRA	**Warramunga Arr**	**17.63**	**193**	P		**Pn**	17 19 48.2	**-0.7**
	0.1nm,0.3s,baz=14,slow=12,SNR=5.0							
	0.3nm,0.4s							
ASAR	**Alice Springs**	**21.34**	**191**	P		**P**	17 20 30.5	**+0.1**
	0.6nm,0.7s,baz=18,slow=9.6,SNR=11							
	0.6nm,0.7s							
STKA	**Stephens Creek**	**29.23**	**174**	P		**P**	17 21 45.9	**+0.8**
	0.5nm,0.6s,baz=336,slow=12,SNR=1.2							
	0.5nm,0.6s							

*IDC **07** 17:17:43.8±1.0,57.85S×25.70W,h0km,mb3.8/4, mbtmp3.8/5,ML3.7/1,Error ellipse: s-maj=49.1km s-min=23.8km az=77.0*

ISC 07 17:17:50.6±0.9,58.0S±0.1×25.6W±0.3,h49km,n14, σ1§63/11,mb3.8/3,4C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.67**	**157**	⇑P		**Pn**		**17 21 12.8**	**-2.0**
	comp=Z,1.0nm,0.2s								
VNA2	**Neumayer--Watz**	**15.07**	**157**	⇑P		**Pn**		**17 21 17.2**	**-2.8**
	comp=Z,0.4nm,0.2s,baz=325,slow=13								
SNAA	**Sanae**	**16.62**	**155**	⇑P		**Pn**		**17 21 39.0**	**-0.7**
	comp=Z,16nm,0.2s								
SNAA	**Sanae**	**16.62**	**155**	Pn		**Pn**		**17 21 38.7**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=318,slow=15,SNR=12								
	comp=Z,0.9nm,0.4s								
TROLL	**Troll, Antarti**	**18.13**	**152**	⇑P		**P**		**17 21 59.0**	**+0.8**
	comp=Z,16nm,0.2s								
QSPA	**South Pole Qui**	**32.27**	**180**	P		**P**		**17 24 15.1**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=197,slow=0.5,SNR=8.0								
	comp=Z,1.0nm,0.7s								
CPUP	**Villa Florida**	**38.74**	**311**	P		**P**		**17 25 08.8**	**-1.0**
	comp=Z,1.7nm,1.2s,baz=89,slow=11,SNR=4.7								
	comp=Z,1.7nm,1.2s								
VNDA	**Vanda**	**44.68**	**182**	P		**P**		**17 25 59.6**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=200,slow=7.6,SNR=4.4								
	comp=Z,0.6nm,0.7s								
H04S2	**CROZET ISLANDS**	**45.99**	**111**	T		T		18 16 42.0	
	baz=225,slow=75,SNR=4.8								
H04S3	**CROZET ISLANDS**	**46.00**	**111**	T		T		18 16 43.2	
	baz=225,slow=75,SNR=4.6								
H04S1	**CROZET ISLANDS**	**46.01**	**111**	T		T		18 16 41.3	
	baz=225,slow=75,SNR=4.2								
TORD	**Torodi Ar. Bea**	**74.34**	**28**	P		**P**		**17 29 23.7**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=194,slow=5.5,SNR=3.0								
	comp=Z,0.9nm,0.4s								
SONM	**Songino Array**	**149.94**	**89**	PKPbc		**PKPbc**		**17 37 34.1**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=210,slow=4.0,SNR=3.7								
ILAR	**Eielson Array**	**152.03**	**309**	PKPbc		**PKPbc**		**17 37 37.5**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=120,slow=1.9,SNR=11								

IDC 07 17:19:16.0±4.9,6.91S×129.38E,h180km±48km,mb2.9/1, mbtmp3.6/5,Error ellipse: s-maj=47.0km s-min=21.5km az=58.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.53**	**239**	P		P	Pn	17 20 51.4	+1.3
	7.7nm,0.5s,baz=221,slow=18,SNR=1.5								
BATI				S			Sn	17 22 04.0	-0.2
	14nm,0.5s,baz=310,slow=16,SNR=1.8								
FITZ	**Fitzroy Crossi**	**11.70**	**198**	P		P	Pn	17 21 57.2	-0.5
	1.6nm,0.7s,baz=17,slow=10,SNR=17								
FITZ				S			Sn	17 23 59.9	-8.0
	1.6nm,0.3s,baz=297,slow=18,SNR=6.1								
WRA	**Warramunga Arr**	**13.82**	**160**	P		P	Pn	17 22 22.9	-1.7
	0.4nm,0.3s,baz=338,slow=12,SNR=6.8								
WRA				S			Sn	17 24 49.7	-8.9
	0.8nm,0.5s,baz=332,slow=22,SNR=5.0								
ASAR	**Alice Springs**	**17.22**	**166**	P		P	Pn	17 23 06.6	+0.6
	1.3nm,0.7s,baz=339,slow=10,SNR=4.5								
ASAR				S		S		17 26 15.7	+0.7
	0.7nm,1.0s,baz=351,slow=21,SNR=2.3								
MKAR	**Makanchi Array**	**67.81**	**327**	P		P		17 29 54.5	-0.1
	0.2nm,0.4s,baz=118,slow=8.6,SNR=4.7								
	0.2nm,0.4s								

IDC 07 17:24:14.7±5.8,7.65S×129.72E,h172km±60km,mb3.1/1, mbtmp3.7/5,Error ellipse: s-maj=53.5km s-min=20.4km az=45.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.50**	**247**	P		P	Pn	17 25 47.9	-0.4
	17nm,0.4s,baz=109,slow=2.4,SNR=5.3								
BATI				S			Sn	17 27 02.8	+0.8
	19nm,0.5s,baz=301,slow=10,SNR=4.2								
FITZ	**Fitzroy Crossi**	**11.12**	**201**	P		P	Pn	17 26 49.6	+0.6
	1.4nm,0.2s,baz=21,slow=8.9,SNR=9.4								
FITZ				S			Sn	17 28 49.7	-2.8
	1.5nm,0.7s,baz=231,slow=19,SNR=2.0								
WRA	**Warramunga Arr**	**13.02**	**160**	P		P	Pn	17 27 14.3	+0.9
	0.3nm,0.3s,baz=340,slow=12,SNR=4.9								
WRA				S			Sn	17 29 36.2	-1.7
	0.7nm,0.5s,baz=343,slow=19,SNR=8.7								
ASAR	**Alice Springs**	**16.43**	**166**	P		P	Pn	17 27 57.1	+1.5
	0.3nm,0.4s,baz=339,slow=10,SNR=5.7								
ASAR				S			S	17 30 57.5	+0.2
	0.4nm,0.6s,baz=358,slow=29,SNR=5.8								
MKAR	**Makanchi Array**	**68.61**	**327**	P		P		17 34 58.9	-0.2
	0.3nm,0.4s,baz=118,slow=7.7,SNR=5.2								
	0.3nm,0.4s								

IDC 07 17:26:05.8±1.8,0.46N×126.01E,h0km,mb3.4/4, mbtmp3.4/4,Error ellipse: s-maj=181.9km s-min=24.6km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.86**	**159**	P		P	P	17 30 59.8	-0.5
	1.0nm,0.6s,baz=337,slow=11,SNR=3.0								
	1.0nm,0.6s								
ASAR	**Alice Springs**	**25.18**	**163**	P		P	P	17 31 33.5	+0.4
	0.3nm,0.4s,baz=341,slow=10,SNR=4.8								
	0.3nm,0.4s								
MKAR	**Makanchi Array**	**59.84**	**327**	P		P	P	17 36 13.6	+0.4
	0.2nm,0.3s,baz=122,slow=8.2,SNR=2.3								
	0.2nm,0.3s								
KURBB	**Kurchatov Arra**	**64.11**	**329**	P		P	P	17 36 41.3	-0.5
	0.1nm,0.3s,baz=119,slow=6.6,SNR=1.9								
	0.1nm,0.3s								

CATAC 07 17:27:56.2±0.8,11°N±4.4°×8.7W±.°,h25km±9km,M3.1/20, MLv3.1/20,Error ellipse: s-maj=8.0km s-min=6.3km az=162.3,confirmed,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.81**	**24**	P		P	Pb	17 28 11.3	-0.3
SAPS	**Ciudad Sandino**	**0.89**	**35**	P		P	Pb	17 28 12.9	-0.1
SAPS	**Ciudad Sandino**	**0.89**	**35**	S		S	Sn	17 28 25.3	+0.1
UNAN	**Cigeo UNAN**	**0.93**	**44**	P		P	Pn	17 28 13.8	+0.1
UNAN				S		S	Sn	17 28 26.6	+0.4
NANN	**Nandasmo**	**0.94**	**58**	P		P	Pb	17 28 14.4	+0.5
NANN	**Nandasmo**	**0.94**	**58**	S		S	Sn	17 28 27.5	+1.1
ENAN	**Enatrel Managu**	**0.94**	**44**	P		P	Pn	17 28 13.8	0.0
ENAN	**Enatrel Managu**	**0.94**	**44**	S		S	Sn	17 28 26.9	+0.4
TISN	**Laguna Tiscapa**	**0.95**	**43**	P		P	Pb	17 28 14.2	+0.1
APQ2	**Apoyeque**	**0.96**	**38**	P		P	Pn	17 28 12.9	-1.2
APQ2				S		S	Sb	17 28 26.2	-0.2
APQ3	**Volcan Apoyequ**	**0.99**	**34**	P		P	Pn	17 28 14.1	-0.5
APQ3				S		S	Sb	17 28 27.6	+0.2
WILN	**Americas 2**	**1.02**	**46**	P		P	Pn	17 28 14.5	-0.4
WILN				S		S	Sn	17 28 28.7	+0.2
MOMN	**Momotombo**	**1.03**	**22**	P		P	Pn	17 28 14.8	-0.5
MOMN				S		S	Sb	17 28 28.5	-0.2
CNGA	**Al SSO del Vol**	**1.07**	**12**	P		P	Pn	17 28 15.7	0.0
CNGN	**Cerro Negro**	**1.08**	**12**	S		S	Sn	17 28 30.7	+0.8
CNGN	**Cerro Negro**	**1.08**	**12**	P		P	Pn	17 28 15.2	-0.6
MOM2	**El Cardon**	**1.08**	**24**	P		P	Pn	17 28 15.5	-0.3
MOM2				S		S	Sb	17 28 30.9	+0.9
QUEN	**Al S del Volca**	**1.15**	**4**	P		P	Pn	17 28 16.6	-0.2
PLRN	**Geotermica Pol**	**1.15**	**8**	P		P	Pn	17 28 16.2	-0.5
PLRN				S		S	Sn	17 28 31.4	-0.2
HERN	**Volcan Telica**	**1.16**	**5**	P		P	Pn	17 28 16.6	-0.5
POLN	**Al Sur del Vol**	**1.21**	**6**	P		P	Pn	17 28 17.6	0.0
PKGN	**Cerro Pekin**	**1.22**	**358**	P		P	Pn	17 28 17.8	+0.1
PKGN				S		S	Sb	17 28 34.6	+0.6
CRIN	**San Cristobal**	**1.26**	**355**	P		P	Pn	17 28 18.3	+0.1
CRIN	**San Cristobal**	**1.26**	**355**	S		S	Sn	17 28 34.4	0.0
BOAB	**BOACO BROADBAN**	**1.59**	**51**	P		P	Pn	17 28 22.4	-0.5
MATN	**Matagalpa**	**1.78**	**34**	P		P	Pn	17 28 24.4	-1.1
CNCH	**Conchagua**	**2.02**	**334**	P		P	Pn	17 28 28.8	-0.1
CHOHN	**Orocuina**	**2.04**	**354**	P		P	Pn	17 28 29.6	+0.5
RCVN	**Varillal2**	**2.25**	**19**	P		P	Pn	17 28 32.4	+0.4
YUSH	**Yuscaran**	**2.50**	**2**	P		P	Pn	17 28 35.3	-0.1

*NEIC **07** 17:30:06.3±1.0,19.33N±0.05×155.99W±0.07,h29km±3km, Error ellipse: s-maj=9.7km s-min=6.3km az=71.0*

HVO 07 17:30:07.5±0.9,19.32N±0.04×155.98W±0.08,h28km±8km, ML2.6/22,ML2.7/38(NEIC),Error ellipse: s-maj=11.8km s-min=5.6km az=79.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPH	**Captain Cook**	**0.18**	**20**				Pb	17 30 12.3	-0.9
KKH	**Kailua Kona**	**0.34**	**355**				Pb	17 30 14.5	-0.8
KKH							Sb	17 30 19.6	-1.1
KHU	**Kahuku**	**0.36**	**101**				Pb	17 30 14.7	-1.1
KHU							Sb	17 30 19.9	-1.4
KHU	**Kahuku**	**0.36**	**101**	IAML				17 30 20.1	
	comp=N,865nm,0.5s								
KHU				IAML				17 30 20.3	
	comp=E,953nm,0.5s								
ALEP	**Alea Permanent**	**0.39**	**55**				Pb	17 30 15.6	-0.8
ALEP							Sb	17 30 21.3	-1.1
HUH	**Hualalai**	**0.39**	**21**				Pb	17 30 15.2	-1.1
HUH							Sb	17 30 20.9	-1.4
HUH	**Hualalai**	**0.39**	**21**	IAML				17 30 28.6	
	comp=E,526nm,0.2s								
MWH	**Mokuaweoweo**	**0.40**	**65**				Pb	17 30 15.4	-1.3
MWH							Sb	17 30 21.3	-1.6
MWH	**Mokuaweoweo**	**0.40**	**65**	IAML				17 30 26.6	
	comp=E,785nm,0.6s								
MWH				IAML				17 30 32.0	
	comp=N,712nm,0.4s								
AIN	**Ainahou**	**0.50**	**84**				Pb	17 30 16.6	-1.4
AIN	**Ainahou**	**0.50**	**84**	IAML				17 30 23.4	
	comp=E,571nm,0.3s								
AIN				IAML				17 30 23.9	
	comp=N,817nm,0.4s								
HMH	**Humu'ula Sheep**	**0.55**	**59**				Pb	17 30 17.6	-1.3
HMH							Sb	17 30 24.9	-1.8
HMH	**Humu'ula Sheep**	**0.55**	**59**	IAML				17 30 25.7	
	comp=N,488nm,0.3s								
HMH				IAML				17 30 26.0	
	comp=E,383nm,0.2s								
HTC	**Hot Caves**	**0.56**	**98**				Pb	17 30 17.3	-1.6
MLH	**Mauna Loa**	**0.59**	**73**				Pb	17 30 17.9	-1.7
MLH	**Mauna Loa**	**0.59**	**73**	IAML				17 30 25.8	
	comp=N,357nm,0.3s								
MLH				IAML				17 30 26.5	
	comp=E,241nm,0.7s								
POHA	**Pohakuloa**	**0.61**	**44**				Pb	17 30 18.3	-1.5
HLP	**Hilina Pali**	**0.64**	**92**				Pb	17 30 18.4	-1.8
HLP	**Hilina Pali**	**0.64**	**92**	IAML				17 30 34.7	
	comp=N,386nm,1.4s								
HLP				IAML				17 30 40.7	
	comp=E,402nm,1.3s								
WRMHI	**West Rim**	**0.65**	**82**				Pb	17 30 18.4	-2.1
WRMHI							Sb	17 30 27.1	-2.1
SDHHI	**Sand Hill**	**0.66**	**84**				Pb	17 30 18.5	-2.0
UWE	**Uwekahuna**	**0.66**	**81**				Pb	17 30 18.6	-2.0
UWE	**Uwekahuna**	**0.66**	**81**	IAML				17 30 43.7	
	comp=E,495nm,0.8s								
OBL	**Observatory Le**	**0.67**	**81**				Pb	17 30 18.6	-2.1
OBL							Pn	17 30 27.2	+5.9
RIM	**Rim**	**0.68**	**83**				Pb	17 30 18.7	-2.1
RIM							Sb	17 30 27.1	-2.8
UWB	**Uwekahuna Bluf**	**0.68**	**81**				Pb	17 30 18.6	-2.2
RSD	**Rainshed**	**0.68**	**78**				Pb	17 30 19.2	-1.8
RSD							Pn	17 30 27.4	+6.0
KKO	**Keanakako'i**	**0.68**	**83**				Pb	17 30 18.8	-2.1
KKO							Sb	17 30 27.5	-2.6
SBLHI	**Steaming Bluff**	**0.69**	**81**				Pb	17 30 18.8	-2.2
BYL	**Byron's Ledge**	**0.69**	**82**				Pb	17 30 18.9	-2.2
BYL				IAML				17 30 38.6	
	comp=N,305nm,3.3s								
HATHI	**Halema'uma'u T**	**0.69**	**81**				Pb	17 30 18.8	-2.3
HATHI							Sb	17 30 27.1	-3.3
HATHI	**Halema'uma'u T**	**0.69**	**81**	IAML				17 30 34.0	
	comp=N,272nm,1.1s								
HATHI				IAML				17 30 39.9	
	comp=E,272nm,0.9s								
PUH	**Pauahi**	**0.73**	**85**				Pb	17 30 19.2	-2.5
PUH							Sb	17 30 27.9	-3.5
KNHH	**Kane Nui o Ham**	**0.77**	**85**				Pb	17 30 19.9	-2.6
STCH	**Steam Cracks**	**0.81**	**85**				Pb	17 30 20.3	-2.8
STCH							Sb	17 30 29.9	-3.9
STCH	**Steam Cracks**	**0.81**	**85**	IAML				17 30 30.4	
	comp=N,226nm,0.1s								
NPOC	**North of Pu'u**	**0.83**	**85**				Pb	17 30 20.6	-2.8
NPOC							Sb	17 30 30.4	-3.8
MHA	**Mahukona**	**0.87**	**5**	Pn			Pn	17 30 22.0	-1.9
JOKA	**Jonika Flow**	**0.93**	**83**				Pn	17 30 21.9	-2.9
JOKA							Sb	17 30 32.6	-4.5
JOKA	**Jonika Flow**	**0.93**	**83**	IAML				17 30 51.5	
	comp=N,245nm,1.2s								
HLK	**Haleakala**	**1.46**	**350**				Pn	17 30 29.8	-2.4
HLK							Sn	17 30 46.5	-4.0
KHLH	**Kahului Airpor**	**1.63**	**345**	Pn			Pn	17 30 32.8	-1.6

IDC 07 17:33:45.8±1.7,0.87N×127.30E,h0km,mb3.5/5, mbtmp3.6/5,Error ellipse: s-maj=160.7km s-min=21.5km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.81**	**162**	P		P	P	17 38 39.5	-0.3
	0.7nm,0.4s,baz=340,slow=11,SNR=23								
	0.7nm,0.4s								
ASAR	**Alice Springs**	**25.22**	**166**	P		P	P	17 39 14.1	+0.5
	0.5nm,0.4s,baz=344,slow=11,SNR=40								
	0.5nm,0.4s								
STKA	**Stephens Creek**	**35.28**	**159**	P		P	P	17 40 42.0	-0.5
	0.7nm,0.6s,baz=346,slow=12,SNR=1.5								
	0.7nm,0.6s								
MKAR	**Makanchi Array**	**60.22**	**326**	P		P	P	17 43 55.8	0.0
	0.2nm,0.4s,baz=109,slow=6.6,SNR=2.8								
	0.2nm,0.4s								
KURBB	**Kurchatov Arra**	**64.44**	**328**	P		P	P	17 44 23.9	-0.1
	0.5nm,0.9s,baz=132,slow=7.0,SNR=2.6								
	0.5nm,0.9s								

*IDC **07** 17:37:04.7±0.7,0.64N×126.53E,h0km,mb3.8/13, mbtmp3.8/14,ML3.7/1,Error ellipse: s-maj=35.2km s-min=14.2km az=75.0*

*DJA **07** 17:37:08.1±0.9,1.1°N±2.2°×12.6E±.°,h10km±7km,M3.8/2, MLv3.8/13,MLv3.8/2*

ISC 07 17:37:10.0±0.6,0.56N±0.07×126.21E±0.05,h35km,n22, σ1§46/26,mb3.9/13,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.18**	**80**	P		P	**Pn**	**17 37 29.6**	**-0.4**
TNTI				S		S	**Sn**	**17 37 48.9**	**+4.0**
KMSI	**Cibinong**	**2.23**	**270**	P		P	**Pn**	**17 37 44.1**	**-0.3**
KMSI				S		S	**Sn**	**17 38 11.8**	**+1.1**
SANI	**Sanana**	**2.60**	**185**	P		P	**Pn**	**17 37 48.7**	**-0.9**
SGSI	**Sangihe**	**3.18**	**348**	P		P	**Pn**	**17 37 57.8**	**+0.3**
LUWI	**Luwuk**	**3.79**	**245**	P		P	**Pn**	**17 38 05.7**	**-0.2**
NLAI	**Namlea**	**3.88**	**167**	P		P	**Pn**	**17 38 06.0**	**-1.2**
APSI	**Ampana**	**4.79**	**252**	P		P	**Pn**	**17 38 20.2**	**+0.5**
SWI	**Sorong**	**5.25**	**106**	P		P	**Pn**	**17 38 28.8**	**+2.8**
KAPI	**Kappang**	**8.50**	**229**	Pn		P	**Pn**	**17 39 13.1**	**+2.4**
	0.8nm,0.3s,baz=78,slow=9.5,SNR=1.4								
	4.2nm,0.3s								
WRA	**Warramunga Arr**	**21.88**	**159**	P		P	**P**	**17 41 58.9**	**-1.2**
	3.3nm,0.7s,baz=339,slow=11,SNR=34								
	3.3nm,0.7s								
ASAR	**Alice Springs**	**25.22**	**163**	P		P	**P**	**17 42 32.2**	**-0.5**
	2.3nm,0.7s,baz=347,slow=13,SNR=36								
ASAR				PcP		**PcP**	**PcP**	**17 46 06.2**	**+0.3**
	0.3nm,0.8s,baz=348,slow=2.1,SNR=1.2								
	2.3nm,0.7s								
STKA	**Stephens Creek**	**35.40**	**157**	P		P	**P**	**17 44 01.7**	**-1.0**
	2.0nm,0.7s,baz=332,slow=6.8,SNR=5.2								
	2.0nm,0.7s								
MJAR	**Matsushiro Arr**	**37.49**	**16**	P		P	**P**	**17 44 18.2**	**-2.3**
	1.2nm,0.9s,baz=171,slow=8.9,SNR=4.0								
	1.2nm,0.9s								
SONM	**Songino Array**	**50.13**	**343**	P		P	**P**	**17 46 02.3**	**+0.3**
	0.2nm,0.3s,baz=155,slow=7.9,SNR=2.0								
	0.2nm,0.3s								
PETK	**Petropavlovsk-**	**58.54**	**22**	P		P	**P**	**17 47 02.6**	**-0.4**
	1.0nm,0.6s,baz=221,slow=7.0,SNR=3.2								
	1.0nm,0.6s								
MKAR	**Makanchi Array**	**59.87**	**327**	P		P	**P**	**17 47 12.4**	**+0.1**
	0.5nm,0.3s,baz=116,slow=6.6,SNR=10								
MKAR				PcP		**PcP**	**PcP**	**17 47 59.2**	**+0.7**
	0.4nm,0.7s,baz=104,slow=4.8,SNR=1.5								
	0.5nm,0.3s								
ZALV	**Zalesovo Beam**	**63.17**	**334**	P		P	**P**	**17 47 35.3**	**+0.9**
	0.5nm,0.6s,baz=125,slow=7.1,SNR=1.9								
	0.5nm,0.6s								
KURBB	**Kurchatov Arra**	**64.13**	**328**	P		P	**P**	**17 47 41.6**	**+0.9**
	0.7nm,0.6s,baz=127,slow=6.3,SNR=8.9								
	0.7nm,0.6s								
BVAR	**Borovoye Array**	**69.69**	**328**	P		P	**P**	**17 48 17.2**	**+1.1**
	0.3nm,0.4s								
	0.3nm,0.4s								
VNDA	**Vanda**	**80.37**	**173**	P		P	**P**	**17 49 17.5**	**+0.2**
	0.4nm,0.7s,baz=128,slow=3.5,SNR=1.8								
	0.4nm,0.7s								
ILAR	**Eielson Array**	**88.17**	**25**	P		P	**P**	**17 49 55.4**	**-1.7**
	0.2nm,0.7s,baz=264,slow=4.8,SNR=1.9								
	0.2nm,0.7s								
QSPA	**South Pole Qui**	**90.49**	**180**	P		P	**P**	**17 50 09.1**	**+1.0**
	1.1nm,1.0s,baz=345,slow=2.3,SNR=5.1								
	1.1nm,1.0s								

*IDC **07** 17:39:28.0±1.3,0.59N×126.03E,h0km,mb4.0/6, mbtmp3.9/7,ML3.4/1,Error ellipse: s-maj=108.5km s-min=18.8km az=67.0*

*DJA **07** 17:39:30.6±0.3,0.7°N±3.4°×12.6E±.°,h10km,M3.4/2,MLv3.7/8, MLv3.4/2*

*NEIC **07** 17:39:33.1±1.4,0.63N±0.05×126.09E±0.05,h35km±2km, mb4.2/11,Error ellipse: s-maj=10.2km s-min=5.9km az=48.0*

ISC 07 17:39:33.8±0.7,0.45N±0.07×126.14E±0.04,h35km,n28, σ1§22/31,mb4.3/12,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.27**	**76**				**Pn**	**17 39 53.9**	**-1.2**
TNTI							**Sn**	**17 40 10.8**	**-0.1**
TNTI	**Ternate**	**1.27**	**76**	P		P	**Pn**	**17 39 53.7**	**-1.3**
TNTI				S		S	**Sn**	**17 40 12.2**	**+1.4**
KMSI	**Cibinong**	**2.16**	**273**	P		P	**Pn**	**17 40 07.2**	**-0.1**
KMSI				S		S	**Sn**	**17 40 34.7**	**+1.8**
SANI	**Sanana**	**2.49**	**183**	P		P	**Pn**	**17 40 09.8**	**-2.1**
SGSI	**Sangihe**	**3.27**	**349**	P		P	**Pn**	**17 40 22.4**	**-0.1**
LUWI	**Luwuk**	**3.68**	**246**	Pn		P	**Pn**	**17 40 27.6**	**-0.6**
LUWI	**Luwuk**	**3.68**	**246**	P		P	**Pn**	**17 40 27.1**	**-1.1**
TOLI2	**Tolitoli**	**5.40**	**277**	Pn		P	**Pn**	**17 40 50.1**	**-1.7**
FAKI	**Fak Fak**	**6.97**	**119**	Pn		P	**Pn**	**17 41 15.7**	**+2.3**
KNRA	**Kununurra**	**16.24**	**171**	P		P	**P**	**17 43 21.9**	**-0.2**
KNRA						IAmb	IAmb	17 43 25.1	
	comp=Z,6.8nm,0.8s								
FITZ	**Fitzroy Crossi**	**18.44**	**181**	P		P	**P**	**17 43 43.9**	**-2.5**
FITZ	**Fitzroy Crossi**	**18.44**	**181**	P		P	**P**	**17 43 46.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=16,slow=7.4,SNR=1.7								
	comp=Z,1.9nm,0.8s								
WB0	**Warramunga Arr**	**21.66**	**159**	P		P	**P**	**17 44 22.0**	**+0.5**
WRAB	**Tennant Creek**	**21.80**	**159**	P		P	**P**	**17 44 23.4**	**+0.5**
WRAB						IAmb	IAmb	17 44 28.5	
	comp=Z,11nm,0.8s								
WRA	**Warramunga Arr**	**21.81**	**159**	P		P	**P**	**17 44 22.8**	**-0.2**
WRA	**Warramunga Arr**	**21.81**	**159**	P		P	**P**	**17 44 23.3**	**+0.3**
	comp=Z,9.4nm,0.8s,baz=336,slow=12,SNR=18								
	comp=Z,9.4nm,0.8s								
WR8	**Warramunga Arr**	**21.88**	**158**	P		P	**P**	**17 44 23.8**	**0.0**
WR8						IAmb	IAmb	17 44 29.3	
	comp=Z,10nm,0.8s								
COEN	**Coen**	**22.13**	**131**	P		P	**P**	**17 44 26.6**	**0.0**
COEN						IAmb	IAmb	17 44 40.6	
	comp=Z,12nm,1.1s								
AS31	**Alice Springs**	**25.14**	**163**	P		P	**P**	**17 44 57.0**	**+1.2**

0.4nm,0.7s
ASAR Alice Springs 25.02 163 P P 17 50 28.6 +0.9
0.3nm,0.8s,baz=345,slow=12,SNR=2.7
0.3nm,0.8s
MKAR Makanchi Array 60.06 327 P P 17 55 10.6 -0.1
0.2nm,0.6s,baz=116,slow=5.3,SNR=2.0
0.2nm,0.6s

IDC 07 17:45:39.1±1.8, 1°02.5′N×123°19.6′E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=246.1km s-min=28.6km az=61.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.75**	**151**	P	P	17 50 33.8	+1.3
	0.7nm,1.0s,baz=328,slow=11,SNR=4.9						
	0.7nm,1.0s						
ASAR	**Alice Springs**	**24.80**	**156**	P	P	17 51 02.2	-0.9
	0.4nm,0.9s,baz=345,slow=9.8,SNR=2.9						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**59.57**	**329**	P	P	17 55 44.7	0.0
	0.1nm,0.4s,baz=118,slow=5.2,SNR=2.2						
	0.1nm,0.4s						

IDC 07 17:47:11.3±2.1, 0°65.N×126°59.E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=163.6km s-min=27.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.83**	**160**	P	P	17 52 04.7	-0.8
	1.0nm,0.4s,baz=338,slow=11,SNR=21						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**25.20**	**164**	P	P	17 52 39.4	+0.6
	0.5nm,0.5s,baz=347,slow=13,SNR=29						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**60.01**	**326**	P	P	17 57 19.7	-0.1
	0.1nm,0.4s,baz=126,slow=6.9,SNR=2.3						
	0.1nm,0.4s						

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*IDC **07** 17:57:07.8±1.7, 0°.68N×126°.50E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=176.1km s-min=21.5km az=66.0*
*DJA **07** 17:57:12.3±1.1, 0°N±3°×12°6E±°, h13km±8km, M4.0/1, MLv3.4/9, MLv4.0/1*
ISC 07 17:57:14.1±1.0, 0°.33N±0°.06×126°.19E±0°.06, h35km, n10, σ1°37/12, mb3.4/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.25**	**69**	P	**Pn**	**17 57 34.5**	**-0.7**
TNTI				S	**Sn**	**17 57 52.3**	**+1.5**
LBMI	**Labuha**	**1.62**	**126**	P	**Pn**	**17 57 39.9**	**-0.3**
LBMI				S	**Sn**	**17 58 01.6**	**+1.7**
KMSI	**Cibinong**	**2.23**	**276**	P	**Pn**	**17 57 49.3**	**+0.7**
SANI	**Sanana**	**2.37**	**185**	P	**Pn**	**17 57 50.9**	**+0.4**
SGSI	**Sangihe**	**3.40**	**349**	P	**Pn**	**17 58 06.1**	**+1.3**
LUWI	**Luwuk**	**3.68**	**248**	P	**Pn**	**17 58 08.3**	**-0.3**
WRA	**Warramunga Arr**	**21.67**	**159**	P	**P**	**18 02 02.4**	**+0.5**
	1.1nm,0.6s,baz=339,slow=11,SNR=13						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**25.00**	**163**	P	**P**	**18 02 35.9**	**+1.0**
	0.4nm,0.4s,baz=344,slow=11,SNR=52						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**60.06**	**327**	P	**P**	**18 07 15.3**	**-2.4**
	0.2nm,0.3s,baz=116,slow=8.3,SNR=6.7						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**64.32**	**329**	P	**P**	**18 07 44.9**	**-1.3**
	0.2nm,0.6s,baz=128,slow=6.6,SNR=4.1						
	0.2nm,0.6s						

IDC 07 18:02:02.8±1.7, 0°.43N×126°.21E, h0km, mb3.2/4, mbtmp3.2/4, Error ellipse: s-maj=155.1km s-min=23.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.76**	**159**	P	P	18 06 56.4	+0.2
	0.7nm,0.6s,baz=338,slow=11,SNR=12						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**25.10**	**163**	P	P	18 07 29.3	-0.1
	0.3nm,0.6s,baz=351,slow=15,SNR=13						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**59.97**	**327**	P	P	18 12 11.1	0.0
	0.1nm,0.5s,baz=128,slow=8.4,SNR=1.2						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**64.23**	**328**	P	P	18 12 39.5	-0.1
	0.1nm,0.6s,baz=123,slow=6.8,SNR=2.2						
	0.1nm,0.6s						

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*IDC **07** 18:04:12.7±1.6, 0°.78N×126°.87E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=163.4km s-min=19.3km az=66.0*
*DJA **07** 18:04:16.8±1.0, 0°N±2°×12°6E±°, h11km±7km, M3.2/2, MLv3.6/11, MLv3.2/2*
ISC 07 18:04:19.0±0.9, 0°.40N±0°.06×126°.16E±0°.05, h35km, n12, σ1°11/14, mb3.7/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.27**	**73**	P	**Pn**	**18 04 40.4**	**+0.1**
TNTI				S	**Sn**	**18 04 58.0**	**+1.9**
KMSI	**Cibinong**	**2.18**	**275**	P	**Pn**	**18 04 53.1**	**+0.2**
KMSI				S	**Sn**	**18 05 20.8**	**+2.1**
SANI	**Sanana**	**2.44**	**184**	P	**Pn**	**18 04 55.9**	**-0.5**
SGSI	**Sangihe**	**3.33**	**349**	P	**Pn**	**18 05 08.2**	**-0.4**
LUWI	**Luwuk**	**3.67**	**247**	P	**Pn**	**18 05 13.7**	**+0.3**
NLAI	**Namlea**	**3.73**	**165**	P	**Pn**	**18 05 13.9**	**-0.3**
AAI	**Ambon**	**4.54**	**153**	P	**Pn**	**18 05 26.5**	**+1.2**
WRA	**Warramunga Arr**	**21.75**	**159**	P	**P**	**18 09 06.5**	**-1.2**
	1.1nm,0.4s,baz=340,slow=11,SNR=21						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**25.08**	**163**	P	**P**	**18 09 41.0**	**+0.5**
	2.1nm,0.9s,baz=345,slow=12,SNR=26						
	2.1nm,0.9s						
STKA	**Stephens Creek**	**35.27**	**157**	P	**P**	**18 11 09.8**	**-0.8**
	1.5nm,0.6s,baz=333,slow=10,SNR=2.4						
	1.5nm,0.6s						
MKAR	**Makanchi Array**	**59.98**	**327**	P	**P**	**18 14 21.1**	**-0.9**
	0.2nm,0.3s,baz=120,slow=8.1,SNR=10						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**64.24**	**329**	P	**P**	**18 14 50.3**	**-0.2**
	0.3nm,0.4s,baz=117,slow=6.2,SNR=5.5						
	0.3nm,0.4s						

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*NEIC **07** 18:05:57.3±2.2, 35°.89N±0°.01×117°.68W±0°.02, h5km±2km, Error ellipse: s-maj=3.2km s-min=3.0km az=245.0*
PAS 07 18:05:57.7±0.9, 35°.93N±0°.01×117°.72W±0°.02, h2km±1km, ML3.0/25, ML2.9/70(NEIC), Error ellipse: s-maj=2.6km s-min=0.8km az=136.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.08**	**283**		Pg	18 05 59.7	+0.3
TOW	**Tower One**	**0.13**	**198**		Pg	18 06 00.7	+0.5
CLC	**China Lake**	**0.15**	**140**	Pg	Pg	18 06 00.7	+0.1
WRVM	**Rose V. Centra**	**0.16**	**299**		Pg	18 06 01.2	+0.3
WNMM	**Nine Mile Cany**	**0.18**	**240**		Pg	18 06 01.5	+0.3
MFS	**McCloud Flat S**	**0.22**	**329**		Pg	18 06 02.2	+0.3
MFS					Sg	18 06 05.8	+1.0
MPMC	**Manual Prospec**	**0.22**	**55**	Pg	Pg	18 06 02.3	+0.2
SRTC	**Snort**	**0.24**	**186**		Pg	18 06 02.9	+0.5
SRTC					Sg	18 06 07.5	+2.1
LRMC	**Laurel Mtn Rad**	**0.45**	**176**		Pg	18 06 06.3	-0.1
LRMC				IAML		18 06 13.2	
	comp=N,933nm,0.3s						
WORM	**Onyx Ranch**	**0.49**	**241**		Pg	18 06 07.1	0.0
CCCA	**Chr Cany lake**	**0.50**	**145**		Pg	18 06 07.7	+0.5
CCCA	**Chr Cany lake**	**0.50**	**145**	IAML		18 06 16.2	
	comp=E,2μm,0.8s						
CCCA				IAML		18 06 21.2	
	comp=N,2μm,0.7s						
CWC	**Cottonwood Cre**	**0.59**	**330**		Pg	18 06 09.6	+0.6
ISA	**Isabella, Lake**	**0.67**	**247**		Pg	18 06 10.6	0.0
ISA				IAML		18 06 20.7	
	comp=E,873nm,0.4s						
QSM	**Queen of Sheba**	**0.69**	**87**		Pg	18 06 11.0	0.0
QSM				IAML		18 06 21.9	
	comp=N,791nm,0.6s						
GWY	**Greenwater Val**	**0.89**	**73**		Pg	18 06 14.8	+0.1
GWY				IAML		18 06 30.1	
	comp=E,528nm,0.4s						
SPG2	**Springville 2**	**0.89**	**288**		Pg	18 06 14.3	-0.5
GSC	**Goldstone, Bar**	**0.97**	**130**		Pg	18 06 15.7	-0.6
GSC				IAML		18 06 32.2	
	comp=N,306nm,1.0s						
GSC				IAML		18 06 35.7	
	comp=E,514nm,0.8s						
GRAC	**Grapevine Rang**	**1.10**	**15**		Pg	18 06 18.4	-0.4
GRAC				IAML		18 06 37.7	
	comp=E,378nm,0.9s						
GRAC				IAML		18 06 41.9	
	comp=N,296nm,0.8s						
TPO	**Tropico Hills**	**1.13**	**202**		Pg	18 06 18.7	-0.7
TPO	**Tropico Hills**	**1.13**	**202**	IAML		18 06 37.2	
	comp=N,330nm,0.8s						
TPO				IAML		18 06 40.3	
	comp=E,364nm,0.7s						
WCT	**Wildcat Mounta**	**1.23**	**45**		Pg	18 06 20.9	-0.5
WCT	**Wildcat Mounta**	**1.23**	**45**	IAML		18 06 39.9	
	comp=E,239nm,0.5s						
WCT				IAML		18 06 40.6	
	comp=N,140nm,0.6s						
VOG	**Valley Oaks Go**	**1.40**	**287**		Pn	18 06 23.9	-0.4
GMN	**Gold Mountain**	**1.42**	**15**		Pn	18 06 24.2	-0.6
GMN				IAML		18 06 47.2	
	comp=N,102nm,0.5s						
GMN				IAML		18 06 47.7	
	comp=E,140nm,0.5s						
DSP	**Deep Springs**	**1.45**	**352**		Pn	18 06 24.6	-0.5
BHPR	**Bishop**	**1.50**	**336**		Pg	18 06 26.8	+0.3
TUQ	**Turquoise Moun**	**1.54**	**108**		Pn	18 06 25.0	-1.3
OSI	**Osito Audit: C**	**1.55**	**212**		Pn	18 06 25.4	-1.0
OSI				IAML		18 06 54.9	
	comp=E,108nm,0.7s						
OSI				IAML		18 06 58.2	
	comp=N,105nm,1.0s						
MWC	**Mount Wilson**	**1.73**	**189**		Pb	18 06 30.5	+0.2
MWC				IAML		18 06 55.3	
	comp=N,123nm,0.6s						
MWC				IAML		18 06 55.5	
	comp=E,120nm,0.5s						
MZP	**Montezuma Peak**	**1.79**	**9**		Pg	18 06 32.1	+0.1
PASC	**Pasadena Art C**	**1.80**	**192**		Pn	18 06 28.1	-1.7
FULC	**Fullerton**	**2.06**	**185**		Pn	18 06 30.9	-2.5
TPH	**Tonopah**	**2.18**	**10**	Pg	Pg	18 06 39.2	-0.2
ELS	**Elsinore Mount**	**2.29**	**174**		Pn	18 06 35.7	-0.9
ELS				IAML		18 07 12.9	
	comp=N,35nm,0.9s						
ELS				IAML		18 07 19.5	
	comp=E,36nm,1.4s						
NV11	**Mina Array Sit**	**2.52**	**352**		Pg	18 06 45.1	-0.9
PMD	**Palm Desert**	**2.53**	**154**		Pb	18 06 44.7	+0.8
PMD				IAML		18 07 19.9	
	comp=N,29nm,0.7s						
PMD				IAML		18 07 21.7	
	comp=E,35nm,1.0s						
NVAR	**Mina Array Bea**	**2.54**	**350**		Pb	18 06 45.0	+0.9
GATR	**Gnd/Air Tx Cnt**	**2.66**	**240**		Pb	18 06 45.6	-0.5
RYN	**Ryan**	**2.77**	**347**		Pg	18 06 50.3	-0.5
WAKR	**Walker**	**2.91**	**332**		Pg	18 06 52.4	-1.2
GLA	**Glamis**	**3.73**	**139**	IAML		18 08 02.2	
	comp=N,28nm,0.6s						
PAHR	**Pah Rah Range**	**3.99**	**341**	IAML		18 09 32.5	
	comp=E,12nm,0.3s						
PAHR				IAML		18 09 32.5	
	comp=N,12nm,0.4s						
PSUT	**Pine Spring**	**4.03**	**49**	IAML		18 08 12.9	
	comp=E,18nm,0.7s						
PSUT				IAML		18 08 25.0	
	comp=N,13nm,1.2s						
SPR3	**Spring Creek 3**	**4.08**	**40**	IAML		18 08 07.3	
	comp=E,18nm,0.9s						
SPR3				IAML		18 08 08.5	
	comp=N,18nm,0.8s						
Y14A	**Wickenburg**	**4.35**	**116**	IAML		18 08 24.2	
	comp=E,14nm,0.7s						
Y14A				IAML		18 08 30.2	
	comp=N,13nm,1.1s						
ELK	**Elko**	**5.19**	**21**	IAML		18 10 34.4	
	comp=N,5.1nm,0.4s						
ELK				IAML		18 10 35.3	
	comp=N,6.0nm,0.3s						

IDC 07 18:07:18.1±1.7, 0°.36N×125°.89E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=175.7km s-min=23.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.81**	**158**	P	P	18 12 11.7	-0.4
	0.9nm,0.6s,baz=337,slow=11,SNR=5.6						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**25.12**	**162**	P	P	18 12 45.2	+0.3
	0.7nm,0.8s,baz=340,slow=11,SNR=6.7						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**59.86**	**327**	P	P	18 17 25.6	0.0
	0.2nm,0.6s,baz=134,slow=7.1,SNR=2.4						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**64.13**	**329**	P	P	18 17 54.2	0.0
	0.2nm,0.6s,baz=132,slow=6.2,SNR=2.9						
	0.2nm,0.6s						

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*NEIC **07** 18:08:17.6±0.7, 37°.466N±0°.008×118°.74W±0°.02, h9km±6km, Error ellipse: s-maj=3.5km s-min=3.0km az=275.0*
*REN **07** 18:08:18.0±0.8, 37°.49N±0°.02×118°.74W±0°.02, h9km±6km, Error ellipse: s-maj=2.8km s-min=2.2km az=58.0*
NCEDC 07 18:08:17.8±0.7, 37°.48N±0°.02×118°.75W±0°.03, h11km±6km, ML3.0/20, ML2.9/10(REN), ML2.8/34(NEIC), Error ellipse: s-maj=3.0km s-min=2.7km az=95.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCVM	**Convict Lake**	**0.12**	**329**		Pg	18 08 21.1	+0.1
MCVM					Sg	18 08 23.4	0.0
MLAC	**Mammoth, Mammo**	**0.16**	**335**		Pg	18 08 21.8	+0.3
MDRNC	**Doe Ridge**	**0.17**	**336**		Pg	18 08 22.0	+0.3
MLCM	**Laurel Creek C**	**0.18**	**314**		Pg	18 08 22.0	+0.1
MGPM	**Gravel Pit**	**0.19**	**320**		Pg	18 08 22.2	+0.2
MTUM	**Tungsten Hills**	**0.20**	**131**		Pg	18 08 22.2	+0.1
MCBM	**Casa Benchmark**	**0.20**	**324**		Pg	18 08 22.5	+0.3
MCBM					Sg	18 08 25.9	+0.7
MLHM	**Little Hot Cre**	**0.20**	**345**		Pg	18 08 22.6	+0.4
MCSM	**Casa Diablo Ho**	**0.21**	**324**		Pg	18 08 22.7	+0.3
MEMM	**East Mammoth H**	**0.24**	**320**		Pg	18 08 23.1	+0.2
MCDM	**Chidago Canyon**	**0.25**	**75**		Pg	18 08 23.4	+0.3
MMLB	**Mammoth Lakes**	**0.25**	**314**		Pg	18 08 23.4	+0.2
MMPM	**Mammoth Pass**	**0.25**	**300**		Pg	18 08 23.1	0.0
MFBM	**Five Bridges**	**0.26**	**102**		Pg	18 08 23.7	+0.5
MLIM	**Lincoln Peak**	**0.26**	**306**		Pg	18 08 23.5	+0.2
MRCM	**Red Rock Canyo**	**0.27**	**45**		Pg	18 08 23.5	+0.1
MRDM	**Red Cones**	**0.27**	**295**		Pg	18 08 23.5	0.0
BENR	**Benton**	**0.27**	**31**		Pg	18 08 23.4	0.0
MDYM	**Dry Creek**	**0.27**	**310**		Pg	18 08 23.7	+0.3
MDYM	**Dry Creek**	**0.27**	**310**		Sg	18 08 27.8	+0.5
BHPR	**Bishop**	**0.28**	**131**		Pg	18 08 23.7	+0.1
LMCR	**Lookout Mounta**	**0.29**	**327**		Pg	18 08 24.3	+0.5
MINS	**Minaret Summit**	**0.30**	**305**		Pg	18 08 23.9	0.0
MDCM	**Deadman Creek**	**0.32**	**314**		Pg	18 08 24.4	0.0
MGNR	**McGee Canyon**	**0.33**	**7**		Pg	18 08 24.8	+0.3
MLNR	**Milner Canyon**	**0.34**	**71**		Pg	18 08 24.8	+0.1
BCKR	**Birch Creek**	**0.37**	**55**		Pg	18 08 25.4	+0.2
POCCA	**Poleta Canyon**	**0.39**	**108**		Pg	18 08 25.6	0.0
ANTCA	**Antelope Range**	**0.46**	**19**		Pg	18 08 26.8	0.0
KCC	**Kaiser Creek**	**0.48**	**251**		Pg	18 08 26.9	-0.3
TIN	**Tinemaha, Big**	**0.60**	**136**		Pg	18 08 29.4	0.0
TIN	**Tinemaha, Big**	**0.60**	**136**		Sg	18 08 37.9	+0.6
DSP	**Deep Springs**	**0.63**	**100**		Pg	18 08 29.8	-0.2
DSP					Sg	18 08 38.3	0.0
LHV	**Little Huntoon**	**0.79**	**14**		Pg	18 08 33.0	-0.1
LHV	**Little Huntoon**	**0.79**	**14**	IAML		18 08 44.9	
	comp=E,434nm,0.4s						
LHV				IAML		18 08 46.4	
	comp=N,389nm,0.4s						
MMIM	**Miami Mountain**	**0.79**	**266**		Pg	18 08 32.6	-0.5
FRI	**Friant**	**0.91**	**238**		Pg	18 08 34.5	-0.7
LCH	**Last Change Ra**	**0.92**	**106**		Pg	18 08 35.0	-0.4
NV08	**Mina Array Sit**	**0.98**	**20**		Pg	18 08 36.4	-0.2
MHDM	**Hidden Dam**	**0.98**	**248**		Pg	18 08 36.0	-0.7
NV09	**Mina Array Sit**	**1.00**	**19**		Pg	18 08 36.9	-0.2
NVAR	**Mina Array Bea**	**1.01**	**20**		Pg	18 08 37.1	-0.1
NV11	**Mina Array Sit**	**1.06**	**26**		Pg	18 08 37.6	-0.6
NV11	**Mina Array Sit**	**1.06**	**26**	IAML		18 08 52.9	
	comp=E,109nm,0.9s						
KARE	**Kearney REC, C**	**1.07**	**215**		Pb	18 08 37.4	-0.9
MZP	**Montezuma Peak**	**1.11**	**78**		Pg	18 08 38.5	-0.6
BUCR	**Buckhorn Ranch**	**1.13**	**280**	IAML		18 08 53.8	
	comp=N,218nm,0.4s						
BUCR				IAML		18 08 54.0	
	comp=E,129nm,0.4s						
LEGD	**La Grand CA**	**1.15**	**257**		Pb	18 08 38.9	-0.7
WAKR	**Walker**	**1.15**	**332**		Pb	18 08 39.6	-0.3
RYN	**Ryan**	**1.16**	**9**		Pb	18 08 39.7	-0.2
RYN	**Ryan**	**1.16**	**9**	IAML		18 08 55.9	
	comp=E,301nm,0.3s						
CWC	**Cottonwood Cre**	**1.17**	**153**		Pb	18 08 39.4	-0.8
CWC	**Cottonwood Cre**	**1.17**	**153**	IAML		18 08 54.9	
	comp=E,219nm,0.1s						
CWC				IAML		18 08 55.2	
	comp=N,248nm,0.2s						
CGO	**Cerro Gordo**	**1.20**	**141**		Pb	18 08 39.9	-0.9
GMN	**Gold Mountain**	**1.20**	**98**		Pb	18 08 40.4	-0.3
GMN	**Gold Mountain**	**1.20**	**98**	IAML		18 09 02.7	
	comp=N,98nm,0.6s						
GRAC	**Grapevine Rang**	**1.21**	**113**		Pb	18 08 40.7	0.0
GRAC				Pn	Pg	18 08 41.0	0.0
GRAC				IAML		18 09 03.7	
	comp=E,252nm,0.3s						
SPG2	**Springville 2**	**1.28**	**181**		Pn	18 08 41.1	-0.6
TPH	**Tonopah**	**1.35**	**64**	Pn	Pn	18 08 42.5	-0.3
TPH				IAML		18 09 04.3	
	comp=E,180nm,0.6s						
TPH				IAML		18 09 08.6	
	comp=N,207nm,0.6s						
CMB	**Columbia Colle**	**1.41**	**293**		Pn	18 08 43.0	-0.5
CMB				IAML		18 09 02.2	
	comp=N,152nm,0.2s						
CMB				IAML		18 09 02.5	
	comp=E,136nm,0.1s						
WSRE	**Westside REC,**	**1.59**	**224**		Pb	18 08 47.1	0.0
Q09A	**Carvers**	**1.83**	**42**		Pb	18 08 51.8	+0.4
ISA	**Isabella, Lake**	**1.83**	**173**		Pb	18 08 51.0	-0.3
ISA	**Isabella, Lake**	**1.83**	**173**	IAML		18 09 15.0	
	comp=E,119nm,0.3s						
ISA				IAML		18 09 15.5	
	comp=N,133nm,0.2s						
WCT	**Wildcat Mounta**	**1.83**	**111**	Pn	Pg	18 08 52.5	-0.4
WCT				IAML		18 09 17.1	
	comp=E,50nm,0.3s						
WCT				IAML		18 09 18.0	
	comp=N,64nm,0.6s						
PSMM	**Smith Mountain**	**2.05**	**227**		Pn	18 08 53.6	+1.3
MTOS	**Mt Oso, Westle**	**2.05**	**271**		Pg	18 08 54.0	-1.1
MPK	**Martis Peak**	**2.07**	**331**	Pg	Pg	18 08 57.3	-0.1
GHS	**Gilroy Hot Spr**	**2.19**	**261**		Pb	18 08 56.3	-1.4
CSTL	**Corral Hollow**	**2.19**	**275**		Pb	18 08 56.5	-1.0
SAO	**San Andreas Ge**	**2.27**	**252**	Pg	Pg	18 09 00.7	-0.6
PAHR	**Pah Rah Range**	**2.27**	**348**	Pg	Pg	18 09 00.6	-0.8
R11B	**Troy Canyon, C**	**2.65**	**70**	Pg	Pb	18 09 05.8	+0.5

IDC 07 18:10:08.9±2.3, 0°.50N×126°.02E, h0km, mb3.4/3, mbtmp3.4/3, MS4.3/1, Error ellipse: s-maj=235.4km s-min=26.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.89**	**159**	P	P	18 15 02.7	-1.0
	0.4nm,0.4s,baz=336,slow=10,SNR=8.8						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**25.21**	**163**	P	P	18 15 37.3	+0.7
	0.6nm,0.5s,baz=347,slow=13,SNR=21						
	0.6nm,0.5s						
PETK	**Petropavlovsk-**	**58.68**	**22**	LR	LR	18 45 24.4	
	comp=Z,231nm,19.8s,baz=197,slow=36						
MKAR	**Makanchi Array**	**59.82**	**327**	P	P	18 20 16.0	-0.1
	0.2nm,0.4s,baz=116,slow=7.5,SNR=4.8						
	0.2nm,0.4s						

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*IDC **07** 18:10:25.5±1.5, 0°.36N×125°.82E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=173.5km s-min=20.6km az=64.0*
*DJA **07** 18:10:29.1±1.0, 0°N±3°×12°6E±°, h15km±8km, M3.4/1, MLv3.7/9, MLv3.4/1*
ISC 07 18:10:30.7±0.9, 0°.48N±0°.08×126°.17E±0°.05, h35km, n11, σ1°06/13, mb4.0/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.23**	**76**	P	**Pn**	**18 10 51.3**	**-0.2**
TNTI				S	**Sn**	**18 11 08.4**	**+1.5**
KMSI	**Cibinong**	**2.19**	**273**	P	**Pn**	**18 11 04.5**	**-0.2**
KMSI				S	**Sn**	**18 11 32.6**	**+2.0**
SANI	**Sanana**	**2.51**	**184**	P	**Pn**	**18 11 08.8**	**-0.3**
LUWI	**Luwuk**	**3.72**	**246**	P	**Pn**	**18 11 24.8**	**-0.9**
NLAI	**Namlea**	**3.80**	**166**	P	**Pn**	**18 11 27.9**	**+1.0**
MRSI	**Marisa**	**4.23**	**270**	P	**Pn**	**18 11 33.2**	**+0.5**
WRA	**Warramunga Arr**	**21.81**	**159**	P	**P**	**18 15 18.9**	**-1.1**
	3.4nm,0.6s,baz=336,slow=12,SNR=19						
	3.4nm,0.6s						
ASAR	**Alice Springs**	**25.15**	**163**	P	**P**	**18 15 53.5**	**+0.7**
	2.1nm,0.7s,baz=343,slow=11,SNR=16						
	2.1nm,0.7s						
STKA	**Stephens Creek**	**35.34**	**157**	P	**P**	**18 17 22.2**	**-0.6**
	2.2nm,0.8s,baz=317,slow=10.0,SNR=3.6						
	2.2nm,0.8s						
MKAR	**Makanchi Array**	**59.92**	**327**	P	**P**	**18 20 32.9**	**-0.4**
	0.3nm,0.4s,baz=123,slow=8.1,SNR=4.9						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**64.18**	**328**	P	**P**	**18 21 01.2**	**-0.6**
	0.4nm,0.3s,baz=125,slow=6.1,SNR=1.2						
	0.4nm,0.3s						

IDC 07 18:13:45.0±1.8, 0°.26N×125°.53E, h0km, mb3.0/4, mbtmp3.1/4, Error ellipse: s-maj=194.6km s-min=24.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.85**	**157**	P	P	18 18 38.5	-0.9
	0.3nm,0.5s,baz=335,slow=11,SNR=5.1						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**25.13**	**162**	P	P	18 19 12.7	+0.7
	0.1nm,0.4s,baz=345,slow=11,SNR=5.3						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**59.75**	**327**	P	P	18 23 52.2	+0.3
	0.1nm,0.5s,baz=126,slow=7.3,SNR=2.0						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**

2.7nm,0.7s,baz=5.2,slow=5.6,SNR=5.3
USRK Ussuriysk Ar. 17.38 339 P **P** **18 17 59.7 +1.0**
2.2nm,0.7s,baz=162,slow=9.4,SNR=5.3
KLR Kul'dur 22.08 345 P **P** **18 18 44.6 +2.0**
0.6nm,0.4s,baz=238,slow=8.6,SNR=2.4
0.6nm,0.4s
MKAR Makanchi Array 48.56 309 P **P** **18 22 23.5 +0.1**
0.3nm,0.6s,baz=98,slow=7.4,SNR=2.4
0.3nm,0.6s
KURBB Kurchatov Arra 51.16 314 P **P** **18 22 42.0 -0.4**
0.8nm,0.4s,baz=92,slow=8.4,SNR=8.1
0.8nm,0.4s
BVAR Borovoye Array 56.18 317 P **P** **18 23 18.4 +0.2**
1.7nm,0.4s
1.7nm,0.4s
SPITS Spitsbergen Ar 69.07 349 P **P** **18 24 42.7 +1.1**
0.7nm,0.4s,baz=60,slow=5.7,SNR=2.3
0.7nm,0.4s
FINES FINESS Array B 76.30 333 P **P** **18 25 24.6 +1.0**
0.7nm,0.3s,baz=74,slow=4.6,SNR=11
0.7nm,0.3s
HFS Hagfors 81.83 336 P **P** **18 25 54.0 +0.8**
0.4nm,0.3s,baz=46,slow=4.2,SNR=6.7
0.4nm,0.3s

IDC 07 18:16:42.5±1.8, 0.57N×126.83E, h0km, mb3.2/4, mbtmp3.2/4, Error ellipse: s-maj=166.2km s-min=23.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.68**	**161**	P	P	18 21 34.8	-0.2
	0.3nm,0.4s,baz=339,slow=11,SNR=9.5						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**25.06**	**165**	P	P	18 22 08.9	+0.2
	0.2nm,0.5s,baz=347,slow=12,SNR=14						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**60.20**	**326**	P	P	18 26 52.3	-0.1
	0.2nm,0.5s,baz=109,slow=8.4,SNR=2.2						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**64.44**	**328**	P	P	18 27 20.8	+0.1
	0.1nm,0.5s,baz=129,slow=6.3,SNR=2.1						
	0.1nm,0.5s						

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*IDC **07** 18:17:20.2±0.4, 0.48N×126.01E, h0km, mb4.2/22, mbtmp4.2/23, ML3.9/1, Error ellipse: s-maj=23.0km s-min=8.7km az=74.0*
*DJA **07** 18:17:24.6±0.8, 0.7N±2.2×12.6E±.1°, h11km±6km, M4.4/2, MLv4.3/12, MLv4.4/2*
*NEIC **07** 18:17:25.6±1.9, 0.6N±0.1×126.3E±0.1, h35km±2km, mb4.6/37, Error ellipse: s-maj=20.4km s-min=16.7km az=246.0*

ISC 07 18:17:26.6±1.0, 0.54N±0.05×126.15E±0.05, h40km±9km, n89, σ1966/86, mb4.5/48, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.24**	**79**	P	Pn	18 17 47.1	-0.4
TNTI	**Ternate**	**1.24**	**79**	P	Pn	18 17 47.2	-0.3
TNTI				S	Sn	18 18 06.3	+3.2
KMSI	**Cibinong**	**2.17**	**271**	P	Pn	18 17 59.4	-0.8
KMSI				S	Sn	18 18 27.3	+1.5
SANI	**Sanana**	**2.58**	**184**	P	Pn	18 18 03.6	-2.2
SANI	**Sanana**	**2.58**	**184**	P	Pn	18 18 03.9	-1.9
SANI				S	Sn	18 18 36.2	+0.3
SGSI	**Sangihe**	**3.19**	**349**	P	Pn	18 18 15.5	+1.2
LUWI	**Luwuk**	**3.72**	**245**		Pn	18 18 22.4	+0.8
LUWI	**Luwuk**	**3.72**	**245**	P	Pn	18 18 23.9	+2.3
LUWI	**Luwuk**	**3.72**	**245**	P	Pn	18 18 22.4	+0.8
NLAI	**Namlea**	**3.87**	**166**	P	Pn	18 18 22.7	-1.0
MRSI	**Marisa**	**4.21**	**269**	P	Pn	18 18 27.6	-0.7
APSI	**Ampana**	**4.72**	**252**	P	Pn	18 18 35.8	+0.4
TOLI2	**Tolitoli**	**5.39**	**276**		Pn	18 18 45.1	+0.5
TOLI2	**Tolitoli**	**5.39**	**276**	P	Pn	18 18 49.4	+4.8
KAPI	**Kappang**	**8.44**	**229**	Pn	Pn	18 19 28.1	+1.7
	4.3nm,0.3s,baz=88,slow=3.7,SNR=7.4						
KAPI	**Kappang**	**8.44**	**229**	P	Pn	18 19 29.0	+2.6
MYLDM	**Lahad Datu**	**8.92**	**301**		Pn	18 19 34.2	+1.2
MYLDM	**Lahad Datu**	**8.92**	**301**	P	Pn	18 19 38.1	+5.1
BATI	**Baumata**	**10.96**	**193**	Pn	Pn	18 20 03.1	+2.1
	1.0nm,0.3s,baz=257,slow=20,SNR=1.3						
SBUM	**Sibu**	**14.05**	**278**		P	18 20 51.2	+1.0
KSM	**Kuching**	**15.86**	**273**		P	18 21 11.7	+1.2
KSM				IAmb	IAmb	18 21 11.7	
	comp=Z,57nm,0.9s						
KSM	**Kuching**	**15.86**	**273**	P	P	18 21 10.9	+0.5
FITZ	**Fitzroy Crossi**	**18.53**	**182**	P	P	18 21 36.9	-2.9
	comp=Z,0.3nm,0.3s,baz=12,slow=5.4,SNR=9.4						
	comp=Z,3.1nm,0.7s						
WB0	**Warramunga Arr**	**21.74**	**159**		P	18 22 12.9	-1.8
WRA	**Warramunga Arr**	**21.88**	**159**	P	P	18 22 13.1	-3.2
WRA	**Warramunga Arr**	**21.88**	**159**	P	P	18 22 14.3	-2.0
	comp=Z,6.5nm,0.6s,baz=336,slow=11,SNR=39						
WRA				S	S	18 26 16.4	+0.4
	comp=Z,1.1nm,1.0s,baz=330,slow=19,SNR=4.6						
	comp=Z,6.5nm,0.6s						
WR8	**Warramunga Arr**	**21.95**	**159**		P	18 22 14.8	-2.2
WR8				IAmb	IAmb	18 22 22.0	
	comp=Z,17nm,0.8s						
GUMO	**Guam**	**22.62**	**54**	P	P	18 22 24.4	+0.2
	comp=Z,8.2nm,0.4s,baz=148,slow=13,SNR=1.9						
	comp=Z,8.2nm,0.4s						
AS31	**Alice Springs**	**25.21**	**163**		P	18 22 48.0	-0.8
ASAR	**Alice Springs**	**25.21**	**163**	P	P	18 22 48.3	-0.5
	comp=Z,3.3nm,0.5s,baz=349,slow=15,SNR=66						
ASAR				PcP	PcP	18 26 21.9	+0.1
	comp=Z,0.5nm,0.6s,baz=334,slow=2.3,SNR=4.3						
ASAR				S	S	18 27 17.2	+5.5
	comp=Z,1.1nm,0.9s,baz=351,slow=23,SNR=5.7						
ASAR				ScP	ScP	18 30 02.6	+4.6
	comp=Z,0.4nm,1.0s,baz=345,slow=3.0,SNR=1.9						
	comp=Z,3.3nm,0.5s						
FORT	**Forrest**	**31.20**	**177**	P	P	18 23 41.2	-1.0
NJ2	**Nanjing**	**32.09**	**348**	*e*P	P	18 23 51.7	+1.7
NJ2				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**32.10**	**305**	P	P	18 23 48.7	-1.6
	comp=Z,0.6nm,0.8s,baz=151,slow=7.4,SNR=6.5						
CMAR				PcP	PcP	18 26 39.5	+0.4
	comp=Z,1.1nm,0.8s,baz=114,slow=2.8,SNR=8.9						
	comp=Z,0.6nm,0.8s						
PZH	**PanZhiHua**	**34.90**	**320**	P	P	18 24 17.2	+2.5
STKA	**Stephens Creek**	**35.40**	**157**	P	P	18 24 18.4	-0.3
	comp=Z,3.0nm,0.7s,baz=355,slow=6.6,SNR=9.4						
	comp=Z,3.0nm,0.7s						
KSRS	**Korea Array**	**36.77**	**2**	P	P	18 24 29.6	-0.8
	comp=Z,1.2nm,0.8s,baz=185,slow=9.8,SNR=4.4						
	comp=Z,1.2nm,0.8s						
MJAR	**Matsushiro Arr**	**37.53**	**16**	P	P	18 24 36.0	-0.9
	comp=Z,1.6nm,0.7s,baz=184,slow=9.3,SNR=12						
	comp=Z,1.6nm,0.7s						
LZH	**Lanzhou**	**40.99**	**332**	*e*P	P	18 25 04.4	-1.6
LZH				sP	pP	18 25 17.1	+0.3
LZH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**42.25**	**343**	*e*P	P	18 25 18.3	+2.1
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,210nm,5.1s						
USRK	**Ussuriysk Ar.**	**43.78**	**6**	P	P	18 25 28.6	+0.2
	comp=Z,3.5nm,0.8s,baz=162,slow=7.4,SNR=6.5						
	comp=Z,3.5nm,0.8s						
MDJ	**Mudanjiang**	**44.00**	**4**	P	P	18 25 31.2	+1.1
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BNX	**BinXian**	**45.03**	**1**	⇑P	P	18 25 39.2	+0.9
BNX				pmax	pmax		
	comp=Z,2.0nm,0.4s						
GTA	**Gaotai**	**45.56**	**331**	*e*P	P	18 25 42.8	0.0
GTA				PcP	PcP	18 27 22.1	+1.2
GTA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAJ	**Asahikawa**	**45.80**	**17**	P	P	18 25 45.1	+0.7
	comp=Z,4.2nm,0.6s,baz=217,slow=9.9,SNR=10.0						
	comp=Z,4.2nm,0.6s						
HEH	**HeiHe**	**49.54**	**1**	*e*P	P	18 26 13.6	+0.3
HEH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SONM	**Songino Array**	**50.13**	**343**	P	P	18 26 17.8	-0.3
	comp=Z,2.3nm,0.8s,baz=159,slow=7.6,SNR=9.5						
SONM				PcP	PcP	18 27 37.0	-0.2
	comp=Z,1.3nm,0.7s,baz=166,slow=3.7,SNR=4.8						
	comp=Z,2.3nm,0.8s						
WMQ	**Urumqi**	**55.02**	**327**	*e*P	P	18 26 57.7	+3.4
WMQ				pmax	pmax		
	comp=Z,11nm,0.8s						
WMQ				LR	LR		
	comp=Z,530nm,23.8s						
PETK	**Petropavlovsk-**	**58.59**	**22**	P	P	18 27 19.9	+0.6
	comp=Z,2.3nm,0.6s,baz=192,slow=5.1,SNR=15						
PETK				PcP	PcP	18 28 10.6	+1.4
	comp=Z,1.7nm,0.9s,baz=216,slow=7.5,SNR=1.8						
	comp=Z,2.3nm,0.6s						
MKAR	**Makanchi Array**	**59.85**	**327**		P	18 27 27.1	-1.1
MKAR	**Makanchi Array**	**59.85**	**327**	P	P	18 27 27.4	-0.8
	comp=Z,2.6nm,0.5s,baz=120,slow=8.7,SNR=30						
MKAR				PcP	PcP	18 28 14.2	-0.3
	comp=Z,2.0nm,0.7s,baz=122,slow=4.5,SNR=6.0						
	comp=Z,2.6nm,0.5s						
MAKZ	**Makanchi**	**60.04**	**326**		P	18 27 27.8	-1.6
MAKZ				IAmb	IAmb	18 27 31.2	
	comp=Z,6.0nm,1.2s						
YAK	**Yakutsk**	**61.40**	**2**		P	18 27 37.0	-1.3
ZALV	**Zalesovo Beam**	**63.17**	**334**	P	P	18 27 49.5	-0.9
	comp=Z,1.1nm,0.6s,baz=163,slow=1.5,SNR=6.1						
	comp=Z,1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**64.12**	**328**	P	P	18 27 55.8	-0.9
	comp=Z,3.6nm,0.5s,baz=131,slow=6.3,SNR=51						
	comp=Z,3.6nm,0.5s						
KURK	**Kurchatov**	**64.12**	**329**		P	18 27 55.6	-1.1
BVAR	**Borovoye Array**	**69.68**	**328**	P	P	18 28 31.7	-0.4
	comp=Z,0.9nm,0.5s						
	comp=Z,0.9nm,0.5s						
BRVK	**Borovoye**	**69.75**	**328**	P	P	18 28 31.0	-1.5
BRVK				IAmb	IAmb	18 28 41.4	
	comp=Z,3.4nm,0.8s						
NRIK	**Noril'sk**	**73.38**	**347**	P	P	18 28 52.9	-1.1
	comp=Z,4.0nm,0.7s,baz=104,slow=4.7,SNR=4.0						
	comp=Z,4.0nm,0.7s						
ABKAR	**Akbulak array**	**74.25**	**321**		P	18 28 58.1	-1.4
ABKAR	**Akbulak array**	**74.25**	**321**	IAmb	IAmb	18 29 01.7	
	comp=Z,2.7nm,0.7s						
ARTI	**Arti**	**77.39**	**328**		P	18 29 16.2	-1.1
SDPT	**Sand Point**	**80.15**	**34**		P	18 29 32.1	-0.4
VNDA	**Vanda**	**80.36**	**173**	P	P	18 29 33.0	-0.2
	comp=Z,0.8nm,0.5s,baz=307,slow=6.1,SNR=5.5						
	comp=Z,0.8nm,0.5s						
M14K	**Bethel**	**80.75**	**28**	IAmb	IAmb	18 29 38.8	
	comp=Z,6.0nm,0.7s						
RAYN	**Ar Rayn**	**81.20**	**294**		P	18 29 38.0	-0.9
RAYN				IAmb	IAmb	18 29 41.3	
	comp=Z,5.8nm,0.9s						
J16K	**Anvik River**	**82.04**	**26**	IAmb	IAmb	18 29 46.7	
	comp=Z,4.4nm,0.8s						
E18K	**Tukpahlearik C**	**83.11**	**22**		P	18 29 49.1	+1.1
C18K	**Utukok River**	**83.23**	**21**	IAmb	IAmb	18 29 51.8	
	comp=Z,4.9nm,0.8s						
L18K	**Granite Mounta**	**83.55**	**27**	IAmb	IAmb	18 29 54.2	
	comp=Z,5.2nm,0.8s						
C19K	**Lookout Ridge**	**83.92**	**20**	P	P	18 29 54.0	+1.9
D19K	**Kuna River**	**84.29**	**21**	IAmb	IAmb	18 29 58.1	
	comp=Z,2.8nm,0.8s						
E19K	**Redstone River**	**84.39**	**22**	IAmb	IAmb	18 29 57.6	
	comp=Z,2.6nm,0.9s						
KBZ	**Khabaz**	**84.74**	**314**	P	P	18 29 56.1	-0.6
	comp=Z,3.4nm,0.9s,baz=219,slow=3.3,SNR=5.8						
	comp=Z,3.4nm,0.9s						
D20K	**Etlvluk River**	**84.88**	**21**	IAmb	IAmb	18 29 59.8	
	comp=Z,3.8nm,0.7s						
SUA	**Susitna One**	**86.23**	**29**	IAmb	IAmb	18 30 19.0	
	comp=Z,2.5nm,0.8s						
COLD	**Coldfoot**	**87.04**	**23**	P	P	18 30 08.4	+0.8
COLD				IAmb	IAmb	18 30 09.2	
	comp=Z,1.7nm,0.6s						
E23K	**Chandalar**	**87.34**	**22**	IAmb	IAmb	18 30 27.0	
	comp=Z,6.6nm,1.4s						
ILAR	**Eielson Array**	**88.22**	**25**	P	P	18 30 12.2	-1.1
	comp=Z,0.5nm,0.8s,baz=234,slow=5.0,SNR=5.7						
	comp=Z,0.5nm,0.8s						
E25K	**Arctic Village**	**88.86**	**22**	IAmb	IAmb	18 30 19.4	
	comp=Z,1.8nm,0.8s						
J26L	**Joseph Creek**	**89.64**	**26**	IAmb	IAmb	18 30 21.7	
	comp=Z,1.6nm,0.7s						
K27K	**Chicken**	**90.30**	**26**	IAmb	IAmb	18 30 26.5	
	comp=Z,2.6nm,0.9s						
L27K	**Beaver Creek,**	**90.45**	**27**	IAmb	IAmb	18 31 03.0	
	comp=Z,4.6nm,1.4s						
QSPA	**South Pole Qui**	**90.47**	**180**	P	P	18 30 23.8	-0.2
	comp=Z,1.3nm,0.6s,baz=266,slow=0.7,SNR=13						
	comp=Z,1.3nm,0.6s						
BRTR	**Keskin Array B**	**91.59**	**310**	P	P	18 30 28.6	-1.3
	comp=Z,0.7nm,0.7s,baz=126,slow=6.3,SNR=3.8						
	comp=Z,0.7nm,0.7s						
ARCES	**ARCESS Array B**	**93.22**	**340**	P	P	18 30 35.5	-1.0
	comp=Z,1.1nm,0.7s,baz=45,slow=5.7,SNR=4.7						
	comp=Z,1.1nm,0.7s						
STHS	**Stebnicka Huta**	**99.26**	**320**	*e*PDIFF	Pdif	18 31 05.5	+1.1
STHS				*e*PP	PP	18 35 04.0	-3.3
KHC	**Kasperske Hory**	**104.18**	**321**	*e*P	Pdif	18 31 30.0	+3.7
TORD	**Torodi Ar. Bea**	**123.29**	**286**	PKP	PKPdf	18 36 19.6	-0.7
	comp=Z,1.0nm,0.3s,baz=49,slow=3.3,SNR=1.8						
TXAR	**Lajitas Array**	**123.98**	**54**	PKP	PKPdf	18 36 21.3	-0.1
	comp=Z,0.5nm,0.8s,baz=205,slow=0.6,SNR=6.5						

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*NEIC **07** 18:19:19.3±1.3, 35.883N±0.009×117.71W±0.02, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.1km az=268.0*

PAS 07 18:19:20.0±1.1, 35.89N±0.01×117.73W±0.02, h4km±4km, ML3.3/21, ML2.9/72(NEIC), Error ellipse: s-maj=2.2km s-min=1.9km az=133.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**199**		Pg	18 19 22.3	+0.6
WVPM	**Volcano Peak E**	**0.09**	**312**		Pg	18 19 22.2	+0.2
CLC	**China Lake**	**0.13**	**123**	Pg	Pg	18 19 22.6	-0.1
CLC				IAML		18 19 25.0	
	comp=N,4μm,0.5s						
CLC				IAML		18 19 25.1	
	comp=E,4μm,0.4s						
WNMM	**Nine Mile Cany**	**0.15**	**252**		Pg	18 19 23.1	+0.2
WNMM					Sg	18 19 25.6	+0.7
WRVM	**Rose V. Centra**	**0.18**	**313**		Pg	18 19 23.5	+0.1
SRTC	**Snort**	**0.20**	**184**		Pg	18 19 24.2	+0.4
SRTC					Sg	18 19 28.0	+1.7
MFS	**McCloud Flat S**	**0.25**	**336**		Pg	18 19 24.9	0.0
MFS					Sg	18 19 28.6	+0.4
MPMC	**Manual Prospec**	**0.26**	**49**		Pg	18 19 25.1	0.0
MPMC				IAML		18 19 29.0	
	comp=E,3μm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.41**	**174**		Pg	18 19 27.7	-0.2
LRMC				IAML		18 19 34.5	
	comp=N,2μm,0.2s						
WORM	**Onyx Ranch**	**0.46**	**245**		Pg	18 19 28.5	-0.3
CWC	**Cottonwood Cre**	**0.62**	**333**		Pg	18 19 31.7	-0.2
CWC				IAML		18 19 40.2	
	comp=E,827nm,0.3s						
CWC				IAML		18 19 40.9	
	comp=N,839nm,0.2s						
ISA	**Isabella, Lake**	**0.64**	**250**		Pg	18 19 32.0	-0.4
QSM	**Queen of Sheba**	**0.70**	**83**		Pg	18 19 32.9	-0.6
QSM				IAML		18 19 46.4	
	comp=E,718nm,0.5s						
QSM				IAML		18 19 47.9	
	comp=N,734nm,0.8s						
CCAC	**Calif City Air**	**0.77**	**198**		Pg	18 19 34.2	-0.5
FURC	**Furnace Creek,**	**0.91**	**50**		Sg	18 19 49.6	+0.4
GWY	**Greenwater Val**	**0.91**	**71**		Pg	18 19 37.2	-0.3
GWY				IAML		18 19 52.5	
	comp=E,522nm,0.6s						
GWY				IAML		18 19 54.8	
	comp=N,418nm,0.5s						
GSC	**Goldstone, Bar**	**0.95**	**128**		Pg	18 19 37.4	-0.8
GSC				IAML		18 19 53.0	
	comp=E,379nm,0.5s						
GSC				IAML		18 19 53.2	
	comp=N,271nm,0.5s						
TPO	**Tropico Hills**	**1.08**	**202**	IAML		18 20 02.0	
	comp=E,319nm,0.6s						
GRAC	**Grapevine Rang**	**1.15**	**15**		Pg	18 19 41.2	-0.7
GRAC				IAML		18 20 00.1	
	comp=E,275nm,0.4s						
GRAC				IAML		18 20 01.3	
	comp=N,248nm,0.7s						
WCT	**Wildcat Mounta**	**1.27**	**44**		Pg	18 19 43.2	-1.2
WCT				IAML		18 20 01.6	
	comp=N,188nm,0.4s						
WCT				IAML		18 20 01.8	
	comp=E,250nm,0.6s						
VOG	**Valley Oaks Go**	**1.41**	**288**		Pn	18 19 45.8	-0.5
GMN	**Gold Mountain**	**1.46**	**15**		Pn	18 19 46.3	-1.0
GMN				IAML		18 19 54.3	
	comp=N,96nm,0.5s						
DSP	**Deep Springs**	**1.49**	**353**		Pn	18 19 46.6	-0.8
OSI	**Osito Audit: C**	**1.51**	**213**		Pn	18 19 47.2	-0.6
OSI				IAML		18 20 14.5	
	comp=N,129nm,0.7s						
OSI				IAML		18 20 17.5	
	comp=E,104nm,0.6s						
TUQ	**Turquoise Moun**	**1.54**	**107**		Pn	18 19 46.5	-1.7
TPNV	**Topopah Spring**	**1.60**	**48**		Pn	18 19 48.1	-1.0
TPNV				IAML		18 20 13.7	
	comp=E,142nm,0.7s						
TPNV				IAML		18 20 14.3	
	comp=E,196nm,0.4s						
MTUM	**Tungsten Hills**	**1.61**	**336**		Pb	18 19 49.8	-0.5
MWC	**Mount Wilson**	**1.68**	**189**		Pn	18 19 49.1	-1.2
MWC				IAML		18 20 16.5	
	comp=E,154nm,0.4s						
KCC	**Kaiser Creek**	**1.92**	**319**		Pb	18 19 54.9	-0.6
SHPR	**Sheep Range**	**2.17**	**73**		Pn	18 19 55.5	-1.4
ELS	**Elsinore Mount**	**2.25**	**174**		Pn	18 19 57.3	-0.6
ELS				IAML		18 20 33.3	
	comp=E,56nm,0.3s						
TPC	**Twentynine Pal**	**2.25**	**142**		Pn	18 19 56.7	-1.2
V12A	**Nelson**	**2.35**	**93**		Pn	18 19 57.8	-1.5
V12A				IAML		18 20 38.4	
	comp=E,51nm,0.5s						
LHV	**Little Huntoon**	**2.44**	**346**		Pn	18 19 59.3	-1.2
LHV				IAML		18 20 42.3	
	comp=E,35nm,1.4s						
PMD	**Palm Desert**	**2.50**	**153**		Pn	18 20 00.8	-0.5
PMD				IAML		18 20 41.5	
	comp=E,38nm,0.9s						
DPD	**Davis Peak**	**2.57**	**256**		Pn	18 20 00.2	-2.1
NVAR	**Mina Array Bea**	**2.58**	**350**		Pb	18 20 07.7	+0.8
MYLM	**Yosemite Lake**	**2.63**	**305**		Pb	18 20 06.4	-1.1
PRN	**Pahroc Range**	**2.63**	**54**		Pb	18 20 09.1	+1.3
PRN				IAML		18 20 50.0	
	comp=N,51nm,0.9s						
PRN				IAML		18 20 50.3	
	comp=E,64nm,1.0s						
RYN	**Ryan**	**2.81**	**347**		Pg	18 20 13.3	-0.4
WAKR	**Walker**	**2.95**	**333**		Pb	18 20 14.0	+0.9
WAKR				IAML		18 20 54.4	
	comp=E,25nm,0.5s						
R11B	**Troy Canyon, C**	**3.00**	**34**		Pb	18 20 15.1	+1.1
CMB	**Columbia Colle**	**3.02**	**316**	IAML		18 20 57.5	
	comp=E,30nm,0.6s						
CMB				IAML		18 21 02.2	
	comp=N,32nm,0.6s						
W13A	**Hualapai Mount**	**3.23**	**103**		Pn	18 20 10.1	-1.6
GLA	**Glamis**	**3.71**	**139**	Pg	Pg	18 20 30.4	-0.7
PAHR	**Pah Rah Range**	**4.03**	**342**		Pg	18 20 35.7	-1.5
PSUT	**Pine Spring**	**4.07**	**48**	Pg	Pg	18 20 37.7	-0.2
BEKR	**Beckworth**	**4.48**	**333**	Pg	Pg	18 20 42.7	-3.2

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*IDC **07** 18:27:50.9±1.7, 0.41N×125.82E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=169.4km s-min=22.6km az=65.0*
*DJA **07** 18:27:54.3±1.1, 1.1°N±3.3×12.6E±.1°, h16km±9km, M2.9/1, MLv3.4/11, MLv2.9/1*

ISC 07 18:27:56.7±1.0, 0.50N±0.07×126.09E±0.05, h44km, n10, σ0888/12, mb3.4/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.31**	**78**	P	Pn	18 28 18.2	-0.4
TNTI				S	Sn	18 28 36.2	+1.4
KMSI	**Cibinong**	**2.11**	**272**	P	Pn	18 28 28.9	-0.6
KMSI				S	Sn	18 28 55.9	+1.4
SANI	**Sanana**	**2.54**	**182**	P	Pn	18 28 34.9	-0.5
SGSI	**Sangihe**	**3.21**	**350**	P	Pn	18 28 44.0	-0.8
LUWI	**Luwuk**	**3.65**	**245**	P	Pn	18 28 50.6	-0.2
MRSI	**Marisa**	**4.15**	**270**	P	Pn	18 28 57.3	-0.3
WRA	**Warramunga Arr**	**21.87**	**159**	P	P	18 32 44.8	-1.2
	2.5nm,0.8s,baz=336,slow=11,SNR=12						
	2.5nm,0.8s						
ASAR	**Alice Springs**	**25.20**	**163**	P	P	18 33 19.0	+0.5
	0.7nm,0.8s,baz=345,slow=12,SNR=20						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**59.85**	**327**	P	P	18 37 57.6	-0.3
	0.2nm,0.5s,baz=124,slow=7.9,SNR=3.5						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**64.12**	**329**	P	P	18 38 26.7	+0.3
	0.1nm,0.5s,baz=130,slow=6.6,SNR=1.9						
	0.1nm,0.5s						

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*SNET **07** 18:31:40.1±2.5, 12.65N×88.62W, h14km, ML3.5*
*CATAC **07** 18:31:41.0±0.5, 13.3N±3.9×8.9W±.1°, h35km±7km, M3.5/18, MLv3.5/18, Error ellipse: s-maj=8.1km s-min=3.1km az=34.7, confirmed*

ISC 07 18:31:40.0±1.8, 12.65N±0.07×88.60W±0.05, h24km±14km, n39, σ0839/52, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.68**	**2**	*e*P	Pn	18 31 54.9	+0.7
ALJI				*e*S	Sn	18 32 05.0	+1.1
ALJI	**Alcalda de J**	**0.68**	**2**	P	Pn	18 31 54.1	-0.1
LCY	**Lacayo**	**0.83**	**21**	*e*P	Pn	18 31 56.5	+0.2
TECA	**Tecapa**	**0.85**	**6**	*e*P	Pb	18 31 56.5	+0.2
TECA				*e*P	Pb	18 31 56.5	+0.2
TECA				*e*S	Sn	18 32 08.1	-0.3
TECA				*e*S	Sn	18 32 08.2	+1.3
PACA	**Pacayal**	**0.86**	**18**	S	Sn	18 32 08.9	+0.2
PACA	**Pacayal**	**0.86**	**18**	P	Pn	18 31 57.1	+0.3
BLLM	**Bellamira**	**0.86**	**24**	*e*P	Pb	18 31 56.8	+0.4
TECO	**Alcaldia de Te**	**0.90**	**349**	P	Pb	18 31 56.9	-0.2
TECO	**Alcaldia de Te**	**0.90**	**349**	S	Sb	18 32 08.5	-0.3
CNRM	**Centro Naciona**	**0.92**	**27**	S	Sn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.52**	**256**	*eP*	**Pn**	**18 32 18.5**	**+0.3**
TIPB	**Shuangxi**	**0.67**	**256**	*i* P	**Pn**	**18 32 18.9**	**0.0**
TIPB				S	**Sn**	**18 32 38.9**	**0.0**
EOS2	**EOS2**	**0.77**	**202**	*eP*	**Pn**	**18 32 20.9**	**+1.5**
EOS2				*eS*	**Sn**	**18 32 40.8**	**+1.2**
JYNG	**Yonagunijimaku**	**0.77**	**152**	*eP*	**Pn**	**18 32 19.2**	**-0.3**
YOJ	**Yonaguni jima**	**0.79**	**148**	P	**Pn**	**18 32 19.6**	**0.0**
YOJ				*eS*	**Sn**	**18 32 40.8**	**+0.7**
EOS3	**EOS3**	**0.87**	**194**	*eP*	**Pn**	**18 32 20.5**	**+0.6**
EOS3				*eS*	**Sn**	**18 32 41.6**	**+1.0**
YM01	**YM01**	**0.88**	**271**	P	**Pn**	**18 32 20.6**	**+0.4**
YM01				*eS*	**Sn**	**18 32 43.1**	**+2.0**
TWE	**Neicheng**	**0.90**	**243**	P	**Pn**	**18 32 19.9**	**-0.4**
TWE				*eS*	**Sn**	**18 32 41.6**	**+0.4**
NDS	**Dongshan**	**0.90**	**237**	P	**Pn**	**18 32 20.7**	**+0.3**
NDS				S	**Sn**	**18 32 41.1**	**-0.2**
FUSB	**Fushanzhiwuyua**	**0.94**	**247**	*eP*	**Pn**	**18 32 19.5**	**-1.2**
FUSB				*eS*	**Sn**	**18 32 42.4**	**+0.4**
EWUT	**Wuta**	**0.98**	**226**	P	**Pn**	**18 32 20.4**	**-0.4**
EWUT				*eS*	**Sn**	**18 32 41.5**	**-0.7**
ENTT	**Nioudou**	**1.01**	**241**	*eP*	**Pn**	**18 32 20.3**	**-0.9**
ENTT				S	**Sn**	**18 32 43.0**	**+0.2**
LATG	**Datong**	**1.10**	**238**	P	**Pn**	**18 32 22.3**	**+0.4**
LATG				*eS*	**Sn**	**18 32 44.6**	**+0.5**
YHNB	**Yeheng**	**1.16**	**247**	P	**Pn**	**18 32 22.1**	**-0.2**
YHNB				*eS*	**Sn**	**18 32 43.5**	**-1.4**
NSK	**Sanguang**	**1.17**	**247**	*eP*	**Pn**	**18 32 23.6**	**+1.2**
NSK				*eS*	**Sn**	**18 32 43.6**	**-1.4**
NNSB	**Datong**	**1.27**	**237**	P	**Pn**	**18 32 23.3**	**+0.1**
NNSB				S	**Sn**	**18 32 43.0**	**-0.8**
NNS	**Nan Shan**	**1.27**	**237**	*i* P	**Pn**	**18 32 23.1**	**-0.2**
NNS				*eS*	**Sn**	**18 32 46.8**	**+0.1**
NACB	**Ninganchiao**	**1.29**	**222**	*i* P	**Pn**	**18 32 23.5**	**+0.2**
NACB				*eS*	**Sn**	**18 32 45.5**	**-1.2**
ETLH	**Xiulin Townshi**	**1.34**	**227**	P	**Pn**	**18 32 23.5**	**-0.4**
ETLH				*eS*	**Sn**	**18 32 46.2**	**-1.4**
IRIF	**Iriomote-Funau**	**1.34**	**126**	*eP*	**Pn**	**18 32 23.9**	**+0.1**
IRIF				*eS*	**Sn**	**18 32 46.8**	**-0.7**
TWD	**Chiawan**	**1.36**	**220**	P	**Pn**	**18 32 23.7**	**-0.2**
TWD				*eS*	**Sn**	**18 32 46.8**	**-1.0**
LIOB	**Emei**	**1.47**	**251**	P	**Pn**	**18 32 24.7**	**-0.2**
LIOB				S	**Sn**	**18 32 48.8**	**-0.8**
ETM	**Tongmen**	**1.51**	**220**	*eP*	**Pn**	**18 32 25.9**	**+0.7**
ETM				S	**Sn**	**18 32 48.8**	**-1.4**
LXIB	**Xiulin Townshi**	**1.51**	**223**	P	**Pn**	**18 32 25.1**	**-0.4**
LXIB				*eS*	**Sn**	**18 32 46.1**	**-4.5**
WHF	**Hehuan Shan**	**1.52**	**230**	P	**Pn**	**18 32 25.9**	**0.0**
WHF				*eS*	**Sn**	**18 32 51.4**	**+0.1**
HATJ	**Hateruma jima**	**1.57**	**133**	*eP*	**Pn**	**18 32 26.5**	**+0.6**
HATJ				*eS*	**Sn**	**18 32 51.8**	**+0.5**
JKRS	**Kuro-shima**	**1.60**	**123**	P	**Pn**	**18 32 26.7**	**+0.5**
JKRS				*eS*	**Sn**	**18 32 51.8**	**0.0**
SHUL	**Shoufeng**	**1.61**	**214**	P	**Pn**	**18 32 26.4**	**+0.1**
SHUL				S	**Sn**	**18 32 52.1**	**0.0**
JIJ	**Ishigaki jima**	**1.64**	**117**	P	**Pn**	**18 32 26.5**	**-0.1**
JIJ				*eS*	**Sn**	**18 32 51.5**	**-1.0**
ESL	**Shilin**	**1.66**	**218**	*eP*	**Pn**	**18 32 27.9**	**+1.1**
ESL				*eS*	**Sn**	**18 32 51.0**	**-1.9**
WHP	**Taichung City**	**1.69**	**240**	P	**Pn**	**18 32 27.0**	**-0.1**
WHP				S	**Sn**	**18 32 52.6**	**-0.9**
JISG	**Ishigakijimahi**	**1.69**	**108**	P	**Pn**	**18 32 27.0**	**-0.1**
JISG				*eS*	**Sn**	**18 32 52.2**	**-1.2**
OWD	**Renai**	**1.71**	**227**	P	**Pn**	**18 32 27.8**	**+0.3**
OWD				*eS*	**Sn**	**18 32 53.9**	**-0.2**
WUSB	**Renai**	**1.73**	**229**	*eP*	**Pn**	**18 32 28.6**	**+1.0**
WUSB				*eS*	**Sn**	**18 32 54.7**	**+0.4**
WARBT	**Fenglin Townsh**	**1.76**	**217**	*eP*	**Pn**	**18 32 26.9**	**-1.0**
WARBT				*eS*	**Sn**	**18 32 53.3**	**-1.4**
WCS	**Beigang Elemen**	**1.83**	**235**	*i* P	**Pn**	**18 32 28.7**	**+0.2**
WCS				*i* S	**Sn**	**18 32 55.3**	**-0.7**
DPDB	**Guoxing**	**1.83**	**234**	P	**Pn**	**18 32 29.1**	**+0.5**
DPDB				*eS*	**Sn**	**18 32 56.6**	**+0.4**
VWDT	**VWDT**	**1.88**	**223**	P	**Pn**	**18 32 29.7**	**+0.8**
VWDT				*eS*	**Sn**	**18 32 57.7**	**+0.9**
HGSD	**Ruisui**	**1.93**	**212**	*eP*	**Pn**	**18 32 30.6**	**+1.1**
HGSD				*eS*	**Sn**	**18 32 59.6**	**+1.8**
TYC	**Yuchr**	**1.96**	**232**	P	**Pn**	**18 32 30.2**	**+0.3**
TYC				*eS*	**Sn**	**18 32 58.6**	**+0.1**
SSLB	**Suanglung**	**1.97**	**228**	*i* P	**Pn**	**18 32 30.2**	**+0.2**
SSLB				*eS*	**Sn**	**18 32 58.5**	**-0.2**
JTJ	**Tarama**	**2.02**	**104**	*eP*	**Pn**	**18 32 30.8**	**+0.3**
JTJ				*eS*	**Sn**	**18 32 59.2**	**-0.3**
YULB	**Yu-li**	**2.07**	**214**	*eP*	**Pn**	**18 33 00.5**	**-1.1**
YULB				*eS*	**Sn**	**18 33 00.5**	**-0.2**
ALS	**Alishan**	**2.26**	**225**	*eP*	**Pn**	**18 32 34.3**	**+0.8**
ALS				*eS*	**Sn**	**18 33 06.0**	**+1.1**
CHN5	**Tsauling**	**2.29**	**228**	P	**Pn**	**18 32 33.9**	**+0.3**
CHN5				*eS*	**Sn**	**18 33 05.1**	**+0.1**
JIRB	**Irabujima**	**2.40**	**97**	*eS*	**Sn**	**18 33 06.3**	**-0.8**
EDH	**Donghe**	**2.43**	**208**	*eP*	**Pn**	**18 32 35.6**	**+0.5**
EDH				*eS*	**Sn**	**18 33 07.2**	**-0.6**
JMJ2	**Miyako jima3**	**2.56**	**98**	*eP*	**Pn**	**18 32 37.1**	**+0.6**

***IDC 07** 18:32:51.1±1.7, 0°.43N×126°.58E, h0km, mb3.3/4, mbtmp3.3/4, MS4.0/1, Error ellipse: s-maj=167.0km s-min=22.5km az=66.0, Northern Molucca Sea*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.62**	**160**	P	P	18 37 42.2	-0.9
	0.6nm,0.5s,baz=338,slow=11,SNR=6.4 0.6nm,0.5s						
GUMO	**Guam**	**22.34**	**53**	LR	LR	18 45 34.0	
	comp=Z,343nm,19.1s,baz=232,slow=34						
ASAR	**Alice Springs**	**24.98**	**164**	P	P	18 38 17.2	+0.5
	0.5nm,0.5s,baz=342,slow=9.8,SNR=16 0.5nm,0.5s						
MKAR	**Makanchi Array**	**60.19**	**326**	P	P	18 43 00.4	-0.6
	0.1nm,0.5s,baz=117,slow=7.2,SNR=4.2 0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**64.44**	**328**	P	P	18 43 29.8	+0.5
	0.2nm,0.6s,baz=128,slow=6.2,SNR=4.1 0.2nm,0.6s						

*IDC **07** 18:33:48.4±1.4, 0°.47N×125°.96E, h0km, mb3.7/5, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=114.8km s-min=19.5km az=67.0*
*DJA **07** 18:33:50.6±0.9, 0°N±2°×12°6E±°, h13km±6km, M3.5/1, MLv4.0/9, MLv3.5/1*

ISC 07 18:33:54.4±0.9, 0°.26N±0°.06×126°.04E±0°.05, h44km, n12, σ1°81/15, mb3.6/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.42**	**69**	P	**Pn**	**18 34 16.5**	**-1.2**
TNTI				S	**Sn**	**18 34 35.2**	**0.0**
KMSI	**Cibinong**	**2.09**	**279**	P	**Pn**	**18 34 26.1**	**-0.8**
KMSI				S	**Sn**	**18 34 52.4**	**+0.7**
SANI	**Sanana**	**2.29**	**181**	P	**Pn**	**18 34 27.7**	**-2.0**
SANI				S	**Sn**	**18 34 57.4**	**+0.7**
LUWI	**Luwuk**	**3.52**	**249**	P	**Pn**	**18 34 44.3**	**-2.2**
NLAI	**Namlea**	**3.63**	**163**	P	**Pn**	**18 34 45.1**	**-3.0**
MRSI	**Marisa**	**4.11**	**273**	P	**Pn**	**18 34 53.0**	**-1.7**
FITZ	**Fitzroy Crossi**	**18.24**	**181**	P	**Pn**	**18 38 06.0**	**+1.6**
	0.1nm,0.3s,baz=25,slow=12,SNR=2.1 2.3nm,1.0s						
WRA	**Warramunga Arr**	**21.66**	**158**	P	**P**	**18 38 42.6**	**+1.3**
	4.8nm,0.9s,baz=336,slow=12,SNR=8.8 4.8nm,0.9s						
ASAR	**Alice Springs**	**24.97**	**163**	P	**P**	**18 39 16.8**	**+2.7**
	1.3nm,0.6s,baz=345,slow=12,SNR=23 1.3nm,0.6s						
STKA	**Stephens Creek**	**35.19**	**157**	P	**P**	**18 40 45.4**	**+1.0**
	1.5nm,0.7s,baz=337,slow=10,SNR=3.1 1.5nm,0.7s						
MKAR	**Makanchi Array**	**60.03**	**327**	P	**P**	**18 43 56.0**	**-0.9**
	0.2nm,0.4s,baz=119,slow=8.3,SNR=5.4 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.30**	**329**	P	**P**	**18 44 23.8**	**-1.5**
	0.2nm,0.5s,baz=134,slow=6.2,SNR=4.4 0.2nm,0.5s						

*IDC **07** 18:35:04.1±0.5, 0°.36N×126°.25E, h0km, mb4.2/20, mbtmp4.2/22, ML4.0/2, Error ellipse: s-maj=24.7km s-min=10.1km az=78.0*
*DJA **07** 18:35:08.1±0.7, 0°N±2°×12°6E±°, h11km±5km, M4.2/1, MLv4.1/16, MLv4.2/1*
*NEIC **07** 18:35:10.0±1.7, 0°.4N±0°.1×126°.22E±0°.05, h35km±2km, mb4.6/24, Error ellipse: s-maj=19.7km s-min=3.9km az=155.0*

ISC 07 18:35:09.3±1.6, 0°.38N±0°.05×126°.24E±0°.04, h30km±12km, n71, σ1°25/82, mb4.5/37, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.19**	**71**		**Pn**	**18 35 29.7**	**-0.2**
TNTI				Sn	**Sn**	**18 35 45.3**	**+0.2**
TNTI	**Ternate**	**1.19**	**71**	P	**Pn**	**18 35 29.2**	**-0.7**
TNTI				S	**Sn**	**18 35 46.1**	**+1.0**
LBMI	**Labuha**	**1.61**	**129**	P	**Pb**	**18 35 38.0**	**-0.5**
LBMI				S	**Sb**	**18 35 59.5**	**+1.1**
KMSI	**Cibinong**	**2.27**	**275**	P	**Pn**	**18 35 44.7**	**-0.1**
KMSI				S	**Sn**	**18 36 13.4**	**+1.6**
SANI	**Sanana**	**2.42**	**186**	P	**Pn**	**18 35 48.3**	**+1.4**
SANI				S	**Sb**	**18 36 20.1**	**-1.7**
NLAI	**Namlea**	**3.69**	**167**	P	**Pn**	**18 36 06.4**	**+2.0**
LUWI	**Luwuk**	**3.75**	**248**	P	**Pn**	**18 36 05.7**	**+0.6**
MRSI	**Marisa**	**4.30**	**271**	P	**Pn**	**18 36 12.5**	**-0.3**
AAI	**Ambon**	**4.48**	**154**	P	**Pn**	**18 36 17.8**	**+2.5**
SWI	**Sorong**	**5.17**	**104**	P	**Pn**	**18 36 26.6**	**+2.0**
KDI	**Kendari**	**5.63**	**220**	P	**Pn**	**18 36 32.4**	**+1.4**
KAPI	**Kappang**	**8.41**	**230**	Pn	**Pn**	**18 37 08.4**	**-0.8**
	2.9nm,0.3s,baz=6.8,slow=13,SNR=9.5						
KAPI				Sn	**Sn**	**18 38 46.4**	**+3.1**
	0.3nm,0.3s,baz=256,slow=23,SNR=0.9 3.2nm,0.5s						
MTN	**Manton Dam**	**14.00**	**160**	P	**P**	**18 38 31.0**	**-2.3**
KSM	**Kuching**	**15.97**	**274**	P	**P**	**18 38 57.4**	**+2.2**
KSM				IAmb	IAmb	18 38 58.9	
	comp=Z,22nm,0.8s						
KNRA	**Kununurra**	**16.14**	**171**		**Pn**	**18 38 52.9**	**-1.3**
FITZ	**Fitzroy Crossi**	**18.37**	**182**	P	**P**	**18 39 21.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**18.37**	**182**	P	**P**	**18 39 20.9**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=18,slow=8.9,SNR=8.1 comp=Z,5.0nm,0.9s						
WB0	**Warramunga Arr**	**21.55**	**159**		**P**	**18 39 56.8**	**+0.3**
WB0				IAmb	IAmb	18 40 02.2	
	comp=Z,35nm,1.1s						
WRA	**Warramunga Arr**	**21.70**	**159**	P	**P**	**18 39 57.6**	**-0.4**
WRA	**Warramunga Arr**	**21.70**	**159**	P	**P**	**18 39 58.2**	**+0.3**
	comp=Z,9.9nm,0.6s,baz=335,slow=11,SNR=30						
WRA				S	**S**	**18 43 55.4**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=337,slow=11,SNR=2.9 comp=Z,9.9nm,0.6s						
WR8	**Warramunga Arr**	**21.77**	**159**		**P**	**18 39 59.3**	**+0.5**
WR8				IAmb	IAmb	18 40 04.7	
	comp=Z,20nm,0.8s						
AS31	**Alice Springs**	**25.03**	**163**		**P**	**18 40 29.7**	**-1.3**
ASAR	**Alice Springs**	**25.03**	**163**		**P**	**18 40 30.4**	**-0.6**
ASAR	**Alice Springs**	**25.03**	**163**	P	**P**	**18 40 31.8**	**+0.7**
	comp=Z,10nm,0.7s,baz=343,slow=11,SNR=39						
ASAR				PcP	**PcP**	**18 44 05.1**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=348,slow=2.7,SNR=2.3 comp=Z,10nm,0.7s						
FORT	**Forrest**	**31.03**	**177**		**P**	**18 41 23.9**	**-0.7**
FORT				IAmb	IAmb	18 41 29.8	
	comp=Z,8.4nm,0.7s						
NJ2	**Nanjing**	**32.27**	**348**	*eP*	**P**	**18 41 36.7**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,11nm,1.0s						
PZH	**PanZhiHua**	**35.09**	**320**	P	**P**	**18 42 01.3**	**+1.1**
STKA	**Stephens Creek**	**35.22**	**157**		**P**	**18 41 59.6**	**-1.5**
STKA	**Stephens Creek**	**35.22**	**157**	P	**P**	**18 42 00.6**	**-0.5**
	comp=Z,5.5nm,0.9s,baz=314,slow=9.2,SNR=8.8 comp=Z,5.5nm,0.9s						
JGF	**Kuroka**	**36.54**	**15**	P	**P**	**18 42 10.0**	**-2.4**
JGF				IAmb	IAmb	18 42 34.0	
	comp=Z,17nm,1.3s						
KSRS	**Korea Array**	**36.93**	**2**	P	**P**	**18 42 15.2**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=180,slow=10,SNR=4.2 comp=Z,0.9nm,0.6s						
HHC	**Hu-ho-hao-te**	**42.43**	**343**	*eP*	**P**	**18 43 04.7**	**+3.2**
HHC				pmax	pmax		
	comp=Z,15nm,0.5s						
HHC				pmax	pmax		
	comp=Z,120nm,4.8s						
USA0B	**Ussuriysk Arra**	**43.93**	**6**	P	**P**	**18 43 11.8**	**-1.6**
USA0B				IAmb	IAmb	18 43 53.0	
	comp=Z,5.3nm,0.8s						
USRK	**Ussuriysk Ar.**	**43.93**	**6**	P	**P**	**18 43 11.8**	**-1.7**
USRK	**Ussuriysk Ar.**	**43.93**	**6**	P	**P**	**18 43 12.4**	**-1.1**
	comp=Z,1.8nm,0.5s,baz=189,slow=8.2,SNR=4.7 comp=Z,1.8nm,0.5s						
MDJ	**Mudanjiang**	**44.15**	**3**	P	**P**	**18 43 16.6**	**+1.4**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BNX	**BinXian**	**45.18**	**1**	⇑P	**P**	**18 43 24.3**	**+0.9**
BNX				pmax	pmax		
	comp=Z,5.0nm,0.5s						
GTA	**Gaotai**	**45.74**	**331**	*eP*	**P**	**18 43 28.1**	**-0.1**
GTA				PcP	**PcP**	**18 45 07.2**	**+1.5**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAJ	**Asahikawa**	**45.92**	**16**	P	**P**	**18 43 29.5**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=41,slow=23,SNR=4.3 comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**50.32**	**343**	P	**P**	**18 44 03.1**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=162,slow=9.7,SNR=5.6 comp=Z,0.9nm,0.7s						
WMQ	**Urumqi**	**55.21**	**327**	*eP*	**P**	**18 44 40.7**	**+1.1**
WMQ				pP	pwP	18 44 52.6	+1.2
WMQ				PcP	**PcP**	**18 45 42.7**	**+2.3**
WMQ				pmax	pmax		
	comp=Z,30nm,0.7s						
PEA0B	**Petropavlovsk-**	**58.70**	**22**	P	**P**	**18 45 03.7**	**-0.3**
PETK	**Petropavlovsk-**	**58.70**	**22**	P	**P**	**18 45 03.9**	**-0.1**
PETK	**Petropavlovsk-**	**58.70**	**22**	P	**P**	**18 45 04.0**	**0.0**
	comp=Z,1.7nm,0.5s,baz=180,slow=4.5,SNR=13 comp=Z,1.7nm,0.5s						
MKAR	**Makanchi Array**	**60.04**	**327**		**P**	**18 45 12.6**	**-0.8**
MKAR	**Makanchi Array**	**60.04**	**327**	P	**P**	**18 45 12.8**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=120,slow=8.0,SNR=24						
MKAR				PcP	**PcP**	**18 45 59.0**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=120,slow=4.8,SNR=5.5 comp=Z,2.4nm,0.6s						
MAKZ	**Makanchi**	**60.22**	**326**		**P**	**18 45 13.8**	**-0.9**
MAKZ				IAmb	IAmb	18 45 17.9	
	comp=Z,3.2nm,0.8s						
YAK	**Yakutsk**	**61.55**	**2**	P	**P**	**18 45 22.8**	**-0.6**
	comp=Z,8.4nm,0.6s,baz=259,slow=2.0,SNR=6.1 comp=Z,8.4nm,0.6s						
ZALV	**Zalesovo Beam**	**63.35**	**334**	P	**P**	**18 45 33.9**	**-1.7**
	comp=Z,1.1nm,0.5s,baz=115,slow=7.0,SNR=5.3 comp=Z,1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**64.30**	**328**	P	**P**	**18 45 41.1**	**-0.8**
	comp=Z,2.2nm,0.6s,baz=125,slow=6.5,SNR=29 comp=Z,2.2nm,0.6s						
KURK	**Kurchatov**	**64.31**	**329**		**P**	**18 45 41.4**	**-0.6**
KURK				IAmb	IAmb	18 45 43.4	
	comp=Z,5.7nm,0.8s						
SEY	**Seymchan**	**65.39**	**13**	P	**P**	**18 45 48.4**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=284,slow=23,SNR=4.8 comp=Z,1.2nm,0.6s						
BVAR	**Borovoye Array**	**69.86**	**328**	P	**P**	**18 46 16.7**	**-0.6**
	comp=Z,0.6nm,0.4s comp=Z,0.6nm,0.4s						
BRVK	**Borovoye**	**69.94**	**328**	P	**P**	**18 46 15.9**	**-1.8**
AB31	**Akbulak array**	**74.44**	**321**		**P**	**18 46 44.6**	**0.0**
ABKAR	**Akbulak array**	**74.44**	**321**		**P**	**18 46 43.9**	**-0.8**
VNDA	**Vanda**	**80.19**	**171**	P	**P**	**18 47 14.9**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=308,slow=3.3,SNR=4.0 comp=Z,0.6nm,0.7s						
SDPT	**Sand Point**	**80.23**	**34**	P	**P**	**18 47 15.7**	**-1.3**
J17K	**VABM Dome**	**82.83**	**26**		**P**	**18 47 31.9**	**+1.3**
J17K				IAmb	IAmb	18 47 33.9	
	comp=Z,6.6nm,1.1s						
K17K	**Iditarod**	**83.02**	**27**		**P**	**18 47 33.3**	**+1.7**
C18K	**Utukok River**	**83.35**	**21**	P	**P**	**18 47 34.0**	**+0.7**
C18K				IAmb	IAmb	18 47 35.6	
	comp=Z,6.2nm,1.2s						
L18K	**Granite Mounta**	**83.65**	**27**	P	**P**	**18 47 36.3**	**+1.5**
L18K				IAmb	IAmb	18 47 38.4	
	comp=Z,5.6nm,0.8s						
D19K	**Kuna River**	**84.40**	**21**	P	**P**	**18 47 39.6**	**+1.0**
D19K				IAmb	IAmb	18 47 54.2	
	comp=Z,8.0nm,1.3s						
P19K	**Oil Pt**	**84.88**	**30**	P	**P**	**18 47 40.8**	**-0.3**
KBZ	**Khabaz**	**84.92**	**314**	P	**P**	**18 47 40.4**	**-1.3**
	comp=Z,2.5nm,0.8s,baz=107,slow=3.6,SNR=4.5 comp=Z,2.5nm,0.8s						
ILAR	**Eielson Array**	**88.32**	**25**	P	**P**	**18 47 56.8**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=250,slow=2.3,SNR=4.1 comp=Z,0.2nm,0.4s						
QSPA	**South Pole Qui**	**90.31**	**180**	P	**P**	**18 48 07.4**	**+0.1**
QSPA	**South Pole Qui**	**90.31**	**180**	P	**P**	**18 48 07.5**	**+0.2**
	comp=Z,1.5nm,1.0s,baz=44,slow=1.1,SNR=5.8 comp=Z,1.5nm,1.0s						
BRTR	**Keskin Array B**	**91.77**	**310**	P	**P**	**18 48 14.5**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=138,slow=6.7,SNR=3.8 comp=Z,0.4nm,0.7s						
ARCES	**ARCESS Array B**	**93.41**	**340**	P	**P**	**18 48 21.3**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=352,slow=5.3,SNR=3.7 comp=Z,2.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**123.43**	**286**	PKP	**PKPdf**	**18 54 04.2**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=90,slow=2.0,SNR=1.3						

*IDC **07** 18:37:56.8±1.9, 56°.23N×164°.18E, h0km, mb3.2/3, mbtmp3.2/4, ML2.1/1, Error ellipse: s-maj=183.5km s-min=25.2km az=144.0*
*KRSC **07** 18:37:57.3±1.0, 55°.93N×164°.04E, h15km±16km, Ml3.7*

ISC 07 18:37:56.0±1.7, 56°.10N±0°.06×164°.21E±0°.05, h1km±12km, n40, σ1°49/45, mb3.3/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.78**	**278**	*eP*	**Pg**	**18 38 10.9**	**-0.1**
KBTR				*eS*	**Sg**	**18 38 21.6**	**+0.5**
KBG	**Krutoberegovo**	**0.85**	**281**	*eP*	**Pg**	**18 38 11.8**	**-0.5**
KBG				*eS*	**Sg**	**18 38 22.9**	**-0.5**
BKI	**Bering**	**1.35**	**131**	*eP*	**Pn**	**18 38 21.2**	**-0.6**
BKI				*eS*	**Sb**	**18 38 39.0**	**-0.6**
SMKR	**Semkarok**	**1.60**	**289**	*eP*	**Pn**	**18 38 24.5**	**-0.9**
BDR	**Baidarnaya**	**1.73**	**287**	*eS*	**Sn**	**18 38 49.2**	**-0.8**
ZLN	**Zelenaya**	**1.91**	**269**	*eP*	**Pn**	**18 38 29.8**	**+0.1**
CIRR	**Tsirk**	**1.94**	**272**	*eP*	**Pn**	**18 38 30.1**	**0.0**
CIRR				*eS*	**Sn**	**18 38 54.8**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**1.98**	**267**	*eP*	**Pn**	**18 38 30.8**	**+0.2**
KLY	**Klyuchi**	**2.00**	**278**	*eP*	**Pn**	**18 38 28.8**	**-2.0**
KLY				*eS*	**Sn**	**18 38 52.8**	**-3.5**
BZWR	**Bezymyannyi-We**	**2.09**	**268**	*eP*	**Pn**	**18 38 32.4**	**+0.2**
BZMR	**Bezymyannaya**	**2.09**	**267**	*eP*	**Pn**	**18 38 32.5**	**+0.3**
MKZ	**Mys Kozlova**	**2.10**	**223**	*eP*	**Pn**	**18 38 31.1**	**-1.1**
MKZ				*eS*	**Sn**	**18 38 55.8**	**-3.1**
KIRR	**Kirishev**	**2.17**	**268**	*eP*	**Pn**	**18 38 33.8**	**+0.5**
KPT	**Kopyto**	**2.24**	**268**	*eP*	**Pn**	**18 38 34.8**	**+0.6**
KMNR	**Kamenistaya**	**2.26**	**263**	*eP*	**Pn**	**18 38 35.5**	**+1.0**
TUMD	**Tumrok D**	**2.34**	**249**	*eP*	**Pn**	**18 38 35.8**	**+0.3**
TUMD				*eS*	**Sn**	**18 39 03.8**	**-1.0**
SRDR	**Sredinnyy**	**2.52**	**277**	*eP*	**Pn**	**18 38 38.5**	**+0.5**
ESO	**Esso**	**3.10**	**269**	*eP*	**Pn**	**18 38 46.5**	**+0.6**
SPN	**Mys Shipunski**	**3.87**	**221**	*eP*	**Pn**	**18 38 55.7**	**-0.9**
NLC	**Nalychevo**	**4.08**	**226**	*eS*	**Sn**	**18 39 44.3**	**-3.2**
SDLR	**Sedlovina**	**4.19**	**230**	*eP*	**Pn**	**18 39 01.3**	**+0.2**
KRER	**Koryakskii**	**4.23**	**231**	*eP*	**Pn**	**18 39 03.7**	**+2.1**
SMAR	**Somma**	**4.24**	**230**	*eP*	**Pn**	**18 39 02.3**	**+0.6**
AVH	**Avacha**	**4.26**	**230**	*eP*	**Pn**	**18 39 03.5**	**+1.5**
UGLR	**Uglovaya**	**4.26**	**229**	*eP*	**Pn**	**18 39 02.6**	**+0.5**
KOK	**Koryaka**	**4.29**	**231**	*eP*	**Pn**	**18 39 03.4**	**+1.1**
GNL	**Ganaly**	**4.35**	**239**	*eP*	**Pn**	**18 39 04.5**	**+1.3**
DALK	**Dalny**	**4.42**	**228**	*eP*	**Pn**	**18 39 04.3**	**+0.3**
PET	**Petropavlovsk**	**4.47**	**229**	*eS*	**Sn**	**18 39 54.8**	**-2.5**
KRMR	**Karymshinskiy**	**4.83**	**230**	*eP*	**Pn**	**18 39 11.0**	**+1.3**
PETK	**Petropavlovsk-**	**4.83**	**234**	Pn	**Pn**	**18 39 11.4**	**+1.7**
	0.4nm,0.3s,baz=78,slow=16,SNR=8.2						
PETK				Sn	**Sn**	**18 40 10.4**	**+4.3**
	1.4nm,0.3s,baz=80,slow=18,SNR=11 1.2nm,0.5s						
GRL	**Gorelyy**	**5.05**	**228**	*eP*	**Pn**	**18 39 14.5**	**+1.7**
MTVR	**Mutnovka**	**5.06**	**227**	*eP*	**Pn**	**18 39 14.0**	**+1.0**
ASAK	**Asacha**	**5.25**	**227**	*eP*	**Pn**	**18 39 17.1**	**+1.6**
ILAR	**Eielson Array**	**25.01**	**50**	P	**P**	**18 43 21.2**	**+0.3**
	0

H11S3 WAKE ISLAND Hy 30.82 159 T T 19 23 43.1
baz=344,slow=76,SNR=104
H11S2 WAKE ISLAND Hy 30.83 159 T T 19 23 46.3
baz=344,slow=76,SNR=51
MKAR Makanchi Array 47.72 297 P **P** **18 53 00.7 -3.6**
0.1nm,0.6s,baz=64,slow=6.6,SNR=1.8
0.1nm,0.6s
KURBB Kurchatov Arra 48.04 303 P **P** **18 53 04.2 -2.4**
0.3nm,0.6s,baz=68,slow=8.3,SNR=4.3
0.3nm,0.6s

IDC 07 18:48:48.2±1.6,0.78N×126.69E,h0km,mb3.7/5,
mbtmp3.7/5,Error ellipse: s-maj=175.8km
s-min=19.5km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.92**	**160**	P	P	18 53 42.4	-1.0
	1.5nm,0.7s,baz=339,slow=11,SNR=13						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**25.29**	**164**	P	P	18 54 17.3	+0.7
	1.3nm,0.7s,baz=344,slow=11,SNR=17						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**59.95**	**326**	P	P	18 58 56.4	0.0
	0.4nm,0.4s,baz=125,slow=8.4,SNR=9.2						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.20**	**328**	P	P	18 59 24.4	-0.4
	0.5nm,0.3s,baz=128,slow=5.7,SNR=6.8						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**69.76**	**328**	P	P	19 00 00.5	+0.3
	0.2nm,0.4s						
	0.2nm,0.4s						

NOU ***07*** *18:48:59.7,23.91S×179.76W,h526km,MLv6.4/73,South of Fiji Islands*
MOS ***07*** *18:48:59.1±1.0,23.85S×179.94W,h519km,mb4.6/12, Error ellipse: s-maj=12.9km s-min=9.1km az=116.7*
IDC ***07*** *18:48:59.4±0.8,23.87S×179.89W,h511±8km,mb4.0/27, mbtmp4.8/30,Error ellipse: s-maj=9.7km s-min=8.4km az=90.0*
BJI ***07*** *18:49:00.4,23.29S×179.81W,h514km,mB4.9/7, mb4.6/27*
NEIC ***07*** *18:49:01.0±1.1,23.8S±0.1×179.9W±0.2,h530km±9km, mb5.2/31, Error ellipse: s-maj=22.4km s-min=19.0km az=140.0*
ISC 07 18:48:59.6±0.3,23.86S±0.04×179.91W±0.05,h518km,
n564,σ1$40/435,mb5.1/261,50C-30D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.66**	**162**	P	**P**	**18 50 34.1**	**+0.7**
	453nm,0.3s,baz=82,slow=23,SNR=2.7						
RAO				S	**S**	**18 51 49.5**	**-0.7**
	548nm,0.3s,baz=92,slow=22,SNR=4.1						
GLKZ	**Green Lake**	**5.67**	**162**	P	**P**	**18 50 34.6**	**+1.2**
LKBA	**Tubou, Lakemba**	**5.69**	**11**	P	**P**	**18 50 34.9**	**+0.9**
	9µm,0.8s						
MSVF	**Nonsavu**	**6.39**	**342**		**P**	**18 50 41.2**	**+0.6**
MSVF	**Nonsavu**	**6.39**	**342**	P	**P**	**18 50 41.1**	**+0.4**
	50nm,0.5s,baz=160,slow=8.1,SNR=29						
MSVF				S	**S**	**18 52 03.8**	**+0.6**
	137nm,0.8s,baz=198,slow=20,SNR=1.0						
MSVF	**Nonsavu**	**6.39**	**342**	P	**P**	**18 50 41.6**	**+0.9**
	633nm,0.9s						
MSVF	**Nonsavu**	**6.39**	**342**	*ce*P	**P**	**18 50 41.6**	**+0.9**
TAVE	**Taveuni**	**7.12**	**0**	P	**P**	**18 50 49.2**	**+1.5**
	5µm,1.0s						
YSA	**Yasawairara**	**7.51**	**341**	P	**P**	**18 50 52.9**	**+1.3**
	2µm,1.0s						
DGTI	**Dogotuki**	**7.53**	**357**	P	**P**	**18 50 53.1**	**+1.2**
	4µm,1.0s						
FUTU	**Fugatoga**	**9.65**	**10**	P	**P**	**18 51 14.3**	**+0.6**
NIUE	**Niue**	**10.44**	**65**	P	**P**	**18 51 21.6**	**-0.2**
	1µm,0.8s						
NIUE	**Niue**	**10.44**	**65**	P	**P**	**18 51 25.2**	**+3.4**
OUENC	**Ouen Island, N**	**12.28**	**274**	P	**P**	**18 51 40.3**	**-0.8**
	296nm,1.2s						
OUZ	**Omahuta**	**12.65**	**205**	P	**P**	**18 51 45.1**	**+0.3**
OUZ	**Omahuta**	**12.65**	**205**	P	**P**	**18 51 46.6**	**+1.9**
DVP	**Devils Point**	**12.69**	**297**	P	**P**	**18 51 47.2**	**+1.7**
DZM	**Mont Dzumac**	**12.70**	**275**		**P**	**18 51 47.2**	**+1.5**
DZM	**Mont Dzumac**	**12.70**	**275**	*e*P	**P**	**18 51 48.0**	**+2.4**
	297nm,1.3s						
DZM				*e*S	**S**	**18 53 57.2**	**-5.2**
	2µm,25.8s						
DZM	**Mont Dzumac**	**12.70**	**275**	P	**P**	**18 51 46.1**	**+0.4**
	31nm,1.1s,baz=111,slow=11,SNR=5.5						
DZM	**Mont Dzumac**	**12.70**	**275**	P	**P**	**18 51 48.1**	**+2.4**
WCZ	**Waipu Caves**	**13.02**	**201**	P	**P**	**18 51 50.5**	**+1.7**
KUZ	**Kuaotunu**	**13.38**	**195**	P	**P**	**18 51 53.1**	**+0.7**
	181nm,1.0s						
MXZ	**Matakaoa Point**	**13.74**	**186**	P	**P**	**18 51 55.9**	**-0.3**
	79nm,0.8s						
WMGZ	**Waiomatatini S**	**13.99**	**186**	P	**P**	**18 51 55.3**	**-3.5**
PKGZ	**Pakihiroa**	**14.07**	**187**	P	**P**	**18 52 00.4**	**+0.7**
RUGZ	**Raukumara Rang**	**14.21**	**188**	P	**P**	**18 52 02.6**	**+1.4**
TOZ	**Tahuroa Road**	**14.37**	**195**		**P**	**18 52 03.1**	**+0.2**
TWGZ	**Tauwhareparae**	**14.38**	**187**	P	**P**	**18 52 01.6**	**-1.4**
URZ	**Urewera**	**14.58**	**189**	P	**P**	**18 52 05.0**	**+0.1**
	30nm,0.5s,baz=290,slow=1.8,SNR=34						
URZ				S	**S**	**18 54 37.0**	**-0.8**
	20nm,0.5s,baz=266,slow=24,SNR=6.2						
URZ	**Urewera**	**14.58**	**189**	P	**P**	**18 52 02.6**	**-2.3**
	134nm,0.5s						
TKGZ	**Te Karaka**	**14.66**	**187**	P	**P**	**18 52 04.1**	**-1.7**
TKGZ				S	**S**	**18 54 40.9**	**+1.5**
CNGZ	**Carnagh Statio**	**14.67**	**186**	P	**P**	**18 52 06.4**	**+0.6**
RAGZ	**Rawiri**	**14.77**	**188**	P	**P**	**18 52 05.8**	**-1.3**
MUGZ	**Murupara**	**14.84**	**190**	P	**P**	**18 52 05.6**	**-2.2**
MUGZ				S	**S**	**18 54 39.4**	**-3.5**
RTZ	**Ruatahuna**	**14.95**	**189**	P	**P**	**18 52 07.6**	**-1.3**
MTHZ	**Maungataniwha**	**15.20**	**190**	P	**P**	**18 52 10.5**	**-1.0**
MTHZ				S	**S**	**18 54 47.6**	**-2.1**
RAHZ	**Arahi**	**15.22**	**189**	P	**P**	**18 52 10.6**	**-1.2**
MRHZ	**Matea Rd**	**15.25**	**191**	P	**P**	**18 52 10.2**	**-1.9**
MHGZ	**Mahia Peninsul**	**15.36**	**186**	P	**P**	**18 52 13.8**	**+0.6**
MHGZ				S	**S**	**18 55 00.3**	**+7.7**
NMHZ	**Naumai**	**15.44**	**190**	P	**P**	**18 52 14.0**	**-0.1**
NMHZ				S	**S**	**18 54 46.9**	**-7.4**
BKZ	**Black Stump Fm**	**15.56**	**190**	P	**P**	**18 52 12.4**	**-2.9**
BKZ	**Black Stump Fm**	**15.56**	**190**	P	**P**	**18 52 14.9**	**-0.4**
	81nm,0.5s						
BKZ	**Black Stump Fm**	**15.56**	**190**	S	**S**	**18 54 56.1**	**-0.3**
	81nm,0.5s						
ARHZ	**Aropaoanui**	**15.58**	**189**	P	**P**	**18 52 15.5**	**+0.1**
MCHZ	**McNeill Hill**	**15.80**	**190**	P	**P**	**18 52 16.9**	**-0.8**
KWHZ	**Kaweka Forest**	**15.82**	**190**	P	**P**	**18 52 18.2**	**+0.2**
CKHZ	**Cape Kidnapper**	**15.96**	**188**	P	**P**	**18 52 17.7**	**-1.6**
KRHZ	**Kereru**	**16.05**	**190**	P	**P**	**18 52 17.9**	**-2.4**
KRHZ				S	**S**	**18 55 03.3**	**-1.8**
KAHZ	**Kahuranaki**	**16.12**	**189**	P	**P**	**18 52 18.6**	**-2.4**
KAHZ				S	**S**	**18 55 03.3**	**-3.1**
PNHZ	**Pukenui**	**16.34**	**191**	P	**P**	**18 52 19.9**	**-3.3**
PNHZ				S	**S**	**18 55 06.2**	**-4.0**
WPHZ	**Waipukurau**	**16.45**	**190**	P	**P**	**18 52 24.1**	**-0.1**
WPHZ				S	**S**	**18 55 15.2**	**+3.2**
PRHZ	**Porangahau**	**16.61**	**189**	P	**P**	**18 52 25.1**	**-0.8**
PRHZ				S	**S**	**18 55 18.2**	**+3.3**
DVHZ	**Dannevirke**	**16.72**	**190**	P	**P**	**18 52 24.6**	**-2.4**
BFZ	**Birch Farm**	**17.08**	**190**	P	**P**	**18 52 28.0**	**-2.4**
	196nm,0.6s						
MRZ	**Mangatainoka R**	**17.18**	**192**		**P**	**18 52 27.5**	**-3.8**
SNZO	**South Karori**	**17.98**	**193**	P	**P**	**18 52 37.3**	**-1.3**
	252nm,1.2s						
QRZ	**Quartz Range**	**18.07**	**199**	P	**P**	**18 52 39.0**	**-0.5**
	649nm,0.8s						
PLWZ	**Palliser**	**18.12**	**192**	P	**P**	**18 52 37.1**	**-2.9**
TUWZ	**Tuamarina**	**18.26**	**195**	P	**P**	**18 52 39.3**	**-1.9**
RAR	**Rarotonga**	**18.78**	**86**	P	**P**	**18 52 44.8**	**-1.5**
KHZ	**Kahutara**	**19.29**	**195**	P	**P**	**18 52 50.0**	**-0.6**
	294nm,1.1s						
LTZ	**Lake Taylor**	**19.95**	**197**		**P**	**18 52 54.8**	**-1.9**
INZ	**Inchbonnie**	**20.13**	**199**		**P**	**18 52 57.0**	**-1.3**
OXZ	**Oxford**	**20.52**	**197**	P	**P**	**18 53 00.0**	**-1.8**
RPZ	**Rata Peaks**	**21.15**	**198**	P	**P**	**18 53 06.9**	**-0.6**
	22nm,0.7s,baz=147,slow=1.1,SNR=13						
	22nm,0.7s						
RPZ	**Rata Peaks**	**21.15**	**198**	P	**P**	**18 53 07.0**	**-0.6**
	98nm,0.9s						
JCZ	**Jackson Bay**	**22.19**	**202**	P	**P**	**18 53 16.3**	**-0.7**
	194nm,0.5s						
ODZ	**Otahua Downs**	**22.49**	**198**	P	**P**	**18 53 19.8**	**+0.3**
ALEG	**Aligegeo Malai**	**23.87**	**306**	P	**P**	**18 53 32.1**	**-0.2**
	109nm,1.2s						
HNR	**Honiara**	**24.00**	**303**	P	**P**	**18 53 32.3**	**-1.2**
	53nm,0.8s,baz=188,slow=4.2,SNR=5.9						
	53nm,0.8s						
TATA	**Tatamba Isabel**	**24.78**	**305**	P	**P**	**18 53 39.6**	**-0.7**
	1.2s						
ARMA	**Armidale**	**26.11**	**249**	P	**P**	**18 53 53.9**	**+1.7**
	comp=Z,117nm,1.2s						
ARMA	**Armidale**	**26.11**	**249**	P	**P**	**18 53 53.8**	**+1.7**
	comp=Z,116nm,1.2s						
EIDS	**Eidsvold**	**26.40**	**261**	P	**P**	**18 53 55.7**	**+1.2**
EIDS	**Eidsvold**	**26.40**	**261**	P	**P**	**18 53 55.6**	**+1.1**
	comp=Z,128nm,1.0s						
EIDS	**Eidsvold**	**26.40**	**261**	P	**P**	**18 53 56.0**	**+1.5**
	comp=Z,128nm,1.0s						
MGCD	**Mangrove Creek**	**27.04**	**243**	P	**P**	**18 54 01.7**	**+1.7**
	comp=Z,193nm,0.5s						
TBI	**Tubuai**	**27.88**	**95**	*es*S	**sS**	**19 00 52.3**	**-2.4**
	comp=Z,3µm,29.2s						
TBI				*es*S	sS	19 00 54.3	-0.4
	comp=Z,1µm,28.5s						
CNB	**Canberra Magne**	**28.94**	**240**	P	**P**	**18 54 18.5**	**+1.7**
	comp=Z,209nm,1.4s						
CNB	**Canberra Magne**	**28.94**	**240**	P	**P**	**18 54 18.5**	**+1.7**
	comp=Z,209nm,1.4s						
PPT2	**Papeete2**	**29.01**	**83**	*es*S	**sS**	**19 01 15.0**	**+1.6**
	comp=Z,1µm,25.0s						
PPT2				*es*S	sS	19 01 20.2	+6.8
	comp=Z,997nm,26.5s						
CAN	**Canberra**	**29.23**	**240**	P	**P**	**18 54 20.6**	**+1.3**
CAN	**Canberra**	**29.23**	**240**	P	**P**	**18 54 20.8**	**+1.5**
	comp=Z,199nm,1.2s						
CAN	**Canberra**	**29.23**	**240**	P	**P**	**18 54 20.2**	**+0.9**
	comp=Z,304nm,1.2s						
CAN	**Canberra**	**29.23**	**240**	P	**P**	**18 54 20.6**	**+1.3**
YNG	**Young**	**29.48**	**242**	P	**P**	**18 54 22.7**	**+1.2**
	comp=Z,89nm,1.4s						
CMSA	**Cobar Meteorol**	**31.31**	**248**	P	**P**	**18 54 37.7**	**+0.5**
	comp=Z,162nm,1.3s						
CMSA	**Cobar Meteorol**	**31.31**	**248**	P	**P**	**18 54 38.1**	**+0.9**
	comp=Z,162nm,1.3s						
PMOR	**Pomariorio Ree**	**31.39**	**80**	*e*P	**P**	**18 54 34.7**	**-3.3**
	comp=Z,245nm,1.2s						
VAH	**Vaihoa**	**31.55**	**80**	*e*P	**P**	**18 54 37.1**	**-2.3**
	comp=Z,95nm,1.0s						
CTAO	**Charters Tower**	**31.56**	**270**		**P**	**18 54 40.5**	**+1.0**
CTAO	**Charters Tower**	**31.56**	**270**	P	**P**	**18 54 40.6**	**+1.0**
	comp=Z,110nm,1.0s						
CTAO	**Charters Tower**	**31.56**	**270**	P	**P**	**18 54 40.5**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,179nm,0.6s						
CTAO	**Charters Tower**	**31.56**	**270**	P	**P**	**18 54 40.4**	**+0.8**
QLP	**Quilpie**	**32.49**	**258**	P	**P**	**18 54 47.9**	**+0.6**
	comp=Z,230nm,1.2s						
QLP	**Quilpie**	**32.49**	**258**	P	**P**	**18 54 47.7**	**+0.4**
	comp=Z,230nm,1.2s						
TOO	**Toolangi**	**32.54**	**237**	P	**P**	**18 54 48.4**	**+0.7**
	comp=Z,47nm,1.1s						
TAU	**Tasmania Unive**	**33.02**	**227**	P	**P**	**18 54 52.0**	**+0.4**
	comp=Z,120nm,1.1s						
GEXS	**Deakin Univers**	**33.62**	**236**	P	**P**	**18 54 56.9**	**+0.2**
MTSU	**Mount Surprise**	**33.82**	**273**	P	**P**	**18 54 59.5**	**+0.8**
	comp=Z,131nm,0.7s						
MTSU	**Mount Surprise**	**33.82**	**273**	P	**P**	**18 54 59.9**	**+1.2**
	comp=Z,131nm,0.7s						
STKA	**Stephens Creek**	**34.81**	**248**		**P**	**18 55 07.6**	**+0.7**
STKA	**Stephens Creek**	**34.81**	**248**	P	**P**	**18 55 07.4**	**+0.5**
	comp=Z,431nm,1.3s						
STKA	**Stephens Creek**	**34.81**	**248**	P	**P**	**18 55 07.2**	**+0.3**
	comp=Z,6.0nm,0.6s,baz=98,slow=6.9,SNR=16						
	comp=Z,6.0nm,0.6s						
STKA	**Stephens Creek**	**34.81**	**248**	P	**P**	**18 55 08.0**	**+1.1**
	comp=Z,21nm,1.3s						
STKA	**Stephens Creek**	**34.81**	**248**	*de*P	**P**	**18 55 07.6**	**+0.7**
COEN	**Coen**	**36.19**	**279**	P	**P**	**18 55 16.9**	**-1.6**
	comp=Z,77nm,1.5s						
COEN	**Coen**	**36.19**	**279**	P	**P**	**18 55 19.6**	**+1.1**
HTT	**Hallett**	**37.17**	**246**	P	**P**	**18 55 26.7**	**+0.3**
	comp=Z,45nm,1.4s						
HTT	**Hallett**	**37.17**	**246**	P	**P**	**18 55 27.3**	**+0.9**
	comp=Z,179nm,1.4s						
QIS	**Mount Isa**	**37.54**	**267**	P	**P**	**18 55 29.2**	**-0.4**
	comp=Z,50nm,0.8s						
QIS	**Mt Isa**	**37.54**	**267**	P	**P**	**18 55 29.7**	**+0.1**
	comp=Z,50nm,0.8s						
AS01	**Alice Springs**	**42.08**	**261**	P	**P**	**18 56 06.6**	**+0.5**
AS31	**Alice Springs**	**42.12**	**261**		**P**	**18 56 06.5**	**0.0**
AS31				IAmb	IAmb	18 56 23.3	
	comp=Z,95nm,1.4s						
AS31	**Alice Springs**	**42.12**	**261**	P	**P**	**18 56 06.4**	**0.0**
	comp=Z,52nm,0.5s						
ASAR	**Alice Springs**	**42.12**	**261**		**P**	**18 56 06.2**	**-0.3**
ASAR	**Alice Springs**	**42.12**	**261**	P	**P**	**18 56 06.5**	**0.0**
	comp=Z,26nm,0.8s,baz=96,slow=7.1,SNR=250						
ASAR				PP	**PP**	**18 57 55.0**	**-1.8**
	comp=Z,48nm,1.2s,baz=91,slow=8.1,SNR=5.1						
ASAR				ScP	**ScP**	**19 00 53.1**	**+2.9**
	comp=Z,6.4nm,0.8s,baz=99,slow=3.7,SNR=6.0						
ASAR				S	**S**	**19 01 47.6**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=98,slow=13,SNR=3.0						
	comp=Z,26nm,0.8s						
WR8	**Warramunga Arr**	**42.34**	**266**		**P**	**18 56 07.8**	**-0.3**
WRA0	**Warramunga Arr**	**42.49**	**266**		**P**	**18 56 08.9**	**-0.4**
WRAB	**Tennant Creek**	**42.49**	**266**	P	**P**	**18 56 08.7**	**-0.6**
WRAB	**Tennant Creek**	**42.49**	**266**	*e*P	**P**	**18 56 08.7**	**-0.6**
WRA	**Warramunga Arr**	**42.49**	**266**	P	**P**	**18 56 09.2**	**-0.2**
WRA	**Warramunga Arr**	**42.49**	**266**	P	**P**	**18 56 09.2**	**-0.2**
	comp=Z,35nm,0.6s,baz=94,slow=8.4,SNR=242						
WRA				PP	**PP**	**18 57 58.5**	**-1.7**
	comp=Z,15nm,0.7s,baz=99,slow=5.2,SNR=5.2						
WRA				ScP	**ScP**	**19 00 54.8**	**+3.1**
	comp=Z,4.3nm,0.9s,baz=108,slow=3.6,SNR=3.9						
WRA				S	**S**	**19 01 50.6**	**-3.3**
	comp=Z,5.3nm,1.1s,baz=104,slow=14,SNR=6.0						
	comp=Z,35nm,0.6s						
JAY	**Jayapura**	**43.58**	**293**	P	**P**	**18 56 18.1**	**+0.2**
	comp=Z,31nm,0.7s,baz=143,slow=4.4,SNR=48						
	comp=Z,31nm,0.7s						
JAY	**Jayapura**	**43.58**	**293**	P	**P**	**18 56 18.4**	**+0.5**
	comp=Z,78nm,1.0s						
JAY	**Jayapura**	**43.58**	**293**	P	**P**	**18 56 17.6**	**-0.3**
	comp=Z,78nm,1.0s						
GENI	**Geyem**	**43.99**	**293**	P	**P**	**18 56 21.4**	**+0.4**
	comp=Z,2µmcomp=Z,179nm,1.0s						
SMPI	**Sarmi**	**45.54**	**292**	P	**P**	**18 56 33.5**	**+0.5**
SMPI	**Sarmi**	**45.54**	**292**	P	**P**	**18 56 32.8**	**-0.2**
	comp=Z,77nm,1.3s						
KDU	**Kakadu**	**46.37**	**275**	P	**P**	**18 56 38.4**	**-0.9**
	comp=Z,111nm,1.0s						
KDU	**Kakadu**	**46.37**	**275**	P	**P**	**18 56 39.0**	**-0.3**
	comp=Z,111nm,1.0s						
FORT	**Forrest**	**46.40**	**250**	P	**P**	**18 56 38.6**	**-0.8**
	comp=Z,263nm,0.6s						
WRKA	**Warakurna**	**46.93**	**257**	P	**P**	**18 56 43.3**	**-0.2**
	comp=Z,105nm,1.6s						
MTN	**Manton Dam**	**47.54**	**274**	P	**P**	**18 56 47.4**	**-0.7**
	comp=Z,63nm,0.8s						
DRS	**Darwin Rock St**	**47.90**	**275**	P	**P**	**18 56 50.9**	**+0.1**
BAKI	**Biak**	**48.17**	**291**	P	**P**	**18 56 54.5**	**+1.6**
BAKI	**Biak**	**48.17**	**291**	P	**P**	**18 56 53.5**	**+0.6**
	comp=Z,213nm,1.0s						
KNRA	**Kununurra**	**48.77**	**270**		**P**	**18 56 57.3**	**0.0**
KNRA				IAmb	IAmb	18 57 13.7	
	comp=Z,150nm,0.9s						
KNRA	**Kununurra**	**48.77**	**270**	P	**P**	**18 56 57.2**	**-0.1**
	comp=Z,192nm,1.2s						
RKPI	**Ransiki, Papua**	**49.66**	**290**	P	**P**	**18 57 03.4**	**-0.6**
	comp=Z,61nm,0.8s						
KIP	**Kipapa**	**49.80**	**27**	*e*P	**P**	**18 57 03.5**	**-1.2**
KIP				pmax	pmax		
	comp=Z,27nm,1.0s						
FAKI	**Fak Fak**	**50.65**	**287**	P	**P**	**18 57 11.2**	**0.0**
	comp=Z,68nm,1.1s						
GUMO	**Guam**	**50.70**	**314**		**P**	**18 57 10.9**	**-0.6**
GUMO	**Guam**	**50.70**	**314**	P	**P**	**18 57 11.7**	**+0.2**
GUMO	**Guam**	**50.70**	**314**	P	**P**	**18 57 10.9**	**-0.6**
GUMO				pmax	pmax		
	comp=Z,357nm,1.7s						
FITZ	**Fitzroy Crossi**	**50.92**	**266**		**P**	**18 57 13.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**50.92**	**266**	P	**P**	**18 57 13.6**	**+0.5**
	comp=Z,40nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.92**	**266**	P	**P**	**18 57 13.6**	**+0.5**
	comp=Z,24nm,0.6s,baz=107,slow=7.2,SNR=79						
FITZ				PP	**PP**	**18 59 16.5**	**0.0**
	comp=Z,45nm,1.0s,baz=102,slow=10,SNR=6.4						
	comp=Z,24nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.92**	**266**	P	**P**	**18 57 13.4**	**+0.3**
SWI	**Sorong**	**52.51**	**288**	P	**P**	**18 57 23.6**	**-1.1**
	comp=Z,280nm,0.9s						
AAI	**Ambon**	**53.88**	**284**	P	**P**	**18 57 34.5**	**+0.1**
	comp=Z,129nm,1.1s						
SBA	**Scott Base**	**54.42**	**183**	P	**P**	**18 57 39.8**	**+2.6**
VNDA	**Vanda**	**54.42**	**185**	P	**P**	**18 57 37.4**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=351,slow=7.2,SNR=13						
	comp=Z,2.2nm,0.8s						
VNDA	**Vanda**	**54.42**	**185**	P	**P**	**18 57 38.7**	**+1.5**
SOEI	**Soe**	**54.93**	**275**	P	**P**	**18 57 41.7**	**-0.2**
	comp=Z,340nm,1.0s						
SOEI	**Soe**	**54.93**	**275**	P	**P**	**18 57 41.9**	**0.0**
NLAI	**Namlea**	**55.06**	**283**	P	**P**	**18 57 43.0**	**+0.3**
	comp=Z,139nm,1.3s						
KLBR	**Kellerberrin**	**55.08**	**247**	P	**P**	**18 57 41.9**	**-0.7**
	comp=Z,302nm,0.9s						
KLBR	**Kellerberrin**	**55.08**	**247**	P	**P**	**18 57 42.5**	**-0.1**
	comp=Z,302nm,0.9s						
MEEK	**Meekatharra**	**55.20**	**253**	P	**P**	**18 57 42.8**	**-0.8**
	comp=Z,68nm,1.5s						
MEEK	**Meekatharra**	**55.20**	**253**	P	**P**	**18 57 42.8**	**-0.8**
	comp=Z,68nm,1.5s						
BATI	**Baumata**	**55.31**	**274**	P	**P**	**18 57 46.4**	**+1.9**
	comp=Z,27nm,0.5s,baz=148,slow=4.7,SNR=7.6						
	comp=Z,27nm,0.5s						
BATI	**Baunata**	**55.31**	**274**	P	**P**	**18 57 45.4**	**+0.9**
	comp=Z,154nm,0.6s						
NWAO	**Narrogin (SRO)**	**55.33**	**246**	P	**P**	**18 57 44.0**	**-0.3**
	comp=Z,60nm,1.4s						
MBWA	**Marble Bar**	**55.46**	**260**		**P**	**18 57 45.0**	**-0.4**
MBWA				IAmb	IAmb	18 58 01.2	
	comp=Z,131nm,1.1s						
MBWA	**Marble Bar**	**55.46**	**260**	P	**P**	**18 57 44.7**	**-0.7**
	comp=Z,122nm,1.1s						
MBWA	**Marble Bar**	**55.46**	**260**	P	**P**	**18 57 45.3**	**-0.1**
	comp=Z,70nm,1.1s						
MBWA	**Marble Bar**	**55.46**	**260**	P	**P**	**18 57 45.2**	**-0.3**
BLDU	**Ballidu**	**56.12**	**248**	P	**P**	**18 57 49.5**	**-0.4**
	comp=Z,103nm,1.1s						
MUN	**Mundaring**	**56.33**	**246**	P	**P**	**18 57 52.3**	**+1.0**
	comp=Z,84nm,1.2s						
MORW	**Morawa**	**56.97**	**250**		**P**	**18 57 55.7**	**-0.1**
MORW				IAmb	IAmb	18 58 11.8	
	comp=Z,395nm,1.6s						
MORW	**Morawa**	**56.97**	**250**	P	**P**	**18 57 53.2**	**-2.6**
	comp=Z,147nm,1.2s						
MORW	**Morawa**	**56.97**	**250**	P	**P**	**18 57 55.8**	**+0.1**
	comp=Z,146nm,1.2s						
MMRI	**Maumere**	**57.20**	**275**	P	**P**	**18 57 57.7**	**+0.2**
	comp=Z,158nm,1.1s						
MMRI	**Maumere**	**57.20**	**275**	P	**P**	**18 57 58.3**	**+0.8**
	comp=Z,161nm,1.1s						
EDFI	**Ende, Flores**	**57.66**	**275**	P	**P**	**18 57 59.9**	**-0.9**
	comp=Z,179nm,1.1s						
BBSI	**Bau Bau**	**58.16**	**279**	P	**P**	**18 58 05.3**	**+1.3**
	comp=Z,79nm,1.1s						
WSI	**Waingapu**	**58.58**	**273**	P	**P**	**18 58 07.7**	**+0.8**
CCD	**Concordia, Ant**	**58.78**	**195**	P	**P**	**18 58 08.1**	**+0.4**
LUWI	**Luwuk**	**59.90**	**283**	P	**P**	**18 58 15.8**	**+0.1**
LUWI				IAmb	IAmb	18 58 32.2	
	comp=Z,278nm,1.3s						
LUWI	**Luwuk**	**59.90**	**283**	P	**P**	**18 58 15.8**	**+0.1**
	comp=Z,152nm,1.0s						
BNSI	**Bone**	**60.84**	**279**	P	**P**	**18 58 22.3**	**+0.3**
	comp=Z,99nm,1.3s						
PLAI	**Plampang**	**61.20**	**273**	P	**P**	**18 58 24.0**	**-0.3**
	comp=Z,281nm,1.0s						
PLAI	**Plampang**	**61.20**	**273**	P	**P**	**18 58 24.1**	**-0.3**
	comp=Z,281nm,1.0s						
SPSI	**Sidrap Palu**	**61.33**	**279**	P	**P**	**18 58 26.3**	**+1.1**
	comp=Z,55nm,0.9s						
MRSI	**Marisa**	**61.33**	**285**	P	**P**	**18 58 24.1**	**-1.1**
	comp=Z,67nm,1.0s						
TTSI	**Tana Toraja**	**61.67**	**280**	P	**P**	**18 58 27.8**	**+0.4**
TOLI2	**Tolitoli**	**62.65**	**285**	P	**P**	**18 58 34.5**	**+0.7**
	comp=Z,84nm,0.9s						
MPSI	**Mapaga**	**63.08**	**283**	P	**P**	**18 58 37.3**	**+0.7**
	comp=Z,128nm,1.0s						
JAGI	**Jajag, Banyuwa**	**64.65**	**272**	P	**P**	**18 58 46.2**	**-0.4**
JAGI	**Jajag, Banyuwa**	**64.65**	**272**	P	**P**	**18 58 49.2**	**+2.6**
	comp=Z,139nm,1.1s						
QSPA	**South Pole Qui**	**66.22**	**180**		**P**	**18 58 57.0**	**+1.2**
QSPA	**South Pole Qui**	**66.22**	**180**	P	**P**	**18 58 56.8**	**+1

NJ2 pmax pmax
comp=Z,26nm,1.1s
USA0B Ussuriysk Arra 80.78 327⇓ *e*P **P 19 00 19.2 +0.4**
USRK Ussuriysk Ar. 80.78 327 P **P 19 00 20.4 +1.6**
comp=Z,4.7nm,0.6s,baz=142,slow=4.6,SNR=16
comp=Z,4.7nm,0.6s
IPM Ipoh 81.84 279 P 19 00 25.2 +0.2
IPM IAmb IAmb 19 00 40.8
comp=Z,45nm,0.6s
IPM Ipoh 81.84 279 P **P 19 00 25.4 +0.4**
comp=Z,78nm,0.7s
CHGN Chignik 81.90 12 IAmb IAmb 19 00 40.6
comp=Z,44nm,1.2s
HOPS Hopland Field 82.06 41 IAmb IAmb 19 00 43.1
comp=Z,83nm,1.2s
KCPM Cahto Peak 82.19 40 IAmb IAmb 19 00 44.2
comp=Z,96nm,1.4s
CBX Cerro Bola 82.24 50 IAmb IAmb 19 00 44.4
comp=Z,79nm,1.4s
MDJ Mudanjiang 82.28 326 P **P 19 00 27.5 +1.0**
MDJ pmax pmax
comp=Z,18nm,0.8s
ELS Elsinore Mount 82.47 48 IAmb IAmb 19 01 58.9
comp=Z,63nm,1.0s
KULM Kulim 82.52 279 P **P 19 00 28.9 +0.4**
KULM IAmb IAmb 19 00 45.1
comp=Z,89nm,1.5s
KULM Kulim 82.52 279 P **P 19 00 27.9 -0.5**
comp=Z,38nm,1.9s
ESJX Sierra Juarez 82.57 50 P **P 19 00 30.5 +2.0**
ESJX IAmb IAmb 19 00 46.5
comp=Z,68nm,1.3s
KRPM Rodgers 82.88 39 IAmb IAmb 19 00 47.9
comp=Z,76nm,1.2s
YUH Yuha Desert 82.95 50 IAmb IAmb 19 00 47.8
comp=Z,59nm,1.2s
RPSI Rantau Prapat 83.02 276 P **P 19 00 30.6 -0.4**
RPSI Rantau Prapat 83.02 276 IAmb IAmb 19 00 46.4
comp=Z,69nm,1.4s
PSI Prapat 83.06 276 P **P 19 00 30.6 -0.8**
comp=Z,4.1nm,0.4s,baz=112,slow=3.0,SNR=5.9
comp=Z,4.1nm,0.4s
SYO Syowa Base 83.07 193⇓ *e*P **P 19 00 29.7 -0.4**
SYO Syowa Base 83.07 193⇓ *e*PcP **PcP 19 00 32.5 -0.9**
CPBX Cerro Prieto 83.25 50 IAmb IAmb 19 00 49.7
comp=Z,76nm,1.1s
AFDM Forest Hills D 83.31 42 IAmb IAmb 19 00 49.0
comp=Z,51nm,1.1s
ORV Oroville 83.36 42 IAmb IAmb 19 00 49.3
comp=Z,52nm,1.2s
KSXB Camp Six Broad 83.39 39 IAmb IAmb 19 00 50.3
comp=Z,43nm,1.2s
PLK4 Peulik 4 83.55 12 IAmb IAmb 19 00 49.3
comp=Z,64nm,1.1s
CN2 Changchun 83.91 324 P **P 19 00 35.5 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
YBH Yreka Blue Hor 84.00 39 P **P 19 00 36.5 +1.2**
comp=Z,0.2nm,1.0s,baz=177,slow=2.6,SNR=6.4
TROLL Troll, Antarti 84.37 181 ⇑P **P 19 00 36.5 -0.3**
comp=Z,412nm,0.8s
LHV Little Huntoon 84.43 44 IAmb IAmb 19 01 45.6
comp=Z,27nm,0.9s
KDAK Kodiak Island 84.49 14⇑ *e*P **P 19 00 37.0 -0.1**
KDAK pmax pmax
comp=Z,16nm,2.1s
KLR Kul'dur 84.54 331 *de*P **P 19 00 38.8 +1.2**
KLR pmax pmax
comp=Z,9.0nm,1.5s
L04D Klamath Falls 84.54 39 IAmb IAmb 19 00 55.5
comp=Z,55nm,1.1s
HSIG 84.62 55 IAmb IAmb 19 00 55.9
comp=Z,88nm,1.4s
NVAR Mina Array Bea 84.67 44 P **P 19 00 39.5 +0.7**
comp=Z,1.1nm,0.5s,baz=215,slow=7.2,SNR=6.1
comp=Z,1.1nm,0.5s
SNAA Sanae 84.70 179 ⇑P **P 19 00 37.8 -0.5**
comp=Z,25nm,0.5s
SNAA Sanae 84.70 179 P **P 19 00 37.8 -0.5**
comp=Z,0.8nm,0.5s,baz=221,slow=7.0,SNR=13
comp=Z,0.8nm,0.5s
SNAA Sanae 84.70 179⇓ *e*P **P 19 00 36.8 -1.5**
214A Organ Pipe Nat 84.78 52 IAmb IAmb 19 00 57.3
comp=Z,80nm,1.6s
N14K Kuskokwak Cree 84.81 9 P **P 19 00 39.3 +0.7**
N14K IAmb IAmb 19 00 55.9
comp=Z,72nm,1.1s
I02E Swisshome, OR 84.88 37 IAmb IAmb 19 00 57.5
comp=Z,55nm,1.3s
I03D Drain, OR 84.89 37 IAmb IAmb 19 00 57.2
comp=Z,76nm,1.4s
O16K Kokwok River B 85.07 11 P **P 19 00 39.0 -0.9**
N15K Kwethluk River 85.28 10 IAmb IAmb 19 00 58.4
comp=Z,57nm,1.1s
N15K Kwethluk River 85.28 10 IAmb IAmb 19 00 58.3
comp=Z,57nm,1.1s
SYI Shuyak Island 85.28 14 IAmb IAmb 19 00 57.7
comp=Z,59nm,1.2s
Q19K Cape Douglas, 85.30 13 IAmb IAmb 19 00 57.4
comp=Z,44nm,1.0s
VNA2 Neumayer--Watz 85.33 178 ⇑P **P 19 00 41.0 -0.3**
comp=Z,3.6nm,0.7s,baz=183,slow=4.5
BUCK Buck Mountain 85.41 37 IAmb IAmb 19 00 59.9
comp=Z,50nm,1.1s
VNA1 Neumayer--Stat 85.56 177 ⇑P **P 19 00 42.1 -0.3**
comp=Z,3.7nm,1.0s
K05A Summer Lake 85.68 39 IAmb IAmb 19 01 01.4
comp=Z,77nm,1.3s
W13A Hualapai Mount 85.71 49 IAmb IAmb 19 02 30.0
comp=Z,24nm,0.6s
O18K Koktuh Hills 85.84 12 P **P 19 00 43.6 -0.1**
O18K IAmb IAmb 19 00 59.9
comp=Z,54nm,1.1s
CNPM China Poot 86.37 14 IAmb IAmb 19 01 02.8
comp=Z,46nm,1.1s
HNS HongShan 86.54 314 ⇓P **P 19 00 49.3 +1.8**
BRLK Bradley Lake 86.66 14 IAmb IAmb 19 01 04.0
comp=Z,45nm,1.2s
WVOR Wild Horse Val 86.83 41 IAmb IAmb 19 01 06.4
comp=Z,53nm,1.3s
L16K Owhat River 86.84 10 IAmb IAmb 19 03 03.4
comp=Z,38nm,1.3s
RED Redoubt Volcan 86.85 13 IAmb IAmb 19 01 04.2
comp=Z,45nm,1.2s
HOOD Mount Hood Mea 86.86 37 IAmb IAmb 19 01 06.3
comp=Z,38nm,1.1s
M17K Holitna River 86.88 11 IAmb IAmb 19 03 04.0
comp=Z,64nm,1.4s
G05A Wamic 87.00 37 IAmb IAmb 19 01 12.5
comp=Z,49nm,1.3s
NLWA Neilton Lookou 87.00 34 IAmb IAmb 19 01 07.4
comp=Z,45nm,1.4s
X16A Lo Mia Camp, 87.05 50 IAmb IAmb 19 01 08.2
comp=Z,31nm,1.3s
DIB Dawson Inlet, 87.06 26 IAmb IAmb 19 01 08.1
comp=Z,31nm,1.2s
HOLB Holberg 87.10 30 IAmb IAmb 19 01 07.5
comp=Z,52nm,1.2s
LCMT Little Creek M 87.18 47 IAmb IAmb 19 01 08.3
comp=Z,31nm,1.3s
MOBC Moresby Island 87.23 27 IAmb IAmb 19 01 08.0
comp=Z,55nm,1.5s
KNB Kanab 87.47 48 IAmb IAmb 19 01 09.9
comp=Z,52nm,1.3s
PSUT Pine Spring 87.60 46 IAmb IAmb 19 03 09.9
comp=Z,22nm,0.8s
SZCU Shurtz Canyon 87.60 47 IAmb IAmb 19 01 10.5
comp=Z,35nm,1.3s
WUAZ Wupatki 87.67 49 IAmb IAmb 19 01 10.8
comp=Z,45nm,1.4s
CLRS Cowichan Lake 87.80 33 IAmb IAmb 19 01 10.6
comp=Z,46nm,1.2s
F07A Phinny Hill Vi 88.17 37 IAmb IAmb 19 01 12.4
comp=Z,42nm,1.2s
J16K Anvik River 88.18 9 IAmb IAmb 19 03 10.1
comp=Z,34nm,1.4s
BBB Bella Bella 88.19 29 IAmb IAmb 19 01 12.4
comp=Z,44nm,1.2s
BBB Bella Bella 88.19 29 P **P 19 00 55.2 +0.3**
comp=Z,14nm,1.2s,baz=110,slow=10,SNR=2.7
comp=Z,14nm,1.2s
HIN Hinchinbrook I 88.26 16 IAmb IAmb 19 01 11.5
comp=Z,37nm,1.2s
G08A Pilot Rock 88.34 38 IAmb IAmb 19 01 13.4
comp=Z,83nm,1.3s
MXC Moxie City 88.38 37 IAmb IAmb 19 01 13.3
comp=Z,40nm,1.2s
CRAG Craig 88.49 25 IAmb IAmb 19 01 14.6
comp=Z,33nm,1.1s
PHRA Phrae 88.51 291 P **P 19 00 57.7 +0.5**
PHRA IAmb IAmb 19 01 15.3
comp=Z,45nm,1.3s
FID Port Fidalgo 88.58 16 IAmb IAmb 19 01 12.7
comp=Z,38nm,1.2s
EYAK Cordova Ski Ar 88.58 16 IAmb IAmb 19 01 13.1
comp=Z,30nm,1.1s
LTY Liberty 88.60 36 IAmb IAmb 19 01 14.0
comp=Z,25nm,1.1s
W18A Petrified Fore 88.61 50 IAmb IAmb 19 01 15.0
comp=Z,64nm,1.7s
KNK Knik Glacier 88.68 15 IAmb IAmb 19 01 13.4
comp=Z,43nm,1.2s
PMR Palmer 88.69 14 IAmb IAmb 19 01 13.2
comp=Z,30nm,1.1s
XAN Xi'an 88.78 308 P **P 19 00 53.5 -4.7**
XAN pmax pmax
comp=Z,19nm,0.5s
RUBB Prince Rupert 88.79 27 IAmb IAmb 19 01 15.3
comp=Z,35nm,1.4s
WAH2 Wahluke Slope 88.89 37 IAmb IAmb 19 01 16.5
comp=Z,48nm,1.4s
J18K Innoko River 88.94 10 P **P 19 00 58.0 -0.1**
J18K IAmb IAmb 19 01 14.7
comp=Z,20nm,1.0s
V35K Ketchikan 88.97 25 IAmb IAmb 19 01 16.8
comp=Z,45nm,1.2s
BERG Berg Lake 88.99 17 IAmb IAmb 19 01 15.5
comp=Z,44nm,1.2s
E08A Dider Farm, El 89.01 37 IAmb IAmb 19 01 16.2
comp=Z,46nm,1.3s
BMO Blue Mountains 89.03 39 IAmb IAmb 19 01 16.2
comp=Z,38nm,1.4s
DIV Divide 89.08 16 IAmb IAmb 19 01 16.0
comp=Z,33nm,1.2s
BMRM Bronner River 89.24 16 IAmb IAmb 19 01 16.3
comp=Z,38nm,1.1s
SEY Seymchan 89.25 348 P **P 19 01 00.2 +0.6**
comp=Z,5.1nm,0.6s,baz=149,slow=6.7,SNR=16
comp=Z,5.1nm,0.6s
SEY Seymchan 89.25 348 *ce*P **P 19 00 59.8 +0.2**
SEY pmax pmax
comp=Z,8.0nm,0.9s
K20K Telida 89.29 11 IAmb IAmb 19 01 16.1
comp=Z,22nm,1.1s
SCM Sheep Creek Mo 89.31 15 IAmb IAmb 19 01 16.5
comp=Z,37nm,1.0s
KMI Kunming 89.32 298 P **P 19 01 02.7 +1.6**
KMI pmax pmax
comp=Z,13nm,1.0s
TLIG Tlapa 89.38 71 IAmb IAmb 19 01 19.2
comp=Z,30nm,1.1s
D08A Wollman Farm, 89.42 37 IAmb IAmb 19 01 18.2
comp=Z,40nm,1.2s
CRQM Cirque 89.44 17 IAmb IAmb 19 01 17.6
comp=Z,30nm,1.1s
WRAK Wrangell Islan 89.49 24 IAmb IAmb 19 01 18.9
comp=Z,25nm,1.1s
E09A Wood Farm, Sta 89.53 37 IAmb IAmb 19 01 18.2
comp=Z,38nm,1.3s
Q16A Castle Valley 89.58 47 IAmb IAmb 19 01 19.9
comp=Z,33nm,1.1s
CMAR Chiang Mai Arr 89.59 290 P **P 19 01 03.9 +1.7**
comp=Z,6.3nm,0.9s,baz=140,slow=3.3,SNR=41
comp=Z,6.3nm,0.9s
PCA Pinnacle 89.71 19 IAmb IAmb 19 01 18.6
comp=Z,34nm,1.2s
CAST Castle Rocks 89.71 12 IAmb IAmb 19 01 17.4
comp=Z,24nm,1.0s
ZEA Zeya 89.72 332 *e*P **P 19 01 02.8 +0.8**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
TABL Table Mountain 89.73 18 IAmb IAmb 19 01 19.0
comp=Z,26nm,1.1s
VRDI Verde Repeater 89.76 17 IAmb IAmb 19 01 18.9
comp=Z,27nm,1.2s
N25K Chitina, Valde 89.78 16 IAmb IAmb 19 01 19.0
comp=Z,30nm,1.2s
GRNC Granite Creek 89.80 18 IAmb IAmb 19 01 19.3
comp=Z,39nm,1.2s
M24K Tolsona, Glenn 89.82 15 IAmb IAmb 19 03 17.9
comp=Z,27nm,1.1s
GLB Glitina Butte 89.84 16 IAmb IAmb 19 01 19.1
comp=Z,21nm,1.1s
MPU Maple Canyon 89.85 46 IAmb IAmb 19 01 20.6
comp=Z,27nm,1.2s
PLID Pearl Lake 89.92 40 IAmb IAmb 19 01 20.4
comp=Z,34nm,1.4s
B08A Colville Reser 89.98 36 IAmb IAmb 19 01 19.9
comp=Z,19nm,1.2s
MCARA McCarthy VSAT 90.00 17 IAmb IAmb 19 01 20.6
comp=Z,26nm,1.0s
HLID Hailey 90.01 41 IAmb IAmb 19 01 21.3
comp=Z,33nm,1.2s
J20K Nowinta River 90.03 11 IAmb IAmb 19 03 18.3
comp=Z,44nm,1.6s
LLLB Lillooet 90.06 33 IAmb IAmb 19 01 20.7
comp=Z,17nm,1.1s
LOGN Logan Glacier 90.09 18 IAmb IAmb 19 01 20.5
comp=Z,28nm,1.1s
P29M Windy Canyon 90.10 20 IAmb IAmb 19 03 19.9
comp=Z,27nm,1.4s
TRF Thorofare Moun 90.10 13 IAmb IAmb 19 01 19.3
comp=Z,19nm,1.0s
CTGM Chitina Glacie 90.11 18 IAmb IAmb 19 01 20.6
comp=Z,31nm,1.2s
MNTX Cornudas Mount 90.12 55 IAmb IAmb 19 01 21.9
comp=Z,30nm,1.3s
JLU Jordanelle 90.28 45 IAmb IAmb 19 01 22.5
comp=Z,48nm,1.6s
O28M Mount Upton 90.28 18 IAmb IAmb 19 01 21.5
comp=Z,16nm,1.0s
TXAR Lajitas Array 90.34 58 P **P 19 01 07.1 +1.5**
comp=Z,3.0nm,0.8s,baz=216,slow=6.4,SNR=42
comp=Z,3.0nm,0.8s
DHY Denali Highway 90.39 14 IAmb IAmb 19 03 20.8
comp=Z,29nm,1.7s
HHC Hu-ho-hao-te 90.45 315 *e*P **P 19 01 08.8 +2.9**
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,61nm,4.0s
PV05 Paradox Valley 90.55 48 IAmb IAmb 19 01 23.8
comp=Z,22nm,1.3s
P18A Preston Nutter 90.56 46 IAmb IAmb 19 01 23.8
comp=Z,21nm,1.2s
MCK McKinley 90.63 13 IAmb IAmb 19 03 20.7
comp=Z,35nm,1.4s
HWUT Hardware Ranch 90.73 44 IAmb IAmb 19 01 24.0
comp=Z,38nm,1.5s
PZH PanZhiHua 90.74 299 P **P 19 01 08.8 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PV18 Skein Mesa, Pa 90.76 48 IAmb IAmb 19 01 23.6
comp=Z,30nm,1.4s
PV20 West Nyswonger 90.77 48 IAmb IAmb 19 01 24.2
comp=Z,34nm,1.3s
PV23 Carpenter Ridg 90.79 48 IAmb IAmb 19 04 49.8
comp=Z,21nm,1.1s
PV03 Paradox Valley 90.81 48 IAmb IAmb 19 01 24.4
comp=Z,27nm,1.7s
PV11 David Mesa, Pa 90.81 48 IAmb IAmb 19 01 24.6
comp=Z,23nm,1.4s
ALPN Alpine 90.83 57 IAmb IAmb 19 01 25.2
comp=Z,45nm,1.6s
PV02 Paradox Valley 90.86 48 IAmb IAmb 19 01 24.8
comp=Z,32nm,1.5s
M26K Nabesna, AK 90.86 16 IAmb IAmb 19 03 22.7
comp=Z,22nm,1.4s
PV12 Saucer Basin, 90.87 48 IAmb IAmb 19 01 25.0
comp=Z,27nm,1.2s
PV07 Paradox Valley 91.03 48 IAmb IAmb 19 01 25.6
comp=Z,21nm,1.5s
S34M Telegraph Cree 91.04 24 IAmb IAmb 19 01 25.6
comp=Z,20nm,1.1s
HYT Haines Junctio 91.11 19 IAmb IAmb 19 03 25.6
comp=Z,44nm,2.0s
PECS Pecos 91.11 56 IAmb IAmb 19 01 26.1
comp=Z,24nm,1.6s
M27K Edge Creek, AK 91.12 17 IAmb IAmb 19 03 24.4
comp=Z,31nm,1.4s
CD2 Chengdu 91.13 303 P **P 19 01 11.0 +1.8**
CD2 pmax pmax
comp=Z,20nm,1.0s
K24K Donnelly Dome 91.38 14 IAmb IAmb 19 03 24.8
comp=Z,33nm,1.0s
RIDG Independent Ri 91.54 15 IAmb IAmb 19 03 25.4
comp=Z,35nm,1.6s
H21K Melozitna Rive 91.62 11 IAmb IAmb 19 03 25.9
comp=Z,46nm,1.9s
AHID Auburn Hatcher 91.63 43 IAmb IAmb 19 01 28.6
comp=Z,20nm,0.9s
HDA Harding Lake 91.64 14 IAmb IAmb 19 03 26.4
comp=Z,21nm,1.4s
DOT Dot Lake 91.65 15 IAmb IAmb 19 03 25.9
comp=Z,22nm,1.5s
CCB Clear Creek Bu 91.67 13 IAmb IAmb 19 03 25.1
comp=Z,20nm,1.2s
SAND Sanderson 91.82 58 IAmb IAmb 19 01 29.0
comp=Z,19nm,1.2s
COLA College 91.86 13⇑ *e*P **P 19 01 13.2 +1.6**
COLA pmax pmax
comp=Z,2.0nm,0.6s
S22A 4UR Ranch, Cre 91.95 49 IAmb IAmb 19 01 30.3
comp=Z,27nm,1.2s
ILAR Eielson Array 91.97 14 P **P 19 01 11.4 -0.8**
comp=Z,0.4nm,0.9s,baz=224,slow=6.6,SNR=4.7
comp=Z,0.4nm,0.9s
TPAW Teton Pass 92.10 43 IAmb IAmb 19 01 30.9
comp=Z,25nm,1.4s
FXWY Fox Creek 92.13 43 IAmb IAmb 19 01 31.0
comp=Z,26nm,1.6s
BILL Bilibino 92.20 355⇑ *i*P **P 19 01 12.4 -0.7**
BILL pmax pmax
comp=Z,2.0nm,0.4s
SNOW Snow King Moun 92.20 43 IAmb IAmb 19 01 31.3
comp=Z,22nm,1.1s
J26L Joseph Creek 92.49 15 IAmb IAmb 19 03 30.5
comp=Z,18nm,1.1s
PDAR Pinedale Array 92.60 44 P **P 19 01 16.6 +0.6**
comp=Z,0.9nm,0.8s,baz=215,slow=2.9,SNR=9.1
comp=Z,0.9nm,0.8s
L29M L29M 92.74 18 IAmb IAmb 19 03 32.0
comp=Z,27nm,1.1s
SDCO Great Sand Dun 92.87 50 IAmb IAmb 19 01 34.0
comp=Z,17nm,1.3s
OZNA Ozona 93.02 58 IAmb IAmb 19 01 34.4
comp=Z,43nm,1.9s
LZH Lanzhou 93.42 308 *e*P **P 19 01 23.9 +4.2**
LZH pmax pmax
comp=Z,11nm,1.1s
I29M Ogilvie Camp, 94.48 16 IAmb IAmb 19 03 39.0
comp=Z,14nm,1.4s
G26K Porcupine Rive 94.50 13 IAmb IAmb 19 03 39.6
comp=Z,19nm,1.3s
YAK Yakutsk 94.57 339 *de*P **P 19 01 23.6 -0.5**
YAK pmax pmax
comp=Z,5.0nm,0.5s
BRDY Brady 94.82 58 IAmb IAmb 19 01 42.4
comp=Z,16nm,1.3s
APMT Aspermont 94.82 56 IAmb IAmb 19 03 40.7
comp=Z,15nm,1.3s
H29M Whitestone 95.15 16 IAmb IAmb 19 03 42.2
comp=Z,15nm,1.1s
EPYK Eagle Plains 95.69 16 IAmb IAmb 19 03 44.6
comp=Z,15nm,1.2s
E27K Coleen River 96.00 13 IAmb IAmb 19 03 46.7
comp=Z,14nm,1.6s
ULN Ulaanbaatar 96.75 320⇑ *e*P **P 19 01 33.3 -1.2**
ULN pmax pmax
comp=Z,6.0nm,2.0s
E28M Babbage River 96.79 14 IAmb IAmb 19 03 49.8
comp=Z,9.1nm,1.2s
SONM Songino Array 97.13 319 P Pdif 19 01 36.8 +0.6
comp=Z,0.3nm,0.5s,baz=131,slow=8.1,SNR=4.7
SONM PP **PP 19 05 41.0 -0.2**
comp=Z,0.6nm,0.9s,baz=130,slow=2.3,SNR=1.9
comp=Z,0.3nm,0.5s
GTA Gaotai 97.73 310 *e*P **P 19 01 40.4 +1.3**
GTA PP **PP 19 05 44.0 -2.0**
INK Inuvik 97.97 16 P Pdif 19 01 39.1 0.0
comp=Z,3.1nm,0.3s,baz=197,slow=2.4,SNR=3.9
comp=Z,3.1nm,0.3s
WMQ Urumqi 107.78 311 Pdif **Pdif 19 02 24.6 +1.1**
ZALV Zalesovo Beam 111.97 321 PKiKP **PKiKP 19 06 34.8 -0.5**
comp=Z,0.6nm,0.4s,baz=107,slow=1.5,SNR=2.9
MK31 Makanchi Array 112.19 313 *c* iPKiKP **PKiKP 19 06 35.3 -0.8**
MKAR Makanchi Array 112.19 313 Pdiff **Pdif 19 02 43.5 +0.4**
comp=Z,0.2nm,0.5s,baz=90,slow=6.6,SNR=3.3
MKAR PKiKP **PKiKP 19 06 35.4 -0.7**
comp=Z,0.8nm,0.6s,baz=208,slow=0.6,SNR=9.0
KURK Kurchatov 115.23 316 *i* iPKiKP **PKPdf 19 06 40.6 -1.1**
KURBB Kurchatov Arra 115.28 316 PKP **PKPdf 19 06 40.9 -0.9**
comp=Z,1.1nm,0.5s,baz=106,slow=1.8,SNR=15
KURBB PP **PP 19 07 53.3 +0.8**
comp=Z,0.9nm,1.0s,baz=108,slow=3.1,SNR=5.0
BVAR Borovoye Array 120.47 319 PKP **PKPdf 19 06 51.3 -0.4**
SCHQ Schefferville 122.39 39 SKP 19 09 43.0
comp=Z,3.4nm,0.6s,baz=215,slow=14,SNR=4.5
SPITS Spitsbergen Ar 125.09 356 PKP **PKPdf 19 06 59.9 -0.1**
comp=Z,1.9nm,0.5s,baz=53,slow=21,SNR=6.0
ARTI Arti 127.01 324 *i* PKiKP **PKPdf 19 07 04.0 -0.2**
ARTI 19 09 10.9
ARTI 19 13 25.2
ARTI SP SP 19 18 21.3 -2.2
ARCES ARCESS Array B 131.87 348 PKP **PKPdf 19 07 12.3 -0.7**
comp=Z,1.1nm,0.4s,baz=81,slow=1.0,SNR=16
ARCES SKPab **SKPab 19 09 53.0 +1.0**
comp=Z,5.4nm,0.9s,baz=18,slow=4.1,SNR=2.9
BELG Belogornoye 134.16 321 ⇑ *i* PKiKP **PKiKP 19 07 19.7 +0.5**
AKT Akhty 136.80 306 *e* PKiKP **PKiKP 19 07 24.6 -0.6**
AKT pmax pmax
comp=Z,18nm,1.4s
FINES FINESS Array B 138.44 342 PKhKP PKPpre 19 07 16.6
comp=Z,0.6nm,0.4s,baz=36,slow=3.0,SNR=7.2
FINES PKP **PKPdf 19 07 25.1 -0.3**
comp=Z,1.1nm,0.4s,baz=82,slow=1.7,SNR=12
FINES SKPbc **SKPbc 19 10 11.6 +0.4**
comp=Z,4.8nm,0.7s,baz=85,slow=4.0,SNR=7.3
OBN Obninsk 138.78 329 *e* PKiKP **PKPdf 19 07 25.8 -0.4**
OBN *e* 19 09 25.5
OBN *e* 19 10 25.7
OBN pmax pmax
comp=Z,9.0nm,0.9s
KIV Kislovodsk 139.91 311 *e* PKiKP **PKPdf 19 07 26.7 -2.1**
KIV pmax pmax
comp=Z,4.0nm,1.1s
LABN Labinsk 141.05 312 *i* PKiKP **PKPdf 19 07 28.0 -2.7**
LABN pmax pmax
comp=Z,22nm,0.6s
NB2 NORSAR Subarra 142.06 351 PKP **PKPdf 19 07 27.6 -4.5**
comp=Z,0.6nm,0.5s,baz=16,slow=3.2
NB2 pPKP **PP 19 10 36.5 -7.6**
comp=Z,2.1nm,0.7s,baz=18,slow=2.6
NOA NORSAR Array B 142.06 351 PKhKP PKPpre 19 07 28.1
comp=Z,1.8nm,0.7s,baz=16,slow=4.6,SNR=8.2
NOA SKPbc **SKPbc 19 10 21.1 +0.4**
comp=Z,0.4nm,0.6s,baz=18,slow=2.6,SNR=1.6
HFS Hagfors 142.53 349 PKhKP PKPpre 19 07 29.2
comp=Z,8.5nm,0.4s,baz=64,slow=3.4,SNR=131
HFS SKPbc **SKPbc 19 10 22.2 +0.4**
comp=Z,3.2nm,0.8s,baz=48,slow=2.3,SNR=2.8
MNK Minsk 143.05 333 *i* PKiKP PKPbc 19 07 32.3 +0.4
MNK *i* 19 09 35.1
MNK *i* 19 10 50.0
MNK *i* 19 13 52.2
MNK *i* PPP PPP 19 14 05.5
MNK *i* SS SS 19 28 55.8 +8.4
MNK *i* SSS SSS 19 34 21.0
MNK pmax pmax
comp=Z,305nm,22.6s
MNK pmax pmax
comp=N,279nm,21.2s
MNK pmax pmax
comp=E,134nm,22.1s
MNK MLR MLR
comp=Z,36nm,19.0s
MNK MLR MLR
comp=N,124nm,21.0s
MNK MLR MLR
comp=E,341nm,21.0s
ANN Anapa 143.20 314 *i* PKiKP PKPab 19 07 32.4 +0.1
ANN pmax pmax
comp=Z,33nm,0.8s
STRU Stroemstad 143.98 350 *i* P PKPbc 19 07 34.2 -0.5
AKASG Malin Array Be 144.98 327 PKPbc **PKPdf 19 07 37.5 +0.1**
comp=Z,5.0nm,0.4s,baz=43,slow=4.3,SNR=52
AKASG SKPbc **SKPbc 19 10 28.0 +0.2**
comp=Z,4.2nm,0.6s,baz=46,slow=2.8,SNR=6.7
AKBB Malin Array Si 144.98 327 *de* PKiKP **PKPdf 19 07 37.2 -0.2**
KIEV Kiev 145.00 327 ⇑P **PKPdf 19 07 37.1 -0.3**
BORU Boraas 145.04 348 *i* P **PKPbc 19 07 38.3 +0.3**
HOMB Homborsund 145.10 352 *i* P **PKPbc 19 07 38.5 +0.3**
SUW Suwalki 145.26 336 *e* PKP **PKPbc 19 07 39.2 +0.4**

SIM	**Simferopol'**	**145.29**	**316**	*e*PKP2	**PKPbc**	**19 07 39.7**	**+0.5**
SIM				pmax	pmax		
	comp=Z,23nm,1.0s						
BLEU	**Blekinge**	**145.61**	**344**	*i* P	**PKPdf**	**19 07 38.7**	**+0.4**
DEL	**Delary**	**145.90**	**346**	*i* P	**PKPdf**	**19 07 39.0**	**+0.2**
BZK	**Bozkurt**	**146.58**	**311**	⇑P	**PKPbc**	**19 07 42.9**	**0.0**
BEIL	**Beino**	**146.90**	**297**	*e*P	**PKPbc**	**19 07 45.0**	**+0.9**
SORM	**Soroca**	**147.02**	**324**	⇑P	**PKPbc**	**19 07 43.2**	**-0.6**
PURM	**Purcari**	**147.10**	**321**	⇑P	**PKPbc**	**19 07 43.7**	**-0.4**
HWQ	**Hawqa**	**147.14**	**297**	*e*P	**PKPbc**	**19 07 44.3**	**-0.5**
RCY	**Rachaya**	**147.34**	**295**	*e*P	**PKPbc**	**19 07 46.0**	**+0.6**
BHL	**Bhannes**	**147.43**	**296**	*e*P	**PKPbc**	**19 07 46.1**	**+0.6**
SHBL	**Chebaa**	**147.44**	**295**	*e*P	**PKiKP**	**19 07 46.6**	**-0.7**
QRWL	**Qarraoun**	**147.46**	**295**	*e*P	**PKPbc**	**19 07 46.3**	**+0.7**
MILM	**Milestii Mici**	**147.49**	**322**	⇓P	**PKPbc**	**19 07 43.8**	**-1.4**
DQRL	**Deir Qamar**	**147.53**	**296**	*e*P	**PKiKP**	**19 07 46.7**	**-0.7**
KIRS	**Kirsehir-Merke**	**147.61**	**306**	⇓P	**PKPbc**	**19 07 46.2**	**+0.3**
BRTR	**Keskin Array B**	**147.62**	**307**	PKPbc	**PKPbc**	**19 07 45.8**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=139,slow=5.0,SNR=18						
BRTR				PKPab	**PKPab**	**19 07 50.1**	**+0.1**
	comp=Z,6.7nm,0.6s,baz=86,slow=3.1,SNR=26						
MMAI	**Mount Meron Ar**	**147.76**	**294**	PKPbc	**PKiKP**	**19 07 47.6**	**-0.3**
	comp=Z,8.8nm,0.4s,baz=82,slow=6.2,SNR=48						
BEL	**Belsk**	**147.87**	**336**	*e*PKP	**PKiKP**	**19 07 46.9**	**-0.4**
ANTO	**Ankara**	**148.19**	**308**	⇑P	**PKPbc**	**19 07 47.9**	**+0.6**
TLCR		**148.45**	**319**	⇓P	**PKPbc**	**19 07 48.0**	**+0.4**
EKA	**Eskdalemuir Ar**	**148.47**	**4**	PKPbc	**PKPbc**	**19 07 46.9**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=343,slow=2.7,SNR=27						
SCTR	**Scanteiesti**	**148.66**	**321**	⇓P	**PKPbc**	**19 07 48.6**	**+0.5**
NEGRR	**Negrea**	**148.81**	**321**	⇓P	**PKPbc**	**19 07 48.8**	**+0.3**
CFR	**Carcaliu**	**148.86**	**320**	⇑P	**PKPbc**	**19 07 47.9**	**-0.7**
TPGR	**Topolog**	**148.87**	**319**	⇑P	**PKPbc**	**19 07 49.0**	**+0.3**
TESR	**Tescani**	**148.93**	**323**	⇓P	**PKPbc**	**19 07 48.7**	**-0.1**
BURAR	**Bucovina Array**	**148.99**	**326**	⇑P	**PKiKP**	**19 07 49.9**	**-0.1**
MFTR	**Murfatlar**	**149.23**	**318**	⇑P	**PKPbc**	**19 07 49.5**	**0.0**
HARR	**Harsova**	**149.25**	**319**	⇑P	**PKiKP**	**19 07 50.4**	**-0.1**
VRI	**Vrincioaia**	**149.27**	**322**	⇑P	**PKPbc**	**19 07 49.7**	**0.0**
PLOR	**Plostina**	**149.32**	**322**	⇓P	**PKPbc**	**19 07 49.2**	**-0.6**
OJC	**Ojcow**	**149.54**	**335**	*e*PKP	**PKPbc**	**19 07 50.4**	**+0.2**
TURR	**Turia**	**149.55**	**325**	⇑P	**PKPbc**	**19 07 50.7**	**+0.4**
SILT	**Sile**	**149.90**	**312**	⇑P	**PKPbc**	**19 07 50.5**	**-0.8**
MLR	**Muntele Rosu**	**149.94**	**322**	⇓P	**PKiKP**	**19 07 52.0**	**-0.1**
DOPR	**Dopca**	**149.95**	**323**	⇑P	**PKiKP**	**19 07 52.4**	**+0.4**
NIE	**Niedzica**	**149.97**	**333**	*e*PKP	**PKiKP**	**19 07 52.7**	**+0.8**
KSP	**Ksiaz**	**150.28**	**339**	*e*PKP	**PKiKP**	**19 07 52.6**	**+0.2**
CJR	**Cluj-Napoca**	**150.41**	**326**	⇑P	**PKiKP**	**19 07 52.9**	**0.0**
STEB	**Steborice**	**150.53**	**336**	*e*PKP	**PKiKP**	**19 07 53.0**	**0.0**
OSTC	**Ostas**	**150.55**	**339**	⇑*e*PKP	**PKiKP**	**19 07 53.3**	**+0.3**
OSTC	**Ostas**	**150.55**	**339**	*e*PKIKP	**PKiKP**	**19 07 53.3**	**+0.3**
CHVC	**Chvalec**	**150.58**	**339**	⇑*e*PKP	**PKiKP**	**19 07 53.1**	**0.0**
CHVC	**Chvalec**	**150.58**	**339**	*e*PKIKP	**PKiKP**	**19 07 53.1**	**0.0**
UPC	**Upice**	**150.66**	**339**	⇑*e*PKP	**PKiKP**	**19 07 53.3**	**+0.1**
UPC	**Upice**	**150.66**	**339**	*e*PKIKP	**PKiKP**	**19 07 53.3**	**+0.1**
MARR	**Marisel-Cluj**	**150.68**	**327**	⇓P	**PKiKP**	**19 07 53.1**	**+0.1**
DPC	**Dobruska-Polom**	**150.69**	**339**	⇑*e*PKP	**PKiKP**	**19 07 53.6**	**+0.2**
DPC				*ex*	x	19 09 47.6	
DPC	**Dobruska-Polom**	**150.69**	**339**	*e*PKIKP	**PKiKP**	**19 07 53.6**	**+0.2**
ARR	**Arges**	**150.74**	**323**	⇑P	**PKiKP**	**19 07 54.8**	**+1.1**
MORC	**Moravsky Berou**	**150.75**	**337**	*e*PKP	**PKiKP**	**19 07 53.5**	**0.0**
MORC	**Moravsky Berou**	**150.75**	**337**	*e*PKP	**PKPab**	**19 08 03.1**	**+0.7**
MORC				*e*		19 08 18.0	
MORC				*e*		19 10 13.8	
MORC	**Moravsky Berou**	**150.75**	**337**	⇑P	**PKiKP**	**19 07 53.9**	**+0.4**
KRLC	**Kraliky**	**150.77**	**338**	⇑*e*PKP	**PKPbc**	**19 07 53.3**	**+0.2**
KRLC	**Kraliky**	**150.77**	**338**	*e*PKIKP	**PKPbc**	**19 07 53.3**	**+0.2**
DRGR		**150.80**	**327**	⇑P	**PKiKP**	**19 07 53.8**	**0.0**
CLL	**Collm**	**150.84**	**343**	*i* PKIKP	**PKPbc**	**19 07 53.2**	**+0.1**
CLL				pmax	pmax		
	comp=Z,14nm,0.9s						
CLL	**Collm**	**150.84**	**343**	*i* PKPbc	**PKPbc**	**19 07 53.2**	**+0.1**
	comp=Z,14nm,0.9s						
BRG	**Berggiesshubel**	**150.98**	**342**	⇓*e*PKPf		19 07 54.0	
BRG				Amp		19 07 54.4	
	comp=Z,9.1nm,0.5s						
BRG				PKPab	**PKPab**	**19 08 09.3**	**+6.0**
BRG				Amp		19 08 09.8	
	comp=Z,19nm,0.6s						
BRG				pPKP	pPKPdf	19 09 48.4	-0.5
BRG				Amp		19 09 50.1	
	comp=Z,3.8nm,0.6s						
MAUC	**Maruska**	**150.98**	**336**	⇑*e*PKP	**PKiKP**	**19 07 54.5**	**+0.5**
PVCC	**Panska Ves**	**151.10**	**341**	⇑*e*PKP	**PKiKP**	**19 07 54.4**	**+0.3**
PVCC	**Panska Ves**	**151.10**	**341**	*e*PKIKP	**PKiKP**	**19 07 54.4**	**+0.3**
LOT	**Lotru**	**151.16**	**324**	⇓P	**PKPdf**	**19 07 53.8**	**+2.6**
VYHS	**Vyhne**	**151.29**	**334**	*e*PKP	**PKPab**	**19 08 05.7**	**+1.0**
VYHS	**Vyhne**	**151.29**	**334**	*e*PKIKP	**PKPab**	**19 08 05.7**	**+1.0**
BAND	**Balkesir-Ban**	**151.30**	**312**	⇑P	**PKPbc**	**19 07 54.3**	**-0.3**
BAND	**Balkesir-Ban**	**151.30**	**312**	⇑P	**PKPab**	**19 08 06.1**	**+1.1**
JAVC	**Velka Javorina**	**151.46**	**335**	*e*PKP	**PKPab**	**19 08 07.1**	**+1.6**
VRAC	**Vranov**	**151.48**	**337**	*e*PKP	**PKPbc**	**19 07 54.8**	**+0.1**
VRAC	**Vranov**	**151.48**	**337**	*e*PKP	**PKPab**	**19 08 06.3**	**+0.8**
VRAC	**Vranov**	**151.48**	**337**	⇑P	**PKPab**	**19 08 06.5**	**+1.0**
GZR	**Gura Zlata**	**151.72**	**325**	⇑P	**PKPbc**	**19 07 55.5**	**+0.1**
KRUC	**Moravsky**	**151.76**	**337**	*e*PKP	**PKPbc**	**19 07 55.3**	**0.0**
KRUC	**Moravsky**	**151.76**	**337**	*e*PKP	**PKPab**	**19 08 07.5**	**+0.8**
TAVA	**DENIZLI_Tavas**	**151.87**	**306**	⇓P	**PKiKP**	**19 07 57.4**	**+1.2**
BZS	**Buzias**	**152.16**	**327**	⇓P	**PKPdf**	**19 07 52.0**	**+2.9**
KHC	**Kasperske Hory**	**152.63**	**341**	⇑*e*PKP	**PKiKP**	**19 07 57.4**	**0.0**
KHC	**Kasperske Hory**	**152.63**	**341**	⇓*e*PKIKP	**PKPdf**	**19 07 46.9**	**-2.8**
CKRC	**Cesky Krumlov**	**152.68**	**339**	⇑*e*PKP	**PKiKP**	**19 07 57.6**	**+0.1**
CKRC	**Cesky Krumlov**	**152.68**	**339**	*e*PKIKP	**PKiKP**	**19 07 57.6**	**+0.1**
GERES	**GERESS Array B**	**152.85**	**340**	PKPbc	**PKPbc**	**19 07 57.4**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=54,slow=2.3,SNR=6.4						
GERES				PKPab	**PKPab**	**19 08 11.5**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=70,slow=1.6,SNR=11						
CONA	**Conrad Observa**	**152.90**	**336**	*e*PKP	**PKPab**	**19 08 12.8**	**+1.1**
	comp=Z,5.4nm,0.6s,SNR=10						
MEM	**Membach**	**152.91**	**352**	*d*PKP	**PKPab**	**19 08 11.2**	**-0.2**
RONA	**Rosalia, Austr**	**152.93**	**336**	*i* PKP	**PKPab**	**19 08 13.0**	**+1.2**
	comp=Z,4.1nm,0.6s						
BCLA	**Clavier**	**153.18**	**353**	*d*PKP	**PKPab**	**19 08 12.4**	**-0.2**
BMRD	**Maredsous**	**153.35**	**353**	*d*PKP	**PKPab**	**19 08 13.8**	**+0.4**
DOU	**Dourbes**	**153.58**	**353**	*d*PKP	**PKPab**	**19 08 14.7**	**+0.4**
ARSA	**Arzberg**	**153.60**	**336**	*e*PKP	**PKPab**	**19 08 15.3**	**+0.7**
	comp=Z,1.7nm,0.6s						
WLF	**Walferdange**	**153.81**	**351**	*d*PKP	**PKPab**	**19 08 14.5**	**-0.8**
BIOA	**Bad Ischl, Aus**	**153.88**	**339**	*e*PKP	**PKPab**	**19 08 16.6**	**+0.8**
	comp=Z,3.5nm,0.9s						
SOKA	**Soboth**	**154.26**	**336**	*e*PKP	**PKPab**	**19 08 17.9**	**+0.4**
	comp=Z,5.9nm,0.8s						
WATA	**Walderalm**	**154.84**	**341**	*e*PKP	**PKPab**	**19 08 20.6**	**+0.6**
	comp=Z,2.8nm,0.5s						
WTTA	**Wattenberg**	**154.89**	**341**	*i* PKP	**PKPab**	**19 08 20.9**	**+0.6**
	comp=Z,2.4nm,0.4s						
RETA	**Reutte**	**154.93**	**343**	*e*PKP	**PKPab**	**19 08 20.9**	**+0.5**
	comp=Z,3.5nm,0.6s						
MOTA	**Moosalm**	**154.97**	**342**	*e*PKP	**PKPab**	**19 08 21.1**	**+0.5**
	comp=Z,4.7nm,0.9s						
SQTA	**Sankt Quirin**	**155.05**	**342**	*e*PKP	**PKPab**	**19 08 21.4**	**+0.5**
	comp=Z,4.7nm,1.1s						
ABTA	**Abfaltersbach**	**155.08**	**339**	*e*PKP	**PKPab**	**19 08 21.5**	**+0.5**
	comp=Z,9.7nm,1.3s						
DAVA	**Damuels**	**155.35**	**344**	*e*PKP	**PKPab**	**19 08 22.7**	**+0.5**
	comp=Z,3.7nm,0.5s						
PBRG	**Braganca**	**161.22**	**16**	*i* IAmb	IAmb	19 09 04.6	
	comp=Z,28nm,1.6s						
POLO	**Lamas de Olo**	**161.33**	**19**	*i* IAmb	IAmb	19 09 05.4	
	comp=Z,14nm,1.5s						
PVRL	**Vila Real**	**161.44**	**19**	*i* IAmb	IAmb	19 09 05.8	
	comp=Z,28nm,1.4s						
MVO	**Moncorvo**	**161.74**	**17**	*i* IAmb	IAmb	19 09 06.5	
	comp=Z,27nm,1.3s						
MTE	**Manteigas**	**162.30**	**20**	*i* IAmb	IAmb	19 09 12.1	
	comp=Z,16nm,1.6s						
PSARD	**Sardoal**	**162.82**	**22**	*i* IAmb	IAmb	19 09 10.7	
	comp=Z,18nm,1.3s						
PMTG	**Montargil**	**163.27**	**23**	*i* IAmb	IAmb	19 09 13.7	
	comp=Z,19nm,1.5s						
EVO	**Evora**	**163.83**	**23**	*i* IAmb	IAmb	19 09 16.4	
	comp=Z,18nm,1.5s						
ESDC	**Sonseca Array**	**163.87**	**11**	PKPab	**PKPab**	**19 08 59.2**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=360,slow=4.3,SNR=2.8						
PBAR	**Barrancos**	**164.49**	**21**	*i* IAmb	IAmb	19 09 19.6	
	comp=Z,14nm,1.6s						
PCVE	**Castro Verde**	**164.61**	**25**	*i* IAmb	IAmb	19 09 19.5	
	comp=Z,24nm,1.5s						
PVAQ	**Vaqueiros**	**164.93**	**25**	*i* IAmb	IAmb	19 09 42.2	
	comp=Z,27nm,2.3s						
TORD	**Torodi Ar. Bea**	**169.24**	**188**	PKPab	**PKPab**	**19 09 23.4**	**-0.2**
	comp=Z,1.9nm,0.4s,baz=171,slow=3.4,SNR=1.7						

*MOS **07** 18:49:12.7±0.8,23°.84S×179°.93W,h501km,mb5.4/8,*

Error ellipse: s-maj=10.9km s-min=10.4km az=20.8
*BJI **07** 18:49:13.5,23°.69S×179°.33W,h523km,mB4.8/9, mb4.8/35*
*IDC **07** 18:49:13.9±0.8,23°.89S×179°.92W,h505km±8km,mb4.4/30, mbtmp5.3/35,Error ellipse: s-maj=8.5km s-min=7.2km az=164.0*
*NEIC **07** 18:49:14.4±1.6,23°.9S±0°.1×179°.87W±0°.06,h512km±7km, mb5.1/343,Error ellipse: s-maj=16.3km s-min=6.8km az=165.0*

ISC 07 18:49:14.6±0.2,23°.94S±0°.04×179°.86W±0°.05,h518km, n590,σ1°03/610,mb5.0/69,34C-21D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.57**	**162**	P	P		**P**	**18 50 46.6**	**-0.9**
RAO	**Raoul Island**	**5.57**	**162**	P	P		**P**	**18 50 46.9**	**-0.6**
	832nm,0.3s,baz=281,slow=23,SNR=4.4								
MSVF	**Nonsavu**	**6.48**	**342**	P			**P**	**18 50 54.0**	**-2.4**
	146nm,0.5s,baz=314,slow=23,SNR=8.7								
FUTU	**Fugatoga**	**9.72**	**10**	P	P		**P**	**18 51 28.6**	**-0.7**
NIUE	**Niue**	**10.43**	**64**	P	P		**P**	**18 51 36.3**	**-0.4**
NFK	**Norfolk Island**	**12.05**	**242**	P	P		**P**	**18 51 56.4**	**+2.9**
DZM	**Mont Dzumac**	**12.75**	**276**	P	P		**P**	**18 52 00.5**	**-0.6**
	52nm,0.7s,baz=101,slow=22,SNR=11								
MXZ	**Matakaoa Point**	**13.67**	**186**				**P**	**18 52 10.7**	**+0.3**
TWGZ	**Tauwhareparae**	**14.31**	**187**	P	P		**P**	**18 52 16.5**	**-0.6**
TWGZ				S			**S**	**18 54 43.7**	**-4.1**
URZ	**Urewera**	**14.51**	**190**	P	P		**P**	**18 52 18.9**	**-0.2**
	48nm,0.3s,baz=316,slow=2.8,SNR=6.0								
URZ				S			**S**	**18 54 51.3**	**-0.1**
	83nm,0.6s,baz=251,slow=20,SNR=13								
URZ	**Urewera**	**14.51**	**190**	P	P		**P**	**18 52 19.5**	**+0.4**
URZ				S			**S**	**18 54 49.6**	**-1.8**
MWZ	**Matawai**	**14.52**	**188**	P	P		**P**	**18 52 19.5**	**+0.1**
MWZ				S			**S**	**18 54 52.2**	**+0.5**
TKGZ	**Te Karaka**	**14.59**	**187**	P	P		**P**	**18 52 23.1**	**+3.1**
TKGZ				S			**S**	**18 54 49.0**	**-3.9**
RAGZ	**Rawiri**	**14.70**	**188**	P	P		**P**	**18 52 23.1**	**+1.8**
RAGZ				S			**S**	**18 54 49.0**	**-6.2**
MUGZ	**Murupara**	**14.77**	**190**	P	P		**P**	**18 52 21.3**	**-0.7**
MUGZ				S			**S**	**18 54 49.0**	**-7.5**
RIGZ	**Rimuhau**	**14.86**	**187**	P	P		**P**	**18 52 21.9**	**-1.0**
RIGZ				S			**S**	**18 54 58.5**	**+0.3**
RTZ	**Ruatahuna**	**14.88**	**190**	P	P		**P**	**18 52 23.7**	**+0.5**
RTZ				S			**S**	**18 54 53.8**	**-4.8**
SNGZ	**Shannon Statio**	**14.99**	**189**	P	P		**P**	**18 52 24.2**	**0.0**
SNGZ				S			**S**	**18 54 58.5**	**-2.1**
MTHZ	**Maungataniwha**	**15.13**	**190**	P	P		**P**	**18 52 24.8**	**-0.9**
MTHZ				S			**S**	**18 54 58.5**	**-4.8**
RAHZ	**Arahi**	**15.15**	**189**	S	S		**S**	**18 54 58.8**	**-5.0**
MRHZ	**Matea Rd**	**15.18**	**191**	S	S		**S**	**18 55 01.8**	**-2.5**
MHGZ	**Mahia Peninsul**	**15.28**	**187**	P	P		**P**	**18 52 26.0**	**-1.3**
MHGZ				S			**S**	**18 55 00.9**	**-5.3**
NMHZ	**Naumai**	**15.37**	**190**	P	P		**P**	**18 52 28.4**	**+0.1**
NMHZ				S			**S**	**18 55 03.8**	**-4.1**
ARHZ	**Aropaoanui**	**15.51**	**189**	P	P		**P**	**18 52 29.0**	**-0.6**
ARHZ				S			**S**	**18 55 09.1**	**-1.1**
ARHZ	**Aropaoanui**	**15.51**	**189**	S	S		**S**	**18 55 09.0**	**-1.2**
MCHZ	**McNeill Hill**	**15.73**	**190**	P	P		**P**	**18 52 29.6**	**-2.3**
MCHZ				S			**S**	**18 55 12.6**	**-1.7**
TUVZ	**Tukino**	**15.75**	**193**	P	P		**P**	**18 52 30.8**	**-1.5**
TUVZ				S			**S**	**18 55 15.7**	**+0.8**
WNVZ	**Wahianoa**	**15.82**	**193**	P	P		**P**	**18 52 32.0**	**-1.0**
WNVZ				S			**S**	**18 55 15.7**	**-0.5**
MOVZ	**Moawhango**	**15.86**	**193**	P	P		**P**	**18 52 32.0**	**-1.4**
MOVZ				S			**S**	**18 55 12.7**	**-4.1**
CKHZ	**Cape Kidnapper**	**15.88**	**189**	S	S		**S**	**18 55 15.8**	**-1.2**
BFZ	**Birch Farm**	**17.01**	**190**	P	P		**P**	**18 52 42.9**	**-1.8**
MSWZ	**Moikau Station**	**17.90**	**192**	P	P		**P**	**18 52 51.3**	**-1.6**
TCW	**Tory Channel**	**17.91**	**195**	P	P		**P**	**18 52 51.5**	**-1.5**
SNZO	**South Karori**	**17.91**	**193**	P	P		**P**	**18 52 51.5**	**-1.4**
BHW	**Baring Head**	**17.97**	**193**	P	P		**P**	**18 52 51.8**	**-1.7**
QRZ	**Quartz Range**	**18.01**	**199**				**P**	**18 52 54.2**	**+0.3**
BSWZ	**Blackbirch Sta**	**18.48**	**195**	P	P		**P**	**18 52 58.4**	**+0.2**
RAR	**Rarotonga**	**18.74**	**86**	P	P		**P**	**18 53 00.5**	**-0.4**
	47nm,0.7s,baz=226,slow=3.0,SNR=7.0								
DSZ	**Denniston Nrt**	**19.07**	**199**	P	P		**P**	**18 53 03.7**	**+0.1**
KHZ	**Kahutara**	**19.23**	**195**				**P**	**18 53 03.9**	**-1.1**
GVZ	**Gretaley S**	**19.87**	**196**	P	P		**P**	**18 53 09.6**	**-1.2**
LHI	**Lord Howe Isla**	**20.11**	**243**	P	P		**P**	**18 53 15.4**	**+2.2**
RPZ	**Rata Peaks**	**21.09**	**199**				**P**	**18 53 20.4**	**-1.6**
RPZ	**Rata Peaks**	**21.09**	**199**	P	P		**P**	**18 53 20.9**	**-1.0**
	62nm,0.4s,baz=21,slow=3.0,SNR=15								
RPZ				ScP			**ScP**	**18 59 54.4**	**+0.5**
	19nm,0.8s,baz=257,slow=2.3,SNR=5.2								
	62nm,0.4s								
FOZ	**Fox Glacier**	**21.31**	**201**				**P**	**18 53 24.4**	**+0.5**
DCZ	**Deep Cove**	**23.92**	**203**				**P**	**18 53 47.5**	**+0.3**
HNR	**Honiara**	**24.08**	**303**	P	P		**P**	**18 53 48.0**	**-1.1**
	75nm,0.7s,baz=151,slow=7.1,SNR=7.5								
	75nm,0.7s								
HNR	**Honiara**	**24.08**	**303**	P	P		**P**	**18 53 48.0**	**-1.1**
EIDS	**Eidsvold**	**26.43**	**261**				**P**	**18 54 09.8**	**+0.1**
PPT	**Papeete**	**28.98**	**83**	P	P		**P**	**18 54 31.9**	**-0.3**
PPT	**Papeete**	**28.98**	**83**	P	P		**P**	**18 54 31.9**	**-0.3**
	94nm,1.0s,baz=95,slow=2.9,SNR=11								
	94nm,1.0s								
CAN	**Canberra**	**29.23**	**240**	P	P		**P**	**18 54 35.4**	**+1.2**
CAN	**Canberra**	**29.23**	**240**	P	P		**P**	**18 54 35.4**	**+1.2**
TOO	**Toolangi**	**32.54**	**237**	P	P		**P**	**18 55 02.0**	**-0.5**
TOO				pmax	pmax				
	comp=Z,112nm,1.5s								
TOO	**Toolangi**	**32.54**	**237**				**P**	**18 55 02.0**	**-0.5**
MOO	**Moorlands**	**32.90**	**228**	P	P		**P**	**18 55 06.7**	**+1.2**
TAU	**Tasmania Unive**	**33.00**	**227**	P	P		**P**	**18 55 07.4**	**+1.0**
TAU				pmax	pmax				
	comp=Z,274nm,1.5s								
TAU	**Tasmania Unive**	**33.00**	**227**				**P**	**18 55 07.4**	**+1.0**
XMAS	**Kiritimati**	**33.80**	**43**				**P**	**18 55 12.1**	**-1.3**
STKA	**Stephens Creek**	**34.83**	**248**	P	P		**P**	**18 55 22.6**	**+0.7**
	comp=Z,22nm,0.4s,baz=89,slow=9.2,SNR=60								
STKA				PcP			**PcP**	**18 57 41.4**	**+0.8**
	comp=Z,7.5nm,0.5s,baz=136,slow=4.1,SNR=3.2								
	comp=Z,22nm,0.4s								
COEN	**Coen**	**36.25**	**279**				**P**	**18 55 34.4**	**+0.5**
MANU	**Manus Island**	**38.45**	**300**	P	P		**P**	**18 55 51.3**	**-0.7**
ASAR	**Alice Springs**	**42.16**	**261**	P	P		**P**	**18 56 21.9**	**+0.2**
	comp=Z,102nm,0.7s,baz=97,slow=8.1,SNR=65								
ASAR				ScP			**ScP**	**19 01 07.7**	**+2.4**
	comp=Z,20nm,0.7s,baz=107,slow=4.1,SNR=17								
ASAR				S			**S**	**19 02 02.4**	**-1.6**
	comp=Z,6.0nm,0.9s,baz=98,slow=15,SNR=8.3								
	comp=Z,102nm,0.7s								
WRAB	**Tennant Creek**	**42.53**	**266**	P	P		**P**	**18 56 24.1**	**-0.4**
WRAB				pmax	pmax				
	comp=Z,116nm,0.5s								
WRAB	**Tennant Creek**	**42.53**	**266**	P	P		**P**	**18 56 24.1**	**-0.4**
WRA	**Warramunga Arr**	**42.53**	**266**	P	P		**P**	**18 56 23.9**	**-0.7**
	comp=Z,98nm,0.4s,baz=103,slow=8.0,SNR=12								
WRA				ScP			**ScP**	**19 01 09.1**	**+2.3**
	comp=Z,11nm,0.7s,baz=100,slow=4.1,SNR=15								
WRA				S			**S**	**19 02 05.5**	**-4.0**
	comp=Z,34nm,1.2s,baz=102,slow=14,SNR=16								
JAY	**Jayapura**	**43.65**	**293**	P	P		**P**	**18 56 33.0**	**-0.4**
JAY	**Jayapura**	**43.65**	**293**	P	P		**P**	**18 56 33.0**	**-0.4**
	comp=Z,47nm,0.5s,baz=150,slow=3.9,SNR=31								
	comp=Z,47nm,0.5s								
JAY	**Jayapura**	**43.65**	**293**	P	P		**P**	**18 56 32.8**	**-0.6**
	comp=Z,78nm,1.0s								
GENI	**Genyem**	**44.06**	**293**	P	P		**P**	**18 56 36.1**	**-0.4**
	comp=Z,μmcomp=Z,179nm,1.0s								
SRPI	**Serui, Papua**	**47.78**	**291**	P	P		**P**	**18 57 04.7**	**-0.2**
	comp=Z,2μmcomp=Z,106nm,1.0s								
DHH	**Diamond Head**	**49.80**	**27**	P	P		**P**	**18 57 19.2**	**-0.4**
DHH	**Diamond Head**	**49.80**	**27**	P	P		**P**	**18 57 19.2**	**-0.4**
GUMO	**Guam**	**50.79**	**314**	P	P		**P**	**18 57 26.2**	**-0.9**
GUMO				pmax	pmax				
	comp=Z,357nm,1.7s								
GUMO	**Guam**	**50.79**	**314**				**P**	**18 57 26.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**50.96**	**266**	P	P		**P**	**18 57 28.5**	**+0.2**
	comp=Z,122nm,0.9s,baz=99,slow=7.8,SNR=57								
FITZ				S			**S**	**19 04 07.5**	**+0.9**
	comp=Z,4.7nm,1.1s,baz=218,slow=20,SNR=7.3								
	comp=Z,122nm,0.9s								
KMBL	**Kambalda**	**51.63**	**248**	P	P		**P**	**18 57 30.5**	**-2.5**
SWI	**Sorong**	**52.58**	**288**	P	P		**P**	**18 57 39.6**	**-0.5**
AAI	**Ambon**	**53.94**	**284**	P	P		**P**	**18 57 51.0**	**+1.2**
VNDA	**Vanda**	**54.35**	**185**	P	P		**P**	**18 57 53.4**	**+1.8**
	comp=Z,9.4nm,0.8s,baz=10,slow=8.4,SNR=35								
VNDA				PcP			**PcP**	**18 58 48.4**	**+0.9**
	comp=Z,4.4nm,0.6s,baz=316,slow=4.4,SNR=7.3								
	comp=Z,9.4nm,0.8s								
NLAI	**Namlea**	**55.12**	**283**	P	P		**P**	**18 57 58.2**	**+0.2**
NWAO	**Narrogin (SRO)**	**55.34**	**246**	P	P		**P**	**18 57 58.9**	**-0.5**
NWAO				pmax	pmax				
	comp=Z,193nm,1.4s								
NWAO	**Narrogin (SRO)**	**55.34**	**246**				**P**	**18 57 58.9**	**-0.5**
BATI	**Baumata**	**55.36**	**274**	P	P		**P**	**18 58 01.1**	**+1.3**
	comp=Z,94nm,0.5s,baz=135,slow=3.5,SNR=22								
	comp=Z,94nm,0.5s								
BATI	**Baumata**	**55.36**	**274**	P	P		**P**	**18 58 01.2**	**+1.4**
MBWA	**Marble Bar**	**56.49**	**260**				**P**	**18 58 00.1**	**-0.5**
BLDU	**Ballidu**	**56.13**	**248**	P	P		**P**	**18 58 04.7**	**-0.2**
MUN	**Mundaring**	**56.34**	**247**	P	P		**P**	**18 58 06.5**	**+0.2**
TNTI	**Ternate**	**56.77**	**288**	IAmb	IAmb			18 58 10.1	
	comp=Z,151nm,1.3s								
TNTI	**Ternate**	**56.77**	**288**	P	P		**P**	**18 58 09.2**	**-0.3**
TNTI	**Ternate**	**56.77**	**288**				**P**	**18 58 08.6**	**-0.9**
MORW	**Morawa**	**56.98**	**250**	P	P		**P**	**18 58 10.7**	**-0.1**
MORW	**Morawa**	**56.98**	**250**				**P**	**18 58 10.4**	**-0.4**
MMRI	**Maumere**	**57.26**	**275**	P	P		**P**	**18 58 12.6**	**-0.2**
EDFI

baz=198
Q16K **King Salmon** 84.53 12 P P 19 00 52.1 -0.1
baz=201,SNR=5.7
KDAK **Kodiak Island** 84.55 14 P P 19 00 52.4 0.0
comp=Z,8.9nm,0.9s,baz=217,slow=3.7,SNR=5.4
comp=Z,8.9nm,0.9s
KDAK **Kodiak Island** 84.55 14 P P 19 00 52.8 +0.4
baz=205
KDAK **Kodiak Island** 84.55 14 P P 19 00 51.5 -0.9
P16K **Nushagak River** 84.62 11 P P 19 00 52.6 -0.1
baz=200
SNAA **Sanae** 84.62 179 P P 19 00 52.6 -0.2
comp=Z,6.9nm,0.4s,baz=205,slow=7.5,SNR=79
comp=Z,6.9nm,0.4s
SNAA **Sanae** 84.62 179 P 19 00 52.6 -0.2
NVAR **Mina Array Bea** 84.69 44 P P 19 00 54.5 +0.7
comp=Z,30nm,1.2s,baz=224,slow=6.3,SNR=22
comp=Z,30nm,1.2s
M11K **Mekoryuk** 84.76 7 P P 19 00 54.6 +1.3
baz=192,SNR=5.1
NV11 **Mina Array Sit** 84.79 44 IAmb IAmb 19 01 47.7
comp=Z,44nm,1.2s
NV11 **Mina Array St** 84.79 44 P P 19 00 55.0 +0.8
Q18K **Katmai Hardscr** 84.83 13 P P 19 00 53.9 0.0
baz=203,SNR=13
N14K **Kuskokwak Cree** 84.88 9 P P 19 00 54.7 +0.8
baz=197,SNR=14
P17K **Kvichak River** 85.06 12 P P 19 00 54.8 0.0
baz=201,SNR=9.5
M13K **Dall Lake** 85.12 8 P P 19 00 55.1 0.0
baz=195
O16K **Kokwok River B** 85.13 11 P P 19 00 54.5 -0.7
baz=200,SNR=9.9
Q20K **Shuyak Island** 85.35 14 P P 19 00 56.3 +0.1
baz=205
N15K **Kwethluk River** 85.35 10 P P 19 00 57.0 +0.7
baz=198,SNR=13
Q19K **Cape Douglas,** 85.37 13 P P 19 00 56.2 -0.2
baz=204
P18K **Big Mountain,** 85.47 12 P P 19 00 56.4 -0.5
baz=202,SNR=9.1
O17K **Koliganek Bris** 85.48 11 P P 19 00 56.2 -0.7
baz=201
M14K **Bethel** 85.64 9 P P 19 00 57.9 +0.3
baz=196
M15K **Kasigluk River** 85.76 9 P P 19 00 58.9 +0.6
baz=198,SNR=7.7
N16K **Nishlik Lake** 85.85 10 P P 19 00 59.6 +1.0
baz=199,SNR=16
O18K **Koktuh Hills** 85.91 12 P P 19 00 58.7 -0.2
baz=202,SNR=14
MLSI **Meulaboh, Aceh** 86.00 276 P P 19 01 01.2 +0.7
L14K **Kuka Creek** 86.11 8 P P 19 00 59.9 +0.1
baz=196
P19K **Oil Pt** 86.12 13 IAmb IAmb 19 01 00.9
comp=Z,38nm,0.9s
P19K **Oil Pt** 86.12 13 P P 19 00 59.8 -0.1
baz=204,SNR=8.6
P19K **Oil Pt** 86.12 13 P P 19 00 59.4 -0.6
N17K **Nushagak Hills** 86.17 11 P P 19 01 00.1 0.0
baz=201
M16K **Timber Creek** 86.34 10 P P 19 01 02.0 +1.1
baz=199,SNR=7.4
M16K **Timber Creek** 86.34 10 P P 19 01 01.6 +0.6
O19K **Port Alsworth** 86.39 12 P P 19 01 01.0 -0.2
baz=203,SNR=6.7
K13K **Kusilvak Mount** 86.44 7 P P 19 01 02.3 +0.9
baz=194,SNR=5.6
HOM **Homer** 86.46 14 P P 19 01 02.9 +1.4
baz=206
N18K **Kilae Creek** 86.55 12 P P 19 01 01.8 -0.2
baz=202,SNR=5.7
L15K **Ungalak Mounta** 86.59 9 P P 19 01 02.1 0.0
baz=197
LYN **LuoYang** 86.61 310 P P 19 01 05.3 +2.4
LYN pmax pmax
comp=Z,41nm,1.0s
HNS **HongShan** 86.62 313 ⇓P P 19 01 04.2 +1.3
HNS pmax pmax
comp=Z,23nm,0.9s
O20K **Slope Mountain** 86.64 13 P P 19 01 02.1 -0.4
baz=205,SNR=5.8
L16K **Owhat River** 86.92 10 P P 19 01 03.9 +0.2
baz=199,SNR=11
N19K **Bonanza Creek** 86.93 12 P P 19 01 03.2 -0.6
baz=203,SNR=8.1
M17K **Holitna River** 86.95 11 P P 19 01 04.7 +0.9
baz=200,SNR=8.5
BJI **Beijing** 87.15 316 P P 19 01 06.2 +0.9
BJI pmax pmax
comp=Z,6.0nm,0.7s
BJI pmax pmax
comp=Z,58nm,4.3s
K15K **Wolf Creek Mou** 87.18 8 P P 19 01 05.7 +0.8
baz=197,SNR=11
M18K **Stony River** 87.31 11 P P 19 01 06.0 +0.5
baz=202,SNR=16
SEW **Seward** 87.36 15 P P 19 01 05.5 -0.2
baz=208
J14K **Nanvaranak Lak** 87.36 7 P P 19 01 06.0 +0.4
baz=195
CCUT **Cedar City** 87.41 47 IAmb IAmb 19 01 09.6
comp=Z,28nm,1.2s
CCUT **Cedar City** 87.41 47 P P 19 01 06.5 -0.4
L17K **Donlin** 87.50 10 P P 19 01 07.3 +0.9
baz=200,SNR=14
O22K **Cooper Landing** 87.63 14 P P 19 01 07.2 +0.2
baz=207
GAMB **Gambell** 87.66 4 P P 19 01 07.8 +0.7
baz=188,SNR=5.0
SPCR **Spurr Chakacha** 87.74 13 P P 19 01 06.9 -0.8
baz=205
P23K **Montague Islan** 87.76 16 P P 19 01 07.7 +0.1
baz=209
L18K **Granite Mounta** 87.84 11 P P 19 01 08.7 +0.7
baz=201,SNR=11
M19K **Big River Lodg** 87.96 12 P P 19 01 08.5 0.0
baz=203
K17K **Iditarod** 88.05 10 P P 19 01 09.5 +0.5
baz=200,SNR=6.9
L19K **White Mountain** 88.13 11 P P 19 01 09.8 +0.4
baz=203,SNR=20
PLCA **Paso Flores** 88.14 134 P P 19 01 10.6 +0.3
comp=Z,1.3nm,0.8s,baz=240,slow=7.2,SNR=3.1
comp=Z,1.3nm,0.8s
RC01 **Rabbit Creek A** 88.17 14 P P 19 01 09.4 -0.2
baz=207,SNR=19
M20K **Styx River** 88.18 12 P P 19 01 08.9 -0.8
baz=204
BBB **Bella Bella** 88.23 29 P P 19 01 10.8 +0.8
comp=Z,17nm,1.0s,baz=264,slow=1.6,SNR=7.2
comp=Z,17nm,1.0s
J16K **Anvik River** 88.25 9 P P 19 01 10.2 +0.3
baz=198,SNR=7.2
SUA **Susitna One** 88.28 14 P P 19 01 09.9 -0.3
baz=206
PWL **Port Wells** 88.29 15 P P 19 01 10.1 -0.1
baz=209,SNR=15
KAIM **Kayak Island** 88.46 17 P P 19 01 11.6 +0.7
baz=212
CRAG **Craig** 88.55 25 P P 19 01 12.7 +1.3
baz=222
J17K **VABM Dome** 88.58 9 P P 19 01 11.8 +0.4
baz=199,SNR=6.2
L20K **Farewell, AK** 88.58 12 P P 19 01 11.2 -0.3
baz=204,SNR=12
SKT **Skwentna** 88.59 13 P P 19 01 10.2 -1.3
baz=206,SNR=8.4
GLI **Glacier Island** 88.60 15 P P 19 01 11.2 -0.3
baz=210,SNR=12
EYAK **Cordova Ski Ar** 88.65 16 P P 19 01 11.7 0.0
baz=211
M22K **Willow** 88.68 14 P P 19 01 12.1 +0.2
baz=207,SNR=6.2
KNK **Knik Glacier** 88.75 15 P P 19 01 12.3 0.0
baz=208
PMR **Palmer** 88.75 14 P P 19 01 11.9 -0.3
baz=208,SNR=15
I17K **Unalakleet** 88.82 8 P P 19 01 12.3 -0.1
baz=198
SIT **Sitka** 88.94 23 P P 19 01 14.2 +1.0
baz=220
J18K **Innoko River** 89.00 10 P P 19 01 13.7 +0.3
baz=201
V35K **Ketchikan** 89.02 25 P P 19 01 14.7 +1.1
baz=223,SNR=5.5
U33K **Whale Pass** 89.03 24 P P 19 01 15.0 +1.4
baz=222,SNR=8.4

CUT **Chulitna** 89.23 13 P P 19 01 14.0 -0.4
baz=207
M23K **Glacier View** 89.25 15 P P 19 01 14.2 -0.4
baz=209
PPLA **Purkeypile** 89.29 12 P P 19 01 15.4 +0.5
baz=205
BMRM **Bremner River** 89.30 16 P P 19 01 15.2 +0.3
baz=212,SNR=9.2
S31K **Pelican** 89.33 22 P P 19 01 15.9 +0.9
baz=219
SEY **Seymchan** 89.34 348 P P 19 01 15.1 +0.1
SEY **Seymchan** 89.34 348 P P 19 01 15.1 +0.1
comp=Z,8.5nm,0.8s,baz=172,slow=5.9,SNR=10
comp=Z,8.5nm,0.8s
MESA **MESA** 89.35 18 P P 19 01 16.2 +0.8
baz=214,SNR=7.6
K20K **Telida** 89.36 11 P P 19 01 14.9 -0.1
baz=203,SNR=17
SCM **Sheep Creek Mo** 89.38 15 P P 19 01 15.3 +0.1
baz=210,SNR=14
KMI **Kunming** 89.40 298 ⇓P P 19 01 17.8 +1.4
XLT **XiLinHaoTe** 89.40 319 eP P 19 01 16.0 +0.2
XLT pmax pmax
comp=Z,12nm,1.1s
KLU **Klutina** 89.42 16 P P 19 01 15.6 +0.1
baz=211,SNR=6.2
G15K **Iliuk** 89.49 7 P P 19 01 15.9 +0.3
baz=194,SNR=6.0
CRQE **Cirque** 89.52 17 P P 19 01 16.1 +0.1
baz=213
S32K **Killisnoo** 89.52 23 P P 19 01 16.9 +1.1
baz=220
WRAK **Wrangell Islan** 89.54 24 P P 19 01 17.2 +1.2
baz=222,SNR=7.3
CMAR **Chiang Mai Arr** 89.66 290 P P 19 01 18.9 +1.3
comp=Z,16nm,0.9s,baz=135,slow=3.2,SNR=38
CMAR PP PP 19 04 59.0 -0.1
comp=Z,3.0nm,1.1s,baz=133,slow=6.4,SNR=5.0
comp=Z,16nm,0.9s
PNL **Peninsula** 89.68 19 P P 19 01 17.0 +0.4
baz=216,SNR=5.3
J19K **Poorman** 89.68 10 P P 19 01 16.9 +0.4
baz=202
TNA **Tin City** 89.69 5 P P 19 01 16.9 +0.4
baz=191,SNR=6.9
F14K **Arctic Creek** 89.73 6 P P 19 01 17.0 +0.3
baz=192,SNR=6.9
PINM **Pinnacle** 89.77 19 P P 19 01 17.3 +0.2
baz=216
CAST **Castle Rocks** 89.78 12 P P 19 01 15.7 -1.3
baz=205,SNR=18
CHTO **Chiang Mai** 89.81 291 P P 19 01 19.1 +0.9
CHTO pmax pmax
comp=Z,39nm,1.1s
CHTO **Chiang Mai** 89.81 291 P P 19 01 19.1 +0.9
N25K **Chitina, Valde** 89.84 16 P P 19 01 17.9 +0.5
baz=212,SNR=12
M24K **Tolsona, Glenn** 89.89 15 P P 19 01 17.9 +0.3
baz=210
H17K **Granite Mounta** 89.93 8 P P 19 01 17.5 -0.1
baz=198
WAT6 **Susitna Watana** 89.94 14 P P 19 01 17.6 -0.4
baz=209,SNR=12
WAT1 **Susitna Watana** 89.98 14 P P 19 01 17.4 -0.6
baz=208
G16K **Koyuk River** 90.06 7 P P 19 01 18.8 +0.5
baz=196
MCARA **McCarthy VSAT** 90.06 17 P P 19 01 18.8 +0.4
baz=213
J20K **Nowinta River** 90.10 11 P P 19 01 18.4 -0.1
baz=203
F15K **North Star Dit** 90.12 6 P P 19 01 18.7 +0.2
baz=194
P29M **Windy Craggy** 90.16 20 P P 19 01 19.6 +0.8
baz=218
R32K **Eaglecrest** 90.16 22 P P 19 01 19.9 +1.1
baz=221
CHUM **Lake Minchumin** 90.16 12 P P 19 01 18.0 -0.7
baz=205
TRF **Thorofare Moun** 90.16 13 P P 19 01 18.2 -0.8
baz=207,SNR=12
CTG **Chitna Glacier** 90.17 18 P P 19 01 19.4 +0.4
baz=215,SNR=6.1
GCSA **Gakona City Sc** 90.18 10 P P 19 01 19.0 +0.2
baz=201
O28M **Mount Upton** 90.34 18 P P 19 01 20.0 0.0
baz=216,SNR=5.6
TXAR **Lajitas Array** 90.34 58 P P 19 01 21.8 +1.3
comp=Z,15nm,1.0s,baz=216,slow=6.1,SNR=52
TXAR PP PP 19 05 04.7 +0.3
comp=Z,0.3nm,0.4s,baz=349,slow=16,SNR=8.4
TXAR PKKPbc PKKPbc 19 18 47.1 +0.6
comp=Z,0.7nm,0.6s,baz=53,slow=4.0,SNR=12
comp=Z,15nm,1.0s
H18K **Honhosa River** 90.34 9 P P 19 01 19.6 0.0
baz=200
G17K **Kiwalik Mounta** 90.37 8 P P 19 01 19.9 +0.2
baz=198
HARP **HAARP** 90.38 15 P P 19 01 20.1 +0.3
baz=211
O29M **Mount Kennedy** 90.43 19 P P 19 01 21.2 +0.9
baz=217
DHY **Denali Highway** 90.45 14 P P 19 01 20.0 -0.3
baz=209
PLBC **Pleasant Camp** 90.45 21 P P 19 01 20.8 +0.6
baz=219
HHC **Hu-ho-hao-te** 90.54 315 eP P 19 01 23.0 +1.8
HHC pmax pmax
comp=Z,22nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.3s
BPAW **Bear Paw Mtn.** 90.61 12 P P 19 01 19.4 -1.5
baz=206
I20K **Naaghedeneel** 90.61 11 P P 19 01 20.5 -0.2
baz=203
MCK **McKinley** 90.69 13 P P 19 01 20.7 -0.6
baz=208
T35M **Bob Quinn** 90.75 25 P P 19 01 22.4 +0.8
baz=224
P30M **Million Dollar** 90.78 20 P P 19 01 22.9 +1.1
baz=218
SKAG **Skagway** 90.79 21 P P 19 01 22.9 +1.1
baz=220
PAX **Paxson** 90.80 15 P P 19 01 21.4 -0.5
baz=211,SNR=5.1
PZH **PanZhiHua** 90.82 299 P P 19 01 23.4 +0.6
PZH pmax pmax
comp=Z,20nm,1.0s
YUK8 **Steele Glacier** 90.88 18 P P 19 01 22.9 +0.4
baz=216,SNR=6.0
M26K **Nabesna, AK** 90.92 16 P P 19 01 22.7 +0.3
baz=213,SNR=6.6
H19K **Roundabout Mou** 90.98 10 P P 19 01 22.8 +0.4
baz=201,SNR=9.3
G18K **Tagagawik** 91.01 9 P P 19 01 22.4 -0.3
baz=199,SNR=7.2
YUK6 **Outpost Mounta** 91.01 19 P P 19 01 23.2 +0.2
baz=217
YUK3 **Moose Creek** 91.08 18 P P 19 01 23.9 +0.6
baz=216,SNR=9.5
S34M **Telegraph Cree** 91.09 24 P P 19 01 24.2 +1.0
baz=223,SNR=9.6
HYT **Haines Junctio** 91.17 19 P P 19 01 24.0 +0.4
baz=218
M27K **Edge Creek, AK** 91.18 17 P P 19 01 24.3 +0.6
baz=214,SNR=13
H20K **Anotlenenega Mo** 91.19 10 P P 19 01 23.7 +0.2
baz=203,SNR=9.1
F17K **Baldwin Pennin** 91.20 7 P P 19 01 24.2 +0.8
baz=197
CD2 **Chengdu** 91.21 303 P P 19 01 25.1 +0.6
CD2 pmax pmax
comp=Z,50nm,1.1s
YUK4 **Talbot Arm** 91.25 19 P P 19 01 24.5 +0.4
baz=217
L26K **Log Cabin Wild** 91.36 16 P P 19 01 24.4 +0.1
baz=213,SNR=7.4
I21K **Tanana** 91.40 11 P P 19 01 24.4 0.0
baz=205
P32M **Atlin** 91.43 22 P P 19 01 25.4 +0.7
baz=221
NEA2 **Nenana** 91.43 13 P P 19 01 25.0 +0.4
baz=208
K24K **Donnelly Dome** 91.45 14 P P 19 01 24.6 -0.1
baz=211
Q32M **Nakina River** 91.45 23 P P 19 01 25.9 +0.8
baz=222
G19K **Purcell Mounta** 91.46 9 P P 19 01 24.8 +0.1

baz=201,SNR=8.3
MLY **Manley** 91.49 12 P P 19 01 24.1 -0.9
baz=206
BVCY **Beaver Creek** 91.50 17 P P 19 01 25.3 +0.3
baz=215
F18K **Selawik** 91.55 8 P P 19 01 24.6 -0.4
baz=198
O30N **Mendenhall** 91.56 20 P P 19 01 25.7 +0.3
baz=219
RIDG **Independent Ri** 91.61 15 P P 19 01 25.4 -0.1
baz=212,SNR=7.0
H21K **Melozitna Rive** 91.69 11 P P 19 01 25.8 0.0
baz=205,SNR=6.4
HDA **Harding Lake** 91.71 14 P P 19 01 25.6 -0.3
baz=210
E17K **Hotham Inlet** 91.75 7 P P 19 01 26.1 +0.1
baz=196,SNR=7.7
L27K **Beaver Creek,** 91.78 16 P P 19 01 26.5 +0.2
baz=214,SNR=9.0
N30M **Aishikik Lake** 91.80 19 P P 19 01 26.8 +0.4
baz=218
WHY **Whitehorse** 91.86 20 P P 19 01 27.5 +0.7
baz=220
DLBC **Dease Lake** 91.88 24 P P 19 01 26.9 0.0
comp=Z,0.3nm,1.0s,baz=197,slow=9.6,SNR=5.8
DLBC PP PP 19 05 14.8 -0.8
comp=Z,0.2nm,1.0s,baz=187,slow=9.8,SNR=3.1
DLBC **Dease Lake** 91.88 24 P P 19 01 27.3 +0.5
baz=224
SCRK **Sand Creek** 92.01 15 P P 19 01 27.4 0.0
baz=212,SNR=6.1
F19K **Shaleruckik Mo** 92.01 9 P P 19 01 27.2 0.0
baz=200,SNR=7.5
ILAR **Eielson Array** 92.04 13 P P 19 01 26.4 -1.0
comp=Z,2.6nm,1.0s,baz=228,slow=5.3,SNR=17
ILAR PP PP 19 05 15.2 -1.4
comp=Z,1.2nm,1.0s,baz=208,slow=5.8,SNR=2.8
ILAR PKKP PKKPdf 19 18 40.8 -0.3
comp=Z,0.3nm,0.5s,baz=348,slow=3.4,SNR=6.5
comp=Z,2.6nm,1.0s
H22K **Ishtalitna Cre** 92.15 11 P P 19 01 27.9 -0.1
baz=206,SNR=7.3
M29M **Somme Creek** 92.18 18 P P 19 01 28.8 +0.5
baz=217,SNR=8.9
P33M **Teslin, Yukon** 92.19 21 P P 19 01 28.5 +0.2
baz=222
D17K **Noatak River** 92.21 6 P P 19 01 28.7 +0.6
baz=195,SNR=9.5
N31M **Braeburn, Yuko** 92.21 20 P P 19 01 28.8 +0.4
baz=220
E18K **Tukpahlearik C** 92.22 7 P P 19 01 28.4 +0.2
baz=198,SNR=7.5
R33M **Jennings River** 92.23 23 P P 19 01 29.3 +0.8
baz=224
J25K **Salcha River,** 92.23 14 P P 19 01 28.1 -0.3
baz=211,SNR=5.8
G21K **Allakaket** 92.36 10 P P 19 01 29.0 +0.2
baz=204
F20K **Avaraart Lake** 92.51 9 P P 19 01 29.7 +0.2
baz=202,SNR=9.0
K27K **Chicken** 92.52 16 P P 19 01 29.9 +0.3
baz=214
J26L **Joseph Creek** 92.55 15 P P 19 01 30.4 +0.5
baz=213,SNR=14
C16K **Lisburne Hills** 92.56 5 P P 19 01 29.9 +0.2
baz=193
RDOG **Red Dog Mine** 92.58 6 P P 19 01 30.2 +0.4
baz=196
PDAR **Pinedale Array** 92.63 44 P P 19 01 30.9 -0.1
comp=Z,6.1nm,0.9s,baz=207,slow=3.0,SNR=30
PDAR PP PP 19 05 19.7 -2.3
comp=Z,1.6nm,1.0s,baz=233,slow=7.2,SNR=5.8
PDAR PKKP PKKPdf 19 18 39.9 +0.4
comp=Z,0.3nm,0.5s,baz=99,slow=4.7,SNR=3.8
comp=Z,6.1nm,0.9s
E19K **Redstone River** 92.67 9 P P 19 01 30.5 +0.2
baz=201
M30M **Minto, Yukon** 92.76 18 P P 19 01 31.3 +0.5
baz=219
TNCH **TengChong** 92.80 296 P P 19 01 32.7 +0.6
TNCH pmax pmax
comp=Z,13nm,1.5s
TNCH pmax pmax
comp=Z,110nm,2.8s
L29M **L29M** 92.80 18 P P 19 01 31.7 +0.7
baz=218,SNR=14
N32M **Quiet Lake** 92.81 21 P P 19 01 31.4 +0.3
baz=222
C17K **DeLong Mountai** 92.96 6 P P 19 01 31.7 +0.1
baz=195
PRP **Porcupine Dome** 92.98 14 P P 19 01 32.5 +0.6
baz=211
F21K **Alatna River** 93.01 10 P P 19 01 31.7 -0.1
baz=204
G22K **Bettles** 93.06 11 P P 19 01 32.2 +0.2
baz=206
G23K **Bananza Creek** 93.13 11 P P 19 01 32.6 +0.1
baz=207,SNR=7.1
M31M **Drury Creek, Y** 93.19 20 P P 19 01 33.0 +0.2
baz=221
DAWY **Dawson** 93.23 17 P P 19 01 33.2 +0.3
baz=216,SNR=7.7
C18K **Utukok River** 93.33 7 P P 19 01 34.0 +0.7
baz=197
I26K **Coal Creek Min** 93.33 15 P P 19 01 33.6 +0.3
baz=213
LZH **Lanzhou** 93.50 308 eP P 19 01 36.1 +1.1
LZH sP sP 19 04 19.4 -1.1
LZH pmax pmax
comp=Z,19nm,1.1s
D19K **Kuna River** 93.54 8 P P 19 01 34.3 +0.1
baz=200
K29M **Barlow Dome** 93.55 17 P P 19 01 34.7 +0.2
baz=218,SNR=7.5
COLD **Coldfoot** 93.56 11 P P 19 01 34.7 +0.4
baz=207,SNR=6.5
E20K **Nigu River** 93.57 9 P P 19 01 34.6 +0.2
baz=202
J29N **Klondike Camp** 93.85 17 P P 19 01 35.7 -0.1
baz=218
I27K **Kandik River** 93.93 15 P P 19 01 36.3 +0.2
baz=215
D20K **Etivluk River** 93.94 8 P P 19 01 36.4 +0.3
baz=201
C19K **Lookout Ridge** 93.94 7 P P 19 01 36.1 +0.1
baz=198,SNR=5.3
B18K **Kokolik River** 93.95 6 P P 19 01 35.8 -0.3
baz=196
TOAD **Toad River Com** 93.98 25 P P 19 01 36.2 -0.2
baz=228
E21K **Killik River** 94.05 9 P P 19 01 36.4 -0.2
baz=204,SNR=6.4
E22K **Anaktuvuk Pass** 94.11 10 P P 19 01 36.7 -0.2
baz=206,SNR=7.0
I28M **Miner Creek** 94.21 16 P P 19 01 37.2 -0.2
baz=216,SNR=7.4
F24K **Squaw Lake** 94.24 12 P P 19 01 37.4 -0.1
baz=209
E23K **Chandalar** 94.41 11 P P 19 01 38.7 +0.4
baz=208,SNR=5.7
J30M **Hart River** 94.45 17 P P 19 01 38.7 +0.1
baz=219
H27K **Steamboat Moun** 94.47 15 P P 19 01 38.8 +0.2
baz=215
MMPY **Sheldon Lake,** 94.47 20 P P 19 01 38.6 0.0
baz=224
I29M **Ogilvie Camp,** 94.55 16 P P 19 01 38.4 -0.5
baz=218
G26K **Porcupine Rive** 94.57 13 P P 19 01 39.0 +0.1
baz=213
C21K **Knifeblade Rid** 94.60 9 P P 19 01 39.3 +0.3
baz=203,SNR=5.4
D22K **Ayikyak River** 94.65 10 P P 19 01 39.4 +0.2
baz=205,SNR=7.3
YAK **Yakutsk** 94.66 339 eP P 19 01 39.5 +0.1
YAK e 19 05 38.8
YAK pmax pmax
comp=Z,10.0nm,1.0s
YAK pmax pmax
comp=Z,42nm,2.8s
YAK pmax pmax
comp=N,23nm,3.3s
F25K **Christian Rive** 94.74 12 P P 19 01 40.0 +0.2
baz=211
A19K **Wainwright** 94.83 6 P P 19 01 40.4 +0.3
baz=197
G27K **Doyon Strip** 94.92 14 P P 19 01 40.7 +0.1
baz=215

TOLK Toolik Lake Re 94.93 11 P **P** 19 01 40.8 +0.2
baz=208,SNR=5.7
I30M Mount Dempster 94.94 17 P **P** 19 01 40.5 -0.3
baz=219,SNR=9.0
D23K Nanushuk River 95.04 10 P **P** 19 01 41.1 +0.1
baz=207,SNR=8.9
B21K Ikpikpuk River 95.05 9 P **P** 19 01 41.4 +0.3
baz=203
B20K Meade River 95.08 8 P **P** 19 01 41.5 +0.4
baz=201
F26K Sheenjek River 95.13 13 P **P** 19 01 41.6 +0.1
baz=212
E25K Arctic Village 95.21 12 P **P** 19 01 42.1 +0.2
baz=211
H29M Whitestone 95.22 16 P **P** 19 01 42.0 +0.1
baz=218,SNR=7.0
EPYK Eagle Plains 95.75 16 P **P** 19 01 44.3 0.0
baz=219,SNR=5.2
G29M Pine Creek 95.85 15 P **P** 19 01 44.6 -0.1
baz=218
H31M Peel River 95.94 17 P **P** 19 01 44.7 -0.5
baz=221
F28M Old Crow 95.98 14 P **P** 19 01 45.5 +0.2
baz=216
C24K Franklin Bluff 96.04 10 P **P** 19 01 45.7 +0.3
baz=208
E27K Colleen River 96.07 13 P **P** 19 01 45.8 +0.1
baz=215
G30M tAoh Zraii Nji 96.35 16 P **P** 19 01 46.9 -0.1
baz=219,SNR=8.7
G31M Satah River 96.80 16 P **P** 19 01 48.9 -0.1
baz=221,SNR=5.3
C27K Jago River 96.85 12 P **P** 19 01 49.4 +0.3
baz=213
E28M Babbage River 96.86 14 P **P** 19 01 49.4 +0.1
baz=217
C26K Camden Bay 96.87 11 P **P** 19 01 49.8 +0.6
baz=212
F30M Barrier River 96.94 16 P **P** 19 01 49.7 +0.1
baz=220
E29M Blow River 97.05 14 P Pdif 19 01 50.2 +0.1
baz=218
D27M Malcolm River 97.07 13 P Pdif 19 01 50.7 +0.4
baz=215
SONM Songino Array 97.22 319 P **P** **19 01 52.0 +0.5**
comp=N,0.6nm,0.4s,baz=132,slow=5.9,SNR=4.7
SONM PP **PP** **19 05 56.4 -0.4**
comp=N,2.2nm,1.1s,baz=125,slow=6.6,SNR=4.9
comp=N,0.6nm,0.4s
F31M Tsiigehtchic 97.33 16 P Pdif 19 01 51.0 -0.3
baz=222
GTA Gaotai 97.82 310 *e*P **P** **19 01 55.5 +1.1**
GTA pmax pmax
comp=N,4.0nm,1.5s
ULM Lac du Bonnet 104.35 41 PP **PP** **19 06 47.9 -1.8**
comp=N,0.8nm,0.4s,baz=284,slow=8.8,SNR=4.4
WMQ Urumqi 107.86 311 Pdif **Pdif** **19 02 39.7 +0.9**
ZALV Zalesovo Beam 112.07 321 PKiKP **PKiKP** **19 06 49.4 -1.1**
comp=N,1.6nm,0.4s,baz=346,slow=1.1,SNR=7.8
MKAR Makanchi Array 112.28 313 Pdiff **Pdif** **19 02 58.4 +0.1**
comp=N,0.3nm,0.5s,baz=73,slow=6.8,SNR=5.7
MKAR PKiKP **PKiKP** **19 06 50.2 -0.9**
comp=N,2.2nm,0.5s,baz=221,slow=1.3,SNR=22
MKAR SKP 19 09 37.7
comp=N,0.6nm,0.7s,baz=107,slow=1.1,SNR=3.5
MKAR PKKPbc **PKKPbc** **19 17 43.3 -0.7**
comp=N,0.4nm,0.7s,baz=238,slow=7.4,SNR=3.8
MKAR PKKPab **PKKPab** **19 17 52.6 +0.2**
comp=N,0.4nm,0.6s,baz=281,slow=3.9,SNR=4.8
KURK Kurchatov 115.32 316 PKiKP **PKPdf** **19 06 55.9 -0.9**
KURBB Kurchatov Arra 115.36 316 PKP **PKPdf** **19 06 55.9 -1.0**
KURBB PP **PP** **19 08 08.2 +0.2**
comp=N,4.1nm,0.6s,baz=110,slow=1.8,SNR=40
comp=N,3.1nm,1.1s,baz=101,slow=6.6,SNR=4.9
BDFB Brasilia 118.68 125 PKP **PKPdf** **19 07 04.0 -0.5**
comp=N,0.7nm,0.3s,baz=160,slow=7.0,SNR=3.2
BVAR Borovoye Array 120.56 319 PKP **PKPdf** **19 07 06.6 -0.2**
BOSA Boshof 122.42 206 PKP **PKiKP** **19 07 11.8 +0.1**
comp=N,3.8nm,0.7s,baz=217,slow=4.1,SNR=9.2
SPITS Spitsbergen Ar 125.17 356 PKP **PKPdf** **19 07 15.2 +0.1**
comp=N,5.1nm,0.6s,baz=152,slow=9.1,SNR=5.9
ARCES ARCESS Array B 131.95 348 PKP **PKPdf** **19 07 27.4 -0.8**
comp=N,3.2nm,0.4s,baz=21,slow=1.2,SNR=24
ARCES SKPbc **SKPbc** **19 10 06.2 +0.4**
comp=N,10.0nm,0.8s,baz=61,slow=5.7,SNR=9.7
FINES FINESS Array B 138.53 342 PKhKP PKPpre 19 07 34.6
comp=N,1.3nm,0.5s,baz=65,slow=4.3,SNR=9.3
FINES PKP sPdif 19 07 40.7 0.0
comp=N,2.6nm,0.4s,baz=57,slow=2.3,SNR=9.3
FINES SKPbc **SKPbc** **19 10 26.7 +0.4**
comp=N,12nm,0.7s,baz=54,slow=3.3,SNR=16
KBZ Khabaz 139.91 310 SKPbc **SKiKP** **19 10 31.9 -1.1**
comp=N,1.3nm,0.6s,baz=75,slow=4.2,SNR=2.4
NOA NORSAR Array B 142.14 351 PKhKP PKPpre 19 07 43.4
comp=N,3.7nm,0.8s,baz=16,slow=4.6,SNR=9.7
NOA SKPbc **SKPbc** **19 10 36.2 +0.4**
comp=N,2.5nm,0.7s,baz=14,slow=4.2,SNR=11
HFS Hagfors 142.61 349 PKhKP PKPpre 19 07 44.4
comp=N,11nm,0.4s,baz=64,slow=3.4,SNR=32
HFS SKPbc **SKPbc** **19 10 36.3 -0.6**
comp=N,5.2nm,0.7s,baz=166,slow=1.2,SNR=6.3
PABE Paberze 143.91 337 PKPdf PKPab 19 07 49.7 +0.1
AK03 Malin Array Si 145.06 327 PKP **PKPdf** **19 07 51.9 -0.6**
AKASG Malin Array Be 145.08 327 PKPbc **PKPdf** **19 07 52.5 0.0**
comp=N,8.9nm,0.4s,baz=43,slow=4.3,SNR=30
AKASG SKPbc **SKiKP** **19 10 43.6 +0.2**
comp=N,6.9nm,0.6s,baz=46,slow=3.0,SNR=11
AKBB Malin Array Si 145.08 327 PKP **PKPdf** **19 07 52.1 -0.4**
AK23 Malin Array Si 145.09 327 PKP **PKPdf** **19 07 52.3 -0.2**
AK01 Malin Array Si 145.09 327 PKP **PKPdf** **19 07 52.3 -0.2**
KIEV Kiev 145.09 327 ⇓P **PKPdf** **19 07 52.5 0.0**
KIEV Kiev 145.09 327 PKP **PKPdf** **19 07 52.1 -0.4**
AK09 Malin Array Si 145.10 327 PKP **PKPdf** **19 07 52.3 -0.2**
SUW Suwalki 145.35 336 *e*PKP **PKPbc** **19 07 54.2 +0.2**
SIM Simferopol' 145.38 316 *e*PKP2 **PKPab** **19 07 55.0 -0.6**
SIM pmax pmax
comp=Z,48nm,1.0s
MI28 Mi28,Pidlybu 145.68 329 PKP **PKPdf** **19 07 54.2 +0.7**
GAZ Gaziantep 145.68 301 PKPbc **PKPab** **19 07 56.4 -0.7**
RNPP9 Sopachiv 146.17 331 PKP **PKPbc** **19 07 55.6 -0.8**
RNPP8 Varash 146.24 331 PKP **PKPbc** **19 07 55.7 -0.9**
LUBAR Lubar, Ukraine 146.30 327 PKP **PKPbc** **19 07 56.0 -0.8**
RNPP5 Staryi Chortor 146.30 331 PKP **PKPbc** **19 07 56.0 -0.8**
BNN Bunyan 146.33 305 PKPbc **PKPbc** **19 07 58.0 +0.5**
BZK Bozkurt 146.67 311 ⇓P **PKPbc** **19 07 58.8 +0.8**
SORM Soroca 147.11 324 ⇑P **PKPbc** **19 07 58.6 -0.4**
SORM Soroca 147.11 324 PKP **PKPbc** **19 07 58.1 -0.9**
PURM Purcari 147.19 321 ⇑P **PKPbc** **19 07 59.3 0.0**
MILM Milestii Mici 147.58 322 *i* PKP **PKPbc** **19 07 59.5 -0.8**
MILM Milestii Mici 147.58 322 PKPM1 19 08 00.0
comp=Z,40nm,0.6s
MILM Milestii Mici 147.58 322 PKPM2 19 08 00.4
comp=Z,75nm,1.1s
MILM Milestii Mici 147.58 322 ⇑P **PKPbc** **19 07 59.6 -0.8**
MILM Milestii Mici 147.58 322 *d* iPKIKP **PKPbc** **19 07 59.5 -0.8**
MILM pmax pmax
comp=Z,40nm,0.6s
KIRS Kirsehir-Merke 147.69 306 ⇑P **PKPbc** **19 08 00.9 -0.1**
BRTR Keskin Array B 147.71 307 PKPbc **PKPbc** **19 08 00.8 -0.3**
comp=Z,6.7nm,0.5s,baz=147,slow=5.3,SNR=20
BRTR PKPab **PKPab** **19 08 05.6 +0.3**
comp=Z,14nm,0.6s,baz=86,slow=3.3,SNR=19
MMAI Mount Meron Ar 147.84 294 **PKiKP** **19 08 02.5 -0.5**
MMAI Mount Meron Ar 147.84 294 PKPbc **PKiKP** **19 08 02.5 -0.5**
comp=Z,34nm,0.5s,baz=81,slow=6.0,SNR=79
BEL Belsk 147.96 336 *e*PKP **PKiKP** **19 08 01.8 -0.7**
ANTO Ankara 148.27 308 ⇓P **PKPbc** **19 08 02.9 +0.5**
TLCR 148.54 319 ⇑P **PKPbc** **19 08 03.1 +0.4**
EKA Eskdalemuir Ar 148.55 4 PKP **PKPdf** **19 07 58.0 -0.1**
comp=Z,1.5nm,0.4s,baz=37,slow=2.7,SNR=5.6
EKA PKPbc **PKPbc** **19 08 02.1 -0.4**
comp=Z,1.8nm,0.4s,baz=342,slow=2.6,SNR=22
EKA PP **PP** **19 11 37.1 +0.2**
comp=Z,2.3nm,0.9s,baz=16,slow=5.4,SNR=2.7
EKA Eskdalemuir Ar 148.55 4 PKHKP PKPpre 19 07 58.0
VLDR Vladesti 148.61 321 ⇑P **PKiKP** **19 08 03.6 -0.4**
SCTR Scanteiesti 148.75 321 ⇑P **PKPbc** **19 08 03.7 +0.4**
NEGRR Negrea 148.90 321 ⇑P **PKPbc** **19 08 04.1 +0.4**
CFR Carcaliu 148.95 320 ⇑P **PKPbc** **19 08 04.1 +0.3**
TPGR Topolog 148.96 319 ⇑P **PKiKP** **19 08 04.4 -0.5**
TESR Tescani 149.02 323 ⇓P **PKPbc** **19 08 03.7 -0.2**
BURAR Bucovina Array 149.08 326 ⇓P **PKiKP** **19 08 05.5 +0.4**
MFTR Murfatlar 149.32 318 ⇓P **PKPbc** **19 08 04.8 +0.1**
HARR Harsova 149.34 319 ⇓P **PKPbc** **19 08 05.0 +0.3**
VRI Vrincioaia 149.36 322 ⇓P **PKPbc** **19 08 04.2 -0.6**
PLOR Plostina 149.41 322 ⇑P **PKiKP** **19 08 05.7 0.0**

OJC Ojcow 149.63 335 *e*PKP **PKPbc** **19 08 05.7 +0.4**
TURR Turia 149.64 323 ⇑P **PKPdf** **19 07 59.6 -0.6**
STHS Stebnicka Huta 149.66 332 *e*PKHKP PKPpre 19 08 06.0
STHS Stebnicka Huta 149.66 332 *e*PKP **PKiKP** **19 08 06.0 -0.1**
STHS *e* 19 08 18.1
STHS *e* 19 10 10.3
ARCR ARCALIA 149.87 326 ⇑P **PKiKP** **19 08 06.3 -0.3**
SILT Sile 149.99 312 ⇓P **PKPbc** **19 08 06.3 -0.1**
MLR Muntele Rosu 150.03 322 ⇓P **PKPbc** **19 08 06.8 +0.2**
DOPR Dopca 150.04 323 ⇑P **PKiKP** **19 08 06.9 -0.2**
NIE Niedzica 150.06 333 *e*PKP **PKiKP** **19 08 07.4 +0.4**
KSP Ksiaz 150.37 339 *e*PKP **PKiKP** **19 08 07.7 +0.2**
CBBR Cluj-Babes-Bol 150.49 326 ⇑P **PKiKP** **19 08 07.9 0.0**
LANS Liptovska Anna 150.61 334 *e*PKIKP **PKiKP** **19 08 09.1 +1.0**
LANS *e* 19 10 10.3
LANS Liptovska Anna 150.61 334 *e*PKP **PKiKP** **19 08 09.1 +1.0**
LANS *e* 19 08 19.7
LANS *e* 19 10 10.3
LANS *e* 19 10 13.7
STEB Steborice 150.63 336 ⇑ *e*PKP **PKiKP** **19 08 08.2 +0.1**
STEB *e*PKPAB **PKPab** **19 08 17.5 +0.7**
STEB *ex* x 19 10 13.3
OSTC Ostas 150.64 339 ⇑ *e*PKP **PKiKP** **19 08 08.3 +0.2**
OSTC *ex* x 19 10 13.5
OSTC Ostas 150.64 339 *e*PKIKP **PKiKP** **19 08 08.3 +0.2**
CHVC Chvalec 150.67 339 ⇑ *e*PKP **PKiKP** **19 08 08.2 0.0**
CHVC Chvalec 150.67 339 *e*PKIKP **PKiKP** **19 08 08.2 0.0**
UPC Upice 150.75 339 ⇑ *e*PKP **PKiKP** **19 08 08.6 +0.3**
UPC Upice 150.75 339 *e*PKIKP **PKiKP** **19 08 08.6 +0.3**
MARR Marisel-Cluj 150.77 327 ⇑P **PKPbc** **19 08 08.3 +0.1**
DPC Dobruska-Polom 150.78 339 ⇑ *e*PKP **PKiKP** **19 08 08.9 +0.4**
DPC *ex* x 19 10 13.9
DPC Dobruska-Polom 150.78 339 *e*PKIKP **PKiKP** **19 08 08.9 +0.4**
MORC Moravsky Berou 150.84 337 ⇑P **PKiKP** **19 08 09.1 +0.5**
KRLC Kraliky 150.86 338 ⇑ *e*PKP **PKiKP** **19 08 08.8 +0.2**
KRLC Kraliky 150.86 338 *e*PKIKP **PKiKP** **19 08 08.8 +0.2**
DRGR 150.89 327 ⇑P **PKPbc** **19 08 07.9 -0.6**
CLL Collm 150.93 343 ⇓ *i*PKIKP **PKPdf** **19 08 02.5 +0.5**
CLL *i* 19 08 17.9
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL pmax pmax
comp=Z,27nm,0.8s
CLL pmax pmax
comp=Z,11nm,0.9s
CLL Collm 150.93 343 *i* PKPdf **PKPdf** **19 08 02.5 +0.5**
comp=Z,9.0nm,0.9s
CLL Collm 150.93 343 *i* pPKPab pPKPab 19 10 11.1 -2.5
comp=Z,28nm,1.4s
CLL Collm 150.93 343 ⇓ *i*PKPbc **PKiKP** **19 08 08.5 -0.1**
comp=Z,27nm,0.8s
CLL Collm 150.93 343 *i* PKPab **PKPab** **19 08 17.9 -0.1**
comp=Z,11nm,0.9s
CLL Collm 150.93 343 *i* x x 19 10 19.4
MAUC Maruska 151.07 336 ⇑ *e*PKP **PKiKP** **19 08 09.7 +0.6**
MAUC *ex* x 19 10 15.3
PVCC Panska Ves 151.19 341 ⇑ *e*PKP **PKiKP** **19 08 09.7 +0.5**
PVCC Panska Ves 151.19 341 *e*PKIKP **PKiKP** **19 08 09.7 +0.5**
LOT Lotru 151.25 324 ⇑P **PKPbc** **19 08 08.7 -0.7**
VYHS Vyhne 151.38 334 *e* **PKPab** **19 08 19.9 -0.1**
VYHS Vyhne 151.38 334 *e* **PKiKP** **19 08 10.0 +0.3**
VYHS Vyhne 151.38 334 *e* **PKPab** **19 08 19.9 -0.1**
VYHS Vyhne 151.38 334 *e* 19 10 14.7
VYHS Vyhne 151.38 334 *e* 19 10 22.1
JAVC Velka Javorina 151.55 335 *e* **PKPab** **19 08 22.2 +1.4**
JAVC Velka Javorina 151.55 335 *e* 19 10 15.8
VRAC Vranov 151.57 337 ⇓P **PKPab** **19 08 21.2 +0.4**
VRAC Vranov 151.57 337 *e* **PKPab** **19 08 21.6 +0.8**
VRAC Vranov 151.57 337 *e* 19 10 15.6
PRU Pruhonice 151.67 340 ⇑ *e*PKP **PKiKP** **19 08 10.2 0.0**
PRU Pruhonice 151.67 340 *e*PKP2 **PKiKP** **19 08 10.2 0.0**
GZR Gura Zlata 151.81 325 ⇓P **PKPbc** **19 08 10.3 -0.2**
KRUC Moravsky 151.85 337 *e* **PKPab** **19 08 22.4 +0.4**
KRUC Moravsky 151.85 337 *e* 19 10 15.9
TAVA DENIZLI_Tavas 151.96 305 ⇓P **PKiKP** **19 08 12.2 +0.8**
MODS Modra-Piesok 152.09 335 *e*PKP2 **PKPbc** **19 08 10.2 -0.8**
MODS Modra-Piesok 152.09 335 *e*PKP **PKPbc** **19 08 10.2 -0.8**
MODS *e* 19 08 23.2
MODS *e* 19 10 13.9
MODS *e* 19 10 23.7
BZS Buzias 152.26 327 ⇑P **PKPbc** **19 08 11.0 -0.4**
ZVC Zvikov 152.26 340 ⇑ *e*PKP **PKPbc** **19 08 09.4 -1.9**
KHC Kasperske Hory 152.72 341 ⇑ *e*PKP **PKPbc** **19 08 11.6 -0.8**
KHC *e*PKPab **PKPab** **19 08 26.6 +0.9**
KHC *ex* x 19 10 22.5
KHC Kasperske Hory 152.72 341 *e*PKIKP **PKPbc** **19 08 11.6 -0.8**
KHC *e* 19 08 26.6
CKRC Cesky Krumlov 152.77 339 ⇑ *e*PKP **PKiKP** **19 08 12.8 +0.2**
CKRC Cesky Krumlov 152.77 339 *e*PKIKP **PKiKP** **19 08 12.8 +0.2**
GERES GERESS Array B 152.94 340 PKP **PKPdf** **19 08 05.6 +0.4**
comp=Z,0.7nm,0.6s,baz=225,slow=0.2,SNR=3.8
GERES PKPab **PKPab** **19 08 26.6 -0.2**
comp=Z,0.7nm,0.5s,baz=33,slow=5.1,SNR=4.0
CONA Conrad Observa 153.00 336 *e*P **PKPab** **19 08 28.0 +1.0**
comp=Z,7.6nm,0.6s
RONA Rosalia, Austr 153.02 336 *e*P **PKPab** **19 08 28.3 +1.2**
comp=Z,6.1nm,0.6s
ARSA Arzberg 153.69 336 *e*P **PKPab** **19 08 30.6 +0.7**
comp=Z,1.7nm,0.5s
BIOA Bad Ischl, Aus 153.97 339 *e*P **PKPab** **19 08 31.6 +0.5**
comp=Z,7.3nm,1.1s
SOKA Soboth 154.35 336 *i* P **PKPab** **19 08 32.9 +0.1**
comp=Z,11nm,1.2s
WATA Walderalm 154.93 341 *e*P **PKPab** **19 08 35.6 +0.2**
comp=Z,3.5nm,0.6s
WTTA Wattenberg 154.98 341 *e*P **PKPab** **19 08 36.0 +0.4**
comp=Z,4.4nm,0.6s
RETA Reutte 155.02 343 *e*P **PKPab** **19 08 36.0 +0.4**
comp=Z,3.0nm,0.6s
SQTA Sankt Quirin 155.14 342 *e*P **PKPab** **19 08 36.3 +0.1**
comp=Z,5.6nm,0.9s
ABTA Abfaltersbach 155.17 339 *e*P **PKPab** **19 08 35.8 -0.5**
comp=Z,4.3nm,0.9s
DAVA Damuels 155.44 344 *e*P **PKPab** **19 08 37.6 +0.1**
comp=Z,4.1nm,0.6s
FETA Feichten 155.46 342 *e*P **PKPab** **19 08 38.0 +0.3**
comp=Z,2.9nm,0.7s
PBRG Bragança 161.28 16 *e*P **PKPab** **19 09 03.4 +0.4**
POLO Lamas de Olo 161.39 19 *e*P **PKPab** **19 09 04.7 +1.2**
PVRL Vila Real 161.50 19 *e*P **PKPab** **19 09 04.2 +0.3**
MVO Moncorvo 161.81 18 *e*P **PKPab** **19 09 05.9 +0.6**
PVIS Viseu 161.96 20 *e*P **PKPab** **19 09 07.4 +1.4**
DBIC Dimbokro 162.17 164 PKP **PKPdf** **19 08 17.2 -0.1**
comp=Z,2.4nm,0.6s,baz=357,slow=3.8,SNR=3.7
DBIC PKPab **PKPab** **19 09 07.0 -0.3**
comp=Z,10.0nm,1.0s,baz=193,slow=5.0,SNR=4.2
MTE Manteigas 162.36 20 *e*P **PKPab** **19 09 09.5 +1.7**
PSARD Sardoal 162.88 22 *e*P **PKPab** **19 09 09.7 -0.4**
PMTG Montargil 163.33 23 *e*P **PKPab** **19 09 11.7 -0.3**
PESTR Estremoz 163.73 22 *e*P **PKPab** **19 09 13.7 -0.1**
EVO Evora 163.88 24 *e*P **PKPab** **19 09 14.4 0.0**
ESDC Sonseca Array 163.93 12 PKPab **PKPab** **19 09 14.0 -0.6**
comp=Z,6.6nm,1.0s,baz=340,slow=4.6,SNR=29
PBAR Barrancos 164.54 22 *e*P **PKPab** **19 09 17.6 +0.2**
PCVE Castro Verde 164.66 25 *e*P **PKPab** **19 09 18.8 +0.9**
PVAQ Vaqueiros 164.98 25 *e*P **PKPab** **19 09 20.4 +1.0**
TORD Torodi Ar. Bea 169.16 188 PKPab **PKPab** **19 09 38.0 -0.2**
comp=Z,7.6nm,0.8s,baz=160,slow=2.2,SNR=6.2

NEIC ***07*** *18:50:01.2±2.2,35°.61N±0°.01×117°.37W±0°.02,h5km±1km, Error ellipse: s-maj=2.9km s-min=2.3km az=187.0*
PAS 07 18:50:02.3±1.8,35°.60N±0°.01×117°.43W±0°.02,h6km±3km, Mwr3.6/4,ML3.5/128(NEIC),Error ellipse: s-maj=2.0km s-min=1.7km az=75.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.09**	**143**	Pg		Pg	Pg	18 50 04.7	+0.4
CCCA	**Chr Cany lake**	**0.09**	**143**				Sg	18 50 06.8	+1.1
LRMC	**Laurel Mtn Rad**	**0.24**	**241**				Pg	18 50 07.0	0.0
CLC	**China Lake**	**0.26**	**328**				Pg	18 50 07.3	-0.1
CLC	**China Lake**	**0.26**	**328**	IAML				18 50 11.4	
	comp=N,8μm,0.6s								
CLC				IAML				18 50 11.7	
	comp=E,7μm,0.5s								
SRTC	**Snort**	**0.28**	**290**				Pg	18 50 08.0	+0.3
TOW	**Tower One**	**0.34**	**308**				Pg	18 50 09.4	+0.3
TOW							Sb	18 50 15.2	-1.5
WNMM	**Nine Mile Cany**	**0.46**	**303**				Pg	18 50 11.2	0.0
WNMM							Sg	18 50 18.2	+1.0
MPMC	**Manual Prospec**	**0.46**	**354**	Pg			Pg	18 50 10.7	-0.7
MPMC							IAML	18 50 19.6	
	comp=E,3μm,0.7s								
MPMC							IAML	18 50 19.8	
	comp=N,3μm,0.5s								
MPMC	**Manual Prospec**	**0.46**	**354**				Sg	18 50 17.6	+0.2
DTP	**Desert Tortois**	**0.47**	**226**				Pg	18 50 11.1	-0.3
DTP							Sg	18 50 17.8	+0.2
WVPM	**Volcano Peak E**	**0.47**	**318**				Pg	18 50 11.4	-0.1
WRVM	**Rose V. Centra**	**0.56**	**318**				Pg	18 50 12.8	-0.3
QSM	**Queen of Sheba**	**0.59**	**51**				Pg	18 50 13.3	-0.3
GSC	**Goldstone, Bar**	**0.59**	**120**				Pg	18 50 13.3	-0.4
MFS	**McCloud Flat S**	**0.62**	**327**				Pg	18 50 14.1	-0.3
MFS							Sg	18 50 22.7	+0.2
EDW2	**Edwards Air Fo**	**0.85**	**213**				Sb	18 50 31.3	+0.1
ISA	**Isabella, Lake**	**0.85**	**275**				Pg	18 50 18.0	-0.7
ISA							IAML	18 50 33.0	
	comp=N,1μm,0.4s								
ISA							IAML	18 50 33.1	
	comp=E,1μm,0.5s								
GWY	**Greenwater Val**	**0.85**	**46**				Pg	18 50 18.2	-0.6
GWY							IAML	18 50 30.9	
	comp=N,3μm,0.3s								
TPO	**Tropico Hills**	**0.97**	**223**				Sb	18 50 35.2	+0.5
TPO	**Tropico Hills**	**0.97**	**223**				IAML	18 50 35.9	
	comp=N,3μm,0.6s								
TPO							IAML	18 50 36.5	
	comp=E,3μm,0.7s								
CWC	**Cottonwood Cre**	**0.99**	**328**				Pg	18 50 20.8	-0.7
CGO	**Cerro Gordo**	**1.00**	**343**				Pg	18 50 20.6	-1.0
ALPC	**Antelope**	**1.15**	**218**				Sb	18 50 40.0	0.0
HEC	**Hector,Ludlow**	**1.18**	**130**				Pg	18 50 23.9	-1.1
LEOC	**Leona Valley**	**1.20**	**217**				Sn	18 50 42.1	-0.4
SPG2	**Springville 2**	**1.24**	**299**				Pg	18 50 25.0	-1.2
WCT	**Wildcat Mounta**	**1.36**	**28**				Pn	18 50 26.7	-1.4
WCT							IAML	18 50 47.4	
	comp=N,679nm,0.6s								
WCT							IAML	18 50 48.5	
	comp=E,1μm,0.4s								
BFSC	**Mount Baldy Ra**	**1.37**	**188**				Pn	18 50 26.9	-1.2
BFSC							IAML	18 50 50.5	
	comp=E,585nm,0.6s								
BFSC							IAML	18 50 51.6	
	comp=N,508nm,0.7s								
GRAC	**Grapevine Rang**	**1.40**	**2**				Pn	18 50 27.6	-0.9
GRAC							IAML	18 50 51.1	
	comp=E,689nm,0.7s								
GRAC							IAML	18 50 52.7	
	comp=N,818nm,0.7s								
OSI	**Osito Audit: C**	**1.44**	**228**				Pn	18 50 28.5	-0.6
MWC	**Mount Wilson**	**1.46**	**201**				Pn	18 50 28.6	-0.9
MWC							IAML	18 50 54.9	
	comp=E,765nm,0.5s								
MWC							IAML	18 50 55.7	
	comp=N,779nm,0.5s								
PASC	**Pasadena Art C**	**1.55**	**204**				Pn	18 50 29.5	-1.0
PASC							IAML	18 50 56.8	
	comp=E,489nm,0.7s								
PASC							IAML	18 50 57.3	
	comp=N,398nm,0.7s								
TPNV	**Topopah Spring**	**1.65**	**35**				Pn	18 50 31.1	-1.1
TPNV							IAML	18 50 57.2	
	comp=N,892nm,0.5s								
GMRC	**Granite Mounta**	**1.66**	**119**				Pn	18 50 29.9	-2.3
GMN	**Gold Mountain**	**1.71**	**5**				Pn	18 50 32.1	-0.8
DSP	**Deep Springs**	**1.82**	**346**				Pn	18 50 33.6	-0.7
ELS	**Elsinore Mount**	**1.94**	**180**				Pn	18 50 35.1	-0.9
ELS							IAML	18 51 05.4	
	comp=E,310nm,0.8s								
ELS							IAML	18 51 12.8	
	comp=N,252nm,0.5s								
SHPR	**Sheep Range**	**2.05**	**63**				Pn	18 50 36.6	-1.0
SHPR							IAML	18 51 10.0	
	comp=E,238nm,0.7s								
MZP	**Montezuma Peak**	**2.10**	**1**				Pn	18 50 37.7	-0.7
V12A	**Nelson**	**2.10**	**86**				Pn	18 50 36.7	-1.5
V12A							IAML	18 51 09.8	
	comp=N,230nm,0.6s								
PMD	**Palm Desert**	**2.13**	**156**				Pn	18 50 37.2	-1.3
PMD							IAML	18 51 11.3	
	comp=N,275nm,0.5s								
PMD							IAML	18 51 20.8	
	comp=E,267nm,0.7s								
PFO	**Pinyon Flats O**	**2.13**	**158**				Pn	18 50 37.5	-1.2
PFO							IAML	18 51 10.1	
	comp=E,250nm,0.5s								
PFO							IAML	18 51 13.4	
	comp=E,204nm,0.8s								
BORC	**Borrego Spring**	**2.47**	**160**				Pb	18 50 46.3	-0.8
BORC	**Borrego Spring**	**2.47**	**160**				IAML	18 51 22.4	
	comp=N,182nm,0.7s								
BORC							IAML	18 51 23.2	
	comp=E,340nm,0.6s								
TPH	**Tonopah**	**2.48**	**4**				Pn	18 50 43.1	-0.5
PSMM	**Smith Mountain**	**2.61**	**281**				Pn	18 50 44.6	-0.6
PRN	**Pahroc Range**	**2.63**	**46**				Pn	18 50 44.3	-1.3
LHV	**Little Huntoon**	**2.79**	**342**				Pn	18 50 48.0	+0.5
LHV							IAML	18 51 37.0	
	comp=E,112nm,1.5s								
LHV							IAML	18 51 41.5	
	comp=N,126nm,0.9s								
PMPB	**Monarch Peak**	**2.81**	**284**				Pn	18 50 47.8	-0.1
PMPB							IAML	18 51 39.0	
	comp=N,179nm,1.2s								
PMPB							IAML	18 51 43.9	
	comp=E,249nm,0.7s								
NV11	**Mina Array Sit**	**2.89**	**349**				Pn	18 50 49.0	-0.1
NVAR	**Mina Array Bea**	**2.91**	**346**				Pn	18 50 49.0	-0.5
W13A	**Hualapai Mount**	**2.94**	**99**				Pn	18 50 48.4	-1.4
BLYC	**Blythe**	**3.02**	**127**				Pn	18 50 48.6	-2.2
BLYC							IAML	18 51 39.6	
	comp=N,225nm,0.6s								
BLYC							IAML	18 51 46.6	
	comp=E,161nm,0.8s								
Q09A	**Carvers**	**3.24**	**3**				IAML	18 52 10.8	
	comp=E,177nm,1.5s								
WAKR	**Walker**	**3.32**	**332**				Pb	18 51 03.3	+1.6
CBX	**Cerro Bola**	**3.34**	**169**				Pn	18 50 55.2	0.0
ESJX	**Sierra Juarez**	**3.79**	**161**				Pn	18 51 01.2	-0.3
ESJX							IAML	18 52 03.1	
	comp=E,94nm,0.6s								
ESJX							IAML	18 52 06.0	
	comp=N,56nm,0.6s								
KNB	**Kanab**	**3.98**	**68**				IAML	18 52 11.7	
	comp=E,62nm,1.0s								
KNB							IAML	18 52 18.0	
	comp=N,49nm,1.4s								
Y14A	**Wickenburg**	**4.00**	**113**				IAML	18 52 16.4	
	comp=E,74nm,0.5s								
SZCU	**Shurtz Canyon**	**4.02**	**59**				IAML	18 52 09.4	
	comp=E,52nm,0.4s								
PSUT	**Pine Spring**	**4.10**	**43**				IAML	18 52 21.2	
	comp=N,57nm,1.0s								
PSUT							IAML	18 52 22.3	
	comp=E

ISC 07 18:50:54.0±0.5, 23°94S±0'10×179°93W±0'09, h518km, n51, σ1§07/49, mb4.8/26, 4C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**10.49**	**64**	P	**P**	**18 53 15.9**	**-0.8**
TOZ	**Tahuroa Road**	**14.30**	**195**	P	**P**	**18 53 54.7**	**-1.8**
URZ	**Urewera**	**14.50**	**189**	P	**P**	**18 53 58.8**	**+0.3**
	24nm,0.6s,baz=33,slow=11,SNR=2.0						
BFZ	**Birch Farm**	**17.00**	**190**	P	**P**	**18 54 22.2**	**-1.9**
DSZ	**Denniston Nort**	**19.05**	**199**	P	**P**	**18 54 41.4**	**-1.6**
OXZ	**Oxford**	**20.44**	**197**	P	**P**	**18 54 53.2**	**-2.3**
RPZ	**Rata Peaks**	**21.08**	**198**	P	**P**	**18 55 01.9**	**+0.7**
	22nm,0.6s,baz=189,slow=14,SNR=2.6						
	22nm,0.6s						
HNR	**Honiara**	**24.02**	**304**	P	**P**	**18 55 27.2**	**-0.8**
	38nm,0.7s,baz=246,slow=22,SNR=1.9						
	38nm,0.7s						
ARMA	**Armidale**	**26.07**	**249**	P	**P**	**18 55 46.6**	**+0.5**
ARMA				IAmb	IAmb	18 55 48.5	
	comp=Z,27nm,0.9s						
EIDS	**Eidsvold**	**26.37**	**261**	P	**P**	**18 55 49.9**	**+1.3**
EIDS				IAmb	IAmb	18 55 52.7	
	comp=Z,34nm,1.1s						
PPT	**Papeete**	**29.04**	**83**	P	**P**	**18 56 12.0**	**-0.2**
	comp=Z,30nm,0.7s,baz=38,slow=22,SNR=1.7						
	comp=Z,30nm,0.7s						
CAN	**Canberra**	**29.18**	**240**	P	**P**	**18 56 14.6**	**+1.4**
CAN				IAmb	IAmb	18 56 15.7	
	comp=Z,34nm,1.1s						
CTAO	**Charters Tower**	**31.54**	**270**	P	**P**	**18 56 34.5**	**+0.8**
CTAO				IAmb	IAmb	18 56 36.5	
	comp=Z,30nm,0.9s						
TOO	**Toolangi**	**32.48**	**237**	P	**P**	**18 56 42.3**	**+0.7**
TAU	**Tasmania Unive**	**32.96**	**227**	P	**P**	**18 56 46.3**	**+0.8**
TAU				IAmb	IAmb	18 56 47.4	
	comp=Z,14nm,0.7s						
STKA	**Stephens Creek**	**34.77**	**248**	P	**P**	**18 56 59.5**	**-1.3**
	comp=Z,14nm,0.8s,baz=74,slow=12,SNR=3.4						
	comp=Z,14nm,0.8s						
AS31	**Alice Springs**	**42.09**	**261**	P	**P**	**18 58 00.5**	**0.0**
ASAR	**Alice Springs**	**42.09**	**261**	P	**P**	**18 58 00.8**	**+0.3**
ASAR	**Alice Springs**	**42.09**	**261**	P	**P**	**18 58 00.7**	**+0.1**
	comp=Z,44nm,1.2s,baz=98,slow=7.9,SNR=4.1						
	comp=Z,44nm,1.2s						
WB0	**Warramunga Arr**	**42.46**	**266**	P	**P**	**18 58 01.7**	**-1.8**
WB0				IAmb	IAmb	18 58 04.0	
	comp=Z,27nm,0.8s						
WRA	**Warramunga Arr**	**42.47**	**266**	P	**P**	**18 58 01.8**	**-1.8**
WRA	**Warramunga Arr**	**42.47**	**266**	P	**P**	**18 58 03.2**	**-0.3**
	comp=Z,15nm,0.5s,baz=102,slow=7.5,SNR=5.4						
	comp=Z,15nm,0.5s						
JAY	**Jayapura**	**43.59**	**293**	P	**P**	**18 58 11.1**	**-1.3**
JAY	**Jayapura**	**43.59**	**293**	PP	**P**	**18 58 11.1**	**-1.3**
	comp=Z,8.6nm,0.6s,baz=180,slow=2.9,SNR=3.8						
FORT	**Forrest**	**46.36**	**250**	P	**P**	**18 58 32.0**	**-1.4**
FORT				IAmb	IAmb	18 58 34.2	
	comp=Z,29nm,0.7s						
KNRA	**Kununurra**	**48.75**	**270**	P	**P**	**18 58 50.7**	**-0.9**
KNRA				IAmb	IAmb	18 58 58.9	
	comp=Z,44nm,1.1s						
BATI	**Baumata**	**55.29**	**274**	P	**P**	**18 59 40.1**	**+1.3**
	comp=Z,17nm,0.4s,baz=142,slow=14,SNR=2.1						
	comp=Z,17nm,0.4s						
QSPA	**South Pole Qui**	**66.15**	**180**	P	**P**	**19 00 50.4**	**+0.8**
QSPA				IAmb	IAmb	19 00 52.0	
	comp=Z,27nm,0.8s						
QSPA	**South Pole Qui**	**66.15**	**180**	P	**P**	**19 00 51.2**	**+1.6**
	comp=Z,22nm,0.7s,baz=26,slow=1.3,SNR=6.4						
	comp=Z,22nm,0.7s						
MAW	**Mawson**	**77.74**	**200**	P	**P**	**19 01 57.7**	**+0.9**
	comp=Z,7.9nm,0.6s,baz=128,slow=8.4,SNR=4.6						
	comp=Z,7.9nm,0.6s						
KSRS	**Korea Array**	**78.31**	**320**	P	**P**	**19 02 01.0**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=127,slow=4.8,SNR=3.8						
	comp=Z,1.5nm,0.7s						
PETK	**Petropavlovsk-**	**79.15**	**346**	P	**P**	**19 02 04.9**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=160,slow=5.6,SNR=3.0						
	comp=Z,2.1nm,0.7s						
SYO	**Syowa Base**	**82.99**	**193⇑**	*eP*	**P**	**19 02 24.1**	**0.0**
TROLL	**Troll, Antarti**	**84.30**	**181**	⇑P	**P**	**19 02 30.7**	**-0.2**
	comp=Z,712nm,0.7s						
SNAA	**Sanae**	**84.63**	**179**	⇑P	**P**	**19 02 31.9**	**-0.5**
	comp=Z,48nm,0.5s						
SNAA	**Sanae**	**84.63**	**179**	P	**P**	**19 02 31.8**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=221,slow=8.9,SNR=2.2						
	comp=Z,2.0nm,0.6s						
VNA2	**Neumayer--Watz**	**85.25**	**178**	⇑P	**P**	**19 02 35.2**	**-0.1**
	comp=Z,7.0nm,0.7s,baz=168,slow=5.9						
BBB	**Bella Bella**	**88.26**	**29**	P	**P**	**19 02 50.5**	**+0.9**
	comp=Z,6.3nm,1.0s,baz=260,slow=16,SNR=1.9						
	comp=Z,6.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**89.60**	**290**	P	**P**	**19 02 58.3**	**+1.6**
	comp=Z,3.3nm,0.9s,baz=137,slow=3.4,SNR=5.8						
	comp=Z,3.3nm,0.9s						
TXAR	**Lajitas Array**	**90.39**	**58**	P	**P**	**19 03 01.4**	**+1.1**
	comp=Z,2.5nm,0.7s,baz=213,slow=6.4,SNR=8.3						
	comp=Z,2.5nm,0.7s						
PDAR	**Pinedale Array**	**92.67**	**44**	P	**P**	**19 03 10.1**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=197,slow=3.1,SNR=4.6						
	comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**112.22**	**313**	PKiKP	**PKiKP**	**19 08 28.9**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=140,slow=1.3,SNR=2.4						
KURBB	**Kurchatov Arra**	**115.31**	**316**	PKP	**PKPdf**	**19 08 35.0**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=101,slow=2.0,SNR=4.9						
ARCES	**ARCESS Array B**	**131.93**	**348**	PKP	**PKPdf**	**19 09 07.7**	**+0.2**
	comp=Z,3.2nm,1.0s,baz=12,slow=1.8,SNR=1.3						
FINES	**FINESS Array B**	**138.50**	**341**	PKP	**PKPdf**	**19 09 19.9**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=80,slow=1.6,SNR=2.3						
FINES				SKP		19 12 06.2	
	comp=Z,3.2nm,0.7s,baz=70,slow=6.3,SNR=5.8						
NOA	**NORSAR Array B**	**142.13**	**351**	SKP		19 12 14.1	
	comp=Z,0.9nm,0.7s,baz=17,slow=4.2,SNR=3.5						
HFS	**Hagfors**	**142.59**	**349**	PKhKP	PKPpre	19 09 23.2	
	comp=Z,1.7nm,0.5s,baz=67,slow=3.7,SNR=2.2						
AKASG	**Malin Array Be**	**145.03**	**327**	PKP	**PKPdf**	**19 09 31.9**	**0.0**
	comp=Z,1.8nm,0.4s,baz=46,slow=4.3,SNR=3.1						
AKASG				SKP		19 12 22.4	
	comp=Z,2.4nm,0.8s,baz=46,slow=2.9,SNR=4.4						
BRTR	**Keskin Array B**	**147.65**	**307**	PKPbc	**PKPbc**	**19 09 40.1**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=104,slow=3.5,SNR=3.8						
MMAI	**Mount Meron Ar**	**147.78**	**294**	PKPbc	**PKiKP**	**19 09 41.8**	**-0.5**
	comp=Z,11nm,0.6s,baz=81,slow=5.4,SNR=6.5						
TORD	**Torodi Ar. Bea**	**169.16**	**188**	PKPab	**PKPab**	**19 11 17.8**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=176,slow=4.5,SNR=1.7						

*JMA **07** 18:53:49.8±0.3, 44°N±2°×14°8E±°, h0km, MV3.6/25, SE OFF ETOROFU*

*SKHL **07** 18:53:50.9±0.4, 44°60N×148°50E, h47km±7km, mb4.2/3*

ISC 07 18:53:46.0±3.2, 44°39N±0'09×148°6E±0°2, h4km±15km, n16, σ1§66/28, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.98**	**330**	*i* P	**Pg**	**18 54 04.7**	**0.0**
KUR				AMB	AMB	18 54 05.2	
	340nm,0.4s						
KUR				*i* S	**Sg**	**18 54 15.0**	**-2.3**
KUR				A	A	18 54 19.6	
	570nm,0.4s						
KUR				A	A	18 54 19.6	
	350nm,0.4s						
SHO	**Shikotan**	**1.35**	**248**	*e*P	**Pn**	**18 54 13.2**	**+1.7**
SHO				AMB	AMB	18 54 13.7	
	20nm,0.3s						
SHO				*i* S	**Sg**	**18 54 29.4**	**+0.2**
SHO				A	A	18 54 31.1	
	150nm,0.2s						
SHO				A	A	18 54 31.1	
	330nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.97**	**261**	*e*P	**Pn**	**18 54 21.4**	**+1.3**
YUK				AMB	AMB	18 54 22.1	
	110nm,0.2s						
YUK				*i* S	**Sn**	**18 54 44.4**	**-0.8**
YUK				A	A	18 54 49.8	
	330nm,0.4s						
YUK				A	A	18 54 49.8	
	280nm,0.4s						
NEM2	**Nemuro 2**	**2.28**	**244**	P	**Pn**	**18 54 24.7**	**+0.4**
NEM2				*e*S	**Sn**	**18 54 50.1**	**-2.6**
NMR	**Nemuro--Hokkai**	**2.28**	**244**	*e*P	**Pn**	**18 54 24.7**	**+0.3**
NMR				*i* S	**Sn**	**18 54 50.3**	**-2.6**
JRA	**Rausu**	**2.51**	**261**	*e*P	**Pn**	**18 54 29.2**	**+1.7**
JRA				*e*S	**Sn**	**18 54 58.8**	**+0.2**
JNSB	**Nemuroshibetsu**	**2.63**	**258**	*e*P	**Pn**	**18 54 30.9**	**+1.8**
JNSB				*e*S	**Sn**	**18 55 00.6**	**-0.9**
JKHN	**Kushirohamanak**	**2.79**	**243**	P	**Pn**	**18 54 32.2**	**+0.9**
JKHN				*e*S	**Sn**	**18 55 03.4**	**-1.9**
JNK	**Nakash**	**2.88**	**255**	*e*P	**Pn**	**18 54 34.1**	**+1.5**
JNK				*e*S	**Sn**	**18 55 06.9**	**-0.9**
AKK	**Akkeshi**	**3.02**	**244**	*e*P	**Pn**	**18 54 34.4**	**-0.1**
JAK	**Akkeshi**	**3.13**	**245**	P	**Pn**	**18 54 36.8**	**+0.8**
JAK				*e*S	**Sn**	**18 55 12.0**	**-1.7**
JTKR	**Abashiri--Toko**	**3.37**	**264**	*e*P	**Pn**	**18 54 42.6**	**+3.3**
JAR	**Ashorobuto**	**3.63**	**254**	*e*P	**Pn**	**18 54 44.8**	**+1.8**
JAR				*e*S	**Sn**	**18 55 26.5**	**+0.3**
JCH	**Churui**	**4.17**	**247**	*e*P	**Pn**	**18 54 51.9**	**+1.5**
JCH				*e*S	**Sn**	**18 55 38.6**	**-0.9**
JNBK	**Urakawa-nobuka**	**4.73**	**246**	*e*P	**Pn**	**18 55 00.0**	**+2.0**
JANG	**Nango**	**6.58**	**235**	*e*P	**Pn**	**18 55 24.6**	**+1.2**

IDC 07 19:00:43.3±1.7, 0°38N×125°81E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=172.9km s-min=22.6km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.86**	**158**	P	P	19 05 36.9	-0.9
	0.8nm,0.5s,baz=336,slow=11,SNR=6.2						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**25.16**	**162**	P	P	19 06 11.1	+0.6
	1.6nm,0.8s,baz=342,slow=9.6,SNR=13						
	1.6nm,0.8s						
MKAR	**Makanchi Array**	**59.80**	**327**	P	P	19 10 51.1	+0.6
	0.2nm,0.5s,baz=118,slow=8.1,SNR=4.8						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**64.08**	**329**	P	P	19 11 18.2	-0.9
	0.3nm,0.3s,baz=131,slow=6.5,SNR=2.1						
	0.3nm,0.3s						

*NEIC **07** 19:00:50.7±1.0, 35°65N±0'02×117°46W±0'01, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.9km az=75.0*

PAS 07 19:00:51.3±0.9, 35°65N±0'01×117°473W±0'009, h3km±4km, ML3.3/21, ML3.1/72(NEIC), Error ellipse: s-maj=1.7km s-min=0.8km az=206.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCCA	**Chr Cany lake**	**0.16**	**146**		Pg	19 00 55.0	+0.6
CCCA	**Chr Cany lake**	**0.16**	**146**	IAML		19 00 58.1	
	comp=E,23μm,0.4s						
CCCA				IAML		19 00 58.1	
	comp=N,26μm,0.5s						
CLC	**China Lake**	**0.19**	**328**		Pg	19 00 54.9	-0.1
CLC	**China Lake**	**0.19**	**328**	IAML		19 00 58.3	
	comp=N,7μm,0.4s						
CLC				IAML		19 00 58.3	
	comp=E,6μm,0.6s						
LRMC	**Laurel Mtn Rad**	**0.24**	**224**		Pg	19 00 56.2	+0.1
LRMC				IAML		19 01 00.1	
	comp=E,11μm,0.3s						
LRMC				IAML		19 01 00.9	
	comp=N,10μm,0.3s						
WNMM	**Nine Mile Cany**	**0.40**	**298**		Pg	19 00 59.2	+0.2
MPMC	**Manual Prospec**	**0.40**	**358**		Pg	19 00 59.0	-0.2
MPMC	**Manual Prospec**	**0.40**	**358**	IAML		19 01 05.1	
	comp=N,458nm,0.4s						
MPMC				IAML		19 01 10.2	
	comp=E,927nm,0.4s						
WVPM	**Volcano Peak E**	**0.41**	**317**		Pg	19 00 59.4	+0.2
WVPM					Sg	19 01 05.9	+1.4
WRVM	**Rose V. Centra**	**0.49**	**316**		Pg	19 01 00.7	0.0
WRVM					Sg	19 01 07.7	+0.6
DTP	**Desert Tortois**	**0.49**	**218**		Pg	19 01 00.6	-0.1
WBSM	**Bird Springs**	**0.56**	**258**		Pg	19 01 01.9	-0.1
MFS	**McCloud Flat S**	**0.56**	**326**		Pg	19 01 02.0	0.0
QSM	**Queen of Sheba**	**0.58**	**58**		Pg	19 01 02.3	-0.2
QSM				IAML		19 01 10.9	
	comp=N,2μm,0.6s						
QSM				IAML		19 01 11.9	
	comp=E,2μm,0.2s						
GSC	**Goldstone, Bar**	**0.65**	**123**		Pg	19 01 03.6	-0.2
ISA	**Isabella, Lake**	**0.81**	**271**		Pg	19 01 06.5	-0.5
ISA				IAML		19 01 20.7	
	comp=N,272nm,0.3s						
ISA				IAML		19 01 21.5	
	comp=E,329nm,0.2s						
GWY	**Greenwater Val**	**0.84**	**51**		Pg	19 01 07.2	-0.2
GWY				IAML		19 01 21.0	
	comp=N,858nm,0.5s						
WASM	**Alta Sierra Ca**	**0.89**	**276**		Pg	19 01 07.9	-0.4
CWC	**Cottonwood Cre**	**0.93**	**328**		Pg	19 01 08.7	-0.4
CWC				IAML		19 01 23.2	
	comp=N,427nm,0.2s						
CWC				IAML		19 01 23.3	
	comp=E,373nm,0.3s						
TPO	**Tropico Hills**	**0.99**	**219**	IAML		19 01 29.4	
	comp=N,861nm,0.7s						
SHOC	**Shoshone, Teco**	**1.00**	**76**		Pg	19 01 10.7	+0.2
SPG2	**Springville 2**	**1.18**	**298**		Pg	19 01 13.1	-0.9
DSCC	**Desert Studies**	**1.23**	**114**		Pg	19 01 13.4	-1.5
TUQ	**Turquoise Moun**	**1.28**	**99**		Pg	19 01 15.0	-0.9
WCT	**Wildcat Mounta**	**1.33**	**31**		Pg	19 01 15.4	-1.4
WCT				IAML		19 01 36.4	
	comp=N,208nm,0.4s						
WCT				IAML		19 01 36.4	
	comp=E,305nm,0.4s						
GRAC	**Grapevine Rang**	**1.34**	**4**		Pn	19 01 15.9	-1.1
GRAC				IAML		19 01 40.8	
	comp=N,345nm,1.0s						
GRAC				IAML		19 01 43.4	
	comp=E,307nm,0.7s						
CHFC	**Chilao Flat St**	**1.39**	**199**		Pn	19 01 16.6	-1.2
BFSC	**Mount Baldy Ra**	**1.42**	**186**		Pn	19 01 17.0	-1.2
BFSC				IAML		19 01 37.6	
	comp=E,271nm,0.6s						
BFSC				IAML		19 01 37.9	
	comp=N,221nm,0.5s						
MWC	**Mount Wilson**	**1.51**	**199**		Pn	19 01 18.6	-0.8
MWC				IAML		19 01 41.4	
	comp=E,348nm,0.6s						
MWC				IAML		19 01 41.6	
	comp=N,417nm,0.5s						
MTPC	**Mountain Pass**	**1.57**	**96**		Pn	19 01 18.7	-1.6
MTPC	**Mountain Pass**	**1.57**	**96**	IAML		19 01 43.3	
	comp=E,195nm,0.3s						
MTPC				IAML		19 01 43.4	
	comp=N,155nm,0.4s						
PASC	**Pasadena Art C**	**1.59**	**202**		Pn	19 01 19.5	-0.9
PASC				IAML		19 01 44.0	
	comp=N,201nm,0.6s						
PASC				IAML		19 01 46.4	
	comp=E,175nm,0.6s						
TPNV	**Topopah Spring**	**1.63**	**37**		Pn	19 01 20.1	-0.9
TPNV				IAML		19 01 47.3	
	comp=E,292nm,0.5s						
DSP	**Deep Springs**	**1.76**	**347**		Pn	19 01 22.2	-0.5
ELS	**Elsinore Mount**	**2.00**	**179**		Pn	19 01 25.0	-1.1
ELS				IAML		19 02 03.2	
	comp=N,105nm,0.5s						
MZP	**Montezuma Peak**	**2.04**	**2**		Pn	19 01 26.2	-0.7
V12A	**Nelson**	**2.13**	**87**		Pn	19 01 26.4	-1.6
PMD	**Palm Desert**	**2.20**	**155**		Pn	19 01 27.1	-1.6
PMD				IAML		19 02 10.1	
	comp=E,85nm,0.8s						
PFO	**Pinyon Flats O**	**2.20**	**157**		Pn	19 01 27.6	-1.3
PFO				IAML		19 02 05.3	
	comp=E,60nm,1.0s						
TPH	**Tonopah**	**2.42**	**5**		Pn	19 01 31.1	-0.9
TPH				IAML		19 02 17.9	
	comp=N,130nm,1.1s						
LHV	**Little Huntoon**	**2.72**	**343**		Pn	19 01 35.8	-0.1
LHV				IAML		19 02 29.3	
	comp=E,47nm,0.8s						
NVAR	**Mina Array Bea**	**2.85**	**347**		Pn	19 01 35.3	-2.7
BLYC	**Blythe**	**3.08**	**127**	Pn	Pn	19 01 38.9	-2.0
BLYC				IAML		19 02 32.0	
	comp=N,56nm,0.5s						
BLYC				IAML		19 02 35.1	
	comp=E,58nm,0.7s						
GLA	**Glamis**	**3.40**	**139**	Pn	Pn	19 01 44.4	-0.9
GLA				IAML		19 02 42.7	
	comp=N,66nm,0.7s						
CBX	**Cerro Bola**	**3.40**	**168**		Pn	19 01 45.2	-0.2
CBX				IAML		19 02 54.0	
	comp=N,62nm,1.0s						
ESJX	**Sierra Juarez**	**3.85**	**160**	Pn	Pn	19 01 51.0	-0.7

*IDC **07** 19:05:17.5±3.3, 15°60N×146°35E, h100km±30km, mb3.5/10, mbtmp3.8/11, Error ellipse: s-maj=29.9km s-min=19.1km az=85.0*

*NEIC **07** 19:05:18.7±1.4, 15°56N±0°10×146°1E±0°1, h105km±2km, mb4.1/16, Error ellipse: s-maj=17.7km s-min=13.7km az=109.0*

ISC 07 19:05:17.5±0.6, 15°52N±0'07×146°22E±0°10, h100km, n38, σ1§08/34, mb4.0/18, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.32**	**214**		**Pn**	**19 05 55.9**	**+1.7**
GUMO				Sn	**Sn**	**19 06 22.9**	**+0.5**
GUMO	**Guam**	**2.32**	**214**	P	**Pn**	**19 05 55.9**	**+1.7**
	62nm,0.3s,baz=323,slow=5.1,SNR=92						
GUMO				S	**Sn**	**19 06 22.6**	**+0.2**
	50nm,0.3s,baz=349,slow=14,SNR=5.3						
PATS	**Pohnpei**	**14.66**	**125**	Pn	**Pn**	**19 08 40.4**	**+0.3**
H11S3	**WAKE ISLAND Hy**	**19.80**	**78**	T	T	19 30 20.7	
	baz=266,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**19.81**	**78**	T	T	19 30 21.6	
	baz=266,slow=75,SNR=21						
H11S2	**WAKE ISLAND Hy**	**19.82**	**79**	T	T	19 30 23.0	
	baz=266,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**20.14**	**75**	T	T	19 30 46.8	
	baz=263,slow=75,SNR=29						
H11N2	**WAKE ISLAND Hy**	**20.15**	**75**	T	T	19 30 47.6	
	baz=263,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**20.16**	**75**	T	T	19 30 48.2	
	baz=263,slow=75,SNR=21						
JNU	**Nakatsue**	**22.37**	**324**	P	**P**	**19 10 08.0**	**+0.5**
JNU				IAmb	IAmb	19 10 08.5	
	comp=Z,8.4nm,1.1s						
TWG	**Pinlang**	**24.81**	**291**	P	**P**	**19 10 29.0**	**-1.4**
TWG				IAmb	IAmb	19 10 40.6	
	comp=Z,6.8nm,0.7s						
COEN	**Coen**	**29.44**	**186**	P	**P**	**19 11 10.2**	**-1.7**
COEN				IAmb	IAmb	19 11 13.0	
	comp=Z,6.8nm,1.1s						
KNRA	**Kununurra**	**35.47**	**210**	P	**P**	**19 12 03.0**	**-1.6**
WB0	**Warramunga Arr**	**36.94**	**199**	P	**P**	**19 12 17.5**	**+0.4**
WB0				IAmb	IAmb	19 12 22.0	
	comp=Z,3.7nm,1.1s						
WR8	**Warramunga Arr**	**37.09**	**198**	P	**P**	**19 12 19.3**	**+1.0**
WRA	**Warramunga Arr**	**37.12**	**199**	P	**P**	**19 12 19.5**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=17,slow=8.8,SNR=7.4						
	comp=Z,1.1nm,0.8s						
AS31	**Alice Springs**	**40.76**	**197**	P	**P**	**19 12 48.6**	**-0.4**
ASAR	**Alice Springs**	**40.76**	**197**	P	**P**	**19 12 49.9**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=16,slow=9.6,SNR=8.1						
	comp=Z,0.2nm,0.5s						
EIDS	**Eidsvold**	**40.92**	**173**	P	**P**	**19 12 49.9**	**-0.3**
EIDS				IAmb	IAmb	19 12 52.9	
	comp=Z,6.4nm,1.1s						
SMRI	**Semarang**	**41.94**	**240**	P	**P**	**19 12 57.2**	**-1.5**
CMAR	**Chiang Mai Arr**	**45.21**	**281**	P	**P**	**19 13 26.6**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=86,slow=8.0,SNR=2.0						
	comp=Z,0.2nm,0.4s						
SONM	**Songino Array**	**45.95**	**323**	P	**P**	**19 13 31.3**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=136,slow=5.1,SNR=2.6						
	comp=Z,0.4nm,0.7s						
UNV	**Unalaska Valle**	**53.01**	**33**	P	**P**	**19 14 25.9**	**+2.0**
ZALV	**Zalesovo Beam**	**60.84**	**324**	P	**P**	**19 15 18.2**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=114,slow=9.3,SNR=4.5						
	comp=Z,1.0nm,0.4s						
C16K	**Lisburne Hills**	**61.00**	**19**	P	**P**	**19 15 20.7**	**+0.7**
C16K				IAmb	IAmb	19 15 40.4	
	comp=Z,2.1nm,1.1s						
MKAR	**Makanchi Array**	**61.03**	**315**	P	**P**	**19 15 20.5**	**-0.3**
MKAR	**Makanchi Array**	**61.03**	**315**	P	**P**	**19 15 21.1**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=89,slow=8.5,SNR=15						
	comp=Z,0.7nm,0.4s						
MAKZ	**Makanchi**	**61.25**	**315**	P	**P**	**19 15 21.6**	**-0.6**
MAKZ				IAmb	IAmb	19 15 23.3	
	comp=Z,1.8nm,0.8s						
KURBB	**Kurchatov Arra**	**64.02**	**319**	P	**P**	**19 15 40.3**	**-0.1**
	comp=Z,3.2nm,0.5s,baz=99,slow=7.2,SNR=30						
	comp=Z,3.2nm,0.5s						
ILAR	**Eielson Array**	**66.28**	**26**	P	**P**	**19 15 54.9**	**0.0**
	comp=Z,0.3nm,0.5s,baz=251,slow=5.7,SNR=8.0						
	comp=Z,0.3nm,0.5s						
J26L	**Joseph Creek**	**67.61**	**26**	P	**P**	**19 16 04.0**	**+0.6**
E25K	**Arctic Village**	**67.63**	**22**	P	**P**	**19 16 04.2**	**+0.8**
E25K				IAmb	IAmb	19 16 05.0	
	comp=Z,1.5nm,1.1s						
KKAR	**Karatay Array**	**69.18**	**311**	P	**P**	**19 16 12.4**	**-1.1**
BVAR	**Borovoye Array**	**69.24**	**321**	P	**P**	**19 16 13.3**	**-0.3**
	comp=Z,1.9nm,0.4s,baz=113,slow=10,SNR=6.3						
	comp=Z,1.9nm,0.4s						
M29M	**Somme Creek**	**69.58**	**29**	P	**P**	**19 16 16.4**	**+0.7**
ABKAR	**Akbulak array**	**76.00**	**318**	P	**P**	**19 16 52.8**	**-1.0**
ABKAR	**Akbulak array**	**76.00**	**318**	P	**P**	**19 16 52.6**	**-1.1**
ABKAR				IAmb	IAmb	19 16 53.9	
	comp=Z,1.5nm,1.0s						
NVAR	**Mina Array Bea**	**84.71**	**52**	P	**P**	**19 17 39.1**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=267,slow=5.3,SNR=2.2						
	comp=Z,0.2nm,0.5s						

**IDC 07 19:07:06.1±2.1, 0°43N×125°61E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=190.0km s-min=28.3km az=64.0,

WRA	Warramunga Arr	21.76	159	P	P	19 23 28.6	-0.4	
	0.8nm,0.3s,baz=338,slow=11,SNR=22							
	0.8nm,0.3s							
ASAR	Alice Springs	25.11	163	P	P	19 24 02.7	+0.4	
	0.6nm,0.6s,baz=345,slow=12,SNR=5.7							
	0.6nm,0.6s							
MKAR	Makanchi Array	60.01	327	P	P	19 28 43.5	-0.7	
	0.3nm,0.5s,baz=128,slow=7.4,SNR=2.4							
	0.3nm,0.5s							
KURBB	Kurchatov Arra	64.26	328	P	P	19 29 13.2	+0.6	
	0.3nm,0.2s,baz=117,slow=6.6,SNR=1.4							
	0.3nm,0.2s							

IDC 07 19:26:15.5±2.1,0.28N×125.67E,h0km,mb3.1/3, mbtmp3.2/3,Error ellipse: s-maj=185.2km s-min=28.6km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.82	158	P	P	19 31 08.4	-1.2
	0.3nm,0.4s,baz=336,slow=12,SNR=5.6						
	0.3nm,0.4s						
ASAR	Alice Springs	25.11	162	P	P	19 31 43.1	+0.8
	0.4nm,0.6s,baz=343,slow=11,SNR=6.7						
	0.4nm,0.6s						
MKAR	Makanchi Array	59.81	327	P	P	19 36 22.7	-0.1
	0.2nm,0.6s,baz=127,slow=5.8,SNR=2.4						
	0.2nm,0.6s						

IDC 07 19:26:53.9±2.0,0.73N×126.35E,h0km,mb3.3/3, mbtmp3.4/4,ML2.9/1,Error ellipse: s-maj=117.2km s-min=27.0km az=68.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	18.72	182	P	P	19 31 13.8	-0.4
	baz=80,slow=22,SNR=1.5						
	1.6nm,1.0s						
WRA	Warramunga Arr	21.98	160	P	P	19 31 48.6	-1.1
	0.6nm,0.4s,baz=338,slow=11,SNR=9.4						
	0.6nm,0.4s						
ASAR	Alice Springs	25.34	164	P	P	19 32 23.6	+0.9
	0.6nm,0.6s,baz=344,slow=11,SNR=11						
	0.6nm,0.6s						
MKAR	Makanchi Array	59.81	326	P	P	19 37 00.9	-0.2
	0.2nm,0.9s,baz=134,slow=8.3,SNR=2.1						
	0.2nm,0.9s						

IDC 07 19:27:31.7±2.3,0.63N×126.41E,h0km,mb3.2/3, mbtmp3.2/3,Error ellipse: s-maj=203.7km s-min=29.2km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.87	160	P	P	19 32 24.7	-1.6
	0.9nm,1.0s,baz=338,slow=10,SNR=2.5						
	0.9nm,1.0s						
ASAR	Alice Springs	25.22	164	P	P	19 33 00.5	+1.1
	0.5nm,0.7s,baz=347,slow=11,SNR=5.7						
	0.5nm,0.7s						
MKAR	Makanchi Array	59.92	326	P	P	19 37 39.5	-0.2
	0.1nm,0.5s,baz=133,slow=8.8,SNR=1.9						
	0.1nm,0.5s						

IDC 07 19:35:32.4±2.2,0.67N×126.53E,h0km,mb3.2/3, mbtmp3.3/3,Error ellipse: s-maj=171.8km s-min=28.3km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.87	160	P	P	19 40 26.2	-0.7
	0.7nm,0.6s,baz=338,slow=11,SNR=5.8						
	0.7nm,0.6s						
ASAR	Alice Springs	25.23	164	P	P	19 41 00.7	+0.4
	0.2nm,0.4s,baz=344,slow=11,SNR=12						
	0.2nm,0.4s						
MKAR	Makanchi Array	59.96	326	P	P	19 45 40.6	-0.1
	0.3nm,0.7s,baz=130,slow=7.5,SNR=2.3						
	0.3nm,0.7s						

*IDC **07** 19:36:19.1±2.1,0.72N×126.72E,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=182.3km s-min=26.3km az=66.0*
*DJA **07** 19:36:21.4±1.4,0°N±3°×12°6E±°,h13km±11km,M3.4/2, MLv3.2/8,MLv3.4/2*

ISC 07 19:36:24.4±1.1,0.48N±0.08×126.22E±0.06,h35km,n7, σt1%11/9,mb3.5/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	1.19	76	P	Pn	19 36 43.4	-1.1
TNTI				S	Sn	19 37 00.3	+0.9
LBMI	Labuha	1.70	131	P	Pn	19 36 50.7	-0.9
LBMI				S	Sn	19 37 13.3	+1.2
KMSI	Cibinong	2.24	272	P	Pn	19 36 58.4	-0.6
SANI	Sanana	2.52	185	P	Pn	19 37 02.1	-0.8
WRA	Warramunga Arr	21.80	159	P	P	19 41 12.8	-0.9
	1.0nm,0.5s,baz=339,slow=11,SNR=11						
	1.0nm,0.5s						
ASAR	Alice Springs	25.14	163	P	P	19 41 47.5	+1.0
	0.8nm,0.6s,baz=345,slow=11,SNR=16						
	0.8nm,0.6s						
MKAR	Makanchi Array	59.94	327	P	P	19 46 27.6	+0.4
	0.2nm,0.5s,baz=127,slow=7.7,SNR=4.6						
	0.2nm,0.5s						

*NEIC **07** 19:37:09.8±1.0,35.64N±0.02×117.54W±0.01,h10km±2km, Error ellipse: s-maj=3.0km s-min=2.9km az=28.0*

PAS 07 19:37:10.2±0.6,35.655N±0.008×117.53W±0.02, h10km±7km,ML3.2/21,ML2.9/48(NEIC),Error ellipse: s-maj=2.2km s-min=1.0km az=69.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLC	China Lake	0.17	340	Pg	Pg	19 37 13.9	-0.1
CCCA	Chr Cany lake	0.18	135		Pg	19 37 14.5	+0.3
CCCA					Sg	19 37 18.0	+1.2
CCCA	Chr Cany lake	0.18	135	IAML		19 37 18.1	
	comp=E,11μm,0.5s						
CCCA				IAML		19 37 19.7	
	comp=N,7μm,0.4s						
SRTC	Snort	0.18	281		Pg	19 37 14.5	+0.3
LRMC	Laurel Mtn Rad	0.22	216		Pg	19 37 14.6	-0.2
LRMC				IAML		19 37 18.4	
	comp=E,3μm,0.3s						
TOW	Tower One	0.25	309		Pg	19 37 15.5	+0.2
TOW					Sg	19 37 20.3	+1.6
WNMM	Nine Mile Cany	0.36	301		Pg	19 37 17.2	-0.2
WVPM	Volcano Peak E	0.38	321		Pg	19 37 17.4	-0.3
WRVM	Rose V. Centra	0.46	320		Pg	19 37 18.8	-0.4
DTP	Desert Tortois	0.47	214		Pg	19 37 18.8	-0.5
QSM	Queen of Sheba	0.62	60		Pg	19 37 21.8	-0.4
QSM	Queen of Sheba	0.62	60	IAML		19 37 31.1	
	comp=E,1μm,0.6s						
CCAC	Calif City Air	0.64	219		Pg	19 37 22.2	-0.5
GSC	Goldstone, Bar	0.69	121	Pg	Pg	19 37 22.9	-0.6
GSC				IAML		19 37 32.8	
	comp=E,791nm,0.5s						
GSC				IAML		19 37 35.2	
	comp=N,462nm,0.4s						
ISA	Isabella, Lake	0.77	271		Pg	19 37 24.3	-0.8
ISA	Isabella, Lake	0.77	271		Sg	19 37 34.6	-0.6
ISA	Isabella, Lake	0.77	271	IAML		19 37 37.4	
	comp=N,513nm,0.6s						
ISA				IAML		19 37 37.5	
	comp=E,592nm,0.4s						
HYS	Haystack Butte	0.79	183		Pg	19 37 24.7	-0.8
WASM	Alta Sierra Ca	0.84	276		Pg	19 37 25.7	-0.8
EDW2	Edwards Air Fo	0.86	207		Pg	19 37 25.9	-1.0
GWY	Greenwater Val	0.88	52		Pg	19 37 26.4	-0.7
GWY	Greenwater Val	0.88	52	IAML		19 37 41.3	
	comp=N,660nm,0.3s						
RRX	Edison Barstow	0.89	151		Pb	19 37 27.7	-0.1
CWC	Cottonwood Cre	0.90	330	IAML		19 37 40.4	
	comp=N,234nm,0.2s						
CWC				IAML		19 37 41.6	
	comp=E,225nm,0.2s						
TPO	Tropico Hills	0.96	217	IAML		19 37 48.1	
	comp=E,414nm,0.6s						
TPO				IAML		19 37 48.1	
	comp=N,551nm,0.6s						
TEJ	El Tejon	1.04	246		Pg	19 37 29.1	-1.1
SPG2	Springville 2	1.14	299		Pb	19 37 31.0	-1.1
ARVC	Arvin	1.19	244		Pb	19 37 32.1	-0.8
DSCC	Desert Studies	1.27	113		Pn	19 37 32.0	-2.0
AMDNV	Amargosa	1.28	51		Pn	19 37 33.7	-0.5
TUQ	Turquoise Moun	1.32	99		Pn	19 37 34.2	-0.7
GRAC	Grapevine Rang	1.34	5	IAML		19 38 00.3	
	comp=N,295nm,0.9s						
GRAC				IAML		19 38 00.9	
	comp=E,175nm,0.9s						
WCT	Wildcat Mounta	1.35	32	IAML		19 37 54.7	
	comp=E,125nm,0.5s						
WCT				IAML		19 37 54.8	
	comp=N,101nm,0.6s						
BFSC	Mount Baldy Ra	1.42	184		Pn	19 37 35.1	-1.1
OSI	Osito Audit: C	1.43	224	Pn	Pn	19 37 35.1	-1.2
MWC	Mount Wilson	1.49	197	Pn	Pn	19 37 36.1	-1.2
PASC	Pasadena Art C	1.58	200		Pn	19 37 37.5	-0.7
PASC				IAML		19 38 04.4	
	comp=E,104nm,0.4s						
MTPC	Mountain Pass	1.62	95	Pn	Pn	19 37 37.3	-1.7
GMN	Gold Mountain	1.66	7		Pn	19 37 38.8	-0.8
NEE2	Needles Airpor	2.54	110		Pn	19 37 49.4	-2.1
NEE2				IAML		19 38 33.5	
	comp=E,89nm,0.5s						
SALN	Salton City	2.69	151	Pg	Pg	19 38 00.7	-1.0
LHV	Little Huntoon	2.71	343	Pg	Pg	19 38 01.3	-0.8
NVAR	Mina Array Bea	2.84	348	Pg	Pg	19 38 04.4	-0.2
W13A	Hualapai Mount	3.03	100		Pn	19 37 57.0	-1.5
W13A				IAML		19 38 49.1	
	comp=N,19nm,1.1s						
RYN	Ryan	3.07	345	Pg	Pg	19 38 08.0	-1.1
R11B	Troy Canyon, C	3.10	29	Pg	Pb	19 38 07.6	+1.9
YUH	Yuha Desert	3.28	156		Pb	19 38 10.7	+2.1
GLA	Glamis	3.42	139		Pg	19 38 14.5	-1.3
GLA				IAML		19 39 08.3	
	comp=N,36nm,0.9s						

*NEIC **07** 19:48:36.5±1.3,35.940N±0.006×117.69W±0.02, h5km±1km,Error ellipse: s-maj=2.9km s-min=2.3km az=201.0*

PAS 07 19:48:36.8±0.8,35.938N±0.008×117.70W±0.02, h1km±1km,ML3.0/26,ML2.8/58(NEIC),Error ellipse: s-maj=2.0km s-min=0.8km az=65.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WVPM	Volcano Peak E	0.09	277		Pg	19 48 39.0	+0.3
TOW	Tower One	0.14	201		Pg	19 48 40.2	+0.7
CLC	China Lake	0.15	145		Pg	19 48 39.8	+0.1
CLC	China Lake	0.15	145	IAML		19 48 43.0	
	comp=N,938nm,0.3s						
CLC				IAML		19 48 43.2	
	comp=E,776nm,0.4s						
WRVM	Rose V. Centra	0.17	295		Pg	19 48 40.3	+0.2
WNMM	Nine Mile Cany	0.19	240		Pg	19 48 40.8	+0.4
MPMC	Manual Prospec	0.21	55		Pg	19 48 41.0	+0.1
MPMC				IAML		19 48 45.5	
	comp=E,3μm,0.7s						
MFS	McCloud Flat S	0.22	325		Pg	19 48 41.2	+0.1
MFS					Sg	19 48 44.8	+0.8
SRTC	Snort	0.25	189		Pg	19 48 42.1	+0.5
LRMC	Laurel Mtn Rad	0.46	178		Pg	19 48 45.2	-0.4
LRMC				IAML		19 48 59.9	
	comp=N,500nm,0.2s						
CCCA	Chr Cany lake	0.49	146		Pg	19 48 47.0	+0.7
CCCA	Chr Cany lake	0.49	146	IAML		19 48 54.5	
	comp=N,3μm,0.6s						
CCCA				IAML		19 49 02.7	
	comp=E,1μm,0.6s						
CWC	Cottonwood Cre	0.59	329		Pg	19 48 48.2	+0.1
CGO	Cerro Gordo	0.62	352		Pg	19 48 49.2	+0.5
CGO					Sg	19 48 57.6	+0.9
QSM	Queen of Sheba	0.68	87		Pg	19 48 50.0	+0.2
QSM				IAML		19 48 59.5	
	comp=E,826nm,0.5s						
QSM				IAML		19 49 02.8	
	comp=N,590nm,0.5s						
ISA	Isabella, Lake	0.69	247	IAML		19 48 59.9	
	comp=E,613nm,0.2s						
WASM	Alta Sierra Ca	0.72	254		Pg	19 48 50.8	+0.1
SPG2	Springville 2	0.90	287		Pg	19 48 53.9	-0.3
GSC	Goldstone, Bar	0.97	131		Pg	19 48 55.1	-0.3
GSC				IAML		19 49 10.1	
	comp=N,301nm,0.7s						
GSC				IAML		19 49 11.3	
	comp=E,400nm,1.2s						
GRAC	Grapevine Rang	1.09	14		Pg	19 48 57.3	-0.4
GRAC				IAML		19 49 16.9	
	comp=E,258nm,0.6s						
GRAC				IAML		19 49 18.7	
	comp=N,345nm,0.7s						
TPO	Tropico Hills	1.14	202	Pg	Pg	19 48 58.3	-0.4
TPO				IAML		19 49 19.9	
	comp=E,372nm,0.9s						
TPO				IAML		19 49 25.6	
	comp=N,257nm,0.5s						
WCT	Wildcat Mounta	1.22	45		Pg	19 48 59.7	-0.5
WCT				IAML		19 49 17.3	
	comp=E,177nm,0.4s						
WCT				IAML		19 49 19.0	
	comp=N,149nm,0.4s						
GMN	Gold Mountain	1.41	15	IAML		19 49 22.7	
	comp=N,79nm,0.5s						
VOG	Valley Oaks Go	1.41	286		Pn	19 49 03.1	-0.5
DSP	Deep Springs	1.45	352		Pn	19 49 03.9	-0.2
DSP				IAML		19 49 24.4	
	comp=E,90nm,0.6s						
TPNV	Topopah Spring	1.55	49		Pn	19 49 04.9	-0.8
TPNV				IAML		19 49 29.0	
	comp=E,186nm,0.5s						
TPNV				IAML		19 49 31.0	
	comp=E,156nm,0.7s						
SHPR	Sheep Range	2.13	74		Pn	19 49 13.2	-0.5
SHPR				IAML		19 49 50.9	
	comp=N,34nm,0.6s						
TPH	Tonopah	2.17	10		Pg	19 49 17.9	-0.5
V12A	Nelson	2.33	94		Pn	19 49 15.2	-1.1
V12A				IAML		19 49 57.6	
	comp=N,50nm,0.9s						
V12A				IAML		19 49 58.5	
	comp=E,46nm,0.4s						
PMD	Palm Desert	2.53	154		Pn	19 49 17.9	-1.1
NVAR	Mina Array Bea	2.53	349		Pg	19 49 25.6	+0.1
PFO	Pinyon Flats O	2.54	156		Pn	19 49 18.4	-0.9
PRN	Pahroc Range	2.59	55		Pn	19 49 19.6	-0.3
PRN				IAML		19 50 10.6	
	comp=N,69nm,0.6s						
PRN				IAML		19 50 20.1	
	comp=E,69nm,0.9s						
MYLM	Yosemite Lake	2.62	304		Pb	19 49 23.8	-0.7
WAKR	Walker	2.91	332		Pb	19 49 31.1	+1.4
CMB	Columbia Colle	3.00	315		Pb	19 49 30.4	-0.7
CMB				IAML		19 50 10.8	
	comp=E,16nm,0.4s						
CMB				IAML		19 50 19.4	
	comp=N,17nm,0.8s						
W13A	Hualapai Mount	3.22	104		Pn	19 49 27.4	-1.3

IDC 07 19:53:13.9±2.4,0.18N×125.47E,h0km,mb3.1/3, mbtmp3.1/3,Error ellipse: s-maj=268.3km s-min=28.6km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.81	157	P	P	19 58 06.3	-1.5
	0.4nm,0.7s,baz=334,slow=11,SNR=4.7						
	0.4nm,0.7s						
ASAR	Alice Springs	25.08	162	P	P	19 58 41.4	+1.0
	0.3nm,0.8s,baz=346,slow=11,SNR=8.1						
	0.3nm,0.8s						
MKAR	Makanchi Array	59.78	327	P	P	20 03 20.7	-0.2
	0.1nm,0.3s,baz=120,slow=8.4,SNR=1.4						
	0.1nm,0.3s						

*IDC **07** 20:01:31.2±0.6,0.48N×126.15E,h0km,mb4.0/18, mbtmp4.0/19,ML3.6/1,MS3.3/3,Error ellipse: s-maj=29.7km s-min=13.2km az=74.0*
*NEIC **07** 20:01:36.9±2.2,0.54N±0.09×126.51E±0.04,h35km±2km, mb4.5/12,Error ellipse: s-maj=16.4km s-min=3.6km az=160.0*
*DJA **07** 20:01:36.4±0.2,1°N±2°×12°6E±°,h10km,M4.2/6, MLv4.3/21,MLv4.2/6*

ISC 07 20:01:37.8±0.5,0.52N±0.06×126.33E±0.05,h47km,n61, σt1%51/62,mb4.3/24,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	1.07	76		Pn	20 01 55.9	-0.5
TNTI	Ternate	1.07	76	P	Pn	20 01 55.9	-0.5
TNTI				S	Sn	20 02 12.4	+2.2
KMSI	Cibinong	2.35	271	P	Pn	20 02 12.0	-1.9
KMSI				S	Sn	20 02 43.8	+2.2
SANI	Sanana	2.57	188	P	Pn	20 02 18.5	+1.5
SGSI	Sangihe	3.25	346	P	Pn	20 02 27.0	+0.7
NLAI	Namlea	3.81	168	P	Pn	20 02 36.3	+2.3
LUWI	Luwuk	3.88	246		Pn	20 02 40.3	+5.4
LUWI	Luwuk	3.88	246	P	Pn	20 02 36.9	+2.0
MRSI	Marisa	4.39	270	P	Pn	20 02 43.7	+1.8
AAI	Ambon	4.57	156	P	Pn	20 02 45.6	+1.1
APSI	Ampana	4.89	253	P	Pn	20 02 51.3	+2.5
SWI	Sorong	5.12	106	P	Pn	20 02 54.0	+2.0
TOLI2	Tolitoli	5.58	276		Pn	20 03 00.0	+1.7
KDI	Kendari	5.79	220	P	Pn	20 03 01.6	+0.4
MPSI	Mapaga	6.43	268	P	Pn	20 03 12.2	+2.2
FAKI	Fak Fak	6.83	120	P	Pn	20 03 18.4	+2.9
BBSI	Bau Bau	7.05	212	P	Pn	20 03 21.0	+2.5
TTSI	Tana Toraja	7.41	241	P	Pn	20 03 24.3	+0.9
BNSI	Bone	7.91	232	P	Pn	20 03 31.0	+0.8
SPSI	Sidrap Palu	7.92	236	P	Pn	20 03 31.4	+0.9
MYLDM	Lahad Datu	9.09	301		Pn	20 03 48.4	+1.9
BAKI	Biak	9.92	100	P	Pn	20 03 58.7	+0.8
TGY	Tagaytay City	14.52	339	LR	LR	20 11 20.9	
	comp=Z,62nm,20.9s,baz=136,slow=41						
KSM	Kuching	16.05	274		P	20 05 23.9	+0.8
KSM				IAmb	IAmb	20 05 40.3	
	comp=Z,28nm,1.0s						
KNRA	Kununurra	16.27	172	P	Pn	20 05 22.9	-0.3
FITZ	Fitzroy Crossi	18.51	182	P	P	20 05 49.3	-1.0
	comp=Z,0.2nm,0.3s,baz=10,slow=11,SNR=6.2						
	comp=Z,7.3nm,1.2s						
WB0	Warramunga Arr	21.65	159		P	20 06 23.3	-1.2
WRAB	Tennant Creek	21.79	159	P	P	20 06 23.9	-2.0
WRAB				IAmb	IAmb	20 06 37.6	
	comp=Z,19nm,0.8s						
WRA	Warramunga Arr	21.80	159	P	P	20 06 25.4	-0.7
WRA	Warramunga Arr	21.80	159	P	P	20 06 24.8	-1.2
	comp=Z,8.7nm,0.5s,baz=337,slow=11,SNR=96						
WRA				LR	LR	20 16 52.6	
	comp=Z,71nm,20.3s,baz=163,slow=42						
	comp=Z,8.7nm,0.5s						
WR8	Warramunga Arr	21.86	159		P	20 06 25.6	-1.2
WR8				IAmb	IAmb	20 06 38.0	
	comp=Z,14nm,0.7s						
COEN	Coen	22.03	131	P	P	20 06 23.9	-4.7
COEN				IAmb	IAmb	20 06 45.2	
	comp=Z,19nm,1.1s						
AS31	Alice Springs	25.14	163		P	20 06 58.5	-0.2
ASAR	Alice Springs	25.14	163	P	P	20 06 58.9	+0.2
	comp=Z,4.8nm,0.6s,baz=354,slow=17,SNR=74						
ASAR				PcP	PcP	20 10 32.8	+0.7
	comp=Z,0.4nm,0.8s,baz=352,slow=3.0,SNR=2.6						
	comp=Z,4.8nm,0.6s						
FORT	Forrest	31.17	177	P	P	20 07 49.3	-3.1
FORT				IAmb	IAmb	20 07 53.6	
	comp=Z,6.2nm,0.8s						
CMAR	Chiang Mai Arr	32.26	305	P	P	20 08 01.2	-1.0
	comp=Z,0.1nm,0.3s,baz=119,slow=8.7,SNR=4.1						
	comp=Z,0.1nm,0.3s						
STKA	Stephens Creek	35.31	157	P	P	20 08 27.9	-0.7
STKA	Stephens Creek	35.31	157	P	P	20 08 27.9	-0.7
	comp=Z,2.8nm,0.6s,baz=338,slow=7.3,SNR=8.0						
	comp=Z,2.8nm,0.6s						
KSRS	Korea Array	36.79	2	P	P	20 08 39.8	-1.3
	comp=Z,0.3nm,0.4s,baz=185,slow=9.9,SNR=1.9						
	comp=Z,0.3nm,0.4s						
MJAR	Matsushiro Arr	37.50	16	P	P	20 08 47.4	+0.2
	comp=Z,1.7nm,0.9s,baz=178,slow=11,SNR=3.0						
	comp=Z,1.7nm,0.9s						
GTA	Gaotai	45.66	331	*e*P	P	20 09 55.1	+1.0
GTA				pP	pP	20 10 02.5	-3.8
GTA				PcP	PcP	20 11 33.1	+1.4
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	Songino Array	50.21	343	P	P	20 10 29.5	+0.4
	comp=Z,0.6nm,0.6s,baz=163,slow=8.4,SNR=5.7						
	comp=Z,0.6nm,0.6s						
PETK	Petropavlovsk-	58.54	22	P	P	20 11 31.1	+1.6
	comp=Z,1.7nm,0.6s,baz=218,slow=7.3,SNR=8.5						
	comp=Z,1.7nm,0.6s						
MKAR	Makanchi Array	59.97	327		P	20 11 39.5	0.0
MKAR	Makanchi Array	59.97	327	P	P	20 11 39.1	-0.4
	comp=Z,2.1nm,0.5s,baz=120,slow=8.3,SNR=48						
MKAR				PcP	PcP	20 12 24.4	-0.9
	comp=Z,1.6nm,0.7s,baz=126,slow=3.7,SNR=4.0						
	comp=Z,2.1nm,0.5s						
MAKZ	Makanchi	60.16	326		P	20 11 40.8	0.0
ZALV	Zalesovo Beam	63.27	334	P	P	20 12 01.0	-0.5
	comp=Z,1.1nm,0.6s,baz=148,slow=8.5,SNR=4.5						
	comp=Z,1.1nm,0.6s						
KURBB	Kurchatov Arra	64.23	328	P	P	20 12 07.8	-0.1
	comp=Z,2.3nm,0.6s,baz=130,slow=6.3,SNR=34						
	comp=Z,2.3nm,0.6s						
KURK	Kurchatov	64.24	329		P	20 12 08.2	+0.3
KURK				IAmb	IAmb	20 12 17.5	
	comp=Z,5.3nm,0.7s						
SEY	Seymchan	65.23	13	P	P	20 12 13.2	-1.0
	comp=Z,1.0nm,0.7s,baz=238,slow=9.5,SNR=2.0						
	comp=Z,1.0nm,0.7s						
BVAR	Borovoye Array	69.79	328	P	P	20 12 43.1	-0.1
	comp=Z,0.8nm,0.6s,baz=144,slow=11,SNR=4.7						
	comp=Z,0.8nm,0.6s						
ABKAR	Akbulak array	74.38	321	P	P	20 13 10.6	-0.2
K17K	Iditarod	82.86	27		pP	20 14 08.8	-1.3
N19K	Bonanza Creek	84.28	29		pP	20 14 15.6	-1.9
KDAK	Kodiak Island	84.81	32	P	P	20 14 09.3	+2.2
	comp=Z,3.3nm,0.8s,baz=225,slow=1.4,SNR=4.3						
KDAK				LR	LR	20 46 44.5	
	comp=Z,41nm,19.9s,baz=122,slow=32						
	comp=Z,3.3nm,0.8s						
KBZ	Khabaz	84.89	314	P	P	20 14 08.4	+0.5
	comp=Z,2.0nm,0.8s,baz=90,slow=2.0,SNR=3.7						
	comp=Z,2.0nm,0.8s						
ILAR	Eielson Array	88.16	25	P	P	20 14 23.6	+0.2
	comp=Z,0.1nm,0.3s,baz=232,slow=12,SNR=1.3						
	comp=Z,0.1nm,0.3s						
QSPA	South Pole Qui	90.44	180	P	P	20 14 34.5	+0.2
	comp=Z,1.4nm,1.0s,baz=340,slow=3.1,SNR=2.8						
	comp=Z,1.4nm,1.0s						
BRTR	Keskin Array B	91.75	310	P	P	20 14 38.8	-2.2
	comp=Z,0.5nm,0.8s,baz=78,slow=8.8,SNR=3.8						
	comp=Z,0.5nm,0.8s						
TORD	Torodi Ar. Bea	123.47	286	PKP	PKPdf	20 20 30.6	-0.4
	comp=Z,1.5nm,0.3s,baz=115,slow=2.5,SNR=1.1						
TXAR	Lajitas Array	123.84	54	PKP	PKiKP	20 20 32.3	+0.5
	comp=Z,0.2nm,0.8s,baz=295,slow=4.6,SNR=2.2						

*IDC **07** 20:03:08.5±2.3,23.80S×179.98E,h524km±30km,mb2.8/5, mbtmp3.7/7,Error ellipse: s-maj=29.2km s-min=23.8km az=31.0*

ISC 07 20:03:08.6±1.1,23.8S±0.1×180.0E±0.2,h526km,n8, σt0%35/8,mb3.4/6,South of Fiji Islands

| Code | Station Name | Δ°

NNC 07 20:11:13.1±3.9, 37°05'N×71°07'E, h0km, mb4.0, mpv3.6, 3C-3D, Error ellipse: s-maj=30.5km s-min=28.7km az=137.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.06**	**356**	⇑Pn	Pn	20 12 44.1	+0.1
	6.6nm,0.3s,baz=179,slow=13,SNR=174						
KK31				⇑Sn	Sn	20 13 55.3	+1.2
	4.9nm,0.4s,baz=188,slow=24,SNR=12						
AAK	**Ala-Archa**	**6.17**	**24**	⇓Pn	Pn	20 12 46.6	+1.0
	0.9nm,0.4s						
AAK				⇓Sn	Sn	20 13 57.9	+0.8
	5.6nm,0.7s						
TKM2	**Tokmak 2**	**6.81**	**29**	⇓Pn	Pn	20 12 53.4	-1.1
	1.9nm,0.5s						
TKM2				⇑Sn	Sn	20 14 14.4	+1.4
	4.0nm,0.9s						

IDC 07 20:14:22.3±1.7, 0°45N×126°14E, h0km, mb3.7/3, mbtmp3.7/4, ML3.1/1, MS3.0/1, Error ellipse: s-maj=115.8km s-min=23.1km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**14.51**	**339**	LR	LR	20 25 00.4	
	comp=Z,62nm,19.4s,baz=174,slow=44						
FITZ	**Fitzroy Crossi**	**18.44**	**181**	P	P	20 18 39.6	+0.1
	baz=11,slow=10,SNR=1.7						
	1.8nm,1.0s						
WRA	**Warramunga Arr**	**21.80**	**159**	P	P	20 19 15.8	-0.5
	1.7nm,0.4s,baz=337,slow=11,SNR=33						
	1.7nm,0.4s						
ASAR	**Alice Springs**	**25.14**	**163**	P	P	20 19 49.5	+0.2
	0.9nm,0.5s,baz=345,slow=11,SNR=25						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**59.92**	**327**	P	P	20 24 30.2	-0.1
	0.3nm,0.4s,baz=120,slow=8.0,SNR=9.2						
	0.3nm,0.4s						

IDC 07 20:17:21.6±2.2, 0°73N×126°72E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=166.4km s-min=28.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.86**	**160**	P	P	20 22 15.1	-1.1
	0.6nm,0.4s,baz=339,slow=11,SNR=9.2						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**25.24**	**164**	P	P	20 22 50.4	+0.9
	0.4nm,0.8s,baz=343,slow=9.3,SNR=6.3						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**60.01**	**326**	P	P	20 27 30.1	-0.1
	0.1nm,0.3s,baz=117,slow=7.1,SNR=1.8						
	0.1nm,0.3s						

IDC 07 20:17:43.0±2.5, 0°24N×125°61E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=275.4km s-min=29.0km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.81**	**157**	P	P	20 22 36.3	-0.6
	0.5nm,0.7s,baz=335,slow=11,SNR=4.6						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**25.10**	**162**	P	P	20 23 10.1	+0.5
	0.3nm,0.6s,baz=343,slow=11,SNR=4.9						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**59.80**	**327**	P	P	20 27 50.1	-0.1
	0.1nm,0.5s,baz=117,slow=6.5,SNR=2.2						
	0.1nm,0.5s						

*IDC **07** 20:20:27.4±1.5, 8°56S×123°40E, h104km±17km, mb3.7/10, mbtmp4.0/12, Error ellipse: s-maj=33.7km s-min=15.8km az=69.0*

*NEIC **07** 20:20:29.7±2.5, 8°68S±0°07×123°19E±0°08, h133km±5km, mb4.2/24, Error ellipse: s-maj=12.0km s-min=8.2km az=57.0*

*DJA **07** 20:20:30.2±0.3, 9°S±3°×12°3E±°, h101km±6km, M3.9/1, MLv4.2/14, MLv3.9/1*

ISC 07 20:20:26.3±0.5, 8°65S±0°05×123°36E±0°06, h100km, n67, σ2s34/64, mb4.1/20, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.11**	**271**		**Pn**	**20 20 51.2**	**+3.2**
MMRI	**Maumere**	**1.11**	**271**	P	**Pn**	**20 20 50.8**	**+2.8**
MMRI				S	**Sn**	**20 21 06.2**	**+1.8**
SOEI	**Soe**	**1.41**	**141**		Pn	20 20 56.8	+5.1
SOEI	**Soe**	**1.41**	**141**	P	Pn	20 20 57.3	+5.6
SOEI				S	**Sn**	**20 21 15.9**	**+5.0**
BATI	**Baumata**	**1.57**	**169**	P	**Pn**	**20 20 57.5**	**+3.9**
	612nm,0.5s,baz=352,slow=2.6,SNR=100						
BATI				S	**Sn**	**20 21 17.2**	**+3.0**
	684nm,0.4s,baz=312,slow=15,SNR=7.3						
BATI	**Baumata**	**1.57**	**169**	P	**Pn**	**20 20 58.0**	**+4.4**
BATI				S	**Sn**	**20 21 19.0**	**+4.8**
EDFI	**Ende, Flores**	**1.66**	**266**	P	**Pn**	**20 20 57.4**	**+2.7**
BASI	**Baing, Sumba**	**3.16**	**240**	P	**Pn**	**20 21 17.2**	**+3.0**
WSI	**Waingapu**	**3.19**	**251**	P	**Pn**	**20 21 17.2**	**+2.5**
BBSI	**Bau Bau**	**3.24**	**346**	P	Pn	20 21 19.8	+4.5
BSSI	**Bau Bau, Buton**	**3.79**	**311**	P	**Pn**	**20 21 26.6**	**+3.9**
WBSI	**Waikabubak, Su**	**4.04**	**256**	P	**Pn**	**20 21 28.9**	**+2.7**
KDI	**Kendari**	**4.72**	**351**	P	**Pn**	**20 21 38.7**	**+3.4**
PLAI	**Plampang**	**5.53**	**268**	P	**Pn**	**20 21 48.7**	**+2.5**
SPSI	**Sidrap Palu**	**5.87**	**322**	P	**Pn**	**20 21 54.2**	**+3.3**
NLAI	**Namlea**	**6.53**	**35**	P	Pn	20 22 05.5	+5.6
MTN	**Manton Dam**	**8.70**	**119**		**Pn**	**20 22 30.8**	**+1.5**
KNRA	**Kununurra**	**8.75**	**143**		**Pn**	**20 22 30.3**	**+0.2**
JAGI	**Jajag, Banyuwa**	**9.11**	**270**	Pn	Pn	20 22 31.9	-3.1
JAGI	**Jajag, Banyuwa**	**9.11**	**270**	P	**Pn**	**20 22 37.3**	**+2.3**
FITZ	**Fitzroy Crossi**	**9.65**	**167**		Pn	20 22 39.2	-3.1
FITZ	**Fitzroy Crossi**	**9.65**	**167**	P	**Pn**	**20 22 41.0**	**-1.2**
	4.3nm,0.3s,baz=0.4,slow=10,SNR=69						
FITZ				S	Sn	20 24 21.9	-7.0
	29nm,0.4s,baz=228,slow=16,SNR=18						
FAKI	**Fak Fak**	**10.51**	**58**	Pn	Pn	20 22 57.0	+2.9
MBWA	**Marble Bar**	**12.92**	**195**	Pn	Pn	20 23 23.9	-2.3
WB0	**Warramunga Arr**	**15.37**	**137**	Pn	**Pn**	**20 23 57.3**	**-0.5**
WRA	**Warramunga Arr**	**15.45**	**138**	Pn	**Pn**	**20 23 58.6**	**-0.3**
WRA	**Warramunga Arr**	**15.45**	**138**	P	**Pn**	**20 23 58.5**	**-0.4**
	0.8nm,0.3s,baz=315,slow=14,SNR=27						
WRA				S	**Sn**	**20 26 42.3**	**-7.5**
	4.5nm,0.7s,baz=314,slow=24,SNR=7.3						
WR8	**Warramunga Arr**	**15.57**	**137**		**Pn**	**20 23 59.7**	**-0.6**
AS31	**Alice Springs**	**18.02**	**147**	P	**P**	**20 24 29.8**	**+0.2**
ASAR	**Alice Springs**	**18.02**	**147**	P	**Pn**	**20 24 32.1**	**+1.7**
	1.2nm,0.4s,baz=328,slow=12,SNR=22						
ASAR				S	**S**	**20 27 45.0**	**-6.2**
	2.7nm,0.8s,baz=313,slow=22,SNR=12						
COEN	**Coen**	**20.12**	**107**	P	Pn	20 24 55.1	-0.1
COEN				IAmb	IAmb	20 24 58.3	
	comp=Z,20nm,1.3s						
MORW	**Morawa**	**21.45**	**198**	P	**P**	**20 25 06.5**	**-0.2**
FORT	**Forrest**	**22.45**	**169**	P	**P**	**20 25 18.1**	**+1.0**
FORT				IAmb	IAmb	20 25 25.5	
	comp=Z,7.0nm,1.1s						
NWAO	**Narrogin (SRO)**	**24.82**	**192**	P	**P**	**20 25 38.8**	**-0.5**
INKA	**Innaminka**	**25.10**	**141**	P	**P**	**20 25 43.8**	**+1.9**
STKA	**Stephens Creek**	**28.66**	**146**	P	**P**	**20 26 15.2**	**+1.5**
STKA	**Stephens Creek**	**28.66**	**146**	P	**P**	**20 26 15.3**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=347,slow=8.6,SNR=5.0						
	comp=Z,1.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**36.14**	**318**	P	**P**	**20 27 19.9**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=135,slow=8.3,SNR=4.7						
	comp=Z,0.7nm,0.8s						
CHTO	**Chiang Mai**	**36.40**	**319**	P	**P**	**20 27 21.2**	**-0.1**
CHTO				IAmb	IAmb	20 27 32.9	
	comp=Z,5.9nm,1.5s						
JSG	**Sagara**	**45.32**	**17**	P	**P**	**20 28 33.6**	**-0.7**
MJAR	**Matsushiro Arr**	**47.07**	**16**	P	**P**	**20 28 47.4**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=184,slow=8.6,SNR=7.3						
	comp=Z,1.9nm,0.7s						
EVN	**Everest**	**50.73**	**317**	P	**P**	**20 29 14.3**	**-2.6**
USRK	**Ussuriysk Ar.**	**53.18**	**8**	P	**P**	**20 29 33.9**	**-0.1**
USRK	**Ussuriysk Ar.**	**53.18**	**8**	P	**P**	**20 29 34.6**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=200,slow=6.6,SNR=4.1						
	comp=Z,1.4nm,0.5s						
JKA	**Kamikawa-asahi**	**55.34**	**17**	P	**P**	**20 29 49.3**	**-0.4**
SONM	**Songino Array**	**58.21**	**347**	P	**P**	**20 30 10.9**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=165,slow=8.5,SNR=8.1						
	comp=Z,0.8nm,0.5s						
KSH	**Kashi**	**64.97**	**321**	P	**P**	**20 30 55.8**	**0.0**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TARG	**Taragay, Kyrgy**	**65.22**	**324**	P	**P**	**20 30 57.9**	**+0.1**
TARG				IAmb	IAmb	20 31 06.4	
	comp=Z,2.3nm,0.8s						
KDJ	**Kajisay**	**65.83**	**324**	P	**P**	**20 31 00.9**	**-0.5**
KDJ				IAmb	IAmb	20 31 02.3	
	comp=Z,3.4nm,1.3s						
MKAR	**Makanchi Array**	**66.20**	**330**	P	**P**	**20 31 03.6**	**+0.2**
MKAR	**Makanchi Array**	**66.20**	**330**	P	**P**	**20 31 03.7**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=138,slow=7.4,SNR=39						
	comp=Z,1.8nm,0.5s						
MAKZ	**Makanchi**	**66.36**	**330**	P	**P**	**20 31 03.7**	**-0.7**
MAKZ				IAmb	IAmb	20 31 05.4	
	comp=Z,1.3nm,0.6s						
BOOM	**Boomskoye usch**	**66.78**	**324**	P	**P**	**20 31 06.9**	**-0.5**
BOOM				IAmb	IAmb	20 31 08.5	
	comp=Z,3.5nm,0.6s						
ARSB	**Arslanbob**	**67.88**	**321**	P	**P**	**20 31 12.4**	**-1.9**
ARSB				IAmb	IAmb	20 31 14.8	
	comp=Z,3.6nm,0.6s						
PETK	**Petropavlovsk-**	**68.10**	**22**	P	**P**	**20 31 14.6**	**-0.7**
PETK	**Petropavlovsk-**	**68.10**	**22**	P	**P**	**20 31 15.1**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=229,slow=4.3,SNR=4.8						
	comp=Z,1.5nm,0.8s						
ZALV	**Zalesovo Beam**	**70.33**	**337**	P	**P**	**20 31 28.2**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=130,slow=4.3,SNR=9.8						
	comp=Z,1.4nm,0.4s						
KKAR	**Karatay Array**	**70.39**	**322**	P	**P**	**20 31 28.7**	**-1.0**
KURBB	**Kurchatov Arra**	**70.64**	**332**	P	**P**	**20 31 31.1**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=142,slow=5.4,SNR=9.7						
	comp=Z,0.5nm,0.3s						
UOSS	**Minazif**	**73.40**	**299**	P	**P**	**20 31 45.3**	**-2.8**
ABKAR	**Akbulak array**	**79.81**	**323**	P	**P**	**20 32 22.3**	**-1.3**
ABKAR	**Akbulak array**	**79.81**	**323**	P	**P**	**20 32 22.6**	**-1.0**
ABKAR				IAmb	IAmb	20 32 23.3	
	comp=Z,3.8nm,1.4s						
TIXI	**Tiksi**	**80.21**	**2**	P	**P**	**20 32 24.6**	**-0.7**
TIXI				IAmb	IAmb	20 32 28.6	
	comp=Z,5.5nm,1.0s						
QSPA	**South Pole Qui**	**81.34**	**180**	P	**P**	**20 32 31.9**	**+0.2**
QSPA				IAmb	IAmb	20 32 34.8	
	comp=Z,3.9nm,1.1s						
QSPA	**South Pole Qui**	**81.34**	**180**	P	**P**	**20 32 33.0**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=291,slow=0.6,SNR=8.2						
	comp=Z,0.9nm,0.7s						
SNAA	**Sanae**	**92.47**	**195**	P	**P**	**20 33 25.6**	**-0.2**
SNAA				IAmb	IAmb	20 33 41.5	
	comp=Z,3.4nm,1.4s						
TXAR	**Lajitas Array**	**131.40**	**58**	PKP	**PKPdf**	**20 39 28.2**	**+0.3**
	comp=Z,0.3nm,0.9s,baz=318,slow=7.5,SNR=2.6						

*IDC **07** 20:33:26.6±1.7, 6°97S×155°78E, h83km±15km, mb4.2/19, mbtmp4.6/22, MS3.6/7, Error ellipse: s-maj=14.0km s-min=11.4km az=69.0*

*NEIC **07** 20:33:28.9±1.9, 6°94S±0°08×155°82E±0°08, h106km±3km, mb4.6/42, Error ellipse: s-maj=13.0km s-min=8.5km az=46.0*

*DJA **07** 20:34:04.9±0.6, 8°S±8°×15°4E±°, h382km±9km, M4.5/2, mb4.6/12, mB4.4/1, mb4.5/2, MLv4.5/1, Mw(mB)3.6/1*

ISC 07 20:33:27.5±0.4, 6°89S±0°06×155°84E±0°06, h100km, n138, σ1s52/113, mb4.6/41, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATA	**Tatamba Isabel**	**4.20**	**111**	P	**Pn**	**20 34 26.9**	**-2.6**
SAVO	**Savo Central**	**4.53**	**120**	P	**Pn**	**20 34 31.7**	**-2.2**
RABL	**Rabaul**	**4.54**	**306**	Pn	Pn	20 34 38.0	+4.0
HNR	**Honiara**	**4.79**	**122**	Pn	**Pn**	**20 34 34.0**	**-3.4**
HNR	**Honiara**	**4.79**	**122**	P	**Pn**	**20 34 34.6**	**-2.8**
	109nm,0.6s,baz=310,slow=3.7,SNR=11						
HNR				S	**Sn**	**20 35 32.8**	**+1.0**
	317nm,0.4s,baz=14,slow=19,SNR=4.6						
HNR				LR	LR	20 36 40.9	
	comp=Z,176nm,18.5s,baz=232,slow=40						
HNR	**Honiara**	**4.79**	**122**	P	**Pn**	**20 34 35.8**	**-1.6**
ALEG	**Aligegeo Malai**	**5.16**	**111**	P	**Pn**	**20 34 39.8**	**-2.6**
NGOA	**Tingoa Renbel**	**6.23**	**138**	P	**Pn**	**20 34 54.7**	**-2.3**
HURO	**Huro Makira**	**6.97**	**121**	P	**Pn**	**20 35 05.2**	**-1.8**
PATS	**Pohnpei**	**13.86**	**10**	Pn	**Pn**	**20 36 38.0**	**-1.7**
COEN	**Coen**	**14.29**	**240**	Pn	P	20 36 43.5	-6.0
JAY	**Jayapura**	**15.69**	**285**	P	**P**	**20 37 02.4**	**-2.8**
	6.5nm,0.7s,baz=138,slow=4.9,SNR=4.4						
CTAO	**Charters Tower**	**16.08**	**214**	P	**P**	**20 37 10.9**	**+1.6**
DZM	**Mont Dzumac**	**18.23**	**147**		**Pn**	**20 37 35.0**	**+0.8**
DZM				IAmb	IAmb	20 37 41.5	
	comp=Z,40nm,1.3s						
DZM	**Mont Dzumac**	**18.23**	**147**	eLR	LR	20 41 41.4	
	comp=Z,460nm,29.8s						
DZM	**Mont Dzumac**	**18.23**	**147**	P	**Pn**	**20 37 34.7**	**+0.4**
	comp=Z,14nm,0.5s,baz=358,slow=3.2						
DZM	**Mont Dzumac**	**18.23**	**147**	P	**Pn**	**20 37 34.5**	**+0.3**
OUENC	**Ouen Island, N**	**18.73**	**147**	P	**Pn**	**20 37 40.2**	**+0.2**
EIDS	**Eidsvold**	**18.93**	**193**	P	**Pn**	**20 37 40.8**	**-1.5**
EIDS					**P**	**20 37 41.5**	**+0.9**
EIDS				IAmb	IAmb	20 37 42.4	
	comp=Z,16nm,0.8s						
SRPI	**Serui, Papua**	**20.16**	**283**	P	Pn	20 37 57.9	+1.0
BOXOZ	**Borroloola**	**21.18**	**243**	P	**P**	**20 38 01.5**	**-3.6**
RKPI	**Ransiki, Papua**	**22.25**	**283**	P	**P**	**20 38 19.2**	**+2.8**
	comp=Z,44nm,0.8s						
KDU	**Kakadu**	**23.72**	**254**	P	**P**	**20 38 29.3**	**-1.4**
ARMA	**Armidale**	**23.73**	**189**	P	**P**	**20 38 30.5**	**-0.3**
ARMA				IAmb	IAmb	20 38 32.5	
	comp=Z,21nm,0.8s						
ARMA	**Armidale**	**23.73**	**189**	P	**P**	**20 38 31.3**	**+0.6**
MSVF	**Nonsavu**	**24.20**	**118**	P	**P**	**20 38 35.1**	**+0.1**
MSVF				IAmb	IAmb	20 38 37.9	
	comp=Z,34nm,1.1s						
MSVF	**Nonsavu**	**24.20**	**118**	P	**P**	**20 38 38.9**	**+3.9**
WB0	**Warramunga Arr**	**24.43**	**236**	P	**P**	**20 38 37.6**	**+0.5**
WB0				IAmb	IAmb	20 38 58.4	
	comp=Z,63nm,1.5s						
WR8	**Warramunga Arr**	**24.44**	**236**	P	**P**	**20 38 37.1**	**0.0**
WR8				IAmb	IAmb	20 38 58.5	
	comp=Z,22nm,0.8s						
WRA	**Warramunga Arr**	**24.56**	**236**	P	**P**	**20 38 37.3**	**-0.9**
WRA	**Warramunga Arr**	**24.56**	**236**	P	**P**	**20 38 38.6**	**+0.3**
	comp=Z,16nm,0.8s,baz=64,slow=10,SNR=85						
WRA				PcP	**PcP**	**20 42 15.2**	**+1.1**
	comp=Z,3.6nm,0.7s,baz=58,slow=1.9,SNR=4.3						
WRA				ScP	**ScP**	**20 45 47.8**	**+3.9**
	comp=Z,1.0nm,1.0s,baz=63,slow=3.0,SNR=2.8						
WRA				LR	LR	20 47 53.5	
	comp=Z,189nm,19.4s,baz=323,slow=35						
	comp=Z,16nm,0.8s						
MTN	**Manton Dam**	**25.03**	**254**	P	**P**	**20 38 43.1**	**+0.5**
MTN				IAmb	IAmb	20 38 44.7	
	comp=Z,38nm,0.9s						
AS01	**Alice Springs**	**26.83**	**229**	P	**P**	**20 38 58.4**	**-0.4**
AS31	**Alice Springs**	**26.86**	**229**	P	**P**	**20 38 58.9**	**-0.2**
ASAR	**Alice Springs**	**26.87**	**229**	P	**P**	**20 38 57.4**	**-1.8**
ASAR	**Alice Springs**	**26.87**	**229**	P	**P**	**20 38 59.0**	**-0.2**
	comp=Z,4.7nm,0.5s,baz=58,slow=10,SNR=115						
ASAR				PcP	**PcP**	**20 42 19.2**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=31,slow=2.2,SNR=6.1						
ASAR				ScP	**ScP**	**20 45 54.1**	**+3.5**
	comp=Z,0.9nm,0.7s,baz=43,slow=2.4,SNR=5.0						
	comp=Z,4.7nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**27.41**	**23**	T	T	21 07 24.5	
	baz=202,slow=76						
H11S2	**WAKE ISLAND Hy**	**27.41**	**23**	T	T	21 07 31.0	
	baz=202,slow=76						
H11S1	**WAKE ISLAND Hy**	**27.42**	**23**	T	T	21 07 30.1	
	baz=202,slow=76						
KNRA	**Kununurra**	**27.92**	**249**		**P**	**20 39 07.6**	**-0.9**
KNRA				IAmb	IAmb	20 39 09.9	
	comp=Z,18nm,0.9s						
STKA	**Stephens Creek**	**28.19**	**206**	P	**P**	**20 39 10.5**	**-0.2**
STKA	**Stephens Creek**	**28.19**	**206**	P	**P**	**20 39 10.2**	**-0.5**
	comp=Z,7.1nm,0.9s,baz=24,slow=13,SNR=18						
STKA				LR	LR	20 49 46.5	
	comp=Z,221nm,19.3s,baz=14,slow=35						
	comp=Z,7.1nm,0.9s						
STKA	**Stephens Creek**	**28.19**	**206**	P	**P**	**20 39 11.2**	**+0.5**
H11N1	**WAKE ISLAND Hy**	**28.59**	**22**	T	T	21 08 59.8	
	baz=197,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.60**	**22**	T	T	21 09 05.4	
	baz=197,slow=74						
H11N2	**WAKE ISLAND Hy**	**28.61**	**22**	T	T	21 09 02.0	
	baz=197						
CAN	**Canberra**	**28.98**	**192**	P	**P**	**20 39 17.5**	**-0.3**
CAN				IAmb	IAmb	20 39 19.5	
	comp=Z,12nm,1.0s						
HTT	**Hallett**	**30.71**	**208**	P	**P**	**20 39 33.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**31.46**	**246**		**P**	**20 39 39.1**	**-0.7**
FITZ				IAmb	IAmb	20 40 01.3	
	comp=Z,6.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**31.46**	**246**	P	**P**	**20 39 39.3**	**-0.5**
	comp=Z,21nm,0.6s,baz=86,slow=8.1,SNR=9.6						
FITZ				PcP	**PcP**	**20 42 31.8**	**+0.9**
	comp=Z,5.5nm,0.8s,baz=71,slow=6.1,SNR=3.5						
FITZ				LR	LR	20 52 18.9	
	comp=Z,144nm,19.3s,baz=45,slow=36						
	comp=Z,21nm,0.6s						
TOO	**Toolangi**	**31.95**	**196**	P	**P**	**20 39 42.7**	**-1.3**
MMRI	**Maumere**	**33.33**	**265**	P	**P**	**20 39 55.5**	**-0.8**
GLAD	**Gladstone**	**34.66**	**190**	P	**P**	**20 40 08.5**	**+1.1**
FORT	**Forrest**	**35.24**	**224**	P	**P**	**20 40 12.2**	**-0.3**
FORT				IAmb	IAmb	20 40 13.4	
	comp=Z,10nm,0.9s						
TOLI2	**Tolitoli**	**35.87**	**281**	P	**P**	**20 40 17.4**	**-0.8**
KAPI	**Kappang**	**35.93**	**271**	P	**P**	**20 40 19.4**	**+0.7**
	comp=Z,9.8nm,0.5s,baz=141,slow=6.5,SNR=2.8						
	comp=Z,9.8nm,0.5s						
TAU	**Tasmania Unive**	**36.65**	**191**	P	**P**	**20 40 24.5**	**+0.1**
TAU	**Tasmania Unive**	**36.65**	**191**	P	P	20 40 25.9	+1.5
URZ	**Urewera**	**36.69**	**151**	P	P	20 40 28.0	+3.2
RTZ	**Ruatahuna**	**36.91**	**152**	P	**P**	**20 40 27.1**	**+0.3**
MBWA	**Marble Bar**	**37.67**	**244**	P	**P**	**20 40 32.4**	**-0.9**
MBWA	**Marble Bar**	**37.67**	**244**	P	**P**	**20 40 32.9**	**-0.5**
TCW	**Mary Channel**	**37.92**	**157**	P	**P**	**20 40 34.9**	**-0.3**
BFZ	**Birch Farm**	**38.27**	**155**	P	P	20 40 40.7	+2.6
MEEK	**Meekatharra**	**40.46**	**237**	P	**P**	**20 40 56.2**	**-0.4**
KKM	**Kota Kinabalu**	**41.57**	**287**	P	**P**	**20 41 06.5**	**+0.5**
KKM	**Kota Kinabalu**	**41.57**	**287**	P	**P**	**20 41 05.4**	**-0.6**
KLBR	**Kellerberrin**	**43.19**	**230**	P	**P**	**20 41 18.5**	**-0.2**
MORW	**Morawa**	**43.49**	**234**	P	**P**	**20 41 20.2**	**-1.0**
MORW				IAmb	IAmb	20 41 22.1	
	comp=Z,16nm,0.7s						
MORW	**Morawa**	**43.49**	**234**	P	**P**	**20 41 21.0**	**-0.2**
BLDU	**Ballidu**	**43.58**	**232**	P	**P**	**20 41 21.9**	**0.0**
NWAO	**Narrogin (SRO)**	**44.19**	**229**	P	**P**	**20 41 26.3**	**-0.4**
NWAO	**Narrogin (SRO)**	**44.19**	**229**	LR	LR	20 59 35.5	
	comp=Z,141nm,20.2s,baz=348,slow=36						
MJAR	**Matsushiro Arr**	**46.26**	**340**	P	**P**	**20 41 44.0**	**+1.0**
	comp=Z,2.4nm,0.8s,baz=158,slow=9.1,SNR=5.4						
MJAR				PcP	**PcP**	**20 43 18.0**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=156,slow=5.5,SNR=2.2						
	comp=Z,2.4nm,0.8s						
BBJI	**Bungbulang**	**47.79**	**266**	P	**P**	**20 41 54.9**	**-0.5**
KSRS	**Korea Array**	**51.24**	**331**	P	P	20 42 23.1	+2.0
	comp=Z,1.4nm,0.7s,baz=160,slow=8.0,SNR=4.4						
	comp=Z,1.4nm,0.7s						
NJ2	**Nanjing**	**52.37**	**320**	eP	P	20 42 33.3	+3.7
NJ2				pmax	pmax		
	comp=Z,11nm,0.9s						
PPT	**Papeete**	**54.23**	**107**	LR	LR	21 03 17.7	
	comp=Z,29nm,19.1s,baz=318,slow=33						
PPT2	**Papeete2**	**54.23**	**107**	eLR	LR	20 58 33.1	
	comp=Z,201nm,30.2s						
PPT2				eLR	LR	20 58 34.3	
	comp=Z,159nm,37.0s						
USRK	**Ussuriysk Ar.**	**55.23**	**339**	P	P	20 42 52.5	+2.3
	comp=Z,3.9nm,0.8s,baz=90,slow=8.6,SNR=4.9						
	comp=Z,3.9nm,0.8s						
IPM	**Ipoh**	**55.86**	**280**		**P**	**20 42 55.6**	**+0.3**
IPM	**Ipoh**	**55.86**	**280**	P	**P**	**20 42 55.9**	**+0.6**
KULM	**Kulim**	**56.39**	**281**		**P**	**20 42 58.3**	**-0.7**
KULM	**Kulim**	**56.39**	**281**	P	**P**	**20 42 59.5**	**+0.5**
BNX	**BinXian**	**58.24**	**337**	⇓P	P	20 43 13.1	+1.6
BNX				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GSI	**Gunungsitoli**	**58.70**	**276**	P	**P**	**20 43 15.7**	**+0.4**
PETK	**Petropavlovsk-**	**59.79**	**1**	P	**P**	**20 43 23.6**	**+1.5**
PETK	**Petropavlovsk-**	**59.79**	**1**	P	P	20 43 23.9	+1.9
	comp=Z,3.0nm,0.8s,baz=153,slow=7.8,SNR=5.2						
	comp=Z,3.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**61.49**	**295**	P	**P**	**20 43 34.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**61.49**	**295**	P	P	20 43 36.1	+1.8
	comp=Z,1.1nm,0.4s,baz=127,slow=5.6,SNR=11						
	comp=Z,1.1nm,0.4s						
XLT	**XiLinHaoTe**	**62.01**	**328**	eP	P	20 43 38.9	+1.6
XLT				pmax	pmax		
	comp=Z,11nm,0.6

comp=Z,1.8nm,0.6s,baz=44,slow=1.6,SNR=17
EKA Eskdalemuir Ar 128.86 345 PKP PKiKP 20 52 24.2 +0.2
comp=Z,0.4nm,0.5s,baz=17,slow=2.9,SNR=6.3
PCBR Castelo Branco 143.94 338 ePKP PKiKP 20 52 52.6 -2.5
PMRV Marv??o 144.26 338 ePKP PKiKP 20 52 52.1 -3.8
PSARD Sardoal 144.40 339 ePKP PKiKP 20 52 52.8 -3.4
PESTR Estremoz 144.83 337 ePKP PKiKP 20 52 53.9 -3.2
PMTG Montargil 144.89 338 ePKP PKiKP 20 52 54.2 -2.9
PBAR Barrancos 145.21 336 ePKP PKiKP 20 52 55.2 -2.6
EVO Evora 145.28 337 ePKP PKiKP 20 52 55.4 -2.5
MORF Marmelete 146.60 337 ePKP PKPbc 20 52 55.4 -2.6
PFVI Vila Bisbo 146.81 337 ePKP PKiKP 20 52 58.2 -3.0
BDFB Brasilia 147.45 134 PKPbc PKPab 20 53 00.6 -2.6
comp=Z,6.5nm,0.7s,baz=304,slow=3.6,SNR=6.7
TORD Torodi Ar. Bea 153.80 286 PKPbc PKiKP 20 53 16.0 -0.2
comp=Z,1.7nm,0.2s,baz=43,slow=2.3,SNR=1.6
DBIC Dimbokro 160.82 270 PKPab PKPab 20 53 59.7 -0.1
comp=Z,5.5nm,0.6s,baz=120,slow=5.2,SNR=9.8

*IDC **07** 20:35:16.1±0.7, 0.53N×126.26E, h0km, mb4.2/11, mbtmp4.2/12, ML3.6/1, Error ellipse: s-maj=38.8km s-min=15.4km az=73.0*
*DJA **07** 20:35:20.0±0.2, 0.7N±2.2×12.6E±., h10km, M4.1/2, MLv4.1/14, MLv4.1/2*
*NEIC **07** 20:35:21.5±2.3, 0.59N±0.09×126.40E±0.06, h35km±2km, mb4.5/9, Error ellipse: s-maj=14.8km s-min=9.4km az=185.0*
ISC 07 20:35:21.5±0.6, **0.50N**±0.06×**126.20E**±0.06, **h35**km, **n37,** σ1§**68**/39, **mb4.3**/16, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.20**	**77**		**Pn**	**20 35 40.4**	**-1.4**
TNTI	**Ternate**	**1.20**	**77**	P	**Pn**	**20 35 40.7**	**-1.2**
TNTI				S	**Sn**	**20 36 00.6**	**+3.6**
LBMI	**Labuha**	**1.72**	**131**	P	**Pn**	**20 35 50.6**	**+1.5**
LBMI				S	**Sn**	**20 36 13.6**	**+3.7**
KMSI	**Cibinong**	**2.22**	**272**	P	**Pn**	**20 35 55.9**	**+0.1**
SANI	**Sanana**	**2.54**	**185**	P	**Pn**	**20 36 00.6**	**+0.4**
SGSI	**Sangihe**	**3.24**	**348**	P	**Pn**	**20 36 12.2**	**+2.3**
LUWI	**Luwuk**	**3.75**	**246**		**Pn**	**20 36 21.5**	**+4.6**
LUWI	**Luwuk**	**3.75**	**246**	P	**Pn**	**20 36 17.5**	**+0.6**
NLAI	**Namlea**	**3.82**	**166**	P	**Pn**	**20 36 17.7**	**-0.2**
MRSI	**Marisa**	**4.25**	**270**	P	**Pn**	**20 36 25.2**	**+1.3**
AAI	**Ambon**	**4.61**	**154**	P	**Pn**	**20 36 30.4**	**+1.6**
MSAI	**Masohi**	**4.69**	**144**	P	**Pn**	**20 36 30.5**	**+0.6**
TOLI2	**Tolitoli**	**5.45**	**276**	Pn	**Pn**	**20 36 41.6**	**+1.3**
KAPI	**Kappang**	**8.45**	**230**	Pn	**Pn**	**20 37 23.1**	**+1.5**
KAPI	**Kappang**	**8.45**	**230**	Pn	**Pn**	**20 37 22.0**	**+0.5**
	0.8nm,0.3s,baz=32,slow=13,SNR=2.5						
	5.1nm,0.6s						
MYLDM	**Lahad Datu**	**8.98**	**301**	Pn	**Pn**	**20 37 30.2**	**+1.4**
WB0	**Warramunga Arr**	**21.68**	**159**	P	**P**	**20 40 08.4**	**-1.1**
WB0				IAmb	IAmb	20 40 13.3	
	comp=Z,22nm,0.9s						
WRAB	**Tennant Creek**	**21.82**	**159**	P	**P**	**20 40 10.1**	**-0.8**
WRAB				IAmb	IAmb	20 40 16.3	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**21.82**	**159**	P	**P**	**20 40 08.0**	**-3.0**
WRA	**Warramunga Arr**	**21.82**	**159**	P	**P**	**20 40 09.9**	**-1.0**
	comp=Z,6.7nm,0.5s,baz=337,slow=11,SNR=12						
	comp=Z,6.7nm,0.5s						
WR8	**Warramunga Arr**	**21.89**	**159**	P	**P**	**20 40 11.1**	**-0.7**
WR8				IAmb	IAmb	20 40 12.6	
	comp=Z,11nm,0.7s						
COEN	**Coen**	**22.11**	**131**	P	**P**	**20 40 10.8**	**-3.3**
COEN				IAmb	IAmb	20 40 20.0	
	comp=Z,14nm,0.9s						
AS31	**Alice Springs**	**25.16**	**163**	P	**P**	**20 40 44.0**	**+0.3**
ASAR	**Alice Springs**	**25.16**	**163**	P	**P**	**20 40 42.3**	**-1.4**
ASAR	**Alice Springs**	**25.16**	**163**	P	**P**	**20 40 44.4**	**+0.6**
	comp=Z,7.1nm,0.8s,baz=343,slow=12,SNR=26						
	comp=Z,7.1nm,0.8s						
STKA	**Stephens Creek**	**35.34**	**157**	P	**P**	**20 42 13.7**	**-0.1**
STKA	**Stephens Creek**	**35.34**	**157**	P	**P**	**20 42 12.9**	**-0.8**
	comp=Z,4.3nm,0.8s,baz=329,slow=10,SNR=4.6						
	comp=Z,4.3nm,0.8s						
SONM	**Songino Array**	**50.19**	**343**	P	**P**	**20 44 13.8**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=159,slow=8.0,SNR=7.0						
	comp=Z,1.2nm,0.9s						
PETK	**Petropavlovsk-**	**58.61**	**22**	P	**P**	**20 45 15.6**	**+0.6**
	comp=Z,1.9nm,1.0s,baz=216,slow=12,SNR=1.8						
	comp=Z,1.9nm,1.0s						
MKAR	**Makanchi Array**	**59.92**	**327**	P	**P**	**20 45 23.9**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=123,slow=8.7,SNR=22						
	comp=Z,1.3nm,0.5s						
KURBB	**Kurchatov Arra**	**64.18**	**328**	P	**P**	**20 45 52.5**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=126,slow=6.2,SNR=20						
	comp=Z,2.2nm,0.7s						
KURK	**Kurchatov**	**64.18**	**329**		**P**	**20 45 52.4**	**-0.3**
KURK				IAmb	IAmb	20 45 54.3	
	comp=Z,5.2nm,0.9s						
NRIK	**Noril'sk**	**73.43**	**347**	P	**P**	**20 46 50.5**	**+0.7**
	comp=Z,4.0nm,0.5s,baz=145,slow=7.0,SNR=4.0						
	comp=Z,4.0nm,0.5s						
KBZ	**Khabaz**	**84.81**	**314**	P	**P**	**20 47 52.5**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=146,slow=3.6,SNR=5.1						
	comp=Z,1.7nm,0.8s						
ILAR	**Eielson Array**	**88.23**	**25**	P	**P**	**20 48 07.4**	**-1.5**
	comp=Z,0.6nm,1.0s,baz=235,slow=3.2,SNR=2.7						
	comp=Z,0.6nm,1.0s						
QSPA	**South Pole Qui**	**90.42**	**180**	P	**P**	**20 48 19.0**	**-0.3**
QSPA	**South Pole Qui**	**90.42**	**180**	P	**P**	**20 48 18.5**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=334,slow=4.3,SNR=3.3						
	comp=Z,1.8nm,0.9s						

*IDC **07** 20:35:51.8±0.8, 0.61N×126.48E, h0km, mb4.1/10, mbtmp4.2/11, ML4.0/1, Error ellipse: s-maj=46.1km s-min=16.4km az=73.0*
ISC 07 20:35:58.2±0.8, **0.6N**±0.1×**126.3E**±0.2, **h47**km, **n12,** σ1§**17**/12, **mb4.3**/11, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**8.58**	**230**	Pn	**Pn**	**20 37 59.5**	**-0.4**
	1.7nm,0.3s,baz=48,slow=18,SNR=4.8						
	7.4nm,0.4s						
WRA	**Warramunga Arr**	**21.83**	**159**	P	**P**	**20 40 46.0**	**-0.7**
	5.9nm,0.5s,baz=337,slow=11,SNR=6.5						
	5.9nm,0.5s						
ASAR	**Alice Springs**	**25.17**	**163**	P	**P**	**20 41 20.0**	**+0.6**
	1.8nm,0.4s,baz=342,slow=8.9,SNR=9.6						
	1.8nm,0.4s						
STKA	**Stephens Creek**	**35.34**	**157**	P	**P**	**20 42 49.1**	**0.0**
	2.3nm,0.5s,baz=336,slow=8.5,SNR=6.2						
	2.3nm,0.5s						
HHC	**Hu-ho-hao-te**	**42.29**	**343**	eP	**P**	**20 43 45.5**	**-1.9**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,59nm,5.3s						
SONM	**Songino Array**	**50.18**	**343**	P	**P**	**20 44 50.2**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=138,slow=4.8,SNR=4.1						
	comp=Z,2.8nm,0.8s						
MKAR	**Makanchi Array**	**59.94**	**327**	P	**P**	**20 46 00.9**	**+1.3**
	comp=Z,3.4nm,0.7s,baz=120,slow=6.9,SNR=6.1						
	comp=Z,3.4nm,0.7s						
KURBB	**Kurchatov Arra**	**64.20**	**328**	P	**P**	**20 46 27.0**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=129,slow=6.2,SNR=4.6						
	comp=Z,0.7nm,0.5s						
NRIK	**Noril'sk**	**73.40**	**347**	P	**P**	**20 47 26.5**	**+1.5**
	comp=Z,3.4nm,0.6s,baz=129,slow=5.5,SNR=2.0						
	comp=Z,3.4nm,0.6s						
VNDA	**Vanda**	**80.34**	**173**	P	**P**	**20 48 04.1**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=350,slow=5.0,SNR=2.0						
	comp=Z,0.5nm,0.5s						
ILAR	**Eielson Array**	**88.13**	**25**	P	**P**	**20 48 42.5**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=248,slow=5.1,SNR=1.2						
	comp=Z,0.1nm,0.5s						
QSPA	**South Pole Qui**	**90.48**	**180**	P	**P**	**20 48 55.2**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=234,slow=1.1,SNR=1.6						
	comp=Z,0.8nm,0.6s						

*IDC **07** 20:36:28.2±0.6, 0.54N×126.35E, h0km, mb4.3/14, mbtmp4.3/15, ML3.8/1, MS3.3/1, Error ellipse: s-maj=34.9km s-min=15.0km az=74.0*
*NEIC **07** 20:36:33.8±1.6, 0.5N±0.1×126.21E±0.08, h35km±2km, mb4.6/16, Error ellipse: s-maj=18.2km s-min=13.8km az=179.0*
ISC 07 20:36:33.2±0.5, **0.45N**±0.07×**126.25E**±0.08, **h35**km, **n42,** σ1§**23**/43, **mb4.5**/22, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.16**	**74**	Pn	**Pn**	**20 36 54.0**	**+1.1**
KAPI	**Kappang**	**8.46**	**230**	Pn	**Pn**	**20 38 36.1**	**+2.7**
	1.0nm,0.3s,baz=34,slow=11,SNR=1.7						
	5.1nm,0.4s						
SBUM	**Sibu**	**14.17**	**278**	Pn	**Pn**	**20 39 50.7**	**-0.9**
JAY	**Jayapura**	**14.74**	**102**	LR	LR	20 44 45.6	
	comp=Z,117nm,21.9s,baz=270,slow=34						
KNRA	**Kunumura**	**16.21**	**171**	P	**Pn**	**20 40 20.9**	**+2.4**
WB0	**Warramunga Arr**	**21.62**	**159**	P	**P**	**20 41 18.3**	**-2.2**
WRAB	**Tennant Creek**	**21.75**	**159**	P	**P**	**20 41 20.7**	**-1.3**
WRAB				IAmb	IAmb	20 41 27.0	
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**21.76**	**159**	P	**P**	**20 41 20.5**	**-1.5**
WRA	**Warramunga Arr**	**21.76**	**159**	P	**P**	**20 41 21.9**	**-0.1**
	comp=Z,15nm,0.8s,baz=338,slow=11,SNR=7.2						
	comp=Z,15nm,0.8s						
WR8	**Warramunga Arr**	**21.83**	**159**	P	**P**	**20 41 22.3**	**-0.5**
WR8				IAmb	IAmb	20 41 24.6	
	comp=Z,13nm,0.7s						
COEN	**Coen**	**22.04**	**131**	P	**P**	**20 41 22.3**	**-2.7**
COEN				IAmb	IAmb	20 41 34.0	
	comp=Z,44nm,1.4s						
GUMO	**Guam**	**22.59**	**54**	P	**P**	**20 41 32.3**	**+1.3**
GUMO				IAmb	IAmb	20 41 38.9	
	comp=Z,23nm,0.9s						
YHNB	**Yeheng**	**24.54**	**349**	P	**P**	**20 41 47.3**	**-2.5**
YHNB				IAmb	IAmb	20 42 08.6	
	comp=Z,21nm,1.1s						
AS31	**Alice Springs**	**25.10**	**163**	P	**P**	**20 41 55.3**	**+0.4**
ASAR	**Alice Springs**	**25.10**	**163**	P	**P**	**20 41 55.4**	**+0.5**
ASAR	**Alice Springs**	**25.10**	**163**	P	**P**	**20 41 56.8**	**+1.9**
	comp=Z,11nm,0.9s,baz=351,slow=15,SNR=11						
ASAR				PcP	**PcP**	**20 45 28.2**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=341,slow=2.3,SNR=2.3						
	comp=Z,11nm,0.9s						
FORT	**Forrest**	**31.10**	**177**	P	**P**	**20 42 45.8**	**-2.6**
FORT				IAmb	IAmb	20 42 49.9	
	comp=Z,6.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.24**	**305**	P	**P**	**20 42 57.5**	**-1.2**
STKA	**Stephens Creek**	**35.28**	**157**	P	**P**	**20 43 25.4**	**+0.5**
STKA	**Stephens Creek**	**35.28**	**157**	P	**P**	**20 43 24.6**	**-0.3**
	comp=Z,7.2nm,1.0s,baz=332,slow=8.0,SNR=4.3						
	comp=Z,7.2nm,1.0s						
JGF	**Kuroka**	**36.47**	**15**	P	**P**	**20 43 34.7**	**-0.3**
JGF				IAmb	IAmb	20 43 39.4	
	comp=Z,16nm,1.5s						
ARMA	**Armidale**	**39.05**	**144**	P	**P**	**20 43 57.7**	**+0.6**
EVN	**Everest**	**46.62**	**309**	P	**P**	**20 44 59.3**	**+0.2**
EVN				IAmb	IAmb	20 45 01.7	
	comp=Z,5.5nm,0.7s						
PETK	**Petropavlovsk-**	**58.63**	**22**	P	**P**	**20 46 27.3**	**+0.5**
PETK	**Petropavlovsk-**	**58.63**	**22**	P	**P**	**20 46 26.8**	**0.0**
	comp=Z,1.2nm,0.5s,baz=224,slow=6.9,SNR=4.5						
	comp=Z,1.2nm,0.5s						
MKAR	**Makanchi Array**	**59.99**	**327**	P	**P**	**20 46 35.9**	**-0.5**
MKAR	**Makanchi Array**	**59.99**	**327**	P	**P**	**20 46 36.4**	**0.0**
	comp=Z,3.9nm,0.8s,baz=129,slow=7.6,SNR=4.8						
MKAR				PcP	**PcP**	**20 47 22.6**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=112,slow=4.8,SNR=3.8						
	comp=Z,3.9nm,0.8s						
ZALV	**Zalesovo Beam**	**63.29**	**334**	P	**P**	**20 46 58.3**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=116,slow=9.8,SNR=1.7						
	comp=Z,1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**64.25**	**328**	P	**P**	**20 47 04.6**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=125,slow=6.4,SNR=7.7						
	comp=Z,3.3nm,0.8s						
KURK	**Kurchatov**	**64.25**	**329**		**P**	**20 47 04.4**	**-0.5**
BVAR	**Borovoye Array**	**69.81**	**328**	P	**P**	**20 47 41.3**	**+1.2**
	comp=Z,0.6nm,0.4s						
	comp=Z,0.6nm,0.4s						
NRIK	**Noril'sk**	**73.49**	**347**	P	**P**	**20 48 02.3**	**+0.4**
	comp=Z,5.4nm,0.7s,baz=130,slow=4.9,SNR=4.5						
	comp=Z,5.4nm,0.7s						
MAW	**Mawson**	**80.53**	**200**	P	**P**	**20 48 42.1**	**+0.6**
	comp=Z,3.6nm,1.0s,baz=36,slow=9.9,SNR=3.7						
	comp=Z,3.6nm,1.0s						
KBZ	**Khabaz**	**84.88**	**314**	P	**P**	**20 49 04.8**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=101,slow=4.0,SNR=4.9						
	comp=Z,3.0nm,0.9s						
IMAR	**Indian Mountai**	**85.52**	**24**	P	**P**	**20 49 08.3**	**+0.9**
ILAR	**Eielson Array**	**88.25**	**25**	P	**P**	**20 49 20.7**	**-0.1**
	comp=Z,0.9nm,1.1s,baz=281,slow=5.4,SNR=3.4						
	comp=Z,0.9nm,1.1s						
BMAR	**Burnt Mountain**	**89.27**	**23**	P	**P**	**20 49 25.7**	**+0.2**
QSPA	**South Pole Qui**	**90.38**	**180**	P	**P**	**20 49 32.3**	**+1.5**
QSPA	**South Pole Qui**	**90.38**	**180**	P	**P**	**20 49 31.5**	**+0.7**
	comp=Z,3.0nm,1.0s,baz=280,slow=6.1,SNR=3.6						
	comp=Z,3.0nm,1.0s						
BCAR	**Beaver Creek A**	**90.50**	**27**	P	**P**	**20 49 32.3**	**+0.9**
BRTR	**Keskin Array B**	**91.73**	**310**	P	**P**	**20 49 37.6**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=145,slow=3.5,SNR=2.4						
	comp=Z,0.4nm,0.7s						
TXAR	**Lajitas Array**	**123.94**	**54**	PKP	**PKPdf**	**20 55 29.4**	**+0.8**
	comp=Z,0.3nm,0.9s,baz=11,slow=3.4,SNR=2.5						

*IDC **07** 20:41:28.7±1.4, 0.79N×126.56E, h0km, mb3.7/5, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=109.9km s-min=19.6km az=67.0*
ISC 07 20:41:34.1±1.5, **0.6N**±0.3×**126.3E**±0.6, **h35**km, **n6,** σ1§**00**/6, **mb3.7**/5, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.63**	**182**	P	**P**	**20 45 48.2**	**-0.6**
	0.1nm,0.3s,baz=24,slow=10.0,SNR=2.4						
	2.4nm,0.9s						
WRA	**Warramunga Arr**	**21.91**	**159**	P	**P**	**20 46 24.0**	**-0.5**
	2.1nm,0.6s,baz=340,slow=11,SNR=9.7						
	2.1nm,0.6s						
ASAR	**Alice Springs**	**25.26**	**164**	P	**P**	**20 46 58.7**	**+1.5**
	0.7nm,0.4s,baz=342,slow=9.6,SNR=17						
	0.7nm,0.4s						
STKA	**Stephens Creek**	**35.43**	**157**	P	**P**	**20 48 26.7**	**-0.3**
	1.0nm,0.8s,baz=326,slow=11,SNR=1.6						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**59.87**	**326**	P	**P**	**20 51 36.2**	**-0.1**
	0.2nm,0.3s,baz=122,slow=7.6,SNR=6.9						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**64.12**	**328**	P	**P**	**20 52 04.8**	**0.0**
	0.3nm,0.5s,baz=121,slow=5.7,SNR=3.0						
	0.3nm,0.5s						

*IDC **07** 20:43:29.6±0.8, 0.84N×126.73E, h0km, mb3.9/8, mbtmp3.9/9, ML3.7/1, Error ellipse: s-maj=61.0km s-min=16.0km az=73.0*
*NEIC **07** 20:43:36.2±2.2, 0.54N±0.09×126.32E±0.05, h35km±2km, mb4.3/11, Error ellipse: s-maj=16.3km s-min=6.3km az=339.0*
ISC 07 20:43:35.9±0.6, **0.63N**±0.08×**126.34E**±0.06, **h47**km, **n27,** σ1§**35**/29, **mb4.2**/13, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.04**	**82**		**Pn**	**20 43 56.4**	**+2.3**
TNTI				S	**Sn**	**20 44 06.3**	**-1.2**
LUWI	**Luwuk**	**3.93**	**245**	Pn	**Pn**	**20 44 35.4**	**+1.6**
TOLI2	**Tolitoli**	**5.58**	**275**		**Pn**	**20 44 56.7**	**+0.4**
MYLDM	**Lahad Datu**	**9.04**	**300**		**Pn**	**20 45 44.3**	**+0.5**
MTN	**Manton Dam**	**14.21**	**161**	Pn	**Pn**	**20 46 52.3**	**-2.2**
KNRA	**Kununurra**	**16.38**	**172**		**P**	**20 47 26.7**	**+1.7**
KNRA				IAmb	IAmb	20 47 26.9	
	comp=Z,6.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.63**	**182**	P	**P**	**20 47 48.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**18.63**	**182**	P	**P**	**20 47 49.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=16,slow=7.7,SNR=2.3						
	comp=Z,1.8nm,0.6s						
WB0	**Warramunga Arr**	**21.76**	**159**	P	**P**	**20 48 23.9**	**+0.2**
WB0				IAmb	IAmb	20 48 29.2	
	comp=Z,13nm,0.8s						
WRAB	**Tennant Creek**	**21.90**	**159**	P	**P**	**20 48 25.7**	**+0.5**
WRAB				IAmb	IAmb	20 48 30.4	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**21.90**	**159**	P	**P**	**20 48 24.6**	**-0.6**
WRA	**Warramunga Arr**	**21.90**	**159**	P	**P**	**20 48 24.9**	**-0.4**
	comp=Z,10nm,0.8s,baz=338,slow=12,SNR=22						
	comp=Z,10nm,0.8s						
WR8	**Warramunga Arr**	**21.97**	**159**	P	**P**	**20 48 26.4**	**+0.4**
WR8				IAmb	IAmb	20 48 31.3	
	comp=Z,7.8nm,0.8s						
AS31	**Alice Springs**	**25.25**	**164**	P	**P**	**20 48 56.7**	**-1.1**
AS31				IAmb	IAmb	20 49 04.9	
	comp=Z,1.7nm,0.5s						

ASAR	**Alice Springs**	**25.25**	**164**	P	**P**	**20 48 57.3**	**-0.5**
ASAR	**Alice Springs**	**25.25**	**164**	P	**P**	**20 48 57.9**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=346,slow=11,SNR=26						
ASAR				PcP	**PcP**	**20 52 33.0**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=328,slow=2.1,SNR=1.3						
	comp=Z,2.2nm,0.5s						
FORT	**Forrest**	**31.28**	**177**	P	**P**	**20 49 51.8**	**+0.3**
FORT				IAmb	IAmb	20 49 53.8	
	comp=Z,5.7nm,0.8s						
STKA	**Stephens Creek**	**35.42**	**157**	P	**P**	**20 50 28.0**	**+0.5**
STKA	**Stephens Creek**	**35.42**	**157**	P	**P**	**20 50 28.7**	**+1.1**
	comp=Z,2.1nm,0.5s,baz=333,slow=9.1,SNR=9.3						
	comp=Z,2.1nm,0.5s						
SONM	**Songino Array**	**50.10**	**343**	P	**P**	**20 52 26.0**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=146,slow=2.8,SNR=1.4						
	comp=Z,0.2nm,0.4s						
PETK	**Petropavlovsk-**	**58.43**	**22**	P	**P**	**20 53 23.6**	**-3.1**
	comp=Z,0.8nm,0.6s,baz=251,slow=4.4,SNR=2.0						
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**59.88**	**326**	P	**P**	**20 53 37.7**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=120,slow=8.2,SNR=8.7						
	comp=Z,0.5nm,0.4s						
RAO	**Raoul Island**	**60.89**	**124**	P	**P**	**20 53 42.5**	**-1.7**
KURBB	**Kurchatov Arra**	**64.14**	**328**	P	**P**	**20 54 05.9**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=125,slow=4.9,SNR=5.8						
	comp=Z,0.4nm,0.5s						
QSPA	**South Pole Qui**	**90.56**	**180**	P	**P**	**20 56 33.9**	**+1.0**
QSPA				IAmb	IAmb	20 56 40.8	
	comp=Z,3.8nm,1.4s						
QSPA	**South Pole Qui**	**90.56**	**180**	P	**P**	**20 56 34.6**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=108,slow=4.6,SNR=1.5						
	comp=Z,0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**123.45**	**286**	PKP	**PKiKP**	**21 02 29.8**	**+0.5**
	comp=Z,1.8nm,0.3s,baz=48,slow=2.1,SNR=1.2						

IDC 07 20:45:38.3±1.2, **0.69N**×**126.79E**, **h0**km, **mb3.4**/5, **mbtmp3.4**/5, **Error ellipse: s-maj=85.4km s-min=24.5km az=69.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.80**	**161**	P	P	20 50 31.7	-0.4
	1.2nm,0.8s,baz=338,slow=11,SNR=4.5						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**25.18**	**165**	P	P	20 51 06.1	+0.4
	0.4nm,0.7s,baz=348,slow=10.0,SNR=2.6						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**60.09**	**326**	P	P	20 55 48.0	+0.6
	0.3nm,0.6s,baz=133,slow=7.5,SNR=2.7						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**64.33**	**328**	P	P	20 56 15.4	-0.4
	0.5nm,0.8s,baz=129,slow=6.1,SNR=2.6						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**87.81**	**25**	P	P	20 58 28.9	-0.4
	0.2nm,0.7s,baz=276,slow=5.8,SNR=2.2						
	0.2nm,0.7s						

*NEIC **07** 20:46:40.7±1.2, 35.82N±0.01×117.60W±0.02, h5km±2km, Error ellipse: s-maj=3.1km s-min=2.6km az=239.0*
PAS 07 20:46:41.2±1.0, **35.82N**±0.02×**117.60W**±0.02, **h8**km±5km, **ML3.3**/18, **ML2.9**/66(NEIC), **Error ellipse: s-maj=3.0km s-min=0.7km az=225.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.00**	**18**	Pg	Pg	20 46 42.9	+0.2
CLC				IAML		20 46 44.6	
	comp=E,13μm,0.2s						
CLC				IAML		20 46 44.7	
	comp=N,14μm,0.1s						
TOW	**Tower One**	**0.14**	**268**		Pg	20 46 44.3	+0.1
TOW					Sg	20 46 48.0	+1.8
SRTC	**Snort**	**0.17**	**225**		Pg	20 46 45.2	+0.3
WVPM	**Volcano Peak E**	**0.22**	**307**		Pg	20 46 45.7	0.0
WVPM					Sg	20 46 49.3	+0.5
WNMM	**Nine Mile Cany**	**0.25**	**276**		Pg	20 46 46.2	0.0
WNMM					Sg	20 46 50.4	+0.8
MPMC	**Manual Prospec**	**0.26**	**20**	Pg	Pg	20 46 46.1	-0.3
WRVM	**Rose V. Centra**	**0.31**	**309**		Pg	20 46 47.1	-0.2
LRMC	**Laurel Mtn Rad**	**0.34**	**192**		Pg	20 46 47.6	-0.4
LRMC	**Laurel Mtn Rad**	**0.34**	**192**	IAML		20 46 53.6	
	comp=N,2μm,0.2s						
LRMC				IAML		20 46 53.7	
	comp=E,2μm,0.3s						
CCCA	**Chr Cany lake**	**0.35**	**147**		Sg	20 46 53.6	+1.0
CCCA	**Chr Cany lake**	**0.35**	**147**	Pg	Pg	20 46 48.1	+0.1
CCCA				IAML		20 46 53.9	
	comp=N,11μm,0.3s						
CCCA				IAML		20 46 55.6	
	comp=E,6μ

R11B	**Troy Canyon, C**	**3.00**	**32**		Pb	20 47 34.8	-0.2
WAKR	**Walker**	**3.06**	**332**		Pb	20 47 37.2	+1.1
CCUT	**Cedar City**	**3.82**	**62**	IAML		20 48 41.7	
	comp=N,9.5nm,2.3s						
PSUT	**Pine Spring**	**4.04**	**47**		Pg	20 47 56.7	-1.9
PSUT				IAML		20 49 01.9	
	comp=N,10.0nm,1.1s						
PSUT				IAML		20 49 05.2	
	comp=E,11nm,1.1s						
AFDM	**Forest Hills D**	**4.12**	**320**		Pb	20 47 56.8	+2.7
AFDM				IAML		20 48 54.8	
	comp=N,9.8nm,0.7s						
AFDM				IAML		20 49 01.6	
	comp=E,10nm,1.5s						

IDC 07 20:49:00.4±2.2, 0.°50N×126.°06E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=188.8km s-min=28.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.87**	**159**	P	P	20 53 54.2	-0.8
	0.9nm,0.7s,baz=337,slow=10,SNR=5.1 0.9nm,0.7s						
ASAR	**Alice Springs**	**25.20**	**163**	P	P	20 54 28.6	+0.6
	0.2nm,0.3s,baz=346,slow=11,SNR=6.8 0.2nm,0.3s						
MKAR	**Makanchi Array**	**59.84**	**327**	P	P	20 59 07.7	-0.2
	0.1nm,0.3s,baz=126,slow=6.8,SNR=1.4 0.1nm,0.3s						

*IDC **07** 20:52:13.0±1.4, 0.°02N×125.°02E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=177.1km s-min=19.8km az=64.0*
*DJA **07** 20:52:13.7±0.8, 0.°7N±2.°×12.°6E±.°, h14km±6km, M3.3/1, MLv3.6/10, MLv3.3/1*
ISC 07 20:52:17.1±0.9, 0.°38N±0.°06×126.°16E±0.°05, h35km, n11, σ1§85/14, mb3.6/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.27**	**72**	P	**Pn**	**20 52 36.5**	**-1.9**
TNTI				S	**Sn**	**20 52 53.9**	**-0.3**
KMSI	**Cibinong**	**2.19**	**275**	P	**Pn**	**20 52 49.8**	**-1.2**
KMSI				S	**Sn**	**20 53 18.0**	**+1.1**
SANI	**Sanana**	**2.42**	**184**	P	**Pn**	**20 52 52.4**	**-1.8**
SANI				S	**Sn**	**20 53 23.4**	**+0.8**
SGSI	**Sangihe**	**3.34**	**349**	P	**Pn**	**20 53 06.9**	**-0.1**
LUWI	**Luwuk**	**3.67**	**247**	P	**Pn**	**20 53 09.4**	**-2.0**
MRSI	**Marisa**	**4.22**	**271**	P	**Pn**	**20 53 17.1**	**-1.9**
WRA	**Warramunga Arr**	**21.73**	**159**	P	**P**	**20 57 05.4**	**-0.1**
	1.1nm,0.6s,baz=334,slow=12,SNR=12 1.1nm,0.6s						
ASAR	**Alice Springs**	**25.06**	**163**	P	**P**	**20 57 40.3**	**+1.9**
	0.4nm,0.4s,baz=343,slow=9.5,SNR=12 0.4nm,0.4s						
STKA	**Stephens Creek**	**35.25**	**157**	P	**P**	**20 59 11.0**	**+2.5**
	0.3nm,0.3s,baz=314,slow=7.7,SNR=5.4 0.3nm,0.3s						
MKAR	**Makanchi Array**	**59.99**	**327**	P	**P**	**21 02 17.3**	**-3.0**
	0.2nm,0.4s,baz=123,slow=7.1,SNR=4.9 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.26**	**329**	P	**P**	**21 02 49.7**	**+1.0**
	0.4nm,0.5s,baz=130,slow=6.6,SNR=5.2 0.4nm,0.5s						

IDC 07 20:55:15.2±2.0, 0.°38N×125.°65E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=188.4km s-min=27.0km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.92**	**158**	P	P	21 00 09.5	-0.9
	1.2nm,0.7s,baz=336,slow=11,SNR=7.7 1.2nm,0.7s						
ASAR	**Alice Springs**	**25.21**	**162**	P	P	21 00 43.2	+0.3
	0.4nm,0.4s,baz=344,slow=11,SNR=12 0.4nm,0.4s						
STKA	**Stephens Creek**	**35.46**	**156**	P	P	21 02 13.8	+0.3
	0.8nm,0.7s,baz=348,slow=9.3,SNR=3.3 0.8nm,0.7s						
MKAR	**Makanchi Array**	**59.71**	**327**	P	P	21 05 21.6	-0.2
	0.1nm,0.4s,baz=129,slow=8.0,SNR=2.5 0.1nm,0.4s						

*IDC **07** 20:57:36.2±3.9, 6.°63S×128.°98E, h240km±38km, mb3.1/5, mbtmp3.9/9, Error ellipse: s-maj=43.4km s-min=14.7km az=64.0*
ISC 07 20:57:32.6±1.0, 6.°60S±0.°08×129.°16E±0.°07, h200km, n15, σ2§11/18, mb3.5/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.53**	**123**	P	**Pn**	**20 58 19.9**	**+3.1**
FAKI	**Fak Fak**	**4.77**	**40**	P	Pn	20 58 42.4	-1.8
SOEI	**Soe**	**5.78**	**237**	P	**Pn**	**20 59 00.0**	**+2.9**
DRS	**Darwin Rock St**	**6.05**	**164**	P	**Pn**	**20 59 02.8**	**+2.3**
MTS	**Manton Dam**	**6.50**	**163**	P	**Pn**	**20 59 07.9**	**+1.4**
BATI	**Baumata**	**6.52**	**236**	P	**Pn**	**20 59 08.5**	**+1.8**
	14nm,0.4s,baz=93,slow=2.1,SNR=8.9						
BATI				S	**Sn**	**21 00 22.6**	**+1.4**
	17nm,0.7s,baz=350,slow=23,SNR=1.8						
KDU	**Kakadu**	**6.88**	**152**	P	**Pn**	**20 59 12.6**	**+1.3**
FITZ	**Fitzroy Crossi**	**11.94**	**196**	P	**Pn**	**21 00 18.0**	**+1.2**
	3.1nm,0.3s,baz=32,slow=11,SNR=53						
FITZ				S	**Sn**	**21 02 27.3**	**-2.6**
	2.4nm,0.4s,baz=93,slow=16,SNR=3.0						
WRA	**Warramunga Arr**	**14.19**	**160**	P	**Pn**	**21 00 46.8**	**+1.8**
	0.4nm,0.4s,baz=341,slow=13,SNR=9.5						
WRA				S	**S**	**21 03 19.6**	**-3.4**
	1.3nm,0.6s,baz=326,slow=25,SNR=7.0						
ASAR	**Alice Springs**	**17.57**	**165**	P	**P**	**21 01 26.1**	**+2.2**
	6.8nm,0.6s,baz=340,slow=9.9,SNR=41						
ASAR				S	**S**	**21 04 34.8**	**-1.4**
	0.8nm,0.8s,baz=351,slow=23,SNR=3.0						
SONM	**Songino Array**	**57.80**	**342**	P	**P**	**21 07 02.4**	**-0.8**
	0.2nm,0.4s,baz=154,slow=6.6,SNR=2.2 0.2nm,0.4s						
MKAR	**Makanchi Array**	**67.44**	**327**	P	**P**	**21 08 05.6**	**-1.2**
	0.3nm,0.3s,baz=129,slow=5.9,SNR=9.8 0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**70.86**	**334**	P	**P**	**21 08 26.1**	**-1.4**
	0.4nm,0.4s,baz=120,slow=6.2,SNR=1.8 0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**71.73**	**329**	P	**P**	**21 08 31.9**	**-1.0**
	0.8nm,0.6s,baz=136,slow=4.2,SNR=5.9 0.8nm,0.6s						
QSPA	**South Pole Qui**	**83.38**	**180**	P	**P**	**21 09 36.8**	**-0.4**
	0.8nm,1.0s,baz=342,slow=4.5,SNR=1.5 0.8nm,1.0s						

*IDC **07** 21:01:28.1±1.4, 0.°57N×126.°23E, h0km, mb3.9/6, mbtmp4.0/6, Error ellipse: s-maj=151.4km s-min=19.2km az=65.0*
*DJA **07** 21:01:31.0±0.2, 1.°N±3.°×12.°6E±.°, h10km, M3.4/2, MLv3.7/12, MLv3.4/2*
ISC 07 21:01:34.1±0.8, 0.°55N±0.°06×126.°17E±0.°05, h44km, n15, σ1§18/17, mb3.9/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.22**	**80**	P	**Pn**	**21 01 53.1**	**-1.6**
TNTI				S	**Sn**	**21 02 11.0**	**+0.9**
LBMI	**Labuha**	**1.78**	**132**	P	**Pn**	**21 02 02.3**	**-0.2**
KMSI	**Cibinong**	**2.19**	**271**	P	**Pn**	**21 02 07.1**	**-0.9**
SANI	**Sanana**	**2.59**	**184**	P	**Pn**	**21 02 10.9**	**-2.7**
SGSI	**Sangihe**	**3.18**	**348**	P	**Pn**	**21 02 20.6**	**-1.1**
LUWI	**Luwuk**	**3.75**	**245**	P	**Pn**	**21 02 29.6**	**+0.1**
NLAI	**Namlea**	**3.88**	**166**	P	**Pn**	**21 02 31.6**	**+0.3**
MRSI	**Marisa**	**4.23**	**269**	P	**Pn**	**21 02 35.0**	**-1.1**
APSI	**Ampana**	**4.75**	**252**	P	**Pn**	**21 02 42.4**	**-0.8**
WRA	**Warramunga Arr**	**21.89**	**159**	P	**P**	**21 06 22.0**	**-1.6**
	1.7nm,0.4s,baz=338,slow=11,SNR=7.0 1.7nm,0.4s						
ASAR	**Alice Springs**	**25.22**	**163**	P	**P**	**21 06 55.6**	**-0.4**
	1.0nm,0.4s,baz=342,slow=9.9,SNR=12 1.0nm,0.4s						
STKA	**Stephens Creek**	**35.41**	**157**	P	**P**	**21 08 26.1**	**+0.1**
	0.8nm,0.5s,baz=331,slow=11,SNR=5.3 0.8nm,0.5s						
MKAR	**Makanchi Array**	**59.85**	**327**	P	**P**	**21 11 35.5**	**+0.1**
	0.7nm,0.6s,baz=123,slow=8.3,SNR=7.8						
MKAR				PcP	**PcP**	**21 12 22.2**	**+0.7**
	0.3nm,0.6s,baz=126,slow=4.4,SNR=2.0 0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**64.11**	**328**	P	**P**	**21 12 04.2**	**+0.4**
	1.3nm,0.3s,baz=124,slow=6.2,SNR=2.8 1.3nm,0.3s						
QSPA	**South Pole Qui**	**90.48**	**180**	P	**P**	**21 14 32.4**	**+1.3**
	0.9nm,0.9s,baz=347,slow=8.4,SNR=6.0 0.9nm,0.9s						

*NEIC **07** 21:02:51.2±0.8, 35.°782N±0.°009×117.°60W±0.°01, h10km±3km, Error ellipse: s-maj=1.5km s-min=1.3km az=77.0*
PAS 07 21:02:51.7±0.6, 35.°775N±0.°010×117.°60W±0.°01, h8km±2km, ML3.5/18, ML3.2/138(NEIC), Error ellipse: s-maj=1.4km s-min=1.3km az=211.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.04**	**4**	Pg	Pg	21 02 53.5	+0.1
CLC				Sg	Sg	21 02 54.9	+0.2
TOW	**Tower One**	**0.14**	**284**		Pg	21 02 55.1	+0.4
SRTC	**Snort**	**0.15**	**235**		Pg	21 02 55.2	+0.4
LRMC	**Laurel Mtn Rad**	**0.30**	**193**		Pg	21 02 57.5	-0.3
LRMC				Sg	Sg	21 03 01.9	+0.1
LRMC				IAML		21 03 03.0	
	comp=N,4μm,0.2s						
LRMC				IAML		21 03 03.2	
	comp=E,3μm,0.2s						
CCCA	**Chr Cany lake**	**0.32**	**142**		Pg	21 02 58.3	+0.3
CCCA				Sg	Sg	21 03 03.1	+0.9
MFS	**McCloud Flat S**	**0.40**	**329**		Pg	21 02 59.4	-0.2
WHFM	**Hanning Flat**	**0.61**	**263**		Pg	21 03 03.1	-0.5
QSM	**Queen of Sheba**	**0.62**	**72**		Pg	21 03 03.5	-0.3
QSM				IAML		21 03 12.6	
	comp=E,2μm,0.5s						
QSM				IAML		21 03 15.9	
	comp=N,2μm,0.6s						
ISA	**Isabella, Lake**	**0.72**	**261**		Pg	21 03 05.1	-0.5
ISA				IAML		21 03 15.5	
	comp=E,1μm,0.5s						
CWC	**Cottonwood Cre**	**0.77**	**330**		Pg	21 03 06.1	-0.5
CWC				IAML		21 03 20.1	
	comp=E,588nm,0.2s						
CWC				IAML		21 03 20.8	
	comp=N,787nm,0.5s						
GSC	**Goldstone, Bar**	**0.80**	**126**		Pg	21 03 06.5	-0.7
GSC				IAML		21 03 18.0	
	comp=N,798nm,0.4s						
GWY	**Greenwater Val**	**0.86**	**61**		Pg	21 03 07.8	-0.5
GWY				IAML		21 03 22.0	
	comp=N,1μm,0.4s						
SPG2	**Springville 2**	**1.04**	**295**		Pg	21 03 10.5	-1.1
GRAC	**Grapevine Rang**	**1.23**	**9**		Pb	21 03 14.6	-0.7
GRAC				IAML		21 03 37.9	
	comp=E,583nm,0.3s						
GRAC				IAML		21 03 38.5	
	comp=N,536nm,0.9s						
LEOC	**Leona Valley**	**1.28**	**207**		Pn	21 03 15.8	-0.2
WCT	**Wildcat Mounta**	**1.28**	**38**		Pn	21 03 14.7	-1.4
WCT				IAML		21 03 34.5	
	comp=E,306nm,0.6s						
WCT				IAML		21 03 34.7	
	comp=N,343nm,0.8s						
DSCC	**Desert Studies**	**1.38**	**117**		Pn	21 03 15.4	-1.9
OSI	**Osito Audit: C**	**1.48**	**219**		Pn	21 03 18.7	0.0
OSI				IAML		21 03 41.7	
	comp=E,274nm,0.8s						
OSI				IAML		21 03 46.8	
	comp=N,203nm,1.1s						
BFSC	**Mount Baldy Ra**	**1.53**	**182**		Pn	21 03 19.4	-0.1
BFSC				IAML		21 03 43.6	
	comp=E,385nm,0.7s						
BFSC				IAML		21 03 45.5	
	comp=N,287nm,0.7s						
VOG	**Valley Oaks Go**	**1.54**	**291**		Pn	21 03 19.9	+0.4
GMN	**Gold Mountain**	**1.55**	**10**		Pn	21 03 19.1	-0.8
GMN				IAML		21 03 28.5	
	comp=N,254nm,0.5s						
MWC	**Mount Wilson**	**1.59**	**194**		Pn	21 03 20.6	+0.2
MWC				IAML		21 03 44.5	
	comp=N,330nm,0.4s						
MWC				IAML		21 03 45.7	
	comp=E,266nm,0.4s						
TPNV	**Topopah Spring**	**1.60**	**43**		Pn	21 03 19.3	-1.2
TPNV				IAML		21 03 46.8	
	comp=E,386nm,0.9s						
TPNV				IAML		21 03 47.2	
	comp=E,396nm,0.6s						
DSP	**Deep Springs**	**1.62**	**350**		Pn	21 03 19.5	-1.1
DSP				IAML		21 03 44.4	
	comp=E,244nm,0.5s						
DSP				IAML		21 03 44.4	
	comp=N,167nm,0.5s						
PASC	**Pasadena Art C**	**1.67**	**197**		Pn	21 03 20.6	-0.8
PASC				IAML		21 03 49.2	
	comp=E,182nm,0.6s						
MZP	**Montezuma Peak**	**1.93**	**5**		Pn	21 03 24.6	-0.6
SHPR	**Sheep Range**	**2.11**	**69**	Pn	Pn	21 03 26.9	-0.6
SHPR				IAML		21 03 58.2	
	comp=N,94nm,0.9s						
ELS	**Elsinore Mount**	**2.13**	**176**	Pn	Pn	21 03 27.2	-0.5
ELS				IAML		21 04 02.6	
	comp=N,102nm,0.8s						
ELS				IAML		21 04 05.1	
	comp=E,126nm,0.7s						
V12A	**Nelson**	**2.24**	**90**	IAML		21 04 04.6	
	comp=N,112nm,0.5s						
V12A				IAML		21 04 06.4	
	comp=E,93nm,0.6s						
PMD	**Palm Desert**	**2.35**	**154**	IAML		21 04 13.1	
	comp=E,87nm,0.9s						
PFO	**Pinyon Flats O**	**2.35**	**156**	IAML		21 04 11.2	
	comp=E,121nm,1.5s						
S11A	**Rachel**	**2.39**	**38**	IAML		21 04 16.3	
	comp=N,163nm,0.8s						
LHV	**Little Huntoon**	**2.58**	**344**	IAML		21 04 19.6	
	comp=N,77nm,0.6s						
LHV				IAML		21 04 20.2	
	comp=E,79nm,0.9s						
PRN	**Pahroc Range**	**2.62**	**51**	IAML		21 04 24.9	
	comp=E,123nm,0.6s						
PMPB	**Monarch Peak**	**2.63**	**281**	IAML		21 04 22.8	
	comp=E,163nm,0.9s						
NEE2	**Needles Airpor**	**2.64**	**112**	IAML		21 04 38.0	
	comp=E,126nm,0.7s						
NEE2				IAML		21 04 39.6	
	comp=N,138nm,0.7s						
CMB	**Columbia Colle**	**3.17**	**316**	IAML		21 04 35.1	
	comp=N,41nm,0.8s						
BLYC	**Blythe**	**3.24**	**128**	IAML		21 04 37.8	
	comp=E,54nm,0.8s						
BLYC				IAML		21 04 39.5	
	comp=N,49nm,0.5s						
CCUT	**Cedar City**	**3.84**	**61**	IAML		21 04 58.2	
	comp=N,30nm,0.7s						
ESJX	**Sierra Juarez**	**4.00**	**159**	IAML		21 06 13.1	
	comp=N,49nm,0.1s						
ESJX				IAML		21 06 13.4	
	comp=E,47nm,0.1s						
KNB	**Kanab**	**4.05**	**71**	IAML		21 05 02.7	
	comp=E,24nm,0.8s						
KNB				IAML		21 05 09.8	
	comp=N,26nm,1.1s						
SZCU	**Shurtz Canyon**	**4.06**	**62**	IAML		21 05 11.0	
	comp=E,18nm,0.8s						
PSUT	**Pine Spring**	**4.07**	**46**	IAML		21 05 05.6	
	comp=E,26nm,0.8s						
PSUT				IAML		21 05 08.0	
	comp=N,30nm,0.8s						
SPR3	**Spring Creek 3**	**4.14**	**38**	IAML		21 05 08.3	
	comp=N,18nm,0.7s						
AFDM	**Forest Hills D**	**4.15**	**321**	IAML		21 05 03.1	
	comp=E,23nm,0.6s						
AFDM				IAML		21 05 15.5	
	comp=N,21nm,1.1s						
Y14A	**Wickenburg**	**4.20**	**115**	IAML		21 05 11.1	
	comp=N,30nm,0.7s						
Y14A				IAML		21 05 14.9	
	comp=E,24nm,0.6s						
BEKR	**Beckworth**	**4.63**	**333**	IAML		21 05 31.0	
	comp=E,18nm,0.7s						
X16A	**Lo Mia Camp, P**	**5.23**	**103**	IAML		21 05 38.4	
	comp=N,9.5nm,0.9s						
X16A				IAML		21 05 53.0	
	comp=E,9.6nm,1.4s						

*IDC **07** 21:10:35.0±1.2, 0.°30N×125.°95E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=212.6km s-min=17.1km az=66.0*
*DJA **07** 21:10:38.4±0.2, 1.°N±2.°×12.°6E±.°, h10km, M3.5/2, MLv3.6/12, MLv3.5/2*
ISC 07 21:10:41.5±0.8, 0.°51N±0.°06×126.°01E±0.°04, h44km, n15, σ1§88/19, mb3.8/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.38**	**79**	P	**Pn**	**21 11 03.6**	**-0.7**
TNTI				S	**Sn**	**21 11 23.9**	**+2.4**
LBMI	**Labuha**	**1.88**	**127**	P	**Pn**	**21 11 11.7**	**+0.6**
LBMI				S	**Sn**	**21 11 38.0**	**+4.3**
KMSI	**Cibinong**	**2.03**	**272**	P	**Pn**	**21 11 14.8**	**+1.6**
KMSI				S	**Sn**	**21 11 36.2**	**-1.1**
SANI	**Sanana**	**2.54**	**180**	P	**Pn**	**21 11 20.2**	**-0.1**
SGSI	**Sangihe**	**3.19**	**351**	P	**Pn**	**21 11 28.5**	**-0.7**
LUWI	**Luwuk**	**3.58**	**245**	P	**Pn**	**21 11 35.6**	**+1.0**
APSI	**Ampana**	**4.58**	**252**	P	**Pn**	**21 11 49.3**	**+1.0**
AAI	**Ambon**	**4.71**	**152**	P	**Pn**	**21 11 49.7**	**-0.3**
WRA	**Warramunga Arr**	**21.91**	**159**	P	**P**	**21 15 27.5**	**-3.5**
	1.7nm,0.7s,baz=337,slow=11,SNR=13 1.7nm,0.7s						
ASAR	**Alice Springs**	**25.23**	**163**	P	**P**	**21 16 01.4**	**-2.0**
	0.9nm,0.7s,baz=345,slow=12,SNR=12 0.9nm,0.7s						
STKA	**Stephens Creek**	**35.43**	**157**	P	**P**	**21 17 31.6**	**-2.0**
	1.5nm,0.9s,baz=331,slow=13,SNR=3.5 1.5nm,0.9s						
SONM	**Songino Array**	**50.12**	**343**	P	**P**	**21 19 33.3**	**+0.8**
	0.3nm,0.3s,baz=169,slow=8.8,SNR=2.3 0.3nm,0.3s						
MKAR	**Makanchi Array**	**59.80**	**327**	P	**P**	**21 20 42.9**	**+0.6**
	0.4nm,0.4s,baz=132,slow=8.6,SNR=10						
MKAR				PcP	**PcP**	**21 21 28.9**	**+0.2**
	0.6nm,0.6s,baz=130,slow=3.9,SNR=4.4 0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**63.13**	**334**	P	**P**	**21 21 06.0**	**+1.4**
	0.4nm,0.4s,baz=145,slow=5.3,SNR=2.1 0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.07**	**329**	P	**P**	**21 21 11.7**	**+0.9**
	0.6nm,0.6s,baz=127,slow=6.2,SNR=5.5 0.6nm,0.6s						

*IDC **07** 21:15:28.9±1.8, 35.°88N×117.°70W, h0km, mb3.2/1, mbtmp3.2/4, ML3.2/3, MS3.1/2, Error ellipse: s-maj=25.6km s-min=10.5km az=58.0*
*PAS **07** 21:15:29.6±0.8, 35.°948N±0.°006×117.°69W±0.°01, h1km±1km, Mwr3.8/4, ML3.7/142(NEIC), Mwr3.7/60(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=74.0*
*NEIC **07** 21:15:29.3±0.8, 35.°942N±0.°004×117.°68W±0.°01, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.6km az=80.0, Moment Tension Solution: Moment tensor: Scale 10^{14}Nm; M_{rr}=4.04; $M_{\theta\theta}$=0.05; $M_{\phi\phi}$=3.99; $M_{r\theta}$=0.66; $M_{r\phi}$=0.78; $M_{\theta\phi}$=0.84; Fault plane solution: M_o=4.22000×10^{14} NP1: ϕ_s=4.02000°, δ38.83000°, λ-100.62000°. NP2:ϕ_s197.55000°, δ51.95000°, λ-81.57000°. Principal axes: T 4.2451, Plg7.0000°, Azm282.0000°; N -0.0404, Plg7.0000°, Azm12.0000°; P -4.2046, Plg81.0000°, Azm147.0000°;*
*NEIC **07** 21:15:29.6, 35.°95N×117.°69W, h1km*
ISC 07 21:15:30.3±0.8, 35.°95N±0.°02×117.°69W±0.°02, h10km, n63, σ1§23/44, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WVPM	**Volcano Peak E**	**0.10**	**270**		**Pg**	**21 15 32.0**	**-1.1**
TOW	**Tower One**	**0.15**	**202**		**Pg**	**21 15 33.1**	**-0.6**
CLC	**China Lake**	**0.15**	**150**	Sg	**Sg**	**21 15 34.7**	**-1.5**
CLC				IAML		21 15 36.1	
	comp=E,13μm,0.3s						
CLC	**China Lake**	**0.15**	**150**		**Pg**	**21 15 32.5**	**-1.2**
WRVM	**Rose V. Centra**	**0.17**	**290**		**Pg**	**21 15 31.7**	**-2.4**
MPMC	**Manual Prospec**	**0.20**	**57**	Pg	**Pg**	**21 15 33.6**	**-1.0**
MPMC				Sg	**Sg**	**21 15 35.6**	**-1.9**
MPMC				IAML		21 15 37.3	
	comp=E,18μm,0.8s						
MPMC				IAML		21 15 38.2	
	comp=N,28μm,0.9s						
WNMM	**Nine Mile Cany**	**0.20**	**238**		**Pg**	**21 15 33.8**	**-0.7**
MFS	**McCloud Flat S**	**0.21**	**322**		**Pg**	**21 15 34.1**	**-0.8**
MFS					**Sg**	**21 15 37.5**	**-0.4**
SRTC	**Snort**	**0.26**	**190**		**Pg**	**21 15 35.1**	**-0.5**
SRTC					**Sg**	**21 15 39.9**	**+0.7**
LRMC	**Laurel Mtn Rad**	**0.47**	**179**		**Pg**	**21 15 38.4**	**-1.1**
LRMC				IAML		21 15 46.5	
	comp=N,4μm,0.4s						
LRMC				IAML		21 15 48.6	
	comp=E,4μm,0.6s						
LRMC	**Laurel Mtn Rad**	**0.47**	**179**		**Sg**	**21 15 45.6**	**-0.1**
CCCA	**Chr Cany lake**	**0.50**	**148**		**Pg**	**21 15 39.5**	**-0.5**
CCCA	**Chr Cany lake**	**0.50**	**148**	IAML		21 15 47.3	
	comp=N,38μm,0.6s						
CCCA				IAML		21 15 51.9	
	comp=E,15μm,0.5s						
CWC	**Cottonwood Cre**	**0.58**	**328**		**Pg**	**21 15 40.9**	**-0.8**
QSM	**Queen of Sheba**	**0.67**	**88**		**Pg**	**21 15 42.0**	**-1.3**
QSM					**Sg**	**21 15 51.1**	**-1.0**
QSM				IAML		21 15 55.5	
	comp=N,5μm,0.7s						
QSM				IAML		21 15 55.8	
	comp=E,7μm,0.6s						
ISA	**Isabella, Lake**	**0.70**	**246**		**Pg**	**21 15 42.9**	**-0.9**
ISA				IAML		21 15 52.6	
	comp=N,4μm,0.4s						
ISA				IAML		21 15 53.4	
	comp=E,4μm,0.3s						
GWY	**Greenwater Val**	**0.86**	**74**		**Pg**	**21 15 45.9**	**-1.1**
GWY					**Sg**	**21 15 57.3**	**-1.0**
GWY				IAML		21 16 09.6	
	comp=N,3μm,0.7s						
SPG2	**Springville 2**	**0.90**	**286**		**Pg**	**21 15 45.1**	**-2.6**
GSC	**Goldstone, Bar**	**0.97**	**132**		**Pg**	**21 15 47.4**	**-1.5**
GSC					**Sg**	**21 16 00.2**	**-1.5**
GSC				IAML		21 16 03.8	
	comp=N,3μm,0.9s						
GRAC	**Grapevine Rang**	**1.08**	**14**		**Pg**	**21 15 49.9**	**-1.2**
GRAC				Sg	**Sg**	**21 16 03.7**	**-1.4**
GRAC				IAML		21 16 12.0	
	comp=N,2μm,0.9s						
GRAC				IAML		21 16 16.1	
	comp=E,2μm,1.1s						
TPO	**Tropico Hills**	**1.15**	**202**		**Pb**	**21 15 51.2**	**-1.2**
TPO				IAML		21 16 10.2	
	comp=N,2μm,1.2s						
MAGC	**SCE Magundon P**	**1.16**	**240**		**Pb**	**21 15 51.6**	**-0.8**
WCT	**Wildcat Mounta**	**1.21**	**45**		**Pb**	**21 15 52.1**	**-1.1**
WCT				IAML		21 16 11.6	
	comp=N,912nm,0.6s						
WCT				IAML		21 16 13.8	
	comp=E,1μm,1.1s						
BAKC	**Calstate**	**1.30**	**243**		**Pn**	**21 15 54.2**	**-0.3**
GMN	**Gold Mountain**	**1.39**	**14**		**Pn**	**21 15 55.7**	**-0.4**
DSP	**Deep Springs**	**1.44**	**351**		**Pn**	**21 15 56.2**	**-0.2**
DSP				IAML		21 16 17.2	
	comp=E,608nm,0.9s						
BHPR	**Bishop**	**1.49**	**335**		**Pb**	**21 15 57.6**	**-0.7**
TPNV	**Topopah Spring**	**1.53**	**49**		**Pn**	**21 15 57.5**	**-0.4**
TPNV				IAML		21 16 21.7	

PASC				IAML			21 16 37.4	
	comp=E,375nm,0.8s							
KCC	**Kaiser Creek**	**1.90**	**317**			**Pb**	**21 16 05.2**	**+0.1**
TPH	**Tonopah**	**2.15**	**10**	IAML			21 16 48.8	
	comp=E,862nm,0.9s							
ELS	**Elsinore Mount**	**2.31**	**174**	IAML			21 16 52.1	
	comp=E,292nm,1.4s							
ELS				IAML			21 16 52.5	
	comp=N,235nm,0.9s							
V12A	**Nelson**	**2.32**	**95**	IAML			21 16 46.4	
	comp=E,354nm,0.7s							
V12A				IAML			21 16 50.2	
	comp=N,582nm,0.9s							
LHV	**Little Huntoon**	**2.39**	**344**	IAML			21 16 53.0	
	comp=E,213nm,1.1s							
NVAR	**Mina Array Bea**	**2.52**	**349**	Pn		**Pn**	**21 16 11.8**	**+0.2**
	comp=E,1.8nm,0.3s,baz=172,slow=13,SNR=43							
NVAR				Pg		**Pb**	**21 16 17.0**	**+1.1**
	comp=E,11nm,0.3s,baz=173,slow=17,SNR=46							
NVAR				Lg	Lg		21 16 50.3	
	comp=E,14nm,0.3s,baz=165,slow=31,SNR=9.0							
	comp=E,6.7nm,0.6s							
PMPB	**Monarch Peak**	**2.53**	**277**	IAML			21 16 57.6	
	comp=N,621nm,0.9s							
PMD	**Palm Desert**	**2.54**	**154**	IAML			21 16 56.4	
	comp=E,194nm,0.6s							
PFO	**Pinyon Flats O**	**2.54**	**156**	IAML			21 16 55.9	
	comp=E,215nm,1.1s							
PRN	**Pahroc Range**	**2.58**	**55**	IAML			21 16 59.5	
	comp=E,652nm,1.1s							
PRN				IAML			21 17 03.0	
	comp=N,453nm,0.8s							
Q09A	**Carvers**	**2.91**	**8**	IAML			21 17 10.8	
	comp=E,467nm,0.8s							
R11B	**Troy Canyon, C**	**2.93**	**34**	IAML			21 17 04.3	
	comp=E,123nm,1.2s							
W13A	**Hualapai Mount**	**3.22**	**104**	IAML			21 17 14.2	
	comp=E,189nm,0.8s							
W13A				IAML			21 17 15.8	
	comp=N,263nm,0.7s							
BLYC	**Blythe**	**3.41**	**129**	IAML			21 17 22.3	
	comp=N,173nm,0.6s							
BLYC				IAML			21 17 22.3	
	comp=E,154nm,0.6s							
TKX	**Tecate**	**3.49**	**165**	IAML			21 17 55.8	
	comp=N,118nm,0.1s							
LCMT	**Little Creek M**	**3.74**	**72**	IAML			21 17 32.2	
	comp=N,71nm,0.9s							
MPK	**Martis Peak**	**3.82**	**332**	IAML			21 17 59.0	
	comp=E,153nm,1.2s							
MPK				IAML			21 17 59.0	
	comp=N,154nm,1.1s							
CCUT	**Cedar City**	**3.83**	**64**	IAML			21 17 40.8	
	comp=N,75nm,1.3s							
CCUT				IAML			21 17 44.3	
	comp=E,66nm,2.1s							
AFDM	**Forest Hills D**	**3.97**	**320**	IAML			21 17 40.0	
	comp=E,137nm,1.4s							
AFDM				IAML			21 17 41.0	
	comp=N,78nm,1.5s							
PSUT	**Pine Spring**	**4.00**	**49**	IAML			21 17 42.6	
	comp=N,98nm,1.2s							
SPR3	**Spring Creek 3**	**4.05**	**40**	IAML			21 17 40.5	
	comp=N,52nm,0.8s							
SPR3				IAML			21 17 41.0	
	comp=E,87nm,0.7s							
KNB	**Kanab**	**4.07**	**73**	IAML			21 17 51.2	
	comp=N,88nm,1.2s							
KNB				IAML			21 18 01.9	
	comp=E,89nm,1.4s							
ESJX	**Sierra Juarez**	**4.19**	**159**	IAML			21 17 37.9	
	comp=E,75nm,0.1s							
Y14A	**Wickenburg**	**4.34**	**116**	IAML			21 17 56.9	
	comp=E,132nm,0.8s							
113A	**Mohawk Valley,**	**4.54**	**133**	IAML			21 18 03.3	
	comp=N,58nm,1.2s							
113A				IAML			21 18 11.8	
	comp=E,48nm,0.9s							
ORV	**Oroville**	**4.70**	**321**	IAML			21 18 04.5	
	comp=E,41nm,1.2s							
ORV				IAML			21 18 30.8	
	comp=N,32nm,3.0s							
X16A	**Lo Mia Camp, P**	**5.34**	**105**	IAML			21 18 28.5	
	comp=N,33nm,1.1s							
X16A				IAML			21 18 32.9	
	comp=E,31nm,1.0s							
PDAR	**Pinedale Array**	**9.27**	**40**	Pn		**Pn**	**21 17 47.5**	**+3.3**
	baz=232,slow=12,SNR=4.5							
PDAR				Lg	Lg		21 20 21.1	
	comp=E,0.1nm,0.3s,baz=225,slow=30,SNR=2.6							
	comp=E,0.6nm,0.6s							
TXAR	**Lajitas Array**	**13.53**	**115**	Pn		**Pn**	**21 18 44.4**	**+2.0**
	comp=E,0.1nm,0.3s,baz=303,slow=16,SNR=10							
TXAR				Lg	Lg		21 22 35.6	
	baz=301,slow=30,SNR=4.7							
TXAR				LR	LR		21 23 24.8	
	comp=E,32nm,20.4s,baz=247,slow=35							
	comp=E,0.9nm,0.8s							
SADO	**Sadowa**	**30.43**	**61**	LR	LR		21 35 16.8	
	comp=E,89nm,18.2s,baz=344,slow=39							
ILAR	**Eielson Array**	**33.73**	**338**	P		**P**	**21 22 12.8**	**+1.3**
	comp=E,0.3nm,0.9s,baz=123,slow=7.4,SNR=2.7							
	comp=E,0.3nm,0.9s							

SJA ***07*** *21:20:36.1±0.8,30.°93S×71.°53W,h58km±4km, ML3.7, MW3.8*

GUC ***07*** *21:20:38.0±0.9,30.°90S×71.°33W,h55km±4km, ML3.7*

ISC 07 21:20:39.1±1.3,30.°93S±0.°03×71.°52W±0.°05,h49km±9km, n37,σ1°49/60,7C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.27**	**339**	⇓	*iP*		**Pn**	**21 20 48.7**	**+0.9**
CO06					*i* S		**Sn**	**21 20 56.7**	**+2.7**
CO06					IAML			21 20 57.5	
	comp=E,11μm,0.1s								
CO02	**Combarbal**	**0.53**	**122**	⇑	*iP*		**Pn**	**21 20 49.9**	**-0.9**
CO02					*i* S		**Sn**	**21 20 58.3**	**-0.8**
CO02					IAML			21 20 58.9	
	comp=E,24μm,0.5s								
CO02	**Combarbal**	**0.53**	**122**		*eP*		**Pn**	**21 20 49.4**	**-1.3**
CO02					*eS*		**Sn**	**21 20 58.6**	**-0.5**
CO02					IAML			21 20 59.1	
	comp=Z,7μm,0.2s								
CO03	**El Pedregal**	**0.72**	**83**	⇑	*iP*		**Pn**	**21 20 51.6**	**-1.6**
CO03					*i* S		**Sn**	**21 21 01.6**	**-1.8**
CO03					IAML			21 21 02.1	
	comp=E,8μm,0.2s								
CO03	**El Pedregal**	**0.72**	**83**		*eP*		**Pn**	**21 20 51.6**	**-1.6**
CO03					*eS*		**Sn**	**21 21 02.0**	**-1.3**
CO03					IAML			21 21 02.4	
	comp=Z,2μm,0.5s								
GO04	**Tololo Observa**	**0.98**	**40**	⇑	*iP*		**Pn**	**21 20 55.8**	**-0.9**
GO04					*i* S		**Sn**	**21 21 08.8**	**-0.8**
GO04					IAML			21 21 11.8	
	comp=N,14μm,0.3s								
GO04	**Tololo Observa**	**0.98**	**40**		*eP*		**Pn**	**21 20 55.6**	**-1.0**
GO04					*eS*		**Sn**	**21 21 09.2**	**-0.4**
GO04					IAML			21 21 10.5	
	comp=Z,5μm,0.1s								
CO05	**La Serena**	**1.03**	**14**	⇑	*iP*		**Pn**	**21 20 57.0**	**-0.3**
CO05					*i* S		**Sn**	**21 21 10.7**	**+0.1**
CO05					IAML			21 21 16.5	
	comp=N,3μm,0.3s								
CO01	**Juntas del Tor**	**1.55**	**53**	⇑	*iP*		**Pn**	**21 21 04.1**	**-0.5**
CO01					*i* S		**Sn**	**21 21 22.9**	**-0.7**
CO01					IAML			21 21 24.5	
	comp=N,1μm,0.4s								
CO01	**Juntas del Tor**	**1.55**	**53**		*eP*		**Pn**	**21 21 03.5**	**-1.1**
CO01					*eS*		**Sn**	**21 21 23.3**	**-0.4**
CO01					IAML			21 21 23.5	
	comp=Z,889nm,0.2s								
VA06	**Catapilco**	**1.64**	**173**	⇑	*iP*		**Pn**	**21 21 05.0**	**-0.6**
AROD	**Rodeo**	**1.92**	**67**		*eP*		**Pn**	**21 21 10.8**	**+1.1**
VA03	**San Esteban**	**2.01**	**156**	⇓	*iP*		**Pn**	**21 21 10.4**	**-0.3**
VA03					*eS*		**Sn**	**21 21 34.8**	**0.0**
VA03					IAML			21 21 39.0	
	comp=N,1μm,0.1s								
VA03	**San Esteban**	**2.01**	**156**		*eP*		**Pn**	**21 21 09.7**	**-0.9**
VA03					*eS*		**Sn**	**21 21 39.1**	**+4.4**
VA03					IAML			21 21 43.5	
	comp=Z,392nm,0.8s								
LCO	**Las Campanas**	**2.04**	**21**	⇑	*iP*		**Pn**	**21 21 11.1**	**-0.1**
LCO					*i* S		**Sn**	**21 21 36.0**	**+0.5**
LCO	**Las Campanas**	**2.04**	**21**		*eP*		**Pn**	**21 21 10.5**	**-0.6**
LCO					*eS*		**Sn**	**21 21 36.4**	**+0.9**
LCO					IAML			21 21 37.1	
	comp=Z,1μm,0.3s								
RTLS	**Leoncito**	**2.10**	**115**		*eP*		**Pn**	**21 21 12.0**	**+0.1**
RTLS					*eS*		**Sn**	**21 21 41.4**	**+4.3**
RTLS					IAML			21 21 41.9	
	comp=Z,816nm,0.2s								
VA01	**Torpederas**	**2.10**	**183**		*eP*		**Pn**	**21 21 10.0**	**-1.7**
VA01					*eS*		**Pn**	**21 21 10.7**	**-1.0**
ACCO	**Cerro Coronel**	**2.14**	**82**		*eP*		**Pn**	**21 21 13.7**	**+1.0**
ACCO					*eS*		**Sn**	**21 21 41.7**	**+3.4**
ACDV	**Cuesta del Vie**	**2.21**	**71**		*eP*		**Pn**	**21 21 15.0**	**+1.6**
ACDV					*eS*		**Sn**	**21 21 43.6**	**+4.0**
ACDV					IAML			21 21 43.8	
	comp=Z,322nm,0.4s								
MT02	**Curacav**	**2.35**	**172**		*eP*		**Pn**	**21 21 14.1**	**-1.1**
MT02					IAML			21 21 57.9	
	comp=Z,258nm,0.3s								
ZON	**Zonda**	**2.52**	**105**		*eP*		**Pn**	**21 21 17.9**	**+0.4**
ZON					*eS*		**Sn**	**21 21 49.3**	**+2.3**
ZON					IAML			21 21 50.6	
	comp=Z,223nm,0.2s								
MT05	**Renca**	**2.55**	**165**		*eP*		**Pn**	**21 21 17.0**	**-1.0**
MT05					*eS*		Sn	21 21 29.2	-19
MT05					IAML			21 22 02.4	
	comp=Z,188nm,0.4s								
AC04	**Llanos de Chal**	**2.74**	**8**		*eP*		**Pn**	**21 21 19.9**	**-0.6**
AC04					IAML			21 22 05.7	
	comp=N,316nm,0.2s								
AC04	**Llanos de Chal**	**2.74**	**8**		*eP*		**Pn**	**21 21 19.6**	**-0.9**
AC04					*eS*		**Sn**	**21 21 52.2**	**-0.3**
AC04					IAML			21 22 05.9	
	comp=Z,236nm,0.6s								
MT04	**Ro Olivares**	**2.74**	**155**		*eP*		**Pn**	**21 21 20.9**	**+0.2**
MT04					*eP*			21 21 21.7	
MT04					*eS*		**Sn**	**21 21 51.7**	**-1.1**
MT04					IAML			21 22 02.0	
	comp=Z,177nm,0.5s								
MT08	**Bocatoma Ro**	**2.82**	**153**		*eP*		**Pn**	**21 21 23.0**	**+1.1**
MT08					*eS*		Sn	21 21 40.4	-14
MT08					IAML			21 21 41.4	
	comp=Z,136nm,0.6s								
ASAL	**Salagasta**	**2.83**	**127**		*eP*		**Pn**	**21 21 21.7**	**-0.2**
ASAL					*eS*		Sn	21 22 05.6	+11
MT01	**Popeta**	**2.94**	**176**		*eP*		**Pn**	**21 21 22.5**	**-0.9**
MT01					*eS*		**Sn**	**21 21 57.7**	**+0.4**
MT01					IAML			21 22 16.0	
	comp=Z,120nm,0.5s								
AGUA	**GUANDACOL**	**2.99**	**62**		*eP*		Pn	21 21 10.1	-14
AGUA					IAML			21 22 06.3	
	comp=Z,452nm,1.0s								
LMEL	**Las Melosas**	**3.12**	**159**		*eP*		**Pn**	**21 21 25.8**	**-0.1**
LMEL					*eS*		**Sn**	**21 22 03.6**	**+1.5**
LMEL					IAML			21 22 11.1	
	comp=Z,144nm,0.8s								
BO01	**Tunca**	**3.48**	**174**		*eP*		**Pn**	**21 21 29.9**	**-0.8**
BO01					*eS*		**Sn**	**21 22 09.8**	**-0.8**
BO01					IAML			21 22 29.4	
	comp=Z,63nm,1.1s								
AVFE	**Valle Fertil**	**3.51**	**87**		*eP*		**Pn**	**21 21 30.9**	**-0.3**
ACHE	**Chepes**	**4.18**	**94**		*eS*		**Sn**	**21 22 26.7**	**-1.4**
ACLC	**CERRO LA CRUZ**	**4.23**	**70**		*eS*		**Sn**	**21 22 29.0**	**-0.5**
APLL	**PUNTA DE LOS L**	**4.34**	**84**		*eS*		**Sn**	**21 22 30.9**	**-1.0**
APLL					*eS*		**Sn**	**21 22 30.9**	**-1.0**
MRA	**San Martin**	**5.17**	**108**	IAML				21 23 14.2	
	comp=Z,99nm,0.6s								

DJA 07 21:35:11.1±1.1,9.°S±0.°3×10.°6E±°,h35km±20km,M2.9/1, MLv3.7/10,MLv2.9/1,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**2.03**	**22**			P	Pn	21 35 42.4	-0.5
SKJI	**Sukabumi**	**2.20**	**5**			P	Pn	21 35 45.2	0.0
CGJI	**Cibinong**	**2.67**	**345**			P	Pn	21 35 52.0	+0.4
CGJI						S	Sn	21 36 23.7	+1.0
DBJI	**Dramaga**	**2.67**	**8**			P	Pn	21 35 51.7	+0.1
DBJI						S	Sn	21 36 23.5	+0.8
LEM	**Lembang**	**2.67**	**28**			P	Pn	21 35 51.9	+0.1
LEM						S	Sn	21 36 24.2	+1.2
SBJI	**Serang**	**3.08**	**356**			P	Pn	21 35 57.4	+0.1
UGM	**Wanagama**	**4.30**	**73**			P	Pn	21 36 14.7	+0.5
PCJI	**Pacitan**	**4.86**	**78**			P	Pn	21 36 22.2	+0.5

IDC 07 21:47:08.2±2.2,0.°24N×125.°87E,h0km,mb3.2/3, mbtmp3.3/3,MS3.7/1,Error ellipse: s-maj=205.9km s-min=28.7km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.71**	**158**			P	P	21 52 00.1	-1.0
	0.5nm,0.5s,baz=336,slow=11,SNR=7.7								
	0.5nm,0.5s								
ASAR	**Alice Springs**	**25.01**	**162**			P	P	21 52 34.8	+0.8
	0.6nm,0.8s,baz=342,slow=11,SNR=5.3								
	0.6nm,0.8s								
JNU	**Nakatsue**	**33.05**	**8**	LR		LR		22 06 45.6	
	comp=Z,129nm,21.4s,baz=94,slow=36								
MKAR	**Makanchi Array**	**59.95**	**327**	P		P		21 57 16.2	-0.1
	0.2nm,0.7s,baz=115,slow=8.8,SNR=2.1								
	0.2nm,0.7s								

IDC 07 21:49:55.9±2.1,2.°21S×141.°30E,h0km,mb3.2/2, mbtmp3.3/3,ML3.4/1,MS3.6/1,Error ellipse: s-maj=36.3km s-min=14.2km az=151.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.67**	**243**			Pg	Pg	21 50 09.4	+0.7
	11nm,0.3s,baz=37,slow=10,SNR=90								
JAY						Lg	Lg	21 50 17.6	
	23nm,0.3s,baz=53,slow=20,SNR=12								
WRA	**Warramunga Arr**	**18.89**	**201**	P			P	21 54 17.5	-0.7
	0.1nm,0.3s,baz=25,slow=12,SNR=5.5								
	0.4nm,0.4s								
BATI	**Baumata**	**19.23**	**245**	LR		LR		22 03 10.6	
	comp=Z,184nm,18.3s,baz=359,slow=41								
ASAR	**Alice Springs**	**22.50**	**198**	P		P		21 54 57.5	+0.2
	0.3nm,0.4s,baz=21,slow=10,SNR=7.1								
	0.3nm,0.4s								
MKAR	**Makanchi Array**	**70.99**	**321**	P		P		22 01 15.3	-0.3
	0.1nm,0.5s,baz=108,slow=4.7,SNR=1.3								
	0.1nm,0.5s								

IDC 07 21:55:31.9±2.1,0.°71N×126.°29E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=181.9km s-min=27.3km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.99**	**159**			P	P	22 00 26.6	-1.2
	0.8nm,0.7s,baz=338,slow=10,SNR=8.1								
	0.8nm,0.7s								
ASAR	**Alice Springs**	**25.34**	**164**	P		P		22 01 01.7	+1.0
	0.4nm,0.5s,baz=344,slow=9.4,SNR=5.4								
	0.4nm,0.5s								
MKAR	**Makanchi Array**	**59.79**	**326**	P		P		22 05 38.8	-0.2
	0.2nm,0.4s,baz=124,slow=7.7,SNR=4.1								
	0.2nm,0.4s								

IDC ***07*** *22:00:45.6±0.6,30.°45N×141.°83E,h0km,mb4.0/20, mbtmp4.0/21,ML3.5/1,MS3.4/1,Error ellipse: s-maj=22.6km s-min=14.7km az=76.0*

NIED ***07*** *22:00:46.7,30.°61N×142.°60E,h49km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.21; $M_{\theta\theta}$-0.02; $M_{\phi\phi}$-1.20; $M_{r\theta}$-0.49; $M_{\theta\phi}$0.22; $M_{\phi r}$2.52; Fault plane solution: $M_0$2.84000×10^{15} NP1: ϕ_s170.00000°,δ13.00000°,λ91.00000°. NP2: ϕ_s349.00000°,δ77.00000°,λ90.00000°.*

MOS ***07*** *22:00:46.7±0.9,30.°41N×141.°84E,h18km,mb4.5/19 Error ellipse: s-maj=19.2km s-min=7.6km az=119.1*

NEIC ***07*** *22:00:47.3±1.7,30.°60N±0.°05×142.°1E±0.°1,h10km±1km, mb4.5/27,Error ellipse: s-maj=17.8km s-min=8.1km az=99.0*

ISC 07 22:00:48.9±0.5,30.°51N±0.°05×141.°98E±0.°09,h23km,n98, σ1°42/97,mb4.3/48,MS3.7/3,6C-5D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.41**	**177**			Pn	**Pn**	**22 01 41.8**	**+1.1**
JCJ	**Chichijima**	**3.41**	**177**			Sn	**Sn**	**22 02 14.9**	**-5.5**
	baz=0.0,slow=0.0								
JGF	**Kuroka**	**6.39**	**324**			Pn	**Pn**	**22 02 22.6**	**+1.0**
MJAR	**Matsushiro Arr**	**6.79**	**333**				**Pn**	**22 02 27.4**	**+0.3**
MJAR	**Matsushiro Arr**	**6.79**	**333**			Pn	**Pn**	**22 02 27.8**	**+0.7**
	1.0nm,0.3s,baz=154,slow=10,SNR=44								
MJAR						Sn	**Sn**	**22 03 43.6**	**-0.1**
	0.2nm,0.3s,baz=173,slow=33,SNR=1.6								
	5.3nm,0.3s								
MAJO	**Matsushiro**	**6.79**	**333**				**Pn**	**22 02 28.3**	**+1.1**
MAJO	**Matsushiro**	**6.79**	**333**	*ce*	P		**Pn**	**22 02 28.2**	**+1.1**
JMM	**Marumori**	**7.40**	**353**				**Pn**	**22 02 33.2**	**-2.3**
JMM							**Sn**	**22 03 54.0**	**-4.7**
JTM	**Tenmabayashi**	**10.28**	**356**			Pn	**Pn**	**22 03 12.3**	**-2.6**
ERM	**Erimo**	**11.52**	**4**			Pn	Pn	22 03 26.9	-5.0
ERM	**Erimo**	**11.52**	**4**			P	Pn	22 03 26.9	-5.0
JOW	**Kunigami**	**12.58**	**256**			LR	LR	22 08 21.3	
	comp=Z,142nm,18.1s,baz=300,slow=37								
KSRS	**Korea Array**	**13.56**	**304**			Pn	Pn	22 04 04.7	+5.0
	0.3nm,0.3s,baz=116,slow=12,SNR=4.5								
ASAJ	**Asahikawa**	**13.59**	**2**			Pn	**Pn**	**22 03 58.1**	**-2.0**
	0.7nm,0.3s,baz=166,slow=4.6,SNR=4.4								
ASAJ						Sn	Sn	22 06 19.4	-11
	0.4nm,0.3s,baz=90,slow=20,SNR=2.3								
MSHR	**Mys Shultsa**	**14.84**	**327**	⇑	*eP*		Pn	22 04 14.4	-2.8
YSS	**Yuzhno-Sakhali**	**16.43**	**2**		*eP*		**Pn**	**22 04 34.4**	**-3.4**
YSS					pmax		pmax		
	comp=Z,10.0nm,0.8s								
MDJ	**Mudanjiang**	**17.14**	**329**		P		**Pn**	**22 04 48.0**	**+1.2**
MDJ					pmax		pmax		
	comp=Z,11nm,1.0s								
BNX	**BinXian**	**19.00**	**327**	⇓	P		**P**	**22 05 08.5**	**-0.3**
BNX					pmax		pmax		
	comp=Z,4.0nm,1.4s								
YULB	**Yu-li**	**19.74**	**254**		P		**P**	**22 05 14.0**	**-3.1**
KLR	**Kul'dur**	**20.24**	**340**		P		**P**	**22 05 21.3**	**-1.1**
	comp=Z,1.6nm,0.6s,baz=151,slow=19,SNR=6.1								
	comp=Z,1.6nm,0.6s								
HEH	**HeiHe**	**22.55**	**335**		*eP*		**P**	**22 05 46.4**	**-0.8**
HEH					pmax		pmax		
	comp=Z,6.0nm,1.2s								
BJI	**Beijing**	**23.05**	**301**		P		**P**	**22 05 50.8**	**-1.7**
BJI					pmax		pmax		
	comp=Z,5.0nm,0.6s								
BJI					pmax		pmax		
	comp=Z,42nm,5.9s								
BJI					LR		LR		
	comp=N,48nm,18.1s								
BJI					LR		LR		
	comp=E,59nm,17.6s								
BJI					LR		LR		
	comp=Z,98nm,18.1s								
PETK	**Petropavlovsk-**	**25.33**	**22**		P		**P**	**22 06 16.3**	**+2.6**
	comp=Z,0.7nm,0.5s,baz=222,slow=5.2,SNR=2.0								
	comp=Z,0.7nm,0.5s								
ZEA	**Zeya**	**25.55**	**339**		*eP*		**P**	**22 06 17.5**	**+1.8**
ZEA					pmax		pmax		
	comp=Z,10.0nm,0.6s								
HHC	**Hu-ho-hao-te**	**26.66**	**301**		*eP*		**P**	**22 06 25.2**	**-0.9**
HHC					pmax		pmax		
	comp=Z,9.0nm,0.6s								
HHC					pmax		pmax		
	comp=Z,55nm,4.4s								
HHC					LR		LR		
	comp=N,82nm,14.0s								
HHC					LR		LR		
	comp=E,150nm,15.6s								
HHC					LR		LR		
	comp=Z,160nm,18.1s								
ULN	**Ulaanbaatar**	**31.80**	**313**		P		**P**	**22 07 11.6**	**-0.1**
ULN					IAmb		IAmb	22 07 18.1	
	comp=Z,8.3nm,1.4s								
ULN	**Ulaanbaatar**	**31.80**	**313**	*de*	P		**P**	**22 07 12.9**	**+1.2**
ULN					pmax		pmax		
	comp=Z,6.0nm,1.3s								
SONM	**Songino Array**	**32.20**	**313**		P		**P**	**22 07 15.5**	**+0.2**
SONM	**Songino Array**	**32.20**	**313**		P		**P**	**22 07 16.1**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=118,slow=11,SNR=8.2								
	comp=Z,1.7nm,0.6s								
SONM	**Songino Array**	**32.20**	**313**		P		**P**	**22 07 15.5**	**+0.2**
SONM					pmax		pmax		
	comp=Z,2.0nm,1.0s								
YAK	**Yakutsk**	**32.54**	**349**	⇓	*eP*		**P**	**22 07 19.8**	**+2.0**
YAK					pmax		pmax		
	comp=Z,3.0nm,0.8s								
ZAK	**Zakamensk**	**34.99**	**316**		*eP*		**P**	**22 07 40.9**	**+1.5**
ZAK					pmax		pmax		
	comp=Z,4.0nm,1.5s								
GTA	**Gaotai**	**35.41**	**296**		*eP*		**P**	**22 07 42.9**	**-0.4**
GTA					pmax		pmax		
	comp=Z,4.0nm,0.7s								
PZH	**PanZhiHua**	**35.46**	**274**		P		**P**	**22 07 45.1**	**+1.3**
WMQ	**Urumqi**	**44.50**	**303**		*eP*		**P**	**22 09 01.0**	**+2.4**
WMQ					pmax		pmax		
	comp=Z,15nm,0.7s								
WMQ					LR		LR		
	comp=Z,250nm,23.9s								
ZALV	**Zalesovo Beam**	**46.84**	**317**		P		**P**	**22 09 16.4**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=89,slow=7.4,SNR=3.8								
ZALV					PcP		**PcP**	**22 10 49.7**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=118,slow=3.2,SNR=5.6								
	comp=Z,0.9nm,0.6s								
MK31	**Makanchi Array**	**48.22**	**307**	*ce*	P		**P**	**22 09 27.7**	**0.0**
MKAR	**Makanchi Array**	**48.22**	**307**		P		**P**	**22 09 28.2**	**+0.5**
MKAR	**Makanchi Array**	**48.22**	**307**		P		**P**	**22 09 28.0**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=89,slow=9.2,SNR=22								
	comp=Z,1.8nm,0.6s								
MKAR	**Makanchi Array**	**48.22**	**307**	*ce*	P		**P**	**22 09 28.2**	**+0.5**
MKAR					pmax		pmax		
	comp=Z,2.0nm,0.6s								
MAKZ	**Makanchi**	**48.43**	**307**				**P**	**22 09 29.8**	**+0.5**
MAKZ					IAmb		IAmb	22 09 30.3	
	comp=Z,2.2nm,0.6s								
**MAKZ

comp=Z,1.0nm,0.6s
ASAR Alice Springs 54.42 189 P P 22 10 13.5 -0.8
comp=Z,1.9nm,0.7s,baz=12,slow=6.3,SNR=19
comp=Z,1.9nm,0.7s
ILAR Eielson Array 54.83 30 P P 22 10 17.5 +0.7
comp=Z,0.7nm,0.9s,baz=267,slow=7.6,SNR=6.0
comp=Z,0.7nm,0.9s
KK31 Karatay Array 56.99 304 P P 22 10 33.0 +0.3
KK31 IAmb IAmb 22 10 33.7
comp=Z,3.3nm,0.8s
KK31 Karatay Array 56.99 304 P P 22 10 33.0 +0.3
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 56.99 304 P 22 10 33.0 +0.3
KKAR Karatay Array 56.99 304 P P 22 10 33.2 +0.6
KKAR IAmb IAmb 22 10 33.7
comp=Z,3.5nm,0.8s
KKAR Karatay Array 56.99 304 P P 22 10 33.0 +0.3
BTK Batken 57.47 301 P P 22 10 36.7 +0.4
BTK IAmb IAmb 22 10 46.1
comp=Z,8.8nm,1.4s
BTK Batken 57.47 301 P P 22 10 36.7 +0.4
BTK pmax pmax
comp=Z,9.0nm,1.4s
GAR Garm 58.12 299 P 22 10 40.1 -0.7
ARTI Arti 61.75 321 P P 22 11 05.1 -0.2
ARTI Arti 61.75 321 *c i* P P 22 11 05.7 +0.4
ARTI 22 11 45.6
ARTI S S 22 19 22.8 -3.9
ARTI pmax pmax
comp=Z,4.0nm,0.8s
STKA Stephens Creek 62.05 180 P P 22 11 08.4 +0.9
comp=Z,1.1nm,0.6s,baz=2.4,slow=8.7,SNR=3.5
comp=Z,1.1nm,0.6s
AB31 Akbulak array 62.62 313 P 22 11 11.6 +0.3
AB31 IAmb IAmb 22 11 12.3
comp=Z,2.9nm,0.6s
ABKAR Akbulak array 62.62 313 P 22 11 11.4 +0.1
ABKAR Akbulak array 62.62 313 P P 22 11 11.7 +0.5
ABKAR IAmb IAmb 22 11 12.3
comp=Z,2.9nm,0.6s
ARCES ARCESS Array B 70.27 340 P P 22 12 00.4 +0.6
comp=Z,0.9nm,0.8s,baz=58,slow=6.4,SNR=0.9
comp=Z,0.9nm,0.8s
OBN Obninsk 73.64 325 *e*P P 22 12 21.5 +1.3
OBN pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 74.82 333 P P 22 12 26.7 -0.3
comp=Z,11nm,1.3s,baz=53,slow=5.8,SNR=14
comp=Z,11nm,1.3s
FINES FINESS Array B 74.82 333 *i* P P 22 12 27.2 +0.2
FINES pmax pmax
comp=Z,11nm,1.3s
KBZ Khabaz 75.57 312 P P 22 12 32.4 +0.7
comp=Z,3.6nm,0.9s,baz=45,slow=2.9,SNR=5.7
comp=Z,3.6nm,0.9s
KBZ Khabaz 75.57 312 *de*P P 22 12 32.9 +1.2
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 75.60 313 *e*P P 22 12 33.8 +1.8
KIV pmax pmax
comp=Z,4.0nm,1.0s
NVAR Mina Array Bea 78.56 52 P P 22 12 49.9 +1.0
comp=Z,0.7nm,0.5s,baz=311,slow=5.9,SNR=2.9
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 79.77 323 P P 22 12 54.8 -0.2
comp=Z,0.2nm,0.3s,baz=51,slow=5.6,SNR=2.2
comp=Z,0.2nm,0.3s
HFS Hagfors 80.23 337 P P 22 12 56.9 -0.4
comp=Z,3.6nm,1.0s,baz=49,slow=14,SNR=3.4
comp=Z,3.6nm,1.0s
NB2 NORSAR Subarra 80.38 338 P P 22 12 58.1 -0.1
comp=Z,1.0nm,0.7s,baz=41,slow=5.6
NOA NORSAR Array B 80.38 338 P P 22 12 58.1 -0.1
comp=Z,1.1nm,0.3s,baz=41,slow=5.6,SNR=3.8
comp=Z,1.1nm,0.3s
PDAR Pinedale Array 81.92 45 P P 22 13 08.2 +1.2
comp=Z,0.2nm,0.4s,baz=294,slow=3.6,SNR=4.4
comp=Z,0.2nm,0.4s
BR131 Keskin Array S 83.56 313 P P 22 13 16.1 +0.7
BR131 IAmb IAmb 22 13 18.0
comp=Z,2.3nm,0.9s
BR131 Keskin Array S 83.56 313 P P 22 13 16.1 +0.7
BR131 pmax pmax
comp=Z,2.0nm,1.0s
BRTR Keskin Array B 83.56 313 P P 22 13 15.9 +0.5
comp=Z,1.9nm,1.0s,baz=76,slow=6.1,SNR=7.8
comp=Z,1.9nm,1.0s
RAYN Ar Rayn 83.62 293 P 22 13 16.8 +0.9
RAYN Ar Rayn 83.62 293 P P 22 13 16.8 +0.9
RAYN pmax pmax
comp=Z,16nm,1.3s
TXAR Lajitas Array 93.70 53 P P 22 14 05.2 +1.0
comp=Z,0.4nm,0.8s,baz=317,slow=3.3,SNR=4.7
comp=Z,0.4nm,0.8s
LPAZ La Paz 149.07 70 PKPbc PKiKP 22 20 38.9 +1.0
comp=Z,0.7nm,0.7s,baz=315,slow=2.9,SNR=3.7

*IDC **07** 22:22:14.9±0.9, 37.°57N×20.°68E, h0km, mb3.8/11, mbtmp3.7/20, ML3.4/7, MS3.2/1, Error ellipse: s-maj=17.2km s-min=14.2km az=1.0*
*THE **07** 22:22:17.3, 37°N±2.°×2.°1E±.°, h0km±2km, M4.0/14, MLh4.0/14*
*ATH **07** 22:22:17.8, 37.°52N×20.°57E, h18km, ML3.9/11, Manual Solution by K.Orfanogiannaki First location: 2019/07/07 22:23:14, This location: 2019/07/07 22:28:08 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*NAO **07** 22:22:18.6, 37.°52N×20.°64E, h10km, mb3.8*
*HLW **07** 22:22:24.2, 37.°21N×21.°22E, h33km±45km, Md5.0, MI3.5*
*BEO **07** 22:22:26.7±1.0, 38.°29N×20.°47E, h0km±9km, ML3.5/9*
ISC 07 22:22:17.7±0.8, 37.°51N±0.°04×20.°59E±0.°03, h19km±2km, n110, σ1§17/128, mb3.8/10, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTHK	**Lithakia**	**0.28**	**45**	P	**Pb**	**22 22 24.0**	**0.0**
LTHK				S	**Sb**	**22 22 28.8**	**+0.5**
LTHK	**Lithakia**	**0.28**	**45**	P	**Pb**	**22 22 24.1**	**0.0**
LTHK				S	**Sb**	**22 22 28.4**	**+0.1**
ORTH	**Orthonies,Zaky**	**0.35**	**14**	P	**Pb**	**22 22 25.4**	**-0.1**
ORTH				S	**Sb**	**22 22 30.2**	**-0.4**
CLEM	**Kyllini,Ilia,G**	**0.57**	**49**	P	**Pn**	**22 22 29.5**	**-1.4**
CLEM				S	**Sn**	**22 22 36.9**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.58**	**14**	P	**Pb**	**22 22 29.5**	**+0.3**
RTZL				S	**Sn**	**22 22 39.2**	**-0.8**
KTLO	**Katakolo**	**0.60**	**77**	P	**Pn**	**22 22 29.8**	**-1.3**
KTLO				S	**Sn**	**22 22 39.7**	**-0.7**
KTLO	**Katakolo**	**0.60**	**77**	P	**Pn**	**22 22 29.9**	**-1.3**
PSDA	**Pessada-Kefalo**	**0.60**	**360**	P	**Pb**	**22 22 29.5**	**-0.1**
PSDA				S	**Sn**	**22 22 39.6**	**-0.9**
PSDA	**Pessada-Kefalo**	**0.60**	**360**	P	**Pb**	**22 22 29.5**	**-0.1**
PSDA				S	**Sb**	**22 22 37.8**	**+0.2**
VLS	**Valsamata**	**0.66**	**0**	P	**Pb**	**22 22 30.3**	**-0.4**
VLS				S	**Sn**	**22 22 41.1**	**-1.0**
VLS	**Valsamata**	**0.66**	**0**	P	**Pb**	**22 22 30.5**	**-0.2**
VLS				S	**Sb**	**22 22 39.5**	**0.0**
LCHA	**Lechaina**	**0.68**	**51**	P	**Pn**	**22 22 31.6**	**-0.8**
ANDM	**Andravida**	**0.72**	**49**	P	**Pb**	**22 22 31.4**	**-0.2**
ANDM				S	**Sn**	**22 22 42.0**	**-1.4**
ANDM	**Andravida**	**0.72**	**49**	P	**Pb**	**22 22 31.4**	**-0.2**
SMHA	**Samh**	**0.74**	**4**	P	**Pb**	**22 22 31.2**	**-0.7**
SMHA				S	**Sb**	**22 22 41.9**	**+0.2**
DMLN	**Damoulianata-K**	**0.74**	**347**	P	**Pn**	**22 22 32.3**	**-0.9**
DMLN				S	**Sn**	**22 22 44.0**	**-0.1**
DMLN	**Damoulianata-K**	**0.74**	**347**	P	**Pn**	**22 22 32.9**	**-0.4**
KRES	**Krestena**	**0.83**	**84**	P	**Pn**	**22 22 33.9**	**-0.5**
KRES				S	**Sn**	**22 22 47.5**	**+1.4**
KRES	**Krestena**	**0.83**	**84**	P	**Pn**	**22 22 33.8**	**-0.5**
ZARO	**Zacharo**	**0.84**	**91**	P	**Pn**	**22 22 34.2**	**-0.4**
RLS	**Riolos of Patr**	**0.88**	**52**	P	**Pn**	**22 22 34.3**	**-0.9**
RLS				S	**Sn**	**22 22 49.2**	**+1.7**
RLS	**Riolos of Patr**	**0.88**	**52**	P	**Pn**	**22 22 34.1**	**-1.0**
AMT	**Artemida-Makis**	**0.89**	**88**	P	**Pn**	**22 22 34.8**	**-0.4**
AXS	**Araxos**	**0.93**	**42**	P	**Pn**	**22 22 35.3**	**-0.4**
FSK	**Fiskardo**	**0.94**	**359**	P	**Pg**	**22 22 35.3**	**-0.8**
DRO	**Drossia**	**0.99**	**63**	P	**Pn**	**22 22 36.5**	**-0.1**
DRO				S	**Sn**	**22 22 52.9**	**+2.7**
DRO	**Drossia**	**0.99**	**63**	P	**Pn**	**22 22 36.6**	**-0.1**
EVGI	**Lefkada island**	**1.11**	**3**	P	**Pg**	**22 22 38.7**	**-0.5**
EVGI	**Lefkada island**	**1.11**	**3**	P	**Pg**	**22 22 38.4**	**-0.8**
ITM	**Ithomi**	**1.12**	**107**	P	**Pg**	**22 22 39.0**	**-0.3**
ITM	**Ithomi**	**1.12**	**107**	P	**Pg**	**22 22 39.1**	**-0.3**
DRAG	**Dragano-Lefkad**	**1.17**	**359**	P	**Pg**	**22 22 39.8**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.20**	**4**	P	**Pg**	**22 22 40.7**	**-0.3**
LKD2	**Lefkada island**	**1.27**	**2**	P	**Pg**	**22 22 42.7**	**+0.4**
LKD2				S	**Sg**	**22 23 01.3**	**+2.2**
OHR	**Ohrid**	**3.60**	**3**	*i* Pn	**Pn**	**22 23 15.2**	**+2.7**
IDI	**Anoyia**	**4.12**	**121**	Pn	**Pn**	**22 23 20.8**	**+1.1**
	3.2nm,0.3s,baz=274,slow=16,SNR=11						
IDI				Sn	**Sn**	**22 24 07.3**	**-0.2**
	11nm,0.3s,baz=306,slow=16,SNR=14						
SRS	**Serrai**	**4.29**	**32**	*e*Pn	**Pn**	**22 23 23.6**	**+1.6**
SKO	**Skopje**	**4.50**	**8**	*i* Pn	**Pn**	**22 23 27.2**	**+2.3**
PEHC	**Pehcevo**	**4.62**	**22**	*i* Pn	**Pn**	**22 23 26.7**	**+0.1**
MMB	**Musomishta**	**4.71**	**30**	P	**Pn**	**22 23 29.3**	**+1.5**
KKB	**Krupnik**	**4.75**	**24**	P	**Pn**	**22 23 29.7**	**+1.4**
DRME	**Dracevica, Mon**	**4.79**	**347**	*e*Pn	**Pn**	**22 23 28.0**	**-0.9**
VAE	**Valguarnera**	**4.91**	**271**	Pn	**Pn**	**22 23 33.7**	**+3.2**
	13nm,0.7s,baz=46,slow=4.5,SNR=8.7						
VAE				Sn	**Sn**	**22 24 29.0**	**+2.0**
	1.2nm,0.3s,baz=271,slow=18,SNR=3.5						
PDG	**Podgorica**	**5.02**	**349**	*e*Pn	**Pn**	**22 23 30.8**	**-1.1**
PDG	**Podgorica**	**5.02**	**349**	*e*Pn	**Pn**	**22 23 31.7**	**-0.2**
BOSS	**Bosilegrad**	**5.18**	**16**	*e*Pn	**Pn**	**22 23 35.4**	**+1.1**
BARS	**Barje**	**5.38**	**10**	*e*Pn	**Pn**	**22 23 37.4**	**+0.4**
PLNA	**Plana**	**5.42**	**23**	P	**Pn**	**22 23 39.2**	**+1.6**
TREB	**Trebinje**	**5.47**	**342**	*e*Pn	**Pn**	**22 23 37.0**	**-1.2**
VTS	**Vitosha**	**5.49**	**21**	P	**Pn**	**22 23 39.9**	**+1.4**
VTS	**Vitosha**	**5.49**	**21**	*e*Pn	**Pn**	**22 23 40.0**	**+1.4**
KDZ	**Kurdzhali**	**5.51**	**40**	P	**Pn**	**22 23 39.8**	**+1.0**
SELS	**Selova**	**5.71**	**4**	*e*Pn	**Pn**	**22 23 42.0**	**+0.4**
SJES	**Sjenica**	**5.76**	**356**	*e*Pn	**Pn**	**22 23 43.3**	**+1.0**
SJES	**Sjenica**	**5.76**	**356**	*e*Pn	**Pn**	**22 23 42.1**	**-0.2**
STON	**Ston**	**5.79**	**338**	*e*Pn	**Pn**	**22 23 41.1**	**-1.5**
STON	**Ston**	**5.79**	**338**	*e*Pn	**Pn**	**22 23 41.3**	**-1.3**
UPM	**Unac-Piva**	**5.83**	**348**	*e*Pn	**Pn**	**22 23 43.6**	**+0.3**
DIM	**Dimitrovgrad**	**5.94**	**39**	P	**Pn**	**22 23 45.6**	**+1.0**
ZAPS	**Zavoj**	**5.96**	**15**	*e*Pn	**Pn**	**22 23 46.4**	**+1.4**
IVAS	**Ivanjica**	**6.07**	**357**	*e*Pn	**Pn**	**22 23 46.9**	**+0.5**
RUDO	**Rudo**	**6.17**	**352**	*e*Pn	**Pn**	**22 23 46.9**	**-0.9**
BOVS	**Bovan**	**6.17**	**8**	*e*Pn	**Pn**	**22 23 47.9**	**0.0**
MPEP	**Malo Peshtene**	**6.31**	**21**	P	**Pn**	**22 23 51.3**	**+1.5**
GRUS	**Gruza**	**6.37**	**1**	*e*Pn	**Pn**	**22 23 50.9**	**+0.4**
ZAGS	**Zajecar**	**6.42**	**11**	*e*Pn	**Pn**	**22 23 51.5**	**+0.3**
TRUS	**Trudelj**	**6.71**	**359**	*e*Pn	**Pn**	**22 23 55.4**	**+0.2**
SLUM	**Salum**	**7.12**	**146**	P	**Pn**	**22 24 00.1**	**-0.7**
A050A	**Klekovaca**	**7.61**	**338**	*e*Pn	**Pn**	**22 24 07.4**	**-0.2**
VRSS	**Vrsac**	**7.62**	**4**	*e*Pn	**Pn**	**22 24 07.2**	**-0.6**
FRGS	**Fruska Gora**	**7.66**	**356**	*e*Pn	**Pn**	**22 24 07.4**	**-0.9**
FRGS	**Fruska Gora**	**7.66**	**356**	*e*Pn	**Pn**	**22 24 07.8**	**-0.5**
BLY	**Banja Luka**	**7.67**	**342**	*e*Pn	**Pn**	**22 24 09.6**	**+1.2**
A051A	**Mrakovica**	**7.99**	**341**	*e*Pn	**Pn**	**22 24 13.3**	**+0.5**
MLR	**Muntele Rosu**	**8.92**	**25**	Pn	**Pn**	**22 24 26.5**	**+0.8**
	0.2nm,0.3s,baz=212,slow=14,SNR=3.2						
	7.7nm,0.8s						
MLR	**Muntele Rosu**	**8.92**	**25**	*e*Pn	**Pn**	**22 24 28.3**	**+2.6**
BOJS	**Bojanci**	**8.93**	**335**	*e*Pn	**Pn**	**22 24 25.4**	**-0.2**
BOJS	**Bojanci**	**8.93**	**335**	*e*Pn	**Pn**	**22 24 25.7**	**+0.1**
CRES	**Cresnjevec Ost**	**9.15**	**337**	*e*Pn	**Pn**	**22 24 27.0**	**-1.7**
SWA2		**9.20**	**152**	P	**Pn**	**22 24 28.0**	**-1.3**
SWA2				S	Sn	22 25 59.6	-13
KEST	**Kesra**	**9.21**	**262**	Pn	**Pn**	**22 24 32.2**	**+2.6**
	0.2nm,0.3s,baz=61,slow=6.9,SNR=5.6						
	2.5nm,0.8s						
CEY	**Cerknica**	**9.42**	**333**	*e*Pn	**Pn**	**22 24 32.7**	**+0.3**
CEY	**Cerknica**	**9.42**	**333**	*e*Pn	**Pn**	**22 24 34.4**	**+2.0**
SOKA	**Soboth**	**10.04**	**338**	*e*Pn	**Pn**	**22 24 41.0**	**0.0**
	0.6nm,0.3s						
OBKA	**Obir**	**10.05**	**335**	*e*Pn	Pn	22 24 46.1	+5.1
OBKA	**Obir**	**10.05**	**335**	*e*Pn	**Pn**	**22 24 42.1**	**+1.1**
	1.4nm,0.4s						
MOA	**Molln**	**11.32**	**338**	*i* Pn	**Pn**	**22 24 59.0**	**+0.5**
	0.4nm,0.3s						
BIOA	**Bad Ischl, Aus**	**11.38**	**336**	*e*Pn	**Pn**	**22 24 59.4**	**+0.2**
	0.4nm,0.2s						
RYAN	**Fayoum**	**11.67**	**133**	P	**Pn**	**22 25 02.1**	**-1.1**
HFRF	**Wahat Farafira**	**12.22**	**146**	P	**Pn**	**22 25 07.2**	**-3.5**
GERES	**GERESS Array B**	**12.38**	**338**	Pn	**Pn**	**22 25 13.6**	**+0.6**
	baz=153,slow=14,SNR=2.7						
GERES				Sn	Sn	22 27 21.3	-9.2
	baz=152,slow=24,SNR=4.5						
	0.2nm,0.4s						
MMAI	**Mount Meron Ar**	**12.91**	**106**	Pn	**Pn**	**22 25 20.8**	**+0.5**
	0.6nm,0.3s,baz=299,slow=13,SNR=4.3						
MMAI				Sn	Sn	22 27 29.0	-14
	0.4nm,0.3s,baz=297,slow=29,SNR=1.7						
	0.3nm,0.3s						
EIL	**Elat**	**14.29**	**119**	Pn	**Pn**	**22 25 36.0**	**-3.1**
	0.1nm,0.3s,baz=311,slow=5.8,SNR=1.8						
EIL				Sn	Sn	22 28 01.5	-16
	0.8nm,0.3s,baz=221,slow=20,SNR=6.6						
	1.6nm,0.7s						
AKASG	**Malin Array Be**	**14.56**	**22**	Pn	**Pn**	**22 25 40.1**	**-2.4**
	0.4nm,0.3s,baz=212,slow=11,SNR=2.0						
AKASG				LR	LR	22 32 46.5	
	comp=Z,88nm,19.2s,baz=196,slow=44						
	0.2nm,0.3s						
ESDC	**Sonseca Array**	**19.30**	**284**	P	**P**	**22 26 41.9**	**+0.3**
	0.1nm,0.3s,baz=89,slow=12,SNR=7.2						
	2.0nm,1.1s						
MDT	**Midelt**	**21.10**	**265**	P	**P**	**22 27 01.5**	**+0.3**
	5.2nm,0.9s,baz=75,slow=11,SNR=9.0						
	5.2nm,0.9s						
MTSE	**Matsula**	**21.32**	**5**	*e*P	**P**	**22 27 02.9**	**-0.4**
MEF	**Metsahovi**	**22.85**	**5**	*e*P	**P**	**22 27 18.3**	**-1.3**
HFS	**Hagfors**	**23.06**	**351**	P	**P**	**22 27 21.0**	**-0.9**
	3.0nm,0.6s,baz=163,slow=9.6,SNR=12						
	3.0nm,0.6s						
RAF	**Rauma**	**23.54**	**1**	*e*P	**P**	**22 27 24.8**	**-1.8**
EKA	**Eskdalemuir Ar**	**24.00**	**326**	P	**P**	**22 27 31.2**	**+0.1**
	1.1nm,0.8s,baz=129,slow=10.0,SNR=4.3						
	1.1nm,0.8s						
FINES	**FINESS Array B**	**24.20**	**6**	P	**P**	**22 27 31.7**	**-1.1**
	1.0nm,0.3s,baz=190,slow=9.8,SNR=12						
	1.0nm,0.3s						
NB2	**NORSAR Subarra**	**24.28**	**349**	P	**P**	**22 27 34.1**	**+0.5**
	comp=Z,2.0nm,1.0s,baz=162,slow=9.3						
NOA	**NORSAR Array B**	**24.28**	**349**	P	**P**	**22 27 32.1**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=163,slow=10.0,SNR=4.5						
	comp=Z,0.5nm,0.3s						
TORD	**Torodi Ar. Bea**	**29.55**	**220**	P	**P**	**22 28 20.5**	**-0.8**
	comp=Z,2.9nm,0.4s,baz=31,slow=8.8,SNR=1.8						
	comp=Z,2.9nm,0.4s						
KURBB	**Kurchatov Arra**	**42.58**	**53**	P	**P**	**22 30 11.1**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=280,slow=8.7,SNR=3.6						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**45.61**	**58**	P	**P**	**22 30 35.2**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=279,slow=7.5,SNR=9.9						
	comp=Z,0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**46.10**	**48**	P	**P**	**22 30 39.2**	**-1.2**
	comp=Z,1.5nm,0.5s,baz=275,slow=10,SNR=7.3						
	comp=Z,1.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**69.93**	**82**	P	**P**	**22 33 28.8**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=307,slow=5.2,SNR=2.2						
	comp=Z,0.8nm,0.3s						
ILAR	**Eielson Array**	**77.58**	**355**	P	**P**	**22 34 13.9**	**+1.8**
	comp=Z,0.1nm,0.6s,baz=18,slow=6.3,SNR=2.2						
	comp=Z,0.1nm,0.6s						

*IDC **07** 22:27:43.1±1.6, 0.°38N×125.°82E, h0km, mb4.0/5, mbtmp4.1/5, Error ellipse: s-maj=176.3km s-min=20.0km az=66.0*
*DJA **07** 22:27:44.7±0.3, 0°N±3.°×12.°6E±.°, h10km, M3.4/1, MLv3.9/9, MLv3.4/1*
*NEIC **07** 22:27:50.1±1.6, 0.°34N±0.°08×126.°35E±0.°07, h35km±2km, mb4.3/9, Error ellipse: s-maj=14.1km s-min=10.0km az=327.0*
ISC 07 22:27:49.5±0.7, 0.°36N±0.°07×126.°21E±0.°05, h44km, n24, σ1§72/26, mb4.2/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.23**	**70**		**Pn**	**22 28 08.7**	**-1.5**
TNTI	**Ternate**	**1.23**	**70**	P	**Pn**	**22 28 08.7**	**-1.5**
TNTI				S	**Sn**	**22 28 26.0**	**+0.3**
KMSI	**Cibinong**	**2.24**	**276**	P	**Pn**	**22 28 20.6**	**-3.5**
SGSI	**Sangihe**	**3.38**	**348**	P	**Pn**	**22 28 38.3**	**-1.5**
LUWI	**Luwuk**	**3.71**	**248**		**Pn**	**22 28 45.5**	**+1.2**
LUWI	**Luwuk**	**3.71**	**248**	P	**Pn**	**22 28 40.2**	**-4.1**
TOLI2	**Tolitoli**	**5.48**	**278**	Pn	**Pn**	**22 29 11.0**	**+2.4**
DAV	**Davao City (W)**	**6.70**	**355**	Pn	**Pn**	**22 29 25.6**	**+0.2**
WB0	**Warramunga Arr**	**21.55**	**159**		**P**	**22 32 35.5**	**+0.2**
WB0				IAmb	IAmb	22 32 40.8	
	comp=Z,5.9nm,0.7s						
WRAB	**Tennant Creek**	**21.69**	**159**	P	**P**	**22 32 33.5**	**-3.2**
WRAB				IAmb	IAmb	22 32 40.1	
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**21.69**	**159**	P	**P**	**22 32 36.2**	**-0.5**
WRA	**Warramunga Arr**	**21.69**	**159**	P	**P**	**22 32 36.6**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=336,slow=11,SNR=15						
	comp=Z,3.4nm,0.7s						
WR8	**Warramunga Arr**	**21.76**	**159**		**P**	**22 32 37.2**	**-0.3**
WR8				IAmb	IAmb	22 32 46.5	
	comp=Z,8.0nm,1.1s						
QIZ	**Qiongzhong**	**24.54**	**320**	P	**P**	**22 33 06.8**	**+1.6**
AS31	**Alice Springs**	**25.02**	**163**		**P**	**22 33 10.5**	**+0.9**
ASAR	**Alice Springs**	**25.02**	**163**	P	**P**	**22 33 10.5**	**+0.9**
ASAR	**Alice Springs**	**25.02**	**163**	P	**P**	**22 33 11.0**	**+1.3**
	comp=Z,3.0nm,0.7s,baz=345,slow=12,SNR=32						
	comp=Z,3.0nm,0.7s						
CTAO	**Charters Tower**	**28.26**	**137**	P	**P**	**22 33 40.3**	**+1.5**
CTAO				IAmb	IAmb	22 34 19.8	
	comp=Z,16nm,1.4s						
FORT	**Forrest**	**31.01**	**177**	P	**P**	**22 34 03.6**	**+0.6**
FORT				IAmb	IAmb	22 34 28.4	
	comp=Z,6.7nm,1.2s						
USRK	**Ussuriysk Ar.**	**43.96**	**6**	P	**P**	**22 35 52.6**	**+0.3**
PETK	**Petropavlovsk-**	**58.73**	**22**	P	**P**	**22 37 43.1**	**+0.3**
MKAR	**Makanchi Array**	**60.04**	**327**	P	**P**	**22 37 50.2**	**-1.7**
	comp=Z,1.0nm,0.5s,baz=120,slow=7.5,SNR=13						
MKAR				PcP	**PcP**	**22 38 37.1**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=134,slow=3.5,SNR=2.0						
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**64.30**	**328**	P	**P**	**22 38 18.7**	**-1.7**
	comp=Z,0.8nm,0.2s,baz=125,slow=7.1,SNR=4.5						
	comp=Z,0.8nm,0.2s						
QSPA	**South Pole Qui**	**90.28**	**180**	P	**P**	**22 40 46.0**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=330,slow=1.8,SNR=1.6						
	comp=Z,0.5nm,0.8s						

*IDC **07** 22:29:19.0±1.0, 30.°07N×142.°93E, h0km, mb3.8/12, mbtmp3.8/14, ML3.1/2, Error ellipse: s-maj=31.2km s-min=22.7km az=64.0*
*NEIC **07** 22:29:20.7±1.1, 30.°23N±0.°09×143.°3E±0.°1, h10km±1km, mb4.4/20, Error ellipse: s-maj=20.5km s-min=13.9km az=64.0*
ISC 07 22:29:22.5±0.7, 30.°08N±0.°08×143.°19E±0.°10, h30km, n39, σ1§71/39, mb4.1/20, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.10**	**197**	Sn	**Sn**	**22 30 41.2**	**-4.4**
	baz=0.0,slow=0.0						
JGF	**Kuroka**	**7.37**	**320**	Pn	**Pn**	**22 31 07.9**	**-0.2**
MJAR	**Matsushiro Arr**	**7.67**	**328**		**Pn**	**22 31 10.8**	**-1.4**
MJAR	**Matsushiro Arr**	**7.67**	**328**	Pn	**Pn**	**22 31 10.5**	**-1.7**
	0.3nm,0.3s,baz=153,slow=12,SNR=16						
	3.6nm,0.5s						
JMM	**Marumori**	**8.02**	**346**	Pn	**Pn**	**22 31 14.6**	**-2.3**
ERM	**Erimo**	**11.91**	**360**	Pn	**Pn**	**22 32 06.9**	**-3.2**
USRK	**Ussuriysk Ar.**	**16.66**	**331**	Pn	**Pn**	**22 33 11.2**	**-2.5**
	0.1nm,0.3s,baz=127,slow=11,SNR=2.3						
	0.4nm,0.4s						
YHNB	**Yeheng**	**20.10**	**260**	P	**P**	**22 33 52.6**	**-1.2**
YHNB				IAmb	IAmb	22 34 36.5	
	comp=Z,22nm,1.0s						
YULB	**Yu-li**	**20.64**	**256**	P	**P**	**22 33 58.7**	**-1.0**
SSLB	**Suanglung**	**20.77**	**258**	P	**P**	**22 34 00.8**	**-0.4**
SSLB				IAmb	IAmb	22 34 15.2	
	comp=Z,30nm,1.4s						
KLR	**Kul'dur**	**21.01**	**339**	P	**P**	**22 34 03.2**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=150,slow=8.9,SNR=5.4						
	comp=Z,1.5nm,0.5s						
TPUB	**Ta-pu**	**21.24**	**257**	P	**P**	**22 34 08.0**	**+1.8**
PEA0B	**Petropavlovsk-**	**25.34**	**21**	P	**P**	**22 34 42.4**	**-4.2**
PEA0B				IAmb	IAmb	22 35 05.7	
	comp=Z,14nm,1.4s						
ULN	**Ulaanbaatar**	**32.85**	**313**	P	**P**	**22 35 54.8**	**+1.1**
ULN				IAmb	IAmb	22 35 57.9	
	comp=Z,6.6nm,1.4s						
SONM	**Songino Array**	**33.26**	**313**	P	**P**	**22 35 58.5**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=120,slow=8.5,SNR=4.1						
	comp=Z,0.7nm,0.6s						
PHRA	**Phrae**	**40.60**	**264**	P	**P**	**22 36 59.7**	**-0.1**
S12K	**Black Hills**	**46.03**	**40**	P	**P**	**22 37 41.4**	**-1.7**
S12K				IAmb	IAmb	22 38 25.5	
	comp=Z,5.1nm,0.9s						
KULM	**Kulim**	**47.03**	**247**	P	**P**	**22 37 51.4**	**0.0**
MKAR	**Makanchi Array**	**49.31**	**308**	P	**P**	**22 38 07.0**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=83,slow=8.3,SNR=4.2						
	comp=Z,0.5nm,0.5s						
N17K	**Nushagak Hills**	**49.44**	**34**	P	**P**	**22 38 09.0**	**-0.6**
M17K	**Holitna River**	**49.48**	**33**

IDC ***07*** *22:30:31.2±2.3,30.˚06N×143.˚24E,h0km,mb3.9/11, mbtmp3.9/13,ML3.4/2,MS2.4/1,Error ellipse: s-maj=58.6km s-min=40.7km az=8.0*

NEIC ***07*** *22:30:32.9±2.0,30.˚06N±0.˚07×143.˚2E±0.˚1,h10km±1km, mb4.3/20,Error ellipse: s-maj=20.8km s-min=11.4km az=71.0*

ISC 07 22:30:36.3±1.2,**30˚2N**±0˚2×**143˚1E**±0˚1,**h30**km,**n36,** σ0§**92**/36,**mb4.1**/16,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.55**	**329**	**Pn**	**Pn**	**22 32 22.1**	**-2.3**
MJAR	**Matsushiro Arr**	**7.55**	**329**	Pn	**Pn**	**22 32 22.8**	**-1.5**
	0.3nm,0.3s,baz=152,slow=11,SNR=7.2 4.6nm,0.5s						
MAJO	**Matsushiro**	**7.55**	**329**	Pn	**Pn**	**22 32 23.7**	**-0.7**
JMM	**Marumori**	**7.91**	**347**	Pn	**Pn**	**22 32 28.1**	**-1.2**
ASAJ	**Asahikawa**	**13.93**	**359**	LR	LR	22 39 08.4	
	comp=Z,19nm,21.9s,baz=110,slow=37						
KSRS	**Korea Array**	**14.53**	**304**	Pn	**Pn**	**22 34 01.1**	**+1.2**
	0.3nm,0.3s,baz=116,slow=13,SNR=2.4 1.2nm,0.7s						
NACB	**Ninganchiao**	**20.01**	**258**	P	**P**	**22 35 06.4**	**-0.2**
NACB				IAmb	IAmb	22 35 07.0	
	comp=Z,16nm,1.0s						
YULB	**Yu-li**	**20.56**	**256**	P	**P**	**22 35 11.1**	**-1.6**
YULB				IAmb	IAmb	22 35 40.1	
	comp=Z,26nm,1.2s						
SSLB	**Suanglung**	**20.69**	**257**	P	**P**	**22 35 13.2**	**-0.9**
SSLB				IAmb	IAmb	22 35 25.3	
	comp=Z,19nm,1.3s						
KLR	**Kul'dur**	**20.90**	**339**	P	**P**	**22 35 17.1**	**+1.0**
	comp=Z,1.5nm,0.5s,baz=151,slow=13,SNR=4.3 comp=Z,1.5nm,0.5s						
ULN	**Ulaanbaatar**	**32.72**	**313**	P	**P**	**22 37 04.5**	**-1.8**
ULN				IAmb	IAmb	22 37 12.7	
	comp=Z,3.4nm,1.0s						
ATKA	**Atka Island**	**38.23**	**42**	P	**P**	**22 37 53.2**	**-0.2**
PHRA	**Phrae**	**40.51**	**263**	P	**P**	**22 38 12.0**	**-0.8**
CHTO	**Chiang Mai**	**41.49**	**265**	P	**P**	**22 38 20.6**	**-0.3**
CHTO				IAmb	IAmb	22 38 25.1	
	comp=Z,6.5nm,1.4s						
ANM	**Nome**	**46.89**	**28**	P	**P**	**22 39 03.6**	**+0.1**
ZALV	**Zalesovo Beam**	**47.73**	**317**	P	**P**	**22 39 11.2**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=101,slow=7.5,SNR=1.7						
ZALV				PcP	**PcP**	**22 40 39.4**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=108,slow=4.7,SNR=2.4 comp=Z,0.4nm,0.4s						
N15K	**Kwethluk River**	**47.95**	**34**	P	**P**	**22 39 11.3**	**-0.6**
MKAR	**Makanchi Array**	**49.18**	**308**	P	**P**	**22 39 21.7**	**+0.1**
MKAR	**Makanchi Array**	**49.18**	**308**	P	**P**	**22 39 22.2**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=90,slow=8.5,SNR=4.3 comp=Z,0.7nm,0.6s						
MAKZ	**Makanchi**	**49.39**	**308**	P	**P**	**22 39 23.5**	**+0.3**
KURBB	**Kurchatov Arra**	**51.50**	**313**	P	**P**	**22 39 39.7**	**+0.7**
	comp=Z,2.3nm,0.2s,baz=90,slow=7.3,SNR=7.4 comp=Z,2.3nm,0.2s						
D20K	**Etivluk River**	**51.54**	**24**	P	**P**	**22 39 40.6**	**+1.5**
D20K				IAmb	IAmb	22 39 41.6	
	comp=Z,4.0nm,0.9s						
CAST	**Castle Rocks**	**52.26**	**31**	P	**P**	**22 39 44.1**	**-0.4**
ILAR	**Eielson Array**	**54.66**	**30**	P	**P**	**22 40 01.9**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=256,slow=6.7,SNR=2.5 comp=Z,0.3nm,0.8s						
KK31	**Karatay Array**	**57.96**	**304**		**P**	**22 40 25.8**	**-0.2**
KKAR	**Karatay Array**	**57.96**	**304**	P	**P**	**22 40 26.6**	**+0.5**
KKAR	**Karatay Array**	**57.96**	**304**	P	**P**	**22 40 25.8**	**-0.2**
KKAR				IAmb	IAmb	22 40 27.4	
	comp=Z,2.0nm,0.8s						
SIMJ	**Simiganj**	**60.19**	**300**	P	**P**	**22 40 42.8**	**+1.2**
AB31	**Akbulak array**	**63.54**	**313**		**P**	**22 41 04.3**	**+0.5**
AB31				IAmb	IAmb	22 41 09.3	
	comp=Z,1.3nm,0.6s						
ABKAR	**Akbulak array**	**63.54**	**313**	P	**P**	**22 41 03.8**	**-0.1**
ABKAR				IAmb	IAmb	22 41 09.3	
	comp=Z,1.3nm,0.6s						
FINES	**FINESS Array B**	**75.55**	**334**	P	**P**	**22 42 18.1**	**+0.4**
	comp=Z,1.7nm,1.0s,baz=65,slow=4.7,SNR=5.4 comp=Z,1.7nm,1.0s						
KBZ	**Khabaz**	**76.50**	**313**	P	**P**	**22 42 24.4**	**+1.0**
	comp=Z,2.0nm,0.9s,baz=90,slow=3.0,SNR=3.6 comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**80.61**	**324**	P	**P**	**22 42 45.8**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=55,slow=5.2,SNR=2.1 comp=Z,0.4nm,0.4s						
HFS	**Hagfors**	**80.92**	**337**	P	**P**	**22 42 46.9**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=86,slow=7.7,SNR=4.0 comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**81.06**	**338**	P	**P**	**22 42 48.2**	**0.0**
	comp=Z,0.6nm,0.4s,baz=42,slow=5.2,SNR=2.8 comp=Z,0.6nm,0.4s						
BRTR	**Keskin Array B**	**84.49**	**313**	P	**P**	**22 43 07.2**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=119,slow=4.8,SNR=4.5 comp=Z,0.5nm,0.6s						

NEIC ***07*** *22:33:21.4±1.7,35.˚688N±0.˚008×117.˚52W±0.˚01, h8km±2km,Error ellipse: s-maj=1.4km s-min=1.2km az=79.0*

PAS 07 22:33:21.4±1.9,**35˚684N**±0˚007×**117˚531W**±0˚009, **h1**km±1km,**ML3.3**/23,**ML3.2**/131(NEIC),**Error ellipse: s-maj=1.2km s-min=0.9km az=222.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.14**	**338**	Pg	Pg	22 33 24.3	+0.2
CLC				Sg	Sg	22 33 26.6	+0.6
CLC				IAML		22 33 27.0	
	comp=E,8μm,0.5s						
CLC				IAML		22 33 28.4	
	comp=N,5μm,0.4s						
SRTC	**Snort**	**0.18**	**273**		Pg	22 33 25.5	+0.7
CCCA	**Chr Cany lake**	**0.21**	**139**	Pg	Pg	22 33 26.1	+0.7
CCCA				Sg	Sg	22 33 29.5	+1.4
TOW	**Tower One**	**0.23**	**303**		Pg	22 33 26.5	+0.8
LRMC	**Laurel Mtn Rad**	**0.24**	**211**		Pg	22 33 26.1	+0.2
LRMC				Sg	Sg	22 33 29.1	+0.1
LRMC				IAML		22 33 30.1	
	comp=E,6μm,0.4s						
LRMC				IAML		22 33 30.6	
	comp=N,7μm,0.3s						
WNMM	**Nine Mile Cany**	**0.34**	**298**		Pg	22 33 28.4	+0.5
WVPM	**Volcano Peak E**	**0.35**	**319**		Pg	22 33 28.5	+0.4
MPMC	**Manual Prospec**	**0.38**	**5**		Pg	22 33 28.8	+0.2
MPMC				Sg	Sg	22 33 33.6	+0.1
MPMC				IAML		22 33 35.7	
	comp=N,2μm,0.5s						
MPMC				IAML		22 33 35.9	
	comp=E,3μm,0.6s						
WRVM	**Rose V. Centra**	**0.44**	**318**		Pg	22 33 30.0	+0.2
DTP	**Desert Tortois**	**0.49**	**212**		Pg	22 33 30.8	0.0
DTP					Sg	22 33 37.7	+0.6
MFS	**McCloud Flat S**	**0.51**	**329**		Pg	22 33 31.4	+0.3
WBSM	**Bird Springs**	**0.52**	**254**		Pg	22 33 31.5	+0.2
WBSM					Sg	22 33 39.1	+1.1
WORM	**Onyx Ranch**	**0.58**	**271**		Pg	22 33 32.5	0.0
QSM	**Queen of Sheba**	**0.61**	**62**		Pg	22 33 33.2	+0.2
QSM				Sg	Sg	22 33 40.8	-0.1
QSM				IAML		22 33 41.8	
	comp=E,1μm,0.5s						
QSM				IAML		22 33 42.1	
	comp=N,2μm,0.7s						
CCAC	**Calif City Air**	**0.66**	**217**		Pg	22 33 34.2	+0.1
WHFM	**Hanning Flat**	**0.67**	**271**		Pg	22 33 34.2	0.0
WHFM					Sg	22 33 43.6	+0.8
GSC	**Goldstone, Bar**	**0.70**	**123**		Pg	22 33 35.0	+0.1
GSC				Sg	Sg	22 33 44.0	0.0
ISA	**Isabella, Lake**	**0.77**	**269**		Pg	22 33 36.0	-0.1
ISA				Sg	Sg	22 33 46.6	+0.6
ISA				IAML		22 33 47.2	
	comp=E,593nm,0.5s						
HYS	**Haystack Butte**	**0.82**	**182**		Pg	22 33 36.7	-0.3
HYS					Sg	22 33 48.1	+0.5
WASM	**Alta Sierra Ca**	**0.84**	**274**		Pg	22 33 37.4	0.0
GWY	**Greenwater Val**	**0.86**	**54**		Pg	22 33 38.0	+0.1
GWY				IAML		22 33 53.0	
	comp=E,1μm,0.5s						
CWC	**Cottonwood Cre**	**0.88**	**330**		Pg	22 33 38.1	-0.1
CWC				IAML		22 33 55.0	
	comp=E,492nm,0.4s						
EDW2	**Edwards Air Fo**	**0.89**	**205**		Pg	22 33 37.9	-0.4
CGO	**Cerro Gordo**	**0.89**	**346**		Pg	22 33 38.2	-0.3
RRX	**Edison Barstow**	**0.92**	**151**		Pg	22 33 38.9	0.0
TPO	**Tropico Hills**	**0.98**	**216**		Pg	22 33 40.0	-0.3
SBB	**Saddle Back Bu**	**1.02**	**194**		Pg	22 33 40.4	-0.5
TEJ	**El Tejon**	**1.05**	**245**		Pg	22 33 40.7	-0.8
SPG2	**Springville 2**	**1.13**	**298**		Pg	22 33 42.4	-0.6
SPG2					Sg	22 33 57.4	-0.2
TJR	**Tejon Ranch**	**1.19**	**237**		Pg	22 33 44.3	+0.1
ARVC	**Arvin**	**1.20**	**243**		Pg	22 33 43.7	-0.7
THC	**Tehachapi Micr**	**1.21**	**230**		Pg	22 33 43.9	-0.6
LRRC	**Littlerock Res**	**1.23**	**200**		Pg	22 33 43.5	-1.3
LRRC					Sn	22 34 02.6	-0.2
LEOC	**Leona Valley**	**1.23**	**211**		Pb	22 33 45.4	0.0
LEOC					Sn	22 34 02.6	-0.4
HOLC	**Holcomb Ridge**	**1.25**	**192**		Pg	22 33 44.6	-0.7
HOLC					Sb	22 34 02.7	+0.3
CJV	**Casa Juvan**	**1.26**	**204**		Sn	22 34 03.2	-0.5
AMDNV	**Amargosa**	**1.27**	**52**		Pg	22 33 44.8	-0.9
AMDNV					Sg	22 34 02.5	+0.3
VES	**Vestal, Richgr**	**1.27**	**278**		Pg	22 33 45.4	-0.4
VES					Sg	22 34 02.6	+0.3
JNH	**Juniper Hills**	**1.28**	**196**		Pg	22 33 45.2	-0.7
DSCC	**Desert Studies**	**1.28**	**114**		Pg	22 33 44.8	-1.2
DSCC					Sg	22 34 02.4	-0.2
HEC	**Hector,Ludlow**	**1.30**	**131**		Pg	22 33 45.5	-0.8
HEC					Sn	22 34 04.3	-0.4
GRAC	**Grapevine Rang**	**1.32**	**6**		Pg	22 33 46.1	-0.5
GRAC				IAML		22 34 08.5	
	comp=N,670nm,0.8s						
GRAC				IAML		22 34 09.8	
	comp=E,618nm,0.7s						
WCT	**Wildcat Mounta**	**1.33**	**33**		Pg	22 33 46.1	-0.8
WCT				IAML		22 34 07.5	
	comp=N,317nm,0.5s						
WCT				IAML		22 34 07.6	
	comp=E,400nm,0.5s						
WCT	**Wildcat Mounta**	**1.33**	**33**		Sg	22 34 03.6	-0.4
TUQ	**Turquoise Moun**	**1.33**	**100**		Pg	22 33 46.3	-0.6
SGV	**South Grapevin**	**1.35**	**17**		Pg	22 33 46.8	-0.6
SGV					Sb	22 34 05.7	+0.1
CHFC	**Chilao Flat St**	**1.41**	**197**		Pb	22 33 48.5	-0.1
BFSC	**Mount Baldy Ra**	**1.45**	**184**		Pn	22 33 47.6	-1.2
BFSC				IAML		22 34 12.3	
	comp=N,273nm,0.8s						
BFSC				IAML		22 34 14.9	
	comp=E,224nm,0.6s						
OSI	**Osito Audit: C**	**1.45**	**223**		Pn	22 33 48.7	0.0
OSI				IAML		22 34 11.4	
	comp=E,284nm,0.7s						
OSI				IAML		22 34 12.3	
	comp=N,524nm,0.7s						
SIL	**Silver Peak**	**1.45**	**156**		Pn	22 33 48.5	-0.5
SS2	**San Sevaine**	**1.47**	**179**		Pg	22 33 49.7	+0.1
SSK	**Sunset Peak**	**1.48**	**185**		Pn	22 33 48.4	-0.8
BBRC	**Big Bear Solar**	**1.50**	**160**		Pb	22 33 50.4	+0.2
MWC	**Mount Wilson**	**1.52**	**197**		Pn	22 33 49.0	-0.9
MWC				IAML		22 34 13.3	
	comp=N,427nm,0.8s						
MWC				IAML		22 34 14.2	
	comp=E,514nm,0.7s						
LCH	**Last Change Ra**	**1.55**	**357**		Pn	22 33 49.7	-0.6
LCH					Sn	22 34 10.9	-0.1
DECC	**Green Verdugo**	**1.57**	**205**		Pg	22 33 51.7	+0.2
PASC	**Pasadena Art C**	**1.60**	**200**		Pn	22 33 50.1	-0.7
PASC				IAML		22 34 15.3	
	comp=E,278nm,1.0s						
PASC				IAML		22 34 17.1	
	comp=N,194nm,0.5s						
PSRC	**Puddingstone R**	**1.60**	**188**		Pn	22 33 50.6	-0.2
GMN	**Gold Mountain**	**1.63**	**8**		Pn	22 33 50.9	-0.5
GMN				IAML		22 34 18.7	
	comp=N,184nm,0.5s						
VOG	**Valley Oaks Go**	**1.63**	**293**		Pn	22 33 51.6	+0.4
VOG					Sg	22 34 13.8	+0.1
TPNV	**Topopah Spring**	**1.63**	**39**		Pn	22 33 50.5	-0.9
TPNV				IAML		22 34 19.4	
	comp=N,397nm,0.5s						
RVR	**Riverside**	**1.69**	**176**		Pb	22 33 53.3	0.0
BCW	**Bitter Crk WRg**	**1.71**	**245**		Pb	22 33 53.6	0.0
DSP	**Deep Springs**	**1.72**	**348**		Pn	22 33 52.1	-0.3
BHPR	**Bishop**	**1.79**	**335**		Pg	22 33 55.4	-0.2
MTUM	**Tungsten Hills**	**1.86**	**334**		Pb	22 33 56.5	+0.2
MZP	**Montezuma Peak**	**2.02**	**3**		Pn	22 33 56.0	-0.8
HMTC	**Hemet**	**2.02**	**167**		Pn	22 33 55.9	-0.7
PKM	**Mcpherson Peak**	**2.03**	**248**		Pb	22 33 59.2	0.0
ELS	**Elsinore Mount**	**2.03**	**178**		Pn	22 33 56.0	-0.8
ELS				IAML		22 34 30.0	
	comp=E,111nm,0.5s						
POB	**Polly Butte**	**2.05**	**166**		Pn	22 33 56.5	-0.6
SHPR	**Sheep Range**	**2.09**	**66**		Pn	22 33 57.4	-0.2
SHPR				IAML		22 34 29.8	
	comp=N,119nm,0.7s						
V12A	**Nelson**	**2.18**	**88**		Pn	22 33 57.5	-1.4
V12A				IAML		22 34 38.0	
	comp=N,128nm,0.7s						
BENR	**Benton**	**2.19**	**338**		Pb	22 34 02.3	+0.2
CRY	**Cary Ranch**	**2.21**	**163**		Pb	22 34 02.6	+0.3
PMD	**Palm Desert**	**2.24**	**155**		Pn	22 33 58.3	-1.4
PMD				IAML		22 34 34.7	
	comp=N,89nm,0.6s						
PMD				IAML		22 34 40.9	
	comp=E,117nm,0.6s						
PFO	**Pinyon Flats O**	**2.25**	**157**		Pn	22 33 58.8	-1.1
PFO				IAML		22 34 39.1	
	comp=E,87nm,1.0s						
PFO				IAML		22 34 39.2	
	comp=E,89nm,0.8s						
MCSM	**Casa Diablo Ho**	**2.26**	**331**		Pb	22 34 03.6	+0.5
SNDA	**J Saunders Pla**	**2.26**	**160**		Pb	22 34 03.7	+0.6
PLM	**Palomar**	**2.39**	**166**		Pn	22 34 01.3	-0.5
TPH	**Tonopah**	**2.40**	**6**		Pn	22 34 02.1	+0.1
S11A	**Rachel**	**2.43**	**36**	Pn	Pn	22 34 02.1	-0.2
S11A				IAML		22 34 46.5	
	comp=N,249nm,1.1s						
NEE2	**Needles Airpor**	**2.55**	**110**	Pn	Pn	22 34 03.5	-0.4
NEE2				IAML		22 34 52.1	
	comp=N,213nm,0.7s						
BORC	**Borrego Spring**	**2.58**	**159**		Pn	22 34 03.2	-1.1
BORC				IAML		22 34 46.4	
	comp=E,103nm,0.9s						
BORC				IAML		22 34 47.9	
	comp=N,79nm,0.9s						
LHV	**Little Huntoon**	**2.68**	**343**		Pn	22 34 05.6	0.0
LHV				IAML		22 35 02.5	
	comp=N,62nm,1.2s						
LHV				IAML		22 35 09.0	
	comp=E,76nm,1.0s						
PMPB	**Monarch Peak**	**2.71**	**282**		Pn	22 34 05.4	-0.6
PMPB				IAML		22 34 59.5	
	comp=N,133nm,0.8s						
NV11	**Mina Array Sit**	**2.79**	**350**		Pn	22 34 06.7	-0.6
NVAR	**Mina Array Bea**	**2.81**	**348**		Pn	22 34 07.4	-0.2
BBGB	**Big Mountain B**	**2.98**	**288**		Pn	22 34 09.0	-0.8
W13A	**Hualapai Mount**	**3.04**	**100**		Pn	22 34 09.7	-1.0
W13A				IAML		22 35 00.9	
	comp=N,43nm,0.8s						
RYN	**Ryan**	**3.04**	**345**		Pn	22 34 11.0	+0.2
R11B	**Troy Canyon, C**	**3.08**	**30**		Pn	22 34 11.6	+0.2
BLYC	**Blythe**	**3.14**	**127**		Pn	22 34 10.5	-1.5
BLYC				IAML		22 35 02.7	
	comp=E,80nm,0.4s						
BLYC				IAML		22 35 04.3	
	comp=N,122nm,0.5s						
WAKR	**Walker**	**3.20**	**332**	Pn	Pn	22 34 13.7	+0.6
CMB	**Columbia Colle**	**3.28**	**317**		Pn	22 34 14.5	+0.5
CMB				IAML		22 35 11.1	
	comp=N,50nm,0.6s						
CMB				IAML		22 35 13.8	
	comp=E,47nm,0.8s						
YUH	**Yuha Desert**	**3.31**	**156**	Pn	Pn	22 34 13.8	-0.5
SAO	**San Andreas Ge**	**3.34**	**290**		Pn	22 34 14.5	-0.3
CBX	**Cerro Bola**	**3.44**	**168**		Pn	22 34 16.2	0.0
GLA	**Glamis**	**3.45**	**139**		Pn	22 34 15.4	-0.8
LCMT	**Little Creek M**	**3.71**	**68**	Pn	Pn	22 34 19.4	-0.5
CCUT	**Cedar City**	**3.84**	**60**	Pn	Pn	22 34 21.1	-0.6
ESJX	**Sierra Juarez**	**3.90**	**160**	Pn	Pn	22 34 22.1	-0.5
KNB	**Kanab**	**4.03**	**69**	Pn	Pn	22 34 23.6	-0.8
KNB				IAML		22 35 38.2	
	comp=N,22nm,0.9s						
KNB				IAML		22 35 41.5	
	comp=E,27nm,1.0s						
PSUT	**Pine Spring**	**4.09**	**45**	Pn	Pn	22 34 26.4	+1.1
PSUT				IAML		22 35 35.7	
	comp=N,45nm,0.7s						
PSUT				IAML		22 35 36.7	
	comp=E,42nm,0.8s						
Y14A	**Wickenburg**	**4.11**	**114**		Pn	22 34 24.8	-0.6
Y14A				IAML		22 35 36.8	
	comp=E,41nm,0.8s						
Y14A				IAML		22 35 37.3	
	comp=N,47nm,1.0s						
AFDM	**Forest Hills D**	**4.26**	**321**	Pn	Pn	22 34 28.0	+0.6
AFDM				IAML		22 35 40.1	
	comp=E,46nm,1.0s						
AFDM				IAML		22 35 44.2	
	comp=N,32nm,1.1s						
PAHR	**Pah Rah Range**	**4.28**	**340**	Pn	Pn	22 34 28.7	+1.0
BEKR	**Beckworth**	**4.74**	**333**	Pn	Pn	22 34 34.9	+0.7
BEKR				IAML		22 36 05.7	
	comp=N,13nm,0.9s						
X16A	**Lo Mia Camp, P**	**5.15**	**102**	Pn	Pn	22 34 39.6	-0.2
X16A				IAML		22 36 15.1	
	comp=N,9.1nm,0.8s						
ELK	**Elko**	**5.37**	**19**	Pn	Pn	22 34 42.9	+0.2
DUG	**Dugway, Tooele**	**5.85**	**38**	Pn	Pn	22 34 49.1	-0.2
BGU	**Big Grassy Mou**	**6.32**	**33**	Pn	Pn	22 34 55.4	-0.4
X18A	**Snowflake**	**6.32**	**98**	Pn	Pn	22 34 56.3	+0.5

IDC ***07*** *22:34:34.2±1.4,0.˚41N×126.˚08E,h0km,mb4.1/6, mbtmp4.1/6,Error ellipse: s-maj=152.9km s-min=19.1km az=65.0*

NEIC ***07*** *22:34:37.5±2.0,0.˚70N±0.˚05×126.˚10E±0.˚08,h35km±2km, mb4.4/15,Error ellipse: s-maj=13.9km s-min=7.5km az=246.0*

DJA ***07*** *22:34:37.9±0.3,1.˚N±4.˚×12.˚6E±.˚,h10km,M3.3/2,MLv3.6/8, MLv3.3/2*

ISC 07 22:34:38.0±0.6,**0.˚79N**±0.˚07×**126.˚16E**±0.˚06,**h44**km,**n35,** σ1§**81**/34,**mb4.2**/14,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.21**	**91**		**Pn**	**22 34 58.0**	**-0.5**
TNTI				Sn	**Sn**	**22 35 15.0**	**+1.4**
TNTI	**Ternate**	**1.21**	**91**	P	**Pn**	**22 34 58.5**	**+0.1**
TNTI				S	**Sn**	**22 35 15.0**	**+1.4**
KMSI	**Cibinong**	**2.19**	**264**	P	Pn	22 35 16.2	+4.3
SANI	**Sanana**	**2.82**	**183**	P	**Pn**	**22 35 19.7**	**-1.0**
SGSI	**Sangihe**	**2.95**	**348**	P	Pn	22 35 28.0	+5.6
LUWI	**Luwuk**	**3.84**	**242**	P	**Pn**	**22 35 36.9**	**+2.2**
DAV	**Davao City (W)**	**6.27**	**355**	Pn	**Pn**	**22 36 06.5**	**-1.5**
KKM	**Kota Kinabalu**	**11.21**	**298**	Pn	**Pn**	**22 37 12.1**	**-3.8**
WB0	**Warramunga Arr**	**21.96**	**159**		**P**	**22 39 26.3**	**-2.0**
WB0				IAmb	IAmb	22 39 31.5	
	comp=Z,17nm,1.4s						
WB0	**Warramunga Arr**	**21.96**	**159**	P	**P**	**22 39 26.1**	**-2.0**
WRA	**Warramunga Arr**	**22.11**	**159**	P	**P**	**22 39 26.6**	**-3.2**
WRA				IAmb	IAmb	22 39 35.9	
	comp=Z,0.2nm,0.9s						
WRA	**Warramunga Arr**	**22.11**	**159**	P	**P**	**22 39 27.6**	**-2.2**
	comp=Z,2.4nm,0.4s,baz=336,slow=11,SNR=35 comp=Z,2.4nm,0.4s						
WRA	**Warramunga Arr**	**22.11**	**159**	P	**P**	**22 39 26.2**	**-3.2**
WR8	**Warramunga Arr**	**22.18**	**159**	IAmb	IAmb	22 39 30.0	
	comp=Z,5.4nm,0.8s						
WR8	**Warramunga Arr**	**22.18**	**159**	P	**P**	**22 39 28.2**	**-2.3**
WR8				IAmb	IAmb	22 39 30.0	
	comp=Z,5.4nm,0.8s						
WR8	**Warramunga Arr**	**22.18**	**159**		**P**	**22 39 28.7**	**-0.6**
COEN	**Coen**	**22.33**	**132**	P	**P**	**22 39 32.8**	**+0.6**
COEN				IAmb	IAmb	22 40 12.2	
	comp=Z,20nm,1.3s						
ASAR	**Alice Springs**	**25.45**	**163**	P	**P**	**22 40 02.0**	**0.0**
ASAR	**Alice Springs**	**25.45**	**163**	P	**P**	**22 40 01.2**	**-0.8**
	comp=Z,1.9nm,0.5s,baz=342,slow=8.4,SNR=25 comp=Z,1.9nm,0.5s						
FORT	**Forrest**	**31.44**	**177**	P	**P**	**22 40 54.5**	**-0.9**
FORT				IAmb	IAmb	22 41 01.6	
	comp=Z,11nm,1.4s						
STKA	**Stephens Creek**	**35.63**	**157**	P	**P**	**22 41 31.0**	**-0.7**
STKA	**Stephens Creek**	**35.63**	**157**	P	**P**	**22 41 30.6**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=337,slow=13,SNR=3.7 comp=Z,1.2nm,0.6s						
JTM	**Tenmabayashi**	**42.05**	**17**	P	**P**	**22 42 25.7**	**+0.3**
MK31	**Makanchi Array**	**59.66**	**327**	P	**P**	**22 44 38.1**	**+0.2**
MKAR	**Makanchi Array**	**59.66**	**327**	P	**P**	**22 44 37.7**	**-0.1**
MKAR	**Makanchi Array**	**59.66**	**327**	P	**P**	**22 44 41.8**	**+4.0**
	comp=Z,0.7nm,0.5s,baz=130,slow=5.8,SNR=8.8						
MKAR				PcP	**PcP**	**22 45 27.9**	**+3.3**
	comp=Z,0.5nm,0.6s,baz=134,slow=4.2,SNR=2.2 comp=Z,0.7nm,0.5s						
THZ	**Tophouse**	**59.77**	**141**	P	**P**	**22 44 40.0**	**+1.2**
MAKZ	**Makanchi**	**59.84**	**326**	P	**P**	**22 44 38.1**	**-1.0**
MAKZ				IAmb	IAmb	22 44 45.3	
	comp=Z,2.2nm,1.1s						
KURBB	**Kurchatov Arra**	**63.91**	**328**	P	P	22 45 11.1	+4.7
	comp=Z,1.3nm,0.2s,baz=123,slow=6.8,SNR=2.0 comp=Z,1.3nm,0.2s						
KURK	**Kurchatov**	**63.92**	**329**	P	**P**	**22 45 06.3**	**-0.1**
KURK				IAmb	IAmb	22 45 16.0	
	comp=Z,1.9nm,0.8s						
K27K	**Chicken**	**90.08**	**26**	P	**P**	**22 47 34.5**	**+1.6**
K27K				IAmb	IAmb	22 48 04.7	
	comp=Z,2.4nm,1.2s						
QSPA	**South Pole Qui**	**90.71**	**180**	P	**P**	**22 47 37.4**	**+1.3**
QSPA				IAmb	IAmb	22 48 21.5	
	comp=Z,4.8nm,1.4s						
QSPA	**South Pole Qui**	**90.71**	**180**	P	**P**	**22 47 37.8**	**+1.8**
	comp=Z,0.8nm,1.1s,baz=0.0,slow=1

ALNE	**Al Ain**	**3.38**	**150**	P		**Pn**	**22 37 41.5**	**+1.3**
	SNR=6.6							
ALNE				S		**Sn**	**22 38 21.9**	**+1.5**
ALNE	**Al Ain**	**3.38**	**150**	*i* P		**Pn**	**22 37 40.9**	**+0.7**
	SNR=6.6							
SMRA	**Abu-Samra**	**3.56**	**232**	P		**Pn**	**22 37 44.1**	**+1.4**
SOHO	**SOHO**	**3.72**	**139**	P		**Pn**	**22 37 45.4**	**+0.5**
MZR	**Muzera**	**4.00**	**185**	P		**Pn**	**22 37 49.3**	**+0.6**
MZR				S		**Sn**	**22 38 34.5**	**-1.2**
MZR	**Muzera**	**4.00**	**185**	P		**Pn**	**22 37 49.3**	**+0.6**
ARQ	**Araqi**	**4.36**	**146**	P		**Pn**	**22 37 54.3**	**+0.6**
ARQ				S		**Sn**	**22 38 44.3**	**-0.3**
UMZA	**Um Al Zommool**	**4.42**	**165**	P		**Pn**	**22 37 55.7**	**+1.2**
UMZA				S		**Sn**	**22 38 45.4**	**-0.6**
IMEH	**Mehriz**	**4.42**	**8**	Pn		**Pn**	**22 37 55.1**	**+0.3**
HOQ	**Hoqain**	**4.60**	**137**	P		**Pn**	**22 37 57.8**	**+0.8**
	SNR=6.8							
HOQ				S		**Sn**	**22 38 50.2**	**-0.3**
IRAM	**Ramesheh**	**4.97**	**345**	Pn		**Pn**	**22 38 01.5**	**-0.8**
BSY	**Bisya**	**5.19**	**144**	P		**Pn**	**22 38 05.9**	**+0.7**
	SNR=13							
BSY				S		**Sn**	**22 39 04.5**	**-0.7**
SMDO	**Samad**	**5.44**	**135**	P		**Pn**	**22 38 09.1**	**+0.4**
	SNR=12							
JLN	**Jalan Bani Buh**	**6.97**	**133**	P		**Pn**	**22 38 28.7**	**-0.9**
MHTO	**MHTO**	**7.05**	**147**	P		**Pn**	**22 38 30.8**	**+0.1**
	SNR=11							
DOK	**Doka**	**8.34**	**178**	P		**Pn**	**22 38 47.5**	**-1.0**
WHFO	**Wadi Hawf**	**9.04**	**181**	P		**Pn**	**22 38 57.0**	**-1.0**
	SNR=5.0							
ABTO	**Aybut**	**9.61**	**183**	P		Pn	22 39 04.0	-1.9

IDC 07 22:38:20.9±2.2, 0.71N×126.27E, h0km, mb3.5/3, mbtmp3.6/3, MS3.2/1, Error ellipse: s-maj=179.1km s-min=28.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.70**	**182**	LR	LR	22 50 17.7	
	comp=Z,74nm,20.2s,baz=50,slow=38						
WRA	**Warramunga Arr**	**22.00**	**159**	P	P	22 43 16.7	-0.2
	1.9nm,0.6s,baz=338,slow=10,SNR=13						
	1.9nm,0.6s						
ASAR	**Alice Springs**	**25.34**	**163**	P	P	22 43 49.9	+0.1
	0.5nm,0.5s,baz=344,slow=7.9,SNR=7.8						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**59.78**	**326**	P	P	22 48 27.9	0.0
	0.3nm,0.7s,baz=132,slow=7.2,SNR=2.7						
	0.3nm,0.7s						

*IDC **07** 22:43:54.6±1.0, 16.05S×173.16W, h0km, mb3.8/5, mbtmp3.8/5, MS3.2/1, Error ellipse: s-maj=45.8km s-min=26.7km az=135.0*

ISC 07 22:43:58.4±1.1, 16.0S±0.3×173.2W±0.3, h26km, n14, σ0.23/7, mb3.8/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.54**	**257**	LR	LR	22 49 02.4	
	comp=Z,139nm,18.6s,baz=142,slow=36						
H11S2	**WAKE ISLAND Hy**	**39.54**	**329**	T	T	23 33 52.1	
	baz=149						
H11S3	**WAKE ISLAND Hy**	**39.55**	**329**	T	T	23 33 48.8	
	baz=149						
H11S1	**WAKE ISLAND Hy**	**39.56**	**329**	T	T	23 34 01.3	
	baz=149						
H11N3	**WAKE ISLAND Hy**	**40.49**	**330**	T	T	23 35 00.9	
	baz=150						
H11N1	**WAKE ISLAND Hy**	**40.50**	**330**	T	T	23 34 37.6	
	baz=150						
H11N2	**WAKE ISLAND Hy**	**40.51**	**330**	T	T	23 35 04.6	
	baz=150						
WRA	**Warramunga Arr**	**49.88**	**257**	P	**P**	**22 52 49.9**	**-0.2**
	0.6nm,0.7s,baz=91,slow=7.3,SNR=5.9						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**50.10**	**252**	P	**P**	**22 52 51.8**	**+0.1**
	1.7nm,0.7s,baz=93,slow=7.7,SNR=21						
	1.7nm,0.7s						
QSPA	**South Pole Qui**	**74.07**	**180**	P	**P**	**22 55 32.1**	**0.0**
	1.7nm,1.0s,baz=38,slow=3.7,SNR=6.0						
	1.7nm,1.0s						
PDAR	**Pinedale Array**	**82.58**	**42**	P	**P**	**22 56 19.3**	**-0.2**
	0.6nm,0.8s,baz=258,slow=4.1,SNR=4.8						
	0.6nm,0.8s						
ILAR	**Eielson Array**	**82.97**	**11**	P	**P**	**22 56 21.1**	**+0.3**
	0.4nm,0.7s,baz=211,slow=4.9,SNR=15						
	0.4nm,0.7s						
BRTR	**Keskin Array B**	**146.71**	**321**	PKPbc	**PKPab**	**23 03 39.7**	**0.0**
	0.6nm,0.8s,baz=90,slow=1.7,SNR=3.7						
GERES	**GERESS Array B**	**146.73**	**352**	PKPbc	**PKPab**	**23 03 39.1**	**-0.2**
	0.5nm,0.7s,baz=32,slow=5.3,SNR=4.0						

*NEIC **07** 22:52:52.2±2.0, 35.650N±0.009×117.53W±0.01, h6km±3km, Error ellipse: s-maj=1.5km s-min=1.3km az=92.0*

PAS 07 22:52:52.9±1.9, 35.642N±0.008×117.55W±0.01, h7km±1km, ML3.4/18, ML3.0/132(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=98.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.17**	**288**		Pg	22 52 56.7	+0.4
CLC	**China Lake**	**0.18**	**348**	Pg	Pg	22 52 56.5	-0.1
CLC				Sg	Sg	22 52 59.1	0.0
CLC				IAML		22 52 59.6	
	comp=E,7μm,0.4s						
CLC				IAML		22 52 59.7	
	comp=N,5μm,0.4s						
CCCA	**Chr Cany lake**	**0.19**	**127**		Pg	22 52 57.2	+0.4
CCCA	**Chr Cany lake**	**0.19**	**127**	Sg	Sg	22 53 00.3	+0.9
CCCA				IAML		22 53 00.8	
	comp=E,15μm,0.4s						
CCCA				IAML		22 53 02.7	
	comp=N,8μm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.19**	**213**		Pg	22 52 56.7	-0.1
LRMC				Sg	Sg	22 52 59.5	+0.1
TOW	**Tower One**	**0.24**	**314**		Pg	22 52 58.0	+0.3
TOW					Sg	22 53 02.8	+1.9
WNMM	**Nine Mile Cany**	**0.35**	**305**		Pg	22 52 59.7	0.0
WNMM					Sb	22 53 05.8	-1.3
WVPM	**Volcano Peak E**	**0.38**	**325**		Pg	22 52 60.0	-0.3
MPMC	**Manual Prospec**	**0.42**	**7**	Pg	Pg	22 53 00.8	-0.3
MPMC				Sg	Sg	22 53 06.3	-0.3
MPMC				IAML		22 53 07.2	
	comp=E,2μm,0.7s						
MPMC				IAML		22 53 07.2	
	comp=N,1μm,0.5s						
DTP	**Desert Tortois**	**0.44**	**213**		Pg	22 53 01.1	-0.4
DTP					Sg	22 53 07.4	+0.1
WRVM	**Rose V. Centra**	**0.46**	**323**		Pg	22 53 01.4	-0.4
WBSM	**Bird Springs**	**0.49**	**258**		Pg	22 53 02.1	-0.3
WORM	**Onyx Ranch**	**0.56**	**276**		Pg	22 53 03.3	-0.5
CCAC	**Calif City Air**	**0.62**	**218**		Pg	22 53 04.5	-0.3
CCAC					Sg	22 53 13.2	+0.4
QSM	**Queen of Sheba**	**0.64**	**60**		Pg	22 53 04.9	-0.4
QSM	**Queen of Sheba**	**0.64**	**60**		Sg	22 53 13.8	+0.1
WHFM	**Hanning Flat**	**0.65**	**275**		Sg	22 53 13.5	-0.4
GSC	**Goldstone, Bar**	**0.70**	**119**		Pg	22 53 05.9	-0.4
GSC	**Goldstone, Bar**	**0.70**	**119**		Sg	22 53 15.3	-0.1
ISA	**Isabella, Lake**	**0.75**	**272**	Pg	Pg	22 53 06.8	-0.5
ISA				IAML		22 53 17.3	
	comp=N,742nm,0.2s						
ISA				IAML		22 53 17.7	
	comp=E,670nm,0.3s						
HYS	**Haystack Butte**	**0.78**	**181**		Pg	22 53 07.1	-0.7
WASM	**Alta Sierra Ca**	**0.82**	**277**		Pg	22 53 08.1	-0.6
WASM					Sg	22 53 19.1	-0.4
EDW2	**Edwards Air Fo**	**0.84**	**206**		Pg	22 53 08.4	-0.6
RRX	**Edison Barstow**	**0.89**	**149**		Pg	22 53 09.5	-0.5
GWY	**Greenwater Val**	**0.90**	**53**	Pg	Pg	22 53 09.6	-0.6
GWY				IAML		22 53 24.4	
	comp=N,591nm,0.4s						
CWC	**Cottonwood Cre**	**0.90**	**332**		Pg	22 53 09.6	-0.7
CWC				IAML		22 53 23.1	
	comp=E,393nm,0.2s						
CWC				IAML		22 53 25.7	
	comp=N,302nm,0.2s						
CGO	**Cerro Gordo**	**0.93**	**348**		Pg	22 53 10.1	-0.7
TPO	**Tropico Hills**	**0.94**	**216**		Pg	22 53 10.3	-0.6
TPO	**Tropico Hills**	**0.94**	**216**	IAML		22 53 25.8	
	comp=N,518nm,0.5s						
TPO				IAML		22 53 25.9	
	comp=E,521nm,0.6s						
SBB	**Saddle Back Bu**	**0.98**	**193**		Pg	22 53 11.6	0.0
TEJ	**El Tejon**	**1.01**	**246**		Pg	22 53 11.2	-1.1
SHOC	**Shoshone, Teco**	**1.07**	**76**		Sb	22 53 27.8	-0.1
VTV	**Victorville**	**1.09**	**170**		Sb	22 53 28.9	+0.3
SPG2	**Springville 2**	**1.13**	**300**		Pg	22 53 13.5	-1.1
SPG2					Sg	22 53 28.4	-0.9
THC	**Tehachapi Micr**	**1.17**	**231**		Pb	22 53 15.6	+0.1
LRRC	**Littlerock Res**	**1.18**	**199**		Pg	22 53 15.2	-0.3
LRRC					Sn	22 53 31.9	-0.1
LEOC	**Leona Valley**	**1.18**	**212**		Pg	22 53 15.5	0.0
HOLC	**Holcomb Ridge**	**1.21**	**192**		Pg	22 53 14.8	-1.2
HOLC					Sn	22 53 32.4	-0.5
JNH	**Juniper Hills**	**1.24**	**196**		Pg	22 53 15.3	-1.3
JNH					Sb	22 53 33.0	+0.3
VES	**Vestal, Richgr**	**1.26**	**280**		Pn	22 53 16.3	-0.6
DSCC	**Desert Studies**	**1.28**	**112**		Pn	22 53 16.1	-1.1
DSCC					Sb	22 53 34.1	0.0
HEC	**Hector,Ludlow**	**1.28**	**129**		Pn	22 53 15.7	-1.6
HEC					Sb	22 53 32.9	-1.3
AMDNV	**Amargosa**	**1.31**	**51**		Pn	22 53 16.0	-1.6
TUQ	**Turquoise Moun**	**1.34**	**98**		Pn	22 53 17.3	-0.9
TUQ					Sb	22 53 35.5	-0.4
GRAC	**Grapevine Rang**	**1.36**	**6**		Pn	22 53 17.6	-0.7
GRAC				IAML		22 53 40.7	
	comp=E,432nm,0.7s						
CHFC	**Chilao Flat St**	**1.36**	**197**		Pn	22 53 18.0	-0.4
CHFC					Sb	22 53 35.8	-0.6
WCT	**Wildcat Mounta**	**1.37**	**33**		Pn	22 53 17.1	-1.4
SGV	**South Grapevin**	**1.40**	**17**		Pn	22 53 17.9	-1.1
BFSC	**Mount Baldy Ra**	**1.40**	**184**		Pn	22 53 18.1	-0.9
BFSC				IAML		22 53 39.6	
	comp=N,275nm,0.3s						
BFSC				IAML		22 53 41.3	
	comp=E,249nm,0.4s						
OSI	**Osito Audit: C**	**1.40**	**223**		Pg	22 53 19.6	-0.1
OSI				IAML		22 53 41.1	
	comp=N,137nm,0.5s						
OSI				IAML		22 53 43.7	
	comp=E,189nm,0.7s						
SIL	**Silver Peak**	**1.42**	**155**		Pn	22 53 19.0	-0.3
SS2	**San Sevaine**	**1.43**	**178**		Pb	22 53 19.8	-0.1
SSK	**Sunset Peak**	**1.43**	**185**		Pn	22 53 18.4	-1.1
BBRC	**Big Bear Solar**	**1.47**	**159**		Pn	22 53 20.0	0.0
MWC	**Mount Wilson**	**1.47**	**196**		Pn	22 53 18.9	-1.1
MWC				IAML		22 53 42.2	
	comp=N,397nm,0.5s						
DECC	**Green Verdugo**	**1.53**	**205**		Pg	22 53 21.9	-0.2
PASC	**Pasadena Art C**	**1.56**	**200**		Pn	22 53 20.1	-0.8
PASC				IAML		22 53 45.8	
	comp=E,159nm,0.8s						
PASC				IAML		22 53 47.2	
	comp=N,167nm,0.7s						
PSRC	**Puddingstone R**	**1.56**	**188**		Pb	22 53 21.8	-0.3
SVD	**Seven Oaks Dam**	**1.58**	**166**		Pb	22 53 22.0	-0.4
LCH	**Last Change Ra**	**1.59**	**357**		Pn	22 53 20.9	-0.7
VOG	**Valley Oaks Go**	**1.63**	**295**		Pn	22 53 22.6	+0.6
VOG					Sg	22 53 44.7	-0.6
MTPC	**Mountain Pass**	**1.64**	**95**		Pn	22 53 21.1	-1.2
MTPC	**Mountain Pass**	**1.64**	**95**	IAML		22 53 45.2	
	comp=N,275nm,0.4s						
MTPC				IAML		22 53 45.3	
	comp=E,261nm,0.3s						
GMN	**Gold Mountain**	**1.67**	**8**		Pn	22 53 22.0	-0.8
GMN				IAML		22 53 47.5	
	comp=N,108nm,0.6s						
TPNV	**Topopah Spring**	**1.68**	**39**		Pn	22 53 21.7	-1.1
TPNV				IAML		22 53 49.7	
	comp=N,131nm,0.5s						
TPNV				IAML		22 53 52.1	
	comp=N,125nm,0.7s						
DJJ	**Donna J Jenkin**	**1.70**	**206**		Pb	22 53 24.3	-0.2
DSP	**Deep Springs**	**1.76**	**349**	Pn	Pn	22 53 23.3	-0.4
DSP				IAML		22 53 49.8	
	comp=E,91nm,0.6s						
GMRC	**Granite Mounta**	**1.77**	**118**		Pn	22 53 21.7	-2.3
GMRC					Sb	22 53 48.5	+0.3
BHPR	**Bishop**	**1.82**	**336**		Pb	22 53 26.5	-0.1
BLAC	**Blackrock camp**	**1.84**	**148**		Pb	22 53 27.2	+0.4
MTUM	**Tungsten Hills**	**1.89**	**335**		Pb	22 53 27.8	0.0
EW2	**E Wide Canyon**	**1.94**	**151**		Pb	22 53 29.2	+0.6
TPC	**Twentynine Pal**	**1.97**	**141**		Pn	22 53 25.2	-1.5
HMTC	**Hemet**	**1.98**	**167**		Pn	22 53 25.9	-0.9
ELS	**Elsinore Mount**	**1.99**	**177**	Pn	Pn	22 53 26.2	-0.8
ELS				IAML		22 53 58.3	
	comp=N,86nm,0.6s						
ELS				IAML		22 54 02.1	
	comp=E,88nm,0.6s						
POB	**Polly Butte**	**2.02**	**165**		Pn	22 53 26.5	-0.9
MZP	**Montezuma Peak**	**2.06**	**4**		Pn	22 53 27.6	-0.5
SHPR	**Sheep Range**	**2.12**	**65**	Pn	Pn	22 53 28.2	-0.7
V12A	**Nelson**	**2.20**	**87**	Pn	Pn	22 53 29.4	-0.5
V12A				IAML		22 54 03.4	
	comp=N,142nm,0.5s						
V12A				IAML		22 54 04.0	
	comp=E,81nm,0.3s						
PMD	**Palm Desert**	**2.21**	**154**		Pn	22 53 28.4	-1.6
PMD				IAML		22 54 04.5	
	comp=E,56nm,0.4s						
PFO	**Pinyon Flats O**	**2.22**	**156**		Pn	22 53 29.0	-1.2
MLAC	**Mammoth, Mammo**	**2.24**	**333**		Pb	22 53 34.1	+0.4
FRD	**Ford Ranch, An**	**2.28**	**160**		Pn	22 53 30.1	-0.9
MCSM	**Casa Diablo Ho**	**2.29**	**332**		Pb	22 53 35.1	+0.5
PLM	**Palomar**	**2.35**	**166**		Pn	22 53 31.3	-0.8
TPH	**Tonopah**	**2.44**	**6**		Pn	22 53 33.0	-0.3
S11A	**Rachel**	**2.47**	**35**	Pn	Pn	22 53 34.1	+0.4
S11A				IAML		22 54 18.3	
	comp=N,81nm,0.7s						
S11A				IAML		22 54 31.6	
	comp=E,87nm,1.1s						
NEE2	**Needles Airpor**	**2.56**	**109**		Pn	22 53 32.6	-2.1
PRN	**Pahroc Range**	**2.68**	**48**	Pn	Pn	22 53 36.0	-0.5
PRN				IAML		22 54 27.4	
	comp=N,58nm,0.5s						
PRN				IAML		22 54 31.4	
	comp=E,55nm,0.6s						
PMPB	**Monarch Peak**	**2.70**	**283**	Pn	Pn	22 53 36.5	-0.3
LHV	**Little Huntoon**	**2.71**	**344**	Pn	Pn	22 53 36.3	-0.6
LHV				IAML		22 54 29.6	
	comp=N,46nm,0.9s						
LHV				IAML		22 54 38.7	
	comp=E,40nm,2.0s						
NV11	**Mina Array Sit**	**2.83**	**350**		Pn	22 53 38.2	-0.4
NVAR	**Mina Array Bea**	**2.85**	**348**		Pn	22 53 38.8	-0.1
BBGB	**Big Mountain B**	**2.97**	**289**		Pn	22 53 40.0	-0.5
W13A	**Hualapai Mount**	**3.05**	**99**		Pn	22 53 40.3	-1.3
W13A				IAML		22 54 33.2	
	comp=E,31nm,0.7s						
W13A				IAML		22 54 33.6	
	comp=N,47nm,1.0s						
RYN	**Ryan**	**3.08**	**346**		Pn	22 53 41.2	-0.9
R11B	**Troy Canyon, C**	**3.13**	**30**	Pn	Pn	22 53 42.1	-0.6
BLYC	**Blythe**	**3.13**	**126**		Pn	22 53 40.5	-2.0
BLYC				IAML		22 54 18.6	
	comp=E,46nm,0.5s						
BLYC				IAML		22 54 37.7	
	comp=N,45nm,0.5s						
WAKR	**Walker**	**3.23**	**333**	Pn	Pn	22 53 44.8	+0.6
WAKR				IAML		22 54 51.9	
	comp=N,23nm,0.7s						
YUH	**Yuha Desert**	**3.28**	**155**	Pn	Pn	22 53 44.9	+0.2
CMB	**Columbia Colle**	**3.30**	**317**	Pn	Pn	22 53 45.1	+0.1
CMB				IAML		22 54 39.8	
	comp=E,35nm,0.8s						
CMB				IAML		22 54 40.2	
	comp=N,34nm,0.8s						
CBX	**Cerro Bola**	**3.40**	**167**		Pn	22 53 46.1	-0.3
GLA	**Glamis**	**3.43**	**138**	Pn	Pn	22 53 44.5	-2.3
GLA				IAML		22 54 48.7	
	comp=N,42nm,0.8s						
GLA				IAML		22 54 53.3	
	comp=E,57nm,0.9s						
LCMT	**Little Creek M**	**3.74**	**67**	Pn	Pn	22 53 51.2	+0.1
ESJX	**Sierra Juarez**	**3.87**	**159**	Pn	Pn	22 53 52.1	-0.7
ESJX				IAML		22 55 31.1	
	comp=N,32nm,0.1s						
ESJX				IAML		22 55 31.5	
	comp=E,29nm,0.1s						
CCUT	**Cedar City**	**3.87**	**59**	Pn	Pn	22 53 53.2	+0.2
SZCU	**Shurtz Canyon**	**4.09**	**60**	Pn	Pn	22 53 55.7	-0.2
Y14A	**Wickenburg**	**4.11**	**113**	Pn	Pn	22 53 54.9	-1.3
Y14A				IAML		22 55 06.8	
	comp=N,33nm,0.7s						
Y14A				IAML		22 55 13.6	
	comp=E,25nm,0.7s						
PSUT	**Pine Spring**	**4.13**	**45**	Pn	Pn	22 53 56.9	+0.3
PSUT				IAML		22 55 11.2	
	comp=E,13nm,1.0s						
SPR3	**Spring Creek 3**	**4.22**	**37**	Pn	Pn	22 53 57.2	-0.7
113A	**Mohawk Valley,**	**4.25**	**131**	Pn	Pn	22 53 55.1	-2.9
AFDM	**Forest Hills D**	**4.28**	**321**	Pn	Pn	22 53 58.4	0.0
AFDM				IAML		22 55 12.0	
	comp=N,14nm,1.2s						
AFDM				IAML		22 55 21.0	
	comp=E,19nm,0.8s						
PAHR	**Pah Rah Range**	**4.31**	**341**	Pn	Pn	22 53 59.7	+0.7
WUAZ	**Wupatki**	**5.04**	**90**	Pn	Pn	22 54 09.5	+0.5
WUAZ				IAML		22 55 34.3	
	comp=E,17nm,0.7s						
X16A	**Lo Mia Camp, P**	**5.16**	**102**	Pn	Pn	22 54 10.4	-0.3
X16A				IAML		22 55 48.8	
	comp=N,7.1nm,3.4s						
X16A				IAML		22 55 49.5	
	comp=E,6.9nm,1.1s						
ELK	**Elko**	**5.41**	**19**	Pn	Pn	22 54 14.4	+0.2
DUG	**Dugway, Tooele**	**5.89**	**38**	Pn	Pn	22 54 19.8	-0.9
HMU	**Henry Mountain**	**5.93**	**65**	Pn	Pn	22 54 20.4	-1.0
X18A	**Snowflake**	**6.33**	**98**	Pn	Pn	22 54 26.1	-0.7
PV18	**Skein Mesa, Pa**	**7.39**	**67**	Pn	Pn	22 54 40.0	-1.4
PV12	**Saucer Basin,**	**7.50**	**67**	Pn	Pn	22 54 42.3	-0.5

*NEIC **07** 23:02:23.7±1.9, 35.55N±0.01×117.41W±0.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.8km az=332.0*

PAS 07 23:02:24.4±2.1, 35.55N±0.01×117.410W±0.009, h2km±5km, ML3.0/23, ML2.8/138(NEIC), Error ellipse: s-maj=1.8km s-min=0.8km az=153.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.04**	**119**	Pg	Pg	23 02 26.1	+0.7
CCCA				IAML		23 02 26.9	
	comp=E,11μm,0.1s						
CCCA				Sg	Sg	23 02 27.4	+1.4
LRMC	**Laurel Mtn Rad**	**0.23**	**254**		Pg	23 02 29.0	+0.1
LRMC					Sg	23 02 32.5	+0.5
LRMC				IAML		23 02 33.2	
	comp=E,3μm,0.1s						
CLC	**China Lake**	**0.31**	**330**	Pg	Pg	23 02 30.4	0.0
CLC				Sg	Sg	23 02 34.9	+0.4
CLC				IAML		23 02 35.2	
	comp=N,2μm,0.4s						
CLC				IAML		23 02 36.0	
	comp=E,2μm,0.3s						
SRTC	**Snort**	**0.31**	**298**		Pg	23 02 30.9	+0.4
TOW	**Tower One**	**0.39**	**312**		Pg	23 02 32.4	+0.4
DTP	**Desert Tortois**	**0.45**	**232**		Pg	23 02 33.1	0.0
WNMM	**Nine Mile Cany**	**0.50**	**306**		Pg	23 02 34.8	+0.7
MPMC	**Manual Prospec**	**0.52**	**353**	Pg	Pg	23 02 34.1	-0.3
MPMC				Sg	Sg	23 02 41.2	+0.1
MPMC				IAML		23 02 42.8	
	comp=N,1μm,0.6s						
WVPM	**Volcano Peak E**	**0.52**	**321**		Pg	23 02 34.6	+0.2
GSC	**Goldstone, Bar**	**0.55**	**116**	Pg	Pg	23 02 35.0	0.0
GSC				Sg	Sg	23 02 42.6	+0.4
GSC				IAML		23 02 47.1	
	comp=E,755nm,0.6s						
GSC				IAML		23 02 47.5	
	comp=N,806nm,0.6s						
QSM	**Queen of Sheba**	**0.61**	**46**		Pg	23 02 36.1	0.0
QSM				IAML		23 02 49.3	
	comp=E,822nm,0.2s						
QSM				IAML		23 02 49.4	
	comp=N,1μm,0.2s						
QSM	**Queen of Sheba**	**0.61**	**46**		Sg	23 02 44.8	+0.8
ISA	**Isabella, Lake**	**0.88**	**278**		Pg	23 02 40.6	-0.6
ISA				IAML		23 02 52.8	
	comp=E,385nm,0.5s						
ISA				IAML		23 02 55.2	
	comp=N,346nm,0.6s						
GWY	**Greenwater Val**	**0.88**	**43**		Pg	23 02 41.0	-0.3
CWC	**Cottonwood Cre**	**1.04**	**329**		Pg	23 02 44.4	-0.1
CWC				IAML		23 02 58.6	
	comp=N,173nm,0.2s						
CWC				IAML		23 03 00.1	
	comp=E,209nm,0.2s						
HEC	**Hector,Ludlow**	**1.13**	**129**		Pg	23 02 45.5	-0.6
TUQ	**Turquoise Moun**	**1.22**	**95**		Pg	23 02 47.3	-0.5
BFSC	**Mount Baldy Ra**	**1.32**	**189**		Pg	23 02 48.9	-0.9
BFSC				IAML		23 03 07.5	
	comp=E,164nm,0.7s						
BFSC				IAML		23 03 08.3	
	comp=N,184nm,0.4s						
WCT	**Wildcat Mounta**	**1.40**	**27**		Pn	23 02 49.6	-1.4
WCT				IAML		23 03 11.2	
	comp=N,128nm,0.4s						
WCT				IAML		23 03 13.2	
	comp=E,110nm,0.4s						
MWC	**Mount Wilson**	**1.42**	**202**		Pn	23 02 50.9	-0.6
MWC				IAML		23 03 12.0	
	comp=E,248nm,0.5s						
MWC				IAML		23 03 12.6	
	comp=N,212nm,0.4s						
OSI	**Osito Audit: C**	**1.42**	**230**		Pn	23 02 50.7	-0.7
OSI				IAML		23 03 15.1	
	comp=N,167nm,0.5s						
OSI				IAML		23 03 16.8	
	comp=E,116nm,0.8s						
GRAC	**Grapevine Rang**	**1.45**	**1**		Pn	23 02 50.9	-0.8
PASC	**Pasadena Art C**	**1.51**	**205**		Pn	23 02 51.6	-0.9
PASC				IAML		23 03 16.3	
	comp=E,116nm,0.5s						
MTPC	**Mountain Pass**	**1.52**	**92**		Pn	23 02 51.1	-1.6
MTPC				IAML		23 03 14.5	
	comp=N,146nm,0.4s						
TPNV	**Topopah Spring**	**1.69**	**33**		Pn	23 02 53.8	-1.3
TPNV					Pb	23 02 56.5	+0.2
TPNV				IAML		23 03 23.2	
	comp=N,174nm,0.5s						
TPNV				IAML		23 03 24.8	
	comp=N,112nm,0.7s						
GMN	**Gold Mountain**	**1.75**	**4**		Pn	23 02 55.3	-0.8
DSP	**Deep Spring

PMPB IAML 23 04 12.1
comp=N,62nm,2.3s
LHV Little Huntoon 2.84 342 Pn 23 03 11.2 +0.4
LHV IAML 23 04 00.5
comp=E,30nm,0.8s
LHV IAML 23 04 02.9
comp=N,31nm,1.1s
W13A Hualapai Mount 2.92 98 Pn 23 03 10.6 -1.4
W13A IAML 23 03 59.9
comp=N,23nm,0.5s
W13A IAML 23 04 03.9
comp=E,19nm,0.6s
NV11 Mina Array Sit 2.94 349 Pn 23 03 12.2 -0.2
NV11 IAML 23 04 02.8
comp=E,22nm,1.3s
NVAR Mina Array Bea 2.97 346 Pb 23 03 19.6 +1.5
BLYC Blythe 2.98 126 Pn 23 03 10.4 -2.2
BLYC IAML 23 03 47.3
comp=E,24nm,0.6s
BLYC IAML 23 03 47.3
comp=N,22nm,0.3s
BBGB Big Mountain B 3.12 290 Pg Pg 23 03 22.5 -1.7
GLA Glamis 3.28 139 IAML 23 04 20.0
comp=N,28nm,0.8s
GLA IAML 23 04 24.1
comp=E,40nm,0.7s
WAKR Walker 3.37 332 IAML 23 04 30.2
comp=E,13nm,2.4s
CMB Columbia Colle 3.45 317 IAML 23 04 15.8
comp=E,19nm,1.0s
CMB IAML 23 04 19.2
comp=N,21nm,0.6s
Y14A Wickenburg 3.97 113 IAML 23 04 42.5
comp=N,21nm,0.8s
Y14A IAML 23 04 43.1
comp=E,17nm,0.7s
SZCU Shurtz Canyon 4.04 58 IAML 23 04 41.1
comp=E,11nm,0.3s
SZCU IAML 23 04 43.2
comp=N,7.9nm,0.7s
PSUT Pine Spring 4.12 43 IAML 23 04 41.2
comp=N,11nm,1.0s
PSUT IAML 23 04 42.4
comp=E,9.2nm,0.7s
SPR3 Spring Creek 3 4.23 35 IAML 23 04 47.4
comp=N,6.8nm,0.8s
PAHR Pah Rah Range 4.44 340 IAML 23 05 04.3
comp=E,6.3nm,4.2s
X16A Lo Mia Camp, P 5.03 101 IAML 23 05 13.8
comp=N,5.6nm,0.8s
X16A IAML 23 05 14.2
comp=E,5.1nm,1.3s

*MDD **07** 23:04:21.4±2.3, 37°.10N×13°.68W, h38km±133km, Mb4.2/12, M_mb3.5/12, Error ellipse: s-maj=49.2km s-min=7.8km az=59.0*
*IGIL **07** 23:04:22.8, 36°.98N×13°.62W, h31km, ML2.0*
*INMG **07** 23:04:24.8±1.2, 36°.99N×13°.61W, h10km, ML2.1, Error ellipse: s-maj=6.5km s-min=4.9km az=92.0,*
#DIST_RANGE: REGIONAL #IPMA_REGION: Josephine
ISC 07 23:04:21.5±3.1, 37°.22N±0°.08×13°.2W±0°.1, h10km, n42, σ1§89/72, 13C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.52**	**90**	⇑*iP*	**Pn**	**23 05 17.6**	**+1.3**
PFVI				*e*S	**Sn**	**23 05 56.9**	**-1.1**
PFVI				*i* IAML		23 05 57.3	
PFVI				*i* IAML		23 05 58.1	
PFVI				*i* IAML		23 06 01.4	
PMAFR	**Mafra**	**3.57**	**60**	*e*P	**Pn**	**23 05 19.4**	**+2.5**
PMAFR				*e*S	**Sn**	**23 06 01.4**	**+2.3**
PMAFR				*i* IAML		23 06 07.4	
PMAFR				*i* IAML		23 06 12.1	
PTEO	**Sao Teotonio**	**3.61**	**83**	*e*P	**Pn**	**23 05 19.2**	**+1.7**
PTEO				*e*S	**Sn**	**23 05 58.9**	**-1.2**
PTEO				*i* IAML		23 05 59.9	
PTEO				*i* IAML		23 06 03.7	
PTEO				*i* IAML		23 06 09.0	
MORF	**Marmelete**	**3.66**	**87**	*e*P	**Pn**	**23 05 19.6**	**+1.4**
MORF				*e*S	**Sn**	**23 06 00.9**	**-0.5**
MORF				IAML		23 06 03.5	
	comp=N,5.9nm,0.2s						
MORF	**Marmelete**	**3.66**	**87**	*e*P	**Pn**	**23 05 19.9**	**+1.7**
MORF				*e*S	**Sn**	**23 06 01.0**	**-0.5**
MORF				*i* IAML		23 06 03.5	
MORF				*i* IAML		23 06 05.7	
MORF				*i* IAML		23 06 08.5	
PARRA	**Arraiolos**	**3.68**	**63**	*e*P	**Pg**	**23 05 30.1**	**-1.9**
PARRA				*e*S	**Sg**	**23 06 20.5**	**+0.9**
PARRA				*i* IAML		23 06 22.3	
PARRA				*i* IAML		23 06 30.6	
PARRA				*i* IAML		23 06 31.2	
PACT	**Alcochete**	**3.81**	**65**	*e*P	**Pn**	**23 05 22.8**	**+2.6**
MESJ	**Messejana**	**4.04**	**80**	*e*P	**Pn**	**23 05 25.1**	**+1.8**
MESJ				*e*S	**Sn**	**23 06 10.3**	**-0.4**
MESJ				IAML		23 06 13.8	
	comp=N,2.0nm,0.2s						
PCVE	**Castro Verde**	**4.16**	**83**	*e*P	**Pn**	**23 05 26.7**	**+1.7**
PCVE				*e*S	**Sn**	**23 06 12.9**	**-0.8**
PCVE				*i* IAML		23 06 15.7	
PCVE				*i* IAML		23 06 17.7	
PCVE				*i* IAML		23 06 29.1	
PSBE	**So Bento**	**4.17**	**55**	*e*P	**Pn**	**23 05 28.2**	**+2.9**
EVO	**Evora**	**4.33**	**71**	Pn	**Pn**	**23 05 29.6**	**+2.2**
EVO				Sn	**Sn**	**23 06 17.3**	**-0.7**
EVO	**Evora**	**4.33**	**71**	*e*P	**Pn**	**23 05 29.9**	**+2.4**
EVO				*e*S	**Sn**	**23 06 17.3**	**-0.7**
EVO				*i* IAML		23 06 20.4	
EVO				*i* IAML		23 06 21.0	
EVO				*i* IAML		23 06 22.7	
PBEJ	**Beja**	**4.34**	**78**	*e*S	**Sn**	**23 06 17.5**	**-0.7**
PBEJ				*i* IAML		23 06 21.0	
PBEJ				*i* IAML		23 06 21.1	
PMTG	**Montargil**	**4.36**	**63**	*e*P	**Pn**	**23 05 29.8**	**+2.0**
PMTG				*e*S	**Sn**	**23 06 20.1**	**+1.4**
PMTG				*i* IAML		23 06 23.3	
PMTG				*i* IAML		23 06 25.4	
PMTG				*i* IAML		23 06 26.1	
PVAQ	**Vaqueiros**	**4.40**	**86**	*e*P	**Pn**	**23 05 30.2**	**+1.8**
PVAQ				*e*S	**Sn**	**23 06 18.3**	**-1.4**
PVAQ				*i* IAML		23 06 22.5	
PVAQ				*i* IAML		23 06 23.5	
PVAQ				*i* IAML		23 06 24.7	
EGRO	**El Granado**	**4.59**	**84**	Pn	**Pn**	**23 05 32.1**	**+1.1**
EGRO				Sn	**Sn**	**23 06 22.4**	**-2.0**
EGRO	**El Granado**	**4.59**	**84**	Pn	**Pn**	**23 05 32.4**	**+1.4**
EGRO				⇑*i*Vmb_VC		23 05 37.2	
	comp=N,155nm,SNR=1.8						
EGRO				Sn	**Sn**	**23 06 25.0**	**+0.6**
PSARD	**Sardoal**	**4.64**	**58**	*e*P	**Pn**	**23 05 34.4**	**+2.6**
PSARD				*e*S	**Sn**	**23 06 26.7**	**+1.0**
PSARD				*i* IAML		23 06 28.8	
PSARD				*i* IAML		23 06 44.2	
PSARD				*i* IAML		23 06 44.5	
PCAS	**Casmilo, Conde**	**4.67**	**51**	*e*P	**Pn**	**23 05 32.5**	**+0.5**
PCAS				*e*S	**Sn**	**23 06 27.0**	**+0.7**
PCAS				*i* IAML		23 06 30.3	
PCAS				*i* IAML		23 06 33.3	
PESTR	**Estremoz**	**4.75**	**68**	*e*P	**Pn**	**23 05 36.0**	**+2.8**
PESTR				*e*S	**Sn**	**23 06 29.0**	**+0.7**
PESTR				*i* IAML		23 06 31.7	
PESTR				*i* IAML		23 06 37.2	
PBAR	**Barrancos**	**5.01**	**77**	*e*P	**Pn**	**23 05 39.3**	**+2.6**
PBAR				*e*S	**Sn**	**23 06 33.9**	**-0.7**
PBAR				*i* IAML		23 06 39.2	
PBAR				*i* IAML		23 06 40.3	
PBAR				*i* IAML		23 06 43.5	
PMRV	**Marv??o**	**5.10**	**63**	*e*P	**Pn**	**23 05 40.1**	**+2.1**
PMRV				*e*S	**Sn**	**23 06 36.9**	**0.0**
PMRV				*i* IAML		23 06 38.4	
PMRV				*i* IAML		23 06 40.0	
PMRV				*i* IAML		23 06 48.7	
EBAD	**Badajoz**	**5.15**	**71**	Pn	**Pn**	**23 05 40.3**	**+1.6**
EBAD				Sn	**Sn**	**23 06 37.0**	**-1.1**
EBAD	**Badajoz**	**5.15**	**71**	Pn	**Pn**	**23 05 40.9**	**+2.2**
EBAD				⇑*i*Vmb_VC		23 05 42.3	
	comp=N,70nm,SNR=2.0						
EBAD				Sn	**Sn**	**23 06 38.3**	**+0.1**
EMIN	**Mina Concepcio**	**5.25**	**82**	⇑*i*Vmb_VC		23 05 44.2	
	comp=N,67nm,SNR=1.2						
EMIN				Sn	**Sn**	**23 06 40.2**	**-0.4**
PVIS	**Viseu**	**5.43**	**48**	*e*P	**Pn**	**23 05 45.3**	**+2.6**
PVIS				*e*S	**Sn**	**23 06 44.8**	**-0.4**
ESPR	**Espera**	**5.91**	**91**	Sn	**Sn**	**23 06 53.6**	**-3.4**
ESPR	**Espera**	**5.91**	**91**	⇑*i*Vmb_VC		23 05 52.5	
	comp=N,130nm,SNR=1.7						
ESPR				Sn	**Sn**	**23 06 56.1**	**-0.9**
POLO	**Lamas de Olo**	**5.92**	**44**	*e*P	**Pn**	**23 05 51.1**	**+1.8**
POLO				*e*S	**Sn**	**23 06 56.8**	**-0.5**
POLO				*i* IAML		23 07 01.3	
POLO				*i* IAML		23 07 05.7	
PCAB	**Cabril**	**6.03**	**40**	*e*P	**Pn**	**23 05 52.6**	**+1.8**
PCAB				*e*S	**Sn**	**23 06 58.9**	**-1.0**
PCAB				*i* IAML		23 07 07.0	
PCAB				*i* IAML		23 07 11.2	
PCAB				*i* IAML		23 07 14.8	
EZAM	**Zamans**	**6.04**	**34**	⇑*i*Vmb_VC		23 05 57.5	
	comp=N,166nm,SNR=1.2						
EZAM				Sn	**Sn**	**23 06 58.1**	**-2.1**
PGAV	**Gavieira, Arco**	**6.10**	**37**	*e*P	**Pn**	**23 05 53.8**	**+2.0**
PGAV				*e*S	**Sn**	**23 06 60.0**	**-1.7**
PGAV				*i* IAML		23 07 07.8	
PGAV				*i* IAML		23 07 09.5	
PGAV				*i* IAML		23 07 10.1	
ELOB	**Lobios**	**6.13**	**39**	⇑*i*Vmb_VC		23 06 00.0	
	comp=N,80nm,SNR=1.3						
ELOB				Sn	**Sn**	**23 07 00.9**	**-1.5**
MVO	**Moncorvo**	**6.23**	**49**	*e*P	**Pn**	**23 05 55.2**	**+1.7**
MVO				*e*S	**Sn**	**23 07 03.9**	**-0.9**
MVO				*i* IAML		23 07 09.2	
MVO				*i* IAML		23 07 11.5	
MVO				*i* IAML		23 07 12.1	
ECAB	**El Cabril**	**6.26**	**80**	Pn	**Pn**	**23 05 55.9**	**+1.9**
ECAB				Sn	**Sn**	**23 07 00.3**	**-5.3**
ECAB	**El Cabril**	**6.26**	**80**	Pn	**Pn**	**23 05 55.6**	**+1.6**
ECAB				⇑*i*Vmb_VC		23 06 02.0	
	comp=N,56nm,SNR=1.8						
ECAB				Sn	**Sn**	**23 07 05.4**	**-0.2**
EPLA	**Plasencia**	**6.28**	**61**	Pn	**Pn**	**23 05 55.5**	**+1.2**
EPLA				⇑*i*Vmb_VC		23 05 59.3	
	comp=N,70nm,SNR=1.6						
EAGO	**Agolada(Pontev**	**6.83**	**34**	⇑*i*Vmb_VC		23 06 02.6	
	comp=N,126nm,SNR=1.3						
EAGO				Sn	**Sn**	**23 07 16.4**	**-3.3**
ECAL	**Calabor**	**6.89**	**45**	⇑*i*Vmb_VC		23 06 13.7	
	comp=N,136nm,SNR=1.8						
ECAL				Sn	**Sn**	**23 07 18.4**	**-2.6**
EADA	**Adamuz**	**6.93**	**80**	Pn	**Pn**	**23 06 05.0**	**+1.8**
EADA				⇑*i*Vmb_VC		23 06 08.7	
	comp=N,54nm,SNR=1.6						
EADA				Sn	**Sn**	**23 07 20.8**	**-1.3**
PSIM	**Granatula de C**	**7.65**	**75**	Pn	**Pn**	**23 06 15.3**	**+2.2**
PSIM				Sn	**Sn**	**23 07 37.5**	**-2.4**
EPON	**Pontenova**	**7.67**	**35**	⇑*i*Vmb_VC		23 06 22.5	
	comp=N,73nm,SNR=0.7						
EPON				Sn	**Sn**	**23 07 36.4**	**-3.9**

*BUT **07** 23:12:41.2±1.1, 47°.39N±0°.04×114°.64W±0°.03, h8km±8km, Error ellipse: s-maj=5.8km s-min=2.5km az=187.0*
NEIC 07 23:12:40.0±1.3, 47°.42N±0°.03×114°.65W±0°.06, h5km±2km, ML3.1/46, ML3.3/21(BUT), Error ellipse: s-maj=6.9km s-min=5.7km az=73.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NDMT	**Ninemile Divid**	**0.18**	**214**		Pg	23 12 44.7	+1.0
BHMT	**Big Hole Peak**	**0.31**	**302**		Pb	23 12 47.9	-0.2
ALMT	**Alberton, Mont**	**0.42**	**160**		Pg	23 12 48.6	+0.6
ALMT					Sg	23 12 53.5	0.0
MKMT	**Mink Peak**	**0.45**	**225**		Pb	23 12 49.7	-0.8
MKMT					Sg	23 12 55.2	+0.6
MSO	**Missoula**	**0.77**	**141**		Pg	23 12 54.8	+0.2
MSO				Sg	Sg	23 13 04.0	-0.6
SLMT	**Seeley Lake**	**0.81**	**102**		Pb	23 12 56.3	-0.3
VCMT	**Victor**	**1.03**	**162**		Pg	23 12 59.6	-0.1
CHMT	**Chamberlain Mo**	**1.08**	**118**		Pb	23 13 01.0	-0.3
LDM	**Libby Dam**	**1.13**	**337**		Pn	23 13 02.4	-0.1
OVMT	**Ovando**	**1.18**	**107**	Pg	Pg	23 13 02.2	-0.5
BPMT	**Black Pine Rid**	**1.28**	**140**	Pg	Pg	23 13 04.3	-0.3
LYMT	**Lyon Mountain**	**1.67**	**105**	Pg	Pn	23 13 10.7	+0.6
BEMT	**Mount Belmont**	**1.72**	**112**		Pb	23 13 11.8	-0.4
NEW	**Newport**	**1.87**	**298**	Pn	Pb	23 13 13.9	-0.7
NEW				IAML		23 13 41.3	
	260nm,0.6s						
NEW				IAML		23 13 41.3	
	223nm,0.6s						
BUT	**Butte**	**2.01**	**134**		Pg	23 13 18.8	+0.3
HRY	**Holter Researc**	**2.05**	**109**	Pn	Pn	23 13 16.0	+0.8
HBMT	**Mount Humbug**	**2.15**	**138**		Pn	23 13 17.3	+0.5
LRM	**Limekiln Ridge**	**2.20**	**136**	Pn	Pn	23 13 17.6	+0.2
DLMT	**Dillon**	**2.50**	**145**		Pg	23 13 27.7	-0.2
DLMT	**Dillon**	**2.50**	**145**	IAML		23 14 02.4	
	65nm,0.8s						
DLMT				IAML		23 14 03.6	
	94nm,0.7s						
PLID	**Pearl Lake**	**2.52**	**202**	Pn	Pn	23 13 22.1	+0.3
PLID				IAML		23 14 01.6	
	60nm,0.3s						
PLID				IAML		23 14 03.8	
	44nm,0.6s						
E09A	**Wood Farm, Sta**	**2.56**	**251**		Pn	23 13 23.6	+1.5
E09A				IAML		23 14 06.7	
	comp=N,109nm,0.6s						
E09A				IAML		23 14 08.9	
	comp=E,83nm,0.5s						
MKRVA	**Milk River, Al**	**2.58**	**47**		Pb	23 13 27.0	+0.3
SXM	**Sixmile**	**2.69**	**117**		Pg	23 13 31.7	+0.3
BOZ	**Bozeman (W)**	**2.77**	**130**	Pn	Pn	23 13 25.5	+0.4
BGMT	**Barton Gulch**	**2.84**	**140**		Pn	23 13 26.9	+0.7
MCMT	**McKenzie Canyo**	**2.88**	**154**	Pn	Pn	23 13 27.7	+0.9
LNOR	**Lincton Mounta**	**2.95**	**240**	Pn	Pn	23 13 29.4	+1.9
E08A	**Dider Farm, El**	**3.16**	**254**	Pn	Pn	23 13 32.2	+1.9
E08A				IAML		23 14 24.0	
	comp=E,57nm,0.8s						
BMO	**Blue Mountains**	**3.17**	**217**	Pn	Pn	23 13 31.8	+1.3
EGMT	**Eagleton**	**3.36**	**78**	Pn	Pn	23 13 33.8	+0.6
WAH2	**Wahluke Slope**	**3.42**	**261**	Pn	Pn	23 13 34.5	+0.5
HAWA	**Hanford**	**3.50**	**255**	Pn	Pn	23 13 37.1	+2.0
HAWA				IAML		23 14 34.8	
	comp=E,52nm,0.8s						
HAWA				IAML		23 14 39.9	
	comp=E,40nm,0.5s						
E07A	**Sunnyside**	**3.67**	**258**	Pn	Pn	23 13 38.5	+1.1
G08A	**Pilot Rock**	**3.67**	**236**	Pn	Pn	23 13 38.5	+1.1
G08A				IAML		23 14 47.6	
	comp=E,19nm,0.6s						
YHH	**Holmes Hill**	**3.73**	**134**	Pn	Pn	23 13 39.5	+1.0
GCMT	**Greycliff**	**3.80**	**114**	Pn	Pn	23 13 39.9	+0.6
HLID	**Hailey**	**3.86**	**177**	Pn	Pn	23 13 42.2	+2.0
HLID				IAML		23 14 44.8	
	comp=E,33nm,0.6s						
HLID				IAML		23 14 45.2	
	comp=E,24nm,0.3s						
F07A	**Phinny Hill Vi**	**3.94**	**249**	Pn	Pn	23 13 42.5	+1.3
MXC	**Moxie City**	**3.95**	**260**	Pn	Pn	23 13 42.6	+1.3
MXC				IAML		23 14 54.5	
	comp=E,37nm,0.7s						
MXC				IAML		23 14 55.3	
	comp=N,40nm,0.8s						
MCID	**Moose Creek**	**4.04**	**142**		Pn	23 13 44.5	+1.9
MFID	**Camas Ranch**	**4.09**	**192**		Pn	23 13 46.1	+2.8
LTY	**Liberty**	**4.10**	**270**	Pn	Pn	23 13 43.9	+0.6
LTY				IAML		23 14 56.2	
	comp=E,30nm,0.7s						
LTY				IAML		23 14 56.6	
	comp=N,28nm,0.9s						
FXWY	**Fox Creek**	**4.56**	**145**	Pn	Pn	23 13 48.4	-1.5
G06A	**Carlson Farm,**	**4.69**	**244**	Pn	Pn	23 13 51.7	+0.3
G06A				IAML		23 15 21.3	
	comp=N,9.6nm,1.6s						
G06A				IAML		23 15 29.9	
	comp=E,11nm,3.0s						
LON	**Longmire**	**4.94**	**265**	Pn	Pn	23 13 55.7	+0.8
LON				IAML		23 15 24.6	
	comp=N,7.6nm,0.5s						
LON				IAML		23 15 25.4	
	comp=E,7.3nm,0.7s						
BUCK	**Buck Mountain**	**6.66**	**244**	Pn	Pn	23 14 20.8	+2.3

IDC 07 23:13:50.0±2.5, 0°.59N×126°.43E, h0km, mb3.4/3,
mbtmp3.4/3, Error ellipse: s-maj=248.5km s-min=28.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.83**	**160**	P	P	23 18 43.3	-0.9
	0.7nm,0.4s,baz=338,slow=10,SNR=8.7						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**25.18**	**164**	P	P	23 19 18.2	+0.7
	0.4nm,0.4s,baz=343,slow=9.1,SNR=5.9						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**59.97**	**326**	P	P	23 23 58.2	-0.1
	0.2nm,0.5s,baz=120,slow=8.1,SNR=2.5						
	0.2nm,0.5s						

*IDC **07** 23:18:51.7±1.4, 0°.14N×125°.58E, h0km, mb3.7/5, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=126.9km s-min=19.2km az=68.0*
*DJA **07** 23:18:54.7±0.2, 0°.N±2°×12°.6E±°, h10km, MLv3.5/9*
ISC 07 23:18:57.2±0.9, 0°.45N±0°.07×126°.17E±0°.05, h44km, n12, σ1§82/16, mb3.6/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.24**	**75**	P	**Pn**	**23 19 18.2**	**+0.2**
TNTI				S	**Sn**	**23 19 34.2**	**+0.6**
LBMI	**Labuha**	**1.71**	**129**	P	**Pn**	**23 19 25.6**	**+1.0**
LBMI				S	**Sn**	**23 19 46.7**	**+1.4**
KMSI	**Cibinong**	**2.19**	**273**	P	**Pn**	**23 19 31.5**	**+0.4**
KMSI				S	**Sn**	**23 19 57.8**	**+0.7**
SANI	**Sanana**	**2.49**	**184**	P	**Pn**	**23 19 36.4**	**+1.2**
LUWI	**Luwuk**	**3.71**	**246**	P	**Pn**	**23 19 53.0**	**+1.0**
NLAI	**Namlea**	**3.78**	**166**	P	**Pn**	**23 19 54.1**	**+1.1**
FITZ	**Fitzroy Crossi**	**18.44**	**182**	P	**P**	**23 23 04.4**	**-4.7**
	0.1nm,0.3s,baz=342,slow=3.2,SNR=1.7						
	2.9nm,1.1s						
WRA	**Warramunga Arr**	**21.79**	**159**	P	**P**	**23 23 42.8**	**-2.7**
	1.1nm,0.6s,baz=336,slow=10,SNR=9.8						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**25.12**	**163**	P	**P**	**23 24 19.3**	**+1.1**
	0.7nm,0.4s,baz=344,slow=9.6,SNR=13						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**59.94**	**327**	P	**P**	**23 28 59.0**	**0.0**
	0.4nm,0.4s,baz=126,slow=7.5,SNR=11						
MKAR				PcP	**PcP**	**23 29 46.7**	**+1.8**
	0.2nm,0.7s,baz=129,slow=3.9,SNR=3.9						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.20**	**328**	P	**P**	**23 29 28.0**	**+0.6**
	0.2nm,0.5s,baz=135,slow=6.5,SNR=4.1						
	0.2nm,0.5s						
QSPA	**South Pole Qui**	**90.38**	**180**	P	**P**	**23 31 52.8**	**-0.9**
	0.8nm,0.9s,baz=344,slow=1.6,SNR=5.1						
	0.8nm,0.9s						

*UPP **07** 23:19:54.5±0.1, 67°.85N×20°.20E, h0km, ML2.2, Unknown*
*IDC **07** 23:19:55.5±1.1, 67°.79N×20°.70E, h0km, mbtmp3.1/4, ML2.0/4, Error ellipse: s-maj=19.1km s-min=8.3km az=116.0*
ISC 07 23:19:54.1±1.0, 67°.83N±0°.03×20°.32E±0°.04, h8km±8km, n13, σ1§01/21, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.12**	**3**	P	**Pg**	**23 19 57.0**	**+0.1**
KUA				S	**Sg**	**23 19 58.7**	**-0.1**
RATU	**Laukkuluspa**	**0.28**	**268**	P	**Pg**	**23 19 59.1**	**-0.5**
RATU				S	**Sg**	**23 20 02.6**	**-0.7**
KOVU	**Salmi**	**0.40**	**351**	P	**Pg**	**23 20 01.7**	**-0.2**
KOVU				S	**Sg**	**23 20 06.8**	**-0.2**
MASU	**Masugnsbyn**	**0.74**	**120**	P	**Pb**	**23 20 09.4**	**+0.1**
MASU				S	**Sn**	**23 20 20.5**	**-1.9**
SALU	**Saltoluokta**	**0.83**	**238**	P	**Pg**	**23 20 09.5**	**-0.5**
KIF	**Kilpisjarvi**	**1.19**	**8**	*e*P	**Pn**	**23 20 16.7**	**-0.2**
HEF	**Hetta**	**1.38**	**64**	*e*P	**Pb**	**23 20 19.7**	**-0.3**
ERTU	**Ertsjaerv**	**1.48**	**150**	P	**Pg**	**23 20 22.1**	**-0.3**
ERTU				S	**Sg**	**23 20 42.6**	**+1.1**
HARU	**Harads**	**1.70**	**171**	P	**Pg**	**23 20 25.6**	**-0.9**
ARCES	**ARCESS Array B**	**2.55**	**46**	Pn	**Pn**	**23 20 37.6**	**+1.9**
	0.7nm,0.3s,baz=226,slow=15,SNR=29						
ARCES				Sn	**Sb**	**23 21 09.4**	**-2.0**
	0.9nm,0.3s,baz=226,slow=25,SNR=11						
	1.3nm,0.3s						
FINES	**FINESS Array B**	**6.87**	**156**	Pn	**Pn**	**23 21 35.7**	**+0.8**
	0.1nm,0.3s,baz=347,slow=10.0,SNR=2.3						
FINES				Sn	**Sn**	**23 22 52.8**	**-0.4**
	0.1nm,0.3s,baz=342,slow=22,SNR=2.2						
FINES				Lg	Lg	23 23 28.5	
	0.2nm,0.3s,baz=340,slow=28,SNR=6.3						
	1.5nm,0.8s						
NOA	**NORAR Array B**	**7.87**	**214**	Pn	**Pn**	**23 21 49.7**	**+1.1**
	baz=14,slow=13,SNR=1.6						
	0.7nm,0.2s						
HFS	**Hagfors**	**8.26**	**204**	Pn	**Pn**	**23 21 54.7**	**+0.8**
	0.1nm,0.3s,baz=21,slow=12,SNR=1.1						
HFS				Sn	**Sn**	**23 23 27.1**	**0.0**
	0.1nm,0.3s,baz=21,slow=25,SNR=1.9						
HFS				Lg	Lg	23 24 13.6	
	0.1nm,0.3s,baz=12,slow=28,SNR=1.5						
	0.6nm,0.7s						

IDC 07 23:20:08.4±2.1, 0°.20N×125°.68E, h0km, mb3.4/3, mbtmp3.4/3, MS3.7/3, Error ellipse: s-maj=191.9km s-min=28.7km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.74**	**158**	P	P	23 25 01.0	-0.6
	0.8nm,0.6s,baz=336,slow=12,SNR=5.4						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**25.03**	**162**	P	P	23 25 34.8	+0.4
	0.5nm,0.4s,baz=344,slow=9.9,SNR=6.4						
	0.5nm,0.4s						
PSI	**Prapat**	**26.87**	**276**	LR	LR	23 36 31.6	
	comp=Z,142nm,18.7s,baz=98,slow=37						
BRDH	**Bariadhala**	**39.95**	**306**	LR	LR	23 47 12.5	
	comp=Z,90nm,18.1s,baz=190,slow=41						
DZM	**Mont Dzumac**	**45.47**	**122**	LR	LR	23 48 28.6	
	comp=Z,78nm,18.7s,baz=348,slow=37						
MKAR	**Makanchi Array**	**59.88**	**327**	P	P	23 30 16.0	-0.1
	0.2nm,0.5s,baz=122,slow=7.3,SNR=1.7						
	0.2nm,0.5s						

*IDC **07** 23:36:56.0±0.8, 35°.78N×117°.56W, h0km, mb3.7/4, mbtmp3.7/10, ML3.7/6, MS2.5/3, Error ellipse: s-maj=16.7km s-min=5.6km az=75.0*
*NEIC **07** 23:36:56.2±1.5, 35°.827N±0°.009×117°.64W±0°.01, h9km±6km, Error ellipse: s-maj=1.5km s-min=1.1km az=225.0*
*PAS **07** 23:36:57.0±1.8, 35°.829N±0°.010×117°.67W±0°.01, h4km±2km, Mwr3.9/4, ML4.0/168(NEIC), Error ellipse: s-maj=1.4km s-min=1.4km az=207.0*
ISC 07 23:36:57.1±0.7, 35°.83N±0°.02×117°.62W±0°.02, h12km±4km, n98, σ1§14/92, mb3.9/6, 1D, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.02**	**114**		**Pg**	**23 36 58.5**	**-0.8**
CLC				Sg	**Sg**	**23 36 59.

CCCA Sg Sb 23 37 10.8 -0.5
CCCA IAML 23 37 13.1
comp=E,19µm,0.5s
WBSM Bird Springs 0.51 236 Pg 23 37 06.0 -1.0
WORM Onyx Ranch 0.52 256 Sg 23 37 12.8 -1.4
DTP Desert Tortois 0.58 198 Sg 23 37 15.8 -0.5
QSM Queen of Sheba 0.63 77 Pb 23 37 09.2 -0.8
QSM Sb 23 37 18.1 -0.6
QSM IAML 23 37 23.8
comp=N,10µm,0.4s
QSM IAML 23 37 24.4
comp=E,7µm,0.5s
ISA Isabella, Lake 0.71 257 Pg Pg 23 37 09.6 -1.3
ISA IAML 23 37 19.4
comp=N,5µm,0.3s
ISA Isabella, Lake 0.71 257 Sg 23 37 18.8 -1.4
CWC Cottonwood Cre 0.72 329 Pg 23 37 10.1 -0.9
CGO Cerro Gordo 0.74 349 Pg 23 37 11.0 -0.5
CCAC Calif City Air 0.74 206 Pg 23 37 10.6 -0.8
WASM Alta Sierra Ca 0.77 264 Pg 23 37 10.6 -1.3
GSC Goldstone, Bar 0.85 128 Pb 23 37 13.2 -0.5
GSC Sg Sb 23 37 25.1 +0.1
GSC IAML 23 37 28.0
comp=E,8µm,0.7s
GSC IAML 23 37 28.2
comp=N,6µm,0.6s
GWY Greenwater Val 0.85 65 Pb 23 37 13.8 -0.1
GWY IAML 23 37 28.0
comp=N,9µm,0.4s
SPG2 Springville 2 1.00 292 Pg 23 37 14.6 -1.8
TPO Tropico Hills 1.07 208 IAML 23 37 33.7
comp=N,6µm,0.8s
GRAC Grapevine Rang 1.19 10 Pb 23 37 19.1 -0.4
GRAC IAML 23 37 37.9
comp=N,3µm,0.5s
GRAC IAML 23 37 46.9
comp=E,3µm,0.9s
WCT Wildcat Mounta 1.26 40 Pg 23 37 20.3 -1.0
WCT IAML 23 37 42.5
comp=E,3µm,0.5s
WCT IAML 23 37 43.3
comp=N,2µm,0.6s
DSCC Desert Studies 1.41 118 Pn 23 37 21.9 -0.7
TUQ Turquoise Moun 1.44 105 Pn 23 37 22.7 -0.4
GMN Gold Mountain 1.50 11 Pn 23 37 24.1 +0.1
GMN IAML 23 37 49.8
comp=N,2µm,0.8s
OSI Osito Audit: C 1.51 217 Pn 23 37 24.0 +0.1
OSI IAML 23 37 46.3
comp=E,2µm,0.7s
OSI IAML 23 37 49.0
comp=N,1µm,0.8s
VOG Valley Oaks Go 1.51 290 Pn 23 37 23.9 0.0
DSP Deep Springs 1.57 350 Pn 23 37 24.7 0.0
DSP IAML 23 37 47.9
comp=E,2µm,0.4s
TPNV Topopah Spring 1.58 44 Pn 23 37 25.1 +0.1
TPNV IAML 23 37 51.0
comp=E,3µm,0.6s
BFSC Mount Baldy Ra 1.58 181 Pn 23 37 25.6 +0.6
BFSC IAML 23 37 48.0
comp=E,2µm,0.7s
BFSC IAML 23 37 49.0
comp=N,2µm,0.7s
MWC Mount Wilson 1.64 193 Pn 23 37 25.6 -0.2
MWC IAML 23 37 50.5
comp=E,3µm,0.4s
PASC Pasadena Art C 1.71 196 Pn 23 37 26.0 -0.7
PASC IAML 23 37 54.5
comp=N,775nm,0.4s
PASC IAML 23 38 00.4
comp=E,852nm,0.6s
MTPC Mountain Pass 1.72 101 IAML 23 37 53.3
comp=E,2µm,0.4s
MTPC IAML 23 37 55.0
comp=N,2µm,0.5s
MZP Montezuma Peak 1.88 6 Pn 23 37 29.6 +0.3
CARC Carrizo Plain 1.88 255 Pb 23 37 30.9 -0.5
KCC Kaiser Creek 2.02 318 Pb 23 37 33.4 -0.4
SHPR Sheep Range 2.10 70 Pn 23 37 32.7 +0.4
HMTC Hemet 2.17 166 Pn 23 37 33.0 0.0
ELS Elsinore Mount 2.18 176 Pn 23 37 33.3 +0.1
ELS IAML 23 38 08.7
comp=N,820nm,0.5s
ELS IAML 23 38 12.4
comp=E,866nm,1.2s
V12A Nelson 2.26 92 Pn 23 37 34.3 0.0
V12A IAML 23 38 11.0
comp=N,1µm,0.9s
V12A IAML 23 38 13.6
comp=E,693nm,0.7s
TPH Tonopah 2.27 8 Pn **Pn 23 37 34.7 +0.2**
S11A Rachel 2.36 39 Pn 23 37 34.3 -1.5
PMD Palm Desert 2.40 154 Pn 23 37 35.8 -0.4
PFO Pinyon Flats O 2.41 156 Pn 23 37 36.1 -0.3
PFO Pinyon Flats O 2.41 156 Pn **Pn 23 37 35.6 -0.8**
comp=E,4.6nm,0.3s,baz=339,slow=12,SNR=16
PFO Pg **Pb 23 37 37.8 -2.6**
comp=E,6.8nm,0.3s,baz=338,slow=14,SNR=18
PFO LR LR 23 38 06.2
comp=E,44nm,21.5s,baz=38,slow=30
PFO Lg Lg 23 38 13.5
comp=E,91nm,0.3s,baz=246,slow=20,SNR=13
comp=E,13nm,0.3s
LHV Little Huntoon 2.52 344 Pn 23 37 38.7 +0.9
PRN Pahroc Range 2.60 52 Pn 23 37 39.7 +0.6
PRN IAML 23 38 27.7
comp=N,991nm,0.8s
PRN IAML 23 38 29.9
comp=E,1µm,0.8s
PMPB Monarch Peak 2.61 280 Pn 23 37 39.8 +0.8
NVAR Mina Array Bea 2.66 348 Pn 23 37 40.2 +0.3
NVAR Mina Array Bea 2.66 348 Pn **Pn 23 37 40.0 +0.1**
comp=E,13nm,0.3s,baz=171,slow=12,SNR=80
NVAR Pg **Pg 23 37 45.7 -2.2**
comp=E,33nm,0.3s,baz=173,slow=17,SNR=43
NVAR Lg Lg 23 38 22.4
comp=E,36nm,0.3s,baz=174,slow=31,SNR=5.8
comp=E,16nm,0.5s
NEE2 Needles Airpor 2.67 112 Pn 23 37 39.4 -0.6
NEE2 IAML 23 38 26.9
comp=E,1µm,0.6s
NEE2 IAML 23 38 36.9
comp=N,989nm,0.7s
BORC Borrego Spring 2.74 158 Pn **Pn 23 37 41.5 +0.7**
BORC IAML 23 38 28.6
comp=E,456nm,0.8s
BORC IAML 23 38 31.6
comp=N,323nm,0.6s
BBGB Big Mountain B 2.86 286 Pn 23 37 43.6 +0.9
DPP Dos Picos Cty 2.88 169 Pn **Pn 23 37 43.1 +0.4**
DPP IAML 23 38 28.2
comp=E,465nm,0.6s
SALN Salton City 2.88 152 Pg **Pg 23 37 50.7 -1.5**
RYN Ryan 2.89 346 Pn 23 37 43.6 +0.6
R11B Troy Canyon, C 3.00 32 Pn 23 37 45.0 +0.4
R11B IAML 23 38 35.3
comp=E,259nm,1.1s
Q09A Carvers 3.02 7 Pn 23 37 46.2 +1.3
WAKR Walker 3.04 332 Pg 23 37 52.8 -2.5
CMB Columbia Colle 3.12 316 Pn 23 37 46.9 +0.7
CMB IAML 23 38 41.0
comp=E,318nm,0.9s
CMB IAML 23 38 42.2
comp=N,300nm,0.8s
W13A Hualapai Mount 3.13 102 IAML 23 38 39.8
comp=N,223nm,0.9s
W13A IAML 23 38 39.9
comp=E,216nm,0.7s
SAO San Andreas Ge 3.23 288 Pn 23 37 48.6 +1.0
BLYC Blythe 3.28 128 Pn 23 37 47.4 -1.0
BLYC IAML 23 38 42.6
comp=N,323nm,0.5s
BLYC IAML 23 38 43.1
comp=E,320nm,0.5s
TJX Tijuana 3.34 172 Pn **Pn 23 37 49.3 +0.2**
TKX Tecate 3.35 165 Pn 23 37 49.3 0.0
TKX IAML 23 38 42.6
comp=E,344nm,0.5s
TKX IAML 23 38 43.4
comp=N,228nm,0.6s
CBX Cerro Bola 3.59 167 Pn 23 37 53.6 +0.9
GLA Glamis 3.60 139 IAML 23 38 53.5
comp=E,507nm,0.5s
GLA IAML 23 38 54.3
comp=N,299nm,0.7s
LCMT Little Creek M 3.73 70 Pn 23 37 55.1 +0.6
MPK Martis Peak 3.96 332 Pg 23 38 10.8 -2.1
MPK IAML 23 39 27.6
comp=E,286nm,0.9s
PSUT Pine Spring 4.04 47 Pn 23 37 59.7 +0.7
PSUT Pg **Pg 23 38 13.1 -1.4**
PSUT IAML 23 39 14.4
comp=E,208nm,1.1s
PSUT IAML 23 39 14.5
comp=N,175nm,1.3s
KNB Kanab 4.05 72 IAML 23 39 12.8
comp=N,148nm,1.1s
SZCU Shurtz Canyon 4.05 63 IAML 23 39 11.7
comp=E,102nm,0.6s
ESJX Sierra Juarez 4.06 159 IAML 23 39 13.8
comp=E,109nm,1.4s
AFDM Forest Hills D 4.10 320 Pb 23 38 10.9 +1.7
AFDM IAML 23 39 14.2
comp=N,191nm,0.6s
AFDM IAML 23 39 14.8
comp=E,219nm,0.8s
SPR3 Spring Creek 3 4.11 39 IAML 23 39 09.5
comp=E,173nm,1.0s
SPR3 IAML 23 39 11.5
comp=N,126nm,0.8s
Y14A Wickenburg 4.24 115 IAML 23 39 14.0
comp=E,215nm,0.8s
BEKR Beckworth 4.58 333 IAML 23 39 35.6
comp=N,73nm,0.8s
BEKR IAML 23 39 38.5
comp=E,130nm,0.8s
ORV Oroville 4.83 322 IAML 23 39 38.6
comp=E,92nm,1.2s
ELK Elko 5.26 20 IAML 23 39 46.2
comp=E,62nm,0.6s
ELK Elko 5.26 20 Pn **Pn 23 38 17.1 +1.4**
comp=E,2.2nm,0.3s,baz=220,slow=12,SNR=38
ELK Lg Lg 23 39 41.6
comp=E,18nm,0.3s,baz=283,slow=10,SNR=13
ELK LR LR 23 40 44.8
comp=E,66nm,18.9s,baz=173,slow=43
comp=E,4.6nm,0.4s
X16A Lo Mia Camp, P 5.26 104 IAML 23 39 52.5
comp=E,50nm,1.3s
X16A IAML 23 40 02.8
comp=N,42nm,1.3s
YBH Yreka Blue Hor 7.11 328 Lg Lg 23 40 40.2
baz=194,slow=4.2
ANMO Albuquerque 9.16 92 Lg Lg 23 41 42.5
comp=N,0.2nm,0.3s,baz=260,slow=11,SNR=6.6
PDAR Pinedale Array 9.33 40 Pn **Pn 23 39 14.5 +2.9**
comp=N,0.1nm,0.3s,baz=230,slow=16,SNR=6.7
PDAR Lg Lg 23 41 48.4
comp=N,0.1nm,0.3s,baz=227,slow=26,SNR=1.6
comp=N,0.6nm,0.7s
NEW Newport 12.44 2 LR LR 23 44 42.1
comp=N,36nm,21.7s,baz=218,slow=37
TXAR Lajitas Array 13.42 115 Pn **Pn 23 40 09.1 +1.7**
comp=N,0.1nm,0.3s,baz=302,slow=14,SNR=11
TXAR Lg Lg 23 43 59.0
baz=298,slow=33,SNR=5.1
comp=N,0.3nm,0.5s
BBB Bell Bla 17.98 339 P **P 23 41 08.3 +1.1**
comp=N,0.3nm,0.3s,baz=171,slow=19,SNR=3.7
comp=N,12nm,1.0s
ULM Lac du Bonnet 21.35 41 P **P 23 41 45.0 +1.0**
comp=N,3.1nm,0.7s,baz=232,slow=9.9,SNR=6.3
comp=N,3.1nm,0.7s
YKA Yellowknife Ar 26.76 3 P **P 23 42 37.6 +1.3**
comp=N,0.9nm,0.7s,baz=183,slow=9.1,SNR=1.9
comp=N,0.9nm,0.7s
ILAR Eielson Array 33.87 338 P **P 23 43 40.8 +1.6**
comp=N,1.0nm,1.0s,baz=135,slow=8.2,SNR=6.9
comp=N,1.0nm,1.0s
BNX BinXian 79.88 320 ⇓P **P 23 49 04.1 -1.5**
BNX pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 87.89 332 P **P 23 49 48.5 +1.9**
comp=Z,0.3nm,0.5s,baz=26,slow=3.7,SNR=2.0
comp=Z,0.3nm,0.5s
HHC Hu-ho-hao-te 91.33 325 eP **P 23 49 59.8 -3.1**
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,81nm,4.4s

IDC 07 23:43:38.1±1.1, 0.89N×126.78E, h0km, mb3.5/5, mbtmp3.6/5, MS4.1/1, Error ellipse: s-maj=68.7km s-min=21.7km az=72.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.99**	**161**	P		P		23 48 33.5	-0.5
	0.9nm,0.7s,baz=337,slow=11,SNR=7.2								
	0.9nm,0.7s								
PMG	**Port Moresby**	**22.73**	**117**	LR		LR		23 59 04.3	
	comp=Z,552nm,21.1s,baz=168,slow=41								
ASAR	**Alice Springs**	**25.38**	**165**	P		P		23 49 07.7	+0.4
	0.3nm,0.4s,baz=345,slow=12,SNR=6.5								
	0.3nm,0.4s								
PETK	**Petropavlovsk-**	**58.03**	**21**	P		P		23 53 32.3	-0.4
	0.8nm,0.5s,baz=233,slow=7.0,SNR=2.2								
	0.8nm,0.5s								
MKAR	**Makanchi Array**	**59.91**	**326**	P		P		23 53 46.1	+0.1
	0.2nm,0.3s,baz=125,slow=7.6,SNR=6.4								
	0.2nm,0.3s								
KURBB	**Kurchatov Arra**	**64.15**	**328**	P		P		23 54 14.5	+0.1
	0.5nm,0.7s,baz=122,slow=6.5,SNR=2.6								
	0.5nm,0.7s								

*NEIC **07** 23:44:57.2±1.7, 35.565N±0.004×117.38W±0.01, h8km±5km, Error ellipse: s-maj=1.6km s-min=0.6km az=84.0*

PAS 07 23:44:57.6±1.8, 35.556N±0.009×117.39W±0.01, h8km±3km, ML3.4/20, ML3.2/148(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=67.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.04**	**152**			Pg		23 44 59.8	+0.6
CCCA				IAML				23 45 01.5	
	comp=E,19µm,0.3s								
CCCA				Sg		Sg		23 45 01.7	+1.3
LRMC	**Laurel Mtn Rad**	**0.26**	**253**			Pg		23 45 02.7	-0.1
LRMC				Sg		Sg		23 45 06.1	-0.1
LRMC				IAML				23 45 07.0	
	comp=E,5µm,0.1s								
CLC	**China Lake**	**0.31**	**326**			Pg		23 45 03.5	-0.3
CLC						Sg		23 45 07.9	0.0
CLC				IAML				23 45 08.4	
	comp=E,3µm,0.2s								
CLC				IAML				23 45 08.5	
	comp=N,5µm,0.2s								
SRTC	**Snort**	**0.33**	**295**			Pg		23 45 04.2	+0.1
TOW	**Tower One**	**0.40**	**309**			Pg		23 45 05.5	+0.1
TOW						Sb		23 45 12.2	-1.1
DTP	**Desert Tortois**	**0.47**	**233**			Pg		23 45 06.4	-0.4
WNMM	**Nine Mile Cany**	**0.51**	**304**			Pg		23 45 07.2	-0.3
WVPM	**Volcano Peak E**	**0.53**	**318**			Pg		23 45 07.5	-0.4
WVPM						Sg		23 45 15.0	+0.2
GSC	**Goldstone, Bar**	**0.54**	**118**	Pg		Pg		23 45 07.8	-0.2
GSC				Sg		Sg		23 45 15.0	0.0
QSM	**Queen of Sheba**	**0.58**	**46**			Sg		23 45 16.4	-0.2
QSM				IAML				23 45 16.7	
	comp=E,3µm,0.4s								
QSM				IAML				23 45 17.0	
	comp=N,2µm,0.5s								
QSM	**Queen of Sheba**	**0.58**	**46**			Pg		23 45 08.7	-0.2
WRVM	**Rose V. Centra**	**0.61**	**318**			Pg		23 45 08.9	-0.5
WRVM						Sg		23 45 17.2	-0.2
CCAC	**Calif City Air**	**0.66**	**232**			Pg		23 45 09.8	-0.4
CCAC						Sg		23 45 19.1	+0.4
HYS	**Haystack Butte**	**0.71**	**192**			Pg		23 45 10.5	-0.7
RRX	**Edison Barstow**	**0.75**	**155**			Pg		23 45 11.6	-0.4
RRX						Sg		23 45 22.2	+0.4
EDW2	**Edwards Air Fo**	**0.84**	**217**			Sg		23 45 25.1	+0.4
GWY	**Greenwater Val**	**0.86**	**43**			Sg		23 45 25.1	-0.2
GWY	**Greenwater Val**	**0.86**	**43**			Pg		23 45 13.6	-0.5
ISA	**Isabella, Lake**	**0.89**	**277**			Pg		23 45 13.9	-0.9
ISA						Pn		23 45 25.4	+8.8
ISA				IAML				23 45 26.1	
	comp=N,914nm,0.3s								
ISA				IAML				23 45 28.5	
	comp=E,749nm,0.3s								
SHOC Shoshone, Teco 0.96 69 Pg 23 45 15.7 -0.5
TPO Tropico Hills 0.97 226 Pg 23 45 16.0 -0.2
TPO Sb 23 45 29.7 0.0
CWC Cottonwood Cre 1.05 328 Pg Pg 23 45 17.1 -0.7
CWC Sg Sg 23 45 30.9 -0.5
CWC IAML 23 45 32.8
comp=N,443nm,0.2s
CWC IAML 23 45 33.8
comp=E,432nm,0.2s
DSCC Desert Studies 1.12 111 Pg 23 45 17.5 -1.7
BFSC Mount Baldy Ra 1.33 190 Sb 23 45 39.3 -0.9
BFSC IAML 23 45 40.4
comp=E,530nm,0.6s
BFSC IAML 23 45 41.2
comp=N,487nm,0.5s
BFSC Mount Baldy Ra 1.33 190 Pn 23 45 21.3 -1.3
WCT Wildcat Mounta 1.38 26 IAML 23 45 44.1
comp=N,220nm,0.4s
WCT IAML 23 45 53.2
comp=E,237nm,0.4s
GRAC Grapevine Rang 1.44 1 Pn 23 45 22.5 -1.5
GRAC IAML 23 45 47.6
comp=N,404nm,0.7s
GRAC IAML 23 46 13.1
comp=E,331nm,0.6s
MWC Mount Wilson 1.44 203 Pn 23 45 23.4 -0.8
MWC IAML 23 45 46.0
comp=E,589nm,0.5s
OSI Osito Audit: C 1.45 230 Pb 23 45 24.6 -0.2
OSI IAML 23 46.1
comp=E,619nm,0.6s
MTPC Mountain Pass 1.50 92 Pn 23 45 23.4 -1.5
MTPC IAML 23 45 45.7
comp=N,330nm,0.3s
MTPC IAML 23 47.1
comp=E,382nm,0.2s
PASC Pasadena Art C 1.53 206 Pn 23 45 24.8 -0.5
PASC IAML 23 45 49.6
comp=N,262nm,0.5s
PASC IAML 23 50.2
comp=E,343nm,0.7s
GMRC Granite Mounta 1.61 118 Pn 23 45 27.0 +0.5
BLAC Blackrock camp 1.69 151 Pb 23 45 28.8 -0.3
GMN Gold Mountain 1.74 3 Pn 23 45 27.4 -1.0
DSP Deep Springs 1.87 346 Pn 23 45 29.4 -0.6
ELS Elsinore Mount 1.90 181 Pn 23 45 29.4 -1.1
ELS IAML 23 46 01.3
comp=E,118nm,0.5s
SHPR Sheep Range 2.04 62 Pn 23 45 31.4 -1.0
V12A Nelson 2.07 85 Pn 23 45 31.1 -1.7
V12A IAML 23 46 06.9
comp=N,99nm,0.5s
PMD Palm Desert 2.08 156 Pn 23 45 30.9 -1.9
PMD Pg Pb 23 45 36.2 +0.7
PMD IAML 23 46 03.3
comp=E,106nm,0.5s
PFO Pinyon Flats O 2.08 158 Pn 23 45 32.6 -0.4
PFO IAML 23 46 06.3
comp=E,103nm,0.8s
PKM Mcpherson Peak 2.10 252 Pb 23 45 35.6 -0.4
MZP Montezuma Peak 2.14 0 Pn 23 45 33.2 -0.7
MZP Pg Pg 23 45 38.6 -0.1
NEE2 Needles Airpor 2.40 108 Pb 23 45 41.3 +0.2
BORC Borrego Spring 2.42 160 Pg Pb 23 45 41.8 +0.4
BORC IAML 23 46 15.6
comp=E,106nm,0.5s
S11A Rachel 2.46 32 Pg 23 45 44.1 -0.8
S11A IAML 23 46 20.9
comp=E,192nm,0.6s
S11A IAML 23 46 53.8
comp=N,194nm,1.0s
TPH Tonopah 2.52 3 Pn 23 45 38.5 -0.5
TPH IAML 23 46 28.8
comp=E,198nm,0.9s
SALN Salton City 2.55 153 Pg Pb 23 45 43.6 0.0
DPP Dos Picos Cty 2.58 172 Pg Pb 23 45 43.7 -0.4
DPP IAML 23 46 19.3
comp=E,95nm,0.2s
PRN Pahroc Range 2.64 45 Pb 23 45 46.3 +1.1
LHV Little Huntoon 2.83 342 Pn 23 45 43.3 +0.1
LHV Pg Pg 23 45 50.9 -1.0
LHV IAML 23 47 11.7
comp=E,53nm,1.1s
PMPB Monarch Peak 2.85 284 Pn 23 45 43.8 +0.3
PMPB IAML 23 46 28.5
comp=N,114nm,0.7s
PMPB IAML 23 46 37.5
comp=E,146nm,0.7s
W13A Hualapai Mount 2.90 98 Pn 23 45 42.7 -1.6
W13A Pg Pg 23 45 51.8 -1.3
W13A IAML 23 46 31.1
comp=N,49nm,0.5s
W13A IAML 23 46 32.0
comp=E,42nm,0.7s
NV11 Mina Array Sit 2.94 348 Pn 23 45 43.8 -0.9
NV11 Pg Pb 23 45 52.0 +1.7
NVAR Mina Array Bea 2.96 346 Pn 23 45 43.4 -1.8
NVAR Pg Pg 23 45 52.7 -1.7
BLYC Blythe 2.97 127 Pn 23 45 43.5 -1.5
BLYC IAML 23 46 32.5
comp=N,142nm,0.4s
BLYC IAML 23 46 33.5
comp=E,126nm,0.5s
CBX Cerro Bola 3.29 169 IAML 23 46 45.0
comp=N,97nm,0.7s
CMB Columbia Colle 3.45 317 IAML 23 46 49.2
comp=E,46nm,1.1s
CMB IAML 23 46 49.3
comp=N,40nm,1.2s
Y14A Wickenburg 3.95 113 IAML 23 47 16.1
comp=E,54nm,0.5s
113A Mohawk Valley, 4.09 132 IAML 23 47 09.8
comp=N,18nm,0.7s
113A IAML 23 47 11.5
comp=E,26nm,0.8s
PSUT Pine Spring 4.10 42 IAML 23 47 13.3
comp=E,28nm,0.7s
PSUT IAML 23 47 16.5
comp=N,28nm,1.1s
SPR3 Spring Creek 3 4.21 34 IAML 23 47 12.4
comp=E,27nm,1.3s
SPR3 IAML 23 47 19.0
comp=N,26nm,0.8s
AFDM Forest Hills D 4.43 321 IAML 23 47 20.7
comp=N,20nm,1.0s
AFDM IAML 23 47 24.6
comp=E,28nm,0.9s
WUAZ Wupatki 4.90 89 IAML 23 47 37.7
comp=E,20nm,0.4s
WUAZ IAML 23 48 04.4
comp=E,18nm,0.7s
BEKR Beckworth 4.91 332 IAML 23 47 46.5
comp=N,12nm,0.6s
BEKR IAML 23 48 15.0
comp=E,24nm,0.6s
X16A Lo Mia Camp, P 5.01 101 IAML 23 47 41.3
comp=N,10.0nm,1.0s
X16A IAML 23 47 43.7
comp=E,12nm,1.1s

*NEIC **07** 23:45:25.3±0.9, 35.68N±0.01×117.48W±0.02, h4km±1km, Error ellipse: s-maj=2.3km s-min=1.2km az=45.0*

PAS 07 23:45:25.6±1.0, 35.674N±0.008×117.49W±0.01, h3km±2km, ML3.2/26, ML3.3/16(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=120.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.17**	**328**			Pg		23 45 28.8	-0.1
CLC						Sg		23 45 31.4	+0.3
CCCA	**Chr Cany lake**	**0.18**	**145**			Pg		23 45 29.3	+0.2
CCCA						Sg		23 45 32.5	+1.1
SRTC	**Snort**	**0.21**	**275**			Pg		23 45 30.2	+0.5
LRMC	**Laurel Mtn Rad**	**0.25**	**219**			Pg		23 45 30.4	0.0
LRMC						Sg		23 45 34.1	+0.4
LRMC				IAML				23 45 34.4	
	comp=N,6µm,0.4s								
TOW	**Tower One**	**0.26**	**301**			Pg		23 45 31.3	+0.6
TOW						Sg		23 45 36.0	+1.9
WNMM	**Nine Mile Cany**	**0.38**	**297**			Pg		23 45 33.1	+0.3
WVPM	**Volcano Peak E**	**0.38**	**316**			Pg		23 45 33.5	+0.4
WRVM	**Rose V. Centra**	**0.47**	**316**			Pg		23 45 34.7	+0.1
DTP	**Desert Tortois**	**0.50**	**216**			Sg		23 45 41.8	+0.2
QSM	**Queen of Sheba**	**0.58**	**60**	Pg		Pg		23 45 37.3	+0.5

QSM			Sg	Sg	23 45 44.4	0.0	
QSM			IAML		23 45 45.1		
	comp=N,2μm,0.5s						
QSM			IAML		23 45 45.1		
	comp=E,1μm,0.2s						
GSC	**Goldstone, Bar**	**0.67 123**	Pg	Pg	23 45 38.5	+0.1	
GSC			IAML		23 45 47.8		
	comp=N,2μm,0.4s						
HYS	**Haystack Butte**	**0.81 185**		Pb	23 45 42.2	-0.2	
SBB	**Saddle Back Bu**	**1.02 196**		Pg	23 45 45.5	+0.3	
BACC	**Bachelor Mtn.**	**2.09 170**		Pn	23 45 58.8	-2.9	

*DJA **07** 23:59:19.1±0.3,0°S±3°×12°4E±°, h108km±5km, M3.8/1, MLv4.2/15, MLv3.8/1*

ISC 07 23:59:19.8±1.3,0°21S±0°06×123°86E±0°06, h110km, n18, σ1§17/20, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.79**	**9**	P	**Pn**	**23 59 40.1**	**+1.1**
KMSI				S	**Sn**	**23 59 54.3**	**+0.9**
LUWI	**Luwuk**	**1.37**	**233**	P	**Pn**	**23 59 44.9**	**-0.2**
LUWI	**Luwuk**	**1.37**	**233**	S	**Sn**	**00 00 03.5**	**-0.8**
LUWI	**Luwuk**	**1.37**	**233**	P	**Pn**	**23 59 44.9**	**-0.2**
LUWI				S	**Sn**	**00 00 03.4**	**-0.8**
MRSI	**Marisa**	**2.04**	**290**	P	**Pn**	**23 59 51.3**	**-2.0**
APSI	**Ampana**	**2.32**	**253**	P	**Pn**	**23 59 56.3**	**-0.6**
SANI	**Sanana**	**2.80**	**131**	P	**Pn**	**00 00 02.9**	**-0.3**
SANI	**Sanana**	**2.80**	**131**	P	**Pn**	**00 00 02.0**	**-1.2**
SANI				S	**Sn**	**00 00 35.6**	**-1.0**
TNTI	**Ternate**	**3.64**	**74**	P	**Pn**	**00 00 14.5**	**+0.2**
KDI	**Kendari**	**3.92**	**198**	P	**Pn**	**00 00 18.4**	**+0.2**
MPSI	**Mapaga**	**4.00**	**278**	P	**Pn**	**00 00 18.8**	**-0.4**
NLAI	**Namlea**	**4.42**	**133**	P	**Pn**	**00 00 25.5**	**+0.7**
TTSI	**Tana Toraja**	**4.92**	**235**	P	**Pn**	**00 00 30.6**	**-1.1**
SPSI	**Sidrap Palu**	**5.53**	**228**	P	**Pn**	**00 00 39.9**	**0.0**
BNSI	**Bone**	**5.60**	**222**	P	**Pn**	**00 00 40.3**	**-0.5**
KAPI	**Kappang**	**6.29**	**221**	P	**Pn**	**00 00 53.5**	**+3.3**
FAKI	**Fak Fak**	**8.80**	**108**	P	**Pn**	**00 01 24.3**	**0.0**
KKM	**Kota Kinabalu**	**9.85**	**309**	P	Pn	00 01 42.5	+4.0

IDC 08 00:05:43.4±59.0, 1°69N×96°31E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=1135.0km s-min=153.1km az=175.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**25.50**	**248**	T	T	00 37 36.4	
	baz=68,slow=76,SNR=78						
H08S3	**Diego Garcia H**	**25.50**	**248**	T	T	00 37 36.6	
	baz=68,slow=76,SNR=102						
H08S1	**Diego Carcia H**	**25.52**	**248**	T	T	00 37 37.7	
	baz=68,slow=76,SNR=69						
H01W3	**Cape Leeuwin H**	**40.03**	**157**	T	T	00 56 27.9	
	baz=333,slow=76,SNR=87						
H01W2	**Cape Leeuwin H**	**40.05**	**157**	T	T	00 56 28.8	
	baz=333,slow=76,SNR=79						
H01W1	**Cape Leeuwin H**	**40.05**	**157**	T	T	00 56 35.6	
	baz=333,slow=76,SNR=62						
MKAR	**Makanchi Array**	**46.56**	**347**	P	P	00 14 12.7	-0.3
	0.4nm,0.4s,baz=164,slow=7.5,SNR=6.7						
	0.4nm,0.4s						
SONM	**Songino Array**	**46.79**	**9**	P	P	00 14 14.9	0.0
	0.3nm,0.5s,baz=180,slow=5.8,SNR=2.1						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**51.04**	**346**	P	P	00 14 47.7	+0.5
	0.3nm,0.6s,baz=153,slow=6.3,SNR=2.6						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**52.95**	**352**	P	P	00 15 00.9	-0.5
	0.8nm,0.5s,baz=168,slow=7.4,SNR=5.1						
	0.8nm,0.5s						
H04N2	**CROZET ISLANDS**	**61.67**	**214**	T	T	01 23 21.3	
	baz=51,slow=75,SNR=479						
H04N1	**CROZET ISLANDS**	**61.69**	**214**	T	T	01 23 21.2	
	baz=51,slow=75,SNR=516						
H04N3	**CROZET ISLANDS**	**61.69**	**214**	T	T	01 23 19.8	
	baz=51,slow=75,SNR=505						
H04S1	**CROZET ISLANDS**	**62.02**	**213**	T	T	01 23 45.6	
	baz=51,slow=76,SNR=57						
H04S3	**CROZET ISLANDS**	**62.04**	**213**	T	T	01 23 45.0	
	baz=51,slow=76,SNR=99						
H04S2	**CROZET ISLANDS**	**62.04**	**213**	T	T	01 23 47.5	
	baz=51,slow=76,SNR=69						

*BGR **08** 00:08:56.5, 10°55N×84°94W, h15km±2km, mb4.7*

*MOS **08** 00:09:00.8±0.9, 11°12N×85°32W, h69km, mb5.2/27, MS4.5/7, Error ellipse: s-maj=12.5km s-min=6.5km az=112.5*

*IDC **08** 00:09:00.6±0.7, 11°12N×85°41W, h59km±6km, mb4.4/20, mbtmp4.7/25, MS4.0/37, Error ellipse: s-maj=15.5km s-min=8.2km az=68.0*

*UCR **08** 00:09:01.7±0.9, 10°78N×85°73W, h55km±2km, MW5.5, Fault plane solution: NP1:φs144.69000°, δ74.24000°, λ37.25000°.*

*CATAC **08** 00:09:02.8±0.2, 11°N±1°×8°6W±°, h39km±4km, M5.5/57, mb5.8/1, mB5.9/1, MLv5.4/57, Mw(mB)5.4/1, MwMwp5.1/1, Mwp5.3/1, Error ellipse: s-maj=3.7km s-min=1.9km az=49.4, confirmed*

*NEIC **08** 00:09:02.8±2.0, 10°84N±0°04×85°63W±0°06, h59km±4km, mb5.3/772, Mww5.1/33, Error ellipse: s-maj=8.5km s-min=5.0km az=64.0*

*NEIC **08** 00:09:02.9, 10°84N×85°63W, h60km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10¹⁶Nm; Mrr4.60; Mθθ 0.30; Mϕϕ -4.90; Mrθ 2.84; Mθϕ -2.98; Mϕr -0.76; Fault plane solution: Mo6.34000×10¹⁶ NP1: φs176.93000°, δ50.38000°, λ47.54000°. NP2:φs52.07000°, δ55.37000°, λ129.20000°. Principal axes: T 6.3927, Plg59.0000°, Azm21.0000°; N -0.1104, Plg31.0000°, Azm207.0000°; P -6.2823, Plg3.0000°, Azm115.0000°;*

*NEIC **08** 00:09:02.9, 10°84N×85°63W, h60km*

*GCMT **08** 00:09:03.9±0.2, 10°79N±0°01×85°69W±0°01, h61km±1km, MW5.2/119, Moment Tensor Solution. s83,c102; s119,c205; Duration: 1s0 Moment tensor: Scale 10¹⁶ Nm; Mrr4.74±.19; Mθθ 0.20±.15; Mϕϕ -4.94±.16; Mrθ 3.74±.10; Mθϕ -4.33±.12; Mϕr -1.28±.12; Best double couple: Mo7.60000×10¹⁶ NP1:φs178.00000°, δ52.00000°, λ40.00000°. NP2:φs61.00000°, δ59.00000°, λ135.00000°. Principal axes: T 7.7440, Plg53.0000°, Azm26.0000°; N -0.2900, Plg37.0000°, Azm214.0000°; P -7.4570, Plg4.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*UPA **08** 00:09:04.8±1.3, 10°41N×85°75W, h46km±43km*

*SNET **08** 00:09:06.1±1.6, 10°94N×85°97W, h35km±999km, ML5.2*

*GCG **08** 00:09:11.3±1.9, 11°33N×86°03W, h138km±83km, MD5.1, ML5.3*

ISC 08 00:09:01.2±0.3, 10°80N±0°02×85°70W±0°03, h66km±2km, h66km:pP-P, n1305, σ1§50/1093, mb5.2/427, 35C-144D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELI1	**Hacienda Flor**	**0.21**	**136**	‖ *eP*	**Pn**	**00 09 11.7**	**+0.2**
ELI1				*eS*	**Sn**	**00 09 19.5**	**+0.7**
ALIBA	**Liberia Airpor**	**0.26**	**143**	‖ *eP*	**Pn**	**00 09 11.9**	**+0.2**
LAPC	**Finca la Perla**	**0.27**	**97**	‖ *eP*	**Pn**	**00 09 11.5**	**-0.2**
LCRUZ	**La Cruz**	**0.29**	**14**	‖ *eP*	**Pn**	**00 09 12.2**	**+0.2**
LCRUZ				*eS*	**Sn**	**00 09 20.2**	**+0.5**
ERIA	**Liberia**	**0.31**	**123**	‖ *eP*	**Pn**	**00 09 12.4**	**+0.4**
ERIA				*eS*	**Sn**	**00 09 20.5**	**+0.6**
PG27	**Guanacaste Pro**	**0.31**	**83**	‖ *eP*	**Pn**	**00 09 12.3**	**+0.1**
GPS3	**Bodega del ICE**	**0.33**	**98**	‖ *eP*	**Pn**	**00 09 15.2**	**+2.9**
GPS1	**Guardaparques**	**0.35**	**94**	‖ *eP*	**Pn**	**00 09 12.5**	**0.0**
GPS1				*eS*	**Sn**	**00 09 20.7**	**+0.1**
GPS2	**Hotel Rincn d**	**0.35**	**98**	‖ *eP*	**Pn**	**00 09 12.4**	**0.0**
VORI	**VORI**	**0.35**	**87**	‖ *eP*	**Pn**	**00 09 12.7**	**+0.1**
BUAI	**Buenos Aires**	**0.37**	**78**	‖ *eP*	**Pn**	**00 09 13.2**	**+0.6**
BUAI				*eS*	**Sn**	**00 09 22.5**	**+1.7**
PEJA	**Penjamo Buenos**	**0.39**	**76**	‖ *eP*	**Pn**	**00 09 13.3**	**+0.6**
CARN	**Rivas**	**0.42**	**25**	‖ *eP*	**Pn**	**00 09 13.4**	**+0.4**
CARN				*eS*	**Sn**	**00 09 22.6**	**+1.1**
CARN	**Rivas**	**0.42**	**25**	‖ *P*	**Pn**	**00 09 13.4**	**+0.4**
CARN				*S*	**Sn**	**00 09 22.8**	**+1.3**
MESS	**Mesas**	**0.50**	**97**	‖ *eP*	**Pn**	**00 09 14.0**	**+0.3**
COLC	**Colonia**	**0.51**	**105**	‖ *eP*	**Pn**	**00 09 13.9**	**+0.1**
COLC				*eS*	**Sn**	**00 09 23.6**	**+0.6**
HORNC	**Hornillas**	**0.52**	**100**	‖ *eP*	**Pn**	**00 09 14.1**	**+0.1**
CUI	**Cuipilapa**	**0.55**	**105**	‖ *eP*	**Pn**	**00 09 14.5**	**+0.2**
PLVR	**Palo Verde**	**0.57**	**142**	‖ *eP*	**Pn**	**00 09 14.4**	**-0.2**
VMAR	**Armenia, Volca**	**0.58**	**89**	‖ *eP*	**Pn**	**00 09 14.9**	**+0.3**
MOTZ	**Rio Naranjo**	**0.63**	**100**	‖ *eP*	**Pn**	**00 09 15.7**	**+0.6**
ARIN	**Rivas**	**0.66**	**349**	‖ *eP*	**Pn**	**00 09 15.8**	**+0.4**
ARIN	**Rivas**	**0.66**	**349**	*S*	**Sn**	**00 09 26.6**	**+0.7**
ARIN	**Rivas**	**0.66**	**349**	‖ *P*	**Pn**	**00 09 15.8**	**+0.4**
UPAL	**Upala**	**0.68**	**82**	‖ *eP*	**Pn**	**00 09 16.1**	**+0.5**
CNAS	**Canas**	**0.70**	**121**	‖ *eP*	**Pn**	**00 09 17.2**	**+1.3**
TIMP	**Tierras Morena**	**0.70**	**108**	‖ *eP*	**Pn**	**00 09 16.1**	**+0.1**
INVE	**Universidad In**	**0.71**	**117**	‖ *eP*	**Pn**	**00 09 16.1**	**+0.1**
NICO	**Nicoya**	**0.71**	**159**	‖ *eP*	**Pn**	**00 09 15.7**	**-0.3**
TENO	**El Achiote**	**0.72**	**98**	‖ *eP*	**Pn**	**00 09 16.2**	**+0.1**
JAPN	**Al SSO del Vol**	**0.72**	**2**	‖ *eP*	**Pn**	**00 09 17.1**	**+1.1**
JAPN	**Al SSO del Vol**	**0.72**	**2**	‖ *P*	**Pn**	**00 09 17.2**	**+1.1**
JAPN				*S*	**Sn**	**00 09 28.7**	**+1.6**
MORN	**Al O del Volca**	**0.74**	**4**	‖ *P*	**Pn**	**00 09 17.0**	**+0.6**
MORN				*S*	**Sn**	**00 09 29.0**	**+1.4**
TILA	**Tilaran**	**0.79**	**115**	‖ *eP*	**Pn**	**00 09 17.1**	**+0.1**
QUEB	**Quebradon, Cot**	**0.81**	**102**	‖ *eP*	**Pn**	**00 09 17.7**	**+0.5**
VERA	**Finca Concepci**	**0.82**	**86**	‖ *eP*	**Pn**	**00 09 18.0**	**+0.8**
CMARA	**Lajas Hojancha**	**0.82**	**161**	‖ *eP*	**Pn**	**00 09 17.1**	**-0.3**
CMARA	**Lajas Hojancha**	**0.82**	**161**	*S*	**Sn**	**00 09 31.4**	**+2.1**
CMARA	**Lajas Hojancha**	**0.82**	**161**	‖ *P*	**Pn**	**00 09 17.2**	**-0.2**
CHIK	**Chiripa**	**0.86**	**114**	‖ *eP*	**Pn**	**00 09 18.2**	**+0.4**
JUNT	**Juntas**	**0.89**	**125**	‖ *eP*	**Pn**	**00 09 18.4**	**+0.2**
JTS	**Las Juntas de**	**0.89**	**124**	*P*	**Pn**	**00 09 18.3**	**+0.1**
	12μm,0.3s,baz=315,slow=18						
JTS				*S*	**Sn**	**00 09 31.2**	**+0.4**
	61μm,0.3s,baz=280,slow=20,SNR=63						
JTS				LR	LR	00 09 49.7	
	comp=Z,15μm,20.3s,baz=50,slow=52						
JTS	**Las Juntas de**	**0.89**	**124**	*eP*	**Pn**	**00 09 18.5**	**+0.3**
JTS	**Las Juntas de**	**0.89**	**124**	‖ *eP*	**Pn**	**00 09 18.3**	**+0.1**
JTS	**Las Juntas de**	**0.89**	**124**	‖ *iP*	**Pn**	**00 09 18.6**	**+0.3**
JTS				*eS*	**Sn**	**00 09 31.3**	**+0.4**
JTS	**Las Juntas de**	**0.89**	**124**	‖ *P*	**Pn**	**00 09 18.4**	**+0.3**
JTS				*S*	**Sn**	**00 09 31.4**	**+0.6**
INDI	**Punta indio, G**	**0.95**	**168**	*S*	**Sn**	**00 09 33.4**	**+1.4**
INDI	**Punta indio, G**	**0.95**	**168**	‖ *P*	**Pn**	**00 09 18.4**	**-0.5**
TABAC	**Tabacon**	**0.97**	**109**	‖ *eP*	**Pn**	**00 09 19.5**	**+0.7**
MTEVE	**Monteverde**	**0.98**	**119**	‖ *eP*	**Pn**	**00 09 19.9**	**+0.4**
LCHIL	**Los Chiles**	**1.00**	**76**	‖ *eP*	**Pn**	**00 09 20.9**	**+1.5**
NADN	**Granada**	**1.00**	**341**	‖ *eP*	**Pn**	**00 09 20.2**	**+0.7**
CASO	**Castillo**	**1.02**	**111**	‖ *eP*	**Pn**	**00 09 20.5**	**+0.7**
ARE1	**Arenal 1**	**1.02**	**109**	‖ *eP*	**Pn**	**00 09 20.7**	**+0.9**
VARE2	**V. Arenal**	**1.02**	**109**	‖ *eP*	**Pn**	**00 09 20.8**	**+0.9**
CEDE	**Laguna Cedeo**	**1.03**	**108**	‖ *eP*	**Pn**	**00 09 20.9**	**+0.9**
FORC	**Fortuna**	**1.07**	**108**	‖ *eP*	**Pn**	**00 09 21.2**	**+0.8**
TUNA	**La Fortuna**	**1.09**	**107**	‖ *eP*	**Pn**	**00 09 21.4**	**+0.7**
SOCE	**Pocosol**	**1.14**	**111**		**Pn**	**00 09 22.0**	**+0.6**
SOCE	**Pocosol**	**1.14**	**111**	‖ *eP*	**Pn**	**00 09 21.9**	**+0.5**
SOCE	**Pocosol**	**1.14**	**111**	‖ *P*	**Pn**	**00 09 22.0**	**+0.6**
NANN	**Nandasmo**	**1.20**	**340**	*S*	**Sn**	**00 09 38.9**	**+1.0**
NANN	**Nandasmo**	**1.20**	**340**	‖ *P*	**Pn**	**00 09 24.2**	**+2.0**
PAQE	**Paquera**	**1.23**	**142**	‖ *eP*	**Pn**	**00 09 23.1**	**+0.6**
SABN	**Sabanita**	**1.23**	**339**	‖ *P*	**Pn**	**00 09 23.6**	**+1.0**
ROBF	**Roble, Puntare**	**1.25**	**131**	‖ *eP*	**Pn**	**00 09 23.4**	**+0.7**
ACON	**Acoyapa**	**1.27**	**24**		**Pn**	**00 09 23.7**	**+0.7**
ACON				*Sn*	**Sn**	**00 09 39.8**	**+0.4**
ACON	**Acoyapa**	**1.27**	**24**	*eP*	**Pn**	**00 09 23.6**	**+0.5**
ACON	**Acoyapa**	**1.27**	**24**	*S*	**Sn**	**00 09 40.4**	**+1.0**
ACON	**Acoyapa**	**1.27**	**24**	‖ *P*	**Pn**	**00 09 23.8**	**+0.7**
ACON	**Acoyapa**	**1.27**	**24**	*P*	**Pn**	**00 09 23.8**	**+0.7**
COVE	**Coope Vega, Sa**	**1.28**	**93**	‖ *P*	**Pn**	**00 09 23.6**	**+0.4**
ARZA	**Esparza**	**1.30**	**128**	‖ *eP*	**Pn**	**00 09 24.0**	**+0.6**
CRUN	**El Crucero**	**1.31**	**334**	‖ *P*	**Pn**	**00 09 24.4**	**+0.7**
QUEU	**Ciudad Quesada**	**1.33**	**111**	‖ *eP*	**Pn**	**00 09 24.6**	**+0.7**
CBL1	**Cabuya**	**1.34**	**153**	*eP*	**Pn**	**00 09 23.6**	**-0.5**
VPL2	**V. Platanar**	**1.39**	**111**	‖ *eP*	**Pn**	**00 09 25.6**	**+0.9**
MAFN	**Magfor**	**1.39**	**338**	*S*	**Sn**	**00 09 43.6**	**+1.3**
MAFN	**Magfor**	**1.39**	**338**	*P*	**Pn**	**00 09 25.7**	**+1.0**
SRA1	**San Ramn**	**1.40**	**120**	‖ *eP*	**Pn**	**00 09 25.4**	**+0.5**
AERN	**Aeropuerto Man**	**1.41**	**341**	*P*	**Pn**	**00 09 25.4**	**+0.5**
AERN	**Aeropuerto Man**	**1.41**	**341**	*S*	**Sn**	**00 09 43.5**	**+0.8**
ENAN	**Enatrel Managu**	**1.42**	**337**	*S*	**Sn**	**00 09 44.4**	**+1.5**
ENAN	**Enatrel Managu**	**1.42**	**337**	*P*	**Pn**	**00 09 26.2**	**+1.2**
UNAN	**Cigeo UNAN**	**1.42**	**337**	‖ *P*	**Pn**	**00 09 26.1**	**+1.1**
UNAN				*S*	**Sn**	**00 09 44.8**	**+1.9**
VPL1	**V. Platanar**	**1.42**	**112**	‖ *eP*	**Pn**	**00 09 25.9**	**+0.7**
USIM	**UNAN**	**1.42**	**337**		**Pn**	**00 09 26.4**	**+1.3**
USIM	**UNAN**	**1.42**	**337**	*S*	**Sn**	**00 09 44.8**	**+1.8**
USIM	**UNAN**	**1.42**	**337**	‖ *P*	**Pn**	**00 09 26.3**	**+1.3**
ZARE	**Zarcero**	**1.43**	**115**	‖ *eP*	**Pn**	**00 09 26.5**	**+1.1**
WILN	**Americas 2**	**1.43**	**341**	‖ *P*	**Pn**	**00 09 26.1**	**+0.9**
MGAN	**Managua**	**1.44**	**338**	*P*	**Pn**	**00 09 26.0**	**+0.7**
ABCN	**Banco Central**	**1.44**	**336**	*P*	**Pn**	**00 09 26.3**	**+1.0**
ABCN	**Banco Central**	**1.44**	**336**	*S*	**Sn**	**00 09 45.5**	**+2.0**
TISN	**Laguna Tiscapa**	**1.45**	**337**	‖ *P*	**Pn**	**00 09 26.4**	**+1.0**
ITAL	**Pital**	**1.45**	**104**	‖ *eP*	**Pn**	**00 09 25.9**	**+0.6**
PALD	**Palmares**	**1.45**	**121**	*eP*	**Pn**	**00 09 25.9**	**+0.4**
OROT	**Orotina**	**1.46**	**127**	‖ *eP*	**Pn**	**00 09 26.1**	**+0.6**
ALLN	**Telcor Managua**	**1.46**	**337**	*P*	**Pn**	**00 09 26.4**	**+0.8**
ALLN	**Telcor Managua**	**1.46**	**337**	*S*	**Sn**	**00 09 45.3**	**+1.5**
SARCI	**Sarchi**	**1.51**	**118**	*eP*	**Pn**	**00 09 27.2**	**+0.9**
APQ2	**Apoyeque**	**1.52**	**336**	‖ *P*	**Pn**	**00 09 27.3**	**+1.0**
APQ2				*S*	**Sn**	**00 09 46.3**	**+1.1**
SAPS	**Ciudad Sandino**	**1.52**	**333**	*S*	**Sn**	**00 09 47.2**	**+1.8**
SAPS	**Ciudad Sandino**	**1.52**	**333**	‖ *P*	**Pn**	**00 09 27.5**	**+1.1**
ATEO	**Atenas**	**1.53**	**122**	‖ *eP*	**Pn**	**00 09 27.3**	**+0.7**
GREC	**Grecia**	**1.55**	**118**	‖ *eP*	**Pn**	**00 09 27.9**	**+1.1**
VPS8	**V Poas**	**1.56**	**113**	‖ *eP*	**Pn**	**00 09 28.1**	**+0.9**
VPS5	**V. Poas**	**1.57**	**113**	‖ *eP*	**Pn**	**00 09 28.1**	**+0.8**
TCS1	**Tacares**	**1.57**	**119**	‖ *eP*	**Pn**	**00 09 28.1**	**+1.1**
TCS1	**Tacares**	**1.57**	**119**	‖ *P*	**Pn**	**00 09 28.2**	**+1.1**
BITO	**Garabito Jaco**	**1.58**	**138**	*eP*	**Pn**	**00 09 27.8**	**+0.6**
AMTN	**Mateare**	**1.60**	**333**	*P*	**Pn**	**00 09 29.0**	**+1.6**
AMTN	**Mateare**	**1.60**	**333**	*S*	**Sn**	**00 09 49.3**	**+2.2**
APQ3	**Volcan Apoyequ**	**1.60**	**336**	*P*	**Pn**	**00 09 28.5**	**+1.1**
COPN	**Copaltepe**	**1.62**	**328**	‖ *eP*	**Pn**	**00 09 28.5**	**+0.8**
COPN	**Copaltepe**	**1.62**	**328**	‖ *P*	**Pn**	**00 09 28.7**	**+0.9**
BOAB	**BOACO BROADBAN**	**.64**	**1**		**Pn**	**00 09 28.8**	**+0.8**
BOAB	**BOACO BROADBAN**	**.64**	**1**	*S*	**Sn**	**00 09 49.2**	**+1.0**
BOAB	**BOACO BROADBAN**	**.64**	**1**	‖ *P*	**Pn**	**00 09 28.9**	**+0.9**
PURI	**Puriscal**	**1.66**	**125**	*eP*	**Pn**	**00 09 29.1**	**+0.7**
SARA	**Sarapiqu**	**1.69**	**102**	‖ *eP*	**Pn**	**00 09 29.0**	**+0.4**
BELE	**Belen**	**1.70**	**119**	‖ *eP*	**Pn**	**00 09 29.6**	**+0.7**
VBV1	**V. Barva**	**1.72**	**113**	‖ *eP*	**Pn**	**00 09 30.0**	**+0.7**
SANTA	**Santa Ana**	**1.72**	**120**	‖ *eP*	**Pn**	**00 09 29.8**	**+0.6**
HEME	**Heredia, Merce**	**1.73**	**117**	‖ *eP*	**Pn**	**00 09 30.4**	**+1.0**
HDC	**Heredia**	**1.75**	**117**		**Pn**	**00 09 30.7**	**+1.1**
HDC	**Heredia**	**1.75**	**117**	‖ *eP*	**Pn**	**00 09 30.4**	**+0.9**
HDC	**Heredia**	**1.75**	**117**	*eP*	**Pn**	**00 09 30.9**	**+1.3**
HDC				*eS*	**Sn**	**00 09 53.5**	**+2.5**
PAVB	**Pavas, San Jos**	**1.78**	**119**	*eP*	**Pn**	**00 09 30.6**	**+0.7**
DOMI	**Santo Domingo**	**1.78**	**117**	*eP*	**Pn**	**00 09 31.1**	**+1.1**
BC84	**Volcan Momotom**	**1.79**	**333**	*S*	**Sn**	**00 09 53.1**	**+1.4**
BC84	**Volcan Momotom**	**1.79**	**333**	*P*	**Pn**	**00 09 31.5**	**+1.6**
BC87	**San Francisco**	**1.79**	**341**	*P*	**Pn**	**00 09 30.8**	**+0.8**
BC87	**San Francisco**	**1.79**	**341**	*S*	**Sn**	**00 09 53.7**	**+1.9**
MOMN	**Momotombo**	**1.80**	**333**	‖ *P*	**Pn**	**00 09 31.1**	**+1.0**
MOMN				*S*	**Sn**	**00 09 53.3**	**+1.3**
MOM2	**El Cardon**	**1.80**	**335**	‖ *P*	**Pn**	**00 09 31.0**	**+1.0**
MOM2				*S*	**Sn**	**00 09 54.2**	**+2.2**
MEXI	**Barrio Mexico**	**1.80**	**118**	‖ *eP*	**Pn**	**00 09 31.0**	**+0.8**
TIBA	**Tibas**	**1.81**	**117**	*eP*	**Pn**	**00 09 31.6**	**+1.3**
ACOS	**Acosta**	**1.81**	**123**	‖ *eP*	**Pn**	**00 09 31.1**	**+0.7**
CENT	**San Jose**	**1.81**	**118**	*eP*	**Pn**	**00 09 32.4**	**+2.0**
LUJA	**Lujan**	**1.82**	**118**	‖ *eP*	**Pn**	**00 09 31.4**	**+0.8**
LUPE	**Guadalupe**	**1.83**	**117**	‖ *eP*	**Pn**	**00 09 31.5**	**+0.9**
SJS	**Escuela Geolog**	**1.83**	**118**	‖ *eP*	**Pn**	**00 09 31.6**	**+0.9**
ECI	**Escuela Centro**	**1.83**	**118**	‖ *eP*	**Pn**	**00 09 31.7**	**+1.0**
SJS3	**Mercedes San J**	**1.83**	**118**	‖ *eP*	**Pn**	**00 09 31.6**	**+0.9**
PAR1A	**Puntarenas Pro**	**1.86**	**130**	‖ *eP*	**Pn**	**00 09 32.1**	**+1.2**
CORON	**Coronado**	**1.86**	**116**	‖ *eP*	**Pn**	**00 09 32.3**	**+1.2**
PICV	**PH. Pirrs**	**1.89**	**128**	‖ *eP*	**Pn**	**00 09 31.7**	**+0.4**
TRIO	**Tres Rios**	**1.90**	**118**	‖ *eP*	**Pn**	**00 09 32.5**	**+0.8**
PISJ	**San Jernim**	**1.94**	**127**	*eP*	**Pn**	**00 09 32.7**	**+0.6**
CNGA	**Al SSO del Vol**	**1.95**	**330**	‖ *P*	**Pn**	**00 09 33.5**	**+1.3**
TRT2	**Tortugero**	**1.95**	**97**	‖ *eP*	**Pn**	**00 09 32.6**	**+0.6**
TRT2	**Tortugero**	**1.95**	**97**	*S*	**Sn**	**00 09 56.4**	**+0.8**
TRT2	**Tortugero**	**1.95**	**97**	‖ *P*	**Pn**	**00 09 32.7**	**+0.6**
CNGN	**Cerro Negro**	**1.95**	**330**		**Pn**	**00 09 33.1**	**+0.9**
CNGN	**Cerro Negro**	**1.95**	**330**	*eP*	**Pn**	**00 09 33.1**	**+0.9**
CNGN	**Cerro Negro**	**1.95**	**330**	*S*	**Sn**	**00 09 57.9**	**+2.2**
CNGN	**Cerro Negro**	**1.95**	**330**	‖ *P*	**Pn**	**00 09 33.5**	**+1.3**
ESPN	**Las Esperanzas**	**1.95**	**45**		**Pn**	**00 09 33.5**	**+1.4**
ESPN	**Las Esperanzas**	**1.95**	**45**	‖ *eP*	**Pn**	**00 09 33.3**	**+1.2**
ESPN	**Las Esperanzas**	**1.95**	**45**	*S*	**Sn**	**00 09 56.9**	**+1.3**
ESPN	**Las Esperanzas**	**1.95**	**45**	‖ *P*	**Pn**	**00 09 33.8**	**+1.6**
ABE2	**San Pablo**	**1.95**	**124**	*eP*	**Pn**	**00 09 33.2**	**+0.8**
LCR2	**La Lucha 2**	**1.97**	**122**		**Pn**	**00 09 33.5**	**+0.9**
LCR2	**La Lucha 2**	**1.97**	**122**	‖ *eP*	**Pn**	**00 09 33.4**	**+0.7**
LCR2	**La Lucha 2**	**1.97**	**122**	*S*	**Sn**	**00 09 57.4**	**+0.9**
LCR2	**La Lucha 2**	**1.97**	**122**	‖ *P*	**Pn**	**00 09 33.5**	**+0.9**
TAGO	**Cartago**	**1.98**	**118**	‖ *eP*	**Pn**	**00 09 33.7**	**+1.0**
CARI	**Cariari**	**1.98**	**102**	‖ *eP*	**Pn**	**00 09 33.5**	**+1.0**
PITB	**Pirrs, San**	**2.00**	**124**	*eP*	**Pn**	**00 09 33.5**	**+0.6**
RAZU	**San Marcos de**	**2.00**	**124**	‖ *eP*	**Pn**	**00 09 33.6**	**+0.6**
ALEN	**Leon**	**2.01**	**325**	*P*	**Pn**	**00 09 34.5**	**+1.4**
ALEN	**Leon**	**2.01**	**325**	*S*	**Sn**	**00 09 57.6**	**+0.6**
ILCN	**San Idelfonso**	**2.02**	**331**	‖ *P*	**Pn**	**00 09 34.1**	**+1.1**
SVQ2	**Quepos**	**2.03**	**132**	*eP*	**Pn**	**00 09 34.5**	**+1.2**
QUEP	**Quepos**	**2.04**	**132**	*eP*	**Pn**	**00 09 35.0**	**+1.7**
RAFA	**San Farael, Vo**	**2.04**	**114**	‖ *eP*	**Pn**	**00 09 34.7**	**+1.1**
REPA	**Paraso**	**2.05**	**118**	*eP*	**Pn**	**00 09 34.7**	**+1.2**
LLNJ	**Naranjito**	**2.06**	**130**	*eP*	**Pn**	**00 09 34.2**	**+0.7**
PCAYA	**Pacayas**	**2.06**	**115**	‖ *eP*	**Pn**	**00 09 34.9**	**+1.2**
PLRN	**Geotermica Pol**	**2.06**	**330**	‖

comp=E,2µm,0.3s
STG8 *i* S **Sn** **00 11 56.0 +6.2**
RTAL Retalhuleu 6.92 303 Pn 00 10 43.0 +2.9
HUEH Huehuetenango 7.22 309 Pn 00 10 47.8 +3.4
PETF Flores 7.30 327 Pn 00 10 48.3 +3.1
SMCA Catarina 7.41 304 *i* P **Pn** **00 10 49.8 +3.0**
SMCA IAML 00 10 51.4
comp=N,241nm,0.1s
THIG 7.59 303 *i* P **Pn** **00 10 52.7 +3.5**
THIG IAML 00 10 56.1
comp=N,834nm,0.6s
CCIG Comitan 8.30 312 Pn 00 11 01.4 +2.4
CCIG Comitan 8.30 312 *i* P **Pn** **00 11 02.5 +3.5**
CCIG IAML 00 11 20.4
comp=N,106nm,0.7s
TGIG 9.34 310 *i* P **Pn** **00 11 15.1 +1.9**
TGIG IAML 00 11 29.2
comp=E,78nm,1.0s
APAC Apartado, Choc 9.45 107 P Pn 00 11 20.4 +5.7
comp=E,2µmcomp=E,218nm,1.1s
TEIG Tepich 9.70 345 Pn 00 11 20.3 +2.3
DBBC Dabeiba 10.10 111 P **Pn** **00 11 26.9 +3.2**
SJCC San Jacinto, C 10.39 94 P **Pn** **00 11 30.1 +2.5**
comp=E,3µmcomp=E,192nm,0.8s
UREC San Jos de Ur 10.48 106 P Pn 00 11 31.8 +3.0
comp=E,748nmcomp=E,39nm,0.8s
MTDJ Mount Denham 10.81 46 Pn 00 11 34.7 +1.3
CMIG Matias Romero 10.88 306 P **Pn** **00 11 35.1 +0.8**
comp=E,60nm,0.5s,baz=99,slow=9.9,SNR=93
ZARC Zaragoza, Cauc 11.20 106 P **Pn** **00 11 41.5 +2.9**
comp=E,2µmcomp=E,101nm,0.8s
HUIG Huatulco 11.27 297 *i* P **Pn** **00 11 41.2 +1.7**
HUIG IAML 00 11 42.8
comp=E,68nm,0.4s
GUY2C Guyana, Caldas 11.64 118 P **Pn** **00 11 48.5 +3.5**
comp=E,1µmcomp=E,39nm,0.9s
JAMC Jamundi, Valle 11.70 129 P **Pn** **00 11 48.8 +3.1**
comp=E,2µmcomp=E,65nm,1.1s
PTBC PUERTO BERRIO, 11.89 110 P **Pn** **00 11 51.4 +3.3**
comp=E,375nmcomp=E,23nm,1.5s
BBAC Balboa, Cauca 12.11 136 P **Pn** **00 11 54.3 +3.2**
comp=E,919nmcomp=E,92nm,1.3s
ORTC Ortega, Tolima 12.42 123 P **Pn** **00 11 58.8 +3.5**
comp=E,992nmcomp=E,51nm,1.0s
SPBC San Pablo de B 12.59 113 P **P** **00 12 02.5 -4.3**
comp=E,1µmcomp=E,61nm,1.6s
CRUC La Cruz 12.64 136 P **Pn** **00 12 02.6 +4.1**
OTAV Otavalo 12.73 145 Pn 00 12 01.6 +1.7
OTAV Otavalo 12.73 145 *eP* **Pn** **00 12 01.6 +1.7**
OTAV Otavalo 12.73 145 *eP* **Pn** **00 11 59.9 0.0**
OTAV Otavalo 12.73 145 P **Pn** **00 12 02.5 +2.6**
comp=E,691nmcomp=E,28nm,1.3s
ROSC El Rosal 12.73 117 P **Pn** **00 11 59.2 -0.6**
comp=E,4.4nm,0.5s,baz=310,slow=11,SNR=9.5
ROSC LR LR 00 17 22.0
comp=E,740nm,19.0s,baz=266,slow=40
CHIV Chivirico 12.78 43 Pn 00 12 00.8 +0.7
CAMR Camarioca 12.88 18 Pn 00 12 03.3 +1.9
GARC Garzon, Huila 13.26 129 P **Pn** **00 12 09.4 +2.5**
comp=E,2µmcomp=E,73nm,1.0s
RUSC La Rusia 13.40 110 Pn 00 12 10.1 +1.1
RUSC La Rusia 13.40 110 P **Pn** **00 12 11.7 +2.7**
FLOC Florencia 13.54 132 Pn 00 12 12.2 +1.7
FLOC Florencia 13.54 132 P **Pn** **00 12 13.7 +3.2**
comp=E,1µmcomp=E,109nm,1.2s
GTBY Guantanamo Bay 13.65 47 Pn 00 12 12.8 +0.9
PIAT Ana Tenorio 13.86 147 P **P** **00 12 19.4 -1.9**
comp=E,1µmcomp=E,53nm,1.2s
NMDO Nuevo Mundo 14.16 45 Pn 00 12 20.1 +1.6
TLIG Tlapa 14.16 300 Pn 00 12 21.4 +2.6
TAMC Tame, Arauca 14.42 106 P **P** **00 12 26.2 -0.9**
comp=E,2µmcomp=E,184nm,0.8s
MACC Macarena, Meta 14.57 125 P **Pn** **00 12 26.4 +2.3**
comp=E,68nm,0.8s
COHC Cochancay 14.66 154 P **P** **00 12 28.3 -1.4**
comp=E,1µmcomp=E,100nm,1.0s
SDV Santo Domingo 14.97 96 Pn 00 12 29.9 +0.6
SDV Santo Domingo 14.97 96 P **Pn** **00 12 27.3 -2.0**
comp=E,7.1nm,0.3s,baz=292,slow=6.9,SNR=10
SDV PcP **PcP** **00 17 34.7 -0.2**
comp=E,17nm,0.8s,baz=332,slow=0.9,SNR=3.9
SDV LR LR 00 18 56.8
comp=E,284nm,19.9s,baz=294,slow=40
SDV ScP **ScP** **00 21 03.3 +0.1**
comp=E,6.1nm,0.3s,baz=219,slow=1.3,SNR=6.3
SDV Santo Domingo 14.97 96 *eP* **P** **00 12 32.4 -1.0**
SDV Santo Domingo 14.97 96 P **P** **00 12 31.6 -1.8**
comp=E,56nm,1.1s
PTLC Puerto Leguiza 15.13 134 P **P** **00 12 37.6 +2.6**
comp=E,2µmcomp=E,134nm,1.0s
UNM Universidad Na 15.52 305 Pn **P** **00 12 39.2 -0.4**
UNM IAmb IAmb 00 12 41.1
comp=Z,126nm,1.0s
UNM Universidad Na 15.52 305 P **P** **00 12 39.2 -0.4**
UNM pmax pmax
comp=Z,126nm,1.0s
061Z Ochoppi 15.66 16 Pn 00 12 39.1 +1.3
061Z IAmb IAmb 00 12 45.1
comp=Z,314nm,1.2s
MCRA Macar, Loja 16.12 159 P **P** **00 12 46.9 +0.9**
comp=Z,1µmcomp=Z,44nm,1.4s
SDDR Presa de Saban 16.12 58 Pn 00 12 42.8 -1.1
BANI BANI 16.65 61 Pn 00 12 49.8 -0.7
SC01 Santiago de lo 16.80 58 Pn **Pn** **00 12 52.6 +0.4**
060A Indiantown 16.92 17 P **P** **00 12 54.5 -0.1**
060A IAmb IAmb 00 13 02.1
comp=Z,207nm,1.3s
SDD Santo Domingo 17.06 62 P 00 12 56.8 +0.5
SDD IAmb IAmb 00 13 03.8
comp=Z,386nm,1.8s
JRQG Juriquilla Cam 17.26 307 P **P** **00 13 00.6 +1.8**
MOIG Morelia 17.34 302 P **P** **00 13 01.8 +2.1**
BAUV El Baul 17.50 94 P **P** **00 13 01.2 0.0**
DWPF Disney Wildern 17.68 13 P **P** **00 13 04.1 +1.0**
656A Willston 18.71 9 P **Pn** **00 13 15.6 +0.1**
656A IAmb IAmb 00 13 23.2
comp=Z,111nm,0.7s
ATAH Atahualpa 19.25 157 P **Pn** **00 13 24.1 +1.8**
comp=Z,18nm,0.9s,baz=333,slow=11,SNR=14
ATAH PcP **PcP** **00 17 42.8 +0.8**
comp=Z,17nm,0.8s,baz=87,slow=2.5,SNR=8.6
ATAH LR LR 00 20 11.7
comp=Z,850nm,21.2s,baz=340,slow=34
ATAH ScP **ScP** **00 21 13.8 +1.6**
comp=Z,7.7nm,0.9s,baz=50,slow=2.3,SNR=5.4
553A Crawfordville 19.33 3 P **Pn** **00 13 23.0 +0.2**
553A IAmb IAmb 00 13 29.8
comp=Z,270nm,1.1s
451A Vernon 19.72 360 Pn 00 13 29.0 +1.6
UUPR Utuado, UPR, P 19.80 66 IAmb IAmb 00 13 29.5
comp=Z,77nm,0.7s
ZAIG Zacatecas 20.03 309 P Pn 00 13 31.9 +0.4
456A Hilliard 20.12 9 P Pn 00 13 31.1 -1.0
456A IAmb IAmb 00 13 33.6
comp=Z,149nm,1.1s
KVTX Kingsville 20.22 327 P Pn 00 13 32.9 -0.4
KVTX IAmb IAmb 00 13 37.2
comp=Z,119nm,0.9s
SJG San Juan 20.27 67 P Pn 00 13 33.0 -1.0
SJG San Juan 20.27 67 P **P** **00 13 28.8 -2.7**
comp=Z,12nm,0.5s,baz=257,slow=7.2,SNR=9.5
SJG PcP **PcP** **00 17 42.9 -0.3**
comp=Z,11nm,0.8s,baz=182,slow=1.7,SNR=4.6
SJG LR LR 00 22 00.6
comp=Z,219nm,18.3s,baz=244,slow=39
SJG San Juan 20.27 67 P Pn 00 13 33.0 -1.0
SJG pmax pmax
comp=Z,33nm,0.8s
BRAL Brewton 20.31 357 P Pn 00 13 34.2 -0.1
PDPR Patillas Dam, 20.35 67 P Pn 00 13 33.9 -1.1
GCPR Guaynabo City 20.39 66 P Pn 00 13 34.6 -0.8
HUMP Col San Antoni 20.55 67 P Pn 00 13 36.2 -1.1
HUMP **PcP** **00 17 43.1 -0.6**
TIGA Tifton 20.63 5 P Pn 00 13 37.5 -0.7
TIGA IAmb IAmb 00 13 41.0
comp=Z,127nm,0.7s
PCRV Puerto La Cruz 20.72 90 P **P** **00 13 35.2 -1.3**
comp=Z,3.3nm,0.3s,baz=268,slow=5.8,SNR=18
comp=Z,3.3nm,0.3s
346A Big Creek Wild 20.78 351 P Pn 00 13 38.9 -1.1
346A IAmb IAmb 00 13 42.4
comp=Z,182nm,1.0s
441A DeRidder 21.04 342 P **P** **00 13 41.6 +1.9**
441A IAmb IAmb 00 14 01.9
comp=Z,194nm,1.2s

250A Grady 21.08 359 IAmb IAmb 00 13 47.0
comp=Z,106nm,0.7s
735A Kenedy 21.24 329 P **P** **00 13 44.0 +2.1**
HKT Hockley 21.27 335 P **P** **00 13 42.9 +0.8**
HKT Hockley 21.27 335 P **P** **00 13 42.9 +0.8**
HKT pmax pmax
comp=Z,55nm,1.0s
257A Skidaway Islan 21.51 11 P **P** **00 13 44.9 +0.2**
257A IAmb IAmb 00 13 50.1
comp=Z,159nm,0.9s
SGC2 Sao Gabriel da 21.56 119 P **P** **00 13 46.7 +1.3**
comp=Z,63nm,0.8s
833A Chaparral WMA, 21.65 326 IAmb IAmb 00 13 49.5
comp=Z,185nm,0.8s
TBTG Tabatinga, AM 21.65 133 P **P** **00 13 48.1 +1.7**
TBTG IAmb IAmb 00 14 10.5
comp=Z,101nm,1.1s
MLDN Muldoon 21.66 332 IAmb IAmb 00 13 50.4
comp=Z,223nm,1.1s
HNVL Huntsville, TX 21.83 337 P **P** **00 13 48.9 +0.7**
HNVL IAmb IAmb 00 13 52.3
comp=Z,106nm,0.7s
146A Union 21.95 352 P **P** **00 13 51.1 +1.6**
Z47A Carrollton 22.40 355 IAmb IAmb 00 13 57.8
comp=Z,90nm,0.6s
143A Socs Landing, 22.42 347 IAmb IAmb 00 13 58.3
comp=Z,77nm,1.0s
NATX Nacogdoches 22.44 340 IAmb IAmb 00 13 57.6
comp=Z,98nm,0.8s
CZSB Cruzeiro do Su 22.50 144 P **P** **00 13 57.9 +2.4**
CZSB IAmb IAmb 00 14 15.9
comp=Z,113nm,1.0s
CZSB **PcP** **00 17 48.6 +1.0**
CZSB Cruzeiro do Su 22.50 144 *eP* **P** **00 13 55.7 +0.2**
CZSB Cruzeiro do Su 22.50 144 P **P** **00 13 58.7 +3.2**
HNDO Hondo 22.54 328 IAmb IAmb 00 13 57.3
comp=Z,93nm,1.0s
CSU Charleston Sou 22.68 12 P **P** **00 13 57.8 +0.5**
435B Jarrell 22.74 333 IAmb IAmb 00 14 01.8
comp=Z,174nm,0.8s
NHSC New Hope 22.77 12 P **P** **00 13 59.4 +1.1**
NHSC IAmb IAmb 00 14 01.3
comp=Z,226nm,1.1s
Z41A Richland Creek 23.29 345 IAmb IAmb 00 14 04.2
comp=Z,138nm,0.9s
JCT Junction City 23.57 328 IAmb IAmb 00 14 07.1
comp=Z,71nm,0.8s
X48A Hartselle 23.57 357 IAmb IAmb 00 14 08.4
comp=Z,100nm,0.9s
Y57A Sumter 23.61 11 IAmb IAmb 00 14 08.6
comp=Z,104nm,0.9s
FPAL Fort Paine 23.63 0 IAmb IAmb 00 14 09.2
comp=Z,86nm,0.9s
Y58A Scranton 23.65 13 IAmb IAmb 00 14 08.8
comp=Z,119nm,0.8s
BRDY Brady 23.82 331 IAmb IAmb 00 14 10.5
comp=Z,105nm,0.9s
TREL Terrell 23.83 338 IAmb IAmb 00 14 10.6
comp=Z,136nm,0.8s
Z38A Mt. Pleasant 23.93 341 IAmb IAmb 00 14 11.5
comp=Z,63nm,0.8s
PLAL Pickwick Lake 24.17 355 IAmb IAmb 00 14 13.9
comp=Z,80nm,0.8s
BIRD Birdtown, Kers 24.21 11 IAmb IAmb 00 14 13.9
comp=Z,120nm,0.8s
NNA Nana 24.29 159 *deP* **P** **00 14 15.2 +2.6**
NNA pmax pmax
comp=Z,53nm,1.1s
W50A Signal Mountai 24.29 1 IAmb IAmb 00 14 14.3
comp=Z,135nm,0.9s
BIM Bigot 24.31 79 P **P** **00 14 13.9 +1.1**
BIM IAmb IAmb 00 14 18.2
comp=Z,75nm,0.9s
X58A Rowland 24.35 13 IAmb IAmb 00 14 15.2
comp=Z,105nm,0.7s
SAND Sanderson 24.44 324 PcP 00 17 52.3 +0.8
X40A Basin Creek Fa 24.46 346 IAmb IAmb 00 14 15.4
comp=Z,52nm,0.9s
FW07 Weatherford 24.48 335 IAmb IAmb 00 14 16.6
comp=Z,123nm,1.0s
OZNA Ozona 24.61 327 IAmb IAmb 00 14 17.7
comp=Z,105nm,0.9s
FW06 Azle 24.61 336 IAmb IAmb 00 14 18.8
comp=Z,168nm,1.0s
HPIG 24.73 313 P **P** **00 14 19.3 +2.6**
W57A Gilead 24.79 11 IAmb IAmb 00 14 18.9
comp=Z,86nm,0.8s
PLPT Palo Pinto 24.80 334 IAmb IAmb 00 14 19.9
comp=Z,134nm,0.9s
TKL Tuskegee C 24.81 4 LR LR 00 23 56.9
comp=Z,371nm,19.4s,baz=195,slow=37
Z35A Perchaven, San 24.81 336 IAmb IAmb 00 14 19.9
comp=Z,83nm,0.9s
V48A Smith Brothers 24.85 358 IAmb IAmb 00 14 19.6
comp=Z,143nm,0.8s
FW03 Perrin-Whitt E 24.88 335 IAmb IAmb 00 14 20.9
comp=Z,121nm,0.8s
TXAR Lajitas Array 24.93 320 P **P** **00 14 18.4 0.0**
TXAR **PcP** **00 17 54.1 +1.4**
TXAR Lajitas Array 24.93 320 P **P** **00 14 18.8 +0.3**
comp=Z,50nm,0.7s,baz=141,slow=5.4,SNR=179
TXAR PcP **PcP** **00 17 53.4 +0.7**
comp=Z,8.0nm,1.0s,baz=145,slow=4.6,SNR=6.5
TXAR ScP **ScP** **00 21 27.9 +1.8**
comp=Z,4.1nm,1.0s,baz=83,slow=2.6,SNR=16
TXAR Lajitas Array 24.93 320 P **P** **00 14 18.4 0.0**
TX31 Lajitas Ar. Si 24.93 320 IAmb IAmb 00 14 22.6
comp=Z,57nm,0.7s
TX31 **PcP** **00 17 54.4 +1.8**
HBAR Harrisburg 25.05 350 IAmb IAmb 00 14 20.4
comp=Z,130nm,0.8s
WHAR Wooly Hollow 25.11 347 IAmb IAmb 00 14 21.1
comp=Z,104nm,0.9s
W59A Clinton 25.14 14 IAmb IAmb 00 14 22.2
comp=Z,71nm,0.8s
CLTN Cedars of Leba 25.18 359 IAmb IAmb 00 14 24.6
comp=Z,66nm,0.8s
ABTX Abilene, Hawle 25.23 332 IAmb IAmb 00 14 23.9
comp=Z,192nm,0.9s
V55A Taylorsville 25.27 9 IAmb IAmb 00 14 23.8
comp=Z,131nm,1.0s
WVT Waverly 25.29 356 P **P** **00 14 21.1 -0.4**
WVT IAmb IAmb 00 14 22.3
comp=Z,52nm,0.9s
WVT Waverly 25.29 356 P **P** **00 14 21.1 -0.4**
WVT pmax pmax
comp=Z,52nm,0.9s
TEFE Tefe 25.33 123 *eP* **P** **00 14 22.9 +0.7**
SGCY Sterling City 25.39 328 IAmb IAmb 00 14 24.9
comp=Z,76nm,0.8s
PEBM Pemiscott Bayo 25.48 352 IAmb IAmb 00 14 27.1
comp=Z,170nm,1.0s
U49A Red Boiling Sp 25.60 360 IAmb IAmb 00 14 26.0
comp=Z,119nm,0.9s
LCAR Lake Charles 25.64 350 IAmb IAmb 00 14 25.3
comp=Z,69nm,0.8s
ALPN Alpine 25.64 322 IAmb IAmb 00 14 27.3
comp=Z,183nm,1.7s
FCAR Ozark Folk Cen 25.65 348 IAmb IAmb 00 14 27.5
comp=Z,61nm,0.8s
WTFS Witchita Falls 25.68 335 IAmb IAmb 00 14 28.3
comp=Z,83nm,1.0s
TZTN Tazewell 25.70 4 IAmb IAmb 00 14 30.4
comp=Z,105nm,0.8s
MNHN Monahans 25.84 325 IAmb IAmb 00 14 30.3
comp=Z,161nm,1.2s
U54A Nelsons Funny 25.85 7 IAmb IAmb 00 14 28.9
comp=Z,158nm,1.0s
U56A King 25.89 10 IAmb IAmb 00 14 29.5
comp=Z,99nm,0.8s
APMT Aspermont 26.04 332 IAmb IAmb 00 14 31.7
comp=Z,64nm,0.8s
SN05 Snyder 5 26.04 330 IAmb IAmb 00 14 33.4
comp=Z,46nm,0.9s
T50A Nancy 26.12 2 IAmb IAmb 00 14 30.5
comp=Z,56nm,0.8s
X34A Smith Ranch, M 26.15 337 IAmb IAmb 00 14 31.5
comp=Z,73nm,1.0s
PBMO Poplar Bluff 26.21 351 IAmb IAmb 00 14 30.6
comp=Z,50nm,0.8s
V61A Roper 26.22 17 P **P** **00 14 30.6 +0.7**
V61A IAmb IAmb 00 14 32.2
comp=Z,73nm,0.8s
ODSA Odessa 26.31 326 IAmb IAmb 00 14 34.3
comp=Z,132nm,1.1s
BOAV Boa Vista 26.35 107 P **P** **00 14 31.8 +0.5**
BOAV Boa Vista 26.35 107 *eP* **P** **00 14 31.6 +0.3**

SLBS Sierra La Lagu 26.41 302 P **P** **00 14 35.0 +3.1**
SLBS IAmb IAmb 00 14 39.0
comp=Z,58nm,1.1s
PECS Pecos 26.50 323 P **P** **00 14 33.2 +0.7**
PECS IAmb IAmb 00 14 34.1
comp=Z,88nm,1.8s
POST Post 26.50 329 IAmb IAmb 00 14 36.3
comp=Z,72nm,0.9s
TUL3 Leonard 26.62 341 IAmb IAmb 00 14 34.4
comp=Z,58nm,0.8s
CGM3 Cape Girardeau 26.62 353 IAmb IAmb 00 14 34.5
comp=Z,92nm,1.0s
WMOK Wichita Mounta 26.65 335 IAmb IAmb 00 14 38.4
comp=Z,132nm,1.4s
U38A Gravette 26.71 344 IAmb IAmb 00 14 35.2
comp=Z,50nm,0.9s
OKCSW OKLAHOMA CITY 26.72 338 P **P** **00 14 34.2 -0.2**
OKCSW IAmb IAmb 00 14 35.3
comp=Z,59nm,0.7s
BLA Blacksburg 26.72 9 IAmb IAmb 00 14 37.6
comp=Z,106nm,0.8s
T57A Hurt 26.73 12 IAmb IAmb 00 14 36.5
comp=Z,73nm,0.8s
VHRN Van Horn 26.76 321 IAmb IAmb 00 14 36.6
comp=Z,58nm,1.2s
DEOK Depew 26.79 340 P **P** **00 14 34.4 -0.7**
DEOK IAmb IAmb 00 14 36.1
comp=Z,58nm,0.9s
OK052 Battle Ridge R 27.03 340 IAmb IAmb 00 14 38.2
comp=Z,119nm,0.9s
OK029 Liberty Lake 27.07 339 IAmb IAmb 00 14 38.2
comp=Z,69nm,0.7s
T59A Double "B" Far 27.07 14 IAmb IAmb 00 14 39.7
comp=Z,55nm,0.9s
USIN University of 27.11 357 IAmb IAmb 00 14 38.9
comp=Z,115nm,0.8s
QUOK Quay 27.16 340 IAmb IAmb 00 14 39.5
comp=Z,73nm,0.8s
WCI Wyandotte Cave 27.32 359 P **P** **00 14 39.5 -0.3**
WCI Wyandotte Cave 27.32 359 P **P** **00 14 39.5 -0.3**
WCI pmax pmax
comp=Z,192nm,0.9s
R50A Paris 27.39 2 IAmb IAmb 00 14 42.0
comp=Z,104nm,0.8s
OK048 Pawnee Station 27.46 340 IAmb IAmb 00 14 42.5
comp=Z,45nm,0.8s
S57A Dark Hollow, R 27.52 12 IAmb IAmb 00 14 43.3
comp=Z,42nm,0.7s
SMWD Samnorwood 27.58 334 IAmb IAmb 00 14 47.5
comp=Z,61nm,1.0s
CCM Cathedral Cave 27.59 351 P **P** **00 14 41.5 -0.7**
CCM IAmb IAmb 00 14 43.3
comp=Z,85nm,0.9s
CCM Cathedral Cave 27.59 351 P **P** **00 14 41.5 -0.7**
CCM pmax pmax
comp=Z,85nm,1.0s
MNTX Cornudas Mount 27.64 322 IAmb IAmb 00 14 45.1
comp=Z,72nm,1.8s
CPRX Cap Rock 27.72 326 P **P** **00 14 43.9 +0.3**
T35A Sooner Cattle 27.77 341 IAmb IAmb 00 14 44.8
comp=Z,45nm,1.0s
MSTX Muleshoe 27.86 329 IAmb IAmb 00 14 46.9
comp=Z,54nm,1.1s
SSFO Shawnee State 27.87 4 P **P** **00 14 45.0 +0.3**
CROK Carrier 27.90 339 IAmb IAmb 00 14 46.0
comp=Z,45nm,0.8s
OLIL Olney 27.90 356 IAmb IAmb 00 14 46.1
comp=Z,99nm,0.8s
R58B Mineral 27.95 13 P **P** **00 14 46.4 +1.0**
R58B IAmb IAmb 00 14 48.2
comp=Z,40nm,0.8s
SLM Saint Louis 28.01 352 IAmb IAmb 00 14 46.7
comp=Z,72nm,0.9s
AMTX Amarillo 28.05 331 IAmb IAmb 00 14 53.8
comp=Z,43nm,1.1s
ELIS Ellis County 28.06 336 IAmb IAmb 00 14 48.3
comp=Z,53nm,0.8s
OK038 West end E0370 28.16 337 IAmb IAmb 00 14 48.7
comp=Z,31nm,0.7s
KAN13 South Haven SW 28.18 340 IAmb IAmb 00 14 47.5
comp=Z,58nm,1.5s
KAN17 Caldwell West 28.30 339 IAmb IAmb 00 14 49.0
comp=Z,30nm,0.6s
KAN09 Caldwell North 28.34 340 P **P** **00 14 48.1 -0.8**
KAN01 Argonia South 28.40 339 IAmb IAmb 00 14 50.0
comp=Z,29nm,0.8s
MACA Manacapuru-AM 28.50 118 P **P** **00 14 51.5 +0.9**
MACA IAmb IAmb 00 14 52.4
comp=Z,40nm,1.1s
MACA Manacapuru-AM 28.50 118 *eP* **P** **00 14 52.0 +1.4**
P53A Whipple 28.82 7 P **P** **00 14 54.3 +1.1**
BBSR BB Station 28.91 39 P **P** **00 14 56.5 +2.5**
BBSR IAmb IAmb 00 14 57.6
comp=Z,68nm,1.1s
P43A Skaggs, Pawnee 28.92 354 IAmb IAmb 00 14 55.0
comp=Z,77nm,0.9s
P40A Paris 29.16 350 IAmb IAmb 00 14 57.2
comp=Z,35nm,0.9s
O49A Covington 29.29 2 P **P** **00 14 57.2 -0.1**
O49A IAmb IAmb 00 14 58.2
comp=Z,92nm,0.9s
P38A Dawn 29.54 348 IAmb IAmb 00 15 00.1
comp=Z,67nm,0.8s
SDMD Soldier's Deli 29.57 14 IAmb IAmb 00 15 01.9
comp=Z,42nm,0.9s
O54A Avella 29.64 8 IAmb IAmb 00 15 23.0
comp=Z,40nm,0.8s
HSIG 29.75 311 P **P** **00 15 02.7 +1.1**
KSU1 Kansas State U 29.82 343 IAmb IAmb 00 15 03.0
comp=Z,35nm,0.7s
R32A Long Quarter, 29.87 339 IAmb IAmb 00 15 04.6
comp=Z,31nm,0.8s
SRIG Santa Rosalia 29.88 307 P **P** **00 15 03.6 +0.9**
SRIG IAmb IAmb 00 15 06.8
comp=Z,64nm,1.1s
319A Douglas 29.93 317 P **P** **00 15 05.0 +1.8**
319A IAmb IAmb 00 15 13.2
comp=Z,35nm,0.9s
N47A Urbana 29.96 0 IAmb IAmb 00 15 03.2
comp=Z,32nm,0.8s
N41A Harden Midland 30.13 352 P **P** **00 15 04.0 -0.7**
N51A Ashland 30.14 5 IAmb IAmb 00 15 05.9
comp=Z,85nm,0.9s
MVL Millersville 30.24 14 P **P** **00 15 06.7 +1.0**
MVL IAmb IAmb 00 15 08.2
comp=Z,97nm,1.1s
SSPA Standing Stone 30.51 12 P **P** **00 15 09.0 +0.9**
SSPA Standing Stone 30.51 12 P **P** **00 15 08.8 +0.7**
M44A Midewin, Midew 30.54 357 IAmb IAmb 00 15 08.2
comp=Z,75nm,0.9s
DUN6 Lazy B Ranch 30.54 319 P **P** **00 15 09.7 +1.1**
DUN6 IAmb IAmb 00 15 11.7
comp=Z,100nm,1.0s
ANMO Albuquerque 30.58 325 P **P** **00 15 09.8 +0.7**
ANMO sP **sP** **00 15 31.9 -0.8**
CBKS Cedar Bluff 30.59 338 IAmb IAmb 00 15 10.9
comp=Z,29nm,0.8s
N38A Joes South For 30.61 349 IAmb IAmb 00 15 09.3
comp=Z,39nm,0.8s
M52A Chesterland 30.86 6 IAmb IAmb 00 15 12.2
comp=Z,67nm,0.9s
HQIL Hanson Quary C 30.94 357 IAmb IAmb 00 15 11.7
comp=Z,74nm,0.9s
LUPA Lehigh Univers 31.05 15 IAmb IAmb 00 15 15.4
comp=Z,56nm,1.0s
L44A Lake County Fo 31.32 357 P **P** **00 15 13.8 -1.4**
BRNJ Basking Ridge 31.35 16 P **P** **00 15 16.5 +1.0**
BRNJ IAmb IAmb 00 15 17.9
comp=Z,64nm,0.9s
AAM Ann Arbor 31.43 3 IAmb IAmb 00 15 18.7
comp=Z,32nm,0.7s
TUC Tucson 31.51 317 P **P** **00 15 18.1 +1.0**
TUC **PcP** **00 18 09.8 +1.0**
TUC Tucson 31.51 317 P **P** **00 15 18.1 +1.0**
TUC 00 18 09.8
TUC pmax pmax
comp=Z,9.0nm,0.9s
ERPA Erie 31.60 8 P **P** **00 15 17.5 -0.1**
ERPA IAmb IAmb 00 15 18.9
comp=Z,65nm,0.8s
SCIA State Center 31.68 349 IAmb IAmb 00 15 19.5
comp=Z,85nm,1.0s
PAL Palisades 31.83 17 P **P** **00 15 20.3 +0.6**
PAL Palisades 31.83 17 P **P** **00 15 20.3 +0.6**
PAL pmax pmax
comp=Z,133nm,1.4s

K43A Burlington 31.87 356 lAmb lAmb 00 15 19.8
comp=Z,86nm,1.1s
KSCO Kaye Shedlock' 31.89 335 P **P** **00 15 20.5 0.0**
KSCO lAmb lAmb 00 15 23.9
comp=Z,36nm,1.1s
N62A Caumsett State 31.89 18 P **P** **00 15 19.5 -0.7**
N62A lAmb lAmb 00 15 22.7
comp=Z,94nm,1.1s
K50A Casco 31.97 4 lAmb lAmb 00 15 21.3
comp=Z,62nm,0.8s
LPAZ La Paz 32.04 147 P **P** **00 15 24.7 +2.2**
comp=Z,2.2nm,1.0s,baz=329,slow=4.2,SNR=5.3
LPAZ PcP **PcP** **00 18 11.6 +0.5**
comp=Z,1.0nm,0.7s,baz=288,slow=3.2,SNR=4.3
LPAZ LR LR 00 28 55.1
comp=Z,381nm,21.9s,baz=324,slow=37
comp=Z,2.2nm,1.0s
LPAZ La Paz 32.04 147 *e*P **P** **00 15 19.8 -2.7**
X18A Snowflake 32.37 321 P **P** **00 15 26.1 +1.3**
X18A lAmb lAmb 00 15 27.6
comp=Z,44nm,1.0s
BGNE Belgrade 32.40 342 lAmb lAmb 00 15 25.8
comp=Z,94nm,1.2s
L34A Svendsen Farm, 32.43 345 lAmb lAmb 00 15 25.3
comp=Z,41nm,0.7s
PB18 Visviri 32.44 150 P **P** **00 15 26.8 +0.9**
PB18 lAmb lAmb 00 16 17.3
comp=Z,46nm,1.1s
W18A Petrified Fore 32.62 322 lAmb lAmb 00 15 29.8
comp=Z,58nm,0.9s
214A Organ Pipe Nat 32.70 314 P **P** **00 15 29.3 +1.7**
UCCT U. Connecticut 33.06 19 lAmb lAmb 00 15 32.7
comp=Z,78nm,1.4s
J55A Hilton 33.06 11 lAmb lAmb 00 15 31.5
comp=Z,113nm,1.5s
PB16 IPOC Station P 33.07 151 P **P** **00 15 33.6 +2.1**
PB16 lAmb lAmb 00 15 52.4
comp=Z,29nm,1.0s
PB16 **PcP** **00 18 15.6 +1.7**
MDP Montagnes des 33.21 97 LR LR 00 30 38.6
comp=Z,252nm,18.2s,baz=282,slow=39
X16A Lo Mia Camp, P 33.24 319 lAmb lAmb 00 15 35.1
comp=Z,25nm,0.8s
OGNE Ogallala 33.30 337 lAmb lAmb 00 15 35.3
comp=Z,79nm,1.2s
MVCO Mesa Verde 33.36 326 lAmb lAmb 00 15 35.4
comp=Z,64nm,1.4s
ITTB Itaituba 33.42 115 *e*P **P** **00 15 33.9 -0.1**
L61B Northampton 33.52 18 lAmb lAmb 00 15 36.1
comp=Z,67nm,0.9s
L64A Middleborough 33.64 20 P **P** **00 15 36.0 +0.4**
L64A lAmb lAmb 00 15 37.4
comp=Z,36nm,1.0s
113A Mohawk Valley, 33.83 315 P **P** **00 15 38.5 +1.3**
113A **PcP** **00 18 16.5 +1.4**
MAL2 Monte Alegre, 33.85 110 P **P** **00 15 37.9 +0.2**
MAL2 lAmb lAmb 00 15 39.5
comp=Z,18nm,0.9s
K62A Royalston 33.85 18 P **P** **00 15 37.3 0.0**
K62A lAmb lAmb 00 15 39.3
comp=Z,66nm,1.1s
WES Weston 33.88 19 P **P** **00 15 38.7 +1.1**
WES lAmb lAmb 00 15 39.6
comp=Z,70nm,1.3s
WES Weston 33.88 19 P **P** **00 15 38.7 +1.1**
WES pmax pmax
comp=Z,70nm,1.3s
BCX Boston College 33.89 19 P **P** **00 15 38.4 +0.7**
BCX lAmb lAmb 00 15 39.8
comp=Z,54nm,1.2s
WUAZ Wupatki 33.89 321 P **P** **00 15 39.5 +1.4**
WUAZ lAmb lAmb 00 15 40.9
comp=Z,60nm,1.1s
HRV Adam Dziewonsk 33.92 19 P **P** **00 15 38.2 +0.3**
HRV lAmb lAmb 00 15 41.1
comp=Z,62nm,1.5s
HRV Adam Dziewonsk 33.92 19 P **P** **00 15 38.2 +0.3**
HRV pmax pmax
comp=Z,62nm,1.5s
J59A Piesco 33.97 15 P **P** **00 15 38.1 -0.3**
J59A lAmb lAmb 00 15 39.6
comp=Z,57nm,1.0s
Y14A Wickenburg 33.97 317 P **P** **00 15 39.3 +0.7**
Y14A lAmb lAmb 00 15 42.3
comp=Z,16nm,0.7s
PV01 Paradox Valley 34.07 327 lAmb lAmb 00 15 43.0
comp=Z,53nm,1.7s
ECSD EROS Data Cent 34.15 346 lAmb lAmb 00 15 40.2
comp=Z,32nm,0.7s
PV15 Paradox Valley 34.17 327 lAmb lAmb 00 15 42.7
comp=Z,32nm,1.3s
PV15 **PcP** **00 18 18.2 +1.9**
PV02 Paradox Valley 34.21 327 lAmb lAmb 00 15 43.0
comp=Z,65nm,1.3s
PV13 Radium Mtn., P 34.22 327 lAmb lAmb 00 15 42.9
comp=Z,32nm,1.1s
PB11 IPOC Station P 34.23 152 P **P** **00 15 42.6 +1.5**
PB11 lAmb lAmb 00 16 01.7
comp=Z,26nm,1.0s
PB11 **PcP** **00 18 18.1 +1.4**
PV03 Paradox Valley 34.30 327 lAmb lAmb 00 15 43.4
comp=Z,29nm,0.9s
DELO Deloro Mine 34.31 10 lAmb lAmb 00 15 42.9
comp=Z,40nm,1.1s
PV05 Paradox Valley 34.31 326 lAmb lAmb 00 15 43.3
comp=Z,25nm,1.0s
SADO Sadowa 34.32 8 LR LR 00 29 44.3
comp=Z,563nm,20.5s,baz=203,slow=37
PV07 Paradox Valley 34.33 327 lAmb lAmb 00 15 43.9
comp=Z,43nm,1.3s
PV11 David Mesa, Pa 34.35 327 lAmb lAmb 00 15 45.1
comp=Z,30nm,0.8s
GO01 Chusmiza 34.37 152 P **P** **00 15 45.1 +2.5**
GO01 lAmb lAmb 00 16 03.6
comp=Z,40nm,0.9s
GO01 **PcP** **00 18 19.1 +1.8**
PV16 Nyswonger Mesa 34.38 327 lAmb lAmb 00 15 44.1
comp=Z,32nm,1.0s
PV17 East Wray Mesa 34.38 327 P **P** **00 15 42.2 -0.1**
PV17 lAmb lAmb 00 15 44.0
comp=Z,42nm,0.9s
PV19 Morning Glory 34.42 327 lAmb lAmb 00 15 44.3
comp=Z,46nm,0.9s
PV20 West Nyswonger 34.43 327 lAmb lAmb 00 15 44.4
comp=Z,49nm,0.9s
PV04 Paradox Valley 34.44 327 P **P** **00 15 43.0 +0.2**
PV04 lAmb lAmb 00 15 44.6
comp=Z,46nm,1.1s
PV22 Blue Mesa, Par 34.48 327 lAmb lAmb 00 15 44.9
comp=Z,52nm,1.4s
PV14 Lion Creek, Pa 34.49 327 P **P** **00 15 43.5 +0.3**
PV14 lAmb lAmb 00 15 44.8
comp=Z,23nm,0.9s
PV10 Paradox Valley 34.50 327 lAmb lAmb 00 15 44.4
comp=Z,44nm,0.9s
PV23 Carpenter Ridg 34.54 327 lAmb lAmb 00 15 45.4
comp=Z,42nm,1.0s
G40A Rib Lake 34.56 354 lAmb lAmb 00 15 43.8
comp=Z,36nm,0.8s
HMBC Humberstone 34.58 153 **PcP** **00 18 18.8 +1.2**
PV21 Cone Mtn., Par 34.60 327 lAmb lAmb 00 15 45.9
comp=Z,56nm,1.8s
VILB Vilhena 34.61 132 P **P** **00 15 44.7 +0.5**
VILB lAmb lAmb 00 15 46.9
comp=Z,65nm,1.1s
VILB Vilhena 34.61 132 *e*P **P** **00 15 45.8 +1.5**
GLA Glamis 34.73 314 P **P** **00 15 46.9 +1.8**
GLA lAmb lAmb 00 15 49.6
comp=Z,82nm,1.7s
GLA Glamis 34.73 314 P **P** **00 15 46.9 +1.8**
GLA pmax pmax
comp=Z,82nm,1.7s
HNH Hanover 34.79 17 P **P** **00 15 46.3 +0.9**
HNH lAmb lAmb 00 15 47.6
comp=Z,27nm,0.9s
PB08 IPOC Station P 34.80 152 P **P** **00 15 46.2 +0.1**
PB08 **PcP** **00 18 20.3 +1.8**
BLYC Blythe 34.90 315 P **P** **00 15 47.7 +1.1**
BLYC lAmb lAmb 00 15 51.7
comp=Z,25nm,1.0s
F42A Maple Grove Fa 34.90 357 lAmb lAmb 00 15 45.9
comp=Z,16nm,0.6s
ESJX Sierra Juarez 34.98 312 P **P** **00 15 49.5 +1.9**
ESJX lAmb lAmb 00 15 51.4
comp=Z,29nm,1.0s
NPGB Novo Progresso 35.02 119 *e*P **P** **00 15 47.7 -0.2**

I62A Tamworth 35.22 18 lAmb lAmb 00 15 51.3
comp=Z,53nm,0.9s
VT1 Waterbury 35.23 16 lAmb lAmb 00 15 51.9
comp=Z,44nm,1.0s
WBO Williamsburg 35.24 13 lAmb lAmb 00 15 50.3
comp=Z,64nm,1.0s
W13A Hualapai Mount 35.25 318 P **P** **00 15 51.5 +1.7**
W13A lAmb lAmb 00 15 53.5
comp=Z,43nm,1.1s
YUH Yuha Desert 35.29 313 P **P** **00 15 52.0 +2.0**
YUH lAmb lAmb 00 15 53.8
comp=Z,24nm,1.1s
COWI Conover 35.30 356 lAmb lAmb 00 15 50.0
comp=Z,30nm,0.8s
O20A White River Ci 35.39 330 lAmb lAmb 00 15 54.0
comp=Z,82nm,1.5s
PB01 IPOC Station P 35.43 153 **PcP** **00 18 21.1 +1.1**
FRNY Flat Rock 35.48 15 lAmb lAmb 00 15 52.6
comp=Z,63nm,1.3s
NEE2 Needles Airpor 35.54 317 P **P** **00 15 53.5 +1.4**
NEE2 lAmb lAmb 00 15 54.9
comp=Z,30nm,0.9s
I63A Otisfield 35.62 19 P **P** **00 15 53.0 +0.5**
CBX Cerro Bola 35.66 312 P **P** **00 15 55.4 +2.1**
CBX lAmb lAmb 00 15 57.3
comp=Z,52nm,1.0s
TKX Tecate 35.75 312 P **P** **00 15 55.9 +1.9**
TKX lAmb lAmb 00 15 57.5
comp=Z,56nm,1.6s
KNB Kanab 35.75 321 lAmb lAmb 00 15 57.0
comp=Z,62nm,1.1s
SRU San Rafael Swe 35.83 326 lAmb lAmb 00 15 56.5
comp=Z,40nm,0.9s
H62A Milan 35.91 18 lAmb lAmb 00 15 57.0
comp=Z,29nm,0.9s
BORC Borrego Spring 35.97 313 P **P** **00 15 57.2 +1.4**
LCMT Little Creek M 36.01 321 P **P** **00 15 57.6 +1.3**
LCMT lAmb lAmb 00 15 59.0
comp=Z,64nm,1.7s
E38A The Farm, Brul 36.03 353 lAmb lAmb 00 15 56.8
comp=Z,56nm,1.0s
TJX Tijuana 36.05 312 P **P** **00 15 59.3 +2.9**
P18A Preston Nutter 36.05 327 lAmb lAmb 00 15 58.5
comp=Z,30nm,1.2s
Q16A Castle Valley 36.05 325 lAmb lAmb 00 15 58.9
comp=Z,105nm,1.9s
SIV San Ignacio 36.10 137 LR LR 00 31 28.2
comp=Z,342nm,20.4s,baz=308,slow=37
PMD Palm Desert 36.14 314 P **P** **00 15 59.5 +2.3**
PFO Pinyon Flats O 36.18 314 P **P** **00 15 58.8 +1.1**
PFO lAmb lAmb 00 16 01.0
comp=Z,50nm,1.7s
PFO Pinyon Flats O 36.18 314 LR LR 00 33 03.4
comp=Z,172nm,20.1s,baz=140,slow=40
PFO Pinyon Flats O 36.18 314 *e*P **P** **00 15 59.8 +2.1**
PFO pmax pmax
comp=Z,41nm,1.6s
PB09 IPOC Station P 36.20 154 P **P** **00 16 00.9 +2.9**
PB09 lAmb lAmb 00 16 17.3
comp=Z,29nm,1.0s
DPP Dos Picos Cty 36.21 312 P **P** **00 15 59.7 +1.8**
DPP lAmb lAmb 00 16 01.2
comp=Z,21nm,1.0s
V12A Nelson 36.25 318 lAmb lAmb 00 16 01.1
comp=Z,35nm,1.0s
SZCU Shurtz Canyon 36.29 322 lAmb lAmb 00 16 01.3
comp=Z,42nm,1.0s
TMUT Trail Mountain 36.34 326 lAmb lAmb 00 16 01.2
comp=Z,46nm,1.4s
TMUT **PcP** **00 18 24.1 +1.4**
PDRB Porto dos Gac 36.39 127 *e*P **P** **00 15 59.2 -0.3**
CCUT Cedar City 36.43 322 P **P** **00 16 01.4 +1.5**
CCUT lAmb lAmb 00 16 02.9
comp=Z,27nm,1.0s
K22A Casper 36.56 334 lAmb lAmb 00 16 02.0
comp=Z,34nm,1.4s
MTPC Mountain Pass 36.58 317 P **P** **00 16 02.6 +1.5**
MTPC lAmb lAmb 00 16 57.2
comp=Z,30nm,0.8s
CLDB Colider 36.71 125 *e*P **P** **00 16 01.4 -0.8**
RSSD Black Hills 36.79 338 P **P** **00 16 03.4 +0.5**
RSSD Black Hills 36.79 338 P **P** **00 16 03.4 +0.5**
RSSD pmax pmax
comp=Z,8.0nm,0.5s
RSSD Black Hills 36.79 338 P **P** **00 16 04.2 +1.3**
RSSD PcP **PcP** **00 18 24.9 +1.0**
ELS Elsinore Mount 36.89 313 P **P** **00 16 05.3 +1.6**
ELS lAmb lAmb 00 16 07.1
comp=Z,63nm,1.6s
SHPR Sheep Range 36.91 319 P **P** **00 16 05.3 +1.3**
BSUT Blindstream Ca 36.98 328 lAmb lAmb 00 16 08.8
comp=Z,25nm,1.2s
PTLB Pontes e Lacer 37.05 134 lAmb lAmb 00 16 07.4
comp=Z,38nm,1.0s
PTLB Pontes e Lacer 37.05 134 *e*P **P** **00 16 05.7 +0.7**
MPU Maple Canyon 37.08 326 lAmb lAmb 00 16 07.1
comp=Z,35nm,1.1s
BBSD Serra de San D 37.26 138 *e*P **P** **00 16 08.1 +1.2**
BBSD *e*pP **pP** **00 16 24.3 +1.1**
EYMN Ely 37.34 354 P **P** **00 16 05.7 -1.6**
PSUT Pine Spring 37.35 322 P **P** **00 16 09.4 +1.7**
PSUT lAmb lAmb 00 16 10.2
comp=Z,37nm,0.8s
PRN Pahroc Range 37.38 320 P **P** **00 16 09.1 +1.2**
PRN lAmb lAmb 00 16 11.0
comp=Z,41nm,1.1s
JLU Jordanelle 37.39 327 P **P** **00 16 08.4 +0.3**
CTU Camp Tracy 37.62 327 lAmb lAmb 00 16 11.6
comp=Z,26nm,1.1s
PASC Pasadena Art C 37.70 313 P **P** **00 16 12.3 +1.8**
PASC lAmb lAmb 00 17 03.2
comp=Z,21nm,0.5s
QSM Queen of Sheba 37.73 317 P **P** **00 16 12.5 +1.8**
VLDQ Val d'Or 37.83 9 lAmb lAmb 00 16 11.7
comp=Z,52nm,1.0s
GGN Saint George 37.84 22 lAmb lAmb 00 16 13.5
comp=Z,25nm,1.0s
DUG Dugway, Tooele 37.85 325 lAmb lAmb 00 16 14.0
comp=Z,30nm,1.1s
TBO Thunder Bay 37.85 356 lAmb lAmb 00 16 12.0
comp=Z,19nm,0.8s
E28A Huff 37.86 343 lAmb lAmb 00 16 12.6
comp=Z,48nm,0.9s
TPNV Topopah Spring 37.88 318 P **P** **00 16 13.6 +1.5**
TPNV lAmb lAmb 00 16 16.0
comp=Z,59nm,0.9s
TPNV Topopah Spring 37.88 318 P **P** **00 16 13.6 +1.5**
TPNV pmax pmax
comp=Z,59nm,1.0s
SPR3 Spring Creek 3 37.94 323 lAmb lAmb 00 16 14.8
comp=Z,39nm,0.9s
S11A Rachel 37.97 320 P **P** **00 16 14.3 +1.5**
LRMC Laurel Mtn Rad 38.02 315 P **P** **00 16 13.9 +0.6**
PDAR Pinedale Array 38.03 331 P **P** **00 16 12.7 -0.8**
PDAR Pinedale Array 38.03 331 P **P** **00 16 12.8 -0.6**
comp=Z,6.8nm,0.6s,baz=132,slow=9.7,SNR=64
PDAR PcP **PcP** **00 18 27.1 -0.7**
comp=Z,2.2nm,0.6s,baz=148,slow=5.3,SNR=6.7
PDAR ScP **ScP** **00 22 10.1 +0.2**
comp=Z,1.1nm,0.9s,baz=101,slow=6.2,SNR=6.8
PDAR LR LR 00 34 38.0
comp=Z,107nm,20.2s,baz=130,slow=41
comp=Z,6.8nm,0.6s
WCT Wildcat Mounta 38.04 318 P **P** **00 16 15.4 +2.0**
WCT lAmb lAmb 00 16 16.6
comp=Z,36nm,1.3s
HWUT Hardware Ranch 38.17 328 lAmb lAmb 00 16 19.1
comp=Z,26nm,0.8s
HWUT **PcP** **00 18 28.8 +0.7**
MPMC Manual Prospec 38.20 316 **PcP** **00 18 28.6 +0.2**
E62A Clayton Lake 38.25 18 lAmb lAmb 00 16 16.5
comp=Z,63nm,1.0s
R11B Troy Canyon, C 38.29 321 P **P** **00 16 17.1 +1.4**
R11B lAmb lAmb 00 16 18.5
comp=Z,54nm,1.5s
AGMN Agassiz Nation 38.34 349 lAmb lAmb 00 16 16.2
comp=Z,26nm,0.7s
BGU Big Grassy Mou 38.48 326 lAmb lAmb 00 16 19.0
comp=Z,37nm,1.2s
ISA Isabella, Lake 38.67 315 P **P** **00 16 20.7 +2.0**
ISA Isabella, Lake 38.67 315 P **P** **00 16 20.7 +2.0**
ISA pmax pmax
comp=Z,59nm,0.8s
HAL Halifax 38.72 25 P **P** **00 16 19.4 +0.6**
HAL lAmb lAmb 00 16 20.9
comp=Z,68nm,1.0s

HAL Halifax 38.72 25 P **P** **00 16 19.4 +0.6**
HAL pmax pmax
comp=Z,68nm,1.0s
GMN Gold Mountain 38.74 318 P **P** **00 16 20.7 +1.2**
AHID Auburn Hatcher 38.78 330 lAmb lAmb 00 16 21.8
comp=Z,33nm,1.2s
GO02 Mina Guanaco 39.04 156 P **P** **00 16 23.9 +1.8**
GO02 lAmb lAmb 00 16 41.2
comp=Z,59nm,1.1s
GO02 **PcP** **00 18 32.5 +1.4**
MZP Montezuma Peak 39.05 319 P **P** **00 16 23.5 +1.4**
SNOW Snow King Moun 39.13 331 lAmb lAmb 00 16 27.2
comp=Z,33nm,1.1s
TPAW Teton Pass 39.25 331 lAmb lAmb 00 16 28.5
comp=Z,21nm,0.8s
DSP Deep Springs 39.25 318 lAmb lAmb 00 16 26.7
comp=Z,46nm,1.2s
EPLO Experimental L 39.32 352 lAmb lAmb 00 16 24.2
comp=Z,29nm,0.7s
PRPB Parauapebas 39.50 114 *e*P **P** **00 16 26.4 +0.6**
LAO LASA Array 39.78 338 lAmb lAmb 00 16 31.1
comp=Z,15nm,0.7s
SALV Santo Antonio 39.83 131 *e*P **P** **00 16 28.7 +0.3**
YNE Yellowstone No 39.97 333 lAmb lAmb 00 17 42.0
comp=Z,20nm,0.6s
NVAR Mina Array Bea 40.06 319 P **P** **00 16 32.1 +1.7**
NVAR Mina Array Bea 40.06 319 P **P** **00 16 31.1 +0.7**
comp=Z,78nm,0.8s,baz=131,slow=7.4,SNR=113
NVAR PcP **PcP** **00 18 34.9 +0.7**
comp=Z,8.4nm,0.7s,baz=133,slow=4.3,SNR=7.5
NVAR ScP **ScP** **00 22 19.1 +1.3**
comp=Z,1.2nm,0.8s,baz=120,slow=4.5,SNR=5.7
NVAR LR LR 00 36 46.1
comp=Z,240nm,18.5s,baz=125,slow=42
ULM Lac du Bonnet 40.22 350 lAmb lAmb 00 16 31.4
comp=Z,26nm,0.8s
ULM Lac du Bonnet 40.22 350 P **P** **00 16 29.1 -2.2**
comp=Z,26nm,0.8s,baz=161,slow=8.6,SNR=25
ULM LR LR 00 35 27.3
comp=Z,109nm,20.4s,baz=171,slow=40
comp=Z,26nm,0.8s
ULM Lac du Bonnet 40.22 350 *de*P **P** **00 16 29.8 -1.4**
GBN Guysborough 40.23 27 P **P** **00 16 32.4 +1.0**
GBN lAmb lAmb 00 16 33.0
comp=Z,52nm,0.9s
PMPB Monarch Peak 40.57 314 lAmb lAmb 00 16 37.1
comp=Z,48nm,0.9s
AC02 Maricunga 40.73 157 P **P** **00 16 39.9 +3.6**
AC02 lAmb lAmb 00 16 55.9
comp=Z,76nm,1.3s
WAKR Walker 40.84 318 P **P** **00 16 39.4 +2.5**
SNDB Serra Nova Dou 40.99 123 *e*P **P** **00 16 37.1 -1.0**
PAHR Pah Rah Range 41.48 320 lAmb lAmb 00 16 44.5
comp=Z,61nm,1.2s
ICQ Pointe Anglais 41.53 18 P **P** **00 16 41.8 -0.2**
MFID Camas Ranch 41.69 327 lAmb lAmb 00 16 45.4
comp=Z,71nm,1.8s
BDQN Bodoquena, MS 42.14 137 *e*P **P** **00 16 47.1 -0.2**
BDQN *e*pP **pP** **00 17 03.8 -0.1**
BEKR Beckworth 42.19 319 lAmb lAmb 00 16 50.7
comp=Z,58nm,0.9s
MURT Porto Murtinho 42.44 140 *e*P **P** **00 16 50.1 +0.3**
MURT *e*pP **pP** **00 17 06.8 +0.4**
WVOR Wild Horse Val 42.64 324 lAmb lAmb 00 16 53.0
comp=Z,83nm,0.9s
ARAG Araguaiana, MT 42.66 128 *e*P **P** **00 16 51.2 -0.4**
SMTB Santa Maria do 42.66 116 *e*P **P** **00 16 50.6 -1.1**
ORV Oroville 42.76 318 lAmb lAmb 00 16 55.7
comp=Z,66nm,0.9s
J08A Circle Bar Ran 43.12 325 P **P** **00 16 55.7 +0.4**
J08A lAmb lAmb 00 16 56.5
comp=Z,37nm,1.1s
MSO Missoula 43.14 332 P **P** **00 16 55.0 -0.3**
HATC Hat Creek Radi 43.42 320 lAmb lAmb 00 16 59.6
comp=Z,77nm,0.9s
BMO Blue Mountains 43.44 327 P **P** **00 16 56.9 -0.9**
BMO Blue Mountains 43.44 327 P **P** **00 16 56.9 -0.9**
BMO pmax pmax
comp=Z,17nm,1.1s
CO03 El Pedregal 43.84 161 P **P** **00 17 05.0 +4.0**
CO03 lAmb lAmb 00 17 19.6
comp=Z,74nm,1.3s
O02D Mt. Diablo Mer 43.93 318 lAmb lAmb 00 17 02.5
comp=Z,31nm,0.8s
CO02 Combarbal 44.08 162 P **P** **00 17 06.0 +2.9**
CO02 lAmb lAmb 00 17 21.5
comp=Z,78nm,1.1s
KCPM Cahto Peak 44.21 317 lAmb lAmb 00 17 06.8
comp=Z,76nm,1.0s
RPRD Ribas do Rio P 44.24 135 *e*P **P** **00 17 04.9 +0.6**
KMRM Mail Ridge 44.56 318 lAmb lAmb 00 17 09.7
comp=Z,64nm,0.9s
J05D Fort Rock, OR 44.68 323 lAmb lAmb 00 17 09.1
comp=Z,29nm,1.1s
YBH Yreka Blue Hor 44.71 320 lAmb lAmb 00 17 08.4
comp=Z,35nm,1.2s
YBH Yreka Blue Hor 44.71 320 LR LR 00 38 37.1
comp=Z,12nm,20.3s,baz=124,slow=40
PINE Pine Mountain 44.80 324 lAmb lAmb 00 17 10.4
comp=Z,55nm,0.9s
KHMM Horse Mountain 44.91 319 lAmb lAmb 00 17 12.0
comp=Z,65nm,0.8s
DRLN Deer Lake 44.93 26 P **P** **00 17 09.5 0.0**
KMPM Mount Pierce 44.93 318 lAmb lAmb 00 17 13.4
comp=Z,54nm,0.8s
E09A Wood Farm, Sta 44.99 328 lAmb lAmb 00 17 11.5
comp=Z,42nm,1.4s
JCC Jacoby Creek, 45.07 318 P **P** **00 17 12.3 +1.6**
ZON Zonda 45.16 159 lAmb lAmb 00 17 30.6
comp=Z,90nm,1.4s
BBOR Butler Butte 45.32 322 lAmb lAmb 00 17 13.2
comp=Z,52nm,1.1s
KRMB Red Mountain 45.36 319 lAmb lAmb 00 17 15.5
comp=Z,30nm,0.8s
I05D Terrebonne, OR 45.36 324 lAmb lAmb 00 17 15.8
comp=Z,34nm,0.9s
E08A Dider Farm, El 45.45 328 lAmb lAmb 00 17 14.6
comp=Z,22nm,1.1s
L02F Cave Junction 45.46 320 lAmb lAmb 00 17 15.8
comp=Z,21nm,1.0s
KSXB Camp Six Broad 45.50 320 lAmb lAmb 00 17 16.4
comp=Z,37nm,0.8s
G06A Carlson Farm, 45.50 325 lAmb lAmb 00 17 16.9
comp=Z,56nm,1.4s
F07A Phinny Hill Vi 45.53 327 lAmb lAmb 00 17 15.9
comp=Z,35nm,1.4s
HAWA Hanford 45.63 327 lAmb lAmb 00 17 16.3
comp=Z,24nm,1.0s
BDFB Brasilia 45.64 125 P **P** **00 17 16.1 +0.5**
BDFB lAmb lAmb 00 17 16.8
comp=Z,25nm,0.8s
BDFB Brasilia 45.64 125 P **P** **00 17 16.2 +0.6**
comp=Z,18nm,0.7s,baz=296,slow=8.3,SNR=21
BDFB LR LR 00 36 35.8
comp=Z,281nm,21.4s,baz=317,slow=36
comp=Z,18nm,0.7s
BDFB Brasilia 45.64 125 P **P** **00 17 16.1 +0.5**
BDFB pmax pmax
comp=Z,25nm,0.8s
FFC Flin Flon 45.67 347 P **P** **00 17 14.2 -1.1**
FFC Flin Flon 45.67 347 *e*P **P** **00 17 14.2 -1.1**
NEW Newport 45.67 331 LR LR 00 39 46.8
comp=Z,148nm,20.9s,baz=136,slow=40
SJPY San Joaquin 45.81 141 *e*P **P** **00 17 17.3 +0.5**
WAH2 Wahluke Slope 45.88 328 lAmb lAmb 00 17 18.5
comp=Z,25nm,1.0s
E07A Sunnyside 45.91 327 lAmb lAmb 00 17 19.1
comp=Z,39nm,1.0s
CPUP Villa Florida 46.08 144 P **P** **00 17 19.2 +0.5**
CPUP Villa Florida 46.08 144 P **P** **00 17 19.3 +0.5**
CPUP LR LR 00 38 54.0
comp=Z,4.8nm,0.8s,baz=186,slow=7.9,SNR=38
comp=Z,54nm,21.4s,baz=175,slow=39
comp=Z,4.8nm,0.8s
CPUP Villa Florida 46.08 144 P **P** **00 17 19.3 +0.5**
CPUP pmax pmax
comp=Z,6.0nm,0.8s
CPUP Villa Florida 46.08 144 *e*P **P** **00 17 19.4 +0.6**
CPUP Villa Florida 46.08 144 P **P** **00 17 19.5 +0.7**
CPUP pP **pP** **00 17 35.4 -0.2**
CPUP PcP **PcP** **00 18 54.7 +0.4**
MXC Moxie City 46.15 327 lAmb lAmb 00 17 21.6
comp=Z,36nm,1.0s
ITRB Iturama 46.16 131 *e*P **P** **00 17 19.6 +0.1**
H04D Lebanon 46.28 323 lAmb lAmb 00 17 21.4
comp=Z,36nm,0.7s

SCHQ **Schefferville** 46.39 15 P P 00 17 19.1 -1.8
comp=Z,92nm,0.9s,baz=204,slow=6.2,SNR=52
SCHQ LR LR 00 36 42.0
comp=Z,320nm,21.6s,baz=242,slow=36
comp=Z,92nm,0.9s
MT08 **Bocatoma Ro** 46.47 162 P P 00 17 25.4 +3.4
MT09 **Talagante** 46.49 163 IAmb IAmb 00 17 40.3
comp=Z,62nm,1.4s
SDBA **SAO DESIDERIO** 46.62 119 eP P 00 17 21.8 -1.5
COR **Corvallis** 46.65 323 P P 00 17 24.1 +1.0
COR IAmb IAmb 00 17 24.4
comp=Z,48nm,0.9s
COR **Corvallis** 46.65 323 P P 00 17 24.1 +1.0
COR pmax pmax
comp=Z,48nm,1.0s
COR **Corvallis** 46.65 323 P P 00 17 24.1 +1.0
COR PcP PcP 00 18 57.4 +1.5
PCMB **Pacaembu** 46.70 134 eP P 00 17 23.5 -0.3
IPMB **Ipameri, GO** 46.78 127 eP P 00 17 24.4 -0.1
LTY **Liberty** 46.79 328 IAmb IAmb 00 17 25.1
comp=Z,31nm,1.4s
BO01 **Tunca** 47.04 163 IAmb IAmb 00 17 44.5
comp=Z,62nm,1.2s
D05A **Enumclaw** 47.44 327 IAmb IAmb 00 17 30.8
comp=Z,21nm,1.0s
BO02 **Sierra Bellavi** 47.50 163 IAmb IAmb 00 17 48.2
comp=Z,69nm,1.5s
E03A **Lebam** 47.92 325 IAmb IAmb 00 17 34.2
comp=Z,32nm,1.0s
LDASE **Londrina, Braz** 47.96 135 eP P 00 17 33.0 -0.6
RADR **Rader Ridge** 47.99 325 IAmb IAmb 00 17 35.1
comp=Z,39nm,0.9s
PTGB **Pitanga** 48.20 137 eP P 00 17 35.1 -0.4
BB19B **Bebedouro** 48.34 131 eP P 00 17 36.4 -0.2
JANB **Januaria** 48.39 121 eP P 00 17 36.1 -1.0
PMNB **Patos De Minas** 48.48 127 eP P 00 17 37.5 -0.2
NLWA **Neilton Lookou** 48.59 326 IAmb IAmb 00 17 39.6
comp=Z,48nm,1.4s
NBPB **Pedra_Branca-C** 48.70 107 eP P 00 17 40.7 +1.2
A04D **Lummi Island** 48.77 328 P P 00 17 39.7 +0.3
A04D IAmb IAmb 00 17 41.2
comp=Z,39nm,1.0s
FRTB **Fartura** 49.01 134 eP P 00 17 41.7 0.0
PGC **Sidney** 49.12 328 P P 00 17 43.1 +1.1
BI02 **San Fabin de** 49.12 165 P P 00 17 45.5 +3.1
LLLB **Lillooet** 49.55 330 P P 00 17 45.5 +0.1
LLLB IAmb IAmb 00 17 47.9
comp=Z,28nm,1.5s
CLRS **Cowichan Lake** 49.58 327 P P 00 17 46.3 +0.7
ITAB **Concordia** 49.90 140 P P 00 17 48.7 +0.4
ITAB **Concordia** 49.90 140 eP P 00 17 48.3 0.0
DIAM **Diamantina, MG** 50.56 125 eP P 00 17 53.2 -0.5
VAO **Valinhos** 50.66 132 P P 00 17 54.1 -0.2
VAO IAmb IAmb 00 17 55.2
comp=Z,28nm,0.8s
VAO **Valinhos** 50.66 132 eP P 00 17 53.8 -0.5
SPB **Sao Paulo** 50.69 133 eP P 00 17 53.9 -0.4
CBB **Campbell River** 50.95 328 P P 00 17 56.5 +0.6
CBB IAmb IAmb 00 17 57.6
comp=Z,68nm,1.8s
BSCB **Bom Sucesso** 51.15 128 eP P 00 17 57.6 -0.3
PET01 **Itanhaem-SP** 51.23 133 eP P 00 17 57.3 -1.1
CPSB **Cacapava Do Su** 51.39 144 eP P 00 17 59.7 +0.2
GDU01 **Guandu, BA** 51.84 117 eP P 00 18 04.1 +1.0
PARB **Paraibuna** 51.85 131 eP P 00 18 02.6 -0.6
MAJ01 **Sao Joao Batis** 52.03 138 eP P 00 18 03.8 -0.5
CNLB **Canela** 52.16 141 eP P 00 18 05.1 -0.2
RCBR **Riachuelo** 52.25 106 LR LR 00 41 25.1
comp=Z,164nm,20.7s,baz=296,slow=37
PLTB **Pedras Altas** 52.30 145 P P 00 18 07.4 +1.1
PLTB pP pP 00 18 23.5 +0.1
PLTB **Pedras Altas** 52.30 145 eP P 00 18 07.3 +1.0
LR05 **Currie** 52.34 167 P P 00 18 08.5 +2.1
CMC01 **Camacan, BA** 52.61 119 eP P 00 18 08.0 -0.8
SJMB **Sao Joao De Ma** 52.79 123 eP P 00 18 09.7 -0.5
PLCA **Paso Flores** 53.15 166 pP pP 00 18 29.9 +0.2
PLCA IAmb IAmb 00 18 30.8
comp=Z,52nm,1.1s
PLCA **Paso Flores** 53.15 166 P P 00 18 13.9 +1.4
comp=Z,6.6nm,0.8s,baz=335,slow=10,SNR=11
comp=Z,6.6nm,0.8s
PLCA **Paso Flores** 53.15 166 eP P 00 18 14.9 +2.4
PLCA pmax pmax
comp=Z,7.0nm,0.8s
PLCA **Paso Flores** 53.15 166 eP P 00 18 09.9 -2.6
PLCA epP pP 00 18 30.0 +0.4
PLCA **Paso Flores** 53.15 166 P P 00 18 14.2 +1.8
PLCA pP pP 00 18 29.8 +0.2
PLCA sP sP 00 18 37.5 +0.4
PLCA PcP PcP 00 19 21.2 +1.3
NBAN **Anadia - AL** 53.20 111 eP P 00 18 11.5 -1.8
DUB01 **Friburgo-RJ** 53.60 128 eP P 00 18 14.9 -1.2
BBB **Bella Bella** 53.61 329 LR LR 00 43 17.3
comp=Z,118nm,21.0s,baz=172,slow=38
RIB01 **Linhares ES** 53.74 124 eP P 00 18 16.1 -1.0
BLKN **Baker Lake** 53.93 354 IAmb IAmb 00 18 18.3
comp=Z,25nm,1.0s
CAM01 **Campos-RJ** 54.03 127 eP P 00 18 17.9 -1.2
FRB **Frobisher Bay** 54.25 9 LR LR 00 41 45.4
comp=Z,444nm,20.2s,baz=194,slow=36
GO07 **Milladeo Hill,** 54.77 169 P P 00 18 26.5 +2.4
YKA **Yellowknife Ar** 55.65 344 P P 00 18 27.8 -2.4
comp=Z,9.8nm,0.8s,baz=139,slow=6.8,SNR=25
comp=Z,9.8nm,0.8s
YKA **Yellowknife Ar** 55.65 344 eP P 00 18 28.6 -1.6
YKA pmax pmax
comp=Z,10.0nm,0.8s
YKAW3 **Yellowknife Wh** 55.71 344 IAmb IAmb 00 18 31.6
comp=Z,15nm,0.8s
MOBC **Moresby Island** 56.10 328 P P 00 18 35.0 +1.3
MOBC IAmb IAmb 00 18 37.0
comp=Z,27nm,1.2s
DIB **Dawson Inlet,** 56.39 328 P P 00 18 36.9 +1.3
TOAD **Toad River Com** 56.43 337 P P 00 18 35.5 -0.5
baz=131
KOTAN **Kotaneelee Air** 56.85 338 P P 00 18 38.8 -0.1
baz=133
LIRD **Liard River Hi** 57.13 337 P P 00 18 41.0 +0.1
baz=131
IVI **Ivigtut** 57.31 21 i P P 00 18 38.9 -3.1
IVI IAmb IAmb 00 18 42.9
comp=Z,74nm,1.7s
T35M **Bob Quinn** 57.38 333 P P 00 18 43.8 +1.2
T35M **Bob Quinn** 57.38 333 P P 00 18 43.0 +0.4
baz=125
COYC **Coyhaique** 57.44 169 P P 00 18 45.1 +2.0
COYC **Coyhaique** 57.44 169 P P 00 18 45.4 +2.3
COYC pP pP 00 19 00.7 +0.3
TAOE **Nuku Hiva Isla** 57.58 252 eP P 00 18 40.5 -4.3
comp=Z,105nm,27.7s
TAOE eS S 00 26 36.0 -2.4
comp=Z,245nm,29.0s
TAOE eLR LR 00 35 35.5
comp=Z,347nm,26.9s
CRAG **Craig** 57.89 330 P P 00 18 45.9 -0.2
baz=121
WRAK **Wrangell Islan** 58.02 332 P P 00 18 47.2 +0.1
baz=123
DLBC **Dease Lake** 58.13 334 LR LR 00 47 40.6
comp=Z,19nm,20.7s,baz=103,slow=40
DLBC **Dease Lake** 58.13 334 P P 00 18 47.9 0.0
baz=126,SNR=19
U33K **Whale Pass** 58.23 331 P P 00 18 49.1 +0.6
U33K IAmb IAmb 00 18 55.5
comp=Z,32nm,1.5s
U33K **Whale Pass** 58.23 331 P P 00 18 49.1 +0.6
baz=122
NRS **Narsarsuaq** 58.25 22 i P P 00 18 42.4 -6.2
NRS IAmb IAmb 00 18 46.8
comp=Z,21nm,0.8s
S34M **Telegraph Cree** 58.30 333 P P 00 18 49.2 +0.2
baz=125,SNR=5.6
NUUK **Nuuk** 58.39 17 i P P 00 18 48.2 -1.3
NUUK IAmb IAmb 00 18 49.3
comp=Z,32nm,0.8s
WTLY **Watson Lake, Y** 58.64 336 P P 00 18 51.6 +0.2
baz=128
AY03 **Cochrane** 58.97 170 P P 00 18 56.4 +2.7
R33M **Jennings River** 59.08 335 P P 00 18 54.5 -0.1
baz=126,SNR=9.0
TGTN **Hyland Airport** 59.33 338 P P 00 18 56.2 +0.1
baz=129
Q32M **Nakina River** 59.39 334 IAmb IAmb 00 18 59.0
comp=Z,16nm,0.9s
Q32M **Nakina River** 59.39 334 P P 00 18 56.8 0.0
baz=124,SNR=9.6
S32K **Killisnoo** 59.61 332 P P 00 18 58.3 +0.2
baz=121
SIT **Sitka** 59.76 331 P P 00 18 59.4 +0.3
baz=120
R32K **Eaglecrest** 60.01 333 P P 00 19 01.0 +0.2
baz=121
P33M **Teslin, Yukon** 60.32 335 P P 00 19 02.6 -0.5
baz=124,SNR=6.6
P32M **Atlin** 60.35 334 P P 00 19 03.2 -0.1
baz=123
S31K **Pelican** 60.63 332 P P 00 19 05.0 0.0
baz=120
SFJD **Kangerlussuaq** 60.84 15 LR LR 00 45 15.9
comp=Z,354nm,20.7s,baz=208,slow=36
N32M **Quiet Lake** 60.96 336 P P 00 19 07.1 -0.2
baz=124
SKAG **Skagway** 60.98 334 P P 00 19 07.2 -0.2
baz=121
MMPY **Sheldon Lake,** 61.11 338 IAmb IAmb 00 19 09.7
comp=Z,7.7nm,0.6s
MMPY **Sheldon Lake,** 61.11 338 P P 00 19 08.2 -0.2
baz=127
WHY **Whitehorse** 61.42 335 P P 00 19 10.2 -0.4
baz=122
PLBC **Pleasant Camp** 61.44 333 P P 00 19 10.3 -0.3
baz=120
FARO **Faro, Yukon** 61.67 337 P P 00 19 11.9 -0.2
baz=124
O30N **Mendenhall** 61.99 335 IAmb IAmb 00 19 15.9
comp=Z,12nm,0.9s
O30N **Mendenhall** 61.99 335 P P 00 19 13.8 -0.5
baz=121,SNR=12
P30M **Million Dollar** 62.03 334 P P 00 19 14.0 -0.6
baz=120
M31M **Drury Creek, Y** 62.06 337 P P 00 19 14.3 -0.4
baz=123
P29M **Windy Craggy** 62.13 333 IAmb IAmb 00 19 17.1
comp=Z,16nm,0.8s
P29M **Windy Craggy** 62.13 333 P P 00 19 14.7 -0.6
baz=119,SNR=6.9
N31M **Braeburn, Yuko** 62.23 335 IAmb IAmb 00 19 17.3
N31M **Braeburn, Yuko** 62.23 335 P P 00 19 15.3 -0.6
comp=Z,8.5nm,0.7s
HYT **Haines Junctio** 62.61 334 P P 00 19 18.1 -0.5
baz=120
N30M **Aishikik Lake** 62.76 335 P P 00 19 18.7 -0.7
baz=120,SNR=5.7
O29M **Mount Kennedy** 62.82 333 P P 00 19 19.2 -0.8
baz=118
PNL **Peninsula** 62.89 333 P P 00 19 18.3 -2.0
baz=117
YUK6 **Outpost Mounta** 63.04 334 P P 00 19 19.5 -2.1
baz=119
M30M **Minto, Yukon** 63.21 336 P P 00 19 21.3 -1.1
baz=121
ISOG **Isortoq, Green** 63.28 20 i P P 00 19 19.4 -3.3
ISOG IAmb IAmb 00 19 20.7
comp=Z,21nm,0.9s
YUK4 **Talbot Arm** 63.35 335 P P 00 19 22.3 -1.2
baz=119
MAYO **Mayo, Yukon** 63.40 337 P P 00 19 23.2 -0.4
baz=122
O28M **Mount Upton** 63.75 334 P P 00 19 25.3 -1.0
baz=117
ANGG **Ammassalik, Gr** 63.77 20 i P P 00 19 19.7 -6.2
ANGG IAmb IAmb 00 19 24.9
comp=Z,11nm,0.9s
M29M **Somme Creek** 63.81 336 IAmb IAmb 00 19 28.1
comp=Z,17nm,0.9s
M29M **Somme Creek** 63.81 336 P P 00 19 25.8 -0.7
baz=119,SNR=30
NUUG **Nuugaatsiaq** 63.87 11 i P P 00 19 25.5 -1.0
NUUG IAmb IAmb 00 19 25.9
comp=Z,16nm,0.8s
L29M **L29M** 64.01 336 P P 00 19 26.7 -1.0
baz=120,SNR=10
RES **Resolute Bay** 64.07 357 LR LR 00 48 44.7
comp=Z,109nm,21.1s,baz=218,slow=37
H31M **Peel River** 64.08 340 P P 00 19 26.9 -1.1
baz=125
J30M **Hart River** 64.09 338 P P 00 19 26.9 -1.3
baz=122
K29M **Barlow Dome** 64.15 337 P P 00 19 27.9 -0.8
baz=121
MESA **MESA** 64.27 333 P P 00 19 28.5 -1.2
baz=115
YUK3 **Moose Creek** 64.32 334 P P 00 19 29.4 -0.6
baz=117
CTG **Chitna Glacier** 64.34 333 P P 00 19 29.4 -0.6
baz=116
I30M **Mount Dempster** 64.45 339 P P 00 19 29.5 -1.1
baz=122,SNR=12
G31M **Satah River** 64.70 341 P P 00 19 31.4 -0.5
baz=125
BVCY **Beaver Creek** 64.78 335 P P 00 19 32.0 -0.7
baz=117
F31M **Tsiigehtchic** 64.83 342 IAmb IAmb 00 19 57.6
comp=Z,27nm,1.5s
F31M **Tsiigehtchic** 64.83 342 P P 00 19 32.3 -0.5
baz=126
DAWY **Dawson** 64.97 337 P P 00 19 33.1 -0.8
baz=119
CRQE **Cirque** 65.03 333 P P 00 19 33.5 -1.0
baz=114
M27K **Edge Creek, AK** 65.18 335 P P 00 19 34.7 -0.7
baz=116,SNR=5.2
EPYK **Eagle Plains** 65.20 340 P P 00 19 34.2 -1.1
baz=125
I29M **Ogilvie Camp,** 65.22 338 P P 00 19 34.2 -1.2
baz=121,SNR=9.5
INK **Inuvik** 65.29 342 LR LR 00 52 17.2
comp=Z,114nm,18.4s,baz=158,slow=40
INK **Inuvik** 65.29 342 P P 00 19 35.1 -0.6
baz=127,SNR=6.9
KAIM **Kayak Island** 65.31 332 P P 00 19 35.6 -0.5
baz=112
G30M **tAoh Zraii Nji** 65.36 340 P P 00 19 35.7 -0.7
baz=123
BCAR **Beaver Creek A** 65.45 335 P P 00 19 35.9 -1.1
L27K **Beaver Creek,** 65.47 335 P P 00 19 36.1 -1.1
baz=116,SNR=16
F30M **Barrier River** 65.58 341 IAmb IAmb 00 19 39.5
comp=Z,44nm,1.4s
F30M **Barrier River** 65.58 341 P P 00 19 37.0 -0.7
baz=124,SNR=11
H29M **Whitestone** 65.68 339 P P 00 19 37.5 -0.9
baz=121,SNR=8.1
BMRM **Bremner River** 65.79 333 P P 00 19 38.6 -0.7
baz=113
I28M **Miner Creek** 65.85 338 P P 00 19 38.9 -0.8
baz=119
G29M **Pine Creek** 65.92 340 IAmb IAmb 00 19 41.8
comp=Z,34nm,1.6s
G29M **Pine Creek** 65.92 340 P P 00 19 39.0 -1.0
baz=122,SNR=8.6
K27K **Chicken** 66.00 336 P P 00 19 39.5 -1.0
baz=116
Q23K **Middleton Isla** 66.03 331 P P 00 19 39.7 -1.0
baz=110
N25K **Chitina, Valde** 66.04 333 P P 00 19 40.3 -0.6
baz=113
L26K **Log Cabin Wild** 66.08 335 P P 00 19 40.5 -0.6
baz=115
EYAK **Cordova Ski Ar** 66.16 332 IAmb IAmb 00 19 46.7
comp=Z,11nm,0.6s
EYAK **Cordova Ski Ar** 66.16 332 P P 00 19 40.8 -0.7
baz=111
PMOZ **Porto Moniz, M** 66.20 59 eLR LR 00 40 09.7
PMOZ i IAMs_20 IAMs_20 00 46 05.5
comp=Z,248nm,20.0s
I27K **Kandik River** 66.54 338 P P 00 19 43.1 -0.9
baz=117,SNR=18
KLU **Klutina** 66.58 333 P P 00 19 43.8 -0.6
baz=112
E29M **Blow River** 66.67 341 P P 00 19 43.6 -1.1
baz=122,SNR=8.7
SCRK **Sand Creek** 66.74 336 P P 00 19 44.9 -0.5
baz=114
J26L **Joseph Creek** 66.79 336 IAmb IAmb 00 19 47.7
comp=Z,13nm,0.8s
J26L **Joseph Creek** 66.79 336 P P 00 19 45.0 -0.7
baz=115,SNR=30
H27K **Steamboat Moun** 66.80 339 IAmb IAmb 00 19 47.5
comp=Z,38nm,1.6s
H27K **Steamboat Moun** 66.80 339 P P 00 19 45.0 -0.7
baz=118,SNR=19
GLI **Glacier Island** 66.89 332 P P 00 19 45.3 -1.0
baz=110
F28M **Old Crow** 66.90 340 IAmb IAmb 00 19 47.8
comp=Z,10nm,0.7s
F28M **Old Crow** 66.90 340 P P 00 19 45.2 -1.0
baz=120,SNR=22
PMPS **Porto Santo** 66.93 59 eP P 00 19 47.3 +0.3
PAX **Paxson** 66.94 335 P P 00 19 45.5 -1.2
baz=113,SNR=8.3
I26K **Coal Creek Min** 66.98 337 IAmb IAmb 00 19 48.2
comp=Z,12nm,0.7s
I26K **Coal Creek Min** 66.98 337 P P 00 19 45.7 -1.0
baz=116
RIDG **Independent Ri** 66.99 335 IAmb IAmb 00 19 49.2
comp=Z,16nm,1.0s
RIDG **Independent Ri** 66.99 335 P P 00 19 46.0 -0.9
baz=114,SNR=16
G27K **Doyon Strip** 67.12 339 P P 00 19 46.7 -0.9
baz=118,SNR=7.3
E28M **Babbage River** 67.30 341 P P 00 19 47.1 -1.6
baz=121,SNR=14
SCM **Sheep Creek Mo** 67.33 333 P P 00 19 48.2 -0.9
baz=110,SNR=6.5
K24K **Donnelly Dome** 67.40 335 IAmb IAmb 00 19 51.5
comp=Z,18nm,0.8s
K24K **Donnelly Dome** 67.40 335 P P 00 19 48.2 -1.2
baz=113,SNR=8.8
PWL **Port Wells** 67.45 332 P P 00 19 48.8 -1.0
baz=109
M23K **Glacier View** 67.49 333 P P 00 19 49.1 -1.0
baz=110
J25K **Salcha River,** 67.55 336 P P 00 19 49.5 -0.9
baz=113,SNR=17
KNK **Knik Glacier** 67.69 332 P P 00 19 50.5 -0.9
baz=109
SEW **Seward** 67.74 331 P P 00 19 50.8 -0.8
baz=108
E27K **Coleen River** 67.75 340 P P 00 19 50.5 -1.2
baz=118,SNR=8.6
SUMG **Summit** 67.76 14 i P P 00 19 49.0 -3.0
SUMG IAmb IAmb 00 19 52.8
comp=Z,13nm,0.8s
WAT6 **Susitna Watana** 67.77 334 P P 00 19 50.6 -1.4
baz=110,SNR=15
DHY **Denali Highway** 67.79 334 P P 00 19 51.3 -0.8
baz=111
G26K **Porcupine Rive** 67.93 339 P P 00 19 51.7 -1.0
baz=116,SNR=8.4
PRP **Porcupine Dome** 67.97 337 P P 00 19 51.8 -1.3
baz=114,SNR=11
GHO **Glory Hole Cre** 68.02 333 IAmb IAmb 00 19 54.2
comp=Z,15nm,0.7s
PMR **Palmer** 68.06 333 P P 00 19 52.5 -1.0
baz=109
D27M **Malcolm River** 68.07 342 P P 00 19 52.4 -1.2
baz=119,SNR=6.6
HDA **Harding Lake** 68.10 336 IAmb IAmb 00 19 55.0
comp=Z,16nm,0.9s
HDA **Harding Lake** 68.10 336 P P 00 19 52.7 -1.1
baz=112,SNR=12
RC01 **Rabbit Creek A** 68.18 332 P P 00 19 53.0 -1.3
baz=108,SNR=5.6
WAT1 **Susitna Watana** 68.21 334 P P 00 19 52.8 -1.8
baz=110
ILAR **Eielson Array** 68.21 336 P P 00 19 53.0 -1.5
comp=Z,4.2nm,0.6s,baz=115,slow=4.8,SNR=58
ILAR PP PP 00 22 23.4 -2.2
comp=Z,2.2nm,1.0s,baz=102,slow=6.7,SNR=5.5
ILAR PKPPKP P'P'df 00 48 13.4 -0.2
comp=Z,0.6nm,1.0s,baz=264,slow=1.4,SNR=4.6
ILAR LR LR 00 54 09.1
comp=Z,106nm,20.1s,baz=112,slow=40
comp=Z,4.2nm,0.6s
ILAR **Eielson Array** 68.21 336 eP P 00 19 53.0 -1.5
ILAR pmax pmax
comp=Z,5.0nm,0.6s
H25L **Birch Creek** 68.39 338 P P 00 19 54.5 -1.0
baz=114,SNR=17
F26K **Sheenjek River** 68.39 340 P P 00 19 54.2 -1.4
baz=116,SNR=12
BMAR **Burnt Mountain** 68.42 339 P P 00 19 55.0 -0.8
RND **Reindeer** 68.53 334 IAmb IAmb 00 19 57.0
comp=Z,33nm,0.8s
M22K **Willow** 68.56 333 P P 00 19 55.8 -0.8
baz=108
POKR **Poker Plat Res** 68.56 336 P P 00 19 55.1 -1.5
baz=112
COLA **College** 68.63 336 i P P 00 19 55.7 -1.4
COLA **College** 68.63 336 P P 00 19 56.4 -0.6
baz=111
KDAK **Kodiak Island** 68.66 328 P P 00 19 56.6 -0.8
KDAK **Kodiak Island** 68.66 328 LR LR 00 52 28.0
comp=Z,84nm,19.9s,baz=97,slow=38
KDAK **Kodiak Island** 68.66 328 oeP P 00 19 56.1 -1.3
KDAK pmax pmax
comp=Z,12nm,0.8s
KDAK **Kodiak Island** 68.66 328 P P 00 19 56.1 -1.3
baz=104
HOM **Homer** 68.67 330 P P 00 19 55.9 -1.5
baz=106
MCK **McKinley** 68.68 335 IAmb IAmb 00 19 58.4
comp=Z,18nm,1.0s
MCK **McKinley** 68.68 335 P P 00 19 56.4 -1.1
baz=110,SNR=9.9
G25K **Bearman Lake** 68.69 338 P P 00 19 56.5 -0.9
baz=114,SNR=9.7
SUA **Susitna One** 68.75 332 P P 00 19 57.0 -1.1
baz=107
Q20K **Shuyak Island** 68.77 329 P P 00 19 57.2 -0.9
baz=104
CUT **Chulitna** 68.82 333 P P 00 19 57.6 -0.7
baz=108
F25K **Christian Rive** 68.86 339 P P 00 19 57.8 -0.8
baz=114,SNR=13
OHAK **Old Harbor** 68.90 327 P P 00 19 57.6 -1.2
baz=103
NEEM **North Greenlan** 68.99 8 i P P 00 19 57.3 -2.3
NEEM IAmb IAmb 00 19 60.0
comp=Z,18nm,0.8s
H24K **Noodor Dome** 69.00 337 P P 00 19 58.5 -0.9
baz=111,SNR=13
NEA2 **Nenana** 69.03 336 P P 00 19 58.3 -1.3
baz=110,SNR=9.5
BWN **Browne** 69.05 335 IAmb IAmb 00 19 59.5
comp=Z,39nm,0.9s
E25K **Arctic Village** 69.06 340 P P 00 19 58.9 -0.8
baz=114,SNR=14
PPT **Papeete** 69.09 246 LR LR 00 41 19.3
comp=Z,67nm,18.5s,baz=78,slow=28
PPT2 **Papeete2** 69.10 246 eP P 00 19 59.8 -1.1
comp=Z,35nm,25.2s
PPT2 eS S 00 28 57.7 -4.1
comp=Z,95nm,28.0s
PPT2 eSS SS 00 33 02.7 -27
comp=Z,5µm,43.0s
PPT2 eLQ LQ 00 38 07.9
comp=Z,441nm,30.8s
PPT2 eLR LR 00 40 54.6
comp=Z,211nm,31.5s
PPT2 eLR LR 00 41 01.6
comp=Z,354nm,29.0s
C27K **Jago River** 69.10 341 P P 00 19 59.5 -0.5
baz=117,SNR=7.1
TRF **Thorofare Moun** 69.16 334 P P 00 19 59.6 -1.1
baz=108,SNR=14
G24K **Hadweenzic Riv** 69.17 338 P P 00 19 59.9 -0.5
baz=112,SNR=11
O20K **Slope Mountain** 69.26 330 P P 00 20 00.2 -1.0
baz=105
SKT **Skwentna** 69.26 333 P P 00 19 60.0 -1.1
baz=106,SNR=18
I23K **Minto, Yukon-K** 69.33 336 P P 00 20 00.6 -0.9
baz=110,SNR=22
RED **Redoubt Volcan** 69.42 331 IAmb IAmb 00 20 02.7
comp=Z,25nm,0.8s
P19K **Oil Pt** 69.45 330 IAmb IAmb 00 20 03.5
comp=Z,11nm,0.6s
P19K **Oil Pt** 69.45 330 P P 00 20 01.4 -1.0
baz=104
Q19K **Cape Douglas,** 69.48 329 IAmb IAmb 00 20 04.9
comp=Z,39nm,1.0s
Q19K **Cape Douglas,** 69.48 329 P P 00 20 02.1 -0.4
baz=104,SNR=7.1
ILSW **Iliamna Southw** 69.49 330 IAmb IAmb 00 20 50.5
comp=Z,22nm,0.6s
R18K **Karluk** 69.59 328 P P 00 20 02.5 -0.7
baz=102
C26K **Camden Bay** 69.61 342 P P 00 20 02.3 -0.8

baz=116
F24K Squaw Lake 69.62 339 P P 00 20 02.7 -0.5
baz=112
H23K Yukon River 69.63 337 P P 00 20 02.1 -1.2
baz=110
BPAW Bear Paw Mtn. 69.66 335 P P 00 20 02.2 -1.3
baz=108,SNR=23
PPLA Purkeypile 69.82 333 IAmb IAmb 00 20 05.3
comp=Z,13nm,0.4s
PPLA Purkeypile 69.82 333 P P 00 20 03.4 -1.3
baz=106,SNR=11
D25K Kavik River 69.82 341 P P 00 20 03.5 -1.0
baz=114,SNR=21
MLY Manley 69.84 336 IAmb IAmb 00 20 04.9
comp=Z,17nm,0.6s
MLY Manley 69.84 336 P P 00 20 02.9 -1.8
baz=108,SNR=38
CAST Castle Rocks 69.92 334 P P 00 20 03.5 -1.7
baz=106,SNR=17
M20K Styx River 69.96 332 IAmb IAmb 00 20 05.9
comp=Z,11nm,0.5s
M20K Styx River 69.96 332 P P 00 20 04.1 -1.5
baz=105,SNR=18
E24K Your Creek 70.04 339 P P 00 20 05.1 -0.8
baz=112
O19K Port Alsworth 70.11 330 P P 00 20 04.9 -1.3
baz=103
Q18K Katmai Hardscr 70.11 329 P P 00 20 05.1 -1.4
baz=102,SNR=8.9
G23K Bananza Creek 70.12 338 P P 00 20 05.3 -1.0
baz=110,SNR=17
CHUM Lake Minchumin 70.15 334 P P 00 20 05.0 -1.5
baz=106
N19K Bonanza Creek 70.33 331 P P 00 20 06.0 -1.8
baz=103,SNR=17
COLD Coldfoot 70.36 338 P P 00 20 07.0 -0.7
baz=110,SNR=18
H22K Ishtalitna Cre 70.37 337 P P 00 20 06.6 -1.2
baz=108,SNR=10.0
P18K Big Mountain, 70.38 329 P P 00 20 06.6 -1.4
baz=102
I21K Tanana 70.39 336 P P 00 20 06.6 -1.3
baz=107,SNR=18
E23K Chandalar 70.43 339 P P 00 20 07.6 -0.7
baz=110,SNR=17
L20K Farewell, AK 70.46 333 P P 00 20 07.0 -1.5
baz=104,SNR=34
O18K Koktuh Hills 70.47 330 P P 00 20 07.3 -1.2
baz=102,SNR=14
Q17K Contact Creek 70.48 328 P P 00 20 07.3 -1.4
baz=101,SNR=22
M19K Big River Lodg 70.55 332 P P 00 20 07.6 -1.4
baz=104
D24K Happy Valley 70.56 340 P P 00 20 07.6 -1.3
baz=112
PLK4 Peulik 4 70.61 327 IAmb IAmb 00 20 12.0
comp=Z,31nm,0.9s
R17L Mt. Peulik Vol 70.61 327 P P 00 20 08.3 -1.1
baz=101,SNR=14
TOLK Toolik Lake Re 70.62 340 P P 00 20 07.8 -1.6
baz=111
C24K Franklin Bluff 70.73 341 P P 00 20 08.6 -1.4
baz=112
G22K Bettles 70.74 338 P P 00 20 09.0 -1.1
baz=108
K20K Telida 70.76 334 P P 00 20 08.8 -1.5
baz=105,SNR=15
L19K White Mountain 70.83 332 P P 00 20 09.5 -1.2
baz=104,SNR=6.7
H21K Melozitna Rive 70.86 336 P P 00 20 09.6 -1.2
baz=107,SNR=10
P17K Kvichak River 70.95 329 P P 00 20 10.3 -1.1
baz=101
N18K Kilae Creek 70.98 331 P P 00 20 10.6 -1.0
baz=102,SNR=16
TBI Tubuai 70.98 241 *e*S S 00 29 18.6 -4.8
comp=Z,657nm,36.0s
TBI Tubuai 70.98 241 *e*LR LR 00 42 00.8
comp=Z,1μm,30.8s
J20K Nowinta River 71.01 334 P P 00 20 09.8 -1.9
baz=105,SNR=15
D23K Nanushuk River 71.12 340 P P 00 20 11.1 -1.2
baz=110,SNR=7.9
M18K Stony River 71.12 332 P P 00 20 10.9 -1.5
baz=102,SNR=19
F22K John River 71.17 338 P P 00 20 11.9 -0.8
baz=108
E22K Anaktuvuk Pass 71.24 339 P P 00 20 11.7 -1.4
baz=108,SNR=7.8
I20K Naaghedeneel 71.31 335 IAmb IAmb 00 20 14.0
comp=Z,38nm,1.1s
I20K Naaghedeneel 71.31 335 P P 00 20 12.0 -1.4
baz=105,SNR=9.8
G21K Allakaket 71.38 337 IAmb IAmb 00 20 14.3
comp=Z,18nm,0.9s
G21K Allakaket 71.38 337 P P 00 20 12.7 -1.2
baz=106,SNR=31
O17K Koliganek Bris 71.39 330 P P 00 20 12.7 -1.4
baz=101,SNR=20
C23K Itkillik River 71.39 341 P P 00 20 13.1 -0.8
baz=110
CHGN Chignik 71.50 326 IAmb IAmb 00 20 16.4
comp=Z,34nm,0.8s
F21K Alatna River 71.57 338 P P 00 20 14.3 -0.8
baz=106,SNR=28
N17K Nushagak Hills 71.57 330 P P 00 20 13.3 -1.9
baz=101,SNR=11
J19K Poorman 71.59 334 P P 00 20 13.6 -1.7
baz=103,SNR=14
H20K Anotleneega Mo 71.65 336 P P 00 20 14.3 -1.2
baz=105,SNR=8.1
L18K Granite Mounta 71.67 332 P P 00 20 14.0 -1.7
baz=102,SNR=6.6
D22K Ayikyak River 71.77 339 P P 00 20 14.9 -1.3
baz=108,SNR=7.0
O16K Kokwok River B 71.85 329 P P 00 20 15.1 -1.7
baz=100
M17K Holitna River 71.86 331 P P 00 20 15.3 -1.6
baz=101,SNR=5.5
J18K Innoko River 71.95 333 P P 00 20 15.6 -1.9
baz=102,SNR=7.0
S14K Fog Glacier 72.13 326 P P 00 20 17.0 -1.7
baz=97
H19K Roundabout Mou 72.29 336 P P 00 20 18.3 -1.1
baz=103,SNR=17
N16K Nishlik Lake 72.33 330 P P 00 20 18.6 -1.2
baz=99,SNR=8.4
F20K Avaraart Lake 72.37 337 P P 00 20 18.5 -1.3
baz=104,SNR=12
L17K Donlin 72.40 332 P P 00 20 18.5 -1.6
baz=100,SNR=5.5
K17K Iditarod 72.50 333 P P 00 20 19.2 -1.5
baz=100,SNR=6.1
M16K Timber Creek 72.52 331 P P 00 20 19.5 -1.3
baz=99
SDPT Sand Point 72.53 325 P P 00 20 19.6 -1.3
baz=96
C21K Knifeblade Rid 72.58 339 P P 00 20 19.5 -1.6
baz=106
B21K Ikpikpuk River 72.65 340 P P 00 20 20.3 -1.2
baz=106
G19K Purcell Mounta 72.68 336 P P 00 20 20.6 -1.1
baz=103,SNR=12
E20K Nigu River 72.84 338 P P 00 20 21.6 -1.1
baz=104,SNR=23
L16K Owhat River 72.87 331 P P 00 20 21.9 -1.1
baz=99,SNR=11
N15K Kwethluk River 72.94 330 P P 00 20 22.6 -0.8
baz=98
J17K VABM Dome 72.97 333 P P 00 20 22.8 -0.7
baz=100,SNR=11
H18K Honhosa River 73.00 335 P P 00 20 22.9 -0.7
baz=101,SNR=11
E19K Redstone River 73.03 338 P P 00 20 22.9 -0.8
baz=103,SNR=13
D20K Etivluk River 73.10 339 IAmb IAmb 00 20 24.8
comp=Z,14nm,0.6s
D20K Etivluk River 73.10 339 P P 00 20 23.5 -0.7
baz=104,SNR=26
F19K Shaleruckik Mo 73.10 337 P P 00 20 23.0 -1.2
baz=102,SNR=12
PFVI Vila Bisbo 73.13 54 *e*P P 00 20 24.1 -0.9
PSBE So Bento 73.13 52 *e*P P 00 20 23.9 -1.0
PSBE *i* IAmb IAmb 00 20 24.5
comp=Z,25nm,1.3s
A22K Sinclair Lake 73.16 341 P P 00 20 24.1 -0.2
baz=106
PTEO Sao Teotonio 73.20 54 *e*P P 00 20 24.7 -0.7
PTEO *i* IAmb IAmb 00 20 34.8
comp=Z,42nm,1.4s
G18K Tagagawik 73.26 336 P P 00 20 24.4 -0.8
baz=101,SNR=10.0
MORF Marmelete 73.27 54 *e*P P 00 20 24.2 -1.6
MORF IAmb IAmb 00 20 25.4
comp=Z,29nm,0.7s
MORF Marmelete 73.27 54 *e*P P 00 20 24.6 -1.2
MORF *i* IAmb IAmb 00 20 26.3
comp=Z,52nm,1.3s
MORF Marmelete 73.27 54 *e*P P 00 20 24.2 -1.6
PTO Porto 73.28 50 *e*P P 00 20 23.5 -2.2
M15K Kasigluk River 73.30 330 P P 00 20 24.4 -1.1
baz=98,SNR=10
PCAS Casmilo, Conde 73.36 51 *e*P P 00 20 23.2 -3.1
PCAS *i* IAmb IAmb 00 20 25.0
comp=Z,38nm,1.5s
O14K Tigyukauivet M 73.41 329 P P 00 20 24.8 -1.3
baz=97
COI Coimbra 73.42 51 *e*P P 00 20 25.0 -1.6
COI *i* IAmb IAmb 00 20 26.0
comp=Z,53nm,1.1s
S12K Black Hills 73.46 325 IAmb IAmb 00 20 27.8
comp=Z,18nm,0.9s
S12K Black Hills 73.46 325 P P 00 20 26.5 -0.1
baz=95,SNR=5.5
PGAV Gavieira, Arco 73.53 49 *e*P P 00 20 25.9 -1.5
PGAV *i* IAmb IAmb 00 20 28.3
comp=Z,39nm,1.7s
PGAV *e*LQ LQ 00 47 10.9
PGAV *e*LR LR 00 48 17.1
PGAV *i* IAMs_20 IAMs_20 00 49 10.7
comp=Z,112nm,20.0s
PMTG Montargil 73.58 52 *e*P P 00 20 25.7 -1.9
PMTG *i* IAmb IAmb 00 20 26.9
comp=Z,32nm,1.2s
D19K Kuna River 73.59 339 P P 00 20 26.2 -0.9
baz=102,SNR=15
MESJ Messejana 73.60 54 *e*P P 00 20 25.9 -1.8
MESJ IAmb IAmb 00 20 27.4
comp=Z,26nm,1.1s
MESJ Messejana 73.60 54 *e*P P 00 20 25.9 -1.8
H17K Granite Mounta 73.60 335 P P 00 20 26.5 -0.7
baz=100,SNR=5.9
B20K Meade River 73.60 340 P P 00 20 26.5 -0.5
baz=104
PSARD Sardoal 73.62 52 *e*P P 00 20 26.0 -1.8
PSARD *i* IAmb IAmb 00 20 27.1
comp=Z,22nm,1.3s
J16K Anvik River 73.64 333 P P 00 20 27.1 -0.2
baz=99,SNR=7.9
N14K Kuskokwak Cree 73.70 329 P P 00 20 28.2 +0.4
baz=97
PCVE Castro Verde 73.75 54 *e*P P 00 20 27.6 -1.0
EVO Evora 73.75 53 *e*P P 00 20 26.8 -1.8
EVO *i* IAmb IAmb 00 20 28.0
comp=Z,18nm,1.2s
F18K Selawik 73.79 336 P P 00 20 27.9 -0.3
baz=100
PVIS Viseu 73.82 51 *e*P P 00 20 26.9 -2.1
L15K Ungalak Mounta 73.82 331 P P 00 20 28.0 -0.5
baz=97,SNR=10
PBDV Barranco-do-Ve 73.84 54 *e*P P 00 20 28.3 -0.9
PBDV *i* IAmb IAmb 00 20 29.3
comp=Z,44nm,1.3s
PBEJ Beja 73.88 53 *e*P P 00 20 28.1 -1.2
PBEJ *i* IAmb IAmb 00 20 28.8
comp=Z,21nm,1.4s
POLO Lamas de Olo 73.89 50 *e*P P 00 20 27.6 -1.9
POLO *i* IAmb IAmb 00 20 28.7
comp=Z,10.0nm,1.3s
K15K Wolf Creek Mou 73.92 332 IAmb IAmb 00 20 31.7
comp=Z,45nm,1.1s
K15K Wolf Creek Mou 73.92 332 P P 00 20 28.3 -0.7
baz=97,SNR=11
M14K Bethel 73.93 330 IAmb IAmb 00 20 32.0
comp=Z,39nm,0.9s
M14K Bethel 73.93 330 P P 00 20 28.6 -0.5
baz=97,SNR=22
PVRL Vila Real 73.95 50 *e*P P 00 20 28.4 -1.3
PVRL *i* IAmb IAmb 00 20 29.6
comp=Z,28nm,1.5s
G17K Kiwalik Mounta 74.00 335 P P 00 20 28.9 -0.6
baz=99
PVAQ Vaqueiros 74.01 54 *e*P P 00 20 28.6 -1.5
PVAQ *i* IAmb IAmb 00 20 30.5
comp=Z,25nm,1.2s
PVAQ *e*S S 00 29 59.6 +1.9
PVAQ *e*LR LR 00 43 51.0
PVAQ *i* IAMs_20 IAMs_20 00 47 14.4
comp=Z,264nm,22.0s
PESTR Estremoz 74.08 53 *e*P P 00 20 28.8 -1.7
PESTR *i* IAmb IAmb 00 20 30.4
comp=Z,26nm,1.2s
MTE Manteigas 74.09 51 *e*P P 00 20 28.5 -2.1
MTE *i* IAmb IAmb 00 20 30.4
comp=Z,35nm,1.2s
MTE *e*S S 00 30 16.6 +18
MTE *e*LR LR 00 44 11.9
MTE *i* IAMs_20 IAMs_20 00 47 59.5
comp=Z,176nm,20.0s
PCBR Castelo Branco 74.15 52 *e*P P 00 20 29.1 -1.8
PCBR *i* IAmb IAmb 00 20 30.2
comp=Z,22nm,1.2s
PMRV Marv??o 74.22 52 *e*P P 00 20 29.3 -2.0
PMRV *i* IAmb IAmb 00 20 30.4
comp=Z,27nm,1.2s
PMRV *e*LR LR 00 44 06.6
PMRV *i* IAMs_20 IAMs_20 00 48 03.4
comp=Z,205nm,20.0s
C19K Lookout Ridge 74.24 339 P P 00 20 30.2 -0.6
baz=101,SNR=9.1
E18K Tukpahlearik C 74.30 337 P P 00 20 29.5 -1.7
baz=100,SNR=7.4
L14K Kuka Creek 74.35 331 P P 00 20 31.1 -0.5
baz=96,SNR=6.9
DAG Danmarks Havn 74.37 13 *i* P P 00 20 27.1 -4.4
DAG IAmb IAmb 00 20 30.0
comp=Z,7.7nm,0.7s
F17K Baldwin Pennin 74.39 336 P P 00 20 30.8 -0.9
baz=99
MVO Moncorvo 74.47 50 *e*P P 00 20 31.2 -1.6
MVO *i* IAmb IAmb 00 20 32.2
comp=Z,35nm,1.0s
MVO *e*S S 00 30 08.4 +5.5
MVO *e*LR LR 00 47 39.6
MVO *i* IAMs_20 IAMs_20 00 50 33.4
comp=Z,134nm,18.0s
PBAR Barrancos 74.53 53 *e*P P 00 20 31.5 -1.6
PBAR *i* IAmb IAmb 00 20 33.2
comp=Z,32nm,1.4s
M13K Dall Lake 74.58 330 IAmb IAmb 00 20 35.5
comp=Z,27nm,1.0s
M13K Dall Lake 74.58 330 P P 00 20 32.1 -0.7
baz=95,SNR=8.6
PBRG Braganca 74.67 50 *e*P P 00 20 32.3 -1.7
PBRG *i* IAmb IAmb 00 20 34.1
comp=Z,24nm,1.3s
G16K Koyuk River 74.69 335 P P 00 20 32.6 -0.8
baz=98
E17K Hotham Inlet 74.72 337 P P 00 20 32.7 -0.9
baz=98,SNR=7.5
C18K Utukok River 74.73 338 P P 00 20 32.4 -1.4
baz=100,SNR=6.8
J14K Nanvaranak Lak 74.90 332 IAmb IAmb 00 20 37.6
comp=Z,17nm,0.9s
J14K Nanvaranak Lak 74.90 332 P P 00 20 34.2 -0.5
baz=96,SNR=8.1
A19K Wainwright 74.95 340 P P 00 20 34.3 -0.6
baz=100
B18K Kokolik River 75.06 339 P P 00 20 34.7 -0.9
baz=99,SNR=14
RDOG Red Dog Mine 75.27 338 P P 00 20 36.6 -0.2
baz=98
D17K Noatak River 75.29 337 P P 00 20 36.6 -0.2
baz=98
K13K Kusilvak Mount 75.34 331 P P 00 20 36.6 -0.6
baz=94
G15K Niukluk 75.35 335 P P 00 20 36.7 -0.6
baz=96
C17K DeLong Mountai 75.42 338 P P 00 20 36.6 -1.1
baz=98,SNR=10.0
F15K North Star Dit 75.67 335 P P 00 20 39.1 -0.1
baz=96,SNR=10.0
UNV Unalaska Valle 75.94 323 IAmb IAmb 00 20 42.5
comp=Z,54nm,0.9s
UNV Unalaska Valle 75.94 323 P P 00 20 41.1 +0.3
baz=91
C16K Lisburne Hills 76.20 338 IAmb IAmb 00 20 42.8
comp=Z,16nm,0.8s
C16K Lisburne Hills 76.20 338 P P 00 20 41.1 -0.9
baz=96,SNR=22
F14K Arctic Creek 76.35 335 P P 00 20 43.6 +0.6
baz=94
PAB San Pablo 76.57 52 P P 00 20 43.5 -1.3
PAB San Pablo 76.57 52 P P 00 20 43.6 -1.3
PAB pmax pmax
comp=Z,16nm,1.0s
MDT Midelt 76.79 59 LR LR 00 49 07.5
comp=Z,288nm,21.8s,baz=303,slow=32
ESDC Sonseca Array 76.86 52 P P 00 20 44.7 -1.8
comp=Z,20nm,0.8s,baz=281,slow=5.8,SNR=126
ESDC LR LR 00 49 31.6
comp=Z,176nm,21.6s,baz=266,slow=32
comp=Z,20nm,0.8s
ESBB Sonseca Array 76.86 52 IAmb IAmb 00 20 45.8
comp=Z,22nm,0.8s
EKA Eskdalemuir Ar 76.96 36 P P 00 20 43.8 -2.8
comp=Z,5.4nm,0.7s,baz=261,slow=5.9,SNR=28
comp=Z,5.4nm,0.7s
HOPE Hope Point 76.97 153 P P 00 20 48.5 +2.0
HOPE Hope Point 76.97 153 P P 00 20 48.5 +2.0
HOPE pmax pmax
comp=Z,85nm,0.8s
TNA Tin City 77.02 335 P P 00 20 47.7 +1.0
baz=92
ESPZ Base Esperanza 77.19 167 P P 00 20 48.0 +0.5
ESPZ IAmb IAmb 00 21 07.0
comp=Z,18nm,0.9s
NIKH Nikolski High 77.34 322 P P 00 20 49.6 +0.8
baz=89
P08K Saint George I 77.68 326 P P 00 20 51.4 +0.9
baz=89
SPIA Saint Paul Isl 78.05 326 P P 00 20 53.2 +0.5
baz=89
GAMB Gambell 78.62 333 P P 00 20 56.7 +1.0
baz=89
RAR Rarotonga 79.36 246 LR LR 00 48 37.6
comp=Z,72nm,21.6s,baz=118,slow=30
SMAI San Martin Ant 79.85 173 IAmb IAmb 00 21 05.8
comp=Z,48nm,1.0s
KBS Kingsbay 80.94 11⇓ *e*P P 00 21 07.8 -0.2
KBS pmax pmax
comp=Z,25nm,2.6s
KBS Kingsbay 80.94 11 *i* P P 00 21 06.1 -1.9
SPITS Spitsbergen Ar 81.96 12 P P 00 21 11.2 -2.2
comp=Z,2.3nm,0.7s,baz=117,slow=8.5,SNR=4.3
SPITS LR LR 00 57 41.0
comp=Z,127nm,21.4s,baz=266,slow=36
comp=Z,2.3nm,0.7s
DOU Dourbes 82.00 41 *d*P P 00 21 09.9 -4.2
comp=Z,4.7nm,0.9s
DOU *d*pP pP 00 21 28.8 -3.7
ADK Adak 82.20 321 P P 00 21 15.8 +0.7
ADK Adak 82.20 321 P P 00 21 15.8 +0.7
ADK pmax pmax
comp=Z,145nm,0.7s
BGES Gesves 82.28 40 *d*P P 00 21 13.1 -2.4
BCLA Clavier 82.41 40 *d*P P 00 21 13.8 -2.4
BCLA *d*PcP PcP 00 21 20.5 -0.8
MEM Membach 82.83 40 *d*P P 00 21 16.5 -2.0
BHOU Houvegnez 82.86 40 *d*P P 00 21 16.4 -2.3
WLF Walferdange 83.06 41 *d*P P 00 21 17.4 -2.2
comp=Z,8.7nm,1.1s
WLF Walferdange 83.06 41 *e*P P 00 21 17.6 -2.1
comp=Z,24nm,1.2s,baz=282,slow=4.9
NB2 NORSAR Subarra 83.97 29 P P 00 21 21.9 -2.2
comp=Z,1.4nm,0.7s,baz=281,slow=5.1
NOA NORSAR Array B 83.97 29 P P 00 21 21.8 -2.4
comp=Z,0.6nm,0.3s,baz=284,slow=5.1,SNR=11
NOA LR LR 00 59 23.3
comp=Z,45nm,18.3s,baz=275,slow=36
comp=Z,0.6nm,0.3s
NOA NORSAR Array B 83.97 29 *e*P P 00 21 21.7 -2.4
NOA pmax pmax
comp=Z,2.0nm,0.8s
BFO Black Forest 84.69 42 *e*P P 00 21 25.1 -2.9
comp=Z,6.6nm,1.0s,baz=282,slow=4.9
CLZ Clausthal 85.32 38 *e*P P 00 21 28.9 -2.3
comp=Z,9.0nm,0.8s,baz=282,slow=4.9
CLZ *e*pP PcP 00 21 33.5 -0.7
HFS Hagfors 85.36 30 P P 00 21 28.4 -2.7
comp=Z,3.0nm,0.6s,baz=199,slow=3.1,SNR=16
HFS LR LR 00 55 01.9
comp=Z,87nm,21.8s,baz=264,slow=32
comp=Z,3.0nm,0.6s
TUE Stuetta 85.71 44 IAmb IAmb 00 21 32.5
comp=Z,8.7nm,0.8s
DAVA Damuels 85.91 43 *e*P P 00 21 32.6 -1.7
comp=Z,12nm,0.9s
MOX Moxa 86.34 39 *e*P P 00 21 33.5 -2.6
comp=Z,5.3nm,0.9s,baz=282,slow=4.9
RETA Seute 86.46 42 *i* P P 00 21 34.7 -2.2
comp=Z,7.7nm,1.2s,SNR=6.5
FETA Feichten 86.53 43 *e*P P 00 21 35.4 -2.0
comp=Z,13nm,1.2s,SNR=7.4
BILL Bilibino 86.67 339⇑ *i*P P 00 21 36.4 -1.0
BILL pmax pmax
comp=Z,12nm,1.3s
MOTA Moosalm 86.71 43 *i* P P 00 21 36.6 -1.6
comp=Z,6.2nm,1.1s
MANZ Manzenberg 86.79 40 *e*P P 00 21 36.1 -2.3
comp=Z,1.1nm,0.8s,baz=282,slow=4.9
SQTA Sankt Quirin 86.81 43 *e*P P 00 21 36.5 -2.2
comp=Z,4.4nm,0.9s
ROTZ Rotzenmuhle 86.90 40 *e*P P 00 21 36.7 -2.2
comp=Z,1.1nm,1.0s,baz=282,slow=4.9
ROTZ *e*pP PcP 00 21 40.3 -0.8
TANN Tannenbergstha 86.91 39 *e*P P 00 21 36.7 -2.3
comp=Z,10.0nm,0.8s,baz=282,slow=4.9
NKC Novy Kostel 86.95 40 *e*P P 00 21 37.4 -1.8
NKC AMS AMS 00 58 30.0
comp=Z,200nm,12.9s
NKC Novy Kostel 86.95 40 *e*P P 00 21 37.4 -1.8
NKC MLR MLR
comp=Z,200nm,12.9s
TAM Tamanrasset 87.00 68 IAmb IAmb 00 21 40.0
comp=Z,7.9nm,0.6s
CLL Collm 87.04 38 *i* P P 00 21 36.9 -2.6
CLL *e*S SKSac 00 32 08.0 +6.9
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL Collm 87.04 38 *e*P P 00 21 37.2 -2.4
comp=Z,8.4nm,0.9s,baz=282,slow=4.9
ARCES ARCESS Array B 87.18 19 P P 00 21 38.0 -1.9
comp=Z,1.1nm,0.5s,baz=278,slow=4.4,SNR=7.2
ARCES PP PP 00 25 03.5 -0.4
comp=Z,2.1nm,0.8s,baz=292,slow=6.4,SNR=4.7
comp=Z,1.1nm,0.5s
WET Wettzell 87.47 41 *e*P P 00 21 39.6 -2.1
comp=Z,6.4nm,1.0s,baz=282,slow=4.9
BRG Berggiesshubel 87.72 39 *e*P P 00 21 40.4 -2.4
comp=Z,3.3nm,0.8s,baz=282,slow=4.9
BRG Berggiesshubel 87.72 39 *e*P P 00 21 41.1 -1.7
BRG Amp 00 21 41.9
comp=Z,3.3nm,0.8s
BRG Berggiesshubel 87.72 39 P P 00 21 52.0 +9.2
BRG Amp 00 21 53.9
comp=Z,1.3nm,0.8s
BRG Berggiesshubel 87.72 39 P PKiKP 00 26 37.6 -8.1
BRG Amp 00 26 41.1
comp=Z,1.6nm,0.9s
BRG Berggiesshubel 87.72 39 S S 00 32 18.0 -1.9
RJOB Jochberg 87.74 42 *e*P P 00 21 40.7 -2.4
comp=Z,4.6nm,0.9s,baz=282,slow=4.9
ABTA Abfaltersbach 87.78 43 *e*P P 00 21 41.4 -2.0
comp=Z,9.3nm,1.0s
KEST Kesra 87.83 54 IAmb IAmb 00 21 44.1
comp=Z,8.8nm,0.8s
KEST Kesra 87.83 54 P P 00 21 41.8 -2.0
comp=Z,8.7nm,0.8s,baz=292,slow=2.5,SNR=18
comp=Z,8.7nm,0.8s
RICC Richard 87.90 39 *e*P P 00 21 42.6 -1.1
KHC Kasperske Hory 87.92 40 *e*P P 00 21 41.9 -2.0
KHC AMS AMS 00 54 00.0
comp=Z,200nm,22.0s
KHC Kasperske Hory 87.92 40 *d i*P P 00 21 40.8 -3.1
KHC pmax pmax
comp=Z,6.0nm,1.0s
GEC2 GERESS Array S 88.07 41 *e*P P 00 21 41.7 -3.0
comp=Z,5.8nm,1.1s,baz=282,slow=4.9
GEC2 *e*pP PcP 00 21 46.5 +0.1
GERES GERESS Array B 88.07 41 P P 00 21 42.5 -2.2

comp=Z,1.5nm,0.7s,baz=270,slow=3.7,SNR=16
comp=Z,1.5nm,0.7s
GERES GERESS Array B 88.07 41 *e*P **P 00 21 42.4 -2.2**
GERES pmax pmax
comp=Z,1.0nm,0.7s
PVCC Panska Ves 88.19 39 *e*P **P 00 21 43.7 -1.4**
PVCC AMS AMS 00 59 20.0
comp=Z,200nm,15.3s
PVCC Panska Ves 88.19 39 *e*P **P 00 21 43.7 -1.4**
PVCC MLR MLR
comp=Z,200nm,15.3s
PRA Prague 88.23 39 AMS AMS 00 58 40.0
comp=Z,200nm,20.0s
ZVC Zvikov 88.23 40 *e*P **P 00 21 43.5 -1.8**
ZVC AMS AMS 00 53 30.0
comp=Z,200nm,23.8s
PRU Pruhonice 88.31 39 AMS AMS 00 58 40.0
comp=Z,200nm,21.7s
CKRC Cesky Krumlov 88.46 41 *e*P **P 00 21 44.2 -2.2**
CKRC AMS AMS 00 56 20.0
comp=Z,200nm,22.6s
CKRC Cesky Krumlov 88.46 41 *e*P **P 00 21 44.2 -2.2**
CKRC MLR MLR
comp=Z,200nm,22.6s
GOPC GO Pecny, Ondr 88.49 39 AMS AMS 00 57 10.0
comp=Z,200nm,21.8s
MOA Molln 88.68 42 *i* P **P 00 21 45.8 -1.7**
comp=Z,0.7nm,0.5s
TREC Trest 89.09 40 *e*P **P 00 21 47.2 -2.2**
TREC AMS AMS 00 54 40.0
comp=Z,200nm,21.9s
TREC Trest 89.09 40 *e*P **P 00 21 47.2 -2.2**
TREC MLR MLR
comp=Z,200nm,21.9s
UPC Upice 89.09 39 AMS AMS 00 59 30.0
comp=Z,200nm,17.0s
CHVC Chvalec 89.09 39 *e*P **P 00 21 47.2 -2.2**
CHVC AMS AMS 00 59 00.0
comp=Z,200nm,21.5s
CHVC Chvalec 89.09 39 *e*P **P 00 21 47.2 -2.2**
CHVC MLR MLR
comp=Z,200nm,21.5s
OSTC Ostas 89.20 39 AMS AMS 00 59 20.0
comp=Z,200nm,19.9s
DPC Dobruska-Polom 89.32 39 *e*P **P 00 21 48.9 -1.6**
DPC AMS AMS 00 59 30.0
comp=Z,200nm,23.8s
DPC Dobruska-Polom 89.32 39 *e*P **P 00 21 48.9 -1.6**
DPC MLR MLR
comp=Z,200nm,23.8s
KRLC Kraliky 89.68 39 *e*P **P 00 21 51.0 -1.2**
KRLC AMS AMS 00 53 40.0
comp=Z,100nm,20.0s
KRLC Kraliky 89.68 39 *e*P **P 00 21 51.0 -1.2**
KRLC MLR MLR
comp=Z,100nm,20.0s
CONA Conrad Observa 89.69 41 *i* P **P 00 21 50.0 -2.3**
comp=Z,1.4nm,0.7s,SNR=4.4
RONA Rosalia, Austr 90.04 41 *i* P **P 00 21 51.5 -2.3**
comp=Z,1.7nm,0.6s
OKC Ostrava-Krasne 90.60 39 AMS AMS 00 55 50.0
comp=Z,100nm,16.7s
FINES FINESS Array B 90.68 27 P **P 00 21 53.9 -2.6**
comp=Z,3.2nm,0.8s,baz=279,slow=3.7,SNR=7.6
FINES PP **PP 00 25 31.3 -0.7**
comp=Z,3.0nm,0.8s,baz=308,slow=4.6,SNR=5.8
FINES LR LR 00 58 44.1
comp=Z,83nm,21.4s,baz=282,slow=33
comp=Z,3.2nm,0.8s
VYHS Vyhne 91.44 40 *e*P **P 00 21 58.5 -1.8**
VYHS pmax pmax
comp=Z,5.0nm,1.4s
VYHS Vyhne 91.44 40 *e*P **P 00 21 58.5 -1.8**
LANS Liptovska Anna 91.63 39 *e*P **P 00 21 59.5 -1.7**
LANS pmax pmax
comp=Z,1.0nm,0.7s
LANS Liptovska Anna 91.63 39 *e*P **P 00 21 59.5 -1.7**
BELA Belgrano 2 92.95 171 IAmb IAmb 00 22 08.6
comp=Z,12nm,0.8s
MNK Minsk 94.48 32 *i* P **P 00 22 13.9 -0.2**
MNK *i* *PP **pP 00 22 30.9 -1.7**
MNK *i* *SP **sP 00 22 37.7 -2.1**
MNK *i* 00 26 03.9
MNK *i* PPP PPP 00 28 06.0
MNK *i* S **SKSac 00 32 43.3 -0.3**
MNK *i* *SS **S 00 33 14.4 -6.7**
MNK *i* SS **SS 00 39 52.1 +8.1**
MNK pmax pmax
comp=Z,4.0nm,0.7s
VNA1 Neumayer--Stat 95.99 161 ⇑P **P 00 22 22.2 +1.6**
comp=Z,7.9nm,1.0s
KLMR Klimovskoe 96.61 24 *e*P P 00 22 18.5 -5.2
KLMR *e**PP pP 00 22 35.4 -6.8
KLMR *e* 00 26 13.5
KLMR pmax pmax
comp=Z,11nm,1.4s
AKASG Malin Array Be 96.87 36 LR LR 01 02 15.1
comp=Z,83nm,20.6s,baz=292,slow=33
MLR Muntele Rosu 97.04 41 LR LR 01 01 07.0
comp=Z,62nm,21.6s,baz=296,slow=32
SNAA Sanae 97.93 162 ⇑P **P 00 22 29.3 -0.2**
comp=Z,41nm,0.8s
SNAA Sanae 97.93 162 IAmb IAmb 00 22 31.2
comp=Z,9.4nm,1.3s
SNAA Sanae 97.93 162 P Pdif 00 22 29.5 0.0
comp=Z,3.5nm,1.1s,baz=261,slow=8.1,SNR=13
comp=Z,3.5nm,1.1s
SNAA Sanae 97.93 162⇑ *e*P Pdif 00 22 29.7 +0.2
SNAA pmax pmax
comp=Z,6.0nm,1.2s
OBN Obninsk 98.57 29 LR LR 01 08 33.6
comp=Z,72nm,18.2s,baz=198,slow=36
OBN Obninsk 98.57 29 *e*P **P 00 22 30.3 -2.3**
OBN *e**PP **pP 00 22 52.3 +1.1**
OBN *e* 00 26 29.5
OBN pmax pmax
comp=Z,2.0nm,0.7s
TROLL Troll, Antarti 99.64 162 ⇑P **Pdif 00 22 37.8 +0.6**
comp=Z,188nm,0.8s
QSPA South Pole Qui 100.78 180 P **Pdif 00 22 43.8 +1.5**
comp=Z,1.9nm,0.6s,baz=151,slow=1.9,SNR=24
BRTR Keskin Array B 104.64 44 PKKPbc PKKPbc 00 38 45.0 -0.9
comp=Z,0.4nm,0.7s,baz=152,slow=3.6,SNR=3.6
SYO Syowa Base 112.22 161⇑ *e*Pdiff **Pdif 00 23 34.6 +1.6**
BOSA Boshof 113.43 117 PKKPbc PKKPbc 00 38 18.8 +1.3
comp=Z,5.6nm,0.8s,baz=106,slow=4.9,SNR=9.4
ZALV Zalesovo Beam 115.00 6 PKP **PKiKP 00 27 32.4 -2.3**
comp=Z,1.2nm,0.4s,baz=274,slow=1.7,SNR=5.6
ZALV PP **PP 00 28 30.4 -3.1**
comp=Z,2.3nm,0.9s,baz=330,slow=8.6,SNR=5.0
ZALV PKKPbc **PKKPbc 00 38 15.0 +2.2**
comp=Z,1.4nm,0.7s,baz=204,slow=3.3,SNR=5.7
ZALV Zalesovo Beam 115.00 6 *e*PKiKP **PKiKP 00 27 33.3 -1.4**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
KURBB Kurchatov Arra 117.31 11 PKP **PKPdf 00 27 37.8 -1.4**
comp=Z,1.2nm,0.8s,baz=346,slow=2.3,SNR=10
KURBB PP PP 00 28 38.9 -11
comp=Z,1.2nm,0.9s,baz=342,slow=6.2,SNR=5.6
KURBB PKKPbc **PKKPbc 00 38 02.8 -1.9**
comp=Z,1.1nm,0.8s,baz=175,slow=3.2,SNR=7.9
MAW Mawson 119.55 167 PKP **PKiKP 00 27 43.3 +0.3**
comp=Z,7.1nm,0.8s,baz=214,slow=2.6,SNR=14
SONM Songino Array 120.64 351 PKP **PKPdf 00 27 44.8 -1.1**
comp=Z,2.3nm,0.7s,baz=330,slow=1.4,SNR=16
SONM PKKPbc **PKKPbc 00 37 52.8 +0.1**
comp=Z,1.1nm,0.7s,baz=184,slow=4.0,SNR=5.3
MKAR Makanchi Array 121.67 10 PKP **PKPdf 00 27 45.8 -2.0**
comp=Z,0.4nm,0.4s,baz=303,slow=2.8,SNR=7.8
MKAR PKKPbc **PKKPbc 00 37 48.6 -0.1**
comp=Z,0.2nm,0.5s,baz=178,slow=3.5,SNR=3.6
XLT XiLinHaoTe 122.06 342 *e*PKP **PKPdf 00 27 48.2 -0.5**
KSRS Korea Array 122.57 328 PKP **PKPdf 00 27 48.7 -1.0**
comp=Z,2.7nm,0.5s,baz=17,slow=2.0,SNR=9.3
KSRS Korea Array 122.57 328 *e*PKIKP **PKPdf 00 27 49.5 -0.2**
KSRS pmax pmax
comp=Z,3.0nm,0.5s
WMQ Urumqi 125.31 6 *e*PKP **PKiKP 00 27 56.0 +0.7**
WMQ LR LR
comp=Z,440nm,15.7s
WMQ LR LR
comp=Z,410nm,17.3s
WMQ LR LR
comp=Z,430nm,24.2s
HHC Hu-ho-hao-te 126.19 344 *e*PKP **PKiKP 00 28 00.5 +3.3**
TOO Toolangi 127.03 231 PKIKP **PKiKP 00 27 59.6 +0.9**
TOO Toolangi 127.03 231 PKIKP **PKiKP 00 27 59.7 +0.9**
CTAO Charters Tower 129.25 253 **PKiKP 00 28 04.4 +0.8**
CTAO Charters Tower 129.25 253 PKIKP **PKiKP 00 28 04.4 +0.8**
GTA Gaotai 129.78 354 *e*PKP **PKPdf 00 28 02.9 -0.8**
GTA LR LR
comp=Z,440nm,24.0s
GTA LR LR
comp=Z,470nm,22.9s
GTA LR LR
comp=Z,900nm,24.4s
NJ2 Nanjing 131.34 332 *e*PKP **PKiKP 00 28 07.6 0.0**
STKA Stephens Creek 131.66 237 PKhKP PKPpre 00 28 00.1
comp=Z,0.9nm,0.7s,baz=128,slow=12,SNR=2.8
STKA PKP **PKiKP 00 28 08.1 -0.1**
comp=Z,9.4nm,0.8s,baz=73,slow=1.7,SNR=17
ENH Enshi 136.63 341 **PKPdf 00 28 16.5 -0.1**
ASAR Alice Springs 140.21 246 PKhKP PKPpre 00 28 16.6
comp=Z,5.7nm,0.9s,baz=111,slow=3.4,SNR=18
ASAR PKP **PKPdf 00 28 23.8 +0.4**
comp=Z,20nm,0.8s,baz=94,slow=1.8,SNR=49
ASAR SKPbc **SKPbc 00 31 54.7 +0.8**
comp=Z,2.3nm,0.7s,baz=110,slow=2.9,SNR=10
WRAB Tennant Creek 140.41 252 **PKiKP 00 28 25.2 -1.1**
WRAB Tennant Creek 140.41 252 PKIKP **PKiKP 00 28 25.2 -1.1**
WRA Warramunga Arr 140.42 252 PKPdf **PKPdf 00 28 25.1 +1.3**
WRA Warramunga Arr 140.42 252 PKhKP PKPpre 00 28 17.4
comp=Z,3.9nm,0.6s,baz=98,slow=2.8,SNR=34
WRA PKP **PKPdf 00 28 24.7 +0.9**
comp=Z,34nm,0.8s,baz=91,slow=2.1,SNR=69
WRA SKPbc **SKPbc 00 31 55.2 +0.7**
comp=Z,0.6nm,0.6s,baz=96,slow=3.3,SNR=5.1
WRA Warramunga Arr 140.42 252 PKIKP **PKPdf 00 28 25.1 +1.3**
PZH PanZhiHua 142.22 349 PKP **PKPdf 00 28 27.2 +0.1**
HYB Hyderabad 147.94 29 *e*PKPdf **PKPdf 00 28 36.7 -0.3**
FITZ Fitzroy Crossi 148.83 253 PKP **PKPdf 00 28 39.0 +0.7**
comp=Z,27nm,0.9s,baz=193,slow=1.4,SNR=15
FITZ PKPbc **PKiKP 00 28 43.4 -0.3**
comp=Z,34nm,1.0s,baz=116,slow=2.8,SNR=15
NWAO Narrogin (SRO) 149.51 220 **PKiKP 00 28 44.7 0.0**
NWAO Narrogin (SRO) 149.51 220 PKP2 **PKiKP 00 28 44.7 0.0**
CHTO Chiang Mai 150.22 351 **PKPbc 00 28 44.5 -1.2**
CHTO Chiang Mai 150.22 351 PKHKP **PKPbc 00 28 44.5 -1.2**
CMAR Chiang Mai Arr 150.57 351 PKP **PKPdf 00 28 41.1 0.0**
comp=Z,9.8nm,0.8s,baz=310,slow=2.7,SNR=17
CMAR PKPbc **PKPbc 00 28 45.0 -1.6**
comp=Z,13nm,0.9s,baz=338,slow=3.1,SNR=30
TOLI2 Tolitoli 151.12 293 **PKPbc 00 28 47.9 -0.1**
BATI Baumata 151.12 268 PKPbc **PKiKP 00 28 49.5 +0.9**
comp=Z,31nm,0.6s,baz=318,slow=2.9,SNR=4.4
MBWA Marble Bar 153.51 244 **PKPdf 00 28 46.1 +0.7**
MBWA **PKiKP 00 28 53.5 +0.3**

NEIC ***08*** *00:13:25.3±1.4,35°.825N±0°.004×117°.65W±0°.01, h3km±2km, Error ellipse: s-maj=1.6km s-min=0.7km az=92.0*
PAS 08 00:13:25.8±1.4,**35°.830N**±0°.010×**117°.67W**±0°.01, **h4**km±1km,**ML3.0**/21,**ML2.9**/88(NEIC),**Error ellipse: s-maj=1.5km s-min=1.3km az=120.0,Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.06**	**105**		Pg	00 13 27.4	+0.1
CLC				Sg	Sg	00 13 28.6	+0.4
TOW	**Tower One**	**0.08**	**255**		Pg	00 13 28.2	+0.5
TOW					Sg	00 13 30.6	+1.7
SRTC	**Snort**	**0.15**	**206**		Pg	00 13 29.3	+0.4
WVPM	**Volcano Peak E**	**0.17**	**314**		Pg	00 13 29.4	+0.1
WNMM	**Nine Mile Cany**	**0.20**	**274**		Pg	00 13 29.8	+0.1
WNMM					Sg	00 13 33.1	+0.9
WRVM	**Rose V. Centra**	**0.26**	**314**		Pg	00 13 30.9	0.0
MPMC	**Manual Prospec**	**0.27**	**32**	Pg	Pg	00 13 31.1	0.0
MPMC				Sg	Sg	00 13 34.9	+0.2
MFS	**McCloud Flat S**	**0.33**	**332**		Pg	00 13 32.2	0.0
MFS					Sg	00 13 36.9	+0.4
LRMC	**Laurel Mtn Rad**	**0.35**	**182**		Pg	00 13 32.5	-0.2
LRMC					Sg	00 13 37.5	+0.2
CCCA	**Chr Cany lake**	**0.39**	**141**		Pg	00 13 33.7	+0.3
CCCA					IAML	00 13 40.1	
	comp=E,2μm,0.6s						
QSM	**Queen of Sheba**	**0.66**	**78**		Pg	00 13 38.2	-0.4
QSM					IAML	00 13 51.5	
	comp=N,574nm,0.3s						
QSM					IAML	00 13 52.2	
	comp=E,492nm,0.2s						
ISA	**Isabella, Lake**	**0.68**	**256**		Pg	00 13 38.5	-0.4
ISA					IAML	00 13 48.6	
	comp=E,366nm,0.2s						
ISA					IAML	00 13 48.8	
	comp=N,314nm,0.2s						
CWC	**Cottonwood Cre**	**0.69**	**331**		Pg	00 13 38.9	-0.3
CWC					Sg	00 13 48.3	0.0
CWC					IAML	00 13 48.8	
	comp=E,297nm,0.3s						
CWC					IAML	00 13 49.2	
	comp=N,317nm,0.1s						
CGO	**Cerro Gordo**	**0.73**	**351**		Pg	00 13 39.6	-0.3
CGO					Sb	00 13 50.6	-1.1
WASM	**Alta Sierra Ca**	**0.73**	**263**		Pg	00 13 39.5	-0.3
CCAC	**Calif City Air**	**0.73**	**203**		Pg	00 13 39.5	-0.4
CCAC					Sg	00 13 49.7	+0.2
GSC	**Goldstone, Bar**	**0.88**	**127**		Pg	00 13 42.5	-0.2
GSC					IAML	00 13 54.4	
	comp=N,489nm,0.3s						
GSC					IAML	00 13 54.6	
	comp=E,592nm,0.5s						
GWY	**Greenwater Val**	**0.88**	**66**		Pg	00 13 42.4	-0.4
GWY					Sg	00 13 54.3	+0.1
GWY					IAML	00 13 56.8	
	comp=N,458nm,0.4s						
GWY					IAML	00 13 58.3	
	comp=E,662nm,0.4s						
SPG2	**Springville 2**	**0.97**	**293**		Pg	00 13 44.5	+0.1
TPO	**Tropico Hills**	**1.05**	**206**	IAML		00 14 02.0	
	comp=N,266nm,0.5s						
TPO					IAML	00 14 02.2	
	comp=E,393nm,0.8s						
ARVC	**Arvin**	**1.18**	**234**		Pg	00 13 47.7	-0.8
GRAC	**Grapevine Rang**	**1.19**	**12**		Pg	00 13 48.1	-0.5
GRAC					IAML	00 14 05.5	
	comp=E,429nm,0.3s						
GRAC					IAML	00 14 08.5	
	comp=N,344nm,0.7s						
WCT	**Wildcat Mounta**	**1.28**	**41**		Pg	00 13 49.4	-0.9
WCT					IAML	00 14 11.3	
	comp=E,217nm,0.5s						
DSCC	**Desert Studies**	**1.45**	**118**		Pn	00 13 51.0	-1.8
GMN	**Gold Mountain**	**1.50**	**12**		Pn	00 13 53.2	-0.6
GMN					IAML	00 14 15.8	
	comp=N,90nm,0.5s						
DSP	**Deep Springs**	**1.56**	**351**		Pn	00 13 53.7	-0.5
DSP				Pn	Pb	00 13 54.2	-1.0
BFSC	**Mount Baldy Ra**	**1.59**	**180**		Pb	00 13 55.4	-0.4
BFSC					IAML	00 14 17.6	
	comp=E,166nm,0.2s						
BFSC					IAML	00 14 17.8	
	comp=N,130nm,0.3s						
TPNV	**Topopah Spring**	**1.60**	**45**		Pb	00 13 56.1	+0.1
TPNV					IAML	00 14 18.8	
	comp=N,152nm,0.3s						
TPNV					IAML	00 14 19.8	
	comp=N,190nm,0.6s						
MWC	**Mount Wilson**	**1.64**	**191**		Pb	00 13 56.7	+0.1
MWC					IAML	00 14 19.2	
	comp=E,233nm,0.4s						
PASC	**Pasadena Art C**	**1.71**	**195**		Pb	00 13 58.1	+0.3
MTPC	**Mountain Pass**	**1.75**	**101**	Pn	Pn	00 13 56.4	-0.8
MTPC					IAML	00 14 22.9	
	comp=E,106nm,0.3s						
MTPC					IAML	00 14 23.9	
	comp=N,124nm,0.5s						
MZP	**Montezuma Peak**	**1.88**	**7**		Pn	00 13 58.9	-0.1
SHPR	**Sheep Range**	**2.14**	**71**		Pn	00 14 01.9	-0.5
ELS	**Elsinore Mount**	**2.19**	**175**	Pn	Pn	00 14 02.7	-0.3
ELS					IAML	00 14 36.6	
	comp=E,46nm,0.4s						
ELS					IAML	00 14 37.5	
	comp=N,57nm,0.5s						
TPH	**Tonopah**	**2.27**	**9**		Pb	00 14 08.0	+0.5
V12A	**Nelson**	**2.29**	**92**		Pn	00 14 04.0	-0.5
V12A					IAML	00 14 39.7	
	comp=N,44nm,1.0s						
V12A					IAML	00 14 45.9	
	comp=E,36nm,0.5s						
S11A	**Rachel**	**2.38**	**40**		Pb	00 14 10.3	+1.1
S11A					IAML	00 14 49.2	
	comp=N,113nm,0.8s						
PMD	**Palm Desert**	**2.42**	**154**		Pb	00 14 10.1	+0.2
PFO	**Pinyon Flats O**	**2.43**	**155**		Pn	00 14 05.4	-1.0
CIAC	**Catalina I. Ai**	**2.50**	**195**		Pn	00 14 04.7	-2.6
PMPB	**Monarch Peak**	**2.57**	**280**	Pn	Pn	00 14 08.5	+0.2
PMPB					IAML	00 14 55.7	
	comp=E,82nm,0.9s						
PMPB					IAML	00 15 01.4	
	comp=N,75nm,1.2s						
RAMR	**Ramage Ranch**	**2.62**	**267**		Pn	00 14 10.3	+1.4
NV11	**Mina Array Sit**	**2.63**	**352**		Pn	00 14 09.1	0.0
PRN	**Pahroc Range**	**2.63**	**52**		Pb	00 14 14.6	+1.0
PRN					IAML	00 14 56.0	
	comp=N,52nm,1.0s						
PRN					IAML	00 14 58.6	
	comp=E,55nm,0.8s						
NVAR	**Mina Array Bea**	**2.64**	**349**		Pn	00 14 09.3	-0.2
NVAR				Pg	Pb	00 14 14.8	+0.9
RYN	**Ryan**	**2.88**	**346**		Pg	00 14 20.0	-1.0
BSGM	**Shirttail Gulc**	**2.96**	**282**		Pn	00 14 14.5	+0.9
CMB	**Columbia Colle**	**3.10**	**316**		IAML	00 15 05.9	
	comp=E,24nm,0.6s						
CMB					IAML	00 15 11.0	
	comp=N,18nm,0.7s						
GLA	**Glamis**	**3.63**	**139**		IAML	00 15 24.5	
	comp=E,32nm,0.5s						
GLA					IAML	00 15 33.4	
	comp=N,23nm,0.7s						

NEIC ***08*** *00:21:34.8±1.9,23°.355S±0°.08×66°.7W±0°.2, h209km±21km, mb4.2/4, ML4.0(GUC), Error ellipse: s-maj=21.9km s-min=10.3km az=101.0*
SJA ***08*** *00:21:34.9±0.7,23°.395S×66°.82W, h227km±5km, ML3.4, MW3.5*
GUC ***08*** *00:21:36.8±0.7,23°.36S×67°.07W, h224km±12km, ML4.0*
ISC 08 00:21:34.5±0.9,**23°.36S**±0°.04×**66°.84W**±0°.04,**h230**km±9km, **n60,σ1$15/85,7C-1D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALTA		**0.97**	**152**	*i* P	**Pn**	**00 22 08.2**	**+0.4**
SALTA					IAML	00 22 42.6	
	comp=Z,14nm,0.6s						
YJA	**Yavi**	**1.70**	**46**	*e*P	**Pn**	**00 22 13.3**	**+0.1**
YJA				*e*S	**S**	**00 22 43.1**	**-0.1**
YJA					IAML	00 22 47.8	
	comp=Z,7.9nm,0.9s						
SLA	**San Lorenzo**	**1.82**	**138**	*i* P	**Pn**	**00 22 14.4**	**+0.5**
SLA					IAML	00 22 45.6	
	comp=Z,52nm,0.9s						
AZAP	**Zapla**	**1.84**	**118**	*i* P	**Pn**	**00 22 14.2**	**+0.1**
AZAP					IAML	00 22 47.1	
	comp=Z,36nm,1.6s						
PB06	**IPOC Station P**	**2.60**	**284**			**00 22 22.7**	**+1.2**
PB06					Sn	**S 00 22 57.8**	**-0.6**
PB06	**IPOC Station P**	**2.60**	**284**⇑	*i*P	**Pn**	**00 22 28.8**	**+1.2**
PB06				*i* S	**S**	**00 22 57.5**	**-0.8**
PB06					IAML	00 22 59.1	
	comp=E,361nm,0.1s						
PB06	**IPOC Station P**	**2.60**	**284**	*i* P	**Pn**	**00 22 22.6**	**+1.0**
PB06				*i* S	**S**	**00 22 57.8**	**-0.6**
PB06					IAML	00 23 01.9	
	comp=Z,301nm,0.1s						
PB09	**IPOC Station P**	**2.71**	**305**			**00 22 24.1**	**+1.3**
PB09					Sn	**S 00 23 00.7**	**+0.2**
PB09	**IPOC Station P**	**2.71**	**305**⇑	*i*P	**Pn**	**00 22 24.2**	**+1.4**
PB09				*i* S	**S**	**00 23 00.2**	**-0.3**
PB09	**IPOC Station P**	**2.71**	**305**	*i* P	**Pn**	**00 22 23.9**	**+1.0**
PB09				*i* S	**S**	**00 22 59.8**	**-0.8**
PB09					IAML	00 23 05.0	
	comp=Z,66nm,0.1s						
FSA	**Cafayete**	**2.85**	**164**	*i* P	**Pn**	**00 22 24.8**	**+0.6**
FSA				*i* S	**S**	**00 23 01.8**	**-1.6**
PB03	**IPOC Station P**	**2.99**	**295**⇑	*i*P	**Pn**	**00 22 26.7**	**+0.9**
PB03				*i* S	**S**	**00 23 04.3**	**-1.7**
PB03					IAML	00 23 06.6	
	comp=E,223nm,0.1s						
GO02	**Mina Guanaco**	**3.08**	**234**			**00 22 28.3**	**+1.2**
GO02					Sn	**S 00 23 08.1**	**-0.2**
GO02	**Mina Guanaco**	**3.08**	**234**⇓	*i*P	**Pn**	**00 22 28.3**	**+1.2**
GO02				*i* S	**S**	**00 23 08.2**	**0.0**
GO02	**Mina Guanaco**	**3.08**	**234**	*i* P	**Pn**	**00 22 28.2**	**+1.2**
GO02				*i* S	**S**	**00 23 06.9**	**-1.3**
GO02					IAML	00 23 09.7	
	comp=Z,257nm,0.1s						
PB05	**IPOC Station P**	**3.14**	**279**			**00 22 28.2**	**+0.8**
PB05	**IPOC Station P**	**3.14**	**279**⇑	*i*P	**Pn**	**00 22 28.3**	**+0.8**
PB05				*i* S	**S**	**00 23 07.3**	**-1.6**
PB05					IAML	00 23 11.8	
	comp=E,137nm,0.2s						
PB05	**IPOC Station P**	**3.14**	**279**	*i* P	**Pn**	**00 22 28.7**	**+1.2**
PB05					IAML	00 23 12.0	
	comp=Z,64nm,0.3s						
PB01	**IPOC Station P**	**3.37**	**313**		**Pn**	**00 22 30.8**	**+0.7**
PB01	**IPOC Station P**	**3.37**	**313**	*e*P	**Pn**	**00 22 30.8**	**+0.7**
PB01	**IPOC Station P**	**3.37**	**313**	*i* P	**Pn**	**00 22 30.9**	**+0.8**
PB01				*i* S	**S**	**00 23 13.0**	**-0.8**
PB01					IAML	00 23 14.3	
	comp=Z,92nm,0.2s						
PB10	**IPOC Station P**	**3.41**	**267**		**Pn**	**00 22 31.5**	**+1.0**
PB10	**IPOC Station P**	**3.41**	**267**⇑	*i*P	**Pn**	**00 22 31.5**	**+1.0**
PB10				*i* S	**S**	**00 23 12.7**	**-1.8**
PB10	**IPOC Station P**	**3.41**	**267**	*i* P	**Pn**	**00 22 31.6**	**+1.0**
PB10				*i* S	**S**	**00 23 12.7**	**-1.8**
PB10					IAML	00 23 15.8	
	comp=Z,83nm,0.4s						
PB14	**IPOC Station P**	**3.49**	**248**		**Pn**	**00 22 32.7**	**+0.9**
PB14	**IPOC Station P**	**3.49**	**248**⇑	*e*P	**Pn**	**00 22 32.6**	**+0.9**
PB14	**IPOC Station P**	**3.49**	**248**	*i* P	**Pn**	**00 22 32.4**	**+0.7**
PB14				*i* S	**S**	**00 23 15.5**	**-1.2**
PB14					IAML	00 23 16.9	
	comp=Z,110nm,0.4s						
PB08	**IPOC Station P**	**3.86**	**326**		**Pn**	**00 22 37.7**	**+1.5**
PB08	**IPOC Station P**	**3.86**	**326**⇑	*i*P	**Pn**	**00 22 37.5**	**+1.3**
PB08				*i* S	**S**	**00 23 24.1**	**-0.6**
PB08	**IPOC Station P**	**3.86**	**326**	*i* P	**Pn**	**00 22 37.6**	**+1.5**
PB08				*i* S	**S**	**00 23 23.8**	**-0.9**
PB08					IAML	00 23 27.8	
	comp=Z,38nm,0.3s						
PATCX	**Punta Patache**	**3.98**	**309**		**Pn**	**00 22 37.5**	**+0.2**
PATCX	**Punta Patache**	**3.98**	**309**	*i* P	**Pn**	**00 22 37.4**	**+0.1**
PATCX				*i* S	**S**	**00 23 24.2**	**-2.6**
PATCX	**Punta Patache**	**3.98**	**309**	*i* P	**Pn**	**00 22 38.4**	**+1.1**
PATCX				*i* S	**S**	**00 23 25.4**	**-1.3**
PATCX					IAML	00 23 30.6	
	comp=Z,40nm,0.3s						
AC02	**Maricunga**	**4.04**	**210**		**Pn**	**00 22 39.4**	**+1.0**
AC02	**Maricunga**	**4.04**	**210**	*e*P	**Pn**	**00 22 39.5**	**+1.1**
TA01	**Diego Aracena**	**4.16**	**311**		**Pn**	**00 22 40.2**	**+0.7**
TA01	**Diego Aracena**	**4.16**	**311**	IAML		00 23 32.2	
	comp=Z,22nm,0.2s						
HMBC	**Humberstone**	**4.17**	**317**		**Pn**	**00 22 39.8**	**+0.1**
HMBC	**Humberstone**	**4.17**	**317**	*i* P	**Pn**	**00 22 39.4**	**-0.3**
HMBC				*i* S	**S**	**00 23 28.1**	**-3.0**
HMBC	**Humberstone**	**4.17**	**317**	*i* P	**Pn**	**00 22 40.6**	**+0.9**
HMBC				*i* S	**S**	**00 23 30.1**	**-1.0**
HMBC					IAML	00 23 33.3	
	comp=Z,80nm,0.3s						
GO01	**Chusmiza**	**4.28**	**329**		**Pn**	**00 22 41.7**	**+0.3**
GO01	**Chusmiza**	**4.28**	**329**	*e*P	**Pn**	**00 22 41.9**	**+0.6**
TA02	**Huaiquique**	**4.33**	**315**	Pn	**Pn**	**00 22 42.1**	**+0.6**
AC01	**Pan de Azucar**	**4.40**	**230**		**Pn**	**00 22 42.3**	**0.0**
AC01	**Pan de Azucar**	**4.40**	**230**	*e*P	**Pn**	**00 22 42.3**	**0.0**
AC01	**Pan de Azucar**	**4.40**	**230**	*i* P	**Pn**	**00 22 42.8**	**+0.4**
AC01				*i* S	**S**	**00 23 33.1**	**-2.8**
AC01					IAML	00 23 35.1	
	comp=Z,46nm,0.1s						
PB11	**IPOC Station P**	**4.44**	**323**		**Pn**	**00 22 43.1**	**+0.1**
PB11	**IPOC Station P**	**4.44**	**323**	*e*P	**Pn**	**00 22 42.7**	**-0.3**
PB11				*e*S	**S**	**00 23 34.0**	**-3.0**
PB11	**IPOC Station P**	**4.44**	**323**	*i* P	**Pn**	**00 22 44.0**	**+1.0**
PB11				*i* S	**S**	**00 23 35.8**	**-1.2**
PB11					IAML	00 23 37.5	
	comp=Z,57nm,0.2s						
AC06	**Mina Casimiro**	**5.09**	**218**	

LPAZ	**La Paz**	**7.14**	**350**	Pn		**Pn**	**00 23 18.6**	**+1.1**
CO03	**El Pedregal**	**8.20**	**204**	Pn		**Pn**	**00 23 31.0**	**+0.6**
TRQA	**Tornquist**	**15.23**	**165**	P		**P**	**00 24 57.9**	**-0.2**
LR05	**Currie**	**17.38**	**193**	P		**Pn**	**00 25 24.0**	**+0.4**
LR05				IAmb		IAmb	00 25 37.1	
	comp=Z,15nm,1.1s							
VAO	**Valinhos**	**18.28**	**93**	P		**P**	**00 25 30.4**	**-1.2**
VAO				IAmb		IAmb	00 25 36.0	
	comp=Z,7.9nm,1.1s							
MG02	**Cerro Sombrero**	**29.43**	**183**	P		**P**	**00 27 18.4**	**+1.8**

*IDC **08** 00:39:20.0±0.7,37°.65N×31°.75W,h0km,mb3.8/18, mbtmp3.8/18,MS3.8/31,Error ellipse: s-maj=22.8km s-min=14.6km az=164.0*

*SVSA **08** 00:39:22.9±1.9,37°.66N×31°.65W,h5km,ML4.5(INMG), Error ellipse: s-maj=19.8km s-min=7.4km az=58.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Crista Mdia Atlntico N*

*NEIC **08** 00:39:23.2±1.1,37°.5N±0°.1×31°.7W±0°.1,h10km±1km, mb4.6/109,Error ellipse: s-maj=20.5km s-min=14.2km az=176.0*

ISC 08 00:39:22.4±0.4,37°.66N±0°.06×31°.60W±0°.04,h10km,n200, σ2$16/176,mb4.6/81,MS3.9/32,1C,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
H07S1	**FLORES T-PHASE**	**1.74**	**10**	Pn		**Pn**	**00 39 49.4**	**-3.3**
H07S1				Sn		**Sn**	**00 40 08.6**	**-6.5**
H07S1				T		T	00 41 33.5	
	SNR=9.3							
H07S1	**FLORES T-PHASE**	**1.74**	**10**	*e*P		**Pn**	**00 39 48.9**	**-3.9**
H07S1				*e*S		**Sn**	**00 40 08.9**	**-6.2**
H07S1				*i* IAML			00 40 12.4	
H07S1				*i* IAML			00 40 13.3	
H07S1				*i* IAML			00 40 14.1	
PICO	**Pico**	**2.64**	**71**	*e*P		**Pn**	**00 40 03.0**	**-2.2**
PSET	**Sete Cidades**	**4.67**	**86**	*e*P		**Pn**	**00 40 29.7**	**-3.2**
PSET				*e*S		**Sn**	**00 41 21.4**	**-5.7**
PSET				*i* IAML			00 41 23.4	
PSET				*i* IAML			00 41 24.0	
PSET				*i* IAML			00 41 24.5	
CMLA	**Cha da Macela**	**4.82**	**87**	Pn		**Pn**	**00 40 33.7**	**-1.3**
CMLA	**Cha da Macela**	**4.82**	**87**	*e*P		**Pn**	**00 40 31.8**	**-3.3**
CMLA				*i* IAML			00 41 31.1	
CMLA				*i* IAML			00 41 31.1	
CMLA				*i* IAML			00 41 33.2	
PGRON	**Lagoa das Cont**	**4.94**	**87**	*e*P		**Pn**	**00 40 33.9**	**-2.9**
PGRON				*e*S		**Sn**	**00 41 29.1**	**-4.9**
PGRON				*i* IAML			00 41 33.9	
PGRON				*i* IAML			00 41 33.9	
PGRON				*i* IAML			00 41 34.5	
BART	**Pico Bartolome**	**5.10**	**87**	*e*P		**Pn**	**00 40 36.2**	**-2.8**
BART				*e*S		**Sn**	**00 41 33.5**	**-4.6**
BART				*i* IAML			00 41 36.0	
BART				*i* IAML			00 41 39.5	
BART				*i* IAML			00 41 40.1	
PSMA	**Santa Maria**	**5.20**	**95**	*e*P		**Pn**	**00 40 36.4**	**-3.9**
PSMA				*e*S		**Sn**	**00 41 32.1**	**-8.3**
PSMA				*i* IAML			00 41 34.2	
PSMA				*i* IAML			00 41 34.7	
PSMA				*i* IAML			00 41 37.4	
PSMN	**Pico do Norte,**	**5.25**	**95**	*e*P		**Pn**	**00 40 37.2**	**-3.8**
PSMN				*e*S		**Sn**	**00 41 34.7**	**-6.9**
PSMN				*i* IAML			00 41 35.5	
PSMN				*i* IAML			00 41 37.9	
PSMN				*i* IAML			00 41 39.7	
PMOZ	**Porto Moniz, M**	**12.72**	**108**	*e*P		**Pn**	**00 42 22.3**	**-1.2**
PMOZ				IAmb		IAmb	00 42 23.8	
	comp=Z,130nm,1.3s							
PMOZ				*e*S		**Sn**	**00 44 47.8**	**+2.5**
PMOZ				IAMs_20		IAMs_20	00 46 07.2	
	comp=Z,248nm,20.0s							
PMAR	**Madeira**	**12.98**	**108**	*e*P		**Pn**	**00 42 26.0**	**-1.1**
PMAR				IAmb		IAmb	00 42 40.9	
	comp=Z,115nm,2.4s							
FUL	**Funchal**	**13.03**	**108**	*e*P		**Pn**	**00 42 27.8**	**+0.2**
PMPS	**Porto Santo**	**13.28**	**106**	*e*P		**Pn**	**00 42 30.2**	**-0.8**
PSBE	**So Bento**	**17.92**	**77**	*e*P		**Pn**	**00 43 31.6**	**-0.1**
PFVI	**Vila Bisbo**	**18.10**	**85**	*e*P		**P**	**00 43 35.9**	**+1.6**
PCAS	**Casmilo, Conde**	**18.14**	**75**	*e*P		**P**	**00 43 37.8**	**+3.0**
PCAS				IAmb		IAmb	00 43 47.8	
	comp=Z,28nm,1.4s							
COI	**Coimbra**	**18.21**	**75**			**P**	**00 43 37.0**	**+1.5**
MORF	**Marmelete**	**18.21**	**84**	*e*P		**Pn**	**00 43 33.0**	**-2.4**
MORF				IAmb		IAmb	00 43 34.3	
	comp=Z,31nm,1.7s							
PMTG	**Montargil**	**18.38**	**78**	*e*P		**P**	**00 43 38.6**	**+1.3**
PMTG				IAmb		IAmb	00 43 46.0	
	comp=Z,16nm,1.3s							
PSARD	**Sardoal**	**18.41**	**77**	*e*P		**Pn**	**00 43 39.3**	**+1.5**
PSARD				IAmb		IAmb	00 43 57.4	
	comp=Z,24nm,1.4s							
PGAV	**Gavieira, Arco**	**18.42**	**69**	*e*S		S	00 47 19.2	+11
PGAV				IAMs_20		IAMs_20	00 49 12.0	
	comp=Z,112nm,20.0s							
EVO	**Evora**	**18.58**	**80**	*e*P		**Pn**	**00 43 40.8**	**+1.0**
PCVE	**Castro Verde**	**18.66**	**83**	*e*P		**Pn**	**00 43 45.9**	**+5.1**
POLO	**Lamas de Olo**	**18.72**	**71**	*e*P		Pn	00 43 51.6	+10
PBDV	**Barranco-do-Ve**	**18.79**	**84**	*e*P		**Pn**	**00 43 46.4**	**+3.9**
MTE	**Manteigas**	**18.88**	**74**	P		**Pn**	**00 43 44.8**	**+1.3**
MTE	**Manteigas**	**18.88**	**74**	*e*S		**S**	**00 47 17.2**	**-0.4**
MTE				IAMs_20		IAMs_20	00 48 01.3	
	comp=Z,176nm,20.0s							
PESTR	**Estremoz**	**18.89**	**79**	*e*P		**Pn**	**00 43 45.3**	**+1.7**
PVAQ	**Vaqueiros**	**18.94**	**83**	*e*P		**P**	**00 43 42.7**	**-0.9**
PVAQ				IAmb		IAmb	00 44 00.4	
	comp=Z,26nm,1.7s							
PVAQ				*e*S		**S**	**00 47 27.0**	**+8.4**
PMRV	**Marv??o**	**19.01**	**77**	*e*P		**Pn**	**00 43 45.9**	**+0.8**
PMRV				*e*S		S	00 47 32.8	+13
PMRV				IAMs_20		IAMs_20	00 48 05.0	
	comp=Z,205nm,20.0s							
MVO	**Moncorvo**	**19.29**	**72**	*e*P		**Pn**	**00 43 49.5**	**+1.1**
MVO				IAmb		IAmb	00 43 58.5	
	comp=Z,22nm,1.8s							
MVO				*e*S		S	00 47 38.6	+13
MVO				IAMs_20		IAMs_20	00 50 34.9	
	comp=Z,134nm,18.0s							
PBRG	**Braganca**	**19.54**	**70**	*e*P		**Pn**	**00 43 54.1**	**+2.7**
PBRG				IAmb		IAmb	00 44 08.5	
	comp=Z,24nm,1.8s							
PAB	**San Pablo**	**21.36**	**76**	P		**P**	**00 44 10.8**	**+0.9**
ESDC	**Sonseca Array**	**21.64**	**76**			**P**	**00 44 14.2**	**+1.2**
ESDC	**Sonseca Array**	**21.64**	**76**	P		**P**	**00 44 12.7**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=279,slow=10,SNR=17							
	comp=Z,3.0nm,0.8s							
ESBB	**Sonseca Array**	**21.65**	**76**			**P**	**00 44 13.3**	**+0.4**
ESBB				IAmb		IAmb	00 44 23.3	
	comp=Z,34nm,1.5s							
DRLN	**Deer Lake**	**21.97**	**310**			**P**	**00 44 16.1**	**-0.2**
GBN	**Guysborough**	**23.59**	**299**	P		**P**	**00 44 32.9**	**-0.3**
CEST	**Esterri de Car**	**25.50**	**68**	P		**P**	**00 44 53.4**	**+2.4**
CEST				IAmb		IAmb	00 44 58.7	
	comp=Z,15nm,1.1s							
EKA	**Eskdalemuir Ar**	**26.10**	**38**	P		**P**	**00 44 56.9**	**+0.7**
	comp=Z,3.4nm,1.0s,baz=239,slow=9.6,SNR=5.7							
	comp=Z,3.4nm,1.0s							
BBTS	**Babate**	**26.53**	**146**	LR		LR	00 53 00.7	
	comp=Z,237nm,21.0s,baz=148,slow=31							
CLF	**Chambon-Foret**	**26.70**	**56**			**P**	**00 45 04.3**	**+2.6**
SCHQ	**Schefferville**	**29.39**	**317**	LR		LR	00 55 39.7	
	comp=Z,435nm,20.9s,baz=112,slow=33							
SFJD	**Kangerlussuaq**	**31.31**	**346**	LR		LR	00 55 37.7	
	comp=Z,374nm,18.5s,baz=178,slow=31							
TUE	**Stuetta**	**31.35**	**61**			**P**	**00 45 45.9**	**+2.6**
TUE				IAmb		IAmb	00 45 47.4	
	comp=Z,15nm,1.5s							
DAVA	**Damuels**	**31.74**	**59**	*i* pP		**P**	**00 45 50.3**	**+3.6**
	comp=Z,1.9nm,0.8s							
VSL	**Villasalto**	**31.90**	**74**	P		**P**	**00 45 48.4**	**+0.5**
FETA	**Feichten**	**32.31**	**60**	*e*P		**P**	**00 45 53.7**	**+2.0**
	comp=Z,0.8nm,0.6s							
RETA	**Reutte**	**32.35**	**59**	*i* pP		**P**	**00 45 55.5**	**+3.6**
	comp=Z,1.0nm,1.0s							
MOTA	**Moosalm**	**32.58**	**59**	*e*P		**P**	**00 45 56.0**	**+2.0**
	comp=Z,2.3nm,1.1s							
SQTA	**Sankt Quirin**	**32.65**	**59**	*e*P		**P**	**00 45 55.3**	**+0.7**
	comp=Z,0.2nm,0.5s							
WATA	**Walderalm**	**32.90**	**59**	*i* pP		**P**	**00 46 00.2**	**+3.4**
	comp=Z,1.4nm,0.8s							
WTTA	**Wattenberg**	**32.94**	**59**	*i* P		**P**	**00 45 58.8**	**+1.6**
	comp=Z,1.9nm,1.2s							
CLL	**Collm**	**34.08**	**52**	*e*P		**P**	**00 46 07.0**	**+0.2**
KBA	**Koelnbreinsper**	**34.10**	**59**	*e*pP		**P**	**00 46 11.7**	**+4.4**
	comp=Z,4.4nm,0.5s							
FRB	**Frobisher Bay**	**34.20**	**332**	LR		LR	00 57 22.3	
	comp=Z,183nm,18.7s,baz=103,slow=32							
BIOA	**Bad Ischl, Aus**	**34.30**	**58**	*e*P		**P**	**00 46 09.6**	**+0.7**
	comp=Z,1.7nm,0.8s							
GERES	**GERESS Array B**	**34.36**	**56**	P		**P**	**00 46 08.7**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=274,slow=5.2,SNR=5.1							
	comp=Z,0.3nm,0.6s							
MOA	**Molln**	**34.72**	**58**	*e*P		**P**	**00 46 12.5**	**0.0**
	comp=Z,1.4nm,1.0s							
TAM	**Tamanrasset**	**35.09**	**104**	P		**P**	**00 46 16.6**	**+0.6**
TAM				IAmb		IAmb	00 46 18.1	
	comp=Z,6.9nm,0.9s							
SUMG	**Summit**	**35.16**	**356**			**P**	**00 46 16.1**	**-0.3**
SUMG				IAmb		IAmb	00 46 17.2	
	comp=Z,12nm,1.2s							
MMNY	**Mt. Morris Dam**	**35.38**	**293**	P		**P**	**00 46 18.4**	**+0.2**
NOA	**NORSAR Array B**	**35.43**	**35**	P		**P**	**00 46 17.9**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=249,slow=8.7,SNR=3.3							
	comp=Z,0.4nm,0.3s							
PDPR	**Patillas Dam,**	**35.90**	**247**	P		**P**	**00 46 22.5**	**-0.4**
SJG	**San Juan**	**35.94**	**247**	P		**P**	**00 46 22.1**	**-1.1**
SJG	**San Juan**	**35.94**	**247**	LR		LR	00 59 41.9	
	comp=Z,25nm,18.4s,baz=248,slow=34							
SADO	**Sadowa**	**36.03**	**297**	LR		LR	00 59 17.6	
	comp=Z,116nm,21.7s,baz=107,slow=33							
CUC	**Castrocucco**	**36.68**	**71**	P		**P**	**00 46 30.2**	**+0.8**
CUC				IAmb		IAmb	00 46 35.6	
	comp=Z,9.2nm,1.0s							
MDP	**Montagnes des**	**37.67**	**216**	LR		LR	00 58 13.8	
	comp=Z,61nm,20.7s,baz=313,slow=30							
OJC	**Ojcow**	**38.34**	**54**	P		**P**	**00 46 45.5**	**+2.1**
TORD	**Torodi Ar. Bea**	**38.40**	**121**	P		**P**	**00 46 44.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**38.40**	**121**	P		**P**	**00 46 44.0**	**-0.1**
	comp=Z,7.0nm,0.7s,baz=324,slow=9.1,SNR=4.4							
TORD				LR		LR	01 00 54.3	
	comp=Z,169nm,20.9s,baz=312,slow=34							
	comp=Z,7.0nm,0.7s							
PSZ	**Piszkesteto**	**38.51**	**58**	P		**P**	**00 46 45.6**	**+0.8**
DBIC	**Dimbokro**	**39.27**	**135**	LR		LR	01 01 47.8	
	comp=Z,217nm,18.9s,baz=352,slow=34							
PCRV	**Puerto La Cruz**	**40.38**	**236**	LR		LR	01 00 59.8	
	comp=Z,55nm,21.7s,slow=32							
O49A	**Covington**	**40.60**	**290**	P		**P**	**00 47 02.8**	**+0.5**
O49A				IAmb		IAmb	00 47 04.7	
	comp=Z,12nm,1.1s							
V53A	**Saluda**	**40.71**	**283**	P		**P**	**00 47 02.0**	**-1.3**
TKL	**Tuckaleechee C**	**41.45**	**284**	P		**P**	**00 47 09.6**	**+0.2**
TKL	**Tuckaleechee C**	**41.45**	**284**	LR		LR	01 01 23.5	
	comp=Z,114nm,19.1s,baz=84,slow=32							
CLTN	**Cedars of Leba**	**43.28**	**285**	P		**P**	**00 47 23.6**	**-0.6**
RCBR	**Riachuelo**	**43.45**	**186**	LR		LR	01 02 03.2	
	comp=Z,34nm,20.7s,baz=54,slow=31							
BAUV	**El Baul**	**43.55**	**238**			**P**	**00 47 25.0**	**-1.6**
T47A	**Sharon Grove**	**43.58**	**287**	P		**P**	**00 47 26.4**	**-0.3**
RDO	**Rodhopi**	**43.61**	**67**	P		**P**	**00 47 29.0**	**+2.1**
ARCES	**ARCES Array B**	**43.85**	**25**	P		**P**	**00 47 28.6**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=338,slow=15,SNR=3.9							
	comp=Z,2.7nm,0.9s							
AKASG	**Malin Array Be**	**44.31**	**53**	P		**P**	**00 47 31.9**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=277,slow=7.9,SNR=7.8							
	comp=Z,1.6nm,0.7s							
P40A	**Paris**	**46.49**	**292**	P		**P**	**00 47 50.3**	**+0.5**
P40A				IAmb		IAmb	00 47 53.2	
	comp=Z,6.9nm,1.1s							
Y45A	**Yeager Farm, C**	**46.53**	**284**	P		**P**	**00 47 49.6**	**-0.5**
ULM	**Lac du Bonnet**	**46.55**	**307**	P		**P**	**00 47 48.2**	**-1.9**
	comp=Z,2.5nm,0.9s,baz=160,slow=14,SNR=2.9							
ULM				LR		LR	01 07 11.9	
	comp=Z,141nm,18.7s,baz=100,slow=36							
	comp=Z,2.5nm,0.9s							
MANT	**Manisa**	**46.61**	**70**	P		**P**	**00 47 52.1**	**+1.2**
AGMN	**Agassiz Nation**	**46.92**	**305**			**P**	**00 47 54.0**	**+1.1**
N38A	**Joes South For**	**46.98**	**294**	P		**P**	**00 47 53.5**	**0.0**
R40A	**Maddies Statio**	**47.05**	**290**	P		**P**	**00 47 53.1**	**-1.0**
RES	**Resolute Bay**	**47.05**	**341**	LR		LR	01 03 41.9	
	comp=Z,85nm,19.9s,baz=33,slow=31							
ECSD	**EROS Data Cent**	**48.54**	**299**			**P**	**00 48 05.9**	**+0.2**
ECSD				IAmb		IAmb	00 48 08.7	
	comp=Z,7.1nm,1.0s							
FFC	**Flin Flon**	**49.44**	**314**	P		**P**	**00 48 13.9**	**+1.5**
FFC				IAmb		IAmb	00 48 14.8	
	comp=Z,8.8nm,1.1s							
RLO	**Rose Lookout**	**49.85**	**289**	P		**P**	**00 48 16.4**	**+0.7**
RLO				IAmb		IAmb	00 48 24.0	
	comp=Z,7.6nm,1.1s							
BRTR	**Keskin Array B**	**49.94**	**66**	P		**P**	**00 48 17.1**	**+0.5**
	comp=Z,2.1nm,0.3s,baz=289,slow=3.8,SNR=3.7							
	comp=Z,0.1nm,0.3s							
LAO	**LASA Array**	**54.11**	**305**	P		**P**	**00 48 49.1**	**+1.7**
YKA	**Yellowknife Ar**	**54.28**	**325**	LR		LR	01 09 55.5	
	comp=Z,106nm,19.1s,baz=64,slow=34							
BRDY	**Brady**	**54.86**	**285**			**P**	**00 48 51.5**	**-1.6**
BDFB	**Brasilia**	**55.22**	**199**	LR		LR	01 09 43.5	
	comp=Z,111nm,18.7s,baz=340,slow=33							
OTAV	**Otavalo**	**56.96**	**240**	P		**P**	**00 49 07.7**	**-1.1**
OTAV				IAmb		IAmb	00 49 09.2	
	comp=Z,6.8nm,1.1s							
VILB	**Vilhena**	**57.06**	**214**	P		**P**	**00 49 07.8**	**-1.0**
GEVA	**Gevas**	**57.26**	**64**	P		**P**	**00 49 11.2**	**+0.8**
PDAR	**Pinedale Array**	**57.75**	**302**	P		**P**	**00 49 11.9**	**-1.9**
	comp=Z,1.0nm,0.8s,baz=71,slow=6.4,SNR=7.8							
PDAR				LR		LR	01 12 54.6	
	comp=Z,172nm,20.9s,baz=58,slow=35							
	comp=Z,1.0nm,0.8s							
PECS	**Pecos**	**58.53**	**287**	P		**P**	**00 49 20.2**	**+1.0**
PECS				IAmb		IAmb	00 49 21.0	
	comp=Z,5.0nm,0.9s							
CMIG	**Matias Romero**	**58.74**	**268**	LR		LR	01 10 14.5	
	comp=Z,51nm,21.5s,baz=83,slow=32							
AHID	**Auburn Hatcher**	**58.79**	**302**	P		**P**	**00 49 21.6**	**+0.5**
AHID				IAmb		IAmb	00 49 26.3	
	comp=Z,6.3nm,1.2s							
PTLB	**Pontes e Lacer**	**58.83**	**211**	P		**P**	**00 49 20.6**	**-0.6**
ANMO	**Albuquerque**	**58.85**	**292**	LR		LR	01 12 45.7	
	comp=Z,168nm,20.3s,baz=158,slow=34							
TXAR	**Lajitas Array**	**59.34**	**285**	P		**P**	**00 49 22.8**	**-2.2**
	comp=Z,1.7nm,0.9s,baz=74,slow=7.2,SNR=18							
	comp=Z,1.7nm,0.9s							
VHRN	**Van Horn**	**59.66**	**287**	P		**P**	**00 49 26.4**	**-0.7**
VHRN				IAmb		IAmb	00 49 28.1	
	comp=Z,6.0nm,1.2s							
INK	**Inuvik**	**59.74**	**335**	LR		LR	01 12 29.6	
	comp=Z,265nm,19.1s,baz=72,slow=33							
NEW	**Newport**	**60.39**	**310**	P		**P**	**00 49 32.5**	**+0.7**
NEW				IAmb		IAmb	00 49 42.6	
	comp=Z,6.4nm,1.0s							
NEW	**Newport**	**60.39**	**310**	LR		LR	01 14 49.2	
	comp=Z,90nm,18.0s,baz=88,slow=35							
HLID	**Hailey**	**60.66**	**304**	P		**P**	**00 49 34.6**	**+0.8**
PLID	**Pearl Lake**	**61.03**	**306**	P		**P**	**00 49 36.5**	**+0.1**
PLID				IAmb		IAmb	00 49 39.2	
	comp=Z,7.7nm,1.3s							
DUG	**Dugway, Tooele**	**61.05**	**300**	P		**P**	**00 49 37.4**	**+0.8**
DUG				IAmb		IAmb	00 49 38.8	
	comp=Z,6.4nm,1.3s							
JRQG	**Juriquilla Cam**	**61.19**	**275**	P		**P**	**00 49 37.6**	**-0.2**
JRQG				IAmb		IAmb	00 49 41.0	
	comp=Z,9.7nm,1.5s							
E09A	**Wood Farm, Sta**	**61.77**	**309**	P		**P**	**00 49 41.6**	**+0.6**
E09A				IAmb		IAmb	00 49 59.5	
	comp=Z,4.1nm,1.0s							
ZAIG	**Zacatecas**	**61.77**	**278**	P		**P**	**00 49 42.6**	**+0.8**
BMO	**Blue Mountains**	**61.97**	**307**	P		**P**	**00 49 43.8**	**+1.2**
WUAZ	**Wupatki**	**62.17**	**295**	P		**P**	**00 49 44.2**	**0.0**
WUAZ				IAmb		IAmb	00 49 49.0	
	comp=Z,6.2nm,1.4s							
F28M	**Old Crow**	**62.18**	**336**	P		**P**	**00 49 45.1**	**+1.6**
F28M				IAmb		IAmb	00 49 48.6	
	comp=Z,4.9nm,1.1s							
LLLB	**Lillooet**	**62.19**	**314**	P		**P**	**00 49 44.8**	**+0.8**
LLLB				IAmb		IAmb	00 49 46.1	
	comp=Z,4.9nm,0.9s							
E08A	**Dider Farm, El**	**62.34**	**309**	P		**P**	**00 49 46.1**	**+1.2**
E08A				IAmb		IAmb	00 49 47.5	
	comp=Z,8.8nm,1.4s							
ATAH	**Atahualpa**	**62.35**	**235**	LR		LR	01 15 28.7	
	comp=Z,57nm,19.2s,baz=334,slow=35							
ELK	**Elko**	**62.46**	**302**	P		**P**	**00 49 46.3**	**+0.1**
ELK	**Elko**	**62.46**	**302**	LR		LR	01 15 35.6	
	comp=Z,170nm,21.5s,baz=68,slow=35							
PSUT	**Pine Spring**	**62.52**	**299**			pP	00 49 48.3	-1.0
I29M	**Ogilvie Camp,**	**62.82**	**333**	P		**P**	**00 49 48.9**	**+1.0**
I29M				IAmb		IAmb	00 49 59.4	
	comp=Z,6.0nm,1.2s							
DLBC	**Dease Lake**	**62.85**	**324**	LR		LR	01 15 26.2	
	comp=Z,20nm,18.6s,baz=54,slow=34							
LTY	**Liberty**	**62.98**	**310**	P		**P**	**00 49 50.1**	**+0.8**
LTY				IAmb		IAmb	00 50 00.3	
	comp=Z,4.6nm,1.1s							
F07A	**Phinny Hill Vi**	**63.15**	**309**	P		**P**	**00 49 51.5**	**+1.1**
P33M	**Teslin, Yukon**	**63.25**	**327**	P		**P**	**00 49 52.5**	**+1.6**
P33M				IAmb		IAmb	00 49 54.7	
	comp=Z,5.9nm,1.3s							
J29N	**Klondike Camp**	**63.27**	**332**	P		**P**	**00 49 53.2**	**+2.3**
J08A	**Circle Bar Ran**	**63.40**	**305**	P		**P**	**00 49 52.8**	**+0.6**
LPAZ	**La Paz**	**63.71**	**220**	P		**P**	**00 49 54.1**	**-0.9**
LPAZ	**La Paz**	**63.71**	**220**	P		**P**	**00 49 54.2**	**-0.9**
	comp=Z,7.1nm,0.9s,baz=19,slow=5.5,SNR=32							
	comp=Z,7.1nm,0.9s							
N31M	**Braeburn, Yuko**	**63.86**	**329**	P		**P**	**00 49 56.9**	**+2.0**
DAWY	**Dawson**	**63.91**	**332**	P		**P**	**00 49 57.1**	**+2.0**
DAWY				IAmb		IAmb	00 49 58.6	
	comp=Z,7.4nm,1.2s							
WHY	**Whitehorse**	**63.91**	**328**	P		**P**	**00 49 57.2**	**+1.9**
WVOR	**Wild Horse Val**	**63.93**	**305**	IAmb		IAmb	00 50 02.3	
	comp=Z,5.4nm,1.2s							
D24K	**Happy Valley**	**64.01**	**339**	P		**P**	**00 49 57.4**	**+1.7**
D24K				IAmb		IAmb	00 49 58.8	
	comp=Z,6.0nm,1.1s							
M29M	**Somme Creek**	**64.43**	**330**	P		**P**	**00 49 59.3**	**+0.6**
M29M				IAmb		IAmb	00 50 02.6	
	comp=Z,4.8nm,1.1s							
BBB	**Bella Bella**	**64.91**	**318**	LR		LR	01 17 45.7	
	comp=Z,232nm,18.5s,baz=29,slow=36							
J05D	**Fort Rock, OR**	**65.20**	**306**	P		**P**	**00 50 04.6**	**+0.5**
PRP	**Porcupine Dome**	**65.23**	**335**	P		**P**	**00 50 05.4**	**+1.5**
PRP				IAmb		IAmb	00 50 07.4	
	comp=Z,3.5nm,1.0s							
BCAR	**Beaver Creek A**	**65.36**	**332**	P		**P**	**00 50 06.6**	**+2.0**
E22K	**Anaktuvuk Pass**	**65.51**	**339**	P		**P**	**00 50 07.3**	**+1.8**
E22K				IAmb		IAmb	00 50 09.2	
	comp=Z,6.4nm,1.4s							
SCRK	**Sand Creek**	**65.62**	**333**	P		**P**	**00 50 07.9**	**+1.5**
SCRK				IAmb		IAmb	00 50 09.3	
	comp=Z,5.2nm,1.4s							
NVAR	**Mina Array Bea**	**65.64**	**301**	P		**P**	**00 50 05.4**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=56,slow=7.9,SNR=3.7							
NVAR				LR		LR	01 18 28.2	
	comp=Z,183nm,20.6s,baz=130,slow=36							
	comp=Z,0.4nm,0.6s							
RYN	**Ryan**	**65.69**	**301**	P		**P**	**00 50 08.4**	**+1.1**
J25K	**Salcha River,**	**65.72**	**334**	P		**P**	**00 50 08.7**	**+1.7**
M27K	**Edge Creek, AK**	**65.80**	**331**	P		**P**	**00 50 08.9**	**+1.3**
M27K				IAmb		IAmb	00 50 11.4	
	comp=Z,4.8nm,1.0s							
DOT	**Dot Lake**	**65.85**	**333**	P		**P**	**00 50 09.4**	**+1.7**
DOT				IAmb		IAmb	00 50 11.2	
	comp=Z,5.3nm,1.2s							
GLA	**Glamis**	**65.86**	**294**	P		**P**	**00 50 08.6**	**+0.2**
LHV	**Little Huntoon**	**65.86**	**301**	P		**P**	**00 50 08.9**	**+0.7**
ILAR	**Eielson Array**	**66.14**	**335**	P		**P**	**00 50 11.7**	**+2.1**
ILAR	**Eielson Array**	**66.14**	**335**	P		**P**	**00 50 09.4**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=48,slow=5.5,SNR=6.5							
ILAR				LR		LR	01 16 39.9	
	comp=Z,166nm,19.0s,baz=64,slow=34							
	comp=Z,0.7nm,0.9s							
H23K	**Yukon River**	**66.34**	**337**	P		**P**	**00 50 12.8**	**+1.9**
H23K				IAmb		IAmb	00 50 14.5	
	comp=Z,5.7nm,1.1s							
CCB	**Clear Creek Bu**	**66.53**	**335**	P		**P**	**00 50 13.7**	**+1.7**
CCB				IAmb		IAmb	00 50 14.9	
	comp=Z,4.0nm,1.1s							
**

IDC 08 00:41:50.3±2.2,0°47N×126°66E,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=181.9km s-min=28.7km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.64**	**160**	P	P	00 46 41.5	-1.0
	1.0nm,0.5s,baz=338,slow=10,SNR=8.5 1.0nm,0.5s						
ASAR	**Alice Springs**	**25.01**	**164**	P	P	00 47 16.9	+0.8
	0.3nm,0.5s,baz=345,slow=12,SNR=5.7 0.3nm,0.5s						
MKAR	**Makanchi Array**	**60.19**	**326**	P	P	00 51 60.0	-0.1
	0.2nm,0.4s,baz=114,slow=7.7,SNR=2.0 0.2nm,0.4s						

*IDC **08** 00:53:00.2±0.7,0°64N×126°31E,h0km,mb3.9/10, mbtmp3.9/12,ML3.8/2,MS4.0/2,Error ellipse: s-maj=39.9km s-min=14.3km az=74.0*
*DJA **08** 00:53:03.6±0.2,1°N±2°×12°6E±°,h10km,M4.0/3, MLv3.9/10,MLv4.0/3*
*NEIC **08** 00:53:06.6±1.6,0°6N±0°1×126°32E±0°05,h35km±2km, mb4.3/15,Error ellipse: s-maj=18.6km s-min=7.0km az=165.0*

ISC 08 00:53:05.6±0.5,0°57N±0°06×126°21E±0°04,h35km,n38, σ1ş35/42,mb4.2/18,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.18**	**80**		**Pn**	**00 53 25.5**	**-0.1**
TNTI				Sn	**Sn**	**00 53 41.1**	**+0.6**
TNTI	**Ternate**	**1.18**	**80**	P	**Pn**	**00 53 24.7**	**-0.9**
TNTI				S	**Sn**	**00 53 43.7**	**+3.2**
LBMI	**Labuha**	**1.77**	**133**	P	**Pn**	**00 53 34.7**	**+0.9**
LBMI				S	**Sn**	**00 53 58.6**	**+3.6**
KMSI	**Cibinong**	**2.22**	**270**	P	**Pn**	**00 53 39.6**	**-0.4**
KMSI				S	**Sn**	**00 54 07.2**	**+0.9**
SANI	**Sanana**	**2.61**	**185**	P	**Pn**	**00 53 44.7**	**-0.7**
LUWI	**Luwuk**	**3.79**	**245**	Pn	**Pn**	**00 54 04.0**	**+2.4**
LUWI					Sn	00 54 56.0	+11
LUWI	**Luwuk**	**3.79**	**245**	P	**Pn**	**00 54 00.7**	**-0.9**
NLAI	**Namlea**	**3.89**	**167**	P	**Pn**	**00 54 02.6**	**-0.4**
TOLI2	**Tolitoli**	**5.45**	**276**		**Pn**	**00 54 27.9**	**+3.5**
KAPI	**Kappang**	**8.51**	**229**	Pn	**Pn**	**00 55 05.4**	**-1.0**
	3.2nm,0.3s,baz=0.8,slow=8.1,SNR=4.7 3.2nm,0.3s						
KNRA	**Kununurra**	**16.34**	**171**	P	**Pn**	**00 56 53.3**	**+0.8**
KNRA				IAmb	IAmb	00 57 17.4	
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.56**	**182**	P	**P**	**00 57 20.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**18.56**	**182**	P	**P**	**00 57 18.8**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=96,slow=6.0,SNR=3.4 comp=Z,3.9nm,1.0s						
WB0	**Warramunga Arr**	**21.75**	**159**	P	**P**	**00 57 53.8**	**-0.4**
WB0				IAmb	IAmb	00 57 58.8	
	comp=Z,9.5nm,0.8s						
WRA	**Warramunga Arr**	**21.89**	**159**	P	**P**	**00 57 55.0**	**-0.8**
WRA	**Warramunga Arr**	**21.89**	**159**	P	**P**	**00 57 55.2**	**-0.6**
	comp=Z,6.6nm,0.6s,baz=339,slow=11,SNR=29 comp=Z,6.6nm,0.6s						
WR8	**Warramunga Arr**	**21.96**	**159**	P	**P**	**00 57 56.1**	**-0.4**
WR8				IAmb	IAmb	00 58 00.9	
	comp=Z,6.8nm,0.6s						
COEN	**Coen**	**22.16**	**131**	P	**P**	**00 57 59.0**	**+0.3**
COEN				IAmb	IAmb	00 58 05.6	
	comp=Z,11nm,1.0s						
AS31	**Alice Springs**	**25.23**	**163**	P	**P**	**00 58 30.0**	**+1.6**
AS31				IAmb	IAmb	00 58 32.2	
	comp=Z,2.5nm,0.3s						
ASAR	**Alice Springs**	**25.23**	**163**	P	**P**	**00 58 29.3**	**+0.8**
	comp=Z,11nm,0.3s,baz=340,slow=10,SNR=4.2						
FORT	**Forrest**	**31.23**	**177**	P	**P**	**00 59 21.7**	**-0.2**
FORT				IAmb	IAmb	00 59 24.5	
	comp=Z,4.1nm,0.7s						
JHJ2	**Mitsune**	**34.81**	**20**	P	**P**	**00 59 53.6**	**+0.4**
STKA	**Stephens Creek**	**35.41**	**157**	P	**P**	**00 59 58.2**	**-0.2**
STKA	**Stephens Creek**	**35.41**	**157**	P	**P**	**00 59 57.9**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=318,slow=12,SNR=3.1 comp=Z,1.7nm,0.7s						
ASAJ	**Asahikawa**	**45.75**	**16**	LR	LR	01 21 12.9	
	comp=Z,124nm,20.2s,baz=182,slow=37						
SONM	**Songino Array**	**50.12**	**343**	P	**P**	**01 01 57.2**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=161,slow=8.6,SNR=3.9						
SONM				LR	LR	01 26 16.3	
	comp=Z,216nm,18.1s,baz=142,slow=40 comp=Z,0.4nm,0.6s						
PETK	**Petropavlovsk-**	**58.54**	**22**	P	**P**	**01 02 56.8**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=235,slow=12,SNR=5.1 comp=Z,0.8nm,0.3s						
MKAR	**Makanchi Array**	**59.86**	**327**	P	**P**	**01 03 06.4**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=120,slow=6.6,SNR=12						
MKAR				PcP	**PcP**	**01 03 54.8**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=134,slow=3.3,SNR=3.7 comp=Z,0.5nm,0.3s						
ARSB	**Arslanbob**	**62.78**	**317**	P	**P**	**01 03 28.2**	**+0.3**
ZALV	**Zalesovo Beam**	**63.16**	**334**	P	**P**	**01 03 31.1**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=116,slow=6.6,SNR=2.2 comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.12**	**328**	P	**P**	**01 03 36.5**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=133,slow=6.5,SNR=12 comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**64.12**	**329**	P	**P**	**01 03 36.9**	**+0.5**
KURK				IAmb	IAmb	01 03 42.0	
	comp=Z,2.3nm,0.6s						
BVAR	**Borovoye Array**	**69.68**	**328**	P	**P**	**01 04 12.4**	**+0.7**
	comp=Z,0.4nm,0.5s comp=Z,0.4nm,0.5s						
ANM	**Nome**	**80.34**	**24**	P	**P**	**01 05 09.8**	**-3.2**
ANM				IAmb	IAmb	01 05 39.0	
	comp=Z,12nm,1.1s						
VNDA	**Vanda**	**80.38**	**173**	P	**P**	**01 05 13.3**	**+0.4**
VNDA	**Vanda**	**80.38**	**173**	P	**P**	**01 05 13.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=311,slow=6.0,SNR=5.5 comp=Z,0.3nm,0.5s						
QSPA	**South Pole Qui**	**90.50**	**180**	P	**P**	**01 06 04.1**	**+0.3**
QSPA				IAmb	IAmb	01 06 39.6	
	comp=Z,3.6nm,1.4s						
QSPA	**South Pole Qui**	**90.50**	**180**	P	**P**	**01 06 04.5**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=111,slow=1.1,SNR=7.3 comp=Z,0.5nm,0.5s						

*MOS **08** 00:59:20.2±0.9,9°49N×125°98E,h24km,mb5.1/52, MS4.3/4,Error ellipse: s-maj=9.4km s-min=5.0km az=109.2*
*BJI **08** 00:59:23.2,9°21N×126°27E,h69km,mB5.0/24,mb4.9/54, Ms4.5/47,Ms7 4.3/49*
*IDC **08** 00:59:24.4±0.6,9°56N×126°19E,h48km±5km,mb4.3/28, mbtmp4.6/33,MS3.9/50,Error ellipse: s-maj=18.2km s-min=9.0km az=79.0*
*NEIC **08** 00:59:25.8±2.6,9°53N±0°05×126°20E±0°08,h41km±3km, mb5.1/144,Mww5.0/19,Error ellipse: s-maj=12.0km s-min=7.3km az=83.0*
*GCMT **08** 00:59:27.1±0.2,9°44N±0°01×126°35E±0°02,h55km±1km, MW5.1/111,Moment Tensor Solution. s57,c81; s111,c189; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.38±.22; Mθθ1.66±.15; Mϕϕ-5.05±.15; Mrθ2.67±.10; Mθϕ-2.15±.13; Mϕr0.87±.13; Best double couple: M☆5.66400×10^16 NP1:ϕ☆164.00000°,δ47.00000°, λ37.00000°. NP2:ϕ☆47.00000°,δ64.00000°,λ130.00000°. Principal axes: T 5.3580, Plg52.0000°, Azm6.0000°; N 0.6010, Plg36.0000°, Azm207.0000°; P -5.9690, Plg10.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **08** 00:59:27.2,9°58N×126°18E,h36km*
*NEIC **08** 00:59:27.2,9°58N×126°18E,h36km,Moment Tensor Solution. Duration: 1ş6 Moment tensor: Scale 10^16Nm; Mrr1.58; Mθθ0.75; Mϕϕ-2.33; Mrθ3.61; Mϕϕ-1.35; Mϕr0.58; Fault plane solution: M☆4.41000×10^16 NP1: ϕ☆171.69000°,δ32.91000°,λ21.69000°. NP2:ϕ☆63.22000°, δ78.41000°,λ121.02000°. Principal axes: T 4.8306, Plg47.0000°, Azm6.0000°; N -1.0226, Plg30.0000°, Azm236.0000°; P -3.8081, Plg27.0000°, Azm129.0000°;*
*DJA **08** 00:59:28.9±0.3,9°N±3°×12°7E±°,h10km,M5.1/1,mb5.1/33, mb5.1/1*

ISC 08 00:59:25.9±0.3,9°57N±0°03×126°30E±0°05,h51km±2km, h51km:pP-P,n635,σ1ş79/564,mb5.0/169,MS4.1/68, 27C-15D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.58**	**196**	Pn	**Pn**	**01 00 04.6**	**-0.6**
DAV	**Davao City (W)**	**2.58**	**196**	P	**Pn**	**01 00 04.9**	**-0.3**
	334nm,0.3s,baz=60,slow=4.2,SNR=15						
DAV				S	**Sn**	**01 00 41.1**	**+5.7**
	2μm,0.7s,baz=292,slow=22,SNR=6.5						
DAV	**Davao City (W)**	**2.58**	**196**	*i*P	**Pn**	**01 00 08.0**	**+2.8**
SGSI	**Sangihe**	**5.89**	**188**	P	Pn	01 00 57.5	+6.8
TGY	**Tagaytay City**	**6.92**	**311**	P	**Pn**	**01 01 07.3**	**+2.5**
	841nm,0.8s,baz=180,slow=1.2,SNR=32						
TGY				LR	LR	01 04 04.8	
	comp=Z,4μm,19.7s,baz=105,slow=41						
TNTI	**Ternate**	**8.80**	**173**	Pn	**Pn**	**01 01 30.9**	**+0.3**
TNTI	**Ternate**	**8.80**	**173**	P	**Pn**	**01 01 34.0**	**+3.4**
	173nm,1.1s						
KMSI	**Cibinong**	**9.23**	**195**	P	Pn	01 01 41.6	+5.2
MRSI	**Marisa**	**10.02**	**206**	P	Pn	01 01 55.2	+8.0
	95nm,1.0s						
TOLI2	**Tolitoli**	**10.04**	**213**	Pn	**Pn**	**01 01 46.1**	**-1.4**
KKM	**Kota Kinabalu**	**10.59**	**251**		**Pn**	**01 01 54.0**	**-1.1**
LUWI	**Luwuk**	**11.11**	**199**	Pn	**Pn**	**01 02 02.9**	**+0.7**
LUWI	**Luwuk**	**11.11**	**199**	P	Pn	01 02 10.2	+8.0
	187nm,1.2s						
APSI	**Ampana**	**11.39**	**204**	P	Pn	01 02 12.1	+6.1
	133nm,1.0s						
SWI	**Sorong**	**11.48**	**154**	P	**Pn**	**01 02 08.6**	**+1.4**
	74nm,0.9s,74nm,0.9s						
SANI	**Sanana**	**11.54**	**182**	P	Pn	01 02 13.0	+4.9
	80nm,0.9s						
NLAI	**Namlea**	**12.75**	**176**	P	P	01 02 28.8	-5.4
	74nm,0.8s						
FAKI	**Fak Fak**	**13.75**	**154**		**Pn**	**01 02 37.8**	**-0.5**
FAKI	**Fak Fak**	**13.75**	**154**	P	**Pn**	**01 02 39.8**	**+1.6**
	111nm,1.0s						
TTSI	**Tana Toraja**	**14.10**	**208**	P	**P**	**01 02 53.1**	**+3.9**
	90nm,1.0s						
BAKI	**Biak**	**14.48**	**137**	P	**Pn**	**01 02 48.0**	**0.0**
	64nm,1.1s						
YULB	**Yu-li**	**14.56**	**341**	Pn	**Pn**	**01 02 51.4**	**+2.4**
TPUB	**Ta-pu**	**14.69**	**339**		**P**	**01 02 55.5**	**-0.3**
SPSI	**Sidrap Palu**	**14.94**	**206**	P	P	01 03 03.1	+4.6
	58nm,0.9s						
SSLB	**Suanglung**	**15.03**	**341**		**P**	**01 03 00.2**	**+0.6**
YOJ	**Yonaguni jima**	**15.14**	**348**		**P**	**01 03 00.3**	**-0.5**
YOJ				IAmb	IAmb	01 03 04.4	
	comp=Z,210nm,1.1s						
YOJ	**Yonaguni jima**	**15.14**	**348**	P	**P**		
YOJ				pmax	pmax	**01 03 00.3**	**-0.5**
	comp=Z,210nm,1.1s						
BNSI	**Bone**	**15.19**	**204**	P	**P**	**01 03 06.1**	**+4.8**
	comp=Z,64nm,0.9s						
NACB	**Ninganchiao**	**15.20**	**343**		**P**	**01 03 01.8**	**+0.4**
YHNB	**Yeheng**	**15.73**	**343**		**P**	**01 03 07.6**	**+0.2**
KAPI	**Kappang**	**15.89**	**205**		**P**	**01 03 15.3**	**+6.2**
KAPI	**Kappang**	**15.89**	**205**	P	**Pn**	**01 03 06.0**	**-0.2**
	comp=Z,10nm,0.9s,baz=38,slow=14,SNR=5.6						
KAPI				LR	LR	01 09 50.0	
	comp=Z,477nm,19.3s,baz=32,slow=40						
KAPI	**Kappang**	**15.89**	**205**	⇑*e*P	**Pn**	**01 03 06.5**	**+0.3**
KAPI				pmax	pmax		
	comp=Z,31nm,1.2s						
SMPI	**Sarmi**	**16.87**	**132**	P	**P**	**01 03 19.9**	**-0.2**
	comp=Z,133nm,1.6s						
QZH	**Quanzhou**	**16.96**	**335**	*e*P	**P**	**01 03 23.3**	**+2.4**
QZH				S	**S**	**01 06 35.4**	**+0.2**
QZH				sS	**sS**	**01 06 53.8**	**+0.7**
QZH				LR	LR		
	comp=Z,950nm,14.4s						
QZH				LR	LR		
	comp=Z,1μm,27.5s						
JOW	**Kunigami**	**17.27**	**6**	P	**Pn**	**01 03 24.4**	**+0.9**
	comp=Z,21nm,0.2s,baz=220,slow=8.2,SNR=7.6						
JOW				LR	LR	01 10 19.4	
	comp=Z,370nm,19.0s,baz=238,slow=38						
STKI	**Sintang**	**17.51**	**238**	P	P	01 03 38.9	+12
KSM	**Kuching**	**17.82**	**244**	P	**Pn**	**01 03 29.3**	**-1.1**
SAUI	**Saumlaki**	**18.13**	**164**	P	**P**	**01 03 33.3**	**-0.7**
GENI	**Genyem**	**18.35**	**130**	P	**Pn**	**01 03 38.2**	**+1.3**
	comp=Z,105nm,0.9s						
QIZ	**Qiongzhong**	**18.50**	**302**		**Pn**	**01 03 39.3**	**+0.7**
QIZ	**Qiongzhong**	**18.50**	**302**	P	**P**	**01 03 37.7**	**-0.3**
QIZ				pP	**pP**	**01 03 51.0**	**+1.4**
QIZ				S	**S**	**01 07 06.5**	**0.0**
QIZ				pmax	pmax		
	comp=Z,38nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,310nm,3.1s						
QIZ				LR	LR		
	comp=Z,580nm,21.7s						
QIZ				LR	LR		
	comp=Z,1μm,22.8s						
MMRI	**Maumere**	**18.53**	**193**	P	**Pn**	**01 03 39.0**	**+0.1**
MMRI				IAmb	IAmb	01 03 50.5	
	comp=Z,134nm,1.5s						
GUMO	**Guam**	**18.62**	**76**	P	**Pn**	**01 03 41.2**	**+1.1**
GUMO	**Guam**	**18.62**	**76**	LR	LR	01 09 19.4	
	comp=Z,364nm,21.8s,baz=260,slow=32						
GUMO	**Guam**	**18.62**	**76**	P	**Pn**	**01 03 41.2**	**+1.1**
GUMO				pmax	pmax		
	comp=Z,96nm,0.4s						
JAY	**Jayapura**	**18.71**	**129**	P	**Pn**	**01 03 41.2**	**0.0**
	comp=Z,30nm,0.8s,baz=274,slow=6.0,SNR=13						
JAY				LR	LR	01 10 29.8	
	comp=Z,585nm,20.6s,baz=355,slow=35						
JAY	**Jayapura**	**18.71**	**129**	P	**Pn**	**01 03 42.2**	**+1.0**
	comp=Z,52nm,1.0s						
SOEI	**Soe**	**19.30**	**186**	P	**Pn**	**01 03 47.7**	**-0.7**
SOEI	**Soe**	**19.30**	**186**	P	**Pn**	**01 03 53.4**	**+5.0**
	comp=Z,127nm,0.7s						
BATI	**Baumata**	**19.82**	**188**	P	**P**	**01 03 51.7**	**-0.8**
	comp=Z,77nm,0.9s,baz=150,slow=2.3,SNR=7.0						
BATI				LR	LR	01 12 49.9	
	comp=Z,484nm,20.7s,baz=342,slow=41						
UBPT	**Khong Chiam**	**21.11**	**288**		**P**	**01 04 05.3**	**-1.1**
JAGI	**Jajag, Banyuwa**	**21.62**	**214**	P	P	01 04 22.1	+10
	comp=Z,57nm,1.0s						
MTN	**Manton Dam**	**22.78**	**168**	IAmb	IAmb	01 04 39.7	
	comp=Z,76nm,1.1s						
MTN	**Manton Dam**	**22.78**	**168**	P	**P**	**01 04 23.0**	**-1.2**
KDU	**Kakadu**	**22.95**	**164**	P	**P**	**01 04 23.0**	**-2.9**
NJ2	**Nanjing**	**23.41**	**344**	*e*P	**P**	**01 04 31.0**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,54nm,0.8s						
WHN	**Wuhan**	**23.66**	**334**	⇓P	**P**	**01 04 32.5**	**-0.2**
WHN				S	**S**	**01 08 45.2**	**+1.3**
WHN				pmax	pmax		
	comp=Z,460nm,2.0s						
WHN				LR	LR		
	comp=Z,2μm,18.9s						
JNU	**Nakatsue**	**23.82**	**10**	LR	LR	01 13 55.2	
	comp=Z,117nm,21.1s,baz=167,slow=36						
SLVN	**Son La**	**24.51**	**301**		**P**	**01 04 40.3**	**-0.4**
JMN	**Monobe**	**25.04**	**15**	P	**P**	**01 04 46.5**	**+1.1**
JMN				IAmb	IAmb	01 04 50.2	
	comp=Z,108nm,1.1s						
KNRA	**Kununurra**	**25.20**	**174**		**P**	**01 04 46.4**	**-0.5**
KNRA				IAmb	IAmb	01 05 11.3	
	comp=Z,54nm,0.7s						
KNRA	**Kununurra**	**25.20**	**174**	P	**P**	**01 04 46.2**	**-0.7**
	comp=Z,88nm,0.8s						
DBJI	**Dramaga**	**25.22**	**231**	P	P	01 05 00.2	+13
	comp=Z,82nm,1.4s						
SBJI	**Serang**	**25.43**	**233**	P	P	01 05 02.2	+13
IPM	**Ipoh**	**25.58**	**260**		**P**	**01 04 52.4**	**+1.9**
IPM				IAmb	IAmb	01 05 09.8	
	comp=Z,36nm,1.0s						
TJN	**Taejon**	**26.71**	**2**	⇑*e*P	**P**	**01 05 00.8**	**+0.4**
PHRA	**Phrae**	**26.77**	**292**	IAmb	IAmb	01 05 15.5	
	comp=Z,32nm,1.0s						
KMI	**Kunming**	**27.22**	**308**	P	**P**	**01 05 04.8**	**-0.6**
KMI				LR	LR		
	comp=Z,150nm,19.1s						
KMI				LR	LR		
	comp=Z,740nm,20.4s						
KMI				LR	LR		
	comp=Z,820nm,26.0s						
FITZ	**Fitzroy Crossi**	**27.50**	**181**	P	**P**	**01 05 07.0**	**-0.6**
	comp=Z,23nm,0.8s,baz=12,slow=10,SNR=16						
FITZ				LR	LR	01 18 18.3	
	comp=Z,277nm,19.5s,baz=27,slow=41 comp=Z,23nm,0.8s						
PPI	**Padang Panjang**	**27.64**	**250**	P	P	01 05 23.2	+14
	comp=Z,13nm,0.9s						
KSRS	**Korea Array**	**27.80**	**3**	P	**P**	**01 05 10.6**	**+0.4**
	comp=Z,19nm,0.9s,baz=182,slow=9.3,SNR=27						
	comp=Z,19nm,0.9s						
TIA	**Tai'an**	**27.80**	**344**	P	**P**	**01 05 09.6**	**-0.6**
TIA				pmax	pmax		
	comp=Z,19nm,1.2s						
TIA				LR	LR		
	comp=Z,260nm,18.1s						
TIA				LR	LR		
	comp=Z,310nm,21.9s						
TIA				LR	LR		
	comp=Z,520nm,24.9s						
LYN	**LuoYang**	**27.91**	**335**	*e*P	**P**	**01 05 12.2**	**+1.0**
LYN				pP	pP	01 05 23.2	-0.6
LYN				S	**S**	**01 09 59.1**	**+7.7**
LYN				pmax	pmax		
	comp=Z,35nm,0.9s						
LYN				LR	LR		
	comp=Z,550nm,16.1s						
LYN				LR	LR		
	comp=Z,260nm,15.5s						
LYN				LR	LR		
	comp=Z,640nm,20.4s						
CMAR	**Chiang Mai Arr**	**27.94**	**291**		**P**	**01 05 11.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**27.94**	**291**	P	**P**	**01 05 10.6**	**-1.1**
	comp=Z,2.2nm,0.4s,baz=100,slow=6.4,SNR=19						
CMAR				pP	**pP**	**01 05 23.6**	**-1.2**
	comp=Z,14nm,1.0s,baz=103,slow=7.3,SNR=7.1						
CMAR				LR	LR	01 16 56.8	
	comp=Z,348nm,18.6s,baz=110,slow=38 comp=Z,2.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**27.94**	**291**	*i* P	**P**	**01 05 11.8**	**+0.1**
CMAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PSI	**Prapat**	**28.02**	**258**	LR	LR	01 17 56.5	
	comp=Z,289nm,21.3s,baz=78,slow=40						
PSI	**Prapat**	**28.02**	**258**	P	**P**	**01 05 14.9**	**+2.4**
PSI				pmax	pmax		
	comp=Z,34nm,1.3s						
RPSI	**Rantau Prapat**	**28.04**	**258**		**P**	**01 05 14.8**	**+2.2**
PZH	**PanZhiHua**	**28.70**	**309**	P	**P**	**01 05 20.6**	**+2.1**
PZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,120nm,5.3s						
COEN	**Coen**	**28.75**	**144**	P	**P**	**01 05 19.9**	**+1.0**
	comp=Z,33nm,1.1s						
MJAR	**Matsushiro Arr**	**28.95**	**20**		**P**	**01 05 20.6**	**+0.2**
MJAR	**Matsushiro Arr**	**28.95**	**20**	P	**P**	**01 05 19.4**	**-1.1**
	comp=Z,7.0nm,0.8s,baz=189,slow=8.9,SNR=11 comp=Z,7.0nm,0.8s						
MJAR	**Matsushiro Arr**	**28.95**	**20**	P	**P**	**01 05 20.6**	**+0.2**
MJAR				pmax	pmax		
	comp=Z,30nm,1.9s						
MAJO	**Matsushiro**	**28.95**	**20**	⇑*e*P	**P**	**01 05 20.7**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,12nm,1.0s						
XAN	**Xi'an**	**29.12**	**329**	⇓P	**P**	**01 05 20.3**	**-1.7**
XAN				pP	pP	01 05 35.4	+0.3
XAN				S	S	01 10 02.8	-7.7
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
XAN				pmax	pmax		
	comp=Z,140nm,7.3s						
XAN				LR	LR		
	comp=Z,610nm,20.6s						
XAN				LR	LR		
	comp=Z,540nm,22.0s						
XAN				LR	LR		
	comp=Z,1μm,22.9s						
DL2	**Dalian**	**29.51**	**353**	P	**P**	**01 05 26.5**	**+1.2**
DL2				*e*S	**S**	**01 10 20.3**	**+3.9**
DL2				pmax	pmax		
	comp=Z,43nm,1.0s						
DL2				pmax	pmax		
	comp=Z,260nm,3.5s						
DL2				LR	LR		
	comp=Z,420nm,23.7s						
DL2				LR	LR		
	comp=Z,270nm,10.7s						
DL2				LR	LR		
	comp=Z,790nm,27.5s						
HNS	**HongShan**	**29.62**	**341**	⇓P	**P**	**01 05 26.3**	**0.0**
HNS				pmax	pmax		
	comp=Z,21nm,1.0s						
HNS				LR	LR		
	comp=Z,480nm,16.9s						
HNS				LR	LR		
	comp=Z,530nm,17.3s						
CD2	**Chengdu**	**29.85**	**319**	P	**P**	**01 05 28.6**	**+0.1**
CD2				LR	LR		
	comp=Z,1μm,24.1s						
CD2				LR	LR		
	comp=Z,1μm,23.3s						
CD2				LR	LR		
	comp=Z,1μm,23.1s						
WB0	**Warramunga Arr**	**30.22**	**165**		**P**	**01 05 29.5**	**-2.4**
WB0				IAmb	IAmb	01 06 06.2	
	comp=Z,27nm,1.1s						
WRAB	**Tennant Creek**	**30.37**	**165**	⇑*e*P	**P**	**01 05 32.5**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WRA	**Warramunga Arr**	**30.38**	**165**	P	**P**	**01 05 30.5**	**-2.7**
	comp=Z,2.6nm,0.6s,baz=347,slow=7.9,SNR=19						
WRA				LR	LR	01 20 19.4	
	comp=Z,176nm,18.8s,baz=340,slow=41 comp=Z,2.6nm,0.6s						
WRA	**Warramunga Arr**	**30.38**	**165**	*i* P	**P**	**01 05 32.0**	**-1.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WR8	**Warramunga Arr**	**30.43**	**165**		**P**	**01 05 32.2**	**-1.5**
WR8				IAmb	IAmb	01 06 23.6	
	comp=Z,21nm,1.0s						
TNCH	**TengChong**	**30.56**	**304**	*e*P	**P**	**01 05 35.9**	**+0.8**
TNCH				S	**S**	**01 10 32.2**	**-1.5**
TNCH				pmax	pmax		
	comp=Z,29nm,0.6s						
TNCH				pmax	pmax		
	comp=Z,170nm,3.8s						
TNCH				LR	LR		
	comp=Z,200nm,7.3s						
TNCH				LR	LR		
	comp=Z,250nm,7.1s						
TNCH				LR	LR		
	comp=Z,530nm,18.7s						
JMM	**Marumori**	**31.05**	**23**		**P**	**01 05 39.7**	**+0.7**
MBWA	**Marble Bar**	**31.21**	**192**	P	**P**	**01 05 40.8**	**+0.3**
MBWA				IAmb	IAmb	01 05 57.6	
	comp=Z,46nm,1.7s						
BJI	**Beijing**	**31.66**	**345**	P	**P**	**01 05 43.9**	**-0.4**
BJI				S	**S**	**01 10 56.8**	**+6.8**
BJI				pmax	pmax		
	comp=Z,11nm,1.2s						
BJI				pmax	pmax		
	comp=Z,64nm,5.5s						
BJI				LR	LR		
	comp=Z,100nm,24.9s						
BJI				LR	LR		
	comp=Z,100nm,23.0s						
BJI				LR	LR		
	comp=Z,110nm,20.5s						
QIS	**Mount Isa**	**32.67**	**156**	P	**P**	**01 05 51.6**	**-1.9**
MTSU	**Mount Surprise**	**32.77**	**147**	P	**P**	**01 05 51.4**	**-2.9**
MSHR	**Mys Shultsa**	**33.16**	**7**	*de*P	**P**	**

ASAR	**Alice Springs**	**33.86**	**167**	P	**P**	**01 06 04.3 +0.6**
CN2	**Changchun**	**34.11**	**359**	*e*P	**P**	**01 06 09.9 +4.2**
CN2				*e*S	**S**	**01 11 29.5 +1.4**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.8s					
CN2				pmax	pmax	
	comp=Z,100nm,3.0s					
CN2				LR	LR	
	comp=Z,100nm,11.0s					
CN2				LR	LR	
	comp=Z,200nm,11.0s					
CN2				LR	LR	
	comp=Z,100nm,12.0s					
BTO	**Baotou**	**34.12**	**338**	*e*P	**P**	**01 06 09.1 +3.2**
BTO				pP	**pP**	**01 06 21.1 +2.3**
BTO				sP	sP	01 06 33.3 +8.7
BTO				PP	**PP**	**01 07 25.8 +1.8**
BTO				S	**S**	**01 11 33.4 +4.9**
BTO				pmax	pmax	
	comp=Z,14nm,0.9s					
BTO				pmax	pmax	
	comp=Z,320nm,4.2s					
BTO				LR	LR	
	comp=Z,430nm,17.4s					
BTO				LR	LR	
	comp=Z,280nm,8.7s					
BTO				LR	LR	
	comp=Z,410nm,14.5s					
WRKA	**Warakurna**	**34.45**	**177**	P	**P**	**01 06 07.9 -1.0**
	comp=Z,12nm,1.0s					
USA0B	**Ussuriysk Arra**	**34.85**	**7**	*c i*P	**P**	**01 06 13.3 +1.2**
USRK	**Ussuriysk Ar.**	**34.85**	**7**	P	**P**	**01 06 12.7 +0.6**
	comp=Z,48nm,0.8s,baz=190,slow=7.8,SNR=80					
USRK				LR	LR	01 19 24.2
	comp=Z,175nm,21.9s,baz=189,slow=34					
	comp=Z,48nm,0.8s					
MDJ	**Mudanjiang**	**35.03**	**4**	P	**P**	**01 06 15.4 +1.7**
MDJ				pmax	pmax	
	comp=Z,110nm,1.4s					
XLT	**XiLinHaoTe**	**35.34**	**347**	*e*P	**P**	**01 06 16.2 -0.2**
XLT				pmax	pmax	
	comp=Z,18nm,1.3s					
XLT				pmax	pmax	
	comp=Z,210nm,3.9s					
XLT				LR	LR	
	comp=Z,17nm,18.8s					
XLT				LR	LR	
	comp=Z,150nm,16.3s					
XLT				LR	LR	
	comp=Z,320nm,24.3s					
ERM	**Erimo**	**35.56**	**22**	P	**P**	**01 06 19.0 +0.8**
ERM				IAmb	IAmb	01 06 37.7
	comp=Z,46nm,1.2s					
ERM	**Erimo**	**35.56**	**22**	*ce*P	**P**	**01 06 19.5 +1.3**
ERM				pmax	pmax	
	comp=Z,16nm,0.9s					
BRDH	**Bariadhala**	**35.65**	**296**	LR	LR	01 23 13.2
	comp=Z,344nm,19.3s,baz=140,slow=40					
BNX	**BinXian**	**36.05**	**1**	⇓P	**P**	**01 06 23.2 +0.8**
BNX				pP	**pwP**	**01 06 38.3 +0.5**
BNX				PcP	**PcP**	**01 08 47.6 -0.2**
BNX				S	**S**	**01 11 52.1 -5.8**
BNX				pmax	pmax	
	comp=Z,30nm,1.0s					
BNX				pmax	pmax	
	comp=Z,50nm,4.1s					
BNX				LR	LR	
	comp=Z,220nm,22.8s					
BNX				LR	LR	
	comp=Z,210nm,23.9s					
BNX				LR	LR	
	comp=Z,360nm,23.5s					
SHL	**Shillong**	**36.32**	**300**	P	**P**	**01 06 22.6 -2.6**
SHL				IAmb	IAmb	01 06 35.8
	comp=Z,29nm,0.8s					
SHL	**Shillong**	**36.32**	**300**	P	**P**	**01 06 22.6 -2.6**
SHL				pmax	pmax	
	comp=Z,29nm,0.8s					
TEY	**Ternei**	**36.44**	**12**	⇑*e*P	P	01 06 18.4 -7.3
TEY				pmax	pmax	
	comp=N,20nm,1.1s					
TEY				pmax	pmax	
	comp=Z,30nm,1.1s					
ASAJ	**Asahikawa**	**37.21**	**20**	P	**P**	**01 06 33.8 +1.5**
ASAJ				pmax	pmax	
	comp=Z,169nm,1.7s					
JKA	**Kamikawa-asahi**	**37.22**	**20**	P	**P**	**01 06 33.8 +1.5**
GTA	**Gaotai**	**37.97**	**326**	*e*P	**P**	**01 06 38.1 -0.9**
GTA				PP	**PnPn**	**01 08 14.4 +6.2**
GTA				pmax	pmax	
	comp=Z,4.0nm,0.7s					
GTA				LR	LR	
	comp=Z,370nm,21.5s					
GTA				LR	LR	
	comp=Z,570nm,21.4s					
GTA				LR	LR	
	comp=Z,760nm,22.2s					
HNR	**Honiara**	**38.45**	**118**	LR	LR	01 21 42.9
	comp=Z,117nm,20.7s,baz=315,slow=35					
MORW	**Morawa**	**39.67**	**194**	IAmb	IAmb	01 07 03.1
	comp=Z,19nm,0.8s					
KLR	**Kul'dur**	**39.80**	**6**	LR	LR	01 21 47.6
	comp=Z,110nm,21.3s,baz=200,slow=34					
KLR	**Kul'dur**	**39.80**	**6**	*c i*P	**P**	**01 06 54.7 +0.8**
KLR				pmax	pmax	
	comp=Z,30nm,1.4s					
YSS	**Yuzhno-Sakhali**	**39.80**	**18**	P	**P**	**01 06 54.5 +0.6**
YSS				IAmb	IAmb	01 06 56.9
	comp=Z,103nm,1.7s					
YSS	**Yuzhno-Sakhali**	**39.80**	**18**	*e*P	**P**	**01 06 54.6 +0.6**
YSS				pmax	pmax	
	comp=Z,30nm,1.1s					
YSS				MLR	MLR	
	comp=Z,200nm,13.0s					
H11S3	**WAKE ISLAND Hy**	**40.10**	**73**	T	T	01 49 56.0
	baz=262,slow=75,SNR=462					
H11S1	**WAKE ISLAND Hy**	**40.11**	**73**	T	T	01 50 01.1
	baz=262,slow=75,SNR=243					
H11S2	**WAKE ISLAND Hy**	**40.11**	**73**	T	T	01 49 55.4
	baz=262,slow=75,SNR=367					
FORT	**Forrest**	**40.15**	**178**		**P**	**01 06 56.5 -0.6**
H11N1	**WAKE ISLAND Hy**	**40.45**	**71**	T	T	01 50 27.8
	baz=266,slow=75,SNR=533					
H11N2	**WAKE ISLAND Hy**	**40.46**	**71**	T	T	01 50 28.3
	baz=266,slow=75,SNR=352					
H11N3	**WAKE ISLAND Hy**	**40.47**	**71**	T	T	01 50 29.1
	baz=266,slow=75,SNR=478					
HEH	**HeiHe**	**40.57**	**1**	*e*P	**P**	**01 07 00.8 +0.5**
HEH				pmax	pmax	
	comp=Z,34nm,1.0s					
HEH				LR	LR	
	comp=Z,250nm,15.8s					
HEH				LR	LR	
	comp=Z,170nm,15.3s					
HEH				LR	LR	
	comp=Z,320nm,18.9s					
EVN	**Everest**	**41.38**	**302**	P	**P**	**01 07 06.8 -1.2**
ULN	**Ulaanbaatar**	**41.49**	**340**	P	**P**	**01 07 07.5 -0.6**
ULN	**Ulaanbaatar**	**41.49**	**340**	*ce*P	**P**	**01 07 07.5 -0.6**
ULN				pmax	pmax	
	comp=Z,3.0nm,0.6s					
SONM	**Songino Array**	**41.68**	**340**	P	**P**	**01 07 09.9 +0.3**
SONM	**Songino Array**	**41.68**	**340**	P	**P**	**01 07 08.5 -1.1**
	comp=Z,2.5nm,0.9s,baz=159,slow=7.8,SNR=13					
	comp=Z,2.5nm,0.9s					
SONM	**Songino Array**	**41.68**	**340**	P	**P**	**01 07 10.0 +0.3**
SONM				pmax	pmax	
	comp=Z,5.0nm,0.9s					
GRNR	**Gornyy**	**41.92**	**10**	⇑*i*P	**P**	**01 07 13.4 +2.0**
GRNR				pmax	pmax	
	comp=Z,30nm,1.2s					
NWAO	**Narrogin (SRO)**	**43.13**	**191**	P	**P**	**01 07 22.4 +1.1**
NWAO				IAmb	IAmb	01 07 40.1
	comp=Z,52nm,1.2s					
NWAO	**Narrogin (SRO)**	**43.13**	**191**	LR	LR	01 27 54.1
	comp=Z,148nm,19.6s,baz=58,slow=40					
NWAO	**Narrogin (SRO)**	**43.13**	**191**	P	**P**	**01 07 22.5 +1.1**
NWAO				pmax	pmax	
	comp=Z,52nm,1.3s					
TYV	**Tymovskoe**	**43.33**	**15**	*e*P	**P**	**01 07 25.2 +2.5**
TYV				pmax	pmax	
	comp=Z,11nm,1.5s					
TYV				pmax	pmax	
	comp=Z,200nm,3.7s					
CIT	**Chita**	**43.59**	**349**	*e*P	**P**	**01 07 25.4 +0.4**
CIT				*e*		01 07 37.6
CIT				*e*		01 09 13.0
CIT				pmax	pmax	
	comp=Z,51nm,2.7s					
STKA	**Stephens Creek**	**43.73**	**161**		**P**	**01 07 25.2 -1.0**
STKA	**Stephens Creek**	**43.73**	**161**	P	**P**	**01 07 25.1 -1.1**
	comp=Z,4.6nm,0.5s,baz=339,slow=9.2,SNR=14					
STKA				LR	LR	01 29 07.7
	comp=Z,58nm,20.7s,baz=355,slow=41					
	comp=Z,4.6nm,0.5s					
STKA	**Stephens Creek**	**43.73**	**161**	*ce*P	**P**	**01 07 25.3 -1.0**
ZAK	**Zakamensk**	**44.93**	**339**	*e*P	**P**	**01 07 35.8 +0.1**
ZAK				pmax	pmax	
	comp=Z,3.0nm,1.0s					
PALK	**Pallekele**	**45.14**	**271**	LR	LR	01 27 27.8
	comp=Z,112nm,18.3s,baz=69,slow=37					
ARMA	**Armidale**	**46.62**	**149**	P	**P**	**01 07 49.7 +0.4**
ARMA				IAmb	IAmb	01 08 00.6
	comp=Z,51nm,1.8s					
MOY	**Mondy**	**46.80**	**339**	*e*P	**P**	**01 07 50.3 -0.2**
HYB	**Hyderabad**	**46.98**	**285**	*e*P	**P**	**01 07 51.8 -0.6**
WMQ	**Urumqi**	**47.79**	**322**	*e*P	**P**	**01 08 00.4 +2.1**
WMQ				LR	LR	
	comp=Z,470nm,19.1s					
WMQ				LR	LR	
	comp=Z,410nm,18.3s					
WMQ				LR	LR	
	comp=Z,420nm,24.2s					
TOO	**Toolangi**	**50.22**	**160**	P	**P**	**01 08 17.4 +0.5**
TOO	**Toolangi**	**50.22**	**160**	P	**P**	**01 08 17.4 +0.5**
TOO				pmax	pmax	
	comp=Z,5.0nm,1.0s					
PEA0B	**Petropavlovsk-**	**50.26**	**24**		**P**	**01 08 19.1 +2.2**
PEA0B	**Petropavlovsk-**	**50.26**	**24**	*ce*P	**P**	**01 08 18.3 +1.4**
PETK	**Petropavlovsk-**	**50.26**	**24**		**P**	**01 08 18.3 +1.4**
PETK	**Petropavlovsk-**	**50.26**	**24**	P	**P**	**01 08 15.9 -1.0**
	comp=Z,7.0nm,0.6s,baz=174,slow=3.0,SNR=17					
	comp=Z,7.0nm,0.6s					
PETK	**Petropavlovsk-**	**50.26**	**24**	P	**P**	**01 08 18.3 +1.4**
DZM	**Mont Dzumac**	**50.38**	**129**	P	**P**	**01 08 21.2 +2.7**
DZM				IAmb	IAmb	01 08 51.7
	comp=Z,33nm,1.3s					
DZM	**Mont Dzumac**	**50.38**	**129**	*e*S	**S**	**01 15 20.2 -8.2**
	comp=Z,158nm,33.4s					
DZM				*e*SS	**SS**	**01 19 05.1 +2.2**
	comp=Z,186nm,24.6s					
DZM				*e*LR	LR	01 22 48.2
	comp=Z,500nm,24.9s					
PET	**Petropavlovsk**	**50.59**	**25**	P	**P**	**01 08 21.0 +1.6**
PET	**Petropavlovsk**	**50.59**	**25**	*ce*P	**P**	**01 08 21.0 +1.6**
PET				pmax	pmax	
	comp=Z,44nm,1.3s					
ZSN	**Zaisan**	**51.45**	**325**	*e*P	**P**	**01 08 24.8 -1.2**
ZSN	**Zaisan**	**51.45**	**325**	*e*P	**P**	**01 08 24.8 -1.2**
YAK	**Yakutsk**	**52.42**	**2**	P	**P**	**01 08 33.2 +0.3**
YAK	**Yakutsk**	**52.42**	**2**	*c i*P	**P**	**01 08 33.1 +0.2**
YAK				*e*		01 09 37.0
YAK				*e*		01 10 32.4
YAK				*e*PPP	PPP	01 11 37.7
YAK				*e*S	**S**	**01 15 54.8 -0.3**
YAK				*e**SS	**sS**	**01 16 15.4 -0.7**
YAK				*e*		01 18 15.4
YAK				*e*SS	**SS**	**01 19 34.6 +1.1**
YAK				*e*SSS	SSS	01 21 24.0
YAK				pmax	pmax	
	comp=Z,68nm,1.1s					
YAK				pmax	pmax	
	comp=N,30nm,1.2s					
YAK				pmax	pmax	
	comp=E,14nm,1.6s					
YAK				pmax	pmax	
	comp=Z,163nm,6.2s					
YAK				pmax	pmax	
	comp=N,88nm,5.1s					
YAK				pmax	pmax	
	comp=E,77nm,5.2s					
YAK				smax	smax	
	comp=E,69nm,4.2s					
YAK				smax	smax	
	comp=N,45nm,3.5s					
MK31	**Makanchi Array**	**52.60**	**323**	P	**P**	**01 08 33.6 -1.0**
MK31	**Makanchi Array**	**52.60**	**323**	*c i*P	**P**	**01 08 33.3 -1.3**
MKAR	**Makanchi Array**	**52.60**	**323**	P	**P**	**01 08 33.6 -1.0**
MKAR	**Makanchi Array**	**52.60**	**323**	P	**P**	**01 08 32.4 -2.2**
	comp=N,3.8nm,0.5s,baz=125,slow=7.8,SNR=50					
MKAR				LR	LR	01 32 33.2
	comp=N,468nm,20.9s,baz=106,slow=38					
	comp=N,3.8nm,0.5s					
MKAR	**Makanchi Array**	**52.60**	**323**	*i* P	**P**	**01 08 33.4 -1.2**
MKAR				pmax	pmax	
	comp=Z,4.0nm,0.5s					
SHLS	**Shalkode**	**52.68**	**318**	*e*P	**P**	**01 08 31.7 -3.7**
SHLS				pmax	pmax	
	comp=Z,9.0nm,1.1s					
SHLS	**Shalkode**	**52.68**	**318**	*e*P	**P**	**01 08 31.7 -3.7**
	comp=Z,9.0nm,1.1s					
MAKZ	**Makanchi**	**52.79**	**323**	P	**P**	**01 08 34.4 -1.6**
MAKZ				IAmb	IAmb	01 08 36.2
	comp=Z,25nm,1.4s					
MAKZ	**Makanchi**	**52.79**	**323**	P	**P**	**01 08 34.4 -1.6**
MAKZ				pmax	pmax	
	comp=Z,25nm,1.4s					
MA2	**Magadan**	**53.20**	**15**	P	**P**	**01 08 39.9 +1.1**
MA2				IAmb	IAmb	01 08 55.4
	comp=Z,15nm,0.9s					
MA2	**Magadan**	**53.20**	**15**	LR	LR	01 29 27.3
	comp=Z,64nm,21.8s,baz=182,slow=34					
MA2	**Magadan**	**53.20**	**15**	*ce*P	**P**	**01 08 39.9 +1.1**
MA2				pmax	pmax	
	comp=Z,20nm,1.3s					
SATY	**Saty**	**53.34**	**317**	*e*P	**P**	**01 08 38.6 -1.6**
SATY				pmax	pmax	
	comp=Z,14nm,1.2s					
SATY	**Saty**	**53.34**	**317**	*e*P	**P**	**01 08 38.7 -1.6**
	comp=Z,14nm,1.2s					
KSH	**Kashi**	**53.72**	**312**	P	**P**	**01 08 43.5 +0.4**
KSH				pP	sP	01 08 59.9 -3.0
KSH				pmax	pmax	
	comp=Z,12nm,1.4s					
KSH				LR	LR	
	comp=Z,310nm,17.2s					
KSH				LR	LR	
	comp=Z,400nm,16.8s					
KSH				LR	LR	
	comp=Z,690nm,19.9s					
KDJ	**Kajisay**	**53.80**	**316**	P	**P**	**01 08 42.6 -1.1**
KDJ	**Kajisay**	**53.80**	**316**	P	**P**	**01 08 42.6 -1.1**
KDJ				pmax	pmax	
	comp=Z,13nm,1.2s					
NIL	**Nilore**	**54.15**	**305**		**P**	**01 08 45.5 -0.7**
NIL	**Nilore**	**54.15**	**305**	P	**P**	**01 08 45.5 -0.7**
NIL				pmax	pmax	
	comp=Z,60nm,1.2s					
NIL	**Nilore**	**54.15**	**305**	P	**P**	**01 08 45.5 -0.7**
TDK	**Taldyqorghan**	**54.16**	**320**	*e*P	**P**	**01 08 44.6 -1.4**
TDK				pmax	pmax	
	comp=Z,12nm,0.6s					
TDK	**Taldyqorghan**	**54.16**	**320**	*e*P	**P**	**01 08 44.7 -1.4**
	comp=Z,12nm,0.6s					
AAA	**Alma-Ata**	**54.40**	**317**	*e*P	**P**	**01 08 46.3 -1.6**
AAA				pmax	pmax	
	comp=Z,10.0nm,0.5s					
AAA	**Alma-Ata**	**54.40**	**317**	*e*P	**P**	**01 08 46.4 -1.6**
	comp=Z,9.9nm,0.5s					
ULHL	**Ulahol**	**54.49**	**316**	P	**P**	**01 08 48.5 -0.3**
	SNR=6.9					
BOOM	**Boomskoye usch**	**54.79**	**316**	P	**P**	**01 08 49.7 -1.2**
BOOM				IAmb	IAmb	01 08 51.2
	comp=Z,26nm,2.0s					
BOOM	**Boomskoye usch**	**54.79**	**316**	P	**P**	**01 08 49.7 -1.2**
BOOM				pmax	pmax	
	comp=Z,27nm,2.0s					
KUU	**Kurty**	**55.05**	**318**	*e*P	**P**	**01 08 51.1 -1.5**
KUU				pmax	pmax	
	comp=Z,19nm,1.0s					
KUU	**Kurty**	**55.05**	**318**	*e*P	**P**	**01 08 51.1 -1.5**
	comp=Z,19nm,1.0s					
ZAA0	**Zalesovo Array**	**55.25**	**332**	P	**P**	**01 08 52.0 -1.8**
ZALV	**Zalesovo Beam**	**55.25**	**332**	P	**P**	**01 08 51.9 -1.9**
	comp=Z,1.0nm,0.3s,baz=108,slow=4.8,SNR=11					
	comp=Z,1.0nm,0.3s					
UCH	**Uchtor**	**55.69**	**315**	P	**P**	**01 08 57.5 -0.2**
	SNR=19					
AAK	**Ala-Archa**	**55.84**	**316**	LR	LR	01 36 14.6
	comp=Z,247nm,18.6s,baz=86,slow=40					
AAK	**Ala-Archa**	**55.84**	**316**	⇓*e*P	**P**	**01 08 57.8 -0.6**
AAK				pmax	pmax	
	comp=Z,12nm,1.7s					
SGDS	**Sogindy**	**56.04**	**316**	*e*P	**P**	**01 08 58.2 -1.5**
USP	**Ospenovka**	**56.06**	**316**	P	**P**	**01 08 59.1 -0.7**
	SNR=6.4					
AML	**Almayashu**	**56.23**	**315**	P	**P**	**01 09 01.3 -0.2**
	SNR=9.5					
EKS2	**Erkin-Say**	**56.35**	**315**	P	**P**	**01 09 01.5 -0.5**
	SNR=6.0					
ARSB	**Arslanbob**	**56.47**	**314**	IAmb	IAmb	01 09 04.1
	comp=Z,38nm,1.7s					
SEY	**Seymchan**	**56.49**	**14**	LR	LR	01 32 10.7
	comp=Z,120nm,21.8s,baz=212,slow=35					
SEY	**Seymchan**	**56.49**	**14**	⇑*i*P	**P**	**01 09 04.2 +1.7**
SEY				pmax	pmax	
	comp=Z,42nm,1.7s					
KURK	**Kurchatov**	**56.66**	**326**		**P**	**01 09 02.7 -1.2**
KURK				IAmb	IAmb	01 09 03.8
	comp=Z,34nm,1.1s					
KURK	**Kurchatov**	**56.66**	**326**	*c i*P	**P**	**01 09 02.2 -1.7**
KURK				pmax	pmax	
	comp=Z,39nm,1.3s					
KURK	**Kurchatov**	**56.66**	**326**	P	**P**	**01 09 02.6 -1.3**
KURK				pP	**pP**	**01 09 15.4 -2.1**
KURK				sP	**sP**	**01 09 20.8 -2.5**
KURBB	**Kurchatov Arra**	**56.66**	**326**	P	**P**	**01 09 02.5 -1.4**
	comp=Z,4.9nm,0.4s,baz=126,slow=6.4,SNR=79					
KURBB				LR	LR	01 35 05.6
	comp=Z,172nm,19.7s,baz=166,slow=38					
	comp=Z,4.9nm,0.4s					
BTK	**Batken**	**57.67**	**312**	IAmb	IAmb	01 09 36.4
	comp=Z,41nm,1.7s					
KBL	**Kabul**	**57.75**	**305**		**P**	**01 09 11.2 -1.0**
KBL				IAmb	IAmb	01 09 29.2
	comp=Z,19nm,1.2s					
KBL	**Kabul**	**57.75**	**305**	P	**P**	**01 09 11.2 -1.0**
KBL				pmax	pmax	
	comp=Z,19nm,1.3s					
GAR	**Garm**	**57.76**	**310**	P	**P**	**01 09 10.0 -2.0**
MSVF	**Nonsavu**	**57.86**	**118**	LR	LR	01 34 14.4
	comp=Z,83nm,18.4s,baz=294,slow=36					
DZA	**Taraz**	**58.12**	**315**	*e*P	**P**	**01 09 12.8 -1.6**
DZA				pmax	pmax	
	comp=Z,5.0nm,0.6s					
DZA	**Taraz**	**58.12**	**315**	*e*P	**P**	**01 09 12.9 -1.6**
	comp=Z,4.8nm,0.6s					
KK31	**Karatay Array**	**58.76**	**315**		**P**	**01 09 17.5 -1.4**
KK31				IAmb	IAmb	01 09 18.7
	comp=Z,30nm,1.6s					
KK31	**Karatay Array**	**58.76**	**315**	P	**P**	**01 09 17.5 -1.4**
KK31				pmax	pmax	
	comp=Z,30nm,1.6s					
KKAR	**Karatay Array**	**58.76**	**315**	P	**P**	**01 09 17.5 -1.4**
KKAR				IAmb	IAmb	01 09 18.7
	comp=Z,31nm,1.6s					
KKAR	**Karatay Array**	**58.76**	**315**	P	**P**	**01 09 17.5 -1.4**
IUG	**Iuzhnay**	**58.82**	**314**	*e*P	**P**	**01 09 17.7 -1.6**
IUG				pmax	pmax	
	comp=Z,13nm,1.4s					
IUG	**Iuzhnay**	**58.82**	**314**	*e*P	**P**	**01 09 17.8 -1.6**
	comp=Z,13nm,1.4s					
CHM	**Chimkent**	**59.17**	**314**	*e*P	**P**	**01 09 20.2 -1.5**
CHM	**Chimkent**	**59.17**	**314**	*e*P	**P**	**01 09 20.2 -1.5**
BRLS	**Boroldaу**	**59.21**	**315**	*e*P	**P**	**01 09 20.7 -1.3**
BRLS				pmax	pmax	
	comp=Z,8.0nm,1.2s					
BRLS	**Boroldaу**	**59.21**	**315**	*e*P	**P**	**01 09 20.7 -1.3**
	comp=Z,8.3nm,1.2s					
AMKA	**Amchitka**	**59.96**	**35**	P	**P**	**01 09 27.6 +0.7**
TIXI	**Tiksi**	**62.05**	**1**	P	**P**	**01 09 40.8 +0.1**
TIXI	**Tiksi**	**62.05**	**1**	⇓*e*P	**P**	**01 09 41.0 +0.3**
TIXI				pmax	pmax	
	comp=Z,63nm,1.3s					
BVAR	**Borovoye Array**	**62.26**	**326**	P	**P**	**01 09 40.9 -1.5**
	comp=Z,4.8nm,0.8s					
BVAR				LR	LR	01 38 13.7
	comp=Z,152nm,21.6s,baz=123,slow=37					
	comp=Z,4.8nm,0.8s					
BRVK	**Borovoye**	**62.33**	**326**	P	**P**	**01 09 41.8 -1.1**
ADK	**Adak**	**62.46**	**36**	P	**P**	**01 09 44.1 +0.3**
ADK	**Adak**	**62.46**	**36**	P	**P**	**01 09 44.1 +0.3**
ADK				pmax	pmax	
	comp=Z,45nm,1.3s					
GSTR	**Great Sitkin T**	**62.90**	**36**	P	**P**	**01 09 47.7 +0.9**
BILL	**Bilibino**	**64.07**	**16**	P	**P**	**01 09 54.5 +0.3**
BILL	**Bilibino**	**64.07**	**16**	*c i*P	**P**	**01 09 54.9 +0.7**
BILL				pmax	pmax	
	comp=Z,40nm,1.7s					
NRIK	**Noril'sk**	**64.70**	**346**	P	**P**	**01 09 57.8 -0.5**
NRIK				IAmb	IAmb	01 09 59.0
	comp=Z,26nm,1.3s					
NRIK					**pP**	**01 10 11.1 -1.4**
NRIK	**Noril'sk**	**64.70**	**346**	P	**P**	**01 09 56.6 -1.6**
	comp=Z,16nm,1.2s,baz=130,slow=6.6,SNR=9.6					
	comp=Z,16nm,1.2s					
NRIK	**Noril'sk**	**64.70**	**346**	*d i*P	**P**	**01 09 57.1 -1.2**
NRIK				pmax	pmax	
	comp=Z,16nm,1.2s					
RAO	**Raoul Island**	**66.15**	**128**	LR	LR	01 38 28.6
	comp=Z,60nm,18.4s,baz=82,slow=35					
RPZ	**Rata Peaks**	**66.79**	**146**	LR	LR	01 38 10.2
	comp=Z,146nm,21.8s,baz=299,slow=35					
URZ	**Urewera**	**67.12**	**139**	LR	LR	01 41 28.3
	comp=Z,126nm,18.2s,baz=288,slow=38					
NIKH	**Nikolski High**	**67.35**	**36**	P	**P**	**01 10 17.5 +1.9**
	baz=255					
AB31	**Akbulak array**	**67.42**	**319**	IAmb	IAmb	01 10 15.8
	comp=Z,25nm,1.6s					
ABKAR	**Akbulak array**	**67.42**	**319**		**P**	**01 10 14.6 -1.6**
ABKAR	**Akbulak array**	**67.42**	**319**	IAmb	IAmb	01 10 15.8
	comp=Z,25nm,1.6s					
P08K	**Saint George I**	**67.95**	**32**	P	**P**	**01 10 20.6 +1.3**
	baz=253					
SVE	**Sverdlovsk**	**68.81**	**328**	*de*P	**P**	**01 10 23.3 -1.4**
SVE				pmax	pmax	
	comp=Z,27nm,1.3s					
UNV	**Unalaska Valle**	**68.93**	**36**	P	**P**	**01 10 27.4 +2.0**
	baz=257					
GAMB	**Gambell**	**69.29**	**25**	IAmb	IAmb	01 10 30.5
	comp=Z,25nm,1.4s					
GAMB	**Gambell**	**69.29**	**25**	P	**P**	**01 10 29.1 +1.6**
	baz=249					
ARTI	**Arti**	**69.91**	**327**		**P**	**01 10 29.7 -1.8**
ARTI				IAmb	IAmb	01 10 30.0
	comp=Z,8.4nm,0.5s					
ARTI	**Arti**	**69.91**	**327**	LR	LR	01 43 18.4
	comp=Z,125nm,19.5s,baz=109,slow=38					
ARTI	**Arti**	**69.91**	**327**	P	**P**	**01 10 29.7 -1.8**
ARTI				pmax	pmax	
	comp=Z,8.0nm,0.5s					
M11K	**Mekoryuk**	**70.68**	**29**	P	**P**	**01 10 38.1 +2.0**
	baz=255					
TNA	**Tin City**	**71.43**	**24**	P	**P**	**01 10 42.1 +1.6**
	baz=252					
K13K	**Kusilvak Mount**	**71.80**	**28**	P	**P**	**01 10 44.5 +1.6**
	baz=256,SNR=8.2					
S12K	**Black Hills**	**71.82**	**34**	P	**P**	**01 10 45.0 +1.9**
	baz=260					
F14K	**Arctic Creek**	**72.03**	**24**	P	**P**	**01 10 45.8 +1.6**
	baz=253,SNR=6.6					
M13K	**Dall Lake**	**72.06**	**29**	P	**P**	**01 10 46.4 +2.0**
	baz=258,SNR=5.1					
ANM	**Nome**	**72.17**	**25**	P	**P**	**01 10 46.5 +1.5**
	baz=254					
J14K	**Nanvaranak Lak**	**72.50**	**27**	P	**P**	**01 10 48.4 +1.5**
	baz=257					
L14K	**Kuka Creek**	**72.58**	**29**	P	**P**	**01 10 49.1 +1.6**
	baz=258,SNR=23					
SDPT	**Sand Point**	**72.66**	**35**	P	**P**	**01 10 49.6 +1.5**
	baz=262					
F15K	**North Star Dit**	**72.77**	**24**	P	**P**	**01 10 50.0 +1.4**
	baz=255,SNR=5.8					
N14K	**Kuskokwak Cree**	**72.78**	**30**	P	**P**	**01 10 50.0 +1.3**
	baz=259,SNR=7.0					
M14K	**Bethel**	**72.81**	**29**	P	**P**	**01 10 50.3 +1.4**
	baz=259					
G15K	**Niukluk**	**72.83**	**25**	P	**P**	**01 10 50.1 +1.1**
	baz=256					
O14K	**Tigyukauivet M**	**72.87**	**31**	P	**P**	**01 10 50.8 +1.5**
	baz=260,SNR=8.1					
CHNA	**Chernabura Isl**	**73.09

K15K **Wolf Creek Mou** 73.31 28 P P 01 10 53.3 +1.4
baz=259,SNR=7.2
M15K **Kasigluk River** 73.41 29 P P 01 10 54.0 +1.5
baz=260,SNR=10
O15K **Ungalikthiuk R** 73.58 31 P P 01 10 54.9 +1.4
baz=261
N15K **Kwethluk River** 73.61 30 P P 01 10 55.2 +1.6
baz=261,SNR=15
G16K **Koyuk River** 73.62 24 P P 01 10 54.8 +1.2
baz=257
D17K **Noatak River** 73.89 22 P P 01 10 56.8 +1.7
baz=256
J16K **Anvik River** 73.92 27 P P 01 10 57.1 +1.7
baz=259,SNR=5.8
I17K **Unalakleet** 74.00 26 P P 01 10 57.6 +1.8
baz=259
RDOG **Red Dog Mine** 74.04 22 P P 01 10 57.3 +1.3
baz=256
C17K **DeLong Mountai** 74.05 21 P P 01 10 57.3 +1.2
baz=255,SNR=7.4
L16K **Owhat River** 74.16 28 IAmb IAmb 01 10 59.9
comp=Z,66nm,1.8s
L16K **Owhat River** 74.16 28 P P 01 10 58.4 +1.5
baz=261,SNR=14
E17K **Hotham Inlet** 74.21 23 P P 01 10 58.5 +1.5
baz=257,SNR=5.6
F17K **Baldwin Pennin** 74.29 23 P P 01 10 58.9 +1.5
baz=258
M16K **Timber Creek** 74.30 29 P P 01 10 59.0 +1.3
baz=261,SNR=10.0
N16K **Nishlik Lake** 74.31 30 P P 01 10 59.7 +1.9
baz=262,SNR=14
G17K **Kiwalik Mounta** 74.34 24 P P 01 10 59.6 +1.8
baz=259,SNR=9.7
P16K **Nushagak River** 74.50 31 P P 01 11 00.6 +1.8
baz=263
O16K **Kokwok River B** 74.52 31 P P 01 11 00.5 +1.6
baz=262,SNR=19
H17K **Granite Mounta** 74.53 25 P P 01 11 00.2 +1.3
baz=259,SNR=12
J17K **VABM Dome** 74.62 27 P P 01 11 01.2 +1.8
baz=261,SNR=9.5
E18K **Tukpahlearik C** 74.75 23 P P 01 11 02.1 +2.0
baz=258,SNR=13
B18K **Kokolik River** 74.75 20 P P 01 11 01.8 +1.7
baz=256,SNR=8.7
L17K **Donlin** 74.78 28 P P 01 11 02.4 +2.0
baz=262,SNR=17
C18K **Utukok River** 74.80 21 P P 01 11 01.9 +1.4
baz=257,SNR=13
K17K **Iditarod** 74.86 28 P P 01 11 03.1 +2.2
baz=262,SNR=15
F18K **Selawik** 74.95 23 P P 01 11 02.5 +1.2
baz=259
O17K **Koliganek Bris** 75.05 31 P P 01 11 03.7 +1.7
baz=263,SNR=12
KIRV **Kirov** 75.05 328 *c i*P P 01 11 00.4 -1.6
M17K **Holitna River** 75.08 29 P P 01 11 04.5 +2.4
baz=263,SNR=13
N17K **Nushagak Hills** 75.09 30 P P 01 11 04.5 +2.2
baz=263,SNR=16
A19K **Wainwright** 75.19 20 P P 01 11 04.8 +2.1
baz=257
R17L **Mt. Peulik Vol** 75.20 33 P P 01 11 03.9 +1.0
baz=265,SNR=5.7
PLK4 **Peulik 4** 75.20 33 IAmb IAmb 01 11 21.7
comp=Z,20nm,1.1s
H18K **Honhosa River** 75.22 25 P P 01 11 04.3 +1.4
baz=261,SNR=8.9
G18K **Tagagawik** 75.22 24 P P 01 11 04.2 +1.3
baz=260,SNR=8.8
P17K **Kvichak River** 75.31 31 P P 01 11 05.0 +1.5
baz=264,SNR=8.9
MAK **Makhachkala** 75.35 312 *c i*P P 01 11 00.8 -3.3
MAK *e**PP **pP** 01 11 18.6 +0.2
MAK *e* 01 13 49.3
MAK *i* PPP PPP 01 15 35.1
MAK *e*S **S** 01 20 33.3 -6.8
MAK *e**SS **SKSac** 01 21 08.0 -1.6
MAK *e*SS **SS** 01 25 31.4 +0.5
MAK pmax pmax
comp=Z,34nm,0.9s
MAK MLR MLR
comp=Z,356nm,21.0s
C19K **Lookout Ridge** 75.46 21 P P 01 11 06.4 +2.1
baz=259,SNR=17
Q17K **Contact Creek** 75.51 32 P P 01 11 05.4 +0.5
baz=265,SNR=7.8
L18K **Granite Mounta** 75.54 28 P P 01 11 06.8 +2.0
baz=263,SNR=11
BELG **Belogornoye** 75.57 322 *de*P P 01 11 03.5 -1.6
BELG pmax pmax
comp=Z,4.0nm,1.3s
J18K **Innoko River** 75.68 27 P P 01 11 07.0 +1.4
baz=263,SNR=5.4
F19K **Shalerucukik Mo** 75.73 23 P P 01 11 06.7 +0.9
baz=261,SNR=7.8
N18K **Kilae Creek** 75.75 30 P P 01 11 07.5 +1.4
baz=264,SNR=9.3
GCSA **Galena City Sc** 75.78 26 P P 01 11 07.5 +1.5
baz=262
M18K **Stony River** 75.86 29 P P 01 11 08.1 +1.5
baz=264,SNR=14
D19K **Kuna River** 75.88 22 P P 01 11 08.2 +1.6
baz=260,SNR=19
G19K **Purcell Mounta** 75.89 24 P P 01 11 08.3 +1.6
baz=262,SNR=9.0
P18K **Big Mountain,** 75.95 31 IAmb IAmb 01 11 09.6
comp=Z,32nm,1.8s
P18K **Big Mountain,** 75.95 31 P P 01 11 08.1 +0.8
baz=265
Q18K **Katmai Hardscr** 76.00 32 P P 01 11 09.2 +1.5
baz=266
O18K **Koktuh Hills** 76.00 31 IAmb IAmb 01 11 27.0
comp=Z,30nm,0.9s
O18K **Koktuh Hills** 76.00 31 P P 01 11 09.0 +1.5
baz=265,SNR=24
E19K **Redstone River** 76.03 23 P P 01 11 09.2 +1.7
baz=261,SNR=23
H19K **Roundabout Mou** 76.07 25 P P 01 11 09.6 +1.9
baz=262,SNR=19
R18K **Karluk** 76.22 33 P P 01 11 09.2 +0.5
baz=266
J19K **Poorman** 76.23 26 P P 01 11 10.1 +1.4
baz=264
L19K **White Mountain** 76.39 28 P P 01 11 11.2 +1.6
baz=265,SNR=9.1
N19K **Bonanza Creek** 76.44 30 P P 01 11 12.1 +1.9
baz=265,SNR=8.9
D20K **Etivluk River** 76.45 21 P P 01 11 11.5 +1.6
baz=262,SNR=21
B20K **Meade River** 76.47 20 P P 01 11 11.8 +1.9
baz=261
O19K **Port Alsworth** 76.48 30 P P 01 11 11.3 +1.2
baz=266
E20K **Nigu River** 76.54 22 P P 01 11 12.2 +1.7
baz=262,SNR=15
F20K **Avaraart Lake** 76.56 23 P P 01 11 12.2 +1.8
baz=263
M19K **Big River Lodg** 76.58 29 IAmb IAmb 01 11 14.1
comp=Z,26nm,1.8s
M19K **Big River Lodg** 76.58 29 P P 01 11 12.6 +1.9
baz=265
H20K **Anotleneega Mo** 76.71 25 P P 01 11 12.8 +1.4
baz=264,SNR=16
Q19K **Cape Douglas,** 76.73 32 P P 01 11 11.8 +0.1
baz=267
I20K **Naaghedeneel** 76.81 26 P P 01 11 13.5 +1.6
baz=264
OHAK **Old Harbor** 76.83 33 P P 01 11 13.4 +1.3
baz=267
K20K **Telida** 76.85 27 P P 01 11 13.8 +1.5
baz=265,SNR=8.6
L20K **Farewell, AK** 76.87 28 P P 01 11 13.8 +1.5
baz=266
J20K **Nowinta River** 76.89 26 P P 01 11 14.2 +1.8
baz=265,SNR=14
P19K **Oil Pt** 76.99 31 P P 01 11 13.8 +0.7
baz=267
C21K **Knifeblade Rid** 77.17 21 P P 01 11 15.7 +1.8
baz=263
M20K **Styx River** 77.17 29 P P 01 11 16.1 +1.9
baz=266,SNR=6.8
IMAR **Indian Mountai** 77.23 24 P P 01 11 15.3 +1.1
KDAK **Kodiak Island** 77.23 33 P 01 11 15.7 +1.3
KDAK **Kodiak Island** 77.23 33 LR LR 01 41 20.0
comp=Z,86nm,21.4s,baz=245,slow=32
KDAK **Kodiak Island** 77.23 33 ||*e*P P 01 11 13.6 -0.8
KDAK pmax pmax
comp=Z,45nm,1.5s
KDAK **Kodiak Island** 77.23 33 P P 01 11 15.8 +1.3
baz=268
B21K **Ikpikpuk River** 77.29 21 P P 01 11 16.2 +1.7
baz=263,SNR=7.7
O20K **Slope Mountain** 77.32 31 P P 01 11 16.6 +1.6
baz=267
A22K **Sinclair Lake** 77.34 19 P P 01 11 16.2 +1.4
baz=263
Q20K **Shuyak Island** 77.37 32 P P 01 11 16.2 +1.0
baz=268
G21K **Allakaket** 77.37 24 P P 01 11 16.7 +1.6
baz=265,SNR=24
E21K **Killik River** 77.38 22 P P 01 11 16.2 +1.0
baz=264
F21K **Alatna River** 77.45 23 P P 01 11 16.7 +1.2
baz=265
GNI **Garni** 77.46 309 LR LR 01 50 34.4
comp=Z,145nm,21.4s,baz=79,slow=40
GNI **Garni** 77.46 309 ||*e*P P 01 11 16.4 0.0
GNI pmax pmax
comp=Z,20nm,2.1s
SPCR **Spurr Chakacha** 77.58 29 P P 01 11 17.4 +1.0
baz=267
H21K **Melozitna Rive** 77.59 25 P P 01 11 17.8 +1.5
baz=266,SNR=16
PPLA **Purkeypile** 77.67 28 IAmb IAmb 01 11 19.7
comp=Z,27nm,1.6s
PPLA **Purkeypile** 77.67 28 P P 01 11 18.2 +1.1
baz=267
CHUM **Lake Minchumin** 77.67 27 P P 01 11 18.2 +1.4
baz=267
CAST **Castle Rocks** 77.75 27 P P 01 11 18.6 +1.3
baz=267,SNR=14
B22K **Teshekpuk Lake** 77.78 20 P P 01 11 18.3 +1.1
baz=264
RAYN **Ar Rayn** 77.86 292 P 01 11 17.3 -1.4
RAYN **Ar Rayn** 77.86 292 P P 01 11 17.3 -1.4
RAYN pmax pmax
comp=Z,8.0nm,0.8s
D22K **Ayikyak River** 77.89 21 P P 01 11 19.5 +1.5
baz=265,SNR=7.9
I21K **Tanana** 77.90 25 P P 01 11 19.9 +1.9
baz=267,SNR=10
SKT **Skwentna** 77.94 29 IAmb IAmb 01 11 20.7
comp=Z,21nm,1.4s
SKT **Skwentna** 77.94 29 P P 01 11 19.9 +1.5
baz=268,SNR=9.0
F22K **John River** 77.97 23 P P 01 11 20.2 +1.7
baz=266
CAPN **Captain Cook N** 78.07 30 P P 01 11 20.5 +1.4
baz=268
E22K **Anaktuvuk Pass** 78.16 22 IAmb IAmb 01 11 22.4
comp=Z,23nm,1.4s
E22K **Anaktuvuk Pass** 78.16 22 P P 01 11 21.2 +1.7
baz=266,SNR=11
BRLK **Bradley Lake** 78.18 31 sP 01 11 37.0 -2.0
H22K **Ishtalitna Cre** 78.19 25 P P 01 11 21.5 +1.8
baz=267,SNR=16
G22K **Bettles** 78.20 24 P P 01 11 20.6 +0.9
baz=267
BPAW **Bear Paw Mtn.** 78.27 26 P P 01 11 21.2 +1.1
baz=268,SNR=19
SUA **Susitna One** 78.29 29 P P 01 11 20.7 +0.2
baz=268
MLY **Manley** 78.42 25 IAmb IAmb 01 11 23.5
comp=Z,48nm,1.8s
MLY **Manley** 78.42 25 P P 01 11 21.9 +0.9
baz=268,SNR=16
SLKM **Skilak Lake** 78.53 30 IAmb IAmb 01 11 23.2
comp=Z,34nm,1.4s
CUT **Chulitna** 78.54 28 P P 01 11 21.7 +0.1
baz=269
GOF **Gofitskoye** 78.55 314 *ce*P P 01 11 26.2 +4.2
TRF **Thorofare Moun** 78.56 27 IAmb IAmb 01 11 23.8
comp=Z,47nm,1.9s
TRF **Thorofare Moun** 78.56 27 P P 01 11 23.0 +1.0
baz=268,SNR=6.2
M22K **Willow** 78.60 29 sP 01 11 39.5 -1.6
D23K **Nanushuk River** 78.62 21 P P 01 11 23.7 +1.7
baz=267
C23K **Itkillik River** 78.69 21 P P 01 11 23.5 +1.2
baz=267,SNR=11
KBZ **Khabaz** 78.70 313 P P 01 11 20.8 -2.1
comp=Z,1.1nm,0.6s,baz=40,slow=4.4,SNR=6.9
KBZ pP **pP** 01 11 35.4 -1.9
comp=Z,3.2nm,0.9s,baz=121,slow=4.8,SNR=5.4
comp=Z,1.1nm,0.6s
KBZ **Khabaz** 78.70 313 ||*e*P P 01 11 21.7 -1.2
KBZ pmax pmax
comp=Z,11nm,1.9s
COLD **Coldfoot** 78.72 23 IAmb IAmb 01 11 25.5
comp=Z,49nm,1.9s
COLD **Coldfoot** 78.72 23 P P 01 11 24.4 +1.9
baz=268,SNR=13
RAR **Rarotonga** 78.73 114 LR LR 01 38 06.1
comp=Z,130nm,21.5s,baz=293,slow=30
G23K **Bananza Creek** 78.77 24 P P 01 11 24.7 +1.8
baz=268,SNR=14
O22K **Cooper Landing** 78.77 30 P P 01 11 23.5 +0.6
baz=270
KIV **Kislovodsk** 78.84 313 pP 01 11 36.5 -1.8
KIV **Kislovodsk** 78.84 313 *e*P P 01 11 22.2 -1.6
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,144nm,19.0s
SEW **Seward** 78.91 31 P P 01 11 24.5 +0.9
baz=270
H23K **Yukon River** 78.94 25 IAmb IAmb 01 11 26.9
comp=Z,60nm,1.9s
H23K **Yukon River** 78.94 25 P P 01 11 25.6 +1.8
baz=269,SNR=12
E23K **Chandalar** 78.98 22 P P 01 11 25.6 +1.6
baz=268,SNR=13
I23K **Minto, Yukon-K** 79.00 25 IAmb IAmb 01 11 28.0
comp=Z,58nm,1.9s
I23K **Minto, Yukon-K** 79.00 25 P P 01 11 25.4 +1.3
baz=269,SNR=14
TOLK **Toolik Lake Re** 79.01 22 sP 01 11 43.8 +0.5
TOLK **Toolik Lake Re** 79.01 22 P P 01 11 25.4 +1.2
baz=268,SNR=5.6
PMR **Palmer** 79.07 29 IAmb IAmb 01 11 26.1
comp=Z,47nm,1.8s
PMR **Palmer** 79.07 29 P P 01 11 25.1 +0.6
baz=270,SNR=6.1
NEA2 **Nenana** 79.12 26 P P 01 11 25.8 +1.0
baz=269,SNR=7.4
MCK **McKinley** 79.17 27 P P 01 11 25.6 +0.5
baz=270,SNR=8.4
VRH **Novokhopyorsk** 79.22 320 *e*P P 01 11 23.2 -2.4
VRH pmax pmax
comp=Z,32nm,0.3s
D24K **Happy Valley** 79.30 21 IAmb IAmb 01 11 28.5
comp=Z,66nm,1.9s
D24K **Happy Valley** 79.30 21 P P 01 11 26.6 +1.0
baz=269,SNR=5.7
WAT1 **Susitna Watana** 79.34 28 P P 01 11 26.5 +0.5
baz=270
C24K **Franklin Bluff** 79.35 21 P P 01 11 26.8 +0.9
baz=269
KNK **Knik Glacier** 79.39 29 P P 01 11 27.1 +0.8
baz=271
E24K **Your Creek** 79.40 22 P P 01 11 27.6 +1.2
baz=269,SNR=12
PWL **Port Wells** 79.45 30 IAmb IAmb 01 11 45.1
comp=Z,23nm,1.0s
PWL **Port Wells** 79.45 30 P P 01 11 27.7 +1.0
baz=271,SNR=6.0
F24K **Swan Lake** 79.62 23 P P 01 11 29.2 +1.6
baz=270
H24K **Noodor Dome** 79.63 25 P P 01 11 29.2 +1.6
baz=270,SNR=8.4
COLA **College** 79.64 26 ||*e*P P 01 11 27.2 -0.4
COLA pmax pmax
comp=Z,3.0nm,1.0s
GURO **Guroymak-BITLI** 79.64 308 P P 01 11 28.5 +0.1
GURO IAmb IAmb 01 11 29.2
comp=Z,66nm,1.9s
WAT6 **Susitna Watana** 79.72 28 P P 01 11 29.2 +0.9
baz=271,SNR=14
G24K **Hadweenzic Riv** 79.79 24 P P 01 11 29.4 +1.0
baz=270,SNR=11
POKR **Poker Plat Res** 79.82 25 P P 01 11 28.9 +0.3
baz=271
DHY **Denali Highway** 79.87 27 P P 01 11 29.6 +0.5
baz=271,SNR=7.2
SCM **Sheep Creek Mo** 79.92 29 sP 01 11 46.7 -1.8
SCM IAmb IAmb 01 11 48.5
comp=Z,31nm,1.2s
SCM **Sheep Creek Mo** 79.92 29 P P 01 11 29.7 +0.4
baz=272,SNR=8.7
P23K **Montague Islan** 79.94 31 P P 01 11 30.0 +0.7
baz=272
HDA **Harding Lake** 80.04 26 P P 01 11 31.2 +1.4
baz=271,SNR=7.9
ILAR **Eielson Array** 80.06 26 P 01 11 29.1 -0.8
ILAR **Eielson Array** 80.06 26 P P 01 11 28.8 -1.1
comp=Z,1.5nm,0.7s,baz=241,slow=5.8,SNR=22
ILAR PP PP 01 14 36.0 +3.9
comp=Z,0.4nm,0.7s,baz=253,slow=6.5,SNR=4.3
ILAR LR LR 01 49 35.1
comp=Z,31nm,18.7s,baz=262,slow=38
comp=Z,1.5nm,0.7s
ILAR **Eielson Array** 80.06 26 P P 01 11 29.1 -0.8
GLI **Glacier Island** 80.06 30 IAmb IAmb 01 11 31.4
comp=Z,14nm,0.8s
GLI **Glacier Island** 80.06 30 P P 01 11 30.1 +0.1
baz=272,SNR=8.5
KLMR **Klimovskoe** 80.15 330 *e*P P 01 11 26.2 -4.2
KLMR pmax pmax
comp=Z,34nm,1.3s
KLMR MLR MLR
comp=Z,153nm,18.0s
D25K **Kavik River** 80.17 21 P P 01 11 31.9 +1.4
baz=271,SNR=9.9
G25K **Bearman Lake** 80.33 24 P P 01 11 33.4 +2.1
baz=272,SNR=7.2
H25L **Birch Creek** 80.46 24 P P 01 11 33.6 +1.7
baz=272,SNR=8.0
M24K **Tolsona, Glenn** 80.46 28 P P 01 11 33.6 +1.4
baz=272
F25K **Christian Rive** 80.48 23 P P 01 11 34.3 +2.1
baz=272,SNR=9.6
E25K **Arctic Village** 80.50 22 IAmb IAmb 01 11 35.3
comp=Z,45nm,1.8s
E25K **Arctic Village** 80.50 22 P P 01 11 34.0 +1.8
baz=272,SNR=14
K24K **Donnelly Dome** 80.57 27 IAmb IAmb 01 11 52.5
comp=Z,21nm,1.0s
K24K **Donnelly Dome** 80.57 27 P P 01 11 34.4 +1.7
baz=272
KLU **Klutina** 80.61 29 IAmb IAmb 01 11 35.5
comp=Z,22nm,1.5s
KLU **Klutina** 80.61 29 P P 01 11 34.0 +1.0
baz=273
PRP **Porcupine Dome** 80.61 25 P P 01 11 34.7 +1.7
baz=272
C26K **Camden Bay** 80.67 20 P P 01 11 34.8 +1.8
baz=272
FYU **Fort Yukon** 80.68 24 IAmb IAmb 01 11 37.2
comp=Z,42nm,1.4s
J25K **Salchia River,** 80.71 26 P P 01 11 35.3 +1.8
baz=273
EYAK **Cordova Ski Ar** 80.74 30 P P 01 11 34.4 +0.9
baz=273
PAX **Paxson** 80.75 28 IAmb IAmb 01 11 37.0
comp=Z,19nm,1.3s
PAX **Paxson** 80.75 28 P P 01 11 35.0 +1.3
baz=273,SNR=11
VORR **Voronezh** 80.77 321 *e*P P 01 11 30.6 -3.3
VORR pmax pmax
comp=Z,15nm,0.4s
VSR **Storozhevoye** 80.83 320 *e*P P 01 11 32.8 -1.4
VSR pmax pmax
comp=Z,5.0nm,0.9s
LPSR **Galich'ya Gora** 80.88 322 *e*P P 01 11 31.8 -2.7
LPSR pmax pmax
comp=Z,29nm,0.5s
BMAR **Burnt Mountain** 80.90 23 P 01 11 36.4 +1.9
HARP **HAARP** 80.92 28 P P 01 11 35.6 +1.0
baz=273
RIDG **Independent Ri** 80.99 27 IAmb IAmb 01 11 38.2
comp=Z,32nm,1.2s
RIDG **Independent Ri** 80.99 27 P P 01 11 35.7 +0.8
baz=273,SNR=16
F26K **Sheenjek River** 81.05 23 P P 01 11 37.0 +1.8
baz=273,SNR=9.1
C27K **Jago River** 81.10 21 P P 01 11 36.9 +1.5
baz=273,SNR=7.6
N25K **Chitina, Valde** 81.23 29 IAmb IAmb 01 11 39.2
comp=Z,35nm,1.6s
N25K **Chitina, Valde** 81.23 29 P P 01 11 37.4 +1.1
baz=274,SNR=6.3
G26K **Porcupine Rive** 81.24 23 P P 01 11 37.7 +1.6
baz=274
BMRM **Bremner River** 81.27 30 IAmb IAmb 01 11 43.8
comp=Z,20nm,1.2s
BMRM **Bremner River** 81.27 30 P P 01 11 37.5 +1.0
baz=274
DOT **Dot Lake** 81.34 27 IAmb IAmb 01 11 39.5
comp=Z,15nm,1.2s
SCRK **Sand Creek** 81.35 26 IAmb IAmb 01 11 39.1
comp=Z,18nm,1.4s
SCRK **Sand Creek** 81.35 26 P P 01 11 37.6 +0.7
baz=274,SNR=15
MOS **Moscow** 81.42 325 *e*P P 01 11 35.0 -2.3
KAIM **Kayak Island** 81.44 31 P P 01 11 38.5 +1.2
baz=274
J26L **Joseph Creek** 81.50 26 P P 01 11 38.4 +0.7
baz=274,SNR=11
MENT **Mentasta** 81.55 28 sP 01 11 59.0 +1.8
I26K **Coal Creek Min** 81.61 25 P P 01 11 38.8 +0.7
baz=275
GLB **Gilahina Butte** 81.62 29 IAmb IAmb 01 11 40.9
comp=Z,22nm,1.3s
L26K **Log Cabin Wild** 81.71 27 P P 01 11 39.9 +1.1
baz=275
M26K **Nabesna, AK** 81.92 28 P P 01 11 40.9 +0.9
baz=275,SNR=6.0
E27K **Coleen River** 81.97 22 P P 01 11 41.2 +1.2
baz=276,SNR=7.9
MCARA **McCarthy VSAT** 82.00 29 P P 01 11 41.7 +1.4
baz=275
CRQE **Cirque** 82.03 30 P P 01 11 41.7 +1.1
baz=275
OBN **Obninsk** 82.08 325 *e*P P 01 11 38.7 -2.0
OBN *e* 01 14 46.0
OBN pmax pmax
comp=Z,9.0nm,0.6s
G27K **Doyon Strip** 82.09 24 P P 01 11 42.1 +1.4
baz=276
D27M **Malcolm River** 82.10 21 P P 01 11 42.2 +1.5
baz=276
K27K **Chicken** 82.19 26 P P 01 11 43.1 +1.9
baz=276
H27K **Steamboat Moun** 82.20 24 P P 01 11 43.2 +1.9
baz=276,SNR=5.6
I27K **Kandik River** 82.22 25 P P 01 11 43.3 +1.9
baz=276,SNR=17
APA **Apatity** 82.33 337 *e*P P 01 11 39.0 -2.9
APA MLR MLR
comp=Z,463nm,4.2s
L27K **Beaver Creek,** 82.40 27 P P 01 11 43.9 +1.5
baz=276,SNR=10.0
BCAR **Beaver Creek A** 82.42 27 P 01 11 43.6 +1.1
M27K **Edge Creek, AK** 82.45 28 P P 01 11 44.2 +1.4
baz=276,SNR=5.5
MESA **MESA** 82.65 30 P P 01 11 45.1 +1.2
baz=276
E28M **Babbage River** 82.69 22 P P 01 11 44.9 +1.2
baz=278,SNR=9.6
F28M **Old Crow** 82.69 23 P P 01 11 45.5 +1.7
baz=277,SNR=11
CTG **Chitna Glacier** 82.86 29 P P 01 11 46.6 +1.6
baz=277
CTGM **Chitina Glacie** 82.86 29 sP 01 12 04.1 -0.2
CTGM IAmb IAmb 01 12 06.5
comp=Z,19nm,0.9s
BVCY **Beaver Creek** 82.91 28 P P 01 11 46.8 +1.8
baz=277
I28M **Miner Creek** 82.94 25 P P 01 11 46.9 +1.7
baz=278,SNR=23
YUK3 **Moose Creek** 83.18 29 P P 01 11 47.9 +1.2
baz=278
E29M **Blow River** 83.31 22 P P 01 11 48.6 +1.7
baz=279,SNR=5.4
DAWY **Dawson** 83.36 26 IAmb IAmb 01 11 50.2
comp=Z,39nm,1.4s
DAWY **Dawson** 83.36 26 P P 01 11 48.8 +1.5
baz=278
O28M **Mount Upton** 83.44 30 P P 01 11 49.6 +1.4
baz=278
H29M **Whitestone** 83.47 24 P P 01 11 49.4 +1.6
baz=279,SNR=13

G29M	**Pine Creek**	**83.50**	**23**	P		**P**	**01 11 49.6 +1.6**
	baz=279,SNR=14						
PINM	**Pinnacle**	**83.50**	**30**	P		**P**	**01 11 49.9 +1.7**
	baz=278						
YUK8	**Steele Glacier**	**83.58**	**29**	P		**P**	**01 11 50.3 +1.5**
	baz=278						
I29M	**Ogilvie Camp,**	**83.62**	**25**	P		**P**	**01 11 50.1 +1.5**
	baz=279						
J29N	**Klondike Camp**	**83.80**	**26**	P		**P**	**01 11 51.6 +1.9**
	baz=279						
PNL	**Peninsula**	**83.99**	**31**	P		**P**	**01 11 52.5 +1.9**
	baz=279						
M29M	**Somme Creek**	**84.01**	**28**	P		**P**	**01 11 53.1 +2.3**
	baz=279,SNR=20						
L29M	**L29M**	**84.06**	**27**	P		**P**	**01 11 53.0 +2.0**
	baz=279,SNR=32						
EPYK	**Eagle Plains**	**84.10**	**24**	IAmb		IAmb	01 11 53.2
	comp=Z,26nm,1.1s						
EPYK	**Eagle Plains**	**84.10**	**24**	P		**P**	**01 11 52.1 +1.1**
	baz=280						
YUK4	**Talbot Arm**	**84.10**	**29**	P		**P**	**01 11 53.0 +1.6**
	baz=279						
G30M	**tAoh Zraii Nji**	**84.18**	**23**	P		**P**	**01 11 52.2 +0.7**
	baz=281						
K29M	**Barlow Dome**	**84.20**	**26**	P		**P**	**01 11 53.0 +1.2**
	baz=280						
F30M	**Barrier River**	**84.23**	**22**	P		**P**	**01 11 52.8 +1.1**
	baz=281,SNR=5.3						
O29M	**Mount Kennedy**	**84.30**	**30**	P		**P**	**01 11 54.1 +1.7**
	baz=279						
YUK6	**Outpost Mounta**	**84.30**	**29**	P		**P**	**01 11 53.9 +1.4**
	baz=279						
BNN	**Bunyan**	**84.43**	**308**			pP	01 12 05.0 -3.1
I30M	**Mount Dempster**	**84.45**	**25**	P		**P**	**01 11 54.3 +1.3**
	baz=281,SNR=16						
ASF	**Jabal al Asfar**	**84.48**	**302**	LR		LR	01 54 21.4
	comp=Z,131nm,21.1s,baz=72,slow=39						
J30M	**Hart River**	**84.59**	**25**	P		**P**	**01 11 55.3 +1.6**
	baz=281,SNR=14						
SPITS	**Spitsbergen Ar**	**84.71**	**349**	P		**P**	**01 11 53.3 -0.6**
	comp=Z,7.5nm,0.8s,baz=84,slow=8.5,SNR=9.8						
	comp=Z,7.5nm,0.8s						
SPITS	**Spitsbergen Ar**	**84.71**	**349**	P		**P**	**01 11 52.3 -1.6**
SPITS				pmax		pmax	
	comp=Z,44nm,1.5s						
HYT	**Haines Junctio**	**84.73**	**29**	IAmb		IAmb	01 12 14.7
	comp=Z,11nm,1.0s						
HYT	**Haines Junctio**	**84.73**	**29**	P		**P**	**01 11 56.2 +1.6**
	baz=280,SNR=9.4						
M30M	**Minto, Yukon**	**84.75**	**27**	P		**P**	**01 11 56.3 +1.8**
	baz=281						
N30M	**Aishikik Lake**	**84.82**	**29**	P		**P**	**01 11 57.1 +2.2**
	baz=280,SNR=12						
P29M	**Windy Craggy**	**84.83**	**30**	P		**P**	**01 11 56.8 +1.9**
	baz=280,SNR=5.4						
ARCES	**ARCESS Array B**	**84.86**	**340**	P		**P**	**01 11 52.9 -1.9**
	comp=Z,3.8nm,0.5s,baz=77,slow=6.6,SNR=53						
	comp=Z,3.8nm,0.5s						
INK	**Inuvik**	**84.92**	**22**	LR		LR	01 53 19.0
	comp=Z,36nm,19.4s,baz=262,slow=38						
INK	**Inuvik**	**84.92**	**22**	P		**P**	**01 11 56.0 +0.9**
	baz=283,SNR=7.5						
G31M	**Satah River**	**84.95**	**23**	IAmb		IAmb	01 11 57.0
	comp=Z,16nm,1.1s						
G31M	**Satah River**	**84.95**	**23**	P		**P**	**01 11 55.8 +0.6**
	baz=282,SNR=7.6						
F31M	**Tsiigehtchic**	**85.04**	**22**	P		**P**	**01 11 56.1 +0.4**
	baz=283,SNR=5.3						
P30M	**Million Dollar**	**85.12**	**30**	P		**P**	**01 11 58.0 +1.6**
	baz=281						
H31M	**Peel River**	**85.16**	**24**	P		**P**	**01 11 57.7 +1.2**
	baz=282,SNR=9.0						
KBS	**Kingsbay**	**85.22**	**350**	*i* P		**P**	**01 11 55.4 -1.1**
O30N	**Mendenhall**	**85.42**	**29**	IAmb		IAmb	01 12 01.1
	comp=Z,39nm,1.9s						
O30N	**Mendenhall**	**85.42**	**29**	P		**P**	**01 11 59.2 +1.3**
	baz=281,SNR=5.0						
N31M	**Braeburn, Yuko**	**85.43**	**28**	IAmb		IAmb	01 12 18.1
	comp=Z,21nm,1.1s						
N31M	**Braeburn, Yuko**	**85.43**	**28**	P		**P**	**01 11 59.4 +1.5**
	baz=282,SNR=6.7						
PLBC	**Pleasant Camp**	**85.55**	**31**	P		**P**	**01 11 59.9 +1.5**
	baz=281						
MMAI	**Mount Meron Ar**	**85.61**	**303**	LR		LR	01 56 34.0
	comp=Z,34nm,18.1s,baz=72,slow=40						
S31K	**Pelican**	**85.91**	**32**	P		**P**	**01 12 01.7 +1.5**
	baz=282						
M31M	**Drury Creek, Y**	**85.92**	**28**	IAmb		IAmb	01 12 02.8
	comp=Z,40nm,1.9s						
M31M	**Drury Creek, Y**	**85.92**	**28**	P		**P**	**01 12 01.4 +1.0**
	baz=283						
BR131	**Keskin Array S**	**86.00**	**309**‖	*e*P		**P**	**01 11 58.8 -2.5**
BRTR	**Keskin Array B**	**86.00**	**309**	P		**P**	**01 11 59.1 -2.2**
	comp=Z,1.0nm,0.8s,baz=108,slow=6.3,SNR=9.2						
	comp=Z,1.0nm,0.8s						
WHY	**Whitehorse**	**86.03**	**29**	P		**P**	**01 12 02.3 +1.3**
	baz=282,SNR=6.6						
SKAG	**Skagway**	**86.06**	**30**	P		**P**	**01 12 02.4 +1.4**
	baz=282						
FARO	**Faro, Yukon**	**86.39**	**27**	IAmb		IAmb	01 12 05.3
	comp=Z,19nm,1.1s						
FARO	**Faro, Yukon**	**86.39**	**27**	P		**P**	**01 12 03.9 +1.2**
	baz=284,SNR=12						
EIL	**Elat**	**86.49**	**299**	LR		LR	01 57 25.3
	comp=Z,110nm,18.4s,baz=68,slow=40						
FINES	**FINESS Array B**	**86.52**	**332**	P		**P**	**01 12 01.6 -1.6**
	comp=Z,2.2nm,0.5s,baz=71,slow=4.4,SNR=28						
	comp=Z,2.2nm,0.5s						
SIT	**Sitka**	**86.57**	**33**	P		**P**	**01 12 05.1 +1.6**
	baz=282						
R32K	**Eaglecrest**	**86.73**	**31**	P		**P**	**01 12 06.0 +1.7**
	baz=283						
N32M	**Quiet Lake**	**86.78**	**29**	P		**P**	**01 12 06.0 +1.5**
	baz=284						
P32M	**Atlin**	**86.84**	**30**	P		**P**	**01 12 06.2 +1.3**
	baz=284						
S32K	**Killisnoo**	**86.88**	**32**	P		**P**	**01 12 06.6 +1.6**
	baz=283						
AKASG	**Malin Array Be**	**87.12**	**321**	P		**P**	**01 12 04.4 -1.9**
	comp=Z,0.5nm,0.4s,baz=77,slow=2.8,SNR=8.5						
AKASG				pP		**pP**	**01 12 18.3 -2.7**
	comp=Z,1.1nm,0.6s,baz=66,slow=4.9,SNR=2.8						
	comp=Z,0.5nm,0.4s						
AKBB	**Malin Array Si**	**87.12**	**321**	*de*P		**P**	**01 12 04.7 -1.6**
P33M	**Teslin, Yukon**	**87.13**	**29**	P		**P**	**01 12 07.3 +1.0**
	baz=284						
MMPY	**Sheldon Lake,**	**87.24**	**27**	IAmb		IAmb	01 12 10.6
	comp=Z,25nm,1.8s						
MMPY	**Sheldon Lake,**	**87.24**	**27**	P		**P**	**01 12 07.8 +1.0**
	baz=286						
NOR	**Nord**	**87.28**	**355**	*i* P		**P**	**01 12 05.6 -0.9**
NOR				IAmb		IAmb	01 12 07.2
	comp=Z,34nm,1.6s						
PPT	**Papeete**	**87.32**	**108**	LR		LR	01 44 17.9
	comp=Z,60nm,20.4s,baz=305,slow=31						
PPT2	**Papeete2**	**87.32**	**108**	*e*S		**SKSac**	**01 22 36.0 +4.0**
	comp=Z,99nm,26.5s						
PPT2				*e*SS		**SS**	**01 28 23.9 -6.9**
	comp=Z,78nm,26.2s						
PPT2				*e*LQ		LQ	01 36 11.9
	comp=Z,150nm,24.2s						
PPT2				*e*LR		LR	01 39 52.9
	comp=Z,143nm,27.0s						
PPT2				*e*LR		LR	01 39 54.2
	comp=Z,155nm,23.2s						
Q32M	**Nakina River**	**87.71**	**31**	P		**P**	**01 12 10.2 +0.9**
	baz=285						
U33K	**Whale Pass**	**87.97**	**33**	P		**P**	**01 12 11.2 +0.9**
	baz=284						
CRAG	**Craig**	**88.13**	**34**	P		**P**	**01 12 11.8 +0.8**
	baz=284						
TBI	**Tubuai**	**88.52**	**114**	*e*S		**S**	**01 22 50.6 -5.5**
	comp=Z,408nm,29.8s						
TBI				*e*SS		SS	01 28 30.2 -18
	comp=Z,628nm,37.2s						
TBI	**Tubuai**	**88.52**	**114**	*e*LR		LR	01 40 25.1
	comp=Z,1μm,27.0s						
TBI				*e*LR		LR	01 40 25.5
	comp=Z,1μm,25.5s						
DLBC	**Dease Lake**	**88.98**	**31**	P		**P**	**01 12 16.0 +0.8**
	baz=287						
MAW	**Mawson**	**89.05**	**200**	P		**P**	**01 12 14.1 -1.0**
	comp=Z,2.1nm,0.7s,baz=18,slow=5.0,SNR=6.3						
MAW				LR		LR	01 52 06.4
	comp=Z,75nm,18.0s,baz=17,slow=36						
	comp=Z,2.1nm,0.7s						
VNDA	**Vanda**	**89.23**	**173**			**P**	**01 12 15.6 -0.1**
VNDA	**Vanda**	**89.23**	**173**	P		**P**	**01 12 15.0 -0.8**
	comp=Z,2.1nm,0.9s,baz=318,slow=5.9,SNR=12						
VNDA				LR		LR	01 54 36.2
	comp=Z,46nm,18.4s,baz=341,slow=37						
	comp=Z,2.1nm,0.9s						
VNDA	**Vanda**	**89.23**	**173**	P		**P**	**01 12 15.6 -0.1**
VNDA				pmax		pmax	
	comp=Z,5.0nm,0.9s						
KMBO	**Kilima Mbogo**	**89.24**	**269**			**P**	**01 12 16.8 -0.7**
KMBO	**Kilima Mbogo**	**89.24**	**269**	P		**P**	**01 12 16.8 -0.7**
KMBO				pmax		pmax	
	comp=Z,6.0nm,1.2s						
BUR08	**Bucovina Ar. S**	**90.39**	**318**			pP	01 12 37.0 +0.3
DAG	**Danmarks Havn**	**91.45**	**352**	*i* P		**P**	**01 12 25.0 -1.2**
DAG				IAmb		IAmb	01 12 25.7
	comp=Z,49nm,1.8s						
BBB	**Bella Bella**	**91.89**	**36**	LR		LR	01 50 27.5
	comp=Z,22nm,19.6s,baz=280,slow=33						
KOLS	**Kolonicke sedl**	**91.92**	**320**	*e*P		**P**	**01 12 30.2 +1.2**
KOLS				pmax		pmax	
	comp=Z,2.0nm,0.7s						
KOLS	**Kolonicke sedl**	**91.92**	**320**	*e*P		**P**	**01 12 30.2 +1.2**
RES	**Resolute Bay**	**92.18**	**10**	LR		LR	01 58 56.1
	comp=Z,33nm,18.9s,baz=336,slow=39						
HFS	**Hagfors**	**92.68**	**332**	P		**P**	**01 12 30.3 -1.9**
	comp=Z,2.4nm,0.8s,baz=88,slow=3.4,SNR=7.4						
HFS				pP		**pP**	**01 12 43.6 -3.4**
	comp=Z,5.0nm,0.9s,baz=116,slow=3.4,SNR=3.8						
HFS				LR		LR	01 57 50.8
	comp=Z,135nm,18.7s,baz=68,slow=38						
	comp=Z,2.4nm,0.8s						
NEEM	**North Greenlan**	**93.12**	**359**	*i* P		**P**	**01 12 34.6 +0.3**
NEEM				IAmb		IAmb	01 12 34.8
	comp=Z,9.0nm,0.9s						
NB2	**NORSAR Subarra**	**93.40**	**334**	P		**P**	**01 12 33.3 -2.3**
	comp=Z,14nm,2.0s,baz=65,slow=4.6						
NB2	**NORSAR Subarra**	**93.40**	**334**	P		**P**	**01 12 33.3 -2.3**
	baz=65,slow=4.6						
NOA	**NORSAR Array B**	**93.40**	**334**	P		**P**	**01 12 33.2 -2.3**
	comp=Z,0.4nm,0.2s,baz=69,slow=6.7,SNR=6.3						
NOA				pP		**pP**	**01 12 46.7 -3.7**
	comp=Z,1.7nm,0.9s,baz=65,slow=4.6,SNR=4.9						
NOA				LR		LR	01 57 37.6
	comp=Z,149nm,21.6s,baz=70,slow=37						
	comp=Z,0.4nm,0.2s						
DBG	**Daneborg**	**93.73**	**351**	*i* P		**P**	**01 12 37.1 +0.4**
DBG				IAmb		IAmb	01 12 38.1
	comp=Z,8.7nm,0.9s						
JMIC	**Jan Mayen**	**94.12**	**347**	LR		LR	01 59 50.2
	comp=Z,53nm,19.9s,baz=72,slow=38						
YKA	**Yellowknife Ar**	**94.38**	**24**	P		**P**	**01 12 37.9 -2.1**
	comp=Z,1.2nm,0.7s,baz=294,slow=5.4,SNR=4.4						
YKA				LR		LR	01 56 06.4
	comp=Z,22nm,21.1s,baz=266,slow=36						
	comp=Z,1.2nm,0.7s						
YKA	**Yellowknife Ar**	**94.38**	**24**	*i* P		**P**	**01 12 42.0 +2.0**
YKA				pmax		pmax	
	comp=Z,2.0nm,0.8s						
TAOE	**Nuku Hiva Isla**	**94.91**	**98**	*e*LR		LR	01 43 33.2
	comp=Z,201nm,24.7s						
COP	**Copenhagen**	**95.16**	**329**	*i* P		P	01 12 38.4 -5.2
COP				IAmb		IAmb	01 12 46.7
	comp=Z,108nm,1.0s						
VRAC	**Vranov**	**95.33**	**322**	LR		LR	02 00 31.1
	comp=Z,70nm,21.0s,baz=78,slow=38						
CLL	**Collm**	**96.68**	**325**	*e*P		**P**	**01 12 49.0 -1.7**
CLL	**Collm**	**96.68**	**325**	*e*Px		Px	01 12 49.0
CLL				AMS		AMS	02 00 00.0
	comp=Z,100nm,20.9s						
GERES	**GERESS Array B**	**97.26**	**322**	P		**P**	**01 12 52.4 -1.2**
	comp=Z,0.3nm,0.6s,baz=343,slow=1.4,SNR=6.8						
	comp=Z,0.3nm,0.6s						
SYO	**Syowa Base**	**97.68**	**201**‖	*e*P		Pdif	01 12 56.7 +2.0
SYO	**Syowa Base**	**97.68**	**201**‖	*es*P		sP	01 13 13.0 -2.3
WAH2	**Wahluke Slope**	**99.05**	**39**			pP	01 13 18.3 +2.7
QSPA	**South Pole Qui**	**99.44**	**180**	LR		LR	01 58 10.9
	comp=Z,69nm,20.3s,baz=336,slow=36						
NEW	**Newport**	**99.90**	**37**	LR		LR	01 55 19.1
	comp=Z,32nm,19.2s,baz=292,slow=34						
TXAR	**Lajitas Array**	**118.26**	**49**	PKP		**PKiKP**	**01 18 09.2 +0.9**
	comp=Z,0.3nm,0.6s,baz=24,slow=1.5,SNR=3.6						
TXAR				pPKP		**pPKPdf**	**01 18 23.3 +0.6**
	comp=Z,0.7nm,0.9s,baz=267,slow=1.7,SNR=4.9						
PLCA	**Paso Flores**	**145.55**	**157**			**PKPbc**	**01 18 59.3 +0.2**
PLCA	**Paso Flores**	**145.55**	**157**	PKPbc		**PKPdf**	**01 18 59.1 +0.2**
	comp=Z,4.3nm,0.8s,baz=231,slow=5.6,SNR=6.9						
PLCA	**Paso Flores**	**145.55**	**157**	PKP2		**PKPbc**	**01 18 59.3 +0.2**
OTAV	**Otavalo**	**153.51**	**70**			**PKPab**	**01 19 36.2 +3.3**
OTAV	**Otavalo**	**153.51**	**70**	PKP2		**PKPab**	**01 19 36.2 +3.3**
RUSC	**La Rusia**	**155.32**	**52**			**PKPab**	**01 19 42.4 +1.8**
LPAZ	**La Paz**	**164.44**	**117**	PKP		**PKPdf**	**01 19 24.6 -1.0**
	comp=Z,0.4nm,0.7s,baz=327,slow=5.8,SNR=3.9						

*JMA **08** 01:18:07.7±0.1,43.°00N±0.°5×145.°8E±0.°6, h47km, MV2.9/33, OFF NEMURO PENINSULA*
*SKHL **08** 01:18:08.6±0.2,43.°00N×145.°80E, h35km±2km, mb4.5/3*
ISC 08 01:18:08.1±2.0, **42.°98N**±0.°09×**145.°79E**±0.°07, **h41**km±15km, **n14,σ0s25/22, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.38**	**355**	P	**Pn**	**01 18 17.4**	**0.0**
NEM2				*e*S	**Sn**	**01 18 24.1**	**+0.3**
NMR	**Nemuro--Hokkai**	**0.39**	**354**	*i* P	**Pn**	**01 18 17.3**	**-0.1**
NMR				*i* S	**Sn**	**01 18 24.0**	**0.0**
JKHN	**Kushirohamanak**	**0.47**	**283**	*i* P	**Pn**	**01 18 18.5**	**+0.1**
JKHN				*e*S	**Sn**	**01 18 25.7**	**-0.1**
AKK	**Akkeshi**	**0.69**	**273**	*e*P	**Pn**	**01 18 21.2**	**-0.2**
GLVR	**Golovnino**	**0.78**	**346**	*e*P	**Pn**	**01 18 22.4**	**-0.2**
GLVR				AMB	AMB	01 18 23.3	
	140nm,0.1s						
GLVR				*i* S	**Sn**	**01 18 33.3**	**+0.1**
GLVR				A	A	01 18 33.6	
	610nm,0.2s						
GLVR				A	A	01 18 33.6	
	1μm,0.2s						
JAK	**Akkeshi**	**0.80**	**271**	P	**Pn**	**01 18 22.7**	**-0.2**
JAK				*e*S	**Sn**	**01 18 33.7**	**+0.1**
JNSB	**Nemuroshibetsu**	**0.98**	**325**	*i* P	**Pn**	**01 18 25.2**	**-0.1**
JNSB				*e*S	**Sn**	**01 18 38.0**	**0.0**
JNK	**Nakash**	**0.99**	**308**	P	**Pn**	**01 18 24.9**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**1.05**	**3**	*e*P	**Pn**	**01 18 26.4**	**0.0**
YUK				AMB	AMB	01 18 28.6	
	270nm,0.2s						
YUK				*i* S	**Sn**	**01 18 39.5**	**-0.3**
YUK				A	A	01 18 41.0	
	580nm,0.2s						
YUK				A	A	01 18 41.0	
	1μm,0.2s						
JRA	**Rausu**	**1.07**	**333**	*e*P	**Pn**	**01 18 26.5**	**-0.1**
SHO	**Shikotan**	**1.17**	**40**	*e*P	**Pn**	**01 18 28.0**	**+0.1**
SHO				AMB	AMB	01 18 29.8	
	20nm,0.2s						
SHO				*i* S	**Sn**	**01 18 42.6**	**0.0**
SHO				A	A	01 18 43.8	
	160nm,0.2s						
SHO				A	A	01 18 43.8	
	320nm,0.2s						
JOB	**Onbets**	**1.44**	**268**	P	**Pn**	**01 18 31.5**	**-0.1**
JAR	**Ashorobuto**	**1.51**	**283**	*i* P	**Pn**	**01 18 32.8**	**+0.1**
JTKR	**Abashiri--Toko**	**1.69**	**306**	P	**Pn**	**01 18 35.7**	**+0.7**

IDC 08 01:23:52.6±2.1, **0.°57N**×**126.°03E, h0**km, **mb3.5**/3, **mbtmp3.5**/3, **Error ellipse: s-maj=171.3km s-min=28.8km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.95**	**159**	P	P	01 28 47.3	-0.8
	1.4nm,0.6s,baz=337,slow=12,SNR=11						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**25.28**	**163**	P	P	01 29 21.6	+0.8
	0.4nm,0.4s,baz=344,slow=9.1,SNR=2.6						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**59.76**	**327**	P	P	01 33 59.3	-0.1
	0.1nm,0.3s,baz=123,slow=5.3,SNR=2.3						
	0.1nm,0.3s						

*SJA **08** 01:30:41.3±0.8,26.°77S×71.°48W, h9km±4km, ML3.7, MW3.5*
*GUC **08** 01:30:46.0±0.7,26.°88S×71.°24W, h41km±2km, ML3.8*
*IDC **08** 01:30:54.4±5.6,26.°96S×70.°72W, h68km±55km, mb3.6/4, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=105.3km s-min=36.2km az=97.0*

ISC 08 01:30:44.3±1.7, **26.°79S**±0.°03×**71.°39W**±0.°05, **h6**km±10km, **n43,σ2s21/66, mb3.9**/4, **7C-1D, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.96**	**48**‖	*e*P	**Pg**	**01 31 03.2**	**+0.6**
AC01				*e*S	**Sg**	**01 31 15.4**	**+0.3**
AC01	**Pan de Azucar**	**0.96**	**48**	*e*P	**Pg**	**01 31 03.3**	**+0.6**
AC01				*e*S	**Sg**	**01 31 15.0**	**-0.2**
AC01				IAML		01 31 16.7	
	comp=Z,1μm,1.1s						
AC06	**Mina Casimiro**	**1.08**	**122**	*e*P	**Pb**	**01 31 03.5**	**-2.1**
AC06				*e*S	**Sb**	**01 31 15.3**	**-4.7**
AC06				IAML		01 31 15.8	
	comp=N,8μm,0.5s						
GO03	**Copiapo**	**1.31**	**128**	*e*P	**Pn**	**01 31 06.9**	**-2.3**
GO03				*e*S	**Sb**	**01 31 21.8**	**-4.6**
GO03				IAML		01 31 22.2	
	comp=E,4μm,0.1s						
GO03	**Copiapo**	**1.31**	**128**	*e*P	**Pn**	**01 31 07.3**	**-2.0**
GO03				*e*S	**Sb**	**01 31 21.6**	**-4.8**
AC04	**Llanos de Chal**	**1.44**	**169**‖	*e*P	**Pn**	**01 31 09.0**	**-1.9**
AC04				*e*S	**Sn**	**01 31 28.0**	**-2.2**
AC04				IAML		01 31 29.7	
	comp=E,2μm,0.1s						
AC04	**Llanos de Chal**	**1.44**	**169**	*e*P	**Pn**	**01 31 09.1**	**-1.9**
AC04				*e*S	**Sn**	**01 31 28.3**	**-1.9**
AC04				IAML		01 31 32.3	
	comp=Z,501nm,0.3s						
AC02	**Maricunga**	**2.02**	**92**‖	*e*P	**Pn**	**01 31 19.2**	**-0.3**
AC02				*e*S	**Sn**	**01 31 42.5**	**-2.9**
AC02				IAML		01 31 45.7	
	comp=N,1μm,0.6s						
AC02	**Maricunga**	**2.02**	**92**	*e*P	**Pn**	**01 31 19.3**	**-0.3**
AC02				*e*S	**Sb**	**01 31 47.5**	**0.0**
AC02				IAML		01 31 48.2	
	comp=Z,526nm,0.3s						
GO02	**Mina Guanaco**	**2.29**	**45**‖	*e*P	**Pn**	**01 31 23.4**	**+0.4**
GO02				*e*S	**Sn**	**01 31 51.2**	**-0.6**
GO02				IAML		01 32 09.9	
	comp=E,954nm,0.7s						
GO02	**Mina Guanaco**	**2.29**	**45**	*e*P	**Pn**	**01 31 23.4**	**+0.4**
LCO	**Las Campanas**	**2.30**	**165**‖	*e*P	**Pn**	**01 31 21.8**	**-1.2**
LCO				*e*S	**Sn**	**01 31 49.0**	**-2.8**
LCO	**Las Campanas**	**2.30**	**165**	*e*P	**Pn**	**01 31 22.4**	**-0.7**
LCO				*e*S	**Sn**	**01 31 53.4**	**+1.6**
LCO				IAML		01 31 55.1	
	comp=Z,1μm,0.3s						
PB14	**IPOC Station P**	**2.33**	**23**	*e*P	**Pn**	**01 31 23.4**	**-0.2**
PB14				*e*S	**Sn**	**01 31 50.4**	**-2.3**
PB14	**IPOC Station P**	**2.33**	**23**	*e*P	**Pn**	**01 31 23.0**	**-0.6**
CO05	**La Serena**	**3.12**	**178**	*e*P	**Pn**	**01 31 33.5**	**-0.6**
CO05				*e*S	**Sb**	**01 32 18.1**	**-0.4**
CO05				IAML		01 32 27.3	
	comp=N,655nm,0.4s						
PB10	**IPOC Station P**	**3.35**	**13**‖	*e*P	**Pn**	**01 31 36.6**	**-0.7**
PB10				*e*S	**Sn**	**01 32 14.3**	**-3.1**
PB10				IAML		01 32 42.8	
	comp=E,66nm,0.4s						
PB10	**IPOC Station P**	**3.35**	**13**	*e*P	**Pn**	**01 31 36.5**	**-0.8**
CO01	**Juntas del Tor**	**3.38**	**160**‖	*e*P	**Pn**	**01 31 38.0**	**+0.2**
CO01				*e*S	**Sn**	**01 32 15.9**	**-2.5**
CO01				IAML		01 32 29.4	
	comp=N,470nm,0.4s						
CO01	**Juntas del Tor**	**3.38**	**160**	*e*P	**Pn**	**01 31 38.2**	**+0.3**
CO01				*e*S	**Sn**	**01 32 20.2**	**+1.8**
CO01				IAML		01 32 28.3	
	comp=Z,262nm,0.6s						
GO04	**Tololo Observa**	**3.41**	**171**‖	*e*P	**Pn**	**01 31 37.7**	**-0.7**
GO04				*e*S	**Sn**	**01 32 17.1**	**-2.1**
GO04	**Tololo Observa**	**3.41**	**171**	*e*P	**Pn**	**01 31 38.0**	**-0.3**
GO04				*e*S	**Sn**	**01 32 20.2**	**+1.0**
VCA	**Vinchina**	**3.43**	**125**	*e*P	**Pn**	**01 31 41.0**	**+2.5**
VCA				*e*S	**Sn**	**01 32 23.1**	**+3.6**
VCA				IAML		01 33 09.1	
	comp=Z,163nm,2.0s						
AGUA	**GUANDACOL**	**3.71**	**137**	*e*P	**Pn**	**01 31 45.1**	**+2.8**
AGUA				IAML		01 32 47.0	
	comp=Z,174nm,0.6s						
AROD	**Rodeo**	**3.77**	**154**	*e*P	**Pn**	**01 31 45.4**	**+2.1**
AROD				*e*S	**Sn**	**01 32 27.5**	**-0.6**
ACDV	**Cuesta del Vie**	**3.92**	**150**	*e*P	**Pn**	**01 31 48.2**	**+2.9**
ACDV				*e*S	**Sb**	**01 32 46.1**	**+4.3**
ACDV				IAML		01 32 47.9	
	comp=Z,100nm,1.1s						
PB05	**IPOC Station P**	**4.07**	**16**	*e*P	**Pn**	**01 31 46.4**	**-0.9**
PB05				IAML		01 33 08.9	
	comp=Z,52nm,1.1s						
ACCO	**Cerro Coronel**	**4.30**	**152**	*e*P	**Pn**	**01 31 52.9**	**+2.2**
ACCO				*e*S	**Sn**	**01 32 36.7**	**-4.7**
PB06	**IPOC Station P**	**4.39**	**23**	*e*P	**Pn**	**01 31 51.7**	**-0.1**
PB06				*e*S	**Sb**	**01 32 58.7**	**+3.3**
PB06				IAML		01 33 18.0	
	comp=Z,86nm,0.7s						
ACLC	**CERRO LA CRUZ**	**4.72**	**125**	*e*P	**Pn**	**01 31 57.5**	**+1.2**
ACLC				*e*S	**Sb**	**01 33 10.9**	**+6.0**
AVFE	**Valle Fertil**	**5.18**	**139**	*e*P	**Pn**	**01 32 03.7**	**+1.3**
AVFE				IAML		01 33 37.3	
	comp=Z,30nm,0.7s						
CYA	**Choya**	**5.23**	**110**	*e*P	**Pn**	**01 32 03.9**	**+0.8**
CYA				*e*S	**Sb**	**01 33 18.2**	**-1.1**

comp=N,7µm,0.2s
CWC IAML 01 37 11.0
comp=E,8µm,0.3s
CLC China Lake 0.38 143 Pg **Pg** **01 37 05.4 +0.2**
CLC Sg **Sg** **01 37 10.6 +0.2**
CLC IAML 01 37 13.3
comp=E,5µm,0.1s
CLC IAML 01 37 13.4
comp=N,5µm,0.1s
CGO Cerro Gordo 0.44 8 **Pg** **01 37 06.6 +0.1**
SRTC Snort 0.44 166 **Sb** **01 37 14.1 +0.1**
WORM Onyx Ranch 0.51 215 **Pg** **01 37 07.8 0.0**
WHFM Hanning Flat 0.57 222 **Pg** **01 37 09.0 +0.2**
WHFM Sg **01 37 16.6 +0.3**
WBSM Bird Springs 0.62 200 **Pg** **01 37 09.8 +0.1**
WBSM Sg **01 37 18.3 +0.4**
LRMC Laurel Mtn Rad 0.66 166 Pg **Pg** **01 37 10.3 -0.1**
LRMC Sg **Sg** **01 37 19.1 0.0**
LRMC IAML 01 37 19.7
comp=E,5µm,0.4s
LRMC IAML 01 37 20.5
comp=N,5µm,0.3s
ISA Isabella, Lake 0.66 227 Pg **Pg** **01 37 10.6 0.0**
ISA Sg **Sg** **01 37 19.1 -0.2**
ISA IAML 01 37 20.2
comp=E,5µm,0.3s
WASM Alta Sierra Ca 0.67 236 **Pg** **01 37 10.8 +0.1**
WASM **Sg** **01 37 20.3 +0.7**
CCCA Chr Cany lake 0.72 145 Pg **Pb** **01 37 12.1 -0.2**
CCCA Sg **Sb** **01 37 22.4 +0.2**
SPG2 Springville 2 0.72 277 **Pg** **01 37 11.7 -0.1**
QSM Queen of Sheba 0.83 100 Pg **Pg** **01 37 13.7 -0.1**
QSM Sg **Sg** **01 37 24.5 -0.2**
DTP Desert Tortois 0.85 178 **Pg** **01 37 13.9 -0.2**
CCAC Calif City Air 0.97 187 **Pg** **01 37 16.2 -0.2**
CCAC **Sb** **01 37 29.3 0.0**
GRAC Grapevine Rang 0.97 25 **Pg** **01 37 16.5 +0.1**
GRAC Grapevine Rang 0.97 25 Sg **Sg** **01 37 28.8 -0.3**
GRAC IAML 01 37 32.2
comp=E,2µm,0.7s
GRAC IAML 01 37 34.5
comp=N,3µm,0.9s
GRAC Grapevine Rang 0.97 25 Pg **Pg** **01 37 16.4 0.0**
TIN Tinemaha, Big 0.98 343 **Pg** **01 37 16.8 +0.2**
GWY Greenwater Val 0.98 86 Pg **Pg** **01 37 16.5 -0.2**
GWY Sg **Sg** **01 37 29.6 +0.2**
GWY IAML 01 37 33.1
comp=N,3µm,0.6s
GWY IAML 01 37 36.0
comp=E,3µm,0.7s
VES Vestal, Richgr 1.02 255 **Pb** **01 37 17.3 +0.1**
VES **Sb** **01 37 31.3 +0.8**
SGV South Grapevin 1.10 38 **Pn** **01 37 19.4 +0.3**
TEJ El Tejon 1.10 217 **Pb** **01 37 18.4 -0.3**
TEJ **Sg** **01 37 33.4 +0.1**
LCH Last Change Ra 1.13 10 **Pn** **01 37 20.4 +0.9**
MAGC SCE Magundon P 1.14 229 **Pg** **01 37 19.8 +0.3**
GSC Goldstone, Bar 1.19 133 **Pb** **01 37 20.4 +0.1**
GSC Goldstone, Bar 1.19 133 Sg **Sb** **01 37 35.5 -0.2**
GSC IAML 01 37 38.8
comp=E,2µm,0.8s
GSC IAML 01 37 41.5
comp=N,1µm,0.7s
GSC Goldstone, Bar 1.19 133 Pg **Pb** **01 37 20.2 -0.1**
WCT Wildcat Mounta 1.22 56 Pg **Pn** **01 37 20.5 -0.1**
WCT Sg **Sb** **01 37 36.6 +0.2**
WCT IAML 01 37 42.8
comp=N,1µm,1.2s
WCT IAML 01 37 44.9
comp=E,1µm,1.2s
VOG Valley Oaks Go 1.23 280 **Pb** **01 37 21.1 +0.2**
EDW2 Edwards Air Fo 1.24 184 **Pn** **01 37 20.8 -0.1**
DSP Deep Springs 1.25 357 Pg **Pn** **01 37 20.8 -0.2**
DSP Sg **Sb** **01 37 37.6 +0.2**
ARVC Arvin 1.25 218 **Pb** **01 37 21.6 +0.3**
BAKC Calstate 1.26 233 **Sg** **01 37 39.4 +1.1**
TPO Tropico Hills 1.27 193 Pg **Pn** **01 37 21.2 -0.1**
TPO Sg **Sb** **01 37 37.9 0.0**
TPO IAML 01 37 40.4
comp=N,1µm,0.9s
TPO IAML 01 37 43.0
comp=E,1µm,0.5s
HYS Haystack Butte 1.27 168 **Pn** **01 37 21.6 +0.2**
BHPR Bishop 1.28 338 **Pb** **01 37 22.0 +0.2**
GMN Gold Mountain 1.28 23 Pg **Pg** **01 37 22.6 +0.2**
GMN Sg **Sb** **01 37 38.9 +0.4**
POCCA Poleta Canyon 1.28 346 **Pb** **01 37 22.2 +0.3**
TJR Tejon Ranch 1.29 213 **Pb** **01 37 22.0 0.0**
TJR **Sg** **01 37 39.4 0.0**
SHOC Shoshone, Teco 1.32 99 **Pb** **01 37 23.4 +0.3**
AMDNV Amargosa 1.33 75 **Pb** **01 37 22.8 +0.2**
AMDNV **Sg** **01 37 40.8 +0.1**
MTUM Tungsten Hills 1.35 336 **Pb** **01 37 23.3 +0.2**
THC Tehachapi Micr 1.36 208 **Pn** **01 37 23.0 +0.3**
SBB Saddle Back Bu 1.43 178 **Pn** **01 37 23.9 +0.4**
RRX Edison Barstow 1.43 150 **Pg** **01 37 25.3 +0.1**
LEOC Leona Valley 1.52 193 **Pb** **01 37 26.1 +0.2**
TPNV Topopah Spring 1.55 57 Pg **Pn** **01 37 25.9 +0.6**
TPNV IAML 01 37 54.0
comp=E,1µm,0.9s
LRRC Littlerock Res 1.59 184 **Pb** **01 37 27.5 +0.5**
ADO Adelanto Recei 1.60 167 **Pg** **01 37 28.8 +0.3**
MZP Montezuma Peak 1.63 14 **Pn** **01 37 27.3 +0.8**
OSI Osito Audit: C 1.65 205 **Pb** **01 37 28.1 0.0**
HOLC Holcomb Ridge 1.66 179 **Pb** **01 37 28.6 +0.4**
JNH Juniper Hills 1.67 182 **Pn** **01 37 27.4 +0.6**
KCC Kaiser Creek 1.67 317 **Pb** **01 37 28.7 +0.2**
BENR Benton 1.69 341 **Pb** **01 37 29.2 +0.3**
MLAC Mammoth, Mammo 1.69 333 **Pb** **01 37 29.7 +0.7**
BCW Bitter Crk WRg 1.72 227 **Pb** **01 37 29.4 +0.1**
TUQ Turquoise Moun 1.73 113 **Pg** **01 37 30.7 -0.1**
MCSM Casa Diablo Ho 1.74 332 **Pb** **01 37 30.6 +0.8**
CHFC Chilao Flat St 1.78 184 **Pb** **01 37 30.6 +0.2**
BFSC Mount Baldy Ra 1.88 174 Pn **Pn** **01 37 30.4 +0.6**
BFSC IAML 01 37 58.3
comp=E,347nm,0.7s
MWC Mount Wilson 1.89 184 Pn **Pn** **01 37 30.7 +0.7**
MWC IAML 01 38 00.6
comp=E,540nm,0.6s
MWC IAML 01 38 03.9
comp=N,579nm,0.6s
DECC Green Verdugo 1.90 191 **Pb** **01 37 33.0 +0.8**
SMMC Simmler 1.90 246 **Pb** **01 37 32.1 -0.2**
SSK Sunset Peak 1.91 175 **Pb** **01 37 31.8 -0.8**
PASC Pasadena Art C 1.96 187 Pn **Pn** **01 37 31.5 +0.8**
PASC IAML 01 38 03.4
comp=E,392nm,0.5s
MTPC Mountain Pass 1.99 108 Pn **Pn** **01 37 31.4 0.0**
MTPC IAML 01 38 03.6
comp=N,450nm,0.7s
MTPC IAML 01 38 04.5
comp=E,588nm,0.5s
PKM Mcpherson Peak 2.00 233 **Pb** **01 37 34.0 -0.1**
BBRC Big Bear Solar 2.01 157 **Pg** **01 37 35.4 -0.8**
TSCN Private Proper 2.09 255 **Pb** **01 37 36.4 +0.9**
PKD Bear Valley Ra 2.17 266 **Pb** **01 37 35.7 -1.2**
LHV Little Huntoon 2.19 347 Pn **Pn** **01 37 32.9 -1.0**
PSMM Smith Mountain 2.20 270 **Pb** **01 37 37.1 -0.4**
GMRC Granite Mounta 2.25 126 **Pn** **01 37 34.3 -0.5**
S11A Rachel 2.29 48 Pn **Pn** **01 37 36.8 +1.4**
NV11 Mina Array Sit 2.32 355 Pn **Pn** **01 37 36.8 +0.9**
NVAR Mina Array Bea 2.33 352 Pn **Pn** **01 37 36.8 +0.7**
NVAR Mina Array Bea 2.33 352 Pn **Pn** **01 37 37.7 +1.6**
comp=E,4.1nm,0.3s,baz=176,slow=15,SNR=57
NVAR Pg **Pg** **01 37 41.4 -1.1**
comp=E,20nm,0.3s,baz=177,slow=16,SNR=58
NVAR Lg Lg 01 38 14.4
comp=E,21nm,0.3s,baz=166,slow=23,SNR=8.5
comp=E,49nm,0.8s
PMPB Monarch Peak 2.37 273 Pn **Pn** **01 37 37.7 +1.3**
PMPB IAML 01 38 21.6
comp=E,534nm,0.8s
MYLM Yosemite Lake 2.40 303 **Pb** **01 37 40.8 -0.1**
PSAM San Ardo 2.44 269 **Pb** **01 37 40.4 -1.1**
RAMR Ramage Ranch 2.48 260 **Pb** **01 37 40.5 -1.6**
V12A Nelson 2.49 98 Pn **Pn** **01 37 38.4 +0.3**
V12A IAML 01 38 23.5
comp=N,200nm,1.1s
ELS Elsinore Mount 2.49 171 Pn **Pn** **01 37 38.8 +0.7**
TPC Twentynine Pal 2.50 143 **Pn** **01 37 38.9 +0.6**
DPD Davis Peak 2.52 250 **Pb** **01 37 41.4 -1.6**
POB Polly Butte 2.55 162 **Pn** **01 37 40.0 +1.0**

RYN Ryan 2.56 349 Pn **Pn** **01 37 40.5 +1.4**
BBGB Big Mountain B 2.59 281 Pn **Pn** **01 37 40.8 +1.2**
PRN Pahroc Range 2.61 60 Pn **Pn** **01 37 40.9 +1.0**
PCCM Crazy Canyon 2.66 270 **Pb** **01 37 44.3 -1.0**
WAKR Walker 2.69 333 Pn **Pn** **01 37 41.8 +0.8**
WAKR IAML 01 38 32.4
comp=N,179nm,1.1s
WAKR IAML 01 38 33.0
comp=E,199nm,1.2s
PFO Pinyon Flats O 2.76 155 Pn **Pn** **01 37 42.2 +0.3**
PFO Pinyon Flats O 2.76 155 Pn **Pn** **01 37 42.6 +0.7**
comp=E,1.2nm,0.3s,baz=337,slow=14,SNR=24
PFO Pg **Pb** **01 37 48.1 +1.1**
comp=E,8.2nm,0.3s,baz=324,slow=18,SNR=24
PFO Lg Lg 01 38 25.5
comp=E,26nm,0.3s,baz=54,slow=6.7,SNR=11
comp=E,5.2nm,0.3s
XPFO Pinon Flat 2.76 155 **Pn** **01 37 42.8 +0.9**
Q09A Carvers 2.77 11 Pn **Pn** **01 37 42.9 +0.9**
Q09A IAML 01 38 30.2
comp=N,388nm,1.1s
Q09A IAML 01 38 55.5
comp=E,348nm,1.6s
FRD Ford Ranch, An 2.82 158 **Pn** **01 37 43.8 +1.1**
FRD Ford Ranch, An 2.82 158 **Pn** **01 37 43.7 +1.1**
PLM Palomar 2.88 163 **Pn** **01 37 44.8 +1.1**
R11B Troy Canyon, C 2.88 39 Pn **Pn** **01 37 44.4 +0.8**
R11B IAML 01 38 31.6
comp=E,216nm,0.6s
SAO San Andreas Ge 2.95 284 Pn **Pn** **01 37 45.8 +1.5**
NEE2 Needles Airpor 2.98 116 Pn **Pn** **01 37 45.5 +0.7**
BORC Borrego Spring 3.09 157 Pn **Pn** **01 37 47.0 +0.8**
BORC IAML 01 38 42.4
comp=E,153nm,0.9s
BORC IAML 01 38 42.4
comp=N,112nm,0.8s
DPP Dos Picos Cty 3.21 166 Pn **Pn** **01 37 48.8 +0.8**
W13A Hualapai Mount 3.41 106 Pn **Pn** **01 37 51.3 +0.4**
W13A IAML 01 38 51.4
comp=E,109nm,1.0s
W13A IAML 01 38 59.9
comp=N,116nm,1.0s
MPK Martis Peak 3.60 332 Pn **Pn** **01 37 55.7 +2.1**
BLYC Blythe 3.63 130 Pn **Pn** **01 37 54.0 +0.3**
BLYC IAML 01 38 56.7
comp=E,69nm,0.5s
BLYC IAML 01 39 01.5
comp=N,108nm,0.8s
TKX Tecate 3.69 163 Pn **Pn** **01 37 55.5 +0.9**
TKX IAML 01 39 39.0
comp=E,98nm,0.1s
TKX IAML 01 40 13.8
comp=N,92nm,0.1s
AFDM Forest Hills D 3.75 320 Pn **Pn** **01 37 57.2 +1.8**
LCMT Little Creek M 3.84 75 Pn **Pn** **01 37 58.6 +1.9**
CCUT Cedar City 3.90 67 Pn **Pn** **01 37 59.3 +1.7**
CBX Cerro Bola 3.92 165 Pn **Pn** **01 37 59.3 +1.4**
CBX IAML 01 39 03.1
comp=N,162nm,1.0s
GLA Glamis 3.96 140 Pn **Pn** **01 37 57.3 -1.0**
GLA IAML 01 39 12.8
comp=N,111nm,0.6s
PSUT Pine Spring 4.01 52 Pn **Pn** **01 38 00.8 +1.6**
PSUT IAML 01 39 06.3
comp=N,120nm,0.7s
SPR3 Spring Creek 3 4.03 43 Pn **Pn** **01 38 00.7 +1.2**
SPR3 IAML 01 39 06.2
comp=E,107nm,0.8s
SPR3 IAML 01 39 09.2
comp=N,120nm,0.9s
SZCU Shurtz Canyon 4.12 68 Pn **Pn** **01 38 02.3 +1.7**
KNB Kanab 4.17 76 Pn **Pn** **01 38 03.2 +1.9**
KNB IAML 01 39 19.3
comp=N,60nm,1.0s
KNB IAML 01 39 28.4
comp=E,52nm,1.7s
CCX Cicese 4.36 166 Pn **Pn** **01 38 05.1 +1.4**
CCX IAML 01 39 22.9
comp=E,60nm,0.8s
CCX IAML 01 39 41.9
comp=N,57nm,0.1s
ESJX Sierra Juarez 4.40 158 Pn **Pn** **01 38 05.7 +1.2**
ORV Oroville 4.47 321 Pn **Pn** **01 38 06.9 +1.6**
ORV IAML 01 39 19.0
comp=N,72nm,0.9s
ORV IAML 01 39 30.3
comp=E,83nm,1.4s
Y14A Wickenburg 4.55 117 Pn **Pn** **01 38 06.8 +0.4**
Y14A IAML 01 39 28.0
comp=N,90nm,0.7s
Y14A IAML 01 39 31.6
comp=E,66nm,0.8s
113A Mohawk Valley, 4.76 133 Pn **Pn** **01 38 09.8 +0.5**
113A IAML 01 39 40.8
comp=N,30nm,1.3s
ELK Elko 5.06 23 Pn **Pn** **01 38 15.5 +1.9**
ELK IAML 01 39 45.0
comp=N,28nm,0.8s
ELK Elko 5.06 23 Pn **Pn** **01 38 15.2 +1.5**
comp=N,1.2nm,0.3s,baz=212,slow=14,SNR=15
ELK Pg **Pg** **01 38 31.9 -2.7**
comp=N,1.8nm,0.3s,baz=230,slow=14,SNR=28
ELK Lg Lg 01 39 36.7
comp=N,2.9nm,0.3s,baz=81,slow=11,SNR=9.3
comp=N,2.8nm,0.3s
X16A Lo Mia Camp, P 5.53 106 Pn **Pn** **01 38 22.1 +2.0**
214A Organ Pipe Nat 5.91 133 Pn **Pn** **01 38 26.8 +1.7**
W18A Petrified Fore 6.71 96 Pn **Pn** **01 38 37.0 +0.8**
YBH Yreka Blue Hor 6.75 328 Lg Lg 01 40 26.9
baz=7.2,slow=12,SNR=4.3
HVU Hansel Valley 6.91 34 Pn **Pn** **01 38 41.0 +2.1**
PV05 Paradox Valley 7.29 72 Pn **Pn** **01 38 45.5 +1.4**
PV10 Paradox Valley 7.40 70 Pn **Pn** **01 38 49.3 +3.5**
PV19 Morning Glory 7.43 70 Pn **Pn** **01 38 48.9 +2.8**
PV23 Carpenter Ridg 7.44 69 Pn **Pn** **01 38 46.9 +0.6**
PV04 Paradox Valley 7.51 70 Pn **Pn** **01 38 47.3 +0.1**
PV01 Paradox Valley 7.70 72 Pn **Pn** **01 38 53.5 +3.6**
PV15 Paradox Valley 7.82 71 Pn **Pn** **01 38 52.1 +0.6**
HLID Hailey 7.90 19 Pn **Pn** **01 38 55.6 +3.1**
PDAR Pinedale Array 9.24 42 Pn Pn 01 39 16.8 +5.8
baz=244,slow=14,SNR=1.9
PDAR Lg Lg 01 41 49.5
baz=229,slow=33,SNR=4.1
comp=N,0.2nm,0.6s
ANMO Albuquerque 9.38 94 Pg Pn 01 39 50.6 +38
comp=N,0.2nm,0.3s,baz=14,slow=13,SNR=7.5
TXAR Lajitas Array 13.74 115 Pn **P** **01 40 18.8 -2.3**
baz=298,slow=12,SNR=6.6
comp=N,0.9nm,1.0s

*IDC **08** 01:50:50.5±6.9, 51.°07N×156.°88E, h127km±49km, mb3.1/3, mbtmp3.4/4, Error ellipse: s-maj=78.3km s-min=25.3km az=2.0*
*KRSC **08** 01:50:51.5±1.9, 51.°12N×157.°50E, h142km±24km, Ml3.7*
ISC 08 01:50:52.5±1.2, 51.°19N±0.°09×157.°3E±0.°1, h150km±8km, n35, σ1°30/40, mb3.4/3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PAU	**Pauzhetka**	**0.41**	**312**	*eP*		**Pn**	**01 51 13.4**	**0.0**
SKR	**Severo-Kuril's**	**0.90**	**236**	*eP*		**Pn**	**01 51 16.4**	**-0.1**
SKR				*eS*		**Sn**	**01 51 33.9**	**-0.8**
MIPR	**Malaya Ipel'ka**	**1.14**	**343**	*eP*		**Pn**	**01 51 18.5**	**0.0**
MIPR				*eS*		**Sn**	**01 51 37.4**	**-1.0**
ASAK	**Asacha**	**1.25**	**17**	*eP*		**Pn**	**01 51 20.0**	**+0.4**
ASAK				*eS*		**Sn**	**01 51 41.8**	**+1.3**
MTVR	**Mutnovka**	**1.41**	**23**	*eP*		**Pn**	**01 51 21.6**	**+0.4**
MTVR				*eS*		**Sn**	**01 51 43.6**	**+0.3**
GRL	**Gorelyy**	**1.45**	**19**	*eP*		**Pn**	**01 51 22.3**	**+0.7**
RUS	**Russkaya**	**1.46**	**31**	*eP*		**Pn**	**01 51 21.5**	**-0.1**
KRMR	**Karymshinskiy**	**1.72**	**17**	*eP*		**Pn**	**01 51 24.9**	**+0.5**
KRMR				*eS*		**Sn**	**01 51 48.8**	**-0.1**
APC	**Apacha**	**1.74**	**357**	*eP*		**Pn**	**01 51 24.8**	**+0.2**
PETK	**Petropavlovsk-**	**1.94**	**7**	P		**Pn**	**01 51 25.7**	**-1.2**
	5.3nm,0.4s,baz=177,slow=12,SNR=19							
PETK				S		**Sn**	**01 51 53.0**	**-0.4**
	1.8nm,0.4s,baz=181,slow=21,SNR=3.6							
DALK	**Dalny**	**2.05**	**25**	*eP*		**Pn**	**01 51 28.7**	**+0.6**
DALK				*eS*		**Sn**	**01 51 54.4**	**-1.2**
UGLR	**Uglovaya**	**2.23**	**24**	*eP*		**Pn**	**01 51 30.4**	**0.0**
AVH	**Avacha**	**2.26**	**23**	*eP*		**Pn**	**01 51 32.7**	**+2.0**
AVH				*eS*		**Sn**	**01 52 01.7**	**+1.5**
KOK	**Koryaka**	**2.26**	**21**	*eP*		**Pn**	**01 51 31.9**	**+1.2**
KOK				*eS*		**Sn**	**01 52 01.3**	**+1.1**
SMAR	**Somma**	**2.27**	**23**	*eP*		**Pn**	**01 51 32.1**	**+1.1**
SMAR				*eS*		**Sn**	**01 52 01.7**	**+1.0**
KRER	**Koryakskii**	**2.30**	**22**	*eP*		**Pn**	**01 51 32.2**	**+0.9**
KRER				*eS*		**Sn**	**01 52 01.5**	**+0.2**
SDLR	**Sedlovina**	**2.31**	**24**	*eP*		**Pn**	**01 51 32.1**	**+0.8**
SDLR				*eS*		**Sn**	**01 51 59.9**	**-1.4**
KRX	**Arik**	**2.33**	**20**	*eP*		**Pn**	**01 51 32.7**	**+1.1**
KRX				*eS*		**Sn**	**01 52 01.0**	**-0.7**
NLC	**Nalytchevo**	**2.35**	**32**	*eS*		**Sn**	**01 51 59.6**	**-2.4**
GNL	**Ganaly**	**2.54**	**9**	*eP*		**Pn**	**01 51 34.4**	**+0.2**
SPN	**Mys Shipunski**	**2.54**	**40**	*eS*		**Sn**	**01 52 03.5**	**-2.7**
MKZ	**Mys Kozlova**	**4.31**	**37**	*eP*		**Pn**	**01 51 56.1**	**-0.6**
MKZ				*eS*		**Sn**	**01 52 42.8**	**-3.8**
KBTR	**Krutoberegovo**	**6.00**	**31**	*eP*		**Pn**	**01 52 18.8**	**-0.3**
H11N2	**WAKE ISLAND Hy**	**32.30**	**163**	T		T	02 31 21.6	
	baz=349,slow=76,SNR=20							
H11N3	**WAKE ISLAND Hy**	**32.31**	**163**	T		T	02 31 22.6	
	baz=349,slow=76,SNR=11							
H11N1	**WAKE ISLAND Hy**	**32.31**	**163**	T		T	02 31 26.0	
	baz=349,slow=76,SNR=14							
H11S1	**WAKE ISLAND Hy**	**33.45**	**164**	T		T	02 32 36.5	
	baz=349,slow=76,SNR=21							
H11S3	**WAKE ISLAND Hy**	**33.46**	**164**	T		T	02 32 37.3	
	baz=349,slow=76,SNR=24							
H11S2	**WAKE ISLAND Hy**	**33.47**	**164**	T		T	02 32 37.9	
	baz=349,slow=76,SNR=15							
KURBB	**Kurchatov Arra**	**47.38**	**302**	P		**P**	**01 59 09.6**	**-1.5**
	0.3nm,0.3s,baz=60,slow=7.4,SNR=6.8							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**47.43**	**296**	P		**P**	**01 59 10.9**	**-0.7**
	0.3nm,0.6s,baz=52,slow=5.7,SNR=2.6							
	0.3nm,0.6s							
TXAR	**Lajitas Array**	**72.99**	**64**	P		**P**	**02 02 08.2**	**+2.4**
	0.3nm,0.4s,baz=290,slow=4.9,SNR=9.4							
	0.3nm,0.4s							
H03N2	**Juan Fernandez**	**135.95**	**89**	T		T	04 40 57.2	
	baz=314,slow=77,SNR=7.4							
H03N1	**Juan Fernandez**	**135.97**	**89**	T		T	04 40 56.3	
	baz=314,slow=77,SNR=7.8							
H03N3	**Juan Fernandez**	**135.97**	**89**	T		T	04 40 58.8	
	baz=314,slow=77,SNR=7.9							

IDC 08 01:57:03.8±1.6, 0.°47N×126.°29E, h0km, mb3.4/4, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=121.0km s-min=21.2km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.47**	**182**	P		P	02 01 21.2	-0.1
	0.1nm,0.3s,baz=0.0,slow=8.1,SNR=1.9							
	1.7nm,0.7s							
WRA	**Warramunga Arr**	**21.77**	**159**	P		P	02 01 57.0	-0.3
	0.6nm,0.4s,baz=337,slow=11,SNR=7.9							
	0.6nm,0.4s							
ASAR	**Alice Springs**	**25.11**	**163**	P		P	02 02 30.6	+0.2
	0.3nm,0.3s,baz=347,slow=13,SNR=6.9							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**59.99**	**327**	P		P	02 07 12.2	0.0
	0.3nm,0.4s,baz=127,slow=6.6,SNR=5.2							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**64.25**	**328**	P		P	02 07 40.6	-0.1
	0.3nm,0.5s,baz=130,slow=5.2,SNR=4.2							
	0.3nm,0.5s							

IDC 08 01:58:08.0±1.9, 0.°86N×126.°44E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=184.8km s-min=24.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.08**	**160**	P		P	02 03 04.3	-0.6
	1.3nm,0.6s,baz=338,slow=11,SNR=6.0							
	1.3nm,0.6s							
ASAR	**Alice Springs**	**25.44**	**164**	P		P	02 03 38.3	+0.6
	0.3nm,0.4s,baz=342,slow=11,SNR=1.8							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**59.75**	**326**	P		P	02 08 15.6	+0.8
	0.2nm,0.3s,baz=115,slow=6.5,SNR=2.5							
	0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**63.99**	**328**	P		P	02 08 42.4	-0.8
	0.6nm,0.8s,baz=129,slow=7.1,SNR=3.3							
	0.6nm,0.8s							

*IDC **08** 01:59:25.1±0.8, 0.°59N×126.°35E, h0km, mb4.0/11, mbtmp4.0/13, ML3.7/2, MS3.3/1, Error ellipse: s-maj=38.5km s-min=14.6km az=81.0*
*DJA **08** 01:59:28.8±0.3, 1.°1N±4.°×12.°6E±.°, h10km, M3.6/1, MLv4.1/8, MLv3.6/1*
*NEIC **08** 01:59:31.1±1.1, 0.°5N±0.°1×126.°46E±0.°05, h41km±7km, mb4.2/14, Error ellipse: s-maj=18.6km s-min=6.7km az=167.0*
ISC 08 01:59:31.5±0.6, 0.°55N±0.°07×126.°28E±0.°05, h47km, n37, σ1°27/39, mb4.1/18, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.11**	**79**	Pn		**Pn**	**01 59 48.1**	**-2.6**
TNTI	**Ternate**	**1.11**	**79**	P		**Pn**	**01 59 49.9**	**-0.8**
TNTI				S		**Sn**	**02 00 06.3**	**+1.4**
LBMI	**Labuha**	**1.70**	**134**	P		**Pn**	**01 59 59.7**	**+0.9**
KMSI	**Cibinong**	**2.29**	**271**	P		**Pn**	**02 00 05.4**	**-1.5**
KMSI				S		**Sn**	**02 00 34.5**	**+0.6**
LUWI	**Luwuk**	**3.84**	**246**	Pn		**Pn**	**02 00 30.1**	**+1.9**
APSI	**Ampana**	**4.85**	**253**	P		**Pn**	**02 00 40.4**	**-1.6**
TOLI2	**Tolitoli**	**5.52**	**276**	Pn		**Pn**	**02 00 52.5**	**+1.3**
KAPI	**Kappang**	**8.55**	**230**	Pn		**Pn**	**02 01 32.4**	**-0.3**
	1.3nm,0.3s,baz=229,slow=3.6,SNR=4.4							
	7.7nm,0.4s							
KNRA	**Kununurra**	**16.31**	**171**			**P**	**02 03 18.8**	**-1.0**
KNRA				IAmb		IAmb	02 03 29.4	
	comp=Z,29nm,1.4s							
FITZ	**Fitzroy Crossi**	**18.54**	**182**	P		**P**	**02 03 42.8**	**-1.6**
FITZ	**Fitzroy Crossi**	**18.54**	**182**	P		**Pn**	**02 03 44.1**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=15,slow=8.4,SNR=2.1							
	comp=Z,1.6nm,0.7s							
WB0	**Warramunga Arr**	**21.71**	**159**	P		**P**	**02 04 17.0**	**-1.7**
WRA	**Warramunga Arr**	**21.85**	**159**	P		**P**	**02 04 18.5**	**-1.7**
WRA	**Warramunga Arr**	**21.85**	**159**	P		**P**	**02 04 18.7**	**-1.5**
	comp=Z,6.5nm,0.7s,baz=339,slow=11,SNR=14							
WRA				LR		LR	02 12 27.4	
	comp=Z,90nm,21.2s,baz=20,slow=36							
	comp=Z,6.5nm,0.7s							
WR8	**Warramunga Arr**	**21.92**	**159**	P		**P**	**02 04 19.3**	**-1.8**
WR8				IAmb		IAmb	02 04 28.4	
	comp=Z,8.1nm,0.8s							
AS31	**Alice Springs**	**25.19**	**163**	P		**P**	**02 04 52.2**	**-0.6**
ASAR	**Alice Springs**	**25.19**	**163**	P		**P**	**02 04 52.4**	**-0.4**
ASAR	**Alice Springs**	**25.19**	**163**	P		**P**	**02 04 52.2**	**-0.6**
	comp=Z,7.8nm,0.8s,baz=345,slow=11,SNR=36							
	comp=Z,7.8nm,0.8s							
MJAR	**Matsushiro Arr**	**37.48**	**16**	P		**P**	**02 06 38.9**	**-1.8**
	comp=Z,2.2nm,0.7s,baz=182,slow=10,SNR=4.6							
	comp=Z,2.2nm,0.7s							
USRK	**Ussuriysk Ar.**	**43.76**	**6**	P		**P**	**02 07 33.5**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=215,slow=9.7,SNR=2.2							
	comp=Z,1.1nm,0.7s							
KLR	**Kul'dur**	**48.72**	**5**	P		**P**	**02 08 11.8**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=226,slow=4.1,SNR=4.5							
	comp=Z,1.1nm,0.6s							
SONM	**Songino Array**	**50.16**	**343**	P		**P**	**02 08 23.3**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=160,slow=9.0,SNR=3.1							
	comp=Z,0.5nm,0.5s							
MK31	**Makanchi Array**	**59.91**	**327**	P		**P**	**02 09 32.9**	**+0.1**
MK31				IAmb		IAmb	02 09 37.4	
	comp=Z,0.9nm,0.7s							
MKAR	**Makanchi Array**	**59.91**	**327**	P		**P**	**02 09 32.9**	**+0.1**
MKAR	**Makanchi Array**	**59.91**	**327**	P		**P**	**02 09 33.0**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=119,slow=8.1,SNR=10							
	comp=Z,1.2nm,0.6s							
MAKZ	**Makanchi**	**60.10**	**326**	P		**P**	**02 09 34.9**	**+0.9**
MAKZ				IAmb		IAmb	02 09 35.8	
	comp=Z,3.5nm,1.4s							
ZALV	**Zalesovo Beam**	**63.21**	**334**	P		**P**	**02 09 54.2**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=131,slow=4.0,SNR=2.5							
	comp=Z,0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**64.17**	**328**	P		**P**	**02 10 00.4**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=130,slow=6.1,SNR=9.2							
	comp=Z,0.8nm

AB31	**Akbulak array**	**74.32**	**321**	P	**P**	**02 11 04.7**	**+0.6**
AB31				IAmb	IAmb	02 11 11.8	
	comp=Z,1.4nm,0.9s						
ABKAR	**Akbulak array**	**74.32**	**321**	P	**P**	**02 11 05.2**	**+1.1**
ABKAR				IAmb	IAmb	02 11 11.8	
	comp=Z,1.4nm,0.9s						
VNDA	**Vanda**	**80.35**	**173**	P	**P**	**02 11 39.2**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=322,slow=6.8,SNR=3.7						
	comp=Z,0.4nm,0.7s						
M16K	**Timber Creek**	**82.17**	**28**	P	**P**	**02 11 47.1**	**-0.1**
J17K	**VABM Dome**	**82.66**	**26**	P	**P**	**02 11 50.5**	**+0.8**
J17K				IAmb	IAmb	02 11 54.6	
	comp=Z,4.2nm,0.9s						
QSPA	**South Pole Qui**	**90.48**	**180**	P	**P**	**02 12 27.4**	**-0.8**
QSPA	**South Pole Qui**	**90.48**	**180**	P	**P**	**02 12 29.0**	**+0.9**
	comp=Z,1.3nm,1.1s,baz=225,slow=1.4,SNR=2.2						
	comp=Z,1.3nm,1.1s						
SBM	**South Baldy**	**119.31**	**50**	PKPdf	**PKPdf**	**02 18 14.3**	**-2.5**

IDC 08 02:04:48.4±1.6, 0.35N×125.71E, h0km, mb3.4/4, mbtmp3.4/4, MS3.2/1, Error ellipse: s-maj=168.0km s-min=23.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**15.26**	**101**	LR	LR	02 14 47.8	
	comp=Z,85nm,20.1s,baz=324,slow=39						
WRA	**Warramunga Arr**	**21.87**	**158**	P	P	02 09 41.9	-1.1
	0.8nm,0.5s,baz=336,slow=12,SNR=8.2						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**25.17**	**162**	P	P	02 10 16.5	+0.9
	0.3nm,0.4s,baz=348,slow=13,SNR=4.2						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**59.77**	**327**	P	P	02 14 55.1	-0.3
	0.3nm,0.5s,baz=111,slow=7.9,SNR=3.0						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**64.05**	**329**	P	P	02 15 24.1	+0.1
	0.2nm,0.5s,baz=136,slow=6.3,SNR=4.2						
	0.2nm,0.5s						

*IDC **08** 02:08:52.3±1.6, 0.64N×126.41E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=166.3km s-min=20.9km az=66.0*

*DJA **08** 02:08:54.3±0.6, 1.7N±7×12.6E±°, h10km, M3.3/1, MLv3.4/4, MLv3.3/1*

ISC 08 02:08:58.6±1.3, 0.5N±0.2×126.3E±0.1, h47km, n5, σ1§22/6, mb3.8/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.08**	**77**	P	**Pn**	**02 09 16.5**	**-0.9**
TNTI				S	**Sn**	**02 09 32.3**	**+1.0**
WRA	**Warramunga Arr**	**21.81**	**159**	P	**P**	**02 13 46.0**	**-0.9**
	1.7nm,0.5s,baz=338,slow=11,SNR=25						
	1.7nm,0.5s						
ASAR	**Alice Springs**	**25.15**	**163**	P	**P**	**02 14 20.9**	**+1.4**
	1.5nm,0.4s,baz=344,slow=11,SNR=13						
	1.5nm,0.4s						
MKAR	**Makanchi Array**	**59.96**	**327**	P	**P**	**02 19 00.4**	**+0.2**
	0.4nm,0.4s,baz=118,slow=8.2,SNR=8.2						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.22**	**328**	P	**P**	**02 19 28.6**	**-0.1**
	0.4nm,0.5s,baz=130,slow=6.2,SNR=6.7						
	0.4nm,0.5s						

*IDC **08** 02:14:33.2±1.6, 0.47N×126.12E, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=179.9km s-min=20.6km az=66.0*

*DJA **08** 02:14:37.4±2.1, 0.7N±5.5×12.6E±°, h15km±19km, M3.6/1, MLv3.6/7, MLv3.6/1*

ISC 08 02:14:39.3±1.1, 0.5N±0.1×126.27E±0.08, h47km, n7, σ0§94/7, mb4.0/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.15**	**74**	P	**Pn**	**02 14 58.9**	**-0.1**
KMSI	**Cibinong**	**2.29**	**273**	P	**Pn**	**02 15 14.5**	**-0.1**
SANI	**Sanana**	**2.51**	**186**	P	**Pn**	**02 15 17.6**	**0.0**
WRA	**Warramunga Arr**	**21.77**	**159**	P	**P**	**02 19 26.0**	**-1.2**
	2.4nm,0.4s,baz=337,slow=10,SNR=28						
	2.4nm,0.4s						
ASAR	**Alice Springs**	**25.10**	**163**	P	**P**	**02 20 01.4**	**+1.4**
	2.2nm,0.5s,baz=342,slow=9.4,SNR=27						
	2.2nm,0.5s						
MKAR	**Makanchi Array**	**59.99**	**327**	P	**P**	**02 24 41.1**	**0.0**
	1.0nm,0.5s,baz=119,slow=7.6,SNR=6.6						
	1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**64.25**	**328**	P	**P**	**02 25 09.4**	**-0.1**
	1.1nm,0.7s,baz=128,slow=6.4,SNR=10						
	1.1nm,0.7s						

IDC 08 02:15:16.1±1.9, 0.65N×126.39E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=180.6km s-min=24.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.90**	**160**	P	P	02 20 10.9	-0.2
	0.7nm,0.4s,baz=338,slow=10,SNR=1.3						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**25.25**	**164**	P	P	02 20 44.4	+0.2
	1.1nm,0.6s,baz=345,slow=12,SNR=5.4						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**59.90**	**326**	P	P	02 25 24.9	+1.0
	0.2nm,0.4s,baz=134,slow=9.0,SNR=1.9						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.15**	**328**	P	P	02 25 51.3	-1.1
	0.4nm,0.7s,baz=123,slow=6.8,SNR=1.4						
	0.4nm,0.7s						

*IDC **08** 02:16:03.1±0.8, 0.45N×126.33E, h0km, mb4.1/9, mbtmp4.1/11, ML3.9/2, Error ellipse: s-maj=40.6km s-min=15.6km az=76.0*

*DJA **08** 02:16:06.2±1.6, 0.7N±4.4×12.6E±°, h10km±14km, M3.5/1, MLv3.9/7, MLv3.5/1*

*NEIC **08** 02:16:10.8±2.4, 0.34N±0.09×126.45E±0.07, h35km±2km, mb4.3/17, Error ellipse: s-maj=15.1km s-min=10.3km az=157.0*

ISC 08 02:16:10.3±0.6, 0.33N±0.06×126.37E±0.07, h47km, n42, σ1§29/43, mb4.2/17, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.09**	**66**	Pn	**Pn**	**02 16 27.1**	**-2.1**
TNTI	**Ternate**	**1.09**	**66**	P	**Pn**	**02 16 26.9**	**-2.3**
TNTI				S	**Sn**	**02 16 43.0**	**-0.2**
SANI	**Sanana**	**2.39**	**189**	P	**Pn**	**02 16 46.0**	**-1.0**
KMSI	**Cibinong**	**2.40**	**276**	P	**Pn**	**02 16 44.7**	**-2.3**
APSI	**Ampana**	**4.87**	**255**	P	**Pn**	**02 17 19.9**	**-1.2**
TOLI2	**Tolitoli**	**5.64**	**278**	Pn	**Pn**	**02 17 33.0**	**+1.4**
FAKI	**Fak Fak**	**6.71**	**119**	Pn	**Pn**	**02 17 46.0**	**-0.3**
KAPI	**Kappang**	**8.47**	**231**	Pn	**Pn**	**02 18 11.8**	**+1.3**
KAPI	**Kappang**	**8.47**	**231**	Pn	**Pn**	**02 18 09.2**	**-1.2**
	4.4nm,0.3s,baz=4.8,slow=8.8,SNR=7.8						
	9.8nm,0.3s						
KNRA	**Kununurra**	**16.08**	**172**	Pn	**Pn**	**02 19 52.7**	**-0.5**
KNRA				IAmb	IAmb	02 20 35.5	
	comp=Z,25nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.32**	**182**	P	**Pn**	**02 20 20.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**18.32**	**182**	P	**P**	**02 20 20.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=31,slow=8.3,SNR=2.5						
	comp=Z,2.4nm,0.8s						
WB0	**Warramunga Arr**	**21.47**	**159**	P	**P**	**02 20 54.6**	**-0.3**
WB0				IAmb	IAmb	02 21 00.3	
	comp=Z,9.8nm,0.8s						
WRA	**Warramunga Arr**	**21.61**	**159**	P	**P**	**02 20 57.3**	**+0.9**
WRA	**Warramunga Arr**	**21.61**	**159**	P	**P**	**02 20 55.7**	**-0.8**
	comp=Z,6.2nm,0.7s,baz=340,slow=11,SNR=18						
	comp=Z,6.2nm,0.7s						
WR8	**Warramunga Arr**	**21.68**	**159**	P	**P**	**02 20 56.7**	**-0.5**
WR8				IAmb	IAmb	02 20 58.6	
	comp=Z,9.7nm,0.7s						
COEN	**Coen**	**21.88**	**131**	P	**P**	**02 20 59.2**	**-0.2**
COEN				IAmb	IAmb	02 21 37.8	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**24.95**	**163**	P	**P**	**02 21 30.7**	**+1.3**
AS31				IAmb	IAmb	02 21 32.0	
	comp=Z,2.7nm,0.4s						
ASAR	**Alice Springs**	**24.95**	**163**	P	**P**	**02 21 30.4**	**+0.9**
ASAR	**Alice Springs**	**24.95**	**163**	P	**P**	**02 21 30.2**	**+0.8**
	comp=Z,4.5nm,0.6s,baz=341,slow=10,SNR=21						
	comp=Z,4.5nm,0.6s						
FORT	**Forrest**	**30.98**	**177**	P	**P**	**02 22 23.0**	**-0.2**
SONM	**Songino Array**	**50.40**	**343**	P	**P**	**02 25 01.1**	**-1.9**
	comp=Z,0.8nm,0.6s,baz=141,slow=7.2,SNR=2.5						
	comp=Z,0.8nm,0.6s						
PEA0B	**Petropavlovsk-**	**58.70**	**22**	P	**P**	**02 26 05.3**	**+2.2**
PETK	**Petropavlovsk-**	**58.70**	**22**	P	**P**	**02 26 02.3**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=193,slow=6.1,SNR=4.9						
	comp=Z,2.6nm,0.7s						
MKAR	**Makanchi Array**	**60.15**	**327**	P	**P**	**02 26 15.1**	**+1.9**
MKAR	**Makanchi Array**	**60.15**	**327**	P	**P**	**02 26 11.3**	**-1.8**
	comp=Z,1.1nm,0.4s,baz=120,slow=8.0,SNR=11						
	comp=Z,1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**63.45**	**334**	P	**P**	**02 26 34.8**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=101,slow=2.3,SNR=4.3						
	comp=Z,1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**64.41**	**328**	P	**P**	**02 26 39.9**	**-1.7**
	comp=Z,1.7nm,0.6s,baz=131,slow=6.0,SNR=13						
	comp=Z,1.7nm,0.6s						
KURK	**Kurchatov**	**64.41**	**329**	P	**P**	**02 26 41.5**	**0.0**
KURK				IAmb	IAmb	02 26 45.2	
	comp=Z,3.3nm,0.8s						
AB31	**Akbulak array**	**74.55**	**321**	P	**P**	**02 27 45.1**	**+0.9**
ABKAR	**Akbulak array**	**74.55**	**321**	P	**P**	**02 27 45.0**	**+0.8**
K13K	**Kusilvak Mount**	**79.94**	**27**	P	**P**	**02 28 16.2**	**+2.1**
K13K				IAmb	IAmb	02 28 52.1	
	comp=Z,6.0nm,1.4s						
VNDA	**Vanda**	**80.12**	**173**	P	**P**	**02 28 15.1**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=290,slow=13,SNR=3.7						
	comp=Z,0.7nm,0.8s						
K15K	**Wolf Creek Mou**	**81.45**	**27**	P	**P**	**02 28 24.4**	**+2.2**
K15K				IAmb	IAmb	02 28 29.5	
	comp=Z,3.1nm,0.9s						
K17K	**Iditarod**	**83.01**	**27**	P	**P**	**02 28 32.7**	**+2.4**
C19K	**Lookout Ridge**	**84.04**	**20**	P	**P**	**02 28 36.0**	**+0.5**
D19K	**Kuna River**	**84.41**	**21**	P	**P**	**02 28 38.4**	**+0.9**
D19K				IAmb	IAmb	02 28 41.2	
	comp=Z,2.5nm,1.0s						
IMAR	**Indian Mountai**	**85.58**	**24**	P	**P**	**02 28 44.6**	**+1.3**
QSPA	**South Pole Qui**	**90.26**	**180**	P	**P**	**02 29 05.5**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=318,slow=3.3,SNR=5.5						
	comp=Z,1.9nm,0.9s						
CO02	**Combarbal**	**145.16**	**153**		**PKPbc**	**02 35 43.2**	**+0.2**
CO03	**El Pedregal**	**145.61**	**153**	PKPdf	**PKPbc**	**02 35 44.6**	**+0.1**
AC04	**Llanos de Chal**	**147.64**	**150**	PKPbc	**PKPbc**	**02 35 50.9**	**+0.6**

*IDC **08** 02:24:15.0±1.1, 0.71N×126.22E, h0km, mb4.1/4, mbtmp4.1/5, ML4.0/1, Error ellipse: s-maj=49.3km s-min=19.8km az=69.0*

ISC 08 02:24:21.1±1.3, 0.6N±0.2×126.1E±0.2, h44km, n6, σ0§90/6, mb4.2/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.44**	**229**	Pn	**Pn**	**02 26 20.7**	**-0.1**
	1.7nm,0.3s,baz=21,slow=14,SNR=5.9						
	4.6nm,0.7s						
WRA	**Warramunga Arr**	**21.94**	**159**	P	**P**	**02 29 10.2**	**-0.9**
	5.0nm,0.6s,baz=338,slow=11,SNR=27						
	5.0nm,0.6s						
ASAR	**Alice Springs**	**25.27**	**163**	P	**P**	**02 29 44.7**	**+1.3**
	2.2nm,0.9s,baz=345,slow=12,SNR=15						
	2.2nm,0.9s						
MKAR	**Makanchi Array**	**59.79**	**327**	P	**P**	**02 34 21.8**	**0.0**
	1.4nm,0.6s,baz=124,slow=8.0,SNR=13						
	1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**64.05**	**328**	P	**P**	**02 34 50.3**	**0.0**
	2.5nm,0.8s,baz=126,slow=6.0,SNR=17						
	2.5nm,0.8s						
TXAR	**Lajitas Array**	**123.99**	**54**	PKP	**PKPdf**	**02 43 15.4**	**-0.1**
	0.3nm,0.8s,baz=270,slow=1.3,SNR=4.3						

*IDC **08** 02:24:32.3±0.4, 0.60N×126.16E, h0km, mb4.7/30, mbtmp4.7/33, ML4.2/3, Error ellipse: s-maj=20.0km s-min=10.9km az=84.0*

*MOS **08** 02:24:35.3±1.0, 0.58N×126.13E, h33km, mb5.1/58, Error ellipse: s-maj=8.7km s-min=4.8km az=113.7*

*NEIC **08** 02:24:36.7±1.5, 0.80N±0.08×126.52E±0.05, h34km±4km, mb5.1/81, Error ellipse: s-maj=11.1km s-min=7.5km az=180.0*

*DJA **08** 02:24:36.3±0.2, 1.1N±2.2×12.6E±°, h10km, M4.7/1, MLv4.8/13, MLv4.7/1*

*GCMT **08** 02:24:38.7±0.3, 0.68N±0.02×126.24E±0.02, h26km, MW5.0/84, Moment Tensor Solution. s45,c50; s84,c111; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.00±.22; Mθθ=0.50±.13; Mϕϕ=-4.50±.14; Mrθ=0.23±.33; Mrϕ=0.45±.10; Mθϕ=-0.83±.23; Best double couple: M=4.35600×10^16 NP1:ϕs=358.00000°, δ39.00000°, λ.94.00000°. NP2: ϕs=173.00000°, δ51.00000°, λ.87.00000°. Principal axes: T 4.0900, Plg84.0000°, Azm61.0000°; N 0.5300, Plg2.0000°, Azm175.0000°; P -4.6230, Plg6.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 02:24:37.7±0.3, 0.60N±0.04×126.35E±0.04, h39km±3km, n523, σ1§43/541, mb5.0/130, MS4.1/15, 16C-19D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.03**	**81**	Pn	**Pn**	**02 24 52.1**	**-3.6**
TNTI	**Ternate**	**1.03**	**81**	P	**Pn**	**02 24 54.9**	**-0.8**
TNTI				S	**Sn**	**02 25 10.0**	**+1.0**
KMSI	**Cibinong**	**2.37**	**269**	P	**Pn**	**02 25 14.2**	**+0.1**
SANI	**Sanana**	**2.66**	**188**	P	**Pn**	**02 25 17.6**	**-0.5**
SANI				S	**Sn**	**02 25 49.6**	**+0.5**
NLAI	**Namlea**	**3.89**	**169**	P	**Pn**	**02 25 36.3**	**+1.3**
LUWI	**Luwuk**	**3.93**	**245**	Pn	**Pn**	02 25 38.4	+2.8
LUWI	**Luwuk**	**3.93**	**245**	P	**Pn**	**02 25 38.5**	**+2.9**
MRSI	**Marisa**	**4.41**	**268**	P	**Pn**	**02 25 43.4**	**+1.2**
APSI	**Ampana**	**4.93**	**252**	P	**Pn**	**02 25 51.4**	**+2.0**
TOLI2	**Tolitoli**	**5.59**	**275**	Pn	**Pn**	**02 25 59.4**	**+1.0**
FAKI	**Fak Fak**	**6.86**	**121**	Pn	**Pn**	**02 26 14.5**	**-1.3**
KAPI	**Kappang**	**8.63**	**230**	Pn	**Pn**	**02 26 42.3**	**+2.1**
KAPI	**Kappang**	**8.63**	**230**	Pn	**Pn**	**02 26 37.5**	**-2.7**
	7.4nm,0.3s,baz=53,slow=6.9,SNR=21						
	96nm,1.3s						
SOEI	**Soe**	**10.49**	**191**	Pn	**Pn**	**02 27 08.2**	**+2.4**
KKM	**Kota Kinabalu**	**11.47**	**298**	Pn	**Pn**	**02 27 18.6**	**-0.6**
MTN	**Manton Dam**	**14.18**	**161**	Pn	**Pn**	**02 27 56.4**	**+0.4**
SBUM	**Sibu**	**14.24**	**278**	P	**P**	**02 28 03.0**	**-0.6**
JAY	**Jayapura**	**14.68**	**102**	Pn	**Pn**	**02 28 03.1**	**+0.2**
	0.4nm,0.3s,baz=211,slow=14,SNR=4.9						
	3.6nm,0.5s						
JAGI	**Jajag, Banyuwa**	**15.13**	**233**	P	**P**	**02 28 15.0**	**+1.5**
KSM	**Kuching**	**16.06**	**273**		**P**	**02 28 24.1**	**+0.3**
KSM				IAmb	IAmb	02 28 26.5	
	comp=Z,172nm,1.0s						
KNRA	**Kununurra**	**16.35**	**172**	Pn	**Pn**	**02 28 24.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.59**	**182**	P	**P**	**02 28 51.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**18.59**	**182**	P	**P**	**02 28 50.7**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=16,slow=9.9,SNR=11						
	comp=Z,30nm,1.2s						
WB0	**Warramunga Arr**	**21.72**	**159**	P	**P**	**02 29 25.6**	**-0.2**
WB0				IAmb	IAmb	02 29 28.8	
	comp=Z,120nm,1.3s						
WRAB	**Tennant Creek**	**21.86**	**159**	P	**P**	**02 29 26.3**	**-0.9**
WRAB				IAmb	IAmb	02 29 30.3	
	comp=Z,64nm,0.9s						
WRAB	**Tennant Creek**	**21.86**	**159**	P	**P**	**02 29 26.3**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,64nm,1.0s						
WRA	**Warramunga Arr**	**21.87**	**159**	P	**P**	**02 29 26.8**	**-0.5**
WRA	**Warramunga Arr**	**21.87**	**159**	P	**P**	**02 29 27.2**	**-0.1**
	comp=Z,46nm,0.8s,baz=336,slow=11,SNR=50						
WRA				S	**S**	**02 33 25.1**	**-1.9**
	comp=Z,16nm,1.2s,baz=339,slow=18,SNR=6.8						
	comp=Z,46nm,0.8s						
WR8	**Warramunga Arr**	**21.94**	**159**	P	**P**	**02 29 27.8**	**-0.3**
WR8				IAmb	IAmb	02 29 31.0	
	comp=Z,82nm,1.1s						
COEN	**Coen**	**22.07**	**132**	P	**P**	**02 29 27.9**	**-1.6**
MBWA	**Marble Bar**	**22.57**	**196**	P	**P**	**02 29 34.8**	**-0.1**
MBWA				IAmb	IAmb	02 29 54.1	
	comp=Z,82nm,1.6s						
QIZ	**Qiongzhong**	**24.44**	**319**	P	**P**	**02 29 53.7**	**+0.6**
QIZ				S	**S**	**02 34 16.0**	**+5.3**
QIZ				LR	LR		
	comp=Z,200nm,13.0s						
QIZ				LR	LR		
	comp=Z,310nm,23.0s						
AS31	**Alice Springs**	**25.21**	**164**	P	**P**	**02 30 00.8**	**+0.8**
ASAR	**Alice Springs**	**25.21**	**164**	P	**P**	**02 30 01.2**	**+1.1**
ASAR	**Alice Springs**	**25.21**	**164**	P	**P**	**02 30 01.6**	**+1.5**
	comp=Z,72nm,1.1s,baz=347,slow=12,SNR=6.0						
ASAR				S	**S**	**02 34 31.6**	**+8.6**
	comp=Z,9.2nm,1.0s,baz=348,slow=19,SNR=9.4						
	comp=Z,72nm,1.1s						
ASAR	**Alice Springs**	**25.21**	**164**	P	**P**	**02 30 01.2**	**+1.1**
UBPT	**Khong Chiam**	**25.26**	**306**	P	**P**	**02 29 59.6**	**-0.8**
UBPT				IAmb	IAmb	02 30 02.2	
	comp=Z,85nm,1.3s						
IPM	**Ipoh**	**25.59**	**279**	P	**P**	**02 30 02.4**	**-1.1**
RPSI	**Rantau Prapat**	**27.49**	**275**	P	**P**	**02 30 19.4**	**-1.3**
PSI	**Prapat**	**27.50**	**275**	P	**P**	**02 30 19.4**	**-1.5**
PSI				pmax	pmax		
	comp=Z,28nm,1.2s						
SLVN	**Son La**	**30.07**	**315**	P	**P**	**02 30 39.9**	**-3.7**
SLVN				IAmb	IAmb	02 30 45.9	
	comp=Z,53nm,1.9s						
PHRA	**Phrae**	**31.21**	**306**	P	**P**	**02 30 53.2**	**-0.4**
FORT	**Forrest**	**31.25**	**177**	P	**P**	**02 30 53.2**	**-0.6**
NJ2	**Nanjing**	**32.07**	**348**	*eP*	**P**	**02 31 03.3**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CM31	**Chiang Mai Arr**	**32.23**	**305**	P	**P**	**02 31 01.0**	**-1.7**
CMAR	**Chiang Mai Arr**	**32.23**	**305**	P	**P**	**02 31 00.3**	**-2.4**
CMAR	**Chiang Mai Arr**	**32.23**	**305**	P	**P**	**02 31 01.4**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=126,slow=6.9,SNR=15						
CMAR				PcP	**PcP**	**02 33 51.9**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=160,slow=1.8,SNR=8.6						
	comp=Z,1.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**32.23**	**305**	*i* P	**P**	**02 31 02.2**	**-0.5**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CHTO	**Chiang Mai**	**32.41**	**306**	P	**P**	**02 31 03.0**	**-1.2**
CHTO	**Chiang Mai**	**32.41**	**306**	P	**P**	**02 31 03.0**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,18nm,1.2s						
KMI	**Kunming**	**33.39**	**319**	P	**P**	**02 31 13.3**	**+0.4**
KMI				pmax	pmax		
	comp=Z,17nm,1.3s						
KMI				LR	LR		
	comp=Z,240nm,16.4s						
KMI				LR	LR		
	comp=Z,160nm,16.7s						
KMI				LR	LR		
	comp=Z,220nm,18.8s						
KSRS	**Korea Array**	**36.70**	**2**	P	**P**	**02 31 42.0**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=177,slow=9.0,SNR=7.3						
KSRS				PcP	**PcP**	**02 34 04.8**	**+1.7**
	comp=Z,3.4nm,0.9s,baz=191,slow=4.2,SNR=5.6						
	comp=Z,2.0nm,0.7s						
CD2	**Chengdu**	**36.98**	**327**	P	**P**	**02 31 44.1**	**+0.5**
CD2				LR	LR		
	comp=Z,360nm,17.5s						
CD2				LR	LR		
	comp=Z,360nm,22.2s						
CD2				LR	LR		
	comp=Z,480nm,19.4s						
XAN	**Xi'an**	**37.06**	**336**	⇓P	**P**	**02 31 43.0**	**-1.2**
XAN				S	**S**	**02 37 30.2**	**+2.6**
XAN				pmax	pmax		
	comp=Z,15nm,1.0s						
XAN				pmax	pmax		
	comp=Z,160nm,3.8s						
XAN				LR	LR		
	comp=Z,280nm,13.1s						
XAN				LR	LR		
	comp=Z,350nm,17.9s						
XAN				LR	LR		
	comp=Z,540nm,23.4s						
MAJO	**Matsushiro**	**37.41**	**16**	⇑*e*P	**P**	**02 31 47.8**	**+0.7**
MJAR	**Matsushiro Arr**	**37.41**	**16**	P	**P**	**02 31 47.2**	**0.0**
	comp=Z,2.6nm,0.4s,baz=175,slow=9.4,SNR=7.5						
	comp=Z,2.6nm,0.4s						
HNS	**HongShan**	**38.16**	**345**	⇑P	**P**	**02 31 53.8**	**+0.4**
DL2	**Dalian**	**38.37**	**354**	P	**P**	**02 31 53.4**	**-1.7**
DL2				S	**S**	**02 37 43.0**	**-4.1**
DL2				pmax	pmax		
	comp=Z,45nm,1.2s						
DL2				pmax	pmax		
	comp=Z,190nm,4.2s						
DL2				LR	LR		
	comp=Z,270nm,24.2s						
DL2				LR	LR		
	comp=Z,190nm,23.9s						
DL2				LR	LR		
	comp=Z,420nm,26.3s						
ARMA	**Armidale**	**39.12**	**144**	P	**P**	**02 32 01.7**	**0.0**
ARMA				IAmb	IAmb	02 32 04.3	
	comp=Z,46nm,1.1s						
BJI	**Beijing**	**40.34**	**348**	P	**P**	**02 32 12.2**	**+0.7**
BJI				PcP	**PcP**	**02 34 16.3**	**+1.9**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BJI				pmax	pmax		
	comp=Z,42nm,3.5s						
BJI				LR	LR		
	comp=Z,64nm,16.4s						
BJI				LR	LR		
	comp=Z,66nm,14.5s						
BJI				LR	LR		
	comp=Z,91nm,20.9s						
LZH	**Lanzhou**	**41.03**	**332**	*e*P	**P**	**02 32 18.2**	**+0.7**
LZH				pP	pP	02 32 26.5	-1.4
LZH				sP	sP	02 32 31.5	-1.3
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
LZH				LR	LR		
	comp=Z,310nm,17.0s						
LZH				LR	LR		
	comp=Z,260nm,16.8s						
LZH				LR	LR		
	comp=Z,450nm,19.1s						
SNY	**Shenyang**	**41.12**	**357**	⇓P	**P**	**02 32 18.8**	**+0.9**
SNY				pmax	pmax		
	comp=Z,20nm,0.8s						
CAN	**Canberra**	**41.53**	**152**	P	**P**	**02 32 22.5**	**+1.0**
CAN				IAmb	IAmb	02 32 23.8	
	comp=Z,29nm,1.0s						
CAN	**Canberra**	**41.53**	**152**	P	**P**	**02 32 22.5**	**+1.0**
CAN				pmax	pmax		
	comp=Z,29nm,1.0s						
CAN	**Canberra**	**41.53**	**152**	P	**P**	**02 32 23.3**	**+1.8**
TOO	**Toolangi**	**41.90**	**157**	P	**P**	**02 32 25.4**	**+0.9**
TOO	**Tool

USA0B **Ussuriysk Arra** 43.70 6 P P 02 32 37.1 -1.8
USA0B **Ussuriysk Arra** 43.70 6⇓ *e*P P 02 32 39.8 +0.9
MDJ Mudanjiang 43.92 3 P P 02 32 41.8 +1.1
MDJ pmax pmax
comp=Z,17nm,1.5s
ERM Erimo 43.92 18⇑ *e*P P 02 32 42.3 +1.6
ERM pmax pmax
comp=Z,11nm,1.0s
XLT XiLinHaoTe 44.07 349 *e*P P 02 32 42.4 +0.4
XLT pP pP 02 32 48.3 -4.3
XLT sP sP 02 32 58.3 +1.1
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT pmax pmax
comp=Z,78nm,3.9s
LSA Lhasa 44.27 314 P P 02 32 42.6 -1.7
LSA Lhasa 44.27 314 P P 02 32 42.6 -1.7
LSA pmax pmax
comp=Z,9.0nm,0.6s
BNX BinXian 44.96 1 ⇑P P 02 32 49.7 +0.7
BNX pmax pmax
comp=Z,10.0nm,1.7s
DZM Mont Dzumac 45.12 123 *e*S S 02 39 23.8 -4.0
comp=Z,95nm,30.9s
DZM *e*SS ScS 02 42 47.9 +2.7
comp=Z,89nm,25.8s
DZM *e*LR LR 02 45 25.4
comp=Z,271nm,23.4s
GTA Gaotai 45.60 331 *e*P P 02 32 54.6 +0.2
GTA pP pP 02 33 04.7 -0.1
GTA PcP PcP 02 34 34.6 +2.3
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA LR LR
comp=Z,220nm,15.3s
GTA LR LR
comp=Z,170nm,17.1s
GTA LR LR
comp=Z,320nm,18.9s
ASAJ Asahikawa 45.68 16 P P 02 32 55.1 +0.4
comp=Z,7.5nm,0.6s,baz=230,slow=15,SNR=7.4
comp=Z,7.5nm,0.6s
JKA Kamikawa-asahi 45.68 16 P P 02 32 52.2 -2.5
JKA IAmb IAmb 02 32 59.9
comp=Z,20nm,1.1s
PALK Pallekele 45.99 279⇓ *e*P P 02 32 55.8 -1.9
EVN Everest 46.60 309 P P 02 33 01.2 -1.8
EVN IAmb IAmb 02 33 06.8
comp=Z,36nm,1.4s
YSS Yuzhno-Sakhali 48.34 15 *e*P P 02 33 16.2 +0.8
YSS pmax pmax
comp=Z,10.0nm,0.6s
YSS MLR MLR
comp=Z,100nm,12.0s
KLR Kul'dur 48.67 5 P P 02 33 18.2 +0.4
comp=Z,3.6nm,0.6s,baz=180,slow=6.8,SNR=9.5
comp=Z,3.6nm,0.6s
KLR Kul'dur 48.67 5⇓ *e*P P 02 33 18.3 +0.4
KLR pmax pmax
comp=Z,16nm,1.5s
HEH HeiHe 49.48 1 *e*P P 02 33 23.9 -0.2
HEH pmax pmax
comp=Z,15nm,1.2s
HYB Hyderabad 49.88 292 *e*P P 02 33 26.9 -0.9
ULN Ulaanbaatar 49.97 343 P P 02 33 26.0 -2.1
ULN Ulaanbaatar 49.97 343⇓ *e*P P 02 33 29.6 +1.5
ULN pmax pmax
comp=Z,11nm,1.2s
SONM Songino Array 50.14 343 P P 02 33 27.9 -1.5
SONM IAmb IAmb 02 33 34.2
comp=Z,16nm,1.4s
SONM Songino Array 50.14 343 P P 02 33 29.2 -0.1
comp=Z,3.5nm,0.7s,baz=167,slow=8.8,SNR=15
comp=Z,3.5nm,0.7s
TYV Tymovskoe 51.96 13 *e*P P 02 33 43.8 +1.1
TYV pmax pmax
comp=Z,100nm,3.2s
TYV pmax pmax
comp=Z,8.0nm,1.2s
CIT Chita 52.36 350 *e*P P 02 33 47.4 +1.6
CIT *e* 02 33 57.6
CIT pmax pmax
comp=Z,135nm,1.4s
ZEA Zeya 52.96 1 *e*P P 02 33 51.5 +1.3
ZEA pmax pmax
comp=Z,10.0nm,0.5s
ZEA MLR MLR
comp=E,100nm,19.0s
ZEA MLR MLR
comp=N,200nm,26.0s
ZEA MLR MLR
comp=Z,100nm,23.0s
MSVF Nonsavu 54.02 112⇑ *e*P P 02 33 58.5 -0.2
MSVF pmax pmax
comp=Z,10.0nm,1.1s
IRK Irkutsk 54.69 344 *e*P P 02 34 03.5 +0.6
IRK pmax pmax
comp=Z,41nm,1.7s
WMQ Urumqi 55.08 327 *e*P P 02 34 07.7 +1.8
WMQ LR LR
comp=Z,260nm,24.0s
WMQ LR LR
comp=Z,260nm,24.1s
MOY Mondy 55.19 341 *e*P P 02 34 07.6 +1.0
MOY pmax pmax
comp=Z,20nm,1.7s
PETK Petropavlovsk- 58.46 22 P P 02 34 31.0 +1.4
comp=Z,5.3nm,0.6s,baz=190,slow=6.6,SNR=8.9
comp=Z,5.3nm,0.6s
WUS Wushi 58.66 320 P P 02 34 29.6 -1.8
WUS IAmb IAmb 02 35 23.4
comp=Z,20nm,1.2s
ZSN Zaisan 58.93 328 *e*P P 02 34 32.8 -0.2
ZSN Zaisan 58.93 328 *e*P P 02 34 32.9 -0.2
SHLS Shalkode 59.52 322 *e*P P 02 34 35.2 -2.2
SHLS pmax pmax
comp=Z,6.0nm,0.7s
SHLS Shalkode 59.52 322 *e*P P 02 34 35.2 -2.2
comp=Z,5.5nm,0.7s
NIL Nilore 59.56 309 P P 02 34 36.1 -1.6
NIL IAmb IAmb 02 34 40.2
comp=Z,15nm,1.1s
NIL Nilore 59.56 309 P P 02 34 36.1 -1.6
NIL pmax pmax
comp=Z,15nm,1.1s
TARG Taragay, Kyrgy 59.84 320 P P 02 34 39.3 -0.6
TARG IAmb IAmb 02 34 50.8
comp=Z,9.1nm,1.0s
TARG Taragay, Kyrgy 59.84 320 P P 02 34 39.3 -0.6
TARG pmax pmax
comp=Z,9.0nm,1.0s
MK31 Makanchi Array 59.91 326⇑ *e*P P 02 34 39.8 -0.1
MKAR Makanchi Array 59.91 326 P P 02 34 39.0 -0.8
MKAR Makanchi Array 59.91 326 P P 02 34 39.4 -0.5
comp=Z,9.0nm,0.4s,baz=121,slow=7.3,SNR=50
comp=Z,9.0nm,0.4s
MAKZ Makanchi 60.10 326 P P 02 34 40.0 -1.1
MAKZ Makanchi 60.10 326 P P 02 34 40.0 -1.1
MAKZ pmax pmax
comp=Z,48nm,1.4s
MAKZ Makanchi 60.10 326 P P 02 34 40.6 -0.5
SATY Saty 60.13 321 *e*P P 02 34 41.2 -0.3
SATY pmax pmax
comp=Z,6.0nm,0.5s
SATY Saty 60.13 321 *e*P P 02 34 41.3 -0.3
comp=Z,5.8nm,0.5s
KDJ Kajisay 60.44 320 P P 02 34 42.2 -1.6
KDJ IAmb IAmb 02 34 45.0
comp=Z,8.7nm,0.9s
KDJ Kajisay 60.44 320 P P 02 34 42.2 -1.6
KDJ pmax pmax
comp=Z,9.0nm,0.9s
AAA Alma-Ata 61.15 321 *e*P P 02 34 48.1 -0.3
AAA pmax pmax
comp=Z,12nm,0.7s
AAA Alma-Ata 61.15 321 *e*P P 02 34 48.2 -0.3
comp=Z,12nm,0.7s
TDK Taldyqorghan 61.15 323 *e*P P 02 34 48.0 -0.3
TDK pmax pmax
comp=Z,10.0nm,0.7s
TDK Taldyqorghan 61.15 323 *e*P P 02 34 48.1 -0.3
comp=Z,9.8nm,0.7s
YAK Yakutsk 61.33 2 P P 02 34 47.4 -1.7
YAK Yakutsk 61.33 2 P P 02 34 49.7 +0.6
comp=Z,18nm,0.4s,baz=69,slow=1.9,SNR=4.9
comp=Z,18nm,0.4s

YAK Yakutsk 61.33 2 *e*P P 02 34 48.7 -0.4
YAK *e**PP sP 02 35 03.9 -0.3
YAK *e* 02 35 30.6
YAK *e* 02 37 05.1
YAK *e*S S 02 43 05.0 -1.6
YAK *e**SS sS 02 43 32.7 +7.2
YAK *e* 02 44 34.3
YAK *e*SS SS 02 47 07.0 -0.6
YAK pmax pmax
comp=Z,22nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=Z,134nm,5.3s
YAK pmax pmax
comp=N,105nm,4.6s
YAK pmax pmax
comp=E,91nm,4.0s
YAK smax smax
comp=N,105nm,4.7s
YAK smax smax
comp=E,38nm,3.7s
MA2 Magadan 61.81 14 P P 02 34 51.3 -1.2
MA2 Magadan 61.81 14 P P 02 34 52.9 +0.5
comp=E,7.5nm,0.5s,baz=143,slow=5.8,SNR=5.2
comp=E,7.5nm,0.5s
MA2 Magadan 61.81 14⇓ *e*P P 02 34 54.2 +1.7
MA2 pmax pmax
comp=Z,37nm,1.6s
MA2 Magadan 61.81 14 P P 02 34 51.9 -0.6
comp=Z,23nm,1.8s
KUU Kurty 61.85 321 *e*P P 02 34 52.6 -0.5
KUU pmax pmax
comp=Z,7.0nm,0.6s
KUU Kurty 61.85 321 *e*P P 02 34 52.7 -0.5
comp=Z,6.9nm,0.6s
AAK Ala-Archa 62.43 319 P P 02 34 56.7 -0.5
AAK IAmb IAmb 02 35 02.0
comp=Z,21nm,1.5s
AAK Ala-Archa 62.43 319⇑ *e*P P 02 34 57.5 +0.3
AAK pmax pmax
comp=Z,10.0nm,1.8s
SGDS Sogindy 62.72 320 *e*P P 02 34 58.6 -0.4
ARSB Arslanbob 62.85 317 P P 02 34 59.0 -1.0
ARSB IAmb IAmb 02 35 05.2
comp=Z,17nm,1.2s
ARSB Arslanbob 62.85 317 P P 02 34 59.0 -1.0
ARSB pmax pmax
comp=Z,17nm,1.2s
KBL Kabul 63.14 309 P P 02 35 00.4 -1.7
KBL IAmb IAmb 02 35 04.6
comp=Z,17nm,1.2s
KBL Kabul 63.14 309 P P 02 35 00.4 -1.7
KBL pmax pmax
comp=Z,17nm,1.2s
ZAA0 Zalesovo Array 63.20 334 P P 02 35 00.2 -1.6
ZAA0 IAmb IAmb 02 35 08.3
comp=Z,11nm,1.0s
ZALV Zalesovo Beam 63.20 334 P P 02 35 00.6 -1.2
ZALV Zalesovo Beam 63.20 334 P P 02 35 01.2 -0.7
comp=Z,3.6nm,0.5s,baz=123,slow=5.5,SNR=16
comp=Z,3.6nm,0.5s
GAR Garm 63.78 314 P P 02 35 04.6 -1.5
BTK Batken 63.83 315 P P 02 35 05.0 -1.4
BTK IAmb IAmb 02 35 20.8
comp=Z,11nm,0.9s
BTK Batken 63.83 315 P P 02 35 05.0 -1.4
BTK pmax pmax
comp=Z,11nm,1.0s
BTLS Baital 63.84 321 *e*P P 02 35 05.5 -0.8
BTLS Baital 63.84 321 *e*P P 02 35 05.5 -0.8
KURBB Kurchatov Arra 64.17 328 P P 02 35 08.0 -0.3
comp=Z,14nm,0.7s,baz=130,slow=6.4,SNR=29
comp=Z,14nm,0.7s
KURK Kurchatov 64.17 328 P P 02 35 07.6 -0.7
KURK Kurchatov 64.17 328⇑ *e*P P 02 35 08.6 +0.3
KURK pmax pmax
comp=Z,28nm,0.9s
KURK Kurchatov 64.17 328 P P 02 35 08.1 -0.2
SIMJ Simiganj 64.60 313 P P 02 35 09.8 -1.8
SIMJ IAmb IAmb 02 35 14.4
comp=Z,12nm,0.9s
DZA Taraz 64.64 318 *e*P P 02 35 10.9 -0.6
DZA pmax pmax
comp=Z,7.0nm,0.6s
DZA Taraz 64.64 318 *e*P P 02 35 11.0 -0.6
comp=Z,6.9nm,0.6s
SEY Seymchan 65.15 13 P P 02 35 15.8 +1.4
comp=Z,5.6nm,0.8s,baz=196,slow=5.2,SNR=10
comp=Z,5.6nm,0.8s
SEY Seymchan 65.15 13⇓ *e*P P 02 35 16.0 +1.6
SEY pmax pmax
comp=Z,19nm,1.5s
IUG Iuzhnay 65.20 317 *e*P P 02 35 14.8 -0.6
IUG pmax pmax
comp=Z,8.0nm,0.7s
IUG Iuzhnay 65.20 317 *e*P P 02 35 14.9 -0.6
comp=Z,8.4nm,0.7s
KK31 Karatay Array 65.27 318 P P 02 35 13.4 -2.3
KK31 IAmb IAmb 02 35 19.7
comp=Z,22nm,1.2s
KK31 Karatay Array 65.27 318 P P 02 35 13.4 -2.3
KK31 pmax pmax
comp=Z,22nm,1.3s
KKAR Karatay Array 65.27 318 P P 02 35 14.2 -1.5
KKAR Karatay Array 65.27 318 P P 02 35 14.2 -1.5
CHM Chimkent 65.56 317 *e*P P 02 35 17.0 -0.6
CHM Chimkent 65.56 317 *e*P P 02 35 17.0 -0.6
BRLS Boroldav 65.69 318 *e*P P 02 35 17.8 -0.6
BRLS Boroldav 65.69 318 *e*P P 02 35 17.8 -0.6
BRZS Berezniki 67.02 326 *e*P P 02 35 26.5 -0.2
BRZS Berezniki 67.02 326 *e*P P 02 35 26.6 -0.2
BVAR Borovoye Array 69.73 328 P P 02 35 44.4 +0.7
comp=Z,2.2nm,0.4s
comp=Z,2.2nm,0.4s
BRVK Borovoye 69.80 328 P P 02 35 43.2 -0.9
BRVK Borovoye 69.80 328 P P 02 35 43.2 -0.9
BRVK pmax pmax
comp=Z,39nm,1.4s
TIXI Tiksi 70.96 1 P P 02 35 50.9 +0.1
comp=Z,7.6nm,0.4s,baz=277,slow=2.2,SNR=6.8
comp=Z,7.6nm,0.4s
TIXI Tiksi 70.96 1⇑ *e*P P 02 35 51.0 +0.3
TIXI pmax pmax
comp=Z,40nm,1.6s
BILL Bilibino 72.66 15⇑ *e*P P 02 36 02.1 +1.1
BILL pmax pmax
comp=Z,6.0nm,1.3s
NRIK Noril'sk 73.36 347 P P 02 36 03.6 -1.5
NRIK Noril'sk 73.36 347 P P 02 36 05.5 +0.4
comp=Z,11nm,0.7s,baz=147,slow=6.0,SNR=13
comp=Z,11nm,0.7s
NRIK Noril'sk 73.36 347⇑ *e*P P 02 36 06.3 +1.1
AB31 Akbulak array 74.33 321 P P 02 36 10.1 -1.1
AB31 IAmb IAmb 02 36 12.6
comp=Z,12nm,0.9s
ABKAR Akbulak array 74.33 321 P P 02 36 10.2 -1.0
ABKAR IAmb IAmb 02 36 12.6
comp=Z,12nm,0.9s
NIKH Nikolski High 74.58 35 P P 02 36 12.7 +0.1
baz=250
SPIA Saint Paul Isl 75.37 30 P P 02 36 17.9 +0.8
baz=248
P08K Saint George I 75.51 31 P P 02 36 18.8 +0.9
baz=248
UNV Unalaska Valle 76.20 34 P P 02 36 22.5 +0.6
baz=252
SVE Sverdlovsk 76.42 329 *de*P P 02 36 22.9 -0.2
SVE pmax pmax
comp=Z,85nm,1.3s
GAMB Gambell 77.39 24 P P 02 36 29.1 +0.7
baz=245
ARTI Arti 77.45 328 P P 02 36 27.3 -1.6
ARTI Arti 77.45 328 *ci*P P 02 36 28.0 -0.9
ARTI 02 39 19.9
ARTI S S 02 46 18.3 +1.5
ARTI SS SS 02 51 14.9 -1.3
ARTI pmax pmax
comp=Z,61nm,1.4s
M11K Mekoryuk 78.49 28 P P 02 36 36.1 +1.5
baz=250
S12K Black Hills 79.20 33 P P 02 36 40.3 +1.6
baz=255
TNA Tin City 79.60 23 P P 02 36 41.7 +1.2
baz=248
K13K Kusilvak Mount 79.71 27 P P 02 36 42.7 +1.5
baz=252
M13K Dall Lake 79.85 28 P P 02 36 43.3 +1.4
baz=253
SDPT Sand Point 79.99 34 P P 02 36 39.4 -3.5
SDPT Sand Point 79.99 34 P P 02 36 43.8 +1.0
baz=256
F14K Arctic Creek 80.19 23 P P 02 36 45.0 +1.2
baz=249
ANM Nome 80.26 24 P P 02 36 45.3 +1.2
baz=250
CHNA Chernabura Isl 80.37 34 P P 02 36 45.5 +0.6
baz=257
VNDA Vanda 80.39 173 P P 02 36 44.7 +0.1
VNDA Vanda 80.39 173 P P 02 36 45.2 +0.6
comp=Z,2.3nm,1.0s,baz=306,slow=6.2,SNR=13
comp=Z,2.3nm,1.0s
L14K Kuka Creek 80.43 28 P P 02 36 46.2 +1.1
baz=253,SNR=18
J14K Nanvaranak Lak 80.45 26 P P 02 36 46.4 +1.2
baz=252
N14K Kuskokwak Cree 80.51 29 P P 02 36 47.0 +1.5
baz=254,SNR=7.7
O14K Tigyukauivet M 80.54 30 P P 02 36 46.6 +0.8
baz=255,SNR=11
M14K Bethel 80.60 28 P P 02 36 46.8 +0.8
baz=254,SNR=15
MAW Mawson 80.71 200 P P 02 36 46.9 +0.5
comp=Z,5.3nm,0.9s,baz=46,slow=4.7,SNR=9.3
comp=Z,5.3nm,0.9s
S14K Fog Glacier 80.71 33 P P 02 36 47.2 +0.4
baz=257
F15K North Star Dit 80.93 23 P P 02 36 49.4 +1.6
baz=251,SNR=5.7
G15K Niukluk 80.94 24 P P 02 36 48.4 +0.6
baz=252,SNR=8.1
L15K Ungalak Mounta 81.07 27 P P 02 36 49.4 +0.9
baz=254
M15K Kasigluk River 81.19 28 P P 02 36 49.9 +0.7
baz=255,SNR=11
K15K Wolf Creek Mou 81.22 27 P P 02 36 50.8 +1.4
baz=254,SNR=10
O15K Ungalikthiuk R 81.24 30 P P 02 36 50.5 +1.0
baz=256,SNR=7.8
CHGN Chignik 81.33 33 P P 02 36 51.3 +1.3
baz=258
N15K Kwethluk River 81.34 29 P P 02 36 51.2 +1.1
baz=256,SNR=12
RAYN Ar Rayn 81.36 294 P P 02 36 49.5 -1.4
RAYN IAmb IAmb 02 36 52.2
comp=Z,21nm,0.9s
RAYN Ar Rayn 81.36 294 P P 02 36 49.6 -1.4
RAYN pmax pmax
comp=Z,21nm,0.9s
C16K Lisburne Hills 81.53 20 P P 02 36 51.8 +0.9
baz=250,SNR=11
G16K Koyuk River 81.74 24 P P 02 36 53.1 +1.1
baz=253,SNR=8.7
J16K Anvik River 81.89 26 P P 02 36 53.9 +1.0
baz=255,SNR=10
L16K Owhat River 82.01 28 P P 02 36 54.8 +1.3
baz=256
I17K Unalakleet 82.01 25 P P 02 36 55.3 +1.8
baz=255,SNR=8.5
N16K Nishlik Lake 82.06 29 P P 02 36 55.4 +1.6
baz=257,SNR=12
M16K Timber Creek 82.09 28 P P 02 36 55.2 +1.3
baz=257,SNR=11
P16K Nushagak River 82.13 30 P P 02 36 55.5 +1.4
baz=258
D17K Noatak River 82.15 21 P P 02 36 55.8 +1.7
baz=252,SNR=31
O16K Kokwok River B 82.19 30 P P 02 36 55.7 +1.1
baz=258,SNR=11
RDOG Red Dog Mine 82.32 21 P P 02 36 56.1 +1.1
baz=252
C17K DeLong Mountai 82.36 21 P P 02 36 57.1 +1.9
baz=252,SNR=13
E17K Hotham Inlet 82.43 22 P P 02 36 57.0 +1.4
baz=253,SNR=13
G17K Kiwalik Mounta 82.45 24 P P 02 36 57.3 +1.5
baz=255,SNR=16
F17K Baldwin Pennin 82.47 23 P P 02 36 57.2 +1.4
baz=254,SNR=6.9
J17K VABM Dome 82.58 26 P P 02 36 58.2 +1.7
baz=256,SNR=15
H17K Granite Mounta 82.61 24 P P 02 36 57.8 +1.2
baz=255,SNR=16
BELG Belogornoye 82.64 323⇑ *e*P P 02 36 57.6 +0.6
BELG pmax pmax
comp=Z,13nm,1.1s
L17K Donlin 82.65 27 P P 02 36 58.5 +1.6
baz=257,SNR=16
R17L Mt. Peulik Vol 82.70 32 P P 02 36 57.9 +0.7
baz=260
O17K Koliganek Bris 82.73 30 P P 02 36 58.2 +0.9
baz=259,SNR=18
K17K Iditarod 82.77 27 P P 02 36 58.9 +1.4
baz=257,SNR=17
N17K Nushagak Hills 82.83 29 P P 02 36 59.2 +1.4
baz=258,SNR=11
M17K Holitna River 82.89 28 P P 02 36 59.6 +1.5
baz=258,SNR=13
P17K Kvichak River 82.94 30 P P 02 36 59.2 +0.8
baz=259
E18K Tukpahlearik C 82.98 22 P P 02 37 00.0 +1.5
baz=254,SNR=15
Q17K Contact Creek 83.06 31 P P 02 36 59.9 +0.7
baz=260
B18K Kokolik River 83.10 20 P P 02 37 00.7 +1.7
baz=253,SNR=13
C18K Utukok River 83.10 21 P P 02 37 00.8 +1.6
baz=254,SNR=17
F18K Selawik 83.13 23 P P 02 37 00.6 +1.4
baz=255
GNI Garni 83.19 310 P P 02 36 58.9 -1.5
GNI Garni 83.19 310⇓ *e*P P 02 37 01.4 +1.0
GNI pmax pmax
comp=Z,15nm,1.3s
GNI Garni 83.19 310 P P 02 37 00.8 +0.4
comp=Z,340nmcomp=Z,25nm,1.2s
H18K Honhosa River 83.30 24 P P 02 37 01.4 +1.2
baz=257,SNR=16
G18K Tagagawik 83.35 24 P P 02 36 59.0 -1.5
G18K IAmb IAmb 02 37 03.7
comp=Z,32nm,1.4s
G18K Tagagawik 83.35 24 P P 02 37 01.7 +1.2
baz=256,SNR=16
L18K Granite Mounta 83.40 27 P P 02 37 02.1 +1.4
baz=259,SNR=19
N18K Kilae Creek 83.49 29 P P 02 37 02.5 +1.2
baz=260,SNR=15
ATD Arta Tunnel 83.51 281 P P 02 37 02.6 +0.2
Q18K Katmai Hardscr 83.58 31 P P 02 37 01.9 0.0
baz=261,SNR=8.4
A19K Wainwright 83.58 19 P P 02 37 02.9 +1.4
baz=254
P18K Big Mountain, 83.59 30 P P 02 37 02.1 +0.2
baz=260,SNR=8.2
J18K Innoko River 83.64 26 P P 02 37 03.1 +1.1
baz=258,SNR=13
M18K Stony River 83.67 28 P P 02 37 03.7 +1.6
baz=260,SNR=17
O18K Koktuh Hills 83.68 30 P P 02 37 03.2 +0.9
baz=260,SNR=13
R18K Karluk 83.70 32 P P 02 37 02.7 +0.4
baz=261
C19K Lookout Ridge 83.79 20 P P 02 37 03.8 +1.1
baz=255,SNR=18
GCSA Galena City Sc 83.83 25 P P 02 37 03.6 +0.8
baz=258,SNR=12
F19K Shaleruckik Mo 83.91 23 P P 02 37 02.1 -1.1
F19K IAmb IAmb 02 37 06.4
comp=Z,30nm,1.6s
F19K Shaleruckik Mo 83.91 23 P P 02 37 04.2 +0.9
baz=257,SNR=14
G19K Purcell Mounta 84.03 23 P P 02 37 05.1 +1.2
baz=258,SNR=17
D19K Kuna River 84.16 21 P P 02 37 05.7 +1.1
baz=257,SNR=11
H19K Roundabout Mou 84.16 24 P P 02 37 05.8 +1.2
baz=258,SNR=21
O19K Port Alsworth 84.17 30 P P 02 37 05.5 +0.8
baz=261
N19K Bonanza Creek 84.19 29 P P 02 37 06.3 +1.3
baz=261,SNR=18
J19K Poorman 84.22 26 P P 02 37 06.1 +1.2

baz=259,SNR=20
L19K White Mountain 84.24 28 P **P 02 37 06.1 +1.0**
baz=260,SNR=20
E19K Redstone River 84.25 22 P **P 02 37 06.4 +1.4**
baz=258,SNR=17
OHAK Old Harbor 84.27 33 P **P 02 37 06.5 +1.3**
baz=262,SNR=6.6
Q19K Cape Douglas, 84.32 31 P **P 02 37 06.8 +1.2**
baz=262,SNR=5.3
M19K Big River Lodg 84.41 28 P **P 02 37 07.0 +1.1**
baz=261,SNR=12
KARS Kars 84.49 311 P **P 02 37 06.4 -0.6**
KARS Kars 84.49 311 P **P 02 37 06.4 -0.6**
KARS pmax pmax
comp=Z,28nm,1.0s
PPT2 Papeete2 84.53 108 *e*LR LR 03 03 40.4
comp=Z,108nm,24.5s
P19K Oil Pt 84.64 30 P **P 02 37 07.9 +0.8**
baz=262
KDAK Kodiak Island 84.72 32⇑ *e*P **P 02 37 09.5 +2.0**
KDAK pmax pmax
comp=Z,43nm,1.2s
KDAK Kodiak Island 84.72 32 P **P 02 37 08.3 +0.8**
baz=263
L20K Farewell, AK 84.74 27 P **P 02 37 08.9 +1.3**
baz=261,SNR=5.6
F20K Avararaart Lake 84.74 23 P **P 02 37 08.7 +1.3**
baz=259
D20K Etivluk River 84.75 21 P **P 02 37 08.6 +1.1**
baz=258,SNR=8.9
K20K Telida 84.79 26 P **P 02 37 09.3 +1.4**
baz=261,SNR=12
H20K Anotleneega Mo 84.80 24 P **P 02 37 08.7 +0.9**
baz=260,SNR=6.4
E20K Nigu River 84.81 21 P **P 02 37 09.5 +1.6**
baz=258,SNR=8.9
B20K Meade River 84.83 20 P **P 02 37 09.4 +1.6**
baz=257
GOF Gofitskoye 84.84 315 *c*e**P P 02 37 08.5 +0.1**
KBZ Khabaz 84.84 314 P **P 02 37 08.3 -0.1**
comp=Z,18nm,1.1s,baz=72,slow=2.2,SNR=30
comp=Z,18nm,1.1s
KBZ Khabaz 84.84 314⇓ *e*P **P 02 37 08.8 +0.3**
I20K Naaghedeneel 84.85 25 P **P 02 37 09.6 +1.6**
baz=260
J20K Nowinta River 84.89 26 P **P 02 37 09.5 +1.3**
baz=261,SNR=7.1
Q20K Shuyak Island 84.93 31 P **P 02 37 09.4 +0.8**
baz=263
M20K Styx River 85.00 28 P **P 02 37 10.4 +1.4**
baz=262,SNR=11
O20K Slope Mountain 85.00 30 P **P 02 37 10.0 +1.0**
baz=262
KIV Kislovodsk 85.01 314 P **P 02 37 09.5 +0.1**
KIV Kislovodsk 85.01 314 *e*P **P 02 37 09.0 -0.5**
KIV pmax pmax
comp=Z,18nm,1.1s
KIV Kislovodsk 85.01 314 P **P 02 37 09.9 +0.4**
comp=Z,16nm,1.3s
HOM Homer 85.44 30 P **P 02 37 12.2 +1.1**
baz=263
C21K Knifeblade Rid 85.48 21 P **P 02 37 12.4 +1.2**
baz=260
G21K Allakaket 85.52 23 P **P 02 37 12.5 +1.1**
baz=261
PPLA Purkeypile 85.57 27 P **P 02 37 12.7 +0.8**
baz=263
B21K Ikpikpuk River 85.62 20 P **P 02 37 13.0 +1.2**
baz=260
F21K Alatna River 85.64 23 P **P 02 37 12.9 +0.9**
baz=261
CHUM Lake Minchumin 85.64 26 P **P 02 37 13.4 +1.4**
baz=262
E21K Killik River 85.65 21 P **P 02 37 13.1 +1.1**
baz=261
H21K Melozitna Rive 85.67 24 P **P 02 37 13.2 +1.0**
baz=262
CAST Castle Rocks 85.68 27 P **P 02 37 12.8 +0.5**
baz=263
SKT Skwentna 85.76 28 P **P 02 37 10.2 -2.6**
SKT Skwentna 85.76 28 P **P 02 37 13.4 +0.7**
baz=263
I21K Tanana 85.95 25 P **P 02 37 14.1 +0.6**
baz=263
SUA Susitna One 86.08 29 P **P 02 37 15.2 +0.8**
baz=264
B22K Teshekpuk Lake 86.15 20 P **P 02 37 15.1 +0.7**
baz=261
VRH Novokhopyorsk 86.16 321 *e*P **P 02 37 14.6 -0.2**
VRH pmax pmax
comp=Z,54nm,1.0s
F22K John River 86.18 22 P **P 02 37 16.2 +1.5**
baz=262
D22K Ayikyak River 86.18 21 P **P 02 37 15.6 +1.0**
baz=262
BPAW Bear Paw Mtn. 86.25 26 P **P 02 37 15.7 +0.6**
baz=264
H22K Ishtalitna Cre 86.29 24 P **P 02 37 16.0 +0.8**
baz=263
E22K Anaktuvuk Pass 86.40 22 P **P 02 37 16.7 +0.9**
baz=263
M22K Willow 86.40 28 P **P 02 37 14.1 -1.7**
MLY Manley 86.46 25 P **P 02 37 16.8 +0.7**
baz=264
TRF Thorofare Moun 86.49 27 P **P 02 37 16.9 +0.4**
baz=264
RC01 Rabbit Creek A 86.53 29 P **P 02 37 17.0 +0.6**
baz=265
SEW Seward 86.58 30 P **P 02 37 17.2 +0.5**
baz=265
ERBR Yeremizino-Bor 86.68 316 *e*P **P 02 37 15.6 -2.0**
ERBR pmax pmax
comp=Z,36nm,1.2s
PMR Palmer 86.86 28 P **P 02 37 19.2 +1.2**
baz=265
COLD Coldfoot 86.91 23 P **P 02 37 19.2 +1.0**
baz=264,SNR=8.3
VSLR Vesyoloye 86.91 313⇓ *e*P **P 02 37 16.8 -1.9**
D23K Nanushuk River 86.91 21 P **P 02 37 19.3 +1.1**
baz=264
G23K Bananza Creek 86.92 23 P **P 02 37 19.3 +1.0**
baz=264,SNR=11
C23K Itkillik River 87.03 20 P **P 02 37 19.4 +0.7**
baz=264
H23K Yukon River 87.03 24 P **P 02 37 19.5 +0.6**
baz=265,SNR=7.2
I23K Minto, Yukon-K 87.05 25 P **P 02 37 19.7 +0.8**
baz=265
MCK McKinley 87.12 26 P **P 02 37 17.1 -2.3**
MCK IAmb IAmb 02 37 20.8
comp=Z,14nm,1.4s
MCK McKinley 87.12 26 P **P 02 37 17.1 -2.3**
MCK pmax pmax
comp=Z,14nm,1.4s
MCK McKinley 87.12 26 P **P 02 37 20.1 +0.8**
baz=266
KNK Knik Glacier 87.17 29 P **P 02 37 20.4 +0.8**
baz=266
PWL Port Wells 87.19 29 P **P 02 37 20.1 +0.4**
baz=266
E23K Chandalar 87.21 22 P **P 02 37 20.8 +1.1**
baz=265
WAT1 Susitna Watana 87.22 27 P **P 02 37 20.2 +0.3**
baz=266
TOLK Toolik Lake Re 87.28 21 P **P 02 37 20.8 +0.8**
baz=265
M23K Glacier View 87.54 28 P **P 02 37 22.1 +0.6**
baz=267
WAT6 Susitna Watana 87.58 28 P **P 02 37 22.8 +1.0**
baz=267,SNR=5.7
D24K Happy Valley 87.59 21 P **P 02 37 22.5 +1.0**
baz=265
E24K Your Creek 87.63 22 P **P 02 37 21.2 -0.6**
E24K Your Creek 87.63 22 P **P 02 37 22.5 +0.7**
baz=266
COLA College 87.67 25⇓ *e*P **P 02 37 22.7 +0.8**
COLA pmax pmax
comp=Z,3.0nm,1.0s
C24K Franklin Bluff 87.68 20 P **P 02 37 22.4 +0.6**
baz=265
H24K Noodor Dome 87.72 24 P **P 02 37 22.8 +0.6**
baz=266,SNR=8.5
SCM Sheep Creek Mo 87.73 28 P **P 02 37 23.1 +0.7**
baz=267
VORR Voronezh 87.75 322 *e*P **P 02 37 21.8 -0.8**
VORR pmax pmax
comp=Z,25nm,0.5s
VSR Storozhevoye 87.76 321 *e*P **P 02 37 19.3 -3.4**
VSR pmax pmax
comp=Z,8.0nm,1.0s
DHY Denali Highway 87.77 27 P **P 02 37 23.1 +0.4**
baz=267
GLI Glacier Island 87.80 29 P **P 02 37 22.6 0.0**
baz=267
F24K Squaw Lake 87.82 23 P **P 02 37 23.3 +0.6**
baz=266,SNR=8.8
POKR Poker Plat Res 87.86 25 P **P 02 37 23.7 +0.8**
baz=267
KLMR Klimovskoe 87.93 331 *e*P **P 02 37 21.1 -2.1**
KLMR *e* 02 40 48.6
KLMR pmax pmax
comp=Z,48nm,1.2s
G24K Hadweenzic Riv 87.93 23 P **P 02 37 23.6 +0.4**
baz=267,SNR=8.4
LPSR Galich'ya Gora 87.95 322 *e*P **P 02 37 22.4 -1.1**
LPSR pmax pmax
comp=Z,20nm,0.9s
HDA Harding Lake 88.03 26 P **P 02 37 21.5 -2.2**
HDA Harding Lake 88.03 26 P **P 02 37 23.8 +0.1**
baz=267
ILAR Eielson Array 88.08 25 P **P 02 37 22.1 -1.8**
ILAR Eielson Array 88.08 25 P **P 02 37 23.3 -0.6**
comp=Z,2.4nm,1.1s,baz=266,slow=3.2,SNR=11
comp=Z,2.4nm,1.1s
ARPR Arapgir-MALATY 88.08 309 P **P 02 37 24.1 -0.6**
ARPR IAmb IAmb 02 37 34.2
comp=Z,18nm,1.1s
Q23K Middleton Isla 88.11 31 P **P 02 37 24.0 -0.1**
baz=268
M24K Tolsona, Glenn 88.29 28 P **P 02 37 22.1 -2.9**
M24K Tolsona, Glenn 88.29 28 P **P 02 37 25.5 +0.5**
baz=268
KIBK Kibwezi 88.33 268 P **P 02 37 24.6 -1.6**
KIBK IAmb IAmb 02 37 28.4
comp=Z,12nm,1.1s
KLU Klutina 88.39 29 P **P 02 37 26.1 +0.5**
baz=268
EYAK Cordova Ski Ar 88.44 30 P **P 02 37 25.9 +0.2**
baz=268
D25K Kavik River 88.47 21 P **P 02 37 26.0 +0.3**
baz=268
G25K Bearman Lake 88.48 23 P **P 02 37 26.1 +0.3**
baz=268
K24K Donnelly Dome 88.52 26 P **P 02 37 26.1 +0.1**
baz=268
H25L Birch Creek 88.58 24 P **P 02 37 26.7 +0.6**
baz=268,SNR=7.3
PAX Paxson 88.64 27 P **P 02 37 25.3 -1.4**
PAX IAmb IAmb 02 37 28.9
comp=Z,14nm,1.3s
PAX Paxson 88.64 27 P **P 02 37 25.3 -1.4**
PAX pmax pmax
comp=Z,14nm,1.3s
PAX Paxson 88.64 27 P **P 02 37 27.2 +0.5**
baz=269,SNR=6.8
PRP Porcupine Dome 88.68 25 P **P 02 37 27.4 +0.5**
baz=268
F25K Christian Rive 88.69 23 P **P 02 37 27.8 +1.0**
baz=268
J25K Salcha River, 88.72 26 P **P 02 37 27.5 +0.5**
baz=269
E25K Arctic Village 88.73 22 P **P 02 37 27.7 +0.7**
baz=268
HARP HAARP 88.77 28 P **P 02 37 27.5 +0.3**
baz=269
MOS Moscow 88.79 326 *e*P **P 02 37 25.9 -1.5**
ANN Anapa 88.81 315 *e*P **P 02 37 28.1 +0.4**
ANN pmax pmax
comp=Z,27nm,1.1s
RIDG Independent Ri 88.93 26 P **P 02 37 26.5 -1.6**
RIDG IAmb IAmb 02 37 29.7
comp=Z,18nm,1.4s
RIDG Independent Ri 88.93 26 P **P 02 37 28.5 +0.5**
baz=269,SNR=7.9
C26K Camden Bay 89.00 20 P **P 02 37 28.4 +0.3**
baz=269
BMRM Bremner River 89.01 29 P **P 02 37 29.0 +0.5**
baz=269
N25K Chitina, Valde 89.02 29 P **P 02 37 29.0 +0.5**
baz=269
BMAR Burnt Mountain 89.09 23 P **P 02 37 28.3 -0.4**
KAIM Kayak Island 89.10 30 P **P 02 37 29.3 +0.5**
baz=270
KMBO Kilima Mbogo 89.11 269 P **P 02 37 29.9 -0.2**
KMBO IAmb IAmb 02 37 32.9
comp=Z,9.5nm,1.1s
KMBO Kilima Mbogo 89.11 269 P **P 02 37 29.9 -0.2**
KMBO pmax pmax
comp=Z,9.0nm,1.2s
F26K Sheenjek River 89.26 22 P **P 02 37 29.8 +0.4**
baz=270
SCRK Sand Creek 89.32 26 P **P 02 37 30.4 +0.5**
baz=270,SNR=6.0
OBN Obninsk 89.39 325 P **P 02 37 27.9 -2.3**
OBN Obninsk 89.39 325 *de*P **P 02 37 29.6 -0.6**
OBN *e* 02 41 06.6
OBN pmax pmax
comp=Z,41nm,1.7s
OBN MLR MLR
comp=Z,78nm,22.0s
OBN Obninsk 89.39 325 P **P 02 37 30.1 -0.1**
comp=Z,19nm,0.7s
SYO Syowa Base 89.39 201⇓ *e*P **P 02 37 31.0 +1.1**
SYO Syowa Base 89.39 201⇓ *e*PcP **PcP 02 37 33.9 +2.6**
G26K Porcupine Rive 89.40 23 P **P 02 37 30.9 +0.9**
baz=270,SNR=6.0
C27K Jago River 89.42 21 P **P 02 37 30.8 +0.7**
baz=270,SNR=5.3
J26L Joseph Creek 89.50 26 P **P 02 37 31.3 +0.6**
baz=270
BGLC Bering Glacier 89.67 30 P **P 02 37 31.9 +0.5**
baz=271
I26K Coal Creek Min 89.67 25 P **P 02 37 31.9 +0.6**
baz=271,SNR=5.3
M26K Nabesna, AK 89.78 28 P **P 02 37 30.2 -1.8**
M26K IAmb IAmb 02 37 36.7
comp=Z,11nm,1.4s
M26K Nabesna, AK 89.78 28 P **P 02 37 32.3 +0.3**
baz=271
K27K Chicken 90.16 26 P **P 02 37 34.6 +0.9**
baz=272
E27K Coleen River 90.22 22 P **P 02 37 34.5 +0.6**
baz=272,SNR=8.8
G27K Doyon Strip 90.24 23 P **P 02 37 35.0 +0.9**
baz=272,SNR=5.4
L27K Beaver Creek, 90.30 27 P **P 02 37 35.0 +0.6**
baz=272
M27K Edge Creek, AK 90.30 28 P **P 02 37 35.0 +0.4**
baz=272
I27K Kandik River 90.30 25 P **P 02 37 35.0 +0.6**
baz=272,SNR=7.0
H27K Steamboat Moun 90.32 24 P **P 02 37 35.6 +1.2**
baz=272,SNR=8.0
BCAR Beaver Creek A 90.32 27 P **P 02 37 33.9 -0.6**
MESA MESA 90.33 30 P **P 02 37 35.2 +0.4**
baz=272
D27M Malcolm River 90.40 21 P **P 02 37 35.6 +0.8**
baz=273
MMAI Mount Meron Ar 90.47 303 P **P 02 37 35.3 -0.6**
comp=Z,6.4nm,0.9s,baz=213,slow=13,SNR=3.5
comp=Z,6.4nm,0.9s
QSPA South Pole Qui 90.53 180 P **P 02 37 35.7 +0.2**
QSPA IAmb IAmb 02 37 59.6
comp=Z,15nm,1.5s
QSPA South Pole Qui 90.53 180 P **P 02 37 35.8 +0.4**
comp=Z,3.6nm,1.0s,baz=295,slow=0.6,SNR=11
comp=Z,3.6nm,1.0s
APA Apatity 90.58 337⇓ *i*P **P 02 37 34.0 -1.5**
APA *i* 02 41 16.0
APA MLR MLR
comp=Z,258nm,3.5s
CTG Chitna Glacier 90.61 29 P **P 02 37 36.6 +0.6**
baz=272
F28M Old Crow 90.90 22 P **P 02 37 37.5 +0.4**
baz=274,SNR=6.7
E28M Babbage River 90.95 21 P **P 02 37 37.8 +0.5**
baz=274,SNR=8.6
I28M Miner Creek 91.01 25 P **P 02 37 38.2 +0.4**
baz=274,SNR=9.1
O28M Mount Upton 91.18 29 P **P 02 37 38.7 -0.2**
baz=273
PINM Pinnacle 91.19 30 P **P 02 37 38.3 -0.4**
baz=273
DAWY Dawson 91.34 26 P **P 02 37 39.8 +0.5**
baz=274,SNR=6.9
E29M Blow River 91.57 22 P **P 02 37 41.6 +1.4**
baz=276,SNR=6.3
H29M Whitestone 91.59 24 P **P 02 37 41.8 +1.4**
baz=275
PNL Peninsula 91.64 30 P **P 02 37 41.6 +0.9**
baz=274
G29M Pine Creek 91.67 23 P **P 02 37 41.6 +0.9**
baz=275,SNR=8.1
I29M Ogilvie Camp, 91.70 25 P **P 02 37 41.4 +0.6**
baz=275
BR104 Keskin Array S 91.71 310 P **P 02 37 41.0 -0.6**
comp=Z,3.5nm,1.0s
BR131 Keskin Array S 91.71 310 P **P 02 37 39.5 -2.1**
BR131 Keskin Array S 91.71 310 P **P 02 37 39.5 -2.1**
BR131 pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 91.71 310 P **P 02 37 40.4 -1.2**
BRTR Keskin Array B 91.71 310 P **P 02 37 41.1 -0.6**
comp=Z,2.4nm,0.9s,baz=117,slow=6.0,SNR=16
comp=Z,2.4nm,0.9s
BRTR Keskin Array B 91.71 310 *i* P **P 02 37 41.0 -0.6**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BR106 Keskin Array S 91.72 310 P **P 02 37 41.0 -0.7**
comp=Z,3.3nm,1.0s
BR105 Keskin Array S 91.73 310 P **P 02 37 41.2 -0.5**
comp=Z,41nmcomp=Z,3.9nm,0.9s
M29M Somme Creek 91.88 28 P **P 02 37 42.6 +0.8**
baz=275,SNR=5.7
L29M L29M 91.98 27 P **P 02 37 43.0 +0.8**
baz=275,SNR=13
K29M Barlow Dome 92.18 26 P **P 02 37 44.0 +0.8**
baz=276,SNR=7.3
EPYK Eagle Plains 92.24 24 P **P 02 37 44.0 +0.7**
baz=277
G30M tAoh Zraii Nji 92.37 23 P **P 02 37 44.6 +0.7**
baz=277
F30M Barrier River 92.45 22 P **P 02 37 45.0 +0.8**
baz=278
P29M Windy Craggy 92.49 30 P **P 02 37 42.1 -2.5**
P29M Windy Craggy 92.49 30 P **P 02 37 45.7 +1.1**
baz=275
HYT Haines Junctio 92.49 29 P **P 02 37 41.8 -2.9**
HYT IAmb IAmb 02 37 47.6
comp=Z,7.3nm,1.2s
HYT Haines Junctio 92.49 29 P **P 02 37 45.7 +1.0**
baz=276
I30M Mount Dempster 92.52 25 P **P 02 37 45.6 +0.9**
baz=277
J30M Hart River 92.61 25 P **P 02 37 46.3 +1.1**
baz=277,SNR=7.8
N30M Aishikik Lake 92.62 29 P **P 02 37 46.2 +1.0**
baz=276
M30M Minto, Yukon 92.64 27 P **P 02 37 46.0 +0.7**
baz=276,SNR=8.6
P30M Million Dollar 92.83 30 P **P 02 37 46.8 +0.6**
baz=276
G31M Satah River 93.14 23 P **P 02 37 47.8 +0.4**
baz=279
O30N Mendenhall 93.18 29 P **P 02 37 48.1 +0.3**
baz=277
INK Inuvik 93.19 22 P **P 02 37 47.7 +0.1**
baz=280
PLBC Pleasant Camp 93.20 30 P **P 02 37 48.1 +0.2**
baz=277
ARCES ARCESS Array B 93.23 340 P **P 02 37 47.4 -0.4**
comp=Z,6.3nm,0.9s,baz=345,slow=8.8,SNR=6.9
comp=Z,6.3nm,0.9s
N31M Braeburn, Yuko 93.24 28 P **P 02 37 48.7 +0.7**
baz=277,SNR=5.5
F31M Tsiigehtchic 93.26 22 P **P 02 37 47.9 0.0**
baz=279
H31M Peel River 93.28 24 P **P 02 37 48.3 +0.2**
baz=279
S31K Pelican 93.44 32 P **P 02 37 49.4 +0.5**
baz=277
SPITS Spitsbergen Ar 93.45 349 P **P 02 37 47.9 -0.8**
comp=Z,4.0nm,0.9s,baz=330,slow=17,SNR=4.2
comp=Z,4.0nm,0.9s
TAOE Nuku Hiva Isla 93.55 99 *e*LR LR 03 07 57.2
comp=Z,117nm,22.0s
SKAG Skagway 93.72 30 P **P 02 37 51.0 +0.8**
baz=278
WHY Whitehorse 93.79 29 P **P 02 37 51.2 +0.5**
baz=278,SNR=6.5
M31M Drury Creek, Y 93.80 28 P **P 02 37 51.2 +0.6**
baz=278
SIT Sitka 94.04 33 P **P 02 37 52.5 +0.8**
baz=277
AK08 Malin Array Si 94.05 321 P **P 02 37 51.5 -0.4**
AKASG Malin Array Be 94.06 321 P **P 02 37 50.7 -1.3**
comp=Z,0.6nm,0.5s,baz=77,slow=3.7,SNR=8.1
comp=Z,0.6nm,0.5s
AKASG Malin Array Be 94.06 321 *i* P **P 02 37 52.2 +0.2**
AKASG pmax pmax
comp=Z,3.0nm,1.0s
AK07 Malin Array Si 94.09 321 P **P 02 37 51.3 -0.8**
FARO Faro, Yukon 94.28 28 P **P 02 37 53.6 +0.8**
baz=279
R32K Eaglecrest 94.30 32 P **P 02 37 53.5 +0.5**
baz=278
S32K Killisnoo 94.39 32 P **P 02 37 53.8 +0.5**
baz=278
FINES FINESS Array B 94.39 332 P **P 02 37 52.2 -1.0**
comp=Z,2.8nm,1.1s,baz=70,slow=2.2,SNR=5.9
comp=Z,2.8nm,1.1s
FINES FINESS Array B 94.39 332 *i* P P 02 37 58.7 +5.4
FINES pmax pmax
comp=Z,2.0nm,0.8s
MNK Minsk 94.44 325 *i* P **P 02 37 53.3 -0.3**
MNK *i* PPP PPP 02 43 42.6
MNK *i* S **SKSac 02 48 26.8 +1.0**
MNK *i* PS **PS 02 50 23.9 +0.7**
MNK *i* SS **SS 02 55 27.8 +2.4**
MNK pmax pmax
comp=E,8.0nm,1.0s
MNK pmax pmax
comp=N,9.0nm,1.0s
MNK pmax pmax
comp=Z,14nm,1.0s
MNK MLR MLR
comp=Z,61nm,19.0s
P32M Atlin 94.52 30 P **P 02 37 54.7 +0.7**
baz=279
N32M Quiet Lake 94.58 29 P **P 02 37 55.3 +1.0**
baz=280
P33M Teslin, Yukon 94.87 29 P **P 02 37 52.8 -2.8**
P33M IAmb IAmb 02 37 57.5
comp=Z,6.4nm,1.1s
P33M Teslin, Yukon 94.87 29 P **P 02 37 55.9 +0.3**
baz=280
SORM Soroca 94.90 318 P **P 02 37 54.7 -1.2**
comp=Z,9.5nm,1.1s
LUBAR Lubar, Ukraine 95.08 320 P **P 02 37 55.4 -1.3**
MMPY Sheldon Lake, 95.16 27 P **P 02 37 57.5 +0.6**
baz=281
Q32M Nakina River 95.36 31 P **P 02 37 58.8 +0.8**
baz=280
U33K Whale Pass 95.38 34 P **P 02 37 58.7 +0.8**
baz=279
CRAG Craig 95.48 34 P **P 02 37 59.1 +0.8**
baz=279
NDNU Novodnistrovsk 95.50 319 P **P 02 37 57.9 -0.7**
R33M Jennings River 95.94 30 P **P 02 37 58.8 -1.7**
R33M IAmb IAmb 02 38 03.7
comp=Z,13nm,1.4s
R33M Jennings River 95.94 30 P **P 02 38 01.1 +0.5**
baz=281
RNPP9 Sopachiv 96.06 322 P **P 02 38 00.3 -0.8**
KMPD K-Podol'skiy 96.10 319 P **P 02 38 00.5 -0.9**
TESR Tescani 96.25 317 P **P 02 38 01.7 -0.4**
comp=Z,15nm,1.3s
VRI Vrinceioaia 96.28 316 P **P 02 38 02.0 -0.3**
DLBC Dease Lake 96.61 31 P **P 02 38 04.4 +0.9**
baz=282
BURAR Bucovina Array 97.06 318 P **P 02 38 05.1 -0.8**
BURAR IAmb IAmb 02 38 07.6
comp=Z,7.4nm,0.9s
BUR08 Bucovina Ar. S 97.07 318 P **P 02 38 04.9 -1.0**
BUR08 IAmb IAmb 02 38 07.4
comp=Z,7.9nm,0.9s
KOLS Kolonicke sedl 98.77 320 *e*P Pdif 02 38 19.8 +6.3
KOLS Kolonicke sedl 98.77 320 *e*PDIFF Pdif 02 38 19.8 +6.3
STHS Stebnicka Huta 99.34 320 *e*PDIFF **Pdif 02 38 04.7 -11**
GERES GERESS Array B 104.27 321 Pdiff **Pdif 02 38 37.5 -0.6**
comp=Z,0.2nm,0.5s,baz=29,slow=3.0,SNR=3.7
PDAR Pinedale Array 113.94 42 PKKPbc PKKPbc 02 53 55.0 -1.3

comp=Z,0.4nm,0.7s,baz=107,slow=5.0,SNR=4.4
ULM Lac du Bonnet 117.86 29 PKP **PKPdf 02 43 19.5 -0.6**
comp=Z,2.1nm,0.8s,baz=226,slow=3.4,SNR=3.9
ANMO Albuquerque 119.38 49 PKP **PiKiKP 02 43 24.1 +0.3**
comp=Z,0.8nm,0.6s,baz=275,slow=2.9,SNR=6.6
TORD Torodi Ar. Bea 123.47 286 PKPdf **PKPdf 02 43 31.2 -0.7**
TORD Torodi Ar. Bea 123.47 286 PKP **PiKiKP 02 43 32.2 +0.1**
comp=Z,1.1nm,0.4s,baz=35,slow=3.6,SNR=3.5
TXAR Lajitas Array 123.78 54 PKP **PiKiKP 02 43 32.8 +0.2**
comp=Z,1.1nm,0.8s,baz=253,slow=1.9,SNR=13
TKL Tuckaleechee C 134.29 35 PKP **PiKiKP 02 43 53.2 -0.2**
comp=Z,3.7nm,0.9s,baz=16,slow=0.9,SNR=3.9
MT01 Popeta 143.02 155 PKPdf **PKPdf 02 44 06.6 -1.4**
CPUP Villa Florida 154.18 172 PKPbc **PiKiKP 02 44 35.0 +0.7**
comp=Z,0.8nm,0.9s,baz=33,slow=5.2,SNR=4.7
LPAZ La Paz 158.86 138 PKP **PKPdf 02 44 34.5 +1.2**
comp=Z,2.0nm,1.1s,baz=296,slow=1.1,SNR=4.4
LPAZ PKPab **PKPab 02 45 10.2 +1.1**
comp=Z,3.0nm,0.9s,baz=174,slow=5.7,SNR=5.8

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*IDC **08** 02:25:09.6±1.4, 0.41N×126.03E, h0km, mb4.8/6, mbtmp4.8/7, ML4.4/1, Error ellipse: s-maj=111.7km s-min=19.6km az=68.0*

ISC 08 02:25:15.7±1.6, 0.4N±0.3×126.2E±0.7, h44km, n7, σ0§58/7, mb4.8/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.42**	**182**	P	**P**	**02 29 26.9**	**-0.6**
	1.0nm,0.3s,baz=4.8,slow=6.8,SNR=6.9						
	8.4nm,0.6s						
WRA	**Warramunga Arr**	**21.77**	**159**	P	**P**	**02 30 03.1**	**-0.8**
	131nm,0.8s,baz=336,slow=12,SNR=12						
	131nm,0.8s						
ASAR	**Alice Springs**	**25.10**	**163**	P	**P**	**02 30 36.7**	**+0.2**
	25nm,0.9s,baz=346,slow=12,SNR=7.7						
	25nm,0.9s						
MKAR	**Makanchi Array**	**59.96**	**327**	P	**P**	**02 35 17.4**	**-0.2**
	3.7nm,0.4s,baz=122,slow=7.4,SNR=6.7						
	3.7nm,0.4s						
KURBB	**Kurchatov Arra**	**64.22**	**328**	P	**P**	**02 35 45.9**	**-0.2**
	7.3nm,0.8s,baz=117,slow=6.4,SNR=5.0						
	7.3nm,0.8s						
VNDA	**Vanda**	**80.25**	**173**	P	**P**	**02 37 21.6**	**+0.3**
	3.7nm,0.8s,baz=304,slow=6.0,SNR=5.9						
	3.7nm,0.8s						
QSPA	**South Pole Qui**	**90.36**	**180**	P	**P**	**02 38 12.6**	**+0.5**
	1.9nm,0.7s,baz=247,slow=0.9,SNR=6.5						
	1.9nm,0.7s						

IDC 08 02:25:47.0±1.6, 0.46N×126.14E, h0km, mb4.8/4, mbtmp4.7/5, ML4.0/1, MS3.6/3, Error ellipse: s-maj=114.8km s-min=22.3km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.45**	**182**	P	P	02 30 06.0	+1.6
	0.4nm,0.3s,baz=350,slow=19,SNR=3.1						
	8.4nm,0.6s						
WRA	**Warramunga Arr**	**21.81**	**159**	P	P	02 30 41.5	+0.5
	53nm,0.7s,baz=336,slow=12,SNR=7.9						
	53nm,0.7s						
ASAR	**Alice Springs**	**25.14**	**163**	P	P	02 31 12.8	-1.2
	14nm,0.7s,baz=345,slow=12,SNR=5.6						
	14nm,0.7s						
JNU	**Nakatsue**	**32.79**	**7**	LR	LR	02 46 57.1	
	comp=Z,158nm,19.8s,baz=195,slow=39						
PETK	**Petropavlovsk-**	**58.66**	**22**	LR	LR	03 00 52.8	
	comp=Z,366nm,21.0s,baz=195,slow=36						
MKAR	**Makanchi Array**	**59.91**	**327**	P	P	02 35 54.9	0.0
	4.9nm,0.7s,baz=122,slow=7.4,SNR=1.8						
	4.9nm,0.7s						
MA2	**Magadan**	**61.99**	**14**	LR	LR	03 02 37.4	
	comp=Z,41nm,21.9s,baz=216,slow=36						
KURBB	**Kurchatov Arra**	**64.18**	**328**	P	P	02 36 23.5	+0.1
	4.7nm,0.6s,baz=133,slow=6.1,SNR=1.6						
	4.7nm,0.6s						

IDC 08 02:30:29.1±1.8, 0.74N×126.50E, h0km, mb3.8/4, mbtmp3.9/4, Error ellipse: s-maj=171.7km s-min=22.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.95**	**160**	P	P	02 35 23.9	-0.7
	1.1nm,0.3s,baz=338,slow=11,SNR=7.5						
	1.1nm,0.3s						
ASAR	**Alice Springs**	**25.31**	**164**	P	P	02 35 58.3	+0.6
	1.1nm,0.4s,baz=346,slow=11,SNR=5.2						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**59.88**	**326**	P	P	02 40 36.8	-0.1
	0.9nm,0.6s,baz=121,slow=7.7,SNR=6.0						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**64.13**	**328**	P	P	02 41 05.2	0.0
	0.8nm,0.8s,baz=126,slow=6.2,SNR=4.0						
	0.8nm,0.8s						

IDC 08 02:34:06.5±2.3, 0.87N×126.60E, h0km, mb3.4/3, mbtmp3.4/3, MS3.6/1, Error ellipse: s-maj=184.3km s-min=29.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**11.39**	**195**	LR	LR	02 42 11.7	
	comp=Z,288nm,18.1s,baz=74,slow=43						
WRA	**Warramunga Arr**	**22.04**	**160**	P	P	02 39 01.8	-1.2
	1.0nm,0.7s,baz=339,slow=11,SNR=5.0						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**25.41**	**164**	P	P	02 39 37.1	+1.1
	0.3nm,0.3s,baz=345,slow=11,SNR=1.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**59.83**	**326**	P	P	02 44 13.8	-0.1
	0.2nm,0.4s,baz=134,slow=8.2,SNR=1.5						
	0.2nm,0.4s						

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*CATAC **08** 02:34:34.0±0.7, 13.08N×89.49W±, h23km±4km, M3.2/15, MLv3.2/15, Error ellipse: s-maj=7.9km s-min=3.6km az=19.2, confirmed*

SNET 08 02:34:34.8±0.9, 13.08N×89.49W, h32km±4km, ML3.0, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PANCS	**Alcalda de**	**0.61**	**30**	S	Sn	02 34 56.1	0.0
PANCS	**Alcalda de**	**0.61**	**30**	P	Pb	02 34 47.2	0.0
LOMA	**Loma Larga**	**0.65**	**29**	*eP*	Pn	02 34 47.9	+0.1
LOMA				*eS*	Sn	02 34 58.3	+1.2
SEMO	**Seminario San**	**0.68**	**23**	P	Pn	02 34 48.2	0.0
SEMO	**Seminario San**	**0.68**	**23**	S	Sn	02 34 58.8	+1.1
UEES	**Universidad Ev**	**0.68**	**21**	P	Pb	02 34 48.7	+0.3
UEES	**Universidad Ev**	**0.68**	**21**	S	Sn	02 34 59.4	+1.6
UTEC	**Universidad Te**	**0.68**	**24**	S	Sn	02 34 58.8	+1.0
UTEC	**Universidad Te**	**0.68**	**24**	P	Pb	02 34 48.3	0.0
BOQS	**Boqueron**	**0.69**	**17**	*eP*	Pb	02 34 48.7	+0.2
BOQS				*eS*	Sn	02 34 58.9	+0.7
LFRS	**El Faro**	**0.69**	**38**	*eP*	Pb	02 34 48.5	0.0
LFRS				*eS*	Sn	02 34 59.4	+1.4
UESS	**Universidad de**	**0.70**	**24**	*eP*	Pb	02 34 48.6	-0.1
UESS				*eS*	Sn	02 34 58.8	+0.4
UDBS	**Universidad Do**	**0.71**	**27**	P	Pn	02 34 48.7	0.0
UDBS	**Universidad Do**	**0.71**	**27**	S	Sn	02 34 59.6	+0.9
CEVE	**Cerro Verde**	**0.76**	**350**	*eP*	Pb	02 34 49.7	0.0
CEVE				IAML		02 35 04.7	
	comp=Z,560nm,0.3s						
CEVE	**Cerro Verde**	**0.76**	**350**	S	Sn	02 35 01.0	+1.0
CEVE	**Cerro Verde**	**0.76**	**350**	P	Pb	02 34 50.1	+0.3
LFU	**La Fuente**	**0.76**	**29**	*eP*	Pb	02 34 49.8	+0.1
LFU				*eS*	Sb	02 35 01.0	+1.1
SBLS	**San Blas**	**0.77**	**350**	*eP*	Pb	02 34 49.8	-0.1
LBRS	**Las Brisas**	**0.79**	**34**	*eP*	Pb	02 34 50.2	+0.1
COEG	**Centro de Oper**	**0.80**	**48**	*eP*	Pn	02 34 49.6	-0.4
COEG				IAML		02 35 02.6	
	comp=Z,248nm,0.2s						
COEG	**Centro de Oper**	**0.80**	**48**	S	Sb	02 35 01.3	+0.3
COEG	**Centro de Oper**	**0.80**	**48**	P	Pn	02 34 49.7	-0.3
RTR	**El Retiro**	**0.83**	**350**	*eP*	Pb	02 34 50.7	-0.2
TECO	**Alcaldia de Te**	**0.83**	**56**	*eP*	Pn	02 34 50.1	-0.2
TECO	**Alcaldia de Te**	**0.83**	**56**	P	Pn	02 34 50.2	-0.1
TECO	**Alcaldia de Te**	**0.83**	**56**	S	Sb	02 35 01.8	+0.1
PAVA	**Las Pavas**	**0.83**	**40**	*eP*	Pn	02 34 50.5	+0.1
PAVA				IAML		02 35 03.4	
	comp=Z,1µm,0.4s						
PAVA	**Las Pavas**	**0.83**	**40**	S	Sb	02 35 03.0	+1.2
PAVA	**Las Pavas**	**0.83**	**40**	P	Pn	02 34 50.6	+0.2
NUBE	**Las Nubes**	**0.87**	**341**	*eP*	Pn	02 34 50.8	-0.1
NUBE	**Las Nubes**	**0.87**	**341**	S	Sb	02 35 03.4	+0.5
NUBE	**Las Nubes**	**0.87**	**341**	P	Pn	02 34 50.9	0.0
UESV	**Universidad de**	**0.88**	**51**	*eP*	Pn	02 34 50.8	-0.3
UESV	**Universidad de**	**0.88**	**51**	P	Pn	02 34 50.8	-0.2
UESV	**Universidad de**	**0.88**	**51**	S	Sb	02 35 03.2	-0.1
FAME	**Alcaldia de Sa**	**0.92**	**326**	P	Pn	02 34 51.5	0.0
FAME	**Alcaldia de Sa**	**0.92**	**326**	S	Sb	02 35 04.7	+0.5
ALJI	**Alcalda de J**	**0.93**	**74**	*eP*	Pn	02 34 52.0	+0.3
ALJI	**Alcalda de J**	**0.93**	**74**	P	Pn	02 34 51.5	-0.1
ALJI	**Alcalda de J**	**0.93**	**74**	S	Sn	02 35 03.9	0.0
LOAL	**Lomas de Alarc**	**0.96**	**343**	P	Pn	02 34 52.2	+0.1
LOAL	**Lomas de Alarc**	**0.96**	**343**	S	Sb	02 35 07.2	+1.8
SCLA	**Alcaldia de Sa**	**0.97**	**50**	S	Sb	02 35 05.4	-0.3
SCLA	**Alcaldia de Sa**	**0.97**	**50**	P	Pn	02 34 52.2	0.0
SLOZ	**Alcaldia de Sa**	**0.98**	**343**	*eP*	Pn	02 34 52.6	+0.1
SLOZ	**Alcaldia de Sa**	**0.98**	**343**	P	Pb	02 34 53.0	-0.5
SLOZ	**Alcaldia de Sa**	**0.98**	**343**	S	Sb	02 35 07.1	+0.9
PACA	**Pacayal**	**1.20**	**71**	*eP*	Pn	02 34 56.0	+0.5
PACA	**Pacayal**	**1.20**	**71**	S	Sn	02 35 11.4	+0.5
PACA	**Pacayal**	**1.20**	**71**	P	Pn	02 34 55.3	-0.2
LCY	**Lacayo**	**1.22**	**73**	*eP*	Pn	02 34 55.5	-0.1
BLLM	**Bellamira**	**1.27**	**73**	*eP*	Pn	02 34 56.5	0.0
CNCH	**Conchagua**	**1.63**	**83**	*eP*	Pn	02 35 00.9	-0.4
CNCH	**Conchagua**	**1.63**	**83**	P	Pn	02 35 01.1	-0.2
CNCH	**Conchagua**	**1.63**	**83**	S	Sn	02 35 22.2	+0.9

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*NEIC **08** 02:41:09.5±1.4, 41.07N±0.05×116.66W±0.05, h5km±1km, Error ellipse: s-maj=8.4km s-min=5.3km az=199.0*

REN 08 02:41:10.5±2.6, 41.12N±0.05×116.60W±0.05, h8km±8km, ML3.6/9, ML3.3/104(NEIC), Error ellipse: s-maj=7.1km s-min=5.0km az=205.0, Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELK	**Elko**	**1.10**	**110**		Pg	02 41 31.2	-0.4
ELK				Sg	Sg	02 41 45.2	-0.6
ELK				IAML		02 41 48.2	
	1µm,0.4s						
ELK				IAML		02 41 48.6	
	1µm,0.5s						
WVOR	**Wild Horse Val**	**2.01**	**311**		Pn	02 41 45.1	+0.3
WVOR				IAML		02 42 21.1	
	132nm,1.2s						
WVOR				IAML		02 42 24.5	
	133nm,1.1s						
Q09A	**Carvers**	**2.33**	**191**	Pn	Pn	02 41 49.1	-0.2
MFID	**Camas Ranch**	**2.36**	**14**	Pn	Pn	02 41 51.2	+1.6
Q12A	**Willow Creek R**	**2.48**	**146**		Pn	02 41 51.3	-0.1
PAHR	**Pah Rah Range**	**2.56**	**237**	Pn	Pn	02 41 51.0	-1.3
J08A	**Circle Bar Ran**	**2.63**	**329**	Pn	Pn	02 41 55.2	+1.9
BGU	**Big Grassy Mou**	**2.71**	**93**	Pn	Pn	02 41 53.9	-0.5
BGU				IAML		02 42 38.4	
	comp=N,102nm,0.7s						
BGU				IAML		02 42 40.9	
	comp=E,167nm,0.5s						
SPR3	**Spring Creek 3**	**2.75**	**140**	Pn	Pn	02 41 56.4	+1.3
SPR3				IAML		02 42 41.6	
	comp=E,141nm,0.7s						
SPR3				IAML		02 42 43.7	
	comp=N,181nm,0.4s						
R11B	**Troy Canyon, C**	**2.88**	**164**	Pn	Pn	02 41 56.7	-0.1
R11B				IAML		02 42 45.1	
	comp=N,77nm,0.3s						
R11B				IAML		02 42 48.2	
	comp=E,74nm,0.7s						
RYN	**Ryan**	**2.90**	**211**	Pn	Pn	02 41 55.8	-1.2
RYN				IAML		02 42 45.7	
	comp=E,124nm,0.6s						
HLID	**Hailey**	**2.93**	**33**	Pn	Pn	02 41 58.1	+0.7
HLID				IAML		02 42 44.9	
	comp=E,91nm,0.3s						
HLID				IAML		02 42 51.8	
	comp=E,83nm,0.8s						
NV11	**Mina Array Sit**	**2.94**	**205**	Pn	Pn	02 41 56.7	-1.0
HVU	**Hansel Valley**	**2.95**	**76**	Pn	Pn	02 41 58.2	+0.5
PEAR	**Peavine Mounta**	**2.98**	**241**		Pn	02 41 57.6	-0.6
NVAR	**Mina Array Bea**	**3.00**	**207**	Pn	Pn	02 41 57.4	-1.0
NV09	**Mina Array Sit**	**3.00**	**207**		Pn	02 41 58.3	-0.1
NV08	**Mina Array Sit**	**3.02**	**207**		Pn	02 41 58.6	-0.2
DUG	**Dugway, Tooele**	**3.03**	**107**	Pn	Pn	02 41 58.9	+0.1
DUG				IAML		02 42 46.9	
	comp=E,150nm,0.6s						
DUG				IAML		02 42 49.2	
	comp=E,115nm,0.6s						
TPH	**Tonopah**	**3.08**	**189**	Pn	Pn	02 41 58.5	-1.2
BEKR	**Beckworth**	**3.13**	**248**	Pn	Pn	02 41 59.6	-0.6
BEKR				IAML		02 42 53.0	
	comp=N,54nm,0.5s						
LHV	**Little Huntoon**	**3.22**	**208**	Pn	Pn	02 42 00.8	-0.5
LHV				IAML		02 43 03.1	
	comp=N,106nm,0.5s						
PSUT	**Pine Spring**	**3.34**	**140**	Pn	Pn	02 42 04.1	+1.0
WAKR	**Walker**	**3.41**	**221**	Pn	Pn	02 42 03.2	-0.9
WAKR				IAML		02 43 00.9	
	comp=N,58nm,0.5s						
MZP	**Montezuma Peak**	**3.47**	**190**	Pn	Pn	02 42 05.9	+0.9
MZP				IAML		02 43 02.4	
	comp=E,77nm,0.4s						
MZP				IAML		02 43 05.9	
	comp=N,67nm,0.4s						
K05A	**Summer Lake**	**3.58**	**298**	Pn	Pn	02 42 07.9	+1.5
K05A				IAML		02 43 10.4	
	comp=N,37nm,1.3s						
I07A	**Izee**	**3.65**	**325**	Pn	Pn	02 42 09.0	+1.7
I07A				IAML		02 43 12.8	
	comp=N,45nm,1.2s						
I07A				IAML		02 43 12.8	
	comp=E,39nm,0.9s						
HATC	**Hat Creek Radi**	**3.69**	**267**	Pn	Pn	02 42 09.2	+1.3
HATC				IAML		02 43 10.9	
	comp=E,57nm,1.0s						
HATC				IAML		02 43 16.3	
	comp=N,50nm,1.7s						
HWUT	**Hardware Ranch**	**3.82**	**81**	Pn	Pn	02 42 12.2	+2.5
HWUT				IAML		02 43 17.0	
	comp=N,30nm,0.7s						
DSP	**Deep Springs**	**3.90**	**196**	Pn	Pn	02 42 10.9	+0.3
DSP				IAML		02 43 21.6	
	comp=E,27nm,1.1s						
PRN	**Pahroc Range**	**3.90**	**162**	Pn	Pn	02 42 10.7	-0.1
JLU	**Jordanelle**	**3.94**	**96**	Pn	Pn	02 42 12.8	+1.3
JLU				IAML		02 43 17.8	
	comp=N,34nm,0.5s						
MPU	**Maple Canyon**	**3.94**	**105**	Pn	Pn	02 42 12.9	+1.5
PLID	**Pearl Lake**	**3.99**	**6**	Pn	Pn	02 42 15.3	+3.3
PLID				IAML		02 43 21.1	
	comp=N,28nm,1.3s						
PLID				IAML		02 43 21.1	
	comp=N,24nm,0.9s						
AFDM	**Forest Hills D**	**4.00**	**238**	Pn	Pn	02 42 14.3	+2.3
J05D	**Fort Rock, OR**	**4.06**	**304**	Pn	Pn	02 42 15.2	+2.2
PINE	**Pine Mountain**	**4.17**	**311**	Pn	Pn	02 42 17.1	+2.5
PINE				IAML		02 43 34.5	
	comp=N,20nm,1.4s						
TPNV	**Topopah Spring**	**4.18**	**176**	Pn	Pn	02 42 15.2	+0.5
CMB	**Columbia Colle**	**4.25**	**225**	Pn	Pn	02 42 15.9	+0.3
WCT	**Wildcat Mounta**	**4.33**	**180**	Pn	Pn	02 42 16.6	+0.1
CCUT	**Cedar City**	**4.36**	**144**	Pn	Pn	02 42 17.7	+0.5
CCUT				IAML		02 43 30.9	
	comp=N,36nm,0.6s						
CCUT				IAML		02 43 34.5	
	comp=E,36nm,0.6s						
L04D	**Klamath Falls**	**4.41**	**286**	Pn	Pn	02 42 21.2	+3.4
L04D				IAML		02 43 28.4	
	comp=N,19nm,3.6s						
L04D				IAML		02 43 51.1	
	comp=E,23nm,2.8s						
AHID	**Auburn Hatcher**	**4.42**	**66**	Pn	Pn	02 42 19.5	+1.6
AHID				IAML		02 43 27.7	
	comp=E,36nm,0.6s						
SZCU	**Shurtz Canyon**	**4.45**	**141**	Pn	Pn	02 42 18.6	+0.2
SZCU				IAML		02 43 37.9	
	comp=N,50nm,0.3s						
BSUT	**Blindstream Ca**	**4.47**	**96**	Pn	Pn	02 42 21.2	+2.4
TMUT	**Trail Mountain**	**4.51**	**112**	Pn	Pn	02 42 21.0	+1.7
MCMT	**McKenzie Canyo**	**4.61**	**35**	Pn	Pn	02 42 23.6	+2.9
YBH	**Yreka Blue Hor**	**4.63**	**280**	Pn	Pn	02 42 22.3	+1.5
Q16A	**Castle Valley**	**4.71**	**116**	Pn	Pn	02 42 23.5	+1.5
Q16A				IAML		02 43 41.6	
	comp=E,18nm,0.5s						
Q16A				IAML		02 43 43.4	
	comp=N,17nm,0.9s						
SHPR	**Sheep Range**	**4.75**	**166**	Pn	Pn	02 42 23.5	+1.0
SHPR				IAML		02 43 45.4	
	comp=E,17nm,0.7s						
SHPR				IAML		02 43 49.4	
	comp=N,16nm,0.7s						
TPAW	**Teton Pass**	**4.81**	**59**	Pn	Pn	02 42 24.9	+1.5
TPAW				IAML		02 43 59.4	
	comp=N,15nm,0.8s						
LCMT	**Little Creek M**	**4.87**	**146**	Pn	Pn	02 42 25.9	+1.9
LCMT				IAML		02 43 49.4	
	comp=E,18nm,0.5s						
LCMT				IAML		02 43 51.5	
	comp=N,15nm,0.7s						
KNB	**Kanab**	**5.05**	**143**	Pn	Pn	02 42 27.3	+0.7
KNB				IAML		02 43 53.4	
	comp=N,21nm,0.9s						
KNB				IAML		02 43 57.1	
	comp=E,22nm,0.6s						
SRU	**San Rafael Swe**	**5.07**	**111**	Pn	Pn	02 42 29.6	+2.6
SRU				IAML		02 43 56.2	
	comp=E,23nm,0.8s						
SRU				IAML		02 43 56.2	
	comp=N,19nm,0.5s						
BW06	**Boulder Array**	**5.50**	**70**	Pn	Pn	02 42 35.5	+2.6
PD31	**Pinedale Array**	**5.50**	**70**	Pn	Pn	02 42 33.5	+0.7
BPMT	**Black Pine Rid**	**5.78**	**22**	Pn	Pn	02 42 38.4	+1.6
MSO	**Missoula**	**6.02**	**18**	Pn	Pn	02 42 41.8	+1.9
PV10	**Paradox Valley**	**6.44**	**113**	Pn	Pn	02 42 48.3	+2.5
PV20	**West Nyswonger**	**6.50**	**113**	Pn	Pn	02 42 48.9	+2.2
PV19	**Morning Glory**	**6.51**	**113**	Pn	Pn	02 42 49.9	+3.2
PV17	**East Wray Mesa**	**6.54**	**113**	Pn	Pn	02 42 50.5	+3.4
PV18	**Skein Mesa, Pa**	**6.59**	**113**	Pn	Pn	02 42 51.5	+3.7
PV12	**Saucer Basin,**	**6.63**	**112**	Pn	Pn	02 42 51.4	+3.0
PV13	**Radium Mtn., P**	**6.69**	**114**	Pn	Pn	02 42 52.7	+3.4

IDC 08 02:48:43.2±2.2, 0.37N×126.07E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=186.2km s-min=29.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.75**	**159**	P	P	02 53 37.6	+1.1
	0.4nm,0.5s,baz=338,slow=10,SNR=4.7						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**25.07**	**163**	P	P	02 54 08.8	-0.8
	0.1nm,0.4s,baz=341,slow=8.6,SNR=4.7						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**59.96**	**327**	P	P	02 58 51.5	0.0
	0.2nm,0.7s,baz=119,slow=5.4,SNR=2.3						
	0.2nm,0.7s						

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*BJI **08** 02:49:33.1, 0.39S×126.66E, h30km, mB5.0/10, mb4.7/27, Ms4.1/4, Ms7 3.8/4*
*IDC **08** 02:49:36.5±0.5, 0.50N×126.07E, h0km, mb4.6/20, mbtmp4.6/22, ML4.7/2, MS3.5/9, Error ellipse: s-maj=24.3km s-min=11.5km az=81.0*
*DJA **08** 02:49:41.0±0.2, 1°N±2°×12°6E±°, h10km, M4.7/24, mB5.2/9, mb5.0/19, MLv4.8/24, Mw(mB)4.6/9*
*NEIC **08** 02:49:43.0±2.6, 0.52N±0.07×126.24E±0.05, h35km±1km, mb4.8/146, Error ellipse: s-maj=12.1km s-min=8.0km az=168.0*

ISC 08 02:49:43.4±0.3, 0.47N±0.04×126.18E±0.05, h44km, n427, σ1§13/375, mb4.7/100, MS3.6/12, 2C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.23**	**76**		**Pn**	**02 50 01.9**	**-2.2**
TNTI					Sn	02 50 18.0	-1.6
TNTI	**Ternate**	**1.23**	**76**	P	**Pn**	**02 50 01.6**	**-2.5**
TNTI	**Ternate**	**1.23**	**76**	S	**Sn**	**02 50 19.5**	**-0.1**
TNTI	**Ternate**	**1.23**	**76**	P	**Pn**	**02 50 01.6**	**-2.5**
KMSI	**Cibinong**	**2.20**	**273**	P	**Pn**	**02 50 15.7**	**-1.7**
SANI	**Sanana**	**2.51**	**184**	P	**Pn**	**02 50 20.6**	**-1.0**
SANI	**Sanana**	**2.51**	**184**	P	**Pn**	**02 50 20.4**	**-1.2**
SGSI	**Sangihe**	**3.26**	**349**	P	**Pn**	**02 50 31.7**	**-0.4**
LUWI	**Luwuk**	**3.72**	**246**	Pn	**Pn**	**02 50 39.5**	**+1.2**
LUWI	**Luwuk**	**3.72**	**246**	P	**Pn**	**02 50 39.7**	**+1.4**
NLAI	**Namlea**	**3.79**	**166**	P	**Pn**	**02 50 39.2**	**-0.2**
MRSI	**Marisa**	**4.24**	**270**	P	**Pn**	**02 50 46.0**	**+0.6**
AAI	**Ambon**	**4.59**	**154**	P	**Pn**	**02 50 50.6**	**+0.3**
MSAI	**Masohi**	**4.68**	**144**	P	**Pn**	**02 50 53.6**	**+2.1**
APSI	**Ampana**	**4.73**	**253**	P	**Pn**	**02 50 52.6**	**+0.4**
SWI	**Sorong**	**5.25**	**105**	P	**Pn**	**02 51 02.0**	**+2.6**
	0.3nm68nm,0.7s						
TOLI2	**Tolitoli**	**5.43**	**277**	Pn	**Pn**	**02 51 00.3**	**-1.5**
TOLI2	**Tolitoli**	**5.43**	**277**	P	**Pn**	**02 51 01.5**	**-0.3**
KDI	**Kendari**	**5.65**	**219**	P	**Pn**	**02 51 06.1**	**+1.2**
BNDI	**Bandanaira**	**6.20**	**143**	P	**Pn**	**02 51 13.9**	**+1.5**
MPSI	**Mapaga**	**6.28**	**269**	P	**Pn**	**02 51 14.7**	**+1.2**
	0.2nm985nm55nm,1.0s						
PCI	**Palu**	**6.48**	**258**	P	**Pn**	**02 51 16.9**	**+0.6**
	0.5nm120nm,0.8s						
FAKI	**Fak Fak**	**6.94**	**119**	Pn	**Pn**	**02 51 21.6**	**-1.0**
FAKI	**Fak Fak**	**6.94**	**119**	P	**Pn**	**02 51 22.4**	**-0.2**
FAKI	**Fak Fak**	**6.94**	**119**	P	**Pn**	**02 51 22.8**	**+0.2**
	0.2nm78nm,1.0s						
TTSI	**Tana Toraja**	**7.25**	**241**	P	**Pn**	**02 51 27.6**	**+0.8**
	0.4nm1µm85nm,0.6s						
BNSI	**Bone**	**7.75**	**231**	P	**Pn**	**02 51 34.0**	**+0.3**
	0.4nm1µm109nm,0.9s						
SPSI	**Sid

QIZ LR LR
comp=Z,220nm,20.4s
QIS Mount Isa 24.68 149 P P 02 55 01.6 +1.2
AS31 Alice Springs 25.14 163 P P 02 55 04.8 +0.3
AS31 IAmb IAmb 02 55 14.5
comp=Z,11nm,0.6s
BKNI Bangkinang 25.14 270 P P 02 55 07.3 +2.7
ASAR Alice Springs 25.14 163 P P 02 55 04.3 -0.2
ASAR Alice Springs 25.14 163 P P 02 55 04.8 +0.3
comp=Z,17nm,0.5s,baz=347,slow=12,SNR=112
ASAR PcP **PcP 02 58 38.2 +0.2**
comp=Z,1.9nm,0.7s,baz=340,slow=2.4,SNR=5.1
ASAR S **S 02 59 27.6 +1.1**
comp=Z,2.1nm,0.8s,baz=350,slow=19,SNR=4.7
comp=Z,17nm,0.5s
AS01 Alice Springs 25.15 163 P P 02 55 05.1 +0.5
IPM Ipoh 25.44 279 P P 02 55 07.9 +0.5
IPM IAmb IAmb 02 55 09.2
comp=Z,71nm,1.8s
MEEK Meekatharra 27.91 195 P P 02 55 30.6 +1.1
CTAO Charters Tower 28.36 137 P P 02 55 35.0 +1.5
CTAO IAmb IAmb 02 55 41.0
comp=Z,14nm,1.1s
MORW Morawa 30.93 197 P P 02 55 54.7 -1.5
MORW IAmb IAmb 02 56 19.9
comp=Z,22nm,1.3s
MORW Morawa 30.93 197 P P 02 55 55.7 -0.5
FORT Forrest 31.12 177 P P 02 55 56.8 -1.1
FORT IAmb IAmb 02 55 58.6
comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 32.17 305 P P 02 56 05.9 -1.4
comp=Z,1.6nm,0.2s,baz=138,slow=7.6,SNR=4.7
CMAR PcP **PcP 02 58 56.1 +0.5**
comp=Z,1.6nm,0.3s,baz=186,slow=1.8,SNR=7.0
comp=Z,1.6nm,0.2s
NJ2 Nanjing 32.17 348 *eP* **P 02 56 09.3 +2.3**
NJ2 pmax pmax
comp=Z,11nm,0.5s
BLDU Ballidu 32.19 195 P P 02 56 06.8 -0.5
JNU Nakatsue 32.78 7 LR LR 03 12 57.1
comp=Z,21nm,18.1s,baz=184,slow=43
KLBR Kellerberrin 32.87 193 P P 02 56 14.3 +1.1
JMN Monobe 33.87 12 P P 02 56 22.3 +0.4
JMN IAmb IAmb 02 56 42.2
comp=Z,11nm,0.9s
NWAO Narrogin (SRO) 34.27 193 P P 02 56 24.9 -0.5
NWAO Narrogin (SRO) 34.27 193 LR LR 03 13 34.7
comp=Z,69nm,18.0s,baz=20,slow=42
TATA Tatamba Isabel 34.65 105 P P 02 56 30.3 +1.4
PZH PanZhiHua 34.97 320 P P 02 56 35.1 +3.4
EIDS Eidsvold 35.21 139 P P 02 56 34.5 +0.9
HTT Hallett 35.79 162 P P 02 56 39.7 +1.2
INU Inuyama 36.15 15 P P 02 56 39.8 -1.7
JGF Kuroka 36.48 15 P P 02 56 44.3 -0.1
KSRS Korea Array 36.84 2 P P 02 56 46.1 -1.3
comp=Z,3.1nm,0.6s,baz=180,slow=10,SNR=11
comp=Z,3.1nm,0.6s
MJAR Matsushiro Arr 37.59 16 P P 02 56 52.3 -1.5
MJAR Matsushiro Arr 37.59 16 P P 02 56 52.8 -1.0
comp=Z,9.7nm,0.8s,baz=180,slow=9.6,SNR=22
comp=Z,9.7nm,0.8s
MAJO Matsushiro 37.59 16 P P 02 56 53.6 -0.2
MAJO IAmb IAmb 02 56 54.0
comp=Z,15nm,0.8s
MAJO Matsushiro 37.59 16 P P 02 56 53.2 -0.5
JMM Marumori 39.58 18 P P 02 57 09.6 -0.8
BJI Beijing 40.43 348 P P 02 57 19.4 +2.0
BJI pmax pmax
comp=Z,5.0nm,0.7s
BJI pmax pmax
comp=Z,52nm,6.1s
BJI LR LR
comp=Z,63nm,18.3s
BJI LR LR
comp=Z,45nm,14.9s
BJI LR LR
comp=Z,72nm,16.2s
LZH Lanzhou 41.06 332 *eP* **P 02 57 19.5 -3.5**
LZH sP pP 02 57 33.8 -0.7
LZH pmax pmax
comp=Z,26nm,1.0s
LZH LR LR
comp=Z,240nm,15.5s
LZH LR LR
comp=Z,140nm,15.5s
HHC Hu-ho-hao-te 42.33 343 *eP* P 02 57 36.0 +2.8
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,61nm,5.0s
JTM Tenmabayashi 42.35 17 P P 02 57 33.4 +0.2
USA0B Ussuriysk Arra 43.85 6 P P 02 57 45.8 +0.5
USA0B IAmb IAmb 02 57 47.3
comp=Z,9.1nm,0.8s
USRK Ussuriysk Ar. 43.85 6 P P 02 57 44.8 -0.5
USRK Ussuriysk Ar. 43.85 6 P P 02 57 44.4 -0.9
comp=Z,11nm,0.8s,baz=194,slow=6.7,SNR=27
comp=Z,11nm,0.8s
MDJ Mudanjiang 44.07 4 P P 02 57 47.6 +0.6
MDJ pmax pmax
comp=Z,11nm,0.8s
BNX BinXian 45.10 1 ⇑P **P 02 57 55.7 +0.5**
BNX pmax pmax
comp=Z,4.0nm,0.7s
GTA Gaotai 45.63 331 *eP* **P 02 57 59.4 -0.4**
GTA PcP **PcP 02 59 39.2 +1.7**
GTA pmax pmax
comp=Z,3.0nm,0.7s
ASAJ Asahikawa 45.86 16 LR LR 03 19 18.6
comp=Z,35nm,18.8s,baz=67,slow=39
JKA Kamikawa-asahi 45.86 16 P P 02 58 02.3 +1.0
JKA IAmb IAmb 02 58 03.1
comp=Z,11nm,0.7s
HEH HeiHe 49.61 1 *eP* **P 02 58 30.0 -0.2**
HEH pmax pmax
comp=Z,7.0nm,0.8s
SONM Songino Array 50.21 343 P P 02 58 34.3 -0.7
SONM Songino Array 50.21 343 P P 02 58 34.3 -0.7
comp=Z,1.8nm,0.6s,baz=159,slow=9.2,SNR=8.0
comp=Z,1.8nm,0.6s
WMQ Urumqi 55.10 327 *eP* **P 02 59 12.4 +1.2**
WMQ pmax pmax
comp=Z,22nm,0.6s
PETK Petropavlovsk- 58.65 22 P P 02 59 36.2 +0.1
PETK Petropavlovsk- 58.65 22 P P 02 59 35.5 -0.6
comp=Z,8.2nm,0.7s,baz=180,slow=4.4,SNR=12
comp=Z,8.2nm,0.7s
LBZ Lake Benmore 59.33 145 P P 02 59 41.4 +0.4
MKAR Makanchi Array 59.93 327 P P 02 59 43.6 -1.5
MKAR Makanchi Array 59.93 327 P P 02 59 43.9 -1.2
comp=Z,4.2nm,0.5s,baz=122,slow=8.3,SNR=42
MKAR PcP **PcP 03 00 29.7 -1.3**
comp=Z,3.8nm,0.6s,baz=126,slow=4.5,SNR=6.5
MKAR LR LR 03 26 15.7
comp=Z,90nm,20.4s,baz=96,slow=37
comp=Z,4.2nm,0.5s
MAKZ Makanchi 60.11 326 P P 02 59 45.5 -0.9
MAKZ IAmb IAmb 02 59 52.1
comp=Z,6.3nm,0.6s
KDJ Kajisay 60.43 320 IAmb IAmb 02 59 57.2
comp=Z,4.7nm,0.9s
YAK Yakutsk 61.47 2 P P 02 59 54.3 -0.9
MA2 Magadan 61.98 14 P P 02 59 59.1 +0.4
ZAA0 Zalesovo Array 63.24 334 P P 03 00 08.1 +0.9
ZALV Zalesovo Beam 63.24 334 P P 03 00 07.8 +0.5
ZALV Zalesovo Beam 63.24 334 P P 03 00 06.4 -0.9
comp=Z,1.0nm,0.4s,baz=126,slow=7.7,SNR=6.2
comp=Z,1.0nm,0.4s
KURBB Kurchatov Arra 64.19 328 P P 03 00 12.2 -1.3
comp=Z,5.2nm,0.5s,baz=129,slow=6.0,SNR=21
comp=Z,5.2nm,0.5s
KURK Kurchatov 64.20 329 P P 03 00 12.6 -1.0
KURK Kurchatov 64.20 329 P P 03 00 12.9 -0.6
KK31 Karatay Array 65.25 318 P P 03 00 18.8 -1.9
KKAR Karatay Array 65.25 318 P P 03 00 18.9 -1.8
BVAR Borovoye Array 69.75 328 P P 03 00 47.5 -1.4
comp=Z,1.2nm,0.3s
comp=Z,1.2nm,0.3s
BRVK Borovoye 69.83 328 P P 03 00 47.5 -1.8
BRVK IAmb IAmb 03 01 09.0
comp=Z,9.9nm,1.2s
NRIK Noril'sk 73.45 347 LR LR 03 35 44.8
comp=Z,24nm,19.3s,baz=146,slow=38
AB31 Akbulak array 74.33 321 P P 03 01 15.0 -1.3
ABKAR Akbulak array 74.33 321 P P 03 01 14.9 -1.4
NIKH Nikolski High 74.79 35 P P 03 01 19.6 +0.7
baz=250
SPIA Saint Paul Isl 75.58 30 P P 03 01 24.7 +1.4
baz=248
P08K Saint George I 75.71 31 P P 03 01 25.6 +1.5
baz=248
UNV Unalaska Valle 76.41 34 P P 03 01 29.9 +1.7
baz=252
ARTI Arti 77.47 328 P P 03 01 32.9 -1.2
ARTI Arti 77.47 328 LR LR 03 38 13.1
comp=Z,29nm,18.6s,baz=76,slow=38
GAMB Gambell 77.59 24 P P 03 01 35.6 +1.0
GAMB IAmb IAmb 03 01 37.1
comp=Z,4.4nm,0.7s
GAMB Gambell 77.59 24 P P 03 01 35.9 +1.4
baz=245
M11K Mekoryuk 78.69 28 P P 03 01 41.7 +1.0
baz=250
S12K Black Hills 79.41 33 P P 03 01 45.5 +0.6
baz=255
TNA Tin City 79.79 23 P P 03 01 48.1 +1.4
baz=248
K13K Kusilvak Mount 79.90 27 P P 03 01 48.7 +1.3
K13K Kusilvak Mount 79.90 27 P P 03 01 48.7 +1.3
baz=252
M13K Dall Lake 80.05 28 IAmb IAmb 03 02 08.9
comp=Z,18nm,1.4s
M13K Dall Lake 80.05 28 P P 03 01 49.4 +1.3
baz=253
SDPT Sand Point 80.19 34 P P 03 01 49.1 0.0
SDPT Sand Point 80.19 34 P P 03 01 49.6 +0.6
baz=256,SNR=9.6
VNDA Vanda 80.28 173 P P 03 01 49.1 0.0
VNDA Vanda 80.28 173 P P 03 01 48.7 -0.4
comp=Z,4.1nm,0.6s,baz=324,slow=5.5,SNR=30
comp=Z,4.1nm,0.6s
F14K Arctic Creek 80.38 23 P P 03 01 50.6 +0.7
baz=250
ANM Nome 80.45 24 P P 03 01 51.5 +1.2
baz=250
MAW Mawson 80.52 200 P P 03 01 50.3 -0.2
comp=Z,6.0nm,0.9s,baz=65,slow=6.8,SNR=8.1
MAW LR LR 03 36 05.7
comp=Z,63nm,21.9s,baz=24,slow=35
comp=Z,6.0nm,0.9s
CHNA Chernabura Isl 80.57 34 P P 03 01 52.3 +1.2
baz=250
L14K Kuka Creek 80.63 28 IAmb IAmb 03 02 12.0
comp=Z,9.5nm,1.2s
L14K Kuka Creek 80.63 28 P P 03 01 52.5 +1.3
baz=254
N14K Kuskokwak Cree 80.71 29 P P 03 01 53.1 +1.4
N14K IAmb IAmb 03 02 09.7
comp=Z,12nm,1.0s
N14K Kuskokwak Cree 80.71 29 P P 03 01 52.7 +1.0
baz=255
O14K Tigyukauivet M 80.74 30 IAmb IAmb 03 01 55.0
comp=Z,6.4nm,0.8s
O14K Tigyukauivet M 80.74 30 P P 03 01 53.1 +1.2
baz=255
M14K Bethel 80.80 28 P P 03 01 52.6 +0.4
M14K IAmb IAmb 03 01 57.6
comp=Z,8.9nm,0.6s
M14K Bethel 80.80 28 P P 03 01 53.1 +0.9
baz=254
S14K Fog Glacier 80.92 33 P P 03 01 53.9 +0.9
baz=257,SNR=6.6
F15K North Star Dit 81.12 23 P P 03 01 54.9 +1.1
baz=251
G15K Niukluk 81.13 24 P P 03 01 54.5 +0.7
baz=252
SBA Scott Base 81.20 172 P P 03 01 53.9 -0.2
SBA IAmb IAmb 03 02 04.7
comp=Z,26nm,1.9s
RAYN Ar Rayn 81.26 294 P P 03 01 55.3 -0.2
RAYN IAmb IAmb 03 01 57.2
comp=Z,5.4nm,0.7s
L15K Ungalak Mounta 81.27 27 P P 03 01 55.8 +1.1
baz=254
M15K Kasigluk River 81.39 28 P P 03 01 56.7 +1.3
baz=255,SNR=8.4
K15K Wolf Creek Mou 81.42 27 IAmb IAmb 03 01 58.7
comp=Z,6.0nm,0.8s
K15K Wolf Creek Mou 81.42 27 P P 03 01 56.5 +1.0
baz=254
O15K Ungalikthiuk R 81.44 30 IAmb IAmb 03 01 58.6
comp=Z,5.1nm,0.8s
O15K Ungalikthiuk R 81.44 30 P P 03 01 56.5 +0.8
baz=256
CHGN Chignik 81.54 33 P P 03 01 57.5 +1.3
baz=258
N15K Kwethluk River 81.55 29 IAmb IAmb 03 01 59.6
comp=Z,7.2nm,0.9s
N15K Kwethluk River 81.55 29 P P 03 01 57.6 +1.4
baz=256
C16K Lisburne Hills 81.72 20 P P 03 01 58.0 +1.1
baz=250
G16K Koyuk River 81.93 24 P P 03 01 59.8 +1.7
baz=253
J16K Anvik River 82.09 26 IAmb IAmb 03 02 02.4
comp=Z,5.9nm,0.8s
J16K Anvik River 82.09 26 P P 03 02 00.6 +1.6
baz=255
I17K Unalakleet 82.20 25 P P 03 02 00.3 +0.7
baz=255
L16K Owhat River 82.21 28 IAmb IAmb 03 02 03.1
comp=Z,5.2nm,0.7s
L16K Owhat River 82.21 28 P P 03 02 01.2 +1.6
baz=256
N16K Nishlik Lake 82.26 29 P P 03 02 01.2 +1.2
baz=257,SNR=6.1
M16K Timber Creek 82.29 28 IAmb IAmb 03 02 05.1
comp=Z,4.7nm,0.7s
M16K Timber Creek 82.29 28 P P 03 02 01.3 +1.2
baz=257
P16K Nushagak River 82.33 30 P P 03 02 01.7 +1.4
baz=258
D17K Noatak River 82.34 21 P P 03 02 01.9 +1.7
baz=252,SNR=6.2
O16K Kokwok River B 82.40 30 IAmb IAmb 03 02 03.4
comp=Z,5.6nm,0.8s
O16K Kokwok River B 82.40 30 P P 03 02 01.9 +1.3
baz=258,SNR=6.7
RDOG Red Dog Mine 82.51 21 P P 03 02 02.0 +0.9
RDOG Red Dog Mine 82.51 21 P P 03 02 02.6 +1.5
baz=252
C17K DeLong Mountai 82.54 21 P P 03 02 02.7 +1.5
baz=252,SNR=13
E17K Hotham Inlet 82.62 22 P P 03 02 03.5 +1.8
baz=254
G17K Kiwalik Mounta 82.64 24 P P 03 02 03.5 +1.6
baz=255,SNR=15
BELG Belogornoye 82.64 323 LR LR 03 39 40.3
comp=Z,32nm,20.8s,baz=42,slow=36
F17K Baldwin Pennin 82.66 23 P P 03 02 02.5 +0.6
F17K IAmb IAmb 03 02 04.9
comp=Z,6.3nm,0.7s
F17K Baldwin Pennin 82.66 23 P P 03 02 03.2 +1.4
baz=254
J17K VABM Dome 82.78 26 P P 03 02 03.6 +1.0
baz=256,SNR=14
H17K Granite Mounta 82.80 24 P P 03 02 04.0 +1.4
baz=256,SNR=13
L17K Donlin 82.84 27 P P 03 02 04.3 +1.3
baz=257,SNR=7.4
R17L Mt. Peulik Vol 82.90 32 P P 03 02 04.4 +1.0
baz=260
O17K Koliganek Bris 82.93 30 P P 03 02 04.8 +1.4
baz=259
K17K Iditarod 82.97 27 P P 03 02 05.0 +1.4
baz=257,SNR=16
N17K Nushagak Hills 83.03 29 P P 03 02 05.4 +1.5
baz=258
M17K Holitna River 83.09 28 IAmb IAmb 03 02 26.9
comp=Z,6.4nm,1.0s
M17K Holitna River 83.09 28 P P 03 02 06.3 +2.1
baz=258,SNR=5.9
E18K Tukpahlearik C 83.17 22 P P 03 02 06.3 +1.8
baz=255,SNR=24
Q17K Contact Creek 83.26 31 P P 03 02 06.2 +0.8
baz=260
B18K Kokolik River 83.28 20 P P 03 02 06.8 +1.7
baz=253,SNR=7.1
C18K Utukok River 83.29 21 P P 03 02 06.4 +1.2
baz=254,SNR=11
F18K Selawik 83.32 23 P P 03 02 06.5 +1.2
baz=256
H18K Honhosa River 83.49 24 IAmb IAmb 03 02 09.3
comp=Z,6.5nm,0.8s
H18K Honhosa River 83.49 24 P P 03 02 07.6 +1.3
baz=257,SNR=7.2
G18K Tagagawik 83.54 24 IAmb IAmb 03 02 08.9
comp=Z,4.5nm,0.7s
G18K Tagagawik 83.54 24 P P 03 02 07.7 +1.2
baz=257,SNR=9.3
ACHA Angle Creek He 83.55 31 IAmb IAmb 03 02 10.8
comp=Z,3.9nm,0.7s
L18K Granite Mounta 83.60 27 IAmb IAmb 03 02 10.0
comp=Z,8.4nm,0.7s
L18K Granite Mounta 83.60 27 P P 03 02 08.2 +1.4
baz=259,SNR=15
N18K Kilae Creek 83.69 29 P P 03 02 08.9 +1.5
baz=260
A19K Wainwright 83.77 19 P P 03 02 09.0 +1.5
baz=254
Q18K Katmai Hardscr 83.78 31 P P 03 02 08.5 +0.5
baz=261,SNR=5.6
P18K Big Mountain, 83.79 30 P P 03 02 08.6 +0.7
baz=260
J18K Innoko River 83.83 26 IAmb IAmb 03 02 10.6
comp=Z,4.7nm,0.7s
J18K Innoko River 83.83 26 P P 03 02 09.2 +1.2
baz=259,SNR=11
M18K Stony River 83.87 28 P P 03 02 09.7 +1.5
baz=260,SNR=7.5
O18K Koktuh Hills 83.88 30 IAmb IAmb 03 02 18.1
comp=Z,5.5nm,1.0s
O18K Koktuh Hills 83.88 30 P P 03 02 09.8 +1.4
baz=260
R18K Karluk 83.91 32 P P 03 02 09.3 +0.9
baz=261
C19K Lookout Ridge 83.97 20 P P 03 02 10.3 +1.6
baz=255,SNR=18
GCSA Galena City Sc 84.02 25 P P 03 02 10.3 +1.4
baz=258
F19K Shaleruckik Mo 84.10 23 P P 03 02 11.0 +1.8
baz=257
G19K Purcell Mounta 84.22 23 P P 03 02 11.8 +1.8
baz=258,SNR=18
D19K Kuna River 84.35 21 P P 03 02 12.2 +1.6
baz=257,SNR=14
H19K Roundabout Mou 84.35 24 P P 03 02 10.7 +0.1
H19K Roundabout Mou 84.35 24 P P 03 02 12.2 +1.6
baz=259,SNR=8.8
N19K Bonanza Creek 84.39 29 IAmb IAmb 03 02 14.4
comp=Z,9.4nm,0.9s
N19K Bonanza Creek 84.39 29 P P 03 02 12.4 +1.3
baz=261,SNR=9.0
J19K Poorman 84.41 26 P P 03 02 12.4 +1.4
baz=260
L19K White Mountain 84.44 28 IAmb IAmb 03 02 30.9
comp=Z,6.2nm,1.1s
L19K White Mountain 84.44 28 P P 03 02 12.2 +1.0
baz=260
E19K Redstone River 84.44 22 IAmb IAmb 03 02 33.8
comp=Z,4.6nm,0.8s
E19K Redstone River 84.44 22 P P 03 02 12.7 +1.6
baz=258,SNR=7.5
OHAK Old Harbor 84.48 33 P P 03 02 12.4 +1.0
baz=262
Q19K Cape Douglas, 84.53 31 P P 03 02 12.0 +0.3
baz=262
M19K Big River Lodg 84.61 28 P P 03 02 11.6 -0.4
M19K Big River Lodg 84.61 28 P P 03 02 12.9 +0.9
baz=261
KBZ Khabaz 84.81 314 P P 03 02 13.0 -0.3
comp=Z,3.4nm,0.8s,baz=89,slow=2.6,SNR=7.6
comp=Z,3.4nm,0.8s
P19K Oil Pt 84.84 30 P P 03 02 13.3 +0.1
baz=262
KDAK Kodiak Island 84.93 32 P P 03 02 13.8 +0.2
KDAK Kodiak Island 84.93 32 P P 03 02 14.0 +0.4
baz=263
D20K Etivluk River 84.93 21 IAmb IAmb 03 02 16.5
comp=Z,8.1nm,0.7s
D20K Etivluk River 84.93 21 P P 03 02 14.1 +0.6
baz=258,SNR=16
F20K Avaraart Lake 84.93 23 P P 03 02 14.2 +0.7
baz=259
L20K Farewell, AK 84.94 27 P P 03 02 14.1 +0.4
baz=261
K20K Telida 84.99 26 IAmb IAmb 03 02 34.9
comp=Z,15nm,1.9s
K20K Telida 84.99 26 P P 03 02 14.6 +0.7
baz=261
H20K Anotleneega Mo 84.99 24 P P 03 02 14.6 +0.7
baz=260
E20K Nigu River 84.99 21 P P 03 02 15.3 +1.4
baz=259,SNR=29
B20K Meade River 85.01 20 IAmb IAmb 03 02 16.9
comp=Z,9.2nm,0.8s
B20K Meade River 85.01 20 P P 03 02 15.1 +1.2
baz=258
I20K Naaghedeneel 85.04 25 P P 03 02 14.9 +0.9
baz=260
J20K Nowinta River 85.08 26 P P 03 02 15.1 +0.8
baz=261
Q20K Shuyak Island 85.13 31 P P 03 02 15.8 +1.2
baz=263
SYI Shuyak Island 85.13 31 P P 03 02 15.9 +1.3
M20K Styx River 85.20 28 IAmb IAmb 03 03 05.1
comp=Z,12nm,1.8s
M20K Styx River 85.20 28 P P 03 02 15.7 +0.6
baz=262
O20K Slope Mountain 85.20 30 P P 03 02 15.9 +0.9
baz=263
IMAR Indian Mountai 85.53 24 P P 03 02 17.9 +1.3
C21K Knifeblade Rid 85.67 21 P P 03 02 18.2 +1.0
baz=260
G21K Allakaket 85.71 23 P P 03 02 18.3 +0.9
baz=261
PPLA Purkeypile 85.77 27 P P 03 02 18.6 +0.7
baz=263
B21K Ikpikpuk River 85.81 20 P P 03 02 18.7 +0.9
baz=260
F21K Alatna River 85.83 23 P P 03 02 18.9 +0.8
baz=261
E21K Killik River 85.84 21 P P 03 02 18.9 +0.9
baz=261
CHUM Lake Minchumin 85.84 26 P P 03 02 18.4 +0.4
baz=262
H21K Melozitna Rive 85.87 24 P P 03 02 18.9 +0.7
baz=262
CAST Castle Rocks 85.88 27 P P 03 02 19.5 +1.2
baz=263
SKT Skwentna 85.96 28 P P 03 02 19.7 +0.9
baz=263
I21K Tanana 86.15 25 P P 03 02 20.3 +0.7
baz=263
SUA Susitna One 86.28 29 IAmb IAmb 03 02 23.7
comp=Z,3.8nm,0.7s
SUA Susitna One 86.28 29 P P 03 02 20.8 +0.3
baz=264
F22K John River 86.37 22 P P 03 02 21.2 +0.5
baz=262
D22K Ayikyak River 86.37 21 P P 03 02 21.3 +0.6
baz=262
BPAW Bear Paw Mtn. 86.44 26 P P 03 02 21.5 +0.4
baz=264
H22K Ishtalitna Cre 86.48 24 P P 03 02 22.3 +1.0
baz=263
G22K Bettles 86.55 23 P P 03 02 22.2 +0.6
baz=263
E22K Anaktuvuk Pass 86.59 22 IAmb IAmb 03 02 31.4
comp=Z,4.2nm,0.7s
E22K Anaktuvuk Pass 86.59 22 P P 03 02 22.0 +0.2
baz=263
MLY Manley 86.65 25 P P 03 02 22.1 -0.1
MLY Manley 86.65 25 P P 03 02 22.4 +0.3
baz=264
TRF Thorofare Moun 86.69 27 P P 03 02 22.9 +0.4
baz=264
RC01 Rabbit Creek A 86.73 29 P P 03 02 23.3 +0.8
baz=265
PMR Palmer 87.06 28 P P 03 02 24.5 +0.4
baz=266
COLD Coldfoot 87.10 23 IAmb IAmb 03 02 26.4
comp=Z,4.4nm,0.7s
COLD Coldfoot 87.10 23 P P 03 02 24.8 +0.6
baz=264
D23K Nanushuk River 87.10 21 IAmb IAmb 03 02 28.0
comp=Z,3.3nm,0.7s
D23K Nanushuk River 87.10 21 P P 03 02 25.5 +1.3
baz=264
G23K Bananza Creek 87.11 23 P P 03 02 25.2 +0.9
baz=264
C23K Itkillik River 87.22 20 IAmb IAmb 03 02 28.1

comp=Z,6.1nm,0.8s
C23K **Itkillik River** 87.22 20 P P 03 02 25.4 +0.7
baz=264
H23K **Yukon River** 87.23 24 IAmb IAmb 03 02 26.8
comp=Z,3.1nm,0.7s
H23K **Yukon River** 87.23 24 P P 03 02 25.1 +0.2
baz=265
I23K **Minto, Yukon-K** 87.24 25 IAmb IAmb 03 02 28.9
comp=Z,4.4nm,0.6s
MCK **McKinley** 87.31 26 P P 03 02 25.4 0.0
baz=266
NEA2 **Nenana** 87.32 25 P P 03 02 25.4 +0.1
baz=265
PWL **Port Wells** 87.39 29 P P 03 02 26.0 +0.2
baz=266
E23K **Chandalar** 87.40 22 IAmb IAmb 03 02 28.1
comp=Z,4.9nm,0.7s
E23K **Chandalar** 87.40 22 P P 03 02 26.6 +0.8
baz=265
WAT1 **Susitna Watana** 87.42 27 P P 03 02 26.7 +0.8
baz=266
TOLK **Toolik Lake Re** 87.47 21 P P 03 02 26.6 +0.6
baz=265
M23K **Glacier View** 87.74 28 P P 03 02 27.9 +0.4
baz=267
WAT6 **Susitna Watana** 87.78 28 P P 03 02 28.0 +0.3
baz=267
D24K **Happy Valley** 87.78 21 IAmb IAmb 03 02 31.1
comp=Z,4.5nm,0.7s
D24K **Happy Valley** 87.78 21 P P 03 02 28.2 +0.8
baz=265
P23K **Montague Islan** 87.80 30 P P 03 02 27.7 0.0
baz=267
E24K **Your Creek** 87.82 22 P P 03 02 28.3 +0.5
baz=266
C24K **Franklin Bluff** 87.87 20 IAmb IAmb 03 02 33.6
comp=Z,3.8nm,0.8s
C24K **Franklin Bluff** 87.87 20 P P 03 02 29.2 +1.4
baz=266
H24K **Noodor Dome** 87.91 24 P P 03 02 28.2 0.0
H24K IAmb IAmb 03 04 07.2
comp=Z,7.6nm,1.6s
H24K **Noodor Dome** 87.91 24 P P 03 02 29.3 +1.0
baz=266
SCM **Sheep Creek Mo** 87.93 28 P P 03 02 29.1 +0.7
baz=267
DHY **Denali Highway** 87.97 27 P P 03 02 29.0 +0.3
baz=267
F24K **Squaw Lake** 88.01 23 P P 03 02 28.8 +0.2
baz=266
POKR **Poker Plat Res** 88.06 25 P P 03 02 29.8 +1.0
baz=267
G24K **Hadweenzic Riv** 88.12 23 P P 03 02 29.8 +0.6
baz=267
HDA **Harding Lake** 88.23 26 IAmb IAmb 03 02 29.7
comp=Z,2.9nm,0.6s
HDA **Harding Lake** 88.23 26 P P 03 02 29.6 -0.1
baz=267
IL31 88.27 25 IAmb IAmb 03 05 40.6
comp=Z,14nm,1.9s
ILAR **Eielson Array** 88.27 25 P P 03 02 29.1 -0.8
comp=Z,0.8nm,0.6s,baz=246,slow=4.9,SNR=33
ILAR PP PP 03 05 58.2 +0.8
comp=Z,0.2nm,0.7s,baz=254,slow=6.4,SNR=4.1
ILAR PKKPbc PKKPbc 03 20 14.8 -1.4
comp=Z,0.2nm,1.0s,baz=41,slow=0.5,SNR=4.7
comp=Z,0.8nm,0.6s
M24K **Tolsona, Glenn** 88.49 28 P P 03 02 31.6 +0.6
baz=268
EYAK **Cordova Ski Ar** 88.65 30 P P 03 02 31.4 -0.2
baz=268
D25K **Kavik River** 88.66 21 IAmb IAmb 03 02 33.2
comp=Z,2.7nm,0.7s
D25K **Kavik River** 88.66 21 P P 03 02 32.0 +0.3
baz=268
G25K **Bearman Lake** 88.67 23 P P 03 02 32.2 +0.5
baz=268
K24K **Donnelly Dome** 88.72 26 P P 03 02 32.4 +0.3
baz=268
H25L **Birch Creek** 88.77 24 P P 03 02 32.4 +0.2
baz=268
PRP **Porcupine Dome** 88.87 25 P P 03 02 32.8 0.0
baz=269
F25K **Christian Rive** 88.88 23 P P 03 02 33.1 +0.4
baz=268
J25K **Salcha River,** 88.92 26 P P 03 02 33.1 0.0
baz=269
E25K **Arctic Village** 88.92 22 P P 03 02 33.1 +0.2
baz=268
KMBO **Kilima Mbogo** 88.93 269 P P 03 02 35.0 +0.7
KMBO IAmb IAmb 03 02 36.8
comp=Z,4.6nm,1.1s
RIDG **Independent Ri** 89.13 26 P P 03 02 34.2 +0.1
RIDG IAmb IAmb 03 02 37.0
comp=Z,4.4nm,0.8s
RIDG **Independent Ri** 89.13 26 P P 03 02 34.3 +0.3
baz=269
SYO **Syowa Base** 89.20 201⇑*e* P P 03 02 34.0 -0.1
N25K **Chitina, Valde** 89.22 29 P P 03 02 34.5 -0.1
baz=270
KAIM **Kayak Island** 89.30 30 P P 03 02 34.7 -0.1
baz=270
F26K **Sheenjek River** 89.45 22 IAmb IAmb 03 03 13.7
comp=Z,14nm,1.9s
F26K **Sheenjek River** 89.45 22 P P 03 02 35.8 +0.4
baz=270
DOT **Dot Lake** 89.48 27 IAmb IAmb 03 02 37.1
comp=Z,2.6nm,0.6s
SCRK **Sand Creek** 89.51 26 P P 03 02 36.2 +0.3
baz=270
G26K **Porcupine Rive** 89.59 23 P P 03 02 36.5 +0.6
baz=270
C27K **Jago River** 89.61 20 P P 03 02 37.5 +1.5
baz=270
J26L **Joseph Creek** 89.70 26 IAmb IAmb 03 02 38.2
comp=Z,3.6nm,0.7s
J26L **Joseph Creek** 89.70 26 P P 03 02 37.0 +0.3
baz=270
L26K **Log Cabin Wild** 89.81 27 P P 03 02 38.0 +0.8
baz=271
I26K **Coal Creek Min** 89.86 25 IAmb IAmb 03 05 18.2
comp=Z,5.1nm,1.4s
I26K **Coal Creek Min** 89.86 25 P P 03 02 37.8 +0.5
baz=271
CRQE **Cirque** 89.96 29 P P 03 02 39.1 +1.1
baz=271
M26K **Nabesna, AK** 89.98 28 P P 03 02 38.8 +0.8
baz=271
K27K **Chicken** 90.36 26 IAmb IAmb 03 02 41.9
comp=Z,3.0nm,0.7s
K27K **Chicken** 90.36 26 P P 03 02 41.1 +1.4
baz=272
QSPA **South Pole Qui** 90.39 180 P P 03 02 39.8 -0.2
QSPA **South Pole Qui** 90.39 180 P P 03 02 39.0 -0.9
comp=Z,7.3nm,0.7s,baz=306,slow=1.5,SNR=42
comp=Z,7.3nm,0.7s
E27K **Coleen River** 90.40 22 P P 03 02 41.0 +1.2
baz=272
G27K **Doyon Strip** 90.43 23 P P 03 02 40.8 +0.8
baz=272
I27K **Kandik River** 90.50 25 P P 03 02 41.7 +1.3
baz=272
L27K **Beaver Creek,** 90.50 27 IAmb IAmb 03 02 42.6
comp=Z,2.7nm,0.6s
L27K **Beaver Creek,** 90.50 27 P P 03 02 41.8 +1.4
baz=272
M27K **Edge Creek, AK** 90.50 28 P P 03 02 41.9 +1.3
baz=272
H27K **Steamboat Moun** 90.51 24 P P 03 02 41.9 +1.5
baz=272
BCAR **Beaver Creek A** 90.52 27 P P 03 02 40.9 +0.4
F28M **Old Crow** 91.09 22 P P 03 02 43.8 +0.8
baz=274
E28M **Babbage River** 91.14 21 IAmb IAmb 03 02 54.4
comp=Z,14nm,1.9s
E28M **Babbage River** 91.14 21 P P 03 02 44.3 +1.1
baz=274
I28M **Miner Creek** 91.20 25 IAmb IAmb 03 02 46.0
comp=Z,3.6nm,0.7s
I28M **Miner Creek** 91.20 25 P P 03 02 44.7 +1.0
baz=274
DAWY **Dawson** 91.53 26 P P 03 02 46.3 +1.1
baz=274
BR131 **Keskin Array S** 91.66 310 IAmb IAmb 03 02 50.1
comp=Z,2.0nm,0.8s
BRTR **Keskin Array B** 91.66 310 P P 03 02 44.9 -1.6
comp=Z,1.5nm,0.8s,baz=126,slow=6.3,SNR=7.6
comp=Z,1.5nm,0.8s

H29M **Whitestone** 91.79 24 P P 03 02 47.9 +1.7
baz=275
G29M **Pine Creek** 91.86 23 P P 03 02 47.5 +0.9
baz=276
M29M **Somme Creek** 92.08 28 P P 03 02 49.2 +1.3
baz=275
L29M **L29M** 92.17 27 IAmb IAmb 03 02 50.8
comp=Z,2.9nm,0.8s
L29M **L29M** 92.17 27 P P 03 02 49.6 +1.4
baz=275
YUK6 **Outpost Mounta** 92.26 29 P P 03 02 49.6 +0.8
baz=275
K29M **Barlow Dome** 92.38 26 P P 03 02 50.4 +1.2
baz=276
EPYK **Eagle Plains** 92.43 24 P P 03 02 50.6 +1.3
baz=277
G30M **tAoh Zraii Nji** 92.56 23 P P 03 02 50.3 +0.5
baz=277
F30M **Barrier River** 92.64 22 P P 03 02 51.2 +1.0
baz=278
HYT **Haines Junctio** 92.69 29 P P 03 02 51.8 +1.1
baz=276
I30M **Mount Dempster** 92.71 25 P P 03 02 51.5 +0.8
baz=277
J30M **Hart River** 92.81 25 P P 03 02 51.5 +0.3
baz=277
M30M **Minto, Yukon** 92.84 27 P P 03 02 52.3 +1.0
baz=276
ARCES **ARCESS Array B** 93.30 340 P P 03 02 51.5 -1.6
comp=Z,2.5nm,0.7s,baz=81,slow=5.9,SNR=14
comp=Z,2.5nm,0.7s
G31M **Satah River** 93.33 23 P P 03 02 53.3 0.0
baz=279
INK **Inuvik** 93.38 21 P P 03 02 53.7 +0.1
baz=280
O30N **Mendenhall** 93.38 29 P P 03 02 53.4 -0.4
baz=277
F31M **Tsiigehtchic** 93.44 22 P P 03 02 54.3 +0.4
baz=279
WHY **Whitehorse** 93.99 29 P P 03 02 57.8 +1.1
baz=278
FINES **FINESS Array B** 94.43 332 P P 03 02 57.9 -0.6
comp=Z,1.5nm,0.8s,baz=21,slow=11,SNR=4.0
comp=Z,1.5nm,0.8s
FARO **Faro, Yukon** 94.47 28 P P 03 02 60.0 +1.2
baz=280
R32K **Eaglecrest** 94.51 32 P P 03 03 00.0 +1.0
baz=278
P32M **Atlin** 94.72 30 P P 03 03 00.4 +0.4
baz=279
P33M **Teslin, Yukon** 95.07 29 P P 03 03 02.7 +1.1
baz=280
MMPY **Sheldon Lake,** 95.36 27 IAmb IAmb 03 03 07.2
comp=Z,5.8nm,1.3s
MMPY **Sheldon Lake,** 95.36 27 P P 03 03 03.8 +0.9
baz=281
BUR08 **Bucovina Ar. S** 97.05 318 P Pdif 03 03 09.8 -1.2
BUR08 IAmb IAmb 03 03 16.5
comp=Z,2.6nm,0.9s
MATP **Matopo** 97.36 250 LR LR 03 47 12.7
comp=Z,22nm,18.1s,baz=78,slow=36
PDAR **Pinedale Array** 114.15 42 PKKPbc PKKPbc 03 18 58.8 -1.8
comp=Z,0.3nm,0.4s,baz=106,slow=3.2,SNR=4.4
ULM **Lac du Bonnet** 118.07 29 PKPdif **PKiKP** **03 08 25.3 -0.3**
EPLO **Experimental L** 119.49 29 PKPdif **PKiKP** **03 08 28.2 -0.3**
ECSD **EROS Data Cent** 121.76 35 PKPdif **PKiKP** **03 08 33.1 0.0**
TBO **Thunder Bay** 122.23 27 PKPdif **PKiKP** **03 08 33.6 -0.2**
TORD **Torodi Ar. Bea** 123.34 286 PKPdif **PKiKP** **03 08 36.1 -0.8**
TXAR **Lajitas Array** 124.00 54 PKPdif **PKiKP** **03 08 38.5 +0.5**
TXAR **Lajitas Array** 124.00 54 PKP **PKiKP** **03 08 38.1 +0.1**
comp=Z,0.5nm,0.7s,baz=292,slow=0.1,SNR=10
COWI **Conover** 124.19 29 PKPdif **PKiKP** **03 08 37.3 -0.5**
E46A **Sault Ste Mari** 126.22 26 PKPdif **PKiKP** **03 08 42.0 +0.2**
N47A **Urbana** 129.69 31 PKPdif **PKiKP** **03 08 49.0 0.0**
P52A **Corning** 132.43 30 PKPdif **PKiKP** **03 08 54.1 -0.3**
Q54A **Coxs Mills** 133.57 29 PKPdif **PKiKP** **03 08 56.4 -0.4**
TRQA **Tornquist** 141.85 170 PKPpre PKPpre 03 09 05.7
MT01 **Popeta** 142.97 156 PKPpre PKPpre 03 09 09.0
CO03 **El Pedregal** 145.81 154 PKPbc **PKPab** **03 09 18.7 -0.4**
PLTB **Pedras Altas** 148.87 180 PKPbc **PKiKP** **03 09 27.1 -1.2**
CPUP **Villa Florida** 154.06 173 PKPbc **PKiKP** **03 09 38.4 -0.8**
comp=Z,1.5nm,0.9s,baz=92,slow=1.8,SNR=7.4
LPAZ **La Paz** 158.88 139 PKP **PKPdf** **03 09 39.6 +1.3**
comp=Z,0.4nm,0.4s,baz=166,slow=0.8,SNR=3.9
LPAZ PKPab **PKPab** **03 10 15.2 +1.0**
comp=Z,1.0nm,0.9s,baz=184,slow=4.9,SNR=5.7

IDC 08 02:55:04.8±1.9, 0.99N×126.99E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=168.3km s-min=24.1km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.01**	**161**	P	P	03 00 00.7	-0.3
	0.8nm,0.5s,baz=340,slow=11,SNR=5.1						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**25.41**	**165**	P	P	03 00 34.5	+0.2
	1.4nm,0.9s,baz=345,slow=12,SNR=5.0						
	1.4nm,0.9s						
MKAR	**Makanchi Array**	**59.95**	**326**	P	P	03 05 12.6	-0.5
	0.1nm,0.4s,baz=122,slow=7.9,SNR=2.5						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**64.18**	**328**	P	P	03 05 41.7	+0.4
	0.1nm,0.3s,baz=118,slow=5.5,SNR=1.6						
	0.1nm,0.3s						

IDC 08 03:04:58.4±2.2, 0.71N×126.70E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=171.9km s-min=28.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.85**	**160**	P	P	03 09 52.2	-0.6
	0.8nm,0.6s,baz=339,slow=11,SNR=6.4						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**25.22**	**164**	P	P	03 10 26.6	+0.5
	0.2nm,0.5s,baz=349,slow=15,SNR=5.2						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**60.02**	**326**	P	P	03 15 07.0	-0.1
	0.2nm,0.5s,baz=123,slow=5.4,SNR=2.4						
	0.2nm,0.5s						

*NEIC **08** 03:12:25.9±1.9, 35.678N×0.008×117.483W×0.003, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.4km az=318.0*

PAS 08 03:12:26.6±1.8, 35.665N×0.008×117.50W×0.01, h7km, ML3.1/20, ML2.8/108(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=72.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.17**	**333**	Pg	Pg	03 12 30.1	-0.1
CLC				Sg	Sg	03 12 32.7	+0.2
CCCA	**Chr Cany lake**	**0.18**	**141**	Pg	Pg	03 12 30.8	+0.4
CCCA				Sg	Sg	03 12 34.0	+1.2
CCCA				IAML		03 12 34.5	
	comp=E,3μm,0.6s						
SRTC	**Snort**	**0.20**	**278**		Pg	03 12 31.1	+0.4
LRMC	**Laurel Mtn Rad**	**0.24**	**218**	Pg	Pg	03 12 31.3	-0.1
LRMC				Sg	Sg	03 12 34.8	+0.2
TOW	**Tower One**	**0.26**	**304**		Pg	03 12 32.1	+0.3
WNMM	**Nine Mile Cany**	**0.37**	**299**		Pg	03 12 33.8	-0.1
WVPM	**Volcano Peak E**	**0.38**	**318**		Pg	03 12 33.9	-0.3
MPMC	**Manual Prospec**	**0.39**	**2**	Pg	Pg	03 12 33.9	-0.5
MPMC				Sg	Sg	03 12 39.1	-0.5
MPMC				IAML		03 12 41.3	
	comp=E,2μm,0.4s						
WRVM	**Rose V. Centra**	**0.47**	**318**		Pg	03 12 35.4	-0.3
WRVM					Sg	03 12 41.8	0.0
DTP	**Desert Tortois**	**0.48**	**215**		Pg	03 12 35.6	-0.5
DTP					Sg	03 12 42.8	+0.4
MFS	**McCloud Flat S**	**0.53**	**328**		Pg	03 12 36.7	-0.3
MFS					Sg	03 12 44.4	+0.3
WBSM	**Bird Springs**	**0.53**	**256**		Pg	03 12 36.7	-0.3
QSM	**Queen of Sheba**	**0.60**	**60**	Pg	Pg	03 12 37.8	-0.4
QSM				Sg	Sg	03 12 45.8	-0.2
QSM				IAML		03 12 46.0	
	comp=E,815nm,0.5s						
QSM				IAML		03 12 47.2	
	comp=N,825nm,0.4s						
WORM	**Onyx Ranch**	**0.60**	**273**		Pg	03 12 37.6	-0.7
WORM					Sg	03 12 45.7	-0.5
CCAC	**Calif City Air**	**0.66**	**219**		Pg	03 12 39.0	-0.4

GSC **Goldstone, Bar** 0.68 122 Pg Pg 03 12 39.1 -0.6
GSC Sg Sg 03 12 48.4 -0.1
GSC IAML 03 12 52.2
comp=N,289nm,0.4s
GSC IAML 03 12 57.6
comp=E,295nm,0.5s
WHFM **Hanning Flat** 0.69 273 Pg 03 12 39.4 -0.5
WHFM Sg 03 12 48.5 -0.4
ISA **Isabella, Lake** 0.79 270 Pg Pg 03 12 41.1 -0.8
ISA Sg Sg 03 12 51.1 -1.0
ISA IAML 03 12 52.1
comp=N,488nm,0.5s
ISA IAML 03 12 52.1
comp=E,510nm,0.2s
HYS **Haystack Butte** 0.80 184 Pg 03 12 41.4 -0.7
GWY **Greenwater Val** 0.85 52 Pg Pg 03 12 42.3 -0.8
GWY Sg Sg 03 12 53.6 -0.6
GWY IAML 03 13 00.2
comp=E,373nm,0.3s
WASM **Alta Sierra Ca** 0.86 275 Pg 03 12 42.7 -0.6
WASM Sg 03 12 54.1 -0.3
EDW2 **Edwards Air Fo** 0.88 207 Pg 03 12 42.6 -0.9
CWC **Cottonwood Cre** 0.90 329 Pg Pg 03 12 43.4 -0.6
CWC IAML 03 12 48.9
comp=N,191nm,0.2s
CGO **Cerro Gordo** 0.92 345 Pg 03 12 44.0 -0.3
TPO **Tropico Hills** 0.98 217 Pg Pg 03 12 44.7 -0.8
TPO Sg Sg 03 12 57.9 -0.4
TPO IAML 03 13 04.6
comp=N,303nm,0.7s
TPO IAML 03 13 05.8
comp=E,321nm,0.6s
SBB **Saddle Back Bu** 1.01 195 Pg 03 12 45.1 -1.0
TEJ **El Tejon** 1.06 246 Pg 03 12 45.9 -1.1
SPG2 **Springville 2** 1.16 298 Pg 03 12 47.7 -1.2
SPG2 Sg 03 13 03.2 -0.7
TJR **Tejon Ranch** 1.20 238 Pg 03 12 48.1 -1.5
ARVC **Arvin** 1.21 244 Pb 03 12 48.9 -1.0
THC **Tehachapi Micr** 1.21 232 Pg 03 12 49.0 -0.9
LRRC **Littlerock Res** 1.22 201 Pb 03 12 48.6 -1.3
LEOC **Leona Valley** 1.22 213 Pg 03 12 48.7 -1.4
HOLC **Holcomb Ridge** 1.24 193 Pg 03 12 48.9 -1.5
DSCC **Desert Studies** 1.26 114 Pn 03 12 48.8 -1.9
AMDNV **Amargosa** 1.26 51 Pn 03 12 49.0 -1.7
JNH **Juniper Hills** 1.27 197 Pn 03 12 49.4 -1.5
TUQ **Turquoise Moun** 1.31 100 Pn 03 12 50.1 -1.4
TUQ Sb 03 13 08.4 -0.2
WCT **Wildcat Mounta** 1.33 32 Pn 03 12 50.2 -1.5
WCT IAML 03 13 11.5
comp=E,104nm,0.3s
WCT IAML 03 13 12.2
comp=N,114nm,0.6s
GRAC **Grapevine Rang** 1.33 5 Pn 03 12 50.9 -0.9
SGV **South Grapevin** 1.37 16 Pn 03 12 51.1 -1.2
CHFC **Chilao Flat St** 1.40 198 Pn 03 12 51.4 -1.3
CHFC Sb 03 13 11.3 +0.1
SIL **Silver Peak** 1.43 157 Pn 03 12 53.1 0.0
BFSC **Mount Baldy Ra** 1.43 185 Pn 03 12 51.9 -1.2
BFSC IAML 03 13 12.5
comp=E,170nm,0.7s
BFSC IAML 03 13 13.1
comp=N,93nm,0.6s
SS2 **San Sevaine** 1.45 180 Pn 03 12 53.6 +0.3
SSK **Sunset Peak** 1.46 186 Pb 03 12 54.3 +0.1
BBRC **Big Bear Solar** 1.48 161 Pg 03 12 55.0 0.0
BBRC Sg 03 13 14.0 -0.2
MWC **Mount Wilson** 1.51 198 Pn 03 12 53.3 -1.0
MWC IAML 03 13 16.1
comp=E,178nm,0.5s
MWC IAML 03 13 18.1
comp=N,179nm,0.5s
LCH **Last Change Ra** 1.57 356 Pn 03 12 54.2 -0.9
PSRC **Puddingstone R** 1.59 189 Pb 03 12 56.1 -0.2
SVD **Seven Oaks Dam** 1.59 168 Sb 03 13 17.2 +0.5
PASC **Pasadena Art C** 1.59 201 Pn 03 12 54.0 -1.3
PASC IAML 03 13 21.7
comp=E,113nm,0.7s
MTPC **Mountain Pass** 1.60 96 Pn 03 12 53.7 -1.8
MTPC IAML 03 13 17.6
comp=N,147nm,0.2s
MTPC IAML 03 13 17.7
comp=E,164nm,0.3s
TPNV **Topopah Spring** 1.63 38 Pn 03 12 54.8 -1.2
TPNV IAML 03 13 21.4
comp=E,88nm,0.3s
TPNV IAML 03 13 22.3
comp=E,125nm,0.5s
GMN **Gold Mountain** 1.64 7 Pn 03 12 55.2 -1.0
GMN IAML 03 13 21.8
comp=N,70nm,0.5s
GTM **Goat Mountain** 1.66 145 Pb 03 12 57.3 -0.3
GTM Sb 03 13 18.9 +0.2
DJJ **Donna J Jenkin** 1.74 207 Pb 03 12 59.4 +0.5
DSP **Deep Springs** 1.74 348 Pn Pn 03 12 56.5 -0.7
DSP IAML 03 13 22.9
comp=E,61nm,0.5s
GMRC **Granite Mounta** 1.75 120 Pn 03 12 55.1 -2.4
BHPR **Bishop** 1.81 334 Pb 03 13 00.5 +0.1
MTUM **Tungsten Hills** 1.89 333 Pb 03 13 01.7 +0.1
TPC **Twentynine Pal** 1.96 142 Pn 03 12 59.0 -1.4
HMTC **Hemet** 1.99 168 Pn 03 12 59.9 -0.9
ELS **Elsinore Mount** 2.01 178 Pn Pn 03 13 00.1 -1.0
ELS IAML 03 13 36.8
comp=E,68nm,0.6s
DANC **Danby, Needles** 2.02 120 Pb 03 13 03.7 0.0
POB **Polly Butte** 2.03 166 Pn 03 13 00.6 -0.8
MZP **Montezuma Peak** 2.03 3 Pn Pn 03 13 00.5 -1.0
DGR **Domenigoni Val** 2.05 168 Pn 03 13 01.1 -0.5
SHPR **Sheep Range** 2.08 65 Pn Pn 03 13 01.4 -0.6
V12A **Nelson** 2.16 88 Pn Pn 03 13 01.5 -1.7
V12A IAML 03 13 38.6
comp=N,45nm,0.4s
V12A IAML 03 13 41.9
comp=E,54nm,0.5s
PMD **Palm Desert** 2.22 155 Pn Pn 03 13 02.4 -1.4
PMD IAML 03 13 38.8
comp=N,40nm,0.5s
PMD IAML 03 13 43.0
comp=E,54nm,0.9s
PFO **Pinyon Flats O** 2.22 157 Pn Pn 03 13 03.2 -0.8
PFO IAML 03 13 39.6
comp=E,42nm,0.6s
TPH **Tonopah** 2.42 5 Pn Pn 03 13 06.1 -0.6
SBI **Santa Barbara** 2.52 210 Pn Pn 03 13 08.9 +1.0
NEE2 **Needles Airpor** 2.53 110 Pn Pn 03 13 05.8 -2.3
NEE2 IAML 03 13 48.0
comp=E,69nm,0.3s
PRN **Pahroc Range** 2.63 48 Pn Pn 03 13 08.7 -0.9
PRN IAML 03 13 57.3
comp=E,57nm,0.9s
PRN IAML 03 13 59.3
comp=N,53nm,0.8s
DPP **Dos Picos Cty** 2.70 170 Pn Pn 03 13 09.3 -1.1
DPP IAML 03 13 51.7
comp=E,51nm,0.7s
LHV **Little Huntoon** 2.70 343 Pn Pn 03 13 10.1 -0.4
LHV IAML 03 13 56.1
comp=N,26nm,0.7s
LHV IAML 03 13 56.4
comp=E,24nm,0.5s
NV11 **Mina Array Sit** 2.81 349 Pn Pn 03 13 11.4 -0.8
NVAR **Mina Array Bea** 2.83 347 Pn Pn 03 13 11.9 -0.6
W13A **Hualapai Mount** 3.01 100 Pn Pn 03 13 13.2 -1.7
W13A IAML 03 14 04.8
comp=E,20nm,0.6s
RYN **Ryan** 3.07 345 Pn Pn 03 13 15.0 -0.7
R11B **Troy Canyon, C** 3.09 29 Pn Pn 03 13 14.8 -1.1
WAKR **Walker** 3.23 332 Pn Pn 03 13 17.9 0.0
CMB **Columbia Colle** 3.31 316 Pn Pn 03 13 19.1 +0.3
CBX **Cerro Bola** 3.42 168 Pn Pn 03 13 19.8 -0.6
LCMT **Little Creek M** 3.69 67 Pn Pn 03 13 23.4 -0.9
CCUT **Cedar City** 3.83 59 Pn Pn 03 13 26.6 +0.4
ESJX **Sierra Juarez** 3.87 160 Pn Pn 03 13 26.6 -0.2
ESJX IAML 03 14 31.3
comp=E,15nm,0.7s
KNB **Kanab** 4.01 69 Pn Pn 03 13 27.7 -1.0
KNB IAML 03 14 41.9
comp=E,8.6nm,1.0s
KNB IAML 03 14 45.8
comp=N,9.6nm,1.7s
Y14A **Wickenburg** 4.08 114 Pn Pn 03 13 29.7 +0.1
Y14A IAML 03 14 38.9
comp=N,11nm,0.3s

Y14A				IAML		03 14 41.7		
	comp=E,11nm,0.7s							
WUAZ	**Wupatki**	**5.00**	**90**	Pn	Pn	03 13 41.9	-0.3	

IDC 08 03:21:54.9±1.8, 0°59N×126°41E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=178.5km s-min=23.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.84**	**160**	P	P	03 26 48.4	-0.8
	0.9nm,0.7s,baz=338,slow=11,SNR=6.9 0.9nm,0.7s						
ASAR	**Alice Springs**	**25.19**	**164**	P	P	03 27 22.9	+0.5
	1.2nm,0.9s,baz=345,slow=12,SNR=11 1.2nm,0.9s						
MKAR	**Makanchi Array**	**59.96**	**326**	P	P	03 32 04.0	+0.9
	0.2nm,0.4s,baz=123,slow=8.5,SNR=2.9 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.21**	**328**	P	P	03 32 30.6	-0.9
	0.3nm,0.6s,baz=122,slow=6.3,SNR=2.0 0.3nm,0.6s						

*IDC **08** 03:23:25.3±0.9, 0°43N×126°15E, h0km, mb4.0/7, mbtmp4.0/8, ML3.5/1, Error ellipse: s-maj=49.3km s-min=17.1km az=76.0*
*DJA **08** 03:23:29.9±0.3, 1°N±5°×12°6E±°, h10km, M3.6/2, MLv3.8/6, MLv3.6/2*
*NEIC **08** 03:23:30.5±1.9, 0°40N±0°10×126°45E±0°07, h22km±5km, mb4.2/16, Error ellipse: s-maj=14.2km s-min=9.8km az=169.0*
ISC 08 03:23:32.3±0.6, 0°50N±0°07×126°38E±0°05, h47km, n37, σ1§69/38, mb4.2/15, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.02**	**75**		**Pn**	**03 23 48.7**	**-1.5**
TNTI	**Ternate**	**1.02**	**75**	P	**Pn**	**03 23 49.4**	**-0.8**
TNTI				S	**Sn**	**03 24 03.9**	**+0.5**
KMSI	**Cibinong**	**2.41**	**272**	P	**Pn**	**03 24 06.6**	**-2.6**
SANI	**Sanana**	**2.57**	**189**	P	**Pn**	**03 24 13.6**	**+2.2**
APSI	**Ampana**	**4.94**	**253**	P	**Pn**	**03 24 44.3**	**+0.3**
TOLI2	**Tolitoli**	**5.63**	**276**	Pn	**Pn**	**03 24 53.5**	**-0.1**
FAKI	**Fak Fak**	**6.78**	**120**	Pn	**Pn**	**03 25 06.4**	**-2.8**
KNRA	**Kununurra**	**16.25**	**172**	Pn	**Pn**	**03 27 16.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**18.50**	**182**	P	**P**	**03 27 42.7**	**-2.0**
FITZ	**Fitzroy Crossi**	**18.50**	**182**	P	**P**	**03 27 41.9**	**-2.8**
	0.1nm,0.3s,baz=332,slow=4.2,SNR=2.5 3.2nm,0.9s						
WB0	**Warramunga Arr**	**21.62**	**159**	P	**P**	**03 28 17.0**	**-1.6**
WB0				IAmb	IAmb	03 28 27.4	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**21.76**	**159**	P	**P**	**03 28 18.4**	**-1.8**
WRA	**Warramunga Arr**	**21.76**	**159**	P	**P**	**03 28 18.6**	**-1.5**
	comp=Z,3.8nm,0.5s,baz=336,slow=11,SNR=26 comp=Z,3.8nm,0.5s						
WR8	**Warramunga Arr**	**21.83**	**159**	P	**P**	**03 28 19.1**	**-1.8**
WR8				IAmb	IAmb	03 28 39.6	
	comp=Z,6.9nm,0.8s						
MBWA	**Marble Bar**	**22.49**	**196**	P	**P**	**03 28 26.8**	**-1.1**
MBWA				IAmb	IAmb	03 28 49.0	
	comp=Z,11nm,1.2s						
AS31	**Alice Springs**	**25.11**	**164**	P	**P**	**03 28 53.3**	**+0.3**
ASAR	**Alice Springs**	**25.11**	**164**	P	**P**	**03 28 52.8**	**-0.1**
ASAR	**Alice Springs**	**25.11**	**164**	P	**P**	**03 28 52.1**	**-0.8**
	comp=Z,8.5nm,0.8s,baz=345,slow=12,SNR=36 comp=Z,8.5nm,0.8s						
FORT	**Forrest**	**31.15**	**177**	P	**P**	**03 29 45.3**	**-1.4**
FORT				IAmb	IAmb	03 29 47.6	
	comp=Z,4.3nm,0.7s						
MJAR	**Matsushiro Arr**	**37.50**	**16**	P	**P**	**03 30 41.0**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=227,slow=8.1,SNR=4.0 comp=Z,0.5nm,0.3s						
SONM	**Songino Array**	**50.24**	**343**	P	**P**	**03 32 23.1**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=162,slow=5.3,SNR=2.1 comp=Z,0.5nm,0.5s						
PEA0B	**Petropavlovsk-**	**58.53**	**22**	P	**P**	**03 33 25.5**	**+1.6**
PETK	**Petropavlovsk-**	**58.53**	**22**	P	**P**	**03 33 26.1**	**+2.2**
PETK	**Petropavlovsk-**	**58.53**	**22**	P	**P**	**03 33 25.3**	**+1.5**
	comp=Z,0.8nm,0.5s,baz=193,slow=6.9,SNR=4.9 comp=Z,0.8nm,0.5s						
MKAR	**Makanchi Array**	**60.02**	**326**	P	**P**	**03 33 33.3**	**-1.0**
MKAR	**Makanchi Array**	**60.02**	**326**	P	**P**	**03 33 33.5**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=121,slow=7.5,SNR=9.5 comp=Z,0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**64.27**	**328**	P	**P**	**03 34 01.9**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=128,slow=6.2,SNR=12 comp=Z,1.4nm,0.7s						
KURK	**Kurchatov**	**64.28**	**329**	P	**P**	**03 34 02.2**	**-0.5**
KKAR	**Karatay Array**	**65.36**	**318**	P	**P**	**03 34 12.3**	**+2.3**
KKAR				IAmb	IAmb	03 34 15.1	
	comp=Z,1.2nm,0.8s						
ABKAR	**Akbulak array**	**74.43**	**321**	P	**P**	**03 35 04.7**	**-0.8**
L16K	**Owhat River**	**82.08**	**28**	P	**P**	**03 35 49.5**	**+2.0**
L16K				IAmb	IAmb	03 36 00.2	
	comp=Z,3.1nm,1.3s						
J17K	**VABM Dome**	**82.66**	**26**	P	**P**	**03 35 52.1**	**+1.6**
J17K				IAmb	IAmb	03 35 55.4	
	comp=Z,1.9nm,0.7s						
E18K	**Tukpahlearik C**	**83.06**	**22**	P	**P**	**03 35 55.6**	**+3.1**
L18K	**Granite Mounta**	**83.47**	**27**	P	**P**	**03 35 56.8**	**+2.1**
L18K				IAmb	IAmb	03 36 08.6	
	comp=Z,2.1nm,0.9s						
D20K	**Etivluk River**	**84.82**	**21**	P	**P**	**03 36 04.7**	**+3.2**
TORD	**Torodi Ar. Bea**	**123.53**	**286**	PKPdf	**PKPdf**	**03 42 25.1**	**-0.5**
CO02	**Combarbal**	**145.31**	**153**	PKPdf	**PKPdf**	**03 43 06.3**	**+0.5**

IDC 08 03:35:29.4±2.3, 0°86N×126°54E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=182.9km s-min=28.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.04**	**160**	P	P	03 40 24.9	-0.9
	0.2nm,0.3s,baz=339,slow=11,SNR=5.2 0.2nm,0.3s						
ASAR	**Alice Springs**	**25.41**	**164**	P	P	03 40 59.5	+0.7
	0.5nm,0.6s,baz=342,slow=12,SNR=5.3 0.5nm,0.6s						
MKAR	**Makanchi Array**	**59.81**	**326**	P	P	03 45 36.4	-0.1
	0.2nm,0.4s,baz=137,slow=6.9,SNR=2.4 0.2nm,0.4s						

IDC 08 03:37:02.5±2.2, 0°72N×126°09E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=186.6km s-min=29.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.07**	**159**	P	P	03 41 58.3	-1.0
	0.2nm,0.4s,baz=337,slow=13,SNR=4.7 0.2nm,0.4s						
ASAR	**Alice Springs**	**25.40**	**163**	P	P	03 42 32.7	+0.8
	0.3nm,0.5s,baz=340,slow=12,SNR=4.1 0.3nm,0.5s						
MKAR	**Makanchi Array**	**59.67**	**327**	P	P	03 47 08.7	-0.1
	0.2nm,0.5s,baz=133,slow=8.1,SNR=2.4 0.2nm,0.5s						

*IDC **08** 03:39:13.8±0.6, 0°42N×126°16E, h0km, mb4.2/14, mbtmp4.2/16, ML4.1/2, MS3.4/2, Error ellipse: s-maj=33.1km s-min=12.8km az=79.0*
*NEIC **08** 03:39:19.5±1.8, 0°50N±0°06×126°28E±0°06, h35km±2km, mb4.4/15, Error ellipse: s-maj=10.8km s-min=9.8km az=203.0*
*DJA **08** 03:39:19.3±0.3, 1°N±4°×12°6E±°, h10km, MLv4.0/8*
ISC 08 03:39:20.2±0.5, 0°43N±0°06×126°21E±0°07, h44km, n44, σ1§61/45, mb4.3/23, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.20**	**73**		**Pn**	**03 39 38.4**	**-2.2**
TNTI	**Ternate**	**1.20**	**73**	P	**Pn**	**03 39 39.0**	**-1.6**
TNTI				S	**Sn**	**03 39 57.7**	**+1.9**
KMSI	**Cibinong**	**2.24**	**274**	P	**Pn**	**03 39 56.8**	**+2.0**
SANI	**Sanana**	**2.47**	**185**	P	**Pn**	**03 39 56.9**	**-1.1**
LUWI	**Luwuk**	**3.74**	**247**	Pn	**Pn**	**03 40 16.3**	**+0.9**
LUWI	**Luwuk**	**3.74**	**247**	P	Pn	03 40 21.3	+5.9
KDI	**Kendari**	**5.64**	**219**	P	**Pn**	**03 40 44.7**	**+3.1**
FAKI	**Fak Fak**	**6.89**	**119**	Pn	**Pn**	**03 40 58.9**	**+0.1**
KAPI	**Kappang**	**8.42**	**230**	Pn	**Pn**	**03 41 17.8**	**-1.9**
	3.1nm,0.3s,baz=77,slow=5.5,SNR=6.2 7.4nm,0.4s						
KNRA	**Kununurra**	**16.20**	**171**	Pn	**Pn**	**03 43 03.0**	**-1.9**
FITZ	**Fitzroy Crossi**	**18.42**	**182**		**P**	**03 43 31.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**18.42**	**182**	P	**P**	**03 43 31.6**	**-0.3**
	0.3nm,0.3s,baz=1.6,slow=6.2,SNR=8.2 2.2nm,0.6s						
WB0	**Warramunga Arr**	**21.61**	**159**	P	**P**	**03 44 05.9**	**-0.8**
WB0				IAmb	IAmb	03 44 11.9	
	comp=Z,17nm,0.8s						
WRAB	**Tennant Creek**	**21.75**	**159**	P	**P**	**03 44 07.2**	**-1.0**
WRAB				IAmb	IAmb	03 44 13.6	
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**21.75**	**159**	P	**P**	**03 44 06.2**	**-1.9**
WRA	**Warramunga Arr**	**21.75**	**159**	P	**P**	**03 44 07.4**	**-0.8**
	comp=Z,8.6nm,0.5s,baz=338,slow=11,SNR=68						
WRA				S	**S**	**03 48 09.6**	**+3.0**
	comp=Z,2.2nm,1.1s,baz=343,slow=18,SNR=5.7 comp=Z,8.6nm,0.5s						
WR8	**Warramunga Arr**	**21.82**	**159**	P	**P**	**03 44 08.1**	**-0.9**
WR8				IAmb	IAmb	03 44 13.5	
	comp=Z,13nm,0.8s						
COEN	**Coen**	**22.05**	**131**	P	**P**	**03 44 11.2**	**-0.2**
COEN				IAmb	IAmb	03 44 17.8	
	comp=Z,14nm,0.8s						
MBWA	**Marble Bar**	**22.37**	**196**	P	**P**	**03 44 14.3**	**-0.5**
MBWA				IAmb	IAmb	03 44 14.7	
	comp=Z,21nm,1.4s						
AS31	**Alice Springs**	**25.09**	**163**	P	**P**	**03 44 41.4**	**+0.5**
AS31				IAmb	IAmb	03 44 43.8	
	comp=Z,4.2nm,0.6s						
ASAR	**Alice Springs**	**25.09**	**163**	P	**P**	**03 44 41.9**	**+1.0**
ASAR	**Alice Springs**	**25.09**	**163**	P	**P**	**03 44 40.7**	**-0.2**
	comp=Z,14nm,0.9s,baz=353,slow=17,SNR=76						
ASAR				S	**S**	**03 49 09.6**	**+7.0**
	comp=Z,0.9nm,0.8s,baz=347,slow=18,SNR=5.9 comp=Z,14nm,0.9s						
FORT	**Forrest**	**31.08**	**177**	P	**P**	**03 45 34.3**	**-0.1**
STKA	**Stephens Creek**	**35.27**	**157**	P	**P**	**03 46 10.8**	**-0.1**
STKA	**Stephens Creek**	**35.27**	**157**	P	**P**	**03 46 10.8**	**-0.1**
	comp=Z,6.7nm,0.7s,baz=334,slow=10,SNR=12 comp=Z,6.7nm,0.7s						
MJAR	**Matsushiro Arr**	**37.62**	**16**	P	**P**	**03 46 30.6**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=188,slow=9.3,SNR=3.0 comp=Z,1.4nm,0.8s						
ARMA	**Armidale**	**39.06**	**144**	P	**P**	**03 46 44.6**	**+1.4**
ARMA				IAmb	IAmb	03 46 45.7	
	comp=Z,6.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**43.89**	**6**	P	**P**	**03 47 22.0**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=122,slow=2.5,SNR=4.2 comp=Z,1.6nm,0.7s						
KLR	**Kul'dur**	**48.85**	**5**	P	**P**	**03 48 01.6**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=326,slow=8.1,SNR=3.8 comp=Z,1.6nm,0.8s						
SONM	**Songino Array**	**50.26**	**343**	P	**P**	**03 48 11.5**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=154,slow=9.0,SNR=5.8						
SONM				LR	LR	04 12 30.7	
	comp=Z,37nm,19.4s,baz=130,slow=40 comp=Z,0.9nm,0.7s						
PETK	**Petropavlovsk-**	**58.67**	**22**	P	**P**	**03 49 13.7**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=186,slow=8.7,SNR=2.1 comp=Z,0.9nm,0.5s						
MKAR	**Makanchi Array**	**59.99**	**327**	P	**P**	**03 49 21.4**	**-0.9**
MKAR	**Makanchi Array**	**59.99**	**327**	P	**P**	**03 49 22.0**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=116,slow=8.5,SNR=21 comp=Z,1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**63.30**	**334**	P	**P**	**03 49 43.7**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=114,slow=6.8,SNR=4.3 comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**64.25**	**328**	P	**P**	**03 49 50.5**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=128,slow=6.0,SNR=22 comp=Z,2.2nm,0.7s						
KURK	**Kurchatov**	**64.25**	**329**	P	**P**	**03 49 50.0**	**-0.8**
AB31	**Akbulak array**	**74.38**	**321**	P	**P**	**03 50 53.2**	**-0.3**
AB31				IAmb	IAmb	03 50 54.2	
	comp=Z,1.9nm,0.8s						
ABKAR	**Akbulak array**	**74.38**	**321**	P	**P**	**03 50 53.1**	**-0.4**
ABKAR				IAmb	IAmb	03 50 54.1	
	comp=Z,1.9nm,0.8s						
VNDA	**Vanda**	**80.24**	**173**	P	**P**	**03 51 24.2**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=345,slow=4.2,SNR=4.9 comp=Z,0.7nm,0.7s						
KIRV	**Kirov**	**82.77**	**329**	LR	LR	04 32 14.3	
	comp=Z,23nm,18.3s,baz=85,slow=38						
KBZ	**Khabaz**	**84.87**	**314**	P	**P**	**03 51 50.7**	**+0.2**
	comp=Z,3.0nm,1.0s,baz=138,slow=3.8,SNR=4.3 comp=Z,3.0nm,1.0s						
QSPA	**South Pole Qui**	**90.35**	**180**	P	**P**	**03 52 16.9**	**+0.3**
	comp=Z,1.7nm,1.0s,baz=287,slow=1.7,SNR=6.9 comp=Z,1.7nm,1.0s						
TORD	**Torodi Ar. Bea**	**123.39**	**286**	PKPdf	**PKPdf**	**03 58 13.0**	**-0.6**
CO03	**El Pedregal**	**145.76**	**154**	PKPbc	**PKPab**	**03 58 56.1**	**+0.5**

*IPEC **08** 03:48:21.2±0.2, 51°56N×16°16E, h1km, ML2.4/6, Error ellipse: s-maj=2.8km s-min=1.4km az=75.0*
*PRU **08** 03:48:23.6, 51°48N×16°06E, h0km*
*VIE **08** 03:48:23.4±0.5, 51°43N×15°86E, h0km, mb2.5/6, ml2.6/7, Error ellipse: s-maj=3.9km s-min=3.1km az=57.0 88 km WNW of Wroclaw Suspected Mining induced.*
ISC 08 03:48:19.5±0.8, 51°64N±0°03×16°13E±0°03, h0km, n45, σ1§25/86, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.81**	**172**	*e*Pg	**Pg**	**03 48 35.6**	**+0.7**
KSP				*e*Sg	**Sg**	**03 48 45.4**	**0.0**
CHVC	**Chvalec**	**1.06**	**182**	*e*PG	**Pb**	**03 48 40.5**	**-0.1**
CHVC				*e*SG	**Sg**	**03 48 53.5**	**+0.1**
	comp=Z,40nm,0.4s						
OSTC	**Ostas**	**1.09**	**177**	*e*PG	**Pb**	**03 48 41.1**	**-0.1**
OSTC				*e*SG	**Sg**	**03 48 54.3**	**-0.1**
	comp=Z,40nm,0.2s						
UPC	**Upice**	**1.14**	**184**	*e*PG	**Pg**	**03 48 41.7**	**+0.4**
UPC				*e*SG	**Sg**	**03 48 55.8**	**-0.2**
	comp=Z,71nm,0.3s						
DPC	**Dobruska-Polom**	**1.30**	**174**	*e*PG	**Pg**	**03 48 44.4**	**+0.1**
DPC				*e*SG	**Sg**	**03 49 00.4**	**-0.8**
	comp=Z,56nm,0.9s						
PIVO	**Bartosovice**	**1.48**	**169**	*e*Pg	**Pn**	**03 48 47.2**	**-0.2**
	baz=350						
PIVO				*e*Sg	**Sg**	**03 49 05.2**	**-1.8**
	41nm,0.2s,baz=350						
PVCC	**Panska Ves**	**1.49**	**222**	*e*PG	**Pb**	**03 48 48.4**	**+0.5**
PVCC				*e*SG	**Sg**	**03 49 07.3**	**+0.1**
	comp=Z,159nm,0.5s						
BRG	**Berggiesshubel**	**1.57**	**242**	Pg	Pn	03 48 50.0	+0.8
BRG				Sg		03 49 10.2	
BRG				Amp		03 49 11.0	
	comp=Z,94nm,0.4s						
KRLC	**Kraliky**	**1.62**	**165**	*e*PG	**Pn**	**03 48 49.6**	**+0.2**
KRLC				*e*SG	**Sn**	**03 49 09.4**	**-1.6**
	comp=Z,42nm,0.3s						
RICC	**Richard**	**1.69**	**230**	*e*PG	**Pn**	**03 48 50.8**	**+0.6**
RICC				*e*SG	**Sn**	**03 49 11.4**	**-1.1**
	comp=Z,85nm,0.3s						
RYBC	**Ceska Rybna**	**1.84**	**181**	*e*Pn	**Pn**	**03 48 52.6**	**+0.3**
	baz=1.9						
RYBC				*e*Sg	**Sn**	**03 49 15.9**	**-0.3**
	comp=Z,38nm,0.2s,baz=1.9						
PRA	**Prague**	**1.91**	**215**	*e*PG	**Pn**	**03 48 53.1**	**-0.1**
PRA				*e*SG	**Sb**	**03 49 19.3**	**-0.1**
	comp=Z,38nm,0.8s						
GOPC	**GO Pecny, Ondr**	**1.93**	**207**	*e*PG	**Pn**	**03 48 53.6**	**+0.1**
GOPC				*e*SG	**Sb**	**03 49 19.8**	**-0.3**
	comp=Z,15nm,0.3s						
PRU	**Pruhonice**	**1.94**	**212**	*e*PG	**Pn**	**03 48 53.7**	**+0.1**
PRU				*e*SG	**Sb**	**03 49 19.7**	**-0.6**
	comp=Z,20nm,0.5s						
CLL	**Collm**	**1.98**	**261**	*i* Pn	**Pn**	**03 48 54.3**	**+0.1**
CLL				*i* Pg	**Pb**	**03 48 57.3**	**+1.0**
CLL				*i* x	x	03 48 58.0	
CLL				*i* x	x	03 49 01.1	
CLL				*e*Sg	**Sb**	**03 49 23.0**	**+1.4**
	comp=Z,17nm,0.5s						
MORC	**Moravsky Berou**	**2.08**	**154**	*e*Pn	**Pn**	**03 48 55.9**	**+0.4**
	baz=334						
MORC				*e*Sg	**Sb**	**03 49 23.5**	**-0.8**
	comp=Z,18nm,0.3s,baz=334						
OKC	**Ostrava-Krasne**	**2.22**	**144**	*e*PG	**Pg**	**03 49 01.9**	**0.0**
OKC				*e*SG	**Sb**	**03 49 29.1**	**+0.7**
	comp=Z,40nm,0.7s						
VRAC	**Vranov**	**2.36**	**173**	*e*PN	**Pn**	**03 48 59.9**	**+0.5**
VRAC				*e*SG	**Sb**	**03 49 32.3**	**-0.1**
VRAC	**Vranov**	**2.36**	**173**	*e*Pn	**Pn**	**03 48 59.8**	**+0.4**
	baz=353						
VRAC				*e*Sg	**Sb**	**03 49 32.2**	**-0.1**
	comp=Z,20nm,0.5s,baz=353						
TREC	**Trest**	**2.39**	**190**	*e*SG	**Sb**	**03 49 34.4**	**+1.2**
	comp=Z,20nm,0.2s						
ZVC	**Zvikov**	**2.53**	**210**	*e*PN	**Pn**	**03 49 02.1**	**+0.4**
ZVC				*e*PG	**Pg**	**03 49 07.3**	**-0.6**
ZVC				*e*SG	**Sg**	**03 49 39.3**	**-1.3**
	comp=Z,20nm,0.5s						
KRUC	**Moravsky**	**2.59**	**176**	*e*Pn	**Pn**	**03 49 03.0**	**+0.4**
	baz=357						
KRUC				*e*Sg	**Sb**	**03 49 39.8**	**+0.7**
	comp=Z,13nm,0.5s,baz=357						
NKC	**Novy Kostel**	**2.72**	**240**	*e*SG	**Sg**	**03 49 46.7**	**-0.1**
	comp=Z,39nm,0.7s						
OJC	**Ojcow**	**2.73**	**120**	*e*Pg	**Pg**	**03 49 12.2**	**+0.6**
OJC				*e*Sg	**Sg**	**03 49 48.0**	**+1.1**
JAVC	**Velka Javorina**	**2.96**	**160**	*e*Pn	**Pn**	**03 49 08.0**	**+0.3**
	baz=341						
KHC	**Kasperske Hory**	**3.00**	**214**	*e*PN	**Pn**	**03 49 08.5**	**+0.3**
KHC				*e*PG	**Pb**	**03 49 14.6**	**+0.9**
KHC				*e*SG	**Sb**	**03 49 52.6**	**+1.8**
	comp=Z,9.9nm,0.4s						
CKRC	**Cesky Krumlov**	**3.06**	**203**	*e*PN	**Pn**	**03 49 10.1**	**+1.1**
CKRC				*e*PG	**Pb**	**03 49 15.6**	**+0.9**
CKRC				*e*SG	**Sb**	**03 49 54.2**	**+1.6**
	comp=Z,10nm,0.6s						
LANS	**Liptovska Anna**	**3.29**	**138**	*e*PG	**Pg**	**03 49 23.1**	**+0.7**
LANS				*e*SG	**Sg**	**03 50 06.5**	**+1.5**
LANS				*e*LG	Lg	03 50 10.4	
MODS	**Modra-Piesok**	**3.36**	**167**	*e*PG	**Pg**	**03 49 22.4**	**-1.3**
MODS				*e*SG	**Sg**	**03 50 05.2**	**-2.0**
NIE	**Niedzica**	**3.47**	**128**	*e*Pg	**Pg**	**03 49 26.1**	**+0.1**
NIE				*e*Sg	**Sg**	**03 50 10.0**	**-0.9**
BSD	**Bornholm Skovb**	**3.55**	**349**	*e*P	**Pn**	**03 49 17.0**	**+1.2**
BSD				*e*S	**Sn**	**03 49 55.3**	**-3.1**
BSD				IAML		03 50 19.6	
	comp=Z,1.0nm,0.3s						
VYHS	**Vyhne**	**3.60**	**150**	*e*PG	**Pg**	**03 49 28.4**	**-0.1**
CONA	**Conrad Observa**	**3.72**	**183**	*e*Pn	**Pn**	**03 49 19.1**	**+0.8**
	comp=Z,1.2nm,0.3s						
CONA				*e*Sg	**Sg**	**03 50 18.8**	**-0.2**
	comp=Z,12nm,0.6s						
RONA	**Rosalia, Austr**	**3.95**	**178**	*i* Pn	**Pn**	**03 49 22.1**	**+0.8**
	comp=Z,0.3nm,0.1s						
RONA				*e*Sg	**Sg**	**03 50 24.3**	**-1.9**
	comp=Z,7.8nm,0.6s						
STHS	**Stebnicka Huta**	**3.95**	**122**	*e*PG	**Pg**	**03 49 36.5**	**+1.3**
STHS				*e*SG	**Sg**	**03 50 26.7**	**+0.3**
MOA	**Molln**	**3.98**	**198**	*i* Pn	**Pn**	**03 49 22.4**	**+0.6**
	comp=Z,3.9nm,0.3s						
MOA				*e*Sg	**Sg**	**03 50 24.7**	**-2.7**
	comp=Z,4.6nm,0.5s						
BIOA	**Bad Ischl, Aus**	**4.27**	**203**	*i* Pn	**Pn**	**03 49 26.2**	**+0.5**
	comp=Z,0.6nm,0.3s						
BIOA				Sg	**Sg**	**03 50 36.9**	**+0.3**
	comp=Z,6.9nm,0.4s						
ARSA	**Arzberg**	**4.41**	**185**	*e*Pn	**Pn**	**03 49 29.4**	**+1.7**
	comp=Z,0.7nm,0.3s						
ARSA				*e*Sg	**Sg**	**03 50 41.7**	**+0.5**
	comp=Z,4.9nm,0.6s						
BLEU	**Blekinge**	**4.67**	**358**	*e*P	**Pn**	**03 49 32.7**	**+1.6**
BLEU				*e*S	**Sn**	**03 50 21.4**	**-4.7**
LESA	**Schwarzleotal**	**4.78**	**209**	*i* Pn	**Pn**	**03 49 33.3**	**+0.5**
	comp=Z,0.5nm,0.2s						
LESA				*e*Sg	**Sg**	**03 50 52.8**	**-0.2**
	comp=Z,0.8nm,0.2s						
BJUU	**Bjuv**	**4.80**	**339**	*e*P	**Pn**	**03 49 36.1**	**+3.2**
BJUU				*e*S	**Sn**	**03 50 27.0**	**-2.3**
KBA	**Koelnbreinsper**	**4.92**	**203**	*i* Pn	**Pn**	**03 49 35.9**	**+1.1**
	comp=Z,0.1nm,0.1s						
KBA				*e*Sg	**Sg**	**03 50 57.7**	**+0.4**
	comp=Z,3.5nm,0.4s						
DEL	**Delary**	**5.02**	**346**	*e*P	**Pn**	**03 49 36.5**	**+0.7**
DEL				*e*S	**Sn**	**03 50 32.1**	**-2.3**
OBKA	**Obir**	**5.24**	**192**	*e*Pn	**Pn**	**03 49 39.1**	**0.0**
MOTA	**Moosalm**	**5.40**	**219**	*e*Pn	**Pn**	**03 49 45.2**	**+3.8**

*IDC **08** 03:50:20.7±1.4, 0°48N×126°16E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=147.7km s-min=20.0km az=65.0*
*DJA **08** 03:50:25.3±0.5, 1°N±6°×12°6E±°, h10km, M2.9/1, MLv3.1/5, MLv2.9/1*
ISC 08 03:50:26.5±1.2, 0°5N±0°1×126°2E±0°1, h44km, n6, σ0§64/7, mb3.9/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.17**	**75**	P	**Pn**	**03 50 45.9**	**-0.6**
TNTI				S	**Sn**	**03 51 02.1**	**+0.7**
WRA	**Warramunga Arr**	**21.78**	**159**	P	**P**	**03 55 14.7**	**-0.1**
	2.1nm,0.4s,baz=337,slow=11,SNR=36 2.1nm,0.4s						
ASAR	**Alice Springs**	**25.11**	**163**	P	**P**	**03 55 48.3**	**+0.8**
	1.0nm,0.4s,baz=351,slow=15,SNR=14 1.0nm,0.4s						
STKA	**Stephens Creek**	**35.30**	**157**	P	**P**	**03 57 17.2**	**-0.3**
	1.0nm,0.5s,baz=317,slow=8.6,SNR=3.3 1.0nm,0.5s						
MKAR	**Makanchi Array**	**59.97**	**327**	P	**P**	**04 00 28.5**	**0.0**
	0.4nm,0.5s,baz=118,slow=7.8,SNR=6.3 0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**64.23**	**328**	P	**P**	**04 00 57.1**	**+0.2**
	0.4nm,0.6s,baz=133,slow=6.1,SNR=4.2 0.4nm,0.6s						

*KRNET **08** 03:52:54.5±0.1, 43°03N×78°45E, h20km, mb2.7*
*NNC **08** 03

KDJ	**Kajisay**	**1.27 225**	⇑*iP*	**Pg**	**03 53 18.4**	**-1.6**
KDJ			⇑*iS*	**Sg**	**03 53 35.5**	**-1.1**
IZV	**Izvestkoviy**	**1.31 271**	P	**Pn**	**03 53 19.3**	**-1.0**
	3.8nm,0.1s					
IZV			S	**Sg**	**03 53 36.6**	**-1.1**
	8.1nm,0.2s					
IZV	**Izvestkoviy**	**1.31 271**	*eP*	**Pn**	**03 53 19.4**	**-1.0**
	3.8nm,0.1s					
IZV			*eS*	**Sg**	**03 53 36.6**	**-1.1**
	8.1nm,0.2s					
CHKK	**Chushkaly**	**1.31 309**	P	**Pn**	**03 53 19.5**	**-0.8**
	8.4nm,0.2s					
CHKK			S	**Sb**	**03 53 37.0**	**-0.6**
	12nm,0.2s					
CHKK	**Chushkaly**	**1.31 309**	*eP*	**Pn**	**03 53 19.5**	**-0.8**
	8.4nm,0.2s					
CHKK			*eS*	**Sb**	**03 53 37.0**	**-0.6**
	12nm,0.2s					
TARG	**Taragay, Kyrgy**	**1.38 199**	⇓*iP*	**Pn**	**03 53 20.3**	**-1.2**
TARG			⇓*iS*	**Sg**	**03 53 38.7**	**-1.1**
KTBS	**Karatobe**	**1.42 299**	P	**Pn**	**03 53 21.7**	**-0.1**
	3.2nm,0.2s					
KTBS			S	**Sb**	**03 53 40.7**	**0.0**
	18nm,0.3s					
KTBS	**Karatobe**	**1.42 299**	*eP*	**Pn**	**03 53 21.8**	**-0.1**
KTBS			*eS*	**Sb**	**03 53 40.8**	**0.0**
KNOS	**Konyrlen**	**1.44 23**	P	**Pn**	**03 53 21.5**	**-0.7**
	2.6nm,0.1s					
KNOS			S	**Sb**	**03 53 40.3**	**-1.1**
	7.0nm,0.1s					
MTBS	**Maitube**	**1.45 275**	P	**Pn**	**03 53 21.8**	**-0.4**
	2.5nm,0.1s					
MTBS			S	**Sb**	**03 53 40.8**	**-0.6**
	8.3nm,0.2s					
MTBS	**Maitube**	**1.45 275**	*eP*	**Pn**	**03 53 21.8**	**-0.4**
	2.5nm,0.1s					
MTBS			*eS*	**Sb**	**03 53 40.8**	**-0.6**
	8.3nm,0.2s					
KUU	**Kurty**	**1.73 301**	*eP*	**Pn**	**03 53 27.0**	**+1.1**
	2.0nm,0.0s					
KUU			*eS*	**Sn**	**03 53 49.7**	**+1.4**
	11nm,0.1s					
ULHL	**Ulahol**	**1.77 244**	⇑*iP*	**Pn**	**03 53 27.5**	**+0.7**
ULHL			⇑*iS*	**Sb**	**03 53 51.4**	**+0.4**
KST	**Kastek**	**1.79 271**	P	**Pn**	**03 53 27.6**	**+0.7**
	1.4nm,0.2s					
KST			S	**Sn**	**03 53 50.9**	**+1.1**
	5.4nm,0.4s					
KST	**Kastek**	**1.79 271**	*eP*	**Pn**	**03 53 27.6**	**+0.7**
	1.4nm,0.2s					
KST			*eS*	**Sn**	**03 53 50.9**	**+1.1**
	5.4nm,0.4s					
BOOM	**Boomskoye usch**	**1.89 254**	⇓*iP*	**Pn**	**03 53 29.2**	**+0.9**
BOOM			⇓*iS*	**Sn**	**03 53 54.2**	**+1.8**
TKM2	**Tokmak 2**	**2.06 268**	⇓Pn	**Pb**	**03 53 33.4**	**+0.1**
	1.1nm,0.3s					
TKM2			⇓Sn	**Sg**	**03 54 01.5**	**-0.2**
	5.0nm,0.4s					
TKM2	**Tokmak 2**	**2.06 268**	⇑*iP*	**Pn**	**03 53 31.9**	**+1.2**
TKM2			⇑*iS*	**Sn**	**03 53 58.7**	**+2.0**
KBK	**Karagaybulak**	**2.57 263**	⇑*iP*	**Pn**	**03 53 38.9**	**+1.3**
KBK			⇑*iS*	**Sn**	**03 54 10.7**	**+1.6**
USP	**Ospenovka**	**2.86 276**	⇑*iP*	**Pn**	**03 53 43.0**	**+1.4**
USP			⇑*iS*	**Sn**	**03 54 17.9**	**+1.6**
UCH	**Uchtor**	**2.98 256**	⇑*eP*	**Pn**	**03 53 44.7**	**+1.2**
UCH			⇑*iS*	**Sn**	**03 54 20.8**	**+1.1**

*NEIC **08** 04:03:07.3±1.8, 35°.618N±0°.008×117°.38W±0°.01, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.6km az=102.0*

PAS 08 04:03:07.9±1.8, **35°.608N**±0°.007×**117°.388W**±0°.009, **h2**km±2km, **ML3.0**/24, **ML2.8**/118(NEIC), **Error ellipse: s-maj=1.3km s-min=0.9km az=225.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.09**	**167**	Pg	Pg	04 03 09.7	+0.1
CCCA				Sg	Sg	04 03 11.9	+1.2
CLC	**China Lake**	**0.27**	**321**	Pg	Pg	04 03 12.7	-0.3
CLC				Sg	Sg	04 03 16.7	+0.1
CLC				IAML		04 03 17.2	
	comp=N,1μm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.27**	**242**	Pg	Pg	04 03 13.2	+0.1
LRMC				Sg	Sg	04 03 17.2	+0.5
SRTC	**Snort**	**0.31**	**286**		Pg	04 03 14.2	+0.5
TOW	**Tower One**	**0.37**	**303**		Pg	04 03 15.4	+0.5
MPMC	**Manual Prospec**	**0.46**	**350**	Pg	Pg	04 03 16.3	-0.4
MPMC				Sg	Sg	04 03 22.5	-0.1
MPMC				IAML		04 03 23.4	
	comp=E,893nm,0.6s						
MPMC				IAML		04 03 23.7	
	comp=N,808nm,0.5s						
WVPM	**Volcano Peak E**	**0.49**	**314**		Pg	04 03 17.3	0.0
DTP	**Desert Tortois**	**0.51**	**228**		Pg	04 03 17.4	-0.2
DTP					Sg	04 03 24.4	+0.3
QSM	**Queen of Sheba**	**0.55**	**50**	Pg	Pg	04 03 18.3	-0.2
QSM				Sg	Sg	04 03 26.2	+0.5
QSM				IAML		04 03 30.4	
	comp=N,526nm,0.4s						
QSM				IAML		04 03 31.1	
	comp=E,484nm,0.2s						
GSC	**Goldstone, Bar**	**0.56**	**123**	Pg	Pg	04 03 18.5	-0.2
GSC				Sg	Sg	04 03 26.3	+0.3
GSC				IAML		04 03 31.6	
	comp=N,622nm,0.5s						
WRVM	**Rose V. Centra**	**0.57**	**314**		Pg	04 03 18.7	-0.1
MFS	**McCloud Flat S**	**0.64**	**323**		Pg	04 03 19.9	-0.2
CCAC	**Calif City Air**	**0.69**	**229**		Pg	04 03 20.9	-0.1
WORM	**Onyx Ranch**	**0.70**	**277**		Pg	04 03 21.0	-0.3
HYS	**Haystack Butte**	**0.76**	**191**		Pg	04 03 22.2	-0.1
HYS					Sg	04 03 32.1	0.0
WHFM	**Hanning Flat**	**0.79**	**277**		Pg	04 03 22.6	-0.4
WHFM					Sg	04 03 33.0	-0.2
RRX	**Edison Barstow**	**0.80**	**156**		Pg	04 03 22.8	-0.4
GWY	**Greenwater Val**	**0.82**	**45**	Pg	Pg	04 03 23.2	-0.5
GWY				Sg	Sg	04 03 34.3	0.0
GWY				IAML		04 03 38.7	
	comp=E,523nm,0.3s						
GWY				IAML		04 03 40.2	
	comp=N,392nm,0.3s						
EDW2	**Edwards Air Fo**	**0.88**	**215**		Pg	04 03 24.1	-0.6
ISA	**Isabella, Lake**	**0.89**	**274**	Pg	Pg	04 03 24.1	-0.7
ISA				Sg	Sg	04 03 35.6	-0.8
ISA				IAML		04 03 39.4	
	comp=N,295nm,0.4s						
ISA				IAML		04 03 39.5	
	comp=E,350nm,0.6s						
SHOC	**Shoshone, Teco**	**0.95**	**72**		Sg	04 03 39.1	+0.7
WASM	**Alta Sierra Ca**	**0.96**	**278**		Sg	04 03 38.5	-0.2
SBB	**Saddle Back Bu**	**0.98**	**201**		Pg	04 03 26.3	-0.4
TPO	**Tropico Hills**	**1.00**	**224**	Pg	Pg	04 03 26.2	-0.9
TPO				Sg	Sg	04 03 40.0	-0.1
CWC	**Cottonwood Cre**	**1.00**	**326**	Pg	Pg	04 03 26.6	-0.5
CWC				IAML		04 03 43.9	
	comp=E,197nm,0.3s						
VTV	**Victorville**	**1.05**	**177**		Pb	04 03 28.3	-0.4
DSCC	**Desert Studies**	**1.15**	**114**		Pg	04 03 28.9	-0.9
DSCC					Sg	04 03 44.2	-0.5
HEC	**Hector,Ludlow**	**1.16**	**132**		Sb	04 03 46.2	+0.1
TUQ	**Turquoise Moun**	**1.21**	**98**		Pg	04 03 30.2	-0.7
TUQ					Sg	04 03 46.8	+0.2
HOLC	**Holcomb Ridge**	**1.21**	**198**		Pg	04 03 46.4	-0.6
HOLC					Sb	04 03 47.5	0.0
LEOC	**Leona Valley**	**1.23**	**218**		Pn	04 03 32.2	0.0
AMDNV	**Amargosa**	**1.23**	**46**		Pg	04 03 30.3	-1.1
CJV	**Casa Juvan**	**1.24**	**210**		Sb	04 03 48.5	-0.1
JNH	**Juniper Hills**	**1.25**	**202**		Pg	04 03 31.3	-0.4
JNH					Sg	04 03 47.2	-0.8
SPG2	**Springville 2**	**1.27**	**298**		Pg	04 03 31.3	-0.9
SPG2					Sg	04 03 48.0	-0.6
WCT	**Wildcat Mounta**	**1.33**	**27**	Pg	Pg	04 03 32.0	-1.5
WCT				IAML		04 03 53.0	
	comp=E,101nm,0.4s						
SIL	**Silver Peak**	**1.34**	**160**		Pg	04 03 32.7	-0.8
CHFC	**Chilao Flat St**	**1.38**	**203**		Pn	04 03 33.7	-0.5
BFSC	**Mount Baldy Ra**	**1.38**	**189**		Pn	04 03 32.8	-1.5
BFSC				IAML		04 03 53.2	
	comp=E,208nm,0.6s						
BFSC				IAML		04 03 53.4	
	comp=N,152nm,0.8s						
GRAC	**Grapevine Rang**	**1.39**	**1**		Sg	04 03 52.4	-0.1
GRAC	**Grapevine Rang**	**1.39**	**1**		Pn	04 03 33.3	-0.9
GRAC				IAML		04 04 02.1	
	comp=E,272nm,0.9s						
SGV	**South Grapevin**	**1.40**	**12**		Pn	04 03 33.4	-1.2
SGV					Sg	04 03 52.5	-0.3
VES	**Vestal, Richgr**	**1.40**	**280**		Sg	04 03 52.8	0.0
SSK	**Sunset Peak**	**1.42**	**190**		Pn	04 03 34.7	0.0
MWC	**Mount Wilson**	**1.49**	**202**		Pn	04 03 34.8	-0.9
MWC				IAML		04 03 57.6	
	comp=N,204nm,0.4s						
MWC				IAML		04 03 58.2	
	comp=E,208nm,0.5s						
MTPC	**Mountain Pass**	**1.50**	**94**		Pn	04 03 34.2	-1.8
MTPC				IAML		04 03 57.3	
	comp=N,202nm,0.2s						
MTPC				IAML		04 03 58.1	
	comp=E,235nm,0.2s						
PSRC	**Puddingstone R**	**1.55**	**193**		Pb	04 03 37.3	0.0
GTM	**Goat Mountain**	**1.56**	**147**		Pn	04 03 36.8	+0.2
PASC	**Pasadena Art C**	**1.58**	**205**		Pn	04 03 36.0	-0.8
PASC				IAML		04 04 00.7	
	comp=N,88nm,0.4s						
PASC				IAML		04 04 01.2	
	comp=E,101nm,0.5s						
TPNV	**Topopah Spring**	**1.62**	**34**		Pn	04 03 36.4	-1.2
TPNV				IAML		04 04 01.1	
	comp=E,117nm,0.5s						
TPNV				IAML		04 04 01.2	
	comp=E,100nm,0.6s						
GMRC	**Granite Mounta**	**1.64**	**120**		Pn	04 03 35.4	-2.4
GMN	**Gold Mountain**	**1.69**	**3**		Pn	04 03 37.5	-1.1
GMN				IAML		04 04 03.3	
	comp=N,67nm,0.5s						
BLAC	**Blackrock camp**	**1.74**	**152**		Pb	04 03 40.5	-0.1
DSP	**Deep Springs**	**1.82**	**345**	Pn	Pn	04 03 39.2	-1.0
DSP				IAML		04 04 07.4	
	comp=E,66nm,0.5s						
EW2	**E Wide Canyon**	**1.85**	**154**		Sn	04 04 03.3	-1.2
TPC	**Twentynine Pal**	**1.86**	**143**		Pn	04 03 39.5	-1.3
HMTC	**Hemet**	**1.92**	**170**		Pn	04 03 40.6	-0.9
POB	**Polly Butte**	**1.95**	**169**		Pn	04 03 41.2	-0.9
ELS	**Elsinore Mount**	**1.96**	**181**	Pn	Pn	04 03 41.0	-1.1
ELS				IAML		04 04 11.3	
	comp=E,60nm,0.3s						
ELS				IAML		04 04 12.9	
	comp=N,47nm,0.5s						
DGR	**Domenigoni Val**	**1.98**	**171**		Pn	04 03 41.6	-0.8
MTUM	**Tungsten Hills**	**1.98**	**332**		Pb	04 03 44.8	0.0
MURC	**Murrieta**	**2.01**	**175**		Pn	04 03 42.2	-0.6
BACC	**Bachelor Mtn.**	**2.01**	**172**		Pn	04 03 42.0	-0.9
SHPR	**Sheep Range**	**2.02**	**63**	Pn	Pn	04 03 41.8	-1.2
V12A	**Nelson**	**2.07**	**86**	Pn	Pn	04 03 41.8	-1.9
V12A				IAML		04 04 14.5	
	comp=N,111nm,0.6s						
V12A				IAML		04 04 17.3	
	comp=E,59nm,0.6s						
MZP	**Montezuma Peak**	**2.09**	**0**	Pn	Pn	04 03 43.0	-1.1
CRY	**Cary Ranch**	**2.11**	**165**		Pb	04 03 47.1	+0.3
PMD	**Palm Desert**	**2.12**	**157**	Pn	Pn	04 03 42.6	-1.7
PFO	**Pinyon Flats O**	**2.13**	**159**	Pn	Pn	04 03 43.4	-1.2
FRD	**Ford Ranch, An**	**2.21**	**163**		Pn	04 03 44.7	-0.9
NEE2	**Needles Airpor**	**2.42**	**109**	Pn	Pn	04 03 46.3	-2.1
TPH	**Tonopah**	**2.47**	**3**	Pn	Pn	04 03 49.6	+0.3
SBI	**Santa Barbara**	**2.52**	**213**		Pb	04 03 52.9	-0.8
PRN	**Pahroc Range**	**2.60**	**46**	Pn	Pn	04 03 50.2	-0.8
PRN				IAML		04 04 39.6	
	comp=N,51nm,0.8s						
PRN				IAML		04 04 41.5	
	comp=E,52nm,0.9s						
DPP	**Dos Picos Cty**	**2.63**	**172**	Pn	Pn	04 03 50.0	-1.3
DPP				IAML		04 04 30.9	
	comp=E,44nm,0.5s						
LHV	**Little Huntoon**	**2.79**	**342**	Pn	Pn	04 03 53.1	-0.3
LHV				IAML		04 04 44.0	
	comp=N,38nm,1.0s						
LHV				IAML		04 04 45.2	
	comp=E,40nm,0.8s						
NV11	**Mina Array Sit**	**2.88**	**348**	Pn	Pn	04 03 54.1	-0.9
NV11				IAML		04 04 43.6	
	comp=E,25nm,1.4s						
W13A	**Hualapai Mount**	**2.91**	**99**	Pn	Pn	04 03 53.8	-1.5
W13A				IAML		04 04 44.0	
	comp=N,32nm,1.1s						
W13A				IAML		04 04 45.0	
	comp=E,35nm,0.9s						
NVAR	**Mina Array Bea**	**2.91**	**346**	Pn	Pn	04 03 53.9	-1.5
BLYC	**Blythe**	**3.00**	**127**	Pn	Pn	04 03 54.0	-2.3
BLYC				IAML		04 04 48.2	
	comp=N,29nm,0.7s						
BLYC				IAML		04 04 52.7	
	comp=E,28nm,0.7s						
R11B	**Troy Canyon, C**	**3.09**	**27**	Pn	Pn	04 03 56.6	-1.2
RYN	**Ryan**	**3.15**	**344**	Pn	Pn	04 03 58.4	-0.2
YUH	**Yuha Desert**	**3.19**	**157**	Pn	Pn	04 03 59.4	+0.3
GLA	**Glamis**	**3.31**	**140**	Pn	Pn	04 04 00.5	-0.3
WAKR	**Walker**	**3.32**	**331**	Pn	Pn	04 04 00.8	-0.2
WAKR				IAML		04 05 16.4	
	comp=N,14nm,0.8s						
CBX	**Cerro Bola**	**3.34**	**169**	Pn	Pn	04 03 59.7	-1.5
CMB	**Columbia Colle**	**3.41**	**316**	Pn	Pn	04 04 01.0	-1.1
CMB				IAML		04 04 58.7	
	comp=E,17nm,0.8s						
CMB				IAML		04 04 59.0	
	comp=N,16nm,1.0s						
LCMT	**Little Creek M**	**3.63**	**66**	Pn	Pn	04 04 04.2	-1.0
CCUT	**Cedar City**	**3.77**	**58**	Pn	Pn	04 04 06.2	-1.1
ESJX	**Sierra Juarez**	**3.79**	**161**	Pn	Pn	04 04 06.6	-0.8
ESJX				IAML		04 04 55.7	
	comp=N,12nm,0.0s						
ESJX				IAML		04 04 55.7	
	comp=E,17nm,0.1s						
KNB	**Kanab**	**3.95**	**68**	Pn	Pn	04 04 08.9	-0.7
KNB				IAML		04 05 19.1	
	comp=N,8.8nm,1.0s						
KNB				IAML		04 05 25.4	
	comp=E,8.9nm,2.4s						
Y14A	**Wickenburg**	**3.97**	**114**	Pn	Pn	04 04 08.6	-1.2
PSUT	**Pine Spring**	**4.06**	**43**	Pn	Pn	04 04 10.1	-1.2
PSUT				IAML		04 05 26.5	
	comp=E,11nm,1.4s						
PSUT				IAML		04 05 31.7	
	comp=N,10nm,1.1s						
113A	**Mohawk Valley,**	**4.13**	**132**	Pn	Pn	04 04 10.8	-1.1
113A				IAML		04 05 31.0	
	comp=N,8.1nm,2.0s						

*ASRS **08** 04:09:54.0±0.9, 53°.94N×86°.61E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 04:09:57.4±2.9, **53°.97N**×**86°.65E, h0**km, **mbtmp2.9**/2, **ML2.7**/2, **Error ellipse: s-maj=25.6km s-min=14.8km az=53.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.08**	**270**	I	I	04 16 50.0	
	baz=88,slow=317,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.08**	**269**	Pg	Pg	04 10 17.4	-0.7
	0.9nm,0.3s,baz=86,slow=16,SNR=8.0						
ZALV				Lg	Lg	04 10 33.1	
	2.5nm,0.3s,baz=90,slow=24,SNR=11						
KURBB	**Kurchatov Arra**	**6.00**	**239**	Pn	Pn	04 11 28.4	+1.1
	0.1nm,0.3s,baz=56,slow=13,SNR=6.0						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**7.71**	**203**	Pn	Pn	04 11 51.6	+0.9
	0.2nm,0.3s,baz=25,slow=14,SNR=6.4						
	0.3nm,0.3s						

IDC 08 04:15:23.0±1.8, **0°.81N**×**126°.54E, h0**km, **mb3.4**/4, **mbtmp3.5**/4, **Error ellipse: s-maj=171.3km s-min=22.8km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.00**	**160**	P	P	04 20 18.0	-1.0
	0.6nm,0.5s,baz=338,slow=11,SNR=8.3						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**25.37**	**164**	P	P	04 20 52.9	+0.8
	0.7nm,0.7s,baz=347,slow=11,SNR=6.3						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**59.84**	**326**	P	P	04 25 30.1	-0.3
	0.4nm,0.6s,baz=127,slow=7.5,SNR=5.1						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**64.09**	**328**	P	P	04 25 59.0	+0.2
	0.2nm,0.4s,baz=130,slow=6.2,SNR=2.6						
	0.2nm,0.4s						

*MOS **08** 04:16:11.1±0.9, 0°.62N×126°.12E, h9km, mb5.2/48, Error ellipse: s-maj=11.8km s-min=5.2km az=112.9*
*IDC **08** 04:16:11.4±0.4, 0°.61N×126°.17E, h0km, mb4.8/29, mbtmp4.8/31, ML4.4/2, MS3.6/7, Error ellipse: s-maj=18.6km s-min=10.4km az=84.0*
*BJI **08** 04:16:12.9, 0°.02N×126°.39E, h60km, mB5.1/13, mb4.8/54, Ms4.3/9, Ms7 4.1/13*
*NEIC **08** 04:16:15.2±1.8, 0°.71N±0°.08×126°.36E±0°.04, h19km±3km, mb5.0/220, Error ellipse: s-maj=11.4km s-min=6.5km az=175.0*
*DJA **08** 04:16:18.8±0.2, 1°N±2°×12°6E±°, h44km±3km, M4.8/49, mb5.0/49, mB5.4/16, MLv4.8/20, Mw(mB)4.8/16*
*GCMT **08** 04:16:20.2±0.4, 0°.81N±0°.03×126°.36E±0°.02, h28km, MW5.0/66, Moment Tensor Solution. s27,c28; s66,c83; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.56±.26; Mθθ-0.58±.15; Mφφ-2.98±.16; Mrθ-0.69±.26; Mφθ0.86±.09; Mφr0.10±.21; Best double couple: Mo3.47300×10^16 NP1:φs171.00000°, δ43.00000°, λ103.00000°. NP2: φs333.00000°, δ48.00000°, λ78.00000°. Principal axes: T 3.6730, Plg81.0000°, Azm178.0000°; N -0.3990, Plg9.0000°, Azm341.0000°; P -3.2730, Plg3.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 04:16:18.3±0.3, **0°.65N**±0°.04×**126°.29E**±0°.04, **h47**km, **n647, σ1§18**/576, **mb5.0**/196, **MS3.9**/13, **31C-17D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.08**	**83**	Pn	**Pn**	**04 16 34.1**	**-2.9**
TNTI				Sn	**Sn**	**04 16 47.9**	**-3.1**
TNTI	**Ternate**	**1.08**	**83**	P	**Pn**	**04 16 34.6**	**-2.5**
TNTI	**Ternate**	**1.08**	**83**	S	**Sn**	**04 16 48.7**	**-2.3**
TNTI	**Ternate**	**1.08**	**83**	P	**Pn**	**04 16 34.2**	**-2.9**
KMSI	**Cibinong**	**2.31**	**268**	P	**Pn**	**04 16 52.9**	**-1.0**
SANI	**Sanana**	**2.69**	**186**	P	**Pn**	**04 16 58.5**	**-0.7**
SANI	**Sanana**	**2.69**	**186**	S	**Sn**	**04 17 32.1**	**+1.5**
SANI	**Sanana**	**2.69**	**186**	P	**Pn**	**04 16 57.4**	**-1.8**
SGSI	**Sangihe**	**3.12**	**346**	P	**Pn**	**04 17 06.2**	**+1.2**
LUWI	**Luwuk**	**3.90**	**245**	Pn	**Pn**	**04 17 16.3**	**+0.6**
LUWI	**Luwuk**	**3.90**	**245**	P	**Pn**	**04 17 18.7**	**+3.0**
LUWI	**Luwuk**	**3.90**	**245**	P	**Pn**	**04 17 18.5**	**+2.8**
NLAI	**Namlea**	**3.94**	**168**	P	**Pn**	**04 17 16.2**	**-0.1**
MRSI	**Marisa**	**4.35**	**268**	P	**Pn**	**04 17 23.0**	**+1.1**
AAI	**Ambon**	**4.71**	**156**	P	**Pn**	**04 17 28.0**	**+1.2**
MSAI	**Masohi**	**4.76**	**146**	P	**Pn**	**04 17 29.5**	**+1.9**
APSI	**Ampana**	**4.89**	**252**	P	**Pn**	**04 17 30.2**	**+0.8**
SWI	**Sorong**	**5.19**	**107**	P	**Pn**	**04 17 33.8**	**+0.4**
	0.4nm123nm,0.8s						
TOLI2	**Tolitoli**	**5.53**	**275**	Pn	**Pn**	**04 17 36.8**	**-1.3**
TOLI2	**Tolitoli**	**5.53**	**275**	P	**Pn**	**04 17 40.2**	**+2.1**
KDI	**Kendari**	**5.86**	**219**	P	**Pn**	**04 17 43.4**	**+0.7**
MPSI	**Mapaga**	**6.40**	**267**	P	**Pn**	**04 17 51.8**	**+1.7**
	0.3nm69nm,1.0s						
PCI	**Palu**	**6.63**	**257**	P	**Pn**	**04 17 53.8**	**+0.5**
	0.4nm3μm112nm,1.4s						
FAKI	**Fak Fak**	**6.93**	**121**	Pn	**Pn**	**04 17 56.3**	**-1.0**
FAKI	**Fak Fak**	**6.93**	**121**	P	**Pn**	**04 17 56.0**	**-1.3**
FAKI	**Fak Fak**	**6.93**	**121**	P	**Pn**	**04 17 58.6**	**+1.3**
	0.4nm87nm,1.0s						
TTSI	**Tana Toraja**	**7.44**	**240**	P	**Pn**	**04 18 04.8**	**+0.5**
	0.5nm2μm142nm,0.7s						
BNSI	**Bone**	**7.96**	**231**	P	**Pn**	**04 18 11.5**	**+0.1**
	2μm235nm,1.0s						
SPSI	**Sidrap Palu**	**7.96**	**235**	P	**Pn**	**04 18 12.7**	**+1.2**
KAPI	**Kappang**	**8.62**	**229**	Pn	**Pn**	**04 18 20.8**	**+0.3**
KAPI	**Kappang**	**8.62**	**229**	Pn	**Pn**	**04 18 16.6**	**-3.9**
	11nm,0.3s,baz=20,slow=6.1,SNR=22						
KAPI				LR	LR	04 21 54.2	
	comp=Z,202nm,21.0s,baz=64,slow=40						
	2.2nm,0.3s						
KAPI	**Kappang**	**8.62**	**229**	P	**Pn**	**04 18 22.0**	**+1.5**
KAPI	**Kappang**	**8.62**	**229***c*	*iP*	**Pn**	**04 18 21.2**	**+0.7**
BSSI	**Bau Bau, Buton**	**8.89**	**221**	P	**Pn**	**04 18 23.6**	**-0.6**
	105nm,1.2s						
BAKI	**Biak**	**9.98**	**101**	P	**Pn**	**04 18 41.8**	**+2.6**
	3μm173nm,1.1s						
SRPI	**Serui, Papua**	**10.26**	**104**	P	**Pn**	**04 18 45.5**	**+2.5**
EDFI	**Ende, Flores**	**10.40**	**206**	P	**Pn**	**04 18 46.4**	**+1.4**
	47nm,1.2s						
SOEI	**Soe**	**10.53**	**191**	P	**Pn**	**04 18 51.3**	**+4.5**
	2μm120nm,1.0s						
BATI	**Baumata**	**11.09**	**194**	LR	LR	04 23 35.4	
	comp=Z,400nm,21.2s,baz=21,slow=40						
SMPI	**Sarmi**	**12.69**	**102**	P	**Pn**	**04 19 18.1**	**+1.9**
	50nm,1.4s						
TWSI	**Taliwang, Sumb**	**13.22**	**225**	P	**Pn**	**04 19 24.2**	**+0.7**
	1μm60nm,1.0s						
SBUM	**Sibu**	**14.18**	**277**	Pn	**Pn**	**04 19 36.8**	**+0.3**
GENI	**Genyem**	**14.24**	**103**	P	**Pn**	**04 19 38.4**	**+1.0**
	6μm87nm,1.0s						
JAGI	**Jajag, Banyuwa**	**15.11**	**233**	P	**P**	**04 19 52.7**	**-0.6**
JAGI				IAmb	IAmb	04 19 55.9	
	comp=Z,71nm,1.1s						
JAGI	**Jajag, Banyuwa**	**15.11**	**233**	P	**P**	**04 19 53.4**	**+0.2**
	comp=Z,75nm,1.0s						
KSM	**Kuching**	**16.00**	**273**		**P**	**04 20 03.3**	**+0.2**
KSM				IAmb	IAmb	04 20 05.3	
	comp=Z,132nm,0.8s						
KNRA	**Kununurra**	**16.40**	**172**	Pn	**Pn**	**04 20 04.8**	**-0.5**
NGJI	**Ngawi**	**16.80**	**241**	P	**P**	**04 20 14.0**	**+2.1**
	comp=Z,145nm,1.2s						
PCJI	**Pacitan**	**17.44**	**239**	P	**Pn**	**04 20 18.0**	**-0.3**
	comp=Z,100nm,1.1s						
SMRI	**Semarang**	**

ASAR S **S** **04 26 02.7 -0.5**
comp=Z,7.4nm,0.9s,baz=349,slow=20,SNR=11
comp=Z,30nm,0.7s
IPM **Ipoh** **25.52 279** P **P** **04 21 42.2 -0.5**
IPM IAmb IAmb 04 21 44.2
comp=Z,23nm,0.8s
PPI **Padang Panjang** **25.92 268** P **P** **04 21 47.4 +1.1**
comp=Z,36nm,0.7s
KULM **Kulim** **26.01 281** P **P** **04 21 46.5 -0.6**
JOW **Kunigami** **26.11 4** P **P** **04 21 48.5 +0.6**
JOW **Kunigami** **26.11 4** P **P** **04 21 48.5 +0.6**
comp=Z,52nm,0.8s,baz=192,slow=4.4,SNR=7.2
comp=Z,52nm,0.8s
RPSI **Rantau Prapat** **27.43 275** P **P** **04 21 58.8 -1.1**
RPSI IAmb IAmb 04 22 01.0
comp=Z,29nm,1.1s
PSI **Prapat** **27.44 275** P **P** **04 21 58.6 -1.5**
comp=Z,15nm,0.9s,baz=152,slow=2.5,SNR=11
comp=Z,15nm,0.9s
PSI **Prapat** **27.44 275** P **P** **04 21 58.8 -1.4**
PSI pmax pmax
comp=Z,29nm,1.1s
SLVN **Son La** **30.00 315** P **P** **04 22 22.0 -0.8**
FORT **Forrest** **31.30 177** P **P** **04 22 32.7 -1.3**
FORT IAmb IAmb 04 22 46.0
comp=Z,14nm,0.8s
NJ2 **Nanjing** **32.02 348** *e*P **P** **04 22 43.3 +3.0**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
CM31 **Chiang Mai Arr** **32.16 305** P **P** **04 22 41.7 -0.1**
CM31 IAmb IAmb 04 22 43.7
comp=Z,19nm,1.2s
CMAR **Chiang Mai Arr** **32.16 305** P **P** **04 22 41.0 -0.8**
CMAR **Chiang Mai Arr** **32.16 305** P **P** **04 22 40.8 -1.1**
comp=Z,1.5nm,0.4s,baz=130,slow=6.9,SNR=20
CMAR PcP **PcP** **04 25 31.7 +1.6**
comp=Z,1.8nm,0.3s,baz=182,slow=1.4,SNR=7.7
comp=Z,1.5nm,0.4s
CMAR **Chiang Mai Arr** **32.16 305** *ce*P **P** **04 22 41.7 -0.1**
CMAR pmax pmax
comp=Z,5.0nm,0.9s
CHTO **Chiang Mai** **32.34 306** P **P** **04 22 42.0 -1.4**
CHTO IAmb IAmb 04 22 45.6
comp=Z,21nm,1.1s
CHTO **Chiang Mai** **32.34 306** P **P** **04 22 42.0 -1.4**
CHTO pmax pmax
comp=Z,21nm,1.1s
JNU **Nakatsue** **32.59 7** P **P** **04 22 45.5 +0.1**
comp=Z,22nm,1.0s,baz=226,slow=2.6,SNR=5.9
comp=Z,22nm,1.0s
KMI **Kunming** **33.32 319** ⇓P **P** **04 22 53.0 +0.9**
KMI pmax pmax
comp=Z,12nm,1.4s
KMI LR LR
comp=Z,210nm,20.3s
ENH **Enshi** **33.52 333** IAmb IAmb 04 22 55.1
comp=Z,16nm,0.7s
PZH **PanZhiHua** **34.91 319** P **P** **04 23 08.1 +2.3**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.7s
STKA **Stephens Creek** **35.45 157** P **P** **04 23 09.7 -0.5**
comp=Z,21nm,0.9s,baz=330,slow=9.2,SNR=37
comp=Z,21nm,0.9s
INU **Inuyama** **35.95 15** P **P** **04 23 13.8 -0.6**
INU IAmb IAmb 04 23 16.6
comp=Z,17nm,0.7s
JGF **Kuroka** **36.27 15** P **P** **04 23 15.8 -1.4**
JGF IAmb IAmb 04 23 19.9
comp=Z,16nm,0.7s
KSRS **Korea Array** **36.66 2** P **P** **04 23 20.7 +0.3**
comp=Z,3.4nm,0.7s,baz=182,slow=10.0,SNR=15
KSRS PcP **PcP** **04 25 43.5 +0.9**
comp=Z,4.7nm,1.1s,baz=186,slow=3.5,SNR=6.7
comp=Z,3.4nm,0.7s
CD2 **Chengdu** **36.91 327** P **P** **04 23 22.4 -0.4**
CD2 pmax pmax
comp=Z,20nm,0.8s
XAN **Xi'an** **36.99 336** ⇑P **P** **04 23 21.6 -1.8**
XAN pP pP 04 23 33.6 -1.8
XAN pmax pmax
comp=Z,12nm,0.9s
XAN LR LR
comp=Z,300nm,22.0s
MAJO **Matsushiro** **37.39 16** P **P** **04 23 25.9 -0.8**
MAJO IAmb IAmb 04 23 32.0
comp=Z,19nm,0.8s
MAJO **Matsushiro** **37.39 16** *ce*P **P** **04 23 26.4 -0.3**
MAJO pmax pmax
comp=Z,16nm,0.9s
MJAR **Matsushiro Arr** **37.39 16** P **P** **04 23 26.2 -0.5**
MJAR **Matsushiro Arr** **37.39 16** P **P** **04 23 25.9 -0.8**
comp=Z,9.7nm,0.8s,baz=181,slow=9.3,SNR=15
comp=Z,9.7nm,0.8s
MJAR **Matsushiro Arr** **37.39 16** P **P** **04 23 26.2 -0.5**
MJAR pmax pmax
comp=Z,6.0nm,1.0s
DL2 **Dalian** **38.32 354** P **P** **04 23 35.3 +0.9**
DL2 pmax pmax
comp=Z,56nm,0.7s
ARMA **Armidale** **39.19 144** IAmb IAmb 04 23 43.9
comp=Z,24nm,0.8s
LZH **Lanzhou** **40.96 332** *e*P **P** **04 23 56.9 +0.1**
LZH pmax pmax
comp=Z,25nm,1.1s
LZH LR LR
comp=Z,150nm,15.1s
LZH LR LR
comp=Z,200nm,14.4s
LZH LR LR
comp=Z,180nm,16.5s
SHL **Shillong** **41.41 310** P **P** **04 23 56.2 -4.5**
SHL **Shillong** **41.41 310** P **P** **04 23 56.2 -4.5**
SHL pmax pmax
comp=Z,15nm,0.8s
CAN **Canberra** **41.59 152** P **P** **04 24 01.5 -0.3**
CAN IAmb IAmb 04 24 03.5
comp=Z,24nm,1.0s
CAN **Canberra** **41.59 152** P **P** **04 24 01.5 -0.3**
CAN pmax pmax
comp=Z,24nm,1.0s
MSHR **Mys Shultsa** **41.98** 5⇑ *e*P **P** **04 24 04.7 0.0**
MSHR pmax pmax
comp=Z,29nm,1.3s
PSTR **Posyet** **42.01** 5⇑ *e*P **P** **04 24 05.1 +0.1**
HHC **Hu-ho-hao-te** **42.19 343** *e*P **P** **04 24 07.6 +0.9**
HHC pmax pmax
comp=Z,5.0nm,0.6s
HHC pmax pmax
comp=Z,42nm,3.7s
HHC LR LR
comp=Z,98nm,18.3s
HHC LR LR
comp=Z,110nm,18.3s
HHC LR LR
comp=Z,130nm,18.3s
BTO **Baotou** **42.43 342** *e*P **P** **04 24 08.6 0.0**
BTO pP **sP** **04 24 24.9 -1.3**
BTO sP **pwP** **04 24 28.2 +5.2**
BTO PP **PP** **04 25 48.6 +0.9**
BTO S **S** **04 30 26.6 -0.6**
BTO SS **SS** **04 33 31.8 -6.0**
BTO pmax pmax
comp=Z,14nm,0.5s
BTO pmax pmax
comp=Z,160nm,4.3s
BTO LR LR
comp=Z,170nm,4.2s
BTO LR LR
comp=Z,180nm,4.0s
BTO LR LR
comp=Z,340nm,9.5s
USA0B **Ussuriysk Arra** **43.66 6** P **P** **04 24 17.8 -0.5**
USA0B **Ussuriysk Arra** **43.66 6** *ce*P **P** **04 24 18.5 +0.1**
USRK **Ussuriysk Ar.** **43.66 6** P **P** **04 24 17.5 -0.9**
USRK **Ussuriysk Ar.** **43.66 6** P **P** **04 24 18.2 -0.2**
comp=Z,14nm,0.8s,baz=191,slow=9.1,SNR=13
comp=Z,14nm,0.8s
MDJ **Mudanjiang** **43.88 3** IAmb IAmb 04 24 25.4
comp=Z,15nm,0.7s
MDJ **Mudanjiang** **43.88 3** P **P** **04 24 22.4 +2.3**
MDJ pmax pmax
comp=Z,20nm,1.2s
XLT **XiLinHaoTe** **44.02 349** *e*P **P** **04 24 23.4 +2.0**
XLT pP pP 04 24 33.6 -0.1
XLT sP sP 04 24 45.7 +6.7
XLT pmax pmax
comp=Z,13nm,1.0s
XLT pmax pmax
comp=Z,85nm,4.3s
BNX **BinXian** **44.92 1** ⇓P **P** **04 24 29.1 +0.7**
BNX pmax pmax
comp=Z,10.0nm,1.0s
TEY **Ternei** **45.14 10**⇑ *e*P P 04 24 22.6 -7.5
TEY *e* 04 26 12.9
TEY pmax pmax
comp=N,20nm,0.7s
TEY pmax pmax
comp=Z,30nm,0.7s
DZM **Mont Dzumac** **45.19 123** *e*LR LR 04 37 13.3
comp=Z,134nm,23.4s
GTA **Gaotai** **45.53 331** *e*P **P** **04 24 33.7 +0.1**
GTA PcP **PcP** **04 26 12.9 +1.2**
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA LR LR
comp=Z,120nm,13.1s
GTA LR LR
comp=Z,87nm,12.7s
GTA LR LR
comp=Z,110nm,14.9s
ASAJ **Asahikawa** **45.65 16** P **P** **04 24 34.4 +0.2**
comp=Z,12nm,0.6s,baz=218,slow=9.5,SNR=14
comp=Z,12nm,0.6s
ASAJ **Asahikawa** **45.65 16** P **P** **04 24 34.7 +0.5**
ASAJ pmax pmax
comp=Z,17nm,0.8s
JKA **Kamikawa-asahi** **45.65 16** P **P** **04 24 34.7 +0.5**
JKA IAmb IAmb 04 24 37.1
comp=Z,17nm,0.8s
YSS **Yuzhno-Sakhali** **48.31 15** P **P** **04 24 54.5 -0.4**
YSS IAmb IAmb 04 25 00.2
comp=Z,19nm,1.0s
YSS **Yuzhno-Sakhali** **48.31 15** *e*P **P** **04 24 55.8 +0.9**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,100nm,13.0s
KLR **Kul'dur** **48.63 5** P **P** **04 24 57.2 -0.1**
comp=Z,9.8nm,0.9s,baz=230,slow=3.6,SNR=12
comp=Z,9.8nm,0.9s
KLR **Kul'dur** **48.63 5** ⇓ *e*P **P** **04 24 57.7 +0.4**
KLR pmax pmax
comp=Z,13nm,1.0s
HEH **HeiHe** **49.43 1** *e*P **P** **04 25 03.4 -0.1**
HEH pmax pmax
comp=Z,12nm,1.4s
HYB **Hyderabad** **49.81 292** *e*P **P** **04 25 07.7 +0.8**
HYB IVmB_BB 04 25 08.7
comp=Z,531nm,1.1s
ULN **Ulaanbaatar** **49.91 343** P **P** **04 25 07.5 +0.1**
ULN **Ulaanbaatar** **49.91 343** ⇓ *e*P **P** **04 25 07.9 +0.5**
ULN pmax pmax
comp=Z,19nm,1.7s
SONM **Songino Array** **50.08 343** P **P** **04 25 08.7 +0.1**
SONM **Songino Array** **50.08 343** P **P** **04 25 08.4 -0.2**
comp=Z,5.6nm,0.6s,baz=154,slow=8.9,SNR=18
comp=Z,5.6nm,0.6s
SONM **Songino Array** **50.08 343** P **P** **04 25 08.7 +0.1**
SONM pmax pmax
comp=Z,5.0nm,0.8s
CIT **Chita** **52.30 350** *e*P **P** **04 25 26.8 +1.7**
CIT pmax pmax
comp=Z,88nm,1.2s
ZEA **Zeya** **52.92 1** *e*P **P** **04 25 30.5 +0.9**
ZAK **Zakamensk** **53.29 342** *e*P **P** **04 25 32.3 -0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
IRK **Irkutsk** **54.63 344** *e*P **P** **04 25 42.8 +0.6**
IRK pmax pmax
comp=Z,30nm,1.6s
WMQ **Urumqi** **55.01 327** *e*P **P** **04 25 45.6 +0.4**
WMQ pmax pmax
comp=Z,25nm,0.9s
BOD **Bodaibo** **57.84 352** *e*P **P** **04 26 05.4 +0.5**
BOD pmax pmax
comp=Z,29nm,1.3s
PEA0B **Petropavlovsk-** **58.44 22** IAmb IAmb 04 26 15.1
comp=Z,17nm,0.8s
PEA0B **Petropavlovsk-** **58.44 22** *ce*P **P** **04 26 09.6 +0.4**
PETK **Petropavlovsk-** **58.44 22** P **P** **04 26 09.2 0.0**
PETK **Petropavlovsk-** **58.44 22** P **P** **04 26 09.7 +0.5**
comp=Z,12nm,0.8s,baz=181,slow=4.4,SNR=15
comp=Z,12nm,0.8s
ZSN **Zaisan** **58.86 328** *e*P **P** **04 26 11.1 -1.2**
ZSN pmax pmax
comp=Z,6.0nm,0.7s
ZSN **Zaisan** **58.86 328** *e*P **P** **04 26 11.2 -1.2**
comp=Z,5.9nm,0.7s
SHLS **Shalkode** **59.45 322** *e*P **P** **04 26 13.5 -3.1**
SHLS pmax pmax
comp=Z,14nm,1.1s
SHLS **Shalkode** **59.45 322** *e*P **P** **04 26 13.5 -3.1**
comp=Z,14nm,1.1s
PRZ **Przheval'sk** **59.77 321** P **P** **04 26 17.3 -1.6**
PRZ **Przheval'sk** **59.77 321** P **P** **04 26 17.3 -1.6**
PRZ pmax pmax
comp=Z,19nm,0.6s
TARG **Taragay, Kyrgy** **59.77 320** P **P** **04 26 18.3 -0.9**
TARG IAmb IAmb 04 26 28.5
comp=Z,9.0nm,0.8s
TARG **Taragay, Kyrgy** **59.77 320** P **P** **04 26 18.3 -0.9**
TARG pmax pmax
comp=Z,9.0nm,0.8s
MK31 **Makanchi Array** **59.85 326** *ce*P **P** **04 26 18.6 -0.5**
MKAR **Makanchi Array** **59.85 326** P **P** **04 26 18.0 -1.1**
MKAR **Makanchi Array** **59.85 326** P **P** **04 26 18.6 -0.5**
comp=Z,28nm,0.7s,baz=121,slow=7.7,SNR=82
MKAR PcP **PcP** **04 27 05.3 0.0**
comp=Z,9.5nm,0.8s,baz=116,slow=5.5,SNR=5.6
comp=Z,28nm,0.7s
MKAR **Makanchi Array** **59.85 326** *ce*P **P** **04 26 18.6 -0.5**
MKAR pmax pmax
comp=Z,29nm,0.7s
KSH **Kashi** **59.94 317** P **P** **04 26 20.6 +0.6**
KSH pmax pmax
comp=Z,9.0nm,1.1s
MAKZ **Makanchi** **60.03 326** P **P** **04 26 19.4 -0.9**
MAKZ **Makanchi** **60.03 326** P **P** **04 26 19.5 -0.9**
MAKZ pmax pmax
comp=Z,26nm,0.9s
SATY **Saty** **60.06 321** *e*P **P** **04 26 19.6 -1.2**
SATY pmax pmax
comp=Z,11nm,0.7s
SATY **Saty** **60.06 321** *e*P **P** **04 26 19.7 -1.1**
comp=Z,12nm,0.7s
KDJ **Kajisay** **60.37 320** P **P** **04 26 22.7 -0.3**
KDJ IAmb IAmb 04 26 24.3
comp=Z,11nm,0.9s
KDJ **Kajisay** **60.37 320** P **P** **04 26 22.7 -0.3**
KDJ pmax pmax
comp=Z,11nm,0.9s
ULHL **Ulahol** **61.04 319** P **P** **04 26 27.6 0.0**
SNR=12
AAA **Alma-Ata** **61.08 321** *e*P **P** **04 26 26.6 -1.0**
AAA **Alma-Ata** **61.08 321** *e*P **P** **04 26 26.6 -1.0**
TDK **Taldyqorghan** **61.08 323** *e*P **P** **04 26 26.5 -1.0**
TDK **Taldyqorghan** **61.08 323** *e*P **P** **04 26 26.6 -1.0**
YAK **Yakutsk** **61.28 2** P **P** **04 26 29.1 +0.6**
YAK **Yakutsk** **61.28 2** P **P** **04 26 28.2 -0.4**
comp=Z,37nm,0.7s,baz=172,slow=2.8,SNR=7.2
comp=Z,37nm,0.7s
YAK **Yakutsk** **61.28 2** *e*P **P** **04 26 28.7 +0.2**
YAK *e* 04 27 10.5
YAK *e* 04 28 44.2
YAK *e*PPP PPP 04 30 09.5
YAK *e*S **S** **04 34 44.9 -0.2**
YAK *e**SS **sS** **04 35 10.3 +3.9**
YAK *e* 04 36 14.5
YAK *e*SS **SS** **04 38 47.1 +0.9**
YAK pmax pmax
comp=Z,26nm,0.8s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK pmax pmax
comp=Z,140nm,4.7s
YAK pmax pmax
comp=N,43nm,3.1s
YAK pmax pmax
comp=E,42nm,3.7s
YAK smax smax
comp=E,65nm,5.5s
YAK smax smax
comp=N,59nm,4.2s
BOOM **Boomskoye usch** **61.35 320** IAmb IAmb 04 26 55.3
comp=Z,9.4nm,1.0s
TKM2 **Tokmak 2** **61.78 320** P **P** **04 26 32.1 -0.4**
SNR=10.0
KUU **Kurty** **61.78 321** *e*P **P** **04 26 31.4 -0.9**
KUU **Kurty** **61.78 321** *e*P **P** **04 26 31.4 -0.9**
MA2 **Magadan** **61.78 14** P **P** **04 26 31.1 -0.8**
MA2 **Magadan** **61.78 14** *de*P **P** **04 26 34.1 +2.1**
MA2 pmax pmax
comp=Z,32nm,0.9s
MA2 **Magadan** **61.78 14** P **P** **04 26 33.6 +1.6**
comp=Z,42nm,0.9s
UCH **Uchtor** **62.16 319** P **P** **04 26 35.9 +0.4**
SNR=5
AAK **Ala-Archa** **62.36 319** P **P** **04 26 35.6 -0.8**
AAK IAmb IAmb 04 26 46.5
comp=Z,10nm,1.1s
AAK **Ala-Archa** **62.36 319** *de*P **P** **04 26 36.6 +0.2**
AAK pmax pmax
comp=Z,9.0nm,0.8s
USP **Ospenovka** **62.65 320** P **P** **04 26 38.0 -0.1**
SNR=18
SGDS **Sogindy** **62.65 320** *e*P **P** **04 26 37.2 -1.0**
AML **Almayashu** **62.66 318** P **P** **04 26 38.7 0.0**
SNR=12
ARSB **Arslanbob** **62.78 317** IAmb IAmb 04 26 40.2
comp=Z,12nm,0.9s
EKS2 **Erkin-Say** **62.84 319** P **P** **04 26 39.9 +0.3**
SNR=9.6
KBL **Kabul** **63.07 309** P **P** **04 26 40.1 -1.3**
KBL IAmb IAmb 04 26 43.9
comp=Z,19nm,1.2s
KBL **Kabul** **63.07 309** P **P** **04 26 40.1 -1.3**
KBL pmax pmax
comp=Z,19nm,1.2s
ZAA0 **Zalesovo Array** **63.13 334** P **P** **04 26 40.3 -0.8**
ZAA0 IAmb IAmb 04 26 48.0
comp=Z,9.9nm,0.9s
ZALV **Zalesovo Beam** **63.13 334** P **P** **04 26 40.3 -0.8**
ZALV **Zalesovo Beam** **63.13 334** P **P** **04 26 40.5 -0.6**
comp=Z,5.4nm,0.6s,baz=134,slow=6.4,SNR=16
comp=Z,5.4nm,0.6s
BTLS **Baital** **63.77 321** *e*P **P** **04 26 44.4 -1.1**
BTLS pmax pmax
comp=Z,5.0nm,0.8s
BTLS **Baital** **63.77 321** *e*P **P** **04 26 44.5 -1.1**
comp=Z,5.1nm,0.8s
KURBB **Kurchatov Arra** **64.10 328** P **P** **04 26 47.0 -0.5**
comp=Z,40nm,1.0s,baz=128,slow=6.4,SNR=84
comp=Z,40nm,1.0s
KURK **Kurchatov** **64.11 329** P **P** **04 26 46.6 -0.9**
KURK **Kurchatov** **64.11 329** *ce*P **P** **04 26 47.3 -0.3**
KURK pmax pmax
comp=Z,57nm,1.0s
SIMJ **Simiganj** **64.53 313** P **P** **04 26 48.9 -1.9**
SIMJ IAmb IAmb 04 26 51.2
comp=Z,19nm,1.1s
DZA **Taraz** **64.56 318** *e*P **P** **04 26 49.8 -1.0**
DZA **Taraz** **64.56 318** *e*P **P** **04 26 49.8 -1.0**
SEY **Seymchan** **65.12 13**⇑ *e*P **P** **04 26 55.1 +1.2**
SEY pmax pmax
comp=Z,18nm,1.2s
IUG **Iuzhnay** **65.13 317** *e*P **P** **04 26 53.3 -1.3**
IUG pmax pmax
comp=Z,15nm,0.8s
IUG **Iuzhnay** **65.13 317** *e*P **P** **04 26 53.4 -1.3**
comp=Z,15nm,0.8s
KKAR **Karatay Array** **65.20 318** P **P** **04 26 54.1 -0.8**
KKAR **Karatay Array** **65.20 318** P **P** **04 26 54.1 -0.8**
CHM **Chimkent** **65.49 317** *e*P **P** **04 26 55.8 -1.0**
CHM **Chimkent** **65.49 317** *e*P **P** **04 26 55.8 -1.0**
BRLS **Boroldaу** **65.62 318** *e*P **P** **04 26 56.5 -1.1**
BRLS pmax pmax
comp=Z,8.0nm,1.0s
BRLS **Boroldaу** **65.62 318** *e*P **P** **04 26 56.6 -1.1**
comp=Z,8.0nm,1.0s
BRZS **Berezniki** **66.95 326** *e*P **P** **04 27 05.2 -0.8**
BRZS **Berezniki** **66.95 326** *e*P **P** **04 27 05.2 -0.8**
BVAR **Borovoye Array** **69.66 328** P **P** **04 27 22.6 -0.3**
comp=Z,5.3nm,0.6s
comp=Z,5.3nm,0.6s
BRVK **Borovoye** **69.74 328** P **P** **04 27 22.5 -0.8**
BRVK **Borovoye** **69.74 328** P **P** **04 27 22.5 -0.8**
BRVK pmax pmax
comp=Z,28nm,1.2s
BILL **Bilibino** **72.63 15** *ce*P **P** **04 27 42.2 +1.7**
BILL pmax pmax
comp=Z,5.0nm,1.0s
NRIK **Noril'sk** **73.31 347** P **P** **04 27 44.0 -0.5**
NRIK **Noril'sk** **73.31 347** P **P** **04 27 45.0 +0.4**
comp=Z,16nm,0.8s,baz=132,slow=5.4,SNR=14
comp=Z,16nm,0.8s
NRIK **Noril'sk** **73.31 347** *c i*P **P** **04 27 44.4 -0.1**
NRIK pmax pmax
comp=Z,45nm,1.5s
AB31 **Akbulak array** **74.26 321** IAmb IAmb 04 27 51.3
comp=Z,17nm,0.9s
ABKAR **Akbulak array** **74.26 321** P **P** **04 27 49.7 -0.8**
ABKAR IAmb IAmb 04 27 51.3
comp=Z,17nm,0.9s
NIKH **Nikolski High** **74.58 35** P **P** **04 27 52.8 +0.5**
baz=250
SPIA **Saint Paul Isl** **75.36 30** P **P** **04 27 57.6 +0.9**
baz=248
P08K **Saint George I** **75.50 31** P **P** **04 27 58.4 +0.9**
baz=248
AKTO **Aktyubinsk** **75.80 322** LR LR 05 04 01.4
comp=Z,70nm,20.2s,baz=59,slow=38
UNV **Unalaska Valle** **76.20 34** P **P** **04 28 02.5 +1.0**
baz=252
SVE **Sverdlovsk** **76.35 329** *de*P **P** **04 28 02.4 0.0**
SVE pmax pmax
comp=Z,67nm,1.1s
GAMB **Gambell** **77.38 24** P **P** **04 28 08.9 +0.9**
baz=245
ARTI **Arti** **77.38 328** P **P** **04 28 07.3 -0.9**
ARTI **Arti** **77.38 328** *c i*P **P** **04 28 07.4 -0.8**
ARTI 04 30 56.3
ARTI S **S** **04 37 56.2 +1.2**
ARTI SS **SS** **04 42 51.1 -3.2**
ARTI pmax pmax
comp=Z,42nm,1.1s
M11K **Mekoryuk** **78.48 28** P **P** **04 28 15.1 +0.9**
baz=250
S12K **Black Hills** **79.20 33** P **P** **04 28 19.0 +0.8**
baz=255
TNA **Tin City** **79.58 23** P **P** **04 28 21.2 +1.1**
baz=248
K13K **Kusilvak Mount** **79.69 27** P **P** **04 28 22.3 +1.6**
baz=252
M13K **Dall Lake** **79.83 28** IAmb IAmb 04 28 27.8
comp=Z,12nm,0.8s
M13K **Dall Lake** **79.83 28** P **P** **04 28 23.1 +1.5**
baz=253
SDPT **Sand Point** **79.98 34** P **P** **04 28 22.3 -0.2**
SDPT **Sand Point** **79.98 34** P **P** **04 28 23.4 +0.9**
baz=256
F14K **Arctic Creek** **80.17 23** P **P** **04 28 24.6 +1.3**
baz=249
ANM **Nome** **80.24 24** P **P** **04 28 25.1 +1.4**
baz=250
CHNA **Chernabura Isl** **80.36 34** P **P** **04 28 25.6 +1.1**
baz=257
L14K **Kuka Creek** **80.41 28** IAmb IAmb 04 28 31.9
comp=Z,23nm,1.0s
L14K **Kuka Creek** **80.41 28** P **P** **04 28 26.1 +1.4**
baz=254
J14K **Nanvaranak Lak** **80.43 26** P **P** **04 28 26.3 +1.6**
baz=252
N14K **Kuskokwak Cree** **80.50 29** IAmb IAmb 04 28 30.8
comp=Z,13nm,0.9s
N14K **Kuskokwak Cree** **80.50 29** P **P** **04 28 26.3 +1.2**
baz=255
O14K **Tigyukauivet M** **80.53 30** IAmb IAmb 04 28 32.0
comp=Z,15nm,1.1s
O14K **Tigyukauivet M** **80.53 30** P **P** **04 28 26.2 +0.9**
baz=255
M14K **Bethel** **80.59 28** P **P** **04 28 26.6 +1.0**
baz=254
S14K **Fog Glacier** **80.70 33** P **P** **04 28 27.2 +0.7**
baz=257

MAW Mawson 80.73 200 P P 04 28 26.1 -0.1
comp=Z,5.6nm,0.9s,baz=69,slow=11,SNR=8.6
comp=Z,5.6nm,0.9s
F15K North Star Dit 80.91 23 P P 04 28 28.3 +1.0
baz=251
G15K Niukluk 80.92 24 P P 04 28 28.1 +0.8
baz=252
L15K Ungalak Mounta 81.06 27 P P 04 28 28.9 +0.8
baz=254
M15K Kasigluk River 81.18 28 P P 04 28 29.5 +0.7
baz=255
K15K Wolf Creek Mou 81.20 27 IAmb IAmb 04 28 35.2
comp=Z,14nm,0.9s
K15K Wolf Creek Mou 81.20 27 P P 04 28 30.1 +1.2
baz=254
O15K Ungalikthiuk R 81.23 30 IAmb IAmb 04 28 35.2
comp=Z,14nm,1.2s
O15K Ungalikthiuk R 81.23 30 P P 04 28 30.0 +0.9
baz=256
RAYN Ar Rayn 81.29 294 P P 04 28 28.9 -1.4
RAYN Ar Rayn 81.29 294 P P 04 28 28.9 -1.4
RAYN pmax pmax
comp=Z,30nm,0.9s
CHGN Chignik 81.33 33 P P 04 28 30.8 +1.1
baz=258
N15K Kwethluk River 81.33 29 IAmb IAmb 04 28 37.2
comp=Z,22nm,1.2s
N15K Kwethluk River 81.33 29 P P 04 28 30.9 +1.3
baz=256
C16K Lisburne Hills 81.51 20 IAmb IAmb 04 28 36.8
comp=Z,15nm,1.1s
C16K Lisburne Hills 81.51 20 P P 04 28 32.0 +1.6
baz=250
G16K Koyuk River 81.72 24 IAmb IAmb 04 28 35.1
comp=Z,24nm,1.6s
G16K Koyuk River 81.72 24 P P 04 28 33.0 +1.5
baz=253
J16K Anvik River 81.88 26 IAmb IAmb 04 28 39.5
comp=Z,19nm,1.1s
J16K Anvik River 81.88 26 P P 04 28 32.8 +0.3
baz=255
I17K Unalakleet 81.99 25 IAmb IAmb 04 28 37.1
comp=Z,22nm,1.1s
I17K Unalakleet 81.99 25 P P 04 28 34.1 +1.1
baz=255
L16K Owhat River 82.00 28 IAmb IAmb 04 28 36.5
comp=Z,11nm,0.8s
L16K Owhat River 82.00 28 P P 04 28 33.5 +0.4
baz=256
N16K Nishlik Lake 82.04 29 P P 04 28 33.9 +0.5
baz=257
M16K Timber Creek 82.08 28 P P 04 28 34.5 +1.0
baz=257
P16K Nushagak River 82.12 30 P P 04 28 34.7 +1.0
baz=258
D17K Noatak River 82.13 21 P P 04 28 34.8 +1.2
baz=252
O16K Kokwok River B 82.18 30 P P 04 28 35.0 +0.9
baz=258
RDOG Red Dog Mine 82.30 21 P P 04 28 36.0 +1.4
baz=252
C17K DeLong Mountai 82.33 21 P P 04 28 36.1 +1.3
baz=252
E17K Hotham Inlet 82.41 22 P P 04 28 36.7 +1.6
baz=253
G17K Kiwalik Mounta 82.43 24 P P 04 28 36.8 +1.5
baz=255
F17K Baldwin Pennin 82.45 23 IAmb IAmb 04 28 42.3
comp=Z,14nm,0.9s
F17K Baldwin Pennin 82.45 23 P P 04 28 36.9 +1.5
baz=254
J17K VABM Dome 82.57 26 IAmb IAmb 04 28 44.5
comp=Z,18nm,1.0s
J17K VABM Dome 82.57 26 P P 04 28 37.7 +1.6
baz=256
BELG Belogornoye 82.57 323*c i* P P 04 28 35.9 -0.4
BELG pmax pmax
comp=Z,14nm,1.0s
H17K Granite Mounta 82.59 24 P P 04 28 37.8 +1.6
baz=256
KIRV Kirov 82.62 329*ce* P P 04 28 36.1 -0.3
L17K Donlin 82.63 27 P P 04 28 37.7 +1.3
baz=257
R17L Mt. Peulik Vol 82.69 32 P P 04 28 37.7 +0.9
baz=260
PLK4 Peulik 4 82.69 32 IAmb IAmb 04 28 43.8
comp=Z,19nm,1.0s
O17K Koliganek Bris 82.72 30 P P 04 28 38.6 +1.7
baz=259,SNR=12
Q16K King Salmon 82.73 31 P P 04 28 37.9 +0.9
baz=259
K17K Iditarod 82.76 27 P P 04 28 38.6 +1.5
baz=257
N17K Nushagak Hills 82.82 29 IAmb IAmb 04 28 41.3
comp=Z,13nm,1.2s
N17K Nushagak Hills 82.82 29 P P 04 28 38.9 +1.5
baz=258
M17K Holitna River 82.88 28 IAmb IAmb 04 28 45.4
comp=Z,16nm,1.1s
M17K Holitna River 82.88 28 P P 04 28 39.3 +1.6
baz=258
P17K Kvichak River 82.94 30 P P 04 28 38.9 +0.9
baz=259
E18K Tukpahlearik C 82.96 22 P P 04 28 39.5 +1.5
baz=254
Q17K Contact Creek 83.05 31 P P 04 28 39.1 +0.3
baz=260
B18K Kokolik River 83.08 20 P P 04 28 39.5 +0.9
baz=253
C18K Utukok River 83.08 21 P P 04 28 39.6 +0.8
baz=254
F18K Selawik 83.11 23 P P 04 28 39.5 +0.8
baz=256
GNI Garni 83.12 310 P P 04 28 39.6 0.0
GNI Garni 83.12 310*de* P P 04 28 40.9 +1.2
GNI pmax pmax
comp=Z,37nm,1.7s
H18K Honhosa River 83.28 24 IAmb IAmb 04 28 46.2
comp=Z,16nm,1.0s
H18K Honhosa River 83.28 24 P P 04 28 40.6 +0.9
baz=257
G18K Tagagawik 83.33 24 IAmb IAmb 04 28 46.3
comp=Z,10nm,0.9s
G18K Tagagawik 83.33 24 P P 04 28 40.8 +0.8
baz=256
ACHA Angle Creek He 83.33 31 IAmb IAmb 04 28 46.4
comp=Z,7.1nm,0.8s
L18K Granite Mounta 83.39 27 P P 04 28 41.3 +1.0
baz=259
N18K Kilae Creek 83.48 29 IAmb IAmb 04 28 44.5
comp=Z,23nm,1.4s
N18K Kilae Creek 83.48 29 P P 04 28 41.8 +0.9
baz=260
A19K Wainwright 83.56 19 P P 04 28 41.5 +0.5
baz=254
Q18K Katmai Hardscr 83.57 31 P P 04 28 41.7 +0.2
baz=261,SNR=10
OZAP Van, Ozalp-Mer 83.58 309 ⇑P P 04 28 42.9 +0.8
P18K Big Mountain, 83.58 30 IAmb IAmb 04 28 47.3
comp=Z,6.2nm,0.8s
P18K Big Mountain, 83.58 30 P P 04 28 41.5 0.0
baz=260,SNR=9.4
J18K Innoko River 83.62 26 IAmb IAmb 04 28 48.4
comp=Z,11nm,0.9s
J18K Innoko River 83.62 26 P P 04 28 41.8 +0.2
baz=259
M18K Stony River 83.66 28 P P 04 28 42.0 +0.3
baz=260
O18K Koktuh Hills 83.67 30 IAmb IAmb 04 28 51.6
comp=Z,9.9nm,0.9s
O18K Koktuh Hills 83.67 30 P P 04 28 42.3 +0.5
baz=260,SNR=7.6
R18K Karluk 83.69 32 P P 04 28 42.7 +0.8
baz=261
C19K Lookout Ridge 83.77 20 P P 04 28 43.3 +1.1
baz=255
GCSA Galena City Sc 83.81 25 P P 04 28 43.4 +1.1
baz=258,SNR=14
F19K Shaleruckik Mo 83.89 23 IAmb IAmb 04 28 45.0
comp=Z,15nm,1.4s
F19K Shaleruckik Mo 83.89 23 P P 04 28 43.7 +0.9
baz=257
G19K Purcell Mounta 84.01 23 P P 04 28 44.8 +1.3
baz=258
D19K Kuna River 84.14 21 P P 04 28 45.3 +1.2
baz=257
H19K Roundabout Mou 84.14 24 P P 04 28 44.7 +0.6
H19K Roundabout Mou 84.14 24 P P 04 28 45.3 +1.2
baz=259
O19K Port Alsworth 84.16 30 P P 04 28 46.0 +1.7
baz=261
N19K Bonanza Creek 84.18 29 P P 04 28 45.8 +1.3
baz=261
J19K Poorman 84.20 26 P P 04 28 45.9 +1.5
baz=260
L19K White Mountain 84.23 28 P P 04 28 45.6 +0.9
baz=260
E19K Redstone River 84.23 22 IAmb IAmb 04 28 51.3
comp=Z,14nm,0.9s
E19K Redstone River 84.23 22 P P 04 28 45.6 +1.0
baz=258
OHAK Old Harbor 84.27 33 P P 04 28 45.8 +0.9
baz=262
Q19K Cape Douglas, 84.32 31 P P 04 28 45.9 +0.7
baz=262
M19K Big River Lodg 84.40 28 IAmb IAmb 04 28 52.8
comp=Z,13nm,1.0s
M19K Big River Lodg 84.40 28 P P 04 28 46.5 +1.0
baz=261
PPT2 Papeete2 84.60 108 *e*LR LR 04 55 24.6
comp=Z,81nm,23.2s
P19K Oil Pt 84.63 30 P P 04 28 47.7 +0.9
baz=262
ILSW Iliamna Southw 84.72 30 IAmb IAmb 04 28 52.5
comp=Z,6.3nm,0.8s
KDAK Kodiak Island 84.72 32 P P 04 28 47.5 +0.4
KDAK Kodiak Island 84.72 32 P P 04 28 47.5 +0.4
KDAK pmax pmax
comp=Z,96nm,1.9s
KDAK Kodiak Island 84.72 32 P P 04 28 48.3 +1.2
baz=263
D20K Etivluk River 84.72 21 IAmb IAmb 04 28 59.0
comp=Z,7.8nm,0.8s
D20K Etivluk River 84.72 21 P P 04 28 48.5 +1.5
baz=259
F20K Avaraart Lake 84.72 23 P P 04 28 48.5 +1.5
baz=259
L20K Farewell, AK 84.73 27 P P 04 28 48.6 +1.4
baz=261
GOF Gofitskoye 84.77 315*ce* P P 04 28 48.7 +1.0
KBZ Khabaz 84.77 314 P P 04 28 47.2 -0.5
comp=Z,16nm,1.0s,baz=106,slow=2.5,SNR=31
KBZ LR LR 05 11 06.5
comp=Z,18nm,18.8s,baz=112,slow=39
comp=Z,16nm,1.0s
KBZ Khabaz 84.77 314*c i* P P 04 28 47.8 +0.1
KBZ pmax pmax
comp=Z,28nm,1.1s
K20K Telida 84.78 26 IAmb IAmb 04 28 51.8
comp=Z,9.5nm,1.2s
K20K Telida 84.78 26 P P 04 28 48.4 +1.0
baz=261
H20K Anolleneega Mo 84.78 24 P P 04 28 48.8 +1.4
baz=260
E20K Nigu River 84.78 21 P P 04 28 48.6 +1.2
baz=259
B20K Meade River 84.81 20 P P 04 28 49.0 +1.6
baz=258
I20K Naaghedeneel 84.83 25 P P 04 28 49.0 +1.5
baz=260
J20K Nowinta River 84.87 26 IAmb IAmb 04 30 05.5
comp=Z,12nm,1.6s
J20K Nowinta River 84.87 26 P P 04 28 49.2 +1.4
baz=261
Q20K Shuyak Island 84.92 31 P P 04 28 49.6 +1.4
baz=263
KIV Kislovodsk 84.94 314 P P 04 28 49.0 +0.2
KIV Kislovodsk 84.94 314 ⇑P P 04 28 49.4 +0.7
KIV Kislovodsk 84.94 314 *e*P P 04 28 49.0 +0.2
KIV pmax pmax
comp=Z,19nm,1.0s
KIV Kislovodsk 84.94 314 P P 04 28 49.2 +0.4
comp=Z,15nm,1.3s
TBI Tubuai 84.97 113 *e*LR LR 04 55 40.1
comp=Z,608nm,34.8s
M20K Styx River 84.99 28 IAmb IAmb 04 28 56.1
comp=Z,9.3nm,1.0s
M20K Styx River 84.99 28 P P 04 28 49.9 +1.3
baz=262
O20K Slope Mountain 84.99 30 P P 04 28 49.6 +1.0
baz=262
HOMI Hoisan 85.28 310 ⇓P P 04 28 52.0 +1.3
IMAR Indian Mountai 85.32 24 P P 04 28 50.5 +0.4
C21K Knifeblade Rid 85.46 21 P P 04 28 52.2 +1.5
baz=260
G21K Allakaket 85.50 23 IAmb IAmb 04 30 22.7
comp=Z,3.8nm,0.5s
G21K Allakaket 85.50 23 P P 04 28 52.6 +1.7
baz=261
PPLA Purkeypile 85.56 27 P P 04 28 52.5 +1.1
baz=263
B21K Ikpikpuk River 85.60 20 P P 04 28 53.1 +1.8
baz=260
F21K Alatna River 85.62 23 P P 04 28 53.3 +1.8
baz=261
CHUM Lake Minchumin 85.63 26 P P 04 28 52.9 +1.3
baz=262
E21K Killik River 85.63 21 P P 04 28 52.7 +1.1
baz=261
H21K Melozitna Rive 85.66 24 P P 04 28 52.8 +1.1
baz=262
CAST Castle Rocks 85.67 27 P P 04 28 52.9 +1.0
baz=263
A22K Sinclair Lake 85.72 19 P P 04 28 53.6 +1.7
baz=260
SKT Skwentna 85.75 28 IAmb IAmb 04 28 54.4
comp=Z,21nm,2.0s
SKT Skwentna 85.75 28 P P 04 28 53.1 +0.8
baz=263
CAPN Captain Cook N 85.79 29 P P 04 28 53.3 +0.8
baz=264
I21K Tanana 85.94 25 IAmb IAmb 04 30 25.6
comp=Z,7.8nm,0.9s
I21K Tanana 85.94 25 P P 04 28 53.4 +0.3
baz=263
SUA Susitna One 86.06 29 IAmb IAmb 04 29 00.6
comp=Z,9.4nm,0.8s
SUA Susitna One 86.06 29 P P 04 28 54.2 +0.2
baz=264
VRH Novokhopyorsk 86.09 321 *e*P P 04 28 53.6 -0.5
VRH pmax pmax
comp=Z,64nm,0.9s
B22K Teshekpuk Lake 86.12 20 P P 04 28 55.1 +1.2
baz=261
F22K John River 86.16 22 P P 04 28 55.5 +1.3
baz=262
D22K Ayikyak River 86.16 21 P P 04 28 55.3 +1.1
baz=262
SLKM Skilak Lake 86.22 30 IAmb IAmb 04 29 10.1
comp=Z,16nm,1.0s
BPAW Bear Paw Mtn. 86.23 26 P P 04 28 55.1 +0.5
BPAW Bear Paw Mtn. 86.23 26 P P 04 28 55.5 +0.9
baz=264
H22K Ishtalitna Cre 86.27 24 P P 04 28 56.0 +1.1
baz=263
G22K Bettles 86.34 23 P P 04 28 56.1 +1.0
baz=263
E22K Anaktuvuk Pass 86.38 22 IAmb IAmb 04 29 01.9
comp=Z,8.5nm,1.1s
E22K Anaktuvuk Pass 86.38 22 P P 04 28 55.7 +0.4
baz=263
MLY Manley 86.44 25 P P 04 28 56.0 +0.3
baz=264
TRF Thorofare Moun 86.47 27 P P 04 28 56.0 0.0
baz=264
RC01 Rabbit Creek A 86.51 29 IAmb IAmb 04 29 02.4
comp=Z,8.1nm,0.8s
RC01 Rabbit Creek A 86.51 29 P P 04 28 56.5 +0.5
baz=265
SEW Seward 86.57 30 P P 04 28 57.0 +0.7
baz=265
VSLR Vesyoloye 86.84 313 *de*P P 04 28 58.0 0.0
VSLR pmax pmax
comp=Z,25nm,1.1s
PMR Palmer 86.85 28 IAmb IAmb 04 29 04.1
comp=Z,6.9nm,0.9s
PMR Palmer 86.85 28 P P 04 28 58.6 +1.0
baz=266
COLD Coldfoot 86.89 23 IAmb IAmb 04 29 05.2
comp=Z,7.3nm,0.8s
COLD Coldfoot 86.89 23 P P 04 28 58.8 +1.1
baz=264,SNR=13
D23K Nanushuk River 86.89 21 P P 04 28 58.9 +1.1
baz=264
G23K Bananza Creek 86.91 23 IAmb IAmb 04 30 34.1
comp=Z,7.6nm,0.8s
G23K Bananza Creek 86.91 23 P P 04 28 58.8 +0.9
baz=264
C23K Itkillik River 87.01 20 IAmb IAmb 04 29 05.8
comp=Z,6.0nm,0.8s
C23K Itkillik River 87.01 20 P P 04 28 59.3 +1.1
baz=264
H23K Yukon River 87.02 24 P P 04 28 59.0 +0.5
baz=265
I23K Minto, Yukon-K 87.03 25 IAmb IAmb 04 29 04.5
comp=Z,15nm,1.1s
I23K Minto, Yukon-K 87.03 25 P P 04 28 59.0 +0.6
baz=265
MCK McKinley 87.10 26 P P 04 28 59.2 +0.3
baz=266
NEA2 Nenana 87.11 25 P P 04 28 59.1 +0.2
NEA2 Nenana 87.11 25 P P 04 28 59.6 +0.7
baz=265
KNK Knik Glacier 87.16 29 P P 04 28 59.8 +0.6
baz=266
PWL Port Wells 87.18 29 P P 04 28 59.6 +0.3
baz=266
E23K Chandalar 87.19 22 IAmb IAmb 04 29 06.4
comp=Z,14nm,1.1s
E23K Chandalar 87.19 22 P P 04 28 60.0 +0.6
baz=265
WAT1 Susitna Watana 87.21 27 P P 04 29 00.2 +0.8
baz=266
TOLK Toolik Lake Re 87.26 21 P P 04 29 00.2 +0.6
baz=265
M23K Glacier View 87.53 28 P P 04 29 01.7 +0.7
baz=267
WAT6 Susitna Watana 87.57 28 P P 04 29 01.5 +0.2
baz=267
D24K Happy Valley 87.57 21 IAmb IAmb 04 29 07.0
comp=Z,17nm,1.4s
D24K Happy Valley 87.57 21 P P 04 29 01.6 +0.6
baz=265
P23K Montague Islan 87.59 30 P P 04 29 01.8 +0.5
baz=267
VORD Divnogorie 87.61 321 *e*P P 04 29 00.5 -1.0
VORD pmax pmax
comp=Z,10.0nm,1.0s
E24K Your Creek 87.61 22 P P 04 29 01.6 +0.3
baz=266
C24K Franklin Bluff 87.66 20 IAmb IAmb 04 29 08.5
comp=Z,9.1nm,1.1s
C24K Franklin Bluff 87.66 20 P P 04 29 02.1 +0.7
baz=266
VORR Voronezh 87.68 322 *e*P P 04 29 00.6 -1.3
VORR pmax pmax
comp=Z,34nm,0.4s
VSR Storozhevoye 87.69 321 *e*P P 04 28 59.2 -2.8
VSR pmax pmax
comp=Z,10.0nm,1.0s
H24K Noodor Dome 87.70 24 P P 04 29 02.2 +0.5
baz=266
SCM Sheep Creek Mo 87.72 28 P P 04 29 02.4 +0.4
baz=267
DHY Denali Highway 87.76 27 P P 04 29 02.4 +0.2
baz=267
GLI Glacier Island 87.78 29 P P 04 29 02.2 0.0
baz=267
F24K Squaw Lake 87.80 23 P P 04 29 02.4 +0.2
baz=266
POKR Poker Plat Res 87.84 25 P P 04 29 02.0 -0.4
baz=267
KLMR Klimovskoe 87.86 331 *e*P P 04 28 59.0 -3.5
KLMR pmax pmax
comp=Z,41nm,1.2s
LPSR Galich'ya Gora 87.88 322 *e*P P 04 29 02.3 -0.5
LPSR pmax pmax
comp=Z,29nm,0.9s
G24K Hadweenzic Riv 87.91 23 IAmb IAmb 04 29 09.6
comp=Z,9.5nm,1.2s
G24K Hadweenzic Riv 87.91 23 P P 04 29 03.1 +0.3
baz=267
HDA Harding Lake 88.02 26 P P 04 29 03.4 +0.2
baz=267
ILAR Eielson Array 88.06 25 P P 04 29 02.3 -1.1
ILAR Eielson Array 88.06 25 P P 04 29 02.5 -0.9
comp=Z,0.6nm,0.5s,baz=247,slow=4.8,SNR=13
comp=Z,0.6nm,0.5s
Q23K Middleton Isla 88.10 31 P P 04 29 04.0 +0.4
baz=268
KIBK Kibwezi 88.27 268 P P 04 29 05.6 -0.1
KIBK IAmb IAmb 04 29 07.7
comp=Z,11nm,1.0s
M24K Tolsona, Glenn 88.28 28 P P 04 29 05.0 +0.4
baz=268
KLU Klutina 88.38 29 P P 04 29 05.2 +0.1
baz=268
EYAK Cordova Ski Ar 88.43 30 P P 04 29 05.6 +0.3
baz=268
D25K Kavik River 88.45 21 P P 04 29 05.8 +0.5
baz=268
G25K Bearman Lake 88.46 23 P P 04 29 05.9 +0.6
baz=268
K24K Donnelly Dome 88.51 26 IAmb IAmb 04 29 11.2
comp=Z,7.8nm,1.0s
K24K Donnelly Dome 88.51 26 P P 04 29 06.0 +0.4
baz=268
H25L Birch Creek 88.56 24 P P 04 29 06.1 +0.3
baz=268
PAX Paxson 88.62 27 P P 04 29 07.1 +0.8
baz=269
PRP Porcupine Dome 88.66 25 P P 04 29 07.1 +0.7
baz=269
F25K Christian Rive 88.67 23 IAmb IAmb 04 29 13.9
comp=Z,11nm,1.8s
F25K Christian Rive 88.67 23 P P 04 29 06.9 +0.6
baz=268
J25K Salcha River, 88.71 26 P P 04 29 07.0 +0.4
baz=269
E25K Arctic Village 88.71 22 IAmb IAmb 04 29 13.5
comp=Z,7.2nm,1.1s
E25K Arctic Village 88.71 22 P P 04 29 07.2 +0.7
baz=268,SNR=8.8
MOS Moscow 88.72 326 *e*P P 04 29 04.9 -1.8
HARP HAARP 88.76 28 P P 04 29 07.4 +0.6
baz=269
FYU Fort Yukon 88.80 24 IAmb IAmb 04 29 13.5
comp=Z,9.6nm,1.1s
RIDG Independent Ri 88.92 26 IAmb IAmb 04 29 13.4
comp=Z,7.0nm,1.0s
RIDG Independent Ri 88.92 26 P P 04 29 08.1 +0.5
baz=269
C26K Camden Bay 88.98 20 P P 04 29 08.9 +1.2
baz=269
BMRM Bremner River 89.00 29 P P 04 29 08.5 +0.5
baz=270
N25K Chitina, Valde 89.01 29 P P 04 29 08.8 +0.7
baz=270
KMBO Kilima Mbogo 89.05 269 P P 04 29 09.2 -0.3
KMBO IAmb IAmb 04 29 11.7
comp=Z,10.0nm,1.1s
KMBO Kilima Mbogo 89.05 269 P P 04 29 09.2 -0.3
KMBO pmax pmax
comp=Z,10.0nm,1.1s
BMAR Burnt Mountain 89.07 23 P P 04 29 08.0 -0.3
KAIM Kayak Island 89.09 30 P P 04 29 09.1 +0.7
baz=270
F26K Sheenjek River 89.24 22 P P 04 29 10.0 +1.0
baz=270
SCRK Sand Creek 89.30 26 P P 04 29 09.9 +0.4
baz=270
OBN Obninsk 89.32 325 *ce*P P 04 29 08.9 -0.6
OBN *e* 04 32 40.4
OBN *e*PPP PPP 04 34 36.5
OBN pmax pmax
comp=Z,28nm,1.3s
OBN MLR MLR
comp=Z,43nm,23.0s
G26K Porcupine Rive 89.38 23 P P 04 29 10.2 +0.6
baz=270
C27K Jago River 89.40 21 IAmb IAmb 04 29 13.0
comp=Z,4.6nm,0.7s
C27K Jago River 89.40 21 P P 04 29 10.1 +0.5
baz=270
SYO Syowa Base 89.41 201 ⇑*e*P P 04 29 10.5 +0.9
SYO Syowa Base 89.41 201 ⇓*e*PcP PcP 04 29 13.0 +2.0
J26L Joseph Creek 89.48 26 P P 04 29 10.5 +0.2
baz=270
L26K Log Cabin Wild 89.59 27 P P 04 29 11.2 +0.4
baz=271
I26K Coal Creek Min 89.65 25 P P 04 29 11.1 +0.2
baz=271
M26K Nabesna, AK 89.77 28 P P 04 29 11.9 +0.3
baz=271

K27K	Chicken	90.14	26	IAmb	IAmb	04 29 20.1	
	comp=Z,10nm,1.0s						
K27K	Chicken	90.14	26	P	P	04 29 14.2	+1.0
	baz=272						
E27K	Coleen River	90.19	22	P	P	04 29 14.4	+1.0
	baz=272						
G27K	Doyon Strip	90.22	23	P	P	04 29 13.9	+0.3
	baz=272						
I27K	Kandik River	90.29	25	P	P	04 29 14.9	+1.0
	baz=272						
L27K	Beaver Creek,	90.29	27	P	P	04 29 14.7	+0.7
	baz=272						
M27K	Edge Creek, AK	90.29	28	P	P	04 29 14.7	+0.6
	baz=272						
H27K	Steamboat Moun	90.30	24	IAmb	IAmb	04 29 17.0	
	comp=Z,16nm,1.7s						
H27K	Steamboat Moun	90.30	24	P	P	04 29 14.4	+0.4
	baz=272						
BCAR	Beaver Creek A	90.31	27	P	P	04 29 14.4	+0.4
MESA	MESA	90.32	30	P	P	04 29 14.5	0.0
	baz=272						
D27M	Malcolm River	90.38	21	P	P	04 29 14.5	+0.2
	baz=273						
MMAI	Mount Meron Ar	90.40	303	P	P	04 29 14.6	-0.6
	comp=Z,0.6nm,0.3s,baz=178,slow=5.5,SNR=5.0						
	comp=Z,0.6nm,0.3s						
QSPA	South Pole Qui	90.57	180	P	P	04 29 15.4	+0.1
QSPA				IAmb	IAmb	04 29 21.8	
	comp=Z,19nm,1.8s						
QSPA	South Pole Qui	90.57	180	P	P	04 29 14.5	-0.8
	comp=Z,2.9nm,0.8s,baz=157,slow=1.1,SNR=12						
	comp=Z,2.9nm,0.8s						
CTG	Chitna Glacier	90.60	29	P	P	04 29 15.8	+0.2
	baz=272						
EIL	Elat	90.85	300	LR	LR	05 13 34.4	
	comp=Z,34nm,21.6s,baz=62,slow=38						
F28M	Old Crow	90.88	22	P	P	04 29 17.3	+0.7
	baz=274,SNR=5.3						
E28M	Babbage River	90.93	21	IAmb	IAmb	04 29 23.1	
	comp=Z,10nm,1.3s						
E28M	Babbage River	90.93	21	P	P	04 29 17.2	+0.3
	baz=274						
I28M	Miner Creek	90.99	25	P	P	04 29 17.8	+0.5
	baz=274						
D28M	Stokes Point	91.16	21	P	P	04 29 18.6	+0.8
	baz=275						
O28M	Mount Upton	91.17	29	P	P	04 29 18.5	+0.1
	baz=273						
PINM	Pinnacle	91.18	30	P	P	04 29 18.4	+0.2
	baz=273						
DAWY	Dawson	91.32	26	IAmb	IAmb	04 29 24.9	
	comp=Z,7.8nm,1.2s						
DAWY	Dawson	91.32	26	P	P	04 29 19.4	+0.7
	baz=274						
KIRS	Kirsehir-Merke	91.44	309	⇑P	P	04 29 19.7	-0.3
ILGA	Ilgaz	91.53	311	IAmb	IAmb	04 29 21.5	
	comp=Z,5.6nm,0.9s						
E29M	Blow River	91.55	22	IAmb	IAmb	04 29 21.6	
	comp=Z,12nm,1.6s						
E29M	Blow River	91.55	22	P	P	04 29 20.5	+0.8
	baz=276						
H29M	Whitestone	91.58	24	P	P	04 29 20.1	+0.2
	baz=275						
PNL	Peninsula	91.63	30	P	P	04 29 20.4	+0.1
	baz=274						
BR104	Keskin Array S	91.64	310	P	P	04 29 19.6	-1.3
	comp=Z,4.5nm,0.9s						
BR131	Keskin Array S	91.64	310	IAmb	IAmb	04 29 21.7	
	comp=Z,5.0nm,0.9s						
BR131	Keskin Array S	91.64	310	*d* *i*P	P	04 29 20.0	-0.9
BRTR	Keskin Array B	91.64	310	P	P	04 29 19.7	-1.2
BRTR	Keskin Array B	91.64	310	P	P	04 29 20.0	-0.9
	comp=Z,3.7nm,0.9s,baz=125,slow=5.5,SNR=23						
	comp=Z,3.7nm,0.9s						
G29M	Pine Creek	91.65	23	IAmb	IAmb	04 29 25.7	
	comp=Z,8.2nm,1.0s						
G29M	Pine Creek	91.65	23	P	P	04 29 20.6	+0.4
	baz=275						
BR106	Keskin Array S	91.65	310	P	P	04 29 19.8	-1.2
	comp=Z,4.4nm,0.9s						
BR105	Keskin Array S	91.65	310	P	P	04 29 19.8	-1.2
	comp=Z,5.9nm,0.9s						
I29M	Ogilvie Camp,	91.68	25	P	P	04 29 20.8	+0.4
	baz=275						
M29M	Somme Creek	91.87	28	IAmb	IAmb	04 29 28.1	
	comp=Z,6.2nm,1.1s						
M29M	Somme Creek	91.87	28	P	P	04 29 21.8	+0.4
	baz=275						
YUK4	Talbot Arm	91.88	29	P	P	04 29 21.3	-0.3
	baz=275						
L29M	L29M	91.96	27	P	P	04 29 22.6	+0.8
	baz=275						
YUK6	Outpost Mounta	92.05	29	P	P	04 29 22.0	-0.5
	baz=275						
CSS	Mathiatis	92.06	305	P	P	04 29 21.8	-1.0
	comp=Z,20nm,1.0s						
K29M	Barlow Dome	92.16	26	IAmb	IAmb	04 29 26.2	
	comp=Z,15nm,1.6s						
K29M	Barlow Dome	92.16	26	P	P	04 29 22.6	-0.2
	baz=276						
EPYK	Eagle Plains	92.22	24	P	P	04 29 23.2	+0.3
	baz=277,SNR=6.1						
G30M	tAoh Zraii Nji	92.35	23	IAmb	IAmb	04 29 24.3	
	comp=Z,7.1nm,1.2s						
G30M	tAoh Zraii Nji	92.35	23	P	P	04 29 23.5	0.0
	baz=277						
F30M	Barrier River	92.43	22	IAmb	IAmb	04 29 29.6	
	comp=Z,5.6nm,0.8s						
F30M	Barrier River	92.43	22	P	P	04 29 24.3	+0.5
	baz=278						
HYT	Haines Junctio	92.48	29	P	P	04 29 24.7	+0.4
	baz=276						
P29M	Windy Craggy	92.48	30	P	P	04 29 24.6	+0.4
	baz=275						
I30M	Mount Dempster	92.50	25	P	P	04 29 24.0	-0.4
I30M				IAmb	IAmb	04 29 30.1	
	comp=Z,7.7nm,1.4s						
I30M	Mount Dempster	92.50	25	P	P	04 29 24.8	+0.4
	baz=277						
J30M	Hart River	92.60	25	IAmb	IAmb	04 29 28.0	
	comp=Z,14nm,1.6s						
J30M	Hart River	92.60	25	P	P	04 29 24.8	0.0
	baz=277						
N30M	Aishikik Lake	92.61	29	P	P	04 29 24.8	-0.1
	baz=276						
M30M	Minto, Yukon	92.63	27	IAmb	IAmb	04 29 27.7	
	comp=Z,14nm,1.5s						
M30M	Minto, Yukon	92.63	27	P	P	04 29 25.1	+0.2
	baz=276						
P30M	Million Dollar	92.82	30	P	P	04 29 26.1	+0.3
	baz=276						
G31M	Satah River	93.12	23	P	P	04 29 27.2	+0.3
	baz=279						
O30N	Mendenhall	93.17	29	P	P	04 29 27.8	+0.4
	baz=277						
ARCES	ARCESS Array B	93.17	340	P	P	04 29 25.8	-1.4
ARCES	ARCESS Array B	93.17	340	P	P	04 29 26.1	-1.1
	comp=Z,6.2nm,0.9s,baz=61,slow=8.5,SNR=7.7						
	comp=Z,6.2nm,0.9s						
INK	Inuvik	93.17	22	IAmb	IAmb	04 29 28.6	
	comp=Z,7.9nm,1.2s						
INK	Inuvik	93.17	22	P	P	04 29 27.8	+0.7
	baz=280						
PLBC	Pleasant Camp	93.19	30	P	P	04 29 27.5	+0.1
	baz=277						
N31M	Braeburn, Yuko	93.23	28	P	P	04 29 28.2	+0.6
	baz=277						
F31M	Tsiigehtchic	93.24	22	P	P	04 29 27.8	+0.3
	baz=279						
H31M	Peel River	93.26	24	P	P	04 29 27.9	+0.2
	baz=279						
TAOE	Nuku Hiva Isla	93.62	99	*e*LR	LR	04 59 33.9	
	comp=Z,88nm,22.3s						
SKAG	Skagway	93.72	30	IAmb	IAmb	04 29 37.0	
	comp=Z,8.2nm,0.9s						
SKAG	Skagway	93.72	30	P	P	04 29 30.6	+0.8
	baz=278						
WHY	Whitehorse	93.78	29	P	P	04 29 30.9	+0.6
	baz=278						
M31M	Drury Creek, Y	93.79	28	IAmb	IAmb	04 29 32.5	
	comp=Z,8.3nm,1.4s						
M31M	Drury Creek, Y	93.79	28	P	P	04 29 31.0	+0.8
	baz=278						
AK09	Malin Array Si	93.96	321	P	P	04 29 30.1	-1.1
AK10	Malin Array Si	93.98	321	P	P	04 29 30.2	-1.1
AKASG	Malin Array Be	93.99	321	P	P	04 29 29.8	-1.5
	comp=Z,0.9nm,0.6s,baz=73,slow=4.1,SNR=5.8						
	comp=Z,0.9nm,0.6s						
AKASG	Malin Array Be	93.99	321	*e*P	P	04 29 30.7	-0.6
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKBB	Malin Array Si	93.99	321	IAmb	IAmb	04 30 09.7	
	comp=Z,8.4nm,1.3s						
AKBB	Malin Array Si	93.99	321	⇑*e*P	P	04 29 29.5	-1.8
AKBB	Malin Array Si	93.99	321	P	P	04 29 29.1	-2.2
KIEV	Kiev	94.00	321	P	P	04 29 29.6	-1.7
KIEV				IAmb	IAmb	04 30 09.7	
	comp=Z,6.8nm,1.2s						
KIEV	Kiev	94.00	321	P	P	04 29 29.6	-1.7
KIEV				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KIEV	Kiev	94.00	321	P	P	04 29 29.4	-1.9
	comp=Z,14nm,1.1s						
FARO	Faro, Yukon	94.26	28	P	P	04 29 33.1	+0.7
	baz=279,SNR=23						
R32K	Eaglecrest	94.30	32	P	P	04 29 33.3	+0.7
	baz=278						
FINES	FINESS Array B	94.32	332	P	P	04 29 31.8	-0.8
	comp=Z,2.2nm,1.0s,baz=69,slow=6.3,SNR=6.5						
FINES				LR	LR	05 15 29.7	
	comp=Z,54nm,19.6s,baz=46,slow=38						
	comp=Z,2.2nm,1.0s						
S32K	Killisnoo	94.38	32	P	P	04 29 33.2	+0.3
	baz=278						
P32M	Atlin	94.51	30	P	P	04 29 34.1	+0.5
	baz=279						
N32M	Quiet Lake	94.57	29	P	P	04 29 33.4	-0.4
	baz=280						
SORM	Soroca	94.83	318	⇑P	P	04 29 34.5	-0.7
SORM	Soroca	94.83	318	P	P	04 29 34.1	-1.1
	comp=Z,3µmcomp=Z,5.7nm,0.5s						
P33M	Teslin, Yukon	94.86	29	P	P	04 29 35.5	+0.3
	baz=280						
LUBAR	Lubar, Ukraine	95.01	320	P	P	04 29 34.3	-1.7
TPGR	Topolog	95.14	315	⇓P	P	04 29 38.8	+2.1
MMPY	Sheldon Lake,	95.15	27	IAmb	IAmb	04 29 39.2	
	comp=Z,12nm,1.2s						
MMPY	Sheldon Lake,	95.15	27	P	P	04 29 37.1	+0.6
	baz=281,SNR=7.7						
Q32M	Nakina River	95.35	31	P	P	04 29 37.7	0.0
	baz=280						
U33K	Whale Pass	95.37	34	P	P	04 29 37.5	0.0
	baz=279						
NDNU	Novodnistrovsk	95.43	319	P	P	04 29 36.9	-1.1
CRAG	Craig	95.47	34	P	P	04 29 37.7	-0.3
	baz=279						
R33M	Jennings River	95.92	30	P	P	04 29 40.2	0.0
	baz=281						
KMPD	K-Podol'skiy	96.03	319	P	P	04 29 38.7	-2.0
S34M	Telegraph Cree	96.13	32	P	P	04 29 41.7	+0.8
	baz=281						
TESR	Tescani	96.18	317	⇑P	P	04 29 41.1	-0.3
TESR	Tescani	96.18	317	P	P	04 29 40.4	-1.0
	comp=Z,14nm,1.0s						
VRI	Vrincioaia	96.20	316	⇑P	P	04 29 39.6	-2.0
TGTN	Hyland Airport	96.76	28	P	P	04 29 44.7	+0.9
	baz=284						
MLR	Muntele Rosu	96.80	316	⇑P	P	04 29 44.0	-0.5
MLR	Muntele Rosu	96.80	316	P	P	04 29 44.3	-0.1
	comp=Z,9.7nm,1.4s						
BURAR	Bucovina Array	96.99	318	P	P	04 29 44.3	-0.9
BURAR	Bucovina Array	96.99	318	⇓P	P	04 29 45.4	+0.1
BUR08	Bucovina Ar. S	97.00	318	P	P	04 29 44.7	-0.6
EZN	Ezine	97.25	310	⇓P	P	04 29 45.7	-0.6
EZN	Ezine	97.25	310	P	P	04 29 45.5	-0.9
	comp=Z,12nm,1.1s						
STNU	Starunia	97.29	319	P	P	04 29 45.4	-1.0
KWP	Kalwaria Pacla	98.29	320	P	P	04 29 50.6	-0.3
DRGR		98.81	317	⇓P	Pdif	04 29 53.6	+0.2
NOA	NORSAR Array B	101.33	333	P	Pdif	04 30 02.8	-1.4
	comp=Z,0.4nm,0.7s,baz=68,slow=4.7,SNR=3.4						
SRO	Srobarova	101.52	319	*e*P	Pdif	04 30 06.2	+0.9
SRO	Srobarova	101.52	319	*e*PDIFF	Pdif	04 30 06.1	+0.8
BRG	Berggiesshubel	103.43	323	*e*P	Pdif	04 30 14.8	+1.1
BRG				Amp		04 30 16.9	
	comp=Z,3.4nm,0.9s						
GERES	GERESS Array B	104.20	321	Pdiff	Pdif	04 30 16.8	-0.6
	comp=Z,0.3nm,0.6s,baz=126,slow=6.8,SNR=4.2						
ECSD	EROS Data Cent	121.55	35		PKPdf	04 35 06.6	-0.5
TBO	Thunder Bay	122.02	27	PKPdf	PKPdf	04 35 07.6	-0.2
VHRN	Van Horn	122.18	52	PKPdf	PKiKP	04 35 09.4	+0.4
TORD	Toroidi Ar. Bea	123.40	286	PKPdf	PKPdf	04 35 10.2	-1.2
TORD	Toroidi Ar. Bea	123.40	286	PKP	PKPdf	04 35 10.8	-0.5
	comp=Z,4.1nm,0.8s,baz=22,slow=2.5,SNR=6.6						
TXAR	Lajitas Array	123.80	54	PKP	PKiKP	04 35 12.4	+0.2
	comp=Z,1.3nm,0.9s,baz=163,slow=0.5,SNR=13						
DKNS	Dickens	124.08	48	PKPdf	PKPdf	04 35 12.3	0.0
SAND	Sanderson	124.78	52	PKPdf	PKPdf	04 35 13.8	+0.1
L40A	Anamosa	125.67	34	PKPdf	PKPdf	04 35 14.7	-0.3
DBIC	Dimbokro	130.71	279	PKP	PKiKP	04 35 26.3	+0.1
	comp=Z,11nm,1.1s,baz=227,slow=4.2,SNR=3.0						
PLCA	Paso Flores	137.27	161	PKP	PKiKP	04 35 38.5	-0.5
	comp=Z,2.2nm,1.0s,baz=77,slow=2.4,SNR=3.1						
LMEL	Lamelosas	143.53	157	PKPdf	PKPdf	04 35 47.4	-1.3
MT08	Bocatoma Ro	143.96	156	PKPdf	PKPdf	04 35 48.6	-0.9
CO02	Combarbal	145.47	153	PKPdf	PKPdf	04 35 51.5	-0.6
CPUP	Villa Florida	154.23	173	PKPbc	PKiKP	04 36 14.4	+0.4
	comp=Z,0.6nm,0.7s,baz=29,slow=3.4,SNR=4.7						
LPAZ	La Paz	158.93	138	PKP	PKPdf	04 36 14.0	+1.1
	comp=Z,0.9nm,0.7s,baz=356,slow=7.0,SNR=5.4						
LPAZ				PKPab	PKPab	04 36 49.6	+0.6
	comp=Z,2.5nm,0.8s,baz=212,slow=6.3,SNR=6.0						

IDC 08 04:25:20.1±1.8, 0.84N×126.65E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=173.3km s-min=23.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.99	160	P	P	04 30 15.0	-1.0
	1.3nm,0.8s,baz=339,slow=11,SNR=8.6						
	1.3nm,0.8s						
ASAR	Alice Springs	25.36	164	P	P	04 30 50.0	+0.9
	0.7nm,0.6s,baz=345,slow=11,SNR=4.6						
	0.7nm,0.6s						
MKAR	Makanchi Array	59.88	326	P	P	04 35 27.6	-0.2
	0.3nm,0.5s,baz=129,slow=7.5,SNR=4.1						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	64.12	328	P	P	04 35 56.3	+0.1
	0.2nm,0.5s,baz=124,slow=6.7,SNR=1.8						
	0.2nm,0.5s						

*ASRS **08** 04:30:10.0±1.1, 54.37N×86.67E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 04:30:11.4±3.6, 54.43N×86.81E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=31.7km s-min=20.1km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.27	248	I	I	04 37 51.7	
	baz=68,slow=324,SNR=5.7						
ZALV	Zalesovo Beam	1.27	248	Pg	Pg	04 30 34.2	-1.4
	0.5nm,0.3s,baz=64,slow=17,SNR=5.1						
ZALV				Lg	Lg	04 30 52.6	
	1.7nm,0.3s,baz=68,slow=27,SNR=7.6						
KURBB	Kurchatov Arra	6.33	236	Pn	Pn	04 31 46.7	+0.8
	baz=54,slow=14,SNR=4.1						
	0.5nm,0.6s						
MKAR	Makanchi Array	8.17	202	Pn	Pn	04 32 12.5	+1.3
	0.1nm,0.3s,baz=22,slow=12,SNR=2.5						
	0.2nm,0.3s						

*KRNET **08** 04:30:43.7±0.1, 39.05N×74.90E, mb3.6*
*SOME **08** 04:30:52.5, 39.48N×74.83E, h10km*
*NNC **08** 04:30:53.5±1.6, 39.54N×74.87E, h19km±9km, mb3.9, mpv3.6, Error ellipse: s-maj=11.5km s-min=6.1km az=168.0*

ISC 08 04:30:49.1±1.8, 39.03N±0.07×74.92E±0.04, h27km±15km, n54, σ1.58/87, 28C-31D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	Sufi-Kurgan	1.47	312	⇑*i*P	Pn	04 31 11.0	-3.1
SFK				⇑*i*S	Sn	04 31 31.5	-1.1
SALK	Salom-Alik	2.04	336	⇓*i*P	Pn	04 31 21.1	-0.7
SALK				⇓*i*S	Sn	04 31 48.4	+2.0
OHH	Osh	2.22	313	⇑*i*P	Pn	04 31 23.6	-0.7
OHH				⇑*i*S	Sn	04 31 52.6	+1.8
DRK	Karamyk	2.46	282	⇑*i*P	Pn	04 31 27.1	-0.7
DRK				⇑*i*S	Sn	04 31 58.9	+1.8
NRN	Naryn	2.54	19	⇓*e*P	Pn	04 31 28.1	-0.8
NRN				⇓*e*S	Sn	04 32 00.2	+1.1
ARSB	Arslanbob	2.73	328	⇑*i*P	Pn	04 31 30.7	-0.6
ARSB				⇑*i*S	Sn	04 32 05.0	+1.5
UCH	Uchtor	3.21	355	⇓*i*P	Pn	04 31 37.6	-0.6
UCH				⇓*i*S	Sn	04 32 17.0	+1.2
AML	Almayashu	3.24	344	⇓*i*P	Pn	04 31 37.9	-0.6
AML				⇓*i*S	Sn	04 32 17.4	+1.1
BTK	Batken	3.33	289	⇑*i*P	Pn	04 31 39.2	-0.3
BTK				⇑*i*S	Sn	04 32 19.7	+1.4
TARG	Taragay, Kyrgy	3.48	38	⇓*i*P	Pn	04 31 41.3	-0.6
TARG				⇓*i*S	Sn	04 32 23.6	+1.2
BOOM	Boomskoye usch	3.54	12	⇑*i*P	Pn	04 31 42.1	-0.4
BOOM				⇑*i*S	Sn	04 32 24.7	+1.1
KDJ	Kajisay	3.54	28	⇓*i*P	Pn	04 31 42.2	-0.3
KDJ				⇓*i*S	Sn	04 32 24.9	+1.3
ARK	Arkit	3.57	322	⇑*i*P	Pn	04 31 42.4	-0.4
ARK				⇑*i*S	Sn	04 32 25.2	+1.0
GAR	Garm	3.59	271	⇓*i*P	Pn	04 31 42.7	-0.3
GAR				⇓*i*S	Sn	04 32 25.7	+1.1
AAK	Ala-Archa	3.62	355	⇓*i*P	Pn	04 31 43.0	-0.5
AAK				⇓*i*S	Sn	04 32 26.4	+1.0
KBK	Karagaybulak	3.62	0	⇓*i*P	Pn	04 31 43.2	-0.4
KBK				⇓*i*S	Sn	04 32 26.7	+1.1
EKS2	Erkin-Say	3.73	347	⇑*i*P	Pn	04 31 44.6	-0.4
EKS2				⇑*i*S	Sn	04 32 29.0	+0.9
FRU1	Bishkek	3.78	357	⇓*i*P	Pn	04 31 45.7	0.0
FRU1				⇓*i*S	Sn	04 32 30.9	+1.5
TRKS	Terek-Say	3.82	312	⇓*i*P	Pn	04 31 45.0	-1.3
TRKS				⇓*i*S	Sn	04 32 29.8	-0.6
MNAS	Manas	3.91	333	⇑*i*P	Pn	04 31 47.3	-0.4
MNAS				⇑*i*S	Sn	04 32 33.5	+0.9
TKM2	Tokmak 2	3.92	7	⇑Pn	Pn	04 31 46.6	-1.1
	4.0nm,0.3s						
TKM2				⇓Lg	Lg	04 32 44.7	
	18nm,0.6s						
TKM2	Tokmak 2	3.92	7	⇑*i*P	Pn	04 31 47.4	-0.3
TKM2				⇑*i*S	Sn	04 32 33.8	+0.8
MRKS	Merke	3.93	341	Pg	Pb	04 31 55.9	-1.8
	14nm,0.4s						
MRKS				Lg	Lg	04 32 41.2	
	18nm,0.7s						
MRKS	Merke	3.93	341	*e*P	Pb	04 31 55.9	-1.8
	14nm,0.4s						
MRKS				*e*S	Sb	04 32 41.2	-3.6
	18nm,0.7s						
CHMS	Chumysh	3.97	358	⇓*i*P	Pn	04 31 47.9	-0.3
CHMS				⇓*i*S	Sn	04 32 34.6	+0.7
KST	Kastek	4.09	11	Pg	Pb	04 31 58.8	-1.7
	3.7nm,0.5s						
KST				Lg	Lg	04 32 46.1	
	22nm,0.4s						
KST	Kastek	4.09	11	*e*P	Pb	04 31 58.8	-1.7
	3.7nm,0.5s						
KST				*e*S	Sb	04 32 46.1	-3.4
	22nm,0.4s						
IZV	Izvestkoviy	4.20	17	Pg	Pb	04 32 01.7	-0.8
	6.1nm,0.5s						
IZV				Lg	Lg	04 32 51.2	
	19nm,0.6s						
IZV	Izvestkoviy	4.20	17	*e*P	Pb	04 32 01.7	-0.8
	6.1nm,0.5s						
IZV				*e*S	Sb	04 32 51.2	-1.6
	19nm,0.6s						
USP	Ospenovka	4.25	356	⇓*i*P	Pn	04 31 51.7	-0.3
USP				⇓*i*S	Sn	04 32 41.4	+0.7
MTBS	Maitube	4.25	15	Pg	Pb	04 32 02.1	-1.1
	5.1nm,0.3s						
MTBS				Lg	Lg	04 32 51.8	
	7.7nm,0.3s						
MTBS	Maitube	4.25	15	*e*P	Pb	04 32 02.1	-1.1
	5.1nm,0.3s						
MTBS				*e*S	Sb	04 32 51.8	-2.4
	7.7nm,0.3s						
TNSS	Tian-Shan	4.29	20	*e*P	Pb	04 32 04.9	+0.9
	1.6nm,0.2s						
TNSS				*e*S	Sb	04 32 56.4	+0.9
	3.7nm,0.6s						
PRZ	Przheval'sk	4.35	36	⇑*i*P	Pn	04 31 53.7	+0.1
PRZ				⇑*i*S	Sn	04 32 44.5	+1.1
SGDS	Sogindy	4.42	357	Pg	Pb	04 32 05.7	-0.5
	8.4nm,0.5s						
SGDS				Lg	Lg	04 32 58.1	
	7.1nm,0.7s						
KOTS	Kotyrbulak	4.52	21	Pg	Pb	04 32 07.9	+0.1
	6.7nm,0.5s						
KOTS				Lg	Lg	04 33 01.7	
	34nm,0.7s						
KOTS	Kotyrbulak	4.52	21	*e*P	Pb	04 32 07.9	+0.1
	6.7nm,0.5s						
KOTS				*e*S	Sb	04 33 01.7	-0.1
	34nm,0.7s						
SATY	Saty	4.81	32	Pg	Pb	04 32 13.9	+1.1
	9.3nm,0.5s						
SATY				Lg	Lg	04 33 12.2	
	12nm,0.4s						
IUG	Iuzhnay	4.85	311	Pg	Pb	04 32 15.8	+2.3
	37nm,0.6s						
IUG				Lg	Lg	04 33 15.6	
	32nm,0.9s						
KTBS	Karatobe	4.86	15	Pg	Pb	04 32 14.0	+0.4
	5.6nm,0.5s						
KTBS				Lg	Lg	04 33 12.6	
	15nm,0.8s						
KUU	Kurty	4.98	12	*e*P	Pb	04 32 18.4	+2.8
	1.8nm,0.1s						
KUU				*e*S	Sb	04 33 19.4	+4.5
	16nm,0.3s						
CHKK	Chushkaly	5.07	17	Pg	Pb	04 32 17.8	+0.8
	15nm,0.3s						
CHKK				Lg	Lg	04 33 18.9	
	6.6nm,0.5s						
CHKK	Chushkaly	5.07	17	*e*P	Pb	04 32 17.8	+0.8
	15nm,0.3s						
CHKK				*e*S	Sb	04 33 18.9	+1.5
	6.6nm,0.5s						
KK31	Karatay Array	5.26	322	⇑Pn	Pn	04 32 05.4	-0.5
	0.6nm,0.3s,baz=120,slow=12,SNR=10						
KK31				⇑Pg	Pb	04 32 20.6	+0.2
	2.9nm,0.6s,baz=141,slow=16,SNR=6.5						
KK31				⇓Lg	Lg	04 33 30.0	
	2.6nm,0.5s,baz=141,slow=16,SNR=6.5						
KKAR	Karatay Array	5.26	322	⇓*i*P	Pn	04 32 05.7	-0.2
KKAR			

mbtmp3.6/12,ML2.9/6,MS3.3/5,Error ellipse: s-maj=21.1km s-min=7.4km az=135.0
*ROM **08** 04:38:28.6±0.1,37.667N±0.004×14.893E±0.006, h21km,ML3.7/150,Mw3.8,Error ellipse: s-maj=0.5km s-min=0.1km az=263.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr5.83; Mθθ-5.12; Mφφ-0.71; Mrθ-2.62; Mθφ3.28; Mφr-1.57; Fault plane solution: M07.10073×10¹⁴ NP1:ϕs276.00000°,δ56.00000°, λ62.00000°. NP2:ϕs140.00000°,δ42.00000°,λ125.00000°.*
*BEO **08** 04:38:36.7±1.6,38.14N×15.14E,h21km±1km,ML3.6/7*
ISC 08 04:38:28.0±0.7,37.67N±0.02×14.93E±0.03,h21km±1km, n80,σ1§14/89,mb3.7/5,MS3.8/3,2C-4D,Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.05**	**55**	⇑*i*	P		**Pb**	**04 38 32.6**	**+0.6**
ESLN					S		**Sb**	**04 38 36.3**	**+1.6**
ESLN					AML		AML		
ESLN					AML		AML		
	comp=N,93100μm,0.9s								
ESLN					AML		AML		
ESLN					AML		AML		
	comp=N,73256μm,0.5s								
ESLN					AML		AML		
	comp=N,73256μm,1.5s								
ESML	**S. M. di Licod**	**0.06**	**219**		P		**Pb**	**04 38 32.1**	**+0.2**
ESML					S		**Sb**	**04 38 35.1**	**+0.6**
ESML					AML		AML		
ESML					AML		AML		
ESML					AML		AML		
ESML					AML		AML		
EMCN	**Etna Monte Con**	**0.15**	**34**		P		**Pb**	**04 38 33.5**	**-0.9**
EMCN					AML		AML		
	comp=E,44850μm,0.7s								
EMCN					AML		AML		
	comp=E,42250μm,0.5s								
EMCN					AML		AML		
	comp=N,50850μm,0.6s								
EMCN					AML		AML		
	comp=E,42250μm,0.5s								
EMCN					AML		AML		
	comp=N,50850μm,0.7s								
EMCN					AML		AML		
	comp=E,42250μm,0.5s								
EMCN					AML		AML		
	comp=N,50809μm,0.7s								
EMSG	**Monte Spagnolo**	**0.15**	**7**		P		**Pb**	**04 38 33.3**	**-0.9**
EMSG					AML		AML		
EMSG					AML		AML		
	comp=E,76900μm,0.4s								
EMSG					AML		AML		
	comp=N,89050μm,0.4s								
EMSG					AML		AML		
	comp=N,89195μm,0.4s								
EMSG					AML		AML		
	comp=E,79169μm,0.5s								
EPZF	**Pizzo Felice**	**0.17**	**341**	⇑*i*	P		**Pb**	**04 38 33.1**	**-1.0**
EPZF					S		**Sb**	**04 38 37.2**	**-1.3**
EPZF					AML		AML		
	comp=E,61600μm,0.5s								
EPZF					AML		AML		
	comp=N,95400μm,0.5s								
EPZF					AML		AML		
	comp=E,61591μm,0.5s								
EPZF					AML		AML		
	comp=N,95547μm,0.5s								
EPZF					AML		AML		
	comp=E,61591μm,1.5s								
ECTS	**Castiglione**	**0.27**	**36**	⇓*i*	P		**Pb**	**04 38 35.2**	**+0.8**
ECTS					S		**Sn**	**04 38 40.5**	**-1.7**
ECTS					AML		AML		
	comp=E,16400μm,0.7s								
ECTS					AML		AML		
	comp=N,23150μm,0.9s								
ECTS					AML		AML		
	comp=E,16350μm,0.7s								
ECTS					AML		AML		
	comp=N,22240μm,0.6s								
ECTS					AML		AML		
	comp=E,16379μm,0.7s								
GALF	**Gagliano Caste**	**0.29**	**279**		P		**Pb**	**04 38 34.5**	**-0.1**
GALF					AML		AML		
GALF					AML		AML		
GALF					AML		AML		
	comp=E,12900μm,1.6s								
GALF					AML		AML		
	comp=N,16800μm,0.5s								
GALF					AML		AML		
GALF					AML		AML		
	comp=E,12285μm,0.4s								
GALF					AML		AML		
	comp=N,16800μm,0.5s								
GALF					AML		AML		
HLNI	**Lentini**	**0.32**	**188**		P		**Pb**	**04 38 35.4**	**+0.4**
HLNI					S		**Sb**	**04 38 41.1**	**+1.4**
HLNI					AML		AML		
	comp=E,94500μm,0.8s								
HLNI					AML		AML		
	comp=N,73400μm,0.3s								
HLNI					AML		AML		
	comp=E,79445μm,0.4s								
HLNI					AML		AML		
	comp=N,73429μm,0.3s								
CAGR	**Agira**	**0.34**	**263**		AML		AML		
	comp=E,47700μm,1.3s								
CAGR					AML		AML		
	comp=N,35300μm,0.7s								
MUCR	**Ucria**	**0.38**	**354**		P		**Pb**	**04 38 36.5**	**+0.6**
MUCR					S		**Sb**	**04 38 43.1**	**+1.7**
MUCR					AML		AML		
	comp=E,23600μm,0.5s								
MUCR					AML		AML		
	comp=N,20350μm,1.0s								
MUCR					AML		AML		
	comp=E,23637μm,0.5s								
MUCR					AML		AML		
	comp=N,20361μm,1.0s								
AIO	**Antillo**	**0.39**	**38**		P		**Pn**	**04 38 37.4**	**-1.1**
AIO					S		**Sn**	**04 38 44.5**	**-0.8**
AIO					AML		AML		
	comp=E,13550μm,1.0s								
AIO					AML		AML		
	comp=N,11850μm,0.5s								
AIO					AML		AML		
	comp=E,11957μm,0.6s								
AIO					AML		AML		
	comp=N,11863μm,0.5s								
AIO					AML		AML		
	comp=E,11957μm,1.4s								
HAGA	**Augusta**	**0.42**	**154**		P		**Pb**	**04 38 37.5**	**+0.8**
HAGA					S		**Sn**	**04 38 44.9**	**-1.1**
HAGA					AML		AML		
	comp=E,19000μm,0.5s								
HAGA					AML		AML		
	comp=N,16850μm,0.4s								
HAGA					AML		AML		
	comp=E,18998μm,0.5s								
HAGA					AML		AML		
	comp=N,16874μm,0.4s								
HAGA					AML		AML		
	comp=N,16874μm,1.6s								
VAE	**Valguarnera**	**0.45**	**245**		Pg		**Pn**	**04 38 38.8**	**-0.5**
	comp=N,101nm,0.3s,baz=22,slow=1.2,SNR=153								
VAE					Lg		Lg	04 38 44.3	
	comp=N,221nm,0.3s,baz=45,slow=6.3,SNR=60								
VAE	**Valguarnera**	**0.45**	**245**		P		**Pn**	**04 38 38.8**	**-0.5**
VAE					AML		AML		
	comp=N,9466μm,0.7s								
VAE					AML		AML		
	comp=N,9466μm,1.3s								
MSFR	**San Fratello**	**0.45**	**324**		P		**Pb**	**04 38 37.2**	**-0.1**
MSFR					S		**Sb**	**04 38 44.4**	**+0.9**
MSFR					AML		AML		
	comp=N,4690μm,1.3s								
MSFR					AML		AML		
	comp=E,5315μm,1.1s								
MSFR					AML		AML		
	comp=E,5312μm,1.1s								
MSFR					AML		AML		
	comp=N,4687μm,1.3s								
MSFR					AML		AML		
	comp=N,4687μm,0.7s								
MSFR					AML		AML		
	comp=E,5312μm,0.9s								
AGST	**Augusta-Monte**	**0.47**	**150**		P		**Pb**	**04 38 38.4**	**+0.8**
AGST					S		**Sn**	**04 38 46.4**	**-0.8**
HVZN	**Vizzini**	**0.52**	**199**		P		**Pb**	**04 38 38.6**	**+0.1**
HVZN					AML		AML		
	comp=E,44600μm,0.7s								
HVZN					AML		AML		
	comp=N,41300μm,0.4s								
HVZN					AML		AML		
	comp=E,44595μm,0.7s								
HVZN					AML		AML		
	comp=N,41291μm,0.4s								
MPNC	**Port Mandanici**	**0.58**	**35**	⇓*i*	P		**Pn**	**04 38 40.4**	**-0.7**
MPNC					AML		AML		
	comp=E,10310μm,1.2s								
MPNC					AML		AML		
	comp=N,10445μm,0.7s								
MPNC					AML		AML		
	comp=E,8709μm,0.7s								
MPNC					AML		AML		
	comp=E,8709μm,1.3s								
MPNC					AML		AML		
	comp=N,9561μm,0.6s								
MILZ	**Milazzo**	**0.65**	**22**	⇓*i*	P		**Pn**	**04 38 41.4**	**-0.5**
MILZ					AML		AML		
	comp=N,15450μm,0.4s								
MILZ					AML		AML		
	comp=E,38100μm,0.4s								
MILZ					AML		AML		
	comp=N,15467μm,0.4s								
MILZ					AML		AML		
	comp=E,38060μm,0.4s								
CPTP	**Pietraperzia**	**0.66**	**247**		P		**Pn**	**04 38 42.1**	**-0.1**
CPTP					AML		AML		
	comp=E,10055μm,0.8s								
CPTP					AML		AML		
	comp=N,12600μm,0.5s								
CPTP					AML		AML		
	comp=E,9902μm,0.7s								
CPTP					AML		AML		
	comp=N,12599μm,0.5s								
PETRA	**Petralia Sopra**	**0.67**	**285**		P		**Pb**	**04 38 41.5**	**+0.5**
PETRA					AML		AML		
	comp=N,9435μm,0.7s								
PETRA					AML		AML		
	comp=E,6900μm,0.7s								
PETRA					AML		AML		
	comp=N,9436μm,0.7s								
PETRA					AML		AML		
	comp=E,6899μm,0.7s								
PETRA					AML		AML		
	comp=N,9436μm,1.3s								
RESU	**Resuttano**	**0.69**	**269**		P		**Pn**	**04 38 42.6**	**0.0**
RESU					AML		AML		
	comp=E,4580μm,0.7s								
RESU					AML		AML		
	comp=N,5295μm,0.6s								
RESU					AML		AML		
	comp=N,5293μm,0.6s								
RESU					AML		AML		
	comp=E,4581μm,0.7s								
MTTG	**Motta San Giov**	**0.69**	**61**		P		**Pn**	**04 38 42.9**	**+0.3**
MTTG					AML		AML		
	comp=E,6020μm,1.1s								
MTTG					AML		AML		
	comp=N,5640μm,0.7s								
MTTG					AML		AML		
	comp=N,5638μm,0.7s								
MTTG					AML		AML		
	comp=E,6018μm,1.1s								
MTTG					AML		AML		
	comp=N,5638μm,1.3s								
PLLN	**Pollina**	**0.70**	**298**		P		**Pb**	**04 38 41.8**	**+0.2**
PLLN					AML		AML		
	comp=E,28550μm,0.9s								
PLLN					AML		AML		
	comp=N,21550μm,0.7s								
PLLN					AML		AML		
	comp=E,28548μm,0.9s								
PLLN					AML		AML		
	comp=N,21565μm,0.7s								
VPL	**Vulcano Piano**	**0.71**	**4**		P		**Pb**	**04 38 42.3**	**+0.5**
VPL					AML		AML		
	comp=E,12800μm,0.5s								
VPL					AML		AML		
	comp=N,17850μm,0.5s								
VPL					AML		AML		
	comp=N,17872μm,0.5s								
VPL					AML		AML		
	comp=E,12816μm,0.5s								
CSLB	**Castelbuono**	**0.74**	**292**		P		**Pb**	**04 38 42.2**	**0.0**
CSLB					AML		AML		
	comp=E,2685μm,0.7s								
CSLB					AML		AML		
	comp=N,3695μm,1.0s								
CSLB					AML		AML		
	comp=N,3692μm,1.0s								
CSLB					AML		AML		
	comp=E,2685μm,0.7s								
MSRU	**Castanea**	**0.75**	**38**		P		**Pn**	**04 38 43.3**	**-0.2**
MSRU					AML		AML		
	comp=E,7465μm,0.7s								
MSRU					AML		AML		
	comp=N,6985μm,0.9s								
MSRU					AML		AML		
	comp=E,7465μm,0.7s								
MSRU					AML		AML		
	comp=N,5321μm,0.4s								
LLI	**Lipari**	**0.78**	**1**		P		**Pn**	**04 38 43.6**	**-0.2**
LLI					AML		AML		
	comp=E,34900μm,1.1s								
LLI					AML		AML		
	comp=N,60350μm,0.5s								
LLI					AML		AML		
	comp=N,60352μm,0.5s								
LLI					AML		AML		
	comp=E,34117μm,0.8s								
GIB	**Gibilmanna**	**0.78**	**295**		P		**Pb**	**04 38 43.3**	**+0.3**
GIB					AML		AML		
	comp=E,12500μm,0.7s								
GIB					AML		AML		
	comp=N,17300μm,0.6s								
GIB					AML		AML		
	comp=N,17300μm,0.6s								
GIB					AML		AML		
	comp=E,12497μm,0.7s								
GMB	**Gambarie**	**0.87**	**55**		P		**Pn**	**04 38 45.6**	**+0.5**
GMB					AML		AML		
	comp=E,19800μm,1.4s								
GMB					AML		AML		
	comp=N,12450μm,0.5s								
GMB					AML		AML		
	comp=E,16724μm,0.4s								
GMB					AML		AML		
	comp=N,10025μm,0.2s								
ISPIC	**ISPICA**	**0.89**	**181**		P		**Pn**	**04 38 45.2**	**0.0**
ISPIC					S		**Sn**	**04 38 58.4**	**+1.0**
ISPIC					AML		AML		
	comp=E,23650μm,1.2s								
ISPIC					AML		AML		
	comp=E,23250μm,1.2s								
ISPIC					AML		AML		
	comp=E,23650μm,1.2s								
ISPIC					AML		AML		
	comp=N,24100μm,0.4s								
ISPIC					AML		AML		
	comp=N,24200μm,0.4s								
ISPIC					AML		AML		
	comp=E,21893μm,0.5s								
ISPIC					AML		AML		
	comp=E,21650μm,0.5s								
ISPIC					AML		AML		
	comp=N,24167μm,0.4s								
ISPIC					AML		AML		
	comp=N,24090μm,0.4s								
CMDO	**Montedoro**	**0.90**	**257**		P		**Pn**	**04 38 47.0**	**+1.5**
CMDO					AML		AML		
	comp=E,1495μm,1.0s								
CMDO					AML		AML		
	comp=N,2970μm,1.6s								
CMDO					AML		AML		
	comp=N,2988μm,1.6s								
CMDO					AML		AML		
	comp=E,1495μm,1.0s								
CMDO					AML		AML		
	comp=N,2988μm,0.4s								
CLTA	**Licata**	**0.92**	**237**	⇓*i*	P		**Pn**	**04 38 45.8**	**+0.1**
CLTA					AML		AML		
	comp=E,5215μm,0.8s								
CLTA					AML		AML		
	comp=N,2700μm,0.9s								
CLTA					AML		AML		
	comp=E,5215μm,0.8s								
CLTA					AML		AML		
	comp=N,2631μm,0.5s								
ALJA	**Alia**	**0.93**	**275**		P		**Pn**	**04 38 46.6**	**+0.6**
ALJA					AML		AML		
	comp=E,3540μm,1.2s								
ALJA					AML		AML		
	comp=N,4150μm,0.9s								
ALJA					AML		AML		
	comp=N,4150μm,0.9s								
ALJA					AML		AML		
	comp=E,3448μm,0.5s								
IFIL	**Filicudi I Eol**	**0.94**	**342**		P		**Pb**	**04 38 45.8**	**+0.2**
IFIL					AML		AML		
	comp=E,40900μm,0.5s								
IFIL					AML		AML		
	comp=N,17150μm,1.6s								
IFIL					AML		AML		
	comp=N,16686μm,0.5s								
IFIL					AML		AML		
	comp=E,40914μm,0.5s								
IFIL					AML		AML		
	comp=N,16686μm,1.5s								
CEL	**Celeste**	**0.97**	**52**		P		**Pn**	**04 38 47.0**	**+0.6**
CEL					AML		AML		
	comp=E,2710μm,0.4s								
CEL					AML		AML		
	comp=E,2765μm,0.4s								
CEL					AML		AML		
	comp=N,3410μm,0.7s								
CEL					AML		AML		
	comp=N,3380μm,0.7s								
CEL					AML		AML		
	comp=E,2714μm,0.4s								
CEL					AML		AML		
	comp=E,2762μm,0.4s								
CEL					AML		AML		
	comp=N,3380μm,0.7s								
CEL					AML		AML		
	comp=N,3412μm,0.7s								
IACL	**Alicudi**	**0.98**	**333**		P		**Pb**	**04 38 46.1**	**-0.1**
IACL					AML		AML		
	comp=E,6465μm,1.0s								
IACL					AML		AML		
	comp=N,10395μm,1.2s								
IACL					AML		AML		
	comp=E,6140μm,0.4s								
IACL					AML		AML		
	comp=N,8472μm,0.4s								
SOI	**Samo**	**0.98**	**65**		P		**Pn**	**04 38 47.6**	**+1.1**
SOI					AML		AML		
	comp=E,2340μm,0.7s								
SOI					AML		AML		
	comp=N,2415μm,0.7s								
SOI					AML		AML		
	comp=E,2338μm,0.7s								
SOI					AML		AML		
	comp=N,2414μm,0.7s								
FAVR	**Favara**	**1.08**	**249**		P		**Pb**	**04 38 49.4**	**+1.5**
FAVR					AML		AML		
	comp=E,5730μm,0.6s								
FAVR					AML		AML		
	comp=N,4195μm,0.7s								
FAVR					AML		AML		
	comp=E,2895μm,0.7s								
FAVR					AML		AML		
	comp=N,4250μm,0.9s								
FAVR					AML		AML		
	comp=N,4195μm,0.7s								
FAVR					AML		AML		
	comp=E,2895μm,0.7s								
FAVR					AML		AML		
	comp=N,4212μm,0.7s								
FAVR					AML		AML		
	comp=E,5731μm,0.6s								
FAVR					AML		AML		
	comp=N,4212μm,1.3s								
FAVR					AML		AML		
	comp=N,4195μm,1.3s								
SOLUN	**Solunto**	**1.18**	**291**		P		**Pn**	**04 38 49.3**	**0.0**
SOLUN					AML		AML		
	comp=E,2585μm,0.8s								
SOLUN					AML		AML		
	comp=N,2230μm,1.1s								
SOLUN					AML		AML		
	comp=N,1946μm,0.8s								
SOLUN					AML		AML		
	comp=E,2582μm,0.8s								
CORL	**Corleone**	**1.31**	**281**		P		**Pb**	**04 38 52.5**	**+0.6**
CORL					AML		AML		
	comp=E,5040μm,1.0s								
CORL					AML		AML		
	comp=N,5275μm,1.2s								
CORL					AML		AML		
	comp=N,4806μm,0.7s								
CORL					AML		AML		
	comp=E,4251μm,1.1s								
DMLN	**Damoulianata-K**	**4.34**	**81**		P		**Pn**	**04 39 32.6**	**-0.2**
PSDA	**Pessada-Kefalo**	**4.50**	**83**		P		**Pn**	**04 39 34.5**	**-0.4**
VLS	**Valsamata**	**4.51**	**82**		P		**Pn**	**04 39 34.6**	**-0.4**
FSK	**Fiskardo**	**4.52**	**78**		P		**Pn**	**04 39 35.3**	**+0.2**
EVGI	**Lefkada island**	**4.62**	**76**		P		**Pn**	**04 39 36.6**	**+0.1**
IGT	**Igoumenitsa**	**4.63**	**65**		*e*Pn		Pn	04 39 42.1	+5.4
IGT					*e*Sn		**Sn**	**04 40 27.6**	**-2.1**
LKD2	**Lefkada island**	**4.65**	**74**		P		**Pn**	**04 39 37.0**	**0.0**
TSLK	**Tsoukalades, L**	**4.66**	**74**		P		**Pn**	**04 39 37.2**	**+0.2**
NYDR	**Nydri-Lefkada**	**4.67**	**75**		P		**Pn**	**04 39 37.2**	**0.0**
LTHK	**Lithakia**	**4.69**	**88**		P		**Pn**	**04 39 36.4**	**-1.1**
KEST	**Kesra**	**4.88**	**248**		Pn		**Pn**	**04 39 41.9**	**+1.6**
	comp=E,1.3nm,0.3s,baz=149,slow=10,SNR=13								
KEST					Sn		**Sn**	**04 40 36.6**	**+0.5**
	comp=E,1.8nm,0.3s,baz=102,slow=17,SNR=5.4								
	comp=E,7.7nm,0.5s								
ITM	**Ithomi**	**5.59**	**93**		P		**Pn**	**04 39 50.3**	**+0.3**
KLV	**Kalavryta, Ach**	**5.73**	**84**		P		**Pn**	**04 39 52.4**	**+0.5**
GUR	**Goura**	**5.88**	**85**		P		**Pn**	**04 39 55.7**	**+1.7**
FNA	**Florina**	**5.90**	**56**		*e*Pn		**Pn**	**04 39 56.8**	**+2.7**
FNA					*e*Sn		**Sn**	**04 40 59.2**	**-1.9**
SJES	**Sjenica**	**6.78**	**33**		*e*Pn		**Pn**	**04 40 08.8**	**+2.4**
BBLS	**Lazi&#263i**	**7.06**	**27**		*e*Pn		**Pn**	**04 40 12.4**	**+2.2**
SELS	**Selova**	**7.28**	**38**		*e*Pn		**Pn**	**04 40 14.0**	**+0.8**
BARS	**Barje**	**7.36**	**44**		*e*Pn		**Pn**	**04 40 15.4**	**+1.2**
GOCS	**Kraljevo Serbi**	**7.42**	**36**		*e*Pn		**Pn**	**04 40 17.2**	**+2.0**
GRUS	**Gruza**	**7.61**	**33**		*e*Pn		**Pn**	**04 40 19.0**	**+1.4**
TRUS	**Trudelj**	**7.75**	**31**		*e*Pn		**Pn**	**04 40 20.3**	**+0.8**
ZAPS	**Zavoj**	**8.11**	**44**		*e*Pn		**Pn**	**04 40 26.1**	**+1.5**
ZAGS	**Zajecar**	**8.27**	**40**		*e*Pn		**Pn**	**04 40 28.8**	**+2.1**
IDI	**Anoyia**	**8.37**	**103**		Pn		**Pn**	**04 40 30.2**	**+2.1**
	comp=E,1.3nm,0.3s,baz=277,slow=8.8,SNR=5.9								
IDI					Sn		**Sn**	**04 41 58.8**	**-3.2**
	comp=E,3.9nm,0.3s,baz=106,slow=22,SNR=13								
	comp=E,4.4nm,0.5s								
DAVOX	**Davos/Dischmat**	**9.84**	**339**		Pn		**Pn**	**04 40 48.6**	**+0.2**
	comp=E,0.2nm,0.3s,baz=149,slow=19,SNR=3.5								
DAVOX					LR		LR	04 45 06.2	
	comp=E,75nm,18.2s,baz=54,slow=41								
	comp=E,0.9nm,0.4s								
GERES	**GERESS Array B**	**11.21**	**356**		Pn		**Pn**	**04 41 08.0**	**+1.0**
	baz=190,slow=13,SNR=4.6								
	comp=E,0.5nm,0.6s								
BRTR	**Keskin Array B**	**14.76**	**76**		Pn		**P**	**04 41 59.1**	**-2.3**
	comp=E,0.1nm,0.3s,baz=246,slow=9.3,SNR=2.0								
	comp=E,0.4nm,0.6s								
ESDC	**Sonseca Array**	**14.89**	**284**		LR		LR	04 47 10.4	
	comp=E,41nm,19.2s,baz=72,slow=35								
AKASG	**Malin Array Be**	**16.54**	**33**		Pn		**Pn**	**04 42 18.0**	**-0.5**
	comp=E,0.1nm,0.3s,baz=229,slow=11,SNR=4.8								
	comp=E,0.1nm,0.3s								
EIL	**Elat**	**18.45**	**110**		P		**Pn**	**04 42 43.0**	**+0.6**
	comp=E,2.4nm,0.4s,baz=330,slow=15,SNR=4.7								
EKA	**Eskdalemuir Ar**	**21.50**	**331**		P		**P**	**04 43 13.8**	**-1.5**
	comp=E,0.8nm,0.8s,baz=139,slow=13,SNR=3.9								
	comp=E,0.8nm,0.8s								
HFS	**Hagfors**	**22.50**	**358**		P		**P**	**04 43 24.3**	**-1.5**
	comp=E,3.1nm,0.8s,baz=139,slow=9.0,SNR=3.3								
	comp=E,3.1nm,0.8s								
NOA	**NORSAR Array B**	**23.51**	**355**		P		**P**	**04 43 35.8**	**-0.5**
	comp=E,1.1nm,0.3s,baz=173,slow=9.1,SNR=3.2								
	comp=E,1.1nm,0.3s								
FINES	**FINESS Array B**	**24.80**	**13**		P		**P**	**04 43 48.6**	**+0.4**
	comp=E,2.2nm,1.0s,baz=215,slow=9.5,SNR=5.0								
	comp=E,2.2nm,1.0s								
BELG	**Belogorноye**	**27.12**	**47**		LR		LR	04 56 41.6	
	comp=E,28nm,18.4s,baz=68,slow=40								

MKAR	**Makanchi Array**	**49.31**	**57**	P		**P**	**04 47 16.6**		**+1.2**
	comp=E,0.1nm,0.5s,baz=293,slow=5.2,SNR=2.4								
	comp=E,0.1nm,0.5s								
LSZ	**Lusaka**	**54.12**	**164**	LR		LR	05 10 58.9		
	comp=E,104nm,19.7s,baz=92,slow=36								
YKA	**Yellowknife Ar**	**72.28**	**338**	LR		LR	05 22 19.6		
	comp=E,51nm,18.1s,baz=28,slow=36								

*IDC **08** 04:57:41.6±2.0, 9.52S×159.36E, h0km, mb3.9/6, mbtmp3.9/6, MS3.5/2, Error ellipse: s-maj=72.1km s-min=24.6km az=121.0*
ISC 08 04:57:45.6±2.0, 9.6S±0.3×159.4E±0.5, h26km, n7, σ0s73/6, mb3.9/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
WRA	**Warramunga Arr**	**26.27**	**244**	P		**P**	**05 03 19.4**		**+0.2**
	2.3nm,0.9s,baz=73,slow=10,SNR=9.8								
	2.3nm,0.9s								
STKA	**Stephens Creek**	**27.65**	**214**	P		**P**	**05 03 31.9**		**+0.5**
	2.1nm,0.7s,baz=39,slow=16,SNR=6.6								
	2.1nm,0.7s								
ASAR	**Alice Springs**	**28.07**	**237**	P		**P**	**05 03 34.5**		**-0.8**
	0.5nm,0.6s,baz=67,slow=10.0,SNR=5.7								
ASAR				LR		LR	05 14 50.1		
	comp=Z,102nm,18.3s,baz=316,slow=37								
	0.5nm,0.6s								
BRDH	**Bariadhala**	**73.62**	**297**	LR		LR	05 43 12.8		
	comp=Z,25nm,18.0s,baz=329,slow=37								
SONM	**Songino Array**	**73.85**	**326**	P		**P**	**05 09 17.9**		**-0.3**
	0.9nm,0.7s,baz=134,slow=8.4,SNR=5.4								
	0.9nm,0.7s								
ILAR	**Eielson Array**	**84.22**	**20**	P		**P**	**05 10 14.2**		**-0.2**
	0.7nm,0.9s,baz=249,slow=5.1,SNR=8.4								
	0.7nm,0.9s								
MKAR	**Makanchi Array**	**88.19**	**318**	P		**P**	**05 10 35.2**		**+0.7**
	0.7nm,0.6s,baz=97,slow=5.9,SNR=6.7								
	0.7nm,0.6s								

*AZER **08** 05:00:55.1, 41.69N×47.47E, h14km, ml2.6*
*DRS **08** 05:00:56.7, 41.83N×47.53E, h6km*
ISC 08 05:00:56.1±1.0, 41.78N±0.02×47.48E±0.02, h9km±10km, n30, σ0s81/57, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
URKR	**Urkarakh**	**0.40**	**17**	*i* Pg		**Pg**	**05 01 04.2**		**+0.2**
	246nm,0.2s								
URKR				*e*Sg		**Sg**	**05 01 09.7**		**+0.3**
	2μm,0.2s								
KMKR	**Kumukh**	**0.45**	**321**	*i* Pg		**Pg**	**05 01 05.3**		**+0.4**
	736nm,0.1s								
KMKR				*e*Sg		**Sg**	**05 01 12.1**		**+1.3**
	2μm,0.2s								
KSMR	**Kasumkent**	**0.52**	**110**	*i* Pg		**Pb**	**05 01 06.5**		**-1.0**
	197nm,0.1s								
KSMR				*e*Sg		**Sb**	**05 01 14.0**		**-1.2**
	2μm,0.4s								
SEKA	**Sheki**	**0.61**	**200**	P		**Pb**	**05 01 08.6**		**-0.4**
SEKA				S		**Sb**	**05 01 17.3**		**-0.4**
QSAR	**Qusar**	**0.65**	**114**	P		**Pb**	**05 01 08.8**		**-0.8**
QSAR				S		**Sb**	**05 01 18.4**		**-0.4**
ZKTA	**Zakatala**	**0.66**	**258**	P		**Pg**	**05 01 09.1**		**+0.4**
ZKTA				S		**Sg**	**05 01 18.2**		**+0.9**
DRN	**Derbent**	**0.68**	**69**	*i* Pg		**Pb**	**05 01 09.5**		**-0.7**
	843nm,0.2s								
DRN				*e*Sg		**Sb**	**05 01 19.0**		**-0.8**
	893nm,0.2s								
GNBR	**Gunib**	**0.72**	**328**	*e*Pg		**Pg**	**05 01 09.9**		**0.0**
	128nm,0.6s								
GNBR				*e*Sg		**Sg**	**05 01 20.3**		**+1.0**
	316nm,0.2s								
XNQ	**Khinaliq**	**0.79**	**140**	P		**Pb**	**05 01 11.3**		**-0.9**
XNQ				S		**Sb**	**05 01 22.1**		**-0.9**
QUBA	**Quba, Azerbaij**	**0.87**	**119**	P		**Pb**	**05 01 12.9**		**-0.6**
QUBA				S		**Sb**	**05 01 25.2**		**-0.1**
QBL	**Gabala**	**0.88**	**162**	P		**Pb**	**05 01 13.4**		**-0.2**
QBL				S		**Sb**	**05 01 24.4**		**-1.0**
ARKR	**Arakani**	**0.90**	**337**	*e*Pg		**Pg**	**05 01 13.1**		**-0.3**
	117nm,0.4s								
ARKR				*e*Sg		**Sg**	**05 01 25.4**		**+0.5**
	162nm,0.2s								
TLTR	**Tlyarata**	**0.90**	**291**	*e*Pg		**Pg**	**05 01 12.5**		**-0.9**
	2.0nm,0.4s								
TLTR				*e*Sg		**Sg**	**05 01 25.0**		**-0.1**
	132nm,0.3s								
XNZR	**Khunzakh**	**0.95**	**323**	*i* Pg		**Pg**	**05 01 14.2**		**-0.3**
	47nm,0.4s								
XNZR				*i* Sg		**Sg**	**05 01 27.6**		**+0.8**
	107nm,0.3s								
UNCR	**Uncukul**	**1.06**	**332**	*e*Pg		**Pg**	**05 01 15.8**		**-0.7**
	49nm,0.3s								
UNCR				*e*Sg		**Sg**	**05 01 30.6**		**+0.3**
	110nm,0.2s								
BUJR	**Buynaksk**	**1.08**	**345**	*e*Pg		**Pb**	**05 01 16.4**		**-0.5**
	53nm,0.2s								
BUJR				*e*Sg		**Sg**	**05 01 31.0**		**+0.2**
	154nm,0.4s								
IML	**Ismayilli**	**1.12**	**151**	S		**Sn**	**05 01 33.8**		**+0.2**
KRNR	**Karanay**	**1.13**	**338**	*e*Pg		**Pb**	**05 01 16.7**		**-1.2**
	20nm,0.2s								
KRNR				*e*Sg		**Sb**	**05 01 32.3**		**-0.4**
	67nm,0.2s								
MAK	**Makhachkala**	**1.18**	**1**	*e*Pg		**Pb**	**05 01 17.6**		**-1.0**
	67nm,0.3s								
MAK				*e*Sg		**Sb**	**05 01 33.3**		**-0.7**
	357nm,0.4s								
BTLR	**Botlikh**	**1.28**	**314**	*e*Pg		**Pn**	**05 01 20.0**		**-0.3**
	21nm,0.4s								
BTLR				*e*Sg		**Sb**	**05 01 37.4**		**+0.3**
	65nm,0.4s								
SIZA	**Siyzn**	**1.28**	**123**	P		**Pg**	**05 01 20.9**		**+0.2**
SIZA				S		**Sn**	**05 01 39.7**		**+2.0**
PQL	**Pirkuli**	**1.30**	**139**	P		**Pg**	**05 01 20.3**		**-0.8**
PQL				S		**Sn**	**05 01 38.7**		**+0.4**
DLMR	**Dylym**	**1.43**	**334**	*e*Pg		**Pn**	**05 01 22.2**		**-0.1**
	49nm,0.2s								
DLMR				*e*Sg		**Sb**	**05 01 41.7**		**+0.4**
	384nm,0.4s								
GANJ	**Ganja**	**1.43**	**218**	Pn		**Pb**	**05 01 22.5**		**-0.5**
GANJ				Sn		**Sg**	**05 01 42.4**		**+0.3**
ATGJ	**Altiaghaj**	**1.44**	**129**	Pn		**Pg**	**05 01 23.1**		**-0.5**
ATGJ				Sn		**Sg**	**05 01 44.0**		**+1.8**
GDB	**GEDABAY**	**1.68**	**231**	Pn		**Pn**	**05 01 26.2**		**+0.4**
GDB				Sn		**Sg**	**05 01 49.7**		**-0.3**
QZX	**Qazax, Azerbai**	**1.74**	**246**	Pn		**Pb**	**05 01 27.5**		**-0.7**
QZX				Sn		**Sg**	**05 01 51.5**		**-0.5**
SBZ	**Shahbuz**	**2.80**	**212**	Sg		**Sg**	**05 02 24.3**		**-1.6**
YRD	**Yardimli**	**2.92**	**168**	Pn		**Pn**	**05 01 43.9**		**+0.9**
YRD				Sn		**Sn**	**05 02 20.2**		**+1.9**
ORD	**Ordubad**	**3.07**	**202**	Sg		**Sb**	**05 02 28.9**		**+0.4**

*NEIC **08** 05:02:09.7±1.8, 35.867N±0.009×117.71W±0.01, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.7km az=332.0*
PAS 08 05:02:10.5±1.8, 35.872N±0.009×117.723W±0.007, h6km±2km, ML3.1/21, ML2.7/124(NEIC), Error ellipse: s-maj=1.4km s-min=0.6km az=161.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
TOW	**Tower One**	**0.07**	**208**			Pg	05 02 13.9		+1.6
WVPM	**Volcano Peak E**	**0.11**	**316**			Pg	05 02 13.1		+0.1
CLC	**China Lake**	**0.12**	**119**	Pg		Pg	05 02 13.0		0.0
CLC				IAML			05 02 15.1		
	comp=E,2μm,0.4s								
CLC				Sg		Sg	05 02 15.2		+0.5
CLC				IAML			05 02 15.3		
	comp=N,4μm,0.4s								
WNMM	**Nine Mile Cany**	**0.15**	**259**			Pg	05 02 13.7		+0.1
WNMM						Sg	05 02 15.8		+0.2
SRTC	**Snort**	**0.18**	**187**			Pg	05 02 14.6		+0.4
WRVM	**Rose V. Centra**	**0.19**	**315**			Pg	05 02 14.4		0.0
WRVM						Sg	05 02 17.3		+0.3
MPMC	**Manual Prospec**	**0.27**	**45**			Pg	05 02 15.6		-0.2
MPMC				Sg		Sg	05 02 19.4		0.0
MPMC				IAML			05 02 19.6		
	comp=N,2μm,0.5s								
MPMC				IAML			05 02 21.4		
	comp=E,2μm,0.4s								
MFS	**McCloud Flat S**	**0.27**	**336**			Pg	05 02 15.7		-0.1
MFS						Sg	05 02 19.8		+0.4
LRMC	**Laurel Mtn Rad**	**0.39**	**175**			Pg	05 02 17.9		-0.2
LRMC						Sg	05 02 23.6		+0.3
LRMC				IAML			05 02 24.2		
	comp=N,2μm,0.2s								
CCCA	**Chr Cany lake**	**0.45**	**140**			Pg	05 02 19.4		+0.2
WORM	**Onyx Ranch**	**0.46**	**248**			Pg	05 02 19.0		-0.3
WBSM	**Bird Springs**	**0.48**	**226**			Pg	05 02 19.5		-0.2
WBSM						Sg	05 02 26.1		+0.1
DTP	**Desert Tortois**	**0.61**	**189**			Pg	05 02 21.7		-0.5
CWC	**Cottonwood Cre**	**0.64**	**333**			Pg	05 02 22.7		-0.1
CWC				IAML			05 02 31.3		
	comp=N,459nm,0.2s								
CWC				IAML			05 02 31.9		
	comp=E,596nm,0.3s								
ISA	**Isabella, Lake**	**0.65**	**251**			Pg	05 02 22.6		-0.3
ISA				IAML			05 02 31.4		
	comp=E,747nm,0.3s								
CGO	**Cerro Gordo**	**0.68**	**355**			Pg	05 02 23.0		-0.6
CGO						Sg	05 02 32.8		+0.3
WASM	**Alta Sierra Ca**	**0.69**	**259**			Pg	05 02 23.4		-0.3
QSM	**Queen of Sheba**	**0.70**	**82**	Pg		Pg	05 02 24.0		+0.1
QSM				IAML			05 02 35.6		
	comp=E,418nm,0.4s								
QSM				IAML			05 02 37.7		
	comp=N,485nm,0.8s								
CCAC	**Calif City Air**	**0.76**	**199**			Pg	05 02 24.5		-0.5
GWY	**Greenwater Val**	**0.91**	**70**			Pg	05 02 27.6		-0.4
GWY						Sg	05 02 39.6		-0.2
GSC	**Goldstone, Bar**	**0.94**	**127**			Pg	05 02 27.6		-0.9
GSC				IAML			05 02 43.0		
	comp=N,334nm,0.6s								
EDW2	**Edwards Air Fo**	**1.01**	**193**			Pg	05 02 28.8		-1.1
HYS	**Haystack Butte**	**1.01**	**173**			Pg	05 02 29.1		-0.8
TEJ	**El Tejon**	**1.01**	**231**			Pg	05 02 28.9		-1.0
TPO	**Tropico Hills**	**1.07**	**203**			Pg	05 02 30.1		-1.0
TPO				IAML			05 02 53.7		
	comp=E,194nm,0.9s								
VES	**Vestal, Richgr**	**1.11**	**269**			Pg	05 02 31.0		-0.7
RRX	**Edison Barstow**	**1.16**	**149**			Pg	05 02 32.7		0.0
RRX						Sg	05 02 47.8		+0.2
GRAC	**Grapevine Rang**	**1.16**	**14**			Pg	05 02 32.0		-0.8
GRAC				IAML			05 02 54.1		
	comp=E,236nm,0.5s								
GRAC				IAML			05 02 55.6		
	comp=N,194nm,0.8s								
ARVC	**Arvin**	**1.17**	**231**			Pg	05 02 32.2		-0.7
SGV	**South Grapevin**	**1.24**	**26**			Pg	05 02 33.2		-1.0
WCT	**Wildcat Mounta**	**1.28**	**44**			Pn	05 02 34.3		-0.6
WCT				IAML			05 02 53.7		
	comp=E,153nm,0.5s								
AMDNV	**Amargosa**	**1.30**	**63**			Pn	05 02 32.0		-3.1
AMDNV						Sb	05 02 51.3		-1.0
LCH	**Last Change Ra**	**1.36**	**3**			Pn	05 02 35.2		-0.9
LCH						Sb	05 02 54.1		-0.1
HOLC	**Holcomb Ridge**	**1.41**	**184**			Pn	05 02 35.4		-1.4
JNH	**Juniper Hills**	**1.43**	**188**			Pn	05 02 35.7		-1.4
GMN	**Gold Mountain**	**1.47**	**15**			Pn	05 02 37.1		-0.6
DSP	**Deep Springs**	**1.51**	**352**			Pn	05 02 37.4		-0.6
DSP						Sn	05 02 58.0		0.0
TUQ	**Turquoise Moun**	**1.53**	**106**			Pn	05 02 36.7		-1.7
BHPR	**Bishop**	**1.55**	**337**			Pb	05 02 39.4		-0.4
CHFC	**Chilao Flat St**	**1.56**	**189**			Pb	05 02 39.7		0.0
TPNV	**Topopah Spring**	**1.60**	**47**			Pn	05 02 38.8		-0.7
TPNV				IAML			05 03 03.3		
	comp=E,140nm,0.6s								
TPNV				IAML			05 03 04.9		
	comp=E,152nm,0.4s								
MTUM	**Tungsten Hills**	**1.63**	**336**			Pb	05 02 40.5		-0.4
BFSC	**Mount Baldy Ra**	**1.63**	**178**			Pn	05 02 38.7		-1.1
BFSC				IAML			05 03 06.8		
	comp=E,59nm,0.7s								
BFSC				IAML			05 03 07.2		
	comp=N,58nm,0.6s								
SSK	**Sunset Peak**	**1.66**	**179**			Pn	05 02 40.1		-0.1
MWC	**Mount Wilson**	**1.67**	**190**			Pn	05 02 39.6		-0.8
MWC				IAML			05 03 09.6		
	comp=N,88nm,0.5s								
MWC				IAML			05 03 09.6		
	comp=E,71nm,0.8s								
SS2	**San Sevaine**	**1.67**	**174**			Pb	05 02 41.9		+0.3
SIL	**Silver Peak**	**1.69**	**154**			Pb	05 02 42.3		+0.3
PASC	**Pasadena Art C**	**1.74**	**193**	Pn		Pn	05 02 40.7		-0.5
MTPC	**Mountain Pass**	**1.81**	**102**	Pn		Pn	05 02 40.8		-1.5
MTPC				IAML			05 03 08.4		
	comp=N,69nm,0.4s								
MTPC				IAML			05 03 08.9		
	comp=E,57nm,0.3s								
MZP	**Montezuma Peak**	**1.85**	**8**			Pn	05 02 42.4		-0.5
BENR	**Benton**	**1.96**	**340**			Pb	05 02 46.8		0.0
MCSM	**Casa Diablo Ho**	**2.02**	**332**			Pb	05 02 47.7		0.0
SHPR	**Sheep Range**	**2.17**	**72**	Pn		Pn	05 02 46.5		-0.7
ELS	**Elsinore Mount**	**2.23**	**174**			Pn	05 02 47.3		-0.7
ELS				IAML			05 03 23.6		
	comp=E,34nm,0.3s								
TPH	**Tonopah**	**2.24**	**10**	Pn		Pn	05 02 47.8		-0.4
TPH				IAML			05 03 28.8		
	comp=E,74nm,0.8s								
POB	**Polly Butte**	**2.28**	**163**			Pn	05 02 48.0		-0.7
V12A	**Nelson**	**2.34**	**93**	Pn		Pn	05 02 48.8		-0.8
V12A				IAML			05 03 32.7		
	comp=E,33nm,0.5s								
V12A				IAML			05 03 32.7		
	comp=N,28nm,0.6s								
S11A	**Rachel**	**2.38**	**41**	Pn		Pn	05 02 49.9		-0.2
LHV	**Little Huntoon**	**2.46**	**345**	Pn		Pn	05 02 51.0		0.0
LHV				IAML			05 03 33.1		
	comp=E,25nm,0.9s								
PMD	**Palm Desert**	**2.48**	**153**	Pn		Pn	05 02 50.9		-0.5
PMD				IAML			05 03 33.3		
	comp=E,34nm,1.1s								
PFO	**Pinyon Flats O**	**2.48**	**155**	Pn		Pn	05 02 51.3		-0.2
PFO				IAML			05 03 34.0		
	comp=E,35nm,1.0s								
PFO				IAML			05 03 34.7		
	comp=E,27nm,1.2s								
PMPB	**Monarch Peak**	**2.52**	**279**	Pn		Pn	05 02 51.7		-0.3
PMPB				IAML			05 03 41.6		
	comp=N,70nm,1.2s								
NV11	**Mina Array Sit**	**2.58**	**352**	Pn		Pn	05 02 52.9		0.0
NVAR	**Mina Array Bea**	**2.59**	**350**	Pn		Pn	05 02 52.8		-0.4
PRN	**Pahroc Range**	**2.64**	**54**	Pn		Pn	05 02 53.0		-0.7
PRN				IAML			05 03 43.4		
	comp=N,56nm,0.8s								
PRN				IAML			05 03 43.4		
	comp=E,53nm,0.8s								
BBGB	**Big Mountain B**	**2.77**	**286**	Pn		Pn	05 02 55.7		+0.2
BORC	**Borrego Spring**	**2.81**	**157**	Pn		Pn	05 02 56.0		0.0
BORC				IAML			05 03 42.6		
	comp=E,57nm,0.8s								
BORC				IAML			05 03 51.2		
	comp=N,24nm,0.8s								
RYN	**Ryan**	**2.83**	**347**	Pn		Pn	05 02 55.9		-0.4
DPP	**Dos Picos Cty**	**2.94**	**167**	Pn		Pn	05 02 56.8		-0.9
DPP				IAML			05 03 43.1		
	comp=E,26nm,0.8s								
R11B	**Troy Canyon, C**	**3.01**	**34**	Pn		Pn	05 02 58.5		-0.3
SAO	**San Andreas Ge**	**3.14**	**288**	Pn		Pn	05 03 00.5		+0.1
W13A	**Hualapai Mount**	**3.23**	**103**	Pn		Pn	05 03 00.6		-1.2
BLYC	**Blythe**	**3.38**	**128**	Pn		Pn	05 03 03.3		-0.4
BLYC				IAML			05 04 08.4		
	comp=N,19nm,0.9s								
BLYC				IAML			05 04 13.6		
	comp=E,15nm,0.8s								
YUH	**Yuha Desert**	**3.54**	**155**	Pn		Pn	05 03 05.5		-0.5
CBX	**Cerro Bola**	**3.66**	**166**	Pn		Pn	05 03 07.3		-0.4
LCMT	**Little Creek M**	**3.79**	**71**	Pn		Pn	05 03 09.1		-0.4
CCUT	**Cedar City**	**3.88**	**63**	Pn		Pn	05 03 11.0		+0.1
PAHR	**Pah Rah Range**	**4.05**	**342**	Pn		Pn	05 03 12.7		-0.4
PSUT	**Pine Spring**	**4.07**	**48**	Pn		Pn	05 03 13.8		+0.3
PSUT				IAML			05 04 25.6		
	comp=E,12nm,0.9s								
PSUT				IAML			05 04 30.5		
	comp=N,9.8nm,1.3s								
KNB	**Kanab**	**4.11**	**72**	Pn		Pn	05 03 13.5		-0.5
KNB				IAML			05 04 23.0		
	comp=N,7.0nm,1.0s								
KNB				IAML			05 04 46.9		
	comp=E,7.1nm,4.8s								
ESJX	**Sierra Juarez**	**4.13**	**159**	Pn		Pn	05 03 13.6		-0.6
ESJX				IAML			05 04 24.6		
	comp=N,6.8nm,1.4s								
ESJX				IAML			05 04 25.2		
	comp=E,8.5nm,0.6s								
Y14A	**Wickenburg**	**4.33**	**115**	Pn		Pn	05 03 15.8		-1.0
Y14A				IAML			05 04 33.7		
	comp=N,13nm,0.8s								
Y14A				IAML			05 04 33.9		
	comp=E,8.6nm,0.8s								
U15A	**North Rim**	**4.43**	**81**	Pn		Pn	05 03 17.3		-1.1
U15A				IAML			05 04 35.7		
	comp=E,13nm,0.9s								
U15A				IAML			05 04 37.5		
	comp=N,7.8nm,1.1s								

*NNC **08** 05:06:07.6±1.8, 40.95N×74.69E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=11.8km s-min=8.8km az=1.0*
*SOME **08** 05:06:08.3, 41.10N×74.67E, h5km*
*KNET **08** 05:06:08.8±0.5, 41.22N×74.65E, h0km, ml1.8, Error ellipse: s-maj=4.3km s-min=2.1km az=170.0*
*KRNET **08** 05:06:09.5±0.1, 41.25N×74.62E, h20km, mb2.8*
ISC 08 05:06:08.8±1.2, 41.20N±0.03×74.66E±0.02, h3km±10km, n48, σ1s42/80, 27C-27D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
SALK	**Salom-Alik**	**0.71**	**244**	↑*i*P		**Pg**	**05 06 23.1**		**+0.7**
SALK				↑*i*S		**Sg**	**05 06 32.7**		**+1.1**
UCH	**Uchtor**	**1.03**	**354**	↑P		**Pg**	**05 06 28.4**		**-0.3**
	4.8nm,0.2s,SNR=22								
UCH	**Uchtor**	**1.03**	**354**	↓*i*P		**Pg**	**05 06 27.9**		**-0.8**
UCH				↓*i*S		**Sg**	**05 06 41.3**		**-0.8**
NRN	**Naryn**	**1.04**	**77**	↓*e*P		**Pg**	**05 06 28.6**		**-0.1**
NRN				↓*e*S		**Sb**	**05 06 42.6**		**-1.1**
AML	**Almayashu**	**1.18**	**323**	↓P		**Pg**	**05 06 31.0**		**-0.4**
	5.4nm,0.2s,SNR=9.8								
AML	**Almayashu**	**1.18**	**323**	↑*i*P		**Pg**	**05 06 30.5**		**-0.9**
AML				↑*i*S		**Sg**	**05 06 45.8**		**-0.9**
ARSB	**Arslanbob**	**1.27**	**276**	↑*e*P		**Pg**	**05 06 32.3**		**-0.8**
ARSB				↑*e*S		**Sg**	**05 06 49.3**		**-0.3**
AAK	**Ala-Archa**	**1.44**	**355**	↑P		**Pg**	**05 06 37.9**		**+1.4**
	1.7nm,0.5s								
AAK				↓S		**Sn**	**05 07 02.1**		**+6.7**
	1.9nm,0.5s								
AAK	**Ala-Archa**	**1.44**	**355**	↓*i*P		**Pn**	**05 06 35.1**		**-0.9**
AAK				↓*i*S		**Sb**	**05 06 53.8**		**-1.4**
KBK	**Karagaybulak**	**1.47**	**8**	↓*i*P		**Pn**	**05 06 35.7**		**-0.7**
KBK				↓*i*S		**Sb**	**05 06 54.6**		**-1.5**
SFK	**Sufi-Kurgan**	**1.48**	**217**	↑*i*P		**Pb**	**05 06 37.1**		**+0.1**
SFK				↑*i*S		**Sg**	**05 06 57.2**		**+1.0**
OHH	**Osh**	**1.57**	**245**	↓*i*P		**Pn**	**05 06 38.1**		**+0.5**
OHH				↓*i*S		**Sb**	**05 06 59.0**		**+0.2**
ULHL	**Ulahol**	**1.58**	**48**	↓P		**Pg**	**05 06 38.9**		**-0.3**
	8.3nm,0.2s,SNR=16								
ULHL				↓S		**Sg**	**05 07 03.0**		**+3.3**
	76nm,0.3s								
ULHL	**Ulahol**	**1.58**	**48**	↑*i*P		**Pb**	**05 06 38.1**		**-0.7**
ULHL				↑*i*S		**Sg**	**05 06 59.1**		**-0.5**
EKS2	**Erkin-Say**	**1.60**	**336**	↓P		**Pg**	**05 06 39.5**		**0.0**
	12nm,0.5s,SNR=12								
EKS2	**Erkin-Say**	**1.60**	**336**	↑*i*P		**Pn**	**05 06 37.8**		**-0.3**
EKS2				↑*i*S		**Sn**	**05 06 58.5**		**-0.8**
BOOM	**Boomskoye usch**	**1.61**	**36**	↓*i*P		**Pb**	**05 06 38.5**		**-0.7**
BOOM				↓*i*S		**Sb**	**05 06 59.4**		**-0.6**
CHMS	**Chumysh**	**1.80**	**2**	↑*e*P		**Pb**	**05 06 41.2**		**-1.2**
CHMS				↑*i*S		**Sb**	**05 07 04.4**		**-1.0**
TKM2	**Tokmak 2**	**1.86**	**22**	↓P		**Pg**	**05 06 43.7**		**-0.7**
	8.9nm,0.3s,SNR=14								
TKM2				↑S		**Sg**	**05 07 10.7**		**+2.2**
	7.5nm,0.1s								
TKM2	**Tokmak 2**	**1.86**	**22**	↑Pn		**Sg**	**05 06 44.2**		**-0.2**
	6.1nm,0.5s								
TKM2				↑Sn		**Sg**	**05 07 12.9**		**+4.4**
	8.8nm,0.4s								
TKM2	**Tokmak 2**	**1.86**	**22**	↓*i*P		**Pb**	**05 06 42.6**		**-0.9**
TKM2				↓*i*S		**Sb**	**05 07 06.6**		**-0.6**
MRKS	**Merke**	**1.88**	**326**	Pg		**Pg**	**05 06 44.7**		**-0.1**
	12nm,0.5s								
MRKS				Lg		Lg	05 07 10.2		
	28nm,0.6s								
MRKS	**Merke**	**1.88**	**326**	*e*P		**Pg**	**05 06 44.7**		**-0.1**
	12nm,0.5s								
MRKS				*e*S		**Sg**	**05 07 10.2**		**+1.1**
	28nm,0.6s								
MNAS	**Manas**	**2.06**	**309**	↑*i*P		**Pn**	**05 06 45.1**		**+0.7**
MNAS				↑*i*S		**Sn**	**05 07 11.0**		**+0.3**
USP	**Ospenovka**	**2.07**	**357**	↓P		**Pb**	**05 06 46.4**		**-0.6**
	4.1nm,0.2s,SNR=9.7								
USP	**Ospenovka**	**2.07**	**357**	↓*i*P		**Pn**	**05 06 45.2**		**+0.7**
USP				↓*i*S		**Sn**	**05 07 11.1**		**+0.3**
KST	**Kastek**	**2.08**	**27**	Pg		**Pg**	**05 06 49.4**		**+0.7**
	10

3.7nm,0.6s

*NEIC **08** 05:13:06.0±1.9, 14.7S±0.1×177.8W±0.2, h349km±6km, mb4.2/37, Error ellipse: s-maj=24.5km s-min=14.9km az=117.0*

*IDC **08** 05:13:07.9±2.5, 14.84S×177.89W, h375km±24km, mb3.5/8, mbtmp4.2/9, Error ellipse: s-maj=26.0km s-min=17.9km az=120.0*

ISC 08 05:13:08.3±0.6, **14.8S**±0.1×**177.9W**±0.1, **h379**km, **n67**, σ**0.72**/63, **mb4.1**/27, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**0.56**	**338**		Pn	05 13 50.5	-5.5
MSVF	**Nonsavu**	**4.83**	**233**	P	**Pn**	**05 14 27.1**	**-0.5**
	49nm,0.4s,baz=279,slow=23,SNR=86						
RAO	**Raoul Island**	**14.35**	**180**	P	**P**	**05 16 13.3**	**-1.2**
CTAO	**Charters Tower**	**34.54**	**256**	P	**P**	**05 19 22.5**	**-0.4**
CTAO				IAmb	IAmb	05 19 44.3	
	comp=Z,23nm,1.5s						
WR8	**Warramunga Arr**	**45.59**	**257**	P	**P**	**05 20 53.2**	**+0.6**
WB0	**Warramunga Arr**	**45.69**	**257**	P	**P**	**05 20 53.6**	**+0.1**
WRA	**Warramunga Arr**	**45.74**	**257**	P	**P**	**05 20 53.3**	**-0.5**
WRA	**Warramunga Arr**	**45.74**	**257**	P	**P**	**05 20 52.9**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=94,slow=7.8,SNR=7.8						
	comp=Z,0.6nm,0.5s						
AS31	**Alice Springs**	**46.15**	**251**	P	**P**	**05 20 57.6**	**+0.6**
AS31				IAmb	IAmb	05 20 58.6	
	comp=Z,7.0nm,0.5s						
ASAR	**Alice Springs**	**46.16**	**251**	P	**P**	**05 20 57.6**	**+0.6**
ASAR	**Alice Springs**	**46.16**	**251**	P	**P**	**05 20 57.4**	**+0.4**
	comp=Z,13nm,0.3s,baz=85,slow=8.5,SNR=140						
	comp=Z,13nm,0.3s						
KNRA	**Kununurra**	**51.34**	**262**	P	**P**	**05 21 37.4**	**+1.4**
KNRA				IAmb	IAmb	05 21 39.2	
	comp=Z,20nm,1.4s						
FORT	**Forrest**	**51.80**	**242**	P	**P**	**05 21 39.5**	**+0.4**
SBA	**Scott Base**	**63.50**	**184**	P	**P**	**05 23 00.6**	**+1.7**
VNDA	**Vanda**	**63.53**	**185**	P	**P**	**05 23 00.3**	**+1.2**
JSG	**Sagara**	**64.52**	**321**	P	**P**	**05 23 05.9**	**-0.2**
JMN	**Monobe**	**66.64**	**317**	P	**P**	**05 23 19.1**	**-0.6**
PEA0B	**Petropavlovsk-**	**70.85**	**345**	P	**P**	**05 23 45.4**	**+0.5**
PETK	**Petropavlovsk-**	**70.85**	**345**	P	**P**	**05 23 44.9**	**0.0**
PETK	**Petropavlovsk-**	**70.85**	**345**	P	**P**	**05 23 45.5**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=120,slow=9.0,SNR=6.2						
	comp=Z,3.0nm,0.7s						
S12K	**Black Hills**	**71.53**	**9**	P	**P**	**05 23 47.7**	**-1.2**
QSPA	**South Pole Qui**	**75.20**	**180**	P	**P**	**05 24 10.2**	**0.0**
	comp=Z,1.3nm,0.6s,baz=308,slow=0.8,SNR=16						
	comp=Z,1.3nm,0.6s						
O15K	**Ungalikthiuk R**	**75.21**	**10**	P	**P**	**05 24 09.4**	**-0.6**
O15K				IAmb	IAmb	05 24 29.4	
	comp=Z,5.7nm,1.2s						
KDAK	**Kodiak Island**	**75.32**	**14**	P	**P**	**05 24 09.1**	**-1.5**
P18K	**Big Mountain,**	**76.23**	**12**	P	**P**	**05 24 15.4**	**-0.4**
P18K				IAmb	IAmb	05 24 16.5	
	comp=Z,4.6nm,0.8s						
M16K	**Timber Creek**	**77.11**	**9**	P	**P**	**05 24 21.4**	**+0.9**
J18K	**Innoko River**	**79.77**	**9**	P	**P**	**05 24 35.6**	**+0.7**
J18K				IAmb	IAmb	05 24 36.3	
	comp=Z,3.9nm,0.7s						
K20K	**Telida**	**80.11**	**11**	P	**P**	**05 24 37.4**	**+0.7**
K20K				IAmb	IAmb	05 24 37.4	
	comp=Z,3.0nm,0.6s						
J19K	**Poorman**	**80.44**	**10**	P	**P**	**05 24 39.3**	**+0.9**
CAST	**Castle Rocks**	**80.54**	**11**	P	**P**	**05 24 38.3**	**-0.7**
CAST				IAmb	IAmb	05 24 38.7	
	comp=Z,4.6nm,1.3s						
J20K	**Nowinta River**	**80.86**	**10**	P	**P**	**05 24 40.8**	**+0.2**
J20K				IAmb	IAmb	05 24 41.4	
	comp=Z,1.8nm,0.6s						
TRF	**Thorofare Moun**	**80.92**	**12**	P	**P**	**05 24 40.7**	**-0.5**
TRF				IAmb	IAmb	05 24 41.2	
	comp=Z,2.8nm,0.9s						
RND	**Reindeer**	**81.18**	**13**	P	**P**	**05 24 42.2**	**-0.2**
MLY	**Manley**	**82.25**	**11**	P	**P**	**05 24 47.3**	**-0.6**
RIDG	**Independent Ri**	**82.38**	**14**	P	**P**	**05 24 47.6**	**-1.0**
RIDG				IAmb	IAmb	05 25 16.2	
	comp=Z,3.6nm,1.1s						
O30N	**Mendenhall**	**82.41**	**19**	P	**P**	**05 24 49.4**	**+0.6**
O30N				IAmb	IAmb	05 25 23.1	
	comp=Z,2.9nm,0.7s						
H21K	**Melozitna Rive**	**82.45**	**10**	P	**P**	**05 24 49.7**	**+0.9**
DOT	**Dot Lake**	**82.49**	**15**	P	**P**	**05 24 49.1**	**0.0**
DOT				IAmb	IAmb	05 24 49.6	
	comp=Z,2.2nm,0.7s						
CCB	**Clear Creek Bu**	**82.50**	**13**	P	**P**	**05 24 48.6**	**-0.5**
IMAR	**Indian Mountai**	**82.59**	**10**	P	**P**	**05 24 49.7**	**+0.2**
SCRK	**Sand Creek**	**82.78**	**14**	P	**P**	**05 24 50.5**	**-0.2**
SCRK				IAmb	IAmb	05 24 52.9	
	comp=Z,3.3nm,1.2s						
F19K	**Shaleruckik Mo**	**82.79**	**8**	P	**P**	**05 24 50.8**	**+0.3**
F19K				IAmb	IAmb	05 24 51.4	
	comp=Z,2.2nm,0.7s						
IL31		**82.80**	**13**	P	**P**	**05 24 50.3**	**-0.3**
ILAR	**Eielson Array**	**82.80**	**13**	P	**P**	**05 24 50.3**	**-0.3**
ILAR	**Eielson Array**	**82.80**	**13**	P	**P**	**05 24 50.1**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=215,slow=5.3,SNR=18						
	comp=Z,1.1nm,0.5s						
J25K	**Salcha River,**	**83.00**	**14**	P	**P**	**05 24 51.6**	**-0.1**
J25K				IAmb	IAmb	05 24 52.3	
	comp=Z,2.5nm,0.7s						
E18K	**Tukpahlearik C**	**83.00**	**7**	P	**P**	**05 24 51.9**	**+0.3**
E18K				IAmb	IAmb	05 24 52.9	
	comp=Z,2.1nm,0.7s						
J26L	**Joseph Creek**	**83.32**	**14**	P	**P**	**05 24 53.4**	**0.0**
J26L				IAmb	IAmb	05 24 54.7	
	comp=Z,3.1nm,0.7s						
TXAR	**Lajitas Array**	**83.95**	**58**	P	**P**	**05 24 57.8**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=227,slow=7.0,SNR=6.7						
	comp=Z,0.5nm,0.8s						
PDAR	**Pinedale Array**	**84.80**	**43**	P	**P**	**05 25 01.1**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=208,slow=5.2,SNR=4.6						
	comp=Z,0.4nm,0.6s						
D22K	**Ayikyak River**	**85.42**	**9**	P	**P**	**05 25 04.0**	**+0.4**
D22K				IAmb	IAmb	05 25 47.8	
	comp=Z,4.3nm,1.4s						
MAW	**Mawson**	**86.90**	**200**	P	**P**	**05 25 10.8**	**0.0**
	comp=Z,1.9nm,0.6s,baz=152,slow=5.9,SNR=7.6						
	comp=Z,1.9nm,0.6s						
ARCES	**ARCESS Array B**	**123.39**	**350**	PKP	**PKPdf**	**05 31 19.8**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=347,slow=1.6,SNR=9.0						
BRTR	**Keskin Array B**	**142.90**	**318**	PKP	**PKPdf**	**05 31 55.6**	**-2.3**
	comp=Z,1.3nm,1.0s,baz=94,slow=1.7,SNR=4.9						
GEC2	**GERESS Array S**	**144.77**	**347**	PKPbc	PKPbc	05 32 00.6	-0.1
GERES	**GERESS Array B**	**144.77**	**347**	PKPbc	PKPbc	05 32 00.4	-0.3
GERES	**GERESS Array B**	**144.77**	**347**	PKP	PKPbc	05 32 00.8	+0.1
	comp=Z,0.9nm,0.5s,baz=7.8,slow=3.0,SNR=6.0						
MMAI	**Mount Meron Ar**	**144.79**	**307**	PKP	**PKPdf**	**05 32 01.4**	**+0.2**
	comp=Z,3.2nm,0.6s,baz=90,slow=2.9,SNR=3.1						
ISP	**Isparta**	**145.98**	**318**	PKPdf	**PKPdf**	**05 32 02.9**	**-0.3**
BFO	**Black Forest**	**146.21**	**353**	PKPbc	**PKPbc**	**05 32 05.0**	**+0.1**
ECH	**Echery**	**146.45**	**354**	PKPdf	**PKPdf**	**05 32 03.4**	**-0.2**
MANT	**Manisa**	**146.84**	**320**	PKPdf	**PKPdf**	**05 32 04.6**	**-0.1**
CIMO	**Cimolais**	**147.44**	**347**	PKPbc	**PKPbc**	**05 32 07.3**	**-1.0**
FUORN	**Ofenpass-Fuorn**	**147.58**	**349**	PKPab	**PKPbc**	**05 32 10.0**	**+1.0**
FNA	**Florina**	**149.17**	**331**	PKPbc	**PKPbc**	**05 32 12.6**	**-0.4**
NRCA	**Norcia**	**150.53**	**343**	PKPbc	**PKPbc**	**05 32 16.0**	**-0.1**
ITM	**Ithomi**	**151.61**	**325**	PKPbc	**PKPbc**	**05 32 18.7**	**0.0**

*NEIC **08** 05:15:02.4±1.4, 35.682N±0.009×117.55W±0.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.7km az=347.0*

PAS 08 05:15:02.8±1.4, **35.676N**±0.009×**117.55W**±0.01, **h4**km±3km, **ML3.1**/20, **ML3.0**/122(NEIC), **Error ellipse: s-maj=1.3km s-min=1.2km az=53.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.14**	**344**		Pg	05 15 05.7	0.0
CLC				IAML		05 15 08.5	
	comp=E,3μm,0.3s						
CLC				IAML		05 15 08.7	
	comp=N,6μm,0.2s						
SRTC	**Snort**	**0.17**	**275**		Pg	05 15 06.5	+0.5
CCCA	**Chr Cany lake**	**0.21**	**135**		Pg	05 15 07.6	+0.7
TOW	**Tower One**	**0.22**	**307**		Pg	05 15 07.6	+0.5
TOW					Sg	05 15 11.8	+1.8
LRMC	**Laurel Mtn Rad**	**0.23**	**209**		Pg	05 15 07.2	+0.1
WNMM	**Nine Mile Cany**	**0.34**	**300**		Pg	05 15 09.3	+0.1
WVPM	**Volcano Peak E**	**0.35**	**321**		Pg	05 15 09.6	0.0
MPMC	**Manual Prospec**	**0.38**	**7**		Pg	05 15 10.0	-0.2
MPMC				IAML		05 15 15.8	
	comp=N,2μm,0.5s						
MPMC				IAML		05 15 17.4	
	comp=E,2μm,0.5s						
WRVM	**Rose V. Centra**	**0.43**	**320**		Pg	05 15 10.9	-0.2
DTP	**Desert Tortois**	**0.47**	**211**		Pg	05 15 11.7	-0.2
DTP					Sg	05 15 18.4	+0.3
WBSM	**Bird Springs**	**0.50**	**254**		Pg	05 15 12.3	-0.1
WBSM					Sg	05 15 19.4	+0.4
MFS	**McCloud Flat S**	**0.51**	**330**		Pg	05 15 12.5	0.0
WORM	**Onyx Ranch**	**0.57**	**272**		Pg	05 15 13.3	-0.3
QSM	**Queen of Sheba**	**0.62**	**62**		Pg	05 15 14.4	-0.3
QSM					Sg	05 15 23.0	+0.2
QSM				IAML		05 15 27.3	
	comp=N,928nm,0.4s						
QSM				IAML		05 15 28.3	
	comp=E,1μm,0.4s						
CCAC	**Calif City Air**	**0.65**	**216**		Pg	05 15 15.0	-0.2
CCAC					Sg	05 15 24.2	+0.6
WHFM	**Hanning Flat**	**0.65**	**272**		Pg	05 15 15.0	-0.3
WHFM					Sg	05 15 23.9	+0.1
GSC	**Goldstone, Bar**	**0.71**	**121**		Pg	05 15 16.2	-0.3
GSC				IAML		05 15 27.0	
	comp=N,684nm,0.4s						
GSC	**Goldstone, Bar**	**0.71**	**121**		Sg	05 15 25.9	+0.2
ISA	**Isabella, Lake**	**0.76**	**269**		Sg	05 15 26.9	-0.2
ISA	**Isabella, Lake**	**0.76**	**269**	Pg	Pg	05 15 16.8	-0.5
ISA				IAML		05 15 27.4	
	comp=N,643nm,0.6s						
ISA				IAML		05 15 27.6	
	comp=E,518nm,0.3s						
HYS	**Haystack Butte**	**0.81**	**181**		Pg	05 15 17.7	-0.6
HYS					Sg	05 15 28.6	-0.3
WASM	**Alta Sierra Ca**	**0.82**	**275**		Pg	05 15 18.2	-0.4
WASM					Sg	05 15 29.4	+0.1
EDW2	**Edwards Air Fo**	**0.87**	**205**		Pg	05 15 18.8	-0.7
CWC	**Cottonwood Cre**	**0.88**	**331**	Pg	Pg	05 15 19.4	-0.1
CWC				IAML		05 15 34.6	
	comp=E,267nm,0.3s						
GWY	**Greenwater Val**	**0.88**	**54**	Pg	Pg	05 15 19.0	-0.6
GWY				Sg	Sg	05 15 31.3	+0.4
GWY				IAML		05 15 34.0	
	comp=N,761nm,0.5s						
GWY				IAML		05 15 36.0	
	comp=E,776nm,0.5s						
CGO	**Cerro Gordo**	**0.90**	**347**		Pb	05 15 20.9	-0.2
FURC	**Furnace Creek,**	**0.96**	**35**		Sg	05 15 34.1	+0.3
TPO	**Tropico Hills**	**0.97**	**215**		Pg	05 15 20.7	-0.7
SBB	**Saddle Back Bu**	**1.01**	**193**		Pg	05 15 21.7	-0.5
TEJ	**El Tejon**	**1.03**	**245**		Pg	05 15 21.4	-1.1
SHOC	**Shoshone, Teco**	**1.06**	**77**		Sb	05 15 37.8	-0.1
SPG2	**Springville 2**	**1.12**	**298**		Pg	05 15 23.5	-0.7
SPG2					Sg	05 15 38.2	-0.5
THC	**Tehachapi Micr**	**1.19**	**230**		Pg	05 15 24.6	-1.0
LEOC	**Leona Valley**	**1.21**	**211**		Pg	05 15 26.0	-0.1
LRRC	**Littlerock Res**	**1.21**	**199**		Pg	05 15 25.8	-0.2
HOLC	**Holcomb Ridge**	**1.24**	**191**		Pg	05 15 26.1	-0.4
CJV	**Casa Juvan**	**1.24**	**203**		Sb	05 15 43.3	0.0
VES	**Vestal, Richgr**	**1.26**	**278**		Sg	05 15 42.8	-0.5
JNH	**Juniper Hills**	**1.27**	**195**		Pb	05 15 27.2	-0.1
JNH					Sb	05 15 44.0	-0.1
AMDNV	**Amargosa**	**1.29**	**53**		Pg	05 15 26.5	-0.9
DSCC	**Desert Studies**	**1.29**	**114**		Pg	05 15 26.4	-1.2
DSCC					Sg	05 15 43.7	-0.6
GRAC	**Grapevine Rang**	**1.32**	**6**		Pn	05 15 27.2	-0.9
WCT	**Wildcat Mounta**	**1.34**	**34**		Pn	05 15 27.1	-1.2
WCT					Sg	05 15 44.8	-1.0
WCT				IAML		05 15 47.8	
	comp=E,266nm,0.7s						
WCT				IAML		05 15 52.2	
	comp=N,209nm,0.4s						
TUQ	**Turquoise Moun**	**1.34**	**100**		Pn	05 15 27.4	-1.1
TUQ					Sg	05 15 46.0	0.0
SGV	**South Grapevin**	**1.37**	**18**		Pn	05 15 27.6	-1.2
SGV					Sg	05 15 46.6	-0.1
CHFC	**Chilao Flat St**	**1.40**	**196**		Pn	05 15 28.9	-0.3
OSI	**Osito Audit: C**	**1.43**	**223**		Pn	05 15 28.8	-0.8
OSI				IAML		05 15 52.5	
	comp=E,314nm,0.9s						
OSI				IAML		05 15 54.4	
	comp=N,200nm,1.1s						
BFSC	**Mount Baldy Ra**	**1.44**	**184**		Pn	05 15 29.2	-0.6
SS2	**San Sevaine**	**1.47**	**178**		Pb	05 15 30.7	+0.1
SSK	**Sunset Peak**	**1.47**	**185**		Pn	05 15 30.4	+0.3
MWC	**Mount Wilson**	**1.51**	**196**		Pb	05 15 31.2	-0.2
LCH	**Last Change Ra**	**1.56**	**357**		Pn	05 15 30.4	-0.9
DECC	**Green Verdugo**	**1.56**	**205**		Pb	05 15 32.1	-0.1
PASC	**Pasadena Art C**	**1.59**	**199**		Pb	05 15 32.2	-0.5
PASC				IAML		05 15 57.1	
	comp=E,238nm,0.8s						
PASC				IAML		05 15 58.7	
	comp=N,138nm,0.9s						
OAT	**Oat Mountain**	**1.59**	**214**		Pg	05 15 33.4	+0.1
PSRC	**Puddingstone R**	**1.59**	**188**		Pn	05 15 31.4	-0.4
VOG	**Valley Oaks Go**	**1.62**	**294**		Sb	05 15 53.8	-0.3
GMN	**Gold Mountain**	**1.64**	**8**		Pn	05 15 31.6	-0.9
GMN				IAML		05 16 00.8	
	comp=N,117nm,0.7s						
MTPC	**Mountain Pass**	**1.64**	**96**		Pn	05 15 31.0	-1.5
MTPC				IAML		05 15 55.2	
	comp=E,218nm,0.3s						
MTPC				IAML		05 15 57.4	
	comp=N,233nm,0.2s						
TPNV	**Topopah Spring**	**1.65**	**39**		Pn	05 15 31.6	-1.0
BLCC	**Black Canyon**	**1.70**	**213**		Pb	05 15 34.3	-0.4
DSP	**Deep Springs**	**1.72**	**349**		Pn	05 15 33.1	-0.4
MTUM	**Tungsten Hills**	**1.86**	**334**		Pb	05 15 37.4	-0.1
TPC	**Twentynine Pal**	**1.99**	**141**		Pn	05 15 36.1	-1.2
MZP	**Montezuma Peak**	**2.02**	**4**		Pn	05 15 37.5	-0.4
ELS	**Elsinore Mount**	**2.03**	**177**	Pn	Pn	05 15 36.6	-1.2
ELS				IAML		05 16 10.3	
	comp=E,57nm,0.7s						
ELS				IAML		05 16 18.4	
	comp=N,60nm,0.6s						
POB	**Polly Butte**	**2.05**	**165**		Pn	05 15 38.3	+0.2
SHPR	**Sheep Range**	**2.10**	**66**	Pn	Pn	05 15 38.6	-0.3
V12A	**Nelson**	**2.19**	**88**	Pn	Pn	05 15 39.0	-1.1
V12A				IAML		05 16 14.3	
	comp=N,107nm,0.5s						
V12A				IAML		05 16 19.3	
	comp=E,110nm,0.5s						
PMD	**Palm Desert**	**2.24**	**154**	Pn	Pn	05 15 40.6	0.0
PMD				IAML		05 16 16.3	
	comp=E,54nm,0.6s						
PFO	**Pinyon Flats O**	**2.25**	**156**		Pn	05 15 40.7	-0.1
FRD	**Ford Ranch, An**	**2.31**	**160**		Pn	05 15 40.7	-1.0
TPH	**Tonopah**	**2.41**	**6**	Pn	Pn	05 15 42.7	-0.5
TPH				IAML		05 16 21.6	
	comp=E,56nm,1.1s						
TPH				IAML		05 16 25.3	
	comp=N,69nm,1.2s						
S11A	**Rachel**	**2.44**	**36**	Pn	Pn	05 15 42.4	-1.1
NEE2	**Needles Airpor**	**2.56**	**110**	Pn	Pn	05 15 43.4	-1.6
BORC	**Borrego Spring**	**2.58**	**158**	Pn	Pn	05 15 45.8	+0.5
PRN	**Pahroc Range**	**2.65**	**49**	Pn	Pn	05 15 47.3	+0.9
PRN				IAML		05 16 32.8	
	comp=N,89nm,0.4s						
PRN				IAML		05 16 36.2	
	comp=E,86nm,0.6s						
LHV	**Little Huntoon**	**2.68**	**344**	Pn	Pn	05 15 47.4	+0.7
LHV				IAML		05 16 38.6	
	comp=N,33nm,1.9s						
LHV				IAML		05 16 47.0	
	comp=E,38nm,1.1s						
PMPB	**Monarch Peak**	**2.69**	**282**	Pn	Pn	05 15 47.1	+0.2
DPP	**Dos Picos Cty**	**2.72**	**169**	Pn	Pn	05 15 46.0	-1.3
DPP				IAML		05 16 35.0	
	comp=E,30nm,0.7s						
NV11	**Mina Array Sit**	**2.79**	**350**	Pn	Pn	05 15 47.1	-1.3
NVAR	**Mina Array Bea**	**2.81**	**348**	Pn	Pn	05 15 48.0	-0.8
W13A	**Hualapai Mount**	**3.05**	**100**	Pn	Pn	05 15 50.0	-1.9
W13A				IAML		05 16 41.9	
	comp=E,24nm,0.6s						
W13A				IAML		05 16 44.6	
	comp=N,26nm,0.8s						
RYN	**Ryan**	**3.05**	**345**	Pn	Pn	05 15 50.4	-1.5
R11B	**Troy Canyon, C**	**3.10**	**30**	Pn	Pn	05 15 52.0	-0.6
R11B				IAML		05 16 42.4	
	comp=E,23nm,0.5s						
CMB	**Columbia Colle**	**3.27**	**317**	Pn	Pn	05 15 53.6	-1.3
CMB				IAML		05 16 48.7	
	comp=E,24nm,0.7s						
CMB				IAML		05 16 57.0	
	comp=N,25nm,0.8s						
YUH	**Yuha Desert**	**3.31**	**156**	Pn	Pn	05 15 53.7	-1.6
GLA	**Glamis**	**3.45**	**139**	Pn	Pn	05 15 56.3	-1.0
GLA				IAML		05 16 56.8	
	comp=N,32nm,0.5s						
GLA				IAML		05 16 57.0	
	comp=E,48nm,0.7s						
LCMT	**Little Creek M**	**3.72**	**68**		Pn	05 15 59.5	-1.7
CCUT	**Cedar City**	**3.85**	**60**	Pn	Pn	05 16 02.4	-0.7
KNB	**Kanab**	**4.04**	**69**	Pn	Pn	05 16 03.2	-2.4
KNB				IAML		05 17 23.1	
	comp=E,12nm,1.0s						
U15A	**North Rim**	**4.32**	**78**		Pn	05 16 08.7	-0.8
U15A				IAML		05 17 26.7	
	comp=E,16nm,0.9s						
U15A				IAML		05 17 30.7	
	comp=N,14nm,0.9s						
WUAZ	**Wupatki**	**5.03**	**90**	Pn	Pn	05 16 18.5	-0.7
WUAZ				IAML		05 17 45.5	
	comp=N,13nm,0.8s						
ELK	**Elko**	**5.38**	**19**		Pn	05 16 22.5	-1.5
ELK				IAML		05 17 55.1	
	comp=N,5.0nm,0.5s						

*ASRS **08** 05:20:15.0±0.8, 54.38N×86.67E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 05:20:18.9±3.4, **54.40N**×**86.63E**, **h0**km, **mbtmp2.8**/2, **ML2.6**/2, **Error ellipse: s-maj=28.9km s-min=17.3km az=44.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.16**	**248**	I	I	05 28 00.0	
	baz=69,slow=325,SNR=4.3						
ZALV	**Zalesovo Beam**	**1.16**	**248**	Pg	Pg	05 20 39.6	-1.4
	0.9nm,0.3s,baz=63,slow=17,SNR=8.9						
ZALV				Lg	Lg	05 20 57.3	
	1.2nm,0.3s,baz=64,slow=24,SNR=6.3						
KURBB	**Kurchatov Arra**	**6.22**	**236**	Pn	Pn	05 21 52.8	+0.9
	0.1nm,0.3s,baz=55,slow=13,SNR=3.5						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**8.10**	**202**	Pn	Pn	05 22 18.9	+1.2
	0.2nm,0.3s,baz=22,slow=14,SNR=7.9						
	0.2nm,0.3s						

*NEIC **08** 05:24:16.5±1.2, 35.949N±0.010×117.72W±0.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.6km az=76.0*

PAS 08 05:24:16.8±1.1, **35.950N**±0.009×**117.72W**±0.01, **h2**km±2km, **ML3.2**/24, **ML3.0**/122(NEIC), **Error ellipse: s-maj=1.4km s-min=1.2km az=173.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.08**	**270**		Pg	05 24 18.6	+0.3
WRVM	**Rose V. Centra**	**0.15**	**293**		Pg	05 24 19.9	+0.3
CLC	**China Lake**	**0.17**	**143**		Pg	05 24 20.2	+0.2
CLC					Sg	05 24 22.7	+0.5
CLC				IAML		05 24 23.4	
	comp=N,2μm,0.6s						
WNMM	**Nine Mile Cany**	**0.18**	**234**		Pg	05 24 20.5	+0.3
WNMM					Sg	05 24 23.4	+0.8
MPMC	**Manual Prospec**	**0.22**	**60**		Pg	05 24 21.2	+0.2
MPMC				Sg	Sg	05 24 24.0	+0.1
MPMC				IAML		05 24 26.0	
	comp=N,4μm,0.9s						
MPMC				IAML		05 24 26.1	
	comp=E,2μm,0.7s						
LRMC	**Laurel Mtn Rad**	**0.47**	**176**		Pg	05 24 25.7	0.0
LRMC				Sg	Sg	05 24 32.7	+0.8
LRMC				IAML		05 24 33.5	
	comp=N,2μm,0.3s						
LRMC				IAML		05 24 33.6	
	comp=E,2μm,0.2s						
WORM	**Onyx Ranch**	**0.49**	**239**		Pg	05 24 26.1	-0.1
CCCA	**Chr Cany lake**	**0.51**	**145**	Pg	Pg	05 24 27.0	+0.3
CCCA				Sg	Sg	05 24 34.8	+1.6
WBSM	**Bird Springs**	**0.53**	**220**		Pg	05 24 27.0	0.0
WBSM					Sg	05 24 35.0	+1.1
CWC	**Cottonwood Cre**	**0.57**	**329**		Pg	05 24 27.7	0.0
CWC				Sg	Sg	05 24 35.1	0.0
CWC				IAML		05 24 41.3	
	comp=N,489nm,0.2s						
WHFM	**Hanning Flat**	**0.57**	**244**		Pg	05 24 27.6	-0.1
WHFM					Sg	05 24 35.4	+0.3
CGO	**Cerro Gordo**	**0.60**	**354**		Pg	05 24 28.2	-0.2
ISA	**Isabella, Lake**	**0.68**	**245**		Pg	05 24 29.8	+0.1
ISA				Sg	Sg	05 24 38.9	+0.4
DTP	**Desert Tortois**	**0.69**	**188**		Pg	05 24 29.6	-0.3
QSM	**Queen of Sheba**	**0.69**	**88**		Pg	05 24 30.1	+0.1
QSM				Sg	Sg	05 24 40.2	+1.2
QSM				IAML		05 24 43.9	
	comp=E,974nm,0.6s						
QSM				IAML		05 24 44.9	
	comp=N,557nm,0.5s						
WASM	**Alta Sierra Ca**	**0.71**	**253**		Pg	05 24 30.3	-0.1
WASM					Sg	05 24 40.0	+0.4
CCAC	**Calif City Air**	**0.83**	**197**		Pg	05 24 32.4	-0.3
CCAC					Sg	05 24 43.9	+0.4
SPG2	**Springville 2**	**0.88**	**287**		Pg	05 24 33.4	-0.3
SPG2				

BFSC	**Mount Baldy Ra**	**1.71**	**178**		Pn	05 24 47.0	-0.7
BFSC				IAML		05 25 12.7	
	comp=E,151nm,0.3s						
BFSC				IAML		05 25 13.2	
	comp=N,146nm,0.3s						
SSK	**Sunset Peak**	**1.73**	**179**		Pg	05 24 49.9	-0.2
MWC	**Mount Wilson**	**1.74**	**189**		Pn	05 24 47.8	-0.4
MWC				IAML		05 25 14.1	
	comp=E,267nm,0.5s						
SS2	**San Sevaine**	**1.75**	**174**		Pg	05 24 50.1	-0.2
SIL	**Silver Peak**	**1.76**	**155**		Pg	05 24 50.2	-0.3
MZP	**Montezuma Peak**	**1.77**	**9**		Pn	05 24 48.3	-0.3
CRGC	**Crocker Grade**	**1.78**	**247**		Pb	05 24 49.4	-0.7
PASC	**Pasadena Art C**	**1.81**	**192**		Pn	05 24 48.7	-0.4
PASC				IAML		05 25 18.7	
	comp=N,90nm,0.4s						
PASC				IAML		05 25 19.1	
	comp=E,86nm,0.6s						
MTPC	**Mountain Pass**	**1.82**	**104**	Pn	Pn	05 24 48.3	-1.0
MTPC				IAML		05 25 16.2	
	comp=N,150nm,0.8s						
MTPC				IAML		05 25 17.9	
	comp=E,130nm,0.5s						
BLCC	**Black Canyon**	**1.87**	**205**		Pb	05 24 51.3	-0.4
BENR	**Benton**	**1.89**	**339**		Pb	05 24 52.4	+0.2
MLAC	**Mammoth, Mammo**	**1.90**	**332**		Pb	05 24 52.4	+0.1
MCSM	**Casa Diablo Ho**	**1.95**	**331**		Pb	05 24 53.2	+0.1
SMMC	**Simmler**	**1.96**	**252**		Pn	05 24 52.0	+1.0
SHPR	**Sheep Range**	**2.15**	**74**		Pn	05 24 53.5	-0.2
TPH	**Tonopah**	**2.16**	**11**		Pn	05 24 54.1	+0.1
TPH				IAML		05 25 29.8	
	comp=N,177nm,0.6s						
TSCN	**Private Proper**	**2.17**	**260**		Pn	05 24 54.9	+0.9
TPC	**Twentynine Pal**	**2.30**	**143**		Pn	05 24 54.8	-0.9
ELS	**Elsinore Mount**	**2.31**	**174**		Pn	05 24 55.4	-0.5
ELS				IAML		05 25 32.2	
	comp=E,64nm,0.4s						
ELS				IAML		05 25 36.6	
	comp=N,47nm,0.7s						
S11A	**Rachel**	**2.32**	**43**	Pn	Pn	05 24 56.0	-0.1
S11A				IAML		05 25 37.2	
	comp=N,160nm,0.7s						
PSMM	**Smith Mountain**	**2.33**	**274**		Pb	05 24 58.5	-1.0
V12A	**Nelson**	**2.34**	**95**		Pn	05 24 55.6	-0.8
V12A				IAML		05 25 38.1	
	comp=N,57nm,0.7s						
POB	**Polly Butte**	**2.35**	**164**		Pn	05 24 56.1	-0.4
LHV	**Little Huntoon**	**2.38**	**345**		Pn	05 24 57.7	+1.0
LHV				IAML		05 25 46.0	
	comp=E,49nm,1.0s						
NJQ	**Nojoqui County**	**2.46**	**236**		Pn	05 24 59.1	+1.3
NV11	**Mina Array Sit**	**2.50**	**352**		Pn	05 24 58.7	+0.1
PMPB	**Monarch Peak**	**2.51**	**277**	Pn	Pn	05 24 58.6	0.0
PMPB				IAML		05 25 38.6	
	comp=N,116nm,1.0s						
PMPB				IAML		05 25 41.2	
	comp=E,119nm,0.7s						
NVAR	**Mina Array Bea**	**2.52**	**350**	Pn	Pn	05 24 58.4	-0.6
PMD	**Palm Desert**	**2.55**	**154**	Pn	Pn	05 24 58.1	-1.0
PMD				IAML		05 25 40.7	
	comp=E,49nm,0.7s						
PMD				IAML		05 25 44.9	
	comp=N,40nm,0.7s						
PFO	**Pinyon Flats O**	**2.55**	**156**	Pn	Pn	05 24 58.6	-0.7
PFO				IAML		05 25 42.8	
	comp=N,36nm,1.4s						
PRN	**Pahroc Range**	**2.59**	**55**	Pn	Pn	05 24 60.0	+0.1
PRN				IAML		05 25 50.7	
	comp=E,109nm,0.7s						
PRN				IAML		05 25 50.7	
	comp=N,98nm,0.8s						
RYN	**Ryan**	**2.75**	**347**	Pn	Pn	05 25 02.0	0.0
BBGB	**Big Mountain B**	**2.75**	**284**	Pn	Pn	05 25 01.8	-0.3
BORC	**Borrego Spring**	**2.88**	**158**	Pn	Pn	05 25 03.6	-0.1
BORC				IAML		05 25 51.5	
	comp=N,31nm,0.6s						
BORC				IAML		05 25 56.9	
	comp=E,68nm,0.8s						
WAKR	**Walker**	**2.89**	**332**	Pn	Pn	05 25 03.6	-0.5
WAKR				IAML		05 25 56.8	
	comp=N,26nm,1.0s						
R11B	**Troy Canyon, C**	**2.94**	**35**	Pn	Pn	05 25 04.3	-0.3
R11B				IAML		05 25 54.8	
	comp=E,33nm,1.0s						
DPP	**Dos Picos Cty**	**3.01**	**167**	Pn	Pn	05 25 05.1	-0.5
DPP				IAML		05 25 54.4	
	comp=E,38nm,0.5s						
SAO	**San Andreas Ge**	**3.12**	**286**	Pn	Pn	05 25 06.3	-0.6
W13A	**Hualapai Mount**	**3.24**	**104**		Pn	05 25 07.9	-0.9
YUH	**Yuha Desert**	**3.62**	**155**	Pn	Pn	05 25 13.4	-0.3
CBX	**Cerro Bola**	**3.73**	**166**	Pn	Pn	05 25 15.7	+0.2
LCMT	**Little Creek M**	**3.76**	**72**	Pn	Pn	05 25 15.9	0.0
CCUT	**Cedar City**	**3.85**	**64**	Pn	Pn	05 25 17.4	+0.2
PSUT	**Pine Spring**	**4.02**	**49**	Pn	Pn	05 25 19.6	+0.1
PSUT				IAML		05 26 28.1	
	comp=E,30nm,0.7s						
PSUT				IAML		05 26 30.7	
	comp=N,26nm,1.2s						
KNB	**Kanab**	**4.09**	**73**	Pn	Pn	05 25 21.2	+0.8
KNB				IAML		05 26 39.6	
	comp=N,15nm,1.1s						
KNB				IAML		05 26 49.9	
	comp=E,11nm,2.1s						
ESJX	**Sierra Juarez**	**4.20**	**159**	Pn	Pn	05 25 21.8	-0.2
ESJX				IAML		05 26 30.3	
	comp=E,14nm,0.8s						
ESJX				IAML		05 26 37.5	
	comp=N,9.9nm,0.7s						
Y14A	**Wickenburg**	**4.36**	**116**	Pn	Pn	05 25 24.1	0.0
Y14A				IAML		05 26 37.1	
	comp=E,13nm,0.6s						
Y14A				IAML		05 26 39.7	
	comp=N,18nm,0.7s						

IDC 08 05:31:11.8±3.6, 54°21N×87°33E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=32.1km s-min=20.1km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**261**	I	I	05 40 20.0	
	baz=80,slow=323,SNR=6.6						
ZALV	**Zalesovo Beam**	**1.50**	**261**	Pg	Pn	05 31 37.6	-2.3
	0.6nm,0.3s,baz=80,slow=15,SNR=7.2						
ZALV				Lg	Lg	05 31 59.9	
	1.0nm,0.3s,baz=79,slow=26,SNR=5.6						
KURBB	**Kurchatov Arra**	**6.47**	**240**	Pn	Pn	05 32 49.1	+0.9
	baz=58,slow=15,SNR=1.6						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**8.08**	**205**	Pn	Pn	05 33 11.7	+1.4
	0.1nm,0.3s,baz=24,slow=14,SNR=2.5						
	0.1nm,0.4s						

IDC 08 05:33:26.3±2.2, 0.73N×126.58E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=173.8km s-min=28.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.91**	**160**	P	P	05 38 20.5	-0.9
	0.5nm,0.6s,baz=339,slow=12,SNR=7.4						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**25.27**	**164**	P	P	05 38 55.3	+0.7
	0.2nm,0.3s,baz=341,slow=11,SNR=4.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**59.94**	**326**	P	P	05 43 34.3	-0.1
	0.2nm,0.4s,baz=123,slow=7.2,SNR=1.6						
	0.2nm,0.4s						

*ASRS **08** 05:34:21.0±0.8, 53°.96N×86°.58E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

*IDC **08** 05:34:23.7±2.9, 53°.94N×86°.64E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=25.0km s-min=14.7km az=58.0*

ISC 08 05:34:22.0±8.7, 54°2N±0°.6×86°.6E±0°.4, h0km, n6, σ0s 61/6, 1C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.08**	**258**	I	I	05 41 20.0	
	baz=90,slow=324,SNR=5.8						

ZAA0	**Zalesovo Array**	**1.08**	**258**	⇓P	**Pg**	**05 34 42.2**	**-0.6**
	0.2nm,0.3s						
ZAA0				⇑S	**Sn**	**05 35 00.6**	**+0.4**
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**1.08**	**258**	Pg	**Pb**	**05 34 43.6**	**-0.1**
	0.8nm,0.3s,baz=92,slow=18,SNR=7.4						
ZALV				Lg	Lg	05 34 59.7	
	3.2nm,0.3s,baz=91,slow=27,SNR=8.4						
KURBB	**Kurchatov Arra**	**6.10**	**237**	⇓Pn	**Pn**	**05 35 54.0**	**+0.7**
	1.1nm,0.5s,baz=55,slow=12						
KURBB				⇓Lg	Lg	05 37 38.2	
	2.9nm,0.6s						
KURBB	**Kurchatov Arra**	**6.10**	**237**	Pn	**Pn**	**05 35 53.7**	**+0.4**
	0.1nm,0.3s,baz=55,slow=13,SNR=6.7						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**7.90**	**202**	Pn	**Pn**	**05 36 18.1**	**0.0**
	0.2nm,0.3s,baz=23,slow=13,SNR=4.3						
	0.3nm,0.3s						

CATAC 08 05:53:39.2±0.4, 11°N±3°×8°6W±°, h39km±3km, M3.1/22, MLv3.1/22, Error ellipse: s-maj=7.6km s-min=3.5km az=38.9, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIN	**Rivas**	**0.43**	**78**	S	Sn	05 53 58.6	+2.7
ARIN	**Rivas**	**0.43**	**78**	P	Pn	05 53 50.4	+1.4
NADN	**Granada**	**0.44**	**31**	P	Pn	05 53 50.0	+0.8
NADN				S	Sn	05 53 58.7	+2.6
NANN	**Nandasmo**	**0.59**	**14**	P	Pn	05 53 53.0	+1.8
NANN	**Nandasmo**	**0.59**	**14**	S	Sn	05 54 02.7	+3.0
SABN	**Sabanita**	**0.59**	**10**	P	Pn	05 53 52.3	+1.0
MORN	**Al O del Volca**	**0.63**	**73**	P	Pn	05 53 52.5	+0.7
MORN				S	Sn	05 54 02.9	+2.2
MAFN	**Magfor**	**0.72**	**2**	P	Pn	05 53 53.5	+0.5
MAFN	**Magfor**	**0.72**	**2**	S	Sn	05 54 04.6	+1.6
UNAN	**Cigeo UNAN**	**0.74**	**359**	P	Pn	05 53 53.9	+0.7
UNAN				S	Sn	05 54 04.7	+1.4
USIM	**UNAN**	**0.75**	**359**	P	Pn	05 53 53.9	+0.6
USIM	**UNAN**	**0.75**	**359**	S	Sn	05 54 05.1	+1.6
CARN	**Rivas**	**0.75**	**104**	P	Pn	05 53 53.7	+0.4
CARN				S	Sn	05 54 05.7	+2.2
ABCN	**Banco Central**	**0.75**	**357**	S	Sn	05 54 05.4	+1.8
ABCN	**Banco Central**	**0.75**	**357**	P	Pn	05 53 54.0	+0.5
TISN	**Laguna Tiscapa**	**0.77**	**360**	P	Pn	05 53 53.3	-0.4
ALLN	**Telcor Managua**	**0.78**	**359**	P	Pn	05 53 54.5	+0.7
ALLN	**Telcor Managua**	**0.78**	**359**	S	Sn	05 54 05.7	+1.3
WILN	**Americas 2**	**0.79**	**5**	P	Pn	05 53 54.5	+0.5
WILN				S	Sn	05 54 06.2	+1.6
SAPS	**Ciudad Sandino**	**0.81**	**350**	S	Sn	05 54 06.2	+1.2
SAPS	**Ciudad Sandino**	**0.81**	**350**	P	Pn	05 53 54.7	+0.5
APQ2	**Apoyeque**	**0.83**	**356**	P	Pn	05 53 54.9	+0.4
APQ2				S	Sn	05 54 06.6	+1.1
COPN	**Copaltepe**	**0.87**	**338**	P	Pn	05 53 55.2	+0.1
AMTN	**Mateare**	**0.88**	**349**	P	Pn	05 53 55.4	+0.3
AMTN	**Mateare**	**0.88**	**349**	S	Sn	05 54 08.2	+1.4
APQ3	**Volcan Apoyequ**	**0.91**	**353**	P	Pn	05 53 55.7	+0.2
APQ3				S	Sn	05 54 08.4	+1.0
MOMN	**Momotombo**	**1.07**	**345**	P	Pn	05 53 57.8	0.0
MOMN				S	Sn	05 54 11.9	+0.4
MOM2	**El Cardon**	**1.09**	**349**	P	Pn	05 53 58.0	0.0
MOM2				S	Sn	05 54 12.7	+0.9
CNGA	**Al SSO del Vol**	**1.20**	**339**	P	Pn	05 53 59.5	-0.1
CNGA				S	Sn	05 54 14.9	+0.2
CNGN	**Cerro Negro**	**1.20**	**339**	S	Sn	05 54 15.1	+0.3
CNGN	**Cerro Negro**	**1.20**	**339**	P	Pn	05 53 59.7	0.0
ACON	**Acoyapa**	**1.22**	**61**	P	Pn	05 53 59.9	0.0
ACON	**Acoyapa**	**1.22**	**61**	S	Sn	05 54 16.0	+0.8
PLRN	**Geotermica Pol**	**1.31**	**338**	P	Pn	05 54 01.0	0.0
PLRN				S	Sn	05 54 17.3	0.0
POLN	**Al Sur del Vol**	**1.38**	**337**	P	Pn	05 54 02.4	+0.3
POLN				S	Sn	05 54 19.4	+0.2
PKGN	**Cerro Pekin**	**1.47**	**332**	P	Pn	05 54 03.7	+0.5
PKGN				S	Sn	05 54 22.2	+0.9
CRIN	**San Cristobal**	**1.53**	**330**	P	Pn	05 54 03.9	-0.3
CRIN	**San Cristobal**	**1.53**	**330**	S	Sn	05 54 23.0	0.0
MATN	**Matagalpa**	**1.59**	**12**	S	Sn	05 54 24.8	+0.4
MATN	**Matagalpa**	**1.59**	**12**	P	Pn	05 54 04.2	-0.7

*NEIC **08** 05:54:04.9±1.6, 35°.876N±0°.009×117°.70W±0°.01, h8km±3km, Error ellipse: s-maj=1.3km s-min=1.2km az=51.0*

PAS 08 05:54:05.2±1.7, 35°.872N±0°.008×117°.713W±0°.008, h8km±3km, ML3.6/18, ML3.2/144(NEIC), Error ellipse: s-maj=1.3km s-min=0.8km az=206.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.07**	**213**		Pg	05 54 07.8	+0.5
CLC	**China Lake**	**0.11**	**121**		Pg	05 54 07.7	-0.1
CLC				Sg	Sg	05 54 09.7	+0.2
CLC				IAML		05 54 10.0	
	comp=E,14μm,0.3s						
WVPM	**Volcano Peak E**	**0.11**	**313**		Pg	05 54 07.9	0.0
WVPM					Sg	05 54 10.1	+0.3
WNMM	**Nine Mile Cany**	**0.16**	**259**		Pg	05 54 08.6	+0.1
SRTC	**Snort**	**0.18**	**189**		Pg	05 54 09.3	+0.4
WRVM	**Rose V. Centra**	**0.20**	**313**		Pg	05 54 09.2	-0.1
WRVM					Sg	05 54 12.0	0.0
MPMC	**Manual Prospec**	**0.26**	**44**	Pg	Pg	05 54 10.2	-0.2
MPMC				Sg	Sg	05 54 13.7	-0.3
MFS	**McCloud Flat S**	**0.27**	**335**		Pg	05 54 10.4	-0.3
MFS					Sg	05 54 14.4	+0.1
LRMC	**Laurel Mtn Rad**	**0.39**	**176**	Pg	Pg	05 54 12.6	-0.3
LRMC					Sg	05 54 18.6	+0.6
LRMC				IAML		05 54 19.0	
	comp=N,2μm,0.2s						
LRMC				IAML		05 54 19.1	
	comp=E,3μm,0.6s						
CCCA	**Chr Cany lake**	**0.45**	**141**	Pg	Pg	05 54 14.0	+0.1
CCCA				Sg	Sg	05 54 20.7	+0.9
WBSM	**Bird Springs**	**0.48**	**226**		Pg	05 54 14.3	-0.3
WBSM					Sg	05 54 20.9	0.0
WHFM	**Hanning Flat**	**0.55**	**251**		Pg	05 54 22.6	-0.3
DTP	**Desert Tortois**	**0.61**	**190**		Pg	05 54 16.4	-0.6
CWC	**Cottonwood Cre**	**0.64**	**332**		Pg	05 54 17.4	-0.2
CWC					Sg	05 54 25.7	-0.3
CWC				IAML		05 54 27.0	
	comp=N,1μm,0.2s						
CWC				IAML		05 54 29.1	
	comp=E,1μm,0.2s						
ISA	**Isabella, Lake**	**0.65**	**252**		Pg	05 54 17.3	-0.5
ISA				IAML		05 54 26.7	
	comp=N,1μm,0.4s						
ISA				Sg	Sg	05 54 26.0	-0.3
ISA				IAML		05 54 28.3	
	comp=E,898nm,0.2s						
CGO	**Cerro Gordo**	**0.68**	**354**		Pg	05 54 17.6	-0.8
CGO					Sg	05 54 28.0	+0.6
QSM	**Queen of Sheba**	**0.69**	**82**		Pg	05 54 17.9	-0.7
QSM				Sg	Sg	05 54 27.3	-0.3
QSM				IAML		05 54 30.7	
	comp=E,1μm,0.6s						
QSM				IAML		05 54 32.1	
	comp=N,1μm,0.5s						
WASM	**Alta Sierra Ca**	**0.70**	**259**		Pg	05 54 17.6	-1.1
WASM					Sg	05 54 27.6	-0.2
CCAC	**Calif City Air**	**0.76**	**199**		Pg	05 54 19.2	-0.6
CCAC					Sg	05 54 29.6	-0.1
GWY	**Greenwater Val**	**0.90**	**69**		Pg	05 54 21.9	-0.7
GWY					Sg	05 54 33.8	-0.5
GWY				IAML		05 54 37.2	
	comp=N,718nm,0.5s						
GWY				IAML		05 54 37.4	
	comp=E,916nm,0.4s						
FURC	**Furnace Creek,**	**0.91**	**49**		Pg	05 54 22.5	-0.2
SPG2	**Springville 2**	**0.91**	**291**		Pg	05 54 21.7	-1.0
SPG2					Sg	05 54 33.9	-0.8
GSC	**Goldstone, Bar**	**0.93**	**127**		Pg	05 54 22.2	-0.9
GSC				Sg	Sg	05 54 34.8	-0.5
GSC				IAML		05 54 36.8	
	comp=N,889nm,0.3s						
GSC				IAML		05 54 41.1	
	comp=E,1μm,0.5s						
HYS	**Haystack Butte**	**1.01**	**173**		Pg	05 54 23.7	-0.9
EDW2	**Edwards Air Fo**	**1.01**	**193**		Pg	05 54 23.5	-1.2
TEJ	**El Tejon**	**1.02**	**231**		Pg	05 54 23.6	-1.2
TPO	**Tropico Hills**	**1.08**	**203**		Pg	05 54 24.8	-1.1
TPO				Sg	Sg	05 54 39.5	-0.4
TPO				IAML		05 54 42.5	

	comp=N,814nm,0.6s						
VES	**Vestal, Richgr**	**1.11**	**269**		Pg	05 54 25.8	-0.8
VES					Sb	05 54 41.3	-0.1
RRX	**Edison Barstow**	**1.15**	**149**		Pg	05 54 27.0	-0.3
GRAC	**Grapevine Rang**	**1.16**	**14**		Pg	05 54 26.4	-1.0
GRAC				Sg	Sg	05 54 42.3	-0.1
GRAC				IAML		05 54 46.2	
	comp=N,747nm,0.4s						
SHOC	**Shoshone, Teco**	**1.17**	**88**		Pg	05 54 27.4	-0.3
ARVC	**Arvin**	**1.18**	**231**		Pg	05 54 26.8	-1.0
SBB	**Saddle Back Bu**	**1.19**	**184**		Pg	05 54 26.6	-1.3
SGV	**South Grapevin**	**1.23**	**26**		Pb	05 54 27.6	-1.3
SGV					Sg	05 54 44.2	-0.8
THC	**Tehachapi Micr**	**1.23**	**219**		Pb	05 54 27.6	-1.3
BAKC	**Calstate**	**1.25**	**245**		Pn	05 54 28.4	-0.6
TIN	**Tinemaha, Big**	**1.25**	**341**		Pn	05 54 28.3	-0.8
WCT	**Wildcat Mounta**	**1.27**	**43**		Pn	05 54 27.9	-1.5
WCT				IAML		05 54 48.4	
	comp=N,357nm,0.5s						
WCT				IAML		05 54 49.8	
	comp=E,458nm,0.5s						
AMDNV	**Amargosa**	**1.30**	**63**		Pn	05 54 27.8	-1.8
AMDNV					Sb	05 54 46.0	-0.6
LCH	**Last Change Ra**	**1.36**	**2**		Pn	05 54 29.5	-1.1
LRRC	**Littlerock Res**	**1.37**	**191**		Pn	05 54 30.5	0.0
HOLC	**Holcomb Ridge**	**1.42**	**184**		Pn	05 54 30.9	-0.5
HOLC					Sg	05 54 50.8	+0.1
VOG	**Valley Oaks Go**	**1.42**	**289**		Pn	05 54 31.1	-0.3
VOG					Sn	05 54 50.3	0.0
JNH	**Juniper Hills**	**1.44**	**188**		Pg	05 54 32.8	+0.1
GMN	**Gold Mountain**	**1.47**	**14**		Pn	05 54 31.3	-1.0
GMN				IAML		05 54 54.9	
	comp=N,224nm,0.5s						
DSCC	**Desert Studies**	**1.50**	**119**		Pn	05 54 30.4	-2.0
OSI	**Osito Audit: C**	**1.50**	**214**		Pn	05 54 31.8	-0.7
OSI				IAML		05 54 60.0	
	comp=E,326nm,0.7s						
OSI				IAML		05 55 00.7	
	comp=N,272nm,0.6s						
DSP	**Deep Springs**	**1.51**	**352**		Pn	05 54 31.7	-0.8
DSP					Sn	05 54 51.7	-0.7
DSP				IAML		05 54 54.4	
	comp=E,168nm,0.4s						
TUQ	**Turquoise Moun**	**1.52**	**106**		Pn	05 54 31.2	-1.6
TUQ					Sb	05 54 53.5	+0.3
HEC	**Hector,Ludlow**	**1.53**	**132**		Sb	05 54 53.9	+0.4
BHPR	**Bishop**	**1.56**	**337**		Pn	05 54 32.6	-0.8
CHFC	**Chilao Flat St**	**1.56**	**190**		Pb	05 54 34.4	0.0
CHFC					Sg	05 54 54.9	-0.4
POCCA	**Poleta Canyon**	**1.56**	**343**		Pb	05 54 33.9	-0.5
TPNV	**Topopah Spring**	**1.60**	**47**		Pn	05 54 32.8	-1.1
TPNV				IAML		05 54 56.8	
	comp=E,483nm,0.6s						
TPNV				IAML		05 54 59.2	
	comp=E,467nm,0.7s						
MTUM	**Tungsten Hills**	**1.63**	**335**		Pb	05 54 35.1	-0.5
BFSC	**Mount Baldy Ra**	**1.63**	**178**		Pn	05 54 34.0	-0.4
SSK	**Sunset Peak**	**1.66**	**179**		Pb	05 54 35.6	-0.4
MWC	**Mount Wilson**	**1.67**	**190**		Pn	05 54 34.7	-0.2
MWC				IAML		05 54 59.7	
	comp=N,358nm,0.6s						
MWC				IAML		05 55 07.2	
	comp=E,287nm,0.5s						
SIL	**Silver Peak**	**1.69**	**154**		Pb	05 54 36.6	0.0
OAT	**Oat Mountain**	**1.69**	**206**		Pg	05 54 37.2	-0.5
BBRC	**Big Bear Solar**	**1.73**	**158**		Pb	05 54 37.3	-0.1
PASC	**Pasadena Art C**	**1.74**	**193**	Pn	Pn	05 54 35.3	-0.4
CRGC	**Crocker Grade**	**1.76**	**250**		Pb	05 54 37.0	-0.8
PSRC	**Puddingstone R**	**1.78**	**183**		Pb	05 54 38.6	+0.6
SVD	**Seven Oaks Dam**	**1.83**	**164**		Pg	05 54 39.7	-0.7
MZP	**Montezuma Peak**	**1.84**	**8**		Pn	05 54 36.6	-0.8
GTM	**Goat Mountain**	**1.93**	**144**		Pb	05 54 40.6	0.0
BENR	**Benton**	**1.96**	**340**		Pb	05 54 41.3	-0.2
MLAC	**Mammoth, Mammo**	**1.97**	**333**		Pb	05 54 41.5	-0.1
MCSM	**Casa Diablo Ho**	**2.02**	**332**		Pb	05 54 42.4	0.0
SHPR	**Sheep Range**	**2.16**	**72**		Pn	05 54 40.7	-1.0
TSCN	**Private Proper**	**2.17**	**262**		Pn	05 54 41.2	-0.5
FIGC	**Figueroa Mtn.**	**2.18**	**239**		Pb	05 54 44.5	-0.4
TPC	**Twentynine Pal**	**2.23**	**142**		Pn	05 54 41.4	-1.1
ELS	**Elsinore Mount**	**2.23**	**174**		Pn	05 54 41.7	-0.8
ELS				IAML		05 55 22.1	
	comp=E,82nm,0.9s						
TPH	**Tonopah**	**2.23**	**10**		Pn	05 54 42.1	-0.6
HMTC	**Hemet**	**2.24**	**165**		Pb	05 54 46.4	+0.6
POB	**Polly Butte**	**2.27**	**163**		Pn	05 54 42.6	-0.6
BACC	**Bachelor Mtn.**	**2.32**	**166**		Pb	05 54 47.7	+0.4
S11A	**Rachel**	**2.37**	**41**	Pn	Pn	05 54 43.9	-0.6
LHV	**Little Huntoon**	**2.46**	**345**		Pn	05 54 45.7	+0.2
LHV				IAML		05 55 32.4	
	comp=E,65nm,0.9s						
PMD	**Palm Desert**	**2.48**	**153**	Pn	Pn	05 54 45.1	-0.7
PMD				IAML		05 55 26.0	
	comp=E,80nm,0.6s						
PFO	**Pinyon Flats O**	**2.48**	**155**	Pn	Pn	05 54 45.0	-1.0
PMPB	**Monarch Peak**	**2.53**	**279**		Pn	05 54 44.9	-1.7
PMPB				IAML		05 55 26.0	
	comp=E,189nm,0.8s						
PMPB				IAML		05 55 29.5	
	comp=N,178nm,0.8s						
NV11	**Mina Array Sit**	**2.58**	**352**		Pn	05 54 47.0	-0.4
NVAR	**Mina Array Bea**	**2.60**	**350**		Pn	05 54 47.4	-0.3
PRN	**Pahroc Range**	**2.63**	**54**		Pn	05 54 47.6	-0.5
PRN				IAML		05 55 42.1	
	comp=E,166nm,0.6s						
NEE2	**Needles Airpor**	**2.76**	**113**		Pn	05 54 48.0	-1.7
BBGB	**Big Mountain B**	**2.78**	**286**		Pn	05 54 49.5	-0.6
BORC	**Borrego Spring**	**2.81**	**157**	Pn	Pn	05 54 50.0	-0.4
BORC				IAML		05 55 37.1	
	comp=E,96nm,0.8s						

SPR3				IAML		05 56 22.1	
	comp=N,26nm,1.0s						
Y14A	**Wickenburg**	**4.32**	**115**	Pn	Pn	05 55 10.2	-1.1
Y14A				IAML		05 56 25.0	
	comp=E,36nm,0.7s						
U15A	**North Rim**	**4.42**	**81**	Pn	Pn	05 55 11.3	-1.6
U15A				IAML		05 56 34.0	
	comp=E,16nm,2.2s						
BEKR	**Beckworth**	**4.50**	**333**	Pn	Pn	05 55 13.1	-0.8
BEKR				IAML		05 56 39.6	
	comp=E,36nm,0.6s						
BEKR				IAML		05 56 42.9	
	comp=N,16nm,0.8s						
WUAZ	**Wupatki**	**5.17**	**92**	Pn	Pn	05 55 21.3	-1.8
WUAZ				IAML		05 56 50.6	
	comp=N,19nm,1.8s						
WUAZ				IAML		05 56 51.8	
	comp=N,15nm,1.4s						
ELK	**Elko**	**5.24**	**21**	Pn	Pn	05 55 22.0	-2.1
ELK				IAML		05 56 52.4	
	comp=N,7.0nm,0.7s						
ELK				IAML		05 56 54.4	
	comp=N,9.0nm,0.5s						
X16A	**Lo Mia Camp, P**	**5.34**	**104**	Pn	Pn	05 55 24.4	-1.0
X16A				IAML		05 57 09.0	
	comp=E,7.9nm,1.3s						
DUG	**Dugway, Tooele**	**5.79**	**40**	Pn	Pn	05 55 29.2	-2.4
TMUT	**Trail Mountain**	**6.19**	**55**	Pn	Pn	05 55 35.9	-1.4
W18A	**Petrified Fore**	**6.55**	**94**	Pn	Pn	05 55 40.0	-2.1
KMPM	**Mount Pierce**	**6.79**	**314**	Pn	Pn	05 55 43.0	-2.2
PV19	**Morning Glory**	**7.39**	**68**	Pn	Pn	05 55 52.4	-1.2
PV23	**Carpenter Ridg**	**7.41**	**67**	Pn	Pn	05 55 51.2	-2.7
PV11	**David Mesa, Pa**	**7.47**	**68**	Pn	Pn	05 55 52.6	-2.0
PV04	**Paradox Valley**	**7.47**	**68**	Pn	Pn	05 55 53.7	-1.0
MVCO	**Mesa Verde**	**7.54**	**77**	Pn	Pn	05 55 54.9	-0.7

IDC 08 05:55:06.5±3.9, 54°27N×87°47E, h0km, mbtmp2.4/2, ML2.1/2, Error ellipse: s-maj=34.1km s-min=21.1km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.60**	**259**	I	I	06 04 19.1	
	baz=77,slow=319,SNR=5.5						
ZALV	**Zalesovo Beam**	**1.60**	**259**	Pg	Pb	05 55 36.5	-0.4
	0.8nm,0.3s,baz=78,slow=13,SNR=6.5						
ZALV				Lg	Lg	05 55 57.2	
	0.6nm,0.3s,baz=78,slow=29,SNR=3.8						
KURBB	**Kurchatov Arra**	**6.58**	**240**	Pn	Pn	05 56 43.5	-0.9
	baz=57,slow=15,SNR=2.5						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**8.18**	**206**	Pn	Pn	05 57 08.3	+1.8
	baz=26,slow=15,SNR=1.6						
	0.1nm,0.3s						

*ASRS **08** 05:59:37.0±1.4, 54°21N×86°40E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 05:59:41.7±2.7, 54°18N×86°38E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=21.4km s-min=12.6km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**256**	I	I	06 06 00.0	
	baz=74,slow=323,SNR=6.6						
ZALV	**Zalesovo Beam**	**0.95**	**256**	Pg	Pg	05 59 58.0	-1.8
	2.3nm,0.3s,baz=76,slow=19,SNR=16						
ZALV				Lg	Lg	06 00 14.4	
	4.2nm,0.3s,baz=79,slow=31,SNR=15						
KURBB	**Kurchatov Arra**	**5.98**	**237**	Pn	Pn	06 01 11.1	-0.3
	0.1nm,0.3s,baz=53,slow=13,SNR=5.3						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**7.84**	**201**	Pn	Pn	06 01 39.2	+2.2
	0.2nm,0.3s,baz=24,slow=13,SNR=5.7						
	0.3nm,0.3s						

IDC 08 06:00:26.0±1.7, 0°68N×126°37E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=164.2km s-min=22.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.93**	**160**	P	P	06 05 20.8	-0.5
	1.4nm,0.5s,baz=338,slow=10,SNR=32						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**25.28**	**164**	P	P	06 05 54.7	+0.4
	0.6nm,0.4s,baz=344,slow=11,SNR=8.9						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**59.86**	**326**	P	P	06 10 33.4	-0.2
	0.4nm,0.5s,baz=127,slow=8.2,SNR=6.5						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**64.11**	**328**	P	P	06 11 02.1	+0.1
	0.3nm,0.6s,baz=128,slow=6.0,SNR=2.7						
	0.3nm,0.6s						

*IDC **08** 06:08:25.3±1.2, 0°41N×126°06E, h0km, mb4.1/5, mbtmp4.1/6, ML3.5/1, MS2.9/1, Error ellipse: s-maj=104.5km s-min=18.1km az=67.0*

*DJA **08** 06:08:26.4±0.9, 1°N±2°×12°6E±°, h20km±7km, M3.6/2, MLv3.5/7, MLv3.6/2*

ISC 08 06:08:29.6±0.8, 0°71N±0°05×126°42E±0°05, h47km, n11, σ2s23/15, mb4.2/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.95**	**86**	P	**Pn**	**06 08 43.9**	**-2.7**
TNTI				S	**Sn**	**06 08 58.2**	**-0.9**
KMSI	**Cibinong**	**2.44**	**267**	P	**Pn**	**06 09 04.1**	**-2.9**
KMSI				S	**Sn**	**06 09 34.7**	**-1.0**
SANI	**Sanana**	**2.78**	**189**	P	**Pn**	**06 09 09.6**	**-2.1**
SANI				S	**Sn**	**06 09 44.1**	**+0.2**
SGSI	**Sangihe**	**3.08**	**343**	P	**Pn**	**06 09 14.1**	**-1.8**
SGSI				S	**Sn**	**06 09 49.3**	**-2.3**
KAPI	**Kappang**	**8.76**	**229**	LR	LR	06 13 47.3	
	comp=Z,77nm,21.4s,baz=52,slow=39						
FITZ	**Fitzroy Crossi**	**18.71**	**182**	P	**P**	**06 12 42.4**	**-1.9**
	0.1nm,0.3s,baz=0.9,slow=8.1,SNR=1.9						
	1.6nm,0.7s						
WRA	**Warramunga Arr**	**21.95**	**160**	P	**P**	**06 13 18.4**	**-1.1**
	4.6nm,0.4s,baz=337,slow=11,SNR=69						
	4.6nm,0.4s						
ASAR	**Alice Springs**	**25.30**	**164**	P	**P**	**06 13 52.1**	**+0.1**
	1.8nm,0.4s,baz=351,slow=15,SNR=33						
	1.8nm,0.4s						
STKA	**Stephens Creek**	**35.46**	**157**	P	**P**	**06 15 22.6**	**+0.9**
	1.9nm,0.7s,baz=320,slow=10,SNR=4.4						
	1.9nm,0.7s						
MKAR	**Makanchi Array**	**59.86**	**326**	P	**P**	**06 18 33.1**	**+2.6**
	0.6nm,0.4s,baz=122,slow=7.9,SNR=13						
MKAR				PcP	**PcP**	**06 19 19.9**	**+3.2**
	0.5nm,0.6s,baz=116,slow=3.7,SNR=4.2						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**64.11**	**328**	P	**P**	**06 19 01.5**	**+2.6**
	0.8nm,0.3s,baz=116,slow=7.5,SNR=1.7						
	0.8nm,0.3s						

*IDC **08** 06:09:49.1±0.5, 30°37S×179°14W, h0km, mb4.5/14, mbtmp4.5/18, ML4.8/3, MS4.2/4, Error ellipse: s-maj=18.1km s-min=15.6km az=97.0*

*NEIC **08** 06:09:50.9±1.7, 30°2S±0°1×179°0W±0°1, h10km±1km, mb4.9/60, Error ellipse: s-maj=19.8km s-min=11.1km az=141.0*

*GCMT **08** 06:09:52.9±0.3, 30°31S±0°02×179°17W±0°03, h13km±2km, MW5.1/64, Moment Tensor Solution. s19,c23; s64,c79; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.91±.33; Mθθ1.63±.21; Mϕϕ0.27±.24; Mrθ2.75±.72; Mrϕ4.08±.17; Mθr=1.76±.69; Best double couple: Mo5.50400×10^16 NP1:φs268.00000°, δ56.00000°, λ-156.00000°. NP2: φs268.00000°, δ70.00000°, λ-37.00000°. Principal axes: T 5.2430, Plg9.0000°, Azm323.0000°; N 0.5200, Plg49.0000°, Azm64.0000°; P -5.7650, Plg40.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 06:09:53.8±0.3, 30°28S±0°06×178°98W±0°05, h35km, n145, σ1s63/142, mb5.0/46, 5D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.37**	**42**	P	**Pn**	**06 10 16.0**	**-0.4**
GLKZ				S	**Sn**	**06 10 28.2**	**-5.0**
RIZ	**Raoul Island**	**1.37**	**42**	P	**Pn**	**06 10 14.7**	**-1.8**
RAO	**Raoul Island**	**1.38**	**42**		**Pn**	**06 10 14.0**	**-2.5**
RAO				Sn	**Sn**	**06 10 32.5**	**-1.0**
RAO	**Raoul Island**	**1.38**	**42**	Pn	**Pn**	**06 10 13.9**	**-2.6**
	500nm,0.3s,baz=226,slow=11,SNR=7.3						
RAO				Sn	**Sn**	**06 10 32.7**	**-0.8**
	918nm,0.3s,baz=273,slow=20,SNR=11						
HAZ	**Te Kaha**	**7.93**	**199**	P	**Pn**	**06 11 44.6**	**-1.9**
WCZ	**Waipu Caves**	**7.95**	**223**	P	**Pn**	**06 11 45.6**	**-1.2**
PKGZ	**Pakihiroa**	**7.95**	**197**	P	**Pn**	**06 11 45.6**	**-1.3**
OUZ	**Omahuta**	**7.96**	**230**	P	**Pn**	**06 11 45.4**	**-1.6**
OUZ				S	**Sn**	**06 13 11.3**	**-4.5**
PUZ	**Puketiti**	**8.11**	**196**	P	**Pn**	**06 11 45.5**	**-3.5**
RUGZ	**Raukumara Rang**	**8.15**	**199**	P	**Pn**	**06 11 48.8**	**-0.9**
TWGZ	**Tauwhareparae**	**8.27**	**197**	P	**Pn**	**06 11 48.9**	**-2.4**
OPRZ	**Ohinepanea**	**8.41**	**205**	P	**Pn**	**06 11 52.8**	**-0.3**
CNGZ	**Carnagh Statio**	**8.51**	**195**	P	**Pn**	**06 11 50.0**	**-4.5**
MWZ	**Matawai**	**8.54**	**199**	P	**Pn**	**06 11 52.9**	**-2.1**
TKGZ	**Te Karaka**	**8.55**	**197**	P	**Pn**	**06 11 54.4**	**-0.7**
URZ	**Urewera**	**8.59**	**201**	Pn	**Pn**	**06 11 52.4**	**-3.2**
	4.4nm,0.3s,baz=2.2,slow=1.2,SNR=22						
URZ				Sn	**Sn**	**06 13 32.4**	**+1.1**
	baz=332,slow=20						
	22nm,0.5s						
URZ	**Urewera**	**8.59**	**201**	P	**Pn**	**06 11 54.7**	**-0.9**
RAGZ	**Rawiri**	**8.72**	**199**	P	**Pn**	**06 11 55.7**	**-1.7**
RIGZ	**Rimuhau**	**8.83**	**197**	P	**Pn**	**06 11 55.8**	**-3.1**
MUGZ	**Murupara**	**8.90**	**202**	P	**Pn**	**06 11 58.5**	**-1.4**
BKZ	**Black Stump Fm**	**9.62**	**202**	P	**Pn**	**06 12 05.9**	**-3.8**
HIZ	**Hauiti**	**9.66**	**210**	P	**Pn**	**06 12 10.7**	**+0.4**
KAHZ	**Kahuranaki**	**10.08**	**199**	P	**Pn**	**06 12 11.8**	**-4.4**
MSVF	**Nonsavu**	**12.78**	**347**	Pn	**Pn**	**06 12 52.4**	**-0.7**
	0.9nm,0.3s,baz=217,slow=20,SNR=1.2						
MSVF				LR	LR	06 16 50.1	
	comp=Z,3μm,20.5s,baz=157,slow=33						
	1.8nm,0.2s						
DZM	**Mont Dzumac**	**15.42**	**299**	Pn	**Pn**	**06 13 27.6**	**-1.3**
DZM				IAmb	IAmb	06 13 54.6	
	comp=Z,21nm,1.0s						
DZM	**Mont Dzumac**	**15.42**	**299**	*e*Pn	**Pn**	**06 13 29.1**	**+0.2**
	comp=Z,57nm,1.2s						
DZM				*e*LR	LR	06 16 49.7	
	comp=Z,4μm,26.3s						
DZM	**Mont Dzumac**	**15.42**	**299**	Pn	**Pn**	**06 13 25.7**	**-3.1**
	comp=Z,5.7nm,1.0s,baz=92,slow=4.6,SNR=1.8						
DZM				LR	LR	06 18 19.4	
	comp=Z,3μm,18.0s,baz=145,slow=33						
RPZ	**Rata Peaks**	**15.58**	**208**	Pn	**Pn**	**06 13 27.8**	**-2.9**
	comp=Z,0.7nm,0.3s,baz=45,slow=17,SNR=4.0						
	comp=Z,16nm,1.0s						
RAR	**Rarotonga**	**19.49**	**67**	LR	LR	06 21 12.2	
	comp=Z,274nm,19.7s,baz=264,slow=35						
TBI	**Tubuai**	**27.18**	**82**	*e*S	**S**	**06 20 13.5**	**+2.9**
	comp=Z,468nm,35.0s						
TBI				*e*LQ	LQ	06 21 05.3	
	comp=Z,6μm,24.2s						
TBI				*e*LR	LR	06 22 22.0	
	comp=Z,872nm,27.0s						
TBI				*e*LR	LR	06 22 30.2	
	comp=Z,2μm,27.2s						
PPT2	**Papeete2**	**29.59**	**71**	*e*S	**S**	**06 20 43.5**	**-5.4**
	comp=Z,58nm,24.2s						
PPT2				*e*LQ	LQ	06 22 08.2	
	comp=Z,932nm,23.8s						
PPT2				*e*LR	LR	06 23 28.1	
	comp=Z,142nm,30.8s						
PPT2				*e*LR	LR	06 23 35.6	
	comp=Z,132nm,21.5s						
PPT	**Papeete**	**29.61**	**71**	LR	LR	06 27 16.4	
	comp=Z,128nm,18.8s,baz=253,slow=35						
TOO	**Toolangi**	**30.24**	**246**		**P**	**06 16 00.9**	**-0.3**
CTAO	**Charters Tower**	**32.95**	**280**	P	**P**	**06 16 25.3**	**+0.1**
CTAO				IAmb	IAmb	06 16 31.8	
	comp=Z,23nm,1.2s						
STKA	**Stephens Creek**	**33.68**	**257**		**P**	**06 16 32.0**	**+0.5**
STKA	**Stephens Creek**	**33.68**	**257**	P	**P**	**06 16 32.3**	**+0.7**
	comp=Z,34nm,0.9s,baz=92,slow=9.9,SNR=45						
	comp=Z,34nm,0.9s						
TAOE	**Nuku Hiva Isla**	**42.04**	**68**	*e*S	**S**	**06 24 02.9**	**+3.5**
	comp=Z,37nm,21.9s						
TAOE				*e*SS	**SS**	**06 27 04.8**	**-2.6**
	comp=Z,102nm,23.6s						
TAOE				*e*LR	LR	06 29 22.1	
	comp=Z,139nm,21.7s						
AS31	**Alice Springs**	**42.27**	**267**		**P**	**06 17 43.8**	**-0.3**
ASAR	**Alice Springs**	**42.27**	**267**		**P**	**06 17 43.6**	**-0.5**
ASAR	**Alice Springs**	**42.27**	**267**	P	**P**	**06 17 43.1**	**-1.1**
	comp=Z,15nm,0.9s,baz=107,slow=8.0,SNR=92						
ASAR				PcP	**PcP**	**06 19 37.3**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=109,slow=6.7,SNR=1.2						
ASAR				ScP	**ScP**	**06 23 27.7**	**+2.2**
	comp=Z,0.4nm,1.0s,baz=123,slow=3.4,SNR=1.6						
	comp=Z,15nm,0.9s						
WR8	**Warramunga Arr**	**43.10**	**273**		**P**	**06 17 50.5**	**-0.3**
WRAB	**Tennant Creek**	**43.24**	**273**	P	**P**	**06 17 51.7**	**-0.3**
WRA	**Warramunga Arr**	**43.25**	**273**	P	**P**	**06 17 51.7**	**-0.3**
WRA	**Warramunga Arr**	**43.25**	**273**	P	**P**	**06 17 50.9**	**-1.1**
	comp=Z,12nm,0.9s,baz=111,slow=7.8,SNR=32						
WRA				PcP	**PcP**	**06 19 40.2**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=114,slow=3.1,SNR=3.5						
	comp=Z,12nm,0.9s						
WB0	**Warramunga Arr**	**43.27**	**273**		**P**	**06 17 52.0**	**-0.2**
WB0				IAmb	IAmb	06 17 53.5	
	comp=Z,24nm,1.1s						
FORT	**Forrest**	**45.26**	**255**		**P**	**06 18 07.5**	**-0.5**
FORT				IAmb	IAmb	06 18 08.9	
	comp=Z,19nm,0.8s						
SBA	**Scott Base**	**48.10**	**184**		**P**	**06 18 30.2**	**+0.7**
VNDA	**Vanda**	**48.13**	**186**	P	**P**	**06 18 30.7**	**+0.8**
	comp=Z,1.6nm,1.0s,baz=68,slow=5.0,SNR=4.8						
	comp=Z,1.6nm,1.0s						
MTN	**Manton Dam**	**49.13**	**279**	P	**P**	**06 18 38.1**	**-0.2**
MTN				IAmb	IAmb	06 18 38.9	
	comp=Z,14nm,1.0s						
KNRA	**Kununurra**	**49.85**	**275**	P	**P**	**06 18 43.9**	**+0.1**
KNRA				IAmb	IAmb	06 18 45.2	
	comp=Z,13nm,1.0s						
FITZ	**Fitzroy Crossi**	**51.52**	**270**		**P**	**06 18 56.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**51.52**	**270**	P	**P**	**06 18 56.1**	**-0.2**
	comp=Z,34nm,0.9s,baz=138,slow=8.7,SNR=42						
	comp=Z,34nm,0.9s						
MBWA	**Marble Bar**	**55.40**	**264**		**P**	**06 19 23.8**	**-1.1**
MORW	**Morawa**	**55.76**	**254**		**P**	**06 19 26.6**	**-0.7**
QSPA	**South Pole Qui**	**59.83**	**180**	P	**P**	**06 19 56.1**	**+0.6**
	comp=Z,96nm,0.9s,baz=32,slow=2.2,SNR=241						
SMKI	**Samarinda**	**67.32**	**283**	P	P	06 20 36.3	-9.3
PCJI	**Pacitan**	**68.53**	**273**	P	**P**	**06 20 54.9**	**+1.8**
SMAI	**San Martin Ant**	**69.86**	**158**		**P**	**06 21 02.6**	**+2.2**
SMAI				IAmb	IAmb	06 21 03.4	
	comp=Z,9.5nm,0.9s						
BELA	**Belgrano 2**	**70.02**	**172**		**P**	**06 21 01.3**	**-0.1**
SBUM	**Sibu**	**73.07**	**283**	P	**P**	**06 21 20.6**	**-0.2**
MG05	**Puerto Natales**	**76.12**	**142**	P	**P**	**06 21 40.4**	**+2.5**
MG05				IAmb	IAmb	06 21 46.9	
	comp=Z,8.7nm,0.8s						
MDSI	**Maura Dua**	**76.39**	**273**	P	**P**	**06 21 39.7**	**-0.3**
	comp=Z,22nm,0.9s						
GO09	**Cerro Castillo**	**76.42**	**142**	P	**P**	**06 21 40.6**	**+0.9**
SYO	**Syowa Base**	**77.04**	**193**	⇓*e*P	**P**	**06 21 40.8**	**-1.9**
TROLL	**Troll, Antarti**	**77.99**	**180**	⇓P	**P**	**06 21 48.0**	**-0.2**
	comp=Z,3μm,0.8s						
SNAA	**Sanae**	**78.30**	**179**	⇓P	**P**	**06 21 49.5**	**-0.4**
	comp=Z,481nm,0.8s						
SNAA	**Sanae**	**78.30**	**179**		**P**	**06 21 50.0**	**+0.2**
SNAA	**Sanae**	**78.30**	**179**	P	**P**	**06 21 49.3**	**-0.5**
	comp=Z,23nm,0.9s,baz=186,slow=5.2,SNR=76						
	comp=Z,23nm,0.9s						
VNA2	**Neumayer--Watz**	**78.91**	**177**	⇓P	**P**	**06 21 53.3**	**+0.2**
	comp=Z,50nm,0.8s,baz=163,slow=5.6						
VNA1	**Neumayer--Stat**	**79.14**	**177**	⇓P	**P**	**06 21 54.4**	**+0.1**
	comp=Z,51nm,1.0s						
COYC	**Coyhaique**	**79.60**	**137**	P	**P**	**06 21 58.0**	**+0.6**
COYC				IAmb	IAmb	06 22 07.4	
	comp=Z,13nm,0.8s						
LL02	**Futaleuf**	**81.04**	**135**	P	**P**	**06 22 06.4**	**+1.2**
H03S2	**Juan Fernandez**	**81.23**	**124**	T	T	07 51 52.3	
	baz=238,slow=74,SNR=168						
H03S1	**Juan Fernandez**	**81.25**	**124**	T	T	07 51 53.5	
	baz=238,slow=74,SNR=127						
H03S3	**Juan Fernandez**	**81.25**	**124**	T	T	07 51 52.4	
	baz=238,slow=74,SNR=172						
H03N3	**Juan Fernandez**	**81.43**	**124**	T	T	07 52 13.3	
	baz=242,slow=72,SNR=56						
H03N2	**Juan Fernandez**	**81.43**	**124**	T	T	07 52 01.8	
	baz=242,slow=72,SNR=71						
H03N1	**Juan Fernandez**	**81.44**	**124**	T	T	07 51 51.1	
	baz=242,slow=72,SNR=88						
PLCA	**Paso Flores**	**83.20**	**133**	P	**P**	**06 22 18.8**	**+2.1**
	comp=Z,3.6nm,1.0s,baz=207,slow=5.1,SNR=4.8						
	comp=Z,3.6nm,1.0s						
PETK	**Petropavlovsk-**	**85.49**	**346**	P	**P**	**06 22 29.2**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=126,slow=7.5,SNR=8.1						
	comp=Z,1.2nm,0.7s						
ESJX	**Sierra Juarez**	**86.06**	**49**	IAmb	IAmb	06 22 42.3	
	comp=Z,15nm,1.3s						
BO02	**Sierra Bellavi**	**86.41**	**128**	IAmb	IAmb	06 22 42.3	
	comp=Z,5.7nm,0.7s						
USRK	**Ussuriysk Ar.**	**86.60**	**327**	P	**P**	**06 22 34.8**	**+1.6**
	comp=Z,2.4nm,0.8s,baz=129,slow=2.7,SNR=6.3						
	comp=Z,2.4nm,0.8s						
MT01	**Popeta**	**86.61**	**127**	P	**P**	**06 22 33.9**	**+0.1**
MT01				IAmb	IAmb	06 22 43.0	
	comp=Z,8.6nm,0.8s						
SDPT	**Sand Point**	**86.75**	**10**	P	**P**	**06 22 34.4**	**+0.7**
S12K	**Black Hills**	**86.85**	**9**	P	**P**	**06 22 35.6**	**+1.4**
LHV	**Little Huntoon**	**88.49**	**43**	IAmb	IAmb	06 22 53.2	
	comp=Z,6.6nm,1.0s						
GMN	**Gold Mountain**	**88.62**	**45**	IAmb	IAmb	06 22 53.7	
	comp=Z,7.3nm,1.3s						
CO03	**El Pedregal**	**88.72**	**125**	P	**P**	**06 22 44.8**	**+0.7**
NVAR	**Mina Array Bea**	**88.72**	**43**		**P**	**06 22 44.0**	**+0.1**
NVAR	**Mina Array Bea**	**88.72**	**43**	P	**P**	**06 22 46.2**	**+2.3**
	comp=Z,1.5nm,0.8s,baz=219,slow=8.5,SNR=8.1						
	comp=Z,1.5nm,0.8s						
NV11	**Mina Array Sit**	**88.81**	**43**		**P**	**06 22 45.1**	**+0.9**
NV11				IAmb	IAmb	06 22 54.5	
	comp=Z,8.2nm,1.2s						
Y14A	**Wickenburg**	**89.19**	**49**	P	**P**	**06 22 47.9**	**+1.8**
Y14A				IAmb	IAmb	06 22 57.0	
	comp=Z,11nm,1.1s						
W13A	**Hualapai Mount**	**89.33**	**48**		**P**	**06 22 48.2**	**+1.4**
W13A				IAmb	IAmb	06 22 57.9	
	comp=Z,5.8nm,1.0s						
TUC	**Tucson**	**89.70**	**52**		**P**	**06 22 49.3**	**+0.9**
OHAK	**Old Harbor**	**89.82**	**14**	P	**P**	**06 22 49.0**	**+0.7**
OHAK				IAmb	IAmb	06 22 58.2	
	comp=Z,12nm,1.2s						
J05D	**Fort Rock, OR**	**90.32**	**38**	P	**P**	**06 22 52.1**	**+1.0**
J05D				IAmb	IAmb	06 23 02.3	
	comp=Z,14nm,1.4s						
X16A	**Lo Mia Camp, P**	**90.52**	**50**	P	**P**	**06 22 52.2**	**-0.1**
X16A				IAmb	IAmb	06 23 03.7	
	comp=Z,8.0nm,1.0s						
H04A	**Detroit Lake**	**90.78**	**37**		**P**	**06 22 53.2**	**+0.1**
H04A				IAmb	IAmb	06 23 02.6	
	comp=Z,6.4nm,0.9s						
PINE	**Pine Mountain**	**90.82**	**38**		**P**	**06 22 54.0**	**+0.4**
LCMT	**Little Creek M**	**90.92**	**47**	P	**P**	**06 22 55.5**	**+1.4**
M11K	**Mekoryuk**	**90.94**	**6**	P	**P**	**06 22 53.9**	**+0.6**
M11K				IAmb	IAmb	06 23 08.1	
	comp=Z,7.9nm,0.9s						
I05D	**Terrebonne, OR**	**90.98**	**37**	P	**P**	**06 22 54.4**	**+0.4**
I05D				IAmb	IAmb	06 23 05.0	
	comp=Z,11nm,1.1s						
CCUT	**Cedar City**	**91.18**	**46**	P	**P**	**06 22 55.3**	**-0.1**
CCUT				IAmb	IAmb	06 23 06.4	
	comp=Z,5.8nm,1.2s						
KNB	**Kanab**	**91.19**	**47**		**P**	**06 22 55.5**	**0.0**
KNB				IAmb	IAmb	06 23 06.4	
	comp=Z,8.5nm,1.1s						
WUAZ	**Wupatki**	**91.22**	**49**	P	**P**	**06 22 54.2**	**-1.3**
WUAZ				IAmb	IAmb	06 23 06.5	
	comp=Z,8.7nm,1.2s						
SPR3	**Spring Creek 3**	**91.48**	**45**	P	**P**	**06 22 58.6**	**+1.7**
PSUT	**Pine Spring**	**91.48**	**45**	P	**P**	**06 22 56.9**	**+0.2**
I07A	**Izee**	**91.78**	**38**	P	**P**	**06 22 57.3**	**-0.6**
I07A				IAmb	IAmb	06 23 08.3	
	comp=Z,6.2nm,1.0s						
O18K	**Koktuh Hills**	**91.92**	**12**		**P**	**06 22 58.1**	**+0.1**
O18K				IAmb	IAmb	06 23 07.0	
	comp=Z,5.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**92.56**	**290**	P	**P**	**06 23 03.5**	**+1.6**
	comp=Z,1.4nm,0.3s,baz=158,slow=2.6,SNR=8.8						
	comp=Z,1.4nm,0.3s						
G08A	**Pilot Rock**	**92.88**	**38**		**P**	**06 23 02.3**	**-0.6**
G08A				IAmb	IAmb	06 23 13.7	
	comp=Z,6.5nm,1.1s						
TXAR	**Lajitas Array**	**93.03**	**58**	P	**P**	**06 23 05.7**	**+1.7**
TXAR	**Lajitas Array**	**93.03**	**58**	P	**P**	**06 23 05.9**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=216,slow=6.2,SNR=4.0						
	comp=Z,0.5nm,0.8s						
K15K	**Wolf Creek Mou**	**93.31**	**8**	P	**P**	**06 23 06.7**	**+2.3**
L19K	**White Mountain**	**94.17**	**11**		**P**	**06 23 08.8**	**+0.5**
L19K				IAmb	IAmb	06 23 17.9	
	comp=Z,6.5nm,1.2s						
PLID	**Pearl Lake**	**94.34**	**39**		**P**	**06 23 10.9**	**+1.1**
KLU	**Klutina**	**95.30**	**15**	P	**P**	**06 23 13.2**	**-0.4**
PDAR	**Pinedale Array**	**96.63**	**44**	P	**P**	**06 23 22.6**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=234,slow=8.0,SNR=2.4						
	comp=Z,0.2nm,0.6s						
ILAR	**Eielson Array**	**98.00**	**13**	P	Pdif	06 23 27.8	+2.1
	comp=Z,0.2nm,0.7s,baz=206,slow=5

*IDC **08** 06:10:22.9±3.9, 54.˚54N×87.˚29E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=34.7km s-min=23.2km az=33.0*

ASRS 08 06:10:25.0±0.7, 54.˚39N×86.˚78E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**250**	I	I	06 18 44.6	
	baz=68,slow=318,SNR=4.6						
ZALV	**Zalesovo Beam**	**1.23**	**250**	Pg	Pn	06 10 49.4	-0.1
	1.1nm,0.3s,baz=67,slow=16,SNR=5.5						
ZALV				Lg	Lg	06 11 13.2	
	1.3nm,0.3s,baz=66,slow=15,SNR=4.4						
KURBB	**Kurchatov Arra**	**6.29**	**237**	Pn	Pn	06 12 02.1	+3.1
	0.1nm,0.3s,baz=55,slow=14,SNR=4.6						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**8.12**	**202**	Pn	Pn	06 12 26.6	+2.5
	baz=26,slow=13,SNR=1.4						
	0.1nm,0.3s						

CATAC 08 06:11:27.1±0.5, 12.˚N±2.˚×8.˚8W±.˚, h13km±2km, M2.9/21, MLv2.9/21, Error ellipse: s-maj=5.5km s-min=2.4km az=24.8, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POTN	**Potosi Cosigui**	**1.01**	**20**	P	Pb	06 11 45.4	-1.1
POTN				S	Sg	06 12 00.2	+0.4
CRIN	**San Cristobal**	**1.02**	**51**	S	Sn	06 12 01.1	-0.5
CRIN	**San Cristobal**	**1.02**	**51**	P	Pb	06 11 46.7	-0.2
PKGN	**Cerro Pekin**	**1.06**	**54**	P	Pb	06 11 47.2	-0.3
PKGN				S	Sg	06 12 01.8	+0.3
POLN	**Al Sur del Vol**	**1.19**	**60**	P	Pn	06 11 48.9	-0.6
POLN				S	Sb	06 12 05.1	+0.2
PLRN	**Geotermica Pol**	**1.19**	**63**	P	Pn	06 11 48.4	-1.2
PLRN				S	Sn	06 12 06.0	+0.3
CNGA	**Al SSO del Vol**	**1.22**	**68**	P	Pn	06 11 49.4	-0.5
CNGA				S	Sb	06 12 06.1	+0.3
CNCH	**Conchagua**	**1.22**	**1**	S	Sb	06 11 49.4	-0.7
CNCH	**Conchagua**	**1.22**	**1**	S	Sn	06 12 06.5	-0.1
CNGN	**Cerro Negro**	**1.22**	**68**	S	Sb	06 12 06.2	+0.3
CNGN	**Cerro Negro**	**1.22**	**68**	P	Pb	06 11 50.2	0.0
COPN	**Copaltepe**	**1.25**	**84**	P	Pn	06 11 49.1	-1.3
MOMN	**Momotombo**	**1.34**	**74**	P	Pn	06 11 51.5	-0.2
MOMN				S	Sb	06 12 09.4	0.0
MOM2	**El Cardon**	**1.40**	**74**	P	Pn	06 11 52.3	-0.2
MOM2				S	Sn	06 12 10.9	+0.1
SAPS	**Ciudad Sandino**	**1.43**	**85**	S	Sb	06 12 11.9	0.0
SAPS	**Ciudad Sandino**	**1.43**	**85**	P	Pn	06 11 52.2	-0.6
RANC	**El Ranchito**	**1.44**	**343**	S	Sn	06 12 11.1	-1.0
RANC	**El Ranchito**	**1.44**	**343**	P	Pn	06 11 52.5	-0.6
ALJI	**Alcalda de J**	**1.45**	**332**	S	Sb	06 12 12.4	-0.1
ALJI	**Alcalda de J**	**1.45**	**332**	P	Pn	06 11 52.7	-0.4
APQ3	**Volcan Apoyequ**	**1.48**	**81**	P	Pn	06 11 53.4	-0.1
APQ3				S	Sn	06 12 12.8	+0.1
PACA	**Pacayal**	**1.48**	**342**	P	Pn	06 11 53.6	-0.1
PACA	**Pacayal**	**1.48**	**342**	S	Sn	06 12 13.0	-0.1
UNAN	**Cigeo UNAN**	**1.56**	**87**	P	Pn	06 11 54.5	-0.1
UNAN				S	Sn	06 12 14.6	-0.1
CHOHN	**Orocuina**	**1.58**	**26**	P	Pn	06 11 54.7	-0.4
CHOHN	**Orocuina**	**1.58**	**26**	S	Sb	06 12 15.9	-0.4
WILN	**Americas 2**	**1.64**	**86**	P	Pn	06 11 55.7	0.0
WILN				S	Sn	06 12 16.7	-0.1
NANN	**Nandasmo**	**1.71**	**93**	S	Sn	06 12 18.9	+0.5
NANN	**Nandasmo**	**1.71**	**93**	P	Pn	06 11 56.6	-0.1
TECO	**Alcaldia de Te**	**1.73**	**329**	P	Pn	06 11 57.0	0.0
TECO	**Alcaldia de Te**	**1.73**	**329**	S	Sb	06 12 19.9	-0.7
UESV	**Universidad de**	**1.82**	**330**	P	Pn	06 11 58.1	-0.2
UESV	**Universidad de**	**1.82**	**330**	S	Sn	06 12 21.8	+0.5
SCLA	**Alcaldia de Sa**	**1.85**	**333**	P	Pn	06 11 58.7	0.0
SCLA	**Alcaldia de Sa**	**1.85**	**333**	S	Sn	06 12 22.5	+0.4
COEG	**Centro de Oper**	**1.85**	**328**	S	Sb	06 12 23.6	-0.5
COEG	**Centro de Oper**	**1.85**	**328**	P	Pn	06 11 58.6	-0.2
PAVA	**Las Pavas**	**1.96**	**328**	S	Sn	06 12 24.6	-0.2
PAVA	**Las Pavas**	**1.96**	**328**	P	Pn	06 11 59.9	-0.4
TGUH	**Tegucigalpa,Un**	**2.08**	**16**	P	Pn	06 12 01.7	-0.2
TGUH				S	Sn	06 12 28.5	+0.7
YUSH	**Yuscaran**	**2.14**	**28**	P	Pn	06 12 02.9	+0.2
YUSH	**Yuscaran**	**2.14**	**28**	S	Sn	06 12 29.6	+0.3

*NEIC **08** 06:15:04.2±2.5, 35.˚14N±0.˚03×95.˚34W±0.˚02, h10km±8km, Error ellipse: s-maj=3.9km s-min=2.2km az=168.0*

NEIC 08 06:15:03.7±1.7, 35.˚12N±0.˚02×95.˚34W±0.˚02, h5km±1km, mb_Lg2.6/73, ML2.8/8, ML3.0/12, Error ellipse: s-maj=4.3km s-min=2.9km az=158.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL3	**Leonard**	**0.87**	**335**		Pg	06 15 20.5	+0.1
TUL3					Sg	06 15 32.1	+0.5
RLO	**Rose Lookout**	**1.07**	**14**		Pg	06 15 24.0	-0.2
RLO				Sg	Sg	06 15 38.4	+0.2
RLO				IAML		06 15 41.0	
	comp=N,366nm,0.2s						
DEOK	**Depew**	**1.19**	**308**		Pg	06 15 26.3	-0.2
DEOK				Sg	Sg	06 15 41.9	+0.1
DEOK				IAML		06 15 43.9	
	comp=E,230nm,0.2s						
DEOK				IAML		06 15 46.6	
	comp=N,280nm,0.3s						
OK052	**Battle Ridge R**	**1.48**	**306**		Pn	06 15 31.0	+0.1
OK052					Sg	06 15 50.9	-0.2
U38A	**Gravette**	**1.53**	**30**		Pn	06 15 31.7	+0.1
QUOK	**Quay**	**1.53**	**314**		Pn	06 15 31.6	-0.1
QUOK					Sg	06 15 53.0	+0.2
MIAR	**Mount Ida**	**1.56**	**111**		Pb	06 15 32.8	-0.2
HHAR	**Hobbs**	**1.62**	**44**		Pn	06 15 33.3	+0.3
FNO	**Franklin**	**1.69**	**275**		Pn	06 15 34.2	+0.3
OKCSW	**OKLAHOMA CITY**	**1.74**	**280**		Pn	06 15 34.8	+0.2
OKCSW				IAmb_Lg		06 15 57.5	
	comp=Z,25nm,1.2s						
OK048	**Pawnee Station**	**1.84**	**315**	Pn	Pn	06 15 36.5	+0.7
OK051	**E0350 and S346**	**1.84**	**319**		Pb	06 15 37.1	-0.7
OK029	**Liberty Lake**	**1.85**	**292**		Pb	06 15 37.4	-0.7
Z38A	**Mt. Pleasant**	**1.88**	**171**		Pn	06 15 35.8	-0.7
LOOK	**Love County**	**1.89**	**234**		Pb	06 15 38.4	-0.3
T35A	**Sooner Cattle**	**2.03**	**332**	Pn	Pn	06 15 38.2	-0.3
X34A	**Smith Ranch, M**	**2.12**	**256**	Pn	Pn	06 15 39.1	-0.6
X40A	**Basin Creek Fa**	**2.16**	**106**		Pn	06 15 39.0	-1.2
X40A				IAmb_Lg		06 16 17.1	
	comp=Z,28nm,0.8s						
BLOK	**Blackwell**	**2.23**	**318**		Pb	06 15 43.8	-0.7
WLAR	**White Oak Lake**	**2.33**	**127**	Pn	Pn	06 15 41.8	-0.8
WLAR				IAmb_Lg		06 16 17.6	
	comp=Z,16nm,0.8s						
Z35A	**Perchaven, San**	**2.39**	**222**		Pn	06 15 42.1	-1.4
TREL	**Terrell**	**2.47**	**195**	Pn	Pn	06 15 44.6	+0.1
TREL				IAmb_Lg		06 16 25.7	
	comp=Z,24nm,0.8s						
UALR	**University of**	**2.48**	**97**	Pn	Pn	06 15 44.0	-0.8
UALR				IAmb_Lg		06 16 26.8	
	comp=Z,28nm,1.0s						
WHAR	**Wooly Hollow**	**2.50**	**85**	Pn	Pn	06 15 43.9	-1.1
WHAR				IAmb_Lg		06 16 28.1	
	comp=Z,16nm,0.9s						
CROK	**Carrier**	**2.55**	**303**	Pn	Pn	06 15 44.5	-1.2
KAN13	**South Haven SW**	**2.56**	**318**	Pn	Pn	06 15 45.3	-0.6
GC02	**Grant County #**	**2.67**	**311**	Pn	Pn	06 15 46.3	-1.1
KAN09	**Caldwell North**	**2.73**	**318**	Pn	Pn	06 15 47.2	-1.0
FCAR	**Ozark Folk Cen**	**2.73**	**73**		Pn	06 15 47.9	-0.2
KAN17	**Caldwell West**	**2.75**	**315**	Pn	Pn	06 15 48.1	-2.3
CSTR	**Hydro, Custer**	**2.79**	**282**	Pn	Pn	06 15 48.2	-0.7
KAN14	**Manchester OK**	**2.81**	**311**	Pn	Pn	06 15 46.9	-2.3
Z41A	**Richland Creek**	**2.81**	**131**		Pn	06 15 47.1	-2.0
Z41A				IAmb_Lg		06 16 36.9	
	comp=Z,14nm,1.0s						
KAN01	**Argonia South**	**2.82**	**317**	Pn	Pn	06 15 49.1	-0.3
KAN01				IAmb_Lg		06 16 36.0	
	comp=Z,12nm,0.8s						
FW06	**Azle**	**2.83**	**221**	Pn	Pn	06 15 47.8	-1.6
WMOK	**Wichita Mounta**	**2.85**	**263**		Pn	06 15 49.3	-0.6
WMOK	**Wichita Mounta**	**2.85**	**263**	Pn	Pn	06 15 48.6	-1.3
WMOK				IAmb_Lg		06 16 40.6	
	comp=Z,4.8nm,0.7s						
WTFS	**Witchita Falls**	**2.92**	**243**	Pn	Pn	06 15 49.9	-0.8
FW16	**Waxahatchie**	**2.94**	**207**	Pn	Pn	06 15 50.2	-0.7
FW16				IAmb_Lg		06 16 44.6	
	comp=Z,13nm,0.8s						
KAN08	**Anthony NE Sta**	**2.99**	**315**	IAmb_Lg		06 16 42.3	
	comp=Z,14nm,0.9s						
FW03	**Perrin-Whitt E**	**3.07**	**228**	Pn	Pn	06 15 51.6	-1.2
OK038	**West end E0370**	**3.08**	**297**	Pn	Pn	06 15 51.9	-1.1
237A	**Washetta, Mont**	**3.14**	**187**	Pn	Pn	06 15 51.9	-1.8
FW07	**Weatherford**	**3.16**	**221**	IAmb_Lg		06 16 50.4	
	comp=Z,11nm,1.1s						
PLPT	**Palo Pinto**	**3.38**	**228**	Pn	Pn	06 15 55.6	-1.5
NATX	**Nacogdoches**	**3.40**	**170**	Pn	Pn	06 15 55.8	-1.6
NATX				IAmb_Lg		06 16 57.0	
	comp=Z,15nm,0.8s						
ELIS	**Ellis County**	**3.46**	**287**	Pn	Pn	06 15 56.8	-1.4
LCAR	**Lake Charles**	**3.54**	**73**	Pn	Pn	06 15 58.5	-0.8
LCAR				IAmb_Lg		06 16 55.4	
	comp=Z,14nm,0.7s						
R40A	**Maddies Statio**	**4.01**	**37**	IAmb_Lg		06 17 12.4	
	comp=Z,16nm,0.8s						
SMWD	**Samnorwood**	**4.02**	**271**		Pn	06 16 05.8	-0.1
SMWD				IAmb_Lg		06 17 21.5	
	comp=Z,13nm,0.9s						
R32A	**Long Quarter,**	**4.26**	**322**	Pn	Pn	06 16 07.7	-1.5
R32A				IAmb_Lg		06 17 23.7	
	comp=Z,18nm,0.9s						
PBMO	**Poplar Bluff**	**4.31**	**66**	IAmb_Lg		06 17 22.5	
	comp=Z,23nm,0.9s						
CCM	**Cathedral Cave**	**4.41**	**47**	IAmb_Lg		06 17 30.3	
	comp=Z,12nm,0.8s						
P38A	**Dawn**	**4.72**	**17**		Pn	06 16 15.5	0.0
P38A				IAmb_Lg		06 17 34.0	
	comp=Z,12nm,0.8s						
DKNS	**Dickens**	**4.84**	**254**	IAmb_Lg		06 17 49.5	
	comp=Z,7.5nm,0.8s						
BRDY	**Brady**	**4.90**	**220**		Pn	06 16 17.6	-0.4
CBKS	**Cedar Bluff**	**5.10**	**318**	IAmb_Lg		06 17 47.9	
	comp=Z,12nm,0.7s						
P40A	**Paris**	**5.12**	**30**	IAmb_Lg		06 17 53.6	
	comp=Z,13nm,0.7s						
SN05	**Snyder 5**	**5.12**	**246**	IAmb_Lg		06 17 59.1	
	comp=Z,6.8nm,0.8s						
AMTX	**Amarillo**	**5.21**	**269**	IAmb_Lg		06 17 46.8	
	comp=Z,8.4nm,1.0s						
SLM	**Saint Louis**	**5.39**	**48**	IAmb_Lg		06 17 58.7	
	comp=Z,14nm,0.8s						
POST	**Post**	**5.51**	**250**	IAmb_Lg		06 18 08.7	
	comp=Z,6.8nm,0.8s						
S44A	**Carbondale**	**5.54**	**61**	IAmb_Lg		06 18 05.3	
	comp=Z,18nm,0.8s						
SIUC	**Southern Illin**	**5.57**	**61**	IAmb_Lg		06 18 01.6	
	comp=Z,16nm,0.8s						
SGCY	**Sterling City**	**5.80**	**238**	IAmb_Lg		06 18 19.8	
	comp=Z,12nm,0.9s						
PLAL	**Pickwick Lake**	**5.96**	**89**	IAmb_Lg		06 18 16.7	
	comp=Z,10nm,1.1s						
JCT	**Junction City**	**5.96**	**220**	IAmb_Lg		06 18 22.0	
	comp=Z,5.3nm,0.7s						
Q44A	**Meyer Farm, Va**	**6.31**	**51**	IAmb_Lg		06 18 29.9	
	comp=Z,15nm,0.8s						
KSCO	**Kaye Shedlock'**	**7.00**	**306**	IAmb_Lg		06 18 56.2	
	comp=Z,10nm,1.0s						
T25A	**Trinidad**	**7.61**	**288**	IAmb_Lg		06 19 19.0	
	comp=Z,6.4nm,0.9s						
OGNE	**Ogallala**	**7.85**	**320**	IAmb_Lg		06 19 17.8	
	comp=Z,9.0nm,0.8s						
JFWS	**Jewell Farm**	**8.73**	**25**	IAmb_Lg		06 19 45.5	
	comp=Z,6.3nm,0.7s						
Q24A	**Divide**	**8.73**	**299**	IAmb_Lg		06 19 44.0	
	comp=Z,5.6nm,0.8s						

*NEIC **08** 06:18:07.9±1.3, 35.˚966N±0.˚009×117.˚280W±0.˚004, h2km±2km, Error ellipse: s-maj=1.3km s-min=0.6km az=183.0*

PAS 08 06:18:08.3±1.5, 35.˚961N±0.˚008×117.˚28W±0.˚01, h0km±1km, ML3.0/24, ML2.8/138(NEIC), Error ellipse: s-maj=1.3km s-min=1.0km az=47.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.30**	**241**		Pg	06 18 14.2	+0.2
CLC				Sg	Sg	06 18 18.4	+0.5
CLC				IAML		06 18 18.6	
	comp=N,1µm,0.5s						
QSM	**Queen of Sheba**	**0.33**	**89**		Pg	06 18 15.0	+0.3
QSM				Sg	Sg	06 18 19.6	+0.7
QSM				IAML		06 18 20.2	
	comp=E,2µm,0.2s						
QSM				IAML		06 18 20.4	
	comp=N,2µm,0.2s						
TOW	**Tower One**	**0.42**	**249**		Pg	06 18 17.1	+0.7
WVPM	**Volcano Peak E**	**0.44**	**269**		Pg	06 18 17.1	+0.4
CCCA	**Chr Cany lake**	**0.44**	**189**		Pg	06 18 17.4	+0.7
CCCA				Sg	Sg	06 18 23.9	+1.4
SRTC	**Snort**	**0.47**	**235**		Pg	06 18 17.9	+0.6
SRTC					Sb	06 18 25.2	-1.8
MFS	**McCloud Flat S**	**0.49**	**289**		Pg	06 18 16.7	-1.1
WRVM	**Rose V. Centra**	**0.50**	**276**		Pg	06 18 18.0	+0.2
WNMM	**Nine Mile Cany**	**0.52**	**257**		Pg	06 18 18.6	+0.3
GWY	**Greenwater Val**	**0.54**	**65**		Pg	06 18 18.9	+0.2
GWY				Sg	Sg	06 18 26.4	+0.7
GWY				IAML		06 18 30.5	
	comp=N,603nm,0.4s						
GWY				IAML		06 18 31.9	
	comp=E,883nm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.58**	**215**		Pg	06 18 19.5	+0.1
LRMC					Sg	06 18 27.5	+0.4
CGO	**Cerro Gordo**	**0.73**	**324**		Pg	06 18 22.3	0.0
CGO					Sg	06 18 32.7	+1.0
GSC	**Goldstone, Bar**	**0.76**	**150**		Pg	06 18 23.0	+0.1
GSC				Sg	Sg	06 18 33.2	+0.5
GSC				IAML		06 18 38.9	
	comp=E,726nm,0.6s						
GSC				IAML		06 18 39.8	
	comp=N,446nm,0.5s						
CWC	**Cottonwood Cre**	**0.81**	**307**		Pg	06 18 23.9	+0.2
WBSM	**Bird Springs**	**0.82**	**239**		Pg	06 18 23.8	-0.2
WORM	**Onyx Ranch**	**0.83**	**252**		Pg	06 18 23.9	-0.2
WORM					Sg	06 18 34.8	-0.1
DTP	**Desert Tortois**	**0.83**	**214**		Pg	06 18 24.2	0.0
DTP					Sg	06 18 35.6	+0.6
WHFM	**Hanning Flat**	**0.91**	**253**		Pg	06 18 25.5	-0.2
AMDNV	**Amargosa**	**0.94**	**58**		Pg	06 18 26.2	-0.1
WCT	**Wildcat Mounta**	**0.98**	**32**		Pg	06 18 26.8	-0.3
WCT				Sg	Sg	06 18 40.2	+0.3
WCT				IAML		06 18 42.2	
	comp=N,159nm,0.5s						
WCT				IAML		06 18 48.4	
	comp=E,249nm,0.5s						
CCAC	**Calif City Air**	**1.01**	**217**		Pg	06 18 27.8	+0.2
CCAC					Sg	06 18 41.0	+0.3
ISA	**Isabella, Lake**	**1.02**	**253**		Pg	06 18 27.6	-0.2
ISA				Sg	Sg	06 18 41.0	0.0
ISA				IAML		06 18 44.7	
	comp=N,248nm,0.5s						
ISA				IAML		06 18 45.2	
	comp=E,185nm,0.7s						
GRAC	**Grapevine Rang**	**1.03**	**356**		Pg	06 18 28.2	0.0
GRAC				IAML		06 18 46.7	
	comp=E,365nm,0.6s						
GRAC				IAML		06 18 46.8	
	comp=N,456nm,0.9s						
SGV	**South Grapevin**	**1.04**	**11**		Pg	06 18 28.2	0.0
SGV					Sg	06 18 41.9	+0.3
WASM	**Alta Sierra Ca**	**1.06**	**258**		Pg	06 18 28.5	-0.2
RRX	**Edison Barstow**	**1.11**	**168**		Pg	06 18 29.3	-0.2
HYS	**Haystack Butte**	**1.12**	**192**		Pg	06 18 29.3	-0.5
TUQ	**Turquoise Moun**	**1.22**	**115**		Pg	06 18 31.4	-0.3
TUQ					Sb	06 18 48.8	+0.2
EDW2	**Edwards Air Fo**	**1.23**	**209**		Pg	06 18 31.9	+0.1
EDW2					Sb	06 18 48.3	-0.5
SPG2	**Springville 2**	**1.23**	**282**		Pg	06 18 31.4	-0.5
DSCC	**Desert Studies**	**1.26**	**130**		Pg	06 18 32.2	-0.1
DSCC					Sg	06 18 48.8	+0.2
TPNV	**Topopah Spring**	**1.29**	**40**		Pg	06 18 32.6	-0.4
TPNV				Sg	Sb	06 18 50.4	-0.3
TPNV				IAML		06 18 51.6	
	comp=N,177nm,0.5s						
TPNV				IAML		06 18 53.1	
	comp=N,219nm,0.5s						
TPO	**Tropico Hills**	**1.33**	**216**		Pg	06 18 33.3	-0.5
TPO				Sg	Sg	06 18 50.9	-0.1
GMN	**Gold Mountain**	**1.34**	**1**		Pg	06 18 33.6	-0.4
GMN				Sg	Sb	06 18 51.9	-0.2
GMN				IAML		06 18 57.7	
	comp=E,92nm,0.7s						
GMN				IAML		06 18 58.4	
	comp=N,142nm,0.5s						
SBB	**Saddle Back Bu**	**1.35**	**200**		Sg	06 18 51.2	-0.4
VTV	**Victorville**	**1.40**	**182**		Sn	06 18 54.2	0.0
MTPC	**Mountain Pass**	**1.48**	**108**		Pn	06 18 35.7	-0.6
MTPC				Sg	Sg	06 18 54.3	-1.6
DSP	**Deep Springs**	**1.51**	**339**		Pn	06 18 36.2	-0.3
DSP				Sg	Sn	06 18 57.0	0.0
HOLC	**Holcomb Ridge**	**1.57**	**197**		Pb	06 18 36.2	-1.3
HOLC					Sg	06 18 59.1	+0.4
JNH	**Juniper Hills**	**1.61**	**200**		Pb	06 18 38.9	0.0
SIL	**Silver Peak**	**1.65**	**167**		Pb	06 18 39.4	-0.3
BBRC	**Big Bear Solar**	**1.72**	**170**		Pb	06 18 40.5	-0.4
MZP	**Montezuma Peak**	**1.74**	**357**		Pn	06 18 39.4	-0.6
MZP					Sn	06 19 03.2	+0.2
BFSC	**Mount Baldy Ra**	**1.75**	**190**		Pn	06 18 39.2	-0.7
BFSC				IAML		06 19 04.8	
	comp=E,134nm,0.4s						
BFSC				IAML		06 19 05.7	
	comp=N,96nm,0.5s						
OSI	**Osito Audit: C**	**1.79**	**222**	Pn	Pn	06 18 39.9	-0.6
OSI				IAML		06 19 08.0	
	comp=N,139nm,0.8s						
OSI				IAML		06 19 10.1	
	comp=E,169nm,0.7s						
SHPR	**Sheep Range**	**1.79**	**72**		Pn	06 18 39.9	-0.8
GTM	**Goat Mountain**	**1.83**	**155**		Pb	06 18 42.1	-0.5
MWC	**Mount Wilson**	**1.85**	**201**	Pn	Pn	06 18 40.7	-0.6
MWC				IAML		06 19 12.7	
	comp=N,158nm,0.7s						
MWC				IAML		06 19 13.6	
	comp=E,129nm,0.7s						
PASC	**Pasadena Art C**	**1.94**	**203**	Pn	Pn	06 18 41.9	-0.5
PASC				IAML		06 19 11.9	
	comp=N,60nm,0.6s						
PASC				IAML		06 19 15.8	
	comp=E,70nm,0.6s						
V12A	**Nelson**	**1.98**	**96**	Pn	Pn	06 18 42.4	-0.7
V12A				IAML		06 19 13.7	
	comp=N,62nm,0.3s						
V12A				IAML		06 19 21.5	
	comp=E,72nm,0.5s						
BLAC	**Blackrock camp**	**2.02**	**159**		Pn	06 18 42.9	-0.8
S11A	**Rachel**	**2.08**	**36**	Pn	Pn	06 18 43.9	-0.6
S11A				IAML		06 19 20.5	
	comp=N,114nm,0.8s						
TPC	**Twentynine Pal**	**2.11**	**151**		Pn	06 18 43.6	-1.3
TPH	**Tonopah**	**2.11**	**1**	Pn	Pn	06 18 44.6	-0.4
POB	**Polly Butte**	**2.29**	**173**		Pn	06 18 46.6	-0.7
PRN	**Pahroc Range**	**2.30**	**50**		Pn	06 18 47.0	-0.5
ELS	**Elsinore Mount**	**2.31**	**183**		Pn	06 18 47.0	-0.6
ELS				IAML		06 20 05.8	
	comp=E,35nm,0.3s						
PMD	**Palm Desert**	**2.42**	**162**		Pn	06 18 47.9	-1.2
PFO	**Pinyon Flats O**	**2.44**	**164**		Pn	06 18 48.4	-1.0
NEE2	**Needles Airpor**	**2.48**	**118**	Pn	Pn	06 18 49.5	-0.4
LHV	**Little Huntoon**	**2.49**	**337**	Pn	Pn	06 18 49.6	-0.4
LHV				IAML		06 19 42.5	
	comp=N,26nm,1.3s						
NV11	**Mina Array Sit**	**2.56**	**344**	Pn	Pn	06 18 50.8	-0.4
NVAR	**Mina Array Bea**	**2.60**	**342**	Pn	Pn	06 18 51.4	-0.4
R11B	**Troy Canyon, C**	**2.74**	**29**	Pn	Pn	06 18 53.4	-0.3
R11B				IAML		06 19 35.6	
	comp=N,21nm,0.4s						
R11B				IAML		06 19 37.3	
	comp=E,33nm,0.5s						
BORC	**Borrego Spring**	**2.78**	**165**	Pn	Pn	06 18 53.1	-0.9
BORC				IAML		06 19 38.8	
	comp=E,26nm,0.6s						
BORC				IAML		06 19 41.5	
	comp=N,28nm,0.8s						
RYN	**Ryan**	**2.84**	**340**	Pn	Pn	06 18 54.3	-0.7
PMPB	**Monarch Peak**	**2.87**	**276**	Pn	Pn	06 18 54.5	-0.8
PMPB				IAML		06 19 50.7	
	comp=E,58nm,2.5s						
PMPB				IAML		06 20 04.9	
	comp=N,45nm,2.9s						
Q09A	**Carvers**	**2.87**	**1**	Pn	Pn	06 18 54.4	-1.0
Q09A				IAML		06 19 52.6	
	comp=N,58nm,1.1s						
SALN	**Salton City**	**2.88**	**158**	Pn	Pn	06 18 54.6	-0.8
W13A	**Hualapai Mount**	**2.90**	**106**	Pn	Pn	06 18 54.5	-1.3
W13A				IAML		06 19 41.9	
	comp=N,43nm,0.6s						
W13A				IAML		06 19 42.5	
	comp=E,32nm,0.5s						
DPP	**Dos Picos Cty**	**2.97**	**175**	Pn	Pn	06 18 55.7	-0.9
DPP				IAML		06 19 48.7	
	comp=E,23nm,0.6s						
WAKR	**Walker**	**3.07**	**326**	Pn	Pn	06 18 57.8	-0.4
BBGB	**Big Mountain B**	**3.10**	**283**	Pn	Pn	06 18 58.5	-0.1
BLYC	**Blythe**	**3.16**	**133**	Pn	Pn	06 18 59.0	-0.2
BLYC				IAML		06 19 53.2	
	comp=E,38nm,0.5s						
BLYC				IAML		06 19 56.3	
	comp=N,31nm,0.7s						
LCMT	**Little Creek M**	**3.41**	**71**		Pn	06 19 03.1	+0.2
SAO	**San Andreas Ge**	**3.46**	**285**	Pn	Pn	06 19 02.8	-0.6
YUH	**Yuha Desert**	**3.49**	**161**	Pn	Pn	06 19 02.6	-1.2
CCUT	**Cedar City**	**3.52**	**62**		Pn	06 19 04.8	+0.4
GLA	**Glamis**	**3

NEIC ***08*** *06:20:10.2,0.45N×126.25E,h12km, Moment Tensor Solution. Duration: 33 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.00; $M_{\theta\theta}$1.11; $M_{\phi\phi}$-1.11; $M_{r\theta}$-1.54; $M_{\theta\phi}$-2.28; $M_{r\phi}$0.10; Fault plane solution: M_{o}2.97000×10^{17} NP1: ϕ_s349.14000°, δ60.42000°, λ5.39000°. NP2:ϕ_s256.48000°, δ85.32000°, λ150.31000°. Principal axes: T 3.1439, Plg24.0000°, Azm209.0000°; N -0.3868, Plg60.0000°, Azm68.0000°; P -2.7570, Plg17.0000°, Azm307.0000°;*

NEIC ***08*** *06:20:10.2,0.45N×126.25E,h10km*

ISC-PP ***08*** *06:20:10,0.45N×126.25E,h28km, Mwppsm5.9, Moment Tensor Solution. s50 Moment tensor: Scale 10^{17}Nm; M_{rr}0.13±.07; $M_{\theta\theta}$0.45±.35; $M_{\phi\phi}$-0.50±.13; $M_{r\theta}$-0.30±.19; $M_{\theta\phi}$0.06±.14; $M_{r\phi}$0.41±.12; Fault plane solution: M_{o}9.44000×10^{17} NP1:ϕ_s202.50000°, δ64.00000°, λ170.50000°. NP2:ϕ_s296.70000°, δ81.50000°, λ26.30000°.*

NEIC ***08*** *06:20:10.2,0.45N×126.25E,h12km*

DJA ***08*** *06:20:13.6±0.2,1.1N±1.1×12.6E±.1°, h24km±2km, M5.4/96, mb5.4/96, mB5.8/66, MLv5.5/25, Mw(mB)5.4/66, MwMwp5.4/37, Mwp5.6/37*

IDC ***08*** *06:20:14.4±1.4,0.48N×126.20E, h45km±11km, mb4.7/25, mbtmp4.9/29, ML4.7/4, MS4.9/18, Error ellipse: s-maj=16.8km s-min=7.3km az=75.0*

GCMT ***08*** *06:20:17.2±0.1,0.52N±0.01×126.23E±0.01, h27km, MW5.7/159, Moment Tensor Solution. s127,c234; s159,c333; Duration: 157 Moment tensor: Scale 10^{17} Nm; M_{rr}0.45±.05; $M_{\theta\theta}$2.18±.04; $M_{\phi\phi}$-2.63±.05; $M_{r\theta}$-1.00±.09; $M_{\theta\phi}$-3.68±.04; $M_{r\phi}$0.49±.10; Best double couple: M_{o}4.55000×10^{17} NP1:ϕ_s344.00000°, δ79.00000°, λ11.00000°. NP2:ϕ_s252.00000°, δ80.00000°, λ169.00000°. Principal axes: T 4.4780, Plg15.0000°, Azm208.0000°; N 0.1480, Plg75.0000°, Azm31.0000°; P -4.6220, Plg1.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 06:20:12.9±0.5, 0.43N±0.03×126.24E±0.04, h32km±2km, h33km; pP-P, n1234, σ1s75/926, mb5.4/280, MS5.3/443, 20C-23D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.18**	**73**				**Pn**	**06 20 32.5**	**-0.6**
TNTI	**Ternate**	**1.18**	**73**	P			**Pn**	**06 20 32.3**	**-0.8**
KMSI	**Cibinong**	**2.27**	**274**	P			**Pn**	**06 20 47.1**	**-1.0**
SANI	**Sanana**	**2.47**	**186**	P			**Pn**	**06 20 51.0**	**0.0**
SGSI	**Sangihe**	**3.32**	**348**	P			**Pn**	**06 21 02.8**	**+0.2**
NLAI	**Namlea**	**3.74**	**167**	P			**Pn**	**06 21 10.0**	**+1.6**
LUWI	**Luwuk**	**3.76**	**247**				**Pn**	**06 21 08.4**	**-0.3**
LUWI	**Luwuk**	**3.76**	**247**	P			**Pn**	**06 21 09.7**	**+1.0**
MRSI	**Marisa**	**4.30**	**271**	P			**Pn**	**06 21 14.6**	**-1.5**
AAI	**Ambon**	**4.53**	**154**	P			**Pn**	**06 21 21.4**	**+2.1**
MSAI	**Masohi**	**4.61**	**144**	P			**Pn**	**06 21 23.8**	**+3.4**
APSI	**Ampana**	**4.78**	**254**	P			**Pn**	**06 21 24.9**	**+2.2**
SWI	**Sorong** 46µm6µm473nm,1.1s	**5.18**	**104**	P			**Pn**	**06 21 29.7**	**+1.5**
TOLI2	**Tolitoli**	**5.50**	**277**				**Pn**	**06 21 31.3**	**-1.4**
KDI	**Kendari**	**5.66**	**220**	P			**Pn**	**06 21 35.9**	**+1.0**
BNDI	**Bandanaira**	**6.13**	**143**	P			**Pn**	**06 21 45.2**	**+3.9**
MPSI	**Mapaga** 2.6nm36µm7µm343nm,1.0s	**6.34**	**269**	P			**Pn**	**06 21 45.3**	**+1.1**
PCI	**Palu** 2.8nm19µm9µm553nm,1.0s	**6.54**	**258**	P			**Pn**	**06 21 48.9**	**+2.0**
DAV	**Davao City (W)**	**6.63**	**354**	‖	*e*	P	Pn	06 21 57.0	+8.8
FAKI	**Fak Fak**	**6.86**	**119**				**Pn**	**06 21 49.4**	**-2.0**
FAKI	**Fak Fak** 1.4nm34µm6µm316nm,1.2s	**6.86**	**119**	P			**Pn**	**06 21 53.8**	**+2.4**
TTSI	**Tana Toraja**	**7.29**	**242**	P			**Pn**	**06 21 58.1**	**+0.9**
BNSI	**Bone**	**7.78**	**232**	P			**Pn**	**06 22 05.4**	**+1.4**
SPSI	**Sidrap Palu** 1.7nm6µm450nm,1.3s	**7.80**	**236**	P			**Pn**	**06 22 05.8**	**+1.5**
RKPI	**Ransiki, Papua** 8µm331nm,0.9s	**8.16**	**104**	P			Pn	06 22 13.9	+4.6
KAPI	**Kappang**	**8.44**	**230**	Pn			**Pn**	**06 22 14.3**	**+1.3**
KAPI	**Kappang** 18nm,0.3s,baz=45,slow=13,SNR=23	**8.44**	**230**	P			**Pn**	**06 22 15.5**	**+2.5**
KAPI	25nm,0.5s,baz=39,slow=18,SNR=0.8 127nm,0.6s				S		**Sn**	**06 23 48.6**	**+1.4**
KAPI	**Kappang**	**8.44**	**230**	‖	*e*	P	**Pn**	**06 22 14.9**	**+1.9**
KMPI	**Kaimana, Papua** 10µm485nm,1.1s	**8.49**	**119**	P			Pn	06 22 17.7	+4.0
BSSI	**Bau Bau, Buton** 12µm6µm304nm,1.1s	**8.69**	**221**	P			**Pn**	**06 22 19.6**	**+3.1**
SAUI	**Saumlaki**	**9.76**	**149**	Pn			**Pn**	**06 22 29.9**	**-1.2**
SAUI	**Saumlaki**	**9.76**	**149**	P			**Pn**	**06 22 33.9**	**+2.8**
MMRI	**Maumere**	**9.85**	**204**	Pn			**Pn**	**06 22 31.3**	**-1.0**
BAKI	**Biak** 20µm663nm,2.2s	**9.99**	**99**	P			Pn	06 22 41.5	+7.1
EDFI	**Ende, Flores** 14µm3µm167nm,0.7s	**10.18**	**206**	P			**Pn**	**06 22 40.4**	**+3.4**
SOEI	**Soe**	**10.30**	**191**	Pn			**Pn**	**06 22 37.9**	**-0.8**
SOEI	**Soe**	**10.30**	**191**	P			**Pn**	**06 22 42.6**	**+3.9**
BATI	**Baumata** 8.4nm,0.3s,baz=54,slow=6.0,SNR=7.1 37nm,0.5s	**10.87**	**194**	P			**Pn**	**06 22 47.3**	**+0.9**
BATI	**Baumata** 15µm236nm,1.0s	**10.87**	**194**	P			Pn	06 22 51.8	+5.4
KKM	**Kota Kinabalu**	**11.46**	**299**				**Pn**	**06 22 53.5**	**-1.0**
PLAI	**Plampang** 8µm3µm177nm,1.0s	**12.47**	**222**	P			**Pn**	**06 23 12.6**	**+4.3**
SMPI	**Sarmi** 19µm255nm,1.4s	**12.70**	**101**	P			**Pn**	**06 23 15.1**	**+3.8**
TWSI	**Taliwang, Sumb** 8µm3µm192nm,1.2s	**13.03**	**225**	P			Pn	06 23 20.7	+4.8
DRS	**Darwin Rock St**	**13.58**	**160**	P			Pn	06 23 16.5	-7.0
SRBI	**Singaraja** 4µm120nm,1.0s	**13.87**	**232**	P			**P**	**06 23 32.4**	**-2.8**
MTN	**Manton Dam**	**14.05**	**160**				**Pn**	**06 23 29.2**	**-0.6**
MTN	**Manton Dam**	**14.05**	**160**	P			**Pn**	**06 23 29.9**	**+0.1**
SBUM	**Sibu**	**14.16**	**278**				**Pn**	**06 23 30.1**	**-1.3**
GENI	**Genyem** 16µm378nm,2.2s	**14.24**	**102**	P			**P**	**06 23 35.3**	**-4.1**
KMMI	**Kalianget** 5µm243nm,0.9s	**14.32**	**239**	P			**P**	**06 23 37.5**	**-2.8**
KDU	**Kakadu**	**14.42**	**155**	P			**Pn**	**06 23 33.1**	**-1.7**
ABJI	**Asem Bagus** 5µm246nm,1.0s	**14.49**	**235**	P			**P**	**06 23 39.5**	**-2.7**
TGY	**Tagaytay City** 108nm,0.4s,baz=237,slow=4.9,SNR=4.7	**14.57**	**339**	P			**Pn**	**06 23 38.1**	**+1.1**
TGY	comp=Z,12µm,21.4s,baz=162,slow=42				LR		LR	06 30 17.9	
JAY	**Jayapura** 1.8nm,0.3s,baz=291,slow=2.4,SNR=7.8 6.8nm,0.8s	**14.75**	**101**	P			**P**	**06 23 42.1**	**-3.0**
JAY	**Jayapura**	**14.75**	**101**	P			**P**	**06 23 42.8**	**-2.3**
STKI	**Sintang**	**14.77**	**269**	P			**Pn**	**06 23 40.1**	**+0.4**
JAGI	**Jajag, Banyuwa**	**14.94**	**233**	Pn			**Pn**	**06 23 41.4**	**-0.6**
JAGI	**Jajag, Banyuwa** 5µm6µm290nm,1.8s	**14.94**	**233**	P			**P**	**06 23 46.9**	**-0.3**
GMJI	**Gumukmas** 4µm207nm,1.3s	**15.41**	**236**	P			**P**	**06 23 52.1**	**-0.2**
GRJI	**Gresik** 5µm416nm,1.2s	**15.55**	**242**	P			**P**	**06 23 53.8**	**-0.1**
KSM	**Kuching**	**15.96**	**274**	Pn			**Pn**	**06 23 55.4**	**+0.1**
KNRA	**Kununurra**	**16.19**	**171**				**Pn**	**06 23 56.5**	**-1.6**
KNRA	**Kununurra**	**16.19**	**171**	P			**P**	**06 23 59.5**	**-1.6**
NGJI	**Ngawi** 239nm,1.0s	**16.65**	**242**	P			**P**	**06 24 08.0**	**+1.8**
PCJI	**Pacitan** 5µm296nm,1.9s	**17.29**	**240**	P			**P**	**06 24 13.0**	**-0.2**
WOJI	**Wonogiri, Jawa** 188nm,1.5s	**17.34**	**241**	P			**P**	**06 24 14.8**	**+1.0**
SMRI	**Semarang**	**17.43**	**244**	Pn			**Pn**	**06 24 11.9**	**-1.8**
SMRI	**Semarang** 108nm,0.8s	**17.43**	**244**	P			**P**	**06 24 17.6**	**+2.8**
UGM	**Wanagama**	**17.73**	**242**				**Pn**	**06 24 16.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**18.42**	**182**	P			**P**	**06 24 22.8**	**-2.9**
FITZ	**Fitzroy Crossi** 1.2nm,0.3s,baz=3.9,slow=12,SNR=16 45nm,0.7s	**18.42**	**182**	P			**Pn**	**06 24 26.5**	**+0.7**
TPI	**Tanjungpandan**	**18.85**	**260**	P			**Pn**	**06 24 34.4**	**+3.2**
JCJI	**Jatiwangi** 367nm,0.9s	**19.21**	**249**	P			**Pn**	**06 24 38.4**	**+2.9**
CMJI	**Cimerak** 4µm162nm,0.9s	**19.53**	**245**	P			**Pn**	**06 24 41.5**	**+2.2**
LEM	**Lembang** 3µm116nm,0.8s	**19.93**	**248**	P			**Pn**	**06 24 45.9**	**+1.6**
PPBI	**Pangkal Pinang**	**20.27**	**263**	P			Pn	06 24 48.5	+0.4
CNJI	**Cibinong** 125nm,1.2s	**20.55**	**248**	P			Pn	06 24 53.6	+2.2
DBJI	**Dramaga** 60nm,0.8s	**20.65**	**250**	P			Pn	06 24 51.5	-1.1
MANU	**Manus Island**	**21.26**	**97**	P			**P**	**06 24 55.0**	**-1.8**
WB0	**Warramunga Arr**	**21.60**	**159**	P			**P**	**06 24 60.0**	**-0.3**
CGJI	**Cibinong** 103nm,1.0s	**21.67**	**251**	P			**P**	**06 25 03.7**	**+2.7**
WRAB	**Tennant Creek**	**21.74**	**159**	‖		P	**P**	**06 25 01.9**	**+0.2**
WRAB	**Tennant Creek**	**21.74**	**159**	‖	*e*	P	**P**	**06 25 01.9**	**+0.2**
WRA	**Warramunga Arr**	**21.74**	**159**	P			**P**	**06 25 01.5**	**-0.3**
WRA	**Warramunga Arr** 128nm,0.7s,baz=336,slow=11,SNR=212	**21.74**	**159**	P			**P**	**06 25 01.6**	**-0.3**
WRA	52nm,1.3s,baz=335,slow=16,SNR=7.0 128nm,0.7s				S		**S**	**06 29 01.3**	**+0.4**
WRA	**Warramunga Arr**	**21.74**	**159**	*i*	P		**P**	**06 25 01.6**	**-0.2**
WRA	comp=Z,127nm,0.7s				pmax		pmax		
WB2	**Warramunga Arr**	**21.75**	**159**		P		**P**	**06 25 01.9**	**0.0**
WR8	**Warramunga Arr**	**21.81**	**159**		P		**P**	**06 25 02.5**	**-0.1**
WR8	comp=Z,192nm,0.8s				IAmb		IAmb	06 25 08.4	
COEN	**Coen**	**22.03**	**131**		P		**P**	**06 25 04.6**	**-0.4**
COEN	**Coen** comp=Z,0.0nmcomp=Z,329nm,1.1s	**22.03**	**131**		P		**P**	**06 25 06.1**	**+1.1**
COEN	**Coen**	**22.03**	**131**		P		**P**	**06 25 08.9**	**+3.9**
MBWA	**Marble Bar**	**22.38**	**196**		P		**P**	**06 25 08.1**	**-0.5**
MBWA	comp=Z,140nm,1.3s				IAmb		IAmb	06 25 28.8	
MBWA	**Marble Bar**	**22.38**	**196**		P		**P**	**06 25 08.5**	**-0.1**
MYKOM	**Kota Tinggi**	**22.43**	**274**		P		**P**	**06 25 08.6**	**-0.6**
MDSI	**Maura Dua** comp=Z,3µmcomp=Z,61nm,1.0s	**22.58**	**257**		P		**P**	**06 25 12.8**	**+2.0**
GUMO	**Guam** comp=Z,2µm,19.5s,baz=232,slow=32	**22.61**	**54**		LR		LR	06 32 19.8	
TWG	**Pinlang**	**22.82**	**348**		P		**P**	**06 25 11.8**	**-1.5**
LHSI	**Lahat** comp=Z,4µmcomp=Z,83nm,0.8s	**23.09**	**259**		P		**P**	**06 25 16.9**	**+0.7**
YULB	**Yu-li**	**23.33**	**348**		P		**P**	**06 25 17.2**	**-1.3**
YULB	comp=Z,9µm,21.0s				IAMs_20		IAMs_20	06 35 55.8	
TPUB	**Ta-pu**	**23.38**	**347**		P		**P**	**06 25 17.4**	**-1.6**
TPUB	comp=Z,166nm,1.0s				IAmb		IAmb	06 25 28.3	
SSLB	**Suanglung**	**23.78**	**348**		P		**P**	**06 25 21.5**	**-1.3**
SSLB	comp=Z,9µm,22.0s				IAMs_20		IAMs_20	06 36 19.9	
YOJ	**Yonaguni jima**	**24.10**	**353**		P		**P**	**06 25 25.4**	**-0.3**
YOJ	comp=Z,117nm,1.1s				IAmb		IAmb	06 25 53.9	
YOJ	**Yonaguni jima**	**24.10**	**353**		P		**P**	**06 25 25.4**	**-0.3**
YOJ	comp=Z,117nm,1.1s				pmax		pmax		
YOJ	comp=Z,3µm,20.0s				MLR		MLR		
QIZ	**Qiongzhong**	**24.51**	**320**		P		**P**	**06 25 30.1**	**+0.5**
QIZ					S		**S**	**06 29 58.2**	**+10**
QIZ	comp=Z,36nm,2.0s				pmax		pmax		
QIZ	comp=Z,500nm,5.4s				pmax		pmax		
QIZ	comp=Z,4µm,19.2s				LR		LR		
QIZ	comp=Z,6µm,21.2s				LR		LR		
YHNB	**Yeheng**	**24.56**	**349**		P		**P**	**06 25 29.0**	**-1.1**
YHNB	comp=Z,114nm,1.0s				IAmb		IAmb	06 25 40.6	
YHNB	comp=Z,10µm,22.0s				IAMs_20		IAMs_20	06 36 23.4	
QIS	**Mount Isa** comp=Z,0.0nmcomp=Z,206nm,0.8s	**24.62**	**149**		P		**P**	**06 25 30.9**	**+0.3**
AS31	**Alice Springs**	**25.08**	**163**		P		**P**	**06 25 35.1**	**+0.3**
AS31	comp=Z,73nm,0.9s				IAmb		IAmb	06 25 55.8	
AS31	**Alice Springs** comp=Z,81nm,0.5s	**25.08**	**163**		P		**P**	**06 25 36.5**	**+1.7**
KNMB	**Chin-men Tao**	**25.08**	**343**		P		**P**	**06 25 33.9**	**-0.7**
KNMB	comp=Z,104nm,1.3s				IAmb		IAmb	06 25 41.9	
ASAR	**Alice Springs**	**25.08**	**163**		P		**P**	**06 25 35.2**	**+0.4**
ASAR	**Alice Springs** comp=Z,57nm,0.7s,baz=354,slow=16,SNR=102	**25.08**	**163**		P		**P**	**06 25 35.6**	**+0.9**
ASAR	comp=Z,3.2nm,0.6s,baz=344,slow=2.3,SNR=3.1				PcP		**PcP**	**06 29 09.5**	**+0.5**
ASAR	comp=Z,10nm,0.9s,baz=348,slow=20,SNR=5.5				S		**S**	**06 30 00.8**	**+3.5**
ASAR	comp=Z,1.8nm,0.8s,baz=348,slow=2.8,SNR=3.8				ScP		**ScP**	**06 32 44.9**	**-1.0**
ASAR	comp=Z,3µm,19.1s,baz=342,slow=41 comp=Z,57nm,0.7s				LR		LR	06 37 28.4	
BKNI	**Bangkinang** comp=Z,6µm,20.0s	**25.20**	**270**		IAMs_20		IAMs_20	06 36 15.8	
UBPT	**Khong Chiam**	**25.27**	**307**		P		**P**	**06 25 36.5**	**-0.1**
UBPT	comp=Z,240nm,1.6s				IAmb		IAmb	06 25 56.7	
WRKA	**Warakurna** comp=Z,0.0nmcomp=Z,52nm,1.3s	**25.39**	**176**		P		**P**	**06 25 38.4**	**+0.8**
QZH	**Quanzhou**	**25.47**	**344**	‖	*i*	P	**P**	**06 25 37.4**	**-0.8**
QZH						sP	**pwP**	**06 25 53.4**	**+3.4**
QZH						S	**S**	**06 30 06.8**	**+3.3**
QZH	comp=Z,550nm,4.7s					pmax	pmax		
QZH	comp=Z,6µm,23.7s					LR	LR		
QZH	comp=Z,3µm,20.6s					LR	LR		
QZH	comp=Z,9µm,25.4s					LR	LR		
IPM	**Ipoh**	**25.51**	**279**		P		**P**	**06 25 38.8**	**0.0**
MTSU	**Mount Surprise** comp=Z,69nm,0.9s	**25.62**	**137**		P		**P**	**06 25 40.0**	**+0.4**
KULM	**Kulim**	**26.00**	**281**		P		**P**	**06 25 43.0**	**-0.2**
JOW	**Kunigami**	**26.33**	**4**		P		**P**	**06 25 46.0**	**0.0**
MNSI	**Mandailing Nat** comp=Z,27nm,0.7s	**26.66**	**271**		P		**P**	**06 25 52.0**	**+2.8**
RPSI	**Rantau Prapat**	**27.40**	**275**		P		**P**	**06 25 55.2**	**-0.6**
PSI	**Prapat**	**27.41**	**275**		P		**P**	**06 25 55.2**	**-0.8**
PSI	comp=Z,64nm,1.1s				pmax		pmax		
PSI	comp=Z,5µm,22.0s				MLR		MLR		
SRIT	**Nakonsritamara**	**27.75**	**288**		P		**P**	**06 25 58.9**	**0.0**
MEEK	**Meekatharra** comp=Z,33nm,1.1s	**27.89**	**195**		P		**P**	**06 26 00.6**	**+0.5**
CTAO	**Charters Tower**	**28.28**	**137**		P		**P**	**06 26 03.6**	**-0.1**
CTAO	comp=Z,202nm,1.9s				IAmb		IAmb	06 26 22.3	
CTAO	**Charters Tower**	**28.28**	**137**		P		**P**	**06 26 06.9**	**+3.2**
CTAO	**Charters Tower**	**28.28**	**137**		P		**P**	**06 26 03.6**	**-0.1**
CTAO	comp=Z,202nm,1.9s				pmax		pmax		
CTAO	comp=Z,2µm,20.0s				MLR		MLR		
GSI	**Gunungsitoli**	**28.68**	**272**		P		**P**	**06 26 06.3**	**-0.9**
GSI	comp=Z,82nm,1.2s				IAmb		IAmb	06 26 25.9	
GSI	**Gunungsitoli** comp=Z,62nm,1.3s	**28.68**	**272**		P		**P**	**06 26 09.0**	**+1.8**
MLSI	**Meulaboh, Aceh** comp=Z,128nm,1.2s	**30.05**	**278**		P		**P**	**06 26 20.9**	**+1.5**
SLVN	**Son La**	**30.12**	**315**		P		**P**	**06 26 19.3**	**-0.7**
SSE	**Sheshan**	**30.88**	**352**		P		**P**	**06 26 26.7**	**+0.2**
SSE					S		**S**	**06 31 31.8**	**+3.3**
SSE	comp=Z,7.0nm,0.7s				pmax		pmax		
SSE	comp=Z,290nm,3.7s				pmax		pmax		
SSE	comp=Z,1µm,19.6s				LR		LR		
SSE	comp=Z,960nm,20.3s				LR		LR		
MORW	**Morawa**	**30.91**	**198**		P		**P**	**06 26 26.5**	**-0.3**
MORW	comp=Z,63nm,1.1s				IAmb		IAmb	06 26 41.2	
MORW	**Morawa** comp=Z,54nm,1.1s	**30.91**	**198**		P		**P**	**06 26 27.8**	**+1.0**
FORT	**Forrest**	**31.08**	**177**		P		**P**	**06 26 28.6**	**+0.3**
FORT	comp=Z,59nm,0.7s				IAmb		IAmb	06 26 31.4	
FORT	**Forrest** comp=Z,86nm,0.7s	**31.08**	**177**		P		**P**	**06 26 28.3**	**+0.1**
KMBL	**Kambalda**	**31.89**	**187**		P		**P**	**06 26 34.1**	**-1.3**
QLP	**Quilpie** comp=Z,84nm,0.9s	**31.96**	**148**		P		**P**	**06 26 36.6**	**+0.5**
GYA	**Guiyang**	**32.02**	**325**		P		**P**	**06 26 37.6**	**+0.8**
GYA					PP		**PP**	**06 27 46.6**	**-2.9**
GYA					S		**S**	**06 31 53.2**	**+6.4**
GYA	comp=Z,2µm,17.1s				LR		LR		
GYA	comp=Z,2µm,20.2s				LR		LR		
GYA	comp=Z,6µm,23.1s				LR		LR		
BLDU	**Ballidu** comp=Z,40nm,1.6s	**32.17**	**196**		P		**P**	**06 26 39.0**	**+1.1**
NJ2	**Nanjing**	**32.22**	**348**		*e*P		**P**	**06 26 40.5**	**+2.2**
NJ2	comp=Z,7.0nm,0.5s				pmax		pmax		
NJ2	comp=Z,4µm,20.4s				LR		LR		
NJ2	comp=Z,2µm,18.5s				LR		LR		
NJ2	comp=Z,5µm,24.2s				LR		LR		
CMAR	**Chiang Mai Arr**	**32.24**	**305**		P		**P**	**06 26 38.4**	**-0.3**
CMAR	**Chiang Mai Arr** comp=Z,1.7nm,0.7s,baz=133,slow=7.3,SNR=10	**32.24**	**305**		P		**P**	**06 26 38.1**	**-0.6**
CMAR	comp=Z,5.8nm,0.8s,baz=168,slow=1.8,SNR=10				PcP		**PcP**	**06 29 28.6**	**+1.7**
CMAR	comp=Z,0.8nm,0.3s,baz=118,slow=2.9,SNR=1.8 comp=Z,1.7nm,0.7s				ScP		**ScP**	**06 33 08.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**32.24**	**305**	*i*	P		**P**	**06 26 38.7**	**0.0**
CMAR	comp=Z,1.0nm,0.3s				pmax		pmax		
CHTO	**Chiang Mai**	**32.43**	**306**		P		**P**	**06 26 40.4**	**+0.1**
CHTO	**Chiang Mai**	**32.43**	**306**		P		**P**	**06 26 40.4**	**+0.1**
CHTO	comp=Z,22nm,1.0s				pmax		pmax		
CHTO	comp=Z,3µm,22.0s				MLR		MLR		
JNU	**Nakatsue**	**32.81**	**7**		P		**P**	**06 26 43.1**	**-0.4**
JNU	comp=Z,48nm,1.0s				IAmb		IAmb	06 26 49.8	
KLBR	**Kellerberrin** comp=Z,58nm,1.0s	**32.84**	**193**		P		**P**	**06 26 46.1**	**+2.3**
KMI	**Kunming**	**33.45**	**319**		P		**P**	**06 26 48.8**	**-0.6**
KMI	comp=Z,21nm,1.4s				pmax		pmax		
KMI	comp=Z,250nm,5.4s				pmax		pmax		
KMI	comp=Z,3µm,21.1s				LR		LR		
KMI	comp=Z,4µm,23.2s				LR		LR		
KMI	comp=Z,6µm,23.1s				LR		LR		
ENH	**Enshi**	**33.69**	**333**		P		**P**	**06 26 50.0**	**-1.3**
ENH	comp=Z,38nm,0.9s				IAmb		IAmb	06 27 17.4	
ENH	comp=Z,7µm,22.0s				IAMs_20		IAMs_20	06 40 19.4	
JMN	**Monobe**	**33.90**	**11**		P		**P**	**06 26 51.8**	**-1.1**
JMN	comp=Z,79nm,1.2s				IAmb		IAmb	06 27 02.9	
NWAO	**Narrogin (SRO)** comp=Z,2µm,20.8s,baz=1.0,slow=39	**34.24**	**194**		LR		LR	06 42 24.3	
PZH	**PanZhiHua**	**35.05**	**320**		P		**P**	**06 27 03.2**	**0.0**
PZH					S		**S**	**06 32 36.1**	**+2.4**
PZH	comp=Z,30nm,0.8s				pmax		pmax		
PZH	comp=Z,240nm,5.4s				pmax		pmax		
PZH	comp=Z,2µm,24.1s				LR		LR		
PZH	comp=Z,3µm,20.2s				LR		LR		
PZH	comp=Z,4µm,19.8s				LR		LR		
EIDS	**Eidsvold**	**35.13**	**139**		P		**P**	**06 27 03.2**	**-0.5**
EIDS	comp=Z,70nm,1.1s				IAmb		IAmb	06 27 19.5	
EIDS	**Eidsvold** comp=Z,66nm,1.1s	**35.13**	**139**		P		**P**	**06 27 03.4**	**-0.4**
STKA	**Stephens Creek**	**35.26**	**157**		P		**P**	**06 27 04.7**	**0.0**
STKA	**Stephens Creek** comp=Z,383nm,0.9s	**35.26**	**157**		P		**P**	**06 27 04.8**	**0.0**
STKA	**Stephens Creek** comp=Z,54nm,0.8s,baz=330,slow=8.8,SNR=62	**35.26**	**157**		P		**P**	**06 27 05.2**	**+0.4**
STKA	comp=Z,11nm,1.1s,baz=311,slow=19,SNR=4.0 comp=Z,54nm,0.8s				S		**S**	**06 32 37.4**	**+0.8**
STKA	comp=Z,2µm,21.7s,baz=336,slow=39 comp=Z,54nm,0.8s				LR		LR	06 43 25.5	
STKA	**Stephens Creek**	**35.26**	**157**		P		**P**	**06 27 06.0**	**+1.2**
STKA	**Stephens Creek**	**35.26**	**157**	*ce*	P		**P**	**06 27 05.4**	**+0.6**
HTT	**Hallett** comp=Z,11nm,1.7s	**35.73**	**162**		P		**P**	**06 27 09.0**	**+0.2**
HTT	**Hallett**	**35.73**	**162**		P		**P**	**06 27 11.7**	**+2.9**
TJN	**Taejon**	**35.79**	**2**	‖	*e*	P	**P**	**06 27 10.8**	**+1.6**
INU	**Inuyama**	**36.17**	**15**		P		**P**	**06 27 12.3**	**-0.2**
INU	comp=Z,52nm,0.7s				IAmb		IAmb	06 27 18.8	
TNCH	**TengChong**	**36.28**	**315**	‖	P		**P**	**06 27 13.0**	**-0.8**
TNCH					sP		pwP	06 27 23.8	-1.6
TNCH					PP		**PP**	**06 28 37.6**	**+0.9**
TNCH					sS		sS	06 33 08.6	+1.4
TNCH					SS		**SS**	**06 35 28.8**	**-3.2**
TNCH	comp=Z,49nm,2.1s				pmax		pmax		
TNCH	comp=Z,1µm,11.1s				LR		LR		
TNCH	comp=Z,990nm,19.5s				LR		LR		
TNCH	comp=Z,5µm,23.4s				LR		LR		
LYN	**LuoYang**	**36.31**	**341**		P		**P**	**06 27 14.6**	**+0.9**
LYN					sP		pP	06 27 20.4	-1.9
LYN					PP		**PP**	**06 28 38.3**	**+1.5**
LYN					S		**S**	**06 32 57.4**	**+4.8**
LYN	comp=Z,430nm,4.3s				pmax		pmax		
LYN	comp=Z,3µm,19.2s				LR		LR		
LYN	comp=Z,3µm,17.7s				LR		LR		
LYN	comp=Z,7µm,24.4s				LR		LR		
JGF	**Kuroka**	**36.49**	**15**		P		**P**	**06 27 15.6**	**+0.2**
CMSA	**Cobar Meteorol** comp=Z,46nm,1.4s	**36.75**	**152**		P		**P**	**06 27 17.7**	**+0.2**
CMSA	**Cobar Meteorol**	**36.75**	**152**		P		**P**	**06 27 21.0**	**+3.5**
KSAR	**Wonju Array Be**	**36.87**	**2**		P		**P**	**06 27 18.5**	**+0.1**
KSAR	**Wonju Array Be**	**36.87**	**2**		P		**P**	**06 27 18.5**	**+0.1**
KSRS	**Korea Array** comp=Z,3.2nm,0.6s,baz=182,slow=10.0,SNR=11 comp=Z,3.2nm,0.6s	**36.88**	**2**		P		**P**	**06 27 18.6**	**+0.1**
KS19	**Wonju Array Si**	**36.92**	**2**		P		**P**	**06 27 18.6**	**-0.3**
CD2	**Chengdu**	**37.07**	**327**		P		**P**	**06 27 20.5**	**+0.2**
CD2					PP		**PP**	**06 28 44.3**	**-0.9**
CD2

MJAR	**Matsushiro Arr**	**37.61**	**16**	P	**P**	**06 27 23.8**	**+1.0**
MJAR				pmax	pmax		
	comp=Z,24nm,0.8s						
HNS	**HongShan**	**38.30**	**345**	⇓P	P	06 27 35.9	+5.4
HNS				S	**S**	**06 33 27.9**	**+5.1**
HNS				pmax	pmax		
	comp=Z,340nm,5.5s						
HNS				LR	LR		
	comp=Z,2μm,18.0s						
HNS				LR	LR		
	comp=Z,1μm,17.1s						
HNS				LR	LR		
	comp=Z,3μm,21.6s						
DL2	**Dalian**	**38.53**	**354**	P	**P**	**06 27 34.2**	**+1.8**
DL2				pP	**pwP**	**06 27 43.2**	**-1.2**
DL2				S	**S**	**06 33 25.0**	**-1.2**
DL2				pmax	pmax		
	comp=Z,48nm,0.8s						
DL2				pmax	pmax		
	comp=Z,580nm,4.5s						
DL2				LR	LR		
	comp=Z,1μm,19.9s						
DL2				LR	LR		
	comp=Z,2μm,24.5s						
DL2				LR	LR		
	comp=Z,5μm,22.1s						
ARMA	**Armidale**	**39.04**	**144**	P	**P**	**06 27 37.2**	**+0.1**
ARMA				IAmb	IAmb	06 27 51.1	
	comp=Z,158nm,1.3s						
ARMA	**Armidale**	**39.04**	**144**	P	**P**	**06 27 38.0**	**+1.0**
	comp=Z,116nm,1.9s						
ARMA	**Armidale**	**39.04**	**144**	P	**P**	**06 27 40.3**	**+3.2**
JMM	**Marumori**	**39.60**	**18**	P	**P**	**06 27 40.0**	**-1.4**
ARPS	**Mount Arapiles**	**39.74**	**160**	P	**P**	**06 27 43.1**	**+0.6**
	comp=Z,32nm,1.0s						
BRDH	**Bariadhala**	**40.26**	**306**	LR	LR	06 45 22.8	
	comp=Z,2μm,22.0s,baz=124,slow=38						
YNG	**Young**	**40.31**	**151**	P	**P**	**06 27 49.7**	**+2.3**
	comp=Z,59nm,1.5s						
BJT	**Baijiatuau**	**40.46**	**348**	P	**P**	**06 27 48.6**	**+0.1**
BJT	**Baijiatuau**	**40.46**	**348**	P	**P**	**06 27 48.6**	**+0.1**
BJT				pmax	pmax		
	comp=Z,35nm,1.0s						
BJT				MLR	MLR		
	comp=Z,2μm,20.0s						
BJI	**Beijing**	**40.48**	**348**	P	**P**	**06 27 48.8**	**+0.1**
BJI				S	**S**	**06 33 54.3**	**-1.2**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJI				pmax	pmax		
	comp=Z,140nm,5.7s						
BJI				LR	LR		
	comp=Z,790nm,19.7s						
BJI				LR	LR		
	comp=Z,900nm,24.8s						
BJI				LR	LR		
	comp=Z,2μm,24.4s						
LZH	**Lanzhou**	**41.13**	**332**	*e*P	**P**	**06 27 56.3**	**+1.9**
LZH				sP	pwP	06 28 05.0	-1.3
LZH				pmax	pmax		
	comp=Z,24nm,1.1s						
LZH				LR	LR		
	comp=Z,3μm,20.4s						
LZH				LR	LR		
	comp=Z,3μm,21.1s						
LZH				LR	LR		
	comp=Z,7μm,21.0s						
SNY	**Shenyang**	**41.28**	**357**	⇓P	**P**	**06 27 55.9**	**+0.6**
SNY				S	**S**	**06 34 06.7**	**-0.6**
SNY				pmax	pmax		
	comp=Z,36nm,1.4s						
SNY				pmax	pmax		
	comp=Z,230nm,3.5s						
SNY				LR	LR		
	comp=Z,1μm,17.7s						
SNY				LR	LR		
	comp=Z,2μm,20.6s						
SNY				LR	LR		
	comp=Z,4μm,22.4s						
RIV	**Riverview**	**41.34**	**148**	P	**P**	**06 27 59.3**	**+3.5**
CAN	**Canberra**	**41.42**	**151**	P	**P**	**06 27 55.8**	**-0.9**
CAN				IAmb	IAmb	06 28 25.0	
	comp=Z,122nm,1.5s						
CAN				IAMs_20	IAMs_20	06 48 14.1	
	comp=Z,3μm,21.0s						
CAN	**Canberra**	**41.42**	**151**	P	**P**	**06 27 59.4**	**+2.7**
CAN	**Canberra**	**41.42**	**151**	P	**P**	**06 28 00.3**	**+3.7**
CAN	**Canberra**	**41.42**	**151**	P	**P**	**06 27 55.8**	**-0.9**
CAN				pmax	pmax		
	comp=Z,122nm,1.5s						
CAN				MLR	MLR		
	comp=Z,3μm,21.0s						
SHL	**Shillong**	**41.52**	**310**	P	**P**	**06 27 55.6**	**-2.0**
SHL	**Shillong**	**41.52**	**310**	P	**P**	**06 27 55.7**	**-2.0**
SHL				pmax	pmax		
	comp=Z,23nm,0.8s						
TOO	**Toolangi**	**41.79**	**157**	P	**P**	**06 27 58.6**	**-1.0**
TOO	**Toolangi**	**41.79**	**157**	P	**P**	**06 28 02.2**	**+2.7**
	comp=Z,16nm,1.5s						
TOO	**Toolangi**	**41.79**	**157**	P	**P**	**06 27 58.6**	**-1.0**
TOO				pmax	pmax		
	comp=Z,29nm,1.4s						
TOO				MLR	MLR		
	comp=Z,1μm,20.0s						
MSHR	**Mys Shultsa**	**42.20**	**5**⇓	*e*P	**P**	**06 28 03.0**	**+0.3**
PSTR	**Posyet**	**42.24**	**5**⇑	*e*P	**P**	**06 28 05.4**	**+2.4**
JTM	**Tenmabayashi**	**42.37**	**17**	P	**P**	**06 28 04.0**	**-0.2**
JTM				IAmb	IAmb	06 28 11.1	
	comp=Z,78nm,0.8s						
JTM				IAMs_20	IAMs_20	06 48 13.8	
	comp=Z,3μm,22.0s						
HHC	**Hu-ho-hao-te**	**42.38**	**343**	*e*P	**P**	**06 28 07.0**	**+2.5**
HHC				pP	pP	06 28 12.0	-1.2
HHC				PP	**PP**	**06 29 48.0**	**+4.9**
HHC				S	**S**	**06 34 30.9**	**+7.0**
HHC				ScS	**ScS**	**06 38 03.0**	**-1.2**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,290nm,4.5s						
HHC				LR	LR		
	comp=Z,2μm,19.9s						
HHC				LR	LR		
	comp=Z,950nm,18.3s						
HHC				LR	LR		
	comp=Z,4μm,19.9s						
BTO	**Baotou**	**42.62**	**342**	*e*P	P	06 28 12.5	+6.1
BTO				pP	pwP	06 28 16.3	-2.1
BTO				PP	**PcP**	**06 30 00.6**	**+2.4**
BTO				S	S	06 34 37.6	+10
BTO				SS	**SnSn**	**06 37 46.0**	**-7.6**
BTO				pmax	pmax		
	comp=Z,14nm,0.6s						
BTO				pmax	pmax		
	comp=Z,500nm,4.7s						
BTO				LR	LR		
	comp=N,4μm,16.2s						
BTO				LR	LR		
	comp=E,4μm,15.0s						
BTO				LR	LR		
	comp=Z,7μm,23.1s						
VLA	**Vladivostok**	**42.80**	**6**⇑	*e*P	**P**	**06 28 09.1**	**+1.4**
CN2	**Changchun**	**43.19**	**359**	*e*P	**P**	**06 28 11.2**	**+0.4**
CN2				*e*S	**S**	**06 34 34.1**	**-1.4**
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=Z,900nm,20.0s						
CN2				LR	LR		
	comp=Z,1μm,20.0s						
CN2				LR	LR		
	comp=Z,700nm,21.0s						
USA0B	**Ussuriysk Arra**	**43.88**	**6**	P	**P**	**06 28 16.5**	**+0.1**
USA0B	**Ussuriysk Arra**	**43.88**	**6**⇓	*e*P	**P**	**06 28 17.1**	**+0.7**
USRK	**Ussuriysk Ar.**	**43.88**	**6**	P	**P**	**06 28 16.7**	**+0.3**
	comp=Z,47nm,0.9s,baz=190,slow=6.2,SNR=22						
	comp=Z,47nm,0.9s						
MDJ	**Mudanjiang**	**44.10**	**3**	P	**P**	**06 28 18.2**	**+0.1**
MDJ				IAmb	IAmb	06 28 28.1	
	comp=Z,47nm,0.9s						
MDJ	**Mudanjiang**	**44.10**	**3**	P	**P**	**06 28 18.9**	**+0.8**
MDJ				ScS	ScS	06 38 16.3	+1.8
MDJ				pmax	pmax		
	comp=Z,19nm,1.5s						
MDJ				LR	LR		
	comp=Z,2μm,21.9s						
MDJ				LR	LR		
	comp=Z,1μm,23.6s						
MDJ				LR	LR		
	comp=Z,2μm,21.8s						
ERM	**Erimo**	**44.12**	**18**	P	**P**	**06 28 18.0**	**-0.3**
ERM				IAmb	IAmb	06 28 57.5	
	comp=Z,86nm,1.2s						
ERM	**Erimo**	**44.12**	**18**⇓	*e*P	**P**	**06 28 18.5**	**+0.2**
XLT	**XiLinHaoTe**	**44.22**	**349**	*e*P	**P**	**06 28 19.6**	**+0.4**
XLT				pmax	pmax		
	comp=Z,15nm,1.0s						
XLT				pmax	pmax		
	comp=Z,510nm,4.8s						
XLT				LR	LR		
	comp=Z,180nm,23.3s						
XLT				LR	LR		
	comp=Z,1μm,26.6s						
XLT				LR	LR		
	comp=Z,3μm,24.7s						
LSA	**Lhasa**	**44.31**	**314**	P	**P**	**06 28 20.0**	**-0.6**
LSA	**Lhasa**	**44.31**	**314**	P	**P**	**06 28 20.0**	**-0.6**
LSA				pmax	pmax		
	comp=Z,32nm,1.0s						
LSA				MLR	MLR		
	comp=Z,1μm,21.0s						
DZM	**Mont Dzumac**	**45.11**	**122**	P	**P**	**06 28 26.5**	**-0.2**
DZM				IAmb	IAmb	06 28 48.0	
	comp=Z,59nm,1.2s						
DZM				IAMs_20	IAMs_20	06 47 50.1	
	comp=Z,2μm,20.0s						
DZM	**Mont Dzumac**	**45.11**	**122**	*e*P	**P**	**06 28 28.3**	**+1.6**
	comp=Z,108nm,1.2s						
DZM				*e*S	**S**	**06 35 03.0**	**-1.3**
	comp=Z,2μm,38.6s						
DZM				*e*SS	**SS**	**06 38 28.8**	**+1.4**
	comp=Z,1μm,26.1s						
DZM				*e*LR	LR	06 40 59.8	
	comp=Z,5μm,34.0s						
DZM	**Mont Dzumac**	**45.11**	**122**	LR	LR	06 48 11.2	
	comp=Z,2μm,21.1s,baz=311,slow=37						
BNX	**BinXian**	**45.14**	**1**	⇑P	**P**	**06 28 26.8**	**+0.4**
BNX				S	**S**	**06 35 07.6**	**+3.9**
BNX				pmax	pmax		
	comp=Z,16nm,1.7s						
BNX				pmax	pmax		
	comp=Z,170nm,4.4s						
BNX				LR	LR		
	comp=Z,2μm,22.4s						
BNX				LR	LR		
	comp=Z,1μm,20.4s						
BNX				LR	LR		
	comp=Z,4μm,22.2s						
TEY	**Ternei**	**45.36**	**10**	*e*P	P	06 28 19.6	-8.5
GTA	**Gaotai**	**45.70**	**331**	*e*P	**P**	**06 28 32.0**	**+0.9**
GTA				PcP	**PcP**	**06 30 10.5**	**+1.7**
GTA				ScP	**ScP**	**06 34 01.6**	**+2.0**
GTA				ScS	**ScS**	**06 38 25.2**	**-0.1**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GTA				pmax	pmax		
	comp=Z,200nm,5.5s						
GTA				LR	LR		
	comp=Z,2μm,23.6s						
GTA				LR	LR		
	comp=Z,3μm,24.4s						
GTA				LR	LR		
	comp=Z,5μm,24.0s						
ASAJ	**Asahikawa**	**45.88**	**16**	LR	LR	06 47 20.0	
	comp=Z,1μm,21.5s,baz=210,slow=36						
ASAJ	**Asahikawa**	**45.88**	**16**	P	**P**	**06 28 32.7**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,55nm,1.2s						
JKA	**Kamikawa-asahi**	**45.88**	**16**	P	**P**	**06 28 32.7**	**+0.4**
JKA				IAmb	IAmb	06 28 50.1	
	comp=Z,55nm,1.2s						
PALK	**Pallekele**	**45.91**	**280**	IAMs_20	IAMs_20	06 49 08.8	
	comp=Z,3μm,20.0s						
GOMU	**GeErMu**	**46.01**	**324**	P	**P**	**06 28 34.7**	**+0.8**
GOMU				pP	pP	06 28 38.3	-4.5
GOMU				sP	pwP	06 28 41.9	-3.7
GOMU				S	**S**	**06 35 22.5**	**+5.1**
GOMU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GOMU				LR	LR		
	comp=Z,1μm,18.6s						
GOMU				LR	LR		
	comp=Z,1μm,18.5s						
GOMU				LR	LR		
	comp=Z,2μm,18.6s						
YSS	**Yuzhno-Sakhali**	**48.54**	**15**	P	**P**	**06 28 53.3**	**+0.4**
YSS				IAmb	IAmb	06 29 11.8	
	comp=Z,30nm,1.0s						
YSS	**Yuzhno-Sakhali**	**48.54**	**15**	*e*P	**P**	**06 28 53.6**	**+0.7**
YSS				*e**SP	**pP**	**06 28 59.4**	**-2.3**
YSS				*e*S	**S**	**06 35 51.3**	**-1.0**
YSS				*e*PS		06 36 03.5	
YSS				*e*SS	**SS**	**06 39 17.0**	**-5.7**
YSS				pmax	pmax		
	comp=Z,100nm,3.1s						
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
HIA	**Hailar**	**48.97**	**354**	P	**P**	**06 28 56.9**	**+0.6**
HIA				IAmb	IAmb	06 29 02.0	
	comp=Z,48nm,1.2s						
HIA	**Hailar**	**48.97**	**354**	IAMs_20	IAMs_20	06 51 29.8	
	comp=Z,3μm,22.0s						
HIA	**Hailar**	**48.97**	**354**	P	**P**	**06 28 56.9**	**+0.6**
HIA				pmax	pmax		
	comp=Z,48nm,1.2s						
HIA				MLR	MLR		
	comp=Z,3μm,22.0s						
HEH	**HeiHe**	**49.65**	**1**	*e*P	**P**	**06 29 02.0**	**+0.6**
HEH				pP	**pP**	**06 29 09.6**	**-0.6**
HEH				PcP	**PcP**	**06 30 23.8**	**+1.3**
HEH				S	**S**	**06 36 09.7**	**+1.9**
HEH				pmax	pmax		
	comp=Z,23nm,1.4s						
HEH				pmax	pmax		
	comp=Z,660nm,5.6s						
HEH				LR	LR		
	comp=Z,2μm,19.9s						
HEH				LR	LR		
	comp=Z,920nm,15.4s						
HEH				LR	LR		
	comp=Z,3μm,24.2s						
HYB	**Hyderabad**	**49.84**	**293**	*e*P	**P**	**06 29 04.3**	**+0.7**
ULN	**Ulaanbaatar**	**50.10**	**343**	P	**P**	**06 29 05.6**	**+0.4**
ULN				IAmb	IAmb	06 29 38.1	
	comp=Z,78nm,1.4s						
ULN	**Ulaanbaatar**	**50.10**	**343**⇑	*e*P	**P**	**06 29 06.1**	**+1.0**
ULN				pmax	pmax		
	comp=Z,45nm,1.9s						
SONM	**Songino Array**	**50.27**	**343**	P	**P**	**06 29 06.9**	**+0.5**
SONM	**Songino Array**	**50.27**	**343**	P	**P**	**06 29 05.7**	**-0.6**
	comp=Z,3.9nm,0.6s,baz=161,slow=7.6,SNR=20						
SONM				LR	LR	06 52 53.9	
	comp=Z,3μm,21.4s,baz=154,slow=39						
	comp=Z,3.9nm,0.6s						
SONM	**Songino Array**	**50.27**	**343**	P	**P**	**06 29 06.9**	**+0.5**
SONM				pmax	pmax		
	comp=Z,27nm,1.2s						
UGL	**Uglegorsk**	**50.34**	**13**	*e*P	P	06 29 01.5	-5.2
UGL				*e*S	**S**	**06 36 17.4**	**-0.1**
UGL				pmax	pmax		
	comp=Z,100nm,1.0s						
GRNR	**Gornyy**	**50.90**	**8**⇓	*i*P	**P**	**06 29 12.4**	**+1.5**
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GRNR				MLR	MLR		
	comp=E,640nm,19.0s						
GRNR				MLR	MLR		
	comp=N,440nm,21.0s						
GRNR				MLR	MLR		
	comp=Z,790nm,17.0s						
TYV	**Tymovskoe**	**52.15**	**13**	*e*P	**P**	**06 29 22.6**	**+2.4**
TYV				*e*S	**S**	**06 36 47.9**	**+5.5**
TYV				pmax	pmax		
	comp=Z,15nm,0.9s						
TYV				pmax	pmax		
	comp=Z,400nm,4.4s						
TYV				smax	smax		
	comp=N,300nm,5.9s						
TYV				smax	smax		
	comp=E,300nm,5.9s						
CIT	**Chita**	**52.51**	**350**	*e*P	**P**	**06 29 23.8**	**+0.9**
CIT				*e*		06 29 34.6	
CIT				pmax	pmax		
	comp=Z,234nm,1.7s						
ZEA	**Zeya**	**53.14**	**1**	*e*P	**P**	**06 29 28.6**	**+1.1**
ZEA				*e*S	**S**	**06 37 01.0**	**+5.2**
ZEA				pmax	pmax		
	comp=Z,200nm,6.2s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA				smax	smax		
	comp=E,100nm,5.5s						
ZEA				smax	smax		
	comp=N,200nm,9.2s						
ZEA				MLR	MLR		
	comp=N,500nm,19.0s						
ZEA				MLR	MLR		
	comp=E,600nm,19.0s						
ZEA				MLR	MLR		
	comp=Z,800nm,22.0s						
ZAK	**Zakamensk**	**53.48**	**342**	*e*P	**P**	**06 29 29.6**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,18nm,1.4s						
FUNA	**Funafuti**	**53.50**	**101**	P	**P**	**06 29 29.7**	**-1.2**
NKL	**Nikolayevsk**	**53.90**	**11**	*e*P	**P**	**06 29 30.6**	**-2.5**
NKL				*e*S	**S**	**06 37 05.6**	**-0.6**
NKL				pmax	pmax		
	comp=N,3μm,2.3s						
NKL				pmax	pmax		
	comp=E,62nm,1.2s						
NKL				pmax	pmax		
	comp=Z,225nm,1.2s						
NKL				smax	smax		
	comp=E,100nm,2.4s						
NKL				smax	smax		
	comp=N,173nm,2.5s						
MSVF	**Nonsavu**	**54.05**	**112**	P	**P**	**06 29 34.4**	**-0.5**
MSVF				IAmb	IAmb	06 30 22.9	
	comp=Z,73nm,1.2s						
MSVF	**Nonsavu**	**54.05**	**112**⇑	*e*P	**P**	**06 29 32.8**	**-2.1**
MSVF				pmax	pmax		
	comp=Z,29nm,1.5s						
IRK	**Irkutsk**	**54.83**	**344**	*e*P	**P**	**06 29 40.2**	**+0.3**
IRK				pmax	pmax		
	comp=Z,84nm,2.2s						
WMQ	**Urumqi**	**55.17**	**327**	*e*P	**P**	**06 29 43.6**	**+1.0**
WMQ				pP	pP	06 29 48.7	-2.8
WMQ				S	**S**	**06 37 19.5**	**-4.3**
WMQ				pmax	pmax		
	comp=Z,13nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,210nm,3.7s						
WMQ				LR	LR		
	comp=Z,3μm,16.1s						
WMQ				LR	LR		
	comp=Z,3μm,17.3s						
WMQ				LR	LR		
	comp=Z,3μm,19.5s						
MOY	**Mondy**	**55.31**	**341**	*e*P	**P**	**06 29 44.1**	**+0.6**
MOY				pmax	pmax		
	comp=Z,74nm,1.8s						
SKR	**Severo-Kuril's**	**56.13**	**22**	*e*P	P	06 29 43.2	-6.0
SKR				*e*SS	**ScS**	**06 39 35.1**	**-0.9**
SKR				pmax	pmax		
	comp=Z,56nm,1.1s						
SKR				pmax	pmax		
	comp=Z,300nm,6.9s						
OUZ	**Omahuta**	**56.60**	**134**	IAMs_20	IAMs_20	06 57 03.2	
	comp=Z,3μm,18.0s						
BOD	**Bodaibo**	**58.05**	**352**	*e*P	**P**	**06 30 03.1**	**+0.4**
BOD				pmax	pmax		
	comp=Z,95nm,1.2s						
PEA0B	**Petropavlovsk-**	**58.66**	**22**	P	**P**	**06 30 08.6**	**+1.5**
PEA0B				IAmb	IAmb	06 30 30.0	
	comp=Z,53nm,1.1s						
PEA0B	**Petropavlovsk-**	**58.66**	**22**	*de*P	**P**	**06 30 08.5**	**+1.5**
PETK	**Petropavlovsk-**	**58.66**	**22**	P	**P**	**06 30 07.9**	**+0.8**
PETK	**Petropavlovsk-**	**58.66**	**22**	P	**P**	**06 30 07.5**	**+0.5**
	comp=Z,23nm,0.8s,baz=190,slow=4.8,SNR=24						
PETK				LR	LR	06 54 05.9	
	comp=Z,424nm,21.6s,baz=206,slow=35						
	comp=Z,23nm,0.8s						
PETK	**Petropavlovsk-**	**58.66**	**22**	P	**P**	**06 30 07.9**	**+0.8**
WUS	**Wushi**	**58.72**	**320**	P	**P**	**06 30 08.2**	**+0.3**
WUS				IAmb	IAmb	06 30 24.2	
	comp=Z,37nm,1.1s						
PET	**Petropavlovsk**	**58.95**	**22**	P	**P**	**06 30 09.4**	**+0.4**
PET				IAmb	IAmb	06 30 31.9	
	comp=Z,69nm,1.2s						
PET	**Petropavlovsk**	**58.95**	**22**	*e*P	**P**	**06 30 10.8**	**+1.8**
PET				*e*S	**S**	**06 38 15.9**	**+2.9**
PET				pmax	pmax		
	comp=Z,42nm,1.2s						
PET				pmax	pmax		
	comp=Z,400nm,10.7s						
PET				pmax	pmax		
	comp=Z,300nm,6.7s						
PET				MLR	MLR		
	comp=Z,800nm,20.0s						
PET				MLR	MLR		
	comp=Z,700nm,17.0s						
PET	**Petropavlovsk**	**58.95**	**22**	P	**P**	**06 30 09.8**	**+0.8**
	comp=Z,742nmcomp=Z,38nm,1.1s						
ZSN	**Zaisan**	**59.02**	**328**	*e*P	**P**	**06 30 09.0**	**-0.7**
ZSN	**Zaisan**	**59.02**	**328**	*e*P	**P**	**06 30 09.1**	**-0.7**
NIL	**Nilore**	**59.59**	**309**	P	**P**	**06 30 13.6**	**-0.3**
NIL				IAmb	IAmb	06 30 37.0	
	comp=Z,33nm,1.1s						
NIL	**Nilore**	**59.59**	**309**	P	**P**	**06 30 13.6**	**-0.3**
NIL				pmax	pmax		
	comp=Z,33nm,1.1s						
NIL				MLR	MLR		
	comp=Z,800nm,21.0s						
SHLS	**Shalkode**	**59.59**	**322**	*e*P	**P**	**06 30 11.0**	**-2.9**
SHLS				pmax	pmax		
	comp=Z,22nm,1.2s						
SHLS	**Shalkode**	**59.59**	**322**	*e*P	**P**	**06 30 11.0**	**-2.9**
	comp=Z,22nm,1.2s						
TARG	**Taragay, Kyrgy**	**59.90**	**320**	P	**P**	**06 30 16.1**	**-0.3**
TARG				IAmb	IAmb	06 30 32.9	
	comp=Z,32nm,1.1s						
TARG				IAMs_20	IAMs_20	06 57 19.7	
	comp=Z,2μm,21.0s						
TARG	**Taragay, Kyrgy**	**59.90**	**320**	P	**P**	**06 30 16.1**	**-0.3**
TARG				pmax	pmax		
	comp=Z,32nm,1.1s						
TARG				MLR	MLR		
	comp=Z,2μm,21.0s						
PRZ	**Przheval'sk**	**59.91**	**321**	P	**P**	**06 30 17.0**	**+0.9**
PRZ				IAmb	IAmb	06 30 52.5	
	comp=Z,51nm,1.1s						
PRZ	**Przheval'sk**	**59.91**	**321**	P	**P**	**06 30 17.0**	**+0.9**
PRZ				pmax	pmax		
	comp=Z,51nm,1.1s						
PRZ				MLR	MLR		
	comp=Z,1μm,22.0s						
TUWZ	**Tuamarina**	**59.92**	**140**	P	**P**	**06 30 16.2**	**+0.2**
MK31	**Makanchi Array**	**60.00**	**327**	*i*P	**P**	**06 30 15.3**	**-1.2**
MK31				pmax	pmax		
	comp=Z,29nm,0.7s						
MKAR	**Makanchi Array**	**60.00**	**327**	P	**P**	**06 30 16.2**	**-0.3**
MKAR	**Makanchi Array**	**60.00**	**327**	P	**P**	**06 30 15.8**	**-0.7**
	comp=Z,13nm,0.7s,baz=119,slow=7.9,SNR=74						
MKAR				PcP	**PcP**	**06 31 03.0**	**+0.7**
	comp=Z,16nm,0.8s,baz=118,slow=4.2,SNR=1.7						
MKAR				ScP	**ScP**	**06 34 57.6**	**-3.7**
	comp=Z,0.4nm,0.6s,baz=106,slow=4.7,SNR=1.6						
	comp=Z,13nm,0.7s						
KSH	**Kashi**	**60.06**	**317**	P	**P**	**06 30 19.9**	**+2.7**
KSH				pP	pP	06 30 25.4	-0.9
KSH				S	**S**	**06 38 30.0**	**+1.7**
KSH				pmax	pmax		
	comp=Z,24nm,1.0s						
KSH				LR	LR		
	comp=Z,1μm,19.2s						
KSH				LR	LR		
	comp=Z,1μm,21.3s						
KSH				LR	LR		
	comp=Z,2μm,21.0s						
MAKZ	**Makanchi**	**60.18**	**326**	P	**P**	**06 30 17.3**	**-0.4**
MAKZ				IAmb	IAmb	06 30 33.9	
	comp=Z,34nm,0.8s						
MAKZ	**Makanchi**	**60.18**	**326**	P	**P**	**06 30 17.3**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,34nm,0.9s						
MAKZ				MLR	MLR		
	comp=Z,4μm,21.0s						
SATY	**Saty**	**60.20**	**321**	*e*P	**P**	**06 30 17.0**	**-1.0**

SATY pmax pmax
comp=Z,17nm,0.9s
SATY Saty 60.20 321 *e*P **P 06 30 17.1 -1.0**
comp=Z,17nm,0.9s
BKZ Black Stump Fm 60.50 137 P **P 06 30 20.3 +0.2**
BKZ IAmb IAmb 06 31 23.7
comp=Z,50nm,1.3s
KDJ Kajisay 60.51 320 P **P 06 30 19.5 -0.8**
KDJ IAmb IAmb 06 30 32.9
comp=Z,24nm,0.9s
KDJ IAMs_20 IAMs_20 06 57 49.3
comp=Z,2µm,19.0s
KDJ Kajisay 60.51 320 P **P 06 30 19.5 -0.8**
KDJ pmax pmax
comp=Z,24nm,0.9s
KDJ MLR MLR
comp=Z,2µm,19.0s
URZ Urewera 60.51 135 LR LR 06 58 23.6
comp=Z,636nm,18.9s,baz=306,slow=38
RTZ Ruatahuna 60.58 136 P **P 06 30 19.8 -0.9**
RTZ IAmb IAmb 06 30 24.6
comp=Z,42nm,0.9s
AAA Alma-Ata 61.21 321 *e*P **P 06 30 24.1 -0.8**
AAA pmax pmax
comp=Z,23nm,0.6s
AAA Alma-Ata 61.21 321 *e*P **P 06 30 24.2 -0.8**
comp=Z,23nm,0.6s
TDK Taldyqorghan 61.22 323 *e*P **P 06 30 24.1 -0.8**
TDK Taldyqorghan 61.22 323 *e*P **P 06 30 24.1 -0.8**
BOOM Boomskoye usch 61.48 320 P **P 06 30 26.8 -0.1**
BOOM IAmb IAmb 06 30 59.6
comp=Z,28nm,1.1s
BOOM Boomskoye usch 61.48 320 P **P 06 30 26.8 -0.1**
BOOM pmax pmax
comp=Z,28nm,1.1s
YAK Yakutsk 61.50 2 P **P 06 30 26.4 +0.1**
YAK Yakutsk 61.50 2 *e*P **P 06 30 26.9 +0.6**
YAK *e**PP **pP 06 30 31.8 -3.6**
YAK *e* 06 31 09.4
YAK *e* 06 32 41.8
YAK *e*S **S 06 38 47.7 +2.2**
YAK *e* 06 40 15.6
YAK *e*SS **SS 06 42 48.9 +1.9**
YAK *e*SSS SSS 06 45 35.7
YAK pmax pmax
comp=Z,68nm,1.3s
YAK pmax pmax
comp=N,29nm,1.5s
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK pmax pmax
comp=Z,170nm,4.1s
YAK pmax pmax
comp=N,96nm,5.3s
YAK pmax pmax
comp=E,68nm,3.6s
YAK smax smax
comp=E,258nm,4.9s
YAK smax smax
comp=N,38nm,2.8s
YAK MLR MLR
comp=Z,2µm,38.0s
YAK MLR MLR
comp=N,1µm,24.0s
YAK MLR MLR
comp=E,1µm,34.0s
KUU Kurty 61.92 321 *e*P **P 06 30 28.9 -0.7**
KUU pmax pmax
comp=Z,39nm,1.4s
KUU Kurty 61.92 321 *e*P **P 06 30 28.9 -0.7**
comp=Z,39nm,1.4s
MA2 Magadan 62.01 14 P **P 06 30 30.8 +1.0**
MA2 Magadan 62.01 14⇑ *e*P **P 06 30 31.8 +2.0**
MA2 pmax pmax
comp=Z,62nm,0.9s
MA2 Magadan 62.01 14 P **P 06 30 30.9 +1.0**
comp=Z,1µmcomp=Z,76nm,0.9s
FRU1 Bishkek 62.49 319 IAMs_20 IAMs_20 07 00 57.0
comp=Z,2µm,21.0s
AAK Ala-Archa 62.49 319 P **P 06 30 34.1 +0.4**
AAK IAmb IAmb 06 31 07.8
comp=Z,30nm,1.2s
AAK Ala-Archa 62.49 319 IAMs_20 IAMs_20 06 59 11.2
comp=Z,2µm,22.0s
AAK Ala-Archa 62.49 319 *i* P **P 06 30 34.0 +0.4**
AAK pmax pmax
comp=Z,26nm,1.7s
SGDS Sogindy 62.79 320 *e*P **P 06 30 34.7 -0.8**
ARSB Arslanbob 62.91 317 P **P 06 30 36.0 -0.4**
ARSB Arslanbob 62.91 317 P **P 06 30 36.1 -0.4**
ARSB pmax pmax
comp=Z,241nm,1.9s
ARSB MLR MLR
comp=Z,900nm,21.0s
DRK Karamyk 62.95 315 P **P 06 30 37.0 +0.1**
DRK Karamyk 62.95 315 P **P 06 30 37.0 +0.1**
DRK pmax pmax
comp=Z,81nm,1.4s
KBL Kabul 63.17 309 P **P 06 30 37.7 -0.7**
KBL IAmb IAmb 06 30 51.6
comp=Z,57nm,1.5s
KBL Kabul 63.17 309 P **P 06 30 37.7 -0.7**
KBL pmax pmax
comp=Z,57nm,1.5s
ZAA0 Zalesovo Array 63.31 334 P **P 06 30 38.4 -0.2**
ZAA0 IAmb IAmb 06 30 57.1
comp=Z,42nm,1.3s
ZALV Zalesovo Beam 63.31 334 P **P 06 30 37.8 -0.8**
ZALV Zalesovo Beam 63.31 334 P **P 06 30 37.7 -0.9**
comp=Z,10.0nm,0.7s,baz=114,slow=9.9,SNR=18
ZALV S **S 06 39 05.9 -2.7**
comp=Z,1.0nm,0.3s,baz=130,slow=13,SNR=1.4
comp=Z,10.0nm,0.7s
ZALV Zalesovo Beam 63.31 334 *i* P **P 06 30 38.2 -0.4**
ZALV pmax pmax
comp=Z,10.0nm,0.7s
GAR Garm 63.82 314 P **P 06 30 41.8 -0.7**
GAR IAMs_20 IAMs_20 07 00 47.5
comp=Z,3µm,22.0s
BTLS Baital 63.91 321 *e*P **P 06 30 41.9 -0.8**
BTLS Baital 63.91 321 *e*P **P 06 30 42.0 -0.8**
KURBB Kurchatov Arra 64.26 328 P **P 06 30 43.8 -1.1**
comp=Z,16nm,0.9s,baz=125,slow=6.3,SNR=52
KURBB PcP **PcP 06 31 17.3 -2.2**
comp=Z,36nm,1.0s,baz=124,slow=6.0,SNR=7.8
KURBB PKP2bc 06 59 37.6
comp=Z,0.6nm,0.8s,baz=294,slow=3.3,SNR=4.4
comp=Z,16nm,0.9s
KURK Kurchatov 64.27 329 P **P 06 30 44.0 -0.9**
KURK Kurchatov 64.27 329 *i* P **P 06 30 43.5 -1.5**
KURK pmax pmax
comp=Z,36nm,1.0s
SIMJ Simiganj 64.64 313 P **P 06 30 47.3 -0.6**
SIMJ IAmb IAmb 06 31 22.5
comp=Z,48nm,1.3s
DZA Taraz 64.69 318 *e*P **P 06 30 47.0 -1.0**
DZA Taraz 64.69 318 *e*P **P 06 30 47.1 -1.0**
IUG Iuzhnay 65.26 317 *e*P **P 06 30 50.9 -0.9**
IUG pmax pmax
comp=Z,19nm,0.8s
IUG Iuzhnay 65.26 317 *e*P **P 06 30 51.0 -0.9**
comp=Z,19nm,0.8s
KK31 Karatay Array 65.33 318 P **P 06 30 51.5 -0.6**
KK31 IAmb IAmb 06 31 05.9
comp=Z,20nm,0.9s
KK31 Karatay Array 65.33 318 *i* P **P 06 30 50.9 -1.2**
KKAR Karatay Array 65.33 318 P **P 06 30 51.4 -0.7**
KKAR IAmb IAmb 06 31 05.9
comp=Z,21nm,0.9s
KKAR Karatay Array 65.33 318 P **P 06 30 51.4 -0.7**
KKAR pmax pmax
comp=Z,21nm,1.0s
SEY Seymchan 65.34 13⇓ *e*P **P 06 30 53.4 +1.7**
SEY pmax pmax
comp=Z,44nm,1.1s
CHM Chimkent 65.62 317 *e*P **P 06 30 53.3 -0.7**
CHM Chimkent 65.62 317 *e*P **P 06 30 53.3 -0.7**
BRLS Borolday 65.75 318 *e*P **P 06 30 54.0 -0.8**
BRLS Borolday 65.75 318 *e*P **P 06 30 54.0 -0.8**
BRZS Berezniki 67.11 326 *e*P **P 06 31 02.8 -0.5**
BRZS Berezniki 67.11 326 *e*P **P 06 31 02.9 -0.5**
CASY Casey 67.50 187 P **P 06 31 06.4 +0.9**
CASY IAmb IAmb 06 31 08.7
comp=Z,39nm,1.1s
CASY Casey 67.50 187 IAMs_20 IAMs_20 06 57 28.2
comp=Z,2µm,18.0s
KIWB Kanaga Island 69.69 34 P **P 06 31 20.1 +0.6**
BVA0 Borovoye Array 69.82 328 P **P 06 31 18.9 -1.4**
BVAR Borovoye Array 69.82 328 P **P 06 31 20.3 0.0**
comp=Z,16nm,0.9s
comp=Z,16nm,0.9s
BRVK Borovoye 69.89 328 P **P 06 31 20.9 +0.2**
BRVK IAmb IAmb 06 31 54.8
comp=Z,64nm,1.1s
BRVK Borovoye 69.89 328 IAMs_20 IAMs_20 07 07 52.7
comp=Z,2µm,22.0s
BRVK Borovoye 69.89 328 P **P 06 31 20.9 +0.2**
BRVK pmax pmax
comp=Z,65nm,1.2s
ADK Adak 69.96 34 P **P 06 31 21.0 -0.1**
ADK Adak 69.96 34 P **P 06 31 21.0 -0.1**
ADK pmax pmax
comp=Z,82nm,1.2s
MSEY Mahe Island 70.86 265 IAMs_20 IAMs_20 06 59 59.1
comp=Z,2µm,22.0s
TIXI Tiksi 71.13 1 P **P 06 31 27.8 -0.1**
TIXI IAMs_20 IAMs_20 07 04 51.9
comp=Z,2µm,22.0s
TIXI Tiksi 71.13 1 LR LR 07 04 51.2
comp=Z,919nm,19.8s,baz=196,slow=38
TIXI Tiksi 71.13 1⇑ *e*P **P 06 31 29.3 +1.5**
TIXI pmax pmax
comp=Z,35nm,1.5s
ATKA Atka Island 71.48 34 P **P 06 31 30.2 -0.2**
BILL Bilibino 72.85 15⇑ *e*P **P 06 31 39.3 +1.0**
BILL pmax pmax
comp=Z,9.0nm,1.4s
NRIK Noril'sk 73.50 347 P **P 06 31 42.1 0.0**
NRIK Noril'sk 73.50 347 P **P 06 31 42.1 0.0**
comp=Z,23nm,0.8s,baz=138,slow=5.8,SNR=25
NRIK S **S 06 41 04.5 -4.9**
comp=Z,1.3nm,0.4s,baz=62,slow=13,SNR=1.0
comp=Z,23nm,0.8s
NRIK Noril'sk 73.50 347⇓ *e*P **P 06 31 42.5 +0.4**
AB31 Akbulak array 74.40 321 P **P 06 31 47.1 -0.6**
AB31 IAmb IAmb 06 32 24.4
comp=Z,84nm,1.7s
AB31 Akbulak array 74.40 321 *i* P **P 06 31 46.8 -0.9**
ABKAR Akbulak array 74.40 321 P **P 06 31 47.2 -0.5**
ABKAR IAmb IAmb 06 32 24.4
comp=Z,85nm,1.7s
NIKH Nikolski High 74.79 35 IAMs_20 IAMs_20 07 05 31.5
comp=Z,1µm,21.0s
NIKH Nikolski High 74.79 35 P **P 06 31 50.6 +0.7**
baz=250
RAR Rarotonga 75.24 112 LR LR 07 03 13.8
comp=Z,237nm,22.0s,baz=282,slow=34
SPIA Saint Paul Isl 75.58 30 P **P 06 31 53.6 -0.7**
SPIA Saint Paul Isl 75.58 30 P **P 06 31 55.4 +1.1**
baz=248
P08K Saint George I 75.71 31 P **P 06 31 54.1 -1.0**
P08K Saint George I 75.71 31 P **P 06 31 56.3 +1.2**
baz=248
AKTO Aktyubinsk 75.94 322 S **S 06 41 35.4 -2.0**
comp=Z,1.0nm,0.5s,baz=79,slow=16,SNR=5.6
AKTO Aktyubinsk 75.94 322 P **P 06 31 55.3 -1.3**
UNV Unalaska Valle 76.41 34 P **P 06 31 58.6 -0.5**
UNV IAmb IAmb 06 32 21.9
comp=Z,66nm,1.0s
UNV Unalaska Valle 76.41 34 P **P 06 32 00.1 +1.0**
baz=252
SVE Sverdlovsk 76.51 329*c e*P **P 06 31 59.8 +0.1**
SVE *e*S **S 06 41 45.3 +2.0**
SVE pmax pmax
comp=Z,111nm,1.5s
LVA Lava Point 76.77 34 P **P 06 32 00.9 -0.3**
AKUT Akutan 76.91 34 IAMs_20 IAMs_20 07 06 21.5
comp=Z,1µm,22.0s
ARTI Arti 77.54 328 P **P 06 32 05.2 -0.3**
ARTI Arti 77.54 328 S **S 06 41 49.6 -4.9**
comp=Z,1.2nm,0.3s,baz=115,slow=14,SNR=1.5
ARTI Arti 77.54 328*d i* P **P 06 32 05.0 -0.5**
ARTI 06 34 58.8
ARTI PPP PPP 06 36 45.2
ARTI S **S 06 41 55.2 +0.7**
ARTI pmax pmax
comp=Z,62nm,1.5s
GAMB Gambell 77.60 24 P **P 06 32 06.0 +0.4**
GAMB IAmb IAmb 06 32 26.9
comp=Z,36nm,1.1s
GAMB Gambell 77.60 24 P **P 06 32 06.9 +1.3**
baz=245
M11K Mekoryuk 78.70 28 P **P 06 32 11.2 -0.6**
M11K IAmb IAmb 06 32 46.8
comp=Z,36nm,1.1s
M11K Mekoryuk 78.70 28 P **P 06 32 12.7 +1.0**
baz=250
S12K Black Hills 79.41 33 P **P 06 32 16.2 +0.4**
S12K IAmb IAmb 06 32 36.1
comp=Z,42nm,1.1s
S12K Black Hills 79.41 33 P **P 06 32 16.9 +1.1**
baz=255,SNR=11
ABPO Ambohimpanom 79.75 251 P **P 06 32 17.4 -1.3**
ABPO Ambohimpanom 79.75 251 P **P 06 32 17.4 -1.3**
ABPO pmax pmax
comp=Z,12nm,0.9s
TNA Tin City 79.80 23 P **P 06 32 19.2 +1.5**
baz=248
K13K Kusilvak Mount 79.91 27 P **P 06 32 19.4 +1.0**
K13K IAmb IAmb 06 32 40.1
comp=Z,42nm,0.9s
K13K Kusilvak Mount 79.91 27 P **P 06 32 19.8 +1.4**
baz=252
M13K Dall Lake 80.05 28 P **P 06 32 18.9 -0.2**
M13K Dall Lake 80.05 28 P **P 06 32 19.7 +0.6**
baz=253
SDPT Sand Point 80.19 34 P **P 06 32 20.2 +0.2**
SDPT Sand Point 80.19 34 P **P 06 32 20.8 +0.8**
baz=256,SNR=9.3
VNDA Vanda 80.23 173 P **P 06 32 20.4 +0.5**
VNDA Vanda 80.23 173 P **P 06 32 20.2 +0.3**
comp=Z,17nm,0.8s,baz=313,slow=6.1,SNR=28
VNDA LR LR 07 07 26.2
comp=Z,1µm,21.8s,baz=338,slow=35
comp=Z,17nm,0.8s
VNDA Vanda 80.23 173 P **P 06 32 20.4 +0.5**
VNDA pmax pmax
comp=Z,17nm,0.8s
VOI Vohitsoka 80.37 248 P **P 06 32 21.5 -0.4**
F14K Arctic Creek 80.39 23 P **P 06 32 22.3 +1.4**
baz=249
ANM Nome 80.46 24 IAMs_20 IAMs_20 07 12 47.1
comp=Z,1µm,22.0s
ANM Nome 80.46 24 P **P 06 32 22.6 +1.3**
baz=250
MAW Mawson 80.51 200 P **P 06 32 21.3 -0.1**
comp=Z,21nm,1.0s,baz=60,slow=5.8,SNR=23
MAW LR LR 07 05 42.9
comp=Z,915nm,21.5s,baz=56,slow=34
comp=Z,21nm,1.0s
CNBA Chernabura Isl 80.57 34 P **P 06 32 22.4 +0.3**
CNBA IAmb IAmb 06 32 28.3
comp=Z,49nm,1.0s
CHNA Chernabura Isl 80.57 34 P **P 06 32 22.5 +0.4**
baz=257
L14K Kuka Creek 80.63 28 P **P 06 32 23.6 +1.3**
L14K IAmb IAmb 06 32 43.9
comp=Z,81nm,1.2s
L14K Kuka Creek 80.63 28 P **P 06 32 22.8 +0.6**
baz=253,SNR=33
J14K Nanvaranak Lak 80.65 26 P **P 06 32 23.8 +1.5**
J14K IAmb IAmb 06 32 44.0
comp=Z,48nm,1.2s
J14K Nanvaranak Lak 80.65 26 P **P 06 32 23.5 +1.2**
baz=252,SNR=8.1
N14K Kuskokwak Cree 80.71 29 P **P 06 32 24.0 +1.3**
N14K Kuskokwak Cree 80.71 29 P **P 06 32 24.1 +1.3**
baz=254,SNR=29
O14K Tigyukauivet M 80.74 30 P **P 06 32 23.9 +1.0**
O14K IAmb IAmb 06 32 44.0
comp=Z,59nm,1.1s
O14K Tigyukauivet M 80.74 30 P **P 06 32 23.9 +1.0**
baz=255,SNR=22
M14K Bethel 80.80 28 P **P 06 32 24.5 +1.3**
M14K Bethel 80.80 28 P **P 06 32 24.8 +1.6**
baz=254,SNR=36
S14K Fog Glacier 80.91 33 P **P 06 32 25.6 +1.5**
baz=257,SNR=11
AKT Akhty 81.11 312 *e*P **P 06 32 23.4 -2.1**
AKT *e* 06 32 28.8
AKT *e* 06 35 27.5
AKT *e*S **S 06 42 27.2 -6.1**
AKT pmax pmax
comp=Z,27nm,0.9s
F15K North Star Dit 81.13 23 P **P 06 32 26.4 +1.5**
baz=251
G15K Niukluk 81.14 24 P **P 06 32 26.7 +1.8**
baz=252
SBA Scott Base 81.15 172 P **P 06 32 25.5 +0.8**
SBA IAmb IAmb 06 33 32.2
comp=Z,64nm,1.6s
SBA Scott Base 81.15 172 P **P 06 32 25.5 +0.8**
SBA pmax pmax
comp=Z,64nm,1.6s
L15K Ungalak Mounta 81.27 27 P **P 06 32 26.9 +1.2**
baz=254
RAYN Ar Rayn 81.34 294 P **P 06 32 26.9 0.0**
RAYN IAmb IAmb 06 33 02.3
comp=Z,28nm,0.9s
RAYN Ar Rayn 81.34 294 P **P 06 32 26.9 0.0**
RAYN pmax pmax
comp=Z,28nm,0.9s
M15K Kasigluk River 81.39 28 P **P 06 32 27.8 +1.4**
baz=255,SNR=14
K15K Wolf Creek Mou 81.42 27 IAmb IAmb 06 32 48.5
comp=Z,44nm,0.9s
K15K Wolf Creek Mou 81.42 27 P **P 06 32 28.2 +1.7**
baz=254,SNR=26
O15K Ungalikthiuk R 81.44 30 IAmb IAmb 06 33 04.2
comp=Z,90nm,1.4s
O15K Ungalikthiuk R 81.44 30 P **P 06 32 28.5 +1.8**
baz=256,SNR=12
MAK Makhachkala 81.47 313 *e*P **P 06 32 23.0 -4.1**
MAK *e* 06 35 31.4
MAK *e*S **S 06 42 31.2 -5.4**
MAK pmax pmax
comp=Z,145nm,1.1s
MAK MLR MLR
comp=Z,5µm,13.0s
CHGN Chignik 81.54 33 IAmb IAmb 06 32 43.9
comp=Z,67nm,1.0s
CHGN IAMs_20 IAMs_20 07 07 58.9
comp=Z,1µm,22.0s
CHGN Chignik 81.54 33 P **P 06 32 27.8 +0.7**
baz=258
N15K Kwethluk River 81.55 29 IAmb IAmb 06 32 37.1
comp=Z,36nm,0.9s
N15K Kwethluk River 81.55 29 P **P 06 32 28.8 +1.6**
baz=256,SNR=15
C16K Lisburne Hills 81.73 20 P **P 06 32 28.9 +0.9**
C16K IAmb IAmb 06 32 43.9
comp=Z,38nm,1.2s
C16K Lisburne Hills 81.73 20 P **P 06 32 29.9 +2.0**
baz=250,SNR=16
G16K Koyuk River 81.94 24 IAmb IAmb 06 32 50.9
comp=Z,68nm,1.5s
G16K Koyuk River 81.94 24 P **P 06 32 30.9 +1.8**
baz=253
J16K Anvik River 82.09 26 P **P 06 32 32.0 +2.0**
baz=255,SNR=24
I17K Unalakleet 82.21 25 P **P 06 32 33.1 +2.5**
baz=255,SNR=16
L16K Owhat River 82.21 28 IAMs_20 IAMs_20 07 10 29.4
comp=Z,920nm,20.0s
L16K Owhat River 82.21 28 P **P 06 32 32.8 +2.1**
baz=256,SNR=20
N16K Nishlik Lake 82.26 29 P **P 06 32 33.4 +2.5**
baz=257,SNR=14
M16K Timber Creek 82.29 28 IAMs_20 IAMs_20 07 11 15.7
comp=Z,885nm,20.0s
M16K Timber Creek 82.29 28 P **P 06 32 33.7 +2.6**
baz=257,SNR=24
P16K Nushagak River 82.33 30 P **P 06 32 33.8 +2.5**
baz=258
D17K Noatak River 82.35 21 P **P 06 32 34.2 +2.9**
baz=252,SNR=40
O16K Kokwok River B 82.40 30 IAmb IAmb 06 32 52.3
comp=Z,65nm,1.3s
O16K IAMs_20 IAMs_20 07 10 45.5
comp=Z,1µm,22.0s
O16K Kokwok River B 82.40 30 P **P 06 32 33.9 +2.3**
baz=258,SNR=22
RDOG Red Dog Mine 82.52 21 P **P 06 32 34.6 +2.4**
baz=252
C17K DeLong Mountai 82.56 21 P **P 06 32 35.0 +2.7**
baz=252,SNR=31
E17K Hotham Inlet 82.63 22 P **P 06 32 35.3 +2.5**
baz=253,SNR=25
G17K Kiwalik Mounta 82.65 24 P **P 06 32 35.3 +2.4**
baz=255,SNR=38
F17K Baldwin Pennin 82.67 23 P **P 06 32 35.7 +2.8**
baz=254,SNR=9.4
BELG Belogornoye 82.72 323⇑ *e*P **P 06 32 33.9 +0.4**
BELG pmax pmax
comp=Z,14nm,0.9s
KIRV Kirov 82.78 329⇑ *e*P **P 06 32 34.2 +0.6**
J17K VABM Dome 82.79 26 P **P 06 32 36.3 +2.7**
baz=256,SNR=15
H17K Granite Mounta 82.81 24 P **P 06 32 36.5 +2.8**
baz=255,SNR=18
L17K Donlin 82.85 27 P **P 06 32 36.8 +2.8**
baz=257,SNR=27
R17L Mt. Peulik Vol 82.90 32 P **P 06 32 35.7 +1.4**
baz=260,SNR=16
PLK4 Peulik 4 82.90 32 IAMs_20 IAMs_20 07 06 11.9
comp=Z,1µm,20.0s
O17K Koliganek Bris 82.93 30 P **P 06 32 36.5 +2.1**
baz=259,SNR=30
Q16K King Salmon 82.94 31 P **P 06 32 35.9 +1.5**
baz=259
K17K Iditarod 82.98 27 P **P 06 32 37.0 +2.3**
baz=257,SNR=34
N17K Nushagak Hills 83.03 29 P **P 06 32 37.8 +2.8**
baz=258,SNR=18
M17K Holitna River 83.09 28 IAMs_20 IAMs_20 07 11 42.8
comp=Z,972nm,21.0s
M17K Holitna River 83.09 28 P **P 06 32 38.0 +2.8**
baz=258,SNR=16
P17K Kvichak River 83.15 30 P **P 06 32 37.4 +1.8**
baz=259
E18K Tukpahlearik C 83.18 22 P **P 06 32 38.1 +2.5**
baz=254,SNR=62
GNI Garni 83.22 310⇓ *e*P **P 06 32 35.8 -0.8**
GNI pmax pmax
comp=Z,8.0nm,1.0s
GNI Garni 83.22 310 P **P 06 32 36.9 +0.3**
comp=Z,898nmcomp=Z,45nm,1.2s
Q17K Contact Creek 83.26 31 P **P 06 32 37.5 +1.1**
baz=260,SNR=22
B18K Kokolik River 83.30 20 P **P 06 32 38.5 +2.4**
baz=253,SNR=40
C18K Utukok River 83.30 21 P **P 06 32 37.6 +1.3**
C18K IAmb IAmb 06 32 56.2
comp=Z,32nm,0.9s
C18K Utukok River 83.30 21 P **P 06 32 38.1 +1.8**
baz=254,SNR=32
F18K Selawik 83.33 23 P **P 06 32 38.3 +2.0**
baz=256,SNR=18
H18K Honhosa River 83.50 24 P **P 06 32 38.6 +1.3**
H18K Honhosa River 83.50 24 P **P 06 32 39.1 +1.8**
baz=257,SNR=28
ACHA Angle Creek He 83.55 31 P **P 06 32 38.2 +0.5**
ACHA IAmb IAmb 06 32 59.5
comp=Z,33nm,1.1s
G18K Tagagawik 83.55 24 IAmb IAmb 06 32 58.8
comp=Z,51nm,1.1s
G18K Tagagawik 83.55 24 P **P 06 32 39.2 +1.7**
baz=256,SNR=28
L18K Granite Mounta 83.61 27 IAMs_20 IAMs_20 07 10 43.4
comp=Z,1µm,21.0s
L18K Granite Mounta 83.61 27 P **P 06 32 40.1 +2.2**
baz=259
N18K Kilae Creek 83.69 29 P **P 06 32 40.8 +2.4**
baz=260,SNR=21
A19K Wainwright 83.78 19 P **P 06 32 41.1 +2.5**
baz=254,SNR=15
Q18K Katmai Hardscr 83.78 31 P **P 06 32 40.0 +1.0**
baz=261,SNR=17
P18K Big Mountain, 83.79 30 IAmb IAmb 06 32 59.2
comp=Z,31nm,1.2s
P18K IAMs_20 IAMs_20 07 13 21.5
comp=Z,899nm,21.0s
P18K Big Mountain, 83.79 30 P **P 06 32 40.3 +1.3**
baz=260,SNR=15
J18K Innoko River 83.84 26 P **P 06 32 41.0 +1.9**
baz=258,SNR=27
M18K Stony River 83.87 28 P **P 06 32 41.6 +2.4**
baz=260,SNR=55
O18K Koktuh Hills 83.88 30 P **P 06 32 40.6 +1.2**

O18K	**Koktuh Hills**	83.88	30	P	P	06 32 41.4	+2.1		
	baz=260,SNR=19								
R18K	**Karluk**	83.90	32	P	P	06 32 41.0	+1.5		
	baz=261								
C19K	**Lookout Ridge**	83.99	20	IAMs_20	IAMs_20	07 12 37.2			
	comp=Z,1µm,21.0s								
C19K	**Lookout Ridge**	83.99	20	P	P	06 32 42.4	+2.6		
	baz=255,SNR=78								
GCSA	**Galena City Sc**	84.03	25	P	P	06 32 42.0	+2.0		
	baz=258,SNR=23								
F19K	**Shaleruckik Mo**	84.11	23	IAmb	IAmb	06 33 01.5			
	comp=Z,35nm,1.4s								
F19K	**Shaleruckik Mo**	84.11	23	P	P	06 32 42.0	+1.6		
	baz=257,SNR=17								
G19K	**Purcell Mounta**	84.23	23	P	P	06 32 42.4	+1.4		
G19K	**Purcell Mounta**	84.23	23	P	P	06 32 42.8	+1.7		
	baz=258,SNR=56								
D19K	**Kuna River**	84.36	21	IAmb	IAmb	06 33 04.5			
	comp=Z,46nm,1.1s								
D19K	**Kuna River**	84.36	21	P	P	06 32 43.6	+2.0		
	baz=257,SNR=35								
H19K	**Roundabout Mou**	84.36	24	P	P	06 32 42.6	+1.0		
H19K	**Roundabout Mou**	84.36	24	P	P	06 32 43.9	+2.3		
	baz=259,SNR=27								
O19K	**Port Alsworth**	84.38	30	P	P	06 32 43.8	+2.0		
	baz=261								
GEVA	**Gevas**	84.38	308	P	P	06 32 42.9	+0.3		
N19K	**Bonanza Creek**	84.40	29	P	P	06 32 43.3	+1.3		
N19K	**Bonanza Creek**	84.40	29	P	P	06 32 43.9	+1.8		
	baz=261,SNR=55								
J19K	**Poorman**	84.42	26	IAmb	IAmb	06 33 04.3			
	comp=Z,46nm,1.1s								
J19K	**Poorman**	84.42	26	P	P	06 32 44.2	+2.2		
	baz=260,SNR=26								
L19K	**White Mountain**	84.44	28	IAMs_20	IAMs_20	07 11 38.5			
	comp=Z,938nm,20.0s								
L19K	**White Mountain**	84.44	28	P	P	06 32 44.7	+2.5		
	baz=260,SNR=23								
E19K	**Redstone River**	84.45	22	P	P	06 32 44.2	+2.1		
	baz=258,SNR=39								
OHAK	**Old Harbor**	84.48	33	P	P	06 32 42.8	+0.4		
OHAK				IAMs_20	IAMs_20	07 07 36.6			
	comp=Z,938nm,22.0s								
OHAK	**Old Harbor**	84.48	33	P	P	06 32 44.6	+2.2		
	baz=262,SNR=12								
Q19K	**Cape Douglas,**	84.53	31	P	P	06 32 43.2	+0.5		
Q19K	**Cape Douglas,**	84.53	31	P	P	06 32 44.3	+1.6		
	baz=262,SNR=17								
PPT2	**Papeete2**	84.58	108	*e*P	P	06 32 46.4	+2.5		
	comp=Z,94nm,23.0s								
PPT2	**Papeete2**	84.58	108	*e*S	SKSac	06 43 06.5	+0.2		
	comp=Z,323nm,25.8s								
PPT2				*e*SS	SS	06 48 39.0	-2.0		
	comp=Z,866nm,34.5s								
PPT2				*e*LQ	LQ	06 55 44.1			
	comp=Z,3µm,41.8s								
PPT2				*e*LR	LR	06 59 17.4			
	comp=Z,2µm,26.0s								
PPT2				*e*LR	LR	06 59 19.1			
	comp=Z,1µm,36.0s								
M19K	**Big River Lodg**	84.61	28	P	P	06 32 44.3	+1.3		
M19K				IAMs_20	IAMs_20	07 12 41.0			
	comp=Z,816nm,20.0s								
M19K	**Big River Lodg**	84.61	28	P	P	06 32 45.4	+2.4		
	baz=261,SNR=17								
P19K	**Oil Pt**	84.84	30	P	P	06 32 45.5	+1.2		
P19K				IAmb	IAmb	06 33 17.6			
	comp=Z,44nm,1.1s								
P19K	**Oil Pt**	84.84	30	P	P	06 32 45.7	+1.4		
	baz=262								
GOF	**Gofitskoye**	84.89	315	*ce*P	P	06 32 53.5	+8.7		
KBZ	**Khabaz**	84.89	314	P	P	06 32 43.6	-1.2		
	comp=Z,12nm,1.0s,baz=126,slow=1.4,SNR=22								
	comp=Z,12nm,1.0s								
KBZ	**Khabaz**	84.89	314⇓	*e*P	P	06 32 45.2	+0.4		
KDAK	**Kodiak Island**	84.93	32	P	P	06 32 45.2	+0.6		
KDAK	**Kodiak Island**	84.93	32	P	P	06 32 45.2	+0.6		
KDAK				pmax	pmax				
	comp=Z,56nm,0.9s								
KDAK				MLR	MLR				
	comp=Z,800nm,21.0s								
KDAK	**Kodiak Island**	84.93	32	P	P	06 32 46.5	+1.8		
	baz=263								
TBI	**Tubuai**	84.93	113	*e*P	P	06 32 55.0	+10		
	comp=Z,452nm,28.5s								
TBI	**Tubuai**	84.93	113	*e*S	S	06 43 13.4	+0.9		
TBI	comp=Z,1µm,31.8s			*e*SS	SS	06 48 32.7	-13		
	comp=Z,3µm,39.2s								
TBI				*e*LQ	LQ	06 55 58.9			
	comp=Z,9µm,45.8s								
TBI				*e*LR	LR	06 59 18.2			
	comp=Z,7µm,34.0s								
TBI				*e*LR	LR	06 59 28.8			
	comp=Z,2µm,31.2s								
ILSW	**Iliamna Southw**	84.93	30	P	P	06 32 44.7	-0.2		
ILSW				IAmb	IAmb	06 33 04.3			
	comp=Z,42nm,1.2s								
L20K	**Farewell, AK**	84.94	27	P	P	06 32 46.9	+2.2		
	baz=261,SNR=8.8								
D20K	**Etivluk River**	84.94	21	P	P	06 32 44.8	+0.2		
D20K				IAmb	IAmb	06 33 14.9			
	comp=Z,25nm,0.9s								
D20K	**Etivluk River**	84.94	21	P	P	06 32 46.7	+2.1		
	baz=258,SNR=23								
F20K	**Avaraart Lake**	84.94	23	P	P	06 32 45.0	+0.5		
F20K				IAmb	IAmb	06 33 20.4			
	comp=Z,59nm,1.8s								
F20K	**Avaraart Lake**	84.94	23	P	P	06 32 46.7	+2.2		
	baz=259								
K20K	**Telida**	84.99	26	P	P	06 32 45.1	+0.2		
K20K				IAmb	IAmb	06 33 07.5			
	comp=Z,23nm,1.0s								
K20K	**Telida**	84.99	26	P	P	06 32 46.8	+1.9		
	baz=261								
H20K	**Anotleneega Mo**	85.00	24	P	P	06 32 46.9	+1.9		
	baz=260								
E20K	**Nigu River**	85.01	21	P	P	06 32 47.1	+2.1		
	baz=259,SNR=32								
B20K	**Meade River**	85.03	20	IAmb	IAmb	06 32 49.4			
	comp=Z,29nm,1.0s								
B20K				IAMs_20	IAMs_20	07 15 24.9			
	comp=Z,826nm,19.0s								
B20K	**Meade River**	85.03	20	P	P	06 32 46.8	+1.9		
	baz=258								
I20K	**Naaghedeneel**	85.05	25	P	P	06 32 47.0	+1.9		
	baz=260								
KIV	**Kislovodsk**	85.06	314	*e*P	P	06 32 46.6	+0.8		
KIV				pmax	pmax				
	comp=Z,26nm,1.0s								
J20K	**Nowinta River**	85.09	26	P	P	06 32 45.1	-0.3		
J20K				IAmb	IAmb	06 33 21.0			
	comp=Z,74nm,1.9s								
J20K	**Nowinta River**	85.09	26	P	P	06 32 47.2	+1.8		
	baz=261								
Q20K	**Shuyak Island**	85.13	31	P	P	06 32 47.0	+1.4		
	baz=263								
SYI	**Shuyak Island**	85.13	31	P	P	06 32 46.2	+0.6		
SYI				IAMs_20	IAMs_20	07 08 49.8			
	comp=Z,1µm,22.0s								
RED	**Redoubt Volcan**	85.17	29	P	P	06 32 46.3	+0.3		
RED				IAmb	IAmb	06 33 06.3			
	comp=Z,39nm,1.0s								
M20K	**Styx River**	85.20	28	P	P	06 32 46.0	0.0		
M20K				IAmb	IAmb	06 33 06.7			
	comp=Z,48nm,1.4s								
M20K				IAMs_20	IAMs_20	07 13 09.6			
	comp=Z,983nm,19.0s								
M20K	**Styx River**	85.20	28	P	P	06 32 47.8	+1.7		
	baz=262								
O20K	**Slope Mountain**	85.20	30	P	P	06 32 47.3	+1.2		
	baz=262								
A21K	**Barrow**	85.49	18	P	P	06 32 48.7	+1.6		
	baz=258								
IMAR	**Indian Mountai**	85.54	24	P	P	06 32 48.0	+0.4		
N20K	**Mount Spurr**	85.55	29	P	P	06 32 48.9	+1.1		
	baz=263								
SPCR	**Spurr Chakacha**	85.55	29	P	P	06 32 49.0	+1.2		
	baz=263								
SPU	**Mount Spurr**	85.62	29	P	P	06 32 48.0	-0.2		
SPU				IAmb	IAmb	06 33 08.7			
	comp=Z,34nm,1.4s								
HOM	**Homer**	85.64	30	IAMs_20	IAMs_20	07 07 51.2			
	comp=Z,1µm,22.0s								
HOM	**Homer**	85.64	30	P	P	06 32 49.5	+1.4		
	baz=263								
C21K	**Knifeblade Rid**	85.68	21	P	P	06 32 50.1	+1.9		
	baz=260								
G21K	**Allakaket**	85.72	23	P	P	06 32 48.9	+0.4		
G21K				IAmb	IAmb	06 33 08.7			
	comp=Z,36nm,1.6s								
G21K	**Allakaket**	85.72	23	P	P	06 32 50.0	+1.5		
	baz=261,SNR=14								
STLK	**Strandline Lak**	85.77	28	P	P	06 32 49.0	+0.1		
PPLA	**Purkeypile**	85.77	27	P	P	06 32 49.2	+0.2		
PPLA				IAmb	IAmb	06 33 56.5			
	comp=Z,55nm,1.6s								
PPLA	**Purkeypile**	85.77	27	P	P	06 32 50.2	+1.2		
	baz=263								
B21K	**Ikpikpuk River**	85.82	20	P	P	06 32 48.9	0.0		
B21K	**Ikpikpuk River**	85.82	20	P	P	06 32 50.9	+2.1		
	baz=260								
CNPM	**China Poot**	85.83	30	P	P	06 32 49.2	0.0		
F21K	**Alatna River**	85.84	23	P	P	06 32 48.7	-0.4		
F21K	**Alatna River**	85.84	23	P	P	06 32 50.7	+1.6		
	baz=261								
CHUM	**Lake Minchumin**	85.84	26	P	P	06 32 50.9	+1.8		
	baz=262								
E21K	**Killik River**	85.85	21	P	P	06 32 48.2	-0.9		
E21K	**Killik River**	85.85	21	P	P	06 32 51.0	+1.8		
	baz=261								
H21K	**Melozitna Rive**	85.88	24	P	P	06 32 51.1	+1.8		
	baz=262								
CAST	**Castle Rocks**	85.89	27	P	P	06 32 49.6	+0.2		
CAST	**Castle Rocks**	85.89	27	P	P	06 32 50.3	+0.9		
	baz=263,SNR=7.9								
A22K	**Sinclair Lake**	85.95	19	P	P	06 32 51.7	+2.2		
	baz=260								
SKT	**Skwentna**	85.96	28	IAMs_20	IAMs_20	07 13 21.7			
	comp=Z,1µm,21.0s								
SKT	**Skwentna**	85.96	28	P	P	06 32 51.5	+1.7		
	baz=263,SNR=8.6								
CAPN	**Captain Cook N**	86.01	29	IAMs_20	IAMs_20	07 06 26.9			
	comp=Z,997nm,22.0s								
CAPN	**Captain Cook N**	86.01	29	P	P	06 32 50.7	+0.8		
	baz=264								
BRLK	**Bradley Lake**	86.03	30	P	P	06 32 50.2	0.0		
I21K	**Tanana**	86.15	25	P	P	06 32 52.0	+1.4		
	baz=263								
VRH	**Novokhopyorsk**	86.23	321	*e*P	P	06 32 50.7	-0.6		
VRH				pmax	pmax				
	comp=Z,65nm,1.2s								
SUA	**Susitna One**	86.28	29	IAmb	IAmb	06 33 00.1			
	comp=Z,19nm,0.8s								
SUA	**Susitna One**	86.28	29	P	P	06 32 52.1	+0.6		
	baz=264								
B22K	**Teshekpuk Lake**	86.34	20	P	P	06 32 51.5	0.0		
B22K				IAmb	IAmb	06 33 09.2			
	comp=Z,18nm,0.8s								
B22K	**Teshekpuk Lake**	86.34	20	P	P	06 32 52.9	+1.5		
	baz=261								
F22K	**John River**	86.38	22	P	P	06 32 53.6	+1.8		
	baz=262								
D22K	**Ayikyak River**	86.38	21	P	P	06 32 52.3	+0.6		
	baz=262								
KTH	**Katishna Hill**	86.42	26	IAmb	IAmb	06 33 12.7			
	comp=Z,39nm,1.7s								
SLKM	**Skilak Lake**	86.44	30	IAMs_20	IAMs_20	07 08 19.3			
	comp=Z,978nm,22.0s								
BPAW	**Bear Paw Mtn.**	86.45	26	P	P	06 32 51.8	-0.3		
BPAW	**Bear Paw Mtn.**	86.45	26	P	P	06 32 52.6	+0.5		
	baz=264								
H22K	**Ishtalitna Cre**	86.49	24	P	P	06 32 52.4	+0.1		
	baz=263								
FIS	**Fire Island**	86.50	29	IAMs_20	IAMs_20	07 13 21.0			
	comp=Z,1µm,19.0s								
LABN	**Labinsk**	86.51	315	*e*P	P	06 32 52.7	-0.1		
LABN				*e*		06 43 14.2			
LABN				pmax	pmax				
	comp=Z,27nm,0.6s								
G22K	**Bettles**	86.56	23	P	P	06 32 53.4	+0.8		
	baz=263								
E22K	**Anaktuvuk Pass**	86.60	22	P	P	06 32 53.1	+0.3		
E22K				IAmb	IAmb	06 33 14.5			
	comp=Z,24nm,1.1s								
E22K	**Anaktuvuk Pass**	86.60	22	P	P	06 32 54.0	+1.2		
	baz=263,SNR=18								
M22K	**Willow**	86.61	28	IAmb	IAmb	06 33 10.8			
	comp=Z,37nm,0.8s								
M22K				IAMs_20	IAMs_20	07 08 35.7			
	comp=Z,876nm,22.0s								
M22K	**Willow**	86.61	28	P	P	06 32 53.4	+0.6		
	baz=265								
MLY	**Manley**	86.66	25	P	P	06 32 53.5	+0.3		
	baz=264								
O22K	**Cooper Landing**	86.68	30	IAMs_20	IAMs_20	07 07 38.8			
	comp=Z,907nm,22.0s								
O22K	**Cooper Landing**	86.68	30	P	P	06 32 53.6	+0.3		
	baz=265								
TRF	**Thorofare Moun**	86.69	27	IAMs_20	IAMs_20	07 13 13.9			
	comp=Z,1µm,20.0s								
TRF	**Thorofare Moun**	86.69	27	P	P	06 32 53.9	+0.4		
	baz=264								
ERBR	**Yeremizino-Bor**	86.73	316	*e*P	P	06 32 52.5	-1.4		
ERBR				pmax	pmax				
	comp=Z,41nm,1.1s								
RC01	**Rabbit Creek A**	86.73	29	P	P	06 32 53.0	-0.6		
RC01	**Rabbit Creek A**	86.73	29	P	P	06 32 54.0	+0.4		
	baz=265								
SEW	**Seward**	86.78	30	P	P	06 32 52.8	-1.0		
SEW				IAmb	IAmb	06 33 02.9			
	comp=Z,32nm,1.0s								
SEW	**Seward**	86.78	30	P	P	06 32 54.0	+0.2		
	baz=265								
VSLR	**Vesyoloye**	86.95	313⇑	*e*P	P	06 32 55.8	+0.8		
VSLR				pmax	pmax				
	comp=Z,70nm,1.3s								
PMR	**Palmer**	87.06	28	P	P	06 32 55.2	+0.1		
PMR				IAmb	IAmb	06 33 17.2			
	comp=Z,23nm,1.1s								
PMR	**Palmer**	87.06	28	P	P	06 32 55.2	+0.1		
PMR				pmax	pmax				
	comp=Z,23nm,1.1s								
PMR				MLR	MLR				
	comp=Z,800nm,21.0s								
PMR	**Palmer**	87.06	28	P	P	06 32 55.9	+0.8		
	baz=265								
COLD	**Coldfoot**	87.11	23	P	P	06 32 55.6	+0.3		
COLD				IAmb	IAmb	06 33 12.4			
	comp=Z,17nm,0.8s								
COLD	**Coldfoot**	87.11	23	P	P	06 32 56.2	+0.9		
	baz=264,SNR=32								
D23K	**Nanushuk River**	87.11	21	P	P	06 32 56.7	+1.5		
	baz=264,SNR=14								
G23K	**Bananza Creek**	87.12	23	IAmb	IAmb	06 33 04.2			
	comp=Z,22nm,1.1s								
G23K	**Bananza Creek**	87.12	23	P	P	06 32 56.6	+1.2		
	baz=264,SNR=22								
SOC	**Sochi**	87.19	313	*e*P	P	06 32 53.5	-2.7		
SOC				*e*		06 36 16.7			
SOC				*e*PPP	PPP	06 38 15.2			
SOC				*e*S	SKSac	06 43 17.4	-4.1		
SOC				*e*SS	SS	06 49 15.0	-3.0		
SOC				*e*SSS	SSS	06 52 46.7			
SOC				pmax	pmax				
	comp=Z,26nm,0.7s								
C23K	**Itkillik River**	87.23	20	P	P	06 32 56.8	+1.1		
C23K				IAmb	IAmb	06 33 21.0			
	comp=Z,22nm,0.9s								
C23K				IAMs_20	IAMs_20	07 12 38.9			
	comp=Z,807nm,19.0s								
C23K	**Itkillik River**	87.23	20	P	P	06 32 56.9	+1.1		
	baz=264,SNR=18								
H23K	**Yukon River**	87.23	24	P	P	06 32 56.9	+0.9		
	baz=265								
I23K	**Minto, Yukon-K**	87.25	25	P	P	06 32 56.4	+0.4		
I23K				IAmb	IAmb	06 33 04.9			
	comp=Z,20nm,0.9s								
I23K				IAMs_20	IAMs_20	07 19 49.6			
	comp=Z,716nm,18.0s								
I23K	**Minto, Yukon-K**	87.25	25	P	P	06 32 56.6	+0.7		
	baz=265								
MCK	**McKinley**	87.32	26	P	P	06 32 57.0	+0.6		
MCK				IAMs_20	IAMs_20	07 13 04.5			
	comp=Z,875nm,21.0s								
MCK	**McKinley**	87.32	26	P	P	06 32 57.0	+0.6		
MCK				pmax	pmax				
	comp=Z,16nm,1.0s								
MCK				MLR	MLR				
	comp=Z,900nm,21.0s								
MCK	**McKinley**	87.32	26	P	P	06 32 56.7	+0.3		
	baz=266								
NEA2	**Nenana**	87.33	25	IAMs_20	IAMs_20	07 08 57.7			
	comp=Z,818nm,21.0s								
NEA2	**Nenana**	87.33	25	P	P	06 32 56.8	+0.4		
	baz=265								
RND	**Reindeer**	87.33	27	P	P	06 32 56.8	+0.2		
RND				IAMs_20	IAMs_20	07 16 21.7			
	comp=Z,981nm,21.0s								
RND	**Reindeer**	87.33	27	P	P	06 32 56.8	+0.2		
RND				pmax	pmax				
	comp=Z,17nm,1.0s								
KNK	**Knik Glacier**	87.37	29	P	P	06 32 56.6	-0.1		
	baz=266								
PWL	**Port Wells**	87.39	29	IAMs_20	IAMs_20	07 07 53.6			
	comp=Z,836nm,20.0s								
PWL	**Port Wells**	87.39	29	P	P	06 32 57.4	+0.6		
	baz=266								
E23K	**Chandalar**	87.41	22	IAmb	IAmb	06 33 04.1			
	comp=Z,25nm,0.9s								
E23K	**Chandalar**	87.41	22	P	P	06 32 57.5	+0.7		
	baz=265,SNR=44								
WAT1	**Susitna Watana**	87.43	27	P	P	06 32 56.9	-0.1		
	baz=266								
TOLK	**Toolik Lake Re**	87.48	21	IAmb	IAmb	06 33 14.2			
	comp=Z,19nm,0.9s								
TOLK	**Toolik Lake Re**	87.48	21	P	P	06 32 57.6	+0.5		
	baz=265,SNR=14								
M23K	**Glacier View**	87.74	28	P	P	06 32 59.5	+1.1		
	baz=267								
VORD	**Divnogorie**	87.74	321	*e*P	P	06 32 57.5	-1.1		
VORD				pmax	pmax				
	comp=Z,20nm,1.0s								
WRH	**Wood River Hil**	87.74	26	P	P	06 32 58.9	+0.5		
WRH				IAmb	IAmb	06 33 18.9			
	comp=Z,24nm,1.2s								
WAT6	**Susitna Watana**	87.78	28	P	P	06 32 59.3	+0.4		
	baz=267								
D24K	**Happy Valley**	87.79	21	IAmb	IAmb	06 33 22.5			
	comp=Z,27nm,0.9s								
D24K				IAMs_20	IAMs_20	07 18 25.8			
	comp=Z,796nm,20.0s								
D24K	**Happy Valley**	87.79	21	P	P	06 32 58.7	+0.1		
	baz=265,SNR=10								
P23K	**Montague Islan**	87.80	30	IAMs_20	IAMs_20	07 09 08.4			
	comp=Z,1µm,22.0s								
P23K	**Montague Islan**	87.80	30	P	P	06 32 58.7	-0.1		
	baz=267								
VORR	**Voronezh**	87.82	322	*e*P	P	06 32 59.0	0.0		
VORR				pmax	pmax				
	comp=Z,57nm,0.4s								
VSR	**Storozhevoye**	87.83	321	*e*P	P	06 32 56.6	-2.5		
VSR				pmax	pmax				
	comp=Z,20nm,0.8s								
E24K	**Your Creek**	87.83	22	P	P	06 32 58.6	-0.3		
E24K	**Your Creek**	87.83	22	P	P	06 32 59.1	+0.2		
	baz=266								
COLA	**College**	87.87	25⇑	*e*P	P	06 32 59.4	+0.5		
COLA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
COLA	**College**	87.87	25	P	P	06 32 59.6	+0.6		
	baz=266								
CCB	**Clear Creek Bu**	87.88	25	IAmb	IAmb	06 33 17.8			
	comp=Z,38nm,1.6s								
C24K	**Franklin Bluff**	87.88	20	IAmb	IAmb	06 33 24.1			
	comp=Z,18nm,0.9s								
C24K				IAMs_20	IAMs_20	07 12 48.1			
	comp=Z,884nm,21.0s								
C24K	**Franklin Bluff**	87.88	20	P	P	06 32 59.5	+0.6		
	baz=266								
H24K	**Noodor Dome**	87.92	24	IAmb	IAmb	06 33 20.5			
	comp=Z,17nm,1.0s								
H24K				IAMs_20	IAMs_20	07 20 16.3			
	comp=Z,754nm,19.0s								
H24K	**Noodor Dome**	87.92	24	P	P	06 33 00.2	+0.9		
	baz=266,SNR=13								
SCM	**Sheep Creek Mo**	87.93	28	IAmb	IAmb	06 33 08.1			
	comp=Z,27nm,0.9s								
SCM				IAMs_20	IAMs_20	07 08 45.8			
	comp=Z,780nm,18.0s								
SCM	**Sheep Creek Mo**	87.93	28	P	P	06 32 60.0	+0.5		
	baz=267								
DHY	**Denali Highway**	87.98	27	IAMs_20	IAMs_20	07 14 38.9			
	comp=Z,845nm,20.0s								
DHY	**Denali Highway**	87.98	27	P	P	06 32 59.8	+0.1		
	baz=267								
GLI	**Glacier Island**	88.00	29	P	P	06 33 00.2	+0.5		
	baz=267								
F24K	**Squaw Lake**	88.02	23	P	P	06 32 59.9	+0.2		
F24K				IAmb	IAmb	06 33 20.6			
	comp=Z,22nm,1.3s								
F24K	**Squaw Lake**	88.02	23	P	P	06 33 01.0	+1.3		
	baz=266,SNR=16								
LPSR	**Galich'ya Gora**	88.03	322	*e*P	P	06 33 05.2	+5.2		
LPSR				pmax	pmax				
	comp=Z,80nm,0.9s								
KLMR	**Klimovskoe**	88.03	331	*e*P	P	06 32 57.9	-1.9		
KLMR				S	SKSac	06 43 22.7	-3.1		
KLMR				pmax	pmax				
	comp=Z,27nm,0.9s								
POKR	**Poker Plat Res**	88.06	25	P	P	06 32 59.6	-0.3		
	baz=267								
G24K	**Hadweenzic Riv**	88.13	23	P	P	06 33 01.4	+1.1		
	baz=267,SNR=14								
KIBK	**Kibwezi**	88.22	268	P	P	06 33 01.4	-0.5		
KIBK				IAmb	IAmb	06 33 23.5			
	comp=Z,46nm,1.5s								
KIBK				IAMs_20	IAMs_20	07 16 03.0			
	comp=Z,1µm,19.0s								
HDA	**Harding Lake**	88.23	26	P	P	06 33 00.7	0.0		
	baz=267								
ILAR	**Eielson Array**	88.28	25	P	P	06 33 00.6	-0.3		
ILAR	**Eielson Array**	88.28	25	P	P	06 33 00.2	-0.8		
	comp=Z,1.5nm,0.6s,baz=247,slow=5.1,SNR=20								
ILAR				PKKPbc	PKKPbc	06 50 46.1	-1.1		
	comp=Z,0.5nm,0.9s,baz=59,slow=1.4,SNR=4.4								
ILAR				LR	LR	07 13 59.2			
	comp=Z,238nm,19.2s,baz=242,slow=36								
	comp=Z,1.5nm,0.6s								
ILAR	**Eielson Array**	88.28	25	P	P	06 33 00.6	-0.3		
Q23K	**Middleton Isla**	88.31	31	P	P	06 33 00.6	-0.5		
	baz=268								
M24K	**Tolsona, Glenn**	88.49	28	IAmb	IAmb	06 33 31.8			
	comp=Z,30nm,0.8s								
M24K				IAMs_20	IAMs_20	07 08 25.5			
	comp=Z,984nm,22.0s								
M

E25K Arctic Village 88.93 22 P P 06 33 05.2 +1.2
baz=268,SNR=16
GAZ Gaziantep 88.97 307 P P 06 33 05.0 +0.1
HARP HAARP 88.97 28 P P 06 33 05.0 +0.7
baz=269
KMBO Kilima Mbogo 89.00 269 P P 06 33 05.2 -0.5
KMBO IAmb IAmb 06 33 26.9
comp=Z,33nm,1.3s
KMBO Kilima Mbogo 89.00 269 IAMs_20 IAMs_20 07 07 36.7
comp=Z,1μm,20.0s
KMBO Kilima Mbogo 89.00 269 P P 06 33 05.2 -0.5
KMBO pmax pmax
comp=Z,33nm,1.3s
FYU Fort Yukon 89.02 24 IAmb IAmb 06 33 25.2
comp=Z,38nm,1.5s
RIDG Independent Ri 89.14 26 P P 06 33 05.0 0.0
RIDG IAmb IAmb 06 33 13.3
comp=Z,16nm,0.8s
RIDG IAMs_20 IAMs_20 07 09 59.5
comp=Z,1μm,22.0s
RIDG Independent Ri 89.14 26 P P 06 33 05.7 +0.7
baz=269
RAGM Ragged Mountai 89.18 30 IAMs_20 IAMs_20 07 13 47.7
comp=Z,1μm,22.0s
SYO Syowa Base 89.19 201 ǁ *i*P P 06 33 06.4 +1.3
SYO Syowa Base 89.19 201 ǁ *i*PcP PcP 06 33 08.0 +1.5
SYO Syowa Base 89.19 201 ǁ *e*pP pP 06 33 09.6 -4.8
C26K Camden Bay 89.20 20 P P 06 33 05.5 +0.3
baz=269
BMRM Bremner River 89.22 29 P P 06 33 05.4 -0.1
baz=269
N25K Chitina, Valde 89.23 29 P P 06 33 05.1 -0.5
N25K IAmb IAmb 06 33 26.9
comp=Z,28nm,1.4s
N25K Chitina, Valde 89.23 29 P P 06 33 05.5 -0.1
baz=269
BMAR Burnt Mountain 89.29 23 P P 06 33 05.9 +0.2
KAIM Kayak Island 89.30 30 P P 06 33 04.9 -0.9
baz=270
F26K Sheenjek River 89.46 22 P P 06 33 06.1 -0.4
F26K IAmb IAmb 06 34 16.9
comp=Z,13nm,0.4s
F26K Sheenjek River 89.46 22 P P 06 33 07.1 +0.6
baz=270,SNR=11
OBN Obninsk 89.47 325 ǁ *e*P P 06 33 06.1 -0.6
OBN *e* 06 33 17.0
OBN *e* 06 36 36.8
OBN *e*PPP PPP 06 38 34.9
OBN *e*S **SKSac** 06 43 33.4 -1.2
OBN *e*SSS SSS 06 53 27.4
OBN pmax pmax
comp=Z,58nm,1.1s
OBN MLR MLR
comp=Z,1μm,17.0s
DOT Dot Lake 89.49 27 P P 06 33 07.5 +0.8
DOT IAMs_20 IAMs_20 07 15 10.7
comp=Z,1μm,20.0s
SCRK Sand Creek 89.52 26 IAMs_20 IAMs_20 07 10 12.6
comp=Z,1μm,22.0s
SCRK Sand Creek 89.52 26 P P 06 33 06.7 -0.2
baz=270
G26K Porcupine Rive 89.60 23 P P 06 33 07.0 -0.1
baz=270
C27K Jago River 89.62 20 IAmb IAmb 06 33 24.2
comp=Z,16nm,0.8s
C27K IAMs_20 IAMs_20 07 12 36.1
comp=Z,809nm,20.0s
C27K Jago River 89.62 20 P P 06 33 08.1 +1.0
baz=270,SNR=19
SUCK Suckling Hills 89.62 30 IAMs_20 IAMs_20 07 10 04.6
comp=Z,1μm,21.0s
BERG Berg Lake 89.66 30 IAMs_20 IAMs_20 07 10 11.6
comp=Z,1μm,22.0s
J26L Joseph Creek 89.70 26 P P 06 33 07.8 +0.1
J26L IAMs_20 IAMs_20 07 11 42.5
comp=Z,841nm,22.0s
J26L Joseph Creek 89.70 26 P P 06 33 07.7 -0.1
baz=270
L26K Log Cabin Wild 89.81 27 P P 06 33 09.5 +1.3
L26K Log Cabin Wild 89.81 27 P P 06 33 08.2 0.0
baz=270
I26K Coal Creek Min 89.87 25 P P 06 33 08.2 -0.2
baz=271
CRQE Cirque 89.96 29 P P 06 33 10.0 +0.9
baz=271
M26K Nabesna, AK 89.98 28 IAMs_20 IAMs_20 07 15 42.9
comp=Z,848nm,22.0s
M26K Nabesna, AK 89.98 28 P P 06 33 10.1 +1.0
baz=271
MCARA McCarthy VSAT 89.98 29 P P 06 33 09.7 +0.7
baz=271
WAX Waxell Ridge 90.08 30 IAMs_20 IAMs_20 07 07 12.6
comp=Z,1μm,21.0s
LVZ Lovozero 90.21 338 IAMs_20 IAMs_20 07 17 03.2
comp=Z,1μm,20.0s
QSPA South Pole Qui 90.35 180 P P 06 33 11.6 +0.8
QSPA IAmb IAmb 06 33 15.0
comp=Z,24nm,0.8s
QSPA South Pole Qui 90.35 180 IAMs_20 IAMs_20 07 18 24.8
comp=Z,1μm,20.0s
QSPA South Pole Qui 90.35 180 P P 06 33 11.2 +0.4
comp=Z,22nm,0.9s,baz=308,slow=1.8,SNR=46
QSPA S **SKSac** 06 43 38.5 -1.1
comp=Z,1.4nm,1.0s,baz=315,slow=4.3,SNR=5.6
QSPA LR LR 07 14 00.6
comp=Z,1μm,21.1s,baz=359,slow=36
comp=Z,22nm,0.9s
K27K Chicken 90.36 26 IAmb IAmb 06 33 32.0
comp=Z,43nm,1.2s
K27K IAMs_20 IAMs_20 07 16 21.0
comp=Z,945nm,21.0s
K27K Chicken 90.36 26 P P 06 33 12.3 +1.5
baz=272
E27K Coleen River 90.42 22 P P 06 33 11.7 +0.7
E27K IAmb IAmb 06 33 31.8
comp=Z,28nm,1.4s
E27K Coleen River 90.42 22 P P 06 33 12.0 +1.1
baz=272,SNR=20
G27K Doyon Strip 90.44 23 IAmb IAmb 06 33 32.2
comp=Z,44nm,1.9s
G27K Doyon Strip 90.44 23 P P 06 33 12.4 +1.3
baz=272,SNR=6.8
MMAI Mount Meron Ar 90.47 303 P P 06 33 10.6 -1.5
comp=Z,0.4nm,0.3s,baz=177,slow=5.3,SNR=2.1
comp=Z,0.4nm,0.3s
L27K Beaver Creek, 90.50 27 IAMs_20 IAMs_20 07 18 50.7
comp=Z,783nm,20.0s
L27K Beaver Creek, 90.50 27 P P 06 33 12.4 +1.0
baz=272,SNR=20
M27K Edge Creek, AK 90.50 28 IAmb IAmb 06 33 31.4
comp=Z,32nm,1.6s
M27K Edge Creek, AK 90.50 28 P P 06 33 12.4 +0.8
baz=272
I27K Kandik River 90.50 25 P P 06 33 12.0 +0.6
baz=272,SNR=13
H27K Steamboat Moun 90.52 24 IAmb IAmb 06 33 34.2
comp=Z,34nm,1.6s
H27K IAMs_20 IAMs_20 07 13 02.9
comp=Z,783nm,19.0s
H27K Steamboat Moun 90.52 24 P P 06 33 11.9 +0.5
baz=272,SNR=8.7
BCAR Beaver Creek A 90.52 27 P P 06 33 11.1 -0.4
MESA MESA 90.54 30 IAMs_20 IAMs_20 07 13 40.7
comp=Z,861nm,21.0s
MESA MESA 90.54 30 P P 06 33 11.6 -0.3
baz=272
D27M Malcolm River 90.60 21 P P 06 33 12.7 +0.8
baz=273
GRNC Granite Creek 90.62 29 IAmb IAmb 06 33 33.9
comp=Z,19nm,1.1s
YAH Yahtse 90.63 30 P P 06 33 11.4 -1.0
YAH IAmb IAmb 06 33 33.4
comp=Z,50nm,1.5s
YAH IAMs_20 IAMs_20 07 18 25.2
comp=Z,744nm,20.0s
BARN Barnard Glacie 90.65 29 IAmb IAmb 06 33 23.2
comp=Z,22nm,0.9s
APA Apatity 90.70 337 ǁ *i*P P 06 32 59.1 -13
APA *e* 06 43 45.1
APA *i*S **S** **06 43 57.5 -8.4**
APA *i*SS SS 06 50 21.8 +14
APA MLR MLR
comp=Z,3μm,31.3s
CTG Chitna Glacier 90.81 29 P P 06 33 13.0 0.0
baz=272
TABL Table Mountain 90.93 30 IAMs_20 IAMs_20 07 13 31.2
comp=Z,967nm,22.0s

BVCY Beaver Creek 90.97 28 P P 06 33 14.4 +0.7
baz=273
F28M Old Crow 91.10 22 IAmb IAmb 06 33 34.6
comp=Z,40nm,1.6s
F28M Old Crow 91.10 22 P P 06 33 14.6 +0.5
baz=274,SNR=12
E28M Babbage River 91.16 21 IAmb IAmb 06 33 35.7
comp=Z,59nm,1.7s
E28M Babbage River 91.16 21 P P 06 33 14.4 +0.1
baz=274,SNR=19
YUK3 Moose Creek 91.19 28 P P 06 33 15.1 +0.2
baz=273
I28M Miner Creek 91.21 25 IAMs_20 IAMs_20 07 16 11.3
comp=Z,723nm,20.0s
I28M Miner Creek 91.21 25 P P 06 33 15.4 +0.6
baz=274,SNR=14
SIM Simferopol' 91.21 315 *e*P P 06 33 19.2 +4.1
SIM *e* 06 36 54.0
SIM *e* 06 43 38.0
SIM *e*S **S** **06 44 15.0 +3.5**
SIM pmax pmax
comp=Z,60nm,5.7s
SIM pmax pmax
comp=Z,17nm,0.7s
SIM pmax pmax
comp=Z,40nm,6.5s
SIM MLR MLR
comp=Z,4μm,13.0s
O28M Mount Upton 91.38 29 IAmb IAmb 06 33 37.4
comp=Z,19nm,1.1s
O28M Mount Upton 91.38 29 P P 06 33 16.5 +0.6
baz=273
D28M Stokes Point 91.39 21 P P 06 33 16.5 +1.2
baz=275
PINM Pinnacle 91.39 30 P P 06 33 15.7 0.0
baz=273
DAWY Dawson 91.54 26 P P 06 33 16.9 +0.6
DAWY IAmb IAmb 06 33 36.8
comp=Z,22nm,1.3s
DAWY IAMs_20 IAMs_20 07 16 44.0
comp=Z,777nm,20.0s
DAWY Dawson 91.54 26 P P 06 33 17.0 +0.7
baz=274,SNR=8.9
YUK8 Steele Glacier 91.56 29 P P 06 33 17.1 +0.4
baz=274
BR104 Keskin Array S 91.74 310 P P 06 33 16.9 -0.9
comp=Z,44nmcomp=Z,5.8nm,0.8s
BR131 Keskin Array S 91.74 310 P P 06 33 17.4 -0.4
BR131 Keskin Array S 91.74 310 P P 06 33 17.5 -0.4
BR131 pmax pmax
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 91.74 310 P P 06 33 16.3 -1.6
BRTR Keskin Array B 91.74 310 P P 06 33 17.2 -0.7
comp=Z,1.9nm,0.8s,baz=116,slow=5.6,SNR=7.2
comp=Z,1.9nm,0.8s
BRTR Keskin Array B 91.74 310 *i*P P 06 33 17.5 -0.4
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BR106 Keskin Array S 91.75 310 P P 06 33 17.0 -0.9
comp=Z,52nmcomp=Z,6.9nm,0.8s
BR105 Keskin Array S 91.75 310 P P 06 33 16.5 -1.4
comp=Z,56nmcomp=Z,7.7nm,0.8s
E29M Blow River 91.78 22 IAmb IAmb 06 33 37.5
comp=Z,22nm,1.4s
E29M Blow River 91.78 22 P P 06 33 18.1 +0.9
baz=276,SNR=8.9
H29M Whitestone 91.80 24 IAmb IAmb 06 33 59.8
comp=Z,59nm,2.0s
H29M IAMs_20 IAMs_20 07 11 34.7
comp=Z,792nm,22.0s
H29M Whitestone 91.80 24 P P 06 33 17.7 +0.3
baz=275
PNL Peninsula 91.85 30 P P 06 33 18.0 +0.3
baz=274
G29M Pine Creek 91.87 23 IAMs_20 IAMs_20 07 14 01.6
comp=Z,679nm,19.0s
G29M Pine Creek 91.87 23 P P 06 33 19.4 +1.7
baz=275,SNR=13
I29M Ogilvie Camp, 91.90 25 IAmb IAmb 06 33 37.4
comp=Z,26nm,1.2s
I29M Ogilvie Camp, 91.90 25 P P 06 33 19.6 +1.7
baz=275,SNR=11
J29N Klondike Camp 92.02 26 IAMs_20 IAMs_20 07 13 14.7
comp=Z,1μm,22.0s
M29M Somme Creek 92.08 28 IAmb IAmb 06 33 40.1
comp=Z,20nm,1.2s
M29M IAMs_20 IAMs_20 07 14 04.5
comp=Z,935nm,22.0s
M29M Somme Creek 92.08 28 P P 06 33 20.4 +1.5
baz=275,SNR=13
YUK4 Talbot Arm 92.09 29 P P 06 33 19.7 +0.6
baz=275
CSS Mathiatis 92.15 305 P P 06 33 18.4 -1.3
CSS IAmb IAmb 06 33 32.5
comp=Z,19nm,0.9s
L29M L29M 92.18 27 IAmb IAmb 06 33 40.5
comp=Z,40nm,1.2s
L29M IAMs_20 IAMs_20 07 16 55.0
comp=Z,844nm,22.0s
L29M L29M 92.18 27 P P 06 33 20.5 +1.3
baz=275,SNR=29
O29M Mount Kennedy 92.21 30 P P 06 33 20.4 +0.8
baz=275
YUK6 Outpost Mounta 92.26 29 P P 06 33 20.5 +0.6
baz=275
K29M Barlow Dome 92.38 26 IAmb IAmb 06 33 41.9
comp=Z,45nm,1.6s
K29M IAMs_20 IAMs_20 07 17 21.3
comp=Z,881nm,21.0s
K29M Barlow Dome 92.38 26 P P 06 33 21.4 +1.2
baz=276,SNR=9.2
EPYK Eagle Plains 92.44 24 IAmb IAmb 06 33 40.5
comp=Z,42nm,1.4s
EPYK Eagle Plains 92.44 24 P P 06 33 22.4 +2.0
baz=277,SNR=10
G30M tAoh Zraii Nji 92.57 23 P P 06 33 21.2 +0.3
G30M IAmb IAmb 06 33 40.5
comp=Z,30nm,1.4s
G30M IAMs_20 IAMs_20 07 23 07.1
comp=Z,834nm,22.0s
G30M tAoh Zraii Nji 92.57 23 P P 06 33 22.6 +1.6
baz=277,SNR=7.7
F30M Barrier River 92.65 22 P P 06 33 21.8 +0.5
baz=278,SNR=7.3
HYT Haines Junctio 92.69 29 IAmb IAmb 06 33 43.4
comp=Z,28nm,1.4s
HYT IAMs_20 IAMs_20 07 11 55.6
comp=Z,1μm,22.0s
HYT Haines Junctio 92.69 29 P P 06 33 22.6 +0.8
baz=276,SNR=9.0
P29M Windy Craggy 92.69 30 IAmb IAmb 06 33 35.3
comp=Z,28nm,1.1s
P29M Wiy Craggy 92.69 30 P P 06 33 21.6 -0.1
baz=275
I30M Mount Dempster 92.72 25 P P 06 33 22.3 +0.5
baz=277
J30M Hart River 92.82 25 IAmb IAmb 06 33 43.0
comp=Z,29nm,1.4s
J30M Hart River 92.82 25 P P 06 33 23.2 +1.0
baz=277,SNR=10
N30M Aishikik Lake 92.83 29 IAmb IAmb 06 33 42.5
comp=Z,26nm,1.4s
N30M Aishikik Lake 92.83 29 P P 06 33 23.6 +1.3
baz=276,SNR=9.1
M30M Minto, Yukon 92.84 27 IAmb IAmb 06 33 31.2
comp=Z,31nm,1.4s
M30M IAMs_20 IAMs_20 07 14 15.5
comp=Z,950nm,21.0s
M30M Minto, Yukon 92.84 27 P P 06 33 24.2 +1.9
baz=276,SNR=12
P30M Million Dollar 93.03 30 P P 06 33 23.5 +0.3
baz=276
MAYO Mayo, Yukon 93.13 26 P P 06 33 24.0 +0.4
G31M Satah River 93.34 23 P P 06 33 23.9 -0.4
G31M IAMs_20 IAMs_20 07 23 48.4
comp=Z,720nm,19.0s
G31M Satah River 93.34 23 P P 06 33 25.7 +1.3
baz=279,SNR=8.8
ARCES ARCESS Array B 93.36 340 P P 06 33 24.3 -0.2
ARCES IAmb IAmb 06 33 39.0
comp=Z,23nm,1.1s
ARCES ARCESS Array B 93.36 340 P P 06 33 24.1 -0.4
comp=Z,8.6nm,0.7s,baz=81,slow=3.6,SNR=17
comp=Z,8.6nm,0.7s
ARCES ARCESS Array B 93.36 340 P P 06 33 24.3 -0.2
ARCES pmax pmax
comp=Z,23nm,1.2s
O30N Mendenhall 93.39 29 IAmb IAmb 06 33 45.7
comp=Z,25nm,1.4s
O30N IAMs_20 IAMs_20 07 15 34.0
comp=Z,918nm,21.0s
O30N Mendenhall 93.39 29 P P 06 33 25.4 +0.6
baz=277
INK Inuvik 93.39 22 P P 06 33 24.6 0.0
INK IAmb IAmb 06 33 27.3
comp=Z,24nm,1.2s
INK Inuvik 93.39 22 P P 06 33 24.6 0.0
INK pmax pmax
comp=Z,24nm,1.3s
INK MLR MLR
comp=Z,600nm,22.0s
INK Inuvik 93.39 22 P P 06 33 25.5 +0.8
baz=280
PLBC Pleasant Camp 93.40 30 P P 06 33 25.4 +0.5
baz=277
N31M Braeburn, Yuko 93.45 28 IAmb IAmb 06 33 36.2
comp=Z,24nm,1.1s
N31M IAMs_20 IAMs_20 07 13 21.6
comp=Z,1μm,21.0s
N31M Braeburn, Yuko 93.45 28 P P 06 33 26.1 +1.0
baz=277,SNR=7.0
F31M Tsiigehtchic 93.46 22 P P 06 33 25.5 +0.6
baz=279,SNR=10
H31M Peel River 93.48 24 IAmb IAmb 06 33 44.3
comp=Z,18nm,1.2s
H31M IAMs_20 IAMs_20 07 13 00.2
comp=Z,783nm,20.0s
H31M Peel River 93.48 24 P P 06 33 25.4 +0.2
baz=279
SPB2 Spitsbergen Ar 93.60 349 P P 06 33 25.4 -0.1
SPB2 IAmb IAmb 06 33 26.8
comp=Z,19nm,1.0s
SPITS Spitsbergen Ar 93.60 349 P P 06 33 23.8 -1.7
comp=Z,7.9nm,0.9s,baz=106,slow=11,SNR=8.8
comp=Z,7.9nm,0.9s
SPITS Spitsbergen Ar 93.60 349 P P 06 33 25.4 -0.1
SPITS pmax pmax
comp=Z,27nm,1.1s
TAOE Nuku Hiva Isla 93.63 99 *e*S S 06 44 31.2 -3.3
comp=Z,261nm,26.4s
TAOE *e*SS SS 06 50 51.5 -1.4
comp=Z,306nm,31.0s
TAOE *e*LQ LQ 06 59 30.2
comp=Z,704nm,28.2s
TAOE *e*LR LR 07 03 30.8
comp=Z,1μm,22.7s
S31K Pelican 93.64 32 P P 06 33 25.6 -0.4
baz=277
SKAG Skagway 93.93 30 IAmb IAmb 06 33 40.6
comp=Z,15nm,1.0s
SKAG IAMs_20 IAMs_20 07 13 39.4
comp=Z,882nm,21.0s
SKAG Skagway 93.93 30 P P 06 33 27.6 +0.3
baz=278
WHY Whitehorse 93.99 29 P P 06 33 28.2 +0.4
WHY IAMs_20 IAMs_20 07 18 24.9
comp=Z,2μm,19.0s
WHY Whitehorse 93.99 29 P P 06 33 28.6 +0.9
baz=278,SNR=8.5
M31M Drury Creek, Y 94.00 28 IAMs_20 IAMs_20 07 16 55.2
comp=Z,920nm,22.0s
M31M Drury Creek, Y 94.00 28 P P 06 33 28.0 +0.4
baz=278,SNR=12
AK09 Malin Array Si 94.10 321 P P 06 33 27.4 -0.9
AKASG Malin Array Be 94.13 321 P P 06 33 27.7 -0.7
AKASG Malin Array Be 94.13 321 P P 06 33 27.2 -1.2
comp=Z,0.9nm,0.7s,baz=76,slow=3.6,SNR=9.0
AKASG LR LR 07 20 31.5
comp=Z,5μm,18.1s,baz=132,slow=38
comp=Z,0.9nm,0.7s
AKASG Malin Array Be 94.13 321 *i*P P 06 33 28.0 -0.4
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKBB Malin Array Si 94.13 321 P P 06 33 27.6 -0.7
AKBB Malin Array Si 94.13 321 ⇑ *e*P P 06 33 27.7 -0.7
KIEV Kiev 94.14 321 P P 06 33 27.8 -0.7
KIEV Kiev 94.14 321 P P 06 33 27.8 -0.7
KIEV pmax pmax
comp=Z,8.0nm,1.0s
KBS Kingsbay 94.15 350 P P 06 33 27.2 -0.8
KBS IAMs_20 IAMs_20 07 21 21.8
comp=Z,2μm,21.0s
KBS Kingsbay 94.15 350 P P 06 33 27.2 -0.8
KBS pmax pmax
comp=Z,7.0nm,0.8s
KBS Kingsbay 94.15 350 *i*P P 06 33 28.7 +0.7
HSPB Hornsund (broa 94.18 348 *e*P P 06 33 28.3 +0.2
POGA Pongola 94.23 243 P P 06 33 28.0 -1.4
POGA IAMs_20 IAMs_20 07 10 39.2
comp=Z,1μm,20.0s
SIT Sitka 94.24 33 IAMs_20 IAMs_20 07 15 14.8
comp=Z,811nm,19.0s
SIT Sitka 94.24 33 P P 06 33 29.6 +0.9
baz=277
FARO Faro, Yukon 94.48 28 P P 06 33 29.5 -0.4
FARO IAMs_20 IAMs_20 07 17 10.8
comp=Z,909nm,22.0s
FARO Faro, Yukon 94.48 28 P P 06 33 30.5 +0.7
baz=279,SNR=12
FINES FINESS Array B 94.49 332 P P 06 33 27.9 -1.9
comp=Z,2.0nm,0.7s,baz=76,slow=8.0,SNR=5.0
FINES PP **PP** **06 37 19.4 +1.9**
comp=Z,1.9nm,0.9s,baz=93,slow=4.2,SNR=3.4
comp=Z,2.0nm,0.7s
FINES FINESS Array B 94.49 332 *i*P P 06 33 31.8 +2.0
FINES pmax pmax
comp=Z,2.0nm,0.7s
R32K Eaglecrest 94.51 32 P P 06 33 29.9 -0.1
baz=278
MNK Minsk 94.52 325 *i*P P 06 33 28.3 -1.8
MNK *i* 06 37 17.2
MNK *i*S **SKSac** **06 43 57.2 -5.9**
MNK *i*PS **PS** **06 46 01.2 +1.3**
MNK *i*SS **SS** **06 51 06.2 +3.1**
MNK *i*SSS SSS 06 54 49.1
MNK pmax pmax
comp=Z,6.0nm,0.5s
MNK pmax pmax
comp=N,18nm,1.1s
MNK pmax pmax
comp=E,17nm,0.6s
MNK pmax pmax
comp=Z,6μm,16.0s
MNK pmax pmax
comp=N,3μm,14.0s
MNK pmax pmax
comp=E,4μm,15.0s
S32K Killisnoo 94.59 32 IAMs_20 IAMs_20 07 10 59.0
comp=Z,1μm,22.0s
S32K Killisnoo 94.59 32 P P 06 33 30.7 +0.4
baz=278
P32M Atlin 94.72 30 P P 06 33 31.0 0.0
P32M Atlin 94.72 30 P P 06 33 31.2 +0.2
baz=279
N32M Quiet Lake 94.78 29 IAMs_20 IAMs_20 07 13 13.9
comp=Z,931nm,22.0s
N32M Quiet Lake 94.78 29 P P 06 33 31.7 +0.4
baz=280
P33M Teslin, Yukon 95.07 29 P P 06 33 32.0 -0.6
P33M IAMs_20 IAMs_20 07 19 07.5
comp=Z,783nm,21.0s
P33M Teslin, Yukon 95.07 29 P P 06 33 33.0 +0.3
baz=280
A36M Sachs Harbour 95.27 17 P P 06 33 33.4 +0.2
baz=288
MMPY Sheldon Lake, 95.36 27 P P 06 33 33.4 -0.5
MMPY IAmb IAmb 06 33 42.7
comp=Z,31nm,1.2s
MMPY IAMs_20 IAMs_20 07 20 24.2
comp=Z,778nm,22.0s
MMPY Sheldon Lake, 95.36 27 P P 06 33 34.2 +0.3
baz=281,SNR=16
Q32M Nakina River 95.56 31 IAmb IAmb 06 34 08.9
comp=Z,40nm,1.9s
Q32M IAMs_20 IAMs_20 07 14 14.6
comp=Z,765nm,22.0s
Q32M Nakina River 95.56 31 P P 06 33 35.2 +0.1
baz=280
U33K Whale Pass 95.58 34 IAMs_20 IAMs_20 07 18 10.3
comp=Z,694nm,19.0s
U33K Whale Pass 95.58 34 P P 06 33 34.2 -0.7
baz=279
CRAG Craig 95.68 34 P P 06 33 35.2 -0.2
baz=279
WRAK Wrangell Islan 95.96 33 P P 06 33 36.0 -0.7

baz=280
R33M Jennings River 96.14 30 P P 06 33 38.1 +0.5
R33M IAmb IAmb 06 33 58.7
comp=Z,19nm,1.2s
R33M IAMs_20 IAMs_20 07 14 38.8
comp=Z,750nm,21.0s
R33M Jennings River 96.14 30 P P 06 33 36.8 -0.8
baz=281
NOR Nord 96.32 355 *i* P **P 06 33 38.5 +0.7**
NOR IAmb IAmb 06 33 39.1
comp=Z,24nm,1.6s
S34M Telegraph Cree 96.34 32 IAMs_20 IAMs_20 07 24 43.3
comp=Z,625nm,18.0s
S34M Telegraph Cree 96.34 32 P P 06 33 38.4 +0.1
baz=281
V35K Ketchikan 96.55 34 P P 06 33 39.1 -0.3
baz=280
MOBC Moresby Island 96.73 36 IAMs_20 IAMs_20 07 12 35.9
comp=Z,1µm,22.0s
DLBC Dease Lake 96.81 31 P P 06 33 40.4 -0.2
baz=282
MLR Muntele Rosu 96.92 316 P P 06 33 40.9 -0.6
MLR IAmb IAmb 06 34 02.7
comp=Z,15nm,1.2s
MLR Muntele Rosu 96.92 316 LR LR 07 21 58.3
comp=Z,3µm,20.9s,baz=103,slow=38
MLR Muntele Rosu 96.92 316 P P 06 33 40.9 -0.6
MLR pmax pmax
comp=Z,15nm,1.2s
MLR MLR MLR
comp=Z,9µm,18.0s
TGTN Hyland Airport 96.98 28 P P 06 33 41.5 +0.2
baz=284
T35M Bob Quinn 96.99 32 IAMs_20 IAMs_20 07 16 48.5
comp=Z,754nm,22.0s
T35M Bob Quinn 96.99 32 P P 06 33 41.6 +0.3
baz=282
WTLY Watson Lake, Y 97.06 29 IAMs_20 IAMs_20 07 15 25.1
comp=Z,938nm,22.0s
BURAR Bucovina Array 97.12 318 P P 06 33 41.3 -1.0
BURAR IAmb IAmb 06 34 04.2
comp=Z,9.7nm,0.9s
BUR08 Bucovina Ar. S 97.13 318 P Pdif 06 33 42.6 +0.2
BUR08 IAmb IAmb 06 34 03.9
comp=Z,15nm,1.1s
SUW Suwalki 97.32 325 *eP* **P 06 33 42.2 -0.7**
SUW Suwalki 97.32 325 P **P 06 33 42.2 -0.7**
SUW Suwalki 97.32 325 P **P 06 33 42.2 -0.7**
SUW MLR MLR
comp=Z,7µm,20.0s
U35K Hyder 97.33 33 IAMs_20 IAMs_20 07 20 15.5
comp=Z,876nm,22.0s
HG4B Hotspring 97.34 37 IAMs_20 IAMs_20 07 21 55.0
comp=Z,774nm,22.0s
KWP Kalwaria Pacla 98.43 320 *eP* Pdif 06 33 48.0 0.0
WRGLY Wrigley 98.66 25 IAMs_20 IAMs_20 07 23 41.2
comp=Z,1µm,22.0s
BEL Belsk 99.18 323 *eP* **Pdif 06 33 46.8 -4.5**
BBB Bella Bella 99.22 37 IAMs_20 IAMs_20 07 18 52.7
comp=Z,1µm,22.0s
STHS Stebnicka Huta 99.41 320 *e*PP **PP 06 37 51.4 -4.3**
HOLB Holberg 99.54 38 IAMs_20 IAMs_20 07 20 16.4
comp=Z,939nm,20.0s
LPHEP Lephephe 99.70 246 IAMs_20 IAMs_20 07 14 37.5
comp=Z,1µm,22.0s
NIE Niedzica 100.01 320 *e*P **Pdif 06 33 57.1 +2.0**
TROLL Troll, Antarti 100.34 195 ⇑P **Pdif 06 33 58.9 +2.7**
comp=Z,94nm,0.8s
DAG Danmarks Havn 100.44 352 *i* P **Pdif 06 33 57.9 +1.6**
DAG IAmb IAmb 06 33 58.4
comp=Z,16nm,1.4s
HFS Hagfors 100.69 332 Pdiff **Pdif 06 33 56.9 -0.9**
comp=Z,3.0nm,1.0s,baz=151,slow=3.3,SNR=2.6
KDWAN Kaudwane 100.80 246 IAMs_20 IAMs_20 07 15 21.5
comp=Z,1µm,22.0s
RES Resolute Bay 101.13 10 IAMs_20 IAMs_20 07 24 09.9
comp=Z,641nm,20.0s
PHDHD Phuduhudu 101.13 250 IAMs_20 IAMs_20 07 19 22.6
comp=Z,1µm,22.0s
CBB Campbell River 101.41 39 IAMs_20 IAMs_20 07 17 08.8
comp=Z,784nm,21.0s
NB2 NORSAR Subarra 101.50 333 P **Pdif 06 34 00.2 -1.3**
comp=Z,8.8nm,1.7s,baz=69,slow=4.4
NB2 NORSAR Subarra 101.50 333 P **Pdif 06 34 00.2 -1.3**
baz=69,slow=4.4
NOA NORSAR Array B 101.50 333 Pdiff **Pdif 06 34 00.2 -1.3**
comp=Z,1.3nm,0.8s,baz=69,slow=4.5,SNR=4.8
NC204 NORSAR Array S 101.61 334 Pdif **Pdif 06 34 00.6 -1.4**
SNAA Sanae 101.91 195 ⇑P **Pdif 06 34 06.4 +3.2**
comp=Z,37nm,0.7s
SNAA Sanae 101.91 195 IAMs_20 IAMs_20 07 18 36.6
comp=Z,1µm,21.0s
SNAA Sanae 101.91 195 Pdiff **Pdif 06 34 04.6 +1.5**
comp=Z,1.9nm,0.9s,baz=216,slow=7.1,SNR=7.8
SNAA PKKPbc **PKKPbc 06 50 08.9 -2.0**
comp=Z,1.7nm,1.1s,baz=171,slow=9.4,SNR=3.1
BELA Belgrano 2 101.94 184 Pdif **Pdif 06 34 04.7 +1.6**
BELA IAMs_20 IAMs_20 07 26 42.0
comp=Z,1µm,20.0s
NEEM North Greenlan 102.20 359 *i* P **Pdif 06 34 04.3 -0.3**
NEEM IAmb IAmb 06 34 09.6
comp=Z,6.1nm,0.8s
CLRS Cowichan Lake 102.50 40 IAMs_20 IAMs_20 07 13 36.7
comp=Z,1µm,22.0s
TULEG Thule 102.65 4 IAMs_20 IAMs_20 07 29 02.1
comp=Z,731nm,21.0s
TULEG Thule 102.65 4 *i* P **Pdif 06 34 04.7 -1.5**
TULEG IAmb IAmb 06 34 06.2
comp=Z,14nm,1.1s
DBG Daneborg 102.69 351 *i* P **Pdif 06 34 15.6 +9.1**
DBG IAmb IAmb 06 34 17.0
comp=Z,9.6nm,1.1s
PGC Sidney 102.98 40 IAMs_20 IAMs_20 07 19 27.4
comp=Z,760nm,20.0s
NLWA Neilton Lookou 103.05 41 IAMs_20 IAMs_20 07 17 53.2
comp=Z,779nm,22.0s
KGCAE Kacgae 103.09 247 IAMs_20 IAMs_20 07 21 07.4
comp=Z,1µm,21.0s
WISH Wishkah 103.18 41 IAMs_20 IAMs_20 07 14 02.9
comp=Z,907nm,19.0s
RADR Rader Ridge 103.34 42 IAMs_20 IAMs_20 07 15 10.2
comp=Z,737nm,22.0s
GMARE Gumare 103.42 250 IAMs_20 IAMs_20 07 19 52.2
comp=Z,1µm,22.0s
A04D Lummi Island 103.44 39 IAMs_20 IAMs_20 07 14 03.4
comp=Z,1µm,22.0s
E03A Lebam 103.47 42 IAMs_20 IAMs_20 07 15 14.5
comp=Z,837nm,21.0s
BRG Berggiesshubel 103.57 323 *e*P PKiKP 06 38 21.0 -8.3
F03A Seaside 103.63 42 IAMs_20 IAMs_20 07 15 14.9
comp=Z,859nm,22.0s
GNW Green Mountain 103.68 41 IAMs_20 IAMs_20 07 18 36.0
comp=Z,1µm,20.0s
HEBO Mount Hebo 103.68 43 IAMs_20 IAMs_20 07 13 34.3
comp=Z,956nm,21.0s
LKGWB Lokgwabe 103.88 245 IAMs_20 IAMs_20 07 19 28.4
comp=Z,1µm,21.0s
I02E Swisshome, OR 103.90 44 IAMs_20 IAMs_20 07 16 52.1
comp=Z,893nm,22.0s
F04D Rainier, OR 103.96 42 IAMs_20 IAMs_20 07 15 04.6
comp=Z,854nm,22.0s
CLL Collm 104.00 324 *e*P **Pdif 06 34 25.0 +12**
G03D McMinnville, O 104.02 43 IAMs_20 IAMs_20 07 20 05.2
comp=Z,861nm,22.0s
J01E Myrtle Point 104.07 45 IAMs_20 IAMs_20 07 22 39.6
comp=Z,774nm,20.0s
KBO Bosley Butte 104.09 46 IAMs_20 IAMs_20 07 13 12.3
comp=Z,1µm,21.0s
COR Corvallis 104.16 44 IAMs_20 IAMs_20 07 16 50.8
comp=Z,1µm,22.0s
D05A Enumclaw 104.33 41 IAMs_20 IAMs_20 07 14 40.3
comp=Z,1µm,22.0s
QNGWA Qangwa 104.34 250 IAMs_20 IAMs_20 07 18 18.5
comp=Z,1µm,20.0s
GERES GERESS Array B 104.34 321 Pdiff **Pdif 06 34 13.4 -1.0**
comp=Z,0.3nm,0.2s,baz=151,slow=2.2,SNR=4.7
I03D Drain, OR 104.35 45 IAMs_20 IAMs_20 07 21 23.1
comp=Z,839nm,21.0s
K02D Willamette Mer 104.38 46 IAMs_20 IAMs_20 07 13 35.8
comp=Z,889nm,21.0s
KSXB Camp Six Broad 104.43 47 IAMs_20 IAMs_20 07 14 44.4
comp=Z,1µm,21.0s
BUCK Buck Mountain 104.47 44 IAMs_20 IAMs_20 07 16 59.3
comp=Z,999nm,22.0s
KRMB Red Mountain 104.48 47 IAMs_20 IAMs_20 07 23 37.8
comp=Z,749nm,20.0s
KRPM Rodgers 104.48 47 IAMs_20 IAMs_20 07 12 07.8
comp=Z,1µm,21.0s
G04A Mulino 104.56 43 IAMs_20 IAMs_20 07 14 23.4
comp=Z,698nm,20.0s
JCC Jacoby Creek, 104.56 48 IAMs_20 IAMs_20 07 18 00.8
comp=Z,962nm,18.0s
H04D Lebanon 104.56 44 IAMs_20 IAMs_20 07 17 38.6
comp=Z,678nm,20.0s
LON Longmire 104.58 41 IAMs_20 IAMs_20 07 28 19.7
comp=Z,581nm,20.0s
L02F Cave Junction 104.58 46 IAMs_20 IAMs_20 07 14 02.4
comp=Z,1µm,22.0s
KMPM Mount Pierce 104.58 48 IAMs_20 IAMs_20 07 15 06.5
comp=Z,1µm,21.0s
KHMM Horse Mountain 104.77 47 IAMs_20 IAMs_20 07 15 13.3
comp=Z,1µm,19.0s
KMRM Mail Ridge 104.94 48 IAMs_20 IAMs_20 07 19 34.0
comp=Z,1µm,22.0s
BBOR Butler Butte 105.03 45 IAMs_20 IAMs_20 07 14 10.1
comp=Z,788nm,22.0s
HOOD Mount Hood Mea 105.08 43 IAMs_20 IAMs_20 07 21 02.4
comp=Z,664nm,20.0s
KCPM Cahto Peak 105.16 49 IAMs_20 IAMs_20 07 28 51.7
comp=Z,1µm,18.0s
LTY Liberty 105.17 40 IAMs_20 IAMs_20 07 15 07.5
comp=Z,1µm,22.0s
M02C Callahan 105.28 47 IAMs_20 IAMs_20 07 15 24.6
comp=Z,988nm,22.0s
YBH Yreka Blue Hor 105.30 46 IAMs_20 IAMs_20 07 14 05.4
comp=Z,1µm,22.0s
J04A Umpqua Nationa 105.34 45 IAMs_20 IAMs_20 07 21 13.3
comp=Z,712nm,21.0s
POIN Pond Inlet 105.42 7 IAMs_20 IAMs_20 07 30 31.1
comp=Z,986nm,22.0s
L04D Klamath Falls 105.47 46 IAMs_20 IAMs_20 07 15 42.8
comp=Z,837nm,22.0s
N02D Trinity Center 105.50 47 IAMs_20 IAMs_20 07 12 39.2
comp=Z,1µm,22.0s
I05D Terrebonne, OR 105.58 44 IAMs_20 IAMs_20 07 17 46.4
comp=Z,708nm,22.0s
MXC Moxie City 105.62 41 IAMs_20 IAMs_20 07 19 37.4
comp=Z,859nm,21.0s
O02D Mt. Diablo Mer 105.63 48 IAMs_20 IAMs_20 07 12 39.2
comp=Z,1µm,22.0s
B08A Colville Reser 105.68 39 IAMs_20 IAMs_20 07 19 37.8
comp=Z,947nm,21.0s
HOPS Hopland Field 105.70 49 IAMs_20 IAMs_20 07 22 43.2
comp=Z,1µm,19.0s
K04D Chiloquin, OR 105.76 45 IAMs_20 IAMs_20 07 29 24.3
comp=Z,686nm,21.0s
G06A Carlson Farm, 105.80 42 IAMs_20 IAMs_20 07 15 01.2
comp=Z,805nm,19.0s
E07A Sunnyside 105.92 41 IAMs_20 IAMs_20 07 19 47.2
comp=Z,929nm,20.0s
J05D Fort Rock, OR 105.94 45 IAMs_20 IAMs_20 07 14 34.2
comp=Z,694nm,20.0s
GDXM Geysers 105.96 49 IAMs_20 IAMs_20 07 23 03.0
comp=Z,1µm,20.0s
PINE Pine Mountain 106.01 44 IAMs_20 IAMs_20 07 17 47.8
comp=Z,970nm,21.0s
WAH2 Wahluke Slope 106.05 41 IAMs_20 IAMs_20 07 15 20.6
comp=Z,1µm,22.0s
MCCM Marconi Confer 106.05 50 IAMs_20 IAMs_20 07 12 03.4
comp=Z,825nm,22.0s
F07A Phinny Hill Vi 106.07 42 IAMs_20 IAMs_20 07 16 45.4
comp=Z,808nm,21.0s
SCO Scoresbysund 106.18 349 IAMs_20 IAMs_20 07 27 18.6
comp=Z,988nm,22.0s
HAWA Hanford 106.18 41 IAMs_20 IAMs_20 07 20 44.2
comp=Z,901nm,20.0s
MNRC McLaughlin Min 106.21 49 IAMs_20 IAMs_20 07 19 48.2
comp=Z,1µm,20.0s
O03E Pyramid Peak 106.33 48 IAMs_20 IAMs_20 07 24 56.4
comp=Z,1µm,22.0s
K05A Summer Lake 106.34 45 IAMs_20 IAMs_20 07 23 28.7
comp=Z,658nm,20.0s
D08A Wollman Farm, 106.37 40 IAMs_20 IAMs_20 07 15 56.1
comp=Z,939nm,21.0s
HATC Hat Creek Radi 106.45 47 IAMs_20 IAMs_20 07 22 15.8
comp=Z,860nm,21.0s
E08A Dider Farm, El 106.46 41 IAMs_20 IAMs_20 07 20 04.6
comp=Z,989nm,21.0s
SUMG Summit 106.47 355 IAMs_20 IAMs_20 07 27 04.2
comp=Z,713nm,20.0s
YPT Yellepit 106.67 41 IAMs_20 IAMs_20 07 22 00.0
comp=Z,947nm,19.0s
G08A Pilot Rock 106.91 42 IAMs_20 IAMs_20 07 21 37.5
comp=Z,843nm,21.0s
I07A Izee 106.91 43 IAMs_20 IAMs_20 07 18 51.8
comp=Z,990nm,20.0s
E09A Wood Farm, Sta 107.05 41 IAMs_20 IAMs_20 07 22 59.1
comp=Z,813nm,22.0s
NEW Newport 107.10 39 IAMs_20 IAMs_20 07 22 10.3
comp=Z,1µm,21.0s
LNOR Lincton Mounta 107.17 41 IAMs_20 IAMs_20 07 22 02.3
comp=Z,871nm,22.0s
AFDM Forest Hills D 107.30 49 IAMs_20 IAMs_20 07 24 34.5
comp=Z,619nm,20.0s
MTOS Mt Oso, Westle 107.39 50 IAMs_20 IAMs_20 07 23 53.8
comp=Z,923nm,21.0s
BEKR Beckworth 107.51 48 IAMs_20 IAMs_20 07 21 18.0
comp=Z,715nm,21.0s
SCZ Santa Cruz 107.56 51 IAMs_20 IAMs_20 07 15 05.2
comp=Z,763nm,21.0s
WELL Weller Preserv 107.62 49 IAMs_20 IAMs_20 07 18 53.6
comp=Z,590nm,21.0s
J08A Circle Bar Ran 107.85 44 IAMs_20 IAMs_20 07 23 57.5
comp=Z,744nm,21.0s
CMB Columbia Colle 107.98 50 IAMs_20 IAMs_20 07 20 01.6
comp=Z,827nm,21.0s
WVOR Wild Horse Val 108.02 45 IAMs_20 IAMs_20 07 23 44.1
comp=Z,787nm,20.0s
PMPB Monarch Peak 108.12 52 IAMs_20 IAMs_20 07 19 50.5
comp=Z,826nm,20.0s
BMO Blue Mountains 108.16 42 IAMs_20 IAMs_20 07 23 27.6
comp=Z,713nm,20.0s
BUCR Buckhorn Ranch 108.26 50 IAMs_20 IAMs_20 07 21 10.6
comp=Z,601nm,21.0s
PAHR Pah Range 108.28 48 IAMs_20 IAMs_20 07 24 49.3
comp=Z,813nm,21.0s
PLID Pearl Lake 108.95 42 IAMs_20 IAMs_20 07 23 07.5
comp=Z,988nm,22.0s
RYN Ryan 109.23 49 IAMs_20 IAMs_20 07 24 46.5
comp=Z,761nm,21.0s
LHV Little Huntoon 109.35 49 IAMs_20 IAMs_20 07 20 50.7
comp=Z,766nm,22.0s
NVAR Mina Array Bea 109.45 49 Pdiff **Pdif 06 34 41.0 +3.4**
comp=Z,2.2nm,0.3s,baz=299,slow=6.1,SNR=4.0
MSO Missoula 109.64 39 IAMs_20 IAMs_20 07 17 46.5
comp=Z,927nm,22.0s
MFID Camas Ranch 109.65 43 IAMs_20 IAMs_20 07 25 05.1
comp=Z,790nm,22.0s
DSP Deep Springs 110.01 50 IAMs_20 IAMs_20 07 29 30.2
comp=Z,728nm,19.0s
ISA Isabella, Lake 110.09 52 IAMs_20 IAMs_20 07 27 22.6
comp=Z,991nm,19.0s
Q09A Carvers 110.17 48 IAMs_20 IAMs_20 07 24 46.4
comp=Z,878nm,21.0s
ILULI Ilulissat 110.47 359 IAMs_20 IAMs_20 07 29 47.7
comp=Z,750nm,20.0s
HLID Hailey 110.56 43 IAMs_20 IAMs_20 07 31 35.2
comp=Z,764nm,20.0s
GRAC Grapevine Rang 110.58 50 IAMs_20 IAMs_20 07 22 23.3
comp=Z,935nm,21.0s
ELK Elko 110.97 46 IAMs_20 IAMs_20 07 27 54.5
comp=Z,934nm,21.0s
DLMT Dillon 111.07 40 IAMs_20 IAMs_20 07 21 46.6
comp=Z,865nm,21.0s
GWY Greenwater Val 111.35 51 IAMs_20 IAMs_20 07 19 09.8
comp=Z,684nm,20.0s
GSC Goldstone, Bar 111.50 52 IAMs_20 IAMs_20 07 21 43.9
comp=Z,1µm,20.0s
R11B Troy Canyon, C 111.51 48 IAMs_20 IAMs_20 07 18 21.8
comp=Z,662nm,22.0s
BOZ Bozeman (W) 111.60 40 IAMs_20 IAMs_20 07 21 23.5
comp=Z,685nm,21.0s
EGMT Eagleton 111.71 37 IAMs_20 IAMs_20 07 25 05.2
comp=Z,960nm,22.0s
CPE Camp Elliot 111.93 54 IAMs_20 IAMs_20 07 17 08.2
comp=Z,1µm,20.0s
TJX Tijuana 112.07 55 IAMs_20 IAMs_20 07 22 43.2
comp=Z,1µm,22.0s
YHL Hebgen Lake 112.20 40 IAMs_20 IAMs_20 07 17 33.3
comp=Z,867nm,22.0s
SPR3 Spring Creek 3 112.22 47 IAMs_20 IAMs_20 07 26 55.6
comp=Z,742nm,20.0s
HVU Hansel Valley 112.34 44 IAMs_20 IAMs_20 07 24 29.5
comp=Z,758nm,21.0s
CBX Cerro Bola 112.44 55 IAMs_20 IAMs_20 07 32 25.1
comp=Z,1µm,22.0s
BGU Big Grassy Mou 112.48 45 IAMs_20 IAMs_20 07 20 14.3
comp=Z,916nm,22.0s
YNM Yellowstone No 112.56 40 IAMs_20 IAMs_20 07 32 48.9
comp=Z,836nm,20.0s
YNR Norris Junctio 112.58 40 IAMs_20 IAMs_20 07 17 33.4
comp=Z,962nm,22.0s
SFJD Kangerlussuaq 112.68 359 IAMs_20 IAMs_20 07 29 43.2
comp=Z,821nm,21.0s
SALN Salton City 112.72 53 IAMs_20 IAMs_20 07 16 50.5
comp=Z,1µm,22.0s
PSUT Pine Spring 112.73 47 IAMs_20 IAMs_20 07 26 20.1
comp=Z,600nm,21.0s
FXWY Fox Creek 112.80 41 IAMs_20 IAMs_20 07 25 44.3
comp=Z,739nm,22.0s
V12A Nelson 112.89 51 IAMs_20 IAMs_20 07 32 11.7
comp=Z,851nm,19.0s
DUG Dugway, Tooele 112.90 45 IAMs_20 IAMs_20 07 25 33.4
comp=Z,858nm,20.0s
YMP Mirror Lake Pl 112.91 40 IAMs_20 IAMs_20 07 22 28.1
comp=Z,772nm,20.0s
TPAW Teton Pass 112.91 42 IAMs_20 IAMs_20 07 25 47.2
comp=Z,816nm,19.0s
YUH Yuha Desert 112.95 54 IAMs_20 IAMs_20 07 23 23.6
comp=Z,1µm,22.0s
SNOW Snow King Moun 113.05 42 IAMs_20 IAMs_20 07 17 58.9
comp=Z,990nm,20.0s
ANGG Ammassalik, Gr 113.08 353 IAMs_20 IAMs_20 07 26 58.0
comp=Z,1µm,22.0s
LOHW Long Hollow 113.09 41 IAMs_20 IAMs_20 07 27 58.0
comp=Z,766nm,18.0s
AHID Auburn Hatcher 113.10 42 IAMs_20 IAMs_20 07 25 12.5
comp=Z,693nm,21.0s
HWUT Hardware Ranch 113.24 44 IAMs_20 IAMs_20 07 28 31.3
comp=Z,818nm,22.0s
RLMT Red Lodge 113.31 39 IAMs_20 IAMs_20 07 19 29.7
comp=Z,906nm,19.0s
CCUT Cedar City 113.43 48 IAMs_20 IAMs_20 07 23 21.7
comp=Z,992nm,21.0s
CTU Camp Tracy 113.47 45 IAMs_20 IAMs_20 07 25 16.3
comp=Z,761nm,21.0s
CPBX Cerro Prieto 113.52 54 IAMs_20 IAMs_20 07 23 35.5
comp=Z,856nm,20.0s
TCUT Toone Canyon 113.54 44 IAMs_20 IAMs_20 07 28 47.3
comp=Z,864nm,21.0s
SZCU Shurtz Canyon 113.62 48 IAMs_20 IAMs_20 07 24 34.7
comp=Z,727nm,20.0s
LCMT Little Creek M 113.70 49 IAMs_20 IAMs_20 07 29 30.0
comp=Z,532nm,20.0s
JLU Jordanelle 113.71 45 IAMs_20 IAMs_20 07 19 03.8
comp=Z,886nm,20.0s
GLA Glamis 113.72 53 IAMs_20 IAMs_20 07 18 03.8
comp=Z,971nm,20.0s
MPU Maple Canyon 113.81 45 IAMs_20 IAMs_20 07 29 19.4
comp=Z,944nm,22.0s
W13A Hualapai Mount 113.84 51 IAMs_20 IAMs_20 07 29 56.6
comp=Z,786nm,19.0s
PDAR Pinedale Array 114.14 42 PKP PKPdf 06 38 48.4 -1.3
comp=Z,0.3nm,0.5s,baz=143,slow=0.7,SNR=4.5
PDAR PKKPbc **PKKPbc 06 49 30.9 -0.9**
comp=Z,0.8nm,0.7s,baz=114,slow=5.5,SNR=8.0
BSUT Blindstream Ca 114.22 44 IAMs_20 IAMs_20 07 20 57.3
comp=Z,1µm,22.0s
LAO LASA Array 114.46 37 IAMs_20 IAMs_20 07 28 54.9
comp=Z,784nm,20.0s
Q16A Castle Valley 114.55 46 IAMs_20 IAMs_20 07 29 21.2
comp=Z,672nm,21.0s
113A Mohawk Valley, 114.66 53 IAMs_20 IAMs_20 07 18 44.6
comp=Z,816nm,22.0s
P18A Preston Nutter 114.94 45 IAMs_20 IAMs_20 07 28 15.4
comp=Z,766nm,20.0s
SRU San Rafael Swe 114.94 46 IAMs_20 IAMs_20 07 30 31.6
comp=Z,602nm,20.0s
HMU Henry Mountain 115.23 47 IAMs_20 IAMs_20 07 19 00.3
comp=Z,702nm,22.0s
WUAZ Wupatki 115.64 50 IAMs_20 IAMs_20 07 24 26.2
comp=Z,762nm,21.0s
X16A Lo Mia Camp, P 115.96 51 IAMs_20 IAMs_20 07 20 02.0
comp=Z,1µm,21.0s
O20A White River Ci 116.14 44 IAMs_20 IAMs_20 07 27 23.1
comp=Z,685nm,20.0s
K22A Casper 116.19 41 IAMs_20 IAMs_20 07 27 53.1
comp=Z,996nm,20.0s
W18A Petrified Fore 117.03 50 IAMs_20 IAMs_20 07 31 31.0
comp=Z,783nm,20.0s
ESPZ Base Esperanza 117.13 178 **PKiKP 06 38 55.6 +1.1**
TUC Tucson 117.19 53 IAMs_20 IAMs_20 07 24 28.7
comp=Z,1µm,22.0s
MDND Maddock 117.63 33 IAMs_20 IAMs_20 07 26 59.4
comp=Z,963nm,20.0s
E28A Huff 117.75 35 IAMs_20 IAMs_20 07 25 00.9
comp=Z,904nm,20.0s
ULM Lac du Bonnet 118.07 29 PKP **PKPdf 06 38 55.7 -1.0**
comp=Z,3.4nm,0.8s,baz=341,slow=3.8,SNR=4.9
HSIG 118.10 57 IAMs_20 IAMs_20 07 21 07.9
comp=Z,1µm,21.0s
ISCO Idaho Springs 118.11 43 IAMs_20 IAMs_20 07 29 05.0
comp=Z,906nm,20.0s
S22A 4UR Ranch, Cre 118.15 46 IAMs_20 IAMs_20 07 32 26.3
comp=Z,1µm,22.0s
319A Douglas 118.71 54 IAMs_20 IAMs_20 07 24 45.8
comp=Z,1µm,20.0s
Q24A Divide 118.81 44 IAMs_20 IAMs_20 07 22 11.4
comp=Z,692nm,21.0s
SDCO Great Sand Dun 119.10 45 IAMs_20 IAMs_20 07 33 09.4
comp=Z,797nm,21.0s
EPLO Experimental L 119.49 29 **PKiKP 06 39 00.1 +0.5**
ESDC Sonseca Array 119.57 317 PKP **PKPdf 06 38 59.2 -0.8**
comp=Z,0.2nm,0.4s,baz=144,slow=1.1,SNR=2.1
OGNE Ogallala 119.96 41 IAMs_20 IAMs_20 07 24 20.6
comp=Z,891nm,22.0s
T25A Trinidad 120.15 46 IAMs_20 IAMs_20 07 31 59.1
comp=Z,954nm,22.0s
KSCO Kaye Shedlock' 120.52 43 IAMs_20 IAMs_20 07 28 56.7
comp=Z,1µm,22.0s
K30B Basset 120.57 38 IAMs_20 IAMs_20 07 28 20.6
comp=Z,844nm,22.0s
EPT El Paso 120.78 52 IAMs_20 IAMs_20 07 26 44.4
comp=Z,872nm,20.0s
MNTX Cornudas Mount 121.69 52 IAMs_20 IAMs_20 07 37 57.6
comp=Z,738nm,19.0s
EYMN Ely 121.75 29 IAMs_20 IAMs_20 07 43 03.9
comp=Z,762nm,20.0s
ECSD EROS Data Cent 121.75 35 IAMs_20 IAMs_20 07 25 32.7
comp=Z,738nm,18.0s
BGNE Belgrade 122.18 38 IAMs_20 IAMs_20 07 32 15.3
comp=Z,674nm,22.0s
TBO Thunder Bay 122.23 27 **PKiKP 06 39 05.6 +0.6**
CBKS Cedar Bluff 122.57 42 IAMs_20 IAMs_20 07 34 05.8
comp=Z,1µm,21.0s
SPMN Marine on St. 122.93 32 IAMs_20 IAMs_20 07 29 15.5
comp=Z,784nm,20.0s
TORD Torodi Ar. Bea 123.42 286 **PKiKP 06 39 08.4 +0.2**
TORD Torodi Ar. Bea 123.42 286 PKP **PKiKP 06 39 08.1 -0.1**
comp=Z,5.1nm,0.7s,baz=37,slow=2.8,SNR=18
TORD PKKPbc **PKKPab 06 48 58.6 +1.6**
comp=Z,2.0nm,0.7s,baz=301,slow=5.1,SNR=7.2
R32A Long Quarter, 123.45 42 IAMs_20 IAMs_20 07 32 03.3
comp=Z,752nm,19.0s
TX31 Lajitas Ar Si 123.97 54 **PKiKP 06 39 09.5 +0.4**
TXAR Lajitas Array 123.97 54 PKP **PKPdf 06 39 08.0 -0.8**
comp=Z,0.8nm,0.7s,baz=228,slow=0.5,SNR=8.9
TXAR PKKPbc **PKKPbc 06 48 56.3 +1.2**
comp=Z,0.5nm,0.7s,baz=122,slow=6.1,SNR=9.3
TXAR Lajitas Array 123.97 54 PKIKP **PKPdf 06 39 08.0 -0.8**
G40A Rib Lake 124.25 30 IAMs_20 IAMs_20 07 29 17.3
comp=Z,1µm,22.0s
HOPE Hope Point 124.46 192 IAMs_20 IAMs_20 07 35 13.7
comp=Z,772nm,19.0s
SCIA State Center 124.85 35 IAMs_20 IAMs_20 07 42 17.5
comp=Z,858nm,20.0s
CROK Carrier 124.96 43 IAMs_20 IAMs_20 07 26 51.3
comp=Z,827nm,21.0s
WMOK Wichita Mounta 125.30 46 IAMs_20 IAMs_20 07 37 00.6
comp=Z,813nm,21.0s
ABTX Abilene, Hawle 125.69 48 IAMs_20 IAMs_20 07 26 35.2
comp=Z,709nm,22.0s
OK048 Pawnee Station 125.72 43 IAMs_20 IAMs_20 07 24 16.3
comp=Z,927nm,21.0s
I42A Draeger Farm, 125.87 31 **PKiKP 06 39 12.3 0.0**
WTFS Witchita Falls 126.01 46 **PKiKP 06 39 13.8 +0.9**
H43A Windswept, Lux 126.04 30 IAMs_20 IAMs_20 07 35 50.5
comp=Z,1µm,22.0s
OK052 Battle Ridge R 126.04 43 IAMs_20 IAMs_20 07 24 50.8
comp=Z,1µm,21.0s
P38A Dawn 126.08 38 IAMs_20 IAMs_20 07 32 41.3
comp=Z,790nm,22.0s
TUL3 Leonard 126.77 43 IAMs_20 IAMs_20 07 25 18.2
comp=Z,729nm,20.0s

L42A	**Oliver, Polo**	**126.78**	**33**	IAMs_20	IAMs_20	07 23 43.4		
	comp=Z,737nm,20.0s							
N41A	**Harden Midland**	**126.98**	**35**	IAMs_20	IAMs_20	07 34 15.9		
	comp=Z,878nm,20.0s							
FW07	**Weatherford**	**127.03**	**47**	IAMs_20	IAMs_20	07 28 02.5		
	comp=Z,938nm,21.0s							
Z35A	**Perchaven, San**	**127.11**	**46**	IAMs_20	IAMs_20	07 27 32.4		
	comp=Z,1µm,22.0s							
U38A	**Gravette**	**127.42**	**41**		**PKiKP**	**06 39 16.2**	**+0.5**	
U38A				IAMs_20	IAMs_20	07 25 41.2		
	comp=Z,905nm,22.0s							
L44A	**Lake County Fo**	**127.60**	**32**	IAMs_20	IAMs_20	07 43 54.0		
	comp=Z,757nm,20.0s							
HHAR	**Hobbs**	**127.80**	**41**	IAMs_20	IAMs_20	07 35 25.3		
	comp=Z,920nm,21.0s							
SLM	**Saint Louis**	**128.69**	**37**	IAMs_20	IAMs_20	07 35 31.4		
	comp=Z,879nm,20.0s							
BUKO	**Buck Lake**	**129.01**	**23**	IAMs_20	IAMs_20	07 31 40.5		
	comp=Z,946nm,22.0s							
FCAR	**Ozark Folk Cen**	**129.22**	**41**	IAMs_20	IAMs_20	07 35 32.9		
	comp=Z,940nm,21.0s							
AAM	**Ann Arbor**	**129.66**	**29**	IAMs_20	IAMs_20	07 31 56.1		
	comp=Z,956nm,21.0s							
WLAR	**White Oak Lake**	**129.84**	**44**	IAMs_20	IAMs_20	07 30 05.5		
	comp=Z,1µm,22.0s							
HBAR	**Harrisburg**	**130.37**	**40**	IAMs_20	IAMs_20	07 32 29.3		
	comp=Z,936nm,21.0s							
BLO	**Bloomington**	**130.47**	**34**	IAMs_20	IAMs_20	07 28 46.0		
	comp=Z,833nm,20.0s							
DBIC	**Dimbokro**	**130.70**	**279**	PKP	**PKiKP**	**06 39 22.9**	**+0.2**	
	comp=Z,6.9nm,0.8s,baz=35,slow=1.5,SNR=3.9							
P48A	**Milroy**	**130.86**	**33**	IAMs_20	IAMs_20	07 42 00.3		
	comp=Z,763nm,19.0s							
MET	**Memphis--Engin**	**131.11**	**40**	IAMs_20	IAMs_20	07 28 10.7		
	comp=Z,810nm,21.0s							
M52A	**Chesterland**	**131.33**	**28**	IAMs_20	IAMs_20	07 34 39.3		
	comp=Z,994nm,22.0s							
T47A	**Sharon Grove**	**131.64**	**36**	IAMs_20	IAMs_20	07 39 11.3		
	comp=Z,786nm,18.0s							
OXF	**Oxford**	**131.82**	**40**	IAMs_20	IAMs_20	07 42 29.7		
	comp=Z,731nm,20.0s							
P51A	**Williamsport**	**132.08**	**31**	IAMs_20	IAMs_20	07 34 38.5		
	comp=Z,910nm,22.0s							
G62A	**West of Eustis**	**132.18**	**16**	IAMs_20	IAMs_20	07 41 08.0		
	comp=Z,854nm,20.0s							
O52A	**Adamsville**	**132.21**	**29**	IAMs_20	IAMs_20	07 34 46.0		
	comp=Z,931nm,21.0s							
U49A	**Red Boiling Sp**	**132.74**	**36**	IAMs_20	IAMs_20	07 47 12.4		
	comp=Z,690nm,19.0s							
O54A	**Avella**	**132.86**	**28**	IAMs_20	IAMs_20	07 30 50.7		
	comp=Z,825nm,19.0s							
Q52A	**Bidwell**	**132.88**	**31**	IAMs_20	IAMs_20	07 41 20.6		
	comp=Z,806nm,22.0s							
Z47A	**Carrollton**	**133.51**	**41**	IAMs_20	IAMs_20	07 31 54.4		
	comp=Z,839nm,22.0s							
SSPA	**Standing Stone**	**133.61**	**25**	IAMs_20	IAMs_20	07 43 44.4		
	comp=Z,865nm,20.0s							
Y49A	**Blount Mountai**	**134.15**	**39**	IAMs_20	IAMs_20	07 42 38.0		
	comp=Z,803nm,20.0s							
FPAL	**Fort Paine**	**134.19**	**37**	IAMs_20	IAMs_20	07 32 34.9		
	comp=Z,533nm,22.0s							
CPCT	**Cooper Cave**	**134.21**	**36**	IAMs_20	IAMs_20	07 46 50.3		
	comp=Z,700nm,20.0s							
LRAL	**Lakeview Retre**	**134.31**	**40**	IAMs_20	IAMs_20	07 29 46.6		
	comp=Z,656nm,21.0s							
BCX	**Boston College**	**134.63**	**18**	IAMs_20	IAMs_20	07 43 20.9		
	comp=Z,684nm,21.0s							
LUPA	**Lehigh Univers**	**134.68**	**23**	IAMs_20	IAMs_20	07 52 09.5		
	comp=Z,762nm,22.0s							
W52A	**Murphy**	**134.81**	**36**	IAMs_20	IAMs_20	07 29 16.1		
	comp=Z,778nm,22.0s							
S57A	**Dark Hollow, R**	**135.45**	**29**	IAMs_20	IAMs_20	07 36 21.5		
	comp=Z,706nm,22.0s							
250A	**Grady**	**135.46**	**41**	IAMs_20	IAMs_20	07 48 48.0		
	comp=Z,852nm,21.0s							
M65A	**Busby, Falmout**	**135.49**	**18**	IAMs_20	IAMs_20	07 52 35.8		
	comp=Z,726nm,22.0s							
V55A	**Taylorsville**	**135.77**	**32**	IAMs_20	IAMs_20	07 39 35.4		
	comp=Z,843nm,21.0s							
CBN	**Corbin Frederi**	**135.83**	**27**	IAMs_20	IAMs_20	07 40 14.4		
	comp=Z,946nm,22.0s							
KMSC	**Kings Mountain**	**136.24**	**33**	IAMs_20	IAMs_20	07 48 51.7		
	comp=Z,846nm,20.0s							
JSC	**Jenkinsville**	**136.91**	**34**	IAMs_20	IAMs_20	07 34 46.7		
	comp=Z,866nm,22.0s							
V58A	**Windy Hill, Pi**	**136.91**	**31**	IAMs_20	IAMs_20	07 44 48.5		
	comp=Z,843nm,22.0s							
W57A	**Gilead**	**136.95**	**32**	IAMs_20	IAMs_20	07 47 33.6		
	comp=Z,754nm,20.0s							
PLCA	**Paso Flores**	**137.08**	**161**	PKhKP	PKPpre	06 39 24.4		
	comp=Z,4.2nm,1.1s,baz=300,slow=1.5,SNR=3.9							
PLCA				PKP	**PKPdf**	**06 39 31.1**	**-2.2**	
	comp=Z,5.0nm,0.9s,baz=251,slow=7.9,SNR=6.4							
BIRD	**Birdtown, Kers**	**137.08**	**33**	IAMs_20	IAMs_20	07 53 35.1		
	comp=Z,800nm,20.0s							
X58A	**Rowland**	**137.75**	**32**	IAMs_20	IAMs_20	07 48 03.8		
	comp=Z,889nm,21.0s							
Y60A	**Bolivia**	**138.77**	**31**	IAMs_20	IAMs_20	07 43 51.6		
	comp=Z,689nm,21.0s							
456A	**Hilliard**	**139.00**	**38**	IAMs_20	IAMs_20	07 49 44.4		
	comp=Z,645nm,20.0s							
656A	**Willston**	**139.59**	**40**	IAMs_20	IAMs_20	07 33 47.4		
	comp=Z,821nm,22.0s							
BI02	**San Fabin de**	**140.46**	**158**	IAMs_20	IAMs_20	07 23 21.2		
	comp=Z,598nm,20.0s							
DWPF	**Disney Wildern**	**141.15**	**41**	IAMs_20	IAMs_20	07 34 44.9		
	comp=Z,737nm,22.0s							
TRQA	**Tornquist**	**141.79**	**169**		**PKPdf**	**06 39 37.6**	**-4.3**	
TRQA				IAMs_20	IAMs_20	07 49 44.9		
	comp=Z,571nm,20.0s							
TRQA	**Tornquist**	**141.79**	**169**	PKIKP	**PKPdf**	**06 39 37.6**	**-4.3**	
BO02	**Sierra Bellavi**	**142.29**	**157**		**PKPdf**	**06 39 40.8**	**-2.1**	
060A	**Indiantown**	**142.58**	**41**	IAMs_20	IAMs_20	07 49 25.6		
	comp=Z,505nm,20.0s							
061Z	**Ochoppi**	**142.99**	**43**	IAMs_20	IAMs_20	07 50 12.7		
	comp=Z,594nm,21.0s							
VA03	**San Esteban**	**144.15**	**155**	IAMs_20	IAMs_20	07 24 00.1		
	comp=Z,487nm,21.0s							
CAMR	**Camarioca**	**144.41**	**47**	IAMs_20	IAMs_20	07 25 12.0		
	comp=Z,457nm,21.0s							
CRIN	**San Cristobal**	**144.50**	**67**	IAMs_20	IAMs_20	07 48 42.0		
	comp=Z,521nm,20.0s							
HERN	**Volcan Telica**	**144.73**	**67**	IAMs_20	IAMs_20	07 29 53.4		
	comp=Z,587nm,20.0s							
CNGN	**Cerro Negro**	**144.88**	**67**		**PKPdf**	**06 39 47.5**	**-0.4**	
CO06	**Fray Jorge**	**145.46**	**152**	PKPdf	**PKPab**	**06 39 48.3**	**-0.3**	
ZON	**Zonda**	**145.98**	**157**	PKPdf	**PKPdf**	**06 39 48.8**	**-0.6**	
ZON	**Zonda**	**145.98**	**157**	PKP2	**PKPdf**	**06 39 48.8**	**-0.6**	
ACON	**Acoyapa**	**146.47**	**67**	PKPdf	**PKPdf**	**06 39 50.4**	**-0.2**	
ACON				IAMs_20	IAMs_20	07 58 41.5		
	comp=Z,330nm,20.0s							
ESPN	**Las Esperanzas**	**147.19**	**66**	PKPbc	**PKPbc**	**06 39 53.8**	**-0.2**	
LCO	**Las Campanas**	**147.29**	**152**	PKPbc	**PKPbc**	**06 39 54.4**	**+0.1**	
LCO	**Las Campanas**	**147.29**	**152**	PKP2	**PKPbc**	**06 39 54.4**	**+0.1**	
AC04	**Llanos de Chal**	**147.78**	**150**	PKPab	**PKiKP**	**06 39 56.7**	**-0.6**	
LCR2	**La Lucha 2**	**148.24**	**71**		**PKiKP**	**06 39 59.0**	**+0.2**	
PLTB	**Pedras Altas**	**148.83**	**180**		**PKPbc**	**06 39 57.1**	**-0.9**	
AC01	**Pan de Azucar**	**149.71**	**149**	PKPdf	**PKPdf**	**06 39 52.5**	**-3.1**	
BRU2	**Volcan**	**149.76**	**72**		**PKPab**	**06 40 04.4**	**-1.9**	
CHIV	**Chivirico**	**149.93**	**46**	PKPdf	**PKPdf**	**06 39 52.5**	**-3.7**	
CHIV					**PKPab**	**06 40 05.8**	**-0.7**	
CHIV				IAMs_20	IAMs_20	07 55 27.1		
	comp=Z,710nm,22.0s							
NMDO	**Nuevo Mundo**	**150.56**	**44**	PKPdf	**PKPdf**	**06 39 56.0**	**-1.1**	
NMDO				IAMs_20	IAMs_20	08 02 58.5		
	comp=Z,569nm,20.0s							
GTBY	**Guantanamo Bay**	**150.90**	**45**	IAMs_20	IAMs_20	08 03 27.5		
	comp=Z,654nm,19.0s							
GO02	**Mina Guanaco**	**151.03**	**149**	PKPdf	**PKPdf**	**06 39 56.2**	**-1.9**	
GO02				PKPbc	**PKPbc**	**06 40 02.7**	**-1.2**	
GO02				PKPab	**sPKPdf**	**06 40 09.4**	**-1.6**	
PB05	**IPOC Station P**	**152.56**	**145**	IAMs_20	IAMs_20	07 39 47.0		
	comp=Z,646nm,21.0s							
CPUP	**Villa Florida**	**154.02**	**173**	PKP	**PKPdf**	**06 39 59.0**	**-3.1**	
	comp=Z,1.0nm,0.9s,baz=284,slow=3.5,SNR=4.8							
CPUP				PKPbc	**pPKPdf**	**06 40 10.7**	**-1.0**	
	comp=Z,4.0nm,0.9s,baz=89,slow=1.0,SNR=15							
CPUP				PKPab	**PKPab**	**06 40 24.7**	**+1.4**	
	comp=Z,5.1nm,0.9s,baz=187,slow=0.8,SNR=10							
OTAV	**Otavalo**	**155.30**	**89**		**PKPdf**	**06 40 07.9**	**+3.1**	
OTAV	**Otavalo**	**155.30**	**89**	PKIKP	**PKPdf**	**06 40 07.9**	**+3.1**	
AGPR	**Aguadilla, PR**	**157.09**	**34**	IAMs_20	IAMs_20	08 06 20.3		
	comp=Z,594nm,20.0s							
PRSN	**Puerto Rico Se**	**157.27**	**35**	IAMs_20	IAMs_20	08 04 38.2		
	comp=Z,633nm,19.0s							
UUPR	**Utuado, UPR, P**	**157.48**	**34**	IAMs_20	IAMs_20	08 02 33.7		
	comp=Z,373nm,19.0s							

CELP	**Cerrillos**	**157.71**	**34**	IAMs_20	IAMs_20	08 05 25.5		
	comp=Z,435nm,20.0s							
OBIP	**Obispado Ponce**	**157.72**	**34**	IAMs_20	IAMs_20	08 07 50.8		
	comp=Z,696nm,22.0s							
PDPR	**Patillas Dam,**	**158.06**	**33**	IAMs_20	IAMs_20	08 07 50.7		
	comp=Z,528nm,20.0s							
LPAZ	**La Paz**	**158.80**	**139**	PKP	**PKPdf**	**06 40 07.7**	**-1.7**	
	comp=Z,13nm,1.3s,baz=247,slow=1.1,SNR=11							
LPAZ				PKPab	**PKPab**	**06 40 44.5**	**-0.5**	
	comp=Z,5.3nm,1.0s,baz=236,slow=3.6,SNR=4.9							
BDFB	**Brasilia**	**163.85**	**200**	PKP	**PKPdf**	**06 40 14.2**	**+0.1**	
	comp=Z,9.6nm,1.3s,baz=148,slow=7.0,SNR=2.3							
BDFB				PKPab	**PKPab**	**06 41 06.8**	**+0.5**	
	comp=Z,7.4nm,0.9s,baz=151,slow=7.8,SNR=5.0							

*IDC **08** 06:20:27.6±1.3, 10°.89S×121°.39E, h0km, mb4.4/3, mbtmp4.1/6, ML3.5/3, MS4.8/1, Error ellipse: s-maj=83.5km s-min=21.9km az=62.0*

ISC 08 06:20:32.7±1.1, 10°.8S±0°.2×121°.6E±0°.3, h35km, n7, σ2ş17/7, mb4.7/3, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.27**	**152**	Pn		**Pn**		**06 22 27.9**	**-2.3**
	0.4nm,0.3s,baz=326,slow=11,SNR=12								
FITZ				Sn		**Sn**		**06 24 05.8**	**+3.4**
	0.5nm,0.3s,baz=287,slow=19,SNR=6.2								
	2.3nm,0.8s								
WRA	**Warramunga Arr**	**15.29**	**128**	Pn		**Pn**		**06 24 05.2**	**-1.0**
	0.2nm,0.3s,baz=299,slow=13,SNR=8.9								
	1.0nm,0.7s								
ASAR	**Alice Springs**	**17.38**	**139**	P		**P**		**06 24 33.0**	**-0.8**
	0.2nm,0.3s,baz=315,slow=12,SNR=32								
	4.4nm,0.9s								
MSVF	**Nonsavu**	**54.99**	**104**	LR		LR		06 54 20.4	
	comp=Z,801nm,19.1s,baz=297,slow=37								
SONM	**Songino Array**	**59.89**	**348**	P		**P**		**06 30 35.8**	**+0.7**
	7.3nm,0.9s,baz=168,slow=7.4,SNR=1.2								
	7.3nm,0.9s								
MKAR	**Makanchi Array**	**67.20**	**332**	P		**P**		**06 31 23.7**	**+0.4**
	4.7nm,0.6s,baz=119,slow=6.5,SNR=0.6								
	4.7nm,0.6s								
QSPA	**South Pole Qui**	**79.23**	**180**	P		**P**		**06 32 34.2**	**0.0**
	1.0nm,1.1s,baz=329,slow=4.4,SNR=2.2								
	1.0nm,1.1s								

*KRNET **08** 06:36:03.3±0.1, 40°.91N×78°.72E, h19km, mb3.8*
*SOME **08** 06:36:06.0, 40°.93N×78°.67E, h15km*
*NNC **08** 06:36:11.8±1.4, 41°.27N×78°.68E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=14.1km s-min=9.3km az=178.0*

ISC 08 06:36:06.3±1.5, 41°.03N±0°.06×78°.62E±0°.04, h10km, n48, σ1ş63/76, 35C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.94**	**319**	⇑*iP*		**Pg**		**06 36 23.5**	**-0.9**
TARG				⇑*iS*		**Sb**		**06 36 38.2**	**+0.7**
PRZ	**Przheval'sk**	**1.47**	**354**	⇓*iP*		**Pb**		**06 36 32.9**	**-0.9**
PRZ				⇓*iS*		**Sg**		**06 36 54.6**	**+1.0**
KDJ	**Kajisay**	**1.55**	**316**	⇑*iP*		**Pn**		**06 36 34.0**	**-0.1**
KDJ				⇑*iS*		**Sg**		**06 36 56.5**	**+0.4**
NRN	**Naryn**	**2.02**	**283**	⇓*eP*		**Pb**		**06 36 41.4**	**-1.9**
NRN				⇓*eS*		**Sb**		**06 37 08.7**	**0.0**
ULHL	**Ulahol**	**2.16**	**305**	P		**Pb**		**06 36 45.0**	**-0.7**
	SNR=67								
ULHL	**Ulahol**	**2.16**	**305**	⇑*iP*		**Pb**		**06 36 43.7**	**-2.0**
ULHL				⇑*iS*		**Sb**		**06 37 13.1**	**+0.5**
SHLS	**Shalkode**	**2.22**	**16**	*eP*		**Pg**		**06 36 48.8**	**-0.1**
	193nm,0.6s								
SHLS				*eS*		**Sg**		**06 37 20.0**	**+2.3**
	1µm,0.4s								
TNSS	**Tian-Shan**	**2.37**	**329**	*eP*		**Pb**		**06 36 49.6**	**+0.3**
	12nm,0.4s								
TNSS				*eS*		**Sg**		**06 37 20.8**	**-1.6**
	55nm,0.5s								
KOTS	**Kotyrbulak**	**2.48**	**334**	*eP*		**Pg**		**06 36 52.7**	**-1.1**
	107nm,0.5s								
KOTS				*eS*		**Sg**		**06 37 26.8**	**+0.9**
	269nm,0.5s								
BOOM	**Boomskoye usch**	**2.48**	**307**	⇑*iP*		**Pn**		**06 36 48.0**	**+1.0**
BOOM				⇑*iS*		**Sb**		**06 37 20.7**	**-1.2**
IZV	**Izvestkoviy**	**2.51**	**324**	*eP*		**Pg**		**06 36 53.0**	**-1.4**
	49nm,0.5s								
IZV				*eS*		**Sg**		**06 37 27.1**	**+0.2**
	233nm,0.6s								
KNDC	**Almaty**	**2.51**	**331**	⇑Pn		**Pb**		**06 36 51.9**	**+0.3**
	105nm,0.7s								
KNDC				⇑Lg		Lg		06 37 26.5	
	861nm,0.8s								
AAA	**Alma-Ata**	**2.53**	**330**	*eP*		**Pg**		**06 36 53.2**	**-1.5**
	218nm,0.4s								
AAA				*eS*		**Sg**		**06 37 27.5**	**0.0**
	32nm,0.2s								
MTBS	**Maitube**	**2.66**	**323**	*eP*		**Pg**		**06 36 55.9**	**-1.4**
	33nm,0.6s								
MTBS				*eS*		**Sg**		**06 37 31.8**	**-0.1**
	133nm,0.5s								
KTMS	**Ketmen**	**2.74**	**27**	*eP*		**Pg**		**06 36 56.8**	**-2.0**
	22nm,0.5s								
KTMS				*eS*		**Sg**		**06 37 32.9**	**-1.5**
	349nm,0.8s								
KST	**Kastek**	**2.83**	**316**	*eP*		**Pg**		**06 36 58.5**	**-2.0**
	32nm,0.4s								
KST				*eS*		**Sg**		**06 37 36.3**	**-0.9**
	191nm,0.6s								
TKM2	**Tokmak 2**	**2.95**	**311**	P		**Pb**		**06 36 56.7**	**-2.4**
	SNR=37								
TKM2	**Tokmak 2**	**2.95**	**311**	⇓Pn		**Pb**		**06 36 57.1**	**-1.9**
	16nm,0.5s								
TKM2				⇑Lg		Lg		06 37 40.9	
	152nm,0.6s								
TKM2	**Tokmak 2**	**2.95**	**311**	⇑*iP*		**Pn**		**06 36 54.7**	**+1.3**
TKM2				⇑*iS*		**Sb**		**06 37 32.1**	**-3.1**
CHKK	**Chushkaly**	**3.08**	**337**	*eP*		**Pg**		**06 37 03.1**	**-2.1**
	24nm,0.5s								
CHKK				*eS*		**Sg**		**06 37 44.2**	**-0.9**
	404nm,0.6s								
KBK	**Karagaybulak**	**3.19**	**302**	P		**Pb**		**06 37 04.6**	**+1.3**
	SNR=15								
KBK	**Karagaybulak**	**3.19**	**302**	⇓*eP*		**Pn**		**06 36 58.0**	**+1.2**
KBK				⇓*iS*		**Sn**		**06 37 37.8**	**+2.8**
UCH	**Uchtor**	**3.31**	**293**	P		**Pb**		**06 37 05.6**	**+0.2**
	SNR=25								
UCH	**Uchtor**	**3.31**	**293**	⇑*iP*		**Pn**		**06 36 59.5**	**+0.9**
UCH				⇑*iS*		**Sn**		**06 37 40.6**	**+2.4**
KUU	**Kurty**	**3.33**	**330**	*eP*		**Pg**		**06 37 07.7**	**-2.3**
	19nm,0.2s								
KUU				*eS*		**Sg**		**06 37 51.6**	**-1.5**
	130nm,0.6s								
AAK	**Ala-Archa**	**3.48**	**299**	P		**Pb**		**06 37 09.5**	**+1.4**
	SNR=6.1								
AAK	**Ala-Archa**	**3.48**	**299**	⇓Pn		**Pb**		**06 37 06.9**	**-1.2**
	6.9nm,0.5s								
AAK				⇑Lg		Lg		06 37 59.2	
	30nm,0.6s								
AAK	**Ala-Archa**	**3.48**	**299**	⇑*iP*		**Pn**		**06 37 01.8**	**+1.1**
AAK				⇑*iS*		**Sn**		**06 37 44.5**	**+2.5**
CHMS	**Chumysh**	**3.50**	**306**	⇑Pn		**Pb**		**06 37 06.9**	**-1.4**
	15nm,0.6s								
CHMS				⇓Lg		Lg		06 37 58.3	
	57nm,0.7s								
CHMS	**Chumysh**	**3.50**	**306**	⇑*iP*		**Pn**		**06 37 02.0**	**+1.2**
CHMS				⇑*iS*		**Sn**		**06 37 44.8**	**+2.6**
SALK	**Salom-Alik**	**3.64**	**269**	⇓*iP*		**Pn**		**06 37 03.4**	**+0.5**
SALK				⇓*iS*		**Sn**		**06 37 47.4**	**+1.4**
USP	**Ospenovka**	**3.80**	**308**	P		**Pb**		**06 37 13.1**	**-0.4**
	SNR=10								
USP	**Ospenovka**	**3.80**	**308**	⇓*iP*		**Pn**		**06 37 06.2**	**+1.3**
USP				⇓*iS*		**Sn**		**06 37 52.2**	**+2.5**
AML	**Almayashu**	**3.86**	**288**	P		**Pb**		**06 37 16.3**	**+1.5**
	SNR=15								
AML	**Almayashu**	**3.86**	**288**	⇑*iP*		**Pn**		**06 37 07.0**	**+0.9**
AML				⇑*iS*		**Sn**		**06 37 53.7**	**+2.0**
EKS2	**Erkin-Say**	**3.97**	**296**	P		**Pb**		**06 37 17.8**	**+1.3**
	SNR=31								
EKS2	**Erkin-Say**	**3.97**	**296**	⇑*iP*		**Pn**		**06 37 08.5**	**+1.1**
EKS2				⇑*iS*		**Sn**		**06 37 56.2**	**+2.1**
TDK	**Taldyqorghan**	**3.98**	**358**	*eP*		**Pg**		**06 37 19.2**	**-3.3**
	27nm,0.2s								
TDK				*eS*		**Sg**		**06 38 11.6**	**-2.4**
	91nm,0.6s								
SFK	**Sufi-Kurgan**	**4.03**	**257**	⇑*iP*		**Pn**		**06 37 08.5**	**+0.2**
SFK				⇑*iS*		**Sn**		**06 37 56.1**	**+0.4**
MRKS	**Merke**	**4.38**	**295**	*eP*		**Pg**		**06 37 27.5**	**-2.7**
	19nm,0.9s								
MRKS				*eS*		**Sg**		**06 38 26.4**	**-0.6**
	33nm,0.3s								
MNAS	**Manas**	**4.80**	**290**	⇑*eP*		**Pn**		**06 37 19.9**	**+1.0**
MNAS				⇑*iS*		**Sn**		**06 38 15.9**	**+1.2**
BTLS	**Baital**	**5.23**	**322**	*eP*		**Pg**		**06 37 44.7**	**-1.8**
	6.0nm,0.8s								
BTLS				*eS*		**Sg**		**06 38 55.5**	**+1.3**
	18nm,0.5s								
MAKZ	**Makanchi**	**6.27**	**22**	⇑Pn		**Pn**		**06 37 42.1**	**+3.2**
	1.4nm,0.6s								
MAKZ				⇑Lg		Lg		06 39 23.3	
	15nm,1.4s								
MK31	**Makanchi Array**	**6.34**	**23**	⇑Pn		**Pn**		**06 37 41.5**	**+1.6**
	0.4nm,0.3s,baz=206,slow=13,SNR=31								
MK31				⇓Lg		Lg		06 39 27.1	
	3.8nm,0.5s,baz=203,slow=29,SNR=3.7								
KK31	**Karatay Array**	**6.38**	**292**	⇑Lg		Lg		06 39 30.3	
	5.7nm,0.6s,baz=103,slow=26,SNR=7.5								
BRLS	**Boroldoy**	**6.84**	**290**	*eP*		**Pg**		**06 38 14.9**	**-2.4**
	2.3nm,0.5s								
BRLS				*eS*		**Sg**		**06 39 47.9**	**+2.0**
	10nm,0.4s								
KURBB	**Kurchatov Arra**	**9.60**	**360**	⇑Lg		Lg		06 41 10.0	
	26nm,0.8s								
KURK	**Kurchatov**	**9.69**	**360**	⇑Lg		Lg		06 41 12.0	
	14nm,1.0s								

IDC 08 06:37:52.2±1.7, 0°.60N×126°.28E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=171.2km s-min=21.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.89**	**159**	P		P	P	06 42 46.3	-0.8
	1.0nm,0.5s,baz=338,slow=11,SNR=14								
	1.0nm,0.5s								
ASAR	**Alice Springs**	**25.24**	**163**	P		P	P	06 43 20.8	+0.6
	1.0nm,0.6s,baz=345,slow=11,SNR=11								
	1.0nm,0.6s								
MKAR	**Makanchi Array**	**59.88**	**327**	P		P	P	06 48 00.2	+0.3
	0.3nm,0.5s,baz=126,slow=8.7,SNR=5.3								
	0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**64.13**	**328**	P		P	P	06 48 28.0	-0.4
	0.2nm,0.3s,baz=138,slow=5.3,SNR=4.1								
	0.2nm,0.3s								

*KRNET **08** 06:42:23.8±0.1, 41°.20N×79°.19E, mb2.6*
*SOME **08** 06:42:30.1, 41°.12N×78°.73E, h5km*

ISC 08 06:42:24.7±2.9, 40°.7N±0°.1×78°.70E±0°.07, h8km±15km, n9, σ1ş19/16, 8C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.81**	**353**	⇑*eP*		Pn		06 42 50.1	-6.3
PRZ				⇑*eS*		Sn		06 43 09.1	-11
KDJ	**Kajisay**	**1.84**	**322**	⇑*eP*		**Pn**		**06 42 55.8**	**-1.0**
KDJ				⇑*eS*		**Sn**		**06 43 19.1**	**-1.3**
NRN	**Naryn**	**2.17**	**291**	⇑*eP*		**Pb**		**06 43 05.1**	**+0.7**
NRN				⇑*eS*		**Sg**		**06 43 35.2**	**+0.7**
SHLS	**Shalkode**	**2.53**	**13**	*eP*		**Pb**		**06 43 11.8**	**+1.3**
	6.8nm,0.3s								
SHLS				*eS*		**Sb**		**06 43 41.

THC	**Tehachapi Micr**	**1.21**	**228**			Pg	06 45 39.1	-0.8
VES	**Vestal, Richgr**	**1.24**	**276**			Sg	06 45 56.0	-0.5
LEOC	**Leona Valley**	**1.25**	**209**			Pg	06 45 40.3	-0.3
LRRC	**Littlerock Res**	**1.26**	**198**			Pn	06 45 39.6	-1.1
LRRC						Sn	06 45 57.7	-0.2
AMDNV	**Amargosa**	**1.27**	**55**			Pn	06 45 40.3	-0.5
AMDNV						Sg	06 45 57.3	-0.1
GRAC	**Grapevine Rang**	**1.27**	**7**			Pn	06 45 40.3	-0.7
GRAC					Sg	Sg	06 45 57.4	-0.3
GRAC					IAML		06 46 03.6	
	comp=E,222nm,0.5s							
GRAC					IAML		06 46 05.5	
	comp=N,241nm,0.7s							
CJV	**Casa Juvan**	**1.29**	**202**			Pn	06 45 40.6	-0.6
CJV						Sn	06 45 58.5	-0.3
HOLC	**Holcomb Ridge**	**1.29**	**190**			Pn	06 45 39.9	-1.4
HOLC						Sb	06 45 58.3	+0.2
WCT	**Wildcat Mounta**	**1.31**	**35**			Pn	06 45 41.0	-0.5
WCT					IAML		06 46 00.5	
	comp=E,90nm,0.3s							
JNH	**Juniper Hills**	**1.32**	**194**			Pn	06 45 40.3	-1.3
SGV	**South Grapevin**	**1.32**	**19**			Pn	06 45 40.7	-1.1
DSCC	**Desert Studies**	**1.33**	**116**			Pn	06 45 39.6	-2.1
TUQ	**Turquoise Moun**	**1.37**	**102**			Pn	06 45 41.6	-0.8
CHFC	**Chilao Flat St**	**1.44**	**195**			Pn	06 45 43.7	+0.3
CHFC						Sg	06 46 03.1	+0.1
OSI	**Osito Audit: C**	**1.46**	**221**			Pn	06 45 43.0	-0.5
OSI					IAML		06 46 05.0	
	comp=N,91nm,0.7s							
OSI					IAML		06 46 10.4	
	comp=E,78nm,0.5s							
BFSC	**Mount Baldy Ra**	**1.49**	**183**			Pn	06 45 43.5	-0.5
BFSC						Sn	06 46 03.4	-0.4
BFSC					IAML		06 46 04.2	
	comp=N,146nm,0.3s							
SIL	**Silver Peak**	**1.51**	**156**			Pn	06 45 44.5	+0.1
SSK	**Sunset Peak**	**1.52**	**184**			Pn	06 45 44.1	-0.3
MWC	**Mount Wilson**	**1.56**	**195**			Pn	06 45 43.9	-1.1
MWC					IAML		06 46 08.1	
	comp=N,192nm,0.3s							
BBRC	**Big Bear Solar**	**1.56**	**160**			Pb	06 45 46.1	+0.1
VOG	**Valley Oaks Go**	**1.58**	**292**			Pn	06 45 45.6	+0.4
VOG						Sb	06 46 06.7	+0.1
GMN	**Gold Mountain**	**1.59**	**9**			Pn	06 45 44.8	-0.7
DECC	**Green Verdugo**	**1.60**	**203**			Pb	06 45 46.7	+0.1
TPNV	**Topopah Spring**	**1.62**	**41**			Pn	06 45 45.0	-0.8
TPNV					IAML		06 46 10.8	
	comp=N,78nm,0.5s							
TPNV					IAML		06 46 16.9	
	comp=N,71nm,0.6s							
OAT	**Oat Mountain**	**1.63**	**212**			Pg	06 45 47.8	0.0
PASC	**Pasadena Art C**	**1.64**	**198**			Pn	06 45 44.8	-1.1
PASC					IAML		06 46 10.3	
	comp=N,65nm,0.6s							
PASC					IAML		06 46 13.4	
	comp=E,77nm,0.3s							
PSRC	**Puddingstone R**	**1.65**	**187**			Pb	06 45 47.7	+0.4
MTPC	**Mountain Pass**	**1.66**	**98**			Pn	06 45 44.7	-1.7
MTPC					IAML		06 46 11.9	
	comp=N,80nm,0.3s							
MTPC					IAML		06 46 12.4	
	comp=E,117nm,0.2s							
DSP	**Deep Springs**	**1.67**	**349**			Pn	06 45 45.3	-1.1
DSP					IAML		06 46 10.6	
	comp=E,74nm,0.3s							
GTM	**Goat Mountain**	**1.74**	**145**			Pb	06 45 48.6	-0.4
MTUM	**Tungsten Hills**	**1.81**	**334**			Pb	06 45 50.3	0.0
BLAC	**Blackrock camp**	**1.92**	**149**			Pn	06 45 48.9	-1.0
MZP	**Montezuma Peak**	**1.97**	**4**	Pn		Pn	06 45 49.4	-1.5
TPC	**Twentynine Pal**	**2.04**	**142**			Pn	06 45 50.0	-1.6
HMTC	**Hemet**	**2.07**	**167**			Pn	06 45 50.9	-1.0
ELS	**Elsinore Mount**	**2.08**	**177**	Pn		Pn	06 45 51.1	-1.0
ELS					IAML		06 46 28.6	
	comp=E,63nm,0.7s							
ELS					IAML		06 46 29.3	
	comp=N,46nm,0.6s							
SHPR	**Sheep Range**	**2.10**	**68**	Pn		Pn	06 45 52.0	-0.4
POB	**Polly Butte**	**2.10**	**165**			Pn	06 45 51.7	-0.7
DGR	**Domenigoni Val**	**2.12**	**167**			Pn	06 45 52.0	-0.7
BENR	**Benton**	**2.14**	**338**			Pb	06 45 56.4	+0.4
MURC	**Murrieta**	**2.15**	**172**			Pb	06 45 56.5	+0.6
MLAC	**Mammoth, Mammo**	**2.15**	**332**			Pb	06 45 56.4	+0.2
MCSM	**Casa Diablo Ho**	**2.20**	**331**			Pb	06 45 57.4	+0.3
V12A	**Nelson**	**2.21**	**89**	Pn		Pn	06 45 52.9	-1.0
V12A					IAML		06 46 32.9	
	comp=E,32nm,0.6s							
PMD	**Palm Desert**	**2.30**	**154**	Pn		Pn	06 45 53.7	-1.3
PMD					IAML		06 46 31.2	
	comp=N,32nm,0.5s							
PMD					IAML		06 46 31.5	
	comp=E,44nm,0.5s							
PFO	**Pinyon Flats O**	**2.30**	**156**	Pn		Pn	06 45 54.1	-1.1
PFO					IAML		06 46 34.3	
	comp=E,31nm,0.9s							
XPFO	**Pinon Flat**	**2.30**	**156**			Pn	06 45 53.9	-1.3
BZNA	**Buzz No.'s Pla**	**2.35**	**161**			Pn	06 45 55.1	-0.8
TPH	**Tonopah**	**2.36**	**7**	Pn		Pn	06 45 55.0	-1.0
TPH					IAML		06 46 34.5	
	comp=N,86nm,0.7s							
FRD	**Ford Ranch, An**	**2.37**	**160**			Pn	06 45 55.2	-0.8
S11A	**Rachel**	**2.41**	**37**	Pn		Pn	06 45 56.2	-0.5
S11A					IAML		06 46 38.2	
	comp=E,48nm,0.7s							
S11A					IAML		06 46 54.8	
	comp=N,42nm,1.0s							
NEE2	**Needles Airpor**	**2.60**	**111**	Pn		Pn	06 45 57.1	-2.0
NEE2					IAML		06 46 49.8	
	comp=N,57nm,0.7s							
NEE2					IAML		06 46 51.9	
	comp=E,54nm,0.6s							
LHV	**Little Huntoon**	**2.63**	**344**	Pn		Pn	06 45 57.6	-1.9
LHV					IAML		06 46 44.9	
	comp=N,30nm,0.6s							
LHV					IAML		06 46 46.6	
	comp=E,32nm,1.0s							
PRN	**Pahroc Range**	**2.63**	**50**	Pn		Pn	06 45 58.0	-1.7
PRN					IAML		06 46 47.5	
	comp=E,45nm,0.8s							
PRN					IAML		06 46 47.9	
	comp=N,54nm,0.6s							
BORC	**Borrego Spring**	**2.63**	**159**	Pn		Pn	06 45 58.2	-1.4
BORC					IAML		06 46 40.8	
	comp=E,34nm,0.9s							
BORC					IAML		06 46 41.4	
	comp=N,32nm,0.5s							
PMPB	**Monarch Peak**	**2.67**	**281**	Pn		Pn	06 45 58.5	-1.6
PMPB					IAML		06 46 42.9	
	comp=E,56nm,0.8s							
NV11	**Mina Array Sit**	**2.74**	**350**	Pn		Pn	06 46 00.7	-0.5
NVAR	**Mina Array Bea**	**2.76**	**348**	Pn		Pn	06 46 00.9	-0.7
DPP	**Dos Picos Cty**	**2.77**	**169**	Pn		Pn	06 46 00.7	-0.9
DPP					IAML		06 46 44.0	
	comp=E,34nm,0.4s							
BBGB	**Big Mountain B**	**2.94**	**288**	Pn		Pn	06 46 02.9	-1.0
R11B	**Troy Canyon, C**	**3.06**	**31**	Pn		Pn	06 46 03.9	-1.7
Q09A	**Carvers**	**3.12**	**6**	Pn		Pn	06 46 04.1	-2.4
WAKR	**Walker**	**3.15**	**332**	Pn		Pn	06 46 03.6	-3.3
BLYC	**Blythe**	**3.19**	**127**	Pn		Pn	06 46 04.0	-3.3
BLYC					IAML		06 46 58.0	
	comp=N,25nm,0.4s							
BLYC					IAML		06 46 58.7	
	comp=E,20nm,0.6s							
TKX	**Tecate**	**3.25**	**166**	Pn		Pn	06 46 04.6	-3.5
TKX					IAML		06 47 03.5	
	comp=E,40nm,0.1s							
SAO	**San Andreas Ge**	**3.30**	**289**	Pn		Pn	06 46 06.0	-2.8
YUH	**Yuha Desert**	**3.36**	**156**	Pn		Pn	06 46 06.6	-3.1
CBX	**Cerro Bola**	**3.49**	**167**	Pn		Pn	06 46 08.4	-3.1
GLA	**Glamis**	**3.50**	**139**	Pn		Pn	06 46 08.6	-3.0
GLA					IAML		06 47 12.4	
	comp=E,34nm,0.8s							
GLA					IAML		06 47 16.8	
	comp=N,30nm,0.7s							
LCMT	**Little Creek M**	**3.72**	**69**	Pn		Pn	06 46 12.9	-1.7
CCUT	**Cedar City**	**3.84**	**61**	Pn		Pn	06 46 14.6	-1.8
CCUT					IAML		06 47 21.2	
	comp=N,8.8nm,1.3s							
CCUT					IAML		06 47 23.7	
	comp=E,8.3nm,3.0s							
ESJX	**Sierra Juarez**	**3.95**	**160**	Pn		Pn	06 46 16.4	-1.5
KNB	**Kanab**	**4.04**	**70**	Pn		Pn	06 46 16.4	-2.7
KNB					IAML		06 47 26.9	
	comp=E,8.2nm,1.2s							
KNB					IAML		06 47 30.9	
	comp=N,8.2nm,1.2s							
PSUT	**Pine Spring**	**4.08**	**46**	Pn		Pn	06 46 19.0	-0.7
Y14A	**Wickenburg**	**4.16**	**114**	Pn		Pn	06 46 18.4	-2.2
Y14A					IAML		06 47 31.4	
	comp=N,12nm,0.4s							
Y14A					IAML		06 47 38.5	
	comp=E,9.5nm,0.6s							
SPR3	**Spring Creek 3**	**4.16**	**37**	Pn		Pn	06 46 19.4	-1.5
AFDM	**Forest Hills D**	**4.21**	**321**	Pn		Pn	06 46 18.8	-2.5
AFDM					IAML		06 47 32.1	
	comp=N,7.3nm,1.8s							
AFDM					IAML		06 47 33.4	
	comp=E,9.3nm,0.9s							
PAHR	**Pah Rah Range**	**4.22**	**341**	Pn		Pn	06 46 19.3	-2.4
113A	**Mohawk Valley,**	**4.32**	**132**	Pn		Pn	06 46 20.2	-2.5
U15A	**North Rim**	**4.33**	**79**	Pn		Pn	06 46 20.9	-2.3
U15A					IAML		06 47 34.8	
	comp=N,9.0nm,1.3s							
U15A					IAML		06 47 36.5	
	comp=E,8.9nm,0.9s							
BEKR	**Beckworth**	**4.69**	**333**	Pn		Pn	06 46 26.1	-1.9
BEKR					IAML		06 47 29.6	
	comp=N,4.4nm,3.9s							
BEKR					IAML		06 47 57.5	
	comp=E,6.7nm,0.7s							
WUAZ	**Wupatki**	**5.05**	**91**	Pn		Pn	06 46 30.3	-2.7
WUAZ					IAML		06 47 56.6	
	comp=E,8.2nm,1.9s							
WUAZ					IAML		06 48 01.3	
	comp=E,7.2nm,1.2s							
X16A	**Lo Mia Camp, P**	**5.19**	**103**	Pn		Pn	06 46 32.4	-2.6
X16A					IAML		06 48 10.2	
	comp=E,4.4nm,4.1s							
X16A					IAML		06 48 30.4	
	comp=N,3.3nm,4.2s							
ELK	**Elko**	**5.33**	**19**	Pn		Pn	06 46 36.8	-0.2

IDC 08 06:45:51.4±1.4, 0°.45N×126°.22E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=143.8km s-min=23.3km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.77**	**159**	P	P	06 50 43.9	-1.0
	1.2nm,0.6s,baz=337,slow=11,SNR=9.2						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**25.10**	**163**	P	P	06 51 18.9	+0.8
	0.3nm,0.5s,baz=344,slow=12,SNR=6.0						
	0.3nm,0.5s						
SONM	**Songino Array**	**50.24**	**343**	P	P	06 54 49.1	-0.4
	0.4nm,0.4s,baz=152,slow=6.7,SNR=2.1						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**59.97**	**327**	P	P	06 55 59.8	+0.1
	0.2nm,0.5s,baz=111,slow=7.7,SNR=1.8						
	0.2nm,0.5s						

IDC 08 06:53:11.3±1.9, 0°.49N×125°.99E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=150.9km s-min=26.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.89**	**159**	P	P	06 58 05.2	-0.9
	2.8nm,0.7s,baz=336,slow=12,SNR=19						
	2.8nm,0.7s						
ASAR	**Alice Springs**	**25.21**	**163**	P	P	06 58 39.6	+0.6
	0.5nm,0.4s,baz=352,slow=16,SNR=12						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**59.81**	**327**	P	P	07 03 18.4	-0.1
	0.2nm,0.4s,baz=116,slow=7.3,SNR=4.7						
	0.2nm,0.4s						

*ASRS **08** 06:55:21.0±1.5, 54°.28N×86°.13E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 06:55:21.9±2.8, 54°.32N×86°.32E, h0km, mbtmp3.1/2, ML3.0/2, Error ellipse: s-maj=22.9km s-min=14.5km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**248**	I	I	07 01 20.0	
	baz=66,slow=320,SNR=4.1						
ZALV	**Zalesovo Beam**	**0.95**	**248**	Pg	Pg	06 55 40.1	-0.1
	1.4nm,0.3s,baz=64,slow=17,SNR=9.6						
ZALV				Lg	Lg	06 55 53.3	
	4.9nm,0.3s,baz=66,slow=25,SNR=11						
KURBB	**Kurchatov Arra**	**6.03**	**235**	Pn	Pn	06 56 53.2	+1.1
	0.2nm,0.3s,baz=52,slow=13,SNR=6.7						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**7.95**	**200**	Pn	Pn	06 57 19.3	+0.6
	0.4nm,0.3s,baz=25,slow=13,SNR=15						
	0.4nm,0.3s						

*BJI **08** 06:55:53.7, 2°.62S×138°.98E, h18km, mB5.6/36, mb5.0/68, Ms5.3/48, Ms7.5/248*

*IDC **08** 06:55:54.0±0.5, 2°.44S×138°.59E, h0km, mb4.7/16, mbtmp4.8/21, ML4.7/5, MS5.0/23, Error ellipse: s-maj=17.5km s-min=11.9km az=89.0*

*MOS **08** 06:55:56.3±1.2, 2°.46S×138°.61E, h28km, mb5.5/25, Error ellipse: s-maj=11.5km s-min=5.8km az=95.4*

*NEIC **08** 06:55:56.9, 2°.50S×138°.51E, h36km*

*NEIC **08** 06:55:56.9, 1°.90S×138°.41E, h36km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^{16}Nm; M_{rr}2.67; $M_{\theta\theta}$-3.92; $M_{\phi\phi}$ 1.25; $M_{r\theta}$-5.21; $M_{\theta\phi}$-0.29; $M_{\phi r}$-0.48; Fault plane solution: $M_0$6.28000×10^{16} NP1:ϕ_s90.88000°, δ16.22000°, λ,95.99000°. NP2:ϕ_s264.65000°, δ73.87000°, λ88.26000°. Principal axes: T 5.5588, Plg61.0000°, Azm172.0000°; N 1.2593, Plg2.0000°, Azm265.0000°; P -6.8181, Plg29.0000°, Azm356.0000°;*

*DJA **08** 06:55:57.6±0.5, 2°.52×13°.9E±°, h12km±4km, M5.2/66, mb5.2/66, mB5.7/41, MLv5.4/11, Mw(mB)5.2/41, MwMwp5.2/3, Mwp5.4/3*

*GCMT **08** 06:56:00.6±0.2, 2°.09S±0°.01×138°.56E±0°.02, h12km, MW5.3/91, Moment Tensor Solution. s40, c53; s91, c134; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.26±.02; $M_{\theta\theta}$-0.46±.01; $M_{\phi\phi}$0.20±.02; $M_{r\theta}$-0.95±.04; $M_{\theta\phi}$-0.04±.01; $M_{\phi r}$0.52±.06; Best double couple: $M_0$1.15700×10^{17} NP1:ϕ_s52.00000°, δ16.00000°, λ26.00000°. NP2:ϕ_s298.00000°, δ83.00000°, λ105.00000°. Principal axes: T 1.1420, Plg50.0000°, Azm224.0000°; N 0.0300, Plg15.0000°, Azm116.0000°; P -1.1720, Plg36.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **08** 06:56:00.6±1.3, 2°.53S±0°.07×138°.51E±0°.07, h35km±1km, mb5.5/277, Mww5.1/12 Error ellipse: s-maj=11.9km s-min=11.0km az=339.0*

ISC 08 06:55:57.3±0.5, 2°.41S±0°.03×138°.71E±0°.04, h13km±2km, h14km: pP-P, n813, σ1§45/767, mb5.5/206, **MS5.1**/44, **6C-2D, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.41**	**1**	P	**Pg**	**06 56 04.3**	**-1.3**
WAMI	**Wamena**	**1.47**	**180**	P	**Pg**	**06 56 29.5**	**+3.9**
GENI	**Genyem**	**1.47**	**97**	P	**Pg**	**06 56 25.0**	**-0.7**
GENI	**Genyem**	**1.47**	**97**	P	**Pn**	**06 56 23.7**	**+0.1**
JAY	**Jayapura**	**2.00**	**93**	Pn	**Pn**	**06 56 29.2**	**-1.6**
	34nm,0.3s,baz=253,slow=8.3,SNR=124						
JAY				Sn	**Sg**	**06 56 60.0**	**-1.8**
	82nm,0.3s,baz=0.0,slow=8.7,SNR=5.4						
	369nm,0.6s						
JAY	**Jayapura**	**2.00**	**93**	P	**Pn**	**06 56 30.9**	**0.0**
SRPI	**Serui, Papua**	**2.52**	**282**	P	**Pn**	**06 56 36.3**	**-1.7**
BAKI	**Biak**	**2.86**	**295**	P	**Pn**	**06 56 40.5**	**-2.2**
RKPI	**Ransiki, Papua**	**4.61**	**281**	P	**Pn**	**06 57 07.3**	**+0.5**
KMPI	**Kaimana, Papua**	**5.15**	**256**	P	**Pn**	**06 57 16.4**	**+2.3**
MMPI	**Merauke**	**6.25**	**165**	P	**Pn**	**06 57 31.9**	**+2.6**
FAKI	**Fak Fak**	**6.47**	**265**		**Pn**	**06 57 30.1**	**-2.2**
FAKI	**Fak Fak**	**6.47**	**265**	P	**Pn**	**06 57 30.8**	**-1.5**
FAKI	**Fak Fak**	**6.47**	**265**	P	**Pn**	**06 57 33.3**	**+1.0**
	1.1nm3µm212nm,1.2s						
SWI	**Sorong**	**7.60**	**282**	P	**Pn**	**06 57 50.0**	**+2.2**
	0.5nm2µm152nm,0.6s						
MANU	**Manus Island**	**8.66**	**88**		**Pn**	**06 58 06.9**	**+4.4**
BNDI	**Bandanaira**	**9.03**	**256**	P	**Pn**	**06 58 09.1**	**+1.6**
	302nm,1.1s						
SAUI	**Saumlaki**	**9.22**	**233**	Pn	**Pn**	**06 58 08.2**	**-1.9**
MSAI	**Masohi**	**9.81**	**264**	P	**Pn**	**06 58 20.7**	**+2.5**
AAI	**Ambon**	**10.57**	**263**	P	**Pn**	**06 58 30.5**	**+1.8**
	187nm,0.8s						
NLAI	**Namlea**	**11.62**	**266**	P	**Pn**	**06 58 43.9**	**+0.9**
TNTI	**Ternate**	**11.77**	**285**	Pn	**Pn**	**06 58 43.6**	**-1.4**
TNTI	**Ternate**	**11.77**	**285**	P	**Pn**	**06 58 46.0**	**+1.0**
TNTI	**Ternate**	**11.77**	**285**	P	**Pn**	**06 58 48.2**	**+3.2**
	59nm,1.5s						
KDU	**Kakadu**	**11.93**	**211**	P	Pn	06 58 43.6	-3.6
KDU	**Kakadu**	**11.93**	**211**	P	**Pn**	**06 58 46.3**	**-1.0**
COEN	**Coen**	**12.30**	**159**		**Pn**	**06 58 52.5**	**+0.1**
COEN	**Coen**	**12.30**	**159**	P	**Pn**	**06 58 51.9**	**-0.4**
	comp=Z,67nm,0.7s						
COEN	**Coen**	**12.30**	**159**	P	**Pn**	**06 58 53.1**	**+0.8**
SANI	**Sanana**	**12.71**	**271**	P	**Pn**	**06 58 59.5**	**+1.5**
SANI	**Sanana**	**12.71**	**271**	P	**Pn**	**06 58 56.8**	**-1.2**
	comp=Z,99nm,0.8s						
MTN	**Manton Dam**	**12.80**	**215**		**Pn**	**06 58 56.6**	**-2.5**
MTN	**Manton Dam**	**12.80**	**215**	P	Pn	06 58 55.7	-3.4
MTN	**Manton Dam**	**12.80**	**215**	P	**Pn**	**06 58 58.4**	**-0.7**
KMSI	**Cibinong**	**15.02**	**281**	P	**Pn**	**06 59 31.3**	**+1.9**
LUWI	**Luwuk**	**15.98**	**275**		**Pn**	**06 59 40.5**	**-1.6**
LUWI	**Luwuk**	**15.98**	**275**	P	**Pn**	**06 59 43.4**	**+1.3**
LUWI	**Luwuk**	**15.98**	**275**	P	**Pn**	**06 59 44.8**	**+2.7**
	comp=Z,4µmcomp=Z,229nm,0.9s						
SOEI	**Soe**	**16.10**	**242**		**Pn**	**06 59 42.0**	**-1.6**
SOEI				IAmb	IAmb	06 59 49.3	
	comp=Z,493nm,1.6s						
SOEI	**Soe**	**16.10**	**242**	P	**Pn**	**06 59 44.7**	**+1.0**
SOEI	**Soe**	**16.10**	**242**	P	**Pn**	**06 59 43.2**	**-0.5**
DAV	**Davao City (W)**	**16.13**	**306**	LR	LR	07 06 16.3	
	comp=Z,2µm,19.8s,baz=121,slow=39						
KNRA	**Kununurra**	**16.43**	**216**		**Pn**	**06 59 45.7**	**-2.0**
KNRA	**Kununurra**	**16.43**	**216**	P	**Pn**	**06 59 44.3**	**-3.4**
MTSU	**Mount Surprise**	**16.57**	**161**	P	**Pn**	**06 59 50.6**	**+1.0**
	comp=Z,43nm,0.8s						
MTSU	**Mount Surprise**	**16.57**	**161**	P	**P**	**06 59 52.4**	**+0.3**
BATI	**Baumata**	**16.83**	**242**	Pn	**Pn**	**06 59 48.6**	**-4.2**
	comp=Z,9.4nm,0.3s,baz=37,slow=1.6,SNR=3.5						
	comp=Z,35nm,0.4s						
BATI	**Baumata**	**16.83**	**242**	P	**Pn**	**06 59 52.8**	**-0.1**
MRSI	**Marisa**	**17.00**	**279**	P	**Pn**	**06 59 56.3**	**+1.2**
	comp=Z,66nm,0.5s						
GUMO	**Guam**	**17.03**	**21**		**P**	**06 59 57.2**	**+0.1**
GUMO	**Guam**	**17.03**	**21**	P	**Pn**	**06 59 53.9**	**-1.4**
	comp=Z,23nm,0.3s,baz=185,slow=1.5,SNR=9.5						
GUMO				LR	LR	07 05 58.5	
	comp=Z,3µm,19.9s,baz=211,slow=35						
	comp=Z,66nm,0.2s						
GUMO	**Guam**	**17.03**	**21**	P	**P**	**07 00 00.0**	**+2.9**
APSI	**Ampana**	**17.11**	**275**	P	**Pn**	**06 59 57.0**	**+0.6**
	comp=Z,5µmcomp=Z,293nm,1.3s						
MMRI	**Maumere**	**17.51**	**249**	Pn	**Pn**	**06 59 57.8**	**-3.6**
WB0	**Warramunga Arr**	**17.76**	**193**		**Pn**	**07 00 02.3**	**-2.2**
WR8	**Warramunga Arr**	**17.92**	**193**		**Pn**	**07 00 03.1**	**-3.4**
WRAB	**Tennant Creek**	**17.93**	**193**		**Pn**	**07 00 04.5**	**-2.1**
WRAB	**Tennant Creek**	**17.93**	**193**	*e*P	**Pn**	**07 00 04.4**	**-2.2**
WRA	**Warramunga Arr**	**17.95**	**193**	P	**Pn**	**07 00 03.0**	**-3.8**
WRA	**Warramunga Arr**	**17.95**	**193**	P	**Pn**	**07 00 02.9**	**-3.8**
	comp=Z,1.2nm,0.3s,baz=14,slow=12,SNR=28						
WRA				S	Sn	07 03 15.1	-12
	comp=Z,18nm,1.1s,baz=20,slow=22,SNR=4.8						
WRA				LR	LR	07 07 48.9	
	comp=Z,14µm,20.9s,baz=11,slow=40						
	comp=Z,7.9nm,0.9s						
EDFI	**Ende, Flores**	**18.06**	**249**	P	**Pn**	**07 00 08.2**	**-0.1**
QIS	**Mount Isa**	**18.06**	**177**	P	**Pn**	**07 00 05.6**	**-2.6**
QIS	**Mount Isa**	**18.06**	**177**	P	**Pn**	**07 00 07.8**	**-0.4**
TOLI2	**Tolitoli**	**18.26**	**281**		**Pn**	**07 00 07.1**	**-3.5**
TOLI2	**Tolitoli**	**18.26**	**281**	P	**P**	**07 00 12.2**	**+1.4**
BSSI	**Bau Bau, Buton**	**18.54**	**258**	P	**Pn**	**07 00 16.2**	**+2.2**
	comp=Z,3µmcomp=Z,126nm,1.2s						
BNSI	**Bone**	**18.67**	**263**	P	**Pn**	**07 00 17.1**	**+1.4**
	comp=Z,3µmcomp=Z,102nm,1.6s						
BKSI	**Bulukumba**	**18.76**	**261**	P	**Pn**	**07 00 17.9**	**+1.1**
TTSI	**Tana Toraja**	**18.88**	**268**	P	**Pn**	**07 00 19.8**	**+1.7**
	comp=Z,5µmcomp=Z,112nm,1.5s						
PCI	**Palu**	**18.92**	**274**	P	**Pn**	**07 00 19.9**	**+1.2**
	comp=Z,166nm,0.9s						
SPSI	**Sidrap Palu**	**18.97**	**265**	P	**Pn**	**07 00 21.1**	**+1.8**
	comp=Z,4µmcomp=Z,133nm,1.9s						
MPSI	**Mapaga**	**19.00**	**278**	P	**P**	**07 00 20.1**	**+1.2**
	comp=Z,2µmcomp=Z,77nm,1.0s						
CTAO	**Charters Tower**	**19.06**	**158**		**P**	**07 00 18.7**	**-0.8**
CTAO	**Charters Tower**	**19.06**	**158**	P	**Pn**	**07 00 21.7**	**+1.4**
CTAO	**Charters Tower**	**19.06**	**158**	P	**P**	**07 00 18.7**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,21nm,0.9s						
KAPI	**Kappang**	**19.09**	**262**	P	**P**	**07 00 17.1**	**-2.8**
KAPI	**Kappang**	**19.09**	**262**	P	**P**	**07 00 18.6**	**-1.3**
	comp=Z,2.0nm,0.3s,baz=145,slow=12,SNR=2.1						
KAPI				LR	LR	07 10 21.7	
	comp=Z,1µm,19.7s,baz=76,slow=46						
	comp=Z,4.5nm,0.3s						
KAPI	**Kappang**	**19.09**	**262**	P	**Pn**	**07 00 21

comp=Z,86nm,0.9s
STKA Stephens Creek 29.44 175 P **P** 07 02 00.1 -0.7
comp=Z,64nm,0.9s
STKA Stephens Creek 29.44 175 P **P** 07 01 58.9 -2.0
comp=Z,3.1nm,0.8s,baz=349,slow=6.8,SNR=7.2
STKA LR LR 07 14 46.5
comp=Z,6µm,21.4s,baz=342,slow=38
comp=Z,3.1nm,0.8s
STKA Stephens Creek 29.44 175 P **P** 07 02 05.5 +4.6
STKA Stephens Creek 29.44 175 *i* P **P** 07 01 59.0 -1.9
JCJ Chichijima 29.52 6 LR LR 07 11 21.1
comp=Z,705nm,21.3s,baz=46,slow=31
CMSA Cobar Meteorol 29.72 168 P **P** 07 02 05.6 +2.2
CMSA Cobar Meteorol 29.72 168 P **P** 07 02 05.5 +2.2
FORT Forrest 29.96 199 P **P** 07 02 03.1 -2.4
FORT Forrest 29.96 199 P **P** 07 02 05.3 -0.2
comp=Z,13nm,0.7s
ARMA Armidale 30.43 158 P **P** 07 02 08.9 -0.8
ARMA Armidale 30.43 158 P **P** 07 02 07.2 -2.6
ARMA Armidale 30.43 158 P **P** 07 02 12.8 +3.0
JOW Kunigami 30.76 342 P **P** 07 02 13.0 +0.4
JOW Kunigami 30.76 342 LR LR 07 13 38.0
comp=Z,3µm,19.9s,baz=126,slow=35
MEEK Meekatharra 30.86 217 P **P** 07 02 13.3 -0.2
comp=Z,14nm,1.6s
MEEK Meekatharra 30.86 217 P **P** 07 02 16.7 +3.2
HTT Hallett 30.86 180 P **P** 07 02 10.7 -2.8
HTT Hallett 30.86 180 P **P** 07 02 15.8 +2.3
TPUB Ta-pu 31.03 326 P **P** 07 02 13.2 -1.8
TPUB IAmb IAmb 07 02 17.7
comp=Z,168nm,1.8s
NACB Ninganchiao 31.22 329 P **P** 07 02 14.4 -2.2
NACB IAmb IAmb 07 02 17.6
comp=Z,143nm,1.4s
NACB Ninganchiao 31.22 329 P **P** 07 02 18.8 +2.1
KMBL Kambalda 32.89 207 P **P** 07 02 31.2 -0.1
comp=Z,6.1nm,1.1s
YNG Young 32.99 165 P **P** 07 02 29.1 -3.0
KNMB Chin-men Tao 33.21 325 P **P** 07 02 33.6 -0.5
DZM Mont Dzumac 33.30 128 *e*S **S** 07 07 55.4 0.0
comp=Z,1µm,25.9s
DZM *e*LR LR 07 11 17.9
comp=Z,4µm,23.6s
CAN Canberra 34.12 165 P **P** 07 02 41.5 -0.5
CAN IAmb IAmb 07 03 00.0
comp=Z,94nm,1.8s
CAN Canberra 34.12 165 P **P** 07 02 44.7 +2.7
CAN Canberra 34.12 165 P **P** 07 02 45.8 +3.8
CAN Canberra 34.12 165 P **P** 07 02 41.5 -0.5
CAN pmax pmax
comp=Z,94nm,1.8s
MORW Morawa 34.18 217 P **P** 07 02 40.9 -1.7
MORW IAmb IAmb 07 03 10.6
comp=Z,157nm,2.0s
MORW Morawa 34.18 217 P **P** 07 02 41.8 -0.8
comp=Z,29nm,1.6s
MORW Morawa 34.18 217 P **P** 07 02 44.2 +1.6
CNB Canberra Magne 34.21 164 P **P** 07 02 44.3 +1.5
comp=Z,39nm,1.8s
CNB Canberra Magne 34.21 164 P **P** 07 02 46.7 +3.9
ARPS Mount Arapiles 34.32 176 P **P** 07 02 42.2 -1.5
comp=Z,16nm,1.1s
H11S3 WAKE ISLAND Hy 34.49 52 T T 07 38 50.0
baz=239,slow=74,SNR=4.5
H11S2 WAKE ISLAND Hy 34.51 52 T T 07 38 45.8
baz=239,slow=74,SNR=5.3
H11S1 WAKE ISLAND Hy 34.51 52 T T 07 38 43.8
baz=239
MDSI Maura Dua 34.52 266 P **P** 07 02 44.9 -0.8
comp=Z,2µmcomp=Z,77nm,1.3s
BLDU Ballidu 34.94 214 P **P** 07 02 48.2 -0.9
comp=Z,35nm,1.6s
BLDU Ballidu 34.94 214 P **P** 07 02 51.8 +2.7
MYKOM Kota Tinggi 35.09 277 P **P** 07 02 47.5 -3.2
MYKOM IAmb IAmb 07 02 57.2
comp=Z,56nm,1.1s
MYKOM Kota Tinggi 35.09 277 P **P** 07 02 51.9 +1.2
KLBR Kellerberrin 35.12 212 P **P** 07 02 49.4 -1.2
comp=Z,32nm,0.9s
LHSI Lahat 35.16 267 P **P** 07 02 53.4 +2.2
QIZ Qiongzhong 35.48 308 P **P** 07 02 53.2 -0.7
QIZ PP **PP** 07 04 18.2 +3.6
QIZ S **S** 07 08 30.1 +1.0
QIZ pmax pmax
comp=Z,28nm,1.3s
QIZ pmax pmax
comp=Z,390nm,5.4s
QIZ LR LR
comp=Z,940nm,16.3s
QIZ LR LR
comp=Z,1µm,16.1s
TOO Toolangi 35.55 171 **P** 07 02 54.0 -0.3
TOO Toolangi 35.55 171 P **P** 07 02 55.1 +0.8
comp=Z,10nm,1.7s
TOO Toolangi 35.55 171 P **P** 07 02 54.0 -0.3
TOO pmax pmax
comp=Z,22nm,1.5s
JNU Nakatsue 36.10 349 **P** 07 02 58.8 -0.3
JNU IAmb IAmb 07 03 01.1
comp=Z,102nm,1.1s
JNU Nakatsue 36.10 349 LR LR 07 16 38.3
comp=Z,3µm,19.5s,baz=162,slow=34
JNU Nakatsue 36.10 349 P **P** 07 03 00.9 +1.8
JMN Monobe 36.23 353 **P** 07 03 00.4 +0.2
JMN IAmb IAmb 07 03 02.6
comp=Z,116nm,1.3s
JMN Monobe 36.23 353 P **P** 07 03 02.3 +2.2
NWAO Narrogin (SRO) 36.44 211 LR LR 07 19 21.4
comp=Z,11µm,18.9s,baz=36,slow=39
SSE Sheshan 37.26 335 P **P** 07 03 10.2 +1.3
SSE S **S** 07 09 02.8 +6.9
SSE pmax pmax
comp=Z,24nm,0.9s
SSE pmax pmax
comp=Z,330nm,3.6s
SSE LR LR
comp=Z,850nm,19.9s
SSE LR LR
comp=Z,730nm,19.6s
UBPT Khong Chiam 37.29 299 **P** 07 03 07.8 -1.5
UBPT IAmb IAmb 07 03 21.0
comp=Z,192nm,1.9s
UBPT Khong Chiam 37.29 299 P **P** 07 03 11.6 +2.2
IPM Ipoh 38.27 280 P **P** 07 03 16.0 -1.8
IPM Ipoh 38.27 280 P **P** 07 03 18.8 +1.0
MJAR Matsushiro Arr 38.75 359 P **P** 07 03 20.6 -0.8
MJAR Matsushiro Arr 38.75 359 P **P** 07 03 19.9 -1.6
comp=Z,2.8nm,0.7s,baz=178,slow=8.5,SNR=5.7
comp=Z,2.8nm,0.7s
MAJO Matsushiro 38.75 359 P **P** 07 03 21.2 -0.2
MAJO Matsushiro 38.75 359 P **P** 07 03 23.5 +2.0
MAJO Matsushiro 38.75 359 *i* P **P** 07 03 20.0 -1.5
MAJO pmax pmax
comp=Z,17nm,1.0s
KULM Kulim 38.77 281 **P** 07 03 20.4 -1.6
KULM Kulim 38.77 281 P **P** 07 03 22.4 +0.4
NJ2 Nanjing 39.10 333 ⇑P **P** 07 03 25.9 +1.4
NJ2 S **S** 07 09 27.6 +3.8
NJ2 pmax pmax
comp=Z,29nm,0.7s
NJ2 pmax pmax
comp=Z,380nm,3.5s
NJ2 LR LR
comp=Z,2µm,11.8s
NJ2 LR LR
comp=Z,2µm,14.2s
NJ2 LR LR
comp=Z,3µm,18.9s
CNSH ChangSha 39.23 323 P **P** 07 03 26.7 +1.2
CNSH S **S** 07 09 27.8 +2.0
CNSH pmax pmax
comp=Z,55nm,1.4s
CNSH LR LR
comp=Z,1µm,13.3s
CNSH LR LR
comp=Z,1µm,20.7s
CNSH LR LR
comp=Z,1µm,22.1s
SISI Saibi 39.61 271 P **P** 07 03 28.1 -0.9
comp=Z,83nm,1.1s
TJN Taejon 40.01 346 P **P** 07 03 34.1 +2.2
comp=Z,195nm,3.0s
TJN Taejon 40.01 346 *i* P **P** 07 03 30.7 -1.2
PSI Prapat 40.10 277 P **P** 07 03 33.0 -0.2
JMM Marumori 40.12 3 P **P** 07 03 33.5 +0.7
JMM IAmb IAmb 07 03 34.9
comp=Z,90nm,1.2s
JMM Marumori 40.12 3 P **P** 07 03 35.2 +2.4
comp=Z,73nm,1.7s
WHN Wuhan 40.16 327 ⇓P **P** 07 03 34.7 +1.4
WHN pP **sP** 07 03 38.5 -0.7
WHN S **S** 07 09 44.9 +5.1
WHN pmax pmax
comp=Z,210nm,1.3s
WHN LR LR
comp=Z,4µm,19.3s
JSD Sado 40.24 359 P **P** 07 03 35.4 +1.6
SRIT Nakonsritamara 40.49 286 **P** 07 03 34.2 -2.0
SRIT IAmb IAmb 07 03 38.3
comp=Z,70nm,1.0s
SRIT Nakonsritamara 40.49 286 P **P** 07 03 37.9 +1.6
FUNA Funafuti 40.74 100 P **P** 07 03 38.8 +0.4
KSAR Wonju Array Be 40.90 347 **P** 07 03 39.1 -0.2
KSAR Wonju Array Be 40.90 347 P **P** 07 03 39.1 -0.2
KSRS Korea Array 40.90 347 P **P** 07 03 37.2 -2.0
comp=Z,8.5nm,0.9s,baz=164,slow=9.6,SNR=18
comp=Z,8.5nm,0.9s
KS19 Wonju Array Si 40.96 347 P **P** 07 03 38.9 -0.9
KS19 IAmb IAmb 07 05 14.4
comp=Z,192nm,1.9s
INCN Inchon 41.24 345 P **P** 07 03 41.8 -0.3
INCN IAmb IAmb 07 03 44.5
comp=Z,102nm,1.2s
INCN Inchon 41.24 345 P **P** 07 03 43.9 +1.8
INCN Inchon 41.24 345 P **P** 07 03 41.8 -0.3
INCN pmax pmax
comp=Z,102nm,1.3s
GSI Gunungsitoli 41.28 275 **P** 07 03 40.3 -2.6
GSI IAmb IAmb 07 03 47.6
comp=Z,104nm,1.2s
GSI Gunungsitoli 41.28 275 P **P** 07 03 46.8 +3.9
GSI Gunungsitoli 41.28 275 P **P** 07 03 43.8 +0.9
comp=Z,72nm,1.1s
SLVN Son La 41.43 306 **P** 07 03 43.0 -1.0
SLVN Son La 41.43 306 P **P** 07 03 46.4 +2.4
MSVF Nonsavu 41.49 114 *i* P **P** 07 03 45.2 +0.6
MSVF pmax pmax
comp=Z,40nm,1.5s
GYA Guiyang 42.20 315 P **P** 07 03 51.6 +1.2
GYA S **S** 07 10 14.0 +3.4
GYA LR LR
comp=Z,2µm,18.3s
GYA LR LR
comp=Z,1µm,20.6s
GYA LR LR
comp=Z,2µm,17.4s
LHMI Lhok Sumawe 42.40 280 P **P** 07 03 50.5 -1.5
LHMI IAmb IAmb 07 03 55.1
comp=Z,130nm,0.9s
MLSI Meulaboh, Aceh 42.79 279 P **P** 07 03 54.5 -0.7
ENH Enshi 42.82 322 P **P** 07 03 54.9 -0.3
ENH Enshi 42.82 322 P **P** 07 03 56.8 +1.6
TIA Tai'an 43.38 334 P **P** 07 04 00.2 +0.6
TIA S **S** 07 10 24.4 -2.9
TIA pmax pmax
comp=Z,25nm,1.0s
TIA LR LR
comp=Z,2µm,20.1s
TIA LR LR
comp=Z,1µm,17.2s
TIA LR LR
comp=Z,3µm,19.4s
LYN LuoYang 44.26 328 P **P** 07 04 06.4 -0.3
LYN sP sP 07 04 14.6 +2.0
LYN S **S** 07 10 43.6 +3.4
LYN SS **SS** 07 13 55.9 -2.9
LYN pmax pmax
comp=Z,59nm,0.9s
LYN pmax pmax
comp=Z,590nm,5.3s
LYN LR LR
comp=Z,880nm,14.0s
LYN LR LR
comp=Z,1µm,13.3s
LYN LR LR
comp=Z,2µm,16.5s
CM31 Chiang Mai Arr 44.28 300 P **P** 07 04 05.0 -2.2
CMAR Chiang Mai Arr 44.28 300 P **P** 07 04 05.6 -1.6
comp=Z,9.0nm,0.8s,baz=120,slow=6.5,SNR=33
CMAR PcP **PP** 07 05 49.8 -0.7
comp=Z,2.6nm,0.8s,baz=145,slow=2.0,SNR=4.9
comp=Z,9.0nm,0.8s
KMI Kunming 44.32 310 P **P** 07 04 08.1 +0.5
KMI S **S** 07 10 44.4 +2.6
KMI pmax pmax
comp=Z,24nm,1.5s
KMI pmax pmax
comp=Z,250nm,3.4s
KMI LR LR
comp=Z,900nm,15.8s
KMI LR LR
comp=Z,2µm,19.7s
KMI LR LR
comp=Z,2µm,23.5s
CHTO Chiang Mai 44.43 300 P **P** 07 04 06.9 -1.4
CHTO Chiang Mai 44.43 300 P **P** 07 04 10.4 +2.1
CHTO Chiang Mai 44.43 300 P **P** 07 04 06.9 -1.4
CHTO pmax pmax
comp=Z,32nm,1.3s
MSHR Mys Shultsa 45.30 352 *i* P **P** 07 04 11.7 -3.1
HNS HongShan 45.44 333 ⇑P **P** 07 04 15.3 -0.7
HNS S **S** 07 10 56.6 -0.5
HNS SS **ScS** 07 14 12.8 +0.2
HNS pmax pmax
comp=Z,28nm,0.9s
HNS LR LR
comp=Z,2µm,18.0s
HNS LR LR
comp=Z,1µm,16.5s
HNS LR LR
comp=Z,3µm,16.7s
VLA Vladivostok 45.73 353 *i* P **P** 07 04 17.0 -1.2
VLA pmax pmax
comp=Z,58nm,0.9s
PZH PanZhiHua 45.82 311 P **P** 07 04 21.7 +2.3
PZH S **S** 07 11 05.1 +1.7
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,310nm,6.7s
PZH LR LR
comp=Z,2µm,17.3s
PZH LR LR
comp=Z,2µm,17.1s
PZH LR LR
comp=Z,880nm,17.1s
SNY Shenyang 46.12 344 ⇓P **P** 07 04 22.2 +0.9
SNY pmax pmax
comp=Z,34nm,2.0s
ASAJ Asahikawa 46.45 4 LR LR 07 24 00.4
comp=Z,1µm,19.4s,baz=194,slow=36
ASAJ Asahikawa 46.45 4 P **P** 07 04 23.8 -0.1
ASAJ pmax pmax
comp=Z,54nm,1.3s
JKA Kamikawa-asahi 46.45 4 P **P** 07 04 23.8 -0.1
USA0B Ussuriysk Arra 46.79 353 **P** 07 04 26.7 +0.2
USA0B Ussuriysk Arra 46.79 353 *i* P **P** 07 04 25.2 -1.3
USRK Ussuriysk Ar. 46.79 353 **P** 07 04 25.9 -0.6
USRK Ussuriysk Ar. 46.79 353 P **P** 07 04 25.5 -1.0
comp=Z,17nm,1.0s,baz=180,slow=8.9,SNR=30
comp=Z,17nm,1.0s
CD2 Chengdu 46.95 318 P **P** 07 04 27.5 -0.7
CD2 PP **PP** 07 06 21.5 +2.7
CD2 S **S** 07 11 19.2 -0.1
CD2 pmax pmax
comp=Z,40nm,2.5s
CD2 pmax pmax
comp=Z,750nm,6.1s
CD2 LR LR
comp=Z,7µm,15.7s
CD2 LR LR
comp=Z,4µm,14.5s
CD2 LR LR
comp=Z,7µm,16.7s
BJT Baijiatuau 47.00 336 P **P** 07 04 27.5 -0.8
BJT Baijiatuau 47.00 336 P **P** 07 04 29.8 +1.5
BJT Baijiatuau 47.00 336 P **P** 07 04 27.5 -0.8
BJT pmax pmax
comp=Z,37nm,1.3s
BJI Beijing 47.02 336 P **P** 07 04 28.3 -0.1
BJI S **S** 07 11 21.8 +2.0
BJI pmax pmax
comp=Z,12nm,1.7s
BJI pmax pmax
comp=Z,190nm,5.5s
BJI LR LR
comp=Z,750nm,20.0s
BJI LR LR
comp=Z,610nm,17.4s
BJI LR LR
comp=Z,1µm,19.9s
CN2 Changchun 47.52 347 *e*P **P** 07 04 32.0 -0.2
CN2 *e*S **S** 07 11 24.7 -2.1
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,1µm,19.0s
CN2 LR LR
comp=Z,900nm,19.0s
CN2 LR LR
comp=Z,1µm,21.0s
MDJ Mudanjiang 47.52 351 P **P** 07 04 31.8 -0.4
MDJ Mudanjiang 47.52 351 P **P** 07 04 32.6 +0.4
MDJ S **S** 07 11 32.4 +5.6
MDJ pmax pmax
comp=Z,38nm,1.8s
MDJ LR LR
comp=Z,2µm,19.7s
MDJ LR LR
comp=Z,480nm,17.3s
MDJ LR LR
comp=Z,2µm,20.0s
MDJ Mudanjiang 47.52 351 P **P** 07 04 35.0 +2.8
TNCH TengChong 47.55 308 P **P** 07 04 34.0 +0.9
TNCH S **S** 07 11 32.0 +3.7
TNCH pmax pmax
comp=Z,380nm,5.5s
TNCH LR LR
comp=Z,1µm,13.8s
TNCH LR LR
comp=Z,1µm,15.9s
TNCH LR LR
comp=Z,930nm,13.5s
BNX BinXian 48.98 350 ⇑P **P** 07 04 42.4 -1.1
BNX S **S** 07 11 52.7 +5.3
BNX pmax pmax
comp=Z,9.0nm,0.8s
BNX pmax pmax
comp=Z,510nm,3.1s
BNX LR LR
comp=Z,5µm,15.0s
BNX LR LR
comp=Z,4µm,14.5s
BNX LR LR
comp=Z,7µm,15.5s
RAO Raoul Island 49.09 127 LR LR 07 23 55.0
comp=Z,1µm,21.9s,baz=301,slow=34
YSS Yuzhno-Sakhali 49.28 4 P **P** 07 04 46.7 +0.9
YSS Yuzhno-Sakhali 49.28 4 *e*P **P** 07 04 44.5 -1.3
YSS *e* 07 04 50.9
YSS pmax pmax
comp=Z,300nm,5.2s
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=Z,500nm,17.0s
HHC Hu-ho-hao-te 49.66 333 *e*P **P** 07 04 50.5 +1.5
HHC sP sP 07 04 57.8 +2.9
HHC S **S** 07 11 58.1 +0.7
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,460nm,5.2s
HHC LR LR
comp=Z,1µm,15.3s
HHC LR LR
comp=Z,970nm,16.0s
HHC LR LR
comp=Z,2µm,15.3s
OTVZ Oturere 49.69 142 P **P** 07 04 51.7 +2.3
DUWZ D'Urville Isla 49.70 145 P **P** 07 04 50.9 +1.7
URZ Urewera 50.05 140 LR LR 07 27 02.6
comp=Z,2µm,18.2s,baz=307,slow=37
URZ Urewera 50.05 140 P **P** 07 04 51.6 -0.3
TUWZ Tuamarina 50.12 146 P **P** 07 04 51.8 -0.5
TUWZ Tuamarina 50.12 146 P **P** 07 04 52.5 +0.2
RPZ Rata Peaks 50.15 150 LR LR 07 25 30.5
comp=Z,3µm,20.2s,baz=310,slow=35
RPZ Rata Peaks 50.15 150 P **P** 07 04 54.4 +1.8
TCW Tory Channel 50.17 145 P **P** 07 04 52.0 -0.7
RTZ Ruatahuna 50.18 141 P **P** 07 04 52.2 -0.7
RTZ IAmb IAmb 07 05 01.4
comp=Z,114nm,1.5s
BTO Baotou 50.18 332 *e*P **P** 07 04 55.2 +2.2
BTO pP **sP** 07 05 00.0 +1.1
BTO PP **PP** 07 06 46.1 -2.3
BTO S **S** 07 12 09.6 +4.9
BTO pmax pmax
comp=Z,33nm,1.3s
BTO pmax pmax
comp=Z,1µm,5.1s
BTO LR LR
comp=Z,2µm,15.8s
BTO LR LR
comp=Z,2µm,17.7s
BTO LR LR
comp=Z,2µm,12.7s
HAZ Te Kaha 50.20 139 P **P** 07 04 54.1 +1.1
BKZ Black Stump Fm 50.20 142 P **P** 07 04 53.2 +0.1
BKZ IAmb IAmb 07 04 58.0
comp=Z,78nm,1.6s
BKZ Black Stump Fm 50.20 142 P **P** 07 04 53.6 +0.5
MTHZ Maungataniwha 50.23 141 P **P** 07 04 52.9 -0.4
LZH Lanzhou 50.24 323 *e*P **P** 07 04 53.5 0.0
LZH sP sP 07 05 00.4 +0.9
LZH S **S** 07 12 05.0 -0.7
LZH SS **SS** 07 15 35.4 -4.1
LZH pmax pmax
comp=Z,67nm,1.1s
LZH LR LR
comp=Z,6µm,18.6s
LZH LR LR
comp=Z,12µm,16.3s
LZH LR LR
comp=Z,19µm,18.4s
RUGZ Raukumara Rang 50.25 140 P **P** 07 04 54.2 +0.6
KWHZ Kaweka Forest 50.32 142 P **P** 07 04 55.0 +1.0
MWZ Matawai 50.36 140 P **P** 07 04 54.3 0.0
XLT XiLinHaoTe 50.37 339 *e*P **P** 07 04 54.9 +0.6
XLT sP sP 07 05 01.6 +1.4
XLT pmax pmax
comp=Z,13nm,1.2s
XLT LR LR
comp=Z,120nm,18.0s
XLT LR LR
comp=Z,1µm,16.9s
XLT LR LR
comp=Z,1µm,19.7s
ARCZ Arundel 50.38 150 P **P** 07 04 53.4 -0.9
RAGZ Rawiri 50.39 140 P **P** 07 04 54.5 0.0
KRHZ Kereru 50.42 142 P **P** 07 04 54.2 -0.4
RAHZ Arahi 50.42 141 P **P** 07 04 55.1 +0.3
TSZ Takapari Road 50.42 143 P **P** 07 04 54.4 -0.3
OGWZ Otaki Gorge 50.43 144 P **P** 07 04 54.0 -0.7
PKGZ Pakihiroa 50.45 139 P **P** 07 04 55.4 +0.5
PNHZ Pukenui 50.48 143 P **P** 07 04 56.7 +1.5
MRZ Mangatainoka R 50.57 144 P **P** 07 04 55.4 -0.4
MRZ IAmb IAmb 07 05 04.5
comp=Z,57nm,1.1s
MRZ Mangatainoka R 50.57 144 P **P** 07 04 55.3 -0.5
WMGZ Waiomatatini S 50.64 139 P **P** 07 04 55.4 -1.0
PUZ Puketiti 50.68 139 P **P** 07 04 56.5 -0.2
HOWZ Holdsworth Sta 50.69 144 P **P** 07 04 55.6 -1.0
DVHZ Dannevirke 50.70 143 P **P** 07 04 57.5 +0.7
PRWZ Pori Road 50.74 143 P **P** 07 04 57.0 0.0
KAHZ Kahuranaki 50.82 142 P **P** 07 04 57.9 +0.1
CNGZ Carnagh Statio 50.89 140 P **P** 07 04 58.7 +0.5
PXZ Pawanui 50.95 142 P **P** 07 04 58.7 0.0
BFZ Birch Farm 50.98 143 P **P** 07 04 59.0 +0.2
UGL Uglegorsk 51.36 3 *e*P P 07 05 08.7 +7.2
KLR Kul'dur 51.78 354 *i* P **P** 07 05 02.3 -2.4
KLR pmax pmax
comp=Z,58nm,1.6s

TYV Tymovskoe 53.17 3 *e*P **P** 07 05 16.0 +1.1
TYV *e*S **S** 07 12 44.2 -1.1
TYV pmax pmax
comp=Z,19nm,1.7s
TYV pmax pmax
comp=Z,300nm,4.8s
TYV smax smax
comp=N,400nm,5.4s
TYV smax smax
comp=E,300nm,5.4s
HEH HeiHe 53.34 351 *e*P **P** 07 05 17.0 +0.8
HEH pmax pmax
comp=E,34nm,1.6s
HIA Hailar 54.02 345 P **P** 07 05 21.9 +0.6
HIA lAmb lAmb 07 05 23.8
comp=Z,60nm,1.5s
HIA Hailar 54.02 345 P **P** 07 05 24.2 +2.9
HIA Hailar 54.02 345 P **P** 07 05 21.9 +0.6
HIA pmax pmax
comp=Z,60nm,1.5s
GTA Gaotai 54.82 323 *e*P **P** 07 05 27.6 +0.2
GTA pmax pmax
comp=Z,20nm,1.6s
GOMU GeErMu 56.09 317 P **P** 07 05 38.7 +1.8
GOMU pP pP 07 05 41.9 +0.7
GOMU sP sP 07 05 45.9 +3.0
GOMU pmax pmax
comp=Z,5.0nm,0.6s
ZEA Zeya 56.76 352 *e*P **P** 07 05 42.9 +2.1
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,1.6s
ULN Ulaanbaatar 57.19 335 **P** 07 05 44.2 0.0
ULN lAmb lAmb 07 05 47.2
comp=Z,70nm,1.7s
ULN Ulaanbaatar 57.19 335 *i* P **P** 07 05 41.0 -3.2
ULN pmax pmax
comp=Z,35nm,1.4s
SONM Songino Array 57.44 335 **P** 07 05 46.4 +0.4
SONM Songino Array 57.44 335 P **P** 07 05 44.7 -1.3
comp=Z,2.0nm,0.6s,baz=155,slow=6.5,SNR=21
comp=Z,2.0nm,0.6s
PEA0B Petropavlovsk- 57.57 13 *i* P **P** 07 05 46.5 -0.1
PETK Petropavlovsk- 57.57 13 **P** 07 05 47.8 +1.2
PETK Petropavlovsk- 57.57 13 P **P** 07 05 46.1 -0.5
comp=Z,1.2nm,0.4s,baz=200,slow=12,SNR=5.4
comp=Z,1.2nm,0.4s
CIT Chita 58.26 342 *e*P **P** 07 05 52.4 +0.9
CIT *e* 07 06 45.0
CIT pmax pmax
comp=Z,206nm,1.8s
ZAK Zakamensk 60.71 335 *e*P **P** 07 06 07.3 -1.3
ZAK pmax pmax
comp=Z,52nm,1.5s
IRK Irkutsk 61.72 337 *e*P **P** 07 06 15.6 +0.4
IRK pmax pmax
comp=Z,104nm,2.0s
MA2 Magadan 62.52 7 P **P** 07 06 22.1 +1.6
MA2 Magadan 62.52 7 P **P** 07 06 25.1 +4.6
MA2 Magadan 62.52 7 *i* P **P** 07 06 17.7 -2.8
MA2 pmax pmax
comp=Z,31nm,1.2s
MA2 Magadan 62.52 7 P **P** 07 06 21.1 +0.6
MOY Mondy 62.64 335 *e*P **P** 07 06 21.5 -0.1
MOY pmax pmax
comp=Z,100nm,2.1s
RAR Rarotonga 62.64 113 LR LR 07 32 10.6
comp=Z,486nm,21.5s,baz=277,slow=35
BOD Bodaibo 63.22 345 *e*P **P** 07 06 25.1 -0.1
BOD pmax pmax
comp=Z,67nm,1.8s
YAK Yakutsk 64.63 355 **P** 07 06 33.8 -0.5
YAK Yakutsk 64.63 355 *e*P **P** 07 06 32.9 -1.4
YAK *e**PP **sP** 07 06 42.8 +2.4
YAK *e* 07 07 13.7
YAK *e* 07 08 55.1
YAK *e*S **S** 07 15 13.9 +0.2
YAK *e* 07 16 27.8
YAK *e*SS **SS** 07 19 23.3 -1.3
YAK pmax pmax
comp=Z,83nm,1.3s
YAK pmax pmax
comp=N,40nm,1.5s
YAK pmax pmax
comp=E,12nm,1.3s
YAK pmax pmax
comp=Z,291nm,6.8s
YAK pmax pmax
comp=N,114nm,6.3s
YAK pmax pmax
comp=E,48nm,2.6s
YAK smax smax
comp=N,152nm,4.2s
YAK smax smax
comp=E,96nm,2.8s
YAK MLR MLR
comp=Z,2µm,31.0s
YAK MLR MLR
comp=N,4µm,30.0s
YAK MLR MLR
comp=E,2µm,24.0s
WMQ Urumqi 64.77 322 *e*P **P** 07 06 37.0 +1.2
WMQ sP sP 07 06 45.5 +3.7
WMQ pmax pmax
comp=E,20nm,1.5s
WMQ pmax pmax
comp=E,230nm,3.8s
WMQ LR LR
comp=E,6µm,14.9s
SEY Seymchan 65.98 7 *i* P **P** 07 06 42.5 -0.6
SEY pmax pmax
comp=Z,19nm,1.3s
CASY Casey 66.77 192 P **P** 07 06 47.9 -0.2
NIKH Nikolski High 70.42 31 P **P** 07 07 11.9 +0.7
baz=237
PPT Papeete 71.85 108 LR LR 07 36 56.1
comp=Z,224nm,21.8s,baz=263,slow=34
PPT2 Papeete2 71.85 108 *e*LQ LQ 07 26 12.7
comp=Z,2µm,31.5s
PPT2 *e*LR LR 07 29 14.1
comp=Z,1µm,25.0s
PPT2 *e*LR LR 07 29 20.8
comp=Z,1µm,24.8s
UNV Unalaska Valle 72.08 31 P **P** 07 07 24.0 +2.9
UNV Unalaska Valle 72.08 31 P **P** 07 07 21.5 +0.3
baz=239
P08K Saint George I 72.10 27 P **P** 07 07 20.8 -0.4
baz=236
SPIA Saint Paul Isl 72.11 26 **P** 07 07 22.8 +1.6
SPIA Saint Paul Isl 72.11 26 P P 07 07 26.4 +5.1
SPIA Saint Paul Isl 72.11 26 P **P** 07 07 21.2 -0.1
baz=235
TBI Tubuai 72.38 114 *e*LQ LQ 07 26 27.2
comp=Z,6µm,33.2s
TBI *e*LR LR 07 29 34.7
comp=Z,1µm,25.5s
TBI eLR LR 07 29 35.6
comp=Z,3µm,24.2s
BILL Bilibino 72.87 10 *i* P **P** 07 07 26.5 +0.9
BILL pmax pmax
comp=Z,17nm,1.2s
S12K Black Hills 75.23 30 **P** 07 07 40.7 +1.1
S12K Black Hills 75.23 30 P **P** 07 07 38.8 -0.8
baz=243
GAMB Gambell 75.50 20 P **P** 07 07 41.5 +0.5
GAMB lAmb lAmb 07 07 44.8
comp=Z,73nm,1.6s
GAMB Gambell 75.50 20 P **P** 07 07 41.3 +0.3
baz=232
M11K Mekoryuk 75.65 25 P **P** 07 07 43.5 +1.6
M11K Mekoryuk 75.65 25 P **P** 07 07 42.0 +0.1
baz=238
SIMJ Simiganj 75.79 311 P **P** 07 07 42.9 -0.5
SIMJ lAmb lAmb 07 07 46.0
comp=Z,59nm,0.9s
SDPT Sand Point 75.88 31 **P** 07 07 44.7 +1.4
SDPT Sand Point 75.88 31 P **P** 07 07 46.4 +3.1
SDPT Sand Point 75.88 31 P **P** 07 07 43.0 -0.4
baz=244
VNDA Vanda 76.08 175 **P** 07 07 43.6 -0.6
VNDA Vanda 76.08 175 P **P** 07 07 43.1 -1.0
comp=Z,6.1nm,0.8s,baz=320,slow=6.8,SNR=21
VNDA LR LR 07 41 23.1
comp=Z,3µm,18.3s,baz=344,slow=36
comp=Z,6.1nm,0.8s

CHNA Chernabura Isl 76.11 32 P **P** 07 07 44.5 -0.2
baz=245
S14K Fog Glacier 76.75 30 P **P** 07 07 48.0 -0.4
baz=245
M13K Dall Lake 76.88 26 **P** 07 07 50.1 +1.1
M13K Dall Lake 76.88 26 P **P** 07 07 48.9 -0.1
baz=240
K13K Kusilvak Mount 77.11 24 P **P** 07 07 51.0 +0.8
K13K lAmb lAmb 07 07 54.2
comp=Z,94nm,1.2s
K13K Kusilvak Mount 77.11 24 P **P** 07 07 50.3 +0.1
baz=239
O14K Tigyukauivet M 77.25 27 **P** 07 07 51.5 +0.4
O14K lAmb lAmb 07 07 54.6
comp=Z,52nm,1.1s
O14K Tigyukauivet M 77.25 27 P **P** 07 07 50.6 -0.5
baz=243
CHGN Chignik 77.33 31 P **P** 07 07 53.1 +1.5
CHGN lAmb lAmb 07 07 54.2
comp=Z,73nm,1.3s
CHGN Chignik 77.33 31 P **P** 07 07 51.5 -0.1
baz=246
N14K Kuskokwak Cree 77.38 26 **P** 07 07 52.3 +0.6
N14K lAmb lAmb 07 07 55.2
comp=Z,69nm,1.2s
N14K Kuskokwak Cree 77.38 26 P **P** 07 07 52.1 +0.3
baz=242,SNR=17
L14K Kuka Creek 77.62 25 **P** 07 07 53.3 +0.2
L14K Kuka Creek 77.62 25 P **P** 07 07 53.6 +0.6
baz=241,SNR=69
M14K Bethel 77.65 26 P **P** 07 07 54.0 +0.7
M14K lAmb lAmb 07 07 57.0
comp=Z,92nm,1.1s
M14K Bethel 77.65 26 P **P** 07 07 53.6 +0.3
baz=242
TNA Tin City 77.87 20 P **P** 07 07 55.8 +1.4
TNA Tin City 77.87 20 P **P** 07 07 54.3 -0.1
baz=235
O15K Ungalikthiuk R 77.88 28 **P** 07 07 56.1 +1.6
O15K lAmb lAmb 07 07 58.2
comp=Z,57nm,1.3s
O15K Ungalikthiuk R 77.88 28 P **P** 07 07 54.6 0.0
baz=244,SNR=12
J14K Nanvaranak Lak 77.97 23 **P** 07 07 56.2 +1.3
J14K lAmb lAmb 07 07 59.0
comp=Z,79nm,1.4s
J14K Nanvaranak Lak 77.97 23 P **P** 07 07 56.1 +1.1
baz=240,SNR=12
M15K Kasigluk River 78.17 26 P **P** 07 07 55.7 -0.5
baz=243,SNR=39
N15K Kwethluk River 78.20 27 **P** 07 07 57.6 +1.2
N15K lAmb lAmb 07 08 00.1
comp=Z,85nm,1.2s
N15K Kwethluk River 78.20 27 P **P** 07 07 56.6 +0.2
baz=244,SNR=31
ANM Nome 78.22 21 **P** 07 07 58.0 +1.6
ANM lAmb lAmb 07 08 00.2
comp=Z,76nm,1.6s
ANM Nome 78.22 21 P **P** 07 07 58.0 +1.6
ANM pmax pmax
comp=Z,76nm,1.6s
ANM Nome 78.22 21 P **P** 07 07 56.6 +0.2
baz=238,SNR=5.9
L15K Ungalak Mounta 78.29 25 P **P** 07 07 56.6 -0.2
baz=242
F14K Arctic Creek 78.37 20 P **P** 07 07 57.2 0.0
baz=237
K15K Wolf Creek Mou 78.56 24 **P** 07 07 59.1 +0.8
K15K lAmb lAmb 07 08 02.3
comp=Z,98nm,1.2s
K15K Wolf Creek Mou 78.56 24 P **P** 07 07 58.4 0.0
baz=242,SNR=51
P16K Nushagak River 78.67 28 P **P** 07 08 00.6 +1.6
P16K Nushagak River 78.67 28 P **P** 07 07 58.9 -0.1
baz=246
O16K Kokwok River B 78.86 28 **P** 07 08 00.4 +0.4
O16K lAmb lAmb 07 08 03.5
comp=Z,110nm,1.4s
O16K Kokwok River B 78.86 28 P **P** 07 07 60.0 0.0
baz=245,SNR=45
R17L Mt. Peulik Vol 78.90 30 P **P** 07 08 00.3 0.0
baz=247,SNR=10
PLK4 Peulik 4 78.90 30 **P** 07 08 01.2 +0.8
PLK4 lAmb lAmb 07 08 03.2
comp=Z,83nm,1.3s
N16K Nishlik Lake 78.92 27 P **P** 07 08 00.7 +0.3
baz=245,SNR=39
G15K Niukluk 78.93 21 P **P** 07 08 01.2 +0.9
baz=239
BVAR Borovoye Array 79.06 325 P **P** 07 08 00.4 -0.8
comp=Z,30nm,0.7s
comp=Z,30nm,0.7s
M16K Timber Creek 79.08 26 **P** 07 08 02.0 +0.8
M16K lAmb lAmb 07 08 05.0
comp=Z,85nm,1.2s
M16K Timber Creek 79.08 26 P **P** 07 08 01.3 +0.1
baz=244,SNR=41
F15K North Star Dit 79.09 21 **P** 07 08 02.8 +1.6
F15K lAmb lAmb 07 08 04.8
comp=Z,77nm,1.4s
F15K North Star Dit 79.09 21 P **P** 07 08 01.0 -0.2
baz=238,SNR=18
L16K Owhat River 79.16 25 P **P** 07 08 01.4 -0.2
baz=244
Q16K King Salmon 79.16 29 P **P** 07 08 01.9 +0.2
baz=247
Q17K Contact Creek 79.38 29 P **P** 07 08 02.0 -1.0
baz=248,SNR=20
O17K Koliganek Bris 79.39 28 P **P** 07 08 02.9 0.0
baz=246
J16K Anvik River 79.41 24 **P** 07 08 04.0 +1.0
J16K lAmb lAmb 07 08 07.1
comp=Z,109nm,1.4s
J16K Anvik River 79.41 24 P **P** 07 08 03.7 +0.8
baz=242,SNR=22
NRIK Noril'sk 79.43 344 **P** 07 08 03.3 +0.4
NRIK Noril'sk 79.43 344 P **P** 07 08 01.6 -1.3
comp=Z,21nm,1.1s,baz=128,slow=6.0,SNR=24
comp=Z,21nm,1.1s
NRIK Noril'sk 79.43 344 *i* P **P** 07 08 01.6 -1.3
NRIK pmax pmax
comp=Z,64nm,1.4s
P17K Kvichak River 79.47 28 P **P** 07 08 02.3 -1.0
baz=247
ACHA Angle Creek He 79.63 29 P **P** 07 08 05.6 +1.2
ACHA lAmb lAmb 07 08 09.6
comp=Z,55nm,1.3s
I17K Unalakleet 79.65 23 P **P** 07 08 04.7 +0.5
baz=242
N17K Nushagak Hills 79.66 27 **P** 07 08 05.2 +0.9
N17K lAmb lAmb 07 08 08.5
comp=Z,74nm,1.2s
N17K Nushagak Hills 79.66 27 P **P** 07 08 04.2 -0.2
baz=246,SNR=47
G16K Koyuk River 79.75 21 P **P** 07 08 06.1 +1.4
G16K lAmb lAmb 07 08 08.3
comp=Z,68nm,1.4s
G16K Koyuk River 79.75 21 P **P** 07 08 04.5 -0.2
baz=240
R18K Karluk 79.83 30 P **P** 07 08 04.3 -1.0
baz=249
L17K Donlin 79.84 25 P **P** 07 08 05.4 +0.1
baz=245,SNR=38
M17K Holitna River 79.91 26 **P** 07 08 06.8 +1.1
M17K Holitna River 79.91 26 P **P** 07 08 04.4 -1.3
baz=246,SNR=58
Q18K Katmai Hardscr 79.95 29 P **P** 07 08 04.9 -1.3
baz=248,SNR=30
J17K VABM Dome 80.07 24 lAmb lAmb 07 08 10.7
comp=Z,113nm,1.4s
J17K VABM Dome 80.07 24 P **P** 07 08 06.6 +0.1
baz=244,SNR=52
K17K Iditarod 80.09 25 P **P** 07 08 07.1 +0.4
baz=245,SNR=85
P18K Big Mountain, 80.12 28 P **P** 07 08 05.8 -1.2
baz=248,SNR=11
C16K Lisburne Hills 80.24 18 P **P** 07 08 05.9 -1.4
baz=237,SNR=14
OHAK Old Harbor 80.30 31 lAmb lAmb 07 08 11.3
comp=Z,92nm,1.1s
OHAK Old Harbor 80.30 31 P **P** 07 08 11.3 +3.5
OHAK Old Harbor 80.30 31 P **P** 07 08 07.6 -0.2
baz=250,SNR=17
O18K Koktuh Hills 80.30 28 P **P** 07 08 07.0 -0.9
baz=248,SNR=18
N18K Kilae Creek 80.31 27 lAmb lAmb 07 08 11.9
comp=Z,86nm,1.3s

N18K Kilae Creek 80.31 27 P **P** 07 08 06.9 -1.0
baz=247,SNR=30
G17K Kiwalik Mounta 80.42 22 P **P** 07 08 08.3 -0.1
baz=242,SNR=27
H17K Granite Mounta 80.44 22 **P** 07 08 09.3 +0.8
H17K lAmb lAmb 07 08 12.4
comp=Z,80nm,1.4s
H17K Granite Mounta 80.44 22 P **P** 07 08 08.5 0.0
baz=243,SNR=15
L18K Granite Mounta 80.56 25 lAmb lAmb 07 08 13.2
comp=Z,89nm,1.3s
L18K Granite Mounta 80.56 25 P **P** 07 08 09.5 +0.3
baz=246
M18K Stony River 80.65 26 P **P** 07 08 09.8 +0.1
baz=247,SNR=61
D17K Noatak River 80.66 19 P **P** 07 08 09.1 -0.4
baz=240
F17K Baldwin Pennin 80.66 21 lAmb lAmb 07 08 16.5
comp=Z,49nm,1.2s
F17K Baldwin Pennin 80.66 21 P **P** 07 08 09.6 0.0
baz=241
Q19K Cape Douglas, 80.71 29 lAmb lAmb 07 08 21.3
comp=Z,68nm,1.1s
Q19K Cape Douglas, 80.71 29 P **P** 07 08 09.4 -0.7
baz=250,SNR=8.8
E17K Hotham Inlet 80.77 20 P **P** 07 08 10.3 +0.1
baz=241
KDAK Kodiak Island 80.84 30 **P** 07 08 11.5 +0.7
KDAK lAmb lAmb 07 08 14.8
comp=Z,97nm,1.1s
KDAK Kodiak Island 80.84 30 *i* P **P** 07 08 10.1 -0.7
KDAK pmax pmax
comp=Z,146nm,1.3s
KDAK Kodiak Island 80.84 30 P **P** 07 08 10.3 -0.5
baz=251
O19K Port Alsworth 80.84 28 P **P** 07 08 10.0 -0.8
baz=249
TAOE Nuku Hiva Isla 80.89 99 *e*LR LR 07 33 25.9
comp=Z,824nm,22.9s
RDOG Red Dog Mine 80.90 19 P **P** 07 08 11.7 +0.8
RDOG lAmb lAmb 07 08 14.4
comp=Z,66nm,1.3s
RDOG Red Dog Mine 80.90 19 P **P** 07 08 11.0 +0.1
baz=240
N19K Bonanza Creek 81.00 27 **P** 07 08 11.9 +0.2
N19K Bonanza Creek 81.00 27 P **P** 07 08 11.7 0.0
baz=248,SNR=72
C17K DeLong Mountai 81.03 18 P **P** 07 08 11.5 -0.1
baz=239,SNR=24
J18K Innoko River 81.06 24 lAmb lAmb 07 08 15.2
comp=Z,60nm,1.4s
J18K Innoko River 81.06 24 P **P** 07 08 11.5 -0.3
baz=246,SNR=27
H18K Honhosa River 81.12 22 P **P** 07 08 12.3 +0.1
baz=244,SNR=15
P19K Oil Pt 81.16 28 lAmb lAmb 07 08 15.0
comp=Z,96nm,1.2s
P19K Oil Pt 81.16 28 P **P** 07 08 11.9 -0.6
baz=250,SNR=12
Q20K Shuyak Island 81.22 30 P **P** 07 08 12.2 -0.6
baz=251,SNR=6.5
SYI Shuyak Island 81.22 30 lAmb lAmb 07 08 15.8
comp=Z,70nm,1.2s
F18K Selawik 81.30 21 P **P** 07 08 11.9 -1.1
baz=243
ILSW Iliamna Southw 81.32 28 lAmb lAmb 07 08 15.4
comp=Z,79nm,1.5s
G18K Tagagawik 81.34 22 P **P** 07 08 12.7 -0.7
baz=244,SNR=50
L19K White Mountain 81.34 26 lAmb lAmb 07 08 17.1
comp=Z,105nm,1.4s
L19K White Mountain 81.34 26 P **P** 07 08 12.9 -0.5
baz=248,SNR=46
E18K Tukpahlearik C 81.35 20 P **P** 07 08 12.8 -0.5
baz=242,SNR=39
M19K Big River Lodg 81.44 26 lAmb lAmb 07 08 17.8
comp=Z,58nm,1.2s
M19K Big River Lodg 81.44 26 P **P** 07 08 13.7 -0.3
baz=248,SNR=32
GCSA Galena City Sc 81.52 23 P **P** 07 08 14.3 +0.1
baz=246,SNR=14
O20K Slope Mountain 81.60 28 P **P** 07 08 15.6 +0.8
baz=250
RED Redoubt Volcan 81.64 28 P **P** 07 08 15.3 +0.2
RED lAmb lAmb 07 08 17.8
comp=Z,68nm,1.3s
J19K Poorman 81.72 24 lAmb lAmb 07 08 19.0
comp=Z,58nm,1.2s
J19K Poorman 81.72 24 P **P** 07 08 15.9 +0.6
baz=247,SNR=44
C18K Utukok River 81.74 19 **P** 07 08 15.3 -0.2
C18K Utukok River 81.74 19 P **P** 07 08 16.6 +1.1
baz=241,SNR=23
L20K Farewell, AK 81.88 26 P **P** 07 08 16.2 -0.1
baz=249,SNR=40
B18K Kokolik River 81.91 18 P **P** 07 08 16.7 +0.5
baz=240,SNR=21
HOM Homer 81.92 29 P **P** 07 08 16.2 -0.3
baz=251
M20K Styx River 81.99 26 P **P** 07 08 17.0 +0.1
baz=250
H19K Roundabout Mou 82.01 22 P **P** 07 08 17.1 +0.3
baz=246
G19K Purcell Mounta 82.03 22 lAmb lAmb 07 08 22.9
comp=Z,87nm,1.1s
G19K Purcell Mounta 82.03 22 P **P** 07 08 17.3 +0.4
baz=245,SNR=85
F19K Shaleruckik Mo 82.07 21 P **P** 07 08 16.8 -0.3
baz=245,SNR=24
K20K Telida 82.12 25 lAmb lAmb 07 08 21.3
comp=Z,88nm,1.3s
K20K Telida 82.12 25 P **P** 07 08 16.8 -0.6
baz=248
N20K Mount Spurr 82.17 27 P **P** 07 08 18.0 +0.2
baz=250
SPCR Spurr Chakacha 82.17 27 P **P** 07 08 17.7 -0.2
baz=250
BRLK Bradley Lake 82.32 29 P **P** 07 08 18.5 -0.1
BRLK lAmb lAmb 07 08 24.8
comp=Z,37nm,1.0s
J20K Nowinta River 82.39 24 **P** 07 08 19.4 +0.5
J20K lAmb lAmb 07 08 22.6
comp=Z,91nm,1.4s
J20K Nowinta River 82.39 24 P **P** 07 08 19.1 +0.3
baz=248,SNR=43
MAW Mawson 82.40 202 P **P** 07 08 17.3 -1.5
comp=Z,3.7nm,2.1s
MAW Mawson 82.40 202 P **P** 07 08 17.4 -1.5
comp=Z,10nm,0.9s,baz=70,slow=9.0,SNR=12
MAW LR LR 07 43 11.7
comp=Z,2µm,18.4s,baz=12,slow=34
comp=Z,10nm,0.9s
STLK Strandline Lak 82.44 27 P **P** 07 08 19.3 0.0
C19K Lookout Ridge 82.47 19 lAmb lAmb 07 08 23.1
comp=Z,63nm,1.1s
C19K Lookout Ridge 82.47 19 P **P** 07 08 19.8 +0.5
baz=243,SNR=60
I20K Naaghedeneel 82.49 23 lAmb lAmb 07 08 23.1
comp=Z,74nm,1.4s
I20K Naaghedeneel 82.49 23 P **P** 07 08 19.4 +0.1
baz=248,SNR=7.7
E19K Redstone River 82.53 20 lAmb lAmb 07 08 24.9
comp=Z,42nm,1.1s
E19K Redstone River 82.53 20 P **P** 07 08 19.5 0.0
baz=245,SNR=48
A19K Wainwright 82.54 17 P **P** 07 08 20.6 +1.1
baz=241,SNR=5.1
H20K Anotleneega Mo 82.60 23 P **P** 07 08 19.5 -0.4
baz=248,SNR=22
D19K Kuna River 82.68 19 lAmb lAmb 07 08 23.6
comp=Z,57nm,1.2s
D19K Kuna River 82.68 19 P **P** 07 08 19.8 -0.5
baz=244,SNR=54
SKT Skwentna 82.73 27 lAmb lAmb 07 08 22.5
comp=Z,49nm,1.3s
SKT Skwentna 82.73 27 P **P** 07 08 18.7 -2.1
baz=251,SNR=19
PPLA Purkeypile 82.75 26 P **P** 07 08 22.0 +1.0
PPLA Purkeypile 82.75 26 P **P** 07 08 19.2 -1.7
baz=250,SNR=17
F20K Avaraart Lake 82.89 21 P **P** 07 08 21.3 -0.1
baz=247
SUA Susitna One 82.92 27 P **P** 07 08 21.4 -0.5
SUA lAmb lAmb 07 08 23.9
comp=Z,62nm,1.4s
SUA Susitna One 82.92 27 P **P** 07 08 20.1 -1.7
baz=252
CAST Castle Rocks 82.97 25 **P** 07 08 22.7 +0.8

CAST IAmb IAmb 07 08 24.8
comp=Z,64nm,1.4s
CAST Castle Rocks 82.97 25 P P 07 08 21.3 -0.7
baz=250,SNR=27
CHUM Lake Minchumin 83.04 25 P P 07 08 21.0 -1.2
baz=250,SNR=67
O22K Cooper Landing 83.10 28 IAmb IAmb 07 08 25.1
comp=Z,65nm,1.1s
O22K Cooper Landing 83.10 28 P P 07 08 21.9 -0.7
baz=253
SEW Seward 83.11 29 IAmb IAmb 07 08 25.4
comp=Z,91nm,1.3s
SEW Seward 83.11 29 P P 07 08 22.0 -0.7
baz=253,SNR=14
E20K Nigu River 83.22 20 P P 07 08 22.6 -0.6
baz=246,SNR=51
D20K Etivluk River 83.27 19 IAmb IAmb 07 08 26.7
comp=Z,49nm,1.2s
D20K Etivluk River 83.27 19 P P 07 08 23.3 -0.1
baz=246,SNR=34
RC01 Rabbit Creek A 83.27 28 P P 07 08 22.0 -1.5
baz=253,SNR=24
M22K Willow 83.30 27 P P 07 08 23.6 0.0
M22K Willow 83.30 27 P P 07 08 22.4 -1.2
baz=252,SNR=9.6
CUT Chulitna 83.43 26 P P 07 08 25.2 +1.0
CUT Chulitna 83.43 26 P P 07 08 22.9 -1.3
baz=252
H21K Melozitna Rive 83.46 23 P P 07 08 24.4 0.0
H21K Melozitna Rive 83.46 23 P P 07 08 23.5 -0.9
baz=249,SNR=20
G21K Allakaket 83.50 22 P 07 08 25.5 +0.9
G21K Allakaket 83.50 22 P P 07 08 23.8 -0.8
baz=249,SNR=17
KTH Kantishna Hill 83.51 25 P P 07 08 24.8 0.0
I21K Tanana 83.62 23 P P 07 08 24.9 -0.3
baz=250
B20K Meade River 83.64 18 P P 07 08 24.8 -0.3
baz=245
BPAW Bear Paw Mtn. 83.66 25 IAmb IAmb 07 08 30.6
comp=Z,67nm,1.6s
BPAW Bear Paw Mtn. 83.66 25 P P 07 08 24.3 -1.2
baz=251,SNR=21
PMR Palmer 83.70 27 IAmb IAmb 07 08 28.6
comp=Z,71nm,1.2s
PMR Palmer 83.70 27 P P 07 08 26.3 +0.7
PMR Palmer 83.70 27 P P 07 08 24.5 -1.1
baz=253,SNR=24
TRF Thorofare Moun 83.75 25 IAmb IAmb 07 08 29.1
comp=Z,60nm,1.4s
TRF Thorofare Moun 83.75 25 P P 07 08 24.8 -1.4
baz=252,SNR=20
F21K Alatna River 83.77 21 P P 07 08 25.7 -0.2
baz=249
GHO Glory Hole Cre 83.85 27 P P 07 08 27.3 +0.7
GHO IAmb IAmb 07 08 29.1
comp=Z,76nm,1.3s
PWL Port Wells 83.86 28 P P 07 08 27.1 +0.6
PWL Port Wells 83.86 28 P P 07 08 25.6 -1.0
baz=254,SNR=24
KNK Knik Glacier 83.96 28 P P 07 08 27.8 +0.7
KNK IAmb IAmb 07 08 30.6
comp=Z,134nm,1.2s
KNK Knik Glacier 83.96 28 P P 07 08 26.2 -0.9
baz=254,SNR=11
E21K Killik River 84.05 20 P P 07 08 27.5 +0.1
baz=248
C21K Knifeblade Rid 84.05 19 P P 07 08 28.1 +0.7
baz=247,SNR=25
MLY Manley 84.06 24 IAmb IAmb 07 08 32.1
comp=Z,45nm,1.3s
MLY Manley 84.06 24 P P 07 08 26.9 -0.7
baz=251,SNR=47
P23K Montague Islan 84.07 29 P P 07 08 27.2 -0.4
baz=255
H22K Ishtalitna Cre 84.09 23 P P 07 08 27.7 +0.1
baz=251,SNR=20
B21K Ikpikpuk River 84.29 19 P P 07 08 28.6 +0.1
baz=247
WAT1 Susitna Watana 84.32 26 P P 07 08 27.6 -1.2
baz=254
BWN Browne 84.32 25 P P 07 08 29.5 +0.7
F22K John River 84.34 21 P P 07 08 28.9 0.0
baz=250
A21K Barrow 84.36 17 P P 07 08 28.8 0.0
baz=245
G22K Bettles 84.39 22 P P 07 08 28.1 -1.0
baz=250
M23K Glacier View 84.40 27 P P 07 08 28.6 -0.7
baz=254,SNR=6.9
MCK McKinley 84.41 25 P P 07 08 28.2 -1.1
baz=253,SNR=21
Q23K Middleton Isla 84.44 30 P P 07 08 28.2 -1.3
baz=256
GLI Glacier Island 84.45 28 P P 07 08 29.9 +0.3
GLI Glacier Island 84.45 28 P P 07 08 28.7 -0.9
baz=255,SNR=16
SCM Sheep Creek Mo 84.59 27 P P 07 08 29.7 -0.6
baz=255,SNR=44
WAT6 Susitna Watana 84.61 26 P P 07 08 29.2 -1.3
baz=254,SNR=27
NEA2 Nenana 84.61 24 IAmb IAmb 07 08 34.4
comp=Z,36nm,1.2s
NEA2 Nenana 84.61 24 P P 07 08 29.1 -1.2
baz=253,SNR=33
D22K Ayikyak River 84.65 20 P P 07 08 30.3 -0.1
baz=249,SNR=45
I23K Minto, Yukon-K 84.66 24 IAmb IAmb 07 08 33.5
comp=Z,61nm,1.3s
I23K Minto, Yukon-K 84.66 24 P P 07 08 29.9 -0.6
baz=253,SNR=59
E22K Anaktuvuk Pass 84.69 21 P P 07 08 30.6 -0.1
baz=250
A22K Sinclair Lake 84.72 18 P P 07 08 30.0 -0.6
baz=247
H23K Yukon River 84.79 23 P P 07 08 30.0 -1.2
baz=252,SNR=30
G23K Bananza Creek 84.88 22 IAmb IAmb 07 08 36.6
comp=Z,55nm,1.2s
G23K Bananza Creek 84.88 22 P P 07 08 32.0 +0.4
baz=252,SNR=74
DHY Denali Highway 84.90 26 IAmb IAmb 07 08 35.4
comp=Z,56nm,1.1s
DHY Denali Highway 84.90 26 P P 07 08 31.0 -1.0
baz=255,SNR=58
B22K Teshekpuk Lake 84.94 18 P P 07 08 31.0 -0.8
baz=248,SNR=6.7
COLD Coldfoot 84.97 22 IAmb IAmb 07 08 36.9
comp=Z,42nm,1.1s
COLD Coldfoot 84.97 22 P P 07 08 32.1 +0.1
baz=252,SNR=50
WRH Wood River Hil 84.98 25 IAmb IAmb 07 08 35.2
comp=Z,51nm,1.1s
EYAK Cordova Ski Ar 85.01 29 P P 07 08 35.9 +3.6
EYAK Cordova Ski Ar 85.01 29 P P 07 08 31.9 -0.4
baz=256,SNR=6.8
CCB Clear Creek Bu 85.15 24 IAmb IAmb 07 08 35.3
comp=Z,38nm,1.0s
KLU Klutina 85.15 28 IAmb IAmb 07 08 36.3
comp=Z,55nm,1.2s
KLU Klutina 85.15 28 P P 07 08 33.2 0.0
baz=256,SNR=18
M24K Tolsona, Glenn 85.19 27 P P 07 08 33.1 -0.2
baz=256,SNR=15
COLA College 85.19 24 P P 07 08 33.8 +0.7
COLA College 85.19 24 P P 07 08 35.8 +2.7
COLA College 85.19 24 *i* P P 07 08 31.9 -1.2
COLA pmax pmax
comp=Z,21nm,1.0s
COLA College 85.19 24 P P 07 08 33.0 -0.2
baz=254
D23K Nanushuk River 85.36 20 P P 07 08 34.4 +0.4
baz=251,SNR=111
POKR Poker Plat Res 85.43 24 P P 07 08 33.5 -0.9
baz=254,SNR=8.1
HDA Harding Lake 85.44 25 IAmb IAmb 07 08 37.5
comp=Z,28nm,1.0s
HDA Harding Lake 85.44 25 P P 07 08 33.1 -1.4
baz=255,SNR=26
E23K Chandalar 85.45 21 P P 07 08 33.7 -0.9
baz=252,SNR=102
H24K Noodor Dome 85.45 23 IAmb IAmb 07 08 39.6
comp=Z,31nm,1.0s
H24K Noodor Dome 85.45 23 P P 07 08 33.3 -1.2
baz=254,SNR=46
RAGM Ragged Mountai 85.49 29 IAmb IAmb 07 08 38.1
comp=Z,65nm,1.2s
KAIM Kayak Island 85.51 29 P P 07 08 33.9 -0.9
baz=258
ILAR Eielson Array 85.56 24 P P 07 08 32.8 -2.2
comp=Z,22nm,1.0s,baz=260,slow=4.7,SNR=62
comp=Z,22nm,1.0s
TOLK Toolik Lake Re 85.64 20 P P 07 08 35.1 -0.4
baz=252,SNR=61
BMRM Bremner River 85.65 28 P 07 08 36.4 +0.8
BMRM IAmb IAmb 07 08 39.2
comp=Z,57nm,1.1s
BMRM Bremner River 85.65 28 P P 07 08 35.2 -0.5
baz=257,SNR=15
C23K Itkillik River 85.67 19 P P 07 08 34.9 -0.6
baz=251,SNR=42
HMT Hamilton 85.68 29 IAmb IAmb 07 08 39.0
comp=Z,57nm,1.0s
PAX Paxson 85.72 26 IAmb IAmb 07 08 38.9
comp=Z,67nm,1.7s
PAX Paxson 85.72 26 P P 07 08 35.7 -0.3
baz=256,SNR=14
HARP HAARP 85.72 27 P P 07 08 35.7 -0.2
baz=257
K24K Donnelly Dome 85.78 26 IAmb IAmb 07 08 40.4
comp=Z,30nm,0.9s
K24K Donnelly Dome 85.78 26 P P 07 08 36.0 -0.2
baz=256,SNR=15
N25K Chitina, Valde 85.80 28 IAmb IAmb 07 08 39.7
comp=Z,49nm,1.4s
N25K Chitina, Valde 85.80 28 P P 07 08 36.0 -0.4
baz=257,SNR=9.6
G24K Hadweenzic Riv 85.84 23 P P 07 08 36.6 +0.2
baz=254,SNR=39
E24K Your Creek 85.86 21 P P 07 08 36.7 +0.2
baz=253
F24K Squaw Lake 85.92 22 P 07 08 37.5 +0.7
F24K Squaw Lake 85.92 22 P P 07 08 37.2 +0.4
baz=254,SNR=63
D24K Happy Valley 86.06 20 P P 07 08 37.7 +0.3
baz=253,SNR=42
GLB Gilahina Butte 86.13 28 IAmb IAmb 07 08 41.0
comp=Z,55nm,1.2s
J25K Salcha River, 86.15 25 P P 07 08 36.9 -1.1
baz=256,SNR=42
RIDG Independent Ri 86.17 26 P 07 08 37.9 -0.3
RIDG IAmb IAmb 07 08 40.8
comp=Z,40nm,1.1s
RIDG Independent Ri 86.17 26 P P 07 08 36.3 -1.8
baz=257,SNR=22
VRDI Verde Repeater 86.25 28 IAmb IAmb 07 08 41.6
comp=Z,29nm,1.2s
C24K Franklin Bluff 86.27 19 P P 07 08 37.6 -0.8
baz=253
PRP Porcupine Dome 86.31 24 P P 07 08 36.6 -2.2
baz=256
CRQM Cirque 86.31 29 P P 07 08 39.8 +0.7
CRQE Cirque 86.33 29 P P 07 08 39.0 -0.1
baz=259,SNR=8.5
H25L Birch Creek 86.37 23 P P 07 08 38.9 -0.1
baz=256,SNR=18
G25K Bearman Lake 86.39 23 P P 07 08 39.0 -0.1
baz=256,SNR=21
WAX Waxell Ridge 86.39 29 IAmb IAmb 07 08 42.8
comp=Z,60nm,1.1s
TGL Tana Glacier 86.46 29 P P 07 08 40.8 +1.1
MCARA McCarthy VSAT 86.49 28 P P 07 08 39.5 -0.2
baz=259
MENT Mentasta 86.49 27 P P 07 08 39.8 +0.1
MENT Mentasta 86.49 27 P P 07 08 41.1 +1.4
DOT Dot Lake 86.49 26 IAmb IAmb 07 08 42.5
comp=Z,44nm,1.3s
SCRK Sand Creek 86.59 26 P 07 08 40.6 +0.3
SCRK IAmb IAmb 07 08 43.2
comp=Z,47nm,1.8s
SCRK Sand Creek 86.59 26 P P 07 08 39.0 -1.4
baz=258,SNR=14
ISLE Juniper Island 86.67 29 P P 07 08 41.3 +0.5
ISLE IAmb IAmb 07 08 43.9
comp=Z,67nm,1.2s
L26K Log Cabin Wild 86.67 27 P P 07 08 41.4 +0.8
L26K IAmb IAmb 07 08 43.8
comp=Z,32nm,1.3s
L26K Log Cabin Wild 86.67 27 P P 07 08 39.8 -0.8
baz=258,SNR=18
M26K Nabesna, AK 86.70 27 P P 07 08 42.1 +1.3
M26K IAmb IAmb 07 08 44.1
comp=Z,72nm,1.9s
M26K Nabesna, AK 86.70 27 P P 07 08 39.6 -1.2
baz=259,SNR=8.8
F25K Christian Rive 86.77 22 IAmb IAmb 07 08 45.0
comp=Z,45nm,1.1s
F25K Christian Rive 86.77 22 P P 07 08 39.5 -1.5
baz=256,SNR=53
MESA MESA 86.78 29 P P 07 08 40.5 -0.9
baz=260
J26L Joseph Creek 86.89 25 P P 07 08 42.5 +0.7
J26L IAmb IAmb 07 08 44.8
comp=Z,33nm,1.1s
J26L Joseph Creek 86.89 25 P P 07 08 40.7 -1.0
baz=258
E25K Arctic Village 86.92 21 P P 07 08 42.5 +0.7
E25K Arctic Village 86.92 21 P P 07 08 42.2 +0.5
baz=256,SNR=76
D25K Kavik River 86.94 20 P P 07 08 40.8 -1.0
baz=255
GRNC Granite Creek 86.97 29 P P 07 08 43.0 +0.7
BARN Barnard Glacie 87.08 29 P P 07 08 43.5 +0.7
BMAR Burnt Mountain 87.12 22 P P 07 08 43.8 +1.1
M27K Edge Creek, AK 87.21 27 P P 07 08 43.7 +0.3
M27K Edge Creek, AK 87.21 27 P P 07 08 42.9 -0.5
baz=260,SNR=30
CTG Chitna Glacier 87.21 29 P P 07 08 43.1 -0.3
baz=260,SNR=7.9
TABL Table Mountain 87.22 29 P P 07 08 44.0 +0.4
I26K Coal Creek Min 87.22 24 P P 07 08 43.3 +0.1
I26K IAmb IAmb 07 08 45.8
comp=Z,54nm,1.6s
I26K Coal Creek Min 87.22 24 P P 07 08 42.6 -0.6
baz=258
G26K Porcupine Rive 87.32 23 P 07 08 44.6 +1.0
G26K Porcupine Rive 87.32 23 P P 07 08 44.7 +1.1
baz=258,SNR=37
F26K Sheenjek River 87.35 22 P P 07 08 43.5 -0.3
baz=257,SNR=92
L27K Beaver Creek, 87.36 27 IAmb IAmb 07 08 47.5
comp=Z,48nm,1.3s
L27K Beaver Creek, 87.36 27 P P 07 08 43.2 -0.7
baz=260,SNR=37
BCAR Beaver Creek A 87.38 27 P P 07 08 44.3 +0.2
K27K Chicken 87.43 26 P P 07 08 43.8 -0.4
baz=259
QSPA South Pole Qui 87.54 180 P P 07 08 43.5 -1.3
QSPA IAmb IAmb 07 08 58.9
comp=Z,29nm,1.1s
QSPA South Pole Qui 87.54 180 P P 07 08 42.7 -2.1
comp=Z,12nm,0.8s,baz=317,slow=1.7,SNR=28
QSPA LR LR 07 48 38.5
comp=Z,2µm,18.5s,baz=322,slow=36
comp=Z,12nm,0.8s
C26K Camden Bay 87.59 20 P P 07 08 44.5 -0.4
baz=256
PCA Pinnacle 87.60 30 P P 07 08 46.5 +1.3
PINM Pinnacle 87.60 30 P P 07 08 44.4 -0.8
baz=261,SNR=5.6
BVCY Beaver Creek 87.69 27 P P 07 08 44.9 -0.7
baz=260,SNR=28
O28M Mount Upton 87.74 29 P P 07 08 46.6 +0.5
O28M IAmb IAmb 07 08 49.6
comp=Z,47nm,1.1s
O28M Mount Upton 87.74 29 P P 07 08 46.3 +0.1
baz=261,SNR=15
YUK3 Moose Creek 87.77 28 P P 07 08 45.7 -0.4
baz=261,SNR=33
BCPM Bancas Point 87.89 30 P P 07 08 46.9 +0.4
I27K Kandik River 87.91 24 P P 07 08 46.8 +0.3
baz=260,SNR=116
C27K Jago River 87.93 20 P P 07 08 47.2 +0.7
C27K Jago River 87.93 20 P P 07 08 46.1 -0.4
baz=258
PNL Peninsula 87.96 30 P P 07 08 49.7 +2.8
PNL Peninsula 87.96 30 P P 07 08 46.8 -0.1
baz=262
YUK8 Steele Glacier 88.02 29 P P 07 08 47.3 -0.2
baz=262
H27K Steamboat Moun 88.06 24 P P 07 08 47.5 +0.3
baz=260,SNR=92
G27K Doyon Strip 88.12 23 IAmb IAmb 07 08 51.5
comp=Z,47nm,1.4s
G27K Doyon Strip 88.12 23 P P 07 08 47.7 +0.2
baz=260,SNR=29
E27K Coleen River 88.39 22 P 07 08 49.7 +0.9
E27K Coleen River 88.39 22 P P 07 08 49.1 +0.3
baz=260,SNR=18
O29M Mount Kennedy 88.46 30 IAmb IAmb 07 08 53.1
comp=Z,47nm,1.2s
O29M Mount Kennedy 88.46 30 P P 07 08 49.7 +0.3
baz=263,SNR=7.4
YUK4 Talbot Arm 88.56 29 P P 07 08 50.8 +0.8
baz=263,SNR=16
I28M Miner Creek 88.58 24 P 07 08 49.5 -0.3
I28M Miner Creek 88.58 24 P P 07 08 50.3 +0.5
baz=261,SNR=60
DAWY Dawson 88.60 26 P P 07 08 50.4 +0.5
DAWY Dawson 88.60 26 P P 07 08 49.6 -0.2
baz=262,SNR=105
YUK6 Outpost Mounta 88.65 29 P P 07 08 50.0 -0.4
baz=263,SNR=8.3
M29M Somme Creek 88.79 27 P P 07 08 50.9 0.0
M29M Somme Creek 88.79 27 P P 07 08 50.5 -0.3
baz=263,SNR=42
P29M Windy Craggy 88.79 30 P P 07 08 50.9 +0.1
baz=263,SNR=9.1
D27M Malcolm River 88.80 21 P P 07 08 51.4 +0.7
baz=260
F28M Old Crow 88.94 22 P P 07 08 50.3 -1.1
baz=261,SNR=11
L29M L29M 89.03 27 P 07 08 52.7 +0.8
L29M L29M 89.03 27 P P 07 08 52.1 +0.2
baz=263,SNR=49
HYT Haines Junctio 89.05 29 P P 07 08 52.0 -0.2
baz=264,SNR=34
J29N Klondike Camp 89.16 26 P P 07 08 53.5 +1.0
J29N Klondike Camp 89.16 26 P P 07 08 52.4 -0.2
baz=263
E28M Babbage River 89.21 21 P P 07 08 52.1 -0.5
baz=262,SNR=14
P30M Million Dollar 89.24 30 P P 07 08 52.4 -0.6
baz=264
I29M Ogilvie Camp, 89.24 25 P P 07 08 53.1 +0.3
I29M Ogilvie Camp, 89.24 25 P P 07 08 52.3 -0.6
baz=263,SNR=60
N30M Aishikik Lake 89.32 29 P P 07 08 53.9 +0.6
N30M IAmb IAmb 07 08 56.9
comp=Z,32nm,1.1s
N30M Aishikik Lake 89.32 29 P P 07 08 52.8 -0.5
baz=264,SNR=23
H29M Whitestone 89.33 24 IAmb IAmb 07 09 18.0
comp=Z,31nm,1.2s
H29M Whitestone 89.33 24 P P 07 08 52.8 -0.4
baz=263,SNR=12
K29M Barlow Dome 89.39 26 P 07 08 54.4 +0.7
K29M Barlow Dome 89.39 26 P P 07 08 52.4 -1.3
baz=264,SNR=30
S31K Pelican 89.39 32 IAmb IAmb 07 08 56.9
comp=Z,65nm,1.6s
S31K Pelican 89.39 32 P P 07 08 53.9 +0.3
baz=265
PLBC Pleasant Camp 89.47 31 P P 07 08 53.0 -0.9
baz=264,SNR=13
G29M Pine Creek 89.55 23 P 07 08 54.4 +0.2
G29M IAmb IAmb 07 08 57.4
comp=Z,34nm,1.2s
G29M Pine Creek 89.55 23 P P 07 08 53.5 -0.8
baz=263,SNR=17
M30M Minto, Yukon 89.58 27 IAmb IAmb 07 08 58.1
comp=Z,40nm,1.4s
M30M Minto, Yukon 89.58 27 P P 07 08 54.9 +0.4
baz=264,SNR=26
D28M Stokes Point 89.60 21 P P 07 08 54.6 +0.2
baz=262
O30N Mendenhall 89.73 29 P P 07 08 55.7 +0.5
O30N IAmb IAmb 07 08 58.7
comp=Z,42nm,1.3s
O30N Mendenhall 89.73 29 P P 07 08 53.2 -2.0
baz=265,SNR=19
E29M Blow River 89.78 22 P P 07 08 54.2 -1.1
baz=263,SNR=7.4
SIT Sitka 89.80 33 P P 07 08 54.6 -0.9
baz=265
N31M Braeburn, Yuko 89.95 29 P 07 08 56.6 +0.3
N31M IAmb IAmb 07 08 59.8
comp=Z,42nm,1.2s
N31M Braeburn, Yuko 89.95 29 P P 07 08 56.0 -0.2
baz=265,SNR=9.7
J30M Hart River 89.99 25 IAmb IAmb 07 09 00.1
comp=Z,59nm,1.3s
J30M Hart River 89.99 25 P P 07 08 55.7 -0.7
baz=264,SNR=39
SKAG Skagway 90.00 31 P P 07 08 56.7 +0.3
SKAG IAmb IAmb 07 08 60.0
comp=Z,48nm,1.2s
SKAG Skagway 90.00 31 P P 07 08 59.8 +3.4
SKAG Skagway 90.00 31 P P 07 08 55.8 -0.6
baz=265,SNR=14
EPYK Eagle Plains 90.00 24 P P 07 08 57.3 +0.9
EPYK IAmb IAmb 07 08 59.2
comp=Z,33nm,1.4s
EPYK Eagle Plains 90.00 24 P P 07 08 55.9 -0.5
baz=264,SNR=11
I30M Mount Dempster 90.03 25 P 07 08 56.8 +0.1
I30M IAmb IAmb 07 08 59.8
comp=Z,39nm,1.4s
I30M Mount Dempster 90.03 25 P P 07 08 55.6 -1.1
baz=264,SNR=21
MAYO Mayo, Yukon 90.08 26 P P 07 08 57.6 +0.8
MAYO IAmb IAmb 07 09 00.5
comp=Z,36nm,1.1s
MAYO Mayo, Yukon 90.08 26 P P 07 08 56.4 -0.4
baz=265
S32K Killisnoo 90.24 33 P P 07 08 59.7 +2.2
S32K IAmb IAmb 07 09 00.7
comp=Z,32nm,1.2s
S32K Killisnoo 90.24 33 P P 07 08 56.3 -1.3
baz=266
G30M tAoh Zraii Nji 90.26 23 P 07 08 58.4 +0.8
G30M IAmb IAmb 07 09 00.5
comp=Z,22nm,1.1s
G30M tAoh Zraii Nji 90.26 23 P P 07 08 57.7 +0.1
baz=265,SNR=15
WHY Whitehorse 90.32 29 P 07 08 58.6 +0.5
WHY Whitehorse 90.32 29 P P 07 08 57.7 -0.3
baz=266,SNR=17
R32K Eaglecrest 90.33 32 P P 07 08 56.8 -1.2
baz=266
F30M Barrier River 90.49 22 P 07 08 60.0 +1.4
F30M Barrier River 90.49 22 P P 07 08 58.2 -0.3
baz=265,SNR=6.0
M31M Drury Creek, Y 90.66 28 P P 07 08 59.6 +0.1
M31M IAmb IAmb 07 09 02.5
comp=Z,27nm,1.4s
M31M Drury Creek, Y 90.66 28 P P 07 08 58.6 -0.9
baz=266,SNR=9.7
P32M Atlin 90.83 31 P 07 09 00.6 +0.2
P32M Atlin 90.83 31 P P 07 09 00.3 0.0
baz=267,SNR=9.2
H31M Peel River 90.92 24 IAmb IAmb 07 09 03.4
comp=Z,28nm,1.5s
H31M Peel River 90.92 24 P P 07 09 00.9 +0.3
baz=266,SNR=5.8
CRAG Craig 90.92 35 P P 07 08 59.2 -1.6
baz=267
U33K Whale Pass 90.96 34 P P 07 09 00.3 -0.7
baz=267
G31M Satah River 91.02 23 IAmb IAmb 07 09 03.4
comp=Z,45nm,1.4s
G31M Satah River 91.02 23 P P 07 09 00.2 -0.9
baz=266,SNR=10
SYO Syowa Base 91.04 201⇑ *e* P P 07 09 00.8 -0.3
FARO Faro, Yukon 91.15 28 P P 07 09 02.0 +0.2
FARO IAmb IAmb 07 09 04.8
comp=Z,24nm,1.2s
FARO Faro, Yukon 91.15 28 P P 07 09 01.3 -0.5
baz=267,SNR=17
DIB Dawson Inlet, 91.20 37 IAmb IAmb 07 09 04.7
comp=Z,29nm,1.3s
N32M Quiet Lake 91.22 29 P P 07 09 01.2 -0.9
baz=267
F31M Tsiigehtchic 91.26 23 IAmb IAmb 07 09 04.8
comp=Z,23nm,1.2s
F31M Tsiigehtchic 91.26 23 P P 07 09 01.9 -0.2
baz=267,SNR=9.1
P33M Teslin, Yukon 91.31 30 P P 07 09 03.5 +0.8
baz=268,SNR=6.6
INK Inuvik 91.39 22 P 07 09 02.3 -0.4
INK IAmb IAmb 07 12 41.4
comp=Z,30nm,1.4s

INK	**Inuvik**	**91.39**	**22**	P	**P**	**07 09 02.3**	**-0.4**
INK				pmax	pmax		
	comp=Z,31nm,1.4s						
INK	**Inuvik**	**91.39**	**22**	P	**P**	**07 09 02.2**	**-0.4**
	baz=267,SNR=7.9						
WRAK	**Wrangell Islan**	**91.40**	**34**	P	**P**	**07 09 03.2**	**+0.2**
	baz=268						
Q32M	**Nakina River**	**91.54**	**31**	IAmb	IAmb	07 09 09.7	
	comp=Z,37nm,1.9s						
Q32M	**Nakina River**	**91.54**	**31**	P	**P**	**07 09 04.1**	**+0.2**
	baz=268						
KIRV	**Kirov**	**91.66**	**328**	LR	LR	07 51 47.6	
	comp=Z,915nm,21.0s,baz=99,slow=37						
V35K	**Ketchikan**	**91.78**	**35**	P	**P**	**07 09 04.5**	**-0.2**
	baz=268						
S34M	**Telegraph Cree**	**92.11**	**32**	P	**P**	**07 09 05.9**	**-0.4**
	baz=269						
MMPY	**Sheldon Lake,**	**92.13**	**28**	IAmb	IAmb	07 09 09.8	
	comp=Z,29nm,1.5s						
MMPY	**Sheldon Lake,**	**92.13**	**28**	P	**P**	**07 09 06.1**	**-0.3**
	baz=269,SNR=9.4						
R33M	**Jennings River**	**92.22**	**31**	P	**P**	**07 09 07.1**	**+0.1**
	baz=269,SNR=9.1						
T35M	**Bob Quinn**	**92.57**	**33**	P	**P**	**07 09 08.5**	**0.0**
	baz=270						
DLBC	**Dease Lake**	**92.70**	**32**	P	**P**	**07 09 08.7**	**-0.4**
	baz=270,SNR=5.5						
TGTN	**Hyland Airport**	**93.55**	**29**	P	**P**	**07 09 12.2**	**-0.7**
	baz=272						
A36M	**Sachs Harbour**	**94.15**	**18**	P	**P**	**07 09 14.1**	**-1.3**
	baz=275						
TOAD	**Toad River Com**	**95.19**	**31**	P	**P**	**07 09 19.4**	**-1.1**
	baz=274						
WRGLY	**Wrigley**	**95.67**	**27**	P	**P**	**07 09 21.9**	**-0.6**
	baz=276						
KOTAN	**Kotaneelee Air**	**95.69**	**30**	P	**P**	**07 09 22.8**	**+0.1**
	baz=275						
APA	**Apatity**	**98.03**	**338**	*e*P	**P**	**07 09 32.9**	**-0.2**
APA				MLR	MLR		
	comp=Z,751nm,18.7s						
OBN	**Obninsk**	**98.91**	**325**	LR	LR	07 57 00.5	
	comp=Z,613nm,19.8s,baz=22,slow=37						
OBN	**Obninsk**	**98.91**	**325**	*e*P	**P**	**07 09 34.6**	**-2.7**
OBN				*e*		07 13 38.2	
OBN				pmax	pmax		
	comp=Z,42nm,1.0s						
YKA	**Yellowknife Air**	**99.80**	**27**	P	**Pdif**	**07 09 41.8**	**+0.7**
	comp=Z,2.1nm,0.9s,baz=294,slow=5.1,SNR=5.0						
	comp=Z,2.1nm,0.9s						
TROLL	**Troll, Antarti**	**100.62**	**193**	⇑P	**Pdif**	**07 09 46.9**	**+2.0**
	comp=Z,124nm,0.8s						
SNAA	**Sanae**	**102.00**	**192**	⇑P	**Pdif**	**07 09 52.0**	**+1.1**
	comp=Z,33nm,1.2s						
SNAA	**Sanae**	**102.00**	**192**	P	**Pdif**	**07 09 51.1**	**+0.2**
	comp=Z,2.3nm,1.2s,baz=100,slow=5.0,SNR=3.4						
TXAR	**Lajitas Array**	**115.14**	**59**	PKP	**PKPdf**	**07 14 37.9**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=213,slow=5.5,SNR=7.1						
JCT	**Junction City**	**118.14**	**57**		**PKPdf**	**07 14 44.1**	**-0.8**
JCT	**Junction City**	**118.14**	**57**	PKIKP	**PKPdf**	**07 14 44.1**	**-0.8**
BRDY	**Brady**	**118.59**	**56**		**PKPdf**	**07 14 44.8**	**-0.9**
P38A	**Dawn**	**119.94**	**45**		**PKPdf**	**07 14 47.0**	**-1.1**
MIAR	**Mount Ida**	**121.88**	**50**		**PKPdf**	**07 14 51.9**	**0.0**
MIAR	**Mount Ida**	**121.88**	**50**	PKIKP	**PKPdf**	**07 14 51.9**	**0.0**
PLCA	**Paso Flores**	**129.44**	**151**	PKP	**PKPdf**	**07 15 05.6**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=130,slow=0.8,SNR=4.9						
ESDC	**Sonseca Array**	**129.77**	**322**	PKP	**PKPdf**	**07 15 03.9**	**-3.0**
	comp=Z,2.0nm,1.0s,baz=71,slow=4.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**136.17**	**286**	PKP	**PKPdf**	**07 15 18.2**	**-1.4**
	comp=Z,3.4nm,1.1s,baz=43,slow=1.4,SNR=2.1						
PB11	**IPOC Station P**	**144.49**	**130**	PKPdf	**PKPab**	**07 15 32.9**	**-0.1**
PB08	**IPOC Station P**	**144.66**	**131**		PKPbc	07 15 34.7	+0.7
GO01	**Chusmiza**	**144.90**	**130**		**PKPab**	**07 15 34.7**	**-0.2**
PB16	**IPOC Station P**	**145.41**	**128**	PKPbc	**PKPbc**	**07 15 37.0**	**+0.2**
FLOC	**Florencia**	**145.65**	**91**	PKPbc	**PKPbc**	**07 15 37.3**	**+0.3**
SDDR	**Presa de Saban**	**146.34**	**59**	PKPbc	**PKPbc**	**07 15 39.3**	**+0.4**
SC01	**Santiago de lo**	**146.62**	**57**	PKPbc	**PKPbc**	**07 15 40.3**	**+0.6**
ROSC	**El Rosal**	**146.96**	**85**	PKPbc	**PKPbc**	**07 15 41.5**	**+0.1**
	comp=Z,10nm,0.3s,baz=308,slow=18,SNR=4.8						
CZSB	**Cruzeiro do Su**	**147.09**	**108**		**PKPdf**	**07 15 40.2**	**+1.1**
CPUP	**Villa Florida**	**147.50**	**153**	PKPbc	**PKPbc**	**07 15 41.9**	**-0.1**
	comp=Z,4.9nm,0.9s,baz=133,slow=12,SNR=21						
LPAZ	**La Paz**	**147.63**	**126**	PKPbc	**PKPbc**	**07 15 42.6**	**-0.8**
LPAZ	**La Paz**	**147.63**	**126**	PKPbc	**PKPbc**	**07 15 43.3**	**-0.1**
	comp=Z,14nm,0.8s,baz=321,slow=1.5,SNR=34						
LPAZ	**La Paz**	**147.63**	**126**	PKP2	**PKPbc**	**07 15 42.6**	**-0.8**
RUSC	**La Rusia**	**148.11**	**83**		**PKPbc**	**07 15 43.5**	**-1.1**
ITAB	**Concordia**	**148.73**	**161**		**PKPbc**	**07 15 45.3**	**+0.1**
SDV	**Santo Domingo**	**150.12**	**76**	PKPbc	**PKPbc**	**07 15 49.2**	**-0.1**
UUPR	**Utuado, UPR, P**	**150.52**	**56**	PKPdf	**PKPdf**	**07 15 41.5**	**-3.0**
UUPR					**pPKPdf**	**07 15 48.6**	**-0.5**
UUPR				PKPab	**sPKPbc**	**07 15 55.6**	**-0.5**
TBTG	**Tabatinga, AM**	**150.66**	**103**	PKPdf	**PKPdf**	**07 15 44.0**	**-0.9**
TBTG				PKPbc	**pPKPdf**	**07 15 49.4**	**-0.1**
TBTG				PKPab	**PKPab**	**07 15 57.1**	**-0.2**
OBIP	**Obispado Ponce**	**150.71**	**56**	PKPdf	**PKPdf**	**07 15 41.7**	**-3.1**
OBIP					**PKiKP**	**07 15 51.2**	**+0.2**
OBIP				PKPab	**PKPab**	**07 15 57.6**	**+0.4**
CELP	**Cerrillos**	**150.72**	**56**		**PKPbc**	**07 15 50.7**	**+0.4**
SJG	**San Juan**	**151.06**	**56**		**PKPbc**	**07 15 50.6**	**-0.5**
BDFB	**Brasilia**	**160.88**	**160**	PKPbc	PKPdf	07 16 10.6	+12
	comp=Z,5.1nm,0.9s,baz=168,slow=5.7,SNR=4.4						

ASRS ***08*** *06:59:50.0±1.5,54°.13N×86°.38E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 06:59:52.5±2.7, 54°.10N×86°.52E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=23.0km s-min=13.4km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**262**	I		I	07 06 33.4	
	baz=80,slow=320,SNR=6.7							
ZALV	**Zalesovo Beam**	**1.01**	**262**	Pg		Pg	07 00 10.7	-1.2
	0.8nm,0.3s,baz=78,slow=17,SNR=8.6							
ZALV				Lg		Lg	07 00 26.5	
	0.6nm,0.3s,baz=83,slow=36,SNR=5.0							
KURBB	**Kurchatov Arra**	**6.00**	**238**	Pn		Pn	07 01 23.3	+0.8
	0.1nm,0.3s,baz=54,slow=13,SNR=6.2							
	0.5nm,0.4s							
MKAR	**Makanchi Array**	**7.79**	**202**	Pn		Pn	07 01 48.2	+1.1
	0.2nm,0.3s,baz=25,slow=14,SNR=8.8							
	0.2nm,0.3s							

NAO ***08*** *07:00:25.1,30°.82N×49°.86E, h33km, mb5.4*
BJI ***08*** *07:00:29.0,31°.80N×49°.50E, h10km, mB5.8/67, mb5.5/80, Ms5.9/90, Ms7 5.9/88*
PRE ***08*** *07:00:29.0±1.7,31°.78N×50°.75E, h5km*
ISN ***08*** *07:00:30.2±0.3,31°.65N×49°.53E, h5km±19km, ML5.7*
GII ***08*** *07:00:30.2±0.0,31°.83N×49°.55E, h10km, confirmed*
MOS ***08*** *07:00:30.7±1.2,31°.71N×49°.52E, h23km, mb5.9/88, MS5.5/69, Error ellipse: s-maj=4.5km s-min=2.9km az=113.7*
NEIC ***08*** *07:00:31.5,31°.78N×49°.55E, h12km*
TEH ***08*** *07:00:31.7,31°.89N×49°.55E, h15km±20km*
GCMT ***08*** *07:00:31.4±0.2,31°.72N±0°.02×49°.33E±0°.01, h12km, MW5.8/90, Moment Tensor Solution. s90,c127; s90,c140; Duration: 2s0 Moment tensor: Scale 10^17Nm; Mrr1.08±.05; Mθθ-0.05±.05; Mφφ-1.03±.04; Mrθ4.80±.14; Mrφ0.51±.04; Mθφ-3.48±.12; Best double couple: M06.04200×10^17 NP1:φs358.00000°,δ8.00000°, λ141.00000°. NP2:φs127.00000°,δ85.00000°,λ84.00000°. Principal axes: T 6.1360, Plg49.0000°, Azm30.0000°; N -0.1930, Plg6.0000°, Azm127.0000°; P -5.9470, Plg40.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***08*** *07:00:31.5,31°.58N×49°.43E, h12km, Moment Tensor Solution. Duration: 3s2 Moment tensor: Scale 10^17Nm; Mrr0.70; Mθθ-0.35; Mφφ-0.35; Mrθ1.63; Mθφ-0.01; Mφr-2.24; Fault plane solution: M06.84000×10^17 NP1: φs323.99000°,δ5.32000°,λ90.04000°. NP2:φs143.95000°, δ84.68000°,λ90.00000°. Principal axes: T 3.0059, Plg50.0000°, Azm54.0000°; N -0.3616, Plg0.0000°, Azm324.0000°; P -2.6442, Plg40.0000°, Azm234.0000°;*
THR ***08*** *07:00:32.6±0.2,31°.72N×49°.45E, h10km, mb5.8*
NEIC ***08*** *07:00:32.4±1.4,31°.76N±0°.06×49°.56E±0°.07, h19km±1km, mb5.7/482, Ms_20 5.5/604, Mww5.6/10, Error ellipse:*
s-maj=10.7km s-min=9.6km az=206.0
IDC ***08*** *07:00:33.2±1.0,31°.88N×49°.50E, h28km±5km, mb4.9/40, mbtmp5.0/47, ML5.0/6, MS5.3/68, Error ellipse: s-maj=8.2km s-min=6.7km az=153.0*
DSN ***08*** *07:00:33.1±0.7,31°.72N×49°.62E, h15km, mb6.0/4, ML5.1/13, Error ellipse: s-maj=14.2km s-min=7.7km az=51.0*
BGR ***08*** *07:00:34.7,30°.96N×48°.64E, h33km, mb5.4, Ms4.8*
OMAN ***08*** *07:00:36.4±0.1,31°.43N×49°.62E, h19km±1km, mb5.4/39, ms4.8/3, Mwp5.5/5, Error ellipse: s-maj=1.4km s-min=1.0km az=10.0*
PDG ***08*** *07:00:46.4,31°.83N×49°.55E, h10km, mb5.7/3*

ISC 08 07:00:32.5±0.3, 31°.80N±0°.02×49°.52E±0°.02, h22km±1km, h23km: pP-P, n2036, σ1°71/2163, mb5.6/482, MS5.5/439, 101C-87D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GTMR	**Gotvand**	**0.75**	**333**	IAML			07 01 03.2	
	comp=Z,690μm,1.0s							
AHWZ	**Ahwaz**	**0.88**	**238**	Pg		**Pn**	**07 00 51.2**	**+1.7**
AHWZ				Sg		**Sn**	**07 01 04.6**	**+2.9**
JHBN	**Jahan bin**	**1.07**	**66**	Pg		**Pn**	**07 00 52.1**	**-0.3**
ZNGN	**Zangian**	**1.18**	**74**	Pg		**Pb**	**07 00 54.2**	**-0.2**
ABEH	**Behbahan**	**1.35**	**152**	Pg		**Pb**	**07 00 59.7**	**+2.5**
ABEH				Sg		**Sb**	**07 01 20.7**	**+6.6**
IPIR	**Pirpir**	**1.46**	**53**	Pg		**Pb**	**07 00 59.0**	**-0.2**
IBRJ	**Brojen**	**1.49**	**85**	Pg		**Pb**	**07 00 59.8**	**+0.1**
KLNJ	**Kolanjah**	**1.94**	**113**	Pn		**Pb**	**07 01 07.8**	**+0.3**
KLNJ	**Kolanjah**	**1.94**	**113**	*e*PnA			07 01 07.4	
KLNJ				IAML			07 01 40.7	
	comp=Z,50μm,1.0s							
KHMZ	**Khomeyn**	**1.97**	**11**	*e*PnA			07 01 07.4	
KHMZ				IAML			07 01 51.3	
	comp=Z,88μm,1.0s							
IKFM	**Kafar-mosalman**	**2.22**	**321**	Pn		**Pb**	**07 01 10.5**	**-1.5**
IGAR	**Gharneh**	**2.23**	**74**	Pn		**Pb**	**07 01 11.2**	**-1.0**
IDOB	**Doab**	**2.28**	**331**	Pn		**Pb**	**07 01 11.2**	**-2.0**
IKLH	**Kolahrood**	**2.31**	**48**	Pn		**Pb**	**07 01 12.8**	**-0.9**
IRAM	**Ramesheh**	**2.44**	**89**	Pn		**Pb**	**07 01 14.0**	**-1.9**
QAMS	**Qamsar**	**2.50**	**39**	Pn		**Pb**	**07 01 14.7**	**-2.2**
IZEF	**Zefreh**	**2.62**	**65**	Pn		**Pb**	**07 01 16.7**	**-2.2**
ASAO	**Ashtian**	**2.77**	**9**	*e*PnA			07 01 18.8	
ASAO				IAML			07 02 16.6	
	comp=Z,40μm,1.0s							
KAZ2	**Kazeron-Fars-I**	**2.86**	**139**	Pn		**Pb**	**07 01 19.8**	**-3.1**
RAFI	**Al-Rafai**	**2.90**	**269**	*e*Pn		**Pn**	**07 01 19.0**	**+1.7**
RAFI				*e*Sn		**Sn**	**07 01 55.0**	**+3.5**
RAFI				AML		AML	07 02 25.3	
	comp=E,30μm,1.1s							
RAFI				AML		AML	07 02 28.8	
	comp=N,43μm,0.9s							
NASN	**Na'in**	**2.96**	**69**	IAML			07 02 28.1	
	comp=Z,20μm,1.0s							
IBZA	**Bozab**	**3.00**	**333**	Pn		**Pn**	**07 01 21.2**	**+2.2**
HAGD	**Aghdareh**	**3.03**	**354**	Pn		**Pn**	**07 01 21.3**	**+1.9**
GHVR	**GHOM**	**3.06**	**29**	*e*PnA			07 01 23.2	
GHVR				IAML			07 02 23.4	
	comp=Z,33μm,1.0s							
KRSH	**Karshahi**	**3.09**	**45**	Pn		**Pb**	**07 01 23.5**	**-3.4**
KCHF	**Cheshme Sefid,**	**3.23**	**321**	Pn		**Pn**	**07 01 23.8**	**+1.8**
IBDR	**Badra**	**3.30**	**294**	*e*Pn		**Pn**	**07 01 25.5**	**+2.6**
IBDR				*e*Sn		**Sn**	**07 02 05.8**	**+4.4**
IBDR				AML		AML	07 02 43.1	
	comp=E,23μm,0.5s							
IBDR				AML		AML	07 02 53.4	
	comp=N,22μm,0.9s							
ILBA	**Ilam Banvizeh**	**3.33**	**304**	Pn		**Pn**	**07 01 25.1**	**+1.8**
ILBA	**Ilam Banvizeh**	**3.33**	**304**	*e*PnA			07 01 24.6	
ILBA				IAML			07 02 33.9	
	comp=Z,34μm,1.0s							
SHI	**Shiraz**	**3.36**	**129**	Pn		**Pn**	**07 01 26.9**	**+3.1**
ISFB	**Sefidab**	**3.42**	**41**	Pn		**Pn**	**07 01 27.2**	**+2.6**
SNQR	**Sonqor, Kerman**	**3.44**	**333**	Pn		**Pn**	**07 01 27.1**	**+2.1**
IGHG	**Ghaleghazi**	**3.53**	**316**	Pn		**Pn**	**07 01 27.8**	**+1.5**
ISAD	**Sadrabad**	**3.55**	**87**	Pn		**Pn**	**07 01 29.6**	**+3.0**
HGHA	**Hamedan- Ghaye**	**3.72**	**352**	Pn		**Pn**	**07 01 31.1**	**+2.3**
DSBU	**Dashti - Bushe**	**3.75**	**156**	Pn		**Pn**	**07 01 32.0**	**+3.0**
ILIN	**Lien**	**3.77**	**326**	Pn		**Pn**	**07 01 31.6**	**+2.0**
GLG1	**Gilan-e-Gharb**	**3.81**	**308**	Pn		**Pn**	**07 01 31.9**	**+1.9**
ANAR	**Anarak**	**3.82**	**68**	Pn		**Pn**	**07 01 33.3**	**+3.1**
QABG	**Abgarm-Qazvin**	**3.90**	**1**	Pn		**Pn**	**07 01 33.5**	**+2.2**
IDHR	**Dehrash**	**3.90**	**319**	Pn		**Pn**	**07 01 32.8**	**+1.5**
TAFT	**Taft - Yazd**	**3.96**	**90**	Pn		**Pn**	**07 01 35.1**	**+2.9**
ICHK	**Chekchek**	**4.18**	**83**	Pn		**Pn**	**07 01 37.9**	**+2.8**
KGS1	**Ghasr-e-Shirin**	**4.26**	**310**	Pn		**Pn**	**07 01 37.8**	**+1.7**
THKV	**Tehran--Karaj**	**4.26**	**15**	*e*PnA			07 01 39.0	
THKV				IAML			07 03 26.5	
	comp=Z,12μm,1.0s							
CHTH	**Charan**	**4.31**	**18**	*e*PnA			07 01 39.2	
CHTH				IAML			07 03 07.5	
	comp=Z,14μm,1.0s							
IDMV	**Damavand**	**4.31**	**28**	Pn		**Pn**	**07 01 39.4**	**+2.3**
DAMV	**Damavand**	**4.33**	**27**	*e*PnA			07 01 39.5	
DAMV				IAML			07 03 11.0	
	comp=Z,10μm,1.0s							
YZKH	**Yazd**	**4.35**	**81**	*e*PnA			07 01 39.9	
YZKH				IAML			07 03 02.6	
	comp=Z,7μm,1.0s							
IMEH	**Mehriz**	**4.37**	**94**	Pn		**Pn**	**07 01 40.5**	**+2.7**
QIR1	**Qir**	**4.51**	**136**	Pn		**Pn**	**07 01 41.9**	**+2.4**
BHD	**Baghdad**	**4.58**	**290**	*e*Pn		**Pn**	**07 01 43.0**	**+2.6**
BHD				*e*Sn		**Sn**	**07 02 36.0**	**+3.1**
BHD				AML		AML	07 03 15.0	
	comp=E,18μm,0.4s							
ILAS	**Lasjerd**	**4.58**	**38**	Pn		**Pn**	**07 01 43.0**	**+2.3**
IGZV	**Ghazvin**	**4.61**	**7**	Pn		**Pn**	**07 01 43.3**	**+2.2**
GHIR	**Ghir-Karzin**	**4.62**	**138**	*e*PnA			07 01 42.2	
GHIR				IAML			07 03 55.1	
	comp=Z,2μm,1.0s							
IFIR	**Firoozkooh**	**4.69**	**34**	Pn		**Pn**	**07 01 44.8**	**+2.7**
JHRM	**Jahrom**	**4.81**	**132**	Pn		**Pn**	**07 01 46.1**	**+2.4**
KLST	**Kelardasht - M**	**4.88**	**15**	Pn		**Pn**	**07 01 47.2**	**+2.4**
ZNJK	**Zanjan**	**4.91**	**352**	*e*PnA			07 01 46.7	
ZNJK				IAML			07 03 37.5	
	comp=Z,6μm,1.0s							
MZPU	**Pul - Mazandar**	**4.93**	**20**	Pn		**Pn**	**07 01 49.1**	**+3.7**
IPRN	**Peran**	**5.01**	**27**	Pn		**Pn**	**07 01 49.7**	**+3.2**
IALA	**Alasht**	**5.07**	**32**	Pn		**Pn**	**07 01 51.1**	**+3.5**
GIDE	**GILAN DEYLAMAN**	**5.12**	**4**	*e*PnA			07 01 50.4	
GIDE				IAML			07 03 32.4	
	comp=Z,47μm,1.0s							
IANJ	**Anjilo**	**5.18**	**44**	Pn		**Pn**	**07 01 50.6**	**+1.7**
LMD1	**Lamerd**	**5.46**	**144**	Pn		**Pn**	**07 01 55.6**	**+3.0**
LMD1	**Lamerd**	**5.46**	**144**	*e*PnA			07 01 54.4	
LMD1				IAML			07 03 48.7	
	comp=Z,8μm,1.0s							
SRSL	**SARDASHT**	**5.55**	**323**	*e*PnA			07 01 55.8	
SRSL				IAML			07 04 05.7	
	comp=Z,7μm,1.0s							
IKIA	**Kiasar**	**5.59**	**37**	Pn		**Pn**	**07 01 57.8**	**+3.2**
IKRK	**Kirkuk**	**5.62**	**311**	*e*Pn		**Pn**	**07 01 58.0**	**+3.3**
IKRK				*e*Sn		**Sn**	**07 03 02.0**	**+3.5**
IHSH	**Hashtrud**	**5.80**	**342**	Pn		**Pn**	**07 01 59.0**	**+1.5**
MAHB	**Mahabad**	**5.87**	**329**	Pn		**Pn**	**07 01 59.4**	**+1.1**
IGLO	**Ghaloghah**	**5.90**	**36**	Pn		**Pn**	**07 02 02.5**	**+3.7**
LAR1	**LAR**	**5.90**	**133**	Pn		**Pn**	**07 02 01.5**	**+2.9**
SHMA	**Al-Shehemyia**	**6.06**	**168**	P		**Pn**	**07 02 02.8**	**+2.0**
SHMA	SNR=866							
				S		**Sn**	**07 03 05.7**	**-3.7**
	SNR=8.1							
ZRDN	**Zarand Kerman**	**6.06**	**96**	Pn		**Pn**	**07 02 02.6**	**+1.6**
KHGB	**Koh Gabri**	**6.14**	**102**	Pn		**Pn**	**07 02 03.6**	**+1.5**
TPRV	**Parvadeh(Tabas**	**6.18**	**77**	Pn		**Pn**	**07 02 05.7**	**+3.1**
TNSJ	**Nastanj**	**6.34**	**68**	Pn		**Pn**	**07 02 07.2**	**+2.4**
KRBR	**Kerman**	**6.48**	**104**	Pn		**Pn**	**07 02 09.1**	**+2.2**
KRBR	**Kerman**	**6.48**	**104**	*e*PnA			07 02 08.9	
KRBR				IAML			07 04 21.9	
	comp=Z,2μm,1.0s							
IAZR	**Azarshahr**	**6.55**	**335**	Pn		**Pn**	**07 02 10.2**	**+2.5**
NGRK	**Negar Kerman**	**6.57**	**107**	Pn		**Pn**	**07 02 10.7**	**+2.5**
GAS1	**Astara - Iran**	**6.59**	**355**	Pn		**Pn**	**07 02 08.7**	**+0.7**
TABS	**Tabas**	**6.67**	**72**	*e*PnA			07 02 11.5	
TABS				IAML			07 04 28.7	
	comp=Z,4μm,1.0s							
KRM1	**Kerman Provinc**	**6.77**	**99**	Pn		**Pn**	**07 02 13.8**	**+3.0**
IHRS	**Heris**	**6.81**	**343**	Pn		**Pn**	**07 02 13.9**	**+2.6**
SHRO	**Shahrood**	**6.83**	**51**	*e*PnA			07 02 13.9	
SHRO				IAML			07 04 34.4	
	comp=Z,2μm,1.0s							
ITBZ	**Tabriz**	**6.99**	**338**	Pn		**Pn**	**07 02 15.0**	**+1.3**
TAPT	**Tabas- Tapeh t**	**7.10**	**62**	Pn		**Pn**	**07 02 16.7**	**+1.6**
GRMI	**Germi**	**7.12**	**350**	Pn		**Pn**	**07 02 16.2**	**+0.8**
GRMI	**Germi**	**7.12**	**350**	*e*PnA			07 02 17.0	
GRMI				IAML			07 04 31.6	
	comp=Z,2μm,1.0s							
SMRA	**Abu-Samra**	**7.12**	**170**	P		**Pn**	**07 02 16.6**	**+1.2**
	SNR=121							
SMRA				S		**Sn**	**07 03 33.0**	**-2.7**
	SNR=11							
CHMN	**Cheshme madani**	**7.17**	**104**	Pn		**Pn**	**07 02 18.3**	**+2.0**
TRNA	**Turayna**	**7.20**	**168**	P		**Pn**	**07 02 18.1**	**+1.7**
	SNR=535							
TRNA				S		**Sn**	**07 03 37.0**	**-0.4**
	SNR=28							
ISHB	**Shabestar**	**7.21**	**335**	Pn		**Pn**	**07 02 17.3**	**+0.4**
BNDS	**Bandar-Abbas**	**7.26**	**125**	Pn		**Pn**	**07 02 18.0**	**+0.5**
BNDS	**Bandar-Abbas**	**7.26**	**125**	*e*PnA			07 02 18.1	
BNDS				IAML			07 03 51.6	
	comp=Z,2μm,1.0s							
GENO	**Geno**	**7.26**	**125**	Pn		**Pn**	**07 02 17.9**	**+0.3**
IMND	**Minoodasht**	**7.30**	**40**	Pn		**Pn**	**07 02 20.0**	**+2.2**
CUKT	**Cukurca**	**7.30**	**320**	*e*P		**Pn**	**07 02 19.7**	**+1.8**
JRN	**Qarnain Island**	**7.44**	**156**	P		**Pn**	**07 02 21.1**	**+1.4**
	SNR=144							
JRN				S		**Sn**	**07 03 39.7**	**-3.6**
	SNR=9.8							
IBND	**Bandar-abas**	**7.49**	**124**	Pn		**Pn**	**07 02 21.6**	**+1.1**
ITEG	**Tejag**	**7.89**	**80**	Pn		**Pn**	**07 02 28.4**	**+2.3**
MRVT	**Maraveh tapeh**	**7.96**	**41**	Pn		**Pn**	**07 02 28.9**	**+1.9**
MRVT	**Maraveh tapeh**	**7.96**	**41**	*e*PnA			07 02 29.0	
MRVT				IAML			07 04 45.2	
	comp=Z,530nm,1.0s							
IKOO	**Kooshah**	**8.07**	**83**	Pn		**Pn**	**07 02 31.3**	**+2.6**
KHNJ	**Kahnooj**	**8.08**	**116**	Pn		**Pn**	**07 02 30.1**	**+1.5**
SBZV	**Sabzevar**	**8.12**	**54**	Pn		**Pn**	**07 02 31.5**	**+2.2**
SBZV	**Sabzevar**	**8.12**	**54**	*e*PnA			07 02 31.4	
SBZV				IAML			07 02 51.5	
	comp=Z,1μm,1.0s							
SHME	**Shamm**	**8.15**	**133**	P		**Pn**	**07 02 31.2**	**+1.7**
	SNR=27							
SHME				S		**Sn**	**07 03 58.8**	**-2.2**
SHME	**Shamm**	**8.15**	**133**	*i* P		**Pn**	**07 02 30.7**	**+1.1**
	SNR=28							
SHME				S		**Sn**	**07 03 57.1**	**-4.0**
KBAM	**BAM**	**8.16**	**107**	Pn		**Pn**	**07 02 30.9**	**+1.3**
BSRN	**Basiran**	**8.17**	**86**	Pn		**Pn**	**07 02 31.8**	**+1.8**
BSRN	**Basiran**	**8.17**	**86**	*e*PnA			07 02 31.9	
BSRN				IAML			07 05 01.9	
	comp=Z,640nm,1.0s							
AFRZ	**Afriz**	**8.18**	**76**	Pn		**Pn**	**07 02 32.2**	**+2.2**
OZAP	**Van, Ozalp-Mer**	**8.20**	**328**	⇓P		**Pn**	**07 02 33.4**	**+3.0**
UMQ	**Umm Al-Quwin**	**8.26**	**138**	P		**Pn**	**07 02 33.4**	**+2.4**
	SNR=10							
UMQ				P		**Pn**	**07 02 33.4**	**+2.4**
	SNR=10							
UMQ	**Umm Al-Quwin**	**8.26**	**138**	*i* P		**Pn**	**07 02 32.1**	**+1.1**
	SNR=10							
BANOM	**Banah**	**8.34**	**133**	P		**Pn**	**07 02 32.4**	**+0.1**
BANOM	**Banah**	**8.34**	**133**	*i* P		**Pn**	**07 02 31.8**	**-0.4**
	SNR=97							
GHWR	**Ruwais**	**8.35**	**158**	P		**Pn**	**07 02 33.5**	**+1.2**
GHWR				S		**Sn**	**07 04 02.7**	**-3.2**
GEVA	**Gevas**	**8.38**	**323**			**Pn**	**07 02 33.2**	**+0.4**
VANB	**Van**	**8.43**	**325**	*e*P		**Pn**	**07 02 34.3**	**+0.9**
AKDM	**Akdamar-Van**	**8.43**	**322**	*e*P		**Pn**	**07 02 37.1**	**+3.6**
MAKU	**Maku**	**8.50**	**334**	Pn		**

comp=Z,21nm,1.3s
AKT smax smax
comp=N,63nm,0.6s
AKT smax smax
comp=E,40nm,0.5s
AKT MLR MLR
comp=Z,24µm,10.0s
SOHO SOHO 9.84 139 P **Pn 07 02 51.8 -0.8**
SOHO S **Sn 07 04 39.2 -3.2**
SOHO SOHO 9.84 139 *i* P **Pn 07 02 51.6 -1.0**
SNR=13
VRTB Varto-Mus 9.85 320 *eP* Pn 07 03 00.3 +7.4
IMYA Miami 9.88 60 Pn **Pn 07 02 54.9 +1.6**
JRKH Jarkhoshk 9.89 63 Pn **Pn 07 02 54.9 +1.4**
ZHSF Zahedan 9.93 100 Pn **Pn 07 02 55.5 +1.3**
ZHSF Zahedan 9.93 100 *e*PnA 07 02 57.4
ZHSF IAML_BB 07 03 06.9
comp=Z,3µm,1.0s
BNGB Bingl 10.17 317 *eP* **Pn 07 03 01.3 +4.0**
KARO Karliova-Bingo 10.18 320 P Pn 07 03 03.5 +6.0
KARS Kars 10.22 331 *eP* Pn 07 03 06.7 +8.6
KARS Kars 10.22 331 Pn **Pn 07 03 01.9 +3.9**
KARS Kars 10.22 331 P **Pn 07 03 01.9 +3.9**
KOPR Koprukoy-ERZUR 10.26 325 *eP* Pn 07 03 07.2 +8.6
HOMI Horasan 10.28 325 ⇓P **Pn 07 03 02.4 +3.5**
UMZA Um Al Zommool 10.35 150 P **Pn 07 02 59.7 0.0**
URFA Urfa 10.45 305 *eP* **Pn 07 03 04.6 +3.5**
ARQ Araqi 10.47 142 P **Pn 07 03 01.7 +0.3**
SNR=99
ARQ S **Sn 07 04 55.2 -2.8**
SENK Senkaya-Erzuru 10.48 329 *eP* **Pn 07 03 04.3 +2.7**
HOQ Hoqain 10.71 138 Pn **Pn 07 03 03.3 -1.3**
HOQ Hoqain 10.71 138 P **Pn 07 03 04.2 -0.4**
SNR=42
HOQ P **Pn 07 03 04.2 -0.4**
SNR=42
ASF Jabal al Asfar 10.72 275 Pn **Pn 07 03 03.2 -1.6**
comp=Z,29nm,0.3s,baz=119,slow=7.4,SNR=257
ASF Sn **Sn 07 04 58.8 -5.5**
comp=Z,23nm,0.3s,baz=151,slow=15,SNR=6.2
ASF Lg Lg 07 06 12.1
comp=Z,12nm,0.3s,baz=324,slow=18,SNR=1.3
ASF LR LR 07 08 27.4
comp=Z,24µm,19.4s,baz=118,slow=44
AKH Akhalkalaki 10.74 335 *eP* **Pn 07 03 09.7 +4.6**
KOPT Kop Dagi 10.98 321 Pn 07 03 13.4 +4.8
ERZN Erzincan 11.12 317 *eP* Pn 07 03 16.2 +5.9
BIDO Bidbid 11.23 135 P **Pn 07 03 12.7 +1.0**
SNR=26
BIDO P **Pn 07 03 12.7 +1.0**
SNR=26
MAK Makhachkala 11.25 352 *c i*P **Pn 07 03 10.4 -1.6**
MAK *e*S **Sn 07 05 16.4 -0.6**
MAK pmax pmax
comp=Z,638nm,1.8s
MAK MLR MLR
comp=Z,23µm,12.0s
FKH Fakeheh 11.27 286 *eP* **Pn 07 03 11.4 -0.9**
BSY Bisya 11.31 141 P **Pn 07 03 12.9 0.0**
SNR=278
BSY P **Pn 07 03 12.9 0.0**
SNR=278
CHBR Chabahar 11.44 120 Pn **Pn 07 03 13.1 -1.5**
CHBR Chabahar 11.44 120 *e*PnA 07 03 14.1
CHBR IAML_BB 07 03 23.7
comp=Z,9µm,1.0s
GAZ Gaziantep 11.48 301 *eP* **Pn 07 03 19.5 +4.4**
GAZ Gaziantep 11.48 301 **Pn 07 03 14.3 -0.8**
BEIL Beino 11.50 287 *eP* **Pn 07 03 14.8 -0.7**
SMDO Samad 11.54 137 P **Pn 07 03 16.1 +0.1**
SNR=109
CHOM Cayeli-Rize 11.64 325 *eP* **Pn 07 03 20.8 +3.4**
KSHT Keshet 11.65 279 P **Pn 07 03 17.2 -0.3**
RCY Rachaya 11.66 282 *eP* **Pn 07 03 17.2 -0.5**
ARPR Arapgir-MALATY 11.66 312 **Pn 07 03 17.2 -0.5**
NATI Neve Ativ 11.72 281 P **Pn 07 03 17.8 -0.6**
ILIC ilic-Erzincan 11.72 314 *eP* **Pn 07 03 22.8 +4.2**
WSAR Wadi Sarin 11.75 134 Pn **Pn 07 03 14.8 -4.0**
comp=Z,0.8nm,0.3s,baz=324,slow=24,SNR=137
WSAR Sn Sn 07 05 19.5 -10
comp=Z,0.3nm,0.3s,baz=212,slow=24,SNR=6.2
WSAR LR LR 07 08 32.5
comp=Z,70nm,21.4s,baz=334,slow=41
GEM Giv'at Ha'Em 11.78 281 P **Pn 07 03 19.0 -0.2**
QRWL Qaraoun 11.79 282 *eP* **Pn 07 03 19.2 -0.2**
KMRS Kahramanmaras 11.84 302 *eP* **Pn 07 03 24.5 +4.4**
HMDT Nahal Hemdat 11.88 276 P **Pn 07 03 20.5 -0.2**
GHAJ Ghor Haditha 11.91 271 **Pn 07 03 20.5 -0.5**
GHAJ Ghor Haditha 11.91 271 P **Pn 07 03 20.6 -0.5**
DARE Darende-Malaty 11.93 308 *eP* **Pn 07 03 22.9 +1.5**
TAHT Tahtakopru-Hat 11.96 296 *eP* Pn 07 03 28.5 +6.9
MMLI Mount Malkishu 11.97 277 *eP* **Pn 07 03 23.5 +1.6**
MMLI Mount Malkishu 11.97 277 P **Pn 07 03 21.8 -0.1**
MMAOB Mount Meron ar 11.99 280 P **Pn 07 03 22.0 -0.2**
MMAI Mount Meron Ar 11.99 280 Pn **Pn 07 03 20.9 -1.3**
comp=Z,9.0nm,0.3s,baz=102,slow=16,SNR=14
MMAI Lg Lg 07 06 46.9
comp=Z,21nm,0.3s,baz=113,slow=40,SNR=1.9
MMAI LR LR 07 09 08.6
comp=Z,18µm,19.6s,baz=87,slow=43
comp=Z,2.9nm,0.3s
DSI Dead Sea 12.05 273 P **Pn 07 03 22.5 -0.4**
NGCH Negor - Chabah 12.06 119 Pn **Pn 07 03 20.1 -3.0**
NGCH Negor - Chabah 12.06 119 P **Pn 07 03 22.8 -0.3**
SNR=14
KTUT Trabzon 12.06 322 *eP* **Pn 07 03 23.2 +0.1**
MSBI Mazada 12.09 271 P **Pn 07 03 23.2 -0.2**
JMDO Jabal Madar 12.11 139 P **Pn 07 03 24.2 +0.4**
SNR=104
HNTI Hanita 12.19 280 P **Pn 07 03 24.5 -0.3**
YTIR Yattir 12.29 272 P **Pn 07 03 26.0 -0.3**
SLTI Sal'it 12.30 276 P **Pn 07 03 26.0 -0.3**
OFRI `Ofer 12.34 278 P **Pn 07 03 26.6 -0.2**
ZFRI Zfri 12.34 268 P **Pn 07 03 26.7 -0.2**
WBK Wadi Bani Khal 12.43 135 P **Pn 07 03 27.1 -1.0**
SNR=19
WBK P **Pn 07 03 27.1 -1.0**
SNR=19
AMAZ Amatzia 12.44 273 P **Pn 07 03 28.2 -0.2**
CEYT Ceyhan 12.50 298 *eP* Pn 07 03 34.8 +5.8
PRNI Paran 12.53 267 P **Pn 07 03 29.4 -0.1**
HRFI Mount Harif 12.56 266 P **Pn 07 03 29.3 -0.7**
ESPY Espiye-Giresun 12.57 319 *eP* Pn 07 03 35.6 +5.5
NCK Nalchik 12.58 340 *i* P **Pn 07 03 31.7 +1.6**
SARI SarD1z-Kayseri 12.58 305 *eP* **Pn 07 03 33.2 +2.9**
KOZT Kozan 12.61 300 *eP* **Pn 07 03 35.1 +4.5**
EIL Elat 12.71 264 Pn **Pn 07 03 29.9 -2.0**
comp=Z,19nm,0.3s,baz=54,slow=5.1,SNR=89
EIL Sn **Sn 07 05 49.0 -3.8**
comp=Z,9.5nm,0.3s,baz=108,slow=20,SNR=0.4
EIL Lg Lg 07 07 16.7
comp=Z,19nm,0.3s,baz=342,slow=17,SNR=1.7
EIL LR LR 07 09 39.8
comp=Z,33µm,19.3s,baz=84,slow=43
comp=Z,91nm,0.5s
EIL Elat 12.71 264 P **Pn 07 03 30.7 -1.3**
MBRI Mt Berech 12.71 265 P **Pn 07 03 30.8 -1.3**
KRMI Paran Flat 12.81 266 P **Pn 07 03 32.7 -0.6**
KZIT Kziot 12.96 270 P **Pn 07 03 35.1 -0.2**
SVSK Karacayir 12.98 312 *eP* **Pn 07 03 39.9 +4.4**
KBZ Khabaz 13.00 338 Pn **Pn 07 03 38.3 +2.5**
comp=Z,11nm,0.9s,baz=141,slow=9.0,SNR=23
KBZ Sn **Sn 07 05 56.0 -3.7**
comp=Z,0.3nm,0.3s,baz=104,slow=15,SNR=1.2
KBZ LR LR 07 09 24.0
comp=Z,10µm,21.0s,baz=149,slow=41
KBZ ScP **ScP 07 12 40.0 -0.2**
comp=Z,23nm,1.0s,baz=256,slow=4.2,SNR=7.6
KBZ Khabaz 13.00 338 *ce*P **Pn 07 03 39.1 +3.3**
JLN Jalan Bani Buh 13.04 135 P **Pn 07 03 36.4 -0.1**
SNR=14
JLN P **Pn 07 03 36.4 -0.1**
SNR=14
RSDY Resadiye-TOKAT 13.06 314 *eP* **Pn 07 03 38.9 +2.2**
SHA1 Shidzhatmaz 13.09 338 *ce*P **Pn 07 03 39.9 +2.7**
KARA Karaisali 13.11 298 *eP* **Pn 07 03 40.9 +3.6**
MHTO MHTO 13.16 143 P **Pn 07 03 37.8 -0.3**
SNR=168
MHTO S **Sn 07 05 60.0 -3.8**
SNR=8.1
BNN Bunyan 13.19 306 P **Pn 07 03 42.4 +3.9**
BNN Bunyan 13.19 306 **Pn 07 03 37.2 -1.4**
KVAR Kislovodsk Arr 13.27 338 Pn **Pn 07 03 44.1 +4.5**
comp=Z,6.7nm,0.4s,baz=90,slow=3.1
KVAR LR LR 07 09 20.1
comp=Z,10µm,21.8s,slow=40
KIV Kislovodsk 13.27 338 **Pn 07 03 41.9 +2.2**
KIV Kislovodsk 13.27 338 ⇑P **Pn 07 03 43.3 +3.7**
KIV Kislovodsk 13.27 338 *e*P **Pn 07 03 43.1 +3.5**
KIV *e*S **Sn 07 06 12.0 +5.5**
KIV pmax pmax
comp=Z,128nm,1.0s
KIV MLR MLR
comp=Z,8µm,13.0s
KIV Kislovodsk 13.27 338 *i* P **Pn 07 03 43.1 +3.5**
SNR=85
CMRD Camardi-Nigde 13.30 300 *eP* **Pn 07 03 42.8 +2.8**
EREN Erenkoy 13.31 290 *eP* **P 07 03 47.5 -2.1**
MERS Mersin 13.38 296 *eP* **Pn 07 03 42.6 +1.5**
TOKT Tokat 13.49 313 *eP* **Pn 07 03 47.1 +4.4**
TOKA Tokat 13.54 313 Pn **Pn 07 03 46.8 +3.6**
KIZK Mersin 13.56 294 *eP* **Pn 07 03 44.7 +1.2**
SILI Silifke-Mersin 13.70 294 *eP* **Pn 07 03 48.5 +3.1**
DOK Doka 13.77 161 P **Pn 07 03 45.3 -1.1**
SNR=404
LFK Lefkose 13.78 289 *eP* **Pn 07 03 48.6 +2.1**
VSLR Vesyoloye 13.84 330 *d i*P **Pn 07 03 50.4 +3.1**
DQM DQM 13.85 147 P **Pn 07 03 46.2 -1.3**
SNR=15
DQM S **Sn 07 06 15.0 -5.6**
SNR=8.0
KEBE Keben-Mersin 13.88 294 *eP* **Pn 07 03 49.9 +1.9**
CSS Mathiatis 13.89 287 *eP* **Pn 07 03 48.2 +0.2**
CSS Mathiatis 13.89 287 **Pn 07 03 48.2 +0.2**
YOZ Yozgat 13.92 308 *eP* **Pn 07 03 52.0 +3.4**
SOC Sochi 14.08 329 *eP* **Pn 07 03 49.5 -1.0**
SOC *e* 07 06 26.7
SOC pmax pmax
comp=Z,138nm,1.2s
SOC MLR MLR
comp=Z,12µm,13.0s
GULA Gulagac 14.11 302 *eP* **P 07 03 55.4 -3.2**
GOF Gofitskoye 14.17 341 *c i*P **Pn 07 03 54.8 +3.0**
GOF *e*S **Sn 07 06 33.3 +5.1**
BERE Bereket-Mersin 14.24 293 *i* P **Pn 07 03 54.4 +1.4**
KVT Kavak 14.24 314 *eP* **P 07 03 56.5 -3.5**
YESY Yesilyurt 14.26 299 *eP* **P 07 03 57.4 -2.9**
TEKE Tekeli-Mersin 14.28 292 *i* P **Pn 07 03 54.5 +1.1**
WHFO Wadi Hawf 14.35 163 P **Pn 07 03 52.0 -2.4**
SNR=162
LABN Labinsk 14.55 334 *eP* **Pn 07 03 59.3 +2.3**
LABN pmax pmax
comp=Z,209nm,0.9s
LABN MLR MLR
comp=N,73µm,12.0s
LABN MLR MLR
comp=Z,24µm,14.0s
LABN MLR MLR
comp=E,16µm,12.0s
SULT Sultanhani-AKS 14.58 300 *eP* **Pn 07 03 59.7 +2.2**
CORM Corum 14.65 309 *eP* **P 07 04 02.7 -2.0**
KIRS Kirsehir-Merke 14.66 304 ⇓P **Pn 07 04 01.6 +3.0**
ABTO Aybut 14.79 166 P **Pn 07 03 58.0 -2.4**
SNR=82
ABTO S **Sn 07 06 37.0 -6.7**
SNR=5.9
SERE Sereflikochisa 14.83 303 P **Pn 07 04 03.5 +2.6**
RBK Rabkut 14.86 162 P **Pn 07 03 59.0 -2.4**
SNR=78
RBK S **Sn 07 06 39.0 -6.2**
SNR=8.2
DMTO DMTO 14.86 159 P **Pn 07 03 59.2 -2.1**
SNR=124
DMTO S **Sn 07 06 38.0 -7.4**
SNR=14
KAMT Kaman 14.90 305 *eP* **P 07 04 06.9 -0.5**
HDMB Hadim 14.97 295 *i* P **Pn 07 04 04.8 +1.8**
DIKM Dikmen 15.06 315 *eP* **Pn 07 04 04.4 +0.5**
DIKM Dikmen 15.06 315 ⇓P **P 07 04 06.9 -2.1**
BR131 Keskin Array S 15.11 306 **Pn 07 04 06.0 +1.3**
BR131 Keskin Array S 15.11 306 P **P 07 04 11.8 +2.0**
SNR=17
BR131 Keskin Array S 15.11 306 *i* P **Pn 07 04 05.8 +1.1**
BRTR Keskin Array B 15.11 306 **Pn 07 04 06.0 +1.3**
BRTR Keskin Array B 15.11 306 Pn **Pn 07 04 05.8 +1.1**
comp=E,2.7nm,0.3s,baz=129,slow=13,SNR=31
BRTR Sn **Sn 07 06 53.4 +2.0**
comp=E,0.2nm,0.3s,baz=159,slow=3.8,SNR=1.2
BRTR LR LR 07 11 29.1
comp=E,8µm,19.7s,baz=114,slow=44
comp=E,25nm,1.1s
BRTR Keskin Array B 15.11 306 *i* P **P 07 04 08.6 -1.2**
BRTR pmax pmax
comp=Z,64nm,0.6s
CHBY Cihanbeyli 15.18 301 *eP* **P 07 04 08.2 -2.3**
KULU Kulu 15.27 303 *eP* **P 07 04 10.1 -1.4**
AFSR Afar-Bala (An 15.38 304 *eP* **P 07 04 11.7 -1.1**
CANT Cankiri 15.54 309 *eP* **P 07 04 14.7 +0.3**
ERBR Yeremizino-Bor 15.56 336 *eP* **Pn 07 04 12.0 +1.5**
ERBR *e*S **Sn 07 07 08.6 +6.5**
ERBR pmax pmax
comp=Z,448nm,1.2s
ERBR MLR MLR
comp=Z,19µm,14.0s
ERBR MLR MLR
comp=N,44µm,13.0s
ILGA Ilgaz 15.70 310 **Pn 07 04 14.4 +1.9**
ANTO Ankara 15.76 305 *eP* **P 07 04 16.9 0.0**
ANTO Ankara 15.76 305 **Pn 07 04 13.6 +0.5**
ANTO Ankara 15.76 305 ⇑P **P 07 04 15.9 -0.9**
ANTO Ankara 15.76 305 P **Pn 07 04 13.6 +0.5**
ANTO pmax pmax
comp=Z,351nm,1.3s
LOD Lodumlu 15.79 305 *eP* **P 07 04 17.9 +0.7**
BZK Bozkurt 16.00 314 *eP* **Pn 07 04 15.5 -0.7**
BZK Bozkurt 16.00 314 **Pn 07 04 15.7 -0.5**
BZK Bozkurt 16.00 314 ⇓P **P 07 04 18.8 -0.7**
ANN Anapa 16.05 327 *eP* **Pn 07 04 18.2 +1.5**
ANN *e*S **Sn 07 07 15.6 +1.6**
ANN pmax pmax
comp=Z,232nm,1.3s
ANN MLR MLR
comp=Z,15µm,14.0s
KBL Kabul 16.58 75 Pn **Pn 07 04 23.7 -0.1**
KBL Kabul 16.58 75 P **P 07 04 27.6 +1.4**
SNR=22
KBL P **P 07 04 27.6 +1.4**
SNR=22
KBL Kabul 16.58 75 P **Pn 07 04 23.7 -0.1**
KBL pmax pmax
comp=Z,156nm,1.2s
CIDE Kastamonu/Cide 16.62 312 ⇑P **P 07 04 26.9 +0.6**
KBU Kabul Universi 16.65 75 P **Pn 07 04 25.2 +0.5**
ISP Isparta 16.71 296 **P 07 04 26.7 -0.8**
ISP Isparta 16.71 296 *ce*P **P 07 04 27.1 -0.4**
ISP pmax pmax
comp=Z,504nm,1.7s
KURC Kurucasile-Bar 16.73 311 *eP* **P 07 04 28.1 +0.5**
ELL Elmali 16.94 292 **P 07 04 30.0 0.0**
ELL Elmali 16.94 292 P **P 07 04 30.0 0.0**
ELL pmax pmax
comp=Z,1µm,1.1s
AKAS Kas 17.09 290 P **P 07 04 31.7 0.0**
SIMJ Simiganj 17.32 61 **Pn 07 04 32.2 -0.7**
KDZE Karadeniz Ereo 17.32 308 ⇓P **P 07 04 36.2 +2.0**
BORA Eskisehir 17.41 303 P **P 07 04 35.8 +0.6**
BORA IAmb IAmb 07 04 44.5
comp=Z,460nm,1.1s
SAHE Sakarya_HENDEK 17.52 306 ⇓P **P 07 04 37.0 +0.7**
SIM Simferopol' 17.80 322 *eP* **P 07 04 40.1 +0.8**
SIM *e*S **Sn 07 07 57.0 +0.7**
SIM pmax pmax
comp=Z,400nm,4.9s
SIM pmax pmax
comp=Z,176nm,1.1s
SIM MLR MLR
comp=Z,2µm,13.8s
TAVA DENIZLI_Tavas 17.86 294 ⇑P **P 07 04 42.6 +2.4**
ARG Arkhangelos 18.27 290 P **Pn 07 04 43.9 -0.6**
ARG Arkhangelos 18.27 290 P **Pn 07 04 43.9 -0.6**
ARG pmax pmax
comp=Z,375nm,1.2s
MANT Manisa 18.38 297 P **Pn 07 04 46.2 +0.1**
GAR Garm 18.39 61 P **P 07 04 45.7 -0.4**
SILT Sile 18.47 306 ⇑P **Pn 07 04 48.7 +1.6**
KLYT Kilyos 18.93 306 ⇓P **Pn 07 04 53.9 +1.4**
KARP Karpathos 18.97 287 P **Pn 07 04 53.2 0.0**
KARP IAmb IAmb 07 04 56.5
comp=Z,723nm,1.1s
KARP Karpathos 18.97 287 *e*P **Pn 07 04 53.3 +0.2**
BTK Batken 19.09 59 P **Pn 07 04 55.0 +0.4**
BTK Batken 19.09 59 P **Pn 07 04 55.0 +0.4**
BTK pmax pmax
comp=Z,438nm,1.6s
CHM Chimkent 19.12 51 *e*P **Pn 07 04 54.4 -0.4**
CHM pmax pmax
comp=Z,235nm,0.6s
CHM MLR MLR
comp=Z,13µm,14.0s
CHM Chimkent 19.12 51 *e*P **Pn 07 04 54.5 -0.4**
comp=Z,235nm,0.6s
CHM LR LR 07 13 18.3
comp=Z,13µm,14.2s
AB31 Akbulak array 19.12 21 P **Pn 07 04 54.8 0.0**
AB31 Akbulak array 19.12 21 *i* P **Pn 07 04 54.4 -0.4**
ABKAR Akbulak array 19.12 21 P **Pn 07 04 54.9 +0.1**
BAND Balkesir-Ban 19.27 302 ⇓P **Pn 07 04 58.1 +1.4**
IUG Iuzhnay 19.33 52 *e*P **P 07 04 56.6 +0.3**
IUG *e*S **S 07 08 34.3 +0.7**
IUG pmax pmax
comp=Z,663nm,1.6s
IUG Iuzhnay 19.33 52 *e*P **P 07 04 56.7 +0.4**
comp=Z,663nm,1.6s
IUG *e*S **S 07 08 34.4 +0.7**
CTYL Yalikoy Yolu 19.54 306 ⇑P **Pn 07 05 01.1 +1.3**
BRLS Borolday 19.60 49 *e*P **P 07 04 57.3 -1.8**
BRLS Borolday 19.60 49 *e*P **P 07 04 57.4 -1.8**
DRK Karamyk 19.63 61 P **Pn 07 05 02.2 +0.8**
DRK Karamyk 19.63 61 P **Pn 07 05 02.2 +0.8**
DRK pmax pmax
comp=Z,118nm,0.7s
AKTO Aktyubinsk 19.66 16 P **P 07 05 00.2 +0.4**
comp=Z,9.9nm,0.3s,baz=208,slow=10,SNR=69
AKTO S **S 07 08 38.1 -2.1**
comp=Z,14nm,0.7s,baz=241,slow=19,SNR=1.1
AKTO ScP **ScP 07 12 50.8 -2.3**
comp=Z,30nm,0.9s,baz=182,slow=0.9,SNR=7.8
comp=Z,27nm,0.3s
NIL Nilore 20.05 78 P Pn 07 05 05.1 -0.9
NIL IAmb IAmb 07 05 16.0
comp=Z,272nm,0.9s
NIL Nilore 20.05 78 IAMs_20 IAMs_20 07 13 41.2
comp=Z,31µm,22.0s
NIL Nilore 20.05 78 P Pn 07 05 05.1 -0.9
NIL pmax pmax
comp=Z,272nm,1.0s
NIL MLR MLR
comp=Z,31µm,22.0s
KK31 Karatay Array 20.07 50 P **P 07 05 04.8 +0.4**
KK31 IAmb IAmb 07 05 16.0
comp=Z,488nm,1.3s
KK31 Karatay Array 20.07 50 *i* P **P 07 05 05.1 +0.8**
KKAR Karatay Array 20.07 50 P **P 07 05 04.8 +0.5**
KKAR Karatay Array 20.07 50 P **P 07 05 04.8 +0.5**
PHSR Pinarhisar 20.13 305 ⇑P Pn 07 05 07.6 +0.8
VRH Novokhopyorsk 20.22 346 *c i*P **P 07 05 05.6 -0.2**
VRH pmax pmax
comp=Z,448nm,1.1s
MANR Mangalia 20.36 312 ⇓P Pn 07 05 09.0 -0.6
EZN Ezine 20.40 300 ⇑P Pn 07 05 10.0 0.0
EZN Ezine 20.40 300 P Pn 07 05 10.0 -0.1
EZN Ezine 20.40 300 P Pn 07 05 09.1 -1.0
comp=Z,3µmcomp=Z,450nm,1.0s
APE Apeiranthos 20.45 291 ⇑P Pn 07 05 09.9 -0.9
APE Apeiranthos 20.45 291 *i* P **P 07 05 09.4 +0.9**
EFOR EFORIE 20.47 313 ⇑P Pn 07 05 09.8 -0.9
DZA Taraz 20.52 51 *e*P **P 07 05 09.5 +0.4**
DZA Taraz 20.52 51 *e*P **P 07 05 09.6 +0.4**
PSN Preselentsi 20.57 311 P Pn 07 05 11.2 -0.8
VORD Divnogorie 20.59 341 *e*P **P 07 05 09.3 -0.5**
VORD *e*S **S 07 08 52.7 -6.2**
VORD pmax pmax
comp=Z,400nm,1.0s
VORD smax smax
comp=N,90nm,2.5s
VORD MLR MLR
comp=Z,3µm,12.0s
BELG Belogornoye 20.62 357 P **P 07 05 09.6 -0.6**
comp=Z,536nm,0.8s,baz=224,slow=0.9,SNR=99
BELG S **S 07 08 55.2 -4.4**
comp=Z,97nm,1.0s,baz=250,slow=23,SNR=1.2
BELG ScP **ScP 07 12 53.3 -2.0**
comp=Z,63nm,1.1s,baz=77,slow=3.8,SNR=2.6
BELG LR LR 07 15 45.2
comp=Z,5µm,18.4s,baz=176,slow=44
BELG Belogornoye 20.62 357 *c i*P **P 07 05 10.1 -0.1**
BELG pmax pmax
comp=Z,318nm,1.1s
MFTR Murfatlar 20.65 313 ⇓P Pn 07 05 12.1 -0.8
JURR Jurilovca 20.67 315 ⇑P Pn 07 05 12.0 -1.1
CAVK Edirne/Enez-Ca 20.77 302 ⇑P Pn 07 05 14.3 -0.1
TIRR Tirgusor 20.79 313 P **P 07 05 12.9 +0.9**
TIRR IAmb IAmb 07 05 20.6
comp=Z,390nm,0.9s
TIRR Tirgusor 20.79 313 ⇑P Pn 07 05 13.8 -0.8
TIRR Tirgusor 20.79 313 P **P 07 05 12.9 +0.9**
TIRR pmax pmax
comp=Z,390nm,0.9s
TIRR Tirgusor 20.79 313 P **P 07 05 13.0 +0.9**
comp=Z,4µmcomp=Z,468nm,1.0s
IDI Anoyia 20.80 286 P **P 07 05 13.1 +0.7**
comp=Z,337nm,0.8s,baz=92,slow=9.5,SNR=165
IDI S **S 07 08 58.7 -4.8**
comp=Z,45nm,1.1s,baz=69,slow=7.2,SNR=1.8
IDI LR LR 07 16 28.0
comp=Z,2µm,20.5s,baz=99,slow=46
comp=Z,337nm,0.8s
PRD Provadia 20.82 309 P Pn 07 05 18.7 +3.7
VSR Storozhevoye 20.85 341 *e*P **P 07 05 11.8 -0.9**
VSR *e*S **S 07 08 58.1 -6.0**
VSR pmax pmax
comp=Z,690nm,1.3s
VSR smax smax
comp=N,2µm,7.6s
VSR MLR MLR
comp=Z,12µm,15.0s
ALN Alexandroupoli 20.92 302 P Pn 07 05 15.1 -1.0
ALN Alexandroupoli 20.92 302 P Pn 07 05 15.1 -1.0
ALN pmax pmax
comp=Z,578nm,0.9s
ALN MLR MLR
comp=Z,5µm,20.0s
TLCR 20.93 316 ⇓P **P 07 05 14.8 +1.2**
TLCR 20.93 316 P **P 07 05 14.7 +1.2**
NEF NEVSHA 20.96 309 P Pn 07 05 16.2 -0.4
TPGR Topolog 20.99 314 ⇓P **P 07 05 15.1 +0.8**
ICOR Ion Corvin 21.01 312 ⇑P **P 07 05 16.5 +2.0**
ARSB Arslanbob 21.05 57 P **P 07 05 15.9 +0.7**
ARSB IAmb IAmb 07 05 25.4
comp=Z,566nm,1.4s
ARSB Arslanbob 21.05 57 P **P 07 05 15.9 +0.7**
ARSB pmax pmax
comp=Z,566nm,1.4s
ARSB MLR MLR
comp=Z,12µm,22.0s
TLBR Topalu 21.06 313 ⇑P **P 07 05 16.1 +1.1**
PURM Purcari 21.09 320 ⇑P **P 07 05 16.3 +1.1**
PURM Purcari 21.09 320 P **P 07 05 15.8 +0.5**
comp=Z,26µmcomp=Z,2µm,0.8s
ATD Arta Tunnel 21.09 198 P **P 07 05 15.2 -0.4**
ATD IAMs_20 IAMs_20 07 13 46.1
comp=Z,21µm,21.0s
ATD Arta Tunnel 21.09 198 P **P 07 05 17.1 +1.6**
comp=Z,28nm,1.2s,baz=348,slow=8.7,SNR=51
ATD S **S 07 09 08.9 -0.5**
comp=Z,0.3nm,0.3s,baz=108,slow=20,SNR=1.5
ATD LR LR 07 13 57.6
comp=Z,807nm,20.9s,baz=27,slow=38
comp=Z,28nm,1.2s
ATD Arta Tunnel 21.09 198 P **P 07 05 18.4 +2.9**
SNR=68
JMB Yambol 21.14 307 P **P 07 05 20.6 +4.7**
HARR Harsova 21.21 313 ⇑P **P 07 05 17.9 +1.3**
HARR Harsova 21.21 313 P **P 07 05 17.8 +1.3**
VORR Voronezh 21.25 342 *e*P **P 07 05 16.0 -1.0**
VORR *e*S **S 07 09 05.6 -6.4**
VORR pmax pmax
comp=Z,460nm,1.0s
VORR smax smax
comp=E,630nm,3.6s
VORR MLR MLR
comp=Z,5µm,12.0s
CFR Carcaliu 21.33 315 ⇑P **P 07 05 18.2 +0.3**

CFR	**Carcaliu**	**21.33**	**315**		P		**P**	**07 05 18.1**	**+0.3**
RDO	**Rodhopi**	**21.36**	**303**		P		**P**	**07 05 19.3**	**+1.0**
RDO					lAmb		lAmb	07 05 33.1	
	comp=Z,413nm,1.0s								
TATR	**Tatarca**	**21.60**	**316**	⇑	P		**P**	**07 05 23.6**	**+2.9**
DIM	**Dimitrovgrad**	**21.63**	**305**		P		**P**	**07 05 24.3**	**+3.1**
KDZ	**Kurdzhali**	**21.66**	**304**		P		**P**	**07 05 24.0**	**+2.5**
SCHLR	**Schela**	**21.67**	**315**	⇑	P		**P**	**07 05 24.0**	**+2.5**
IZVR	**Izvoarele**	**21.74**	**315**	⇓	P		**P**	**07 05 23.8**	**+1.5**
SZH	**Strazhitsa**	**21.82**	**308**		P		**P**	**07 05 25.0**	**+1.8**
TUDR		**21.83**	**315**	⇓	P		**P**	**07 05 25.1**	**+1.9**
AML	**Almayashu**	**21.83**	**55**		P		**P**	**07 05 25.5**	**+1.8**
	SNR=100								
MILM	**Milestii Mici**	**21.91**	**319**	⇑	*i* P		**P**	**07 05 23.0**	**-1.1**
	comp=Z,290nm,2.6s								
MILM	**Milestii Mici**	**21.91**	**319**		*i* PP		**P**	**07 05 31.0**	**+6.9**
MILM	**Milestii Mici**	**21.91**	**319**	⇑	P		**P**	**07 05 25.5**	**+1.5**
MILM	**Milestii Mici**	**21.91**	**319**	*c*	*i* P		**P**	**07 05 23.0**	**-1.1**
MILM					*i*			07 05 31.0	
MILM					*e*			07 09 19.0	
MILM					*i* S		**S**	**07 09 21.0**	**-3.9**
MILM					pmax		pmax		
	comp=Z,290nm,2.6s								
MILM					smax		smax		
	comp=N,3μm,3.4s								
MILM					MLR		MLR		
	comp=Z,4μm,13.5s								
KIS	**Kishinev**	**21.95**	**320**	⇑	*i* P		**P**	**07 05 23.0**	**-1.5**
KIS	**Kishinev**	**21.95**	**320**		*i* PP		P	07 05 32.0	+7.5
KIS	**Kishinev**	**21.95**	**320**	*c*	*i* P		**P**	**07 05 23.0**	**-1.5**
KIS					*i*			07 05 32.0	
KIS					*i* S		**S**	**07 09 21.0**	**-4.8**
KIS					*i*			07 09 30.0	
KIS					smax		smax		
	comp=N,2μm,5.0s								
EKS2	**Erkin-Say**	**22.08**	**54**		P		**P**	**07 05 28.1**	**+2.0**
	SNR=28								
RZN	**Rozhen**	**22.11**	**303**		P		**P**	**07 05 28.3**	**+1.8**
BAL3X	**Bal3x, Balta**	**22.11**	**323**		P		**P**	**07 05 25.9**	**-0.3**
LPSR	**Galich'ya Gora**	**22.17**	**343**	*e*	P		**P**	**07 05 25.4**	**-1.4**
LPSR				*e*	S		**S**	**07 09 23.5**	**-6.3**
LPSR					pmax		pmax		
	comp=Z,330nm,0.8s								
LPSR					smax		smax		
	comp=N,2μm,6.2s								
LPSR					MLR		MLR		
	comp=Z,7μm,17.0s								
COSR	**Cosmesti PH**	**22.18**	**316**	⇑	P		**P**	**07 05 29.1**	**+2.1**
SULR		**22.25**	**312**	⇓	P		**P**	**07 05 29.9**	**+2.2**
ISR	**Istrita**	**22.28**	**313**	⇑	P		**P**	**07 05 31.4**	**+3.2**
ISR	**Istrita**	**22.28**	**313**		P		**P**	**07 05 31.3**	**+3.2**
ODBI	**Odobesti**	**22.28**	**315**	⇓	P		**P**	**07 05 30.0**	**+1.9**
PANC	**Panciu**	**22.28**	**315**	⇑	P		**P**	**07 05 30.3**	**+2.1**
BISRR	**Bisoca**	**22.38**	**314**	⇑	P		**P**	**07 05 32.0**	**+2.7**
UCH	**Uchtor**	**22.43**	**55**		P		**P**	**07 05 31.7**	**+1.4**
	SNR=153								
VRI	**Vrincioaia**	**22.53**	**315**	⇑	P		**P**	**07 05 32.3**	**+1.4**
VRI	**Vrincioaia**	**22.53**	**315**		P		**P**	**07 05 32.2**	**+1.4**
VRI	**Vrincioaia**	**22.53**	**315**		P		**P**	**07 05 32.0**	**+1.2**
	comp=Z,3μmcomp=Z,343nm,1.1s								
AAK	**Ala-Archa**	**22.56**	**54**		P		**P**	**07 05 33.6**	**+2.3**
	SNR=12								
AAK	**Ala-Archa**	**22.56**	**54**		P		**P**	**07 05 32.9**	**+1.5**
AAK					lAmb		lAmb	07 05 48.2	
	comp=Z,460nm,1.4s								
AAK	**Ala-Archa**	**22.56**	**54**		P		**P**	**07 05 32.2**	**+0.9**
	comp=Z,16nm,0.5s,baz=253,slow=9.8,SNR=29								
AAK					PcP		**PcP**	**07 09 24.3**	**0.0**
	comp=Z,7.8nm,0.7s,baz=204,slow=2.6,SNR=4.1								
AAK					S		**S**	**07 09 37.4**	**-0.2**
	comp=Z,8.4nm,0.9s,baz=333,slow=18,SNR=1.4								
AAK					ScP		**ScP**	**07 13 00.1**	**-0.5**
	comp=Z,10nm,0.8s,baz=215,slow=5.9,SNR=3.8								
AAK					LR		LR	07 15 44.5	
	comp=Z,22μm,21.7s,baz=254,slow=40								
	comp=Z,16nm,0.5s								
AAK	**Ala-Archa**	**22.56**	**54**	*i*	P		**P**	**07 05 32.0**	**+0.7**
	SNR=123								
PLOR	**Plostina**	**22.57**	**315**	⇓	P		**P**	**07 05 32.8**	**+1.5**
PLOR	**Plostina**	**22.57**	**315**		P		**P**	**07 05 32.7**	**+1.5**
NEHR	**Nehoiu**	**22.58**	**314**	⇓	P		**P**	**07 05 34.4**	**+3.1**
COPA	**Copaceanca**	**22.68**	**310**	⇑	P		**P**	**07 05 34.9**	**+2.6**
FRU1	**Bishkek**	**22.72**	**54**		P		**P**	**07 05 33.6**	**+0.7**
FRU1					lAmb		lAmb	07 05 53.7	
	comp=Z,399nm,1.6s								
FRU1	**Bishkek**	**22.72**	**54**		P		**P**	**07 05 33.6**	**+0.7**
FRU1					pmax		pmax		
	comp=Z,399nm,1.6s								
FRU1					MLR		MLR		
	comp=Z,28μm,21.0s								
MMB	**Musomishta**	**22.77**	**303**		P		**P**	**07 05 35.1**	**+1.7**
PGB	**Panagyurishte**	**22.77**	**305**		P		**P**	**07 05 36.4**	**+3.0**
KSH	**Kashi**	**22.78**	**63**		P		**P**	**07 05 30.9**	**-2.7**
KSH					sP		pP	07 05 38.6	-1.6
KSH					S		**S**	**07 09 35.5**	**-5.9**
KSH					pmax		pmax		
	comp=Z,270nm,1.1s								
KSH					LR		LR		
	comp=Z,18μm,13.4s								
KSH					LR		LR		
	comp=Z,43μm,17.2s								
KSH					LR		LR		
	comp=Z,46μm,18.6s								
USP	**Ospenovka**	**22.79**	**53**		P		**P**	**07 05 35.1**	**+1.4**
	SNR=39								
MLR	**Muntele Rosu**	**22.82**	**314**		P		**P**	**07 05 35.9**	**+1.9**
MLR					lAmb		lAmb	07 05 50.5	
	comp=Z,265nm,0.8s								
MLR	**Muntele Rosu**	**22.82**	**314**		P		**P**	**07 05 32.7**	**-1.3**
	comp=Z,7.7nm,0.7s,baz=136,slow=6.7,SNR=34								
MLR					S		**S**	**07 09 41.6**	**-0.5**
	comp=Z,8.0nm,0.7s,baz=146,slow=18,SNR=1.3								
MLR					ScP		**ScP**	**07 13 00.1**	**-1.1**
	comp=Z,24nm,1.1s,baz=162,slow=0.8,SNR=3.6								
	comp=Z,7.7nm,0.7s								
MLR	**Muntele Rosu**	**22.82**	**314**	⇑	P		**P**	**07 05 36.4**	**+2.4**
CHMS	**Chumysh**	**22.87**	**54**		P		**P**	**07 05 36.0**	**+1.6**
	SNR=14								
KBK	**Karagaybulak**	**22.88**	**55**		P		**P**	**07 05 36.3**	**+1.6**
	SNR=26								
SORM	**Soroca**	**22.89**	**322**		P		**P**	**07 05 33.4**	**-1.1**
	comp=Z,4μmcomp=Z,422nm,0.8s								
TESR	**Tescani**	**22.91**	**316**	⇑	P		**P**	**07 05 35.7**	**+0.9**
TESR	**Tescani**	**22.91**	**316**		P		**P**	**07 05 34.7**	**-0.1**
	comp=Z,6μmcomp=Z,460nm,0.8s								
SGDS	**Sogindy**	**22.95**	**52**	*e*	P		**P**	**07 05 35.7**	**+0.4**
	comp=Z,204nm,1.4s								
ONER	**Baraj Valea Uz**	**22.97**	**316**	⇑	P		**P**	**07 05 36.6**	**+1.2**
TURR	**Turia**	**23.06**	**315**	⇓	P		**P**	**07 05 37.6**	**+1.2**
VLAD	**Vladila**	**23.16**	**309**	⇑	P		**P**	**07 05 39.1**	**+1.8**
OZUR		**23.22**	**315**	⇓	P		**P**	**07 05 39.1**	**+1.2**
BTLS	**Baital**	**23.22**	**48**	*e*	P		**P**	**07 05 38.4**	**+0.5**
BTLS				*e*	S		**S**	**07 09 51.1**	**+2.6**
BTLS	**Baital**	**23.22**	**48**	*e*	P		**P**	**07 05 38.4**	**+0.5**
BTLS				*e*	S		**S**	**07 09 51.1**	**+2.6**
MTUR	**Matau**	**23.25**	**312**	⇓	P		**P**	**07 05 39.4**	**+1.1**
MTUR	**Matau**	**23.25**	**312**		P		**P**	**07 05 39.4**	**+1.1**
BOSR	**Bodos**	**23.28**	**315**	⇓	P		**P**	**07 05 41.1**	**+2.5**
PLNA	**Plana**	**23.28**	**305**		P		**P**	**07 05 41.3**	**+2.5**
KKB	**Krupnik**	**23.30**	**303**		P		**P**	**07 05 40.8**	**+2.0**
ITM	**Ithomi**	**23.32**	**291**		P		**P**	**07 05 38.9**	**-0.2**
VOIR		**23.36**	**313**	⇓	P		**P**	**07 05 41.1**	**+1.7**
VOIR		**23.36**	**313**		P		**P**	**07 05 41.1**	**+1.7**
VOIR		**23.36**	**313**		P		**P**	**07 05 40.5**	**+1.1**
	comp=Z,7μmcomp=Z,494nm,1.1s								
MPEP	**Malo Peshtene**	**23.36**	**307**		P		**P**	**07 05 41.3**	**+1.9**
DOPR	**Dopca**	**23.39**	**314**	⇓	P		**P**	**07 05 41.0**	**+1.3**
TKM2	**Tokmak 2**	**23.42**	**54**		P		**P**	**07 05 42.9**	**+2.7**
	SNR=196								
TKM2	**Tokmak 2**	**23.42**	**54**	*i*	P		**P**	**07 05 41.3**	**+1.1**
TKM2					pmax		pmax		
	comp=Z,280nm,1.3s								
BIZ	**Bicaz**	**23.46**	**317**	⇑	P		**P**	**07 05 42.3**	**+2.0**
VTS	**Vitosha**	**23.46**	**305**		P		**P**	**07 05 42.9**	**+2.3**
BOOM	**Boomskoye usch**	**23.52**	**56**		P		**P**	**07 05 43.5**	**+2.3**
BOOM					lAmb		lAmb	07 05 54.3	
	comp=Z,227nm,0.9s								
BOOM					IAMs_20		IAMs_20	07 16 17.9	
	comp=Z,19μm,18.0s								
BOOM	**Boomskoye usch**	**23.52**	**56**		P		**P**	**07 05 43.5**	**+2.3**
BOOM					pmax		pmax		
	comp=Z,227nm,0.9s								
BOOM					MLR		MLR		
	comp=Z,19μm,18.0s								
ARR	**Arges**	**23.59**	**312**	⇑	P		**P**	**07 05 43.1**	**+1.4**
ULHL	**Ulahol**	**23.66**	**56**		P		**P**	**07 05 45.1**	**+2.5**
	SNR=72								
NDNU	**Novodnistrovsk**	**23.69**	**321**		P		**P**	**07 05 41.4**	**-1.1**
VALD	**Valchedram**	**23.69**	**307**		P		**P**	**07 05 47.0**	**+4.4**
DRBR	**Darabani**	**23.87**	**320**	⇑	P		**P**	**07 05 46.1**	**+1.9**
TNR	**Turnu Rosu**	**23.94**	**313**	⇓	P		**P**	**07 05 47.2**	**+2.2**
TNR	**Turnu Rosu**	**23.94**	**313**		P		**P**	**07 05 47.2**	**+2.2**
AK07	**Malin Array Si**	**24.04**	**327**		P		**P**	**07 05 45.6**	**-0.2**
AK09	**Malin Array Si**	**24.05**	**327**		P		**P**	**07 05 45.6**	**-0.3**
AK10	**Malin Array Si**	**24.05**	**327**		P		**P**	**07 05 45.3**	**-0.6**
AK06	**Malin Array Si**	**24.07**	**327**		P		**P**	**07 05 45.4**	**-0.7**
AK08	**Malin Array Si**	**24.08**	**327**		P		**P**	**07 05 46.1**	**0.0**
AK05	**Malin Array Si**	**24.09**	**327**		P		**P**	**07 05 45.1**	**-1.2**
MDB	**Medias**	**24.10**	**314**	⇓	P		**P**	**07 05 49.2**	**+2.7**
MDB	**Medias**	**24.10**	**314**		P		**P**	**07 05 49.1**	**+2.7**
AK02	**Malin Array Si**	**24.11**	**327**		P		**P**	**07 05 45.7**	**-0.8**
AK12	**Malin Array Si**	**24.13**	**327**		P		**P**	**07 05 46.1**	**-0.5**
AK01	**Malin Array Si**	**24.14**	**327**		P		**P**	**07 05 46.1**	**-0.6**
AKASG	**Malin Array Be**	**24.14**	**327**		P		**P**	**07 05 46.0**	**-0.7**
AKASG					lAmb		lAmb	07 06 05.5	
	comp=Z,161nm,1.1s								
AKASG	**Malin Array Be**	**24.14**	**327**		P		**P**	**07 05 45.0**	**-1.6**
	comp=Z,9.3nm,0.4s,baz=137,slow=10,SNR=58								
AKASG					PcP		**PcP**	**07 09 25.3**	**-1.9**
	comp=Z,12nm,0.7s,baz=96,slow=2.1,SNR=4.9								
AKASG					S		**S**	**07 10 00.0**	**-3.2**
	comp=Z,29nm,0.9s,baz=132,slow=19,SNR=5.9								
AKASG					ScP		**ScP**	**07 13 03.5**	**-0.8**
	comp=Z,17nm,1.0s,baz=103,slow=1.8,SNR=10								
	comp=Z,9.3nm,0.4s								
AKASG	**Malin Array Be**	**24.14**	**327**	*i*	P		**P**	**07 05 46.2**	**-0.5**
AKASG					pmax		pmax		
	comp=Z,7.0nm,0.4s								
AKBB	**Malin Array Si**	**24.14**	**327**		P		**P**	**07 05 46.4**	**-0.3**
AKBB	**Malin Array Si**	**24.14**	**327**	*ce*	P		**P**	**07 05 46.2**	**-0.5**
AKBB					pmax		pmax		
	comp=Z,257nm,1.6s								
AKBB	**Malin Array Si**	**24.14**	**327**		P		**P**	**07 05 45.6**	**-1.1**
KIEV	**Kiev**	**24.14**	**327**		P		**P**	**07 05 46.4**	**-0.3**
KIEV					lAmb		lAmb	07 06 05.5	
	comp=Z,441nm,1.4s								
KIEV	**Kiev**	**24.14**	**327**		P		**P**	**07 05 46.4**	**-0.3**
KIEV					pmax		pmax		
	comp=Z,441nm,1.5s								
KIEV					MLR		MLR		
	comp=Z,3μm,20.0s								
KIEV	**Kiev**	**24.14**	**327**	*i*	P		**P**	**07 05 46.3**	**-0.5**
	SNR=20								
KIEV	**Kiev**	**24.14**	**327**		P		**P**	**07 05 46.2**	**-0.5**
	comp=Z,20μmcomp=Z,660nm,1.3s								
AK14	**Malin Array Si**	**24.14**	**327**		P		**P**	**07 05 46.1**	**-0.6**
AK11	**Malin Array Si**	**24.15**	**327**		P		**P**	**07 05 46.1**	**-0.7**
AK13	**Malin Array Si**	**24.15**	**327**		P		**P**	**07 05 45.8**	**-1.0**
AK03	**Malin Array Si**	**24.16**	**327**		P		**P**	**07 05 46.1**	**-0.8**
KMPD	**K-Podol'skiy**	**24.16**	**321**		P		**P**	**07 05 46.0**	**-0.9**
KMPD					P		**P**	**07 05 46.3**	**-0.6**
LOT	**Lotru**	**24.17**	**312**	⇓	P		**P**	**07 05 48.4**	**+1.1**
AK16	**Malin Array Si**	**24.17**	**327**		P		**P**	**07 05 46.2**	**-0.8**
AK04	**Malin Array Si**	**24.18**	**327**		P		**P**	**07 05 46.3**	**-0.8**
AK15	**Malin Array Si**	**24.18**	**327**		P		**P**	**07 05 46.3**	**-0.8**
AK17	**Malin Array Si**	**24.20**	**327**		P		**P**	**07 05 46.5**	**-0.8**
SRE	**Strehaia**	**24.21**	**310**	⇓	P		**P**	**07 05 50.0**	**+2.5**
SRE	**Strehaia**	**24.21**	**310**		P		**P**	**07 05 50.0**	**+2.5**
AK18	**Malin Array Si**	**24.22**	**327**		P		**P**	**07 05 46.8**	**-0.7**
AK23	**Malin Array Si**	**24.23**	**327**		P		**P**	**07 05 46.7**	**-0.8**
AK22	**Malin Array Si**	**24.25**	**327**		P		**P**	**07 05 46.8**	**-0.9**
AK19	**Malin Array Si**	**24.25**	**327**		P		**P**	**07 05 47.2**	**-0.5**
AK20	**Malin Array Si**	**24.27**	**327**		P		**P**	**07 05 47.2**	**-0.7**
KUU	**Kurty**	**24.27**	**53**	*e*	P		**P**	**07 05 48.8**	**+0.8**
KUU					MLR		MLR		
	comp=Z,31μm,14.0s								
KUU	**Kurty**	**24.27**	**53**	*e*	P		**P**	**07 05 48.8**	**+0.8**
KUU					LR		LR	07 16 12.6	
	comp=Z,31μm,14.3s								
AK21	**Malin Array Si**	**24.27**	**327**		P		**P**	**07 05 47.2**	**-0.7**
KDJ	**Kajisay**	**24.29**	**57**		P		**P**	**07 05 50.0**	**+1.5**
KDJ					lAmb		lAmb	07 06 19.1	
	comp=Z,214nm,1.2s								
KDJ	**Kajisay**	**24.29**	**57**		P		**P**	**07 05 50.0**	**+1.5**
KDJ					pmax		pmax		
	comp=Z,214nm,1.2s								
KDJ					MLR		MLR		
	comp=Z,23μm,19.0s								
FNA	**Florina**	**24.31**	**300**		P		**P**	**07 05 50.0**	**+1.6**
FNA	**Florina**	**24.31**	**300**		P		**P**	**07 05 50.0**	**+1.6**
FNA					pmax		pmax		
	comp=Z,54nm,0.7s								
FNA					MLR		MLR		
	comp=Z,5μm,21.0s								
LUBAR	**Lubar, Ukraine**	**24.32**	**324**		P		**P**	**07 05 48.1**	**-0.3**
BURAR	**Bucovina Array**	**24.33**	**317**		P		**P**	**07 05 49.5**	**+0.9**
BURAR					lAmb		lAmb	07 06 02.0	
	comp=Z,89nm,0.6s								
BURAR	**Bucovina Array**	**24.33**	**317**	⇑	P		**P**	**07 05 50.4**	**+1.8**
BURAR	**Bucovina Array**	**24.33**	**317**		P		**P**	**07 05 50.4**	**+1.8**
BUR08	**Bucovina Ar. S**	**24.35**	**318**		P		**P**	**07 05 49.4**	**+0.5**
BUR08					lAmb		lAmb	07 06 12.2	
	comp=Z,157nm,1.1s								
AAA	**Alma-Ata**	**24.43**	**54**	*e*	P		**P**	**07 05 50.2**	**+0.6**
AAA					pmax		pmax		
	comp=Z,152nm,1.1s								
AAA					MLR		MLR		
	comp=Z,40μm,15.0s								
AAA	**Alma-Ata**	**24.43**	**54**	*e*	P		**P**	**07 05 50.2**	**+0.6**
	comp=Z,152nm,1.1s								
AAA					LR		LR	07 16 18.1	
	comp=Z,40μm,15.3s								
TARG	**Taragay, Kyrgy**	**24.64**	**58**		P		**P**	**07 05 53.5**	**+1.6**
TARG					lAmb		lAmb	07 06 04.2	
	comp=Z,214nm,1.0s								
TARG					IAMs_20		IAMs_20	07 17 01.5	
	comp=Z,14μm,21.0s								
TARG	**Taragay, Kyrgy**	**24.64**	**58**		P		**P**	**07 05 53.5**	**+1.6**
TARG					pmax		pmax		
	comp=Z,214nm,1.0s								
TARG					MLR		MLR		
	comp=Z,14μm,21.0s								
MI30	**MI30,Zelenitsa**	**24.65**	**326**		P		**P**	**07 05 50.9**	**-0.5**
	comp=Z,9μmcomp=Z,410nm,1.0s								
DJES	**Djerdap**	**24.66**	**309**	⇑	P		**P**	**07 05 53.5**	**+1.9**
CHKK	**Chushkaly**	**24.69**	**53**	*e*	P		**P**	**07 05 52.6**	**+0.8**
CHKK	**Chushkaly**	**24.69**	**53**	*e*	P		**P**	**07 05 52.7**	**+0.8**
GZR	**Gura Zlata**	**24.78**	**311**	⇓	P		**P**	**07 05 54.3**	**+1.5**
GZR	**Gura Zlata**	**24.78**	**311**		P		**P**	**07 05 54.2**	**+1.5**
KSV	**Kosov**	**24.79**	**319**		P		**P**	**07 05 52.6**	**-0.1**
OHR	**Ohrid**	**24.80**	**300**	*i*	P		**P**	**07 05 54.9**	**+1.9**
HERR	**Herculane**	**24.82**	**309**	⇓	P		**P**	**07 05 54.6**	**+1.7**
CJR	**Cluj-Napoca**	**24.84**	**314**	⇓	P		**P**	**07 05 55.6**	**+2.4**
CJR	**Cluj-Napoca**	**24.84**	**314**		P		**P**	**07 05 55.6**	**+2.4**
BQVS	**Bovan**	**24.85**	**306**	⇓	P		**P**	**07 05 54.9**	**+1.7**
CBBR	**Cluj-Babes-Bol**	**24.90**	**314**	⇓	P		**P**	**07 05 56.3**	**+2.6**
FURI	**Furi**	**24.92**	**206**		IAMs_20		IAMs_20	07 16 04.4	
	comp=Z,30μm,18.0s								
MI28	**Mi28,Pidlybu**	**25.02**	**326**		P		**P**	**07 05 54.6**	**-0.1**
OBN	**Obninsk**	**25.05**	**342**		P		**P**	**07 05 55.4**	**+0.5**
OBN					IAMs_20		IAMs_20	07 17 06.0	
	comp=Z,12μm,18.0s								
OBN	**Obninsk**	**25.05**	**342**		P		**P**	**07 05 53.0**	**-1.9**
	comp=Z,90nm,0.4s,baz=194,slow=8.3,SNR=19								
OBN					S		**S**	**07 10 13.4**	**-4.2**
	comp=Z,24nm,0.4s,baz=127,slow=20,SNR=1.3								
	comp=Z,90nm,0.4s								
OBN	**Obninsk**	**25.05**	**342**	*ce*	P		**P**	**07 05 55.1**	**+0.2**
OBN				*e*	*PP		**pP**	**07 05 59.9**	**-1.8**
OBN				*e*	*SP		**sP**	**07 06 03.5**	**-1.1**
OBN				*e*	PPP		PPP	07 06 36.6	
OBN				*e*				07 09 31.0	
OBN				*i*	S		**S**	**07 10 14.5**	**-3.2**
OBN				*e*	SSS		SSS	07 11 22.1	
OBN					pmax		pmax		
	comp=Z,483nm,2.5s								
OBN					MLR		MLR		
	comp=Z,11μm,18.0s								
OBN	**Obninsk**	**25.05**	**342**		P		**P**	**07 05 54.0**	**-0.9**
	comp=Z,10μmcomp=Z,431nm,1.4s								
BRZS	**Berezniki**	**25.06**	**37**	*e*	P		**P**	**07 05 56.0**	**+0.9**
BRZS	**Berezniki**	**25.06**	**37**	*e*	P		**P**	**07 05 56.0**	**+0.9**
RAKU	**Rahkiv**	**25.15**	**317**		P		**P**	**07 05 56.3**	**+0.4**
MDVR	**Moldovita**	**25.24**	**309**	⇑	P		**P**	**07 05 58.4**	**+1.5**
KEK	**Kerkira**	**25.29**	**296**		P		**P**	**07 05 57.9**	**+0.6**
STNU	**Starunia**	**25.32**	**319**		P		**P**	**07 05 59.1**	**+1.6**
SURR	**Surduc**	**25.35**	**311**	⇑	P		**P**	**07 05 58.5**	**+0.8**
ARTI	**Arti**	**25.35**	**12**		P		**P**	**07 05 58.3**	**+0.7**
ARTI	**Arti**	**25.35**	**12**		P		**P**	**07 05 56.9**	**-0.8**
	comp=Z,46nm,0.6s,baz=202,slow=5.6,SNR=56								
ARTI					S		**S**	**07 10 19.8**	**-2.8**
	comp=Z,9.9nm,0.7s,baz=162,slow=20,SNR=0.9								
ARTI					ScP		**ScP**	**07 13 06.3**	**-1.4**
	comp=Z,17nm,0.9s,baz=173,slow=5.1,SNR=3.3								
ARTI					LR		LR	07 18 21.4	
	comp=Z,7μm,19.3s,baz=182,slow=42								
	comp=Z,46nm,0.6s								
ARTI	**Arti**	**25.35**	**12**	*c*	*i* P		**P**	**07 05 58.4**	**+0.8**
ARTI					PPP		PPP	07 06 40.9	
ARTI					S		**S**	**07 10 26.8**	**+4.2**
ARTI					SS		**SnSn**	**07 11 18.5**	**+3.6**
ARTI					SSS		SSS	07 11 35.9	
ARTI					pmax		pmax		
	comp=Z,274nm,1.9s								
ARTI					MLR		MLR		
	comp=Z,6μm,18.0s								
MOS	**Moscow**	**25.35**	**344**	*e*	P		**P**	**07 05 57.9**	**+0.3**
MOS				*e*				07 06 36.3	
MOS				*e*	S		**S**	**07 10 25.7**	**+3.1**
MOS				*e*	SS		**SnSn**	**07 11 18.5**	**+3.6**
MOS					pmax		pmax		
	comp=Z,209nm,1.1s								
MOS					pmax		pmax		
	comp=N,90nm,1.1s								
MOS					pmax		pmax		
	comp=Z,700nm,1.6s								
MOS					MLR		MLR		
	comp=Z,3μm,14.0s								
BMR	**Baia Mare**	**25.36**	**316**	⇓	P		**P**	**07 05 60.0**	**+2.1**
BMR	**Baia Mare**	**25.36**	**316**		P		**P**	**07 05 59.9**	**+2.1**
ARXS	**Arharly**	**25.38**	**53**	*e*	P		**P**	**07 05 59.3**	**+1.1**
DRGR		**25.42**	**314**	⇑	P		**P**	**07 05 59.9**	**+1.4**
DRGR		**25.42**	**314**		P		**P**	**07 05 59.9**	**+1.4**
SATY	**Saty**	**25.42**	**56**	*e*	P		**P**	**07 05 59.2**	**+0.6**
SATY				*e*	S		**S**	**07 10 26.6**	**+2.3**
SATY					pmax		pmax		
	comp=Z,141nm,1.3s								
SATY	**Saty**	**25.42**	**56**	*e*	P		**P**	**07 05 59.3**	**+0.6**
	comp=Z,141nm,1.3s								
SATY				*e*	S		**S**	**07 10 26.7**	**+2.4**
MESR	**Meseseni**	**25.44**	**315**	⇑	P		**P**	**07 06 00.5**	**+2.0**
TIR	**Tirane**	**25.54**	**300**		P		**P**	**07 06 00.1**	**+0.5**
TIR	**Tirane**	**25.54**	**300**	⇑	P		**P**	**07 06 02.2**	**+2.6**
TIR	**Tirane**	**25.54**	**300**		P		**P**	**07 06 00.1**	**+0.5**
TIR					pmax		pmax		
	comp=Z,667nm,0.8s								
TIR					MLR		MLR		
	comp=Z,5μm,20.0s								
WUS	**Wushi**	**25.55**	**60**		lAmb		lAmb	07 06 11.8	
	comp=Z,314nm,1.9s								
BZS	**Buzias**	**25.62**	**311**	⇑	P		**P**	**07 06 01.5**	**+1.3**
BZS	**Buzias**	**25.62**	**311**		P		**P**	**07 06 01.5**	**+1.3**
BANR	**Banloc**	**25.84**	**310**	⇑	P		**P**	**07 06 05.0**	**+2.7**
SIRR	**Siria**	**25.85**	**312**	⇑	P		**P**	**07 06 04.5**	**+2.2**
TRSU	**Trosnyk**	**25.88**	**317**		P		**P**	**07 06 04.7**	**+2.1**
IVA	**Berane**	**25.89**	**304**	⇓	*i* P		**P**	**07 06 04.9**	**+2.1**
SJES	**Sjenica**	**25.94**	**305**	⇑	*i* P		**P**	**07 06 04.3**	**+1.0**
BRIU	**Brid**	**25.97**	**317**		P

MNK *i* LRM MLR 07 18 09.1
comp=E,6µm,16.3s
MNK Minsk 27.43 332 *i* P **P** **07 06 16.0 -0.4**
MNK *i* PPP PPP 07 07 08.4
MNK *i* S **S** **07 10 56.1 +0.8**
MNK *i* SS **SnSn** **07 12 08.1 +2.6**
MNK pmax pmax
comp=Z,112nm,0.8s
MNK pmax pmax
comp=N,106nm,1.1s
MNK pmax pmax
comp=E,83nm,1.3s
MNK MLR MLR
comp=N,4µm,16.0s
MNK MLR MLR
comp=Z,6µm,16.0s
MNK MLR MLR
comp=E,5µm,15.0s
STON Ston 27.45 303⇑ *i*P **P** **07 06 16.9 +0.1**
STHS Stebnicka Huta 27.52 318 *e*P **P** **07 06 24.2 +6.8**
STHS pmax pmax
comp=Z,19nm,1.7s
STHS Stebnicka Huta 27.52 318 *e*P **P** **07 06 24.2 +6.8**
KECS Kecovo 27.52 316 *e*P P 07 06 27.2 +10
KECS pmax pmax
comp=Z,31nm,0.8s
KECS Kecovo 27.52 316 *e*P P 07 06 27.2 +10
TIP Timpagrande 27.56 295 P **P** **07 06 18.4 +0.4**
TIP Timpagrande 27.56 295 ⇑P **P** **07 06 19.4 +1.4**
TIP Timpagrande 27.56 295 P **P** **07 06 19.2 +1.3**
comp=Z,2µmcomp=Z,248nm,1.1s
PSZ Piszkesteto 27.63 314 P **P** **07 06 19.1 +0.6**
PSZ Piszkesteto 27.63 314 ⇓P **P** **07 06 19.7 +1.2**
PSZ Piszkesteto 27.63 314 P **P** **07 06 19.1 +0.6**
PSZ pmax pmax
comp=Z,99nm,1.0s
PSZ Piszkesteto 27.63 314 *e*P **P** **07 06 19.9 +1.5**
MORH Mrgy, Hungar 27.77 310 ⇓P **P** **07 06 20.6 +1.0**
MORH Mrgy, Hungar 27.77 310 P **P** **07 06 20.8 +1.2**
comp=Z,1µmcomp=Z,113nm,1.0s
MATE Matera 27.77 298 ⇓P **P** **07 06 21.8 +2.1**
MATE Matera 27.77 298 *e*P **P** **07 06 19.3 -0.4**
NIE Niedzica 28.06 317 *e*P P 07 06 29.4 +7.1
NIE *e*S **S** **07 11 07.5 +1.8**
NIE *e*L L 07 20 41.7
comp=Z,4µm,17.5s
NACGM Naroch 28.16 332⇑ *i*P **P** **07 06 23.3 +0.4**
comp=Z,44nm,1.0s,baz=136
CEL Celeste 28.17 293 P **P** **07 06 24.6 +1.2**
CEL Celeste 28.17 293 P **P** **07 06 25.5 +2.1**
comp=Z,2µmcomp=Z,266nm,1.1s
BLY Banja Luka 28.29 306⇑ *i*P **P** **07 06 27.3 +3.1**
ACER Acerenza 28.37 298 P **P** **07 06 25.5 +0.5**
ACER IAmb IAmb 07 07 08.4
comp=Z,130nm,0.8s
CUC Castrocucco 28.37 296 P **P** **07 06 26.9 +1.8**
CUC IAmb IAmb 07 06 40.4
comp=Z,122nm,0.8s
LANS Liptovska Anna 28.42 316 *e*P **P** **07 06 27.4 +1.9**
LANS pmax pmax
comp=Z,9.0nm,1.2s
LANS Liptovska Anna 28.42 316 *e*P **P** **07 06 27.4 +1.9**
IDID Didziasalis 28.47 332 *e*P **P** **07 06 26.7 +1.0**
VYHS Vyhne 28.52 315 *e*P **P** **07 06 28.2 +1.9**
VYHS pmax pmax
comp=Z,5.0nm,0.7s
VYHS Vyhne 28.52 315 *e*P **P** **07 06 28.2 +1.9**
KURBB Kurchatov Arra 28.53 40 P **P** **07 06 26.3 0.0**
comp=Z,24nm,0.8s,baz=243,slow=9.4,SNR=71
KURBB PcP **PcP** **07 09 36.7 -0.8**
comp=Z,10nm,0.7s,baz=242,slow=3.1,SNR=5.8
KURBB ScP **ScP** **07 13 15.7 -1.6**
comp=Z,11nm,0.9s,baz=246,slow=3.8,SNR=9.2
KURBB PKiKP **PKiKP** **07 17 13.3 +1.0**
comp=Z,1.2nm,0.7s,baz=232,slow=1.0,SNR=5.5
KURBB LR LR 07 19 14.6
comp=Z,13µm,19.0s,baz=228,slow=39
KURBB P3KPbc 07 38 44.8
comp=Z,1.1nm,0.9s,baz=58,slow=3.7,SNR=4.5
comp=Z,24nm,0.8s
A051A Mrakovica 28.55 307⇑ *i*P **P** **07 06 27.9 +1.2**
SRO Srobarova 28.57 313 *e*P P 07 06 32.9 +6.2
SRO pmax pmax
comp=Z,29nm,0.9s
SRO Srobarova 28.57 313 *e*P P 07 06 32.9 +6.2
KURK Kurchatov 28.63 40 P **P** **07 06 27.4 +0.2**
KURK IAmb IAmb 07 06 59.8
comp=Z,118nm,1.1s
KURK Kurchatov 28.63 40 IAMs_20 IAMs_20 07 19 15.1
comp=Z,14µm,20.0s
KURK Kurchatov 28.63 40 *i* P **P** **07 06 28.6 +1.4**
KURK pmax pmax
comp=Z,100nm,0.9s
SGRT San Giovanni R 28.66 300 P **P** **07 06 27.3 -0.4**
A050A Klekovaca 28.66 306 *e*P **P** **07 06 27.4 -0.3**
OJC Ojcow 28.73 319 *e*P **P** **07 06 28.3 +0.1**
OJC *e*S **S** **07 11 15.1 -0.9**
OJC *e*L L 07 21 37.4
comp=Z,4µm,20.1s
OJC Ojcow 28.73 319 P **P** **07 06 28.2 +0.1**
OJC Ojcow 28.73 319 P **P** **07 06 28.2 +0.1**
OJC Ojcow 28.73 319 P **P** **07 06 28.4 +0.3**
comp=Z,1µmcomp=Z,94nm,0.8s
MPLH Magyarpolny 28.82 311 P **P** **07 06 29.3 +0.4**
comp=Z,4µmcomp=Z,361nm,0.8s
ISAL Salakas 28.90 332 *e*P **P** **07 06 31.9 +2.4**
MAKZ Makanchi 29.00 49 P **P** **07 06 31.0 +0.4**
MAKZ IAMs_20 IAMs_20 07 20 10.0
comp=Z,15µm,20.0s
MAKZ Makanchi 29.00 49 P **P** **07 06 31.5 +0.9**
BEL Belsk 29.01 322 *e*P P 07 06 38.0 +7.4
BEL *e*S **S** **07 11 20.3 -0.1**
BEL *e*L L 07 19 24.5
comp=Z,2µm,16.1s
BEHE Becsehely 29.07 310 P **P** **07 06 32.5 +1.3**
SUW Suwalki 29.11 327 *e*P **P** **07 06 31.3 -0.1**
SUW *e*S **S** **07 11 18.4 -3.5**
SUW *e*L L 07 19 16.5
comp=Z,7µm,20.6s
SUW Suwalki 29.11 327 P **P** **07 06 31.6 +0.2**
SUW Suwalki 29.11 327 P **P** **07 06 31.6 +0.2**
SUW MLR MLR
comp=Z,7µm,20.0s
SUW Suwalki 29.11 327 *e*P **P** **07 06 32.7 +1.3**
MK31 Makanchi Array 29.20 50 P **P** **07 06 33.6 +1.2**
MK31 Makanchi Array 29.20 50 *i* P **P** **07 06 33.6 +1.2**
MK31 pmax pmax
comp=Z,22nm,0.6s
MKAR Makanchi Array 29.20 50 P **P** **07 06 33.7 +1.3**
MKAR Makanchi Array 29.20 50 P **P** **07 06 32.5 +0.2**
comp=Z,19nm,0.7s,baz=242,slow=8.8,SNR=142
MKAR ScP **ScP** **07 13 17.7 -1.9**
comp=Z,8.4nm,1.1s,baz=268,slow=3.6,SNR=4.4
MKAR LR LR 07 20 26.6
comp=Z,16µm,18.9s,baz=235,slow=41
MKAR P3KPbc 07 38 41.5
comp=Z,0.7nm,0.8s,baz=57,slow=4.5,SNR=4.9
comp=Z,19nm,0.7s
MKAR Makanchi Array 29.20 50 *i* P **P** **07 06 33.7 +1.3**
MKAR pmax pmax
comp=Z,20nm,0.6s
WDD Wied Dalam 29.25 288 P **P** **07 06 34.3 +1.4**
WDD IAmb IAmb 07 07 20.9
comp=Z,131nm,0.8s
VAE Valguarnera 29.32 291 P **P** **07 06 36.0 +2.4**
comp=Z,23nm,0.4s,baz=7.3,slow=2.7,SNR=7.6
JAVC Velka Javorina 29.37 315 *e*P **P** **07 06 35.6 +1.7**
comp=Z,44nm,1.0s,baz=110,slow=8.7
KOGS Kog 29.41 309 *i* P **P** **07 06 35.2 +1.0**
KOGS *e*S **S** **07 11 27.2 +0.4**
MODS Modra-Piesok 29.42 314 *e*P **P** **07 06 35.0 +0.7**
MODS pmax pmax
comp=Z,40nm,1.4s
MODS Modra-Piesok 29.42 314 *e*P **P** **07 06 35.0 +0.7**
PAOL Paolisi 29.43 298 P **P** **07 06 34.7 +0.2**
PAOL IAmb IAmb 07 06 51.5
comp=Z,202nm,1.3s
OKC Ostrava-Krasne 29.50 317 *e*P **P** **07 06 35.6 +0.7**
OKC AMS AMS 07 20 50.0
comp=Z,5µm,14.4s
OKC Ostrava-Krasne 29.50 317 *e*P **P** **07 06 35.6 +0.7**
OKC MLR MLR
comp=Z,5µm,14.4s
PABE Paberze 29.74 330 P **P** **07 06 36.9 0.0**
PABE Paberze 29.74 330 *e*P **P** **07 06 37.8 +0.8**
CRES Cresnjevec Ost 29.76 308⇑ *i*P **P** **07 06 38.1 +0.8**
RONA Rosalía, Austr 29.79 312 *e*P **P** **07 06 38.5 +0.9**
comp=Z,23nm,0.5s,SNR=21
RONA *e*S **S** **07 11 31.7 -1.1**
comp=Z,0.1nm,0.2s
KLMR Klimovskoe 29.80 350 *e*P **P** **07 06 37.4 0.0**
KLMR *e* 07 09 39.0
KLMR pmax pmax
comp=Z,224nm,1.3s
BOJS Bojanci 29.81 307⇑ *i*P **P** **07 06 38.5 +0.8**
BOJS Bojanci 29.81 307 *i* P **P** **07 06 38.9 +1.1**
MORC Moravsky Berou 29.83 316 P **P** **07 06 38.1 +0.2**
MORC Moravsky Berou 29.83 316 *e*P **P** **07 06 38.3 +0.4**
MORC *e*S **S** **07 11 31.7 -1.7**
MORC *e* 07 17 16.8
MORC Moravsky Berou 29.83 316⇑P **P** **07 06 38.7 +0.7**
MORC Moravsky Berou 29.83 316 P **P** **07 06 38.6 +0.7**
MORC Moravsky Berou 29.83 316 *e*P **P** **07 06 38.5 +0.6**
comp=Z,154nm,0.8s,baz=110,slow=8.7
GROS Grobnik 29.91 309 *i* P **P** **07 06 39.4 +0.7**
GROS *e*S **S** **07 11 34.4 -0.4**
GROS *e* 07 17 16.3
HYB Hyderabad 29.92 112 *e*P **P** **07 06 39.2 +0.2**
HYB *e*pP **pP** **07 06 44.4 -1.6**
HYB *e*sP **sP** **07 06 47.0 -1.9**
HYB *e*S **S** **07 11 36.5 +1.2**
HYB IVMs_BB IVMs_BB 07 22 07.2
comp=Z,2µm,11.6s
INTR Introdacqua 30.05 300 P **P** **07 06 39.8 -0.2**
INTR IAmb IAmb 07 07 18.5
comp=Z,219nm,1.4s
VSVD Vaisvydziai 30.07 331 *e*P **P** **07 06 41.5 +1.6**
ARSA Arzberg 30.14 311 P **P** **07 06 41.0 +0.3**
ARSA Arzberg 30.14 311 *e*P **P** **07 06 40.6 0.0**
comp=Z,26nm,0.6s,SNR=15
ARSA *e*S **S** **07 11 35.4 -2.9**
comp=Z,0.5nm,0.2s
CONA Conrad Observa 30.14 312 *e*P **P** **07 06 41.3 +0.5**
comp=Z,8.8nm,0.9s,SNR=26
CONA *e*S **S** **07 11 38.1 -0.4**
comp=Z,10nm,1.4s
CONA Conrad Observa 30.14 312 *e*S **S** **07 11 46.7 +8.2**
SNR=4.2
VRAC Vranov 30.20 315 *e*P **P** **07 06 42.1 +0.9**
VRAC *e*S **S** **07 11 40.1 +0.9**
VRAC *e* 07 17 18.7
VRAC Vranov 30.20 315 P **P** **07 06 40.3 -0.9**
comp=Z,5.3nm,0.7s,baz=110,slow=7.8,SNR=9.8
VRAC LR LR 07 21 07.8
comp=Z,2µm,19.0s,baz=110,slow=41
comp=Z,5.3nm,0.7s
VRAC Vranov 30.20 315 ⇓P **P** **07 06 42.7 +1.5**
VRAC Vranov 30.20 315 P **P** **07 06 42.7 +1.5**
VRAC Vranov 30.20 315 *e*P **P** **07 06 42.2 +1.0**
comp=Z,38nm,0.9s,baz=110,slow=8.7
KRUC Moravsky 30.23 314 *e*P **P** **07 06 42.0 +0.6**
KRUC *e*S **S** **07 11 40.1 +0.6**
KRUC *e* 07 17 18.8
KRUC Moravsky 30.23 314 *e*P **P** **07 06 42.0 +0.6**
comp=Z,50nm,1.1s,baz=110,slow=8.7
SOKA Soboth 30.28 309 *i* P **P** **07 06 43.0 +0.9**
comp=Z,0.1nm,0.1s,SNR=18
SOKA *e*S **S** **07 11 39.0 -1.7**
comp=Z,33nm,1.8s
SOKA PKiKP **PKiKP** **07 17 15.9 +2.2**
comp=Z,0.3nm,0.2s
KRLC Kraliky 30.40 316 *e*P **P** **07 06 43.8 +0.8**
KRLC AMS AMS 07 22 50.0
comp=Z,3µm,17.2s
KRLC Kraliky 30.40 316 *e*P **P** **07 06 43.8 +0.8**
KRLC MLR MLR
comp=Z,3µm,17.2s
CEY Cerknica 30.43 307⇑ *i*P **P** **07 06 43.7 +0.4**
LJU Ljubljana 30.44 308 *e*P **P** **07 06 44.5 +1.1**
LJU *i* S **S** **07 11 43.1 +0.1**
LJU *i* 07 17 19.1
CAMP Campotosto 30.50 301 P **P** **07 06 45.5 +1.5**
OBKA Obir 30.55 309⇑ *i*P **P** **07 06 45.3 +0.9**
OBKA Obir 30.55 309 *e*P **P** **07 06 45.5 +1.1**
comp=Z,12nm,1.1s
OBKA pPKiKP **pPKiKP** **07 17 21.3 -0.4**
comp=Z,0.1nm,0.4s
GUMA Gualdo di Mace 30.63 302 P **P** **07 06 45.2 +0.1**
GUMA IAmb IAmb 07 07 09.7
comp=Z,125nm,0.8s
NRCA Norcia 30.75 301 P **P** **07 06 46.8 +0.6**
NRCA IAmb IAmb 07 07 05.5
comp=Z,88nm,0.8s
DPC Dobruska-Polom 30.78 317 *e*P **P** **07 06 47.0 +0.7**
DPC AMS AMS 07 21 20.0
comp=Z,4µm,17.0s
DPC Dobruska-Polom 30.78 317 *e*P **P** **07 06 47.0 +0.7**
DPC MLR MLR
comp=Z,4µm,17.0s
DPC Dobruska-Polom 30.78 317 P **P** **07 06 46.5 +0.2**
comp=Z,462nmcomp=Z,38nm,0.8s
DPC Dobruska-Polom 30.78 317 *e*P **P** **07 06 46.7 +0.4**
comp=Z,107nm,1.0s,baz=110,slow=8.7
FDMO Fiordimonte 30.81 302 P **P** **07 06 47.1 +0.5**
FDMO IAmb IAmb 07 06 58.9
comp=Z,136nm,1.0s
VSU Vasula 30.82 337*ce*P **P** **07 06 46.0 -0.5**
VSU pmax pmax
comp=Z,91nm,0.7s
VSU Vasula 30.82 337 *e*P **P** **07 06 46.0 -0.5**
TREC Trest 30.86 314 *e*P **P** **07 06 48.7 +1.6**
TREC AMS AMS 07 22 30.0
comp=Z,6µm,15.4s
TREC Trest 30.86 314 *e*P **P** **07 06 48.7 +1.6**
TREC MLR MLR
comp=Z,6µm,15.4s
TREC Trest 30.86 314 *e*P **P** **07 06 47.9 +0.8**
comp=Z,38nm,1.0s,baz=110,slow=8.7
TRI Trieste 30.87 307 P **P** **07 06 47.2 +0.1**
TRI Trieste 30.87 307 P **P** **07 06 47.2 +0.1**
TRI pmax pmax
comp=Z,45nm,0.8s
TRI MLR MLR
comp=Z,2µm,21.0s
OSTC Ostas 30.93 317 *e*P **P** **07 06 48.1 +0.5**
OSTC AMS AMS 07 22 40.0
comp=Z,4µm,12.7s
OSTC Ostas 30.93 317 *e*P **P** **07 06 48.1 +0.5**
OSTC MLR MLR
comp=Z,4µm,12.7s
KSP Ksiaz 31.00 318 *e*P **P** **07 06 48.5 +0.2**
KSP *e*S **S** **07 11 50.5 -1.2**
KSP *e*L L 07 19 38.8
comp=Z,3µm,25.2s
KSP Ksiaz 31.00 318 P **P** **07 06 47.9 -0.3**
comp=Z,707nmcomp=Z,64nm,1.3s
UPC Upice 31.03 317 *e*P **P** **07 06 49.2 +0.7**
UPC AMS AMS 07 23 10.0
comp=Z,3µm,15.3s
UPC Upice 31.03 317 *e*P **P** **07 06 49.2 +0.7**
UPC MLR MLR
comp=Z,3µm,15.3s
CHVC Chvalec 31.04 317 *e*P **P** **07 06 49.1 +0.5**
CHVC AMS AMS 07 22 40.0
comp=Z,4µm,12.7s
CHVC Chvalec 31.04 317 *e*P **P** **07 06 49.1 +0.5**
CHVC MLR MLR
comp=Z,4µm,12.7s
SABO M.te Sabotino 31.05 308 P **P** **07 06 49.6 +0.9**
SABO IAmb IAmb 07 07 00.2
comp=Z,134nm,1.0s
ZSN Zaisan 31.08 50 *e*P **P** **07 06 49.6 +0.7**
ZSN *e*S **S** **07 11 55.6 +2.6**
ZSN Zaisan 31.08 50 *e*P **P** **07 06 49.6 +0.7**
ZSN *e*S **S** **07 11 55.6 +2.6**
CESX Cesi 31.11 301 P **P** **07 06 49.4 +0.1**
CESX IAmb IAmb 07 06 59.2
comp=Z,124nm,0.8s
MOA Molln 31.13 311 *i* P **P** **07 06 50.4 +0.9**
comp=Z,427nm,1.9s,SNR=34
MOA *e*S **S** **07 11 51.0 -2.9**
comp=Z,70nm,2.0s
MYKA Terra Mystica 31.19 309 *e*P **P** **07 06 51.5 +1.5**
comp=Z,7.9nm,0.8s
MYKA *e*S **S** **07 11 54.9 +0.1**
comp=Z,38nm,1.6s
PRED Cave del Predi 31.19 308 P **P** **07 06 50.1 +0.1**
LODK Lodwar 31.21 208 P **P** **07 06 50.0 -0.4**
LODK IAmb IAmb 07 06 56.1
comp=Z,101nm,1.1s
LODK Lodwar 31.21 208 P **P** **07 06 53.4 +2.9**
SNR=23
MURB Monte Urbino 31.25 302 P **P** **07 06 51.2 +0.6**
CKRC Cesky Krumlov 31.42 313 *e*P **P** **07 06 53.0 +1.0**
CKRC AMS AMS 07 22 20.0
comp=Z,4µm,15.7s
CKRC Cesky Krumlov 31.42 313 *e*P **P** **07 06 53.0 +1.0**
CKRC MLR MLR
comp=Z,4µm,15.7s
CKRC Cesky Krumlov 31.42 313 *e*P **P** **07 06 53.5 +1.5**
comp=Z,29nm,0.8s,baz=110,slow=8.7
BIOA Bad Ischl, Aus 31.49 311 *e*P **P** **07 06 53.5 +0.9**
comp=Z,16nm,0.3s,SNR=18
BIOA *e*S **S** **07 11 59.5 0.0**
comp=Z,54nm,1.7s
KBA Koelnbreinsper 31.51 309 *i* pP **P** **07 06 54.8 +1.9**
comp=Z,120nm,0.7s
KBA *e*S **S** **07 11 59.5 -0.5**
comp=Z,70nm,1.7s
KBA *e*pPKiKP **pPKiKP** **07 17 21.0 -1.5**
comp=Z,2.6nm,0.6s
GOPC GO Pecny, Ondr 31.52 315 *e*P **P** **07 06 53.5 +0.7**
GOPC AMS AMS 07 22 50.0
comp=Z,5µm,14.0s
GOPC GO Pecny, Ondr 31.52 315 *e*P **P** **07 06 53.5 +0.7**
GOPC MLR MLR
comp=Z,5µm,14.0s
GKP Gorka Klasztor 31.61 322 *e*P P 07 07 02.1 +8.6
GKP *e*S **S** **07 12 00.6 -0.5**
GKP *e*L L 07 20 56.3
comp=Z,7µm,17.8s
PRU Pruhonice 31.69 315 *e*P **P** **07 06 58.0 +3.7**
PRU AMS AMS 07 22 40.0
comp=Z,5µm,14.2s
PRU Pruhonice 31.69 315 *e*P **P** **07 06 58.0 +3.7**
PRU MLR MLR
comp=Z,5µm,14.2s
ZVC Zvikov 31.71 314 *e*P **P** **07 06 55.4 +1.0**
ZVC AMS AMS 07 22 20.0
comp=Z,4µm,14.1s
STAL STALIGIAL 31.72 308 P **P** **07 06 55.2 +0.5**
STAL IAmb IAmb 07 07 12.5
comp=Z,71nm,0.9s
PRA Prague 31.79 315 *e*P P 07 07 02.9 +7.8
PRA AMS AMS 07 22 50.0
comp=Z,5µm,14.5s
PRA Prague 31.79 315 *e*P P 07 07 02.9 +7.8
PRA MLR MLR
comp=Z,5µm,14.5s
GEC2 GERESS Array S 31.81 313 P **P** **07 06 55.5 0.0**
GEC2 GERESS Array S 31.81 313 *e*P **P** **07 06 55.7 +0.2**
comp=Z,39nm,0.7s,baz=110,slow=8.7
GERES GERESS Array B 31.81 313 P **P** **07 06 55.6 +0.2**
comp=Z,7.0nm,0.6s,baz=118,slow=8.0,SNR=28
GERES PcP **PcP** **07 09 43.8 -2.4**
comp=Z,6.2nm,0.9s,baz=159,slow=5.6,SNR=2.4
GERES ScP **ScP** **07 13 27.2 -1.0**
comp=Z,3.6nm,0.8s,baz=157,slow=3.8,SNR=6.2
GERES LR LR 07 22 57.9
comp=Z,4µm,18.6s,baz=96,slow=42
comp=Z,7.0nm,0.6s
ARBE Arbavere 31.82 337 *e*P **P** **07 06 56.5 +1.2**
PVCC Panska Ves 31.88 316 AMS AMS 07 23 10.0
comp=Z,4µm,13.0s
CIMO Cimolais 31.91 308 P **P** **07 06 56.8 +0.5**
CIMO IAmb IAmb 07 07 07.8
comp=Z,82nm,0.9s
ABTA Abfaltersbach 31.97 309 *e*P **P** **07 06 57.8 +0.9**
comp=Z,1.5nm,0.4s,SNR=33
ABTA *e*S **S** **07 12 05.2 -1.9**
comp=Z,28nm,1.2s
ABTA *e*pPKiKP PKiKP 07 17 23.8 +9.0
comp=Z,38nm,1.8s
KHC Kasperske Hory 31.98 313 *e*P **P** **07 06 57.4 +0.5**
KHC *ex* x 07 07 20.5
KHC AMS AMS 07 22 50.0
comp=Z,4µm,13.9s
KHC Kasperske Hory 31.98 313 *i* P **P** **07 06 56.6 -0.3**
KHC pmax pmax
comp=Z,75nm,1.1s
KHC Kasperske Hory 31.98 313 P **P** **07 06 57.2 +0.3**
comp=Z,1µmcomp=Z,89nm,1.5s
MTSE Matsula 32.04 335 *e*P **P** **07 06 58.4 +1.2**
LESA Schwarzleotal 32.04 310 *e*P **P** **07 06 57.9 +0.5**
comp=Z,20nm,0.7s,SNR=40
LESA *e*S **S** **07 12 04.6 -3.5**
comp=Z,4.2nm,0.8s
LESA *e*pPKiKP PKiKP 07 17 22.9 +8.1
comp=Z,22nm,1.2s
RJOB Jochberg 32.05 310 *e*P **P** **07 06 57.7 +0.2**
comp=Z,108nm,0.8s,baz=110,slow=8.7
RICC Richard 32.16 316 AMS AMS 07 23 20.0
comp=Z,4µm,14.0s
WMQ Urumqi 32.19 57 *e*P **P** **07 07 01.0 +2.2**
WMQ PP **PP** **07 08 10.3 -1.3**
WMQ S **S** **07 12 12.3 +1.8**
WMQ SS SS 07 13 59.5 -29
WMQ pmax pmax
comp=Z,31nm,1.1s
WMQ pmax pmax
comp=Z,570nm,4.1s
WMQ LR LR
comp=Z,8µm,10.7s
WMQ LR LR
comp=Z,11µm,11.5s
WMQ LR LR
comp=Z,5µm,12.7s
OSSC Osservatorio P 32.21 302 P **P** **07 06 58.8 -0.2**
OSSC IAmb IAmb 07 07 27.7
comp=Z,69nm,0.9s
TEOL Teolo 32.23 306 P **P** **07 06 58.1 -0.9**
TEOL IAmb IAmb 07 07 38.1
comp=Z,80nm,0.7s
BRG Berggiesshubel 32.38 317 *e*P **P** **07 07 00.5 +0.2**
comp=Z,24nm,0.7s,baz=110,slow=8.7
BRG Berggiesshubel 32.38 317 *e*P **P** **07 07 00.7 +0.4**
BRG Amp 07 07 01.8
comp=Z,6.5nm,1.1s
BRG Berggiesshubel 32.38 317 P P 07 07 05.8 +5.5
BRG Amp 07 07 06.4
comp=Z,8.0nm,0.8s
BRG Berggiesshubel 32.38 317 P P 07 07 10.6 +10
BRG Amp 07 07 11.9
comp=Z,24nm,0.7s
BRG Berggiesshubel 32.38 317 S **S** **07 12 16.0 +2.8**
BRG ⇑SP **ScP** **07 13 30.3 +0.4**
BRG Amp 07 13 31.6
comp=Z,32nm,1.4s
WET Wettzell 32.42 313 *e*P **P** **07 07 00.6 -0.2**
comp=Z,48nm,0.8s,baz=110,slow=8.7
ZCCA Zocca 32.53 304 P **P** **07 07 01.5 -0.3**
ZCCA IAMs_20 IAMs_20 07 21 53.4
comp=Z,7µm,22.0s
WTTA Wattenberg 32.68 309 *i* P **P** **07 07 03.6 +0.4**
comp=Z,180nm,0.7s,SNR=56
WTTA *e*S **S** **07 12 16.8 -1.6**
comp=Z,116nm,1.7s
WTTA *e*PKiKP **PKiKP** **07 17 14.4 -1.0**
comp=Z,76nm,1.4s
WTTA Wattenberg 32.68 309 *e*S **S** **07 12 15.6 -2.7**
SNR=6.3
WATA Walderalm 32.74 309 *i* P **P** **07 07 03.8 +0.1**
comp=Z,42nm,0.6s,SNR=36
WATA *e*S **S** **07 12 17.5 -1.6**
comp=Z,103nm,1.3s
WATA *e*pPKiKP **pPKiKP** **07 17 25.8 +2.5**
comp=Z,30nm,1.6s
GAGG Gaggia 32.86 307 P **P** **07 07 08.1 +3.3**
VLC Villacollemand 32.92 303 P **P** **07 07 07.2 +2.0**
MEF Metsahovi 32.94 337 *e*P **P** **07 07 05.9 +0.8**
SQTA Sankt Quirin 32.95 309 *e*P **P** **07 07 05.8 +0.3**
comp=Z,63nm,0.6s,SNR=88
SQTA *e*S **S** **07 12 19.0 -3.4**
comp=Z,62nm,1.3s
SQTA *e*pPKiKP **pPKiKP** **07 17 26.6 +3.2**
comp=Z,30nm,1.3s
SQTA Sankt Quirin 32.95 309 *i* S **S** **07 12 19.2 -3.2**
SNR=5.3
ROTZ Rotzenmuhle 33.03 314 *e*P **P** **07 07 06.8 +0.7**
comp=Z,19nm,0.8s,baz=110,slow=8.7
MOTA Moosalm 33.05 309 *i* P **P** **07 07 06.3 -0.2**
comp=Z,140nm,0.8s,SNR=55
MOTA *e*S **S** **07 12 20.3 -3.7**
comp=Z,58nm,1.1s
MOTA *e*pPKiKP **pPKiKP** **07 17 27.6 +4.0**
comp=Z,25nm,1.8s

MOTA Moosalm 33.05 309 *i* S **S** **07 12 21.3 -2.7**
SNR=4.8
PRMA PARMA 33.06 304 IAMs_20 IAMs_20 07 21 08.5
comp=Z,3µm,20.0s
CLL Collm 33.09 317 P **P** **07 07 06.5 0.0**
CLL IAmb IAmb 07 07 34.0
comp=Z,77nm,1.2s
CLL Collm 33.09 317 *e*P **P** **07 07 07.0 +0.4**
CLL *i* 07 07 12.3
CLL *e*S **S** **07 12 24.0 -0.3**
CLL *i* pmax pmax 07 17 30.8
comp=Z,13nm,1.0s
CLL Collm 33.09 317 P **P** **07 07 06.0 -0.6**
comp=Z,530nmcomp=Z,57nm,1.2s
CLL Collm 33.09 317 *e*P **P** **07 07 07.0 +0.4**
comp=Z,13nm,1.0s
CLL *i* pP **pP** **07 07 12.3 -1.2**
comp=Z,17nm,0.9s
CLL *i* x x 07 07 17.3
comp=Z,75nm,1.4s
CLL *i* x x 07 07 20.1
comp=Z,52nm,1.0s
CLL *e*PPP PPP 07 08 28.0
CLL *e*PPPP 07 08 37.0
CLL *e*PcP **PcP** **07 09 52.0 +2.5**
CLL *e*x x 07 10 04.0
CLL *e*S **S** **07 12 24.0 -0.3**
CLL *i* ScP **ScP** **07 13 32.4 0.0**
comp=Z,64nm,1.5s
CLL *i* pScP 07 13 41.7
comp=Z,44nm,1.5s
CLL *e*x x 07 13 48.0
CLL *e*SS **SS** **07 14 54.0 +7.0**
CLL *i* ScS **ScS** **07 17 30.8 -1.7**
CLL *e*pScS 07 17 38.0
CLL AMS AMS 07 20 00.0
comp=N,3µm,21.2s
CLL AMS AMS 07 20 00.0
comp=E,3µm,21.4s
CLL AMS AMS 07 24 00.0
CLL AMS AMS 08 07 00.0
comp=N,700nm,19.1s
CLL AMS AMS 08 07 00.0
comp=E,500nm,18.9s
CLL AMS AMS 08 07 00.0
comp=Z,1µm,18.3s
FUR Furstenfeldbru 33.15 311 *e*P **P** **07 07 07.4 +0.3**
comp=Z,373nm,0.7s,baz=110,slow=8.7
MANZ Manzenberg 33.16 314 *e*P **P** **07 07 07.6 +0.3**
comp=Z,9.3nm,0.9s,baz=110,slow=8.7
FETA Feichten 33.22 309 *e*P **P** **07 07 08.4 +0.4**
comp=Z,55nm,0.7s,SNR=62
FETA *e*S **S** **07 12 24.0 -2.8**
comp=Z,38nm,1.1s
FETA *e*pPKiKP **pPKiKP** **07 17 24.5 +0.8**
comp=Z,16nm,1.2s
FETA Feichten 33.22 309 *i* S **S** **07 12 24.6 -2.2**
SNR=7.5
VSL Villasalto 33.29 295 P **P** **07 07 09.2 +0.7**
VSL IAmb IAmb 07 07 31.5
comp=Z,98nm,0.9s
RETA Reutte 33.31 309 *i* P **P** **07 07 08.5 -0.1**
comp=Z,39nm,0.7s,SNR=22
RETA *e*S **S** **07 12 24.3 -3.6**
comp=Z,59nm,1.8s
RETA *e*PKiKP **PKiKP** **07 17 17.3 +1.6**
comp=Z,0.8nm,0.4s
FIA1 FINESS Array S 33.36 340 P **P** **07 07 08.7 0.0**
FINES FINESS Array B 33.36 340 P **P** **07 07 08.6 -0.1**
FINES FINESS Array B 33.36 340 P **P** **07 07 08.8 +0.1**
comp=Z,18nm,0.4s,baz=147,slow=9.4,SNR=157
FINES S **S** **07 12 23.2 -4.9**
comp=Z,23nm,1.0s,baz=137,slow=17,SNR=4.1
FINES ScP **ScP** **07 13 31.8 -1.3**
comp=Z,18nm,0.8s,baz=120,slow=6.8,SNR=5.2
FINES LR LR 07 22 27.3
comp=Z,10µm,18.5s,baz=134,slow=40
comp=Z,18nm,0.4s
FINES FINESS Array B 33.36 340 *i* P **P** **07 07 08.8 +0.1**
FINES pmax pmax
comp=Z,17nm,0.4s
FUORN Ofenpass-Fuorn 33.45 308 P **P** **07 07 09.4 -0.7**
KEST Kesra 33.46 288 P **P** **07 07 09.6 -0.5**
KEST IAmb IAmb 07 07 21.4
comp=Z,167nm,1.2s
KEST Kesra 33.46 288 P **P** **07 07 09.5 -0.6**
comp=Z,22nm,0.9s,baz=53,slow=1.0,SNR=25
KEST S **S** **07 12 31.3 +0.8**
comp=Z,5.2nm,1.1s,baz=39,slow=19,SNR=0.8
KEST LR LR 07 25 52.9
comp=Z,1µm,18.2s,baz=73,slow=46
comp=Z,22nm,0.9s
ZAA0 Zalesovo Array 33.52 38 P **P** **07 07 11.1 +0.9**
ZAA0 IAmb IAmb 07 07 19.3
comp=Z,96nm,1.1s
ZALV Zalesovo Beam 33.52 38 P **P** **07 07 10.9 +0.7**
ZALV Zalesovo Beam 33.52 38 P **P** **07 07 09.8 -0.4**
comp=Z,18nm,0.4s,baz=254,slow=10,SNR=50
ZALV PcP **PcP** **07 09 47.9 -2.7**
comp=Z,7.6nm,0.5s,baz=238,slow=3.1,SNR=4.4
ZALV S **S** **07 12 29.6 -1.2**
comp=Z,1.6nm,0.4s,baz=231,slow=9.4,SNR=1.4
ZALV ScP **ScP** **07 13 31.4 -2.4**
comp=Z,6.0nm,0.6s,baz=235,slow=4.3,SNR=3.4
ZALV LR LR 07 22 22.5
comp=Z,8µm,18.4s,baz=235,slow=39
comp=Z,18nm,0.4s
ZALV Zalesovo Beam 33.52 38 pmax pmax
comp=Z,19nm,0.4s
ZALV Zalesovo Beam 33.52 38 *i* P **P** **07 07 11.1 +0.9**
CTL8 Castelleone 33.53 305 P P 07 07 00.7 -10
GRA1 Grafenberg Arr 33.62 313 P **P** **07 07 12.1 +0.9**
GRF Grafenberg Arr 33.62 313 P **P** **07 07 12.1 +0.9**
GRF pmax pmax
comp=Z,1µm,1.9s
GRF Grafenberg Arr 33.62 313 *e*L L 07 25 17.4
comp=Z,3µm,18.3s
GRFO Grafenberg 33.62 313 P **P** **07 07 11.7 +0.5**
GRFO Grafenberg 33.62 313 P **P** **07 07 11.7 +0.5**
GRFO pmax pmax
comp=Z,1µm,1.9s
MOX Moxa 33.68 315 *e*L L 07 24 52.1
comp=Z,1µm,20.0s
BSD Bornholm Skovb 33.71 324 *e*P **P** **07 07 12.2 +0.4**
BSD Bornholm Skovb 33.71 324 *i* P **P** **07 07 11.4 -0.4**
BSD IAmb IAmb 07 07 17.1
comp=Z,74nm,0.7s
DAVOX Davos/Dischmat 33.74 308 P **P** **07 07 12.3 -0.2**
comp=Z,28nm,0.6s,baz=106,slow=4.6,SNR=24
comp=Z,28nm,0.6s
DAVA Damuels 33.85 309 *i* P **P** **07 07 13.5 +0.1**
comp=Z,182nm,0.6s,SNR=92
DAVA *i* S **S** **07 12 33.3 -3.1**
comp=Z,87nm,0.9s
DAVA *e*pPKiKP PKiKP 07 17 28.0 +12
comp=Z,41nm,2.0s
BLEU Blekinge 33.88 326 *i* P **P** **07 07 14.4 +1.1**
TUE Stuetta 34.04 307 P **P** **07 07 15.5 +0.4**
TUE IAmb IAmb 07 07 27.4
comp=Z,78nm,0.8s
TUE Stuetta 34.04 307 P **P** **07 07 15.0 -0.1**
comp=Z,5µmcomp=Z,460nm,1.6s
KEF Keuruu 34.28 340 *e*P **P** **07 07 17.5 +0.8**
RAF Rauma 34.42 336 *e*P **P** **07 07 17.8 -0.1**
FLTG Flechtingen 34.49 318 *e*P **P** **07 07 18.8 +0.2**
comp=Z,81nm,1.1s,baz=110,slow=8.7
STU Stuttgart 34.64 311 P **P** **07 07 20.6 +0.5**
STU Stuttgart 34.64 311 P **P** **07 07 20.6 +0.5**
STU pmax pmax
comp=Z,33nm,0.7s
STU MLR MLR
comp=Z,1µm,19.0s
STU Stuttgart 34.64 311 *e*P **P** **07 07 22.0 +1.9**
GORT1 Trebel 34.70 319 *e*P **P** **07 07 21.4 +1.0**
comp=Z,64nm,1.0s,baz=110,slow=8.7
KMBO Kilima Mbogo 34.75 202 P **P** **07 07 19.1 -2.4**
KMBO Kilima Mbogo 34.75 202 P **P** **07 07 19.2 -2.4**
KMBO pmax pmax
comp=Z,66nm,1.4s
KMBO MLR MLR
comp=Z,12µm,18.0s
CLZ Clausthal 34.82 317 *e*P **P** **07 07 22.2 +0.6**
comp=Z,55nm,0.9s,baz=110,slow=8.7
DEL Delary 34.89 326 *i* P **P** **07 07 22.0 -0.1**
CMAH Djebel Manchou 34.94 290 P **P** **07 07 25.6 +2.7**

BFO Black Forest 35.10 310 P **P** **07 07 23.0 -1.0**
BFO Black Forest 35.10 310 P **P** **07 07 23.0 -1.0**
BFO pmax pmax
comp=Z,31nm,0.8s
BFO MLR MLR
comp=Z,2µm,22.0s
BJUU Bjuv 35.11 325 *i* P **P** **07 07 24.5 +0.5**
NRDL Niedersach Rie 35.20 318 *e*P **P** **07 07 26.1 +1.4**
comp=Z,51nm,0.9s,baz=110,slow=8.7
SENIN Lac Senin/Sane 35.41 307 P **P** **07 07 26.1 -0.9**
SENIN IAmb IAmb 07 07 47.6
comp=Z,43nm,0.7s
TNS Taunus Mts 35.49 313 *e*P **P** **07 07 27.4 +0.1**
comp=Z,60nm,1.2s,baz=110,slow=8.7
KIBK Kibwezi 35.66 200 P **P** **07 07 30.4 +1.2**
KIBK Kibwezi 35.66 200 P **P** **07 07 31.0 +1.8**
KIBK IAmb IAmb 07 07 33.1
comp=Z,113nm,0.9s
KIBK IAMs_20 IAMs_20 07 22 37.4
comp=Z,11µm,20.0s
KIBK Kibwezi 35.66 200 P **P** **07 07 31.9 +2.7**
SNR=54
BNI Bardonecchia 35.66 304 P **P** **07 07 28.9 -0.2**
BNI IAmb IAmb 07 07 46.2
comp=Z,126nm,0.9s
BNI Bardonecchia 35.66 304 P **P** **07 07 28.9 -0.2**
BNI pmax pmax
comp=Z,125nm,0.9s
BNI MLR MLR
comp=Z,2µm,21.0s
LSA Lhasa 35.69 82 IAMs_20 IAMs_20 07 23 39.4
comp=Z,9µm,20.0s
LSA Lhasa 35.69 82 P **P** **07 07 31.7 +1.9**
LSA S **S** **07 13 07.6 +1.9**
LSA LR LR
comp=Z,5µm,11.7s
LSA LR LR
comp=Z,10µm,17.8s
RETH Rethem/Aller, 35.71 318 *e*P **P** **07 07 30.4 +1.4**
comp=Z,85nm,1.5s,baz=110,slow=8.7
FABU Falkenberg 35.71 326 *i* P **P** **07 07 28.9 -0.2**
KASTN Kahler Asten 35.78 315 *e*P **P** **07 07 30.6 +0.7**
comp=Z,59nm,0.9s,baz=110,slow=8.7
ECH Echery 35.84 310 P **P** **07 07 29.9 -0.4**
ECH Echery 35.84 310 P **P** **07 07 30.0 -0.4**
ECH pmax pmax
comp=Z,399nm,2.0s
ECH MLR MLR
comp=Z,1µm,21.0s
BORU Boraas 35.99 327 *i* P **P** **07 07 31.5 -0.1**
DFRA Djebel Bou Aff 36.18 290 P **P** **07 07 36.5 +2.9**
SSRD Sdr. Stenderup 36.58 322 *i* P **P** **07 07 37.3 +0.8**
SSRD IAmb IAmb 07 07 44.3
comp=Z,80nm,0.8s
MSEY Mahe Island 36.71 170 P **P** **07 07 36.0 -2.2**
MSEY IAmb IAmb 07 07 40.8
comp=Z,162nm,1.3s
MSEY Mahe Island 36.71 170 IAMs_20 IAMs_20 07 23 12.5
comp=Z,6µm,19.0s
MSEY Mahe Island 36.71 170 P **P** **07 07 36.0 -2.2**
MSEY pmax pmax
comp=Z,162nm,1.3s
MSEY MLR MLR
comp=Z,6µm,19.0s
WLF Walferdange 36.79 312 P **P** **07 07 38.6 +0.1**
WLF Walferdange 36.79 312 P **P** **07 07 38.6 +0.1**
WLF IAmb IAmb 07 07 50.0
comp=Z,82nm,0.7s
WLF Walferdange 36.79 312 P **P** **07 07 38.6 +0.1**
WLF pmax pmax
comp=Z,82nm,0.7s
WLF MLR MLR
comp=Z,3µm,19.0s
WLF Walferdange 36.79 312 *d*P **P** **07 07 38.4 -0.1**
comp=Z,80nm,0.8s
WLF *d*pP **pP** **07 07 41.9 -3.6**
WLF *d*PP **PnPn** **07 09 09.4 +7.1**
WLF *d*S **S** **07 13 18.7 -2.5**
WLF *d*ScP **ScP** **07 13 45.5 -0.2**
WLF Walferdange 36.79 312 *e*P **P** **07 07 38.5 0.0**
comp=Z,61nm,0.8s,baz=110,slow=8.7
MBAR Mbarara 36.81 212 P **P** **07 07 39.2 0.0**
MBAR Mbarara 36.81 212 *c*e**P** **P** **07 07 41.0 +1.8**
MBAR pmax pmax
comp=Z,197nm,1.0s
HFS Hagfors 36.91 331 P **P** **07 07 38.8 -0.6**
comp=Z,38nm,0.3s,baz=143,slow=9.1,SNR=362
HFS S **S** **07 13 20.8 -2.0**
comp=Z,19nm,1.0s,baz=119,slow=20,SNR=3.9
HFS LR LR 07 23 53.4
comp=Z,6µm,19.0s,baz=122,slow=38
comp=Z,38nm,0.3s
BHOU Houvegnez 37.04 313 *d*P **P** **07 07 41.5 +1.0**
BHOU *d*PP **PnPn** **07 09 11.5 +6.2**
BHOU *d*S **S** **07 13 24.2 -0.8**
APA Apatity 37.04 350 *i*P **P** **07 07 40.5 +0.1**
APA *i* 07 09 10.7
APA *e* 07 10 00.1
APA *i* S **S** **07 13 23.2 -1.4**
MALK Mahakanadarawa 37.06 122 P **P** **07 07 41.6 +0.5**
MEM Membach 37.09 313 *d*P **P** **07 07 44.0 +3.0**
comp=Z,21nm,0.8s
MEM *d*S **S** **07 13 25.9 +0.1**
MEM *d*ScP **ScP** **07 13 48.4 +1.5**
LVZ Lovozero 37.17 351 P **P** **07 07 41.0 -0.5**
LVZ IAMs_20 IAMs_20 07 24 34.5
comp=Z,6µm,20.0s
LVZ Lovozero 37.17 351 *c*e**P** **P** **07 07 41.3 -0.2**
LVZ pmax pmax
comp=Z,118nm,2.5s
HGN Heimansgroeve 37.18 314 *e*P **P** **07 07 42.5 +0.8**
comp=Z,40nm,1.1s,baz=110,slow=8.7
SSB Saint Sauveur 37.19 304 P **P** **07 07 41.0 -1.0**
SSB Saint Sauveur 37.19 304 P **P** **07 07 41.0 -1.0**
SSB pmax pmax
comp=Z,51nm,1.3s
MUD Monsted U'grnd 37.21 324 *i* P **P** **07 07 42.8 +1.0**
MUD IAmb IAmb 07 07 48.9
comp=Z,35nm,0.7s
MAHO Mahon 37.23 295 P **P** **07 07 40.9 -1.5**
MAHO Mahon 37.23 295 P **P** **07 07 42.9 +0.5**
BSTI Sart Tilman 37.36 313 *d*P **P** **07 07 43.8 +0.5**
BSTI *d*pP **pP** **07 07 47.0 -3.3**
STRU Stroemstad 37.42 328 *i* P **P** **07 07 43.0 -0.6**
BCLA Clavier 37.49 313 *d*P **P** **07 07 45.3 +0.9**
comp=Z,26nm,1.0s
BCLA *d*PP **PnPn** **07 09 13.0 +2.1**
BCLA *d*PcP **PcP** **07 10 05.3 +3.0**
BCLA *d*ScP **ScP** **07 13 48.2 -0.1**
SHL Shillong 37.51 89 P **P** **07 07 42.3 -2.8**
SHL Shillong 37.51 89 P **P** **07 07 42.3 -2.8**
SHL pmax pmax
comp=Z,326nm,1.5s
SHL MLR MLR
comp=Z,16µm,18.0s
GOMU GeErMu 37.55 71 P **P** **07 07 47.6 +2.0**
GOMU pP pP 07 07 51.1 -1.5
GOMU sP sP 07 07 55.1 -0.3
GOMU PP **PnPn** **07 09 15.3 +3.1**
GOMU S **S** **07 13 32.2 -1.6**
GOMU pmax pmax
comp=Z,26nm,1.4s
GOMU LR LR
comp=Z,5µm,16.3s
GOMU LR LR
comp=Z,5µm,16.5s
GOMU LR LR
comp=Z,5µm,16.1s
BGES Gesves 37.62 313 *d*P **P** **07 07 46.2 +0.8**
comp=Z,32nm,1.0s
BGES *d*PP **PP** **07 09 11.6 +0.2**
BGES *d*S **S** **07 13 34.6 +0.8**
BGES *d*ScP **ScP** **07 13 48.6 -0.2**
BMRD Maredsous 37.80 313 *d*P **P** **07 07 47.3 +0.3**
comp=Z,29nm,0.9s
BMRD *d*PP **PP** **07 09 12.6 -0.8**
BMRD *d*S **S** **07 13 34.9 -1.6**
BMRD *d*ScP **ScP** **07 13 49.5 +0.1**
DOU Dourbes 37.87 312 *d*P **P** **07 07 47.9 +0.3**
comp=Z,38nm,0.8s
DOU *d*PP **PP** **07 09 14.3 +0.2**
DOU *d*S **S** **07 13 37.7 +0.2**
DOU *d*ScP **ScP** **07 13 50.0 +0.3**
PALK Pallekele 37.95 123 P **P** **07 07 46.4 -2.3**
PALK Pallekele 37.95 123 P **P** **07 07 46.4 -2.3**
PALK pmax pmax
comp=Z,57nm,0.9s
PALK MLR MLR
comp=Z,2µm,19.0s
OSL Oslo 38.07 329 *e*P **P** **07 07 49.0 -0.1**
OSL IAmb IAmb 07 07 57.9
comp=Z,191nm,0.8s
OSL *e*S **S** **07 13 37.3 -3.1**
NC602 NORSAR Array S 38.14 331 P **P** **07 07 49.7 -0.1**
NC602 NORSAR Array S 38.14 331 *e*P **P** **07 07 49.4 -0.4**
NC602 IAmb IAmb 07 07 54.1
comp=Z,20nm,0.9s
NC602 *e*S **S** **07 13 38.2 -3.2**
NC602 IAMs_20 IAMs_20 07 24 23.0
comp=Z,7µm,17.6s
UCC Uccle 38.16 313 P **P** **07 07 50.3 +0.3**
UCC Uccle 38.16 313 P **P** **07 07 50.3 +0.3**
UCC pmax pmax
comp=Z,436nm,1.9s
UCC Uccle 38.16 313 *d*P **P** **07 07 51.1 +1.1**
comp=Z,50nm,0.0s
UCC *d*S **S** **07 13 42.1 +0.2**
EJON La Jonquera 38.24 300 P **P** **07 07 53.9 +3.0**
NC405 NORSAR Array S 38.27 331 P **P** **07 07 50.8 -0.1**
NC405 IAmb IAmb 07 07 59.6
comp=Z,128nm,0.9s
HOMB Homborsund 38.30 326 *e*P **P** **07 07 51.5 +0.3**
HOMB IAmb IAmb 07 07 59.8
comp=Z,74nm,0.9s
HOMB *e*S **S** **07 13 43.1 -0.8**
HOMB IAMs_20 IAMs_20 07 26 53.6
comp=Z,5µm,16.8s
HOMB Homborsund 38.30 326 *i* P **P** **07 07 50.8 -0.4**
ETOS Mallorca 38.35 295 P **P** **07 07 52.9 +1.0**
NB201 NORSAR Array S 38.41 331 P **P** **07 07 52.1 0.0**
NB201 IAmb IAmb 07 08 01.2
comp=Z,137nm,1.2s
KONO Kongsberg 38.43 328 P **P** **07 07 51.9 -0.3**
KONO Kongsberg 38.43 328 *c*e**P** **P** **07 07 51.4 -0.8**
KONO pmax pmax
comp=Z,111nm,2.5s
KONO Kongsberg 38.43 328 *e*P **P** **07 07 52.0 -0.2**
KONO IAmb IAmb 07 08 00.5
comp=Z,82nm,0.9s
KONO *e*S **S** **07 13 42.6 -3.2**
KONO IAMs_20 IAMs_20 07 28 30.4
comp=Z,5µm,16.6s
NB2 NORSAR Subarra 38.44 331 P **P** **07 07 51.6 -0.7**
comp=Z,83nm,1.4s,baz=122,slow=8.6
NB2 PP **PnPn** **07 09 23.1 +1.0**
comp=Z,17nm,0.7s,baz=127,slow=11
NB2 S **S** **07 13 48.1 +2.1**
comp=Z,79nm,2.0s,baz=104,slow=9.3
NB2 NORSAR Subarra 38.44 331 P **P** **07 07 51.6 -0.7**
baz=122,slow=8.6
NOA NORSAR Array B 38.44 331 P **P** **07 07 49.9 -2.4**
comp=Z,17nm,0.6s,baz=123,slow=8.4,SNR=87
NOA PP **PP** **07 09 19.1 -1.1**
comp=Z,34nm,0.8s,baz=128,slow=11,SNR=5.6
NOA S **S** **07 13 41.2 -4.8**
comp=Z,2.4nm,1.0s,baz=112,slow=21,SNR=4.1
NOA ScP **ScP** **07 13 51.1 -0.6**
comp=Z,14nm,1.0s,baz=108,slow=4.2,SNR=4.6
NOA LR LR 07 25 48.9
comp=Z,5µm,18.8s,baz=90,slow=40
comp=Z,17nm,0.6s
NAO01 NORSAR Array S 38.47 331 P **P** **07 07 52.7 +0.1**
NAO01 IAmb IAmb 07 08 01.8
comp=Z,96nm,0.9s
NC303 NORSAR Array S 38.47 331 P **P** **07 07 52.3 -0.2**
NBO00 NORSAR Array S 38.61 331 P **P** **07 07 53.4 -0.4**
NBO00 IAmb IAmb 07 08 03.0
comp=Z,126nm,1.3s
NC204 NORSAR Array S 38.75 331 P **P** **07 07 55.0 +0.1**
SNART Snartemo 38.95 326 *e*P **P** **07 07 57.6 +1.0**
SNART *e*S **S** **07 13 56.2 +2.5**
CLF Chambon-Foret 39.05 309 P **P** **07 07 57.2 -0.3**
CEST Esterri de Car 39.45 300 P **P** **07 08 01.5 +0.4**
SKAR Skarslia 39.49 329 *e*P **P** **07 08 02.0 +0.9**
SKAR IAmb IAmb 07 08 10.4
comp=Z,121nm,1.0s
SKAR *e*S **S** **07 14 00.5 -1.3**
SKAR IAMs_20 IAMs_20 07 25 16.1
comp=Z,5µm,16.3s
EIBI Ibiza 39.54 294 P **P** **07 08 03.1 +1.3**
BLS5 Blasjo 39.76 327 *e*P **P** **07 08 04.4 +1.0**
BLS5 IAmb IAmb 07 08 12.8
comp=Z,110nm,1.3s
BLS5 *e*S **S** **07 14 05.4 -0.5**
BLS5 IAMs_20 IAMs_20 07 26 51.9
comp=Z,7µm,19.6s
DOMB Dombas 39.84 331 *e*P **P** **07 08 04.2 +0.2**
DOMB IAmb IAmb 07 08 12.9
comp=Z,129nm,1.2s
DOMB *e*S **S** **07 14 05.8 -1.2**
DOMB IAMs_20 IAMs_20 07 26 14.0
comp=Z,8µm,18.2s
ODD1 Odda 39.89 328 *e*P **P** **07 08 05.6 +1.1**
ODD1 IAmb IAmb 07 08 07.7
comp=Z,34nm,0.6s
ODD1 *e*S **S** **07 14 07.9 +0.1**
ODD1 IAMs_20 IAMs_20 07 26 27.4
comp=Z,5µm,16.2s
TAM Tamanrasset 39.89 268 P **P** **07 08 05.9 +0.8**
TAM IAmb IAmb 07 08 14.3
comp=Z,124nm,0.8s
TAM Tamanrasset 39.89 268 P **P** **07 08 05.9 +0.8**
TAM pmax pmax
comp=Z,124nm,0.8s
TAM MLR MLR
comp=Z,15µm,20.0s
VADS Vadso 39.99 349 *e*P **P** **07 08 05.8 +0.7**
VADS IAmb IAmb 07 08 18.8
comp=Z,125nm,0.8s
VADS *e*S **S** **07 14 07.8 -1.1**
VADS IAMs_20 IAMs_20 07 28 40.8
comp=Z,5µm,15.2s
KEV Kevo 40.06 348 P **P** **07 08 05.8 +0.2**
KEV IAMs_20 IAMs_20 07 26 00.8
comp=Z,5µm,19.0s
KEV Kevo 40.06 348 P **P** **07 08 05.8 +0.2**
KEV pmax pmax
comp=Z,142nm,1.5s
KEV MLR MLR
comp=Z,5µm,19.0s
NSS Namsos 40.12 336 *e*P **P** **07 08 06.4 +0.2**
NSS IAmb IAmb 07 08 15.2
comp=Z,127nm,0.8s
NSS *e*S **S** **07 14 10.3 -0.7**
NSS IAMs_20 IAMs_20 07 25 54.7
comp=Z,6µm,14.8s
ARA0 ARCESS Array S 40.14 347 *e*P **P** **07 08 07.6 +1.2**
ARA0 IAmb IAmb 07 08 14.4
comp=Z,165nm,1.6s
ARA0 *e*PP **PP** **07 09 39.9 +1.1**
ARA0 *e*S **S** **07 14 09.4 -1.9**
ARA0 IAMs_20 IAMs_20 07 25 56.6
comp=Z,5µm,16.8s
ARCES ARCESS Array B 40.14 347 P **P** **07 08 06.5 +0.2**
ARCES IAmb IAmb 07 08 15.8
comp=Z,226nm,1.9s
ARCES ARCESS Array B 40.14 347 P **P** **07 08 04.2 -2.2**
comp=Z,4.5nm,0.5s,baz=150,slow=9.2,SNR=36
ARCES PP **PP** **07 09 40.6 +1.9**
comp=Z,20nm,0.8s,baz=145,slow=8.7,SNR=5.3
ARCES ScP **ScP** **07 13 57.2 -0.9**
comp=Z,12nm,0.7s,baz=169,slow=3.0,SNR=9.5
ARCES LR LR 07 26 15.2
comp=Z,5µm,20.1s,baz=135,slow=38
comp=Z,4.5nm,0.5s
ARCES ARCESS Array B 40.14 347 P **P** **07 08 06.6 +0.2**
ARCES pmax pmax
comp=Z,226nm,2.0s
KTK1 Kautokeino 40.16 346 *e*P **P** **07 08 06.7 +0.1**
KTK1 IAmb IAmb 07 08 13.4
comp=Z,63nm,0.7s
KTK1 *e*S **S** **07 14 09.5 -2.1**
KTK1 IAMs_20 IAMs_20 07 26 08.4
comp=Z,7µm,16.2s
KMY Karmoy 40.24 326 *e*P **P** **07 08 08.1 +0.8**
KMY *e*S **S** **07 14 14.1 +1.1**
MOR8 Moi Rana 40.33 339 *e*P **P** **07 08 07.7 -0.4**
MOR8 IAmb IAmb 07 08 16.1
comp=Z,342nm,1.9s
MOR8 *e*S **S** **07 14 11.3 -3.0**

MOR8					*e*SS	**SS**	**07 17 08.5**	**-4.6**
MOR8					IAMs_20	IAMs_20	07 26 25.6	
	comp=Z,8µm,20.7s							
HYA	**Hoyanger**	**40.63**	**329**	*e*P	**P**	**07 08 11.1**	**+0.6**
BER	**Bergen**	**40.67**	**328**	*e*P	**P**	**07 08 11.7**	**+0.9**
LEIR	**Leirfjorden**	**40.71**	**338**	*e*P	**P**	**07 08 10.8**	**-0.3**
MOL	**Molde**	**40.72**	**332**	*e*P	**P**	**07 08 12.7**	**+1.5**
AKN	**Aaknes**	**40.75**	**331**	*e*P	**P**	**07 08 13.3**	**+1.8**
ASK	**Askoy**	**40.78**	**328**	*e*P	**P**	**07 08 12.2**	**+0.5**
STOK	**Stokkvaagen**	**40.88**	**338**	*e*P	**P**	**07 08 12.3**	**-0.2**
FAUS	**Fauske**	**40.90**	**341**	*e*P	**P**	**07 08 13.5**	**+0.8**
KONS	**Konsvik**	**40.95**	**339**	*e*P	**P**	**07 08 14.6**	**+1.6**
VAGH	**Vaagaholmen**	**41.06**	**339**	*e*P	**P**	**07 08 14.3**	**+0.4**
GTA	**Gaotai**	**41.15**	**65**	P	**P**	**07 08 16.3**	**+1.0**
GTA				PP	**PnPn**	**07 09 57.3**	**+2.5**
GTA				ScP	**ScP**	**07 14 01.8**	**-1.1**
GTA				S	**S**	**07 14 30.0**	**+2.6**
GTA				ScS	**ScS**	**07 18 17.8**	**-0.8**
GTA				pmax	pmax		
	comp=Z,30nm,2.2s						
GTA				pmax	pmax		
	comp=Z,1µm,9.8s						
GTA				LR	LR		
	comp=Z,4µm,17.8s						
GTA				LR	LR		
	comp=Z,9µm,16.7s						
GTA				LR	LR		
	comp=Z,13µm,17.4s						
JETT	**Jettan, Norway**	**41.20**	**345**	*e*P	**P**	**07 08 16.4**	**+1.2**
SUE	**Sulen**	**41.21**	**329**	*e*P	**P**	**07 08 16.2**	**+1.0**
ECHE	**Chera**	**41.28**	**295**	P	**P**	**07 08 17.6**	**+1.4**
STEI	**Steigen**	**41.29**	**341**	*e*P	**P**	**07 08 16.7**	**+0.9**
FOO	**Floro**	**41.31**	**330**	*e*P	**P**	**07 08 17.0**	**+0.9**
HAMF	**Hammerfest**	**41.41**	**347**	*e*P	**P**	**07 08 17.9**	**+1.0**
CART	**Cartagena**	**41.53**	**292**	P	**P**	**07 08 18.0**	**-0.2**
TRO	**Tromso**	**41.60**	**344**	*e*P	**P**	**07 08 19.3**	**+1.0**
LOF	**Lofoten**	**41.90**	**341**	*e*P	**P**	**07 08 20.8**	**0.0**
JSA	**Saint Aubin**	**42.09**	**310**	*e*P	**P**	**07 08 22.6**	**0.0**
JSA				IAmb	IAmb	07 08 27.4	
	comp=Z,35nm,0.7s						
LBWR	**Ladybower, Pea**	**42.34**	**316**	IAmb	IAmb	07 08 36.1	
	comp=Z,44nm,0.8s						
ENIJ	**Nijar**	**42.57**	**292**	P	**P**	**07 08 27.1**	**+0.3**
MONM	**Monmouth**	**42.76**	**314**	*e*P	**P**	**07 08 28.4**	**+0.3**
HLM1	**Long Mynd**	**42.90**	**315**	*e*P	**P**	**07 08 29.3**	**+0.1**
MCH1	**Michaelchurch**	**42.90**	**314**	*e*P	**P**	**07 08 28.6**	**-0.6**
MCH1				IAmb	IAmb	07 08 35.5	
	comp=Z,30nm,0.9s						
UCM	**Universidad Co**	**42.95**	**297**	P	**P**	**07 08 30.1**	**+0.2**
FOEL	**Foel Wylfa**	**43.14**	**315**	*e*P	**P**	**07 08 31.8**	**+0.6**
NRIK	**Noril'sk**	**43.26**	**19**	P	**P**	**07 08 33.5**	**+1.7**
NRIK				IAmb	IAmb	07 08 41.8	
	comp=Z,128nm,1.1s						
NRIK	**Noril'sk**	**43.26**	**19**	P	**P**	**07 08 31.0**	**-0.9**
	comp=Z,45nm,0.8s,baz=228,slow=6.8,SNR=14						
NRIK				LR	LR	07 30 31.8	
	comp=Z,9µm,19.0s,baz=222,slow=42						
	comp=Z,45nm,0.8s						
NRIK	**Noril'sk**	**43.26**	**19**	*i* P	**P**	**07 08 33.2**	**+1.3**
NRIK				pmax	pmax		
	comp=Z,149nm,1.1s						
ESY	**Stoneypath**	**43.31**	**320**	*e*P	**P**	**07 08 32.1**	**-0.4**
TNCH	**TengChong**	**43.33**	**86**	⇑P	**P**	**07 08 35.3**	**+2.0**
TNCH				pP	pP	07 08 37.1	-3.4
TNCH				sP	sP	07 08 39.8	-3.4
TNCH				PP	**PP**	**07 10 13.4**	**-0.7**
TNCH				PcP	**PcP**	**07 10 21.6**	**-0.3**
TNCH				S	**S**	**07 14 57.4**	**-2.6**
TNCH				SS	**SS**	**07 18 06.3**	**-7.5**
TNCH				pmax	pmax		
	comp=Z,170nm,1.5s						
TNCH				pmax	pmax		
	comp=Z,1µm,2.6s						
TNCH				LR	LR		
	comp=Z,3µm,14.1s						
TNCH				LR	LR		
	comp=Z,2µm,13.4s						
TNCH				LR	LR		
	comp=Z,5µm,15.5s						
KESW	**Keswick, Cumbr**	**43.34**	**318**	*e*P	**P**	**07 08 32.4**	**-0.4**
EKA	**Eskdalemuir Ar**	**43.50**	**319**	P	**P**	**07 08 33.4**	**-0.6**
	comp=Z,4.3nm,0.6s,baz=105,slow=8.2,SNR=15						
EKA				ScP	**ScP**	**07 14 11.9**	**+0.1**
	comp=Z,6.2nm,1.0s,baz=118,slow=5.1,SNR=5.0						
	comp=Z,4.3nm,0.6s						
ZAK	**Zakamensk**	**43.52**	**49**	*e*P	**P**	**07 08 35.4**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,20nm,1.8s						
ESBB	**Sonseca Array**	**43.57**	**296**	P	**P**	**07 08 34.7**	**-0.2**
ESDC	**Sonseca Array**	**43.57**	**296**	P	**P**	**07 08 35.1**	**+0.2**
ESDC	**Sonseca Array**	**43.57**	**296**	P	**P**	**07 08 34.5**	**-0.4**
	comp=Z,6.5nm,0.7s,baz=75,slow=8.0,SNR=36						
ESDC				ScP	**ScP**	**07 14 12.8**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=67,slow=4.0,SNR=2.4						
ESDC				LR	LR	07 28 08.8	
	comp=Z,2µm,20.1s,baz=61,slow=38						
	comp=Z,6.5nm,0.7s						
LRW	**Lerwick**	**43.62**	**326**	*e*P	**P**	**07 08 35.2**	**+0.3**
LRW				IAmb	IAmb	07 08 41.0	
	comp=Z,34nm,0.6s						
HTL	**Hartland**	**43.72**	**312**	*e*P	**P**	**07 08 36.4**	**+0.5**
HTL				IAmb	IAmb	07 08 41.1	
	comp=Z,15nm,0.9s						
SBD	**Saint Breward**	**43.82**	**312**	*e*P	**P**	**07 08 37.2**	**+0.5**
SBD				IAmb	IAmb	07 08 42.1	
	comp=Z,43nm,0.7s						
PAB	**San Pablo**	**43.88**	**296**	P	**P**	**07 08 38.1**	**+0.7**
PAB				IAmb	IAmb	07 08 49.2	
	comp=Z,129nm,1.4s						
PAB	**San Pablo**	**43.88**	**296**	P	**P**	**07 08 38.2**	**+0.7**
PAB				pmax	pmax		
	comp=Z,129nm,1.5s						
WPS	**Cemaes, Angles**	**43.98**	**316**	*e*P	**P**	**07 08 38.5**	**+0.6**
MCD	**Coleburn Disti**	**44.00**	**322**	*e*P	**P**	**07 08 38.3**	**+0.3**
CCA1	**Carnmenellis**	**44.14**	**311**	*e*P	**P**	**07 08 40.2**	**+0.9**
CCA1				IAmb	IAmb	07 08 44.5	
	comp=Z,12nm,0.6s						
IRK	**Irkutsk**	**44.30**	**46**	*e*P	**P**	**07 08 41.6**	**+1.1**
IRK				*e*		07 10 23.5	
IRK				*e*S	**S**	**07 15 17.2**	**+4.1**
IRK				pmax	pmax		
	comp=Z,171nm,2.3s						
LZH	**Lanzhou**	**44.79**	**69**	*e*P	**P**	**07 08 46.6**	**+1.8**
LZH				sP	pP	07 08 51.8	-0.2
LZH				PP	**PP**	**07 10 32.8**	**+3.3**
LZH				S	**S**	**07 15 23.8**	**+2.9**
LZH				sS	sS	07 15 37.2	+4.5
LZH				pmax	pmax		
	comp=Z,84nm,1.0s						
LZH				pmax	pmax		
	comp=Z,1µm,4.6s						
LZH				LR	LR		
	comp=Z,6µm,18.6s						
LZH				LR	LR		
	comp=Z,12µm,16.3s						
LZH				LR	LR		
	comp=Z,19µm,18.4s						
DSB	**Dublin**	**45.08**	**315**	P	**P**	**07 08 46.6**	**-0.2**
DSB				IAmb	IAmb	07 08 58.1	
	comp=Z,61nm,0.8s						
DSB	**Dublin**	**45.08**	**315**	P	**P**	**07 08 47.2**	**+0.5**
LINV	**Loch Inver, As**	**45.14**	**322**	*e*P	**P**	**07 08 47.1**	**+0.1**
LINV				IAmb	IAmb	07 08 50.2	
	comp=Z,11nm,0.6s						
ILTH	**Belurgan, Co L**	**45.14**	**316**	P	**P**	**07 08 49.6**	**+2.5**
IWEX	**Carrickbyrne,**	**45.25**	**314**	P	**P**	**07 08 47.5**	**-0.6**
IWEX	**Carrickbyrne,**	**45.25**	**314**	*e*P	**P**	**07 08 48.8**	**+0.7**
IWEX				IAmb	IAmb	07 08 55.3	
	comp=Z,19nm,1.2s						
MDT	**Midelt**	**45.33**	**286**	P	**P**	**07 08 49.0**	**-0.1**
	comp=Z,6.9nm,0.7s,baz=89,slow=9.5,SNR=10						
	comp=Z,6.9nm,0.7s						
PBRG	**Braganca**	**45.42**	**299**	*e*P	**P**	**07 08 51.2**	**+1.6**
PBRG				*i* IAmb	IAmb	07 09 04.0	
	comp=Z,128nm,1.2s						
SONM	**Songino Array**	**45.49**	**52**	P	**P**	**07 08 50.4**	**+0.2**
SONM	**Songino Array**	**45.49**	**52**	P	**P**	**07 08 50.1**	**-0.1**
	comp=Z,5.7nm,1.0s,baz=265,slow=8.3,SNR=9.0						
	comp=Z,5.7nm,1.0s						
SONM	**Songino Array**	**45.49**	**52**	P	**P**	**07 08 50.4**	**+0.2**
SONM				pmax	pmax		
	comp=Z,31nm,1.4s						
PZH	**PanZhiHua**	**45.56**	**83**	P	**P**	**07 08 51.8**	**+0.8**
PZH				S	**S**	**07 15 31.7**	**-0.6**
PZH				ScS	**ScS**	**07 18 40.0**	**-6.5**
PZH				SS	SS	07 18 45.0	-11
PZH				pmax	pmax		
	comp=Z,110nm,1.3s						
PZH				pmax	pmax		
	comp=Z,410nm,5.7s						
PZH				LR	LR		
	comp=Z,2µm,17.5s						
PZH				LR	LR		
	comp=Z,3µm,16.9s						
PZH				LR	LR		
	comp=Z,3µm,16.7s						
MVO	**Moncorvo**	**45.71**	**298**	*e*P	**P**	**07 08 54.4**	**+2.4**
MVO				*i* IAmb	IAmb	07 09 04.7	
	comp=Z,97nm,1.3s						
MVO				*e*S	**S**	**07 15 33.6**	**-0.4**
MVO				*e*SS	**SS**	**07 19 04.7**	**+6.6**
MVO				*i* IAMs_20	IAMs_20	07 34 01.1	
	comp=Z,1µm,16.0s						
CNIL	**Conil**	**45.72**	**292**	P	**P**	**07 08 52.2**	**+0.2**
CD2	**Chengdu**	**45.92**	**76**	P	**P**	**07 08 54.6**	**+0.9**
CD2				pP	pP	07 08 56.3	-4.6
CD2				S	**S**	**07 15 37.3**	**+0.2**
CD2				sS	pS	07 15 45.2	-0.4
CD2				ScS	**ScS**	**07 18 51.1**	**+2.6**
CD2				pmax	pmax		
	comp=Z,70nm,1.0s						
CD2				pmax	pmax		
	comp=Z,1µm,6.8s						
CD2				LR	LR		
	comp=Z,4µm,16.1s						
CD2				LR	LR		
	comp=Z,5µm,17.1s						
CD2				LR	LR		
	comp=Z,6µm,15.8s						
IDGL	**Inch Island, C**	**45.93**	**318**	P	**P**	**07 08 55.1**	**+1.7**
ULN	**Ulaanbaatar**	**45.94**	**52**	P	**P**	**07 08 54.6**	**+0.8**
ULN	**Ulaanbaatar**	**45.94**	**52**	IAMs_20	IAMs_20	07 31 05.0	
	comp=Z,4µm,18.0s						
ULN	**Ulaanbaatar**	**45.94**	**52**	*ce*P	**P**	**07 08 55.3**	**+1.5**
ULN				pmax	pmax		
	comp=Z,25nm,1.0s						
CHTO	**Chiang Mai**	**46.16**	**94**	P	**P**	**07 08 56.2**	**+0.5**
CHTO				IAmb	IAmb	07 09 03.2	
	comp=Z,124nm,1.1s						
CHTO	**Chiang Mai**	**46.16**	**94**	P	**P**	**07 08 56.2**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,124nm,1.1s						
PBAR	**Barrancos**	**46.16**	**294**	*e*P	**P**	**07 08 56.5**	**+1.0**
PBAR				*i* IAmb	IAmb	07 09 13.8	
	comp=Z,220nm,1.2s						
MTE	**Manteigas**	**46.20**	**297**	P	**P**	**07 08 56.7**	**+0.8**
MTE	**Manteigas**	**46.20**	**297**	*e*P	**P**	**07 08 57.7**	**+1.8**
MTE				*i* IAmb	IAmb	07 09 09.0	
	comp=Z,210nm,1.4s						
MTE				*e*S	**S**	**07 15 42.9**	**+1.8**
MTE				*e*SS	**SS**	**07 19 00.8**	**-5.5**
MTE				*i* IAMs_20	IAMs_20	07 30 19.7	
	comp=Z,1µm,20.0s						
MTE	**Manteigas**	**46.20**	**297**	*e*P	**P**	**07 08 58.6**	**+2.8**
PVRL	**Vila Real**	**46.21**	**299**	*e*P	**P**	**07 08 57.6**	**+1.7**
PVRL				*i* IAmb	IAmb	07 09 10.7	
	comp=Z,175nm,0.9s						
PMRV	**Marv??o**	**46.23**	**296**	*e*P	**P**	**07 08 57.4**	**+1.4**
PMRV				*i* IAmb	IAmb	07 09 08.6	
	comp=Z,80nm,1.3s						
PMRV				*e*S	**S**	**07 15 47.7**	**+6.4**
PMRV				*i* IAMs_20	IAMs_20	07 40 33.9	
	comp=Z,1µm,20.0s						
PCBR	**Castelo Branco**	**46.23**	**297**	*e*P	**P**	**07 08 57.9**	**+1.9**
PCBR				*i* IAmb	IAmb	07 09 08.9	
	comp=Z,250nm,1.4s						
POLO	**Lamas de Olo**	**46.26**	**299**	*e*P	**P**	**07 08 57.8**	**+1.5**
POLO				*i* IAmb	IAmb	07 09 11.1	
	comp=Z,76nm,1.1s						
CM31	**Chiang Mai Arr**	**46.31**	**94**	P	**P**	**07 08 57.6**	**+0.7**
CM31	**Chiang Mai Arr**	**46.31**	**94**	P	**P**	**07 08 58.2**	**+1.3**
	SNR=16						
CMAR	**Chiang Mai Arr**	**46.31**	**94**	P	**P**	**07 08 57.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**46.31**	**94**	P	**P**	**07 08 56.8**	**-0.1**
	comp=Z,24nm,0.8s,baz=292,slow=8.2,SNR=57						
CMAR				S	**S**	**07 15 38.8**	**-4.2**
	comp=Z,1.0nm,0.3s,baz=337,slow=24,SNR=2.5						
CMAR				LR	LR	07 31 53.1	
	comp=Z,2µm,18.5s,baz=295,slow=41						
	comp=Z,24nm,0.8s						
CMAR	**Chiang Mai Arr**	**46.31**	**94**	*i* P	**P**	**07 08 58.0**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,24nm,0.8s						
PCAB	**Cabril**	**46.39**	**299**	*e*P	**P**	**07 08 59.0**	**+1.7**
PCAB				*i* IAmb	IAmb	07 09 10.9	
	comp=Z,165nm,2.3s						
PCAB				*e*PP	**PP**	**07 10 44.7**	**-1.5**
PVIS	**Viseu**	**46.42**	**298**	*e*P	**P**	**07 08 59.4**	**+1.9**
PESTR	**Estremoz**	**46.47**	**295**	*e*P	**P**	**07 08 58.9**	**+1.0**
PESTR				*i* IAmb	IAmb	07 09 10.3	
	comp=Z,85nm,1.5s						
PGAV	**Gavieira, Arco**	**46.54**	**300**	*e*P	**P**	**07 09 00.8**	**+2.2**
PGAV				*i* IAmb	IAmb	07 09 13.5	
	comp=Z,235nm,1.4s						
PGAV				*e*S	**S**	**07 15 49.0**	**+3.1**
PGAV				*e*SS	SS	07 19 23.4	+12
PGAV				*i* IAMs_20	IAMs_20	07 33 52.9	
	comp=Z,1µm,18.0s						
PSARD	**Sardoal**	**46.79**	**296**	*e*P	**P**	**07 09 02.2**	**+1.7**
PSARD				*i* IAmb	IAmb	07 09 14.6	
	comp=Z,104nm,1.3s						
PBEJ	**Beja**	**46.83**	**294**	*e*P	**P**	**07 09 02.1**	**+1.3**
PBEJ				*i* IAmb	IAmb	07 09 24.9	
	comp=Z,156nm,1.2s						
PBEJ				*e*PP	**PP**	**07 10 50.1**	**-0.9**
PVAQ	**Vaqueiros**	**46.83**	**293**	*e*P	**P**	**07 09 02.0**	**+1.3**
PVAQ				*i* IAmb	IAmb	07 09 25.1	
	comp=Z,96nm,1.4s						
PVAQ				*e*S	**S**	**07 15 53.6**	**+3.6**
PVAQ				*i* IAMs_20	IAMs_20	07 37 05.8	
	comp=Z,1µm,18.0s						
EVO	**Evora**	**46.85**	**295**	P	**P**	**07 09 01.1**	**+0.2**
EVO	**Evora**	**46.85**	**295**	*e*P	**P**	**07 09 02.4**	**+1.5**
EVO				*i* IAmb	IAmb	07 09 13.7	
	comp=Z,81nm,1.6s						
KMI	**Kunming**	**46.88**	**84**	⇑P	**P**	**07 09 02.8**	**+1.2**
KMI				PP	**PP**	**07 10 51.1**	**-0.8**
KMI				S	**S**	**07 15 51.5**	**+0.1**
KMI				ScS	**ScS**	**07 18 54.3**	**-1.0**
KMI				pmax	pmax		
	comp=Z,180nm,1.4s						
KMI				pmax	pmax		
	comp=Z,1µm,4.1s						
KMI				LR	LR		
	comp=Z,3µm,15.1s						
KMI				LR	LR		
	comp=Z,4µm,16.9s						
KMI				LR	LR		
	comp=Z,5µm,13.1s						
COI	**Coimbra**	**46.89**	**297**	P	**P**	**07 09 02.4**	**+1.3**
COI	**Coimbra**	**46.89**	**297**	*e*P	**P**	**07 09 03.1**	**+2.0**
COI				*i* IAmb	IAmb	07 09 15.8	
	comp=Z,227nm,1.0s						
COI	**Coimbra**	**46.89**	**297**	P	**P**	**07 09 02.4**	**+1.3**
COI				pmax	pmax		
	comp=Z,179nm,0.8s						
COI				MLR	MLR		
	comp=Z,1µm,20.0s						
IGLA	**Glengowla, Co**	**46.89**	**315**	P	**P**	**07 09 01.3**	**+0.4**
PTO	**Porto**	**46.89**	**299**	*e*P	**P**	**07 09 02.8**	**+1.7**
PTO				*i* IAmb	IAmb	07 09 13.5	
	comp=Z,132nm,1.1s						
PMTG	**Montargil**	**46.93**	**296**	*e*P	**P**	**07 09 02.9**	**+1.4**
PMTG				*i* IAmb	IAmb	07 09 13.9	
	comp=Z,78nm,1.3s						
PCAS	**Casmilo, Conde**	**46.98**	**297**	*e*P	**P**	**07 09 02.1**	**+0.2**
PCAS				*i* IAmb	IAmb	07 09 13.3	
	comp=Z,169nm,1.1s						
PCVE	**Castro Verde**	**47.04**	**294**	*e*P	**P**	**07 09 02.8**	**+0.4**
PCVE				*i* IAmb	IAmb	07 09 26.3	
	comp=Z,112nm,1.3s						
MESJ	**Messejana**	**47.14**	**294**	*e*P	**P**	**07 09 02.4**	**-0.8**
MESJ				IAmb	IAmb	07 09 25.4	
	comp=Z,418nm,2.4s						
MESJ				*e*S	**S**	**07 15 55.9**	**+1.5**
MESJ	**Messejana**	**47.14**	**294**	*e*P	**P**	**07 09 02.4**	**-0.8**
MESJ				*e*S	**S**	**07 15 55.9**	**+1.5**
VAL	**Valentia**	**47.37**	**313**	P	**P**	**07 09 05.1**	**+0.5**
VAL	**Valentia**	**47.37**	**313**	P	**P**	**07 09 04.7**	**0.0**
PACT	**Alcochete**	**47.45**	**295**	*e*P	**P**	**07 09 07.9**	**+2.4**
PACT				*i* IAmb	IAmb	07 09 25.3	
	comp=Z,412nm,1.4s						
AVE	**Averroes**	**47.49**	**288**	P	**P**	**07 09 06.9**	**+1.0**
AVE	**Averroes**	**47.49**	**288**	P	**P**	**07 09 06.3**	**+0.3**
AVE				IAmb	IAmb	07 10 04.4	
	comp=Z,74nm,1.0s						
TORD	**Torodi Ar. Bea**	**47.51**	**258**	P	**P**	**07 09 06.7**	**+0.4**
TORD	**Torodi Ar. Bea**	**47.51**	**258**	P	**P**	**07 09 06.5**	**+0.2**
	comp=Z,126nm,0.8s,baz=47,slow=9.3,SNR=435						
TORD				S	**S**	**07 15 58.3**	**-1.9**
	comp=Z,7.1nm,1.0s,baz=46,slow=11,SNR=4.4						
TORD				LR	LR	07 31 45.5	
	comp=Z,11µm,19.8s,baz=58,slow=39						
	comp=Z,126nm,0.8s						
MORF	**Marmelete**	**47.58**	**293**	*e*P	**P**	**07 09 05.8**	**-0.8**
MORF				IAmb	IAmb	07 09 25.1	
	comp=Z,407nm,2.7s						
MORF				*e*S	**S**	**07 16 02.2**	**+1.4**
MORF	**Marmelete**	**47.58**	**293**	*e*P	**P**	**07 09 06.6**	**-0.1**
MORF				*i* IAmb	IAmb	07 09 32.9	
	comp=Z,70nm,2.0s						
MORF	**Marmelete**	**47.58**	**293**	*e*P	**P**	**07 09 05.8**	**-0.8**
MORF				*e*S	**S**	**07 16 02.2**	**+1.4**
PTEO	**Sao Teotonio**	**47.59**	**294**	*e*P	**P**	**07 09 08.1**	**+1.4**
PTEO				*i* IAmb	IAmb	07 09 30.8	
	comp=Z,110nm,1.3s						
LIS	**Lisbon**	**47.70**	**295**	*e*P	**P**	**07 09 06.7**	**-0.8**
LIS				IAmb	IAmb	07 09 43.0	
	comp=Z,235nm,1.4s						
LIS				*e*S	**S**	**07 16 03.7**	**+1.5**
LIS	**Lisbon**	**47.70**	**295**	*e*P	**P**	**07 09 06.7**	**-0.8**
LIS				*e*S	**S**	**07 16 03.7**	**+1.5**
PFVI	**Vila Bisbo**	**47.75**	**293**	*e*P	**P**	**07 09 09.3**	**+1.4**
PFVI				*i* IAmb	IAmb	07 09 32.4	
	comp=Z,114nm,1.5s						
HSPB	**Hornsund (broa**	**47.89**	**350**	*e*P	**P**	**07 09 09.0**	**+0.6**
HSPB				*e*PP	**PP**	**07 10 58.7**	**-1.4**
HSPB				*e*S	**S**	**07 16 05.2**	**+1.2**
HSPB				*e*L	L	07 33 40.0	
	comp=Z,4µm,18.6s						
TIO	**Tiouine**	**48.01**	**285**	P	**P**	**07 09 09.2**	**-0.9**
SPB2	**Spitsbergen Ar**	**48.69**	**351**	P	**P**	**07 09 15.7**	**+1.2**
SPITS	**Spitsbergen Ar**	**48.69**	**351**	P	**P**	**07 09 14.4**	**-0.2**
	comp=Z,15nm,0.4s,baz=137,slow=10,SNR=99						
SPITS				ScP	**ScP**	**07 14 32.3**	**-0.8**
	comp=Z,13nm,0.7s,baz=136,slow=13,SNR=5.3						
SPITS				LR	LR	07 33 37.8	
	comp=Z,3µm,18.5s,baz=130,slow=41						
	comp=Z,15nm,0.4s						
SPITS	**Spitsbergen Ar**	**48.69**	**351**	P	**P**	**07 09 15.5**	**+0.9**
SPITS				pmax	pmax		
	comp=Z,215nm,1.3s						
BTO	**Baotou**	**48.76**	**62**	*e*P	**P**	**07 09 16.0**	**+0.2**
BTO				pP	**pP**	**07 09 21.3**	**-1.7**
BTO				sP	**sP**	**07 09 23.8**	**-2.0**
BTO				PP	**PP**	**07 11 05.9**	**-3.0**
BTO				S	**S**	**07 16 18.6**	**+1.1**
BTO				SS	**SS**	**07 19 41.9**	**-5.9**
BTO				pmax	pmax		
	comp=Z,50nm,1.1s						
BTO				pmax	pmax		
	comp=Z,360nm,4.1s						
BTO				LR	LR		
	comp=Z,6µm,16.0s						
BTO				LR	LR		
	comp=Z,3µm,16.4s						
BTO				LR	LR		
	comp=Z,9µm,20.4s						
XAN	**Xi'an**	**49.30**	**71**	⇑P	**P**	**07 09 20.8**	**+0.8**
XAN				pP	pP	07 09 25.9	-1.3
XAN				S	**S**	**07 16 20.4**	**-4.8**
XAN				SS	**SS**	**07 19 55.4**	**-1.2**
XAN				pmax	pmax		
	comp=Z,70nm,1.2s						
XAN				pmax	pmax		
	comp=Z,1µm,3.5s						
XAN				LR	LR		
	comp=Z,9µm,15.8s						
XAN				LR	LR		
	comp=Z,14µm,17.9s						
XAN				LR	LR		
	comp=Z,19µm,20.1s						
SLVN	**Son La**	**49.31**	**88**	IAmb	IAmb	07 09 27.9	
	comp=Z,162nm,1.5s						
GYA	**Guiyang**	**49.72**	**81**	⇑P	**P**	**07 09 24.0**	**+0.6**
GYA				sP	pP	07 09 29.2	-1.4
GYA				PP	**PP**	**07 11 21.7**	**+3.8**
GYA				S	**S**	**07 16 29.7**	**-1.7**
GYA				SS	**SS**	**07 20 02.5**	**-1.3**
GYA				pmax	pmax		
	comp=Z,74nm,0.8s						
GYA				LR	LR		
	comp=Z,3µm,18.4s						
GYA				LR	LR		
	comp=Z,4µm,17.2s						
GYA				LR	LR		
	comp=Z,7µm,17.4s						
KBS	**Kingsbay**	**49.84**	**351**	P	**P**	**07 09 23.3**	**0.0**
KBS				IAmb	IAmb	07 11 15.3	
	comp=Z,76nm,0.7s						
KBS	**Kingsbay**	**49.84**	**351**	*ce*P	**P**	**07 09 23.3**	**0.0**
KBS				pmax	pmax		
	comp=Z,42nm,1.0s						
KBS	**Kingsbay**	**49.84**	**351**	*i* P	**P**	**07 09 23.8**	**+0.4**
HHC	**Hu-ho-hao-te**	**49.88**	**61**	*e*P	**P**	**07 09 25.7**	**+1.4**
HHC				sP	pP	07 09 32.5	+0.9
HHC				S	**S**	**07 16 33.9**	**+0.8**
HHC				sS	sS	07 16 44.4	-0.6
HHC				SS	**SS**	**07 20 02.2**	**-3.5**
HHC				pmax	pmax		
	comp=Z,29nm,1.3s						
HHC				pmax	pmax		
	comp=Z,950nm,5.5s						
HHC				LR	LR		
	comp=Z,6µm,15.3s						
HHC				LR	LR		
	comp=Z,7µm,15.3s						
HHC				LR	LR		
	comp=Z,12µm,15.1s						
JMIC	**Jan Mayen**	**49.97**	**339**	LR	LR	07 31 42.9	
	comp=Z,2µm,20.3s,baz=92,slow=38						
CIT	**Chita**	**50.01**	**46**	*e*P	**P**	**07 09 26.0**	**+0.9**
CIT				*e*		07 10 41.8	
CIT				*e*		07 11 14.8	
CIT				*e*		07 16 42.0	
CIT				pmax	pmax		
	comp=Z,266nm,2.5s						
OPO	**Ambohidratompo**	**50.13**	**183**	LR	LR	07 30 52.2	
	comp=Z,4µm,20.4s,baz=184,slow=36						
BOD	**Bodaibo**	**50.26**	**39**	*e*P	**

LYN pmax pmax
comp=Z,94nm,0.9s
LYN pmax pmax
comp=Z,2µm,6.4s
LYN LR LR
comp=Z,8µm,17.1s
LYN LR LR
comp=Z,13µm,15.5s
LYN LR LR
comp=Z,17µm,15.7s
XLT XiLinHaoTe 52.62 57 *e*P **P 07 09 45.8 +1.0**
XLT pP pP 07 09 51.1 -1.0
XLT ScP **ScP 07 14 49.8 -0.9**
XLT S **S 07 17 09.5 -1.4**
XLT SS **SS 07 20 52.5 +3.5**
XLT pmax pmax
comp=Z,10.0nm,0.9s
XLT pmax pmax
comp=Z,810nm,6.2s
XLT LR LR
comp=Z,8µm,14.9s
XLT LR LR
comp=Z,10µm,15.5s
HNS HongShan 53.01 65 ⇑P **P 07 09 48.0 +0.3**
HNS S **S 07 17 16.7 +0.5**
HNS pmax pmax
comp=Z,26nm,1.3s
HNS pmax pmax
comp=Z,540nm,4.4s
HNS LR LR
comp=Z,6µm,13.5s
HNS LR LR
comp=Z,7µm,17.3s
HNS LR LR
comp=Z,10µm,17.3s
ACRG Accra 53.20 251 P **P 07 09 49.2 -0.2**
ACRG IAmb IAmb 07 09 55.4
comp=Z,102nm,1.1s
UBPT Khong Chiam 53.31 94 P **P 07 09 50.5 +0.3**
UBPT IAmb IAmb 07 09 56.1
comp=Z,130nm,1.5s
VOI Vohitsoka 53.47 183 P **P 07 09 52.1 +0.9**
VOI IAmb IAmb 07 09 54.6
comp=Z,139nm,1.4s
VOI Vohitsoka 53.47 183 P **P 07 09 53.3 +2.1**
SNR=12
BJI Beijing 53.48 61 P **P 07 09 52.0 +0.9**
BJI ScP **ScP 07 14 53.6 -0.8**
BJI S **S 07 17 24.8 +2.2**
BJI pmax pmax
comp=Z,440nm,4.6s
BJI LR LR
comp=Z,2µm,14.9s
BJI LR LR
comp=Z,4µm,18.5s
BJI LR LR
comp=Z,5µm,18.1s
BORG Borgarnes 53.59 330 LR LR 07 35 16.4
comp=Z,2µm,20.3s,baz=85,slow=39
DBG Daneborg 54.21 342 *i* P **P 07 09 57.0 +1.1**
DBG IAmb IAmb 07 10 06.0
comp=Z,69nm,1.2s
SCO Scoresbysund 54.21 337 *i* P **P 07 09 56.4 +0.5**
SCO IAmb IAmb 07 10 03.8
comp=Z,23nm,1.1s
DAG Danmarks Havn 54.32 345 P **P 07 09 54.3 -2.4**
DAG Danmarks Havn 54.32 345 *i* P **P 07 09 56.7 0.0**
DAG IAmb IAmb 07 10 03.6
comp=Z,28nm,0.9s
CNSH ChangSha 54.35 76 P **P 07 09 58.2 +0.5**
CNSH S **S 07 17 34.6 -0.1**
CNSH LR LR
comp=Z,4µm,18.3s
CNSH LR LR
comp=Z,4µm,16.0s
CNSH LR LR
comp=Z,7µm,17.2s
GSI Gunungsitoli 54.49 114 P **P 07 10 03.3 +4.5**
KSANE Kasane 54.57 209 *i* P **P 07 10 02.0 +2.6**
PSI Prapat 54.63 112 LR LR 07 35 15.6
comp=Z,3µm,21.1s,baz=302,slow=38
PSI Prapat 54.63 112 P **P 07 09 58.6 -1.4**
PSI pmax pmax
comp=Z,126nm,1.4s
PSI MLR MLR
comp=Z,3µm,21.0s
RPSI Rantau Prapat 54.70 112 P **P 07 09 58.6 -1.7**
RPSI IAmb IAmb 07 10 09.1
comp=Z,126nm,1.4s
RPSI IAMs_20 IAMs_20 07 35 04.8
comp=Z,3µm,21.0s
WHN Wuhan 54.72 73 ⇑P **P 07 10 01.3 +1.0**
WHN pP **pP 07 10 06.2 -1.4**
WHN sP **sP 07 10 09.0 -1.3**
WHN S **S 07 17 41.1 +1.6**
WHN pmax pmax
comp=Z,270nm,1.0s
WHN LR LR
comp=Z,7µm,14.0s
WHN LR LR
comp=Z,14µm,13.6s
WHN LR LR
comp=Z,20µm,15.7s
PMPST Porto Santo, M 54.74 290 *e*P **P 07 10 01.5 +1.1**
PMPST *i* IAmb IAmb 07 10 12.4
comp=Z,197nm,1.2s
TIA Tai'an 55.20 66 P **P 07 10 04.5 +0.8**
TIA S **S 07 17 47.4 +1.6**
TIA ScS **ScS 07 19 49.1 -2.6**
TIA pmax pmax
comp=Z,55nm,1.2s
TIA pmax pmax
comp=Z,830nm,4.5s
TIA LR LR
comp=Z,1µm,15.1s
TIA LR LR
comp=Z,700nm,16.1s
TIA LR LR
comp=Z,2µm,16.1s
NOR Nord 55.30 351 *i* P **P 07 10 03.9 +0.2**
NOR IAmb IAmb 07 10 11.1
comp=Z,19nm,0.7s
PMAR Madeira 55.31 290 *e*P **P 07 10 06.9 +2.2**
PMAR *i* IAmb IAmb 07 10 17.1
comp=Z,184nm,1.0s
QIZ Qiongzhong 55.34 88 IAmb IAmb 07 10 14.1
comp=Z,107nm,1.4s
QIZ Qiongzhong 55.34 88 P **P 07 10 05.2 +0.3**
QIZ PcP **PcP 07 11 05.6 +0.2**
QIZ S **S 07 17 48.5 +0.4**
QIZ pmax pmax
comp=Z,39nm,1.8s
QIZ pmax pmax
comp=Z,630nm,2.8s
QIZ LR LR
comp=Z,2µm,16.0s
QIZ LR LR
comp=Z,2µm,19.1s
PMOZ Porto Moniz, M 55.51 290 *e*P P 07 10 11.1 +5.0
PMOZ *i* IAmb IAmb 07 10 20.3
comp=Z,120nm,1.1s
PMOZ *e*S S 07 17 59.5 +9.2
PMOZ *i* IAMs_20 IAMs_20 07 40 10.6
comp=Z,2µm,16.0s
MATP Matopo 55.70 204 LR LR 07 34 54.6
comp=Z,7µm,20.0s,baz=26,slow=37
MNSI Mandailing Nat 56.37 113 P P 07 10 17.3 +5.0
DBIC Dimbokro 56.41 256 P **P 07 10 12.7 +0.1**
DBIC Dimbokro 56.41 256 P **P 07 10 12.5 -0.1**
comp=Z,64nm,0.8s,baz=66,slow=7.2,SNR=50
DBIC S **S 07 17 56.6 -5.9**
comp=Z,16nm,1.1s,baz=121,slow=18,SNR=1.7
DBIC LR LR 07 37 40.3
comp=Z,11µm,18.3s,baz=74,slow=40
comp=Z,64nm,0.8s
DBIC Dimbokro 56.41 256 P **P 07 10 12.7 +0.1**
DBIC pmax pmax
comp=Z,357nm,1.4s
MACI Morro de la Ar 56.48 285 IAMs_20 IAMs_20 07 39 06.9
comp=Z,2µm,19.0s
FOMA Nahampoana Res 56.51 183 P **P 07 10 12.0 -0.9**
FOMA IAmb IAmb 07 10 27.2
comp=Z,59nm,1.0s
FOMA IAMs_20 IAMs_20 07 33 36.2
comp=Z,4µm,22.0s
BROLN Tlhalogang 56.73 205 *i* P **P 07 10 16.2 +1.4**

TIXI Tiksi 56.82 22 P **P 07 10 15.2 +0.5**
TIXI IAmb IAmb 07 10 24.3
comp=Z,66nm,1.0s
TIXI Tiksi 56.82 22 *ce*P **P 07 10 16.0 +1.3**
TIXI pmax pmax
comp=Z,119nm,1.7s
PHDHD Phuduhudu 56.98 208 *i* P **P 07 10 19.2 +2.7**
MUSN Musina, Limpop 56.98 202 *e*P **P 07 10 18.5 +2.1**
SOEG Soedalen 57.53 334 *i* P **P 07 10 21.1 +1.3**
SOEG IAmb IAmb 07 10 29.3
comp=Z,75nm,1.6s
MOPA Mopani 57.67 200 *e*P **P 07 10 22.7 +1.4**
BKNI Bangkinang 57.81 112 P **P 07 10 20.0 -2.5**
QNGWA Qangwa 57.82 212 IAmb IAmb 07 10 26.0
comp=Z,99nm,1.2s
QNGWA Qangwa 57.82 212 *i* P **P 07 10 24.6 +2.1**
NJ2 Nanjing 57.85 70 ⇑P **P 07 10 23.5 +0.9**
NJ2 pP **pP 07 10 28.7 -1.3**
NJ2 pmax pmax
comp=Z,26nm,0.6s
NJ2 pmax pmax
comp=Z,1µm,4.0s
DL2 Dalian 57.85 61 P **P 07 10 23.3 +0.8**
DL2 *e*S **S 07 18 21.2 +0.3**
DL2 pmax pmax
comp=Z,52nm,0.9s
DL2 pmax pmax
comp=Z,1µm,4.3s
DL2 LR LR
comp=Z,4µm,18.9s
DL2 LR LR
comp=Z,6µm,17.5s
DL2 LR LR
comp=Z,9µm,18.6s
YAK Yakutsk 57.92 33 P **P 07 10 22.8 +0.2**
YAK Yakutsk 57.92 33 IAMs_20 IAMs_20 07 38 55.8
comp=Z,4µm,18.0s
YAK Yakutsk 57.92 33 LR LR 07 39 35.2
comp=Z,4µm,18.3s,baz=260,slow=40
YAK Yakutsk 57.92 33 *c* *i* P **P 07 10 22.4 -0.2**
YAK *e**PP **pP 07 10 28.5 -1.4**
YAK *e* 07 11 14.2
YAK *e* 07 12 30.8
YAK *e*S **S 07 18 20.6 -0.5**
YAK *e**SS **sS 07 18 37.7 +4.5**
YAK *e* 07 20 08.3
YAK *e*SS **SS 07 22 13.0 +1.4**
YAK pmax pmax
comp=Z,112nm,1.0s
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=E,65nm,1.5s
YAK pmax pmax
comp=Z,957nm,10.8s
YAK pmax pmax
comp=N,111nm,4.0s
YAK pmax pmax
comp=E,160nm,5.4s
YAK smax smax
comp=E,421nm,3.0s
YAK smax smax
comp=N,252nm,2.0s
YAK MLR MLR
comp=Z,4µm,21.0s
ZEA Zeya 58.04 43 *e*P **P 07 10 25.3 +1.7**
ZEA *e* 07 12 35.9
ZEA *e*S **S 07 18 27.3 +4.4**
ZEA *e* 07 20 12.4
ZEA pmax pmax
comp=E,20nm,0.6s
ZEA pmax pmax
comp=E,300nm,4.1s
ZEA pmax pmax
comp=Z,600nm,6.8s
ZEA pmax pmax
comp=E,300nm,14.2s
ZEA pmax pmax
comp=Z,300nm,13.0s
ZEA smax smax
comp=E,600nm,4.8s
ZEA MLR MLR
comp=E,2µm,14.0s
ZEA MLR MLR
comp=N,2µm,13.0s
ZEA MLR MLR
comp=Z,3µm,14.0s
MREMI Moremi 58.05 204 P **P 07 10 24.0 0.0**
MREMI Moremi 58.05 204 *i* P **P 07 10 25.6 +1.6**
SNY Shenyang 58.45 57 ⇓P **P 07 10 25.9 -0.8**
SNY pmax pmax
comp=Z,12nm,1.3s
SNY pmax pmax
comp=Z,560nm,9.4s
SNY LR LR
comp=Z,3µm,15.3s
SNY LR LR
comp=Z,3µm,14.7s
SNY LR LR
comp=Z,7µm,13.9s
HEH HeiHe 58.89 47 *e*P **P 07 10 30.1 +0.5**
HEH pP **pP 07 10 34.2 -2.7**
HEH S **S 07 18 35.5 +1.5**
HEH sS **sS 07 18 45.6 -0.5**
HEH ScS **ScS 07 20 14.9 -3.2**
HEH pmax pmax
comp=Z,82nm,0.8s
HEH pmax pmax
comp=Z,840nm,4.6s
HEH LR LR
comp=Z,7µm,13.1s
HEH LR LR
comp=Z,20µm,14.4s
LEPH Lephalale, Lim 59.12 203 *e*P **P 07 10 33.2 +1.8**
MYKOM Kota Tinggi 59.17 109 P **P 07 10 31.2 -0.8**
CN2 Changchun 59.23 55 *e*P **P 07 10 31.4 -0.7**
CN2 *es*P pP 07 10 37.4 -2.0
CN2 PP **PP 07 12 44.3 +1.5**
CN2 *e*S **S 07 18 36.1 -2.6**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,500nm,5.5s
CN2 LR LR
comp=Z,5µm,16.0s
CN2 LR LR
comp=Z,8µm,16.0s
CN2 LR LR
comp=Z,7µm,16.0s
TSUM Tsumeb 59.24 216 P **P 07 10 31.7 -0.7**
TSUM IAmb IAmb 07 10 35.5
comp=Z,41nm,1.1s
TSUM Tsumeb 59.24 216 LR LR 07 37 25.7
comp=Z,3µm,22.0s,baz=4.5,slow=37
LPHEP Lephephe 59.34 205 *i* P **P 07 10 35.5 +2.4**
SUMG Summit 59.39 340 P **P 07 10 33.1 -0.1**
SUMG Summit 59.39 340 IAmb IAmb 07 10 51.5
comp=Z,86nm,1.0s
SUMG Summit 59.39 340 *i* P **P 07 10 33.0 -0.2**
SUMG IAmb IAmb 07 10 42.8
comp=Z,108nm,1.2s
GRTLG Ghanzi 59.41 211 P **P 07 10 35.1 +1.5**
GRTLG Ghanzi 59.41 211 *i* P **P 07 10 36.4 +2.8**
SUJ Sinuiju 59.62 59 P **P 07 10 34.8 0.0**
SUJ S **S 07 18 49.0 +5.2**
SUJ AmB
comp=Z,897nm,3.4s
SUJ AMS AMS
comp=Z,12µm,14.2s
KDWAN Kaudwane 59.80 207 P **P 07 10 36.7 +0.5**
KDWAN Kaudwane 59.80 207 *i* P **P 07 10 37.7 +1.5**
BNX BinXian 60.04 52 ⇑P **P 07 10 37.5 -0.1**
BNX S **S 07 18 48.6 -0.4**
BNX pmax pmax
comp=Z,26nm,1.3s
BNX pmax pmax
comp=Z,370nm,4.7s
BNX LR LR
comp=Z,5µm,12.6s
BNX LR LR
comp=Z,6µm,17.6s
BNX LR LR
comp=Z,2µm,12.8s
SSE Sheshan 60.05 70 P **P 07 10 37.9 0.0**
SSE S **S 07 18 50.8 +1.2**

SSE pmax pmax
comp=Z,33nm,0.8s
SSE pmax pmax
comp=Z,600nm,3.5s
SSE LR LR
comp=Z,1µm,16.8s
SSE LR LR
comp=Z,2µm,16.5s
BART Pico Bartolome 60.13 298 *e*P **P 07 10 40.6 +2.1**
BART *i* IAmb IAmb 07 10 52.3
comp=Z,120nm,1.3s
QZH Quanzhou 60.27 78 *e*P **P 07 10 41.7 +2.3**
QZH *e*S **S 07 18 54.5 +2.0**
QZH LR LR
comp=Z,4µm,16.8s
QZH LR LR
comp=Z,4µm,18.2s
QZH LR LR
comp=Z,6µm,18.2s
PGRON Lagoa das Cont 60.28 298 *e*P **P 07 10 42.5 +3.1**
PGRON *i* IAmb IAmb 07 10 53.1
comp=Z,269nm,1.6s
PSMN Pico do Norte, 60.30 297 *e*P **P 07 10 42.7 +3.1**
PSMN *i* IAmb IAmb 07 10 53.2
comp=Z,98nm,1.6s
KGCAE Kacgae 60.31 209 *i* P **P 07 10 41.9 +2.2**
PSMA Santa Maria 60.35 297 *e*P **P 07 10 41.1 +1.3**
PSMA *i* IAmb IAmb 07 10 52.8
comp=Z,180nm,1.4s
ANGG Ammassalik, Gr 60.35 332 P **P 07 10 39.5 +0.1**
CMLA Cha da Macela 60.40 298 *e*P P 07 10 47.0 +6.8
CMLA *i* IAmb IAmb 07 10 52.1
comp=Z,139nm,1.4s
PSET Sete Cidades 60.52 298 *e*P P 07 10 50.2 +9.1
PSET *i* IAmb IAmb 07 10 53.1
comp=Z,296nm,1.3s
ISOG Isortoq, Green 60.91 332 *i* P P 07 10 48.9 +5.7
ISOG IAmb IAmb 07 10 51.7
comp=Z,29nm,1.0s
LBTB Lobatse 60.95 205 LR LR 07 37 42.2
comp=Z,8µm,21.9s,baz=32,slow=36
LBTB Lobatse 60.95 205 *e*P **P 07 10 45.4 +1.4**
SKOMA Sekoma 61.11 207 *i* P **P 07 10 46.8 +1.7**
HJU Haeju 61.18 61 P **P 07 10 45.1 -0.4**
HJU AmB
comp=Z,766nm,2.5s
POGA Pongola 61.22 198 P **P 07 10 46.1 +0.4**
POGA IAmb IAmb 07 10 55.1
comp=Z,75nm,0.9s
NEEM North Greenlan 61.48 346 *i* P **P 07 10 46.2 -1.0**
NEEM IAmb IAmb 07 10 53.4
comp=Z,27nm,1.0s
KSI Kapahiang 61.49 115 P **P 07 10 51.0 +3.1**
MDJ Mudanjiang 61.84 53 P **P 07 10 49.6 -0.3**
MDJ pmax pmax
comp=Z,17nm,1.9s
MDJ LR LR
comp=Z,1µm,11.2s
MDJ LR LR
comp=Z,6µm,13.1s
MDJ LR LR
comp=Z,6µm,13.1s
KLR Kul'dur 61.87 47 LR LR 07 41 24.0
comp=Z,2µm,20.3s,baz=270,slow=40
KLR Kul'dur 61.87 47 *i* P **P 07 10 50.5 +0.5**
KLR pmax pmax
comp=Z,42nm,1.1s
HHU Hamhung 61.88 59 P **P 07 10 49.9 -0.3**
HHU AmB
comp=Z,802nm,3.5s
MAKGR Makgori 61.96 205 *i* P **P 07 10 52.6 +1.7**
INCN Inchon 62.04 61 P **P 07 10 51.4 0.0**
INCN IAmb IAmb 07 10 58.2
comp=Z,60nm,1.0s
INCN Inchon 62.04 61 P **P 07 10 51.4 0.0**
INCN pmax pmax
comp=Z,60nm,1.0s
INCN MLR MLR
comp=Z,6µm,20.0s
NWCL Newcastle 62.09 200 *e*P **P 07 10 53.4 +1.6**
BBTS Babate 62.20 271 LR LR 07 41 20.2
comp=Z,3µm,18.4s,baz=312,slow=39
LHSI Lahat 62.32 114 P P 07 10 58.4 +5.0
WIN Windhoek 62.34 214 IAmb IAmb 07 10 57.3
comp=Z,51nm,0.9s
TPUB Ta-pu 62.63 78 IAMs_20 IAMs_20 07 43 15.6
comp=Z,4µm,18.0s
TATO Taipei 62.65 76 P **P 07 10 56.1 +0.5**
MBO M'Bour 62.68 270 IAMs_20 IAMs_20 07 40 45.5
comp=Z,5µm,18.0s
SSLB Suanglung 62.70 78 P **P 07 10 55.6 -0.4**
SSLB IAMs_20 IAMs_20 07 42 13.3
comp=Z,4µm,20.0s
KS19 Wonju Array Si 62.96 61 P **P 07 10 58.0 +0.5**
KSAR Wonju Array Be 62.99 61 P **P 07 10 57.8 +0.1**
KSAR Wonju Array Be 62.99 61 P **P 07 10 57.8 +0.1**
KSRS Korea Array 63.02 61 P **P 07 10 57.3 -0.5**
comp=Z,34nm,0.8s,baz=281,slow=7.2,SNR=54
comp=Z,34nm,0.8s
NACB Ninganchiao 63.07 77 P **P 07 10 57.6 -0.8**
NACB IAmb IAmb 07 11 20.5
comp=Z,75nm,1.0s
YULB Yu-li 63.15 78 P **P 07 10 58.4 -0.5**
TWG Pinlang 63.20 79 P **P 07 10 59.2 -0.1**
TWG IAMs_20 IAMs_20 07 42 51.9
comp=Z,4µm,20.0s
MDSI Maura Dua 63.24 114 P **P 07 10 59.3 -0.3**
LWLI Liwa 63.48 115 P P 07 11 06.4 +5.1
USA0B Ussuriysk Arra 63.60 53 P **P 07 11 01.1 -0.4**
USA0B IAmb IAmb 07 11 07.0
comp=Z,46nm,1.1s
USA0B Ussuriysk Arra 63.60 53 P **P 07 11 01.2 -0.4**
USA0B pmax pmax
comp=Z,46nm,1.1s
USRK Ussuriysk Ar. 63.60 53 P **P 07 11 01.1 -0.5**
comp=Z,23nm,0.8s,baz=281,slow=5.6,SNR=30
USRK LR LR 07 41 34.9
comp=Z,6µm,18.9s,baz=295,slow=39
comp=Z,23nm,0.8s
KULLO Kullorsuaq 63.92 343 *i* P **P 07 11 02.3 -0.8**
KULLO IAmb IAmb 07 11 05.2
comp=Z,15nm,0.8s
UMMG Uummannaq 64.07 339 *i* P **P 07 11 03.9 -0.3**
UMMG IAmb IAmb 07 11 10.6
comp=Z,44nm,1.2s
GRNR Gornyy 64.26 45 ⇓ *i* P **P 07 11 05.8 0.0**
GRNR pmax pmax
comp=Z,8.0nm,1.2s
GRNR MLR MLR
comp=E,3µm,14.0s
GRNR MLR MLR
comp=N,2µm,13.0s
GRNR MLR MLR
comp=Z,4µm,13.0s
ILULI Ilulissat 64.29 337 P **P 07 11 07.8 +2.1**
ILULI IAMs_20 IAMs_20 07 41 15.4
comp=Z,2µm,22.0s
ILULI Ilulissat 64.29 337 P **P 07 11 07.8 +2.1**
ILULI pmax pmax
comp=Z,24nm,0.9s
ILULI MLR MLR
comp=Z,2µm,22.0s
BOSA Boshof 64.36 204 P **P 07 11 07.3 +0.5**
BOSA Boshof 64.36 204 P **P 07 11 06.8 +0.1**
comp=Z,68nm,1.1s,baz=32,slow=6.9,SNR=32
BOSA LR LR 07 40 23.1
comp=Z,11µm,18.1s,baz=28,slow=37
comp=Z,68nm,1.1s
BOSA Boshof 64.36 204 P **P 07 11 07.3 +0.5**
BOSA pmax pmax
comp=Z,99nm,1.2s
BOSA Boshof 64.36 204 *e*P **P 07 11 09.1 +2.3**
UPNV Upernavik 64.39 341 *i* P **P 07 11 05.2 -1.1**
UPNV IAmb IAmb 07 11 07.6
comp=Z,30nm,1.3s
KSM Kuching 64.61 105 P **P 07 11 09.4 +0.8**
SFJD Kangerlussuaq 64.96 335 P **P 07 11 11.1 +1.1**
SFJD Kangerlussuaq 64.96 335 IAMs_20 IAMs_20 07 40 47.1
comp=Z,3µm,19.0s
SFJD Kangerlussuaq 64.96 335 LR LR 07 40 58.5
comp=Z,3µm,18.9s,baz=60,slow=37
SFJD Kangerlussuaq 64.96 335 P **P 07 11 11.1 +1.1**
SFJD pmax pmax
comp=Z,20nm,0.9s
SFJD MLR MLR
comp=Z,3µm,19.0s

SFJD Kangerlussuaq 64.96 335 *i* P **P** **07 11 11.9 +1.9**
SFJD IAmb IAmb 07 11 12.6
comp=Z,8,8nm,0.7s
NRS Narsarsuaq 64.97 328 IAMs_20 IAMs_20 07 40 56.7
comp=Z,3μm,19.0s
KSTD Kokstad 64.97 199 *eP* **P** **07 11 13.8 +3.0**
TULEG Thule 65.47 347 IAMs_20 IAMs_20 07 40 26.4
comp=Z,4μm,21.0s
TULEG Thule 65.47 347 *i* P **P** **07 11 12.5 -0.8**
TULEG IAmb IAmb 07 11 18.8
comp=Z,14nm,0.8s
SBUM Sibu 65.64 103 P **P** **07 11 15.7 +0.4**
CGJI Cibinong 65.74 115 P **P** **07 11 20.6 +4.7**
EUNU Eureka 65.79 352 P **P** **07 11 15.3 -0.1**
EUNU IAmb IAmb 07 11 25.4
comp=Z,135nm,1.8s
NKL Nikolayevsk 65.91 41 *eP* **P** **07 11 16.0 -0.4**
NKL *eS* **S** **07 20 03.5 +1.3**
NKL pmax pmax
comp=E,138nm,0.9s
NKL pmax pmax
comp=N,106nm,0.8s
NKL pmax pmax
comp=Z,424nm,1.0s
NKL smax smax
comp=E,443nm,5.5s
NKL smax smax
comp=N,233nm,6.3s
NKL MLR MLR
comp=E,12μm,13.0s
NKL MLR MLR
comp=N,8μm,12.0s
NKL MLR MLR
comp=Z,19μm,14.0s
ARMS Ukamas 65.92 209 *eP* **P** **07 11 19.3 +2.4**
IVI Ivigtut 66.19 328 IAMs_20 IAMs_20 07 41 53.0
comp=Z,2μm,18.0s
IVI Ivigtut 66.19 328 *i* P **P** **07 11 18.9 +0.8**
STKI Sintang 66.37 106 P P 07 11 24.8 +4.8
NUUK Nuuk 66.50 332 *i* P **P** **07 11 20.5 +0.5**
NUUK IAmb IAmb 07 11 22.0
comp=Z,7.8nm,0.7s
ALKP Alkanpan, Nort 66.64 206 *eP* **P** **07 11 23.9 +2.4**
JNU Nakatsue 66.89 64 P **P** **07 11 22.7 -0.5**
JNU IAMs_20 IAMs_20 07 44 38.8
comp=Z,2μm,19.0s
JNU Nakatsue 66.89 64 LR LR 07 44 49.1
comp=Z,2μm,19.0s,baz=300,slow=40
KKM Kota Kinabalu 67.06 97 P **P** **07 11 24.8 +0.3**
CNJI Cibinong 67.28 115 P P 07 11 34.5 +8.7
JOW Kunigami 67.43 72 P **P** **07 11 25.6 -1.1**
JOW Kunigami 67.43 72 LR LR 07 44 59.4
comp=Z,3μm,20.3s,baz=304,slow=40
SEY Seymchan 67.69 29 LR LR 07 46 03.4
comp=Z,3μm,18.3s,baz=293,slow=40
SEY Seymchan 67.69 29 *c i* P **P** **07 11 28.9 +1.2**
SEY pmax pmax
comp=Z,143nm,1.3s
BFON Badsfontein, M 67.81 204 *eP* **P** **07 11 31.2 +2.3**
TYV Tymovskoe 67.91 43 *eP* **P** **07 11 30.4 +1.2**
TYV *eS* **S** **07 20 23.5 -3.0**
TYV pmax pmax
comp=Z,200nm,2.1s
TYV pmax pmax
comp=Z,100nm,1.4s
TYV smax smax
comp=N,5,0nm,2.4s
TYV smax smax
comp=E,12nm,2.4s
TYV smax smax
comp=N,300nm,4.1s
TYV smax smax
comp=E,400nm,4.1s
TYV MLR MLR
comp=Z,5μm,16.0s
TYV MLR MLR
comp=E,3μm,16.0s
GRAF Camdeboo Natio 67.99 203 *eP* **P** **07 11 33.0 +3.1**
SACV Santiago Islan 68.07 274 IAMs_20 IAMs_20 07 42 55.1
comp=Z,2μm,20.0s
BRAK Brakfontein 68.07 204 *eP* **P** **07 11 32.2 +1.8**
UGL Uglegorsk 68.27 45 *eP* P 07 11 25.0 -6.5
UGL *eS* S 07 20 21.5 -9.4
UGL pmax pmax
comp=Z,100nm,1.3s
UGL MLR MLR
comp=E,6μm,14.0s
UGL MLR MLR
comp=N,5μm,15.0s
UGL MLR MLR
comp=Z,7μm,13.0s
GRHM Grahamstown, E 68.31 201 *eP* **P** **07 11 32.9 +1.0**
KOMG Komaggas 68.40 210 *eP* **P** **07 11 34.8 +2.4**
MA2 Magadan 68.48 32 P **P** **07 11 33.0 +0.3**
MA2 IAmb IAmb 07 11 39.4
comp=Z,81nm,1.3s
MA2 IAMs_20 IAMs_20 07 46 25.8
comp=Z,2μm,21.0s
MA2 Magadan 68.48 32 LR LR 07 46 38.6
comp=Z,2μm,20.1s,baz=290,slow=40
MA2 Magadan 68.48 32 P **P** **07 11 33.0 +0.3**
MA2 pmax pmax
comp=Z,81nm,1.3s
MA2 MLR MLR
comp=Z,2μm,21.0s
FRAZ Fraserburg 68.74 205 *eP* **P** **07 11 37.6 +2.9**
GRAN Grantham 68.80 205 *eP* **P** **07 11 36.9 +1.9**
JMN Monobe 68.93 63 P **P** **07 11 36.8 +0.8**
JMN IAmb IAmb 07 11 42.4
comp=Z,70nm,1.1s
CVNA Calvinia 68.96 207 *eP* **P** **07 11 38.0 +1.9**
SUR Sutherland 69.36 206 P **P** **07 11 37.9 -0.8**
MERW Merweville 69.37 205 *eP* **P** **07 11 40.4 +1.9**
YSS Yuzhno-Sakhali 69.57 47 P **P** **07 11 39.7 +0.1**
YSS Yuzhno-Sakhali 69.57 47 *eP* **P** **07 11 39.6 0.0**
YSS *e**SP **pP** **07 11 44.9 -2.2**
YSS *e* 07 11 49.7
YSS *eS* **S** **07 20 41.5 -4.8**
YSS *ePS* **PnS** **07 21 10.8 -2.4**
YSS pmax pmax
comp=Z,400nm,7.3s
YSS pmax pmax
comp=Z,40nm,0.9s
YSS smax smax
comp=E,300nm,7.1s
YSS MLR MLR
comp=Z,5μm,16.0s
YSS MLR MLR
comp=N,2μm,18.0s
YSS MLR MLR
comp=E,4μm,16.0s
POIN Pond Inlet 69.80 345 IAMs_20 IAMs_20 07 42 27.6
comp=Z,3μm,22.0s
BILL Bilibino 70.02 21 P **P** **07 11 43.0 +1.0**
BILL IAmb IAmb 07 11 49.1
comp=Z,64nm,1.2s
BILL Bilibino 70.02 21 *c i* P **P** **07 11 43.1 +1.0**
BILL pmax pmax
comp=Z,56nm,1.1s
MATJ Matjiesfontein 70.24 206 *eP* **P** **07 11 46.5 +2.6**
INU Inuyama 70.58 60 P **P** **07 11 46.0 -0.2**
INU IAmb IAmb 07 11 52.1
comp=Z,108nm,1.7s
INU IAMs_20 IAMs_20 07 45 34.8
comp=Z,3μm,19.0s
ASAJ Asahikawa 70.68 50 LR LR 07 45 40.1
comp=Z,9μm,18.3s,baz=304,slow=38
ASAJ Asahikawa 70.68 50 P **P** **07 11 45.8 -0.7**
ASAJ pmax pmax
comp=Z,24nm,0.9s
ASAJ MLR MLR
comp=Z,9μm,18.0s
JKA Kamikawa-asahi 70.68 50 P **P** **07 11 45.8 -0.7**
MAJO Matsushiro 70.94 58 P **P** **07 11 47.5 -0.8**
MAJO IAmb IAmb 07 11 53.9
comp=Z,61nm,1.2s
MAJO Matsushiro 70.94 58 P **P** **07 11 47.5 -0.8**
MAJO pmax pmax
comp=Z,61nm,1.2s
MAJO MLR MLR
comp=Z,5μm,18.0s
MJAR Matsushiro Arr 70.94 58 P **P** **07 11 48.1 -0.2**
MJAR Matsushiro Arr 70.94 58 P **P** **07 11 48.2 -0.2**
comp=Z,14nm,1.0s,baz=297,slow=10.0,SNR=15
MJAR PKP2bc 07 39 41.1
comp=Z,2.0nm,0.3s,baz=158,slow=21,SNR=4.2
comp=Z,14nm,1.0s
MJAR Matsushiro Arr 70.94 58 P **P** **07 11 48.1 -0.2**
MJAR pmax pmax
comp=Z,48nm,1.3s
JTM Tenmabayashi 71.11 53 IAmb IAmb 07 11 55.0
comp=Z,94nm,1.1s
RES Resolute Bay 71.25 351 P **P** **07 11 50.6 +1.2**
RES IAMs_20 IAMs_20 07 45 43.7
comp=Z,2μm,20.0s
RES Resolute Bay 71.25 351 P **P** **07 11 50.6 +1.2**
RES pmax pmax
comp=Z,14nm,1.1s
RES MLR MLR
comp=Z,2μm,20.0s
JMM Marumori 72.21 56 IAmb IAmb 07 12 07.8
comp=Z,88nm,1.2s
JMM IAMs_20 IAMs_20 07 46 09.3
comp=Z,2μm,19.0s
YUK Yuzh-Kuril'sk 72.82 49 *eP* **P** **07 11 55.9 -3.5**
YUK *i* S **S** **07 21 23.0 -1.1**
YUK *i* 07 22 05.1
YUK pmax pmax
comp=Z,295nm,1.4s
YUK MLR MLR
comp=N,5μm,15.0s
FRB Frobisher Bay 73.05 336 LR LR 07 45 41.7
comp=N,2μm,18.3s,baz=36,slow=37
ILON Igloolik, Nuna 73.08 344 IAmb IAmb 07 12 18.9
comp=Z,88nm,1.5s
ILON IAMs_20 IAMs_20 07 44 31.4
comp=Z,2μm,20.0s
MPSI Mapaga 73.20 100 P **P** **07 12 03.9 +1.8**
TOLI2 Tolitoli 73.53 99 IAmb IAmb 07 12 10.2
comp=Z,210nm,2.0s
MRSI Marisa 74.84 99 P **P** **07 12 14.6 +2.9**
PETK Petropavlovsk- 75.04 36 P **P** **07 12 11.5 -0.7**
PETK Petropavlovsk- 75.04 36 P **P** **07 12 11.3 -0.9**
comp=Z,8.5nm,1.1s,baz=259,slow=3.0,SNR=6.4
PETK LR LR 07 48 16.8
comp=Z,4μm,18.9s,baz=293,slow=38
comp=Z,8.5nm,1.1s
PETK Petropavlovsk- 75.04 36 P **P** **07 12 11.5 -0.7**
A21K Barrow 75.51 8 P **P** **07 12 15.7 +1.1**
baz=337
A21K S **S** **07 21 53.5 +0.1**
baz=337
SKR Severo-Kuril's 75.53 39 *eP* **P** **07 12 19.1 +4.0**
SKR *eS* **SKSac** **07 22 16.2 -7.3**
SKR pmax pmax
comp=Z,500nm,4.8s
SKR MLR MLR
comp=Z,1μm,15.0s
PET Petropavlovsk 75.56 36 P **P** **07 12 14.8 -0.5**
PET IAmb IAmb 07 12 27.0
comp=Z,94nm,1.9s
PET IAMs_20 IAMs_20 07 48 23.2
comp=Z,3μm,19.0s
A19K Wainwright 75.92 10 P **P** **07 12 18.1 +1.2**
baz=334
A19K S **S** **07 21 58.9 +1.0**
baz=334
A22K Sinclair Lake 76.01 8 P **P** **07 12 18.6 +1.2**
baz=339
A22K S **S** **07 21 59.7 +0.8**
baz=339
KAPI Kappang 76.04 105 P **P** **07 12 17.4 -1.1**
KAPI IAmb IAmb 07 12 24.6
comp=Z,131nm,1.6s
KAPI Kappang 76.04 105 LR LR 07 47 57.1
comp=Z,1μm,21.9s,baz=308,slow=37
KAPI Kappang 76.04 105 P **P** **07 12 17.4 -1.1**
KAPI pmax pmax
comp=Z,131nm,1.7s
KAPI MLR MLR
comp=Z,1μm,21.0s
A36M Sachs Harbour 76.43 358 P **P** **07 12 20.1 +0.3**
baz=4.6
A36M S **S** **07 22 02.5 -1.0**
baz=4.6
DRLN Deer Lake 76.53 320 IAmb IAmb 07 12 30.6
comp=Z,90nm,1.4s
KUQ Kuujjuuaa 76.54 331 IAmb IAmb 07 12 34.5
comp=Z,52nm,0.9s
B18K Kokolik River 76.56 11 P **P** **07 12 22.1 +1.6**
baz=333,SNR=31
B18K S **S** **07 22 06.3 +1.3**
baz=333
B20K Meade River 76.66 9 IAmb IAmb 07 12 40.5
comp=Z,84nm,1.1s
B20K Meade River 76.66 9 P **P** **07 12 22.3 +1.2**
baz=337
B20K S **S** **07 22 05.7 -0.3**
baz=337
B22K Teshekpuk Lake 76.82 8 P **P** **07 12 23.4 +1.4**
baz=340,SNR=10.0
B22K S **S** **07 22 08.0 +0.3**
baz=340
C16K Lisburne Hills 76.90 13 P **P** **07 12 23.1 +0.6**
C16K IAmb IAmb 07 12 32.1
comp=Z,129nm,2.0s
C16K IAMs_20 IAMs_20 07 53 01.1
comp=Z,2μm,19.0s
C16K Lisburne Hills 76.90 13 P **P** **07 12 23.0 +0.4**
baz=330
C16K S **S** **07 22 08.1 -0.7**
baz=330
C17K DeLong Mountai 77.12 12 P **P** **07 12 24.6 +0.8**
baz=332,SNR=25
C17K S **S** **07 22 11.2 0.0**
baz=332
C19K Lookout Ridge 77.14 10 P **P** **07 12 25.0 +1.1**
C19K IAmb IAmb 07 12 58.2
comp=Z,60nm,1.2s
C19K IAMs_20 IAMs_20 07 53 10.3
comp=Z,2μm,20.0s
C19K Lookout Ridge 77.14 10 P **P** **07 12 25.1 +1.1**
baz=335,SNR=8.9
C19K S **S** **07 22 12.0 +0.5**
baz=335
C18K Utukok River 77.30 11 P **P** **07 12 25.5 +0.7**
C18K IAmb IAmb 07 12 43.8
comp=Z,44nm,0.8s
C18K IAMs_20 IAMs_20 07 52 33.5
comp=Z,2μm,19.0s
C18K Utukok River 77.30 11 P **P** **07 12 25.6 +0.7**
baz=334,SNR=19
C18K S **S** **07 22 12.4 -0.8**
baz=334
B21K Ikpikpuk River 77.35 8 P **P** **07 12 26.2 +1.1**
baz=339
B21K S **S** **07 22 14.9 +1.3**
baz=339
RDOG Red Dog Mine 77.54 12 P **P** **07 12 26.6 +0.4**
baz=332
RDOG S **S** **07 22 15.2 -0.6**
baz=332
C23K Itkillik River 77.60 7 IAmb IAmb 07 12 46.1
comp=Z,81nm,0.9s
C23K IAMs_20 IAMs_20 07 52 29.6
comp=Z,2μm,19.0s
C23K Itkillik River 77.60 7 P **P** **07 12 27.9 +1.5**
baz=342,SNR=24
C23K S **S** **07 22 16.3 -0.1**
baz=342
C21K Knifeblade Rid 77.77 9 P **P** **07 12 28.8 +1.4**
baz=339
C21K S **S** **07 22 18.1 -0.1**
baz=339
D17K Noatak River 77.82 12 P **P** **07 12 28.4 +0.6**
baz=332
D17K S **S** **07 22 17.3 -1.5**
baz=332
C24K Franklin Bluff 77.91 6 IAMs_20 IAMs_20 07 52 52.8
comp=Z,2μm,18.0s
C24K Franklin Bluff 77.91 6 P **P** **07 12 29.5 +1.4**
baz=344
C24K S **S** **07 22 20.1 +0.5**
baz=344
D19K Kuna River 77.92 10 IAmb IAmb 07 12 48.8
comp=Z,131nm,1.4s
D19K IAMs_20 IAMs_20 07 53 24.9
comp=Z,2μm,20.0s
D19K Kuna River 77.92 10 P **P** **07 12 29.2 +0.9**
baz=336,SNR=17
D19K S **S** **07 22 19.7 -0.2**
baz=336
SCHQ Schefferville 77.93 328 P **P** **07 12 27.4 -1.2**
comp=Z,22nm,0.6s,baz=42,slow=4.7,SNR=30
SCHQ LR LR 07 47 47.7
comp=Z,1μm,19.8s,baz=35,slow=36
comp=Z,22nm,0.6s
D20K Etivluk River 77.93 9 P **P** **07 12 29.3 +0.9**
baz=337,SNR=26
D20K S **S** **07 22 20.5 +0.4**
baz=337
C26K Camden Bay 78.04 5 P **P** **07 12 30.2 +1.4**
baz=348
C26K S **S** **07 22 19.9 -1.1**
baz=348
D22K Ayikyak River 78.29 8 IAmb IAmb 07 12 51.2
comp=Z,83nm,1.1s
D22K IAMs_20 IAMs_20 07 53 00.6
comp=Z,2μm,19.0s
D22K Ayikyak River 78.29 8 P **P** **07 12 31.6 +1.3**
baz=341,SNR=22
D22K S **S** **07 22 24.1 +0.3**
baz=341
JCJ Chichijima 78.33 65 LR LR 07 52 22.1
comp=Z,913nm,19.4s,baz=46,slow=40
WBSI Waikabubak, Su 78.37 109 P P 07 12 37.1 +5.5
C27K Jago River 78.41 5 IAmb IAmb 07 12 51.9
comp=Z,100nm,1.1s
C27K IAMs_20 IAMs_20 07 48 59.8
comp=Z,2μm,22.0s
C27K Jago River 78.41 5 P **P** **07 12 32.4 +1.4**
baz=348,SNR=22
C27K S **S** **07 22 24.1 -1.0**
baz=348
E20K Nigu River 78.42 9 P **P** **07 12 31.9 +0.8**
baz=338,SNR=29
E20K S **S** **07 22 24.6 -0.7**
baz=338
D23K Nanushuk River 78.43 7 IAmb IAmb 07 12 52.0
comp=Z,83nm,1.1s
D23K IAMs_20 IAMs_20 07 53 18.4
comp=Z,3μm,19.0s
D23K Nanushuk River 78.43 7 P **P** **07 12 32.2 +1.1**
baz=342,SNR=25
D23K S **S** **07 22 24.2 -1.2**
baz=342
D24K Happy Valley 78.44 7 IAMs_20 IAMs_20 07 53 11.7
comp=Z,2μm,19.0s
D24K Happy Valley 78.44 7 P **P** **07 12 32.4 +1.2**
baz=344,SNR=16
D24K S **S** **07 22 24.7 -0.7**
baz=344
D25K Kavik River 78.50 6 P **P** **07 12 32.5 +0.9**
D25K IAmb IAmb 07 12 44.6
comp=Z,50nm,0.8s
D25K IAMs_20 IAMs_20 07 49 51.3
comp=Z,2μm,22.0s
D25K Kavik River 78.50 6 P **P** **07 12 32.5 +0.9**
baz=346
D25K S **S** **07 22 24.4 -1.9**
baz=346
E18K Tukpahlearik C 78.50 11 IAmb IAmb 07 12 41.2
comp=Z,116nm,1.6s
E18K IAMs_20 IAMs_20 07 52 31.3
comp=Z,2μm,20.0s
E18K Tukpahlearik C 78.50 11 P **P** **07 12 31.9 +0.4**
baz=334,SNR=16
E18K S **S** **07 22 24.6 -1.5**
baz=334
E21K Killik River 78.54 9 IAmb IAmb 07 12 51.1
comp=Z,51nm,0.9s
E21K Killik River 78.54 9 P **P** **07 12 32.3 +0.6**
baz=340
E21K S **S** **07 22 24.6 -2.1**
baz=340
E17K Hotham Inlet 78.60 12 P **P** **07 12 32.4 +0.4**
baz=333
E17K S **S** **07 22 25.4 -1.8**
baz=333
TNA Tin City 78.72 15 P **P** **07 12 33.2 +0.5**
baz=328
TNA S **S** **07 22 27.5 -1.0**
baz=328
TOLK Toolik Lake Re 78.86 7 IAmb IAmb 07 12 54.9
comp=Z,91nm,1.0s
TOLK IAMs_20 IAMs_20 07 53 30.8
comp=Z,2μm,19.0s
TOLK Toolik Lake Re 78.86 7 P **P** **07 12 34.7 +1.2**
baz=344,SNR=32
TOLK S **S** **07 22 28.2 -1.8**
baz=344
D27M Malcolm River 78.96 4 IAMs_20 IAMs_20 07 49 43.4
comp=Z,2μm,22.0s
D27M Malcolm River 78.96 4 P **P** **07 12 35.0 +0.9**
baz=351
D27M S **S** **07 22 29.7 -1.4**
baz=351
D28M Stokes Point 78.99 3 P **P** **07 12 34.8 +0.7**
baz=353
D28M S **S** **07 22 31.8 +0.6**
baz=353
E19K Redstone River 79.01 10 IAMs_20 IAMs_20 07 54 19.6
comp=Z,2μm,20.0s
E19K Redstone River 79.01 10 P **P** **07 12 34.8 +0.5**
baz=337,SNR=29
E19K S **S** **07 22 31.2 -0.4**
baz=337
E22K Anaktuvuk Pass 79.10 8 IAmb IAmb 07 12 53.7
comp=Z,47nm,0.9s
E22K IAMs_20 IAMs_20 07 53 35.1
comp=Z,2μm,19.0s
E22K Anaktuvuk Pass 79.10 8 P **P** **07 12 35.5 +0.7**
baz=342
E22K S **S** **07 22 31.9 -0.7**
baz=342
F14K Arctic Creek 79.14 14 P **P** **07 12 35.6 +0.6**
baz=330
F14K S **S** **07 22 32.4 -0.6**
baz=330
TNTI Ternate 79.27 96 P P 07 12 44.9 +8.3
F17K Baldwin Pennin 79.27 12 IAMs_20 IAMs_20 07 54 05.7
comp=Z,2μm,18.0s
F17K Baldwin Pennin 79.27 12 P **P** **07 12 36.1 +0.4**
baz=334
F17K S **S** **07 22 34.1 -0.2**
baz=334
F15K North Star Dit 79.28 14 IAmb IAmb 07 12 45.8
comp=Z,119nm,1.6s
F15K IAMs_20 IAMs_20 07 54 34.9
comp=Z,2μm,19.0s
F15K North Star Dit 79.28 14 P **P** **07 12 36.3 +0.5**
baz=331,SNR=14
F15K S **S** **07 22 33.9 -0.6**
baz=331
GAMB Gambell 79.32 17 P **P** **07 12 36.5 +0.5**
GAMB IAMs_20 IAMs_20 07 53 40.1
comp=Z,2μm,18.0s
GAMB Gambell 79.32 17 P **P** **07 12 36.3 +0.3**
baz=325
GAMB S **S** **07 22 34.4 -0.5**
baz=325
F18K Selawik 79.41 11 P **P** **07 12 36.7 +0.3**
baz=335
F18K S **S** **07 22 34.6 -1.2**
baz=335
E23K Chandalar 79.42 7 P **P** **07 12 37.6 +0.9**
E23K IAMs_20 IAMs_20 07 53 49.5
comp=Z,2μm,20.0s
E23K Chandalar 79.42 7 P **P** **07 12 37.8 +1.1**
baz=344,SNR=19
E23K S **S** **07 22 35.3 -0.7**
baz=344
F19K Shaleruckik Mo 79.50 11 P **P** **07 12 36.7 -0.2**
baz=337,SNR=30
F19K S **S** **07 22 34.1 -2.6**
baz=337
E24K Your Creek 79.52 7 P **P** **07 12 38.3 +1.1**
baz=344
E24K S **S** **07 22 36.9 -0.2**
baz=344
SANI Sanana 79.61 99 P **P** **07 12 37.2 -1.2**
SANI Sanana 79.61 99 P **P** **07 12 43.1 +4.7**
F20K Avaraart Lake 79.61 10 IAMs_20 IAMs_20 07 52 42.7
comp=Z,2μm,20.0s
F20K Avaraart Lake 79.61 10 P **P** **07 12 37.9 +0.4**
baz=338
F20K S **S** **07 22 36.4 -1.5**
baz=338
F22K John River 79.65 8 P **P** **07 12 39.0 +1.1**
baz=341
F22K S **S** **07 22 38.3 -0.1**
baz=341

E28M Babbage River 79.67 3 IAmb IAmb 07 12 48.1
comp=Z,190nm,1.8s
E28M IAMs_20 IAMs_20 07 53 34.2
comp=Z,2µm,20.0s
E28M Babbage River 79.67 3 P **P** **07 12 38.9 +1.0**
baz=352,SNR=18
E28M S **S** **07 22 37.7 -0.9**
baz=352
EDFI Ende, Flores 79.72 107 P **P** **07 12 43.0 +3.8**
E25K Arctic Village 79.75 6 IAmb IAmb 07 12 58.9
comp=Z,85nm,1.0s
E25K IAMs_20 IAMs_20 07 50 30.1
comp=Z,2µm,22.0s
E25K Arctic Village 79.75 6 P **P** **07 12 39.3 +0.9**
baz=347,SNR=33
E25K S **S** **07 22 37.8 -1.6**
baz=347
F21K Alatna River 79.76 9 P **P** **07 12 39.4 +1.0**
baz=340
F21K S **S** **07 22 39.1 -0.5**
baz=340
E29M Blow River 79.96 3 P **P** **07 12 40.3 +0.8**
E29M IAmb IAmb 07 12 59.9
comp=Z,111nm,1.1s
E29M IAMs_20 IAMs_20 07 50 29.9
comp=Z,2µm,22.0s
E29M Blow River 79.96 3 P **P** **07 12 40.4 +1.0**
baz=354,SNR=23
E29M S **S** **07 22 40.2 -1.4**
baz=354
E27K Coleen River 79.97 4 P **P** **07 12 40.6 +1.0**
baz=350,SNR=16
E27K S **S** **07 22 40.7 -1.1**
baz=350
G16K Koyuk River 80.01 13 P **P** **07 12 40.9 +1.2**
baz=333
G16K S **S** **07 22 42.4 +0.2**
baz=333
G15K Niukluk 80.03 14 P **P** **07 12 40.4 +0.5**
baz=332
G15K S **S** **07 22 42.0 -0.4**
baz=332
F24K Squaw Lake 80.12 7 IAmb IAmb 07 12 51.0
comp=Z,105nm,1.5s
F24K IAMs_20 IAMs_20 07 54 00.0
comp=Z,2µm,20.0s
F24K Squaw Lake 80.12 7 P **P** **07 12 41.6 +1.2**
baz=345,SNR=28
F24K S **S** **07 22 43.0 -0.4**
baz=345
ANM Nome 80.13 15 P **P** **07 12 41.5 +1.0**
baz=330
ANM S **S** **07 22 43.5 0.0**
baz=330
COLD Coldfoot 80.15 8 P **P** **07 12 40.5 0.0**
COLD IAMs_20 IAMs_20 07 54 24.9
comp=Z,2µm,19.0s
COLD Coldfoot 80.15 8 P **P** **07 12 41.4 +0.9**
baz=343,SNR=18
COLD S **S** **07 22 42.9 -0.8**
baz=343
INK Inuvik 80.17 1 P **P** **07 12 40.7 +0.1**
INK IAmb IAmb 07 12 50.0
comp=Z,114nm,1.8s
INK Inuvik 80.17 1 LR LR 07 53 53.8
comp=Z,1µm,19.7s,baz=5.5,slow=40
INK Inuvik 80.17 1 P **P** **07 12 40.7 +0.1**
INK pmax pmax
comp=Z,114nm,1.8s
INK Inuvik 80.17 1 P **P** **07 12 40.8 +0.3**
baz=357,SNR=11
INK S **S** **07 22 41.6 -2.2**
baz=357
G18K Tagagawik 80.22 11 IAmb IAmb 07 12 50.3
comp=Z,145nm,1.9s
G18K Tagagawik 80.22 11 P **P** **07 12 41.5 +0.6**
baz=336,SNR=14
G18K S **S** **07 22 42.6 -1.9**
baz=336
G17K Kiwalik Mounta 80.23 12 P **P** **07 12 41.5 +0.6**
baz=334,SNR=17
G17K S **S** **07 22 44.3 -0.2**
baz=334
G19K Purcell Mounta 80.25 11 IAmb IAmb 07 12 59.7
comp=Z,81nm,1.1s
G19K Purcell Mounta 80.25 11 P **P** **07 12 41.7 +0.7**
baz=337,SNR=24
G19K S **S** **07 22 43.6 -1.0**
baz=337
F25K Christian River 80.25 6 IAMs_20 IAMs_20 07 50 59.6
comp=Z,2µm,22.0s
F25K Christian River 80.25 6 P **P** **07 12 42.5 +1.3**
baz=347,SNR=15
F25K S **S** **07 22 45.4 +0.5**
baz=347
F26K Sheenjek River 80.28 5 IAMs_20 IAMs_20 07 50 58.2
comp=Z,2µm,21.0s
F26K Sheenjek River 80.28 5 P **P** **07 12 42.5 +1.3**
baz=348,SNR=13
F26K S **S** **07 22 44.1 -1.0**
baz=348
G22K Bettles 80.29 8 P **P** **07 12 42.2 +0.9**
baz=342
G22K S **S** **07 22 45.1 0.0**
baz=342
G21K Allakaket 80.42 9 P **P** **07 12 42.5 +0.5**
baz=340,SNR=30
G21K S **S** **07 22 44.6 -1.9**
baz=340
BLKN Baker Lake 80.44 346 P **P** **07 12 42.8 +0.7**
BLKN IAmb IAmb 07 13 00.4
comp=Z,91nm,1.6s
BMAR Burnt Mountain 80.50 5 P **P** **07 12 43.6 +1.1**
F28M Old Crow 80.64 4 P **P** **07 12 43.0 -0.2**
F28M Old Crow 80.64 4 P **P** **07 12 43.9 +0.7**
baz=352,SNR=12
F28M S **S** **07 22 47.4 -1.4**
baz=352
G23K Bananza Creek 80.67 8 IAMs_20 IAMs_20 07 54 52.6
comp=Z,2µm,20.0s
G23K Bananza Creek 80.67 8 P **P** **07 12 44.6 +1.2**
baz=343,SNR=21
G23K S **S** **07 22 50.0 +0.8**
baz=343
F30M Barrier River 80.82 2 P **P** **07 12 44.8 +0.7**
F30M IAmb IAmb 07 13 00.9
comp=Z,101nm,1.2s
F30M Barrier River 80.82 2 P **P** **07 12 44.8 +0.7**
baz=355,SNR=18
F30M S **S** **07 22 48.6 -2.0**
baz=355
H17K Granite Mounta 80.88 12 IAMs_20 IAMs_20 07 55 47.1
comp=Z,2µm,20.0s
H17K Granite Mounta 80.88 12 P **P** **07 12 44.9 +0.4**
baz=335
H17K S **S** **07 22 51.1 -0.2**
baz=335
IMAR Indian Mountai 80.89 9 P **P** **07 12 44.9 +0.4**
H19K Roundabout Mou 80.92 11 P **P** **07 12 45.5 +0.9**
H19K Roundabout Mou 80.92 11 P **P** **07 12 45.3 +0.7**
baz=338
H19K S **S** **07 22 50.8 -0.8**
baz=338
H18K Honhosa River 80.95 12 P **P** **07 12 45.1 +0.2**
H18K Honhosa River 80.95 12 P **P** **07 12 45.2 +0.4**
baz=336,SNR=16
H18K S **S** **07 22 52.7 +0.6**
baz=336
G24K Hadweenzic Riv 80.95 7 IAmb IAmb 07 13 05.9
comp=Z,67nm,1.1s
G24K IAMs_20 IAMs_20 07 53 10.1
comp=Z,1µm,19.0s
G24K Hadweenzic Riv 80.95 7 P **P** **07 12 46.2 +1.3**
baz=345,SNR=12
G24K S **S** **07 22 52.2 +0.1**
baz=345
G25K Bearman Lake 81.02 6 P **P** **07 12 46.5 +1.3**
baz=347
G25K S **S** **07 22 53.8 +1.0**
baz=347
F31M Tsiigehtchic 81.04 1 IAmb IAmb 07 13 03.4
comp=Z,80nm,0.9s
F31M Tsiigehtchic 81.04 1 P **P** **07 12 46.2 +1.0**
baz=357,SNR=28
F31M S **S** **07 22 51.0 -1.9**
baz=357
G26K Porcupine River 81.04 5 IAmb IAmb 07 12 55.9
comp=Z,160nm,1.7s
G26K IAMs_20 IAMs_20 07 50 35.3
comp=Z,2µm,21.0s
G26K Porcupine River 81.04 5 P **P** **07 12 46.8 +1.5**
baz=349
G26K S **S** **07 22 53.4 +0.5**
baz=349
H20K Anotleneega Mo 81.19 10 P **P** **07 12 46.8 +0.6**
baz=339,SNR=51
H20K S **S** **07 22 53.2 -1.4**
baz=339
H22K Ishtalitna Cre 81.29 9 P **P** **07 12 48.2 +1.5**
baz=342,SNR=39
H22K S **S** **07 22 56.9 +1.2**
baz=342
FYU Fort Yukon 81.30 6 IAmb IAmb 07 13 07.5
comp=Z,107nm,1.3s
FYU IAMs_20 IAMs_20 07 51 20.1
comp=Z,2µm,21.0s
H21K Melozitna Rive 81.33 9 IAmb IAmb 07 12 57.2
comp=Z,173nm,1.6s
H21K Melozitna Rive 81.33 9 P **P** **07 12 48.0 +1.1**
baz=341,SNR=25
H21K S **S** **07 22 55.2 -0.9**
baz=341
G27K Doyon Strip 81.33 4 IAMs_20 IAMs_20 07 50 54.1
comp=Z,2µm,22.0s
G27K Doyon Strip 81.33 4 P **P** **07 12 48.2 +1.3**
baz=350,SNR=21
G27K S **S** **07 22 55.9 -0.2**
baz=350
G29M Pine Creek 81.43 3 P **P** **07 12 47.8 +0.4**
G29M IAmb IAmb 07 13 04.2
comp=Z,55nm,1.1s
G29M IAMs_20 IAMs_20 07 51 03.7
comp=Z,2µm,22.0s
G29M Pine Creek 81.43 3 P **P** **07 12 48.2 +0.8**
baz=354,SNR=8.3
G29M S **S** **07 22 56.4 -0.7**
baz=354
G30M tAoh Zraii Nji 81.43 2 IAmb IAmb 07 13 05.6
comp=Z,81nm,0.8s
G30M IAMs_20 IAMs_20 07 54 49.8
comp=Z,2µm,19.0s
G30M tAoh Zraii Nji 81.43 2 P **P** **07 12 47.7 +0.3**
baz=355,SNR=16
G30M S **S** **07 22 55.7 -1.4**
baz=355
H25L Birch Creek 81.54 6 P **P** **07 12 49.3 +1.4**
baz=347,SNR=11
H25L S **S** **07 22 58.6 +0.6**
baz=347
G31M Satah River 81.55 2 P **P** **07 12 48.2 +0.3**
baz=357,SNR=26
G31M S **S** **07 22 54.9 -3.3**
baz=357
GCSA Galena City Sc 81.57 11 P **P** **07 12 48.9 +0.8**
baz=338
GCSA S **S** **07 22 57.9 -0.6**
baz=338
H23K Yukon River 81.58 8 IAmb IAmb 07 13 09.4
comp=Z,86nm,1.1s
H23K IAMs_20 IAMs_20 07 55 29.6
comp=Z,2µm,20.0s
H23K Yukon River 81.58 8 P **P** **07 12 49.9 +1.6**
baz=344,SNR=48
H23K S **S** **07 22 58.9 +0.2**
baz=344
I17K Unalakleet 81.68 13 IAmb IAmb 07 12 58.9
comp=Z,100nm,1.4s
I17K Unalakleet 81.68 13 P **P** **07 12 49.6 +0.9**
baz=334
I17K S **S** **07 23 00.2 +0.5**
baz=334
H24K Noodor Dome 81.75 7 IAmb IAmb 07 12 59.7
comp=Z,124nm,1.7s
H24K Noodor Dome 81.75 7 P **P** **07 12 50.4 +1.2**
baz=345,SNR=17
H24K S **S** **07 23 01.2 +0.7**
baz=345
I21K Tanana 81.89 9 IAmb IAmb 07 13 00.3
comp=Z,85nm,1.4s
I21K Tanana 81.89 9 P **P** **07 12 51.2 +1.4**
baz=342
I21K S **S** **07 23 01.5 -0.3**
baz=342
I20K Naaghedeneel 81.90 10 IAMs_20 IAMs_20 07 54 05.2
comp=Z,2µm,20.0s
I20K Naaghedeneel 81.90 10 P **P** **07 12 51.0 +1.2**
baz=340
I20K S **S** **07 23 03.7 +1.8**
baz=340
H27K Steamboat Moun 81.91 4 P **P** **07 12 51.0 +1.1**
H27K IAmb IAmb 07 13 00.5
comp=Z,149nm,1.6s
H27K Steamboat Moun 81.91 4 P **P** **07 12 51.5 +1.5**
baz=350,SNR=33
H27K S **S** **07 23 01.1 -1.0**
baz=350
EPYK Eagle Plains 82.03 3 P **P** **07 12 50.8 +0.3**
baz=355
EPYK S **S** **07 23 01.2 -2.1**
baz=355
H29M Whitestone 82.11 3 IAmb IAmb 07 13 07.8
comp=Z,71nm,1.1s
H29M IAMs_20 IAMs_20 07 55 07.5
comp=Z,1µm,19.0s
H29M Whitestone 82.11 3 P **P** **07 12 50.0 -0.9**
baz=353,SNR=15
H29M S **S** **07 23 02.6 -1.4**
baz=353
J14K Nanvaranak Lak 82.12 15 P **P** **07 12 52.3 +1.3**
baz=332
J14K S **S** **07 23 04.6 +0.4**
baz=332
BATI Baumata 82.15 107 LR LR 07 54 16.8
comp=Z,778nm,18.4s,baz=316,slow=39
BATI Baumata 82.15 107 P P 07 12 59.5 +7.5
MLY Manley 82.20 9 P **P** **07 12 52.4 +0.9**
baz=343,SNR=20
MLY S **S** **07 23 04.8 -0.4**
baz=343
J16K Anvik River 82.25 13 IAmb IAmb 07 13 01.8
comp=Z,55nm,1.2s
J16K Anvik River 82.25 13 P **P** **07 12 52.7 +1.0**
baz=334,SNR=15
J16K S **S** **07 23 05.7 +0.2**
baz=334
I23K Minto, Yukon-K 82.25 8 IAmb IAmb 07 13 02.1
comp=Z,100nm,1.6s
I23K IAMs_20 IAMs_20 07 56 00.4
comp=Z,2µm,19.0s
I23K Minto, Yukon-K 82.25 8 P **P** **07 12 52.8 +1.1**
baz=344,SNR=10.0
I23K S **S** **07 23 06.2 +0.7**
baz=344
PRP Porcupine Dome 82.30 6 P **P** **07 12 52.7 +0.6**
PRP IAMs_20 IAMs_20 07 52 15.6
comp=Z,2µm,21.0s
PRP Porcupine Dome 82.30 6 P **P** **07 12 53.1 +0.9**
baz=347,SNR=9.9
PRP S **S** **07 23 06.0 -0.3**
baz=347
SOEI Soe 82.39 106 P **P** **07 12 52.0 -1.4**
SOEI Soe 82.39 106 P P 07 12 59.7 +6.3
J17K VABM Dome 82.43 13 P **P** **07 12 53.2 +0.6**
baz=336,SNR=13
J17K S **S** **07 23 07.2 -0.3**
baz=336
J19K Poorman 82.48 11 IAmb IAmb 07 13 03.1
comp=Z,98nm,1.7s
J19K Poorman 82.48 11 P **P** **07 12 53.9 +0.9**
baz=339,SNR=16
J19K S **S** **07 23 07.4 -0.5**
baz=339
POKR Poker Plat Res 82.50 7 IAmb IAmb 07 13 13.8
comp=Z,62nm,1.1s
POKR Poker Plat Res 82.50 7 P **P** **07 12 54.2 +1.2**
baz=346,SNR=16
POKR S **S** **07 23 09.0 +0.8**
baz=346
I27K Kandik River 82.53 5 P **P** **07 12 54.1 +0.9**
baz=350,SNR=9.2
I27K S **S** **07 23 08.6 +0.1**
baz=350
LMN Caledonia Moun 82.53 320 IAmb IAmb 07 13 03.3
comp=Z,95nm,1.3s
J20K Nowinta River 82.54 10 P **P** **07 12 54.2 +1.0**
baz=340,SNR=23
J20K S **S** **07 23 08.0 -0.5**
baz=340
K13K Kusilvak Mount 82.60 16 IAmb IAmb 07 13 13.0
comp=Z,89nm,1.9s
K13K Kusilvak Mount 82.60 16 P **P** **07 12 54.3 +0.8**
baz=331
K13K S **S** **07 23 10.2 +1.1**
baz=331
HAL Halifax 82.61 319 P **P** **07 12 54.6 +0.6**
HAL Halifax 82.61 319 P **P** **07 12 54.6 +0.6**
HAL pmax pmax
comp=Z,100nm,1.0s
H31M Peel River 82.67 2 P **P** **07 12 54.6 +0.8**
H31M IAmb IAmb 07 13 17.8
comp=Z,111nm,1.4s
H31M Peel River 82.67 2 P **P** **07 12 54.7 +0.8**
baz=357,SNR=7.2
H31M S **S** **07 23 07.9 -1.9**
baz=357
COLA College 82.69 7 P **P** **07 12 54.6 +0.7**
COLA College 82.69 7 *i* P **P** **07 12 54.9 +0.9**
COLA pmax pmax
comp=Z,31nm,1.1s
COLA College 82.69 7 P **P** **07 12 54.6 +0.7**
baz=345
COLA S **S** **07 23 09.5 -0.5**
baz=345
I26K Coal Creek Min 82.71 5 P **P** **07 12 54.3 +0.2**
I26K IAMs_20 IAMs_20 07 54 57.5
comp=Z,2µm,19.0s
I26K Coal Creek Min 82.71 5 P **P** **07 12 54.9 +0.8**
baz=349,SNR=21
I26K S **S** **07 23 09.3 -0.9**
baz=349
I28M Miner Creek 82.79 4 IAmb IAmb 07 13 14.5
comp=Z,59nm,1.0s
I28M Miner Creek 82.79 4 P **P** **07 12 54.9 +0.3**
baz=352,SNR=12
I28M S **S** **07 23 10.7 -0.6**
baz=352
J18K Innoko River 82.79 12 IAmb IAmb 07 13 04.6
comp=Z,84nm,1.8s
J18K Innoko River 82.79 12 P **P** **07 12 55.5 +0.9**
baz=338,SNR=9.9
J18K S **S** **07 23 11.4 +0.3**
baz=338
NEA2 Nenana 82.82 8 IAmb IAmb 07 13 04.3
comp=Z,107nm,2.0s
NEA2 IAMs_20 IAMs_20 07 56 28.5
comp=Z,2µm,19.0s
NEA2 Nenana 82.82 8 P **P** **07 12 55.0 +0.3**
baz=344
NEA2 S **S** **07 23 10.2 -1.3**
baz=344
ILAR Eielson Array 82.89 7 P **P** **07 12 54.6 -0.4**
ILAR Eielson Array 82.89 7 P **P** **07 12 54.8 -0.3**
comp=Z,2.5nm,0.7s,baz=321,slow=3.5,SNR=46
ILAR S **S** **07 23 09.8 -2.3**
comp=Z,0.1nm,0.6s,baz=270,slow=1.8,SNR=0.7
ILAR PKKP **PKKPdf 07 31 05.1 -2.5**
comp=Z,0.2nm,0.7s,baz=198,slow=4.7,SNR=3.3
ILAR PKKPbc **PKKPbc 07 31 17.8 -0.8**
comp=Z,0.9nm,0.6s,baz=198,slow=2.3,SNR=12
ILAR LR LR 08 00 01.4
comp=Z,691nm,18.1s,baz=306,slow=43
comp=Z,2.5nm,0.7s
CCB Clear Creek Bu 82.92 7 P **P** **07 12 55.1 0.0**
CCB IAMs_20 IAMs_20 07 56 10.0
comp=Z,1µm,19.0s
K15K Wolf Creek Mou 82.95 14 P **P** **07 12 56.4 +0.9**
K15K Wolf Creek Mou 82.95 14 P **P** **07 12 56.8 +1.3**
baz=334,SNR=12
K15K S **S** **07 23 13.2 +0.4**
baz=334
I29M Ogilvie Camp, 82.97 3 IAmb IAmb 07 13 15.2
comp=Z,43nm,1.0s
I29M Ogilvie Camp, 82.97 3 P **P** **07 12 55.6 +0.1**
baz=353,SNR=26
I29M S **S** **07 23 11.4 -1.5**
baz=353
BPAW Bear Paw Mtn. 83.06 9 IAMs_20 IAMs_20 07 57 15.7
comp=Z,2µm,20.0s
BPAW Bear Paw Mtn. 83.06 9 P **P** **07 12 56.9 +1.0**
baz=342,SNR=30
BPAW S **S** **07 23 12.8 -1.1**
baz=342
CHUM Lake Minchumin 83.08 10 P **P** **07 12 56.9 +0.9**
baz=341,SNR=23
CHUM S **S** **07 23 14.1 +0.1**
baz=341
I30M Mount Dempster 83.19 2 P **P** **07 12 57.1 +0.3**
I30M IAmb IAmb 07 13 16.7
comp=Z,85nm,1.2s
I30M Mount Dempster 83.19 2 P **P** **07 12 57.2 +0.5**
baz=355,SNR=15
I30M S **S** **07 23 13.7 -1.6**
baz=355
J25K Salcha River, 83.20 6 P **P** **07 12 57.1 +0.4**
J25K IAmb IAmb 07 13 17.0
comp=Z,47nm,0.9s
J25K IAMs_20 IAMs_20 07 53 03.4
comp=Z,1µm,20.0s
J25K Salcha River, 83.20 6 P **P** **07 12 57.3 +0.5**
baz=347,SNR=19
J25K S **S** **07 23 14.7 -0.6**
baz=347
K17K Iditarod 83.20 13 IAMs_20 IAMs_20 07 57 22.6
comp=Z,2µm,19.0s
K17K Iditarod 83.20 13 P **P** **07 12 57.5 +0.8**
baz=336,SNR=9.8
K17K S **S** **07 23 16.2 +0.9**
baz=336
HDA Harding Lake 83.24 7 P **P** **07 12 56.4 -0.4**
HDA Harding Lake 83.24 7 P **P** **07 12 56.5 -0.4**
baz=346,SNR=14
HDA S **S** **07 23 13.3 -2.4**
baz=346
K20K Telida 83.32 10 P **P** **07 12 57.9 +0.6**
baz=340
K20K S **S** **07 23 16.3 -0.2**
baz=340
J26L Joseph Creek 83.47 6 P **P** **07 12 58.3 +0.2**
baz=349
J26L S **S** **07 23 19.2 +1.1**
baz=349
L15K Ungalak Mounta 83.52 14 P **P** **07 12 59.1 +0.7**
baz=334
L15K S **S** **07 23 19.5 +1.0**
baz=334
CAST Castle Rocks 83.56 10 IAMs_20 IAMs_20 07 56 16.9
comp=Z,2µm,20.0s
CAST Castle Rocks 83.56 10 P **P** **07 12 59.2 +0.7**
baz=342,SNR=20
CAST S **S** **07 23 18.7 -0.2**
baz=342
L14K Kuka Creek 83.56 15 P **P** **07 12 59.9 +1.3**
baz=333,SNR=12
L14K S **S** **07 23 18.8 -0.1**
baz=333
M11K Mekoryuk 83.58 17 P **P** **07 13 00.3 +1.7**
baz=330
M11K S **S** **07 23 20.3 +1.2**
baz=330
KTH Kantishna Hill 83.59 9 P **P** **07 12 58.8 0.0**
KTH IAmb IAmb 07 13 19.3
comp=Z,55nm,1.0s
MCK McKinley 83.67 8 P **P** **07 12 59.1 0.0**
MCK IAMs_20 IAMs_20 07 56 37.9
comp=Z,1µm,18.0s
MCK McKinley 83.67 8 P **P** **07 12 59.1 0.0**
MCK pmax pmax
comp=Z,152nm,1.7s
MCK McKinley 83.67 8 P **P** **07 12 59.3 +0.1**
baz=344,SNR=8.8
MCK S **S** **07 23 20.0 -0.1**
baz=344
L17K Donlin 83.74 13 P **P** **07 13 00.1 +0.6**
baz=336,SNR=7.5
L17K S **SKSac** **07 23 19.2 -1.5**
baz=336
TRF Thorofare Moun 83.77 9 P **P** **07 12 59.8 -0.1**
TRF IAmb IAmb 07 13 18.6
comp=Z,37nm,1.0s
TRF IAMs_20 IAMs_20 07 57 03.6
comp=Z,2µm,20.0s
TRF Thorofare Moun 83.77 9 P **P** **07 13 00.1 +0.3**
baz=343,SNR=9.8
TRF S **SKSac** **07 23 20.8 -0.5**

baz=343
J30M Hart River 83.84 3 P **P** **07 13 00.8 +0.7**
J30M IAmb IAmb 07 13 21.1
comp=Z,52nm,1.0s
J30M IAMs_20 IAMs_20 07 52 28.3
comp=Z,2µm,22.0s
J30M Hart River 83.84 3 P **P** **07 13 00.9 +0.8**
baz=355,SNR=20
J30M S **SKSac** **07 23 20.6 -1.0**
baz=355
J29N Klondike Camp 83.88 3 P **P** **07 13 01.1 +0.9**
baz=353
J29N S **SKSac** **07 23 21.5 -0.2**
baz=353
L16K Owhat River 83.90 13 IAmb IAmb 07 13 20.3
comp=Z,130nm,1.9s
L16K Owhat River 83.90 13 P **P** **07 13 01.2 +1.0**
baz=336
L16K S **SKSac** **07 23 21.2 -0.5**
baz=336
SCRK Sand Creek 83.95 6 IAMs_20 IAMs_20 07 53 25.3
comp=Z,2µm,20.0s
SCRK Sand Creek 83.95 6 P **P** **07 13 01.7 +1.0**
baz=348,SNR=42
SCRK S **SKSac** **07 23 21.7 -0.6**
baz=348
K24K Donnelly Dome 83.95 7 IAMs_20 IAMs_20 07 52 53.3
comp=Z,1µm,22.0s
K24K Donnelly Dome 83.95 7 P **P** **07 13 01.1 +0.5**
baz=347,SNR=8.7
K24K S **SKSac** **07 23 22.4 +0.3**
baz=347
L18K Granite Mounta 83.95 12 IAmb IAmb 07 13 20.4
comp=Z,54nm,1.5s
L18K IAMs_20 IAMs_20 07 56 27.4
comp=Z,2µm,20.0s
L18K Granite Mounta 83.95 12 P **P** **07 13 01.0 +0.5**
baz=338
L18K S **SKSac** **07 23 22.7 +0.6**
baz=338
RND Reindeer 84.00 8 IAmb IAmb 07 13 20.1
comp=Z,50nm,1.2s
PPLA Purkeypile 84.04 10 P **P** **07 13 01.2 0.0**
PPLA IAmb IAmb 07 13 31.6
comp=Z,38nm,1.1s
PPLA IAMs_20 IAMs_20 07 56 53.7
comp=Z,2µm,19.0s
PPLA Purkeypile 84.04 10 P **P** **07 13 01.3 0.0**
baz=342
PPLA S **SKSac** **07 23 23.8 +0.8**
baz=342
K27K Chicken 84.05 5 P **P** **07 13 01.8 +0.7**
K27K IAmb IAmb 07 13 18.4
comp=Z,55nm,1.0s
K27K Chicken 84.05 5 P **P** **07 13 01.9 +0.8**
baz=350
K27K S **SKSac** **07 23 24.1 +1.4**
baz=350
RIDG Independent Ri 84.10 6 IAmb IAmb 07 13 33.8
comp=Z,36nm,1.0s
RIDG IAMs_20 IAMs_20 07 53 10.3
comp=Z,1µm,21.0s
RIDG Independent Ri 84.10 6 P **P** **07 13 02.2 +0.8**
baz=348,SNR=11
RIDG S **SKSac** **07 23 23.9 +0.7**
baz=348
GGN Saint George 84.11 320 IAmb IAmb 07 13 11.1
comp=Z,55nm,1.3s
L20K Farewell, AK 84.18 11 P **P** **07 13 02.5 +0.8**
baz=340,SNR=29
L20K S **SKSac** **07 23 23.6 -0.1**
baz=340
DAWY Dawson 84.20 4 IAmb IAmb 07 13 18.8
comp=Z,53nm,1.1s
DAWY Dawson 84.20 4 P **P** **07 13 02.4 +0.5**
baz=352,SNR=11
DAWY S **SKSac** **07 23 23.2 -0.6**
baz=352
M13K Dall Lake 84.24 16 P **P** **07 13 03.4 +1.4**
baz=332
M13K S **SKSac** **07 23 25.1 +1.2**
baz=332
M14K Bethel 84.25 15 P **P** **07 13 03.1 +1.1**
baz=334
M14K S **SKSac** **07 23 24.2 +0.2**
baz=334
DOT Dot Lake 84.27 6 IAmb IAmb 07 13 20.9
comp=Z,40nm,0.9s
L19K White Mountain 84.30 11 P **P** **07 13 03.3 +0.9**
L19K IAMs_20 IAMs_20 07 58 08.6
comp=Z,2µm,18.0s
L19K White Mountain 84.30 11 P **P** **07 13 03.3 +0.9**
baz=339
L19K S **SKSac** **07 23 24.4 0.0**
baz=339
LMQ La Malbaie 84.33 324 P **P** **07 13 03.4 +0.6**
F64A Sherman 84.43 322 IAmb IAmb 07 13 13.8
comp=Z,50nm,1.1s
DHY Denali Highway 84.49 8 P **P** **07 13 03.9 +0.4**
baz=346,SNR=9.7
DHY S **SKSac** **07 23 26.1 +0.2**
baz=346
LDAQ Lac Daran 84.51 325 IAmb IAmb 07 13 13.3
comp=Z,79nm,1.4s
K29M Barlow Dome 84.52 3 IAmb IAmb 07 13 22.2
comp=Z,28nm,0.8s
K29M Barlow Dome 84.52 3 P **P** **07 13 04.5 +0.9**
baz=354,SNR=9.8
K29M S **SKSac** **07 23 26.5 +0.5**
baz=354
E62A Clayton Lake 84.55 323 P **P** **07 13 03.6 -0.3**
E62A IAmb IAmb 07 13 14.9
comp=Z,58nm,1.2s
M15K Kasigluk River 84.58 14 P **P** **07 13 04.8 +1.0**
baz=334,SNR=16
M15K S **SKSac** **07 23 28.0 +1.8**
baz=334
M17K Holitna River 84.58 13 IAmb IAmb 07 13 14.3
comp=Z,71nm,1.3s
M17K IAMs_20 IAMs_20 07 55 48.9
comp=Z,1µm,20.0s
M17K Holitna River 84.58 13 P **P** **07 13 05.0 +1.2**
baz=337,SNR=16
M17K S **SKSac** **07 23 26.8 +0.6**
baz=337
WAT1 Susitna Watana 84.59 8 P **P** **07 13 03.6 -0.3**
baz=345
WAT1 S **SKSac** **07 23 26.9 +0.5**
baz=345
M16K Timber Creek 84.63 13 IAmb IAmb 07 13 52.0
comp=Z,44nm,1.1s
M16K Timber Creek 84.63 13 P **P** **07 13 05.5 +1.5**
baz=336,SNR=17
M16K S **S** **07 23 30.4 +0.7**
baz=336
M19K Big River Lodg 84.64 11 IAMs_20 IAMs_20 07 55 36.6
comp=Z,2µm,21.0s
M19K Big River Lodg 84.64 11 P **P** **07 13 05.8 +1.7**
baz=340,SNR=8.0
M19K S **S** **07 23 30.0 +0.1**
baz=340
CUT Chulitna 84.78 9 IAMs_20 IAMs_20 07 57 44.2
comp=Z,1µm,19.0s
CUT Chulitna 84.78 9 P **P** **07 13 04.8 +0.1**
baz=343
M18K Stony River 84.78 12 P **P** **07 13 05.8 +1.0**
baz=338,SNR=13
M18K S **S** **07 23 30.7 -0.5**
baz=338
PAX Paxson 84.80 7 P **P** **07 13 05.0 0.0**
baz=347
PAX S **S** **07 23 30.8 -0.8**
baz=347
MAYO Mayo, Yukon 84.83 2 P **P** **07 13 05.7 +0.7**
baz=355
MAYO S **S** **07 23 30.9 -0.7**
baz=355
M20K Styx River 84.86 11 IAMs_20 IAMs_20 07 57 15.5
comp=Z,1µm,20.0s
M20K Styx River 84.86 11 P **P** **07 13 05.3 0.0**
baz=341
WAT6 Susitna Watana 84.93 8 P **P** **07 13 05.6 -0.1**
baz=345
L26K Log Cabin Wild 84.94 6 IAmb IAmb 07 13 16.1
comp=Z,50nm,1.2s
L26K IAMs_20 IAMs_20 07 53 55.5
comp=Z,1µm,19.0s
L26K Log Cabin Wild 84.94 6 P **P** **07 13 06.6 +1.0**
baz=349,SNR=8.9
L26K S **S** **07 23 33.2 +0.3**
baz=349
MENT Mentasta 85.00 6 IAmb IAmb 07 13 24.9
comp=Z,59nm,1.1s
SKT Skwentna 85.01 10 P **P** **07 13 05.8 -0.1**
baz=342,SNR=18
BCAR Beaver Creek A 85.03 5 P **P** **07 13 06.4 +0.4**
L27K Beaver Creek, 85.03 5 P **P** **07 13 07.0 +0.9**
L27K IAmb IAmb 07 13 26.9
comp=Z,51nm,1.1s
L27K IAMs_20 IAMs_20 07 53 58.8
comp=Z,1µm,21.0s
L27K Beaver Creek, 85.03 5 P **P** **07 13 07.3 +1.3**
baz=350,SNR=14
L27K S **S** **07 23 35.3 +1.6**
baz=350
N14K Kuskokwak Cree 85.06 15 P **P** **07 13 06.4 +0.3**
N14K IAmb IAmb 07 13 37.4
comp=Z,55nm,1.0s
N14K Kuskokwak Cree 85.06 15 P **P** **07 13 07.3 +1.2**
baz=334,SNR=9.3
N14K S **S** **07 23 35.4 +1.5**
baz=334
YKAW3 Yellowknife Wh 85.10 353 P **P** **07 13 06.5 +0.1**
YKAW3 IAmb IAmb 07 13 15.9
comp=Z,47nm,1.1s
WRGLY Wrigley 85.13 357 P **P** **07 13 07.9 +1.4**
baz=6.0,SNR=11
WRGLY S **S** **07 23 33.9 -0.7**
baz=6.0
YKAW1 Yellowknife Wh 85.17 353 IAmb IAmb 07 13 22.5
comp=Z,32nm,0.9s
YKA Yellowknife Ar 85.17 353 P **P** **07 13 06.5 -0.1**
comp=Z,7.9nm,0.9s,baz=13,slow=5.2,SNR=16
comp=Z,7.9nm,0.9s
N16K Nishlik Lake 85.17 14 P **P** **07 13 08.1 +1.3**
baz=336,SNR=16
N16K S **S** **07 23 36.7 +1.5**
baz=336
N15K Kwethluk River 85.18 14 P **P** **07 13 08.3 +1.5**
baz=335,SNR=9.2
N15K S **S** **07 23 35.6 +0.3**
baz=335
SPIA Saint Paul Isl 85.22 20 P **P** **07 13 07.8 +0.8**
baz=327
L29M L29M 85.22 3 P **P** **07 13 08.0 +1.0**
baz=354,SNR=13
L29M S **S** **07 23 34.3 -1.3**
baz=354
HARP HAARP 85.39 7 P **P** **07 13 08.9 +1.1**
baz=348
HARP S **S** **07 23 38.5 +1.3**
baz=348
STLK Strandline Lak 85.42 10 P **P** **07 13 07.6 -0.5**
M22K Willow 85.43 9 P **P** **07 13 07.9 -0.1**
M22K IAMs_20 IAMs_20 07 58 15.3
comp=Z,1µm,19.0s
M22K Willow 85.43 9 P **P** **07 13 08.1 +0.2**
baz=343
N17K Nushagak Hills 85.43 13 IAmb IAmb 07 13 18.7
comp=Z,113nm,1.8s
N17K IAMs_20 IAMs_20 07 56 24.5
comp=Z,1µm,20.0s
N17K Nushagak Hills 85.43 13 P **P** **07 13 09.4 +1.4**
baz=337,SNR=11
N17K S **S** **07 23 39.2 +1.5**
baz=337
N18K Kilae Creek 85.53 12 P **P** **07 13 08.9 +0.3**
N18K IAmb IAmb 07 13 29.4
comp=Z,46nm,1.0s
N18K IAMs_20 IAMs_20 07 57 34.1
comp=Z,2µm,18.0s
N18K Kilae Creek 85.53 12 P **P** **07 13 09.8 +1.3**
baz=338,SNR=22
N18K S **S** **07 23 39.5 +0.8**
baz=338
GHO Glory Hole Cre 85.57 9 P **P** **07 13 09.4 +0.6**
GHO IAMs_20 IAMs_20 07 58 00.0
comp=Z,1µm,20.0s
M24K Tolsona, Glenn 85.57 7 P **P** **07 13 10.4 +1.7**
baz=347,SNR=10
M24K S **S** **07 23 40.3 +1.2**
baz=347
M26K Nabesna, AK 85.59 6 P **P** **07 13 09.9 +1.1**
baz=349,SNR=9.0
M26K S **S** **07 23 39.7 +0.4**
baz=349
SUA Susitna One 85.62 10 IAmb IAmb 07 13 26.3
comp=Z,49nm,0.8s
SUA Susitna One 85.62 10 P **P** **07 13 09.8 +0.6**
baz=343
N19K Bonanza Creek 85.65 12 IAmb IAmb 07 13 21.9
comp=Z,63nm,1.0s
N19K IAMs_20 IAMs_20 07 56 39.3
comp=Z,2µm,22.0s
N19K Bonanza Creek 85.65 12 P **P** **07 13 10.3 +1.1**
baz=340,SNR=39
N19K S **S** **07 23 38.9 -1.2**
baz=340
N20K Mount Spurr 85.65 10 P **P** **07 13 09.6 +0.4**
baz=342
N20K S **S** **07 23 37.9 -2.1**
baz=342
SPCR Spurr Chakacha 85.65 10 P **P** **07 13 09.4 +0.1**
baz=342
SPCR S **S** **07 23 38.1 -1.8**
baz=342
M23K Glacier View 85.69 8 P **P** **07 13 09.9 +0.5**
baz=345
M23K S **SKSac** **07 23 37.9 +4.6**
baz=345
SCM Sheep Creek Mo 85.70 8 IAmb IAmb 07 13 29.8
comp=Z,88nm,1.3s
SCM Sheep Creek Mo 85.70 8 P **P** **07 13 10.2 +0.7**
baz=346,SNR=8.7
SCM S **S** **07 23 39.4 -1.1**
baz=346
PMR Palmer 85.71 9 P **P** **07 13 09.7 +0.3**
PMR IAmb IAmb 07 13 29.4
comp=Z,67nm,1.1s
PMR IAMs_20 IAMs_20 07 58 05.9
comp=Z,2µm,19.0s
PMR Palmer 85.71 9 P **P** **07 13 09.7 +0.3**
PMR pmax pmax
comp=Z,67nm,1.1s
PMR Palmer 85.71 9 P **P** **07 13 09.9 +0.5**
baz=344,SNR=13
PMR S **S** **07 23 39.2 -1.2**
baz=344
M27K Edge Creek, AK 85.72 5 IAMs_20 IAMs_20 07 42 48.1
comp=Z,1µm,20.0s
M27K Edge Creek, AK 85.72 5 P **P** **07 13 11.0 +1.3**
baz=350,SNR=22
M27K S **S** **07 23 41.1 +0.3**
baz=350
BVCY Beaver Creek 85.74 5 P **P** **07 13 11.1 +1.4**
baz=351,SNR=6.7
BVCY S **S** **07 23 41.5 +0.7**
baz=351
O14K Tigyukauivet M 85.75 15 P **P** **07 13 10.0 +0.4**
O14K IAmb IAmb 07 13 30.4
comp=Z,59nm,1.1s
O14K Tigyukauivet M 85.75 15 P **P** **07 13 10.8 +1.2**
baz=334,SNR=10
O14K S **S** **07 23 41.0 +0.2**
baz=334
M30M Minto, Yukon 85.82 3 P **P** **07 13 10.4 +0.4**
M30M Minto, Yukon 85.82 3 P **P** **07 13 10.5 +0.5**
baz=355
M30M S **S** **07 23 39.7 -1.8**
baz=355
M29M Somme Creek 85.87 4 P **P** **07 13 11.5 +1.2**
baz=353,SNR=16
M29M S **S** **07 23 41.3 -0.8**
baz=353
MMPY Sheldon Lake, 85.91 0 IAMs_20 IAMs_20 07 58 04.1
comp=Z,1µm,19.0s
MMPY Sheldon Lake, 85.91 0 P **P** **07 13 11.9 +1.5**
baz=359,SNR=11
MMPY S **S** **07 23 41.3 -1.1**
baz=359
P08K Saint George I 85.91 20 P **P** **07 13 11.5 +1.0**
baz=328
P08K S **S** **07 23 43.8 +1.3**
baz=328
KNK Knik Glacier 85.97 9 IAmb IAmb 07 13 31.6
comp=Z,61nm,1.0s
KNK IAMs_20 IAMs_20 07 58 22.8
comp=Z,2µm,20.0s
KNK Knik Glacier 85.97 9 P **P** **07 13 11.2 +0.4**
baz=345
KNK S **S** **07 23 41.9 -1.1**
baz=345
WVL Waterville 85.98 321 IAmb IAmb 07 13 20.5
comp=Z,84nm,1.7s
G62A West of Eustis 86.01 322 IAmb IAmb 07 13 21.8
comp=Z,88nm,1.4s
O16K Kokwok River B 86.12 14 IAmb IAmb 07 13 32.1
comp=Z,61nm,1.1s
O16K Kokwok River B 86.12 14 P **P** **07 13 12.5 +1.1**
baz=337,SNR=17
O16K S **S** **07 23 46.4 +2.0**
baz=337
RC01 Rabbit Creek A 86.12 9 IAmb IAmb 07 13 31.4
comp=Z,54nm,0.8s
RC01 Rabbit Creek A 86.12 9 P **P** **07 13 12.0 +0.6**
baz=344,SNR=18
RC01 S **S** **07 23 44.5 +0.1**
baz=344
O15K Ungalikthiuk R 86.14 15 P **P** **07 13 11.4 -0.2**
O15K IAmb IAmb 07 13 32.1
comp=Z,38nm,1.0s
O15K Ungalikthiuk R 86.14 15 P **P** **07 13 12.3 +0.7**
baz=335,SNR=14
O15K S **S** **07 23 45.3 +0.7**
baz=335
O17K Koliganek Bris 86.15 13 P **P** **07 13 12.5 +0.9**
baz=338
O17K S **S** **07 23 45.4 +0.7**
baz=338
KLU Klutina 86.19 7 IAMs_20 IAMs_20 07 55 13.6
comp=Z,2µm,21.0s
KLU Klutina 86.19 7 P **P** **07 13 13.5 +1.6**
baz=347,SNR=20
KLU S **S** **07 23 46.1 +0.8**
baz=347
N25K Chitina, Valde 86.22 7 P **P** **07 13 12.8 +0.7**
N25K IAmb IAmb 07 13 31.4
comp=Z,83nm,1.9s
N25K Chitina, Valde 86.22 7 P **P** **07 13 12.4 +0.3**
baz=348
N25K S **S** **07 23 46.2 +0.6**
baz=348
CAPN Captain Cook N 86.22 10 S **S** **07 23 46.5 +1.1**
baz=342
O19K Port Alsworth 86.26 12 P **P** **07 13 12.1 0.0**
baz=340
O19K S **S** **07 23 45.2 -0.5**
baz=340
FARO Faro, Yukon 86.27 1 IAmb IAmb 07 13 29.6
comp=Z,53nm,1.1s
FARO Faro, Yukon 86.27 1 P **P** **07 13 13.4 +1.1**
baz=358,SNR=11
FARO S **S** **07 23 45.3 -0.7**
baz=358
M31M Drury Creek, Y 86.28 2 IAmb IAmb 07 13 22.2
comp=Z,91nm,1.6s
M31M Drury Creek, Y 86.28 2 P **P** **07 13 13.0 +0.8**
baz=357,SNR=11
M31M S **S** **07 23 46.7 +0.8**
baz=357
YUK3 Moose Creek 86.41 5 P **P** **07 13 14.3 +1.2**
baz=352,SNR=13
YUK3 S **S** **07 23 47.8 +0.2**
baz=352
O18K Koktuh Hills 86.42 12 P **P** **07 13 13.6 +0.6**
baz=339,SNR=17
O18K S **S** **07 23 47.9 +0.5**
baz=339
PWL Port Wells 86.53 9 IAmb IAmb 07 13 33.6
comp=Z,37nm,1.0s
PWL IAMs_20 IAMs_20 07 58 39.4
comp=Z,2µm,19.0s
PWL Port Wells 86.53 9 P **P** **07 13 14.0 +0.5**
baz=345
PWL S **S** **07 23 48.2 -0.2**
baz=345
DIV Divide 86.57 7 IAmb IAmb 07 13 32.6
comp=Z,46nm,0.9s
MCARA McCarthy VSAT 86.59 6 P **P** **07 13 14.5 +0.8**
baz=349
MCARA S **S** **07 23 48.3 -0.7**
baz=349
SLKM Skilak Lake 86.61 10 P **P** **07 13 14.0 +0.1**
SLKM IAmb IAmb 07 13 33.7
comp=Z,63nm,1.0s
O20K Slope Mountain 86.65 11 P **P** **07 13 13.5 -0.7**
baz=341
O20K S **S** **07 23 50.0 +0.2**
baz=341
P16K Nushagak River 86.66 14 P **P** **07 13 14.4 +0.4**
P16K Nushagak River 86.66 14 P **P** **07 13 15.2 +1.2**
baz=337
P16K S **S** **07 23 50.3 +0.6**
baz=337
GLI Glacier Island 86.66 8 P **P** **07 13 14.3 +0.2**
GLI Glacier Island 86.66 8 P **P** **07 13 14.1 0.0**
baz=346
GLI S **S** **07 23 48.6 -1.1**
baz=346
ILSW Iliamna Southw 86.66 11 P **P** **07 13 13.5 -0.8**
VRDI Verde Repeater 86.70 6 IAmb IAmb 07 13 34.7
comp=Z,69nm,1.4s
O22K Cooper Landing 86.70 9 P **P** **07 13 14.7 +0.4**
O22K Cooper Landing 86.70 9 P **P** **07 13 14.7 +0.4**
baz=344
O22K S **S** **07 23 48.8 -1.2**
baz=344
P17K Kvichak River 86.81 13 P **P** **07 13 16.1 +1.3**
baz=338
P17K S **S** **07 23 51.3 +0.1**
baz=338
I63A Otisfield 86.82 321 IAmb IAmb 07 13 31.8
comp=Z,67nm,1.6s
BMRM Bremner River 86.85 7 P **P** **07 13 15.5 +0.4**
baz=348
BMRM S **S** **07 23 51.9 +0.3**
baz=348
P18K Big Mountain, 86.85 12 IAmb IAmb 07 13 33.9
comp=Z,56nm,1.6s
P18K Big Mountain, 86.85 12 P **P** **07 13 14.9 -0.2**
baz=339
P18K S **S** **07 23 50.5 -1.2**
baz=339
FID Port Fidalgo 86.86 8 P **P** **07 13 15.8 +0.7**
FID IAmb IAmb 07 13 35.6
comp=Z,55nm,1.0s
N30M Aishikik Lake 86.92 3 P **P** **07 13 15.2 -0.2**
N30M Aishikik Lake 86.92 3 P **P** **07 13 16.2 +0.7**
baz=354
N30M S **S** **07 23 50.6 -1.7**
baz=354
YUK8 Steele Glacier 86.94 4 P **P** **07 13 16.6 +0.8**
baz=352
N31M Braeburn, Yuko 86.95 3 P **P** **07 13 15.1 -0.5**
baz=356
N31M S **S** **07 23 50.7 -1.8**
baz=356
YUK4 Talbot Arm 86.95 4 P **P** **07 13 16.2 +0.4**
baz=353,SNR=8.7
P19K Oil Pt 86.96 11 P **P** **07 13 15.4 -0.2**
P19K Oil Pt 86.96 11 P **P** **07 13 15.0 -0.6**
baz=341
P19K S **S** **07 23 50.5 -2.1**
baz=341
TGTN Hyland Airport 86.99 359 P **P** **07 13 17.1 +1.3**
baz=1.9
TGTN S **S** **07 23 52.6 -0.4**
baz=1.9
SEW Seward 87.11 9 IAmb IAmb 07 13 36.4
comp=Z,44nm,0.9s
SEW Seward 87.11 9 P **P** **07 13 16.8 +0.6**
baz=344,SNR=7.1
SEW S **S** **07 23 51.5 -2.4**
baz=344
EYAK Cordova Ski Ar 87.14 7 IAmb IAmb 07 13 27.0
comp=Z,98nm,1.6s
EYAK Cordova Ski Ar 87.14 7 P **P** **07 13 17.7 +1.3**
baz=347
EYAK S **S** **07 23 53.3 -0.9**
baz=347
CTG Chitna Glacier 87.14 5 P **P** **07 13 18.5 +1.8**
baz=351
CTGM Chitina Glacie 87.14 5 IAMs_20 IAMs_20 07 54 29.7
comp=Z,1µm,22.0s

CRQE	Cirque		87.20	6	P	P	07 13 17.2	+0.3			
	baz=349										
HOM	Homer		87.21	11	P	P	07 13 16.8	0.0			
HOM	baz=342				S	S	07 23 54.2	-0.8			
BRLK	Bradley Lake		87.22	10	P	P	07 13 17.4	+0.5			
BRLK	comp=Z,40nm,1.0s				IAmb	IAmb	07 13 50.4				
TGL	Tana Glacier		87.22	6	IAMs_20	IAMs_20	07 54 58.9				
Q16K	comp=Z,2µm,22.0s King Salmon		87.25	13	P	P	07 13 17.3	+0.4			
Q16K	baz=338				S	S	07 23 54.4	-1.0			
LOGN	baz=338 Logan Glacier		87.31	5	P	P	07 13 18.5	+1.0			
GRNC	Granite Creek		87.34	6	P	P	07 13 17.8	+0.1			
GRNC	comp=Z,47nm,0.9s				IAmb	IAmb	07 13 38.3				
TRQ	Mont Tremblant		87.35	325	IAmb	IAmb	07 13 27.6				
N32M	comp=Z,35nm,1.2s Quiet Lake		87.36	1	IAmb	IAmb	07 13 34.7				
N32M	comp=Z,33nm,0.9s				IAMs_20	IAMs_20	07 57 18.4				
N32M	comp=Z,1µm,20.0s Quiet Lake		87.36	1	P	P	07 13 17.8	+0.3			
N32M	baz=358				S	S	07 23 54.4	-2.1			
VLDQ	baz=358 Val d'Or		87.36	328	P	P	07 13 18.7	+0.9			
VLDQ	comp=Z,41nm,1.2s				IAmb	IAmb	07 13 28.9				
YUK6	Outpost Mounta		87.37	4	P	P	07 13 18.6	+0.7			
YUK6	baz=353				S	S	07 23 55.1	-1.9			
MNTQ	baz=353 Montreal, Queb		87.40	324	P	P	07 13 17.8	-0.1			
MNTQ	comp=Z,53nm,1.4s				IAmb	IAmb	07 13 27.9				
CNPM	China Poot		87.40	10	IAmb	IAmb	07 13 43.1				
LBNH	comp=Z,50nm,1.0s Lisbon		87.40	322	IAmb	IAmb	07 13 25.6				
GUMO	comp=Z,40nm,0.8s Guam		87.41	76	LR	LR	07 56 34.5				
GSTR	comp=Z,758nm,19.6s,baz=278,slow=38 Great Sitkin T		87.42	26	IAMs_20	IAMs_20	07 56 40.4				
O28M	comp=Z,1µm,21.0s Mount Upton		87.42	5	IAmb	IAmb	07 13 35.6				
O28M	comp=Z,29nm,1.0s				IAMs_20	IAMs_20	07 54 40.0				
O28M	comp=Z,1µm,21.0s Mount Upton		87.42	5	P	P	07 13 18.8	+0.6			
O28M	baz=352				S	S	07 23 56.6	-1.0			
P23K	baz=352 Montague Islan		87.48	8	P	P	07 13 19.0	+0.9			
P23K	baz=346				S	S	07 23 57.8	+0.3			
BERG	baz=346 Berg Lake		87.50	7	IAMs_20	IAMs_20	07 58 25.2				
HMT	comp=Z,2µm,20.0s Hamilton		87.50	7	IAMs_20	IAMs_20	07 55 10.4				
WAX	comp=Z,1µm,21.0s Waxell Ridge		87.53	6	IAMs_20	IAMs_20	07 58 04.8				
HYT	comp=Z,1µm,19.0s Haines Junctio		87.53	3	P	P	07 13 19.9	+1.4			
HYT	baz=354,SNR=17				S	S	07 23 58.1	-0.3			
Q19K	baz=354 Cape Douglas,		87.57	12	P	P	07 13 17.7	-0.9			
Q19K	baz=340				S	S	07 23 56.4	-2.2			
Q18K	baz=340 Katmai Hardscr		87.59	13	P	P	07 13 18.1	-0.8			
Q18K	baz=339				S	S	07 23 56.2	-2.7			
O30N	baz=339 Mendenhall		87.65	3	IAmb	IAmb	07 13 35.7				
O30N	comp=Z,38nm,1.2s Mendenhall		87.65	3	P	P	07 13 19.6	+0.6			
O30N	baz=355,SNR=14				S	S	07 23 57.9	-1.4			
YAH	baz=355 Yahtse		87.71	6	IAmb	IAmb	07 13 40.3				
YAH	comp=Z,45nm,1.0s				IAMs_20	IAMs_20	07 54 48.7				
BAKI	comp=Z,2µm,22.0s Biak		87.72	93	P	P	07 13 23.8	+3.8			
VT1	Waterbury		87.77	323	IAmb	IAmb	07 13 33.4				
Q17K	comp=Z,29nm,1.1s Contact Creek		87.79	13	P	P	07 13 19.3	-0.4			
Q17K	baz=339				S	S	07 23 58.6	-2.2			
WHY	baz=339 Whitehorse		87.81	2	IAMs_20	IAMs_20	07 54 52.2				
WHY	comp=Z,2µm,22.0s Whitehorse		87.81	2	P	P	07 13 19.8	-0.1			
WHY	baz=356				S	S	07 23 59.6	-1.3			
FRNY	baz=356 Flat Rock		87.84	323	IAmb	IAmb	07 13 30.9				
MESA	comp=Z,36nm,1.1s MESA		87.87	6	IAMs_20	IAMs_20	07 55 41.0				
MESA	comp=Z,1µm,20.0s MESA		87.87	6	P	P	07 13 21.3	+1.1			
MESA	baz=350				S	S	07 23 59.7	-2.1			
KAIM	baz=350 Kayak Island		87.89	7	P	P	07 13 21.7	+1.7			
KAIM	baz=348				S	S	07 24 01.0	-0.5			
HNH	baz=348 Hanover		87.96	322	IAmb	IAmb	07 13 32.4				
O29M	comp=Z,44nm,1.2s Mount Kennedy		87.99	4	P	P	07 13 20.3	-0.5			
O29M	comp=Z,36nm,1.1s				IAmb	IAmb	07 13 37.8				
O29M	Mount Kennedy		87.99	4	P	P	07 13 21.3	+0.6			
O29M	baz=353				S	S	07 24 02.7	-0.1			
ATKA	baz=353 Atka Island		88.02	25	IAMs_20	IAMs_20	07 56 49.3				
PINM	comp=Z,2µm,20.0s Pinnacle		88.09	5	P	P	07 13 22.5	+1.4			
PINM	baz=352				S	S	07 24 02.7	-0.9			
Q20K	baz=352 Shuyak Island		88.09	11	P	P	07 13 21.2	+0.2			
Q20K	baz=342				S	S	07 24 01.5	-2.0			
SYI	baz=342 Shuyak Island		88.09	11	P	P	07 13 20.8	-0.2			
FITZ	Fitzroy Crossi		88.15	113	LR	LR	07 55 59.2				
Q23K	comp=Z,444nm,20.1s,baz=311,slow=38 Middleton Isla		88.16	8	P	P	07 13 22.4	+1.0			
Q23K	baz=346				S	S	07 24 03.5	-0.6			
Q23K	baz=346				S	S	07 24 03.5	-0.6			
KOTAN	baz=346 Kotaneelee Air		88.25	357	P	P	07 13 23.0	+1.2			
KOTAN	baz=5.5				S	S	07 24 04.7	-0.4			
P30M	baz=5.5 Million Dollar		88.26	3	P	P	07 13 23.3	+1.4			
P30M	baz=354				S	S	07 24 04.9	-0.3			
R17L	baz=354 Mt. Peulik Vol		88.28	14	P	P	07 13 21.8	-0.2			
R17L	baz=338				S	S	07 24 04.3	-1.1			
P33M	baz=338 Teslin, Yukon		88.31	1	IAmb	IAmb	07 13 31.7				
P33M	comp=Z,93nm,1.7s				IAMs_20	IAMs_20	07 57 43.5				
P33M	comp=Z,1µm,20.0s Teslin, Yukon		88.31	1	P	P	07 13 22.6	+0.4			
P33M	baz=358,SNR=8.3				S	S	07 24 03.9	-1.8			
WTLY	baz=358 Watson Lake, Y		88.41	359	P	P	07 13 23.6	+0.9			
WTLY	baz=1.4				S	S	07 24 06.8	+0.2			
M65A	baz=1.4 Busby, Falmout		88.54	320	P	P	07 13 24.2	+0.7			
M65A	baz=47				S	S	07 24 07.8	-0.5			
	baz=47										

PNL	Peninsula		88.57	5	P	P	07 13 22.9	-0.4			
PNL	baz=352				S	S	07 24 08.5	+0.5			
WBO	baz=352 Williamsburg		88.58	324	IAmb	IAmb	07 13 32.9				
P29M	comp=Z,30nm,1.1s Windy Craggy		88.71	4	IAmb	IAmb	07 13 38.0				
P29M	comp=Z,31nm,1.2s Windy Craggy		88.71	4	P	P	07 13 24.3	+0.3			
P29M	baz=354				S	S	07 24 08.0	-1.4			
R18K	baz=354 Karluk		88.71	13	P	P	07 13 23.6	-0.3			
S12K	baz=340 Black Hills		88.76	17	P	P	07 13 26.0	+1.7			
S12K	baz=334				S	S	07 24 09.4	-0.5			
S14K	baz=334 Fog Glacier		88.84	16	P	P	07 13 26.0	+1.3			
S14K	baz=336				S	S	07 24 08.6	-2.2			
KDAK	baz=336 Kodiak Island		88.84	12	P	P	07 13 25.0	+0.4			
KDAK	Kodiak Island		88.84	12	LR	LR	07 59 21.1				
KDAK	comp=Z,1µm,20.3s,baz=311,slow=40 Kodiak Island		88.84	12	P	P	07 13 25.0	+0.4			
KDAK	comp=Z,94nm,1.5s				pmax	pmax					
KDAK	Kodiak Island		88.84	12	P	P	07 13 25.2	+0.7			
KDAK	baz=341				S	S	07 24 08.6	-2.0			
P32M	baz=341 Atlin		88.91	2	P	P	07 13 24.9	-0.1			
P32M	comp=Z,1µm,19.0s				IAMs_20	IAMs_20	07 58 36.4				
P32M	Atlin		88.91	2	P	P	07 13 25.4	+0.5			
P32M	baz=357				S	S	07 24 09.9	-1.5			
PLBC	baz=357 Pleasant Camp		88.95	3	P	P	07 13 26.0	+0.9			
PLBC	baz=355				S	S	07 24 11.8	+0.2			
SKAG	baz=355 Skagway		88.99	2	P	P	07 13 25.8	+0.6			
SKAG	comp=Z,27nm,0.9s				IAmb	IAmb	07 13 44.2				
SKAG	Skagway		88.99	2	P	P	07 13 26.5	+1.2			
SKAG	baz=356				S	S	07 24 11.5	-0.5			
LIRD	baz=356 Liard River Hi		89.06	358	P	P	07 13 26.7	+1.1			
LIRD	baz=3.7				S	S	07 24 11.8	-0.9			
CHGN	baz=3.7 Chignik		89.08	15	P	P	07 13 25.7	0.0			
CHGN	baz=336				S	S	07 24 10.9	-1.9			
R33M	baz=336 Jennings River		89.14	0	IAmb	IAmb	07 13 36.7				
R33M	comp=Z,58nm,1.4s				IAMs_20	IAMs_20	07 58 03.6				
R33M	comp=Z,1µm,19.0s Jennings River		89.14	0	P	P	07 13 27.5	+1.3			
R33M	baz=360,SNR=11				S	S	07 24 12.2	-1.5			
RCBR	baz=360 Riachuelo		89.15	263	LR	LR	07 55 32.1				
UNV	comp=Z,950nm,18.2s,baz=68,slow=37 Unalaska Valle		89.18	20	IAMs_20	IAMs_20	07 59 10.7				
UNV	comp=Z,2µm,20.0s Unalaska Valle		89.18	20	P	P	07 13 27.5	+1.3			
UNV	baz=330				S	S	07 24 12.9	-1.0			
NIKH	baz=330 Nikolski High		89.20	22	P	P	07 13 26.4	0.0			
OHAK	baz=328 Old Harbor		89.25	12	IAmb	IAmb	07 14 01.8				
OHAK	comp=Z,34nm,1.2s Old Harbor		89.25	12	P	P	07 13 26.1	-0.4			
OHAK	baz=341				S	S	07 24 14.4	-0.1			
KNRA	baz=341 Kununurra		89.30	109	P	P	07 13 28.4	+1.1			
SDPT	comp=Z,38nm,1.1s Sand Point		89.47	17	P	P	07 13 27.3	-0.3			
SDPT	baz=335				S	S	07 24 17.3	+0.8			
Q32M	baz=335 Nakina River		89.57	1	IAmb	IAmb	07 13 38.7				
Q32M	comp=Z,52nm,1.4s				IAMs_20	IAMs_20	07 56 04.9				
Q32M	comp=Z,2µm,22.0s Nakina River		89.57	1	P	P	07 13 27.3	-1.0			
Q32M	baz=358				S	S	07 24 17.3	-0.6			
TOAD	baz=358 Toad River Com		89.59	357	P	P	07 13 27.0	-1.1			
TOAD	baz=4.4,SNR=16				S	S	07 24 16.9	-0.8			
R31K	baz=4.4 City Hall, Gus		90.02	3	P	P	07 13 29.7	-0.4			
DELO	baz=356 Deloro Mine		90.08	325	IAmb	IAmb	07 13 39.9				
DLBC	comp=Z,71nm,1.4s Dease Lake		90.11	360	LR	LR	08 02 10.5				
DLBC	comp=Z,58nm,18.8s,baz=330,slow=41 Dease Lake		90.11	360	P	P	07 13 32.8	+2.1			
DLBC	baz=0.4,SNR=9.2				S	S	07 24 22.6	+0.1			
CHNA	baz=0.4 Chernabura Isl		90.16	16	P	P	07 13 30.6	-0.2			
CHNA	baz=336				S	S	07 24 22.7	-0.3			
PECO	baz=336 Prince Edward		90.20	325	IAmb	IAmb	07 13 41.1				
PECO	comp=Z,47nm,1.1s				IAMs_20	IAMs_20	07 56 05.1				
R32K	comp=Z,1µm,19.0s Eaglecrest		90.20	2	P	P	07 13 31.7	+0.7			
BUKO	baz=357 Buck Lake		90.24	327	IAmb	IAmb	07 13 41.2				
NBCL	comp=Z,63nm,1.5s Cascavel-CE		90.34	265	eP	P	07 13 33.3	+0.9			
FFC	Flin Flon		90.39	344	P	P	07 13 31.7	-0.3			
FFC	comp=Z,56nm,1.6s				IAmb	IAmb	07 13 50.5				
FFC	Flin Flon		90.39	344	IAMs_20	IAMs_20	07 55 50.2				
FFC	comp=Z,2µm,20.0s Flin Flon		90.39	344	P	P	07 13 31.7	-0.3			
FFC	comp=Z,56nm,1.6s				pmax	pmax					
FFC	comp=Z,2µm,20.0s				MLR	MLR					
S31K	Pelican		90.45	3	P	P	07 13 31.9	-0.1			
S31K	baz=355				S	S	07 24 26.6	+1.1			
L59A	baz=355 Walton		90.46	322	IAmb	IAmb	07 13 48.7				
SADO	comp=Z,92nm,1.8s Sadowa		90.62	326	IAmb	IAmb	07 13 42.9				
SADO	comp=Z,76nm,1.5s Sadowa		90.62	326	LR	LR	07 57 15.3				
S34M	comp=Z,904nm,18.2s,baz=35,slow=38 Telegraph Cree		90.63	0	IAmb	IAmb	07 13 44.0				
S34M	comp=Z,88nm,1.8s Telegraph Cree		90.63	0	P	P	07 13 34.6	+1.6			
S34M	baz=359				S	S	07 24 27.9	+0.7			
S32K	baz=359 Killisnoo		91.01	2	P	P	07 13 36.1	+1.4			
J55A	baz=356 Hilton		91.09	324	P	P	07 13 35.2	-0.2			
J55A	comp=Z,42nm,1.1s				IAmb	IAmb	07 13 45.0				
SIT	Sitka		91.39	3	P	P	07 13 37.8	+1.3			
SIT	baz=356				S	S	07 24 35.5	+1.4			
NBAN	baz=356 Anadia - AL		91.48	260	eP	P	07 13 37.6	-0.1			
T35M	Bob Quinn		91.57	360	IAMs_20	IAMs_20	08 00 20.7				
T35M	comp=Z,1µm,20.0s Bob Quinn		91.57	360	P	P	07 13 38.2	+0.9			
T35M	baz=0.2				S	S	07 24 35.6	-0.3			
T33K	baz=0.2 Petersburg		91.71	1	P	P	07 13 38.7	+0.7			
TBO	baz=358 Thunder Bay		91.90	334	P	P	07 13 38.7	-0.4			

WRAK	Wrangell Islan		92.12	1	P	P	07 13 40.8	+0.9			
WRAK	baz=358				S	S	07 24 39.3	-1.4			
NBPB	baz=358 Pedra_Branca-C		92.12	265	eP	P	07 13 41.4	+0.8			
JAY	Jayapura		92.32	92	LR	LR	07 59 40.1				
U33K	comp=Z,773nm,21.6s,baz=330,slow=38 Whale Pass		92.41	1	P	P	07 13 40.7	-0.4			
U33K	baz=358				S	S	07 24 42.6	-0.7			
EPLO	baz=358 Experimental L		92.55	337	IAMs_20	IAMs_20	07 55 55.6				
U35K	comp=Z,3µm,21.0s Hyder		92.63	360	P	P	07 13 43.0	+0.8			
ULM	baz=0.4 Lac du Bonnet		92.74	339	IAmb	IAmb	07 13 49.6				
ULM	comp=Z,22nm,0.8s Lac du Bonnet		92.74	339	P	P	07 13 41.9	-1.0			
ULM	comp=Z,12nm,0.9s,baz=32,slow=4.2,SNR=16				PKPPKP	P'P'df	07 39 04.2	-5.9			
ULM	comp=Z,2.0nm,0.7s,baz=287,slow=5.2,SNR=3.0				LR	LR	07 56 52.0				
CRAG	comp=Z,2µm,20.7s,baz=12,slow=36 comp=Z,12nm,0.9s Craig		93.05	2	P	P	07 13 43.9	-0.2			
CRAG	baz=358				S	S	07 24 48.2	-0.9			
V35K	baz=358 Ketchikan		93.22	1	P	P	07 13 44.7	-0.2			
V35K	comp=Z,29nm,1.4s				IAmb	IAmb	07 13 55.2				
V35K	Ketchikan		93.22	1	P	P	07 13 45.5	+0.6			
V35K	baz=359				S	S	07 24 50.6	+0.1			
EYMN	baz=359 Ely		93.25	335	P	P	07 13 45.7	+0.4			
EYMN	Ely		93.25	335	IAMs_20	IAMs_20	07 55 53.0				
SDMD	comp=Z,2µm,21.0s Soldier's Deli		93.41	321	IAMs_20	IAMs_20	07 51 36.4				
ALLY	comp=Z,462nm,20.0s Allegheny Colle		93.44	325	IAmb	IAmb	07 13 57.4				
F42A	comp=Z,45nm,1.1s Maple Grove Fa		93.79	332	IAmb	IAmb	07 13 57.5				
COWI	comp=Z,47nm,1.4s Conover		93.91	333	IAmb	IAmb	07 13 58.1				
P57A	comp=Z,52nm,1.1s Homestead Farm		93.97	322	IAMs_20	IAMs_20	08 02 04.3				
E38A	comp=Z,1µm,19.0s The Farm, Brul		94.41	334	IAmb	IAmb	07 14 00.7				
N53A	comp=Z,25nm,1.1s Lisbon		94.42	325	IAmb	IAmb	07 14 02.1				
AGMN	comp=Z,51nm,1.3s Agassiz Nation		94.45	338	P	P	07 13 50.2	-0.6			
AGMN	comp=Z,2µm,20.0s				IAMs_20	IAMs_20	07 57 50.7				
O54A	Avella		94.67	324	IAmb	IAmb	07 14 02.0				
Q56A	comp=Z,47nm,1.4s Snyder Ridge,		94.91	322	IAMs_20	IAMs_20	08 01 36.1				
O53A	comp=Z,1µm,19.0s New Philadelph		95.03	324	IAmb	IAmb	07 14 02.8				
O52A	comp=Z,59nm,1.4s Adamsville		95.44	325	IAmb	IAmb	07 14 06.0				
P53A	comp=Z,22nm,0.9s Whipple		95.70	324	P	P	07 13 56.7	0.0			
P52A	Corning		95.96	325	IAmb	IAmb	07 14 08.3				
MDND	comp=Z,36nm,1.0s Maddock		96.00	340	IAMs_20	IAMs_20	07 57 55.8				
SPMN	comp=Z,2µm,22.0s Marine on St.		96.04	334	IAMs_20	IAMs_20	07 59 20.0				
WRA	comp=Z,2µm,20.0s Warramunga Arr		96.06	110	P	P	07 13 57.1	-1.5			
WRA	comp=Z,0.8nm,0.7s,baz=314,slow=4.1,SNR=8.7				PKKPbc	PKKPdf	07 30 47.1	+0.3			
WRA	comp=Z,1.2nm,0.5s,baz=122,slow=2.7,SNR=12				LR	LR	08 03 17.3				
I40A	comp=Z,238nm,18.2s,baz=304,slow=39 comp=Z,0.8nm,0.7s Norwalk		96.33	332	IAMs_20	IAMs_20	07 57 40.8				
BBB	comp=Z,2µm,21.0s Bella Bella		96.35	359	LR	LR	08 07 00.8				
Q52A	comp=Z,370nm,19.2s,baz=347,slow=41 Bidwell		96.54	324	IAmb	IAmb	07 14 07.0				
O49A	comp=Z,22nm,0.9s Covington		96.59	326	P	P	07 14 00.5	-0.3			
O49A	comp=Z,41nm,1.2s				IAmb	IAmb	07 14 11.6				
DGMT	Dagmar		96.70	343	IAMs_20	IAMs_20	07 58 27.9				
F33A	comp=Z,2µm,22.0s 5 Mile Ranch,		96.74	337	IAMs_20	IAMs_20	07 58 32.4				
O48B	comp=Z,2µm,20.0s Farmland		96.92	327	P	P	07 14 02.1	-0.2			
O48B	comp=Z,35nm,1.4s				IAmb	IAmb	07 14 17.6				
I37A	Lemond, Waseca		97.30	334	IAMs_20	IAMs_20	07 58 21.3				
W59A	comp=Z,2µm,20.0s Clinton		97.38	319	IAMs_20	IAMs_20	08 00 54.6				
E28A	comp=Z,2µm,19.0s Huff		97.48	340	IAMs_20	IAMs_20	07 58 27.7				
L42A	comp=Z,2µm,21.0s Oliver, Polo		97.51	331	IAmb	IAmb	07 14 15.7				
L42A	comp=Z,49nm,1.7s				IAMs_20	IAMs_20	07 59 59.2				
MDP	comp=Z,2µm,20.0s Montagnes des		97.60	281	LR	LR	08 02 28.0				
ASAR	comp=Z,1µm,19.2s,baz=62,slow=38 Alice Springs		97.64	113	P	P	07 14 04.8	-0.9			
ASAR	comp=Z,1.0nm,0.9s,baz=305,slow=4.7,SNR=17				PP	PP	07 18 04.7	+0.8			
ASAR	comp=Z,2.1nm,1.0s,baz=325,slow=7.0,SNR=4.2				PKKPbc	PKKPbc	07 30 40.7	-0.6			
ASAR	comp=Z,0.4nm,0.6s,baz=127,slow=3.7,SNR=6.9				LR	LR	08 03 08.9				
R50A	comp=Z,405nm,19.0s,baz=302,slow=38 comp=Z,1.0nm,0.9s Paris		98.08	325	IAMs_20	IAMs_20	08 06 41.8				
ABD	comp=Z,1µm,19.0s La Joyeuse, An		98.34	295	IAMs_20	IAMs_20	08 05 59.1				
EGMT	comp=Z,1µm,22.0s Eagleton		98.39	346	IAMs_20	IAMs_20	08 04 03.5				
CBE	comp=Z,2µm,20.0s Ff, Capester		98.67	295	IAMs_20	IAMs_20	08 03 09.1				
GDHS	comp=Z,1µm,20.0s Morne Mazeau,		98.67	295	IAMs_20	IAMs_20	08 02 24.7				
ECSD	comp=Z,1µm,21.0s EROS Data Cent		98.70	336	IAMs_20	IAMs_20	07 59 11.3				
BBGH	comp=Z,2µm,20.0s Gun Hill		98.78	291	IAMs_20	IAMs_20	08 07 06.0				
SUSD	comp=Z,2µm,19.0s Miller		98.86	338	IAMs_20	IAMs_20	08 00 14.3				
LAO	comp=Z,2µm,19.0s LASA Array		98.86	343	IAMs_20	IAMs_20	08 04 26.1				
SCIA	comp=Z,1µm,21.0s State Center		99.02	333	IAMs_20	IAMs_20	07 59 44.3				
SVN	comp=Z,1µm,20.0s Savane Anatole		99.05	294	IAMs_20	IAMs_20	08 07 08.1				
FDF	comp=Z,1µm,19.0s Fort de France		99.10	294	IAMs_20	IAMs_20	08 07 52.4				
NEW	comp=Z,962nm,19.0s Newport		99.40	351	P	Pdif	07 14 12.8	-0.5			
NEW	Newport		99.40	351	LR	LR	08 01 08.9				
NEW	comp=Z,2µm,19.9s,baz=2.5,slow=37 Newport		99.40	351	P	Pdif	07 14 12.8	-0.5			
NEW	comp=Z,12nm,1.2s				pmax	pmax					
NEW	comp=Z,2µm,21.0s				MLR	MLR					
B08A	Colville Reser		99.58	352	Pdif	Pdif	07 14 15.0	+1.0			
B08A	comp=Z,2µm,20.0s				IAMs_20	IAMs_20	08 01 22.8				
TKL	Tuckaleechee C		99.85	323	LR	LR	08 01 26.8				
OVMT	comp=Z,936nm,20.8s,baz=38,slow=37 Ovando		99.93	348	Pdif	Pdif	07 14 14.8	-0.9			
MSO	Missoula		100.32	349	IAMs_20	IAMs_20	08 06 01.5				
HUMP	comp=Z,1µm,20.0s Col San Antoni		100.64	299	IAMs_20	IAMs_20	07 58 05.6				
K30B	comp=Z,440nm,20.0s Basset		100.65	337	IAMs_20	IAMs_20	08 01 30.8				
SYO	comp=Z,2µm,20.0s Syowa Base		100.78	184	jPP	PP	07 18 27.0	+0.3			
SYO	Syowa Base		100.78	184	ePKiKP	PKiKP	07 18 44.0	-0.1			
LTY	Liberty		100.81	353	IAMs_20	IAMs_20	08 04 12.4				
W50A	comp=Z,1µm,19.0s Signal Mountai		100.99	324	IAMs_20	IAMs_20	08 03 20.9				
RLMT	comp=Z,2µm,22.0s Red Lodge		101.05	345	IAMs_20	IAMs_20	08 03 18.9				
BOZ	comp=Z,2µm,19.0s Bozeman (W)		101.09	347	IAMs_20	IAMs_20	08 02 36.9				
	comp=Z,1µm,20.0s										

P38A	**Dawn**	**101.09**	**332**	IAMs_20	IAMs_20	08 02 21.0		
	comp=Z,2µm,19.0s							
WAH2	**Wahluke Slope**	**101.19**	**352**	IAMs_20	IAMs_20	08 02 21.4		
	comp=Z,2µm,21.0s							
E09A	**Wood Farm, Sta**	**101.25**	**351**	IAMs_20	IAMs_20	08 03 08.1		
	comp=Z,2µm,22.0s							
BGNE	**Belgrade**	**101.28**	**336**	IAMs_20	IAMs_20	08 00 41.7		
	comp=Z,1µm,20.0s							
E07A	**Sunnyside**	**101.42**	**353**	IAMs_20	IAMs_20	08 02 29.3		
	comp=Z,2µm,20.0s							
MXC	**Moxie City**	**101.44**	**353**	IAMs_20	IAMs_20	08 06 51.1		
	comp=Z,1µm,19.0s							
DLMT	**Dillon**	**101.50**	**347**	IAMs_20	IAMs_20	08 07 22.8		
	comp=Z,1µm,19.0s							
HAWA	**Hanford**	**101.54**	**352**	IAMs_20	IAMs_20	08 02 20.7		
	comp=Z,2µm,21.0s							
YMP	**Mirror Lake Pl**	**101.60**	**345**	IAMs_20	IAMs_20	07 59 54.6		
	comp=Z,1µm,21.0s							
R40A	**Maddies Statio**	**101.70**	**330**	IAMs_20	IAMs_20	08 02 49.2		
	comp=Z,2µm,20.0s							
YHL	**Hebgen Lake**	**101.71**	**346**	IAMs_20	IAMs_20	08 02 58.5		
	comp=Z,2µm,22.0s							
YPT	**Yellepit**	**101.81**	**352**	IAMs_20	IAMs_20	08 02 25.9		
	comp=Z,2µm,21.0s							
YFT	**Old Faithful**	**102.02**	**346**	IAMs_20	IAMs_20	08 03 24.7		
	comp=Z,2µm,22.0s							
GRTK	**Grand Turk**	**102.30**	**305**	IAMs_20	IAMs_20	08 04 36.2		
	comp=Z,1µm,21.0s							
PLID	**Pearl Lake**	**102.35**	**350**	IAMs_20	IAMs_20	08 02 45.2		
	comp=Z,2µm,20.0s							
HALT	**Halls**	**102.38**	**327**	IAMs_20	IAMs_20	08 06 14.3		
	comp=Z,963nm,20.0s							
G08A	**Pilot Rock**	**102.56**	**352**	IAMs_20	IAMs_20	08 04 20.7		
	comp=Z,2µm,22.0s							
K22A	**Casper**	**102.71**	**342**	IAMs_20	IAMs_20	08 09 04.1		
	comp=Z,1µm,18.0s							
BMO	**Blue Mountains**	**102.77**	**350**	IAMs_20	IAMs_20	08 03 21.3		
	comp=Z,2µm,21.0s							
LOHW	**Long Hollow**	**102.78**	**345**	IAMs_20	IAMs_20	08 08 00.6		
	comp=Z,1µm,20.0s							
HOOD	**Mount Hood Mea**	**102.82**	**354**	IAMs_20	IAMs_20	08 02 07.5		
	comp=Z,2µm,21.0s							
FXWY	**Fox Creek**	**102.84**	**346**	IAMs_20	IAMs_20	08 03 23.4		
	comp=Z,2µm,21.0s							
TPAW	**Teton Pass**	**102.97**	**346**	IAMs_20	IAMs_20	08 07 12.7		
	comp=Z,1µm,20.0s							
HEBO	**Mount Hebo**	**103.11**	**355**	IAMs_20	IAMs_20	08 09 42.0		
	comp=Z,2µm,22.0s							
BW06	**Boulder Array**	**103.35**	**344**	IAMs_20	IAMs_20	08 05 16.8		
	comp=Z,1µm,22.0s							
PDAR	**Pinedale Array**	**103.35**	**344**	Pdiff	**Pdif**	**07 14 29.9**	**-1.3**	
	comp=Z,0.2nm,0.6s,baz=29,slow=5.1,SNR=1.8							
OXF	**Oxford**	**103.55**	**326**	IAMs_20	IAMs_20	08 02 44.4		
	comp=Z,1µm,20.0s							
HLID	**Hailey**	**103.57**	**348**	IAMs_20	IAMs_20	08 04 50.5		
	comp=Z,1µm,22.0s							
AHID	**Auburn Hatcher**	**103.69**	**345**	IAMs_20	IAMs_20	08 07 06.9		
	comp=Z,2µm,18.0s							
I05D	**Terrebonne, OR**	**103.77**	**353**	IAMs_20	IAMs_20	08 03 44.5		
	comp=Z,1µm,21.0s							
I07A	**Izee**	**103.82**	**352**	IAMs_20	IAMs_20	08 03 29.9		
	comp=Z,2µm,22.0s							
MFID	**Camas Ranch**	**103.95**	**349**	IAMs_20	IAMs_20	08 03 35.6		
	comp=Z,2µm,21.0s							
Z47A	**Carrollton**	**103.96**	**324**	IAMs_20	IAMs_20	08 05 50.5		
	comp=Z,2µm,21.0s							
250A	**Grady**	**104.02**	**322**	IAMs_20	IAMs_20	08 05 05.2		
	comp=Z,2µm,19.0s							
CBKS	**Cedar Bluff**	**104.14**	**336**	IAMs_20	IAMs_20	08 05 52.4		
	comp=Z,2µm,21.0s							
WHAR	**Wooly Hollow**	**104.23**	**329**	IAMs_20	IAMs_20	08 06 22.3		
	comp=Z,1µm,21.0s							
PINE	**Pine Mountain**	**104.27**	**353**	IAMs_20	IAMs_20	08 04 07.8		
	comp=Z,2µm,20.0s							
BDFB	**Brasilia**	**104.36**	**260**	PKiKP	**PKiKP**	**07 18 52.2**	**-0.2**	
	comp=Z,8.6nm,1.0s,baz=86,slow=6.0,SNR=4.9							
J08A	**Circle Bar Ran**	**104.40**	**351**	IAMs_20	IAMs_20	08 07 40.4		
	comp=Z,2µm,20.0s							
I03D	**Drain, OR**	**104.58**	**355**	IAMs_20	IAMs_20	08 03 55.1		
	comp=Z,1µm,21.0s							
J05D	**Fort Rock, OR**	**104.80**	**353**	IAMs_20	IAMs_20	08 04 37.9		
	comp=Z,1µm,21.0s							
HWUT	**Hardware Ranch**	**104.90**	**345**	IAMs_20	IAMs_20	08 02 02.8		
	comp=Z,2µm,22.0s							
J04A	**Umpqua Nationa**	**104.93**	**354**	IAMs_20	IAMs_20	08 09 55.3		
	comp=Z,1µm,19.0s							
KSCO	**Kaye Shedlock'**	**104.94**	**338**	IAMs_20	IAMs_20	08 04 07.2		
	comp=Z,2µm,20.0s							
HVU	**Hansel Valley**	**104.98**	**346**	IAMs_20	IAMs_20	08 03 51.0		
	comp=Z,2µm,22.0s							
TUL3	**Leonard**	**105.20**	**331**	IAMs_20	IAMs_20	08 04 47.6		
	comp=Z,2µm,20.0s							
K05A	**Summer Lake**	**105.32**	**353**	IAMs_20	IAMs_20	08 04 42.5		
	comp=Z,2µm,20.0s							
WVOR	**Wild Horse Val**	**105.33**	**351**	IAMs_20	IAMs_20	08 05 50.0		
	comp=Z,2µm,22.0s							
TCUT	**Toone Canyon**	**105.33**	**345**	IAMs_20	IAMs_20	08 09 51.4		
	comp=Z,2µm,20.0s							
MIAR	**Mount Ida**	**105.43**	**329**	IAMs_20	IAMs_20	08 05 00.9		
	comp=Z,2µm,19.0s							
K04D	**Chiloquin, OR**	**105.50**	**353**	IAMs_20	IAMs_20	08 07 16.5		
	comp=Z,2µm,22.0s							
O20A	**White River Ci**	**105.52**	**342**	IAMs_20	IAMs_20	08 09 27.3		
	comp=Z,2µm,20.0s							
OK052	**Battle Ridge R**	**105.53**	**332**	IAMs_20	IAMs_20	08 11 13.4		
	comp=Z,2µm,20.0s							
BSUT	**Blindstream Ca**	**105.75**	**345**	IAMs_20	IAMs_20	08 10 00.3		
	comp=Z,1µm,18.0s							
Q24A	**Divide**	**105.76**	**340**	IAMs_20	IAMs_20	08 06 45.8		
	comp=Z,1µm,19.0s							
CTU	**Camp Tracy**	**105.82**	**345**	IAMs_20	IAMs_20	08 09 45.1		
	comp=Z,2µm,20.0s							
BGU	**Big Grassy Mou**	**105.86**	**346**	IAMs_20	IAMs_20	08 05 43.3		
	comp=Z,1µm,21.0s							
OK029	**Liberty Lake**	**105.96**	**333**	IAMs_20	IAMs_20	08 05 43.7		
	comp=Z,2µm,20.0s							
L04D	**Klamath Falls**	**105.96**	**354**	IAMs_20	IAMs_20	08 05 19.6		
	comp=Z,1µm,20.0s							
TULE	**Intermountain**	**106.13**	**353**	IAMs_20	IAMs_20	08 07 37.6		
	comp=Z,2µm,22.0s							
Z41A	**Richland Creek**	**106.17**	**328**	IAMs_20	IAMs_20	08 06 35.5		
	comp=Z,2µm,21.0s							
FNO	**Franklin**	**106.41**	**332**	IAMs_20	IAMs_20	08 04 23.7		
	comp=Z,1µm,21.0s							
MPU	**Maple Canyon**	**106.44**	**345**	IAMs_20	IAMs_20	08 04 19.6		
	comp=Z,1µm,22.0s							
ELK	**Elko**	**106.45**	**348**	IAMs_20	IAMs_20	08 10 32.8		
	comp=Z,1µm,20.0s							
P18A	**Preston Nutter**	**106.49**	**344**	IAMs_20	IAMs_20	08 07 09.0		
	comp=Z,2µm,21.0s							
DUG	**Dugway, Tooele**	**106.52**	**346**	IAMs_20	IAMs_20	08 05 41.6		
	comp=Z,2µm,21.0s							
VAO	**Valinhos**	**107.00**	**253**	IAMs_20	IAMs_20	08 02 51.0		
	comp=Z,3µm,20.0s							
TMUT	**Trail Mountain**	**107.03**	**344**	IAMs_20	IAMs_20	08 09 32.3		
	comp=Z,1µm,21.0s							
SRU	**San Rafael Swe**	**107.05**	**344**	IAMs_20	IAMs_20	08 06 16.8		
	comp=Z,1µm,19.0s							
Z38A	**Mt. Pleasant**	**107.13**	**329**	IAMs_20	IAMs_20	08 07 38.0		
	comp=Z,1µm,18.0s							
T25A	**Trinidad**	**107.21**	**338**	IAMs_20	IAMs_20	08 05 31.5		
	comp=Z,2µm,21.0s							
S22A	**4UR Ranch, Cre**	**107.37**	**341**	IAMs_20	IAMs_20	08 05 26.6		
	comp=Z,2µm,21.0s							
Q16A	**Castle Valley**	**107.38**	**344**	IAMs_20	IAMs_20	08 07 27.6		
	comp=Z,1µm,20.0s							
STKA	**Stephens Creek**	**107.57**	**117**	PKiKP	**PKiKP**	**07 18 58.4**	**+0.6**	
	comp=Z,1.8nm,0.7s,baz=318,slow=8.7,SNR=3.8							
SPB	**Sao Paulo**	**107.65**	**253**	IAMs_20	IAMs_20	08 02 59.2		
	comp=Z,2µm,19.0s							
O03E	**Paynes Creek**	**107.82**	**353**	IAMs_20	IAMs_20	08 08 40.3		
	comp=Z,2µm,21.0s							
SPR3	**Spring Creek 3**	**107.98**	**347**	IAMs_20	IAMs_20	08 05 36.2		
	comp=Z,1µm,21.0s							
CAMR	**Camarioca**	**108.00**	**313**	IAMs_20	IAMs_20	07 48 49.6		
	comp=Z,995nm,22.0s							
Z35A	**Perchaven, San**	**108.03**	**331**	IAMs_20	IAMs_20	08 06 45.6		
	comp=Z,1µm,21.0s							
PAHR	**Pah Rah Range**	**108.11**	**351**	IAMs_20	IAMs_20	08 07 50.5		
	comp=Z,2µm,22.0s							
NATX	**Nacogdoches**	**108.27**	**328**	IAMs_20	IAMs_20	08 08 26.1		
	comp=Z,1µm,22.0s							
PSUT	**Pine Spring**	**108.33**	**346**	IAMs_20	IAMs_20	08 08 08.6		
	comp=Z,1µm,19.0s							
AMTX	**Amarillo**	**108.35**	**335**	IAMs_20	IAMs_20	08 06 27.8		
	comp=Z,1µm,19.0s							
TROLL	**Troll, Antarti**	**108.54**	**194**	⇑P	**PKiKP**	**07 18 59.8**	**+1.2**	
	comp=Z,96nm,0.5s							
MPK	**Martis Peak**	**108.60**	**351**	IAMs_20	IAMs_20	08 08 09.6		
	comp=Z,2µm,20.0s							
Q09A	**Carvers**	**108.64**	**349**	IAMs_20	IAMs_20	08 09 05.7		
	comp=Z,2µm,21.0s							
R11B	**Troy Canyon, C**	**108.84**	**348**	IAMs_20	IAMs_20	08 06 26.1		
	comp=Z,1µm,20.0s							
RYN	**Ryan**	**109.05**	**350**	IAMs_20	IAMs_20	08 06 59.5		
	comp=Z,1µm,22.0s							
AFDM	**Forest Hills D**	**109.06**	**352**	IAMs_20	IAMs_20	08 09 33.6		
	comp=Z,1µm,20.0s							
SZCU	**Shurtz Canyon**	**109.08**	**345**	IAMs_20	IAMs_20	08 07 04.4		
	comp=Z,2µm,22.0s							
CCUT	**Cedar City**	**109.18**	**346**	IAMs_20	IAMs_20	08 11 00.0		
	comp=Z,2µm,20.0s							
NVAR	**Mina Array Bea**	**109.21**	**350**	PKiKP	**PKiKP**	**07 19 00.6**	**-0.6**	
	comp=Z,1.3nm,0.6s,baz=4.4,slow=0.8,SNR=11							
NVAR				PKKP	**PKKPdf**	**07 30 18.5**	**-2.9**	
	comp=Z,1.4nm,0.7s,baz=198,slow=3.0,SNR=3.6							
WAKR	**Walker**	**109.30**	**351**	IAMs_20	IAMs_20	08 11 00.1		
	comp=Z,1µm,20.0s							
LHV	**Little Huntoon**	**109.42**	**350**	IAMs_20	IAMs_20	08 07 11.2		
	comp=Z,1µm,22.0s							
SNAA	**Sanae**	**109.45**	**195**	⇑P	**PKiKP**	**07 19 00.7**	**+0.6**	
	comp=Z,40nm,0.8s							
SNAA	**Sanae**	**109.45**	**195**	PKiKP	**PKiKP**	**07 18 59.9**	**-0.3**	
	comp=Z,0.7nm,0.8s,baz=52,slow=8.0,SNR=2.1							
SNAA				PP	**PP**	**07 19 33.1**	**+2.1**	
	comp=Z,4.5nm,1.1s,baz=40,slow=7.0,SNR=4.6							
WELL	**Weller Preserv**	**109.53**	**352**	IAMs_20	IAMs_20	08 09 37.7		
	comp=Z,1µm,21.0s							
S11A	**Rachel**	**109.56**	**348**	IAMs_20	IAMs_20	08 10 48.0		
	comp=Z,1µm,19.0s							
MSTX	**Muleshoe**	**109.56**	**336**	IAMs_20	IAMs_20	08 05 41.8		
	comp=Z,2µm,21.0s							
KNB	**Kanab**	**109.57**	**345**	IAMs_20	IAMs_20	08 06 32.6		
	comp=Z,1µm,22.0s							
LCMT	**Little Creek M**	**109.67**	**345**	IAMs_20	IAMs_20	08 06 48.1		
	comp=Z,1µm,21.0s							
CMB	**Columbia Colle**	**109.89**	**352**	IAMs_20	IAMs_20	08 08 48.6		
	comp=Z,1µm,22.0s							
VNA1	**Neumayer--Stat**	**110.07**	**197**	⇑P	**PKiKP**	**07 19 02.9**	**+1.7**	
	comp=Z,4.9nm,0.9s							
DSP	**Deep Springs**	**110.20**	**349**	IAMs_20	IAMs_20	08 07 46.0		
	comp=Z,1µm,21.0s							
BUCR	**Buckhorn Ranch**	**110.21**	**351**	IAMs_20	IAMs_20	08 08 00.8		
	comp=Z,891nm,20.0s							
TPNV	**Topopah Spring**	**110.32**	**348**	IAMs_20	IAMs_20	08 09 29.2		
	comp=Z,1µm,21.0s							
HKT	**Hockley**	**110.33**	**328**	IAMs_20	IAMs_20	08 09 29.5		
	comp=Z,2µm,20.0s							
W18A	**Petrified Fore**	**110.64**	**342**	IAMs_20	IAMs_20	08 07 08.9		
	comp=Z,1µm,21.0s							
WUAZ	**Wupatki**	**110.67**	**343**	IAMs_20	IAMs_20	08 11 54.8		
	comp=Z,1µm,20.0s							
GWY	**Greenwater Val**	**111.14**	**348**	IAMs_20	IAMs_20	08 13 46.9		
	comp=Z,1µm,18.0s							
V12A	**Nelson**	**111.24**	**346**	IAMs_20	IAMs_20	08 10 01.7		
	comp=Z,2µm,19.0s							
X18A	**Snowflake**	**111.25**	**342**	IAMs_20	IAMs_20	08 07 38.1		
	comp=Z,1µm,19.0s							
JCT	**Junction City**	**111.56**	**332**	IAMs_20	IAMs_20	08 06 53.1		
	comp=Z,1µm,21.0s							
735A	**Kenedy**	**112.14**	**329**	IAMs_20	IAMs_20	08 09 38.7		
	comp=Z,2µm,20.0s							
MNTX	**Cornudas Mount**	**112.52**	**337**	IAMs_20	IAMs_20	08 07 39.1		
	comp=Z,2µm,21.0s							
EPT	**El Paso**	**112.82**	**338**	IAMs_20	IAMs_20	08 09 41.0		
	comp=Z,1µm,19.0s							
833A	**Chaparral WMA,**	**113.29**	**330**	IAMs_20	IAMs_20	08 05 40.9		
	comp=Z,1µm,21.0s							
TXAR	**Lajitas Array**	**114.08**	**334**	PKP	**PKiKP**	**07 19 09.4**	**-1.1**	
	comp=Z,1.4nm,0.7s,baz=64,slow=2.9,SNR=8.0							
TXAR				PKKPbc	**PKKPbc**	**07 29 50.9**	**-0.2**	
	comp=Z,0.7nm,0.9s,baz=184,slow=6.9,SNR=4.2							
CPBX	**Cerro Prieto**	**114.53**	**346**	IAMs_20	IAMs_20	07 51 13.8		
	comp=Z,1µm,18.0s							
TJX	**Tijuana**	**114.79**	**348**	IAMs_20	IAMs_20	08 11 27.5		
	comp=Z,1µm,20.0s							
CPUP	**Villa Florida**	**116.92**	**254**	PKP	**PKPdf**	**07 19 15.5**	**-0.2**	
	comp=Z,0.5nm,0.6s,baz=0.4,slow=4.2,SNR=3.3							
CRIN	**San Cristobal**	**119.26**	**310**	IAMs_20	IAMs_20	08 18 33.8		
	comp=Z,802nm,20.0s							
BELA	**Belgrano 2**	**119.62**	**194**		**PKiKP**	**07 19 19.8**	**+0.3**	
HUEH	**Huehuetenango**	**120.07**	**315**	IAMs_20	IAMs_20	08 13 17.9		
	comp=Z,1µm,20.0s							
OTAV	**Otavalo**	**121.44**	**292**	IAMs_20	IAMs_20	08 15 18.7		
	comp=Z,702nm,19.0s							
QSPA	**South Pole Qui**	**121.64**	**180**		**PKiKP**	**07 19 24.4**	**+0.6**	
QSPA	**South Pole Qui**	**121.64**	**180**	PKP	**PKPdf**	**07 19 22.7**	**-0.9**	
	comp=Z,20nm,1.1s,baz=335,slow=0.4,SNR=22							
QSPA				PKKPbc	**PKKPbc**	**07 29 24.5**	**-0.6**	
	comp=Z,1.3nm,0.7s,baz=182,slow=0.8,SNR=5.8							
LPAZ	**La Paz**	**121.71**	**270**	PKP	**PKPdf**	**07 19 24.1**	**-1.9**	
	comp=Z,4.0nm,0.9s,baz=132,slow=2.1,SNR=5.6							
LPAZ				PKKPbc	**PKKPab**	**07 29 26.8**	**+1.6**	
	comp=Z,0.8nm,0.7s,baz=198,slow=3.2,SNR=4.2							
DZM	**Mont Dzumac**	**123.61**	**97**	*e*LR	LR	07 57 40.6		
	comp=Z,1µm,23.4s							
TRQA	**Tornquist**	**124.63**	**243**		**PKiKP**	**07 19 31.6**	**+1.1**	
TRQA	**Tornquist**	**124.63**	**243**	PKIKP	**PKiKP**	**07 19 31.7**	**+1.1**	
VNDA	**Vanda**	**125.61**	**166**	PKP	**PKPdf**	**07 19 30.9**	**0.0**	
	comp=Z,2.6nm,1.0s,baz=282,slow=6.6,SNR=3.5							
SMAI	**San Martin Ant**	**128.99**	**206**		**PKiKP**	**07 19 39.1**	**+0.9**	
VA03	**San Esteban**	**129.93**	**252**	IAMs_20	IAMs_20	08 29 19.4		
	comp=Z,1µm,19.0s							
PEL	**Peldehue**	**130.15**	**252**		**PKiKP**	**07 19 42.3**	**+0.6**	
PEL	**Peldehue**	**130.15**	**252**	PKIKP	**PKiKP**	**07 19 42.3**	**+0.6**	
MT02	**Curacav**	**130.54**	**252**		**PKiKP**	**07 19 42.4**	**-0.1**	
MT09	**Talagante**	**130.56**	**251**	PKPdf	**PKPdf**	**07 19 41.1**	**-0.7**	
BO01	**Tunca**	**130.79**	**250**		**PKiKP**	**07 19 43.8**	**+0.8**	
PLCA	**Paso Flores**	**131.69**	**242**	PKhKP	PKPpre	07 19 37.1		
	comp=Z,1.2nm,1.0s,baz=88,slow=20,SNR=1.6							
PLCA				PKP	**PKPdf**	**07 19 44.0**	**+0.3**	
	comp=Z,12nm,1.1s,baz=360,slow=3.2,SNR=16							
PLCA				SKPbc	**SKPbc**	**07 23 07.5**	**-0.4**	
	comp=Z,35nm,1.1s,baz=78,slow=4.1,SNR=18							
PLCA	**Paso Flores**	**131.69**	**242**	PKIKP	**PKPdf**	**07 19 44.0**	**+0.3**	
TAOE	**Nuku Hiva Isla**	**155.46**	**24**	*e*LR	LR	08 12 36.2		
	comp=Z,2µm,24.0s							
PPT2	**Papeete2**	**157.67**	**55**	*e*LR	LR	08 13 31.3		
	comp=Z,1µm,25.8s							
PPT2				*e*LR	LR	08 13 33.1		
	comp=Z,1µm,26.5s							
TBI	**Tubuai**	**161.21**	**68**	*e*LR	LR	08 15 03.3		
	comp=Z,2µm,24.8s							
TBI				*e*LR	LR	08 15 08.5		
	comp=Z,5µm,24.0s							

NEIC ***08*** *07:04:00.4±1.7,37.80N±0.01×114.31W±0.02,h5km±1km, Error ellipse: s-maj=3.0km s-min=2.4km az=279.0*

REN 08 07:04:01.6±1.9,37.80N±0.01×114.301W±0.007, h8km±5km,ML2.3/6,ML2.6/100(NEIC), Error ellipse: s-maj=2.0km s-min=0.7km az=181.0, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ARUT	**Antelope Range**	**0.68**	**90**			Pg	07 04 14.9	+0.2
ICU	**Indian Springs**	**0.71**	**155**			Pg	07 04 15.3	0.0
ICU						Sg	07 04 25.0	+0.4
PRN	**Pahroc Range**	**0.71**	**237**			Pg	07 04 15.8	+0.4
PRN						Sg	07 04 25.0	+0.4
CCUT	**Cedar City**	**0.78**	**108**			Pg	07 04 17.0	+0.3
PSUT	**Pine Spring**	**0.81**	**25**			Pg	07 04 17.0	-0.3
PSUT						Sg	07 04 27.6	-0.3
PSUT				IAML			07 04 33.0	
	comp=N,157nm,0.3s							
PSUT				IAML			07 04 33.2	
	comp=E,152nm,0.3s							
SZCU	**Shurtz Canyon**	**0.98**	**101**			Pg	07 04 20.5	0.0
SZCU				IAML			07 04 38.5	
	comp=N,208nm,0.3s							
SZCU				IAML			07 04 41.4	
	comp=E,316nm,0.3s							
LCMT	**Little Creek M**	**1.15**	**133**			Pg	07 04 23.1	-0.6
LCMT				IAML			07 04 41.2	
	comp=E,95nm,0.1s							
LCMT				IAML			07 04 42.3	
	comp=N,88nm,0.2s							
R11B	**Troy Canyon, C**	**1.15**	**299**			Pg	07 04 23.3	-0.5
R11B				IAML			07 04 40.6	
	comp=N,92nm,0.4s							
R11B				IAML			07 04 41.2	
	comp=E,124nm,0.4s							
S11A	**Rachel**	**1.16**	**263**			Pg	07 04 23.6	-0.2
SPR3	**Spring Creek 3**	**1.20**	**359**			Pg	07 04 22.3	-2.4
SPR3				IAML			07 04 36.8	
	comp=E,165nm,0.4s							
SPR3				IAML			07 04 37.2	
	comp=N,209nm,0.5s							
Q12A	**Willow Creek R**	**1.31**	**342**		Pn		07 04 26.2	-0.2
KNB	**Kanab**	**1.41**	**123**		Pn		07 04 28.0	+0.2
SHPR	**Sheep Range**	**1.46**	**208**		Pn		07 04 28.2	-0.2
MCY	**Mercury**	**1.74**	**230**		Pn		07 04 31.8	-0.5
TPNV	**Topopah Spring**	**1.77**	**242**		Pn		07 04 32.3	-0.4
TPNV				IAML			07 05 00.3	
	comp=N,39nm,0.5s							
TPNV				IAML			07 05 01.2	
	comp=N,42nm,0.4s							
SDH	**Striped Hills**	**1.99**	**235**		Pn		07 04 35.4	-0.3
AMDNV	**Amargosa**	**2.08**	**230**		Pn		07 04 37.0	+0.3
WCT	**Wildcat Mounta**	**2.11**	**242**	Pn	Pn		07 04 37.3	+0.1
V12A	**Nelson**	**2.11**	**192**		Pn		07 04 37.6	+0.3
V12A				IAML			07 05 09.0	
	comp=E,27nm,0.8s							
V12A				IAML			07 05 09.2	
	comp=N,29nm,0.6s							
TPH	**Tonopah**	**2.33**	**278**		Pn	Pn	07 04 40.7	+0.3
GMN	**Gold Mountain**	**2.40**	**259**		Pn	Pn	07 04 41.6	+0.1
GMN				IAML			07 05 20.7	
	comp=N,39nm,0.6s							
GMN				IAML			07 05 21.5	
	comp=E,21nm,0.3s							
MZP	**Montezuma Peak**	**2.44**	**269**		Pn	Pn	07 04 42.7	+0.6
MZP				IAML			07 05 21.8	
	comp=E,18nm,0.3s							
GWY	**Greenwater Val**	**2.49**	**230**		Pn	Pn	07 04 42.3	-0.2
GWY				IAML			07 05 13.8	
	comp=E,25nm,0.4s							
GWY				IAML			07 05 27.8	
	comp=N,23nm,1.0s							
Q09A	**Carvers**	**2.49**	**295**		Pn	Pn	07 04 42.3	-0.3
Q09A				IAML			07 05 39.3	
	comp=N,44nm,0.6s							
MTPC	**Mountain Pass**	**2.52**	**204**		Pn	Pn	07 04 43.2	+0.2
GRAC	**Grapevine Rang**	**2.57**	**253**		Pn	Pn	07 04 45.0	+1.5
W13A	**Hualapai Mount**	**2.71**	**173**		Pn	Pn	07 04 46.5	+0.8
QSM	**Queen of Sheba**	**2.75**	**229**		Pn	Pn	07 04 46.1	0.0
QSM				IAML			07 05 07.0	
	comp=N,18nm,0.5s							
QSM				IAML			07 05 07.4	
	comp=E,18nm,0.5s							
HMU	**Henry Mountain**	**2.82**	**86**		Pn	Pn	07 04 47.4	+0.2
HMU				IAML			07 05 37.9	
	comp=E,22nm,0.8s							
HMU				IAML			07 05 41.3	
	comp=N,27nm,1.1s							
TMUT	**Trail Mountain**	**2.85**	**57**		Pn	Pn	07 04 47.8	+0.1
TMUT				IAML			07 05 51.9	
	comp=N,12nm,0.7s							
DSP	**Deep Springs**	**2.95**	**263**		Pn	Pn	07 04 49.2	+0.5
DSP				IAML			07 05 37.2	
	comp=E,13nm,0.8s							
DSP				IAML			07 05 38.6	
	comp=N,15nm,0.4s							
ELK	**Elko**	**3.03**	**346**		Pn	Pn	07 04 49.5	-0.6
MPU	**Maple Canyon**	**3.04**	**42**		Pn	Pn	07 04 48.3	-1.9
MPMC	**Manual Prospec**	**3.09**	**237**		Pn	Pn	07 04 48.7	-2.1
SRU	**San Rafael Swe**	**3.24**	**65**	Pn	Pn	Pn	07 04 50.9	-2.1
SRU				IAML			07 05 49.1	
	comp=E,11nm,0.9s							
WUAZ

ILBA	**Ilam Banvizeh**	**3.24**	**305**	*e*Pn	**Pn**	07 19 18.1	**+2.8**
ILBA				IAML		07 20 37.1	
	comp=Z,0.6nm,1.0s						
SNQR	**Sonqor, Kerman**	**3.39**	**335**	Pn	**Pn**	07 19 20.0	**+2.5**
IGHG	**Ghaleghazi**	**3.46**	**318**	Pn	**Pn**	07 19 20.4	**+2.0**
ISFB	**Sefidab**	**3.50**	**42**	Pn	**Pn**	07 19 19.9	**+1.2**
HGHA	**Hamedan- Ghaye**	**3.71**	**353**	Pn	**Pn**	07 19 23.4	**+1.6**
ILIN	**Lien**	**3.72**	**328**	Pn	**Pn**	07 19 24.0	**+2.0**
GLG1	**Gilan-e-Gharb**	**3.73**	**309**	Pn	**Pn**	07 19 23.7	**+1.8**
IDHR	**Dehrash**	**3.84**	**320**	Pn	**Pn**	07 19 25.0	**+1.5**
ANAR	**Anarak**	**3.92**	**68**	Pn	**Pn**	07 19 26.8	**+2.2**
KGS1	**Ghasr-e-Shirin**	**4.18**	**311**	Pn	**Pn**	07 19 29.4	**+1.3**
ICHK	**Chekchek**	**4.29**	**83**	Pn	**Pn**	07 19 31.2	**+1.4**
IDMV	**Damavand**	**4.37**	**30**	Pn	**Pn**	07 19 32.0	**+1.0**
DAMV	**Damavand**	**4.39**	**29**	*e*Pn	**Pn**	07 19 34.4	**+3.2**
DAMV				IAML		07 21 22.1	
	comp=Z,0.0nm,1.0s						
IMEH	**Mehriz**	**4.47**	**94**	Pn	**Pn**	07 19 34.7	**+2.4**
BHD	**Baghdad**	**4.48**	**291**	*e*Pn	Pn	07 19 38.0	+5.9
BHD				*e*Sn	**Sb**	07 20 32.0	**-4.9**
IGZV	**Ghazvin**	**4.63**	**8**	Pn	**Pn**	07 19 35.8	**+1.4**
ILAS	**Lasjerd**	**4.66**	**39**	Pn	**Pn**	07 19 35.6	**+0.8**
IFIR	**Firoozkooh**	**4.75**	**35**	Pn	**Pn**	07 19 37.9	**+1.7**
KLST	**Kelardasht - M**	**4.91**	**16**	Pn	**Pn**	07 19 39.8	**+1.4**
MZPU	**Pul - Mazandar**	**4.97**	**21**	Pn	**Pn**	07 19 41.5	**+2.4**
IANJ	**Anjilo**	**5.26**	**45**	Pn	**Pn**	07 19 44.2	**+1.1**
IKRK	**Kirkuk**	**5.54**	**312**	*e*Pn	Pn	07 19 53.0	+6.3
IKRK				*e*Sn	**Sn**	**07 20 58.5**	**+8.7**
IKRK				AML	AML	07 21 00.4	
	comp=N,113nm,0.3s						
IKRK				AML	AML	07 21 38.7	
	comp=E,207nm,0.5s						
IKIA	**Kiasar**	**5.66**	**38**	Pn	**Pn**	07 19 51.0	**+2.4**
ASF	**Jabal al Asfar**	**10.62**	**275**	Pn	**Pn**	**07 20 55.7**	**-0.8**
	comp=E,0.8nm,0.3s,baz=127,slow=10,SNR=1.6						
	comp=E,2.0nm,0.3s						
WSAR	**Wadi Sarin**	**11.82**	**134**	Pn	**Pn**	**07 21 11.6**	**-1.4**
	baz=325,slow=24,SNR=5.8						
WSAR				Sn	Sn	07 23 15.7	-8.6
	baz=248,slow=24						
MMAI	**Mount Meron Ar**	**11.88**	**280**	Pn	**Pn**	**07 21 12.4**	**-1.4**
	comp=E,0.4nm,0.3s,baz=268,slow=30,SNR=1.9						
	comp=E,1.2nm,0.5s						
BRTR	**Keskin Array B**	**15.02**	**306**	Pn	**Pn**	**07 21 59.6**	**+3.0**
	comp=E,0.5nm,0.3s,baz=130,slow=13,SNR=16						
	comp=E,3.9nm,0.6s						
AKTO	**Aktyubinsk**	**19.70**	**17**	P	**P**	**07 22 52.9**	**-0.4**
	comp=E,0.6nm,0.3s,baz=240,slow=7.5,SNR=4.0						
	comp=E,1.2nm,0.3s						
BELG	**Belogornoye**	**20.62**	**357**	P	**P**	**07 23 03.3**	**0.0**
	comp=E,16nm,0.7s,baz=220,slow=5.7,SNR=4.6						
	comp=E,16nm,0.7s						
IDI	**Anoyia**	**20.70**	**286**	P	**P**	**07 23 05.3**	**+0.8**
	comp=E,3.9nm,0.7s,baz=67,slow=14,SNR=6.4						
	comp=E,3.9nm,0.7s						
AKASG	**Malin Array Be**	**24.08**	**328**	P	**P**	**07 23 38.4**	**-1.0**
	comp=E,0.3nm,0.3s,baz=130,slow=7.4,SNR=9.7						
	comp=E,0.3nm,0.3s						
BVAR	**Borovoye Array**	**26.10**	**29**	P	**P**	**07 23 57.1**	**-0.6**
	comp=E,2.3nm,0.6s						
	comp=E,2.3nm,0.6s						
KURBB	**Kurchatov Arra**	**28.61**	**40**	P	**P**	**07 24 19.2**	**-1.0**
	comp=E,0.2nm,0.3s,baz=242,slow=9.8,SNR=2.3						
	comp=E,0.2nm,0.3s						
MKAR	**Makanchi Array**	**29.29**	**50**	P	**P**	**07 24 25.8**	**-0.5**
	comp=E,0.4nm,0.5s,baz=243,slow=10,SNR=5.0						
	comp=E,0.4nm,0.5s						
GERES	**GERESS Array B**	**31.73**	**313**	P	**P**	**07 24 47.1**	**-0.9**
	comp=E,0.3nm,0.5s,baz=139,slow=11,SNR=1.9						
	comp=E,0.3nm,0.5s						
FINES	**FINESS Array B**	**33.32**	**340**	P	**P**	**07 25 00.9**	**-0.7**
	comp=E,1.8nm,0.4s,baz=138,slow=10,SNR=18						
	comp=E,1.8nm,0.4s						
HFS	**Hagfors**	**36.87**	**331**	P	**P**	**07 25 31.5**	**-0.7**
	comp=E,3.3nm,0.3s,baz=125,slow=8.4,SNR=41						
	comp=E,3.3nm,0.3s						
NB2	**NORSAR Subarra**	**38.39**	**331**	P	**P**	**07 25 43.7**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=122,slow=8.6						
NOA	**NORSAR Array B**	**38.39**	**331**	P	**P**	**07 25 43.7**	**-1.4**
	comp=Z,3.5nm,0.2s,baz=122,slow=8.4,SNR=6.4						
	comp=Z,3.5nm,0.2s						
ARCES	**ARCESS Array B**	**40.12**	**347**	P	**P**	**07 25 58.9**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=163,slow=8.9,SNR=5.0						
	comp=Z,0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**46.42**	**94**	P	**P**	**07 26 50.2**	**-0.7**
	comp=Z,1.5nm,0.3s,baz=292,slow=8.3,SNR=2.4						
	comp=Z,1.5nm,0.3s						
TORD	**Torodi Ar. Bea**	**47.41**	**258**	P	**P**	**07 26 56.9**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=57,slow=9.7,SNR=4.5						
	comp=Z,0.7nm,0.3s						
SPITS	**Spitsbergen Ar**	**48.68**	**351**	P	**P**	**07 27 07.1**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=113,slow=9.7,SNR=5.3						
	comp=Z,0.7nm,0.5s						

*NEIC **08** 07:18:34.5±1.3, 35°.561N±0°.008×117°.377W±0°.009, h6km±2km, Error ellipse: s-maj=1.3km s-min=1.1km az=211.0*

PAS 08 07:18:34.6±1.3, 35°.546N±0°.007×117°.38W±0°.01, h2km±2km, ML3.3/29, ML3.3/164(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=99.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.02**	**151**		Pg	07 18 35.8	+0.5
CCCA				Sg	Sg	07 18 36.9	+1.1
LRMC	**Laurel Mtn Rad**	**0.26**	**255**		Pg	07 18 39.8	+0.2
LRMC				Sg	Sg	07 18 43.9	+0.9
LRMC				IAML		07 18 44.2	
	comp=N,9μm,0.2s						
LRMC				IAML		07 18 45.1	
	comp=E,10μm,0.4s						
CLC	**China Lake**	**0.32**	**327**	Pg	Pg	07 18 40.9	0.0
CLC				Sg	Sg	07 18 46.1	+1.0
SRTC	**Snort**	**0.34**	**296**		Pg	07 18 41.6	+0.5
SRTC					Sg	07 18 47.3	+1.8
TOW	**Tower One**	**0.41**	**310**		Pb	07 18 44.3	-0.4
DTP	**Desert Tortois**	**0.47**	**234**		Pg	07 18 43.6	-0.1
MPMC	**Manual Prospec**	**0.52**	**350**		Pg	07 18 44.4	-0.3
MPMC					Sg	07 18 51.9	+0.5
MPMC				IAML		07 18 58.5	
	comp=E,1μm,0.7s						
WNMM	**Nine Mile Cany**	**0.52**	**305**		Pg	07 18 44.8	+0.2
GSC	**Goldstone, Bar**	**0.53**	**117**	Pg	Pg	07 18 45.0	+0.2
GSC				Sg	Sg	07 18 52.3	+0.7
GSC				IAML		07 18 52.7	
	comp=N,4μm,0.5s						
GSC				IAML		07 18 55.0	
	comp=E,3μm,0.7s						
WVPM	**Volcano Peak E**	**0.54**	**319**		Pg	07 18 44.3	-0.7
QSM	**Queen of Sheba**	**0.59**	**45**		Pg	07 18 45.9	0.0
QSM				Sg	Sg	07 18 54.0	+0.4
QSM				IAML		07 18 54.8	
	comp=E,1μm,0.9s						
QSM				IAML		07 18 59.2	
	comp=N,2μm,0.7s						
WBSM	**Bird Springs**	**0.62**	**269**		Pg	07 18 46.5	-0.1
WBSM					Sg	07 18 55.4	+0.8
WRVM	**Rose V. Centra**	**0.62**	**318**		Pg	07 18 46.7	+0.1
CCAC	**Calif City Air**	**0.65**	**233**		Pg	07 18 47.1	0.0
MFS	**McCloud Flat S**	**0.69**	**326**		Pg	07 18 47.8	-0.1
MFS					Sg	07 18 57.6	+0.7
HYS	**Haystack Butte**	**0.70**	**193**		Pg	07 18 47.6	-0.4
HYS					Sg	07 18 57.9	+0.8
WORM	**Onyx Ranch**	**0.72**	**282**		Pg	07 18 48.1	-0.4
RRX	**Edison Barstow**	**0.74**	**155**		Pg	07 18 48.8	0.0
WHFM	**Hanning Flat**	**0.81**	**281**		Pg	07 18 49.7	-0.4
EDW2	**Edwards Air Fo**	**0.83**	**217**		Pg	07 18 50.1	-0.5
GWY	**Greenwater Val**	**0.86**	**42**	Pg	Pg	07 18 51.0	-0.2
GWY				Sg	Sg	07 18 51.6	-0.7
GWY				IAML		07 19 05.3	
	comp=E,2μm,0.8s						
GWY				IAML		07 19 05.8	
	comp=N,2μm,1.0s						
ISA	**Isabella, Lake**	**0.90**	**278**		Pg	07 18 51.4	-0.5
ISA				Sg	Sg	07 19 03.4	-0.2
ISA				IAML		07 19 06.6	
	comp=N,724nm,0.5s						
SBB	**Saddle Back Bu**	**0.93**	**203**		Pg	07 18 52.0	-0.4
TPO	**Tropico Hills**	**0.96**	**227**		Pg	07 18 52.7	-0.4
TPO				Sg	Sg	07 19 05.8	+0.3
WASM	**Alta Sierra Ca**	**0.98**	**282**		Pg	07 18 52.9	-0.5
CWC	**Cottonwood Cre**	**1.06**	**328**		Pg	07 18 54.6	-0.3
CGO	**Cerro Gordo**	**1.06**	**341**		Pg	07 18 54.2	-0.8
HEC	**Hector,Ludlow**	**1.11**	**130**		Pg	07 18 55.7	-0.3
HEC					Sg	07 19 10.4	-0.1
TEJ	**El Tejon**	**1.12**	**254**		Pg	07 18 55.0	-1.1
DSCC	**Desert Studies**	**1.12**	**111**		Pg	07 18 55.4	-0.6
ALPC	**Antelope**	**1.14**	**222**		Pb	07 18 57.1	0.0
LRRC	**Littlerock Res**	**1.15**	**208**		Pg	07 18 56.1	-0.5
HOLC	**Holcomb Ridge**	**1.15**	**200**		Pg	07 18 56.3	-0.4
LEOC	**Leona Valley**	**1.19**	**220**		Pg	07 18 57.5	+0.1
CJV	**Casa Juvan**	**1.19**	**212**		Pb	07 18 58.0	-0.1
CJV					Sb	07 19 13.8	-0.1
TUQ	**Turquoise Moun**	**1.19**	**95**		Pg	07 18 56.8	-0.7
TUQ					Sb	07 19 13.5	-0.5
JNH	**Juniper Hills**	**1.19**	**203**		Pg	07 18 56.9	-0.6
JNH					Sg	07 19 12.7	-0.3
ARVC	**Arvin**	**1.26**	**251**		Pg	07 18 57.9	-0.9
AMDNV	**Amargosa**	**1.27**	**44**		Pg	07 18 58.4	-0.6
SIL	**Silver Peak**	**1.28**	**159**		Pg	07 18 58.5	-0.6
SPG2	**Springville 2**	**1.30**	**301**		Pg	07 18 58.6	-1.0
CHFC	**Chilao Flat St**	**1.32**	**204**		Pg	07 18 59.5	-0.4
CHFC					Sb	07 19 17.8	0.0
BFSC	**Mount Baldy Ra**	**1.32**	**190**		Pg	07 18 59.3	-0.7
BFSC				Sg	Sg	07 19 16.8	-0.4
BFSC				IAML		07 19 18.4	
	comp=E,444nm,0.9s						
BFSC				IAML		07 19 19.8	
	comp=N,507nm,1.0s						
BBRC	**Big Bear Solar**	**1.33**	**163**		Pg	07 18 59.6	-0.6
SSK	**Sunset Peak**	**1.36**	**191**		Pb	07 19 01.0	+0.1
WCT	**Wildcat Mounta**	**1.39**	**26**		Pn	07 18 59.9	-1.2
WCT					Sn	07 19 20.0	0.0
WCT				IAML		07 19 26.3	
	comp=E,328nm,1.0s						
VES	**Vestal, Richgr**	**1.42**	**282**		Pn	07 19 01.3	-0.2
MWC	**Mount Wilson**	**1.43**	**203**		Pn	07 19 01.2	-0.7
MWC				Sg	Sg	07 19 20.2	-0.5
MWC				IAML		07 19 22.3	
	comp=N,787nm,0.6s						
MWC				IAML		07 19 24.1	
	comp=E,810nm,1.2s						
OSI	**Osito Audit: C**	**1.44**	**230**		Pn	07 19 01.2	-0.7
OSI					Sg	07 19 20.8	-0.2
GRAC	**Grapevine Rang**	**1.45**	**0**		Pn	07 19 01.4	-0.6
GRAC				IAML		07 19 27.1	
	comp=N,751nm,0.9s						
GRAC				IAML		07 19 32.2	
	comp=E,493nm,0.7s						
SVD	**Seven Oaks Dam**	**1.45**	**171**		Pn	07 19 01.8	-0.2
SGV	**South Grapevin**	**1.46**	**11**		Pn	07 19 02.0	-0.1
MTPC	**Mountain Pass**	**1.49**	**92**		Pn	07 19 01.1	-1.5
MTPC				IAML		07 19 23.7	
	comp=E,331nm,0.2s						
MTPC				IAML		07 19 24.2	
	comp=N,421nm,0.9s						
PSRC	**Puddingstone R**	**1.49**	**194**		Pn	07 19 02.1	-0.3
GTM	**Goat Mountain**	**1.50**	**146**		Pn	07 19 02.8	0.0
PASC	**Pasadena Art C**	**1.52**	**206**		Pn	07 19 02.4	-0.5
PASC				IAML		07 19 26.7	
	comp=E,538nm,0.9s						
PASC				IAML		07 19 27.6	
	comp=N,367nm,0.5s						
PEC	**Perris**	**1.66**	**174**		Pn	07 19 04.4	-0.4
TPNV	**Topopah Spring**	**1.67**	**33**		Pn	07 19 04.3	-0.8
TPNV				IAML		07 19 32.1	
	comp=N,328nm,0.8s						
BLAC	**Blackrock camp**	**1.68**	**151**		Pn	07 19 04.8	-0.4
LCH	**Last Change Ra**	**1.70**	**353**		Pn	07 19 04.7	-0.8
GMN	**Gold Mountain**	**1.75**	**3**		Pn	07 19 05.6	-0.7
EW2	**E Wide Canyon**	**1.79**	**153**		Pb	07 19 08.4	+0.2
TPC	**Twentynine Pal**	**1.81**	**142**		Pn	07 19 05.7	-1.1
HMTC	**Hemet**	**1.86**	**170**		Pn	07 19 06.8	-0.8
DSP	**Deep Springs**	**1.88**	**345**		Pn	07 19 07.5	-0.3
POB	**Polly Butte**	**1.89**	**168**		Pn	07 19 07.4	-0.7
ELS	**Elsinore Mount**	**1.89**	**181**		Pn	07 19 07.5	-0.6
ELS				IAML		07 19 35.9	
	comp=N,187nm,0.5s						
ELS				IAML		07 19 36.0	
	comp=E,187nm,0.4s						
DGR	**Domenigoni Val**	**1.92**	**171**		Pn	07 19 07.4	-1.0
CRGC	**Crocker Grade**	**1.94**	**262**		Pb	07 19 10.7	-0.1
MURC	**Murrieta**	**1.95**	**175**		Pn	07 19 08.0	-0.7
BHPR	**Bishop**	**1.96**	**333**		Pb	07 19 11.3	0.0
SHPR	**Sheep Range**	**2.04**	**61**		Pn	07 19 09.4	-0.8
PMD	**Palm Desert**	**2.07**	**156**		Pn	07 19 09.3	-1.0
V12A	**Nelson**	**2.07**	**84**		Pn	07 19 09.1	-1.3
V12A				IAML		07 19 51.8	
	comp=E,227nm,0.8s						
V12A				IAML		07 19 56.6	
	comp=N,185nm,1.1s						
PFO	**Pinyon Flats O**	**2.07**	**158**		Pn	07 19 09.7	-0.9
MZP	**Montezuma Peak**	**2.15**	**360**		Pn	07 19 11.0	-0.8
NEED	**Needles Airpor**	**2.39**	**108**	Pn	Pn	07 19 13.4	-1.5
BORC	**Borrego Spring**	**2.41**	**160**		Pn	07 19 13.7	-1.3
BORC				IAML		07 20 00.6	
	comp=E,117nm,0.8s						
BORC				IAML		07 20 02.4	
	comp=N,106nm,0.9s						
S11A	**Rachel**	**2.47**	**32**	Pn	Pn	07 19 14.3	-1.8
S11A				IAML		07 20 01.4	
	comp=E,270nm,0.8s						
TPH	**Tonopah**	**2.53**	**3**		Pn	07 19 16.2	-0.7
SALN	**Salton City**	**2.54**	**153**	Pn	Pn	07 19 14.8	-2.0
DPP	**Dos Picos Cty**	**2.57**	**172**		Pn	07 19 14.8	-2.4
DPP				IAML		07 19 59.6	
	comp=E,117nm,1.0s						
PRN	**Pahroc Range**	**2.64**	**45**		Pn	07 19 16.4	-2.0
LHV	**Little Huntoon**	**2.85**	**342**		Pn	07 19 20.4	-0.6
LHV				IAML		07 20 34.7	
	comp=E,78nm,1.4s						
PMPB	**Monarch Peak**	**2.86**	**285**		Pn	07 19 20.3	-1.0
W13A	**Hualapai Mount**	**2.89**	**98**		Pn	07 19 20.7	-1.2
W13A				IAML		07 20 15.6	
	comp=E,81nm,1.4s						
W13A				IAML		07 20 19.9	
	comp=N,106nm,1.0s						
NV11	**Mina Array Sit**	**2.95**	**348**		Pn	07 19 20.9	-1.8
BLYC	**Blythe**	**2.96**	**126**	Pn	Pn	07 19 21.0	-1.6
BLYC				IAML		07 20 09.9	
	comp=N,147nm,0.7s						
BLYC				IAML		07 20 12.7	
	comp=E,178nm,0.8s						
NVAR	**Mina Array Bea**	**2.97**	**346**	Pn	Pn	07 19 21.4	-1.6
TKX	**Tecate**	**3.04**	**168**	Pn	Pn	07 19 22.2	-1.6
TKX				IAML		07 20 12.8	
	comp=E,60nm,0.5s						
YUH	**Yuha Desert**	**3.13**	**157**	Pn	Pn	07 19 23.4	-1.6
BBGB	**Big Mountain B**	**3.14**	**290**	Pn	Pn	07 19 23.9	-1.3
R11B	**Troy Canyon, C**	**3.15**	**27**		Pn	07 19 24.5	-0.9
RYN	**Ryan**	**3.21**	**344**		Pn	07 19 24.8	-1.4
GLA	**Glamis**	**3.26**	**139**	Pn	Pn	07 19 25.7	-1.2
CBX	**Cerro Bola**	**3.28**	**169**	Pn	Pn	07 19 26.7	-0.4
Q09A	**Carvers**	**3.29**	**3**	Pn	Pn	07 19 26.0	-1.3
WAKR	**Walker**	**3.38**	**331**	Pn	Pn	07 19 27.5	-1.2
WAKR				IAML		07 20 32.2	
	comp=E,53nm,1.7s						
WAKR				IAML		07 20 39.3	
	comp=N,48nm,1.3s						
CMB	**Columbia Colle**	**3.46**	**317**	Pn	Pn	07 19 27.8	-1.8
CMB				IAML		07 20 27.9	
	comp=E,69nm,1.3s						
CMB				IAML		07 20 36.0	
	comp=N,82nm,0.8s						
SAO	**San Andreas Ge**	**3.51**	**291**		Pn	07 19 29.0	-1.3
CPBX	**Cerro Prieto**	**3.56**	**150**	Pn	Pn	07 19 29.3	-1.6
CPBX				IAML		07 20 51.7	
	comp=N,115nm,0.6s						
LCMT	**Little Creek M**	**3.65**	**65**		Pn	07 19 30.4	-1.8
CCX	**Cicese**	**3.72**	**171**	Pn	Pn	07 19 32.2	-0.8
ESJX	**Sierra Juarez**	**3.73**	**161**	Pn	Pn	07 19 31.8	-1.5
ESJX				IAML		07 20 35.0	
	comp=E,49nm,0.6s						
CCUT	**Cedar City**	**3.80**	**57**	Pn	Pn	07 19 32.9	-1.6
Y14A	**Wickenburg**	**3.94**	**113**		Pn	07 19 35.0	-1.2
Y14A				IAML		07 20 52.6	
	comp=E,86nm,0.9s						
KNB	**Kanab**	**3.96**	**67**		Pn	07 19 35.5	-1.1
KNB				IAML		07 20 49.2	
	comp=N,55nm,1.6s						
KNB				IAML		07 20 55.8	
	comp=E,35nm,1.1s						
SZCU	**Shurtz Canyon**	**4.01**	**58**		Pn	07 19 35.1	-2.3
113A	**Mohawk Valley,**	**4.08**	**132**	Pn	Pn	07 19 37.3	-0.7
113A				IAML		07 20 44.6	
	comp=N,27nm,0.8s						
113A				IAML		07 20 59.6	
	comp=E,33nm,1.1s						
PSUT	**Pine Spring**	**4.10**	**42**	Pn	Pn	07 19 36.1	-2.5
PSUT				IAML		07 21 03.1	
	comp=E,42nm,1.0s						
PSUT				IAML		07 21 03.7	
	comp=N,62nm,1.2s						
SPR3	**Spring Creek 3**	**4.22**	**34**	Pn	Pn	07 19 37.8	-2.5
SPR3				IAML		07 20 49.6	
	comp=E,37nm,1.3s						
SPR3				IAML		07 20 59.4	
	comp=N,30nm,0.8s						
U15A	**North Rim**	**4.22**	**76**	Pn	Pn	07 19 38.4	-1.8
U15A				IAML		07 20 52.7	
	comp=N,40nm,0.8s						
U15A				IAML		07 20 54.0	
	comp=E,68nm,0.9s						
MPK	**Martis Peak**	**4.30**	**331**	Pn	Pn	07 19 39.5	-1.8
VTX	**Valle De La Tr**	**4.35**	**162**	Pn	Pn	07 19 39.5	-2.4
VTX				IAML		07 21 01.2	
	comp=N,22nm,1.4s						
VTX				IAML		07 21 05.8	
	comp=E,29nm,1.2s						
AFDM	**Forest Hills D**	**4.44**	**321**	Pn	Pn	07 19 41.9	-1.2
AFDM				IAML		07 21 00.9	
	comp=E,56nm,1.5s						
AFDM				IAML		07 21 04.4	
	comp=N,39nm,1.3s						
PAHR	**Pah Rah Range**	**4.45**	**340**	Pn	Pn	07 19 40.7	-2.5
PAHR				IAML		07 21 16.2	
	comp=E,20nm,2.0s						
BEKR	**Beckworth**	**4.92**	**332**	Pn	Pn	07 19 48.2	-1.5
BEKR				IAML		07 21 23.6	
	comp=N,20nm,0.7s						
X16A	**Lo Mia Camp, P**	**5.00**	**101**	Pn	Pn	07 19 49.4	-1.6
X16A				IAML		07 21 26.6	
	comp=N,28nm,1.1s						
ELK	**Elko**	**5.46**	**17**	Pn	Pn	07 19 56.5	-0.7
DUG	**Dugway, Tooele**	**5.88**	**37**	Pn	Pn	07 20 01.6	-1.4

*NAO **08** 07:18:56.2, 30°.82N×49°.86E, h33km, mb3.9*
*IDC **08** 07:19:01.0±1.0, 31°.81N×49°.38E, h0km, mb4.0/12, mbtmp4.1/14, ML3.5/3, Error ellipse: s-maj=23.1km s-min=16.8km az=9.0*
*ISN **08** 07:19:02.1±0.5, 31°.69N×49°.56E, h7km±32km, ML4.0*
*TEH **08** 07:19:04.6, 31°.87N×49°.49E, h16km±33km*

ISC 08 07:19:04.5±0.6, 31°.82N±0°.05×49°.38E±0°.03, h20km, n28, σ2°71/36, mb4.0/10, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.80**	**232**	Pg	**Pn**	**07 19 22.8**	**+2.2**
AHWZ				Sg	**Sn**	**07 19 36.1**	**+4.2**
JHBN	**Jahan bin**	**1.17**	**69**	Pg	**Pn**	**07 19 26.1**	**+0.2**
JHBN				Sg	**Sn**	**07 19 41.7**	**+0.2**
ZNGN	**Zangian**	**1.29**	**76**	Pg	**Pb**	**07 19 28.7**	**+0.5**
ZNGN				Sg	**Sb**	**07 19 46.6**	**+2.1**
ABEH	**Behbahan**	**1.43**	**148**	Sg	**Sb**	**07 19 52.8**	**+4.7**
IPIR	**Pirpir**	**1.54**	**56**	Pg	**Pb**	**07 19 32.5**	**-0.1**
IBRJ	**Brojen**	**1.60**	**86**	Sg	**Sb**	**07 19 56.4**	**+3.0**
RAFI	**Al-Rafai**	**2.79**	**269**	*e*Pn	**Pb**	**07 19 51.3**	**-2.3**
RAFI				*e*Sn	**Sb**	**07 20 27.0**	**-0.3**
RAFI				AML	AML	07 20 41.6	
	comp=E,513nm,0.5s						
RAFI				AML	AML	07 20 44.0	
	comp=N,571nm,0.6s						
IBDR	**Badra**	**3.19**	**295**	*e*Pn	**Pb**	**07 19 57.0**	**-3.5**
IBDR				*e*Sn	**Sb**	**07 20 37.4**	**-1.5**
BHD	**Baghdad**	**4.46**	**290**	*e*Pn	**Pn**	**07 20 15.0**	**+4.0**
BHD				*e*Sn	**Sn**	**07 21 08.0**	**+5.6**
BHD				AML	AML	07 21 20.0	
	comp=E,338nm,0.5s						
IKRK	**Kirkuk**	**5.52**	**312**	*e*Pn	**Pn**	**07 20 29.5**	**+4.0**
IKRK				*e*Sn	**Sn**	**07 21 33.5**	**+5.1**
IKRK				AML	AML	07 21 49.4	
	comp=N,135nm,0.4s						
ASF	**Jabal al Asfar**	**10.61**	**275**	Pn	**Pn**	**07 21 34.8**	**-0.6**
	comp=N,1.0nm,0.3s,baz=111,slow=14,SNR=1.8						
	comp=N,3.2nm,0.4s						
WSAR	**Wadi Sarin**	**11.84**	**134**	Pn	**Pn**	**07 21 50.1**	**-2.2**
	baz=316,slow=24,SNR=6.8						
WSAR				Sn	**Sn**	**07 23 56.0**	**-7.9**
	baz=63,slow=24,SNR=3.6						
BRTR	**Keskin Array B**	**15.00**	**306**	Pn	**P**	**07 22 42.1**	**+1.3**
	comp=N,0.5nm,0.3s,baz=130,slow=13,SNR=11						
AKTO	**Aktyubinsk**	**19.68**	**17**	P	**P**	**07 23 32.0**	**-0.2**
	comp=N,0.5nm,0.3s,baz=199,slow=8.1,SNR=4.6						
	comp=N,2.1nm,0.4s						
IDI	**Anoyia**	**20.69**	**286**	P	**P**	**07 23 43.6**	**+0.2**
	comp=N,1.6nm,0.3s,baz=106,slow=7.4,SNR=6.5						
	comp=N,1.6nm,0.3s						
AKASG	**Malin Array Be**	**24.06**	**327**	P	**P**	**07 24 17.5**	**-0.7**
	comp=N,0.5nm,0.3s,baz=

0.4nm,0.4s,baz=144,slow=3.2,SNR=1.5
0.4nm,0.4s
PETK Petropavlovsk- 59.58 22 P P 07 33 24.2 0.0
0.5nm,0.3s,baz=230,slow=8.1,SNR=5.2
0.5nm,0.3s
MKAR Makanchi Array 60.60 327 P P 07 33 30.9 -0.4
0.8nm,0.4s,baz=129,slow=6.5,SNR=4.6
0.8nm,0.4s
KURBB Kurchatov Arra 64.88 329 P P 07 33 59.5 -0.2
1.2nm,0.6s,baz=132,slow=6.1,SNR=6.3
1.2nm,0.6s

NNC 08 07:23:42.9±5.4, 36°98N×70°63E, h0km, mb4.0, mpv3.6, 2C-3D, Error ellipse: s-maj=50.4km s-min=40.7km az=74.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.67**	**24**	P	Pn	07 25 09.3	+0.7
	SNR=18						
UCH	**Uchtor**	**6.04**	**29**	P	Pn	07 25 14.1	+0.2
	SNR=10						
KK31	**Karatay Array**	**6.12**	**359**	⇓P	Pn	07 25 15.5	+0.9
	1.0nm,0.2s,baz=172,slow=11,SNR=42						
KK31				⇑S	Sn	07 26 26.1	+0.8
	2.8nm,0.6s,baz=190,slow=23,SNR=5.7						
EKS2	**Erkin-Say**	**6.17**	**22**	P	Pn	07 25 16.1	+0.8
	SNR=14						
AAK	**Ala-Archa**	**6.39**	**27**	⇓P	Pn	07 25 18.3	-0.1
	0.8nm,0.4s						
AAK				⇑S	Sn	07 26 33.6	+1.5
	1.3nm,0.7s						
USP	**Ospenovka**	**6.95**	**24**	P	Pn	07 25 25.3	-0.6
	SNR=5.8						
TKM2	**Tokmak 2**	**7.05**	**31**	P	Pn	07 25 26.9	-0.7
	SNR=11						
TKM2	**Tokmak 2**	**7.05**	**31**	⇓P	Pn	07 25 26.6	-0.9
	4.5nm,0.4s						

IDC ***08*** *07:25:17.4±3.1, 53°50N×87°38E, h0km, mbtmp2.5/2, ML2.1/1, Error ellipse: s-maj=28.1km s-min=17.1km az=61.0*

ASRS 08 07:25:14.0±1.4, 53°47N×87°39E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.60**	**288**	I	I	07 35 20.0	
	baz=104,slow=319,SNR=3.9						
ZALV	**Zalesovo Beam**	**1.60**	**288**	Pg	Pg	07 25 46.9	+2.2
	0.7nm,0.3s,baz=106,slow=14,SNR=7.0						
ZALV				Lg	Lg	07 26 07.0	
	0.9nm,0.3s,baz=104,slow=26,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.16**	**246**	Pn	Pn	07 26 50.6	+4.4
	0.2nm,0.4s,baz=64,slow=15,SNR=1.3						
KURBB				Lg	Lg	07 28 31.8	
	baz=64,slow=33,SNR=4.1						
MKAR	**Makanchi Array**	**7.44**	**208**	Pn	Pn	07 27 08.3	+4.5
	baz=27,slow=15,SNR=1.8						
	0.1nm,0.3s						

MOS ***08*** *07:26:17.0±1.1, 31°73N×49°44E, h14km, mb4.9/39, Error ellipse: s-maj=6.8km s-min=4.2km az=107.4*
NEIC ***08*** *07:26:18.6±1.8, 31°77N±0°07×49°41E±0°01, h10km±1km, mb4.7/131, Error ellipse: s-maj=11.8km s-min=2.9km az=175.0*
IDC ***08*** *07:26:20.6±2.2, 31°82N×49°36E, h26km±13km, mb4.3/30, mbtmp4.4/36, ML4.4/5, Error ellipse: s-maj=12.7km s-min=10.1km az=3.0*
TEH ***08*** *07:26:20.5, 31°88N×49°49E, h16km±20km*
THR ***08*** *07:26:20.2±0.0, 31°97N×49°50E, h14km±10km, mb4.8*
ISN ***08*** *07:26:21.2±0.6, 31°86N×49°37E, h18km±43km, ML4.5*
NAO ***08*** *07:26:23.0, 31°85N×48°97E, h33km, mb4.7*
OMAN ***08*** *07:26:24.1±0.1, 31°36N×49°48E, h30km±1km, mb4.5/31, Error ellipse: s-maj=1.5km s-min=0.9km az=229.0*
DSN ***08*** *07:26:25.4±1.5, 31°32N×49°62E, h15km, ML4.0/12, Error ellipse: s-maj=19.2km s-min=10.7km az=10.0*

ISC 08 07:26:19.6±0.3, 31°77N±0°03×49°46E±0°03, h20km, n551, σ1s65/578, mb4.7/144, 29C-16D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTMR	**Gotvand**	**0.76**	**337**	*e*Pg	**Pb**	**07 26 32.9**	**-1.2**
GTMR				IAML		07 26 46.9	
	comp=E,55nm,1.0s						
AHWZ	**Ahwaz**	**0.82**	**238**	Pg	**Pb**	**07 26 37.4**	**+2.2**
AHWZ				Sg	**Sn**	**07 26 51.8**	**+4.2**
JHBN	**Jahan bin**	**1.12**	**66**	Pg	**Pb**	**07 26 40.5**	**0.0**
JHBN				Sg	**Sn**	**07 26 56.3**	**+0.9**
ZNGN	**Zangian**	**1.23**	**73**	Pg	**Pn**	**07 26 42.6**	**+0.6**
ABEH	**Behbahan**	**1.35**	**150**	Pg	**Pb**	**07 26 47.4**	**+3.2**
IPIR	**Pirpir**	**1.52**	**53**	Pg	**Pn**	**07 26 47.3**	**+1.4**
IBRJ	**Brojen**	**1.54**	**84**	Pg	**Pb**	**07 26 48.0**	**+0.4**
KLNJ	**Kolanjah**	**1.98**	**112**	Pn	**Pb**	**07 26 55.7**	**+0.6**
KLNJ	**Kolanjah**	**1.98**	**112**	*e*Pn	**Pb**	**07 26 55.8**	**+0.7**
KLNJ				IAML		07 27 32.3	
	comp=Z,11nm,1.0s						
KHMZ	**Khomeyn**	**2.00**	**12**	IAML		07 27 24.5	
	comp=Z,9.4nm,1.0s						
IKFM	**Kafar-mosalman**	**2.21**	**323**	Pn	**Pn**	**07 26 57.4**	**+2.2**
IGAR	**Gharneh**	**2.28**	**73**	Pn	**Pb**	**07 26 59.6**	**-0.6**
IDOB	**Doab**	**2.28**	**332**	Pn	**Pn**	**07 26 58.2**	**+1.9**
IKLH	**Kolahrood**	**2.36**	**49**	Pn	**Pn**	**07 26 60.0**	**+2.5**
IRAM	**Ramesheh**	**2.49**	**88**	Pn	**Pn**	**07 27 02.4**	**+3.3**
QAMS	**Qamsar**	**2.55**	**39**	Pn	**Pb**	**07 27 03.3**	**-1.5**
IZEF	**Zefreh**	**2.67**	**64**	Pn	**Pn**	**07 27 04.6**	**+2.9**
ASAO	**Ashtian**	**2.81**	**10**	IAML		07 27 58.4	
	comp=Z,4.7nm,1.0s						
RAFI	**Al-Rafai**	**2.85**	**270**	*e*Pn	**Pn**	**07 27 07.0**	**+3.1**
RAFI				*e*Sn	**Sn**	**07 27 40.1**	**+2.4**
RAFI				AML	AML	07 27 57.7	
	comp=E,3μm,0.5s						
RAFI				AML	AML	07 28 00.2	
	comp=N,3μm,0.5s						
KAZ2	**Kazeron-Fars-I**	**2.87**	**138**	Pn	**Pn**	**07 27 08.1**	**+3.9**
IBZA	**Bozab**	**3.01**	**334**	Pn	**Pn**	**07 27 08.2**	**+1.9**
NASN	**Na'in**	**3.02**	**69**	IAML		07 28 35.1	
	comp=Z,0.0nm,1.0s						
HAGD	**Aghdareh**	**3.05**	**355**	Pn	**Pn**	**07 27 08.6**	**+1.6**
GHVR	**GHOM**	**3.11**	**29**	IAML		07 27 54.4	
	comp=Z,4.6nm,1.0s						
KRSH	**Karshahi**	**3.14**	**45**	Pn	**Pn**	**07 27 11.0**	**+2.9**
KCHF	**Cheshme Sefid,**	**3.22**	**321**	Pn	**Pn**	**07 27 11.0**	**+1.8**
IBDR	**Badra**	**3.27**	**295**	*e*Pn	**Pn**	**07 27 12.0**	**+2.3**
IBDR				*e*Sn	**Sn**	**07 27 49.0**	**+1.0**
ILBA	**Ilam Banvizeh**	**3.31**	**305**	Pn	**Pn**	**07 27 11.7**	**+1.4**
ILBA	**Ilam Banvizeh**	**3.31**	**305**	*e*Pn	**Pn**	**07 27 11.7**	**+1.4**
ILBA				IAML		07 29 00.8	
	comp=Z,2.0nm,1.0s						
SHI	**Shiraz**	**3.38**	**128**	Pn	**Pn**	**07 27 14.8**	**+3.4**
SNQR	**Sonqor, Kerman**	**3.44**	**334**	Pn	**Pn**	**07 27 14.4**	**+2.1**
ISFB	**Sefidab**	**3.47**	**41**	Pn	**Pn**	**07 27 15.1**	**+2.5**
IGHG	**Ghaleghazi**	**3.52**	**317**	Pn	**Pn**	**07 27 15.1**	**+1.8**
ISAD	**Sadrabad**	**3.60**	**87**	Pn	**Pn**	**07 27 17.8**	**+3.3**
DSBU	**Dashti - Bushe**	**3.74**	**155**	Pn	**Pn**	**07 27 20.1**	**+3.9**
HGHA	**Hamedan- Ghaye**	**3.74**	**352**	Pn	**Pn**	**07 27 18.1**	**+1.7**
ILIN	**Lien**	**3.77**	**327**	Pn	**Pn**	**07 27 18.8**	**+2.0**
GLG1	**Gilan-e-Gharb**	**3.79**	**309**	Pn	**Pn**	**07 27 18.6**	**+1.6**
ANAR	**Anarak**	**3.87**	**67**	Pn	**Pn**	**07 27 21.2**	**+3.1**
IDHR	**Dehrash**	**3.89**	**319**	Pn	**Pn**	**07 27 19.7**	**+1.2**
QABG	**Abgarm-Qazvin**	**3.93**	**1**	Pn	**Pn**	**07 27 21.4**	**+2.4**
TAFT	**Taft - Yazd**	**4.01**	**89**	Pn	**Pn**	**07 27 23.1**	**+3.0**
ICHK	**Chekchek**	**4.23**	**82**	Pn	**Pn**	**07 27 26.1**	**+3.0**
KGS1	**Ghasr-e-Shirin**	**4.24**	**311**	Pn	**Pn**	**07 27 24.8**	**+1.8**
THKV	**Tehran--Karaj**	**4.30**	**16**	*i* P	**Pn**	**07 27 26.7**	**+2.7**
THKV				IAML		07 28 47.1	
	comp=Z,1.7nm,1.0s						
CHTH	**Charan**	**4.35**	**18**	*e*Pn	**Pn**	**07 27 27.1**	**+2.3**
CHTH				IAML		07 28 54.7	
	comp=Z,0.9nm,1.0s						
IDMV	**Damavand**	**4.36**	**29**	Pn	**Pn**	**07 27 27.3**	**+2.4**
DAMV	**Damavand**	**4.38**	**28**	*e*Pn	**Pn**	**07 27 27.6**	**+2.4**
DAMV				IAML		07 28 09.2	
	comp=Z,0.0nm,1.0s						
YZKH	**Yazd**	**4.40**	**81**	*e*Pn	**Pn**	**07 27 27.6**	**+2.3**
YZKH				IAML		07 28 21.4	
	comp=Z,0.4nm,1.0s						
IMEH	**Mehriz**	**4.41**	**94**	Pn	**Pn**	**07 27 28.9**	**+3.2**
QIR1	**Qir**	**4.52**	**136**	Pn	**Pn**	**07 27 30.3**	**+3.4**
BHD	**Baghdad**	**4.54**	**291**	*e*Pn	**Pn**	**07 27 30.0**	**+2.8**
BHD				*e*Sn	**Sn**	**07 28 20.0**	**+0.6**
BHD				AML	AML	07 28 54.0	
	comp=E,1μm,0.6s						
ILAS	**Lasjerd**	**4.63**	**38**	Pn	**Pn**	**07 27 30.8**	**+2.1**
IGZV	**Ghazvin**	**4.64**	**8**	Pn	**Pn**	**07 27 30.7**	**+1.9**
IFIR	**Firoozkooh**	**4.74**	**35**	Pn	**Pn**	**07 27 32.6**	**+2.5**
KLST	**Kelardasht - M**	**4.92**	**15**	Pn	**Pn**	**07 27 35.0**	**+2.4**
ZNJK	**Zanjan**	**4.93**	**353**	*i* P	**Pn**	**07 27 34.2**	**+1.5**
ZNJK				IAML		07 29 04.0	
	comp=Z,0.3nm,1.0s						
MZPU	**Pul - Mazandar**	**4.97**	**20**	Pn	**Pn**	**07 27 35.9**	**+2.6**
IPRN	**Peran**	**5.06**	**27**	Pn	**Pn**	**07 27 37.1**	**+2.7**
IALA	**Alasht**	**5.12**	**32**	Pn	**Pn**	**07 27 38.5**	**+3.0**
GIDE	**GILAN DEYLAMAN**	**5.15**	**4**	*e*Pn	**Pn**	**07 27 37.7**	**+2.0**
GIDE				IAML		07 29 15.2	
	comp=Z,2.8nm,1.0s						
IANJ	**Anjilo**	**5.23**	**44**	Pn	**Pn**	**07 27 38.6**	**+1.7**
LMD1	**Lamerd**	**5.47**	**143**	*e*Pn	**Pn**	**07 27 43.9**	**+3.9**
LMD1				IAML		07 28 53.7	
	comp=Z,1.1nm,1.0s						
SRSL	**SARDASHT**	**5.55**	**324**	*e*Pn	**Pn**	**07 27 42.7**	**+1.5**
SRSL				IAML		07 28 53.8	
	comp=Z,1.4nm,1.0s						
IKRK	**Kirkuk**	**5.60**	**312**	*e*Pn	**Pn**	**07 27 44.0**	**+2.3**
IKRK				*e*Sn	**Sn**	**07 28 45.0**	**-0.4**
IKRK				AML	AML	07 28 47.3	
	comp=E,616nm,0.6s						
IKRK				AML	AML	07 28 48.8	
	comp=N,516nm,0.5s						
IKIA	**Kiasar**	**5.64**	**37**	Pn	**Pn**	**07 27 44.7**	**+2.2**
MAHB	**Mahabad**	**5.87**	**329**	Pn	**Pn**	**07 27 47.4**	**+1.8**
IGLO	**Ghaloghah**	**5.95**	**36**	Pn	**Pn**	**07 27 49.1**	**+2.4**
SHMA	**Al-Shehemyia**	**6.04**	**167**	P	**Pn**	**07 27 51.0**	**+3.2**
	SNR=34						
KHGB	**Koh Gabri**	**6.18**	**101**	Pn	**Pn**	**07 27 51.3**	**+1.4**
TPRV	**Parvadeh(Tabas**	**6.24**	**77**	Pn	**Pn**	**07 27 53.4**	**+2.8**
TNSJ	**Nastanj**	**6.40**	**68**	Pn	**Pn**	**07 27 55.3**	**+2.5**
KRBR	**Kerman**	**6.52**	**104**	Pn	**Pn**	**07 27 57.4**	**+2.7**
KRBR	**Kerman**	**6.52**	**104**	*i* P	**Pn**	**07 27 56.7**	**+2.0**
KRBR				IAML		07 29 44.8	
	comp=Z,0.3nm,1.0s						
IAZR	**Azarshahr**	**6.55**	**335**	Pn	**Pn**	**07 27 56.6**	**+1.5**
TABS	**Tabas**	**6.72**	**72**	*e*Pn	**Pn**	**07 28 00.1**	**+2.9**
TABS				IAML		07 30 19.3	
	comp=Z,0.4nm,1.0s						
SHRO	**Shahrood**	**6.88**	**51**	*e*Pn	**Pn**	**07 28 02.0**	**+2.6**
SHRO				IAML		07 30 26.4	
	comp=Z,0.1nm,1.0s						
GRMI	**Germi**	**7.13**	**350**	Pn	**Pn**	**07 28 04.7**	**+1.7**
GRMI	**Germi**	**7.13**	**350**	*e*Pn	**Pn**	**07 28 03.8**	**+0.9**
GRMI				IAML		07 30 33.3	
	comp=Z,0.1nm,1.0s						
TAPT	**Tabas- Tapeh t**	**7.15**	**62**	Pn	**Pn**	**07 28 04.9**	**+1.7**
TRNA	**Turayna**	**7.18**	**167**	P	**Pn**	**07 28 05.7**	**+2.3**
	SNR=21						
BNDS	**Bandar-Abbas**	**7.29**	**125**	Pn	**Pn**	**07 28 05.3**	**+0.2**
BNDS	**Bandar-Abbas**	**7.29**	**125**	IAML		07 29 44.7	
	comp=Z,0.4nm,1.0s						
GENO	**Geno**	**7.29**	**125**	Pn	**Pn**	**07 28 05.4**	**+0.3**
JRN	**Qarnain Island**	**7.43**	**155**	P	**Pn**	**07 28 09.2**	**+2.3**
	SNR=9.4						
JRN				S	**Sn**	**07 29 28.6**	**-2.0**
	SNR=6.3						
ITEG	**Tejag**	**7.94**	**79**	Pn	**Pn**	**07 28 16.4**	**+2.4**
MRVT	**Maraveh tapeh**	**8.02**	**41**	*e*Pn	**Pn**	**07 28 16.4**	**+1.5**
MRVT				IAML		07 29 12.7	
	comp=Z,0.1nm,1.0s						
IKOO	**Kooshah**	**8.12**	**83**	Pn	**Pn**	**07 28 19.2**	**+2.6**
SHME	**Shamm**	**8.17**	**133**	P	**Pn**	**07 28 20.2**	**+3.1**
	SNR=9.5						
SHME	**Shamm**	**8.17**	**133**	*i* P	**Pn**	**07 28 17.8**	**+0.7**
	SNR=9.5						
SBZV	**Sabzevar**	**8.18**	**54**	Pn	**Pn**	**07 28 19.7**	**+2.4**
SBZV	**Sabzevar**	**8.18**	**54**	*e*Pn	**Pn**	**07 28 19.7**	**+2.4**
SBZV				IAML		07 28 20.8	
	comp=Z,64nm,0.7s						
KBAM	**BAM**	**8.20**	**106**	Pn	**Pn**	**07 28 19.8**	**+2.4**
BSRN	**Basiran**	**8.22**	**86**	Pn	**Pn**	**07 28 20.5**	**+2.6**
BSRN	**Basiran**	**8.22**	**86**	*i* P	**Pn**	**07 28 20.4**	**+2.5**
BSRN				IAML		07 28 50.2	
	comp=Z,18nm,0.7s						
AFRZ	**Afriz**	**8.23**	**76**	Pn	**Pn**	**07 28 20.7**	**+2.7**
BANOM	**Banah**	**8.36**	**132**	P	**Pn**	**07 28 19.3**	**-0.3**
BANOM				S	**Sn**	**07 29 51.2**	**-2.4**
BANOM	**Banah**	**8.36**	**132**	*i* P	**Pn**	**07 28 19.7**	**0.0**
	SNR=5.9						
GEVA	**Gevas**	**8.37**	**323**	Pn	**Pn**	**07 28 20.7**	**+0.8**
MASF	**Masafi**	**8.68**	**136**	P	**Pn**	**07 28 24.2**	**+0.2**
MASF				S	**Sn**	**07 29 58.0**	**-3.4**
	SNR=8.6						
AJN	**Ajban**	**8.68**	**144**	P	**Pn**	**07 28 26.8**	**+2.7**
	SNR=6.6						
AJN				S	**Sn**	**07 29 58.5**	**-2.9**
	SNR=9.8						
AJN	**Ajban**	**8.68**	**144**	*i* P	**Pn**	**07 28 24.9**	**+0.8**
	SNR=6.6						
MSFE	**Esma-Masafi**	**8.69**	**136**	P	**Pn**	**07 28 24.6**	**+0.4**
NAZ	**Nazwa, Dubai**	**8.69**	**140**	P	**Pn**	**07 28 27.8**	**+3.7**
	SNR=7.7						
ASUD	**Al Ashush, Dub**	**8.80**	**143**	P	**Pn**	**07 28 28.5**	**+2.8**
	SNR=15						
ASUD				S	**Sn**	**07 30 03.0**	**-1.4**
	SNR=8.8						
ASUD	**Al Ashush, Dub**	**8.80**	**143**	*i* P	**Pn**	**07 28 28.1**	**+2.4**
	SNR=15						
ISFR	**Sfrayin**	**8.80**	**51**	Pn	**Pn**	**07 28 28.9**	**+3.0**
BJRD	**Bojnurd**	**8.81**	**46**	*i* P	**Pn**	**07 28 28.9**	**+2.9**
BJRD				IAML		07 28 34.8	
	comp=Z,24nm,0.7s						
MDH	**Madha**	**8.82**	**135**	P	**Pn**	**07 28 25.9**	**0.0**
MDH				S	**Sn**	**07 30 00.9**	**-3.8**
	SNR=7.9						
MDH	**Madha**	**8.82**	**135**	P	**Pn**	**07 28 26.2**	**+0.3**
FAQ	**Al Faqa, Dubai**	**8.84**	**141**	P	**Pn**	**07 28 24.8**	**-1.4**
FAQ				S	**Sn**	**07 30 03.3**	**-2.0**
	SNR=7.0						
RAYN	**Ar Rayn**	**8.94**	**204**		**Pn**	**07 28 27.2**	**-0.4**
RAYN	**Ar Rayn**	**8.94**	**204**	Pn	**Pn**	**07 28 27.5**	**-0.1**
RAYN	**Ar Rayn**	**8.94**	**204**	P	**Pn**	**07 28 27.5**	**-0.1**
RAYN	**Ar Rayn**	**8.94**	**204**	P	**Pn**	**07 28 27.2**	**-0.4**
RAYN	**Ar Rayn**	**8.94**	**204**	*i* P	**Pn**	**07 28 27.5**	**-0.1**
	SNR=47						
UOSS	**Minazif**	**9.03**	**137**		**Pn**	**07 28 28.6**	**-0.2**
UOSS	**Minazif**	**9.03**	**137**	P	**Pn**	**07 28 28.3**	**-0.5**
UOSS				S	**Sn**	**07 30 06.0**	**-3.9**
UOSS	**Minazif**	**9.03**	**137**	P	**Pn**	**07 28 29.2**	**+0.4**
HATD	**Hatta, Dubai**	**9.08**	**138**	P	**Pn**	**07 28 28.6**	**-0.9**
HATD				S	**Sn**	**07 30 07.6**	**-3.6**
HATD	**Hatta, Dubai**	**9.08**	**138**	P	**Pn**	**07 28 30.6**	**+1.1**
IAKL	**Akhelmad**	**9.08**	**55**	Pn	**Pn**	**07 28 33.0**	**+3.3**
GURO	**Guroymak-BITLI**	**9.09**	**320**		**Pn**	**07 28 29.3**	**-0.5**
ASHO	**Ashiyiah**	**9.15**	**139**	P	**Pn**	**07 28 31.1**	**+0.6**
	SNR=7.6						
ASHO				S	**Sn**	**07 30 10.2**	**-2.8**
ASHO	**Ashiyiah**	**9.15**	**139**	*i* P	**Pn**	**07 28 31.2**	**+0.7**
	SNR=14						
ASHO				S	**Sn**	**07 30 09.9**	**-3.0**
GNI	**Garni**	**9.19**	**337**	Pn	**Pn**	**07 28 30.2**	**-0.9**
GNI	**Garni**	**9.19**	**337**	Pn	**Pn**	**07 28 29.0**	**-2.1**
	comp=Z,1.3nm,0.3s,baz=188,slow=23,SNR=1.7						
GNI				Sn	Sn	07 29 56.8	-17
	comp=Z,0.3nm,0.3s,baz=90,slow=17,SNR=3.0						
GNI	**Garni**	**9.19**	**337**	P	**Pn**	**07 28 30.2**	**-0.9**
SHRT	**Shahrakht**	**9.32**	**76**	Pn	**Pn**	**07 28 36.0**	**+3.2**
SHRT	**Shahrakht**	**9.32**	**76**	*e*Pn	**Pn**	**07 28 36.5**	**+3.7**
SHRT				IAML		07 28 37.2	
	comp=Z,35nm,0.9s						
JASK	**Jask - Hormozg**	**9.43**	**126**	Pn	**Pn**	**07 28 33.9**	**-0.4**
JASK	**Jask - Hormozg**	**9.43**	**126**	P	**Pn**	**07 28 34.8**	**+0.5**
	SNR=8.5						
IEMG	**Emamgholi**	**9.44**	**51**	Pn	**Pn**	**07 28 37.5**	**+2.9**
MZR	**Muzera**	**9.44**	**157**	P	**Pn**	**07 28 36.3**	**+1.9**
	SNR=17						
MZR	**Muzera**	**9.44**	**157**	*i* P	**Pn**	**07 28 36.1**	**+1.6**
	SNR=17						
ALNE	**Al Ain**	**9.49**	**143**	P	**Pn**	**07 28 36.5**	**+1.3**
	SNR=15						
ALNE				S	**Sn**	**07 30 17.9**	**-3.4**
ALNE	**Al Ain**	**9.49**	**143**	*i* P	**Pn**	**07 28 36.0**	**+0.8**
	SNR=15						
IKRD	**Kardeh**	**9.70**	**56**	Pn	**Pn**	**07 28 40.3**	**+2.1**
SOHO	**SOHO**	**9.85**	**139**	P	**Pn**	**07 28 39.5**	**-0.5**
SOHO				S	**Sn**	**07 30 26.7**	**-3.3**
SOHO	**SOHO**	**9.85**	**139**	P	**Pn**	**07 28 39.8**	**-0.2**
ZHSF	**Zahedan**	**9.98**	**100**	Pn	**Pn**	**07 28 44.9**	**+2.9**
ZHSF	**Zahedan**	**9.98**	**100**	*e*Pn	**Pn**	**07 28 45.3**	**+3.3**
ZHSF				IAML		07 29 09.1	
	comp=Z,9.7nm,1.1s						
ARQ	**Araqi**	**10.48**	**142**	P	**Pn**	**07 28 48.4**	**-0.3**
	SNR=15						
ARQ				S	**Sn**	**07 30 41.4**	**-4.2**
ASF	**Jabal al Asfar**	**10.68**	**275**	Pn	**Pn**	**07 28 50.4**	**-1.1**
	comp=Z,6.5nm,0.3s,baz=112,slow=6.5,SNR=22						
ASF				Sn	Sn	07 30 38.5	-12
	comp=Z,2.3nm,0.3s,baz=133,slow=19,SNR=1.5						
	comp=Z,15nm,0.4s						
KOPT	**Kop Dagi**	**10.97**	**321**	Pn	**Pn**	**07 28 54.0**	**-1.7**
BSY	**Bisya**	**11.32**	**141**	P	**Pn**	**07 29 01.4**	**+1.2**
	SNR=15						
BSY				S	**Sn**	**07 31 03.6**	**-2.6**
	SNR=6.5						
SMDO	**Samad**	**11.55**	**137**	P	**Pn**	**07 29 06.0**	**+2.5**
	SNR=9.5						
SMDO				S	**Sn**	**07 31 08.7**	**-3.3**
	SNR=6.0						
ARPR	**Arapgir-MALATY**	**11.64**	**312**	Pn	**Pn**	**07 29 03.9**	**-0.8**
WSAR	**Wadi Sarin**	**11.76**	**134**	Pn	**Pn**	**07 29 05.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=335,slow=24,SNR=29						
WSAR				Sn	**Sn**	**07 31 11.7**	**-5.4**
	baz=0.0,slow=20,SNR=7.0						
GHAJ	**Ghor Haditha**	**11.86**	**271**	Pn	**Pn**	**07 29 05.8**	**-1.8**
MMAI	**Mount Meron Ar**	**11.95**	**280**	Pn	**Pn**	**07 29 08.2**	**-0.7**
	comp=Z,2.9nm,0.3s,baz=89,slow=14,SNR=5.2						
MMAI				Sn	Sn	07 31 12.8	-8.8
	comp=Z,1.2nm,0.3s,baz=118,slow=12,SNR=5.2						
	comp=Z,0.8nm,0.3s						
NGCH	**Negor - Chabah**	**12.09**	**119**	P	**Pn**	**07 29 10.6**	**-0.1**
JMDO	**Jabal Madar**	**12.12**	**138**	P	**Pn**	**07 29 13.1**	**+1.9**
	SNR=7.8						
WBK	**Wadi Bani Khal**	**12.44**	**135**	P	**Pn**	**07 29 14.7**	**-0.9**
EIL	**Elat**	**12.66**	**264**	Pn	**Pn**	**07 29 17.0**	**-1.5**
	comp=Z,1.8nm,0.3s,baz=77,slow=7.4,SNR=12						
EIL				Sn	**Sn**	**07 31 33.3**	**-5.6**
	comp=Z,0.4nm,0.3s,baz=25,slow=20,SNR=1.5						
	comp=Z,3.8nm,0.3s						
KBZ	**Khabaz**	**13.01**	**338**	Pn	**Pn**	**07 29 25.5**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=152,slow=10.0,SNR=8.4						
	comp=Z,4.3nm,0.8s						
KBZ	**Khabaz**	**13.01**	**338**	*i* P	**Pn**	**07 29 27.8**	**+4.6**
JLN	**Jalan Bani Buh**	**13.05**	**135**	P	**Pn**	**07 29 22.2**	**-1.7**
SHID	**Shidzhatmaz**	**13.09**	**338**	*i* P	**Pn**	**07 29 25.7**	**+1.1**
MHTO	**MHTO**	**13.17**	**143**	P	**Pn**	**07 29 26.0**	**+0.5**
	SNR=24						
KIV	**Kislovodsk**	**13.28**	**338**	Pn	**Pn**	**07 29 25.3**	**-1.7**
KIV	**Kislovodsk**	**13.28**	**338**	*e*P	**Pn**	**07 29 29.6**	**+2.6**
KIV				pmax	pmax		
	comp=Z,22nm,1.0s						
DOK	**Doka**	**13.76**	**161**	P	**Pn**	**07 29 33.8**	**+0.2**
	SNR=11						
DOK				S	**Sn**	**07 31 59.3**	**-6.6**
	SNR=5.8						
VSLR	**Vesyoloye**	**13.84**	**330**	*i* P	**Pn**	**07 29 37.3**	**+2.7**
DQM	**DQM**	**13.85**	**146**	P	**Pn**	**07 29 33.9**	**-0.9**
DQM				S	Sn	07 31 59.8	-8.3
	SNR=8.0						
SOC	**Sochi**	**14.08**	**330**	*e*P	**Pn**	**07 29 37.3**	**-0.5**
SOC				*e*		07 32 15.3	
SOC				pmax	pmax		
	comp=Z,5.0nm,0.4s						
SOC				MLR	MLR		
	comp=Z,308nm,13.0s						
WHFO	**Wadi Hawf**	**14.34**	**163**	P	**Pn**	**07 29 40.9**	**-0.6**
	SNR=24						
WHFO				S	**Sn**	**07 32 14.6**	**-5.4**
	SNR=6.6						
ABTO	**Aybut**	**14.77**	**165**	P	**Pn**	**07 29 46.1**	**-1.4**
	SNR=11						
ABTO				S	Sn	07 32 21.7	-8.9
	SNR=9.1						
RBK	**Rabkut**	**14.84**	**162**	P	**Pn**	**07 29 47.1**	**-1.3**
DMTO	**DMTO**	**14.85**	**159**	P	**Pn**	**07 29 47.8**	**-0.7**
	SNR=21						
BR131	**Keskin Array S**	**15.09**	**306**	P	**P**	**07 29 58.1**	**+1.3**
BR131				IAmb	IAmb	07 29 58.

VSR pmax pmax
comp=Z,10.0nm,1.1s
ALN Alexandroupoli 20.90 302 P **P** **07 31 01.7 +1.1**
ALN lAmb lAmb 07 31 03.3
comp=Z,32nm,0.8s
ALN Alexandroupoli 20.90 302 P **P** **07 31 01.7 +1.1**
ALN pmax pmax
comp=Z,31nm,0.8s
TLCR 20.91 316 ⇑P **P** **07 31 01.0 +0.3**
TLCR 20.91 316 P **P** **07 31 01.0 +0.3**
TPGR Topolog 20.98 314 ⇓P **P** **07 31 01.7 +0.3**
ICOR Ion Corvin 20.99 312 ⇓P **P** **07 31 03.3 +1.7**
TLBR Topalu 21.05 313 ⇑P **P** **07 31 02.9 +0.8**
ARSB Arslanbob 21.11 57 P **P** **07 31 04.3 +1.3**
ARSB lAmb lAmb 07 31 13.1
comp=Z,24nm,0.7s
ARSB Arslanbob 21.11 57 P **P** **07 31 04.4 +1.3**
ARSB pmax pmax
comp=Z,24nm,0.7s
VORR Voronezh 21.26 342 *e*P **P** **07 31 03.7 -0.7**
VORR pmax pmax
comp=Z,67nm,0.5s
CFR Carcaliu 21.32 315 ⇓P **P** **07 31 04.8 -0.3**
CFR Carcaliu 21.32 315 P **P** **07 31 04.7 -0.3**
RDO Rodhopi 21.34 303 **P** **07 31 06.3 +1.0**
RDO lAmb lAmb 07 31 16.7
comp=Z,20nm,0.8s
AML Almayashu 21.89 55 P **P** **07 31 13.5 +1.9**
SNR=23
EKS2 Erkin-Say 22.13 54 P **P** **07 31 15.6 +1.6**
SNR=5.1
LPSR Galich'ya Gora 22.18 343 *e*P **P** **07 31 13.3 -1.0**
LPSR pmax pmax
comp=Z,59nm,0.6s
ISR Istrita 22.26 313 P **P** **07 31 15.6 +0.3**
comp=Z,35nm,0.8s
UCH Uchtor 22.49 55 P **P** **07 31 20.0 +1.7**
SNR=22
VRI Vrincioaia 22.52 315 ⇑P **P** **07 31 18.5 +0.4**
VRI Vrincioaia 22.52 315 P **P** **07 31 18.4 +0.4**
VRI Vrincioaia 22.52 315 P **P** **07 31 18.4 +0.4**
comp=Z,21nm,0.8s
PLOR Plostina 22.56 315 ⇓P **P** **07 31 19.3 +0.9**
PLOR Plostina 22.56 315 P **P** **07 31 19.3 +0.9**
NEHR Nehoiu 22.56 314 ⇓P **P** **07 31 19.8 +1.4**
AAK Ala-Archa 22.62 54 P **P** **07 31 20.4 +1.2**
AAK Ala-Archa 22.62 54 P **P** **07 31 21.0 +1.8**
comp=Z,1.7nm,0.3s,baz=257,slow=11,SNR=6.8
comp=Z,1.7nm,0.3s
AAK Ala-Archa 22.62 54*ce*P **P** **07 31 20.8 +1.6**
AAK pmax pmax
comp=Z,6.0nm,1.0s
MLR Muntele Rosu 22.81 314 **P** **07 31 21.3 +0.1**
MLR lAmb lAmb 07 31 49.1
comp=Z,17nm,0.8s
MLR Muntele Rosu 22.81 314 P **P** **07 31 20.0 -1.2**
comp=Z,8.2nm,0.7s,baz=171,slow=7.1,SNR=10
comp=Z,8.2nm,0.7s
MLR Muntele Rosu 22.81 314 ⇓P **P** **07 31 23.4 +2.2**
MLR Muntele Rosu 22.81 314 P **P** **07 31 23.3 +2.2**
KSH Kashi 22.83 63 P **P** **07 31 20.0 -1.5**
KSH pmax pmax
comp=Z,26nm,1.2s
TESR Tescani 22.90 317 ⇓P **P** **07 31 22.7 +0.7**
TESR Tescani 22.90 317 P **P** **07 31 21.2 -0.8**
comp=Z,29nm,0.8s
ONER Baraj Valea Uz 22.96 316 ⇑P **P** **07 31 23.2 +0.6**
OZUR 23.20 315 ⇑P **P** **07 31 26.2 +1.1**
ITM Ithomi 23.29 291 P **P** **07 31 25.7 -0.3**
ITM lAmb lAmb 07 31 41.8
comp=Z,21nm,0.9s
VOIR 23.34 313 ⇑P **P** **07 31 27.8 +1.2**
VOIR 23.34 313 P **P** **07 31 27.7 +1.2**
DOPR Dopca 23.38 314 ⇑P **P** **07 31 26.9 0.0**
TKM2 Tokmak 2 23.48 54 P **P** **07 31 30.4 +2.3**
SNR=22
ARR Arges 23.57 312 ⇑P **P** **07 31 29.5 +0.7**
BOOM Boomskoye usch 23.58 56 **P** **07 31 28.8 -0.2**
BOOM lAmb lAmb 07 31 32.5
comp=Z,26nm,1.1s
BOOM Boomskoye usch 23.58 56 P **P** **07 31 28.8 -0.2**
BOOM pmax pmax
comp=Z,27nm,1.1s
NDNU Novodnistrovsk 23.68 322 P **P** **07 31 27.9 -1.9**
NDNU pP **pP** **07 31 32.2 -3.7**
ULHL Ulahol 23.71 56 P **P** **07 31 33.1 +2.7**
SNR=7.0
AK07 Malin Array Si 24.04 327 P **P** **07 31 32.1 -1.0**
AK09 Malin Array Si 24.05 327 P **P** **07 31 32.2 -1.0**
AK10 Malin Array Si 24.05 327 P **P** **07 31 32.2 -1.0**
AK06 Malin Array Si 24.07 327 P **P** **07 31 32.4 -1.0**
AK08 Malin Array Si 24.07 327 P **P** **07 31 32.5 -0.9**
AK08 pP **pP** **07 31 36.1 -3.5**
AK05 Malin Array Si 24.09 327 P **P** **07 31 32.6 -1.0**
AK02 Malin Array Si 24.11 327 P **P** **07 31 32.8 -1.0**
AKASG Malin Array Be 24.13 327 P **P** **07 31 33.1 -0.9**
AKASG Malin Array Be 24.13 327 P **P** **07 31 32.5 -1.5**
comp=Z,2.2nm,0.3s,baz=130,slow=7.3,SNR=64
AKASG PcP **PcP** **07 35 15.1 +0.5**
comp=Z,1.2nm,0.5s,baz=89,slow=2.0,SNR=4.2
AKASG ScP **ScP** **07 38 49.3 -2.8**
comp=Z,0.8nm,0.6s,baz=99,slow=3.2,SNR=2.3
comp=Z,2.2nm,0.3s
AKASG Malin Array Be 24.13 327 *i* P **P** **07 31 33.4 -0.6**
AKASG pmax pmax
comp=Z,7.0nm,0.3s
AKBB Malin Array Si 24.13 327 **P** **07 31 33.6 -0.4**
AKBB Malin Array Si 24.13 327*ce*P **P** **07 31 33.1 -0.9**
AKBB pmax pmax
comp=Z,9.0nm,0.3s
AKBB Malin Array Si 24.13 327 P **P** **07 31 32.9 -1.1**
KIEV Kiev 24.14 327 **P** **07 31 33.5 -0.5**
KIEV Kiev 24.14 327 ⇓P **P** **07 31 33.2 -0.8**
KIEV Kiev 24.14 327 P **P** **07 31 33.6 -0.5**
KIEV pmax pmax
comp=Z,23nm,0.5s
LOT Lotru 24.15 312 ⇓P **P** **07 31 35.4 +1.0**
SRE Strehaia 24.19 310 ⇓P **P** **07 31 36.4 +1.7**
SRE Strehaia 24.19 310 P **P** **07 31 36.3 +1.7**
FNA Florina 24.28 300 **P** **07 31 35.3 -0.3**
FNA Florina 24.28 300 P **P** **07 31 35.3 -0.3**
LUBAR Lubar, Ukraine 24.31 325 P **P** **07 31 35.0 -0.7**
BURAR Bucovina Array 24.32 318 **P** **07 31 36.5 +0.6**
BURAR Bucovina Array 24.32 318 ⇓P **P** **07 31 36.1 +0.2**
BURAR Bucovina Array 24.32 318 P **P** **07 31 36.0 +0.2**
BUR08 Bucovina Ar. S 24.34 318 **P** **07 31 36.9 +0.8**
KDJ Kajisay 24.35 57 P **P** **07 31 37.9 +1.6**
KDJ lAmb lAmb 07 31 40.0
comp=Z,11nm,0.8s
KDJ Kajisay 24.35 57 P **P** **07 31 37.9 +1.6**
KDJ pmax pmax
comp=Z,11nm,0.8s
SKO Skopje 24.52 302 *i* P **P** **07 31 39.1 +1.5**
TARG Taragay, Kyrgy 24.69 58 **P** **07 31 41.2 +1.6**
TARG lAmb lAmb 07 31 44.1
comp=Z,16nm,0.8s
TARG Taragay, Kyrgy 24.69 58 P **P** **07 31 41.3 +1.6**
TARG pmax pmax
comp=Z,16nm,0.8s
GZR Gura Zlata 24.76 311 ⇑P **P** **07 31 41.0 +1.0**
GZR Gura Zlata 24.76 311 P **P** **07 31 40.9 +1.0**
OHR Ohrid 24.78 300 *i* P **P** **07 31 42.0 +1.9**
HERR Herculane 24.80 310 ⇑P **P** **07 31 40.3 +0.2**
BOVS Bovan 24.83 306 ⇑P **P** **07 31 41.1 +0.7**
OBN Obninsk 25.06 342 P **P** **07 31 42.6 +0.3**
OBN Obninsk 25.06 342 P **P** **07 31 41.6 -0.7**
comp=Z,59nm,0.5s,baz=230,slow=7.9,SNR=6.2
OBN Obninsk 25.06 342*de*P **P** **07 31 42.4 +0.1**
OBN *e*PPP PPP 07 32 22.1
OBN pmax pmax
comp=Z,43nm,0.6s
OBN MLR MLR
comp=Z,485nm,18.0s
MARR Marisel-Cluj 25.10 314 ⇓P **P** **07 31 44.0 +1.0**
MDVR Moldovita 25.22 309 ⇑P **P** **07 31 45.1 +1.1**
MOS Moscow 25.36 344 *e*P **P** **07 31 46.0 +0.9**
MOS *e* 07 32 24.5
ARTI Arti 25.39 12 **P** **07 31 45.6 +0.3**
ARTI lAmb lAmb 07 31 48.0
comp=Z,18nm,0.7s
ARTI Arti 25.39 12*c i* P **P** **07 31 45.4 +0.1**
ARTI 07 32 19.7
ARTI S **S** **07 36 14.4 +3.7**
ARTI SS **SnSn** **07 37 04.9 +1.7**

ARTI pmax pmax
comp=Z,17nm,0.8s
DRGR 25.40 314 ⇓P **P** **07 31 47.0 +1.3**
DRGR 25.40 314 P **P** **07 31 47.0 +1.3**
BZS Buzias 25.60 311 ⇑P **P** **07 31 48.1 +0.7**
BZS Buzias 25.60 311 P **P** **07 31 48.0 +0.7**
WUS Wushi 25.61 60 P **P** **07 31 48.7 +1.1**
SIRR Siria 25.83 312 ⇑P **P** **07 31 50.8 +1.2**
RNPP5 Staryi Chortor 26.07 325 P **P** **07 31 51.0 -0.5**
BRVK Borovoye 26.07 29 P **P** **07 31 52.3 +0.8**
BRVK lAmb lAmb 07 31 53.3
comp=Z,9.0nm,0.6s
BRVK Borovoye 26.07 29 P **P** **07 31 52.3 +0.8**
BRVK pmax pmax
comp=Z,9.0nm,0.6s
BVAR Borovoye Array 26.09 29 P **P** **07 31 52.1 +0.4**
comp=Z,20nm,0.5s
BVAR PcP **PcP** **07 35 19.3 +0.4**
BVAR ScP **ScP** **07 38 55.3 -2.2**
comp=Z,20nm,0.5s
RNPP8 Varash 26.15 325 P **P** **07 31 51.7 -0.6**
RNPP9 Sopachiv 26.18 325 P **P** **07 31 52.2 -0.4**
SVE Sverdlovsk 26.23 14 *e*P **P** **07 31 54.4 +1.5**
SCTE Santa Cesarea 26.33 297 P **P** **07 31 53.8 -0.3**
KOLS Kolonicke sedl 26.68 318 *e*P **P** **07 32 01.7 +4.5**
KOLS pmax pmax
comp=Z,25nm,1.0s
KOLS Kolonicke sedl 26.68 318 *e*P **P** **07 32 01.7 +4.5**
KIRV Kirov 26.81 360 *i* P **P** **07 31 58.7 +0.5**
MNK Minsk 27.43 332 *i* P **P** **07 32 06.5 +2.7**
comp=E,23nm,0.9s
MNK *i* P **P** **07 32 06.5 +2.7**
comp=N,17nm,0.6s
MNK *i* P **P** **07 32 06.5 +2.7**
comp=Z,32nm,0.8s,baz=136
MNK *i* PP **PnPn** **07 32 50.8 +2.4**
MNK *i* PPP PPP 07 32 58.9
MNK *i* S **S** **07 36 45.1 +2.2**
MNK *i* SS **SnSn** **07 37 58.5 +5.6**
MNK *i* SSS SSS 07 38 12.7
MNK *i* LR LR 07 42 57.0
MNK Minsk 27.43 332 *i* P **P** **07 32 06.5 +2.7**
MNK *i* 07 32 50.7
MNK *i* PPP PPP 07 32 58.9
MNK *i* S **S** **07 36 45.1 +2.2**
MNK *i* SS **SnSn** **07 37 58.5 +5.6**
MNK *i* SSS SSS 07 38 12.6
MNK pmax pmax
comp=Z,32nm,0.8s
MNK pmax pmax
comp=N,17nm,0.6s
MNK pmax pmax
comp=E,23nm,0.9s
TIP Timpagrande 27.53 295 P **P** **07 32 04.7 -0.3**
TIP lAmb lAmb 07 32 11.0
comp=Z,26nm,1.3s
MORH Mrgy, Hungar 27.75 310 ⇑P **P** **07 32 07.5 +0.7**
CUC Castrocucco 28.34 296 P **P** **07 32 10.8 -1.4**
CUC lAmb lAmb 07 32 41.9
comp=Z,7.8nm,0.8s
LANS Liptovska Anna 28.41 316 *e*P **P** **07 32 13.8 +1.1**
LANS pmax pmax
comp=Z,3.0nm,0.6s
LANS Liptovska Anna 28.41 316 *e*P **P** **07 32 13.8 +1.1**
KURBB Kurchatov Arra 28.58 40 P **P** **07 32 14.6 +0.5**
comp=Z,3.5nm,0.8s,baz=243,slow=9.5,SNR=16
KURBB PcP **PcP** **07 35 25.2 +0.3**
comp=Z,1.4nm,0.6s,baz=236,slow=3.0,SNR=6.3
comp=Z,3.5nm,0.8s
KURK Kurchatov 28.68 40 **P** **07 32 16.1 +1.2**
KURK Kurchatov 28.68 40*ce*P **P** **07 32 16.2 +1.2**
KURK pmax pmax
comp=Z,13nm,1.7s
OJC Ojcow 28.71 319 P **P** **07 32 15.4 +0.1**
OJC Ojcow 28.71 319 P **P** **07 32 15.4 +0.1**
MAKZ Makanchi 29.06 49 P **P** **07 32 18.7 +0.3**
MAKZ Makanchi 29.06 49 P **P** **07 32 18.7 +0.3**
MAKZ pmax pmax
comp=Z,3.0nm,1.1s
WDD Wied Dalam 29.22 288 P **P** **07 32 20.6 +0.6**
MK31 Makanchi Array 29.25 50*ce*P **P** **07 32 20.6 +0.4**
MKAR Makanchi Array 29.25 50 **P** **07 32 20.9 +0.6**
MKAR Makanchi Array 29.25 50 P **P** **07 32 21.2 +1.0**
comp=Z,4.1nm,0.6s,baz=244,slow=9.1,SNR=51
MKAR PcP **PcP** **07 35 26.6 -0.2**
comp=Z,0.8nm,0.5s,baz=239,slow=1.8,SNR=3.0
comp=Z,4.1nm,0.6s
MKAR Makanchi Array 29.25 50 *i* P **P** **07 32 21.6 +1.4**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
PABE Paberze 29.74 330 **P** **07 32 24.3 0.0**
PABE Paberze 29.74 330 *e*P **P** **07 32 24.3 0.0**
RONA Rosalia, Austr 29.77 312 *i* P **P** **07 32 25.3 +0.5**
comp=Z,3.0nm,0.5s,SNR=4.7
MORC Moravsky Berou 29.81 316 P **P** **07 32 25.1 -0.1**
MORC Moravsky Berou 29.81 316 P **P** **07 32 25.1 -0.1**
MORC pmax pmax
comp=Z,4.0nm,0.5s
KLMR Klimovskoe 29.82 350 *e*P **P** **07 32 22.4 -2.6**
KLMR *e* 07 35 28.6
KLMR pmax pmax
comp=Z,20nm,1.2s
INTR Introdacqua 30.03 300 P **P** **07 32 27.4 +0.3**
INTR lAmb lAmb 07 32 39.9
comp=Z,12nm,1.3s
ARSA Arzberg 30.12 311 **P** **07 32 27.7 -0.1**
ARSA Arzberg 30.12 311 *e*P **P** **07 32 28.5 +0.7**
comp=Z,3.9nm,0.8s
CONA Conrad Observa 30.13 312 *e*P **P** **07 32 28.3 +0.3**
comp=Z,2.3nm,0.9s
SOKA Soboth 30.26 309 *i* P **P** **07 32 29.1 -0.1**
comp=Z,0.6nm,0.5s
NRCA Norcia 30.73 301 P **P** **07 32 34.8 +1.4**
NRCA lAmb lAmb 07 32 37.9
comp=Z,7.7nm,0.8s
DPC Dobruska-Polom 30.77 317 *e*P **P** **07 32 33.6 0.0**
DPC Dobruska-Polom 30.77 317 *e*P **P** **07 32 33.6 0.0**
FDMO Fiordimonte 30.78 302 P **P** **07 32 34.6 +0.9**
FDMO lAmb lAmb 07 32 39.1
comp=Z,8.9nm,0.8s
VSU Vasula 30.83 337*ce*P **P** **07 32 33.4 -0.5**
VSU pmax pmax
comp=Z,18nm,0.7s
CHVC Chvalec 31.02 317 *e*P **P** **07 32 36.2 +0.4**
CHVC Chvalec 31.02 317 *e*P **P** **07 32 36.2 +0.4**
SABO M.te Sabotino 31.03 308 P **P** **07 32 36.2 +0.3**
SABO lAmb lAmb 07 32 36.8
comp=Z,10nm,0.6s
CESX Cesi 31.08 301 P **P** **07 32 35.1 -1.3**
CESX lAmb lAmb 07 32 46.8
comp=Z,6.9nm,0.6s
MOA Molln 31.12 311 *i* P **P** **07 32 36.9 +0.2**
comp=Z,6.5nm,0.4s,SNR=5.3
PRED Cave del Predi 31.17 308 P **P** **07 32 35.9 -1.3**
PRED lAmb lAmb 07 32 44.4
comp=Z,5.8nm,0.8s
MURB Monte Urbino 31.22 302 P **P** **07 32 36.6 -1.1**
CKRC Cesky Krumlov 31.41 313 *e*P **P** **07 32 39.3 +0.1**
CKRC Cesky Krumlov 31.41 313 *e*P **P** **07 32 39.3 +0.1**
BIOA Bad Ischl, Aus 31.47 311 *i* P **P** **07 32 40.2 +0.4**
comp=Z,11nm,0.5s,SNR=4.3
ZVC Zvikov 31.69 314 *e*P **P** **07 32 42.2 +0.5**
STAL STALIGIAL 31.70 308 P **P** **07 32 40.7 -1.1**
STAL lAmb lAmb 07 32 47.9
comp=Z,7.3nm,0.6s
GERES GERESS Array B 31.79 313 P **P** **07 32 42.6 -0.1**
GERES GERESS Array B 31.79 313 P **P** **07 32 42.1 -0.6**
comp=Z,1.7nm,0.5s,baz=108,slow=8.6,SNR=12
GERES PcP **PcP** **07 35 34.0 +0.5**
comp=Z,0.3nm,0.5s,baz=145,slow=3.6,SNR=2.4
comp=Z,1.7nm,0.5s
GERES GERESS Array B 31.79 313 P **P** **07 32 42.6 -0.1**
ARBE Arbavere 31.83 337 *e*P **P** **07 32 42.9 +0.2**
CIMO Cimolais 31.89 308 P **P** **07 32 44.0 +0.5**
CIMO lAmb lAmb 07 32 44.4
comp=Z,7.0nm,0.8s
ABTA Abfaltersbach 31.95 309 *e*P **P** **07 32 44.8 +0.7**
comp=Z,8.7nm,0.8s,SNR=8.0
KHC Kasperske Hory 31.96 313 *e*P **P** **07 32 44.7 +0.6**
KHC Kasperske Hory 31.96 313 *i* P **P** **07 32 44.5 +0.4**
KHC pmax pmax
comp=Z,4.0nm,1.0s
LESA Schwarzleotal 32.02 310 *e*P **P** **07 32 44.7 +0.1**
comp=Z,12nm,0.5s,SNR=10.0

MTSE Matsula 32.04 335 *e*P **P** **07 32 44.6 0.0**
ZCCA Zocca 32.50 304 P **P** **07 32 47.9 -1.0**
WTTA Wattenberg 32.66 309 *i* P **P** **07 32 50.4 0.0**
comp=Z,14nm,0.6s,SNR=8.7
WATA Walderalm 32.72 309 *e*P **P** **07 32 50.7 -0.1**
comp=Z,11nm,0.6s,SNR=5.7
SQTA Sankt Quirin 32.93 309 *e*P **P** **07 32 52.7 0.0**
comp=Z,37nm,0.6s,SNR=20
MEF Metsahovi 32.95 337 *e*P **P** **07 32 52.5 +0.1**
MOTA Mooasalm 33.03 309 *e*P **P** **07 32 53.2 -0.4**
comp=Z,17nm,0.6s,SNR=12
FETA Feichten 33.20 309 *e*P **P** **07 32 55.1 -0.1**
comp=Z,15nm,0.8s,SNR=13
RETA Reutte 33.29 309 *i* P **P** **07 32 55.5 -0.3**
comp=Z,10.0nm,0.5s,SNR=5.8
FIA1 FINESS Array S 33.37 340 P **P** **07 32 55.8 -0.3**
FINES FINESS Array B 33.37 340 P **P** **07 32 55.7 -0.4**
FINES FINESS Array B 33.37 340 P **P** **07 32 55.9 -0.3**
comp=Z,13nm,0.4s,baz=143,slow=9.7,SNR=133
FINES PcP **PcP** **07 35 37.5 +0.1**
comp=Z,2.0nm,0.5s,baz=132,slow=5.4,SNR=3.8
comp=Z,13nm,0.4s
FUORN Ofenpass-Fuorn 33.42 308 **P** **07 32 56.6 -0.6**
FUORN lAmb lAmb 07 33 03.6
comp=Z,6.6nm,0.5s
ZAA0 Zalesovo Array 33.57 38 **P** **07 32 57.9 -0.1**
ZAA0 lAmb lAmb 07 32 59.1
comp=Z,4.1nm,0.6s
ZALV Zalesovo Beam 33.57 38 **P** **07 32 58.2 +0.2**
ZALV Zalesovo Beam 33.57 38 P **P** **07 32 58.7 +0.7**
comp=Z,3.1nm,0.4s,baz=251,slow=9.2,SNR=9.3
ZALV PcP **PcP** **07 35 37.9 -0.3**
comp=Z,1.5nm,0.5s,baz=238,slow=4.1,SNR=3.2
comp=Z,3.1nm,0.4s
GRA1 Grafenberg Arr 33.60 313 P **P** **07 32 58.7 +0.3**
GRF Grafenberg Arr 33.60 313 P **P** **07 32 58.7 +0.3**
GRF pmax pmax
comp=Z,20nm,0.5s
BSD Bornholm Skovb 33.70 324 *i* P **P** **07 32 58.3 -0.8**
BSD lAmb lAmb 07 32 58.8
comp=Z,20nm,0.6s
DAVA Damuels 33.83 309 *e*P **P** **07 33 00.3 -0.3**
comp=Z,38nm,0.5s,SNR=24
BLEU Blekinge 33.88 326 *i* P **P** **07 32 59.9 -0.7**
TUE Stuetta 34.02 307 lAmb lAmb 07 33 06.1
comp=Z,7.1nm,0.8s
KEF Keuruu 34.29 340 *e*P **P** **07 33 04.2 +0.1**
RAF Rauma 34.42 336 *e*P **P** **07 33 04.9 -0.4**
DEL Delary 34.89 326 *i* P **P** **07 33 09.0 -0.4**
BJUU Bjuv 35.11 325 *i* P **P** **07 33 11.1 -0.2**
BNI Bardonecchia 35.64 304 lAmb lAmb 07 33 16.7
comp=Z,8.6nm,0.8s
FABU Falkenberg 35.70 326 *i* P **P** **07 33 16.3 -0.1**
ECH Echery 35.82 310 **P** **07 33 16.8 -0.8**
ECH Echery 35.82 310 P **P** **07 33 16.8 -0.8**
ECH pmax pmax
comp=Z,5.0nm,0.8s
BORU Boraas 35.99 327 *i* P **P** **07 33 18.9 0.0**
ONAU Onsala 36.28 326 *i* P **P** **07 33 21.3 0.0**
HFS Hagfors 36.91 331 P **P** **07 33 26.6 -0.2**
comp=Z,23nm,0.3s,baz=125,slow=8.3,SNR=287
HFS PcP **PcP** **07 35 46.9 -0.9**
comp=Z,2.4nm,0.8s,baz=153,slow=2.0,SNR=1.6
MUD Monsted U'grnd 37.20 324 *i* P **P** **07 33 29.9 +0.7**
MUD lAmb lAmb 07 33 30.1
comp=Z,12nm,0.7s
STRU Stroemstad 37.42 328 *i* P **P** **07 33 30.8 -0.2**
OSL Oslo 38.07 329 *e*P **P** **07 33 36.3 -0.2**
NC602 NORSAR Array S 38.14 331 P **P** **07 33 36.1 -1.0**
NC602 NORSAR Array S 38.14 331 *e*P **P** **07 33 36.7 -0.4**
NC602 lAmb lAmb 07 33 38.7
comp=Z,4.9nm,0.7s
NC405 NORSAR Array S 38.27 331 P **P** **07 33 37.2 -1.0**
HOMB Homborsund 38.30 326 *e*P **P** **07 33 37.9 -0.6**
HOMB lAmb lAmb 07 33 43.7
comp=Z,23nm,1.0s
HOMB Homborsund 38.30 326 *i* P **P** **07 33 38.2 -0.2**
NB201 NORSAR Array S 38.41 331 **P** **07 33 38.4 -1.0**
NB201 lAmb lAmb 07 33 44.6
comp=Z,35nm,1.5s
KONO Kongsberg 38.43 328 *e*P **P** **07 33 38.8 -0.7**
NB2 NORSAR Subarra 38.44 331 P **P** **07 33 38.9 -0.8**
comp=Z,5.2nm,0.5s,baz=122,slow=8.6
NB2 PP **PP** **07 35 05.1 -2.4**
comp=Z,1.6nm,0.6s,baz=126,slow=11
NB2 NORSAR Subarra 38.44 331 P **P** **07 33 38.9 -0.8**
baz=122,slow=8.6
NOA NORSAR Array B 38.44 331 P **P** **07 33 38.8 -0.9**
comp=Z,4.9nm,0.4s,baz=122,slow=8.4,SNR=44
NOA PP **PP** **07 35 05.2 -2.4**
comp=Z,1.5nm,0.5s,baz=128,slow=11,SNR=4.0
comp=Z,4.9nm,0.4s
NC303 NORSAR Array S 38.47 331 P **P** **07 33 39.4 -0.5**
NC303 lAmb lAmb 07 33 44.4
comp=Z,26nm,1.2s
NC204 NORSAR Array S 38.75 331 lAmb lAmb 07 33 41.9
comp=Z,12nm,0.6s
SKAR Skarslia 39.49 329 *e*P **P** **07 33 48.8 +0.4**
SKAR lAmb lAmb 07 33 49.2
comp=Z,19nm,1.1s
BLS5 Blasjo 39.76 327 *e*P **P** **07 33 51.0 +0.3**
DOMB Dombas 39.84 332 *e*P **P** **07 33 51.3 -0.1**
ODD1 Odda 39.88 328 *e*P **P** **07 33 52.3 +0.5**
ODD1 lAmb lAmb 07 33 53.5
comp=Z,12nm,0.5s
VADS Vadso 40.01 349 *e*P **P** **07 33 53.0 +0.4**
VADS lAmb lAmb 07 34 02.4
comp=Z,23nm,1.0s
NSS Namsos 40.12 336 *e*P **P** **07 33 53.3 -0.3**
NSS lAmb lAmb 07 33 54.0
comp=Z,20nm,0.7s
ARCES ARCESS Array B 40.16 347 P **P** **07 33 53.6 -0.3**
comp=Z,1.5nm,0.4s,baz=157,slow=8.5,SNR=27
ARCES PP **PP** **07 35 23.2 -3.0**
comp=Z,2.9nm,0.8s,baz=152,slow=11,SNR=4.2
ARCES ScP **ScP** **07 39 44.8 -1.1**
comp=Z,2.8nm,1.0s,baz=152,slow=5.5,SNR=4.3
comp=Z,1.5nm,0.4s
KTK1 Kautokeino 40.17 346 *e*P **P** **07 33 53.0 -1.0**
KTK1 lAmb lAmb 07 33 55.0
comp=Z,5.5nm,0.5s
HYA Hoyanger 40.63 329 *e*P **P** **07 33 58.0 +0.1**
BER Bergen 40.67 328 *e*P **P** **07 33 58.3 +0.1**
ASK Askoy 40.78 328 *e*P **P** **07 33 58.3 -0.7**
STOK Stokkvaagen 40.89 339 *e*P **P** **07 33 58.6 -1.2**
STOK lAmb lAmb 07 34 00.1
comp=Z,33nm,0.9s
FAUS Fauske 40.91 341 *e*P **P** **07 33 59.3 -0.7**
VAGH Vaagaholmen 41.06 339 *e*P **P** **07 33 59.6 -1.7**
GTA Gaotai 41.21 65 *e*P **P** **07 34 04.4 +1.3**
GTA pmax pmax
comp=Z,4.0nm,1.0s
JETT Jettan, Norway 41.22 345 *e*P **P** **07 34 02.6 -0.1**
STEI Steigen 41.30 341 *e*P **P** **07 34 03.0 -0.3**
STEI lAmb lAmb 07 34 03.2
comp=Z,13nm,0.6s
FOO Floro 41.31 330 *e*P **P** **07 34 03.6 +0.2**
TRO Tromso 41.61 344 *e*P **P** **07 34 05.0 -0.8**
NRIK Noril'sk 43.30 19 P **P** **07 34 20.2 +0.7**
comp=Z,6.8nm,0.8s,baz=202,slow=6.4,SNR=5.6
comp=Z,6.8nm,0.8s
NRIK Noril'sk 43.30 19 *i* P **P** **07 34 20.4 +0.8**
NRIK pmax pmax
comp=Z,10.0nm,0.9s
EKA Eskdalemuir Ar 43.49 319 P **P** **07 34 20.4 -0.9**
comp=Z,0.5nm,0.3s,baz=103,slow=8.0,SNR=7.5
comp=Z,0.5nm,0.3s
ESDC Sonseca Array 43.54 296 P **P** **07 34 22.6 +0.7**
comp=Z,0.9nm,0.4s,baz=69,slow=7.7,SNR=9.6
comp=Z,0.9nm,0.4s
DSB Dublin 45.07 315 P **P** **07 34 33.7 -0.3**
DSB lAmb lAmb 07 34 51.4
comp=Z,4.9nm,0.8s
SONM Songino Array 45.55 52 P **P** **07 34 39.2 +1.2**
comp=Z,0.7nm,0.5s,baz=272,slow=6.8,SNR=4.6
SONM PcP **PcP** **07 36 17.0 +0.6**
comp=Z,0.7nm,0.3s,baz=198,slow=4.2,SNR=1.5
comp=Z,0.7nm,0.5s
MVO Moncorvo 45.68 298 *e*P **P** **07 34 38.2 -0.9**
ULN Ulaanbaatar 45.99 52*ce*P **P** **07 34 42.6 +1.0**
ULN pmax pmax
comp=Z,3.0nm,0.7s
PBAR Barrancos 46.13 294 *e*P **P** **07 34 43.1 +0.5**
PBAR *i* lAmb lAmb 07 35 03.2
comp=Z,15nm,1.2s
PMRV Marv??o 46.20 296 *e*P **P** **07 34 42.1 -1.1**

PCBR **Castelo Branco** 46.20 297 *e*P P 07 34 44.0 +0.9
CHTO **Chiang Mai** 46.20 94 P 07 34 44.4 +1.0
CHTO **Chiang Mai** 46.20 94 P P 07 34 44.4 +1.0
CHTO pmax pmax
comp=Z,10.0nm,0.7s
POLO **Lamas de Olo** 46.23 299 *e*P P 07 34 44.2 +0.7
POLO *i* IAmb IAmb 07 34 57.3
comp=Z,12nm,1.3s
CM31 **Chiang Mai Arr** 46.36 94 P P 07 34 45.4 +0.8
CMAR **Chiang Mai Arr** 46.36 94 P 07 34 45.4 +0.8
CMAR **Chiang Mai Arr** 46.36 94 P P 07 34 45.6 +1.0
comp=Z,8.2nm,0.7s,baz=291,slow=8.1,SNR=36
CMAR PcP PcP 07 36 20.7 +1.1
comp=Z,0.7nm,0.3s,baz=312,slow=3.7,SNR=1.9
comp=Z,8.2nm,0.7s
CMAR **Chiang Mai Arr** 46.36 94 *i* P P 07 34 46.0 +1.4
CMAR pmax pmax
comp=Z,8.0nm,0.6s
PVIS **Viseu** 46.39 298 *e*P P 07 34 43.1 -1.6
PGAV **Gavieira, Arco** 46.51 300 *e*P P 07 34 46.9 +1.2
PBEJ **Beja** 46.80 294 *e*P P 07 34 48.6 +0.8
TORD **Torodi Ar. Bea** 47.46 258 P P 07 34 52.8 -0.5
TORD IAmb IAmb 07 35 06.6
comp=Z,3.7nm,0.8s
TORD **Torodi Ar. Bea** 47.46 258 P P 07 34 53.9 +0.7
comp=Z,4.7nm,0.6s,baz=51,slow=9.6,SNR=12
comp=Z,4.7nm,0.6s
SPB2 **Spitsbergen Ar** 48.70 351 P P 07 35 02.3 +0.2
SPITS **Spitsbergen Ar** 48.71 351 P P 07 35 01.9 -0.2
comp=Z,3.7nm,0.4s,baz=140,slow=11,SNR=23
comp=Z,3.7nm,0.4s
SPITS **Spitsbergen Ar** 48.71 351 P P 07 35 02.5 +0.4
SPITS pmax pmax
comp=Z,12nm,0.7s
KBS **Kingsbay** 49.86 351 P P 07 35 11.2 +0.4
KBS IAmb IAmb 07 35 11.8
comp=Z,9.6nm,0.9s
KBS **Kingsbay** 49.86 351 *ce*P P 07 35 11.9 +1.1
KBS pmax pmax
comp=Z,9.0nm,1.3s
IPM **Ipoh** 55.35 108 P P 07 35 52.0 -0.5
DBIC **Dimbokro** 56.36 256 P P 07 35 59.1 -0.5
comp=Z,3.8nm,0.6s,baz=80,slow=5.6,SNR=5.6
comp=Z,3.8nm,0.6s
ZEA **Zeya** 58.09 43 *e*P P 07 36 11.4 +0.1
ZEA pmax pmax
comp=Z,10.0nm,0.6s
SUMG **Summit** 59.40 340 P 07 36 20.8 +0.1
SUMG IAmb IAmb 07 36 28.6
comp=Z,8.8nm,1.1s
SUMG **Summit** 59.40 340 P P 07 36 20.8 +0.1
SUMG pmax pmax
comp=Z,9.0nm,1.1s
SUMG **Summit** 59.40 340 *i* P P 07 36 20.0 -0.6
BNX **BinXian** 60.09 52 ⇑P P 07 36 23.3 -2.0
BNX pmax pmax
comp=Z,7.0nm,1.6s
KGCAE **Kacgae** 60.26 209 P 07 36 26.4 -0.3
LBTB **Lobatse** 60.90 205 P P 07 36 31.6 +0.5
LBTB **Lobatse** 60.90 205 P P 07 36 31.6 +0.5
LBTB pmax pmax
comp=Z,18nm,1.2s
KLR **Kul'dur** 61.93 47 *i* P P 07 36 37.1 -0.6
KLR pmax pmax
comp=Z,6.0nm,1.1s
KSAR **Wonju Array Be** 63.05 61 P P 07 36 45.1 -0.3
KSAR **Wonju Array Be** 63.05 61 P P 07 36 45.1 -0.3
KSRS **Korea Array** 63.07 61 P P 07 36 45.0 -0.5
comp=Z,6.5nm,0.6s,baz=282,slow=7.2,SNR=22
comp=Z,6.5nm,0.6s
USRK **Ussuriysk Ar.** 63.66 53 P P 07 36 49.2 -0.2
USRK **Ussuriysk Ar.** 63.66 53 P P 07 36 48.9 -0.5
comp=Z,2.6nm,0.7s,baz=253,slow=5.2,SNR=5.6
comp=Z,2.6nm,0.7s
USRK **Ussuriysk Ar.** 63.66 53 P P 07 36 49.2 -0.2
BOSA **Boshof** 64.32 204 P P 07 36 54.5 +0.6
comp=Z,3.8nm,0.9s,baz=21,slow=5.6,SNR=8.2
comp=Z,3.8nm,0.9s
SEY **Seymchan** 67.74 29 *i* P P 07 37 16.6 +1.3
SEY pmax pmax
comp=Z,7.0nm,0.8s
MA2 **Magadan** 68.53 32 *i* P P 07 37 21.7 +1.3
BILL **Bilibino** 70.06 21 *ce*P P 07 37 29.5 -0.2
BILL pmax pmax
comp=Z,3.0nm,0.6s
ILON **Igloolik, Nuna** 73.09 344 P P 07 37 48.0 +0.1
ILON IAmb IAmb 07 37 48.3
comp=Z,6.1nm,0.6s
TOLI2 **Tolitoli** 73.57 99 P P 07 37 50.4 -1.2
TOLI2 IAmb IAmb 07 37 52.6
comp=Z,7.3nm,0.9s
DRLN **Deer Lake** 76.52 320 P P 07 38 08.3 +0.1
B20K **Meade River** 76.69 9 P P 07 38 09.8 +1.1
B20K IAmb IAmb 07 38 21.5
comp=Z,4.1nm,0.7s
C18K **Utukok River** 77.33 11 P 07 38 13.0 +0.5
C18K IAmb IAmb 07 38 24.4
comp=Z,3.5nm,0.7s
B21K **Ikpikpuk River** 77.39 8 IAmb IAmb 07 38 25.3
comp=Z,6.9nm,0.8s
SCHQ **Schefferville** 77.93 328 P P 07 38 15.4 -0.5
comp=Z,9.5nm,0.6s,baz=45,slow=4.0,SNR=15
comp=Z,9.5nm,0.6s
C24K **Franklin Bluff** 77.94 6 IAmb IAmb 07 38 17.7
comp=Z,14nm,1.4s
D20K **Etivluk River** 77.97 9 P 07 38 15.7 -0.3
D20K IAmb IAmb 07 38 57.5
comp=Z,5.6nm,0.8s
D22K **Ayikyak River** 78.32 8 P 07 38 18.5 +0.6
D22K IAmb IAmb 07 38 41.4
comp=Z,3.6nm,0.7s
C27K **Jago River** 78.44 5 IAmb IAmb 07 38 20.6
comp=Z,11nm,1.4s
D23K **Nanushuk River** 78.47 7 IAmb IAmb 07 38 39.8
comp=Z,4.8nm,0.9s
D25K **Kavik River** 78.53 6 IAmb IAmb 07 38 21.3
comp=Z,5.5nm,0.9s
TOLK **Toolik Lake Re** 78.89 7 P P 07 38 22.0 +0.9
E23K **Chandalar** 79.45 7 IAmb IAmb 07 38 26.1
comp=Z,7.8nm,1.4s
E29M **Blow River** 79.99 3 P 07 38 27.5 +0.4
COLD **Coldfoot** 80.19 8 IAmb IAmb 07 39 13.3
comp=Z,4.1nm,0.5s
F30M **Barrier River** 80.84 2 IAmb IAmb 07 38 39.8
comp=Z,12nm,1.3s
G24K **Hadweenzic Riv** 80.99 7 P 07 38 33.6 +1.2
F31M **Tsiigehtchic** 81.06 1 IAmb IAmb 07 38 43.4
comp=Z,4.6nm,0.8s
G31M **Satah River** 81.58 1 IAmb IAmb 07 38 42.8
comp=Z,8.6nm,1.1s
H23K **Yukon River** 81.61 8 P P 07 38 36.3 +0.6
H23K IAmb IAmb 07 39 19.7
comp=Z,10nm,1.2s
H27K **Steamboat Moun** 81.94 4 IAmb IAmb 07 38 39.5
comp=Z,8.3nm,1.5s
I28M **Miner Creek** 82.82 4 P P 07 38 42.3 +0.1
ILAR **Eielson Array** 82.92 7 P P 07 38 42.9 +0.3
ILAR **Eielson Array** 82.92 7 P P 07 38 42.0 -0.7
comp=Z,0.7nm,0.7s,baz=319,slow=4.7,SNR=11
ILAR PKKPbc PKKPbc 07 57 04.8 -1.1
comp=Z,0.4nm,0.5s,baz=204,slow=2.1,SNR=9.1
comp=Z,0.7nm,0.7s
ILAR **Eielson Array** 82.92 7 P P 07 38 42.9 +0.3
I30M **Mount Dempster** 83.22 2 IAmb IAmb 07 39 03.9
comp=Z,3.6nm,1.1s
J26L **Joseph Creek** 83.50 6 P 07 38 46.4 +0.7
L14K **Kuka Creek** 83.60 15 IAmb IAmb 07 39 06.3
comp=Z,4.3nm,1.1s
J30M **Hart River** 83.86 3 IAmb IAmb 07 39 22.5
comp=Z,5.9nm,1.4s
L16K **Owhat River** 83.94 13 IAmb IAmb 07 38 50.4
comp=Z,2.7nm,0.8s
SCRK **Sand Creek** 83.98 6 IAmb IAmb 07 38 49.4
comp=Z,3.7nm,0.8s
D62A **Allapoint, All** 83.99 323 P P 07 38 49.2 +0.8
DAWY **Dawson** 84.23 4 IAmb IAmb 07 38 55.2
comp=Z,4.6nm,1.3s
DOT **Dot Lake** 84.30 6 IAmb IAmb 07 39 17.0
comp=Z,5.9nm,1.2s
BCAR **Beaver Creek A** 85.06 5 P P 07 38 54.2 +0.6
L27K **Beaver Creek,** 85.06 5 P P 07 38 54.5 +0.9
YKA **Yellowknife Ar** 85.19 353 P P 07 38 53.9 -0.3
comp=Z,1.8nm,0.8s,baz=11,slow=4.7,SNR=4.8
comp=Z,1.8nm,0.8s
YKA **Yellowknife Ar** 85.19 353 *i* P P 07 38 54.2 0.0
YKA pmax pmax
comp=Z,2.0nm,0.8s
N19K **Bonanza Creek** 85.69 12 IAmb IAmb 07 39 00.0
comp=Z,3.9nm,0.7s
M27K **Edge Creek, AK** 85.75 5 P P 07 38 58.4 +1.2
M27K IAmb IAmb 07 38 59.2
comp=Z,4.3nm,1.0s
KLU **Klutina** 86.23 7 IAmb IAmb 07 39 01.2
comp=Z,6.5nm,0.8s
YAH **Yahtse** 87.74 6 P P 07 39 07.6 +0.5
FRNY **Flat Rock** 87.84 323 P P 07 39 07.3 -0.2
FRNY IAmb IAmb 07 39 19.9
comp=Z,6.6nm,1.1s
FITZ **Fitzroy Crossi** 88.18 112 P P 07 39 09.7 +0.2
comp=Z,3.5nm,0.9s,baz=304,slow=7.3,SNR=2.8
comp=Z,3.5nm,0.9s
E46A **Sault Ste Mari** 91.72 330 P 07 39 25.6 -0.1
TBO **Thunder Bay** 91.91 334 P P 07 39 26.0 -0.5
ULM **Lac du Bonnet** 92.75 339 P P 07 39 29.1 -1.2
comp=Z,2.9nm,0.8s,baz=314,slow=1.6,SNR=3.9
comp=Z,2.9nm,0.8s
G40A **Rib Lake** 95.02 333 P P 07 39 40.4 -0.5
WRA **Warramunga Arr** 96.09 110 P P 07 39 45.8 -0.4
comp=Z,0.3nm,0.6s,baz=315,slow=4.1,SNR=5.5
comp=Z,0.3nm,0.6s
ASAR **Alice Springs** 97.67 113 P P 07 39 52.4 -0.8
comp=Z,0.4nm,0.7s,baz=310,slow=5.1,SNR=6.0
comp=Z,0.4nm,0.7s
PDAR **Pinedale Array** 103.36 344 PKiKP PKiKP 07 44 36.4 -1.2
comp=Z,0.1nm,0.4s,baz=11,slow=7.5,SNR=1.6
TXAR **Lajitas Array** 114.08 334 PKP PKiKP 07 44 57.5 -0.4
comp=Z,0.2nm,0.6s,baz=191,slow=1.8,SNR=3.8
QSPA **South Pole Qui** 121.61 180 PKP PKPdf 07 45 10.9 -0.1
comp=Z,1.2nm,0.6s,baz=232,slow=0.4,SNR=17
PLCA **Paso Flores** 131.63 242 PKP PKPdf 07 45 32.5 +1.5
comp=Z,1.1nm,0.9s,baz=44,slow=4.5,SNR=4.8

IDC 08 07:29:51.8±2.4, 54°.62N×83°.82E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=19.4km s-min=11.9km az=166.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	0.89	139	I	I	07 35 30.0	
	baz=319,slow=305,SNR=0.9						
ZALV	**Zalesovo Beam**	0.89	139	Pg	Pg	07 30 08.5	-0.2
	1.0nm,0.3s,baz=322,slow=14,SNR=10						
ZALV				Lg	Lg	07 30 21.9	
	0.7nm,0.3s,baz=319,slow=30,SNR=5.6						
KURBB	**Kurchatov Arra**	5.14	221	Pn	Pn	07 31 10.6	+0.7
	baz=41,slow=13,SNR=2.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	7.89	188	Pn	Pn	07 31 47.1	-0.7
	0.1nm,0.3s,baz=12,slow=13,SNR=2.9						
	0.2nm,0.4s						

*NEIC **08** 07:31:58.0±1.5, 36°.156N×0°.005×117°.85W±0°.01, h3km±3km, ML3.5/24, ML3.3/144(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=89.0, California-Nevada border region*

PAS 08 07:31:58.4±1.3, 36°.158N×0°.008×117°.88W±0°.01, h3km±3km, ML3.5/24, ML3.3/144(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=89.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MFS	**McCloud Flat S**	0.04	158		Pg	07 31 59.6	+0.2
WRVM	**Rose V. Centra**	0.15	184		Pg	07 32 01.4	+0.1
WVPM	**Volcano Peak E**	0.21	167		Pg	07 32 02.6	+0.1
WNMM	**Nine Mile Cany**	0.32	184		Pg	07 32 04.4	-0.1
WNMM					Sg	07 32 09.2	+0.7
CWC	**Cottonwood Cre**	0.33	330		Pg	07 32 04.7	-0.1
CWC				Sg	Sg	07 32 09.5	+0.5
CWC				IAML		07 32 09.7	
	comp=E,5μm,0.2s						
CWC				IAML		07 32 11.6	
	comp=N,3μm,0.2s						
MPMC	**Manual Prospec**	0.33	108		Pg	07 32 04.7	0.0
MPMC				Sg	Sg	07 32 09.4	+0.3
MPMC				IAML		07 32 13.4	
	comp=N,3μm,0.9s						
MPMC				IAML		07 32 14.9	
	comp=E,3μm,0.6s						
TOW	**Tower One**	0.36	165		Pg	07 32 05.8	+0.5
CGO	**Cerro Gordo**	0.40	8		Pg	07 32 05.9	-0.2
CLC	**China Lake**	0.41	146		Pg	07 32 06.2	-0.1
CLC				Sg	Sg	07 32 12.4	+0.8
SRTC	**Snort**	0.48	168		Pg	07 32 08.0	+0.5
SRTC					Sb	07 32 15.5	-1.4
WORM	**Onyx Ranch**	0.55	213		Pg	07 32 08.0	-1.0
WORM					Sg	07 32 16.2	+0.1
WHFM	**Hanning Flat**	0.60	220		Pg	07 32 09.7	-0.2
WHFM					Sg	07 32 18.1	+0.4
WBSM	**Bird Springs**	0.66	199		Pg	07 32 10.8	-0.1
WBSM					Sg	07 32 20.1	+0.6
ISA	**Isabella, Lake**	0.69	225		Pg	07 32 11.4	-0.2
ISA				Sg	Sg	07 32 20.8	+0.1
ISA				IAML		07 32 21.4	
	comp=N,1μm,0.5s						
ISA				IAML		07 32 21.9	
	comp=E,1μm,0.3s						
WASM	**Alta Sierra Ca**	0.69	233		Pg	07 32 11.5	-0.2
LRMC	**Laurel Mtn Rad**	0.69	167	Pg	Pg	07 32 11.7	-0.1
LRMC					Sg	07 32 21.2	+0.5
LRMC				IAML		07 32 21.6	
	comp=N,1μm,0.2s						
LRMC				IAML		07 32 23.1	
	comp=E,1μm,0.5s						
SPG2	**Springville 2**	0.72	274		Pg	07 32 11.9	-0.4
CCCA	**Chr Cany lake**	0.76	147		Pg	07 32 13.1	+0.2
CCCA				Sg	Sg	07 32 23.4	+0.7
QSM	**Queen of Sheba**	0.84	103		Pg	07 32 14.4	-0.1
QSM				IAML		07 32 30.5	
	comp=E,1μm,0.7s						
QSM				IAML		07 32 32.8	
	comp=N,1μm,0.7s						
DTP	**Desert Tortois**	0.89	178		Pg	07 32 15.1	-0.4
DTP					Sg	07 32 26.8	-0.1
GRAC	**Grapevine Rang**	0.93	26		Pg	07 32 16.1	-0.1
GRAC				Sg	Sg	07 32 28.8	+0.4
GRAC				IAML		07 32 29.8	
	comp=N,1μm,0.7s						
GRAC				IAML		07 32 36.9	
	comp=E,1μm,0.6s						
TIN	**Tinemaha, Big**	0.94	342		Pg	07 32 16.3	-0.1
TIN					Sg	07 32 29.4	+0.8
GWY	**Greenwater Val**	0.98	88		Pg	07 32 16.9	-0.2
GWY				Sg	Sg	07 32 30.1	+0.3
GWY				IAML		07 32 36.5	
	comp=N,1μm,0.6s						
GWY				IAML		07 32 41.2	
	comp=E,1μm,0.9s						
CCAC	**Calif City Air**	1.01	187		Pg	07 32 17.2	-0.5
CCAC					Sg	07 32 31.0	+0.2
VES	**Vestal, Richgr**	1.03	252		Pg	07 32 17.9	-0.2
VES					Sg	07 32 31.9	+0.4
SGV	**South Grapevin**	1.06	39		Pg	07 32 18.5	-0.3
LCH	**Last Change Ra**	1.09	10		Pg	07 32 18.5	-0.8
TEJ	**El Tejon**	1.14	216		Pg	07 32 19.3	-0.9
TEJ					Sg	07 32 34.7	-0.3
WCT	**Wildcat Mounta**	1.19	57		Pg	07 32 20.6	-0.6
WCT				Sg	Sg	07 32 36.2	-0.4
WCT				IAML		07 32 39.3	
	comp=E,520nm,0.7s						
DSP	**Deep Springs**	1.21	356		Pg	07 32 20.7	-0.9
DSP					Sg	07 32 37.2	-0.2
DSP				IAML		07 32 42.5	
	comp=E,369nm,1.1s						
GSC	**Goldstone, Bar**	1.22	134		Pg	07 32 21.0	-0.8
GSC				IAML		07 32 40.8	
	comp=E,889nm,0.6s						
GSC				IAML		07 32 43.0	
	comp=N,728nm,0.6s						
VOG	**Valley Oaks Go**	1.23	278		Pg	07 32 21.4	-0.5
VOG					Sg	07 32 38.0	+0.1
BHPR	**Bishop**	1.24	337		Pg	07 32 21.6	-0.7
GMN	**Gold Mountain**	1.24	23		Pg	07 32 21.5	-0.8
GMN				IAML		07 32 39.9	
	comp=E,410nm,0.3s						
GMN				IAML		07 32 45.0	
	comp=N,356nm,0.6s						
POCCA	**Poleta Canyon**	1.25	345		Pg	07 32 21.9	-0.4
EDW2	**Edwards Air Fo**	1.28	184		Pb	07 32 23.1	-0.1
EDW2					Sg	07 32 38.5	-0.9
BAKC	**Calstate**	1.29	231		Pg	07 32 22.9	-0.2
BAKC					Sn	07 32 40.7	-0.4
ARVC	**Arvin**	1.29	217		Pg	07 32 22.5	-0.7
TPO	**Tropico Hills**	1.31	193		Pg	07 32 22.5	-1.0
TPO					Sg	07 32 40.1	-0.4
TPO				IAML		07 32 43.5	
	comp=E,712nm,0.7s						
TPO				IAML		07 32 47.7	
	comp=N,577nm,0.7s						
HYS	**Haystack Butte**	1.31	169		Pn	07 32 23.7	-0.1
MTUM	**Tungsten Hills**	1.31	335		Pg	07 32 22.9	-0.8
AMDNV	**Amargosa**	1.32	77		Pg	07 32 22.6	-1.1
SHOC	**Shoshone, Teco**	1.32	101		Pg	07 32 23.6	-0.2
TJR	**Tejon Ranch**	1.33	212		Pg	07 32 22.9	-1.1
THC	**Tehachapi Micr**	1.40	207		Pn	07 32 24.1	-1.0
TPNV	**Topopah Spring**	1.53	58		Pn	07 32 26.1	-0.7
TPNV				IAML		07 32 52.6	
	comp=N,557nm,0.7s						
TPNV				IAML		07 32 53.5	
	comp=N,412nm,0.8s						
MZP	**Montezuma Peak**	1.59	14		Pb	07 32 28.2	-0.4
LRRC	**Littlerock Res**	1.63	184		Pg	07 32 29.7	0.0
KCC	**Kaiser Creek**	1.64	316		Pn	07 32 28.4	+0.1
KCC					Sn	07 32 49.5	-0.6
BENR	**Benton**	1.65	340		Pn	07 32 29.0	+0.3
MLAC	**Mammoth, Mammo**	1.66	333		Pn	07 32 28.9	+0.2
OSI	**Osito Audit: C**	1.69	204		Pn	07 32 28.4	-0.6
OSI				IAML		07 32 55.5	
	comp=N,425nm,0.6s						
HOLC	**Holcomb Ridge**	1.70	179		Pb	07 32 30.6	+0.2
MCSM	**Casa Diablo Ho**	1.71	331		Pb	07 32 30.2	-0.5
TUQ	**Turquoise Moun**	1.74	114		Pn	07 32 28.5	-1.2
BCW	**Bitter Crk WRg**	1.75	226		Pn	07 32 30.1	+0.3
CRGC	**Crocker Grade**	1.76	239		Pb	07 32 30.8	-0.6
DSCC	**Desert Studies**	1.76	125		Pn	07 32 28.6	-1.3
CARC	**Carrizo Plain**	1.81	243		Pb	07 32 31.9	-0.4
CHFC	**Chilao Flat St**	1.82	184		Pb	07 32 32.7	+0.1
SMMC	**Simmler**	1.92	245		Pn	07 32 31.9	-0.2
MWC	**Mount Wilson**	1.94	184	Pn	Pn	07 32 31.8	-0.7
MWC				IAML		07 33 01.4	
	comp=E,325nm,0.7s						
MWC				IAML		07 33 05.2	
	comp=N,318nm,0.9s						
TPH	**Tonopah**	1.98	15	Pn	Pn	07 32 32.5	-0.7
PASC	**Pasadena Art C**	2.00	187	Pn	Pn	07 32 32.7	-0.4
PASC				IAML		07 33 11.3	
	comp=E,163nm,1.0s						
MTPC	**Mountain Pass**	2.00	109		Pn	07 32 32.4	-1.0
MTPC				IAML		07 33 04.3	
	comp=E,187nm,0.5s						
PKM	**Mcpherson Peak**	2.03	232		Pb	07 32 34.9	-1.1
TSCN	**Private Proper**	2.10	254		Pn	07 32 35.6	+1.0
LHV	**Little Huntoon**	2.15	347	Pn	Pn	07 32 35.0	-0.1
LHV				IAML		07 33 19.1	
	comp=E,177nm,1.0s						
LHV				IAML		07 33 24.4	
	comp=N,128nm,1.0s						
PKD	**Bear Valley Ra**	2.17	265		Pb	07 32 37.5	-0.9
PSMM	**Smith Mountain**	2.20	269		Pb	07 32 38.2	-0.8
SHPR	**Sheep Range**	2.22	80		Pn	07 32 36.0	-0.4
FIGC	**Figueroa Mtn.**	2.24	231		Pb	07 32 38.3	-1.3
S11A	**Rachel**	2.26	48	Pn	Pn	07 32 36.4	-0.4
NV11	**Mina Array Sit**	2.28	354	Pn	Pn	07 32 36.6	-0.6
NVAR	**Mina Array Bea**	2.29	352	Pn	Pn	07 32 37.1	-0.3
PMPB	**Monarch Peak**	2.37	272	Pn	Pn	07 32 37.8	-0.5
MYLM	**Yosemite Lake**	2.38	302		Pb	07 32 40.7	-1.2
PSAM	**San Ardo**	2.44	268		Pn	07 32 40.9	+1.6
RPV	**Rancho Palos V**	2.45	190		Pb	07 32 41.8	-1.3
RAMR	**Ramage Ranch**	2.49	259		Pn	07 32 41.1	+1.2
V12A	**Nelson**	2.49	99	Pn	Pn	07 32 38.5	-1.5
V12A				IAML		07 33 25.9	
	comp=N,99nm,1.4s						
RYN	**Ryan**	2.52	348	Pn	Pn	07 32 39.0	-1.4
ELS	**Elsinore Mount**	2.53	171	Pn	Pn	07 32 40.1	-0.4
TPC	**Twentynine Pal**	2.54	143		Pn	07 32 39.9	-0.7
POB	**Polly Butte**	2.59	162		Pn	07 32 41.5	+0.2
PRN	**Pahroc Range**	2.59	60	Pn	Pn	07 32 40.8	-0.6
PRN				IAML		07 33 29.2	
	comp=E,229nm,0.7s						
BBGB	**Big Mountain B**	2.59	280		Pn	07 32 39.2	-2.1
WAKR	**Walker**	2.65	332	Pn	Pn	07 32 40.8	-1.5
WAKR				IAML		07 33 25.3	
	comp=E,96nm,0.5s						
WAKR				IAML		07 33 26.2	
	comp=N,85nm,1.1s						
PCCM	**Crazy Canyon**	2.66	270		Pn	07 32 43.9	+1.7
Q09A	**Carvers**	2.73	11	Pn	Pn	07 32 41.9	-1.5
Q09A				IAML		07 33 49.1	
	comp=E,208nm,0.8s						
CMB	**Columbia Colle**	2.75	314		Pn	07 32 42.6	-0.9
CMB				IAML		07 33 25.7	
	comp=E,200nm,0.9s						
PMD	**Palm Desert**	2.79	153	Pn	Pn	07 32 43.2	-0.8
PFO	**Pinyon Flats O**	2.79	155	Pn	Pn	07 32 43.5	-0.7
R11B	**Troy Canyon, C**	2.85	39	Pn	Pn	07 32 45.1	+0.1
R11B				IAML		07 33 32.3	
	comp=E,68nm,0.7s						
SAO	**San Andreas Ge**	2.94	283	Pn	Pn	07 32 44.9	-1.3
NEE2	**Needles Airpor**	3.00	117	Pn	Pn	07 32 45.6	-1.3
NEE2				IAML		07 33 39.5	
	comp=E,116nm,0.6s						
NEE2				IAML		07 33 42.7	
	comp=N,146nm,0.7s						
BORC	**Borrego Spring**	3.12	157	Pn	Pn	07 32 47.4	-1.2
BORC				IAML		07 33 43.6	
	comp=E,55nm,1.1s						
DPP	**Dos Picos Cty**	3.25	166	Pn	Pn	07 32 49.6	-0.7
DPP				IAML		07 33 46.9	
	comp=E,47nm,0.8s						
SALN	**Salton City**	3.27	151	Pn	Pn	07 32 50.0	-0.5
W13A	**Hualapai Mount**	3.42	107	Pn	Pn	07 32 51.9	-0.9
MPK	**Martis Peak**	3.57	332	Pn	Pn	07 32 54.5	-0.5
TJX	**Tijuana**	3.70	169	Pn	Pn	07 32 55.9	-0.6
AFDM	**Forest Hills D**	3.72	319	Pn	Pn	07 32 55.3	-1.4
PAHR	**Pah Rah Range**	3.74	342	Pn	Pn	07 32 55.3	-1.9
LCMT	**Little Creek M**	3.82	76		Pn	07 32 58.2	-0.2
CCUT	**Cedar City**	3.88	68	Pn	Pn	07 32 57.6	-1.6
CBX	**Cerro Bola**	3.96	165	Pn	Pn	07 33 00.1	-0.2
CBX				IAML		07 34 16.6	
	comp=N,82nm,1.3s						
PSUT	**Pine Spring**	3.99	52	Pn	Pn	07 33 00.6	0.0
PSUT				IAML		07 34 08.3	
	comp=N,63nm,0.9s						
PSUT				IAML		07 34 09.2	
	comp=E,50nm,0.9s						
SPR3	**Spring Creek 3**	4.00	44	Pn	Pn	07 33 00.4	-0.5
SPR3				IAML		07 34 03.2	
	comp=E,38nm,0.9s						
SPR3				IAML		07 34 08.4	
	comp=N,34nm,0.6s						
SZCU	**Shurtz Canyon**	4.10	68	Pn	Pn	07 33 00.9	-1.3
KNB	**Kanab**	4.16	77	Pn	Pn	07 33 02.0	-1.0
KNB				IAML		07 34 11.6	
	comp=N,30nm,1.2s						
KNB				IAML		07 34 15.2	
	comp=E,35nm,1.5s						
BEKR	**Beckworth**	4.19	333	Pn	Pn	07 33 02.8	-0.6
BEKR				IAML		07 34 23.6	
	comp=N,47nm,0.6s						
U15A	**North Rim**	4.52	85	Pn	Pn	07 33 07.6	-0.4
U15A				IAML		07 34 21.2	
	comp=E,25nm,0.6s						
U15A				IAML		07 34 33.8	
	comp=N,25nm,1.5s						
Y14A	**Wickenburg**	4.57	118		Pn	07 33 07.5	-1.1
Y14A				IAML		07 34 26.9	
	comp=E,23nm,0.8s						
Y14A				IAML		07 34 29.7	
	comp=N,26nm,0.9s						
VTX	**Valle De La Tr**	5.06	159	Pn	Pn	07 33 14.2	-1.1
VTX				IAML		07 35 03.8	
	comp=N,13nm,4.2s						
X16A	**Lo Mia Camp, P**	5.54	106	Pn	Pn	07 33 21.4	-0.6
HMU	**Henry Mountain**	5.98	71	Pn	Pn	07 33 26.3	-1.8
SRU	**San Rafael Swe**	6.54	61	Pn	Pn	07 33 34.9	-0.8
W18A	**Petrified Fore**	6.71	97	Pn	Pn	07 33 35.3	-2.7
PV23	**Carpenter Ridg**	7.43	69	Pn	Pn	07 33 45.0	-3.0
PV18	**Skein Mesa, Pa**	7.45	71	Pn	Pn	07 33 44.9	-3.4
PV21	**Cone Mtn., Par**	7.48	69	Pn	Pn	07 33 45.7	-3.1
PV15	**Paradox Valley**	7.80	71	Pn	Pn	07 33 50.6	-2.5

CATAC 08 07:32:28.0±0.3, 13°N±2°×8°7W±°, h3km±1km, M2.5/11, MLv2.5/11, 4C-1D, Error ellipse: s-maj=5.1km s-min=2.7km az=21.6, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLN	**Al Sur del Vol**	**0.07**	**164**	⇑P	Pg	07 32 29.5	+0.1
POLN				S	Sg	07 32 31.0	+0.7
PKGN	**Cerro Pekin**	**0.15**	**253**	⇑P	Pg	07 32 31.0	+0.1
PKGN				S	Sg	07 32 33.5	+0.6
CRIN	**San Cristobal**	**0.21**	**267**	S	Sg	07 32 35.6	+0.6
CRIN	**San Cristobal**	**0.21**	**267**	⇑P	Pg	07 32 32.2	0.0
CNGN	**Cerro Negro**	**0.25**	**149**	S	Sg	07 32 36.9	+0.8
CNGN	**Cerro Negro**	**0.25**	**149**	⇓P	Pg	07 32 32.9	+0.1
CNGA	**Al SSO del Vol**	**0.25**	**150**	⇑P	Pg	07 32 33.0	+0.2
CNGA				S	Sg	07 32 36.9	+0.7
ALEN	**Leon**	**0.26**	**189**	S	Sg	07 32 36.7	+0.4
ALEN	**Leon**	**0.26**	**189**	P	Pg	07 32 32.9	-0.1
MOMN	**Momotombo**	**0.41**	**137**	P	Pb	07 32 37.6	-0.5
MOM2	**El Cardon**	**0.43**	**129**	P	Pg	07 32 36.9	+0.5
MOM2				S	Sg	07 32 41.6	-0.5
COPN	**Copaltepe**	**0.58**	**156**	P	Pg	07 32 38.8	-0.4
SAPS	**Ciudad Sandino**	**0.68**	**142**	P	Pb	07 32 43.1	+0.5
CHOHN	**Orocuina**	**0.83**	**337**	P	Pg	07 32 44.3	+0.4
MATN	**Matagalpa**	**0.91**	**76**	P	Pg	07 32 44.8	-0.7
MATN	**Matagalpa**	**0.91**	**76**	S	Sg	07 32 58.0	+0.7
OCON	**Estacion meteo**	**0.97**	**21**	P	Pg	07 32 46.8	0.0
RCPN	**Sur Rio San Ju**	**1.08**	**42**	P	Pg	07 32 48.4	-0.4

*IDC **08** 07:36:45.7±1.1, 31°66N×49°32E, h0km, mb3.9/13, mbtmp3.9/15, ML3.9/2, Error ellipse: s-maj=25.9km s-min=17.4km az=25.0*
*THR **08** 07:36:48.7±0.0, 31°73N×49°32E, h10km±8km, mb4.4*
*ISN **08** 07:36:50.0±0.6, 31°78N×49°54E, h6km, 42km, ML3.7*
*TEH **08** 07:36:50.9, 31°90N×49°47E, h17km±21km*

ISC 08 07:36:49.9±0.6, 31°83N±0°04×49°36E±0°03, h20km, n77, σ2°48/78, mb3.9/12, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTMR	**Gotvand**	**0.67**	**342**	*e*Pg	**Pb**	**07 37 03.8**	**+0.8**
GTMR				IAML		07 37 17.9	
	comp=Z,7.8nm,1.0s						
AHWZ	**Ahwaz**	**0.79**	**231**	Pg	**Pn**	**07 37 07.8**	**+1.9**
AHWZ				Sg	**Sn**	**07 37 22.1**	**+5.0**
JHBN	**Jahan bin**	**1.18**	**70**	Pg	**Pn**	**07 37 11.2**	**-0.4**
ZNGN	**Zangian**	**1.30**	**77**	Pg	**Pn**	**07 37 13.1**	**-0.2**
ZNGN				Sg	**Sn**	**07 37 32.0**	**+1.8**
ABEH	**Behbahan**	**1.45**	**148**	Pg	**Pb**	**07 37 18.0**	**+1.8**
ABEH				Sg	**Sb**	**07 37 38.9**	**+4.8**
IPIR	**Pirpir**	**1.55**	**56**	Pg	**Pn**	**07 37 17.7**	**+0.9**
IBRJ	**Brojen**	**1.62**	**87**	Pg	**Pn**	**07 37 19.6**	**+2.0**
KHMZ	**Khomeyn**	**1.97**	**15**	*i* P	**Pn**	**07 37 25.2**	**+2.8**
KHMZ				IAML		07 37 58.7	
	comp=Z,1.2nm,1.0s						
KLNJ	**Kolanjah**	**2.08**	**113**	Pn	**Pb**	**07 37 26.1**	**-1.1**
KLNJ	**Kolanjah**	**2.08**	**113**	IAML		07 38 05.1	
	comp=Z,1.5nm,1.0s						
IKFM	**Kafar-mosalman**	**2.12**	**323**	Pn	**Pb**	**07 37 27.8**	**+0.3**
IDOB	**Doab**	**2.19**	**333**	Pn	**Pn**	**07 37 28.5**	**+3.1**
IGAR	**Gharneh**	**2.35**	**75**	Pn	**Pn**	**07 37 29.6**	**+2.0**
IKLH	**Kolahrood**	**2.39**	**51**	Pn	**Pn**	**07 37 30.9**	**+2.7**
QAMS	**Qamsar**	**2.56**	**42**	Pn	**Pn**	**07 37 33.3**	**+2.7**
IRAM	**Ramesheh**	**2.57**	**90**	Pn	**Pn**	**07 37 32.7**	**+2.0**
IZEF	**Zefreh**	**2.73**	**66**	Pn	**Pn**	**07 37 34.5**	**+1.6**
RAFI	**Al-Rafai**	**2.77**	**269**	*e*Pn	**Pb**	**07 37 39.5**	**+0.8**
RAFI				*e*Sn	**Sb**	**07 38 14.5**	**+2.4**
ASAO	**Ashtian**	**2.77**	**11**	IAML		07 38 32.0	
	comp=Z,0.5nm,1.0s						
IBZA	**Bozab**	**2.92**	**335**	Pn	**Pn**	**07 37 38.2**	**+2.8**
HAGD	**Aghdareh**	**2.99**	**357**	Pn	**Pn**	**07 37 38.7**	**+2.3**
GHVR	**GHOM**	**3.10**	**31**	IAML		07 38 37.0	
	comp=Z,1.2nm,1.0s						
KRSH	**Karshahi**	**3.16**	**47**	Pn	**Pn**	**07 37 41.2**	**+2.4**
IBDR	**Badra**	**3.17**	**295**	*e*Pn	**Pb**	**07 37 44.5**	**-1.0**
IBDR				*e*Sn	**Sb**	**07 38 24.5**	**+0.8**
IBDR				AML	AML	07 38 44.4	
	comp=E,176nm,0.8s						
ILBA	**Ilam Banvizeh**	**3.20**	**305**	IAML		07 38 40.3	
	comp=Z,0.2nm,1.0s						
SNQR	**Songor, Kerman**	**3.35**	**335**	Pn	**Pn**	**07 37 44.4**	**+3.0**
IGHG	**Ghaleghazi**	**3.42**	**318**	Pn	**Pn**	**07 37 45.5**	**+3.2**
ISFB	**Sefidab**	**3.49**	**43**	Pn	**Pn**	**07 37 45.2**	**+2.0**
HGHA	**Hamedan- Ghaye**	**3.67**	**354**	Pn	**Pn**	**07 37 48.2**	**+2.4**
ILIN	**Lien**	**3.67**	**328**	Pn	**Pn**	**07 37 49.1**	**+3.3**
ISAD	**Sadrabad**	**3.68**	**88**	Pn	**Pn**	**07 37 48.0**	**+2.0**
GLG1	**Gilan-e-Gharb**	**3.69**	**309**	Pn	**Pn**	**07 37 49.0**	**+3.2**
IDHR	**Dehrash**	**3.79**	**320**	Pn	**Pn**	**07 37 51.3**	**+3.9**
QABG	**Abgarm-Qazvin**	**3.87**	**3**	Pn	**Pn**	**07 37 51.0**	**+2.5**
ANAR	**Anarak**	**3.93**	**69**	Pn	**Pn**	**07 37 51.3**	**+2.0**
THKV	**Tehran--Karaj**	**4.27**	**17**	*i* P	**Pn**	**07 37 56.8**	**+2.9**
THKV				IAML		07 39 14.3	
	comp=Z,0.2nm,1.0s						
ICHK	**Chekchek**	**4.31**	**83**	Pn	**Pn**	**07 37 56.3**	**+1.7**
CHTH	**Charan**	**4.32**	**19**	*e*Pn	**Pn**	**07 37 57.3**	**+2.5**
CHTH				IAML		07 39 15.3	
	comp=Z,0.1nm,1.0s						
IDMV	**Damavand**	**4.35**	**30**	Pn	**Pn**	**07 37 56.7**	**+1.6**
BHD	**Baghdad**	**4.44**	**290**	*e*Pn	Pb	07 38 02.0	-5.2
BHD				*e*Sn	**Sb**	**07 38 55.0**	**-5.4**
BHD				AML	AML	07 39 29.2	
	comp=E,379nm,0.6s						
YZKH	**Yazd**	**4.47**	**81**	*e*Pn	**Pn**	**07 37 58.6**	**+1.9**
YZKH				IAML		07 39 28.5	
	comp=Z,0.0nm,1.0s						
IMEH	**Mehriz**	**4.50**	**94**	Pn	**Pn**	**07 37 59.2**	**+2.0**
ILAS	**Lasjerd**	**4.64**	**39**	Pn	**Pn**	**07 38 01.1**	**+1.9**
KLST	**Kelardasht - M**	**4.88**	**16**	Pn	**Pn**	**07 38 04.6**	**+2.1**
MZPU	**Pul - Mazandar**	**4.95**	**21**	Pn	**Pn**	**07 38 06.4**	**+3.0**
IPRN	**Peran**	**5.05**	**29**	Pn	**Pn**	**07 38 07.3**	**+2.7**
IALA	**Alasht**	**5.12**	**33**	Pn	**Pn**	**07 38 08.5**	**+2.8**
SRSL	**SARDASHT**	**5.45**	**324**	IAML		07 39 20.6	
	comp=Z,0.1nm,1.0s						
IKRK	**Kirkuk**	**5.50**	**312**	*e*Pn	Pn	07 38 16.5	+5.9
IKRK				*e*Sn	**Sn**	**07 39 20.0**	**+6.7**
IKRK				AML	AML	07 39 22.2	
	comp=E,70nm,0.3s						
IKRK				AML	AML	07 39 32.2	
	comp=N,69nm,0.5s						
IKIA	**Kiasar**	**5.65**	**38**	Pn	**Pn**	**07 38 15.6**	**+2.6**
IGLO	**Ghalloghah**	**5.95**	**37**	Pn	**Pn**	**07 38 19.5**	**+2.4**
TPRV	**Parvadeh(Tabas**	**6.31**	**77**	Pn	**Pn**	**07 38 23.7**	**+1.8**
TNSJ	**Nastanj**	**6.46**	**69**	Pn	**Pn**	**07 38 25.6**	**+1.6**
TABS	**Tabas**	**6.79**	**72**	*e*Pn	**Pn**	**07 38 29.5**	**+1.0**
TABS				IAML		07 40 49.1	
	comp=Z,0.0nm,1.0s						
SHRO	**Shahrood**	**6.91**	**51**	*e*Pn	**Pn**	**07 38 31.4**	**+1.2**
SHRO				IAML		07 38 57.6	
	comp=Z,0.0nm,1.0s						
SBZV	**Sabzevar**	**8.21**	**54**	Pn	**Pn**	**07 38 50.2**	**+2.0**
SBZV	**Sabzevar**	**8.21**	**54**	*e*Pn	**Pn**	**07 38 49.9**	**+1.7**
SBZV				IAML		07 38 50.6	
	comp=Z,15nm,0.7s						
ISFR	**Sfrayin**	**8.83**	**52**	Pn	**Pn**	**07 38 59.2**	**+2.5**
BJRD	**Bojnurd**	**8.84**	**46**	*e*Pn	**Pn**	**07 38 58.9**	**+2.3**
BJRD				IAML		07 39 01.5	
	comp=Z,4.2nm,0.8s						
ASF	**Jabal al Asfar**	**10.59**	**275**	Pn	**Pn**	**07 39 20.2**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=124,slow=7.7,SNR=2.9						
ASF				Sn	**Sn**	**07 41 11.6**	**-7.0**
	comp=Z,0.8nm,0.3s,baz=146,slow=19,SNR=1.7						
ASF				Lg	Lg	07 42 16.5	
	baz=150,slow=20						
	comp=Z,2.2nm,0.3s						
WSAR	**Wadi Sarin**	**11.87**	**134**	Pn	**Pn**	**07 39 36.7**	**-1.4**
	baz=5.2,slow=24,SNR=8.2						
WSAR				Sn	Sn	07 41 37.6	-12
	baz=305,slow=24						
BRTR	**Keskin Array B**	**14.98**	**306**	Pn	**Pn**	**07 40 18.2**	**-2.4**
	comp=Z,1.0nm,0.3s,baz=90,slow=27,SNR=1.4						
AKTO	**Aktyubinsk**	**19.67**	**17**	P	**P**	**07 41 18.2**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=205,slow=5.7,SNR=5.1						
	comp=Z,0.9nm,0.3s						
IDI	**Anoyia**	**20.67**	**286**	P	**P**	**07 41 26.6**	**-2.0**
	comp=Z,5.7nm,0.8s,baz=31,slow=3.5,SNR=3.6						
	comp=Z,5.7nm,0.8s						
AKASG	**Malin Array Be**	**24.04**	**327**	P	**P**	**07 42 03.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=131,slow=7.4,SNR=4.6						
	comp=Z,0.2nm,0.3s						
BVAR	**Borovoye Array**	**26.08**	**30**	P	**P**	**07 42 22.5**	**+0.5**
	comp=Z,2.0nm,0.4s						
KURBB	**Kurchatov Arra**	**28.59**	**40**	P	**P**	**07 42 44.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=241,slow=9.0,SNR=1.7						
	comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**29.28**	**50**	P	**P**	**07 42 51.7**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=243,slow=8.4,SNR=6.3						
	comp=Z,0.5nm,0.6s						
FINES	**FINESS Array B**	**33.28**	**340**	P	**P**	**07 43 25.6**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=145,slow=10,SNR=10						
	comp=Z,1.1nm,0.5s						
ZALV	**Zalesovo Beam**	**33.57**	**38**	P	**P**	**07 43 28.4**	**0.0**
	comp=Z,0.4nm,0.3s,baz=268,slow=14,SNR=1.4						
	comp=Z,0.4nm,0.3s						
HFS	**Hagfors**	**36.82**	**331**	P	**P**	**07 43 56.4**	**+0.1**
	comp=Z,1.9nm,0.3s,baz=129,slow=8.8,SNR=25						
	comp=Z,1.9nm,0.3s						
NOA	**NORSAR Array B**	**38.34**	**331**	P	**P**	**07 44 08.9**	**-0.3**
	comp=Z,1.6nm,0.2s,baz=107,slow=9.3,SNR=2.3						
	comp=Z,1.6nm,0.2s						
CMAR	**Chiang Mai Arr**	**46.45**	**94**	P	**P**	**07 45 14.8**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=292,slow=8.0,SNR=4.7						
	comp=Z,0.8nm,0.3s						
SPITS	**Spitsbergen Ar**	**48.64**	**351**	P	**P**	**07 45 32.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=163,slow=10,SNR=1.2						
	comp=Z,0.2nm,0.3s						
WRA	**Warramunga Arr**	**96.19**	**109**	P	**P**	**07 50 14.1**	**-2.8**
	comp=Z,0.6nm,1.0s,baz=345,slow=8.7,SNR=1.9						
	comp=Z,0.6nm,1.0s						
ASAR	**Alice Springs**	**97.78**	**113**	P	**P**	**07 50 22.0**	**-2.0**
	comp=Z,0.1nm,0.5s,baz=284,slow=4.7,SNR=1.6						
	comp=Z,0.1nm,0.5s						
CPUP	**Villa Florida**	**116.80**	**254**	PKP	**PKPdf**	**07 55 33.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=27,slow=0.6,SNR=3.4						

IDC 08 07:38:48.8±1.1, 0°28N×125°52E, h0km, mb3.4/4, mbtmp3.4/4, MS4.5/3, Error ellipse: s-maj=86.8km s-min=22.1km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.88**	**157**	P	P	07 43 41.7	-1.8
	0.4nm,0.4s,baz=334,slow=11,SNR=8.0						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**25.16**	**162**	P	P	07 44 17.3	+1.4
	0.3nm,0.4s,baz=342,slow=11,SNR=7.8						
	0.3nm,0.4s						
STKA	**Stephens Creek**	**35.42**	**156**	LR	LR	08 02 47.6	
	comp=Z,996nm,18.1s,baz=287,slow=41						
SONM	**Songino Array**	**50.20**	**343**	LR	LR	08 14 14.9	
	comp=Z,321nm,18.1s,baz=90,slow=42						
MKAR	**Makanchi Array**	**59.73**	**327**	P	P	07 48 55.6	+0.2
	0.4nm,0.4s,baz=119,slow=7.9,SNR=6.6						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.01**	**329**	P	P	07 49 23.9	-0.3
	0.4nm,0.5s,baz=131,slow=5.9,SNR=2.0						
ILAR	**Eielson Array**	**88.72**	**25**	P	P	07 51 43.6	-0.4
	0.3nm,0.9s,baz=260,slow=5.0,SNR=2.2						
	0.3nm,0.9s						
AKASG	**Malin Array Be**	**93.78**	**321**	LR	LR	08 38 59.3	
	comp=Z,157nm,19.5s,baz=44,slow=38						

CATAC 08 07:42:38.9±0.8, 11°N±3°×8°5W±°, h178km±4km, M2.6/8, MLv2.6/8, Error ellipse: s-maj=11.3km s-min=6.5km az=67.4, confirmed, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**Las Juntas de**	**0.62**	**159**	P	Pn	07 43 04.7	+0.7
JTS				S	Sn	07 43 25.1	+1.7
SOCE	**Pocosol**	**0.74**	**131**	S	Sn	07 43 26.9	+2.4
SOCE	**Pocosol**	**0.74**	**131**	P	Pn	07 43 05.5	+0.8
COVE	**Coope Vega, Sa**	**0.78**	**101**	P	Pn	07 43 05.0	+0.2
COVE	**Coope Vega, Sa**	**0.78**	**101**	S	Sn	07 43 25.9	+1.1
CMARA	**Lajas Hojancha**	**0.88**	**196**	P	Pn	07 43 05.9	+0.3
CMARA	**Lajas Hojancha**	**0.88**	**196**	S	Sn	07 43 27.7	+1.4
INDI	**Punta indio, G**	**1.05**	**198**	P	Pn	07 43 07.3	+0.6
INDI	**Punta indio, G**	**1.05**	**198**	S	Sn	07 43 27.7	-0.6
ACON	**Acoyapa**	**1.09**	**0**	P	Pn	07 43 07.6	+0.6
ACON	**Acoyapa**	**1.09**	**0**	S	Sn	07 43 29.3	+0.4
LCR2	**La Lucha 2**	**1.61**	**134**	P	Pn	07 43 12.1	+0.1
LCR2	**La Lucha 2**	**1.61**	**134**	S	Sn	07 43 38.3	+0.7
OCHAL	**Ojochal**	**2.32**	**139**	S	Sn	07 43 51.6	+0.7
OCHAL	**Ojochal**	**2.32**	**139**	P	Pn	07 43 19.4	0.0
DRK0	**Durika**	**2.49**	**130**	P	Pn	07 43 21.6	0.0
DRK0	**Durika**	**2.49**	**130**	S	Sn	07 43 54.2	-0.4

*SSNC **08** 07:43:55.8±1.2, 19°86N×73°54W, h5km, MD3.2, ML2.9, MW2.9*
*SDD **08** 07:43:58.6±3.1, 20°06N×73°66W, h41km±49km, MD3.7, ML3.2, MW3.4*

ISC 08 07:43:52.6±1.2, 20°04N±0°06×73°50W±0°03, h15km±10km, n29, σ1°20/46, 5C-2D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.70**	**281**	⇑*i*P	**Pn**	**07 44 08.3**	**+0.4**
MASC				*e*S	**Sn**	**07 44 17.5**	**-0.9**
MASC				IAML		07 44 17.8	
	comp=E,243nm,0.1s						
MASC				IAML		07 44 18.1	
	comp=N,312nm,0.1s						
MASC	**Masc**	**0.70**	**281**	⇑*e*Pg	**Pn**	**07 44 08.3**	**+0.4**
MASC				⇑*e*Sg	**Sn**	**07 44 17.7**	**-0.8**
MASC				IAML		07 44 18.4	
	comp=N,535nm,0.4s						
QMBU	**Quimbuelo**	**1.24**	**278**	*e*P	**Pg**	**07 44 16.6**	**0.0**
QMBU				*e*S	**Sb**	**07 44 30.6**	**-1.0**
QMBU				IAML		07 44 34.2	
	comp=N,428nm,0.2s						
QMBU				IAML		07 44 35.2	
	comp=E,868nm,0.2s						
QMBU	**Quimbuelo**	**1.24**	**278**	*e*Pg	**Pg**	**07 44 16.7**	**+0.2**
QMBU				IAML		07 44 34.2	
	comp=N,465nm,0.3s						
QMBU				IAML		07 44 35.1	
	comp=E,878nm,0.2s						
NMDO	**Nuevo Mundo**	**1.48**	**291**	*e*P	**Pg**	**07 44 21.2**	**0.0**
NMDO				*e*S	**Sg**	**07 44 40.6**	**+0.2**
NMDO				IAML		07 44 41.9	
	comp=N,95nm,0.1s						
NMDO				IAML		07 44 43.4	
	comp=E,138nm,0.1s						
NMDO	**Nuevo Mundo**	**1.48**	**291**	*e*Pg	**Pg**	**07 44 21.2**	**0.0**
NMDO				IAML		07 44 42.8	
	comp=N,219nm,0.5s						
NMDO				IAML		07 44 48.9	
	comp=E,248nm,0.5s						
MOAC	**Moa**	**1.50**	**295**	*e*P	**Pg**	**07 44 21.1**	**-0.4**
MOAC				*e*S	**Sg**	**07 44 40.0**	**-1.1**
MOAC				IAML		07 44 42.2	
	comp=N,164nm,0.1s						
MOAC				IAML		07 44 43.7	
	comp=E,259nm,0.1s						
GTBY	**Guantanamo Bay**	**1.52**	**266**	*e*P	**Pb**	**07 44 20.4**	**0.0**
GTBY				*e*S	**Sn**	**07 44 39.0**	**+0.3**
GTBY				IAML		07 44 41.2	
	comp=E,73nm,0.1s						
GTBY				IAML		07 44 43.1	
	comp=E,130nm,0.1s						
GTBY	**Guantanamo Bay**	**1.52**	**266**	⇑*e*Pg	**Pb**	**07 44 20.4**	**0.0**
GTBY				IAML		07 44 43.1	
	comp=E,163nm,0.5s						
GTBY				IAML		07 44 45.0	
	comp=N,110nm,0.2s						
GTBY				IAML		07 44 54.2	
	comp=N,112nm,0.9s						
MCDR	**Montecristi**	**1.74**	**94**	*e*Pg	**Pg**	**07 44 27.7**	**+1.7**
MCDR				IAML		07 44 54.8	
	comp=E,298nm,0.5s						
MCDR				IAML		07 44 57.8	
	comp=N,479nm,0.7s						
MCDR				IAML		07 45 01.2	
	comp=N,325nm,0.3s						
PAPH	**Port-au-Prince**	**1.89**	**143**	*e*P	**Pb**	**07 44 27.3**	**+0.6**
PAPH				*e*S	**Sb**	**07 44 50.4**	**+0.3**
PAPH				IAML		07 44 51.9	
	comp=E,76nm,0.2s						
PAPH				IAML		07 44 52.3	
	comp=N,55nm,0.2s						
RCC	**Rio Carpintero**	**2.06**	**269**	*e*P	**Pn**	**07 44 28.3**	**+1.6**
RCC				*e*S	**Sn**	**07 44 53.1**	**+0.9**
RCC				IAML		07 44 55.4	
	comp=E,28nm,0.1s						
RCC				IAML		07 44 58.0	
	comp=N,52nm,0.1s						
REDR	**Restauracion**	**2.17**	**113**	*e*Pg	**Pn**	**07 44 26.2**	**-1.9**
REDR				IAML		07 44 48.7	
	comp=N,241nm,0.1s						
REDR				IAML		07 45 00.6	
	comp=E,293nm,0.3s						
REDR				IAML		07 45 03.2	
	comp=N,178nm,0.2s						
JIDR	**Jimani**	**2.19**	**134**	*e*Pg	**Pb**	**07 44 32.3**	**+0.4**
JIDR				⇑*e*Sg	**Sb**	**07 45 00.1**	**+1.3**
JIDR				IAML		07 45 00.6	
	comp=N,116nm,0.3s						
JIDR				IAML		07 45 04.4	
	comp=E,136nm,0.8s						
JIDR				IAML		07 45 19.0	
	comp=N,115nm,0.6s						
PINC	**Pinares de May**	**2.20**	**282**	*e*P	**Pn**	**07 44 29.9**	**+1.4**
PINC				*e*S	**Sn**	**07 44 57.3**	**+1.9**
PINC				IAML		07 45 03.8	
	comp=E,100nm,0.1s						
PINC				IAML		07 45 04.1	
	comp=N,124nm,0.1s						
MARVS	**Santiago de Cu**	**2.26**	**269**	*e*P	**Pn**	**07 44 30.9**	**+1.6**
MARVS				*e*S	**Sn**	**07 44 58.2**	**+1.3**
MARVS				IAML		07 45 01.5	
	comp=N,52nm,0.1s						
MARVS				IAML		07 45 02.8	
	comp=E,31nm,0.1s						
MADR	**Mao Valverde**	**2.31**	**101**	*e*Pg	**Pb**	**07 44 34.1**	**+0.2**
MADR				IAML		07 45 12.5	
	comp=N,179nm,1.2s						
MADR				IAML		07 45 21.1	
	comp=E,212nm,0.6s						
MADR				IAML		07 45 22.9	
	comp=N,221nm,0.5s						
SDDR	**Presa de Saban**	**2.34**	**116**	*e*P	**Pg**	**07 44 36.7**	**-0.7**
SDDR				*e*S	**Sn**	**07 44 59.2**	**+0.2**
SDDR				IAML		07 45 11.0	
	comp=N,76nm,0.4s						
SDDR				IAML		07 45 11.5	
	comp=N,56nm,0.3s						
SDDR	**Presa de Saban**	**2.34**	**116**	*e*Pg	**Pg**	**07 44 36.8**	**-0.7**
SDDR				IAML		07 45 11.2	
	comp=E,90nm,0.7s						
SDDR				IAML		07 45 37.8	
	comp=N,57nm,0.7s						
HLGC	**Holguin**	**2.54**	**290**	*e*P	**Pb**	**07 44 37.1**	**-0.9**
HLGC				IAML		07 45 14.4	
	comp=N,17nm,0.2s						
HLGC				IAML		07 45 29.4	
	comp=E,82nm,0.5s						
GRTK	**Grand Turk**	**2.66**	**56**	⇓*e*P	**Pb**	**07 44 38.9**	**-1.0**
GRTK				IAML		07 45 22.4	
	comp=E,84nm,0.3s						
GRTK				IAML		07 45 22.5	
	comp=E,59nm,0.2s						
GRTK	**Grand Turk**	**2.66**	**56**	*e*Pg	**Pb**	**07 44 39.7**	**-0.2**
GRTK				IAML		07 45 29.0	
	comp=N,99nm,0.7s						
GRTK				IAML		07 45 33.1	
	comp=E,122nm,0.4s						
YAR	**Yar**	**2.71**	**278**	*e*P	**Pn**	**07 44 37.3**	**+1.8**
YAR				*e*S	**Sn**	**07 45 09.9**	**+1.9**
YAR				IAML		07 45 14.8	
	comp=N,8.1nm,0.2s						
YAR				IAML		07 45 16.6	
	comp=E,7.9nm,0.3s						
CHIV	**Chivirico**	**2.74**	**269**	*e*P	**Pn**	**07 44 37.8**	**+1.8**
CHIV				*e*S	**Sn**	**07 45 08.9**	**0.0**
CHIV				IAML		07 45 12.2	
	comp=E,4.9nm,0.0s						
CHIV				IAML		07 45 14.2	
	comp=N,13nm,0.1s						
LMGC	**Las Mercedes**	**3.29**	**271**	*e*P	**Pn**	**07 44 44.9**	**+1.2**
LMGC				*e*S	**Sn**	**07 45 20.6**	**-1.9**
LMGC				IAML		07 45 23.7	
	comp=N,16nm,0.1s						
LMGC				IAML		07 45 27.4	
	comp=E,18nm,0.1s						
PILO	**Pilon**	**3.67**	**269**	*e*P	**Pn**	**07 44 49.5**	**+0.6**
PILO				*e*S	**Sn**	**07 45 29.3**	**-2.7**
PILO				IAML		07 45 32.4	
	comp=E,12nm,0.2s						
STH	**Stony Hill**	**3.69**	**239**	*e*P	**Pn**	**07 44 48.6**	**-0.4**
STH				*e*S	Sn	07 45 24.4	-8.0
STH				IAML		07 45 30.5	
	comp=N,1μm,0.1s						
STH				IAML		07 45 30.6	
	comp=E,2μm,0.1s						
MTDJ	**Mount Denham**	**4.22**	**245**	⇓*e*P	**Pn**	**07 44 57.1**	**+0.7**
MTDJ				*e*S	**Sn**	**07 45 42.6**	**-2.9**
MTDJ				IAML		07 45 45.2	
	comp=E,1.8nm,0.1s						
MTDJ				IAML		07 45 49.8	
	comp=E,10.0nm,0.2s						
MTDJ	**Mount Denham**	**4.22**	**245**	*e*Pg	**Pn**	**07 44 56.6**	**+0.2**
MTDJ				IAML		07 46 26.2	
	comp=N,52nm,2.1s						

IDC 08 07:47:08.7±1.8, 4°86S×122°70E, h0km, mb3.2/2, mbtmp3.1/4, ML2.9/2, Error ellipse: s-maj=46.2km s-min=24.4km az=36.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.94**	**267**	Pn	Pn	07 47 57.4	+0.6
	1.8nm,0.3s,baz=88,slow=16,SNR=4.6						
KAPI				Sn	Sn	07 48 32.2	-0.7
	1.5nm,0.3s,

	comp=Z,2.5nm,0.5s							
STKA	**Stephens Creek**	**26.79**	**196**	P		**P**	**07 53 49.6**	**+0.4**
STKA				IAmb		IAmb	07 54 03.1	
	comp=Z,27nm,0.9s							
STKA	**Stephens Creek**	**26.79**	**196**	P		**P**	**07 53 50.7**	**+1.5**
	comp=Z,1.4nm,0.7s,baz=16,slow=12,SNR=3.3							
	comp=Z,1.4nm,0.7s							
FUNA	**Funafuti**	**29.18**	**97**	P		**P**	**07 54 10.1**	**-0.6**
FORT	**Forrest**	**31.97**	**217**	P		**P**	**07 54 36.7**	**+1.5**
FORT				IAmb		IAmb	07 55 00.8	
	comp=Z,4.1nm,0.8s							
MBWA	**Marble Bar**	**32.80**	**240**	P		**P**	**07 54 42.5**	**-0.1**
MBWA				IAmb		IAmb	07 55 04.9	
	comp=Z,15nm,1.2s							
JCJ	**Chichijima**	**33.83**	**348**	P		**P**	**07 54 50.7**	**-0.7**
SBUM	**Sibu**	**38.54**	**282**	P		**P**	**07 55 31.1**	**-0.9**
SBUM				IAmb		IAmb	07 55 31.6	
	comp=Z,7.4nm,1.1s							
NIUE	**Niue**	**41.18**	**112**	P		**P**	**07 55 52.0**	**-1.8**
JGF	**Kuroka**	**43.12**	**345**	P		**P**	**07 56 09.3**	**0.0**
JGF				IAmb		IAmb	07 56 12.1	
	comp=Z,35nm,1.5s							
KSRS	**Korea Array**	**47.93**	**336**	P		**P**	**07 56 47.7**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=151,slow=7.3,SNR=2.3							
	comp=Z,0.7nm,0.5s							
KULM	**Kulim**	**50.42**	**282**	P		**P**	**07 57 07.3**	**+0.5**
PETK	**Petropavlovsk-**	**59.36**	**5**	P		**P**	**07 58 11.0**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=200,slow=6.6,SNR=1.6							
	comp=Z,1.1nm,0.8s							
SPIA	**Saint Paul Isl**	**70.91**	**22**	P		**P**	**07 59 25.2**	**-0.2**
VNDA	**Vanda**	**71.66**	**177**	P		**P**	**07 59 31.6**	**+1.8**
VNDA				IAmb		IAmb	07 59 40.1	
	comp=Z,5.1nm,1.4s							
MKAR	**Makanchi Array**	**79.41**	**320**	P		**P**	**08 00 14.5**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=145,slow=5.3,SNR=1.9							
	comp=Z,0.2nm,0.6s							
CAST	**Castle Rocks**	**81.81**	**23**	P		**P**	**08 00 28.0**	**+0.8**
IMAR	**Indian Mountai**	**82.59**	**20**	P		**P**	**08 00 31.9**	**+0.7**
D19K	**Kuna River**	**82.67**	**17**	P		**P**	**08 00 33.3**	**+1.7**
D19K				IAmb		IAmb	08 00 48.9	
	comp=Z,3.8nm,1.5s							
QSPA	**South Pole Qui**	**83.87**	**180**	P		**P**	**08 00 38.9**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=22,slow=1.0,SNR=9.8							
	comp=Z,2.4nm,0.8s							
ILAR	**Eielson Array**	**84.46**	**23**	P		**P**	**08 00 40.4**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=254,slow=5.4,SNR=6.8							
	comp=Z,0.4nm,0.7s							
LPAZ	**La Paz**	**136.31**	**121**	PKP		**PKPdf**	**08 07 29.8**	**-1.9**
	comp=Z,17nm,0.4s,baz=315,slow=9.4,SNR=6.9							
TORD	**Torodi Ar. Bea**	**147.88**	**285**	PKPbc		**PKPbc**	**08 07 54.3**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=51,slow=2.6,SNR=4.3							
BDFB	**Brasilia**	**152.06**	**141**	PKPbc		**PKPbc**	**08 08 02.6**	**-2.2**
	comp=Z,3.2nm,0.5s,baz=211,slow=0.7,SNR=7.4							

NEIC ***08*** *08:05:47.9±1.4, 15.81S±0.04×73.4W±0.1, h75km±7km, mb4.4/47, Error ellipse: s-maj=15.6km s-min=3.4km az=71.0*
VAO ***08*** *08:05:48.7±0.7, 15.65S×73.19W, h73km±7km, mb4.2*
IDC ***08*** *08:05:50.4±1.9, 15.75S×73.31W, h96km±20km, mb3.9/7, mbtmp4.2/10, Error ellipse: s-maj=21.7km s-min=14.7km az=54.0*

ISC 08 08:05:46.9±0.5, 15.76S±0.05×73.25W±0.06, h63km, n121, σ1s15/115, mb4.3/22, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**3.81**	**133**	Pn	**Pn**	**08 06 45.9**	**+2.8**
AP01				Sn	**Sn**	**08 07 27.8**	**+1.1**
PB18	**Visviri**	**4.05**	**117**	Pn	Pn	08 06 53.5	+6.6
PB16	**IPOC Station P**	**4.40**	**126**	Pn	**Pn**	**08 06 55.5**	**+3.7**
LPAZ	**La Paz**	**4.95**	**97**		Pn	08 07 05.8	+6.4
LPAZ	**La Paz**	**4.95**	**97**	P	Pn	08 07 04.9	+5.6
	17nm,0.6s,baz=282,slow=7.8,SNR=74						
LPAZ	**La Paz**	**4.95**	**97**	*eP*	**Pn**	**08 07 00.8**	**+1.5**
NNA	**Nana**	**5.12**	**317**	Pn	**Pn**	**08 07 01.8**	**+0.7**
NNA	**Nana**	**5.12**	**317**	P	**Pn**	**08 07 04.1**	**+3.0**
	11nm,0.4s,baz=118,slow=14,SNR=17						
NNA				S	**Sn**	**08 08 02.0**	**+3.0**
	46nm,0.3s,baz=232,slow=15,SNR=4.3						
PB11	**IPOC Station P**	**5.25**	**140**		**Pn**	**08 07 05.0**	**+1.9**
TA02	**Huaiquique**	**5.38**	**147**	Pn	**Pn**	**08 07 06.4**	**+1.8**
GO01	**Chusmiza**	**5.49**	**136**		**Pn**	**08 07 08.6**	**+2.1**
TA01	**Diego Aracena**	**5.60**	**149**		**Pn**	**08 07 09.2**	**+1.5**
PATCX	**Punta Patache**	**5.83**	**150**	Pn	**Pn**	**08 07 12.5**	**+1.6**
PB08	**IPOC Station P**	**5.85**	**139**		**Pn**	**08 07 13.9**	**+2.5**
PB01	**IPOC Station P**	**6.36**	**146**		**Pn**	**08 07 18.9**	**+0.8**
PB03	**IPOC Station P**	**7.08**	**153**		**Pn**	**08 07 29.2**	**+1.1**
PB09	**IPOC Station P**	**7.11**	**148**		**Pn**	**08 07 29.6**	**+1.2**
PB05	**IPOC Station P**	**7.62**	**158**		**Pn**	**08 07 35.9**	**+0.4**
PB06	**IPOC Station P**	**7.74**	**154**	Pn	**Pn**	**08 07 37.6**	**+0.6**
CZSB	**Cruzeiro do Su**	**8.00**	**4**		**Pn**	**08 07 41.4**	**+0.9**
CZSB	**Cruzeiro do Su**	**8.00**	**4**	*eP*	**Pn**	**08 07 41.3**	**+0.9**
PB10	**IPOC Station P**	**8.12**	**162**	Pn	**Pn**	**08 07 42.2**	**0.0**
AF01	**San Pedro de A**	**8.61**	**147**	Pn	**Pn**	**08 07 49.7**	**+0.6**
PB14	**IPOC Station P**	**9.22**	**164**	Pn	**Pn**	**08 07 58.1**	**+0.6**
ATAH	**Atahualpa**	**9.94**	**329**	P	**Pn**	**08 08 09.5**	**+2.0**
	2.8nm,0.8s,baz=145,slow=1.6,SNR=5.4						
GO02	**Mina Guanaco**	**9.97**	**160**	Pn	**Pn**	**08 08 09.1**	**+1.4**
AC01	**Pan de Azucar**	**10.63**	**167**	Pn	**Pn**	**08 08 17.4**	**+0.9**
AC02	**Maricunga**	**11.67**	**161**	Pn	**Pn**	**08 08 32.3**	**+1.2**
SIV	**San Ignacio**	**11.72**	**93**	P	**Pn**	**08 08 31.5**	**+0.1**
	3.0nm,0.8s,baz=276,slow=14,SNR=10						
AC06	**Mina Casimiro**	**11.85**	**167**	Pn	**Pn**	**08 08 34.5**	**+1.3**
TBTG	**Tabatinga, AM**	**11.96**	**16**	Pn	**Pn**	**08 08 35.3**	**+0.7**
BBSD	**Serra de San D**	**12.21**	**98**	*eP*	**Pn**	**08 08 37.7**	**-0.4**
AC04	**Llanos de Chal**	**12.55**	**171**	Pn	**Pn**	**08 08 42.9**	**+0.2**
VILB	**Vilhena**	**12.95**	**79**		**Pn**	**08 08 48.9**	**+0.7**
VILB	**Vilhena**	**12.95**	**79**	*eP*	**Pn**	**08 08 48.3**	**+0.1**
PTLB	**Pontes e Lacer**	**13.60**	**91**		**Pn**	**08 08 56.5**	**-0.5**
PTLB	**Pontes e Lacer**	**13.60**	**91**	*eP*	**Pn**	**08 08 57.5**	**+0.6**
CO05	**La Serena**	**14.22**	**173**	Pn	**Pn**	**08 09 04.5**	**-0.5**
COHC	**Cochancay**	**14.47**	**335**	Pn	**Pn**	**08 09 09.1**	**+0.6**
GO04	**Tololo Observa**	**14.53**	**172**	Pn	**Pn**	**08 09 09.9**	**+0.5**
TEFE	**Tefe**	**14.83**	**36**	*eP*	**Pn**	**08 09 13.1**	**-0.1**
CO03	**El Pedregal**	**15.20**	**172**	Pn	**Pn**	**08 09 17.6**	**-0.3**
CO02	**Combarbal**	**15.52**	**173**	Pn	**Pn**	**08 09 22.2**	**+0.2**
CO02				IAmb	IAmb	08 09 28.1	
	comp=Z,14nm,0.8s						
MURT	**Porto Murtinho**	**15.93**	**114**	*eP*	**Pn**	**08 09 27.7**	**+0.5**
BDQN	**Bodoquena, MS**	**16.36**	**109**	*eP*	**P**	**08 09 34.0**	**-0.6**
PDRB	**Porto dos Gac**	**16.57**	**78**	*eP*	**Pn**	**08 09 35.0**	**-0.3**
OTAV	**Otavalo**	**16.70**	**342**	*eP*	**Pn**	**08 09 37.4**	**+0.1**
VA06	**Catapilco**	**16.82**	**174**		**Pn**	**08 09 37.9**	**-0.4**
SALV	**Santo Antonio**	**16.90**	**93**	*eP*	**Pn**	**08 09 39.1**	**-0.2**
VA03	**San Esteban**	**17.11**	**172**	Pn	**Pn**	**08 09 39.5**	**-2.4**
VA01	**Torpederas**	**17.25**	**175**	P	**Pn**	**08 09 42.5**	**-1.1**
VA01				IAmb	IAmb	08 09 48.4	
	comp=Z,20nm,1.2s						
MT02	**Curacav**	**17.53**	**174**	P	**P**	**08 09 46.5**	**-0.9**
MT02				IAmb	IAmb	08 09 53.3	
	comp=Z,16nm,1.4s						
MACA	**Manacapuru-AM**	**17.60**	**46**	P	**Pn**	**08 09 47.1**	**-0.9**
MACA				IAmb	IAmb	08 09 51.2	
	comp=Z,23nm,0.6s						
MACA	**Manacapuru-AM**	**17.60**	**46**	*eP*	**P**	**08 09 48.8**	**+0.5**
CLDB	**Colider**	**17.66**	**76**	*eP*	**P**	**08 09 49.6**	**+0.6**
MT16	**CCHEN**	**17.77**	**173**	P	**Pn**	**08 09 47.9**	**-2.1**
MT03	**Universidad Ad**	**17.83**	**173**	P	**P**	**08 09 48.8**	**-2.0**
MT08	**Bocatoma Ro**	**17.85**	**171**	P	**P**	**08 09 50.0**	**-1.1**
MT09	**Talagante**	**18.06**	**174**	P	**P**	**08 09 51.6**	**-1.7**
MT01	**Popeta**	**18.12**	**175**	P	**P**	**08 09 52.1**	**-1.7**
CPUP	**Villa Florida**	**18.19**	**128**	*eP*	**Pn**	**08 09 55.7**	**+0.6**
LMEL	**Las Melosas**	**18.22**	**172**	P	**P**	**08 09 53.3**	**-1.8**
BO04	**La Punta**	**18.31**	**173**	P	**P**	**08 09 54.8**	**-1.2**
BO04				IAmb	IAmb	08 10 28.0	
	comp=Z,15nm,1.4s						
H03N1	**Juan Fernandez**	**18.34**	**195**	T	T	08 28 31.7	
	baz=17,slow=73,SNR=613						
H03N2	**Juan Fernandez**	**18.34**	**195**	T	T	08 28 21.2	
	baz=17,slow=73,SNR=716						
H03N3	**Juan Fernandez**	**18.36**	**195**	T	T	08 28 20.5	
	baz=17,slow=73,SNR=1063						
SJPY	**San Joaquin**	**18.50**	**123**	*eP*	**Pn**	**08 10 00.1**	**+1.2**
VA04	**Juan Fernndez**	**18.51**	**195**	P	**P**	**08 09 57.2**	**-0.9**
BO02	**Sierra Bellavi**	**19.09**	**174**	P	**P**	**08 10 04.0**	**-0.5**
RPRD	**Ribas do Rio P**	**19.16**	**107**	*eP*	**P**	**08 10 06.1**	**+0.7**
NPGB	**Novo Progresso**	**19.55**	**66**	*eP*	**P**	**08 10 09.4**	**-0.2**
ML02	**Panimavida**	**19.99**	**176**	P	**P**	**08 10 13.8**	**-0.4**
ML02				IAmb	IAmb	08 10 20.2	
	comp=Z,21nm,1.1s						
ROSC	**El Rosal**	**20.49**	**357**	P	Pn	08 10 21.5	-1.4
	comp=Z,9.3nm,0.5s,baz=133,slow=19,SNR=4.3						
	comp=Z,9.3nm,0.5s						
ITTB	**Itaituba**	**20.61**	**59**	*eP*	**P**	**08 10 20.4**	**-0.7**
ARAG	**Araguaiana, MT**	**20.64**	**93**	*eP*	**P**	**08 10 21.6**	**+0.1**
TRCB	**Terra Rica**	**20.67**	**113**	*eP*	Pn	08 10 23.4	-1.3
RUSC	**La Rusia**	**21.51**	**0**	P	**P**	**08 10 31.0**	**-0.3**
RUSC				IAmb	IAmb	08 10 35.4	
	comp=Z,9.8nm,0.6s						
PCMB	**Pacaembu**	**21.62**	**109**	*eP*	**P**	**08 10 33.2**	**+1.3**
SNDB	**Serra Nova Dou**	**21.64**	**83**	*eP*	**P**	**08 10 31.5**	**-0.7**
PTGB	**Pitanga**	**21.76**	**118**	*eP*	**P**	**08 10 34.8**	**+1.2**
BOAV	**Boa Vista**	**21.99**	**36**	P	**P**	**08 10 36.5**	**+0.5**
BOAV				IAmb	IAmb	08 10 42.5	
	comp=Z,9.5nm,1.0s						
BOAV	**Boa Vista**	**21.99**	**36**	*eP*	**P**	**08 10 36.3**	**+0.3**
ITRB	**Iturama**	**22.15**	**104**	*eP*	**P**	**08 10 38.3**	**+0.6**
LDASE	**Londrina, Braz**	**22.18**	**113**	*eP*	**P**	**08 10 39.1**	**+1.2**
ITAB	**Concordia**	**22.69**	**124**	*eP*	**P**	**08 10 44.9**	**+1.5**
IPMB	**Ipameri, GO**	**24.06**	**99**	*eP*	**P**	**08 10 56.5**	**0.0**
BDFB	**Brasilia**	**24.29**	**93**	P	**P**	**08 10 59.0**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=244,slow=19,SNR=3.9						
	comp=Z,2.6nm,0.7s						
PLCA	**Paso Flores**	**25.00**	**175**	P	**P**	**08 11 04.5**	**-0.4**
PLCA				IAmb	IAmb	08 11 08.1	
	comp=Z,12nm,1.3s						
PLCA	**Paso Flores**	**25.00**	**175**	P	**P**	**08 11 05.0**	**+0.1**
	comp=Z,4.2nm,0.7s,baz=348,slow=11,SNR=19						
	comp=Z,4.2nm,0.7s						
PLCA	**Paso Flores**	**25.00**	**175**	*eP*	**P**	**08 11 05.8**	**+0.9**
BAUV	**El Baul**	**25.08**	**12**	P	**P**	**08 11 05.8**	**+0.1**
BAUV				IAmb	IAmb	08 11 07.7	
	comp=Z,33nm,0.8s						
BOAB	**BOACO BROADBAN**	**30.60**	**336**	P	**P**	**08 11 54.5**	**-0.5**
ESPZ	**Base Esperanza**	**48.92**	**170**	P	**P**	**08 14 26.2**	**-0.1**
ESPZ				IAmb	IAmb	08 14 59.2	
	comp=Z,6.3nm,1.0s						
Y49A	**Blount Mountai**	**50.91**	**346**	P	**P**	**08 14 40.9**	**-0.8**
Y49A				IAmb	IAmb	08 15 05.8	
	comp=Z,15nm,1.4s						
T59A	**Double "B" Far**	**52.60**	**356**	P	**P**	**08 14 53.8**	**-0.5**
TXAR	**Lajitas Array**	**53.59**	**327**	P	**P**	**08 15 02.0**	**+0.1**
	comp=Z,0.1nm,0.7s,baz=140,slow=9.1,SNR=1.5						
FCAR	**Ozark Folk Cen**	**54.38**	**341**	P	**P**	**08 15 06.5**	**-0.9**
FCAR				IAmb	IAmb	08 15 33.4	
	comp=Z,4.0nm,1.3s						
MEDO	**Medina**	**58.82**	**356**	P	**P**	**08 15 37.9**	**-0.9**
J55A	**Hilton**	**58.88**	**356**	P	**P**	**08 15 37.9**	**-1.2**
DELO	**Deloro Mine**	**60.11**	**356**	P	**P**	**08 15 46.8**	**-0.8**
DELO				IAmb	IAmb	08 15 52.8	
	comp=Z,7.1nm,1.2s						
T25A	**Trinidad**	**60.25**	**332**	P	**P**	**08 15 47.0**	**-2.0**
T25A				IAmb	IAmb	08 15 51.2	
	comp=Z,2.8nm,1.1s						
G65A	**Princeton**	**60.88**	**5**	P	**P**	**08 15 52.7**	**-0.1**
G65A				IAmb	IAmb	08 16 04.7	
	comp=Z,15nm,1.4s						
BUKO	**Buck Lake**	**61.16**	**355**	P	**P**	**08 15 54.1**	**-0.7**
LMN	**Caledonia Moun**	**61.79**	**7**	P	**P**	**08 15 58.3**	**-0.7**
GBN	**Guysborough**	**61.80**	**9**	P	**P**	**08 15 58.6**	**-0.4**
Q24A	**Divide**	**62.08**	**332**	P	**P**	**08 15 59.9**	**-1.6**
Q24A				IAmb	IAmb	08 16 10.4	
	comp=Z,2.7nm,0.8s						
E62A	**Clayton Lake**	**62.17**	**3**	P	**P**	**08 16 02.3**	**+0.7**
E62A				IAmb	IAmb	08 16 07.5	
	comp=Z,8.2nm,1.4s						
ELS	**Elsinore Mount**	**64.71**	**320**	P	**P**	**08 16 18.1**	**-0.6**
ELS				IAmb	IAmb	08 16 19.2	
	comp=Z,7.9nm,1.1s						
GSC	**Goldstone, Bar**	**65.45**	**322**	P	**P**	**08 16 23.4**	**0.0**
DUG	**Dugway, Tooele**	**66.73**	**328**	P	**P**	**08 16 30.3**	**-1.3**
DUG				IAmb	IAmb	08 17 14.7	
	comp=Z,2.5nm,0.9s						
HWUT	**Hardware Ranch**	**67.17**	**330**	P	**P**	**08 16 34.0**	**-0.5**
HWUT				IAmb	IAmb	08 16 38.0	
	comp=Z,2.9nm,1.1s						
YMP	**Mirror Lake Pl**	**68.94**	**333**	P	**P**	**08 16 45.4**	**-0.3**
YMP				IAmb	IAmb	08 17 11.9	
	comp=Z,2.4nm,0.7s						
SNAA	**Sanae**	**69.02**	**161**	P	**P**	**08 16 45.5**	**0.0**
SNAA				IAmb	IAmb	08 17 19.3	
	comp=Z,1.9nm,0.8s						
SNAA	**Sanae**	**69.02**	**161**	P	**P**	**08 16 45.5**	**0.0**
	comp=Z,2.2nm,0.9s,baz=273,slow=8.3,SNR=8.6						
	comp=Z,2.2nm,0.9s						
QSPA	**South Pole Qui**	**74.40**	**180**	P	**P**	**08 17 18.4**	**+0.4**
QSPA				IAmb	IAmb	08 17 50.2	
	comp=Z,4.4nm,1.5s						
QSPA	**South Pole Qui**	**74.40**	**180**	P	**P**	**08 17 18.1**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=138,slow=4.5,SNR=25						
	comp=Z,1.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**79.48**	**73**	P	**P**	**08 17 46.5**	**-0.8**
TORD				IAmb	IAmb	08 17 47.2	
	comp=Z,2.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**79.48**	**73**	P	**P**	**08 17 46.7**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=272,slow=4.0,SNR=7.5						
	comp=Z,2.2nm,0.6s						
ESDC	**Sonseca Array**	**84.77**	**46**	P	**P**	**08 18 14.9**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=263,slow=4.5,SNR=6.1						
	comp=Z,1.1nm,0.8s						
ASAR	**Alice Springs**	**132.68**	**215**	PKP	**PKPdf**	**08 24 54.4**	**-1.1**
	comp=Z,0.3nm,0.9s,baz=183,slow=3.6,SNR=2.1						
WRA	**Warramunga Arr**	**135.34**	**218**	PKP	**PKPdf**	**08 24 59.4**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=123,slow=1.8,SNR=2.5						

STR 08 08:06:19.9±0.4, 46°N±2°×°±°, h0km, MLv1.6/10, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG35	**Corcelles**	**0.28**	**32**	Pg	Pg	08 06 25.7	+0.4
OG35				Sg	Sg	08 06 29.8	+0.9
OGSM	**Saint Maurice**	**0.31**	**130**	Pg	Pg	08 06 26.1	+0.2
OGSM				Sg	Sg	08 06 30.5	+0.7
OGMY	**Moye**	**0.38**	**78**	Pg	Pg	08 06 27.4	+0.2
OGMY				Sg	Sg	08 06 33.0	+1.0
SSB	**Saint Sauveur**	**0.78**	**228**	Pg	Pg	08 06 35.2	+0.4
SSB				Sg	Sg	08 06 46.2	+1.3
ORIF	**Oris-en-Rattie**	**0.96**	**157**	Pg	Pb	08 06 39.9	+0.4
ORIF				Sg	Sg	08 06 51.0	+0.2
RIVEL	**MONT RIVEL**	**1.03**	**22**	Pg	Pb	08 06 40.2	-0.5
RIVEL				Sg	Sg	08 06 53.8	+0.8
PLDF	**La Plantade**	**1.23**	**278**	Pg	Pg	08 06 43.0	-0.4
PLDF				Sg	Sg	08 06 59.3	0.0

SJA ***08*** *08:11:36.1±0.6, 22.74S×66.17W, h274km±3km, ML4.1, MW3.9*
IDC ***08*** *08:11:37.6±1.9, 22.74S×66.05W, h250km±22km, mb3.4/4, mbtmp3.9/8, Error ellipse: s-maj=29.0km s-min=16.4km az=106.0*
NEIC ***08*** *08:11:38.6±1.6, 22.71S±0.07×66.38W±0.06, h272km±8km, mb4.2/16, Error ellipse: s-maj=11.2km s-min=7.6km az=202.0*

ISC 08 08:11:37.4±0.6, 22.70S±0.04×66.27W±0.05, h258km±6km, n91, σ1s26/114, mb3.9/5, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.87**	**53**	*eP*	**Pn**	**08 12 13.8**	**+0.6**
YJA				*eS*	S	**08 12 41.9**	**+0.6**
SALTA		**1.52**	**183**	*eP*	**Pn**	**08 12 17.4**	**+0.3**
SALTA				*eS*	**S**	**08 12 48.0**	**-0.6**
AF01	**San Pedro de A**	**1.78**	**262**		**Pn**	**08 12 21.0**	**+2.0**
AF01				Sn	**S**	**08 12 54.3**	**+2.5**
AF01	**San Pedro de A**	**1.78**	**262**	*eP*	**Pn**	**08 12 19.8**	**+0.8**
AF01				*eS*	**S**	**08 12 52.4**	**+0.6**
SLA	**San Lorenzo**	**2.13**	**161**	*eP*	**Pn**	**08 12 21.9**	**+0.1**
SLA				*eS*	**S**	**08 12 54.9**	**-2.1**
PB09	**IPOC Station P**	**2.90**	**288**		**Pn**	**08 12 31.1**	**+1.6**
PB09				Sn	**S**	**08 13 10.7**	**-0.1**
PB09	**IPOC Station P**	**2.90**	**288**	*eP*	**Pn**	**08 12 31.3**	**+1.7**
PB09				*eS*	**S**	**08 13 10.6**	**-0.1**
PB09				IAML		08 13 15.2	
	comp=Z,158nm,0.1s						
PB06	**IPOC Station P**	**3.05**	**269**		**Pn**	**08 12 32.0**	**+0.9**
PB06				Sn	**S**	**08 13 13.2**	**-0.5**
PB06	**IPOC Station P**	**3.05**	**269**	*eP*	**Pn**	**08 12 32.0**	**+0.9**
PB06				*eS*	**S**	**08 13 13.3**	**-0.3**
PB06				IAML		08 13 17.0	
	comp=Z,365nm,0.1s						
PB03	**IPOC Station P**	**3.29**	**281**		**Pn**	**08 12 34.5**	**+0.8**
FSA	**Cafayete**	**3.40**	**176**	*eP*	**Pn**	**08 12 34.6**	**-0.3**
PB01	**IPOC Station P**	**3.42**	**298**		**Pn**	**08 12 35.9**	**+0.8**
PB01	**IPOC Station P**	**3.42**	**298**	*eP*	**Pn**	**08 12 36.2**	**+1.2**
PB01				*eS*	**S**	**08 13 20.3**	**-0.5**
PB01				IAML		08 13 22.5	
	comp=Z,450nm,0.5s						
PB05	**IPOC Station P**	**3.64**	**267**		**Pn**	**08 12 38.0**	**+0.4**
PB05	**IPOC Station P**	**3.64**	**267**	*eP*	**Pn**	**08 12 38.1**	**+0.6**
PB05				*eS*	**S**	**08 13 24.3**	**-0.9**
PB05				IAML		08 13 26.5	
	comp=Z,133nm,0.6s						
PB08	**IPOC Station P**	**3.71**	**313**		**Pn**	**08 12 40.5**	**+1.9**
PB08	**IPOC Station P**	**3.71**	**313**	*eP*	**Pn**	**08 12 40.6**	**+2.0**
PB08				*eS*	**S**	**08 13 28.4**	**+1.2**
PB08				IAML		08 13 29.3	
	comp=Z,88nm,0.7s						
GO02	**Mina Guanaco**	**3.91**	**231**		**Pn**	**08 12 41.0**	**+0.2**
GO02	**Mina Guanaco**	**3.91**	**231**	*eP*	**Pn**	**08 12 41.0**	**+0.2**
GO02				*eS*	**S**	**08 13 30.2**	**-0.9**
PB10	**IPOC Station P**	**4.03**	**258**		**Pn**	**08 12 42.0**	**+0.1**
PB10	**IPOC Station P**	**4.03**	**258**	*eP*	**Pn**	**08 12 42.1**	**+0.2**
PB10				*eS*	**S**	**08 13 31.2**	**-2.0**
PB10				IAML		08 13 33.0	
	comp=Z,142nm,0.4s						
PATCX	**Punta Patache**	**4.07**	**297**		**Pn**	**08 12 43.1**	**+0.6**
PATCX	**Punta Patache**	**4.07**	**297**	*eP*	**Pn**	**08 12 43.4**	**+0.9**
PATCX				*eS*	**S**	**08 13 33.0**	**-1.3**
PATCX				IAML		08 13 34.4	
	comp=Z,318nm,0.2s						
GO01	**Chusmiza**	**4.07**	**317**		**Pn**	**08 12 44.6**	**+1.7**
GO01	**Chusmiza**	**4.07**	**317**	*eP*	**Pn**	**08 12 44.9**	**+1.9**
GO01				*eS*	**S**	**08 13 38.1**	**+3.1**
TA01	**Diego Aracena**	**4.22**	**300**		**Pn**	**08 12 44.5**	**+0.4**
TA01	**Diego Aracena**	**4.22**	**300**	*eP*	**Pn**	**08 12 44.8**	**+0.7**
TA01				*eS*	**S**	**08 13 35.6**	**-1.6**
TA01				IAML		08 13 36.9	
	comp=Z,171nm,0.2s						
PB14	**IPOC Station P**	**4.25**	**242**		**Pn**	**08 12 44.6**	**-0.2**
PB11	**IPOC Station P**	**4.31**	**312**		**Pn**	**08 12 45.7**	**+0.3**
PB11	**IPOC Station P**	**4.31**	**312**	*eP*	**Pn**	**08 12 45.9**	**+0.5**
PB11				*eS*	**S**	**08 13 38.3**	**-1.2**
PB11				IAML		08 13 41.3	
	comp=Z,248nm,0.2s						
TA02	**Huaiquique**	**4.34**	**303**		**Pn**	**08 12 45.9**	**+0.4**
TA02	**Huaiquique**	**4.34**	**303**	*eP*	**Pn**	**08 12 46.3**	**+0.8**
TA02				*eS*	**S**	**08 13 38.7**	**-1.1**
TA02				IAML		08 13 43.2	
	comp=Z,264nm,0.3s						
AC02	**Maricunga**	**4.87**	**212**		**Pn**	**08 12 52.1**	**-0.2**
AC02	**Maricunga**	**4.87**	**212**	*eP*	**Pn**	**08 12 52.3**	**0.0**
AC02				*eS*	**S**	**08 13 53.5**	**+1.5**
AC01	**Pan de Azucar**	**5.23**	**228**		**Pn**	**08 12 55.0**	**-1.2**
AC01	**Pan de Azucar**	**5.23**	**228**	*eP*	**Pn**	**08 12 55.0**	**-1.2**
AC01				*eS*	**S**	**08 13 56.0**	**-3.2**
AC01				IAML		08 13 57.2	
	comp=Z,34nm,0.2s						
PB16	**IPOC Station P**	**5.30**	**324**		**Pn**	**08 12 59.4**	**+1.6**
PB16	**IPOC Station P**	**5.30**	**324**	*eP*	**Pn**	**08 12 59.6**	**+1.9**
PB16				*eS*	**S**	**08 14 03.1**	**+1.3**
PB16				IAML		08 14 06.7	
	comp=Z,47nm,0.6s						
PB18	**Visviri**	**5.92**	**329**	Pn	**Pn**	**08 13 02.9**	**-2.3**

RTAL				*i* Sg		**Sn**	**08 11 56.5**	**-0.8**
RTAL	**Retalhuleu**	**0.38**	**37**	P		**Pn**	**08 11 49.4**	**0.0**
RTAL				S		**Sn**	**08 11 58.5**	**+1.2**
STG0	**El Palmar, Qui**	**0.61**	**70**	*e*P		**Pn**	**08 11 51.4**	**-0.6**
STG0				*e*S		**Sn**	**08 12 00.7**	**-1.0**
STG0				IAML			08 12 03.9	
	comp=E,16μm,0.2s							
STG8	**El Palmar, Qui**	**0.61**	**68**	*e*P		**Pn**	**08 11 51.7**	**-0.4**
STG8				IAML			08 12 03.2	
	comp=E,7μm,0.1s							
SMCA	**Catarina**	**0.65**	**348**	*e*P		**Pn**	**08 11 52.4**	**+0.1**
SMCA				*i* S		**Sn**	**08 12 02.5**	**+0.3**
SMCA				IAML			08 12 05.1	
	comp=N,3μm,0.1s							
QUEO	**Labor Ovalle**	**0.76**	**32**	*e*P		**Pn**	**08 11 54.1**	**+0.1**
QUEO				*e*S		**Sn**	**08 12 05.7**	**+0.5**
QUEO				IAML			08 12 06.0	
	comp=N,6μm,0.2s							
SOKI	**Kika Raxquin**	**0.79**	**41**	*i* P		**Pn**	**08 11 54.0**	**-0.3**
SOKI				*i* S		**Sn**	**08 12 05.8**	**0.0**
SOKI				IAML			08 12 09.2	
	comp=N,2μm,0.3s							
PATR	**El Naranjo**	**0.94**	**342**	*i* P		**Pn**	**08 11 55.8**	**-0.3**
PATR				*i* S		**Sn**	**08 12 08.1**	**-0.8**
PAVE	**Pavencul**	**1.00**	**346**	*i* P		**Pn**	**08 11 56.8**	**0.0**
PAVE				*i* S		**Sn**	**08 12 10.1**	**-0.1**
ESSG	**Sabana Grande**	**1.08**	**81**	*e*P		**Pn**	**08 11 56.9**	**-0.9**
ESSG				*i* S		**Sn**	**08 12 10.1**	**-1.9**
ESSG				IAML			08 12 12.9	
	comp=N,2μm,0.1s							
HUEH	**Huehuetenango**	**1.17**	**21**	*e*P		**Pn**	**08 11 59.9**	**+0.9**
HUEH				*e*S		**Sn**	**08 12 15.8**	**+1.4**
HUEH	**Huehuetenango**	**1.17**	**21**	*e*P		**Pn**	**08 11 59.8**	**+0.7**
HUEH				*e*S		**Sn**	**08 12 13.3**	**-1.1**
HUEH	**Huehuetenango**	**1.17**	**21**	*e*P		**Pn**	**08 11 59.9**	**+0.9**
HUEH				⇓*e*S		**Sn**	**08 12 16.1**	**+1.8**
HUEH				IAML			08 12 25.5	
	comp=E,3μm,0.6s							
HUEH	**Huehuetenango**	**1.17**	**21**	P		**Pn**	**08 12 00.1**	**+1.0**
FG16	**Alotenango, Sa**	**1.38**	**88**	*e*P		Pn	08 11 57.1	-4.7
FG16				*i* S		**Sn**	**08 12 11.8**	**-7.5**
FG16				IAML			08 12 14.9	
	comp=E,17μm,0.2s							
GCG4	**OSOP**	**1.41**	**75**	*i* P		**Pn**	**08 12 02.8**	**+0.6**
GCG4				IAML			08 12 21.5	
	comp=N,2μm,0.4s							
FAME	**Alcaldia de Sa**	**1.90**	**101**	P		**Pn**	**08 12 08.3**	**-0.3**
FAME	**Alcaldia de Sa**	**1.90**	**101**	S		**Sn**	**08 12 31.5**	**0.0**
CCIG	**Comitan**	**2.06**	**355**	*e*P		**Pn**	**08 12 08.1**	**-2.9**
CCIG				*e*S		**Sn**	**08 12 32.7**	**-3.0**
CCIG	**Comitan**	**2.06**	**355**	*i* P		**Pn**	**08 12 13.1**	**+2.1**
CCIG				*i* S		**Sn**	**08 12 38.4**	**+2.7**
CCIG				IAML			08 12 46.7	
	comp=E,186nm,0.4s							
SLOZ	**Alcaldia de Sa**	**2.09**	**95**	*e*P		**Pn**	**08 12 11.4**	**0.0**
SLOZ				*e*S		**Sn**	**08 12 34.1**	**-2.2**
SLOZ	**Alcaldia de Sa**	**2.09**	**95**	S		**Sn**	**08 12 37.3**	**+0.9**
SLOZ	**Alcaldia de Sa**	**2.09**	**95**	P		**Pn**	**08 12 12.0**	**+0.6**
NUBE	**Las Nubes**	**2.11**	**98**	*e*P		**Pn**	**08 12 11.3**	**-0.4**
NUBE	**Las Nubes**	**2.11**	**98**	*i* P		**Pn**	**08 12 11.8**	**+0.1**
NUBE	**Las Nubes**	**2.11**	**98**	P		**Pn**	**08 12 11.8**	**+0.1**
NUBE	**Las Nubes**	**2.11**	**98**	S		**Sn**	**08 12 37.2**	**+0.2**
RTR	**El Retiro**	**2.24**	**98**	*e*P		**Pn**	**08 12 14.6**	**+1.0**
SBLS	**San Blas**	**2.27**	**99**	*e*P		**Pn**	**08 12 14.7**	**+0.7**
CEVE	**Cerro Verde**	**2.27**	**100**	S		**Sn**	**08 12 42.4**	**+1.3**
CEVE	**Cerro Verde**	**2.27**	**100**	P		**Pn**	**08 12 15.3**	**+1.3**
ESQI	**Esquipulas**	**2.53**	**82**	P		**Pn**	**08 12 18.6**	**+1.1**
UEES	**Universidad Ev**	**2.66**	**101**	S		**Sn**	**08 12 52.2**	**+1.9**
UEES	**Universidad Ev**	**2.66**	**101**	P		**Pn**	**08 12 20.5**	**+1.3**
LOMA	**Loma Larga**	**2.74**	**102**	*e*P		**Pn**	**08 12 21.0**	**+0.7**
LOMA	**Loma Larga**	**2.74**	**102**	P		**Pn**	**08 12 21.6**	**+1.3**
LOMA	**Loma Larga**	**2.74**	**102**	S		**Sn**	**08 12 52.7**	**+0.4**
COEG	**Centro de Oper**	**3.02**	**101**	*e*P		**Pn**	**08 12 25.4**	**+1.3**
COEG				IAML			08 13 13.3	
	comp=Z,146nm,0.3s							
COEG	**Centro de Oper**	**3.02**	**101**	S		**Sn**	**08 13 00.9**	**+1.7**
COEG	**Centro de Oper**	**3.02**	**101**	P		**Pn**	**08 12 25.5**	**+1.3**
UESV	**Universidad de**	**3.11**	**100**	S		**Sn**	**08 13 02.7**	**+1.5**
UESV	**Universidad de**	**3.11**	**100**	P		**Pn**	**08 12 26.0**	**+0.7**
TECO	**Alcaldia de Te**	**3.14**	**102**	P		**Pn**	**08 12 26.6**	**+1.0**
TECO	**Alcaldia de Te**	**3.14**	**102**	S		**Sn**	**08 13 03.0**	**+1.2**
SCLA	**Alcaldia de Sa**	**3.15**	**99**	P		**Pn**	**08 12 26.4**	**+0.5**
SCLA	**Alcaldia de Sa**	**3.15**	**99**	S		**Sn**	**08 13 03.6**	**+1.3**
PQSS	**Presa 15 de Se**	**3.33**	**100**	S		**Sn**	**08 13 08.4**	**+1.9**
PQSS	**Presa 15 de Se**	**3.33**	**100**	P		**Pn**	**08 12 29.2**	**+1.0**
PETF	**Flores**	**3.34**	**36**	*e*P		**Pn**	**08 12 28.7**	**+0.3**
PETF				*e*S		**Sn**	**08 13 04.3**	**-2.5**
NILT	**Santiago Nilte**	**3.48**	**312**	*e*P		**Pn**	**08 12 31.3**	**+1.0**
NILT				*e*S		**Sn**	**08 13 10.1**	**-0.2**
CMIG	**Matias Romero**	**4.03**	**316**	*e*P		**Pn**	**08 12 39.4**	**+1.6**
CMIG				*e*S		**Sn**	**08 13 24.9**	**+1.2**
SCIG	**Sabancuy**	**4.77**	**9**	*e*P		**Pn**	**08 12 48.5**	**+0.5**
PEIG	**Puerto Escondi**	**5.34**	**290**	*e*P		**Pn**	**08 12 55.5**	**-0.2**
PEIG				*e*S		**Sn**	**08 13 52.5**	**-3.4**
YOIG	**Yosondua**	**6.01**	**297**	*e*P		**Pn**	**08 13 08.0**	**+2.8**
YOIG				*e*S		Sn	08 14 01.7	-11
TPIG	**Tehuac#an**	**6.68**	**309**	*e*P		**Pn**	**08 13 14.3**	**0.0**
TPIG				*i* S		**Sn**	**08 14 24.8**	**-4.3**
HLIG	**Huajuapan de L**	**6.69**	**303**	*e*P		**Pn**	**08 13 16.8**	**+2.4**
HLIG				*i* S		**Sn**	**08 14 30.1**	**+0.8**
JAUV	**Jalcomulco**	**6.92**	**318**	*e*P		**Pn**	**08 13 17.1**	**-0.4**
JAUV				*e*S		**Sn**	**08 14 29.3**	**-5.6**

NOU ***08*** *08:16:44.9, 30˚.40S×117˚.76E, h0km, MLv3.4/11, Western Australia*

AUST ***08*** *08:16:45.6±0.3, 30˚.S±2˚×117˚.8E±˚, h10km, mb4.4/1, ML2.8/7, ML3.4/8, Error ellipse: s-maj=5.8km s-min=4.7km az=54.9*

CUPWA ***08*** *08:16:46.8±0.8, 30˚.40S×117˚.74E, h2km±10km, ML2.8, Region: WESTERN AUSTRALIA*

ISC 08 08:16:45.0±1.3, 30˚.39S±0˚.03×117˚.79E±0˚.03, h9km±10km, n36, σ1º12/43, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOO6	**Koorda**	**0.51**	**212**	P	**Pg**	**08 16 55.3**	**+0.3**
KOO6				S	**Sg**	**08 17 02.3**	**+0.5**
BR4	**Bonnie Rock 4**	**0.53**	**120**	P	**Pg**	**08 16 57.1**	**+1.8**
CADX	**Cadoux**	**0.68**	**236**	P	**Pg**	**08 16 58.3**	**+0.1**
CADX				S	**Sg**	**08 17 06.7**	**-0.5**
BLDU	**Ballidu**	**0.96**	**256**	P	**Pg**	**08 17 03.3**	**-0.3**
BLDU	**Ballidu**	**0.96**	**256**	P	**Pg**	**08 17 03.1**	**-0.5**
BLDU	**Ballidu**	**0.96**	**256**	S	**Sg**	**08 17 15.3**	**-0.8**
BLDU	**Ballidu**	**0.96**	**256**	P	**Pg**	**08 17 03.3**	**-0.3**
BLDU				S	**Sg**	**08 17 14.8**	**-1.3**
KLBR	**Kellerberrin**	**1.20**	**182**	P	**Pg**	**08 17 08.1**	**0.0**
KLBR	**Kellerberrin**	**1.20**	**182**	S	**Sg**	**08 17 22.7**	**-1.0**
KLBR	**Kellerberrin**	**1.20**	**182**	P	**Pg**	**08 17 07.8**	**-0.3**
KLBR	**Kellerberrin**	**1.20**	**182**	S	**Sg**	**08 17 22.9**	**-0.8**
KLBR	**Kellerberrin**	**1.20**	**182**	P	**Pg**	**08 17 08.1**	**0.0**
KLBR	**Kellerberrin**	**1.20**	**182**	S	**Sg**	**08 17 22.7**	**-1.0**
MECK	**Meckering**	**1.41**	**208**	P	**Pn**	**08 17 11.5**	**+0.5**
MECK				S	**Sg**	**08 17 29.0**	**-1.5**
CORI2	**Corrigin**	**1.69**	**181**	SG	**Sn**	**08 17 38.1**	**+1.4**
CORI2	**Corrigin**	**1.69**	**181**	P	**Pn**	**08 17 16.3**	**+1.5**
MORW	**Morawa**	**2.01**	**310**	P	**Pn**	**08 17 20.1**	**+0.9**
MORW	**Morawa**	**2.01**	**310**	P	**Pn**	**08 17 20.0**	**+0.8**
MORW	**Morawa**	**2.01**	**310**	P	**Pn**	**08 17 20.1**	**+0.9**
MORW				S	**Sn**	**08 17 45.0**	**+0.5**
MUN	**Mundaring**	**2.09**	**220**	P	**Pn**	**08 17 20.8**	**+0.5**
MUN	**Mundaring**	**2.09**	**220**	S	**Sn**	**08 17 45.6**	**-0.8**
MUN	**Mundaring**	**2.09**	**220**	P	**Pn**	**08 17 21.0**	**+0.7**
MUN	**Mundaring**	**2.09**	**220**	S	**Sn**	**08 17 48.3**	**+1.9**
PING	**Pingelly**	**2.22**	**198**	S	**Sb**	**08 17 52.6**	**-0.4**
AUKUL	**Kulin High Sch**	**2.30**	**172**	P	**Pn**	**08 17 23.2**	**+0.1**
NWAO	**Narrogin (SRO)**	**2.58**	**191**	P	**Pn**	**08 17 27.7**	**+0.7**
NWAO	**Narrogin (SRO)**	**2.58**	**191**	P	**Pn**	**08 17 27.1**	**+0.1**
NWAO	**Narrogin (SRO)**	**2.58**	**191**	S	**Sn**	**08 17 59.0**	**+0.6**
NWAO	**Narrogin (SRO)**	**2.58**	**191**	P	**Pn**	**08 17 27.7**	**+0.7**
KMBL	**Kambalda**	**3.65**	**107**	P	**Pn**	**08 17 41.1**	**-0.6**
KMBL				S	**Sn**	**08 18 22.4**	**-2.5**
MEEK	**Meekatharra**	**3.81**	**11**	P	**Pn**	**08 17 45.4**	**+1.5**
MEEK	**Meekatharra**	**3.81**	**11**	S	**Sn**	**08 18 26.8**	**-2.0**
MEEK	**Meekatharra**	**3.81**	**11**	P	**Pn**	**08 17 45.4**	**+1.5**
MEEK	**Meekatharra**	**3.81**	**11**	P	**Pn**	**08 17 45.4**	**+1.5**
RKGY	**Rocky Gully**	**4.27**	**189**	P	**Pn**	**08 17 51.9**	**+1.7**
DNDOZ	**Balladonia**	**5.59**	**113**	P	**Pn**	**08 18 09.1**	**+0.8**
	comp=Z,180μmcomp=Z,0.3nmcomp=Z,73nm,2.0s						
DNDOZ				S	**Sn**	**08 19 11.1**	**-1.5**

NEIC ***08*** *08:20:02.0±1.4, 36˚.119N±0˚.009×117˚.85W±0˚.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.6km az=109.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; Mrr=5.65; Mθθ=4.72; Mφφ 10.37; Mrθ=-3.49; Mrφ 0.97; Mθφ=1.69; Fault plane solution: M 9.84000×1014 NP1 φs 149.51000˚, δ51.57000˚, λ=-144.95000˚. NP2: φs 35.95000˚, δ63.27000˚, λ=-44.10000˚. Principal axes: T 10.6604, Plg7.0000˚, Azm95.0000˚; N -1.9321, Plg40.0000˚, Azm191.0000˚; P -8.7283, Plg49.0000˚, Azm357.0000˚;*

PAS ***08*** *08:20:02.4±1.4, 36˚.119N±0˚.005×117˚.86W±0˚.01, h3km±3km, Mwr 3.9/4, ML3.8/162(NEIC), Mwr3.9/39(NEIC) Error ellipse: s-maj=1.4km s-min=0.3km az=119.0*

NEIC ***08*** *08:20:02.4, 36˚.12N×117˚.86W, h3km*

IDC ***08*** *08:20:02.5±0.8, 36˚.16N×117˚.76W, h0km, mb3.2/1, mbtmp3.2/6, ML3.4/4, Error ellipse: s-maj=15.6km s-min=5.7km az=77.0*

ISC 08 08:20:02.3±0.8, 36˚.12N±0˚.01×117˚.86W±0˚.02, h7km±6km, n146, σ0º91/173, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.00**	**126**		**Pg**	**08 20 03.5**	**-0.3**
WRVM	**Rose V. Centra**	**0.11**	**193**		**Pg**	**08 20 04.3**	**-0.5**
WVPM	**Volcano Peak E**	**0.17**	**169**		**Pg**	**08 20 05.4**	**-0.5**
WVPM					**Sg**	**08 20 08.6**	**+0.3**
WNMM	**Nine Mile Cany**	**0.28**	**188**		**Pg**	**08 20 07.8**	**0.0**
MPMC	**Manual Prospec**	**0.31**	**101**	Pg	**Pg**	**08 20 08.4**	**0.0**
MPMC				Sg	**Sg**	**08 20 12.6**	**+0.2**
CWC	**Cottonwood Cre**	**0.37**	**331**		**Pg**	**08 20 09.4**	**-0.2**
CWC				Sg	**Sg**	**08 20 14.4**	**0.0**
CWC				IAML		08 20 14.8	
	comp=E,15μm,0.3s						
CWC				IAML		08 20 14.8	
	comp=N,8μm,0.2s						
CLC	**China Lake**	**0.37**	**145**		**Pg**	**08 20 09.5**	**-0.1**
CLC				Sg	**Sg**	**08 20 14.7**	**+0.3**
CGO	**Cerro Gordo**	**0.43**	**6**		**Pg**	**08 20 10.5**	**-0.3**
CGO					**Sg**	**08 20 17.3**	**+0.8**
SRTC	**Snort**	**0.44**	**168**		**Pg**	**08 20 11.2**	**+0.5**
SRTC					**Sb**	**08 20 18.2**	**-0.9**
WORM	**Onyx Ranch**	**0.53**	**216**		**Pg**	**08 20 12.2**	**-0.3**
WHFM	**Hanning Flat**	**0.58**	**223**		**Pg**	**08 20 13.4**	**-0.1**
WHFM					**Sg**	**08 20 21.4**	**+0.3**
WBSM	**Bird Springs**	**0.62**	**201**		**Pg**	**08 20 14.2**	**-0.2**
LRMC	**Laurel Mtn Rad**	**0.65**	**167**		**Pg**	**08 20 14.8**	**-0.1**
LRMC					**Sg**	**08 20 23.9**	**+0.4**
LRMC				IAML		08 20 24.0	
	comp=E,3μm,0.6s						
LRMC				IAML		08 20 24.7	
	comp=N,5μm,0.3s						
ISA	**Isabella, Lake**	**0.68**	**228**	Pg	**Pg**	**08 20 15.1**	**-0.2**
ISA				Sg	**Sg**	**08 20 24.3**	**+0.2**
ISA				IAML		08 20 24.6	
	comp=E,3μm,0.5s						
ISA				IAML		08 20 24.9	
	comp=N,5μm,0.5s						
WASM	**Alta Sierra Ca**	**0.68**	**236**		**Pg**	**08 20 15.3**	**-0.2**
CCCA	**Chr Cany lake**	**0.72**	**146**		**Pg**	**08 20 16.5**	**+0.4**
CCCA				Sg	**Sg**	**08 20 26.5**	**+1.1**
SPG2	**Springville 2**	**0.74**	**277**		**Sg**	**08 20 26.2**	**+0.1**
QSM	**Queen of Sheba**	**0.82**	**101**		**Pg**	**08 20 17.8**	**-0.2**
QSM				Sg	**Sg**	**08 20 28.9**	**+0.2**
DTP	**Desert Tortois**	**0.85**	**179**		**Pg**	**08 20 18.2**	**-0.4**
DTP					**Sg**	**08 20 29.7**	**0.0**
FURC	**Furnace Creek,**	**0.88**	**66**		**Pg**	**08 20 19.3**	**+0.1**
FURC					**Sg**	**08 20 31.2**	**+0.7**
GRAC	**Grapevine Rang**	**0.96**	**24**	Pg	**Pg**	**08 20 20.3**	**-0.5**
GRAC				Sg	**Sg**	**08 20 33.6**	**+0.3**
GWY	**Greenwater Val**	**0.96**	**86**	Pg	**Pg**	**08 20 20.6**	**-0.3**
GWY				Sg	**Sg**	**08 20 34.1**	**+0.7**
GWY				IAML		08 20 37.3	
	comp=N,4μm,0.4s						
GWY				IAML		08 20 37.7	
	comp=E,5μm,0.5s						
CCAC	**Calif City Air**	**0.97**	**188**		**Pg**	**08 20 20.6**	**-0.5**
CCAC					**Sg**	**08 20 33.9**	**+0.2**
TIN	**Tinemaha, Big**	**0.98**	**342**		**Pg**	**08 20 20.8**	**-0.4**
TIN					**Sg**	**08 20 34.5**	**+0.6**
VES	**Vestal, Richgr**	**1.03**	**255**		**Pg**	**08 20 21.8**	**-0.3**
VES					**Sg**	**08 20 35.9**	**+0.4**
SGV	**South Grapevin**	**1.09**	**37**		**Pg**	**08 20 22.9**	**-0.3**
SGV					**Sg**	**08 20 37.9**	**+0.5**
TEJ	**El Tejon**	**1.12**	**218**		**Pg**	**08 20 23.0**	**-0.7**
TEJ					**Sg**	**08 20 37.8**	**-0.4**
LCH	**Lach Change Ra**	**1.12**	**9**		**Pg**	**08 20 22.9**	**-1.0**
MAGC	**SCE Magundon P**	**1.15**	**229**		**Pg**	**08 20 24.1**	**-0.2**
GSC	**Goldstone, Bar**	**1.18**	**133**		**Sg**	**08 20 40.2**	**-0.1**
GSC	**Goldstone, Bar**	**1.18**	**133**		**Pg**	**08 20 24.5**	**-0.6**
GSC				IAML		08 20 43.0	
	comp=E,3μm,0.4s						
GSC				IAML		08 20 44.0	
	comp=N,2μm,0.6s						
WCT	**Wildcat Mounta**	**1.20**	**56**		**Pg**	**08 20 24.8**	**-0.6**
WCT				IAML		08 20 48.5	
	comp=E,2μm,0.9s						
WCT				IAML		08 20 48.6	
	comp=N,2μm,0.7s						
EDW2	**Edwards Air Fo**	**1.24**	**185**		**Pg**	**08 20 25.1**	**-1.0**
EDW2					**Sg**	**08 20 41.5**	**-0.7**
VOG	**Valley Oaks Go**	**1.25**	**280**		**Sg**	**08 20 41.7**	**-0.8**
DSP	**Deep Springs**	**1.25**	**356**		**Pg**	**08 20 25.4**	**-1.0**
ARVC	**Arvin**	**1.27**	**219**		**Pg**	**08 20 26.2**	**-0.5**
GMN	**Gold Mountain**	**1.27**	**22**	Pg	**Pg**	**08 20 26.2**	**-0.6**
GMN					**Sg**	**08 20 43.0**	**-0.3**
GMN				IAML		08 20 46.1	
	comp=N,1μm,0.6s						
GMN				IAML		08 20 47.4	
	comp=E,1μm,0.6s						
TPO	**Tropico Hills**	**1.27**	**194**		**Sg**	**08 20 43.2**	**-0.1**
TPO	**Tropico Hills**	**1.27**	**194**	Pg	**Pg**	**08 20 26.1**	**-0.6**
TPO				IAML		08 20 46.5	
	comp=E,1μm,0.8s						
TPO				IAML		08 20 49.9	
	comp=N,1μm,0.7s						
BAKC	**Calstate**	**1.27**	**233**		**Pg**	**08 20 26.5**	**-0.3**
HYS	**Haystack Butte**	**1.27**	**169**		**Pg**	**08 20 25.9**	**-0.9**
HYS					**Sg**	**08 20 42.5**	**-0.8**
TJR	**Tejon Ranch**	**1.31**	**214**		**Pg**	**08 20 26.4**	**-1.0**
TJR					**Sg**	**08 20 43.8**	**-0.5**
AMDNV	**Amargosa**	**1.32**	**75**		**Pg**	**08 20 26.4**	**-1.2**
THC	**Tehachapi Micr**	**1.38**	**209**		**Pn**	**08 20 27.5**	**-0.6**
RRX	**Edison Barstow**	**1.43**	**150**		**Pb**	**08 20 29.6**	**+0.3**
SBB	**Saddle Back Bu**	**1.43**	**179**		**Pn**	**08 20 29.1**	**+0.4**
TPNV	**Topopah Spring**	**1.54**	**57**		**Pn**	**08 20 30.4**	**0.0**
TPNV				IAML		08 20 53.9	
	comp=N,2μm,0.7s						
TPNV				IAML		08 20 53.9	
	comp=N,2μm,0.6s						
LRRC	**Littlerock Res**	**1.60**	**185**		**Pb**	**08 20 32.2**	**+0.1**
CJV	**Casa Juvan**	**1.60**	**188**		**Pb**	**08 20 32.4**	**+0.1**
MZP	**Montezuma Peak**	**1.62**	**13**		**Pn**	**08 20 31.8**	**+0.2**
HOLC	**Holcomb Ridge**	**1.66**	**180**		**Pn**	**08 20 32.8**	**+0.9**
OSI	**Osito Audit: C**	**1.66**	**205**		**Pn**	**08 20 32.2**	**+0.3**
OSI				IAML		08 21 00.8	
	comp=N,1μm,0.7s						
OSI				IAML		08 21 00.8	
	comp=E,2μm,0.7s						
JNH	**Juniper Hills**	**1.67**	**183**		**Pn**	**08 20 31.8**	**-0.3**
KCC	**Kaiser Creek**	**1.68**	**316**		**Pn**	**08 20 32.9**	**+0.7**
BENR	**Benton**	**1.69**	**340**		**Pn**	**08 20 33.1**	**+0.5**
BCW	**Bitter Crk WRg**	**1.73**	**228**		**Pn**	**08 20 33.9**	**+1.0**
CHFC	**Chilao Flat St**	**1.79**	**184**		**Pb**	**08 20 36.0**	**+0.5**
BFSC	**Mount Baldy Ra**	**1.88**	**175**		**Pn**	**08 20 34.8**	**-0.2**
MWC	**Mount Wilson**	**1.90**	**185**		**Pn**	**08 20 35.6**	**+0.3**
MWC				IAML		08 21 04.2	
	comp=E,568nm,0.9s						
MWC				IAML		08 21 04.4	
	comp=N,678nm,0.6s						
SMMC	**Simmler**	**1.92**	**246**		**Pn**	**08 20 36.6**	**+1.2**
PASC	**Pasadena Art C**	**1.96**	**188**		**Pn**	**08 20 36.5**	**+0.4**
PASC				IAML		08 21 07.9	
	comp=E,428nm,0.6s						
PASC				IAML		08 21 09.5	
	comp=N,372nm,0.8s						
MTPC	**Mountain Pass**	**1.98**	**108**		**Pn**	**08 20 35.7**	**-0.7**
MTPC				IAML		08 21 06.3	
	comp=E,586nm,0.3s						
MTPC				IAML		08 21 06.6	
	comp=N,815nm,0.5s						
TPH	**Tonopah**	**2.02**	**14**		**Pn**	**08 20 37.3**	**+0.3**
PSRC	**Puddingstone R**	**2.02**	**179**		**Pn**	**08 20 37.2**	**+0.4**
TSCN	**Private Proper**	**2.10**	**255**		**Pn**	**08 20 39.4**	**+1.4**
PKD	**Bear Valley Ra**	**2.18**	**266**		**Pn**	**08 20 40.2**	**+1.2**
LHV	**Little Huntoon**	**2.19**	**347**		**Pn**	**08 20 40.1**	**+1.0**
LHV				IAML		08 21 19.5	
	comp=N,528nm,1.0s						
LHV				IAML		08 21 19.6	
	comp=E,486nm,0.9s						
SHPR	**Sheep Range**	**2.21**	**79**		**Pn**	**08 20 39.8**	**+0.2**
PSMM	**Smith Mountain**	**2.22**	**270**		**Pn**	**08 20 41.2**	**+1.6**
S11A	**Rachel**	**2.28**	**47**	Pn	**Pn**	**08 20 40.8**	**+0.4**
NV11	**Mina Array Sit**	**2.32**	**354**		**Pn**	**08 20 41.2**	**+0.1**
NVAR	**Mina Array Bea**	**2.33**	**351**		**Pn**	**08 20 41.7**	**+0.3**
NVAR	**Mina Array Bea**	**2.33**	**351**	Pn	**Pn**	**08 20 40.9**	**-0.5**
	comp=E,5.2nm,0.3s,baz=172,slow=13,SNR=44						
NVAR				Pg	**Pb**	**08 20 45.1**	**+0.3**
	comp=E,54nm,0.3s,baz=162,slow=15,SNR=46						
NVAR				Lg	Lg	08 21 16.5	
	comp=E,44nm,0.3s,baz=170,slow=31,SNR=3.0 comp=E,40nm,0.6s						
BLAC	**Blackrock camp**	**2.37**	**149**		**Pn**	**08 20 42.2**	**+0.4**
PMPB	**Monarch Peak**	**2.38**	**273**		**Pn**	**08 20 42.7**	**+0.8**
PMPB				IAML		08 21 27.7	
	comp=N,815nm,0.8s						
PMPB				IAML		08 21 40.7	
	comp=E,637nm,0.8s						
MYLM	**Yosemite Lake**	**2.41**	**302**		**Pb**	**08 20 45.2**	**-0.9**
PSAM	**San Ardo**	**2.46**	**269**		**Pn**	**08 20 44.1**	**+1.3**
NJQ	**Nojoqui County**	**2.47**	**231**		**Pb**	**08 20 46.7**	**-0.3**
V12A	**Nelson**	**2.47**	**98**		**Pn**	**08 20 42.7**	**-0.4**
V12A				IAML		08 21 30.5	
	comp=E,234nm,0.6s						
ELS	**Elsinore Mount**	**2.49**	**172**		**Pn**	**08 20 43.6**	**+0.3**
RAMR	**Ramage Ranch**	**2.49**	**260**		**Pn**	**08 20 44.8**	**+1.4**
TPC	**Twentynine Pal**	**2.50**	**143**		**Pn**	**08 20 43.0**	**-0.4**
HMTC	**Hemet**	**2.50**	**163**		**Pn**	**08 20 43.9**	**+0.4**
DPD	**Davis Peak**	**2.54**	**250**		**Pn**	**08 20 45.9**	**+1.9**
POB	**Polly Butte**	**2.55**	**162**		**Pn**	**08 20 44.3**	**+0.2**
RYN	**Ryan**	**2.56**	**348**		**Pn**	**08 20 45.0**	**+0.6**
MURC	**Murrieta**	**2.57**	**168**		**Pn**	**08 20 44.6**	**+0.1**
PRN	**Pahroc Range**	**2.59**	**59**	Pn	**Pn**	**08 20 45.2**	**+0.4**
BBGB	**Big Mountain B**	**2.61**	**281**		**Pn**	**08 20 46.7**	**+1.7**
PCCM	**Crazy Canyon**	**2.68**	**270**		**Pn**	**08 20 47.7**	**+1.8**
WAKR	**Walker**	**2.69**	**333**	Pn	**Pn**	**08 20 46.1**	**-0.1**
WAKR				IAML		08 21 32.9	
	comp=N,236nm,0.6s						
WAKR				IAML		08 21 37.4	
	comp=E,324nm,0.9s						
PMD	**Palm Desert**	**2.75**	**153**		**Pn**	**08 20 46.9**	**+0.1**
PFO	**Pinyon Flats O**	**2.75**	**155**		**Pn**	**08 20 47.7**	**+0.7**
PFO	**Pinyon Flats O**	**2.75**	**155**	Pn	**Pn**	**08 20 46.9**	**-0.1**
	comp=E,1.9nm,0.3s,baz=335,slow=9.7,SNR=10						
PFO				Pg	**Pb**	**08 20 53.4**	**+1.5**
	comp=E,17nm,0.3s,baz=333,slow=14,SNR=82						
PFO				Sn	**Sn**	**08 21 19.0**	**-1.6**
	comp=E,4.0nm,0.3s,baz=348,slow=19,SNR=3.5						
PFO				Lg	Lg	08 21 29.4	
	comp=E,21nm,0.3s,baz=55,slow=18,SNR=8.8 comp=E,5.7nm,0.3s						
BSGM	**Shirttail Gulc**	**2.76**	**277**		**Pn**	**08

DUG	**Dugway, Tooele**	**5.69**	**43**	Pn		**Pn**	08 21 25.3	**-2.1**
214A	**Organ Pipe Nat**	**5.90**	**133**	Pn		**Pn**	08 21 28.7	**-1.5**
HMU	**Henry Mountain**	**5.98**	**70**			**Pn**	08 21 30.2	**-1.2**
Q16A	**Castle Valley**	**6.00**	**60**	Pn		**Pn**	08 21 30.7	**-1.0**
TMUT	**Trail Mountain**	**6.15**	**57**	Pn		**Pn**	08 21 33.0	**-0.9**
WVOR	**Wild Horse Val**	**6.33**	**355**	Pn		**Pn**	08 21 34.6	**-1.6**
SRU	**San Rafael Swe**	**6.54**	**61**	Pn		**Pn**	08 21 37.3	**-1.8**
CTU	**Camp Tracy**	**6.62**	**45**	Pn		**Pn**	08 21 37.7	**-2.5**
W18A	**Petrified Fore**	**6.69**	**96**	Pn		**Pn**	08 21 43.1	**+1.9**
JLU	**Jordanelle**	**6.74**	**46**	Pn		**Pn**	08 21 40.6	**-1.2**
YBH	**Yreka Blue Hor**	**6.76**	**327**	Pg		**Pb**	08 21 56.1	**-4.1**
	baz=173,slow=8.9,SNR=1.8							
YBH				Lg		Lg	08 23 36.4	
	baz=166,slow=19,SNR=6.2							
PDAR	**Pinedale Array**	**9.23**	**42**	Pn		**Pn**	08 22 17.9	**+1.8**
	comp=N,0.1nm,0.2s,baz=223,slow=14,SNR=1.0							
PDAR				Lg		Lg	08 24 48.7	
	comp=N,0.1nm,0.3s,baz=225,slow=27,SNR=4.1							
ANMO	**Albuquerque**	**9.37**	**94**	Pg		Pn	08 22 50.0	+32
	comp=N,0.1nm,0.3s,baz=289,slow=8.3,SNR=10							
ANMO				Lg		Lg	08 24 53.8	
	comp=N,0.1nm,0.3s,baz=294,slow=20,SNR=2.2							
TXAR	**Lajitas Array**	**13.72**	**116**	Pn		**Pn**	**08 23 19.6**	**+2.1**
	baz=299,slow=12,SNR=6.2							
	comp=N,0.8nm,1.0s							
ILAR	**Eielson Array**	**33.52**	**338**	P		**P**	**08 26 43.5**	**+1.3**
	comp=N,0.3nm,0.8s,baz=135,slow=8.2,SNR=4.7							
	comp=N,0.3nm,0.8s							

*IDC **08** 08:20:45.4±1.4,36°.53N×141°.13E,h0km,mb3.5/5, mbtmp3.5/6,ML2.8/1,Error ellipse: s-maj=29.3km s-min=26.2km az=17.0*
*JMA **08** 08:20:51.3±0.1,36°.6N±0°.3×140°.9E±0°.7,h49km±1km, MV3.5/40,E OFF IBARAKI PREF*
JMA Felt I J1 at E OFF IBARAKI PREF .
ISC 08 08:20:50.0±1.6,36°.63N±0°.05×141°.10E±0°.09,h32km±9km, n17,σ0s88/25,mb3.5/5,14D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHO	**Hitachi**	**0.43**	**267**	⇓P		**Pn**	**08 21 00.4**	**+0.3**
JHO				⇓eS		**Sb**	08 21 06.4	+0.5
JHYU	**Hitachinakayam**	**0.51**	**235**	⇓*i*P		**Pn**	08 21 01.5	+0.5
JHYU				⇓eS		**Sb**	08 21 08.5	+0.6
ONAJ	**Iwakimizuishiy**	**0.53**	**333**	⇓P		**Pn**	08 21 01.9	+0.5
ONAJ				⇓eS		**Sn**	08 21 09.2	-0.1
JFFD	**Fukushimafurud**	**0.63**	**317**	⇓*i*P		**Pb**	08 21 03.0	+0.3
JFFD				⇓eS		**Sb**	08 21 10.8	-0.5
JFK	**Kawauchi**	**0.76**	**346**	⇓eP		**Pb**	08 21 04.8	0.0
JFK				⇓eS		**Sb**	08 21 14.4	-0.4
JYT	**Yasato**	**0.84**	**241**	⇓eP		**Pn**	08 21 05.2	-0.4
JYT				⇓eS		**Sn**	08 21 14.8	-2.0
JOTO	**OTAMA OYAMA**	**1.11**	**327**	P		**Pb**	08 21 10.2	-0.5
JOTO				eS		**Sn**	08 21 23.4	-0.3
JMM	**Marumori**	**1.26**	**349**	P		**Pb**	08 21 12.1	-1.1
JAG	**Ashikaga**	**1.34**	**262**	⇓P		**Pn**	08 21 12.0	-0.6
JFY	**Yanaizu**	**1.36**	**305**	⇓P		**Pn**	08 21 12.7	-0.1
JKT	**Katashina**	**1.50**	**276**	P		**Pn**	08 21 14.5	-0.2
MJAR	**Matsushiro Arr**	**2.33**	**269**	Pn		**Pn**	08 21 26.3	**+0.1**
	2.2nm,0.3s,baz=88,slow=14,SNR=67							
MJAR				Sn		**Sn**	08 21 55.0	**+1.2**
	1.2nm,0.3s,baz=156,slow=33,SNR=5.8							
	17nm,0.3s							
SONM	**Songino Array**	**27.81**	**305**	P		**P**	**08 26 38.0**	**+1.7**
	0.3nm,0.4s,baz=100,slow=8.1,SNR=1.8							
	0.3nm,0.4s							
ZALV	**Zalesovo Beam**	**42.00**	**313**	P		**P**	**08 28 36.7**	**-1.4**
	0.6nm,0.3s,baz=86,slow=9.0,SNR=2.0							
	0.6nm,0.3s							
MKAR	**Makanchi Array**	**44.12**	**302**	P		**P**	**08 28 55.4**	**0.0**
	0.2nm,0.6s,baz=76,slow=6.6,SNR=2.1							
	0.2nm,0.6s							
ILAR	**Eielson Array**	**49.97**	**32**	P		**P**	**08 29 42.0**	**+1.3**
	0.3nm,0.6s,baz=266,slow=6.8,SNR=4.4							
	0.3nm,0.6s							
WRA	**Warramunga Arr**	**56.63**	**188**	P		**P**	**08 30 29.3**	**-0.8**
	0.4nm,0.5s,baz=1.2,slow=7.8,SNR=9.4							
	0.4nm,0.5s							

*IDC **08** 08:37:48.4±1.1,37°.93N×144°.27E,h0km,mb3.6/7, mbtmp3.6/10,ML3.3/3,Error ellipse: s-maj=29.6km s-min=21.5km az=81.0*
*JMA **08** 08:37:52.0±0.2,38°.1N±0°.8×14°.4E±°,h41km,MV3.4/28, FAR E OFF NORTH HONSHU*
ISC 08 08:37:53.5±1.0,38°.04N±0°.07×144°.19E±0°.07,h35km,n21, σ0s95/30,mb3.4/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.17**	**278**	P		**Pn**	**08 38 26.3**	**-0.8**
JIKH				eS		**Sn**	08 38 52.0	-0.7
OFUJ	**Ofunato**	**2.23**	**298**	P		**Pn**	08 38 27.4	-0.6
JKMT	**Kesennumamotoy**	**2.27**	**291**	eP		**Pn**	08 38 28.0	-0.4
JKMT				eS		**Sn**	08 38 54.4	-0.8
JIO	**Ouri**	**2.28**	**281**	P		**Pn**	08 38 28.1	-0.5
JIO				S		**Sn**	08 38 54.4	-1.0
JMK	**Ichinoseki**	**2.50**	**292**	P		**Pn**	08 38 31.5	-0.2
JMK				S		**Sn**	08 39 01.3	+0.3
JOM	**Ohasama**	**2.68**	**303**	P		**Pn**	08 38 33.9	-0.2
JOM				eS		**Sn**	08 39 05.1	-0.2
JOTO	**OTAMA OYAMA**	**3.10**	**262**	P		**Pn**	08 38 40.6	+0.7
JOTO				eS		**Sn**	08 39 15.7	0.0
JANG	**Nango**	**3.12**	**319**	eP		**Pn**	08 38 40.3	+0.1
JANG				eS		**Sn**	08 39 14.8	-1.5
JYK	**Kaneyama**	**3.13**	**287**	eP		**Pn**	08 38 41.1	+0.7
JYK				eS		**Sn**	08 39 17.7	+1.1
JCH	**Churui**	**4.61**	**352**	P		**Pn**	08 38 59.9	-0.7
JRY	**Ryogami san**	**4.69**	**246**	eP		**Pn**	08 39 01.4	-0.4
MJAR	**Matsushiro Arr**	**5.00**	**254**	Pn		**Pn**	**08 39 05.4**	**-0.7**
	0.2nm,0.3s,baz=75,slow=14,SNR=6.0							
	1.1nm,0.3s							
ASAJ	**Asahikawa**	**6.19**	**349**	Pn		**Pn**	**08 39 21.6**	**-0.7**
	0.7nm,0.3s,baz=207,slow=10.0,SNR=4.0							
ASAJ				Sn		**Sn**	08 40 30.8	-1.0
	0.3nm,0.3s,baz=107,slow=19,SNR=4.3							
	1.8nm,0.4s							
JNU	**Nakatsue**	**11.90**	**250**	Pn		**Pn**	**08 40 38.0**	**-2.7**
	0.4nm,0.3s,baz=17,slow=19,SNR=5.5							
	1.6nm,0.3s							
MKAR	**Makanchi Array**	**45.46**	**302**	P		**P**	**08 46 10.2**	**+1.1**
	0.3nm,0.7s,baz=71,slow=9.9,SNR=2.8							
	0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**47.13**	**308**	P		**P**	**08 46 23.0**	**+0.9**
	0.2nm,0.5s,baz=78,slow=8.1,SNR=2.6							
	0.2nm,0.5s							
BVAR	**Borovoye Array**	**51.53**	**312**	P		**P**	**08 46 56.5**	**+0.8**
	0.5nm,0.3s							
	0.5nm,0.3s							
WRA	**Warramunga Arr**	**58.42**	**191**	P		**P**	**08 47 44.6**	**-1.1**
	0.9nm,0.8s,baz=14,slow=7.3,SNR=7.0							
	0.9nm,0.8s							
FITZ	**Fitzroy Crossi**	**58.50**	**201**	P		**P**	**08 47 47.0**	**+0.7**
	0.7nm,0.3s,baz=7.6,slow=15,SNR=1.3							
	0.7nm,0.3s							
ASAR	**Alice Springs**	**62.14**	**191**	P		**P**	**08 48 10.3**	**-0.8**
	0.2nm,0.6s,baz=18,slow=7.1,SNR=2.3							
	0.2nm,0.6s							
NVAR	**Mina Array Bea**	**72.61**	**55**	P		**P**	**08 49 18.3**	**+0.7**
	0.2nm,0.5s,baz=305,slow=5.7,SNR=1.9							
	0.2nm,0.5s							

*MOS **08** 08:44:08.7±0.8,56°.56N×154°.35W,h10km,mb4.5/19, Error ellipse: s-maj=15.1km s-min=5.8km az=86.6*
*IDC **08** 08:44:08.7±0.7,56°.54N×154°.32W,h0km,mb4.2/24, mbtmp4.2/25,ML3.9/1,MS3.7/3,Error ellipse: s-maj=16.2km s-min=11.3km az=162.0*
*AEIC **08** 08:44:09.4±1.3,56°.26N±0°.04×154°.03W±0°.09,h0km±3km, ML4.1,mb4.7/24(NEIC),ML4.2/71(NEIC),Mwr4.1/42(NEIC), Error ellipse: s-maj=7.8km s-min=5.3km az=112.0*
*NEIC **08** 08:44:09.4,56°.26N×154°.03W,h0km*
*NEIC **08** 08:44:10.2±1.4,56°.31N±0°.04×154°.06W±0°.06,h14km±3km, Error ellipse: s-maj=6.0km s-min=4.4km az=216.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr0.96; Mθθ0.17; Mφφ-1.13; Mrθ1.42; Mθφ-0.42; Mφr0.77; Fault plane solution: M0 1.97000×10^15^ NP1: φs171.13000°,δ27.20000°,λ34.04000°. NP2:φs50.13000°, δ75.17000°,λ113.07000°. Principal axes: T 2.0791, Plg54.0000°, Azm348.0000°; N -0.2356, Plg22.0000°, Azm224.0000°; P -1.8435, Plg27.0000°, Azm122.0000°;*
ISC 08 08:44:08.6±1.7,56°.30N±0°.05×154°.09W±0°.04,h6km±10km, n300,σ1s02/308,mb4.5/50,7C,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHAK	**Old Harbor**	**1.03**	**25**			**Pb**	**08 44 29.3**	**+0.6**
OHAK						**Sb**	08 44 42.4	-0.1
OHAK					IAML		08 44 47.8	
	comp=N,5μm,0.7s							
OHAK	**Old Harbor**	**1.03**	**25**	P		**Pb**	**08 44 29.1**	**+0.3**
OHAK	**Old Harbor**	**1.03**	**25**	S		**Sg**	**08 44 43.0**	**+1.4**
R18K	**Karluk**	**1.29**	**351**			**Pn**	**08 44 33.1**	**0.0**
R18K						**Sg**	08 44 51.4	+1.4
KDAK	**Kodiak Island**	**1.70**	**28**			**Pn**	**08 44 38.8**	**0.0**
KDAK					IAML		08 45 13.6	
	comp=N,3μm,1.2s							
KDAK					IAML		08 45 14.2	
	comp=N,2μm,1.4s							
KDAK	**Kodiak Island**	**1.70**	**28**	Pg		**Pn**	**08 44 38.3**	**-0.5**
	comp=N,83nm,0.3s,baz=211,slow=7.2,SNR=4314							
KDAK				Lg		Lg	08 44 58.4	
	comp=N,70nm,0.3s,baz=252,slow=20,SNR=15							
KDAK				LR		LR	08 45 12.2	
	comp=N,215nm,18.8s,baz=241,slow=41							
KDAK	**Kodiak Island**	**1.70**	**28**	*i* P		**Pn**	**08 44 38.5**	**-0.3**
PLK4	**Peulik 4**	**1.82**	**318**			**Pn**	**08 44 41.0**	**+0.4**
PLK4					Sn	**Sb**	08 45 06.7	+1.1
PLK3	**Peulik 3**	**1.83**	**320**			**Pn**	**08 44 41.2**	**+0.6**
PLK3						**Sb**	08 45 06.0	+0.3
PLK3						**Sg**	08 45 06.9	-0.5
CAHL	**Cahill**	**1.88**	**340**			**Pn**	**08 44 41.5**	**+0.2**
PLK2	**Peulik 2**	**1.91**	**321**			**Pn**	**08 44 42.5**	**+0.8**
PLK2						**Sb**	08 45 07.6	-0.4
KJL	**Kejulik**	**1.94**	**336**			**Pn**	**08 44 42.6**	**+0.5**
ACHA	**Angle Creek He**	**2.03**	**341**			**Pn**	**08 44 43.7**	**+0.3**
ACHA					Sn	**Sb**	08 45 12.2	+0.8
PLK1	**Peulik 1**	**2.04**	**319**			**Pn**	**08 44 44.2**	**+0.7**
PLK1						**Sb**	08 45 11.9	+0.2
PLBL	**Peulik Blue Cr**	**2.05**	**314**			**Pn**	**08 44 44.4**	**+0.8**
ANCK	**Angle Creek**	**2.05**	**339**			**Pn**	**08 44 44.0**	**+0.3**
CNTC	**Contact Creek**	**2.20**	**334**			**Pn**	**08 44 45.9**	**+0.2**
CNTC						**Sb**	08 45 16.0	-0.3
KAHG	**Katmai Hook Gl**	**2.21**	**354**			**Pn**	**08 44 46.6**	**+0.6**
ANNE	**Aniakchak Nort**	**2.28**	**287**			**Pn**	**08 44 47.0**	**+0.2**
PLK5	**Peulik 5**	**2.28**	**319**			**Pn**	**08 44 47.4**	**+0.6**
ANPK	**Aniakchak Peak**	**2.30**	**285**			**Pn**	**08 44 47.5**	**+0.4**
KAPH	**Katmai Pasha**	**2.31**	**357**			**Sb**	08 45 17.9	-1.5
ANPB	**Aniakchak Plen**	**2.38**	**284**			**Pn**	**08 44 48.6**	**+0.5**
KAHC	**Katmai Hardscr**	**2.41**	**348**			**Pn**	**08 44 49.0**	**+0.3**
KAHC	**Katmai Hardscr**	**2.41**	**348**			**Pn**	**08 44 48.9**	**+0.3**
KAHC						**Sb**	08 45 22.2	-0.2
CHGN	**Chignik**	**2.41**	**272**			**Pn**	**08 44 48.7**	**+0.2**
CHGN					IAML		08 45 32.6	
	comp=E,1μm,0.8s							
CHGN					IAML		08 45 33.6	
	comp=N,2μm,0.8s							
SYI	**Shuyak Island**	**2.49**	**21**			**Pn**	**08 44 49.8**	**+0.1**
SYI						**Sn**	**08 45 21.8**	**+1.4**
SYI					IAML		08 45 33.5	
	comp=N,1μm,1.3s							
SYI					IAML		08 45 38.6	
	comp=E,1μm,0.8s							
Q19K	**Cape Douglas,**	**2.65**	**5**			**Pn**	**08 44 52.4**	**+0.5**
VNSG	**Veniaminof 6**	**2.80**	**269**			**Pn**	**08 44 54.7**	**+0.8**
VNHG	**Veniaminof 1**	**2.83**	**271**			**Pn**	**08 44 55.1**	**+0.7**
VNFG	**Fog Glacier, M**	**3.04**	**272**			**Pn**	**08 44 58.1**	**+0.8**
AUCH	**Augustine Cone**	**3.09**	**6**			**Pn**	**08 44 59.0**	**+1.0**
AU22	**Augustine Moun**	**3.10**	**7**			**Pn**	**08 44 59.0**	**+0.9**
P18K	**Big Mountain,**	**3.16**	**349**			**Pn**	**08 44 58.8**	**-0.2**
P17K	**Kvichak River**	**3.17**	**338**			**Pn**	**08 44 58.9**	**0.0**
P19K	**Oil Pt**	**3.39**	**7**			**Pn**	**08 45 02.9**	**+0.8**
P19K					IAML		08 46 02.2	
	comp=E,729nm,1.1s							
P19K					IAML		08 46 16.4	
	comp=N,698nm,1.0s							
P16K	**Nushagak River**	**3.45**	**324**			**Pn**	**08 45 02.7**	**-0.1**
CHNA	**Chernabura Isl**	**3.45**	**247**	P		**Pn**	**08 45 03.0**	**+0.2**
CNBA	**Chernabura Isl**	**3.46**	**247**			**Pn**	**08 45 03.0**	**+0.1**
CNPM	**China Poot**	**3.58**	**24**			**Pn**	**08 45 05.0**	**+0.4**
CNPM					IAML		08 46 11.6	
	comp=E,606nm,0.8s							
CNPM					IAML		08 46 13.2	
	comp=N,565nm,0.9s							
HOM	**Homer**	**3.61**	**20**			**Pn**	**08 45 06.0**	**+1.0**
O18K	**Koktuh Hills**	**3.62**	**351**			**Pn**	**08 45 03.5**	**+0.2**
O18K					IAML		08 46 05.8	
	comp=N,362nm,0.7s							
O18K					IAML		08 46 08.3	
	comp=E,316nm,0.9s							
SDPT	**Sand Point**	**3.73**	**258**			**Pn**	**08 45 07.5**	**+0.9**
SDPT					IAML		08 46 26.3	
	comp=E,589nm,1.6s							
SDPT	**Sand Point**	**3.73**	**258**	P		**Pn**	**08 45 07.4**	**+0.8**
ILSW	**Iliamna Southw**	**3.73**	**7**			**Pn**	**08 45 06.9**	**+0.1**
ILSW					IAML		08 46 15.3	
	comp=E,379nm,0.9s							
ILSW					IAML		08 46 27.8	
	comp=N,319nm,1.0s							
IVE	**Iliamna Volcan**	**3.77**	**8**			**Pn**	**08 45 07.4**	**+0.1**
O17K	**Koliganek Bris**	**3.83**	**337**			**Pn**	**08 45 07.8**	**-0.3**
BRLK	**Bradley Lake**	**3.87**	**25**			**Pn**	**08 45 08.2**	**-0.4**
BRLK					IAML		08 46 22.8	
	comp=E,384nm,0.7s							
BRLK					IAML		08 46 22.9	
	comp=N,467nm,1.4s							
O20K	**Slope Mountain**	**3.87**	**11**			**Pn**	**08 45 09.2**	**+0.4**
O19K	**Port Alsworth**	**3.91**	**358**			**Pn**	**08 45 09.8**	**+0.7**
O16K	**Kokwok River B**	**3.93**	**329**			**Pn**	**08 45 09.2**	**-0.3**
RED	**Redoubt Volcan**	**4.19**	**9**			**Pn**	**08 45 13.4**	**+0.3**
RED					IAML		08 46 34.5	
	comp=E,331nm,1.6s							
O15K	**Ungalikthiuk R**	**4.21**	**316**			**Pn**	**08 45 13.6**	**+0.3**
O15K					IAML		08 46 28.1	
	comp=N,243nm,0.7s							
O15K					IAML		08 46 29.7	
	comp=E,273nm,0.8s							
RDSO	**Redoubt South**	**4.23**	**9**			**Pn**	**08 45 13.4**	**-0.2**
RDJH	**Redoubt Jeurge**	**4.36**	**8**			**Pn**	**08 45 15.4**	**0.0**
DFR	**Drift River**	**4.37**	**9**			**Pn**	**08 45 15.7**	**+0.2**
PS1A	**Pavlof South-1**	**4.40**	**262**			**Pn**	**08 45 16.6**	**+0.7**
PS4A	**Pavlof South-4**	**4.48**	**261**			**Pn**	**08 45 17.2**	**+0.2**
N18K	**Kilae Creek**	**4.49**	**349**			**Pn**	**08 45 17.4**	**+0.2**
N18K					IAML		08 46 37.3	
	comp=E,212nm,0.8s							
S12K	**Black Hills**	**4.51**	**266**			**Pn**	**08 45 18.0**	**+0.6**
S12K					IAML		08 46 46.3	
	comp=E,276nm,0.9s							
S12K					IAML		08 46 47.2	
	comp=N,332nm,0.8s							
HAG	**Hague Volcano**	**4.52**	**261**			**Pn**	**08 45 18.0**	**+0.5**
HAG	**Hague Volcano**	**4.52**	**261**	P		**Pn**	**08 45 18.0**	**+0.5**
N19K	**Bonanza Creek**	**4.53**	**358**			**Pn**	**08 45 18.5**	**+0.7**
N19K					IAML		08 46 37.6	
	comp=E,211nm,0.8s							
SEW	**Seward**	**4.54**	**31**			**Pn**	**08 45 16.6**	**-1.1**
SEW					IAML		08 46 43.4	
	comp=E,214nm,1.2s							
SEW					IAML		08 46 53.9	
	comp=N,194nm,1.1s							
PN7A	**Pavlof North-7**	**4.54**	**262**			**Pn**	**08 45 18.9**	**+1.0**
N17K	**Nushagak Hills**	**4.54**	**340**			**Pn**	**08 45 18.1**	**+0.2**
N17K					IAML		08 46 42.0	
	comp=E,152nm,1.2s							
SLKM	**Skilak Lake**	**4.69**	**24**			**Pn**	**08 45 19.2**	**-0.7**
SLKM					IAML		08 46 48.4	
	comp=E,233nm,1.3s							
SLKM					IAML		08 46 52.9	
	comp=N,180nm,1.1s							
O22K	**Cooper Landing**	**4.78**	**27**			**Pn**	**08 45 20.5**	**-0.6**
O14K	**Tigyukauivet M**	**4.85**	**311**			**Pn**	**08 45 22.3**	**+0.3**
O14K					IAML		08 46 59.1	
	comp=E,179nm,1.2s							
O14K					IAML		08 47 00.4	
	comp=N,187nm,0.9s							
CKL	**Chakachamna La**	**5.00**	**10**			**Pn**	**08 45 24.1**	**-0.1**
N15K	**Kwethluk River**	**5.01**	**323**			**Pn**	**08 45 24.7**	**+0.4**
N15K					IAML		08 47 02.3	
	comp=E,164nm,1.0s							
N15K					IAML		08 47 19.0	
	comp=N,194nm,0.9s							
SPU	**Mount Spurr**	**5.01**	**11**	Pn		**Pn**	**08 45 24.6**	**+0.3**
SPWE	**Spurr West**	**5.05**	**8**			**Pn**	**08 45 25.3**	**+0.4**
SPBG	**Spurr Blockage**	**5.06**	**9**			**Pn**	**08 45 25.5**	**+0.5**

P23K	**Montague Islan**	**5.13**	**41**			**Pn**	**08 45 24.7**	**-1.1**
P23K					IAML		08 47 27.4	
	comp=N,141nm,1.8s							
P23K					IAML		08 47 29.1	
	comp=E,143nm,1.5s							
RC01	**Rabbit Creek A**	**5.31**	**23**			**Pn**	**08 45 27.8**	**-0.6**
RC01					IAML		08 47 12.1	
	comp=E,153nm,1.2s							
STLK	**Strandline Lak**	**5.34**	**12**			**Pn**	**08 45 29.4**	**+0.5**
M16K	**Timber Creek**	**5.38**	**334**			**Pn**	**08 45 29.5**	**+0.3**
M17K	**Holitna River**	**5.40**	**343**			**Pn**	**08 45 30.0**	**+0.3**
N14K	**Kuskokwak Cree**	**5.42**	**315**			**Pn**	**08 45 30.3**	**+0.4**
SUA	**Susitna One**	**5.46**	**17**			**Pn**	**08 45 30.0**	**-0.6**
PWL	**Port Wells**	**5.47**	**31**			**Pn**	**08 45 29.6**	**-1.0**
M15K	**Kasigluk River**	**5.60**	**325**			**Pn**	**08 45 32.3**	**-0.1**
M20K	**Styx River**	**5.62**	**5**			**Pn**	**08 45 33.0**	**+0.2**
M19K	**Big River Lodg**	**5.62**	**359**			**Pn**	**08 45 33.2**	**+0.5**
ISLZ	**Isanotski Laza**	**5.69**	**258**			**Pn**	**08 45 34.0**	**+0.3**
ISNN	**Isanotski Nort**	**5.69**	**259**			**Pn**	**08 45 34.0**	**+0.4**
HIN	**Hinchinbrook I**	**5.73**	**41**			**Pn**	**08 45 33.2**	**-1.0**
M22K	**Willow**	**5.84**	**19**			**Pn**	**08 45 35.9**	**+0.3**
SKT	**Skwentna**	**5.85**	**12**			**Pn**	**08 45 36.6**	**+0.8**
GLI	**Glacier Island**	**5.87**	**36**			**Pn**	**08 45 34.3**	**-1.8**
PMR	**Palmer**	**5.89**	**24**			**Pn**	**08 45 35.0**	**-1.4**
PMR	**Palmer**	**5.89**	**24**	P		**Pn**	**08 45 35.7**	**-0.7**
PMR	**Palmer**	**5.89**	**24**	P		**Pn**	**08 45 35.0**	**-1.4**
FID	**Port Fidalgo**	**5.98**	**39**			**Pn**	**08 45 35.5**	**-2.1**
GHO	**Glory Hole Cre**	**6.10**	**24**			**Pn**	**08 45 38.4**	**-0.9**
EYAK	**Cordova Ski Ar**	**6.11**	**42**			**Pn**	**08 45 38.4**	**-0.9**
EYAK	**Cordova Ski Ar**	**6.11**	**42**	P		**Pn**	**08 45 39.6**	**+0.3**
L20K	**Farewell, AK**	**6.20**	**1**			**Pn**	**08 45 41.0**	**+0.4**
L17K	**Donlin**	**6.24**	**342**			**Pn**	**08 45 41.1**	**0.0**
KAIM	**Kayak Island**	**6.28**	**51**			**Pn**	**08 45 42.1**	**+0.4**
M13K	**Dall Lake**	**6.38**	**314**			**Pn**	**08 45 43.6**	**+0.6**
RAGM	**Ragged Mountai**	**6.43**	**47**			**Pn**	**08 45 42.8**	**-1.0**
DIV	**Divide**	**6.50**	**38**			**Pn**	**08 45 43.7**	**-1.0**
GOAT	**Goat Mountain**	**6.52**	**45**			**Pn**	**08 45 44.3**	**-0.8**
SCM	**Sheep Creek Mo**	**6.55**	**29**			**Pn**	**08 45 45.0**	**-0.5**
SCM	**Sheep Creek Mo**	**6.55**	**29**	P		**Pn**	**08 45 45.0**	**-0.5**
HMT	**Hamilton**	**6.57**	**48**			**Pn**	**08 45 45.0**	**-0.7**
L15K	**Ungalak Mounta**	**6.61**	**328**			**Pn**	**08 45 45.7**	**-0.5**
PPLA	**Purkeypile**	**6.69**	**7**			**Pn**	**08 45 47.1**	**-0.3**
KLU	**Klutina**	**6.71**	**36**			**Pn**	**08 45 47.1**	**-0.5**
L14K	**Kuka Creek**	**6.74**	**322**			**Pn**	**08 45 47.9**	**0.0**
K17K	**Iditarod**	**6.78**	**343**			**Pn**	**08 45 48.9**	**+0.3**
BMRM	**Bremner River**	**6.81**	**43**			**Pn**	**08 45 48.2**	**-0.8**
BERG	**Berg Lake**	**6.83**	**49**			**Pn**	**08 45 48.3**	**-1.0**
GRIN	**Grindle Hills**	**6.94**	**50**			**Pn**	**08 45 50.1**	**-0.7**
AKUT	**Akutan**	**7.03**	**257**	P		**Pn**	**08 45 52.6**	**+0.7**
M24K	**Tolsona, Glenn**	**7.10**	**32**			**Pn**	**08 45 52.8**	**-0.1**
K15K	**Wolf Creek Mou**	**7.11**	**331**			**Pn**	**08 45 53.3**	**+0.2**
WAT1	**Susitna Watana**	**7.13**	**21**			**Pn**	**08 45 52.9**	**-0.5**
CAST	**Castle Rocks**	**7.21**	**7**			**Pn**	**08 45 54.5**	**0.0**
WAX	**Waxell Ridge**	**7.22**	**50**			**Pn**	**08 45 53.4**	**-1.3**
BARK	**Barkley Ridge**	**7.36**	**51**			**Pn**	**08 45 56.2**	**-0.3**
GLB	**Gilahina Butte**	**7.41**	**42**			**Pn**	**08 45 56.6**	**-0.6**
TRF	**Thorofare Moun**	**7.42**	**13**			**Pn**	**08 45 57.0**	**-0.5**
KTH	**Kantishna Hill**	**7.45**	**11**			**Pn**	**08 45 57.9**	**+0.1**
UNV	**Unalaska Valle**	**7.54**	**256**			**Pn**	**08 45 58.5**	**-0.5**
J17K	**VABM Dome**	**7.55**	**343**			**Pn**	**08 45 59.0**	**-0.1**
M11K	**Mekoryuk**	**7.57**	**308**			**Pn**	**08 45 59

SEY	**Seymchan**	**27.15**	**306**	*i* P		**P**	**08 49 50.0**	**-0.2**
SEY				pmax		pmax			
	comp=Z,3.0nm,0.8s								
PETK	**Petropavlovsk-**	**27.59**	**284**	P		**P**	**08 49 55.4**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=70,slow=12,SNR=12								
	comp=Z,2.2nm,0.5s								
MA2	**Magadan**	**28.74**	**300**	*i* P		**P**	**08 50 04.3**	**-2.1**
MA2				pmax		pmax			
	comp=Z,32nm,3.1s								
NVAR	**Mina Array Bea**	**29.65**	**112**	P		**P**	**08 50 17.9**	**+2.9**
	comp=Z,0.6nm,0.6s,baz=305,slow=7.9,SNR=7.1								
	comp=Z,0.6nm,0.6s								
PDAR	**Pinedale Array**	**31.32**	**96**	P		**P**	**08 50 32.1**	**+2.5**
	comp=Z,0.6nm,0.6s,baz=309,slow=5.0,SNR=8.4								
	comp=Z,0.6nm,0.6s								
KLR	**Kul'dur**	**43.39**	**293**	*i* P		**P**	**08 52 10.6**	**-0.9**
KLR				pmax		pmax			
	comp=Z,4.0nm,0.9s								
TXAR	**Lajitas Array**	**44.38**	**106**	P		**P**	**08 52 22.1**	**+2.3**
	comp=Z,0.4nm,0.8s,baz=309,slow=6.2,SNR=5.1								
	comp=Z,0.4nm,0.8s								
SPITS	**Spitsbergen Ar**	**45.65**	**3**	P		**P**	**08 52 29.0**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=23,slow=4.5,SNR=8.2								
	comp=Z,2.6nm,0.6s								
SPB2	**Spitsbergen Ar**	**45.66**	**3**	P		**P**	**08 52 30.0**	**+0.7**
SPB2				IAmb		IAmb	08 52 34.1		
	comp=Z,6.0nm,0.8s								
SCHQ	**Schefferville**	**46.16**	**53**	P		**P**	**08 52 34.7**	**+1.1**
	comp=Z,3.1nm,0.6s,baz=327,slow=8.2,SNR=4.2								
	comp=Z,3.1nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**46.64**	**235**	T		T	09 42 52.1		
	baz=29,slow=76,SNR=6.4								
H11N3	**WAKE ISLAND Hy**	**46.64**	**235**	T		T	09 42 52.5		
	baz=29,slow=76,SNR=5.9								
H11N1	**WAKE ISLAND Hy**	**46.65**	**235**	T		T	09 42 53.5		
	baz=29,slow=76,SNR=5.3								
NRIK	**Noril'sk**	**46.98**	**335**	P		**P**	**08 52 38.6**	**-1.2**
	comp=Z,23nm,0.6s,baz=56,slow=6.5,SNR=36								
NRIK	**Noril'sk**	**46.98**	**335**	*i* P		**P**	**08 52 39.2**	**-0.6**
NRIK				pmax		pmax			
	comp=Z,14nm,0.8s								
H11S1	**WAKE ISLAND Hy**	**47.79**	**234**	T		T	09 44 18.7		
	baz=29,slow=75,SNR=14								
H11S2	**WAKE ISLAND Hy**	**47.81**	**234**	T		T	09 44 15.6		
	baz=29,slow=75,SNR=4.3								
H11S3	**WAKE ISLAND Hy**	**47.81**	**234**	T		T	09 44 19.9		
	baz=29,slow=75,SNR=4.3								
BNX	**BinXian**	**47.90**	**292**	⇑P		**P**	**08 52 45.0**	**-2.2**
BNX				pmax		pmax			
	comp=Z,4.0nm,0.5s								
MJAR	**Matsushiro Arr**	**48.51**	**276**	P		**P**	**08 52 51.0**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=44,slow=13,SNR=2.2								
	comp=Z,1.2nm,0.6s								
MJAR	**Matsushiro Arr**	**48.51**	**276**	P		**P**	**08 52 51.0**	**-1.1**
ISOG	**Isortoq, Green**	**48.97**	**30**	*e*P		P	08 53 03.6	+8.4	
KSRS	**Korea Array**	**53.48**	**284**	P		**P**	**08 53 29.1**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=46,slow=6.6,SNR=8.1								
	comp=Z,2.4nm,0.8s								
ARCES	**ARCESS Array B**	**54.47**	**0**	P		**P**	**08 53 35.4**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=357,slow=7.3,SNR=13								
	comp=Z,1.2nm,0.6s								
ULN	**Ulaanbaatar**	**56.22**	**307**	*ce*P		**P**	**08 53 48.7**	**-0.6**
ULN				pmax		pmax			
	comp=Z,1.0nm,0.6s								
SONM	**Songino Array**	**56.54**	**307**	P		**P**	**08 53 51.4**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=47,slow=7.6,SNR=13								
SONM				PcP		**PcP**	**08 54 48.5**	**+0.4**	
	comp=Z,1.1nm,0.6s,baz=53,slow=2.8,SNR=2.0								
	comp=Z,3.3nm,0.8s								
TLIG	**Tlapa**	**56.63**	**110**			**P**	**08 53 48.7**	**-3.8**
HHC	**Hu-ho-hao-te**	**59.41**	**299**	*e*P		**P**	**08 54 11.0**	**-0.8**
HHC				pmax		pmax			
	comp=Z,13nm,0.6s								
HHC				pmax		pmax			
	comp=Z,150nm,5.0s								
ZAA0	**Zalesovo Array**	**60.03**	**324**			**P**	**08 54 15.9**	**+0.2**
ZAA0				IAmb		IAmb	08 54 16.4		
	comp=Z,4.0nm,0.8s								
ZALV	**Zalesovo Beam**	**60.03**	**324**			**P**	**08 54 15.4**	**-0.3**
ZALV	**Zalesovo Beam**	**60.03**	**324**	P		**P**	**08 54 15.2**	**-0.6**
	comp=Z,3.9nm,0.7s,baz=32,slow=8.7,SNR=13								
	comp=Z,3.9nm,0.7s								
ZALV	**Zalesovo Beam**	**60.03**	**324**	P		**P**	**08 54 15.4**	**-0.3**
NB2	**NORSAR Subarra**	**62.43**	**8**	P		**P**	**08 54 31.8**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=352,slow=6.9								
NOA	**NORSAR Array B**	**62.43**	**8**	P		**P**	**08 54 31.9**	**0.0**
	comp=Z,1.5nm,0.7s,baz=352,slow=6.8,SNR=7.6								
FINES	**FINESS Array B**	**62.60**	**360**	P		**P**	**08 54 32.2**	**-0.7**
	comp=Z,2.4nm,0.8s,baz=7.1,slow=6.1,SNR=8.2								
	comp=Z,2.4nm,0.8s								
FINES	**FINESS Array B**	**62.60**	**360**	*i* P		**P**	**08 54 32.9**	**0.0**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.5s								
HFS	**Hagfors**	**63.51**	**7**	P		**P**	**08 54 38.9**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=25,slow=2.5,SNR=13								
	comp=Z,3.0nm,0.7s								
KONO	**Kongsberg**	**63.67**	**9**	*ce*P		**P**	**08 54 40.0**	**-0.1**
KONO				pmax		pmax			
	comp=Z,29nm,2.5s								
KIRV	**Kirov**	**63.93**	**347**	*i* P		**P**	**08 54 40.6**	**-1.2**
ARTI	**Arti**	**64.63**	**341**			**P**	**08 54 45.7**	**-0.8**
ARTI	**Arti**	**64.63**	**341**	P		**P**	**08 54 45.7**	**-0.8**
ARTI				pmax		pmax			
	comp=Z,12nm,0.6s								
KURK	**Kurchatov**	**64.78**	**326**	*ce*P		**P**	**08 54 48.2**	**+0.7**
KURK				pmax		pmax			
	comp=Z,5.0nm,2.5s								
KURBB	**Kurchatov Arra**	**64.88**	**326**	P		**P**	**08 54 46.5**	**-1.7**
	comp=Z,1.6nm,0.7s,baz=28,slow=6.3,SNR=8.0								
	comp=Z,1.6nm,0.7s								
BRVK	**Borovoye**	**65.08**	**332**	P		**P**	**08 54 49.0**	**-0.4**
BRVK				IAmb		IAmb	08 54 49.8		
	comp=Z,3.2nm,0.8s								
BRVK	**Borovoye**	**65.08**	**332**	P		**P**	**08 54 49.0**	**-0.4**
BRVK				pmax		pmax			
	comp=Z,3.0nm,0.8s								
BVAR	**Borovoye Array**	**65.08**	**332**	P		**P**	**08 54 48.7**	**-0.8**
	comp=Z,4.8nm,0.7s								
BVAR				LR		LR	09 29 37.3		
	comp=Z,127nm,18.0s,baz=330,slow=42								
	comp=Z,4.8nm,0.7s								
GTA	**Gaotai**	**66.09**	**305**	*e*P		**P**	**08 54 55.6**	**-0.8**
GTA				pmax		pmax			
	comp=Z,7.0nm,0.8s								
GTA				LR		LR			
	comp=N,220nm,13.8s								
GTA				LR		LR			
	comp=E,140nm,14.9s								
GTA				LR		LR			
	comp=Z,220nm,16.0s								
EKA	**Eskdalemuir Ar**	**66.24**	**18**	P		**P**	**08 54 56.8**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=326,slow=5.0,SNR=14								
	comp=Z,2.3nm,0.6s								
MK31	**Makanchi Array**	**66.97**	**322**	*ce*P		**P**	**08 55 01.5**	**-0.3**
MKAR	**Makanchi Array**	**66.97**	**322**	P		**P**	**08 55 00.8**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=43,slow=7.1,SNR=18								
	comp=Z,1.4nm,0.6s								
MKAR	**Makanchi Array**	**66.97**	**322**	*i* P		**P**	**08 55 01.0**	**-0.8**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
MOS	**Moscow**	**67.91**	**353**	*e*P		**P**	**08 55 07.6**	**+0.1**
OBN	**Obninsk**	**68.61**	**353**	*e*P		**P**	**08 55 13.7**	**+1.9**
OBN				*e*			08 55 36.9		
OBN				*e*			08 57 41.8		
OBN				*e*PPP		PPP	08 59 22.2		
OBN				pmax		pmax			
	comp=Z,2.0nm,0.7s								
MNK	**Minsk**	**69.55**	**359**	*i* P		**P**	**08 55 16.6**	**-1.1**
MNK				*i* S		**S**	**09 04 26.1**	**+0.6**	
MNK				*i* SS		**SS**	**09 08 55.8**	**+4.1**	
MNK				pmax		pmax			
	comp=E,18nm,0.3s								
MNK				pmax		pmax			
	comp=Z,11nm,0.2s								
MNK				pmax		pmax			
	comp=N,32nm,0.3s								
AB31	**Akbulak array**	**71.06**	**337**			**P**	**08 55 26.8**	**-0.3**
AB31				IAmb		IAmb	08 55 27.5		
	comp=Z,5.7nm,0.7s								
ABKAR	**Akbulak array**	**71.06**	**337**	P		**P**	**08 55 26.9**	**-0.2**
AAK	**Ala-Archa**	**73.25**	**325**	*ce*P		**P**	**08 55 41.6**	**+1.1**
AAK				pmax		pmax			
	comp=Z,3.0nm,1.0s								
AKASG	**Malin Array Be**	**73.33**	**358**	P		**P**	**08 55 39.2**	**-1.4**
	comp=Z,1.6nm,0.4s,baz=9.2,slow=6.0,SNR=16								
	comp=Z,1.6nm,0.4s								
AKASG	**Malin Array Be**	**73.33**	**358**	*i* P		**P**	**08 55 39.9**	**-0.7**
AKASG				pmax		pmax			
	comp=Z,4.0nm,0.6s								
AKBB	**Malin Array Si**	**73.33**	**358**	IAmb		IAmb	08 55 40.6		
	comp=Z,5.5nm,0.6s								
AKBB	**Malin Array Si**	**73.33**	**358**	*ce*P		**P**	**08 55 39.2**	**-1.4**
AKBB				pmax		pmax			
	comp=Z,4.0nm,0.6s								
KIEV	**Kiev**	**73.34**	**358**	P		**P**	**08 55 39.9**	**-0.7**
KIEV				IAmb		IAmb	08 55 40.6		
	comp=Z,4.8nm,0.6s								
KIEV	**Kiev**	**73.34**	**358**	P		**P**	**08 55 39.9**	**-0.7**
KIEV				pmax		pmax			
	comp=Z,5.0nm,0.6s								
KK31	**Karatay Array**	**74.06**	**328**	P		**P**	**08 55 45.6**	**+0.5**
KK31				IAmb		IAmb	08 55 45.8		
	comp=Z,4.4nm,0.7s								
KK31	**Karatay Array**	**74.06**	**328**	P		**P**	**08 55 45.6**	**+0.5**
KK31				pmax		pmax			
	comp=Z,4.0nm,0.7s								
KKAR	**Karatay Array**	**74.06**	**328**	P		**P**	**08 55 45.6**	**+0.5**
KKAR	**Karatay Array**	**74.06**	**328**	P		**P**	**08 55 45.6**	**+0.5**
KHC	**Kasperske Hory**	**74.44**	**8**	*i* P		**P**	**08 55 46.6**	**-0.6**
KHC				pmax		pmax			
	comp=Z,3.0nm,0.7s								
GERES	**GERESS Array B**	**74.73**	**8**	P		**P**	**08 55 48.7**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=343,slow=4.2,SNR=12								
	comp=Z,1.6nm,0.6s								
PZH	**PanZhiHua**	**75.75**	**296**	P		**P**	**08 55 55.7**	**+0.5**
SIMJ	**Simiganj**	**78.59**	**327**	P		**P**	**08 56 11.1**	**0.0**
SIMJ				IAmb		IAmb	08 56 11.7		
	comp=Z,5.5nm,0.9s								
KIV	**Kislovodsk**	**79.12**	**348**	P		**P**	**08 56 14.3**	**+0.6**
KIV	**Kislovodsk**	**79.12**	**348**	*e*P		**P**	**08 56 13.3**	**-0.5**
KIV				pmax		pmax			
	comp=Z,9.0nm,1.0s								
KBZ	**Khabaz**	**79.32**	**348**	P		**P**	**08 56 14.9**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=352,slow=4.8,SNR=8.4								
	comp=Z,3.0nm,0.7s								
KBZ	**Khabaz**	**79.32**	**348**	*i* P		**P**	**08 56 14.6**	**-0.1**
KBZ				pmax		pmax			
	comp=Z,4.0nm,0.9s								
SHA1	**Shidzhatmaz**	**79.33**	**348**	*i* P		**P**	**08 56 15.0**	**-0.1**
NRCA	**Norcia**	**80.65**	**10**	P		**P**	**08 56 23.1**	**+1.0**
ESDC	**Sonseca Array**	**81.09**	**23**	P		**P**	**08 56 25.4**	**+1.0**
ESDC	**Sonseca Array**	**81.09**	**23**	P		**P**	**08 56 25.2**	**+0.8**
	comp=Z,2.2nm,0.6s,baz=343,slow=5.1,SNR=17								
	comp=Z,2.2nm,0.6s								
NIL	**Nilore**	**81.79**	**322**	P		**P**	**08 56 28.6**	**+0.4**
NIL	**Nilore**	**81.79**	**322**	P		**P**	**08 56 28.6**	**+0.4**
NIL				pmax		pmax			
	comp=Z,7.0nm,0.7s								
RDO	**Rodhopi**	**82.92**	**0**			**P**	**08 56 34.7**	**+0.8**
RDO				IAmb		IAmb	08 56 35.2		
	comp=Z,5.6nm,0.9s								
CMAR	**Chiang Mai Arr**	**83.87**	**294**	P		**P**	**08 56 39.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**83.87**	**294**	P		**P**	**08 56 38.8**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=11,slow=5.7,SNR=10.0								
	comp=Z,1.9nm,0.6s								
CMAR	**Chiang Mai Arr**	**83.87**	**294**	*i* P		**P**	**08 56 39.0**	**-0.2**
CMAR				pmax		pmax			
	comp=Z,2.0nm,0.5s								
BR131	**Keskin Array S**	**84.12**	**354**	P		**P**	**08 56 40.9**	**+0.6**
BR131				IAmb		IAmb	08 56 41.3		
	comp=Z,2.9nm,0.8s								
BR131	**Keskin Array S**	**84.12**	**354**	P		**P**	**08 56 40.9**	**+0.6**
BR131				pmax		pmax			
	comp=Z,3.0nm,0.8s								
BRTR	**Keskin Array B**	**84.12**	**354**	P		**P**	**08 56 40.7**	**+0.4**
BRTR	**Keskin Array B**	**84.12**	**354**	P		**P**	**08 56 40.6**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=17,slow=2.4,SNR=9.7								
	comp=Z,1.8nm,0.7s								
BNN	**Bunyan**	**84.84**	**352**	P		**P**	**08 56 45.2**	**+1.2**
SBUM	**Sibu**	**90.03**	**274**	P		**P**	**08 57 10.8**	**+1.6**
QSPA	**South Pole Qui**	**146.09**	**180**	PKPdf		**PKPab**	**09 03 49.0**	**+0.4**
QSPA	**South Pole Qui**	**146.09**	**180**	PKPbc		**PKPab**	**09 03 48.8**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=68,slow=1.7,SNR=5.6								
KOOLE	**Kule**	**146.47**	**10**	PKPdf		**PKPdf**	**09 03 49.9**	**+0.7**
LPHEP	**Lephephe**	**147.10**	**0**	PKPbc		**PKPbc**	**09 03 52.8**	**+0.5**
BELA	**Belgrano 2**	**150.39**	**158**	PKPdf		**PKPdf**	**09 03 55.6**	**+1.9**
BELA				PKPab		**PKPab**	**09 04 07.7**	**+2.1**

*IDC **08** 08:45:08.3±4.0, 55.84N×86.24E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=35.4km s-min=30.1km az=52.0*
*ASRS **08** 08:45:09.0±2.1, 55.76N×86.11E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.96**	**203**	I	I	08 57 31.0	
	baz=21,slow=322,SNR=5.4						
ZALV	**Zalesovo Beam**	**1.96**	**203**	Pg	Pn	08 45 44.5	+1.0
	1.3nm,0.3s,baz=22,slow=16,SNR=15						
ZALV				Lg	Lg	08 46 14.7	
	1.0nm,0.3s,baz=22,slow=28,SNR=3.0						
KURBB	**Kurchatov Arra**	**6.87**	**225**	Pn	Pn	08 46 52.2	+1.3
	0.1nm,0.3s,baz=41,slow=14,SNR=5.2						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**9.29**	**196**	Pn	Pn	08 47 24.2	+0.1
	baz=16,slow=14,SNR=1.5						
	0.1nm,0.4s						

*IDC **08** 08:52:08.5±7.6, 19.94S×176.59W, h516km±50km, mb2.7/4, mbtmp3.7/5, Error ellipse: s-maj=149.3km s-min=33.5km az=136.0*
*NOU **08** 08:53:17.7, 17.44S×179.40E, h0km, MLv2.8/4, Fiji Islands*
ISC 08 08:52:12.5±2.3, 19.9S±0.3×177.0W±0.3, h550km, n9, σ1§43/9, mb3.4/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVE	**Taveuni**	**4.15**	**318**	P	**P**	**08 53 36.2**	**+0.7**
DGTI	**Dogotuki**	**4.68**	**318**	P	**P**	**08 53 40.5**	**+0.8**
MSVF	**Nonsavu**	**5.11**	**294**	P	**P**	**08 53 41.3**	**-2.1**
	8.5nm,0.4s,baz=129,slow=6.5,SNR=30						
MSVF	**Nonsavu**	**5.11**	**294**	P	**P**	**08 53 42.5**	**-0.9**
YSA	**Yasawairara**	**6.00**	**301**	P	**P**	**08 53 50.6**	**-0.5**
STKA	**Stephens Creek**	**38.89**	**244**	P	**P**	**08 58 50.8**	**-0.3**
	1.1nm,0.9s,baz=79,slow=10,SNR=3.7						
	1.1nm,0.9s						
ASAR	**Alice Springs**	**45.55**	**256**	P	**P**	**08 59 45.2**	**+1.6**
	1.8nm,0.8s,baz=85,slow=8.6,SNR=23						
	1.8nm,0.8s						
WRA	**Warramunga Arr**	**45.59**	**261**	P	**P**	**08 59 45.4**	**+1.4**
	0.4nm,0.4s,baz=96,slow=7.7,SNR=17						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**87.48**	**12**	P	**P**	**09 04 00.2**	**-1.1**
	0.1nm,0.5s,baz=191,slow=4.2,SNR=1.2						
	0.1nm,0.5s						

*KRNET **08** 08:59:03.3±0.1, 41.05N×78.85E, h20km, mb3.0*
*SOME **08** 08:59:05.3, 41.08N×78.67E*
*NNC **08** 08:59:07.7±1.2, 41.09N×78.64E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=9.2km s-min=6.1km az=166.0*
ISC 08 08:59:06.3±2.1, 41.2N±0.1×78.69E±0.06, h0km, n25, σ1§08/34, 14C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.87**	**310**	⇓*i*P	**Pg**	**08 59 23.0**	**0.0**
TARG				⇓*i*S	**Sb**	**08 59 37.4**	**+0.5**
PRZ	**Przheval'sk**	**1.33**	**351**	⇓*e*P	**Pg**	**08 59 30.9**	**-0.9**
PRZ				⇓*e*S	**Sn**	**08 59 51.0**	**+0.1**
KDJ	**Kajisay**	**1.48**	**311**	⇑*i*P	**Pn**	**08 59 33.5**	**-1.0**
KDJ				⇑*i*S	**Sb**	**08 59 55.6**	**+1.2**
SATY	**Saty**	**1.90**	**354**	Pg	**Pg**	**08 59 43.9**	**+1.2**
	9.3nm,0.5s						
SATY				Lg	Lg	09 00 11.9	
	48nm,0.3s						
NRN	**Naryn**	**2.04**	**278**	⇓*e*P	**Pn**	**08 59 42.5**	**+0.2**
NRN				⇑*e*S	**Sb**	**09 00 10.7**	**+0.1**
SHLS	**Shalkode**	**2.07**	**16**	Pg	**Pg**	**08 59 48.4**	**+2.4**
	17nm,0.2s						
SHLS				Lg	Lg	09 00 19.8	
	168nm,0.4s						
ULHL	**Ulahol**	**2.13**	**301**	⇑*i*P	**Pn**	**08 59 43.5**	**+0.2**
ULHL				⇑*i*S	**Sb**	**09 00 12.9**	**0.0**
PDGK	**Podgornoye**	**2.24**	**15**	⇑Pn	**Pg**	**08 59 47.3**	**-2.0**
	6.7nm,0.8s						
PDGK				⇑Lg	Lg	09 00 20.8	
	46nm,0.6s						
KOTS	**Kotyrbulak**	**2.37**	**331**	P	**Pg**	**08 59 51.4**	**-0.4**
	12nm,0.2s						
IZV	**Izvestkoviy**	**2.42**	**321**	Pg	**Pg**	**08 59 52.7**	**-0.1**
	6.3nm,0.4s						
IZV				Lg	Lg	09 00 26.6	
	28nm,0.4s						
BOOM	**Boomskoye usch**	**2.44**	**304**	⇓*i*P	**Pn**	**08 59 47.9**	**+0.3**
BOOM				⇓*i*S	**Sn**	**09 00 20.4**	**+2.1**
MTBS	**Maitube**	**2.58**	**320**	Pg	**Pg**	**08 59 55.4**	**-0.4**
	5.0nm,0.4s						
MTBS				Lg	Lg	09 00 31.3	
	22nm,0.4s						
KTMS	**Ketmen**	**2.59**	**28**	Pg	**Pg**	**08 59 55.8**	**-0.1**
	5.5nm,0.4s						
KTMS				Lg	Lg	09 00 32.1	
	45nm,0.7s						
KST	**Kastek**	**2.76**	**314**	Pg	**Pg**	**08 59 58.2**	**-1.0**
	3.5nm,0.5s						
KST				Lg	Lg	09 00 36.2	
	21nm,0.6s						
TKM2	**Tokmak 2**	**2.89**	**308**	⇑Pn	**Pb**	**08 59 56.8**	**-2.2**
	2.0nm,0.4s						
TKM2				⇑Lg	Lg	09 00 40.0	
	16nm,0.5s						
TKM2	**Tokmak 2**	**2.89**	**308**	⇑*i*P	**Pn**	**08 59 54.0**	**+0.1**
TKM2				⇑*i*S	**Sn**	**09 00 31.1**	**+1.6**
BLB	**Baldybastay**	**2.93**	**357**	Pg	**Pg**	**09 00 02.8**	**+0.3**
	9.9nm,0.2s						
BLB				Lg	Lg	09 00 44.0	
	12nm,0.3s						
KTBS	**Karatobe**	**2.94**	**330**	Pg	**Pg**	**09 00 01.7**	**-1.1**
	8.0nm,0.5s						
KTBS				Lg	Lg	09 00 42.1	
	32nm,0.3s						
CHKK	**Chushkaly**	**2.96**	**335**	Pg	**Pg**	**09 00 02.7**	**-0.4**
	23nm,0.3s						
CHKK				Lg	Lg	09 00 44.0	
	64nm,0.4s						
ARXS	**Arharly**	**3.11**	**348**	Pg	**Pg**	**09 00 05.6**	**-0.3**
	3.8nm,0.4s						
ARXS				Lg	Lg	09 00 48.8	
	22nm,0.6s						
KNOS	**Konyrlen**	**3.21**	**6**	Pg	**Pg**	**09 00 07.4**	**-0.4**
	1.5nm,0.2s						
KNOS				Lg	Lg	09 00 52.1	
	19nm,0.4s						
KUU	**Kurty**	**3.23**	**328**	Pg	**Pg**	**09 00 07.2**	**-1.0**
	2.5nm,0.1s						
KUU				Lg	Lg	09 00 51.6	
	16nm,0.2s						
UCH	**Uchtor**	**3.30**	**290**	⇓*i*P	**Pn**	**09 00 00.2**	**+0.5**
UCH				⇓*i*S	**Sn**	**09 00 41.8**	**+1.9**
AAK	**Ala-Archa**	**3.46**	**296**	⇓Pg	**Pb**	**09 00 07.9**	**-0.6**
	1.8nm,0.7s						
AAK				⇓Lg	Lg	09 00 55.9	
	2.0nm,0.5s						
USP	**Ospenovka**	**3.75**	**305**	⇑*i*P	**Pn**	**09 00 05.9**	**+0.4**
USP				⇑*i*S	**Sn**	**09 00 51.5**	**+1.1**

*SOME **08** 09:03:45.4, 44.70N×82.20E, h5km*
*NNC **08** 09:03:52.7±3.9, 44.85N×81.95E, h7km±20km, mb3.7, mpv3.4, Error ellipse: s-maj=35.4km s-min=12.2km az=124.0*
ISC 08 09:03:47.7±1.9, 44.65N±0.06×82.31E±0.10, h19km±4km, n16, σ1§52/23, 2C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.85**	**230**	P	**Pg**	**09 04 26.7**	**+3.4**
	1.1nm,0.1s						
KTMS				S	**Sb**	**09 04 44.1**	**+0.2**
	20nm,0.3s						
KTMS	**Ketmen**	**1.85**	**230**	*e*P	**Pb**	**09 04 20.6**	**-0.4**
	1.6nm,0.2s						
KTMS				*e*S	**Sg**	**09 04 46.2**	**-1.3**
	19nm,0.4s						
MK31	**Makanchi Array**	**2.14**	**360**	⇓Pn	**Pb**	**09 04 25.3**	**-0.6**
	6.0nm,0.2s,baz=181,slow=13,SNR=191						
MK31				⇓Lg	Lg	09 04 53.2	
	2.3nm,0.2s,baz=182,slow=27,SNR=14						
MAKZ	**Makanchi**	**2.17**	**354**	⇑Pn	**Pb**	**09 04 25.1**	**-1.2**
	4.8nm,0.5s						
MAKZ				⇑Lg	Lg	09 04 53.5	
	12nm,0.6s						
KNOS	**Konyrlen**	**2.26**	**264**	P	**Pg**	**09 04 33.5**	**+2.5**
	4.0nm,0.2s						
KNOS				S	**Sb**	**09 04 55.7**	**+0.2**
	31nm,0.3s						
PDGK	**Podgornoye**	**2.42**	**238**	⇓Pn	**Pb**	**09 04 29.7**	**-1.0**
	3.7nm,0.5s						
PDGK				⇓Lg	Lg	09 05 05.4	
	6.2nm,0.3s						
SHLS	**Shalkode**	**2.54**	**235**	P	**Pg**	**09 04 35.3**	**-1.1**
	4.8nm,0.2s						
SHLS				S	**Sn**	**09 04 59.1**	**+0.6**
	47nm,0.3s						
SHLS	**Shalkode**	**2.54**	**235**	*e*P	**Pn**	**09 04 28.0**	**0.0**
	13nm,0.2s						
SHLS				*e*S	**

CVER				S	Sn	09 09 20.5	-1.5	
UREC	**San Jos de Ur**	**2.55**	**291**	P	Pn	09 08 48.8	-1.7	
UREC				S	Sn	09 09 19.7	-2.9	
GUY2C	**Guyana, Caldas**	**2.74**	**234**	P	Pn	09 08 54.1	+0.8	
GUY2C				S	Sn	09 09 29.1	+1.5	
VILC	**Villavicencio,**	**2.77**	**192**	P	Pn	09 08 52.6	-0.7	
VILC				S	Sn	09 09 26.4	-1.3	
CBOC	**Ciudad Bolivar**	**3.02**	**251**	P	Pn	09 08 56.5	-0.1	
CBOC				S	Sn	09 09 33.7	+0.2	
DBBC	**Dabeiba**	**3.06**	**273**	P	Pn	09 08 57.8	+0.8	
DBBC				S	Sn	09 09 32.8	-1.4	
ARGC	**Ariguani, Magd**	**3.19**	**340**	P	Pn	09 08 58.9	+0.3	
ARGC				S	Sn	09 09 37.0	-0.2	
ANIL	**Santa Ana**	**3.25**	**224**	P	Pn	09 09 00.4	+0.8	
ANIL				S	Sn	09 09 41.0	+2.1	
PRAC	**Prado**	**3.56**	**209**	P	Pn	09 09 02.6	-0.8	
PRAC				S	Sn	09 09 45.3	-0.5	
APAC	**Apartado, Choc**	**3.58**	**287**	P	Pn	09 09 02.4	-1.2	
APAC				S	Sn	09 09 45.9	-0.1	
ORTC	**Ortega, Tolima**	**3.59**	**216**	P	Pn	09 09 03.1	-0.7	
ORTC				S	Sn	09 09 46.8	+0.4	
SJCC	**San Jacinto, C**	**3.65**	**326**	P	Pn	09 09 02.1	-2.5	
SJCC				S	Sn	09 09 44.5	-3.3	
PLMC	**San Jos del P**	**3.68**	**239**	P	Pn	09 09 04.3	-0.6	
PLMC				S	Sn	09 09 48.0	-0.4	
URMC	**La Uribe, Meta**	**3.78**	**199**	P	Pn	09 09 05.9	-0.4	
URMC				S	Sn	09 09 50.6	-0.3	
LCBC	**Los crdobas,**	**3.78**	**302**	P	Pn	09 09 07.5	+1.3	
LCBC				S	Sn	09 09 51.7	+1.0	
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	P	Pn	09 09 08.1	-3.1	
CRJC				S	Sn	09 09 55.9	-3.9	
YOTC	**Yotoco, Valle**	**4.28**	**229**	P	Pn	09 09 11.6	-1.2	
YOTC				S	Sn	09 10 02.2	-0.3	
SMRC	**Santa Marta, M**	**4.43**	**346**	P	Pn	09 09 13.6	-1.1	
URIC	**Uribia, Colomb**	**4.96**	**13**	P	Pn	09 09 18.9	-2.8	

*KOLA **08** 09:08:52.6, 78°.82N×10°.56E, h0km, ML2.4, Error ellipse: s-maj=14.3km s-min=7.8km az=100.0, Spitsbergen, Greenland sea*

BER 08 09:08:52.8±3.0, 78°.96N×9°.93E, h16km±19km, mb(Pn)3.6, ML2.8, Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**0.39**	**95**	P	Pg	09 09 00.1	-0.6
KBS				S	Sg	09 09 03.8	-2.3
KBS	**Kingsbay**	**0.39**	**95**	*e*P	Pg	09 08 59.7	-1.0
KBS				*e*P	Pb	09 09 00.5	-0.8
KBS				*e*S	Sg	09 09 04.1	-2.0
KBS				IAML		09 09 04.6	
	comp=Z,919nm,0.2s						
BRBB	**Barentsburg B**	**1.22**	**133**	P	Pn	09 09 14.1	-1.1
BRBB				S	Sb	09 09 27.1	-3.9
BRBB	**Barentsburg B**	**1.22**	**133**	*e*P	Pn	09 09 13.8	-1.4
BRBB				*e*S	Sb	09 09 27.5	-3.6
BRBA	**Barentsburg A**	**1.25**	**134**	*e*P	Pn	09 09 14.1	-1.5
BRBA				*e*		09 09 17.6	
BRBA				*e*S	Sb	09 09 28.0	-3.8
BRBA				IAML		09 09 30.9	
	comp=Z,134nm,0.5s						
SPA0	**Spitsbergen Ar**	**1.51**	**118**	*e*P	Pn	09 09 18.8	-0.4
SPA0				*e*S	Sn	09 09 37.0	-1.4
SPA0				IAML		09 09 40.6	
	comp=Z,51nm,0.7s						
SPITS	**Spitsbergen Ar**	**1.51**	**118**	P	Pn	09 09 18.7	-0.4
SPITS				S	Sn	09 09 36.4	-2.0
HSPB	**Hornsund (broa**	**2.29**	**146**	P	Pn	09 09 28.1	-1.8
HSPB				S	Sn	09 09 53.1	-4.6
HSPB	**Hornsund (broa**	**2.29**	**146**	*e*P	Pn	09 09 28.1	-1.7
HSPB				IAML		09 10 04.5	
	comp=Z,24nm,0.3s						
HOPEN	**Hopen**	**4.04**	**120**	*e*S	Sn	09 10 36.7	-4.0
HOPEN				*e*Sg	Sb	09 10 54.3	+2.3
HOPEN				IAML		09 11 03.6	
	comp=Z,16nm,0.4s						

*ISN **08** 09:09:30.1±0.4, 31°.67N×49°.40E, h20km±21km, ML3.4*
*TEH **08** 09:09:32.3, 31°.83N×49°.51E, h11km±28km*

ISC 08 09:09:35.0±1.1, 31°.80N±0°.06×49°.49E±0°.04, h20km, n17, σ1§09/23, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHBN	**Jahan bin**	**1.09**	**66**	Pg	**Pn**	**09 09 53.2**	**-2.2**
ZNGN	**Zangian**	**1.20**	**74**	Pg	**Pn**	**09 09 54.9**	**-2.1**
ZNGN				Sg	**Sb**	**09 10 12.1**	**-0.4**
ABEH	**Behbahan**	**1.36**	**151**	Sg	**Sb**	**09 10 18.9**	**+2.0**
IPIR	**Pirpir**	**1.48**	**53**	Pg	**Pn**	**09 09 59.8**	**-1.0**
IBRJ	**Brojen**	**1.51**	**86**	Pg	**Pn**	**09 10 00.8**	**-0.4**
IBRJ				Sg	**Sb**	**09 10 23.0**	**+1.6**
KLNJ	**Kolanjah**	**1.96**	**113**	Pn	**Pn**	**09 10 07.1**	**-0.5**
IDOB	**Doab**	**2.27**	**331**	Pn	**Pn**	**09 10 11.8**	**+0.2**
IKLH	**Kolahrood**	**2.32**	**49**	Pn	**Pn**	**09 10 12.0**	**-0.4**
IRAM	**Ramesheh**	**2.46**	**89**	Pn	**Pn**	**09 10 14.0**	**-0.3**
QAMS	**Qamsar**	**2.51**	**39**	Pn	**Pn**	**09 10 15.4**	**+0.4**
IZEF	**Zefreh**	**2.64**	**65**	Pn	**Pn**	**09 10 16.4**	**-0.3**
RAFI	**Al-Rafai**	**2.88**	**269**	*e*Pn	**Pn**	**09 10 18.2**	**-1.5**
RAFI				*e*Sn	**Sn**	**09 10 53.5**	**-0.3**
RAFI				AML	AML	09 10 55.8	
	comp=E,254nm,0.3s						
RAFI				AML	AML	09 10 56.4	
	comp=N,265nm,0.2s						
HAGD	**Aghdareh**	**3.03**	**355**	Pn	**Pn**	**09 10 21.8**	**-0.3**
KRSH	**Karshahi**	**3.10**	**45**	Pn	**Pn**	**09 10 22.6**	**-0.5**
IBDR	**Badra**	**3.28**	**294**	*e*Pn	**Pn**	**09 10 24.5**	**-0.8**
IBDR				*e*Sn	**Sn**	**09 11 04.5**	**+0.8**
BHD	**Baghdad**	**4.56**	**290**	*e*Pn	**Pn**	**09 10 42.0**	**-0.8**
BHD				*e*Sn	**Sn**	**09 11 34.5**	**-0.7**
BHD				AML	AML	09 12 08.5	
	comp=E,23nm,0.8s						
IKRK	**Kirkuk**	**5.60**	**311**	*e*Pn	**Pn**	**09 10 57.5**	**+0.3**
IKRK				*e*Sn	**Sn**	**09 12 01.3**	**+0.1**
IKRK				AML	AML	09 12 04.3	
	comp=E,73nm,0.4s						
IKRK				AML	AML	09 12 05.9	
	comp=N,87nm,0.4s						

*IDC **08** 09:10:57.8±0.8, 0°.85N×126°.64E, h0km, mb4.1/10, mbtmp4.1/11, ML3.9/1, Error ellipse: s-maj=45.7km s-min=15.6km az=69.0*
*DJA **08** 09:11:01.9±1.2, 1°.N±3°×12°.6E±°, h16km±9km, M4.0/1, MLv3.6/7, MLv4.0/1*

ISC 08 09:11:04.3±0.7, 0°.60N±0°.08×126°.40E±0°.09, h47km, n13, σ1§03/17, mb4.0/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.98**	**80**	P	**Pn**	**09 11 20.6**	**-1.1**
TNTI				S	**Sn**	**09 11 35.3**	**+0.8**
SANI	**Sanana**	**2.66**	**189**	P	**Pn**	**09 11 43.4**	**-1.3**
SANI				S	**Sn**	**09 12 15.2**	**-0.6**
KAPI	**Kappang**	**8.67**	**230**	Pn	**Pn**	**09 13 08.6**	**+1.4**
	1.4nm,0.3s,baz=71,slow=2.7,SNR=4.0 8.9nm,0.5s						
WRA	**Warramunga Arr**	**21.85**	**160**	P	**P**	**09 15 52.9**	**-0.2**
	3.2nm,0.5s,baz=338,slow=11,SNR=29 3.2nm,0.5s						
ASAR	**Alice Springs**	**25.20**	**164**	P	**P**	**09 16 27.9**	**+2.1**
	1.4nm,0.4s,baz=344,slow=10,SNR=23						
ASAR				PcP	**PcP**	**09 19 59.4**	**+0.7**
	0.1nm,0.4s,baz=352,slow=3.0,SNR=2.0 1.4nm,0.4s						
STKA	**Stephens Creek**	**35.36**	**157**	P	**P**	**09 17 56.1**	**+0.6**
	1.5nm,0.8s,baz=314,slow=8.2,SNR=4.4 1.5nm,0.8s						
MKAR	**Makanchi Array**	**59.94**	**326**	P	**P**	**09 21 05.4**	**-0.4**
	1.6nm,0.5s,baz=121,slow=7.5,SNR=24						
MKAR				PcP	**PcP**	**09 21 52.1**	**+0.4**
	0.6nm,0.6s,baz=120,slow=4.1,SNR=3.6 1.6nm,0.5s						
ZALV	**Zalesovo Beam**	**63.22**	**334**	P	**P**	**09 21 27.2**	**-0.4**
	0.4nm,0.3s,baz=141,slow=8.1,SNR=2.1 0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**64.19**	**328**	P	**P**	**09 21 33.7**	**-0.4**
	2.4nm,0.8s,baz=125,slow=5.9,SNR=4.9 2.4nm,0.8s						
BVAR	**Borovoye Array**	**69.76**	**328**	P	**P**	**09 22 09.8**	**+0.3**
	0.4nm,0.3s 0.4nm,0.3s						
NRIK	**Noril'sk**	**73.37**	**347**	P	**P**	**09 22 29.6**	**-1.2**
	3.8nm,0.7s,baz=58,slow=9.6,SNR=5.6 3.8nm,0.7s						
AKTO	**Aktyubinsk**	**75.90**	**322**	P	**P**	**09 22 46.1**	**+0.2**
	3.0nm,0.6s,baz=102,slow=5.0,SNR=6.6 3.0nm,0.6s						
ILAR	**Eielson Array**	**88.05**	**25**	P	**P**	**09 23 48.3**	**-1.1**
	0.2nm,0.5s,baz=259,slow=4.5,SNR=2.3 0.2nm,0.5s						

IDC 08 09:24:03.2±1.7, 0°.66N×126°.12E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=173.6km s-min=22.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.00**	**159**	P	P	09 28 58.5	-0.7
	0.4nm,0.4s,baz=337,slow=11,SNR=7.3 0.4nm,0.4s						
ASAR	**Alice Springs**	**25.34**	**163**	P	P	09 29 32.5	+0.5
	0.2nm,0.3s,baz=346,slow=8.8,SNR=8.4 0.2nm,0.3s						
MKAR	**Makanchi Array**	**59.74**	**327**	P	P	09 34 10.5	+0.6
	0.2nm,0.4s,baz=120,slow=7.4,SNR=4.7 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.00**	**328**	P	P	09 34 37.6	-0.8
	0.5nm,0.8s,baz=128,slow=6.0,SNR=2.1 0.5nm,0.8s						

IDC 08 09:27:06.5±2.0, 0°.71N×126°.15E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=237.8km s-min=21.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.04**	**159**	P	P	09 32 02.2	-0.7
	0.7nm,0.5s,baz=337,slow=11,SNR=5.3 0.7nm,0.5s						
ASAR	**Alice Springs**	**25.38**	**163**	P	P	09 32 36.2	+0.5
	0.5nm,0.6s,baz=343,slow=8.3,SNR=11 0.5nm,0.6s						
MKAR	**Makanchi Array**	**59.71**	**327**	P	P	09 37 12.9	-0.2
	0.3nm,0.4s,baz=124,slow=6.1,SNR=5.7 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.97**	**328**	P	P	09 37 41.7	+0.1
	0.7nm,0.8s,baz=128,slow=5.9,SNR=6.5 0.7nm,0.8s						

*IDC **08** 09:38:07.2±3.0, 54°.20N×87°.17E, h0km, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=26.6km s-min=18.6km az=59.0*

ASRS 08 09:38:04.0±0.9, 54°.14N×87°.16E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**263**	I	I	09 47 10.0	
	0.1nm,1.0s,baz=81,slow=309,SNR=6.1						
ZALV	**Zalesovo Beam**	**1.39**	**263**	Pg	Pb	09 38 32.5	+1.6
	3.4nm,0.3s,baz=80,slow=15,SNR=16						
ZALV				Lg	Lg	09 38 51.6	
	2.0nm,0.3s,baz=77,slow=26,SNR=6.0						
KURBB	**Kurchatov Arra**	**6.35**	**240**	Pn	Pn	09 39 43.2	+4.5
	0.1nm,0.3s,baz=54,slow=13,SNR=6.9						
KURBB				Lg	Lg	09 41 31.7	
	baz=50,slow=31,SNR=1.7 0.6nm,0.4s						
MKAR	**Makanchi Array**	**7.98**	**205**	Pn	Pn	09 40 06.3	+5.1
	0.1nm,0.3s,baz=27,slow=13,SNR=4.1						
MKAR				Lg	Lg	09 42 22.4	
	0.1nm,0.3s,baz=22,slow=32,SNR=2.8 0.1nm,0.3s						

*IDC **08** 09:46:31.8±0.6, 13°.73N×120°.95E, h132km±3km, mb3.7/15, mbtmp4.1/15, MS3.5/1, Error ellipse: s-maj=32.4km s-min=11.7km az=63.0*
*NEIC **08** 09:46:34.0±1.2, 13°.88N±0°.09×120°.8E±0°.1, h133km±6km, mb4.2/16, Error ellipse: s-maj=21.3km s-min=11.3km az=68.0*

ISC 08 09:46:33.3±0.7, 13°.71N±0°.10×120°.9E±0°.1, h150km, n38, σ1§24/35, mb4.1/23, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.39**	**4**	P	**Pn**	**09 46 52.0**	**-2.3**
	878nm,0.3s,baz=285,slow=2.2,SNR=14						
TGY				S	**Sn**	**09 47 06.3**	**-4.1**
	5µm,0.5s,baz=353,slow=21,SNR=14						
TWG	**Pinlang**	**9.07**	**1**	Pn	Pn	09 48 35.9	-5.1
SBUM	**Sibu**	**14.10**	**218**	Pn	**Pn**	**09 49 46.9**	**+0.3**
CM31	**Chiang Mai Arr**	**21.62**	**286**	P	**P**	**09 51 11.7**	**-0.1**
CM31				IAmb	IAmb	09 51 13.1	
	comp=Z,9.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.62**	**286**	P	**P**	**09 51 11.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**21.62**	**286**	P	**P**	**09 51 11.9**	**+0.1**
	comp=Z,4.1nm,0.7s,baz=95,slow=7.9,SNR=21 comp=Z,4.1nm,0.7s						
WRA	**Warramunga Arr**	**35.95**	**158**	P	**P**	**09 53 19.4**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=335,slow=9.8,SNR=9.6 comp=Z,1.4nm,0.7s						
SONM	**Songino Array**	**36.11**	**343**	P	**P**	**09 53 21.5**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=161,slow=9.4,SNR=10 comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**39.26**	**161**	P	**P**	**09 53 48.1**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=338,slow=6.9,SNR=22 comp=Z,0.7nm,0.4s						
MKAR	**Makanchi Array**	**46.15**	**324**		**P**	**09 54 43.2**	**+0.5**
MKAR	**Makanchi Array**	**46.15**	**324**	P	**P**	**09 54 43.4**	**+0.6**
	comp=Z,5.0nm,0.8s,baz=130,slow=8.6,SNR=35 comp=Z,5.0nm,0.8s						
MAKZ	**Makanchi**	**46.34**	**323**		**P**	**09 54 44.9**	**+0.6**
MAKZ				IAmb	IAmb	09 54 45.7	
	comp=Z,3.7nm,0.7s						
YAK	**Yakutsk**	**48.66**	**5**	LR	LR	10 19 52.0	
	comp=Z,43nm,18.6s,baz=76,slow=41						
ZALV	**Zalesovo Beam**	**49.15**	**333**		**P**	**09 55 05.3**	**-0.4**
ZALV	**Zalesovo Beam**	**49.15**	**333**	P	**P**	**09 55 05.5**	**-0.2**
	comp=Z,3.0nm,0.5s,baz=128,slow=6.3,SNR=10.0 comp=Z,3.0nm,0.5s						
STKA	**Stephens Creek**	**49.47**	**157**	P	**P**	**09 55 07.8**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=322,slow=13,SNR=4.0 comp=Z,1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**50.30**	**326**	P	**P**	**09 55 15.0**	**+0.5**
	comp=Z,7.8nm,0.8s,baz=129,slow=7.6,SNR=39 comp=Z,7.8nm,0.7s						
KURK	**Kurchatov**	**50.30**	**326**		**P**	**09 55 15.1**	**+0.6**
KK31	**Karatay Array**	**52.12**	**314**		**P**	**09 55 28.3**	**+0.1**
KK31				IAmb	IAmb	09 55 29.2	
	comp=Z,3.1nm,0.8s						
KKAR	**Karatay Array**	**52.12**	**314**	P	**P**	**09 55 28.5**	**+0.3**
KKAR				IAmb	IAmb	09 55 29.3	
	comp=Z,3.2nm,0.8s						
KKAR	**Karatay Array**	**52.12**	**314**		**P**	**09 55 28.6**	**+0.3**
BVAR	**Borovoye Array**	**55.88**	**326**	P	**P**	**09 55 55.9**	**+0.6**
	comp=Z,1.8nm,0.6s comp=Z,1.8nm,0.6s						
BRVK	**Borovoye**	**55.96**	**326**	P	**P**	**09 55 56.3**	**+0.5**
AB31	**Akbulak array**	**60.86**	**319**		**P**	**09 56 29.8**	**-0.1**
ABKAR	**Akbulak array**	**60.86**	**319**	P	**P**	**09 56 29.7**	**-0.2**
M14K	**Bethel**	**71.86**	**30**	P	**P**	**09 57 42.3**	**+2.8**
M14K				IAmb	IAmb	09 57 42.9	
	comp=Z,3.0nm,0.8s						
L16K	**Owhat River**	**73.11**	**29**	P	**P**	**09 57 48.5**	**+1.4**
J17K	**VABM Dome**	**73.37**	**28**		**P**	**09 57 50.8**	**+2.2**
J17K				IAmb	IAmb	09 57 52.2	
	comp=Z,5.0nm,0.9s						
D19K	**Kuna River**	**74.03**	**22**	P	**P**	**09 57 54.5**	**+2.1**
G21K	**Allakaket**	**75.78**	**24**	IAmb	IAmb	09 58 05.4	
	comp=Z,2.8nm,0.8s						
CAST	**Castle Rocks**	**76.52**	**28**	IAmb	IAmb	09 58 09.7	
	comp=Z,3.0nm,0.8s						
ILAR	**Eielson Array**	**78.65**	**26**	P	**P**	**09 58 19.3**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=303,slow=6.5,SNR=2.2 comp=Z,0.3nm,0.7s						
ARCES	**ARCESS Array B**	**79.15**	**339**	P	**P**	**09 58 20.2**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=79,slow=7.5,SNR=6.7 comp=Z,1.7nm,0.8s						
BRTR	**Keskin Array B**	**79.31**	**308**	P	**P**	**09 58 23.0**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=85,slow=6.0,SNR=3.9 comp=Z,0.5nm,0.6s						
FINES	**FINESS Array B**	**80.38**	**331**	P	**P**	**09 58 27.6**	**-0.2**
	comp=Z,2.5nm,1.0s,baz=93,slow=5.2,SNR=3.5 comp=Z,2.5nm,1.0s						
HFS	**Hagfors**	**86.57**	**331**	P	**P**	**09 59 00.2**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=90,slow=4.8,SNR=1.9 comp=Z,1.4nm,0.7s						
NOA	**NORSAR Array B**	**87.35**	**333**	P	**P**	**09 59 02.3**	**-0.9**
	comp=Z,1.9nm,0.4s,baz=66,slow=4.4,SNR=2.3 comp=Z,1.9nm,0.4s						
TXAR	**Lajitas Array**	**119.32**	**45**	PKP	**PKiKP**	**10 05 06.4**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=312,slow=1.8,SNR=2.6						

*ASRS **08** 09:49:35.0±0.9, 53°.64N×86°.82E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 09:49:38.8±2.8, 53°.75N×86°.85E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=24.2km s-min=13.2km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**280**	I	I	09 58 00.0	
	baz=100,slow=317,SNR=10.0						
ZALV	**Zalesovo Beam**	**1.22**	**280**	Pg	Pg	09 50 01.1	-1.0
	0.3nm,0.3s,baz=98,slow=18,SNR=11						
ZALV				Lg	Lg	09 50 18.6	
	1.3nm,0.3s,baz=99,slow=30,SNR=8.7						
KURBB	**Kurchatov Arra**	**6.00**	**242**	Pn	Pn	09 51 10.1	+1.3
	baz=58,slow=13,SNR=5.4						
KURBB				Lg	Lg	09 52 47.9	
	baz=60,slow=31 0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.55**	**205**	Pn	Pn	09 51 30.9	+0.8
	0.1nm,0.3s,baz=20,slow=13,SNR=3.5						
MKAR				Pg	Pb	09 51 47.0	-3.6
	0.1nm,0.3s,baz=26,slow=15,SNR=4.2						
MKAR				Sn	Sn	09 52 57.5	+1.1
	baz=22,slow=25,SNR=2.2						
MKAR				Lg	Lg	09 53 36.9	
	baz=23,slow=30,SNR=5.7 0.1nm,0.3s						

*IDC **08** 09:57:09.3±1.1, 35°.60N×117°.58W, h0km, mbtmp3.0/5, ML3.3/5, Error ellipse: s-maj=22.2km s-min=6.9km az=73.0*
*NEIC **08** 09:57:10.2±1.8, 35°.65N±0°.01×117°.45W±0°.02, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.2km az=353.0*
*PAS **08** 09:57:11.0±1.5, 35°.65N±0°.01×117°.46W±0°.02, h9km±7km, Mwr3.5/6, ML3.4/122(NEIC), Error ellipse: s-maj=1.8km s-min=1.7km az=75.0*

ISC 08 09:57:10.6±1.0, 35°.64N±0°.02×117°.45W±0°.03, h16km±8km, n67, σ1§01/54, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.14**	**149**		**Pg**	**09 57 14.6**	**+0.2**
CLC	**China Lake**	**0.21**	**326**		**Pg**	**09 57 15.0**	**-0.5**
SRTC	**Snort**	**0.25**	**282**		**Pg**	**09 57 14.6**	**-1.5**
LRMC	**Laurel Mtn Rad**	**0.25**	**229**		**Pg**	**09 57 15.9**	**-0.3**
LRMC				IAML		09 57 20.3	
	comp=E,9µm,0.4s						
LRMC				IAML		09 57 21.3	
	comp=N,9µm,0.3s						
TOW	**Tower One**	**0.30**	**303**		**Pb**	**09 57 17.1**	**-0.7**
WNMM	**Nine Mile Cany**	**0.42**	**299**		**Pg**	**09 57 18.8**	**-0.3**
WVPM	**Volcano Peak E**	**0.43**	**316**		**Pg**	**09 57 18.9**	**-0.4**
DTP	**Desert Tortois**	**0.49**	**221**		**Pg**	**09 57 20.1**	**-0.4**
WRVM	**Rose V. Centra**	**0.51**	**316**		**Pg**	**09 57 20.3**	**-0.5**
WBSM	**Bird Springs**	**0.57**	**260**		**Pg**	**09 57 21.5**	**-0.4**
QSM	**Queen of Sheba**	**0.57**	**56**		**Pg**	**09 57 21.9**	**-0.1**
QSM	**Queen of Sheba**	**0.57**	**56**		**Sg**	**09 57 29.7**	**+0.1**
GSC	**Goldstone, Bar**	**0.63**	**123**		**Pg**	**09 57 22.9**	**-0.1**
GSC				IAML		09 57 35.1	
	comp=E,3µm,0.3s						
GSC				IAML		09 57 35.6	
	comp=N,2µm,0.3s						
CCAC	**Calif City Air**	**0.67**	**224**		**Sb**	**09 57 33.0**	**-0.1**
HYS	**Haystack Butte**	**0.78**	**187**		**Pg**	**09 57 25.6**	**-0.2**
ISA	**Isabella, Lake**	**0.83**	**272**		**Pg**	**09 57 26.2**	**-0.6**
ISA				IAML		09 57 39.8	
	comp=E,3µm,0.3s						
GWY	**Greenwater Val**	**0.83**	**49**		**Pg**	**09 57 26.5**	**-0.4**
GWY				IAML		09 57 40.4	
	comp=N,2µm,0.3s						
GWY				IAML		09 57 41.4	
	comp=E,2µm,0.3s						
CWC	**Cottonwood Cre**	**0.95**	**328**		**Pg**	**09 57 28.4**	**-0.6**
CWC				IAML		09 57 42.2	
	comp=E,842nm,0.2s						
SHOC	**Shoshone, Teco**	**0.99**	**75**		**Pn**	**09 57 30.1**	**+0.2**
TPO	**Tropico Hills**	**0.99**	**220**		**Pg**	**09 57 29.3**	**-0.5**
TPO				IAML		09 57 45.3	
	comp=N,2µm,0.8s						
SPG2	**Springville 2**	**1.21**	**298**		**Pb**	**09 57 32.6**	**-0.5**
DSCC	**Desert Studies**	**1.21**	**114**		**Pb**	**09 57 32.2**	**-0.9**
ARVC	**Arvin**	**1.24**	**246**		**Pn**	**09 57 33.4**	**+0.1**
WCT	**Wildcat Mounta**	**1.33**	**30**		**Pn**	**09 57 34.5**	**-0.1**
GRAC	**Grapevine Rang**	**1.35**	**3**		**Pn**	**09 57 35.3**	**+0.3**
BFSC	**Mount Baldy Ra**	**1.41**	**187**		**Pb**	**09 57 37.0**	**+0.3**
BFSC				IAML		09 57 56.6	
	comp=E,1µm,0.7s						
BFSC				IAML		09 57 57.2	
	comp=N,1µm,0.5s						
OSI	**Osito Audit: C**	**1.46**	**226**	IAML		09 58 05.6	
	comp=E,476nm,0.8s						
MWC	**Mount Wilson**	**1.50**	**200**	IAML		09 58 02.6	
	comp=E,904nm,0.7s						
MTPC	**Mountain Pass**	**1.56**	**95**		**Pn**	**09 57 37.6**	**-0.2**
MTPC				IAML		09 58 01.6	
	comp=E,921nm,0.2s						
MTPC				IAML		09 58 01.9	
	comp=N,795nm,0.3s						
PASC	**Pasadena Art C**	**1.59**	**203**	IAML		09 58 04.2	
	comp=N,453nm,0.4s						
PASC				IAML		09 58 05.3	
	comp=E,402nm,0.4s						
TPNV	**Topopah Spring**	**1.63**	**36**	IAML		09 58 14.2	
	comp=E,354nm,0.8s						
GMN	**Gold Mountain**	**1.66**	**5**		**Pn**	**09 57 39.7**	**+0.3**
GMN				IAML		09 58 08.9	
	comp=N,312nm,0.6s						
DSP	**Deep Springs**	**1.77**	**347**		**Pn**	**09 57 41.4**	**+0.7**
DSP				IAML		09 58 07.6	
	comp=N,277nm,0.5s						
DSP				IAML		09 58 16.6	
	comp=E,253nm,1.1s						
ELS	**Elsinore Mount**	**

LHV					IAML		09 58 42.2	
	comp=N,202nm,0.6s							
LHV					IAML		09 58 43.0	
	comp=E,165nm,0.7s							
NV11	**Mina Array Sit**	**2.84**	**349**			**Pn**	**09 57 56.9**	**+1.4**
NVAR	**Mina Array Bea**	**2.87**	**346**			**Pn**	**09 57 56.9**	**+1.0**
NVAR	**Mina Array Bea**	**2.87**	**346**	Pn		**Pn**	**09 57 56.0**	**+0.1**
	comp=E,1.2nm,0.3s,baz=172,slow=12,SNR=23							
NVAR				Pg		**Pb**	**09 58 02.9**	**+1.3**
	comp=E,12nm,0.3s,baz=160,slow=16,SNR=51							
NVAR				Lg		Lg	09 58 40.4	
	comp=E,14nm,0.3s,baz=167,slow=34,SNR=8.7							
	comp=E,1.3nm,0.3s							
W13A	**Hualapai Mount**	**2.96**	**99**			**Pn**	**09 57 57.3**	**+0.1**
W13A					IAML		09 58 48.4	
	comp=E,151nm,0.7s							
W13A					IAML		09 58 48.4	
	comp=N,124nm,0.9s							
BBGB	**Big Mountain B**	**3.05**	**289**			**Pn**	**09 57 59.7**	**+1.3**
BLYC	**Blythe**	**3.06**	**127**			**Pn**	**09 57 57.7**	**-0.7**
BLYC					IAML		09 58 49.6	
	comp=N,104nm,0.6s							
BLYC					IAML		09 58 49.9	
	comp=E,99nm,0.5s							
R11B	**Troy Canyon, C**	**3.09**	**28**			**Pn**	**09 57 59.1**	**+0.2**
RYN	**Ryan**	**3.10**	**344**			**Pn**	**09 58 00.2**	**+1.1**
CMB	**Columbia Colle**	**3.35**	**316**	IAML			09 59 03.7	
	comp=N,83nm,0.7s							
GLA	**Glamis**	**3.37**	**139**	IAML			09 59 06.5	
	comp=N,167nm,0.6s							
ESJX	**Sierra Juarez**	**3.84**	**161**	IAML			09 59 13.7	
	comp=E,67nm,0.7s							
ESJX					IAML		09 59 16.6	
	comp=N,50nm,0.9s							
KNB	**Kanab**	**3.98**	**68**	IAML			09 59 20.2	
	comp=E,43nm,1.0s							
KNB					IAML		09 59 22.8	
	comp=N,43nm,1.2s							
SZCU	**Shurtz Canyon**	**4.01**	**60**	IAML			09 59 23.9	
	comp=E,34nm,0.5s							
Y14A	**Wickenburg**	**4.03**	**114**	IAML			09 59 27.9	
	comp=E,97nm,0.7s							
PSUT	**Pine Spring**	**4.07**	**44**	IAML			09 59 31.1	
	comp=E,36nm,0.8s							
PSUT					IAML		09 59 34.5	
	comp=N,33nm,1.0s							
X16A	**Lo Mia Camp, P**	**5.08**	**102**	IAML			09 59 54.8	
	comp=E,15nm,1.0s							
ELK	**Elko**	**5.38**	**18**	IAML			10 00 02.6	
	comp=E,14nm,0.6s							
ELK	**Elko**	**5.38**	**18**	Pn		**Pn**	**09 58 31.9**	**+1.4**
	comp=E,0.3nm,0.3s,baz=205,slow=14,SNR=8.8							
ELK				Pg		**Pg**	**09 58 50.8**	**-2.9**
	comp=E,3.1nm,0.3s,baz=190,slow=15,SNR=35							
ELK				Lg		Lg	09 59 59.4	
	comp=E,3.8nm,0.3s,baz=126,slow=22,SNR=14							
	comp=E,0.9nm,0.4s							
ANMO	**Albuquerque**	**9.02**	**91**	Pg		Pn	09 59 57.0	+37
	comp=E,0.1nm,0.3s,baz=7.2,slow=12,SNR=11							
ANMO				Lg		Lg	10 01 49.3	
	comp=E,0.1nm,0.3s,baz=275,slow=22,SNR=6.9							
PDAR	**Pinedale Array**	**9.38**	**38**	Pn		**Pn**	**09 59 29.6**	**+4.2**
	comp=E,0.1nm,0.3s,baz=226,slow=16,SNR=3.7							
	comp=E,0.2nm,0.5s							
TXAR	**Lajitas Array**	**13.22**	**115**	Pn		P	10 00 23.5	-4.2
	comp=E,0.1nm,0.3s,baz=303,slow=13,SNR=5.8							
	comp=E,0.2nm,0.4s							

*IDC **08** 10:03:45.1±1.2,31.˚84N×49.˚37E,h0km,mb4.0/12, mbtmp4.0/14,ML4.0/2,Error ellipse: s-maj=24.3km s-min=18.7km az=8.0*
*TEH **08** 10:03:48.6,31.˚90N×49.˚49E,h13km±19km*
*ISN **08** 10:03:48.6±0.6,31.˚83N×49.˚51E,h5km±31km,ML3.7*
*DSN **08** 10:03:56.2±1.4,31.˚01N×49.˚51E,h15km,ML3.4/9,Error ellipse: s-maj=17.7km s-min=8.1km az=4.0*
*OMAN **08** 10:03:57.0±1.3,31.˚13N×49.˚75E,h10km,mb4.7/13,Error ellipse: s-maj=10.7km s-min=7.0km az=1.0*

ISC 08 10:03:46.7±0.5,31.75N±0.04×49.43E±0.03,h10km,n101, σ2.973/133,mb4.0/9,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.79**	**238**	Pg		**Pn**	**Pn**	**10 04 06.2**	**+2.3**
AHWZ				Sg		**Sn**	**Sn**	**10 04 19.7**	**+4.0**
JHBN	**Jahan bin**	**1.16**	**65**	Pg		**Pn**	**Pb**	**10 04 08.3**	**-0.7**
ZNGN	**Zangian**	**1.27**	**73**	Pg		**Pn**	**Pn**	**10 04 11.2**	**+0.4**
ABEH	**Behbahan**	**1.35**	**148**	Pg		**Pg**	**Pg**	**10 04 15.6**	**+3.0**
ABEH				Sg		**Sg**	**Sg**	**10 04 36.5**	**+6.5**
IPIR	**Pirpir**	**1.55**	**53**	Pg		**Pn**	**Pn**	**10 04 15.3**	**+0.6**
IBRJ	**Brojen**	**1.57**	**84**	Pg		**Pn**	**Pn**	**10 04 16.9**	**+2.1**
KLNJ	**Kolanjah**	**1.99**	**111**	Pn		**Pb**	**Pb**	**10 04 23.8**	**+0.5**
IKFM	**Kafar-mosalman**	**2.22**	**323**	Pn		**Pn**	**Pn**	**10 04 25.5**	**+2.0**
IGAR	**Gharneh**	**2.31**	**73**	Pn		**Pn**	**Pn**	**10 04 27.2**	**+2.1**
IKLH	**Kolahrood**	**2.40**	**49**	Pn		**Pn**	**Pn**	**10 04 27.9**	**+1.7**
IRAM	**Ramesheh**	**2.52**	**88**	Pn		**Pn**	**Pn**	**10 04 30.1**	**+2.3**
IZEF	**Zefreh**	**2.71**	**64**	Pn		**Pn**	**Pn**	**10 04 32.4**	**+1.8**
RAFI	**Al-Rafai**	**2.82**	**270**	*e*Pn		**Pb**	**Pb**	**10 04 37.5**	**+0.3**
RAFI				*e*Sn		**Sb**	**Sb**	**10 05 13.0**	**+1.2**
RAFI				AML		AML	AML	10 05 24.9	
	comp=E,351nm,0.4s								
RAFI				AML		AML	AML	10 05 29.3	
	comp=N,315nm,0.5s								
KBD	**Kabd**	**2.97**	**211**	P		**Pb**	**Pb**	**10 04 38.1**	**-1.6**
KBD				S		**Sb**	**Sb**	**10 05 14.7**	**-1.3**
IBZA	**Bozab**	**3.02**	**335**	Pn		**Pn**	**Pn**	**10 04 36.4**	**+1.7**
HAGD	**Aghdareh**	**3.08**	**356**	Pn		**Pn**	**Pn**	**10 04 36.9**	**+1.4**
KRSH	**Karshahi**	**3.18**	**45**	Pn		**Pn**	**Pn**	**10 04 39.0**	**+2.1**
IBDR	**Badra**	**3.25**	**296**	*e*Pn		**Pb**	**Pb**	**10 04 43.0**	**-1.5**
IBDR				*e*Sn		**Sb**	**Sb**	**10 05 22.0**	**-2.2**
ISFB	**Sefidab**	**3.51**	**42**	Pn		**Pn**	**Pn**	**10 04 42.7**	**+1.3**
IGHG	**Ghaleghazi**	**3.52**	**318**	Pn		**Pn**	**Pn**	**10 04 43.6**	**+1.9**
ISAD	**Sadrabad**	**3.63**	**86**	Pn		**Pn**	**Pn**	**10 04 45.6**	**+2.4**
DSBU	**Dashti - Bushe**	**3.73**	**154**	Pn		Pn	Pn	10 04 49.4	+5.0
HGHA	**Hamedan- Ghaye**	**3.76**	**353**	Pn		**Pn**	**Pn**	**10 04 46.1**	**+1.1**
GLG1	**Gilan-e-Gharb**	**3.78**	**310**	Pn		**Pn**	**Pn**	**10 04 46.9**	**+1.8**
IDHR	**Dehrash**	**3.89**	**320**	Pn		**Pn**	**Pn**	**10 04 48.8**	**+2.0**
ANAR	**Anarak**	**3.91**	**67**	Pn		**Pn**	**Pn**	**10 04 49.1**	**+2.2**
QABG	**Abgarm-Qazvin**	**3.95**	**2**	Pn		**Pn**	**Pn**	**10 04 49.0**	**+1.4**
ICHK	**Chekchek**	**4.26**	**82**	Pn		**Pn**	**Pn**	**10 04 54.0**	**+2.2**
IDMV	**Damavand**	**4.39**	**29**	Pn		**Pn**	**Pn**	**10 04 54.9**	**+1.2**
IMEH	**Mehriz**	**4.44**	**93**	Pn		**Pn**	**Pn**	**10 04 57.0**	**+2.7**
BHD	**Baghdad**	**4.53**	**291**	*e*Pn		**Pn**	**Pn**	**10 05 00.0**	**+4.7**
BHD				*e*Sn		**Sn**	**Sn**	**10 05 53.0**	**+5.1**
BHD				AML		AML	AML	10 06 22.2	
	comp=E,326nm,0.5s								
ILAS	**Lasjerd**	**4.67**	**38**	Pn		**Pn**	**Pn**	**10 04 58.7**	**+1.2**
IGZV	**Ghazvin**	**4.67**	**8**	Pn		**Pn**	**Pn**	**10 04 58.7**	**+1.2**
IFIR	**Firoozkooh**	**4.77**	**35**	Pn		**Pn**	**Pn**	**10 05 00.4**	**+1.5**
KLST	**Kelardasht - M**	**4.95**	**15**	Pn		**Pn**	**Pn**	**10 05 03.0**	**+1.6**
MZPU	**Pul - Mazandar**	**5.00**	**20**	Pn		**Pn**	**Pn**	**10 05 03.9**	**+1.9**
IPRN	**Peran**	**5.09**	**28**	Pn		**Pn**	**Pn**	**10 05 04.3**	**+1.1**
IALA	**Alasht**	**5.16**	**32**	Pn		**Pn**	**Pn**	**10 05 05.1**	**+1.8**
IANJ	**Anjilo**	**5.27**	**44**	Pn		**Pn**	**Pn**	**10 05 06.7**	**+1.0**
IKRK	**Kirkuk**	**5.59**	**312**	*e*Pn		**Pn**	**Pn**	**10 05 14.6**	**+4.6**
IKRK				*e*Sn		**Sn**	**Sn**	**10 06 17.5**	**+3.2**
IKRK				AML		AML	AML	10 06 23.7	
	comp=E,84nm,0.2s								
IKRK				AML		AML	AML	10 06 23.8	
	comp=N,97nm,0.6s								
SAKB	**Bahrain**	**5.83**	**170**	P		**Pn**	**Pn**	**10 05 16.5**	**+3.3**
SAKB				S		**Sn**	**Sn**	**10 06 16.0**	**-4.1**
SHMA	**Al-Shehemyia**	**6.02**	**167**	P		**Pn**	**Pn**	**10 05 18.7**	**+2.8**
	SNR=9.7								
SHMA				S		**Sn**	**Sn**	**10 06 20.3**	**-4.5**
TPRV	**Parvadeh(Tabas**	**6.27**	**76**	Pn		**Pn**	**Pn**	**10 05 21.4**	**+2.1**
TNSJ	**Nastanj**	**6.43**	**68**	Pn		**Pn**	**Pn**	**10 05 23.2**	**+1.6**
SMRA	**Abu-Samra**	**7.08**	**170**	P		**Pn**	**Pn**	**10 05 32.3**	**+1.9**
SMRA				S		**Sn**	**Sn**	**10 06 46.3**	**-4.8**
TRNA	**Turayna**	**7.16**	**167**	P		**Pn**	**Pn**	**10 05 33.5**	**+2.0**
	SNR=9.2								
TRNA				S		**Sn**	**Sn**	**10 06 49.4**	**-3.5**
JRN	**Qarnain Island**	**7.42**	**155**	P		**Pn**	**Pn**	**10 05 37.1**	**+2.1**
JRN				S		**Sn**	**Sn**	**10 06 57.7**	**-1.6**
SLWR	**Sila**	**7.91**	**165**	P		**Pn**	**Pn**	**10 05 43.9**	**+2.1**
SLWR				S		**Sn**	**Sn**	**10 07 10.1**	**-1.2**
SHME	**Shamm**	**8.18**	**132**	P		**Pn**	**Pn**	**10 05 49.2**	**+3.7**
SHME				S		**Sn**	**Sn**	**10 07 14.6**	**-3.3**
SBZV	**Sabzevar**	**8.21**	**53**	Pn		**Pn**	**Pn**	**10 05 47.7**	**+1.6**
BANOM	**Banah**	**8.37**	**132**	P		**Pn**	**Pn**	**10 05 50.7**	**+2.6**
BANOM				S		**Sn**	**Sn**	**10 07 17.5**	**-5.1**
BANOM	**Banah**	**8.37**	**132**	P		**Pn**	**Pn**	**10 05 49.3**	**+1.2**
MASF	**Masafi**	**8.68**	**135**	P		**Pn**	**Pn**	**10 05 54.6**	**+2.2**
MASF				S		**Sn**	**Sn**	**10 07 25.7**	**-4.7**
NAZ	**Nazwa, Dubai**	**8.69**	**139**	P		**Pn**	**Pn**	**10 05 54.0**	**+1.5**
MSFE	**Esma-Masafi**	**8.69**	**135**	P		**Pn**	**Pn**	**10 05 53.5**	**+0.9**
ASUD	**Al Ashush, Dub**	**8.80**	**142**	P		**Pn**	**Pn**	**10 05 55.4**	**+1.4**
ASUD				S		**Sn**	**Sn**	**10 07 31.4**	**-1.8**
ASUD	**Al Ashush, Dub**	**8.80**	**142**	P		**Pn**	**Pn**	**10 05 54.9**	**+0.9**
MDH	**Madha**	**8.82**	**135**	P		**Pn**	**Pn**	**10 05 58.2**	**+3.9**
MDH				S		**Sn**	**Sn**	**10 07 28.8**	**-4.9**
MDH	**Madha**	**8.82**	**135**	P		**Pn**	**Pn**	**10 05 56.0**	**+1.8**
ISFR	**Sfrayin**	**8.84**	**51**	Pn		**Pn**	**Pn**	**10 05 56.5**	**+1.8**
RAYN	**Ar Rayn**	**8.90**	**204**	P		**Pn**	**Pn**	**10 05 55.6**	**+0.2**
RAYN				S		**Sn**	**Sn**	**10 07 37.0**	**+1.1**
RAYN	**Ar Rayn**	**8.90**	**204**	P		**Pn**	**Pn**	**10 05 55.3**	**-0.2**
UOSS	**Minazif**	**9.03**	**137**	P		**Pn**	**Pn**	**10 05 59.5**	**+2.3**
UOSS				S		**Sn**	**Sn**	**10 07 33.7**	**-5.3**
UOSS	**Minazif**	**9.03**	**137**	P		**Pn**	**Pn**	**10 05 57.7**	**+0.5**
HATD	**Hatta, Dubai**	**9.08**	**138**	P		**Pn**	**Pn**	**10 06 00.9**	**+3.0**
HATD				S		**Sn**	**Sn**	**10 07 35.4**	**-4.7**
HATD	**Hatta, Dubai**	**9.08**	**138**	P		**Pn**	**Pn**	**10 05 58.2**	**+0.4**
IAKL	**Akhelmad**	**9.12**	**55**	Pn		**Pn**	**Pn**	**10 06 00.0**	**+1.4**
ASHO	**Ashiyiah**	**9.15**	**139**	P		**Pn**	**Pn**	**10 06 02.5**	**+3.7**
ASHO				S		**Sn**	**Sn**	**10 07 37.4**	**-4.5**
ASHO	**Ashiyiah**	**9.15**	**139**	P		**Pn**	**Pn**	**10 05 59.5**	**+0.7**
ASHO				S		**Sn**	**Sn**	**10 07 36.9**	**-5.0**
MZR	**Muzera**	**9.43**	**157**	P		**Pn**	**Pn**	**10 06 04.6**	**+2.0**
	SNR=9.7								
MZR				S		**Sn**	**Sn**	**10 07 45.5**	**-3.2**
MZR	**Muzera**	**9.43**	**157**	P		**Pn**	**Pn**	**10 06 03.7**	**+1.1**
JASK	**Jask - Hormozg**	**9.44**	**126**	P		**Pn**	**Pn**	**10 06 05.3**	**+2.5**
JASK				S		**Sn**	**Sn**	**10 07 45.6**	**-3.3**
ALNE	**Al Ain**	**9.48**	**142**	P		**Pn**	**Pn**	**10 06 05.3**	**+1.9**
ALNE				S		**Sn**	**Sn**	**10 07 47.1**	**-3.1**
ALNE	**Al Ain**	**9.48**	**142**	P		**Pn**	**Pn**	**10 06 04.4**	**+1.0**
SOHO	**SOHO**	**9.85**	**139**	P		**Pn**	**Pn**	**10 06 12.4**	**+4.0**
SOHO				S		**Sn**	**Sn**	**10 07 52.4**	**-6.6**
ARQ	**Araqi**	**10.48**	**141**	P		**Pn**	**Pn**	**10 06 20.0**	**+3.0**
ARQ				S		**Sn**	**Sn**	**10 08 10.7**	**-3.8**
ASF	**Jabal al Asfar**	**10.65**	**276**	Pn		**Pn**	**Pn**	**10 06 17.8**	**-1.7**
	comp=N,1.0nm,0.3s,baz=109,slow=24,SNR=3.6								
	comp=N,3.6nm,0.2s								
HOQ	**Hoqain**	**10.72**	**137**	P		**Pn**	**Pn**	**10 06 21.9**	**+1.6**
HOQ				S		**Sn**	**Sn**	**10 08 16.0**	**-4.5**
BSY	**Bisya**	**11.32**	**141**	P		**Pn**	**Pn**	**10 06 30.5**	**+1.9**
BSY				S		**Sn**	**Sn**	**10 08 28.5**	**-6.6**
SMDO	**Samad**	**11.55**	**136**	P		**Pn**	**Pn**	**10 06 34.1**	**+2.3**
SMDO				S		**Sn**	**Sn**	**10 08 36.9**	**-4.1**
WSAR	**Wadi Sarin**	**11.77**	**134**	Pn		**Pn**	**Pn**	**10 06 35.5**	**+0.9**
	baz=154,slow=24,SNR=10								
MHTO	**MHTO**	**13.16**	**142**	P		**Pn**	**Pn**	**10 06 54.5**	**+0.7**
MHTO				S		**Sn**	**Sn**	**10 09 13.9**	**-6.3**
DOK	**Doka**	**13.75**	**161**	P		**Pn**	**Pn**	**10 07 02.0**	**+0.3**
	SNR=7.1								
DOK				S		**Sn**	**Sn**	**10 09 28.7**	**-5.8**
WHFO	**Wadi Hawf**	**14.32**	**163**	P		**Pn**	**Pn**	**10 07 09.0**	**-0.7**
	SNR=5.9								
ABTO	**Aybut**	**14.76**	**165**	P		**Pn**	**Pn**	**10 07 14.0**	**-1.6**
RBK	**Rabkut**	**14.83**	**162**	P		**Pn**	**Pn**	**10 07 15.1**	**-1.5**
DMTO	**DMTO**	**14.84**	**159**	P		**Pn**	**Pn**	**10 07 15.2**	**-1.5**
BRTR	**Keskin Array B**	**15.08**	**306**	Pn		**P**	**P**	**10 07 25.8**	**+0.5**
	comp=N,0.1nm,0.3s,baz=128,slow=12,SNR=5.8								
AKTO	**Aktyubinsk**	**19.73**	**16**	P		**P**	**P**	**10 08 14.9**	**-1.5**
	comp=N,0.5nm,0.3s,baz=203,slow=12,SNR=4.8								
	comp=N,1.4nm,0.3s								
BELG	**Belogornoye**	**20.67**	**357**	P		**P**	**P**	**10 08 24.8**	**-1.7**
	comp=N,8.5nm,0.4s,baz=123,slow=4.0,SNR=5.3								
	comp=N,8.5nm,0.4s								
IDI	**Anoyia**	**20.75**	**286**	P		**P**	**P**	**10 08 26.7**	**-0.9**
	comp=N,6.3nm,0.8s,baz=57,slow=23,SNR=2.3								
	comp=N,6.3nm,0.8s								
AKASG	**Malin Array Be**	**24.14**	**328**	P		**P**	**P**	**10 09 01.9**	**-0.7**
	comp=N,0.2nm,0.3s,baz=132,slow=7.5,SNR=6.4								
	comp=N,0.2nm,0.3s								
BVAR	**Borovoye Array**	**26.12**	**29**	P		**P**	**P**	**10 09 20.1**	**-0.6**
	comp=N,2.1nm,0.5s								
	comp=N,2.1nm,0.5s								
MKAR	**Makanchi Array**	**29.29**	**50**	P		**P**	**P**	**10 09 49.4**	**+0.2**
	comp=N,0.4nm,0.6s,baz=246,slow=9.1,SNR=4.9								
	comp=N,0.4nm,0.6s								
FINES	**FINESS Array B**	**33.38**	**340**	P		**P**	**P**	**10 10 23.9**	**-1.0**
	comp=N,0.7nm,0.3s,baz=149,slow=11,SNR=12								
	comp=N,0.7nm,0.3s								
HFS	**Hagfors**	**36.92**	**331**	P		**P**	**P**	**10 10 54.3**	**-1.1**
	comp=N,2.0nm,0.3s,baz=135,slow=9.0,SNR=29								
	comp=N,2.0nm,0.3s								
NOA	**NORSAR Array B**	**38.44**	**331**	P		**P**	**P**	**10 11 06.9**	**-1.5**
	comp=N,3.6nm,0.3s,baz=128,slow=8.4,SNR=1.9								
	comp=N,3.6nm,0.3s								
ARCES	**ARCESS Array B**	**40.17**	**347**	P		**P**	**P**	**10 11 22.2**	**-0.5**
	comp=N,1.7nm,0.9s,baz=164,slow=9.3,SNR=2.1								
	comp=N,1.7nm,0.9s								
CMAR	**Chiang Mai Arr**	**46.39**	**94**	P		**P**	**P**	**10 12 13.5**	**0.0**
	comp=N,0.9nm,0.6s,baz=294,slow=8.1,SNR=4.6								
	comp=N,0.9nm,0.6s								
TORD	**Torodi Ar. Bea**	**47.43**	**258**	P		**P**	**P**	**10 12 21.5**	**-0.2**
	comp=N,0.8nm,0.7s,baz=55,slow=7.9,SNR=7.5								
	comp=N,0.8nm,0.7s								
SPITS	**Spitsbergen Ar**	**48.73**	**351**	P		**P**	**P**	**10 12 30.3**	**-0.7**
	comp=N,0.6nm,0.4s,baz=141,slow=9.3,SNR=4.2								
	comp=N,0.6nm,0.4s								

IDC 08 10:15:58.2±1.7,0.˚86N×126.˚97E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=152.6km s-min=21.8km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.90**	**161**	P		P	P	10 20 52.2	-0.8
	0.7nm,0.5s,baz=339,slow=11,SNR=14								
	0.7nm,0.5s								
ASAR	**Alice Springs**	**25.29**	**165**	P		P	P	10 21 27.2	+0.6
	0.5nm,0.4s,baz=346,slow=7.6,SNR=27								
	0.5nm,0.4s								
MKAR	**Makanchi Array**	**60.05**	**326**	P		P	P	10 26 07.7	+0.7
	0.2nm,0.4s,baz=136,slow=8.2,SNR=4.3								
	0.2nm,0.4s								
KURBB	**Kurchatov Arra**	**64.28**	**328**	P		P	P	10 26 34.6	-0.7
	0.6nm,0.3s,baz=124,slow=7.1,SNR=4.7								
	0.6nm,0.3s								

*NIED **08** 10:18:12.0,34.˚85N×139.˚98E,h54km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.30; Mθθ-2.91; Mφφ-0.39; Mrθ0.57; Mθφ-0.28; Mφr0.91; Fault plane solution: M0.28000×10¹⁴ NP1: φs275.00000°,δ40.00000°,λ108.00000°. NP2: φs71.00000°,δ52.00000°,λ75.00000°.*
*JMA **08** 10:18:12.0±0.2,34.˚8N×140.˚6E±0.˚6,h54km±1km, MD3.8/39,MV3.5/39,SE OFF BOSO PENINSULA*
JMA Felt I J1 at SE OFF BOSO PENINSULA .
*IDC **08** 10:18:12.8±3.1,34.˚84N×139.˚91E,h52km±28km,mb3.4/6, mbtmp3.7/8,ML3.4/2,Error ellipse: s-maj=31.2km s-min=19.0km az=76.0*

ISC 08 10:18:12.6±0.8,34.85N±0.04×139.98E±0.04,h50km±6km, n46,σ0.979/50,mb3.7/6,12D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TATJ	**Tateyama 2**	**0.20**	**338**	*i* P		**Pn**	**Pn**	**10 18 21.2**	**+0.3**
TATJ				S		**Sn**	**Sn**	**10 18 28.1**	**+1.3**
TATJ	**Tateyama 2**	**0.20**	**338**	A		A	A	10 18 21.2	
	comp=N,27nm,0.6s,comp=E,22nm,0.3s								
BSO4	**Boso 4**	**0.33**	**64**	*i* P		**Pn**	**Pn**	**10 18 22.2**	**+0.4**
BSO4				X				10 18 30.2	
JKUC	**kamogawauchiur**	**0.36**	**30**	*i* P		**Pn**	**Pn**	**10 18 21.9**	**-0.4**
JKUC				S		**Sn**	**Sn**	**10 18 28.7**	**-0.4**
KTR	**Katsuura**	**0.41**	**42**	*i* P		**Pn**	**Pn**	**10 18 22.6**	**-0.1**
KTR				S		**Sn**	**Sn**	**10 18 30.1**	**+0.1**
BSO3	**Boso 3**	**0.44**	**96**	*i* P		**Pn**	**Pn**	**10 18 23.0**	**+0.2**
BSO3				X				10 18 31.6	
JYO	**Yokosk**	**0.46**	**326**	A		A	A	10 18 23.1	
	comp=N,26nm,0.4s,comp=E,15nm,0.3s								
JIM2	**Oshima 3**	**0.47**	**254**	*i* P		**Pn**	**Pn**	**10 18 23.2**	**-0.3**
JIM2				S		**Sn**	**Sn**	**10 18 31.0**	**-0.3**
JIM2	**Oshima 3**	**0.47**	**254**	A		A	A	10 18 23.2	
	comp=N,14nm,0.3s,comp=E,17nm,0.3s								
JTHY	**Toshimahigashi**	**0.66**	**241**	*i* P		**Pn**	**Pn**	**10 18 25.9**	**+0.2**
JTHY				S		**Sn**	**Sn**	**10 18 35.9**	**+0.6**
JTHY	**Toshimahigashi**	**0.66**	**241**	A		A	A	10 18 25.9	
	comp=N,9.0nm,0.3s,comp=E,7.0nm,0.6s								
KTJ3	**Kamata3**	**0.75**	**277**	*i* P		**Pn**	**Pn**	**10 18 26.5**	**-0.5**
KTJ3				S		**Sn**	**Sn**	**10 18 36.4**	**-1.1**
JHTM	**Izuhatsuma**	**0.81**	**278**	A		A	A	10 18 27.4	
	comp=N,5.0nm,0.4s,comp=E,6.0nm,0.7s								
JOD2	**Odawara 2**	**0.84**	**300**	*i* P		**Pn**	**Pn**	**10 18 27.5**	**-0.7**
JOD2				S		**Sn**	**Sn**	**10 18 38.4**	**-1.2**
BSO1	**Boso 1**	**0.84**	**103**	*i* P		**Pn**	**Pn**	**10 18 27.4**	**-0.3**
BSO1				X				10 18 38.7	
JMYK	**Miyake Tsubota**	**0.86**	**205**	P		**Pn**	**Pn**	**10 18 28.6**	**+0.1**
JMYK				S		**Sn**	**Sn**	**10 18 40.6**	**+0.6**
JIZS	**Izushimoda**	**0.92**	**262**	*i* P		**Pn**	**Pn**	**10 18 29.1**	**-0.1**
JIZS				S		**Sn**	**Sn**	**10 18 41.0**	**-0.3**
JMKN	**Mikurajimanish**	**1.00**	**199**	*i* P		**Pn**	**Pn**	**10 18 30.5**	**+0.2**
JMKN				S		**Sn**	**Sn**	**10 18 43.7**	**+0.2**
JYN	**Shimob**	**1.34**	**299**	*i* P		**Pn**	**Pn**	**10 18 34.8**	**-0.2**
JYN				S		**Sn**	**Sn**	**10 18 51.9**	**+0.1**
JRY	**Ryogami san**	**1.46**	**323**	*i* P		**Pn**	**Pn**	**10 18 36.2**	**-0.4**
JRY				S		**Sn**	**Sn**	**10 18 54.2**	**-0.5**
SHZ3	**Shizuoka 3**	**1.47**	**279**	P		**Pn**	**Pn**	**10 18 37.2**	**+0.5**
JHJ2	**Mitsune**	**1.74**	**185**	P		**Pn**	**Pn**	**10 18 41.0**	**+0.7**
MJAR	**Matsushiro Arr**	**2.22**	**320**	P		**Pn**	**Pn**	**10 18 46.7**	**-0.3**
	comp=E,9.3nm,0.3s,baz=187,slow=21,SNR=231								
MJAR				S		**Sn**	**Sn**	**10 19 12.4**	**-0.8**
	comp=E,28nm,0.7s,baz=147,slow=30,SNR=5.2								
	comp=E,55nm,0.3s								
MAJO	**Matsushiro**	**2.23**	**320**	P		**Pn**	**Pn**	**10 18 48.0**	**+1.0**
MAJO	**Matsushiro**	**2.23**	**320**	S		**Sn**	**Sn**	**10 19 15.2**	**+1.9**
JGF	**Kuroka**	**2.28**	**290**	P		**Pn**	**Pn**	**10 18 49.1**	**+1.3**
INU	**Inuyama**	**2.48**	**283**	P		**Pn**	**Pn**	**10 18 52.2**	**+1.7**
JMM	**Marumori**	**3.08**	**12**	P		**Pn**	**Pn**	**10 18 58.9**	**+0.1**
JMM	**Marumori**	**3.08**	**12**	S		**Sn**	**Sn**	**10 19 35.7**	**+1.3**
JSD	**Sado**	**3.47**	**337**	P		**Pn**	**Pn**	**10 19 03.9**	**-0.2**
JMN	**Monobe**	**5.17**	**259**	P		**Pn**	**Pn**	**10 19 29.8**	**+2.3**
JTM	**Tenmabayashi**	**5.99**	**8**	P		**Pn**	**Pn**	**10 19 39.1**	**+0.5**
ERM	**Erimo**	**7.58**	**18**	P

RVAZ	Riverhead Bore	2.52 266	P		Pn	10 19 07.5	-0.2
MHGZ	Mahia Peninsul	2.52 177	P		Pn	10 19 08.6	+0.9
WTAZ	Waiatarua	2.54 262	P		Pn	10 19 08.1	+0.2
NMHZ	Naumai	2.57 196	P		Pn	10 19 09.2	+1.0
HATZ	Hinemaiaia	2.60 209	P		Pn	10 19 09.3	+0.8
WATZ	Wairara	2.60 217	P		Pn	10 19 10.3	+1.7
ARHZ	Aropaoanui	2.69 192	P		Pn	10 19 10.3	+0.8
BKZ	Black Stump Fm	2.71 200			Pn	10 19 09.9	+0.1
BKZ	Black Stump Fm	2.71 200	P		Pn	10 19 09.9	+0.1
BKZ	Black Stump Fm	2.71 200	P		Pn	10 19 09.9	+0.1
RATZ	Rangitukua	2.71 214	P		Pn	10 19 11.1	+1.2
RITZ	Rihia Road	2.77 212	P		Pn	10 19 11.7	+1.3
WCZ	Waipu Caves	2.81 283	P		Pn	10 19 09.5	-1.4
KATZ	Kakaramea	2.84 214	P		Pn	10 19 12.6	+1.3
MCHZ	McNeill Hill	2.92 196	P		Pn	10 19 12.9	+0.8
NTVZ	North Tongarir	2.95 213	P		Pn	10 19 13.6	+1.1
HIZ	Hauiti	2.95 229			Pn	10 19 14.3	+1.9
HIZ	Hauiti	2.95 229	P		Pn	10 19 14.0	+1.6
HIZ	Hauiti	2.95 229	P		Pn	10 19 14.4	+1.9
TMVZ	Te Maari	2.95 212	P		Pn	10 19 13.3	+0.8
KRVZ	Karewarewa	2.96 213	P		Pn	10 19 13.7	+1.1
ETVZ	East Tongariro	2.96 212	P		Pn	10 19 13.4	+0.7
KWHZ	Kaweka Forest	2.97 200	P		Pn	10 19 13.0	+0.3
WTVZ	West Tongariro	3.00 213	P		Pn	10 19 13.9	+0.8
NNVZ	North Ngauruho	3.00 213	P		Pn	10 19 14.1	+0.9
OTVZ	Oturere	3.00 212	P		Pn	10 19 14.0	+0.8
TWVZ	Taurewa	3.03 216	P		Pn	10 19 14.3	+0.8
SNVZ	South Ngauruho	3.03 212	P		Pn	10 19 14.3	+0.8
NGZ	Ngauruhoe	3.04 213	P		Pn	10 19 14.6	+1.0
CKHZ	Cape Kidnapper	3.07 189	P		Pn	10 19 14.2	+0.6
COVZ	Chateau Observ	3.09 213	P		Pn	10 19 14.9	+0.9
TUVZ	Tukino	3.10 211	P		Pn	10 19 15.1	+0.7
FWVZ	Far West T-bar	3.13 212	P		Pn	10 19 15.2	+0.5
MAVZ	Matarangi	3.14 212	P		Pn	10 19 15.4	+0.5
WHVZ	Whangaehu Hut	3.14 212	P		Pn	10 19 15.2	+0.4
TRVZ	Turoa	3.17 212	P		Pn	10 19 15.7	+0.6
WNVZ	Wahianoa	3.17 211	P		Pn	10 19 15.4	+0.3
MOVZ	Moawhango	3.18 209	P		Pn	10 19 14.9	-0.1
KRHZ	Kereru	3.19 199	P		Pn	10 19 15.1	0.0
KAHZ	Kahuranaki	3.23 192	P		Pn	10 19 16.1	+0.5
PKVZ	Pokaka	3.25 214	P		Pn	10 19 16.5	+0.6
MTVZ	Mangateitei	3.27 212	P		Pn	10 19 16.7	+0.5
VRZ	Vera Road	3.42 222	P		Pn	10 19 19.2	+1.4
PXZ	Pawanui	3.46 191	P		Pn	10 19 18.4	+0.1
PNHZ	Pukenui	3.49 199	P		Pn	10 19 18.4	-0.2
WPHZ	Waipukurau	3.57 196	P		Pn	10 19 19.5	-0.1
OUZ	Omahuta	3.62 292	P		Pn	10 19 18.6	-1.7
OUZ	Omahuta	3.62 292	P		Pn	10 19 18.5	-1.7
OUZ	Omahuta	3.62 292	P		Pn	10 19 18.6	-1.7
TSZ	Takapari Road	3.69 201	P		Pn	10 19 20.6	-0.5
PRHZ	Porangahau	3.73 193	P		Pn	10 19 21.5	0.0
WAZ	Wanganui	3.79 214	P		Pn	10 19 22.5	+0.3
DVHZ	Dannevirke	3.86 198	P		Pn	10 19 22.5	-0.5
NEZ	North Egmont	3.89 226	P		Pn	10 19 25.7	+2.2
PKE	Pukeiti	3.90 228	P		Pn	10 19 25.9	+2.3
ANWZ	Angora Road	3.95 194	P		Pn	10 19 24.0	-0.1
KHEZ	Kahui Hut	3.95 227	P		Pn	10 19 26.4	+2.2
POWZ	Post Office Ro	4.05 202	P		Pn	10 19 25.1	-0.3
PRWZ	Pori Road	4.15 199	P		Pn	10 19 26.3	-0.3
BFZ	Birch Farm	4.21 195			Pn	10 19 26.7	-0.5
BFZ					S	10 20 19.1	+0.5
BFZ	Birch Farm	4.21 195	P		Pn	10 19 26.7	-0.5
BFZ	Birch Farm	4.21 195	P		Pn	10 19 26.4	-0.8
BFZ	Birch Farm	4.21 195	P		Pn	10 19 26.6	-0.5
MRZ	Mangatainoka R	4.36 202			Pn	10 19 28.4	-0.7
MRZ					S	10 20 21.1	-0.9
MRZ	Mangatainoka R	4.36 202	P		Pn	10 19 28.4	-0.9
TIWZ	Tintock	4.38 198	P		Pn	10 19 28.9	-0.5
HOWZ	Holdsworth Sta	4.59 201	P		Pn	10 19 30.8	-1.2
OGWZ	Otaki Gorge	4.63 205	P		Pn	10 19 31.4	-1.0
TMWZ	Te Maipa	4.69 197	P		Pn	10 19 32.6	-0.6
KIW	Kapiti Island	4.76 207	P		Pn	10 19 32.6	-1.4
MTW	Mount Morrison	4.84 200	P		Pn	10 19 33.6	-1.4
CAW	Cannon Point	4.93 204	P		Pn	10 19 34.7	-1.4
TRWZ	Traveller	5.02 198	P		Pn	10 19 36.5	-0.7
PAWZ	Paruwai Farm	5.07 200	P		Pn	10 19 36.2	-1.8
DUWZ	D'Urville Isla	5.11 214	P		Pn	10 19 36.9	-1.5
MSWZ	Moikau Station	5.15 201	P		Pn	10 19 37.2	-1.7
WEL	Wellington	5.18 205	P		Pn	10 19 37.8	-1.5
SNZO	South Karori	5.23 206	P		Pn	10 19 38.6	-1.2
PLWZ	Palliser	5.29 200	P		Pn	10 19 39.0	-1.7
TCW	Tory Channel	5.30 209			S	10 20 40.8	-2.3
TCW	Tory Channel	5.30 209	P		Pn	10 19 39.0	-1.8
TUWZ	Tuamarina	5.62 210			Pn	10 19 43.5	-1.2
TUWZ					S	10 20 47.5	-2.9
TUWZ	Tuamarina	5.62 210	P		Pn	10 19 43.4	-1.4
NNZ	Nelson	5.69 215	P		Pn	10 19 43.6	-2.1
CMWZ	Cape Campbell	5.79 207			S	10 20 54.2	-0.2
QRZ	Quartz Range	5.83 222	P		Pn	10 19 46.7	-0.8
QRZ	Quartz Range	5.83 222	P		Pn	10 19 46.9	-0.6
BSWZ	Blackbirch Sta	5.89 209	P		Pn	10 19 46.6	-1.6
KHZ	Kahutara	6.62 208	P		Pn	10 19 56.0	-1.5
KHZ	Kahutara	6.62 208	P		Pn	10 19 55.9	-1.5
KHZ	Kahutara	6.62 208	P		Pn	10 19 55.7	-1.8
RPZ	Rata Peaks	8.72 214	P		Pn	10 20 24.3	-0.2
RPZ	Rata Peaks	8.72 214	P		Pn	10 20 23.8	-0.7
ODZ	Otahua Downs	9.96 210	P		Pn	10 20 40.3	-0.1
ODZ	Otahua Downs	9.96 210	P		Pn	10 20 40.0	-0.4
COEN	Coen	38.21 297	P		P	10 25 21.8	+1.2
AS31	Alice Springs	39.70 276	P		P	10 25 34.4	+1.5
AS31	comp=Z,2.8nm,0.6s		IAmb		IAmb	10 25 35.1	
ASAR	Alice Springs	39.70 276	P		P	10 25 33.9	+1.0
ASAR	Alice Springs	39.70 276	P		P	10 25 34.5	+1.6
ASAR	comp=Z,6.5nm,0.6s,baz=118,slow=7.8,SNR=162		PcP		PcP	10 27 34.8	0.0
	comp=Z,0.1nm,0.5s,baz=124,slow=4.2,SNR=1.4 comp=Z,6.5nm,0.6s						
WR8	Warramunga Arr	41.15 282	P		P	10 25 45.8	+1.1
WR8	comp=Z,3.4nm,0.7s		IAmb		IAmb	10 25 46.5	
WRAB	Tennant Creek	41.27 282	P		P	10 25 46.8	+1.0
WRAB	comp=Z,4.9nm,0.6s		IAmb		IAmb	10 25 47.4	
WRA	Warramunga Arr	41.28 282	P		P	10 25 46.8	+1.0
WRA	Warramunga Arr	41.28 282	P		P	10 25 46.8	+1.0
	comp=Z,4.0nm,0.5s,baz=120,slow=7.7,SNR=73 comp=Z,4.0nm,0.5s						
WB0	Warramunga Arr	41.33 282	P		P	10 25 47.3	+1.1
KNRA	Kununurra	48.06 282	P		P	10 26 39.7	+0.5
KNRA	comp=Z,12nm,1.2s		IAmb		IAmb	10 27 19.4	
FITZ	Fitzroy Crossi	49.18 278	P		P	10 26 48.1	+0.4
FITZ	Fitzroy Crossi	49.18 278	P		P	10 26 48.8	+1.1
	comp=Z,1.6nm,0.8s,baz=120,slow=18,SNR=2.1 comp=Z,1.6nm,0.8s						
QSPA	South Pole Qui	53.49 180	P		P	10 27 24.4	+5.2
QSPA	comp=Z,4.4nm,1.5s		IAmb		IAmb	10 28 00.6	
QSPA	South Pole Qui	53.49 180	P		P	10 27 25.3	+6.1
	comp=Z,1.0nm,0.7s,baz=311,slow=1.4,SNR=13 comp=Z,1.0nm,0.7s						
KURBB	Kurchatov Arra	122.66 312	PKP		PKPdf	10 36 49.6	-0.8
	comp=Z,0.3nm,0.2s,baz=108,slow=2.1,SNR=4.4						
ARCES	ARCESS Array B	143.74 344	PKP		PKPbc	10 37 27.6	+0.1
	comp=Z,1.0nm,0.8s,baz=39,slow=1.8,SNR=3.7						
FINES	FINESS Array B	149.44 333	PKPbc		PKPbc	10 37 43.3	-0.4
	comp=Z,1.3nm,0.4s,baz=50,slow=3.0,SNR=14						

IDC ***08*** *10:18:45.0±0.9, 15°.55N×96°.58W, h0km, mb4.0/10, mbtmp4.0/12, ML3.5/2, MS3.4/8, Error ellipse: s-maj=29.6km s-min=16.2km az=54.0*
MEX ***08*** *10:18:46.5±0.6, 15°.51N×96°.87W, h17km±17km, MD4.7*
NEIC ***08*** *10:18:49.2±2.6, 15°.85N±0°.06×96°.66W±0°.04, h10km±2km, mb4.4/159, Md4.7/123(MEX), Error ellipse: s-maj=10.0km s-min=5.5km az=199.0*

ISC 08 10:18:45.2±1.4, 15°.59N±0°.05×96°.75W±0°.03, h1km±9km, n219, σ2ϕ43/236, mb4.4/69, MS3.4/7, 1C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PEIG	Puerto Escondi	0.56	317	eP		Pg	10 18 55.8	-0.2
PEIG				*i* S		Sg	10 19 02.4	-1.0
HUIG	Huatulco	0.64	73			Pb	10 18 59.0	-0.2
HUIG						Sg	10 19 08.0	+2.2
HUIG	Huatulco	0.64	73	eP		Pb	10 18 59.0	-0.2
HUIG				eS		Sg	10 19 08.0	+2.2
OXLC	Oaxaca	1.47	2			Pn	10 19 11.9	-1.1
OXLC						Sn	10 19 30.6	-2.5
OXBJ	Oaxaca	1.47	1			Pn	10 19 11.4	-1.7
OXBJ						Sn	10 19 30.1	-2.9
OXBJ	Oaxaca	1.47	1	eP		Pn	10 19 11.4	-1.7
OXBJ				eS		Sn	10 19 30.1	-2.9
OXIG	Oaxaca	1.48	1			Pn	10 19 11.7	-1.4
OXIG						Sn	10 19 30.7	-2.5
VHO	Vista Hermosa	1.48	1	eP		Pn	10 19 11.7	-1.4
VHO				eS		Sn	10 19 30.7	-2.5
YOIG	Yosondua	1.48	329			Pn	10 19 11.0	-2.2
YOIG	Yosondua	1.48	329	eP		Pn	10 19 11.0	-2.2
YOIG				eS		Sg	10 19 27.5	-5.3
PNIG	Pinotepa	1.55	301	eP		Pn	10 19 10.9	-3.1
PNIG				eS		Sn	10 19 27.2	-7.5
TXIG	Tlaxiaco	1.93	330			Pn	10 19 18.3	-1.1
TXIG						Sn	10 19 42.8	-1.5
TXIG	Tlaxiaco	1.93	330	eP		Pn	10 19 18.3	-1.1
TXIG				eS		Sn	10 19 42.8	-1.5
NILT	Santiago Nilte	2.27	64			Pn	10 19 23.1	-0.7
NILT						Sn	10 19 51.2	-1.2
NILT	Santiago Nilte	2.27	64	eP		Pn	10 19 23.1	-0.7
NILT				eS		Sn	10 19 51.2	-1.2
NEUV	Arroyo Zacate	2.30	23			Pn	10 19 23.4	-0.9
NEUV	Arroyo Zacate	2.30	23	eP		Pn	10 19 23.4	-0.9
NEUV				eS		Sn	10 19 53.0	-0.2
CMIG	Matias Romero	2.33	50			Pn	10 19 22.7	-2.0
CMIG						Sn	10 19 51.1	-2.9
CMIG	Matias Romero	2.33	50	Pn		Pn	10 19 23.0	-1.7
CMIG	24nm,0.3s,baz=228,slow=10,SNR=493			Sn		Sb	10 20 00.1	+2.7
CMIG	382nm,0.3s,baz=75,slow=12,SNR=18 44nm,0.3s			eP		Pn	10 19 22.7	-2.0
CMIG	Matias Romero	2.33	50	eS		Sn	10 19 51.1	-2.9
HLIG	Huajuapan de L	2.45	336			Pn	10 19 25.7	-0.8
HLIG						Sn	10 19 53.0	-4.2
HLIG	Huajuapan de L	2.45	336	eP		Pn	10 19 25.7	-0.8
HLIG				*i* S		Sn	10 19 53.0	-4.2
TOIG	Toxpalan	2.51	353			Pn	10 19 27.4	+0.1
TOIG						Sn	10 19 57.7	-1.0
TOIG	Toxpalan	2.51	353	eP		Pn	10 19 27.4	+0.1
TOIG				eS		Sn	10 19 57.7	-1.0
TLIG	Tlapa	2.63	319			Pn	10 19 28.0	+0.1
TLIG	Tlapa	2.63	319	eP		Pn	10 19 28.0	-0.9
TLIG				*i* S		Sn	10 19 58.2	-3.3
FTIG	Fresnillo de T	2.66	330			Pn	10 19 28.7	-0.7
FTIG						Sn	10 19 59.8	-2.5
FTIG	Fresnillo de T	2.66	330	eP		Pn	10 19 28.7	-0.7
FTIG				*i* S		Sn	10 19 59.8	-2.5
TPIG	Tehuac#an	2.88	348			Pb	10 19 36.5	-1.0
TPIG						Sn	10 20 04.2	-3.5
TPIG	Tehuac#an	2.88	348	eP		Pb	10 19 36.5	-1.0
TPIG				eS		Sn	10 20 04.2	-3.5
THEZ	Tehuacan	2.94	348			Pb	10 19 38.5	0.0
THEZ						Sn	10 20 10.5	+1.2
THEZ	Tehuacan	2.94	348	eP		Pb	10 19 38.5	0.0
THEZ				eS		Sn	10 20 10.5	+1.2
TUIG	Tuzandepetl	3.30	42	eP		Pn	10 19 35.4	-2.6
TUIG				*i* S		Sb	10 20 25.9	+0.7
PMUV	Sontecomapan	3.33	28			Pn	10 19 35.9	-2.6
PMUV						Sn	10 20 15.2	-3.5
PMUV	Sontecomapan	3.33	28	eP		Pn	10 19 35.9	-2.6
PMUV				*i* S		Sn	10 20 15.2	-3.5
PCIG		3.40	88			Pn	10 19 37.2	-2.2
PCIG		3.40	88	eP		Pn	10 19 37.2	-2.2
PCIG				eS		Sn	10 20 14.4	-6.0
POHV	Veracruz	3.50	352			Pn	10 19 42.2	+1.0
POHV	Veracruz	3.50	352	eP		Pn	10 19 42.2	+1.0
MEIG	Mezcala	3.60	311			Pn	10 19 41.0	-1.3
MEIG	Mezcala	3.60	311	eP		Pn	10 19 41.0	-1.3
MEIG				eS		Sn	10 20 20.2	-5.3
CAIG	El Cayaco	3.68	294	eP		Pn	10 19 40.8	-2.4
CAIG				eS		Sn	10 20 18.1	-9.1
TGIG		3.68	71			Pn	10 19 43.3	0.0
TGIG						Sb	10 20 33.4	-2.9
TGIG		3.68	71	eP		Pn	10 19 43.3	0.0
TGIG				eS		Sb	10 20 33.4	-2.9
PHPU	Puebla	3.70	339			Pn	10 19 51.5	0.0
PHPU						Sn	10 20 30.8	+2.7
PHPU	Puebla	3.70	339	eP		Pb	10 19 51.5	0.0
PHPU				*i* S		Sn	10 20 30.8	+2.7
JAUV	Jalcomulco	3.76	359			Pn	10 19 42.7	-1.7
JAUV						Sn	10 20 26.8	-2.5
JAUV	Jalcomulco	3.76	359	eP		Pn	10 19 42.7	-1.7
JAUV				*i* S		Sn	10 20 26.8	-2.5
PPM	Popocatepetl	3.90	333	eP		Pn	10 19 50.6	+3.9
PPM				eS		Sn	10 20 28.2	-5.2
PPIG	Popocatepetl	3.90	333			Pn	10 19 50.6	+3.9
PPIG						Sn	10 20 28.2	-5.2
AMVM	AMECAMECA	4.03	331			Pn	10 19 52.2	+3.9
AMVM						Sn	10 20 41.4	+5.1
AMVM	AMECAMECA	4.03	331	eP		Pn	10 19 52.2	+3.9
AMVM				*i* S		Sn	10 20 41.4	+5.1
LVIG	Laguna Verde	4.13	4	eP		Pn	10 19 45.4	-4.0
LVIG				*i* S		Sn	10 20 35.7	-2.6
MAVM	Malinalco, Edo	4.26	322			Pn	10 19 55.2	+3.8
MAVM	Malinalco, Edo	4.26	322	eP		Pn	10 19 55.2	+3.8
MAVM				*i* S		Sn	10 20 46.4	+4.6
TXVM	Universitario	4.35	332			Sb	10 20 56.4	+0.7
TXVM	Universitario	4.35	332	eP		Pb	10 19 58.5	-4.1
TXVM				*i* S		Sb	10 20 56.4	+0.7
ARIG	Puente Sto Nin	4.37	308			Pn	10 19 52.8	+0.1
ARIG	Puente Sto Nin	4.37	308	eP		Pn	10 19 52.8	+0.1
ARIG				*i* S		Sn	10 20 38.2	-6.0
PATR	El Naranjo	4.38	96			Pn	10 19 52.2	-0.9
PATR						Sn	10 20 45.2	+0.3
PATR	El Naranjo	4.38	96	eP		Pn	10 19 52.2	-0.9
PATR				eS		Sn	10 20 45.2	+0.3
UNM	Universidad Na	4.39	328	eP		Pn	10 19 52.4	-0.8
UNM				*i* S		Sn	10 20 40.7	-4.4
PAVE	Pavencul	4.43	94			Pn	10 19 53.9	+0.2
PAVE	Pavencul	4.43	94	eP		Pn	10 19 53.9	+0.2
PAVE				*i* S		Sn	10 20 37.6	-8.5
INVM	La Marquesa	4.46	326			Pn	10 19 57.5	+3.2
INVM						Sn	10 20 46.8	-0.4
INVM	La Marquesa	4.46	326	eP		Pn	10 19 57.5	+3.2
INVM				*i* S		Sn	10 20 46.8	-0.4
CCIG	Comitan	4.49	81			Pn	10 19 56.4	+1.9
VTVM	Tizayuca	4.59	335			Pn	10 19 59.8	+3.8
VTVM						Sn	10 20 44.9	-5.2
VTVM	Tizayuca	4.59	335	eP		Pn	10 19 59.8	+3.8
VTVM				eS		Sn	10 20 44.9	-5.2
CXUV	Coxquihui	4.63	350			Pn	10 19 55.6	-0.8
CXUV						Sn	10 20 49.2	-1.6
CXUV	Coxquihui	4.63	350	eP		Pn	10 19 55.6	-0.8
CXUV				*i* S		Sn	10 20 49.2	-1.6
ZUVM	ZUMPANGO	4.77	333			Pn	10 19 59.6	+1.1
ZUVM	ZUMPANGO	4.77	333	eP		Pn	10 19 59.6	+1.1
ZUVM				*i* S		Sn	10 20 56.3	+1.8
HUEH	Huehuetenango	5.07	92	eP		Pn	10 20 08.3	+5.8
HUEH				*i* S		Sb	10 21 12.5	-3.8
DEIG	Demacu	5.17	335	eP		Pn	10 20 05.6	+1.6
DEIG				*i* S		Sn	10 21 01.3	-3.1
DHIG	Demacu	5.17	335			Pn	10 20 05.6	+1.6
DHIG						Sn	10 21 01.3	-3.1
ACIG	Acambay	5.29	326			Pn	10 20 07.7	+2.1
ACIG						Sn	10 21 04.0	-3.3
ACIG	Acambay	5.29	326	eP		Pn	10 20 07.7	+2.1
ACIG				*i* S		Sn	10 21 04.0	-3.3
MOIG	Morelia	5.87	315	Pn		Pn	10 20 15.1	+1.5
MOIG	Morelia	5.87	315	eP		Pn	10 20 13.9	+0.2
MOIG				eS		Sn	10 21 23.2	+1.4
CTUV	Llano Grande	6.05	346			Pn	10 20 14.8	-1.1
CTUV						Sn	10 21 24.6	-1.1
CTUV	Llano Grande	6.05	346	eP		Pn	10 20 14.8	-1.1
CTUV				eS		Sn	10 21 24.6	-1.1
JRQG	Juriquilla Cam	6.19	326	eP		Pn	10 20 16.4	-1.5
JRQG				*i* S		Sn	10 21 25.2	-4.3
SCIG	Sabancuy	6.29	57	eP		Pn	10 20 15.4	-3.7
SCIG				*i* S		Sn	10 21 32.6	+1.0
PETF	Flores	6.74	78			Pn	10 20 25.4	0.0
PETF	Flores	6.74	78	eP		Pn	10 20 25.1	-0.3
PETF				*i* S		Sn	10 21 39.0	-3.8
MNGA	Volcan de Coli	7.61	301⇑	eP		Pn	10 20 38.3	+0.8
MNGA				eS		Sb	10 22 31.9	+2.4
INCO	Volcan de Coli	7.62	302	eP		Pn	10 20 39.4	+1.6
INCO				eS		Sb	10 22 22.5	-7.6
SOMAC	Volcan de Col	7.64	302	eP		Pn	10 20 38.3	+0.2
SOMAC				eS		Sb	10 22 34.4	+3.8
CDAR	Ciudad de Arme	7.70	297	eP		Pn	10 20 36.9	-1.6
CDAR				eS		Sb	10 22 20.3	-12
CEGR	Campo Tres	7.77	300	eP		Pn	10 20 41.5	+2.0
CEGR				eS		Sn	10 22 12.0	+3.7
GTIG	Gomez Farias	7.79	343			Pn	10 20 40.2	+0.5
GTIG						Sn	10 22 07.7	-0.8
GTIG	Gomez Farias	7.79	343	eP		Pn	10 20 40.2	+0.5
GTIG				*i* S		Sn	10 22 07.7	-0.8
AAIG	Aguscalientes	8.29	321			Pn	10 20 44.5	-2.4
AAIG						Sn	10 22 18.0	-3.3
AAIG	Aguscalientes	8.29	321	eP		Pn	10 20 44.5	-2.4
AAIG				*i* S		Sn	10 22 18.0	-3.3
MYIG	Merida	8.54	50	eP		Pn	10 20 44.5	-5.5
MYIG				eS		Sn	10 22 27.0	+0.1
TEIG	Tepich	9.29	59	Pn		Pn	10 20 56.8	-3.5
LNIG	Linares	9.61	345	eP		Pn	10 20 55.8	-8.9
LNIG				*i* S		Sn	10 22 52.3	-1.1
JTS	Las Juntas de	12.64	113	Pn		Pn	10 21 50.5	+4.2
JTS	Las Juntas de	12.64	113	Pn		Pn	10 21 43.5	-2.8
	0.2nm,0.3s,baz=179,slow=13,SNR=1.2 6.4nm,1.0s							
LCR2	La Lucha 2	13.72	114	Pn		Pn	10 22 05.0	+3.8
HPIG		14.01	325			Pn	10 22 06.3	+1.1
JCT	Junction City	15.09	350			Pn	10 22 19.4	-0.3
TXAR	Lajitas Array	15.10	336	Pn		Pn	10 22 22.3	+2.5
TXAR	Lajitas Array	15.10	336	Pn		Pn	10 22 20.9	+1.1
TXAR	0.6nm,0.3s,baz=163,slow=14,SNR=20			Sn		Sn	10 25 11.0	+3.2
TXAR	0.1nm,0.3s,baz=159,slow=27,SNR=1.7			Lg		Lg	10 26 46.1	
TX31	baz=155,slow=33,SNR=2.2 Lajitas Ar. Si	15.10	336	Pn		Pn	10 22 22.2	+2.4
SAND	Sanderson	15.13	342	Pn		Pn	10 22 20.2	-0.1
435B	Jarrell	15.15	357	Pn		Pn	10 22 18.2	-2.2
LPIG	La Paz	15.30	306	LR		LR	10 28 10.1	
BRDY	comp=Z,114nm,21.1s,baz=178,slow=37 Brady	15.76	353	Pn		Pn	10 22 29.1	+0.6
OZNA	Ozona	15.78	346			P	10 22 33.7	+0.9
SGCY	Sterling City	16.74	347	P		Pn	10 22 42.1	+1.0
VHRN	Van Horn	16.91	335			P	10 22 46.3	+0.9
PECS	Pecos	17.01	339	P		P	10 22 46.8	+0.3
ABTX	Abilene, Hawle	17.17	352			Pn	10 22 47.6	+1.2
PLPT	Palo Pinto	17.21	356	P		P	10 22 48.6	0.0
ODSA	Odessa	17.29	343			P	10 22 49.7	+0.2
ODSA	comp=Z,26nm,0.8s			IAmb		IAmb	10 22 51.6	
SN05	Snyder 5	17.62	348			Pn	10 22 52.7	+0.6
MNTX	Cornudas Mount	17.87	335			Pn	10 22 55.0	-0.1
APMT	Aspermont	17.92	351			Pn	10 22 54.2	-1.6
POST	Post	17.93	347	P		Pn	10 22 56.1	+0.2
Z41A	Richland Creek	17.95	11	P		Pn	10 22 55.5	-0.6
Z41A	comp=Z,15nm,0.6s			IAmb		IAmb	10 23 02.1	
HSIG		18.72	318			Pn	10 23 07.6	+2.0
MIAR	Mount Ida	19.09	8			P	10 23 08.2	-1.1
MIAR	comp=Z,15nm,0.7s			IAmb		IAmb	10 23 10.7	
MSTX	Muleshoe	19.10	345	IAmb		IAmb	10 23 11.0	
UALR	comp=Z,22nm,0.9s University of	19.52	11			P	10 23 13.6	-0.3
UALR	comp=Z,13nm,0.9s			IAmb		IAmb	10 23 20.1	
SMWD	Samnorwood	19.69	351			P	10 23 16.2	+0.3
SMWD	comp=Z,16nm,0.6s			IAmb		IAmb	10 23 22.3	
AMTX	Amarillo	19.72	348	IAmb		IAmb	10 23 18.4	
TUL3	comp=Z,10nm,0.7s Leonard	20.26	2			P	10 23 22.1	0.0
TUL3	comp=Z,15nm,1.0s			IAmb		IAmb	10 23 51.9	
OK052	Battle Ridge R	20.32	360	IAmb		IAmb	10 23 24.0	
OK048	comp=Z,9.7nm,0.7s Pawnee Station	20.75	360			P	10 23 28.7	+1.3
OK048	comp=Z,22nm,1.0s			IAmb		IAmb	10 23 34.2	
PLAL	Pickwick Lake	20.83	20	P		P	10 23 26.9	-1.3
OK051	E0350 and S346	20.84	360	IAmb		IAmb	10 23 45.3	
U38

HMU	**Henry Mountain**	**25.47**	**334**	IAmb	IAmb	10 24 19.4
	comp=Z,14nm,1.2s					
KNB	**Kanab**	**25.68**	**329**	IAmb	IAmb	10 24 27.7
	comp=Z,9.4nm,1.2s					
V12A	**Nelson**	**25.77**	**324**	IAmb	IAmb	10 24 22.0
	comp=Z,7.5nm,1.1s					
O20A	**White River Ci**	**26.43**	**340**	IAmb	IAmb	10 24 51.9
	comp=Z,8.1nm,0.9s					
K22A	**Casper**	**28.25**	**345**	IAmb	IAmb	10 24 44.8
	comp=Z,9.6nm,1.2s					
TCUT	**Toone Canyon**	**28.44**	**336**	IAmb	IAmb	10 24 44.2
	comp=Z,8.2nm,0.9s					
ATAH	**Atahualpa**	**28.99**	**140**	LR	LR	10 34 34.2
	comp=Z,84nm,18.2s,baz=356,slow=33					
PD31	**Pinedale Array**	**29.23**	**340**	P	**P**	**10 24 49.0 +0.1**
PDAR	**Pinedale Array**	**29.23**	**340**	P	**P**	**10 24 49.2 +0.4**
	comp=Z,1.3nm,0.7s,baz=136,slow=10,SNR=16					
	comp=Z,1.3nm,0.7s					
HVU	**Hansel Valley**	**29.54**	**335**	IAmb	IAmb	10 24 53.6
	comp=Z,5.1nm,1.0s					
NV11	**Mina Array Sit**	**29.55**	**324**	IAmb	IAmb	10 24 54.6
	comp=Z,4.7nm,1.1s					
NVAR	**Mina Array Bea**	**29.63**	**324**		**P**	**10 24 53.9 +1.4**
NVAR	**Mina Array Bea**	**29.63**	**324**	P	**P**	**10 24 54.6 +2.1**
	comp=Z,1.1nm,0.6s,baz=148,slow=10,SNR=13					
	comp=Z,1.1nm,0.6s					
TPAW	**Teton Pass**	**30.34**	**339**	IAmb	IAmb	10 25 04.1
	comp=Z,6.2nm,1.1s					
YNE	**Yellowstone No**	**31.39**	**342**	IAmb	IAmb	10 25 09.2
	comp=Z,4.8nm,1.1s					
YHL	**Hebgen Lake**	**31.62**	**340**	IAmb	IAmb	10 25 13.4
	comp=Z,4.8nm,0.8s					
HLID	**Hailey**	**31.70**	**335**		**P**	**10 25 11.3 +0.8**
HLID				IAmb	IAmb	10 25 11.9
	comp=Z,3.6nm,1.0s					
BOZ	**Bozeman (W)**	**32.43**	**340**	IAmb	IAmb	10 25 19.7
	comp=Z,4.8nm,1.1s					
SADO	**Sadowa**	**32.68**	**24**	LR	LR	10 40 45.8
	comp=Z,68nm,18.1s,baz=274,slow=40					
MSO	**Missoula**	**34.28**	**339**	IAmb	IAmb	10 25 34.4
	comp=Z,3.3nm,0.7s					
H04A	**Detroit Lake**	**36.11**	**329**	IAmb	IAmb	10 25 50.0
	comp=Z,6.9nm,1.0s					
NEW	**Newport**	**36.65**	**337**	LR	LR	10 41 48.0
	comp=Z,72nm,18.2s,baz=175,slow=38					
LTY	**Liberty**	**37.30**	**333**	IAmb	IAmb	10 26 00.4
	comp=Z,7.2nm,1.3s					
LON	**Longmire**	**37.43**	**331**	IAmb	IAmb	10 26 02.6
	comp=Z,3.9nm,0.8s					
LPAZ	**La Paz**	**42.44**	**137**	P	**P**	**10 26 42.0 -0.5**
	comp=Z,1.3nm,0.7s,baz=333,slow=18,SNR=6.4					
LPAZ				LR	LR	10 41 26.9
	comp=Z,37nm,18.8s,baz=304,slow=32					
	comp=Z,1.3nm,0.7s					
MDP	**Montagnes des**	**44.53**	**99**	LR	LR	10 48 02.3
	comp=Z,64nm,18.3s,baz=313,slow=40					
MMPY	**Sheldon Lake,**	**52.85**	**341**	P	**P**	**10 28 02.5 +0.2**
MMPY				IAmb	IAmb	10 28 47.5
	comp=Z,4.4nm,1.4s					
M29M	**Somme Creek**	**55.19**	**338**	IAmb	IAmb	10 28 21.5
	comp=Z,3.4nm,0.9s					
L29M	**L29M**	**55.49**	**339**	P	**P**	**10 28 21.8 +0.3**
CPUP	**Villa Florida**	**56.61**	**137**	P	**P**	**10 28 28.4 -1.5**
	comp=Z,0.6nm,0.8s,baz=27,slow=5.4,SNR=3.2					
	comp=Z,0.6nm,0.8s					
L27K	**Beaver Creek,**	**56.80**	**337**	IAmb	IAmb	10 28 32.5
	comp=Z,2.7nm,0.8s					
BDFB	**Brasilia**	**57.26**	**121**	P	**P**	**10 28 33.6 -1.3**
	comp=Z,2.3nm,0.6s,baz=319,slow=2.7,SNR=3.2					
	comp=Z,2.3nm,0.6s					
SCRK	**Sand Creek**	**58.11**	**338**	P	**P**	**10 28 41.5 +1.3**
SCRK				IAmb	IAmb	10 28 42.4
	comp=Z,2.4nm,0.8s					
PRP	**Porcupine Dome**	**59.51**	**339**	IAmb	IAmb	10 28 51.1
	comp=Z,4.1nm,1.0s					
ILAR	**Eielson Array**	**59.60**	**338**		**P**	**10 28 50.8 +0.4**
ILAR	**Eielson Array**	**59.60**	**338**	P	**P**	**10 28 50.4 0.0**
	comp=Z,2.2nm,0.9s,baz=132,slow=4.7,SNR=24					
	comp=Z,2.2nm,0.9s					
BMAR	**Burnt Mountain**	**60.26**	**341**		**P**	**10 28 55.7 +0.7**
H24K	**Noodor Dome**	**60.51**	**338**		**P**	**10 28 57.1 +0.4**
H24K				IAmb	IAmb	10 28 57.7
	comp=Z,3.6nm,0.9s					
G24K	**Hadweenzic Riv**	**60.81**	**339**	IAmb	IAmb	10 28 59.9
	comp=Z,3.2nm,1.0s					
J20K	**Nowinta River**	**62.13**	**335**		**P**	**10 29 07.5 -0.2**
J20K				IAmb	IAmb	10 29 08.0
	comp=Z,3.5nm,1.1s					
J19K	**Poorman**	**62.66**	**335**		**P**	**10 29 10.8 -0.3**
ESDC	**Sonseca Array**	**82.32**	**51**	P	**P**	**10 31 08.5 -0.5**
	comp=Z,1.1nm,0.8s,baz=289,slow=4.2,SNR=6.5					
	comp=Z,1.1nm,0.8s					
SEY	**Seynchan**	**85.39**	**335**	P	**P**	**10 31 24.6 +0.5**
	comp=Z,1.1nm,0.7s,baz=80,slow=9.2,SNR=3.7					
	comp=Z,1.1nm,0.7s					
WRA	**Warramunga Arr**	**131.30**	**257**	PKP	**PKPdf**	**10 37 59.9 -0.2**
	comp=Z,1.2nm,0.9s,baz=90,slow=2.2,SNR=10.0					
ASAR	**Alice Springs**	**131.82**	**252**	PKP	**PKPdf**	**10 38 00.5 -0.5**
	comp=Z,0.4nm,0.7s,baz=90,slow=2.8,SNR=6.6					

*SDD **08** 10:22:41.1±2.5, 19°.71N×71°.64W, h12km±19km, MD3.0, ML2.3, MW3.0*
*OSPL **08** 10:22:41.5±2.5, 19°.68N×71°.56W, h5km±10km, ML2.0*
ISC 08 10:22:39.9±0.9, 19°.70N±0°.03×71°.58W±0°.04, h14km±8km, n19, σ1s01/31, 17C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LODA1	**ITESIL, Dajabo**	**0.20**	**219**	↑*e*P	**Pg**	**10 22 44.0**	**-0.4**
LODA1				↑*e*S	**Sg**	**10 22 48.1**	**+0.7**
LODA1				IAML		10 22 59.6	
	comp=N,1μm,1.5s						
LODA1	**ITESIL, Dajabo**	**0.20**	**219**	*i* P	**Pg**	**10 22 44.7**	**+0.2**
LODA1				*e*S	**Sg**	**10 22 48.1**	**+0.7**
LODA1				IAML		10 22 49.0	
	comp=Z,728nm,0.6s						
MCDR	**Montecristi**	**0.21**	**338**	↑*e*Pg	**Pg**	**10 22 44.6**	**-0.1**
MCDR				↑*e*Sg	**Sg**	**10 22 47.9**	**+0.1**
MCDR				IAML		10 22 50.9	
	comp=N,2μm,0.1s						
LOPP1	**Punta Rusia, P**	**0.39**	**66**	*i* P	**Pg**	**10 22 47.5**	**-0.3**
LOPP1				*e*S	**Sb**	**10 22 54.5**	**+0.2**
LOPP1				IAML		10 22 56.3	
	comp=Z,88nm,0.6s						
REDR	**Restauracion**	**0.56**	**162**	↑*e*Pg	**Pg**	**10 22 48.5**	**-2.4**
REDR				↑*e*Sg	**Sg**	**10 22 55.2**	**-3.1**
REDR				IAML		10 22 55.5	
	comp=N,314nm,0.1s						
LUDR	**Luperon**	**0.62**	**72**	↑*e*Pg	**Pb**	**10 22 52.6**	**+0.1**
LUDR				↑*e*Sg	**Sn**	**10 23 04.9**	**+0.9**
SDDR	**Presa de Saban**	**0.76**	**159**	↑*e*Pg	**Pb**	**10 22 55.3**	**+0.2**
SDDR				↑*e*Sg	**Sb**	**10 23 06.2**	**+0.9**
SDDR				IAML		10 23 08.7	
	comp=N,47nm,0.5s						
SDDR	**Presa de Saban**	**0.76**	**159**	*i* P	**Pg**	**10 22 54.4**	**-0.4**
SDDR				*e*S	**Sg**	**10 23 04.4**	**-0.4**
SDDR				IAML		10 23 07.8	
	comp=Z,53nm,0.3s						
SC01	**Santiago de lo**	**0.84**	**109**	↑*e*Sg	**Sg**	**10 23 08.2**	**+0.8**
SC01				IAML		10 23 16.5	
	comp=N,48nm,1.0s						
SC01	**Santiago de lo**	**0.84**	**109**	*i* P	**Pb**	**10 22 55.8**	**-0.6**
LONE3	**El Aguacate, B**	**1.09**	**174**	*i* P	**Pb**	**10 23 00.4**	**-0.3**
LONE3				IAML		10 23 16.2	
	comp=Z,29nm,0.4s						
NEDR	**Neiba UASD**	**1.22**	**173**	↑*e*Sg	**Sg**	**10 23 20.0**	**+0.6**
NEDR				IAML		10 23 21.1	
	comp=N,31nm,0.6s						
JIDR	**Jimani**	**1.23**	**192**	↑*e*Pg	**Pn**	**10 23 02.5**	**-0.2**
JIDR				*e*Sg	**Sg**	**10 23 20.8**	**+1.1**
JIDR				IAML		10 23 21.1	
	comp=N,46nm,0.5s						
ABDR	**Alto Bandera**	**1.26**	**134**	↑*e*Pg	**Pg**	**10 23 05.9**	**+1.6**
ABDR				↑*e*Sg	**Sg**	**10 23 21.0**	**+0.4**
LODU1	**El Espartillar**	**1.34**	**176**	*i* P	**Pb**	**10 23 05.0**	**+0.1**
LODU1				IAML		10 23 28.6	
	comp=Z,38nm,1.3s						
PAPH	**Port-au-Prince**	**1.36**	**210**	*i* P	**Pb**	**10 23 05.1**	**0.0**
PODR	**Polo**	**1.55**	**170**	↑*e*Pg	**Pb**	**10 23 08.7**	**+0.1**
PODR				↑*e*Sg	**Sg**	**10 23 30.9**	**+0.9**
PODR				IAML		10 23 47.9	
	comp=N,28nm,3.1s						
PODR	**Polo**	**1.55**	**170**	*i* P	**Pb**	**10 23 08.3**	**-0.3**
PODR				*e*S	**Sg**	**10 23 30.3**	**+0.4**
GRTK	**Grand Turk**	**1.85**	**13**	*e*S	**Sb**	**10 23 35.1**	**-1.5**
GRTK				IAML		10 23 40.4	
	comp=Z,59nm,1.1s						

NNC 08 10:39:51.2±0.7, 50°.91N×73°.66E, h0km, mb3.5, mpv3.2, 7C-3D, Error ellipse: s-maj=12.5km s-min=4.7km az=27.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BVA0	**Borovoye Array**	**2.93**	**318**	Pn	Pn	10 40 39.2	+0.2
	5.4nm,0.8s,baz=0.0,slow=0.1,SNR=10.0						
BVA0				⇓Lg	Lg	10 41 22.6	
	43nm,0.7s						
KURBB	**Kurchatov Arra**	**3.10**	**93**	⇓Pn	Pn	10 40 41.7	+0.3
	9.4nm,0.6s						
KURBB				⇑Lg	Lg	10 41 28.1	
	146nm,0.8s						
KURK	**Kurchatov**	**3.15**	**92**	⇑Pn	Pn	10 40 42.5	+0.4
	6.7nm,0.8s						
KURK				⇑Lg	Lg	10 41 31.1	
	60nm,0.8s						
MAKZ	**Makanchi**	**6.85**	**124**	⇑Lg	Lg	10 43 26.0	
	19nm,0.8s						
MK31	**Makanchi Array**	**7.03**	**123**	Lg	Lg	10 43 32.6	
	10nm,0.8s,baz=314,slow=25,SNR=13						
KK31	**Karatay Array**	**8.10**	**197**	⇓Lg	Lg	10 44 08.8	
	9.3nm,0.6s,baz=7.5,slow=26,SNR=5.8						
TKM2	**Tokmak 2**	**8.10**	**170**	⇑Lg	Lg	10 44 07.9	
	30nm,0.9s						
AAK	**Ala-Archa**	**8.29**	**176**	⇑Lg	Lg	10 44 12.3	
	21nm,1.0s						
PDGK	**Podgornoye**	**8.56**	**150**	⇑Lg	Lg	10 44 22.7	
	20nm,1.1s						

IDC 08 10:57:54.4±1.1, 0°.69N×126°.59E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=120.8km s-min=19.6km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.87**	**160**	P	P	11 02 48.0	-1.0
	2.2nm,0.7s,baz=338,slow=12,SNR=19						
	2.2nm,0.7s						
ASAR	**Alice Springs**	**25.23**	**164**	P	P	11 03 22.9	+0.7
	2.2nm,0.8s,baz=344,slow=9.9,SNR=20						
	2.2nm,0.8s						
MKAR	**Makanchi Array**	**59.97**	**326**	P	P	11 08 02.7	0.0
	0.4nm,0.5s,baz=122,slow=8.3,SNR=5.1						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**64.22**	**328**	P	P	11 08 31.1	0.0
	0.5nm,0.6s,baz=128,slow=5.5,SNR=6.0						
	0.5nm,0.6s						
NRIK	**Noril'sk**	**73.33**	**347**	P	P	11 09 27.5	-0.1
	14nm,0.3s,baz=66,slow=15,SNR=24						

*IDC **08** 10:59:54.9±1.2, 0°.54N×126°.14E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=126.5km s-min=20.4km az=68.0*
*NEIC **08** 11:00:01.2±1.2, 0°.42N±0°.10×126°.30E±0°.05, h35km±2km, mb4.1/11, Error ellipse: s-maj=16.5km s-min=7.6km az=9.0*
ISC 08 11:00:01.3±0.8, 0°.4N±0°.1×126°.32E±0°.09, h47km, n18, σ1s21/18, mb3.9/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.10**	**72**		**Pn**	**11 00 19.7**	**-0.7**
LUWI	**Luwuk**	**3.83**	**248**	Pn	**Pn**	**11 00 56.9**	**-1.0**
KNRA	**Kununurra**	**16.18**	**172**	Pn	**Pn**	**11 03 44.9**	**-0.8**
KNRA				IAmb	IAmb	11 04 02.5	
	comp=Z,8.7nm,1.1s						
WB0	**Warramunga Arr**	**21.58**	**159**	P	**P**	**11 04 47.0**	**-0.1**
WB0				IAmb	IAmb	11 05 08.0	
	comp=Z,6.8nm,1.2s						
WRAB	**Tennant Creek**	**21.71**	**159**	P	**P**	**11 04 48.4**	**-0.2**
WRAB				IAmb	IAmb	11 05 24.5	
	comp=Z,8.5nm,1.5s						
WRA	**Warramunga Arr**	**21.72**	**159**	P	**P**	**11 04 49.2**	**+0.5**
WRA	**Warramunga Arr**	**21.72**	**159**	P	**P**	**11 04 48.7**	**0.0**
	comp=Z,1.7nm,0.5s,baz=337,slow=11,SNR=21						
	comp=Z,1.7nm,0.5s						
WR8	**Warramunga Arr**	**21.79**	**159**	P	**P**	**11 04 49.0**	**-0.4**
WR8				IAmb	IAmb	11 04 57.2	
	comp=Z,5.4nm,1.1s						
AS31	**Alice Springs**	**25.06**	**163**	P	**P**	**11 05 22.7**	**+1.2**
ASAR	**Alice Springs**	**25.06**	**163**	P	**P**	**11 05 22.8**	**+1.3**
ASAR	**Alice Springs**	**25.06**	**163**	P	**P**	**11 05 23.2**	**+1.7**
	comp=Z,1.1nm,0.7s,baz=346,slow=8.5,SNR=16						
	comp=Z,1.1nm,0.7s						
FORT	**Forrest**	**31.08**	**177**	P	**P**	**11 06 15.4**	**+0.2**
FORT				IAmb	IAmb	11 06 31.3	
	comp=Z,4.4nm,1.1s						
MKAR	**Makanchi Array**	**60.04**	**327**	P	**P**	**11 10 02.4**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=120,slow=8.7,SNR=4.1						
	comp=Z,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**64.30**	**328**	P	**P**	**11 10 30.8**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=131,slow=6.5,SNR=4.8						
	comp=Z,0.5nm,0.6s						
SIMJ	**Simiganj**	**64.69**	**313**	P	**P**	**11 10 38.0**	**+3.1**
KK31	**Karatay Array**	**65.38**	**318**	P	**P**	**11 10 39.8**	**+0.7**
KK31				IAmb	IAmb	11 10 40.4	
	comp=Z,2.2nm,0.6s						
KKAR	**Karatay Array**	**65.38**	**318**	P	**P**	**11 10 39.9**	**+0.8**
KKAR				IAmb	IAmb	11 10 40.4	
	comp=Z,2.3nm,0.6s						
NRIK	**Noril'sk**	**73.52**	**347**	P	**P**	**11 11 28.4**	**-0.5**
	comp=Z,3.2nm,0.6s,baz=80,slow=3.9,SNR=3.8						
	comp=Z,3.2nm,0.6s						

*HLW **08** 11:03:32.2, 30°.12N×37°.31E, h10km±13km, Md3.0, MI3.0*
*GII **08** 11:03:42.4±0.0, 29°.666N±0°.002×36°.217E±0°.001, h0km, Md1.0/4, confirmed*
ISC 08 11:03:44.3±2.1, 29°.77N±0°.06×36°.2E±0°.1, h0km, n29, σ0s62/29, 1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HRFI	**Mount Harif**	**1.03**	**285**	S	**Sb**	**11 04 20.0**	**+0.7**
HRFI	**Mount Harif**	**1.03**	**285**	P	**Pg**	**11 04 04.1**	**-0.1**
EIL	**Elat**	**1.08**	**265**	S	**Sb**	**11 04 20.4**	**-0.1**
EIL	**Elat**	**1.08**	**265**	P	**Pg**	**11 04 04.3**	**-0.8**
MBRI	**Mt Berech**	**1.11**	**272**	S	**Sb**	**11 04 21.8**	**+0.3**
MBRI	**Mt Berech**	**1.11**	**272**	P	**Pg**	**11 04 05.0**	**-0.6**
ZFRI	**Zfri**	**1.18**	**312**	S	**Sn**	**11 04 25.1**	**+0.4**
ZFRI	**Zfri**	**1.18**	**312**	P	**Pg**	**11 04 06.2**	**-0.6**
PRNI	**Paran**	**1.18**	**300**	S	**Sn**	**11 04 25.0**	**0.0**
PRNI	**Paran**	**1.18**	**300**	P	**Pg**	**11 04 06.7**	**-0.3**
KRMI	**Paran Flat**	**1.32**	**286**	S	**Sn**	**11 04 28.3**	**-0.1**
KRMI	**Paran Flat**	**1.32**	**286**	P	**Pg**	**11 04 08.6**	**-1.0**
HBST	**Basata**	**1.38**	**247**	⇑P	**Pb**	**11 04 11.5**	**+0.5**
GHAJ	**Ghor Haditha**	**1.62**	**341**	S	**Sg**	**11 04 36.7**	**+0.2**
GHAJ	**Ghor Haditha**	**1.62**	**341**	P	**Pn**	**11 04 13.0**	**-1.1**
MSBI	**Mazada**	**1.70**	**335**	S	**Sb**	**11 04 38.7**	**+0.3**
MSBI	**Mazada**	**1.70**	**335**	P	**Pn**	**11 04 14.7**	**-0.5**
HDHB	**Dhahab**	**1.72**	**233**	P	**Pn**	**11 04 15.6**	**+0.1**
YTIR	**Yattir**	**1.84**	**330**	S	**Sb**	**11 04 42.6**	**+0.1**
YTIR	**Yattir**	**1.84**	**330**	P	**Pn**	**11 04 16.9**	**-0.4**
KZIT	**Kziot**	**1.92**	**307**	S	**Sn**	**11 04 43.7**	**+0.5**
KZIT	**Kziot**	**1.92**	**307**	P	**Pn**	**11 04 17.7**	**-0.6**
DSI	**Dead Sea**	**1.93**	**339**	S	**Sb**	**11 04 44.7**	**-0.3**
DSI	**Dead Sea**	**1.93**	**339**	P	**Pn**	**11 04 18.3**	**-0.1**
AMAZ	**Amatzia**	**2.07**	**328**	S	**Sn**	**11 04 48.2**	**+1.2**
AMAZ	**Amatzia**	**2.07**	**328**	P	**Pn**	**11 04 20.0**	**-0.4**
HKAT	**Jabal Katrina**	**2.29**	**238**	⇓P	**Pn**	**11 04 23.2**	**-0.3**
HMDT	**Nahal Hemdat**	**2.54**	**347**	S	**Sn**	**11 04 60.0**	**+1.4**
HMDT	**Nahal Hemdat**	**2.54**	**347**	P	**Pn**	**11 04 26.4**	**-0.5**

IDC 08 11:07:47.8±1.7, 1°.09N×127°.56E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=146.9km s-min=20.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.93**	**163**	P	P	11 12 43.0	-0.1
	2.4nm,0.7s,baz=343,slow=10,SNR=9.1						
	2.4nm,0.7s						
ASAR	**Alice Springs**	**25.36**	**166**	P	P	11 13 17.0	+0.1
	2.4nm,0.8s,baz=345,slow=9.5,SNR=26						
	2.4nm,0.8s						
MKAR	**Makanchi Array**	**60.19**	**326**	P	P	11 17 57.3	-0.4
	0.8nm,0.5s,baz=125,slow=8.0,SNR=9.6						
	0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**64.40**	**328**	P	P	11 18 26.0	+0.3
	1.0nm,0.6s,baz=123,slow=7.3,SNR=9.0						
	1.0nm,0.6s						

*ASIES **08** 11:16:21.2, 24°.85N×122°.17E, h13km, ML3.6, Mw3.0, Moment Tensor Solution. Moment tensor: Scale 10^13 Nm; Mrr-3.39; Mθθ3.48; Mϕϕ-0.09; Mrθ-1.70; Mθϕ0.72; Mϕr-2.49; Fault plane solution: M0 4.62787×10^13 NP1: ϕs279.04000°, δ32.81000°, λ-49.82000°. NP2: ϕs53.91000°, δ65.54000°, λ-112.58000°. Principal axes: T Plg17.5520°, Azm160.4530°; N Plg20.4630°, Azm63.6750°; P Plg62.5030°, Azm287.8750°;*
*JMA **08** 11:16:21.6±0.2, 24°.8N±0°.9×122°.2E±0°.4, h52km±4km, MV3.0/12, TAIWAN REGION*
*TAP **08** 11:16:21.2, 24°.85N×122°.17E, h13km, ML3.6, C*
ISC 08 11:16:19.8±1.2, 24°.82N±0°.02×122°.29E±0°.03, h4km±10km, n95, σ0s60/153, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.33**	**274**	P	**Pg**	**11 16 26.5**	**+0.3**
EGS				*e*S	**Sg**	**11 16 30.8**	**+0.3**
TWB1	**Santiao Chiao**	**0.33**	**304**	*i* P	**Pg**	**11 16 26.4**	**+0.1**
TWB1				*i* S	**Sg**	**11 16 29.8**	**-0.9**
EOS2	**EOS2**	**0.40**	**188**	P	**Pb**	**11 16 30.3**	**+0.9**
EOS2				*e*S	**Sb**	**11 16 37.9**	**+2.0**
TIPB	**Shuangxi**	**0.45**	**290**	P	**Pg**	**11 16 28.7**	**+0.2**
TIPB				*e*S	**Sg**	**11 16 33.6**	**-0.7**
TWC	**Suao**	**0.45**	**243**	*i* P	**Pg**	**11 16 28.8**	**+0.2**
TWC				*e*S	**Sg**	**11 16 33.4**	**-1.1**
SXI1	**Grass Mountain**	**0.47**	**306**	*i* P	**Pg**	**11 16 29.3**	**+0.5**
SXI1				S	**Sg**	**11 16 34.5**	**-0.4**
ESAO	**Su ao**	**0.47**	**239**	*e*P	**Pg**	**11 16 29.4**	**+0.4**
ESAO				*e*S	**Sg**	**11 16 34.3**	**-0.8**
NWF	**Wu-fen Shan**	**0.53**	**298**	*e*P	**Pg**	**11 16 30.3**	**+0.4**
NWF				*e*S	**Sg**	**11 16 36.5**	**-0.3**
WFSB	**Wu-fen Shan**	**0.53**	**298**	*e*P	**Pb**	**11 16 30.9**	**-0.7**
WFSB				*e*S	**Sg**	**11 16 36.5**	**-0.3**
EOS3	**EOS3**	**0.53**	**177**	P	**Pn**	**11 16 33.0**	**-1.0**
EOS3				*e*S	**Sn**	**11 16 42.0**	**-1.3**
NDS	**Dongshan**	**0.56**	**251**	*e*P	**Pg**	**11 16 29.7**	**-0.8**
TNOU	**National Taiwa**	**0.57**	**305**	*e*P	**Pg**	**11 16 31.2**	**+0.3**
TNOU				*e*S	**Sg**	**11 16 38.7**	**+0.3**
TWE	**Neicheng**	**0.58**	**260**	*i* P	**Pg**	**11 16 30.9**	**0.0**
EWUT	**Wuta**	**0.60**	**232**	*e*P	**Pg**	**11 16 32.0**	**+0.7**
EWUT				*e*S	**Sg**	**11 16 39.2**	**+0.1**
ENA	**Nanau**	**0.64**	**232**	*e*P	**Pg**	**11 16 32.4**	**+0.3**
ENA				*e*S	**Sg**	**11 16 40.0**	**-0.3**
FUSB	**Fushanzhiwuyua**	**0.64**	**265**	*e*P	**Pg**	**11 16 32.3**	**+0.1**
FUSB				*e*S	**Sg**	**11 16 41.5**	**+1.0**
TWA	**Mucha**	**0.66**	**284**	*e*P	**Pb**	**11 16 34.1**	**+0.2**
TWA				*e*S	**Sb**	**11 16 42.6**	**-0.9**
ENTT	**Nioudou**	**0.68**	**255**	*e*P	**Pg**	**11 16 33.1**	**+0.2**
EOS4	**EOS4**	**0.70**	**178**	*e*P	**Pn**	**11 16 35.9**	**-0.2**
JYNG	**Yonagunijimaku**	**0.70**	**122**	P	**Pn**	**11 16 36.1**	**-0.4**
JYNG				S	**Sn**	**11 16 47.0**	**-0.6**
EAHA	**Aohua**	**0.70**	**226**	*e*P	**Pb**	**11 16 34.2**	**-0.3**
EAHA				S	**Sg**	**11 16 42.8**	**+0.4**
NHDH	**Xindian Distri**	**0.71**	**282**	P	**Pb**	**11 16 35.3**	**+0.6**
NHDH				*e*S	**Sb**	**11 16 44.4**	**-0.4**
NWLT	**Wulai**	**0.72**	**267**	*e*P	**Pg**	**11 16 34.0**	**+0.3**
YM01	**YM01**	**0.73**	**297**	*e*P	**Pb**	**11 16 34.7**	**-0.4**
YM08	**YM08**	**0.73**	**300**	*e*P	**Pg**	**11 16 34.4**	**+0.4**
YOJ	**Yonaguni jima**	**0.74**	**118**	P	**Pn**	**11 16 36.9**	**-0.2**
YOJ				S	**Sn**	**11 16 48.0**	**-0.7**
YOJ	**Yonaguni jima**	**0.74**	**118**	P	**Pn**	**11 16 37.2**	**+0.2**
YOJ				S	**Sn**	**11 16 48.5**	**-0.3**
LATG	**Datong**	**0.75**	**248**	P	**Pg**	**11 16 34.7**	**+0.5**
LATG				S	**Sg**	**11 16 44.0**	**-0.1**
ZUZH	**Zhuzihu**	**0.76**	**297**	P	**Pg**	**11 16 34.9**	**+0.5**
TWY	**Chenhua**	**0.78**	**306**	P	**Pg**	**11 16 35.4**	**+0.7**
TWY				*e*S	**Sg**	**11 16 45.8**	**+1.0**
ANP	**Anpu**	**0.79**	**298**	*e*P	**Pg**	**11 16 35.4**	**+0.4**
PCYT	**Pengchaiyu**	**0.83**	**346**	P	**Pg**	**11 16 36.4**	**+0.6**
PCYT				S	**Sb**	**11 16 48.6**	**+0.3**
NTST	**Danshui**	**0.84**	**294**	*e*P	**Pb**	**11 16 37.1**	**+0.2**
NTST				*e*S	**Sb**	**11 16 47.8**	**-0.7**
TWS1	**Kuangyinshan**	**0.84**	**290**	*e*P	**Pb**	**11 16 36.9**	**-0.1**
YHNB	**Yeheng**	**0.85**	**260**	*e*P	**Pg**	**11 16 35.7**	**-0.4**
YHNB				*e*S	**Sg**	**11 16 47.6**	**+0.5**
NSK	**Sanguang**	**0.86**	**261**	*e*P	**Pg**	**11 16 36.0**	**-0.3**
ETL	**Fush Village**	**0.90**	**223**	*e*P	**Pg**	**11 16 37.3**	**+0.3**
ETL				*

CHN4				eS	Sg	11 17 28.5	+0.1	
TPUB	**Ta-pu**	**2.14**	**225**	eP	Pb	11 16 59.0	-0.2	
TPUB				eS	Sg	11 17 27.8	-1.0	
STYH	**Taoyuan**	**2.15**	**220**	eP	Pb	11 16 58.4	-0.9	
STYH				eS	Sb	11 17 26.4	+0.1	
WTP	**Ta-pu**	**2.19**	**225**	eP	Pb	11 16 60.0	-0.1	
WTP				eS	Sb	11 17 28.7	+1.1	
TWK	**Hsinying**	**2.26**	**227**	eP	Pb	11 17 00.8	-0.4	
TWK				eS	Sb	11 17 29.9	+0.4	
WSL	**Shuilin Townsh**	**2.29**	**236**	eP	Pb	11 17 00.0	-1.6	
WSL				eS	Sb	11 17 30.1	-0.1	
SNST	**Tainan City**	**2.29**	**226**	eP	Pb	11 17 00.9	-0.7	
SNST				eS	Sb	11 17 30.9	+0.6	
CHN1	**Nanshi**	**2.29**	**225**	eP	Pb	11 17 01.2	-0.6	
CHN1				eS	Sb	11 17 31.9	+1.5	
SSD	**Sandimen**	**2.56**	**217**	eP	Pb	11 17 05.7	-0.6	
TSMG	**Majia**	**2.59**	**216**	eP	Pb	11 17 05.3	-1.5	
MASBT	**Mashibuluo**	**2.67**	**215**	eP	Pb	11 17 06.0	-2.2	

NEIC ***08*** *11:23:22.2±0.6, 35°.90N±0°.01×117°.704W±0°.009, h6km±5km, Error ellipse: s-maj=1.6km s-min=1.1km az=176.0*

PAS 08 11:23:22.7±0.9, 35°.91N±0°.01×117°.71W±0°.01, h5km±4km, ML3.2/20, ML3.0/76(NEIC), Error ellipse: s-maj=1.6km s-min=1.2km az=155.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.10**	**296**		Pg	11 23 24.9	+0.1
TOW	**Tower One**	**0.11**	**205**		Pg	11 23 25.4	+0.5
CLC	**China Lake**	**0.13**	**135**		Pg	11 23 25.3	0.0
CLC					IAML	11 23 27.7	
	comp=E,3μm,0.5s						
WNMM	**Nine Mile Cany**	**0.17**	**248**		Pg	11 23 26.2	+0.2
WNMM					Sg	11 23 29.1	+0.8
WRVM	**Rose V. Centra**	**0.18**	**304**		Pg	11 23 26.2	0.0
MPMC	**Manual Prospec**	**0.23**	**50**		Pg	11 23 27.2	-0.1
LRMC	**Laurel Mtn Rad**	**0.43**	**177**		Pg	11 23 30.7	-0.2
CCCA	**Chr Cany lake**	**0.47**	**144**		Pg	11 23 32.0	+0.2
WORM	**Onyx Ranch**	**0.48**	**244**		Pg	11 23 31.7	-0.3
CWC	**Cottonwood Cre**	**0.61**	**331**		Pg	11 23 34.1	-0.3
CGO	**Cerro Gordo**	**0.65**	**353**		Pg	11 23 35.0	-0.1
ISA	**Isabella, Lake**	**0.67**	**249**		Pg	11 23 35.2	-0.3
ISA					IAML	11 23 44.5	
	comp=E,1μm,0.3s						
QSM	**Queen of Sheba**	**0.68**	**85**		Pg	11 23 35.5	-0.3
QSM					IAML	11 23 46.9	
	comp=E,952nm,0.4s						
QSM					IAML	11 23 48.2	
	comp=N,1μm,0.7s						
WASM	**Alta Sierra Ca**	**0.71**	**257**		Pg	11 23 36.0	-0.3
CCAC	**Calif City Air**	**0.79**	**199**		Pg	11 23 37.4	-0.5
CCAC					Sg	11 23 48.3	+0.1
GWY	**Greenwater Val**	**0.89**	**71**		Pg	11 23 39.5	-0.2
GWY					IAML	11 23 57.9	
	comp=N,512nm,0.3s						
SPG2	**Springville 2**	**0.91**	**289**		Pg	11 23 39.2	-0.8
GSC	**Goldstone, Bar**	**0.95**	**129**		Pg	11 23 40.2	-0.7
GSC	**Goldstone, Bar**	**0.95**	**129**	IAML		11 23 56.1	
	comp=E,612nm,0.7s						
GSC					IAML	11 23 56.9	
	comp=N,298nm,0.5s						
TPO	**Tropico Hills**	**1.11**	**203**		Pg	11 23 43.0	-0.9
TPO					IAML	11 24 05.7	
	comp=N,357nm,0.7s						
TPO					IAML	11 24 06.8	
	comp=E,377nm,0.6s						
GRAC	**Grapevine Rang**	**1.12**	**14**		Pg	11 23 43.5	-0.7
GRAC					IAML	11 23 59.8	
	comp=E,426nm,0.4s						
GRAC					IAML	11 24 05.6	
	comp=N,370nm,0.8s						
WCT	**Wildcat Mounta**	**1.24**	**44**		Pg	11 23 45.7	-0.9
WCT					IAML	11 24 03.3	
	comp=E,204nm,0.5s						
VOG	**Valley Oaks Go**	**1.42**	**287**		Pn	11 23 48.7	-0.5
GMN	**Gold Mountain**	**1.44**	**14**		Pn	11 23 49.3	-0.4
DSP	**Deep Springs**	**1.48**	**352**		Pn	11 23 49.5	-0.4
OSI	**Osito Audit: C**	**1.53**	**213**		Pn	11 23 50.3	-0.5
OSI					IAML	11 24 19.0	
	comp=E,128nm,0.9s						
TPNV	**Topopah Spring**	**1.57**	**48**		Pn	11 23 50.9	-0.5
TPNV					IAML	11 24 15.2	
	comp=E,227nm,1.0s						
TPNV					IAML	11 24 18.5	
	comp=E,180nm,0.8s						
BFSC	**Mount Baldy Ra**	**1.67**	**179**		Pn	11 23 52.7	0.0
BFSC					IAML	11 24 17.9	
	comp=N,139nm,0.5s						
BFSC					IAML	11 24 17.0	
	comp=E,159nm,0.3s						
MWC	**Mount Wilson**	**1.70**	**190**		Pn	11 23 52.7	-0.6
MWC					IAML	11 24 18.1	
	comp=N,172nm,0.5s						
MWC					IAML	11 24 18.9	
	comp=E,196nm,0.6s						
CRGC	**Crocker Grade**	**1.77**	**249**		Pn	11 23 54.7	+0.6
MTPC	**Mountain Pass**	**1.80**	**103**		Pn	11 23 52.9	-1.7
MTPC					IAML	11 24 22.2	
	comp=E,146nm,0.7s						
MTPC					IAML	11 24 24.3	
	comp=N,151nm,0.6s						
MZP	**Montezuma Peak**	**1.81**	**8**		Pn	11 23 54.5	-0.3
SHPR	**Sheep Range**	**2.15**	**73**		Pn	11 23 58.5	-0.8
TPC	**Twentynine Pal**	**2.25**	**142**		Pn	11 23 59.3	-1.4
ELS	**Elsinore Mount**	**2.27**	**174**		Pn	11 24 00.3	-0.6
ELS					IAML	11 24 37.1	
	comp=N,56nm,0.7s						
ELS					IAML	11 24 39.6	
	comp=E,62nm,1.2s						
PRN	**Pahroc Range**	**2.61**	**54**		Pn	11 24 05.5	-0.2
PRN					IAML	11 24 55.4	
	comp=E,95nm,0.9s						
PRN					IAML	11 24 55.6	
	comp=N,81nm,0.8s						
W13A	**Hualapai Mount**	**3.22**	**103**	Pn	Pn	11 24 12.8	-1.4
W13A					IAML	11 25 09.5	
	comp=E,22nm,0.7s						
GLA	**Glamis**	**3.71**	**139**		IAML	11 25 29.3	
	comp=E,41nm,0.7s						
GLA					IAML	11 25 30.4	
	comp=N,32nm,1.1s						
KNB	**Kanab**	**4.09**	**73**		Pn	11 24 26.6	+0.5
KNB					IAML	11 25 41.0	
	comp=N,12nm,1.1s						
KNB					IAML	11 25 41.4	
	comp=E,9.9nm,1.4s						
Y14A	**Wickenburg**	**4.33**	**116**		Pn	11 24 27.9	-1.4
Y14A					IAML	11 25 43.1	
	comp=E,14nm,0.7s						
Y14A					IAML	11 25 51.3	
	comp=N,18nm,0.5s						

SJA ***08*** *11:23:58.3±0.8, 32°.95S×72°.45W, h7km±3km, ML4.0, MW3.6*

NEIC ***08*** *11:24:02.5±1.8, 32°.88S±0°.04×72°.12W±0°.08, h26km±4km, mb4.1/3, ML3.8(GUC), Error ellipse: s-maj=9.9km s-min=5.6km az=82.0*

GUC ***08*** *11:24:02.5±0.8, 32°.95S×72°.10W, h28km±3km, ML3.8*

ISC 08 11:24:00.5±1.7, 32.88S±0°.03×72.26W±0°.06, h15km±10km, n59, σ1§73/84, 9C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.53**	**106**		**Pb**	**11 24 11.3**	**-0.3**
VA01					**Sg**	**11 24 18.0**	**-0.2**
VA01	**Torpederas**	**0.53**	**106**	⇓ *eP*	**Pb**	**11 24 11.2**	**-0.3**
VA01				*eS*	**Sb**	**11 24 18.2**	**-0.8**
VA01				IAML		11 24 18.6	
	comp=N,12μm,0.2s						
VA06	**Catapilco**	**0.87**	**69**		**Pb**	**11 24 17.2**	**0.0**
VA05	**Santo Domingo**	**0.95**	**145**		**Pb**	**11 24 17.9**	**-0.7**
VA05	**Santo Domingo**	**0.95**	**145**	*eP*	**Pb**	**11 24 17.9**	**-0.7**
VA05				*eS*	**Sb**	**11 24 30.5**	**-0.4**
VA05				IAML		11 24 34.0	
	comp=E,5μm,0.3s						
MT02	**Curacav**	**1.01**	**112**		**Pb**	**11 24 19.0**	**-0.8**
MT02				Sg	**Sb**	**11 24 30.9**	**-2.0**
MT02	**Curacav**	**1.01**	**112**	⇓ *eP*	**Pb**	**11 24 18.9**	**-0.8**
MT02				*eS*	**Sb**	**11 24 31.6**	**-1.3**
ROCH	**El Roble**	**1.05**	**95**	*eP*	**Pb**	**11 24 20.1**	**-0.5**
ROCH				*eS*	**Sb**	**11 24 33.6**	**-0.7**
ROCH				IAML		11 24 35.2	
	comp=E,5μm,0.6s						
MT01	**Popeta**	**1.29**	**140**		**Pn**	**11 24 23.2**	**-0.8**
MT01					**Sb**	**11 24 39.5**	**-1.5**
MT01	**Popeta**	**1.29**	**140**	⇑ *eP*	**Pn**	**11 24 23.2**	**-0.8**
MT01				*eS*	**Sb**	**11 24 39.7**	**-1.3**
PEL	**Peldehue**	**1.35**	**102**		**Pn**	**11 24 24.9**	**+0.1**
PEL	**Peldehue**	**1.35**	**102**	⇑ *eP*	**Pn**	**11 24 25.0**	**+0.1**
PEL				*eS*	**Sn**	**11 24 42.2**	**-0.3**
PEL				IAML		11 24 45.2	
	comp=E,4μm,0.3s						
PEL	**Peldehue**	**1.35**	**102**	*i* P	**Pg**	**11 24 27.1**	**+0.6**
MT05	**Renca**	**1.37**	**112**	Pn	**Pn**	**11 24 25.1**	**-0.1**
MT05	**Renca**	**1.37**	**112**	⇑ *eP*	**Pn**	**11 24 25.3**	**+0.1**
MT05				*eS*	**Sn**	**11 24 42.3**	**-0.9**
MT05				IAML		11 24 46.9	
	comp=E,4μm,0.2s						
MT05	**Renca**	**1.37**	**112**	*i* P	**Pg**	**11 24 26.5**	**-0.5**
MT05				IAML		11 24 53.5	
	comp=Z,1μm,1.8s						
MT09	**Talagante**	**1.39**	**130**	Pn	**Pn**	**11 24 25.0**	**-0.5**
MT09	**Talagante**	**1.39**	**130**	⇓ *eP*	**Pn**	**11 24 25.1**	**-0.3**
MT09				*eS*	**Sn**	**11 24 42.5**	**-1.1**
MT09				IAML		11 24 45.2	
	comp=N,2μm,0.4s						
VA03	**San Esteban**	**1.44**	**86**	Pn	**Pn**	**11 24 26.1**	**-0.1**
VA03	**San Esteban**	**1.44**	**86**	⇑ *eP*	**Pn**	**11 24 26.2**	**+0.1**
VA03				*eS*	**Sn**	**11 24 44.8**	**-0.1**
VA03				IAML		11 24 48.8	
	comp=E,4μm,0.2s						
VA03	**San Esteban**	**1.44**	**86**	*i* P	**Pg**	**11 24 29.0**	**+0.7**
VA03				*i* S	**Sg**	**11 24 51.7**	**+4.6**
VA03				IAML		11 24 51.8	
	comp=Z,2μm,1.0s						
MT10	**Hacienda Santa**	**1.50**	**106**	⇑ *eP*	**Pb**	**11 24 27.5**	**-0.6**
MT10				*eS*	**Sb**	**11 24 46.6**	**-0.4**
MT14	**Cerro Cal¡n**	**1.53**	**110**	⇑ *eP*	**Pb**	**11 24 28.1**	**-0.6**
MT14				*eS*	**Sb**	**11 24 47.1**	**-0.8**
MT14				IAML		11 24 51.0	
	comp=N,4μm,0.4s						
MT16	**CCHEN**	**1.56**	**111**	Pn	**Pn**	**11 24 27.9**	**+0.2**
MT16	**CCHEN**	**1.56**	**111**	*eP*	**Pb**	**11 24 28.3**	**-0.7**
MT16				*eS*	**Sb**	**11 24 47.7**	**-0.8**
MT16				IAML		11 24 54.4	
	comp=N,2μm,0.3s						
MT03	**Universidad Ad**	**1.59**	**113**	Pn	**Pn**	**11 24 28.7**	**+0.5**
MT03	**Universidad Ad**	**1.59**	**113**	⇑ *eP*	**Pb**	**11 24 28.8**	**-0.8**
MT03				*eS*	**Sb**	**11 24 48.9**	**-0.7**
MT03				IAML		11 24 53.5	
	comp=E,4μm,0.3s						
FCH	**Farellones**	**1.71**	**106**	⇑ *eP*	**Pb**	**11 24 30.8**	**-1.0**
FCH				*eS*	**Sb**	**11 24 52.8**	**-0.5**
FCH				IAML		11 24 53.6	
	comp=E,2μm,0.1s						
BO04	**La Punta**	**1.77**	**129**	Pn	**Pn**	**11 24 30.8**	**+0.2**
BO04	**La Punta**	**1.77**	**129**	*eP*	**Pn**	**11 24 31.2**	**+0.6**
BO04				*eS*	**Sb**	**11 24 53.4**	**-1.3**
BO04				IAML		11 25 00.9	
	comp=N,2μm,0.7s						
BO01	**Tunca**	**1.80**	**147**	Pn	**Pn**	**11 24 30.6**	**-0.4**
MT04	**Ro Olivares**	**1.86**	**107**	⇑ *eP*	**Pn**	**11 24 32.9**	**+1.0**
MT04				*eS*	**Sb**	**11 24 56.5**	**-0.9**
MT04				IAML		11 24 58.0	
	comp=E,2μm,0.3s						
MT08	**Bocatoma Ro**	**1.96**	**107**	Pn	**Pb**	**11 24 34.8**	**-1.3**
MT08	**Bocatoma Ro**	**1.96**	**107**	*eP*	**Pb**	**11 24 34.9**	**-1.3**
MT08				*eS*	**Sb**	**11 25 00.1**	**-0.4**
MT08				IAML		11 25 04.7	
	comp=N,1μm,0.5s						
CO02	**Combarbal**	**1.98**	**33**	Pn	**Pn**	**11 24 34.5**	**+0.9**
CO06	**Fray Jorge**	**2.26**	**14**	Pn	**Pn**	**11 24 37.6**	**+0.3**
BO02	**Sierra Bellavi**	**2.27**	**148**	Pn	**Pn**	**11 24 38.0**	**+0.5**
BO02	**Sierra Bellavi**	**2.27**	**148**	*i* P	**Pn**	**11 24 38.6**	**+1.1**
BO02				*i* S	**Sb**	**11 25 09.8**	**+0.6**
BO02				IAML		11 25 21.4	
	comp=Z,480nm,0.6s						
CO03	**El Pedregal**	**2.43**	**34**	Pn	**Pn**	**11 24 41.1**	**+1.3**
AUSP	**Uspallata**	**2.51**	**76**	*i* P	**Pb**	**11 24 45.0**	**-0.4**
AUSP				*i* S	**Sg**	**11 25 19.7**	**-1.6**
RTLS	**Leoncito**	**2.73**	**68**	*i* P	**Pb**	**11 24 48.5**	**-0.7**
RTLS				*i* S	**Sb**	**11 25 25.1**	**+2.6**
RTLS				IAML		11 25 32.1	
	comp=Z,886nm,1.0s						
ASAL	**Salagasta**	**2.90**	**85**	*i* P	**Pb**	**11 24 50.4**	**-1.6**
ASAL				*i* S	**Sb**	**11 25 28.3**	**+1.0**
ACCO	**Cerro Coronel**	**3.55**	**51**	*i* P	**Pb**	**11 25 00.5**	**-2.8**
ACCO				*i* S	**Sb**	**11 25 45.6**	**-0.7**
BI02	**San Fabin de**	**3.86**	**168**	Pn	**Pn**	**11 25 01.1**	**+1.7**
LCO	**Las Campanas**	**4.08**	**20**	Pn	**Pn**	**11 25 03.8**	**+1.2**
ACAN	**Cantantal**	**4.32**	**83**	*i* P	Pn	11 25 10.7	+4.9
AGUA	**GUANDACOL**	**4.67**	**45**	*i* P	Pn	11 25 15.6	+5.0
AGUA				*i* S	**Sb**	**11 26 12.7**	**-5.7**
AC04	**Llanos de Chal**	**4.77**	**13**	Pn	**Pn**	**11 25 11.9**	**+0.1**
ACHE	**Chepes**	**5.05**	**72**	*i* P	Pn	11 25 20.9	+5.0
ACHE				*i* S	**Sb**	**11 26 21.7**	**-7.6**
GO03	**Copiapo**	**5.55**	**19**	Pn	**Pn**	**11 25 22.6**	**0.0**
ACLC	**CERRO LA CRUZ**	**5.70**	**54**	*i* P	Pn	11 25 29.5	+4.7
ACLC				*i* S	**Sn**	**11 26 37.6**	**+7.5**
ACLC				IAML		11 26 47.6	
	comp=Z,49nm,0.8s						
AC02	**Maricunga**	**6.61**	**25**	Pn	**Pn**	**11 25 38.0**	**+0.4**
AC01	**Pan de Azucar**	**6.86**	**13**	Pn	**Pn**	**11 25 41.6**	**+1.0**
PLCA	**Paso Flores**	**7.96**	**171**	Pn	**Pn**	**11 25 56.8**	**+1.1**
GO02	**Mina Guanaco**	**8.03**	**18**	Pn	**Pn**	**11 25 56.3**	**-0.7**
CPUP	**Villa Florida**	**14.53**	**67**	P	**P**	**11 27 30.9**	**-1.2**
LPAZ	**La Paz**	**16.94**	**14**	P	**P**	**11 28 00.1**	**+0.6**
LPAZ				IAmb	IAmb	11 28 19.0	
	comp=Z,3.8nm,1.4s						
BELA	**Belgrano 2**	**48.01**	**170**	P	**P**	**11 32 37.8**	**-0.6**
BELA				IAmb	IAmb	11 33 16.7	
	comp=Z,1.9nm,0.6s						
QSPA	**South Pole Qui**	**57.35**	**180**	P	**P**	**11 33 49.9**	**+2.1**
QSPA				IAmb	IAmb	11 33 55.9	
	comp=Z,3.4nm,1.3s						

IDC 08 11:29:37.7±1.8, 0°.90N×126°.87E, h0km, mb3.3/4, mbtmp3.3/4, MS3.1/1, Error ellipse: s-maj=171.7km s-min=23.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.92**	**184**	LR	LR	11 41 04.7	
	comp=Z,69nm,21.3s,baz=40,slow=36						
WRA	**Warramunga Arr**	**21.97**	**161**	P	P	11 34 33.4	0.0
	0.2nm,0.5s,baz=340,slow=11,SNR=5.3						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**25.36**	**165**	P	P	11 35 06.8	0.0
	0.3nm,0.7s,baz=350,slow=10,SNR=6.4						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**59.95**	**326**	P	P	11 39 46.0	+0.1
	0.4nm,0.4s,baz=126,slow=8.4,SNR=2.5						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.19**	**328**	P	P	11 40 14.1	-0.1
	0.3nm,0.5s,baz=130,slow=5.9,SNR=5.3						
	0.3nm,0.5s						

NEIC ***08*** *11:34:55.7±1.1, 35°.93N±0°.02×117°.717W±0°.007, h5km±5km, Error ellipse: s-maj=2.2km s-min=0.8km az=189.0*

PAS 08 11:34:56.0±1.0, 35°.94N±0°.02×117°.72W±0°.02, h2km±1km, ML3.0/25, ML2.8/68(NEIC), Error ellipse: s-maj=2.2km s-min=1.8km az=191.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.08**	**275**		Pg	11 34 58.0	+0.3
TOW	**Tower One**	**0.14**	**195**		Pg	11 34 59.5	+0.8
WRVM	**Rose V. Centra**	**0.15**	**295**		Pg	11 34 59.3	+0.3
CLC	**China Lake**	**0.16**	**142**		Pg	11 34 58.7	-0.5
WNMM	**Nine Mile Cany**	**0.18**	**236**		Sg	11 35 02.9	+1.1
MFS	**McCloud Flat S**	**0.20**	**328**		Pg	11 35 00.1	+0.1
MFS					Sg	11 35 03.5	+0.8
MPMC	**Manual Prospec**	**0.22**	**58**		Pg	11 35 00.7	+0.4
MPMC				IAML		11 35 05.4	
	comp=N,2μm,0.8s						
MPMC				IAML		11 35 05.5	
	comp=E,2μm,0.7s						
SRTC	**Snort**	**0.25**	**185**		Pg	11 34 59.8	-1.1
SRTC					Sg	11 35 01.7	-2.4
CCCA	**Chr Cany lake**	**0.51**	**145**	Pg	Pg	11 35 06.2	+0.5
WHFM	**Hanning Flat**	**0.57**	**244**		Pg	11 35 06.9	0.0
CWC	**Cottonwood Cre**	**0.57**	**330**		Pg	11 35 07.4	+0.3
CWC				IAML		11 35 18.4	
	comp=N,294nm,0.2s						
ISA	**Isabella, Lake**	**0.67**	**246**		Pg	11 35 09.0	+0.1
DTP	**Desert Tortois**	**0.68**	**189**		Pg	11 35 09.4	+0.3
QSM	**Queen of Sheba**	**0.69**	**88**		Pg	11 35 09.3	+0.1
QSM				IAML		11 35 23.0	
	comp=E,613nm,0.5s						
QSM				IAML		11 35 24.2	
	comp=N,455nm,0.5s						
WASM	**Alta Sierra Ca**	**0.71**	**254**		Pg	11 35 09.7	0.0
GWY	**Greenwater Val**	**0.89**	**74**		Pg	11 35 13.0	0.0
GWY				IAML		11 35 25.7	
	comp=E,412nm,0.5s						
GWY				IAML		11 35 25.8	
	comp=N,290nm,0.4s						
SPG2	**Springville 2**	**0.89**	**287**		Pg	11 35 12.5	-0.5
GSC	**Goldstone, Bar**	**0.98**	**130**		Pg	11 35 14.5	-0.3
GSC				IAML		11 35 30.7	
	comp=N,167nm,0.4s						
GSC				IAML		11 35 30.7	
	comp=E,418nm,0.7s						
GRAC	**Grapevine Rang**	**1.09**	**15**		Pg	11 35 16.6	-0.3
GRAC				IAML		11 35 39.6	
	comp=E,207nm,0.6s						
GRAC				IAML		11 35 41.6	
	comp=N,232nm,0.7s						
TPO	**Tropico Hills**	**1.14**	**202**		Pg	11 35 17.3	-0.6
TPO					IAML	11 35 38.1	
	comp=E,254nm,0.6s						
TPO					IAML	11 35 38.9	
	comp=N,290nm,0.6s						
WCT	**Wildcat Mounta**	**1.22**	**46**		Pg	11 35 19.3	-0.2
WCT					IAML	11 35 37.5	
	comp=E,205nm,0.4s						
WCT					IAML	11 35 38.7	
	comp=N,133nm,0.5s						
VOG	**Valley Oaks Go**	**1.40**	**286**		Pn	11 35 22.2	-0.4
GMN	**Gold Mountain**	**1.40**	**15**		Pn	11 35 22.3	-0.6
DSP	**Deep Springs**	**1.44**	**352**		Pn	11 35 22.7	-0.4
TPNV	**Topopah Spring**	**1.55**	**49**		Pn	11 35 24.4	-0.5
TPNV					IAML	11 35 50.3	
	comp=N,113nm,0.5s						
TPNV					IAML	11 35 55.6	
	comp=N,105nm,0.5s						
OSI	**Osito Audit: C**	**1.56**	**212**		Pb	11 35 25.4	-0.2
OSI					IAML	11 35 52.1	
	comp=E,96nm,0.6s						
OSI					IAML	11 35 53.0	
	comp=N,85nm,0.7s						
BFSC	**Mount Baldy Ra**	**1.70**	**178**		Pn	11 35 27.1	+0.2
BFSC					IAML	11 35 52.0	
	comp=E,71nm,0.3s						
BFSC					IAML	11 35 52.5	
	comp=N,67nm,0.4s						
MWC	**Mount Wilson**	**1.74**	**189**		Pn	11 35 27.5	+0.1
MWC					IAML	11 35 53.4	
	comp=E,130nm,0.5s						
MZP	**Montezuma Peak**	**1.77**	**9**		Pn	11 35 27.8	-0.2
MTPC	**Mountain Pass**	**1.82**	**104**		Pn	11 35 27.5	-1.0
MTPC					IAML	11 35 55.6	
	comp=N,70nm,0.8s						
MTPC					IAML	11 35 56.1	
	comp=E,72nm,0.3s						
GMRC	**Granite Mounta**	**2.04**	**124**		Pn	11 35 29.8	-1.8
SHPR	**Sheep Range**	**2.14**	**74**		Pn	11 35 32.7	-0.3
TPH	**Tonopah**	**2.17**	**10**		Pn	11 35 33.4	+0.1
TPH					IAML	11 36 09.1	
	comp=N,84nm,0.6s						
ELS	**Elsinore Mount**	**2.30**	**174**		Pn	11 35 34.7	-0.4
ELS					IAML	11 36 10.9	
	comp=E,32nm,0.4s						
POB	**Polly Butte**	**2.34**	**164**		Pn	11 35 35.5	-0.2
NV11	**Mina Array Sit**	**2.51**	**352**		Pn	11 35 38.4	+0.4
NVAR	**Mina Array Bea**	**2.52**	**350**	Pn	Pn	11 35 39.3	+1.1
PRN	**Pahroc Range**	**2.60**	**55**	Pn	Pn	11 35 39.4	+0.2
PRN					IAML	11 36 30.0	
	comp=E,58nm,0.7s						
PRN					IAML	11 36 30.1	
	comp=N,51nm,0.7s						
SBI	**Santa Barbara**	**2.68**	**204**		Pn	11 35 35.7	-4.5
BBGB	**Big Mountain B**	**2.76**	**284**		Pn	11 35 42.5	+1.2
SAO	**San Andreas Ge**	**3.12**	**286**	Pn	Pn	11 35 48.2	+2.0
W13A	**Hualapai Mount**	**3.24**	**104**	Pn	Pn	11 35 47.6	-0.5
LCMT	**Little Creek M**	**3.76**	**72**		Pn	11 35 55.8	+0.6
PSUT	**Pine Spring**	**4.03**	**49**	Pn	Pn	11 35 59.6	+0.8
KNB	**Kanab**	**4.09**	**73**	Pn	Pn	11 36 00.7	+0.9

IDC ***08*** *11:37:57.7±1.2, 34°.80N×72°.88E, h0km, mb4.0/9, mbtmp3.9/12, ML3.6/3, MS3.0/1, Error ellipse: s-maj=36.1km s-min=20.7km az=55.0*

NNC ***08*** *11:38:09.9±6.9, 35°.20N×72°.88E, h116km±107km, mb3.2, mpv3.8, Error ellipse: s-maj=62.6km s-min=54.7km az=84.0*

ISC 08 11:38:01.8±1.2, 34°.9N±0°.1×72°.9E±0°.2, h24km, n15, σ1§31/17, mb4.0/8, 4C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**8.31**	**14**	⇓ P	**Pn**	**11 40 04.1**	**+3.2**
TKM2	1.1nm,0.4s			⇑ S	**Sn**	**11 41 32.5**	**-1.7**
	3.9nm,0.8s						
KK31	**Karatay Array**	**8.43**	**348**	⇑ P	**Pn**	**11 40 04.1**	**+1.8**
	3.9nm,0.3s,baz=161,slow=11,SNR=93						
KK31				⇑ S	**Sn**	**11 41 35.8**	**-0.8**
	2.5nm,0.3s,baz=175,slow=23,SNR=7.3						
MKAR	**Makanchi Array**	**13.86**	**28**	Pn	**Pn**	**11 41 17.1**	**+0.4**
	0.2nm,0.3s,baz=208,slow=13,SNR=4.4						
MKAR				LR	LR	11 47 05.3	
	comp=Z,58nm,18.4s,baz=157,slow=39						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**16.27**	**13**	Pn	**Pn**	**11 41 46.6**	**-2.0**
	0.1nm,0.3s,baz=190,slow=13,SNR=7.0						
	0.2nm,0.4s						
AB31	**Akbulak array**	**17

JAY				Sn	Sn	11 59 13.2	+0.7		
	6.8nm,0.3s,baz=146,slow=17,SNR=4.2								
	26nm,0.4s								
JAY	**Jayapura**	**2.14**	**92**	P	Pn	11 58 44.2	-1.8		
JAY				S	Sn	11 59 14.3	+1.7		
SRPI	**Serui, Papua**	**2.39**	**284**	P	Pb	11 58 52.3	-1.1		
SRPI				S	Sb	11 59 23.2	+0.3		
BAKI	**Biak**	**2.75**	**297**	P	Pn	11 58 55.7	+1.3		
BAKI				S	Sn	11 59 28.0	+0.4		
WRA	**Warramunga Arr**	**17.87**	**193**	Pn	Pn	12 02 18.6	-0.5		
	0.3nm,0.3s,baz=14,slow=12,SNR=8.5								
	1.0nm,0.4s								
ASAR	**Alice Springs**	**21.57**	**192**	P	P	12 02 59.4	-0.7		
	2.6nm,0.9s,baz=19,slow=9.6,SNR=18								
	2.6nm,0.9s								
NWAO	**Narrogin (SRO)**	**36.33**	**211**	LR	LR	12 20 44.9			
	comp=Z,102nm,21.6s,baz=84,slow=37								
PETK	**Petropavlovsk-**	**57.64**	**14**	LR	LR	12 27 45.1			
	comp=Z,17nm,21.9s,baz=186,slow=31								
MKAR	**Makanchi Array**	**69.49**	**322**	P	P	12 09 19.7	+0.8		
	0.2nm,0.5s,baz=124,slow=7.6,SNR=1.9								
	0.2nm,0.5s								
ILAR	**Eielson Array**	**85.66**	**24**	P	P	12 10 48.1	-0.6		
	0.4nm,0.7s,baz=256,slow=4.2,SNR=5.5								
	0.4nm,0.7s								
QSPA	**South Pole Qui**	**87.50**	**180**	P	P	12 10 57.9	-0.1		
	1.1nm,0.9s,baz=333,slow=2.3,SNR=2.5								
	1.1nm,0.9s								

IDC ***08*** *12:04:06.3±1.2,32.˚62N×78.˚23E,h0km,mb3.6/8, mbtmp3.6/10,ML2.9/2,Error ellipse: s-maj=35.9km s-min=19.5km az=64.0*

NDI ***08*** *12:04:12.3±1.9,32.˚68N×78.˚65E,h10km,ML3.5,MW3.5*

ISC 08 12:04:09.6±1.2,32.˚83N±0.˚04×78.˚47E±0.˚03,h13km±9km, n24,σ1°36/33,mb3.6/8,Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNLY	**HANLEY**	**0.43**	**97**	*eP*	**Pb**	**12 04 19.0**	**-0.4**
HNLY				*eS*	**Sg**	**12 04 22.4**	**-1.7**
HNLY				IAML		12 04 24.7	
	2µm,0.3s						
HNLY				IAML		12 04 25.1	
	comp=E,2µm,0.2s						
KLP	**Kalpa**	**1.31**	**188**	*eP*	**Pg**	**12 04 34.4**	**-0.4**
KLP				*eS*	**Sb**	**12 04 50.5**	**-0.6**
KLP				IAML		12 04 51.5	
	comp=E,371nm,0.2s						
KLP				IAML		12 04 52.1	
	comp=E,483nm,0.2s						
DHRM	**DHARAMSHALA**	**1.92**	**253**	*eP*	**Pg**	**12 04 46.6**	**+0.2**
DHRM				*eS*	**Sg**	**12 05 11.6**	**+0.2**
DHRM				IAML		12 05 13.1	
	comp=N,994nm,0.6s						
DHRM				IAML		12 05 13.3	
	comp=E,2µm,0.5s						
SMLA	**Simla**	**2.03**	**213**	*eP*	**Pb**	**12 04 46.1**	**-0.2**
SMLA				*eS*	**Sb**	**12 05 10.6**	**-0.8**
SMLA				IAML		12 05 16.2	
	comp=E,950nm,0.6s						
SMLA				IAML		12 05 17.3	
	comp=N,696nm,0.6s						
BHK	**Bhakra**	**2.24**	**231**	*eP*	**Pn**	**12 04 45.4**	**-1.0**
BHK				*eS*	**Sn**	**12 05 12.3**	**-1.7**
BHK				IAML		12 05 22.7	
	comp=E,1µm,0.7s						
BHK				IAML		12 05 32.2	
	comp=E,803nm,0.5s						
THN	**Thein Dam**	**2.36**	**261**	*eP*	**Pb**	**12 04 51.9**	**0.0**
THN				*eS*	**Sb**	**12 05 20.6**	**-0.2**
THN				IAML		12 05 28.9	
	comp=E,597nm,0.4s						
THN				IAML		12 05 40.7	
	comp=E,355nm,0.6s						
JOSI	**Joshimath**	**2.45**	**157**	*ex*	**Pg**	**12 04 57.8**	**+1.1**
JOSI				IAML		12 05 00.5	
	comp=E,124nm,0.7s						
JOSI				IAML		12 05 07.5	
	comp=N,112nm,0.6s						
DDI	**Dehra Dun**	**2.53**	**188**	*eP*	**Pn**	**12 04 51.8**	**+1.4**
DDI				*eS*	**Sn**	**12 05 20.6**	**-0.5**
DDI				IAML		12 05 30.6	
	comp=E,454nm,0.3s						
DDI				IAML		12 05 30.6	
	comp=N,374nm,0.6s						
JMU	**Jammu**	**3.01**	**269**	*eP*	**Pb**	**12 05 02.8**	**-0.2**
JMU				*eS*	**Sb**	**12 05 41.9**	**+2.2**
JMU				IAML		12 05 46.0	
	comp=E,987nm,0.7s						
JMU				IAML		12 05 51.8	
	comp=E,777nm,1.1s						
SRNI	**Srinagar**	**3.28**	**294**	*eS*	**Sb**	**12 05 46.3**	**-1.1**
PTH	**Pithoragarh**	**3.60**	**155**	*ex*	Pn	12 04 56.5	-8.8
NDI	**New Delhi**	**4.28**	**195**	*eP*	**Pn**	**12 05 15.8**	**+1.4**
NDI				*ex*	**Sn**	**12 06 07.4**	**+3.2**
NDI				IAML		12 06 21.3	
	comp=N,56nm,0.5s						
NDI				IAML		12 06 22.3	
	comp=E,51nm,0.9s						
AYAN	**Aya Nagar**	**4.49**	**195**	*eS*	**Sn**	**12 06 07.3**	**-2.1**
KUDL	**Kundal**	**4.98**	**201**	*eP*	**Pn**	**12 05 25.9**	**+1.9**
KUDL				*eS*	**Sn**	**12 06 21.0**	**-0.4**
KUDL				IAML		12 06 50.4	
	comp=E,45nm,1.1s						
KUDL				IAML		12 06 58.1	
	comp=E,37nm,0.6s						
MKAR	**Makanchi Array**	**14.25**	**11**	Pn	**Pn**	**12 07 31.2**	**+0.2**
	comp=E,0.1nm,0.3s,baz=188,slow=14,SNR=4.1						
	comp=E,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**17.78**	**0**	P	**Pn**	**12 08 17.0**	**+0.3**
	baz=186,slow=12,SNR=5.1						
	comp=E,0.3nm,0.5s						
BVAR	**Borovoye Array**	**21.00**	**346**	P	**P**	**12 08 53.2**	**+0.5**
	comp=E,1.9nm,0.5s						
	comp=E,1.9nm,0.5s						
ZALV	**Zalesovo Beam**	**21.59**	**10**	P	**P**	**12 09 01.5**	**+2.6**
	comp=E,1.4nm,0.7s,baz=207,slow=9.6,SNR=5.2						
	comp=E,1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**23.30**	**123**	P	**P**	**12 09 17.6**	**+0.3**
	comp=E,0.5nm,0.3s,baz=312,slow=9.7,SNR=5.1						
	comp=E,0.5nm,0.3s						
SONM	**Songino Array**	**25.85**	**46**	P	**P**	**12 09 42.6**	**+1.7**
	comp=E,2.6nm,0.9s,baz=245,slow=11,SNR=11						
	comp=E,2.6nm,0.9s						
ESDC	**Sonseca Array**	**64.61**	**302**	P	**P**	**12 14 46.0**	**-1.0**
	comp=E,0.5nm,0.8s,baz=66,slow=6.6,SNR=4.2						
	comp=E,0.5nm,0.8s						
WRA	**Warramunga Arr**	**74.85**	**126**	P	**P**	**12 15 49.2**	**-0.9**
	comp=E,0.7nm,0.8s,baz=314,slow=6.2,SNR=4.5						
	comp=E,0.7nm,0.8s						
ILAR	**Eielson Array**	**76.47**	**18**	P	**P**	**12 15 57.9**	**-0.9**
	comp=E,0.4nm,0.8s,baz=308,slow=5.7,SNR=5.9						
	comp=E,0.4nm,0.8s						
ASAR	**Alice Springs**	**77.14**	**129**	P	**P**	**12 16 01.4**	**-1.7**
	comp=E,0.3nm,0.6s,baz=313,slow=5.7,SNR=5.9						
	comp=E,0.3nm,0.6s						

IDC 08 12:05:54.4±2.2,0.˚81N×126.˚28E,h0km,mb3.1/3, mbtmp3.2/3,Error ellipse: s-maj=173.9km s-min=28.0km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.08**	**159**	P	P	12 10 50.5	-0.7
	0.7nm,0.9s,baz=338,slow=11,SNR=8.0						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**25.43**	**164**	P	P	12 11 24.5	+0.5
	0.3nm,0.5s,baz=341,slow=9.0,SNR=13						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**59.71**	**326**	P	P	12 16 00.8	-0.1
	0.1nm,0.4s,baz=126,slow=7.3,SNR=1.9						
	0.1nm,0.4s						

BEO ***08*** *12:07:38.7±0.2,43.˚05N×19.˚95E,h1km±1km,ML2.5/20*
RHSSO ***08*** *12:07:38.9±0.4,43.˚08N×19.˚95E,h4km±2km,ML2.5/8*
PDG ***08*** *12:07:38.3±0.2,43.˚03N×19.˚92E,h12km±1km,MD2.6/2, ML2.5/12,Error ellipse: s-maj=0.5km s-min=1.0km az=0.0*

ISC 08 12:07:38.0±0.9,43.˚05N±0.˚02×19.˚97E±0.˚02,h8km±7km, n65,σ0°74/113,10C-13D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVA	**Berane**	**0.18**	**197**	⇓*iPg*	**Pg**	**12 07 41.8**	**0.0**
IVA				*i* Sg	**Sg**	**12 07 45.0**	**+0.6**
SJES	**Sjenica**	**0.21**	**1**	⇓*iPg*	**Pg**	**12 07 42.1**	**-0.3**
SJES				*eSg*	**Sg**	**12 07 45.9**	**+0.5**
SJES	**Sjenica**	**0.21**	**1**	*ePg*	**Pg**	**12 07 42.4**	**0.0**
SJES				*eSg*	**Sg**	**12 07 45.9**	**+0.5**
KOME	**Kolasin**	**0.39**	**239**	⇓*iPg*	**Pg**	**12 07 45.3**	**-0.3**
KOME				*i* Sg	**Sg**	**12 07 50.8**	**+0.1**
PVY	**Plav**	**0.45**	**181**	⇓*iPg*	**Pg**	**12 07 46.6**	**-0.3**
PVY				*i* Sg	**Sg**	**12 07 53.4**	**+0.6**
PLE	**Pljevlja**	**0.51**	**304**	⇑*iPg*	**Pg**	**12 07 47.6**	**-0.3**
PLE				*i* Sg	**Sg**	**12 07 55.4**	**+0.8**
IVAS	**Ivanjica**	**0.55**	**14**	*ePg*	**Pg**	**12 07 48.1**	**-0.5**
IVAS				*eSg*	**Sg**	**12 07 55.0**	**-0.8**
RUDO	**Rudo**	**0.72**	**323**	*ePg*	**Pg**	**12 07 50.5**	**-1.3**
RUDO				*eSg*	**Sg**	**12 08 00.6**	**-0.6**
RUDO	**Rudo**	**0.72**	**323**	*ePg*	**Pg**	**12 07 50.2**	**-1.6**
RUDO				*eSg*	**Sg**	**12 07 59.6**	**-1.6**
UPM	**Unac-Piva**	**0.79**	**282**	*ePg*	**Pg**	**12 07 53.0**	**-0.3**
UPM				*eSg*	**Sg**	**12 08 03.7**	**+0.1**
UPM	**Unac-Piva**	**0.79**	**282**	⇑*iPg*	**Pg**	**12 07 52.8**	**-0.5**
UPM				*i* Sg	**Sg**	**12 08 03.7**	**+0.1**
NKME	**Niksic**	**0.80**	**250**	⇓*iPg*	**Pg**	**12 07 52.1**	**-1.2**
NKME				*i* Sg	**Sg**	**12 08 04.2**	**+0.5**
PDG	**Podgorica**	**0.81**	**221**	*ePg*	**Pg**	**12 07 53.3**	**-0.3**
PDG				*eSg*	**Sb**	**12 08 05.3**	**-0.1**
PDG	**Podgorica**	**0.81**	**221**	⇑*P*	**Pg**	**12 07 52.9**	**-0.6**
PDG	**Podgorica**	**0.81**	**221**	*ePg*	**Pg**	**12 07 52.8**	**-0.8**
PDG				*eSg*	**Sg**	**12 08 04.6**	**+0.5**
PDG	**Podgorica**	**0.81**	**221**	⇑*iPg*	**Pg**	**12 07 53.0**	**-0.6**
PDG				*i* Sg	**Sb**	**12 08 05.5**	**+0.1**
GOCS	**Kraljevo Serbi**	**0.84**	**52**	*ePg*	**Pg**	**12 07 53.9**	**-0.2**
GOCS				*eSg*	**Sg**	**12 08 05.1**	**0.0**
SELS	**Selova**	**0.86**	**78**	*ePg*	**Pg**	**12 07 54.4**	**-0.2**
SELS				*eSg*	**Sb**	**12 08 07.0**	**+0.1**
BBLS	**Lazi&#263i**	**0.91**	**334**	⇑*iPg*	**Pg**	**12 07 54.9**	**-0.7**
BBLS				*eSg*	**Sg**	**12 08 07.3**	**-0.2**
BBLS	**Lazi&#263i**	**0.91**	**334**	*ePg*	**Pg**	**12 07 55.0**	**-0.7**
BBLS				*eSg*	**Sg**	**12 08 06.9**	**-0.6**
CEME	**Cevo**	**0.92**	**237**	⇓*iPg*	**Pg**	**12 07 54.5**	**-1.2**
CEME				*i* Sg	**Sb**	**12 08 08.8**	**+0.1**
GRUS	**Gruza**	**1.00**	**33**	*ePg*	**Pg**	**12 07 57.3**	**0.0**
GRUS				*eSg*	**Sn**	**12 08 11.9**	**-0.8**
DRME	**Dracevica, Mon**	**1.04**	**214**	*ePg*	**Pg**	**12 07 57.3**	**-0.6**
DRME				*eSg*	**Sb**	**12 08 12.5**	**+0.6**
DRME	**Dracevica, Mon**	**1.04**	**214**	⇑*iPg*	**Pg**	**12 07 57.1**	**-0.8**
DRME				*i* Sg	**Sn**	**12 08 12.8**	**-0.7**
BRY	**Bratogost**	**1.06**	**263**	*ePg*	**Pg**	**12 07 58.2**	**-0.1**
BRY				*eSg*	**Sg**	**12 08 12.3**	**+0.2**
BRY	**Bratogost**	**1.06**	**263**	⇑*iPg*	**Pg**	**12 07 56.9**	**-1.4**
BRY				*i* Sg	**Sb**	**12 08 13.1**	**+0.4**
BUM	**Brajici-Budva**	**1.09**	**227**	⇓*iPg*	**Pg**	**12 07 58.1**	**-0.8**
BUM				*i* Sg	**Sn**	**12 08 14.7**	**-0.2**
ULC	**Ulcinj**	**1.21**	**206**	⇓*iPg*	**Pb**	**12 08 00.0**	**-1.1**
ULC				*i* Sg	**Sn**	**12 08 18.9**	**+1.1**
TRUS	**Trudelj**	**1.22**	**15**	*ePg*	**Pn**	**12 08 01.1**	**-0.3**
TRUS				*eSg*	**Sg**	**12 08 17.4**	**+0.2**
TREB	**Trebinje**	**1.23**	**255**	*ePg*	**Pn**	**12 08 01.3**	**-0.3**
TREB				*eSg*	**Sg**	**12 08 18.0**	**+0.3**
TREB	**Trebinje**	**1.23**	**255**	*ePg*	**Pn**	**12 08 01.3**	**-0.3**
TREB				*eSg*	**Sg**	**12 08 17.9**	**+0.3**
BARS	**Barje**	**1.38**	**99**	*ePg*	**Pg**	**12 08 03.9**	**-0.5**
BARS				*eSg*	**Sg**	**12 08 21.9**	**-0.4**
DBRK	**Dubrovnik**	**1.39**	**255**	*ePg*	**Pn**	**12 08 03.2**	**-0.5**
BOVS	**Bovan**	**1.40**	**65**	⇑*P*	**Pg**	**12 08 05.8**	**+1.0**
BOVS	**Bovan**	**1.40**	**65**	*ePg*	**Pg**	**12 08 05.1**	**+0.3**
BOVS				*eSg*	**Sg**	**12 08 23.5**	**+0.5**
SVIS	**Svilajnac**	**1.52**	**36**	*ePg*	**Pg**	**12 08 07.2**	**+0.1**
SVIS				*eSg*	**Sg**	**12 08 27.8**	**+1.0**
TEKS	**Tekeris**	**1.53**	**348**	⇑*iPg*	**Pn**	**12 08 05.8**	**+0.1**
TEKS				*eSg*	**Sb**	**12 08 26.9**	**+0.6**
TEKS	**Tekeris**	**1.53**	**348**	*ePg*	**Pn**	**12 08 05.6**	**-0.1**
TEKS				*eSn*	**Sg**	**12 08 27.6**	**+0.3**
STON	**Ston**	**1.67**	**265**	*ePn*	**Pb**	**12 08 08.9**	**-0.1**
STON				*eSn*	**Sb**	**12 08 31.2**	**+1.0**
STON	**Ston**	**1.67**	**265**	*ePg*	**Pb**	**12 08 09.3**	**+0.3**
STON	**Ston**	**1.67**	**265**	*ePn*	**Pg**	**12 08 10.1**	**0.0**
STON				Sn	**Sg**	**12 08 31.5**	**-0.3**
AVAS	**Avala Beograd**	**1.69**	**13**	*ePg*	**Pg**	**12 08 10.4**	**-0.1**
AVAS				*eSn*	**Sg**	**12 08 32.3**	**-0.2**
BORS2	**Bor- Borsko je**	**1.82**	**54**	*ePn*	**Pn**	**12 08 09.6**	**0.0**
BORS2				*eSn*	**Sb**	**12 08 34.8**	**+0.3**
ZAGS	**Zajecar**	**1.82**	**64**	*ePn*	**Pb**	**12 08 10.7**	**-0.8**
ZAGS				*eSn*	**Sb**	**12 08 34.9**	**+0.4**
KUBS	**Kucevo**	**1.84**	**42**	*ePn*	**Pn**	**12 08 10.7**	**+0.8**
KUBS				*eSn*	**Sg**	**12 08 36.1**	**-1.1**
BOSS	**Bosilegrad**	**1.93**	**106**	*ePn*	**Pn**	**12 08 11.6**	**+0.4**
ZAPS	**Zavoj**	**1.96**	**82**	*ePn*	**Pb**	**12 08 12.7**	**-1.3**
ZAPS				*eSn*	**Sb**	**12 08 37.7**	**-1.0**
BLKB	**Belogradchik**	**2.06**	**73**	*ePn*	**Pb**	**12 08 14.2**	**-1.4**
FRGS	**Fruska Gora**	**2.11**	**357**	⇑*iPn*	**Pn**	**12 08 14.6**	**+0.9**
FRGS				*eSn*	**Sn**	**12 08 40.7**	**+0.6**
FRGS	**Fruska Gora**	**2.11**	**357**	*eSn*	**Sb**	**12 08 42.1**	**-0.8**
RICI	**Ricice**	**2.12**	**283**	*ePn*	**Pg**	**12 08 18.4**	**-0.2**
RICI				Sn	**Sg**	**12 08 46.7**	**+0.7**
MDVR	**Moldovita**	**2.14**	**35**	⇓*P*	**Pb**	**12 08 17.4**	**+0.3**
MDVR	**Moldovita**	**2.14**	**35**	*ePn*	**Pn**	**12 08 15.0**	**+0.9**
MAKA	**Makarska**	**2.17**	**277**	*ePn*	**Pb**	**12 08 18.7**	**+1.2**
MAKA				Sn	**Sg**	**12 08 46.5**	**-1.1**
LSTV	**Lastovo**	**2.28**	**264**	*ePn*	**Pn**	**12 08 17.1**	**+1.2**
LSTV				Sn	**Sn**	**12 08 44.5**	**+0.5**
VRSS	**Vrsac**	**2.29**	**25**	*ePn*	**Pb**	**12 08 18.5**	**-1.1**
VRSS				*eSn*	**Sb**	**12 08 47.8**	**-0.3**
VTS	**Vitosha**	**2.44**	**99**	*ePn*	**Pn**	**12 08 18.8**	**+0.6**
HERR	**Herculane**	**2.55**	**43**	⇓*P*	**Pn**	**12 08 21.2**	**+1.6**
KIJV	**Kijevo**	**2.76**	**291**	*ePn*	**Pb**	**12 08 28.7**	**+1.1**
BZS	**Buzias**	**2.83**	**24**	⇓*P*	**Pn**	**12 08 25.1**	**+1.6**
A050A	**Klekovaca**	**2.87**	**301**	*ePn*	**Pn**	**12 08 25.5**	**+1.3**
A050A				*eSn*	**Sn**	**12 08 59.2**	**+0.3**
VINV	**Vinovac**	**2.90**	**282**	*ePn*	**Pb**	**12 08 28.3**	**-1.8**
A051A	**Mrakovica**	**2.95**	**313**	*eSn*	**Sn**	**12 09 01.6**	**+0.7**
GZR	**Gura Zlata**	**3.10**	**40**	⇓*P*	**Pn**	**12 08 28.0**	**+0.8**
MORH	**Mrgy, Hungar**	**3.30**	**344**	⇓*P*	**Pn**	**12 08 30.1**	**+0.1**

IDC ***08*** *12:13:03.6±1.0,12.˚22N×142.˚94E,h0km,mb3.8/6, mbtmp3.8/7,ML3.5/1,Error ellipse: s-maj=45.5km s-min=20.4km az=121.0*

ISC 08 12:13:08.4±1.0,12.˚2N±0.˚2×143.˚0E±0.˚2,h31km,n10, σ0°71/8,mb3.9/6,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.31**	**52**	Pn	**Pn**	**12 13 43.9**	**-0.4**
	13nm,0.3s,baz=329,slow=4.9,SNR=5.3						
GUMO				Sn	**Sn**	**12 14 12.1**	**+0.3**
	26nm,0.3s,baz=17,slow=23,SNR=14						
	30nm,0.3s						
H11N1	**WAKE ISLAND Hy**	**24.16**	**69**	T	T	12 43 13.2	
	baz=254,slow=75,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**24.17**	**69**	T	T	12 43 13.3	
	baz=254,slow=75,SNR=4.8						
H11N3	**WAKE ISLAND Hy**	**24.18**	**69**	T	T	12 43 14.5	
	baz=254,slow=75,SNR=5.0						
WRA	**Warramunga Arr**	**33.03**	**195**	P	**P**	**12 19 40.5**	**-0.6**
	0.9nm,1.2s,baz=18,slow=9.0,SNR=3.3						
	0.9nm,1.2s						
ASAR	**Alice Springs**	**36.71**	**194**	P	**P**	**12 20 13.3**	**+0.5**
	0.2nm,0.7s,baz=18,slow=11,SNR=4.9						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**70.62**	**25**	P	**P**	**12 24 19.9**	**-0.6**
	0.7nm,0.5s,baz=250,slow=5.8,SNR=8.3						
	0.7nm,0.5s						
ARCES	**ARCESS Array B**	**87.85**	**342**	P	**P**	**12 25 55.2**	**+0.8**
	3.2nm,1.1s,baz=78,slow=5.8,SNR=4.0						
	3.2nm,1.1s						
NVAR	**Mina Array Bea**	**89.23**	**51**	P	**P**	**12 26 02.6**	**+0.7**
	0.3nm,0.5s,baz=302,slow=6.0,SNR=2.7						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**91.65**	**335**	P	**P**	**12 26 11.9**	**-0.4**
	0.4nm,0.4s,baz=78,slow=4.9,SNR=5.3						
	0.4nm,0.4s						

NEIC ***08*** *12:14:57.0±2.1,35.˚63N±0.˚01×117.˚41W±0.˚01,h5km±1km, Error ellipse: s-maj=2.9km s-min=1.9km az=192.0*

PAS 08 12:14:57.9±1.7,35.˚63N±0.˚01×117.˚44W±0.˚01,h7km±5km, ML3.6/18,ML3.3/100(NEIC),Error ellipse: s-maj=1.7km s-min=1.4km az=48.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCCA	**Chr Cany lake**	**0.12**	**150**		Pg	12 15 01.0	+0.6
CLC	**China Lake**	**0.23**	**325**		Pg	12 15 02.5	0.0
CLC				IAML		12 15 06.6	
	comp=E,12µm,0.2s						
LRMC	**Laurel Mtn Rad**	**0.25**	**234**		Pg	12 15 02.9	0.0
SRTC	**Snort**	**0.26**	**285**		Pg	12 15 03.5	+0.3
SRTC					Sg	12 15 08.1	+1.5
TOW	**Tower One**	**0.32**	**305**		Pg	12 15 04.5	+0.3
MPMC	**Manual Prospec**	**0.43**	**354**	Pg	Pg	12 15 06.1	-0.3
MPMC				IAML		12 15 12.9	
	comp=N,2µm,0.2s						
MPMC				IAML		12 15 12.9	
	comp=E,3µm,0.4s						
WNMM	**Nine Mile Cany**	**0.44**	**300**		Pg	12 15 06.2	-0.2
WVPM	**Volcano Peak E**	**0.45**	**316**		Pg	12 15 06.4	-0.2
DTP	**Desert Tortois**	**0.49**	**223**		Pg	12 15 06.9	-0.4
DTP					Sg	12 15 13.7	-0.1
QSM	**Queen of Sheba**	**0.57**	**53**		Pg	12 15 08.8	-0.1
QSM				IAML		12 15 20.1	
	comp=E,4µm,0.2s						
GSC	**Goldstone, Bar**	**0.61**	**122**		Sg	12 15 17.6	0.0
GSC	**Goldstone, Bar**	**0.61**	**122**		Pg	12 15 09.3	-0.3
GSC				IAML		12 15 17.7	
	comp=N,2µm,0.4s						
GSC				IAML		12 15 17.8	
	comp=E,3µm,0.5s						
WORM	**Onyx Ranch**	**0.66**	**276**		Sg	12 15 18.7	-0.6
HYS	**Haystack Butte**	**0.77**	**188**		Pg	12 15 12.0	-0.6
GWY	**Greenwater Val**	**0.84**	**48**		Pg	12 15 13.7	-0.3
ISA	**Isabella, Lake**	**0.85**	**273**		Pg	12 15 13.4	-0.8
ISA				IAML		12 15 27.3	
	comp=N,831nm,0.5s						
ISA				IAML		12 15 27.7	
	comp=E,528nm,0.2s						
CWC	**Cottonwood Cre**	**0.97**	**327**		Pg	12 15 15.9	-0.6
CWC				IAML		12 15 30.1	
	comp=N,560nm,0.2s						
CWC				IAML		12 15 32.0	
	comp=E,692nm,0.3s						
SHOC	**Shoshone, Teco**	**0.98**	**73**		Pg	12 15 16.1	-0.7
TPO	**Tropico Hills**	**0.99**	**221**		Pg	12 15 16.5	-0.3
DSCC	**Desert Studies**	**1.19**	**113**		Pg	12 15 18.8	-2.0
AMDNV	**Amargosa**	**1.25**	**48**		Pn	12 15 19.9	-1.8
WCT	**Wildcat Mounta**	**1.34**	**29**		Pn	12 15 21.5	-1.6
WCT				IAML		12 15 42.4	
	comp=N,303nm,0.5s						
WCT				IAML		12 15 43.9	
	comp=E,348nm,0.4s						
GRAC	**Grapevine Rang**	**1.37**	**2**		Pn	12 15 22.5	-1.0
GRAC				IAML		12 15 45.0	
	comp=E,541nm,0.4s						
GRAC				IAML		12 15 46.9	
	comp=N,498nm,0.8s						
BFSC	**Mount Baldy Ra**	**1.40**	**188**		Pn	12 15 23.4	-0.4
BFSC				IAML		12 15 42.6	
	comp=E,352nm,0.7s						
BFSC				IAML		12 15 42.7	
	comp=N,401nm,0.3s						
OSI	**Osito Audit: C**	**1.46**	**227**		Pb	12 15 25.3	-0.1
OSI				IAML		12 15 46.5	
	comp=N,771nm,0.8s						
OSI				IAML		12 15 47.0	
	comp=E,570nm,0.4s						
MWC	**Mount Wilson**	**1.49**	**200**	IAML		12 15 46.1	
	comp=N,533nm,0.4s						
MWC				IAML		12 15 50.5	
	comp=E,476nm,0.3s						
MTPC	**Mountain Pass**	**1.54**	**95**		Pn	12 15 24.1	-1.9
MTPC				IAML		12 15 47.4	
	comp=E,411nm,0.3s						
MTPC				IAML		12 15 48.0	
	comp=N,363nm,0.2s						
PASC	**Pasadena Art C**	**1.57**	**203**		Pn	12 15 25.8	-0.4
PASC				IAML		12 15 48.6	
	comp=E,322nm,0.5s						
PASC				IAML		12 15 50.8	
	comp=N,297nm,0.3s						
TPNV	**Topopah Spring**	**1.63**	**36**	IAML		12 15 52.4	
	comp=N,486nm,0.6s						
TPNV				IAML		12 15 55.0	
	comp=N,484nm,0.4s						
GMN	**Gold Mountain**	**1.68**	**5**		Pn	12 15 26.9	-1.0
GMN				IAML		12 15 35.0	
	comp=N,203nm,0.4s						
DSP	**Deep Springs**	**1.79**	**346**		Pn	12 15 28.4	-0.8
CRGC	**Crocker Grade**	**1.91**	**259**		Pb	12 15 33.0	-0.1
ELS	**Elsinore Mount**	**1.97**	**180**		Pn	12 15 30.8	-1.0
ELS				IAML		12 16 08.0	
	comp=N,162nm,0.5s						
FMP	**Fort Macarthur**	**2.03**	**201**		Pn	12 15 30.1	-2.4
RPV	**Rancho Palos V**

5.9nm,0.3s,baz=62,slow=22,SNR=2.4
KAPI LR LR 12 19 29.4
comp=Z,112nm,20.2s,baz=208,slow=40
12nm,0.4s
FITZ Fitzroy Crossi 10.37 143 Pn **Pn 12 18 47.1 +2.4**
0.4nm,0.3s,baz=323,slow=11,SNR=10
FITZ Sn **Sn 12 20 35.8 -5.3**
1.0nm,0.3s,baz=177,slow=20,SNR=10
4.7nm,1.1s
WRA Warramunga Arr 17.82 126 P **Pn 12 20 25.9 +1.9**
0.2nm,0.3s,baz=301,slow=13,SNR=9.0
WRA S Sn 12 23 32.8 -10
0.7nm,0.7s,baz=301,slow=23,SNR=5.9
1.3nm,0.6s
ASAR Alice Springs 19.72 136 P **Pn 12 20 48.8 +1.6**
0.1nm,0.3s,baz=322,slow=12,SNR=17
ASAR S S 12 24 18.5 -10
0.5nm,0.7s,baz=311,slow=23,SNR=4.7
0.7nm,0.6s
SONM Songino Array 58.55 350 P **P 12 26 13.6 +0.9**
0.8nm,0.4s,baz=170,slow=8.8,SNR=3.7
0.8nm,0.4s
MKAR Makanchi Array 65.26 333 P **P 12 26 57.1 -0.7**
0.3nm,0.6s,baz=132,slow=6.7,SNR=4.3
0.3nm,0.6s

*SJA **08** 12:17:53.7±0.7,24˚27S×67˚17W,h202km±5km,ML3.7, MW3.6*
*IDC **08** 12:17:53.7±3.7,24˚27S×67˚00W,h149km±40km,mb3.7/3, mbtmp4.1/6,Error ellipse: s-maj=36.3km s-min=26.3km az=119.0*
*GUC **08** 12:17:55.7±0.8,24˚27S×67˚19W,h180km±6km,ML4.0*
*NEIC **08** 12:17:55.4±2.1,24˚26S±0˚08×67˚2W±0˚1,h179km±10km, mb4.1/6,ML4.0(GUC),Error ellipse: s-maj=17.5km s-min=10.4km az=106.0*
ISC 08 12:17:55.4±0.7,24˚24S±0˚04×67˚25W±0˚03,h181km±7km, n70,σ1§46/94,mb3.9/3,3C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SALTA		**0.83**	**89**	*e*P		**Pn**	**12 18 22.2**	**-0.4**
SALTA				eS		**Sn**	**12 18 43.0**	**-0.6**
AF01	**San Pedro de A**	**1.54**	**326**			**Pn**	**12 18 29.8**	**+1.6**
AF01	**San Pedro de A**	**1.54**	**326**	*e*P		Pn	12 18 40.4	+12
AF01				eS		**Sn**	**12 18 55.8**	**+2.2**
AF01				IAML			12 19 10.3	
comp=Z,221nm,0.6s								
SLA	**San Lorenzo**	**1.66**	**107**	*e*P		**Pn**	**12 18 28.9**	**-0.2**
SLA				eS		**Sn**	**12 18 54.2**	**-1.1**
SLA	**San Lorenzo**	**1.66**	**107**	*e*P		**Pn**	**12 18 29.3**	**+0.1**
SLA				eS		**Sn**	**12 18 54.9**	**-0.3**
AZAP	**Zapla**	**1.99**	**90**	*e*P		Pn	12 18 26.4	-6.3
AZAP				*e*P			12 18 32.2	
FSA	**Cafayete**	**2.19**	**149**	*e*P		**Pn**	**12 18 34.7**	**0.0**
GO02	**Mina Guanaco**	**2.32**	**246**			**Pn**	**12 18 37.3**	**+0.9**
GO02	**Mina Guanaco**	**2.32**	**246**	*e*P		**Pn**	**12 18 37.3**	**+0.9**
GO02				*i* S		**Sn**	**12 19 08.8**	**+0.6**
GO02				IAML			12 19 10.4	
comp=N,491nm,0.2s								
GO02	**Mina Guanaco**	**2.32**	**246**	*e*P		Pn	12 18 26.4	-10
YJA	**Yavi**	**2.60**	**38**	*e*P		**Pn**	**12 18 40.0**	**+0.2**
YJA	**Yavi**	**2.60**	**38**	*e*P		**Pn**	**12 18 40.5**	**+0.7**
YJA				*e*P			12 18 40.7	
YJA				eS		**Sn**	**12 19 14.1**	**-0.2**
PB06	**IPOC Station P**	**2.63**	**305**			**Pn**	**12 18 40.6**	**+0.9**
PB06	**IPOC Station P**	**2.63**	**305**	*e*P		**Pn**	**12 18 40.7**	**+0.9**
PB06				eS		**Sn**	**12 19 14.0**	**-0.3**
PB06				IAML			12 19 20.1	
comp=Z,319nm,0.4s								
PB14	**IPOC Station P**	**2.90**	**262**			**Pn**	**12 18 43.7**	**+0.5**
PB14	**IPOC Station P**	**2.90**	**262**	*e*P		**Pn**	**12 18 43.5**	**+0.3**
PB14				eS		**Sn**	**12 19 19.6**	**-0.8**
PB14	**IPOC Station P**	**2.90**	**262**	*e*P		**Pn**	**12 18 43.9**	**+0.6**
PB14				eS		**Sn**	**12 19 19.9**	**-0.6**
PB14				IAML			12 19 21.2	
comp=Z,92nm,0.1s								
PB05	**IPOC Station P**	**3.04**	**296**			**Pn**	**12 18 45.5**	**+0.8**
PB05	**IPOC Station P**	**3.04**	**296**	*e*P		**Pn**	**12 18 45.3**	**+0.6**
PB05				eS		**Sn**	**12 19 21.5**	**-1.7**
PB05				IAML			12 19 23.5	
comp=E,199nm,0.3s								
PB05	**IPOC Station P**	**3.04**	**296**	*e*P		**Pn**	**12 18 45.3**	**+0.6**
PB05				eS		**Sn**	**12 19 22.4**	**-0.8**
PB05				IAML			12 19 24.3	
comp=Z,140nm,0.5s								
PB09	**IPOC Station P**	**3.05**	**323**			**Pn**	**12 18 46.6**	**+1.7**
PB09	**IPOC Station P**	**3.05**	**323**	*e*P		**Pn**	**12 18 46.2**	**+1.3**
PB09				eS		**Sn**	**12 19 23.9**	**+0.4**
PB09				IAML			12 19 25.8	
comp=N,285nm,0.5s								
PB09	**IPOC Station P**	**3.05**	**323**	*e*P		**Pn**	**12 18 46.3**	**+1.4**
PB09				eS		**Sn**	**12 19 24.0**	**+0.6**
PB09				IAML			12 19 24.4	
comp=Z,213nm,0.5s								
AC02	**Maricunga**	**3.09**	**213**			**Pn**	**12 18 46.4**	**+0.8**
AC02	**Maricunga**	**3.09**	**213**	*e*P		**Pn**	**12 18 46.5**	**+0.8**
AC02				eS		Sn	12 19 34.9	+10
PB10	**IPOC Station P**	**3.11**	**283**			**Pn**	**12 18 46.5**	**+1.0**
PB10	**IPOC Station P**	**3.11**	**283**	*e*P		**Pn**	**12 18 46.1**	**+0.7**
PB10				eS		**Sn**	**12 19 23.3**	**-1.2**
PB10				IAML			12 19 29.1	
comp=N,182nm,0.4s								
PB10	**IPOC Station P**	**3.11**	**283**	*e*P		**Pn**	**12 18 46.2**	**+0.7**
PB10				eS		**Sn**	**12 19 24.1**	**-0.4**
PB10				IAML			12 19 30.4	
comp=Z,106nm,0.4s								
AC01	**Pan de Azucar**	**3.58**	**237**			**Pn**	**12 18 50.7**	**-0.5**
AC01	**Pan de Azucar**	**3.58**	**237**	*e*P		**Pn**	**12 18 50.6**	**-0.5**
AC01				eS		**Sn**	**12 19 33.4**	**-1.6**
AC01				IAML			12 19 36.6	
comp=Z,65nm,0.3s								
PB01	**IPOC Station P**	**3.80**	**327**			**Pn**	**12 18 54.2**	**+0.2**
PB01	**IPOC Station P**	**3.80**	**327**	*e*P		**Pn**	**12 18 53.9**	**-0.2**
PB01				eS		**Sn**	**12 19 38.2**	**-1.7**
PB01				IAML			12 19 40.7	
comp=Z,125nm,0.2s								
AC06	**Mina Casimiro**	**4.18**	**221**			**Pn**	**12 18 58.0**	**-0.8**
GO03	**Copiapo**	**4.29**	**218**			**Pn**	**12 18 59.2**	**-1.0**
GO03	**Copiapo**	**4.29**	**218**	*e*P		**Pn**	**12 18 59.4**	**-0.8**
GO03				eS		**Sn**	**12 19 49.9**	**-1.2**
PATCX	**Punta Patache**	**4.34**	**321**			**Pn**	**12 19 01.5**	**+0.5**
PATCX	**Punta Patache**	**4.34**	**321**	*e*P		**Pn**	**12 19 00.5**	**-0.4**
PATCX				eS		**Sn**	**12 19 48.2**	**-4.1**
PATCX				IAML			12 20 04.8	
comp=Z,60nm,0.5s								
CYA	**Choya**	**4.38**	**163**	*e*P		**Pn**	**12 19 01.9**	**+0.5**
PB08	**IPOC Station P**	**4.45**	**336**			**Pn**	**12 19 03.1**	**+0.4**
TA01	**Diego Aracena**	**4.55**	**323**			**Pn**	**12 19 03.4**	**-0.2**
TA01	**Diego Aracena**	**4.55**	**323**	*e*P		**Pn**	**12 19 02.8**	**-0.9**
TA01				eS		**Sn**	**12 19 56.4**	**-0.8**
TA01				IAML			12 19 58.7	
comp=Z,49nm,0.5s								
VCA	**Vinchina**	**4.56**	**191**	*e*P		**Pn**	**12 19 05.3**	**+1.5**
VCA				eS		**Sn**	**12 19 59.3**	**+1.8**
HMBC	**Humberstone**	**4.64**	**328**			**Pn**	**12 19 03.8**	**-1.1**
GO01	**Chusmiza**	**4.90**	**338**			**Pn**	**12 19 09.3**	**+0.8**
GO01	**Chusmiza**	**4.90**	**338**	*e*P		**Pn**	**12 19 09.0**	**+0.4**
GO01				eS		**Sn**	**12 20 05.4**	**-0.5**
PB11	**IPOC Station P**	**4.99**	**333**			**Pn**	**12 19 08.5**	**-0.9**
PB11	**IPOC Station P**	**4.99**	**333**	*e*P		**Pn**	**12 19 08.2**	**-1.2**
PB11				eS		**Sn**	**12 20 05.3**	**-2.2**
PB11				IAML			12 20 07.7	
comp=Z,28nm,0.3s								
ACLC	**CERRO LA CRUZ**	**5.17**	**177**	*e*P		**Pn**	**12 19 11.9**	**+0.3**
ACLC				eS		**Sn**	**12 20 12.3**	**+0.6**
AC04	**Llanos de Chal**	**5.23**	**220**			**Pn**	**12 19 10.7**	**-1.7**
AC04	**Llanos de Chal**	**5.23**	**220**	*e*P		**Pn**	**12 19 10.5**	**-1.8**
AC04				eS		**Sn**	**12 20 05.2**	**-7.7**
AC04				IAML			12 20 11.6	
comp=Z,42nm,0.5s								
AGUA	**GUANDACOL**	**5.34**	**192**	*e*P		**Pn**	**12 19 14.3**	**+0.4**
AGUA				eS		**Sn**	**12 20 19.2**	**+3.6**
AGUA				IAML			12 20 19.7	
comp=Z,13nm,1.0s								
LCO	**Las Campanas**	**5.67**	**212**			**Pn**	**12 19 16.4**	**-1.8**
CO01	**Juntas del Tor**	**6.25**	**203**			**Pn**	**12 19 25.2**	**-0.6**
CO03	**El Pedregal**	**7.25**	**204**	Pn		**Pn**	**12 19 38.1**	**-0.7**
LPAZ	**La Paz**	**7.96**	**354**			**Pn**	**12 19 48.5**	**-0.3**
LPAZ	**La Paz**	**7.96**	**354**	P		**Pn**	**12 19 49.3**	**+0.5**
comp=Z,4.3nm,0.3s,baz=164,slow=5.5,SNR=34								
LPAZ				S		**Sn**	**12 21 16.7**	**-1.8**
comp=Z,2.9nm,0.8s,baz=332,slow=17,SNR=5.6								
SIV	**San Ignacio**	**10.05**	**36**	P		**Pn**	**12 20 12.6**	**-3.1**
comp=Z,1.6nm,0.5s,baz=212,slow=16,SNR=8.2								
TRCB	**Terra Rica**	**13.48**	**87**	P		**P**	**12 21 02.0**	**-0.7**
TRQA	**Tornquist**	**14.49**	**163**	Pn		**Pn**	**12 21 10.5**	**-1.6**
PLCA	**Paso Flores**	**16.68**	**189**			**P**	**12 21 37.7**	**-0.3**
PLCA				IAmb		IAmb	12 22 18.0	
comp=Z,6.1nm,0.8s								
VAO	**Valinhos**	**18.63**	**90**	P		**P**	**12 21 58.8**	**-0.7**
VAO				IAmb		IAmb	12 21 59.1	
comp=Z,11nm,1.0s								
LL02	**Futaleuf**	**19.28**	**190**			**P**	**12 22 07.9**	**+1.7**
LL02				IAmb		IAmb	12 22 10.6	
comp=Z,8.3nm,0.6s								
BDFB	**Brasilia**	**19.98**	**68**			**P**	**12 22 12.9**	**-1.3**
BDFB	**Brasilia**	**19.98**	**68**	P		**P**	**12 22 12.8**	**-1.4**
comp=Z,7.7nm,0.6s,baz=236,slow=13,SNR=9.1								
SNAA	**Sanae**	**59.20**	**161**	P		**P**	**12 27 37.8**	**+0.8**
SNAA	**Sanae**	**59.20**	**161**	P		**P**	**12 27 37.6**	**+0.6**
comp=Z,0.9nm,0.9s,baz=299,slow=10,SNR=2.5								
comp=Z,0.9nm,0.9s								
QSPA	**South Pole Qui**	**65.96**	**180**	P		**P**	**12 28 24.0**	**+2.0**
QSPA				IAmb		IAmb	12 28 31.2	
comp=Z,2.5nm,1.1s								
QSPA	**South Pole Qui**	**65.96**	**180**	P		**P**	**12 28 23.6**	**+1.6**
comp=Z,1.3nm,0.6s,baz=298,slow=1.7,SNR=12								
comp=Z,1.3nm,0.6s								
DBIC	**Dimbokro**	**68.09**	**72**	P		**P**	**12 28 37.0**	**+0.9**
comp=Z,7.1nm,1.0s,baz=239,slow=5.9,SNR=3.4								
comp=Z,7.1nm,1.0s								
MKAR	**Makanchi Array**	**146.85**	**40**	PKPbc		**PKPbc**	**12 37 17.2**	**+1.0**
comp=Z,0.4nm,0.6s,baz=290,slow=3.7,SNR=4.7								

*NEIC **08** 12:21:27.7±1.8,35˚67N±0˚02×117˚50W±0˚02,h10km±2km, Error ellipse: s-maj=3.0km s-min=2.9km az=285.0*
PAS 08 12:21:28.5±1.7,35˚67N±0˚01×117˚52W±0˚02,h9km±7km, ML3.3/18,ML2.9/76(NEIC),Error ellipse: s-maj=2.6km s-min=1.8km az=95.0,Central California

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.16**	**337**			Pg	12 21 31.9	-0.1
SRTC	**Snort**	**0.18**	**276**			Pg	12 21 32.7	+0.3
CCCA	**Chr Cany lake**	**0.20**	**138**			Pg	12 21 32.9	+0.3
LRMC	**Laurel Mtn Rad**	**0.23**	**214**			Pg	12 21 33.1	-0.2
TOW	**Tower One**	**0.24**	**305**			Pg	12 21 33.7	+0.3
WNMM	**Nine Mile Cany**	**0.35**	**299**			Pg	12 21 35.4	-0.1
WVPM	**Volcano Peak E**	**0.37**	**319**			Pg	12 21 35.6	-0.2
WVPM						Sg	12 21 40.8	+0.2
MPMC	**Manual Prospec**	**0.39**	**4**			Pg	12 21 35.9	-0.3
MPMC				IAML			12 21 41.8	
comp=E,2μm,0.6s								
MPMC				IAML			12 21 49.9	
comp=N,2μm,0.3s								
DTP	**Desert Tortois**	**0.48**	**213**			Pg	12 21 37.4	-0.5
MFS	**McCloud Flat S**	**0.52**	**329**			Pg	12 21 37.0	-1.7
QSM	**Queen of Sheba**	**0.61**	**61**			Pg	12 21 40.0	-0.3
QSM				IAML			12 21 51.6	
comp=E,608nm,0.4s								
QSM				IAML			12 21 51.8	
comp=N,1μm,0.6s								
GSC	**Goldstone, Bar**	**0.69**	**122**	Pg		Pg	12 21 41.5	-0.4
ISA	**Isabella, Lake**	**0.77**	**270**			Pg	12 21 42.9	-0.6
ISA				IAML			12 21 53.7	
comp=E,424nm,0.3s								
ISA				IAML			12 21 54.0	
comp=N,414nm,0.1s								
GWY	**Greenwater Val**	**0.86**	**53**			Pg	12 21 44.9	-0.3
GWY				IAML			12 21 58.7	
comp=N,383nm,0.5s								
GWY				IAML			12 22 01.1	
comp=E,451nm,0.6s								
CWC	**Cottonwood Cre**	**0.89**	**330**			Pg	12 21 45.5	-0.2
CWC				IAML			12 21 58.5	
comp=N,282nm,0.2s								
CWC				IAML			12 22 00.6	
comp=E,241nm,0.2s								
TPO	**Tropico Hills**	**0.98**	**216**			Pg	12 21 47.2	-0.1
TPO				IAML			12 22 06.5	
comp=E,419nm,0.8s								
TPO				IAML			12 22 07.7	
comp=N,248nm,0.7s								
SPG2	**Springville 2**	**1.14**	**298**			Pg	12 21 49.3	-1.1
AMDNV	**Amargosa**	**1.27**	**52**			Pn	12 21 51.1	-1.4
DSCC	**Desert Studies**	**1.27**	**114**			Pn	12 21 50.7	-1.9
GRAC	**Grapevine Rang**	**1.33**	**5**			Pn	12 21 52.8	-0.6
GRAC				IAML			12 22 14.9	
comp=N,291nm,0.4s								
GRAC				IAML			12 22 20.4	
comp=E,280nm,0.4s								
WCT	**Wildcat Mounta**	**1.33**	**33**			Pn	12 21 52.3	-1.1
BFSC	**Mount Baldy Ra**	**1.43**	**184**			Pn	12 21 54.3	-0.5
BFSC				IAML			12 22 15.5	
comp=N,163nm,0.6s								
BFSC				IAML			12 22 18.2	
comp=E,168nm,0.6s								
MWC	**Mount Wilson**	**1.51**	**197**			Pb	12 21 56.8	0.0
MWC				IAML			12 22 17.9	
comp=E,280nm,0.5s								
MWC				IAML			12 22 18.0	
comp=N,225nm,0.5s								
PASC	**Pasadena Art C**	**1.59**	**200**			Pn	12 21 56.4	-0.5
PASC				IAML			12 22 21.9	
comp=E,94nm,0.5s								
MTPC	**Mountain Pass**	**1.62**	**96**			Pn	12 21 56.0	-1.4
MTPC				IAML			12 22 21.5	
comp=N,113nm,0.2s								
MTPC				IAML			12 22 21.7	
comp=E,145nm,0.3s								
TPNV	**Topopah Spring**	**1.64**	**39**			Pn	12 21 57.1	-0.6
TPNV				IAML			12 22 22.6	
comp=E,97nm,0.3s								
TPNV				IAML			12 22 22.8	
comp=E,100nm,0.5s								
GMN	**Gold Mountain**	**1.64**	**7**			Pn	12 21 57.0	-0.7
GMN				IAML			12 22 23.8	
comp=N,78nm,0.5s								
GTM	**Goat Mountain**	**1.68**	**145**			Pb	12 21 59.2	-0.4
DSP	**Deep Springs**	**1.73**	**348**			Pn	12 21 58.5	-0.3
DSP				IAML			12 22 24.5	
comp=N,65nm,0.5s								
GMRC	**Granite Mounta**	**1.76**	**120**			Pn	12 21 57.2	-2.2
ELS	**Elsinore Mount**	**2.02**	**178**			Pn	12 22 02.4	-0.5
ELS				IAML			12 22 35.7	
comp=E,64nm,0.4s								
ELS				IAML			12 22 40.0	
comp=N,48nm,0.5s								
MZP	**Montezuma Peak**	**2.03**	**3**			Pn	12 22 02.8	-0.3
DGR	**Domenigoni Val**	**2.06**	**168**			Pn	12 22 02.9	-0.5
SHPR	**Sheep Range**	**2.09**	**66**			Pn	12 22 03.5	-0.3
PFO	**Pinyon Flats O**	**2.23**	**157**			Pn	12 22 04.8	-1.0
PFO				IAML			12 22 40.2	
comp=N,39nm,0.6s								
TPH	**Tonopah**	**2.41**	**6**			Pn	12 22 08.2	-0.1
TPH				IAML			12 22 52.4	
comp=E,104nm,1.0s								
LHV	**Little Huntoon**	**2.69**	**343**			Pn	12 22 12.4	+0.4
LHV				IAML			12 23 07.1	
comp=N,28nm,1.6s								
NV11	**Mina Array Sit**	**2.80**	**350**			Pn	12 22 13.5	-0.1
NVAR	**Mina Array Bea**	**2.82**	**347**			Pn	12 22 14.2	+0.2
W13A	**Hualapai Mount**	**3.03**	**100**			Pn	12 22 15.6	-1.2
W13A				IAML			12 23 06.1	
comp=E,18nm,0.5s								
RYN	**Ryan**	**3.06**	**345**			Pn	12 22 17.7	+0.5

*NIED **08** 12:22:32.6,46˚94N×153˚15E,h30km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.02; Mθθ1.09; Mφφ-1.11; Mrθ-0.23; Mθφ0.05; Mφr0.37; Fault plane solution: M₀1.18000×10¹⁵ NP1: φs225.00000°,δ70.00000°,λ-176.00000°. NP2: φs133.00000°,δ87.00000°,λ-21.00000°.*
*MOS **08** 12:22:35.1±1.2,46˚85N×152˚92E,h54km,mb4.5/9 Error ellipse: s-maj=10.2km s-min=6.3km az=62.5*
*SKHL **08** 12:22:36.8±0.7,46˚70N×153˚00E,h74km±6km,mb4.8/5*
*NEIC **08** 12:22:37.9±1.2,47˚1N±0˚1×152˚5E±0˚2,h47km±8km, mb4.1/12,Error ellipse: s-maj=21.1km s-min=10.0km az=140.0*
*IDC **08** 12:22:37.2±0.8,46˚88N×152˚86E,h54km±7km,mb3.8/16, mbtmp4.0/23,MS3.1/10,Error ellipse: s-maj=17.2km s-min=12.2km az=128.0*
*ANF **08** 12:23:15.5±0.4,49˚66N×155˚96E,h123km±3km,Mb4.2/46, Error ellipse: s-maj=5.9km s-min=4.3km az=48.0*
ISC 08 12:22:37.6±0.6,46˚80N±0˚07×152˚92E±0˚07,h62km±5km, h62km:pP-P,n252,σ1§48/248,mb4.1/24,2C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.85**	**248**	*d* iPN		**Pn**	**12 23 34.6**	**+0.3**
KUR				*e*S		**Sn**	**12 24 19.5**	**+1.1**
KUR				pmax		pmax		
comp=N,37nm,0.4s								
KUR				pmax		pmax		
comp=Z,104nm,0.4s								
KUR				pmax		pmax		
comp=E,13nm,0.2s								
KUR				smax		smax		
comp=N,452nm,0.5s								
KUR				smax		smax		
comp=E,113nm,0.4s								
KUR	**Kuril'sk**	**3.85**	**248**	*i* P		**Pn**	**12 23 33.8**	**-0.5**
KUR				AMB		AMB	12 23 36.3	
comp=E,100nm,0.4s								
KUR				*i* S		**Sn**	**12 24 16.8**	**-1.6**
KUR				A		A	12 24 33.8	
comp=E,350nm,0.6s								
KUR				A		A	12 24 33.8	
comp=E,540nm,0.6s								
SKR	**Severo-Kuril's**	**4.42**	**27**	*e*PN		**Pn**	**12 23 41.7**	**-0.4**
SKR				*e*S		**Sn**	**12 24 28.6**	**-3.6**
SKR				pmax		pmax		
comp=Z,82nm,0.5s								
SKR				smax		smax		
comp=E,423nm,0.5s								
SKR				smax		smax		
comp=N,485nm,0.6s								
SKR				MLR		MLR		
comp=Z,400nm,13.0s								
SKR	**Severo-Kuril's**	**4.42**	**27**	*e*P		**Pn**	**12 23 41.5**	**-0.6**
SKR				AMB		AMB	12 23 42.7	
comp=Z,90nm,0.8s								
SKR				*e*S		**Sn**	**12 24 29.4**	**-2.8**
SKR				A		A	12 24 33.4	
comp=Z,210nm,0.5s								
SKR				A		A	12 24 33.4	
comp=Z,280nm,0.5s								
SHO	**Shikotan**	**5.20**	**238**	*i* PN		**Pn**	**12 23 51.7**	**-1.0**
SHO				*i* S		**Sn**	**12 24 54.0**	**+2.7**
SHO				pmax		pmax		
comp=Z,37nm,0.4s								
SHO				pmax		pmax		
comp=N,37nm,0.3s								
SHO				pmax		pmax		
comp=E,31nm,0.3s								
SHO				smax		smax		
comp=N,166nm,0.5s								
SHO				smax		smax		
comp=E,87nm,0.4s								
SHO	**Shikotan**	**5.20**	**238**	*i* P		**Pn**	**12 23 51.7**	**-1.0**
SHO				AMB		AMB	12 24 04.1	
comp=E,40nm,0.4s								
SHO				*e*S		**Sn**	**12 24 48.5**	**-2.8**
SHO				A		A	12 25 13.4	
comp=E,170nm,0.5s								
SHO				A		A	12 25 13.4	
comp=E,90nm,0.5s								
PAU	**Pauzhetka**	**5.32**	**27**	*e*P		**Pn**	**12 23 54.2**	**-0.2**
PAU				AMB		AMB	12 24 05.7	
comp=E,50nm,0.3s								
PAU				*e*S		**Sn**	**12 24 52.0**	**-2.2**
PAU				A		A	12 24 52.9	
comp=E,260nm,0.3s								
PAU				A		A	12 24 52.9	
comp=E,320nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**5.69**	**243**	*c* iPN		**Pn**	**12 23 59.6**	**+0.2**
YUK				*i* S		**Sn**	**12 25 05.0**	**+1.7**
YUK				pmax		pmax		
comp=N,57nm,0.4s								
YUK				pmax		pmax		
comp=Z,87nm,0.4s								
YUK				pmax		pmax		
comp=E,12nm,0.3s								
YUK				smax		smax		
comp=E,339nm,0.5s								
YUK				smax		smax		
comp=N,153nm,0.7s								
YUK	**Yuzh-Kuril'sk**	**5.69**	**243**	*e*P		**Pn**	**12 23 59.0**	**-0.4**
YUK				AMB		AMB	12 24 01.2	
comp=N,90nm,0.4s								
YUK				*i* S		**Sn**	**12 25 00.6**	**-2.7**
YUK				A		A	12 25 25.7	
comp=N,150nm,0.5s								
YUK				A		A	12 25 25.7	
comp=N,340nm,0.5s								
RUSJ	**Misakicho**	**6.03**	**246**	*e*PN		**Pn**	**12 24 06.4**	**+2.2**
RUSJ				*e*S		**Sn**	**12 25 14.7**	**+2.9**
GLVR	**Golovnino**	**6.05**	**242**	*e*PN		**Pn**	**12 24 03.9**	**-0.6**
GLVR				*e*S		**Sn**	**12 25 16.8**	**+4.5**
GLVR	**Golovnino**	**6.05**	**242**	*e*P		**Pn**	**12 24 03.9**	**-0.6**
NMR	**Nemuro--Hokkai**	**6.14**	**239**	*i* PN		**Pn**	**12 24 03.3**	**-2.3**
NMR	**Nemuro--Hokkai**	**6.14**	**239**	*i* P		**Pn**	**12 24 03.3**	**-2.3**
NMR				*i* S		**Sn**	**12 25 10.0**	**-4.4**
AKK	**Akkeshi**	**6.87**	**240**	*e*P		**Pn**	**12 24 13.2**	**-2.4**
YSS	**Yuzhno-Sakhali**	**6.97**	**275**			**Pn**	**12 24 13.2**	**-3.8**
YSS	**Yuzhno-Sakhali**	**6.97**	**275**	*e*PN		**Pn**	**12 24 18.4**	**+1.4**
YSS				pmax		pmax		
comp=Z,20nm,1.0s								
YSS				pmax		pmax		
comp=Z,100nm,5.1s								
YSS				MLR		MLR		
comp=Z,200nm,16.0s								
YSS				MLR		MLR		
comp=N,100nm,15.0s								
YSS				MLR		MLR		
comp=E,100nm,16.0s								
YSS	**Yuzhno-Sakhali**	**6.97**	**275**	*e*P		**Pn**	**12 24 17.9**	**+0.9**
YSS				eS		**Sn**	**12 25 32.8**	**-2.0**
PEA0B	**Petropavlovsk-**	**7.02**	**24**	Pn		**Pn**	**12 24 16.4**	**-1.3**
PEA0B	**Petropavlovsk-**	**7.02**	**24**	PN		**Pn**	**12 24 16.4**	**-1.3**
PETK	**Petropavlovsk-**	**7.02**	**24**	Pn		**Pn**	**12 24 15.7**	**-2.0**
PETK	**Petropavlovsk-**	**7.02**	**24**	P		**Pn**	**12 24 17.1**	**-0.6**
comp=E,2.3nm,0.3s,baz=338,slow=17,SNR=8.7								
PET	**Petropavlovsk**	**7.24**	**29**	Pn		**Pn**	**12 24 19.4**	**-1.2**
PET	**Petropavlovsk**	**7.24**	**29**	*e*PN		**Pn**	**12 24 17.6**	**-3.0**
PET				pmax		pmax		
comp=Z,11n

SEY	**Seymchan**	**16.17**	**359**	P	**Pn**	**12 26 21.1 +0.6**
	comp=Z,1.2nm,0.4s,baz=195,slow=9.7,SNR=9.2					
SEY				LR	LR	12 33 15.7
	comp=Z,24nm,19.5s,baz=184,slow=40					
SEY	**Seymchan**	**16.17**	**359**	*i* P	**P**	**12 26 21.6 -1.1**
SEY				pmax	pmax	
	comp=Z,1.0nm,0.4s					
HEH	**HeiHe**	**17.22**	**291**	*e*P	**P**	**12 26 34.9 +0.5**
HEH				pmax	pmax	
	comp=Z,12nm,0.8s					
ZEA	**Zeya**	**17.75**	**302**	*e*P	**Pn**	**12 26 43.2 +3.0**
ZEA	**Zeya**	**17.75**	**302**	*e*P	**P**	**12 26 37.9 -2.4**
YAK	**Yakutsk**	**20.21**	**327**	LR	LR	12 34 16.4
	comp=Z,58nm,20.8s,baz=118,slow=35					
YAK	**Yakutsk**	**20.21**	**327**	*i* P	**P**	**12 27 06.2 -0.8**
YAK				pmax	pmax	
	comp=Z,9.0nm,0.5s					
KSRS	**Korea Array**	**20.69**	**252**	P	Pn	12 27 13.8 -1.4
	comp=Z,1.8nm,0.6s,baz=59,slow=11,SNR=10					
	comp=Z,1.8nm,0.6s					
BILL	**Bilibino**	**22.37**	**13**	*i* P	**P**	**12 27 30.4 +0.2**
BILL				pmax	pmax	
	comp=Z,3.0nm,1.0s					
BILL	**Bilibino**	**22.37**	**13**	*e*P	**P**	**12 27 30.4 +0.2**
M11K	**Mekoryuk**	**27.29**	**45**	P	**P**	**12 28 16.9 +1.0**
	baz=260					
J14K	**Nanvaranak Lak**	**29.02**	**41**	P	**P**	**12 28 31.6 +0.4**
	baz=258					
L14K	**Kuka Creek**	**29.16**	**44**	P	**P**	**12 28 33.6 +1.1**
	baz=262					
H11N2	**WAKE ISLAND Hy**	**29.33**	**152**	T	T	12 59 41.1
	baz=340,slow=76,SNR=839					
H11N1	**WAKE ISLAND Hy**	**29.34**	**152**	T	T	12 59 45.3
	baz=340,slow=76,SNR=525					
H11N3	**WAKE ISLAND Hy**	**29.34**	**152**	T	T	12 59 44.5
	baz=340,slow=76,SNR=6.8					
F15K	**North Star Dit**	**29.38**	**35**	P	**P**	**12 28 34.8 +0.3**
	baz=251					
G15K	**Niukluk**	**29.40**	**36**	P	**P**	**12 28 35.6 +1.0**
	baz=253					
M14K	**Bethel**	**29.41**	**45**	P	**P**	**12 28 36.1 +1.3**
	baz=264					
N14K	**Kuskokwak Cree**	**29.45**	**47**	P	**P**	**12 28 36.7 +1.7**
	baz=266					
O14K	**Tigyukauivet M**	**29.61**	**48**	P	**P**	**12 28 37.9 +1.5**
	baz=268					
SDPT	**Sand Point**	**29.99**	**56**	P	P	12 28 43.8 +3.9
	baz=276					
M15K	**Kasigluk River**	**30.03**	**45**	P	**P**	**12 28 41.1 +0.9**
	baz=265					
C16K	**Lisburne Hills**	**30.08**	**30**	P	**P**	**12 28 41.6 +1.1**
	baz=245					
H11S1	**WAKE ISLAND Hy**	**30.41**	**153**	T	T	13 01 06.8
	baz=341,slow=75,SNR=874					
H11S3	**WAKE ISLAND Hy**	**30.42**	**154**	T	T	13 01 00.1
	baz=341,slow=75,SNR=662					
H11S2	**WAKE ISLAND Hy**	**30.43**	**153**	T	T	13 01 06.1
	baz=341,slow=75,SNR=837					
D17K	**Noatak River**	**30.65**	**31**	P	**P**	**12 28 46.1 +0.6**
	baz=249					
C17K	**DeLong Mountai**	**30.90**	**30**	P	**P**	**12 28 47.9 +0.1**
	baz=248					
E17K	**Hotham Inlet**	**30.90**	**33**	P	**P**	**12 28 47.7 -0.1**
	baz=252					
G17K	**Kiwalik Mounta**	**30.91**	**36**	P	**P**	**12 28 47.3 -0.6**
	baz=256					
F17K	**Baldwin Pennin**	**30.93**	**34**	P	**P**	**12 28 48.6 +0.6**
	baz=253					
CHGN	**Chignik**	**31.10**	**54**	P	P	12 28 52.8 +3.1
	baz=276					
J17K	**VABM Dome**	**31.15**	**40**	P	**P**	**12 28 50.1 +0.1**
	baz=262					
L17K	**Donlin**	**31.33**	**43**	P	**P**	**12 28 53.1 +1.4**
	baz=265					
K17K	**Iditarod**	**31.40**	**42**	P	**P**	**12 28 53.2 +0.9**
	baz=264					
E18K	**Tukpahlearik C**	**31.46**	**32**	P	**P**	**12 28 53.4 +0.7**
	baz=252					
F18K	**Selawik**	**31.59**	**34**	P	**P**	**12 28 54.6 +0.8**
	baz=255					
C18K	**Utukok River**	**31.64**	**30**	P	**P**	**12 28 55.4 +1.0**
	baz=250,SNR=6.0					
M17K	**Holitna River**	**31.67**	**44**	P	**P**	**12 28 55.9 +1.3**
	baz=267					
B18K	**Kokolik River**	**31.69**	**29**	P	**P**	**12 28 55.8 +1.0**
	baz=248					
N17K	**Nushagak Hills**	**31.74**	**46**	P	**P**	**12 28 55.9 +0.7**
	baz=269					
O17K	**Koliganek Bris**	**31.75**	**47**	P	**P**	**12 28 56.4 +1.0**
	baz=270					
H18K	**Honhosa River**	**31.77**	**37**	P	**P**	**12 28 55.7 +0.2**
	baz=259					
G18K	**Tagagawik**	**31.81**	**36**	P	**P**	**12 28 56.6 +0.8**
	baz=257					
P17K	**Kvichak River**	**32.08**	**49**	P	**P**	**12 28 60.0 +1.7**
	baz=272					
L18K	**Granite Mounta**	**32.09**	**43**	P	**P**	**12 28 58.7 +0.3**
	baz=266					
J18K	**Innoko River**	**32.21**	**40**	P	**P**	**12 28 59.5 +0.1**
	baz=264					
A19K	**Wainwright**	**32.24**	**27**	P	**P**	**12 29 00.9 +1.4**
	baz=247					
GCSA	**Galena City Sc**	**32.32**	**38**	P	**P**	**12 29 00.9 +0.6**
	baz=261					
C19K	**Lookout Ridge**	**32.34**	**30**	P	**P**	**12 29 01.7 +1.1**
	baz=251,SNR=5.3					
F19K	**Shaleruckik Mo**	**32.37**	**34**	P	**P**	**12 29 01.5 +0.8**
	baz=257					
N18K	**Kilae Creek**	**32.38**	**46**	P	**P**	**12 29 02.5 +1.5**
	baz=270					
M18K	**Stony River**	**32.45**	**44**	P	**P**	**12 29 02.8 +1.3**
	baz=268					
G19K	**Purcell Mounta**	**32.49**	**35**	P	**P**	**12 29 02.9 +1.2**
	baz=259					
H19K	**Roundabout Mou**	**32.63**	**37**	P	**P**	**12 29 03.7 +0.7**
	baz=260,SNR=8.4					
D19K	**Kuna River**	**32.67**	**31**	P	**P**	**12 29 03.8 +0.4**
D19K	**Kuna River**	**32.67**	**31**	P	**P**	**12 29 04.0 +0.6**
	baz=253					
P18K	**Big Mountain,**	**32.70**	**48**	P	**P**	**12 29 05.7 +1.9**
	baz=272					
E19K	**Redstone River**	**32.72**	**33**	P	**P**	**12 29 04.5 +0.7**
	baz=256					
J19K	**Poorman**	**32.76**	**40**	P	**P**	**12 29 04.8 +0.7**
	baz=264,SNR=5.5					
Q18K	**Katmai Hardscr**	**32.83**	**50**	P	**P**	**12 29 06.7 +1.7**
	baz=274					
F20K	**Avaraart Lake**	**33.20**	**34**	P	**P**	**12 29 09.1 +1.1**
	baz=258					
D20K	**Etivluk River**	**33.26**	**31**	P	**P**	**12 29 09.4 +0.9**
	baz=255					
H20K	**Anotleneega Mo**	**33.27**	**37**	P	**P**	**12 29 09.8 +1.2**
	baz=262,SNR=6.1					
E20K	**Nigu River**	**33.30**	**32**	P	**P**	**12 29 09.5 +0.6**
	baz=256					
J20K	**Nowinta River**	**33.42**	**39**	P	**P**	**12 29 10.6 +0.7**
	baz=265					
B20K	**Meade River**	**33.44**	**29**	P	**P**	**12 29 11.3 +1.4**
	baz=252,SNR=12					
GUMO	**Guam**	**33.79**	**194**	LR	LR	12 39 34.2
	comp=Z,22nm,21.6s,baz=238,slow=30					
G21K	**Allakaket**	**33.98**	**35**	P	**P**	**12 29 15.5 +0.8**
	baz=262					
C21K	**Knifeblade Rid**	**34.01**	**30**	P	**P**	**12 29 15.9 +0.9**
	baz=256,SNR=6.6					
E21K	**Killik River**	**34.14**	**32**	P	**P**	**12 29 17.4 +1.2**
	baz=258					
H21K	**Melozitna Rive**	**34.15**	**37**	P	**P**	**12 29 17.4 +1.1**
	baz=264					
B21K	**Ikpikpuk River**	**34.18**	**30**	P	**P**	**12 29 18.0 +1.6**
	baz=255					
A22K	**Sinclair Lake**	**34.43**	**27**	P	**P**	**12 29 19.9 +1.4**
	baz=253					
I21K	**Tanana**	**34.44**	**38**	P	**P**	**12 29 19.7 +0.9**
	baz=265					
D22K	**Ayikyak River**	**34.69**	**31**	P	**P**	**12 29 21.8 +0.9**
	baz=259					
B22K	**Teshekpuk Lake**	**34.76**	**29**	P	**P**	**12 29 22.6 +1.2**
	baz=255					
H22K	**Ishtalitna Cre**	**34.76**	**37**	P	**P**	**12 29 22.9 +1.4**
	baz=265					
BPAW	**Bear Paw Mtn.**	**34.80**	**40**	P	**P**	**12 29 23.0 +1.1**
	baz=268					
G22K	**Bettles**	**34.82**	**35**	P	**P**	**12 29 23.2 +1.2**
	baz=263					
E22K	**Anaktuvuk Pass**	**34.88**	**33**	P	**P**	**12 29 23.7 +1.2**
	baz=261,SNR=14					
MLY	**Manley**	**34.95**	**38**	P	**P**	**12 29 23.9 +0.7**
	baz=267					
COLD	**Coldfoot**	**35.36**	**34**	P	**P**	**12 29 27.5 +0.8**
	baz=264					
G23K	**Bananza Creek**	**35.38**	**35**	P	**P**	**12 29 27.7 +0.8**
	baz=265					
D23K	**Nanushuk River**	**35.42**	**31**	P	**P**	**12 29 28.2 +1.1**
	baz=260					
H23K	**Yukon River**	**35.51**	**37**	P	**P**	**12 29 28.9 +1.0**
	baz=267					
I23K	**Minto, Yukon-K**	**35.54**	**38**	P	**P**	**12 29 29.4 +1.2**
	baz=268					
C23K	**Itkillik River**	**35.59**	**30**	P	**P**	**12 29 30.0 +1.5**
	baz=259,SNR=5.1					
SEW	**Seward**	**35.59**	**47**	P	**P**	**12 29 30.1 +1.5**
	baz=276					
NEA2	**Nenana**	**35.65**	**39**	P	**P**	**12 29 30.5 +1.3**
	baz=269					
PMR	**Palmer**	**35.65**	**44**	P	**P**	**12 29 30.9 +1.8**
	baz=274					
E23K	**Chandalar**	**35.68**	**33**	P	**P**	**12 29 30.5 +1.0**
	baz=263,SNR=6.3					
MCK	**McKinley**	**35.70**	**40**	P	**P**	**12 29 30.7 +1.1**
	baz=271					
TOLK	**Toolik Lake Re**	**35.77**	**32**	P	**P**	**12 29 31.3 +1.1**
	baz=262					
E24K	**Your Creek**	**36.10**	**33**	P	**P**	**12 29 34.0 +0.9**
	baz=264,SNR=5.7					
D24K	**Happy Valley**	**36.11**	**31**	P	**P**	**12 29 34.2 +1.2**
	baz=262					
H24K	**Noodor Dome**	**36.19**	**37**	P	**P**	**12 29 35.1 +1.2**
	baz=268					
C24K	**Franklin Bluff**	**36.23**	**30**	P	**P**	**12 29 34.9 +0.9**
	baz=261					
F24K	**Squaw Lake**	**36.28**	**34**	P	**P**	**12 29 35.8 +1.2**
	baz=265					
M23K	**Glacier View**	**36.31**	**44**	P	**P**	**12 29 36.2 +1.3**
	baz=275					
POKR	**Poker Plat Res**	**36.36**	**38**	P	**P**	**12 29 36.3 +1.1**
	baz=270					
G24K	**Hadweenzic Riv**	**36.39**	**35**	P	**P**	**12 29 36.8 +1.3**
	baz=267,SNR=7.1					
HDA	**Harding Lake**	**36.57**	**39**	P	**P**	**12 29 37.8 +0.8**
	baz=271					
ILAR	**Eielson Array**	**36.59**	**39**	P	**P**	**12 29 37.6 +0.4**
	comp=Z,1.2nm,1.0s,baz=264,slow=7.1,SNR=12					
ILAR				pP	**pP**	**12 29 51.0 -0.9**
	comp=Z,0.3nm,0.5s,baz=263,slow=10,SNR=3.6					
	comp=Z,1.2nm,1.0s					
G25K	**Bearman Lake**	**36.94**	**35**	P	**P**	**12 29 41.1 +1.0**
	baz=268					
D25K	**Kavik River**	**36.99**	**31**	P	**P**	**12 29 41.4 +0.8**
	baz=264,SNR=12					
H25L	**Birch Creek**	**37.04**	**36**	P	**P**	**12 29 41.7 +0.8**
	baz=269					
K24K	**Donnelly Dome**	**37.10**	**40**	P	**P**	**12 29 42.4 +0.9**
	baz=273					
F25K	**Christian Rive**	**37.15**	**34**	P	**P**	**12 29 43.0 +1.1**
	baz=268					
PRP	**Porcupine Dome**	**37.16**	**37**	P	**P**	**12 29 43.2 +1.0**
PRP	**Porcupine Dome**	**37.16**	**37**	P	**P**	**12 29 43.0 +0.8**
	baz=271					
E25K	**Arctic Village**	**37.20**	**33**	P	**P**	**12 29 43.6 +1.2**
	baz=267					
Q23K	**Middleton Isla**	**37.22**	**47**	P	**P**	**12 29 44.6 +2.1**
	baz=279					
J25K	**Salcha River,**	**37.24**	**39**	P	**P**	**12 29 43.7 +0.9**
	baz=272					
EYAK	**Cordova Ski Ar**	**37.38**	**46**	P	**P**	**12 29 45.5 +1.6**
	baz=278					
F26K	**Sheenjek River**	**37.72**	**34**	P	**P**	**12 29 48.4 +1.6**
	baz=269					
G26K	**Porcupine Rive**	**37.86**	**35**	P	**P**	**12 29 49.0 +1.1**
G26K				IAmb	IAmb	12 29 50.5
	comp=Z,2.4nm,0.8s					
G26K	**Porcupine Rive**	**37.86**	**35**	P	**P**	**12 29 49.5 +1.7**
	baz=270					
SCRK	**Sand Creek**	**37.88**	**40**	P	**P**	**12 29 49.4 +1.2**
	baz=274					
BMRM	**Bremner River**	**37.88**	**45**	P	**P**	**12 29 49.8 +1.5**
	baz=278					
C27K	**Jago River**	**37.95**	**31**	P	**P**	**12 29 49.8 +1.1**
	baz=266					
J26L	**Joseph Creek**	**38.03**	**39**	P	**P**	**12 29 50.4 +1.0**
	baz=274					
L26K	**Log Cabin Wild**	**38.24**	**41**	P	**P**	**12 29 52.8 +1.5**
	baz=276					
M26K	**Nabesna, AK**	**38.47**	**42**	P	**P**	**12 29 54.6 +1.4**
	baz=278					
NRIK	**Noril'sk**	**38.65**	**329**	LR	LR	12 47 50.2
	comp=Z,20nm,19.4s,baz=113,slow=39					
E27K	**Coen River**	**38.69**	**33**	P	**P**	**12 29 56.1 +1.2**
	baz=270					
K27K	**Chicken**	**38.71**	**40**	P	**P**	**12 29 56.4 +1.3**
K27K				IAmb	IAmb	12 29 56.8
	comp=Z,2.9nm,0.9s					
K27K	**Chicken**	**38.71**	**40**	P	**P**	**12 29 56.3 +1.3**
	baz=276					
H27K	**Steamboat Moun**	**38.78**	**36**	P	**P**	**12 29 57.2 +1.5**
	baz=273					
D27M	**Malcolm River**	**38.91**	**31**	P	**P**	**12 29 58.6 +1.8**
	baz=270					
L27K	**Beaver Creek,**	**38.93**	**41**	P	**P**	**12 29 58.7 +1.8**
L27K				IAmb	IAmb	12 29 59.6
	comp=Z,2.6nm,0.8s					
L27K	**Beaver Creek,**	**38.93**	**41**	P	**P**	**12 29 58.7 +1.8**
	baz=278					
BCAR	**Beaver Creek A**	**38.95**	**41**	P	**P**	**12 29 59.1 +2.0**
M27K	**Edge Creek, AK**	**38.99**	**42**	P	**P**	**12 29 59.4 +1.7**
	baz=278					
F28M	**Old Crow**	**39.36**	**34**	P	**P**	**12 30 02.2 +1.8**
	baz=273					
E28M	**Babbage River**	**39.44**	**32**	P	**P**	**12 30 02.7 +1.6**
	baz=272					
BVCY	**Beaver Creek**	**39.46**	**42**	P	**P**	**12 30 03.3 +1.9**
	baz=279					
I28M	**Miner Creek**	**39.49**	**37**		**P**	**12 30 03.0 +1.3**
I28M				IAmb	IAmb	12 30 03.5
	comp=Z,3.6nm,1.1s					
I28M	**Miner Creek**	**39.49**	**37**	P	**P**	**12 30 03.2 +1.5**
	baz=276,SNR=5.1					
DAWY	**Dawson**	**39.88**	**39**	P	**P**	**12 30 06.1 +1.2**
DAWY	**Dawson**	**39.88**	**39**	P	**P**	**12 30 06.6 +1.7**
	baz=278					
E29M	**Blow River**	**40.05**	**33**	P	**P**	**12 30 08.6 +2.5**
	baz=274					
H29M	**Whitestone**	**40.06**	**36**	P	**P**	**12 30 08.3 +2.0**
	baz=276					
G29M	**Pine Creek**	**40.12**	**35**	P	**P**	**12 30 09.1 +2.3**
	baz=276					
M29M	**Somme Creek**	**40.55**	**42**	P	**P**	**12 30 12.4 +1.9**
M29M	**Somme Creek**	**40.55**	**42**	P	**P**	**12 30 12.8 +2.3**
	baz=281					
L29M	**L29M**	**40.59**	**41**		**P**	**12 30 12.8 +2.1**
L29M				IAmb	IAmb	12 30 13.6
	comp=Z,3.8nm,0.8s					
L29M	**L29M**	**40.59**	**41**	P	**P**	**12 30 12.8 +2.1**
	baz=280,SNR=5.5					
EPYK	**Eagle Plains**	**40.70**	**36**	P	**P**	**12 30 13.2 +1.6**
	baz=277					
K29M	**Barlow Dome**	**40.73**	**40**	P	**P**	**12 30 13.8 +1.8**
	baz=280					
G30M	**tAoh Zraii Nji**	**40.82**	**35**	P	**P**	**12 30 14.1 +1.4**
	baz=277					
I30M	**Mount Dempster**	**41.00**	**37**		**P**	**12 30 15.6 +1.4**
I30M	**Mount Dempster**	**41.00**	**37**	P	**P**	**12 30 15.4 +1.2**
	baz=279,SNR=7.3					
J30M	**Hart River**	**41.12**	**38**	P	**P**	**12 30 16.8 +1.6**
	baz=280					
M30M	**Minto, Yukon**	**41.29**	**41**	P	**P**	**12 30 18.6 +2.1**
	baz=282					
MAYO	**Mayo, Yukon**	**41.49**	**40**	P	**P**	**12 30 19.6 +1.5**
	baz=282					
G31M	**Satah River**	**41.59**	**35**	P	**P**	**12 30 20.5 +1.6**
	baz=279					
INK	**Inuvik**	**41.68**	**32**	P	**P**	**12 30 20.3 +0.8**
INK				IAmb	IAmb	12 30 21.2
	comp=Z,3.1nm,0.8s					
INK	**Inuvik**	**41.68**	**32**	P	**P**	**12 30 20.3 +0.8**
INK				pmax	pmax	
	comp=Z,3.0nm,0.8s					
INK	**Inuvik**	**41.68**	**32**	P	**P**	**12 30 21.1 +1.7**
	baz=278					
F31M	**Tsiigehtchic**	**41.72**	**34**	P	**P**	**12 30 21.4 +1.5**
	baz=278					
H31M	**Peel River**	**41.74**	**36**	P	**P**	**12 30 21.9 +1.7**
	baz=280					
P30M	**Million Dollar**	**41.75**	**45**	P	**P**	**12 30 22.4 +2.1**
	baz=285					
N31M	**Braeburn, Yuko**	**41.99**	**43**	P	**P**	**12 30 24.2 +2.0**
	baz=284					
O30N	**Mendenhall**	**42.01**	**44**	P	**P**	**12 30 24.7 +2.2**
	baz=285					
M31M	**Drury Creek, Y**	**42.46**	**42**	P	**P**	**12 30 28.1 +2.0**
	baz=284					
S31K	**Pelican**	**42.69**	**48**	P	P	12 30 31.2 +3.3
	baz=288					
FARO	**Faro, Yukon**	**42.93**	**41**	P	**P**	**12 30 31.7 +1.8**
	baz=285					
S32K	**Killisnoo**	**43.69**	**48**	P	P	12 30 39.5 +3.6
	baz=290					
P33M	**Teslin, Yukon**	**43.73**	**44**	P	**P**	**12 30 38.7 +2.4**
	baz=288					
MMPY	**Sheldon Lake,**	**43.77**	**40**	P	**P**	**12 30 38.6 +2.1**
	baz=286					
R33M	**Jennings River**	**44.87**	**45**	P	P	12 30 48.7 +3.2
	baz=290					
MK31	**Makanchi Array**	**46.80**	**297**	*i* P	**P**	**12 30 59.6 -1.2**
MKAR	**Makanchi Array**	**46.80**	**297**	P	**P**	**12 30 59.9 -0.9**
	comp=Z,0.8nm,0.8s,baz=66,slow=6.8,SNR=7.0					
MKAR				PcP	**PcP**	**12 32 33.3 +0.3**
	comp=Z,0.5nm,0.5s,baz=68,slow=3.9,SNR=3.8					
	comp=Z,0.8nm,0.8s					
KURK	**Kurchatov**	**47.23**	**304**	*i* P	**P**	**12 31 02.8 -1.2**
KURK				pmax	pmax	
	comp=Z,3.0nm,1.2s					
KURK	**Kurchatov**	**47.23**	**304**	*e*P	**P**	**12 31 02.8 -1.2**
KURBB	**Kurchatov Arra**	**47.32**	**303**	P	**P**	**12 31 03.6 -1.0**
	comp=Z,0.7nm,0.5s,baz=69,slow=8.5,SNR=4.8					
	comp=Z,0.7nm,0.5s					
EUNU	**Eureka**	**49.10**	**11**	P	**P**	**12 31 18.2 +0.1**
RES	**Resolute Bay**	**50.83**	**19**	LR	LR	12 57 18.5
	comp=Z,47nm,18.0s,baz=19,slow=41					
CMAR	**Chiang Mai Arr**	**52.26**	**256**	P	**P**	**12 31 43.5 +1.0**
	comp=Z,1.3nm,0.7s,baz=34,slow=7.4,SNR=8.7					
	comp=Z,1.3nm,0.7s					
AAK	**Ala-Archa**	**53.69**	**296**	LR	LR	12 57 03.1
	comp=Z,40nm,18.6s,baz=164,slow=38					
ARCES	**ARCESS Array B**	**57.76**	**341**	P	**P**	**12 32 21.1 -0.5**
	comp=Z,2.1nm,1.0s,baz=22,slow=7.0,SNR=3.9					
	comp=Z,2.1nm,1.0s					
ARCES	**ARCESS Array B**	**57.76**	**341**	*e*P	**P**	**12 32 22.7 +1.1**
ARCES				pmax	pmax	
	comp=Z,2.0nm,0.9s					
FINES	**FINESS Array B**	**63.94**	**335**	P	**P**	**12 33 03.0 -0.6**
	comp=Z,2.6nm,0.4s,baz=39,slow=7.5,SNR=22					
	comp=Z,2.6nm,0.4s					
PDAR	**Pinedale Array**	**64.82**	**54**	P	**P**	**12 33 10.8 +0.8**
	comp=Z,0.8nm,0.8s,baz=318,slow=2.0,SNR=8.0					
	comp=Z,0.8nm,0.8s					
OBN	**Obninsk**	**65.19**	**325**	*e*P	**P**	**12 33 12.4 +0.6**
OBN				*e**PP	**pP**	**12 33 30.0 +2.0**
OBN				*e**SP	**sP**	**12 33 36.7 +2.0**
OBN				*e*		12 33 44.6
OBN				*e*		12 35 34.1
OBN				*e*PPP	PPP	12 37 07.9
OBN				pmax	pmax	
	comp=Z,3.0nm,0.9s					
OBN	**Obninsk**	**65.19**	**325**	*e*P	**P**	**12 33 12.4 +0.6**
NB2	**NORSAR Subarra**	**68.14**	**341**	P	**P**	**12 33 29.9 -0.7**
	comp=Z,1.7nm,0.6s,baz=28,slow=6.5					
NOA	**NORSAR Array B**	**68.14**	**341**	P	**P**	**12 33 30.2 -0.4**
	comp=Z,1.3nm,0.3s,baz=27,slow=6.3,SNR=12					
NOA				LR	LR	13 07 09.1
	comp=Z,13nm,19.4s,baz=280,slow=39					
	comp=Z,1.3nm,0.3s					
NOA	**NORSAR Array B**	**68.14**	**341**	*e*P	**P**	**12 33 30.2 -0.4**
NOA				pmax	pmax	
	comp=Z,3.0nm,0.8s					
HFS	**Hagfors**	**68.36**	**339**	P	**P**	**12 33 31.4 -0.6**
	comp=Z,5.2nm,0.5s,baz=58,slow=5.6,SNR=28					
	comp=Z,5.2nm,0.5s					
WRA	**Warramunga Arr**	**68.52**	**199**	P	**P**	**12 33 33.2 -0.1**
	comp=Z,0.6nm,0.8s,baz=19,slow=6.8,SNR=7.2					
WRA				pP	**pP**	**12 33 48.2 -1.0**
	comp=Z,0.4nm,0.7s,baz=19,slow=6.9,SNR=2.8					
	comp=Z,0.6nm,0.8s					
KBZ	**Khabaz**	**70.73**	**314**	P	**P**	**12 33 47.0 +0.3**
	comp=Z,1.3nm,0.5s,baz=9.8,slow=6.5,SNR=3.9					
	comp=Z,1.3nm,0.5s					
KBZ	**Khabaz**	**70.73**	**314**	*e*P	**P**	**12 33 48.8 +2.0**
KBZ				pmax	pmax	
	comp=Z,1.0nm,0.5s					
AKASG	**Malin Array Be**	**71.43**	**326**	P	**P**	**12 33 50.0 -1.0**
	comp=Z,3.6nm,0.5s,baz=35,slow=6.2,SNR=15					
	comp=Z,3.6nm,0.5s					
AKASG	**Malin Array Be**	**71.43**	**326**	*e*P	**P**	**12 33 49.9 -1.0**
AKASG				pmax	pmax	
	comp=Z,3.0nm,0.5s					
ASAR	**Alice Springs**	**72.22**	**198**	P	**P**	**12 33 57.0 +1.2**
	comp=Z,0.8nm,0.6s,baz=14,slow=4.9,SNR=19					
ASAR				pP	**pP**	**12 34 11.9 0.0**
	comp=Z,0.5nm,0.6s,baz=19,slow=4.5,SNR=2.6					
	comp=Z,0.8nm,0.6s					
GNI	**Garni**	**72.40**	**310**	LR	LR	13 09 43.9
	comp=Z,22nm,18.4s,baz=150,slow=39					
TXAR	**Lajitas Array**	**77.58**	**60**	P	**P**	**12 34 27.9 +0.9**
	comp=Z,0.4nm,0.6s,baz=296,slow=4.8,SNR=12					
	comp=Z,0.4nm,0.6s					
TXAR	**Lajitas Array**	**77.58**	**60**	P	**P**	**12 34 28.0 +0.9**
BRTR	**Keskin Array B**	**78.26**	**317**	P	**P**	**12 34 30.9 +0.1**
	comp=Z,1.1nm,0.8s,baz=75,slow=6.5,SNR=4.8					
	comp=Z,1.1nm,0.8s					
QSPA	**South Pole Qui**	**136.54**	**180**	PKPdf	**PKiKP**	**12 41 52.8 -0.1**
H03N2	**Juan Fernandez**	**138.88**	**90**	T	T	15 16 52.1
	baz=306,SNR=13					
H03N1	**Juan Fernandez**	**138.90**	**90**	T	T	15 16 53.3
	baz=306,slow=74,SNR=13					
H03N3	**Juan Fernandez**	**138.90**	**90**	T	T	15 16 55.1
	baz=306,slow=74,SNR=14					
BELA	**Belgrano 2**	**148.68**	**177**	PKPdf	**PKiKP**	**12 42 15.4 -2.1**
SNAA	**Sanae**	**152.57**	**196**	PKPbc	**PKiKP**	**12 42 25.4 -0.4**
SNAA	**Sanae**	**152.57**	**196**	PKIKP	**PKiKP**	**12 42 25.4 -0.4**

*IDC **08** 12:23:15.9±1.3,24.12N×69.22E,h0km,mb3.6/4, mbtmp3.6/4,ML1.6/1,Error ellipse: s-maj=41.8km s-min=28.1km az=46.0*

ISC 08 12:23:20.7±0.8,24.16N±0.06×69.07E±0.06,h35km,n16, σ2.50/23,mb3.6/4,India-Pakistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHUJ	**Bhuj**	**1.04**	**149**	*e*P	**Pn**	**12 23 37.6**	**-1.2**
BHUJ				IAML		12 23 51.4	
	comp=E,2μm,0.2s						
BHUJ				*e*S	**Sn**	**12 23 52.9**	**+0.7**
BHUJ				IAML		12 23 54.5	
	comp=E,1μm,0.2s						
JASL	**Jaisalmer**	**3.21**	**31**	*e*P	**Pn**	**12 24 09.9**	**+1.2**
JASL				*e*S	**Sn**	**12 24 50.4**	**+4.6**
JASL				IAML		12 24 59.3	
	comp=E,1μm,0.6s						
JASL				IAML		12 25 11.9	
	comp=E,1μm,0.4s						
BHV

comp=E,0.3nm,0.4s
FINES FINESS Array B 47.32 334 P **P** **12 31 52.0 +1.4**
comp=E,0.9nm,0.7s,baz=123,slow=7.0,SNR=4.7
comp=E,0.9nm,0.7s
WRA Warramunga Arr 77.20 119 P **P** **12 35 11.7 +0.2**
comp=E,0.6nm,0.7s,baz=314,slow=5.1,SNR=7.1
comp=E,0.6nm,0.7s
ASAR Alice Springs 78.83 122 P **P** **12 35 20.2 -0.3**
comp=E,0.4nm,0.8s,baz=304,slow=5.1,SNR=5.6
comp=E,0.4nm,0.8s

CATAC ***08*** *12:27:24.1±0.7, 13°N±3°×9°0W±°, h11km±6km, M3.5/12, MLv3.5/12, Error ellipse: s-maj=7.6km s-min=4.7km az=20.5, confirmed*
SNET ***08*** *12:27:26.3±1.0, 12°.89N×89°.55W, h27km±4km, ML3.4*
ISC 08 12:27:26.8±2.6, 12°.8N±0°.1×89°.58W±0°.07, h43km, n54, σ0$87/57, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.70**	**21**	*e*P	**Pn**	**12 27 39.1**	**-1.3**
LOMA	**Loma Larga**	**0.91**	**26**	*e*P	**Pn**	**12 27 42.2**	**-1.0**
LOMA	**Loma Larga**	**0.91**	**26**	P	**Pn**	**12 27 42.3**	**-1.0**
LOMA	**Loma Larga**	**0.91**	**26**	S	**Sn**	**12 27 55.8**	**+0.5**
LFRS	**El Faro**	**0.94**	**32**	*e*P	**Pn**	**12 27 42.8**	**-1.0**
UEES	**Universidad Ev**	**0.94**	**20**	*e*P	**Pn**	**12 27 43.0**	**-0.8**
BOQS	**Boqueron**	**0.95**	**18**	*e*P	**Pn**	**12 27 42.9**	**-1.1**
CEVE	**Cerro Verde**	**1.00**	**357**	*e*P	**Pn**	**12 27 43.7**	**-0.9**
CEVE				IAML		12 28 02.0	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**1.00**	**357**	P	**Pn**	**12 27 44.0**	**-0.6**
CEVE	**Cerro Verde**	**1.00**	**357**	S	**Sn**	**12 27 58.8**	**+1.2**
SBLS	**San Blas**	**1.01**	**357**	*e*P	**Pn**	**12 27 43.8**	**-1.0**
SBLS				*e*S	**Sn**	**12 27 58.5**	**+0.5**
LFU	**La Fuente**	**1.02**	**26**	*e*P	**Pn**	**12 27 44.1**	**-0.7**
SNJE	**San Jose**	**1.04**	**358**	*e*P	**Pn**	**12 27 44.3**	**-0.9**
COEG	**Centro de Oper**	**1.04**	**41**	*e*P	**Pn**	**12 27 43.8**	**-1.3**
COEG				IAML		12 28 04.4	
	comp=Z,619nm,0.4s						
COEG	**Centro de Oper**	**1.04**	**41**	P	**Pn**	**12 27 44.0**	**-1.0**
COEG	**Centro de Oper**	**1.04**	**41**	S	**Sn**	**12 27 58.6**	**+0.1**
LBRS	**Las Brisas**	**1.05**	**30**	*e*P	**Pn**	**12 27 44.5**	**-0.6**
TECO	**Alcaldia de Te**	**1.05**	**48**	*e*P	**Pn**	**12 27 43.9**	**-1.2**
TECO	**Alcaldia de Te**	**1.05**	**48**	P	**Pn**	**12 27 44.0**	**-1.2**
TECO	**Alcaldia de Te**	**1.05**	**48**	S	**Sn**	**12 27 58.7**	**+0.1**
RTR	**El Retiro**	**1.07**	**356**	*e*P	**Pn**	**12 27 44.8**	**-0.7**
RTR				*e*S	**Sn**	**12 27 58.7**	**-0.6**
PAVA	**Las Pavas**	**1.08**	**35**	*e*P	**Pn**	**12 27 45.0**	**-0.6**
PAVA	**Las Pavas**	**1.08**	**35**	P	**Pn**	**12 27 45.0**	**-0.6**
PAVA	**Las Pavas**	**1.08**	**35**	S	**Sn**	**12 28 00.4**	**+0.9**
NUBE	**Las Nubes**	**1.09**	**350**	*e*P	**Pn**	**12 27 44.7**	**-1.1**
NUBE	**Las Nubes**	**1.09**	**350**	P	**Pn**	**12 27 44.9**	**-0.9**
NUBE	**Las Nubes**	**1.09**	**350**	S	**Sn**	**12 28 00.5**	**+0.7**
FAME	**Alcaldia de Sa**	**1.10**	**337**	P	**Pn**	**12 27 45.0**	**-0.8**
FAME	**Alcaldia de Sa**	**1.10**	**337**	S	**Sn**	**12 28 00.5**	**+0.7**
UESV	**Universidad de**	**1.11**	**44**	*e*P	**Pn**	**12 27 45.3**	**-0.8**
UESV	**Universidad de**	**1.11**	**44**	P	**Pn**	**12 27 45.3**	**-0.8**
UESV	**Universidad de**	**1.11**	**44**	S	**Sn**	**12 28 00.4**	**+0.2**
LOAL	**Lomas de Alarc**	**1.18**	**350**	*e*P	**Pn**	**12 27 46.7**	**-0.3**
LOAL	**Lomas de Alarc**	**1.18**	**350**	S	**Sn**	**12 28 03.5**	**+1.5**
LOAL	**Lomas de Alarc**	**1.18**	**350**	P	**Pn**	**12 27 47.0**	**0.0**
SCLA	**Alcaldia de Sa**	**1.20**	**43**	*e*P	**Pn**	**12 27 46.6**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.20**	**43**	S	**Sn**	**12 28 03.7**	**+1.4**
SCLA	**Alcaldia de Sa**	**1.20**	**43**	P	**Pn**	**12 27 46.8**	**-0.4**
SLOZ	**Alcaldia de Sa**	**1.21**	**350**	*e*P	**Pn**	**12 27 47.1**	**-0.3**
SLOZ	**Alcaldia de Sa**	**1.21**	**350**	P	**Pn**	**12 27 47.2**	**-0.2**
SLOZ	**Alcaldia de Sa**	**1.21**	**350**	S	**Sn**	**12 28 04.3**	**+1.6**
TECA	**Tecapa**	**1.24**	**57**	*e*P	**Pn**	**12 27 46.9**	**-1.0**
PQSS	**Presa 15 de Se**	**1.27**	**51**	*e*P	**Pn**	**12 27 47.3**	**-0.8**
PQSS				IAML		12 28 05.3	
	comp=Z,384nm,0.2s						
PQSS	**Presa 15 de Se**	**1.27**	**51**	P	**Pn**	**12 27 47.7**	**-0.4**
PQSS	**Presa 15 de Se**	**1.27**	**51**	S	**Sn**	**12 28 04.6**	**+0.6**
PACA	**Pacayal**	**1.38**	**62**	*e*P	**Pn**	**12 27 49.4**	**-0.3**
PACA				*e*S	**Sn**	**12 28 07.3**	**+0.4**
PACA	**Pacayal**	**1.38**	**62**	P	**Pn**	**12 27 49.6**	**-0.2**
PACA	**Pacayal**	**1.38**	**62**	S	**Sn**	**12 28 08.6**	**+1.7**
LCY	**Lacayo**	**1.38**	**64**	*e*P	**Pn**	**12 27 48.9**	**-0.9**
BLLM	**Bellamira**	**1.44**	**65**	*e*P	**Pn**	**12 27 50.0**	**-0.5**
CAHU	**Cacacuatique**	**1.63**	**55**	*e*P	**Pn**	**12 27 53.3**	**+0.1**
CNCH	**Conchagua**	**1.76**	**75**	*e*P	**Pn**	**12 27 54.2**	**-0.7**
CNCH	**Conchagua**	**1.76**	**75**	S	**Sn**	**12 28 17.1**	**+0.9**
CNCH	**Conchagua**	**1.76**	**75**	P	**Pn**	**12 27 54.6**	**-0.4**

NEIC ***08*** *12:42:37.3±1.4, 35°.708N±0°.009×117°.52W±0°.02, h8km±8km, Error ellipse: s-maj=2.4km s-min=0.7km az=62.0*
PAS 08 12:42:38.2±1.2, 35°.72N±0°.02×117°.57W±0°.02, h6km±5km, ML3.1/19, ML2.8/76(NEIC), Error ellipse: s-maj=2.2km s-min=2.2km az=136.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.10**	**347**		Pg	12 42 40.5	+0.1
SRTC	**Snort**	**0.15**	**261**		Pg	12 42 41.7	+0.4
TOW	**Tower One**	**0.18**	**300**		Pg	12 42 42.3	+0.4
CCCA	**Chr Cany lake**	**0.25**	**139**		Pg	12 42 43.5	+0.3
LRMC	**Laurel Mtn Rad**	**0.25**	**201**		Pg	12 42 43.1	-0.1
LRMC				IAML		12 42 47.9	
	comp=E,2μm,0.2s						
WNMM	**Nine Mile Cany**	**0.30**	**295**		Pg	12 42 44.1	0.0
WVPM	**Volcano Peak E**	**0.31**	**319**		Pg	12 42 44.2	-0.1
MPMC	**Manual Prospec**	**0.35**	**11**		Pg	12 42 44.8	-0.2
MPMC				IAML		12 42 50.2	
	comp=N,2μm,0.5s						
MPMC				IAML		12 42 50.2	
	comp=E,2μm,0.6s						
WRVM	**Rose V. Centra**	**0.39**	**318**		Pg	12 42 45.6	-0.2
MFS	**McCloud Flat S**	**0.46**	**330**		Pg	12 42 47.0	-0.2
DTP	**Desert Tortois**	**0.50**	**207**		Pg	12 42 47.4	-0.4
QSM	**Queen of Sheba**	**0.62**	**66**		Pg	12 42 49.8	-0.3
QSM				IAML		12 42 58.4	
	comp=N,574nm,0.4s						
QSM				IAML		12 43 02.3	
	comp=E,566nm,0.2s						
ISA	**Isabella, Lake**	**0.74**	**266**		Pg	12 42 52.0	-0.4
ISA				IAML		12 43 02.4	
	comp=N,408nm,0.3s						
ISA				IAML		12 43 02.9	
	comp=E,459nm,0.2s						
GSC	**Goldstone, Bar**	**0.75**	**123**		Pg	12 42 52.1	-0.4
GSC				IAML		12 43 02.8	
	comp=N,447nm,0.3s						
GSC				IAML		12 43 03.1	
	comp=E,463nm,0.4s						
CWC	**Cottonwood Cre**	**0.83**	**330**		Pg	12 42 53.9	-0.3
CWC				IAML		12 43 07.1	
	comp=E,185nm,0.2s						
GWY	**Greenwater Val**	**0.87**	**57**		Pg	12 42 54.3	-0.5
GWY				IAML		12 43 09.5	
	comp=E,464nm,0.4s						
GWY				IAML		12 43 11.0	
	comp=N,388nm,0.6s						
TPO	**Tropico Hills**	**0.99**	**213**		Pg	12 42 56.5	-0.7
TPO				IAML		12 43 14.8	
	comp=N,442nm,0.6s						
TPO				IAML		12 43 16.0	
	comp=E,451nm,0.7s						
ARVC	**Arvin**	**1.19**	**241**		Pg	12 43 00.9	-0.1
AMDNV	**Amargosa**	**1.28**	**54**		Pn	12 43 00.9	-1.6
GRAC	**Grapevine Rang**	**1.29**	**7**		Pn	12 43 02.0	-0.8
GRAC				IAML		12 43 24.0	
	comp=N,173nm,0.7s						
GRAC				IAML		12 43 24.7	
	comp=E,197nm,0.5s						
WCT	**Wildcat Mounta**	**1.32**	**35**		Pn	12 43 02.0	-1.2
TUQ	**Turquoise Moun**	**1.37**	**101**		Pn	12 43 03.2	-0.7
OSI	**Osito Audit: C**	**1.45**	**221**		Pn	12 43 04.7	-0.3
OSI				IAML		12 43 27.1	
	comp=N,131nm,0.6s						
OSI				IAML		12 43 28.1	
	comp=E,137nm,0.8s						
BFSC	**Mount Baldy Ra**	**1.48**	**183**		Pn	12 43 04.2	-1.2
BFSC				IAML		12 43 25.9	
	comp=N,123nm,0.4s						
BFSC				IAML		12 43 26.4	
	comp=E,129nm,0.3s						
MWC	**Mount Wilson**	**1.54**	**195**		Pn	12 43 05.8	-0.5
GMN	**Gold Mountain**	**1.60**	**9**		Pn	12 43 06.5	-0.7
GMN				IAML		12 43 30.6	
	comp=N,67nm,0.5s						
PASC	**Pasadena Art C**	**1.62**	**198**		Pn	12 43 07.0	-0.3
PASC				IAML		12 43 31.2	
	comp=N,97nm,0.3s						
PASC				IAML		12 43 31.3	
	comp=E,104nm,0.3s						
TPNV	**Topopah Spring**	**1.63**	**40**		Pn	12 43 06.5	-1.1
TPNV				IAML		12 43 35.3	
	comp=E,73nm,0.9s						
MTPC	**Mountain Pass**	**1.66**	**97**		Pn	12 43 06.9	-1.1
MTPC	**Mountain Pass**	**1.66**	**97**	IAML		12 43 33.0	
	comp=N,91nm,0.4s						
MTPC				IAML		12 43 33.3	
	comp=E,88nm,0.2s						
DSP	**Deep Springs**	**1.68**	**349**		Pn	12 43 07.8	-0.4
DSP				IAML		12 43 32.8	
	comp=E,60nm,0.5s						
ELS	**Elsinore Mount**	**2.07**	**177**		Pn	12 43 12.7	-0.8
ELS				IAML		12 43 46.4	
	comp=E,48nm,0.5s						
ELS				IAML		12 43 51.6	
	comp=N,43nm,0.6s						
SHPR	**Sheep Range**	**2.10**	**67**		Pn	12 43 13.8	-0.3
PMD	**Palm Desert**	**2.28**	**154**	Pn	Pn	12 43 14.9	-1.5
PFO	**Pinyon Flats O**	**2.29**	**156**		Pn	12 43 15.2	-1.4
FRD	**Ford Ranch, An**	**2.35**	**160**		Pn	12 43 16.6	-0.9
TPH	**Tonopah**	**2.37**	**7**	Pn	Pn	12 43 17.4	-0.4
SBI	**Santa Barbara**	**2.53**	**209**		Pn	12 43 17.0	-2.8
LHV	**Little Huntoon**	**2.64**	**344**	Pn	Pn	12 43 22.0	+0.7
LHV				IAML		12 44 08.6	
	comp=E,27nm,1.0s						
NV11	**Mina Array Sit**	**2.75**	**350**		Pn	12 43 22.8	-0.2
NVAR	**Mina Array Bea**	**2.77**	**348**		Pn	12 43 23.5	+0.1
BAR	**Barrett**	**3.12**	**166**	IAML		12 44 16.9	
	comp=E,34nm,0.6s						
BAR				IAML		12 44 17.0	
	comp=N,20nm,0.3s						

WEL 08 12:46:30.2±0.9, 36°S±7°×17°9W±°, h124km±25km, M3.6/9, ML3.9/10, MLv3.6/9, Error ellipse: s-maj=10.3km s-min=8.5km az=68.0, confirmed, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.50**	**236**	P	Pn	12 47 08.9	-1.1
MXZ				S	Sn	12 47 39.2	-1.4
WMGZ	**Waiomatatini S**	**2.57**	**230**	P	Pn	12 47 10.9	-0.1
WMGZ				S	Sn	12 47 43.3	+0.9
PKGZ	**Pakihiroa**	**2.81**	**233**	P	Pn	12 47 14.0	-0.1
PKGZ				S	Sn	12 47 48.4	+0.3
PUZ	**Puketiti**	**2.83**	**228**	P	Pn	12 47 14.1	-0.2
PUZ				S	Sn	12 47 48.7	+0.3
HAZ	**Te Kaha**	**2.95**	**237**	P	Pn	12 47 15.9	+0.1
HAZ				S	Sn	12 47 53.3	+2.2
TWGZ	**Tauwhareparae**	**3.06**	**229**	P	Pn	12 47 17.1	-0.3
TWGZ				S	Sn	12 47 56.2	+2.2
RUGZ	**Raukumara Rang**	**3.13**	**235**	P	Pn	12 47 19.0	+0.6
RUGZ				S	Sn	12 47 56.9	+1.3
CNGZ	**Carnagh Statio**	**3.14**	**223**	P	Pn	12 47 18.7	+0.3
TKGZ	**Te Karaka**	**3.31**	**227**	P	Pn	12 47 20.6	0.0
TKGZ				S	Sn	12 47 59.9	+0.2
MWZ	**Matawai**	**3.44**	**231**	P	Pn	12 47 22.4	+0.1
MWZ				S	Sn	12 48 02.6	-0.2
RIGZ	**Rimuhau**	**3.54**	**224**	P	Pn	12 47 24.3	+0.5
RIGZ				S	Sn	12 48 06.0	+0.8
RAGZ	**Rawiri**	**3.61**	**229**	P	Pn	12 47 24.5	-0.1
RAGZ				S	Sn	12 48 07.5	+0.7
URZ	**Urewera**	**3.67**	**235**	P	Pn	12 47 25.7	+0.5
SNGZ	**Shannon Statio**	**3.84**	**227**	S	Sn	12 48 13.2	+1.0
RTZ	**Ruatahuna**	**3.95**	**231**	P	Pn	12 47 29.4	+0.2
RTZ				S	Sn	12 48 15.3	+0.4
MUGZ	**Murupara**	**4.01**	**234**	P	Pn	12 47 29.9	0.0
MUGZ				S	Sn	12 48 16.5	+0.3
RAHZ	**Arahi**	**4.08**	**227**	P	Pn	12 47 31.4	+0.6
RAHZ				S	Sn	12 48 17.7	-0.1
MTHZ	**Maungataniwha**	**4.18**	**229**	P	Pn	12 47 33.1	+0.9
MTHZ				S	Sn	12 48 21.1	+0.7
KUZ	**Kuaotunu**	**4.22**	**261**	P	Pn	12 47 32.0	-0.7
BKZ	**Black Stump Fm**	**4.59**	**228**	P	Pn	12 47 37.3	-0.4
BKZ				S	Sn	12 48 29.5	-0.7
TOZ	**Tahuroa Road**	**4.60**	**249**	P	Pn	12 47 37.7	0.0
WIAZ	**Waiheke Island**	**4.70**	**261**	P	Pn	12 47 39.0	0.0
MKAZ	**Moumakai**	**4.71**	**257**	P	Pn	12 47 39.4	+0.2
KWHZ	**Kaweka Forest**	**4.80**	**226**	P	Pn	12 47 40.8	+0.3
KWHZ				S	Sn	12 48 35.2	+0.1
CTZ	**Chatham Island**	**7.76**	**167**	P	Pn	12 48 22.2	+1.9
CTZ				S	Sn	12 49 45.9	-0.7

IDC 08 12:51:53.6±1.8, 0°.78N×126°.77E, h0km, mb3.3/4, mbtmp3.4/4, MS3.4/1, Error ellipse: s-maj=170.4km s-min=23.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.89**	**161**	P	P	12 56 47.0	-1.4
	0.5nm,0.5s,baz=339,slow=11,SNR=10						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**25.27**	**165**	P	P	12 57 22.8	+1.0
	0.8nm,0.8s,baz=342,slow=11,SNR=13						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**60.00**	**326**	P	P	13 02 00.9	-1.2
	0.2nm,0.4s,baz=119,slow=8.3,SNR=2.1						
MKAR				LR	LR	13 31 16.6	
	comp=Z,29nm,18.0s,baz=157,slow=39						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.24**	**328**	P	P	13 02 31.4	+1.0
	0.2nm,0.5s,baz=124,slow=6.9,SNR=2.2						
	0.2nm,0.5s						

IDC 08 13:26:13.9±2.1, 0°.43N×126°.43E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=172.4km s-min=28.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.68**	**159**	P	P	13 31 05.8	-0.7
	0.5nm,0.6s,baz=338,slow=11,SNR=9.1						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**25.03**	**164**	P	P	13 31 40.4	+0.5
	0.2nm,0.3s,baz=346,slow=11,SNR=12						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**60.10**	**326**	P	P	13 36 23.0	-0.1
	0.1nm,0.4s,baz=128,slow=9.3,SNR=1.9						
	0.1nm,0.4s						

KOLA ***08*** *13:30:53.4, 68°.11N×33°.15E, h0km, ML2.3, Error ellipse: s-maj=2.2km s-min=1.4km az=100.0, Olenegorsk City, Mines*
HEL ***08*** *13:30:53.3±0.2, 68°.09N×33°.27E, h0km, ML1.9, Explosion Hypocentre not reviewed by the ISC*
IDC ***08*** *13:30:56.2±2.9, 68°.09N×32°.66E, h0km, mbtmp2.7/2, ML1.9/1, Error ellipse: s-maj=31.7km s-min=11.1km az=72.0*
ISC 08 13:30:51.1±0.9, 68°.14N±0°.03×33°.05E±0°.05, h0km, n13, σ1$33/18, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.54**	**182**	P	**Pg**	**13 31 01.6**	**+0.2**
APA0				S	**Sg**	**13 31 09.2**	**+0.8**
APA	**Apatity**	**0.59**	**167**	P	**Pg**	**13 31 03.5**	**+1.2**
LVZ	**Lovozero**	**0.65**	**111**	P	**Pg**	**13 31 03.9**	**+0.4**
LVZ				S	**Sg**	**13 31 11.7**	**-0.2**
LVZ	**Lovozero**	**0.65**	**111**	PG		13 31 03.2	
TERR	**Teriberka**	**1.30**	**34**	P	**Pg**	**13 31 16.2**	**+0.2**
TERR				S	**Sn**	**13 31 34.8**	**+0.2**
VRF	**Varrio**	**1.36**	**255**	PG		13 31 18.8	
VRF				MSG		13 31 36.1	
	comp=Z,9.2nm,0.2s						
VRF				SN		13 31 41.0	
KVDA	**Kovda**	**1.46**	**183**	P	**Pn**	**13 31 18.3**	**-0.4**
KVDA				S	**Sg**	**13 31 38.4**	**+0.5**
RAJF	**Raja-Jooseppi**	**1.79**	**283**	PG		13 31 26.6	
RAJF				SB		13 31 50.8	
OLKF	**Oulanka, Finla**	**2.32**	**220**	PB		13 31 33.2	
OLKF				MSG		13 32 02.2	
	comp=Z,4.4nm,0.2s						
VADS	**Vadso**	**2.39**	**328**	P	**Pn**	**13 31 32.1**	**+0.7**
VADS	**Vadso**	**2.39**	**328**	*e*P	**Pn**	**13 31 32.5**	**+1.1**
KU6	**Riekki**	**2.46**	**212**	PG		13 31 35.9	
	baz=35						
KU6				MSG		13 32 05.9	
	comp=Z,3.9nm,0.2s						
KEV	**Kevo**	**2.72**	**309**	*e*P	**Pb**	**13 31 40.1**	**-0.4**
KEV	**Kevo**	**2.72**	**309**	PB		13 31 39.9	
KEV				MSG		13 32 16.2	
	comp=Z,4.6nm,0.2s						
KEV				SB		13 32 17.6	
MSF	**Maaselka**	**2.74**	**217**	PB		13 31 40.0	
KU1	**Kurvinen**	**2.93**	**210**	PG		13 31 44.8	
ARA0	**ARCESS Array S**	**3.08**	**301**	PN		13 31 44.2	
ARCES	**ARCESS Array B**	**3.08**	**301**	Pn	**Pb**	**13 31 44.2**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=118,slow=13,SNR=28						
ARCES				Lg	Lg	13 32 30.0	
	comp=Z,0.5nm,0.3s,baz=109,slow=30,SNR=8.0						
	comp=Z,2.4nm,0.9s						
ARCES	**ARCESS Array B**	**3.08**	**301**	P	**Pb**	**13 31 44.2**	**-2.4**
ARCES				S	**Sn**	**13 32 19.8**	**+1.5**
KU2	**Taivalkoski**	**3.09**	**220**	PG		13 31 48.1	
RNF	**Rovaniemi**	**3.13**	**244**	PN		13 31 44.6	
	baz=63						
RANF	**Ranua**	**3.25**	**232**	PN		13 31 45.7	
HEF	**Hetta**	**3.50**	**279**	PN		13 31 49.4	
KLF	**Kolari**	**3.58**	**260**	PG		13 31 59.1	
KLF				SG		13 32 46.2	
KTK1	**Kautokeino**	**3.71**	**288**	PB		13 31 57.9	
ERTU	**Ertsjaerv**	**4.49**	**254**	PN		13 32 03.6	
I37NO	**I37NO**	**5.37**	**287**	I	I	14 03 30.0	
	baz=95,slow=315,SNR=1.9						
FAUS	**Fauske**	**6.78**	**272**	S	**Sn**	**13 33 49.8**	**+0.3**
FINES	**FINESS Array B**	**7.35**	**207**	Pn	**Pn**	**13 32 41.2**	**+1.7**
	comp=Z,0.9nm,0.8s,baz=29,slow=14,SNR=1.5						
FINES				Sn	**Sn**	**13 34 01.3**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=27,slow=22,SNR=1.2						
FINES				Lg	Lg	13 34 41.9	
	comp=Z,0.2nm,0.3s,baz=15,slow=28,SNR=2.9						

DJA ***08*** *13:44:59.0±0.6, 1°N±7°×12°6E±°, h10km, M2.8/4, MLv2.7/1*
IDC 08 13:44:55.4±1.8, 0°.58N×126°.34E, h0km, mb3.3/4, mbtmp3.3/4, MS3.3/2, Error ellipse: s-maj=171.4km s-min=23.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.05**	**79**	P	Pn	13 45 19.3	+2.0
DAV	**Davao City (W)**	**6.50**	**353**	LR	LR	13 49 32.5	
	comp=Z,97nm,18.2s,baz=206,slow=43						
WRA	**Warramunga Arr**	**21.85**	**159**	P	P	13 49 49.2	-0.5
	0.5nm,0.4s,baz=338,slow=11,SNR=6.7						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**25.19**	**164**	P	P	13 50 23.2	+0.3
	0.4nm,0.6s,baz=345,slow=11,SNR=28						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**59.93**	**326**	P	P	13 55 03.2	-0.2
	0.2nm,0.3s,baz=118,slow=8.2,SNR=2.6						
	0.2nm,0.3s						
RAO	**Raoul Island**	**60.85**	**124**	LR	LR	14 22 00.3	
	comp=Z,68nm,19.0s,baz=83,slow=37						
KURBB	**Kurchatov Arra**	**64.18**	**328**	P	P	13 55 32.0	+0.1
	0.2nm,0.6s,baz=124,slow=6.1,SNR=2.6						
	0.2nm,0.6s						

MOS ***08*** *13:54:20.4±0.9, 35°.49N×139°.21E, h35km, mb4.7/26, Error ellipse: s-maj=10.8km s-min=5.6km az=101.3*
NIED ***08*** *13:54:21.6, 35°.51N×139°.09E, h23km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr1.82; Mθθ-1.33; Mφφ-0.49; Mrθ0.91; Mθφ-0.90; Mφr1.12; Fault plane solution: M0 2.36000×10^15 NP1: φs248.00000°, δ28.00000°, λ110.00000°. NP2: φs46.00000°, δ64.00000°, λ80.00000°.*
JMA ***08*** *13:54:21.6±0.1, 35°.5N±0°.2×139°.1E±0°.2, h23km, MD4.3/20, MW4.2/20, EASTERN YAMANASHI PREF*
JMA Felt III J1 at EASTERN YAMANASHI PREF .
NEIC ***08*** *13:54:22.1±1.4, 35°.53N±0°.04×139°.10E±0°.06, h26km±5km, mb4.5/48, Error ellipse: s-maj=7.7km s-min=6.2km az=100.0*
IDC ***08*** *13:54:23.6±1.7, 35°.47N×138°.96E, h47km±14km, mb3.9/18, mbtmp4.1/23, ML3.5/4, MS3.5/24, Error ellipse: s-maj=17.5km s-min=12.9km az=90.0*
ISC 08 13:54:21.5±0.6, 35°.53N±0°.03×139°.17E±0°.03, h26km±4km, n224, σ1$46/189, mb4.5/60, MS3.6/25, 5C-12D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSGW	**Sagamiharawaka**	**0.08**	**22**	*i* P	**Pb**	**13 54 26.1**	**0.0**
JSGW				S	**Sb**	**13 54 29.5**	**+0.2**
JSGW	**Sagamiharawaka**	**0.08**	**22**	A	A	13 54 26.1	
	comp=N,134nm,2.7s,comp=E,56nm,0.7s						
JOD2	**Odawara 2**	**0.27**	**194**	*i* P	**Pb**	**13 54 27.1**	**-1.0**
JOD2				S	**Sb**	**13 54 31.6**	**-1.1**
JOD2	**Odawara 2**	**0.27**	**194**	A	A	13 54 27.1	
	comp=N,73nm,1.2s,comp=E,50nm,1.5s						
JYO	**Yokosk**	**0.50**	**126**	A	A	13 54 32.3	
	comp=N,60nm,1.4s,comp=E,69nm,1.3s						
TOK	**Tokyo**	**0.51**	**71**	A	A	13 54 32.8	
	comp=N,63nm,0.9s,comp=E,64nm,0.6s						
JYN	**Shimob**	**0.51**	**267**	⇓*i* P	**Pb**	**13 54 30.3**	**-1.7**
JYN				⇓S	**Sb**	**13 54 37.1**	**-2.0**
JYN	**Shimob**	**0.51**	**267**	A	A	13 54 30.3	
	comp=N,17nm,1.3s,comp=E,19nm,1.8s						
JFNN	**Fujinakano**	**0.52**	**230**	A	A	13 54 30.7	
	comp=N,27nm,0.5s,comp=E,27nm,2.1s						
JRY	**Ryogami san**	**0.54**	**336**	⇓*i* P	**Pb**	**13 54 31.9**	**-0.5**

MAJO **Matsushiro** 1.28 323 *i* P Pn 13 54 44.0 +0.3
HMMJ **Hamamatsu 2** 1.36 241 A A 13 54 44.5
comp=N,6.0nm,1.0s,comp=E,8.0nm,1.5s
JHYU **Hitachinakayam** 1.41 54 A A 13 54 47.3
comp=N,7.0nm,4.9s,comp=E,7.0nm,4.3s
JGF **Kuroka** 1.48 273 Pn 13 54 46.5 0.0
JGF **Kuroka** 1.48 273 P Pn 13 54 46.7 +0.2
JGF **Kuroka** 1.48 273 S Sb 13 55 05.9 -0.8
JSB **Shiboa** 1.56 23 A A 13 54 49.3
comp=N,7.0nm,2.2s,comp=E,15nm,1.5s
JAO **Obara** 1.58 261 A A 13 54 47.9
comp=N,5.0nm,3.4s,comp=E,4.0nm,1.5s
INU **Inuyama** 1.77 265 Pn 13 54 50.5 +0.1
INU **Inuyama** 1.77 265 P Pn 13 54 50.7 +0.3
INU **Inuyama** 1.77 265 S Sb 13 55 13.4 -1.5
JJN **Nakama** 1.77 333 A A 13 54 51.5
comp=N,12nm,2.0s,comp=E,6.0nm,2.9s
JTT **Ttatey** 1.84 306 A A 13 54 52.1
comp=N,9.0nm,2.2s,comp=E,6.0nm,1.8s
JAA **Atsumi** 1.89 242 A A 13 54 52.3
comp=N,2.0nm,4.9s,comp=E,2.0nm,6.8s
JICN **Ichinomiyachia** 1.91 264 A A 13 54 52.7
comp=N,8.0nm,2.9s,comp=E,6.0nm,2.4s
JIZZ **Izumozaki** 2.04 350 A A 13 54 55.7
comp=N,15nm,2.1s,comp=E,12nm,4.0s
JHJ2 **Mitsune** 2.47 167 Pn 13 55 00.9 +0.9
JHJ2 **Mitsune** 2.47 167 P Pn 13 55 01.3 +1.3
JSD **Sado** 2.61 344 P Pn 13 55 04.7 +2.7
JMM **Marumori** 2.68 29 Pn 13 55 04.3 +1.4
JMM **Marumori** 2.68 29 P Pn 13 55 04.8 +1.9
JMM **Marumori** 2.68 29 S Sb 13 55 39.7 -1.4
JMN **Monobe** 4.72 249 Pn 13 55 31.1 +0.2
JMN **Monobe** 4.72 249 P Pn 13 55 31.5 +0.5
JTM **Tenmabayashi** 5.46 15 P Pn 13 55 44.7 +3.5
ERM **Erimo** 7.19 24 Pn Pn 13 56 05.7 +0.8
ERM **Erimo** 7.19 24 *i* P Pn 13 56 05.8 +0.9
JEM **Erimo** 7.19 24 P Pn 13 56 07.3 +2.4
JNU **Nakatsue** 7.27 253 Pn Pn 13 56 06.1 +0.1
JNU **Nakatsue** 7.27 253 P Pn 13 56 05.8 -0.2
comp=E,0.5nm,0.3s,baz=282,slow=13,SNR=3.6
JNU LR LR 13 59 06.7
comp=E,440nm,18.5s,baz=70,slow=40
comp=E,6.9nm,0.8s
JNU **Nakatsue** 7.27 253 P Pn 13 56 06.6 +0.6
ASAJ **Asahikawa** 8.98 16 P Pn 13 56 30.5 +1.2
comp=E,0.9nm,0.3s,baz=232,slow=11,SNR=14
comp=E,1.9nm,0.4s
KSRS **Korea Array** 9.26 285 P Pn 13 56 34.5 +1.2
comp=E,0.3nm,0.3s,baz=103,slow=14,SNR=5.1
comp=E,0.7nm,0.4s
TEY **Ternei** 9.70 349 *e*P Pn 13 56 36.3 -3.0
SHO **Shikotan** 10.21 33 *e*P Pn 13 56 45.5 -0.7
SHO *i* S Sn 13 58 32.7 -7.1
USA0B **Ussuriysk Arra** 10.27 330 *i* P Pn 13 56 51.6 +4.5
USRK **Ussuriysk Ar.** 10.27 330 P Pn 13 56 49.1 +2.0
comp=E,4.1nm,0.8s,baz=134,slow=14,SNR=9.4
USRK LR LR 14 00 30.8
comp=E,239nm,19.5s,baz=151,slow=36
MDJ **Mudanjiang** 11.66 324 P Pn 13 57 12.4 +6.2
MDJ pmax pmax
comp=Z,7.0nm,1.6s
YSS **Yuzhno-Sakhali** 11.73 12 Pn Pn 13 57 08.0 +0.9
YSS **Yuzhno-Sakhali** 11.73 12 *e*P Pn 13 57 07.7 +0.6
YSS *e*S Sn 13 59 13.7 -3.4
YSS pmax pmax
comp=Z,10.0nm,0.5s
YSS MLR MLR
comp=Z,300nm,15.0s
YSS MLR MLR
comp=N,200nm,16.0s
YSS MLR MLR
comp=E,200nm,15.0s
BNX **BinXian** 13.55 322 ⇑P Pn 13 57 33.9 +2.0
BNX pmax pmax
comp=Z,5.0nm,1.3s
KLR **Kul'dur** 14.74 341 P Pn 13 57 50.0 +1.8
comp=Z,0.2nm,0.3s,baz=148,slow=8.5,SNR=6.5
KLR LR LR 14 03 21.8
comp=Z,170nm,19.1s,baz=160,slow=36
comp=Z,1.4nm,0.5s
KLR **Kul'dur** 14.74 341 *i* P Pn 13 57 49.0 +0.8
NJ2 **Nanjing** 17.24 264 *e*P Pn 13 58 19.8 -0.6
NJ2 pmax pmax
comp=Z,12nm,0.5s
TIA **Tai'an** 17.88 279 P P 13 58 32.7 +3.8
TIA pmax pmax
comp=Z,15nm,1.0s
ZEA **Zeya** 20.04 339 *e*P P 13 58 52.9 +0.6
ZEA pmax pmax
comp=Z,10.0nm,0.6s
PETK **Petropavlovsk-** 21.91 31 P P 13 59 12.2 -0.3
PETK **Petropavlovsk-** 21.91 31 LR LR 14 08 05.3
comp=Z,42nm,19.2s,baz=209,slow=37
PETK **Petropavlovsk-** 21.91 31 P P 13 59 12.2 -0.3
HHC **Hu-ho-hao-te** 22.29 292 *e*P P 13 59 17.3 +0.4
HHC pmax pmax
comp=Z,27nm,0.6s
HHC pmax pmax
comp=Z,88nm,5.0s
HHC LR LR
comp=N,90nm,11.5s
HHC LR LR
comp=E,100nm,11.5s
HHC LR LR
comp=Z,91nm,12.2s
GUMO **Guam** 22.44 165 LR LR 14 06 59.6
comp=Z,69nm,20.5s,baz=333,slow=34
BTO **Baotou** 23.45 291 *e*P P 13 59 28.1 -0.7
BTO pP *s*P 13 59 39.7 -0.1
BTO PP PnPn 14 00 01.0 +5.5
BTO S S 14 03 39.5 -1.2
BTO pmax pmax
comp=Z,14nm,0.5s
BTO pmax pmax
comp=Z,96nm,4.6s
BTO LR LR
comp=N,200nm,5.8s
BTO LR LR
comp=E,130nm,6.3s
BTO LR LR
comp=Z,260nm,8.0s
MA2 **Magadan** 25.23 14 P P 13 59 45.3 +0.3
MA2 IAmb IAmb 13 59 58.5
comp=Z,7.0nm,0.7s
MA2 **Magadan** 25.23 14 LR LR 14 09 47.9
comp=Z,78nm,19.7s,baz=204,slow=36
MA2 **Magadan** 25.23 14 *i* P P 13 59 45.9 +0.9
MA2 pmax pmax
comp=Z,24nm,2.1s
ULN **Ulaanbaatar** 26.76 307 *ce*P P 13 59 59.0 -0.2
ULN pmax pmax
comp=Z,7.0nm,2.5s
SONM **Songino Array** 27.18 307 LR LR 14 11 19.7
comp=Z,157nm,19.0s,baz=91,slow=38
YAK **Yakutsk** 27.20 350 LR LR 14 11 00.1
comp=Z,187nm,18.0s,baz=167,slow=37
YAK **Yakutsk** 27.20 350 *i* P P 14 00 03.5 +0.8
YAK pmax pmax
comp=Z,5.0nm,0.5s
SEY **Seymchan** 28.64 13 LR LR 14 12 08.5
comp=Z,92nm,19.6s,baz=196,slow=37
SEY **Seymchan** 28.64 13 *i* P P 14 00 16.5 +0.9
SEY pmax pmax
comp=Z,2.0nm,1.1s
H11N2 **WAKE ISLAND Hy** 29.04 115 T T 14 30 31.7
baz=307,slow=74,SNR=103
H11N1 **WAKE ISLAND Hy** 29.04 115 T T 14 30 08.3
baz=307,SNR=59
H11N3 **WAKE ISLAND Hy** 29.06 115 T T 14 30 30.3
baz=307,slow=74,SNR=84
H11S3 **WAKE ISLAND Hy** 29.67 118 T T 14 31 29.9
baz=310,slow=75,SNR=17
H11S1 **WAKE ISLAND Hy** 29.67 118 T T 14 31 30.6
baz=310,slow=75,SNR=21
H11S2 **WAKE ISLAND Hy** 29.68 118 T T 14 31 31.9
baz=310,slow=75,SNR=21
PZH **PanZhiHua** 33.15 265 P P 14 00 56.8 +0.9
BILL **Bilibino** 35.99 17 *i* P P 14 01 19.7 -0.2
BILL pmax pmax
comp=Z,5.0nm,2.0s
TIXI **Tiksi** 36.59 355 P P 14 01 24.7 -0.2
TIXI IAmb IAmb 14 02 05.0
comp=Z,6.6nm,1.1s
TIXI **Tiksi** 36.59 355 LR LR 14 17 21.1
comp=Z,95nm,18.9s,baz=192,slow=38
TIXI **Tiksi** 36.59 355 P P 14 01 24.7 -0.2
TIXI pmax pmax
comp=Z,7.0nm,1.1s
CMAR **Chiang Mai Arr** 39.36 255 P P 14 01 45.9 -3.0
comp=Z,0.5nm,0.3s,baz=49,slow=8.0,SNR=4.7
CMAR LR LR 14 19 39.0
comp=Z,29nm,18.4s,baz=250,slow=39
comp=Z,0.5nm,0.3s
CMAR **Chiang Mai Arr** 39.36 255 *i* P P 14 01 50.2 +1.3
WMQ **Urumqi** 39.92 298 *e*P P 14 01 54.0 +0.5
WMQ pP sP 14 02 05.6 +0.8
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ LR LR
comp=Z,110nm,21.9s
ZAA0 **Zalesovo Array** 41.62 314 P P 14 02 05.6 -1.6
ZALV **Zalesovo Beam** 41.62 314 P P 14 02 05.7 -1.4
ZALV **Zalesovo Beam** 41.62 314 P P 14 02 05.2 -2.0
comp=Z,0.7nm,0.3s,baz=74,slow=6.3,SNR=5.6
ZALV PcP PcP 14 04 02.9 -0.9
comp=Z,2.0nm,0.6s,baz=88,slow=4.6,SNR=6.2
ZALV LR LR 14 20 11.3
comp=Z,30nm,18.1s,baz=88,slow=37
comp=Z,0.7nm,0.3s
ZALV **Zalesovo Beam** 41.62 314 P P 14 02 05.7 -1.4
MK31 **Makanchi Array** 43.40 303 *ce*P P 14 02 21.0 -0.8
MKAR **Makanchi Array** 43.40 303 P P 14 02 20.8 -1.0
comp=Z,2.0nm,0.7s,baz=91,slow=9.7,SNR=26
MKAR LR LR 14 20 53.0
comp=Z,82nm,19.0s,baz=136,slow=37
comp=Z,2.0nm,0.7s
MAKZ **Makanchi** 43.62 303 P P 14 02 22.6 -1.0
MAKZ **Makanchi** 43.62 303 P P 14 02 22.6 -1.0
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
NRIK **Noril'sk** 43.90 336 P P 14 02 24.5 -0.9
comp=Z,6.2nm,0.9s,baz=120,slow=11,SNR=4.5
NRIK LR LR 14 21 39.8
comp=Z,90nm,18.7s,baz=152,slow=37
comp=Z,6.2nm,0.9s
NRIK **Noril'sk** 43.90 336 *i* P P 14 02 25.3 -0.1
NRIK pmax pmax
comp=Z,8.0nm,1.0s
C16K **Lisburne Hills** 44.85 26 P P 14 02 33.6 +0.5
C16K IAmb IAmb 14 03 15.2
comp=Z,9.3nm,1.5s
KURK **Kurchatov** 45.45 309 P 14 02 37.2 -0.9
KURK IAmb IAmb 14 02 37.7
comp=Z,8.5nm,0.7s
KURK **Kurchatov** 45.45 309 *ce*P P 14 02 37.0 -1.1
KURK pmax pmax
comp=Z,16nm,1.3s
KURBB **Kurchatov Arra** 45.52 309 P P 14 02 37.4 -1.2
comp=Z,5.3nm,0.7s,baz=85,slow=8.0,SNR=40
KURBB PcP PcP 14 04 15.4 -1.6
comp=Z,0.4nm,0.3s,baz=93,slow=3.5,SNR=4.8
comp=Z,5.3nm,0.7s
M16K **Timber Creek** 46.17 37 P P 14 02 44.8 +1.2
C18K **Utukok River** 46.43 26 P P 14 02 46.2 +0.5
C18K IAmb IAmb 14 02 48.4
comp=Z,3.5nm,1.0s
G18K **Tagagawik** 46.86 30 P P 14 02 49.8 +0.8
TARG **Taragay, Kyrgy** 47.45 297 P 14 02 54.3 -0.1
TARG IAmb IAmb 14 02 55.9
comp=Z,7.0nm,0.9s
TARG **Taragay, Kyrgy** 47.45 297 P P 14 02 54.3 -0.1
TARG pmax pmax
comp=Z,7.0nm,0.9s
H19K **Roundabout Mou** 47.72 31 P P 14 02 56.7 +1.1
H19K IAmb IAmb 14 03 13.9
comp=Z,4.7nm,1.2s
B21K **Ikpikpuk River** 48.92 25 P P 14 03 05.4 +0.5
B21K IAmb IAmb 14 03 08.2
comp=Z,4.5nm,1.1s
KSH **Kashi** 49.37 295 P P 14 03 12.8 +3.9
KSH pmax pmax
comp=Z,7.0nm,0.5s
KDAK **Kodiak Island** 49.43 41 P P 14 03 09.2 +0.3
KDAK IAmb IAmb 14 03 24.9
comp=Z,14nm,1.3s
KDAK **Kodiak Island** 49.43 41 P P 14 03 09.2 +0.3
KDAK pmax pmax
comp=Z,14nm,1.3s
D22K **Ayikyak River** 49.52 26 IAmb IAmb 14 03 11.1
comp=Z,4.1nm,1.1s
AAK **Ala-Archa** 49.62 299 *ce*P P 14 03 10.7 -0.1
AAK pmax pmax
comp=Z,5.0nm,1.0s
E22K **Anaktuvuk Pass** 49.78 27 P P 14 03 12.2 +0.7
BVAR **Borovoye Array** 50.26 313 LR LR 14 26 04.0
comp=Z,48nm,18.0s,baz=88,slow=38
C23K **Itkillik River** 50.33 25 IAmb IAmb 14 03 17.3
comp=Z,2.2nm,1.2s
H23K **Yukon River** 50.59 30 P P 14 03 18.9 +1.3
ILAR **Eielson Array** 51.73 32 P P 14 03 26.3 +0.1
comp=Z,1.3nm,0.9s,baz=285,slow=6.6,SNR=13
comp=Z,1.3nm,0.9s
BCAR **Beaver Creek A** 54.16 33 P P 14 03 45.7 +1.5
I28M **Miner Creek** 54.59 30 P P 14 03 48.6 +1.3
I28M IAmb IAmb 14 03 48.9
comp=Z,3.8nm,1.1s
CTGM **Chitina Glacie** 54.73 36 P P 14 03 49.2 +0.7
SVE **Sverdlovsk** 55.09 319 *e*P P 14 03 51.6 +0.7
SVE pmax pmax
comp=Z,15nm,1.1s
WB0 **Warramunga Arr** 55.17 185 P P 14 03 50.5 -1.4
WB0 IAmb IAmb 14 03 59.6
comp=Z,3.9nm,0.7s
WRAB **Tennant Creek** 55.34 186 P P 14 03 51.9 -1.2
WRAB IAmb IAmb 14 04 28.1
comp=Z,6.3nm,1.2s
WRAB **Tennant Creek** 55.34 186 P P 14 03 51.9 -1.2
WRAB pmax pmax
comp=Z,6.0nm,1.2s
WRA **Warramunga Arr** 55.35 186 P P 14 03 52.2 -1.1
WRA **Warramunga Arr** 55.35 186 P P 14 03 52.1 -1.1
comp=Z,2.1nm,0.7s,baz=1.9,slow=7.5,SNR=18
comp=Z,2.1nm,0.7s
WR8 **Warramunga Arr** 55.35 185 P P 14 03 52.2 -1.0
WR8 IAmb IAmb 14 03 59.9
comp=Z,5.1nm,1.0s
M29M **Somme Creek** 55.77 34 P P 14 03 57.0 +1.1
I30M **Mount Dempster** 56.09 30 P P 14 03 59.0 +0.8
I30M IAmb IAmb 14 04 00.2
comp=Z,3.6nm,0.9s
ARTI **Arti** 56.40 319 P P 14 03 59.4 -0.9
ARTI **Arti** 56.40 319 LR LR 14 30 59.1
comp=Z,51nm,18.1s,baz=80,slow=39
ARTI **Arti** 56.40 319 *d* P P 14 04 00.0 -0.4
ARTI 14 04 54.2
ARTI 14 06 02.3
ARTI S S 14 11 49.7 +0.4
ARTI SS SS 14 15 32.7 -3.2
ARTI pmax pmax
comp=Z,13nm,0.8s
G31M **Satah River** 56.57 28 P P 14 04 01.8 +0.4
G31M IAmb IAmb 14 04 40.4
comp=Z,11nm,1.5s
AB31 **Akbulak array** 57.53 310 P P 14 04 07.3 -1.1
AB31 IAmb IAmb 14 04 09.2
comp=Z,3.5nm,0.7s
ABKAR **Akbulak array** 57.53 310 P P 14 04 07.3 -1.2
FARO **Faro, Yukon** 58.14 33 P P 14 04 13.4 +0.8
AKTO **Aktyubinsk** 58.34 312 LR LR 14 28 38.3
comp=Z,26nm,18.6s,baz=210,slow=35
AS31 **Alice Springs** 59.08 186 P P 14 04 19.0 -0.5
ASAR **Alice Springs** 59.08 186 P P 14 04 19.1 -0.4
ASAR **Alice Springs** 59.08 186 P P 14 04 18.3 -1.2
comp=Z,0.9nm,0.7s,baz=7.7,slow=7.0,SNR=23
comp=Z,0.9nm,0.7s
ASAR **Alice Springs** 59.08 186 P P 14 04 19.1 -0.4
KIRV **Kirov** 60.36 323 LR LR 14 32 56.0
comp=Z,74nm,18.1s,baz=90,slow=38
KIRV **Kirov** 60.36 323 *i* P P 14 04 28.1 +0.2
CRAG **Craig** 60.39 41 P P 14 04 29.1 +0.9
SPITS **Spitsbergen Ar** 61.65 349 P P 14 04 36.9 +0.4
comp=Z,2.5nm,0.7s,baz=92,slow=12,SNR=3.9
comp=Z,2.5nm,0.7s
KLMR **Klimovskoe** 64.06 328 *e*P P 14 04 50.1 -2.6
KLMR pmax pmax
comp=Z,15nm,1.2s
KEV **Kevo** 64.20 339 P P 14 04 53.1 -0.4
KEV **Kevo** 64.20 339 P P 14 04 53.1 -0.4
KEV pmax pmax
comp=Z,25nm,1.5s
RES **Resolute Bay** 64.50 14 P P 14 04 55.3 -0.1
RES **Resolute Bay** 64.50 14 P P 14 04 55.3 -0.1
RES pmax pmax
comp=Z,15nm,1.4s
ARCES **ARCESS Array B** 64.76 339 P P 14 04 56.5 -0.7
ARCES IAmb IAmb 14 04 57.5
comp=Z,4.9nm,1.0s
ARCES **ARCESS Array B** 64.76 339 P P 14 04 55.6 -1.6
comp=Z,4.7nm,0.9s,baz=67,slow=9.3,SNR=7.6
comp=Z,4.7nm,0.9s
ARCES **ARCESS Array B** 64.76 339 P P 14 04 56.5 -0.7
ARCES pmax pmax
comp=Z,5.0nm,1.0s
OBN **Obninsk** 68.21 323 *e*P P 14 05 22.1 +2.7
OBN *e* 14 07 48.2
OBN *e*PPP PPP 14 09 26.2
OBN pmax pmax
comp=Z,5.0nm,1.0s
FIA1 **FINESS Array S** 69.29 332 P P 14 05 25.5 -0.5
FINES **FINESS Array B** 69.29 332 P P 14 05 25.3 -0.7
FINES **FINESS Array B** 69.29 332 P P 14 05 25.5 -0.6
comp=Z,1.6nm,0.5s,baz=64,slow=5.7,SNR=9.0
comp=Z,1.6nm,0.5s
KIV **Kislovodsk** 70.51 310 *e*P P 14 05 33.6 -0.4
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,30nm,18.0s
SHA1 **Shidzhatmaz** 70.64 310 *i* P P 14 05 35.0 0.0
GNI **Garni** 71.14 306 LR LR 14 39 38.4
comp=Z,64nm,18.3s,baz=62,slow=38
SUMG **Summit** 72.18 359 P P 14 05 43.7 -0.3
SUMG IAmb IAmb 14 05 45.3
comp=Z,5.7nm,1.0s
SUMG **Summit** 72.18 359 P P 14 05 43.7 -0.3
SUMG pmax pmax
comp=Z,6.0nm,1.0s
SOC **Sochi** 72.54 311 *e*P P 14 05 46.6 +0.5
SOC *e* 14 08 25.9
SOC *e*PPP PPP 14 10 09.5
SOC *e*S S 14 15 12.6 +3.7
SOC *e*SS SS 14 19 47.2 -0.1
L04D **Klamath Falls** 72.70 50 P P 14 05 48.0 +0.7
MNK **Minsk** 72.71 325 *i* P P 14 05 44.9 -2.0
MNK *i* 14 08 27.2
MNK *i* PPP PPP 14 10 12.0
MNK *i* S S 14 15 09.8 -0.7
MNK pmax pmax
comp=Z,6.0nm,0.6s
MNK MLR MLR
comp=Z,49nm,16.0s
O02D **Mt. Diablo Mer** 73.48 52 P P 14 05 52.5 +0.6
O02D IAmb IAmb 14 05 58.0
comp=Z,11nm,1.4s
AKASG **Malin Array Be** 74.37 322 P P 14 05 55.4 -1.3
comp=Z,0.5nm,0.3s,baz=50,slow=5.6,SNR=5.4
AKASG LR LR 14 41 25.9
comp=Z,94nm,18.1s,baz=54,slow=38
comp=Z,0.5nm,0.3s
AKASG **Malin Array Be** 74.37 322 *i* P P 14 05 57.2 +0.5
AKASG pmax pmax
comp=Z,1.0nm,0.3s
NC405 **NORSAR Array S** 74.64 336 P P 14 05 57.9 -0.3
NC405 IAmb IAmb 14 05 58.5
comp=Z,6.2nm,0.8s
HFS **Hagfors** 74.70 335 P P 14 05 58.1 -0.4
comp=Z,1.5nm,0.6s,baz=90,slow=3.0,SNR=6.2
HFS LR LR 14 40 41.9
comp=Z,24nm,19.6s,baz=56,slow=37
comp=Z,1.5nm,0.6s
NC204 **NORSAR Array S** 74.83 337 P P 14 05 58.8 -0.5
NB2 **NORSAR Subarra** 74.86 337 P P 14 05 58.9 -0.6
comp=Z,1.2nm,0.6s,baz=42,slow=5.9
NOA **NORSAR Array B** 74.86 337 P P 14 05 59.0 -0.5
comp=Z,3.1nm,0.3s,baz=42,slow=5.8,SNR=11
NOA LR LR 14 42 39.9
comp=Z,30nm,18.5s,baz=25,slow=39
comp=Z,3.1nm,0.3s
NVAR **Mina Array Bea** 77.34 52 P P 14 06 15.0 +0.7
NVAR **Mina Array Bea** 77.34 52 P P 14 06 15.4 +1.1
comp=Z,1.4nm,0.7s,baz=291,slow=5.6,SNR=9.9
comp=Z,1.4nm,0.7s
BR131 **Keskin Array S** 78.47 311 *i* P P 14 06 20.2 -0.2
BRTR **Keskin Array B** 78.47 311 P P 14 06 20.4 -0.1
comp=Z,1.4nm,0.8s,baz=75,slow=5.2,SNR=6.3
comp=Z,1.4nm,0.8s
HVU **Hansel Valley** 78.76 46 P P 14 06 22.8 +0.8
HVU **Hansel Valley** 78.76 46 P P 14 06 22.8 +0.8
HVU pmax pmax
comp=Z,2.0nm,0.7s
STHS **Stebnicka Huta** 79.13 324 *e*P P 14 06 27.7 +4.0
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS **Stebnicka Huta** 79.13 324 *e*P P 14 06 27.7 +4.0
PDAR **Pinedale Array** 80.01 44 P P 14 06 29.1 +0.2
comp=Z,0.4nm,0.5s,baz=252,slow=1.5,SNR=5.9
comp=Z,0.4nm,0.5s
VRAC **Vranov** 81.38 326 LR LR 14 45 32.7
comp=Z,29nm,18.7s,baz=53,slow=38
CLL **Collm** 81.48 329 *e*P P 14 06 36.0 -0.3
CLL **Collm** 81.48 329 *e*P P 14 06 36.0 -0.3
SRU **San Rafael Swe** 81.77 47 P P 14 06 38.7 +0.4
SRU IAmb IAmb 14 06 39.6
comp=Z,2.8nm,0.7s
SRU **San Rafael Swe** 81.77 47 P P 14 06 38.7 +0.4
SRU pmax pmax
comp=Z,3.0nm,0.7s
TCW **Tory Channel** 82.89 154 P P 14 06 45.0 +1.5
PV10 **Paradox Valley** 83.13 47 P P 14 06 46.2 +0.8
PV19 **Morning Glory** 83.20 47 P P 14 06 46.2 +0.4
DAVOX **Davos/Dischmat** 86.26 328 LR LR 14 49 16.1
comp=Z,34nm,18.5s,baz=330,slow=38
TXAR **Lajitas Array** 92.48 51 P P 14 07 30.3 -0.3
comp=Z,0.5nm,0.6s,baz=314,slow=3.3,SNR=8.0
comp=Z,0.5nm,0.6s
QSPA **South Pole Qui** 125.27 180 PKP PKPdf 14 13 17.6 -1.3
comp=Z,0.7nm,0.7s,baz=231,slow=0.4,SNR=6.0
LPAZ **La Paz** 149.02 59 PKPbc PKPbc 14 14 08.7 +0.3
comp=Z,1.6nm,0.6s,baz=19,slow=2.8,SNR=8.6

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*NAO **08** 13:55:04.1±0.6, 75°42N×21°18E, ML2.5*
BER 08 13:55:07.6±4.3, 75°13N×18°42E, h22km±14km, ML2.0, ML2.5(NAO), **Confirmed Earthquake, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	2.01	341	Pn	Pn	13 55 40.4	+0.3
HSPB				Sn	Sb	13 56 06.8	-1.1
HSPB	**Hornsund (broa**	2.01	341	*e*P	Pn	13 55 37.9	-2.2
HSPB				*e*Pg	Pb	13 55 40.5	-2.8
HSPB				*e*S	Sn	13 56 01.1	-3.4
HSPB				*e*Sg	Sb	13 56 05.4	-2.5
HSPB				IAML		13 56 07.3	
HOPEN	**Hopen**	2.13	46	*e*S	Sn	13 56 06.4	-1.2
HOPEN				*e*Sg	Sb	13 56 11.4	0.0
HOPEN				IAML		13 56 17.2	
SPA0	**Spitsbergen Ar**	3.10	352	Pn	Pn	13 55 52.6	-2.5
SPA0				Sn	Sn	13 56 26.8	-4.7
SPA0				Lg	Lg	13 56 38.6	
SPA0	**Spitsbergen Ar**	3.10	352	Pn	Pn	13 55 52.6	-2.5
SPA0				Sn	Sn	13 56 26.8	-4.7
SPA0				Sg	Sb	13 56 38.6	-0.7
BRBA	**Barentsburg A**	3.10	344	Pn	Pn	13 55 54.5	-0.6
BRBA				Sg	Sb	13 56 39.4	+0.1
BRBA	**Barentsburg A**	3.10	344	*e*P	Pn	13 55 54.6	-0.5
BRBA				*e*S	Sn	13 56 30.6	-0.8
BRBA				*e*Sg	Sb	13 56 39.4	0.0
BRBA				IAML		13 56 42.7	
BRBB	**Barentsburg B**	3.14	344	*e*P	Pn	13 55 53.3	-2.3
BRBB				*e*Pg	Pb	13 56 02.1	-0.5
BRBB				*e*S	Sn	13 56 27.6	-4.7
BRBB				*e*Sg	Sb	13 56 41.7	+1.4
KBS	**Kingsbay**	4.08	342	*e*P	Pn	13 56 06.0	-2.6
KBS				*e*Pg	Pb	13 56 18.8	+0.2
KBS				Sg	Sb	13 57 10.1	+2.6
KBS				*e*Sg	Sn	13 57 10.4	+15
KBS				IAML		13 57 17.6	

ARA0	**ARCESS Array S**	**6.02**	**156**	Pn	Pn	13 56 33.6	-1.5
	baz=348,slow=12						
ARA0				Sn	Sn	13 57 37.6	-5.6
	baz=353,slow=28						
ARA0	**ARCESS Array S**	**6.02**	**156**	Pn	Pn	13 56 33.6	-1.5
	baz=348,slow=12						
ARA0				Sn	Sn	13 57 37.6	-5.6
	baz=353,slow=28						

*NEIC **08** 13:58:18.7±0.9, 35°.568N±0°.008×117°.41W±0°.02, h1km±1km, Error ellipse: s-maj=1.8km s-min=1.2km az=95.0*

PAS 08 13:58:19.2±0.7, 35°.559N±0°.010×117°.394W±0°.007, h2km±3km, ML3.0/24, ML2.8/98(NEIC), Error ellipse: s-maj=1.4km s-min=0.7km az=187.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.04**	**145**	Pg	Pg	13 58 20.5	+0.4
CCCA				IAML		13 58 20.8	
	comp=E,14μm,0.1s						
CCCA				IAML		13 58 21.4	
	comp=N,16μm,0.1s						
LRMC	**Laurel Mtn Rad**	**0.25**	**251**		Pg	13 58 24.1	0.0
LRMC				IAML		13 58 28.4	
	comp=E,3μm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.25**	**251**		Sg	13 58 28.1	+0.8
CLC	**China Lake**	**0.30**	**327**		Pg	13 58 25.1	-0.1
CLC				IAML		13 58 31.1	
	comp=E,1μm,0.5s						
CLC	**China Lake**	**0.30**	**327**		Sg	13 58 29.8	+0.7
SRTC	**Snort**	**0.32**	**295**		Pg	13 58 25.9	+0.5
TOW	**Tower One**	**0.39**	**310**		Pg	13 58 27.3	+0.5
DTP	**Desert Tortois**	**0.47**	**232**		Pg	13 58 28.2	-0.1
WNMM	**Nine Mile Cany**	**0.50**	**304**		Pg	13 58 29.1	+0.2
MPMC	**Manual Prospec**	**0.50**	**351**		Pg	13 58 28.6	-0.3
MPMC				IAML		13 58 36.5	
	comp=N,1μm,0.4s						
WVPM	**Volcano Peak E**	**0.52**	**319**		Pg	13 58 29.3	+0.1
GSC	**Goldstone, Bar**	**0.55**	**118**	Pg	Pg	13 58 29.7	0.0
WCSM	**Coso Springs S**	**0.56**	**327**		Pg	13 58 30.1	+0.2
QSM	**Queen of Sheba**	**0.59**	**46**		Pg	13 58 30.4	-0.1
QSM				IAML		13 58 44.1	
	comp=N,637nm,0.2s						
QSM				IAML		13 58 46.3	
	comp=E,541nm,0.2s						
WRVM	**Rose V. Centra**	**0.60**	**318**		Pg	13 58 30.7	-0.1
WBSM	**Bird Springs**	**0.61**	**268**		Pg	13 58 30.9	0.0
MFS	**McCloud Flat S**	**0.67**	**326**		Pg	13 58 32.3	+0.1
ISA	**Isabella, Lake**	**0.89**	**277**	Pg	Pg	13 58 35.7	-0.6
ISA				IAML		13 58 48.3	
	comp=E,558nm,0.3s						
ISA				IAML		13 58 48.6	
	comp=N,356nm,0.2s						
ADO	**Adelanto Recei**	**1.01**	**182**		Pb	13 58 39.7	+0.3
CWC	**Cottonwood Cre**	**1.04**	**328**	IAML		13 58 54.9	
	comp=N,224nm,0.2s						
CWC				IAML		13 58 55.2	
	comp=E,224nm,0.4s						
CGO	**Cerro Gordo**	**1.04**	**342**		Pg	13 58 39.3	0.0
TUQ	**Turquoise Moun**	**1.21**	**95**		Pg	13 58 41.9	-0.5
AMDNV	**Amargosa**	**1.27**	**45**		Pg	13 58 42.5	-1.1
SPG2	**Springville 2**	**1.28**	**300**		Pg	13 58 43.0	-0.9
BFSC	**Mount Baldy Ra**	**1.33**	**189**		Pg	13 58 43.5	-1.4
BFSC				IAML		13 59 03.0	
	comp=E,119nm,0.8s						
BFSC				IAML		13 59 03.6	
	comp=N,135nm,0.3s						
GRAC	**Grapevine Rang**	**1.43**	**1**		Pn	13 58 45.7	-0.6
MWC	**Mount Wilson**	**1.44**	**202**		Pn	13 58 45.9	-0.7
MWC				IAML		13 59 11.1	
	comp=E,204nm,0.5s						
MWC				IAML		13 59 11.4	
	comp=N,167nm,0.7s						
OSI	**Osito Audit: C**	**1.44**	**230**		Pn	13 58 45.9	-0.6
MTPC	**Mountain Pass**	**1.50**	**92**		Pn	13 58 46.5	-0.9
MTPC				IAML		13 59 11.3	
	comp=N,138nm,0.3s						
PASC	**Pasadena Art C**	**1.53**	**205**		Pn	13 58 46.5	-1.1
PASC				IAML		13 59 10.2	
	comp=N,96nm,0.4s						
PASC				IAML		13 59 14.7	
	comp=E,105nm,0.7s						
TPNV	**Topopah Spring**	**1.67**	**33**		Pn	13 58 48.7	-1.0
TPNV				IAML		13 59 16.7	
	comp=E,142nm,0.6s						
TPNV				IAML		13 59 18.8	
	comp=E,111nm,0.7s						
BLAC	**Blackrock camp**	**1.70**	**151**		Pb	13 58 51.5	+0.2
GMN	**Gold Mountain**	**1.74**	**4**		Pn	13 58 49.9	-0.8
DSP	**Deep Springs**	**1.87**	**346**	Pn	Pn	13 58 51.3	-0.9
ELS	**Elsinore Mount**	**1.91**	**181**	Pn	Pn	13 58 52.3	-0.5
ELS				IAML		13 59 28.8	
	comp=E,60nm,0.8s						
SHPR	**Sheep Range**	**2.04**	**62**		Pn	13 58 54.0	-0.8
V12A	**Nelson**	**2.08**	**85**	IAML		13 59 32.6	
	comp=E,79nm,0.5s						
PFO	**Pinyon Flats O**	**2.09**	**158**	IAML		13 59 31.2	
	comp=E,40nm,1.0s						
BORC	**Borrego Spring**	**2.42**	**160**	IAML		13 59 42.6	
	comp=E,55nm,0.9s						
BORC				IAML		13 59 43.9	
	comp=N,35nm,0.9s						
S11A	**Rachel**	**2.47**	**32**	IAML		13 59 50.1	
	comp=N,63nm,0.9s						
DPP	**Dos Picos Cty**	**2.58**	**172**	IAML		13 59 40.8	
	comp=E,34nm,0.8s						
W13A	**Hualapai Mount**	**2.91**	**98**	IAML		13 59 54.7	
	comp=E,25nm,0.7s						
W13A				IAML		13 59 54.8	
	comp=N,31nm,0.6s						
BLYC	**Blythe**	**2.98**	**127**	IAML		14 00 06.5	
	comp=E,38nm,0.7s						
BLYC				IAML		14 00 11.0	
	comp=N,34nm,0.9s						
WAKR	**Walker**	**3.36**	**332**	IAML		14 00 22.7	
	comp=N,18nm,1.1s						
ESJX	**Sierra Juarez**	**3.74**	**161**	IAML		14 00 29.2	
	comp=E,12nm,2.8s						
ESJX				IAML		14 00 29.5	
	comp=N,11nm,4.1s						
KNB	**Kanab**	**3.97**	**67**	IAML		14 00 34.4	
	comp=N,11nm,1.8s						
KNB				IAML		14 00 40.0	
	comp=E,12nm,0.9s						
SZCU	**Shurtz Canyon**	**4.02**	**58**	IAML		14 00 33.9	
	comp=E,10nm,0.4s						
SPR3	**Spring Creek 3**	**4.21**	**35**	IAML		14 00 35.5	
	comp=E,8.3nm,1.0s						
X16A	**Lo Mia Camp, P**	**5.02**	**101**	IAML		14 01 08.5	
	comp=N,8.7nm,1.0s						
X16A				IAML		14 01 08.5	
	comp=E,6.4nm,1.7s						

*NEIC **08** 13:58:41.0±1.5, 23°.60S±0°.08×179°.6W±0°.2, h546km±15km, mb4.2/17, Error ellipse: s-maj=29.9km s-min=9.7km az=75.0*

*IDC **08** 13:58:42.3±2.5, 23°.44S×179°.81W, h551km±30km, mb3.0/4, mbtmp3.9/5, Error ellipse: s-maj=37.7km s-min=28.8km az=11.0*

ISC 08 13:58:40.8±1.1, 23°.6S±0°.1×179°.7W±0°.2, h536km, n27, σ0s75/27, mb4.0/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.19**	**340**	P	**P**	**14 00 21.3**	**+0.5**
MSVF	**Nonsavu**	**6.19**	**340**	P	**P**	**14 00 21.4**	**+0.7**
	4.4nm,0.4s,baz=122,slow=22,SNR=14						
QRZ	**Quartz Range**	**18.37**	**199**	P	**P**	**14 02 21.7**	**-0.8**
TUWZ	**Tuamarina**	**18.55**	**195**	P	**P**	**14 02 23.6**	**-0.6**
ARMA	**Armidale**	**26.36**	**249**	P	**P**	**14 03 35.4**	**+0.9**
ARMA				IAmb	IAmb	14 03 51.6	
	comp=Z,16nm,1.4s						
EIDS	**Eidsvold**	**26.60**	**260**	P	**P**	**14 03 37.1**	**+0.6**
CAN	**Canberra**	**29.51**	**240**	P	**P**	**14 04 02.1**	**+0.3**
CTAO	**Charters Tower**	**31.72**	**270**	P	**P**	**14 04 21.7**	**+0.7**
CTAO				IAmb	IAmb	14 04 56.4	
	comp=Z,18nm,1.4s						
TOO	**Toolangi**	**32.82**	**237**	P	**P**	**14 04 30.0**	**-0.2**
TOO				IAmb	IAmb	14 05 05.9	
	comp=Z,5.1nm,1.2s						
STKA	**Stephens Creek**	**35.06**	**248**	P	**P**	**14 04 49.1**	**+0.1**
AS31	**Alice Springs**	**42.33**	**260**	P	**P**	**14 05 47.4**	**-0.6**
ASAR	**Alice Springs**	**42.33**	**260**	P	**P**	**14 05 47.0**	**-1.0**
ASAR	**Alice Springs**	**42.33**	**260**	P	**P**	**14 05 47.9**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=96,slow=7.5,SNR=28						
	comp=Z,1.0nm,0.4s						
WR8	**Warramunga Arr**	**42.52**	**266**	P	**P**	**14 05 48.7**	**-0.8**
WR8				IAmb	IAmb	14 05 52.8	
	comp=Z,5.9nm,1.2s						
WB0	**Warramunga Arr**	**42.67**	**266**	P	**P**	**14 05 49.9**	**-0.7**
WB0				IAmb	IAmb	14 05 51.6	
	comp=Z,6.7nm,1.4s						
WRA	**Warramunga Arr**	**42.67**	**266**	P	**P**	**14 05 50.3**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=96,slow=8.4,SNR=26						
	comp=Z,1.6nm,0.5s						
FORT	**Forrest**	**46.65**	**249**	P	**P**	**14 06 20.5**	**-0.6**
FORT				IAmb	IAmb	14 06 21.3	
	comp=Z,3.9nm,0.7s						
MTN	**Manton Dam**	**47.68**	**274**	P	**P**	**14 06 28.8**	**-0.3**
MTN				IAmb	IAmb	14 07 10.3	
	comp=Z,13nm,1.2s						
KNRA	**Kununurra**	**48.94**	**269**	P	**P**	**14 06 38.7**	**+0.3**
KNRA				IAmb	IAmb	14 07 11.0	
	comp=Z,16nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.10**	**265**	P	**P**	**14 06 54.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**51.10**	**265**	P	**P**	**14 06 54.8**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=100,slow=5.5,SNR=1.8						
	comp=Z,1.6nm,0.8s						
MORW	**Morawa**	**57.21**	**250**	P	**P**	**14 07 37.0**	**-0.2**
MORW				IAmb	IAmb	14 08 04.8	
	comp=Z,8.6nm,1.4s						
QSPA	**South Pole Qui**	**66.48**	**180**	P	**P**	**14 08 38.0**	**+1.0**
QSPA	**South Pole Qui**	**66.48**	**180**	P	**P**	**14 08 38.0**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=26,slow=0.7,SNR=6.4						
	comp=Z,0.7nm,0.7s						
BELA	**Belgrano 2**	**76.70**	**173**	P	**P**	**14 09 36.6**	**+0.4**
HFS	**Hagfors**	**142.30**	**349**	PKP	**PKPdf**	**14 17 09.9**	**-1.9**
	comp=Z,3.8nm,1.0s,baz=64,slow=6.8,SNR=8.4						
AKASG	**Malin Array Be**	**144.85**	**328**	PKP	**PKPab**	**14 17 17.3**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=45,slow=3.9,SNR=2.3						

STR 08 14:08:16.3±0.4, 45°N±2°×°±°, h0km, MLv1.6/11, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGSM	**Saint Maurice**	**0.40**	**21**	Pg	Pg	14 08 24.2	+0.3
OGSM				Sg	Sg	14 08 30.2	+1.2
ORIF	**Oris-en-Rattie**	**0.42**	**139**	Pg	Pg	14 08 24.1	-0.3
ORIF				Sg	Sg	14 08 30.2	+0.5
SSB	**Saint Sauveur**	**0.67**	**274**	Pg	Pb	14 08 30.2	-0.7
SSB				Sg	Sb	14 08 39.9	-1.0
OG35	**Corcelles**	**0.81**	**4**	Pg	Pg	14 08 32.3	+0.5
COLF	**Collangettes**	**1.30**	**283**	Pg	Pg	14 08 40.2	-0.9
COLF				Sg	Sb	14 08 58.7	-0.1

*IDC **08** 14:26:33.9±1.6, 4°.41S×153°.04E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=71.3km s-min=29.7km az=126.0*

*NEIC **08** 14:26:41.0±0.6, 4°.4S±0°.3×152°.93E±0°.07, h48km±18km, mb4.4/13, Error ellipse: s-maj=38.8km s-min=10.0km az=183.0*

ISC 08 14:26:41.3±1.1, 4°.4S±0°.1×152°.9E±0°.1, h55km, n22, σ0s57/23, mb4.2/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.74**	**287**		**Pn**	**14 26 55.1**	**-0.7**
RABL				Sn	**Sn**	**14 27 06.3**	**-0.2**
MANU	**Manus Island**	**5.98**	**293**	Pn	**Pn**	**14 28 07.7**	**+0.4**
DZM	**Mont Dzumac**	**21.93**	**144**	P	**P**	**14 31 30.7**	**+0.2**
DZM				IAmb	IAmb	14 32 03.6	
	comp=Z,21nm,1.3s						
WB0	**Warramunga Arr**	**23.61**	**228**	P	**P**	**14 31 47.8**	**+0.3**
WR8	**Warramunga Arr**	**23.65**	**228**	P	**P**	**14 31 48.2**	**+0.3**
WR8				IAmb	IAmb	14 31 50.3	
	comp=Z,5.6nm,0.5s						
WRAB	**Tennant Creek**	**23.75**	**228**	P	**P**	**14 31 49.5**	**+0.7**
WRAB				IAmb	IAmb	14 31 51.7	
	comp=Z,11nm,1.3s						
WRA	**Warramunga Arr**	**23.76**	**228**	P	**P**	**14 31 49.5**	**+0.6**
	comp=Z,4.3nm,0.4s,baz=53,slow=9.7,SNR=76						
	comp=Z,4.3nm,0.4s						
KNRA	**Kununurra**	**26.21**	**243**		P	**14 32 11.6**	**+0.3**
KNRA				IAmb	IAmb	14 32 14.1	
	comp=Z,6.3nm,0.7s						
AS31	**Alice Springs**	**26.49**	**222**		P	**14 32 14.1**	**+0.4**
ASAR	**Alice Springs**	**26.49**	**222**	P	P	**14 32 13.8**	**+0.2**
ASAR	**Alice Springs**	**26.49**	**222**	P	P	**14 32 14.2**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=55,slow=9.2,SNR=30						
	comp=Z,0.9nm,0.5s						
STKA	**Stephens Creek**	**29.30**	**200**	P	**P**	**14 32 39.0**	**+0.3**
STKA				IAmb	IAmb	14 33 01.1	
	comp=Z,16nm,1.2s						
STKA	**Stephens Creek**	**29.30**	**200**	P	**P**	**14 32 38.6**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=14,slow=12,SNR=1.3						
	comp=Z,0.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**29.91**	**241**	P	**P**	**14 32 44.1**	**-0.1**
FORT	**Forrest**	**35.14**	**219**	P	**P**	**14 33 30.3**	**+0.5**
FORT				IAmb	IAmb	14 34 09.7	
	comp=Z,3.4nm,0.9s						
MBWA	**Marble Bar**	**36.23**	**240**	P	**P**	**14 33 38.7**	**-0.6**
MBWA				IAmb	IAmb	14 33 54.4	
	comp=Z,9.6nm,1.2s						
MRZ	**Mangatainoka R**	**41.47**	**154**	P	**P**	**14 34 22.4**	**-0.5**
OXZ	**Oxford**	**42.31**	**159**	P	**P**	**14 34 28.2**	**-1.5**
MORW	**Morawa**	**42.65**	**231**	P	**P**	**14 34 33.0**	**+0.3**
ILAR	**Eielson Array**	**81.77**	**22**	P	**P**	**14 38 54.1**	**+0.1**
	comp=Z,0.3nm,1.1s,baz=243,slow=4.0,SNR=2.0						
	comp=Z,0.3nm,1.1s						
QSPA	**South Pole Qui**	**85.55**	**180**	P	**P**	**14 39 14.2**	**+0.8**
QSPA	**South Pole Qui**	**85.55**	**180**	P	**P**	**14 39 13.8**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=339,slow=2.3,SNR=6.7						
	comp=Z,0.8nm,0.9s						

STR 08 14:30:30.2±0.4, 45°N±3°×°±°, h0km, MLv1.6/9, LOCSAT earthModelID auvergne_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSB	**Saint Sauveur**	**0.28**	**83**	Pg	Pg	14 30 35.1	-0.4
SSB				Sg	Sg	14 30 39.0	0.0
COLF	**Collangettes**	**0.42**	**310**	Pg	Pg	14 30 37.7	-0.6
COLF				Sg	Sg	14 30 43.3	-0.5
LBL	**Lubilhac**	**0.64**	**269**	Pg	Pg	14 30 42.2	-0.3
LBL				Sg	Sg	14 30 51.7	+0.9
PLDF	**La Plantade**	**0.81**	**333**	Pg	Pg	14 30 45.0	-0.9
PLDF				Sg	Sg	14 30 56.7	+0.3
FRNF	**Fournols**	**1.13**	**278**	Pg	Pg	14 30 51.2	-0.7
FRNF				Sg	Sg	14 31 06.7	+0.1
TRBF	**Trabuc cave**	**1.15**	**187**	Pg	Pg	14 30 51.5	-0.7
TRBF				Sg	Sg	14 31 07.5	+0.4
OG35	**Corcelles**	**1.27**	**51**	Pg	Pg	14 30 54.3	-0.3
OGMY	**Moye**	**1.37**	**62**	Pg	Pg	14 30 54.5	-2.0
OGMY				Sg	Sg	14 31 12.9	-1.4

*NEIC **08** 14:31:00.8±0.7, 35°.66N±0°.01×117°.48W±0°.01, h7km±5km, Error ellipse: s-maj=1.7km s-min=1.4km az=143.0*

PAS 08 14:31:01.4±0.4, 35°.66N±0°.01×117°.49W±0°.01, h4km±2km, ML3.2/18, ML2.8/124(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=196.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.17**	**143**		Pg	14 31 05.1	+0.4
CLC	**China Lake**	**0.18**	**330**		Pg	14 31 04.9	-0.1
CLC				IAML		14 31 08.3	
	comp=E,3μm,0.3s						
CLC				IAML		14 31 08.0	
	comp=N,3μm,0.3s						
SRTC	**Snort**	**0.22**	**279**		Pg	14 31 06.1	+0.5
LRMC	**Laurel Mtn Rad**	**0.24**	**222**		Pg	14 31 06.0	0.0
TOW	**Tower One**	**0.27**	**304**		Pg	14 31 07.1	+0.5
WNMM	**Nine Mile Cany**	**0.39**	**298**		Pg	14 31 08.9	+0.1
WVPM	**Volcano Peak E**	**0.40**	**317**		Pg	14 31 09.0	0.0
MPMC	**Manual Prospec**	**0.40**	**360**		Pg	14 31 08.9	-0.2
MPMC	**Manual Prospec**	**0.40**	**360**		Pg	14 31 14.6	+0.3
WCSM	**Coso Springs S**	**0.43**	**328**		Pg	14 31 09.6	-0.1
QSM	**Queen of Sheba**	**0.59**	**59**		Pg	14 31 12.4	-0.2
QSM				IAML		14 31 21.0	
	comp=E,935nm,0.2s						
QSM				IAML		14 31 24.9	
	comp=N,770nm,0.1s						
GSC	**Goldstone, Bar**	**0.66**	**122**		Pg	14 31 13.7	-0.3
GSC				IAML		14 31 26.5	
	comp=N,793nm,0.3s						
ISA	**Isabella, Lake**	**0.80**	**271**		Pg	14 31 16.4	-0.4
ISA				IAML		14 31 27.0	
	comp=N,423nm,0.5s						
ISA				IAML		14 31 27.5	
	comp=E,570nm,0.3s						
GWY	**Greenwater Val**	**0.85**	**51**		Pg	14 31 17.1	-0.5
GWY				IAML		14 31 34.2	
	comp=E,439nm,0.4s						
GWY				IAML		14 31 36.0	
	comp=N,495nm,0.4s						
CWC	**Cottonwood Cre**	**0.92**	**328**		Pg	14 31 18.4	-0.5
CWC				IAML		14 31 35.0	
	comp=E,217nm,0.3s						
CWC				IAML		14 31 36.2	
	comp=N,199nm,0.2s						
TPO	**Tropico Hills**	**0.99**	**218**		Pg	14 31 19.5	-0.8
SPG2	**Springville 2**	**1.17**	**298**		Pg	14 31 22.8	-1.0
DSCC	**Desert Studies**	**1.24**	**114**		Pg	14 31 23.5	-1.7
AMDNV	**Amargosa**	**1.26**	**51**		Pg	14 31 24.0	-1.5
TUQ	**Turquoise Moun**	**1.29**	**99**		Pg	14 31 25.1	-1.1
WCT	**Wildcat Mounta**	**1.33**	**31**		Pn	14 31 25.2	-1.6
WCT				IAML		14 31 47.4	
	comp=N,110nm,0.6s						
WCT				IAML		14 31 47.6	
	comp=E,142nm,0.5s						
GRAC	**Grapevine Rang**	**1.34**	**4**		Pn	14 31 25.1	-1.8
BFSC	**Mount Baldy Ra**	**1.42**	**186**		Pn	14 31 26.8	-1.4
OSI	**Osito Audit: C**	**1.45**	**225**		Pn	14 31 28.0	-0.6
OSI				IAML		14 31 50.1	
	comp=N,126nm,0.8s						
OSI				IAML		14 31 55.8	
	comp=E,131nm,0.7s						
MWC	**Mount Wilson**	**1.51**	**198**		Pn	14 31 28.6	-0.7
TPNV	**Topopah Spring**	**1.63**	**37**		Pn	14 31 29.8	-1.2
TPNV				IAML		14 31 59.3	
	comp=E,94nm,0.5s						
GMN	**Gold Mountain**	**1.65**	**6**		Pn	14 31 30.1	-1.3
GMN				IAML		14 32 05.1	
	comp=N,70nm,0.9s						
GMRC	**Granite Mounta**	**1.73**	**120**		Pn	14 31 30.0	-2.4
DSP	**Deep Springs**	**1.75**	**347**		Pn	14 31 31.2	-1.3
DSP				IAML		14 31 58.3	
	comp=E,98nm,0.4s						
ELS	**Elsinore Mount**	**2.01**	**179**		Pn	14 31 35.0	-1.1
ELS				IAML		14 32 07.0	
	comp=E,93nm,0.4s						
ELS				IAML		14 32 07.0	
	comp=N,62nm,0.6s						
MZP	**Montezuma Peak**	**2.04**	**2**		Pn	14 31 35.5	-1.3
SHPR	**Sheep Range**	**2.06**	**65**		Pn	14 31 36.0	-1.0
V12A	**Nelson**	**2.15**	**87**	IAML		14 32 16.3	
	comp=E,56nm,0.6s						
PMD	**Palm Desert**	**2.21**	**155**	IAML		14 32 19.4	
	comp=E,74nm,0.1s						
PFO	**Pinyon Flats O**	**2.21**	**157**	IAML		14 32 14.8	
	comp=E,38nm,0.7s						
S11A	**Rachel**	**2.42**	**35**	IAML		14 32 25.0	
	comp=E,54nm,0.6s						
S11A				IAML		14 32 27.6	
	comp=N,58nm,1.1s						
BORC	**Borrego Spring**	**2.54**	**159**	IAML		14 32 23.9	
	comp=N,34nm,0.8s						
BORC				IAML		14 32 25.7	
	comp=E,39nm,0.6s						
PRN	**Pahroc Range**	**2.62**	**48**	IAML		14 32 36.7	
	comp=N,32nm,0.6s						
PRN				IAML		14 32 38.0	
	comp=E,28nm,0.7s						
DPP	**Dos Picos Cty**	**2.69**	**170**	IAML		14 32 26.8	
	comp=E,55nm,0.6s						
DPP				IAML		14 32 27.3	
	comp=N,23nm,0.3s						
LHV	**Little Huntoon**	**2.71**	**343**	IAML		14 32 32.9	
	comp=N,36nm,0.6s						
LHV				IAML		14 32 36.8	
	comp=E,30nm,0.7s						
NV11	**Mina Array Sit**	**2.82**	**349**	IAML		14 32 36.0	
	comp=E,24nm,1.1s						
W13A	**Hualapai Mount**	**3.00**	**100**	IAML		14 32 39.6	
	comp=E,26nm,0.7s						
W13A				IAML		14 32 39.7	
	comp=N,27nm,0.8s						
BAR	**Barrett**	**3.05**	**167**	IAML		14 32 40.1	
	comp=N,35nm,0.3s						
BLYC	**Blythe**	**3.10**	**127**	IAML		14 32 41.2	
	comp=N,26nm,0.6s						
BLYC				IAML		14 32 43.2	
	comp=E,24nm,0.6s						
CMB	**Columbia Colle**	**3.32**	**316**	IAML		14 32 50.9	
	comp=E,13nm,0.9s						
CMB				IAML		14 32 54.1	
	comp=N,14nm,0.6s						
GLA	**Glamis**	**3.41**	**139**	IAML		14 32 57.9	
	comp=E,30nm,0.6s						
GLA				IAML		14 32 58.8	
	comp=N,31nm,0.6s						
ESJX	**Sierra Juarez**	**3.86**	**160**	IAML		14 33 01.6	
	comp=E,9.7nm,0.5s						
ESJX				IAML		14 33 07.2	
	comp=N,8.6nm,0.8s						
KNB	**Kanab**	**4.00**	**69**	IAML		14 32 50.2	
	comp=N,8.1nm,4.0s						
KNB				IAML		14 33 15.3	
	comp=E,8.7nm,0.9s						
PSUT	**Pine Spring**	**4.08**	**44**	IAML		14 33 29.2	
	comp=E,7.4nm,1.3s						
PSUT				IAML		14 33 29.6	
	comp=N,7.2nm,1.3s						
SPR3	**Spring Creek 3**	**4.17**	**36**	IAML		14 33 16.2	
	comp=N,7.0nm,0.5s						
113A	**Mohawk Valley,**	**4.22**	**132**	IAML		14 33 22.0	
	comp=N,8.4nm,4.7s						
BEKR	**Beckworth**	**4.78**	**332**	IAML		14 33 12.8	
	comp=N,4.8nm,4.7s						
BEKR				IAML		14 33 49.2	
	comp=E,8.1nm,1.1s						

*IDC **08** 14:46:02.2±1.7, 0°.60N×126°.39E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=171.5km s-min=21.7km az=66.0*

*DJA **08** 14:46:06.1±0.4, 0°.N±4°×12°.6E±°, h10km, M3.3/6, MLv3.0/1*

ISC 08 14:46:07.9±1.1, 0°.5N±0°.2×126°.28E±0°.07, h47km, n6, σ1s71/7, mb3.5/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.12**	**76**	P	**Pn**	**14 46 25.3**	**-1.9**
TNTI				S	**Sn**	**14 46 42.8**	**+1.3**
KMSI	**Cibinong**	**2.30**	**272**	P	**Pn**	**14 46 42.0**	**-1.4**
WRA	**Warramunga Arr**	**21.80**	**159**	P	**P**	**14 50 55.5**	**-0.6**
	1.2nm,0.5s,baz=338,slow=11,SNR=15						
	1.2nm,0

AF01	**San Pedro de A**	**0.94**	**147**	⇓	*i*P	**Pn**	**14 51 05.6**	**-1.2**
AF01					*i*S	**Sn**	**14 51 21.9**	**-0.7**
AF01					IAML		14 51 22.6	
	comp=E,3μm,0.4s							
AF01	**San Pedro de A**	**0.94**	**147**		*e*P	**Pn**	**14 51 05.7**	**-1.1**
AF01					IAML		14 51 26.5	
	comp=Z,1μm,0.3s							
PB06	**IPOC Station P**	**0.95**	**235**	⇑	*i*P	**Pn**	**14 51 06.5**	**-0.2**
PB06					*i*S	**Sn**	**14 51 23.1**	**+0.6**
PB06					IAML		14 51 26.5	
	comp=N,2μm,0.1s							
PB06	**IPOC Station P**	**0.95**	**235**		*e*P	**Pn**	**14 51 06.3**	**-0.4**
PB06					*e*S	**Sn**	**14 51 23.4**	**+1.0**
PB06					IAML		14 51 23.5	
	comp=Z,977nm,0.6s							
PB01	**IPOC Station P**	**1.32**	**328**	⇑	*i*P	**Pn**	**14 51 10.2**	**-0.6**
PB01					*i*S	**Sn**	**14 51 29.4**	**0.0**
PB01					IAML		14 51 31.0	
	comp=E,1μm,0.1s							
PB01	**IPOC Station P**	**1.32**	**328**		*e*P	**Pn**	**14 51 10.1**	**-0.6**
PB01					*e*S	**Sn**	**14 51 30.4**	**+0.9**
PB01					IAML		14 51 31.0	
	comp=Z,663nm,0.2s							
PB05	**IPOC Station P**	**1.52**	**243**	⇑	*i*P	**Pn**	**14 51 12.6**	**-0.5**
PB05					*i*S	**Sn**	**14 51 33.9**	**+0.1**
PB05					IAML		14 51 40.3	
	comp=E,643nm,0.1s							
PB05	**IPOC Station P**	**1.52**	**243**		*e*P	**Pn**	**14 51 12.6**	**-0.5**
PB05					*e*S	**Sn**	**14 51 35.8**	**+2.0**
PB05					IAML		14 51 40.2	
	comp=Z,378nm,0.2s							
PATCX	**Punta Patache**	**1.88**	**315**		*e*P	**Pn**	**14 51 16.7**	**-0.8**
PATCX					*e*S	**Sn**	**14 51 41.5**	**-0.1**
PATCX					IAML		14 51 47.8	
	comp=N,730nm,0.3s							
PATCX	**Punta Patache**	**1.88**	**315**		*e*P	**Pn**	**14 51 16.9**	**-0.6**
PATCX					*e*S	**Sn**	**14 51 42.1**	**+0.5**
PATCX					IAML		14 51 47.6	
	comp=Z,356nm,0.3s							
PB08	**IPOC Station P**	**2.05**	**349**		*e*P	**Pn**	**14 51 19.8**	**-0.1**
PB08					*i*S	**Sn**	**14 51 46.6**	**+0.8**
PB08					IAML		14 51 51.5	
	comp=N,187nm,0.2s							
PB08	**IPOC Station P**	**2.05**	**349**		*e*P	**Pn**	**14 51 20.0**	**+0.1**
PB08					*e*S	**Sn**	**14 51 47.8**	**+2.0**
TA01	**Diego Aracena**	**2.08**	**319**		*e*P	**Pn**	**14 51 19.8**	**-0.2**
TA01					*i*S	**Sn**	**14 51 45.9**	**-0.1**
TA01					IAML		14 51 49.3	
	comp=N,473nm,0.3s							
TA01	**Diego Aracena**	**2.08**	**319**		*e*P	**Pn**	**14 51 19.2**	**-0.7**
TA01					*e*S	**Sn**	**14 51 47.1**	**+1.1**
TA01					IAML		14 51 48.8	
	comp=Z,250nm,0.3s							
PB10	**IPOC Station P**	**2.15**	**231**		*e*P	**Pn**	**14 51 20.1**	**-0.7**
PB10					IAML		14 51 59.7	
	comp=N,246nm,0.3s							
PB10	**IPOC Station P**	**2.15**	**231**		*e*P	**Pn**	**14 51 20.2**	**-0.6**
PB10					*e*S	**Sn**	**14 51 46.2**	**-1.4**
PB10					IAML		14 51 56.8	
	comp=Z,142nm,0.3s							
HMBC	**Humberstone**	**2.16**	**330**	⇓	*i*P	**Pn**	**14 51 20.1**	**-1.0**
HMBC					*i*S	**Sn**	**14 51 47.4**	**-0.6**
HMBC					IAML		14 51 52.4	
	comp=E,713nm,0.4s							
HMBC	**Humberstone**	**2.16**	**330**		*e*P	**Pn**	**14 51 20.2**	**-1.0**
HMBC					*e*S	**Sn**	**14 51 48.2**	**+0.1**
HMBC					IAML		14 51 56.4	
	comp=Z,501nm,0.3s							
TA02	**Huaiquique**	**2.29**	**325**		*e*P	**Pn**	**14 51 17.9**	**-4.7**
TA02					*e*S	**Sn**	**14 51 54.0**	**+3.2**
TA02					IAML		14 51 56.9	
	comp=Z,229nm,0.3s							
GO01	**Chusmiza**	**2.52**	**350**		*e*P	**Pn**	**14 51 25.3**	**-0.8**
GO01					*e*S	**Sn**	**14 51 58.2**	**+1.5**
PB11	**IPOC Station P**	**2.54**	**340**	⇑	*i*P	**Pn**	**14 51 24.8**	**-1.2**
PB11					*i*S	**Sn**	**14 51 56.1**	**-0.7**
PB11					IAML		14 51 59.9	
	comp=N,342nm,0.3s							
PB11	**IPOC Station P**	**2.54**	**340**		*e*P	**Pn**	**14 51 24.9**	**-1.2**
PB11					*e*S	**Sn**	**14 51 56.6**	**-0.2**
PB11					IAML		14 52 03.0	
	comp=Z,180nm,0.3s							
PB14	**IPOC Station P**	**2.89**	**212**		*e*P	**Pn**	**14 51 30.6**	**-0.1**
PB14					*e*S	Sn	14 51 53.1	-12
PB14					IAML		14 52 18.0	
	comp=Z,149nm,0.3s							
YJA	**Yavi**	**2.98**	**91**		*e*P	**Pn**	**14 51 31.9**	**-0.2**
SALTA		**3.01**	**133**		*e*P	Pn	14 51 27.6	-4.9
GO02	**Mina Guanaco**	**3.09**	**195**		*e*P	**Pn**	**14 51 32.5**	**-0.8**
PB16	**IPOC Station P**	**3.88**	**349**		*e*P	**Pn**	**14 51 43.8**	**-0.4**
PB16					*e*S	**Sn**	**14 52 31.6**	**+2.4**
AZAP	**Zapla**	**3.95**	**122**		*e*P	**Pn**	**14 51 43.6**	**-1.1**
AC02	**Maricunga**	**4.67**	**184**		*e*P	**Pn**	**14 51 53.4**	**-1.3**
AC02					*e*S	**Sn**	**14 52 51.8**	**+3.8**
AC02					IAML		14 53 26.8	
	comp=Z,28nm,0.4s							

*IDC **08** 15:00:56.5±1.0,5°.82S×151°.98E,h0km,mb4.0/11, mbtmp4.0/11,Error ellipse: s-maj=37.4km s-min=19.4km az=97.0*
*NEIC **08** 15:01:02.0±1.0,5°.9S±0°.1×151°.9E±0°.1,h33km±9km, mb4.3/17,Error ellipse: s-maj=26.3km s-min=5.3km az=139.0*

ISC 08 15:01:02.4±0.7,5°.89S±0°.10×151°.9E±0°.1,h36km,n38, σ0s69/37,mb4.2/20,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RABL	**Rabaul**	**1.71**	**11**			**Pn**	**15 01 29.7**	**0.0**
MANU	**Manus Island**	**5.88**	**310**			**Pn**	**15 02 27.8**	**+0.8**
MTSU	**Mount Surprise**	**14.22**	**210**	P		Pn	15 04 13.9	-7.4
KDU	**Kakadu**	**20.27**	**249**	P		**P**	**15 05 34.5**	**-0.5**
MTN	**Manton Dam**	**21.56**	**250**			**P**	**15 05 48.3**	**-0.6**
MTN					IAmb	IAmb	15 06 03.8	
	comp=Z,10nm,0.7s							
MTN	**Manton Dam**	**21.56**	**250**	P		**P**	**15 05 49.3**	**+0.3**
QLP	**Quilpie**	**21.82**	**199**	P		**P**	**15 05 53.2**	**+1.5**
WB0	**Warramunga Arr**	**21.87**	**229**	P		**P**	**15 05 51.5**	**-0.7**
WB0					IAmb	IAmb	15 06 08.2	
	comp=Z,17nm,1.3s							
WR8	**Warramunga Ar**	**21.91**	**229**	P		**P**	**15 05 52.2**	**-0.4**
WR8					IAmb	IAmb	15 06 08.0	
	comp=Z,8.2nm,0.8s							
WRAB	**Tennant Creek**	**22.00**	**229**	P		**P**	**15 05 53.1**	**-0.6**
WRAB					IAmb	IAmb	15 06 07.1	
	comp=Z,7.8nm,0.7s							
WRA	**Warramunga Arr**	**22.02**	**229**	P		**P**	**15 05 53.2**	**-0.7**
WRA	**Warramunga Arr**	**22.02**	**229**	P		**P**	**15 05 54.1**	**+0.2**
	comp=Z,5.9nm,0.7s,baz=53,slow=9.9,SNR=37							
	comp=Z,5.9nm,0.7s							
KNRA	**Kununurra**	**24.65**	**245**	P		**P**	**15 06 19.9**	**0.0**
KNRA					IAmb	IAmb	15 06 35.8	
	comp=Z,12nm,0.8s							
AS01	**Alice Springs**	**24.68**	**222**	P		**P**	**15 06 21.5**	**+1.4**
AS31	**Alice Springs**	**24.71**	**223**			**P**	**15 06 20.4**	**-0.1**
AS31					IAmb	IAmb	15 06 32.9	
	comp=Z,4.1nm,0.6s							
ASAR	**Alice Springs**	**24.71**	**223**			**P**	**15 06 20.0**	**-0.5**
ASAR	**Alice Springs**	**24.71**	**223**	P		**P**	**15 06 21.0**	**+0.6**
	comp=Z,5.4nm,0.8s,baz=60,slow=9.5,SNR=85							
	comp=Z,5.4nm,0.8s							
STKA	**Stephens Creek**	**27.58**	**199**	P		**P**	**15 06 45.8**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=18,slow=13,SNR=3.6							
	comp=Z,2.2nm,0.8s							
FITZ	**Fitzroy Crossi**	**28.31**	**242**			**P**	**15 06 52.5**	**-0.3**
FORT	**Forrest**	**33.35**	**219**	P		**P**	**15 07 37.0**	**-0.2**
FORT					IAmb	IAmb	15 07 48.4	
	comp=Z,4.7nm,0.8s							
MBWA	**Marble Bar**	**34.61**	**241**	P		**P**	**15 07 47.7**	**-0.6**
MORW	**Morawa**	**40.93**	**231**	P		**P**	**15 08 39.8**	**-1.8**
CMAR	**Chiang Mai Arr**	**57.49**	**296**	P		**P**	**15 10 48.7**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=109,slow=6.7,SNR=1.8							
	comp=Z,0.2nm,0.4s							
SONM	**Songino Array**	**66.74**	**328**	P		**P**	**15 11 50.5**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=147,slow=3.0,SNR=4.4							
	comp=Z,0.5nm,0.4s							
VNDA	**Vanda**	**71.79**	**178**	P		**P**	**15 12 21.2**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=324,slow=10,SNR=2.2							
	comp=Z,1.2nm,0.8s							
L18K	**Granite Mounta**	**78.44**	**22**	P		**P**	**15 13 00.1**	**+0.9**
L18K					IAmb	IAmb	15 13 13.2	
	comp=Z,3.2nm,1.1s							
CNPM	**China Poot**	**79.10**	**26**	P		**P**	**15 13 03.3**	**+0.3**
MKAR	**Makanchi Array**	**80.52**	**319**	P		**P**	**15 13 10.9**	**0.0**
	comp=Z,0.3nm,0.6s,baz=101,slow=7.5,SNR=2.9							
	comp=Z,0.3nm,0.6s							
F19K	**Shaleruckik Mo**	**80.94**	**18**	P		**P**	**15 13 12.8**	**+0.1**
ZALV	**Zalesovo Beam**	**81.53**	**327**	P		**P**	**15 13 15.1**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=92,slow=4.3,SNR=4.9							
	comp=Z,1.0nm,0.5s							
F20K	**Avaraart Lake**	**81.71**	**18**	P		**P**	**15 13 16.3**	**-0.5**
IMAR	**Indian Mountai**	**81.72**	**20**	P		**P**	**15 13 16.3**	**-0.5**
CCB	**Clear Creek Bu**	**83.11**	**22**	P		**P**	**15 13 23.7**	**-0.4**
CCB					IAmb	IAmb	15 13 25.3	
	comp=Z,1.4nm,0.7s							
ILAR	**Eielson Array**	**83.52**	**22**	P		**P**	**15 13 25.2**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=252,slow=5.5,SNR=10							
	comp=Z,1.2nm,0.6s							
J25K	**Salcha River,**	**84.02**	**23**	P		**P**	**15 13 29.1**	**+0.2**
KURBB	**Kurchatov Arra**	**84.07**	**322**	P		**P**	**15 13 28.9**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=116,slow=3.5,SNR=4.3							
	comp=Z,0.6nm,0.9s							
QSPA	**South Pole Qui**	**84.08**	**180**	P		**P**	**15 13 29.5**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=328,slow=1.6,SNR=9.9							
	comp=Z,1.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**149.72**	**286**	PKPbc		**PKiKP**	**15 20 50.9**	**+0.4**
	comp=Z,4.9nm,0.9s,baz=48,slow=2.2,SNR=3.5							

*IDC **08** 15:13:17.0±1.3,70°.23N×2°.37E,h0km,mb3.3/5, mbtmp3.5/10,ML3.2/5,Error ellipse: s-maj=25.3km s-min=17.6km az=53.0*
*BER **08** 15:13:20.3±2.6,70°.59N×2°.53E,h10km,mb(Pn)4.1, ML3.7(NAO),Confirmed Earthquake*
*NAO **08** 15:13:21.2±0.7,70°.47N×2°.68E,h21km±6km,ML3.7*
*KOLA **08** 15:13:24.6,70°.31N×3°.67E,h0km,ML2.4,Error ellipse: s-maj=32.1km s-min=19.1km az=160.0,Norwegian sea*

ISC 08 15:13:17.6±0.8,70°.46N±0°.08×2°.63E±0°.05,h10km,n63, σ2s24/74,mb3.3/5,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JNE	**Jan Mayen East**	**3.66**	**284**	*e*P		**Pn**	**15 14 14.7**	**+0.6**
JNE					IAML		15 15 03.1	
	comp=Z,26nm,0.9s							
JNW	**Jan Mayen West**	**3.71**	**284**	*e*P		**Pn**	**15 14 14.5**	**-0.3**
JNW					*e*S	**Sn**	**15 14 54.0**	**-4.4**
JNW					IAML		15 15 10.9	
	comp=Z,15nm,0.3s							
JMIC	**Jan Mayen**	**3.73**	**283**	Pn		**Pn**	**15 14 14.1**	**-1.0**
	comp=Z,2.6nm,0.3s,baz=62,slow=3.8,SNR=7.2							
JMIC					Sn	**Sn**	**15 14 55.1**	**-3.9**
	comp=Z,2.3nm,0.3s,baz=141,slow=23,SNR=1.3							
	comp=Z,15nm,0.6s							
JMIC	**Jan Mayen**	**3.73**	**283**	*e*P		**Pn**	**15 14 15.6**	**+0.4**
JMIC					*e*S	**Sn**	**15 14 54.6**	**-4.4**
JMIC				*e*			15 14 54.6	
JMIC					IAML		15 15 18.6	
	comp=Z,12nm,0.5s							
LOF	**Lofoten**	**4.52**	**116**	Pn		**Pn**	**15 14 27.3**	**+1.3**
LOF	**Lofoten**	**4.52**	**116**	*e*P		**Pn**	**15 14 27.8**	**+1.8**
LOF					IAML		15 15 27.9	
	comp=Z,7.9nm,0.6s							
STEI	**Steigen**	**5.16**	**113**	Pn		**Pn**	**15 14 36.0**	**+1.3**
STEI	**Steigen**	**5.16**	**113**	*e*P		**Pn**	**15 14 36.5**	**+1.7**
STEI					IAML		15 15 38.0	
	comp=Z,15nm,0.4s							
VAGH	**Vaagaholmen**	**5.40**	**129**	Pn		**Pn**	**15 14 40.2**	**+2.2**
VAGH	**Vaagaholmen**	**5.40**	**129**	*e*P		**Pn**	**15 14 40.6**	**+2.6**
FAUS	**Fauske**	**5.51**	**118**	Pn		**Pn**	**15 14 41.0**	**+1.5**
FAUS					Sn	**Sn**	**15 15 40.2**	**-2.7**
FAUS	**Fauske**	**5.51**	**118**	P		**Pn**	**15 14 41.6**	**+2.0**
FAUS					S	Sn	15 15 34.2	-8.7
FAUS	**Fauske**	**5.51**	**118**	*e*P		**Pn**	**15 14 41.3**	**+1.8**
FAUS					IAML		15 15 47.2	
	comp=Z,5.9nm,0.4s							
KONS	**Konsvik**	**5.54**	**131**	Pn		**Pn**	**15 14 41.9**	**+1.9**
KONS					Sn	Sn	15 15 39.4	-4.2
KONS	**Konsvik**	**5.54**	**131**	*e*P		**Pn**	**15 14 42.2**	**+2.3**
KONS					IAML		15 15 45.5	
	comp=Z,12nm,0.3s							
TRO	**Tromso**	**5.64**	**91**	Pn		**Pn**	**15 14 41.6**	**+0.2**
TRO					Sn	**Sn**	**15 15 41.4**	**-4.7**
TRO	**Tromso**	**5.64**	**91**	*e*P		**Pn**	**15 14 41.6**	**+0.2**
TRO					IAML		15 15 42.7	
	comp=Z,11nm,0.4s							
STOK	**Stokkvaagen**	**5.64**	**132**	Pn		**Pn**	**15 14 43.1**	**+1.7**
STOK					Sn	Sn	15 15 42.4	-3.7
STOK	**Stokkvaagen**	**5.64**	**132**	*e*P		**Pn**	**15 14 43.6**	**+2.2**
STOK					IAML		15 15 52.4	
	comp=Z,7.6nm,0.3s							
LEIR	**Leirfjorden**	**5.84**	**133**	Pn		**Pn**	**15 14 45.2**	**+1.1**
LEIR					Sn	Sn	15 15 47.1	-4.0
LEIR	**Leirfjorden**	**5.84**	**133**	*e*P		**Pn**	**15 14 45.5**	**+1.3**
LEIR					IAML		15 15 52.9	
	comp=Z,13nm,0.5s							
MOR8	**Moi Rana**	**6.13**	**129**	Pn		**Pn**	**15 14 50.2**	**+2.1**
MOR8					Sn	**Sn**	**15 15 56.2**	**-2.0**
KTK1	**Kautokeino**	**7.29**	**92**	*e*P		**Pn**	**15 15 05.9**	**+1.9**
HSPB	**Hornsund (broa**	**7.48**	**23**	Pn		**Pn**	**15 15 08.4**	**+1.8**
HEF	**Hetta**	**7.67**	**95**	Pn		**Pn**	**15 15 10.4**	**+1.2**
HEF	**Hetta**	**7.67**	**95**	Pn		**Pn**	**15 15 10.4**	**+1.2**
ARA0	**ARCESS Array S**	**7.88**	**86**	Pn		**Pn**	**15 15 12.6**	**+0.5**
	baz=284,slow=12							
ARA0	**ARCESS Array S**	**7.88**	**86**	Pn		**Pn**	**15 15 12.6**	**+0.5**
	baz=284,slow=12							
ARA0				*e*P		Pb	15 15 12.9	-21
ARCES	**ARCESS Array B**	**7.88**	**86**	Pn		**Pn**	**15 15 12.6**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=281,slow=12,SNR=54							
ARCES					Sn	**Sn**	**15 16 38.8**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=291,slow=20,SNR=1.7							
	comp=Z,1.4nm,0.3s							
ARCES	**ARCESS Array B**	**7.88**	**86**	P		**Pn**	**15 15 12.8**	**+0.7**
ARCES					S	**Sn**	**15 16 36.0**	**-5.2**
MOL	**Molde**	**8.16**	**164**	*e*P		**Pn**	**15 15 17.5**	**+1.6**
MOL					IAML		15 16 59.7	
	comp=Z,3.7nm,0.5s							
KEV	**Kevo**	**8.32**	**83**	Pn		**Pn**	**15 15 19.2**	**+1.1**
KEV	**Kevo**	**8.32**	**83**	Pn		**Pn**	**15 15 19.2**	**+1.1**
AKN	**Aaknes**	**8.50**	**166**	*e*P		**Pn**	**15 15 21.8**	**+1.2**
SPA0	**Spitsbergen Ar**	**8.56**	**19**	Pn		**Pn**	**15 15 24.8**	**+3.4**
	baz=215,slow=14							
SPA0	**Spitsbergen Ar**	**8.56**	**19**	Pn		**Pn**	**15 15 24.8**	**+3.4**
	baz=215,slow=14							
SPITS	**Spitsbergen Ar**	**8.56**	**19**	Pn		**Pn**	**15 15 24.8**	**+3.4**
	baz=180,slow=15							
	comp=Z,1.3nm,0.2s							
VADS	**Vadso**	**9.00**	**80**	P		**Pn**	**15 15 28.1**	**+0.7**
VADS					S	Sn	15 17 02.5	-6.3
NRA0	**NORESS Array S**	**10.42**	**155**	P		**Pn**	**15 15 48.5**	**+1.6**
	baz=344,slow=16							
NRA0	**NORESS Array S**	**10.42**	**155**	P		**Pn**	**15 15 48.5**	**+1.6**
	baz=344,slow=16							
APA0	**Apatity Array**	**11.17**	**90**	P		**Pn**	**15 15 56.8**	**-0.3**
	baz=308,slow=12							
APA0	**Apatity Array**	**11.17**	**90**	P		**Pn**	**15 15 56.9**	**-0.1**
APA0					S	Sn	15 17 52.4	-9.3
APA0	**Apatity Array**	**11.17**	**90**	P		**Pn**	**15 15 56.8**	**-0.3**
	baz=308,slow=12							
TERR	**Teriberka**	**11.20**	**81**	P		**Pn**	**15 15 57.6**	**+0.1**
TERR					S	Sn	15 17 50.3	-12
HFS	**Hagfors**	**11.32**	**151**	P		**Pn**	**15 16 01.0**	**+1.8**
	baz=340,slow=14							
HFS	**Hagfors**	**11.32**	**151**	Pn		**Pn**	**15 15 59.6**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=355,slow=11,SNR=14							
	comp=Z,1.6nm,0.4s							
HFS	**Hagfors**	**11.32**	**151**	P		**Pn**	**15 16 01.0**	**+1.8**
	baz=340,slow=14							
KVDA	**Kovda**	**11.60**	**94**	P		**Pn**	**15 16 03.6**	**+0.8**
FIA0	**FINESS Array S**	**13.05**	**122**	P		**Pn**	**15 16 22.1**	**-0.7**
	baz=324,slow=14							
FIA0	**FINESS Array S**	**13.05**	**122**	P		**Pn**	**15 16 22.1**	**-0.7**
	baz=324,slow=14							
FINES	**FINESS Array B**	**13.05**	**122**	Pn		**Pn**	**15 16 24.1**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=310,slow=8.9,SNR=6.1							
	comp=Z,1.0nm,0.6s							
GERES	**GERESS Array B**	**22.32**	**160**	P		**P**	**15 18 13.7**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=348,slow=13,SNR=2.8							
	comp=Z,0.2nm,0.4s							
AKASG	**Malin Array Be**	**23.35**	**134**	P		**P**	**15 18 25.6**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=341,slow=9.5,SNR=1.5							
	comp=Z,0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**38.91**	**80**	P		**P**	**15 20 45.1**	**+2.2**
	comp=Z,0.7nm,0.8s,baz=330,slow=7.1,SNR=5.3							
	comp=Z,0.7nm,0.8s							
ILAR	**Eielson Array**	**43.40**	**342**	P		**P**	**15 21 22.5**	**+2.8**
	comp=Z,0.4nm,0.7s,baz=9.0,slow=8.4,SNR=5.1							
	comp=Z,0.4nm,0.7s							
MKAR	**Makanchi Array**	**43.47**	**79**	P		**P**	**15 21 23.2**	**+2.8**
	comp=Z,0.5nm,0.7s,baz=324,slow=6.0,SNR=5.4							
	comp=Z,0.5nm,0.7s							

IDC 08 15:16:19.3±2.7,12°.34N×144°.97E,h0km,mb3.3/4, mbtmp3.3/4,Error ellipse: s-maj=115.3km s-min=17.2km az=91.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GUMO	**Guam**	**1.25**	**356**			**Pn**	15 16 44.6	+0.6
	27nm,0.3s,baz=109,slow=3.8,SNR=54							
GUMO						Sn	Sb	15 17 00.8	+0.3
	112nm,0.3s,baz=323,slow=22,SNR=9.1							
H11N1	**WAKE ISLAND Hy**	**22.30**	**68**	T		T	15 45 12.5	
	baz=255,slow=75,SNR=2.2							
H11N2	**WAKE ISLAND Hy**	**22.30**	**68**	T		T	15 45 12.3	
	baz=255,slow=75,SNR=3.4							
H11N3	**WAKE ISLAND Hy**	**22.31**	**68**	T		T	15 45 14.4	
	baz=255,slow=75,SNR=3.8							
WRA	**Warramunga Arr**	**33.74**	**198**	P		P	15 23 01.6	-1.2
	0.5nm,0.6s,baz=21,slow=9.7,SNR=12							
	0.5nm,0.6s							
ASAR	**Alice Springs**	**37.38**	**197**	P		P	15 23 35.3	+1.2
	0.3nm,0.8s,baz=16,slow=11,SNR=1.9							
	0.3nm,0.8s							
MKAR	**Makanchi Array**	**62.46**	**316**	P		P	15 26 45.7	+1.1
	0.2nm,0.6s,baz=104,slow=6.1,SNR=1.7							
	0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**65.64**	**320**	P		P	15 27 04.3	-1.0
	0.1nm,0.4s,baz=103,slow=7.4,SNR=2.4							
	0.1nm,0.4s							

*IDC **08** 15:21:52.9±0.6,5°.38S×68°.55E,h0km,mb4.2/19, mbtmp4.2/20,ML4.4/1,MS3.5/16,Error ellipse: s-maj=19.5km s-min=14.7km az=70.0*
*NEIC **08** 15:21:55.1±1.9,5°.47S±0°.09×68°.60E±0°.10,h10km±1km, mb4.6/30,Error ellipse: s-maj=16.3km s-min=15.0km az=255.0*
*GCMT **08** 15:22:03.0±0.4,5°.54S±0°.02×68°.60E±0°.02,h18km±2km, MW4.7/77,Moment Tensor Solution. s8,c8; s77,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.19±.08; $M_{\theta\theta}$-1.16±.07; $M_{\phi\phi}$0.97±.07; $M_{r\theta}$-0.71±.22; $M_{\theta\phi}$-0.98±.08; $M_{\phi r}$-0.22±.16; Best double couple: $M_0$1.58500×10^{16} NP1:ϕ22.00000°,δ73.00000°,λ-12.00000°. NP2: ϕ115.00000°,δ78.00000°,λ-163.00000°. Principal axes: T 1.3540, Plg3.0000°, Azm248.0000°; N 0.4630, Plg69.0000°, Azm149.0000°; P -1.8170, Plg20.0000°, Azm339.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 15:21:54.6±0.5,5°.45S±0°.07×68°.63E±0°.08,h13km,n69, σ0s82/59,mb4.4/32,MS3.5/15,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
H08S1	**Diego Carcia H**	**4.40**	**120**	Pn		**Pn**	**15 23 00.5**	**-0.5**
	baz=320,slow=19							
H08S1					T	T	15 27 49.3	
	baz=311,slow=75,SNR=21							
H08S3	**Diego Garcia H**	**4.40**	**120**	Pn		**Pn**	**15 23 00.2**	**-0.7**
	baz=320,slow=19							
H08S3					T	T	15 27 40.6	
	baz=311,slow=75,SNR=17							
H08S2	**Diego Garcia H**	**4.42**	**120**	Pn		**Pn**	**15 23 00.4**	**-0.8**
	baz=320,slow=19							
H08S2					T	T	15 27 43.7	
	baz=311,slow=75,SNR=18							
KAAM	**Kaadhehdhoo**	**7.34**	**37**	Pn		**Pn**	**15 23 41.3**	**-0.3**
PALK	**Pallekele**	**17.46**	**44**			**P**	**15 25 59.7**	**+0.4**
PALK	**Pallekele**	**17.46**	**44**	P		**P**	**15 25 59.6**	**+0.4**
	1.3nm,0.3s,baz=230,slow=10,SNR=6.0							
PALK					LR	LR	15 31 32.9	
	comp=Z,374nm,18.4s,baz=208,slow=33							
	4.9nm,0.5s							
RER	**Riviere de l'E**	**20.00**	**217**	P		**P**	**15 26 27.3**	**+0.1**
RER					IAmb	IAmb	15 26 59.8	
	comp=Z,32nm,1.0s							
GSI	**Gunungsitoli**	**29.68**	**78**	P		**P**	**15 27 58.6**	**-1.9**
GSI					IAmb	IAmb	15 27 58.9	
	comp=Z,15nm,1.2s							
ATD	**Arta Tunnel**	**30.70**	**303**	P		**P**	**15 28 09.4**	**-0.1**
PSI	**Prapat**	**31.35**	**76**

BRTR Keskin Array B 55.32 327 P **P** **15 31 26.9 -1.4**
comp=Z,0.4nm,0.4s,baz=144,slow=11,SNR=5.7
comp=Z,0.4nm,0.4s
AKTO Aktyubinsk 56.41 352 P **P** **15 31 34.6 -1.1**
comp=Z,1.4nm,0.7s,baz=182,slow=6.2,SNR=4.0
AKTO LR LR 15 54 30.3
comp=Z,21nm,21.5s,baz=168,slow=35
comp=Z,1.4nm,0.7s
KURBB Kurchatov Arra 56.50 8 P **P** **15 31 35.7 -0.6**
comp=Z,1.8nm,0.9s,baz=201,slow=7.3,SNR=11
comp=Z,1.8nm,0.9s
KURK Kurchatov 56.60 8 P **P** **15 31 37.0 -0.1**
BRVK Borovoye 58.30 1 P **P** **15 31 48.9 -0.2**
BRVK IAmb IAmb 15 31 51.5
comp=Z,2.6nm,0.7s
BELG Belogornoye 60.33 345 LR LR 15 59 02.6
comp=Z,22nm,19.5s,baz=80,slow=37
ZAA0 Zalesovo Array 60.72 11 **P** **15 32 04.8 -0.9**
ZAA0 IAmb IAmb 15 32 06.1
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 60.72 11 **P** **15 32 04.7 -1.0**
ZALV Zalesovo Beam 60.72 11 P **P** **15 32 05.2 -0.5**
comp=Z,3.8nm,0.6s,baz=202,slow=7.0,SNR=15
comp=Z,3.8nm,0.6s
ARTI Arti 62.19 354 P **P** **15 32 15.6 0.0**
comp=Z,1.9nm,0.3s,baz=206,slow=6.3,SNR=3.1
comp=Z,1.9nm,0.3s
SONM Songino Array 62.58 28 P **P** **15 32 19.2 +0.7**
SONM IAmb IAmb 15 32 20.8
comp=Z,4.5nm,1.0s
SONM Songino Array 62.58 28 P **P** **15 32 18.9 +0.4**
comp=Z,3.0nm,0.8s,baz=219,slow=7.5,SNR=14
comp=Z,3.0nm,0.8s
ASAR Alice Springs 65.20 113 P **P** **15 32 36.8 +0.5**
ASAR Alice Springs 65.20 113 P **P** **15 32 37.0 +0.7**
comp=Z,3.9nm,0.7s,baz=278,slow=6.1,SNR=54
comp=Z,3.9nm,0.7s
AS31 Alice Springs 65.20 113 **P** **15 32 36.4 +0.1**
WRA Warramunga Arr 65.34 109 P **P** **15 32 37.8 +0.7**
WRA Warramunga Arr 65.34 109 P **P** **15 32 38.2 +1.0**
comp=Z,9.2nm,0.9s,baz=283,slow=6.2,SNR=46
comp=Z,9.2nm,0.9s
WRAB Tennant Creek 65.35 109 P **P** **15 32 37.8 +0.6**
AKASG Malin Array Be 65.39 334 P **P** **15 32 37.6 +0.8**
comp=Z,1.8nm,0.8s,baz=132,slow=5.9,SNR=4.8
AKASG LR LR 16 04 18.0
comp=Z,27nm,18.1s,baz=58,slow=39
comp=Z,1.8nm,0.8s
WR8 Warramunga Arr 65.49 109 **P** **15 32 38.7 +0.5**
SABO M.te Sabotino 70.71 323 P **P** **15 33 11.3 +0.9**
SABO IAmb IAmb 15 33 14.9
comp=Z,10nm,1.1s
STKA Stephens Creek 72.68 122 P **P** **15 33 22.9 +0.3**
comp=Z,2.5nm,0.8s,baz=277,slow=7.7,SNR=5.9
comp=Z,2.5nm,0.8s
FINES FINESS Array B 74.35 340 P **P** **15 33 31.8 0.0**
comp=Z,2.2nm,0.9s,baz=112,slow=8.5,SNR=4.1
FINES LR LR 16 07 18.2
comp=Z,24nm,18.6s,baz=77,slow=37
comp=Z,2.2nm,0.9s
SENIN Lac Senin/Sane 74.77 321 **P** **15 33 34.8 0.0**
SENIN IAmb IAmb 15 33 39.8
comp=Z,3.7nm,0.8s
HFS Hagfors 78.19 335 P **P** **15 33 54.0 +0.4**
comp=Z,3.9nm,0.7s,baz=128,slow=2.4,SNR=7.2
HFS LR LR 16 08 37.4
comp=Z,30nm,18.5s,baz=48,slow=36
comp=Z,3.9nm,0.7s
SNAA Sanae 79.07 198 P **P** **15 33 59.4 +1.0**
comp=Z,0.4nm,0.7s,baz=159,slow=5.8,SNR=5.4
comp=Z,0.4nm,0.7s
NOA NORSAR Array B 79.71 335 LR LR 16 11 12.9
comp=Z,16nm,18.1s,baz=285,slow=37
ESDC Sonseca Array 80.22 312 P **P** **15 34 05.8 +0.5**
comp=Z,0.8nm,0.8s,baz=88,slow=6.0,SNR=5.3
comp=Z,0.8nm,0.8s
ARCES ARCESS Array B 80.37 346 LR LR 16 09 01.4
comp=Z,14nm,20.9s,baz=76,slow=35
QSPA South Pole Qui 84.57 180 P **P** **15 34 27.9 +0.4**
comp=Z,1.5nm,0.6s,baz=271,slow=2.6,SNR=15
QSPA LR LR 16 09 47.2
comp=Z,43nm,19.6s,baz=28,slow=34
comp=Z,1.5nm,0.6s
NVAR Mina Array Bea 146.57 10 PKPbc **PKPab** **15 41 38.0 +0.4**
comp=Z,2.1nm,0.9s,baz=353,slow=3.1,SNR=9.5
TXAR Lajitas Array 155.15 344 PKPbc PKPdf 15 41 56.9 +8.4
comp=Z,0.2nm,0.8s,baz=39,slow=5.0,SNR=2.3
TXAR PKPab **PKPab** **15 42 14.1 +1.2**
comp=Z,0.5nm,0.7s,baz=67,slow=2.9,SNR=5.4

IDC 08 15:41:07.2±2.0, 6°.55S×129°.59E, h0km, mb3.4/2, mbtmp3.3/5, ML3.1/3, Error ellipse: s-maj=93.6km s-min=26.9km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.09**	**198**	Pn	Pn	15 44 02.3	+1.4
	0.1nm,0.3s,baz=26,slow=11,SNR=2.2						
FITZ				Sn	Sn	15 46 05.2	-11
	0.3nm,0.3s,baz=303,slow=20,SNR=5.9						
	2.3nm,0.9s						
WRA	**Warramunga Arr**	**14.11**	**161**	Pn	Pn	15 44 27.3	-1.2
	0.1nm,0.3s,baz=342,slow=13,SNR=4.6						
WRA				Sn	Sn	15 46 54.9	-11
	0.2nm,0.3s,baz=344,slow=24,SNR=4.8						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**17.53**	**167**	P	Pn	15 45 12.9	-0.3
	baz=342,slow=9.2,SNR=6.1						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**67.59**	**327**	P	P	15 52 04.1	-1.6
	0.1nm,0.3s,baz=125,slow=5.9,SNR=1.8						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**71.88**	**329**	P	P	15 52 33.4	+1.3
	0.5nm,0.7s,baz=142,slow=5.7,SNR=4.8						
	0.5nm,0.7s						

*IDC **08** 15:42:31.9±1.8, 0°.51N×126°.82E, h0km, mb3.6/4, mbtmp3.6/4, MS2.8/1, Error ellipse: s-maj=181.4km s-min=21.7km az=66.0*
*DJA **08** 15:42:38.0±0.3, 0°.4N×126°.6E±°, h10km, MA3.6/9, MLv3.6/9*
ISC 08 15:42:39.2±1.0, 0°.42N±0°.10×126°.20E±0°.05, h44km, n10, σ2°.18/11, mb3.7/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.22**	**73**	P	Pn	15 42 59.9	+0.1
TNTI				S	Sn	15 43 17.2	+2.1
KMSI	**Cibinong**	**2.23**	**274**	P	Pn	15 43 12.7	-0.9
KMSI				S	Sn	15 43 40.3	+0.4
SANI	**Sanana**	**2.46**	**185**	P	Pn	15 43 18.1	+1.2
LUWI	**Luwuk**	**3.73**	**247**	P	Pn	15 43 36.9	+2.7
APSI	**Ampana**	**4.74**	**254**	P	Pn	15 43 48.7	+0.5
WRA	**Warramunga Arr**	**21.75**	**159**	P	P	15 47 22.6	-4.6
	1.3nm,0.7s,baz=339,slow=11,SNR=12						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**25.09**	**163**	P	P	15 47 58.5	-1.3
	0.4nm,0.5s,baz=344,slow=9.5,SNR=11						
	0.4nm,0.5s						
JOW	**Kunigami**	**26.34**	**4**	LR	LR	15 58 49.5	
	comp=Z,25nm,21.4s,baz=245,slow=37						
MKAR	**Makanchi Array**	**59.98**	**327**	P	P	15 52 42.0	+0.7
	0.6nm,0.6s,baz=123,slow=8.5,SNR=6.5						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**64.25**	**328**	P	P	15 53 10.3	+0.6
	0.7nm,0.6s,baz=130,slow=6.3,SNR=5.3						
	0.7nm,0.6s						

*IDC **08** 15:48:12.4±1.6, 0°.78N×126°.45E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=166.3km s-min=20.2km az=66.0*
*DJA **08** 15:48:16.1±0.4, 1°.1N±5°×12°.6E±°, h10km, M3.4/7, MLv3.4/7*
*NEIC **08** 15:48:17.7±1.6, 0°.7N±0°.1×126°.47E±0°.06, h35km±2km, mb4.1/9, Error ellipse: s-maj=22.1km s-min=9.0km az=169.0*
ISC 08 15:48:18.3±0.8, 0°.7N±0°.1×126°.43E±0°.05, h47km, n21, σ1°.01/22, mb4.0/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.94**	**83**		**Pn**	**15 48 34.8**	**-0.5**
TNTI	**Ternate**	**0.94**	**83**	P	**Pn**	**15 48 35.2**	**0.0**
TNTI				S	**Sn**	**15 48 49.3**	**+1.7**
KMSI	**Cibinong**	**2.45**	**268**	P	**Pn**	**15 48 54.1**	**-1.8**
LUWI	**Luwuk**	**4.03**	**245**	Pn	**Pn**	**15 49 19.3**	**+1.8**
TOLI2	**Tolitoli**	**5.67**	**275**	Pn	**Pn**	**15 49 40.6**	**+0.5**
WB0	**Warramunga Arr**	**21.74**	**159**	P	**P**	**15 53 05.4**	**-0.5**
WB0				IAmb	IAmb	15 53 07.3	
	comp=Z,9.9nm,1.3s						
WRAB	**Tennant Creek**	**21.88**	**160**	P	**P**	**15 53 06.7**	**-0.7**
WRAB				IAmb	IAmb	15 53 41.5	
	comp=Z,8.6nm,1.4s						
WRA	**Warramunga Arr**	**21.88**	**160**	P	**P**	**15 53 07.0**	**-0.5**
WRA	**Warramunga Arr**	**21.88**	**160**	P	**P**	**15 53 07.6**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=338,slow=11,SNR=30						
	comp=Z,1.9nm,0.5s						
WR8	**Warramunga Arr**	**21.95**	**159**	P	**P**	**15 53 08.1**	**-0.1**
WR8				IAmb	IAmb	15 53 23.9	
	comp=Z,4.2nm,0.9s						
COEN	**Coen**	**22.04**	**132**	P	**P**	**15 53 07.9**	**-1.2**
COEN				IAmb	IAmb	15 53 33.6	
	comp=Z,13nm,1.3s						
AS31	**Alice Springs**	**25.24**	**164**		**P**	**15 53 41.4**	**+1.2**
ASAR	**Alice Springs**	**25.24**	**164**	P	**P**	**15 53 41.4**	**+1.3**
ASAR	**Alice Springs**	**25.24**	**164**	P	**P**	**15 53 41.9**	**+1.7**
	comp=Z,0.4nm,0.4s,baz=342,slow=9.6,SNR=29						
	comp=Z,0.4nm,0.4s						
FORT	**Forrest**	**31.29**	**177**	P	**P**	**15 54 34.1**	**+0.1**
MKAR	**Makanchi Array**	**59.92**	**326**	P	**P**	**15 58 19.2**	**-0.4**
MKAR	**Makanchi Array**	**59.92**	**326**	P	**P**	**15 58 19.7**	**0.0**
	comp=Z,0.9nm,0.5s,baz=122,slow=7.7,SNR=16						
	comp=Z,0.9nm,0.5s						
MAKZ	**Makanchi**	**60.10**	**326**	P	**P**	**15 58 20.5**	**-0.4**
KURBB	**Kurchatov Arra**	**64.17**	**328**	P	**P**	**15 58 48.0**	**0.0**
	comp=Z,1.0nm,0.7s,baz=128,slow=6.0,SNR=8.8						
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**64.18**	**328**	P	**P**	**15 58 48.1**	**+0.1**
KURK				IAmb	IAmb	15 58 49.7	
	comp=Z,1.6nm,0.8s						
ABKAR	**Akbulak array**	**74.34**	**321**	P	**P**	**15 59 51.7**	**+0.6**

IDC 08 15:49:19.2±4.4, 28°.11S×177°.92W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=85.7km s-min=23.5km az=66.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.14**	**180**	Pn	Pb	15 49 41.8	0.0
	154nm,0.3s,baz=214,slow=23,SNR=5.3						
RAO				Sn	Sn	15 50 01.4	+2.7
	307nm,0.3s,baz=14,slow=21,SNR=5.2						
STKA	**Stephens Creek**	**35.12**	**254**	P	P	15 56 14.0	-0.6
	0.9nm,0.5s,baz=105,slow=12,SNR=2.2						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**43.35**	**264**	P	P	15 57 22.4	-1.1
	0.4nm,1.0s,baz=111,slow=7.4,SNR=4.2						
	0.4nm,1.0s						
WRA	**Warramunga Arr**	**44.13**	**270**	P	P	15 57 30.9	+1.1
	0.8nm,0.8s,baz=111,slow=8.0,SNR=6.1						
	0.8nm,0.8s						
FINES	**FINESS Array B**	**143.02**	**341**	PKP	PKPdf	16 08 53.7	-0.7
	0.8nm,0.7s,baz=35,slow=5.1,SNR=3.8						

*NEIC **08** 16:04:27.7±0.8, 35°.674N×0°.009×117°.49W±0°.01, h7km±2km, Error ellipse: s-maj=1.7km s-min=1.2km az=84.0*
*PAS **08** 16:04:28.1±1.1, 35°.679N×0°.010×117°.51W±0°.01, h2km±3km, Mwr3.8/6, mb4.2/8(NEIC), ML3.8/162(NEIC), Error ellipse: s-maj=1.6km s-min=1.2km az=219.0*
*IDC **08** 16:04:28.4±0.8, 35°.64N×117°.47W, h0km, mb3.8/1, mbtmp3.3/6, ML3.7/5, MS2.7/4, Error ellipse: s-maj=17.5km s-min=5.6km az=73.0*
ISC 08 16:04:28.5±0.9, 35°.67N±0°.02×117°.48W±0°.03, h11km±7km, n75, σ1°.41/52, mb4.3/3, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.17**	**327**	Pg	**Pg**	**16 04 31.4**	**-1.0**
CLC				IAML		16 04 34.2	
	comp=N,50μm,0.4s						
CCCA	**Chr Cany lake**	**0.17**	**146**	Pg	**Pg**	**16 04 32.5**	**+0.1**
SRTC	**Snort**	**0.22**	**276**		**Pg**	**16 04 32.6**	**-0.5**
LRMC	**Laurel Mtn Rad**	**0.25**	**221**		**Pg**	**16 04 32.9**	**-0.8**
LRMC				IAML		16 04 37.7	
	comp=E,26μm,0.3s						
TOW	**Tower One**	**0.27**	**301**		**Pg**	**16 04 33.5**	**-0.5**
WNMM	**Nine Mile Cany**	**0.38**	**297**		**Pg**	**16 04 35.4**	**-0.8**
MPMC	**Manual Prospec**	**0.39**	**359**	Pg	**Pg**	**16 04 35.5**	**-0.8**
MPMC				IAML		16 04 41.6	
	comp=N,13μm,0.6s						
MPMC	**Manual Prospec**	**0.39**	**359**		**Pg**	**16 04 35.5**	**-0.8**
WVPM	**Volcano Peak E**	**0.39**	**316**		**Pg**	**16 04 35.4**	**-0.9**
WVPM					**Sg**	**16 04 41.0**	**-0.6**
WCSM	**Coso Springs S**	**0.42**	**327**		**Pg**	**16 04 36.0**	**-0.9**
WRVM	**Rose V. Centra**	**0.47**	**316**		**Pg**	**16 04 36.9**	**-0.9**
DTP	**Desert Tortois**	**0.50**	**216**		**Pg**	**16 04 37.5**	**-0.8**
DTP					**Sg**	**16 04 44.3**	**-0.6**
QSM	**Queen of Sheba**	**0.58**	**59**		**Pg**	**16 04 39.5**	**-0.3**
GSC	**Goldstone, Bar**	**0.66**	**123**		**Pg**	**16 04 41.2**	**-0.2**
GSC				IAML		16 04 54.8	
	comp=N,5μm,0.4s						
GSC				IAML		16 04 55.1	
	comp=E,8μm,0.5s						
CCAC	**Calif City Air**	**0.68**	**220**		**Pg**	**16 04 40.9**	**-0.8**
CCAC					**Sg**	**16 04 50.4**	**-0.1**
ISA	**Isabella, Lake**	**0.81**	**270**		**Pg**	**16 04 42.8**	**-1.3**
HYS	**Haystack Butte**	**0.81**	**185**		**Sg**	**16 04 54.5**	**-0.2**
CWC	**Cottonwood Cre**	**0.91**	**328**		**Pg**	**16 04 44.8**	**-1.2**
CWC				IAML		16 04 57.9	
	comp=N,3μm,0.2s						
TPO	**Tropico Hills**	**1.00**	**218**		**Pg**	**16 04 46.5**	**-1.2**
TPO				IAML		16 05 03.1	
	comp=E,4μm,0.8s						
TPO				IAML		16 05 06.7	
	comp=N,4μm,0.5s						
AMDNV	**Amargosa**	**1.25**	**51**		**Pg**	**16 04 51.1**	**-1.4**
TUQ	**Turquoise Moun**	**1.29**	**100**		**Pg**	**16 04 51.7**	**-1.7**
WCT	**Wildcat Mounta**	**1.32**	**31**		**Pg**	**16 04 52.4**	**-1.5**
GRAC	**Grapevine Rang**	**1.33**	**4**		**Pg**	**16 04 52.8**	**-1.3**
BAKC	**Calstate**	**1.36**	**257**		**Pn**	**16 04 53.6**	**+0.2**
BFSC	**Mount Baldy Ra**	**1.44**	**186**		**Pn**	**16 04 53.8**	**-0.8**
BFSC				IAML		16 05 14.8	
	comp=E,1μm,0.7s						
BFSC				IAML		16 05 15.4	
	comp=N,1μm,0.5s						
OSI	**Osito Audit: C**	**1.46**	**224**		**Pn**	**16 04 54.3**	**-0.6**
OSI				IAML		16 05 18.3	
	comp=E,2μm,0.8s						
OSI				IAML		16 05 19.2	
	comp=N,2μm,0.9s						
MWC	**Mount Wilson**	**1.52**	**198**		**Pn**	**16 04 55.1**	**-0.7**
MWC				IAML		16 05 19.6	
	comp=E,2μm,0.5s						
MWC				IAML		16 05 21.6	
	comp=N,2μm,0.6s						
MTPC	**Mountain Pass**	**1.58**	**96**		**Pn**	**16 04 55.8**	**-0.9**
MTPC				IAML		16 05 21.3	
	comp=N,1μm,0.7s						
MTPC				IAML		16 05 23.4	
	comp=E,860nm,0.6s						
PASC	**Pasadena Art C**	**1.60**	**201**		**Pn**	**16 04 56.3**	**-0.6**
PASC				IAML		16 05 24.9	
	comp=E,1μm,0.8s						
TPNV	**Topopah Spring**	**1.62**	**38**		**Pn**	**16 04 56.8**	**-0.5**
TPNV				IAML		16 05 23.1	
	comp=E,972nm,0.8s						
TPNV				IAML		16 05 24.0	
	comp=E,804nm,0.7s						
GMN	**Gold Mountain**	**1.64**	**6**		**Pn**	**16 04 56.7**	**-0.8**
GMN				IAML		16 05 26.3	
	comp=N,873nm,0.7s						
GMRC	**Granite Mounta**	**1.73**	**120**		**Pn**	**16 04 57.3**	**-1.4**
DSP	**Deep Springs**	**1.74**	**347**		**Pn**	**16 04 58.4**	**-0.3**
DSP				IAML		16 05 28.0	
	comp=E,1μm,0.9s						
ELS	**Elsinore Mount**	**2.02**	**179**	IAML		16 05 38.9	
	comp=E,634nm,0.8s						
V12A	**Nelson**	**2.14**	**88**	IAML		16 05 39.0	
	comp=N,457nm,0.9s						
PMD	**Palm Desert**	**2.21**	**155**	IAML		16 05 41.6	
	comp=N,430nm,0.8s						
PMD				IAML		16 05 41.6	
	comp=E,576nm,0.9s						
PFO	**Pinyon Flats O**	**2.22**	**157**	IAML		16 05 45.0	
	comp=E,398nm,0.8s						
PFO				IAML		16 05 46.8	
	comp=E,652nm,0.9s						
PFO	**Pinyon Flats O**	**2.22**	**157**	Pn	**Pn**	**16 05 04.4**	**-1.0**
	comp=E,32nm,0.3s,baz=333,slow=16,SNR=49						
PFO				Pg	**Pb**	**16 05 09.3**	**+0.6**
	comp=E,33nm,0.3s,baz=336,slow=16,SNR=66						
PFO				Lg	Lg	16 05 38.5	
	comp=E,162nm,0.3s,baz=86,slow=14,SNR=18						
	comp=E,13nm,0.3s						
S11A	**Rachel**	**2.41**	**35**	IAML		16 05 51.9	
	comp=E,774nm,0.8s						
S11A				IAML		16 05 55.1	
	comp=N,654nm,1.1s						
BORC	**Borrego Spring**	**2.55**	**160**	IAML		16 05 52.8	
	comp=E,640nm,0.7s						
BORC				IAML		16 05 56.9	
	comp=N,400nm,0.7s						
PRN	**Pahroc Range**	**2.62**	**48**	IAML		16 06 00.7	
	comp=N,707nm,0.9s						
PRN				IAML		16 06 05.4	
	comp=E,594nm,0.9s						
DPP	**Dos Picos Cty**	**2.70**	**170**	IAML		16 05 54.1	
	comp=E,506nm,0.8s						
LHV	**Little Huntoon**	**2.70**	**343**	IAML		16 06 00.2	
	comp=N,355nm,1.1s						
LHV				IAML		16 06 12.8	
	comp=E,340nm,0.9s						
NV11	**Mina Array Sit**	**2.81**	**349**	IAML		16 06 01.5	
	comp=E,234nm,1.4s						
NVAR	**Mina Array Bea**	**2.83**	**347**	Pn	**Pn**	**16 05 14.3**	**+0.4**
	comp=E,2.4nm,0.3s,baz=170,slow=15,SNR=42						
NVAR				Pg	**Pg**	**16 05 21.2**	**-1.6**
	comp=E,24nm,0.3s,baz=165,slow=14,SNR=41						
NVAR				Lg	Lg	16 05 57.4	
	comp=E,11nm,0.3s,baz=172,slow=31,SNR=3.6						
	comp=E,8.1nm,0.6s						
BLYC	**Blythe**	**3.10**	**127**	IAML		16 06 12.6	
	comp=N,402nm,0.9s						
BLYC				IAML		16 06 14.3	
	comp=E,324nm,0.8s						
YUH	**Yuha Desert**	**3.28**	**156**	IAML		16 06 19.3	
	comp=E,168nm,1.1s						
CMB	**Columbia Colle**	**3.31**	**316**	IAML		16 06 16.3	
	comp=N,230nm,0.7s						
CMB				IAML		16 06 19.0	
	comp=E,242nm,0.7s						
CCX	**Cicese**	**3.85**	**170**	IAML		16 06 32.7	
	comp=N,250nm,0.7s						
ESJX	**Sierra Juarez**	**3.87**	**160**	IAML		16 06 33.6	
	comp=E,145nm,1.1s						
ESJX				IAML		16 06 34.1	
	comp=N,187nm,0.5s						
KNB	**Kanab**	**4.00**	**69**	IAML		16 06 42.1	
	comp=N,133nm,1.7s						
KNB				IAML		16 06 48.1	
	comp=E,101nm,0.8s						
Y14A	**Wickenburg**	**4.07**	**114**	IAML		16 06 43.5	
	comp=N,222nm,0.6s						
Y14A				IAML		16 06 45.4	
	comp=E,177nm,1.0s						
PSUT	**Pine Spring**	**4.07**	**44**	IAML		16 06 52.9	
	comp=E,114nm,1.1s						
PSUT				IAML		16 07 00.2	
	comp=N,83nm,1.1s						
MPK	**Martis Peak**	**4.15**	**332**	IAML		16 07 04.1	
	comp=E,210nm,1.1s						
113A	**Mohawk Valley,**	**4.23**	**132**	IAML		16 06 45.0	
	comp=E,73nm,0.7s						
113A				IAML		16 06 50.5	
	comp=N,72nm,0.9s						
AFDM	**Forest Hills D**	**4.29**	**321**	IAML		16 06 53.8	
	comp=N,102nm,0.8s						
AFDM				IAML		16 06 55.0	
	comp=E,106nm,0.8s						
VTX	**Valle De La Tr**	**4.50**	**161**	IAML		16 06 56.2	
	comp=N,132nm,1.0s						
VTX				IAML		16 07 00.6	
	comp=E,109nm,1.3s						
BEKR	**Beckworth**	**4.77**	**332**	IAML		16 07 06.3	
	comp=E,99nm,0.6s						
BEKR				IAML		16 07 19.1	
	comp=N,50nm,0.7s						
WUAZ	**Wupatki**	**4.98**	**90**	IAML		16 07 07.2	
	comp=N,115nm,0.9s						
WUAZ				IAML		16 07 09.4	
	comp=N,116nm,0.6s						
ORV	**Oroville**	**5.02**	**322**	IAML		16 07 22.8	
	comp=E,58nm,1.1s						
X16A	**Lo Mia Camp, P**	**5.11**	**102**	IAML		16 07 16.9	
	comp=E,39nm,1.3s						
X16A				IAML		16 07 23.0	
	comp=N,67nm,1.3s						
ELK	**Elko**	**5.37**	**19**	Pn	**Pn**	**16 05 51.2**	**+2.4**
	comp=N,0.6nm,0.3s,baz=212,slow=14,SNR=9.6						
ELK				Pg	**Pg**	**16 06 08.4**	**-2.9**
	comp=N,1.4nm,0.3s,baz=219,slow=14,SNR=15						
ELK				Lg	Lg	16 07 17.9	
	comp=N,2.3nm,0.3s,baz=165,slow=7.1,SNR=4.4						
ELK				LR	LR	16 08 12.3	
	comp=N,76nm,18.9s,baz=78,slow=42						
	comp=N,1.4nm,0.3s						
214A	**Organ Pipe Nat**	**5.37**	**132**	IAML		16 06 50.4	
	comp=N,56nm,0.4s						
214A				IAML		16 07 28.1	
	comp=E,55nm,0.9s						
YBH	**Yreka Blue Hor**	**7.30**	**328**	Pn	**Pn**	**16 06 19.2**	**+3.9**
	baz=132,slow=2.2,SNR=4.8						
YBH				Lg	Lg	16 08 20.2	
	baz=222,slow=5.4,SNR=6.1						
ANMO	**Albuquerque**	**9.04**	**91**	Lg	Lg	16 09 09.3	
	comp=E,0.1nm,0.3s,baz=278,slow=16,SNR=7.7						
ANMO				LR	LR	16 10 34.0	
	comp=E,73nm,20.8s,baz=22,slow=40						
PDAR	**Pinedale Array**	**9.38**	**39**	Pn	**Pn**	**16 06 48.2**	**+4.4**
	comp=E,0.1nm,0.3s,baz=214,slow=12,SNR=4.5						
	comp=E,0.4nm,0.7s						
TXAR	**Lajitas Array**	**13.26**	**115**	Pn	**Pn**	**16 07 38.8**	**+1.9**
	comp=E,0.2nm,0.3s,baz=293,slow=13,SNR=8.3						
TXAR				LR	LR	16 13 08.3	
	comp=E,54nm,19.0s,baz=256,slow=39						
	comp=E,0.3nm,0.4s						
L34A	**Svendsen Farm,**	**17.59**	**63**	P	**P**	**16 08 35.7**	**+1.0**
L34A				IAmb	IAmb	16 09 00.8	
	comp=Z,13nm,0.6s						
ULM	**Lac du Bonnet**	**21.39**	**40**	P	**P**	**16 09 16.5**	**+0.5**
ULM				IAmb	IAmb	16 09 57.5	
	comp=Z,9.5nm,1.2s						
ULM	**Lac du Bonnet**	**21.39**	**40**	P	**P**	**16 09 17.7**	**+1.6**
	comp=Z,3.2nm,0.7s,baz=213,slow=14,SNR=3.0						
	comp=Z,3.2nm,0.7s						
DLBC	**Dease Lake**	**24.25**	**344**	LR	LR	16 20 08.5	
	comp=Z,9.2nm,19.5s,baz=135,slow=39						
P32M	**Atlin**	**26.17**	**341**	P	**P**	**16 10 03.0**	**+0.2**
P32M				IAmb	IAmb	16 10 04.3	
	comp=Z,4.6nm,0.7s						
I49A	**Point Hope**	**27.72**	**62**	P	**P**	**16 10 17.7**	**+0.9**
W57A	**Gilead**	**30.44**	**80**	P	**P**	**16 10 38.9**	**-2.2**
BMRM	**Bremner River**	**30.65**	**334**	P	**P**	**16 10 41.6**	**-1.1**
BMRM				IAmb	IAmb	16 10 49.5	
	comp=Z,3.9nm,0.9s						

*SJA **08** 16:05:51.0±0.8, 18°.45S×69°.80W, h110km±5km, ML3.9, MW3.8*
*NEIC **08** 16:05:53.8±0.9, 18°.60S±0°.05×70°.0W±0°.1, h85km±8km, mb4.1/2, ML4.0(GUC), Error ellipse: s-maj=18.3km s-min=8.0km az=93.0*
*IDC **08** 16:05:55.6±3.4, 18°.76S×69°.51W, h90km±42km, mb3.5/5, mbtmp3.9/7, Error ellipse: s-maj=36.0km s-min=31.0km az=142.0*
*GUC **08** 16:05:55.0±0.9, 18°.59S×69°.88W, h86km±4km, ML4.0*
**ISC 08 16:05:54.2±0.8, 18°.60S±0°.03×69°.84W±0°.06, h

AP01	**Chacalluta**	**0.53**	**295**	*e*P		**Pn**	**16 06 08.9**	**-0.1**
AP01				*e*S		**Sn**	**16 06 21.1**	**+1.1**
AP01				IAML			16 06 23.9	
	comp=Z,3µm,0.2s							
PB18	**Visviri**	**1.06**	**19**			**Pn**	**16 06 15.3**	**+0.2**
PB18	**Visviri**	**1.06**	**19**	⇓ *i*P		**Pn**	**16 06 16.0**	**+0.9**
PB18				*i* S		**Sn**	**16 06 32.9**	**+2.2**
PB11	**IPOC Station P**	**1.17**	**171**			**Pn**	**16 06 16.1**	**+0.1**
PB11	**IPOC Station P**	**1.17**	**171**	⇑ *i*P		**Pn**	**16 06 15.9**	**-0.1**
PB11				*e*S		**Sn**	**16 06 33.5**	**+1.1**
PB11				IAML			16 06 34.8	
	comp=E,6µm,0.3s							
PB11	**IPOC Station P**	**1.17**	**171**	*e*P		**Pn**	**16 06 15.6**	**-0.5**
PB11				*e*S		**Sn**	**16 06 34.1**	**+1.7**
PB11				IAML			16 06 34.7	
	comp=Z,2µm,0.3s							
GO01	**Chusmiza**	**1.23**	**150**			**Pn**	**16 06 17.4**	**+0.3**
GO01	**Chusmiza**	**1.23**	**150**	⇓ *i*P		**Pn**	**16 06 17.5**	**+0.5**
GO01				*e*S		**Sn**	**16 06 36.2**	**+2.0**
GO01				IAML			16 06 39.8	
	comp=E,5µm,0.2s							
GO01	**Chusmiza**	**1.23**	**150**	*e*P		**Pn**	**16 06 17.7**	**+0.6**
GO01				*e*S		**Sn**	**16 06 37.5**	**+3.3**
PB08	**IPOC Station P**	**1.67**	**157**			**Pn**	**16 06 22.6**	**+0.1**
PB08	**IPOC Station P**	**1.67**	**157**	⇓ *i*P		**Pn**	**16 06 23.1**	**+0.6**
PB08				*i* S		**Sn**	**16 06 45.5**	**+1.7**
PB08				IAML			16 06 46.5	
	comp=E,2µm,0.1s							
PB08	**IPOC Station P**	**1.67**	**157**	*e*P		**Pn**	**16 06 23.1**	**+0.6**
PB08				*e*S		**Sn**	**16 06 46.0**	**+2.2**
PB08				IAML			16 06 49.0	
	comp=Z,902nm,0.2s							
HMBC	**Humberstone**	**1.67**	**181**			**Pn**	**16 06 22.0**	**-0.2**
HMBC	**Humberstone**	**1.67**	**181**	⇑ *i*P		**Pn**	**16 06 22.1**	**-0.2**
HMBC				*i* S		**Sn**	**16 06 44.1**	**+0.6**
HMBC				IAML			16 06 52.2	
	comp=E,2µm,0.5s							
HMBC	**Humberstone**	**1.67**	**181**	*e*P		**Pn**	**16 06 22.1**	**-0.2**
HMBC				*e*S		**Sn**	**16 06 46.4**	**+2.9**
HMBC				IAML			16 06 50.3	
	comp=Z,1µm,0.5s							
TA02	**Huaiquique**	**1.69**	**189**			**Pn**	**16 06 21.7**	**-0.7**
TA02	**Huaiquique**	**1.69**	**189**	IAML			16 06 49.9	
	comp=E,3µm,0.2s							
TA02	**Huaiquique**	**1.69**	**189**	*e*P		**Pn**	**16 06 22.9**	**+0.6**
TA02				*e*S		**Sn**	**16 06 48.0**	**+4.3**
TA02				IAML			16 06 49.8	
	comp=Z,1µm,0.1s							
TA01	**Diego Aracena**	**1.99**	**189**			**Pn**	**16 06 25.4**	**-0.8**
TA01	**Diego Aracena**	**1.99**	**189**	*e*P		**Pn**	**16 06 25.6**	**-0.6**
TA01				*e*S		**Sn**	**16 06 49.2**	**-1.3**
TA01				IAML			16 06 58.6	
	comp=Z,418nm,0.3s							
PATCX	**Punta Patache**	**2.23**	**188**			**Pn**	**16 06 29.0**	**-0.6**
PATCX	**Punta Patache**	**2.23**	**188**	*e*P		**Pn**	**16 06 28.9**	**-0.6**
PATCX				*e*S		**Sn**	**16 06 57.2**	**+0.6**
PATCX				IAML			16 07 03.3	
	comp=Z,367nm,0.4s							
PB01	**IPOC Station P**	**2.46**	**172**			**Pn**	**16 06 32.1**	**-0.5**
PB01	**IPOC Station P**	**2.46**	**172**	*e*P		**Pn**	**16 06 32.5**	**-0.1**
PB01				*e*S		**Sn**	**16 07 06.8**	**+4.9**
PB01				IAML			16 07 11.8	
	comp=Z,496nm,0.2s							
LPAZ	**La Paz**	**2.82**	**36**			**Pn**	**16 06 38.7**	**+0.9**
LPAZ	**La Paz**	**2.82**	**36**	P		**Pn**	**16 06 39.0**	**+1.2**
	comp=Z,15nm,0.3s,baz=225,slow=7.0,SNR=138							
LPAZ				S		**Sn**	**16 07 12.8**	**+1.5**
	comp=Z,22nm,0.8s,baz=209,slow=9.1,SNR=4.8							
LPAZ	**La Paz**	**2.82**	**36**	*e*P		Pn	16 06 33.5	-4.4
PB09	**IPOC Station P**	**3.23**	**170**			**Pn**	**16 06 42.9**	**-0.1**
PB09	**IPOC Station P**	**3.23**	**170**	*e*P		**Pn**	**16 06 43.5**	**+0.4**
PB09				*e*S		Sn	16 07 06.9	-14
PB09				IAML			16 07 34.8	
	comp=Z,340nm,0.5s							
PB06	**IPOC Station P**	**4.10**	**177**			**Pn**	**16 06 53.7**	**-1.0**
PB06	**IPOC Station P**	**4.10**	**177**	*e*P		**Pn**	**16 06 54.0**	**-0.7**
PB06				*e*S		**Sn**	**16 07 39.7**	**-2.0**
PB06				IAML			16 08 04.7	
	comp=Z,131nm,0.4s							
PB05	**IPOC Station P**	**4.25**	**184**			**Pn**	**16 06 54.9**	**-1.9**
PB05	**IPOC Station P**	**4.25**	**184**	*e*P		**Pn**	**16 06 55.1**	**-1.7**
PB05				*e*S		**Sn**	**16 07 44.0**	**-1.2**
PB05				IAML			16 08 05.9	
	comp=Z,113nm,0.5s							
PB10	**IPOC Station P**	**4.94**	**188**	*e*P		**Pn**	**16 07 04.3**	**-1.7**
PB10				*e*S		**Sn**	**16 07 59.5**	**-2.3**
PB10				IAML			16 08 25.3	
	comp=Z,42nm,0.9s							
PB14	**IPOC Station P**	**6.02**	**185**			**Pn**	**16 07 18.7**	**-2.4**
GO02	**Mina Guanaco**	**6.54**	**178**			**Pn**	**16 07 25.6**	**-2.4**
SIV	**San Ignacio**	**8.77**	**74**	P		**Pn**	**16 07 55.4**	**-2.9**
	comp=Z,5.8nm,0.4s,baz=272,slow=8.8,SNR=28							
SIV				S		**Sn**	**16 09 30.0**	**-5.5**
	comp=Z,1.0nm,0.6s,baz=163,slow=21,SNR=1.3							
TRQA	**Tornquist**	**20.57**	**162**	P		**P**	**16 10 25.4**	**-0.5**
TRQA				IAmb	IAmb		16 10 26.0	
	comp=Z,6.8nm,0.8s							
BDFB	**Brasilia**	**21.06**	**85**	P		**P**	**16 10 32.3**	**+0.9**
BDFB				IAmb	IAmb		16 10 50.4	
	comp=Z,17nm,1.4s							
BDFB	**Brasilia**	**21.06**	**85**	P		**P**	**16 10 31.3**	**-0.2**
	comp=Z,2.2nm,0.4s,baz=269,slow=5.9,SNR=3.5							
	comp=Z,2.2nm,0.4s							
PLCA	**Paso Flores**	**22.07**	**181**	P		**P**	**16 10 42.4**	**+0.4**
	comp=Z,3.1nm,1.0s,baz=342,slow=16,SNR=3.4							
	comp=Z,3.1nm,1.0s							
SNAA	**Sanae**	**65.30**	**161**	P		**P**	**16 16 25.5**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=287,slow=5.9,SNR=6.7							
	comp=Z,0.8nm,0.8s							
QSPA	**South Pole Qui**	**71.58**	**180**	P		**P**	**16 17 05.8**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=135,slow=1.4,SNR=11							
	comp=Z,0.6nm,0.7s							
VNDA	**Vanda**	**79.54**	**190**	P		**P**	**16 17 51.9**	**+1.0**
	comp=Z,0.7nm,0.4s,baz=102,slow=9.3,SNR=2.8							
	comp=Z,0.7nm,0.4s							

NEIC ***08*** *16:09:57.3±0.8,35°.627N±0°.010×117°.431W±0°.005, h6km±5km, Error ellipse: s-maj=1.5km s-min=0.4km az=201.0*

PAS 08 16:09:57.6±0.6, 35°.621N±0°.007×117°.43W±0°.01, h2km±2km, ML3.3/22, ML3.1/136(NEIC), Error ellipse: s-maj=1.8km s-min=0.9km az=73.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.11**	**150**		Pg	16 10 00.3	+0.5
CCCA				IAML		16 10 03.0	
	comp=E,13µm,0.4s						
CLC	**China Lake**	**0.24**	**325**		Pg	16 10 02.2	0.0
CLC				IAML		16 10 06.0	
	comp=N,4µm,0.3s						
CLC				IAML		16 10 06.2	
	comp=E,4µm,0.2s						
LRMC	**Laurel Mtn Rad**	**0.25**	**236**		Pg	16 10 02.4	0.0
LRMC				IAML		16 10 07.1	
	comp=E,5µm,0.4s						
SRTC	**Snort**	**0.27**	**285**		Pg	16 10 03.3	+0.5
TOW	**Tower One**	**0.33**	**305**		Pg	16 10 04.5	+0.6
TOW					Sb	16 10 10.5	-1.5
MPMC	**Manual Prospec**	**0.44**	**354**		Pg	16 10 05.9	-0.2
MPMC				IAML		16 10 12.7	
	comp=N,2µm,0.5s						
MPMC				IAML		16 10 13.6	
	comp=E,2µm,0.7s						
WNMM	**Nine Mile Cany**	**0.45**	**300**		Pg	16 10 06.4	+0.2
WVPM	**Volcano Peak E**	**0.45**	**316**		Pg	16 10 06.5	+0.1
WVPM					Sg	16 10 13.5	+1.2
DTP	**Desert Tortois**	**0.49**	**224**		Pg	16 10 06.8	-0.1
DTP					Sg	16 10 13.8	+0.5
WCSM	**Coso Springs S**	**0.49**	**326**		Pg	16 10 06.9	-0.1
WCSM					Sg	16 10 14.0	+0.6
QSM	**Queen of Sheba**	**0.57**	**53**		Pg	16 10 08.5	-0.1
QSM				IAML		16 10 17.1	
	comp=E,1µm,0.2s						
QSM				IAML		16 10 21.6	
	comp=N,955nm,0.2s						
GSC	**Goldstone, Bar**	**0.60**	**122**		Pg	16 10 09.1	-0.1
GWY	**Greenwater Val**	**0.84**	**47**	Pg	Pg	16 10 13.3	-0.4
GWY				IAML		16 10 28.7	
	comp=E,1µm,0.4s						
GWY				IAML		16 10 29.2	
	comp=N,1µm,0.7s						
ISA	**Isabella, Lake**	**0.85**	**273**		Pg	16 10 13.4	-0.5
ISA				IAML		16 10 26.1	
	comp=N,749nm,0.4s						
ISA				IAML		16 10 28.5	
	comp=E,517nm,0.3s						
CWC	**Cottonwood Cre**	**0.97**	**327**		Pg	16 10 15.7	-0.6
TPO	**Tropico Hills**	**0.99**	**222**		Pg	16 10 15.9	-0.6
DSCC	**Desert Studies**	**1.19**	**113**		Pg	16 10 19.3	-1.0
TUQ	**Turquoise Moun**	**1.24**	**98**		Pg	16 10 20.8	-0.6
AMDNV	**Amargosa**	**1.25**	**48**		Pg	16 10 20.5	-1.0
WCT	**Wildcat Mounta**	**1.34**	**29**		Pg	16 10 22.0	-1.3
WCT				IAML		16 10 42.4	
	comp=N,351nm,0.4s						
WCT				IAML		16 10 43.3	
	comp=E,412nm,0.4s						
GRAC	**Grapevine Rang**	**1.37**	**2**		Pn	16 10 23.1	-0.7
BFSC	**Mount Baldy Ra**	**1.39**	**188**		Pn	16 10 23.2	-0.9
OSI	**Osito Audit: C**	**1.46**	**227**		Pn	16 10 24.1	-0.9
OSI				IAML		16 10 48.0	
	comp=E,356nm,0.6s						
OSI				IAML		16 10 48.1	
	comp=N,354nm,0.9s						
MWC	**Mount Wilson**	**1.49**	**200**		Pn	16 10 25.0	-0.5
MWC				IAML		16 10 47.7	
	comp=E,459nm,0.5s						
MTPC	**Mountain Pass**	**1.54**	**95**		Pn	16 10 24.9	-1.3
MTPC				IAML		16 10 47.6	
	comp=N,454nm,0.2s						
PASC	**Pasadena Art C**	**1.57**	**203**		Pn	16 10 25.4	-1.1
PASC				IAML		16 10 53.6	
	comp=N,249nm,0.4s						
PASC				IAML		16 10 54.0	
	comp=E,315nm,0.6s						
TPNV	**Topopah Spring**	**1.63**	**35**		Pn	16 10 26.5	-1.0
TPNV				IAML		16 10 52.0	
	comp=E,224nm,0.7s						
TPNV				IAML		16 10 52.9	
	comp=E,252nm,0.7s						
GMN	**Gold Mountain**	**1.68**	**5**		Pn	16 10 27.3	-0.9
GMN				IAML		16 10 54.0	
	comp=N,162nm,0.4s						
ELS	**Elsinore Mount**	**1.97**	**180**	Pn	Pn	16 10 31.2	-0.9
ELS				IAML		16 11 00.9	
	comp=E,166nm,0.3s						
ELS				IAML		16 11 03.7	
	comp=N,118nm,0.3s						
S11A	**Rachel**	**2.43**	**33**	IAML		16 11 21.5	
	comp=N,122nm,0.7s						
S11A				IAML		16 11 25.8	
	comp=E,179nm,1.1s						
BORC	**Borrego Spring**	**2.49**	**160**	IAML		16 11 22.5	
	comp=E,83nm,0.7s						
PRN	**Pahroc Range**	**2.62**	**46**	IAML		16 11 30.6	
	comp=N,94nm,0.8s						
PRN				IAML		16 11 31.4	
	comp=E,93nm,1.3s						
DPP	**Dos Picos Cty**	**2.65**	**171**	IAML		16 11 28.0	
	comp=E,73nm,0.8s						
LHV	**Little Huntoon**	**2.76**	**342**	IAML		16 11 32.1	
	comp=E,54nm,0.7s						
NV11	**Mina Array Sit**	**2.87**	**349**	IAML		16 11 33.7	
	comp=E,44nm,1.4s						
W13A	**Hualapai Mount**	**2.94**	**99**	IAML		16 11 35.0	
	comp=E,60nm,0.8s						
W13A				IAML		16 11 35.4	
	comp=N,81nm,0.6s						
BLYC	**Blythe**	**3.04**	**127**	IAML		16 11 36.1	
	comp=E,95nm,0.4s						
BLYC				IAML		16 11 37.1	
	comp=N,93nm,0.8s						
TKX	**Tecate**	**3.12**	**167**	IAML		16 11 41.1	
	comp=E,76nm,0.1s						
TKX				IAML		16 11 55.8	
	comp=N,90nm,0.1s						
GLA	**Glamis**	**3.35**	**139**	IAML		16 11 50.1	
	comp=E,87nm,0.5s						
GLA				IAML		16 11 51.8	
	comp=N,81nm,0.6s						
CMB	**Columbia Colle**	**3.38**	**316**	IAML		16 11 49.3	
	comp=E,47nm,0.8s						
CMB				IAML		16 11 53.2	
	comp=N,49nm,0.7s						
ESJX	**Sierra Juarez**	**3.81**	**161**	IAML		16 12 01.7	
	comp=E,23nm,0.8s						
Y14A	**Wickenburg**	**4.01**	**113**	IAML		16 12 07.0	
	comp=E,50nm,0.4s						
PSUT	**Pine Spring**	**4.08**	**43**	IAML		16 12 14.2	
	comp=N,19nm,1.1s						
PSUT				IAML		16 12 18.0	
	comp=E,20nm,1.3s						
SPR3	**Spring Creek 3**	**4.18**	**35**	IAML		16 12 16.1	
	comp=E,16nm,0.9s						
AFDM	**Forest Hills D**	**4.36**	**321**	IAML		16 12 18.9	
	comp=N,21nm,0.5s						
AFDM				IAML		16 12 19.3	
	comp=E,29nm,0.7s						
VTX	**Valle De La Tr**	**4.44**	**161**	IAML		16 12 22.0	
	comp=N,14nm,1.1s						
VTX				IAML		16 12 40.0	
	comp=E,18nm,4.5s						
BEKR	**Beckworth**	**4.83**	**332**	IAML		16 12 45.6	
	comp=N,14nm,0.8s						
X16A	**Lo Mia Camp, P**	**5.06**	**102**	IAML		16 12 41.6	
	comp=E,17nm,1.0s						
X16A				IAML		16 12 43.0	
	comp=N,13nm,1.1s						

KRSC ***08*** *16:12:23.6±1.2, 56°.20N×164°.80E, h54km±21km, Ml4.3*
IDC ***08*** *16:12:24.2±0.6, 56°.21N×164°.42E, h0km, mb4.1/26, mbtmp4.1/30, ML3.9/3, MS3.6/34, Error ellipse: s-maj=17.3km s-min=10.7km az=172.0*
MOS ***08*** *16:12:27.2±0.8, 56°.12N×164°.56E, h37km, mb4.5/18, MS3.4/6, Error ellipse: s-maj=7.0km s-min=4.7km az=58.6*
NEIC ***08*** *16:12:27.2±1.8, 56°.3N±0°.1×164°.3E±0°.2, h10km±1km, mb4.5/177, Error ellipse: s-maj=25.6km s-min=13.6km az=148.0*

ISC 08 16:12:26.6±0.3, 56°.14N±0°.04×164°.48E±0°.04, h16km, n544, σ1°13/462, mb4.5/117, MS3.8/37, 6C-4D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.93**	**275**	PN	**Pb**	**16 12 42.8**	**-1.6**
KBTR	**Krutoberegovo**	**0.93**	**275**	*e*P	**Pb**	**16 12 42.8**	**-1.6**
KBG	**Krutoberegovo**	**1.00**	**277**	PN	**Pb**	**16 12 43.9**	**-1.6**
KBG	**Krutoberegovo**	**1.00**	**277**	*e*P	**Pb**	**16 12 43.9**	**-1.6**
BKI	**Bering**	**1.27**	**138**	PN	**Pn**	**16 12 46.5**	**-3.0**
BKI				S	**Sn**	**16 13 02.2**	**-4.0**
BKI	**Bering**	**1.27**	**138**	*e*P	**Pn**	**16 12 46.6**	**-3.0**
BKI				*e*S	**Sn**	**16 13 02.2**	**-4.0**
SRKR	**Sorokina**	**1.91**	**287**	PN	**Pb**	**16 12 59.5**	**-1.6**
SRKR	**Sorokina**	**1.91**	**287**	*e*P	**Pb**	**16 12 59.5**	**-1.6**
ZLN	**Zelenaya**	**2.07**	**268**	PN	**Pn**	**16 13 02.0**	**+1.3**
ZLN	**Zelenaya**	**2.07**	**268**	*e*P	**Pn**	**16 13 02.0**	**+1.3**
CIRR	**Tsirk**	**2.09**	**271**	PN	**Pn**	**16 13 02.1**	**+1.0**
CIRR	**Tsirk**	**2.09**	**271**	*e*P	**Pn**	**16 13 02.1**	**+1.0**
LGNR	**Loginova**	**2.12**	**270**	PN	**Pn**	**16 13 00.2**	**-1.5**
LGNR	**Loginova**	**2.12**	**270**	*e*P	**Pn**	**16 13 00.2**	**-1.5**
BZGR	**Bezymyannyi-Gr**	**2.13**	**266**	PN	**Pn**	**16 13 02.1**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**2.13**	**266**	*e*P	**Pn**	**16 13 02.1**	**+0.4**
KLY	**Klyuchi**	**2.15**	**276**	PN	**Pn**	**16 13 00.7**	**-1.0**
KLY	**Klyuchi**	**2.15**	**276**	*e*P	**Pn**	**16 13 00.8**	**-1.0**
MKZ	**Mys Kozlova**	**2.24**	**226**	PN	**Pn**	**16 13 01.9**	**-1.0**
MKZ	**Mys Kozlova**	**2.24**	**226**	*e*P	**Pn**	**16 13 01.9**	**-1.0**
BZWR	**Bezymyannyi-We**	**2.24**	**267**	PN	**Pn**	**16 13 04.2**	**+1.0**
BZWR	**Bezymyannyi-We**	**2.24**	**267**	*e*P	**Pn**	**16 13 04.3**	**+1.0**
BZMR	**Bezymyannaya**	**2.25**	**266**	PN	**Pn**	**16 13 04.2**	**+0.9**
BZMR	**Bezymyannaya**	**2.25**	**266**	*e*P	**Pn**	**16 13 04.3**	**+0.9**
KIRR	**Kirishev**	**2.33**	**267**	PN	**Pn**	**16 13 05.2**	**+0.8**
KIRR	**Kirishev**	**2.33**	**267**	*e*P	**Pn**	**16 13 05.2**	**+0.8**
KPT	**Kopyto**	**2.40**	**268**	PN	**Pn**	**16 13 05.9**	**+0.7**
KPT	**Kopyto**	**2.40**	**268**	*e*P	**Pn**	**16 13 06.0**	**+0.7**
KMNR	**Kamenistaya**	**2.42**	**263**	PN	**Pn**	**16 13 06.6**	**+1.0**
KMNR	**Kamenistaya**	**2.42**	**263**	*e*P	**Pn**	**16 13 06.6**	**+1.0**
TUMD	**Tumrok D**	**2.50**	**250**	PN	**Pn**	**16 13 07.0**	**+0.4**
TUMD	**Tumrok D**	**2.50**	**250**	*e*P	**Pn**	**16 13 07.1**	**+0.4**
KOZ	**Kozyrevsk**	**2.58**	**270**	PN	**Pn**	**16 13 09.1**	**+1.4**
KOZ	**Kozyrevsk**	**2.58**	**270**	*e*P	**Pn**	**16 13 09.2**	**+1.4**
SRDR	**Sredinnyy**	**2.67**	**276**	PN	**Pn**	**16 13 10.3**	**+1.4**
SRDR	**Sredinnyy**	**2.67**	**276**	*e*P	**Pn**	**16 13 10.4**	**+1.4**
OSSR	**Ossora**	**3.21**	**347**	PN	**Pn**	**16 13 12.4**	**-3.8**
OSSR	**Ossora**	**3.21**	**347**	*e*P	**Pn**	**16 13 12.5**	**-3.8**
OSSR				*e*S	**Sn**	**16 13 50.2**	**-3.9**
ESO	**Esso**	**3.25**	**269**	PN	**Pn**	**16 13 17.8**	**+0.9**
ESO	**Esso**	**3.25**	**269**	*e*P	**Pn**	**16 13 17.9**	**+0.9**
SPN	**Mys Shipunski**	**4.00**	**222**	PN	**Pn**	**16 13 25.9**	**-1.3**
SPN	**Mys Shipunski**	**4.00**	**222**	*e*P	**Pn**	**16 13 25.9**	**-1.3**
SDLR	**Sedlovina**	**4.33**	**231**	PN	**Pn**	**16 13 32.4**	**+0.5**
SDLR	**Sedlovina**	**4.33**	**231**	*e*P	**Pn**	**16 13 32.5**	**+0.5**
KRER	**Koryakskii**	**4.38**	**232**	PN	**Pn**	**16 13 34.2**	**+1.7**
KRER	**Koryakskii**	**4.38**	**232**	*e*P	**Pn**	**16 13 34.3**	**+1.7**
SMAR	**Somma**	**4.38**	**231**	PN	**Pn**	**16 13 33.3**	**+0.7**
SMAR	**Somma**	**4.38**	**231**	*e*P	**Pn**	**16 13 33.3**	**+0.7**
KRX	**Arik**	**4.38**	**233**	PN	**Pn**	**16 13 34.1**	**+1.6**
KRX	**Arik**	**4.38**	**233**	*e*P	**Pn**	**16 13 34.2**	**+1.6**
AVH	**Avacha**	**4.41**	**231**	PN	**Pn**	**16 13 33.7**	**+0.9**
AVH	**Avacha**	**4.41**	**231**	*e*P	**Pn**	**16 13 33.8**	**+0.9**
UGLR	**Uglovaya**	**4.41**	**230**	PN	**Pn**	**16 13 33.8**	**+0.9**
UGLR	**Uglovaya**	**4.41**	**230**	*e*P	**Pn**	**16 13 33.9**	**+0.9**
KOK	**Koryaka**	**4.43**	**232**	PN	**Pn**	**16 13 34.0**	**+0.8**
KOK	**Koryaka**	**4.43**	**232**	*e*P	**Pn**	**16 13 34.1**	**+0.8**
DALK	**Dalny**	**4.56**	**229**	PN	**Pn**	**16 13 35.2**	**+0.3**
DALK	**Dalny**	**4.56**	**229**	*e*P	**Pn**	**16 13 35.3**	**+0.3**
PET	**Petropavlovsk**	**4.61**	**230**		**Pn**	**16 13 36.0**	**+0.4**
PET	**Petropavlovsk**	**4.61**	**230**	*e*PN	**Pn**	**16 13 36.0**	**+0.4**
PET				pmax	pmax		
	comp=Z,114nm,0.5s						
PET				MLR	MLR		
	comp=Z,500nm,9.0s						
PET				MLR	MLR		
	comp=Z,400nm,10.0s						
KRMR	**Karymshinskiy**	**4.97**	**231**	PN	**Pn**	**16 13 43.3**	**+2.8**
KRMR	**Karymshinskiy**	**4.97**	**231**	*e*P	**Pn**	**16 13 43.4**	**+2.8**
PEA0B	**Petropavlovsk-**	**4.98**	**235**		**Pn**	**16 13 42.6**	**+2.0**
PEA0B	**Petropavlovsk-**	**4.98**	**235**	*i* PN	**Pn**	**16 13 39.1**	**-1.5**
PETK	**Petropavlovsk-**	**4.98**	**235**		**Pn**	**16 13 42.8**	**+2.1**
PETK	**Petropavlovsk-**	**4.98**	**235**	Pn	**Pn**	**16 13 41.4**	**+0.7**
	comp=Z,8.0nm,0.7s,baz=71,slow=21,SNR=19						
GRL	**Gorelyy**	**5.20**	**229**	PN	**Pn**	**16 13 45.2**	**+1.5**
GRL	**Gorelyy**	**5.20**	**229**	*e*P	**Pn**	**16 13 45.3**	**+1.5**
MTVR	**Mutnovka**	**5.20**	**228**	PN	**Pn**	**16 13 45.0**	**+1.2**
MTVR	**Mutnovka**	**5.20**	**228**	*e*P	**Pn**	**16 13 45.1**	**+1.2**
APC	**Apacha**	**5.35**	**236**	PN	**Pn**	**16 13 47.7**	**+2.1**
APC	**Apacha**	**5.35**	**236**	*e*P	**Pn**	**16 13 47.8**	**+2.1**
ASAK	**Asacha**	**5.39**	**228**	PN	**Pn**	**16 13 48.0**	**+1.7**
ASAK	**Asacha**	**5.39**	**228**	*e*P	**Pn**	**16 13 48.1**	**+1.7**
KMSK	**Kamenskaya**	**6.40**	**7**	PN	**Pn**	**16 14 00.2**	**+0.1**
KMSK	**Kamenskaya**	**6.40**	**7**	*e*P	**Pn**	**16 14 00.3**	**+0.1**
PAU	**Pauzhetka**	**6.52**	**227**	PN	**Pn**	**16 14 03.3**	**+1.5**
PAU	**Pauzhetka**	**6.52**	**227**	*e*P	**Pn**	**16 14 03.3**	**+1.5**
SKR	**Severo-Kuril's**	**7.41**	**226**	*e*PN	**Pn**	**16 14 15.3**	**+1.4**
SKR				pmax	pmax		
	comp=Z,43nm,0.4s						
SKR				MLR	MLR		
	comp=Z,1µm,17.0s						
MA2	**Magadan**	**8.08**	**301**	Pn	**Pn**	**16 14 21.8**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=93,slow=1.9,SNR=3.0						
MA2				LR	LR	16 18 12.4	
	comp=Z,419nm,18.1s,baz=92,slow=43						
	comp=Z,3.4nm,0.8s						
SEY	**Seymchan**	**9.16**	**323**	LR	LR	16 18 05.8	
	comp=Z,221nm,21.3s,baz=116,slow=38						
SEY	**Seymchan**	**9.16**	**323**	*i* PN	**Pn**	**16 14 38.3**	**+0.4**
AMKA	**Amchitka**	**9.98**	**112**	Pn	**Pn**	**16 14 48.4**	**-0.8**
KIWB	**Kanaga Island**	**11.62**	**104**	Pn	**Pn**	**16 15 09.7**	**-1.9**
BILL	**Bilibino**	**11.97**	**3**	*ce*PN	**Pn**	**16 15 16.4**	**+0.1**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.7s						
SPIA	**Saint Paul Isl**	**13.91**	**75**	P	**Pn**	**16 15 43.9**	**+1.0**
	baz=277						
GAMB	**Gambell**	**14.09**	**47**	P	**P**	**16 15 54.8**	**+1.9**
GAMB	**Gambell**	**14.09**	**47**	P	**Pn**	**16 15 45.1**	**-0.1**
	baz=249						
P08K	**Saint George I**	**14.37**	**77**	P	**Pn**	**16 15 50.4**	**+1.3**
	baz=280						
NIKH	**Nikolski High**	**15.75**	**90**	P	**Pn**	**16 16 09.1**	**+1.6**
	baz=293						
M11K	**Mekoryuk**	**15.92**	**62**	P	**Pn**	**16 16 10.3**	**+0.7**
	baz=268						
TNA	**Tin City**	**16.27**	**43**	P	**P**	**16 16 18.8**	**+1.7**
TNA	**Tin City**	**16.27**	**43**	P	**Pn**	**16 16 14.7**	**+0.5**
	baz=248						
YSS	**Yuzhno-Sakhali**	**16.28**	**245**	*e*P	**Pn**	**16 16 12.7**	**-1.7**
YSS				*e*S	**Sn**	**16 19 10.4**	**-4.2**
YSS				MLR	MLR		
	comp=Z,300nm,16.0s						
YSS				MLR	MLR		
	comp=N,200nm,12.0s						

YAK pmax pmax
comp=N,10.0nm,2.0s
YAK smax smax
comp=E,35nm,3.3s
YAK smax smax
comp=N,18nm,2.0s
YAK MLR MLR
comp=Z,280nm,21.0s
YAK MLR MLR
comp=N,68nm,18.0s
YAK MLR MLR
comp=E,132nm,19.0s
S12K Black Hills 18.65 77 P Pn 16 16 45.3 +1.4
baz=286
J16K Anvik River 18.80 53 P Pn 16 16 46.3 +0.7
baz=264
I17K Unalakleet 18.83 52 P Pn 16 16 46.1 +0.2
baz=262
D17K Noatak River 18.87 39 P Pn 16 16 46.7 +0.3
baz=249,SNR=12
N15K Kwethluk River 18.96 63 Pn 16 16 49.1 +1.5
N15K IAmb IAmb 16 17 04.0
comp=Z,42nm,1.1s
N15K Kwethluk River 18.96 63 P Pn 16 16 48.2 +0.6
baz=274,SNR=13
RDOG Red Dog Mine 19.07 38 P P 16 16 48.6 +0.6
baz=248
E17K Hotham Inlet 19.11 42 P Pn 16 16 49.5 +0.2
baz=252,SNR=15
F17K Baldwin Pennin 19.14 44 Pn 16 16 50.2 +0.7
F17K Baldwin Pennin 19.14 44 P Pn 16 16 49.6 0.0
baz=254
C17K DeLong Mountai 19.14 37 P P 16 16 48.9 +0.1
baz=246,SNR=20
G17K Kiwalik Mounta 19.14 47 P P 16 16 49.3 +0.5
baz=258
O15K Ungalikthiuk R 19.19 66 P Pn 16 16 50.9 +0.6
baz=277
L16K Owhat River 19.23 58 Pn 16 16 51.7 +1.0
L16K Owhat River 19.23 58 P Pn 16 16 50.9 +0.2
baz=270
H17K Granite Mounta 19.34 49 Pn 16 16 52.4 +0.4
H17K IAmb IAmb 16 17 02.3
comp=Z,34nm,1.2s
H17K Granite Mounta 19.34 49 P P 16 16 51.8 +0.9
baz=260,SNR=11
M16K Timber Creek 19.48 60 Pn 16 16 54.6 +0.8
M16K Timber Creek 19.48 60 P Pn 16 16 53.9 0.0
baz=272,SNR=9.8
J17K VABM Dome 19.49 53 Pn 16 16 54.4 +0.5
J17K VABM Dome 19.49 53 P P 16 16 53.7 +1.1
baz=266
N16K Nishlik Lake 19.60 62 P Pn 16 16 55.4 +0.2
baz=274,SNR=10
SDPT Sand Point 19.62 78 P Pn 16 16 55.7 +0.3
baz=287
E18K Tukpahlearik C 19.67 41 P Pn 16 16 55.7 -0.3
baz=252
ERM Erimo 19.76 233 Pn 16 16 57.6 +0.5
ERM IAmb IAmb 16 17 14.8
comp=Z,13nm,0.5s
ERM Erimo 19.76 233 *i* P P 16 16 56.7 +1.1
L17K Donlin 19.79 57 P Pn 16 16 57.4 0.0
baz=270,SNR=12
F18K Selawik 19.80 44 P Pn 16 16 57.4 -0.1
baz=256,SNR=11
K17K Iditarod 19.80 55 IAmb IAmb 16 17 07.3
comp=Z,33nm,1.1s
K17K Iditarod 19.80 55 P Pn 16 16 57.4 -0.2
baz=268,SNR=11
S14K Fog Glacier 19.86 75 P P 16 16 57.8 +1.0
baz=285
C18K Utukok River 19.88 37 P 16 16 58.0 +1.1
C18K IAmb IAmb 16 17 07.3
comp=Z,21nm,0.9s
C18K Utukok River 19.88 37 P P 16 16 57.4 +0.5
baz=248,SNR=20
B18K Kokolik River 19.96 35 P P 16 16 57.9 +0.2
baz=246
H18K Honhosa River 20.02 48 P P 16 16 59.1 +0.7
baz=261
O16K Kokwok River B 20.02 65 P Pn 16 17 00.5 +0.4
baz=277,SNR=7.5
G18K Tagagawik 20.03 46 Pn 16 16 60.0 -0.3
G18K Tagagawik 20.03 46 P Pn 16 16 59.9 -0.4
baz=259,SNR=8.6
P16K Nushagak River 20.14 66 P P 16 17 01.2 +1.5
baz=279
M17K Holitna River 20.21 59 IAmb IAmb 16 17 11.5
comp=Z,28nm,1.0s
M17K Holitna River 20.21 59 P P 16 17 01.8 +1.4
baz=272,SNR=18
CHNA Chernabura Isl 20.26 79 P P 16 17 02.5 +1.5
baz=289
N17K Nushagak Hills 20.38 62 IAmb IAmb 16 17 08.3
comp=Z,30nm,1.5s
N17K Nushagak Hills 20.38 62 P P 16 17 03.4 +1.1
baz=275
CHGN Chignik 20.47 74 P P 16 17 04.9 +1.6
baz=286
O17K Koliganek Bris 20.50 64 P P 16 17 04.9 +1.3
baz=277,SNR=13
L18K Granite Mounta 20.55 57 IAmb IAmb 16 17 15.2
comp=Z,28nm,1.3s
L18K Granite Mounta 20.55 57 P P 16 17 04.9 +0.8
baz=271,SNR=9.4
A19K Wainwright 20.55 33 P P 16 17 05.2 +1.2
baz=245
J18K Innoko River 20.56 53 P P 16 17 05.3 +1.1
baz=268,SNR=18
F19K Shaleruckik Mo 20.58 44 IAmb IAmb 16 17 15.4
comp=Z,35nm,1.1s
F19K Shaleruckik Mo 20.58 44 P P 16 17 05.8 +1.4
baz=258,SNR=25
C19K Lookout Ridge 20.59 37 P P 16 17 05.8 +1.3
C19K Lookout Ridge 20.59 37 P P 16 17 05.5 +1.0
baz=249,SNR=69
GCSA Galena City Sc 20.59 50 P P 16 17 05.4 +0.9
baz=264
G19K Purcell Mounta 20.71 46 P P 16 17 06.3 +0.4
baz=260
KLR Kul'dur 20.86 264 LR LR 16 25 07.9
comp=Z,86nm,19.6s,baz=68,slow=37
H19K Roundabout Mou 20.87 47 IAmb IAmb 16 17 26.1
comp=Z,26nm,1.2s
H19K Roundabout Mou 20.87 47 P P 16 17 08.6 +1.1
baz=262,SNR=12
Q16K King Salmon 20.89 67 P P 16 17 09.0 +1.3
baz=280
D19K Kuna River 20.89 39 P P 16 17 08.7 +0.9
baz=253
P17K Kvichak River 20.91 65 P P 16 17 09.1 +1.1
baz=279
E19K Redstone River 20.93 42 P P 16 17 09.2 +1.0
baz=256
M18K Stony River 20.98 59 P P 16 17 10.0 +1.2
baz=274,SNR=14
N18K Kilae Creek 21.01 61 P P 16 17 10.2 +1.1
baz=276
J19K Poorman 21.07 52 P P 16 17 10.8 +1.0
baz=267,SNR=10
PLK4 Peulik 4 21.25 70 IAmb IAmb 16 17 16.9
comp=Z,30nm,1.1s
R17L Mt. Peulik Vol 21.25 70 P P 16 17 13.0 +1.4
baz=283
ZEA Zeya 21.35 279 *e* P P 16 17 21.8 +9.0
ZEA MLR MLR
comp=E,100nm,12.0s
ZEA MLR MLR
comp=Z,100nm,11.0s
Q17K Contact Creek 21.36 68 P P 16 17 14.8 +1.8
baz=282
L19K White Mountain 21.41 57 IAmb IAmb 16 17 25.0
comp=Z,24nm,1.4s
L19K White Mountain 21.41 57 P P 16 17 14.8 +1.5
baz=273,SNR=8.4
F20K Avaraart Lake 21.41 43 P P 16 17 14.0 +0.6
baz=259,SNR=8.9
O18K Koktuh Hills 21.44 63 IAmb IAmb 16 17 26.5
comp=Z,27nm,1.1s
O18K Koktuh Hills 21.44 63 P P 16 17 15.5 +1.8
baz=278,SNR=7.6
D20K Etivluk River 21.48 39 P P 16 17 15.0 +0.8
baz=254
P18K Big Mountain, 21.50 65 IAmb IAmb 16 17 26.6
comp=Z,24nm,1.1s
P18K Big Mountain, 21.50 65 P P 16 17 15.2 +0.9
baz=279

E20K Nigu River 21.51 40 P P 16 17 15.0 +0.5
baz=256
H20K Anotleneega Mo 21.51 48 P P 16 17 15.3 +0.8
baz=264,SNR=12
TIXI Tiksi 21.54 330 P P 16 17 13.4 -1.2
comp=Z,5.6nm,0.7s,baz=122,slow=9.0,SNR=10
TIXI LR LR 16 25 37.4
comp=Z,91nm,19.0s,baz=136,slow=37
comp=Z,5.6nm,0.7s
TIXI Tiksi 21.54 330 *ce* P P 16 17 15.4 +0.7
TIXI pmax pmax
comp=Z,8.0nm,0.9s
I20K Naaghedeneel 21.62 50 P P 16 17 16.7 +1.1
baz=266
M19K Big River Lodg 21.64 58 P P 16 17 16.7 +0.8
baz=274
N19K Bonanza Creek 21.68 61 IAmb IAmb 16 17 27.0
comp=Z,22nm,1.4s
N19K Bonanza Creek 21.68 61 P P 16 17 17.2 +0.8
baz=276
B20K Meade River 21.71 35 P 16 17 17.7 +1.2
B20K IAmb IAmb 16 17 26.9
comp=Z,29nm,0.9s
B20K Meade River 21.71 35 P P 16 17 16.8 +0.3
baz=250,SNR=24
J20K Nowinta River 21.73 51 IAmb IAmb 16 17 28.8
comp=Z,24nm,1.4s
J20K Nowinta River 21.73 51 P P 16 17 17.8 +1.0
baz=268,SNR=10.0
Q18K Katmai Hardscr 21.74 66 P P 16 17 18.1 +1.1
baz=281,SNR=5.1
K20K Telida 21.75 54 P P 16 17 17.9 +0.9
baz=270
O19K Port Alsworth 21.83 62 P P 16 17 19.1 +1.2
baz=278
L20K Farewell, AK 21.85 56 P P 16 17 19.0 +0.9
baz=272
IMAR Indian Mountai 22.03 47 P P 16 17 21.4 +1.4
G21K Allakaket 22.20 45 P P 16 17 22.6 +0.8
baz=263
M20K Styx River 22.23 58 IAmb IAmb 16 17 33.5
comp=Z,18nm,1.2s
M20K Styx River 22.23 58 P P 16 17 23.1 +0.8
baz=275
C21K Knifeblade Rid 22.24 38 P P 16 17 23.0 +0.8
baz=255,SNR=7.5
R18K Karluk 22.26 69 P P 16 17 23.7 +1.3
baz=284
F21K Alatna River 22.31 43 P P 16 17 24.0 +1.0
baz=261
A21K Barrow 22.36 32 P P 16 17 23.7 +0.3
baz=248
E21K Killik River 22.36 40 P P 16 17 24.2 +0.6
baz=258,SNR=8.1
Q19K Cape Douglas, 22.38 65 P P 16 17 25.0 +1.2
baz=282
H21K Melozitna Rive 22.39 48 IAmb IAmb 16 17 36.6
comp=Z,29nm,1.4s
H21K Melozitna Rive 22.39 48 P P 16 17 24.0 +0.2
baz=266,SNR=7.9
B21K Ikpikpuk River 22.43 37 IAmb IAmb 16 17 56.2
comp=Z,21nm,1.1s
B21K Ikpikpuk River 22.43 37 P P 16 17 24.5 +0.3
baz=254,SNR=16
P19K Oil Pt 22.46 63 P P 16 17 25.8 +1.1
baz=280
CHUM Lake Minchumin 22.53 52 P P 16 17 26.1 +0.8
baz=270
PPLA Purkeypile 22.61 55 P P 16 17 27.5 +1.1
baz=273
CAST Castle Rocks 22.64 53 P P 16 17 27.4 +0.8
baz=272,SNR=5.7
O20K Slope Mountain 22.69 62 P P 16 17 27.8 +0.6
baz=279
I21K Tanana 22.70 49 P P 16 17 27.8 +0.7
baz=268
A22K Sinclair Lake 22.74 33 P P 16 17 27.7 +0.2
baz=251,SNR=5.4
HEH HeiHe 22.77 271 *e* P P 16 17 24.7 -3.3
HEH pmax pmax
comp=Z,3.0nm,0.7s
HEH LR LR
comp=N,320nm,13.2s
HEH LR LR
comp=E,290nm,15.3s
HEH LR LR
comp=Z,580nm,13.6s
SPU Mount Spurr 22.82 59 IAmb IAmb 16 17 39.5
comp=Z,15nm,1.3s
F22K John River 22.85 43 P P 16 17 28.9 +0.1
baz=262
D22K Ayikyak River 22.91 39 IAmb IAmb 16 18 01.3
comp=Z,21nm,1.3s
D22K Ayikyak River 22.91 39 P P 16 17 29.5 +0.1
baz=258,SNR=10
OHAK Old Harbor 22.96 70 P P 16 17 30.5 +0.6
baz=286
SKT Skwentna 22.98 57 P P 16 17 30.5 +0.4
baz=276
H22K Ishtalitna Cre 22.99 47 P P 16 17 30.6 +0.4
baz=267
B22K Teshekpuk Lake 23.02 35 IAmb IAmb 16 17 54.5
comp=Z,18nm,0.9s
B22K Teshekpuk Lake 23.02 35 P P 16 17 30.5 +0.1
baz=254
G22K Bettles 23.03 44 P P 16 17 30.4 -0.2
baz=264
Q20K Shuyak Island 23.08 66 P P 16 17 30.9 -0.3
baz=283
E22K Anaktuvuk Pass 23.09 41 IAmb IAmb 16 17 46.5
comp=Z,19nm,1.2s
E22K Anaktuvuk Pass 23.09 41 P P 16 17 31.6 +0.4
baz=261,SNR=18
BPAW Bear Paw Mtn. 23.11 52 IAmb IAmb 16 17 41.7
comp=Z,36nm,1.5s
BPAW Bear Paw Mtn. 23.11 52 P P 16 17 31.6 +0.1
baz=271,SNR=9.7
KTH Kantishna Hill 23.16 53 IAmb IAmb 16 17 43.3
comp=Z,27nm,1.3s
KDAK Kodak Island 23.18 68 P P 16 17 31.8 -0.3
baz=285
MLY Manley 23.22 49 P P 16 17 32.5 -0.1
baz=269,SNR=6.4
SUA Susitna One 23.41 58 P P 16 17 35.0 +0.4
baz=278
TRF Thorofare Moun 23.44 53 IAmb IAmb 16 17 44.4
comp=Z,20nm,1.2s
TRF Thorofare Moun 23.44 53 P P 16 17 35.7 +0.7
baz=273,SNR=11
COLD Coldfoot 23.57 44 IAmb IAmb 16 17 45.9
comp=Z,16nm,1.2s
COLD Coldfoot 23.57 44 P P 16 17 36.7 +0.7
baz=265,SNR=9.6
G23K Bananza Creek 23.60 45 P P 16 17 36.6 +0.2
baz=266
D23K Nanushuk River 23.64 39 P 16 17 36.8 +0.1
D23K IAmb IAmb 16 17 46.0
comp=Z,20nm,1.5s
D23K Nanushuk River 23.64 39 P P 16 17 37.3 +0.7
baz=260,SNR=5.7
M22K Willow 23.67 58 P P 16 17 38.1 +1.1
baz=277
H23K Yukon River 23.74 47 P P 16 17 38.0 +0.2
baz=268
I23K Minto, Yukon-K 23.81 49 P P 16 17 39.0 +0.8
baz=270,SNR=16
C23K Itkilik River 23.83 37 P P 16 17 38.4 -0.1
baz=258,SNR=10
E23K Chandalar 23.89 42 IAmb IAmb 16 17 49.4
comp=Z,25nm,1.2s
E23K Chandalar 23.89 42 P P 16 17 39.6 +0.4
baz=263,SNR=13
NEA2 Nenana 23.94 50 IAmb IAmb 16 17 49.2
comp=Z,15nm,1.2s
NEA2 Nenana 23.94 50 P P 16 17 39.3 -0.2
baz=272
RC01 Rabbit Creek A 23.94 59 P P 16 17 40.2 +0.5
baz=279
TOLK Toolik Lake Re 23.98 40 P P 16 17 40.2 +0.2
baz=262,SNR=14
MCK McKinley 24.03 53 IAmb IAmb 16 17 51.1
comp=Z,26nm,1.2s
MCK McKinley 24.03 53 P P 16 17 40.7 +0.2
baz=274
RND Reindeer 24.09 53 IAmb IAmb 16 17 51.0
comp=Z,20nm,1.3s
PMR Palmer 24.16 58 P P 16 17 41.6 0.0
baz=278

SEW Seward 24.25 61 P P 16 17 43.1 +0.7
baz=282
WAT1 Susitna Watana 24.28 55 P P 16 17 42.5 -0.2
baz=276
E24K Your Creek 24.31 42 P P 16 17 43.6 +0.5
E24K Your Creek 24.31 42 P P 16 17 43.1 0.0
baz=264,SNR=24
D24K Happy Valley 24.33 39 P P 16 17 43.4 +0.3
baz=262,SNR=6.9
WRH Wood River Hil 24.37 51 IAmb IAmb 16 17 54.0
comp=Z,25nm,1.4s
H24K Noodor Dome 24.43 47 IAmb IAmb 16 17 56.9
comp=Z,23nm,1.5s
H24K Noodor Dome 24.43 47 P P 16 17 43.9 -0.3
baz=270
COLA College 24.45 50 *i* P P 16 17 44.4 +0.1
COLA pmax pmax
comp=Z,19nm,1.2s
C24K Franklin Bluff 24.46 38 P P 16 17 44.0 -0.3
baz=261
F24K Squaw Lake 24.49 43 P P 16 17 44.5 -0.2
baz=266
KNK Knik Glacier 24.50 58 P P 16 17 44.9 +0.1
baz=279
G24K Hadweenzic Riv 24.61 45 IAmb IAmb 16 18 27.1
comp=Z,25nm,1.5s
G24K Hadweenzic Riv 24.61 45 P P 16 17 45.9 +0.2
baz=268,SNR=14
POKR Poker Plat Res 24.62 49 P P 16 17 45.5 -0.3
baz=272
PWL Port Wells 24.65 59 P P 16 17 45.5 -0.7
baz=281,SNR=12
WAT6 Susitna Watana 24.68 55 P P 16 17 46.1 -0.5
baz=277
DHY Denali Highway 24.79 54 IAmb IAmb 16 17 57.9
comp=Z,14nm,1.2s
DHY Denali Highway 24.79 54 P P 16 17 47.5 0.0
baz=276
M23K Glacier View 24.79 57 P P 16 17 47.0 -0.4
baz=279
HDA Harding Lake 24.86 51 P P 16 17 48.0 0.0
baz=274
IL31 24.87 50 IAmb IAmb 16 17 58.7
comp=Z,18nm,1.2s
ILAR Eielson Array 24.87 50 P P 16 17 47.1 -1.0
comp=Z,3.7nm,1.1s,baz=264,slow=8.5,SNR=21
ILAR LR LR 16 27 47.5
comp=Z,107nm,18.6s,baz=256,slow=37
comp=Z,3.7nm,1.1s
SCM Sheep Creek Mo 24.97 57 P P 16 17 49.0 -0.1
baz=279,SNR=8.9
G25K Bearman Lake 25.16 45 P P 16 17 50.6 0.0
baz=270
D25K Kavik River 25.21 39 P P 16 17 51.3 +0.1
D25K IAmb IAmb 16 18 02.4
comp=Z,17nm,1.0s
D25K Kavik River 25.21 39 P P 16 17 51.6 +0.4
baz=264,SNR=22
GLI Glacier Island 25.25 59 P P 16 17 51.9 +0.4
baz=281
H25L Birch Creek 25.27 46 P P 16 17 52.1 +0.5
baz=271
BNX BinXian 25.28 261 ⇓ P P 16 17 50.6 -1.3
BNX pP **sP** 16 17 58.4 +1.4
BNX sP **pwP** 16 18 02.7 +1.8
BNX PcP **PcP** 16 21 23.5 -1.0
BNX S **S** 16 22 13.9 -2.9
BNX pmax pmax
comp=Z,3.0nm,1.3s
BNX pmax pmax
comp=Z,160nm,3.9s
BNX LR LR
comp=N,280nm,14.2s
BNX LR LR
comp=E,290nm,14.0s
BNX LR LR
comp=Z,120nm,16.3s
P23K Montague Islan 25.28 61 P P 16 17 51.9 +0.1
baz=283
F25K Christian Rive 25.36 43 IAmb IAmb 16 18 04.6
comp=Z,11nm,1.1s
F25K Christian Rive 25.36 43 P P 16 17 52.8 +0.3
baz=268,SNR=6.4
E25K Arctic Village 25.41 42 P P 16 17 53.0 +0.1
baz=267
PRP Porcupine Dome 25.41 48 IAmb IAmb 16 18 20.5
comp=Z,13nm,1.2s
PRP Porcupine Dome 25.41 48 P P 16 17 53.1 0.0
baz=273
K24K Donnelly Dome 25.43 52 P P 16 17 53.1 -0.1
baz=276
M24K Tolsona, Glenn 25.47 56 P P 16 17 54.1 +0.6
baz=279
J25K Salcha River, 25.53 50 IAmb IAmb 16 18 04.9
comp=Z,11nm,1.3s
J25K Salcha River, 25.53 50 P P 16 17 54.5 +0.3
baz=275
PAX Paxson 25.66 54 IAmb IAmb 16 18 10.1
comp=Z,14nm,1.3s
PAX Paxson 25.66 54 P P 16 17 55.7 +0.4
baz=278
KLU Klutina 25.69 57 IAmb IAmb 16 18 07.3
comp=Z,13nm,1.1s
KLU Klutina 25.69 57 P P 16 17 56.2 +0.6
baz=281
BMAR Burnt Mountain 25.76 44 P 16 17 56.7 +0.5
C26K Camden Bay 25.79 38 P P 16 17 56.4 +0.1
baz=264,SNR=6.6
RIDG Independent Ri 25.84 52 P P 16 17 56.7 -0.3
baz=277
HARP HAARP 25.89 55 P P 16 17 57.7 +0.3
baz=280
F26K Sheenjek River 25.93 43 P P 16 17 58.2 +0.5
F26K Sheenjek River 25.93 43 P P 16 17 57.6 -0.2
baz=270
Q23K Middleton Isla 25.93 62 P P 16 17 58.1 +0.4
baz=285
EYAK Cordova Ski Ar 25.96 60 P P 16 17 58.5 +0.5
baz=283
G26K Porcupine Rive 26.07 45 IAmb IAmb 16 18 11.4
comp=Z,9.5nm,1.0s
G26K Porcupine Rive 26.07 45 P P 16 17 58.6 -0.3
baz=271
C27K Jago River 26.18 39 P P 16 17 59.7 -0.2
baz=266,SNR=7.5
SCRK Sand Creek 26.19 51 IAmb IAmb 16 18 09.4
comp=Z,15nm,1.4s
SCRK Sand Creek 26.19 51 P P 16 17 59.2 -1.0
baz=277,SNR=5.9
N25K Chitina, Valde 26.29 57 P P 16 18 00.9 -0.2
baz=282
J26L Joseph Creek 26.32 50 P P 16 18 01.4 +0.1
baz=276
I26K Coal Creek Min 26.41 48 P P 16 18 02.5 +0.4
baz=275
BMRM Bremner River 26.42 58 P P 16 18 02.8 +0.6
BMRM IAmb IAmb 16 18 11.5
comp=Z,15nm,1.0s
BMRM Bremner River 26.42 58 P P 16 18 02.9 +0.7
baz=283
MAJO Matsushiro 26.43 233 P P 16 18 03.5 +1.0
MAJO IAmb IAmb 16 18 12.9
comp=Z,13nm,0.9s
MAJO Matsushiro 26.43 233 P P 16 18 03.5 +1.0
MAJO pmax pmax
comp=Z,13nm,0.9s
MJAR Matsushiro Arr 26.43 233 P P 16 18 02.8 +0.3
comp=Z,2.5nm,0.7s,baz=36,slow=8.1,SNR=7.0
comp=Z,2.5nm,0.7s
L26K Log Cabin Wild 26.61 54 P P 16 18 04.4 +0.5
baz=280
KAIM Kayak Island 26.75 61 P P 16 18 05.5 +0.3
KAIM Kayak Island 26.75 61 P P 16 18 05.7 +0.6
baz=285
M26K Nabesna, AK 26.88 55 IAmb IAmb 16 18 17.5
comp=Z,13nm,1.4s
M26K Nabesna, AK 26.88 55 P P 16 18 07.0 +0.6
baz=281
E27K Coleen River 26.90 42 P P 16 18 06.9 +0.5
E27K Coleen River 26.90 42 P P 16 18 06.2 -0.2
baz=271
G27K Doyon Strip 26.92 45 P P 16 18 06.7 +0.1
baz=274
H27K Steamboat Moun 27.01 46 IAmb IAmb 16 18 17.9
comp=Z,18nm,1.4s
H27K Steamboat Moun 27.01 46 P P 16 18 07.8 +0.3
baz=275,SNR=6.3
K27K Chicken 27.02 51 P P 16 18 07.9 +0.4

baz=279
I27K Kandik River 27.03 48 P **P** **16 18 07.7 +0.1**
baz=276
D27M Malcolm River 27.13 40 **P**
D27M IAmb IAmb 16 18 21.6
comp=Z,10nm,1.1s
D27M Malcolm River 27.13 40 P **P** **16 18 09.3 +0.8**
baz=269,SNR=6.2
CRQE Cirque 27.19 58 P **P** **16 18 10.4 +1.2**
baz=284
L27K Beaver Creek, 27.29 53 IAmb IAmb 16 18 20.1
comp=Z,16nm,1.4s
L27K Beaver Creek, 27.29 53 P **P** **16 18 10.7 +0.7**
baz=281,SNR=8.5
BCAR Beaver Creek A 27.31 53 **P** **16 18 10.2 0.0**
M27K Edge Creek, AK 27.40 55 IAmb IAmb 16 18 39.4
comp=Z,9.6nm,1.1s
M27K Edge Creek, AK 27.40 55 P **P** **16 18 11.9 +0.8**
baz=282
F28M Old Crow 27.57 43 P **P** **16 18 12.8 +0.4**
baz=274
E28M Babbage River 27.65 41 P **P** **16 18 13.4 +0.2**
baz=272
I28M Miner Creek 27.74 48 IAmb IAmb 16 18 25.2
comp=Z,10nm,1.4s
I28M Miner Creek 27.74 48 P **P** **16 18 14.7 +0.6**
baz=278
BVCY Beaver Creek 27.85 54 P **P** **16 18 15.5 +0.5**
baz=283
D28M Stokes Point 27.92 39 P **P** **16 18 15.8 +0.3**
baz=271
CTG Chitna Glacier 27.97 58 P **P** **16 18 16.6 +0.4**
baz=285
YUK3 Moose Creek 28.18 56 P **P** **16 18 18.7 +0.5**
baz=284
DAWY Dawson 28.18 51 P **P** **16 18 18.9 +0.9**
baz=281
E29M Blow River 28.26 41 P **P** **16 18 18.8 +0.2**
baz=274
H29M Whitestone 28.28 46 P **P** **16 18 19.3 +0.5**
baz=277
G29M Pine Creek 28.34 44 P **P** **16 18 19.7 +0.4**
baz=276
I29M Ogilvie Camp, 28.43 48 IAmb IAmb 16 18 31.1
comp=Z,11nm,1.4s
I29M Ogilvie Camp, 28.43 48 P **P** **16 18 20.6 +0.4**
baz=279
O28M Mount Upton 28.56 58 P **P** **16 18 22.0 +0.3**
baz=286
YUK8 Steele Glacier 28.63 56 P **P** **16 18 22.4 +0.2**
baz=285
PINM Pinnacle 28.72 59 P **P** **16 18 23.0 +0.2**
baz=287
EPYK Eagle Plains 28.92 45 P **P** **16 18 24.6 0.0**
baz=278
L29M L29M 28.93 52 IAmb IAmb 16 18 35.9
comp=Z,10nm,1.2s
L29M L29M 28.93 52 P **P** **16 18 24.3 -0.3**
baz=283
M29M Somme Creek 28.93 54 P **P** **16 18 25.2 +0.5**
baz=284
K29M Barlow Dome 29.04 51 P **P** **16 18 25.4 -0.2**
baz=282
G30M tAoh Zraii Nji 29.04 44 P **P** **16 18 25.5 0.0**
baz=278
F30M Barrier River 29.12 43 P **P** **16 18 26.5 +0.2**
baz=277
YUK4 Talbot Arm 29.13 56 P **P** **16 18 26.8 +0.2**
baz=286
I30M Mount Dempster 29.25 48 IAmb IAmb 16 18 37.8
comp=Z,8.7nm,1.2s
I30M Mount Dempster 29.25 48 P **P** **16 18 27.4 -0.2**
baz=281
PNL Peninsula 29.26 60 P **P** **16 18 27.8 +0.2**
baz=288
YUK6 Outpost Mounta 29.37 57 P **P** **16 18 28.6 -0.2**
baz=287
J30M Hart River 29.39 49 P **P** **16 18 28.7 -0.1**
baz=282
O29M Mount Kennedy 29.46 58 P **P** **16 18 28.6 -0.9**
baz=288
M30M Minto, Yukon 29.65 53 P **P** **16 18 30.7 -0.3**
baz=285
G31M Satah River 29.80 44 P **P** **16 18 31.6 -0.6**
baz=280
HYT Haines Junctio 29.81 57 P **P** **16 18 32.2 -0.3**
baz=288
N30M Aishikik Lake 29.82 55 P **P** **16 18 32.1 -0.4**
baz=287
INK Inuvik 29.89 41 P **P** **16 18 32.3 -0.7**
baz=278
F31M Tsiigehtchic 29.93 43 P **P** **16 18 33.8 +0.5**
baz=279
H31M Peel River 29.97 46 P **P** **16 18 34.5 +0.7**
baz=281
P29M Windy Craggy 30.07 59 P **P** **16 18 35.9 +1.1**
baz=289
P30M Million Dollar 30.29 58 P **P** **16 18 37.9 +1.2**
baz=289
N31M Braeburn, Yuko 30.41 55 P **P** **16 18 38.5 +0.8**
baz=288
O30N Mendenhall 30.49 56 P **P** **16 18 39.4 +1.0**
baz=289
KSRS Korea Array 30.73 248 P **P** **16 18 42.0 +1.3**
comp=Z,0.4nm,0.5s,baz=42,slow=12,SNR=4.3
comp=Z,0.4nm,0.5s
KSRS Korea Array 30.73 248 P **P** **16 18 42.0 +1.3**
PLBC Pleasant Camp 30.79 59 P **P** **16 18 41.8 +0.8**
baz=290
M31M Drury Creek, Y 30.83 53 IAmb IAmb 16 18 59.3
comp=Z,9.2nm,1.4s
M31M Drury Creek, Y 30.83 53 P **P** **16 18 42.1 +0.7**
baz=287
WHY Whitehorse 31.09 56 P **P** **16 18 44.4 +0.6**
baz=290
FARO Faro, Yukon 31.29 53 P **P** **16 18 46.2 +0.8**
baz=288
S31K Pelican 31.40 62 P **P** **16 18 47.7 +1.3**
baz=293
P32M Atlin 32.01 58 P **P** **16 18 53.2 +1.4**
baz=292
MMPY Sheldon Lake, 32.09 52 IAmb IAmb 16 19 03.3
comp=Z,8.9nm,1.4s
MMPY Sheldon Lake, 32.09 52 P **P** **16 18 53.4 +0.9**
baz=289
R32K Eaglecrest 32.12 60 P **P** **16 18 54.2 +1.5**
R32K IAmb IAmb 16 19 02.8
comp=Z,9.2nm,1.0s
R32K Eaglecrest 32.12 60 P **P** **16 18 53.7 +1.0**
baz=293
A36M Sachs Harbour 32.18 33 P **P** **16 18 53.6 +0.4**
baz=279
P33M Teslin, Yukon 32.20 56 P **P** **16 18 54.5 +1.0**
baz=291
SIT Sitka 32.21 63 P **P** **16 18 54.3 +0.7**
baz=295
S32K Killisnoo 32.41 62 P **P** **16 18 56.0 +0.7**
baz=294
JNU Nakatsue 32.66 239 LR LR 16 31 45.3
comp=Z,54nm,20.8s,baz=47,slow=36
Q32M Nakina River 32.93 58 P **P** **16 19 01.0 +0.9**
baz=294
R33M Jennings River 33.38 57 IAmb IAmb 16 19 14.4
comp=Z,7.6nm,1.2s
R33M Jennings River 33.38 57 P **P** **16 19 04.6 +0.7**
baz=294
S34M Telegraph Cree 33.91 60 P **P** **16 19 09.1 +0.8**
baz=296
WRAK Wrangell Islan 33.97 63 P **P** **16 19 10.0 +1.1**
baz=297
CRAG Craig 34.01 64 P **P** **16 19 11.2 +1.9**
baz=298
DLBC Dease Lake 34.22 58 LR LR 16 33 41.1
comp=Z,21nm,18.5s,baz=256,slow=37
DLBC Dease Lake 34.22 58 P **P** **16 19 12.6 +1.5**
baz=295
T35M Bob Quinn 34.75 61 IAmb IAmb 16 19 27.6
comp=Z,11nm,1.1s
T35M Bob Quinn 34.75 61 P **P** **16 19 17.4 +1.7**
baz=297
V35K Ketchikan 34.84 64 P **P** **16 19 17.7 +1.3**
baz=299
NRIK Noril'sk 34.95 323 LR LR 16 34 27.1
comp=Z,129nm,19.0s,baz=76,slow=38
ULN Ulaanbaatar 35.36 281 *ceP* **P** **16 19 20.7 -0.5**
ULN pmax pmax
comp=Z,7.0nm,2.5s
SONM Songino Array 35.74 282 P **P** **16 19 24.7 +0.3**
comp=Z,1.4nm,0.7s,baz=60,slow=8.3,SNR=7.7
SONM LR LR 16 35 46.0
comp=Z,145nm,18.9s,baz=64,slow=39
comp=Z,1.4nm,0.7s
TOAD Toad River Com 36.28 56 P **P** **16 19 30.2 +1.3**
baz=297,SNR=6.7
H11N2 WAKE ISLAND Hy 36.40 176 T T 16 58 37.1
baz=357,slow=76,SNR=925
H11N3 WAKE ISLAND Hy 36.41 176 T T 16 58 30.8
baz=357,slow=76,SNR=558
H11N1 WAKE ISLAND Hy 36.42 176 T T 16 58 35.3
baz=357,slow=76,SNR=705
HHC Hu-ho-hao-te 37.26 269 *eP* **P** **16 19 37.1 -0.3**
HHC pmax pmax
comp=Z,25nm,0.7s
HHC pmax pmax
comp=Z,100nm,5.3s
HHC LR LR
comp=N,240nm,14.0s
HHC LR LR
comp=E,240nm,14.0s
HHC LR LR
comp=Z,100nm,14.0s
BBB Bella Bella 38.24 67 P **P** **16 19 46.5 +1.0**
comp=Z,3.5nm,0.6s,baz=334,slow=22,SNR=17
comp=Z,3.5nm,0.6s
HOLB Holberg 39.10 69 P **P** **16 19 54.1 +1.4**
HOLB IAmb IAmb 16 20 03.5
comp=Z,20nm,1.2s
YKA Yellowknife Ar 39.19 47 P **P** **16 19 54.5 +1.1**
comp=Z,1.5nm,0.8s,baz=302,slow=8.9,SNR=4.5
YKA LR LR 16 37 14.5
comp=Z,78nm,18.6s,baz=290,slow=38
comp=Z,1.5nm,0.8s
RES Resolute Bay 39.51 24 LR LR 16 38 14.6
comp=Z,44nm,18.6s,baz=38,slow=39
NJ2 Nanjing 39.64 252 *eP* **P** **16 19 58.1 +0.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
ZALV Zalesovo Beam 43.30 302 LR LR 16 40 37.3
comp=Z,108nm,19.1s,baz=45,slow=39
SPITS Spitsbergen Ar 44.53 351 P **P** **16 20 37.4 +0.6**
comp=Z,8.9nm,0.8s,baz=85,slow=9.3,SNR=9.3
comp=Z,8.9nm,0.8s
SPITS Spitsbergen Ar 44.53 351 P **P** **16 20 37.7 +0.9**
SPITS pmax pmax
comp=Z,24nm,1.1s
SPB2 Spitsbergen Ar 44.53 351 P **P** **16 20 37.9 +1.1**
GTA Gaotai 44.80 276 *eP* **P** **16 20 39.6 0.0**
GTA sP pwP 16 20 47.1 -1.7
GTA pmax pmax
comp=Z,3.0nm,0.8s
GTA LR LR
comp=N,190nm,17.8s
GTA LR LR
comp=E,150nm,17.1s
GTA LR LR
comp=Z,270nm,16.4s
LZH Lanzhou 44.91 270 *eP* **P** **16 20 43.3 +2.8**
LZH sP pwP 16 20 49.2 -0.5
LZH SS SS 16 30 22.7 -16
LZH pmax pmax
comp=Z,11nm,1.2s
LZH LR LR
comp=N,330nm,14.8s
LZH LR LR
comp=E,260nm,14.9s
LZH LR LR
comp=Z,260nm,16.7s
B08A Colville Reser 45.04 66 IAmb IAmb 16 20 50.7
comp=Z,5.9nm,0.9s
BLKN Baker Lake 45.12 37 P **P** **16 20 41.8 +0.2**
YBH Yreka Blue Hor 47.67 75 P **P** **16 21 00.9 -1.1**
comp=Z,0.1nm,0.8s,baz=158,slow=3.7,SNR=2.5
KURK Kurchatov 48.29 302 *ceP* **P** **16 21 07.1 +0.5**
KURK pmax pmax
comp=Z,7.0nm,1.3s
WMQ Urumqi 48.37 289 *eP* **P** **16 21 09.6 +2.2**
WMQ LR LR
comp=N,230nm,14.9s
WMQ LR LR
comp=Z,69nm,12.1s
KURBB Kurchatov Arra 48.39 302 P **P** **16 21 06.6 -0.8**
comp=Z,2.2nm,0.8s,baz=54,slow=7.9,SNR=20
KURBB LR LR 16 41 32.6
comp=Z,51nm,20.4s,baz=164,slow=36
comp=Z,2.2nm,0.8s
BMO Blue Mountains 48.41 69 IAmb IAmb 16 21 17.1
comp=Z,4.8nm,1.1s
J08A Circle Bar Ran 48.82 71 IAmb IAmb 16 21 20.6
comp=Z,3.5nm,0.9s
PLID Pearl Lake 48.92 68 P **P** **16 21 12.8 +1.0**
PLID IAmb IAmb 16 21 22.1
comp=Z,4.2nm,1.1s
MK31 Makanchi Array 49.13 296 *ceP* **P** **16 21 13.8 +0.7**
MKAR Makanchi Array 49.13 296 P **P** **16 21 12.4 -0.7**
MKAR Makanchi Array 49.13 296 P **P** **16 21 12.2 -1.0**
comp=Z,0.7nm,0.6s,baz=56,slow=7.1,SNR=12
MKAR LR LR 16 42 57.3
comp=Z,97nm,18.1s,baz=34,slow=37
comp=Z,0.7nm,0.6s
MKAR Makanchi Array 49.13 296 *i* P **P** **16 21 13.1 0.0**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
WVOR Wild Horse Val 49.37 72 IAmb IAmb 16 21 25.5
comp=Z,4.2nm,0.9s
BVAR Borovoye Array 50.48 309 P **P** **16 21 23.0 -0.3**
comp=Z,4.6nm,0.6s
BVAR LR LR 16 43 48.1
comp=Z,136nm,18.9s,baz=38,slow=37
comp=Z,4.6nm,0.6s
ARCES ARCESS Array B 51.15 343 P **P** **16 21 28.1 0.0**
ARCES IAmb IAmb 16 21 30.7
comp=Z,5.4nm,1.1s
ARCES ARCESS Array B 51.15 343 P **P** **16 21 28.2 0.0**
comp=Z,2.5nm,0.8s,baz=21,slow=10,SNR=6.2
comp=Z,2.5nm,0.8s
ARCES ARCESS Array B 51.15 343 P **P** **16 21 28.1 0.0**
ARCES pmax pmax
comp=Z,5.0nm,1.2s
YNE Yellowstone No 52.04 64 IAmb IAmb 16 22 20.6
comp=Z,4.7nm,1.0s
ELK Elko 52.37 71 P **P** **16 21 37.5 -0.4**
comp=Z,0.6nm,0.5s,baz=314,slow=3.0,SNR=3.5
comp=Z,0.6nm,0.5s
NVAR Mina Array Bea 52.39 75 P **P** **16 21 37.3 -0.8**
comp=Z,1.1nm,0.7s,baz=307,slow=7.5,SNR=5.9
comp=Z,1.1nm,0.7s
LHV Little Huntoon 52.41 75 IAmb IAmb 16 21 49.3
comp=Z,12nm,1.2s
FXWY Fox Creek 52.49 66 IAmb IAmb 16 21 49.1
comp=Z,4.1nm,0.9s
ARTI Arti 52.96 318 LR LR 16 47 47.5
comp=Z,137nm,18.1s,baz=36,slow=40
ARTI Arti 52.96 318 *d* iP **P** **16 21 42.3 +0.6**
ARTI S **S** **16 29 11.6 +1.6**
ARTI SS **SS** **16 32 43.1 -5.2**
ARTI pmax pmax
comp=Z,5.0nm,0.7s
PD31 Pinedale Array 53.86 65 IAmb IAmb 16 21 58.8
comp=Z,4.9nm,1.1s
PDAR Pinedale Array 53.86 65 P **P** **16 21 49.7 +0.8**
PDAR Pinedale Array 53.86 65 P **P** **16 21 49.5 +0.6**
comp=Z,1.5nm,0.8s,baz=319,slow=3.6,SNR=12
PDAR LR LR 16 45 52.4
comp=Z,35nm,18.9s,baz=310,slow=37
comp=Z,1.5nm,0.8s
KIRV Kirov 54.43 324 LR LR 16 47 18.5
comp=Z,75nm,18.8s,baz=41,slow=38
ULM Lac du Bonnet 54.89 51 LR LR 16 46 05.0
comp=Z,46nm,18.1s,baz=124,slow=37
PRN Pahoc Range 54.89 74 IAmb IAmb 16 22 06.5
comp=Z,7.4nm,0.9s
TMUT Trail Mountain 55.54 69 IAmb IAmb 16 22 11.3
comp=Z,6.6nm,1.0s
P18A Preston Nutter 55.80 69 IAmb IAmb 16 22 13.2
comp=Z,8.9nm,1.2s
AAK Ala-Archa 55.99 297 LR LR 16 49 03.4
comp=Z,40nm,18.3s,baz=168,slow=39
AAK Ala-Archa 55.99 297 *ceP* **P** **16 22 02.9 -1.3**
AAK pmax pmax
comp=Z,7.0nm,1.7s
PV22 Blue Mesa, Par 57.37 68 IAmb IAmb 16 22 25.0
comp=Z,8.1nm,1.1s
PV04 Paradox Valley 57.42 69 IAmb IAmb 16 22 24.4
comp=Z,8.2nm,1.0s
PV16 Nyswonger Mesa 57.47 69 IAmb IAmb 16 22 34.8
comp=Z,9.5nm,1.2s
PV03 Paradox Valley 57.55 69 IAmb IAmb 16 22 25.8
comp=Z,10nm,1.2s
KSH Kashi 57.56 294 P **P** **16 22 19.0 +3.7**
KSH pmax pmax
comp=Z,4.0nm,0.5s
KK31 Karatay Array 57.60 300 P **P** **16 22 15.5 +0.1**
KK31 IAmb IAmb 16 22 16.6
comp=Z,6.5nm,0.8s
KK31 Karatay Array 57.60 300 P **P** **16 22 15.5 +0.1**
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 57.60 300 P **P** **16 22 15.6 +0.2**
KKAR Karatay Array 57.60 300 IAmb IAmb 16 22 16.6
comp=Z,6.8nm,0.8s
KKAR Karatay Array 57.60 300 P **P** **16 22 15.6 +0.2**
AKTO Aktyubinsk 57.61 313 LR LR 16 49 22.3
comp=Z,86nm,20.0s,baz=75,slow=38
AB31 Akbulak array 57.73 311 P **P** **16 22 16.8 +0.7**
AB31 IAmb IAmb 16 22 39.9
comp=Z,7.3nm,1.5s
ABKAR Akbulak array 57.73 311 P **P** **16 22 16.8 +0.6**
ABKAR Akbulak array 57.73 311 IAmb IAmb 16 22 39.9
comp=Z,7.3nm,1.5s
FINES FINESS Array B 58.29 338 P **P** **16 22 18.6 -1.3**
comp=Z,2.5nm,0.8s,baz=107,slow=6.6,SNR=4.8
comp=Z,2.5nm,0.8s
FINES FINESS Array B 58.29 338 *i* P **P** **16 22 20.8 +0.9**
FINES pmax pmax
comp=Z,3.0nm,0.9s
BELG Belogornoye 60.01 321 LR LR 16 50 49.9
comp=Z,72nm,18.2s,baz=47,slow=38
BELG Belogornoye 60.01 321 *eP* **P** **16 22 31.9 0.0**
BELG pmax pmax
comp=Z,2.0nm,1.2s
NC405 NORSAR Array S 61.13 345 P **P** **16 22 39.5 0.0**
NB201 NORSAR Array S 61.25 346 P **P** **16 22 40.4 0.0**
CMAR Chiang Mai Arr 61.27 260 P **P** **16 22 41.4 +0.4**
comp=Z,1.2nm,0.8s,baz=21,slow=8.0,SNR=10
CMAR LR LR 16 50 59.0
comp=Z,41nm,19.2s,baz=95,slow=38
comp=Z,1.2nm,0.8s
NB2 NORSAR Subarra 61.27 346 P **P** **16 22 40.4 -0.1**
comp=Z,1.4nm,0.6s,baz=17,slow=6.9
NOA NORSAR Array B 61.27 346 P **P** **16 22 40.8 +0.3**
comp=Z,1.5nm,0.3s,baz=17,slow=6.8,SNR=10
NOA LR LR 16 53 19.9
comp=Z,15nm,18.2s,baz=20,slow=40
comp=Z,1.5nm,0.3s
HFS Hagfors 61.77 344 P **P** **16 22 43.0 -0.9**
comp=Z,2.6nm,0.5s,baz=41,slow=4.7,SNR=14
comp=Z,2.6nm,0.5s
HFS Hagfors 61.77 344 P **P** **16 22 43.0 -0.9**
TXAR Lajitas Array 67.16 71 P **P** **16 23 20.4 +0.7**
TXAR Lajitas Array 67.16 71 P **P** **16 23 19.9 +0.2**
comp=Z,0.9nm,0.5s,baz=301,slow=4.5,SNR=7.0
comp=Z,0.9nm,0.5s
AKASG Malin Array Be 67.25 331 P **P** **16 23 19.8 +0.1**
comp=Z,0.9nm,0.5s,baz=31,slow=6.1,SNR=4.1
comp=Z,0.9nm,0.5s
AKASG Malin Array Be 67.25 331 *i* P **P** **16 23 19.7 0.0**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 67.25 331 *i* P **P** **16 23 18.9 -0.8**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
EKA Eskdalemuir Ar 68.43 352 P **P** **16 23 27.4 +0.4**
comp=Z,1.6nm,0.7s,baz=1.1,slow=4.3,SNR=5.2
comp=Z,1.6nm,0.7s
KBZ Khabaz 69.00 319 P **P** **16 23 31.1 +0.2**
comp=Z,2.4nm,0.8s,baz=63,slow=4.0,SNR=5.2
KBZ LR LR 16 57 09.7
comp=Z,86nm,20.6s,baz=6.5,slow=39
comp=Z,2.4nm,0.8s
KBZ Khabaz 69.00 319 *i* P **P** **16 23 31.0 +0.2**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
SHA1 Shidzhatmaz 69.08 319 *i* P **P** **16 23 30.2 -1.5**
CLL Collm 70.34 341 *i* P **P** **16 23 39.7 +0.7**
CLL Collm 70.34 341 *i* P **P** **16 23 39.7 +0.7**
CLL *ex* x 16 23 44.0
STHS Stebnicka Huta 70.44 335 *eP* **P** **16 23 39.9 +0.2**
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 70.44 335 *eP* **P** **16 23 39.9 +0.2**
GNI Garni 71.37 315 LR LR 16 59 40.7
comp=Z,116nm,19.0s,baz=358,slow=40
VYHS Vyhne 71.86 337 *eP* **P** **16 23 44.6 -3.7**
VYHS pmax pmax
comp=Z,1.0nm,0.7s
VYHS Vyhne 71.86 337 *eP* **P** **16 23 44.6 -3.7**
MEM Membach 72.12 346 *dP* **P** **16 23 50.8 +1.0**
comp=Z,6.7nm,0.8s
MEM *d*PcP **PcP** **16 24 07.2 -0.9**
GERES GERESS Array B 72.58 340 P **P** **16 23 52.7 0.0**
comp=Z,0.9nm,0.7s,baz=24,slow=5.0,SNR=6.1
GERES LR LR 16 59 00.9
comp=Z,23nm,18.2s,baz=62,slow=39
comp=Z,0.9nm,0.7s
FUORN Ofenpass-Fuorn 75.34 342 P **P** **16 24 10.2 +1.1**
FUORN IAmb IAmb 16 24 10.5
comp=Z,5.7nm,1.4s
BRTR Keskin Array B 75.81 323 P **P** **16 24 11.1 -0.7**
comp=Z,0.6nm,0.6s,baz=39,slow=4.7,SNR=3.6
comp=Z,0.6nm,0.6s
MMAI Mount Meron Ar 81.20 319 LR LR 17 07 54.4
comp=Z,38nm,18.7s,baz=347,slow=41
ASF Jabal al Asfar 81.39 317 LR LR 17 05 28.6
comp=Z,53nm,18.1s,baz=63,slow=39
ESDC Sonseca Array 84.05 351 P **P** **16 24 56.2 +0.1**
comp=Z,0.9nm,0.9s,baz=23,slow=4.8,SNR=4.2
comp=Z,0.9nm,0.9s
EIL Elat 84.37 318 LR LR 17 06 30.6
comp=Z,32nm,18.4s,baz=68,slow=38
JTS Las Juntas de 92.66 67 LR LR 17 12 38.3
comp=Z,48nm,18.3s,baz=276,slow=39
SJG San Juan 94.68 48 LR LR 17 10 11.3
comp=Z,29nm,20.1s,baz=184,slow=37
QSPA South Pole Qui 145.90 180 PKPbc **PKPdf** **16 32 02.3 -0.7**
comp=Z,2.0nm,0.9s,baz=253,slow=2.0,SNR=9.5

IDC 08 16:13:26.6±2.2, 0.55N×126.53E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=176.0km s-min=28.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.76**	**160**	P	P	16 18 19.3	-0.7
	0.6nm,0.6s,baz=338,slow=11,SNR=7.6						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**25.12**	**164**	P	P	16 18 53.9	+0.5
	1.0nm,0.9s,baz=346,slow=11,SNR=16						
	1.0nm,0.9s						
MKAR	**Makanchi Array**	**60.06**	**326**	P	P	16 23 35.4	-0.1
	0.2nm,0.4s,baz=127,slow=8.6,SNR=2.0						
	0.2nm,0.4s						

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*IDC **08** 16:17:11.3±1.2, 56.44N×164.35E, h0km, mb3.4/6, mbtmp3.5/8, ML3.0/2, MS2.8/1, Error ellipse: s-maj=48.8km s-min=19.4km az=160.0*
*KRSC **08** 16:17:12.5±0.7, 55.98N×164.45E, h14km±6km, Ml3.8*
ISC 08 16:17:12.6±0.8, 56.08N±0.08×164.57E±0.05, h16km, n20, σ1s57/24, mb3.5/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.99**	**278**	*eP*	**Pb**	**16 17 29.6**	**-1.7**
KBTR				*eS*	**Sb**	**16 17 42.3**	**-1.8**
KBG	**Beregovo**	**1.06**	**280**	*eP*	**Pb**	**16 17 31.1**	**-1.4**
BKI	**Bering**	**1.19**	**137**	*eP*	**Pn**	**16 17 33.6**	**-0.8**
BKI				*eS*	**Sb**	**16 17 48.8**	**-0.9**
KLY	**Klyuchi**	**2.20**	**278**	*eP*	**Pn**	**16 17 47.2**	**-1.2**
KLY				*eS*	**Sn**	**16 18 14.0**	**-1.4**
MKZ	**Mys Kozlova**	**2.23**	**228**	*eP*	**Pn**	**16 17 48.7**	**-0.1**
MKZ				*eS*	**Sn**	**16 18 14.4**	**-1.6**
BZWR	**Bezymyannyi-We**	**2.29**	**269**	*eP*	**Pn**	**16 17 50.9**	**+1.1**
BZMR	**Bezymyannaya**	**2.30**	**268**	*eP*	**Pn**	**16 17 50.9**	**+1.0**
KIRR	**Kirishev**	**2.38**	**269**	*eP*	**Pn**	**16 17 52.3**	**+1.3**
KPT	**Kopyto**	**2.44**	**269**	*eP*	**Pn**	**16 17 53.3**	**+1.5**
KMNR	**Kamenistaya**	**2.46**	**264**	*eP*	**Pn**	**16 17 54.2**	**+2.0**
TUMD	**Tumrok D**	**2.52**	**251**	*eP*	**Pn**	**16 17 54.4**	**+1.5**
KOZ	**Kozyrevsk**	**2.63**	**271**	*eP*	**Pn**	**16 17 56.6**	**+2.1**
PETK	**Petropavlovsk-**	**4.99**	**236**	Pn	**Pn**	**16 18 29.9**	**+3.2**
	0.7nm,0.3s,baz=96,slow=17,SNR=6.2						
PETK				LR	LR	16 20 29.9	

comp=Z,110nm,22.0s,baz=60,slow=39
3.0nm,0.8s

ASAJ	**Asahikawa**	**18.40**	**239**	P	**P**	**16 21 28.9**	**+2.1**
	0.2nm,0.3s,baz=51,slow=13,SNR=4.9							
	5.0nm,0.9s							
ILAR	**Eielson Array**	**24.87**	**50**	P	**P**	**16 22 33.9**	**-0.2**
	0.6nm,0.9s,baz=257,slow=9.0,SNR=4.4							
	0.6nm,0.9s							
KURBB	**Kurchatov Arra**	**48.47**	**302**	P	**P**	**16 25 53.4**	**-0.6**
	0.7nm,0.8s,baz=56,slow=7.9,SNR=5.2							
	0.7nm,0.8s							
MKAR	**Makanchi Array**	**49.20**	**296**	P	**P**	**16 25 58.7**	**-1.0**
	0.2nm,0.5s,baz=53,slow=7.4,SNR=3.0							
	0.2nm,0.5s							
PDAR	**Pinedale Array**	**53.84**	**65**	P	**P**	**16 26 35.9**	**+1.2**
	0.2nm,0.6s,baz=325,slow=6.3,SNR=2.2							
	0.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**61.30**	**260**	P	**P**	**16 27 26.9**	**-0.3**
	0.7nm,0.7s,baz=20,slow=7.1,SNR=4.1							
	0.7nm,0.7s							
TXAR	**Lajitas Array**	**67.13**	**71**	P	**P**	**16 28 06.8**	**+1.3**
	0.2nm,0.4s,baz=300,slow=7.8,SNR=4.4							
	0.2nm,0.4s							

*IDC **08** 16:18:31.2±0.9, 0.37N×126.10E, h0km, mb3.9/6, mbtmp3.9/6, MS2.6/1, Error ellipse: s-maj=57.3km s-min=17.8km az=70.0*
*DJA **08** 16:18:33.9±0.3, 0.7N±3.3×12.6E±.5, h10km, M3.8/13, mb3.9/2, MLv3.7/13*
*NEIC **08** 16:18:37.6±2.3, 0.4N±0.1×126.45E±0.09, h35km±2km, mb4.2/14, Error ellipse: s-maj=23.4km s-min=12.5km az=155.0*

ISC 08 16:18:37.9±0.7, 0.43N±0.07×126.45E±0.06, h47km, n33, σ1s32/34, mb4.1/14, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.98**	**69**	Pn	**Pn**	**16 18 53.6**	**-1.7**
TNTI					**Sn**	**16 19 08.0**	**-0.1**
TNTI	**Ternate**	**0.98**	**69**	P	**Pn**	**16 18 53.3**	**-2.0**
TNTI				S	**Sn**	**16 19 07.4**	**-0.6**
KMSI	**Cibinong**	**2.47**	**273**	P	**Pn**	**16 19 14.0**	**-1.7**
SANI	**Sanana**	**2.50**	**191**	P	**Pn**	**16 19 14.0**	**-2.1**
NLAI	**Namlea**	**3.70**	**170**	P	**Pn**	**16 19 32.0**	**-0.6**
AAI	**Ambon**	**4.44**	**157**	P	**Pn**	**16 19 43.4**	**+0.6**
FAKI	**Fak Fak**	**6.68**	**120**	P	**Pn**	**16 20 11.7**	**-1.8**
KAPI	**Kappang**	**8.60**	**231**	LR	LR	16 23 28.1	
	comp=Z,37nm,19.3s,baz=52,slow=36						
WB0	**Warramunga Arr**	**21.53**	**159**	P	**P**	**16 23 22.4**	**-0.8**
WB0				IAmb	IAmb	16 23 25.6	
	comp=Z,4.5nm,0.9s						
WRAB	**Tennant Creek**	**21.66**	**159**	P	**P**	**16 23 23.3**	**-1.4**
WRA	**Warramunga Arr**	**21.67**	**160**	P	**P**	**16 23 23.4**	**-1.3**
WRA	**Warramunga Arr**	**21.67**	**160**	P	**P**	**16 23 23.1**	**-1.6**
	comp=Z,1.9nm,0.5s,baz=336,slow=11,SNR=17						
	comp=Z,1.9nm,0.5s						
WR8	**Warramunga Arr**	**21.74**	**159**	P	**P**	**16 23 24.2**	**-1.2**
WR8				IAmb	IAmb	16 24 01.5	
	comp=Z,6.4nm,1.2s						
AS31	**Alice Springs**	**25.02**	**164**	P	**P**	**16 23 57.4**	**-0.3**
ASAR	**Alice Springs**	**25.02**	**164**	P	**P**	**16 23 57.4**	**-0.3**
ASAR	**Alice Springs**	**25.02**	**164**	P	**P**	**16 23 58.5**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=343,slow=12,SNR=59						
	comp=Z,2.0nm,0.7s						
STKA	**Stephens Creek**	**35.18**	**157**	P	**P**	**16 25 27.8**	**+0.3**
STKA	**Stephens Creek**	**35.18**	**157**	P	**P**	**16 25 27.7**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=350,slow=6.1,SNR=4.1						
	comp=Z,1.1nm,0.6s						
PEA0B	**Petropavlovsk-**	**58.58**	**21**	P	**P**	**16 28 30.9**	**+1.1**
PETK	**Petropavlovsk-**	**58.58**	**21**	P	**P**	**16 28 30.6**	**+0.8**
PETK	**Petropavlovsk-**	**58.58**	**21**	P	**P**	**16 28 30.7**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=176,slow=4.2,SNR=8.4						
	comp=Z,0.9nm,0.5s						
MKAR	**Makanchi Array**	**60.12**	**326**	P	**P**	**16 28 40.0**	**-0.6**
MKAR	**Makanchi Array**	**60.12**	**326**	P	**P**	**16 28 39.8**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=123,slow=7.6,SNR=14						
	comp=Z,0.7nm,0.4s						
MAKZ	**Makanchi**	**60.30**	**326**	P	**P**	**16 28 41.6**	**-0.2**
MAKZ				IAmb	IAmb	16 28 45.5	
	comp=Z,2.4nm,1.4s						
KURBB	**Kurchatov Arra**	**64.37**	**328**	P	**P**	**16 29 07.6**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=128,slow=6.2,SNR=7.2						
	comp=Z,0.5nm,0.5s						
KURK	**Kurchatov**	**64.38**	**328**	P	**P**	**16 29 08.6**	**-0.4**
KURK				IAmb	IAmb	16 29 11.3	
	comp=Z,2.3nm,1.1s						
ABKAR	**Akbulak array**	**74.53**	**321**	P	**P**	**16 30 11.6**	**-0.1**
K15K	**Wolf Creek Mou**	**81.33**	**27**	P	**P**	**16 30 51.3**	**+2.1**
K15K				IAmb	IAmb	16 31 02.4	
	comp=Z,3.5nm,1.2s						
M16K	**Timber Creek**	**82.19**	**28**	P	**P**	**16 30 55.6**	**+1.9**
M16K				IAmb	IAmb	16 31 30.9	
	comp=Z,7.4nm,1.5s						
K17K	**Iditarod**	**82.88**	**27**	P	**P**	**16 30 59.3**	**+2.0**
C19K	**Lookout Ridge**	**83.92**	**20**	P	**P**	**16 31 04.8**	**+2.2**
C19K				IAmb	IAmb	16 31 17.8	
	comp=Z,4.2nm,1.1s						
C23K	**Itkillik River**	**87.16**	**20**	P	**P**	**16 31 20.3**	**+1.6**
C23K				IAmb	IAmb	16 31 48.8	
	comp=Z,2.2nm,1.2s						
BMAR	**Burnt Mountain**	**89.21**	**23**	P	**P**	**16 31 29.9**	**+1.4**

*NEIC **08** 16:22:52.7±0.3, 35.893N±0.008×117.72W±0.01, h7km±1km, Error ellipse: s-maj=1.8km s-min=1.0km az=71.0*

PAS 08 16:22:53.2±0.6, 35.892N±0.006×117.73W±0.02, h4km±3km, ML3.0/22, ML2.8/18(NEIC), Error ellipse: s-maj=1.9km s-min=0.9km az=80.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.09**	**201**		Pg	16 22 55.5	+0.5
WVPM	**Volcano Peak E**	**0.09**	**308**		Pg	16 22 55.4	+0.1
CLC	**China Lake**	**0.13**	**126**	Pg	Pg	16 22 55.5	-0.3
WCSM	**Coso Springs S**	**0.14**	**346**		Pg	16 22 56.1	+0.1
WCSM					Sg	16 22 58.2	+0.3
WNMM	**Nine Mile Cany**	**0.15**	**252**		Pg	16 22 59.3	+3.0
WRVM	**Rose V. Centra**	**0.18**	**311**		Pg	16 22 56.8	+0.1
SRTC	**Snort**	**0.20**	**186**		Pg	16 22 57.5	+0.4
MFS	**McCloud Flat S**	**0.25**	**335**		Pg	16 22 58.1	0.0
MFS					Sg	16 23 02.1	+0.7
MPMC	**Manual Prospec**	**0.25**	**49**	Pg	Pg	16 22 57.9	-0.3
LRMC	**Laurel Mtn Rad**	**0.41**	**175**		Pg	16 23 00.6	-0.6
LRMC				IAML		16 23 07.5	
	comp=N,653nm,0.4s						
WORM	**Onyx Ranch**	**0.46**	**245**		Sg	16 23 08.1	-0.1
CCCA	**Chr Cany lake**	**0.47**	**141**		Pg	16 23 02.5	+0.3
CCCA	**Chr Cany lake**	**0.47**	**141**	IAML		16 23 10.2	
	comp=E,2µm,0.6s						
CCCA				IAML		16 23 10.3	
	comp=N,3µm,0.5s						
WBSM	**Bird Springs**	**0.49**	**224**		Pg	16 23 02.6	0.0
WHFM	**Hanning Flat**	**0.54**	**249**		Pg	16 23 03.5	-0.1
CWC	**Cottonwood Cre**	**0.62**	**332**	Pg	Pg	16 23 05.2	0.0
CWC				IAML		16 23 14.4	
	comp=E,619nm,0.2s						
CWC				IAML		16 23 14.5	
	comp=N,523nm,0.2s						
GRAC	**Grapevine Rang**	**1.14**	**15**		Pg	16 23 14.6	-0.5
GRAC	**Grapevine Rang**	**1.14**	**15**	IAML		16 23 19.5	
	comp=E,248nm,0.5s						
GRAC				IAML		16 23 20.4	
	comp=N,288nm,0.7s						
GMN	**Gold Mountain**	**1.46**	**15**		Pn	16 23 20.1	-0.5
CFSC	**Central Fire S**	**1.82**	**168**		Pn	16 23 22.4	-2.9
AFDM	**Forest Hills D**	**4.00**	**321**	IAML		16 24 50.2	
	comp=E,14nm,0.7s						
AFDM				IAML		16 24 59.0	
	comp=N,11nm,0.5s						
Y14A	**Wickenburg**	**4.34**	**115**	IAML		16 24 59.2	
	comp=E,8.8nm,1.0s						
Y14A				IAML		16 25 05.2	
	comp=N,9.3nm,1.0s						

*IDC **08** 16:24:41.6±1.2, 36.45N×141.38E, h0km, mb3.4/6, mbtmp3.4/8, ML3.2/2, Error ellipse: s-maj=26.3km s-min=22.9km az=80.0*
*JMA **08** 16:24:48.1±0.1, 36.5N±0.3×141.1E±0.8, h44km±1km, MV3.6/40, E OFF IBARAKI PREF*
JMA Felt II J1 at E OFF IBARAKI PREF .

ISC 08 16:24:46.4±1.8, 36.47N±0.05×141.15E±0.07, h29km±12km, n22, σ0s93/29, mb3.5/6, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.47**	**254**	*i* P	**Pn**	**16 24 57.8**	**+0.7**
JHYU				S	**Sn**	**16 25 04.3**	**-0.1**
JHO	**Hitachi**	**0.49**	**287**	⇓*i* P	**Pn**	**16 24 57.9**	**+0.5**
JHO				⇓S	**Sn**	**16 25 04.4**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.69**	**336**	⇓*i* P	**Pn**	**16 25 00.8**	**+0.5**
ONAJ				⇓S	**Sn**	**16 25 10.6**	**+0.5**
JIHU	**Itakohorinouch**	**0.71**	**225**	P	**Pn**	**16 25 01.8**	**+1.3**
JIHU				S	**Sn**	**16 25 11.4**	**+1.0**
JYT	**Yasato**	**0.81**	**253**	*i* P	**Pb**	**16 25 02.0**	**+0.2**
JYT				S	**Sb**	**16 25 11.5**	**-0.9**
JFK	**Kawauchi**	**0.92**	**346**	⇓*i* P	**Pn**	**16 25 04.0**	**+0.5**
JOTO	**OTAMA OYAMA**	**1.27**	**329**	*i* P	**Pb**	**16 25 10.0**	**+0.3**
JOTO				*e*S	**Sb**	**16 25 25.5**	**-0.1**
JAG	**Ashikaga**	**1.37**	**269**	*i* P	**Pn**	**16 25 10.1**	**+0.6**
JAG				S	**Sn**	**16 25 25.8**	**-0.9**
JMM	**Marumori**	**1.42**	**349**	*i* P	**Pn**	**16 25 11.5**	**+1.2**
JMM				S	**Sn**	**16 25 28.9**	**+0.8**
JFY	**Yanaizu**	**1.49**	**309**	P	**Pn**	**16 25 12.6**	**+1.4**
JKT	**Katashina**	**1.56**	**282**	*i* P	**Pn**	**16 25 13.4**	**+1.3**
JKT				S	**Sn**	**16 25 31.5**	**+0.1**
MJAR	**Matsushiro Arr**	**2.37**	**273**	Pn	**Pn**	**16 25 24.9**	**+1.6**
	0.6nm,0.3s,baz=101,slow=10,SNR=37						
MJAR				Sn	**Sb**	**16 25 55.8**	**-1.4**
	1.0nm,0.3s,baz=312,slow=24,SNR=2.8						
	7.5nm,0.5s						
ASAJ	**Asahikawa**	**7.72**	**8**	Pn	**Pn**	**16 26 36.9**	**+0.2**
	0.8nm,0.3s,baz=226,slow=14,SNR=11						
	3.1nm,0.4s						
H11S1	**WAKE ISLAND Hy**	**28.74**	**122**	T	T	17 01 14.0	
	baz=314,slow=76,SNR=6.8						
H11S3	**WAKE ISLAND Hy**	**28.74**	**122**	T	T	17 01 28.1	
	baz=314,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**28.75**	**122**	T	T	17 01 26.4	
	baz=314,slow=76,SNR=12						
ZALV	**Zalesovo Beam**	**42.14**	**313**	P	**P**	**16 32 37.3**	**+1.4**
	0.3nm,0.3s,baz=90,slow=7.2,SNR=1.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**44.24**	**303**	P	**P**	**16 32 52.7**	**-0.3**
	0.1nm,0.4s,baz=80,slow=9.5,SNR=2.1						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**46.18**	**308**	P	**P**	**16 33 08.4**	**+0.1**
	0.5nm,0.5s,baz=84,slow=7.9,SNR=7.0						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**50.09**	**32**	P	**P**	**16 33 36.7**	**-1.6**
	0.4nm,0.7s,baz=284,slow=6.0,SNR=4.2						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**56.47**	**188**	P	**P**	**16 34 25.1**	**-0.6**
	0.3nm,0.5s,baz=4.2,slow=6.9,SNR=5.1						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**60.20**	**188**	P	**P**	**16 34 51.9**	**+0.2**
	0.2nm,1.0s,baz=2.5,slow=7.0,SNR=1.3						
	0.2nm,1.0s						

*NEIC **08** 16:31:07.9±0.8, 35.753N±0.007×117.546W±0.003, h1km±1km, Error ellipse: s-maj=1.0km s-min=0.4km az=172.0*

PAS 08 16:31:08.8±0.5, 35.744N±0.006×117.57W±0.01, h7km±4km, ML3.0/18, ML2.8/68(NEIC), Error ellipse: s-maj=1.3km s-min=0.9km az=106.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.08**	**340**		Pg	16 31 10.9	+0.1
SRTC	**Snort**	**0.16**	**251**		Pg	16 31 12.5	+0.4
TOW	**Tower One**	**0.17**	**292**		Pg	16 31 12.8	+0.4
CCCA	**Chr Cany lake**	**0.27**	**143**	Pg	Pg	16 31 14.4	+0.2
CCCA				IAML		16 31 19.4	
	comp=N,1µm,0.2s						
CCCA				IAML		16 31 21.8	
	comp=E,1µm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.28**	**200**		Pg	16 31 14.1	-0.2
WVPM	**Volcano Peak E**	**0.29**	**315**		Sg	16 31 19.0	+0.5
WNMM	**Nine Mile Cany**	**0.29**	**290**		Pg	16 31 14.5	-0.1
WNMM					Sg	16 31 19.0	+0.5
MPMC	**Manual Prospec**	**0.32**	**11**	Pg	Pg	16 31 14.9	-0.3
WCSM	**Coso Springs S**	**0.33**	**330**		Pg	16 31 14.9	-0.3
WCSM					Sg	16 31 19.9	+0.3
WRVM	**Rose V. Centra**	**0.37**	**315**		Pg	16 31 15.9	-0.2
MFS	**McCloud Flat S**	**0.44**	**328**		Pg	16 31 17.2	-0.2
WBSM	**Bird Springs**	**0.51**	**246**		Sg	16 31 25.2	-0.2
DTP	**Desert Tortois**	**0.53**	**206**		Pg	16 31 18.5	-0.5
DTP					Sg	16 31 25.7	-0.2
QSM	**Queen of Sheba**	**0.61**	**68**		Pg	16 31 20.1	-0.5
QSM	**Queen of Sheba**	**0.61**	**68**		Sg	16 31 28.3	-0.1
CCAC	**Calif City Air**	**0.70**	**212**		Pg	16 31 21.8	-0.4
ISA	**Isabella, Lake**	**0.74**	**264**		Pg	16 31 22.4	-0.7
ISA				IAML		16 31 32.8	
	comp=N,398nm,0.3s						
ISA				IAML		16 31 33.2	
	comp=E,390nm,0.3s						
GSC	**Goldstone, Bar**	**0.76**	**125**		Pg	16 31 22.9	-0.5
GSC				IAML		16 31 33.6	
	comp=E,448nm,0.4s						
GSC				IAML		16 31 35.7	
	comp=N,338nm,0.5s						
WASM	**Alta Sierra Ca**	**0.81**	**270**		Pg	16 31 23.7	-0.6
CWC	**Cottonwood Cre**	**0.81**	**329**		Pg	16 31 23.9	-0.5
CWC				IAML		16 31 38.4	
	comp=E,176nm,0.3s						
CGO	**Cerro Gordo**	**0.83**	**347**		Pg	16 31 24.0	-0.7
GWY	**Greenwater Val**	**0.85**	**58**	Pg	Pg	16 31 24.5	-0.7
GWY				IAML		16 31 39.0	
	comp=N,273nm,0.5s						
GWY				IAML		16 31 39.1	
	comp=E,421nm,0.4s						
TPO	**Tropico Hills**	**1.02**	**212**		Pg	16 31 27.7	-0.7
TPO				IAML		16 31 44.3	
	comp=N,392nm,0.9s						
TPO				IAML		16 31 47.2	
	comp=E,372nm,0.6s						
SPG2	**Springville 2**	**1.08**	**295**		Pg	16 31 28.3	-1.2
GRAC	**Grapevine Rang**	**1.26**	**7**		Pn	16 31 31.9	-1.0
GRAC				IAML		16 31 50.3	
	comp=E,224nm,0.3s						
GRAC				IAML		16 31 56.3	
	comp=N,217nm,0.7s						
WCT	**Wildcat Mounta**	**1.29**	**36**		Pn	16 31 31.7	-1.7
WCT				IAML		16 31 51.6	
	comp=E,212nm,0.4s						
WCT				IAML		16 31 51.7	
	comp=N,164nm,0.4s						
TUQ	**Turquoise Moun**	**1.37**	**102**		Pn	16 31 33.6	-0.9
OSI	**Osito Audit: C**	**1.47**	**220**		Pn	16 31 35.3	-0.5
OSI				IAML		16 31 58.5	
	comp=N,121nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.50**	**183**		Pn	16 31 35.0	-1.3
BFSC				IAML		16 31 59.7	
	comp=E,80nm,0.5s						
BFSC				IAML		16 32 01.8	
	comp=N,74nm,0.6s						
MWC	**Mount Wilson**	**1.57**	**195**		Pn	16 31 36.0	-1.3
MWC				IAML		16 32 00.2	
	comp=E,185nm,0.4s						
GMN	**Gold Mountain**	**1.57**	**9**		Pn	16 31 35.9	-1.5
GMN				IAML		16 31 59.9	
	comp=N,71nm,0.5s						
GMN				IAML		16 32 00.5	
	comp=E,66nm,0.5s						
TPNV	**Topopah Spring**	**1.60**	**41**		Pn	16 31 36.2	-1.5
TPNV				IAML		16 32 01.7	
	comp=E,108nm,0.7s						
TPNV				IAML		16 32 02.3	
	comp=E,149nm,0.6s						
DSP	**Deep Springs**	**1.66**	**349**		Pn	16 31 37.3	-1.0
MZP	**Montezuma Peak**	**1.96**	**4**		Pn	16 31 41.5	-1.2
SHPR	**Sheep Range**	**2.09**	**68**		Pn	16 31 43.3	-1.1
ELS	**Elsinore Mount**	**2.09**	**177**	IAML		16 32 56.3	
	comp=E,88nm,0.2s						
ELS				IAML		16 32 56.3	
	comp=N,51nm,0.1s						
V12A	**Nelson**	**2.21**	**90**	IAML		16 32 22.8	
	comp=E,28nm,0.5s						
TPH	**Tonopah**	**2.34**	**7**	IAML		16 32 27.5	
	comp=E,78nm,1.0s						
BORC	**Borrego Spring**	**2.65**	**159**	IAML		16 33 21.2	
	comp=N,40nm,0.3s						
BORC				IAML		16 33 21.5	
	comp=E,34nm,0.3s						

*NOU **08** 16:36:03.1, 36.27S×179.20W, h128km, MLv4.1/8, East of North Island, N.Z.*
*WEL **08** 16:36:04.0±1.0, 36.5±7.7×18.0W±., h12km, M3.6/11, ML3.9/15, MLv3.6/11, Error ellipse: s-maj=11.4km s-min=7.1km az=123.5, confirmed*

ISC 08 16:36:03.1±3.7, 36.1S±0.2×179.3W±0.2, h129km±29km, n29, σ1s05/46, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.39**	**233**	P	**Pn**	**16 36 41.0**	**-0.8**
MXZ	**Matakaoa Point**	**2.39**	**233**	P	**Pn**	**16 36 40.6**	**-1.1**
MXZ				S	**Sn**	**16 37 09.6**	**-2.0**
WMGZ	**Waiomatatini S**	**2.49**	**227**	P	**Pn**	**16 36 43.3**	**+0.3**
WMGZ				S	**Sn**	**16 37 14.2**	**+0.4**
PKGZ	**Pakihiroa**	**2.72**	**230**	P	**Pn**	**16 36 46.1**	**+0.1**
PKGZ				S	**Sn**	**16 37 19.1**	**0.0**
PUZ	**Puketiti**	**2.75**	**225**	P	**Pn**	**16 36 46.4**	**0.0**
PUZ				S	**Sn**	**16 37 19.0**	**-0.8**
HAZ	**Te Kaha**	**2.84**	**234**	P	**Pn**	**16 36 47.3**	**-0.2**
HAZ				S	**Sn**	**16 37 22.4**	**+0.5**
TWGZ	**Tauwhareparae**	**2.98**	**226**	P	**Pn**	**16 36 49.8**	**+0.4**
TWGZ				S	**Sn**	**16 37 26.5**	**+1.4**
RUGZ	**Raukumara Rang**	**3.03**	**232**	P	**Pn**	**16 36 50.7**	**+0.5**
RUGZ				S	**Sn**	**16 37 27.7**	**+1.3**
CNGZ	**Carnagh Statio**	**3.08**	**220**	P	**Pn**	**16 36 51.3**	**+0.8**
CNGZ				S	**Sn**	**16 37 30.8**	**+3.5**
TKGZ	**Te Karaka**	**3.24**	**224**	P	**Pn**	**16 36 53.3**	**+0.7**
TKGZ				S	**Sn**	**16 37 30.8**	**-0.2**
MWZ	**Matawai**	**3.35**	**228**	P	**Pn**	**16 36 54.5**	**+0.2**
MWZ				S	**Sn**	**16 37 33.7**	**-0.2**
RIGZ	**Rimuhau**	**3.47**	**221**	P	**Pn**	**16 36 56.5**	**+0.7**
RIGZ				S	**Sn**	**16 37 36.4**	**-0.2**
URZ	**Urewera**	**3.57**	**232**	P	**Pn**	**16 36 57.5**	**+0.5**
URZ	**Urewera**	**3.57**	**232**	S	**Sn**	**16 37 39.2**	**+0.4**
URZ	**Urewera**	**3.57**	**232**	P	**Pn**	**16 36 57.2**	**+0.2**
URZ				S	**Sn**	**16 37 38.8**	**+0.1**
MARZ	**Manawahe**	**3.71**	**239**	P	**Pn**	**16 36 59.7**	**+0.7**
MARZ				S	**Sn**	**16 37 41.8**	**-0.5**
MHGZ	**Mahia Peninsul**	**3.74**	**216**	P	**Pn**	**16 36 59.5**	**+0.2**
MHGZ				S	**Sn**	**16 37 43.8**	**+0.9**
SNGZ	**Shannon Statio**	**3.76**	**224**	P	**Pn**	**16 37 00.6**	**+1.0**
SNGZ				S	**Sn**	**16 37 43.8**	**+0.3**
MUGZ	**Murupara**	**3.91**	**232**	P	**Pn**	**16 37 01.7**	**+0.1**
MUGZ				S	**Sn**	**16 37 45.5**	**-1.5**
KUZ	**Kuaotunu**	**4.06**	**260**	P	**Pn**	**16 37 03.6**	**0.0**
KUZ	**Kuaotunu**	**4.06**	**260**	P	**Pn**	**16 37 03.0**	**-0.6**
KUZ				S	**Sn**	**16 37 48.5**	**-1.9**
BKZ	**Black Stump Fm**	**4.51**	**227**	P	**Pn**	**16 37 09.8**	**+0.3**
BKZ	**Black Stump Fm**	**4.51**	**227**	S	**Sn**	**16 38 01.6**	**+0.4**
MKAZ	**Moumakai**	**4.56**	**256**	P	**Pn**	**16 37 10.5**	**+0.3**
ETAZ	**East Tamaki Re**	**4.72**	**258**	P	**Pn**	**16 37 14.0**	**+1.7**
NGZ	**Ngauruhoe**	**5.06**	**232**	P	**Pn**	**16 37 17.2**	**+0.2**
BFZ	**Birch Farm**	**5.73**	**216**	P	**Pn**	**16 37 25.3**	**-0.6**
	80nm,1.7s						
BFZ	**Birch Farm**	**5.73**	**216**	S	**Sn**	**16 38 28.3**	**-2.2**
	80nm,1.7s						
CTZ	**Chatham Island**	**7.87**	**166**	S	**Sn**	**16 39 20.1**	**-1.9**

IDC 08 16:36:55.1±2.5, 0.99N×126.32E, h0km, mb3.0/3, mbtmp3.0/3, Error ellipse: s-maj=223.9km s-min=29.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.24**	**160**	P	P	16 41 53.5	-0.2
	0.3nm,0.8s,baz=338,slow=10,SNR=2.0						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**25.59**	**164**	P	P	16 42 26.4	+0.1
	0.2nm,0.7s,baz=343,slow=8.7,SNR=4.7						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**59.58**	**326**	P	P	16 47 00.7	0.0
	0.2nm,0.7s,baz=120,slow=8.5,SNR=2.6						
	0.2nm,0.7s						

IDC 08 16:37:57.7±2.2, 0.61N×126.74E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=169.0km s-min=28.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.74**	**160**	P	P	16 42 50.5	-0.4
	0.3nm,0.4s,baz=339,slow=11,SNR=6.0						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**25.11**	**164**	P	P	16 43 24.8	+0.3
	0.4nm,0.8s,baz=346,slow=12,SNR=8.0						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**60.12**	**326**	P	P	16 48 07.0	-0.1
	0.2nm,0.3s,baz=116,slow=6.6,SNR=1.3						
	0.2nm,0.3s						

IDC 08 16:38:16.2±2.1, 0.62N×126.36E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=179.5km s-min=27.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.88**	**159**	P	P	16 43 10.0	-0.9
	0.8nm,0.6s,baz=338,slow=10,SNR=6.1						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**25.22**	**164**	P	P	16 43 44.5	+0.6
	1.2nm,0.9s,baz=344,slow=11,SNR=9.7						
	1.2nm,0.9s						
MKAR	**Makanchi Array**	**59.91**	**326**	P	P	16 48 23.9	-0.1
	0.2nm,0.5s,baz=123,slow=6.6,SNR=4.2						
	0.2nm,0.5s						

*IDC **08** 16:39:02.6±1.7, 0.60N×126.32E, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=170.2km s-min=21.1km az=66.0*
*NEIC **08** 16:39:06.8±1.3, 0.7N±0.1×126.5E±0.1, h35km±2km, mb4.0/12, Error ellipse: s-maj=23.8km s-min=11.1km

*NEIC **08** 16:39:20.9±1.0, 44.05N±0.04×105.43W±0.06, h0km±1km, ML2.9/18, Error ellipse: s-maj=9.9km s-min=2.5km az=312.0*
*IDC **08** 16:39:22.6±1.7, 44.27N×105.78W, h0km, mbtmp3.2/2, ML2.6/2, Error ellipse: s-maj=57.1km s-min=9.8km az=145.0*

ISC 08 16:39:21.2±1.1, 44.02N±0.07×105.31W±0.07, h0km, n15, σ0.64/16, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.92**	**83**	Pg	**Pb**	**16 39 40.7**	**+0.5**
RSSD				Sg	**Sn**	**16 39 55.2**	**-0.5**
K22A	**Casper**	**1.63**	**214**		**Sb**	**16 40 13.1**	**-0.3**
K22A				IAML		16 40 16.4	
	138nm,0.2s						
LAO	**LASA Array**	**2.75**	**347**	Pn	**Pn**	**16 40 06.2**	**-0.4**
LAO				IAML		16 41 01.5	
	92nm,0.9s						
RLMT	**Red Lodge**	**3.04**	**293**	Pn	**Pn**	**16 40 10.7**	**-0.1**
RLMT				IAML		16 41 08.4	
	34nm,1.7s						
RLMT				IAML		16 41 09.9	
	34nm,0.9s						
PD31	**Pinedale Array**	**3.34**	**250**		**Pn**	**16 40 15.7**	**+0.8**
PDAR	**Pinedale Array**	**3.34**	**250**	Pn	**Pn**	**16 40 15.8**	**+0.9**
PDAR	**Pinedale Array**	**3.34**	**250**	Pn	**Pn**	**16 40 16.1**	**+1.2**
	0.4nm,0.3s,baz=69,slow=15,SNR=23						
PDAR				Lg	Lg	16 41 00.9	
	3.2nm,0.3s,baz=61,slow=32,SNR=18						
	1.1nm,0.3s						
BW06	**Boulder Array**	**3.34**	**250**		**Pn**	**16 40 13.9**	**-1.0**
BW06				IAML		16 41 13.9	
	22nm,1.8s						
YNE	**Yellowstone No**	**3.51**	**288**	Pn	**Pn**	**16 40 16.8**	**-0.4**
YNE				IAML		16 41 21.6	
	comp=E,22nm,1.5s						
YNE				IAML		16 41 23.7	
	comp=N,24nm,0.9s						
YMP	**Mirror Lake PI**	**3.55**	**283**	Pn	**Pn**	**16 40 17.4**	**-0.4**
YMP				IAML		16 41 17.0	
	comp=N,31nm,1.9s						
YMP				IAML		16 41 32.2	
	comp=E,33nm,1.7s						
GCMT	**Greycliff**	**3.57**	**301**	Pn	**Pn**	**16 40 18.1**	**+0.1**
EGMT	**Eagleton**	**5.07**	**324**	Pn	**Pn**	**16 40 38.8**	**+0.4**
LYMT	**Lyon Mountain**	**5.73**	**303**	Pn	**Pn**	**16 40 47.9**	**+0.1**
ULM	**Lac du Bonnet**	**8.95**	**43**	Pn	**Pn**	**16 41 31.6**	**-0.1**
	comp=E,0.2nm,0.3s,baz=228,slow=14,SNR=1.7						
ULM				Lg	Lg	16 44 03.2	
	comp=E,0.1nm,0.3s,baz=291,slow=2.0,SNR=3.1						
	comp=E,3.0nm,0.9s						
I56US	**NEWPORT INFRAS**	**9.24**	**302**	I	I	17 34 40.0	
	baz=114,slow=310,SNR=2.9						

IDC 08 16:42:00.6±2.2, 0.67N×126.45E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=182.9km s-min=29.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.90**	**160**	P	P	16 46 54.8	-0.7
	0.4nm,0.5s,baz=338,slow=11,SNR=3.1						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**25.25**	**164**	P	P	16 47 29.1	+0.5
	0.2nm,0.4s,baz=344,slow=12,SNR=7.4						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**59.91**	**326**	P	P	16 52 08.4	-0.1
	0.2nm,0.4s,baz=115,slow=7.7,SNR=2.9						
	0.2nm,0.4s						

*NEIC **08** 16:41:50.7±1.7, 29.81N±0.05×49.9E±0.2, h10km±2km, mb4.1/6, Error ellipse: s-maj=32.0km s-min=8.8km az=92.0*
*IDC **08** 16:41:50.4±27.0, 29.82N×50.09E, h0km, mb3.8/3, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=505.0km s-min=122.8km az=1.0*
*ISN **08** 16:42:09.5±1.2, 31.81N×49.62E, h22km±65km, ML3.1*
*TEH **08** 16:42:11.5, 31.89N×49.50E, h8km±30km*
*OMAN **08** 16:42:19.1±1.2, 31.23N×49.74E, h10km, Error ellipse: s-maj=10.6km s-min=5.8km az=3.0*

ISC 08 16:42:10.3±0.5, 31.86N±0.03×49.51E±0.03, h10km, n63, σ2.84/83, mb4.0/5, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.91**	**235**	Pg	**Pb**	**16 42 29.6**	**+1.4**
AHWZ				Sg	**Sb**	**16 42 42.7**	**+2.4**
JHBN	**Jahan bin**	**1.05**	**69**	Pg	**Pg**	**16 42 31.5**	**+1.0**
ZNGN	**Zangian**	**1.17**	**77**	Pg	**Pb**	**16 42 34.1**	**+1.3**
ABEH	**Behbahan**	**1.41**	**153**	Pg	**Pg**	**16 42 39.5**	**+2.1**
ABEH				Sg	**Sg**	**16 42 59.6**	**+4.0**
IPIR	**Pirpir**	**1.43**	**55**	Pg	**Pg**	**16 42 38.8**	**+1.0**
IBRJ	**Brojen**	**1.49**	**88**	Pg	**Pg**	**16 42 40.3**	**+1.4**
KLNJ	**Kolanjah**	**1.97**	**115**	Pn	**Pb**	**16 42 47.6**	**+1.1**
IKFM	**Kafar-mosalman**	**2.17**	**320**	Pn	**Pb**	**16 42 49.5**	**-0.3**
IGAR	**Gharneh**	**2.21**	**75**	Pn	**Pb**	**16 42 51.2**	**+0.6**
IDOB	**Doab**	**2.23**	**330**	Pn	**Pb**	**16 42 50.2**	**-0.6**
IKLH	**Kolahrood**	**2.27**	**50**	Pn	**Pb**	**16 42 52.2**	**+0.6**
IRAM	**Ramesheh**	**2.44**	**90**	Pn	**Pb**	**16 42 54.3**	**-0.2**
IZEF	**Zefreh**	**2.60**	**66**	Pn	**Pb**	**16 42 56.5**	**-0.6**
RAFI	**Al-Rafai**	**2.90**	**268**	*e*Pn	**Pb**	**16 43 01.0**	**-1.0**
RAFI				*e*Sn	**Sb**	**16 43 37.0**	**-0.5**
IBZA	**Bozab**	**2.95**	**332**	Pn	**Pn**	**16 43 00.2**	**+2.8**
HAGD	**Aghdareh**	**2.97**	**354**	Pn	**Pn**	**16 43 00.7**	**+3.0**
KRSH	**Karshahi**	**3.05**	**46**	Pn	**Pn**	**16 43 02.2**	**+3.5**
KBD	**Kabd**	**3.10**	**211**	P	**Pn**	**16 43 01.9**	**+2.6**
KBD				S	**Sn**	**16 43 37.8**	**+1.4**
IBDR	**Badra**	**3.27**	**293**	*e*Pn	**Pn**	**16 43 05.0**	**+3.4**
IBDR				*e*Sn	**Sb**	**16 43 46.0**	**-2.4**
IBDR				AML	AML	16 43 58.7	
	comp=N,57nm,0.3s						
IBDR				AML	AML	16 44 00.9	
	comp=E,98nm,0.4s						
SNQR	**Sonqor, Kerman**	**3.38**	**333**	Pn	**Pn**	**16 43 06.5**	**+3.1**
ISFB	**Sefidab**	**3.38**	**42**	Pn	**Pn**	**16 43 06.6**	**+3.4**
ISAD	**Sadrabad**	**3.55**	**88**	Pn	**Pn**	**16 43 09.8**	**+4.1**
ILIN	**Lien**	**3.72**	**326**	Pn	**Pn**	**16 43 10.5**	**+2.5**
GLG1	**Gilan-e-Gharb**	**3.77**	**308**	Pn	**Pn**	**16 43 11.0**	**+2.4**
ANAR	**Anarak**	**3.80**	**68**	Pn	**Pn**	**16 43 12.8**	**+3.7**
QABG	**Abgarm-Qazvin**	**3.84**	**1**	Pn	**Pn**	**16 43 12.9**	**+3.3**
IDHR	**Dehrash**	**3.85**	**318**	Pn	**Pn**	**16 43 11.8**	**+2.0**
IDMV	**Damavand**	**4.26**	**29**	Pn	**Pn**	**16 43 18.3**	**+2.8**
IMEH	**Mehriz**	**4.38**	**95**	Pn	**Pn**	**16 43 20.8**	**+3.7**
ILAS	**Lasjerd**	**4.54**	**38**	Pn	**Pn**	**16 43 22.6**	**+3.3**
BHD	**Baghdad**	**4.55**	**289**	*e*Pn	**Pn**	**16 43 23.0**	**+3.7**
BHD				*e*Sn	**Sn**	**16 44 17.0**	**+4.8**
IFIR	**Firoozkooh**	**4.64**	**35**	Pn	**Pn**	**16 43 24.0**	**+3.3**
IKRK	**Kirkuk**	**5.57**	**311**	*e*Pn	**Pn**	**16 43 37.0**	**+3.7**
IKRK				*e*Sn	**Sn**	**16 44 42.0**	**+4.6**
SAKB	**Bahrain**	**5.93**	**171**	P	**Pn**	**16 43 39.0**	**+0.8**
SHMA	**Al-Shehemyia**	**6.12**	**168**	P	**Pn**	**16 43 41.6**	**+0.9**
TPRV	**Parvadeh(Tabas**	**6.18**	**77**	Pn	**Pn**	**16 43 45.2**	**+3.5**
TRNA	**Turayna**	**7.25**	**168**	P	**Pn**	**16 43 56.9**	**+0.5**
TRNA				S	**Sn**	**16 45 16.1**	**-2.8**
SHME	**Shamm**	**8.20**	**133**	P	**Pn**	**16 44 11.2**	**+1.8**
SHME				S	**Sn**	**16 45 37.9**	**-4.2**
GHWR	**Ruwais**	**8.41**	**158**	P	**Pn**	**16 44 13.8**	**+1.5**
GHWR				S	**Sn**	**16 45 42.7**	**-4.6**
MASF	**Masafi**	**8.71**	**136**	P	**Pn**	**16 44 17.8**	**+1.3**
MASF				S	**Sn**	**16 45 49.9**	**-4.9**
ASUD	**Al Ashush, Dub**	**8.85**	**143**	P	**Pn**	**16 44 19.9**	**+1.7**
ASUD				S	**Sn**	**16 45 54.6**	**-3.3**
MDH	**Madha**	**8.85**	**136**	P	**Pn**	**16 44 18.9**	**+0.6**
MDH				S	**Sn**	**16 45 52.9**	**-5.2**
RAYN	**Ar Rayn**	**9.03**	**204**	P	**Pn**	**16 44 20.4**	**-0.4**
RAYN				S	**Sn**	**16 45 58.3**	**-4.4**
UOSS	**Minazif**	**9.06**	**138**	P	**Pn**	**16 44 23.1**	**+1.8**
UOSS				S	**Sn**	**16 45 57.1**	**-6.3**
HATD	**Hatta, Dubai**	**9.12**	**139**	P	**Pn**	**16 44 22.8**	**+0.8**
HATD				S	**Sn**	**16 46 00.1**	**-4.5**
ASHO	**Ashiyiah**	**9.19**	**139**	P	**Pn**	**16 44 23.8**	**+0.9**
ASHO				S	**Sn**	**16 46 00.9**	**-5.5**
JASK	**Jask - Hormozg**	**9.45**	**127**	P	**Pn**	**16 44 27.7**	**+1.2**
JASK				S	**Sn**	**16 46 08.4**	**-4.4**
MZR	**Muzera**	**9.50**	**157**	P	**Pn**	**16 44 28.2**	**+0.9**
MZR				S	**Sn**	**16 46 08.8**	**-5.3**
ALNE	**Al Ain**	**9.53**	**143**	P	**Pn**	**16 44 28.4**	**+0.8**
ALNE				S	**Sn**	**16 46 10.1**	**-4.7**
UMZA	**Um Al Zommool**	**10.40**	**150**	P	**Pn**	**16 44 39.9**	**+0.3**
UMZA				S	Sn	16 46 29.2	-7.0
ARQ	**Araqi**	**10.52**	**142**	P	**Pn**	**16 44 41.9**	**+0.7**
ARQ				S	**Sn**	**16 46 35.2**	**-3.9**
BR131	**Keskin Array S**	**15.07**	**306**	Pn	Pn	**16 45 42.9**	**-0.5**
BRTR	**Keskin Array B**	**15.07**	**306**	Pn	**P**	**16 45 48.2**	**-0.6**
	comp=E,0.2nm,0.3s,baz=124,slow=13,SNR=7.3						
	comp=E,1.3nm,0.6s						
AB31	**Akbulak array**	**19.07**	**21**	P	**P**	**16 46 31.8**	**-1.0**
AB31				IAmb	IAmb	16 46 37.3	
	comp=Z,2.7nm,1.1s						
ABKAR	**Akbulak array**	**19.07**	**21**	P	**P**	**16 46 31.5**	**-1.2**
IDI	**Anoyia**	**20.78**	**286**	P	P	16 46 42.0	-10
IDI				IAmb	IAmb	16 47 11.5	
	comp=Z,31nm,1.3s						
AKASG	**Malin Array Be**	**24.08**	**327**	P	**P**	**16 47 24.8**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=134,slow=7.5,SNR=2.9						
	comp=Z,0.1nm,0.3s						
AKBB	**Malin Array Si**	**24.08**	**327**	P	**P**	**16 47 24.4**	**-1.4**
AKBB				IAmb	IAmb	16 47 27.9	
	comp=Z,6.0nm,1.4s						
KIEV	**Kiev**	**24.09**	**327**	P	**P**	**16 47 24.2**	**-1.6**
KIEV				IAmb	IAmb	16 47 27.9	
	comp=Z,5.3nm,1.4s						
TIR	**Tirane**	**25.51**	**300**	P	**P**	**16 47 35.0**	**-3.8**
FINES	**FINESS Array B**	**33.30**	**340**	P	**P**	**16 48 47.8**	**0.0**
FINES	**FINESS Array B**	**33.30**	**340**	P	**P**	**16 48 47.2**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=147,slow=11,SNR=7.7						
	comp=Z,1.5nm,0.8s						
HFS	**Hagfors**	**36.86**	**331**	P	**P**	**16 49 17.6**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=136,slow=9.1,SNR=18						
	comp=Z,1.1nm,0.3s						

IDC 08 16:42:11.1±2.0, 0.55N×126.28E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=173.9km s-min=25.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.84**	**159**	P	P	16 47 05.0	-0.5
	0.5nm,0.5s,baz=338,slow=11,SNR=4.8						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**25.18**	**163**	P	P	16 47 38.9	+0.3
	1.3nm,1.0s,baz=340,slow=9.3,SNR=8.3						
	1.3nm,1.0s						
MKAR	**Makanchi Array**	**59.92**	**327**	P	P	16 52 19.1	-0.1
	0.2nm,0.5s,baz=113,slow=2.2,SNR=6.3						
	0.2nm,0.5s						

*IDC **08** 16:42:18.5±0.9, 0.48N×126.11E, h0km, mb3.9/7, mbtmp3.9/8, ML3.3/1, Error ellipse: s-maj=54.0km s-min=17.1km az=75.0*
*DJA **08** 16:42:22.2±0.3, 1°N±3°×12°6E±°, h10km, M3.7/11, MLv3.7/11*
*NEIC **08** 16:42:24.1±1.6, 0.53N±0.06×126.49E±0.04, h35km±2km, mb4.1/14, Error ellipse: s-maj=11.6km s-min=4.2km az=212.0*

ISC 08 16:42:24.5±0.6, 0.50N±0.06×126.40E±0.05, h47km, n36, σ1.28/37, mb4.0/14, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.00**	**75**		**Pn**	**16 42 38.8**	**-3.4**
TNTI	**Ternate**	**1.00**	**75**	P	Pn	**16 42 40.0**	**-2.2**
TNTI				S	**Sn**	**16 42 57.3**	**+2.1**
KMSI	**Cibinong**	**2.42**	**272**	P	**Pn**	**16 42 59.7**	**-2.0**
SANI	**Sanana**	**2.57**	**189**	P	**Pn**	**16 43 02.0**	**-1.7**
NLAI	**Namlea**	**3.78**	**169**	P	**Pn**	**16 43 21.4**	**+1.0**
LUWI	**Luwuk**	**3.94**	**247**	P	**Pn**	**16 43 20.8**	**-1.8**
TOLI2	**Tolitoli**	**5.65**	**276**	Pn	**Pn**	**16 43 45.6**	**-0.5**
DAV	**Davao City (W)**	**6.57**	**353**	Pn	**Pn**	**16 43 57.1**	**-1.6**
FAKI	**Fak Fak**	**6.76**	**120**	Pn	**Pn**	**16 43 59.5**	**-1.8**
SOEI	**Soe**	**10.41**	**192**	Pn	**Pn**	**16 44 50.4**	**-1.1**
KKM	**Kota Kinabalu**	**11.56**	**299**	Pn	**Pn**	**16 45 06.0**	**-1.1**
KSM	**Kuching**	**16.12**	**274**	P	**P**	**16 46 10.8**	**+0.1**
KSM				IAmb	IAmb	16 46 16.3	
	comp=Z,14nm,1.0s						
KNRA	**Kununurra**	**16.25**	**172**	Pn	**Pn**	**16 46 09.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**18.50**	**182**	P	**Pn**	**16 46 36.5**	**-1.0**
FITZ	**Fitzroy Crossi**	**18.50**	**182**	P	**P**	**16 46 35.8**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=10,slow=11,SNR=2.0						
	comp=Z,1.9nm,0.8s						
WB0	**Warramunga Arr**	**21.62**	**159**	P	**P**	**16 47 10.1**	**-0.8**
WB0				IAmb	IAmb	16 47 30.5	
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**21.75**	**159**	P	**P**	**16 47 11.9**	**-0.4**
WRAB				IAmb	IAmb	16 47 35.3	
	comp=Z,5.1nm,0.8s						
WRA	**Warramunga Arr**	**21.76**	**159**	P	**P**	**16 47 12.0**	**-0.4**
	comp=Z,2.4nm,0.5s,baz=335,slow=11,SNR=20						
	comp=Z,2.4nm,0.5s						
WR8	**Warramunga Arr**	**21.83**	**159**		**P**	**16 47 13.0**	**-0.1**
WR8				IAmb	IAmb	16 47 24.6	
	comp=Z,6.7nm,1.0s						
WR0	**Warramunga Arr**	**21.85**	**159**	P	**P**	**16 47 13.2**	**-0.1**
WR0				IAmb	IAmb	16 47 24.0	
	comp=Z,14nm,1.4s						
AS31	**Alice Springs**	**25.11**	**164**	P	**P**	**16 47 46.4**	**+1.2**
ASAR	**Alice Springs**	**25.11**	**164**	P	**P**	**16 47 46.4**	**+1.2**
	comp=Z,2.0nm,0.5s,baz=343,slow=11,SNR=28						
	comp=Z,2.0nm,0.5s						
KULM	**Kulim**	**26.15**	**281**	P	**P**	**16 47 55.6**	**+0.9**
KULM				IAmb	IAmb	16 48 27.5	
	comp=Z,15nm,1.2s						
FORT	**Forrest**	**31.15**	**177**	P	**P**	**16 48 39.3**	**+0.3**
FORT				IAmb	IAmb	16 48 54.3	
	comp=Z,3.8nm,0.9s						
STKA	**Stephens Creek**	**35.27**	**157**	P	**P**	**16 49 15.3**	**+0.3**
KSRS	**Korea Array**	**36.79**	**2**	P	**P**	**16 49 28.9**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=173,slow=10,SNR=4.2						
	comp=Z,0.5nm,0.8s						
ARMA	**Armidale**	**39.01**	**144**	P	**P**	**16 49 46.9**	**0.0**
USRK	**Ussuriysk Ar.**	**43.79**	**6**	P	**P**	**16 50 26.6**	**+0.9**
PETK	**Petropavlovsk-**	**58.53**	**22**	P	**P**	**16 52 16.7**	**+0.6**
PETK	**Petropavlovsk-**	**58.53**	**22**	P	**P**	**16 52 17.0**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=150,slow=2.4,SNR=5.2						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**60.02**	**326**	P	**P**	**16 52 26.4**	**-0.2**
MKAR	**Makanchi Array**	**60.02**	**326**	P	**P**	**16 52 26.0**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=119,slow=8.0,SNR=11						
	comp=Z,0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**63.31**	**334**	P	**P**	**16 52 49.4**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=134,slow=4.2,SNR=1.9						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**64.28**	**328**	P	**P**	**16 52 54.0**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=130,slow=6.2,SNR=8.5						
	comp=Z,1.1nm,0.6s						
CASY	**Casey**	**67.60**	**187**	P	**P**	**16 53 16.9**	**+0.9**
C18K	**Utukok River**	**83.17**	**21**	P	**P**	**16 54 46.9**	**+1.4**
C18K				IAmb	IAmb	16 54 53.4	
	comp=Z,1.2nm,0.9s						

IDC 08 16:46:49.0±2.0, 0.54N×126.40E, h0km, mb3.4/3, mbtmp3.4/3, MS3.3/1, Error ellipse: s-maj=169.3km s-min=26.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.80**	**160**	P	P	16 51 42.4	-0.4
	0.8nm,0.5s,baz=338,slow=11,SNR=11						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**25.15**	**164**	P	P	16 52 16.4	+0.3
	0.6nm,0.6s,baz=344,slow=12,SNR=19						
	0.6nm,0.6s						
SONM	**Songino Array**	**50.21**	**343**	LR	LR	17 18 13.5	
	comp=Z,32nm,19.6s,baz=196,slow=38						
MKAR	**Makanchi Array**	**59.99**	**326**	P	P	16 56 57.4	-0.1
	0.2nm,0.4s,baz=124,slow=7.4,SNR=4.8						
	0.2nm,0.4s						

IDC 08 16:52:59.4±2.3, 0.86N×126.64E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=186.8km s-min=28.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.01**	**160**	P	P	16 57 54.3	-1.3
	0.3nm,0.5s,baz=339,slow=11,SNR=5.1						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**25.39**	**164**	P	P	16 58 29.5	+0.8
	0.1nm,0.4s,baz=347,slow=8.1,SNR=10						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**59.86**	**326**	P	P	17 03 06.8	-0.1
	0.2nm,0.7s,baz=123,slow=4.3,SNR=1.8						
	0.2nm,0.7s						

IDC 08 16:55:41.1±1.6, 0.38N×125.71E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=182.9km s-min=21.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.90**	**158**	P	P	17 00 35.2	-0.8
	1.0nm,0.6s,baz=336,slow=11,SNR=11						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**25.19**	**162**	P	P	17 01 09.2	+0.5
	0.9nm,0.7s,baz=344,slow=11,SNR=14						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**59.75**	**327**	P	P	17 05 47.6	-0.3
	0.4nm,0.4s,baz=122,slow=7.6,SNR=10						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.02**	**329**	P	P	17 06 16.8	+0.3
	1.7nm,0.3s,baz=134,slow=6.2,SNR=1.5						
	1.7nm,0.3s						

IDC 08 17:01:55.9±2.1, 0.79N×126.64E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=170.8km s-min=26.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.94**	**160**	P	P	17 06 50.6	-0.6
	0.5nm,0.6s,baz=339,slow=11,SNR=7.5						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**25.31**	**164**	P	P	17 07 24.9	+0.4
	0.4nm,0.8s,baz=346,slow=12,SNR=13						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**59.92**	**326**	P	P	17 12 03.8	-0.1
	0.2nm,0.4s,baz=122,slow=7.7,SNR=5.2						
	0.2nm,0.4s						

*TXNET **08** 17:02:56.0, 32.6N±0.6×97.2W±0.5, h3km±1km, ML2.8/8, Error ellipse: s-maj=0.9km s-min=0.7km az=173.4, final*
*NEIC **08** 17:02:56.6±0.4, 32.540N±0.007×97.22W±0.01, h5km±1km, mb_Lg2.5/31, ML2.3/8, ML2.4/18, Error ellipse: s-maj=2.6km s-min=1.7km az=26.0*

NEIC 08 17:02:56.0±1.4, 32.564N±0.008×97.21W±0.01, h3km±4km, 3C, Error ellipse: s-maj=1.6km s-min=1.1km az=75.0, Central Texas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FW12	**Venus**	**0.09**	**140**		Pg	17 02 57.7	0.0
FW12					Sg	17 02 59.1	+0.2
FW12	**Venus**	**0.09**	**140**	⇑P	Pg	17 02 57.7	0.0
FW12				S	Sg	17 02 59.1	+0.2
FW12	**Venus**	**0.09**	**140**	P	Pg	17 02 57.8	0.0
FW14	**Alvarado**	**0.17**	**174**	Pg	Pg	17 02 59.2	-0.1
FW14				Sg	Sg	17 03 01.7	+0.2
FW14	**Alvarado**	**0.17**	**174**	P	Pg	17 02 59.2	0.0
FW14				S	Sg	17 03 01.8	+0.3
FW14	**Alvarado**	**0.17**	**174**	P	Pg	17 02 59.4	+0.1
FW15	**Texas Christia**	**0.19**	**317**		Pg	17 03 00.5	+0.7
FW15					Sg	17 03 03.6	+1.3
FW15	**Texas Christia**	**0.19**	**317**	P	Pg	17 03 00.5	+0.7
FW15				S	Sg	17 03 03.6	+1.3
FW15	**Texas Christia**	**0.19**	**317**	P	Pg	17 03 00.5	+0.7
FW16	**Waxahatchie**	**0.28**	**107**	Pg	Pg	17 03 01.5	+0.1
FW16				Sg	Sg	17 03 05.7	+0.6
FW16	**Waxahatchie**	**0.28**	**107**	⇑P	Pg	17 03 01.5	+0.1
FW16				S	Sg	17 03 05.4	+0.3
FW16	**Waxahatchie**	**0.28**	**107**	P	Pg	17 03 01.5	+0.1
FW13	**Cleburne**	**0.28**	**221**	Pg	Pg	17 03 01.6	+0.1
FW13				Sg	Sg	17 03 05.3	+0.2
FW13				IAML		17 03 08.8	
	740nm,0.7s						
FW13	**Cleburne**	**0.28**	**221**	P	Pg	17 03 01.7	+0.2
FW13				S	Sg	17 03 05.4	+0.3
FW13	**Cleburne**	**0.28**	**221**	P	Pg	17 03 01.8	+0.3
FW01	**Dallas Executi**	**0.31**	**67**		Pg	17 03 02.2	+0.3
FW01	**Dallas Executi**	**0.31**	**67**	P	Pg	17 03 02.2	+0.3
FW01	**Dallas Executi**	**0.31**	**67**	P	Pg	17 03 02.3	+0.3
FW04	**University of**	**0.37**	**41**		Sg	17 03 09.3	+1.2
FW04	**University of**	**0.37**	**41**	S	Sg	17 03 09.3	+1.2
FW04	**University of**	**0.37**	**41**	P	Pg	17 03 03.9	+0.7
FW02	**City of Haslet**	**0.40**	**344**		Pg	17 03 04.6	+0.8
FW02					Sg	17 03 10.0	+1.0
FW02	**City of Haslet**	**0.40**	**344**	P	Pg	17 03 04.6	+0.8
FW02				S	Sg	17 03 10.0	+1.0
FW02	**City of Haslet**	**0.40**	**344**	P	Pb	17 03 06.1	+0.3
FW06	**Azle**	**0.50**	**325**	Pg	Pg	17 03 06.2	+0.6
FW06				Sg	Sg	17 03 13.2	+1.1
FW06				IAML		17 03 19.1	
	317nm,0.1s						
FW06				IAML		17 03 21.1	
	249nm,0.2s						
FW06	**Azle**	**0.50**	**325**	P	Pg	17 03 06.5	+0.8
FW06				S	Sg	17 03 13.3	+1.1
FW06	**Azle**	**0.50**	**325**	P	Pb	17 03 07.3	-0.1
FW07	**Weatherford**	**0.50**	**286**	Pg	Pg	17 03 05.9	+0.2
FW07				Sg	Sg	17 03 12.9	+0.7
FW07				IAML		17 03 14.1	
	399nm,0.2s						
FW07				IAML		17

	comp=Z,18nm,0.9s						
MIAR	**Mount Ida**	**3.62**	**56**	Pn	Pn	17 03 54.6	+1.6
ELIS	**Ellis County**	**3.94**	**333**	IAmb_Lg		17 05 09.1	
	comp=Z,13nm,0.7s						
DRIO	**Del Rio**	**4.29**	**224**	Pn	Pn	17 04 02.0	-0.1
KAN17	**Caldwell West**	**4.49**	**354**	IAmb_Lg		17 05 23.5	
	comp=Z,20nm,1.0s						
KAN12	**Harper NE Stat**	**4.77**	**352**	Pn	Pn	17 04 06.8	-1.9
MNHN	**Monahans**	**4.87**	**257**	Pn	Pn	17 04 07.2	-3.1
WHAR	**Wooly Hollow**	**4.91**	**55**	Pn	Pn	17 04 09.8	-0.9
SAND	**Sanderson**	**4.94**	**240**	Pn	Pn	17 04 10.2	-1.0
FCAR	**Ozark Folk Cen**	**5.36**	**50**	Pn	Pn	17 04 15.0	-1.9
PECS	**Pecos**	**5.78**	**260**	Pn	Pn	17 04 21.6	-1.1
ALPN	**Alpine**	**5.91**	**250**	IAmb_Lg		17 06 11.5	
	comp=Z,6.4nm,0.7s						
RTBA	**Rita Blanca**	**5.98**	**312**	IAmb_Lg		17 06 17.2	
	comp=Z,5.7nm,1.0s						
TXAR	**Lajitas Array**	**6.41**	**242**	Pn	Pn	17 04 30.3	-1.1
MNTX	**Cornudas Mount**	**6.98**	**265**	IAmb_Lg		17 06 44.5	
	comp=Z,4.6nm,1.0s						
ISCO	**Idaho Springs**	**9.91**	**319**	IAmb_Lg		17 08 30.1	
	comp=Z,2.7nm,1.1s						

IDC 08 17:06:43.1±2.2,**0°.65N**×**126°.23E, h0**km**, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=187.7km s-min=28.6km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.95**	**159**	P	P	17 11 38.0	-0.6
	0.9nm,1.1s,baz=338,slow=11,SNR=4.6						
	0.9nm,1.1s						
ASAR	**Alice Springs**	**25.29**	**163**	P	P	17 12 12.0	+0.5
	0.2nm,0.4s,baz=344,slow=11,SNR=8.4						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**59.81**	**327**	P	P	17 16 50.2	-0.1
	0.3nm,0.7s,baz=120,slow=8.8,SNR=2.6						
	0.3nm,0.7s						

IDC 08 17:09:31.2±2.1,**0°.71N**×**126°.57E, h0**km**, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=165.9km s-min=27.6km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.89**	**160**	P	P	17 14 24.8	-1.2
	0.7nm,0.4s,baz=338,slow=11,SNR=17						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**25.26**	**164**	P	P	17 15 00.1	+0.8
	0.8nm,0.7s,baz=347,slow=13,SNR=25						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**59.95**	**326**	P	P	17 19 39.2	-0.2
	0.2nm,0.5s,baz=122,slow=8.6,SNR=3.2						
	0.2nm,0.5s						

IDC 08 17:14:36.8±2.0,**0°.38N**×**126°.58E, h0**km**, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=164.6km s-min=26.7km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.58**	**160**	P	P	17 19 27.3	-1.0
	1.4nm,0.5s,baz=338,slow=11,SNR=11						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**24.93**	**164**	P	P	17 20 02.6	+0.6
	0.5nm,0.5s,baz=345,slow=12,SNR=33						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**60.23**	**326**	P	P	17 24 46.8	-0.1
	0.2nm,0.4s,baz=124,slow=7.0,SNR=4.3						
	0.2nm,0.4s						

IDC 08 17:48:05.6±2.2,**0°.59N**×**126°.49E, h0**km**, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=179.6km s-min=29.0km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.81**	**160**	P	P	17 52 58.9	-0.7
	0.4nm,0.5s,baz=338,slow=11,SNR=5.7						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**25.17**	**164**	P	P	17 53 33.4	+0.5
	0.4nm,1.0s,baz=343,slow=8.2,SNR=4.6						
	0.4nm,1.0s						
MKAR	**Makanchi Array**	**60.00**	**326**	P	P	17 58 14.0	-0.1
	0.3nm,0.8s,baz=108,slow=4.7,SNR=2.2						
	0.3nm,0.8s						

*NEIC **08** 17:50:00.9±0.6,35°.671N±0°.008×117°.49W±0°.01, h3km±2km, Error ellipse: s-maj=1.6km s-min=0.9km az=48.0*
*PAS **08** 17:50:01.4±0.7,35°.669N±0°.006×117°.50W±0°.01, h1km±1km, Mwr3.5/4,ML3.5/145(NEIC), Error ellipse: s-maj=1.4km s-min=0.6km az=57.0*
*IDC **08** 17:50:01.4±0.9,35°.65N×117°.55W, h0km, mbtmp3.0/5, ML3.4/5, Error ellipse: s-maj=22.6km s-min=5.9km az=75.0*

ISC 08 17:50:01.8±1.2,**35°.66N**±0°.02×**117°.50W**±0°.02,**h1**km±14km, **n75**,σ1**°s26**/65, **Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.17**	**333**		**Pg**	**17 50 04.9**	**-0.2**
CLC	**China Lake**	**0.17**	**333**	IAML		17 50 07.8	
	comp=N,13μm,0.5s						
CLC				IAML		17 50 07.9	
	comp=E,19μm,0.6s						
CCCA	**Chr Cany lake**	**0.17**	**141**		**Pg**	**17 50 05.7**	**+0.5**
CCCA	**Chr Cany lake**	**0.17**	**141**	IAML		17 50 09.3	
	comp=N,44μm,0.5s						
CCCA				IAML		17 50 10.7	
	comp=E,34μm,0.5s						
LRMC	**Laurel Mtn Rad**	**0.23**	**219**	Pg	**Pg**	**17 50 06.3**	**0.0**
LRMC	**Laurel Mtn Rad**	**0.23**	**219**		**Sg**	**17 50 10.0**	**+0.7**
TOW	**Tower One**	**0.26**	**305**		**Pg**	**17 50 07.0**	**+0.3**
WNMM	**Nine Mile Cany**	**0.38**	**299**		**Pg**	**17 50 08.9**	**-0.1**
WVPM	**Volcano Peak E**	**0.39**	**318**		**Pg**	**17 50 09.0**	**-0.2**
MPMC	**Manual Prospec**	**0.40**	**1**	Pg	**Pg**	**17 50 09.0**	**-0.4**
MPMC				IAML		17 50 16.4	
	comp=N,4μm,0.5s						
MPMC				IAML		17 50 16.6	
	comp=E,5μm,0.5s						
MPMC	**Manual Prospec**	**0.40**	**1**		**Sg**	**17 50 14.7**	**+0.2**
WCSM	**Coso Springs S**	**0.42**	**329**		**Pg**	**17 50 09.1**	**-0.8**
WCSM					**Sg**	**17 50 15.8**	**+0.4**
DTP	**Desert Tortois**	**0.48**	**216**		**Pg**	**17 50 10.7**	**-0.3**
QSM	**Queen of Sheba**	**0.60**	**59**		**Pg**	**17 50 12.8**	**-0.4**
CCAC	**Calif City Air**	**0.66**	**220**		**Pg**	**17 50 14.2**	**-0.2**
GSC	**Goldstone, Bar**	**0.67**	**122**		**Pg**	**17 50 14.4**	**-0.2**
GSC				IAML		17 50 24.1	
	comp=N,3μm,0.6s						
GSC				IAML		17 50 24.9	
	comp=E,3μm,0.6s						
GSC	**Goldstone, Bar**	**0.67**	**122**		**Sg**	**17 50 23.9**	**+0.6**
WHFM	**Hanning Flat**	**0.69**	**273**		**Pg**	**17 50 14.4**	**-0.6**
WHFM					**Sg**	**17 50 23.9**	**0.0**
ISA	**Isabella, Lake**	**0.79**	**270**		**Pg**	**17 50 16.4**	**-0.5**
ISA				IAML		17 50 27.6	
	comp=N,1μm,0.6s						
ISA	**Isabella, Lake**	**0.79**	**270**		**Sg**	**17 50 27.0**	**-0.2**
HYS	**Haystack Butte**	**0.80**	**184**		**Pg**	**17 50 16.5**	**-0.6**
HYS					**Sg**	**17 50 27.7**	**+0.4**
GWY	**Greenwater Val**	**0.85**	**52**		**Pg**	**17 50 17.4**	**-0.7**
GWY				IAML		17 50 33.2	
	comp=E,3μm,0.3s						
CWC	**Cottonwood Cre**	**0.91**	**329**		**Pg**	**17 50 18.6**	**-0.6**
CWC				IAML		17 50 35.3	
	comp=E,926nm,0.4s						
TPO	**Tropico Hills**	**0.98**	**218**		**Pg**	**17 50 20.2**	**-0.4**
SPG2	**Springville 2**	**1.16**	**298**		**Pb**	**17 50 22.9**	**-1.8**
DSCC	**Desert Studies**	**1.25**	**114**		**Pn**	**17 50 24.3**	**-2.2**
AMDNV	**Amargosa**	**1.27**	**51**		**Pn**	**17 50 24.4**	**-2.2**
WCT	**Wildcat Mounta**	**1.33**	**32**		**Pn**	**17 50 25.7**	**-2.0**
GRAC	**Grapevine Rang**	**1.34**	**5**		**Pn**	**17 50 26.2**	**-1.5**
GRAC				IAML		17 50 51.2	
	comp=E,1μm,0.6s						
BFSC	**Mount Baldy Ra**	**1.42**	**185**		**Pn**	**17 50 27.8**	**-1.2**
BFSC				IAML		17 50 49.3	
	comp=N,526nm,0.7s						
BFSC				IAML		17 50 52.5	
	comp=E,563nm,0.5s						

OSI	**Osito Audit: C**	**1.45**	**224**		**Pb**	**17 50 29.2**	**-0.4**
OSI				IAML		17 50 50.6	
	comp=E,1μm,0.9s						
OSI				IAML		17 50 53.0	
	comp=N,1μm,0.9s						
MWC	**Mount Wilson**	**1.50**	**198**		**Pn**	**17 50 29.1**	**-1.0**
MWC				IAML		17 50 52.3	
	comp=N,918nm,0.6s						
MWC				IAML		17 50 52.9	
	comp=E,714nm,0.6s						
PASC	**Pasadena Art C**	**1.59**	**201**		**Pn**	**17 50 30.2**	**-0.9**
PASC				IAML		17 50 53.6	
	comp=E,464nm,0.5s						
MTPC	**Mountain Pass**	**1.60**	**96**		**Pn**	**17 50 29.6**	**-1.8**
MTPC				IAML		17 50 54.1	
	comp=N,656nm,0.8s						
MTPC				IAML		17 50 55.1	
	comp=E,510nm,0.3s						
TPNV	**Topopah Spring**	**1.64**	**38**		**Pn**	**17 50 30.2**	**-1.7**
TPNV				IAML		17 50 58.8	
	comp=E,566nm,0.8s						
TPNV				IAML		17 50 59.2	
	comp=E,471nm,0.6s						
GMN	**Gold Mountain**	**1.65**	**7**	IAML		17 51 04.7	
	comp=N,366nm,0.7s						
VOG	**Valley Oaks Go**	**1.66**	**294**		**Pb**	**17 50 32.1**	**-1.1**
DSP	**Deep Springs**	**1.75**	**348**		**Pn**	**17 50 32.4**	**-0.9**
ELS	**Elsinore Mount**	**2.01**	**178**		**Pn**	**17 50 35.8**	**-1.1**
ELS				IAML		17 51 08.5	
	comp=E,244nm,0.4s						
MZP	**Montezuma Peak**	**2.04**	**3**		**Pn**	**17 50 36.4**	**-1.2**
SHPR	**Sheep Range**	**2.08**	**65**		**Pn**	**17 50 36.8**	**-1.1**
SHPR				IAML		17 51 08.8	
	comp=N,216nm,0.8s						
V12A	**Nelson**	**2.16**	**87**		**Pn**	**17 50 37.6**	**-1.4**
V12A				IAML		17 51 13.6	
	comp=N,319nm,1.1s						
V12A				IAML		17 51 18.4	
	comp=E,222nm,0.7s						
PMD	**Palm Desert**	**2.21**	**155**		**Pn**	**17 50 37.9**	**-1.7**
PMD				IAML		17 51 14.1	
	comp=E,185nm,0.6s						
PFO	**Pinyon Flats O**	**2.22**	**157**		**Pn**	**17 50 37.9**	**-1.9**
PFO	**Pinyon Flats O**	**2.22**	**157**	Pn	**Pn**	**17 50 38.4**	**-1.4**
	comp=E,12nm,0.3s,baz=334,slow=14,SNR=34						
PFO				Pg	**Pb**	**17 50 42.5**	**-0.2**
	comp=E,12nm,0.3s,baz=336,slow=15,SNR=24						
PFO				Lg	Lg	17 51 11.8	
	comp=E,27nm,0.3s,baz=214,slow=16,SNR=13						
	comp=E,33nm,0.4s						
TPH	**Tonopah**	**2.42**	**5**		**Pn**	**17 50 41.7**	**-1.0**
S11A	**Rachel**	**2.43**	**35**	Pg	**Pb**	**17 50 46.4**	**0.0**
S11A				IAML		17 51 33.0	
	comp=N,404nm,0.9s						
S11A				IAML		17 51 43.4	
	comp=E,331nm,0.9s						
NEE2	**Needles Airpor**	**2.52**	**110**		**Pn**	**17 50 41.7**	**-2.2**
NEE2				IAML		17 51 22.8	
	comp=E,398nm,0.4s						
BORC	**Borrego Spring**	**2.55**	**159**		**Pb**	**17 50 49.0**	**+0.6**
BORC				IAML		17 51 26.6	
	comp=N,151nm,0.8s						
BORC				IAML		17 51 27.5	
	comp=E,158nm,0.7s						
PRN	**Pahroc Range**	**2.63**	**48**		**Pn**	**17 50 44.6**	**-1.0**
PRN				IAML		17 51 35.3	
	comp=E,245nm,0.9s						
PRN				IAML		17 51 36.6	
	comp=N,264nm,0.6s						
DPP	**Dos Picos Cty**	**2.69**	**170**		**Pn**	**17 50 45.4**	**-0.9**
DPP				IAML		17 51 27.3	
	comp=E,154nm,0.9s						
LHV	**Little Huntoon**	**2.71**	**343**		**Pn**	**17 50 46.5**	**+0.1**
LHV				IAML		17 51 33.9	
	comp=N,191nm,0.7s						
LHV				IAML		17 51 36.3	
	comp=E,201nm,0.8s						
PMPB	**Monarch Peak**	**2.73**	**283**		**Pn**	**17 50 46.0**	**-0.9**
PMPB				IAML		17 51 34.5	
	comp=E,238nm,1.5s						
PMPB				IAML		17 51 38.7	
	comp=N,261nm,0.9s						
NVAR	**Mina Array Bea**	**2.84**	**347**	Pn	**Pn**	**17 50 47.9**	**-0.6**
	comp=N,2.1nm,0.3s,baz=172,slow=13,SNR=10.0						
NVAR				Pg	**Pb**	**17 50 53.2**	**-0.1**
	comp=N,14nm,0.3s,baz=170,slow=18,SNR=44						
NVAR				Lg	Lg	17 51 31.7	
	comp=N,9.2nm,0.3s,baz=161,slow=30,SNR=6.2						
	comp=N,1.9nm,0.3s						
W13A	**Hualapai Mount**	**3.01**	**100**	IAML		17 51 40.7	
	comp=N,101nm,0.7s						
W13A				IAML		17 51 43.8	
	comp=E,85nm,0.8s						
R11B	**Troy Canyon, C**	**3.09**	**29**		**Pn**	**17 50 50.3**	**-1.6**
WAKR	**Walker**	**3.23**	**332**		**Pb**	**17 51 01.3**	**+1.2**
CBX	**Cerro Bola**	**3.41**	**168**		**Pn**	**17 50 56.3**	**+0.1**
GLA	**Glamis**	**3.42**	**139**		**Pn**	**17 50 54.0**	**-2.2**
CCUT	**Cedar City**	**3.83**	**59**		**Pg**	**17 51 12.7**	**-2.4**
CCUT				IAML		17 52 07.6	
	comp=N,45nm,1.6s						
ESJX	**Sierra Juarez**	**3.87**	**160**	IAML		17 51 56.1	
	comp=E,49nm,0.1s						
KNB	**Kanab**	**4.01**	**69**	IAML		17 52 18.6	
	comp=E,65nm,1.0s						
KNB				IAML		17 52 20.2	
	comp=N,53nm,1.4s						
SZCU	**Shurtz Canyon**	**4.04**	**60**	IAML		17 52 17.8	
	comp=E,47nm,1.1s						
Y14A	**Wickenburg**	**4.08**	**114**	IAML		17 52 18.6	
	comp=E,84nm,0.9s						
PSUT	**Pine Spring**	**4.09**	**44**	IAML		17 52 22.6	
	comp=N,48nm,1.3s						
PSUT				IAML		17 52 25.8	
	comp=E,56nm,1.0s						
MPK	**Martis Peak**	**4.15**	**332**	IAML		17 52 26.9	
	comp=N,98nm,0.7s						
SPR3	**Spring Creek 3**	**4.18**	**36**	IAML		17 52 15.1	
	comp=E,34nm,1.4s						
113A	**Mohawk Valley,**	**4.23**	**132**	IAML		17 52 22.2	
	comp=N,33nm,0.8s						
U15A	**Nora Rim**	**4.29**	**78**	IAML		17 52 17.4	
	comp=N,79nm,1.1s						
U15A				IAML		17 52 21.7	
	comp=E,54nm,1.1s						
AFDM	**Forest Hills D**	**4.29**	**321**	IAML		17 52 20.6	
	comp=N,46nm,1.1s						
AFDM				IAML		17 52 27.0	
	comp=E,59nm,0.8s						
BEKR	**Beckworth**	**4.77**	**333**	IAML		17 52 46.4	
	comp=E,46nm,0.8s						
X16A	**Lo Mia Camp, P**	**5.12**	**102**	IAML		17 52 52.2	
	comp=E,19nm,1.2s						
X16A				IAML		17 52 58.8	
	comp=N,17nm,1.2s						
ELK	**Elko**	**5.38**	**19**	Pn	**Pn**	**17 51 23.1**	**-0.3**
	comp=N,0.3nm,0.3s,baz=209,slow=11,SNR=1.6						
ELK				Pg	**Pb**	**17 51 39.8**	**+3.1**
	comp=N,1.3nm,0.3s,baz=207,slow=15,SNR=15						
ELK				Lg	Lg	17 52 51.1	
	comp=N,1.3nm,0.3s,baz=305,slow=5.1,SNR=7.9						
	comp=N,1.1nm,0.5s						
PDAR	**Pinedale Array**	**9.39**	**39**	Pn	**Pn**	**17 52 21.8**	**+3.2**
	baz=222,slow=22,SNR=2.1						
	comp=N,0.2nm,0.4s						
TXAR	**Lajitas Array**	**13.27**	**115**	Pn	**Pn**	**17 53 13.2**	**+1.8**
	comp=N,0.1nm,0.3s,baz=298,slow=13,SNR=4.3						
	comp=N,0.2nm,0.5s						

*IDC **08** 17:52:42.7±1.0,0°.78N×121°.82E, h0km, mb3.7/5, mbtmp3.8/7, ML3.9/2,MS2.7/1, Error ellipse: s-maj=60.4km s-min=16.7km az=69.0*
*NEIC **08** 17:52:54.6±2.4,0°.35N±0°.03×121°.1E±0°.1, h94km±7km, mb4.1/8, Error ellipse: s-maj=15.2km s-min=4.3km az=82.0*
*DJA **08** 17:52:55.7±0.3,0°N±3°×12°1E±°, h79km±5km, M4.5/20, mB4.7/1, mb4.6/6, MLv4.5/20, Mw(mB)4.0/1*

ISC 08 17:52:53.8±0.7,**0°.42N**±0°.05×**121°.11E**±0°.05,**h89**km, **n40,** σ1**°s68**/42, **mb3.8/7, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**0.76**	**334**	Pn	**Pn**	**17 53 12.0**	**+1.2**
TOLI2				Sn	**Sn**	**17 53 25.6**	**+2.1**
MRSI	**Marisa**	**0.83**	**86**	P	**Pn**	**17 53 13.1**	**+1.5**
MRSI				S	**Sn**	**17 53 26.3**	**+1.4**

MPSI	**Mapaga**	**1.22**	**266**	P	**Pn**	**17 53 18.9**	**+3.0**
APSI	**Ampana**	**1.43**	**158**	P	**Pn**	**17 53 21.0**	**+2.4**
PCI	**Palu**	**1.83**	**224**	P	**Pn**	**17 53 25.0**	**+1.2**
PCI				S	**Sn**	**17 53 48.6**	**+2.0**
LUWI	**Luwuk**	**2.21**	**131**	Pn	**Pn**	**17 53 30.5**	**+1.8**
LUWI	**Luwuk**	**2.21**	**131**	P	**Pn**	**17 53 30.6**	**+1.8**
KMSI	**Cibinong**	**2.88**	**87**	P	**Pn**	**17 53 40.0**	**+2.4**
TTSI	**Tana Toraja**	**3.68**	**201**	P	**Pn**	**17 53 50.4**	**+1.9**
SMKI	**Samarinda**	**4.00**	**258**	P	**Pn**	**17 53 54.8**	**+2.0**
BKB	**Balikpapan**	**4.53**	**248**		**Pn**	**17 54 01.2**	**+1.1**
BKB	**Balikpapan**	**4.53**	**248**	P	**Pn**	**17 54 01.2**	**+1.1**
SPSI	**Sidrap Palu**	**4.56**	**197**	P	**Pn**	**17 54 02.9**	**+2.4**
KDI	**Kendari**	**4.60**	**161**	P	**Pn**	**17 54 03.2**	**+2.1**
BNSI	**Bone**	**4.89**	**192**	P	**Pn**	**17 54 07.6**	**+2.6**
SANI	**Sanana**	**5.46**	**117**	P	**Pn**	**17 54 11.8**	**-0.9**
	0.2nm51nm,0.8s						
KAPI	**Kappang**	**5.57**	**194**	Pn	**Pn**	**17 54 13.8**	**-0.4**
KAPI	**Kappang**	**5.57**	**194**	Pn	**Pn**	**17 54 14.0**	**-0.2**
	7.0nm,0.3s,baz=30,slow=20,SNR=10						
	19nm,0.4s						
BKSI	**Bulukumba**	**5.79**	**190**	P	**Pn**	**17 54 18.0**	**+0.8**
	18nm,0.6s						
BBSI	**Bau Bau**	**6.05**	**166**	P	**Pn**	**17 54 23.0**	**+2.2**
BSSI	**Bau Bau, Buton**	**6.55**	**185**	P	**Pn**	**17 54 28.2**	**+0.6**
	0.2nm30nm,0.6s						
NLAI	**Namlea**	**7.00**	**121**	P	**Pn**	**17 54 35.0**	**+1.2**
	0.3nm53nm,0.6s						
KKM	**Kota Kinabalu**	**7.42**	**319**	Pn	**Pn**	**17 54 41.9**	**+2.3**
SBUM	**Sibu**	**9.11**	**283**	Pn	**Pn**	**17 55 01.0**	**-1.5**
TGY	**Tagaytay City**	**13.59**	**359**	LR	LR	18 00 27.0	
	comp=Z,33nm,21.6s,baz=140,slow=35						
MTN	**Manton Dam**	**16.51**	**143**		**Pn**	**17 56 40.5**	**+0.5**
MTN				IAmb	IAmb	17 56 45.7	
	comp=Z,15nm,1.2s						
KNRA	**Kununurra**	**17.69**	**155**	P	**P**	**17 56 54.6**	**+0.4**
KNRA				IAmb	IAmb	17 57 22.1	
	comp=Z,26nm,1.5s						
FITZ	**Fitzroy Crossi**	**18.93**	**167**	P	**P**	**17 57 07.9**	**0.0**
FITZ	**Fitzroy Crossi**	**18.93**	**167**	P	**P**	**17 57 07.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=13,slow=8.4,SNR=6.5						
	comp=Z,2.6nm,0.7s						
GSI	**Gunungsitoli**	**23.55**	**272**	P	**P**	**17 57 55.5**	**-1.0**
WB0	**Warramunga Arr**	**23.92**	**148**	P	**P**	**17 57 57.3**	**-2.5**
WB0				IAmb	IAmb	17 57 59.6	
	comp=Z,6.8nm,1.1s						
WRA	**Warramunga Arr**	**24.04**	**148**	P	**P**	**17 57 58.6**	**-2.1**
	comp=Z,2.6nm,0.9s,baz=328,slow=10,SNR=28						
	comp=Z,2.6nm,0.9s						
WR8	**Warramunga Arr**	**24.13**	**148**	P	**P**	**17 58 00.1**	**-1.5**
WR8				IAmb	IAmb	17 58 01.7	
	comp=Z,6.3nm,1.0s						
ASAR	**Alice Springs**	**26.98**	**153**	P	**P**	**17 58 26.9**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=345,slow=14,SNR=14						
	comp=Z,0.5nm,0.7s						
STKA	**Stephens Creek**	**37.52**	**151**	P	**P**	**17 59 56.5**	**-2.8**
SONM	**Songino Array**	**48.93**	**347**	P	**P**	**18 01 30.3**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=156,slow=7.5,SNR=3.8						
	comp=Z,0.7nm,0.6s						
MK31	**Makanchi Array**	**57.27**	**329**	P	**P**	**18 02 32.5**	**+0.3**
MKAR	**Makanchi Array**	**57.27**	**329**	P	**P**	**18 02 32.9**	**+0.7**
MKAR	**Makanchi Array**	**57.27**	**329**	P	**P**	**18 02 33.0**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=127,slow=8.9,SNR=10						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**61.66**	**331**	P	**P**	**18 03 01.7**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=116,slow=6.2,SNR=10.0						
	comp=Z,0.5nm,0.5s						

*JMA **08** 17:52:57.7±0.1,24°.6N±0°.9×122°.5E±0°.4, h16km±2km, MV1.7/11, NW OFF ISHIGAKIJIMA IS*
*TAP **08** 17:52:57.7,24°.64N×122°.47E, h11km±1km, ML2.6, C*

ISC 08 17:52:57.2±1.0,**24°.65N**±0°.02×**122°.52E**±0°.02,**h13**km±8km, **n85**,σ0**°s65**/155, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.35**	**229**	*i* P	**Pb**	**17 53 05.0**	**-0.3**
EOS2				eS	**Sb**	**17 53 10.9**	**+0.3**
EOS3	**EOS3**	**0.41**	**207**	P	**Pb**	**17 53 06.0**	**-0.3**
EOS3				S	**Sb**	**17 53 12.2**	**-0.1**
JYNG	**Yonagunijimaku**	**0.44**	**117**	P	**Pg**	**17 53 06.2**	**+0.3**
JYNG				eS	**Sg**	**17 53 12.2**	**+0.6**
YOJ	**Yonaguni jima**	**0.49**	**113**	eP	**Pg**	**17 53 07.0**	**+0.3**
YOJ				eS	**Sg**	**17 53 13.6**	**+0.4**
YOJ	**Yonaguni jima**	**0.49**	**113**	eP	**Pb**	**17 53 07.4**	**-0.3**
YOJ				eS	**Sg**	**17 53 13.9**	**+0.7**
EOS4	**EOS4**	**0.56**	**199**	eP	**Pb**	**17 53 08.7**	**0.0**
EOS4				eS	**Sb**	**17 53 16.5**	**+0.1**
EGS		**0.57**	**290**	eP	**Pb**	**17 53 09.3**	**+0.3**
EGS				S	**Sb**	**17 53 16.4**	**-0.7**
TWB1	**Santiao Chiao**	**0.60**	**307**	*i* P	**Pb**	**17 53 09.3**	**-0.2**
TWB1				eS	**Sg**	**17 53 16.8**	**-0.1**
TWC	**Suao**	**0.61**	**266**	*i* P	**Pg**	**17 53 09.2**	**0.0**
TWC				eS	**Sb**	**17 53 17.9**	**-0.5**
ESAO	**Su ao**	**0.62**	**263**	eP	**Pg**	**17 53 09.4**	**+0.1**
ESAO				S	**Sb**	**17 53 18.0**	**-0.6**
EWUT	**Wuta**	**0.70**	**253**	eP	**Pb**	**17 53 11.8**	**+0.4**
EWUT				eS	**Sg**	**17 53 20.0**	**-0.2**
TIPB	**Shuangxi**	**0.71**	**297**	P	**Pb**	**17 53 11.4**	**0.0**
TIPB				eS	**Sg**	**17 53 19.7**	**-0.6**
ILA	**Ilan**	**0.71**	**279**	eS	**Sb**	**17 53 21.9**	**+0.8**
NDS	**Dongshan**	**0.73**	**269**	eP	**Pg**	**17 53 10.6**	**-0.8**
NDS				eS	**Sg**	**17 53 20.7**	**-0.3**
SXI1	**Grass Mountain**	**0.73**	**307**	*i* P	**Pb**	**17 53 11.9**	**0.0**
SXI1				S	**Sb**	**17 53 22.9**	**+0.9**
ENA	**Nanau**	**0.74**	**253**	eP	**Pb**	**17 53 11.8**	**-0.2**
ENA				eS	**Sg**	**17 53 21.2**	**-0.2**
TWE	**Neicheng**	**0.78**	**275**	P	**Pg**	**17 53 12.0**	**-0.3**
TWE				eS	**Sg**	**17 53 22.1**	**-0.4**
EAHA	**Aohua**	**0.78**	**246**	P	**Pb**	**17 53 12.6**	**0.0**
EAHA				eS	**Sg**	**17 53 21.7**	**-0.8**
NWF	**Wu-fen Shan**

LXIB	**Xiulin Townshi**	**1.19 238**	*e*P		**Pg**	**17 53 20.7**	**+0.6**
LXIB			e S		**Sn**	**17 53 36.7**	**+0.8**
SHUL	**Shoufeng**	**1.23 226**	*e*P		**Pg**	**17 53 20.7**	**-0.1**
SHUL			e S		**Sg**	**17 53 38.2**	**+1.5**
KSHI	**Guanxi Townshi**	**1.23 276**	P		**Pg**	**17 53 20.8**	**-0.1**
KSHI			e S		**Sg**	**17 53 37.5**	**+0.7**
WHF	**Hehuan Shan**	**1.25 246**	P		**Pn**	**17 53 20.8**	**-0.1**
WHF			S		**Sb**	**17 53 37.1**	**-0.1**
NFF	**Wufeng Townshi**	**1.27 269**	P		**Pb**	**17 53 21.2**	**0.0**
NFF			e S		**Sg**	**17 53 39.0**	**+0.6**
HATJ	**Hateruma jima**	**1.31 116**	e S		**Sb**	**17 53 38.3**	**-0.3**
LIOB	**Emei**	**1.37 270**	*e*P		**Pg**	**17 53 24.0**	**+0.5**
LIOB			e S		**Sg**	**17 53 41.7**	**+0.4**
NSTT	**Nanjuang**	**1.38 270**	*e*P		**Pg**	**17 53 23.6**	**-0.2**
NSTT			e S		**Sg**	**17 53 41.4**	**-0.3**
WARBT	**Fenglin Townsh**	**1.39 228**	P		**Pn**	**17 53 21.9**	**-0.6**
WARBT			*i* S		**Sb**	**17 53 40.9**	**+0.1**
OWD	**Renai**	**1.41 241**	*e*P		**Pg**	**17 53 24.3**	**0.0**
OWD			e S		**Sg**	**17 53 42.8**	**+0.2**
JKRS	**Kuro-shima**	**1.42 107**	e S		**Sn**	**17 53 40.2**	**-1.1**
WUSB	**Renai**	**1.44 243**	*e*P		**Pg**	**17 53 24.8**	**0.0**
WUSB			e S		**Sg**	**17 53 44.5**	**+1.0**
WHP	**Taichung City**	**1.48 256**	e S		**Sg**	**17 53 45.1**	**+0.1**
JIJ	**Ishigaki jima**	**1.51 101**	e S		**Sn**	**17 53 43.2**	**-0.3**
HGSD	**Ruisui**	**1.53 221**	P		**Pb**	**17 53 25.1**	**-0.3**
HGSD			*i* S		**Sb**	**17 53 44.5**	**-0.2**
VWDT	**VWDT**	**1.54 235**	P		**Pn**	**17 53 24.6**	**+0.2**
VWDT			S		**Sn**	**17 53 44.5**	**+0.1**
EHYH	**Wanrong**	**1.57 223**	P		**Pn**	**17 53 24.6**	**-0.3**
EHYH			S		**Sb**	**17 53 46.0**	**-0.1**
DPDB	**Guoxing**	**1.58 247**	*e*P		**Pg**	**17 53 27.4**	**-0.1**
EHY	**Hungye**	**1.58 224**	P		**Pn**	**17 53 24.4**	**-0.6**
EHY			S		**Sn**	**17 53 47.4**	**-0.4**
WCS	**Beigang Elemen**	**1.58 248**	*e*P		**Pg**	**17 53 27.8**	**+0.2**
JISG	**Ishigakijimahi**	**1.63 92**	*e*P		**Pb**	**17 53 26.9**	**-0.3**
ECBN	**Changbin**	**1.65 217**	P		**Pn**	**17 53 26.1**	**+0.2**
SMLT	**Sun Moon Lake**	**1.66 243**	*e*P		**Pb**	**17 53 28.1**	**+0.3**
SMLT			e S		**Sg**	**17 53 50.2**	**-0.5**
SSLB	**Suanglung**	**1.67 239**	*e*P		**Pg**	**17 53 29.4**	**+0.2**
SSLB			S		**Sb**	**17 53 48.1**	**-0.7**
YULB	**Yu-li**	**1.68 222**	*e*P		**Pn**	**17 53 26.2**	**-0.2**
YULB			S		**Sn**	**17 53 47.4**	**-0.4**
TYC	**Yuchr**	**1.69 244**	*e*P		**Pg**	**17 53 28.9**	**-0.7**
TYC			e S		**Sg**	**17 53 50.8**	**-0.8**
TWF1	**Yuli**	**1.71 221**	*e*P		**Pn**	**17 53 25.3**	**-1.5**
TWF1			S		**Sn**	**17 53 48.4**	**-0.1**
CHKH	**Chenggong**	**1.78 216**	P		**Pn**	**17 53 28.2**	**+0.5**
CHKH			S		**Sn**	**17 53 49.9**	**-0.3**
WHYT	**Xinyi Township**	**1.79 238**	*e*P		**Pb**	**17 53 30.2**	**+0.2**
WHYT			e S		**Sb**	**17 53 52.0**	**-0.4**
FULB	**Fuli**	**1.83 218**	*e*P		**Pn**	**17 53 27.9**	**-0.5**
FULB			e S		**Sn**	**17 53 51.0**	**-0.5**
ALS	**Alishan**	**1.93 234**	P		**Pn**	**17 53 31.2**	**+1.0**
ALS			e S		**Sb**	**17 53 56.6**	**-0.1**
CHN5	**Tsauling**	**1.98 238**	P		**Pn**	**17 53 31.4**	**+0.7**
CHN5			e S		**Sn**	**17 53 56.4**	**+1.0**
ELDTW	**Lidau**	**2.00 224**	*e*P		**Pn**	**17 53 30.9**	**0.0**
ELDTW			e S		**Sn**	**17 53 55.1**	**-0.8**
CHN4	**Tsaushan**	**2.19 234**	*e*P		**Pn**	**17 53 33.9**	**+0.6**
TPUB	**Ta-pu**	**2.19 233**	*e*P		**Pb**	**17 53 36.0**	**-0.7**
WTP	**Ta-pu**	**2.23 232**	P		**Pn**	**17 53 35.4**	**+1.4**
CHN1	**Nanshi**	**2.33 232**	P		**Pn**	**17 53 36.0**	**+0.7**
CHN1			e S		**Sb**	**17 54 06.8**	**-1.1**
SGST	**Jiashian**	**2.36 229**	P		**Pn**	**17 53 35.9**	**+0.1**
SGST			e S		**Sn**	**17 54 06.4**	**+1.7**
SSD	**Sandimen**	**2.57 223**	*e*P		**Pb**	**17 53 42.0**	**-1.1**
SSD			e S		**Sb**	**17 54 12.8**	**-1.8**
MASBT	**Mashibuluo**	**2.67 221**	P		**Pn**	**17 53 41.3**	**+1.4**
MASBT			e S		**Sn**	**17 54 14.7**	**+2.5**

*IDC **08** 17:53:46.6±0.7, 35°.58N×117°.09W, h0km, mbtmp3.2/4, ML3.7/5, Error ellipse: s-maj=18.1km s-min=5.7km az=76.0*

*NEIC **08** 17:53:46.6±1.3, 35°.550N±0°.004×117°.31W±0°.02, h10km±5km, Error ellipse: s-maj=1.8km s-min=0.6km az=97.0*

*PAS **08** 17:53:47.2±1.0, 35°.554N±0°.008×117°.31W±0°.01, h7km±2km, Mwr3.8/6, ML3.9/143(NEIC), Error ellipse: s-maj=1.5km s-min=0.8km az=129.0*

ISC 08 17:53:46.9±0.9, 35°.55N±0°.02×117°.30W±0°.02, h13km±7km, n74, σ0.979/68, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.06**	**243**		**Pg**	**17 53 49.2**	**-0.3**
CCCA				IAML		17 53 51.3	
	comp=E,78μm,0.5s						
LRMC	**Laurel Mtn Rad**	**0.32**	**257**	Pg	**Pg**	**17 53 53.2**	**-0.3**
LRMC	**Laurel Mtn Rad**	**0.32**	**257**		**Sg**	**17 53 57.0**	**-0.2**
CLC	**China Lake**	**0.36**	**317**		**Pg**	**17 53 53.7**	**-0.5**
CLC					**Sg**	**17 53 58.8**	**-0.3**
CLC	**China Lake**	**0.36**	**317**	IAML		17 53 59.0	
	comp=N,15μm,0.3s						
CLC				IAML		17 53 59.0	
	comp=E,14μm,0.4s						
SRTC	**Snort**	**0.39**	**291**		**Pb**	**17 53 54.8**	**-1.0**
TOW	**Tower One**	**0.46**	**304**		**Sb**	**17 54 03.3**	**-0.4**
GSC	**Goldstone, Bar**	**0.47**	**122**		**Pg**	**17 53 56.3**	**0.0**
MPMC	**Manual Prospec**	**0.53**	**343**	Pg	**Pg**	**17 53 56.8**	**-0.5**
MPMC				IAML		17 54 07.6	
	comp=E,8μm,0.5s						
DTP	**Desert Tortois**	**0.53**	**238**		**Pg**	**17 53 56.9**	**-0.4**
DTP					**Sg**	**17 54 04.0**	**-0.4**
QSM	**Queen of Sheba**	**0.54**	**40**		**Pb**	**17 53 57.6**	**-0.7**
QSM	**Queen of Sheba**	**0.54**	**40**	IAML		17 54 05.5	
	comp=N,15μm,0.6s						
QSM				IAML		17 54 07.1	
	comp=E,13μm,0.7s						
WNMM	**Nine Mile Cany**	**0.57**	**301**		**Pg**	**17 53 57.8**	**-0.3**
WNMM					**Sb**	**17 54 05.9**	**-1.0**
WVPM	**Volcano Peak E**	**0.58**	**313**		**Pg**	**17 53 57.9**	**-0.4**
WRVM	**Rose V. Centra**	**0.66**	**314**		**Pg**	**17 53 59.3**	**-0.5**
WRVM					**Sg**	**17 54 08.4**	**-0.2**
CCAC	**Calif City Air**	**0.71**	**236**		**Pg**	**17 54 00.3**	**-0.4**
CCAC					**Sg**	**17 54 10.0**	**-0.1**
GWY	**Greenwater Val**	**0.81**	**39**	Pg	**Pb**	**17 54 02.6**	**-0.5**
SHOC	**Shoshone, Teco**	**0.90**	**67**		**Pb**	**17 54 04.3**	**-0.2**
ISA	**Isabella, Lake**	**0.96**	**277**	Pg	**Pg**	**17 54 04.6**	**-0.9**
ISA				IAML		17 54 18.1	
	comp=N,3μm,0.3s						
ISA				IAML		17 54 18.8	
	comp=E,3μm,0.5s						
FURC	**Furnace Creek,**	**0.98**	**21**		**Pn**	**17 54 06.0**	**-0.4**
TPO	**Tropico Hills**	**1.02**	**229**		**Pg**	**17 54 05.8**	**-0.7**
CWC	**Cottonwood Cre**	**1.09**	**325**		**Pg**	**17 54 07.0**	**-0.9**
CWC				IAML		17 54 24.4	
	comp=N,2μm,0.2s						
TEJ	**El Tejon**	**1.18**	**255**		**Pg**	**17 54 08.1**	**-1.5**
AMDNV	**Amargosa**	**1.22**	**42**		**Pg**	**17 54 09.0**	**-1.4**
ARVC	**Arvin**	**1.32**	**252**		**Pn**	**17 54 10.9**	**-0.2**
BFSC	**Mount Baldy Ra**	**1.34**	**193**		**Pn**	**17 54 11.4**	**-0.2**
BFSC				IAML		17 54 30.7	
	comp=E,2μm,0.6s						
WCT	**Wildcat Mounta**	**1.35**	**24**		**Pn**	**17 54 11.1**	**-0.5**
WCT				IAML		17 54 31.2	
	comp=E,2μm,0.5s						
SPG2	**Springville 2**	**1.36**	**299**		**Pn**	**17 54 11.7**	**0.0**
MTPC	**Mountain Pass**	**1.43**	**92**		**Pn**	**17 54 12.0**	**-0.7**
MTPC				IAML		17 54 33.8	
	comp=N,2μm,0.7s						
MTPC				IAML		17 54 34.5	
	comp=E,3μm,0.3s						
GRAC	**Grapevine Rang**	**1.44**	**358**		**Pn**	**17 54 12.7**	**-0.2**
GRAC				IAML		17 54 36.0	
	comp=N,2μm,0.6s						
GRAC				IAML		17 54 37.7	
	comp=E,2μm,0.7s						
MWC	**Mount Wilson**	**1.47**	**205**		**Pn**	**17 54 13.1**	**-0.2**
MWC				IAML		17 54 35.2	
	comp=E,3μm,0.4s						
VES	**Vestal, Richgr**	**1.48**	**282**		**Pn**	**17 54 12.9**	**-0.4**
PASC	**Pasadena Art C**	**1.56**	**208**		**Pn**	**17 54 14.4**	**0.0**
PASC				IAML		17 54 38.8	
	comp=N,2μm,0.4s						
PASC				IAML		17 54 44.2	
	comp=E,2μm,0.5s						
TPNV	**Topopah Spring**	**1.63**	**31**		**Pn**	**17 54 15.4**	**-0.2**
GMN	**Gold Mountain**	**1.75**	**1**		**Pn**	**17 54 17.1**	**-0.1**
DANC	**Danby, Needles**	**1.82**	**120**		**Pn**	**17 54 17.2**	**-0.8**
DSP	**Deep Springs**	**1.89**	**344**		**Pn**	**17 54 19.1**	**+0.1**
ELS	**Elsinore Mount**	**1.90**	**183**		**Pn**	**17 54 19.0**	**-0.2**
ELS				IAML		17 54 48.2	
	comp=N,686nm,0.3s						
ELS				IAML		17 54 49.7	
	comp=E,767nm,0.3s						
SHPR	**Sheep Range**	**1.98**	**61**		**Pn**	**17 54 20.5**	**+0.1**
V12A	**Nelson**	**2.00**	**84**		**Pn**	**17 54 19.3**	**-1.3**
V12A				IAML		17 54 59.0	
	comp=N,569nm,0.6s						
V12A				IAML		17 54 59.2	
	comp=E,707nm,0.6s						
PMD	**Palm Desert**	**2.05**	**158**	IAML		17 54 53.9	
	comp=N,524nm,0.4s						
PMD				IAML		17 54 54.2	
	comp=E,850nm,0.5s						
PFO	**Pinyon Flats O**	**2.06**	**160**		**Pn**	**17 54 21.0**	**-0.4**
PFO				IAML		17 54 56.4	
	comp=E,525nm,1.0s						
PFO	**Pinyon Flats O**	**2.06**	**160**	Pn	**Pn**	**17 54 20.9**	**-0.4**
	comp=E,13nm,0.3s,baz=346,slow=15,SNR=24						
PFO				Pg	**Pb**	**17 54 24.7**	**+0.5**
	comp=E,138nm,0.3s,baz=341,slow=15,SNR=195						
PFO				Lg	Lg	17 54 51.6	
	comp=E,235nm,0.3s,baz=262,slow=23,SNR=16						
BORC	**Borrego Spring**	**2.39**	**162**		**Pn**	**17 54 26.2**	**+0.3**
BORC				IAML		17 55 10.9	
	comp=N,427nm,0.7s						
BORC				IAML		17 55 11.6	
	comp=E,499nm,1.0s						
SALN	**Salton City**	**2.51**	**154**		**Pg**	**17 54 34.0**	**-1.1**
TPH	**Tonopah**	**2.52**	**1**		**Pn**	**17 54 28.1**	**+0.3**
TPH				IAML		17 55 09.4	
	comp=N,1μm,0.7s						
TPH				IAML		17 55 09.6	
	comp=E,934nm,0.8s						
DPP	**Dos Picos Cty**	**2.56**	**173**		**Pn**	**17 54 28.2**	**-0.1**
W13A	**Hualapai Mount**	**2.83**	**98**		**Pn**	**17 54 31.6**	**-0.5**
W13A				IAML		17 55 21.5	
	comp=E,312nm,0.5s						
W13A				IAML		17 55 23.1	
	comp=N,351nm,0.5s						
LHV	**Little Huntoon**	**2.86**	**341**		**Pn**	**17 54 33.5**	**+1.2**
LHV				IAML		17 55 25.5	
	comp=E,381nm,0.9s						
LHV				IAML		17 55 26.1	
	comp=N,294nm,0.8s						
BLYC	**Blythe**	**2.91**	**127**		**Pn**	**17 54 32.0**	**-0.9**
BLYC				IAML		17 55 19.9	
	comp=N,695nm,0.6s						
BLYC				IAML		17 55 20.7	
	comp=E,640nm,0.4s						
PMPB	**Monarch Peak**	**2.92**	**284**		**Pn**	**17 54 33.1**	**-0.1**
PMPB				IAML		17 55 23.2	
	comp=E,473nm,0.8s						
PMPB				IAML		17 55 25.3	
	comp=N,538nm,0.8s						
NV11	**Mina Array Sit**	**2.96**	**347**		**Pn**	**17 54 34.3**	**+0.5**
NVAR	**Mina Array Bea**	**2.98**	**345**		**Pn**	**17 54 34.2**	**0.0**
NVAR	**Mina Array Bea**	**2.98**	**345**	Pn	**Pn**	**17 54 34.4**	**+0.1**
	comp=N,9.3nm,0.3s,baz=163,slow=12,SNR=50						
NVAR				Pg	**Pg**	**17 54 42.0**	**-2.1**
	comp=N,60nm,0.3s,baz=162,slow=14,SNR=139						
NVAR				Lg	Lg	17 55 21.2	
	comp=N,15nm,0.3s,baz=260,slow=23,SNR=4.2						
	comp=N,4.9nm,0.3s						
R11B	**Troy Canyon, C**	**3.11**	**26**		**Pn**	**17 54 36.0**	**+0.1**
R11B				IAML		17 55 25.7	
	comp=E,222nm,0.7s						
YUH	**Yuha Desert**	**3.11**	**158**		**Pn**	**17 54 34.9**	**-0.9**
BBGB	**Big Mountain B**	**3.20**	**290**		**Pn**	**17 54 37.8**	**+0.7**
RYN	**Ryan**	**3.22**	**343**		**Pn**	**17 54 38.0**	**+0.5**
CBX	**Cerro Bola**	**3.27**	**171**		**Pn**	**17 54 38.8**	**+0.7**
Q09A	**Carvers**	**3.28**	**2**		**Pn**	**17 54 39.3**	**+1.1**
Q09A				IAML		17 55 48.1	
	comp=N,413nm,0.8s						
Q09A				IAML		17 55 50.5	
	comp=E,444nm,0.9s						
CMB	**Columbia Colle**	**3.50**	**316**	IAML		17 55 41.3	
	comp=N,242nm,0.7s						
CMB				IAML		17 55 41.6	
	comp=E,195nm,1.0s						
CCX	**Cicese**	**3.71**	**172**	IAML		17 55 50.3	
	comp=E,272nm,0.7s						
CCX				IAML		17 55 50.8	
	comp=N,170nm,0.5s						
ESJX	**Sierra Juarez**	**3.71**	**162**	IAML		17 55 44.8	
	comp=E,122nm,0.5s						
113A	**Mohawk Valley,**	**4.04**	**132**	IAML		17 56 09.0	
	comp=E,106nm,1.0s						
PSUT	**Pine Spring**	**4.05**	**42**	IAML		17 56 01.4	
	comp=E,149nm,0.6s						
PSUT				IAML		17 56 03.9	
	comp=N,185nm,0.9s						
SPR3	**Spring Creek 3**	**4.17**	**34**	IAML		17 56 00.4	
	comp=N,124nm,0.8s						
SPR3				IAML		17 56 00.5	
	comp=E,224nm,1.6s						
VTX	**Valle De La Tr**	**4.34**	**163**	IAML		17 56 08.3	
	comp=E,165nm,0.8s						
VTX				IAML		17 56 13.5	
	comp=N,89nm,1.4s						
WUAZ	**Wupatki**	**4.83**	**89**	IAML		17 56 23.9	
	comp=N,131nm,0.5s						
WUAZ				IAML		17 56 26.8	
	comp=N,126nm,0.5s						
X16A	**Lo Mia Camp, P**	**4.94**	**102**	IAML		17 56 28.6	
	comp=E,75nm,1.1s						
X16A				IAML		17 56 30.9	
	comp=N,81nm,1.2s						
BEKR	**Beckworth**	**4.94**	**332**	IAML		17 56 40.2	
	comp=E,131nm,1.0s						
BEKR				IAML		17 56 41.1	
	comp=N,54nm,1.0s						
SFX	**San Felipe**	**4.95**	**155**	IAML		17 56 33.7	
	comp=E,50nm,0.9s						
ELK	**Elko**	**5.43**	**17**	Pn	**Pn**	**17 55 08.9**	**+1.0**
	comp=E,0.5nm,0.3s,baz=190,slow=12,SNR=14						
ELK				Pg	**Pb**	**17 55 24.9**	**+3.1**
	comp=E,5.9nm,0.3s,baz=210,slow=12,SNR=21						
ELK				Lg	Lg	17 56 37.3	
	comp=E,13nm,0.3s,baz=262,slow=3.4,SNR=9.4						
	comp=E,1.4nm,0.3s						
PDAR	**Pinedale Array**	**9.38**	**37**	Pn	**Pn**	**17 56 02.5**	**+0.5**
	comp=E,0.1nm,0.3s,baz=219,slow=11,SNR=4.0						
	comp=E,0.4nm,0.7s						
TXAR	**Lajitas Array**	**13.07**	**115**	Pn	**Pn**	**17 56 54.0**	**+1.5**
	comp=E,0.2nm,0.3s,baz=294,slow=12,SNR=7.6						
TXAR				Lg	Lg	18 00 35.4	
	comp=E,0.1nm,0.3s,baz=292,slow=30,SNR=11						
	comp=E,0.3nm,0.4s						

IDC 08 17:55:06.4±2.2, 0.71N×126.56E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=166.1km s-min=28.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.89**	**160**	P	P	18 00 00.6	-0.7
	0.7nm,0.4s,baz=338,slow=11,SNR=8.3						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**25.26**	**164**	P	P	18 00 35.0	+0.6
	1.1nm,0.9s,baz=348,slow=13,SNR=7.9						
	1.1nm,0.9s						
MKAR	**Makanchi Array**	**59.94**	**326**	P	P	18 05 14.4	-0.1
	0.2nm,0.5s,baz=134,slow=6.2,SNR=2.6						
	0.2nm,0.5s						

IDC 08 17:55:18.7±1.5, 0.64N×126.53E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=157.3km s-min=19.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.84**	**160**	P	P	18 00 12.6	-0.4
	3.3nm,0.4s,baz=338,slow=11,SNR=28						
	3.3nm,0.4s						
ASAR	**Alice Springs**	**25.20**	**164**	P	P	18 00 46.6	+0.4
	2.9nm,0.7s,baz=347,slow=13,SNR=30						
	2.9nm,0.7s						
STKA	**Stephens Creek**	**35.35**	**158**	P	P	18 02 15.8	-0.2
	1.2nm,0.7s,baz=329,slow=8.9,SNR=4.3						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**59.98**	**326**	P	P	18 05 27.4	+0.3
	0.6nm,0.5s,baz=115,slow=7.9,SNR=7.0						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**64.23**	**328**	P	P	18 05 55.1	-0.4
	0.5nm,0.6s,baz=129,slow=6.4,SNR=6.2						
	0.5nm,0.6s						

*NEIC **08** 18:03:54.2±0.6, 35°.749N±0°.007×117°.57W±0°.01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.4km az=337.0*

PAS 08 18:03:54.6±0.7, 35°.740N±0°.004×117°.56W±0°.01, h3km±3km, ML3.0/23, ML2.8/80(NEIC), Error ellipse: s-maj=1.2km s-min=0.4km az=109.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.08**	**340**		**Pg**	18 03 56.5	+0.1
CLC				IAML		18 03 58.1	
	comp=N,8μm,0.4s						
SRTC	**Snort**	**0.16**	**252**		**Pg**	18 03 58.2	+0.5
SRTC					**Sg**	18 04 01.2	+1.4
TOW	**Tower One**	**0.18**	**293**		**Pg**	18 03 58.6	+0.5
CCCA	**Chr Cany lake**	**0.27**	**143**		**Pg**	18 04 00.4	+0.6
LRMC	**Laurel Mtn Rad**	**0.28**	**200**		**Pg**	18 04 00.1	+0.1
LRMC				IAML		18 04 04.9	
	comp=N,1μm,0.3s						
LRMC				IAML		18 04 05.3	
	comp=E,2μm,0.2s						
WVPM	**Volcano Peak E**	**0.29**	**316**		**Pg**	18 04 00.4	+0.1
WNMM	**Nine Mile Cany**	**0.29**	**290**		**Pg**	18 04 00.5	+0.2
MPMC	**Manual Prospec**	**0.32**	**11**		**Pg**	18 04 00.9	0.0
MPMC				IAML		18 04 06.9	
	comp=E,1μm,0.5s						
MPMC				IAML		18 04 07.1	
	comp=N,1μm,0.6s						
WCSM	**Coso Springs S**	**0.33**	**330**		**Pg**	18 04 01.2	+0.2
WCSM					**Sg**	18 04 06.0	+0.6
DTP	**Desert Tortois**	**0.52**	**206**		**Pg**	18 04 04.4	-0.3
QSM	**Queen of Sheba**	**0.61**	**68**		**Pg**	18 04 06.2	-0.1
QSM				IAML		18 04 14.7	
	comp=E,740nm,0.4s						
QSM				IAML		18 04 18.9	
	comp=N,629nm,0.9s						
WHFM	**Hanning Flat**	**0.64**	**266**		**Pg**	18 04 06.7	-0.2
CCAC	**Calif City Air**	**0.69**	**212**		**Pg**	18 04 07.8	-0.1
ISA	**Isabella, Lake**	**0.74**	**264**		**Pg**	18 04 08.7	-0.3
ISA				IAML		18 04 19.5	
	comp=N,478nm,0.2s						
ISA				IAML		18 04 21.2	
	comp=E,587nm,0.2s						
GSC	**Goldstone, Bar**	**0.76**	**125**		**Pg**	18 04 09.0	-0.2
GSC				IAML		18 04 22.5	
	comp=N,756nm,0.4s						
GSC				IAML		18 04 24.0	
	comp=E,668nm,0.4s						
CWC	**Cottonwood Cre**	**0.81**	**329**		**Pg**	18 04 10.2	-0.1
GWY	**Greenwater Val**	**0.85**	**58**		**Pg**	18 04 10.6	-0.4
TPO	**Tropico Hills**	**1.02**	**212**		**Pg**	18 04 13.4	-0.7
TPO				IAML		18 04 32.2	
	comp=E,284nm,0.5s						
TPO				IAML		18 04 34.9	
	comp=N,272nm,0.6s						
SPG2	**Springville 2**	**1.08**	**296**		**Pg**	18 04 14.4	-0.9
GRAC	**Grapevine Rang**	**1.26**	**7**		**Pg**	18 04 18.2	-0.7
GRAC				IAML		18 04 37.9	
	comp=E,187nm,0.6s						
GRAC				IAML		18 04 38.8	
	comp=N,228nm,0.6s						
WCT	**Wildcat Mounta**	**1.30**	**36**		**Pg**	18 04 18.7	-0.8
DSCC	**Desert Studies**	**1.33**	**116**		**Pn**	18 04 19.1	-1.1
TUQ	**Turquoise Moun**	**1.37**	**102**		**Pn**	18 04 19.9	-0.8
BFSC	**Mount Baldy Ra**	**1.50**	**183**		**Pn**	18 04 21.4	-1.2
BFSC				IAML		18 04 43.5	
	comp=E,94nm,0.3s						
BFSC				IAML		18 04 44.3	
	comp=N,86nm,0.2s						
MWC	**Mount Wilson**	**1.57**	**195**		**Pn**	18 04 22.7	-0.8
MWC				IAML		18 04 46.9	
	comp=N,174nm,0.6s						
MWC				IAML		18 04 50.4	
	comp=E,184nm,0.7s						
GMN	**Gold Mountain**	**1.58**	**9**		**Pn**	18 04 22.9	-0.8
TPNV	**Topopah Spring**	**1.61**	**41**		**Pn**	18 04 23.7	-0.3
TPNV				IAML		18 04 50.3	
	comp=E,113nm,0.8s						
TPNV				IAML		18 04 52.2	
	comp=E,92nm,0.5s						
MTPC	**Mountain Pass**	**1.66**	**98**		**Pn**	18 04 22.9	-1.9
MTPC				IAML		18 04 51.5	
	comp=N,88nm,0.3s						
MTPC				IAML		18 04 51.7	
	comp=E,75nm,0.3s						
DSP	**Deep Springs**	**1.66**	**349**		**Pn**	18 04 24.2	-0.5
DSP				IAML		18 04 48.7	
	comp=E,65nm,0.7s						
ELS	**Elsinore Mount**	**2.09**	**177**		**Pn**	18 04 29.8	-0.9
ELS				IAML		18 05 07.4	
	comp=E,50nm,0.6s						
SHPR	**Sheep Range**	**2.09**	**68**		**Pb**	18 04 33.8	+0.5
SHPR				IAML		18 05 03.1	
	comp=N,42nm,0.5s						
V12A	**Nelson**	**2.21**	**90**		**Pn**	18 04 31.1	-1.1
V12A				IAML		18 05 15.9	
	comp=E,44nm,0.8s						
PMD	**Palm Desert**	**2.31**	**155**		**Pg**	18 04 37.9	-1.0
PMD				IAML		18 05 09.1	
	comp=N,45nm,0.6s						
PMD				IAML		18 05 09.8	
	comp=E,40nm,0.6s						
PFO	**Pinyon Flats O**	**2.31**	**156**		**Pn**	18 04 32.7	-1.0
PFO				IAML		18 05 10.0	
	comp=E,36nm,0.6s						
TPH	**Tonopah**	**2.35**	**7**		**Pb**	18 04 38.1	+0.4
TPH				IAML		18 05 13.3	
	comp=E,103nm,0.8s						
W13A	**Hualapai Mount**	**3.07**	**101**		**Pn**	18 04 43.0	-1.2
KNB	**Kanab**	**4.03**	**70**	IAML		18 06 10.2	
	comp=N,9.6nm,2.1s						
KNB				IAML		18 06 14.0	
	comp=E,8.5nm,1.0s						
SPR3	**Spring Creek 3**	**4.15**	**37**	IAML		18 06 11.1	
	comp=N,7.6nm,0.9s						

*IDC **08** 18:03:55.2±1.7, 31°.70N×

IGHG	**Ghaleghazi**	**3.50**	**316**	Pn		**Pn**		**18 04 55.8**	**+1.0**
ISAD	**Sadrabad**	**3.58**	**87**	Pn		**Pn**		**18 04 57.1**	**+1.2**
ILIN	**Lien**	**3.74**	**326**	Pn		**Pn**		**18 04 58.1**	**0.0**
ANAR	**Anarak**	**3.84**	**68**	Pn		**Pn**		**18 05 00.3**	**+1.0**
IDHR	**Dehrash**	**3.87**	**319**	Pn		**Pn**		**18 05 00.9**	**+1.0**
QABG	**Abgarm-Qazvin**	**3.88**	**1**	Pn		**Pn**		**18 05 00.6**	**+0.6**
ICHK	**Chekchek**	**4.20**	**83**	Pn		**Pn**		**18 05 05.4**	**+1.0**
IDMV	**Damavand**	**4.30**	**29**	Pn		**Pn**		**18 05 06.3**	**+0.4**
IMEH	**Mehriz**	**4.40**	**94**	Pn		**Pn**		**18 05 08.2**	**+1.1**
BHD	**Baghdad**	**4.55**	**290**	*e*Pn		**Pn**		**18 05 10.0**	**+1.1**
BHD				*e*Sn		**Sn**		**18 06 04.0**	**+3.5**
BHD				AML		AML		18 06 08.0	
	comp=E,200nm,0.5s								
ILAS	**Lasjerd**	**4.58**	**38**	Pn		**Pn**		**18 05 10.2**	**+0.5**
IGZV	**Ghazvin**	**4.59**	**7**	Pn		**Pn**		**18 05 10.7**	**+1.0**
IFIR	**Firoozkooh**	**4.68**	**35**	Pn		**Pn**		**18 05 11.9**	**+0.8**
KLST	**Kelardasht - M**	**4.86**	**15**	Pn		**Pn**		**18 05 14.7**	**+1.2**
MZPU	**Pul - Mazandar**	**4.92**	**20**	Pn		**Pn**		**18 05 15.5**	**+1.3**
IPRN	**Peran**	**5.00**	**27**	Pn		**Pn**		**18 05 16.8**	**+1.4**
IALA	**Alasht**	**5.07**	**32**	Pn		**Pn**		**18 05 17.8**	**+1.4**
IKRK	**Kirkuk**	**5.58**	**311**	*e*Pn		**Pn**		**18 05 24.0**	**+0.9**
IKRK				*e*Sn		**Sn**		**18 06 26.0**	**0.0**
TPRV	**Parvadeh(Tabas**	**6.21**	**77**	Pn		**Pn**		**18 05 32.7**	**+0.9**
TNSJ	**Nastanj**	**6.36**	**68**	Pn		**Pn**		**18 05 34.8**	**+0.8**
SBZV	**Sabzevar**	**8.13**	**54**	Pn		**Pn**		**18 05 59.2**	**+0.9**
ISFR	**Sfrayin**	**8.76**	**51**	Pn		**Pn**		**18 06 08.2**	**+1.3**
ASF	**Jabal al Asfar**	**10.70**	**275**	Pn		Pn		18 06 26.9	-6.3
	comp=E,0.4nm,0.3s,baz=213,slow=14,SNR=2.8								
ASF				Sn		Sn		18 08 14.9	-17
	comp=E,0.1nm,0.3s,baz=325,slow=15,SNR=2.3								
ASF				LR		LR		18 11 31.2	
	comp=E,37nm,18.1s,baz=229,slow=43								
	comp=E,0.9nm,0.3s								
WSAR	**Wadi Sarin**	**11.78**	**134**	Pn		**Pn**		**18 06 44.9**	**-3.3**
	baz=113,slow=24,SNR=4.2								
WSAR				Sn		Sn		18 08 46.4	-12
	baz=357,slow=24,SNR=1.6								
AKASG	**Malin Array Be**	**24.11**	**327**	P		**P**		**18 09 12.7**	**-1.0**
	comp=E,0.1nm,0.3s,baz=126,slow=7.1,SNR=1.9								
	comp=E,0.1nm,0.3s								
BVAR	**Borovoye Array**	**26.03**	**29**	P		**P**		**18 09 31.3**	**0.0**
	comp=E,1.4nm,0.5s,baz=212,slow=5.1,SNR=9.0								
BVAR				LR		LR		18 21 01.0	
	comp=E,25nm,19.6s,baz=174,slow=39								
	comp=E,1.4nm,0.5s								
KURBB	**Kurchatov Arra**	**28.53**	**40**	P		**P**		**18 09 54.2**	**+0.6**
	comp=E,0.2nm,0.7s,baz=248,slow=8.7,SNR=3.2								
	comp=E,0.2nm,0.7s								
MKAR	**Makanchi Array**	**29.21**	**50**	P		**P**		**18 10 00.1**	**+0.4**
	comp=E,0.4nm,0.7s,baz=250,slow=9.3,SNR=4.6								
	comp=E,0.4nm,0.7s								
WTTA	**Wattenberg**	**32.65**	**309**	*i* P		**P**		**18 10 30.9**	**+0.7**
	comp=E,1.2nm,0.4s								
SQTA	**Sankt Quirin**	**32.92**	**309**	*i* P		**P**		**18 10 32.0**	**-0.5**
	comp=E,0.5nm,0.1s								
MOTA	**Moosalm**	**33.02**	**309**	*e*P		**P**		**18 10 32.7**	**-0.8**
	comp=E,1.4nm,0.5s								
FETA	**Feichten**	**33.19**	**309**	*i* P		**P**		**18 10 35.1**	**+0.1**
	comp=E,0.3nm,0.3s								
FINES	**FINESS Array B**	**33.33**	**340**	P		**P**		**18 10 35.0**	**-0.7**
	comp=E,0.6nm,0.4s,baz=140,slow=9.0,SNR=11								
	comp=E,0.6nm,0.4s								
DAVA	**Damuels**	**33.81**	**309**	*i* P		**P**		**18 10 39.5**	**-0.9**
	comp=E,1.8nm,0.4s								
HFS	**Hagfors**	**36.88**	**331**	P		**P**		**18 11 05.4**	**-1.0**
	comp=E,1.2nm,0.3s,baz=130,slow=8.8,SNR=18								
	comp=E,1.2nm,0.3s								
NOA	**NORSAR Array B**	**38.40**	**331**	P		**P**		**18 11 18.0**	**-1.2**
	comp=E,1.2nm,0.3s,baz=125,slow=7.0,SNR=1.8								
	comp=E,1.2nm,0.3s								
CMAR	**Chiang Mai Arr**	**46.34**	**94**	P		**P**		**18 12 24.5**	**+0.2**
	comp=E,0.5nm,0.6s,baz=300,slow=8.5,SNR=5.8								
	comp=E,0.5nm,0.6s								

*NEIC **08** 18:10:19.2±0.6,35°.667N±0°.005×117°.49W±0°.01, h5km±1km, Error ellipse: s-maj=1.5km s-min=0.8km az=96.0*

PAS 08 18:10:19.7±0.6,**35°.672N**±0°.006×**117°.50W**±0°.01, **h2**km±1km,**ML3.0**/23,**ML2.9**/113(NEIC),**Error ellipse: s-maj=1.6km s-min=0.9km az=82.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.17**	**330**	Pg		18 10 23.0	+0.1
CLC				IAML		18 10 26.1	
	comp=E,4µm,0.6s						
CCCA	**Chr Cany lake**	**0.18**	**144**	Pg		18 10 23.8	+0.6
LRMC	**Laurel Mtn Rad**	**0.24**	**219**	Pg		18 10 24.6	+0.2
TOW	**Tower One**	**0.26**	**302**	Pg		18 10 25.4	+0.7
WNMM	**Nine Mile Cany**	**0.38**	**297**	Pg		18 10 27.2	+0.4
WVPM	**Volcano Peak E**	**0.38**	**317**	Pg		18 10 27.5	+0.5
WVPM				Sg		18 10 33.5	+1.4
MPMC	**Manual Prospec**	**0.39**	**1**	Pg		18 10 27.1	0.0
MPMC				IAML		18 10 33.2	
	comp=E,892nm,0.5s						
MPMC				IAML		18 10 33.5	
	comp=N,722nm,0.5s						
MPMC	**Manual Prospec**	**0.39**	**1**	Sg		18 10 33.0	+0.8
WCSM	**Coso Springs S**	**0.42**	**328**	Pg		18 10 27.9	+0.2
WCSM				Sg		18 10 34.1	+0.9
DTP	**Desert Tortois**	**0.49**	**215**	Pg		18 10 29.1	0.0
DTP				Sg		18 10 35.9	+0.4
QSM	**Queen of Sheba**	**0.59**	**60**	Pg		18 10 31.1	+0.1
QSM	**Queen of Sheba**	**0.59**	**60**	IAML		18 10 39.7	
	comp=N,1µm,0.7s						
QSM				IAML		18 10 40.9	
	comp=E,1µm,0.5s						
GSC	**Goldstone, Bar**	**0.67**	**123**	Pg		18 10 32.6	+0.1
WHFM	**Hanning Flat**	**0.70**	**272**	Pg		18 10 32.9	-0.1
ISA	**Isabella, Lake**	**0.80**	**270**	Pg		18 10 34.7	-0.3
GWY	**Greenwater Val**	**0.84**	**52**	Pg		18 10 35.3	-0.6
GWY				IAML		18 10 52.3	
	comp=N,654nm,0.9s						
GWY				IAML		18 10 52.4	
	comp=E,709nm,0.7s						
CWC	**Cottonwood Cre**	**0.90**	**328**	Pg		18 10 36.9	-0.1
CWC				IAML		18 10 50.1	
	comp=N,208nm,0.2s						
TPO	**Tropico Hills**	**0.99**	**217**	Pg		18 10 38.7	0.0
AMDNV	**Amargosa**	**1.25**	**51**	Pg		18 10 43.0	-0.7
TUQ	**Turquoise Moun**	**1.30**	**100**	Pg		18 10 43.9	-0.7
WCT	**Wildcat Mounta**	**1.32**	**32**	Pg		18 10 44.0	-1.1
WCT				IAML		18 11 03.8	
	comp=N,105nm,0.8s						
GRAC	**Grapevine Rang**	**1.33**	**4**	Pg		18 10 44.5	-0.6
GRAC				IAML		18 11 08.1	
	comp=N,310nm,0.9s						
GRAC				IAML		18 11 09.5	
	comp=E,231nm,0.7s						
BFSC	**Mount Baldy Ra**	**1.44**	**185**	Pn		18 10 45.6	-1.3
BFSC				IAML		18 11 07.0	
	comp=E,190nm,0.3s						
BFSC				IAML		18 11 13.2	
	comp=N,116nm,0.7s						
TPNV	**Topopah Spring**	**1.62**	**38**	Pn		18 10 48.5	-1.0
TPNV				IAML		18 11 15.6	
	comp=N,178nm,0.6s						
TPNV				IAML		18 11 16.3	
	comp=N,158nm,0.7s						
DSP	**Deep Springs**	**1.74**	**347**	Pn		18 10 50.5	-0.4
GMRC	**Granite Mounta**	**1.74**	**120**	Pn		18 10 49.1	-2.0
ELS	**Elsinore Mount**	**2.02**	**178**	Pn		18 10 53.9	-0.9
ELS				IAML		18 11 26.5	
	comp=E,55nm,0.5s						
ELS				IAML		18 11 32.2	
	comp=N,66nm,0.8s						
MZP	**Montezuma Peak**	**2.03**	**2**	Pn		18 10 54.8	-0.4
SHPR	**Sheep Range**	**2.07**	**66**	Pn		18 10 55.5	0.0
V12A	**Nelson**	**2.15**	**88**	Pn		18 10 56.4	-0.3
V12A				IAML		18 11 39.8	
	comp=N,44nm,0.7s						
V12A				IAML		18 11 40.4	
	comp=E,41nm,0.6s						
PMD	**Palm Desert**	**2.22**	**155**	Pb		18 11 01.3	+0.8
PMD				IAML		18 11 32.3	
	comp=E,45nm,0.6s						
PFO	**Pinyon Flats O**	**2.23**	**157**	Pb		18 11 00.8	+0.1
BORC	**Borrego Spring**	**2.56**	**159**	Pg		18 11 07.6	-1.1
BORC				IAML		18 11 44.7	
	comp=N,37nm,0.8s						
BORC				IAML		18 11 50.7	
	comp=E,56nm,0.9s						
DPP	**Dos Picos Cty**	**2.71**	**170**	Pn		18 11 03.6	-0.6
DPP				IAML		18 11 56.4	
	comp=N,27nm,1.4s						
DPP				IAML		18 12 18.0	
	comp=E,53nm,0.1s						
PMPB	**Monarch Peak**	**2.74**	**282**	Pn		18 11 03.3	-1.5
PMPB				IAML		18 12 04.4	
	comp=N,70nm,1.7s						
NV11	**Mina Array Sit**	**2.81**	**349**	Pg		18 11 12.6	-0.9
NVAR	**Mina Array Bea**	**2.83**	**347**	Pn		18 11 06.6	+0.5
W13A	**Hualapai Mount**	**3.00**	**100**	Pn		18 11 07.7	-0.8
W13A				IAML		18 11 55.8	
	comp=N,21nm,1.0s						
W13A				IAML		18 12 01.2	
	comp=E,18nm,0.7s						
R11B	**Troy Canyon, C**	**3.08**	**29**	Pg		18 11 17.1	-1.6
WAKR	**Walker**	**3.23**	**332**	Pb		18 11 19.4	+1.6
WAKR				IAML		18 12 17.4	
	comp=E,16nm,1.0s						
YUH	**Yuha Desert**	**3.29**	**156**	Pg		18 11 22.5	-0.2
CCUT	**Cedar City**	**3.82**	**59**	IAML		18 12 25.7	
	comp=N,11nm,1.5s						
CCUT				IAML		18 12 27.4	
	comp=E,9.4nm,1.3s						
ESJX	**Sierra Juarez**	**3.88**	**160**	IAML		18 12 03.4	
	comp=N,26nm,0.1s						
ESJX				IAML		18 12 21.6	
	comp=E,33nm,0.1s						
KNB	**Kanab**	**4.00**	**69**	IAML		18 12 33.1	
	comp=E,13nm,1.0s						
KNB				IAML		18 12 38.2	
	comp=N,12nm,1.4s						
PSUT	**Pine Spring**	**4.08**	**44**	IAML		18 12 34.1	
	comp=N,13nm,1.1s						
PSUT				IAML		18 12 44.3	
	comp=E,14nm,1.2s						
Y14A	**Wickenburg**	**4.08**	**114**	IAML		18 12 32.9	
	comp=N,28nm,0.6s						
Y14A				IAML		18 12 43.0	
	comp=E,18nm,1.0s						
SPR3	**Spring Creek 3**	**4.17**	**36**	IAML		18 12 32.5	
	comp=N,10nm,0.9s						
SPR3				IAML		18 12 32.5	
	comp=E,12nm,1.5s						
U15A	**North Rim**	**4.28**	**78**	IAML		18 12 36.1	
	comp=N,13nm,1.3s						
U15A				IAML		18 12 49.0	
	comp=E,12nm,1.1s						
BEKR	**Beckworth**	**4.76**	**332**	IAML		18 13 06.1	
	comp=N,8.9nm,0.9s						
WUAZ	**Wupatki**	**4.99**	**90**	IAML		18 13 05.6	
	comp=N,16nm,0.8s						
WUAZ				IAML		18 14 19.5	
	comp=N,15nm,0.6s						

*IDC **08** 18:13:59.1±1.2,31°.73N×49°.32E,h0km,mb3.8/8, mbtmp3.8/9,ML2.8/2,MS2.8/1,Error ellipse: s-maj=28.3km s-min=19.7km az=11.0*
*ISN **08** 18:14:00.5±1.3,31°.76N×49°.57E,h8km±73km,ML3.2*
*TEH **08** 18:14:02.4,31°.90N×49°.47E,h8km±46km*
*NAO **08** 18:14:04.5,31°.63N×48°.81E,h33km,mb3.7*
*OMAN **08** 18:14:07.6±1.1,31°.45N×49°.64E,h10km,mb4.1/10,Error ellipse: s-maj=10.3km s-min=6.9km az=161.0*

ISC 08 18:14:01.7±0.5,**31°.86N**±0°.03×**49°.46E**±0°.03,**h10**km,**n87,** σ2**s13**/103,**mb3.9**/14,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.88**	**233**	Pg	**Pb**	**18 14 20.3**	**+1.3**
AHWZ				Sg	**Sn**	**18 14 33.8**	**+0.9**
JHBN	**Jahan bin**	**1.09**	**70**	Pg	**Pg**	**18 14 22.7**	**+0.1**
JHBN				Sg	**Sn**	**18 14 40.4**	**+1.9**
ZNGN	**Zangian**	**1.21**	**77**	Pg	**Pb**	**18 14 25.2**	**+0.3**
ABEH	**Behbahan**	**1.43**	**152**	Pg	**Pg**	**18 14 30.3**	**+1.2**
ABEH				Sg	**Sg**	**18 14 51.0**	**+3.5**
IPIR	**Pirpir**	**1.46**	**55**	Pg	**Pg**	**18 14 29.9**	**+0.1**
IPIR				Sg	**Sg**	**18 14 50.0**	**+1.1**
IBRJ	**Brojen**	**1.53**	**88**	Pg	**Pg**	**18 14 31.3**	**+0.3**
KLNJ	**Kolanjah**	**2.01**	**114**	Pn	**Pb**	**18 14 38.6**	**+0.2**
IKFM	**Kafar-mosalman**	**2.15**	**321**	Pn	**Pb**	**18 14 39.5**	**-1.2**
IDOB	**Doab**	**2.21**	**331**	Pn	**Pb**	**18 14 41.2**	**-0.6**
IGAR	**Gharneh**	**2.25**	**75**	Pn	**Pb**	**18 14 42.1**	**-0.5**
IKLH	**Kolahrood**	**2.30**	**50**	Pn	**Pb**	**18 14 43.0**	**-0.5**
IRAM	**Ramesheh**	**2.48**	**90**	Pn	**Pb**	**18 14 45.4**	**-1.1**
IZEF	**Zefreh**	**2.63**	**66**	Pn	**Pb**	**18 14 47.2**	**+2.7**
RAFI	**Al-Rafai**	**2.86**	**268**	*e*Pn	**Pb**	**18 14 51.0**	**-1.7**
RAFI				*e*Sn	**Sb**	**18 15 27.0**	**-0.8**
IBZA	**Bozab**	**2.93**	**333**	Pn	**Pn**	**18 14 50.3**	**+1.7**
KAZ2	**Kazeron-Fars-I**	**2.93**	**139**	Pn	**Pn**	**18 14 51.5**	**+3.1**
HAGD	**Aghdareh**	**2.97**	**355**	Pn	**Pb**	**18 14 51.9**	**+2.8**
KRSH	**Karshahi**	**3.08**	**46**	Pn	**Pb**	**18 14 53.9**	**-2.8**
KBD	**Kabd**	**3.08**	**210**	P	**Pn**	**18 14 53.1**	**+2.7**
KBD				S	**Sn**	**18 15 29.8**	**+2.5**
IBDR	**Badra**	**3.24**	**294**	*e*Pn	**Pn**	**18 14 56.0**	**+3.5**
IBDR				*e*Sn	**Sb**	**18 15 36.0**	**-2.7**
IBDR				AML	AML	18 15 51.2	
	comp=N,82nm,0.3s						
IBDR				AML	AML	18 15 51.8	
	comp=E,95nm,0.4s						
SNQR	**Sonqor, Kerman**	**3.36**	**333**	Pn	**Pn**	**18 14 57.4**	**+2.8**
ISFB	**Sefidab**	**3.41**	**42**	Pn	**Pn**	**18 14 58.1**	**+3.1**
ISAD	**Sadrabad**	**3.59**	**88**	Pn	**Pn**	**18 15 00.3**	**+2.6**
ILIN	**Lien**	**3.70**	**326**	Pn	**Pn**	**18 15 01.7**	**+2.5**
GLG1	**Gilan-e-Gharb**	**3.74**	**308**	Pn	**Pn**	**18 15 01.4**	**+1.9**
DSBU	**Dashti - Bushe**	**3.82**	**155**	Pn	**Pn**	**18 15 03.0**	**+2.4**
IDHR	**Dehrash**	**3.83**	**319**	Pn	**Pn**	**18 15 03.0**	**+2.1**
ANAR	**Anarak**	**3.84**	**69**	Pn	**Pn**	**18 15 03.7**	**+2.7**
KGS1	**Ghasr-e-Shirin**	**4.19**	**310**	Pn	**Pn**	**18 15 07.7**	**+2.1**
IDMV	**Damavand**	**4.28**	**29**	Pn	**Pn**	**18 15 09.7**	**+2.5**
IMEH	**Mehriz**	**4.42**	**95**	Pn	**Pn**	**18 15 11.9**	**+2.9**
BHD	**Baghdad**	**4.52**	**289**	*e*Pn	**Pn**	**18 15 14.0**	**+3.9**
BHD				*e*Sn	**Sn**	**18 16 08.0**	**+5.3**
IGZV	**Ghazvin**	**4.56**	**8**	Pn	**Pn**	**18 15 13.8**	**+2.9**
ILAS	**Lasjerd**	**4.57**	**39**	Pn	**Pn**	**18 15 13.3**	**+2.2**
IFIR	**Firoozkooh**	**4.66**	**35**	Pn	**Pn**	**18 15 15.1**	**+2.7**
KLST	**Kelardasht - M**	**4.83**	**15**	Pn	**Pn**	**18 15 18.1**	**+3.3**
MZPU	**Pul - Mazandar**	**4.89**	**20**	Pn	**Pn**	**18 15 18.8**	**+3.3**
IPRN	**Peran**	**4.98**	**28**	Pn	**Pn**	**18 15 19.5**	**+2.9**
IALA	**Alasht**	**5.05**	**33**	Pn	**Pn**	**18 15 20.5**	**+2.8**
IKRK	**Kirkuk**	**5.54**	**311**	*e*Pn	**Pn**	**18 15 28.0**	**+3.7**
IKRK				*e*Sn	**Sn**	**18 16 33.0**	**+4.9**
IGLO	**Ghaloghah**	**5.88**	**37**	Pn	**Pn**	**18 15 31.8**	**+2.7**
SHMA	**Al-Shehemyia**	**6.12**	**167**	P	**Pn**	**18 15 33.5**	**+1.3**
SHMA				S	**Sn**	**18 16 40.7**	**-1.6**
TPRV	**Parvadeh(Tabas**	**6.21**	**77**	Pn	**Pn**	**18 15 36.3**	**+2.7**
TRNA	**Turayna**	**7.26**	**167**	P	**Pn**	**18 15 48.6**	**+0.7**
	SNR=8.1						
TRNA				S	**Sn**	**18 17 07.4**	**-3.0**
JRN	**Qarnain Island**	**7.51**	**156**	P	**Pn**	**18 15 51.9**	**+0.7**
JRN				S	**Sn**	**18 17 13.4**	**-3.0**
SLWR	**Sila**	**8.01**	**165**	P	**Pn**	**18 15 58.9**	**+0.8**
SLWR				S	**Sn**	**18 17 25.8**	**-2.9**
SHME	**Shamm**	**8.23**	**133**	P	**Pn**	**18 16 02.8**	**+1.7**
SHME				S	**Sn**	**18 17 29.8**	**-4.4**
GHWR	**Ruwais**	**8.42**	**158**	P	**Pn**	**18 16 06.0**	**+2.2**
GHWR				S	**Sn**	**18 17 36.3**	**-2.7**
MASF	**Masafi**	**8.74**	**136**	P	**Pn**	**18 16 09.1**	**+0.9**
MASF				S	**Sn**	**18 17 42.5**	**-4.3**
ASUD	**Al Ashush, Dub**	**8.87**	**143**	P	**Pn**	**18 16 11.2**	**+1.3**
MDH	**Madha**	**8.88**	**136**	P	**Pn**	**18 16 11.3**	**+1.3**
RAYN	**Ar Rayn**	**9.02**	**204**	P	**Pn**	**18 16 10.6**	**-1.5**
RAYN				S	**Sn**	**18 17 51.8**	**-1.9**
UOSS	**Minazif**	**9.09**	**138**	P	**Pn**	**18 16 13.8**	**+0.8**
HATD	**Hatta, Dubai**	**9.14**	**138**	P	**Pn**	**18 16 15.0**	**+1.3**
ASHO	**Ashiyiah**	**9.21**	**139**	P	**Pn**	**18 16 15.7**	**+1.0**
JASK	**Jask - Hormozg**	**9.48**	**127**	P	**Pn**	**18 16 20.1**	**+1.8**
MZR	**Muzera**	**9.51**	**157**	P	**Pn**	**18 16 19.0**	**+0.2**
ALNE	**Al Ain**	**9.55**	**143**	P	**Pn**	**18 16 19.9**	**+0.6**
SOHO	**SOHO**	**9.91**	**139**	P	**Pn**	**18 16 24.8**	**+0.6**
UMZA	**Um Al Zommool**	**10.42**	**150**	P	**Pn**	**18 16 31.5**	**+0.3**
ARQ	**Araqi**	**10.54**	**142**	P	**Pn**	**18 16 33.8**	**+0.9**
ASF	**Jabal al Asfar**	**10.67**	**275**	Pn	**Pn**	**18 16 33.9**	**-0.9**
	comp=E,0.3nm,0.3s,baz=248,slow=22,SNR=2.3						
ASF				Sn	Sn	18 18 23.9	-10
	baz=355,slow=21						
	comp=E,1.1nm,0.3s						
BSY	**Bisya**	**11.38**	**141**	P	**Pn**	**18 16 44.1**	**-0.4**
SMDO	**Samad**	**11.61**	**137**	P	**Pn**	**18 16 48.1**	**+0.5**
WSAR	**Wadi Sarin**	**11.82**	**134**	Pn	**Pn**	**18 16 49.5**	**-0.9**
	baz=329,slow=24,SNR=8.7						
WSAR				Sn	Sn	18 18 51.1	-11
	baz=287,slow=24,SNR=5.6						
JLN	**Jalan Bani Buh**	**13.11**	**135**	P	**Pn**	**18 17 07.3**	**-0.8**
MHTO	**MHTO**	**13.23**	**143**	P	**Pn**	**18 17 08.6**	**-1.0**
DOK	**Doka**	**13.84**	**161**	P	**Pn**	**18 17 16.4**	**-1.6**
WHFO	**Wadi Hawf**	**14.42**	**163**	P	**Pn**	**18 17 23.3**	**-2.6**
	SNR=8.4						
DMTO	**DMTO**	**14.93**	**159**	P	**Pn**	**18 17 31.0**	**-1.9**
	SNR=8.7						
AKASG	**Malin Array Be**	**24.06**	**327**	LR	LR	18 32 00.6	
	comp=E,23nm,18.3s,baz=240,slow=45						
BVAR	**Borovoye Array**	**26.01**	**29**	P	**P**	**18 19 35.6**	**+1.0**
	comp=E,1.3nm,0.6s,baz=217,slow=7.0,SNR=7.9						
	comp=E,1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**28.52**	**40**	P	**P**	**18 19 58.0**	**+0.8**
	comp=E,0.2nm,0.6s,baz=242,slow=9.5,SNR=5.3						
	comp=E,0.2nm,0.6s						
MKAR	**Makanchi Array**	**29.20**	**50**	P	**P**	**18 20 04.3**	**+1.0**
	comp=E,0.3nm,0.6s,baz=238,slow=9.0,SNR=4.1						
	comp=E,0.3nm,0.6s						
RONA	**Rosalia, Austr**	**29.72**	**312**	*i* P	**P**	**18 20 07.8**	**-0.1**
	comp=E,2.0nm,0.5s						
LESA	**Schwarzleotal**	**31.97**	**310**	*i* P	**P**	**18 20 27.6**	**-0.3**
	comp=E,1.1nm,0.3s						
WATA	**Walderalm**	**32.67**	**309**	*e*P	**P**	**18 20 33.8**	**-0.3**
	comp=E,1.7nm,0.4s						
SQTA	**Sankt Quirin**	**32.88**	**309**	*e*P	**P**	**18 20 35.3**	**-0.6**
	comp=E,2.6nm,0.4s						
MOTA	**Moosalm**	**32.98**	**309**	*e*P	**P**	**18 20 36.4**	**-0.4**
	comp=E,0.6nm,0.4s						
FETA	**Feichten**	**33.15**	**308**	*i* P	**P**	**18 20 38.3**	**0.0**
	comp=E,0.6nm,0.5s						
FINES	**FINESS Array B**	**33.29**	**340**	P	**P**	**18 20 38.3**	**-0.8**
	comp=E,0.7nm,0.4s,baz=142,slow=9.5,SNR=11						
	comp=E,0.7nm,0.4s						
DAVA	**Damuels**	**33.78**	**309**	*e*P	**P**	**18 20 43.1**	**-0.6**
	comp=E,3.5nm,0.4s						
HFS	**Hagfors**	**36.84**	**331**	P	**P**	**18 21 09.1**	**-0.7**
	comp=E,1.4nm,0.3s,baz=132,slow=8.9,SNR=22						
	comp=E,1.4nm,0.3s						
NB2	**NORSAR Subarra**	**38.36**	**331**	P	**P**	**18 21 21.5**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=123,slow=8.6						
NOA	**NORSAR Array B**	**38.36**	**331**	P	**P**	**18 21 21.6**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=123,slow=8.3,SNR=4.3						
	comp=Z,1.1nm,0.3s						
CMAR	**Chiang Mai Arr**	**46.36**	**94**	P	**P**	**18 22 27.6**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=285,slow=8.0,SNR=7.2						
	comp=Z,0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**47.48**	**258**	P	**P**	**18 22 34.8**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=55,slow=9.0,SNR=4.3						
	comp=Z,0.6nm,0.3s						

*PDG **08** 18:18:12.8±0.1,42°.04N×20°.78E,h11km,ML2.5/10,Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*SKO **08** 18:18:14.9,42°.10N×20°.54E,h15km,ML2.3*
*ATH **08** 18:18:25.6,41°.68N×21°.03E,h25km±12km,ML2.0/5, Manual Solution by D.Makaris First location: 2019/07/08 18:19:15, This location: 2020/09/29 15:17:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*

ISC 08 18:18:15.5±1.0,**42°.05N**±0°.03×**20°.72E**±0°.03,**h18**km±9km, **n26,**σ1**966**/45,**2C-1D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.54**	**97**	*i* Pg	**Pn**	**18 18 28.1**	**-0.4**
SKO				*i* Sg	**Sn**	**18 18 39.0**	**+1.9**
OHR	**Ohrid**	**0.93**	**176**	*i* Pg	**Pn**	**18 18 34.7**	**+0.8**
OHR				*i* Sg	**Sn**	**18 18 49.8**	**+2.9**
OHR				*e*Lg	Lg	18 18 50.1	
	comp=E,57nm,0.5s						
OHR				*e*Lg	Lg	18 18 52.8	
	comp=N,75nm,0.6s						
TIR	**Tirane**	**0.94**	**223**	*i* Pg	**Pb**	**18 18 32.5**	**-0.9**
IVA	**Berane**	**1.03**	**324**	*i* Pg	**Pb**	**18 18 32.5**	**-2.4**
IVA				*i* Sg	**Sg**	**18 18 49.2**	**+0.2**
ULC	**Ulcinj**	**1.10**	**266**	*i* Pg	**Pb**	**18 18 34.1**	**-2.0**
ULC				*i* Sg	**Sg**	**18 18 51

MTN	**Manton Dam**	**14.12**	**160**	P		**P**	**18 25 03.0**	**-1.9**
SBUM	**Sibu**	**14.24**	**278**			**P**	**18 25 07.1**	**+0.9**
KSM	**Kuching**	**16.05**	**273**			**P**	**18 25 26.9**	**+0.4**
KSM					IAmb	IAmb	18 25 28.2	
	comp=Z,34nm,0.8s							
KNRA	**Kununurra**	**16.28**	**172**			**Pn**	**18 25 25.1**	**-1.5**
FITZ	**Fitzroy Crossi**	**18.53**	**182**	P		**P**	**18 25 51.6**	**-2.1**
FITZ	**Fitzroy Crossi**	**18.53**	**182**	P		**P**	**18 25 51.2**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=0.7,slow=12,SNR=6.6							
	comp=Z,6.0nm,0.9s							
WB0	**Warramunga Arr**	**21.67**	**159**			**P**	**18 26 26.9**	**-0.9**
WB0					IAmb	IAmb	18 26 36.6	
	comp=Z,13nm,0.8s							
WRAB	**Tennant Creek**	**21.80**	**159**	P		**P**	**18 26 28.3**	**-1.0**
WRAB					IAmb	IAmb	18 26 34.7	
	comp=Z,22nm,1.2s							
WRA	**Warramunga Arr**	**21.81**	**159**	P		**P**	**18 26 27.6**	**-1.8**
WRA	**Warramunga Arr**	**21.81**	**159**	P		**P**	**18 26 28.3**	**-1.1**
	comp=Z,6.0nm,0.7s,baz=339,slow=11,SNR=36							
	comp=Z,6.0nm,0.7s							
WR8	**Warramunga Arr**	**21.88**	**159**			**P**	**18 26 29.2**	**-0.9**
WR8					IAmb	IAmb	18 26 35.6	
	comp=Z,21nm,1.1s							
COEN	**Coen**	**22.03**	**131**	P		**P**	**18 26 31.7**	**-0.1**
AS31	**Alice Springs**	**25.15**	**163**			**P**	**18 27 02.8**	**+0.8**
ASAR	**Alice Springs**	**25.15**	**163**	P		**P**	**18 27 02.5**	**+0.5**
	comp=Z,9.2nm,0.8s,baz=342,slow=10,SNR=39							
ASAR					PcP	**PcP**	**18 30 35.0**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=2.9,slow=1.9,SNR=3.0							
	comp=Z,9.2nm,0.8s							
FORT	**Forrest**	**31.18**	**177**			**P**	**18 27 56.0**	**+0.2**
FORT					IAmb	IAmb	18 27 59.8	
	comp=Z,5.9nm,0.8s							
PZH	**PanZhiHua**	**35.03**	**319**	P		**P**	**18 28 32.1**	**+2.6**
STKA	**Stephens Creek**	**35.33**	**157**	P		**P**	**18 28 32.4**	**+0.5**
STKA	**Stephens Creek**	**35.33**	**157**	P		**P**	**18 28 31.7**	**-0.2**
	comp=Z,3.3nm,0.9s,baz=330,slow=8.2,SNR=7.3							
	comp=Z,3.3nm,0.9s							
KSRS	**Korea Array**	**36.77**	**2**	P		**P**	**18 28 44.8**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=185,slow=8.8,SNR=4.6							
	comp=Z,0.8nm,0.7s							
LZH	**Lanzhou**	**41.08**	**332**	*e*P		P	18 29 26.1	+5.6
LZH					sP	sP	18 29 49.7	+12
LZH					PP	**PnPn**	**18 31 05.1**	**+4.5**
LZH					pmax	pmax		
	comp=Z,15nm,1.2s							
HHC	**Hu-ho-hao-te**	**42.31**	**343**	*e*P		**P**	**18 29 31.4**	**+1.0**
HHC					S	**S**	**18 35 44.6**	**-3.5**
HHC					SS	**SS**	**18 38 54.0**	**-4.2**
HHC					pmax	pmax		
	comp=Z,10.0nm,0.7s							
HHC					pmax	pmax		
	comp=Z,89nm,4.7s							
HHC					LR	LR		
	comp=N,1μm,14.1s							
HHC					LR	LR		
	comp=E,810nm,15.0s							
HHC					LR	LR		
	comp=Z,2μm,16.0s							
USA0B	**Ussuriysk Arra**	**43.77**	**6**	P		**P**	**18 29 40.3**	**-1.7**
USA0B					IAmb	IAmb	18 29 48.9	
	comp=Z,2.9nm,0.7s							
GTA	**Gaotai**	**45.65**	**331**	*e*P		**P**	**18 29 58.1**	**+0.8**
GTA					PcP	**PcP**	**18 31 39.4**	**+4.5**
GTA					pmax	pmax		
	comp=Z,2.0nm,0.9s							
GTA					LR	LR		
	comp=N,230nm,13.8s							
GTA					LR	LR		
	comp=E,300nm,13.4s							
GTA					LR	LR		
	comp=Z,220nm,15.3s							
SONM	**Songino Array**	**50.20**	**343**	P		**P**	**18 30 32.6**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=167,slow=6.8,SNR=6.9							
	comp=Z,1.6nm,0.9s							
PETK	**Petropavlovsk-**	**58.52**	**22**	P		**P**	**18 31 34.7**	**+2.2**
	comp=Z,2.3nm,0.9s,baz=161,slow=3.6,SNR=2.7							
	comp=Z,2.3nm,0.9s							
MKAR	**Makanchi Array**	**59.96**	**327**	P		**P**	**18 31 42.5**	**-0.1**
	comp=Z,2.8nm,0.5s,baz=120,slow=8.5,SNR=28							
MKAR					PcP	**PcP**	**18 32 28.4**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=133,slow=3.7,SNR=3.9							
	comp=Z,2.8nm,0.5s							
MAKZ	**Makanchi**	**60.15**	**326**			**P**	**18 31 43.8**	**-0.1**
MAKZ					IAmb	IAmb	18 31 50.1	
	comp=Z,4.4nm,1.2s							
ZALV	**Zalesovo Beam**	**63.26**	**334**	P		**P**	**18 32 03.9**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=116,slow=6.8,SNR=5.0							
	comp=Z,0.6nm,0.3s							
KURBB	**Kurchatov Arra**	**64.22**	**328**	P		**P**	**18 32 11.0**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=127,slow=6.1,SNR=30							
	comp=Z,2.4nm,0.7s							
KURK	**Kurchatov**	**64.22**	**329**			**P**	**18 32 10.9**	**-0.1**
BVAR	**Borovoye Array**	**69.78**	**328**	P		**P**	**18 32 46.8**	**+0.4**
	comp=Z,0.7nm,0.4s							
	comp=Z,0.7nm,0.4s							
AB31	**Akbulak array**	**74.37**	**321**		IAmb	IAmb	18 33 20.4	
	comp=Z,3.4nm,1.0s							
ABKAR	**Akbulak array**	**74.37**	**321**	P		**P**	**18 33 14.0**	**+0.1**
ARTI	**Arti**	**77.50**	**328**	P		**P**	**18 33 29.9**	**-1.6**
ARTI					IAmb	IAmb	18 33 34.5	
	comp=Z,3.8nm,0.8s							
MAW	**Mawson**	**80.64**	**200**	P		**P**	**18 33 48.4**	**0.0**
	comp=Z,1.6nm,0.9s,baz=74,slow=7.4,SNR=2.1							
	comp=Z,1.6nm,0.9s							
QSPA	**South Pole Qui**	**90.46**	**180**	P		**P**	**18 34 37.3**	**-0.2**
QSPA	**South Pole Qui**	**90.46**	**180**	P		**P**	**18 34 37.3**	**-0.2**
	comp=Z,1.8nm,1.0s,baz=283,slow=2.1,SNR=5.1							
	comp=Z,1.8nm,1.0s							
BRTR	**Keskin Array B**	**91.74**	**310**	P		**P**	**18 34 43.4**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=60,slow=5.7,SNR=2.7							
	comp=Z,0.6nm,0.8s							
ARCES	**ARCESS Array B**	**93.29**	**340**	P		**P**	**18 34 50.1**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=63,slow=5.4,SNR=1.6							
	comp=Z,0.8nm,0.7s							
LPAZ	**La Paz**	**158.82**	**138**	PKP		**PKPdf**	**18 41 35.4**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=210,slow=3.1,SNR=4.6							

*IDC **08** 18:29:26.2±0.8, 0˚.40N×125˚.97E, h0km, mb3.9/9, mbtmp3.9/10, ML3.2/1, Error ellipse: s-maj=53.6km s-min=15.0km az=73.0*

*DJA **08** 18:29:30.8±0.2, 1˚N±3˚×12˚6E±˚, h10km, M4.0/19, mB5.0/1, mb4.0/6, MLv4.0/19, Mw(mB)4.3/1*

*NEIC **08** 18:29:31.8±1.0, 0˚.64N±0˚.05×126˚.38E±0˚.06, h35km±1km, mb4.2/11, Error ellipse: s-maj=12.4km s-min=6.9km az=304.0*

ISC 08 18:29:32.6±0.6, 0˚.52N±0˚.06×126˚.34E±0˚.05, h47km, n42, σ1§14/43, mb4.2/15, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.06**	**76**		**Pn**	**18 29 49.4**	**-1.7**
TNTI	**Ternate**	**1.06**	**76**	P	**Pn**	**18 29 50.6**	**-0.5**
KMSI	**Cibinong**	**2.35**	**271**	P	**Pn**	**18 30 08.2**	**-0.6**
SANI	**Sanana**	**2.57**	**188**	P	**Pn**	**18 30 10.1**	**-1.7**
NLAI	**Namlea**	**3.81**	**168**	P	**Pn**	**18 30 29.0**	**+0.2**
LUWI	**Luwuk**	**3.89**	**246**	Pn	**Pn**	**18 30 30.4**	**+0.6**
LUWI	**Luwuk**	**3.89**	**246**	P	**Pn**	**18 30 32.0**	**+2.2**
MRSI	**Marisa**	**4.39**	**269**	P	**Pn**	**18 30 36.7**	**-0.1**
APSI	**Ampana**	**4.90**	**253**	P	**Pn**	**18 30 44.7**	**+1.0**
SWI	**Sorong**	**5.11**	**106**	P	**Pn**	**18 30 49.1**	**+2.4**
	0.1nm16nm,0.9s						
TOLI2	**Tolitoli**	**5.58**	**276**	Pn	**Pn**	**18 30 51.6**	**-1.5**
KDI	**Kendari**	**5.79**	**220**	P	**Pn**	**18 30 55.8**	**-0.2**
MPSI	**Mapaga**	**6.44**	**268**	P	**Pn**	**18 31 07.1**	**+2.2**
	0.1nm9.6nm,1.1s						
FAKI	**Fak Fak**	**6.83**	**120**	P	**Pn**	**18 31 12.5**	**+2.3**
BNSI	**Bone**	**7.91**	**232**	P	**Pn**	**18 31 25.2**	**+0.1**
	0.1nm17nm,1.2s						
SPSI	**Sidrap Palu**	**7.93**	**236**	P	**Pn**	**18 31 26.2**	**+0.8**
SBUM	**Sibu**	**14.24**	**278**	P	**P**	**18 32 57.6**	**-0.2**
KSM	**Kuching**	**16.05**	**274**	P	**P**	**18 33 18.0**	**0.0**
KSM					IAmb	IAmb	18 33 19.8	
	comp=Z,17nm,0.7s							
FITZ	**Fitzroy Crossi**	**18.51**	**182**	P	**P**	**18 33 42.9**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=11,slow=10,SNR=2.3							
	comp=Z,2.8nm,1.0s							
WB0	**Warramunga Arr**	**21.65**	**159**	P	**P**	**18 34 20.1**	**+0.9**
WB0					IAmb	IAmb	18 34 28.6	
	comp=Z,9.4nm,0.9s							
WRAB	**Tennant Creek**	**21.79**	**159**	P	**P**	**18 34 20.9**	**+0.2**
WRAB					IAmb	IAmb	18 34 26.3	
	comp=Z,12nm,1.0s							
WRA	**Warramunga Arr**	**21.80**	**159**	P	**P**	**18 34 22.1**	**+1.4**
	comp=Z,3.6nm,0.7s,baz=338,slow=11,SNR=15							
	comp=Z,3.6nm,0.7s							
WR8	**Warramunga Arr**	**21.86**	**159**	P	**P**	**18 34 20.6**	**-0.9**
WR8					IAmb	IAmb	18 34 27.1	
	comp=Z,9.1nm,1.0s							
AS31	**Alice Springs**	**25.14**	**163**		**P**	**18 34 54.4**	**+0.9**
ASAR	**Alice Springs**	**25.14**	**163**		**P**	**18 34 53.9**	**+0.4**
ASAR	**Alice Springs**	**25.14**	**163**	P	**P**	**18 34 53.8**	**+0.3**
	comp=Z,7.2nm,1.0s,baz=344,slow=11,SNR=26							
ASAR				PcP	**PcP**	**18 38 27.5**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=310,slow=2.8,SNR=3.0							
	comp=Z,7.2nm,1.0s							
STKA	**Stephens Creek**	**35.31**	**157**	P	**P**	**18 36 22.8**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=358,slow=6.3,SNR=3.4							
	comp=Z,1.3nm,0.8s							
KSRS	**Korea Array**	**36.78**	**2**	P	**P**	**18 36 36.4**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=178,slow=10,SNR=1.4							
	comp=Z,0.9nm,0.7s							
HIA	**Hailar**	**48.89**	**354**	P	**P**	**18 38 13.1**	**-0.6**
SONM	**Songino Array**	**50.21**	**343**	P	**P**	**18 38 24.8**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=149,slow=6.7,SNR=1.6							
	comp=Z,0.5nm,0.6s							
PETK	**Petropavlovsk-**	**58.54**	**22**	P	**P**	**18 39 26.2**	**+2.0**
	comp=Z,1.3nm,0.7s,baz=232,slow=7.4,SNR=4.7							
	comp=Z,1.3nm,0.7s							
MKAR	**Makanchi Array**	**59.98**	**327**		**P**	**18 39 33.4**	**-0.9**
MKAR	**Makanchi Array**	**59.98**	**327**	P	**P**	**18 39 34.0**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=122,slow=8.0,SNR=14							
	comp=Z,0.6nm,0.3s							
MAKZ	**Makanchi**	**60.16**	**326**		**P**	**18 39 34.7**	**-0.8**
ZALV	**Zalesovo Beam**	**63.27**	**334**	P	**P**	**18 39 55.9**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=134,slow=11,SNR=4.9							
	comp=Z,0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**64.23**	**328**	P	**P**	**18 40 02.0**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=128,slow=6.5,SNR=17							
	comp=Z,0.9nm,0.6s							
KURK	**Kurchatov**	**64.24**	**329**	P	**P**	**18 40 02.2**	**-0.5**
KURK					IAmb	IAmb	18 40 13.9	
	comp=Z,2.6nm,0.8s							
KKAR	**Karatay Array**	**65.32**	**318**	P	**P**	**18 40 10.2**	**+0.2**
NRIK	**Noril'sk**	**73.44**	**347**	P	**P**	**18 40 59.1**	**-0.5**
NRIK					IAmb	IAmb	18 41 17.6	
	comp=Z,3.7nm,0.8s							
AB31	**Akbulak array**	**74.39**	**321**	P	**P**	**18 41 04.3**	**-1.2**
AB31					IAmb	IAmb	18 41 12.4	
	comp=Z,1.7nm,0.9s							
ABKAR	**Akbulak array**	**74.39**	**321**	P	**P**	**18 41 04.8**	**-0.7**

IDC 08 18:30:32.7±2.1, 0˚.18N×125˚.54E, h0km, mb3.6/3, mbtmp3.7/3, Error ellipse: s-maj=195.8km s-min=29.4km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.78**	**157**	P	P	18 35 25.9	-0.4
	1.1nm,0.5s,baz=335,slow=11,SNR=1.1						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**25.06**	**162**	P	P	18 35 59.2	+0.3
	0.6nm,0.3s,baz=346,slow=11,SNR=4.7						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**59.82**	**327**	P	P	18 40 39.9	-0.1
	0.4nm,0.4s,baz=123,slow=8.5,SNR=1.7						
	0.4nm,0.4s						

CATAC 08 18:32:34.9±0.6, 11˚N±3˚×8˚6W±˚, h158km±4km, M2.7/14, MLv2.7/14, Error ellipse: s-maj=11.0km s-min=4.1km az=58.4, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAPN	**Al SSO del Vol**	**0.11**	**26**	P	Pn	18 32 57.0	+0.9
MORN	**Al O del Volca**	**0.15**	**33**	P	Pn	18 32 58.0	+1.8
MORN				S	Sn	18 33 13.0	+0.6
CARN	**Rivas**	**0.31**	**139**	P	Pn	18 32 57.5	+1.0
CARN				S	Sn	18 33 15.2	+2.3
SABN	**Sabanita**	**0.68**	**321**	P	Pn	18 32 57.8	-0.5
ACON	**Acoyapa**	**0.77**	**45**	P	Pn	18 32 59.1	+0.4
ACON	**Acoyapa**	**0.77**	**45**	S	Sn	18 33 17.8	+0.7
WILN	**Americas 2**	**0.86**	**329**	P	Pn	18 32 58.9	-0.5
UNAN	**Cigeo UNAN**	**0.87**	**322**	P	Pn	18 32 59.5	0.0
UNAN				S	Sn	18 33 19.8	+1.5
SAPS	**Ciudad Sandino**	**0.99**	**318**	P	Pn	18 33 00.2	-0.3
SAPS	**Ciudad Sandino**	**0.99**	**318**	S	Sn	18 33 21.1	+1.0
APQ3	**Volcan Apoyequ**	**1.05**	**323**	P	Pn	18 33 01.2	+0.3
APQ3				S	Sn	18 33 22.9	+2.0
COPN	**Copaltepe**	**1.13**	**312**	P	Pn	18 33 01.1	-0.5
COPN				S	Sn	18 33 21.6	-0.5
MOM2	**El Cardon**	**1.25**	**324**	P	Pn	18 33 03.2	+0.5
MOM2				S	Sn	18 33 25.1	+1.1
MOMN	**Momotombo**	**1.26**	**321**	P	Pn	18 33 02.8	-0.1
MOMN				S	Sn	18 33 23.4	-0.9
JTS	**Las Juntas de**	**1.36**	**146**	P	Pn	18 33 04.4	+0.6
JTS				S	Sn	18 33 26.4	+0.4
CMARA	**Lajas Hojancha**	**1.43**	**168**	P	Pn	18 33 05.0	+0.5
CMARA	**Lajas Hojancha**	**1.43**	**168**	S	Sn	18 33 28.0	+0.7
CNGN	**Cerro Negro**	**1.43**	**319**	S	Sn	18 33 28.0	+0.8
CNGN	**Cerro Negro**	**1.43**	**319**	P	Pn	18 33 05.6	+1.1
INDI	**Punta indio, G**	**1.56**	**172**	P	Pn	18 33 06.0	+0.2
INDI	**Punta indio, G**	**1.56**	**172**	S	Sn	18 33 29.4	-0.2

*DJA **08** 18:34:52.7±0.2, 0˚N±3˚×12˚6E±˚, h10km, M3.7/16, mb3.8/7, MLv3.6/16*

*IDC **08** 18:34:55.1±1.8, 0˚.23S×126˚.18E, h0km, mb3.7/4, mbtmp3.8/4, Error ellipse: s-maj=150.9km s-min=26.8km az=65.0*

ISC 08 18:34:55.4±1.2, 0˚.43N±0˚.08×126˚.36E±0˚.06, h47km, n14, σ1§38/14, mb3.8/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.07**	**71**	P	**Pn**	**18 35 13.0**	**-1.0**
TNTI				S	**Sn**	**18 35 28.0**	**+0.3**
KMSI	**Cibinong**	**2.38**	**274**	P	**Pn**	**18 35 31.4**	**-0.5**
SANI	**Sanana**	**2.49**	**189**	P	**Pn**	**18 35 30.3**	**-3.1**
NLAI	**Namlea**	**3.72**	**168**	P	**Pn**	**18 35 50.5**	**+0.2**
LUWI	**Luwuk**	**3.87**	**248**	P	**Pn**	**18 35 51.7**	**-0.7**
KDI	**Kendari**	**5.74**	**221**	P	**Pn**	**18 36 18.7**	**+0.6**
MPSI	**Mapaga**	**6.46**	**269**	P	**Pn**	**18 36 26.2**	**-1.8**
	0.0nm5.4nm,1.1s						
TTSI	**Tana Toraja**	**7.39**	**242**	P	**Pn**	**18 36 41.0**	**+0.3**
	0.0nm8.1nm,0.6s						
BNSI	**Bone**	**7.87**	**232**	P	**Pn**	**18 36 46.1**	**-1.3**
SPSI	**Sidrap Palu**	**7.90**	**236**	P	**Pn**	**18 36 48.4**	**+0.7**
WRA	**Warramunga Arr**	**21.70**	**159**	P	**P**	**18 39 41.5**	**-1.1**
	0.9nm,0.4s,baz=337,slow=11,SNR=9.8						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**25.05**	**163**	P	**P**	**18 40 16.4**	**+0.9**
	2.4nm,0.9s,baz=351,slow=16,SNR=17						
	2.4nm,0.9s						
STKA	**Stephens Creek**	**35.22**	**157**	P	**P**	**18 41 46.5**	**+1.2**
	0.5nm,0.4s,baz=326,slow=11,SNR=1.8						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**64.32**	**328**	P	P	18 45 35.5	+9.4
	1.3nm,0.8s,baz=112,slow=5.0,SNR=3.3						
	1.3nm,0.8s						

*MOS **08** 18:35:31.8±0.9, 24˚.00N×122˚.80E, h11km, mb5.0/51, Error ellipse: s-maj=9.1km s-min=5.0km az=118.4*

*IDC **08** 18:35:32.4±0.5, 23˚.95N×122˚.65E, h0km, mb4.4/24, mbtmp4.4/26, ML4.4/1, MS3.9/5, Error ellipse: s-maj=17.9km s-min=12.5km az=69.0*

*NEIC **08** 18:35:34.8±1.4, 23˚.85N±0˚.06×122˚.47E±0˚.05, h10km±1km, mb4.7/145, Error ellipse: s-maj=11.6km s-min=6.5km az=149.0*

*ASIES **08** 18:35:35.8, 23˚.80N×122˚.56E, h28km, ML4.9, Mw4.6, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr3.50; Mθθ-0.89; Mφφ2.90; Mrθ6.93; Mθφ0.76; Mφr4.14; Fault plane solution: M0 8.74176×10^15^ NP1: φs311.67000°, δ14.80000°, λ159.44000°. NP2: φs61.60000°, δ84.85000°, λ76.10000°. Principal axes: T Plg48.3380°, Azm316.8020°; N Plg13.8380°, Azm62.8740°; P Plg38.3320°, Azm164.1040°;*

*BJI **08** 18:35:35.2, 23˚.88N×122˚.54E, h13km, mB4.7/29, mb4.5/60, ML4.4/10, Ms4.5/62, Ms7 4.4/59*

*TAP **08** 18:35:35.8, 23˚.80N×122˚.56E, h28km, ML4.9, C*

*JMA **08** 18:35:35.9±0.3, 24˚N±1˚×122˚.5E±0˚.5, h24km±4km, MD4.8/13, MW4.7/13, NEAR ISHIGAKIJIMA ISLAND*

JMA Felt I J1 at NEAR ISHIGAKIJIMA ISLAND.

*NIED **08** 18:35:35.9, 23˚.79N×122˚.49E, h24km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr0.54; Mθθ-1.09; Mφφ0.55; Mrθ1.54; Mθφ0.02; Mφr0.90; Fault plane solution: M0 2.02000×10^16^ NP1: φs307.00000°, δ22.00000°, λ155.00000°. NP2: φs61.00000°, δ81.00000°, λ70.00000°.*

ISC 08 18:35:35.7±0.5, 23.77N±0˚.02×122˚.51E±0˚.02, h23km±3km, h23km:pP-P, n727, σ1§19/797, mb4.7/160, MS4.3/14, 63C-18D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.39**	**333**	⇓*i* P	**Pb**	**18 35 44.0**	**+0.2**
EOS4				*e*S	**Sb**	**18 35 50.8**	**+1.4**
EOS3	**EOS3**	**0.55**	**341**	⇓*e* P	**Pb**	**18 35 47.0**	**+0.5**
EOS3				*e*S	**Sn**	**18 35 57.0**	**+0.7**
EOS2	**EOS2**	**0.70**	**339**	⇓*i* P	**Pn**	**18 35 50.0**	**0.0**
EOS2				*e*S	**Sn**	**18 35 59.8**	**-0.2**
JYNG	**Yonagunijimaku**	**0.79**	**30**	*i* P	**Pb**	**18 35 50.6**	**-0.1**
JYNG				S	**Sb**	**18 35 60.0**	**-1.0**
JYNG	**Yonagunijimaku**	**0.79**	**30**	A	A	18 35 50.6	
	comp=N,77nm,3.7s,comp=E,51nm,1.5s						
YOJ	**Yonaguni jima**	**0.83**	**33**		**Pb**	**18 35 51.2**	**-0.1**
YOJ	**Yonaguni jima**	**0.83**	**33**	P	**Pb**	**18 35 51.5**	**+0.1**
YOJ	**Yonaguni jima**	**0.83**	**33**	P	**Pb**	**18 35 51.3**	**-0.1**
YOJ	**Yonaguni jima**	**0.83**	**33**	*i* P	**Pb**	**18 35 51.4**	**-0.1**
YOJ				*e*S	**Sb**	**18 36 01.4**	**-0.8**
YOJ	**Yonaguni jima**	**0.83**	**33**	A	A	18 35 51.4	
	comp=N,40nm,0.9s,comp=E,41nm,2.0s						
YOJ	**Yonaguni jima**	**0.83**	**33**	⇓*i* P	**Pb**	**18 35 51.3**	**-0.1**
YOJ				*i* S	**Sb**	**18 36 01.6**	**-0.6**
TEYL	**Yanliau Villag**	**0.84**	**277**	⇑*i* P	**Pb**	**18 35 51.5**	**-0.1**
TEYL				*i* S	**Sb**	**18 36 03.4**	**+0.9**
HWA	**Hwalien**	**0.86**	**284**	⇑*e* P	**Pb**	**18 35 51.8**	**-0.1**
HWA				*i* S	**Sn**	**18 36 04.1**	**0.0**
SHUL	**Shoufeng**	**0.87**	**271**	⇑*i* P	**Pb**	**18 35 52.0**	**-0.1**
SHUL				*i* S	**Sb**	**18 36 04.0**	**+0.6**
TEGC	**Jichi Village**	**0.89**	**266**	⇑*i* P	**Pn**	**18 35 52.4**	**-0.5**
TEGC				*e*S	**Sb**	**18 36 04.4**	**+0.5**
TWD	**Chiawan**	**0.89**	**291**	⇑*i* P	**Pb**	**18 35 51.9**	**-0.6**
TWD				*e*S	**Sb**	**18 36 03.6**	**-0.4**
EAHA	**Aohua**	**0.90**	**309**	⇑*e* P	**Pn**	**18 35 52.8**	**-0.2**
EAHA				*e*S	**Sn**	**18 36 05.8**	**+0.6**
ETL	**Fush Village**	**0.90**	**296**	*e*P	**Pn**	**18 35 52.3**	**-0.7**
NACB	**Ninganchiao**	**0.93**	**296**		**Pn**	**18 35 52.4**	**-1.0**
NACB	**Ninganchiao**	**0.93**	**296**	P	**Pn**	**18 35 52.5**	**-0.9**
NACB	**Ninganchiao**	**0.93**	**296**	⇑*i* P	**Pn**	**18 35 52.5**	**-0.9**
NACB				*e*S	**Sn**	**18 36 07.1**	**+1.0**
EWUT	**Wuta**	**0.95**	**315**	⇓*i* P	**Pn**	**18 35 53.5**	**-0.1**
ETM	**Tongmen**	**0.95**	**282**	⇑*i* P	**Pn**	**18 35 52.7**	**-1.0**
ENA	**Nanau**	**0.96**	**313**	⇓*i* P	**Pn**	**18 35 53.6**	**-0.2**
ENA				*e*S	**Sn**	**18 36 07.0**	**+0.2**
ESL	**Shilin**	**0.99**	**273**	⇑*i* P	**Pn**	**18 35 53.1**	**-1.1**
ESL				*e*S	**Sb**	**18 36 05.6**	**-1.2**
EGFH	**Guangfu**	**1.00**	**265**	P	**Pn**	**18 35 53.8**	**-0.5**
EGFH				*e*S	**Sb**	**18 36 06.7**	**-0.3**
ESAO	**Su ao**	**1.01**	**323**	⇑*i* P	**Pn**	**18 35 54.1**	**-0.3**
ESAO				*e*S	**Sn**	**18 36 08.6**	**+0.6**
TWC	**Suao**	**1.03**	**324**	⇑*i* P	**Pn**	**18 35 54.4**	**-0.4**
TWC				*e*S	**Sn**	**18 36 08.5**	**-0.1**
WARBT	**Fenglin Townsh**	**1.03**	**267**	⇑P	**Pn**	**18 35 53.7**	**-1.1**
HGSD	**Ruisui**	**1.03**	**255**	⇑P	**Pn**	**18 35 54.2**	**-0.6**
HGSD				S	**Sn**	**18 36 06.9**	**-1.7**
LXIB	**Xiulin Townshi**	**1.04**	**284**	⇑*i* P	**Pn**	**18 35 54.1**	**-0.9**
LXIB				*e*S	**Sb**	**18 36 07.5**	**-0.8**
ETLH	**Xiulin Townshi**	**1.04**	**295**	⇑*i* P	**Pn**	**18 35 54.2**	**-0.7**
ETLH				*e*S	**Sn**	**18 36 09.7**	**+0.9**
ECBN	**Changbin**	**1.07**	**245**	⇓P	**Pn**	**18 35 55.0**	**-0.3**
ECBN				S	**Sn**	**18 36 08.5**	**-1.0**
EHYH	**Wanrong**	**1.10**	**256**	⇑P	**Pn**	**18 35 55.7**	**-0.1**
EHYH				*e*S	**Sn**	**18 36 09.9**	**-0.4**
EHY	**Hungye**	**1.12**	**257**	⇑*i* P	**Pn**	**18 35 55.7**	**-0.3**
EHY				*e*S	**Sn**	**18 36 10.8**	**+0.1**
NDS	**Dongshan**	**1.13**	**320**	⇑*i* P	**Pn**	**18 35 55.3**	**-0.8**
NDS				*e*S	**Sb**	**18 36 12.0

TWA	**Mucha**	**1.47**	**325**	*i* P	**Pn**	**18 36 01.8**	**+0.9**
TWA				*e*S	**Sb**	**18 36 22.6**	**+1.9**
SMLT	**Sun Moon Lake**	**1.48**	**275**	⇑*i*P	**Pn**	**18 36 01.5**	**+0.4**
SMLT				*i* S	**Sn**	**18 36 20.0**	**+0.3**
ELDTW	**Lidau**	**1.49**	**248**	⇓*i*P	**Pn**	**18 36 00.8**	**-0.4**
ELDTW				*e*S	**Sn**	**18 36 19.5**	**-0.4**
NHDH	**Xindian Distri**	**1.49**	**323**	P	**Pb**	**18 36 02.6**	**-0.2**
NHDH				*e*S	**Sb**	**18 36 21.1**	**-0.1**
WCS	**Beigang Elemen**	**1.49**	**281**	*e*P	**Pn**	**18 36 01.6**	**+0.5**
WCS				*e*S	**Sn**	**18 36 20.6**	**+0.7**
WHP	**Taichung City**	**1.52**	**290**	*e*P	**Pn**	**18 36 02.3**	**+0.7**
WHP				*e*S	**Sb**	**18 36 22.1**	**0.0**
TYC	**Yuchr**	**1.52**	**275**	⇑*i*P	**Pn**	**18 36 01.9**	**+0.5**
TYC				*i* S	**Sn**	**18 36 20.8**	**+0.2**
TATO	**Taipei**	**1.52**	**322**	P	**Pn**	**18 36 02.5**	**+1.0**
WHYT	**Xinyi Township**	**1.52**	**268**	⇑*e*P	**Pn**	**18 36 02.4**	**+0.9**
WHYT				*e*S	**Sn**	**18 36 20.4**	**-0.3**
TNOU	**National Taiwa**	**1.53**	**334**	*e*P	**Pn**	**18 36 01.4**	**-0.2**
TNOU				*e*S	**Sb**	**18 36 22.3**	**-0.1**
LONT	**Longtian**	**1.53**	**236**	⇓*e*P	**Pn**	**18 36 01.6**	**-0.1**
LONT				*e*S	**Sn**	**18 36 21.0**	**+0.1**
NFF	**Wufeng Townshi**	**1.54**	**304**	⇑P	**Pn**	**18 36 02.6**	**+0.8**
NFF				*e*S	**Sb**	**18 36 22.4**	**-0.2**
TAP	**Taipei**	**1.56**	**324**	*e*P	**Pn**	**18 36 03.2**	**+1.1**
TAP				*e*S	**Sb**	**18 36 23.8**	**+0.5**
KSHI	**Guanxi Townshi**	**1.58**	**310**	⇑P	**Pb**	**18 36 03.9**	**-0.4**
KSHI				*e*S	**Sb**	**18 36 24.5**	**+0.7**
ALS	**Alishan**	**1.59**	**261**	⇑*i*P	**Pn**	**18 36 03.5**	**+0.9**
ALS				*e*S	**Sn**	**18 36 22.4**	**-0.2**
JIJ	**Ishigaki jima**	**1.60**	**68**	*i* P	**Pn**	**18 36 03.0**	**+0.4**
JIJ				*e*S	**Sn**	**18 36 23.2**	**+0.6**
JIJ	**Ishigaki jima**	**1.60**	**68**	A	A	18 36 03.0	
	comp=N,13nm,2.6s,comp=E,9.0nm,2.1s						
TTN	**Taitung**	**1.61**	**231**	*e*P	**Pn**	**18 36 02.7**	**0.0**
TTN				*e*S	**Sn**	**18 36 22.8**	**+0.1**
YM01	**YM01**	**1.62**	**328**	*e*P	**Pn**	**18 36 03.3**	**+0.4**
TWGBT	**Beinan**	**1.62**	**235**	P	**Pn**	**18 36 02.6**	**-0.3**
TWGBT	**Beinan**	**1.62**	**235**	⇓*i*P	**Pn**	**18 36 02.6**	**-0.3**
TWGBT				*e*S	**Sn**	**18 36 23.0**	**-0.1**
LIOB	**Emei**	**1.62**	**303**	⇑*i*P	**Pb**	**18 36 04.5**	**-0.4**
LIOB				*e*S	**Sb**	**18 36 25.5**	**+0.5**
NSTT	**Nanjuang**	**1.62**	**302**	⇑*i*P	**Pb**	**18 36 04.4**	**-0.6**
NSTT				*e*S	**Sb**	**18 36 24.6**	**-0.5**
TWG	**Pinlang**	**1.62**	**235**		**Pn**	**18 36 02.6**	**-0.4**
TWG	**Pinlang**	**1.62**	**235**	⇓*i*P	**Pn**	**18 36 02.7**	**-0.2**
TWG				*e*S	**Sn**	**18 36 22.2**	**-1.0**
WJS	**Zhushan**	**1.64**	**272**	*e*P	**Pb**	**18 36 04.7**	**-0.5**
WJS				*e*S	**Sb**	**18 36 26.1**	**+0.8**
ZUZH	**Zhuzihu**	**1.64**	**328**	*e*P	**Pn**	**18 36 03.8**	**+0.5**
YM08	**YM08**	**1.65**	**329**	*e*P	**Pn**	**18 36 03.2**	**-0.1**
YM08				*e*S	**Sn**	**18 36 24.3**	**+0.6**
TWS1	**Kuangyinshan**	**1.66**	**323**	*e*P	**Pn**	**18 36 04.4**	**+1.0**
TWS1				*e*S	**Sb**	**18 36 25.2**	**-0.9**
ANP	**Anpu**	**1.68**	**328**	*e*P	**Pn**	**18 36 04.6**	**+0.9**
WNT	**Mingjian**	**1.68**	**274**	*i* P	**Pb**	**18 36 05.5**	**-0.4**
WNT				*e*S	**Sb**	**18 36 26.9**	**+0.3**
CHN5	**Tsauling**	**1.69**	**265**	*i* P	**Pn**	**18 36 05.4**	**+1.5**
CHN5				S	**Sn**	**18 36 26.3**	**+1.4**
TWQ1	**Liyutan**	**1.69**	**290**	⇑*i*P	**Pb**	**18 36 05.8**	**-0.3**
TWQ1				*e*S	**Sb**	**18 36 27.8**	**+0.8**
NTST	**Danshui**	**1.69**	**325**	*e*P	**Pn**	**18 36 04.7**	**+0.8**
NTST				*e*S	**Sn**	**18 36 25.5**	**+0.7**
STYH	**Taoyuan**	**1.70**	**250**	*i* P	**Pn**	**18 36 05.0**	**+1.0**
STYH				*i* S	**Sn**	**18 36 25.7**	**+0.7**
TWY	**Chenhua**	**1.72**	**331**	*e*P	**Pn**	**18 36 05.0**	**+0.8**
TWY				*e*S	**Sn**	**18 36 26.2**	**+0.8**
TCU	**Taichung**	**1.72**	**283**	*i* P	**Pb**	**18 36 06.4**	**-0.2**
TCU				*i* S	**Sb**	**18 36 29.1**	**+1.3**
NSY	**Sanyi**	**1.73**	**292**	⇑*i*P	**Pb**	**18 36 06.6**	**-0.1**
NSY				*e*S	**Sb**	**18 36 28.6**	**+0.6**
SBCB	**Hsinchu**	**1.73**	**307**	*e*P	**Pb**	**18 36 05.9**	**-0.8**
SBCB				*e*S	**Sb**	**18 36 29.1**	**+1.1**
HSN	**Hsinchu**	**1.74**	**307**	*e*P	**Pn**	**18 36 05.8**	**+1.2**
HSN				*i* S	**Sb**	**18 36 29.2**	**+0.7**
NMLH	**Miaoli**	**1.75**	**296**	*e*P	**Pb**	**18 36 06.6**	**-0.5**
NMLH				*e*S	**Sb**	**18 36 28.6**	**0.0**
WCKO	**Fanlu**	**1.78**	**260**	⇑*e*P	**Pb**	**18 36 07.0**	**-0.7**
WCKO				S	**Sb**	**18 36 29.9**	**+0.3**
TPUB	**Ta-pu**	**1.79**	**255**	P	**Pn**	**18 36 06.3**	**+1.1**
TPUB	**Ta-pu**	**1.79**	**255**	⇑P	**Pn**	**18 36 06.9**	**+1.7**
TPUB				*e*S	**Sn**	**18 36 27.9**	**+0.7**
WGK	**Gukeng**	**1.79**	**268**	*e*P	**Pb**	**18 36 07.0**	**-0.8**
WGK				S	**Sb**	**18 36 29.6**	**-0.2**
WDJ	**Dajia District**	**1.81**	**289**	*e*P	**Pb**	**18 36 07.2**	**-0.9**
WDJ				*i* S	**Sb**	**18 36 31.2**	**+1.0**
WDL	**Douliou City**	**1.81**	**269**	*e*P	**Pb**	**18 36 07.7**	**-0.4**
WDLH	**Douliu**	**1.81**	**268**	*e*P	**Pb**	**18 36 07.3**	**-0.9**
WCHH	**Zhanghua**	**1.81**	**280**	*e*P	**Pb**	**18 36 07.5**	**-0.7**
WTP	**Ta-pu**	**1.82**	**254**	⇑*i*P	**Pn**	**18 36 07.3**	**+1.7**
WTP				*e*S	**Sb**	**18 36 30.3**	**-0.4**
WCH1	**Changhua City**	**1.82**	**280**	*i* P	**Pb**	**18 36 08.2**	**-0.1**
JISG	**Ishigakijimahi**	**1.83**	**63**	*i* P	**Pn**	**18 36 06.0**	**+0.2**
JISG				*e*S	**Sn**	**18 36 29.0**	**+0.7**
JISG	**Ishigakijimahi**	**1.83**	**63**	A	A	18 36 06.0	
	comp=N,12nm,2.1s,comp=E,9.0nm,0.7s						
ECL	**Taimali**	**1.85**	**231**	⇓*i*P	**Pn**	**18 36 05.5**	**-0.5**
ECL				*i* S	**Sn**	**18 36 27.1**	**-1.6**
PCYT	**Pengchaiyu**	**1.90**	**348**	*e*P	**Pn**	**18 36 07.0**	**+0.4**
CHN1	**Nanshi**	**1.91**	**253**	*e*P	**Pb**	**18 36 09.0**	**-0.9**
CHN1				*i* S	**Sb**	**18 36 33.1**	**-0.3**
TWK	**Hsinying**	**1.92**	**255**	*e*P	**Pb**	**18 36 09.3**	**-0.8**
TWK				*i* S	**Sb**	**18 36 33.6**	**-0.2**
SNST	**Tainan City**	**1.93**	**254**	*e*P	**Pb**	**18 36 09.3**	**-0.8**
SNST				*e*S	**Sb**	**18 36 33.8**	**0.0**
CHY	**Chiayi**	**1.93**	**262**	*e*P	**Pb**	**18 36 09.1**	**-1.1**
CHY				*e*S	**Sb**	**18 36 33.6**	**-0.3**
LAY	**Lan-yu**	**1.94**	**207**	*e*P	**Pn**	**18 36 06.3**	**-0.9**
WTK	**Tuku**	**1.95**	**268**	*e*P	**Pb**	**18 36 09.8**	**-0.7**
WTK				*e*S	**Sb**	**18 36 33.3**	**-1.0**
LYUB	**Lan-yu**	**1.96**	**206**	*e*P	**Pn**	**18 36 06.1**	**-1.3**
SSD	**Sandimen**	**2.01**	**240**	*e*P	**Pn**	**18 36 09.0**	**+0.9**
SSD				*e*S	**Sn**	**18 36 33.1**	**+0.5**
TSMG	**Majia**	**2.02**	**239**	*e*P	**Pn**	**18 36 08.9**	**+0.6**
WTCT	**Ta-ch'eng**	**2.04**	**273**	*i* P	**Pb**	**18 36 11.1**	**-1.0**
WTCT				*e*S	**Sb**	**18 36 37.0**	**-0.2**
TAW	**Tawu**	**2.05**	**227**	*e*P	**Pn**	**18 36 09.1**	**+0.4**
SCST	**Cishan**	**2.05**	**245**	*e*P	**Pb**	**18 36 12.2**	**-0.1**
SCST				*e*S	**Sb**	**18 36 38.2**	**+0.8**
EAST	**Anshuo**	**2.06**	**228**	*e*P	**Pn**	**18 36 08.9**	**0.0**
TAWH	**Dawu Township**	**2.06**	**227**	*e*P	**Pn**	**18 36 09.2**	**+0.2**
TAWH				*e*S	**Sn**	**18 36 33.5**	**-0.5**
MASBT	**Mashibuluo**	**2.08**	**237**	*e*P	**Pn**	**18 36 10.1**	**+0.9**
ICHU	**Yijhu**	**2.09**	**259**	P	**Pb**	**18 36 11.7**	**-1.2**
ICHU				*i* S	**Sb**	**18 36 37.3**	**-1.0**
WSF	**Szhu**	**2.10**	**267**	*e*P	**Pn**	**18 36 11.7**	**+2.2**
WSF				*e*S	**Sb**	**18 36 37.9**	**-0.9**
WSL	**Shuilin Townsh**	**2.11**	**264**	*e*P	**Pn**	**18 36 11.8**	**+2.2**
WSL				*e*S	**Sn**	**18 36 37.2**	**+2.1**
SHHT	**Tainan City**	**2.12**	**250**	*e*P	**Pb**	**18 36 13.8**	**+0.3**
SGLT	**Jiouru**	**2.13**	**241**	*e*P	**Pb**	**18 36 13.1**	**-0.5**
SSHA	**Shanhua**	**2.14**	**253**	*e*P	**Pb**	**18 36 13.2**	**-0.5**
SSHA				*e*S	**Sb**	**18 36 40.0**	**+0.2**
TWM1	**Shoushan**	**2.14**	**244**	*e*P	**Pb**	**18 36 13.4**	**-0.3**
CHN8	**Yiju**	**2.15**	**259**	P	**Pn**	**18 36 12.4**	**+2.2**
CHN8				*i* S	**Sb**	**18 36 39.1**	**-1.2**
JTJ	**Tarama**	**2.18**	**66**	A	A	18 36 12.0	
	comp=N,20nm,2.4s,comp=E,12nm,1.9s						
SCZT	**Fangliau**	**2.23**	**232**	*e*P	**Pn**	**18 36 12.0**	**+0.8**
TSCK	**Chigu Township**	**2.31**	**255**	*e*P	**Pn**	**18 36 14.8**	**+2.5**
TSCK				*i* S	**Sn**	**18 36 42.6**	**+2.5**
SMST	**Manzhou Townsh**	**2.33**	**222**	*e*P	**Pn**	**18 36 13.8**	**+1.2**
SMST				*e*S	**Sn**	**18 36 41.7**	**+1.2**
WSSB	**Gushan**	**2.35**	**242**	*e*P	**Pb**	**18 36 15.9**	**-1.6**
WSSB				*e*S	**Sb**	**18 36 45.8**	**-0.2**
TSEB	**Hengchuen, Pin**	**2.38**	**219**	*e*P	**Pn**	**18 36 14.6**	**+1.3**
TSEB				*e*S	**Sn**	**18 36 44.2**	**+2.4**
HEN	**Hengchun**	**2.40**	**223**	*e*P	**Pn**	**18 36 15.3**	**+1.7**
HEN				*e*S	**Sn**	**18 36 44.0**	**+1.7**
TWKBT	**Hengchun**	**2.40**	**221**	*e*P	**Pn**	**18 36 14.9**	**+1.3**
TWKBT				S	**Sn**	**18 36 43.8**	**+1.5**
TWK1	**Hengchun**	**2.40**	**221**	*e*P	**Pn**	**18 36 15.1**	**+1.5**
TWK1				S	**Sn**	**18 36 43.9**	**+1.6**
JIRB	**Irabujima**	**2.65**	**66**	A	A	18 36 18.6	
	comp=N,10.0nm,3.4s,comp=E,8.0nm,1.9s						
WDGT	**Dungji**	**2.67**	**260**	*i* P	**Pn**	**18 36 18.8**	**+1.5**
WDGT				*i* S	**Sn**	**18 36 48.6**	**-0.3**
PHUB	**P'eng-hu**	**2.71**	**265**	*e*P	**Pn**	**18 36 19.2**	**+1.4**
PHUB				S	**Sn**	**18 36 51.0**	**+1.2**
PNG	**Penghu**	**2.72**	**266**	*e*P	**Pn**	**18 36 19.4**	**+1.4**
PNG				*e*S	**Sn**	**18 36 51.7**	**+1.5**
JMJ	**Miyako jima 2**	**2.74**	**67**	P	**Pn**	**18 36 20.0**	**+1.7**
JMJ2	**Miyako jima3**	**2.75**	**69**	A	A	18 36 20.1	
	comp=N,15nm,3.1s,comp=E,10.0nm,2.1s						
JIKM	**Ikemajima**	**2.75**	**65**	A	A	18 36 20.0	
	comp=N,8.0nm,2.2s,comp=E,11nm,2.5s						
JOGS	**Gusukube**	**2.82**	**69**	A	A	18 36 21.1	
	comp=N,13nm,3.9s,comp=E,14nm,1.8s						
VCHM	**Qimei**	**2.88**	**259**	*e*P	**Pn**	**18 36 21.3**	**+1.1**
VCHM				S	**Sn**	**18 36 54.5**	**+0.3**
VWUC	**VWUC**	**3.05**	**294**	*e*P	**Pn**	**18 36 22.8**	**+0.3**
MATB	**Ma-tsu**	**3.33**	**316**	*e*P	**Pn**	**18 36 26.2**	**-0.1**
PTMZ	**Houxiangcun**	**3.34**	**293**	*e*P	**Pn**	**18 36 26.9**	**+0.3**
QZH	**Quanzhou**	**3.76**	**289**	⇑*i*Pn	**Pn**	**18 36 32.3**	**0.0**
QZH				Sn	**Sn**	**18 37 13.7**	**-2.2**
QZH				smax	smax		
	comp=E,630nm,1.1s						
QZH				smax	smax		
	comp=E,640nm,0.8s						
QZH				LR	LR		
	comp=E,5μm,13.6s						
QZH				LR	LR		
	comp=E,2μm,16.1s						
QZH				LR	LR		
	comp=E,3μm,12.7s						
KNM	**Kinmen**	**3.78**	**281**	*e*P	**Pn**	**18 36 34.6**	**+2.0**
XPSS	**Dashiqiu**	**3.79**	**327**	*e*P	**Pn**	**18 36 32.1**	**-0.5**
KNMB	**Chin-men Tao**	**3.83**	**281**		**Pn**	**18 36 33.6**	**+0.3**
KNMB	**Chin-men Tao**	**3.83**	**281**	*e*P	**Pn**	**18 36 33.5**	**+0.3**
MHZQ	**Yeshan**	**3.92**	**307**	*e*P	**Pn**	**18 36 34.0**	**-0.5**
AXDP	**Jialang**	**4.29**	**286**	*e*P	**Pn**	**18 36 39.9**	**+0.3**
ZPLA	**Ao Xicun**	**4.36**	**273**	*e*P	**Pn**	**18 36 41.3**	**+0.7**
DSXP	**Dongshan**	**4.66**	**270**	*e*P	**Pn**	**18 36 45.6**	**+0.9**
SXFK	**Yanhouchang**	**5.13**	**302**	*e*P	**Pn**	**18 36 50.6**	**-0.5**
JOW	**Kunigami**	**6.04**	**58**		**Pn**	**18 37 02.8**	**-0.9**
JOW	**Kunigami**	**6.04**	**58**	Pn	**Pn**	**18 37 02.4**	**-1.3**
	comp=E,25nm,0.3s,baz=163,slow=13,SNR=75						
JOW				Sn	**Sn**	**18 38 10.5**	**-1.7**
	comp=E,8.1nm,0.3s,baz=107,slow=25,SNR=1.6						
	comp=E,47nm,0.3s						
SSE	**Sheshan**	**7.39**	**351**	Pn	**Pn**	**18 37 19.7**	**-2.5**
SSE				Sn	**Sn**	**18 38 42.9**	**-2.5**
SSE				smax	smax		
	comp=E,33nm,1.2s						
SSE				smax	smax		
	comp=E,53nm,1.3s						
SSE				LR	LR		
	comp=E,1μm,12.7s						
SSE				LR	LR		
	comp=E,420nm,13.7s						
NJ2	**Nanjing**	**8.86**	**339**	*e*P	**Pn**	**18 37 42.1**	**-0.3**
NJ2				pmax	pmax		
	comp=E,15nm,0.6s						
NJ2				smax	smax		
	comp=E,100nm,0.9s						
NJ2				smax	smax		
	comp=E,88nm,0.9s						
NJ2				LR	LR		
	comp=E,3μm,11.8s						
NJ2				LR	LR		
	comp=E,1μm,10.9s						
NJ2				LR	LR		
	comp=E,3μm,11.4s						
CNSH	**ChangSha**	**9.68**	**299**	P	**Pn**	**18 37 52.8**	**-0.7**
CNSH				S	**Sn**	**18 39 37.5**	**-4.0**
CNSH				smax	smax		
	comp=E,190nm,1.1s						
CNSH				smax	smax		
	comp=E,230nm,1.2s						
TGY	**Tagaytay City**	**9.73**	**189**	LR	LR	18 41 48.7	
	comp=E,559nm,20.4s,baz=21,slow=38						
JNU	**Nakatsue**	**11.87**	**36**	Pn	**Pn**	**18 38 23.9**	**+0.3**
	comp=E,0.3nm,0.3s,baz=208,slow=6.8,SNR=1.3						
QIZ	**Qiongzhong**	**12.71**	**251**	P	**Pn**	**18 38 35.6**	**+0.5**
QIZ				S	**Sn**	**18 40 58.3**	**+2.4**
QIZ				LR	LR		
	comp=E,690nm,13.4s						
QIZ				LR	LR		
	comp=E,520nm,16.0s						
QIZ				LR	LR		
	comp=E,1μm,16.3s						
TJN	**Taejon**	**13.25**	**17**	*i* P	Pn	18 38 34.1	-8.3
LYN	**LuoYang**	**13.86**	**323**	P	**Pn**	**18 38 49.3**	**-1.5**
LYN				PP	**PnPn**	**18 39 01.6**	**+2.8**
LYN				pmax	pmax		
	comp=E,140nm,6.9s						
LYN				LR	LR		
	comp=E,2μm,16.2s						
LYN				LR	LR		
	comp=E,2μm,14.2s						
LYN				LR	LR		
	comp=E,3μm,16.7s						
KSAR	**Wonju Array Be**	**14.39**	**17**		**P**	**18 39 03.3**	**-1.4**
KSAR	**Wonju Array Be**	**14.39**	**17**	P	**P**	**18 39 03.3**	**-1.4**
KSRS	**Korea Array**	**14.41**	**18**	Pn	**Pn**	**18 38 59.2**	**+1.0**
	comp=E,0.7nm,0.3s,baz=196,slow=12,SNR=25						
KS19	**Wonju Array Si**	**14.44**	**17**	P	**P**	**18 39 04.5**	**-0.8**
GYA	**Guiyang**	**14.60**	**284**	P	**Pn**	**18 39 02.0**	**+0.9**
GYA				LR	LR		
	comp=E,1μm,12.6s						
HNS	**HongShan**	**15.15**	**336**	⇑P	**P**	**18 39 16.0**	**+2.9**
HNS				PP	**pwP**	**18 39 28.1**	**+5.0**
HNS				pmax	pmax		
	comp=E,16nm,0.5s						
HNS				LR	LR		
	comp=N,2μm,13.9s						
HNS				LR	LR		
	comp=E,2μm,13.1s						
HNS				LR	LR		
	comp=Z,3μm,13.7s						
DAV	**Davao City (W)**	**16.86**	**169**	LR	LR	18 46 02.2	
	comp=Z,356nm,18.9s,baz=346,slow=37						
KMI	**Kunming**	**18.05**	**278**	P	**P**	**18 39 51.2**	**+5.5**
KMI				S	**S**	**18 43 11.5**	**-0.4**
KMI				pmax	pmax		
	comp=E,8.0nm,1.6s						
KMI				LR	LR		
	comp=E,2μm,16.0s						
KMI				LR	LR		
	comp=E,400nm,15.3s						
KMI				LR	LR		
	comp=E,1μm,10.9s						
JCJ	**Chichijima**	**18.07**	**75**	LR	LR	18 44 45.6	
	comp=Z,246nm,20.2s,baz=135,slow=31						
CD2	**Chengdu**	**18.10**	**297**	P	**P**	**18 39 47.0**	**+1.0**
CD2				sP	sP	18 39 55.1	+1.1
CD2				PP	**PnPn**	**18 40 01.7**	**+4.7**
CD2				S	**Sn**	**18 43 04.4**	**-2.8**
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
CD2				pmax	pmax		
	comp=Z,340nm,7.5s						
CD2				LR	LR		
	comp=E,1μm,15.1s						
CD2				LR	LR		
	comp=E,2μm,16.4s						
CD2				LR	LR		
	comp=E,2μm,13.6s						
MJAR	**Matsushiro Arr**	**18.58**	**43**	P	**P**	**18 39 48.9**	**-2.3**
	comp=Z,1.5nm,0.9s,baz=229,slow=10,SNR=2.0						
PZH	**PanZhiHua**	**19.00**	**283**	P	**Pn**	**18 39 58.3**	**+1.5**
PZH				S	**S**	**18 43 32.1**	**+1.8**
PZH				pmax	pmax		
	comp=E,20nm,1.2s						
PZH				pmax	pmax		
	comp=E,60nm,4.4s						
PZH				LR	LR		
	comp=E,1μm,18.2s						
PZH				LR	LR		
	comp=E,690nm,15.3s						
PZH				LR	LR		
	comp=E,870nm,16.9s						
HHC	**Hu-ho-hao-te**	**19.35**	**334**	*e*P	**Pn**	**18 40 01.4**	**+0.5**
HHC				sP	sP	18 40 09.1	+1.6
HHC				pmax	pmax		
	comp=E,17nm,0.6s						
HHC				pmax	pmax		
	comp=E,150nm,4.5s						
HHC				LR	LR		
	comp=E,1μm,13.4s						
HHC				LR	LR		
	comp=E,770nm,13.4s						
HHC				LR	LR		
	comp=E,2μm,12.8s						
PSTR	**Posyet**	**20.05**	**18**	*i* P	**P**	**18 40 03.0**	**-4.1**
MSHR	**Mys Shultsa**	**20.09**	**19**	*ce*P	**P**	**18 40 03.6**	**-4.0**
MSHR				pmax	pmax		
	comp=Z,23nm,1.7s						
CN2	**Changchun**	**20.13**	**6**	*e*P	**P**	**18 40 07.9**	**-0.1**
CN2				*e*S	**S**	**18 43 46.5**	**-6.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,1μm,16.0s						
CN2				LR	LR		
	comp=Z,700nm,16.0s						
CN2				LR	LR		
	comp=Z,1μm,16.0s						
LZH	**Lanzhou**	**20.27**	**312**	*e*P	Pn	18 40 12.8	+1.0
LZH				pP	pP	18 40 16.1	+0.9
LZH				PP	**PnPn**	**18 40 33.6**	**+6.8**
LZH				pmax	pmax		
	comp=Z,39nm,1.1s						
LZH				LR	LR		
	comp=Z,910nm,14.8s						
LZH				LR	LR		
	comp=Z,1μm,15.6s						
LZH				LR	LR		
	comp=Z,2μm,17.2s						
XLT	**XiLinHaoTe**	**20.77**	**347**	*e*P	Pn	18 40 18.1	+0.6
XLT				PP	**PnPn**	**18 40 33.7**	**+0.2**
XLT				sS	Sn	18 44 10.8	-0.5
XLT				pmax	pmax		
	comp=Z,10.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,91nm,5.8s						
XLT				LR	LR		
	comp=Z,110nm,14.6s						
XLT				LR	LR		
	comp=Z,380nm,16.7s						
XLT				LR	LR		
	comp=Z,1μm,13.9s						
USA08	**Ussuriysk Arra**	**21.81**	**19**	*e*P	**P**	**18 40 21.5**	**-4.7**
USRK	**Ussuriysk Ar.**	**21.81**	**19**	P	**P**	**18 40 23.4**	**-2.8**
	comp=Z,2.6nm,0.6s,baz=210,slow=11,SNR=5.8						
USRK				LR	LR	18 49 43.3	
	comp=Z,577nm,18.4s,baz=189,slow=39						
	comp=Z,2.6nm,0.6s						
TNCH	**TengChong**	**21.88**	**278**	P	**P**	**18 40 29.9**	**+2.6**
TNCH				PP	**PnPn**	**18 40 54.7**	**+5.7**
TNCH				S	**S**	**18 44 25.4**	**-2.9**
TNCH				pmax	pmax		
	comp=Z,26nm,1.1s						
TNCH				pmax	pmax		
	comp=Z,160nm,4.9s						
TNCH				LR	LR		
	comp=Z,1μm,9.8s						
TNCH				LR	LR		
	comp=Z,460nm,11.9s						
TNCH				LR	LR		
	comp=Z,1μm,12.9s						
BNX	**BinXian**	**22.28**	**9**	⇑P	**P**	**18 40 28.9**	**-2.3**
BNX				S	**S**	**18 44 32.9**	**-2.1**
BNX				pmax	pmax		
	comp=Z,13nm,0.7s						
BNX				pmax	pmax		
	comp=Z,100nm,3.6s						
BNX				LR	LR		
	comp=Z,1μm,14.7s						
BNX				LR	LR		
	comp=Z,400nm,17.7s						
BNX				LR	LR		
	comp=Z,910nm,15.9s						
CHTO	**Chiang Mai**	**22.50**	**262**	P	**P**	**18 40 34.4**	**+0.6**
CHTO	**Chiang Mai**	**22.50**	**262**	P	**P**	**18 40 34.4**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,13nm,1.0s						
TOLI2	**Tolitoli**	**22.59**	**185**		**P**	**18 40 35.3**	**+0.7**
CM31	**Chiang Mai Arr**	**22.60**	**261**	P	**P**	**18 40 32.1**	**-2.8**
CMAR	**Chiang Mai Arr**	**22.60**	**261**	P	**P**	**18 40 36.7**	**+1.8**
	comp=Z,1.9nm,0.9s,baz=67,slow=8.7,SNR=12						
CMAR				LR	LR	18 49 56.4	
	comp=Z,188nm,18.5s,baz=85,slow=38						
	comp=Z,1.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**22.60**	**261**	*i* P	**P**	**18 40 37.5**	**+2.6**
CMAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TNTI	**Ternate**	**23.34**	**168**		**P**	**18 40 44.1**	**+1.6**
TNTI				IAmb	IAmb	18 40 47.4	
	comp=Z,35nm,0.9s						
TNTI	**Ternate**	**23.34**	**168**	P	**P**	**18 40 44.9**	**+2.4**
	comp=Z,43nm,0.9s						
APSI	**Ampana**	**24.55**	**182**	P	P	18 41 02.7	+8.9
GTA	**Gaotai**	**24.74**	**314**	P	**P**	**18 40 56.7**	**+1.1**
GTA				sP	pwP	18 41 07.9	+1.8
GTA				pmax	pmax		
	comp=Z,44nm,0.9s						
GTA				pmax	pmax		
	comp=Z,100nm,8.0s						
GTA				LR	LR		
	comp=Z,460nm,14.5s						
GTA				LR	LR		
	comp=Z,720nm,14.5s						
GTA				LR	LR		
	comp=Z,1μm,15.6s						
ERM	**Erimo**	**25.02**	**38**	*i* P	**P**	**18 40 53.9**	**-4.0**
KLR	**Kul'dur**	**26.43**	**14**	*i* P	**P**	**18 41 08.0**	**-2.7**
KLR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
HEH	**HeiHe**	**26.71**	**7**	*e*P	**P**	**18 41 14.7**	**+1.5**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HEH				LR	LR		
	comp=Z,

comp=Z,14nm,0.8s
YAK Yakutsk 38.56 5 *e*P **P** **18 42 53.0 -3.3**
YAK *e**PP **pP** **18 43 02.2 0.0**
YAK *e* 18 44 21.6
YAK *e*PPP PPP 18 44 42.2
YAK *e* 18 45 07.1
YAK *e*S **S** **18 48 47.0 -3.8**
YAK *e*SSS SSS 18 51 54.2
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK pmax pmax
comp=Z,48nm,5.3s
YAK pmax pmax
comp=N,30nm,5.0s
YAK pmax pmax
comp=E,49nm,4.1s
YAK smax smax
comp=E,45nm,4.3s
YAK smax smax
comp=N,46nm,3.5s
YAK MLR MLR
comp=Z,286nm,25.0s
YAK MLR MLR
comp=N,212nm,17.0s
YAK MLR MLR
comp=E,174nm,21.0s
MK31 Makanchi Array 39.48 316*c*eP **P** **18 43 04.8 +0.4**
MKAR Makanchi Array 39.48 316 **P** **18 43 04.4 +0.1**
MKAR Makanchi Array 39.48 316 P **P** **18 43 04.8 +0.4**
comp=E,17nm,0.7s,baz=106,slow=9.0,SNR=129
MKAR PcP **PcP** **18 45 10.6 -1.3**
comp=E,2.4nm,0.8s,baz=98,slow=5.3,SNR=5.0
comp=E,17nm,0.7s
MAKZ Makanchi 39.69 316 **P** **18 43 06.4 +0.3**
MAKZ Makanchi 39.69 316 P **P** **18 43 06.4 +0.3**
MAKZ pmax pmax
comp=Z,42nm,1.1s
SHLS Shalkode 40.26 309 *e*P **P** **18 43 09.2 -1.8**
SHLS pmax pmax
comp=Z,14nm,0.9s
SHLS Shalkode 40.26 309 *e*P **P** **18 43 09.2 -1.8**
comp=Z,14nm,0.9s
SATY Saty 40.99 309 *e*P **P** **18 43 17.7 +0.6**
SATY pmax pmax
comp=Z,15nm,1.1s
SATY Saty 40.99 309 *e*P **P** **18 43 17.7 +0.6**
comp=Z,15nm,1.1s
TARG Taragay, Kyrgy 41.14 307 P **P** **18 43 20.5 +1.9**
TARG Taragay, Kyrgy 41.14 307 P **P** **18 43 20.5 +1.9**
TARG pmax pmax
comp=Z,10.0nm,0.9s
ZAA0 Zalesovo Array 41.25 327 **P** **18 43 17.4 -1.5**
ZAA0 IAmb IAmb 18 43 29.8
comp=Z,20nm,0.8s
ZALV Zalesovo Beam 41.25 327 **P** **18 43 17.7 -1.2**
ZALV Zalesovo Beam 41.25 327 P **P** **18 43 18.0 -0.9**
comp=Z,13nm,0.8s,baz=111,slow=8.3,SNR=32
comp=Z,13nm,0.8s
ZALV Zalesovo Beam 41.25 327 P **P** **18 43 18.0 -0.9**
H11N1 WAKE ISLAND Hy 41.30 87 T T 19 27 22.7
baz=283,slow=75,SNR=6.7
H11N2 WAKE ISLAND Hy 41.30 87 T T 19 27 24.8
baz=283,slow=75,SNR=7.6
H11N3 WAKE ISLAND Hy 41.31 87 T T 19 27 25.1
baz=283,slow=75,SNR=10.0
H11S3 WAKE ISLAND Hy 41.41 89 T T 19 27 26.3
baz=284,SNR=5.2
H11S1 WAKE ISLAND Hy 41.42 89 T T 19 27 36.0
baz=284
H11S2 WAKE ISLAND Hy 41.43 89 T T 19 27 36.6
baz=284
TDK Taldyqorghan 41.48 312 *e*P **P** **18 43 21.6 +0.7**
TDK pmax pmax
comp=Z,21nm,0.8s
TDK Taldyqorghan 41.48 312 *e*P **P** **18 43 21.7 +0.7**
comp=Z,21nm,0.8s
FITZ Fitzroy Crossi 41.72 176 P **P** **18 43 22.8 -0.3**
comp=Z,3.5nm,1.0s,baz=2.6,slow=9.8,SNR=3.2
comp=Z,3.5nm,1.0s
AAA Alma-Ata 42.09 309 *e*P **P** **18 43 26.6 +0.7**
AAA pmax pmax
comp=Z,11nm,0.8s
AAA Alma-Ata 42.09 309 *e*P **P** **18 43 26.7 +0.7**
comp=Z,11nm,0.8s
KSH Kashi 42.14 303 P **P** **18 43 30.6 +4.0**
KSH pmax pmax
comp=Z,13nm,1.0s
CHKK Chushkaly 42.18 310 *e*P **P** **18 43 26.9 +0.3**
CHKK Chushkaly 42.18 310 *e*P **P** **18 43 27.0 +0.3**
ULHL Ulahol 42.38 307 P **P** **18 43 30.6 +2.0**
SNR=6.4
BOOM Boomskoye usch 42.65 308 IAmb IAmb 18 43 33.1
comp=Z,10nm,0.8s
KUU Kurty 42.65 310 *e*P **P** **18 43 31.1 +0.7**
KUU pmax pmax
comp=Z,17nm,0.9s
KUU Kurty 42.65 310 *e*P **P** **18 43 31.2 +0.7**
comp=Z,17nm,0.9s
TKM2 Tokmak 2 42.98 308 P **P** **18 43 35.2 +1.9**
SNR=53
KURK Kurchatov 43.19 320 **P** **18 43 34.2 -0.5**
KURK IAmb IAmb 18 43 46.8
comp=Z,16nm,1.0s
KURK Kurchatov 43.19 320*c*eP **P** **18 43 34.4 -0.3**
KURK pmax pmax
comp=Z,21nm,1.7s
KURBB Kurchatov Arra 43.21 320 P **P** **18 43 34.6 -0.3**
comp=Z,5.1nm,1.0s,baz=114,slow=7.9,SNR=32
comp=Z,5.1nm,1.0s
KBK Karagaybulak 43.40 308 P **P** **18 43 38.6 +1.9**
SNR=12
UCH Uchtor 43.64 307 P **P** **18 43 41.3 +2.2**
SNR=38
AAK Ala-Archa 43.72 307 **P** **18 43 41.1 +1.7**
AAK IAmb IAmb 18 43 41.9
comp=Z,12nm,0.8s
AAK Ala-Archa 43.72 307*c*eP **P** **18 43 39.3 -0.1**
AAK pmax pmax
comp=Z,14nm,0.8s
SGDS Sogindy 43.77 309 *e*P **P** **18 43 40.4 +0.7**
USP Ospenovka 43.83 308 P **P** **18 43 41.3 +1.3**
SNR=11
NIL Nilore 43.96 294 **P** **18 43 40.9 -0.4**
NIL IAmb IAmb 18 43 55.3
comp=Z,16nm,0.9s
NIL Nilore 43.96 294 P **P** **18 43 40.9 -0.4**
NIL pmax pmax
comp=Z,16nm,1.0s
AML Almayashu 44.23 307 P **P** **18 43 45.7 +2.0**
SNR=24
EKS2 Erkin-Say 44.25 307 P **P** **18 43 45.2 +1.7**
SNR=21
BTLS Baital 44.49 311 *e*P **P** **18 43 46.0 +0.7**
BTLS pmax pmax
comp=Z,5.0nm,0.6s
BTLS Baital 44.49 311 *e*P **P** **18 43 46.0 +0.7**
comp=Z,5.1nm,0.6s
WRAB Tennant Creek 44.94 164 P **P** **18 43 50.1 +1.0**
WRAB IAmb IAmb 18 43 51.1
comp=Z,8.1nm,0.9s
WRAB Tennant Creek 44.94 164 *i* P **P** **18 43 49.7 +0.6**
WRAB pmax pmax
comp=Z,10.0nm,0.9s
WRA Warramunga Arr 44.95 164 P **P** **18 43 50.2 +1.1**
WRA Warramunga Arr 44.95 164 P **P** **18 43 50.0 +0.9**
comp=Z,7.6nm,0.8s,baz=345,slow=8.9,SNR=40
comp=Z,7.6nm,0.8s
WR8 Warramunga Arr 45.00 164 **P** **18 43 50.4 +0.8**
WR8 IAmb IAmb 18 43 51.1
comp=Z,11nm,0.8s
DZA Taraz 46.06 307 *e*P **P** **18 43 58.6 +0.8**
DZA pmax pmax
comp=Z,5.0nm,0.6s
DZA Taraz 46.06 307 *e*P **P** **18 43 58.6 +0.8**
comp=Z,4.7nm,0.6s
BRZS Berezniki 46.56 317 *e*P **P** **18 44 02.0 +0.4**
BRZS Berezniki 46.56 317 *e*P **P** **18 44 02.0 +0.4**
KKAR Karatay Array 46.69 308 **P** **18 44 03.6 +0.9**
KKAR Karatay Array 46.69 308 IAmb IAmb 18 44 05.0
comp=Z,12nm,0.8s
KKAR Karatay Array 46.69 308 P **P** **18 44 03.6 +0.9**
IUG luznay 46.93 306 *e*P **P** **18 44 05.4 +0.7**
IUG pmax pmax
comp=Z,10.0nm,0.8s
IUG luznay 46.93 306 *e*P **P** **18 44 05.5 +0.7**
comp=Z,9.6nm,0.8s
BRLS Borolday 47.17 307 *e*P **P** **18 44 07.9 +1.4**
BRLS pmax pmax
comp=Z,4.0nm,0.9s
BRLS Borolday 47.17 307 *e*P **P** **18 44 07.9 +1.4**
comp=Z,4.4nm,0.9s
CHM Chimkent 47.26 306 *e*P **P** **18 44 08.0 +0.8**
CHM pmax pmax
comp=Z,8.0nm,0.7s
CHM Chimkent 47.26 306 *e*P **P** **18 44 08.1 +0.8**
comp=Z,7.6nm,0.7s
KBL Kabul 47.44 296 **P** **18 44 10.5 +1.6**
KBL Kabul 47.44 296 P **P** **18 44 10.5 +1.6**
KBL pmax pmax
comp=Z,38nm,1.1s
TIXI Tiksi 48.05 3 P **P** **18 44 10.1 -2.7**
TIXI IAmb IAmb 18 44 31.4
comp=Z,9.0nm,1.1s
TIXI Tiksi 48.05 3*c*eP **P** **18 44 11.0 -1.8**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
ASAR Alice Springs 48.43 166 **P** **18 44 17.8 +1.4**
ASAR Alice Springs 48.43 166 P **P** **18 44 18.0 +1.6**
comp=Z,6.6nm,0.8s,baz=346,slow=7.4,SNR=63
comp=Z,6.6nm,0.8s
BVAR Borovoye Array 48.76 321 P **P** **18 44 18.1 -0.6**
comp=Z,2.2nm,0.5s
comp=Z,2.2nm,0.5s
BRVK Borovoye 48.83 321 P **P** **18 44 19.3 +0.1**
BRVK IAmb IAmb 18 44 30.8
comp=Z,8.9nm,0.8s
BRVK Borovoye 48.83 321 P **P** **18 44 19.3 +0.1**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BILL Bilibino 51.67 19 *i* P **P** **18 44 38.6 -1.8**
BILL pmax pmax
comp=Z,1.0nm,0.9s
ABKAR Akbulak array 54.60 314 **P** **18 45 02.5 +0.2**
SVE Sverdlovsk 55.10 324 *e*P **P** **18 45 05.8 0.0**
ARTI Arti 56.26 323 **P** **18 45 12.9 -1.2**
ARTI IAmb IAmb 18 45 28.6
comp=Z,8.7nm,0.7s
ARTI Arti 56.26 323*c* *i*P **P** **18 45 13.1 -1.0**
ARTI 18 46 09.2
ARTI S **S** **18 53 04.9 +2.3**
ARTI SS **SS** **18 56 46.3 -2.8**
ARTI pmax pmax
comp=Z,7.0nm,0.9s
STKA Stephens Creek 58.26 161 P **P** **18 45 30.2 +1.8**
comp=Z,12nm,0.7s,baz=341,slow=7.4,SNR=29
comp=Z,12nm,0.7s
STKA Stephens Creek 58.26 161 *i* P **P** **18 45 28.9 +0.4**
GAMB Gambell 58.27 28 P **P** **18 45 28.1 0.0**
baz=259
P08K Saint George I 58.38 37 P **P** **18 45 29.7 +0.6**
baz=266
NIKH Nikolski High 58.60 41 P **P** **18 45 31.1 +0.4**
baz=268
UNV Unalaska Valle 60.02 40 P **P** **18 45 41.2 +0.8**
baz=270
F14K Arctic Creek 60.81 27 P **P** **18 45 46.4 +0.7**
baz=263
K13K Kusilvak Mount 61.25 31 P **P** **18 45 49.5 +0.8**
baz=267
KIRV Kirov 61.25 325 *i* P **P** **18 45 47.7 -1.1**
G15K Niukluk 61.73 28 P **P** **18 45 52.8 +0.9**
baz=266
L14K Kuka Creek 62.17 32 IAmb IAmb 18 45 57.0
comp=Z,5.2nm,1.0s
L14K Kuka Creek 62.17 32 P **P** **18 45 55.2 +0.4**
baz=269
D17K Noatak River 62.33 25 P **P** **18 45 56.1 +0.3**
baz=265
BELG Belogornoye 62.41 318 *i* P **P** **18 45 54.2 -2.5**
BELG pmax pmax
comp=Z,3.0nm,1.0s
M14K Bethel 62.51 32 P **P** **18 45 57.7 +0.5**
baz=270
K15K Wolf Creek Mou 62.73 31 P **P** **18 45 59.2 +0.5**
baz=270
E17K Hotham Inlet 62.77 25 P **P** **18 45 58.9 0.0**
baz=267
O14K Tigyukauivet M 62.88 34 P **P** **18 45 59.9 +0.2**
baz=271
B18K Kokolik River 62.93 23 P **P** **18 46 00.4 +0.5**
baz=266
F17K Baldwin Pennin 62.96 26 P **P** **18 46 00.5 +0.4**
baz=268
C18K Utukok River 63.10 24 P **P** **18 46 01.4 +0.3**
baz=266
M15K Kasigluk River 63.14 32 P **P** **18 46 01.7 +0.3**
baz=271
J16K Anvik River 63.16 30 P **P** **18 46 01.5 0.0**
baz=270
G17K Kiwalik Mounta 63.17 27 P **P** **18 46 01.9 +0.3**
baz=269
E18K Tukpahlearik C 63.26 25 **P** **18 46 02.7 +0.6**
E18K IAmb IAmb 18 46 21.3
comp=Z,3.7nm,0.8s
E18K Tukpahlearik C 63.26 25 P **P** **18 46 02.9 +0.8**
baz=268
N15K Kwethluk River 63.45 33 P **P** **18 46 04.3 +0.8**
baz=272
SDPT Sand Point 63.48 38 P **P** **18 46 04.2 +0.5**
baz=274
H17K Granite Mounta 63.48 28 P **P** **18 46 04.4 +0.8**
baz=270
MAK Makhachkala 63.50 308 *e*P P 18 45 58.2 -5.9
MAK *e* 18 48 22.5
MAK *e*S **S** **18 54 29.8 -6.4**
MAK *e*SS **SS** **18 58 48.7 +5.5**
MAK *e*SSS SSS 19 01 39.0
MAK pmax pmax
comp=Z,140nm,1.0s
AKT Akhty 63.57 306 *e*P **P** **18 46 05.2 +0.4**
AKT *e* 18 46 39.7
AKT pmax pmax
comp=Z,20nm,1.1s
O15K Ungalikthiuk R 63.62 34 P **P** **18 46 04.7 +0.1**
baz=273
L16K Owhat River 63.70 31 P **P** **18 46 05.9 +0.8**
baz=272
C19K Lookout Ridge 63.71 23 IAmb IAmb 18 46 26.6
comp=Z,3.6nm,0.7s
C19K Lookout Ridge 63.71 23 P **P** **18 46 06.0 +0.9**
baz=268
J17K VABM Dome 63.85 29 IAmb IAmb 18 46 29.6
comp=Z,9.3nm,1.2s
J17K VABM Dome 63.85 29 P **P** **18 46 06.6 +0.5**
baz=271
M16K Timber Creek 63.98 32 P **P** **18 46 07.2 +0.3**
baz=272
G18K Tagagawik 64.01 27 P **P** **18 46 07.7 +0.6**
baz=270
N16K Nishlik Lake 64.09 33 P **P** **18 46 07.9 +0.1**
baz=273
H18K Honhosa River 64.13 27 P **P** **18 46 08.1 +0.2**
baz=271
K17K Iditarod 64.22 30 P **P** **18 46 08.7 +0.2**
baz=272
D19K Kuna River 64.23 24 P **P** **18 46 09.1 +0.6**
baz=270
L17K Donlin 64.25 31 P **P** **18 46 08.8 +0.1**
baz=272
F19K Shaleruckik Mo 64.36 26 P **P** **18 46 09.8 +0.5**
baz=271
O16K Kokwok River B 64.48 34 P **P** **18 46 10.3 +0.1**
baz=274
E19K Redstone River 64.56 25 IAmb IAmb 18 46 25.3
comp=Z,5.8nm,0.8s
E19K Redstone River 64.56 25 P **P** **18 46 10.8 +0.1**
baz=271
CHGN Chignik 64.56 37 P **P** **18 46 11.2 +0.4**
baz=275
P16K Nushagak River 64.57 34 P **P** **18 46 10.9 +0.1**
baz=274
B20K Meade River 64.58 22 IAmb IAmb 18 46 23.4
comp=Z,3.8nm,0.8s
B20K Meade River 64.58 22 P **P** **18 46 11.0 +0.3**
baz=270
G19K Purcell Mounta 64.64 26 P **P** **18 46 12.0 +0.8**
baz=272
M17K Holitna River 64.69 32 P **P** **18 46 12.2 +0.6**
baz=274
A21K Barrow 64.77 21 P **P** **18 46 12.6 +0.6**
baz=270
D20K Etivluk River 64.78 23 IAmb IAmb 18 46 24.8
comp=Z,5.6nm,0.8s
D20K Etivluk River 64.78 23 P **P** **18 46 12.7 +0.6**
baz=271
N17K Nushagak Hills 64.87 33 P **P** **18 46 13.3 +0.5**
baz=274
J18K Innoko River 64.91 29 P **P** **18 46 13.3 +0.3**
baz=273
H19K Roundabout Mou 64.93 27 IAmb IAmb 18 46 32.6
comp=Z,7.1nm,0.9s
H19K Roundabout Mou 64.93 27 P **P** **18 46 13.4 +0.4**
baz=272,SNR=5.3
E20K Nigu River 64.94 24 P **P** **18 46 13.1 -0.1**
baz=271,SNR=8.8
O17K Koliganek Bris 64.97 33 P **P** **18 46 13.5 +0.1**
baz=275
L18K Granite Mounta 65.00 31 pwP 18 46 25.9 +2.0
L18K Granite Mounta 65.00 31 P **P** **18 46 14.1 +0.5**
baz=274
F20K Avaraart Lake 65.16 25 P **P** **18 46 15.2 +0.7**
baz=272
P17K Kvichak River 65.36 34 P **P** **18 46 16.2 +0.3**
baz=275
J19K Poorman 65.36 29 IAmb IAmb 18 46 30.9
comp=Z,4.5nm,0.9s
J19K Poorman 65.36 29 P **P** **18 46 16.0 +0.1**
baz=274,SNR=8.5
C21K Knifeblade Rid 65.43 23 P **P** **18 46 16.5 +0.2**
baz=272
M18K Stony River 65.46 31 P **P** **18 46 16.5 -0.1**
baz=275
B21K Ikpikpuk River 65.47 22 P **P** **18 46 16.8 +0.3**
baz=272
N18K Kilae Creek 65.50 32 P **P** **18 46 17.0 +0.1**
baz=275
R17L Mt. Peulik Vol 65.55 36 P **P** **18 46 17.0 -0.3**
baz=276
H20K Anotleneega Mo 65.58 27 P **P** **18 46 17.5 +0.2**
baz=274,SNR=5.6
Q17K Contact Creek 65.74 35 P **P** **18 46 18.5 -0.1**
baz=276
E21K Killik River 65.76 24 IAmb IAmb 18 46 31.0
comp=Z,5.6nm,0.8s
E21K Killik River 65.76 24 P **P** **18 46 19.0 +0.6**
baz=273,SNR=8.2
I20K Naaghedeneel 65.80 28 P **P** **18 46 19.2 +0.5**
baz=274
B22K Teshekpuk Lake 65.85 22 IAmb IAmb 18 46 50.7
comp=Z,6.7nm,0.9s
B22K Teshekpuk Lake 65.85 22 P **P** **18 46 19.6 +0.7**
baz=273
L19K White Mountain 65.86 31 P **P** **18 46 19.7 +0.5**
baz=275
O18K Koktuh Hills 65.92 33 IAmb IAmb 18 46 42.2
comp=Z,4.8nm,0.7s
O18K Koktuh Hills 65.92 33 P **P** **18 46 19.9 +0.3**
baz=276
P18K Big Mountain, 65.95 34 P **P** **18 46 20.2 +0.3**
baz=276
J20K Nowinta River 66.00 28 P **P** **18 46 20.1 +0.1**
baz=275,SNR=6.5
F21K Alatna River 66.02 25 P **P** **18 46 20.2 0.0**
baz=274
GNI Garni 66.04 305*c*eP **P** **18 46 21.5 +0.6**
GNI pmax pmax
comp=Z,17nm,1.3s
G21K Allakaket 66.07 26 IAmb IAmb 18 46 33.5
comp=Z,4.1nm,0.8s
G21K Allakaket 66.07 26 P **P** **18 46 20.3 -0.2**
baz=275
M19K Big River Lodg 66.10 31 P **P** **18 46 20.5 -0.2**
baz=276
K20K Telida 66.10 29 P **P** **18 46 20.8 0.0**
baz=276
Q18K Katmai Hardscr 66.15 35 P **P** **18 46 21.5 +0.2**
baz=277
KLMR Klimovskoe 66.16 328 *e*P **P** **18 46 18.2 -2.9**
KLMR *e* 18 46 48.7
KLMR *e* 18 48 43.5
KLMR pmax pmax
comp=Z,19nm,1.2s
N19K Bonanza Creek 66.17 32 P **P** **18 46 21.8 +0.5**
baz=276
VRH Novokhopyorsk 66.19 317 *e*P **P** **18 46 20.8 -0.6**
VRH pmax pmax
comp=Z,25nm,1.1s
D22K Ayikyak River 66.20 23 IAmb IAmb 18 46 34.4
comp=Z,6.4nm,0.8s
D22K Ayikyak River 66.20 23 P **P** **18 46 21.8 +0.5**
baz=274,SNR=9.7
L20K Farewell, AK 66.28 30 P **P** **18 46 22.1 +0.2**
baz=276
H21K Melozitna Rive 66.43 27 IAmb IAmb 18 46 36.0
comp=Z,6.1nm,0.8s
H21K Melozitna Rive 66.43 27 P **P** **18 46 22.8 0.0**
baz=276,SNR=10.0
F22K John River 66.50 25 P **P** **18 46 23.1 -0.2**
baz=275
E22K Anaktuvuk Pass 66.58 24 IAmb IAmb 18 46 36.8
comp=Z,5.1nm,0.8s
E22K Anaktuvuk Pass 66.58 24 P **P** **18 46 23.8 0.0**
baz=275
R18K Karluk 66.58 36 P **P** **18 46 23.9 +0.1**
baz=278
KBZ Khabaz 66.69 309 P **P** **18 46 25.9 +1.1**
comp=Z,7.9nm,0.9s,baz=114,slow=4.6,SNR=15
comp=Z,7.9nm,0.9s
KBZ Khabaz 66.69 309 *i* P **P** **18 46 24.0 -0.8**
KBZ pmax pmax
comp=Z,13nm,0.9s
M20K Styx River 66.69 31 IAmb IAmb 18 46 37.6
comp=Z,4.5nm,1.0s
M20K Styx River 66.69 31 P **P** **18 46 24.2 -0.4**
baz=277
KIV Kislovodsk 66.79 309 **P** **18 46 26.3 +0.7**
KIV Kislovodsk 66.79 309 *e*P **P** **18 46 26.5 +0.9**
KIV pmax pmax
comp=Z,22nm,1.0s
KIV Kislovodsk 66.79 309 P **P** **18 46 26.3 +0.7**
comp=Z,399nmcomp=Z,32nm,1.3s
I21K Tanana 66.82 27 IAmb IAmb 18 46 41.7
comp=Z,5.0nm,1.1s
I21K Tanana 66.82 27 P **P** **18 46 24.8 -0.5**
baz=277
CHUM Lake Minchumin 66.83 29 P **P** **18 46 25.4 +0.1**
baz=277
C23K Itkillik River 66.84 22 IAmb IAmb 18 46 39.8
comp=Z,6.9nm,1.1s
C23K Itkillik River 66.84 22 P **P** **18 46 25.8 +0.4**
baz=276
SHA1 Shidzhatmaz 66.85 309 *i* P **P** **18 46 27.2 +1.0**
D23K Nanushuk River 66.91 23 IAmb IAmb 18 46 40.6
comp=Z,6.8nm,1.0s
D23K Nanushuk River 66.91 23 P **P** **18 46 26.0 +0.2**
baz=276,SNR=5.5
P19K Oil Pt 66.93 33 P **P** **18 46 25.4 -0.7**
baz=278
CAST Castle Rocks 66.99 29 IAmb IAmb 18 46 29.0
comp=Z,4.1nm,0.9s
CAST Castle Rocks 66.99 29 P **P** **18 46 26.3 -0.1**
baz=277,SNR=8.0
H22K Ishtalitna Cre 66.99 26 P **P** **18 46 26.4 0.0**
baz=277,SNR=11
PPLA Purkeypile 67.00 30 P **P** **18 46 26.5 -0.2**
baz=277
N20K Mount Spurr 67.22 32 P **P** **18 46 27.8 -0.2**
baz=278
SPCR Spurr Chakacha 67.22 32 P **P** **18 46 28.0 0.0**
baz=278
COLD Coldfoot 67.29 25 P **P** **18 46 28.2 -0.1**
baz=277
TOLK Toolik Lake Re 67.35 23 P **P** **18 46 28.7 0.0**
baz=277
MLY Manley 67.36 27 IAmb IAmb 18 46 44.5
comp=Z,4.7nm,1.0s
MLY Manley 67.36 27 P **P** **18 46 28.2 -0.6**
baz=278,SNR=6.4
BPAW Bear Paw Mtn. 67.38 28 P **P** **18 46 28.8 -0.1**
baz=278
E23K Chandalar 67.41 24 IAmb IAmb 18 46 44.2
comp=Z,5.7nm,0.8s
E23K Chandalar 67.41 24 P **P** **18 46 28.5 -0.6**
baz=278
G23K Bananza Creek 67.43 25 IAmb IAmb 18 46 42.2
comp=Z,3.3nm,0.8s
G23K Bananza Creek 67.43 25 P **P** **18 46 29.4 +0.2**

baz=278
SKT Skwentna 67.43 31 P P 18 46 29.0 -0.2
baz=278
Q20K Shuyak Island 67.51 34 P P 18 46 29.7 -0.1
baz=279
C24K Franklin Bluff 67.52 22 IAmb IAmb 18 46 48.1
comp=Z,5.7nm,0.8s
C24K Franklin Bluff 67.52 22 P P 18 46 29.4 -0.2
baz=278
KDAK Kodiak Island 67.54 35 P P 18 46 29.4 -0.5
baz=279
D24K Happy Valley 67.55 23 IAmb IAmb 18 47 01.5
comp=Z,4.9nm,0.8s
D24K Happy Valley 67.55 23 P P 18 46 30.2 +0.3
baz=278
VORR Voronezh 67.66 318 eP P 18 46 29.8 -1.0
VORR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 67.66 319 eP P 18 46 30.1 -0.7
LPSR pmax pmax
comp=Z,22nm,1.0s
VORD Divnogorie 67.74 317 eP P 18 46 30.0 -1.3
VORD pmax pmax
comp=Z,7.0nm,0.9s
H23K Yukon River 67.75 26 IAmb IAmb 18 46 44.8
comp=Z,5.8nm,0.8s
H23K Yukon River 67.75 26 P P 18 46 30.8 -0.3
baz=278,SNR=9.5
VSR Storozhevoye 67.77 318 eP P 18 46 29.4 -2.1
VSR pmax pmax
comp=Z,8.0nm,1.0s
TRF Thorofare Moun 67.78 29 P P 18 46 31.2 -0.4
baz=279
E24K Your Creek 67.83 24 IAmb IAmb 18 46 55.4
comp=Z,3.2nm,0.7s
E24K Your Creek 67.83 24 P P 18 46 31.4 -0.3
baz=278,SNR=5.8
SUA Susitna One 67.88 31 P P 18 46 32.4 +0.2
baz=279
NEA2 Nenana 68.13 28 IAmb IAmb 18 46 35.0
comp=Z,5.9nm,0.7s
NEA2 Nenana 68.13 28 P P 18 46 33.5 -0.1
baz=279,SNR=5.7
F24K Squaw Lake 68.14 24 IAmb IAmb 18 46 48.6
comp=Z,5.3nm,0.8s
F24K Squaw Lake 68.14 24 P P 18 46 33.6 0.0
baz=279,SNR=11
MCK McKinley 68.33 29 P P 18 46 34.5 -0.4
baz=280
D25K Kavik River 68.39 22 IAmb IAmb 18 46 49.8
comp=Z,4.7nm,0.8s
D25K Kavik River 68.39 22 P P 18 46 35.5 +0.3
baz=280
H24K Noodor Dome 68.42 26 P P 18 46 35.6 +0.2
baz=280
RC01 Rabbit Creek A 68.42 31 P P 18 46 35.6 +0.1
baz=280
G24K Hadweenzic Riv 68.43 25 P P 18 46 35.9 +0.5
baz=280
WRH Wood River Hil 68.57 28 IAmb IAmb 18 47 12.0
comp=Z,6.7nm,1.2s
OBN Obninsk 68.58 322 eP P 18 46 35.6 -0.9
OBN e*PP pP 18 46 38.5 -4.3
OBN e*SP sP 18 46 41.3 -3.8
OBN e 18 46 59.4
OBN pmax pmax
comp=Z,6.0nm,0.8s
COLA College 68.60 27 i P P 18 46 32.0 -4.5
COLA pmax pmax
comp=Z,4.0nm,0.6s
WAT1 Susitna Watana 68.66 30 P P 18 46 37.1 +0.1
baz=280
POKR Poker Plat Res 68.73 27 IAmb IAmb 18 46 39.1
comp=Z,5.7nm,0.8s
POKR Poker Plat Res 68.73 27 P P 18 46 37.5 +0.1
baz=281
SEW Seward 68.74 32 P P 18 46 37.7 +0.3
baz=281
C26K Camden Bay 68.78 22 P P 18 46 37.5 0.0
baz=281
G25K Bearman Lake 68.96 25 P P 18 46 39.4 +0.7
baz=281
F25K Christian Rive 68.97 24 IAmb IAmb 18 46 41.5
comp=Z,4.6nm,0.9s
F25K Christian Rive 68.97 24 P P 18 46 38.8 0.0
baz=281,SNR=7.7
ILAR Eielson Array 69.02 27 P P 18 46 38.1 -1.1
comp=Z,0.7nm,0.5s,baz=297,slow=9.2,SNR=11
comp=Z,0.7nm,0.5s
HDA Harding Lake 69.07 28 P P 18 46 38.8 -0.7
baz=281
WAT6 Susitna Watana 69.08 30 P P 18 46 39.3 -0.4
baz=281
PWL Port Wells 69.14 32 P P 18 46 39.6 -0.4
baz=282
DHY Denali Highway 69.14 29 P P 18 46 39.0 -1.1
baz=281
H25L Birch Creek 69.17 26 P P 18 46 40.0 +0.1
baz=282
M23K Glacier View 69.24 31 P P 18 46 40.4 -0.2
baz=282
C27K Jago River 69.25 22 P P 18 46 39.9 -0.6
baz=282
BMAR Burnt Mountain 69.41 24 P P 18 46 42.4 +0.9
SCM Sheep Creek Mo 69.42 30 P P 18 46 41.8 0.0
baz=282,SNR=5.6
PRP Porcupine Dome 69.44 26 P P 18 46 41.8 -0.1
baz=282
F26K Sheenjek River 69.51 24 P P 18 46 42.3 +0.1
baz=283,SNR=5.5
RAYN Ar Rayn 69.63 287 P 18 46 44.0 +0.3
RAYN IAmb IAmb 18 46 45.3
comp=Z,6.9nm,0.8s
RAYN Ar Rayn 69.63 287 P P 18 46 44.0 +0.3
RAYN pmax pmax
comp=Z,7.0nm,0.9s
J25K Salcha River, 69.69 27 P P 18 46 43.2 -0.2
baz=283
K24K Donnelly Dome 69.70 28 P P 18 46 42.6 -0.7
baz=283,SNR=5.2
GLI Glacier Island 69.73 31 P P 18 46 43.2 -0.4
baz=282
P23K Montague Islan 69.77 32 P P 18 46 43.0 -0.8
baz=283
G26K Porcupine Rive 69.81 25 P P 18 46 44.1 +0.2
baz=283,SNR=7.1
PAX Paxson 70.02 29 P P 18 46 45.3 -0.1
baz=283
RIDG Independent Ri 70.11 28 P P 18 46 45.3 -0.7
baz=283
SPITS Spitsbergen Ar 70.14 348 P P 18 46 44.8 -1.1
comp=Z,0.7nm,0.3s,baz=91,slow=5.8,SNR=4.4
comp=Z,0.7nm,0.3s
KLU Klutina 70.15 31 P P 18 46 45.7 -0.6
baz=283
D27M Malcolm River 70.29 22 P P 18 46 46.4 -0.5
baz=285
E27K Coleen River 70.33 23 P P 18 46 47.1 -0.1
baz=285
ARCES ARCESS Array B 70.38 338 P P 18 46 46.5 -0.9
comp=Z,1.6nm,0.6s,baz=59,slow=7.1,SNR=13
comp=Z,1.6nm,0.6s
SCRK Sand Creek 70.43 28 P P 18 46 47.2 -0.7
baz=284
EYAK Cordova Ski Ar 70.45 32 P P 18 46 47.7 -0.2
baz=284
I26K Coal Creek Min 70.45 26 P P 18 46 47.4 -0.6
baz=284
J26L Joseph Creek 70.48 27 P P 18 46 48.0 -0.2
baz=284,SNR=6.9
G27K Doyon Strip 70.66 25 P P 18 46 48.8 -0.5
baz=285
N25K Chitina, Valde 70.73 30 P P 18 46 49.8 0.0
baz=284
H27K Steamboat Moun 70.86 25 P P 18 46 50.2 -0.3
baz=285
BMRM Bremner River 70.89 31 IAmb IAmb 18 46 54.3
comp=Z,6.1nm,0.8s
BMRM Bremner River 70.89 31 P P 18 46 50.1 -0.7
baz=284
E28M Babbage River 70.96 23 P P 18 46 50.6 -0.4
baz=286
I27K Kandik River 71.00 26 P P 18 46 50.6 -0.8
baz=286
F28M Old Crow 71.11 24 P P 18 46 51.6 -0.4
baz=286
K27K Chicken 71.23 28 IAmb IAmb 18 46 55.8
comp=Z,5.4nm,1.0s
K27K Chicken 71.23 28 P P 18 46 52.7 0.0
baz=286
KAIM Kayak Island 71.25 32 P P 18 46 52.2 -0.6
baz=285
M26K Nabesna, AK 71.26 29 IAmb IAmb 18 47 05.4
comp=Z,6.2nm,0.8s
M26K Nabesna, AK 71.26 29 P P 18 46 52.3 -0.7
baz=285,SNR=8.2
MCARA McCarthy VSAT 71.52 30 P P 18 46 54.1 -0.4
baz=286
E29M Blow River 71.60 23 P P 18 46 54.6 -0.2
baz=288
L27K Beaver Creek, 71.60 29 P P 18 46 55.0 0.0
baz=286,SNR=7.9
BCAR Beaver Creek A 71.62 29 P 18 46 55.3 +0.2
CRQE Cirque 71.66 31 P P 18 46 55.5 0.0
baz=286
I28M Miner Creek 71.71 26 P P 18 46 55.8 +0.1
baz=287,SNR=5.7
M27K Edge Creek, AK 71.78 29 P P 18 46 56.8 +0.6
baz=286
G29M Pine Creek 72.01 24 IAmb IAmb 18 47 16.0
comp=Z,7.9nm,0.9s
G29M Pine Creek 72.01 24 P P 18 46 58.2 +0.9
baz=288
H29M Whitestone 72.09 25 P P 18 46 58.6 +0.8
baz=288
BVCY Beaver Creek 72.21 29 P P 18 46 58.7 0.0
baz=287
DAWY Dawson 72.35 27 P P 18 46 59.5 0.0
baz=288
MESA MESA 72.37 31 P P 18 46 59.9 0.0
baz=287
I29M Ogilvie Camp, 72.39 26 P P 18 47 00.4 +0.7
baz=288
FINES FINESS Array B 72.41 330 P P 18 46 59.7 -0.1
comp=Z,4.6nm,0.7s,baz=57,slow=5.6,SNR=16
comp=Z,4.6nm,0.7s
SIM Simferopol' 72.52 312 eP P 18 47 12.2 +11
SIM pmax pmax
comp=Z,29nm,0.8s
YUK3 Moose Creek 72.58 30 P P 18 47 01.6 +0.5
baz=288
F30M Barrier River 72.60 23 IAmb IAmb 18 47 23.2
comp=Z,9.0nm,1.1s
F30M Barrier River 72.60 23 P P 18 47 01.5 +0.7
baz=290
G30M tAoh Zraii Nji 72.66 24 P P 18 47 01.3 0.0
baz=290
EPYK Eagle Plains 72.68 25 IAmb IAmb 18 47 34.0
comp=Z,5.6nm,0.9s
EPYK Eagle Plains 72.68 25 P P 18 47 01.9 +0.5
baz=290
J29N Klondike Camp 72.72 27 P P 18 47 02.0 +0.3
baz=289
O28M Mount Upton 73.02 31 P P 18 47 03.9 0.0
baz=288
YUK8 Steele Glacier 73.05 30 P P 18 47 03.8 -0.2
baz=288
INK Inuvik 73.15 22 P P 18 47 05.0 +0.9
baz=292
L29M L29M 73.19 28 IAmb IAmb 18 47 29.8
comp=Z,6.0nm,0.9s
L29M L29M 73.19 28 P P 18 47 04.5 0.0
baz=289
I30M Mount Dempster 73.20 26 IAmb IAmb 18 47 17.5
comp=Z,9.7nm,1.4s
I30M Mount Dempster 73.20 26 P P 18 47 04.5 -0.1
baz=290
PINM Pinnacle 73.20 31 P P 18 47 05.3 +0.6
baz=288
K29M Barlow Dome 73.20 27 IAmb IAmb 18 47 16.8
comp=Z,9.5nm,1.4s
K29M Barlow Dome 73.20 27 P P 18 47 05.6 +0.9
baz=290
M29M Somme Creek 73.27 29 IAmb IAmb 18 47 24.6
comp=Z,5.4nm,0.9s
M29M Somme Creek 73.27 29 P P 18 47 05.3 +0.2
baz=289,SNR=5.7
F31M Tsiigehtchic 73.40 23 P P 18 47 05.3 -0.2
baz=292
G31M Satah River 73.40 24 P P 18 47 05.9 +0.4
baz=292
J30M Hart River 73.44 26 P P 18 47 06.9 +0.8
baz=290
YUK4 Talbot Arm 73.55 30 P P 18 47 07.7 +0.9
baz=289
MNK Minsk 73.59 323 i P P 18 47 06.7 -0.2
MNK i 18 49 51.5
MNK i PPP PPP 18 51 36.5
MNK i S S 18 56 39.9 +4.1
MNK pmax pmax
comp=Z,10.0nm,0.9s
MNK MLR MLR
comp=Z,312nm,15.0s
PNL Peninsula 73.75 32 P P 18 47 07.9 +0.1
baz=289
H31M Peel River 73.78 25 IAmb IAmb 18 47 31.4
comp=Z,8.5nm,1.2s
H31M Peel River 73.78 25 P P 18 47 07.8 -0.1
baz=292
YUK6 Outpost Mounta 73.81 30 P P 18 47 08.5 +0.1
baz=290
M30M Minto, Yukon 73.95 28 P P 18 47 10.0 +1.0
baz=291
AK09 Malin Array Si 73.97 319 P P 18 47 08.1 -1.2
AK03 Malin Array Si 73.98 319 P P 18 47 08.1 -1.2
AKASG Malin Array Be 73.98 319 P P 18 47 08.7 -0.6
AKASG IAmb IAmb 18 47 20.9
comp=Z,8.3nm,1.1s
AKASG Malin Array Be 73.98 319 P P 18 47 08.6 -0.7
comp=Z,2.2nm,0.7s,baz=62,slow=5.5,SNR=11
comp=Z,2.2nm,0.7s
AKASG Malin Array Be 73.98 319 P P 18 47 08.7 -0.6
AKASG pmax pmax
comp=Z,8.0nm,1.1s
AKBB Malin Array Si 73.98 319 IAmb IAmb 18 47 20.5
comp=Z,8.4nm,0.8s
AKBB Malin Array Si 73.98 319 ceP P 18 47 08.2 -1.1
AKBB pmax pmax
comp=Z,11nm,0.9s
AKBB Malin Array Si 73.98 319 P P 18 47 08.2 -1.1
AK08 Malin Array Si 73.99 319 P P 18 47 08.2 -1.1
AK01 Malin Array Si 74.00 319 P P 18 47 08.2 -1.2
KIEV Kiev 74.00 319 P 18 47 08.5 -0.9
KIEV IAmb IAmb 18 47 20.5
comp=Z,8.0nm,0.9s
KIEV Kiev 74.00 319 P P 18 47 08.5 -0.9
KIEV pmax pmax
comp=Z,8.0nm,0.9s
KIEV Kiev 74.00 319 P P 18 47 08.2 -1.2
AK10 Malin Array Si 74.00 319 P P 18 47 08.3 -1.1
AK02 Malin Array Si 74.01 319 P P 18 47 08.3 -1.2
AK04 Malin Array Si 74.01 319 P P 18 47 08.3 -1.2
AK05 Malin Array Si 74.02 319 P P 18 47 08.4 -1.1
AK11 Malin Array Si 74.03 319 P P 18 47 08.4 -1.1
AK23 Malin Array Si 74.03 319 P P 18 47 08.4 -1.1
AK06 Malin Array Si 74.04 319 P P 18 47 08.5 -1.1
AK07 Malin Array Si 74.04 319 P P 18 47 08.5 -1.2
AK12 Malin Array Si 74.05 319 P P 18 47 08.5 -1.2
N30M Aishikik Lake 74.21 29 P P 18 47 11.1 +0.5
baz=291
HYT Haines Junctio 74.24 30 IAmb IAmb 18 47 24.0
comp=Z,6.0nm,0.9s
HYT Haines Junctio 74.24 30 P P 18 47 10.7 -0.1
baz=290
BR131 Keskin Array S 74.39 307 i P P 18 47 12.0 -0.1
BRTR Keskin Array B 74.39 307 P 18 47 12.5 +0.3
BRTR Keskin Array B 74.39 307 P P 18 47 12.9 +0.8
comp=Z,8.4nm,0.8s,baz=106,slow=6.6,SNR=42
comp=Z,8.4nm,0.8s
BRTR Keskin Array B 74.39 307 i P P 18 47 12.8 +0.7
BRTR pmax pmax
comp=Z,9.0nm,0.8s
P29M Windy Craggy 74.55 31 IAmb IAmb 18 47 36.0
comp=Z,8.7nm,1.0s
P29M Windy Craggy 74.55 31 P P 18 47 13.0 +0.4
baz=291
P30M Million Dollar 74.75 31 P P 18 47 14.5 +0.9
baz=291
N31M Braeburn, Yuko 74.79 29 P P 18 47 15.0 +1.1
baz=292
O30N Mendenhall 74.91 30 P P 18 47 15.4 +0.8
baz=292
ANTO Ankara 74.97 307 P P 18 47 15.7 +0.3
ANTO Ankara 74.97 307 P P 18 47 15.7 +0.3
ANTO pmax pmax
comp=Z,21nm,0.7s
LUBAR Lubar, Ukraine 75.12 318 P P 18 47 14.4 -1.6
M31M Drury Creek, Y 75.13 28 P P 18 47 16.0 +0.2
baz=293
MMAI Mount Meron Ar 75.16 300 P P 18 47 18.2 +1.6
comp=Z,2.2nm,0.7s,baz=67,slow=12,SNR=3.5
comp=Z,2.2nm,0.7s
PLBC Pleasant Camp 75.27 31 P P 18 47 17.4 +0.8
baz=292
WHY Whitehorse 75.50 30 P P 18 47 18.2 +0.1
baz=293
FARO Faro, Yukon 75.57 28 P P 18 47 19.0 +0.7
baz=294
RNPP9 Sopachiv 75.74 320 P P 18 47 18.3 -1.2
SKAG Skagway 75.76 31 P P 18 47 19.9 +0.5
baz=293
RNPP8 Varash 75.79 320 P P 18 47 18.3 -1.4
NDNU Novodnistrovsk 75.81 317 P P 18 47 19.5 -0.4
RNPP5 Staryi Chortor 75.81 320 P P 18 47 19.2 -0.6
S31K Pelican 75.89 33 P P 18 47 20.7 +0.5
baz=292
R31K City Hall, Gus 75.96 32 P P 18 47 21.3 +0.8
baz=292
N32M Quiet Lake 76.12 29 IAmb IAmb 18 47 23.1
comp=Z,9.1nm,1.1s
N32M Quiet Lake 76.12 29 P P 18 47 21.9 +0.4
baz=294
MMPY Sheldon Lake, 76.29 27 P P 18 47 23.2 +0.7
baz=295
SUW Suwalki 76.36 323 eP P 18 47 23.1 +0.2
P32M Atlin 76.46 31 IAmb IAmb 18 47 25.4
comp=Z,5.3nm,0.9s
P32M Atlin 76.46 31 P P 18 47 24.0 +0.5
baz=294
R32K Eaglecrest 76.61 32 P P 18 47 24.9 +0.6
baz=294
P33M Teslin, Yukon 76.62 30 IAmb IAmb 18 47 26.3
comp=Z,7.1nm,1.1s
P33M Teslin, Yukon 76.62 30 P P 18 47 25.2 +0.8
baz=294
SIT Sitka 76.69 33 P P 18 47 25.7 +1.0
baz=293
S32K Killisnoo 76.90 33 P P 18 47 26.9 +1.0
baz=294
Q32M Nakina River 77.40 31 IAmb IAmb 18 47 31.1
comp=Z,13nm,1.4s
Q32M Nakina River 77.40 31 P P 18 47 29.2 +0.2
baz=295
BUR08 Bucovina Ar. S 77.50 317 IAmb IAmb 18 47 41.8
comp=Z,7.7nm,1.1s
BURAR Bucovina Array 77.50 317 P 18 47 29.2 -0.5
BURAR IAmb IAmb 18 47 42.0
comp=Z,6.0nm,0.9s
MLR Muntele Rosu 77.81 314 IAmb IAmb 18 47 44.2
comp=Z,1.1nm,1.0s
U33K Whale Pass 78.19 34 P P 18 47 34.1 +0.9
baz=295
KWP Kalwaria Pacla 78.28 319 eP P 18 47 34.0 +0.2
S34M Telegraph Cree 78.39 32 IAmb IAmb 18 47 36.5
comp=Z,6.7nm,1.1s
S34M Telegraph Cree 78.39 32 P P 18 47 34.6 +0.3
baz=296
WRAK Wrangell Islan 78.45 33 P P 18 47 34.7 +0.1
baz=296
CRAG Craig 78.46 34 P P 18 47 34.9 +0.2
baz=295
WTLY Watson Lake, Y 78.47 29 P P 18 47 34.8 0.0
baz=298
HFS Hagfors 78.52 331 P P 18 47 34.6 -0.3
comp=Z,2.7nm,0.6s,baz=100,slow=6.2,SNR=11
comp=Z,2.7nm,0.6s
BEL Belsk 78.53 322 eP P 18 47 44.8 +10
DLBC Dease Lake 78.68 31 P P 18 47 36.3 +0.3
baz=297
NC405 NORSAR Array S 78.91 332 P P 18 47 36.7 -0.3
NB2 NORSAR Subarra 79.16 333 P P 18 47 37.6 -0.8
comp=Z,6.6nm,1.0s,baz=58,slow=5.3
NOA NORSAR Array B 79.16 333 P P 18 47 38.1 -0.3
comp=Z,1.1nm,0.3s,baz=57,slow=5.6,SNR=9.4
comp=Z,1.1nm,0.3s
T35M Bob Quinn 79.24 32 P P 18 47 39.3 +0.4
baz=297
STHS Stebnicka Huta 79.25 319 eP P 18 47 39.0 -0.1
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 79.25 319 eP P 18 47 39.0 -0.1
OJC Ojcow 79.77 320 eP P 18 47 42.6 +0.6
OJC Ojcow 79.77 320 P P 18 47 42.1 +0.1
OJC Ojcow 79.77 320 P P 18 47 42.1 +0.1
NIE Niedzica 79.81 320 eP P 18 47 43.5 +1.2
LIRD Liard River Hi 80.01 29 P P 18 47 43.8 +0.7
baz=300
KOTAN Kotaneelee Air 80.53 28 P P 18 47 46.5 +0.6
baz=302
TOAD Toad River Com 80.68 29 P P 18 47 47.0 +0.2
baz=301
VYHS Vyhne 81.07 319 eP P 18 47 49.2 +0.2
VYHS pmax pmax
comp=Z,8.0nm,1.0s
VYHS Vyhne 81.07 319 eP P 18 47 49.2 +0.2
MORC Moravsky Berou 81.27 321 eP P 18 47 50.4 +0.3
KSP Ksiaz 81.51 322 eP P 18 47 51.7 +0.4
JAVC Velka Javorina 81.61 320 eP P 18 47 53.8 +1.9
VRAC Vranov 82.04 321 eP P 18 47 54.8 +0.7
MODS Modra-Piesok 82.06 319 eP P 18 47 53.8 -0.4
MODS pmax pmax
comp=Z,10.0nm,1.1s
MODS Modra-Piesok 82.06 319 eP P 18 47 53.8 -0.4
KRUC Moravsky 82.27 320 eP P 18 47 55.9 +0.6
BRG Berggiesshubel 82.81 323 eP P 18 47 59.1 +1.1
BRG Amp 18 48 01.2
comp=Z,2.4nm,1.0s
BRG Berggiesshubel 82.81 323 P P 18 48 04.9 +6.8
BRG Amp 18 48 05.6
comp=Z,3.1nm,1.2s
YKA Yellowknife Ar 82.88 23 P P 18 47 57.5 -0.6
comp=Z,4.7nm,0.8s,baz=316,slow=5.4,SNR=14
comp=Z,4.7nm,0.8s
RONA Rosalia, Austr 82.95 319 i P P 18 47 59.9 +0.9
comp=Z,1.5nm,1.1s
CONA Conrad Observa 83.11 320 i P P 18 48 00.2 +0.4
comp=Z,4.8nm,1.1s
CLL Collm 83.11 323 eP P 18 47 59.0 -0.6
CLL i *SP pP 18 48 06.2 +0.2
CLL pmax pmax
comp=Z,10.0nm,1.3s
CLL Collm 83.11 323 eP P 18 47 59.0 -0.6
comp=Z,10.0nm,1.3s
CLL i sP pP 18 48 06.2 +0.2
ARSA Arzberg 83.63 319 i P P 18 48 02.3 -0.1
comp=Z,2.3nm,0.8s
KHC Kasperske Hory 83.86 321 eP P 18 48 15.5 +12
GERES GERESS Array B 83.93 321 P P 18 48 03.9 -0.1
GERES GERESS Array B 83.93 321 P P 18 48 04.6 +0.5
comp=Z,4.3nm,0.9s,baz=46,slow=3.9,SNR=30
comp=Z,4.3nm,0.9s
GERES GERESS Array B 83.93 321 P P 18 48 03.9 -0.1
MOA Molln 84.09 320 i P P 18 48 05.4 +0.6
comp=Z,3.4nm,0.8s
SOKA Soboth 84.19 319 i P P 18 48 05.7 +0.3
comp=Z,6.2nm,1.0s
GCIS Gornji Cirnik 84.22 318 eP P 18 48 05.9 +0.5
PDKS Podkum 84.51 318 eP P 18 48 07.1 +0.2
PDKS i pP pwP 18 48 18.1 +0.5
BIOA Bad Ischl, Aus 84.53 320 i P P 18 48 07.8 +0.8
comp=Z,1.7nm,0.5s
OBKA Obir 84.57 319 i P P 18 48 07.2 -0.1
comp=Z,4.8nm,0.9s
VNDS Vrh nad Dolski 84.67 318 i P P 18 48 07.8 +0.1
VNDS i pP pwP 18 48 18.7 +0.3
LJU Ljubljana 84.81 318 i P P 18 48 08.6 +0.1
KBA Koelnbreinsper 85.01 320 i P P 18 48 09.3 -0.3
comp=Z,2.4nm,0.7s
MYKA Terra Mystica 85.06 319 i P P 18 48 09.6 -0.1
comp=Z,3.7nm,0.9s
LESA Schwarzleotal 85.23 320 i P P 18 48 10.7 +0.1
comp=Z,4.7nm,1.0s
ABTA Abfaltersbach 85.67 320 i P P 18 48 12.3 -0.5
comp=Z,2.0nm,0.6s
WATA Walderalm 85.92 320 i P P 18 48 13.5 -0.6
comp=Z,2.4nm,0.7s
WTTA Wattenberg 85.92 320 i P P 18 48 13.5 -0.6
comp=Z,4.5nm,0.8s
MOTA Moosalm 86.19 321 i P P 18 48 15.8 +0.4
comp=Z,4.9nm,1.1s
SQTA Sankt Quirin 86.19 320 i P P 18 48 15.2 -0.3
comp=Z,4.0nm,0.9s

RETA	**Reutte**	**86.32**	**321**	*i* PcP		**P**		**18 48 17.1**	**+1.1**
	comp=Z,1.3nm,0.6s									
FETA	**Feichten**	**86.58**	**320**	*i* PcP		**P**		**18 48 18.0**	**+0.6**
	comp=Z,3.5nm,1.1s									
DAVA	**Damuels**	**86.93**	**321**	*i* P		**P**		**18 48 19.1**	**0.0**
	comp=Z,1.4nm,0.5s									
FUORN	**Ofenpass-Fuorn**	**87.06**	**320**			**P**		**18 48 20.0**	**+0.1**
FUORN					IAmb	IAmb		18 48 32.1		
	comp=Z,9.9nm,1.2s									
EKA	**Eskdalemuir Ar**	**88.64**	**332**	P		**P**		**18 48 26.7**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=59,slow=2.2,SNR=5.0									
	comp=Z,1.1nm,0.7s									
FFC	**Flin Flon**	**93.02**	**24**			**P**		**18 48 47.3**	**0.0**
FFC	**Flin Flon**	**93.02**	**24**	P		**P**		**18 48 47.3**	**0.0**
FFC				pmax		pmax				
	comp=Z,8.0nm,1.0s									

IDC 08 18:48:03.4±1.8, 0.79N×126.84E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=172.1km s-min=21.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.87**	**161**	P	P	18 52 57.7	-0.3
	0.5nm,0.5s,baz=339,slow=11,SNR=6.4						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**25.26**	**165**	P	P	18 53 31.7	+0.2
	0.3nm,0.4s,baz=345,slow=12,SNR=11						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**60.03**	**326**	P	P	18 58 12.1	-0.1
	0.2nm,0.5s,baz=116,slow=7.6,SNR=7.8						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**64.27**	**328**	P	P	18 58 40.5	0.0
	0.3nm,0.5s,baz=130,slow=6.1,SNR=4.3						
	0.3nm,0.5s						

*NEIC **08** 18:48:49.3±1.4, 21.66S±0.09×178.2W±0.2, h444km±8km, mb4.2/18, Error ellipse: s-maj=24.4km s-min=12.5km az=91.0*
*NOU **08** 18:48:49.0, 21.12S×177.80W, h506km, mb4.4/13, Fiji Islands Region*
*IDC **08** 18:48:52.5±2.3, 21.35S×178.53W, h472km±22km, mb3.4/9, mbtmp4.3/11, Error ellipse: s-maj=25.5km s-min=16.5km az=118.0*
ISC 08 18:48:49.9±0.6, 21.53S±0.08×178.3W±0.1, h450km, n55, σ1s23/53, mb4.1/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.32**	**351**	P	**P**	**18 50 00.5**	**+1.0**
TAVE	**Taveuni**	**5.05**	**342**	P	**P**	**18 50 15.9**	**+1.0**
MSVF	**Nonsavu**	**5.14**	**317**	P	**P**	**18 50 16.0**	**+0.1**
MSVF	**Nonsavu**	**5.14**	**317**	P	**P**	**18 50 16.4**	**+0.6**
	108nm,0.7s,baz=134,slow=15,SNR=114						
MSVF	**Nonsavu**	**5.14**	**317**	P	**P**	**18 50 16.4**	**+0.6**
DGTI	**Dogotuki**	**5.54**	**340**	P	**P**	**18 50 20.5**	**+0.8**
YSA	**Yasawairara**	**6.22**	**320**	P	**P**	**18 50 26.9**	**+0.3**
RAO	**Raoul Island**	**7.70**	**178**	P	**P**	**18 50 39.7**	**-2.3**
DZM	**Mont Dzumac**	**14.23**	**265**	P	**P**	**18 51 52.5**	**-0.6**
DZM	**Mont Dzumac**	**14.23**	**265**	P	**P**	**18 51 53.4**	**+0.4**
	3.6nm,0.5s,baz=87,slow=19,SNR=7.5						
DZM	**Mont Dzumac**	**14.23**	**265**	P	**P**	**18 51 56.4**	**+3.4**
VLAKA	**Lakatoro**	**14.60**	**289**	P	**P**	**18 51 57.8**	**+0.9**
OUZ	**Omahuta**	**15.40**	**206**	P	**P**	**18 52 10.2**	**+5.0**
URZ	**Urewera**	**17.15**	**192**	P	**P**	**18 52 24.2**	**+0.6**
BKZ	**Black Stump Fm**	**18.15**	**193**	P	**P**	**18 52 34.7**	**+0.7**
QRZ	**Quartz Range**	**20.77**	**200**	P	**P**	**18 52 59.9**	**+1.7**
FOZ	**Fox Glacier**	**24.09**	**202**	P	**P**	**18 53 29.4**	**+1.4**
JCZ	**Jackson Bay**	**24.92**	**203**	P	**P**	**18 53 36.3**	**+0.7**
PYZ	**Puysegur Point**	**27.48**	**203**	P	**P**	**18 53 57.0**	**-1.1**
EIDS	**Eidsvold**	**28.37**	**256**	P	**P**	**18 54 06.0**	**-0.1**
EIDS				IAmb	IAmb	18 54 39.8	
	comp=Z,13nm,1.4s						
ARMA	**Armidale**	**28.42**	**246**	P	**P**	**18 54 06.5**	**-0.3**
CTAO	**Charters Tower**	**33.17**	**266**	P	**P**	**18 54 47.6**	**-0.3**
STKA	**Stephens Creek**	**37.14**	**245**	P	**P**	**18 55 20.7**	**-0.3**
STKA	**Stephens Creek**	**37.14**	**245**	P	**P**	**18 55 20.9**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=93,slow=12,SNR=7.7						
	comp=Z,1.5nm,0.5s						
COEN	**Coen**	**37.43**	**275**	P	**P**	**18 55 23.2**	**-0.3**
AS31	**Alice Springs**	**44.07**	**258**	P	**P**	**18 56 16.0**	**-0.8**
ASAR	**Alice Springs**	**44.07**	**258**	P	**P**	**18 56 15.8**	**-1.0**
	comp=Z,3.3nm,0.7s,baz=95,slow=8.0,SNR=47						
	comp=Z,3.3nm,0.7s						
WRA	**Warramunga Arr**	**44.24**	**263**	P	**P**	**18 56 16.7**	**-1.5**
WRA	**Warramunga Arr**	**44.24**	**263**	P	**P**	**18 56 16.5**	**-1.7**
	comp=Z,3.0nm,0.6s,baz=98,slow=8.4,SNR=34						
	comp=Z,3.0nm,0.6s						
CASY	**Casey**	**62.94**	**205**	P	**P**	**18 58 30.4**	**-0.3**
CASY				IAmb	IAmb	18 58 32.9	
	comp=Z,9.7nm,1.2s						
QSPA	**South Pole Qui**	**68.54**	**180**	P	**P**	**18 59 07.4**	**+1.3**
	comp=Z,1.7nm,0.8s,baz=356,slow=1.1,SNR=9.2						
	comp=Z,1.7nm,0.8s						
PETK	**Petropavlovsk-**	**77.20**	**345**	P	**P**	**18 59 55.5**	**-0.5**
	comp=Z,5.4nm,0.8s,baz=157,slow=5.8,SNR=7.8						
	comp=Z,5.4nm,0.8s						
MAW	**Mawson**	**80.52**	**200**	P	**P**	**19 00 15.2**	**+1.5**
	comp=Z,1.3nm,0.6s,baz=144,slow=12,SNR=6.6						
	comp=Z,1.3nm,0.6s						
M14K	**Bethel**	**83.05**	**8**	P	**P**	**19 00 27.2**	**+0.7**
M14K				IAmb	IAmb	19 00 28.7	
	comp=Z,3.5nm,0.8s						
J05D	**Fort Rock, OR**	**83.05**	**38**	P	**P**	**19 00 28.3**	**+1.1**
J05D				IAmb	IAmb	19 00 30.2	
	comp=Z,5.1nm,1.1s						
TRF	**Thorofare Moun**	**87.50**	**12**	P	**P**	**19 00 47.8**	**-0.5**
TRF				IAmb	IAmb	19 00 49.1	
	comp=Z,2.9nm,0.8s						
HDA	**Harding Lake**	**89.03**	**13**	P	**P**	**19 00 55.5**	**+0.2**
HDA				IAmb	IAmb	19 00 56.4	
	comp=Z,2.2nm,0.6s						
ILAR	**Eielson Array**	**89.36**	**13**	P	**P**	**19 00 56.0**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=228,slow=5.7,SNR=6.8						
	comp=Z,0.7nm,0.6s						
G21K	**Allakaket**	**89.73**	**10**		**P**	**19 00 58.8**	**+0.3**
G21K				IAmb	IAmb	19 01 00.1	
	comp=Z,5.0nm,1.5s						
J26L	**Joseph Creek**	**89.86**	**14**	P	**P**	**19 00 59.8**	**+0.6**
J26L				IAmb	IAmb	19 01 01.9	
	comp=Z,2.3nm,0.8s						
PDAR	**Pinedale Array**	**89.86**	**43**	P	**P**	**19 01 00.1**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=217,slow=3.6,SNR=4.4						
	comp=Z,0.5nm,0.6s						
M30M	**Minto, Yukon**	**90.02**	**18**	P	**P**	**19 00 59.9**	**-0.1**
E19K	**Redstone River**	**90.09**	**8**	P	**P**	**19 01 00.5**	**+0.3**
E19K				IAmb	IAmb	19 01 02.0	
	comp=Z,2.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**90.24**	**290**	P	**P**	**19 00 59.8**	**-2.2**
	comp=Z,3.1nm,1.0s,baz=104,slow=7.1,SNR=1.3						
	comp=Z,3.1nm,1.0s						
D20K	**Etivluk River**	**91.35**	**8**	P	**P**	**19 01 06.5**	**+0.4**
D20K				IAmb	IAmb	19 01 08.2	
	comp=Z,2.5nm,1.1s						
ARCES	**ARCESS Array B**	**129.88**	**349**	PKP	**PKPdf**	**19 07 05.7**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=56,slow=2.0,SNR=0.8						
FINES	**FINESS Array B**	**136.69**	**343**	PKP	**PKiKP**	**19 07 20.7**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=50,slow=2.2,SNR=1.2						
HFS	**Hagfors**	**140.51**	**351**	PKhKP	PKPpre	19 07 21.1	
	comp=Z,2.1nm,0.3s,baz=62,slow=2.3,SNR=14						
AKASG	**Malin Array Be**	**143.79**	**330**	PKP	PKPbc	19 07 30.9	-0.5
	comp=Z,9.7nm,0.4s,baz=45,slow=4.2,SNR=43						
EKA	**Eskdalemuir Ar**	**146.04**	**5**	PKPbc	**PKPbc**	**19 07 37.6**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=354,slow=2.4,SNR=8.7						
BRTR	**Keskin Array B**	**147.35**	**311**	PKPbc	**PKPdf**	**19 07 40.0**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=140,slow=5.1,SNR=4.3						
MMAI	**Mount Meron Ar**	**148.11**	**298**	PKPbc	**PKPbc**	**19 07 44.3**	**-0.3**
	comp=Z,3.4nm,0.6s,baz=44,slow=6.1,SNR=4.3						
GERES	**GERESS Array B**	**151.12**	**344**	PKPbc	**PKiKP**	**19 07 51.5**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=24,slow=1.3,SNR=9.4						
CONA	**Conrad Observa**	**151.32**	**340**	*i* PKP	**PKiKP**	**19 07 52.4**	**+0.3**
	comp=Z,3.4nm,0.6s						
RONA	**Rosalia, Austr**	**151.38**	**339**	*i* PKP	**PKiKP**	**19 07 52.7**	**+0.6**
	comp=Z,5.8nm,0.5s						

*SJA **08** 18:49:20.8±0.7, 22.21S×67.46W, h201km±4km, ML3.5, MW3.6*
*IDC **08** 18:49:22.5±4.3, 22.22S×67.25W, h166km±62km, mb3.6/2, mbtmp4.0/5, Error ellipse: s-maj=50.9km s-min=31.5km az=130.0*
*GUC **08** 18:49:23.1±0.6, 22.26S×67.78W, h214km±6km, ML4.0*

*SCB **08** 18:49:23.5±1.3, 22.30S×67.50W, h159km±10km, ML4.0/5, MW3.1, Error ellipse: s-maj=4.5km s-min=2.7km az=0.0*
*VAO **08** 18:49:27.3±2.3, 21.96S×67.02W, h183km±13km, mb4.2*
ISC 08 18:49:22.4±0.7, 22.26S±0.03×67.48W±0.04, h182km±7km, n72, σ1s22/106, 6C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.94**	**223**	*e*P	**Pn**	**18 49 51.6**	**+1.4**
AF01				*e*S	**Sn**	**18 50 13.6**	**+1.7**
AF01				IAML		18 50 43.4	
	comp=Z,191nm,0.8s						
AF01	**San Pedro de A**	**0.94**	**223**	Pg	**Pn**	**18 49 50.0**	**-0.3**
PB09	**IPOC Station P**	**1.70**	**286**	*i*P	**Pn**	**18 49 58.0**	**+1.3**
PB09				*i* S	**Sn**	**18 50 23.5**	**+0.3**
PB09	**IPOC Station P**	**1.70**	**286**	*i* P	**Pn**	**18 49 57.5**	**+0.8**
PB09				*i* S	**Sn**	**18 50 23.8**	**+0.7**
PB09				IAML		18 50 25.7	
	comp=Z,550nm,0.4s						
PB09	**IPOC Station P**	**1.70**	**286**	Pg	**Pn**	**18 49 56.7**	**0.0**
YJA	**Yavi**	**1.82**	**88**	*e*P	**Pn**	**18 49 58.8**	**+0.5**
YJA				*e*S	**Sn**	**18 50 25.1**	**-0.9**
YJA				IAML		18 50 26.4	
	comp=Z,61nm,0.4s						
YJA	**Yavi**	**1.82**	**88**	Pg	**Pn**	**18 49 59.1**	**+0.8**
PB06	**IPOC Station P**	**1.98**	**257**	*i*P	**Pn**	**18 49 59.9**	**+0.2**
PB06				*e*S	**Sn**	**18 50 28.1**	**-0.3**
PB06				IAML		18 50 30.4	
	comp=E,687nm,0.1s						
PB06	**IPOC Station P**	**1.98**	**257**	*e*P	**Pn**	**18 50 00.1**	**+0.4**
PB06				*e*S	**Sn**	**18 50 29.9**	**+1.5**
PB06				IAML		18 50 37.3	
	comp=Z,313nm,0.4s						
PB06	**IPOC Station P**	**1.98**	**257**	Pg	**Pn**	**18 50 00.0**	**+0.4**
PB06				Sg	**Sn**	**18 50 26.9**	**-1.5**
PB06				IAML		18 50 30.5	
	comp=Z,288nm,0.3s						
MOCB	**Mochara**	**1.99**	**60**	Pg	**Pn**	**18 50 00.6**	**+0.6**
MOCB				Sg	**Sn**	**18 50 27.6**	**-1.4**
MOCB				IAML		18 50 29.4	
	comp=Z,2μm,0.6s						
HJA	**Humahuaca**	**2.13**	**117**	*e*P	Pn	18 50 16.6	+15
HJA				IAML		18 51 28.3	
	comp=Z,1.5nm,1.3s						
SALTA		**2.22**	**152**	*e*P	Pn	18 49 53.1	-9.5
SALTA				*e*P		18 49 53.6	
SALTA				*e*P		18 49 55.5	
SALTA				IAML		18 50 43.8	
	comp=Z,17nm,2.1s						
PB01	**IPOC Station P**	**2.23**	**303**	*i*P	**Pn**	**18 50 02.7**	**+0.5**
PB01				*i* S	**Sn**	**18 50 32.6**	**-0.4**
PB01				IAML		18 50 34.6	
	comp=E,747nm,0.3s						
PB01	**IPOC Station P**	**2.23**	**303**	*e*P	**Pn**	**18 50 02.1**	**-0.1**
PB01				*e*S	**Sn**	**18 50 32.9**	**-0.2**
PB01				IAML		18 50 33.8	
	comp=Z,428nm,0.2s						
PB01	**IPOC Station P**	**2.23**	**303**	Pg	**Pn**	**18 50 02.7**	**+0.5**
PB01				Sg	**Sn**	**18 50 32.3**	**-0.8**
PB01				IAML		18 50 34.1	
	comp=Z,460nm,0.3s						
PB05	**IPOC Station P**	**2.58**	**256**	*i*P	**Pn**	**18 50 06.6**	**+0.3**
PB05				*i* S	**Sn**	**18 50 38.4**	**-2.0**
PB05				IAML		18 50 40.9	
	comp=N,358nm,0.3s						
PB05	**IPOC Station P**	**2.58**	**256**	*e*P	**Pn**	**18 50 06.6**	**+0.3**
PB05				*e*S	**Sn**	**18 50 39.4**	**-1.0**
PB05				IAML		18 50 40.4	
	comp=Z,204nm,0.4s						
PB05	**IPOC Station P**	**2.58**	**256**	Pg	**Pn**	**18 50 06.6**	**+0.3**
PB05				Sg	**Sn**	**18 50 38.8**	**-1.6**
PB05				IAML		18 50 41.4	
	comp=Z,243nm,0.5s						
PB08	**IPOC Station P**	**2.62**	**323**	*i*P	**Pn**	**18 50 08.5**	**+1.4**
PB08				*i* S	**Sn**	**18 50 42.5**	**+0.7**
PB08				IAML		18 50 43.8	
	comp=N,172nm,0.2s						
PB08	**IPOC Station P**	**2.62**	**323**	*e*P	**Pn**	**18 50 07.9**	**+0.8**
PB08				*e*S	**Sn**	**18 50 43.4**	**+1.6**
PB08				IAML		18 50 46.7	
	comp=Z,122nm,0.4s						
PB08	**IPOC Station P**	**2.62**	**323**	Pg	**Pn**	**18 50 08.6**	**+1.4**
AOVT	**TarijaAcel**	**2.68**	**75**	Pg	**Pn**	**18 50 08.0**	**+0.4**
PX03	**IPOC Station P**	**2.73**	**312**	*e*P	**Pn**	**18 50 07.6**	**-0.4**
PX03				*i* S	**Sn**	**18 50 42.3**	**-1.2**
PATCX	**Punta Patache**	**2.87**	**299**	*e*P	**Pn**	**18 50 09.6**	**-0.2**
PATCX				*i* S	**Sn**	**18 50 44.8**	**-1.7**
PATCX	**Punta Patache**	**2.87**	**299**	*e*P	**Pn**	**18 50 10.0**	**+0.3**
PATCX				*e*S	**Sn**	**18 50 45.3**	**-1.2**
PATCX				IAML		18 50 48.3	
	comp=Z,410nm,0.8s						
AZAP	**Zapla**	**2.96**	**132**	*e*P	**Pn**	**18 50 11.2**	**+0.3**
AZAP				IAML		18 51 17.2	
	comp=Z,24nm,0.7s						
HMBC	**Humberstone**	**2.99**	**311**	*i*P	**Pn**	**18 50 10.8**	**-0.4**
HMBC				*i* S	**Sn**	**18 50 47.1**	**-2.0**
HMBC				IAML		18 50 52.1	
	comp=N,681nm,0.7s						
HMBC	**Humberstone**	**2.99**	**311**	*e*P	**Pn**	**18 50 10.9**	**-0.3**
HMBC				*i* S	**Sn**	**18 50 48.0**	**-1.2**
HMBC				IAML		18 50 48.5	
	comp=Z,462nm,0.4s						
TA01	**Diego Aracena**	**3.03**	**303**	*e*P	**Pn**	**18 50 11.1**	**-0.4**
TA01				*i* S	**Sn**	**18 50 47.7**	**-2.1**
TA01				IAML		18 50 50.7	
	comp=N,431nm,0.4s						
TA01	**Diego Aracena**	**3.03**	**303**	*e*P	**Pn**	**18 50 10.6**	**-1.0**
TA01				*i* S	**Sn**	**18 50 48.8**	**-1.0**
TA01				IAML		18 50 51.6	
	comp=Z,195nm,0.3s						
GO01	**Chusmiza**	**3.04**	**328**	*i*P	**Pn**	**18 50 13.1**	**+0.9**
GO01				*i* S	**Sn**	**18 50 52.4**	**+1.6**
GO01				IAML		18 50 54.4	
	comp=N,287nm,0.4s						
GO01	**Chusmiza**	**3.04**	**328**	*e*P	**Pn**	**18 50 13.2**	**+1.1**
GO01				*e*S	**Sn**	**18 50 54.1**	**+3.3**
GO01				IAML		18 50 55.1	
	comp=Z,68nm,0.1s						
GO01	**Chusmiza**	**3.04**	**328**	Pg	**Pn**	**18 50 13.2**	**+1.1**
SLA	**San Lorenzo**	**3.05**	**144**	*i* P	**Pn**	**18 50 12.7**	**+0.8**
SLA				*e*P		18 50 13.1	
SLA				IAML		18 51 29.2	
	comp=Z,6.7nm,0.6s						
PB10	**IPOC Station P**	**3.10**	**246**	*i*P	**Pn**	**18 50 12.2**	**-0.1**
PB10				*i* S	**Sn**	**18 50 48.8**	**-2.5**
PB10				IAML		18 50 51.5	
	comp=E,114nm,0.5s						
PB10	**IPOC Station P**	**3.10**	**246**	*e*P	**Pn**	**18 50 12.4**	**+0.1**
PB10				*i* S	**Sn**	**18 50 51.3**	**0.0**
PB10				IAML		18 50 51.5	
	comp=Z,89nm,0.6s						
PB10	**IPOC Station P**	**3.10**	**246**	Pg	**Pn**	**18 50 12.1**	**-0.2**
TA02	**Huaiquique**	**3.17**	**308**	*e*P	**Pn**	**18 50 14.4**	**+1.1**
TA02				*e*S	**Sn**	**18 50 51.7**	**-1.2**
TA02				IAML		18 50 55.8	
	comp=Z,246nm,0.1s						
PB11	**IPOC Station P**	**3.21**	**320**	*i*P	**Pn**	**18 50 13.6**	**-0.3**
PB11				*e*S	**Sn**	**18 50 52.6**	**-1.5**
PB11	**IPOC Station P**	**3.21**	**320**	*e*P	**Pn**	**18 50 13.7**	**-0.3**
PB11				*e*S	**Sn**	**18 50 53.1**	**-1.0**
PB11				IAML		18 50 54.3	
	comp=Z,169nm,0.3s						
PB11	**IPOC Station P**	**3.21**	**320**	Pg	**Pn**	**18 50 13.8**	**-0.2**
PB11				Sg	**Sn**	**18 50 53.1**	**-1.0**
PB11				IAML		18 50 54.6	
	comp=Z,394nm,0.4s						
GO02	**Mina Guanaco**	**3.47**	**213**	*i*P	**Pn**	**18 50 17.7**	**+0.4**
GO02				*i* S	**Sn**	**18 50 59.0**	**-1.2**
GO02	**Mina Guanaco**	**3.47**	**213**	*e*P	**Pn**	**18 50 17.7**	**+0.4**
GO02				IAML		18 51 00.1	
	comp=Z,373nm,0.3s						
GO02				*i* S	**Sn**	**18 51 00.3**	**+0.1**
PB14	**IPOC Station P**	**3.57**	**228**	*i*P	**Pn**	**18 50 18.4**	**0.0**
PB14	**IPOC Station P**	**3.57**	**228**	*e*P	**Pn**	**18 50 18.6**	**+0.1**
PB14				IAML		18 51 03.9	
	comp=Z,59nm,0.4s						
PB14	**IPOC Station P**	**3.57**	**228**	Pg	**Pn**	**18 50 18.5**	**0.0**
SOEO	**Opoqueri**	**3.70**	**354**	Pg	**Pn**	**18 50 22.4**	**+2.1**
FSA	**Cafayete**	**4.07**	**161**	*i* P	**Pn**	**18 50 25.2**	**+0.6**
PB16	**IPOC Station P**	**4.34**	**334**	Pg	**Pn**	**18 50 29.3**	**+0.7**
AC02	**Maricunga**	**4.79**	**198**	*e*P	**Pn**	**18 50 34.8**	**+0.5**
AC02				IAML		18 51 34.9	
	comp=Z,32nm,0.5s						
AC01	**Pan de Azucar**	**4.80**	**216**	*e*P	**Pn**	**18 50 32.5**	**-1.3**
AC01				*i* S	**Sn**	**18 51 27.1**	**-2.9**
AC01				IAML		18 51 27.5	
	comp=Z,60nm,0.2s						
BBOJ	**La Paz, Jacaqu**	**5.30**	**353**	Pg	**Pn**	**18 50 42.9**	**+2.0**
BBOE	**La Paz, Chanca**	**5.44**	**355**	Pg	**Pn**	**18 50 44.4**	**+1.6**
BBOD	**La Paz, Gloria**	**5.69**	**349**	Pg	**Pn**	**18 50 47.5**	**+1.5**
LPAZ	**La Paz**	**5.97**	**354**	P	**Pn**	**18 50 50.8**	**+1.0**
	comp=Z,6.0nm,0.5s,baz=179,slow=14,SNR=27						
LPAZ				S	**Sn**	**18 51 57.0**	**-1.4**
	comp=Z,2.7nm,0.5s,baz=350,slow=18,SNR=3.6						
LPAZ	**La Paz**	**5.97**	**354**	Pg	**Pn**	**18 50 51.3**	**+1.5**
LPAZ	**La Paz**	**5.97**	**354**	*e*P	**Pn**	**18 50 51.0**	**+1.3**
LPAZ				*e*S	**Sn**	**18 51 57.5**	**-1.0**
BBOB	**La Paz, Bander**	**6.12**	**354**	Pg	**Pn**	**18 50 52.9**	**+1.3**
BBSD	**Serra de San D**	**8.21**	**53**	*e*P	**Pn**	**18 51 15.7**	**-2.9**
PTLB	**Pontes e Lacer**	**10.41**	**51**	*e*P	**Pn**	**18 51 44.8**	**-2.5**
VILB	**Vilhena**	**11.57**	**38**	*e*P	**Pn**	**18 52 02.2**	**-0.2**
PDRB	**Porto dos Gac**	**14.75**	**46**	*e*P	**Pn**	**18 52 40.6**	**-1.9**
CLDB	**Colider**	**15.91**	**47**	*e*P	**P**	**18 52 56.6**	**-0.2**
SNDB	**Serra Nova Dou**	**18.53**	**59**	*e*P	**P**	**18 53 24.4**	**-1.0**
IPMB	**Ipameri, GO**	**18.59**	**80**	*e*P	**P**	**18 53 26.1**	**+0.1**
PLCA	**Paso Flores**	**18.60**	**187**	P	**P**	**18 53 27.3**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=6.5,slow=12,SNR=3.6						
NPGB	**Novo Progresso**	**19.12**	**40**	*e*P	**P**	**18 53 30.4**	**-1.4**
BDFB	**Brasilia**	**19.55**	**74**	P	**P**	**18 53 35.2**	**-1.3**
	comp=Z,3.8nm,0.5s,baz=265,slow=14,SNR=5.2						
ITTB	**Itaituba**	**21.12**	**34**	*e*P	**P**	**18 53 52.0**	**-1.2**
SNAA	**Sanae**	**61.13**	**161**	P	**P**	**18 59 18.7**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=277,slow=7.8,SNR=14						
	comp=Z,0.9nm,0.6s						
QSPA	**South Pole Qui**	**67.93**	**180**	P	**P**	**19 00 03.7**	**+2.3**
	comp=Z,1.4nm,0.5s,baz=19,slow=3.6,SNR=3.2						
	comp=Z,1.4nm,0.5s						

*BJI **08** 18:52:25.2, 0.12S×126.33E, h20km, mB5.7/65, mb5.3/83, Ms5.6/98, Ms7 5.5/97*
*IDC **08** 18:52:28.5±0.3, 0.39N×126.17E, h0km, mb5.5/35, mbtmp5.5/36, ML4.9/1, MS5.4/31, Error ellipse: s-maj=16.5km s-min=7.7km az=74.0*
*MOS **08** 18:52:31.1±1.0, 0.47N×126.20E, h30km, mb5.9/73, MS5.4/24, Error ellipse: s-maj=7.6km s-min=4.1km az=110.3*
*IPGP **08** 18:52:32.0, 0.49N×126.31E, h32km, Mw5.9, Fault plane solution: NP1:ϕs188.00000°, δ39.00000°, λ.72.00000°. NP2:ϕs32.00000°, δ53.00000°, λ104.00000°.*
*NEIC **08** 18:52:32.8, 0.49N×126.31E, h20km*
*NEIC **08** 18:52:32.8, 0.39N×126.51E, h20km, Moment Tensor Solution. Duration: 4s5 Moment tensor: Scale 10^{17}Nm; M_{rr}8.01; $M_{\theta\theta}$-2.98; $M_{\phi\phi}$-5.04; $M_{r\theta}$-1.81; $M_{\theta\phi}$-0.21; $M_{\phi r}$1.89; Fault plane solution: $M_0$7.49000×10^{17} NP1: ϕs188.99000°, δ37.55000°, λ104.40000°. NP2: ϕs351.05000°, δ53.82000°, λ79.18000°. Principal axes: T 8.5680, Plg78.0000°, Azm222.0000°; N -3.2633, Plg9.0000°, Azm357.0000°; P -5.3047, Plg8.0000°, Azm89.0000°;*
*ISC-PP **08** 18:52:33.0±0.50N×126.30E, h36km, Mwppsm6.2, Moment Tensor Solution. s50 Moment tensor: Scale 10^{18}Nm; M_{rr}0.67±.24; $M_{\theta\theta}$-0.11±.25; $M_{\phi\phi}$-0.57±.15; $M_{r\theta}$-0.12±.14; $M_{\theta\phi}$-0.11±.27; $M_{\phi r}$0.29±.20; Fault plane solution: $M_0$2.66000×10^{18} NP1:ϕs167.40000°, δ48.30000°, λ107.80000°. NP2:ϕs321.60000°, δ44.70000°, λ71.10000°.*
*NEIC **08** 18:52:33.3±1.6, 0.50N±0.07×126.30E±0.04, h28km±1km, mb5.9/366, Ms_20 5.8/990, Mww5.9/43 Error ellipse: s-maj=11.3km s-min=7.5km az=175.0*
*DJA **08** 18:52:35.0±0.1, 0.1N±1×12.6E±1, h43km±2km, M5.7/124, mB6.0/102, mb5.7/124, MLv5.7/25, Mw5.9/120, Mw(mB)5.7/102, MwMwp5.7/87, Mwp5.8/87*
*GCMT **08** 18:52:37.3±0.1, 0.35N±0.01×126.38E, h20km, MW5.9/173, Moment Tensor Solution. s162, c361; s173, c548; Duration: 2s1 Moment tensor: Scale 10^{18}Nm; M_{rr}0.80±.01; $M_{\theta\theta}$-0.20±.00; $M_{\phi\phi}$-0.59±.01; $M_{r\theta}$0.29±.01; $M_{\theta\phi}$-0.09±.00; $M_{\phi r}$0.34±.01; Best double couple: $M_0$0.83200×10^{18} NP1:ϕs186.00000°, δ31.00000°, λ74.00000°. NP2:ϕs25.00000°, δ61.00000°, λ100.00000°. Principal axes: T 0.9370, Plg73.0000°, Azm318.0000°; N -0.2110, Plg8.0000°, Azm201.0000°; P -0.7260, Plg15.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 08 18:52:33.7±0.3, 0.46N±0.03×126.26E±0.03, h33km±1km, h33km:pP-P, n1748, σ1s87/1512, mb5.8/347, MS5.7/581, 61C-11D, Northern Molucca Sea

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m

SRPI	**Serui, Papua**	**10.24 103**	P		**Pn**	**18 55 01.1**	**+2.5**
	38µm5µm147nm,1.1s							
SOEI	**Soe**	**10.34 191**	P		**Pn**	**18 55 03.0**	**+3.0**
SOEI	**Soe**	**10.34 191**			**Pn**	**18 54 59.8**	**-0.2**
SOEI	**Soe**	**10.34 191**	P		**Pn**	**18 55 00.6**	**+0.6**
SOEI	**Soe**	**10.34 191**	P		**Pn**	**18 55 03.8**	**+3.8**
	39µm782nm,1.7s							
BATI	**Baumata**	**10.90 194**	Pn		**Pn**	**18 55 11.2**	**+3.5**
	4.4nm,0.3s,baz=351,slow=0.4,SNR=8.0							
BATI	**Baumata**	**10.90 194**	P		**Pn**	**18 55 11.6**	**+3.9**
	29µm8µm398nm,0.8s							
KKM	**Kota Kinabalu**	**11.46 299**			**Pn**	**18 55 14.6**	**-0.8**
KKM	**Kota Kinabalu**	**11.46 299**	P		**Pn**	**18 55 19.2**	**+3.8**
WSI	**Waingapu**	**11.68 210**	P		**Pn**	**18 55 20.3**	**+2.0**
	22µm12µm744nm,1.1s							
BASI	**Baing, Sumba**	**12.02 208**	P		**Pn**	**18 55 25.0**	**+2.1**
	23µm11µm607nm,0.9s							
WBSI	**Waikabubak, Su**	**12.14 214**	P		**Pn**	**18 55 27.0**	**+2.4**
	21µm7µm358nm,0.8s							
PLAI	**Plampang**	**12.51 222**	P		**Pn**	**18 55 31.0**	**+1.4**
PLAI	**Plampang**	**12.51 222**	P		**Pn**	**18 55 34.2**	**+4.6**
	22µm5µm414nm,1.2s							
SMPI	**Sarmi**	**12.68 101**	P		**Pn**	**18 55 34.8**	**+2.8**
DRS	**Darwin Rock St**	**13.61 160**	P		**Pn**	**18 55 44.7**	**+0.1**
SRBI	**Singaraja**	**13.90 232**	P		**Pn**	**18 55 51.6**	**+2.9**
	28µm7µm422nm,0.9s							
MTN	**Manton Dam**	**14.07 160**			**Pn**	**18 55 49.9**	**-1.0**
MTN	**Manton Dam**	**14.07 160**	P		**Pn**	**18 55 48.9**	**-2.1**
MTN	**Manton Dam**	**14.07 160**	P		**Pn**	**18 55 50.5**	**-0.4**
SBUM	**Sibu**	**14.18 278**	Pn		**Pn**	**18 55 52.9**	**+0.5**
SBUM	**Sibu**	**14.18 278**	P		**Pn**	**18 55 53.9**	**+1.5**
GENI	**Genyem**	**14.23 102**	P		**Pn**	**18 55 55.6**	**+2.5**
GENI	**Genyem**	**14.23 102**	P		**Pn**	**18 55 55.5**	**+2.5**
	502nm,2.4s							
KMMI	**Kalianget**	**14.36 238**	P		**Pn**	**18 55 58.4**	**+3.6**
	28µm11µm514nm,0.9s							
KDU	**Kakadu**	**14.44 155**	P		**Pn**	**18 55 52.8**	**-3.2**
KDU	**Kakadu**	**14.44 155**	P		**Pn**	**18 55 54.2**	**-1.8**
TGY	**Tagaytay City**	**14.55 339**	Pn		**P**	**18 56 00.5**	**-3.1**
	142nm,0.3s,baz=138,slow=5.7,SNR=5.4							
JAY	**Jayapura**	**14.74 102**	Pn		**P**	**18 56 04.3**	**-1.4**
	0.8nm,0.3s,baz=311,slow=17,SNR=4.9							
JAY			LR		LR	19 03 02.9		
	comp=Z,46µm,19.5s,baz=282,slow=43							
JAY	**Jayapura**	**14.74 102**	P		**P**	**18 56 02.6**	**-3.1**
STKI	**Sintang**	**14.79 269**	P		**Pn**	**18 56 02.6**	**+1.9**
	27µm5µm208nm,1.1s							
JAGI	**Jajag, Banyuwa**	**14.98 233**			**P**	**18 56 07.2**	**-1.1**
JAGI	**Jajag, Banyuwa**	**14.98 233**	P		**Pn**	**18 56 06.1**	**+2.9**
JAGI	**Jajag, Banyuwa**	**14.98 233**	P		**Pn**	**18 56 06.1**	**+2.9**
	22µm722nm,1.2s							
GMJI	**Gumukmas**	**15.44 236**	P		**Pn**	**18 56 12.0**	**+2.7**
	22µm9µm536nm,1.0s							
GRJI	**Gresik**	**15.58 242**	P		**Pn**	**18 56 13.3**	**+2.2**
	23µm680nm,2.2s							
KSM	**Kuching**	**15.98 274**	Pn		**Pn**	**18 56 16.2**	**-0.1**
KSM			IAmb		IAmb	18 56 22.9		
	comp=Z,808nm,0.8s							
KSM	**Kuching**	**15.98 274**	P		**P**	**18 56 19.6**	**0.0**
KNRA	**Kununurra**	**16.22 171**			**Pn**	**18 56 17.6**	**-1.7**
KNRA	**Kununurra**	**16.22 171**	P		**Pn**	**18 56 18.0**	**-1.3**
	comp=Z,0.0nmcomp=Z,361nm,0.9s							
NGJI	**Ngawi**	**16.68 242**	P		**P**	**18 56 28.3**	**+1.0**
PCJI	**Pacitan**	**17.32 240**	P		**P**	**18 56 36.0**	**+1.6**
	comp=Z,15µmcomp=Z,694nm,0.9s							
WOJI	**Wonogiri, Jawa**	**17.37 241**	P		**P**	**18 56 36.6**	**+1.7**
	comp=Z,19µmcomp=Z,11µmcomp=Z,520nm,1.1s							
SMRI	**Semarang**	**17.46 244**	P		**Pn**	**18 56 35.6**	**+0.7**
SMRI	**Semarang**	**17.46 244**	P		**P**	**18 56 36.3**	**+0.4**
SMRI	**Semarang**	**17.46 244**	P		**P**	**18 56 37.5**	**+1.6**
	comp=Z,327nm,1.0s							
UGM	**Wanagama**	**17.76 242**	P		**P**	**18 56 40.0**	**+0.7**
UGM	**Wanagama**	**17.76 242**	P		**P**	**18 56 41.3**	**+2.0**
UGM	**Wanagama**	**17.76 242**	P		**P**	**18 56 41.7**	**+2.4**
	comp=Z,11µmcomp=Z,13µmcomp=Z,359nm,0.9s							
SZP	**Santa**	**17.92 342**	P		**P**	**18 56 43.5**	**+2.5**
FITZ	**Fitzroy Crossi**	**18.45 182**	P		**P**	**18 56 46.1**	**-0.7**
	comp=Z,50nm,2.4s							
FITZ	**Fitzroy Crossi**	**18.45 182**	P		**P**	**18 56 45.6**	**-1.2**
	comp=Z,3.3nm,0.3s,baz=13,slow=9.2,SNR=81							
	comp=Z,112nm,0.9s							
FITZ	**Fitzroy Crossi**	**18.45 182**	P		**P**	**18 56 46.8**	**0.0**
TPI	**Tanjungpandan**	**18.88 260**	P		**P**	**18 56 51.2**	**-0.3**
	comp=Z,15µmcomp=Z,134nm,0.8s							
JCJI	**Jatiwangi**	**19.24 249**	P		**Pn**	**18 56 58.6**	**+2.0**
	comp=Z,15µmcomp=Z,11µmcomp=Z,660nm,0.9s							
CMJI	**Cimerak**	**19.56 245**	P		**P**	**18 56 58.9**	**-0.1**
	comp=Z,14µmcomp=Z,7µmcomp=Z,426nm,1.3s							
LEM	**Lembang**	**19.96 248**	P		**P**	**18 57 03.8**	**+0.2**
	comp=Z,7µmcomp=Z,282nm,1.0s							
BBJI	**Bungbulang**	**20.16 247**	P		**P**	**18 57 06.2**	**+0.5**
CNJI	**Cibinong**	**20.59 248**	P		**P**	**18 57 11.3**	**+1.1**
	comp=Z,202nm,0.9s							
DBJI	**Dramaga**	**20.68 250**	P		**P**	**18 57 12.8**	**+1.5**
	comp=Z,11µmcomp=Z,5µmcomp=Z,272nm,0.9s							
SKJI	**Sukabumi**	**21.01 249**	P		**P**	**18 57 16.9**	**+2.1**
WB0	**Warramunga Arr**	**21.62 159**	IAmb		IAmb	18 57 31.8		
	comp=Z,462nm,0.9s							
CGJI	**Cibinong**	**21.70 251**	P		**P**	**18 57 21.8**	**-0.3**
	comp=Z,4µmcomp=Z,411nm,0.8s							
PMBI	**Palembang**	**21.74 261**	P		**P**	**18 57 25.1**	**+2.4**
PMBI	**Palembang**	**21.74 261**	P		**P**	**18 57 25.0**	**+2.4**
	comp=Z,10µmcomp=Z,6µmcomp=Z,395nm,0.6s							
WRAB	**Tennant Creek**	**21.76 159**	P		**P**	**18 57 21.4**	**-1.4**
WRAB			IAmb		IAmb	18 57 26.6		
	comp=Z,368nm,0.9s							
WRAB	**Tennant Creek**	**21.76 159**	*i* P		**P**	**18 57 21.9**	**-0.9**
WRAB			pmax		pmax			
	comp=Z,402nm,0.9s							
WRA	**Warramunga Arr**	**21.76 159**	P		**P**	**18 57 21.6**	**-1.2**
WRA	**Warramunga Arr**	**21.76 159**	P		**P**	**18 57 21.0**	**-1.8**
	comp=Z,273nm,0.8s,baz=336,slow=11,SNR=135							
WRA			PcP		**PcP**	**19 01 21.9**	**-1.0**
	comp=Z,72nm,1.2s,baz=293,slow=3.4,SNR=10							
WRA			LR		LR	19 06 50.8		
	comp=Z,10µm,20.1s,baz=340,slow=40							
	comp=Z,273nm,0.8s							
BLSI	**Bandar Lampung**	**21.77 254**	P		**P**	**18 57 23.1**	**+0.1**
	comp=Z,261nm,0.6s							
WR8	**Warramunga Arr**	**21.83 159**	IAmb		IAmb	18 57 34.3		
	comp=Z,504nm,0.9s							
KLI	**Kotabumi**	**22.03 256**	P		**P**	**18 57 25.5**	**-0.2**
	comp=Z,11µmcomp=Z,4µmcomp=Z,419nm,0.8s							
COEN	**Coen**	**22.04 131**	IAmb		IAmb	18 57 33.7		
	comp=Z,280nm,1.0s							
COEN	**Coen**	**22.04 131**	P		**P**	**18 57 24.7**	**-1.1**
	comp=Z,0.0nmcomp=Z,304nm,1.0s							
COEN	**Coen**	**22.04 131**	P		**P**	**18 57 26.2**	**+0.4**
MBWA	**Marble Bar**	**22.41 196**	P		**P**	**18 57 28.0**	**-1.8**
MBWA	**Marble Bar**	**22.41 196**	P		**P**	**18 57 28.1**	**-1.7**
	comp=Z,0.0nmcomp=Z,135nm,1.1s							
MBWA	**Marble Bar**	**22.41 196**	P		**P**	**18 57 29.4**	**-0.4**
MBWA			P		**P**	**18 57 29.4**	**-0.4**
MBWA			S		**S**	**19 01 33.6**	**-0.6**
MBWA			S		**S**	**19 01 33.6**	**-0.6**
MBWA	**Marble Bar**	**22.41 196**	P		**P**	**18 57 29.9**	**+0.1**
MYKOM	**Kota Tinggi**	**22.45 274**	P		**P**	**18 57 28.6**	**-1.7**
MYKOM	**Kota Tinggi**	**22.45 274**	P		**P**	**18 57 29.3**	**-0.9**
KASI	**Kota Agung**	**22.53 254**	P		**P**	**18 57 31.2**	**0.0**
	comp=Z,117nm,0.8s							
GUMO	**Guam**	**22.58 54**	P		**P**	**18 57 32.2**	**+0.6**
GUMO			IAmb		IAmb	18 57 34.3		
	comp=Z,314nm,1.1s							
GUMO	**Guam**	**22.58 54**	IAMs_20		IAMs_20	19 05 36.2		
	comp=Z,29µm,21.0s							
GUMO	**Guam**	**22.58 54**	P		**P**	**18 57 31.6**	**0.0**
	comp=Z,175nm,0.8s,baz=181,slow=4.9,SNR=15							
GUMO			LR		LR	19 05 37.1		
	comp=Z,24µm,21.7s,baz=232,slow=35							
	comp=Z,175nm,0.8s							
GUMO	**Guam**	**22.58 54**	P		**P**	**18 57 33.8**	**+2.2**
MDSI	**Maura Dua**	**22.60 257**	P		**P**	**18 57 29.6**	**-2.3**
	comp=Z,11µmcomp=Z,130nm,1.1s							
TWGBT	**Beinan**	**22.79 348**	P		**P**	**18 57 34.0**	**+0.2**
LWLI	**Liwa**	**22.84 256**	P		**P**	**18 57 34.2**	**-0.3**
	comp=Z,12µmcomp=Z,4µmcomp=Z,305nm,0.8s							
LHSI	**Lahat**	**23.12 259**	P		**P**	**18 57 37.5**	**+0.2**
	comp=Z,9µmcomp=Z,4µmcomp=Z,134nm,0.9s							
XMI	**Christmas Isla**	**23.16 242**	P		**P**	**18 57 37.3**	**-0.3**
YULB	**Yu-li**	**23.30 348**	P		**P**	**18 57 40.1**	**+1.1**
TPUB	**Ta-pu**	**23.36 347**	IAmb		IAmb	18 57 54.2		
	comp=Z,232nm,0.8s							
TPUB	**Ta-pu**	**23.36 347**	P		**P**	**18 57 40.6**	**+1.1**
TPUB	**Ta-pu**	**23.36 347**	S		**S**	**19 01 51.9**	**+1.5**
SSLB	**Suanglung**	**23.76 348**	P		**P**	**18 57 41.5**	**-1.9**
SSLB	**Suanglung**	**23.76 348**	P		**P**	**18 57 44.9**	**+1.5**
KSI	**Kapahiang**	**24.00 260**	P		**P**	**18 57 46.2**	**+0.3**
	comp=Z,11µmcomp=Z,5µmcomp=Z,301nm,0.8s							
NACB	**Ninganchiao**	**24.01 349**	P		**P**	**18 57 45.5**	**-0.2**
YOJ	**Yonaguni jima**	**24.07 353**	P		**P**	**18 57 45.5**	**-0.7**
YOJ			IAmb		IAmb	18 58 13.7		
	comp=Z,237nm,0.9s							
YOJ	**Yonaguni jima**	**24.07 353**	P		**P**	**18 57 49.2**	**+2.9**
YOJ	**Yonaguni jima**	**24.07 353**	P		**P**	**18 57 45.5**	**-0.7**
YOJ			pmax		pmax			
	comp=Z,237nm,0.9s							
YOJ			MLR		MLR			
	comp=Z,14µm,22.0s							
QIZ	**Qiongzhong**	**24.50 320**	P		**P**	**18 57 49.8**	**-0.5**
QIZ			pP		**pP**	**18 57 58.8**	**-0.1**
QIZ			S		**S**	**19 02 11.3**	**+2.5**
QIZ			pmax		pmax			
	comp=Z,170nm,2.4s							
QIZ			pmax		pmax			
	comp=Z,3µm,2.9s							
QIZ			LR		LR			
	comp=Z,9µm,18.0s							
QIZ			LR		LR			
	comp=Z,5µm,17.9s							
QIZ			LR		LR			
	comp=Z,23µm,22.8s							
QIZ	**Qiongzhong**	**24.50 320**	P		**P**	**18 57 51.2**	**+0.9**
YHNB	**Yeheng**	**24.53 349**	P		**P**	**18 57 52.3**	**+1.7**
QIS	**Mount Isa**	**24.63 149**	P		**P**	**18 57 51.4**	**-0.1**
	comp=Z,882nm,0.8s							
QIS	**Mount Isa**	**24.63 149**	P		**P**	**18 57 52.5**	**+1.0**
AS31	**Alice Springs**	**25.10 163**	IAmb		IAmb	18 57 59.3		
	comp=Z,184nm,0.9s							
AS31	**Alice Springs**	**25.10 163**	P		**P**	**18 57 55.2**	**-0.5**
	comp=Z,0.0nmcomp=Z,246nm,0.9s							
ASAR	**Alice Springs**	**25.10 163**	P		**P**	**18 57 55.3**	**-0.5**
ASAR	**Alice Springs**	**25.10 163**	P		**P**	**18 57 55.4**	**-0.4**
	comp=Z,579nm,0.9s,baz=346,slow=13,SNR=397							
ASAR			PP		**PnPn**	**18 58 27.8**	**-2.5**
	comp=Z,118nm,0.9s,baz=344,slow=12,SNR=4.5							
ASAR			PcP		**PcP**	**19 01 30.6**	**+0.7**
	comp=Z,8.1nm,0.7s,baz=347,slow=1.8,SNR=4.6							
ASAR			S		**S**	**19 02 21.2**	**+2.7**
	comp=Z,33nm,1.1s,baz=345,slow=20,SNR=6.6							
ASAR			LR		LR	19 10 05.0		
	comp=Z,6µm,19.6s,baz=340,slow=42							
	comp=Z,579nm,0.9s							
ASAR	**Alice Springs**	**25.10 163**	P		**P**	**18 57 55.3**	**-0.5**
AS01	**Alice Springs**	**25.11 163**	P		**P**	**18 57 56.7**	**+0.8**
BKNI	**Bangkinang**	**25.22 270**	P		**P**	**18 57 53.2**	**-3.7**
BKNI	**Bangkinang**	**25.22 270**	P		**P**	**18 57 58.7**	**+1.8**
BKNI	**Bangkinang**	**25.22 270**	P		**P**	**18 57 57.5**	**+0.6**
	comp=Z,3µmcomp=Z,3µmcomp=Z,167nm,1.6s							
UBPT	**Khong Chiam**	**25.27 307**	P		**P**	**18 57 59.3**	**+2.0**
WRKA	**Warakurna**	**25.42 176**	P		**P**	**18 57 57.5**	**-1.1**
	comp=Z,0.0nmcomp=Z,168nm,1.3s							
QZH	**Quanzhou**	**25.45 344**	⇑ *i* P		**P**	**18 57 57.9**	**-0.9**
QZH			S		**S**	**19 02 22.9**	**-0.9**
QZH			sS		**sS**	**19 02 37.5**	**-0.7**
QZH			pmax		pmax			
	comp=Z,120nm,0.9s							
QZH			LR		LR			
	comp=Z,15µm,22.0s							
QZH			LR		LR			
	comp=Z,6µm,21.6s							
QZH			LR		LR			
	comp=Z,21µm,23.0s							
IPM	**Ipoh**	**25.52 279**	P		**P**	**18 57 58.6**	**-1.1**
IPM			IAmb		IAmb	18 58 02.1		
	comp=Z,169nm,0.8s							
IPM	**Ipoh**	**25.52 279**	P		**P**	**18 58 01.1**	**+1.4**
MTSU	**Mount Surprise**	**25.62 137**	P		**P**	**18 58 00.8**	**+0.3**
	comp=Z,51nm,0.9s							
MTSU	**Mount Surprise**	**25.62 137**	P		**P**	**18 58 02.1**	**+1.6**
GZH	**Guangzhou**	**25.76 332**	P		**P**	**18 58 04.4**	**+2.7**
GZH			sP		**sP**	**18 58 15.9**	**+1.9**
GZH			S		**S**	**19 02 35.4**	**+6.6**
GZH			pmax		pmax			
	comp=Z,88nm,1.1s							
GZH			LR		LR			
	comp=Z,8µm,18.2s							
GZH			LR		LR			
	comp=Z,7µm,20.2s							
GZH			LR		LR			
	comp=Z,15µm,20.2s							
KULM	**Kulim**	**26.02 281**	P		**P**	**18 58 03.8**	**-0.4**
KULM	**Kulim**	**26.02 281**	P		**P**	**18 58 06.4**	**+2.2**
RABL	**Rabaul**	**26.29 100**	IAMs_20		IAMs_20	19 07 28.1		
	comp=Z,17µm,19.0s							
JOW	**Kunigami**	**26.30 4**	IAmb		IAmb	18 58 15.8		
	comp=Z,410nm,1.2s							
JOW	**Kunigami**	**26.30 4**	P		**P**	**18 58 07.8**	**+1.4**
	comp=Z,156nm,0.7s,baz=201,slow=8.7,SNR=29							
	comp=Z,156nm,0.7s							
JOW	**Kugami**	**26.30 4**	P		**P**	**18 58 09.5**	**+3.0**
MNSI	**Mandailing Nat**	**26.68 271**	P		**P**	**18 58 11.3**	**+1.1**
	comp=Z,2µmcomp=Z,65nm,0.8s							
RPSI	**Rantau Prapat**	**27.42 275**	P		**P**	**18 58 15.5**	**-1.3**
PSI	**Prapat**	**27.43 275**	P		**P**	**18 58 18.4**	**+1.4**
PSI	**Prapat**	**27.43 275**	P		**P**	**18 58 15.5**	**-1.5**
PSI			pmax		pmax			
	comp=Z,79nm,1.0s							
PSI			MLR		MLR			
	comp=Z,6µm,22.0s							
SRIT	**Nakonsritamara**	**27.76 288**	P		**P**	**18 58 19.2**	**-0.6**
SRIT	**Nakonsritamara**	**27.76 288**	P		**P**	**18 58 20.2**	**+0.4**
TSI	**Tuntungan**	**27.84 277**	P		**P**	**18 58 20.7**	**+0.1**
	comp=Z,8µmcomp=Z,3µmcomp=Z,153nm,1.0s							
MEEK	**Meekatharra**	**27.93 195**	P		**P**	**18 58 19.5**	**-1.7**
	comp=Z,85nm,1.1s							
MEEK	**Meekatharra**	**27.93 195**	P		**P**	**18 58 20.6**	**-0.6**
CTAO	**Charters Tower**	**28.29 137**	P		**P**	**18 58 24.3**	**-0.2**
CTAO	**Charters Tower**	**28.29 137**	P		**P**	**18 58 25.7**	**+1.2**
CTAO	**Charters Tower**	**28.29 137**	P		**P**	**18 58 24.3**	**-0.2**
CTAO			pmax		pmax			
	comp=Z,121nm,1.2s							
GSI	**Gunungsitoli**	**28.70 272**	P		**P**	**18 58 27.8**	**-0.4**
GSI	**Gunungsitoli**	**28.70 272**	P		**P**	**18 58 25.5**	**-2.7**
	comp=Z,76nm,0.7s							
GULI	**GuiLin**	**29.08 329**	P		**P**	**18 58 32.9**	**+1.5**
GULI			pmax		pmax			
	comp=Z,19nm,1.3s							
GULI			LR		LR			
	comp=Z,6µm,19.5s							
GULI			LR		LR			
	comp=Z,4µm,20.1s							
GULI			LR		LR			
	comp=Z,13µm,21.7s							
MLSI	**Meulaboh, Aceh**	**30.07 278**	P		**P**	**18 58 38.7**	**-1.7**
	comp=Z,2µmcomp=Z,171nm,1.0s							
SLVN	**Son La**	**30.11 315**	P		**P**	**18 58 41.7**	**+1.0**
CNSH	**ChangSha**	**30.38 336**	P		**P**	**18 58 40.4**	**-2.5**
CNSH			S		**S**	**19 03 36.7**	**-4.8**
CNSH			LR		LR			
	comp=Z,5µm,22.8s							
CNSH			LR		LR			
	comp=Z,6µm,21.0s							
CNSH			LR		LR			
	comp=Z,7µm,21.3s							
SSE	**Sheshan**	**30.85 351**	P		**P**	**18 58 47.3**	**+0.3**
SSE			S		**S**	**19 03 52.3**	**+3.5**
SSE			pmax		pmax			
	comp=Z,13nm,0.7s							
SSE			pmax		pmax			
	comp=Z,490nm,3.9s							
SSE			LR		LR			
	comp=Z,3µm,22.0s							
SSE			LR		LR			
	comp=Z,870nm,21.3s							
MORW	**Morawa**	**30.94 198**	IAmb		IAmb	18 58 51.9		
	comp=Z,173nm,1.5s							
MORW	**Morawa**	**30.94 198**	P		**P**	**18 58 46.0**	**-1.9**
	comp=Z,71nm,1.5s							
MORW	**Morawa**	**30.94 198**	P		**P**	**18 58 47.8**	**-0.1**
FORT	**Forrest**	**31.11 177**	P		**P**	**18 58 48.6**	**-0.7**
FORT			IAmb		IAmb	18 58 52.9		
	comp=Z,155nm,0.7s							
FORT	**Forrest**	**31.11 177**	P		**P**	**18 58 48.1**	**-1.2**
	comp=Z,232nm,0.7s							
KMBL	**Kambalda**	**31.92 187**	P		**P**	**18 58 53.9**	**-2.6**
QLP	**Quilpie**	**31.98 149**	P		**P**	**18 58 56.1**	**-0.9**
	comp=Z,218nm,1.1s							
QLP	**Quilpie**	**31.98 149**	P		**P**	**18 58 59.0**	**+2.0**
WHN	**Wuhan**	**31.99 340**	P		**P**	**18 58 58.3**	**+1.2**
WHN			pP		**sP**	**18 59 07.2**	**-2.3**
WHN			S		**S**	**19 04 07.9**	**+1.3**
WHN			SS		**SnSn**	**19 06 01.9**	**+4.4**
WHN			LR		LR			
	comp=Z,17µm,16.7s							
WHN			LR		LR			
	comp=Z,5µm,13.2s							
WHN			LR		LR			
	comp=Z,40µm,23.5s							
GYA	**Guiyang**	**32.01 325**	⇑P		**P**	**18 58 56.7**	**-0.7**
GYA			pP		pP	18 59 04.5	-1.7
GYA			S		**S**	**19 04 02.4**	**-4.9**
GYA			pmax		pmax			
	comp=Z,34nm,2.0s							
GYA			LR		LR			
	comp=Z,4µm,22.0s							
GYA			LR		LR			
	comp=Z,4µm,19.3s							
GYA			LR		LR			
	comp=Z,10µm,21.7s							
NJ2	**Nanjing**	**32.20 348**	⇓P		**P**	**18 59 00.3**	**+1.5**
NJ2			S		**S**	**19 04 16.2**	**+6.4**
NJ2			pmax		pmax			
	comp=Z,16nm,0.5s							
NJ2			pmax		pmax			
	comp=Z,610nm,4.5s							
NJ2			LR		LR			
	comp=Z,5µm,21.8s							
NJ2			LR		LR			
	comp=Z,2µm,17.5s							
NJ2			LR		LR			
	comp=Z,8µm,22.7s							
BLDU	**Ballidu**	**32.21 196**	P		**P**	**18 58 58.9**	**-0.1**
CM31	**Chiang Mai Arr**	**32.24 305**	P		**P**	**18 58 58.6**	**-0.9**
	SNR=9.8							
CM31			P		**P**	**18 58 58.6**	**-0.9**
	SNR=9.8							
CMAR	**Chiang Mai Arr**	**32.24 305**	P		**P**	**18 58 57.9**	**-1.6**
CMAR	**Chiang Mai Arr**	**32.24 305**	P		**P**	**18 58 59.0**	**-0.5**
	comp=Z,16nm,1.1s,baz=135,slow=8.0,SNR=30							
CMAR			PcP		**PcP**	**19 01 49.4**	**+1.8**
	comp=Z,7.8nm,0.9s,baz=147,slow=1.7,SNR=7.1							
CMAR			ScP		**ScP**	**19 05 32.3**	**+3.2**
	comp=Z,0.8nm,0.8s,baz=118,slow=2.9,SNR=4.3							
CMAR	**Chiang Mai Arr**	**32.24 305**	P		**P**	**18 58 57.9**	**-1.6**
CHTO	**Chiang Mai**	**32.42 306**	P		**P**	**18 59 00.0**	**-1.1**
CHTO	**Chiang Mai**	**32.42 306**	P		**P**	**18 59 00.1**	**-0.9**
CHTO			P		**P**	**18 59 00.1**	**-0.9**
CHTO			S		**S**	**19 04 15.0**	**+1.2**
CHTO			S		**S**	**19 04 15.0**	**+1.2**
CHTO	**Chiang Mai**	**32.42 306**	P		**P**	**18 59 00.9**	**-0.2**
CHTO	**Chiang Mai**	**32.42 306**	P		**P**	**18 59 00.0**	**-1.1**
CHTO			pmax		pmax			
	comp=Z,53nm,1.1s							
CHTO			MLR		MLR			
	comp=Z,6µm,22.0s							
CHTO	**Chiang Mai**	**32.42 306**	P		**P**	**18 59 00.7**	**-0.4**
CHTO			sP		**pwP**	**18 59 12.8**	**-0.1**
JNU	**Nakatsue**	**32.78 7**	IAmb		IAmb	18 59 15.2		
	comp=Z,116nm,1.0s							
JNU	**Nakatsue**	**32.78 7**	P		**P**	**18 59 04.2**	**+0.2**
	comp=Z,77nm,1.0s,baz=192,slow=1.3,SNR=14							
	comp=Z,77nm,1.0s							
JNU	**Nakatsue**	**32.78 7**	P		**P**	**18 59 06.6**	**+2.6**
KLBR	**Kellerberin**	**32.88 193**	P		**P**	**18 59 04.7**	**-0.2**
KMI	**Kunming**	**33.44 319**	⇑P		**P**	**18 59 10.2**	**+0.1**
KMI			S		**S**	**19 04 22.9**	**-6.9**
KMI			pmax		pmax			
	comp=Z,46nm,2.4s							
KMI			pmax		pmax			
	comp=Z,660nm,5.9s							
KMI			LR		LR			
	comp=Z,4µm,16.9s							
KMI			LR		LR			
	comp=Z,7µm,20.7s							
KMI			LR		LR			
	comp=Z,9µm,21.6s							
MUN	**Mundaring**	**33.63 196**	P		**P**	**18 59 12.6**	**+1.1**
ENH	**Enshi**	**33.67 333**	P		**P**	**18 59 11.4**	**-0.5**
ENH			IAMs_20		IAMs_20	19 12 26.6		
	comp=Z,12µm,22.0s							
ENH	**Enshi**	**33.67 333**	P		**P**	**18 59 12.2**	**+0.4**
ENH	**Enshi**	**33.67 333**	P		**P**	**18 59 11.2**	**-0.6**
JMN	**Monobe**	**33.86 11**	IAmb		IAmb	18 59 17.9		
	comp=Z,477nm,1.9s							
JMN	**Monobe**	**33.86 11**	P		**P**	**18 59 15.8**	**+2.4**
GD1S	**Gladstone Soft**	**34.18 137**	P		**P**	**18 59 17.8**	**+1.5**
NWAO	**Narrogin (SRO)**	**34.28 194**	P		**P**	**18 59 16.9**	**-0.2**
NWAO	**Narrogin (SRO)**	**34.28 194**	P		**P**	**18 59 17.5**	**+0.5**
NWAO			P		**P**	**18 59 17.5**	**+0.5**
NWAO	**Narrogin (SRO)**	**34.28 194**	P		**P**	**18 59 17.7**	**+0.6**
NWAO	**Narrogin (SRO)**	**34.28 194**	P		**P**	**18 59 16.9**	**-0.2**
NWAO			pmax		pmax			
	comp=Z,49nm,0.9s							
TATA	**Tatamba Isabel**	**34.56 105**	P		**P**	**18 59 22.0**	**+2.2**
SAVO	**Savo Central**	**34.75 107**	P		**P**	**18 59 23.1**	**+1.7**
JHJ2	**Mitsune**	**34.90 20**	IAMs_20		IAMs_20	19 15 09.1		
	comp=Z,12µm,19.0s							
WHYH	**Whyalla**	**34.98 163**	P		**P**	**18 59 23.3**	**+0.3**
PZH	**PanZhiHua**	**35.04 320**	P		**P**	**18 59 22.8**	**-1.1**
PZH			S		**S**	**19 04 54.3**	**0.0**
PZH

TIA LR LR
comp=Z,9µm,24.4s
CMSA Cobar Meteorol 36.77 152 P P 18 59 39.1 +0.7
KSAR Wonju Array Be 36.83 2 P P 18 59 39.2 +0.4
KSAR Wonju Array Be 36.83 2 P P 18 59 39.3 +0.4
INCN Inchon 36.84 0 P P 18 59 38.0 -1.1
INCN Inchon 36.84 0 P P 18 59 39.8 +0.8
INCN P P 18 59 39.8 +0.8
INCN S S 19 05 25.3 +3.9
INCN S S 19 05 25.3 +3.9
INCN Inchon 36.84 0 P P 18 59 41.2 +2.2
INCN Inchon 36.84 0 P P 18 59 38.0 -1.1
INCN pmax pmax
comp=Z,54nm,1.0s
INCN MLR MLR
comp=Z,7µm,21.0s
KSRS Korea Array 36.85 2 P P 18 59 39.3 +0.3
comp=Z,12nm,0.6s,baz=179,slow=10,SNR=34
KSRS PcP **PcP 19 02 01.6 +1.1**
comp=Z,5.4nm,0.8s,baz=184,slow=2.7,SNR=6.7
KSRS ScP **ScP 19 05 48.1 +3.0**
comp=Z,3.0nm,1.0s,baz=178,slow=4.1,SNR=4.4
comp=Z,12nm,0.6s
CD2 Chengdu 37.05 327 P P 18 59 39.6 -1.4
CD2 sP sP 18 59 52.8 -0.7
CD2 PP **PP 19 01 05.1 -0.7**
CD2 S **S 19 05 26.0 +1.1**
CD2 LR LR
comp=Z,8µm,23.0s
CD2 LR LR
comp=Z,9µm,17.4s
CD2 LR LR
comp=Z,8µm,19.4s
XAN Xi'an 37.15 336 ⇑P **P 18 59 40.4 -1.3**
XAN S **S 19 05 20.7 -5.6**
XAN pmax pmax
comp=Z,45nm,1.0s
XAN pmax pmax
comp=Z,740nm,11.0s
XAN LR LR
comp=Z,8µm,19.8s
XAN LR LR
comp=Z,10µm,20.4s
XAN LR LR
comp=Z,16µm,20.6s
XAN Xi'an 37.15 336 P **P 18 59 41.2 -0.6**
HJU Haeju 37.41 359 P **P 18 59 44.6 +0.9**
HJU S **S 19 05 30.2 +0.3**
HJU AmB
comp=Z,1µm,2.9s
HJU AMS AMS
comp=Z,176nm,2.9s
MJAR Matsushiro Arr 37.57 16 P **P 18 59 43.7 -1.5**
MJAR IAmb IAmb 18 59 48.0
comp=Z,200nm,1.6s
MJAR Matsushiro Arr 37.57 16 P **P 18 59 44.8 -0.4**
comp=Z,28nm,0.9s,baz=176,slow=8.8,SNR=27
comp=Z,28nm,0.9s
MJAR Matsushiro Arr 37.57 16 P **P 18 59 43.7 -1.5**
MJAR pmax pmax
comp=Z,200nm,1.7s
MAJO Matsushiro 37.58 16 P **P 18 59 43.6 -1.6**
MAJO Matsushiro 37.58 16 P **P 18 59 46.3 +1.0**
MAJO Matsushiro 37.58 16 *i* P **P 18 59 44.0 -1.3**
MAJO pmax pmax
comp=Z,296nm,2.7s
MAJO Matsushiro 37.58 16 P **P 18 59 44.0 -1.3**
HNS HongShan 38.28 345 ⇑P **P 18 59 50.7 -0.4**
HNS S **S 19 05 43.6 +0.5**
HNS pmax pmax
comp=Z,790nm,5.5s
HNS LR LR
comp=Z,3µm,18.6s
HNS LR LR
comp=Z,3µm,20.2s
HNS LR LR
comp=Z,5µm,18.9s
DL2 Dalian 38.50 354 P **P 18 59 53.5 +0.5**
DL2 S **S 19 05 42.7 -3.7**
DL2 pmax pmax
comp=Z,190nm,1.0s
DL2 pmax pmax
comp=Z,900nm,3.8s
DL2 LR LR
comp=Z,5µm,16.1s
DL2 LR LR
comp=Z,3µm,15.1s
DL2 LR LR
comp=Z,7µm,16.7s
JSD Sado 38.99 15 P **P 18 59 58.4 +1.3**
ARMA Armidale 39.06 144 IAmb IAmb 19 00 01.1
comp=Z,507nm,1.4s
ARMA Armidale 39.06 144 P **P 18 59 59.0 +1.1**
SAIH SAIHA 39.09 306 *eP* **P 18 59 56.7 -1.6**
SAIH IAmb IAmb 19 00 11.8
comp=Z,51nm,0.9s
SAIH IAMs_20 IAMs_20 19 21 11.3
comp=Z,5µm,22.4s
HHU Hamhung 39.30 2 P **P 18 59 59.9 +0.3**
SUJ Sinuiju 39.49 358 P **P 19 00 01.7 +0.5**
SUJ S **S 19 06 01.5 +0.2**
SUJ AmB
comp=Z,2µm,2.8s
SUJ AMS AMS
comp=Z,4µm,16.6s
IMP Imphal 39.54 310 *eP* **P 18 59 60.0 -2.0**
IMP IAmb IAmb 19 00 06.0
comp=Z,31nm,0.7s
IMP *eS* **S 19 05 58.9 -3.8**
IMP IAMs_20 IAMs_20 19 19 05.6
comp=Z,4µm,20.6s
JMM Marumori 39.56 18 IAmb IAmb 19 00 07.1
comp=Z,177nm,0.9s
JMM Marumori 39.56 18 P **P 19 00 04.8 +2.9**
LKP Lekhapani 39.58 315 IAmb IAmb 18 59 24.9
comp=Z,70nm,0.8s
LKP IAMs_20 IAMs_20 19 16 47.4
comp=Z,5µm,20.7s
AZL Aizawl 39.95 308 *eP* **P 19 00 03.6 -1.8**
AZL IAMs_20 IAMs_20 19 20 17.3
comp=Z,4µm,18.5s
BJT Baijiatuau 40.44 348 IAmb IAmb 19 00 19.8
comp=Z,316nm,1.8s
BJT Baijiatuau 40.44 348 P **P 19 00 11.2 +2.1**
BJI Beijing 40.46 348 P **P 19 00 09.2 -0.1**
BJI S **S 19 06 11.5 -4.3**
BJI pmax pmax
comp=Z,39nm,0.6s
BJI pmax pmax
comp=Z,450nm,4.2s
BJI LR LR
comp=Z,1µm,23.2s
BJI LR LR
comp=Z,620nm,18.1s
BJI LR LR
comp=Z,3µm,22.7s
MGCD Mangrove Creek 40.85 147 P **P 19 00 15.0 +2.3**
LUES Luesalemba Tem 40.95 107 P **P 19 00 15.2 +1.5**
SYDH Sydney Hard Ro 41.08 148 P **P 19 00 16.9 +2.4**
LZH Lanzhou 41.11 332 *eP* **P 19 00 15.4 +0.4**
LZH sP pP 19 00 22.9 -1.0
LZH S **S 19 06 19.8 -6.3**
LZH SS **SnSn 19 09 34.4 -3.9**
LZH pmax pmax
comp=Z,81nm,1.0s
LZH pmax pmax
comp=Z,720nm,4.0s
LZH LR LR
comp=Z,6µm,20.1s
LZH LR LR
comp=Z,8µm,20.1s
LZH LR LR
comp=Z,14µm,21.3s
ZIRO ZIRO 41.12 314 *eP* **P 19 00 12.9 -2.3**
ZIRO IAmb IAmb 19 00 24.5
comp=Z,37nm,0.7s
ZIRO IAMs_20 IAMs_20 19 19 48.0
comp=Z,3µm,22.5s
BRAT Ballarat 41.20 159 P **P 19 00 16.9 +1.5**
SNY Shenyang 41.25 357 ⇑P **P 19 00 16.1 +0.3**
SNY S **S 19 06 28.0 +0.4**
SNY pmax pmax
comp=Z,84nm,1.6s
SNY pmax pmax
comp=Z,2µm,3.6s

SNY LR LR
comp=Z,3µm,22.1s
SNY LR LR
comp=Z,3µm,20.6s
SNY LR LR
comp=Z,6µm,22.1s
RIV Riverview 41.35 148 P **P 19 00 18.2 +1.4**
TEZP TEZPUR 41.38 312 *eP* **P 19 00 15.0 -2.1**
TEZP IAMs_20 IAMs_20 19 19 10.3
comp=Z,2µm,21.8s
CAN Canberra 41.44 151 P **P 19 00 17.3 -0.3**
CAN IAmb IAmb 19 00 21.9
comp=Z,186nm,1.1s
CAN IAMs_20 IAMs_20 19 19 53.7
comp=Z,9µm,21.0s
CAN Canberra 41.44 151 P **P 19 00 18.8 +1.2**
CAN Canberra 41.44 151 P **P 19 00 17.3 -0.3**
CAN pmax pmax
comp=Z,186nm,1.1s
CAN MLR MLR
comp=Z,9µm,21.0s
CAN Canberra 41.44 151 P **P 19 00 19.1 +1.5**
CAN pP **sP 19 00 28.1 -1.9**
CAN sP **pwP 19 00 31.8 +2.0**
SHL Shillong 41.51 310 P **P 19 00 15.7 -2.7**
SHL Shillong 41.51 310 P **P 19 00 15.9 -2.6**
SNR=5.6
SHL Shillong 41.51 310 *eP* **P 19 00 17.7 -0.7**
SHL IAmb IAmb 19 00 18.2
comp=Z,41nm,0.8s
SHL IAMs_20 IAMs_20 19 19 25.7
comp=Z,3µm,21.2s
SHL Shillong 41.51 310 P **P 19 00 15.7 -2.7**
SHL pmax pmax
comp=Z,76nm,0.9s
CNB Canberra Magne 41.61 151 P **P 19 00 21.5 +2.5**
WOLH Wollongong Har 41.65 149 P **P 19 00 21.1 +1.9**
TOO Toolangi 41.81 157 P **P 19 00 20.7 +0.2**
TOO Toolangi 41.81 157 P **P 19 00 20.7 +0.2**
TOO pmax pmax
comp=Z,197nm,1.9s
GEXS Deakin Univers 41.90 159 P **P 19 00 23.6 +2.4**
MSHR Mys Shultsa 42.16 5 *ceP* **P 19 00 23.9 +0.6**
MSHR pmax pmax
comp=Z,152nm,1.3s
PSTR Posyet 42.20 5 *i* P **P 19 00 24.3 +0.7**
JTM Tenmabayashi 42.33 17 P **P 19 00 23.5 -1.2**
JTM IAmb IAmb 19 00 29.6
comp=Z,496nm,1.5s
HHC Hu-ho-hao-te 42.36 343 *eP* **P 19 00 25.1 0.0**
HHC sP sP 19 00 34.3 -3.3
HHC S **S 19 06 41.5 -2.8**
HHC sS sS 19 06 56.8 -2.3
HHC ScS **ScS 19 10 17.7 -7.1**
HHC pmax pmax
comp=Z,35nm,1.3s
HHC pmax pmax
comp=Z,910nm,5.0s
HHC LR LR
comp=Z,6µm,22.2s
HHC LR LR
comp=Z,2µm,22.2s
HHC LR LR
comp=Z,9µm,21.4s
BTO Baotou 42.60 342 *eP* P 19 00 31.8 +4.8
BTO pP sP 19 00 36.4 -3.2
BTO sP pwP 19 00 39.0 +0.3
BTO PP **PP 19 02 08.1 +1.9**
BTO S S 19 06 57.4 +10
BTO SS **SS 19 10 02.9 +4.2**
BTO pmax pmax
comp=Z,42nm,0.9s
BTO pmax pmax
comp=Z,820nm,4.0s
BTO LR LR
comp=Z,10µm,21.8s
BTO LR LR
comp=Z,10µm,19.2s
BTO LR LR
comp=Z,13µm,21.4s
TAWA Tawang 42.61 312 *eP* **P 19 00 27.2 -0.4**
TAWA IAmb IAmb 19 00 37.8
comp=Z,43nm,0.8s
TAWA IAMs_20 IAMs_20 19 20 57.6
comp=Z,2µm,23.7s
VLA Vladivostok 42.77 6 *i* P **P 19 00 28.8 +0.6**
VLA pmax pmax
comp=Z,163nm,1.5s
CN2 Changchun 43.16 359 *eP* **P 19 00 31.8 +0.5**
CN2 *eS* **S 19 06 55.7 0.0**
CN2 pmax pmax
comp=Z,20nm,1.7s
CN2 pmax pmax
comp=Z,500nm,5.0s
CN2 LR LR
comp=Z,2µm,22.0s
CN2 LR LR
comp=Z,4µm,22.0s
CN2 LR LR
comp=Z,2µm,23.6s
WAKE Wake Island 43.78 62 IAMs_20 IAMs_20 19 17 20.0
comp=Z,9µm,20.0s
VLAKA Lakatoro 43.82 114 P **P 19 00 39.1 +2.0**
USA0B Ussuriysk Arra 43.85 6 P **P 19 00 36.2 -0.7**
USA0B Ussuriysk Arra 43.85 6 *i* P **P 19 00 37.2 +0.3**
USRK Ussuriysk Ar. 43.85 6 P **P 19 00 37.3 +0.4**
USRK Ussuriysk Ar. 43.85 6 P **P 19 00 37.0 +0.1**
comp=Z,53nm,0.8s,baz=195,slow=5.4,SNR=38
comp=Z,53nm,0.8s
USRK Ussuriysk Ar. 43.85 6 P **P 19 00 37.3 +0.4**
MDJ Mudanjiang 44.07 3 IAmb IAmb 19 00 46.5
comp=Z,578nm,1.9s
MDJ Mudanjiang 44.07 3 P **P 19 00 40.9 +2.3**
ERM Erimo 44.09 18 *i* P **P 19 00 37.2 -1.6**
ERM pmax pmax
comp=Z,107nm,1.4s
XLT XiLinHaoTe 44.20 349 *eP* **P 19 00 40.0 +0.2**
XLT S **S 19 07 08.6 -2.5**
XLT pmax pmax
comp=Z,73nm,1.5s
XLT pmax pmax
comp=Z,900nm,4.8s
XLT LR LR
comp=Z,3µm,24.7s
XLT LR LR
comp=Z,4µm,19.4s
LSA Lhasa 44.31 314 P **P 19 00 41.7 +0.3**
LSA Lhasa 44.31 314 P **P 19 00 41.1 -0.3**
LSA P **P 19 00 41.1 -0.3**
LSA P **P 19 00 41.1 -0.3**
LSA Lhasa 44.31 314 P **P 19 00 41.7 +0.3**
LSA pmax pmax
comp=Z,149nm,1.7s
LSA MLR MLR
comp=Z,2µm,20.0s
JPG JALPAIGURI 44.46 309 *eP* **P 19 00 42.5 +0.4**
GTK Tadong 44.93 310 *eP* P 19 00 40.1 -6.0
GTK IAmb IAmb 19 00 52.6
comp=Z,43nm,1.1s
GTK IAMs_20 IAMs_20 19 21 08.1
comp=Z,3µm,23.5s
BNX BinXian 45.10 1 ⇓P **P 19 00 47.2 +0.3**
BNX S **S 19 07 28.3 +4.3**
BNX pmax pmax
comp=Z,31nm,1.0s
BNX pmax pmax
comp=Z,730nm,4.9s
BNX LR LR
comp=Z,4µm,21.0s
BNX LR LR
comp=Z,2µm,21.4s
BNX LR LR
comp=Z,5µm,20.0s
DZM Mont Dzumac 45.11 122 P **P 19 00 47.0 -0.5**
DZM IAmb IAmb 19 00 50.5
comp=Z,151nm,1.3s
DZM Mont Dzumac 45.11 122 *eP* **P 19 00 47.8 +0.3**
comp=Z,260nm,1.4s
DZM *eS* **S 19 07 18.5 -6.5**
comp=Z,4µm,36.0s
DZM *eSS* **SS 19 10 47.7 -0.4**
comp=Z,4µm,24.4s
DZM *eLR* LR 19 13 17.8
comp=Z,10µm,24.1s
DZM Mont Dzumac 45.11 122 P **P 19 00 47.8 +0.3**
comp=Z,67nm,1.1s,baz=302,slow=3.8,SNR=13
comp=Z,67nm,1.1s
DZM Mont Dzumac 45.11 122 P **P 19 00 49.5 +2.0**
DZM Mont Dzumac 45.11 122 P **P 19 00 48.6 +1.2**
DZM PcP **PcP 19 02 28.9 +1.1**
TEY Ternei 45.33 10 ⇑*eP* P 19 00 39.9 -8.7
TEY *e* 19 10 41.9
TEY pmax pmax
comp=E,20nm,5.5s
TEY pmax pmax
comp=N,100nm,3.3s
TEY pmax pmax
comp=Z,200nm,3.4s
TEY pmax pmax
comp=N,30nm,0.9s
TEY pmax pmax
comp=Z,50nm,1.0s
VIS Vishakhapatnam 45.56 295 *eP* **P 19 00 50.4 -0.5**
VIS IAmb IAmb 19 00 56.5
comp=Z,30nm,0.8s
VIS IAMs_20 IAMs_20 19 21 56.8
comp=Z,2µm,20.0s
OUENC Ouen Island, N 45.59 123 P **P 19 00 53.0 +1.9**
GTA Gaotai 45.68 331 *eP* **P 19 00 51.6 -0.2**
GTA PcP **PcP 19 02 30.7 +1.2**
GTA PcS **PcS 19 06 23.4 -0.4**
GTA S **S 19 07 31.1 -1.8**
GTA SS **SS 19 10 58.8 +1.3**
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA pmax pmax
comp=Z,560nm,8.0s
GTA LR LR
comp=Z,6µm,20.7s
GTA LR LR
comp=Z,5µm,22.2s
GTA LR LR
comp=Z,11µm,22.5s
KNTI KHUNTI 45.70 302 *eP* **P 19 00 52.4 +0.3**
KNTI IAmb IAmb 19 00 55.3
comp=Z,22nm,0.8s
GLAD Gladstone 45.73 157 P **P 19 00 53.5 +1.5**
CORO Coronation Par 45.81 158 P **P 19 00 54.1 +1.6**
ASAJ Asahikawa 45.84 16 LR LR 19 19 58.1
comp=Z,7µm,21.8s,baz=211,slow=36
JKA Kamikawa-asahi 45.84 16 IAmb IAmb 19 00 57.9
comp=Z,287nm,1.7s
JKA IAMs_20 IAMs_20 19 18 39.5
comp=Z,8µm,22.0s
PALK Pallekele 45.93 280 P **P 19 00 52.6 -1.4**
PALK Pallekele 45.93 280 P **P 19 00 56.3 +2.3**
PALK Pallekele 45.93 280 P **P 19 00 52.6 -1.4**
PALK pmax pmax
comp=Z,20nm,0.7s
PALK MLR MLR
comp=Z,5µm,22.0s
GOMU GeErMu 46.00 324 P **P 19 00 55.4 +0.8**
GOMU sP pP 19 01 02.8 -0.7
GOMU PP **PcP 19 02 36.9 +5.9**
GOMU S **S 19 07 34.1 -3.9**
GOMU pmax pmax
comp=Z,26nm,1.5s
GOMU LR LR
comp=Z,5µm,19.5s
GOMU LR LR
comp=Z,2µm,19.2s
GOMU LR LR
comp=Z,5µm,19.4s
MOO Moorlands 46.68 159 P **P 19 01 01.0 +1.6**
YUK Yuzh-Kuril'sk 46.77 19 *eP* **P 19 00 57.4 -2.6**
YUK *i* 19 02 51.7
YUK *i* S **S 19 07 45.9 -2.1**
YUK *i* SS **SS 19 11 06.5 -8.3**
YUK pmax pmax
comp=Z,535nm,1.5s
YUK pmax pmax
comp=Z,318nm,1.1s
YUK pmax pmax
comp=N,162nm,1.0s
YUK pmax pmax
comp=E,173nm,1.4s
TAU Tasmania Unive 47.14 159 IAMs_20 IAMs_20 19 24 25.7
comp=Z,9µm,19.0s
TAU Tasmania Unive 47.14 159 P **P 19 01 04.7 +1.8**
MDRS Chennai 47.28 287 *eP* **P 19 01 04.9 +0.5**
VJD Vijayawada 47.68 292 *eP* **P 19 01 07.3 -0.3**
VJD IAmb IAmb 19 01 18.7
comp=Z,69nm,1.0s
BLSP Bilaspur 48.05 300 *eP* **P 19 01 09.1 -1.4**
BLSP IAmb IAmb 19 01 13.1
comp=Z,64nm,0.7s
VAR Varanasi 48.49 304 *eP* **P 19 01 12.4 -1.3**
YSS Yuzhno-Sakhali 48.50 15 P **P 19 01 15.8 +2.4**
YSS Yuzhno-Sakhali 48.50 15 *ceP* **P 19 01 13.8 +0.4**
YSS *eS* **S 19 08 11.9 -0.6**
YSS pmax pmax
comp=Z,50nm,1.0s
YSS pmax pmax
comp=Z,600nm,3.9s
YSS pmax pmax
comp=N,400nm,3.6s
YSS pmax pmax
comp=E,200nm,3.6s
YSS smax smax
comp=N,500nm,8.3s
KUR Kuril'sk 48.51 20 P **P 19 01 14.0 +0.5**
KUR *eS* **S 19 08 14.5 +1.9**
KUR MLR MLR
comp=Z,2µm,15.0s
KUR MLR MLR
comp=N,3µm,20.0s
KLR Kul'dur 48.81 5 *i* P **P 19 01 15.1 -0.7**
KLR pmax pmax
comp=Z,86nm,1.2s
HIA Hailar 48.95 354 P **P 19 01 19.5 +2.6**
KOD Kodaikanal 49.48 283 *eP* **P 19 01 21.9 +0.1**
KOD IAmb IAmb 19 01 24.4
comp=Z,40nm,0.9s
ALBI Allahabad 49.50 304 *eP* **P 19 01 20.3 -1.2**
HEH HeiHe 49.62 1 *eP* **P 19 01 21.3 -0.6**
HEH pP **pP 19 01 30.9 0.0**
HEH S **S 19 08 25.1 -3.0**
HEH sS **sS 19 08 41.1 -1.8**
HEH SS **SS 19 12 03.4 +2.7**
HEH pmax pmax
comp=Z,100nm,1.5s
HEH pmax pmax
comp=Z,770nm,4.7s
HEH LR LR
comp=Z,4µm,22.1s
HEH LR LR
comp=Z,3µm,22.3s
HEH LR LR
comp=Z,7µm,22.6s
TRD Trivandrum 49.75 281 *eP* **P 19 01 24.2 +0.6**
TRD IAmb IAmb 19 01 27.6
comp=Z,40nm,0.7s
HYB Hyderabad 49.85 292 *eP* **P 19 01 24.2 -0.1**
HYB IVmB_BB 19 01 27.3
comp=Z,1µm,2.1s
ULN Ulaanbaatar 50.08 343 P **P 19 01 25.4 -0.4**
ULN Ulaanbaatar 50.08 343 P **P 19 01 26.8 +1.1**
ULN P **P 19 01 26.8 +1.1**
ULN P **P 19 01 26.8 +1.1**
ULN S **S 19 08 36.9 +1.9**
ULN S **S 19 08 36.9 +1.9**
ULN S **S 19 08 36.9 +1.9**
ULN Ulaanbaatar 50.08 343 *ceP* **P 19 01 26.3 +0.6**
ULN pmax pmax
comp=Z,184nm,2.5s
SONM Songino Array 50.25 343 P **P 19 01 26.4 -0.5**
SONM Songino Array 50.25 343 P **P 19 01 27.1 +0.1**
comp=Z,25nm,0.8s,baz=162,slow=7.7,SNR=68
comp=Z,25nm,0.8s
SONM Songino Array 50.25 343 P **P 19 01 26.4 -0.5**
SONM pmax pmax
comp=Z,86nm,1.3s
UGL Uglegorsk 50.31 13 *eP* P 19 01 18.4 -8.8
UGL *eSS* **SS 19 12 11.8 0.0**
UGL pmax pmax
comp=Z,1µm,3.2s
UGL pmax pmax
comp=Z,100nm,0.7s
UGL MLR MLR
comp=E,700nm,22.0s

UGL MLR MLR
comp=N,3µm,20.0s
UGL MLR MLR
comp=Z,4µm,22.0s
BRCI Bahraich 50.59 306 *eP* **P 19 01 28.2 -1.6**
GRNR Gornyy 50.87 8⇑ *iP* **P 19 01 32.0 +0.6**
GRNR pmax pmax
comp=N,10.0nm,1.1s
GRNR pmax pmax
comp=Z,30nm,1.1s
GRNR MLR MLR
comp=E,680nm,17.0s
GRNR MLR MLR
comp=N,2µm,19.0s
GRNR MLR MLR
comp=Z,2µm,19.0s
TYV Tymovskoe 52.12 13 *eP* **P 19 01 42.1 +1.4**
TYV *eS* **S 19 09 03.6 +1.0**
TYV pmax pmax
comp=Z,43nm,1.5s
TYV pmax pmax
comp=Z,600nm,2.9s
TYV smax smax
comp=N,20nm,1.9s
TYV smax smax
comp=E,18nm,1.9s
TYV smax smax
comp=N,700nm,6.3s
TYV smax smax
comp=E,900nm,6.3s
JHNI Jhansi 52.30 302 *eP* **P 19 01 40.9 -1.7**
JHNI IAmb IAmb 19 01 44.2
comp=Z,55nm,1.1s
CIT Chita 52.48 350 *eP* **P 19 01 44.2 +0.7**
CIT *e* 19 02 56.2
CIT *e* 19 03 48.0
CIT *e* 19 09 19.2
CIT pmax pmax
comp=Z,826nm,2.6s
PTH Pithoragarh 52.51 308 *eP* **P 19 01 42.7 -1.6**
PTH IAmb IAmb 19 01 49.8
comp=Z,23nm,0.5s
PTH IAMs_20 IAMs_20 19 18 44.6
comp=Z,2µm,20.3s
BHPL Bhopal 52.52 299 *eP* **P 19 01 43.4 -0.9**
BHPL IAmb IAmb 19 01 47.1
comp=Z,117nm,1.1s
NRDN NARMADA NAGAR 52.58 299 *eP* **P 19 01 43.8 -0.9**
NRDN IAmb IAmb 19 01 51.0
comp=Z,84nm,0.8s
ZEA Zeya 53.11 1 *eP* **P 19 01 48.8 +0.8**
ZEA *eS* **S 19 09 18.9 +2.8**
ZEA *e* 19 11 37.8
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,20nm,1.1s
ZEA pmax pmax
comp=N,200nm,6.7s
ZEA pmax pmax
comp=Z,300nm,6.5s
ZEA smax smax
comp=E,300nm,17.8s
ZEA smax smax
comp=N,900nm,16.4s
ZEA MLR MLR
comp=E,1µm,19.0s
ZEA MLR MLR
comp=N,2µm,21.0s
ZEA MLR MLR
comp=Z,2µm,23.0s
YSA Yasawairara 53.36 111 P **P 19 01 52.3 +1.8**
JOSI Joshimath 53.45 309 *eP* **P 19 01 49.4 -1.9**
ZAK Zakamensk 53.45 342 *eP* **P 19 01 51.0 +0.2**
ZAK pmax pmax
comp=Z,49nm,1.4s
FUNA Funafuti 53.49 101 P **P 19 01 52.0 +0.5**
FUNA Funafuti 53.49 101 P **P 19 01 54.8 +3.3**
NKL Nikolayevsk 53.87 11 *eP* **P 19 01 51.3 -2.3**
NKL *eS* **S 19 09 25.1 -1.3**
NKL pmax pmax
comp=E,53nm,1.2s
NKL pmax pmax
comp=N,34nm,0.6s
NKL pmax pmax
comp=Z,400nm,1.3s
NKL smax smax
comp=E,543nm,7.5s
NKL smax smax
comp=N,420nm,8.4s
NKL MLR MLR
comp=E,11µm,16.0s
NKL MLR MLR
comp=N,2µm,14.0s
NKL MLR MLR
comp=Z,17µm,22.0s
KAD Karad 53.88 291 *eP* **P 19 01 54.1 -0.4**
MSVF Nonsavu 54.05 112 P **P 19 01 56.2 +0.6**
MSVF Nonsavu 54.05 112 IAMs_20 IAMs_20 19 23 33.1
comp=Z,7µm,20.0s
MSVF Nonsavu 54.05 112 P **P 19 01 56.9 +1.2**
MSVF Nonsavu 54.05 112 *iP* **P 19 01 55.6 -0.1**
MSVF pmax pmax
comp=Z,279nm,1.8s
ASOR Ausora 54.15 306 *eP* **P 19 01 54.7 -1.4**
MERT Meerut 54.26 306 *eP* **P 19 01 55.6 -1.4**
POO Poona 54.46 292 *eP* **P 19 01 58.1 -0.5**
POO IAmb IAmb 19 02 00.5
comp=Z,98nm,1.1s
JMIU JAMIA UNIVERSI 54.47 305 *eP* **P 19 01 57.2 -1.3**
SONA Sohna 54.52 305 *eP* **P 19 01 57.6 -1.2**
SONA IAmb IAmb 19 02 15.1
comp=Z,112nm,0.9s
SONA IAMs_20 IAMs_20 19 19 03.3
comp=Z,2µm,16.8s
DDI Dehra Dun 54.53 308 *eP* **P 19 01 57.4 -1.6**
LDR Lodi Road 54.53 305 *eP* **P 19 01 57.6 -1.3**
AYAN Aya Nagar 54.57 305 *eP* **P 19 01 57.9 -1.2**
AYAN IAmb IAmb 19 02 05.0
comp=Z,837nm,1.7s
NDI New Delhi 54.57 305 *eP* **P 19 01 57.9 -1.3**
NPLP NPLP New Delhi 54.59 305 *eP* **P 19 01 58.0 -1.4**
NPLP IAmb IAmb 19 02 04.0
comp=Z,26nm,0.7s
IRK Irkutsk 54.80 344 *eP* **P 19 01 59.9 -0.6**
IRK pmax pmax
comp=Z,357nm,2.8s
KLP Kalpa 54.88 309 *eP* **P 19 01 59.7 -2.0**
KLP IAmb IAmb 19 02 16.3
comp=Z,105nm,0.9s
GNR GANAUR 54.90 306 *eP* **P 19 02 00.2 -1.4**
KUDL Kundal 54.97 305 *eP* **P 19 02 00.9 -1.2**
KUDL IAmb IAmb 19 02 07.5
comp=Z,78nm,1.1s
WMQ Urumqi 55.15 327 *eP* **P 19 02 04.4 +1.2**
WMQ PP **PP 19 04 09.1 +2.2**
WMQ S **S 19 09 43.4 -0.9**
WMQ pmax pmax
comp=Z,19nm,0.7s
WMQ pmax pmax
comp=Z,460nm,3.7s
WMQ LR LR
comp=Z,4µm,19.3s
WMQ LR LR
comp=Z,5µm,16.7s
WMQ LR LR
comp=Z,6µm,16.7s
DGTI Dogotuki 55.30 110 P **P 19 02 06.5 +1.8**
SMLA Simla 55.56 308 *eP* **P 19 02 04.7 -1.6**
SMLA IAmb IAmb 19 02 09.1
comp=Z,96nm,0.8s
SMLA IAMs_20 IAMs_20 19 17 15.3
comp=Z,2µm,18.2s
TAVE Taveuni 55.72 111 P **P 19 02 09.5 +1.8**
SKR Severo-Kuril's 56.09 22 *eP* **P 19 02 10.0 +0.3**
SKR *eS* **S 19 09 58.1 +1.7**
SKR pmax pmax
comp=Z,199nm,1.1s
SKR pmax pmax
comp=Z,800nm,4.4s
SKR MLR MLR
comp=Z,3µm,20.0s
BHK Bhakra 56.26 308 *eP* **P 19 02 06.9 -4.5**
BHK IAmb IAmb 19 02 15.0
comp=Z,64nm,0.7s
OUZ Omahuta 56.61 134 IAMs_20 IAMs_20 19 29 48.0
comp=Z,6µm,19.0s
DHRM DHARAMSHALA 56.68 309 *eP* **P 19 02 12.8 -1.8**
DHRM IAmb IAmb 19 02 16.9
comp=Z,156nm,1.0s
LKBA Tubou, Lakemba 57.06 112 P **P 19 02 19.1 +1.9**
BKNR BIKANER 57.59 303 *eP* **P 19 02 20.1 -0.8**
SRGN SRI GANGA NAGA 57.73 306 *eP* **P 19 02 20.4 -1.4**
JMU Jammu 57.95 309 *eP* **P 19 02 22.3 -0.9**
JMU IAmb IAmb 19 02 33.2
comp=Z,106nm,0.9s
BOD Bodaibo 58.02 352 *eP* **P 19 02 23.4 +0.2**
BOD pmax pmax
comp=Z,162nm,1.7s
DCZ Deep Cove 58.24 147 IAmb IAmb 19 02 27.6
comp=Z,281nm,1.8s
JCZ Jackson Bay 58.28 145 P **P 19 02 25.5 0.0**
SRNI Srinagar 58.54 310 *eP* **P 19 02 25.9 -1.4**
PEA0B Petropavlovsk- 58.62 22 *i* P **P 19 02 28.1 +0.5**
PETK Petropavlovsk- 58.62 22 P **P 19 02 28.4 +0.9**
PETK Petropavlovsk- 58.62 22 P **P 19 02 28.3 +0.8**
comp=Z,54nm,0.7s,baz=179,slow=3.3,SNR=102
comp=Z,54nm,0.7s
MLZ Mavora Lakes 58.71 147 IAMs_20 IAMs_20 19 28 00.6
comp=Z,6µm,19.0s
QRZ Quartz Range 58.71 140 IAMs_20 IAMs_20 19 28 39.5
comp=Z,8µm,22.0s
QRZ Quartz Range 58.71 140 P **P 19 02 29.7 +1.3**
WUS Wushi 58.71 320 IAmb IAmb 19 02 55.4
comp=Z,123nm,1.5s
DSZ Denniston Nort 58.74 141 IAMs_20 IAMs_20 19 30 30.6
comp=Z,7µm,20.0s
KUZ Kuaotunu 58.84 134 P **P 19 02 32.2 +2.8**
PET Petropavlovsk 58.91 22 P **P 19 02 29.4 -0.1**
PET IAmb IAmb 19 02 34.6
comp=Z,215nm,1.3s
PET Petropavlovsk 58.91 22 P **P 19 02 32.3 +2.8**
PET Petropavlovsk 58.91 22*ce*P **P 19 02 28.1 -1.4**
PET pmax pmax
comp=Z,187nm,1.3s
PET Petropavlovsk 58.91 22 P **P 19 02 29.9 +0.4**
comp=Z,3µmcomp=Z,103nm,1.1s
ZSN Zaisan 59.01 328 *eP* **P 19 02 30.0 -0.4**
ZSN *eS* **S 19 10 35.1 +0.3**
ZSN Zaisan 59.01 328 *eP* **P 19 02 30.0 -0.4**
ZSN *eS* **S 19 10 35.2 +0.3**
INZ Inchbonnie 59.07 142 IAMs_20 IAMs_20 19 28 49.1
comp=Z,7µm,19.0s
TOZ Tahuroa Road 59.15 136 IAmb IAmb 19 02 34.7
comp=Z,122nm,1.6s
JASL Jaisalmer 59.27 301 *eP* **P 19 02 31.5 -1.1**
RPZ Rata Peaks 59.40 144 IAMs_20 IAMs_20 19 28 27.8
comp=Z,10µm,21.0s
RPZ Rata Peaks 59.40 144 LR LR 19 29 11.4
comp=Z,7µm,21.2s,baz=310,slow=37
THZ Tophouse 59.45 141 IAMs_20 IAMs_20 19 29 01.1
comp=Z,8µm,22.0s
NNZ Nelson 59.46 140 IAMs_20 IAMs_20 19 29 24.5
comp=Z,8µm,22.0s
SHLS Shalkode 59.58 322*c* *i*P **P 19 02 32.1 -2.5**
SHLS pmax pmax
comp=Z,59nm,1.5s
SHLS Shalkode 59.58 322⇑ *iP* **P 19 02 32.1 -2.5**
comp=Z,58nm,1.5s
NIL Nilore 59.59 309 P **P 19 02 33.9 -0.8**
NIL IAmb IAmb 19 02 38.6
comp=Z,171nm,1.7s
NIL Nilore 59.59 309 P **P 19 02 32.8 -1.9**
NIL P **P 19 02 32.8 -1.9**
NIL Nilore 59.59 309 P **P 19 02 33.9 -0.8**
NIL pmax pmax
comp=Z,171nm,1.7s
NIL MLR MLR
comp=Z,2µm,21.0s
LTZ Lake Taylor 59.60 142 IAmb IAmb 19 02 37.7
comp=Z,195nm,1.6s
LTZ IAMs_20 IAMs_20 19 29 15.3
comp=Z,8µm,20.0s
PDGK Podgornoye 59.66 322 P **P 19 02 33.0 -2.1**
OXZ Oxford 59.77 143 IAMs_20 IAMs_20 19 29 48.6
comp=Z,7µm,20.0s
TARG Taragay, Kyrgy 59.89 320 IAmb IAmb 19 03 13.4
comp=Z,92nm,1.5s
PRZ Przheval'sk 59.89 321 IAmb IAmb 19 02 41.9
comp=Z,57nm,0.8s
MK31 Makanchi Array 59.99 327 *eP* **P 19 02 35.8 -1.4**
MKAR Makanchi Array 59.99 327 P **P 19 02 36.8 -0.3**
MKAR Makanchi Array 59.99 327 P **P 19 02 36.5 -0.7**
comp=Z,27nm,0.4s,baz=124,slow=7.6,SNR=166
MKAR LR LR 19 29 09.6
comp=Z,8µm,21.5s,baz=121,slow=37
MKAR PKPPKP **P'P'df 19 31 59.9 -3.2**
comp=Z,1.3nm,1.0s,baz=196,slow=2.1,SNR=5.0
MKAR PKP2bc 19 32 10.5
comp=Z,2.7nm,1.0s,baz=268,slow=2.2,SNR=7.5
comp=Z,27nm,0.4s
KSH Kashi 60.05 317 P **P 19 02 37.6 -0.3**
KSH pmax pmax
comp=Z,38nm,1.2s
KSH LR LR
comp=Z,3µm,19.2s
KSH LR LR
comp=Z,2µm,20.6s
KSH LR LR
comp=Z,4µm,19.6s
MAKZ Makanchi 60.17 326 P **P 19 02 37.8 -0.6**
MAKZ IAmb IAmb 19 02 46.3
comp=Z,64nm,0.8s
MAKZ IAMs_20 IAMs_20 19 29 16.2
comp=Z,9µm,21.0s
MAKZ Makanchi 60.17 326 P **P 19 02 36.7 -1.7**
MAKZ Makanchi 60.17 326 P **P 19 02 37.6 -0.8**
MAKZ pP **pP 19 02 45.7 -2.0**
GVZ Greta Valley S 60.18 142 IAMs_20 IAMs_20 19 29 32.5
comp=Z,9µm,22.0s
SATY Saty 60.19 321*c* *i*P **P 19 02 38.2 -0.5**
SATY *eS* **S 19 10 50.4 -0.1**
SATY pmax pmax
comp=Z,67nm,1.4s
SATY Saty 60.19 321⇑ *iP* **P 19 02 38.3 -0.5**
comp=Z,67nm,1.4s
SATY *eS* **S 19 10 50.4 -0.1**
MIDW Midway 60.50 58 IAMs_20 IAMs_20 19 30 23.0
comp=Z,4µm,19.0s
BKZ Black Stump Fm 60.51 137 P **P 19 02 40.4 -0.5**
BKZ IAmb IAmb 19 02 42.7
comp=Z,198nm,1.8s
BKZ Black Stump Fm 60.51 137 P **P 19 02 42.7 +1.8**
URZ Urewera 60.52 135 P **P 19 02 39.8 -1.1**
comp=Z,23nm,0.9s,baz=271,slow=1.5,SNR=9.2
comp=Z,23nm,0.9s
BHW Baring Head 60.52 140 IAMs_20 IAMs_20 19 29 47.5
comp=Z,6µm,22.0s
RTZ Ruatahuna 60.59 136 P **P 19 02 41.0 -0.6**
RTZ IAmb IAmb 19 02 43.1
comp=Z,162nm,1.3s
MRZ Mangatainoka R 60.61 139 P **P 19 02 40.5 -1.1**
MRZ IAmb IAmb 19 02 41.9
comp=Z,118nm,1.5s
MXZ Matakaoa Point 61.06 134 IAMs_20 IAMs_20 19 28 58.8
comp=Z,8µm,22.0s
AAA Alma-Ata 61.20 321 *eP* **P 19 02 45.1 -0.5**
AAA pmax pmax
comp=Z,29nm,0.7s
AAA Alma-Ata 61.20 321 *eP* **P 19 02 45.2 -0.5**
comp=Z,29nm,0.7s
TDK Taldyqorghan 61.21 323 *eP* **P 19 02 45.1 -0.4**
TDK pmax pmax
comp=Z,47nm,0.7s
TDK Taldyqorghan 61.21 323 *eP* **P 19 02 45.2 -0.4**
comp=Z,47nm,0.7s
YAK Yakutsk 61.47 2 P **P 19 02 47.4 +0.5**
YAK Yakutsk 61.47 2*c* *i*P **P 19 02 46.5 -0.4**
YAK *e**PP **pwP 19 03 02.4 +3.0**
YAK *e* 19 03 27.7
YAK *e* 19 05 01.7
YAK *eS* **S 19 11 03.9 -1.9**
YAK *e**SS sS 19 11 29.2 +8.2
YAK *e* 19 12 33.4
YAK *eSS* **SS 19 15 06.7 -0.5**
YAK pmax pmax
comp=Z,141nm,0.9s
YAK pmax pmax
comp=N,39nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK pmax pmax
comp=Z,219nm,3.8s
YAK pmax pmax
comp=N,83nm,2.0s
YAK pmax pmax
comp=E,79nm,3.5s
YAK smax smax
comp=E,390nm,3.1s
YAK smax smax
comp=N,264nm,2.4s
CHKK Chushkaly 61.48 321 *eP* **P 19 02 46.7 -0.7**
CHKK Chushkaly 61.48 321 *eP* **P 19 02 46.8 -0.7**
TKM2 Tokmak 2 61.90 320 P **P 19 02 50.7 +0.2**
SNR=36
TKM2 Tokmak 2 61.90 320 P **P 19 02 48.6 -1.9**
KUU Kurty 61.91 321 *eP* **P 19 02 49.6 -0.6**
KUU pmax pmax
comp=Z,96nm,0.9s
KUU Kurty 61.91 321 *eP* **P 19 02 49.7 -0.6**
comp=Z,96nm,0.9s
MA2 Magadan 61.97 14 P **P 19 02 51.3 +0.9**
MA2 Magadan 61.97 14 LR LR 19 28 17.2
comp=Z,2µm,21.9s,baz=204,slow=35
MA2 Magadan 61.97 14 P **P 19 02 53.2 +2.8**
MA2 Magadan 61.97 14*ce*P **P 19 02 51.0 +0.6**
MA2 pmax pmax
comp=Z,223nm,1.3s
MA2 Magadan 61.97 14 P **P 19 02 52.0 +1.7**
comp=Z,3µmcomp=Z,240nm,1.4s
MA2 Magadan 61.97 14 P **P 19 02 52.0 +1.7**
KBK Karagaybulak 62.20 319 P **P 19 02 54.9 +2.4**
SNR=11
UCH Uchtor 62.28 319 P **P 19 02 53.8 +0.4**
SNR=42
AAK Ala-Archa 62.48 319 P **P 19 02 54.8 +0.4**
SNR=9.6
AAK Ala-Archa 62.48 319 P **P 19 02 54.1 -0.2**
AAK Ala-Archa 62.48 319 P **P 19 02 55.2 +0.9**
AAK P **P 19 02 55.2 +0.9**
AAK S **S 19 11 23.5 +3.8**
AAK S **S 19 11 23.5 +3.8**
AAK Ala-Archa 62.48 319*ce*P **P 19 02 54.9 +0.5**
AAK pmax pmax
comp=Z,71nm,1.7s
AAK Ala-Archa 62.48 319 *i* P **P 19 02 54.2 -0.2**
SNR=14
USP Ospenovka 62.77 320 P **P 19 02 55.5 -0.6**
SNR=47
SGDS Sogindy 62.78 320⇑ *iP* **P 19 02 55.5 -0.7**
AML Almayashu 62.78 318 P **P 19 02 57.0 +0.4**
SNR=44
DRK Karamyk 62.95 315 IAmb IAmb 19 03 10.2
comp=Z,67nm,0.9s
EKS2 Erkin-Say 62.97 319 P **P 19 02 57.4 -0.1**
SNR=43
KBU Kabul Universi 63.09 309 P **P 19 02 55.7 -2.9**
KBL Kabul 63.17 309 P **P 19 02 58.5 -0.6**
KBL Kabul 63.17 309 P **P 19 02 58.2 -0.9**
SNR=23
KBL P **P 19 02 58.2 -0.9**
SNR=23
KBL S **S 19 11 27.5 -1.2**
KBL S **S 19 11 27.5 -1.2**
KBL Kabul 63.17 309 P **P 19 02 58.5 -0.6**
KBL pmax pmax
comp=Z,34nm,0.9s
ZAA0 Zalesovo Array 63.29 334 IAmb IAmb 19 03 22.9
comp=Z,101nm,1.2s
ZALV Zalesovo Beam 63.29 334 P **P 19 02 57.9 -1.3**
ZALV Zalesovo Beam 63.29 334 P **P 19 02 58.2 -1.0**
comp=Z,14nm,0.7s,baz=116,slow=6.8,SNR=31
ZALV PKP2bc 19 32 01.6
comp=Z,3.1nm,1.0s,baz=279,slow=2.9,SNR=6.5
ZALV LR LR 19 32 33.3
comp=Z,3µm,20.9s,baz=128,slow=38
comp=Z,14nm,0.7s
ZALV Zalesovo Beam 63.29 334 P **P 19 02 57.9 -1.3**
GAR Garm 63.81 314 IAmb IAmb 19 03 06.8
comp=Z,107nm,0.9s
GAR IAMs_20 IAMs_20 19 31 55.4
comp=Z,6µm,21.0s
BTK Batken 63.87 315 IAmb IAmb 19 03 25.4
comp=Z,105nm,1.3s
BTLS Baital 63.90 321 *eP* **P 19 03 02.9 -0.6**
BTLS *eS* **S 19 11 37.1 +0.1**
BTLS Baital 63.90 321 *eP* **P 19 03 03.0 -0.6**
BTLS *eS* **S 19 11 37.1 +0.1**
KURBB Kurchatov Arra 64.25 328 P **P 19 03 04.8 -0.8**
comp=Z,71nm,0.7s,baz=131,slow=6.0,SNR=122
KURBB PKPPKP **P'P'df 19 31 56.8 +0.7**
comp=Z,3.7nm,1.2s,baz=292,slow=3.3,SNR=5.9
comp=Z,71nm,0.7s
KURK Kurchatov 64.25 329 P **P 19 03 05.1 -0.5**
KURK Kurchatov 64.25 329 P **P 19 03 05.1 -0.5**
KURK P **P 19 03 05.1 -0.5**
KURK Kurchatov 64.25 329*ce*P **P 19 03 05.3 -0.3**
KURK pmax pmax
comp=Z,155nm,0.7s
KURK Kurchatov 64.25 329 P **P 19 03 05.1 -0.5**
SIMJ Simiganj 64.63 313 P **P 19 03 08.0 -0.6**
DZA Taraz 64.68 318 *eP* **P 19 03 08.4 -0.3**
DZA Taraz 64.68 318 *eP* **P 19 03 08.4 -0.3**
IUG Iuzhnay 65.25 317 *eP* **P 19 03 12.0 -0.5**
IUG pmax pmax
comp=Z,75nm,1.3s
IUG Iuzhnay 65.25 317 *eP* **P 19 03 12.1 -0.5**
comp=Z,75nm,1.3s
SEY Seymchan 65.31 13 LR LR 19 31 33.9
comp=Z,1µm,20.7s,baz=202,slow=36
SEY Seymchan 65.31 13 *i* P **P 19 03 13.7 +1.4**
SEY pmax pmax
comp=Z,158nm,1.4s
KK31 Karatay Array 65.32 318 P **P 19 03 12.4 -0.4**
KK31 Karatay Array 65.32 318 *i* P **P 19 03 10.6 -2.2**
KKAR Karatay Array 65.32 318 P **P 19 03 12.4 -0.3**
KKAR Karatay Array 65.32 318 IAmb IAmb 19 03 20.6
comp=Z,55nm,1.1s
KKAR Karatay Array 65.32 318 P **P 19 03 12.5 -0.3**
SMY Shemya 65.51 30 P **P 19 03 17.0 +3.2**
CHM Chimkent 65.61 317 *eP* **P 19 03 14.2 -0.5**
CHM Chimkent 65.61 317 *eP* **P 19 03 14.2 -0.5**
BRLS Boroldoy 65.74 318*c* *iP* **P 19 03 14.8 -0.7**
BRLS Boroldoy 65.74 318⇑ *iP* **P 19 03 14.8 -0.7**
BRZS Berezniki 67.09 326*c* *iP* **P 19 03 23.5 -0.5**
BRZS Berezniki 67.09 326⇑ *iP* **P 19 03 23.6 -0.5**
AMKA Amchitka 67.48 33 P **P 19 03 26.6 +0.1**
CASY Casey 67.53 187 P **P 19 03 26.1 -0.4**
CASY IAmb IAmb 19 03 28.6
comp=Z,92nm,0.9s
CASY Casey 67.53 187 IAMs_20 IAMs_20 19 33 49.5
comp=Z,4µm,20.0s
CASY Casey 67.53 187 P **P 19 03 26.2 -0.3**
CASY PcP **PcP 19 03 55.6 +2.1**
DRV Dumont d'Urvil 67.69 174 P **P 19 03 26.9 -0.5**
DRV pP **pP 19 03 34.6 -2.1**
MHTO MHTO 69.61 292 P **P 19 03 40.3 0.0**
MHTO P **P 19 03 40.3 0.0**
KIWB Kanaga Island 69.65 34 IAmb IAmb 19 03 44.6
comp=Z,120nm,1.2s
BVA0 Borovoye Array 69.81 328 P **P 19 03 39.3 -1.6**
BVAR Borovoye Array 69.81 328 P **P 19 03 41.3 +0.3**
comp=Z,12nm,0.5s
BVAR LR LR 19 35 15.2
comp=Z,3µm,21.9s,baz=128,slow=37
comp=Z,12nm,0.5s
BIDO Bidbid 69.82 295 P **P 19 03 41.0 -0.6**
BIDO P **P 19 03 41.0 -0.6**
SMDO Samad 69.82 294 P **P 19 03 42.9 +1.1**
SMDO P **P 19 03 42.9 +1.1**
DQM DQM 69.87 291 P **P 19 03 42.6 +0.6**
BRVK Borovoye 69.88 328 P **P 19 03 41.6 +0.2**
BRVK Borovoye 69.88 328 P **P 19 03 41.6 +0.2**
BRVK pmax pmax
comp=Z,242nm,1.3s
BRVK MLR MLR
comp=Z,3µm,22.0s
BRVK Borovoye 69.88 328 P **P 19 03 41.4 0.0**
BRVK pP **pP 19 03 50.5 -0.2**
BRVK PcP **PcP 19 04 02.7 -1.0**
ADK Adak 69.92 34 P **P 19 03 44.8 +3.2**
JASK Jask - Hormozg 70.42 297 P **P 19 03 47.2 +1.9**
BSY Bisya 70.55 294 P **P 19 03 45.5 -0.7**
BSY P **P 19 03 45.5 -0.7**
HOQ Hoqain 70.57 295 P **P 19 03 45.6 -0.7**
HOQ P **P 19 03 45.6 -0.7**

TIXI **Tiksi** 71.10 1 P **P** 19 03 47.8 -0.7
TIXI IAmb IAmb 19 03 52.1
comp=Z,117nm,1.4s
TIXI Tiksi 71.10 1 *ce* P **P** 19 03 48.0 -0.4
TIXI pmax pmax
comp=Z,160nm,2.5s
ARQ Araqi 71.25 294 P **P** 19 03 49.7 -0.7
ARQ P **P** 19 03 49.7 -0.7
SOHO SOHO 71.35 295 P **P** 19 03 49.9 -1.0
SOHO P **P** 19 03 49.9 -1.0
SOHO SOHO 71.35 295 P **P** 19 03 49.2 -1.7
ATKA Atka Island 71.44 34 IAmb IAmb 19 03 58.4
comp=Z,119nm,0.8s
ATKA IAMs_20 IAMs_20 19 34 43.1
comp=Z,4µm,21.0s
ATKA Atka Island 71.44 34 P **P** 19 03 51.7 +0.8
MDH Madha 71.73 296 P **P** 19 03 54.0 +0.8
MDH Madha 71.73 296 P **P** 19 03 51.3 -1.9
UOSS Minazif 71.76 296 P **P** 19 03 53.4 -0.1
UOSS Minazif 71.76 296 P **P** 19 03 55.3 +1.8
UOSS P **P** 19 03 55.3 +1.8
UOSS Minazif 71.76 296 P **P** 19 03 51.0 -2.4
HATD Hatta, Dubai 71.81 296 P **P** 19 03 53.5 -0.3
HATD P **P** 19 03 53.5 -0.3
HATD Hatta, Dubai 71.81 296 *i* P **P** 19 03 52.8 -0.9
SNR=6.4
ASHO Ashiyiah 71.86 296 P **P** 19 03 55.7 +1.6
ASHO Ashiyiah 71.86 296 *i* P **P** 19 03 53.4 -0.6
SNR=12
MSFE Esma-Masafi 71.86 296 P **P** 19 03 53.3 -0.7
MASF Masafi 71.87 296 P **P** 19 03 56.2 +2.1
MASF P **P** 19 03 56.2 +2.1
SHME Shamm 71.98 297 P **P** 19 03 56.4 +1.7
SHME P **P** 19 03 56.4 +1.7
SHME Shamm 71.98 297 *i* P **P** 19 03 55.2 +0.5
SNR=12
RER Riviere de l'E 72.03 248 P **P** 19 03 54.8 -0.4
RER IAmb IAmb 19 04 01.1
comp=Z,72nm,1.0s
ALNE Al Ain 72.05 295 P **P** 19 03 55.1 0.0
SNR=14
ALNE P **P** 19 03 55.1 0.0
SNR=14
ALNE Al Ain 72.05 295 *i* P **P** 19 03 54.7 -0.4
SNR=24
NAZ Nazwa, Dubai 72.26 296 P **P** 19 03 57.6 +1.2
UMZA Um Al Zommool 72.42 294 P **P** 19 03 56.9 -0.5
UMZA P **P** 19 03 56.9 -0.5
ASUD Al Ashush, Dub 72.51 296 P **P** 19 03 58.3 +0.5
SNR=5.8
ASUD P **P** 19 03 58.3 +0.5
SNR=5.8
ASUD Al Ashush, Dub 72.51 296 *i* P **P** 19 03 58.0 +0.1
SNR=13
AJN Ajban 72.81 295 P **P** 19 03 59.5 -0.2
SNR=6.6
AJN P **P** 19 03 59.5 -0.2
SNR=6.6
AJN Ajban 72.81 295 P **P** 19 03 59.1 -0.6
BILL Bilibino 72.82 15 P **P** 19 03 59.2 +0.4
BILL IAmb IAmb 19 04 02.5
comp=Z,120nm,1.5s
BILL Bilibino 72.82 15 *ce* P **P** 19 03 59.3 +0.4
BILL pmax pmax
comp=Z,123nm,2.5s
DOK Doka 72.94 289 P **P** 19 03 59.9 -0.7
DOK P **P** 19 03 59.9 -0.7
WHFO Wadi Hawf 73.21 288 P **P** 19 04 02.1 -0.1
NRIK Noril'sk 73.48 347 IAmb IAmb 19 04 07.3
comp=Z,70nm,0.9s
NRIK Noril'sk 73.48 347 P **P** 19 04 02.6 -0.1
comp=Z,34nm,0.7s,baz=141,slow=6.2,SNR=28
NRIK LR LR 19 38 26.3
comp=Z,4µm,21.5s,baz=142,slow=38
comp=Z,34nm,0.7s
NRIK Noril'sk 73.48 347 *i* P **P** 19 04 02.2 -0.5
NRIK pmax pmax
comp=Z,85nm,0.9s
ABTO Aybut 73.61 288 P **P** 19 04 04.1 -0.6
MZR Muzera 73.99 294 P **P** 19 04 06.6 -0.1
SNR=8.6
MZR P **P** 19 04 06.6 -0.1
SNR=8.6
MZR Muzera 73.99 294 *i* P **P** 19 04 06.5 -0.1
SNR=24
AB31 Akbulak array 74.39 321 *i* P **P** 19 04 07.5 -0.9
ABKAR Akbulak array 74.39 321 P **P** 19 04 08.0 -0.4
GHWR Ruwais 74.65 295 P **P** 19 04 10.5 +0.1
NIKH Nikolski High 74.75 35 IAmb IAmb 19 04 17.9
comp=Z,128nm,0.8s
NIKH Nikolski High 74.75 35 P **P** 19 04 10.4 -0.1
baz=250
JRN Qarnain Island 74.78 296 P **P** 19 04 11.0 -0.2
JRN P **P** 19 04 11.0 -0.2
SPIA Saint Paul Isl 75.54 30 P **P** 19 04 18.3 +3.4
SPIA Saint Paul Isl 75.54 30 P **P** 19 04 16.2 +1.3
baz=248
P08K Saint George I 75.68 31 IAMs_20 IAMs_20 19 37 11.9
comp=Z,3µm,22.0s
P08K Saint George I 75.68 31 P **P** 19 04 16.8 +1.1
baz=248
SLWR Sila 75.74 295 P **P** 19 04 17.1 +0.4
SLWR P **P** 19 04 17.1 +0.4
AKTO Aktyubinsk 75.93 322 LR LR 19 39 33.6
comp=Z,4µm,21.7s,baz=102,slow=37
AKTO Aktyubinsk 75.93 322 P **P** 19 04 15.6 -1.7
TRNA Turayna 76.24 295 P **P** 19 04 19.8 +0.3
XMAS Kiritimati 76.28 88 IAMs_20 IAMs_20 19 37 13.2
comp=Z,6µm,22.0s
UNV Unalaska Valle 76.37 34 IAmb IAmb 19 04 28.1
comp=Z,110nm,0.9s
UNV Unalaska Valle 76.37 34 P **P** 19 04 22.3 +2.6
UNV Unalaska Valle 76.37 34 P **P** 19 04 19.7 +0.1
baz=252
SVE Sverdlovsk 76.50 329 *de* P **P** 19 04 19.9 -0.5
SVE *e* S **S** 19 14 06.7 +2.9
SVE pmax pmax
comp=Z,331nm,1.8s
SHMA Al-Shehemyia 76.58 296 P **P** 19 04 23.5 +2.0
SMRA Abu-Samra 76.59 295 P **P** 19 04 21.7 +0.1
SNR=7.7
LVA Lava Point 76.73 34 IAMs_20 IAMs_20 19 39 58.0
comp=Z,3µm,22.0s
SBV Sambava 76.83 256 P **P** 19 04 27.1 +4.1
AKUT Akutan 76.87 34 P **P** 19 04 24.7 +2.2
ARTI Arti 77.53 328 P **P** 19 04 24.9 -1.3
ARTI IAmb IAmb 19 04 29.6
comp=Z,121nm,1.2s
ARTI Arti 77.53 328 LR LR 19 41 46.1
comp=Z,2µm,20.0s,baz=107,slow=38
ARTI Arti 77.53 328 *c i* P **P** 19 04 25.1 -1.1
ARTI 19 07 21.7
ARTI PPP PPP 19 09 07.4
ARTI S **S** **19 14 15.7 +0.6**
ARTI SS **SS** **19 19 08.3 -6.3**
ARTI pmax pmax
comp=Z,112nm,1.2s
ARTI MLR MLR
comp=Z,2µm,22.0s
GAMB Gambell 77.56 24 IAmb IAmb 19 04 31.6
comp=Z,101nm,0.9s
GAMB Gambell 77.56 24 P **P** **19 04 27.0 +0.8**
baz=245,SNR=15
GAMB S **S** **19 14 18.5 +3.5**
baz=245
M11K Mekoryuk 78.66 28 IAmb IAmb 19 04 37.5
comp=Z,115nm,1.2s
M11K Mekoryuk 78.66 28 P **P** **19 04 33.6 +1.2**
baz=250
M11K S **S** **19 14 31.7 +4.7**
baz=250
S12K Black Hills 79.37 33 IAmb IAmb 19 04 40.6
comp=Z,84nm,1.1s
S12K Black Hills 79.37 33 P **P** **19 04 36.1 -0.3**
baz=255,SNR=7.5
S12K S **S** **19 14 37.3 +2.4**
baz=255
TNA Tin City 79.77 23 IAmb IAmb 19 04 42.9
comp=Z,156nm,1.7s
TNA Tin City 79.77 23 P **P** **19 04 38.9 +0.6**
baz=248
TNA S **S** **19 14 41.7 +3.1**
baz=248
ABPO Ambohimpanom 79.78 251 P **P** **19 04 38.9 -0.7**
ABPO Ambohimpanom 79.78 251 P **P** **19 04 38.9 -0.7**
ABPO pmax pmax
comp=Z,25nm,1.0s
KBD Kabd 79.80 299 P **P** **19 04 39.7 +0.4**
K13K Kusilvak Mount 79.87 27 IAmb IAmb 19 04 44.6
comp=Z,130nm,0.9s
K13K IAMs_20 IAMs_20 19 41 56.9
comp=Z,3µm,20.0s
K13K Kusilvak Mount 79.87 27 P **P** **19 04 40.2 +1.2**
baz=252,SNR=102
K13K S **S** **19 14 44.0 +4.1**
baz=252
M13K Dall Lake 80.01 28 IAmb IAmb 19 04 45.5
comp=Z,117nm,0.9s
M13K Dall Lake 80.01 28 P **P** **19 04 41.2 +1.5**
baz=253,SNR=52
M13K S **S** **19 14 44.8 +3.4**
baz=253
SDPT Sand Point 80.15 34 P **P** **19 04 43.3 +2.7**
SDPT Sand Point 80.15 34 P **P** **19 04 40.7 +0.1**
baz=256,SNR=44
SDPT S **S** **19 14 45.2 +2.1**
baz=256
VNDA Vanda 80.26 173 P **P** **19 04 40.7 -0.1**
VNDA Vanda 80.26 173 P **P** **19 04 40.2 -0.5**
comp=Z,21nm,0.8s,baz=317,slow=6.1,SNR=34
comp=Z,21nm,0.8s
F14K Arctic Creek 80.36 23 P **P** **19 04 42.9 +1.4**
baz=249,SNR=19
F14K S **S** **19 14 49.3 +4.5**
baz=249
VOI Vohitsoka 80.40 248 P **P** **19 04 41.1 -1.7**
VOI IAMs_20 IAMs_20 19 44 42.6
comp=Z,3µm,19.0s
VOI Vohitsoka 80.40 248 P **P** **19 04 43.4 +0.5**
ANM Nome 80.42 24 P **P** **19 04 42.9 +1.0**
baz=250,SNR=7.9
ANM S **S** **19 14 50.2 +4.5**
baz=250
CNBA Chernabura Isl 80.53 34 IAmb IAmb 19 04 46.4
comp=Z,98nm,1.1s
CHNA Chernabura Isl 80.53 34 P **P** **19 04 45.1 +2.5**
CHNA Chernabura Isl 80.53 34 P **P** **19 04 42.8 +0.1**
baz=257,SNR=6.9
CHNA S **S** **19 14 51.2 +4.1**
baz=257
MAW Mawson 80.54 200 P **P** **19 04 42.2 -0.2**
comp=Z,50nm,0.9s,baz=65,slow=6.4,SNR=60
MAW LR LR 19 38 25.7
comp=Z,2µm,21.3s,baz=60,slow=34
comp=Z,50nm,0.9s
L14K Kuka Creek 80.59 28 IAmb IAmb 19 04 48.5
comp=Z,209nm,1.1s
L14K Kuka Creek 80.59 28 P **P** **19 04 44.2 +1.4**
baz=253,SNR=184
L14K S **S** **19 14 52.1 +4.6**
baz=253
J14K Nanvaranak Lak 80.61 26 IAmb IAmb 19 04 48.0
comp=Z,343nm,1.8s
J14K IAMs_20 IAMs_20 19 42 02.5
comp=Z,3µm,20.0s
J14K Nanvaranak Lak 80.61 26 P **P** **19 04 44.3 +1.4**
baz=252,SNR=46
J14K S **S** **19 14 52.9 +5.3**
baz=252
N14K Kuskokwak Cree 80.67 29 IAmb IAmb 19 04 48.5
comp=Z,170nm,1.0s
N14K IAMs_20 IAMs_20 19 41 56.2
comp=Z,3µm,21.0s
N14K Kuskokwak Cree 80.67 29 P **P** **19 04 44.3 +1.1**
baz=254,SNR=44
N14K S **S** **19 14 51.3 +2.9**
baz=254
O14K Tigyukauivet M 80.70 30 IAmb IAmb 19 04 48.6
comp=Z,144nm,1.1s
O14K Tigyukauivet M 80.70 30 P **P** **19 04 44.2 +0.8**
baz=255,SNR=59
O14K S **S** **19 14 51.4 +2.7**
baz=255
M14K Bethel 80.77 28 P **P** **19 04 45.0 +1.3**
baz=254
M14K S **S** **19 14 52.0 +2.7**
baz=254
S14K Fog Glacier 80.88 33 P **P** **19 04 45.1 +0.5**
baz=257,SNR=36
S14K S **S** **19 14 52.8 +1.9**
baz=257
F15K North Star Dit 81.09 23 P **P** **19 04 46.8 +1.4**
baz=251,SNR=37
F15K S **S** **19 14 56.0 +3.4**
baz=251
G15K Niukluk 81.10 24 P **P** **19 04 46.3 +0.8**
baz=252,SNR=24
G15K S **S** **19 14 54.8 +2.1**
baz=252
AKT Akhty 81.11 312 *e* P **P** **19 04 46.2 0.0**
AKT *e* 19 07 48.5
AKT *e* S **S** **19 14 51.2 -2.8**
AKT pmax pmax
comp=Z,112nm,0.9s
SBA Scott Base 81.18 172 P **P** **19 04 46.4 +0.7**
SBA IAmb IAmb 19 05 26.1
comp=Z,140nm,1.6s
SBA Scott Base 81.18 172 P **P** **19 04 46.4 +0.7**
SBA pmax pmax
comp=Z,140nm,1.6s
L15K Ungalak Mounta 81.24 27 P **P** **19 04 47.3 +1.0**
baz=254
L15K S **S** **19 14 55.5 +1.3**
baz=254
RAYN Ar Rayn 81.34 294 P **P** **19 04 47.6 -0.2**
RAYN IAmb IAmb 19 04 50.2
comp=Z,103nm,0.8s
RAYN Ar Rayn 81.34 294 IAMs_20 IAMs_20 19 47 56.0
comp=Z,5µm,20.0s
RAYN Ar Rayn 81.34 294 P **P** **19 04 48.0 +0.2**
RAYN Ar Rayn 81.34 294 P **P** **19 04 47.4 -0.3**
RAYN Ar Rayn 81.34 294 *i* P **P** **19 04 47.6 -0.2**
SNR=20
M15K Kasigluk River 81.35 28 P **P** **19 04 47.6 +0.7**
baz=255,SNR=79
M15K S **S** **19 14 58.1 +2.6**
baz=255
K15K Wolf Creek Mou 81.38 27 IAMs_20 IAMs_20 19 45 23.8
comp=Z,3µm,21.0s
K15K Wolf Creek Mou 81.38 27 P **P** **19 04 48.7 +1.6**
baz=254,SNR=100
K15K S **S** **19 14 59.5 +3.7**
baz=254
O15K Ungalikthiuk R 81.40 30 IAmb IAmb 19 04 52.4
comp=Z,157nm,1.3s
O15K IAMs_20 IAMs_20 19 40 30.5
comp=Z,3µm,21.0s
O15K Ungalikthiuk R 81.40 30 P **P** **19 04 48.0 +0.8**
baz=256,SNR=43
O15K S **S** **19 14 57.6 +1.5**
baz=256
MAK Makhachkala 81.46 313 *e* P **P** **19 04 45.9 -2.0**
MAK *e* 19 07 51.5
MAK *e* PPP PPP 19 09 43.8
MAK *e* S **S** **19 14 55.1 -2.2**
MAK *e* SS **SS** **19 20 15.5 +1.3**
MAK *e* SSS SSS 19 23 43.7
MAK pmax pmax
comp=Z,267nm,1.5s
CHGN Chignik 81.50 33 IAmb IAmb 19 04 53.8
comp=Z,125nm,0.9s
CHGN IAMs_20 IAMs_20 19 38 55.2
comp=Z,3µm,21.0s
CHGN Chignik 81.50 33 P **P** **19 04 48.0 +0.2**
baz=258,SNR=15
N15K Kwethluk River 81.51 29 IAmb IAmb 19 04 53.2
comp=Z,133nm,1.0s
N15K IAMs_20 IAMs_20 19 42 32.3
comp=Z,4µm,21.0s
N15K Kwethluk River 81.51 29 P **P** **19 04 49.0 +1.2**
baz=256,SNR=96
N15K S **S** **19 14 59.6 +2.5**
baz=256
C16K Lisburne Hills 81.69 20 P **P** **19 04 50.0 +1.4**
baz=250,SNR=48
C16K S **S** **19 15 01.9 +3.2**
baz=250
H16K Elim 81.73 24 P **P** **19 04 50.1 +1.3**
baz=253,SNR=36
H16K S **SKSac** **19 15 03.5 -2.6**
baz=253
G16K Koyuk River 81.90 24 IAmb IAmb 19 04 55.5
comp=Z,298nm,1.5s
G16K Koyuk River 81.90 24 P **P** **19 04 51.1 +1.3**
baz=253,SNR=45
G16K S **SKSac** **19 15 06.2 -1.1**
baz=253
J16K Anvik River 82.06 26 IAMs_20 IAMs_20 19 42 57.6
comp=Z,3µm,20.0s
J16K Anvik River 82.06 26 P **P** **19 04 52.3 +1.7**
baz=255,SNR=127
J16K S **SKSac** **19 15 07.5 -1.0**
baz=255
I17K Unalakleet 82.17 25 P **P** **19 04 52.8 +1.6**
baz=255
I17K S **SKSac** **19 15 09.1 -0.1**
baz=255
L16K Owhat River 82.17 28 P **P** **19 04 52.7 +1.5**
baz=256
L16K S **SKSac** **19 15 07.1 -2.2**
baz=256
N16K Nishlik Lake 82.22 29 P **P** **19 04 53.0 +1.5**
baz=257,SNR=92
N16K S **SKSac** **19 15 08.8 -0.9**
baz=257
M16K Timber Creek 82.25 28 IAMs_20 IAMs_20 19 42 58.9
comp=Z,4µm,21.0s
M16K Timber Creek 82.25 28 P **P** **19 04 52.7 +1.0**
baz=257,SNR=90
M16K S **SKSac** **19 15 08.7 -1.2**
baz=257
P16K Nushagak River 82.29 30 P **P** **19 04 53.2 +1.3**
baz=258
P16K S **SKSac** **19 15 09.9 -0.2**
baz=258
D17K Noatak River 82.31 21 P **P** **19 04 53.9 +2.1**
baz=252
D17K S **SKSac** **19 15 09.3 -0.7**
baz=252
O16K Kokwok River B 82.36 30 IAmb IAmb 19 04 57.5
comp=Z,105nm,1.0s
O16K Kokwok River B 82.36 30 P **P** **19 04 53.3 +1.1**
baz=258,SNR=81
O16K S **SKSac** **19 15 10.5 -0.1**
baz=258
RDOG Red Dog Mine 82.48 21 P **P** **19 04 54.3 +1.6**
baz=252,SNR=26
C17K DeLong Mountai 82.52 21 P **P** **19 04 54.4 +1.4**
baz=252,SNR=141
C17K S **SKSac** **19 15 11.4 0.0**
baz=252
E17K Hotham Inlet 82.59 22 P **P** **19 04 55.2 +1.9**
baz=253
E17K S **SKSac** **19 15 12.5 +0.6**
baz=253
G17K Kiwalik Mounta 82.62 24 P **P** **19 04 55.4 +1.9**
baz=255,SNR=199
G17K S **SKSac** **19 15 11.9 -0.3**
baz=255
F17K Baldwin Pennin 82.63 23 IAmb IAmb 19 04 59.5
comp=Z,166nm,1.0s
F17K Baldwin Pennin 82.63 23 P **P** **19 04 55.2 +1.7**
baz=254,SNR=69
F17K S **SKSac** **19 15 12.7 +0.6**
baz=254
BELG Belogornoye 82.70 323 P **P** **19 04 53.5 -0.6**
comp=Z,233nm,0.9s,baz=114,slow=4.7,SNR=38
comp=Z,233nm,0.9s
BELG Belogornoye 82.70 323 *i* P **P** **19 04 53.0 -1.2**
BELG pmax pmax
comp=Z,48nm,1.0s
J17K VABM Dome 82.75 26 IAMs_20 IAMs_20 19 43 38.0
comp=Z,3µm,20.0s
J17K VABM Dome 82.75 26 P **P** **19 04 55.8 +1.6**
baz=256,SNR=144
J17K S **SKSac** **19 15 14.3 +1.2**
baz=256
KIRV Kirov 82.77 329 LR LR 19 45 40.6
comp=Z,2µm,19.9s,baz=101,slow=39
KIRV Kirov 82.77 329 *i* P **P** **19 04 53.6 -0.7**
H17K Granite Mounta 82.77 24 P **P** **19 04 55.7 +1.4**
baz=255,SNR=158
H17K S **SKSac** **19 15 13.6 +0.5**
baz=255
L17K Donlin 82.81 27 P **P** **19 04 56.3 +1.8**
baz=257,SNR=170
L17K S **S** **19 15 16.1 +5.6**
baz=257
R17L Mt. Peulik Vol 82.86 32 P **P** **19 04 54.9 0.0**
baz=260,SNR=32
R17L S **SKSac** **19 15 13.3 -0.8**
baz=260
PLK4 Peulik 4 82.86 32 IAmb IAmb 19 04 59.2
comp=Z,155nm,0.9s
PLK4 IAMs_20 IAMs_20 19 39 38.2
comp=Z,3µm,21.0s
O17K Koliganek Bris 82.89 30 P **P** **19 04 55.9 +0.9**
baz=259
O17K S **SKSac** **19 15 14.5 +0.4**
baz=259
K17K Iditarod 82.94 27 P **P** **19 04 56.8 +1.5**
baz=257,SNR=240
K17K S **SKSac** **19 15 15.7 +1.4**
baz=257
N17K Nushagak Hills 83.00 29 IAMs_20 IAMs_20 19 43 18.6
comp=Z,3µm,21.0s
N17K Nushagak Hills 83.00 29 P **P** **19 04 57.1 +1.5**
baz=258,SNR=88
N17K S **SKSac** **19 15 17.0 +2.2**
baz=258
M17K Holitna River 83.06 28 P **P** **19 04 57.7 +1.8**
baz=258,SNR=124
M17K S **S** **19 15 17.6 +4.6**
baz=258
P17K Kvichak River 83.11 30 P **P** **19 04 56.7 +0.6**
baz=259
P17K S **SKSac** **19 15 17.1 +1.5**
baz=259
E18K Tukpahlearik C 83.15 22 P **P** **19 04 57.7 +1.6**
baz=254,SNR=231
E18K S **SKSac** **19 15 17.3 +1.8**
baz=254
GNI Garni 83.22 310 P **P** **19 04 57.5 +0.1**
GNI IAmb IAmb 19 05 28.8
comp=Z,140nm,1.1s
GNI Garni 83.22 310 P **P** **19 04 59.0 +1.6**
GNI P **P** **19 04 59.0 +1.6**
GNI Garni 83.22 310 *ce* P **P** **19 04 57.3 -0.1**
GNI pmax pmax
comp=Z,213nm,2.5s
GNI Garni 83.22 310 P **P** **19 04 58.0 +0.6**
GNI Garni 83.22 310 P **P** **19 04 57.1 -0.3**
comp=Z,2µmcomp=Z,112nm,1.0s
Q17K Contact Creek 83.22 31 P **P** **19 04 56.5 -0.4**
baz=260,SNR=58
B18K Kokolik River 83.26 20 P **P** **19 04 58.5 +1.8**
baz=253,SNR=156
B18K S **SKSac** **19 15 17.7 +1.4**
baz=253
C18K Utukok River 83.27 21 P **P** **19 04 58.0 +1.1**
baz=254,SNR=181
C18K S **S** **19 15 19.7 +4.7**
baz=254
ATD Arta Tunnel 83.46 281 P **P** **19 05 01.5 +2.6**
SNR=6.0
H18K Honhosa River 83.46 24 P **P** **19 04 59.0 +1.1**
baz=257,SNR=146
H18K S **S** **19 15 20.9 +3.9**
baz=257
ACHA Angle Creek He 83.51 31 IAMs_20 IAMs_20 19 40 30.2
comp=Z,3µm,21.0s
G18K Tagagawik 83.52 24 P **P** **19 04 59.0 +0.9**
baz=256,SNR=109
G18K S **S** **19 15 21.9 +4.4**
baz=256
L18K Granite Mounta 83.57 27 IAMs_20 IAMs_20 19 42 05.6
comp=Z,3µm,21.0s
L18K Granite Mounta 83.57 27 P **P** **19 04 59.9 +1.4**
baz=259,SNR=208
L18K S **S** **19 15 22.9 +4.8**
baz=259
N18K Kilae Creek 83.66 29 IAMs_20 IAMs_20 19 43 38.0
comp=Z,3µm,21.0s
N18K Kilae Creek 83.66 29 P **P** **19 05 00.5 +1.5**
baz=260,SNR=87
N18K S **S** **19 15 23.3 +4.2**
baz=260
OZAP Van, Ozalp-Mer 83.67 309 ⇓P **P** **19 05 01.4 +1.6**
A19K Wainwright 83.75 19 P **P** **19 05 00.9 +1.7**
baz=254,SNR=91

A19K S **S** **19 15 22.6 +3.1**
baz=254
Q18K **Katmai Hardscr** **83.75 31** P **P** **19 04 59.1 -0.5**
baz=261,SNR=63
Q18K S **S** **19 15 20.3 +0.1**
baz=261
P18K **Big Mountain,** **83.76 30** IAMs_20 IAMs_20 19 41 52.7
comp=Z,3µm,22.0s
P18K **Big Mountain,** **83.76 30** P **P** **19 04 59.5 0.0**
baz=260,SNR=39
P18K S **SKSac** **19 15 20.6 +0.7**
baz=260
J18K **Innoko River** **83.80 26** IAMs_20 IAMs_20 19 44 08.8
comp=Z,3µm,20.0s
J18K **Innoko River** **83.80 26** P **P** **19 05 00.6 +0.9**
baz=258,SNR=198
J18K S **S** **19 15 23.6 +3.1**
baz=258
M18K **Stony River** **83.83 28** P **P** **19 05 01.1 +1.2**
baz=260,SNR=156
M18K S **S** **19 15 24.2 +3.5**
baz=260
O18K **Koktuh Hills** **83.84 30** P **P** **19 05 00.6 +0.6**
baz=260,SNR=58
O18K S **S** **19 15 22.8 +1.8**
baz=260
R18K **Karluk** **83.86 32** P **P** **19 04 59.9 -0.2**
baz=261
R18K S **S** **19 15 23.9 +2.7**
baz=261
C19K **Lookout Ridge** **83.95 20** IAMs_20 IAMs_20 19 44 50.5
comp=Z,3µm,21.0s
C19K **Lookout Ridge** **83.95 20** P **P** **19 05 02.0 +1.7**
baz=255,SNR=284
C19K S **S** **19 15 25.1 +3.3**
baz=255
GCSA **Galena City Sc** **83.99 25** P **P** **19 05 01.3 +0.8**
baz=258,SNR=56
GCSA S **S** **19 15 25.1 +2.9**
baz=258
F19K **Shaleruckik Mo** **84.08 23** P **P** **19 05 01.7 +0.8**
baz=257,SNR=96
F19K S **S** **19 15 25.5 +2.5**
baz=257
G19K **Purcell Mounta** **84.19 23** P **P** **19 05 02.8 +1.2**
baz=258,SNR=144
G19K S **S** **19 15 27.3 +3.1**
baz=258
D19K **Kuna River** **84.32 21** IAMs_20 IAMs_20 19 45 38.4
comp=Z,3µm,20.0s
D19K **Kuna River** **84.32 21** P **P** **19 05 03.5 +1.2**
baz=257
D19K S **S** **19 15 27.3 +1.7**
baz=257
H19K **Roundabout Mou** **84.33 24** P **P** **19 05 03.3 +1.0**
baz=259,SNR=134
H19K S **S** **19 15 28.7 +3.2**
baz=259
O19K **Port Alsworth** **84.34 30** P **P** **19 05 02.5 +0.1**
baz=261,SNR=9.6
O19K S **S** **19 15 27.1 +1.2**
baz=261
N19K **Bonanza Creek** **84.36 29** P **P** **19 05 03.8 +1.2**
baz=261,SNR=185
N19K S **S** **19 15 30.9 +4.5**
baz=261
J19K **Poorman** **84.38 26** IAMs_20 IAMs_20 19 44 49.1
comp=Z,3µm,20.0s
J19K **Poorman** **84.38 26** P **P** **19 05 03.7 +1.1**
baz=260,SNR=103
J19K S **S** **19 15 30.7 +4.5**
baz=260
L19K **White Mountain** **84.41 28** P **P** **19 05 03.8 +1.0**
baz=260,SNR=189
L19K S **S** **19 15 29.4 +2.8**
baz=260
E19K **Redstone River** **84.42 22** P **P** **19 05 04.0 +1.3**
baz=258,SNR=150
E19K S **S** **19 15 28.7 +2.2**
baz=258
OHAK **Old Harbor** **84.44 33** IAMs_20 IAMs_20 19 40 50.9
comp=Z,3µm,20.0s
OHAK **Old Harbor** **84.44 33** P **P** **19 05 06.5 +3.5**
OHAK **Old Harbor** **84.44 33** P **P** **19 05 03.6 +0.6**
baz=262,SNR=40
Q19K **Cape Douglas,** **84.49 31** IAMs_20 IAMs_20 19 41 35.1
comp=Z,4µm,22.0s
Q19K **Cape Douglas,** **84.49 31** P **P** **19 05 02.8 -0.5**
baz=262,SNR=34
Q19K S **S** **19 15 29.3 +1.7**
baz=262
PAE **Paea** **84.57 108** *e*S **S** **19 15 30.8 +1.0**
comp=Z,425nm,28.4s
PAE *e*SS **SS** **19 20 58.7 -2.7**
comp=Z,526nm,27.0s
PAE **Paea** **84.57 108** *e*LR LR 19 31 31.1
comp=Z,584nm,22.0s
PPT **Papeete** **84.57 108** LR LR 19 41 48.6
comp=Z,2µm,19.3s,baz=272,slow=35
PPT2 **Papeete2** **84.57 108** *e*PKIKP **P** **19 05 03.3 -1.3**
comp=Z,725nm,28.8s
PPT2 **Papeete2** **84.57 108** *e*PP **PP** **19 08 15.1 -5.4**
comp=Z,289nm,26.0s
PPT2 *e*S **SKSac** **19 15 25.1 -1.8**
comp=Z,1µm,25.5s
PPT2 *e*SS **SS** **19 20 55.9 -5.7**
comp=Z,3µm,31.8s
PPT2 *e*LQ LQ 19 28 07.4
comp=Z,3µm,27.5s
PPT2 *e*LR LR 19 31 43.9
M19K **Big River Lodg** **84.58 28** IAMs_20 IAMs_20 19 42 44.3
comp=Z,3µm,20.0s
M19K **Big River Lodg** **84.58 28** P **P** **19 05 04.9 +1.2**
baz=261
M19K S **S** **19 15 30.0 +1.7**
baz=261
P19K **Oil Pt** **84.80 30** IAmb IAmb 19 05 09.1
comp=Z,84nm,0.9s
P19K IAMs_20 IAMs_20 19 42 01.4
comp=Z,3µm,22.0s
P19K **Oil Pt** **84.80 30** P **P** **19 05 04.9 +0.1**
baz=262,SNR=19
P19K S **S** **19 15 30.1 -0.5**
baz=262
GOF **Gofitskoye** **84.88 315** *i* P **P** **19 05 05.6 +0.1**
KBZ **Khabaz** **84.88 314** P **P** **19 05 05.6 +0.1**
comp=Z,47nm,0.9s,baz=90,slow=4.5,SNR=64
KBZ LR LR 19 48 21.4
comp=Z,1µm,19.0s,baz=82,slow=40
comp=Z,47nm,0.9s
KBZ **Khabaz** **84.88 314** *i* P **P** **19 05 05.2 -0.3**
KBZ pmax pmax
comp=Z,305nm,2.5s
TVO **Taravao** **84.89 108** *e*S **S** **19 15 35.4 +2.3**
comp=Z,1µm,30.2s
TVO **Taravao** **84.89 108** *e*LR LR 19 31 50.0
comp=Z,597nm,21.8s
KDAK **Kodiak Island** **84.89 32** P **P** **19 05 06.0 +0.7**
KDAK **Kodiak Island** **84.89 32** IAMs_20 IAMs_20 19 40 53.8
comp=Z,4µm,22.0s
KDAK **Kodiak Island** **84.89 32** P **P** **19 05 06.0 +0.7**
comp=Z,101nm,0.8s,baz=237,slow=3.9,SNR=49
KDAK LR LR 19 38 26.2
comp=Z,3µm,21.8s,baz=247,slow=32
comp=Z,101nm,0.8s
KDAK **Kodiak Island** **84.89 32** *i* P **P** **19 05 03.2 -2.0**
KDAK pmax pmax
comp=Z,380nm,1.3s
KDAK **Kodiak Island** **84.89 32** P **P** **19 05 06.2 +0.9**
baz=263
KDAK S **S** **19 15 33.5 +2.1**
baz=263
ILSW **Iliamna Southw** **84.89 30** IAmb IAmb 19 05 08.9
comp=Z,161nm,1.4s
L20K **Farewell, AK** **84.90 27** P **P** **19 05 06.2 +0.9**
baz=261,SNR=38
L20K S **S** **19 15 32.4 +0.8**
baz=261
D20K **Etivluk River** **84.91 21** P **P** **19 05 06.4 +1.2**
baz=258
D20K S **S** **19 15 31.9 +0.6**
baz=258
F20K **Avaraart Lake** **84.91 23** IAmb IAmb 19 05 10.9
comp=Z,181nm,1.6s
F20K **Avaraart Lake** **84.91 23** P **P** **19 05 06.2 +1.1**
baz=259,SNR=100
F20K S **S** **19 15 32.2 +0.9**
baz=259

TBI **Tubuai** **84.92 113** *e*P **P** **19 05 04.7 -1.4**
comp=Z,2µm,29.0s
TBI **Tubuai** **84.92 113** *e*S **S** **19 15 32.1 -1.0**
comp=Z,6µm,27.8s
TBI *e*SS SS 19 20 55.4 -11
comp=Z,11µm,36.5s
TBI *e*LQ LQ 19 28 15.7
comp=Z,7µm,39.5s
TBI *e*LR LR 19 31 46.7
comp=Z,12µm,26.5s
TBI *e*LR LR 19 31 48.9
comp=Z,3µm,23.8s
K20K **Telida** **84.95 26** P **P** **19 05 06.6 +1.1**
baz=261,SNR=42
K20K S **S** **19 15 34.1 +2.1**
baz=261
H20K **Anotleneega Mo** **84.96 24** P **P** **19 05 06.3 +0.8**
baz=260,SNR=72
H20K S **S** **19 15 33.2 +1.2**
baz=260
E20K **Nigu River** **84.97 21** P **P** **19 05 06.5 +0.9**
baz=258,SNR=222
E20K S **S** **19 15 32.7 +0.7**
baz=258
B20K **Meade River** **84.99 20** IAmb IAmb 19 05 23.6
comp=Z,92nm,1.1s
B20K **Meade River** **84.99 20** P **P** **19 05 06.8 +1.3**
baz=258,SNR=57
B20K S **S** **19 15 32.8 +0.8**
baz=258
I20K **Naaghedeneel** **85.01 25** IAMs_20 IAMs_20 19 45 32.7
comp=Z,2µm,20.0s
I20K **Naaghedeneel** **85.01 25** P **P** **19 05 06.9 +1.2**
baz=260,SNR=16
I20K S **S** **19 15 34.6 +2.3**
baz=260
KIV **Kislovodsk** **85.05 314** P **P** **19 05 06.2 -0.4**
KIV IAmb IAmb 19 05 25.6
comp=Z,84nm,1.1s
KIV **Kislovodsk** **85.05 314** P **P** **19 05 07.2 +0.6**
KIV P **P** **19 05 07.2 +0.6**
KIV **Kislovodsk** **85.05 314** ⇑P **P** **19 05 07.6 +1.0**
KIV **Kislovodsk** **85.05 314** *e*P **P** **19 05 06.0 -0.5**
KIV *e* 19 08 23.3
KIV *e*PPP PPP 19 10 14.9
KIV *e*SS SS 19 21 07.4 -0.2
KIV pmax pmax
comp=Z,27nm,1.0s
KIV **Kislovodsk** **85.05 314** *i* P **P** **19 05 06.8 +0.3**
SNR=70
KIV **Kislovodsk** **85.05 314** P **P** **19 05 07.1 +0.6**
comp=Z,2µmcomp=Z,65nm,1.3s
J20K **Nowinta River** **85.05 26** IAmb IAmb 19 05 26.7
comp=Z,212nm,1.9s
J20K IAMs_20 IAMs_20 19 44 50.8
comp=Z,3µm,19.0s
J20K **Nowinta River** **85.05 26** P **P** **19 05 07.1 +1.2**
baz=261,SNR=31
J20K S **S** **19 15 34.6 +1.7**
baz=261
SHA1 **Shidzhatmaz** **85.06 314** *i* P **P** **19 05 06.5 -0.2**
Q20K **Shuyak Island** **85.09 31** P **P** **19 05 06.5 +0.3**
baz=263,SNR=9.9
Q20K S **S** **19 15 35.5 +2.1**
baz=263
SYI **Shuyak Island** **85.09 31** IAMs_20 IAMs_20 19 40 37.1
comp=Z,3µm,21.0s
M20K **Styx River** **85.16 28** IAmb IAmb 19 05 12.2
comp=Z,181nm,1.4s
M20K IAMs_20 IAMs_20 19 44 39.9
comp=Z,3µm,21.0s
M20K **Styx River** **85.16 28** P **P** **19 05 07.6 +0.9**
baz=262
M20K S **S** **19 15 38.3 +4.1**
baz=262
O20K **Slope Mountain** **85.17 30** P **P** **19 05 06.2 -0.5**
baz=262,SNR=9.0
HOMI **Horasan** **85.38 310** ⇑P **P** **19 05 09.6 +1.2**
A21K **Barrow** **85.45 18** P **P** **19 05 09.1 +1.4**
baz=258,SNR=9.3
A21K S **S** **19 15 39.1 +2.6**
baz=258
IMAR **Indian Mountai** **85.50 24** P **P** **19 05 07.2 -0.9**
N20K **Mount Spurr** **85.51 29** P **P** **19 05 08.2 -0.2**
baz=263
SPCR **Spurr Chakacha** **85.51 29** P **P** **19 05 08.4 0.0**
baz=263,SNR=6.1
SPU **Mount Spurr** **85.58 29** IAmb IAmb 19 05 12.6
comp=Z,142nm,1.6s
HOM **Homer** **85.60 30** IAMs_20 IAMs_20 19 42 24.4
comp=Z,3µm,22.0s
HOM **Homer** **85.60 30** P **P** **19 05 08.8 0.0**
baz=263
C21K **Knifeblade Rid** **85.64 21** P **P** **19 05 09.8 +1.0**
baz=260,SNR=39
C21K S **S** **19 15 41.2 +2.7**
baz=260
G21K **Allakaket** **85.68 23** IAmb IAmb 19 05 13.4
comp=Z,127nm,1.8s
G21K **Allakaket** **85.68 23** P **P** **19 05 09.8 +0.7**
baz=261
G21K S **S** **19 15 43.2 +4.1**
baz=261
PPLA **Purkeypile** **85.73 27** IAmb IAmb 19 05 13.2
comp=Z,201nm,1.9s
PPLA **Purkeypile** **85.73 27** P **P** **19 05 09.5 -0.1**
baz=263,SNR=14
PPLA S **S** **19 15 41.4 +1.5**
baz=263
B21K **Ikpikpuk River** **85.78 20** IAmb IAmb 19 05 16.7
comp=Z,238nm,1.9s
B21K IAMs_20 IAMs_20 19 46 41.0
comp=Z,4µm,21.0s
B21K **Ikpikpuk River** **85.78 20** P **P** **19 05 10.1 +0.6**
baz=260,SNR=61
B21K S **S** **19 15 41.7 +1.9**
baz=260
CNPM **China Poot** **85.80 30** IAMs_20 IAMs_20 19 43 15.6
comp=Z,3µm,22.0s
F21K **Alatna River** **85.80 23** P **P** **19 05 10.3 +0.6**
baz=261,SNR=15
F21K S **S** **19 15 42.8 +2.5**
baz=261
CHUM **Lake Minchumin** **85.81 26** P **P** **19 05 09.8 +0.1**
baz=262,SNR=8.3
CHUM S **S** **19 15 42.3 +2.0**
baz=262
E21K **Killik River** **85.81 21** P **P** **19 05 10.5 +0.8**
baz=261,SNR=68
E21K S **S** **19 15 42.3 +2.0**
baz=261
H21K **Melozitna Rive** **85.84 24** IAmb IAmb 19 05 14.2
comp=Z,149nm,2.0s
H21K **Melozitna Rive** **85.84 24** P **P** **19 05 10.7 +0.8**
baz=262,SNR=27
H21K S **S** **19 15 44.2 +3.5**
baz=262
CAST **Castle Rocks** **85.85 27** P **P** **19 05 10.6 +0.6**
baz=263,SNR=34
CAST S **S** **19 15 42.2 +1.4**
baz=263
A22K **Sinclair Lake** **85.91 19** P **P** **19 05 11.5 +1.5**
baz=260,SNR=24
A22K S **S** **19 15 44.3 +3.3**
baz=260
SKT **Skwentna** **85.93 28** IAmb IAmb 19 05 13.2
comp=Z,187nm,1.8s
SKT IAMs_20 IAMs_20 19 45 04.0
comp=Z,3µm,20.0s
SKT **Skwentna** **85.93 28** P **P** **19 05 09.5 -0.9**
baz=263,SNR=44
SKT S **S** **19 15 42.4 +0.7**
baz=263
CAPN **Captain Cook N** **85.97 29** P **P** **19 05 11.1 +0.5**
baz=264
PMOR **Pomariorio Ree** **86.10 105** *e*LR LR 19 32 16.9
comp=Z,6µm,22.5s
I21K **Tanana** **86.12 25** IAMs_20 IAMs_20 19 45 28.4
comp=Z,3µm,20.0s
I21K **Tanana** **86.12 25** P **P** **19 05 11.6 +0.4**
baz=263
I21K S **S** **19 15 47.8 +4.5**
baz=263
VRH **Novokhopyorsk** **86.22 321** *c i* P **P** **19 05 11.1 -0.9**
VRH pmax pmax
comp=Z,267nm,1.2s
SUA **Susitna One** **86.24 29** P **P** **19 05 11.5 -0.6**
baz=264

SUA S **S** **19 15 45.4 +0.5**
baz=264
B22K **Teshekpuk Lake** **86.31 20** IAmb IAmb 19 05 18.7
comp=Z,46nm,0.7s
B22K **Teshekpuk Lake** **86.31 20** P **P** **19 05 12.6 +0.5**
baz=261,SNR=56
B22K S **S** **19 15 48.0 +3.0**
baz=261
F22K **John River** **86.34 22** P **P** **19 05 13.2 +0.8**
baz=262,SNR=26
F22K S **S** **19 15 48.9 +3.4**
baz=262
D22K **Ayikyak River** **86.35 21** P **P** **19 05 13.2 +0.9**
baz=262,SNR=18
D22K S **S** **19 15 48.6 +3.2**
baz=262
VAH **Vaihoa** **86.36 105** *e*LR LR 19 32 19.9
comp=Z,5µm,22.9s
SLKM **Skilak Lake** **86.40 30** IAMs_20 IAMs_20 19 43 18.6
comp=Z,3µm,22.0s
BPAW **Bear Paw Mtn.** **86.41 26** IAMs_20 IAMs_20 19 41 50.8
comp=Z,3µm,22.0s
BPAW **Bear Paw Mtn.** **86.41 26** P **P** **19 05 13.0 +0.2**
baz=264,SNR=18
BPAW S **S** **19 15 48.2 +1.9**
baz=264
H22K **Ishtalitna Cre** **86.45 24** P **P** **19 05 13.5 +0.6**
baz=263,SNR=11
LABN **Labinsk** **86.50 315** *e*P **P** **19 05 12.3 -1.3**
LABN *e* 19 15 49.0
LABN pmax pmax
comp=Z,165nm,2.3s
G22K **Bettles** **86.53 23** P **P** **19 05 13.7 +0.5**
baz=263
G22K S **S** **19 15 49.8 +2.6**
baz=263
CUT **Chulitna** **86.56 28** IAMs_20 IAMs_20 19 43 57.8
comp=Z,3µm,21.0s
CUT **Chulitna** **86.56 28** P **P** **19 05 13.1 -0.3**
baz=264
E22K **Anaktuvuk Pass** **86.56 22** IAmb IAmb 19 05 20.3
comp=Z,100nm,1.2s
E22K **Anaktuvuk Pass** **86.56 22** P **P** **19 05 13.9 +0.4**
baz=263
E22K S **S** **19 15 50.9 +3.3**
baz=263
M22K **Willow** **86.57 28** IAmb IAmb 19 05 21.3
comp=Z,96nm,1.0s
M22K **Willow** **86.57 28** P **P** **19 05 12.9 -0.6**
baz=265
M22K S **S** **19 15 48.7 +1.0**
baz=265
MLY **Manley** **86.62 25** IAMs_20 IAMs_20 19 45 41.2
comp=Z,3µm,21.0s
MLY **Manley** **86.62 25** P **P** **19 05 14.4 +0.6**
baz=264,SNR=43
MLY S **S** **19 15 51.2 +2.8**
baz=264
O22K **Cooper Landing** **86.64 30** IAMs_20 IAMs_20 19 43 36.1
comp=Z,3µm,22.0s
O22K **Cooper Landing** **86.64 30** P **P** **19 05 13.7 -0.2**
baz=265,SNR=5.8
O22K S **S** **19 15 50.6 +2.0**
baz=265
TRF **Thorofare Moun** **86.66 27** IAmb IAmb 19 05 17.0
comp=Z,107nm,1.8s
TRF **Thorofare Moun** **86.66 27** P **P** **19 05 13.3 -0.8**
baz=264,SNR=12
TRF S **S** **19 15 49.4 +0.4**
baz=264
RC01 **Rabbit Creek A** **86.69 29** IAmb IAmb 19 05 18.3
comp=Z,55nm,0.9s
RC01 **Rabbit Creek A** **86.69 29** P **P** **19 05 13.1 -1.0**
baz=265,SNR=20
RC01 S **S** **19 15 50.3 +1.2**
baz=265
ERBR **Yeremizino-Bor** **86.72 316** *e*P **P** **19 05 12.9 -1.7**
ERBR *e* 19 15 35.0
ERBR pmax pmax
comp=Z,133nm,1.6s
SEW **Seward** **86.75 30** IAmb IAmb 19 05 18.9
comp=Z,95nm,1.1s
SEW IAMs_20 IAMs_20 19 47 33.8
comp=Z,3µm,21.0s
SEW **Seward** **86.75 30** P **P** **19 05 14.5 +0.1**
baz=265,SNR=16
SEW S **S** **19 15 51.6 +2.0**
baz=265
VSLR **Vesyoloye** **86.94 313** *i* P **P** **19 05 15.4 -0.4**
VSLR pmax pmax
comp=Z,92nm,0.9s
PMR **Palmer** **87.02 28** IAmb IAmb 19 05 19.9
comp=Z,205nm,2.0s
PMR **Palmer** **87.02 28** P **P** **19 05 17.0 +1.3**
PMR **Palmer** **87.02 28** P **P** **19 05 15.2 -0.5**
baz=265
PMR S **S** **19 15 52.9 +0.7**
baz=265
COLD **Coldfoot** **87.07 23** IAmb IAmb 19 05 21.7
comp=Z,231nm,1.9s
COLD **Coldfoot** **87.07 23** P **P** **19 05 16.2 +0.4**
baz=264,SNR=60
COLD S **S** **19 15 55.4 +2.9**
baz=264
D23K **Nanushuk River** **87.08 21** IAmb IAmb 19 05 23.1
comp=Z,37nm,0.8s
D23K **Nanushuk River** **87.08 21** P **P** **19 05 16.8 +1.0**
baz=264,SNR=51
D23K S **S** **19 15 56.1 +3.6**
baz=264
BWN **Browne** **87.09 26** IAMs_20 IAMs_20 19 42 11.5
comp=Z,3µm,22.0s
G23K **Bananza Creek** **87.09 23** IAmb IAmb 19 05 22.9
comp=Z,110nm,1.3s
G23K **Bananza Creek** **87.09 23** P **P** **19 05 16.6 +0.6**
baz=264,SNR=122
G23K S **S** **19 15 56.4 +3.6**
baz=264
SOC **Sochi** **87.18 313** *e*P **P** **19 05 15.1 -1.8**
SOC *e* 19 08 36.0
SOC *e*PPP PPP 19 10 36.0
SOC *e*S **SKSac** **19 15 39.4 -2.7**
SOC *e*SS **SS** **19 21 31.9 -6.7**
SOC pmax pmax
comp=Z,63nm,1.1s
SOC MLR MLR
comp=Z,853nm,19.0s
C23K **Itkillik River** **87.19 20** IAmb IAmb 19 05 23.2
comp=Z,41nm,0.6s
C23K IAMs_20 IAMs_20 19 47 35.2
comp=Z,4µm,21.0s
C23K **Itkillik River** **87.19 20** P **P** **19 05 17.1 +0.7**
baz=264,SNR=79
C23K S **S** **19 15 55.0 +1.4**
baz=264
H23K **Yukon River** **87.20 24** IAmb IAmb 19 05 20.5
comp=Z,124nm,1.8s
H23K **Yukon River** **87.20 24** P **P** **19 05 16.9 +0.3**
baz=265,SNR=46
H23K S **S** **19 15 57.2 +3.4**
baz=265
I23K **Minto, Yukon-K** **87.22 25** IAmb IAmb 19 05 21.0
comp=Z,82nm,1.1s
I23K IAMs_20 IAMs_20 19 46 09.9
comp=Z,2µm,20.0s
I23K **Minto, Yukon-K** **87.22 25** P **P** **19 05 16.7 +0.1**
baz=265,SNR=6.2
I23K S **S** **19 15 56.3 +2.4**
baz=265
MCK **McKinley** **87.28 26** IAmb IAmb 19 05 20.5
comp=Z,48nm,1.1s
MCK **McKinley** **87.28 26** P **P** **19 05 16.3 -0.7**
baz=266,SNR=9.6
MCK S **S** **19 15 56.6 +1.9**
baz=266
NEA2 **Nenana** **87.29 25** P **P** **19 05 16.6 -0.4**
baz=265,SNR=12
NEA2 S **S** **19 15 57.2 +2.4**
baz=265
KNK **Knik Glacier** **87.33 29** IAmb IAmb 19 05 20.7
comp=Z,181nm,1.7s
KNK IAMs_20 IAMs_20 19 45 46.2
comp=Z,3µm,21.0s
KNK **Knik Glacier** **87.33 29** P **P** **19 05 17.4 +0.1**
baz=266,SNR=5.2
KNK S **S** **19 15 57.4 +2.1**
baz=266
PWL **Port Wells** **87.36 29** P **P** **19 05 17.4 0.0**

PWL S **S** **19 15 58.2 +2.7**
baz=266,SNR=25

E23K **Chandalar** **87.37 22** IAmb IAmb 19 05 22.4
comp=Z,58nm,0.9s

E23K **Chandalar** **87.37 22** P **P** **19 05 18.0 +0.6**
baz=265,SNR=108

E23K S **S** **19 15 59.3 +3.7**
baz=265

WAT1 **Susitna Watana** **87.39 27** P **P** **19 05 16.6 -0.9**
baz=266

WAT1 S **S** **19 15 56.9 +1.1**
baz=266

TOLK **Toolik Lake Re** **87.44 21** IAmb IAmb 19 05 21.8
comp=Z,112nm,1.6s

TOLK **Toolik Lake Re** **87.44 21** P **P** **19 05 18.4 +0.7**
baz=265,SNR=36

TOLK S **S** **19 15 58.2 +2.0**
baz=265

M23K **Glacier View** **87.71 28** P **P** **19 05 19.0 0.0**
baz=267,SNR=13

M23K S **S** **19 16 01.8 +3.0**
baz=267

WRH **Wood River Hil** **87.71 26** IAmb IAmb 19 05 22.2
comp=Z,46nm,1.0s

VORD **Divnogorie** **87.73 321** *e*P **P** **19 05 16.9 -2.5**
VORD pmax pmax
comp=Z,30nm,0.8s

WAT6 **Susitna Watana** **87.75 28** P **P** **19 05 18.5 -0.9**
baz=267,SNR=24

WAT6 S **S** **19 16 01.8 +2.3**
baz=267

D24K **Happy Valley** **87.76 21** IAmb IAmb 19 05 24.0
comp=Z,46nm,1.0s

D24K **Happy Valley** **87.76 21** P **P** **19 05 19.3 +0.2**
baz=265,SNR=34

D24K S **S** **19 16 02.6 +3.6**
baz=265

P23K **Montague Islan** **87.77 30** IAmb IAmb 19 05 26.3
comp=Z,55nm,0.9s

P23K **Montague Islan** **87.77 30** P **P** **19 05 19.5 +0.2**
baz=267

P23K S **S** **19 16 03.4 +3.9**
baz=267

E24K **Your Creek** **87.80 22** P **P** **19 05 19.8 +0.4**
baz=266,SNR=19

E24K S **S** **19 16 04.3 +4.7**
baz=266

VORR **Voronezh** **87.81 322** *e*P **P** **19 05 18.4 -1.3**
VORR pmax pmax
comp=Z,20nm,0.8s

VSR **Storozhevoye** **87.82 321** *e*P **P** **19 05 16.5 -3.3**
VSR pmax pmax
comp=Z,20nm,0.9s

COLA **College** **87.83 25** IAMs_20 IAMs_20 19 47 05.2
comp=Z,3µm,21.0s

COLA **College** **87.83 25** P **P** **19 05 22.2 +2.7**

COLA **College** **87.83 25** *i* P **P** **19 05 19.1 -0.4**
COLA pmax pmax
comp=Z,12nm,0.8s

COLA **College** **87.83 25** P **P** **19 05 19.1 -0.4**
baz=266

COLA S **S** **19 16 03.7 +3.8**
baz=266

CCB **Clear Creek Bu** **87.84 25** IAmb IAmb 19 05 22.6
comp=Z,63nm,1.3s

CCB IAMs_20 IAMs_20 19 46 56.5
comp=Z,3µm,21.0s

C24K **Franklin Bluff** **87.84 20** IAmb IAmb 19 05 24.1
comp=Z,41nm,0.9s

C24K IAMs_20 IAMs_20 19 48 06.4
comp=Z,3µm,21.0s

C24K **Franklin Bluff** **87.84 20** P **P** **19 05 19.6 +0.1**
baz=266

C24K S **S** **19 16 03.8 +4.0**
baz=266

H24K **Noodor Dome** **87.88 24** IAmb IAmb 19 05 25.7
comp=Z,81nm,1.4s

H24K **Noodor Dome** **87.88 24** P **P** **19 05 20.1 +0.2**
baz=266,SNR=66

H24K S **S** **19 16 03.7 +3.2**
baz=266

SCM **Sheep Creek Mo** **87.90 28** IAMs_20 IAMs_20 19 46 17.1
comp=Z,3µm,21.0s

SCM **Sheep Creek Mo** **87.90 28** P **P** **19 05 19.9 -0.1**
baz=267,SNR=25

SCM S **S** **19 16 03.2 +2.4**
baz=267

DHY **Denali Highway** **87.94 27** IAmb IAmb 19 05 23.6
comp=Z,88nm,1.7s

DHY IAMs_20 IAMs_20 19 44 44.2
comp=Z,3µm,21.0s

DHY **Denali Highway** **87.94 27** P **P** **19 05 20.0 -0.3**
baz=267,SNR=22

DHY S **S** **19 16 02.5 +1.1**
baz=267

GLI **Glacier Island** **87.96 29** IAmb IAmb 19 05 26.0
comp=Z,117nm,1.4s

GLI IAMs_20 IAMs_20 19 44 18.8
comp=Z,3µm,22.0s

GLI **Glacier Island** **87.96 29** P **P** **19 05 20.4 +0.1**
baz=267,SNR=16

GLI S **S** **19 16 04.8 +3.5**
baz=267

F24K **Squaw Lake** **87.99 23** P **P** **19 05 20.9 +0.6**
baz=266,SNR=66

F24K S **S** **19 16 05.4 +4.0**
baz=266

KLMR **Klimovskoe** **88.01 331** *e*P **P** **19 05 18.6 -1.9**
KLMR S **SKSac** **19 15 43.1 -3.3**
KLMR pmax pmax
comp=Z,66nm,0.9s

LPSR **Galich'ya Gora** **88.01 322** *c i*P **P** **19 05 19.5 -1.2**
LPSR pmax pmax
comp=Z,91nm,0.9s

POKR **Poker Plat Res** **88.03 25** IAMs_20 IAMs_20 19 46 44.3
comp=Z,3µm,20.0s

POKR **Poker Plat Res** **88.03 25** P **P** **19 05 20.0 -0.5**
baz=267

POKR S **S** **19 16 05.6 +3.8**
baz=267

G24K **Hadweenzic Riv** **88.10 23** IAmb IAmb 19 05 25.6
comp=Z,39nm,1.0s

G24K **Hadweenzic Riv** **88.10 23** P **P** **19 05 21.2 +0.4**
baz=267,SNR=50

G24K S **S** **19 16 05.9 +3.5**
baz=267

HDA **Harding Lake** **88.20 26** IAMs_20 IAMs_20 19 43 27.9
comp=Z,2µm,21.0s

HDA **Harding Lake** **88.20 26** P **P** **19 05 20.0 -1.4**
baz=267,SNR=18

HDA S **S** **19 16 04.4 +1.0**
baz=267

HIN **Hinchinbrook I** **88.23 30** IAmb IAmb 19 05 26.9
comp=Z,57nm,1.2s

KIBK **Kibwezi** **88.24 268** P **P** **19 05 21.6 -1.1**

KIBK **Kibwezi** **88.24 268** IAmb IAmb 19 05 33.1
comp=Z,43nm,1.1s

KIBK **Kibwezi** **88.24 268** P **P** **19 05 23.9 +1.2**
SNR=12

ILAR **Eielson Array** **88.24 25** P **P** **19 05 19.3 -2.2**

ILAR **Eielson Array** **88.24 25** P **P** **19 05 22.4 +0.9**
comp=Z,8.2nm,0.7s,baz=244,slow=4.8,SNR=49

ILAR PP **PP** **19 08 45.8 -3.0**
comp=Z,1.1nm,0.8s,baz=242,slow=5.0,SNR=4.7

ILAR PKKP **PKKPdf** **19 23 03.8 +1.5**
comp=Z,1.5nm,0.9s,baz=58,slow=1.6,SNR=11

ILAR PKPPKP **P'P'df** **19 31 15.2 +1.9**
comp=Z,0.4nm,0.6s,baz=174,slow=0.9,SNR=4.3
comp=Z,8.2nm,0.7s

ILAR **Eielson Array** **88.24 25** P **P** **19 05 19.3 -2.2**

FID **Port Fidalgo** **88.26 29** IAmb IAmb 19 05 26.9
comp=Z,94nm,1.6s

M24K **Tolsona, Glenn** **88.45 28** IAMs_20 IAMs_20 19 46 44.8
comp=Z,3µm,20.0s

M24K **Tolsona, Glenn** **88.45 28** P **P** **19 05 23.1 +0.4**
baz=268,SNR=21

M24K S **S** **19 16 09.3 +3.3**
baz=268

KLU **Klutina** **88.55 29** P **P** **19 05 23.5 +0.3**
baz=268,SNR=11

KLU S **S** **19 16 09.8 +2.7**
baz=268

EYAK **Cordova Ski Ar** **88.61 30** IAMs_20 IAMs_20 19 44 58.0
comp=Z,3µm,22.0s

EYAK **Cordova Ski Ar** **88.61 30** P **P** **19 05 26.9 +3.6**

EYAK **Cordova Ski Ar** **88.61 30** P **P** **19 05 23.3 0.0**
baz=268

EYAK S **S** **19 16 10.3 +2.9**
baz=268

DIV **Divide** **88.62 29** IAMs_20 IAMs_20 19 44 52.1
comp=Z,3µm,22.0s

D25K **Kavik River** **88.64 21** IAMs_20 IAMs_20 19 48 44.4
comp=Z,3µm,21.0s

D25K **Kavik River** **88.64 21** P **P** **19 05 23.7 +0.3**
baz=268,SNR=5.9

D25K S **S** **19 16 10.2 +2.7**
baz=268

G25K **Bearman Lake** **88.64 23** P **P** **19 05 23.6 +0.2**
baz=268,SNR=31

G25K S **S** **19 16 13.0 +5.5**
baz=268

K24K **Donnelly Dome** **88.69 26** IAmb IAmb 19 05 27.6
comp=Z,46nm,0.8s

K24K IAMs_20 IAMs_20 19 43 20.9
comp=Z,3µm,21.0s

K24K **Donnelly Dome** **88.69 26** P **P** **19 05 23.0 -0.7**
baz=268,SNR=20

K24K S **S** **19 16 10.7 +2.5**
baz=268

H25L **Birch Creek** **88.74 24** P **P** **19 05 24.4 +0.6**
baz=268,SNR=53

H25L S **S** **19 16 10.9 +2.5**
baz=268

PAX **Paxson** **88.81 27** IAmb IAmb 19 05 28.5
comp=Z,57nm,1.2s

PAX **Paxson** **88.81 27** P **P** **19 05 24.4 0.0**
baz=269,SNR=54

PAX S **S** **19 16 11.5 +2.1**
baz=269

PRP **Porcupine Dome** **88.84 25** IAMs_20 IAMs_20 19 46 59.9
comp=Z,2µm,20.0s

PRP **Porcupine Dome** **88.84 25** P **P** **19 05 23.7 -0.8**
baz=268,SNR=11

PRP S **S** **19 16 11.4 +1.6**
baz=268

ANN **Anapa** **88.85 315** *e*P **P** **19 05 23.0 -1.8**
ANN *e* 19 15 50.5
ANN pmax pmax
comp=Z,82nm,0.9s

ANN MLR MLR
comp=Z,2µm,23.0s

F25K **Christian Rive** **88.85 23** IAmb IAmb 19 05 28.8
comp=Z,69nm,1.7s

F25K **Christian Rive** **88.85 23** P **P** **19 05 24.9 +0.5**
baz=268,SNR=34

F25K S **S** **19 16 13.4 +3.8**
baz=268

MOS **Moscow** **88.86 326** *e*P **P** **19 05 21.9 -2.7**
MOS *e* 19 08 50.4
MOS *e*S **SKSac** **19 15 48.7 -2.9**
MOS pmax pmax
comp=Z,118nm,1.4s

MOS pmax pmax
comp=Z,400nm,2.1s

J25K **Salcha River,** **88.89 26** P **P** **19 05 23.7 -1.0**
baz=269,SNR=21

J25K S **S** **19 16 11.1 +1.1**
baz=269

E25K **Arctic Village** **88.89 22** IAmb IAmb 19 05 29.6
comp=Z,38nm,0.9s

E25K **Arctic Village** **88.89 22** P **P** **19 05 24.8 +0.2**
baz=268

HARP **HAARP** **88.94 28** P **P** **19 05 25.2 +0.3**
baz=269,SNR=5.9

HARP S **S** **19 16 14.3 +3.8**
baz=269

GAZ **Gaziantep** **88.97 307** IAmb IAmb 19 05 28.2
comp=Z,52nm,1.0s

RIDG **Independent Ri** **89.10 26** IAmb IAmb 19 05 31.1
comp=Z,53nm,0.9s

RIDG IAMs_20 IAMs_20 19 45 44.8
comp=Z,4µm,22.0s

RIDG **Independent Ri** **89.10 26** P **P** **19 05 25.4 -0.2**
baz=269,SNR=56

RIDG S **S** **19 16 13.3 +1.3**
baz=269

RAGM **Ragged Mountai** **89.14 30** IAMs_20 IAMs_20 19 49 33.0
comp=Z,3µm,21.0s

C26K **Camden Bay** **89.17 20** P **P** **19 05 26.8 +1.0**
baz=269,SNR=14

C26K S **S** **19 16 14.2 +1.9**
baz=269

BMRM **Bremner River** **89.18 29** IAmb IAmb 19 05 31.6
comp=Z,124nm,1.6s

BMRM IAMs_20 IAMs_20 19 45 18.1
comp=Z,4µm,22.0s

BMRM **Bremner River** **89.18 29** P **P** **19 05 26.1 0.0**
baz=269,SNR=14

BMRM S **S** **19 16 15.2 +2.3**
baz=269

N25K **Chitina, Valde** **89.19 29** IAmb IAmb 19 05 30.1
comp=Z,117nm,1.8s

N25K **Chitina, Valde** **89.19 29** P **P** **19 05 26.5 +0.3**
baz=269,SNR=17

N25K S **S** **19 16 14.7 +1.7**
baz=269

SYO **Syowa Base** **89.22 201** ⇑ *i*P **P** **19 05 25.6 -0.4**

SYO **Syowa Base** **89.22 201** ⇑ *i* PcP **PcP** **19 05 28.6 +1.2**

BMAR **Burnt Mountain** **89.26 23** P **P** **19 05 26.6 +0.3**

KAIM **Kayak Island** **89.26 30** P **P** **19 05 27.2 +0.8**
baz=270,SNR=9.1

KAIM S **S** **19 16 15.8 +2.2**
baz=270

F26K **Sheenjek River** **89.42 22** IAMs_20 IAMs_20 19 49 10.2
comp=Z,2µm,21.0s

F26K **Sheenjek River** **89.42 22** P **P** **19 05 27.8 +0.7**
baz=270,SNR=28

F26K S **S** **19 16 16.3 +1.4**
baz=270

DOT **Dot Lake** **89.45 27** IAMs_20 IAMs_20 19 45 42.9
comp=Z,3µm,21.0s

OBN **Obninsk** **89.45 325** P **P** **19 05 25.9 -1.4**
OBN IAmb IAmb 19 05 38.3
comp=Z,87nm,1.1s

OBN IAMs_20 IAMs_20 19 47 02.0
comp=Z,3µm,21.0s

OBN **Obninsk** **89.45 325** P **P** **19 05 26.5 -0.9**
comp=Z,46nm,1.1s,baz=4.7,slow=3.2,SNR=12

OBN LR LR 19 49 01.0
comp=Z,2µm,19.2s,baz=31,slow=38
comp=Z,46nm,1.1s

OBN **Obninsk** **89.45 325** *ce*P **P** **19 05 26.0 -1.4**
OBN *e**PP **pP** **19 05 36.0 -1.0**
OBN *e**SP **pwP** **19 05 42.5 +2.5**
OBN *e* 19 08 58.4
OBN *e*S **SKSac** **19 15 57.3 +2.1**
OBN pmax pmax
comp=Z,104nm,1.3s

OBN MLR MLR
comp=Z,3µm,21.0s

OBN **Obninsk** **89.45 325** P **P** **19 05 26.4 -0.9**
comp=Z,1µmcomp=Z,70nm,1.5s

SCRK **Sand Creek** **89.48 26** IAMs_20 IAMs_20 19 45 56.9
comp=Z,3µm,22.0s

SCRK **Sand Creek** **89.48 26** P **P** **19 05 27.4 -0.1**
baz=270,SNR=31

SCRK S **S** **19 16 16.8 +1.1**
baz=270

G26K **Porcupine Rive** **89.56 23** IAmb IAmb 19 05 32.9
comp=Z,102nm,1.6s

G26K **Porcupine Rive** **89.56 23** P **P** **19 05 28.4 +0.8**
baz=270,SNR=45

G26K S **S** **19 16 17.7 +1.6**
baz=270

C27K **Jago River** **89.58 20** IAMs_20 IAMs_20 19 49 12.4
comp=Z,3µm,21.0s

C27K **Jago River** **89.58 20** P **P** **19 05 28.4 +0.6**
baz=270,SNR=27

C27K S **S** **19 16 17.3 +1.1**
baz=270

MENT **Mentasta** **89.60 27** P **P** **19 05 30.3 +2.3**

BERG **Berg Lake** **89.62 30** IAmb IAmb 19 05 34.0
comp=Z,76nm,1.1s

J26L **Joseph Creek** **89.67 26** IAMs_20 IAMs_20 19 44 13.7
comp=Z,2µm,21.0s

J26L **Joseph Creek** **89.67 26** P **P** **19 05 28.7 +0.3**
baz=270,SNR=63

J26L S **S** **19 16 17.7 +0.3**
baz=270

L26K **Log Cabin Wild** **89.77 27** P **P** **19 05 29.3 +0.5**
baz=270

I26K **Coal Creek Min** **89.83 25** P **P** **19 05 28.6 -0.3**
baz=271

BGLC **Bering Glacier** **89.83 30** P **P** **19 05 29.3 +0.3**
baz=271

CRQE **Cirque** **89.92 29** P **P** **19 05 29.3 -0.4**
baz=271

M26K **Nabesna, AK** **89.94 28** IAMs_20 IAMs_20 19 47 43.2
comp=Z,4µm,20.0s

M26K **Nabesna, AK** **89.94 28** P **P** **19 05 29.8 +0.2**
baz=271,SNR=13

M26K S **S** **19 16 22.0 +2.0**
baz=271

MCARA **McCarthy VSAT** **89.94 29** P **P** **19 05 30.2 +0.6**
baz=271

MCARA S **S** **19 16 22.0 +2.0**
baz=271

BNN **Bunyan** **90.04 309** IAmb IAmb 19 05 47.6
comp=Z,70nm,1.2s

WAX **Waxell Ridge** **90.04 30** IAMs_20 IAMs_20 19 41 26.9
comp=Z,3µm,22.0s

LVZ **Lovozero** **90.19 338** IAMs_20 IAMs_20 19 48 56.4
comp=Z,2µm,20.0s

BALJ **Balqa** **90.29 302** IAmb IAmb 19 05 34.5
comp=Z,53nm,0.9s

ISLE **Juniper Island** **90.30 30** IAmb IAmb 19 05 36.0
comp=Z,188nm,1.8s

ISLE IAMs_20 IAMs_20 19 41 34.5
comp=Z,3µm,22.0s

K27K **Chicken** **90.32 26** IAmb IAmb 19 05 36.6
comp=Z,93nm,1.1s

K27K IAMs_20 IAMs_20 19 46 10.6
comp=Z,3µm,22.0s

K27K **Chicken** **90.32 26** P **P** **19 05 32.3 +1.0**
baz=272

K27K S **S** **19 16 23.7 +0.4**
baz=272

GHAJ **Ghor Haditha** **90.36 301** IAmb IAmb 19 05 39.3
comp=Z,41nm,0.8s

E27K **Coleen River** **90.38 22** IAmb IAmb 19 05 36.3
comp=Z,94nm,1.5s

E27K **Coleen River** **90.38 22** P **P** **19 05 32.1 +0.6**
baz=272,SNR=38

E27K S **S** **19 16 24.7 +1.0**
baz=272

QSPA **South Pole Qui** **90.39 180** P **P** **19 05 31.7 0.0**
QSPA IAmb IAmb 19 05 35.3
comp=Z,89nm,1.1s

QSPA **South Pole Qui** **90.39 180** IAMs_20 IAMs_20 19 53 57.3
comp=Z,3µm,20.0s

QSPA **South Pole Qui** **90.39 180** P **P** **19 05 31.4 -0.3**
comp=Z,43nm,0.9s,baz=322,slow=1.8,SNR=85
comp=Z,43nm,0.9s

G27K **Doyon Strip** **90.41 23** IAmb IAmb 19 05 36.9
comp=Z,114nm,1.9s

G27K IAMs_20 IAMs_20 19 51 12.2
comp=Z,2µm,21.0s

G27K **Doyon Strip** **90.41 23** P **P** **19 05 32.3 +0.6**
baz=272,SNR=23

L27K **Beaver Creek,** **90.47 27** P **P** **19 05 32.7 +0.6**
baz=272,SNR=59

L27K S **S** **19 16 24.1 -0.6**
baz=272

M27K **Edge Creek, AK** **90.47 28** IAmb IAmb 19 05 36.0
comp=Z,64nm,1.6s

M27K IAMs_20 IAMs_20 19 47 58.0
comp=Z,3µm,20.0s

M27K **Edge Creek, AK** **90.47 28** P **P** **19 05 32.5 +0.3**
baz=272,SNR=22

M27K S **S** **19 16 23.6 -1.3**
baz=272

I27K **Kandik River** **90.47 25** P **P** **19 05 32.5 +0.5**
baz=272,SNR=55

MMAI **Mount Meron Ar** **90.48 303** P **P** **19 05 32.6 -0.2**
comp=Z,16nm,0.9s,baz=99,slow=2.6,SNR=13
comp=Z,16nm,0.9s

H27K **Steamboat Moun** **90.48 24** IAmb IAmb 19 05 37.4
comp=Z,145nm,1.8s

H27K IAMs_20 IAMs_20 19 48 46.2
comp=Z,3µm,20.0s

H27K **Steamboat Moun** **90.48 24** P **P** **19 05 32.9 +0.9**
baz=272,SNR=47

BCAR **Beaver Creek A** **90.48 27** P **P** **19 05 31.9 -0.2**

MESA **MESA** **90.50 30** IAMs_20 IAMs_20 19 48 24.0
comp=Z,2µm,20.0s

MESA **MESA** **90.50 30** P **P** **19 05 33.0 +0.6**
baz=272

MESA S **S** **19 16 25.0 -0.5**
baz=272

D27M **Malcolm River** **90.56 21** IAmb IAmb 19 05 37.2
comp=Z,143nm,1.9s

D27M **Malcolm River** **90.56 21** P **P** **19 05 32.9 +0.4**
baz=273,SNR=13

GRNC **Granite Creek** **90.58 29** IAmb IAmb 19 05 37.6
comp=Z,46nm,0.9s

GRNC IAMs_20 IAMs_20 19 46 23.1
comp=Z,2µm,22.0s

YAH **Yahtse** **90.60 30** IAmb IAmb 19 05 38.0
comp=Z,82nm,1.2s

BARN **Barnard Glacie** **90.61 29** IAmb IAmb 19 05 37.9
comp=Z,66nm,1.1s

APA **Apatity** **90.68 337** ⇓ *i*P **P** **19 05 33.4 +0.5**
APA *i* 19 09 07.6
APA *i* 19 15 59.3
APA *i* S **S** **19 16 26.6 +0.2**
APA *i* PS **PS** **19 17 27.5 -10**
APA *i* SS SS 19 22 39.4 +11
APA MLR MLR
comp=Z,4µm,25.8s

CTG **Chitna Glacier** **90.77 29** P **P** **19 05 34.3 +0.7**
baz=272,SNR=21

CTGM **Chitina Glacie** **90.78 29** IAmb IAmb 19 05 38.7
comp=Z,93nm,1.1s

LODK **Lodwar** **90.87 273** P **P** **19 05 36.5 +1.4**
SNR=13

TABL **Table Mountain** **90.89 30** IAmb IAmb 19 05 40.4
comp=Z,51nm,0.9s

EIL **Elat** **90.92 300** LR LR 19 53 08.5
comp=Z,1µm,19.0s,baz=76,slow=40

BVCY **Beaver Creek** **90.94 28** P **P** **19 05 35.1 +0.9**
baz=273,SNR=8.2

F28M **Old Crow** **91.06 22** IAmb IAmb 19 05 39.2
comp=Z,35nm,0.9s

F28M **Old Crow** **91.06 22** P **P** **19 05 34.7 0.0**
baz=274,SNR=43

E28M **Babbage River** **91.12 21** IAmb IAmb 19 05 39.6
comp=Z,131nm,1.6s

E28M **Babbage River** **91.12 21** P **P** **19 05 35.2 +0.3**
baz=274,SNR=51

YUK3 **Moose Creek** **91.16 28** P **P** **19 05 35.9 +0.3**
baz=273,SNR=12

I28M **Miner Creek** **91.17 25** P **P** **19 05 35.8 +0.4**
baz=274,SNR=108

SIM **Simferopol'** **91.20 315** *e*P **P** **19 05 38.3 +2.5**
SIM *e* 19 16 00.0
SIM *e*S **S** **19 16 32.0 -0.1**
SIM pmax pmax
comp=Z,80nm,6.3s

SIM pmax pmax
comp=Z,51nm,0.9s

SIM MLR MLR
comp=Z,2µm,23.0s

O28M **Mount Upton** **91.34 29** IAmb IAmb 19 05 41.3
comp=Z,45nm,1.1s

O28M **Mount Upton** **91.34 29** P **P** **19 05 37.0 +0.5**
baz=273,SNR=8.7

D28M **Stokes Point** **91.35 21** P **P** **19 05 36.5 +0.6**
baz=275

PINM **Pinnacle** **91.35 30** P **P** **19 05 36.8 +0.6**
baz=273,SNR=7.5

DAWY **Dawson** **91.50 26** IAmb IAmb 19 05 41.4
comp=Z,50nm,1.1s

DAWY IAMs_20 IAMs_20 19 46 57.2
comp=Z,3µm,22.0s

DAWY **Dawson** **91.50 26** P **P** **19 05 37.5 +0.7**
baz=274,SNR=14

YUK8 **Steele Glacier** **91.52 29** P **P** **19 05 37.8 +0.5**
baz=274,SNR=9.8

KIRS **Kirsehir-Merke** **91.54 309** ⇑ P **P** **19 05 37.5 -0.1**

YKU2 **Yakutat** **91.68 31** IAMs_20 IAMs_20 19 44 55.2
comp=Z,2µm,21.0s

BR104 **Keskin Array S** **91.73 310** P **P** **19 05 37.5 -1.1**
comp=Z,120nmcomp=Z,16nm,0.9s

BR131 **Keskin Array S** **91.73 310** P **P** **19 05 37.9 -0.7**
SNR=17

BR131 P **P** **19 05 37.9 -0.7**
SNR=17

BR131 **Keskin Array S** **91.73 310** *e*P **P** **19 05 36.5 -2.1**

BRTR **Keskin Array B** **91.73 310** P **P** **19 05 37.3 -1.3**

BRTR **Keskin Array B** **91.73 310** P **P** **19 05 37.7 -0.9**
comp=Z,12nm,0.8s,baz=122,slow=3.8,SNR=50

BRTR PP **PP** **19 09 15.8 -1.8**
comp=Z,2.1nm,0.9s,baz=105,slow=8.9,SNR=3.8

comp=Z,12nm,0.8s
BRTR Keskin Array B 91.73 310 P **P** **19 05 37.3 -1.3**
E29M Blow River 91.74 22 IAmb IAmb 19 05 42.1
comp=Z,102nm,1.6s
E29M IAMs_20 IAMs_20 19 50 26.4
comp=Z,3µm,21.0s
E29M Blow River 91.74 22 P **P** **19 05 38.2 +0.5**
baz=276,SNR=27
BR106 Keskin Array S 91.75 310 P **P** **19 05 37.7 -1.0**
comp=Z,123nmcomp=Z,18nm,0.8s
BR105 Keskin Array S 91.75 310 P **P** **19 05 37.7 -1.0**
comp=Z,131nmcomp=Z,19nm,0.8s
H29M Whitestone 91.76 24 IAmb IAmb 19 05 42.4
comp=Z,91nm,1.6s
H29M IAMs_20 IAMs_20 19 48 55.0
comp=Z,3µm,22.0s
H29M Whitestone 91.76 24 P **P** **19 05 38.1 +0.2**
baz=275,SNR=14
PNL Peninsula 91.81 30 P **P** **19 05 40.0 +1.7**
PNL Peninsula 91.81 30 P **P** **19 05 39.1 +0.7**
baz=274,SNR=8.2
G29M Pine Creek 91.83 23 IAMs_20 IAMs_20 19 49 42.9
comp=Z,2µm,20.0s
G29M Pine Creek 91.83 23 P **P** **19 05 38.4 +0.1**
baz=275,SNR=54
I29M Ogilvie Camp, 91.86 25 IAmb IAmb 19 05 42.8
comp=Z,50nm,1.1s
I29M Ogilvie Camp, 91.86 25 P **P** **19 05 38.5 0.0**
baz=275,SNR=53
J29N Klondike Camp 91.98 26 IAMs_20 IAMs_20 19 45 23.9
comp=Z,3µm,21.0s
J29N Klondike Camp 91.98 26 P **P** **19 05 39.4 +0.3**
baz=275,SNR=6.0
M29M Somme Creek 92.05 28 IAmb IAmb 19 05 44.6
comp=Z,44nm,1.1s
M29M IAMs_20 IAMs_20 19 48 49.8
comp=Z,3µm,21.0s
M29M Somme Creek 92.05 28 P **P** **19 05 40.0 +0.5**
baz=275,SNR=55
YUK4 Talbot Arm 92.05 29 P **P** **19 05 40.5 +0.8**
baz=275,SNR=12
L29M L29M 92.14 27 P **P** **19 05 40.7 +0.8**
baz=275,SNR=62
CSS Mathiatis 92.15 305 IAmb IAmb 19 05 43.5
comp=Z,49nm,1.0s
CSS Mathiatis 92.15 305 P **P** **19 05 39.8 -0.7**
comp=Z,774nmcomp=Z,52nm,1.0s
O29M Mount Kennedy 92.17 30 IAMs_20 IAMs_20 19 49 06.2
comp=Z,2µm,20.0s
O29M Mount Kennedy 92.17 30 P **P** **19 05 40.9 +0.8**
baz=275,SNR=6.5
YUK6 Outpost Mounta 92.22 29 P **P** **19 05 41.1 +0.6**
baz=275,SNR=7.6
K29M Barlow Dome 92.34 26 IAMs_20 IAMs_20 19 47 21.5
comp=Z,3µm,22.0s
K29M Barlow Dome 92.34 26 P **P** **19 05 41.3 +0.5**
baz=276,SNR=56
ANTO Ankara 92.38 310 P **P** **19 05 40.7 -0.8**
comp=Z,188nmcomp=Z,9.6nm,1.6s
EPYK Eagle Plains 92.41 24 IAMs_20 IAMs_20 19 49 37.1
comp=Z,3µm,21.0s
EPYK Eagle Plains 92.41 24 P **P** **19 05 40.2 -0.8**
baz=277,SNR=31
G30M tAoh Zrail Nji 92.53 23 IAmb IAmb 19 05 45.2
comp=Z,76nm,1.3s
G30M IAMs_20 IAMs_20 19 52 29.3
comp=Z,2µm,20.0s
G30M tAoh Zrail Nji 92.53 23 P **P** **19 05 41.0 -0.6**
baz=277,SNR=28
F30M Barrier River 92.62 22 P **P** **19 05 41.7 -0.1**
baz=278,SNR=18
P29M Windy Craggy 92.65 30 IAMs_20 IAMs_20 19 45 34.9
comp=Z,3µm,21.0s
P29M Windy Craggy 92.65 30 P **P** **19 05 42.9 +0.6**
baz=275,SNR=27
HYT Haines Junctio 92.65 29 IAmb IAmb 19 05 47.2
comp=Z,58nm,1.2s
HYT IAMs_20 IAMs_20 19 47 28.8
comp=Z,3µm,21.0s
HYT Haines Junctio 92.65 29 P **P** **19 05 42.6 +0.2**
baz=276,SNR=24
I30M Mount Dempster 92.68 25 IAmb IAmb 19 05 45.7
comp=Z,101nm,1.9s
I30M Mount Dempster 92.68 25 P **P** **19 05 42.4 0.0**
baz=277,SNR=23
J30M Hart River 92.78 25 IAmb IAmb 19 05 47.7
comp=Z,108nm,1.6s
J30M IAMs_20 IAMs_20 19 50 11.0
comp=Z,2µm,20.0s
J30M Hart River 92.78 25 P **P** **19 05 42.9 0.0**
baz=277,SNR=36
N30M Aishikik Lake 92.79 29 P **P** **19 05 43.6 +0.7**
baz=276,SNR=30
M30M Minto, Yukon 92.81 27 IAmb IAmb 19 05 48.0
comp=Z,110nm,1.4s
M30M IAMs_20 IAMs_20 19 47 24.9
comp=Z,3µm,21.0s
M30M Minto, Yukon 92.81 27 P **P** **19 05 43.8 +0.9**
baz=276
P30M Million Dollar 92.99 30 P **P** **19 05 44.5 +0.6**
baz=276
MAYO Mayo, Yukon 93.09 26 P **P** **19 05 44.8 +0.6**
baz=277
G31M Satah River 93.30 23 IAMs_20 IAMs_20 19 50 18.7
comp=Z,3µm,21.0s
G31M Satah River 93.30 23 P **P** **19 05 44.4 -0.5**
baz=279,SNR=21
ARCES ARCESS Array B 93.34 340 P **P** **19 05 44.9 -0.3**
ARCES IAmb IAmb 19 05 48.2
comp=Z,42nm,1.1s
ARCES ARCESS Array B 93.34 340 P **P** **19 05 44.2 -0.9**
comp=Z,11nm,0.8s,baz=74,slow=5.4,SNR=18
ARCES PKKP **PKKPdf** **19 22 52.5 -0.9**
comp=Z,1.7nm,0.8s,baz=217,slow=2.3,SNR=5.6
comp=Z,11nm,0.8s
O30N Mendenhall 93.35 29 IAmb IAmb 19 05 50.3
comp=Z,57nm,1.3s
O30N IAMs_20 IAMs_20 19 47 39.2
comp=Z,3µm,22.0s
O30N Mendenhall 93.35 29 P **P** **19 05 45.7 +0.2**
baz=277,SNR=9.7
INK Inuvik 93.36 22 IAmb IAmb 19 05 49.1
comp=Z,62nm,1.2s
INK IAMs_20 IAMs_20 19 51 27.1
comp=Z,2µm,20.0s
INK Inuvik 93.36 22 P **P** **19 05 44.8 -0.4**
comp=Z,17nm,0.8s,baz=281,slow=5.8,SNR=27
comp=Z,17nm,0.8s
INK Inuvik 93.36 22 P **P** **19 05 45.2 0.0**
baz=280,SNR=13
PLBC Pleasant Camp 93.37 30 P **P** **19 05 45.5 0.0**
baz=277,SNR=10
N31M Braeburn, Yuko 93.41 28 IAMs_20 IAMs_20 19 48 21.8
comp=Z,3µm,21.0s
N31M Braeburn, Yuko 93.41 28 P **P** **19 05 46.5 +0.8**
baz=277,SNR=36
F31M Tsiigehtchic 93.42 22 IAmb IAmb 19 05 49.2
comp=Z,90nm,1.2s
F31M IAMs_20 IAMs_20 19 52 58.8
comp=Z,2µm,21.0s
F31M Tsiigehtchic 93.42 22 P **P** **19 05 44.9 -0.7**
baz=279,SNR=17
H31M Peel River 93.44 24 IAmb IAmb 19 05 49.9
comp=Z,89nm,1.4s
H31M IAMs_20 IAMs_20 19 52 48.5
comp=Z,3µm,21.0s
H31M Peel River 93.44 24 P **P** **19 05 45.8 0.0**
baz=279,SNR=14
SPB2 Spitsbergen Ar 93.58 349 IAmb IAmb 19 05 58.8
comp=Z,115nm,1.5s
SPITS Spitsbergen Ar 93.58 349 P **P** **19 05 45.0 -1.2**
comp=Z,7.5nm,0.7s,baz=97,slow=4.8,SNR=11
SPITS LR LR 19 54 20.1
comp=Z,2µm,19.3s,baz=62,slow=40
comp=Z,7.5nm,0.7s
SPITS Spitsbergen Ar 93.58 349 P **P** **19 05 45.0 -1.2**
S31K Pelican 93.61 32 IAmb IAmb 19 05 50.6
comp=Z,31nm,1.1s
S31K Pelican 93.61 32 P **P** **19 05 46.3 -0.3**
baz=277,SNR=7.1
TAOE Nuku Hiva Isla 93.62 99 *e*PKIKP P 19 05 41.6 -6.1
comp=Z,263nm,29.6s
TAOE Nuku Hiva Isla 93.62 99 *e*S S 19 16 44.5 -11
comp=Z,852nm,29.1s
TAOE *e*SS **SS** **19 23 07.1 -6.3**
comp=Z,1µm,30.4s
TAOE *e*LQ LQ 19 31 47.5
comp=Z,1µm,23.8s
TAOE *e*LR LR 19 35 45.5
comp=Z,6µm,23.0s
SAHE Sakarya_HENDEK 93.80 311 ⇑P **P** **19 05 47.3 -0.7**
R31K City Hall, Gus 93.81 31 P **P** **19 05 47.7 +0.2**
baz=277
SKAG Skagway 93.89 30 IAmb IAmb 19 05 52.8
comp=Z,82nm,1.2s
SKAG IAMs_20 IAMs_20 19 46 31.7
comp=Z,2µm,22.0s
SKAG Skagway 93.89 30 P **P** **19 05 50.1 +2.2**
SKAG Skagway 93.89 30 P **P** **19 05 48.6 +0.8**
baz=278,SNR=11
WHY Whitehorse 93.95 29 P **P** **19 05 49.1 +0.7**
baz=278,SNR=54
M31M Drury Creek, Y 93.96 28 IAmb IAmb 19 05 52.7
comp=Z,95nm,1.5s
M31M IAMs_20 IAMs_20 19 49 57.4
comp=Z,3µm,21.0s
M31M Drury Creek, Y 93.96 28 P **P** **19 05 48.5 +0.3**
baz=278,SNR=36
AK09 Malin Array Si 94.09 321 P **P** **19 05 49.5 +0.5**
AK08 Malin Array Si 94.11 321 P **P** **19 05 47.3 -1.8**
AK10 Malin Array Si 94.11 321 P **P** **19 05 48.5 -0.6**
AKASG Malin Array Be 94.12 321 P **P** **19 05 47.1 -2.0**
AKASG Malin Array Be 94.12 321 P **P** **19 05 47.3 -1.8**
comp=Z,4.3nm,0.8s,baz=73,slow=4.3,SNR=15
AKASG LR LR 19 51 44.2
comp=Z,2µm,20.4s,baz=80,slow=38
comp=Z,4.3nm,0.8s
AKASG Malin Array Be 94.12 321 P **P** **19 05 47.1 -2.0**
AKASG pmax pmax
comp=Z,38nm,1.5s
AKBB Malin Array Si 94.12 321 IAmb IAmb 19 07 31.5
comp=Z,21nm,0.6s
AKBB Malin Array Si 94.12 321 *ce*P **P** **19 05 48.7 -0.4**
AKBB Malin Array Si 94.12 321 P **P** **19 05 48.3 -0.8**
KBS Kingsbay 94.12 350 *i* P **P** **19 05 46.9 -1.7**
KIEV Kiev 94.13 321 P **P** **19 05 46.8 -2.4**
KIEV IAmb IAmb 19 07 31.5
comp=Z,19nm,0.6s
KIEV Kiev 94.13 321 IAMs_20 IAMs_20 19 51 23.8
comp=Z,2µm,20.0s
KIEV Kiev 94.13 321 P **P** **19 05 46.8 -2.4**
KIEV pmax pmax
comp=Z,19nm,0.6s
KIEV MLR MLR
comp=Z,2µm,20.0s
KIEV Kiev 94.13 321 *i* P **P** **19 05 48.8 -0.3**
SNR=7.4
HSPB Hornsund (broa 94.15 348 *e*P **P** **19 05 48.0 -0.7**
HSPB *e*L L 19 52 58.8
comp=Z,4µm,21.9s
SIT Sitka 94.20 33 IAmb IAmb 19 05 54.3
comp=Z,48nm,1.2s
SIT Sitka 94.20 33 P **P** **19 05 51.0 +1.7**
SIT Sitka 94.20 33 P **P** **19 05 50.0 +0.7**
baz=277
POGA Pongola 94.26 243 IAmb IAmb 19 05 52.8
comp=Z,43nm,0.9s
POGA IAMs_20 IAMs_20 19 47 12.7
comp=Z,2µm,20.0s
FARO Faro, Yukon 94.44 28 IAMs_20 IAMs_20 19 50 11.1
comp=Z,2µm,22.0s
FARO Faro, Yukon 94.44 28 P **P** **19 05 51.2 +0.8**
baz=279,SNR=33
R32K Eaglecrest 94.47 32 IAmb IAmb 19 05 55.5
comp=Z,37nm,1.1s
R32K Eaglecrest 94.47 32 P **P** **19 05 51.3 +0.7**
baz=278
FINES FINESS Array B 94.47 332 P **P** **19 05 48.9 -1.6**
comp=Z,8.3nm,0.9s,baz=65,slow=4.7,SNR=12
comp=Z,8.3nm,0.9s
MNK Minsk 94.50 325 *i* P **P** **19 05 50.1 -0.7**
MNK *i* 19 09 38.1
MNK *i* PPP PPP 19 11 39.8
MNK *i* S **SKSac** **19 16 21.6 -2.1**
MNK *i* PS **PS** **19 18 21.2 +0.6**
MNK *i* SS **SS** **19 23 19.0 -4.7**
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK pmax pmax
comp=Z,37nm,0.8s
MNK MLR MLR
comp=N,3µm,21.0s
MNK MLR MLR
comp=E,834nm,22.0s
MNK MLR MLR
comp=Z,3µm,21.0s
JIS Juneau Island 94.54 32 P **P** **19 05 52.3 +1.4**
S32K Killisnoo 94.55 32 P **P** **19 05 51.7 +0.7**
baz=278
VSU Vasula 94.60 329 *i* P **P** **19 05 51.0 -0.1**
VSU pmax pmax
comp=Z,66nm,2.4s
P32M Atlin 94.69 30 IAmb IAmb 19 05 56.4
comp=Z,120nm,2.0s
P32M IAMs_20 IAMs_20 19 46 36.7
comp=Z,2µm,22.0s
P32M Atlin 94.69 30 P **P** **19 05 52.4 +0.8**
baz=279,SNR=10
N32M Quiet Lake 94.75 29 IAMs_20 IAMs_20 19 47 23.6
comp=Z,2µm,22.0s
N32M Quiet Lake 94.75 29 P **P** **19 05 52.4 +0.5**
baz=280
KIS Kishinev 94.75 317 ⇑ *i* P **P** **19 05 50.4 -1.7**
comp=Z,110nm,3.7s
KIS *e*L L 19 50 44.0
KIS LRM MLR 19 53 22.0
comp=Z,500nm,20.5s
KIS Kishinev 94.75 317 *c i* P **P** **19 05 50.0 -2.1**
KIS pmax pmax
comp=Z,110nm,3.7s
MILM Milestii Mici 94.77 317 ⇑ *i* P **P** **19 05 50.0 -2.2**
comp=Z,300nm,2.7s
MILM Milestii Mici 94.77 317 *e*PP PP 19 09 50.0 +9.2
MILM Milestii Mici 94.77 317 *i* PS PS 19 18 23.0 -0.7
MILM *e*L L 19 47 42.0
MILM LRM MLR 19 56 00.0
comp=Z,1µm,22.5s
MILM Milestii Mici 94.77 317 *c i* P **P** **19 05 50.0 -2.2**
MILM *e*S **S** **19 17 04.0 +0.4**
MILM *i* PS **PS** **19 18 23.0 -0.7**
MILM pmax pmax
comp=Z,300nm,2.7s
SORM Soroca 94.95 318 ⇑P **P** **19 05 52.4 -0.6**
SORM Soroca 94.95 318 P **P** **19 05 52.4 -0.6**
P33M Teslin, Yukon 95.03 29 IAmb IAmb 19 05 57.8
comp=Z,42nm,1.3s
P33M IAMs_20 IAMs_20 19 46 53.8
comp=Z,3µm,21.0s
P33M Teslin, Yukon 95.03 29 P **P** **19 05 53.7 +0.5**
baz=280,SNR=10.0
A36M Sachs Harbour 95.23 17 IAMs_20 IAMs_20 19 54 04.5
comp=Z,2µm,20.0s
A36M Sachs Harbour 95.23 17 P **P** **19 05 53.7 -0.1**
baz=288
TIRR Tirgusor 95.29 315 ⇓P **P** **19 05 54.4 -0.3**
TIRR Tirgusor 95.29 315 P **P** **19 05 54.3 -0.3**
MMPY Sheldon Lake, 95.33 27 IAmb IAmb 19 05 59.5
comp=Z,90nm,1.2s
MMPY IAMs_20 IAMs_20 19 48 53.4
comp=Z,3µm,22.0s
MMPY Sheldon Lake, 95.33 27 P **P** **19 05 55.4 +0.9**
baz=281,SNR=72
CFR Carcaliu 95.42 315 ⇑P **P** **19 05 55.0 -0.2**
CFR Carcaliu 95.42 315 P **P** **19 05 54.9 -0.2**
Q32M Nakina River 95.52 31 IAmb IAmb 19 06 00.6
comp=Z,75nm,1.6s
Q32M IAMs_20 IAMs_20 19 44 17.8
comp=Z,2µm,22.0s
Q32M Nakina River 95.52 31 P **P** **19 05 56.0 +0.4**
baz=280,SNR=9.3
MBAR Mbarara 95.53 269 *i* P **P** **19 05 54.3 -2.3**
MBAR pmax pmax
comp=Z,25nm,2.3s
U33K Whale Pass 95.55 34 IAMs_20 IAMs_20 19 45 28.6
comp=Z,2µm,22.0s
U33K Whale Pass 95.55 34 P **P** **19 05 56.0 +0.5**
baz=279
PSN Preselentsi 95.58 314 P **P** **19 05 52.8 -3.2**
HARR Harsova 95.61 315 ⇑P **P** **19 05 56.8 +0.7**
HARR Harsova 95.61 315 P **P** **19 05 56.8 +0.7**
CRAG Craig 95.64 34 IAMs_20 IAMs_20 19 48 30.3
comp=Z,2µm,19.0s
CRAG Craig 95.64 34 P **P** **19 05 59.7 +3.7**
CRAG Craig 95.64 34 P **P** **19 05 56.7 +0.7**
baz=279
WRAK Wrangell Islan 95.92 33 IAmb IAmb 19 06 01.6
comp=Z,37nm,1.1s
WRAK Wrangell Islan 95.92 33 P **P** **19 05 57.5 +0.3**
baz=280,SNR=7.8
R33M Jennings River 96.10 30 IAmb IAmb 19 06 03.2
comp=Z,74nm,1.4s
R33M Jennings River 96.10 30 P **P** **19 05 58.9 +0.7**
baz=281,SNR=29
RNPP9 Sopachiv 96.12 322 P **P** **19 05 57.2 -1.0**
RNPP5 Staryi Chortor 96.15 322 P **P** **19 05 57.2 -1.2**
PRD Provadia 96.15 313 P **P** **19 05 58.1 -0.5**
NOR Nord 96.29 355 *i* P **P** **19 05 57.8 -0.7**
NOR IAmb IAmb 19 06 00.8
comp=Z,118nm,2.0s
TESR Tescani 96.29 317 ⇑P **P** **19 05 59.4 +0.2**
S34M Telegraph Cree 96.30 32 IAmb IAmb 19 06 04.0
comp=Z,52nm,1.4s
S34M IAMs_20 IAMs_20 19 44 08.5
comp=Z,2µm,22.0s
S34M Telegraph Cree 96.30 32 P **P** **19 05 59.7 +0.8**
baz=281,SNR=12
VRI Vrincioaia 96.32 316 ⇑P **P** **19 05 59.5 +0.2**
VRI Vrincioaia 96.32 316 P **P** **19 05 59.5 +0.2**
BISRR Bisoca 96.37 316 ⇓P **P** **19 05 59.9 +0.3**
PLOR Plostina 96.38 316 ⇑P **P** **19 06 00.1 +0.4**
PLOR Plostina 96.38 316 P **P** **19 06 00.0 +0.4**
V35K Ketchikan 96.52 34 P **P** **19 06 00.6 +0.7**
baz=280
PABE Paberze 96.58 326 IAmb IAmb 19 06 03.5
comp=Z,37nm,0.8s
PABE IAMs_20 IAMs_20 19 51 25.4
comp=Z,2µm,22.0s
MOBC Moresby Island 96.69 36 IAMs_20 IAMs_20 19 45 31.2
comp=Z,3µm,20.0s
DLBC Dease Lake 96.77 31 P **P** **19 06 00.8 -0.4**
comp=Z,1.5nm,1.2s,baz=226,slow=4.1,SNR=17
DLBC LR LR 19 45 12.7
comp=Z,180nm,21.7s,baz=260,slow=33
DLBC Dease Lake 96.77 31 P **P** **19 06 01.6 +0.4**
baz=282,SNR=9.6
TURR Turia 96.79 316 ⇓P **P** **19 06 01.9 +0.4**
MLR Muntele Rosu 96.91 316 IAmb IAmb 19 06 05.8
comp=Z,77nm,1.4s
MLR IAMs_20 IAMs_20 19 54 04.2
comp=Z,2µm,22.0s
MLR Muntele Rosu 96.91 316 P **P** **19 06 01.5 -0.7**
comp=Z,14nm,0.9s,baz=36,slow=1.1,SNR=12
MLR LR LR 19 55 03.6
comp=Z,2µm,21.7s,baz=75,slow=39
comp=Z,14nm,0.9s
MLR Muntele Rosu 96.91 316 ⇑P **P** **19 06 02.3 +0.1**
TGTN Hyland Airport 96.94 28 P **P** **19 06 02.3 +0.5**
baz=284,SNR=7.4
T35M Bob Quinn 96.95 32 IAMs_20 IAMs_20 19 47 51.7
comp=Z,2µm,22.0s
T35M Bob Quinn 96.95 32 P **P** **19 06 03.1 +1.1**
baz=282,SNR=6.4
WTLY Watson Lake, Y 97.02 29 IAMs_20 IAMs_20 19 48 37.4
comp=Z,3µm,21.0s
WTLY Watson Lake, Y 97.02 29 P **P** **19 06 03.3 +1.0**
baz=283
BURAR Bucovina Array 97.11 318 P **P** **19 06 02.2 -0.8**
BURAR IAmb IAmb 19 06 08.2
comp=Z,24nm,0.8s
BURAR Bucovina Array 97.11 318 ⇑P Pdif 19 06 03.6 +0.5
BURAR Bucovina Array 97.11 318 P **P** **19 06 02.9 -0.1**
BUR08 Bucovina Ar. S 97.12 318 IAmb IAmb 19 06 07.9
comp=Z,22nm,0.8s
SZH Strazhitsa 97.18 314 P **P** **19 06 01.9 -1.4**
U35K Hyder 97.29 33 P Pdif 19 06 04.0 +0.5
baz=282
SUW Suwalki 97.31 325 IAMs_20 IAMs_20 19 51 37.6
comp=Z,3µm,22.0s
EZN Ezine 97.34 310 ⇓P **P** **19 06 03.4 -0.7**
EZN Ezine 97.34 310 P **P** **19 06 03.4 -0.7**
MATP Matopo 97.44 250 LR LR 19 46 27.9
comp=Z,1µm,21.6s,baz=84,slow=33
RUBB Prince Rupert 97.48 35 IAMs_20 IAMs_20 19 45 43.8
comp=Z,3µm,20.0s
LSZ Lusaka 97.91 255 P **P** **19 06 05.8 -1.4**
LSZ Lusaka 97.91 255 IAMs_20 IAMs_20 19 50 22.0
comp=Z,4µm,22.0s
LSZ Lusaka 97.91 255 LR LR 19 48 36.9
comp=Z,1µm,20.0s,baz=104,slow=34
LSZ Lusaka 97.91 255 P **P** **19 06 07.5 +0.2**
LSZ P **P** **19 06 07.5 +0.2**
LSZ Lusaka 97.91 255 P **P** **19 06 05.9 -1.4**
LSZ pmax pmax
comp=Z,19nm,1.0s
LSZ MLR MLR
comp=Z,4µm,22.0s
RZN Rozhen 98.30 312 P **P** **19 06 07.0 -1.6**
MREMI Moremi 98.32 247 IAMs_20 IAMs_20 19 51 08.5
comp=Z,3µm,21.0s
KWP Kalwaria Pacla 98.42 320 *e*P **P** **19 06 08.4 -0.4**
KWP *e*L L 19 53 53.0
comp=Z,2µm,22.6s
WRGLY Wrigley 98.62 25 IAMs_20 IAMs_20 19 55 49.4
comp=Z,2µm,20.0s
MARR Marisel-Cluj 98.67 317 ⇑P Pdif 19 06 10.6 +0.5
KOLS Kolonicke sedl 98.83 320 *e*P Pdif 19 06 12.6 +2.0
KOLS Kolonicke sedl 98.83 320 *e*PDIFF Pdif 19 06 12.6 +2.0
IDI Anoyia 99.02 306 LR LR 19 58 20.1
comp=Z,733nm,21.4s,baz=73,slow=40
MMB Musomishta 99.06 312 P **Pdif** **19 06 07.9 -3.9**
PLNA Plana 99.15 313 P **Pdif** **19 06 10.1 -2.2**
BEL Belsk 99.17 323 *e*P **Pdif** **19 06 11.7 -0.3**
BEL *e*L L 19 52 40.9
comp=Z,872nm,23.1s
BBB Bella Bella 99.18 37 IAMs_20 IAMs_20 19 50 51.0
comp=Z,2µm,20.0s
BBB Bella Bella 99.18 37 LR LR 19 46 11.9
comp=Z,1µm,19.7s,baz=270,slow=32
VTS Vitosha 99.27 313 P **Pdif** **19 06 12.6 -0.3**
STHS Stebnicka Huta 99.39 320 *e*P **Pdif** **19 06 14.2 +1.1**
STHS *e* 19 10 16.5
STHS Stebnicka Huta 99.39 320 *e*PDIFF **Pdif** **19 06 14.2 +1.1**
STHS Stebnicka Huta 99.39 320 *e*PP **PP** **19 10 16.5 +0.1**
KKB Krupnik 99.47 312 P **Pdif** **19 06 11.9 -1.7**
HERR Herculane 99.47 316 ⇑P **Pdif** **19 06 13.6 +0.1**
HOLB Holberg 99.51 38 IAMs_20 IAMs_20 19 45 05.7
comp=Z,3µm,22.0s
LPHEP Lephephe 99.73 247 IAMs_20 IAMs_20 19 51 39.9
comp=Z,3µm,20.0s
SIRR Siria 99.74 317 ⇑P **Pdif** **19 06 15.1 +0.4**
LBTB Lobatse 99.86 245 LR LR 19 47 50.4
comp=Z,979nm,21.9s,baz=104,slow=33
BOSA Boshof 99.88 241 P **Pdif** **19 06 15.2 -0.6**
comp=Z,8.8nm,1.0s,baz=99,slow=7.1,SNR=6.1
BOSA LR LR 19 47 36.1
comp=Z,2µm,20.9s,baz=104,slow=33
comp=Z,8.8nm,1.0s
NIE Niedzica 100.00 320 *e*P **Pdif** **19 06 15.1 -0.7**
NIE *e*S SKKSac 19 17 14.1 -12
NIE *e*L L 19 59 45.0
comp=Z,1µm,22.0s
TROLL Troll, Antarti 100.38 195 ⇑P **Pdif** **19 06 18.3 +1.2**
comp=Z,283nm,0.8s
DAG Danmarks Havn 100.41 352 P **Pdif** **19 06 13.3 -3.7**
DAG PP **PP** **19 10 20.5 -2.8**
DAG Danmarks Havn 100.41 352 *i* P **Pdif** **19 06 14.5 -2.5**
PSZ Piszkesteto 100.58 319 IAMs_20 IAMs_20 19 56 26.1
comp=Z,2µm,21.0s
LANS Liptovska Anna 100.59 320 *e*P **Pdif** **19 06 22.9 +4.4**
LANS *e* 19 10 22.5
LANS Liptovska Anna 100.59 320 *e*PDIFF **Pdif** **19 06 22.9 +4.4**
LANS *e*PP **PP** **19 10 22.5 -3.0**
HFS Hagfors 100.67 332 P **Pdif** **19 06 18.2 -0.3**
comp=Z,8.3nm,1.0s,baz=98,slow=4.5,SNR=7.6
KSANE Kasane 100.71 252 IAMs_20 IAMs_20 19 47 09.1
comp=Z,3µm,22.0s
KDWAN Kaudwane 100.83 246 IAMs_20 IAMs_20 19 52 25.1
comp=Z,3µm,21.0s
RES Resolute Bay 101.09 10 IAMs_20 IAMs_20 19 57 24.3
comp=Z,2µm,20.0s
VYHS Vyhne 101.14 320 *e*P **Pdif** **19 06 22.5 +1.6**
VYHS Vyhne 101.14 320 *e*PDIFF **Pdif** **19 06 22.5 +1.6**
PHDHD Phuduhudu 101.16 250 IAMs_20 IAMs_20 19 52 16.0
comp=Z,2µm,22.0s
OKC Ostrava-Krasne 101.26 321 AMS AMS 20 07 10.0
comp=Z,3µm,19.4s
CBB Campbell River 101.37 39 IAMs_20 IAMs_20 19 46 12.1
comp=Z,3µm,21.0s

NB2 NORSAR Subarra 101.49 333 P **Pdif** **19 06 20.8 -1.4**
comp=Z,19nm,1.2s,baz=69,slow=4.6
NB2 NORSAR Subarra 101.49 333 P **Pdif** **19 06 20.8 -1.4**
baz=69,slow=4.6
NOA NORSAR Array B 101.49 333 P **Pdif** **19 06 21.3 -0.9**
comp=Z,4.0nm,0.9s,baz=69,slow=4.5,SNR=9.6
OZB Mount Ozzard 101.56 40 IAMs_20 IAMs_20 19 48 53.0
comp=Z,3µm,20.0s
MORC Moravsky Berou 101.66 321 *e*PDIFF **Pdif** **19 06 22.7 -0.5**
JAVC Velka Javorina 101.81 320 *e*PDIFF **Pdif** **19 06 23.2 -0.7**
SNAA Sanae 101.95 195 ⇑P **Pdif** **19 06 23.2 -0.9**
comp=Z,90nm,0.9s
SNAA Sanae 101.95 195 IAMs_20 IAMs_20 19 51 21.4
comp=Z,3µm,21.0s
SNAA Sanae 101.95 195 P **Pdif** **19 06 24.1 0.0**
comp=Z,2.4nm,0.9s,baz=111,slow=2.5,SNR=7.1
KRLC Kraliky 102.05 322 AMS AMS 20 06 50.0
comp=Z,2µm,19.3s
KSP Ksiaz 102.14 322 *e*P **Pdif** **19 06 25.0 -0.3**
KSP *e*L L 19 54 41.7
comp=Z,3µm,22.0s
NEEM North Greenlan 102.17 359 *i* P **Pdif** **19 06 24.0 -1.3**
MODS Modra-Piesok 102.18 320 *e*P **Pdif** **19 06 26.6 +1.1**
MODS Modra-Piesok 102.18 320 *e*PDIFF **Pdif** **19 06 26.6 +1.1**
MODS Modra-Piesok 102.18 320 *e*PP **PP** **19 10 31.1 -6.4**
DPC Dobruska-Polom 102.26 322 *e*PKP 19 07 47.7
DPC AMS AMS 19 59 10.0
comp=Z,2µm,22.6s
OSTC Ostas 102.27 322 *e*PKP 19 07 47.7
OSTC AMS AMS 19 54 30.0
comp=Z,3µm,21.4s
PHPEN Phepeng 102.30 244 IAMs_20 IAMs_20 19 51 57.7
comp=Z,2µm,21.0s
CHVC Chvalec 102.36 322 AMS AMS 19 54 40.0
comp=Z,3µm,21.1s
VRAC Vranov 102.37 321 *e*PDIFF **Pdif** **19 06 25.9 -0.5**
VRAC Vranov 102.37 321 P **Pdif** **19 06 26.5 +0.2**
comp=Z,1.1nm,0.4s,baz=100,slow=4.9,SNR=6.7
C03A Quillayute Air 102.41 41 IAMs_20 IAMs_20 19 46 56.6
comp=Z,4µm,21.0s
UPC Upice 102.41 322 *e*PKP 19 07 47.3
UPC AMS AMS 19 54 40.0
comp=Z,3µm,20.6s
CLRS Cowichan Lake 102.46 40 IAMs_20 IAMs_20 19 49 41.0
comp=Z,3µm,20.0s
KRUC Moravsky 102.56 321 *e*PDIFF **Pdif** **19 06 26.8 -0.4**
YKA Yellowknife Ar 102.65 25 P **Pdif** **19 06 26.9 -0.3**
comp=Z,2.7nm,0.9s,baz=298,slow=5.2,SNR=6.1
RGN Rugen 102.75 327 IAMs_20 IAMs_20 19 55 24.4
comp=Z,3µm,22.0s
PGC Sidney 102.94 40 IAMs_20 IAMs_20 19 49 24.7
comp=Z,2µm,20.0s
RONA Rosalia, Austr 102.99 319 *i* Pdiff **Pdif** **19 06 30.6 +1.4**
comp=Z,4.6nm,1.4s
NLWA Neilton Lookou 103.01 41 IAMs_20 IAMs_20 19 47 13.5
comp=Z,2µm,22.0s
TREC Trest 103.08 321 *e*PKP 19 07 50.0
TREC AMS AMS 20 07 50.0
comp=Z,2µm,18.7s
KGCAE Kacgae 103.12 247 IAMs_20 IAMs_20 19 54 35.9
comp=Z,3µm,21.0s
WISH Wishkah 103.14 41 IAMs_20 IAMs_20 19 51 59.1
comp=Z,2µm,19.0s
CONA Conrad Observa 103.21 320 *i* Pdiff **Pdif** **19 06 29.6 -0.6**
comp=Z,1.0nm,0.8s
CONA *e*PP **PP** **19 10 44.5 -0.9**
comp=Z,4.7nm,1.6s
PVCC Panska Ves 103.29 322 AMS AMS 19 55 10.0
comp=Z,2µm,21.4s
RADR Rader Ridge 103.31 42 IAMs_20 IAMs_20 19 48 07.5
comp=Z,2µm,21.0s
GOPC GO Pecny, Ondr 103.33 322 *e*PKP 19 07 49.3
GOPC AMS AMS 20 00 00.0
comp=Z,2µm,20.4s
LLLB Lillooet 103.36 37 IAMs_20 IAMs_20 19 53 09.6
comp=Z,2µm,20.0s
A04D Lummi Island 103.40 39 IAMs_20 IAMs_20 19 49 39.7
comp=Z,3µm,21.0s
E03A Lebam 103.43 42 IAMs_20 IAMs_20 19 48 02.8
comp=Z,2µm,20.0s
GMARE Gumare 103.45 250 IAMs_20 IAMs_20 19 50 11.6
comp=Z,3µm,21.0s
PRU Pruhonice 103.46 322 *e*PKP 19 07 49.2
PRU AMS AMS 20 00 00.0
comp=Z,3µm,21.2s
PRA Prague 103.51 322 AMS AMS 20 00 00.0
comp=Z,2µm,19.7s
VNA2 Neumayer--Watz 103.56 194 ⇑P **Pdif** **19 06 32.2 +1.0**
comp=Z,3.3nm,0.6s,baz=136,slow=4.9
BRG Berggiesshubel 103.56 323 P **Pdif** **19 06 38.9 +7.3**
BRG Amp 19 06 42.0
comp=Z,5.0nm,1.0s
BRG Berggiesshubel 103.56 323 PP **PKiKP** **19 10 51.0 +1.0**
BRG Amp 19 10 57.9
comp=Z,5.9nm,1.2s
BRG Berggiesshubel 103.56 323 SP SP 19 19 54.0 +0.4
BRG Berggiesshubel 103.56 323 SS SS 19 25 23.0 -7.5
RICC Richard 103.57 323 *e*PKP 19 07 49.4
RICC AMS AMS 19 55 20.0
comp=Z,2µm,22.2s
F03A Seaside 103.59 42 IAMs_20 IAMs_20 19 46 58.2
comp=Z,2µm,22.0s
ARSA Arzberg 103.62 319 IAMs_20 IAMs_20 19 59 16.4
comp=Z,2µm,21.0s
ARSA Arzberg 103.62 319 *i* Pdiff **Pdif** **19 06 31.3 -0.7**
comp=Z,1.8nm,0.6s
ARSA *e*PP **PP** **19 10 45.6 -2.6**
comp=Z,1.8nm,0.7s
GNW Green Mountain 103.64 41 IAMs_20 IAMs_20 19 47 45.3
comp=Z,3µm,22.0s
KEBM Edson Butte 103.82 46 IAMs_20 IAMs_20 19 46 48.4
comp=Z,3µm,20.0s
ZVC Zvikov 103.84 321 *e*PKP 19 07 50.7
ZVC AMS AMS 19 55 20.0
comp=Z,2µm,22.5s
I02E Swisshome, OR 103.86 44 IAMs_20 IAMs_20 19 46 53.4
comp=Z,4µm,21.0s
LKGWB Lokgwabe 103.91 245 IAMs_20 IAMs_20 19 52 60.0
comp=Z,3µm,21.0s
F04D Rainier, OR 103.92 42 IAMs_20 IAMs_20 19 47 20.9
comp=Z,2µm,21.0s
CKRC Cesky Krumlov 103.95 321 *e*PKP 19 07 51.6
CKRC AMS AMS 20 07 00.0
comp=Z,2µm,18.9s
VNA1 Neumayer--Stat 103.96 194 ⇑P **Pdif** **19 06 34.0 +1.1**
comp=Z,5.2nm,1.0s
G03D McMinnville, O 103.98 43 IAMs_20 IAMs_20 19 46 43.5
comp=Z,3µm,21.0s
CLL Collm 103.99 324 IAMs_20 IAMs_20 19 57 50.7
comp=Z,3µm,22.0s
CLL Collm 103.99 324 *i* P **Pdif** **19 06 33.4 0.0**
CLL *e* 19 10 51.0
CLL *e* 19 17 16.0
CLL *e*S **Sdif** **19 18 16.0 -5.4**
CLL pmax pmax
comp=Z,16nm,1.5s
CLL MLR MLR
comp=Z,3µm,21.8s
J01E Myrtle Point 104.03 45 IAMs_20 IAMs_20 19 46 27.1
comp=Z,3µm,21.0s
KBO Bosley Butte 104.05 46 IAMs_20 IAMs_20 19 47 02.6
comp=Z,3µm,21.0s
SOKA Soboth 104.10 319 *i* Pdiff **Pdif** **19 06 34.5 +0.3**
comp=Z,4.3nm,1.4s
SOKA *i* PKiKP **PKiKP** **19 10 50.8 -0.5**
comp=Z,1.3nm,1.0s
SOKA *e*PKKP **PKKPbc** **19 22 19.5 -5.0**
comp=Z,1.5nm,1.1s
GRTLG Ghanzi 104.17 248 IAMs_20 IAMs_20 19 54 28.7
comp=Z,2µm,21.0s
MOA Molln 104.27 320 *i* Pdiff **Pdif** **19 06 34.7 -0.1**
comp=Z,9.7nm,1.3s
I03D Drain, OR 104.31 45 IAMs_20 IAMs_20 19 47 27.4
comp=Z,4µm,20.0s
KHC Kasperske Hory 104.32 321 *e*PKP 19 07 51.1
KHC AMS AMS 19 55 30.0
comp=Z,2µm,23.0s
GERES GERESS Array B 104.33 321 Pdiff **Pdif** **19 06 34.8 -0.4**
comp=Z,1.1nm,0.9s,baz=337,slow=1.7,SNR=6.9
QNGWA Qangwa 104.37 250 IAMs_20 IAMs_20 19 50 40.0
comp=Z,3µm,21.0s
KSXB Camp Six Broad 104.40 47 IAMs_20 IAMs_20 19 47 55.7
comp=Z,3µm,21.0s
KRMB Red Mountain 104.45 47 IAMs_20 IAMs_20 19 50 56.1
comp=Z,2µm,20.0s
KRPM Rodgers 104.45 47 IAMs_20 IAMs_20 19 50 42.2
comp=Z,3µm,21.0s

OBKA Obir 104.47 318 *i* Pdiff **Pdif** **19 06 36.2 +0.4**
comp=Z,6.2nm,1.6s
OBKA *e*PKiKP **PKiKP** **19 10 51.9 -0.1**
comp=Z,3.4nm,1.3s
OBKA *e*PKKP **PKKPbc** **19 22 19.0 -4.4**
comp=Z,1.8nm,0.6s
G04A Mulino 104.52 43 IAMs_20 IAMs_20 19 47 11.7
comp=Z,3µm,22.0s
JCC Jacoby Creek, 104.52 48 IAMs_20 IAMs_20 19 50 29.2
comp=Z,3µm,19.0s
LON Longmire 104.54 41 IAMs_20 IAMs_20 19 53 52.0
comp=Z,2µm,20.0s
KMPM Mount Pierce 104.55 48 IAMs_20 IAMs_20 19 55 59.9
comp=Z,3µm,18.0s
NKC Novy Kostel 104.67 323 AMS AMS 20 08 20.0
comp=Z,2µm,19.8s
BIOA Bad Ischl, Aus 104.72 320 *i* Pdiff **Pdif** **19 06 36.1 -0.8**
comp=Z,1.7nm,0.7s
BIOA *e*PKKP **PKKPbc** **19 22 19.3 -3.3**
comp=Z,2.0nm,0.9s
KHMM Horse Mountain 104.73 47 IAMs_20 IAMs_20 19 50 36.6
comp=Z,3µm,20.0s
H04A Detroit Lake 104.86 43 IAMs_20 IAMs_20 19 47 41.8
comp=Z,4µm,21.0s
KMRM Mail Ridge 104.90 48 IAMs_20 IAMs_20 19 48 14.3
comp=Z,4µm,22.0s
KOOLE Kule 104.96 246 IAMs_20 IAMs_20 19 55 53.4
comp=Z,2µm,19.0s
BBOR Butler Butte 104.99 45 IAMs_20 IAMs_20 19 47 49.4
comp=Z,3µm,21.0s
MYKA Terra Mystica 105.03 319 *e*Pdiff **Pdif** **19 06 37.9 -0.4**
comp=Z,1.8nm,1.1s
MYKA *i* PKiKP **PKiKP** **19 10 52.5 -0.5**
comp=Z,1.6nm,0.6s
HOOD Mount Hood Mea 105.05 43 IAMs_20 IAMs_20 19 47 18.7
comp=Z,2µm,20.0s
LTY Liberty 105.13 40 IAMs_20 IAMs_20 19 48 33.8
comp=Z,3µm,22.0s
YBH Yreka Blue Hor 105.27 46 IAMs_20 IAMs_20 19 48 13.7
comp=Z,3µm,20.0s
G05A Wamic 105.30 43 IAMs_20 IAMs_20 19 47 27.3
comp=Z,2µm,21.0s
J04A Umpqua Nationa 105.30 45 IAMs_20 IAMs_20 19 47 28.6
comp=Z,3µm,20.0s
LESA Schwarzlental 105.42 320 *i* Pdiff **Pdif** **19 06 39.4 -0.6**
comp=Z,2.6nm,0.9s
LESA *i* PKiKP **PKiKP** **19 10 51.8 -1.9**
comp=Z,2.0nm,1.1s
LESA *e*PKKP **PKKPbc** **19 22 16.2 -4.3**
comp=Z,1.3nm,0.9s
MXC Moxie City 105.59 41 IAMs_20 IAMs_20 19 50 45.7
comp=Z,2µm,22.0s
GRA1 Grafenberg Arr 105.59 322 IAMs_20 IAMs_20 19 56 59.4
comp=Z,3µm,22.0s
GRFO Grenberg 105.60 322 IAMs_20 IAMs_20 19 57 00.4
comp=Z,3µm,22.0s
B08A Colville Reser 105.64 39 IAMs_20 IAMs_20 19 51 31.1
comp=Z,3µm,21.0s
K04D Chiloquin, OR 105.72 45 IAMs_20 IAMs_20 19 48 11.7
comp=Z,3µm,21.0s
G06A Carlson Farm, 105.76 42 IAMs_20 IAMs_20 19 50 32.5
comp=Z,3µm,20.0s
E07A Sunnyside 105.88 41 IAMs_20 IAMs_20 19 48 42.5
comp=Z,3µm,21.0s
J05D Fort Rock, OR 105.91 45 IAMs_20 IAMs_20 19 47 49.5
comp=Z,2µm,20.0s
PINE Pine Mountain 105.97 44 IAMs_20 IAMs_20 19 48 13.1
comp=Z,3µm,21.0s
WAH2 Wahluke Slope 106.01 41 IAMs_20 IAMs_20 19 50 12.9
comp=Z,3µm,21.0s
MCCM Marconi Confer 106.01 50 IAMs_20 IAMs_20 19 51 03.8
comp=Z,3µm,20.0s
F07A Phinny Hill Vi 106.04 42 IAMs_20 IAMs_20 19 52 41.7
comp=Z,2µm,19.0s
WTTA Wattenberg 106.14 320 *i* Pdiff **Pdif** **19 06 43.3 -0.1**
comp=Z,9.9nm,1.6s
WTTA *i* PKiKP **PKiKP** **19 10 55.9 +0.7**
comp=Z,3.0nm,0.7s
HAWA Hanford 106.14 41 IAMs_20 IAMs_20 19 53 52.5
comp=Z,2µm,20.0s
WATA Walderalm 106.16 320 *e*Pdiff **Pdif** **19 06 43.6 +0.2**
comp=Z,2.4nm,0.7s
WATA *i* PKiKP **PKiKP** **19 10 55.2 +0.1**
comp=Z,3.9nm,0.8s
K05A Summer Lake 106.30 45 IAMs_20 IAMs_20 19 48 42.1
comp=Z,3µm,21.0s
D08A Wollman Farm, 106.33 40 IAMs_20 IAMs_20 19 49 20.4
comp=Z,3µm,22.0s
E08A Dider Farm, El 106.42 41 IAMs_20 IAMs_20 19 50 21.9
comp=Z,3µm,22.0s
SQTA Sank Quirin 106.43 320 *i* Pdiff **Pdif** **19 06 43.7 -0.9**
comp=Z,1.5nm,0.7s
SQTA *i* PKiKP **PKiKP** **19 10 55.4 -0.2**
comp=Z,1.6nm,0.7s
SQTA *e*PKKP **PKKPbc** **19 22 14.4 -3.1**
comp=Z,2.0nm,0.6s
SUMG Summit 106.44 355 PKP **PKiKP** **19 10 59.6 +4.4**
MOTA Moosalm 106.46 320 *e*Pdiff **Pdif** **19 06 44.9 +0.2**
comp=Z,6.3nm,1.7s
MOTA *i* PKiKP **PKiKP** **19 10 55.9 +0.2**
comp=Z,4.6nm,1.4s
MOTA *e*PKKP PKKPbc 19 22 08.7 -8.7
comp=Z,5.1nm,1.6s
YPT Yellepit 106.63 41 IAMs_20 IAMs_20 19 50 01.3
comp=Z,2µm,21.0s
ORV Oroville 106.71 48 IAMs_20 IAMs_20 19 48 57.2
comp=Z,2µm,21.0s
FETA Feichten 106.81 320 *i* Pdiff **Pdif** **19 06 44.5 -1.8**
comp=Z,1.4nm,0.9s
FETA *i* PKiKP **PKiKP** **19 10 56.2 -0.2**
comp=Z,2.4nm,1.1s
FETA *e*PKKP **PKKPbc** **19 22 09.7 -6.6**
comp=Z,3.0nm,1.3s
G08A Pilot Rock 106.87 42 IAMs_20 IAMs_20 19 51 08.8
comp=Z,2µm,20.0s
E09A Wood Farm, Sta 107.01 41 IAMs_20 IAMs_20 19 49 50.5
comp=Z,3µm,22.0s
NEW Newport 107.06 39 IAMs_20 IAMs_20 19 55 50.6
comp=Z,2µm,20.0s
LNOR Lincton Mounta 107.13 41 IAMs_20 IAMs_20 19 57 39.7
comp=Z,2µm,20.0s
STU Stuttgart 107.16 322 IAMs_20 IAMs_20 19 57 56.9
comp=Z,3µm,22.0s
DAVA Damuels 107.26 320 *e*Pdiff **Pdif** **19 06 47.8 -0.5**
comp=Z,2.7nm,1.0s
DAVA *i* PKiKP **PKiKP** **19 10 57.2 0.0**
comp=Z,1.8nm,0.9s
DAVA *e*PKKP **PKKPbc** **19 22 10.2 -4.8**
comp=Z,3.1nm,1.1s
AFDM Forest Hills D 107.26 49 IAMs_20 IAMs_20 19 50 56.9
comp=Z,3µm,20.0s
SAO San Andreas Ge 107.45 51 IAMs_20 IAMs_20 19 47 39.0
comp=Z,3µm,21.0s
TSUM Tsumeb 107.77 250 IAMs_20 IAMs_20 19 56 00.2
comp=Z,3µm,22.0s
J08A Circle Bar Ran 107.81 44 IAMs_20 IAMs_20 19 49 23.8
comp=Z,3µm,20.0s
BBGB Big Mountain B 107.81 51 IAMs_20 IAMs_20 19 48 50.6
comp=Z,3µm,20.0s
WIN Windhoek 107.84 247 IAMs_20 IAMs_20 19 53 25.1
comp=Z,2µm,21.0s
BFO Black Forest 107.86 322 IAMs_20 IAMs_20 19 58 18.3
comp=Z,3µm,22.0s
TUE Stuetta 107.89 320 IAMs_20 IAMs_20 20 01 11.3
comp=Z,2µm,21.0s
CMB Columbia Colle 107.94 50 IAMs_20 IAMs_20 19 51 52.0
comp=Z,2µm,21.0s
PMPB Monarch Peak 108.09 52 IAMs_20 IAMs_20 20 01 46.9
comp=Z,3µm,18.0s
BMO Blue Mountains 108.12 42 IAMs_20 IAMs_20 19 49 29.9
comp=Z,3µm,22.0s
MEM Membach 108.35 325 *d*PKiKP **PKiKP** **19 11 00.4 +1.5**
BLKN Baker Lake 108.38 18 IAMs_20 IAMs_20 19 59 30.1
comp=Z,3µm,21.0s
WAKR Walker 108.54 49 IAMs_20 IAMs_20 19 51 24.6
comp=Z,3µm,20.0s
ECH Echery 108.63 322 IAMs_20 IAMs_20 20 00 33.6
comp=Z,2µm,20.0s
WLF Walferdange 108.66 324 IAMs_20 IAMs_20 20 03 22.3
comp=Z,2µm,19.0s
WLF Walferdange 108.66 324 *d*PKiKP **PKiKP** **19 10 59.7 +0.2**
PLID Pearl Lake 108.91 42 IAMs_20 IAMs_20 19 52 44.8
comp=Z,2µm,20.0s
RYN Ryan 109.19 49 IAMs_20 IAMs_20 19 51 57.9
comp=Z,3µm,20.0s
UCC Uccle 109.22 325 IAMs_20 IAMs_20 20 01 31.0
comp=Z,3µm,22.0s
SENIN Lac Senin/Sane 109.25 320 IAMs_20 IAMs_20 20 03 24.2
comp=Z,2µm,21.0s
LHV Little Huntoon 109.31 49 IAMs_20 IAMs_20 19 50 11.1
comp=Z,3µm,20.0s
NVAR Mina Array Bea 109.41 49 Pdiff **Pdif** **19 07 00.1 +1.9**
comp=Z,0.3nm,0.3s,baz=268,slow=4.7,SNR=5.0
NVAR PKiKP **PKiKP** **19 11 02.1 +0.5**
comp=Z,0.9nm,0.8s,baz=331,slow=3.8,SNR=5.6
NVAR PKKPbc **PKKPbc** **19 22 08.6 +0.6**
comp=Z,1.4nm,1.0s,baz=52,slow=1.1,SNR=3.7
MSO Missoula 109.60 39 IAMs_20 IAMs_20 19 56 58.8
comp=Z,2µm,19.0s
MFID Camas Ranch 109.61 43 IAMs_20 IAMs_20 19 50 22.5
comp=Z,3µm,22.0s
DSP Deep Springs 109.97 50 IAMs_20 IAMs_20 19 50 28.5
comp=Z,3µm,21.0s
ISA Isabella, Lake 110.06 52 IAMs_20 IAMs_20 19 54 51.0
comp=Z,3µm,19.0s
Q09A Carvers 110.13 48 IAMs_20 IAMs_20 19 56 13.7
comp=Z,2µm,20.0s
MZP Montezuma Peak 110.32 49 IAMs_20 IAMs_20 19 49 30.8
comp=Z,2µm,21.0s
HLID Hailey 110.52 43 IAMs_20 IAMs_20 19 55 28.5
comp=Z,3µm,20.0s
GRAC Grapevine Rang 110.54 50 IAMs_20 IAMs_20 19 50 33.7
comp=Z,3µm,21.0s
EKA Eskdalemuir Ar 110.88 332 PKKPbc PKKPbc 19 22 02.9 -0.6
comp=Z,1.2nm,0.7s,baz=241,slow=3.4,SNR=8.4
ELK Elko 110.94 46 IAMs_20 IAMs_20 19 52 25.8
comp=Z,2µm,21.0s
DLMT Dillon 111.04 40 IAMs_20 IAMs_20 19 54 06.9
comp=Z,3µm,21.0s
WCT Wildcat Mounta 111.17 50 IAMs_20 IAMs_20 19 53 01.3
comp=Z,3µm,20.0s
QSM Queen of Sheba 111.22 51 IAMs_20 IAMs_20 19 51 08.8
comp=Z,2µm,21.0s
GWY Greenwater Val 111.31 51 IAMs_20 IAMs_20 19 50 52.2
comp=Z,2µm,21.0s
TPNV Topopah Spring 111.41 50 IAMs_20 IAMs_20 19 50 01.6
comp=Z,3µm,22.0s
GSC Goldstone, Bar 111.46 52 IAMs_20 IAMs_20 19 55 35.3
comp=Z,3µm,19.0s
R11B Troy Canyon, C 111.47 48 IAMs_20 IAMs_20 20 04 00.2
comp=Z,2µm,18.0s
BOZ Bozeman (W) 111.56 40 IAMs_20 IAMs_20 19 54 23.8
comp=Z,3µm,21.0s
S11A Rachel 111.58 49 IAMs_20 IAMs_20 19 50 25.0
comp=Z,3µm,22.0s
CLF Chambon-Foret 111.69 323 IAMs_20 IAMs_20 20 05 17.4
comp=Z,3µm,20.0s
YHL Hebgen Lake 112.16 40 IAMs_20 IAMs_20 19 52 42.6
comp=Z,3µm,22.0s
SPR3 Spring Creek 3 112.19 47 IAMs_20 IAMs_20 19 52 26.0
comp=Z,3µm,22.0s
YHB Horse Butte 112.19 40 IAMs_20 IAMs_20 19 52 21.5
comp=Z,3µm,22.0s
HVU Hansel Valley 112.30 44 IAMs_20 IAMs_20 19 51 58.8
comp=Z,3µm,21.0s
SHPR Sheep Range 112.38 50 IAMs_20 IAMs_20 19 51 30.4
comp=Z,2µm,21.0s
TKX Tecate 112.38 54 IAMs_20 IAMs_20 20 06 03.9
comp=Z,3µm,18.0s
BGU Big Grassy Mou 112.44 45 IAMs_20 IAMs_20 19 52 37.6
comp=Z,3µm,21.0s
YNM Yellowstone No 112.52 40 IAMs_20 IAMs_20 19 52 44.2
comp=Z,3µm,21.0s
YNR Norris Junctio 112.54 40 IAMs_20 IAMs_20 19 52 44.7
comp=Z,3µm,22.0s
PSUT Pine Spring 112.69 47 IAMs_20 IAMs_20 19 52 30.5
comp=Z,2µm,21.0s
FXWY Fox Creek 112.76 41 IAMs_20 IAMs_20 19 56 37.6
comp=Z,2µm,20.0s
DUG Dugway, Tooele 112.86 45 IAMs_20 IAMs_20 20 05 01.7
comp=Z,2µm,18.0s
YMP Mirror Lake Pl 112.87 40 IAMs_20 IAMs_20 19 55 35.4
comp=Z,3µm,21.0s
TPAW Teton Pass 112.87 42 IAMs_20 IAMs_20 19 53 24.5
comp=Z,3µm,21.0s
SNOW Snow King Moun 113.01 42 IAMs_20 IAMs_20 19 53 29.4
comp=Z,3µm,22.0s
LOHW Long Hollow 113.05 41 IAMs_20 IAMs_20 20 00 58.3
comp=Z,2µm,19.0s
ANGG Ammassalik, Gr 113.06 353 IAMs_20 IAMs_20 20 01 53.8
comp=Z,2µm,21.0s
AHID Auburn Hatcher 113.06 42 IAMs_20 IAMs_20 19 52 37.8
comp=Z,3µm,22.0s
RLMT Red Lodge 113.27 39 IAMs_20 IAMs_20 19 55 57.0
comp=Z,2µm,20.0s
CCUT Cedar City 113.39 48 IAMs_20 IAMs_20 19 51 36.1
comp=Z,3µm,22.0s
CTU Camp Tracy 113.43 45 IAMs_20 IAMs_20 19 53 59.7
comp=Z,3µm,21.0s
SZCU Shurtz Canyon 113.58 48 IAMs_20 IAMs_20 19 51 44.1
comp=Z,3µm,22.0s
LCMT Little Creek M 113.67 49 IAMs_20 IAMs_20 19 51 40.3
comp=Z,3µm,21.0s
JLU Jordanelle 113.68 45 IAMs_20 IAMs_20 19 57 31.2
comp=Z,2µm,20.0s
GLA Glamis 113.69 53 IAMs_20 IAMs_20 20 03 14.3
comp=Z,3µm,19.0s
EJON La Jonquera 113.69 318 PP **PP** **19 12 01.8 +0.2**
MPU Maple Canyon 113.77 45 IAMs_20 IAMs_20 20 04 58.7
comp=Z,2µm,18.0s
W13A Hualapai Mount 113.80 51 IAMs_20 IAMs_20 19 54 42.0
comp=Z,3µm,20.0s
KNB Kanab 113.98 49 IAMs_20 IAMs_20 19 51 49.7
comp=Z,3µm,21.0s
BW06 Boulder Array 114.10 42 IAMs_20 IAMs_20 19 53 03.1
comp=Z,3µm,22.0s
PDAR Pinedale Array 114.10 42 PKP **PKiKP** **19 11 12.2 +1.8**
comp=Z,0.5nm,0.6s,baz=53,slow=0.7,SNR=6.7
PDAR PKKPbc **PKKPbc** **19 21 51.8 -0.8**
comp=Z,2.5nm,0.9s,baz=117,slow=5.0,SNR=11
BSUT Blindstream Ca 114.19 44 IAMs_20 IAMs_20 19 54 25.6
comp=Z,3µm,20.0s
TMUT Trail Mountain 114.35 46 IAMs_20 IAMs_20 19 54 03.0
comp=Z,3µm,21.0s
LAO LASA Array 114.42 37 IAMs_20 IAMs_20 19 56 33.2
comp=Z,2µm,21.0s
Q16A Castle Valley 114.52 46 IAMs_20 IAMs_20 19 55 44.5
comp=Z,3µm,20.0s
113A Mohawk Valley, 114.62 53 IAMs_20 IAMs_20 19 53 23.0
comp=Z,3µm,21.0s
DGMT Dagmar 114.69 34 IAMs_20 IAMs_20 19 56 49.1
comp=Z,2µm,21.0s
CEST Esterri de Car 114.72 318 IAMs_20 IAMs_20 20 07 42.4
comp=Z,2µm,22.0s
P18A Preston Nutter 114.91 45 IAMs_20 IAMs_20 20 05 41.8
comp=Z,2µm,19.0s
SRU San Rafael Swe 114.91 46 IAMs_20 IAMs_20 19 55 29.9
comp=Z,2µm,21.0s
HMU Henry Mountain 115.20 47 IAMs_20 IAMs_20 19 54 14.6
comp=Z,3µm,22.0s
WUAZ Wupatki 115.60 50 IAMs_20 IAMs_20 19 58 17.6
comp=Z,2µm,20.0s
214A Organ Pipe Nat 115.64 54 IAMs_20 IAMs_20 19 53 37.0
comp=Z,3µm,22.0s
K22A Casper 116.16 41 IAMs_20 IAMs_20 19 54 23.4
comp=Z,2µm,21.0s
RSSD Black Hills 117.04 38 IAMs_20 IAMs_20 19 59 30.5
comp=Z,2µm,20.0s
ESPZ Base Esperanza 117.16 178 IAMs_20 IAMs_20 20 07 12.8
comp=Z,3µm,20.0s
ULM Lac du Bonnet 118.03 29 PKP **PKiKP** **19 11 18.6 +1.2**
comp=Z,7.3nm,0.8s,baz=284,slow=4.5,SNR=6.0
SDCO Great Sand Dun 119.06 45 IAMs_20 IAMs_20 19 56 50.8
comp=Z,3µm,21.0s
AGMN Agassiz Nation 119.30 31 IAMs_20 IAMs_20 19 58 32.6
comp=Z,2µm,20.0s
EPLO Experimental L 119.45 29 IAMs_20 IAMs_20 20 02 56.6
comp=Z,2µm,21.0s
ANMO Albuquerque 119.54 49 IAMs_20 IAMs_20 19 58 20.4
comp=Z,3µm,20.0s
ESDC Sonseca Array 119.56 317 PKP **PKiKP** **19 11 21.4 +0.5**
comp=Z,1.6nm,1.1s,baz=56,slow=3.4,SNR=6.2
ESDC PP **PP** **19 12 45.5 +2.8**
comp=Z,2.2nm,0.9s,baz=26,slow=5.6,SNR=4.7
ESDC PKKPbc **PKKPbc** **19 21 33.1 +0.1**
comp=Z,1.7nm,1.1s,baz=239,slow=3.4,SNR=6.8
OGNE Ogallala 119.92 41 IAMs_20 IAMs_20 19 58 39.0
comp=Z,2µm,21.0s
SUSD Miller 119.94 36 IAMs_20 IAMs_20 20 01 44.0
comp=Z,2µm,20.0s
PBRG Braganca 120.31 321 *e*PKPdf **PKPdf** **19 11 20.6 -1.5**
PBRG *e*PP **PP** **19 12 52.8 +5.1**
KSCO Kaye Shedlock' 120.48 43 IAMs_20 IAMs_20 20 01 09.1
comp=Z,2µm,20.0s
K30B Basset 120.54 38 IAMs_20 IAMs_20 20 00 15.1
comp=Z,2µm,19.0s

F33A	5 Mile Ranch,	120.61	33	IAMs_20	IAMs_20	20 11 34.7					
	comp=Z,2μm,19.0s										
EPT	El Paso	120.74	52	IAMs_20	IAMs_20	19 58 59.0					
	comp=Z,3μm,20.0s										
MVO	Moncorvo	120.83	320	*e*SS	SS	19 29 54.1	+34				
MVO				*e*LQ	LQ	19 53 56.8					
MVO				*e*LR	LR	20 01 14.2					
MVO				*i* IAMs_20	IAMs_20	20 19 20.0					
	comp=Z,1μm,20.0s										
PGAV	Gavieira, Arco	121.18	322	*e*PKPdf	PKiKP	19 11 26.6	+2.7				
PGAV				*e*PP	PP	19 13 01.9	+8.3				
PGAV				*e*SS	SS	19 30 12.3	+48				
PGAV				*e*LQ	LQ	19 54 34.6					
PGAV				*e*LR	LR	20 02 01.6					
PGAV				*i* IAMs_20	IAMs_20	20 09 34.9					
	comp=Z,1μm,22.0s										
POLO	Lamas de Olo	121.20	321	*e*PKPdf	PKiKP	19 11 25.8	+1.7				
POLO				*e*PP	PP	19 12 59.9	+6.0				
MTE	Manteigas	121.57	320	IAMs_20	IAMs_20	20 06 39.3					
	comp=Z,2μm,22.0s										
MTE	Manteigas	121.57	320	*e*PP	PP	19 13 01.6	+5.2				
MTE				*e*SS	SS	19 30 12.0	+42				
MTE				*e*LQ	LQ	19 56 47.2					
MTE				*e*LR	LR	19 59 56.3					
MTE				*i* IAMs_20	IAMs_20	20 22 01.8					
	comp=Z,1μm,20.0s										
PVIS	Viseu	121.62	320	*e*PP	PP	19 13 02.5	+5.8				
MNTX	Cornudas Mount	121.65	52	IAMs_20	IAMs_20	20 00 07.1					
	comp=Z,3μm,20.0s										
ECSD	EROS Data Cent	121.72	35	IAMs_20	IAMs_20	20 03 19.1					
	comp=Z,3μm,21.0s										
PCBR	Castelo Branco	121.82	319	*e*PKPdf	PKiKP	19 11 28.4	+3.2				
PMRV	Marv??o	121.98	319	*e*PKPdf	PKiKP	19 11 28.3	+2.8				
PMRV				*e*SS	SS	19 30 22.6	+48				
PMRV				*e*LR	LR	20 01 11.4					
PMRV				*i* IAMs_20	IAMs_20	20 12 41.5					
	comp=Z,866nm,20.0s										
BGNE	Belgrade	122.15	38	IAMs_20	IAMs_20	19 58 32.7					
	comp=Z,2μm,22.0s										
TBO	Thunder Bay	122.20	27	IAMs_20	IAMs_20	20 09 45.0					
	comp=Z,3μm,22.0s										
COI	Coimbra	122.23	320	IAMs_20	IAMs_20	20 10 39.8					
	comp=Z,2μm,22.0s										
COI	Coimbra	122.23	320	*e*PP	PP	19 13 05.3	+4.6				
PCAS	Casmilo, Conde	122.37	320	*e*PP	PP	19 13 05.7	+3.9				
PBAR	Barrancos	122.39	317	*e*PKPdf	PKiKP	19 11 27.6	+1.3				
PBAR				*e*PP	PP	19 13 09.8	+7.9				
PSARD	Sardoal	122.39	319	*e*PKPdf	PKiKP	19 11 26.7	+0.3				
PSARD				*e*PP	PP	19 13 06.7	+4.8				
PESTR	Estremoz	122.40	318	*e*PP	PP	19 13 07.0	+5.0				
E38A	The Farm, Brul	122.61	30	IAMs_20	IAMs_20	20 11 40.1					
	comp=Z,3μm,20.0s										
PMTG	Montargil	122.72	319	*e*PP	PP	19 13 08.8	+4.6				
EVO	Evora	122.86	318	PKP	PKiKP	19 11 28.1	+0.9				
EVO	Evora	122.86	318	*e*PKPdf	PKiKP	19 11 30.8	+3.6				
EVO				*e*PP	PP	19 13 10.8	+5.7				
SPMN	Marine on St.	122.89	32	IAMs_20	IAMs_20	20 01 01.9					
	comp=Z,2μm,20.0s										
PBEJ	Beja	123.02	317	*e*PKPdf	PKiKP	19 11 31.1	+3.5				
AMTX	Amarillo	123.11	47	IAMs_20	IAMs_20	19 57 27.0					
	comp=Z,2μm,22.0s										
PVAQ	Vaqueiros	123.24	317	*e*PP	PP	19 13 13.2	+5.4				
PVAQ				*e*SS	SS	19 30 15.2	+24				
PVAQ				*e*LQ	LQ	19 55 22.4					
PVAQ				*e*LR	LR	20 00 41.4					
PVAQ				*i* IAMs_20	IAMs_20	20 08 25.1					
	comp=Z,883nm,24.0s										
PCVE	Castro Verde	123.34	317	*e*PP	PP	19 13 12.9	+4.4				
MESJ	Messejana	123.36	317	*e*PP	PP	19 13 08.7	+0.2				
MESJ				IAMs_20	IAMs_20	20 10 21.7					
	comp=Z,1μm,20.7s										
R32A	Long Quarter,	123.42	42	IAMs_20	IAMs_20	19 58 38.7					
	comp=Z,2μm,22.0s										
TORD	Torodi Ar. Bea	123.43	286	PKP	PKPdf	19 11 28.7	0.0				
	comp=Z,12nm,0.7s,baz=46,slow=3.0,SNR=7.5										
PBDV	Barranco-do-Ve	123.47	317	*e*PKPdf	PKiKP	19 11 29.7	+1.2				
PBDV				*e*PP	PP	19 13 13.8	+4.5				
SCHQ	Schefferville	123.85	9	PKP	PKiKP	19 11 29.9	+1.2				
	comp=Z,8.8nm,0.8s,baz=46,slow=2.2,SNR=6.0										
PTEO	Sao Teotonio	123.85	317	*e*PP	PP	19 13 16.9	+5.1				
MORF	Marmelete	123.93	317	*e*PP	PP	19 13 12.5	+0.1				
MORF				IAMs_20	IAMs_20	20 10 54.0					
	comp=Z,2μm,24.0s										
TXAR	Lajitas Array	123.93	54	PKP	PKiKP	19 11 30.4	+0.7				
	comp=Z,2.2nm,0.7s,baz=182,slow=0.4,SNR=13										
TXAR				PKKPab	PKKPbc	19 21 16.6	+0.5				
	comp=Z,0.6nm,0.8s,baz=118,slow=5.2,SNR=4.8										
N35A	Tabor	124.01	38	IAMs_20	IAMs_20	20 12 51.9					
	comp=Z,2μm,18.0s										
PFVI	Vila Bisbo	124.14	317	*e*PKPdf	PKiKP	19 11 34.3	+4.5				
PFVI				*e*PP	PP	19 13 18.3	+4.5				
COWI	Conover	124.16	29	IAMs_20	IAMs_20	20 12 35.1					
	comp=Z,3μm,20.0s										
HOPE	Hope Point	124.50	192	IAMs_20	IAMs_20	20 15 41.3					
	comp=Z,2μm,19.0s										
SCIA	State Center	124.81	35	IAMs_20	IAMs_20	20 15 15.9					
	comp=Z,2μm,19.0s										
I40A	Norwalk	124.95	32	IAMs_20	IAMs_20	20 01 25.2					
	comp=Z,2μm,20.0s										
AVE	Averroes	125.03	312	IAMs_20	IAMs_20	20 15 31.3					
	comp=Z,1μm,20.0s										
WMOK	Wichita Mounta	125.27	46	IAMs_20	IAMs_20	19 59 04.1					
	comp=Z,3μm,22.0s										
ABTX	Abilene, Hawle	125.66	48	IAMs_20	IAMs_20	20 01 45.7					
	comp=Z,3μm,21.0s										
OK048	Pawnee Station	125.68	43	IAMs_20	IAMs_20	20 07 14.7					
	comp=Z,2μm,20.0s										
OK051	E0350 and S346	125.70	43	IAMs_20	IAMs_20	19 59 56.3					
	comp=Z,3μm,22.0s										
JFWS	Jewell Farm	125.81	33	IAMs_20	IAMs_20	20 05 42.1					
	comp=Z,2μm,20.0s										
L40A	Anamosa	125.84	34	IAMs_20	IAMs_20	20 07 53.1					
	comp=Z,2μm,19.0s										
TIO	Tiouine	126.00	310	PKP	PKPdf	19 11 32.0	-1.5				
ACRG	Accra	126.21	277	IAMs_20	IAMs_20	20 10 10.1					
	comp=Z,1μm,21.0s										
TUL3	Leonard	126.73	43	IAMs_20	IAMs_20	20 09 18.6					
	comp=Z,2μm,20.0s										
L42A	Oliver, Polo	126.74	33	IAMs_20	IAMs_20	20 06 44.8					
	comp=Z,3μm,20.0s										
N41A	Harden Midland	126.94	35	IAMs_20	IAMs_20	20 03 43.3					
	comp=Z,2μm,20.0s										
P40A	Paris	127.00	37	IAMs_20	IAMs_20	20 16 10.0					
	comp=Z,2μm,20.0s										
I45A	Fountain	127.07	29	IAMs_20	IAMs_20	20 05 52.1					
	comp=Z,3μm,21.0s										
L44A	Lake County Fo	127.56	32	IAMs_20	IAMs_20	20 14 56.4					
	comp=Z,2μm,20.0s										
FW14	Alvarado	127.58	47	IAMs_20	IAMs_20	20 02 46.5					
	comp=Z,2μm,20.0s										
WHTX	Lake Whitney,	127.58	48	IAMs_20	IAMs_20	20 01 39.7					
	comp=Z,3μm,21.0s										
R40A	Maddies Statio	127.64	38	IAMs_20	IAMs_20	20 04 17.0					
	comp=Z,2μm,21.0s										
CCM	Cathedral Cave	128.41	38	IAMs_20	IAMs_20	20 05 52.5					
	comp=Z,2μm,21.0s										
SLM	Saint Louis	128.65	37	IAMs_20	IAMs_20	20 05 11.7					
	comp=Z,2μm,20.0s										
EFI	East Falkland	128.84	177	IAMs_20	IAMs_20	20 13 41.4					
	comp=Z,1μm,19.0s										
FVM	French Village	128.96	37	IAMs_20	IAMs_20	20 04 43.9					
	comp=Z,2μm,20.0s										
BUKO	Buck Lake	128.97	23	IAMs_20	IAMs_20	20 11 49.9					
	comp=Z,2μm,22.0s										
Q44A	Meyer Farm, Va	129.20	36	IAMs_20	IAMs_20	20 12 30.0					
	comp=Z,2μm,20.0s										
NATX	Nacogdoches	129.75	47	IAMs_20	IAMs_20	20 00 27.9					
	comp=Z,2μm,21.0s										
CGM3	Cape Girardeau	129.87	38	IAMs_20	IAMs_20	20 06 40.9					
	comp=Z,2μm,20.0s										
LMQ	La Malbaie	130.04	15	IAMs_20	IAMs_20	20 09 00.9					
	comp=Z,2μm,21.0s										
O48B	Farmland	130.39	32	IAMs_20	IAMs_20	20 08 50.1					
	comp=Z,2μm,20.0s										
BLO	Bloomington	130.43	34	IAMs_20	IAMs_20	20 19 57.4					
	comp=Z,2μm,18.0s										
DELO	Deloro Mine	130.44	22	IAMs_20	IAMs_20	20 15 40.6					
	comp=Z,2μm,20.0s										
AY03	Cochrane	130.58	163	IAMs_20	IAMs_20	20 10 22.6					
	comp=Z,2μm,20.0s										
DBIC	Dimbokro	130.72	279	PKP	PKiKP	19 11 43.5	-0.1				
	comp=Z,10nm,0.9s,baz=155,slow=2.8,SNR=6.0										
LNXT	Lenox	130.73	39	IAMs_20	IAMs_20	20 05 04.1					
	comp=Z,3μm,22.0s										
P48A	Milroy	130.82	33	IAMs_20	IAMs_20	20 08 29.7					
	comp=Z,2μm,21.0s										
WBO	Williamsburg	130.87	20	IAMs_20	IAMs_20	20 12 03.9					
	comp=Z,2μm,20.0s										
HALT	Halls	130.95	39	IAMs_20	IAMs_20	20 04 46.8					
	comp=Z,3μm,21.0s										
R49A	Shelbyville	131.80	33	IAMs_20	IAMs_20	20 08 56.6					
	comp=Z,2μm,20.0s										
J57A	Williamstown	131.99	22	IAMs_20	IAMs_20	20 10 26.7					
	comp=Z,2μm,21.0s										
Y45A	Yeager Farm, C	132.10	41	IAMs_20	IAMs_20	20 01 32.4					
	comp=Z,2μm,22.0s										
PMAR	Madeira	132.10	317	*e*PP	PP	19 14 08.7	+2.3				
PMOZ	Porto Moniz, M	132.24	317	*e*PP	PP	19 14 03.8	-3.3				
PMOZ				*e*LR	LR	20 07 15.8					
PMOZ				*i* IAMs_20	IAMs_20	20 14 55.1					
	comp=Z,1μm,22.0s										
VT1	Waterbury	132.29	18	IAMs_20	IAMs_20	20 09 40.9					
	comp=Z,3μm,22.0s										
PKME	Peaks-Kenny Pk	132.43	15	IAMs_20	IAMs_20	20 15 14.0					
	comp=Z,2μm,21.0s										
J59A	Piesco	132.48	20	IAMs_20	IAMs_20	20 10 30.6					
	comp=Z,2μm,20.0s										
H62A	Milan	132.56	17	IAMs_20	IAMs_20	20 22 27.5					
	comp=Z,2μm,20.0s										
V48A	Smith Brothers	132.61	37	IAMs_20	IAMs_20	20 09 34.5					
	comp=Z,2μm,21.0s										
CLTN	Cedars of Leba	132.67	36	IAMs_20	IAMs_20	20 07 40.9					
	comp=Z,2μm,20.0s										
I62A	Tamworth	133.15	17	IAMs_20	IAMs_20	20 09 44.0					
	comp=Z,2μm,22.0s										
J61A	Chester	133.24	19	IAMs_20	IAMs_20	20 13 47.7					
	comp=Z,2μm,20.0s										
L59A	Walton	133.40	22	IAMs_20	IAMs_20	20 18 18.9					
	comp=Z,2μm,19.0s										
TRY	Troy	133.42	20	IAMs_20	IAMs_20	20 11 52.4					
	comp=Z,2μm,21.0s										
Z47A	Carrollton	133.47	41	IAMs_20	IAMs_20	20 10 33.8					
	comp=Z,2μm,21.0s										
SWET	Sewanee	133.50	37	IAMs_20	IAMs_20	20 05 46.0					
	comp=Z,2μm,21.0s										
346A	Big Creek Wild	133.64	44	IAMs_20	IAMs_20	20 05 15.6					
	comp=Z,2μm,21.0s										
W50A	Signal Mountai	133.88	37	IAMs_20	IAMs_20	20 05 58.1					
	comp=Z,3μm,22.0s										
L61B	Northampton	134.00	20	IAMs_20	IAMs_20	20 12 23.8					
	comp=Z,2μm,20.0s										
FPAL	Fort Paine	134.15	37	IAMs_20	IAMs_20	20 08 39.3					
	comp=Z,2μm,20.0s										
CPCT	Cooper Cave	134.17	36	IAMs_20	IAMs_20	20 05 10.7					
	comp=Z,2μm,20.0s										
Q56A	Snyder Ridge,	134.28	28	IAMs_20	IAMs_20	20 08 46.9					
	comp=Z,2μm,20.0s										
LL02	Futaleuf	134.47	161	IAMs_20	IAMs_20	20 15 12.7					
	comp=Z,2μm,20.0s										
WES	Weston	134.50	18	IAMs_20	IAMs_20	20 12 58.9					
	comp=Z,2μm,22.0s										
X51A	Calhoun	134.59	37	IAMs_20	IAMs_20	20 12 27.8					
	comp=Z,2μm,20.0s										
LL01	San Ignacio de	135.01	160	IAMs_20	IAMs_20	20 06 56.1					
	comp=Z,2μm,22.0s										
SDMD	Soldier's Deli	135.03	25	IAMs_20	IAMs_20	20 23 08.6					
	comp=Z,1μm,20.0s										
L64A	Middleborough	135.06	18	IAMs_20	IAMs_20	20 10 18.7					
	comp=Z,2μm,20.0s										
N62A	Caumsett State	135.07	21	IAMs_20	IAMs_20	20 14 12.2					
	comp=Z,2μm,21.0s										
M63A	Gales Ferry	135.15	20	IAMs_20	IAMs_20	20 17 55.2					
	comp=Z,2μm,21.0s										
P61A	Hammonton	135.66	23	IAMs_20	IAMs_20	20 13 03.0					
	comp=Z,2μm,20.0s										
CBN	Corbin Frederi	135.79	27	IAMs_20	IAMs_20	20 12 49.8					
	comp=Z,2μm,21.0s										
U56A	King	135.80	31	IAMs_20	IAMs_20	20 08 43.3					
	comp=Z,2μm,20.0s										
V58A	Windy Hill, Pi	136.88	31	IAMs_20	IAMs_20	20 12 40.8					
	comp=Z,2μm,21.0s										
W57A	Gilead	136.91	32	IAMs_20	IAMs_20	20 10 42.9					
	comp=Z,2μm,20.0s										
LR05	Currie	137.06	159	IAMs_20	IAMs_20	20 07 07.4					
	comp=Z,1μm,20.0s										
PLCA	Paso Flores	137.10	161	PKhKP	PKPpre	19 11 50.1					
	comp=Z,1.3nm,0.8s,baz=245,slow=6.1,SNR=4.7										
PLCA				PKP	PKiKP	19 11 55.9	0.0				
	comp=Z,8.1nm,0.9s,baz=194,slow=6.6,SNR=9.8										
X58A	Rowland	137.72	32	IAMs_20	IAMs_20	20 17 54.2					
	comp=Z,2μm,20.0s										
BI05	Punta Hualpn	139.65	156	IAMs_20	IAMs_20	20 09 13.0					
	comp=Z,2μm,20.0s										
TEIG	Tepich	140.43	57	IAMs_20	IAMs_20	20 10 31.9					
	comp=Z,2μm,21.0s										
BI02	San Fabin de	140.48	158	IAMs_20	IAMs_20	20 21 17.0					
	comp=Z,2μm,20.0s										
MBO	M'Bour	140.72	294	IAMs_20	IAMs_20	20 20 34.4					
	comp=Z,2μm,21.0s										
DWPF	Disney Wildern	141.12	41	IAMs_20	IAMs_20	20 10 28.2					
	comp=Z,2μm,22.0s										
DWPF	Disney Wildern	141.12	41	*e*P	PKiKP	19 12 05.6	+1.2				
ML02	Panimavida	141.21	157	IAMs_20	IAMs_20	20 10 38.5					
	comp=Z,1μm,21.0s										
TRQA	Tornquist	141.82	169	IAMs_20	IAMs_20	20 18 47.0					
	comp=Z,2μm,19.0s										
BO02	Sierra Bellavi	142.31	157	IAMs_20	IAMs_20	20 15 49.6					
	comp=Z,1μm,21.0s										
060A	Indiantown	142.54	41	IAMs_20	IAMs_20	20 11 10.9					
	comp=Z,2μm,22.0s										
BO01	Tunca	142.54	156	IAMs_20	IAMs_20	20 22 25.7					
	comp=Z,1μm,20.0s										
MT01	Popeta	142.93	155	IAMs_20	IAMs_20	20 23 23.0					
	comp=Z,1μm,19.0s										
061Z	Ochoppi	142.95	43	IAMs_20	IAMs_20	20 22 26.0					
	comp=Z,1μm,20.0s										
VA05	Santo Domingo	142.96	155	IAMs_20	IAMs_20	20 11 54.7					
	comp=Z,1μm,21.0s										
BO04	La Punta	143.08	156	IAMs_20	IAMs_20	20 20 43.0					
	comp=Z,1μm,21.0s										
MT09	Talagante	143.11	156	IAMs_20	IAMs_20	20 20 59.9					
	comp=Z,2μm,20.0s										
LMEL	Las Melosas	143.37	157	IAMs_20	IAMs_20	20 13 27.5					
	comp=Z,1μm,22.0s										
MT02	Curacav	143.50	155		PKPbc	19 12 03.9	+0.9				
MT02				IAMs_20	IAMs_20	20 11 28.1					
	comp=Z,1μm,20.0s										
MT03	Universidad Ad	143.56	156	IAMs_20	IAMs_20	20 21 20.5					
	comp=Z,1μm,20.0s										
MT16	CCHEN	143.61	156	IAMs_20	IAMs_20	20 21 32.9					
	comp=Z,1μm,20.0s										
PEL	Peldehue	143.79	156	IAMs_20	IAMs_20	20 21 17.8					
	comp=Z,1μm,20.0s										
MT08	Bocatoma Ro	143.79	157	IAMs_20	IAMs_20	20 21 22.8					
	comp=Z,2μm,20.0s										
VA06	Catapilco	144.03	154	IAMs_20	IAMs_20	20 25 47.2					
	comp=Z,1μm,21.0s										
VA03	San Esteban	144.17	155	IAMs_20	IAMs_20	20 21 40.9					
	comp=Z,2μm,22.0s										
CAMR	Camarioca	144.38	47	IAMs_20	IAMs_20	20 00 49.3					
	comp=Z,726nm,19.0s										
CAMR	Camarioca	144.38	47	*e*P	PKPdf	19 12 07.8	+0.2				
CRIN	San Cristobal	144.46	67	IAMs_20	IAMs_20	20 09 19.8					
	comp=Z,1μm,20.0s										
HERN	Volcan Telica	144.69	67	IAMs_20	IAMs_20	20 04 22.2					
	comp=Z,1μm,20.0s										
CO02	Combarbal	145.32	153	PKPbc	PKPbc	19 12 09.2	+0.3				
CO02				IAMs_20	IAMs_20	20 13 01.4					
	comp=Z,1μm,21.0s										
CO02	Combarbal	145.32	153	*e*P	PKPbc	19 12 08.7	-0.2				
CO06	Fray Jorge	145.48	152	IAMs_20	IAMs_20	20 24 17.7					
	comp=Z,1μm,20.0s										
RTLS	Leoncito	145.53	156	*e*P	PKPab	19 12 10.8	+0.8				
CO03	El Pedregal	145.77	154	IAMs_20	IAMs_20	20 23 04.3					
	comp=Z,1μm,20.0s										
CO03	El Pedregal	145.77	154	*e*P	PKPdf	19 12 09.9	0.0				
BOAB	BOACO BROADBAND	146.82	67	PKP	PKPdf	19 12 06.6	-3.6				
ZON	Zonda	146.00	157	*e*P	PKPdf	19 12 10.7	+0.4				
CAIB	Caibarien	146.10	46	*e*P	PKiKP	19 12 13.4	-1.3				
RTLL	Cerro Villicun	146.27	157	*e*P	PKPab	19 12 13.4	+0.9				
GO04	Tololo Observa	146.28	153	IAMs_20	IAMs_20	20 13 28.1					
	comp=Z,1μm,21.0s										
GO04	Tololo Observa	146.28	153	*e*P	PKPdf	19 12 11.0	0.0				
FSCY	Frank Sound, G	146.67	52	*e*P	PKPdf	19 12 05.6	-6.0				
ACCO	Cerro Coronel	146.68	155	*e*P	PKPdf	19 12 12.0	+0.3				
CO01	Juntas del Tor	146.77	154	IAMs_20	IAMs_20	20 13 14.8					
	comp=Z,2μm,20.0s										
AROD	Rodeo	146.88	155	*e*P	PKPbc	19 12 13.8	-0.2				
ESPN	Las Esperanzas	147.16	66	IAMs_20	IAMs_20	20 10 43.4					
	comp=Z,1μm,21.0s										
LCO	Las Campanas	147.31	152	IAMs_20	IAMs_20	20 12 36.3					
	comp=Z,2μm,21.0s										
APLL	PUNTA DE LOS L	147.84	159	*e*P	PKPdf	19 12 14.1	+0.8				
AGUA	GUANDACOL	147.89	155	*e*P	PKPdf	19 12 14.8	+1.3				
ACLC	CERRO LA CRUZ	148.56	158	*e*P	PKPdf	19 12 16.2	+1.5				
VCA	Vinchina	148.66	155	*e*P	PKPbc	19 12 17.9	-0.7				
GO03	Copiapo	148.72	151	IAMs_20	IAMs_20	20 21 26.6					
	comp=Z,1μm,22.0s										
GO03	Copiapo	148.72	151	*e*P	PKPdf	19 12 15.8	+1.0				
AC06	Mina Casimiro	148.85	151	IAMs_20	IAMs_20	20 21 08.3					
	comp=Z,1μm,20.0s										
PLTB	Pedras Altas	148.86	180		PKPdf	19 12 17.1	+2.2				
PILO	Pilon	149.22	48	*e*P	PKPbc	19 12 20.4	+0.3				
LMGC	Las Mercedes	149.41	47	*e*P	PKPbc	19 12 20.2	-0.2				
HLGC	Holguin	149.56	45	*e*P	PKPdf	19 12 18.4	+2.0				
YAR	Yar	149.69	46	*e*P	PKPbc	19 12 19.1	-2.1				
AC01	Pan de Azucar	149.73	149	IAMs_20	IAMs_20	20 10 53.6					
	comp=Z,1μm,20.0s										
CYA	Choya	149.87	158	*e*P	PKPdf	19 12 16.7	0.0				
AC02	Maricunga	149.88	152	IAMs_20	IAMs_20	20 17 25.5					
	comp=Z,1μm,21.0s										
AC02	Maricunga	149.88	152	*e*P	PKiKP	19 12 23.8	+0.7				
CHIV	Chivirico	149.90	46	IAMs_20	IAMs_20	20 17 00.6					
	comp=Z,1μm,20.0s										
CHIV	Chivirico	149.90	46	*e*P	PKPdf	19 12 17.6	+0.8				
PINC	Pinares de May	150.01	45	*e*P	PKPdf	19 12 18.5	+1.5				
MTDJ	Mount Denham	150.13	50	IAMs_20	IAMs_20	20 29 27.3					
	comp=Z,1μm,21.0s										
MTDJ	Mount Denham	150.13	50	*e*P	PKPdf	19 12 17.3	-0.1				
MARVS	Santiago de Cu	150.25	46	*e*P	PKPdf	19 12 16.9	-0.5				
MOAC	Moa	150.48	43	*e*P	PKPdf	19 12 17.7	0.0				
NMDO	Nuevo Mundo	150.53	44	IAMs_20	IAMs_20	20 15 60.0					
	comp=Z,2μm,22.0s										
NMDO	Nuevo Mundo	150.53	44	*e*P	PKPdf	19 12 17.2	-0.6				
STH	Stony Hill	150.77	50	*e*P	PKPdf	19 12 19.0	+0.7				
GTBY	Guantanamo Bay	150.86	45	IAMs_20	IAMs_20	20 26 13.9					
	comp=Z,1μm,20.0s										
GTBY	Guantanamo Bay	150.86	45	*e*P	PKPdf	19 12 08.6	-10				
QMB

TA02					IAML			18 56 09.6	
	comp=N,2μm,0.1s								
TA02	**Huaiquique**	**1.68 301**			IAML			18 56 12.3	
	comp=Z,565nm,0.3s								
PB11	**IPOC Station P**	**1.69 324**	⇑	*i*	P	**Pn**		**18 55 44.5**	**-0.5**
PB11				*i*	S	**Sn**		**18 56 07.4**	**-1.1**
PB11					IAML			18 56 09.6	
	comp=E,1μm,0.3s								
PB11	**IPOC Station P**	**1.69 324**		*i*	P	**Pn**		**18 55 44.5**	**-0.5**
PB11				*i*	S	**Sn**		**18 56 09.2**	**+0.6**
PB11					IAML			18 56 10.3	
	comp=Z,375nm,0.5s								
PB06	**IPOC Station P**	**1.81 210**	⇑	*i*	P	**Pn**		**18 55 46.6**	**+0.3**
PB06				*i*	S	**Sn**		**18 56 11.4**	**+0.4**
PB06					IAML			18 56 12.3	
	comp=E,927nm,0.3s								
PB06	**IPOC Station P**	**1.81 210**		*i*	P	**Pn**		**18 55 45.9**	**-0.4**
PB06				*i*	S	**Sn**		**18 56 10.5**	**-0.5**
PB06					IAML			18 56 12.1	
	comp=Z,445nm,0.2s								
AF01	**San Pedro de A**	**1.85 168**		*e*	P	**Pn**		**18 55 47.2**	**+0.3**
AF01					IAML			18 56 31.9	
	comp=N,372nm,0.7s								
AF01	**San Pedro de A**	**1.85 168**			IAML			18 56 28.7	
	comp=Z,338nm,0.8s								
PB05	**IPOC Station P**	**2.27 221**		*e*	P	**Pn**		**18 55 51.7**	**-0.2**
PB05				*i*	S	**Sn**		**18 56 20.0**	**-0.8**
PB05					IAML			18 56 27.9	
	comp=E,202nm,0.4s								
PB16	**IPOC Station P**	**2.92 343**	⇑	*i*	P	**Pn**		**18 56 00.5**	**0.0**
PB16				*i*	S	**Sn**		**18 56 35.7**	**-0.4**
PB16					IAML			18 56 40.0	
	comp=E,125nm,0.7s								
PB16	**IPOC Station P**	**2.92 343**		*i*	P	**Pn**		**18 56 00.9**	**+0.4**
PB16				*i*	S	**Sn**		**18 56 36.5**	**+0.4**
PB16					IAML			18 56 42.0	
	comp=Z,88nm,0.3s								
PB10	**IPOC Station P**	**2.98 217**			IAML			18 56 50.9	
	comp=E,89nm,0.2s								
AP01	**Chacalluta**	**3.21 329**			IAML			18 56 45.7	
	comp=Z,274nm,0.5s								
AZAP	**Zapla**	**4.48 134**			IAML			18 57 20.7	
	comp=Z,17nm,1.9s								
AC01	**Pan de Azucar**	**5.32 200**			IAML			18 57 46.1	
	comp=Z,17nm,0.8s								

*MOS **08** 19:00:34.2±1.0,0.˚49N×126.˚31E,h7^{km},mb5.0/35,Error ellipse: s-maj=12.6km s-min=6.1km az=110.6*
*IDC **08** 19:00:35.2±0.5,0.˚42N×126.˚14E,h0^{km},mb4.5/23, mbtmp4.5/25,ML3.7/2,Error ellipse: s-maj=26.2km s-min=10.9km az=80.0*
*NEIC **08** 19:00:38.8±2.2,0.˚49N±0.˚08×126.˚38E±0.˚06,h16^{km}±2^{km}, mb5.0/76,Error ellipse: s-maj=11.9km s-min=7.9km az=163.0*
*DJA **08** 19:00:42.4±0.3,0.˚N±2.˚×12.˚6E±.˚,h40^{km}±5^{km},M4.9/22, mb5.0/16,mB5.8/1,MLv4.8/22,Mw(mB)5.4/1,MwMwp5.7/1, Mwp5.8/1*
ISC 08 19:00:42.2±0.3,0.˚40N±0.˚04×126.˚33E±0.˚05,h47^{km},n416, σ1^{s}36/404,mb4.9/98,MS5.4/5,8C-2D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.10**	**70**			**Pn**	**19 00 58.6**	**-2.6**
TNTI	**Ternate**	**1.10**	**70**	P		**Pn**	**19 00 58.3**	**-3.0**
TNTI				S		**Sn**	**19 01 14.7**	**-0.7**
KMSI	**Cibinong**	**2.35**	**274**	P		**Pn**	**19 01 16.7**	**-1.7**
SANI	**Sanana**	**2.46**	**188**	P		**Pn**	**19 01 18.4**	**-1.4**
SGSI	**Sangihe**	**3.36**	**346**	P		**Pn**	**19 01 32.8**	**+0.6**
NLAI	**Namlea**	**3.69**	**168**	P		**Pn**	**19 01 38.3**	**+1.5**
LUWI	**Luwuk**	**3.83**	**248**	Pn		**Pn**	**19 01 38.4**	**-0.3**
LUWI	**Luwuk**	**3.83**	**248**	P		**Pn**	**19 01 42.4**	**+3.7**
MRSI	**Marisa**	**4.39**	**271**	P		**Pn**	**19 01 47.9**	**+1.6**
AAI	**Ambon**	**4.47**	**155**	P		**Pn**	**19 01 49.2**	**+1.8**
MSAI	**Masohi**	**4.54**	**145**	P		**Pn**	**19 01 52.0**	**+3.6**
APSI	**Ampana**	**4.86**	**254**	P		**Pn**	**19 01 52.8**	**+0.1**
SWI	**Sorong**	**5.09**	**104**	P		**Pn**	**19 01 57.1**	**+1.1**
	0.7nm71nm,0.6s							
TOLI2	**Tolitoli**	**5.59**	**277**			**Pn**	**19 02 02.9**	**0.0**
KDI	**Kendari**	**5.70**	**221**	P		**Pn**	**19 02 04.5**	**+0.2**
FAKI	**Fak Fak**	**6.78**	**119**	Pn		**Pn**	**19 02 18.1**	**-1.0**
FAKI	**Fak Fak**	**6.78**	**119**	P		**Pn**	**19 02 18.2**	**-1.0**
	0.5nm62nm,0.9s							
BBSI	**Bau Bau**	**6.95**	**213**	P		**Pn**	**19 02 23.7**	**+2.2**
	219nm,0.9s							
TTSI	**Tana Toraja**	**7.35**	**242**	P		**Pn**	**19 02 26.5**	**-0.5**
	0.5nm134nm,0.9s							
BNSI	**Bone**	**7.83**	**232**	P		**Pn**	**19 02 33.9**	**+0.3**
	94nm,1.8s							
SPSI	**Sidrap Palu**	**7.86**	**236**	P		**Pn**	**19 02 35.2**	**+1.2**
KAPI	**Kappang**	**8.49**	**231**			**Pn**	**19 02 43.1**	**+0.5**
KAPI	**Kappang**	**8.49**	**231**	Pn		**Pn**	**19 02 40.6**	**-2.0**
	10nm,0.3s,baz=56,slow=3.9,SNR=37							
KAPI					Sn	**Sn**	**19 04 15.0**	**-2.1**
	baz=22,slow=16							
KAPI	**Kappang**	**8.49**	**231**	*i*	P	**Pn**	**19 02 42.6**	**0.0**
BSSI	**Bau Bau, Buton**	**8.73**	**222**	P		**Pn**	**19 02 48.3**	**+2.4**
	128nm,1.0s							
BAKI	**Biak**	**9.91**	**99**	P		Pn	19 03 10.6	+8.5
EDFI	**Ende, Flores**	**10.19**	**207**	P		**Pn**	**19 03 07.8**	**+1.7**
	53nm,0.6s							
BATI	**Baumata**	**10.86**	**194**	Pn		**Pn**	**19 03 13.7**	**-1.5**
	0.1nm,0.3s,baz=161,slow=20,SNR=2.2							
	29nm,1.0s							
MTN	**Manton Dam**	**13.99**	**160**	Pn		**Pn**	**19 03 56.6**	**-1.3**
SBUM	**Sibu**	**14.25**	**278**			**P**	**19 04 07.9**	**+0.4**
JAGI	**Jajag, Banyuwa**	**14.99**	**234**	P		**P**	**19 04 19.1**	**+3.3**
KSM	**Kuching**	**16.05**	**274**			**P**	**19 04 26.9**	**-0.7**
KSM					IAmb	IAmb	19 04 28.7	
	comp=Z,148nm,0.9s							
KNRA	**Kununurra**	**16.15**	**172**	Pn		**Pn**	**19 04 24.6**	**-1.5**
FITZ	**Fitzroy Crossi**	**18.39**	**182**	P		**P**	**19 04 53.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**18.39**	**182**	P		**P**	**19 04 52.2**	**-1.2**
	σ=0.5nm,0.3s,baz=0.0,slow=10,SNR=2.7							
	comp=Z,7.4nm,0.8s							
WB0	**Warramunga Arr**	**21.54**	**159**	P		**P**	**19 05 27.7**	**0.0**
WB0					IAmb	IAmb	19 05 33.0	
	comp=Z,46nm,0.7s							
WRAB	**Tennant Creek**	**21.68**	**159**	P		**P**	**19 05 28.9**	**-0.3**
WRAB	**Tennant Creek**	**21.68**	**159**	*i*	P	**P**	**19 05 28.0**	**-1.2**
WRAB					pmax	pmax		
	comp=Z,45nm,0.9s							
WRA	**Warramunga Arr**	**21.69**	**159**	P		**P**	**19 05 28.1**	**-1.1**
WRA	**Warramunga Arr**	**21.69**	**159**	P		**P**	**19 05 28.9**	**-0.2**
	comp=Z,41nm,0.8s,baz=339,slow=11,SNR=32							
	comp=Z,41nm,0.8s							
WRA	**Warramunga Arr**	**21.69**	**159**	*i*	P	**P**	**19 05 29.0**	**-0.2**
WRA					pmax	pmax		
	comp=Z,45nm,0.9s							
WB2	**Warramunga Arr**	**21.69**	**159**	P		**P**	**19 05 27.5**	**-1.8**
WB2					IAmb	IAmb	19 05 34.5	
	comp=Z,42nm,0.7s							
WR8	**Warramunga Arr**	**21.76**	**159**	P		**P**	**19 05 29.6**	**-0.4**
WR8					IAmb	IAmb	19 05 50.5	
	comp=Z,44nm,0.8s							
WR0	**Warramunga Arr**	**21.77**	**159**	P		**P**	**19 05 28.0**	**-2.1**
WR0					IAmb	IAmb	19 05 50.1	
	comp=Z,38nm,0.8s							
TPUB	**Ta-pu**	**23.43**	**347**	P		**P**	**19 05 43.6**	**-3.7**
TPUB					IAmb	IAmb	19 05 58.7	
	comp=Z,42nm,0.9s							
QIZ	**Qiongzhong**	**24.58**	**320**	P		**P**	**19 05 55.6**	**-2.4**
QIZ				S		**S**	**19 10 19.7**	**+3.7**
QIZ					pmax	pmax		
	comp=E,85nm,1.8s							
AS31	**Alice Springs**	**25.03**	**163**			**P**	**19 06 02.6**	**+0.5**
ASAR	**Alice Springs**	**25.03**	**163**			**P**	**19 06 02.7**	**+0.6**
ASAR	**Alice Springs**	**25.03**	**163**	P		**P**	**19 06 03.2**	**+1.2**
	comp=Z,15nm,0.7s,baz=350,slow=15,SNR=46							
ASAR					PcP	**PcP**	**19 09 37.2**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=354,slow=2.3,SNR=2.4							
	comp=Z,15nm,0.7s							
JOW	**Kunigami**	**26.35**	**4**	P		**P**	**19 06 15.0**	**+1.0**
	comp=Z,12nm,0.6s,baz=198,slow=12,SNR=4.9							
	comp=Z,12nm,0.6s							
FORT	**Forrest**	**31.05**	**177**			**P**	**19 06 55.9**	**+0.2**
FORT					IAmb	IAmb	19 07 16.6	
	comp=Z,19nm,0.6s							
NJ2	**Nanjing**	**32.27**	**348**	*e*	P	**P**	**19 07 07.3**	**+0.9**
NJ2					pmax	pmax		
	comp=Z,4.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**32.33**	**305**	P		**P**	**19 07 05.8**	**-1.4**
	comp=Z,1.5nm,1.0s,baz=116,slow=8.9,SNR=4.5							
CMAR					ScP	**ScP**	**19 13 38.8**	**+4.2**
	comp=Z,0.8nm,0.9s,baz=123,slow=3.8,SNR=4.9							
	comp=Z,1.5nm,1.0s							
PZH	**PanZhiHua**	**35.12**	**320**		P	**P**	**19 07 34.1**	**+2.6**
STKA	**Stephens Creek**	**35.20**	**157**		P	**P**	**19 07 32.9**	**+0.8**
STKA	**Stephens Creek**	**35.20**	**157**		P	**P**	**19 07 31.9**	**-0.1**
	comp=Z,10nm,0.7s,baz=338,slow=6.9,SNR=21							
	comp=Z,10nm,0.7s							
STKA	**Stephens Creek**	**35.20**	**157**	*i*	P	**P**	**19 07 31.1**	**-0.9**
KSRS	**Korea Array**	**36.90**	**2**		P	**P**	**19 07 46.0**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=176,slow=9.5,SNR=11							
	comp=Z,1.5nm,0.7s							
CD2	**Chengdu**	**37.14**	**327**		P	**P**	**19 07 49.2**	**+0.6**
CD2					pmax	pmax		
	comp=Z,30nm,0.4s							
MJAR	**Matsushiro Arr**	**37.61**	**16**		P	**P**	**19 07 51.2**	**-1.4**
	comp=Z,1.8nm,0.5s,baz=184,slow=9.8,SNR=7.5							
	comp=Z,1.8nm,0.5s							
DL2	**Dalian**	**38.56**	**354**		P	**P**	**19 08 00.4**	**0.0**
DL2					pmax	pmax		
	comp=Z,39nm,0.7s							
LZH	**Lanzhou**	**41.20**	**332**	*e*	P	**P**	**19 08 25.3**	**+2.7**
LZH					pP	pP	19 08 34.3	-0.3
LZH					sP	sP	19 08 41.3	+1.4
LZH					PcP	**PcP**	**19 10 25.3**	**+4.2**
LZH					PcS	**PcS**	**19 14 14.5**	**+2.1**
LZH					pmax	pmax		
	comp=Z,15nm,1.0s							
BTO	**Baotou**	**42.68**	**342**	*e*	P	**P**	**19 08 36.0**	**+1.5**
BTO					pP	**pwP**	**19 08 48.3**	**-1.6**
BTO					sP	**sP**	**19 08 53.4**	**+1.8**
BTO					PP	**PcP**	**19 10 20.5**	**-5.3**
BTO					S	**S**	**19 14 58.8**	**+4.1**
BTO					pmax	pmax		
	comp=Z,14nm,0.5s							
BTO					pmax	pmax		
	comp=Z,2μm,8.5s							
BTO					LR	LR		
	comp=N,5μm,20.6s							
BTO					LR	LR		
	comp=E,2μm,21.4s							
BTO					LR	LR		
	comp=Z,4μm,18.6s							
USA0B	**Ussuriysk Arra**	**43.90**	**6**	*i*	P	**P**	**19 08 42.0**	**-2.2**
USRK	**Ussuriysk Ar.**	**43.90**	**6**		P	**P**	**19 08 44.1**	**-0.1**
USRK	**Ussuriysk Ar.**	**43.90**	**6**		P	**P**	**19 08 43.5**	**-0.7**
	comp=Z,5.5nm,0.6s,baz=195,slow=7.3,SNR=11							
	comp=Z,5.5nm,0.6s							
USRK	**Ussuriysk Ar.**	**43.90**	**6**		P	**P**	**19 08 44.1**	**-0.1**
LSA	**Lhasa**	**44.39**	**314**			**P**	**19 08 50.0**	**+1.0**
LSA	**Lhasa**	**44.39**	**314**		P	**P**	**19 08 50.0**	**+1.0**
LSA					pmax	pmax		
	comp=Z,7.0nm,0.6s							
YSS	**Yuzhno-Sakhali**	**48.54**	**15**	*e*	P	**P**	**19 09 23.3**	**+2.7**
YSS					pmax	pmax		
	comp=Z,10.0nm,1.0s							
KLR	**Kul'dur**	**48.87**	**5**	*i*	P	**P**	**19 09 21.4**	**-1.7**
KLR					pmax	pmax		
	comp=Z,20nm,3.0s							
HYB	**Hyderabad**	**49.93**	**293**	*e*	P	**P**	**19 09 31.9**	**+0.1**
ULN	**Ulaanbaatar**	**50.16**	**343**	*ce*	P	**P**	**19 09 31.6**	**-1.5**
ULN					pmax	pmax		
	comp=Z,14nm,1.3s							
SONM	**Songino Array**	**50.32**	**343**		P	**P**	**19 09 33.9**	**-0.5**
SONM	**Songino Array**	**50.32**	**343**		P	**P**	**19 09 33.3**	**-1.1**
	comp=Z,3.5nm,0.6s,baz=156,slow=8.1,SNR=10.0							
	comp=Z,3.5nm,0.6s							
SONM	**Songino Array**	**50.32**	**343**		P	**P**	**19 09 33.9**	**-0.5**
SONM					pmax	pmax		
	comp=Z,10.0nm,1.3s							
GRNR	**Gornyy**	**50.91**	**8**	⇑	*i* P	**P**	**19 09 38.6**	**0.0**
GRNR					pmax	pmax		
	comp=Z,3.0nm,0.9s							
CIT	**Chita**	**52.55**	**350**	*e*	P	**P**	**19 09 50.2**	**-0.7**
CIT					*e*		19 12 51.0	
CIT					*e*		19 22 41.8	
CIT					pmax	pmax		
	comp=Z,77nm,1.6s							
ZEA	**Zeya**	**53.16**	**1**	*e*	P	**P**	**19 09 57.5**	**+2.2**
MSVF	**Nonsavu**	**53.96**	**112**	*i*	P	**P**	**19 09 59.8**	**-2.1**
MSVF					pmax	pmax		
	comp=Z,80nm,3.0s							
IRK	**Irkutsk**	**54.88**	**344**	*e*	P	**P**	**19 10 05.7**	**-2.1**
IRK					pmax	pmax		
	comp=Z,38nm,2.5s							
WMQ	**Urumqi**	**55.24**	**327**	*e*	P	**P**	**19 10 13.8**	**+3.1**
WMQ					pP	pP	19 10 23.0	0.0
WMQ					PcS	**PcS**	**19 15 17.5**	**+6.4**
WMQ	**Urumqi**	**55.24**	**327**		SS	**SS**	**19 21 28.7**	**-7.2**
WMQ					pmax	pmax		
	comp=Z,15nm,0.7s							
WMQ					LR	LR		
	comp=N,3μm,13.3s							
WMQ					LR	LR		
	comp=E,5μm,14.3s							
WMQ					LR	LR		
	comp=Z,6μm,16.9s							
PETK	**Petropavlovsk-**	**58.65**	**22**			**P**	**19 10 35.3**	**+0.7**
PETK	**Petropavlovsk-**	**58.65**	**22**		P	**P**	**19 10 34.9**	**+0.3**
	comp=Z,7.3nm,0.6s,baz=169,slow=3.4,SNR=17							
	comp=Z,7.3nm,0.6s							
PETK	**Petropavlovsk-**	**58.65**	**22**		P	**P**	**19 10 35.3**	**+0.7**
ZSN	**Zaisan**	**59.09**	**328**	*e*	P	**P**	**19 10 36.5**	**-1.2**
ZSN	**Zaisan**	**59.09**	**328**	*e*	P	**P**	**19 10 36.6**	**-1.2**
SHLS	**Shalkode**	**59.67**	**322**	*e*	P	**P**	**19 10 39.0**	**-3.0**
SHLS					pmax	pmax		
	comp=Z,5.0nm,0.8s							
SHLS	**Shalkode**	**59.67**	**322**	*e*	P	**P**	**19 10 39.0**	**-3.0**
	comp=Z,4.7nm,0.8s							
MK31	**Makanchi Array**	**60.07**	**327**	*ce*	P	**P**	**19 10 43.1**	**-1.5**
MKAR	**Makanchi Array**	**60.07**	**327**		P	**P**	**19 10 43.4**	**-1.2**
	comp=Z,3.8nm,0.4s,baz=120,slow=8.1,SNR=48							
	comp=Z,3.8nm,0.4s							
KSH	**Kashi**	**60.14**	**317**		P	**P**	**19 10 45.4**	**+0.1**
KSH					pmax	pmax		
	comp=Z,14nm,0.8s							
KSH					LR	LR		
	comp=N,3μm,20.6s							
KSH					LR	LR		
	comp=E,2μm,19.9s							
KSH					LR	LR		
	comp=Z,3μm,18.2s							
MAKZ	**Makanchi**	**60.25**	**326**			**P**	**19 10 44.7**	**-1.1**
MAKZ					IAmb	IAmb	19 11 05.8	
	comp=Z,18nm,1.2s							
MAKZ	**Makanchi**	**60.25**	**326**		P	**P**	**19 10 44.7**	**-1.1**
MAKZ					pmax	pmax		
	comp=Z,18nm,1.2s							
SATY	**Saty**	**60.27**	**321**	*e*	P	**P**	**19 10 45.0**	**-1.1**
SATY					pmax	pmax		
	comp=Z,5.0nm,0.6s							
SATY	**Saty**	**60.27**	**321**	*e*	P	**P**	**19 10 45.0**	**-1.1**
	comp=Z,4.9nm,0.6s							
AAA	**Alma-Ata**	**61.29**	**321**	*e*	P	**P**	**19 10 51.7**	**-1.2**
AAA	**Alma-Ata**	**61.29**	**321**	*e*	P	**P**	**19 10 51.8**	**-1.2**
TDK	**Taldyqorghan**	**61.30**	**323**	*e*	P	**P**	**19 10 51.9**	**-1.0**
TDK	**Taldyqorghan**	**61.30**	**323**	*e*	P	**P**	**19 10 51.9**	**-1.0**
YAK	**Yakutsk**	**61.53**	**2**	*e*	P	**P**	**19 10 53.7**	**-0.4**
YAK				*e*			19 13 08.5	
YAK				*e*	S	**S**	**19 19 13.2**	**+1.1**
YAK				*e*	SS	**pS**	**19 19 30.2**	**+3.2**
YAK				*e*	SS	**SS**	**19 23 14.0**	**+0.1**
YAK					pmax	pmax		
	comp=Z,34nm,1.1s							
YAK					pmax	pmax		
	comp=N,8.0nm,1.4s							
YAK					pmax	pmax		
	comp=E,3.0nm,1.4s							
YAK					pmax	pmax		
	comp=Z,383nm,9.2s							
YAK					pmax	pmax		
	comp=N,588nm,10.0s							
YAK					pmax	pmax		
	comp=E,224nm,7.9s							
YAK					smax	smax		
	comp=E,362nm,10.4s							
YAK					smax	smax		
	comp=N,132nm,6.9s							
YAK					MLR	MLR		
	comp=Z,2μm,23.0s							
YAK					MLR	MLR		
	comp=N,1μm,25.0s							
YAK					MLR	MLR		
	comp=E,841nm,22.0s							
KUU	**Kurty**	**61.99**	**321**	*e*	P	**P**	**19 10 56.7**	**-0.9**
KUU	**Kurty**	**61.99**	**321**	*e*	P	**P**	**19 10 56.7**	**-0.9**
MA2	**Magadan**	**62.01**	**14**	*ce*	P	**P**	**19 10 56.8**	**-0.6**
MA2					pmax	pmax		
	comp=Z,14nm,0.7s							
AAK	**Ala-Archa**	**62.57**	**319**	*i*	P	**P**	**19 11 00.2**	**-1.5**
AAK					pmax	pmax		
	comp=Z,7.0nm,0.6s							
ZALV	**Zalesovo Beam**	**63.37**	**334**		P	**P**	**19 11 04.7**	**-1.8**
ZALV	**Zalesovo Beam**	**63.37**	**334**		P	**P**	**19 11 05.0**	**-1.6**
	comp=Z,1.8nm,0.5s,baz=124,slow=6.3,SNR=6.3							
	comp=Z,1.8nm,0.5s							
BTLS	**Baital**	**63.98**	**321**	*e*	P	**P**	**19 11 09.7**	**-1.1**
BTLS	**Baital**	**63.98**	**321**	*e*	P	**P**	**19 11 09.7**	**-1.1**
KURBB	**Kurchatov Arra**	**64.33**	**328**		P	**P**	**19 11 11.7**	**-1.3**
	comp=Z,8.8nm,0.6s,baz=127,slow=6.3,SNR=34							
KURBB					PcP	**PcP**	**19 11 47.3**	**+0.1**
	comp=Z,6.0nm,0.9s,baz=125,slow=6.5,SNR=4.1							
	comp=Z,8.8nm,0.6s							
KURK	**Kurchatov**	**64.33**	**329**			**P**	**19 11 11.8**	**-1.2**
KURK	**Kurchatov**	**64.33**	**329**	*ce*	P	**P**	**19 11 10.7**	**-2.3**
KURK					pmax	pmax		
	comp=Z,19nm,0.7s							
IUG	**Iuzhnay**	**65.34**	**317**	*e*	P	**P**	**19 11 18.6**	**-1.3**
IUG					pmax	pmax		
	comp=Z,13nm,1.1s							
IUG	**Iuzhnay**	**65.34**	**317**	*e*	P	**P**	**19 11 18.6**	**-1.3**
	comp=Z,13nm,1.1s							
SEY	**Seymchan**	**65.35**	**13**	*i*	P	**P**	**19 11 18.7**	**-0.6**
SEY					pmax	pmax		
	comp=Z,9.0nm,1.3s							
CHM	**Chimkent**	**65.70**	**317**	*e*	P	**P**	**19 11 21.0**	**-1.0**
CHM	**Chimkent**	**65.70**	**317**	*e*	P	**P**	**19 11 21.1**	**-1.0**
BRLS	**Boroldaу**	**65.83**	**318**	*e*	P	**P**	**19 11 21.9**	**-1.0**
BRLS	**Boroldaу**	**65.83**	**318**	*e*	P	**P**	**19 11 21.9**	**-1.0**
BVAR	**Borovoye Array**	**69.89**	**328**		P	**P**	**19 11 47.7**	**-0.5**
	comp=Z,12nm,1.1s							
	comp=Z,12nm,1.1s							
TIXI	**Tiksi**	**71.16**	**1**		P	**P**	**19 11 54.6**	**-0.9**
TIXI					IAmb	IAmb	19 12 14.9	
	comp=Z,22nm,1.5s							
TIXI	**Tiksi**	**71.16**	**1**	*ce*	P	**P**	**19 11 54.8**	**-0.7**
TIXI					pmax	pmax		
	comp=Z,9.0nm,1.3s							
BILL	**Bilibino**	**72.86**	**15**	*i*	P	**P**	**19 12 06.2**	**+0.4**
BILL					pmax	pmax		
	comp=Z,9.0nm,2.3s							
NRIK	**Noril'sk**	**73.55**	**347**		P	**P**	**19 12 08.9**	**-0.9**
	comp=Z,8.9nm,0.8s,baz=114,slow=5.7,SNR=4.8							
	comp=Z,8.9nm,0.8s							
ABKAR	**Akbulak array**	**74.47**	**321**		P	**P**	**19 12 14.7**	**-0.9**
ABKAR	**Akbulak array**	**74.47**	**321**		IAmb	IAmb	19 12 34.9	
	comp=Z,10nm,0.9s							
NIKH	**Nikolski High**	**74.76**	**35**		P	**P**	**19 12 16.5**	**-0.7**
	baz=250							
SPIA	**Saint Paul Isl**	**75.56**	**30**		P	**P**	**19 12 21.6**	**-0.1**
	baz=247							
P08K	**Saint George I**	**75.69**	**31**		P	**P**	**19 12 21.6**	**-0.9**
	baz=248							
UNV	**Unalaska Valle**	**76.38**	**34**		P	**P**	**19 12 26.1**	**-0.3**
	baz=251							
SVE	**Sverdlovsk**	**76.58**	**329**	*e*	P	**P**	**19 12 27.3**	**-0.3**
GAMB	**Gambell**	**77.59**	**24**		P	**P**	**19 12 33.3**	**+0.3**
	baz=245							
ARTI	**Arti**	**77.61**	**328**			**P**	**19 12 33.2**	**-0.2**
ARTI	**Arti**	**77.61**	**328**		P	**P**	**19 12 33.2**	**-0.2**
ARTI					pmax	pmax		
	comp=Z,88nm,1.8s							
M11K	**Mekoryuk**	**78.68**	**28**		P	**P**	**19 12 39.3**	**+0.1**
	baz=250							
S12K	**Black Hills**	**79.38**	**33**		P	**P**	**19 12 42.5**	**-0.6**
	baz=255							
TNA	**Tin City**	**79.80**	**23**		P	**P**	**19 12 45.3**	**+0.1**
	baz=248							
K13K	**Kusilvak Mount**	**79.90**	**27**		P	**P**	**19 12 46.0**	**+0.2**
	baz=252,SNR=7.9							
M13K	**Dall Lake**	**80.03**	**28**		P	**P**	**19 12 46.6**	**+0.1**
	baz=253							
SDPT	**Sand Point**	**80.17**	**34**		P	**P**	**19 12 47.3**	**0.0**
	baz=256							
VNDA	**Vanda**	**80.19**	**173**		P	**P**	**19 12 46.7**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=315,slow=1.6,SNR=2.1							
	comp=Z,1.4nm,0.7s							
F14K	**Arctic Creek**	**80.38**	**23**		P	**P**	**19 12 49.0**	**+0.6**
	baz=249							
ANM	**Nome**	**80.45**	**24**		P	**P**	**19 12 49.1**	**+0.4**
	baz=250							
MAW	**Mawson**	**80.51**	**200**		P	**P**	**19 12 47.5**	**-1.4**
	comp=Z,3.9nm,0.8s,baz=74,slow=5.2,SNR=11							
	comp=Z,3.9nm,0.8s							
CHNA	**Chernabura Isl**	**80.54**	**34**		P	**P**	**19 12 49.8**	**+0.4**
	baz=257							
L14K	**Kuka Creek**	**80.61**	**28**		IAmb	IAmb	19 12 58.1	
	comp=Z,15nm,1.1s							
L14K	**Kuka Creek**	**80.61**	**28**		P	**P**	**19 12 50.4**	**+0.8**
	baz=253,SNR=10							
J14K	**Nanvaranak Lak**	**80.64**	**26**		P	**P**	**19 12 49.9**	**+0.2**
	baz=252							
N14K	**Kuskokwak Cree**	**80.69**	**29**		P	**P**	**19 12 50.8**	**+0.7**
N14K					IAmb	IAmb	19 12 58.6	
	comp=Z,11nm,0.8s							
N14K	**Kuskokwak

baz=255,SNR=10
F17K **Baldwin Pennin** 82.66 23 IAmb IAmb 19 13 18.1
comp=Z,8.8nm,0.8s
F17K **Baldwin Pennin** 82.66 23 P P 19 13 01.8 +1.4
baz=254
J17K **VABM Dome** 82.78 26 P P 19 13 02.8 +1.7
baz=256,SNR=16
BELG **Belogornoye** 82.79 323 *i* P P 19 12 59.8 -1.5
BELG pmax pmax
comp=Z,3.0nm,0.8s
H17K **Granite Mounta** 82.80 24 IAmb IAmb 19 13 08.7
comp=Z,15nm,1.0s
H17K **Granite Mounta** 82.80 24 P P 19 13 02.5 +1.3
baz=255,SNR=8.3
L17K **Donlin** 82.83 27 P P 19 13 03.5 +2.2
baz=257,SNR=8.2
KIRV **Kirov** 82.85 329 *i* P P 19 13 01.0 -0.5
R17L **Mt. Peulik Vol** 82.88 32 P P 19 13 02.5 +0.8
baz=259
O17K **Koliganek Bris** 82.91 30 P P 19 13 02.7 +0.9
baz=258
K17K **Iditarod** 82.96 27 P P 19 13 03.7 +1.6
baz=257,SNR=23
N17K **Nushagak Hills** 83.02 29 IAmb IAmb 19 13 25.7
comp=Z,19nm,1.4s
N17K **Nushagak Hills** 83.02 29 P P 19 13 03.6 +1.2
baz=258
M17K **Holitna River** 83.08 28 IAmb IAmb 19 13 26.1
comp=Z,24nm,1.4s
M17K **Holitna River** 83.08 28 P P 19 13 03.8 +1.1
baz=258
P17K **Kvichak River** 83.13 30 P P 19 13 02.8 -0.1
baz=259
E18K **Tukpahlearik C** 83.18 22 IAmb IAmb 19 13 08.8
comp=Z,11nm,0.9s
E18K **Tukpahlearik C** 83.18 22 P P 19 13 04.6 +1.5
baz=254,SNR=12
Q17K **Contact Creek** 83.24 31 P P 19 13 03.6 -0.1
baz=260
B18K **Kokolik River** 83.30 20 P P 19 13 05.2 +1.6
baz=253,SNR=12
C18K **Utukok River** 83.30 21 P P 19 13 04.7 +1.0
baz=254,SNR=9.6
GNI **Garni** 83.30 310 *i* P P 19 13 05.1 +0.6
GNI pmax pmax
comp=Z,26nm,1.2s
H18K **Honhosa River** 83.49 24 P P 19 13 06.0 +1.3
baz=257,SNR=6.8
G18K **Tagagawik** 83.54 24 P P 19 13 06.1 +1.1
baz=256,SNR=6.3
L18K **Granite Mounta** 83.59 27 IAmb IAmb 19 13 19.3
comp=Z,12nm,0.9s
L18K **Granite Mounta** 83.59 27 P P 19 13 06.5 +1.3
baz=259,SNR=16
N18K **Kilae Creek** 83.67 29 IAmb IAmb 19 13 29.8
comp=Z,7nm,1.4s
N18K **Kilae Creek** 83.67 29 P P 19 13 06.8 +1.1
baz=260,SNR=6.1
Q18K **Katmai Hardscr** 83.76 31 P P 19 13 06.7 +0.3
baz=260
A19K **Wainwright** 83.78 19 P P 19 13 07.9 +1.8
baz=254
J18K **Innoko River** 83.83 26 IAmb IAmb 19 13 29.9
comp=Z,19nm,1.4s
J18K **Innoko River** 83.83 26 P P 19 13 07.7 +1.2
baz=258,SNR=9.8
M18K **Stony River** 83.86 28 P P 19 13 08.4 +1.8
baz=260,SNR=12
O18K **Koktuh Hills** 83.86 30 IAmb IAmb 19 13 29.3
comp=Z,11nm,1.2s
O18K **Koktuh Hills** 83.86 30 P P 19 13 07.7 +0.9
baz=260
R18K **Karluk** 83.88 32 P P 19 13 07.8 +1.0
baz=261
C19K **Lookout Ridge** 83.98 20 P P 19 13 09.0 +1.8
baz=255,SNR=13
GCSA **Galena City Sc** 84.02 25 P P 19 13 09.0 +1.7
baz=258
F19K **Shaleruckik Mo** 84.10 23 IAmb IAmb 19 13 31.2
comp=Z,12nm,1.5s
F19K **Shaleruckik Mo** 84.10 23 P P 19 13 08.9 +1.2
baz=257
G19K **Purcell Mounta** 84.22 23 IAmb IAmb 19 13 11.6
comp=Z,9.2nm,0.8s
G19K **Purcell Mounta** 84.22 23 P P 19 13 09.8 +1.3
baz=258,SNR=8.2
H19K **Roundabout Mou** 84.35 24 P P 19 13 10.4 +1.4
baz=258,SNR=7.0
D19K **Kuna River** 84.35 21 P P 19 13 10.7 +1.6
baz=257
O19K **Port Alsworth** 84.36 30 P P 19 13 10.6 +1.5
baz=261
N19K **Bonanza Creek** 84.38 29 P P 19 13 10.7 +1.3
baz=261
J19K **Poorman** 84.41 26 IAmb IAmb 19 13 33.3
comp=Z,12nm,1.4s
J19K **Poorman** 84.41 26 P P 19 13 11.1 +1.7
baz=259
L19K **White Mountain** 84.43 28 IAmb IAmb 19 13 33.3
comp=Z,16nm,1.4s
L19K **White Mountain** 84.43 28 P P 19 13 10.9 +1.3
baz=260,SNR=8.0
E19K **Redstone River** 84.45 22 IAmb IAmb 19 13 43.6
comp=Z,8.0nm,0.9s
E19K **Redstone River** 84.45 22 P P 19 13 10.2 +0.7
baz=258,SNR=11
OHAK **Old Harbor** 84.45 33 P P 19 13 10.9 +1.2
baz=262
GEVA **Gevas** 84.46 308 P 19 13 10.6 +0.1
Q19K **Cape Douglas,** 84.51 31 P P 19 13 10.8 +0.8
baz=262
M19K **Big River Lodg** 84.60 28 P P 19 13 11.3 +0.9
baz=261
P19K **Oil Pt** 84.82 30 P P 19 13 11.9 +0.3
baz=262
KDAK **Kodiak Island** 84.91 32 P P 19 13 12.5 +0.5
KDAK **Kodiak Island** 84.91 32 *i* P P 19 13 09.4 -2.6
KDAK pmax pmax
comp=Z,37nm,1.5s
KDAK **Kodiak Island** 84.91 32 P P 19 13 12.9 +0.9
baz=263
L20K **Farewell, AK** 84.93 27 P P 19 13 12.9 +0.8
baz=261
F20K **Avaraart Lake** 84.94 23 P P 19 13 13.0 +1.0
baz=259
D20K **Etivluk River** 84.94 21 P P 19 13 13.1 +1.1
baz=258
GOF **Gofitskoye** 84.97 315 *ce* P P 19 12 55.1 -18
KBZ **Khabaz** 84.97 314 P P 19 13 11.9 -0.8
comp=Z,4.2nm,0.9s,baz=109,slow=3.0,SNR=4.6
comp=Z,4.2nm,0.9s
KBZ **Khabaz** 84.97 314 *i* P P 19 13 11.2 -1.4
KBZ pmax pmax
comp=Z,8.0nm,1.2s
K20K **Telida** 84.98 26 P P 19 13 13.4 +1.1
baz=261
H20K **Anotleneega Mo** 84.99 24 P P 19 13 13.6 +1.3
baz=260
E20K **Nigu River** 85.00 21 P P 19 13 13.3 +0.9
baz=258,SNR=11
B20K **Meade River** 85.03 20 IAmb IAmb 19 13 15.8
comp=Z,6.6nm,0.9s
B20K **Meade River** 85.03 20 P P 19 13 13.6 +1.2
baz=257,SNR=6.0
I20K **Naaghedeneel** 85.04 25 P P 19 13 13.4 +0.9
baz=260
J20K **Nowinta River** 85.08 26 P P 19 13 13.6 +0.8
baz=261
Q20K **Shuyak Island** 85.11 31 P P 19 13 13.6 +0.6
baz=263
KIV **Kislovodsk** 85.14 314 *e* P P 19 13 12.7 -0.9
KIV pmax pmax
comp=Z,6.0nm,1.1s
SHA1 **Shidzhatmaz** 85.14 314 *i* P P 19 13 14.0 +0.1
M20K **Styx River** 85.19 28 P P 19 13 13.9 +0.4
baz=262
A21K **Barrow** 85.49 18 P P 19 13 15.5 +0.9
baz=258
C21K **Knifeblade Rid** 85.67 21 P P 19 13 16.6 +0.9
baz=260
G21K **Allakaket** 85.71 23 P P 19 13 16.7 +0.8
baz=261
PPLA **Purkeypile** 85.76 27 P P 19 13 17.2 +0.8
baz=263
B21K **Ikpikpuk River** 85.82 20 IAmb IAmb 19 13 26.7
comp=Z,18nm,1.8s
B21K **Ikpikpuk River** 85.82 20 P P 19 13 17.4 +1.1
baz=260
CHUM **Lake Minchumin** 85.83 26 P P 19 13 17.4 +0.9
baz=262
F21K **Alatna River** 85.83 23 P P 19 13 17.3 +0.8
baz=261
E21K **Killik River** 85.84 21 P P 19 13 17.0 +0.5
baz=260
H21K **Melozitna Rive** 85.87 24 P P 19 13 17.3 +0.6
baz=262
CAST **Castle Rocks** 85.87 26 P P 19 13 17.3 +0.5
baz=263
A22K **Sinclair Lake** 85.95 19 P P 19 13 17.9 +1.0
baz=259
SKT **Skwentna** 85.95 28 P P 19 13 17.9 +0.7
baz=263
I21K **Tanana** 86.14 25 P P 19 13 18.7 +0.7
baz=263
SUA **Susitna One** 86.26 29 P P 19 13 19.2 +0.3
baz=264
VRH **Novokhopyorsk** 86.30 321 *e* P P 19 13 17.6 -1.5
VRH pmax pmax
comp=Z,10.0nm,0.9s
B22K **Teshekpuk Lake** 86.34 20 P P 19 13 19.8 +1.0
baz=261
F22K **John River** 86.37 22 P P 19 13 19.9 +0.7
baz=262
D22K **Ayikyak River** 86.38 21 P P 19 13 20.1 +1.0
baz=262
SLKM **Skilak Lake** 86.42 30 IAmb IAmb 19 13 41.7
comp=Z,10.0nm,0.8s
BPAW **Bear Paw Mtn.** 86.44 26 P P 19 13 20.0 +0.4
baz=264
H22K **Ishtalitna Cre** 86.48 24 P P 19 13 20.3 +0.5
baz=263
G22K **Bettles** 86.56 23 P P 19 13 20.6 +0.6
baz=263
E22K **Anaktuvuk Pass** 86.59 22 P P 19 13 20.7 +0.4
baz=263
MLY **Manley** 86.65 25 IAmb IAmb 19 15 56.9
comp=Z,18nm,1.6s
MLY **Manley** 86.65 25 P P 19 13 21.3 +0.7
baz=264
TRF **Thorofare Moun** 86.68 27 P P 19 13 21.0 +0.1
baz=264
RC01 **Rabbit Creek A** 86.71 29 P P 19 13 21.6 +0.7
baz=265
SEW **Seward** 86.77 30 P P 19 13 21.9 +0.7
baz=265
VSLR **Vesyoloye** 87.03 313 *i* P P 19 13 21.4 -1.5
VSLR pmax pmax
comp=Z,18nm,1.0s
COLD **Coldfoot** 87.10 23 P P 19 13 23.5 +0.8
baz=264
D23K **Nanushuk River** 87.11 21 P P 19 13 23.8 +1.1
baz=264
G23K **Bananza Creek** 87.12 23 P P 19 13 23.9 +1.1
baz=264
H23K **Yukon River** 87.22 24 P P 19 13 23.9 +0.5
baz=265
C23K **Itkillik River** 87.23 20 IAmb IAmb 19 13 29.9
comp=Z,12nm,1.2s
C23K **Itkillik River** 87.23 20 P P 19 13 24.3 +1.0
baz=264
I23K **Minto, Yukon-K** 87.24 25 P P 19 13 24.1 +0.7
baz=265
MCK **McKinley** 87.31 26 P P 19 13 24.6 +0.8
baz=265
NEA2 **Nenana** 87.32 25 P P 19 13 24.4 +0.6
baz=265
PWL **Port Wells** 87.38 29 P P 19 13 24.9 +0.8
baz=266
E23K **Chandalar** 87.40 22 IAmb IAmb 19 13 32.9
comp=Z,8.0nm,0.9s
E23K **Chandalar** 87.40 22 P P 19 13 25.1 +0.8
baz=265
WAT1 **Susitna Watana** 87.41 27 P P 19 13 25.1 +0.8
baz=266
TOLK **Toolik Lake Re** 87.47 21 P P 19 13 25.5 +1.0
baz=265
M23K **Glacier View** 87.73 28 P P 19 13 26.7 +0.9
baz=267
WAT6 **Susitna Watana** 87.77 28 P P 19 13 26.7 +0.5
baz=267
P23K **Montague Islan** 87.78 30 P P 19 13 26.8 +0.7
baz=267
D24K **Happy Valley** 87.79 21 P P 19 13 27.2 +1.2
baz=265
E24K **Your Creek** 87.83 22 P P 19 13 27.2 +1.0
baz=266
C24K **Franklin Bluff** 87.88 20 P P 19 13 27.3 +1.0
baz=265
VSR **Storozhevoye** 87.91 321 *e* P P 19 13 23.6 -3.3
VSR pmax pmax
comp=Z,6.0nm,0.8s
H24K **Noodor Dome** 87.91 24 P P 19 13 27.4 +0.7
baz=266
SCM **Sheep Creek Mo** 87.92 28 P P 19 13 27.1 +0.2
baz=267
DHY **Denali Highway** 87.96 27 P P 19 13 27.3 +0.2
baz=267
GLI **Glacier Island** 87.98 29 P P 19 13 27.5 +0.4
baz=267
F24K **Squaw Lake** 88.02 23 P P 19 13 27.9 +0.7
baz=266
POKR **Poker Plat Res** 88.05 25 P P 19 13 27.7 +0.4
baz=267
KLMR **Klimovskoe** 88.09 331 *e* P P 19 13 23.9 -3.6
KLMR *e* 19 16 50.4
KLMR pmax pmax
comp=Z,8.0nm,0.8s
LPSR **Galich'ya Gora** 88.10 322 *e* P P 19 13 27.2 -0.6
LPSR pmax pmax
comp=Z,8.0nm,0.8s
G24K **Hadweenzic Riv** 88.12 23 P P 19 13 27.7 +0.1
baz=267
HDA **Harding Lake** 88.22 26 P P 19 13 28.3 +0.1
baz=267
ILAR **Eielson Array** 88.27 25 P P 19 13 27.3 -1.0
comp=Z,0.5nm,0.5s,baz=258,slow=4.6,SNR=5.3
comp=Z,0.5nm,0.5s
M24K **Tolsona, Glenn** 88.47 28 P P 19 13 29.5 0.0
baz=268
KLU **Klutina** 88.57 29 P P 19 13 29.5 -0.5
baz=268
EYAK **Cordova Ski Ar** 88.63 30 P P 19 13 29.7 -0.4
baz=268
D25K **Kavik River** 88.67 21 P P 19 13 29.9 -0.3
baz=268
G25K **Bearman Lake** 88.67 23 P P 19 13 30.6 +0.5
baz=268
K24K **Donelly Dome** 88.71 26 P P 19 13 31.0 +0.5
baz=268
H25L **Birch Creek** 88.77 24 P P 19 13 30.8 +0.2
baz=268
PAX **Paxson** 88.83 27 P P 19 13 31.2 +0.1
baz=269
PRP **Porcupine Dome** 88.87 25 P P 19 13 31.2 -0.1
baz=268
F25K **Christian Rive** 88.88 23 P P 19 13 30.7 -0.6
baz=268
J25K **Salcha River,** 88.91 26 P P 19 13 30.6 -0.9
baz=269
E25K **Arctic Village** 88.92 22 P P 19 13 31.8 +0.4
baz=268
HARP **HAARP** 88.96 28 P P 19 13 31.0 -0.6
baz=269
RIDG **Independent Ri** 89.12 26 P P 19 13 32.4 -0.1
baz=269
SYO **Syowa Base** 89.19 201 ‖ *e* P P 19 13 34.7 +2.2
SYO **Syowa Base** 89.19 201 ‖ *e* PcP PcP 19 13 36.6 +2.6
BMRM **Bremner River** 89.20 29 P P 19 13 32.5 -0.4
baz=269
C26K **Camden Bay** 89.20 20 P P 19 13 32.2 -0.4
baz=269
N25K **Chitina, Valde** 89.21 29 P P 19 13 32.8 -0.2
baz=269
KAIM **Kayak Island** 89.28 30 P P 19 13 33.3 +0.2
baz=270
F26K **Sheenjek River** 89.45 22 P P 19 13 34.2 +0.3
baz=270
SCRK **Sand Creek** 89.51 26 P P 19 13 34.4 +0.1
baz=270
OBN **Obninsk** 89.54 325 *e* P P 19 13 33.3 -1.1
OBN *e* 19 17 03.4
OBN *i* PPP PPP 19 19 03.2
OBN *e* SSS SSS 19 33 55.7
OBN pmax pmax
comp=Z,19nm,1.3s
OBN MLR MLR
comp=Z,2µm,20.0s
G26K **Porcupine Rive** 89.59 23 P P 19 13 34.8 +0.3
baz=270
C27K **Jago River** 89.62 20 P P 19 13 34.7 +0.1
baz=270
J26L **Joseph Creek** 89.69 26 P P 19 13 35.4 +0.2
baz=270
BGLC **Bering Glacier** 89.85 30 P P 19 13 35.4 -0.4
baz=270
I26K **Coal Creek Min** 89.86 25 P P 19 13 35.6 -0.2
baz=271
M26K **Nabesna, AK** 89.97 28 P P 19 13 36.2 -0.2
baz=271
MCARA **McCarthy VSAT** 89.97 29 P P 19 13 36.9 +0.5
baz=271
LVZ **Lovozero** 90.27 338 *ce* P P 19 13 38.4 +0.7
LVZ pmax pmax
comp=Z,75nm,1.3s
QSPA **South Pole Qui** 90.33 180 P P 19 13 38.0 -0.1
comp=Z,1.9nm,0.8s,baz=265,slow=1.1,SNR=11
comp=Z,1.9nm,0.8s
K27K **Chicken** 90.35 26 P P 19 13 38.6 +0.5
baz=272
E27K **Coleen River** 90.41 22 P P 19 13 38.7 +0.4
baz=272
G27K **Doyon Strip** 90.44 23 P P 19 13 38.8 +0.3
baz=272
M27K **Edge Creek, AK** 90.49 28 P P 19 13 38.9 0.0
baz=272
L27K **Beaver Creek,** 90.49 27 IAmb IAmb 19 16 54.2
comp=Z,24nm,2.0s
L27K **Beaver Creek,** 90.49 27 P P 19 13 38.9 +0.1
baz=272
I27K **Kandik River** 90.50 25 P P 19 13 38.9 0.0
baz=272
H27K **Steamboat Moun** 90.51 24 P P 19 13 38.9 +0.1
baz=272
MESA **MESA** 90.52 30 P P 19 13 39.0 -0.3
baz=272
MMAI **Mount Meron Ar** 90.56 303 P P 19 13 39.7 -0.2
comp=Z,1.5nm,0.7s,baz=66,slow=3.5,SNR=2.5
comp=Z,1.5nm,0.7s
D27M **Malcolm River** 90.59 21 P P 19 13 39.6 +0.3
baz=273
CTG **Chitna Glacier** 90.79 29 P P 19 13 40.3 -0.1
baz=272
F28M **Old Crow** 91.09 22 P P 19 13 42.0 +0.4
baz=274
E28M **Babbage River** 91.15 21 IAmb IAmb 19 13 48.4
comp=Z,11nm,1.6s
E28M **Babbage River** 91.15 21 P P 19 13 41.4 -0.3
baz=274
YUK3 **Moose Creek** 91.18 28 P P 19 13 41.9 -0.4
baz=273
I28M **Miner Creek** 91.20 25 P P 19 13 42.6 +0.4
I28M IAmb IAmb 19 13 49.8
comp=Z,4.8nm,0.8s
I28M **Miner Creek** 91.20 25 P P 19 13 42.4 +0.2
baz=274
O28M **Mount Upton** 91.36 29 P P 19 13 43.0 -0.3
baz=273
PINM **Pinnacle** 91.37 30 P P 19 13 42.9 -0.1
baz=273
D28M **Stokes Point** 91.38 21 P P 19 13 43.0 +0.2
baz=275
DAWY **Dawson** 91.53 26 P P 19 13 43.5 -0.1
baz=274
E29M **Blow River** 91.77 22 P P 19 13 44.9 +0.3
baz=276
H29M **Whitestone** 91.79 24 P P 19 13 44.8 +0.1
baz=275
BR131 **Keskin Array S** 91.82 310 *i* P P 19 13 45.3 -0.4
BRTR **Keskin Array B** 91.82 310 P P 19 13 44.4 -1.3
comp=Z,1.8nm,0.9s,baz=124,slow=5.3,SNR=7.4
comp=Z,1.8nm,0.9s
G29M **Pine Creek** 91.86 23 P P 19 13 45.4 +0.3
baz=275
I29M **Ogilvie Camp,** 91.89 25 P P 19 13 45.2 -0.1
baz=275
M29M **Somme Creek** 92.07 28 P P 19 13 46.3 +0.1
baz=275
YUK4 **Talbot Arm** 92.07 29 P P 19 13 46.4 0.0
baz=275
L29M **L29M** 92.17 27 P P 19 13 46.8 +0.2
baz=275
O29M **Mount Kennedy** 92.19 30 P P 19 13 47.2 +0.3
baz=275
K29M **Barlow Dome** 92.37 26 P P 19 13 47.3 -0.4
baz=276
EPYK **Eagle Plains** 92.44 24 P P 19 13 47.6 -0.2
baz=276
G30M **tAoh Zraii Nji** 92.56 23 P P 19 13 48.3 -0.1
baz=277
F30M **Barrier River** 92.65 22 P P 19 13 49.1 +0.4
baz=277
P29M **Windy Craggy** 92.67 30 P P 19 13 49.4 +0.4
baz=275
HYT **Haines Junctio** 92.67 29 P P 19 13 49.3 +0.2
baz=276
I30M **Mount Dempster** 92.71 25 P P 19 13 49.4 +0.2
baz=277
J30M **Hart River** 92.81 25 P P 19 13 49.9 +0.3
baz=277
N30M **Aishikik Lake** 92.81 29 P P 19 13 49.7 +0.1
baz=276
M30M **Minto, Yukon** 92.83 27 P P 19 13 49.5 -0.2
baz=276
P30M **Million Dollar** 93.01 30 P P 19 13 50.5 -0.1
baz=276
G31M **Satah River** 93.33 23 P P 19 13 52.4 +0.7
baz=279
O30N **Mendenhall** 93.37 29 P P 19 13 52.2 0.0
baz=277
PLBC **Pleasant Camp** 93.38 30 P P 19 13 52.2 0.0
baz=276
ARCES **ARCESS Array B** 93.42 340 P P 19 13 51.6 -0.6
comp=Z,2.3nm,0.9s,baz=87,slow=6.2,SNR=4.7
comp=Z,2.3nm,0.9s
N31M **Braeburn, Yuko** 93.43 28 P P 19 13 52.6 +0.1
baz=277
F31M **Tsiigehtchic** 93.45 22 P P 19 13 53.0 +0.7
baz=279
WHY **Whitehorse** 93.97 29 P P 19 13 55.5 +0.4
baz=278
M31M **Drury Creek, Y** 93.99 28 P P 19 13 55.6 +0.6
baz=278
FARO **Faro, Yukon** 94.47 28 P P 19 13 57.7 +0.5
baz=279
S32K **Killisnoo** 94.57 32 P P 19 13 58.3 +0.7
baz=278
N32M **Quiet Lake** 94.77 29 P P 19 13 59.1 +0.5
baz=280
P33M **Teslin, Yukon** 95.05 29 P P 19 14 00.6 +0.6
baz=280
A36M **Sachs Harbour** 95.27 17 P P 19 14 01.6 +1.0
baz=288
MMPY **Sheldon Lake,** 95.35 27 P P 19 14 02.0 +0.7
baz=281
TORD **Torodi Ar. Bea** 123.51 286 PKP PKPdf 19 19 35.5 +0.1
comp=Z,3.8nm,0.5s,baz=82,slow=0.3,SNR=1.5
TXAR **Lajitas Array** 123.92 54 PKP PKPdf 19 19 35.9 -0.2
comp=Z,0.5nm,0.7s,baz=214,slow=1.9,SNR=5.7
BOAB **BOACO BROADBAND** 146.78 67 PKPab 19 20 17.7 0.0
LCR2 **La Lucha 2** 148.17 71 PKiKP 19 20 26.0 -0.1
CPUP **Villa Florida** 153.98 173 PKPbc PKPbc 19 20 36.0 -1.4
comp=Z,0.4nm,0.7s,baz=53,slow=5.5,SNR=3.7

IGIL ***08*** *19:01:14.3,35°.88N×5°.04W,h19km,ML2.4*
MDD ***08*** *19:01:15.6±0.8,35°.88N×5°.04W,h63km±9km,Mb3.2/20,*
Error ellipse: s-maj=6.6km s-min=3.8km az=171.0
SFS ***08*** *19:01:15.7,35°.90N×5°.02W,h64km,ML2.5/8,ML2.3/13,*
MLv2.1/13
CNRM ***08*** *19:01:15.2,35°.53N×5°.03W,h70km,ML1.9*
INMG ***08*** *19:01:16.1±1.6,35°.95N×5°.07W,h57km±6km,ML2.3,Error*
ellipse: s-maj=3.8km s-min=3.4km az=170.0,
#DIST_RANGE: REGIONAL #IPMA_REGION: E Ceuta
ISC 08 19:01:12.0±1.2**,35.79N**±0.02×**5.02W**±0.03**,h82**km±6km**,**
n80,σ1**s68**/123**,17C,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ECEU	**Ceuta**	**0.31**	**290**	Sn	Sn	**Sn**	**19 01 34.2**	**+0.4**
ECEU				Pn	Pn	**Pn**	**19 01 25.5**	**+1.0**
ECEU	**Ceuta**	**0.31**	**290**	Pg	Pn	**Pn**	**19 01 25.6**	**+1.0**
ECEU				Sg	Sn	**Sn**	**19 01 32.7**	**-1.1**
SMIR	**Smir Dam**	**0.31**	**250**	P	Pn	**Pn**	**19 01 25.9**	**+1.3**

SMIR	**Smir Dam**	**0.31**	**250**	S	**Sn**	**19 01 35.6**	**+1.8**
CHEFC	**Chefchaouen**	**0.73**	**201**	P	**Pn**	**19 01 29.2**	**+0.9**
CHEFC	**Chefchaouen**	**0.73**	**201**	S	**Sn**	**19 01 38.0**	**-2.3**
EMIJ	**Mijas**	**0.80**	**14**	Pn	**Pn**	**19 01 28.9**	**0.0**
EMIJ				Sn	**Sn**	**19 01 39.5**	**-2.0**
EMIJ	**Mijas**	**0.80**	**14**	Pg	**Pn**	**19 01 28.9**	**0.0**
EMIJ				⇑*i*VmB_VC		19 01 30.6	
	440nm,SNR=3.6						
EMIJ				Sg	**Sn**	**19 01 39.0**	**-2.5**
PALE	**Palemas**	**1.05**	**123**	P	**Pn**	**19 01 32.7**	**+0.9**
PALE	**Palemas**	**1.05**	**123**	S	**Sn**	**19 01 46.7**	**+0.1**
EMAL	**Malaga-Limoner**	**1.08**	**26**	Sn	**Sn**	**19 01 45.8**	**-1.4**
EMAL				Pn	**Pn**	**19 01 33.0**	**+0.9**
RSA	**Sarsar**	**1.12**	**216**	P	**Pn**	**19 01 32.6**	**0.0**
RSA	**Sarsar**	**1.12**	**216**	S	**Sn**	**19 01 46.4**	**-1.7**
ESPR	**Espera**	**1.27**	**328**	Sn	**Sn**	**19 01 49.6**	**-1.8**
ESPR	**Espera**	**1.27**	**328**	Pg	**Pn**	**19 01 35.9**	**+1.4**
ESPR				⇑*i*VmB_VC		19 01 38.2	
	196nm,SNR=1.7						
ESPR				Sg	**Sn**	**19 01 50.9**	**-0.5**
EGOR	**Sierra Gorda,**	**1.51**	**29**	Sn	**Sn**	**19 01 56.3**	**-0.6**
EGOR	**Sierra Gorda,**	**1.51**	**29**	Pn	**Pn**	**19 01 40.1**	**+2.4**
EGOR				⇑*i*VmB_VC		19 01 43.2	
	108nm,SNR=0.8						
EGOR				Sn	**Sn**	**19 01 56.0**	**-1.0**
ELGU	**Los Guajares,**	**1.56**	**46**	Pn	**Pn**	**19 01 39.1**	**+0.9**
ELGU				Sn	**Sn**	**19 01 56.8**	**-1.2**
ELGU	**Los Guajares,**	**1.56**	**46**	Pn	**Pn**	**19 01 39.0**	**+0.8**
ELGU				⇑*i*VmB_VC		19 01 41.8	
	283nm,SNR=1.0						
ELGU				Sn	**Sn**	**19 01 56.2**	**-1.8**
AKLM	**AKL**	**1.59**	**143**	P	**Pn**	**19 01 37.7**	**-1.0**
AKLM	**AKL**	**1.59**	**143**	S	**Sn**	**19 01 55.1**	**-3.7**
GOG	**Mont Gurugu**	**1.75**	**108**	P	**Pn**	**19 01 42.5**	**+1.8**
GOG	**Mont Gurugu**	**1.75**	**108**	S	**Sn**	**19 02 03.8**	**+1.4**
EQUE	**Quentar**	**1.90**	**42**	Pn	**Pn**	**19 01 44.1**	**+1.4**
EQUE				⇑*i*VmB_VC		19 01 48.1	
	124nm,SNR=1.4						
EQUE				Sn	**Sn**	**19 02 05.5**	**-0.6**
ECAB	**El Cabril**	**2.30**	**352**	Pn	**Pn**	**19 01 49.1**	**+1.1**
ECAB				Sn	**Sn**	**19 02 14.2**	**-1.4**
ECAB	**El Cabril**	**2.30**	**352**	Pg	**Pn**	**19 01 48.9**	**+0.9**
ECAB				⇑*i*VmB_VC		19 01 51.5	
	95nm,SNR=2.1						
ECAB				Sn	**Sn**	**19 02 13.7**	**-1.9**
EMIN	**Mina Concepcio**	**2.38**	**327**	Pn	**Pn**	**19 01 50.2**	**+1.1**
EMIN				Sn	**Sn**	**19 02 15.6**	**-1.7**
EMIN	**Mina Concepcio**	**2.38**	**327**	Pn	**Pn**	**19 01 50.1**	**+1.1**
EMIN				⇑*i*VmB_VC		19 01 52.1	
	216nm,SNR=3.2						
EMIN				Sn	**Sn**	**19 02 15.4**	**-2.0**
EADA	**Adamuz**	**2.40**	**8**	Pn	**Pn**	**19 01 51.1**	**+1.8**
EADA				Sn	**Sn**	**19 02 16.5**	**-1.4**
EADA	**Adamuz**	**2.40**	**8**	Pn	**Pn**	**19 01 51.0**	**+1.6**
EADA				⇑*i*VmB_VC		19 01 51.3	
	329nm,SNR=7.1						
EADA				Sn	**Sn**	**19 02 17.1**	**-0.8**
JBK	**JBK**	**2.48**	**125**	P	**Pn**	**19 01 51.6**	**+1.0**
JBK	**JBK**	**2.48**	**125**	S	**Sn**	**19 02 19.2**	**-0.8**
EQES	**Quesada**	**2.54**	**37**	Pn	**Pn**	**19 01 52.9**	**+1.6**
EQES				⇑*i*VmB_VC		19 01 55.8	
	97nm,SNR=1.1						
EQES				Sn	**Sn**	**19 02 21.4**	**-0.1**
EGRO	**El Granado**	**2.64**	**312**	Pn	**Pn**	**19 01 53.8**	**+1.3**
EGRO				Sn	**Sn**	**19 02 22.2**	**-1.4**
EGRO	**El Granado**	**2.64**	**312**	Pn	**Pn**	**19 01 53.7**	**+1.3**
EGRO				⇑*i*VmB_VC		19 01 54.0	
	251nm,SNR=3.4						
EGRO				Sn	**Sn**	**19 02 22.2**	**-1.4**
ZHG	**ZHG**	**2.69**	**210**	P	**Pn**	**19 01 54.9**	**+1.5**
ZHG	**ZHG**	**2.69**	**210**	S	**Sn**	**19 02 25.9**	**+0.8**
PVAQ	**Vaqueiros**	**2.70**	**307**	*e*P	**Pn**	**19 01 54.6**	**+1.3**
PVAQ				*e*S	**Sn**	**19 02 23.7**	**-1.5**
PVAQ				*i* IAML		19 02 25.1	
PVAQ				*i* IAML		19 02 25.2	
PVAQ				*i* IAML		19 02 29.0	
PBDV	**Barranco-do-Ve**	**2.76**	**303**	⇑*i*P	**Pn**	**19 01 55.5**	**+1.4**
PBDV				*e*S	**Sn**	**19 02 25.5**	**-1.0**
PBDV				*i* IAML		19 02 27.0	
PBDV				*i* IAML		19 02 30.7	
PBDV				*i* IAML		19 02 30.8	
PBAR	**Barrancos**	**2.88**	**326**	*e*P	**Pn**	**19 01 57.1**	**+1.4**
PBAR				*e*S	**Sn**	**19 02 27.6**	**-1.7**
PBAR				*i* IAML		19 02 28.9	
PBAR				*i* IAML		19 02 30.9	
PBAR				*i* IAML		19 02 31.5	
MD31	**MD31**	**2.92**	**176**	P	**Pn**	**19 01 57.6**	**+1.1**
MD31	**MD31**	**2.92**	**176**	S	**Sn**	**19 02 28.2**	**-2.4**
MDT	**Midelt**	**2.99**	**173**	P	**Pn**	**19 01 57.4**	**+0.1**
MDT	**Midelt**	**2.99**	**173**	S	**Sn**	**19 02 29.0**	**-3.2**
PCVE	**Castro Verde**	**3.04**	**308**	*e*P	**Pn**	**19 01 59.3**	**+1.3**
PCVE				*e*S	**Sn**	**19 02 32.6**	**-0.8**
PCVE				*i* IAML		19 02 36.3	
PCVE				*i* IAML		19 02 36.5	
PCVE				*i* IAML		19 02 37.1	
PSIM	**Granatula de C**	**3.19**	**18**	Pn	**Pn**	**19 02 01.8**	**+1.9**
PSIM				Sn	**Sn**	**19 02 35.5**	**-1.5**
PBEJ	**Beja**	**3.19**	**315**	*e*S	**Sn**	**19 02 35.2**	**-1.7**
PBEJ				*i* IAML		19 02 36.5	
PBEJ				*i* IAML		19 02 36.8	
PBEJ				*i* IAML		19 02 38.4	
MESJ	**Messejana**	**3.28**	**309**	*e*P	**Pn**	**19 02 02.2**	**+1.0**
MESJ				*e*S	**Sn**	**19 02 37.4**	**-1.8**
MESJ				IAML		19 02 39.1	
	comp=N,8.3nm,0.1s						
MORF	**Marmelete**	**3.29**	**298**	*e*P	**Pn**	**19 02 02.6**	**+1.2**
MORF				*e*S	**Sn**	**19 02 38.1**	**-1.4**
MORF				IAML		19 02 42.1	
	comp=E,19nm,0.2s						
MORF	**Marmelete**	**3.29**	**298**	*e*P	**Pn**	**19 02 02.8**	**+1.4**
MORF				*e*S	**Sn**	**19 02 39.1**	**-0.5**
MORF				*i* IAML		19 02 41.5	
MORF				*i* IAML		19 02 42.3	
MORF				*i* IAML		19 02 42.9	
PFVI	**Vila Bisbo**	**3.35**	**295**	*e*P	**Pn**	**19 02 04.0**	**+1.9**
PFVI				*e*S	**Sn**	**19 02 39.0**	**-1.8**
PFVI				*i* IAML		19 02 40.4	
PFVI				*i* IAML		19 02 41.0	
EBAD	**Badajoz**	**3.36**	**332**	Pn	**Pn**	**19 02 03.2**	**+0.9**
EBAD				⇑*i*VmB_VC		19 02 04.5	
	comp=E,263nm,SNR=4.0						
EBAD				Sn	**Sn**	**19 02 39.5**	**-1.5**
PTEO	**Sao Teotonio**	**3.46**	**302**	*e*P	**Pn**	**19 02 05.2**	**+1.6**
PTEO				*e*S	**Sn**	**19 02 42.5**	**-0.9**
PTEO				*i* IAML		19 02 46.0	
PTEO				*i* IAML		19 02 46.0	
PTEO				*i* IAML		19 02 46.7	
EVO	**Evora**	**3.63**	**320**	Sn	**Sn**	**19 02 46.2**	**-1.6**
EVO				Pn	**Pn**	**19 02 08.0**	**+2.0**
EVO	**Evora**	**3.63**	**320**	*e*P	**Pn**	**19 02 08.1**	**+2.1**
EVO				*e*S	**Sn**	**19 02 46.1**	**-1.6**
EVO				*i* IAML		19 02 47.4	
EVO				*i* IAML		19 02 47.5	
EVO				*i* IAML		19 02 48.5	
PESTR	**Estremoz**	**3.69**	**327**	*e*P	**Pn**	**19 02 08.7**	**+1.9**
PESTR				*e*S	**Sn**	**19 02 47.6**	**-1.6**
PESTR				*i* IAML		19 02 49.5	
PESTR				*i* IAML		19 02 52.4	
PESTR				*i* IAML		19 02 54.6	
PAB	**San Pablo**	**3.79**	**8**	Pn	**Pn**	**19 02 09.3**	**+1.2**
PAB				⇑*i*VmB_VC		19 02 10.1	
	comp=E,90nm,SNR=2.0						
PAB				Sn	**Sn**	**19 02 49.0**	**-2.5**
ESDC	**Sonseca Array**	**3.97**	**12**	Pn	**Pn**	**19 02 12.1**	**+1.6**
ESDC				⇑*i*VmB_VC		19 02 12.5	
	comp=E,132nm,SNR=2.7						
ESDC				Sn	**Sn**	**19 02 53.3**	**-2.6**
ESBB	**Sonseca Array**	**3.97**	**12**	Pn	**Pn**	**19 02 12.4**	**+1.8**
ESBB				⇑*i*VmB_VC		19 02 13.8	
	comp=E,105nm,SNR=2.2						
ESBB				Sn	**Sn**	**19 02 53.8**	**-2.1**
PMRV	**Marv??o**	**4.09**	**333**	*e*P	**Pn**	**19 02 14.0**	**+1.8**
PMRV				*e*S	**Sn**	**19 02 57.1**	**-1.8**
PMRV				*i* IAML		19 02 59.0	
PMRV				*i* IAML		19 02 59.1	
PMRV				*i* IAML		19 03 02.2	
PMTG	**Montargil**	**4.15**	**323**	*e*P	**Pn**	**19 02 14.9**	**+1.9**
PMTG				*e*S	**Sn**	**19 02 58.1**	**-2.2**
PMTG				*i* IAML		19 03 00.9	
PMTG				*i* IAML		19 03 02.0	
PMTG				*i* IAML		19 03 05.9	
PACT	**Alcochete**	**4.25**	**315**	*e*S	**Sn**	**19 03 02.2**	**-0.6**
EPLA	**Plasencia**	**4.35**	**349**	Pn	**Pn**	**19 02 16.6**	**+0.9**
EPLA				⇑*i*VmB_VC		19 02 18.3	
	comp=E,134nm,SNR=2.4						
EPLA				Sn	**Sn**	**19 03 02.3**	**-2.9**
PARRA	**Arraiolos**	**4.40**	**314**	*e*P	Pn	19 02 10.8	-5.7
PARRA				*e*S	Sn	19 02 51.4	-15
PARRA				*i* IAML		19 02 53.6	
PARRA				*i* IAML		19 02 53.7	
PARRA				*i* IAML		19 02 54.0	
PCBR	**Castelo Branco**	**4.49**	**335**	*e*P	**Pn**	**19 02 19.5**	**+1.9**
PCBR				*e*S	**Sn**	**19 03 06.2**	**-2.3**
PCBR				*i* IAML		19 03 06.6	
PCBR				*i* IAML		19 03 08.2	
PCBR				*i* IAML		19 03 08.3	
PSARD	**Sardoal**	**4.55**	**328**	*e*S	**Sn**	**19 03 08.0**	**-2.0**
PMAFR	**Mafra**	**4.64**	**314**	*e*S	**Sn**	**19 03 10.6**	**-1.7**
PMAFR				*i* IAML		19 03 14.2	
PMAFR				*i* IAML		19 03 16.3	
UCM	**Universidad Co**	**4.72**	**17**	Pn	**Pn**	**19 02 22.9**	**+2.1**
PSBE	**So Bento**	**4.78**	**322**	*e*P	**Pn**	**19 02 24.1**	**+2.6**
PSBE				*e*S	**Sn**	**19 03 13.9**	**-1.7**
PCAS	**Casmilo, Conde**	**5.07**	**328**	*e*S	**Sn**	**19 03 19.1**	**-3.5**
PCAS				*i* IAML		19 03 21.4	
PCAS				*i* IAML		19 03 21.6	
OUZM	**OUZ**	**5.08**	**197**	P	**Pn**	**19 02 28.4**	**+2.6**
OUZM	**OUZ**	**5.08**	**197**	S	**Sn**	**19 03 22.6**	**-0.7**
TIO	**Tiouine**	**5.20**	**202**	P	**Pn**	**19 02 27.4**	**0.0**
TIO	**Tiouine**	**5.20**	**202**	S	**Sn**	**19 03 23.7**	**-2.5**
PVIS	**Viseu**	**5.41**	**336**	*e*P	**Pn**	**19 02 32.5**	**+2.2**
PVIS				*e*S	**Sn**	**19 03 29.6**	**-1.6**
ETOR	**Torete**	**5.54**	**24**	Pn	**Pn**	**19 02 33.6**	**+1.7**
ETOR				⇑*i*VmB_VC		19 02 34.1	
	comp=E,104nm,SNR=1.3						
MVO	**Moncorvo**	**5.59**	**344**	*e*P	**Pn**	**19 02 34.6**	**+1.9**
MVO				*e*S	**Sn**	**19 03 33.7**	**-1.9**
MVO				*i* IAML		19 03 34.6	
TTIG	**Tnine Tigouga,**	**5.96**	**210**	P	**Pn**	**19 02 38.5**	**+0.6**
POLO	**Lamas de Olo**	**5.98**	**340**	*e*S	**Sn**	**19 03 42.8**	**-2.4**
PGAV	**Gavieira, Arco**	**6.67**	**339**	*e*P	**Pn**	**19 02 49.5**	**+2.1**
PGAV				*e*S	**Sn**	**19 03 58.9**	**-3.0**

*IDC **08** 19:09:48.5±0.8,3.98N×128.56E,h0km,mb3.9/11, mbtmp3.9/11,Error ellipse: s-maj=49.4km s-min=14.7km az=70.0*
*DJA **08** 19:09:52.6±0.7,4.7N±6.9×12.9E±.*,*h10km,M4.4/11,mb4.4/6, MLv4.5/11*
*NEIC **08** 19:09:57.4±1.5,3.8N±0.1×128.1E±0.1,h64km±8km, mb4.3/21,Error ellipse: s-maj=18.7km s-min=14.6km az=89.0*

ISC 08 19:09:55.0±0.6,3.78N±0.06×128.32E±0.08,h46km,n50, σ1s39/48,mb4.2/24,1C,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.79**	**268**	P	**Pn**	**19 10 38.8**	**+1.6**
TNTI	**Ternate**	**3.14**	**198**	Pn	**Pn**	**19 10 43.2**	**+1.3**
TNTI				Sn	**Sn**	**19 11 16.1**	**-2.1**
TNTI	**Ternate**	**3.14**	**198**	P	**Pn**	**19 10 46.6**	**+4.7**
SWI	**Sorong**	**5.47**	**147**	P	**Pn**	**19 11 15.2**	**+1.3**
SANI	**Sanana**	**6.24**	**202**	P	**Pn**	**19 11 26.7**	**+2.1**
	0.2nm47nm,1.1s						
LUWI	**Luwuk**	**7.33**	**229**	Pn	Pn	19 11 32.0	-7.5
LUWI				Sn	**Sn**	**19 12 57.2**	**-4.2**
FAKI	**Fak Fak**	**7.72**	**149**	P	**Pn**	**19 11 44.8**	**-0.2**
TOLI2	**Tolitoli**	**7.99**	**251**	Pn	**Pn**	**19 11 48.4**	**-0.1**
APSI	**Ampana**	**8.14**	**235**	P	Pn	19 12 00.1	+10
FITZ	**Fitzroy Crossi**	**21.90**	**187**	P	**P**	**19 14 45.7**	**+1.4**
	1.4nm,0.6s,baz=359,slow=10,SNR=1.5 1.4nm,0.6s						
WB0	**Warramunga Arr**	**24.15**	**166**	P	**P**	**19 15 07.4**	**+0.5**
WB0				IAmb	IAmb	19 15 24.0	
	comp=Z,10.0nm,1.1s						
WRA	**Warramunga Arr**	**24.30**	**166**	P	**P**	**19 15 08.9**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=346,slow=10,SNR=7.3 comp=Z,2.2nm,0.9s						
WR8	**Warramunga Arr**	**24.36**	**166**	P	**P**	**19 15 09.9**	**+1.1**
ASAR	**Alice Springs**	**27.82**	**169**	P	**P**	**19 15 41.5**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=355,slow=8.0,SNR=5.3						
ASAR				PcP	**PcP**	**19 18 56.8**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=5.0,slow=2.7,SNR=1.9 comp=Z,0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**32.23**	**299**	P	**P**	**19 16 20.4**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=117,slow=7.4,SNR=7.9 comp=Z,1.1nm,0.7s						
STKA	**Stephens Creek**	**37.64**	**161**	P	**P**	**19 17 05.7**	**+0.1**
STKA	**Stephens Creek**	**37.64**	**161**	P	**P**	**19 17 05.9**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=348,slow=10,SNR=5.4 comp=Z,0.9nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**40.26**	**66**	T	T	20 00 37.4	
	baz=252,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.27**	**66**	T	T	20 00 34.3	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**40.27**	**66**	T	T	20 00 44.4	
	baz=252,slow=74						
BNX	**BinXian**	**41.80**	**359**	⇑P	**P**	**19 17 39.8**	**-0.3**
BNX				pmax	pmax		
	comp=Z,3.0nm,2.9s						
GTA	**Gaotai**	**43.89**	**328**	*e*P	**P**	**19 17 58.7**	**+1.4**
GTA				sP	pP	19 18 07.7	-1.4
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GTA				LR	LR		
	comp=N,2μm,18.9s						
GTA				LR	LR		
	comp=E,2μm,19.3s						
GTA				LR	LR		
	comp=Z,3μm,18.9s						
ULN	**Ulaanbaatar**	**47.58**	**341**	P	**P**	**19 18 24.9**	**-1.4**
SONM	**Songino Array**	**47.77**	**340**	P	**P**	**19 18 26.6**	**-1.2**
SONM	**Songino Array**	**47.77**	**340**	P	**P**	**19 18 27.5**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=155,slow=8.6,SNR=9.1 comp=Z,1.6nm,0.7s						
MKAR	**Makanchi Array**	**58.43**	**325**	P	**P**	**19 19 45.8**	**-0.3**
MKAR	**Makanchi Array**	**58.43**	**325**	P	**P**	**19 19 46.0**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=120,slow=7.7,SNR=13 comp=Z,1.2nm,0.6s						
MAKZ	**Makanchi**	**58.62**	**324**	P	**P**	**19 19 46.0**	**-1.4**
MAKZ				IAmb	IAmb	19 19 51.2	
	comp=Z,3.0nm,0.9s						
ZALV	**Zalesovo Beam**	**61.27**	**332**	P	**P**	**19 20 04.2**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=116,slow=6.8,SNR=4.8 comp=Z,0.5nm,0.3s						
KURK	**Kurchatov**	**62.56**	**327**	P	**P**	**19 20 13.8**	**-0.3**
KURK				IAmb	IAmb	19 20 23.4	
	comp=Z,5.0nm,1.1s						
KURBB	**Kurchatov Arra**	**62.56**	**327**	P	**P**	**19 20 14.1**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=123,slow=6.1,SNR=19 comp=Z,2.4nm,0.8s						
BTK	**Batken**	**63.04**	**313**	P	**P**	**19 20 18.3**	**+0.6**
GAR	**Garm**	**63.06**	**312**	P	**P**	**19 20 17.4**	**-0.5**
KK31	**Karatay Array**	**64.28**	**317**	P	**P**	**19 20 24.7**	**-1.1**
KK31				IAmb	IAmb	19 20 37.9	
	comp=Z,2.6nm,1.0s						
KKAR	**Karatay Array**	**64.28**	**317**	P	**P**	**19 20 25.5**	**-0.2**
TIXI	**Tiksi**	**67.78**	**0**	P	**P**	**19 20 47.1**	**-0.5**
TIXI				IAmb	IAmb	19 20 47.3	
	comp=Z,2.3nm,0.8s						
BVAR	**Borovoye Array**	**68.15**	**327**	P	**P**	**19 20 49.6**	**-0.7**
	comp=Z,0.8nm,0.6s comp=Z,0.8nm,0.6s						
BRVK	**Borovoye**	**68.22**	**327**	P	**P**	**19 20 50.4**	**-0.4**
BRVK				IAmb	IAmb	19 21 00.5	
	comp=Z,2.9nm,0.9s						
AB31	**Akbulak array**	**73.12**	**320**		**P**	**19 21 19.7**	**-0.9**
ABKAR	**Akbulak array**	**73.12**	**320**		**P**	**19 21 19.7**	**-0.9**
C19K	**Lookout Ridge**	**80.14**	**20**	P	**P**	**19 22 01.2**	**+1.2**
H19K	**Roundabout Mou**	**80.47**	**24**	P	**P**	**19 22 02.9**	**+1.2**
H19K				IAmb	IAmb	19 22 05.5	
	comp=Z,4.0nm,1.1s						
D19K	**Kuna River**	**80.50**	**21**		**P**	**19 22 01.6**	**-0.4**
D19K				IAmb	IAmb	19 22 05.3	
	comp=Z,3.9nm,1.0s						
E19K	**Redstone River**	**80.58**	**22**	P	**P**	**19 22 03.0**	**+0.7**
E19K				IAmb	IAmb	19 22 04.5	
	comp=Z,4.4nm,1.1s						
F20K	**Avaraart Lake**	**81.07**	**23**	P	**P**	**19 22 05.8**	**+0.9**
D20K	**Etivluk River**	**81.09**	**21**		**P**	**19 22 05.9**	**+0.8**
D20K				IAmb	IAmb	19 22 06.9	
	comp=Z,4.0nm,0.9s						
IMAR	**Indian Mountai**	**81.65**	**24**	P	**P**	**19 22 08.6**	**+0.5**
G21K	**Allakaket**	**81.84**	**23**		**P**	**19 22 09.5**	**+0.5**
G21K				IAmb	IAmb	19 22 15.2	
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**84.38**	**25**	P	**P**	**19 22 21.5**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=256,slow=5.7,SNR=2.5 comp=Z,0.4nm,0.8s						
DKNS	**Dickens**	**120.47**	**47**	PKPdf	**PKPdf**	**19 28 39.9**	**-2.3**

*TAP **08** 19:10:00.9,23.81N×122.53E,h27km,ML3.5,C*
*JMA **08** 19:10:00.9±0.2,23.8N±0.9×122.5E±0.6,h28km,MV2.9/13, NW OFF ISHIGAKIJIMA IS*

ISC 08 19:09:59.0±1.1,23.77N±0.02×122.55E±0.02,h18km±5km, n158,σ0s83/300,2C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.41**	**329**	*i* P	**Pn**	**19 10 08.8**	**-0.8**
EOS4				*e*S	**Sn**	**19 10 15.1**	**-1.5**
EOS3	**EOS3**	**0.55**	**338**	⇓*i*P	**Pn**	**19 10 11.8**	**-0.1**
EOS3				*i* S	**Sn**	**19 10 19.9**	**-0.7**
EOS2	**EOS2**	**0.70**	**336**	*i* P	**Pn**	**19 10 14.8**	**+0.9**
EOS2				*e*S	**Sn**	**19 10 25.8**	**+1.4**
JYNG	**Yonagunijimaku**	**0.77**	**28**	*e*P	**Pn**	**19 10 15.4**	**+0.5**
JYNG				S	**Sn**	**19 10 24.7**	**-1.3**
YOJ	**Yonaguni jima**	**0.81**	**32**	P	**Pn**	**19 10 16.0**	**+0.5**
YOJ	**Yonaguni jima**	**0.81**	**32**	P	**Pn**	**19 10 15.9**	**+0.5**
YOJ	**Yonaguni jima**	**0.81**	**32**	P	**Pn**	**19 10 16.2**	**+0.8**
YOJ				S	**Sn**	**19 10 26.1**	**-0.9**
YOJ	**Yonaguni jima**	**0.81**	**32**	⇓*i*P	**Pn**	**19 10 16.1**	**+0.5**
YOJ				*i* S	**Sn**	**19 10 26.3**	**-0.7**
TEYL	**Yanliau Villag**	**0.88**	**276**	*i* P	**Pg**	**19 10 16.2**	**+0.2**
TEYL				*i* S	**Sg**	**19 10 28.3**	**+0.7**
HWA	**Hwalien**	**0.89**	**283**	*i* P	**Pg**	**19 10 16.4**	**+0.2**
HWA				*i* S	**Sg**	**19 10 28.5**	**+0.5**
SHUL	**Shoufeng**	**0.90**	**271**	*i* P	**Pg**	**19 10 16.8**	**+0.2**
SHUL				*i* S	**Sg**	**19 10 28.9**	**+0.4**
EAHA	**Aohua**	**0.92**	**307**	*i* P	**Pn**	**19 10 17.1**	**0.0**
EAHA				*e*S	**Sn**	**19 10 31.5**	**+1.6**
TWD	**Chiawan**	**0.92**	**290**	⇑*i*P	**Pb**	**19 10 16.6**	**+0.2**
TWD				*i* S	**Sb**	**19 10 28.3**	**0.0**
TEGC	**Jichi Village**	**0.93**	**266**	*i* P	**Pg**	**19 10 17.2**	**+0.2**
TEGC				S	**Sg**	**19 10 29.4**	**+0.2**
ETL	**Fush Village**	**0.93**	**295**	P	**Pn**	**19 10 17.4**	**+0.2**
ETL				S	**Sg**	**19 10 29.4**	**+0.1**
NACB	**Ninganchiao**	**0.96**	**295**	P	**Pg**	**19 10 17.3**	**-0.3**
NACB	**Ninganchiao**	**0.96**	**295**	S	**Sg**	**19 10 30.3**	**0.0**
NACB	**Ninganchiao**	**0.96**	**295**	*i* P	**Pb**	**19 10 17.1**	**0.0**
NACB				*e*S	**Sg**	**19 10 30.0**	**-0.3**
EWUT	**Wuta**	**0.97**	**314**	*i* P	**Pn**	**19 10 18.3**	**+0.6**
EWUT				*e*S	**Sn**	**19 10 32.5**	**+1.4**
ENA	**Nanau**	**0.98**	**312**	*i* P	**Pn**	**19 10 18.2**	**+0.3**
ENA				S	**Sn**	**19 10 33.2**	**+1.8**
ETM	**Tongmen**	**0.98**	**281**	*i* P	**Pb**	**19 10 17.5**	**0.0**
ETM				*i* S	**Sb**	**19 10 30.1**	**0.0**
ESL	**Shilin**	**1.02**	**273**	*i* P	**Pb**	**19 10 17.8**	**-0.3**
ESL				*i* S	**Sb**	**19 10 30.1**	**-1.1**
ESAO	**Su ao**	**1.02**	**321**	*i* P	**Pg**	**19 10 18.9**	**0.0**
ESAO				S	**Sn**	**19 10 34.5**	**+1.7**
EGFH	**Guangfu**	**1.03**	**264**	*i* P	**Pn**	**19 10 19.0**	**+0.4**
EGFH				*i* S	**Sb**	**19 10 31.3**	**-0.3**
TWC	**Suao**	**1.05**	**323**	*i* P	**Pg**	**19 10 19.2**	**-0.2**
TWC				*i* S	**Sn**	**19 10 33.7**	**+0.7**
WARBT	**Fenglin Townsh**	**1.06**	**267**	*i* P	**Pb**	**19 10 18.6**	**-0.4**
WARBT				*i* S	**Sb**	**19 10 31.7**	**-0.9**
ETLH	**Xiulin Townshi**	**1.07**	**294**	*i* P	**Pn**	**19 10 19.3**	**+0.1**
ETLH				S	**Sb**	**19 10 32.9**	**+0.3**
LXIB	**Xiulin Townshi**	**1.07**	**284**	*i* P	**Pb**	**19 10 18.9**	**-0.2**
LXIB				S	**Sb**	**19 10 31.5**	**-1.2**
HGSD	**Ruisui**	**1.07**	**255**	*i* P	**Pb**	**19 10 18.8**	**-0.1**
HGSD				*i* S	**Sb**	**19 10 32.0**	**-0.6**
ECBN	**Changbin**	**1.10**	**246**	*i* P	**Pb**	**19 10 19.9**	**+0.3**
ECBN				*i* S	**Sb**	**19 10 33.2**	**-0.4**
EHYH	**Wanrong**	**1.14**	**256**	*i* P	**Pn**	**19 10 20.4**	**+0.4**
EHYH				*i* S	**Sb**	**19 10 35.2**	**+0.6**
NDS	**Dongshan**	**1.15**	**319**	*i* P	**Pn**	**19 10 20.2**	**+0.1**
NDS				S	**Sg**	**19 10 37.5**	**+1.3**
EHY	**Hungye**	**1.16**	**257**	*i* P	**Pn**	**19 10 20.

TWA				S	Sg	19 10 47.6	+0.4
NHDH	**Xindian Distri**	**1.51 322**	*i*	P	Pg	19 10 27.5	-0.6
NHDH				eS	Sg	19 10 47.6	-0.1
SMLT	**Sun Moon Lake**	**1.51 274**	*i*	P	Pb	19 10 26.2	-0.4
SMLT				S	Sn	19 10 45.0	+0.4
ELDTW	**Lidau**	**1.52 248**	*i*	P	Pn	19 10 25.5	+0.1
ELDTW				S	Sn	19 10 42.6	-2.2
WCS	**Beigang Elemen**	**1.52 281**	*i*	P	Pb	19 10 26.6	-0.2
WCS				eS	Sn	19 10 44.7	0.0
TATO	**Taipei**	**1.54 321**		P	Pg	19 10 27.8	-0.8
TATO	**Taipei**	**1.54 321**		P	Pg	19 10 28.3	-0.3
TNOU	**National Taiwa**	**1.54 333**	*i*	P	Pg	19 10 27.6	-1.1
TNOU				eS	Sb	19 10 46.7	+0.5
WHP	**Taichung City**	**1.55 289**	*i*	P	Pg	19 10 28.0	-0.8
WHP				S	Sb	19 10 47.5	+1.0
WHYT	**Xinyi Township**	**1.55 268**	*i*	P	Pn	19 10 26.7	+0.9
WHYT				S	Sb	19 10 47.5	+0.8
NFF	**Wufeng Townshi**	**1.56 304**	*i*	P	Pb	19 10 27.2	-0.2
NFF				eS	Sb	19 10 46.6	-0.2
LONT	**Longtian**	**1.56 237**	*i*	P	Pn	19 10 26.6	+0.7
LONT				S	Sn	19 10 45.5	-0.2
JIJ	**Ishigaki jima**	**1.57 68**		P	Pb	19 10 27.8	+0.3
JIJ				eS	Sb	19 10 47.1	0.0
TAP	**Taipei**	**1.58 323**	*e*	P	Pg	19 10 28.8	-0.6
TAP				eS	Sg	19 10 48.2	-1.7
KSHI	**Guanxi Townshi**	**1.60 309**	*i*	P	Pg	19 10 28.8	-1.0
KSHI				eS	Sb	19 10 48.8	+0.8
ALS	**Alishan**	**1.62 261**	*i*	P	Pb	19 10 28.4	-0.1
ALS				S	Sn	19 10 48.1	+0.6
YM01	**YM01**	**1.63 327**	*i*	P	Pb	19 10 28.8	+0.2
YM01				eS	Sb	19 10 48.8	-0.1
TTN	**Taitung**	**1.64 232**	*e*	P	Pb	19 10 28.6	-0.1
TTN				S	Sn	19 10 48.1	-0.5
LIOB	**Emei**	**1.65 302**	*i*	P	Pb	19 10 29.5	+0.7
LIOB				eS	Sb	19 10 49.6	+0.3
NSTT	**Nanjuang**	**1.65 301**	*i*	P	Pb	19 10 29.4	+0.5
NSTT				S	Sb	19 10 50.0	+0.7
TWGBT	**Beinan**	**1.65 235**		P	Pn	19 10 27.4	+0.3
TWGBT	**Beinan**	**1.65 235**	*i*	P	Pn	19 10 27.2	+0.1
TWGBT				S	Sn	19 10 47.5	-0.4
TWG	**Pinlang**	**1.66 235**	*i*	P	Pn	19 10 27.6	+0.5
TWG				S	Sn	19 10 47.7	-0.2
YM08	**YM08**	**1.66 328**	*i*	P	Pb	19 10 28.5	-0.5
YM08				eS	Sb	19 10 49.6	0.0
ZUZH	**Zhuzihu**	**1.66 327**	*i*	P	Pb	19 10 28.5	-0.5
ZUZH				eS	Sg	19 10 50.6	-1.9
WJS	**Zhushan**	**1.67 272**	*i*	P	Pb	19 10 29.9	+0.8
WJS				S	Sg	19 10 52.3	-0.5
TWS1	**Kuangyinshan**	**1.68 322**		P	Pb	19 10 28.8	-0.6
TWS1				eS	Sg	19 10 51.9	-1.2
ANP	**Anpu**	**1.69 327**	*i*	P	Pb	19 10 29.3	-0.4
ANP				eS	Sb	19 10 49.9	-0.7
NTST	**Danshui**	**1.71 324**		P	Pb	19 10 29.4	-0.4
NTST				eS	Sb	19 10 50.6	-0.4
WNT	**Mingjian**	**1.71 274**	*i*	P	Pb	19 10 30.1	+0.2
WNT				S	Sb	19 10 51.6	+0.5
TWQ1	**Liyutan**	**1.72 290**	*i*	P	Pb	19 10 30.5	+0.4
TWQ1				S	Sg	19 10 53.1	-1.4
CHN5	**Tsauling**	**1.72 265**	*i*	P	Pb	19 10 30.0	-0.1
CHN5				S	Sb	19 10 51.5	-0.1
TWY	**Chenhua**	**1.73 330**	*i*	P	Pb	19 10 30.2	0.0
TWY				eS	Sb	19 10 51.2	-0.4
STYH	**Taoyuan**	**1.73 250**	*i*	P	Pb	19 10 29.8	-0.5
STYH				S	Sn	19 10 50.8	+0.9
TCU	**Taichung**	**1.75 283**	*i*	P	Pb	19 10 31.4	+0.8
TCU				S	Sb	19 10 53.7	+1.4
NSY	**Sanyi**	**1.75 292**	*i*	P	Pb	19 10 31.5	+0.9
NSY				eS	Sg	19 10 54.0	-1.5
NMLH	**Miaoli**	**1.78 296**	*i*	P	Pb	19 10 31.1	0.0
NMLH				S	Sb	19 10 54.1	+1.1
JISG	**Ishigakijimahi**	**1.80 63**	*e*	P	Pb	19 10 31.0	-0.5
JISG				eS	Sb	19 10 53.0	-0.8
WCKO	**Fanlu**	**1.81 260**	*i*	P	Pb	19 10 32.3	+0.7
WCKO				S	Sb	19 10 54.5	+0.5
TPUB	**Ta-pu**	**1.82 255**		P	Pb	19 10 31.6	-0.2
TPUB	**Ta-pu**	**1.82 255**		P	Pb	19 10 31.7	-0.2
TPUB	**Ta-pu**	**1.82 255**	*i*	P	Pb	19 10 31.6	-0.2
TPUB				S	Sb	19 10 54.8	+0.5
WGK	**Gukeng**	**1.82 268**	*i*	P	Pb	19 10 32.0	+0.2
WGK				S	Sb	19 10 54.4	+0.1
WDL	**Douliou City**	**1.84 269**	*e*	P	Pg	19 10 33.5	-0.9
WDL				eS	Sb	19 10 55.0	+0.1
WDLH	**Douliu**	**1.84 268**	*i*	P	Pb	19 10 32.3	+0.1
WDLH				S	Sb	19 10 54.3	-0.6
WCHH	**Zhanghua**	**1.85 280**	*i*	P	Pb	19 10 32.3	+0.1
WCHH				S	Sb	19 10 56.2	+1.2
WTP	**Ta-pu**	**1.85 254**	*i*	P	Pb	19 10 32.1	-0.3
WTP				S	Sb	19 10 56.1	+0.9
ECL	**Taimali**	**1.88 232**	*i*	P	Pn	19 10 30.7	+0.5
ECL				S	Sn	19 10 51.2	-2.2
PCYT	**Pengchaiyu**	**1.90 347**	*i*	P	Pn	19 10 31.0	+0.5
PCYT				eS	Sb	19 10 55.1	-1.4
CHN1	**Nanshi**	**1.94 253**	*i*	P	Pb	19 10 33.7	-0.2
CHN1				S	Sb	19 10 58.8	+0.9
TWK	**Hsinying**	**1.96 255**	*i*	P	Pb	19 10 33.9	-0.3
TWK				S	Sb	19 10 58.9	+0.6
SNST	**Tainan City**	**1.96 254**	*i*	P	Pb	19 10 34.2	0.0
SNST				S	Sb	19 10 58.8	+0.5
CHY	**Chiayi**	**1.97 262**	*i*	P	Pb	19 10 35.1	+0.9
CHY				S	Sb	19 10 59.0	+0.5
LYUB	**Lan-yu**	**1.97 207**	*e*	P	Pn	19 10 31.6	+0.1
LYUB				eS	Sn	19 10 54.5	-1.3
WTK	**Tuku**	**1.98 268**	*i*	P	Pb	19 10 34.0	-0.6
WTK				S	Sb	19 10 59.9	+1.1
SSD	**Sandimen**	**2.04 240**	*i*	P	Pb	19 10 35.1	-0.4
SSD				eS	Sn	19 10 57.2	-0.2
TSMG	**Majia**	**2.05 239**	*i*	P	Pb	19 10 35.2	-0.4
TSMG				eS	Sn	19 10 58.4	+0.7
TAW	**Tawu**	**2.07 228**	*i*	P	Pn	19 10 34.5	+1.7
TAW				S	Sn	19 10 56.3	-2.0
SCST	**Cishan**	**2.08 245**		P	Pb	19 10 35.9	-0.4
SCST				eS	Sb	19 11 02.8	+0.9
EAST	**Anshuo**	**2.09 229**	*i*	P	Pn	19 10 33.8	+0.6
EAST				S	Sn	19 10 58.4	-0.4
TAWH	**Dawu Township**	**2.09 227**	*i*	P	Pn	19 10 34.1	+1.0
TAWH				S	Sn	19 10 57.9	-0.9
MASBT	**Mashibuluo**	**2.11 237**	*i*	P	Pn	19 10 34.8	+1.4
MASBT				S	Sn	19 11 01.2	+2.1
CHN3	**Shinhua**	**2.12 251**	*e*	P	Pb	19 10 37.6	+0.7
CHN3				S	Sb	19 11 04.5	+1.1
ICHU	**Yijhu**	**2.12 259**	*i*	P	Pb	19 10 36.4	-0.5
ICHU				S	Sb	19 11 02.5	-0.5
WSF	**Szhu**	**2.14 267**	*i*	P	Pb	19 10 36.8	-0.4
WSF				S	Sb	19 11 03.4	+0.1
WSL	**Shuilin Townsh**	**2.14 264**	*i*	P	Pb	19 10 36.2	-1.0
WSL				S	Sb	19 11 02.8	-0.7
TWM1	**Shoushan**	**2.17 245**	*i*	P	Pb	19 10 38.4	+0.6
TWM1				S	Sb	19 11 05.5	+1.2
CHN8	**Yiju**	**2.19 259**		P	Pb	19 10 37.4	-0.6
CHN8				S	Sb	19 11 04.2	-0.5
SCZT	**Fangliau**	**2.26 232**		P	Pn	19 10 37.2	+1.8
SCZT				eS	Sn	19 11 04.0	+1.2
SNJT	**Kaohsiung City**	**2.27 244**	*e*	P	Pb	19 10 40.9	+1.4
SNJT				S	Sb	19 11 09.6	+2.2
TSCK	**Chigu Township**	**2.34 255**	*i*	P	Pn	19 10 38.8	+2.2
TSCK				S	Sn	19 11 07.4	+2.4
SMST	**Manzhou Townsh**	**2.35 222**	*i*	P	Pb	19 10 39.5	-1.4
SMST				S	Sn	19 11 08.7	+0.5
HEN	**Hengchun**	**2.42 224**		P	Pb	19 10 41.1	-1.0
HEN				S	Sn	19 11 08.8	+1.8
TWKBT	**Hengchun**	**2.43 222**	*e*	P	Pb	19 10 41.0	-1.1
TWKBT				S	Sn	19 11 07.6	+0.6
TWK1	**Hengchun**	**2.43 222**		P	Pb	19 10 41.0	-1.1
TWK1				eS	Sn	19 11 06.3	-0.8
WDGT	**Dungji**	**2.70 260**	*i*	P	Pn	19 10 43.6	+2.1
WDGT				S	Sn	19 11 14.7	+1.0
PNG	**Penghu**	**2.75 266**	*i*	P	Pn	19 10 44.1	+1.9
PNG				S	Sn	19 11 16.2	+1.1
VWUC	**VWUC**	**3.07 294**	*i*	P	Pn	19 10 47.7	+1.0
VWUC				S	Sn	19 11 22.0	-1.0
MATB	**Ma-tsu**	**3.34 316**	*e*	P	Pn	19 10 51.1	+0.7
MATB				eS	Sn	19 11 29.2	-0.5
PTMZ	**Houxiangcun**	**3.37 293**	*i*	P	Pn	19 10 51.6	+0.8
PTMZ				S	Sn	19 11 29.2	-1.0
KNMB	**Chin-men Tao**	**3.86 281**		P	Pn	19 10 58.5	+1.0
KNMB				S	Sn	19 11 41.2	-1.3

*IDC **08** 19:19:52.1±1.5, 0.°08N×125.°34E, h0km, mb3.6/4,*

mbtmp3.6/4, Error ellipse: s-maj=176.8km s-min=21.2km az=64.0

ISC 08 19:19:55.4±1.1, 0.°4N±0.°2×125.°98E±0.°08, h35km, n7, σ2.33 7, mb3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.44**	**75**	P	**Pn**	**19 20 18.8**	**-0.2**
TNTI	**Ternate**	**1.44**	**75**	P	**Pn**	**19 20 15.8**	**-3.2**
MRSI	**Marisa**	**4.04**	**271**	P	**Pn**	**19 20 52.6**	**-2.1**
WRA	**Warramunga Arr**	**21.81**	**158**	P	**P**	**19 24 44.5**	**-0.1**
	1.0nm,0.5s,baz=334,slow=11,SNR=12 1.0nm,0.5s						
ASAR	**Alice Springs**	**25.12**	**163**	P	**P**	**19 25 18.9**	**+1.6**
	1.0nm,0.6s,baz=345,slow=12,SNR=22 1.0nm,0.6s						
MKAR	**Makanchi Array**	**59.88**	**327**	P	**P**	**19 29 59.3**	**+1.5**
	0.5nm,0.5s,baz=128,slow=6.8,SNR=7.8 0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**64.15**	**329**	P	**P**	**19 30 27.6**	**+1.4**
	0.4nm,0.6s,baz=126,slow=6.0,SNR=4.7 0.4nm,0.6s						

*DJA **08** 19:20:07.3±0.6, 0.°N±5.°×12.°7E±.°, h34km±12km, M3.6/6, MLv3.6/6*

*IDC **08** 19:20:18.9±1.0, 0.°63N×126.°32E, h0km, mb4.2/7, mbtmp4.2/9, ML3.7/2, MS4.2/1, Error ellipse: s-maj=49.4km s-min=16.0km az=70.0*

ISC 08 19:20:20.6±1.0, 0.°65N±0.°10×126.°14E±0.°09, h10km, n20, σ1.9 77/15, mb4.3/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**2.16**	**268**	P	**Pn**	**19 20 57.1**	**+0.5**
KMSI	**Cibinong**	**2.16**	**268**	P	**Pb**	**19 20 59.3**	**-0.5**
SANI	**Sanana**	**2.69**	**183**	P	Pn	19 20 56.5	-7.4
LUWI	**Luwuk**	**3.76**	**243**	P	**Pb**	**19 21 28.9**	**+1.7**
LUWI	**Luwuk**	**3.76**	**243**	P	**Pb**	**19 21 29.7**	**+2.5**
NLAI	**Namlea**	**3.98**	**166**	P	**Pn**	**19 21 23.1**	**+1.3**
DAV	**Davao City (W)**	**6.40**	**355**	LR	LR	19 23 59.4	
	comp=Z,2μm,21.6s,baz=180,slow=34						
PCI	**Palu**	**6.49**	**256**	P	Pn	19 22 05.7	+9.5
PCI	**Palu**	**6.49**	**256**	P	Pn	19 22 03.5	+7.3
TTSI	**Tana Toraja**	**7.30**	**240**	P	Pn	19 21 59.3	-8.2
SPSI	**Sidrap Palu**	**7.84**	**234**	P	**Pn**	**19 22 11.3**	**-3.5**
KAPI	**Kappang**	**8.51**	**229**	Pn	**Pn**	**19 22 26.1**	**+2.1**
	1.3nm,0.3s,baz=67,slow=20,SNR=1.4 3.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**18.64**	**181**	P	**Pn**	**19 24 37.5**	**-1.4**
	0.2nm,0.3s,baz=23,slow=8.2,SNR=8.1 5.2nm,0.8s						
WRA	**Warramunga Arr**	**21.99**	**159**	P	**P**	**19 25 13.3**	**-1.7**
	16nm,0.7s,baz=338,slow=12,SNR=38 16nm,0.7s						
ASAR	**Alice Springs**	**25.32**	**163**	P	**P**	**19 25 47.6**	**-0.2**
	10nm,0.9s,baz=351,slow=15,SNR=48 10nm,0.9s						
STKA	**Stephens Creek**	**35.51**	**157**	P	**P**	**19 27 16.5**	**-1.3**
	5.8nm,0.9s,baz=330,slow=9.0,SNR=11 5.8nm,0.9s						
SONM	**Songino Array**	**50.02**	**343**	P	**P**	**19 29 16.9**	**+1.4**
	0.7nm,0.7s,baz=176,slow=6.5,SNR=4.6 0.7nm,0.7s						
MKAR	**Makanchi Array**	**59.76**	**327**	P	**P**	**19 30 26.1**	**+0.2**
	1.7nm,0.7s,baz=120,slow=8.2,SNR=10 1.7nm,0.7s						
KURBB	**Kurchatov Arra**	**64.01**	**328**	P	**P**	**19 30 54.5**	**+0.1**
	1.2nm,0.6s,baz=126,slow=6.3,SNR=8.1 1.2nm,0.6s						
QSPA	**South Pole Qui**	**90.58**	**180**	P	**P**	**19 33 22.7**	**-0.3**
	1.4nm,0.9s,baz=351,slow=4.0,SNR=4.4 1.4nm,0.9s						

IDC 08 19:23:49.2±1.5, 0.°52N×126.°12E, h0km, mb3.9/4, mbtmp3.9/5, ML3.3/1, Error ellipse: s-maj=116.8km s-min=19.8km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.51**	**181**	P	P	19 28 06.7	-0.5
	0.1nm,0.3s,baz=26,slow=10,SNR=1.4 1.8nm,0.9s						
WRA	**Warramunga Arr**	**21.88**	**159**	P	P	19 28 42.7	-1.2
	2.1nm,0.5s,baz=337,slow=11,SNR=16 2.1nm,0.5s						
ASAR	**Alice Springs**	**25.20**	**163**	P	P	19 29 17.8	+0.9
	1.3nm,0.5s,baz=344,slow=11,SNR=19 1.3nm,0.5s						
MKAR	**Makanchi Array**	**59.85**	**327**	P	P	19 33 56.9	+0.1
	0.5nm,0.5s,baz=119,slow=7.9,SNR=8.3 0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**64.11**	**328**	P	P	19 34 24.9	-0.3
	0.7nm,0.3s,baz=123,slow=5.6,SNR=5.2 0.7nm,0.3s						

IDC 08 19:25:26.8±2.0, 0.°33N×126.°11E, h0km, mb3.3/3, mbtmp3.4/3, MS4.1/1, Error ellipse: s-maj=178.6km s-min=27.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**8.27**	**230**	LR	LR	19 30 58.5	
	comp=Z,1μm,18.5s,baz=36,slow=40						
WRA	**Warramunga Arr**	**21.70**	**159**	P	P	19 30 20.3	+0.7
	0.4nm,0.3s,baz=337,slow=10,SNR=6.3 0.4nm,0.3s						
ASAR	**Alice Springs**	**25.03**	**163**	P	P	19 30 52.4	-0.5
	0.4nm,0.5s,baz=345,slow=12,SNR=7.4 0.4nm,0.5s						
MKAR	**Makanchi Array**	**60.00**	**327**	P	P	19 35 35.3	0.0
	0.2nm,0.4s,baz=120,slow=8.3,SNR=4.3 0.2nm,0.4s						

JMA 08 19:28:16.0±0.7, 31.°N±3.°×14.°3E±.°, h0km, MV3.8/18, FAR E OFF IZU ISLANDS, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**3.36**	**303**	*e*P	Pn	19 29 11.3	+1.6
JAOM				eS	Sn	19 29 52.0	+1.7
BSO3	**Boso 3**	**4.67**	**333**	*e*P	Pn	19 29 28.7	+1.2
BSO4	**Boso 4**	**4.90**	**333**	*e*P	Pn	19 29 33.4	+2.5
JOD2	**Odawara 2**	**5.69**	**325**	*e*P	Pn	19 29 44.2	+2.4
JHO	**Hitachi**	**6.30**	**341**	*e*P	Pn	19 29 53.0	+2.8
JHO				eS	Sn	19 31 05.8	+3.0
JRY	**Ryogami san**	**6.39**	**328**	*e*P	Pn	19 29 54.9	+3.4
JAG	**Ashikaga**	**6.50**	**333**	*e*P	Pn	19 29 56.0	+3.1
JAG				eS	Sn	19 31 11.2	+3.3

*IDC **08** 19:28:14.0±0.6, 0.°38N×126.°02E, h0km, mb4.2/16, mbtmp4.1/17, ML3.6/1, MS4.2/2, Error ellipse: s-maj=39.1km s-min=12.5km az=75.0*

*NEIC **08** 19:28:19.0±2.5, 0.°45N±0.°09×126.°34E±0.°06, h29km±4km, mb4.5/26, Error ellipse: s-maj=14.0km s-min=7.7km az=161.0*

*DJA **08** 19:28:21.4±0.3, 1.°N±3.°×12.°6E±.°, h48km±6km, M4.2/10, mb4.7/5, MLv4.0/10*

ISC 08 19:28:20.4±0.5, 0.°43N±0.°07×126.°35E±0.°05, h47km, n60, σ1.9 12/58, mb4.3/30, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.07**	**71**		**Pn**	**19 28 37.1**	**-1.8**
TNTI	**Ternate**	**1.07**	**71**	P	**Pn**	**19 28 38.1**	**-0.9**
TNTI				S	**Sn**	**19 28 54.3**	**+1.5**
KMSI	**Cibinong**	**2.38**	**273**	P	**Pn**	**19 28 54.4**	**-2.5**
LUWI	**Luwuk**	**3.87**	**248**		**Pn**	**19 29 16.0**	**-1.3**
LUWI	**Luwuk**	**3.87**	**248**	P	Pn	19 29 21.6	+4.2
MRSI	**Marisa**	**4.41**	**271**	P	**Pn**	**19 29 26.3**	**+1.5**
TOLI2	**Tolitoli**	**5.61**	**277**		**Pn**	**19 29 40.5**	**-0.8**
TTSI	**Tana Toraja**	**7.39**	**242**	P	**Pn**	**19 30 05.9**	**+0.2**
	0.1nm26nm,0.6s						
SPSI	**Sidrap Palu**	**7.89**	**236**	P	**Pn**	**19 30 14.3**	**+1.6**
	33nm,0.6s						
BAKI	**Biak**	**9.89**	**99**	P	Pn	19 30 58.6	+19
KNRA	**Kununurra**	**16.18**	**172**	Pn	**P**	**19 32 05.0**	**-2.2**
FITZ	**Fitzroy Crossi**	**18.43**	**182**	P	**Pn**	**19 32 31.2**	**-1.2**
FITZ	**Fitzroy Crossi**	**18.43**	**182**	P	**P**	**19 32 30.1**	**-1.9**
	0.2nm,0.3s,baz=11,slow=9.6,SNR=5.2 2.3nm,0.8s						
WB0	**Warramunga Arr**	**21.56**	**159**		**P**	**19 33 05.8**	**-0.3**
WB0				IAmb	IAmb	19 33 10.7	
	comp=Z,12nm,0.7s						
WRAB	**Tennant Creek**	**21.70**	**159**	P	**P**	**19 33 06.3**	**-1.3**
WRAB				IAmb	IAmb	19 33 12.9	
	comp=Z,9.5nm,0.7s						
WRA	**Warramunga Arr**	**21.71**	**159**	P	**P**	**19 33 07.2**	**-0.5**
WRA	**Warramunga Arr**	**21.71**	**159**	P	**P**	**19 33 07.4**	**-0.2**
	comp=Z,10.0nm,0.6s,baz=337,slow=11,SNR=60 comp=Z,10.0nm,0.6s						
WR8	**Warramunga Arr**	**21.78**	**159**		**P**	**19 33 07.8**	**-0.5**
WR8				IAmb	IAmb	19 33 09.9	
	comp=Z,9.9nm,0.5s						
AS31	**Alice Springs**	**25.05**	**163**		**P**	**19 33 40.6**	**+0.1**
ASAR	**Alice Springs**	**25.05**	**163**		**P**	**19 33 41.5**	**+1.0**
ASAR	**Alice Springs**	**25.05**	**163**	P	**P**	**19 33 41.1**	**+0.6**
	comp=Z,7.6nm,0.8s,baz=345,slow=11,SNR=64						
ASAR				PcP	**PcP**	**19 37 13.9**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=0.6,slow=3.2,SNR=2.1 comp=Z,7.6nm,0.8s						
JOW	**Kunigami**	**26.32**	**4**	LR	LR	19 43 25.9	
	comp=Z,511nm,20.9s,baz=148,slow=34						
FORT	**Forrest**	**31.08**	**177**		**P**	**19 34 34.0**	**-0.2**
FORT				IAmb	IAmb	19 34 35.4	
	comp=Z,6.5nm,0.7s						
STKA	**Stephens Creek**	**35.22**	**157**	P	**P**	**19 35 11.0**	**+0.7**
STKA	**Stephens Creek**	**35.22**	**157**	P	**P**	**19 35 11.2**	**+0.8**
	comp=Z,3.7nm,0.6s,baz=323,slow=9.1,SNR=12 comp=Z,3.7nm,0.6s						
KSRS	**Korea Array**	**36.87**	**2**	P	**P**	**19 35 24.8**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=187,slow=9.5,SNR=4.0 comp=Z,0.7nm,0.6s						
MJAR	**Matsushiro Arr**	**37.58**	**16**	P	**P**	**19 35 31.2**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=196,slow=8.1,SNR=2.0 comp=Z,1.1nm,0.6s						
USRK	**Ussuriysk Ar.**	**43.87**	**6**	P	**P**	**19 36 23.5**	**+1.3**
	comp=Z,1.2nm,0.5s,baz=211,slow=5.7,SNR=2.7 comp=Z,1.2nm,0.5s						
BNX	**BinXian**	**45.13**	**1**	‖P	P	19 36 35.0	+2.8
BNX				pmax	pmax		
	comp=Z,5.0nm,3.2s						
SONM	**Songino Array**	**50.30**	**343**	P	**P**	**19 37 12.3**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=170,slow=8.7,SNR=4.3 comp=Z,0.6nm,0.5s						
PEA0B	**Petropavlovsk-**	**58.61**	**22**	P	**P**	**19 38 14.0**	**+1.4**
PETK	**Petropavlovsk-**	**58.61**	**22**	P	**P**	**19 38 12.2**	**-0.3**
PETK	**Petropavlovsk-**	**58.61**	**22**	P	**P**	**19 38 13.6**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=175,slow=5.2,SNR=4.8 comp=Z,1.1nm,0.6s						
MKAR	**Makanchi Array**	**60.06**	**327**		**P**	**19 38 21.6**	**-1.0**
MKAR	**Makanchi Array**	**60.06**	**327**	P	**P**	**19 38 22.1**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=120,slow=8.3,SNR=33						
MKAR				PcP	**PcP**	**19 39 08.4**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=116,slow=5.0,SNR=7.6 comp=Z,2.0nm,0.5s						
MAKZ	**Makanchi**	**60.24**	**326**		**P**	**19 38 23.0**	**-0.9**
MAKZ				IAmb	IAmb	19 38 25.7	
	comp=Z,2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**63.35**	**334**	P	**P**	**19 38 43.5**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=120,slow=8.7,SNR=5.1 comp=Z,1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**64.32**	**328**	P	**P**	**19 38 50.5**	**-0.6**
	comp=Z,2.6nm,0.6s,baz=128,slow=6.1,SNR=20 comp=Z,2.6nm,0.6s						
KURK	**Kurchatov**	**64.32**	**329**		**P**	**19 38 50.1**	**-0.9**
CASY	**Casey**	**67.52**	**187**	P	**P**	**19 39 11.4**	**+0.1**
BVAR	**Borovoye Array**	**69.88**	**328**	P	**P**	**19 39 26.6**	**+0.2**
	comp=Z,2.1nm,0.9s comp=Z,2.1nm,0.9s						
BRVK	**Borovoye**	**69.95**	**328**		**P**	**19 39 27.0**	**+0.3**
BRVK				IAmb	IAmb	19 39 27.9	
	comp=Z,3.8nm,1.1s						
TIXI	**Tiksi**	**71.13**	**1**	P	**P**	**19 39 32.6**	**-1.0**
ABKAR	**Akbulak array**	**74.47**	**321**	P	**P**	**19 39 53.1**	**-0.7**
OPO	**Ambohidratompo**	**79.86**	**251**	LR	LR	20 12 07.2	
	comp=Z,139nm,19.9s,baz=174,slow=33						
VNDA	**Vanda**	**80.22**	**173**	P	**P**	**19 40 25.7**	**+0.2**
	comp=Z,2.7nm,0.9s,baz=317,slow=6.4,SNR=4.2 comp=Z,2.7nm,0.9s						
RAYN	**Ar Rayn**	**81.44**	**294**	P	**P**	**19 40 32.8**	**-0.3**
RAYN				IAmb	IAmb	19 40 33.5	
	comp=Z,3.0nm,0.8s						
J17K	**VABM Dome**	**82.74**	**26**	P	**P**	**19 40 40.3**	**+1.3**
J17K				IAmb	IAmb	19 40 44.0	
	comp=Z,4.4nm,0.8s						
K17K	**Iditarod**	**82.92**	**27**	P	**P**	**19 40 40.2**	**+0.2**
E18K	**Tukpahlearik C**	**83.14**	**22**	P	**P**	**19 40 40.9**	**-0.2**
E18K				IAmb	IAmb	19 40 46.0	
	comp=Z,3.0nm,0.8s						
J18K	**Innoko River**	**83.79**	**26**	P	**P**	**19 40 46.1**	**+1.6**
J18K				IAmb	IAmb	19 40 52.5	
	comp=Z,4.1nm,1.3s						
C19K	**Lookout Ridge**	**83.95**	**20**	P	**P**	**19 40 47.0**	**+1.8**
C19K				IAmb	IAmb	19 40 51.0	
	comp=Z,2.4nm,0.8s						
D19K	**Kuna River**	**84.32**

σ1ᵍ63/8, **mb3.5**/4, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.99**	**79**	P	**Pn**	**19 36 27.8**	**-0.8**
TNTI				S	**Sn**	**19 36 43.4**	**+1.9**
KMSI	**Cibinong**	**2.42**	**270**	P	**Pn**	**19 36 47.8**	**-0.3**
SANI	**Sanana**	**2.64**	**189**	P	**Pn**	**19 36 52.0**	**+0.8**
WRA	**Warramunga Arr**	**21.83**	**160**	P	**P**	**19 40 57.1**	**-2.5**
	0.8nm,0.7s,baz=340,slow=11,SNR=6.2						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**25.18**	**164**	P	**P**	**19 41 31.4**	**-0.9**
	1.4nm,0.9s,baz=343,slow=11,SNR=14						
	1.4nm,0.9s						
MKAR	**Makanchi Array**	**59.96**	**326**	P	**P**	**19 46 13.0**	**+0.3**
	0.2nm,0.4s,baz=119,slow=8.7,SNR=4.2						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.22**	**328**	P	**P**	**19 46 42.1**	**+1.0**
	0.3nm,0.6s,baz=127,slow=6.7,SNR=2.2						
	0.3nm,0.6s						

*IDC **08** 19:38:43.4±8.4, 18°.71S×168°.63E, h106ᵏᵐ±62ᵏᵐ, mb3.9/4, mbtmp4.2/5, MS4.6/1, Error ellipse: s-maj=118.6km s-min=60.5km az=111.0*

*NOU **08** 19:38:44.1, 18°.86S×168°.87E, h122ᵏᵐ, MLv4.3/12, Vanuatu Islands*

ISC 08 19:38:45.1±1.1, 18°.88S±0°.04×168°.65E±0°.09, h100ᵏᵐ, n16, σ2ᵍ41/16, mb3.9/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INH	**Isangel**	**0.89**	**139**	P	**Pn**	**19 39 05.0**	**+0.6**
INH	**Isangel**	**0.89**	**139**	S	**Sn**	**19 39 21.1**	**+2.2**
DVP	**Devils Point**	**1.22**	**339**	P	**Pn**	**19 39 09.8**	**+1.7**
DVP	**Devils Point**	**1.22**	**339**	S	**Sn**	**19 39 29.6**	**+4.2**
VLAKA	**Lakatoro**	**2.99**	**337**	P	**Pn**	**19 39 30.8**	**0.0**
VLAKA	**Lakatoro**	**2.99**	**337**	S	**Sn**	**19 40 08.1**	**+2.2**
DZM	**Mont Dzumac**	**3.79**	**213**	P	**Pn**	**19 39 42.9**	**+1.3**
	18nm,0.4s,baz=52,slow=17,SNR=11						
DZM				S	**Sn**	**19 40 26.9**	**+1.6**
	68nm,0.6s,baz=307,slow=19,SNR=9.4						
DZM	**Mont Dzumac**	**3.79**	**213**	P	**Pn**	**19 39 42.9**	**+1.3**
DZM	**Mont Dzumac**	**3.79**	**213**	S	**Sn**	**19 40 27.8**	**+2.5**
OUENC	**Ouen Island, N**	**3.91**	**205**	P	**Pn**	**19 39 44.7**	**+1.6**
OUENC	**Ouen Island, N**	**3.91**	**205**	S	**Sn**	**19 40 31.0**	**+3.0**
STKA	**Stephens Creek**	**27.57**	**237**	P	**P**	**19 44 21.4**	**-1.4**
	1.0nm,0.5s,baz=67,slow=11,SNR=4.8						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**32.34**	**262**	P	**P**	**19 45 01.9**	**-3.2**
	0.4nm,0.3s,baz=89,slow=8.5,SNR=7.6						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**32.67**	**255**	P	**P**	**19 45 06.0**	**-2.1**
	8.0nm,0.5s,baz=83,slow=8.8,SNR=163						
	8.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**40.72**	**264**	P	**P**	**19 46 14.2**	**-2.1**
	2.4nm,0.6s,baz=91,slow=9.9,SNR=7.4						
	2.4nm,0.6s						
BATI	**Baumata**	**44.28**	**275**	LR	LR	20 04 36.0	
	comp=Z,679nm,19.3s,baz=88,slow=35						

*GCG **08** 19:42:42.2±1.4, 15°.93N×93°.35W, h117ᵏᵐ±18ᵏᵐ, MD4.6, ML4.6*

*IDC **08** 19:42:42.3±1.2, 15°.80N×93°.30W, h114ᵏᵐ±16ᵏᵐ, mb3.8/3, mbtmp4.1/5, Error ellipse: s-maj=63.7km s-min=13.1km az=45.0*

*NEIC **08** 19:42:43.4±1.4, 15°.88N±0°.05×93°.28W±0°.04, h117ᵏᵐ±6ᵏᵐ, mb4.3/15, Md4.5/102(MEX), Error ellipse: s-maj=7.5km s-min=4.6km az=156.0*

*CATAC **08** 19:42:43.7±0.4, 16°N±2°×93°.3W±°, h113ᵏᵐ±4ᵏᵐ, M4.7/12, mb4.9/2, mB5.1/2, MLv4.6/12, Mw(mB)4.5/2, Error ellipse: s-maj=5.8km s-min=3.8km az=31.2, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=2.88; $M_{\theta\theta}$=0.47; $M_{\phi\phi}$=3.35; $M_{r\theta}$=-1.70; $M_{r\phi}$=-0.25; $M_{\theta\phi}$=3.03; Fault plane solution: M_o=4.68948×10^{15} NP1:φ_s=157.24668°, δ=69.91868°, λ=-105.45367°. NP2:φ_s=16.08624°, δ=25.14297°, λ=-53.91282°. Principal axes: T 4.7328, Plg23.4108°, Azm259.0947°; N -0.0879, Plg14.4929°, Azm162.6690°; P -4.6449, Plg61.9937°, Azm43.5902°; confirmed*

*MEX **08** 19:42:44.5±0.7, 15°.90N×93°.29W, h119ᵏᵐ±4ᵏᵐ, MD4.5*

ISC 08 19:42:42.8±0.7, 15°.86N±0°.03×93°.30W±0°.03, h127ᵏᵐ±5ᵏᵐ, n145, σ2ᵍ82/227, mb4.0/5, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.17**	**152**		**Pn**	**19 42 59.9**	**-0.3**
PCIG					**Sn**	**19 43 11.3**	**-2.0**
PCIG		**0.17**	**152**	*eP*	**Pn**	**19 42 59.9**	**-0.3**
PCIG				*eS*	**Sn**	**19 43 11.3**	**-2.0**
TGIG		**0.93**	**11**		**Pn**	**19 43 04.4**	**-0.5**
TGIG					**Sn**	**19 43 19.2**	**-2.4**
TGIG		**0.93**	**11**	*i* P	**Pn**	**19 43 04.4**	**-0.5**
TGIG				*eS*	**Sn**	**19 43 19.2**	**-2.4**
TGIG		**0.93**	**11**	*i* P	**Pn**	**19 43 03.9**	**-1.0**
TGIG				*i* S	**Sn**	**19 43 15.7**	**-5.9**
TGIG				IAML		19 43 20.2	
	comp=E,15μm,0.6s						
TGBT	**Tuxtla Gutierr**	**0.94**	**13**		**Pn**	**19 43 04.0**	**-0.8**
TGBT					**Sn**	**19 43 19.7**	**-1.9**
TGBT	**Tuxtla Gutierr**	**0.94**	**13**	*i* P	**Pn**	**19 43 04.0**	**-0.8**
TGBT				*eS*	**Sn**	**19 43 19.7**	**-1.9**
CCIG	**Comitan**	**1.20**	**69**		**Pn**	**19 43 06.8**	**-0.7**
CCIG	**Comitan**	**1.20**	**69**	*eP*	**Pn**	**19 43 07.5**	**-0.1**
CCIG				*i* S	**Sn**	**19 43 24.5**	**-1.8**
CCIG	**Comitan**	**1.20**	**69**	*i* P	**Pn**	**19 43 07.5**	**-0.1**
CCIG				*i* S	**Sn**	**19 43 24.1**	**-2.3**
CCIG				IAML		19 43 25.6	
	comp=N,10μm,0.5s						
CCIG	**Comitan**	**1.20**	**69**	P	**Pn**	**19 43 07.5**	**-0.1**
CCIG	**Comitan**	**1.20**	**69**	S	**Sn**	**19 43 25.5**	**-0.8**
PATR	**El Naranjo**	**1.27**	**125**		**Pn**	**19 43 08.1**	**-0.2**
PATR	**El Naranjo**	**1.27**	**125**	*eP*	**Pn**	**19 43 08.1**	**-0.2**
PAVE	**Pavencul**	**1.27**	**121**		**Pn**	**19 43 08.5**	**+0.1**
PAVE	**Pavencul**	**1.27**	**121**	*eP*	**Pn**	**19 43 08.5**	**+0.1**
NILT	**Santiago Nilte**	**1.45**	**299**		**Pn**	**19 43 10.2**	**+0.2**
NILT					**Sn**	**19 43 30.3**	**-0.5**
NILT	**Santiago Nilte**	**1.45**	**299**	*i* P	**Pn**	**19 43 10.2**	**+0.2**
NILT				*eS*	**Sn**	**19 43 30.3**	**-0.5**
SMCA	**Catarina**	**1.55**	**130**	*i* P	**Pn**	**19 43 11.5**	**+0.3**
SMCA				*i* S	**Sn**	**19 43 32.1**	**-0.8**
SMCA				IAML		19 43 33.8	
	comp=N,4μm,0.2s						
HUEH	**Huehuetenango**	**1.81**	**107**	Pn	**Pn**	**19 43 13.5**	**-1.1**
HUEH	**Huehuetenango**	**1.81**	**107**	*eP*	**Pn**	**19 43 14.0**	**-0.6**
HUEH				*eS*	**Sn**	**19 43 35.4**	**-3.4**
HUEH	**Huehuetenango**	**1.81**	**107**	*i* P	**Pn**	**19 43 14.7**	**+0.1**
HUEH				*i* S	**Sn**	**19 43 37.5**	**-1.3**
HUEH				IAML		19 43 39.2	
	comp=N,5μm,0.3s						
HUEH	**Huehuetenango**	**1.81**	**107**	P	**Pn**	**19 43 14.9**	**+0.3**
CMIG	**Matias Romero**	**1.95**	**309**	P	**Pn**	**19 43 16.4**	**+0.3**
	comp=N,671nm,0.3s,baz=151,slow=10,SNR=1615						
CMIG				S	**Sn**	**19 43 40.9**	**-0.6**
	comp=N,2μm,0.3s,baz=146,slow=17,SNR=110						
CMIG	**Matias Romero**	**1.95**	**309**	*eP*	**Pn**	**19 43 16.3**	**+0.3**
CMIG				*eS*	**Sn**	**19 43 40.8**	**-0.6**
RTAL	**Retalhuleu**	**2.04**	**130**		**Pn**	**19 43 17.8**	**+0.6**
RTAL	**Retalhuleu**	**2.04**	**130**	*eP*	**Pn**	**19 43 17.8**	**+0.6**
RTAL				*eS*	**Sn**	**19 43 43.3**	**-0.1**
RTAL	**Retalhuleu**	**2.04**	**130**	P	**Pn**	**19 43 17.9**	**+0.8**
VHSA	**Villahermosa**	**2.14**	**9**		**Pn**	**19 43 18.4**	**+0.1**
VHSA					**Sn**	**19 43 44.7**	**-0.9**
VHSA	**Villahermosa**	**2.14**	**9**	*eP*	**Pn**	**19 43 18.4**	**+0.1**
VHSA				*eS*	**Sn**	**19 43 44.7**	**-0.9**
STG8	**El Palmar, Qui**	**2.35**	**126**	*i* P	**Pn**	**19 43 17.3**	**-3.8**
STG8				*i* S	**Sn**	**19 43 43.5**	**-7.0**
STG8				IAML		19 43 48.2	
	comp=E,3μm,0.2s						
STG0	**El Palmar, Qui**	**2.37**	**127**	*i* P	**Pn**	**19 43 18.1**	**-3.2**
STG0				*i* S	**Sn**	**19 43 44.7**	**-6.2**
STG0				IAML		19 43 48.1	
	comp=N,5μm,0.2s						
TUIG	**Tuzandepetl**	**2.42**	**334**	*eP*	**Pn**	**19 43 20.8**	**-1.0**
TUIG				*eS*	**Sn**	**19 43 45.5**	**-6.3**
TUIG	**Tuzandepetl**	**2.42**	**334**	S	**Sn**	**19 43 51.3**	**-0.4**
TUIG	**Tuzandepetl**	**2.42**	**334**	P	**Pn**	**19 43 20.9**	**-0.9**
MIHL	**Minatitlan**	**2.43**	**331**		**Pn**	**19 43 21.2**	**-0.8**
MIHL					**Sn**	**19 43 50.7**	**-1.4**
MIHL	**Minatitlan**	**2.43**	**331**	*eP*	**Pn**	**19 43 21.2**	**-0.8**
MIHL				*eS*	**Sn**	**19 43 50.7**	**-1.4**
HUIG	**Huatulco**	**2.70**	**269**		**Pn**	**19 43 24.5**	**-0.9**
HUIG					**Sn**	**19 43 54.9**	**-3.4**
HUIG	**Huatulco**	**2.70**	**269**	*eP*	**Pn**	**19 43 24.5**	**-0.9**
HUIG				*eS*	**Sn**	**19 43 54.9**	**-3.4**
HUIG	**Huatulco**	**2.70**	**269**	*i* P	**Pn**	**19 43 24.2**	**-1.3**
HUIG				*i* S	**Sn**	**19 43 54.7**	**-3.6**
HUIG				IAML		19 43 59.6	
	comp=N,366nm,0.7s						
NEUV	**Arroyo Zacate**	**3.02**	**308**		**Pn**	**19 43 29.4**	**-0.2**
NEUV					**Sn**	**19 44 00.0**	**-5.7**
NEUV	**Arroyo Zacate**	**3.02**	**308**	*eP*	**Pn**	**19 43 29.4**	**-0.2**
NEUV				*eS*	**Sn**	**19 44 00.0**	**-5.7**
FG16	**Alotenango, Sa**	**3.12**	**120**	*i* P	**Pn**	**19 43 29.3**	**-3.8**
PMUV	**Sontecomapan**	**3.19**	**327**		**Pn**	**19 43 31.8**	**-0.1**
PMUV					**Sn**	**19 44 02.7**	**-7.1**
PMUV	**Sontecomapan**	**3.19**	**327**	*eP*	**Pn**	**19 43 31.8**	**-0.1**
PMUV				*eS*	**Sn**	**19 44 02.7**	**-7.1**
PETF	**Flores**	**3.46**	**72**	Pn	**Pn**	**19 43 34.5**	**-0.9**
PETF	**Flores**	**3.46**	**72**	*eP*	**Pn**	**19 43 34.3**	**-1.1**
PETF				*eS*	**Sn**	**19 44 09.1**	**-6.9**
PETF	**Flores**	**3.46**	**72**	*i* P	**Pn**	**19 43 34.6**	**-0.8**
PETF				IAML		19 44 16.1	
	comp=N,4μm,0.8s						
PETF	**Flores**	**3.46**	**72**	P	**Pn**	**19 43 34.3**	**-1.1**
PETF	**Flores**	**3.46**	**72**	S	**Sn**	**19 44 12.3**	**-3.7**
OXLC	**Oaxaca**	**3.48**	**291**		**Pn**	**19 43 36.9**	**+1.1**
OXLC					**Sn**	**19 44 09.4**	**-7.3**
OXLC	**Oaxaca**	**3.48**	**291**	*eP*	**Pn**	**19 43 36.9**	**+1.1**
OXLC				*eS*	**Sn**	**19 44 09.4**	**-7.3**
OXBJ	**Oaxaca**	**3.50**	**291**		**Pn**	**19 43 35.4**	**-0.7**
OXBJ					**Sn**	**19 44 15.9**	**-1.2**
OXBJ	**Oaxaca**	**3.50**	**291**	*i* P	**Pn**	**19 43 35.4**	**-0.7**
OXBJ				*eS*	**Sn**	**19 44 15.9**	**-1.2**
OXIG	**Oaxaca**	**3.51**	**291**		**Pn**	**19 43 37.0**	**+0.8**
OXIG					**Sn**	**19 44 15.6**	**-1.8**
VHO	**Vista Hermosa**	**3.51**	**291**	*eP*	**Pn**	**19 43 37.0**	**+0.8**
VHO				*eS*	**Sn**	**19 44 15.6**	**-1.8**
SCIG	**Sabancuy**	**3.69**	**33**	*eP*	**Pn**	**19 43 37.2**	**-1.2**
SCIG				*eS*	**Sn**	**19 44 17.4**	**-4.2**
SCIG	**Sabancuy**	**3.69**	**33**	*i* P	**Pn**	**19 43 37.0**	**-1.4**
SCIG				IAML		19 44 19.0	
	comp=N,647nm,0.8s						
SCIG	**Sabancuy**	**3.69**	**33**	P	**Pn**	**19 43 37.0**	**-1.4**
SCIG	**Sabancuy**	**3.69**	**33**	S	**Sn**	**19 44 18.5**	**-3.1**
PEIG	**Puerto Escondi**	**3.70**	**273**		**Pn**	**19 43 37.8**	**-0.7**
PEIG					**Sn**	**19 44 17.6**	**-4.2**
PEIG	**Puerto Escondi**	**3.70**	**273**	*eP*	**Pn**	**19 43 37.8**	**-0.7**
PEIG				*eS*	**Sn**	**19 44 17.6**	**-4.2**
NUBE	**Las Nubes**	**3.92**	**119**	P	**Pn**	**19 43 42.3**	**+0.7**
YOIG	**Yosondua**	**4.19**	**284**		**Pn**	**19 43 47.1**	**+1.8**
YOIG					**Sn**	**19 44 30.7**	**-3.1**
YOIG	**Yosondua**	**4.19**	**284**	*eP*	**Pn**	**19 43 47.1**	**+1.8**
YOIG				*eS*	**Sn**	**19 44 30.7**	**-3.1**
TOIG	**Toxpalan**	**4.23**	**302**		**Pn**	**19 43 46.8**	**+1.0**
TOIG					**Sn**	**19 44 32.9**	**-1.6**
TOIG	**Toxpalan**	**4.23**	**302**	*eP*	**Pn**	**19 43 46.8**	**+1.0**
TOIG				*eS*	**Sn**	**19 44 32.9**	**-1.6**
TXIG	**Tlaxiaco**	**4.50**	**289**		**Pn**	**19 43 51.4**	**+1.9**
TXIG					**Sn**	**19 44 38.2**	**-3.0**
TXIG	**Tlaxiaco**	**4.50**	**289**	*eP*	**Pn**	**19 43 51.4**	**+1.9**
TXIG				*eS*	**Sn**	**19 44 38.2**	**-3.0**
IZABA	**Izabal, Puerto**	**4.54**	**91**	*eP*	**Pn**	**19 43 39.2**	**-1.5**
IZABA				*i* S	**Sn**	**19 44 39.4**	**-2.3**
TPIG	**Tehuac#an**	**4.64**	**304**		**Pn**	**19 43 52.5**	**+1.3**
TPIG					**Sn**	**19 44 42.3**	**-2.1**
TPIG	**Tehuac#an**	**4.64**	**304**	*eP*	**Pn**	**19 43 52.5**	**+1.3**
TPIG				*eS*	**Sn**	**19 44 42.3**	**-2.1**
PNIG	**Pinotepa**	**4.67**	**277**		**Pn**	**19 43 51.7**	**+0.2**
PNIG					**Sn**	**19 44 40.1**	**-4.7**
PNIG	**Pinotepa**	**4.67**	**277**	*eP*	**Pn**	**19 43 51.6**	**+0.2**
PNIG				*eP*		19 43 51.7	
PNIG				*eS*	**Sn**	**19 44 37.2**	**-7.6**
PNIG				*eS*		19 44 40.1	
THEZ	**Tehuacan**	**4.69**	**304**		**Pn**	**19 43 51.5**	**-0.4**
THEZ					**Sn**	**19 44 41.2**	**-4.4**
THEZ	**Tehuacan**	**4.69**	**304**	*eP*	**Pn**	**19 43 51.5**	**-0.4**
THEZ				*eS*	**Sn**	**19 44 41.2**	**-4.4**
HLIG	**Huajuapan de L**	**4.74**	**295**		**Pn**	**19 43 54.3**	**+1.8**
HLIG					**Sn**	**19 44 42.8**	**-3.9**
HLIG	**Huajuapan de L**	**4.74**	**295**	*eP*	**Pn**	**19 43 54.3**	**+1.8**
HLIG				*eS*	**Sn**	**19 44 42.8**	**-3.9**
JAUV	**Jalcomulco**	**4.83**	**317**		**Pn**	**19 43 52.6**	**-1.0**
JAUV					**Sn**	**19 44 44.0**	**-4.8**
JAUV	**Jalcomulco**	**4.83**	**317**	*eP*	**Pn**	**19 43 52.6**	**-1.0**
JAUV				*eS*	**Sn**	**19 44 44.0**	**-4.8**
LVIG	**Laguna Verde**	**4.86**	**323**	*eP*	**Pn**	**19 43 52.6**	**-1.4**
LVIG				*eS*	**Sn**	**19 44 42.1**	**-7.2**
POHV	**Veracruz**	**4.96**	**311**		**Pn**	**19 43 56.9**	**+1.0**
POHV					**Sn**	**19 44 49.0**	**-3.5**
POHV	**Veracruz**	**4.96**	**311**	*eP*	**Pn**	**19 43 56.9**	**+1.0**
POHV				*eS*	**Sn**	**19 44 49.0**	**-3.5**
FTIG	**Fresnillo de T**	**5.05**	**294**		**Pn**	**19 43 58.9**	**+2.2**
FTIG					**Sn**	**19 44 51.7**	**-2.6**
FTIG	**Fresnillo de T**	**5.05**	**294**	*eP*	**Pn**	**19 43 58.9**	**+2.2**
FTIG				*eS*	**Sn**	**19 44 51.7**	**-2.6**
MGIG	**Malinaltepec**	**5.29**	**286**		**Pn**	**19 44 01.7**	**+1.7**
MGIG					**Sn**	**19 44 54.5**	**-5.6**
MGIG	**Malinaltepec**	**5.29**	**286**	*eP*	**Pn**	**19 44 01.7**	**+1.7**
MGIG				*eS*	**Sn**	**19 44 54.5**	**-5.6**
TLIG	**Tlapa**	**5.32**	**289**		**Pn**	**19 44 02.4**	**+2.0**
TLIG	**Tlapa**	**5.32**	**289**	*eP*	**Pn**	**19 44 02.5**	**+2.1**
TLIG				*eS*	**Sn**	**19 44 56.9**	**-3.8**
TLIG	**Tlapa**	**5.32**	**289**	P	**Pn**	**19 44 02.1**	**+1.8**
TLIG	**Tlapa**	**5.32**	**289**	S	**Sn**	**19 45 00.3**	**-0.4**
CRIG	**Cruz Grande**	**5.67**	**280**		**Pn**	**19 44 05.2**	**+0.4**
CRIG					**Sn**	**19 45 04.2**	**-4.6**
CRIG	**Cruz Grande**	**5.67**	**280**	*eP*	**Pn**	**19 44 05.2**	**+0.4**
CRIG				*eS*	**Sn**	**19 45 04.2**	**-4.6**
CXUV	**Coxquihui**	**5.92**	**317**		**Pn**	**19 44 08.7**	**+0.4**
CXUV					**Sn**	**19 45 10.3**	**-4.7**
CXUV	**Coxquihui**	**5.92**	**317**	*eP*	**Pn**	**19 44 08.7**	**+0.4**
CXUV				*eS*	**Sn**	**19 45 10.3**	**-4.7**
PPM	**Popocatepetl**	**6.00**	**303**	*eP*	**Pn**	**19 44 11.3**	**+1.5**
PPM				*eS*	**Sn**	**19 45 12.1**	**-5.5**
PPIG	**Popocatepetl**	**6.00**	**303**		**Pn**	**19 44 11.3**	**+1.5**
PPIG					**Sn**	**19 45 12.1**	**-5.6**
MYIG	**Merida**	**6.10**	**33**	P	**Pn**	**19 44 10.9**	**+0.3**
DAIG	**Los Arroyos**	**6.20**	**282**		**Pn**	**19 44 13.0**	**+0.9**
DAIG					**Sn**	**19 45 16.8**	**-5.0**
DAIG	**Los Arroyos**	**6.20**	**282**	*eP*	**Pn**	**19 44 13.0**	**+0.9**
DAIG				*eS*	**Sn**	**19 45 16.8**	**-5.0**
YAIG	**Yautepec**	**6.26**	**299**		**Pn**	**19 44 15.8**	**+2.8**
YAIG					**Sn**	**19 45 18.4**	**-5.0**
YAIG	**Yautepec**	**6.26**	**299**	*eP*	**Pn**	**19 44 15.8**	**+2.8**
YAIG				*eS*	**Sn**	**19 45 18.4**	**-5.0**
MEIG	**Mezcala**	**6.39**	**290**		**Pn**	**19 44 17.2**	**+2.5**
MEIG					**Sn**	**19 45 24.0**	**-2.3**
MEIG	**Mezcala**	**6.39**	**290**	*eP*	**Pn**	**19 44 17.2**	**+2.5**
MEIG				*eS*	**Sn**	**19 45 24.0**	**-2.3**
PLIG	**Platanillo**	**6.44**	**294**		**Pn**	**19 44 18.2**	**+2.9**
PLIG					**Sn**	**19 45 26.3**	**-1.3**
PLIG	**Platanillo**	**6.44**	**294**	*eP*	**Pn**	**19 44 18.2**	**+2.9**
PLIG				*eS*	**Sn**	**19 45 26.3**	**-1.3**
TEIG	**Tepich**	**6.46**	**47**		**Pn**	**19 44 13.5**	**-2.0**
CAIG	**El Cayaco**	**6.79**	**281**		**Pn**	**19 44 21.0**	**+1.1**
CAIG					**Sn**	**19 45 31.3**	**-4.6**
CAIG	**El Cayaco**	**6.79**	**281**	*eP*	**Pn**	**19 44 21.0**	**+1.1**
CAIG				*eS*	**Sn**	**19 45 31.3**	**-4.6**
ARIG	**Puente Sto Nin**	**7.16**	**291**		**Pn**	**19 44 28.1**	**+3.1**
ARIG					Sn	19 45 32.8	-12
ARIG	**Puente Sto Nin**	**7.16**	**291**	*eP*	**Pn**	**19 44 28.1**	**+3.1**
ARIG				*eS*	Sn	19 45 32.8	-12
CTUV	**Llano Grande**	**7.36**	**320**		**Pn**	**19 44 27.6**	**0.0**
CTUV					**Sn**	**19 45 46.8**	**-2.9**
CTUV	**Llano Grande**	**7.36**	**320**	*eP*	**Pn**	**19 44 27.6**	**0.0**
CTUV				*eS*	**Sn**	**19 45 46.8**	**-2.9**
JTS	**Las Juntas de**	**9.84**	**123**	Pn	**Pn**	**19 44 59.7**	**-1.3**
JTS	**Las Juntas de**	**9.84**	**123**	P	**Pn**	**19 45 00.7**	**-0.3**
	comp=N,4.6nm,0.3s,baz=323,slow=16,SNR=5.5						
JTS				S	**Sn**	**19 46 47.5**	**-2.3**
	comp=N,4.6nm,0.8s,baz=308,slow=19,SNR=1.4						
MNGA	**Volcan de Coli**	**10.47**	**292**	*eP*	Pn	19 45 16.1	+6.3
INCO	**Volcan de Coli**	**10.47**	**292**	*eP*	Pn	19 45 15.0	+5.0
SOMAC	**Volcano de Col**	**10.50**	**292**	*eP*	Pn	19 45 18.6	+8.3
CEGR	**Campo Tres**	**10.66**	**291**	*eP*	**Pn**	**19 45 15.9**	**+3.6**
LCR2	**La Lucha 2**	**10.91**	**123**		**Pn**	**19 45 16.4**	**+0.6**
LCR2	**La Lucha 2**	**10.91**	**123**	P	**Pn**	**19 45 16.0**	**+0.3**
DRK0	**Durika**	**11.80**	**123**	P	**Pn**	**19 45 27.7**	**+0.3**
833A	**Chaparral WMA,**	**13.63**	**337**		**Pn**	**19 45 52.0**	**+1.1**
HNDO	**Hondo**	**14.68**	**339**	P	**P**	**19 46 08.6**	**+1.5**
DRIO	**Del Rio**	**15.09**	**335**		**P**	**19 46 15.6**	**+4.0**
DRIO				IAmb	IAmb	19 46 16.4	
	comp=Z,13nm,0.6s						
435B	**Jarrell**	**15.37**	**346**	P	**P**	**19 46 17.5**	**+2.8**
435B				IAmb	IAmb	19 46 31.6	
	comp=Z,20nm,0.7s						
JCT	**Junction City**	**15.73**	**339**		**P**	**19 46 23.5**	**+4.7**
JCT				IAmb	IAmb	19 46 34.2	
	comp=Z,12nm,0.6s						
346A	**Big Creek Wild**	**15.85**	**12**	P	**P**	**19 46 23.6**	**+3.6**
BRDY	**Brady**	**16.22**	**342**		**P**	**19 46 28.5**	**+4.4**
BRDY				IAmb	IAmb	19 46 38.3	
	comp=Z,18nm,0.9s						
553A	**Crawfordville**	**16.42**	**28**	P	**P**	**19 46 26.5**	**+0.1**
TXAR	**Lajitas Array**	**16.46**	**326**	P	**P**	**19 46 28.2**	**+1.3**
	comp=Z,1.9nm,0.7s,baz=150,slow=12,SNR=24						
WHTX	**Lake Whitney,**	**16.50**	**347**	P	**P**	**19 46 32.3**	**+5.1**
WHTX				IAmb	IAmb	19 46 33.7	
	comp=Z,17nm,0.7s						
GTBY	**Guantanamo Bay**	**17.78**	**74**	P	**P**	**19 46 41.0**	**-0.4**
GOGA	**Godfrey**	**19.61**	**25**	P	**P**	**19 47 00.4**	**-0.9**
GOGA				IAmb	IAmb	19 47 05.1	
	comp=Z,5.7nm,0.8s						
HHAR	**Hobbs**	**20.35**	**359**	P	**P**	**19 47 10.0**	**+0.8**
AMTX	**Amarillo**	**20.39**	**340**	P	**P**	**19 47 10.3**	**+0.6**
AMTX				IAmb	IAmb	19 47 11.6	
	comp=Z,7.0nm,0.6s						
RUSC	**La Rusia**	**22.16**	**114**	P	**P**	**19 47 26.0**	**-3.3**
R40A	**Maddies Statio**	**22.37**	**2**	P	**P**	**19 47 28.2**	**-2.3**
P40A	**Paris**	**23.61**	**2**	P	**P**	**19 47 41.4**	**-0.8**
P40A				IAmb	IAmb	19 47 41.7	
	comp=Z,4.9nm,0.7s						
PV05	**Paradox Valley**	**26.15**	**331**	P	**P**	**19 48 06.3**	**+0.7**
PV05				IAmb	IAmb	19 48 15.9	
	comp=Z,4.6nm,0.8s						
LPAZ	**La Paz**	**40.46**	**141**	P	**P**	**19 50 10.8**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=339,slow=9.7,SNR=7.7						
	comp=Z,2.4nm,0.8s						
SIV	**San Ignacio**	**44.87**	**133**	P	**P**	**19 50 45.1**	**+0.2**
	comp=Z,5.5nm,0.7s,baz=302,slow=9.3,SNR=14						
	comp=Z,5.5nm,0.7s						
ILAR	**Eielson Array**	**60.65**	**337**	P	**P**	**19 52 41.1**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=128,slow=5.0,SNR=8.4						
	comp=Z,1.1nm,0.9s						
HHC	**Hu-ho-hao-te**	**119.04**	**339**	*eP*	**PKiKP**	**20 01 21.0**	**+3.9**
PZH	**PanZhiHua**	**135.43**	**341**	PKP	**PKiKP**	**20 01 51.3**	**+1.0**

*IDC **08** 19:43:33.0±1.8, 0°.79N×126°.73E, h0ᵏᵐ, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=172.4km s-min=22.1km az=66.0*

*DJA **08** 19:43:36.3±0.4, 0°.7N±4°×12°.6E±°, h10ᵏᵐ, M3.2/6, MLv3.2/6*

ISC 08 19:43:39.5±1.1, 0°.40N±0°.10×126°.33E±0°.07, h47ᵏᵐ, n7, σ1ᵍ33/8, mb3.4/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.10**	**70**	P	**Pn**	**19 43 58.1**	**-0.5**
TNTI				S	**Sn**	**19

TPO	**Tropico Hills**	**1.12**	**201**			Pg	19 45 42.5	-1.1
TPO	**Tropico Hills**	**1.12**	**201**		IAML		19 46 04.5	
	comp=N,123nm,0.7s							
TPO					IAML		19 46 06.6	
	comp=E,150nm,0.7s							
WCT	**Wildcat Mounta**	**1.24**	**46**		IAML		19 46 02.6	
	comp=E,136nm,0.5s							
WCT					IAML		19 46 03.9	
	comp=N,126nm,0.7s							
GMN	**Gold Mountain**	**1.42**	**15**			Pn	19 45 47.5	-0.9
DSP	**Deep Springs**	**1.45**	**353**			Pn	19 45 48.7	+0.2
TUQ	**Turquoise Moun**	**1.55**	**108**			Pn	19 45 48.5	-1.6
MWC	**Mount Wilson**	**1.72**	**189**			Pn	19 45 52.5	0.0
MWC					IAML		19 46 17.8	
	comp=N,85nm,0.4s							
MWC					IAML		19 46 19.2	
	comp=E,60nm,0.6s							
MZP	**Montezuma Peak**	**1.79**	**9**			Pn	19 45 52.8	-0.7
PASC	**Pasadena Art C**	**1.79**	**192**	Pn		Pn	19 45 51.8	-1.5
MTPC	**Mountain Pass**	**1.83**	**103**			Pn	19 45 52.3	-1.6
MTPC					IAML		19 46 16.0	
	comp=N,43nm,0.1s							
MTPC					IAML		19 46 23.9	
	comp=E,51nm,0.3s							
SHPR	**Sheep Range**	**2.16**	**74**			Pn	19 45 57.6	-0.9
TPH	**Tonopah**	**2.18**	**11**			Pg	19 46 03.2	-0.5
TPH					IAML		19 46 38.6	
	comp=E,76nm,0.5s							
ELS	**Elsinore Mount**	**2.29**	**174**			Pn	19 45 59.6	-0.6
ELS					IAML		19 46 38.0	
	comp=E,37nm,0.8s							
ELS					IAML		19 46 40.2	
	comp=N,31nm,0.6s							
V12A	**Nelson**	**2.35**	**94**			Pb	19 46 05.7	+1.0
V12A					IAML		19 46 38.9	
	comp=N,27nm,0.5s							
LHV	**Little Huntoon**	**2.40**	**345**			Pb	19 46 06.5	+1.1
PMPB	**Monarch Peak**	**2.50**	**277**			Pn	19 46 03.8	+0.7
PMPB					IAML		19 46 55.1	
	comp=N,59nm,0.8s							
NV11	**Mina Array Sit**	**2.52**	**352**			Pg	19 46 09.1	-1.1
NVAR	**Mina Array Bea**	**2.54**	**350**			Pb	19 46 08.8	+0.9
PRN	**Pahroc Range**	**2.61**	**55**			Pg	19 46 11.2	-0.8
PRN					IAML		19 46 55.7	
	comp=E,49nm,0.8s							
BORC	**Borrego Spring**	**2.87**	**157**			Pg	19 46 15.6	-1.4
BORC					IAML		19 46 55.8	
	comp=E,46nm,0.8s							
BORC					IAML		19 46 57.7	
	comp=N,24nm,0.8s							
WAKR	**Walker**	**2.91**	**333**			Pb	19 46 15.2	+0.9
R11B	**Troy Canyon, C**	**2.96**	**35**	Pg		Pb	19 46 16.7	+1.6
W13A	**Hualapai Mount**	**3.25**	**104**			Pn	19 46 11.9	-1.6
CCUT	**Cedar City**	**3.86**	**64**		IAML		19 47 36.1	
	comp=E,74nm,4.8s							
AFDM	**Forest Hills D**	**3.96**	**320**		IAML		19 47 29.1	
	comp=E,9.5nm,0.5s							
AFDM					IAML		19 47 34.3	
	comp=N,5.9nm,0.9s							
PSUT	**Pine Spring**	**4.04**	**49**		IAML		19 47 31.6	
	comp=E,13nm,0.9s							
PSUT					IAML		19 47 35.1	
	comp=N,11nm,1.4s							
ELK	**Elko**	**5.19**	**21**		IAML		19 48 15.4	
	comp=N,7.4nm,0.4s							

*AEIC **08** 19:46:29.7±0.9,56.2N±0.1×149.8W±0.1,h7km±8km, Error ellipse: s-maj=15.7km s-min=11.0km az=155.0*

NEIC 08 19:46:23.6±1.6,56.11N±0.08×149.79W±0.10,h10km±2km, ML3.6/52,ML3.5(AEIC),Error ellipse: s-maj=13.7km s-min=9.2km az=187.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.23**	**301**		Pn	19 47 00.2	-0.3
OHAK				IAML		19 47 25.1	
	comp=N,275nm,0.4s						
OHAK				IAML		19 47 25.1	
	comp=E,200nm,0.6s						
OHAK	**Old Harbor**	**2.23**	**301**		Sn	19 47 24.7	-3.4
KDAK	**Kodiak Island**	**2.27**	**319**		Pn	19 47 00.9	-0.2
KDAK	**Kodiak Island**	**2.27**	**319**		Sn	19 47 25.8	-3.4
SYI	**Shuyak Island**	**2.88**	**332**		Sn	19 47 41.6	-2.4
SYI	**Shuyak Island**	**2.88**	**332**		Pn	19 47 09.4	-0.1
R18K	**Karluk**	**2.95**	**302**		Pn	19 47 10.6	+0.1
R18K					Sn	19 47 42.3	-3.5
R18K	**Karluk**	**2.95**	**302**	IAML		19 47 47.0	
	comp=E,162nm,0.3s						
R18K				IAML		19 47 47.7	
	comp=N,183nm,0.4s						
Q19K	**Cape Douglas,**	**3.51**	**325**		Pn	19 47 18.8	+0.6
Q19K				IAML		19 48 04.4	
	comp=N,196nm,0.8s						
Q19K				IAML		19 48 05.7	
	comp=E,225nm,0.8s						
CNPM	**China Poot**	**3.51**	**348**		Sn	19 47 55.7	-4.1
CNPM	**China Poot**	**3.51**	**348**		Pn	19 47 17.4	-0.8
CNPM				IAML		19 47 58.5	
	comp=E,85nm,0.6s						
CNPM				IAML		19 47 59.0	
	comp=N,56nm,0.4s						
KAHG	**Katmai Hook Gl**	**3.52**	**315**		Pn	19 47 19.4	+1.0
CAHL	**Cahill**	**3.58**	**305**		Pn	19 47 19.6	+0.3
ACHA	**Angle Creek He**	**3.68**	**307**		Pn	19 47 21.2	+0.7
BRLK	**Bradley Lake**	**3.71**	**351**		Pn	19 47 19.9	-1.1
BRLK				IAML		19 48 03.4	
	comp=N,43nm,0.4s						
BRLK				IAML		19 48 05.6	
	comp=E,50nm,0.3s						
AUCH	**Augustine Cone**	**3.81**	**331**		Pn	19 47 23.4	+1.1
PLK4	**Peulik 4**	**3.92**	**296**		Pn	19 47 24.4	+0.6
PLK4				IAML		19 48 11.6	
	comp=E,92nm,0.5s						
PLK4				IAML		19 48 12.1	
	comp=N,112nm,0.6s						
P19K	**Oil Pt**	**4.00**	**334**		Pn	19 47 24.9	0.0
P19K				IAML		19 48 12.7	
	comp=N,100nm,0.4s						
P19K				IAML		19 48 14.7	
	comp=E,161nm,0.5s						
SEW	**Seward**	**4.01**	**2**	Pn	Pn	19 47 23.5	-1.5
P23K	**Montague Islan**	**4.10**	**17**		Pn	19 47 25.6	-0.6
P23K	**Montague Islan**	**4.10**	**17**	IAML		19 48 14.3	
	comp=N,135nm,0.5s						
ILSW	**Iliamna Southw**	**4.27**	**337**	Pn	Pn	19 47 28.3	-0.5
ILSW				IAML		19 48 17.4	
	comp=N,57nm,0.4s						
ILSW				IAML		19 48 18.9	
	comp=E,39nm,0.3s						
P18K	**Big Mountain,**	**4.40**	**321**		Pn	19 47 30.1	-0.3
SLKM	**Skilak Lake**	**4.42**	**357**	Pn	Pn	19 47 29.5	-1.1
SLKM				IAML		19 48 19.6	
	comp=N,70nm,0.4s						
SLKM				IAML		19 48 22.5	
	comp=E,80nm,0.5s						
HIN	**Hinchinbrook I**	**4.63**	**21**	Pn	Pn	19 47 33.2	-0.4
O18K	**Koktuh Hills**	**4.73**	**325**		Pn	19 47 34.5	-0.5
O18K				IAML		19 48 28.4	
	comp=N,32nm,0.5s						
PWL	**Port Wells**	**4.82**	**8**		Pn	19 47 35.2	-1.0
PWL				IAML		19 48 28.5	
	comp=E,52nm,0.3s						
PWL				IAML		19 48 28.9	
	comp=N,75nm,0.4s						
EYAK	**Cordova Ski Ar**	**4.93**	**24**		Pn	19 47 37.8	+0.1
EYAK				IAML		19 48 32.0	
	comp=E,56nm,0.4s						
FID	**Port Fidalgo**	**4.97**	**19**		Pn	19 47 37.5	-0.7
FID				IAML		19 48 31.5	
	comp=N,64nm,0.2s						
GLI	**Glacier Island**	**4.99**	**15**	Pn	Pn	19 47 38.3	-0.2
GLI				IAML		19 48 35.0	
	comp=N,33nm,0.4s						
GLI				IAML		19 48 38.0	
	comp=E,46nm,0.6s						
RAGM	**Ragged Mountai**	**5.07**	**30**		Pn	19 47 39.5	0.0
SUCK	**Suckling Hills**	**5.09**	**36**		Pn	19 47 40.2	+0.3
VNHG	**Veniaminof 1**	**5.24**	**275**		Pn	19 47 43.2	+1.1
N19K	**Bonanza Creek**	**5.32**	**334**		Pn	19 47 42.0	-1.1
BERG	**Berg Lake**	**5.36**	**34**		Pn	19 47 43.7	+0.1
O16K	**Kokwok River B**	**5.64**	**312**		Pn	19 47 47.9	+0.4
WAX	**Waxell Ridge**	**5.68**	**37**		Pn	19 47 47.8	-0.2
CNBA	**Chernabura Isl**	**5.72**	**261**		Pn	19 47 48.2	-0.3
MESA	**MESA**	**5.82**	**42**	Pn	Pn	19 47 50.5	+0.4
VRDI	**Verde Repeater**	**6.10**	**30**	Pn	Pn	19 47 53.8	-0.1
N25K	**Chitina, Valde**	**6.13**	**24**		Pn	19 47 54.7	+0.4
GLB	**Gilahina Butte**	**6.18**	**28**	Pn	Pn	19 47 55.4	+0.5
GRNC	**Granite Creek**	**6.26**	**39**		Pn	19 47 56.8	+0.6
TABL	**Table Mountain**	**6.29**	**43**		Pn	19 47 57.5	+0.9
DHY	**Denali Highway**	**7.09**	**9**		Pn	19 48 07.4	-0.1
P29M	**Windy Craggy**	**7.33**	**56**		Pn	19 48 11.0	+0.4
ISNN	**Isanotski Nort**	**8.05**	**267**		Pn	19 48 21.3	+0.7
U33K	**Whale Pass**	**9.31**	**83**		Pn	19 48 36.3	-1.4

IDC 08 19:50:56.3±1.8,0.54N×126.60E,h0km,mb3.5/4, mbtmp3.5/4,Error ellipse: s-maj=170.5km s-min=22.6km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.73**	**160**	P	P	19 55 49.1	-0.3
	0.5nm,0.5s,baz=339,slow=11,SNR=12						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**25.09**	**164**	P	P	19 56 23.1	+0.2
	0.3nm,0.3s,baz=344,slow=12,SNR=8.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**60.10**	**326**	P	P	20 01 05.0	-0.5
	0.3nm,0.5s,baz=128,slow=8.1,SNR=5.0						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**64.35**	**328**	P	P	20 01 34.4	+0.5
	0.4nm,0.5s,baz=128,slow=6.0,SNR=1.8						
	0.4nm,0.5s						

*KRNET **08** 19:51:49.1±0.1,40.92N×73.33E,h19km,mb4.1*
*ISU **08** 19:51:50,40.95N×73.26E,h29km*
*KNET **08** 19:51:50.6±0.4,41.04N×73.41E,h6km±2km,ml3.6, Error ellipse: s-maj=4.3km s-min=2.7km az=95.0*
*SOME **08** 19:51:50.2,41.03N×73.30E,h10km*
*NNC **08** 19:51:51.3±0.6,41.03N×73.30E,h0km,mb4.5,mpv4.2, Error ellipse: s-maj=5.0km s-min=2.6km az=171.0*

ISC 08 19:51:48.3±1.1,40.95N±0.02×73.42E±0.02,h3km±10km, n91,σ1s27/142,55C-26D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.31**	**102**	⇑*i*P	Pb	19 51 56.6	0.0
SALK				⇑*i*S	Sb	19 52 01.9	-0.2
ARSB	**Arslanbob**	**0.50**	**318**	⇓*e*P	Pg	19 51 58.8	+0.9
ARSB				⇓*e*S	Sg	19 52 05.5	+1.1
OHH	**Osh**	**0.65**	**229**	⇑*i*P	Pg	19 52 00.3	-0.4
OHH				⇑*i*S	Sg	19 52 08.1	-1.0
TSTA	**Tashata**	**0.81**	**243**	P	Pg	19 52 03.2	-0.6
TSTA				S	Sg	19 52 13.2	-1.1
SFK	**Sufi-Kurgan**	**0.94**	**176**	⇑*i*P	Pg	19 52 06.3	0.0
SFK				⇑*i*S	Sg	19 52 19.2	+0.7
AML	**Almayashu**	**1.20**	**10**	⇑P	Pn	19 52 12.1	-0.2
	303nm,0.2s,SNR=434						
AML				⇓S	Sn	19 52 28.9	-0.3
	892nm,0.2s						
AML	**Almayashu**	**1.20**	**10**	⇑*i*P	Pn	19 52 12.2	-0.1
AML				⇑*i*S	Sn	19 52 28.9	-0.3
NAM	**Namangan**	**1.33**	**272**	P	Pb	19 52 14.7	+0.7
NAM				S	Sg	19 52 32.3	+1.1
FRG	**Fergana**	**1.37**	**246**	P	Pn	19 52 13.5	-0.9
ARK	**Arkit**	**1.39**	**308**	⇑*e*P	Pn	19 52 14.4	-0.6
ARK				⇑*e*S	Sb	19 52 32.4	-0.6
UCH	**Uchtor**	**1.52**	**32**	⇑P	Pg	19 52 18.2	+0.8
	118nm,0.2s,SNR=574						
UCH				⇓S	Sg	19 52 39.7	+2.6
	496nm,0.3s						
UCH	**Uchtor**	**1.52**	**32**	⇑*i*P	Pg	19 52 18.2	+0.8
UCH				⇑*i*S	Sg	19 52 39.4	+2.3
CHMI	**Chimion**	**1.60**	**245**	P	Pn	19 52 17.7	+0.2
CHMI				S	Sn	19 52 39.0	+0.4
MNAS	**Manas**	**1.68**	**336**	⇑*i*P	Pb	19 52 20.0	0.0
MNAS				⇑*i*S	Sg	19 52 42.3	-0.1
EKS2	**Erkin-Say**	**1.73**	**9**	⇑P	Pg	19 52 21.8	+0.4
	49nm,0.2s,SNR=155						
EKS2				⇓S	Sg	19 52 45.0	+1.0
	150nm,0.2s						
EKS2	**Erkin-Say**	**1.73**	**9**	⇑*i*P	Pg	19 52 21.4	-0.1
EKS2				⇑*i*S	Sg	19 52 44.9	+1.0
MRKS	**Merke**	**1.80**	**355**	P	Pg	19 52 22.7	-0.1
	96nm,0.4s						
MRKS				S	Sg	19 52 45.9	-0.2
	479nm,0.2s						
MRKS	**Merke**	**1.80**	**355**	*e*P	Pg	19 52 22.7	-0.1
	96nm,0.4s						
MRKS				*e*S	Sg	19 52 45.9	-0.2
	479nm,0.2s						
TRKS	**Terek-Say**	**1.81**	**289**	⇑*i*P	Pn	19 52 20.2	-0.4
TRKS				⇑*i*S	Sn	19 52 43.3	-0.8
AAK	**Ala-Archa**	**1.87**	**25**	⇑P	Pg	19 52 24.6	+0.5
	128nm,0.2s,SNR=88						
AAK				⇑S	Sg	19 52 50.4	+2.1
	433nm,0.2s						
AAK	**Ala-Archa**	**1.87**	**25**	⇑Pn	Pg	19 52 24.6	+0.5
	43nm,0.5s						
AAK				⇑Sn	Sg	19 52 50.0	+1.7
	38nm,0.3s						
AAK	**Ala-Archa**	**1.87**	**25**	⇑*i*P	Pg	19 52 23.8	-0.3
AAK				⇑*i*S	Sg	19 52 48.8	+0.5
MINT	**Mingtut**	**1.92**	**256**	P	Pn	19 52 22.5	+0.6
MINT				S	Sb	19 52 47.8	-0.5
DRK	**Karamyk**	**1.92**	**221**	⇓*i*P	Pn	19 52 22.7	+0.5
DRK				⇓*i*S	Sn	19 52 47.3	+0.3
NRN	**Naryn**	**2.00**	**75**	⇓*e*P	Pb	19 52 26.2	+0.6
NRN				⇓*e*S	Sg	19 52 52.2	-0.6
KBK	**Karagaybulak**	**2.05**	**33**	⇑P	Pg	19 52 28.0	+0.3
	80nm,0.2s,SNR=50						
KBK				⇓S	Sg	19 52 56.6	+2.4
	743nm,0.3s						
KBK	**Karagaybulak**	**2.05**	**33**	⇓*i*P	Pb	19 52 26.2	-0.1
KBK				⇓*i*S	Sg	19 52 53.6	-0.6
FRU1	**Bishkek**	**2.06**	**26**	⇓*i*P	Pb	19 52 26.6	+0.1
FRU1				⇓*i*S	Sg	19 52 54.0	-0.7
BTK	**Batken**	**2.18**	**247**	⇑*i*P	Pn	19 52 25.4	-0.1
BTK				⇑*i*S	Sn	19 52 52.8	-0.1
CHMS	**Chumysh**	**2.27**	**25**	⇑P	Pb	19 52 30.7	+0.7
	74nm,0.2s,SNR=56						
CHMS				⇑S	Sg	19 53 02.0	+0.6
	247nm,0.3s						
CHMS	**Chumysh**	**2.27**	**25**	⇓Pn	Pb	19 52 30.1	+0.1
	70nm,0.5s						
CHMS				Pg	Pg	19 52 47.3	+15
	78nm,0.2s						
CHMS				⇓Lg	Lg	19 53 02.2	
	220nm,0.6s						
CHMS				Lg	Lg	19 53 28.5	
	595nm,0.4s						
CHMS	**Chumysh**	**2.27**	**25**	⇓*i*P	Pb	19 52 29.1	-0.9
CHMS				⇓*i*S	Sb	19 52 58.4	-0.1
BOOM	**Boomskoye usch**	**2.43**	**50**	⇓*i*P	Pb	19 52 31.9	-0.9
BOOM				⇓*i*S	Sb	19 53 03.1	-0.1
USP	**Ospenovka**	**2.45**	**19**	⇑P	Pb	19 52 32.7	-0.3
	75nm,0.3s,SNR=59						
USP				⇑S	Sg	19 53 05.9	-1.1
	238nm,0.3s						
USP	**Ospenovka**	**2.45**	**19**	⇓*i*P	Pb	19 52 31.6	-1.4
USP				⇓*i*S	Sb	19 53 02.6	-1.0
ULHL	**Ulahol**	**2.48**	**58**	⇑P	Pb	19 52 33.4	-0.2
	24nm,0.2s,SNR=24						
ULHL				⇓S	Sg	19 53 07.7	-0.3
	131nm,0.2s						
ULHL	**Ulahol**	**2.48**	**58**	⇑*i*P	Pb	19 52 32.5	-1.1
ULHL				⇑*i*S	Sb	19 53 04.4	-0.2
TKM2	**Tokmak 2**	**2.55**	**39**	⇓P	Pb	19 52 34.6	-0.2
	84nm,0.2s,SNR=184						
TKM2	**Tokmak 2**	**2.55**	**39**	⇑Pn	Pb	19 52 34.6	-0.2
	81nm,0.5s						
TKM2				⇑Lg	Lg	19 53 12.3	
	167nm,0.5s						
TKM2	**Tokmak 2**	**2.55**	**39**	⇑*i*P	Pb	19 52 33.5	-1.3
TKM2				⇑*i*S	Sb	19 53 05.7	-1.0
CHMG	**Chimgan**	**2.64**	**284**	P	Pn	19 52 31.4	-0.5
CHMG				S	Sn	19 53 05.2	+0.7
SGDS	**Sogindy**	**2.66**	**19**	Pg	Pg	19 52 39.0	-0.2
	27nm,0.2s						
SGDS				Lg	Lg	19 53 13.8	
	124nm,0.3s						
IUG	**Iuzhnay**	**2.81**	**296**	Pg	Pb	19 52 40.1	+0.9
	249nm,0.2s						
IUG				Lg	Lg	19 53 16.1	
	2μm,0.4s						
KST	**Kastek**	**2.82**	**41**	Pg	Pg	19 52 42.4	0.0
	53nm,0.2s						
KST				Lg	Lg	19 53 20.0	
	198nm,0.5s						
KST	**Kastek**	**2.82**	**41**	*e*P	Pg	19 52 42.4	0.0
	53nm,0.2s						
KST				*e*S	Sg	19 53 20.0	+1.0
	198nm,0.5s						
TGS	**TashGRES**	**2.98**	**280**	P	Pg	19 52 45.5	0.0
TGS				S	Sg	19 53 25.1	+1.0
KK31	**Karatay Array**	**3.05**	**316**	Pn	Pn	19 52 39.0	+1.5
	2.0nm,0.3s,baz=130,slow=12,SNR=462						
KK31				⇑Pg	Pb	19 52 43.6	+0.3
	19nm,0.3s,baz=123,slow=16,SNR=6.0						
KK31				⇑Lg	Lg	19 53 23.5	
	65nm,0.3s,baz=133,slow=28,SNR=12						
KKAR	**Karatay Array**	**3.05**	**316**	⇑*i*P	Pn	19 52 38.9	+1.4
KKAR				⇑*i*S	Sn	19 53 15.0	+0.5
KDJ	**Kajisay**	**3.06**	**66**	⇑*i*P	Pb	19 52 40.8	-2.7
KDJ				⇑*i*S	Sb	19 53 18.2	-3.0
MTBS	**Maitube**	**3.12**	**45**	Pg	Pg	19 52 48.2	0.0
	31nm,0.6s						
MTBS				Lg	Lg	19 53 29.4	
	236nm,0.5s						
MTBS	**Maitube**	**3.12**	**45**	*e*P	Pg	19 52 48.1	0.0
	31nm,0.6s						
MTBS				*e*S	Sg	19 53 29.4	+0.8
	236nm,0.5s						
IZV	**Izvestkoviy**	**3.16**	**48**	Pg	Pg	19 52 49.3	+0.4
	83nm,0.6s						
IZV				Lg	Lg	19 53 31.6	
	185nm,0.7s						
IZV	**Izvestkoviy**	**3.16**	**48**	*e*P	Pg	19 52 49.3	+0.4
	83nm,0.6s						
IZV				*e*S	Sg	19 53 31.6	+1.7
	185nm,0.7s						
CHM	**Chimkent**	**3.17**	**297**	*e*P	Pb	19 52 47.3	+2.0
	78nm,0.2s						
CHM				*e*S	Sg	19 53 28.5	-1.7
	595nm,0.4s						
KRBS	**Karabastau**	**3.21**	**31**	Pg	Pg	19 52 48.8	-1.1
	26nm,0.3s						
KRBS				Lg	Lg	19 53 31.1	
	161nm,0.5s						
TNSS	**Tian-Shan**	**3.35**	**50**	*e*P	Pg	19 52 52.1	-0.5
	9.4nm,0.3s						
TNSS				*e*S	Sg	19 53 36.4	+0.3
	47nm,0.7s						
BRLS	**Boroldav**	**3.38**	**309**	Pg	Pb	19 52 50.0	+1.0
	24nm,0.3s						
BRLS				Lg	Lg	19 53 32.7	
	201nm,0.4s						
BRLS	**Boroldav**	**3.38**	**309**	*e*P	Pb	19 52 50.0	+1.0
	24nm,0.3s						
BRLS				*e*S	Sb	19 53 32.8	+2.3
	201nm,0.4s						
AAA	**Alma-Ata**	**3.44**	**48**	Pg	Pg	19 52 54.3	0.0
	66nm,0.3s						
AAA				Lg	Lg	19 53 40.5	
	24nm,0.5s						
AAA	**Alma-Ata**	**3.44**	**48**	*e*P	Pg	19 52 54.3	0.0
	66nm,0.3s						
AAA				*e*S	Sg	19 53 40.5	+1.6
	24nm,0.5s						
KNDC	**Almaty**	**3.48**	**48**	⇓Pg	Pg	19 52 55.0	+0.1
	98nm,0.5s						
KNDC				⇑Lg	Lg	19 53 42.4	
	259nm,0.5s						
KOTS	**Kotyrbulak**	**3.57**	**49**	Pg	Pg	19 52 56.9	+0.2
	58nm,0.5s						
KOTS				Lg	Lg	19 53 44.7	
	358nm,0.5s						
KOTS	**Kotyrbulak**	**3.57**	**49**	*e*P	Pg	19 52 56.9	+0.2
	58nm,0.5s						
KOTS				*e*S	Sg	19 53 44.7	+1.7
	358nm,0.5s						
KUU	**Kurty**	**3.65**	**35**	Pg	Pg	19 52 57.3	-1.0
	7.7nm,0.2s						
KUU				Lg	Lg	19 53 45.1	
	233nm,0.5s						
KUU	**Kurty**	**3.65**	**35**	*e*P	Pg	19 52 57.3	-1.0
	7.7nm,0.2s						
KUU				*e*S	Sg	19 53 45.1	-0.4
	233nm,0.5s						
KTBS	**Karatobe**	**3.67**	**40**	Pg	Pg	19 52 58.0	-0.6
	20nm,0.4s						
KTBS				Lg	Lg	19 53 46.3	
	1.0nm,0.3s						
CHKK	**Chushkaly**	**3.92**	**41**	Pg	Pg	19 53 02.4	-1.1
	14nm,0.4s						
CHKK				Lg	Lg	19 53 54.1	
	140nm,0.4s						
CHKK	**Chushkaly**	**3.92**	**41**	*e*P	Pg	19 53 02.4	-1.1
	14nm,0.4s						
CHKK				*e*S	Sg	19 53 54.1	-0.2
	140nm,0.4s						
PRZ	**Przheval'sk**	**4.03**	**66**	⇑*i*P	Pn	19 52 54.2	+3.2
PRZ				⇑*i*S	Sn	19 53 41.6	+2.8
BTLS	**Baital**	**4.11**	**6**	Pg	Pg	19 53 04.2	-2.9
	3.1nm,0.2s						
BTLS				Lg	Lg	19 53 57.5	
	90nm,0.5s						
BTLS	**Baital**	**4.11**	**6**	*e*P	Pg	19 53 04.2	-2.9
	3.1nm,0.2s						
BTLS				*e*S	Sg	19 53 57.5	-2.9
	90nm,0.5s						
SATY	**Saty**	**4.27**	**59**	Pg	Pg	19 53 08.5	-1.7
	9.7nm,0.3s						
SATY				Lg	Lg	19 54 04.3	
	100nm,0.6s						
BXML	**Bakhmal**	**4.31**	**255**	P	Pn	19 52 56.5	+1.7
DZI	**Dzhizak**	**4.35**	**261**	P	Pn	19 52 54.3	-0.9
ARXS	**Arharly**	**4.61**	**43**	Pg	Pg	19 53 14.3	-2.2
	7.6nm,0.6s						
ARXS				Lg	Lg	19 54 14.5	
	109nm,0.5s						
BLB	**Baldybastay**	**4.88**	**48**	Pg	Pg	19 53 19.0	-2.9
	38nm,0.5s						
BLB				Lg	Lg	19 54 22.6	
	92nm,0.7s						
SHLS	**Shalkode**	**5.01**	**62**	Pg	Pg	19 53 28.7	+4.4
	12nm,0.5s						
SHLS				Lg	Lg	19 54 38.7	
	92nm,0.6s						
SHLS	**Shalkode**	**5.01**	**62**	*e*P	Pg	19 53 28.7	+4.4
	12nm,0.5s						
SHLS				*e*S	Sg	19 54 38.7	+10
	92nm,0.6s						
PDGK	**Podgornoye**	**5.10**	**60**	⇑Pg	Pg	19 53 25.1	-0.9
	24nm,1.0s						
PDGK				⇑Lg	Lg	19 54 33.4	
	78nm,0.8s						
SAM	**Samarkand**	**5.11**	**258**	S	Sn	19

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.31**	**180**	P	P	19 57 00.7	+0.1
	baz=356,slow=14,SNR=1.2						
	5.9nm,1.3s						
WRA	**Warramunga Arr**	**21.84**	**158**	P	P	19 57 38.4	-0.9
	0.7nm,0.4s,baz=336,slow=12,SNR=8.3						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**25.14**	**162**	P	P	19 58 12.5	+0.5
	0.5nm,0.3s,baz=344,slow=12,SNR=11						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**59.80**	**327**	P	P	20 02 52.6	+0.4
	0.4nm,0.4s,baz=125,slow=7.3,SNR=8.3						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.08**	**329**	P	P	20 03 20.0	-0.8
	0.3nm,0.4s,baz=120,slow=5.5,SNR=1.7						
	0.3nm,0.4s						

*IDC **08** 19:54:06.8±0.4,0˚.42N×126˚.04E,h0km,mb4.5/25, mbtmp4.5/26,ML4.2/1,MS3.8/2,Error ellipse: s-maj=25.4km s-min=8.1km az=73.0*

*NEIC **08** 19:54:10.5±1.1,0˚.56N±0˚.05×126˚.35E±0˚.04,h19km±3km, mb4.8/66,Error ellipse: s-maj=7.9km s-min=4.8km az=212.0*

*DJA **08** 19:54:13.9±0.2,1˚N±2˚×12˚6E±˚,h42km±3km,M4.5/26, mb4.9/26,mB5.0/11,MLv4.7/20,Mw(mB)4.3/11*

ISC 08 19:54:12.7±0.4,**0˚.51N**±0˚.05×**126˚.33E**±0˚.05,**h38**km±2km, **n362,**σ1**§02/**350,**mb4.7**/67,**MS3.8**/3,**2C-1D,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.07**	**76**		**Pn**	19 54 30.2	-0.9
TNTI				Sn	**Sn**	19 54 43.4	-1.4
TNTI	**Ternate**	**1.07**	**76**	P	**Pn**	19 54 31.2	+0.1
TNTI				S	**Sn**	19 54 46.4	+1.7
KMSI	**Cibinong**	**2.35**	**272**	P	**Pn**	19 54 47.9	-0.9
SANI	**Sanana**	**2.56**	**188**	P	**Pn**	19 54 50.1	-1.6
SGSI	**Sangihe**	**3.26**	**346**	P	**Pn**	19 55 03.9	+2.6
NLAI	**Namlea**	**3.80**	**168**	P	**Pn**	19 55 09.1	+0.4
LUWI	**Luwuk**	**3.88**	**247**		**Pn**	19 55 08.9	-0.9
LUWI	**Luwuk**	**3.88**	**247**	P	**Pn**	19 55 12.0	+2.2
MRSI	**Marisa**	**4.39**	**270**	P	**Pn**	19 55 17.3	+0.4
AAI	**Ambon**	**4.56**	**156**	P	**Pn**	19 55 21.0	+1.7
MSAI	**Masohi**	**4.62**	**146**	P	**Pn**	19 55 22.5	+2.4
APSI	**Ampana**	**4.89**	**253**	P	**Pn**	19 55 25.7	+1.9
SWI	**Sorong**	**5.11**	**105**	P	**Pn**	19 55 28.8	+2.0
	0.2nm860nm60nm,1.0s						
TOLI2	**Tolitoli**	**5.58**	**276**		**Pn**	19 55 32.3	-0.9
MPSI	**Mapaga**	**6.44**	**269**	P	**Pn**	19 55 47.6	+2.6
	0.2nm825nm38nm,0.9s						
PCI	**Palu**	**6.65**	**258**	P	**Pn**	19 55 51.3	+3.4
	0.3nm1μm57nm,0.9s						
FAKI	**Fak Fak**	**6.82**	**120**	Pn	**Pn**	19 55 48.0	-2.3
BBSI	**Bau Bau**	**7.04**	**212**	P	**Pn**	19 55 56.5	+3.2
	2μm197nm,1.3s						
TTSI	**Tana Toraja**	**7.41**	**242**	P	**Pn**	19 55 59.5	+1.2
	0.3nm1μm114nm,0.6s						
BNSI	**Bone**	**7.90**	**232**	P	**Pn**	19 56 05.7	+0.5
	0.2nm55nm,0.7s						
SPSI	**Sidrap Palu**	**7.92**	**236**	P	**Pn**	19 56 06.2	+0.8
	0.4nm1μm109nm,0.6s						
KAPI	**Kappang**	**8.56**	**230**		**Pn**	19 56 13.3	-0.9
KAPI	**Kappang**	**8.56**	**230**	Pn	**Pn**	19 56 13.6	-0.6
	3.6nm,0.3s,baz=78,slow=2.7,SNR=12						
KAPI				Sn	**Sn**	19 57 47.7	-1.8
	1.0nm,0.3s,baz=116,slow=14,SNR=1.0						
BAKI	**Biak**	**9.92**	**100**	P	Pn	19 56 41.0	+8.2
EDFI	**Ende, Flores**	**10.29**	**207**	P	**Pn**	19 56 39.2	+1.2
	36nm,0.9s						
SOEI	**Soe**	**10.40**	**191**	P	Pn	19 56 49.6	+10
SBUM	**Sibu**	**14.24**	**278**	P	**P**	19 57 38.8	+0.2
JAY	**Jayapura**	**14.58**	**102**	LR	LR	20 04 32.3	
	comp=Z,666nm,19.6s,baz=2.0,slow=42						
JAGI	**Jajag, Banyuwa**	**15.06**	**233**		**Pn**	19 57 42.4	-0.6
JAGI				IAmb	IAmb	19 57 47.2	
	comp=Z,54nm,1.2s						
KSM	**Kuching**	**16.05**	**274**		**P**	19 57 58.0	-0.7
KNRA	**Kununurra**	**16.26**	**172**		**Pn**	19 57 57.8	-0.6
NGJI	**Ngawi**	**16.77**	**242**	P	**P**	19 58 09.3	+2.6
	comp=Z,128nm,1.0s						
PCJI	**Pacitan**	**17.41**	**240**	P	**P**	19 58 16.1	+2.4
	comp=Z,128nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.50**	**182**	P	**P**	19 58 24.8	-1.0
FITZ	**Fitzroy Crossi**	**18.50**	**182**	P	**P**	19 58 24.1	-1.7
	comp=Z,0.5nm,0.3s,baz=12,slow=9.3,SNR=13						
	comp=Z,9.9nm,1.0s						
DBJI	**Dramaga**	**20.76**	**250**	P	Pn	19 58 57.3	+4.2
	comp=Z,68nm,1.5s						
WB0	**Warramunga Arr**	**21.64**	**159**		**P**	19 58 58.9	-1.1
WB0				IAmb	IAmb	19 59 09.2	
	comp=Z,57nm,0.9s						
WRAB	**Tennant Creek**	**21.78**	**159**	P	**P**	19 59 00.6	-0.8
WRA	**Warramunga Arr**	**21.79**	**159**	P	**P**	19 58 59.4	-2.1
WRA	**Warramunga Arr**	**21.79**	**159**	P	**P**	19 59 00.4	-1.1
	comp=Z,14nm,0.6s,baz=344,slow=9.9,SNR=56						
WRA				S	**S**	**20 02 59.8**	**-0.7**
	comp=Z,2.2nm,1.0s,baz=344,slow=21,SNR=5.4						
	comp=Z,14nm,0.6s						
WR8	**Warramunga Arr**	**21.86**	**159**		**P**	19 59 01.6	-0.7
WR8				IAmb	IAmb	19 59 07.2	
	comp=Z,49nm,1.1s						
COEN	**Coen**	**22.02**	**131**		**P**	19 59 04.7	+0.7
MBWA	**Marble Bar**	**22.48**	**196**	P	**P**	19 59 08.6	-0.3
MDSI	**Maura Dua**	**22.68**	**257**	P	**P**	19 59 10.7	-0.5
AS31	**Alice Springs**	**25.13**	**163**		**P**	19 59 34.9	+0.6
AS31				IAmb	IAmb	19 59 39.8	
	comp=Z,10nm,0.4s						
ASAR	**Alice Springs**	**25.13**	**163**	P	**P**	19 59 34.2	-0.1
ASAR	**Alice Springs**	**25.13**	**163**	P	**P**	19 59 34.0	-0.4
	comp=Z,18nm,0.7s,baz=344,slow=11,SNR=82						
ASAR				PcP	**PcP**	**20 03 07.9**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=345,slow=2.2,SNR=4.8						
ASAR				S	**S**	**20 04 04.1**	**+7.3**
	comp=Z,4.5nm,1.1s,baz=351,slow=21,SNR=7.8						
	comp=Z,18nm,0.7s						
UBPT	**Khong Chiam**	**25.30**	**306**	P	**P**	19 59 33.7	-2.2
UBPT				IAmb	IAmb	19 59 37.1	
	comp=Z,36nm,1.5s						
JOW	**Kunigami**	**26.24**	**4**	P	**P**	19 59 45.1	+0.8
	comp=Z,25nm,0.7s,baz=186,slow=7.1,SNR=6.9						
	comp=Z,25nm,0.7s						
FORT	**Forrest**	**31.16**	**177**	P	**P**	20 00 27.8	-0.2
FORT				IAmb	IAmb	20 00 29.6	
	comp=Z,13nm,0.8s						
NJ2	**Nanjing**	**32.16**	**348**	*e*P	**P**	**20 00 38.0**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
CMAR	**Chiang Mai Arr**	**32.27**	**305**	P	**P**	20 00 35.4	-2.7
	comp=Z,1.3nm,1.0s,baz=131,slow=7.9,SNR=6.6						
CMAR				PcP	**PcP**	**20 03 27.6**	**+1.6**
	comp=Z,2.3nm,0.8s,baz=161,slow=1.6,SNR=12						
CMAR				LR	LR	20 16 01.8	
	comp=Z,88nm,18.8s,baz=130,slow=41						
	comp=Z,1.3nm,1.0s						
PZH	**PanZhiHua**	**35.05**	**320**	P	**P**	**20 01 05.3**	**+3.1**
STKA	**Stephens Creek**	**35.30**	**157**	P	**P**	**20 01 04.5**	**+0.2**
STKA	**Stephens Creek**	**35.30**	**157**	P	**P**	**20 01 04.2**	**-0.1**
	comp=Z,16nm,0.8s,baz=324,slow=7.7,SNR=17						
	comp=Z,16nm,0.8s						
JGF	**Kuroka**	**36.39**	**15**	P	**P**	**20 01 12.5**	**-1.1**
KSRS	**Korea Array**	**36.79**	**2**	P	**P**	**20 01 17.3**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=180,slow=10,SNR=9.5						
	comp=Z,3.0nm,0.7s						
MJAR	**Matsushiro Arr**	**37.51**	**16**	P	**P**	**20 01 22.1**	**-0.9**
	comp=Z,3.2nm,0.7s,baz=185,slow=9.8,SNR=7.4						
	comp=Z,3.2nm,0.7s						
DL2	**Dalian**	**38.46**	**354**	P	**P**	**20 01 31.7**	**+0.8**
DL2				pmax	pmax		
	comp=Z,31nm,0.7s						
ARMA	**Armidale**	**39.05**	**144**	P	**P**	**20 01 36.0**	**-0.3**
ARMA				IAmb	IAmb	20 01 38.5	
	comp=Z,22nm,0.9s						
BJT	**Baijiatuau**	**40.40**	**348**		**P**	**20 01 46.4**	**-0.8**
BJI	**Beijing**	**40.42**	**348**	P	**P**	**20 01 46.5**	**-0.8**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BJI				pmax	pmax		
	comp=Z,140nm,11.5s						
BJI				LR	LR		
	comp=N,140nm,15.3s						
BJI				LR	LR		
	comp=E,83nm,19.6s						
BJI				LR	LR		
	comp=Z,89nm,16.8s						
LZH	**Lanzhou**	**41.10**	**332**	*e*P	**P**	**20 01 54.1**	**+0.9**
LZH				pP	sP	20 02 07.6	-0.5
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
LZH				LR	LR		
	comp=N,240nm,17.7s						
LZH				LR	LR		
	comp=E,390nm,17.0s						
LZH				LR	LR		
	comp=Z,410nm,17.9s						
HHC	**Hu-ho-hao-te**	**42.33**	**343**	*e*P	**P**	**20 02 06.0**	**+2.9**
HHC				pmax	pmax		
	comp=Z,39nm,0.6s						
HHC				pmax	pmax		
	comp=Z,170nm,4.5s						
USRK	**Ussuriysk Ar.**	**43.80**	**6**	P	**P**	**20 02 14.4**	**-0.3**
USRK	**Ussuriysk Ar.**	**43.80**	**6**	P	**P**	**20 02 15.1**	**+0.4**
	comp=Z,3.9nm,0.6s,baz=205,slow=6.8,SNR=6.8						
	comp=Z,3.9nm,0.6s						
MDJ	**Mudanjiang**	**44.02**	**3**	P	**P**	**20 02 17.2**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.2s						
XLT	**XiLinHaoTe**	**44.16**	**349**	*e*P	**P**	**20 02 20.2**	**+2.4**
XLT				pmax	pmax		
	comp=Z,11nm,0.6s						
LSA	**Lhasa**	**44.32**	**314**		**P**	**20 02 20.0**	**+0.2**
BNX	**BinXian**	**45.05**	**1**	⇑P	**P**	**20 02 26.8**	**+2.0**
BNX				pmax	pmax		
	comp=Z,5.0nm,0.5s						
GTA	**Gaotai**	**45.67**	**331**	*e*P	**P**	**20 02 29.9**	**-0.1**
GTA				PcP	**PcP**	**20 04 09.0**	**+1.3**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
JKA	**Kamikawa-asahi**	**45.77**	**16**	P	**P**	**20 02 31.0**	**+0.5**
JKA				IAmb	IAmb	20 02 40.9	
	comp=Z,15nm,1.1s						
HEH	**HeiHe**	**49.57**	**1**	*e*P	**P**	**20 02 59.8**	**0.0**
HEH				pmax	pmax		
	comp=Z,7.0nm,1.2s						
SONM	**Songino Array**	**50.22**	**343**	P	**P**	20 03 02.9	-2.1
SONM	**Songino Array**	**50.22**	**343**	P	**P**	20 03 04.8	-0.2
	comp=Z,3.8nm,0.8s,baz=155,slow=7.7,SNR=18						
SONM				PcP	**PcP**	**20 04 26.2**	**+2.4**
	comp=Z,2.2nm,1.0s,baz=161,slow=3.3,SNR=3.6						
	comp=Z,3.8nm,0.8s						
WMQ	**Urumqi**	**55.15**	**327**	*e*P	**P**	**20 03 44.2**	**+2.7**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PETK	**Petropavlovsk-**	**58.55**	**22**	P	**P**	**20 04 06.5**	**+1.1**
	comp=Z,4.6nm,0.7s,baz=178,slow=4.2,SNR=13						
	comp=Z,4.6nm,0.7s						
MKAR	**Makanchi Array**	**59.98**	**327**		**P**	20 04 14.4	-1.0
MKAR	**Makanchi Array**	**59.98**	**327**	P	**P**	20 04 14.5	-0.9
	comp=Z,6.1nm,0.5s,baz=120,slow=8.1,SNR=86						
MKAR				PcP	**PcP**	**20 05 00.9**	**-0.3**
	comp=Z,4.3nm,0.7s,baz=126,slow=4.7,SNR=5.2						
	comp=Z,6.1nm,0.5s						
KSH	**Kashi**	**60.06**	**317**	P	**P**	**20 04 16.5**	**+0.3**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MAKZ	**Makanchi**	**60.16**	**326**		**P**	20 04 15.8	-0.9
ZAA0	**Zalesovo Array**	**63.28**	**334**		**P**	20 04 35.8	-1.6
ZAA0				IAmb	IAmb	20 04 42.9	
	comp=Z,15nm,1.4s						
ZALV	**Zalesovo Beam**	**63.28**	**334**		**P**	20 04 36.0	-1.4
ZALV	**Zalesovo Beam**	**63.28**	**334**	P	**P**	20 04 36.3	-1.1
	comp=Z,3.3nm,0.6s,baz=104,slow=6.3,SNR=15						
	comp=Z,3.3nm,0.6s						
KURBB	**Kurchatov Arra**	**64.24**	**328**	P	**P**	**20 04 42.7**	**-1.1**
	comp=Z,4.7nm,0.5s,baz=129,slow=6.0,SNR=57						
	comp=Z,4.7nm,0.5s						
KURK	**Kurchatov**	**64.25**	**329**	P	**P**	20 04 43.2	-0.7
CASY	**Casey**	**67.59**	**187**	P	**P**	20 05 05.5	+0.4
CASY				IAmb	IAmb	20 05 06.0	
	comp=Z,8.8nm,0.9s						
BVAR	**Borovoye Array**	**69.80**	**328**	P	**P**	**20 05 18.5**	**-0.7**
	comp=Z,4.7nm,0.8s						
	comp=Z,4.7nm,0.8s						
TIXI	**Tiksi**	**71.05**	**1**	P	**P**	**20 05 26.1**	**-0.2**
TIXI				IAmb	IAmb	20 05 29.5	
	comp=Z,4.7nm,0.8s						
NRIK	**Noril'sk**	**73.45**	**347**	IAmb	IAmb	20 05 41.7	
	comp=Z,11nm,0.8s						
NRIK	**Noril'sk**	**73.45**	**347**	P	**P**	**20 05 40.8**	**0.0**
	comp=Z,9.5nm,0.8s,baz=123,slow=7.7,SNR=6.2						
	comp=Z,9.5nm,0.8s						
ABKAR	**Akbulak array**	**74.39**	**321**		**P**	**20 05 45.8**	**-0.9**
ABKAR	**Akbulak array**	**74.39**	**321**	IAmb	IAmb	20 05 46.9	
	comp=Z,6.0nm,0.8s						
NIKH	**Nikolski High**	**74.67**	**35**	P	**P**	**20 05 46.6**	**-1.6**
	baz=250						
SPIA	**Saint Paul Isl**	**75.46**	**30**	P	**P**	**20 05 51.8**	**-0.8**
	baz=247						
P08K	**Saint George I**	**75.60**	**31**	P	**P**	**20 05 52.4**	**-1.1**
	baz=248						
UNV	**Unalaska Valle**	**76.29**	**34**	P	**P**	**20 05 57.1**	**-0.3**
	baz=251						
GAMB	**Gambell**	**77.48**	**24**	P	**P**	**20 06 03.8**	**-0.2**
	baz=245						
ARTI	**Arti**	**77.52**	**328**		**P**	**20 06 03.5**	**-0.8**
ARTI				IAmb	IAmb	20 06 04.1	
	comp=Z,12nm,0.8s						
ARTI	**Arti**	**77.52**	**328**	P	**P**	**20 06 03.6**	**-0.8**
	comp=Z,9.5nm,0.8s,baz=114,slow=3.4,SNR=15						
	comp=Z,9.5nm,0.8s						
M11K	**Mekoryuk**	**78.58**	**28**	P	**P**	**20 06 09.9**	**-0.2**
	baz=250						
S12K	**Black Hills**	**79.29**	**33**	P	**P**	**20 06 14.2**	**+0.1**
	baz=255						
TNA	**Tin City**	**79.69**	**23**	P	**P**	**20 06 16.6**	**+0.4**
	baz=248						
K13K	**Kusilvak Mount**	**79.80**	**27**	P	**P**	**20 06 17.3**	**+0.5**
	baz=251						
M13K	**Dall Lake**	**79.94**	**28**	P	**P**	**20 06 17.8**	**+0.3**
	baz=253						
SDPT	**Sand Point**	**80.07**	**34**		**P**	**20 06 18.2**	**-0.2**
SDPT	**Sand Point**	**80.07**	**34**	P	**P**	**20 06 18.1**	**-0.2**
	baz=256						
F14K	**Arctic Creek**	**80.28**	**23**	P	**P**	**20 06 20.1**	**+0.7**
	baz=249						
VNDA	**Vanda**	**80.30**	**173**	P	**P**	**20 06 18.8**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=330,slow=5.6,SNR=5.1						
	comp=Z,2.0nm,0.6s						
ANM	**Nome**	**80.35**	**24**	P	**P**	**20 06 20.0**	**+0.2**
	baz=250						
CHNA	**Chernabura Isl**	**80.45**	**34**	P	**P**	**20 06 20.6**	**+0.2**
	baz=257						
L14K	**Kuka Creek**	**80.52**	**28**	IAmb	IAmb	20 06 29.4	
	comp=Z,9.0nm,1.1s						
L14K	**Kuka Creek**	**80.52**	**28**	P	**P**	**20 06 20.9**	**+0.3**
	baz=253						
J14K	**Nanvaranak Lak**	**80.54**	**26**	P	**P**	**20 06 21.2**	**+0.4**
	baz=252						
N14K	**Kuskokwak Cree**	**80.60**	**29**	P	**P**	**20 06 21.3**	**+0.2**
	baz=254						
MAW	**Mawson**	**80.61**	**200**	P	**P**	**20 06 20.3**	**-0.7**
	comp=Z,4.7nm,0.8s,baz=52,slow=8.1,SNR=7.6						
	comp=Z,4.7nm,0.8s						
O14K	**Tigyukauivet M**	**80.63**	**30**	P	**P**	**20 06 21.1**	**-0.1**
	baz=255						
M14K	**Bethel**	**80.69**	**28**	P	**P**	**20 06 21.1**	**-0.4**
	baz=254						
S14K	**Fog Glacier**	**80.80**	**33**	P	**P**	**20 06 22.0**	**-0.4**
	baz=257						
F15K	**North Star Dit**	**81.02**	**23**	P	**P**	**20 06 23.3**	**0.0**
	baz=251						
G15K	**Niukluk**	**81.03**	**24**	P	**P**	**20 06 23.6**	**+0.2**
	baz=252						
L15K	**Ungalak Mounta**	**81.16**	**27**	P	**P**	**20 06 24.3**	**+0.2**
	baz=254						
M15K	**Kasigluk River**	**81.28**	**28**	P	**P**	**20 06 25.0**	**+0.3**
	baz=255						
K15K	**Wolf Creek Mou**	**81.31**	**27**	P	**P**	**20 06 25.1**	**+0.2**
	baz=254						
O15K	**Ungalikthiuk R**	**81.33**	**30**	P	**P**	**20 06 25.1**	**0.0**
	baz=256						
RAYN	**Ar Rayn**	**81.39**	**294**		**P**	**20 06 25.7**	**-0.5**
RAYN				IAmb	IAmb	20 06 26.3	
	comp=Z,9.3nm,0.8s						
CHGN	**Chignik**	**81.42**	**33**	P	**P**	**20 06 25.4**	**-0.1**
	baz=258						
N15K	**Kwethluk River**	**81.43**	**29**	P	**P**	**20 06 25.7**	**+0.1**
	baz=256						
C16K	**Lisburne Hills**	**81.62**	**20**	P	**P**	**20 06 26.9**	**+0.4**
	baz=250						
H16K	**Elim**	**81.66**	**24**	P	**P**	**20 06 26.6**	**0.0**
	baz=253						
G16K	**Koyuk River**	**81.83**	**24**	P	**P**	**20 06 28.0**	**+0.5**
	baz=253						
J16K	**Anvik River**	**81.98**	**26**	IAmb	IAmb	20 06 35.6	
	comp=Z,12nm,1.2s						
J16K	**Anvik River**	**81.98**	**26**	P	**P**	**20 06 28.8**	**+0.4**
	baz=255						
L16K	**Owhat River**	**82.10**	**28**	P	**P**	**20 06 29.6**	**+0.5**
	baz=256						
I17K	**Unalakleet**	**82.10**	**25**	P	**P**	**20 06 29.7**	**+0.7**
	baz=255						
N16K	**Nishlik Lake**	**82.14**	**29**	P	**P**	**20 06 29.6**	**+0.2**
	baz=257						
M16K	**Timber Creek**	**82.18**	**28**	P	**P**	**20 06 30.1**	**+0.6**
	baz=257						
P16K	**Nushagak River**	**82.22**	**30**	P	**P**	**20 06 30.1**	**+0.4**
	baz=258						
D17K	**Noatak River**	**82.24**	**21**	P	**P**	**20 06 30.2**	**+0.5**
	baz=252						
O16K	**Kokwok River B**	**82.28**	**30**	IAmb	IAmb	20 06 36.3	
	comp=Z,7.1nm,0.9s						
O16K	**Kokwok River B**	**82.28**	**30**	P	**P**	**20 06 31.0**	**+0.9**
	baz=258						
RDOG	**Red Dog Mine**	**82.41**	**21**	P	**P**	**20 06 31.0**	**+0.4**
	baz=252						
C17K	**DeLong Mountai**	**82.45**	**21**	P	**P**	**20 06 30.9**	**+0.1**
	baz=252						
E17K	**Hotham Inlet**	**82.52**	**22**	P	**P**	**20 06 31.9**	**+0.7**
	baz=253						
G17K	**Kiwalik Mounta**	**82.54**	**24**	P	**P**	**20 06 31.7**	**+0.4**
	baz=255						
F17K	**Baldwin Pennin**	**82.56**	**23**	P	**P**	**20 06 31.1**	**-0.2**
	baz=254						
J17K	**VABM Dome**	**82.68**	**26**	IAmb	IAmb	20 06 39.1	
	comp=Z,9.2nm,0.9s						
J17K	**VABM Dome**	**82.68**	**26**	P	**P**	**20 06 32.2**	**+0.1**
	baz=256,SNR=7.6						
H17K	**Granite Mounta**	**82.70**	**24**	IAmb	IAmb	20 06 39.1	
	comp=Z,7.1nm,0.8s						
H17K	**Granite Mounta**	**82.70**	**24**	P	**P**	**20 06 32.1**	**-0.1**
	baz=255,SNR=8.1						
L17K	**Donlin**	**82.74**	**27**	P	**P**	**20 06 32.5**	**+0.1**
	baz=257,SNR=7.5						
R17L	**Mt. Peulik Vol**	**82.78**	**32**	P	**P**	**20 06 33.3**	**+0.6**
	baz=259						
O17K	**Koliganek Bris**	**82.81**	**30**	P	**P**	**20 06 33.1**	**+0.2**
	baz=258						
K17K	**Iditarod**	**82.86**	**27**	P	**P**	**20 06 34.0**	**+1.0**
	baz=257,SNR=11						
N17K	**Nushagak Hills**	**82.92**	**29**	P	**P**	**20 06 33.7**	**+0.3**
	baz=258						
M17K	**Holitna River**	**82.98**	**28**	IAmb	IAmb	20 06 36.7	
	comp=Z,9.9nm,1.1s						
M17K	**Holitna River**	**82.98**	**28**	P	**P**	**20 06 34.1**	**+0.5**
	baz=258						
P17K	**Kvichak River**	**83.03**	**30**	P	**P**	**20 06 34.3**	**+0.3**
	baz=259						
E18K	**Tukpahlearik C**	**83.07**	**22**	IAmb	IAmb	20 06 41.1	
	comp=Z,9.1nm,0.8s						
E18K	**Tukpahlearik C**	**83.07**	**22**	P	**P**	**20 06 34.8**	**+0.8**
	baz=254,SNR=20						
Q17K	**Contact Creek**	**83.15**	**31**	P	**P**	**20 06 35.2**	**+0.5**
	baz=260						
B18K	**Kokolik River**	**83.19**	**20**	P	**P**	**20 06 35.4**	**+0.8**
	baz=253,SNR=11						
C18K	**Utukok River**	**83.20**	**21**	IAmb	IAmb	20 06 40.9	
	comp=Z,4.5nm,0.8s						
C18K	**Utukok River**	**83.20**	**21**	P	**P**	**20 06 35.2**	**+0.5**
	baz=254						
H18K	**Honhosa River**	**83.39**	**24**	P	**P**	**20 06 35.9**	**+0.2**
	baz=257						
G18K	**Tagagawik**	**83.44**	**24**	P	**P**	**20 06 37.0**	**+1.0**
	baz=256						
L18K	**Granite Mounta**	**83.49**	**27**	P	**P**	**20 06 36.6**	**+0.3**
	baz=259,SNR=11						
N18K	**Kilae Creek**	**83.58**	**29**	P	**P**	**20 06 36.8**	**-0.1**
	baz=260						
Q18K	**Katmai Hardscr**	**83.67**	**31**	P	**P**	**20 06 37.4**	**0.0**
	baz=260						
A19K	**Wainwright**	**83.67**	**19**	P	**P**	**20 06 38.0**	**+1.0**
	baz=254						
P18K	**Big Mountain,**	**83.68**	**30**	P	**P**	**20 06 37.9**	**+0.6**
	baz=260						
J18K	**Innoko River**	**83.73**	**26**	IAmb	IAmb	20 06 55.9	
	comp=Z,5.9nm,1.1s						
J18K	**Innoko River**	**83.73**	**26**	P	**P**	**20 06 38.3**	**+0.8**
	baz=258,SNR=8.2						
M18K	**Stony River**	**83.76**	**28**	P	**P**	**20 06 38.4**	**+0.7**
	baz=259,SNR=7.1						
O18K	**Koktuh Hills**	**83.77**	**30**	IAmb	IAmb	20 06 46.4	
	comp=Z,6.0nm,0.9s						
O18K	**Koktuh Hills**	**83.77**	**30**	P	**P**	**20 06 38.3**	**+0.5**
	baz=260						
R18K	**Karluk**	**83.79**	**32**	P	**P**	**20 06 38.1**	**+0.3**
	baz=261						
C19K	**Lookout Ridge**	**83.88**	**20**	P	**P**	**20 06 38.8**	**+0.6**
	baz=255,SNR=20						
GCSA	**Galena City Sc**	**83.92**	**25**	P	**P**	**20 06 38.6**	**+0.3**
	baz=258						
F19K	**Shaleruckik Mo**	**84.00**	**23**	P	**P**	**20 06 39.2**	**+0.4**
	baz=257						
G19K	**Purcell Mounta**	**84.12**	**23**	P	**P**	**20 06 39.8**	**+0.3**
	baz=258,SNR=11						
D19K	**Kuna River**	**84.25**	**21**	IAmb	IAmb	20 07 21.1	
	comp=Z,5.3nm,1.0s						
D19K	**Kuna River**	**84.25**	**21**	P	**P**	**20 06 40.5**	**+0.4**
	baz=257,SNR=9.5						
H19K	**Roundabout Mou**	**84.25**	**24**	IAmb	IAmb	20 06 47.0	
	comp=Z,8.0nm,1.1s						
H19K	**Roundabout Mou**	**84.25**	**24**	P	**P**	**20 06 40

B21K	**Ikpikpuk River** baz=260	85.71	20	P		P	20 06 47.3	0.0
F21K	**Alatna River** baz=261	85.73	23	P		P	20 06 47.2	-0.4
CHUM	**Lake Minchumin** baz=262	85.73	26	P		P	20 06 47.3	-0.2
E21K	**Killik River** baz=260	85.74	21	P		P	20 06 47.4	-0.2
H21K	**Melozitna Rive** baz=262	85.77	24	P		P	20 06 47.8	0.0
CAST	**Castle Rocks** baz=263	85.77	27	P		P	20 06 47.5	-0.3
A22K	**Sinclair Lake** baz=259	85.84	19	P		P	20 06 47.5	-0.4
SKT	**Skwentna** baz=263	85.85	28	P		P	20 06 48.1	-0.1
I21K	**Tanana** baz=263	86.04	25	P		P	20 06 49.1	0.0
SUA	**Susitna One** baz=264	86.17	29	P		P	20 06 49.8	-0.1
B22K	**Teshekpuk Lake** baz=261	86.24	20	P		P	20 06 49.2	-0.8
F22K	**John River** baz=262	86.27	22	P		P	20 06 49.5	-0.7
D22K	**Ayikyak River** baz=262	86.27	21	P		P	20 06 50.0	-0.1
SLKM	**Skilak Lake** comp=Z,6.9nm,0.9s	86.32	30	IAmb		IAmb	20 06 55.9	
BPAW	**Bear Paw Mtn.** baz=264	86.34	26	P		P	20 06 50.3	-0.3
H22K	**Ishtalitna Cre** baz=263	86.38	24	P		P	20 06 50.8	0.0
G22K	**Bettles** baz=263	86.45	23	P		P	20 06 51.5	+0.4
E22K	**Anaktuvuk Pass** baz=262	86.49	22	P		P	20 06 51.3	0.0
MLY	**Manley** baz=264	86.55	25	P		P	20 06 52.0	+0.4
TRF	**Thorofare Moun** baz=264	86.58	27	P		P	20 06 51.5	-0.5
RC01	**Rabbit Creek A** baz=265	86.61	29	P		P	20 06 51.6	-0.3
COLD	**Coldfoot** baz=264	87.00	23	P		P	20 06 53.7	-0.1
D23K	**Nanushuk River** baz=264	87.00	21	P		P	20 06 53.9	+0.2
G23K	**Bananza Creek** baz=264	87.01	23	P		P	20 06 53.9	0.0
C23K	**Itkillik River** comp=Z,4.7nm,1.0s	87.12	20	IAmb		IAmb	20 07 10.0	
C23K	**Itkillik River** baz=264	87.12	20	P		P	20 06 54.1	-0.2
H23K	**Yukon River** baz=265	87.12	24	P		P	20 06 54.5	+0.1
I23K	**Minto, Yukon-K** baz=265	87.14	25	P		P	20 06 54.1	-0.3
MCK	**McKinley** baz=265	87.21	26	P		P	20 06 54.8	-0.1
NEA2	**Nenana** baz=265	87.22	25	P		P	20 06 54.7	-0.2
KNK	**Knik Glacier** baz=266	87.26	29	P		P	20 06 54.2	-0.9
PWL	**Port Wells** baz=266	87.28	29	P		P	20 06 54.6	-0.6
E23K	**Chandalar** comp=Z,3.9nm,0.8s	87.30	22	IAmb		IAmb	20 07 11.3	
E23K	**Chandalar** baz=265	87.30	22	P		P	20 06 55.0	-0.3
WAT1	**Susitna Watana** baz=266	87.31	27	P		P	20 06 55.4	0.0
TOLK	**Toolik Lake Re** baz=265	87.37	21	P		P	20 06 55.1	-0.5
M23K	**Glacier View** baz=267	87.63	28	P		P	20 06 56.4	-0.5
WAT6	**Susitna Watana** baz=266	87.67	28	P		P	20 06 56.7	-0.6
D24K	**Happy Valley** baz=265	87.69	21	P		P	20 06 57.1	+0.1
P23K	**Montague Islan** baz=267	87.69	30	P		P	20 06 57.5	+0.3
E24K	**Your Creek** baz=266	87.72	22	P		P	20 06 57.3	0.0
C24K	**Franklin Bluff** baz=265	87.78	20	P		P	20 06 57.3	-0.1
H24K	**Noodor Dome** baz=266	87.81	24	P		P	20 06 57.6	-0.1
SCM	**Sheep Creek Mo** baz=267	87.82	28	P		P	20 06 57.4	-0.5
DHY	**Denali Highway** baz=267	87.86	27	P		P	20 06 57.3	-0.9
GLI	**Glacier Island** baz=267	87.88	29	P		P	20 06 57.8	-0.3
F24K	**Squaw Lake** baz=266	87.91	23	P		P	20 06 57.8	-0.4
POKR	**Poker Plat Res** baz=267	87.95	25	P		P	20 06 57.7	-0.7
G24K	**Hadweenzic Riv** baz=267	88.02	23	P		P	20 06 58.1	-0.6
ILAR	**Eielson Array** comp=Z,0.4nm,0.6s,baz=247,slow=5.0,SNR=6.9 comp=Z,0.4nm,0.6s	88.17	25	P		P	20 07 01.1	+1.7
M24K	**Tolsona, Glenn** baz=268	88.38	28	P		P	20 07 00.0	-0.5
KLU	**Klutina** baz=268	88.48	29	P		P	20 07 00.3	-0.7
EYAK	**Cordova Ski Ar** baz=268	88.53	30	P		P	20 07 00.6	-0.6
D25K	**Kavik River** baz=268	88.57	21	P		P	20 07 01.0	-0.3
G25K	**Bearman Lake** baz=268	88.57	23	P		P	20 07 00.6	-0.7
K24K	**Donnelly Dome** baz=268	88.61	26	P		P	20 07 01.2	-0.4
H25L	**Birch Creek** baz=268	88.67	24	P		P	20 07 00.9	-0.8
PAX	**Paxson** baz=268	88.73	27	P		P	20 07 01.5	-0.7
PRP	**Porcupine Dome** baz=268	88.77	25	P		P	20 07 01.5	-0.9
F25K	**Christian Rive** baz=268	88.78	23	P		P	20 07 01.9	-0.4
J25K	**Salcha River,** baz=269	88.81	26	P		P	20 07 02.8	+0.3
HARP	**HAARP** baz=269	88.86	28	P		P	20 07 02.2	-0.5
RIDG	**Independent Ri** baz=269	89.02	26	P		P	20 07 02.9	-0.7
C26K	**Camden Bay** baz=269	89.10	20	P		P	20 07 02.7	-1.0
BMRM	**Bremner River** baz=269	89.10	29	P		P	20 07 02.7	-1.2
N25K	**Chitina, Valde** baz=269	89.11	29	P		P	20 07 02.8	-1.2
KAIM	**Kayak Island** baz=270	89.19	30	P		P	20 07 03.1	-1.1
SYO	**Syowa Base**	89.30	201	eP		P	20 07 05.0	+0.4
SYO	**Syowa Base**	89.30	201	epP		pP	20 07 13.5	-2.2
F26K	**Sheenjek River** baz=270	89.35	22	P		P	20 07 05.5	+0.6
SCRK	**Sand Creek** baz=270	89.41	26	P		P	20 07 05.6	+0.2
G26K	**Porcupine Rive** baz=270	89.49	23	P		P	20 07 06.2	+0.6
C27K	**Jago River** baz=270	89.51	21	P		P	20 07 05.6	-0.1
J26L	**Joseph Creek** baz=270	89.59	26	P		P	20 07 06.3	+0.1
BGLC	**Bering Glacier** baz=270	89.76	30	P		P	20 07 07.5	+0.6
I26K	**Coal Creek Min** baz=271	89.76	25	P		P	20 07 06.9	0.0
M26K	**Nabesna, AK** baz=271	89.87	28	P		P	20 07 07.0	-0.5
MCARA	**McCarthy VSAT** baz=271	89.87	29	P		P	20 07 06.5	-1.0
K27K	**Chicken** baz=272	90.25	26	P		P	20 07 09.0	-0.2
E27K	**Coleen River** baz=272	90.31	22	P		P	20 07 09.2	-0.2
G27K	**Doyon Strip** baz=272	90.33	23	P		P	20 07 09.3	-0.3
L27K	**Beaver Creek,** baz=272	90.39	27	P		P	20 07 10.0	+0.1
M27K	**Edge Creek, AK** baz=272	90.39	28	P		P	20 07 09.8	-0.3
I27K	**Kandik River** baz=272	90.39	25	P		P	20 07 10.2	+0.3
H27K	**Steamboat Moun** baz=272	90.41	24	P		P	20 07 09.0	-1.0
MESA	**MESA** baz=272	90.42	30	P		P	20 07 09.9	-0.4
QSPA	**South Pole Qui** baz=272	90.44	180			P	20 07 10.3	+0.1
QSPA	comp=Z,6.2nm,1.1s				IAmb	IAmb	20 07 12.6	
QSPA	**South Pole Qui** comp=Z,3.8nm,0.9s,baz=121,slow=2.4,SNR=9.8 comp=Z,3.8nm,0.9s	90.44	180	P		P	20 07 10.1	-0.1
D27M	**Malcolm River** baz=273	90.49	21	P		P	20 07 09.4	-0.9
CTG	**Chitna Glacier** baz=272	90.69	29	P		P	20 07 10.5	-1.0
BVCY	**Beaver Creek** baz=273	90.86	28	P		P	20 07 11.6	-0.5
F28M	**Old Crow** baz=274	90.99	22	P		P	20 07 12.2	-0.4
E28M	**Babbage River** baz=274	91.05	21	P		P	20 07 13.2	+0.4
YUK3	**Moose Creek** baz=273	91.08	28	P		P	20 07 13.1	-0.3
I28M	**Miner Creek** baz=274	91.10	25	P		P	20 07 13.5	+0.3
YUK8	**Steele Glacier** baz=274	91.44	29	P		P	20 07 13.7	-1.4
E29M	**Blow River** baz=276	91.67	22	P		P	20 07 15.3	-0.3
PNL	**Peninsula** baz=274	91.73	30	P		P	20 07 15.9	-0.2
BRTR	**Keskin Array B** comp=Z,1.4nm,0.8s,baz=120,slow=4.9,SNR=7.8 comp=Z,1.4nm,0.8s	91.76	310	P		P	20 07 15.4	-1.5
G29M	**Pine Creek** baz=275	91.76	23	P		P	20 07 16.3	+0.2
M29M	**Sommer Creek** baz=275	91.97	28	P		P	20 07 17.4	0.0
YUK4	**Talbot Arm** baz=275	91.98	29	P		P	20 07 17.3	-0.3
L29M	**L29M** comp=Z,5.4nm,1.1s	92.07	27	IAmb		IAmb	20 07 19.9	
L29M	**L29M** baz=275	92.07	27	P		P	20 07 18.1	+0.4
O29M	**Mount Kennedy** baz=275	92.10	30	P		P	20 07 18.0	0.0
YUK6	**Outpost Mounta** baz=275	92.15	29	P		P	20 07 18.2	-0.1
K29M	**Barlow Dome** baz=276	92.27	26	P		P	20 07 18.6	-0.1
EPYK	**Eagle Plains** baz=276	92.33	24	P		P	20 07 18.6	-0.3
G30M	**tAoh Zraii Nji** baz=277	92.46	23	P		P	20 07 19.0	-0.5
HYT	**Haines Junctio** baz=276	92.58	29	P		P	20 07 18.4	-1.8
I30M	**Mount Dempster** baz=277	92.61	25	P		P	20 07 19.3	-0.9
J30M	**Hart River** baz=277	92.70	25	P		P	20 07 20.4	-0.3
N30M	**Aishikik Lake** baz=276	92.71	29	P		P	20 07 19.8	-1.0
M30M	**Minto, Yukon** baz=279	92.73	27	P		P	20 07 20.1	-0.7
P30M	**Million Dollar** baz=276	92.92	30	P		P	20 07 21.6	-0.1
G31M	**Satah River** baz=279	93.23	23	P		P	20 07 22.1	-0.7
O30N	**Mendenhall** baz=277	93.27	29	P		P	20 07 21.9	-1.4
INK	**Inuvik** baz=280	93.28	22	P		P	20 07 22.6	-0.5
ARCES	**ARCESS Array B** comp=Z,2.6nm,0.9s,baz=79,slow=6.3,SNR=7.2 comp=Z,2.6nm,0.9s	93.32	340	P		P	20 07 21.9	-1.4
N31M	**Braeburn, Yuko** baz=277	93.33	28	P		P	20 07 23.4	-0.2
F31M	**Tsiigehtchic** baz=279	93.35	22	P		P	20 07 23.0	-0.4
H31M	**Peel River** baz=279	93.37	24	P		P	20 07 22.9	-0.7
WHY	**Whitehorse** baz=278	93.88	29	P		P	20 07 25.4	-0.8
M31M	**Drury Creek, Y** baz=278	93.89	28	P		P	20 07 25.8	-0.3
AKASG	**Malin Array Be** comp=Z,0.2nm,0.2s,baz=83,slow=3.4,SNR=4.3 comp=Z,0.2nm,0.2s	94.12	321	P		P	20 07 25.7	-1.7
SIT	**Sitka** baz=277	94.12	33	P		P	20 07 26.3	-0.9
FARO	**Faro, Yukon** baz=279	94.37	28	P		P	20 07 27.5	-0.8
R32K	**Eaglecrest** baz=278	94.39	32	P		P	20 07 27.4	-1.1
FINES	**FINESS Array B** comp=Z,1.1nm,0.8s,baz=36,slow=10.0,SNR=4.2 comp=Z,1.1nm,0.8s	94.46	332	P		P	20 07 26.8	-1.8
P32M	**Atlin** baz=279	94.61	30	P		P	20 07 28.6	-0.9
N32M	**Quiet Lake** baz=280	94.67	29	P		P	20 07 29.6	-0.1
P33M	**Teslin, Yukon** baz=280	94.95	29	P		P	20 07 29.8	-1.3
A36M	**Sachs Harbour** baz=288	95.16	17	P		P	20 07 31.5	-0.1
MMPY	**Sheldon Lake,** baz=281	95.25	27	P		P	20 07 31.7	-0.7
Q32M	**Nakina River** baz=280	95.44	31	P		P	20 07 32.2	-1.4
U33K	**Whale Pass** baz=279	95.47	34	P		P	20 07 32.6	-0.7
WRAK	**Wrangell Islan** baz=280	95.84	33	P		P	20 07 34.1	-0.9
R33M	**Jennings River** baz=281	96.02	30	P		P	20 07 34.5	-1.6
V35K	**Ketchikan** baz=280	96.44	34	P		P	20 07 36.1	-1.7
DLBC	**Dease Lake** baz=282	96.69	31	P		P	20 07 36.9	-2.1
BURAR	**Bucovina Array**	97.12	318			P	20 07 40.9	-0.4
BUR08	**Bucovina Ar. S**	97.13	318			P	20 07 41.1	-0.2
STHS	**Stebnicka Huta**	99.40	320	*e*PDIFF		Pdif	20 07 52.0	+0.6
STHS				*e*PP		PP	20 11 55.9	+1.2
TXAR	**Lajitas Array** comp=Z,0.5nm,0.8s,baz=198,slow=7.6,SNR=6.9	123.85	54	PKP		PKiKP	20 13 09.2	+1.4
CO02	**Combarbal**	145.33	153			PKPdf	20 13 48.0	+0.7
CO06	**Fray Jorge**	145.49	152	PKPdf		PKPab	20 13 48.1	+0.4
CPUP	**Villa Florida** comp=Z,0.8nm,1.0s,baz=26,slow=3.8,SNR=4.5	154.08	172	PKPbc		PKPbc	20 14 07.5	-1.7
PB11	**IPOC Station P**	155.27	142			PKPab	20 14 29.6	+1.5
LPAZ	**La Paz** comp=Z,0.9nm,0.7s,baz=68,slow=3.1,SNR=2.3	158.80	138	PKP		PKPdf	20 14 10.0	+1.7
LPAZ	comp=Z,1.3nm,0.6s,baz=188,slow=1.8,SNR=4.1			PKPab		PKPab	20 14 45.5	+1.6

*IDC **08** 20:00:32.9±1.8,0.°90N×126.°90E,h0km,mb3.5/3, mbtmp3.6/3,Error ellipse: s-maj=167.6km s-min=22.4km az=66.0*
*DJA **08** 20:00:37.4±0.4,1.°1N±4.°1×12.°6E±.°,h10km,M3.2/7,MLv3.2/7*
ISC 08 20:00:39.7±1.2,0.°6N±0.°1×126.°4E±0.°1,h47km,n6,σ0§80/7, mb3.7/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	0.97	80	P		P	Pn	20 00 56.4	-0.6
TNTI				S		S	Sn	20 01 10.3	+0.6
SANI	**Sanana**	2.67	189	P		P	Pn	20 01 19.9	-0.4
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=340,slow=11,SNR=6.2 0.5nm,0.4s	21.85	160	P		P	P	20 05 28.0	-0.6
ASAR	**Alice Springs** 0.6nm,0.8s,baz=349,slow=10,SNR=4.6 0.6nm,0.8s	25.20	164	P		P	P	20 06 02.4	+1.2
MKAR	**Makanchi Array** 0.6nm,0.4s,baz=119,slow=7.9,SNR=17 0.6nm,0.4s	59.94	326	P		P	P	20 10 41.1	-0.1
KURBB	**Kurchatov Arra** 0.6nm,0.3s,baz=130,slow=6.0,SNR=2.1	64.19	328	P		P	P	20 11 09.7	+0.1

IDC 08 20:02:14.7±1.9,0.°21N×125.°91E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=168.0km s-min=26.9km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=336,slow=11,SNR=3.8 0.7nm,0.6s	21.66	158	P		P	P	20 07 06.2	-0.8
ASAR	**Alice Springs** 0.4nm,0.5s,baz=350,slow=14,SNR=4.5 0.4nm,0.5s	24.97	162	P		P	P	20 07 40.8	+0.6
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=112,slow=7.0,SNR=6.0 0.1nm,0.4s	60.00	327	P		P	P	20 12 23.1	-0.1

*IDC **08** 20:04:38.1±2.0,0.°33N×125.°78E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=185.9km s-min=26.4km az=65.0*
*DJA **08** 20:04:42.2±0.4,1.°1N±5.°1×12.°6E±.°,h10km,M3.0/7,MLv3.0/7*
ISC 08 20:04:44.1±1.1,0.°6N±0.°1×126.°31E±0.°07,h47km,n6,σ1§24/7,mb3.1/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	1.07	80	P		P	Pn	20 05 03.4	+0.7
TNTI				S		S	Sn	20 05 16.4	-0.1
KMSI	**Cibinong**	2.33	270	P		P	Pn	20 05 20.4	+0.4
SANI	**Sanana**	2.64	187	P		P	Pn	20 05 25.1	+0.9
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=336,slow=12,SNR=5.1 0.5nm,0.7s	21.87	159	P		P	P	20 09 30.9	-2.1
ASAR	**Alice Springs** 0.4nm,0.6s,baz=343,slow=10,SNR=6.0 0.4nm,0.6s	25.21	163	P		P	P	20 10 06.0	+0.3
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=124,slow=8.7,SNR=5.7 0.3nm,0.5s	59.91	327	P		P	P	20 14 45.3	0.0

*NEIC **08** 20:06:13.9±1.5,30.°30N±0.°08×143.°4E±0.°1,h10km±1km, mb4.4/10,Error ellipse: s-maj=16.6km s-min=13.5km az=261.0*
*IDC **08** 20:06:17.6±1.5,29.°89N×142.°15E,h0km,mb3.7/7, mbtmp3.7/9,ML3.2/1,MS3.9/1,Error ellipse: s-maj=41.1km s-min=27.7km az=72.0*
ISC 08 20:06:13.1±0.9,30.°23N±0.°06×143.°3E±0.°1,h10km,n31, σ2§49/32,mb3.9/11,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	3.27	198	Pn		Pn	Pn	20 07 06.2	+1.7
JCJ				Sn		Sn	Sn	20 07 37.4	-6.1
JCJ	**Chichijima** 21nm,0.4s	3.27	198	Pn		Pn	Pn	20 07 03.1	-1.4
JCJ				Sn		Sn	Sn	20 07 35.6	-7.9
JHJ2	**Mitsune**	4.13	315	Pn		Pn	Pn	20 07 13.0	-3.3
JGF	**Kuroka**	7.33	319	Pn		Pn	Pn	20 08 00.9	+0.7
MJAR	**Matsushiro Arr**	7.60	327				Pn	20 08 04.2	+0.3
MJAR	**Matsushiro Arr** 0.4nm,0.3s,baz=157,slow=12,SNR=23	7.60	327	Pn		Pn	Pn	20 08 04.9	+1.0
MJAR	0.1nm,0.3s,baz=159,slow=21,SNR=5.8 7.9nm,0.6s			Sn		Sn	Sn	20 09 25.3	-4.8
MAJO	**Matsushiro**	7.60	327				Pn	20 08 04.0	0.0
JMM	**Marumori**	7.90	345				Pn	20 08 08.6	+0.7
JMM							Sn	20 09 33.8	-3.5
ERM	**Erimo**	11.76	359	Pn			Pn	20 09 00.3	-0.6
ERM				Sn			Sn	20 11 06.2	-6.0
KSRS	**Korea Array** 0.1nm,0.3s,baz=111,slow=13,SNR=2.8	14.66	304	Pn			Pn	20 09 42.3	+1.8
NACB	**Ninganchiao**	20.21	258	P		P	P	20 10 47.1	-1.2
YULB	**Yu-li**	20.77	256	P		P	P	20 10 53.3	-1.0
YULB	comp=Z,20nm,1.3s			IAmb		IAmb	IAmb	20 10 55.8	
SSLB	**Suanglung**	20.90	257	P		P	P	20 10 56.5	+0.8
SSLB	comp=Z,34nm,1.5s			IAmb		IAmb	IAmb	20 11 04.4	
KLR	**Kul'dur** comp=Z,1.4nm,0.6s,baz=148,slow=12,SNR=5.3	20.91	338	P		Pn	Pn	20 10 58.2	+0.2
SONM	**Songino Array** comp=Z,0.4nm,0.4s,baz=124,slow=7.7,SNR=4.9 comp=Z,0.4nm,0.4s	33.23	312	P		P	P	20 12 51.9	+1.5
ZALV	**Zalesovo Beam** comp=Z,0.3nm,0.4s,baz=95,slow=9.9,SNR=2.7 comp=Z,0.3nm,0.4s	47.82	317	P		P	P	20 14 53.0	+2.4
MKAR	**Makanchi Array** comp=Z,0.9nm,0.6s,baz=94,slow=8.7,SNR=8.8 comp=Z,0.9nm,0.6s	49.30	308	P		P	P	20 15 04.2	+2.0
KURBB	**Kurchatov Arra** comp=Z,0.9nm,0.6s,baz=91,slow=7.5,SNR=8.6 comp=Z,0.9nm,0.6s	51.60	313	P		P	P	20 15 22.0	+2.5
ILAR	**Eielson Array** comp=Z,0.4nm,0.8s,baz=271,slow=7.6,SNR=5.2 comp=Z,0.4nm,0.8s	54.51	30	P		P	P	20 15 52.7	+12
AAK	**Ala-Archa** comp=Z,105nm,19.7s,baz=357,slow=37	55.32	303	LR		LR	LR	20 39 56.9	
BVAR	**Borovoye Array** comp=Z,0.4nm,0.3s comp=Z,0.4nm,0.3s	56.44	316	P		P	P	20 15 58.6	+3.8
KK31	**Karatay Array**	58.09	304	P		P	P	20 16 07.4	+0.7
KKAR	**Karatay Array**	58.09	304				P	20 16 07.5	+0.9
KKAR	**Karatay Array**	58.09	304	P		P	P	20 16 05.5	-1.1
KKAR	comp=Z,2.5nm,1.0s			IAmb		IAmb	IAmb	20 16 11.0	
NIL	**Nilore**	58.49	293	P		P	P	20 16 09.3	-0.4
NIL	comp=Z,5.3nm,1.1s			IAmb		IAmb	IAmb	20 16 41.7	
SIMJ	**Simiganj** comp=Z,9.2nm,1.4s	60.33	300	P		P	P	20 16 22.2	-0.2
SIMJ				IAmb		IAmb	IAmb	20 16 25.9	
SIT	**Sitka**	60.63	38	P		P	P	20 16 23.8	-0.1
AB31	**Akbulak array**	63.64	313	P		P	P	20 16 45.9	+1.7
AB31	comp=Z,4.0nm,1.5s			IAmb		IAmb	IAmb	20 16 57.8	
ABKAR	**Akbulak array**	63.64	313				P	20 16 46.3	+2.0
KBZ	**Khabaz** comp=Z,0.7nm,0.5s,baz=74,slow=7.4,SNR=2.3 comp=Z,0.7nm,0.5s	76.60	313	P		P	P	20 18 05.7	+1.9
O49A	**Covington**	97.17	35	P		P	P	20 19 44.8	-1.2

*IDC **08** 20:08:45.8±1.9,0.°73N×126.°76E,h0km,mb3.2/4, mbtmp3.2/4,Error ellipse: s-maj=176.0km s-min=23.5km az=66.0*
*DJA **08** 20:08:50.7±0.4,0.°7N±4.°1×12.°6E±.°,h10km,M3.6/6,MLv3.6/6*
ISC 08 20:08:53.0±1.1,0.°37N±0.°10×126.°09E±0.°08,h50km,n7, σ0§67/7,mb3.2/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	1.34	73	P		P	Pn	20 09 15.3	-0.1
KMSI	**Cibinong**	2.12	276	P		P	Pn	20 09 25.8	-0.2
SANI	**Sanana**	2.40	182	P		P	Pn	20 09 29.9	0.0
WRA	**Warramunga Arr** 0.4nm,0.6s,baz=339,slow=11,SNR=7.5 0.4nm,0.6s	21.74	159	P		P	P	20 13 39.5	-0.9
ASAR	**Alice Springs** 0.4nm,0.6s,baz=341,slow=8.2,SNR=7.3 0.4nm,0.6s	25.07	163	P		P	P	20 14 14.0	+0.9
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=121,slow=8.2,SNR=1.9 0.2nm,0.6s	59.96	327	P		P	P	20 18 54.5	+0.1
KURBB	**Kurchatov Arra** 0.1nm,0.4s,baz=119,slow=7.6,SNR=1.9 0.1nm,0.4s	64.23	329	P		P	P	20 19 22.9	+0.1

*IDC **08** 20:10:03.0±0.8,0.°76N×126.°65E,h0km,mb4.1/10, mbtmp4.1/11,ML3.5/1,Error ellipse: s-maj=80.8km s-min=14.3km az=70.0*
*DJA **08** 20:10:09.2±0.2,1.°1N±3.°1×12.°6E±.°,h10km,M3.9/12,mb4.0/1, MLv3.8/12*
*NEIC **08** 20:10:09.5±2.2,0.°55N±0.°08×126.°37E±0.°03,h35km±2km, mb4.1/20,Error ellipse: s-maj=13.4km s-min=5.0km az=190.0*
ISC 08 20:10:09.9±0.5,0.°61N±0.°06×126.°38E±0.°05,h47km,n49, σ1§47/53,mb4.0/17,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	1.00	81				Pn	20 10 27.6	0.0
TNTI						Sn	Sn	20 10 41.5	+0.8
TNTI	**Ternate**	1.00	81	P		P	Pn	20 10 28.2	+0.6
TNTI				S		S	Sn	20 10 43.3	+2.7
KMSI	**Cibinong**	2.40	269	P		P	Pn	20 10 46.8	+0.1
SANI	**Sanana**	2.67	188	P		P	Pn	20 10 52.9	+2.5
NLAI	**Namlea**	3.89	169	P		P	Pn	20 11 09.0	+1.8
LUWI	**Luwuk**	3.96	246	Pn		Pn	Pn	20 11 08.9	+0.7
LUWI	**Luwuk**	3.96	246	P		P	Pn	20 11 10.5	+2.4
MRSI	**Marisa**	4.44	268	P		P	Pn	20 11 16.1	+1.4
APSI	**Ampana**	4.96	252	P		P	Pn	20 11 23.7	+1.8

SWI	Sorong	5.10	107	P		Pn		20 11 26.7	+2.9
TOLI2	Tolitoli	5.62	275			Pn		20 11 30.4	-0.5
FAKI	Fak Fak	6.84	121	Pn		Pn		20 11 47.6	-0.1
MTN	Manton Dam	14.17	161	Pn		Pn		20 13 26.4	-1.6
SBUM	Sibu	14.27	278	P		P		20 13 35.7	+0.3
KSM	Kuching	16.09	273			Pn		20 13 52.3	-0.7
KSM				IAmb	IAmb			20 13 57.2	
	comp=Z,14nm,1.0s								
KNRA	Kununurra	16.35	172	Pn		Pn		20 13 54.1	-2.2
KNRA				IAmb	IAmb			20 14 21.8	
	comp=Z,15nm,1.3s								
FITZ	Fitzroy Crossi	18.60	182	P		P		20 14 21.9	-1.5
FITZ	Fitzroy Crossi	18.60	182	P		Pn		20 14 24.3	+0.3
	comp=Z,0.1nm,0.3s,baz=344,slow=21,SNR=1.5								
	comp=Z,1.7nm,0.8s								
BOXOZ	Borroloola	19.24	150	P		P		20 14 29.0	-1.4
WB0	Warramunga Arr	21.72	159			P		20 14 56.2	-1.0
WB0				IAmb	IAmb			20 15 01.5	
	comp=Z,6.4nm,0.8s								
WRAB	Tennant Creek	21.86	159	P		P		20 14 56.0	-2.8
WRAB				IAmb	IAmb			20 15 00.6	
	comp=Z,5.1nm,0.7s								
WRA	Warramunga Arr	21.86	160	P		P		20 14 56.1	-2.7
WRA	Warramunga Arr	21.86	160	P		P		20 14 57.8	-1.0
	comp=Z,4.5nm,0.6s,baz=331,slow=11,SNR=25								
	comp=Z,4.5nm,0.6s								
WR8	Warramunga Arr	21.93	159			P		20 14 58.5	-1.0
WR8				IAmb	IAmb			20 15 01.4	
	comp=Z,4.3nm,0.6s								
AS31	Alice Springs	25.21	164			P		20 15 32.0	+0.6
ASAR	Alice Springs	25.21	164	P		P		20 15 32.4	+0.9
ASAR	Alice Springs	25.21	164	P		P		20 15 32.1	+0.6
	comp=Z,2.0nm,0.5s,baz=340,slow=9.4,SNR=26								
ASAR				PcP		PcP		20 19 03.3	-1.1
	comp=Z,0.2nm,0.6s,baz=343,slow=2.6,SNR=2.0								
	comp=Z,2.0nm,0.5s								
FORT	Forrest	31.25	177	P		P		20 16 25.1	-0.2
FORT				IAmb	IAmb			20 16 26.0	
	comp=Z,2.8nm,0.7s								
STKA	Stephens Creek	35.38	157	P		P		20 16 59.7	-1.5
STKA	Stephens Creek	35.38	157	P		P		20 17 00.5	-0.7
	comp=Z,0.8nm,0.3s,baz=332,slow=8.9,SNR=5.7								
	comp=Z,0.8nm,0.3s								
SONM	Songino Array	50.14	343	P		P		20 19 04.1	+3.4
SONM	Songino Array	50.14	343	P		P		20 19 00.3	-0.4
	comp=Z,0.5nm,0.6s,baz=157,slow=7.1,SNR=3.6								
	comp=Z,0.5nm,0.6s								
MKAR	Makanchi Array	59.92	326	P		P		20 20 10.9	-0.3
MKAR	Makanchi Array	59.92	326	P		P		20 20 11.2	-0.1
	comp=Z,1.3nm,0.4s,baz=120,slow=8.2,SNR=35								
MKAR				PcP		PcP		20 20 57.8	+0.6
	comp=Z,0.6nm,0.5s,baz=121,slow=4.8,SNR=4.1								
	comp=Z,1.3nm,0.4s								
ZALV	Zalesovo Beam	63.21	334	P		P		20 20 32.0	-1.2
	comp=Z,0.6nm,0.4s,baz=141,slow=9.3,SNR=4.2								
	comp=Z,0.6nm,0.4s								
KURBB	Kurchatov Arra	64.18	328	P		P		20 20 39.5	-0.1
	comp=Z,1.4nm,0.6s,baz=130,slow=6.1,SNR=18								
	comp=Z,1.4nm,0.6s								
BVAR	Borovoye Array	69.74	328	P		P		20 21 15.1	+0.1
	comp=Z,0.4nm,0.3s								
	comp=Z,0.4nm,0.3s								
TIXI	Tiksi	70.95	1	P		P		20 21 21.3	-0.7
TIXI				IAmb	IAmb			20 21 23.7	
	comp=Z,1.8nm,0.9s								
TIXI	Tiksi	70.95	1	P		P		20 21 21.2	-0.7
	comp=Z,2.7nm,0.3s,baz=186,slow=4.2,SNR=3.6								
	comp=Z,2.7nm,0.3s								
AB31	Akbulak array	74.34	321	P		P		20 21 42.7	+0.1
ABKAR	Akbulak array	74.34	321	P		P		20 21 41.7	-0.9
RSD	Rainshed	78.81	70	P		P		20 22 08.2	-0.5
J17K	VABM Dome	82.57	26	P		P		20 22 29.6	+1.9
E18K	Tukpahlearik C	82.97	22	P		P		20 22 31.8	+2.1
E18K				IAmb	IAmb			20 23 09.9	
	comp=Z,2.1nm,1.2s								
C18K	Utukok River	83.09	21			P		20 22 32.2	+1.9
C18K				IAmb	IAmb			20 23 07.8	
	comp=Z,2.0nm,1.1s								
C19K	Lookout Ridge	83.77	20	P		P		20 22 36.0	+2.1
D19K	Kuna River	84.14	21	P		P		20 22 37.0	+1.3
D19K				IAmb	IAmb			20 22 59.7	
	comp=Z,2.4nm,1.4s								
H19K	Roundabout Mou	84.14	24	P		P		20 22 36.3	+0.6
QSPA	South Pole Qui	90.53	180	P		P		20 23 07.2	+0.5
	comp=Z,1.2nm,0.9s,baz=348,slow=3.9,SNR=3.8								
	comp=Z,1.2nm,0.9s								

*IDC **08** 20:16:18.2±1.4, 4.°45S×102.°64E, h0km, mb3.9/12, mbtmp3.9/12, Error ellipse: s-maj=65.7km s-min=16.3km az=54.0*
*DJA **08** 20:16:27.2±0.4, 5.°5S±3.°×10.°3E±.°, h35km±5km, M4.1/12, mb4.1/3, MLv4.0/12*
ISC 08 20:16:25.8±0.8, **4.°54S**±0.°07×**102.°62E**±0.°07, **h56**km, **n31,** σ1**s34**/31, **mb4.1**/12, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	0.38	61	P	Pn	20 16 37.4	+1.2
MNAI				S	Sn	20 16 44.9	+1.2
KSI	Kapahiang	0.89	358	P	Pn	20 16 43.8	+1.5
KSI				S	Sn	20 16 56.2	+1.8
LHSI	Lahat	1.15	52	P	Pn	20 16 46.9	+1.3
LWLI	Liwa	1.51	108	P	Pn	20 16 52.3	+1.7
LWLI				S	Sn	20 17 10.3	+1.1
MDSI	Maura Dua	1.55	88	P	Pn	20 16 52.0	+0.9
MDSI				S	Sn	20 17 11.9	+1.7
KASI	Kota Agung	2.10	118	P	Pn	20 16 59.8	+1.2
KLI	Kotabumi	2.25	98	P	Pn	20 17 02.5	+1.9
PPSI	Pulau Pagai	3.15	304	P	Pn	20 17 15.2	+2.2
CGJI	Cibinong	3.68	124	P	Pn	20 17 21.4	+1.2
SISI	Saibi	4.76	312	P	Pn	20 17 36.8	+1.8
CNJI	Cibinong	5.26	122	P	Pn	20 17 43.4	+1.6
	0.1nm30nm,1.1s						
TPI	Tanjungpandan	5.33	71	P	Pn	20 17 44.1	+1.3
	0.1nm23nm,1.7s						
CMAR	Chiang Mai Arr	23.14	351	P	P	20 21 24.6	-2.8
	0.6nm,0.3s,baz=170,slow=10,SNR=2.1						
	0.6nm,0.3s						
FITZ	Fitzroy Crossi	26.23	123	P	P	20 21 54.8	-1.0
	1.8nm,0.8s,baz=319,slow=9.3,SNR=2.0						
	1.8nm,0.8s						
H08S2	Diego Garcia H	30.11	263	T	T	20 54 28.7	
	baz=84						
H08S3	Diego Garcia H	30.12	263	T	T	20 54 40.4	
	baz=84						
H08S1	Diego Carcia H	30.13	263	T	T	20 54 26.8	
	baz=84						
H01W3	Cape Leeuwin H	32.02	162	T	T	20 56 34.5	
	baz=339,slow=76,SNR=11						
H01W2	Cape Leeuwin H	32.03	162	T	T	20 56 34.7	
	baz=339,slow=76,SNR=9.5						
H01W1	Cape Leeuwin H	32.03	162	T	T	20 56 35.8	
	baz=339,slow=76,SNR=8.1						
WRA	Warramunga Arr	34.47	119	P	P	20 23 08.3	-0.2
	0.5nm,0.8s,baz=303,slow=9.2,SNR=6.6						
	0.5nm,0.8s						
ASAR	Alice Springs	35.65	125	P	P	20 23 19.0	+0.3
	0.3nm,0.3s,baz=297,slow=7.9,SNR=8.9						
ASAR				PcP	PcP	20 25 46.9	+0.5
	0.2nm,0.6s,baz=297,slow=3.7,SNR=2.1						
	0.3nm,0.3s						
SONM	Songino Array	52.26	3	P	P	20 25 31.7	+0.2
	1.9nm,0.8s,baz=186,slow=9.1,SNR=11						
SONM				PcP	PcP	20 26 41.8	-0.5
	0.2nm,0.3s,baz=211,slow=5.0,SNR=2.0						
	1.9nm,0.8s						
MKAR	Makanchi Array	54.19	343	P	P	20 25 45.2	-0.4
	1.4nm,0.7s,baz=144,slow=8.3,SNR=16						
	1.4nm,0.7s						
KURBB	Kurchatov Arra	58.73	342	P	P	20 26 17.3	-0.5
	0.9nm,0.7s,baz=163,slow=5.7,SNR=5.2						
	0.9nm,0.7s						
KLR	Kul'dur	59.24	22	P	P	20 26 19.9	-1.4
	0.9nm,0.6s,baz=268,slow=4.7,SNR=4.2						
	0.9nm,0.6s						
ZALV	Zalesovo Beam	60.16	348	P	P	20 26 26.8	-0.8
	3.2nm,0.5s,baz=163,slow=6.7,SNR=14						
	3.2nm,0.5s						
BVAR	Borovoye Array	63.47	339	P	P	20 26 48.8	-1.0
	0.6nm,0.3s						
	0.6nm,0.3s						
FINES	FINESS Array B	87.57	332	P	P	20 29 07.6	+0.1
	2.6nm,1.0s,baz=116,slow=4.4,SNR=4.7						
	2.6nm,1.0s						
ARCES	ARCESS Array B	89.74	340	P	P	20 29 18.1	+0.4
	0.9nm,0.9s,baz=108,slow=6.0,SNR=1.4						
	0.9nm,0.9s						
TXAR	Lajitas Array	144.96	42	PKP	PKPbc	20 35 56.8	-0.1
	0.4nm,0.5s,baz=284,slow=1.2,SNR=7.9						

*IDC **08** 20:18:00.1±1.4, 29.°92N×142.°91E, h0km, mb3.4/6, mbtmp3.5/8, ML2.9/1, Error ellipse: s-maj=45.3km s-min=20.1km az=81.0*
ISC 08 20:18:05.1±1.1, **29.°96N**±0.°08×**142.°6E**±0.°2, **h35**km, **n8,** σ2**s21**/10, **mb3.5**/6, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	2.88	188	Pn	Pn	20 18 46.9	-1.6
	22nm,0.3s						
JCJ				Sn	Sn	20 19 21.3	-0.7
MJAR	Matsushiro Arr	7.52	332	Pn	Pn	20 19 51.2	-1.1
	0.2nm,0.3s,baz=160,slow=12,SNR=12						
MJAR				Sn	Sn	20 21 12.7	-3.7
	0.2nm,0.3s,baz=273,slow=28,SNR=6.6						
	2.6nm,0.5s						
SONM	Songino Array	32.97	313	P	P	20 24 39.3	+2.6
	0.2nm,0.4s,baz=126,slow=9.7,SNR=2.4						
	0.2nm,0.4s						
MKAR	Makanchi Array	48.98	308	P	P	20 26 50.1	+2.0
	0.8nm,0.9s,baz=92,slow=8.7,SNR=4.8						
	0.8nm,0.9s						
WRA	Warramunga Arr	50.25	190	P	P	20 26 58.8	+0.8
	0.6nm,0.9s,baz=9.1,slow=8.1,SNR=5.0						
	0.6nm,0.9s						
KURBB	Kurchatov Arra	51.34	313	P	P	20 27 07.9	+2.0
	0.3nm,0.6s,baz=88,slow=8.1,SNR=2.7						
	0.3nm,0.6s						
ASAR	Alice Springs	53.97	190	P	P	20 27 25.0	-0.6
	0.2nm,0.8s,baz=5.0,slow=6.6,SNR=2.9						
	0.2nm,0.8s						
ILAR	Eielson Array	55.03	30	P	P	20 27 32.5	-0.4
	0.8nm,1.2s,baz=261,slow=6.2,SNR=2.4						
	0.8nm,1.2s						

*IDC **08** 20:22:32.3±1.6, 0.°32N×125.°62E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=184.3km s-min=22.5km az=65.0*
*DJA **08** 20:22:35.8±0.5, 1.°1N±5.°×12.°6E±.°, h10km, M3.1/6, MLv3.1/6*
ISC 08 20:22:34.2±1.0, **0.°6N**±0.°2×**126.°35E**±0.°07, **h10**km, **n6,** σ1**s65**/7, **mb3.5**/4, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.04	81	P	Pg	20 22 54.4	+0.2
TNTI				S	Sb	20 23 09.1	+1.2
KMSI	Cibinong	2.36	269	P	Pn	20 23 15.0	+1.9
WRA	Warramunga Arr	21.87	159	P	P	20 27 26.1	-1.3
	0.6nm,0.6s,baz=336,slow=11,SNR=5.5						
	0.6nm,0.6s						
ASAR	Alice Springs	25.22	164	P	P	20 28 00.3	-0.2
	0.5nm,0.8s,baz=342,slow=10,SNR=5.1						
	0.5nm,0.8s						
MKAR	Makanchi Array	59.91	326	P	P	20 32 39.1	-1.5
	0.3nm,0.4s,baz=123,slow=8.3,SNR=7.1						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	64.17	328	P	P	20 33 07.6	-1.4
	0.4nm,0.6s,baz=130,slow=5.8,SNR=4.9						
	0.4nm,0.6s						

*IDC **08** 20:26:48.2±0.9, 28.°42N×43.°72W, h0km, mb4.2/18, mbtmp4.2/18, MS4.4/17, Error ellipse: s-maj=26.5km s-min=17.1km az=172.0*
*NEIC **08** 20:26:52.0±1.3, 28.°9N±0.°1×43.°7W±0.°1, h10km±1km, mb4.8/176, Error ellipse: s-maj=24.0km s-min=20.1km az=168.0*
*GCMT **08** 20:26:54.0±0.3, 28.°49N±0.°04×43.°66W±0.°02, h17km±1km, MW5.0/92, Moment Tensor Solution. s18,c18; s92,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.81±.31; $M_{\theta\theta}$0.43±.18; $M_{\phi\phi}$3.38±.19; $M_{r\theta}$0.12±.62; $M_{\theta\phi}$0.18±.11; $M_{\phi r}$-0.08±.42; Best double couple: $M_0$3.60300×10^{16} NP1:ϕ_s185.00000°, δ44.00000°, λ-87.00000°. NP2: ϕ_s2.00000°, δ46.00000°, λ-92.00000°. Principal axes: T 3.3920, Plg1.0000°, Azm94.0000°; N 0.4190, Plg2.0000°, Azm3.0000°; P -3.8150, Plg88.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 08 20:26:50.9±0.6, **28.°6N**±0.°1×**43.°68W**±0.°09, **h12**km, **n421,** σ0**s80**/332, **mb4.7**/127, **MS4.4**/18, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDSD	La Dsirade Is	20.15	236	P	P	20 31 25.3	+0.2
GDSD				IAmb	IAmb	20 31 30.5	
	comp=Z,88nm,1.6s						
HAL	Halifax	22.54	321	P	P	20 31 46.0	-4.6
HAL				IAmb	IAmb	20 32 05.8	
	comp=Z,56nm,1.8s						
HUMP	Col San Antoni	22.81	248	P	P	20 31 52.2	-1.6
CELP	Cerrillos	23.44	249	P	P	20 31 58.7	-1.5
CELP				IAmb	IAmb	20 32 03.2	
	comp=Z,26nm,1.2s						
MDP	Montagnes des	24.85	202	LR	LR	20 40 00.9	
	comp=Z,2µm,21.5s,baz=22,slow=32						
BBTS	Babate	28.70	113	LR	LR	20 43 03.9	
	comp=Z,867nm,19.2s,baz=160,slow=34						
BOAV	Boa Vista	30.59	215	P	P	20 33 07.5	+2.7
SADO	Sadowa	32.41	310	LR	LR	20 45 27.0	
	comp=Z,691nm,19.1s,baz=136,slow=34						
MDT	Midelt	33.73	73	LR	LR	20 44 11.9	
	comp=Z,413nm,21.5s,baz=253,slow=31						
ESDC	Sonseca Array	34.44	61	P	P	20 33 38.7	+0.3
	comp=Z,1.0nm,1.0s,baz=268,slow=7.1,SNR=6.4						
ESDC				LR	LR	20 44 01.9	
	comp=Z,372nm,21.5s,baz=270,slow=30						
	comp=Z,1.0nm,1.0s						
TKL	Tuckaleechee C	34.50	292		P	20 33 40.2	+1.3
TKL	Tuckaleechee C	34.50	292	LR	LR	20 45 45.7	
	comp=Z,497nm,18.5s,baz=86,slow=33						
FPAL	Fort Paine	36.03	290		P	20 33 50.9	-1.3
FPAL				IAmb	IAmb	20 34 00.2	
	comp=Z,16nm,1.4s						
CLTN	Cedars of Leba	36.58	293	P	P	20 33 57.0	+0.3
WVT	Waverly	37.79	293		P	20 34 06.4	-0.6
EKA	Ekdalemuir Ar	39.41	36	P	P	20 34 21.3	+0.8
	comp=Z,1.8nm,0.9s,baz=249,slow=7.0,SNR=3.8						
	comp=Z,1.8nm,0.9s						
FCAR	Ozark Folk Cen	41.28	293	P	P	20 34 36.2	0.0
WHAR	Wooly Hollow	41.46	292		P	20 34 39.2	+1.6
WHAR				IAmb	IAmb	20 34 44.6	
	comp=Z,19nm,1.1s						
X40A	Basin Creek Fa	41.98	291	P	P	20 34 45.5	+3.6
X40A				IAmb	IAmb	20 34 47.9	
	comp=Z,36nm,1.5s						
DBIC	Dimbokro	42.65	113	LR	LR	20 51 03.4	
	comp=Z,682nm,18.6s,baz=280,slow=34						
U38A	Gravette	43.06	294	P	P	20 34 50.3	-0.4
U38A				IAmb	IAmb	20 34 57.2	
	comp=Z,19nm,1.1s						
SCO	Scoresbysund	43.71	10		P	20 34 54.5	-0.9
SCO				IAmb	IAmb	20 34 58.8	
	comp=Z,16nm,1.1s						
SUMG	Summit	44.14	2		P	20 34 57.3	-2.1
BFO	Black Forest	44.30	49		P	20 35 00.6	+0.1
BFO				IAmb	IAmb	20 35 08.1	
	comp=Z,37nm,1.8s						
T35A	Sooner Cattle	44.73	295		P	20 35 03.6	-0.5
TORD	Torodi Ar. Bea	44.81	100		P	20 35 04.6	-0.4
TORD	Torodi Ar. Bea	44.81	100	P	P	20 35 03.9	-1.1
	comp=Z,3.4nm,1.1s,baz=313,slow=7.2,SNR=9.3						
	comp=Z,3.4nm,1.1s						
DAVA	Damuels	45.23	50	*i* P	P	20 35 08.2	+0.1
	comp=Z,9.5nm,1.0s						
FETA	Feichten	45.79	51	*i* P	P	20 35 12.0	-0.6
	comp=Z,4.6nm,1.0s						
RETA	Reutte	45.84	50	*i* pP	P	20 35 13.8	+0.9
	comp=Z,6.1nm,1.3s						
H10N2	ASCENSION HYDR	45.87	138	T	T	21 23 47.8	
	baz=323,slow=75,SNR=150						
H10N3	ASCENSION HYDR	45.87	138	T	T	21 23 50.2	
	baz=323,slow=75,SNR=125						
H10N1	ASCENSION HYDR	45.88	138	T	T	21 23 50.2	
	baz=323,slow=75,SNR=131						
OSSC	Osservatorio P	46.04	56	P	P	20 35 14.4	0.0
MOTA	Moosalm	46.07	50	*i* P	P	20 35 13.7	-1.1
	comp=Z,6.1nm,1.5s						
SQTA	Sankt Quirin	46.13	51	*i* pP	P	20 35 15.9	+0.7
	comp=Z,6.1nm,0.8s						
WATA	Walderalm	46.39	51	*i* P	P	20 35 17.3	+0.1
	comp=Z,8.3nm,1.4s						
WTTA	Wattenberg	46.42	51	*i* P	P	20 35 17.9	+0.3
	comp=Z,12nm,1.0s						
H10S3	ASCENSION HYDR	46.66	139	T	T	21 24 58.2	
	baz=323,slow=74,SNR=519						
H10S2	ASCENSION HYDR	46.68	139	T	T	21 24 59.3	
	baz=257,slow=74,SNR=561						
JMIC	Jan Mayen	46.75	15	LR	LR	20 50 23.8	
	comp=Z,168nm,19.1s,baz=218,slow=30						
ABTA	Abfaltersbach	47.00	51	*i* P	P	20 35 21.7	-0.2
	comp=Z,12nm,1.1s						
LESA	Schwarzleotal	47.14	50	*i* pP	P	20 35 23.7	+0.6
	comp=Z,5.0nm,1.3s						
KBA	Koelnbreinsper	47.58	51	*i* P	P	20 35 25.3	-1.3
	comp=Z,3.1nm,0.6s						
CLL	Collm	47.65	45	*e*P	P	20 35 28.0	+1.2
MYKA	Terra Mystica	47.77	52	*e*P	P	20 35 28.4	+0.4
	comp=Z,0.1nm,0.2s						
BIOA	Bad Ischl, Aus	47.80	50	*e*P	P	20 35 28.1	-0.1
	comp=Z,5.4nm,1.1s						
KHC	Kasperske Hory	47.83	48	*e*P	P	20 35 29.5	+1.1
KHC	Kasperske Hory	47.83	48	P	P	20 35 28.9	+0.5
	comp=Z,5.9nm,1.3s						
GERES	GERESS Array B	47.90	49	P	P	20 35 28.3	-0.7
GERES	GERESS Array B	47.90	49	P	P	20 35 28.8	-0.1
	comp=Z,2.2nm,1.0s,baz=265,slow=9.2,SNR=14						
	comp=Z,2.2nm,1.0s						
APMT	Aspermont	48.14	290		P	20 35 30.7	-0.4
MOA	Molln	48.23	50	*i* P	P	20 35 31.4	0.0
	comp=Z,6.9nm,1.5s						
OBKA	Obir	48.39	52	*i* P	P	20 35 31.0	-1.9
	comp=Z,12nm,1.0s						
NOA	NORSAR Array B	48.55	32	P	P	20 35 34.3	+0.6
	comp=Z,0.8nm,0.2s,baz=252,slow=7.7,SNR=5.1						
	comp=Z,0.8nm,0.2s						
SOKA	Soboth	48.73	52	*i* P	P	20 35 35.3	-0.1
	comp=Z,7.5nm,1.3s						
ARSA	Arzberg	49.07	51	IAmb	IAmb	20 35 44.2	
	comp=Z,8.3nm,1.0s						
ARSA	Arzberg	49.07	51	*i* P	P	20 35 38.3	+0.4
	comp=Z,8.5nm,1.0s						
CONA	Conrad Observa	49.30	50	*i* P	P	20 35 39.5	-0.3
	comp=Z,4.5nm,1.2s						
OZNA	Ozona	49.46	288		P	20 35 41.3	+0.1
OZNA				IAmb	IAmb	20 35 47.4	
	comp=Z,9.0nm,1.1s						
RONA	Rosalia, Austr	49.59	50	*e*P	P	20 35 41.0	-1.0
	comp=Z,5.7nm,1.0s						
DPC	Dobruska-Polom	49.67	47	P	P	20 35 42.4	-0.1
	comp=Z,6.4nm,1.5s						
KRUC	Moravsky	49.68	48	*e*P	P	20 35 42.8	+0.3
VRAC	Vranov	49.82	48	*e*P	P	20 35 43.9	+0.3
MODS	Modra-Piesok	50.26	49	*e*P	P	20 35 50.9	+3.9
MORC	Moravsky Berou	50.44	47	*e*P	P	20 35 48.7	+0.3
MPLH	Magyarpolny	50.44	51	P	P	20 35 48.2	-0.2
	comp=Z,18nm,1.3s						
LPAZ	La Paz	50.49	211	P	P	20 35 47.7	-2.0
	comp=Z,2.4nm,0.7s,baz=27,slow=5.6,SNR=7.2						
	comp=Z,2.4nm,0.7s						
T25A	Trinidad	50.97	296	IAmb	IAmb	20 36 01.2	
	comp=Z,12nm,1.2s						
MORH	Mrgy, Hungar	51.23	52	P	P	20 35 54.2	-0.1
	comp=Z,4.4nm,1.4s						
MORH				pP	pP	20 35 57.8	+0.7
	comp=Z,4.4nm,1.4s						
NIE	Niedzica	52.24	48	P	P	20 36 02.7	+0.9
	comp=Z,3.3nm,1.2s						
STHS	Stebnicka Huta	52.85	48	*e*P	P	20 36 10.5	+4.1
HOLU	Holmets	53.65	49	P	P	20 36 13.0	+0.8
EGMT	Eagleton	53.69	310	IAmb	IAmb	20 36 20.0	
	comp=Z,18nm,1.2s						
KWP	Kalwaria Pacla	53.80	48	P	P	20 36 14.0	+0.7
	comp=Z,10nm,1.4s						
BERU	Beregovo	53.84	49	P	P	20 36 14.7	+1.1
MUKU	Mukachevo	53.85	49	P	P	20 36 13.7	0.0
PDAR	Pinedale Array	54.08	304		P	20 36 14.8	-1.0
PDAR	Pinedale Array	54.08	304	P	P	20 36 15.5	-0.3
	comp=Z,4.5nm,0.8s,baz=86,slow=8.1,SNR=34						
	comp=Z,4.5nm,0.8s						
BRIU	Brid	54.08	49	P	P	20 36 16.0	+0.6
MEZ	Mezhgor'ye	54.40	49	P	P	20 36 17.5	-0.2
TPAW	Teton Pass	54.99	305	IAmb	IAmb	20 36 29.9	
	comp=Z,14nm,1.1s						
STNU	Starunia	55.04	49	P	P	20 36 22.2	-0.1
BOZ	Bozeman (W)	55.20	308	IAmb	IAmb	20 36 31.2	
	comp=Z,13nm,1.6s						
AHID	Auburn Hatcher	55.20	304	IAmb	IAmb	20 36 30.4	
	comp=Z,14nm,1.3s						
SRU	San Rafael Swe	55.38	300	IAmb	IAmb	20 36 32.2	
	comp=Z,9.5nm,0.8s						
BUR08	Bucovina Ar. S	55.60	50	IAmb	IAmb	20 36 34.5	
	comp=Z,12nm,1.2s						
BURAR	Bucovina Array	55.62	50		P	20 36 25.6	-1.1
BURAR				IAmb	IAmb	20 36 35.6	
	comp=Z,12nm,1.4s						
FINES	FINESS Array B	55.70	33	P	P	20 36 26.8	0.0
	comp=Z,5.3nm,1.0s,baz=264,slow=7.0,SNR=6.0						
	comp=Z,5.3nm,1.0s						
RNPP8	Varash	55.70	45	P	P	20 36 26.9	-0.1
RNPP9	Sopachiv	55.72	45	P	P	20 36 27.0	-0.1
RNPP5	Staryi Chortor	55.73	45	P	P	20 36 27.1	-0.1
VOIR		55.76	53	P	P	20 36 27.6	-0.1
	comp=Z,2.6nm,1.9s						
YKA	Yellowknife Ar	56.29	328	P	P	20 36 27.9	-3.2
YKA	Yellowknife

comp=Z,1.2nm,0.8s,baz=57,slow=8.6,SNR=5.2
comp=Z,1.2nm,0.8s
OBN Obninsk 61.63 40 LR LR 21 00 37.4
comp=Z,139nm,21.2s,baz=214,slow=33
PAHR Pah Rah Range 61.94 302 **P** **P** 20 37 10.4 -0.5
J05D Fort Rock, OR 62.38 306 **P** **P** 20 37 13.7 0.0
TGTN Hyland Airport 62.78 328 P P 20 37 16.3 +0.4
baz=80
BRTR Keskin Array B 63.14 58 **P** **P** 20 37 18.5 -0.4
BRTR Keskin Array B 63.14 58 P P 20 37 18.9 +0.1
comp=Z,1.5nm,0.9s,baz=270,slow=4.9,SNR=8.3
comp=Z,1.5nm,0.9s
WTLY Watson Lake, Y 63.29 326 P **P** 20 37 19.4 +0.1
baz=79
INK Inuvik 63.73 336 P **P** 20 37 22.5 +0.5
baz=79
MMPY Sheldon Lake, 63.95 329 IAmb IAmb 20 37 31.2
comp=Z,11nm,1.3s
MMPY Sheldon Lake, 63.95 329 P **P** 20 37 23.7 0.0
baz=78
F31M Tsiigehtchic 63.98 335 P **P** 20 37 23.9 +0.2
baz=78
DLBC Dease Lake 64.27 324 P **P** 20 37 25.9 0.0
baz=77
G31M Satah River 64.29 334 P **P** 20 37 25.9 +0.2
baz=77
R33M Jennings River 64.52 326 P **P** 20 37 27.9 +0.3
baz=76,SNR=9.9
H31M Peel River 64.57 333 P **P** 20 37 27.6 -0.1
baz=77
F30M Barrier River 64.71 335 P **P** 20 37 29.3 +0.8
baz=76
FARO Faro, Yukon 64.98 329 P **P** 20 37 31.4 +0.9
baz=76
BNN Bunyan 65.03 58 **P** 20 37 31.2 0.0
N32M Quiet Lake 65.13 328 P **P** 20 37 31.6 +0.3
baz=76
P33M Teslin, Yukon 65.23 327 IAmb IAmb 20 37 38.9
comp=Z,5.8nm,1.1s
P33M Teslin, Yukon 65.23 327 P **P** 20 37 32.7 +0.6
baz=75
Q32M Nakina River 65.28 325 IAmb IAmb 20 37 44.8
comp=Z,8.2nm,1.1s
Q32M Nakina River 65.28 325 P **P** 20 37 33.4 +0.8
baz=75
E29M Blow River 65.29 336 P **P** 20 37 32.8 +0.6
baz=75
D28M Stokes Point 65.33 337 P **P** 20 37 33.3 +0.9
baz=74
EPYK Eagle Plains 65.37 334 P **P** 20 37 33.0 +0.1
baz=75
M31M Drury Creek, Y 65.47 329 IAmb IAmb 20 37 35.5
comp=Z,7.8nm,1.1s
M31M Drury Creek, Y 65.47 329 P **P** 20 37 33.6 0.0
baz=75,SNR=7.1
I30M Mount Dempster 65.53 332 IAmb IAmb 20 37 41.4
comp=Z,7.5nm,1.4s
I30M Mount Dempster 65.53 332 P **P** 20 37 34.5 +0.4
baz=75,SNR=5.2
J30M Hart River 65.69 332 IAmb IAmb 20 37 42.9
comp=Z,9.5nm,1.2s
J30M Hart River 65.69 332 P **P** 20 37 35.0 -0.1
baz=74,SNR=7.3
G29M Pine Creek 65.73 334 P **P** 20 37 35.5 +0.3
baz=74
E28M Babbage River 65.81 336 IAmb IAmb 20 37 47.1
comp=Z,9.0nm,1.1s
E28M Babbage River 65.81 336 P **P** 20 37 35.4 -0.2
baz=73,SNR=8.4
P32M Atlin 65.83 326 P **P** 20 37 36.1 +0.2
baz=74
V35K Ketchikan 65.88 321 P **P** 20 37 36.1 -0.1
baz=74
WRAK Wrangell Islan 65.98 323 P **P** 20 37 37.3 +0.4
baz=74
H29M Whitestone 66.06 334 P **P** 20 37 37.2 -0.1
baz=73
WHY Whitehorse 66.10 327 P **P** 20 37 38.2 +0.4
baz=74
D27M Malcolm River 66.12 337 P **P** 20 37 37.8 +0.2
baz=72,SNR=7.3
F28M Old Crow 66.22 335 IAmb IAmb 20 37 45.6
comp=Z,6.5nm,1.1s
F28M Old Crow 66.22 335 P **P** 20 37 38.9 +0.6
baz=73,SNR=8.9
I29M Ogilvie Camp, 66.28 333 P **P** 20 37 38.8 +0.1
baz=73
N31M Braeburn, Yuko 66.29 328 P **P** 20 37 39.7 +0.8
baz=74,SNR=7.7
K29M Barlow Dome 66.39 331 P **P** 20 37 39.8 +0.2
baz=73
M30M Minto, Yukon 66.44 330 P **P** 20 37 40.2 +0.3
baz=73
O30N Mendenhall 66.64 328 IAmb IAmb 20 37 48.8
comp=Z,10nm,1.1s
O30N Mendenhall 66.64 328 P **P** 20 37 41.3 +0.1
baz=73
E27K Coleen River 66.66 336 P **P** 20 37 41.4 +0.2
baz=71,SNR=9.1
S32K Killisnoo 66.86 324 P **P** 20 37 43.0 +0.5
baz=73
L29M L29M 66.87 330 P **P** 20 37 43.1 +0.6
baz=72
I28M Miner Creek 66.90 333 IAmb IAmb 20 37 54.7
comp=Z,12nm,1.5s
I28M Miner Creek 66.90 333 P **P** 20 37 43.2 +0.4
baz=72
N30M Aishikik Lake 66.90 329 IAmb IAmb 20 37 44.3
comp=Z,7.8nm,1.0s
N30M Aishikik Lake 66.90 329 P **P** 20 37 43.3 +0.4
baz=72,SNR=6.1
C27K Jago River 66.91 338 P **P** 20 37 43.5 +0.8
baz=70,SNR=6.1
DAWY Dawson 67.11 332 IAmb IAmb 20 37 51.8
comp=Z,10nm,1.2s
DAWY Dawson 67.11 332 P **P** 20 37 44.9 +0.8
baz=72
G27K Doyon Strip 67.13 335 IAmb IAmb 20 37 55.6
comp=Z,11nm,1.6s
G27K Doyon Strip 67.13 335 P **P** 20 37 45.0 +0.9
baz=71
C26K Camden Bay 67.20 338 P **P** 20 37 45.3 +0.8
baz=69
M29M Somme Creek 67.22 330 IAmb IAmb 20 37 53.2
comp=Z,6.0nm,1.1s
M29M Somme Creek 67.22 330 P **P** 20 37 45.6 +0.7
baz=72,SNR=8.1
P30M Million Dollar 67.25 327 P **P** 20 37 45.7 +0.7
baz=72
H27K Steamboat Moun 67.27 334 IAmb IAmb 20 38 04.9
comp=Z,17nm,1.9s
H27K Steamboat Moun 67.27 334 P **P** 20 37 45.4 +0.3
baz=71
HYT Haines Junctio 67.29 328 IAmb IAmb 20 37 54.0
comp=Z,11nm,1.4s
HYT Haines Junctio 67.29 328 P **P** 20 37 45.5 +0.1
baz=72
SIT Sitka 67.37 324 P **P** 20 37 46.0 +0.3
baz=72
I27K Kandik River 67.51 334 P **P** 20 37 47.5 +0.9
baz=70,SNR=12
YUK6 Outpost Mounta 67.65 328 P **P** 20 37 48.9 +1.1
baz=71,SNR=8.3
YUK4 Talbot Arm 67.65 329 P **P** 20 37 47.4 -0.3
baz=71
F26K Sheenjek River 67.74 336 P **P** 20 37 50.0 +2.0
baz=69,SNR=15
P29M Windy Craggy 67.77 327 P **P** 20 37 49.2 +0.8
baz=71
G26K Porcupine Rive 67.87 335 P **P** 20 37 50.3 +1.5
baz=69,SNR=9.0
D25K Kavik River 67.90 338 P **P** 20 37 50.3 +1.3
baz=68,SNR=7.7
O29M Mount Kennedy 67.96 328 P **P** 20 37 50.4 +0.8
baz=71
BMAR Burnt Mountain 67.99 336 **P** 20 37 49.7 +0.2
E25K Arctic Village 68.08 337 P **P** 20 37 51.9 +1.8
baz=68,SNR=11
I26K Coal Creek Min 68.22 333 P **P** 20 37 51.4 +0.4
baz=69
K27K Chicken 68.24 332 P **P** 20 37 51.5 +0.4
baz=69
BVCY Beaver Creek 68.28 330 P **P** 20 37 52.1 +0.6
baz=70
F25K Christian Rive 68.31 336 IAmb IAmb 20 37 54.3
comp=Z,6.0nm,1.0s
F25K Christian Rive 68.31 336 P **P** 20 37 53.2 +1.7
baz=68,SNR=10

KIV Kislovodsk 68.32 51 P **P** 20 37 52.1 -0.1
YUK3 Moose Creek 68.33 329 P **P** 20 37 52.6 +0.6
baz=70
BCAR Beaver Creek A 68.46 331 **P** 20 37 53.2 +0.6
L27K Beaver Creek, 68.48 331 IAmb IAmb 20 38 00.3
comp=Z,11nm,1.3s
L27K Beaver Creek, 68.48 331 P **P** 20 37 53.3 +0.6
baz=69,SNR=9.0
C24K Franklin Bluff 68.50 339 P **P** 20 37 53.8 +1.2
baz=66
KBZ Khabaz 68.54 51 P **P** 20 37 53.9 +0.5
comp=Z,6.0nm,1.0s,baz=271,slow=2.0,SNR=7.1
comp=Z,6.0nm,1.0s
BELG Belogornoye 68.67 41 LR LR 21 06 58.8
comp=Z,205nm,20.1s,baz=285,slow=35
J26L Joseph Creek 68.67 333 P **P** 20 37 54.8 +0.8
baz=68
M27K Edge Creek, AK 68.75 330 IAmb IAmb 20 38 02.2
comp=Z,7.8nm,1.2s
M27K Edge Creek, AK 68.75 330 P **P** 20 37 55.2 +0.7
baz=69,SNR=7.1
D24K Happy Valley 68.77 338 P **P** 20 37 55.5 +1.1
baz=65
G25K Bearman Lake 68.79 335 P **P** 20 37 56.5 +2.0
baz=67,SNR=6.4
PINM Pinnacle 68.81 328 P **P** 20 37 56.0 +1.1
baz=69
H25L Birch Creek 68.88 335 P **P** 20 37 57.0 +1.9
baz=67,SNR=6.1
CTG Chitna Glacier 69.01 329 P **P** 20 37 57.1 +0.9
baz=69
SCRK Sand Creek 69.04 332 P **P** 20 37 57.0 +0.7
baz=68
C23K Itkillik River 69.05 339 P **P** 20 37 58.0 +1.9
baz=64,SNR=10.0
PRP Porcupine Dome 69.06 334 IAmb IAmb 20 37 57.8
comp=Z,6.6nm,1.1s
PRP Porcupine Dome 69.06 334 P **P** 20 37 57.5 +1.1
baz=67,SNR=5.1
E24K Your Creek 69.11 337 IAmb IAmb 20 37 59.4
comp=Z,5.9nm,0.9s
E24K Your Creek 69.11 337 P **P** 20 37 58.4 +1.8
baz=65,SNR=10
F24K Squaw Lake 69.13 336 IAmb IAmb 20 37 59.6
comp=Z,7.3nm,1.0s
F24K Squaw Lake 69.13 336 P **P** 20 37 58.5 +1.8
baz=66,SNR=11
M26K Nabesna, AK 69.22 331 P **P** 20 37 57.3 0.0
baz=68
TOLK Toolik Lake Re 69.23 338 P **P** 20 37 58.1 +0.7
baz=65
G24K Hadweenzic Riv 69.32 336 IAmb IAmb 20 38 06.1
comp=Z,9.9nm,1.1s
G24K Hadweenzic Riv 69.32 336 P **P** 20 37 58.7 +0.9
baz=65,SNR=12
J25K Salcha River, 69.36 333 P **P** 20 37 58.3 +0.2
baz=67
D23K Nanushuk River 69.45 338 IAmb IAmb 20 38 01.4
comp=Z,7.6nm,1.2s
D23K Nanushuk River 69.45 338 P **P** 20 37 59.9 +1.2
baz=64,SNR=5.2
RIDG Independent Ri 69.48 332 P **P** 20 37 59.0 0.0
baz=67
E23K Chandalar 69.50 337 P **P** 20 37 59.6 +0.6
baz=64
MESA MESA 69.58 328 P **P** 20 38 00.3 +0.5
baz=68
MCARA McCarthy VSAT 69.61 330 P **P** 20 38 00.8 +1.1
baz=68
B22K Teshekpuk Lake 69.68 340 P **P** 20 38 00.3 +0.4
baz=62
GURO Guroymak-BITLI 69.70 56 IAmb IAmb 20 38 08.9
comp=Z,6.0nm,1.3s
H24K Noodor Dome 69.82 335 IAmb IAmb 20 38 10.5
comp=Z,8.5nm,1.2s
H24K Noodor Dome 69.82 335 P **P** 20 38 02.3 +1.3
baz=65
K24K Donnelly Dome 69.84 332 P **P** 20 38 01.8 +0.7
baz=66
VRDI Verde Repeater 69.86 329 IAmb IAmb 20 38 02.7
comp=Z,6.6nm,1.0s
CRQE Cirque 69.88 329 P **P** 20 38 02.1 +0.5
baz=67
IL31 69.89 334 IAmb IAmb 20 38 08.6
comp=Z,12nm,1.4s
ILAR Eielson Array 69.89 334 **P** 20 38 00.3 -1.0
ILAR Eielson Array 69.89 334 P **P** 20 38 01.4 +0.1
comp=Z,3.2nm,1.0s,baz=72,slow=4.4,SNR=25
comp=Z,3.2nm,1.0s
POKR Poker Plat Res 69.96 334 P **P** 20 38 01.2 -0.6
baz=65
PAX Paxson 70.05 332 P **P** 20 38 02.3 -0.2
baz=66
COLD Coldfoot 70.06 337 P **P** 20 38 02.2 -0.2
baz=64,SNR=7.5
A21K Barrow 70.12 342 P **P** 20 38 03.1 +0.5
baz=59
D22K Ayikyak River 70.14 339 P **P** 20 38 04.0 +1.1
baz=62,SNR=15
HARP HAARP 70.15 331 P **P** 20 38 03.2 +0.1
baz=66
E22K Anaktuvuk Pass 70.20 338 P **P** 20 38 04.6 +1.3
baz=62
BGLC Bering Glacier 70.22 328 P **P** 20 38 04.0 +0.6
baz=67
N25K Chitina, Valde 70.22 330 P **P** 20 38 04.2 +0.6
baz=66
G23K Bananza Creek 70.23 336 IAmb IAmb 20 38 06.2
comp=Z,11nm,1.1s
G23K Bananza Creek 70.23 336 P **P** 20 38 03.7 +0.2
baz=64,SNR=13
B21K Ikpikpuk River 70.39 340 IAmb IAmb 20 38 06.8
comp=Z,7.6nm,1.1s
B21K Ikpikpuk River 70.39 340 P **P** 20 38 04.8 +0.5
baz=60,SNR=9.3
H23K Yukon River 70.45 335 P **P** 20 38 06.2 +1.4
baz=64,SNR=12
BMRM Bremner River 70.48 329 IAmb IAmb 20 38 11.3
comp=Z,15nm,1.4s
BMRM Bremner River 70.48 329 P **P** 20 38 04.7 -0.5
baz=66
WRH Wood River Hil 70.48 334 IAmb IAmb 20 38 06.5
comp=Z,7.7nm,1.1s
F22K John River 70.62 337 P **P** 20 38 06.4 +0.5
baz=62
G22K Bettles 70.66 337 P **P** 20 38 06.9 +0.8
baz=62
C21K Knifeblade Rid 70.67 339 P **P** 20 38 06.5 +0.4
baz=60
I23K Minto, Yukon-K 70.68 334 P **P** 20 38 06.9 +0.7
baz=64,SNR=8.1
E21K Killik River 70.76 338 IAmb IAmb 20 38 08.7
comp=Z,6.4nm,1.1s
E21K Killik River 70.76 338 P **P** 20 38 07.2 +0.5
baz=61,SNR=8.3
DHY Denali Highway 70.80 332 P **P** 20 38 07.7 +0.5
baz=65
NEA2 Nenana 70.81 334 IAmb IAmb 20 38 15.7
comp=Z,12nm,1.4s
NEA2 Nenana 70.81 334 P **P** 20 38 07.2 +0.1
baz=64
KAIM Kayak Island 70.82 328 P **P** 20 38 07.0 -0.1
baz=66
KLU Klutina 70.85 330 IAmb IAmb 20 38 08.9
comp=Z,8.5nm,1.0s
KLU Klutina 70.85 330 P **P** 20 38 07.6 +0.2
baz=65
B20K Meade River 70.95 341 IAmb IAmb 20 38 10.3
comp=Z,6.8nm,1.1s
B20K Meade River 70.95 341 P **P** 20 38 08.3 +0.6
baz=58
GNI Garni 71.08 54 P **P** 20 38 09.1 -0.3
H22K Ishtalitna Cre 71.09 336 P **P** 20 38 09.2 +0.4
baz=62,SNR=7.1
MCK McKinley 71.14 333 P **P** 20 38 09.8 +0.7
baz=64
WAT6 Susitna Watana 71.16 332 P **P** 20 38 09.5 +0.1
baz=64
EYAK Cordova Ski Ar 71.17 329 P **P** 20 38 08.7 -0.5
baz=65
F21K Alatna River 71.20 337 P **P** 20 38 09.1 -0.3
baz=61
MLY Manley 71.25 335 P **P** 20 38 09.4 -0.4
baz=62
SCM Sheep Creek Mo 71.31 331 P **P** 20 38 10.3 +0.1
baz=64
WAT1 Susitna Watana 71.39 332 P **P** 20 38 10.8 +0.2
baz=64

D20K Etivluk River 71.47 339 P **P** 20 38 11.5 +0.5
baz=58,SNR=15
G21K Allakaket 71.55 337 IAmb IAmb 20 38 13.7
comp=Z,8.7nm,1.1s
G21K Allakaket 71.55 337 P **P** 20 38 12.4 +0.9
baz=60,SNR=7.4
E20K Nigu River 71.57 339 P **P** 20 38 12.1 +0.5
baz=59,SNR=6.0
I21K Tanana 71.65 335 P **P** 20 38 12.6 +0.5
baz=61
H21K Melozitna Rive 71.72 336 P **P** 20 38 13.1 +0.6
baz=61,SNR=8.9
BPAW Bear Paw Mtn. 71.78 334 P **P** 20 38 12.8 -0.1
baz=62
IMAR Indian Mountai 71.90 336 P **P** 20 38 12.8 -0.7
Q23K Middleton Isla 71.92 328 P **P** 20 38 13.6 -0.1
baz=64
A19K Wainwright 71.97 341 P **P** 20 38 14.7 +0.8
baz=55
F20K Avaraart Lake 72.04 338 P **P** 20 38 14.9 +0.5
baz=59,SNR=6.2
D19K Kuna River 72.05 339 P **P** 20 38 15.2 +0.7
baz=57,SNR=13
C19K Lookout Ridge 72.16 340 P **P** 20 38 16.0 +0.8
baz=56
PWL Port Wells 72.18 330 P **P** 20 38 14.9 -0.4
baz=63
E19K Redstone River 72.33 338 IAmb IAmb 20 38 18.2
comp=Z,6.7nm,1.1s
E19K Redstone River 72.33 338 P **P** 20 38 16.7 +0.6
baz=58,SNR=7.6
CHUM Lake Minchumin 72.40 334 P **P** 20 38 16.6 +0.1
baz=61
M22K Willow 72.53 331 P **P** 20 38 17.9 +0.6
baz=62
CAST Castle Rocks 72.54 333 P **P** 20 38 17.2 -0.2
baz=61
H20K Anotleneega Mo 72.55 336 P **P** 20 38 18.3 +0.8
baz=59,SNR=9.0
B18K Kokolik River 72.66 341 P **P** 20 38 19.1 +1.0
baz=54,SNR=5.3
RC01 Rabbit Creek A 72.68 331 P **P** 20 38 18.8 +0.5
baz=62
I20K Naaghedeneel 72.76 335 P **P** 20 38 19.4 +0.7
baz=59
PPLA Purkeypile 72.83 333 P **P** 20 38 19.9 +0.5
baz=61
F19K Shaleruckik Mo 72.84 338 P **P** 20 38 20.0 +0.8
baz=57,SNR=5.1
C18K Utukok River 72.90 340 IAmb IAmb 20 38 27.6
comp=Z,13nm,1.4s
C18K Utukok River 72.90 340 P **P** 20 38 20.3 +0.7
baz=54,SNR=6.9
SUA Susitna One 72.93 331 P **P** 20 38 20.1 +0.1
baz=61
ARTI Arti 72.94 35 **P** 20 38 19.7 -0.2
ARTI IAmb IAmb 20 38 21.7
comp=Z,14nm,1.3s
J20K Nowinta River 72.95 335 P **P** 20 38 19.8 -0.1
baz=59
G19K Purcell Mounta 72.98 337 IAmb IAmb 20 38 22.3
comp=Z,7.6nm,1.1s
G19K Purcell Mounta 72.98 337 P **P** 20 38 20.3 +0.2
baz=57
SKT Skwentna 73.01 332 P **P** 20 38 20.1 -0.2
baz=61
SEW Seward 73.02 330 P **P** 20 38 20.3 0.0
baz=62
H19K Roundabout Mou 73.09 336 P **P** 20 38 21.4 +0.7
baz=58
K20K Telida 73.34 334 IAmb IAmb 20 38 29.6
comp=Z,9.2nm,1.4s
K20K Telida 73.34 334 P **P** 20 38 22.7 +0.5
baz=59
E18K Tukpahlearik C 73.43 339 IAmb IAmb 20 38 24.8
comp=Z,8.3nm,1.1s
E18K Tukpahlearik C 73.43 339 P **P** 20 38 23.4 +0.8
baz=55,SNR=7.5
C17K DeLong Mountai 73.59 340 P **P** 20 38 24.2 +0.6
baz=53,SNR=5.5
J19K Poorman 73.60 335 P **P** 20 38 24.2 +0.5
baz=58,SNR=6.3
G18K Tagagawik 73.66 337 P **P** 20 38 24.6 +0.6
baz=56
N20K Mount Spurr 73.68 331 P **P** 20 38 24.9 +0.6
baz=60
SPCR Spurr Chakacha 73.68 331 P **P** 20 38 24.6 +0.3
baz=60
L20K Farewell, AK 73.72 333 P **P** 20 38 24.0 -0.5
baz=59
M20K Styx River 73.72 332 P **P** 20 38 24.1 -0.4
baz=60
RDOG Red Dog Mine 73.77 340 IAmb IAmb 20 38 26.8
comp=Z,9.5nm,1.0s
H18K Honhosa River 73.97 336 P **P** 20 38 25.6 -0.2
baz=56
E17K Hotham Inlet 74.01 339 P **P** 20 38 26.1 0.0
baz=54
D17K Noatak River 74.03 340 P **P** 20 38 26.4 +0.2
baz=53
F17K Baldwin Pennin 74.21 338 P **P** 20 38 27.9 +0.7
baz=54
M19K Big River Lodg 74.22 333 IAmb IAmb 20 38 38.2
comp=Z,16nm,1.6s
M19K Big River Lodg 74.22 333 P **P** 20 38 27.9 +0.5
baz=58
L19K White Mountain 74.26 333 P **P** 20 38 27.7 0.0
baz=58,SNR=6.3
J18K Innoko River 74.30 335 P **P** 20 38 27.5 -0.3
baz=57
C16K Lisburne Hills 74.35 341 P **P** 20 38 28.2 +0.2
baz=51
O20K Slope Mountain 74.42 331 P **P** 20 38 28.7 +0.1
baz=60
G17K Kiwalik Mounta 74.56 337 P **P** 20 38 29.5 +0.2
baz=54
H17K Granite Mounta 74.64 337 IAmb IAmb 20 38 32.0
comp=Z,9.7nm,1.1s
H17K Granite Mounta 74.64 337 P **P** 20 38 30.1 +0.3
baz=55,SNR=6.7
N19K Bonanza Creek 74.83 332 P **P** 20 38 31.2 +0.2
baz=58
P19K Oil Pt 74.90 330 P **P** 20 38 31.3 -0.1
baz=59
M18K Stony River 75.02 333 P **P** 20 38 31.6 -0.4
baz=57
Q20K Shuyak Island 75.06 329 P **P** 20 38 32.6 +0.3
baz=53
G16K Koyuk River 75.20 338 P **P** 20 38 32.5 -0.4
baz=53
J17K VABM Dome 75.22 335 P **P** 20 38 33.3 +0.1
baz=55
K17K Iditarod 75.32 334 IAmb IAmb 20 38 43.4
comp=Z,12nm,1.4s
K17K Iditarod 75.32 334 P **P** 20 38 33.6 -0.1
baz=56
AKTO Aktyubinsk 75.41 40 LR LR 21 08 38.3
comp=Z,228nm,21.3s,baz=164,slow=33
N18K Kilae Creek 75.48 332 P **P** 20 38 35.3 +0.6
baz=57
KDAK Kodiak Island 75.57 328 LR LR 21 13 04.9
comp=Z,263nm,19.3s,baz=70,slow=37
H16K Elim 75.62 337 P **P** 20 38 35.9 +0.5
baz=53
L17K Donlin 75.64 334 P **P** 20 38 35.6 0.0
baz=55
O18K Koktuh Hills 75.64 331 IAmb IAmb 20 38 42.4
comp=Z,9.8nm,1.1s
O18K Koktuh Hills 75.64 331 P **P** 20 38 35.6 -0.1
baz=57
M17K Holitna River 75.72 333 P **P** 20 38 36.5 +0.5
baz=56
F15K North Star Dit 75.76 339 IAmb IAmb 20 38 38.8
comp=Z,12nm,1.2s
F15K North Star Dit 75.76 339 P **P** 20 38 36.1 -0.1
baz=51
J16K Anvik River 75.85 335 P **P** 20 38 37.2 +0.5
baz=54
P18K Big Mountain, 75.90 331 IAmb IAmb 20 38 37.7
comp=Z,8.2nm,1.1s
P18K Big Mountain, 75.90 331 P **P** 20 38 36.7 -0.4
baz=57
G15K Niukluk 76.01 338 P **P** 20 38 37.2 -0.4
baz=51
OHAK Old Harbor 76.19 328 P **P** 20 38 38.8 0.0
baz=58
Q18K Katmai Hardscr 76.21 330 P **P** 20 38 38.5 -0.5
baz=57

L16K	Owhat River	76.34	334	P		P		20 38 39.4	-0.2
	baz=54								
F14K	Arctic Creek	76.44	339	P		P		20 38 40.4	+0.3
	baz=49								
O17K	Koliganek Bris	76.49	331	P		P		20 38 41.0	+0.5
	baz=56								
M16K	Timber Creek	76.54	333	P		P		20 38 41.6	+0.8
	baz=55								
ANM	Nome	76.72	338	P		P		20 38 42.1	+0.5
	baz=50								
N16K	Nishlik Lake	76.78	333	P		P		20 38 42.6	+0.5
	baz=55								
K15K	Wolf Creek Mou	76.78	335	P		P		20 38 42.4	+0.4
	baz=53								
Q17K	Contact Creek	76.80	330	P		P		20 38 42.8	+0.4
	baz=56								
TNA	Tin City	76.89	339	P		P		20 38 42.8	+0.3
	baz=48								
AB31	Akbulak array	77.07	41			P		20 38 43.7	-0.2
ABKAR	Akbulak array	77.07	41			P		20 38 44.9	+1.0
L15K	Ungalak Mounta	77.14	334	P		P		20 38 44.7	+0.6
	baz=53								
M15K	Kasigluk River	77.42	333	P		P		20 38 46.2	+0.5
	baz=53								
N15K	Kwethluk River	77.49	333	P		P		20 38 46.5	+0.4
	baz=54								
L14K	Kuka Creek	77.80	334	IAmb		IAmb		20 38 57.3	
	comp=Z,9.7nm,1.1s								
L14K	Kuka Creek	77.80	334	P		P		20 38 48.6	+0.9
	baz=52								
M14K	Bethel	77.88	334	P		P		20 38 47.5	-0.7
M14K				IAmb		IAmb		20 38 50.6	
	comp=Z,6.7nm,0.9s								
M14K	Bethel	77.88	334	P		P		20 38 49.2	+1.0
	baz=52								
O15K	Ungalikthiuk R	77.97	332	P		P		20 38 50.0	+1.2
	baz=54								
K13K	Kusilvak Mount	78.16	336	IAmb		IAmb		20 38 52.3	
	comp=Z,9.7nm,1.1s								
K13K	Kusilvak Mount	78.16	336	P		P		20 38 50.6	+0.8
	baz=50								
N14K	Kuskokwak Cree	78.28	333	P		P		20 38 51.3	+0.9
	baz=52								
O14K	Tigyukauivet M	78.52	332	P		P		20 38 52.5	+0.8
	baz=52								
M13K	Dall Lake	78.63	334	P		P		20 38 53.1	+0.8
	baz=51								
GAMB	Gambell	79.30	339	P		P		20 38 56.8	+0.8
	baz=45								
M11K	Mekoryuk	79.73	335	P		P		20 38 58.9	+0.5
	baz=49								
TIXI	Tiksi	79.91	2			P		20 38 59.0	-0.2
TIXI				IAmb		IAmb		20 39 01.1	
	comp=Z,8.9nm,1.1s								
BVAR	Borovoye Array	80.64	34	P		P		20 39 03.9	+0.4
	comp=Z,2.5nm,0.9s								
	comp=Z,2.5nm,0.9s								
ATD	Arta Tunnel	81.56	81	LR		LR		21 15 49.8	
	comp=Z,10nm,19.1s,baz=233,slow=36								
SPIA	Saint Paul Isl	83.47	334	P		P		20 39 18.6	+0.4
	baz=45								
MATP	Matopo	84.99	116	LR		LR		21 12 47.1	
	comp=Z,442nm,20.4s,baz=281,slow=32								
LBTB	Lobatse	85.28	122	LR		LR		21 11 21.0	
	comp=Z,489nm,19.7s,baz=279,slow=31								
KURK	Kurchatov	86.07	33			P		20 39 32.1	+0.6
KURK				IAmb		IAmb		20 39 33.1	
	comp=Z,7.8nm,1.2s								
KURBB	Kurchatov Arra	86.09	33	P		P		20 39 31.9	+0.3
	comp=Z,3.3nm,1.0s,baz=310,slow=5.2,SNR=18								
	comp=Z,3.3nm,1.0s								
ZALV	Zalesovo Beam	86.55	28	P		P		20 39 34.2	+0.5
	comp=Z,0.3nm,0.3s,baz=331,slow=12,SNR=4.2								
	comp=Z,0.3nm,0.3s								
MKAR	Makanchi Array	90.52	34			P		20 39 52.5	-0.3
MKAR	Makanchi Array	90.52	34	P		P		20 39 52.8	0.0
	comp=Z,2.4nm,1.1s,baz=319,slow=4.8,SNR=13								
	comp=Z,2.4nm,1.1s								
WMQ	Urumqi	95.30	33	*e*P		P		20 40 13.2	-1.8
WMQ				pmax		pmax			
	comp=Z,23nm,0.9s								
PZH	PanZhiHua	115.95	34	PKP		PKiKP		20 45 34.2	-0.1
NJ2	Nanjing	117.46	17	*e*P		PKPdf		20 45 37.4	+0.5
NJ2				pmax		pmax			
	comp=Z,7.0nm,0.6s								

IDC ***08*** *20:34:28.5±0.9, 46˚.15N×152˚.89E, h0km, mb3.9/19, mbtmp3.9/23, ML2.9/3, MS3.8/2, Error ellipse: s-maj=22.6km s-min=16.9km az=123.0*
MOS ***08*** *20:34:31.9±1.0, 46˚.18N×152˚.91E, h37km, mb4.5/1, Error ellipse: s-maj=11.7km s-min=8.0km az=67.1*
NEIC ***08*** *20:34:31.2±2.1, 46˚.2N±0˚.1×152˚.8E±0˚.2, h10km±2km, mb4.4/16, Error ellipse: s-maj=24.3km s-min=13.3km az=140.0*
SKHL ***08*** *20:34:32.8±0.6, 46˚.00N×153˚.10E, h56km±7km, mb4.6/3*

ISC 08 20:34:32.5±0.7, 46°02N±0'.09×153°03E±0'.07, h31km, n78, σ1§41/80, mb4.2/28, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.71**	**260**	*i*	PN	**Pn**	**20 35 29.7**	**+2.1**
KUR				*e*	S	**Sn**	**20 36 12.2**	**+2.0**
KUR					pmax	pmax		
	comp=Z,182nm,0.4s							
KUR					pmax	pmax		
	comp=N,47nm,0.3s							
KUR					pmax	pmax		
	comp=E,17nm,0.3s							
KUR					smax	smax		
	comp=N,193nm,0.7s							
KUR					smax	smax		
	comp=E,55nm,0.3s							
KUR	**Kuril'sk**	**3.71**	**260**	*e*	P	**Pn**	**20 35 29.6**	**+2.0**
KUR					AMB	AMB	20 35 30.6	
	comp=E,90nm,0.5s							
KUR				*e*	S	**Sn**	**20 36 10.3**	**+0.1**
KUR					A	A	20 36 21.3	
	comp=E,160nm,0.6s							
KUR					A	A	20 36 21.3	
	comp=E,220nm,0.6s							
SHO	**Shikotan**	**4.90**	**246**	*e*	PN	**Pn**	**20 35 44.7**	**+0.7**
SHO				*i*	S	**Sn**	**20 36 40.6**	**+1.1**
SHO					smax	smax		
	comp=N,61nm,0.4s							
SHO					smax	smax		
	comp=E,65nm,0.4s							
SHO	**Shikotan**	**4.90**	**246**	*e*	P	**Pn**	**20 35 44.7**	**+0.7**
SHO					AMB	AMB	20 35 50.1	
	comp=E,50nm,0.3s							
SHO				*e*	S	**Sn**	**20 36 38.5**	**-1.0**
SHO					A	A	20 36 41.6	
	comp=E,60nm,0.6s							
SHO					A	A	20 36 41.6	
	comp=E,70nm,0.6s							
SKR	**Severo-Kuril's**	**5.10**	**23**	*e*	PN	**Pn**	**20 35 46.7**	**0.0**
SKR					pmax	pmax		
	comp=Z,33nm,0.7s							
SKR					MLR	MLR		
	comp=Z,600nm,16.0s							
SKR	**Severo-Kuril's**	**5.10**	**23**	*e*	P	**Pn**	**20 35 46.7**	**0.0**
SKR					AMB	AMB	20 35 47.4	
	comp=Z,30nm,0.7s							
SKR				*e*	S	**Sn**	**20 36 41.5**	**-2.9**
SKR					A	A	20 36 48.7	
	comp=Z,70nm,0.5s							
SKR					A	A	20 36 48.7	
	comp=Z,80nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.46**	**251**	*e*	P	**Pn**	**20 35 53.7**	**+2.1**
NMR	**Nemuro--Hokkai**	**5.84**	**246**	*e*	P	**Pn**	**20 35 55.9**	**-1.0**
NMR				*e*	S	**Sn**	**20 36 58.8**	**-3.9**
PAU	**Pauzhetka**	**6.00**	**23**	*e*	P	**Pn**	**20 36 00.2**	**+1.2**
AKK	**Akkeshi**	**6.58**	**246**	*e*	P	**Pn**	**20 36 07.8**	**+0.8**
AKK				*e*	S	**Sn**	**20 37 18.7**	**-2.2**
JKA	**Kamikawa-asahi**	**7.63**	**259**			**Pn**	**20 36 22.5**	**+1.1**
JKA	**Kamikawa-asahi**	**7.63**	**259**	*e*	P	**Pn**	**20 36 22.5**	**+1.1**
ASAJ	**Asahikawa**	**7.63**	**259**	Pn		**Pn**	**20 36 23.5**	**+2.0**
	comp=Z,1.3nm,0.3s,baz=45,slow=13,SNR=12							
ASAJ					Sn	**Sn**	**20 37 52.0**	**+5.2**
	baz=217,slow=34							
ASAJ	**Asahikawa**	**7.63**	**259**	PN		**Pn**	**20 36 22.5**	**+1.1**
PEA0B	**Petropavlovsk-**	**7.71**	**21**	Pn		**Pn**	**20 36 21.8**	**-0.8**
PEA0B	**Petropavlovsk-**	**7.71**	**21**	PN		**Pn**	**20 36 21.8**	**-0.8**
PETK	**Petropavlovsk-**	**7.71**	**21**			**Pn**	**20 36 22.3**	**-0.3**
PETK	**Petropavlovsk-**	**7.71**	**21**	Pn		**Pn**	**20 36 22.9**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=172,slow=12,SNR=9.7							
PETK					Sn	**Sn**	**20 37 50.1**	**+1.3**
	baz=149,slow=18							
	comp=Z,4.5nm,0.7s							
ERM	**Erimo**	**8.16**	**244**			**Pn**	**20 36 29.3**	**+0.5**
ERM	**Erimo**	**8.16**	**244**	PN		**Pn**	**20 36 29.3**	**+0.5**
JTM	**Tenmabayashi**	**10.15**	**243**	Pn		**Pn**	**20 36 54.3**	**-1.8**
MA2	**Magadan**	**13.64**	**355**	Pn		**Pn**	**20 37 42.2**	**-1.5**
	comp=Z,1.5nm,0.3s,baz=168,slow=11,SNR=0.9							
MAJO	**Matsushiro**	**14.60**	**235**	Pn		**Pn**	**20 37 57.6**	**+0.7**
MAJO	**Matsushiro**	**14.60**	**235**	P		**Pn**	**20 37 57.6**	**+0.7**
MJAR	**Matsushiro Arr**	**14.60**	**235**	Pn		**Pn**	**20 37 54.7**	**-2.1**
	baz=39,slow=14,SNR=5.1							
	comp=Z,1.5nm,0.7s							
KLR	**Kul'dur**	**14.70**	**290**	Pn		**Pn**	**20 37 57.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=104,slow=13,SNR=2.4							
	comp=Z,2.2nm,1.1s							
USRK	**Ussuriysk Ar.**	**14.97**	**271**	Pn		**Pn**	**20 38 02.6**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=86,slow=9.2,SNR=5.1							
KSRS	**Korea Array**	**20.53**	**254**	P		Pn	20 39 11.0	+0.5
	comp=Z,1.7nm,0.9s,baz=51,slow=11,SNR=4.0							
KSAR	**Wonju Array Be**	**20.57**	**254**	P		**P**	**20 39 08.1**	**-0.4**
KSAR	**Wonju Array Be**	**20.57**	**254**	P		**P**	**20 39 08.1**	**-0.4**
ADK	**Adak**	**20.64**	**62**	P		**P**	**20 39 10.9**	**+1.7**
ADK	**Adak**	**20.64**	**62**	P		**P**	**20 39 10.9**	**+1.7**
H11N2	**WAKE ISLAND Hy**	**28.60**	**152**	T		T	21 12 10.0	
	baz=340,slow=76,SNR=14							
H11N1	**WAKE ISLAND Hy**	**28.61**	**152**	T		T	21 12 09.9	
	baz=340,slow=76,SNR=9.2							
H11N3	**WAKE ISLAND Hy**	**28.62**	**152**	T		T	21 12 19.1	
	baz=340,slow=76,SNR=7.5							
H11S1	**WAKE ISLAND Hy**	**29.68**	**153**	T		T	21 13 37.4	
	baz=340,slow=76,SNR=3.9							
H11S3	**WAKE ISLAND Hy**	**29.69**	**153**	T		T	21 13 33.4	
	baz=340,slow=76,SNR=10							
H11S2	**WAKE ISLAND Hy**	**29.70**	**153**	T		T	21 13 47.6	
	baz=340,slow=76,SNR=9.1							
SONM	**Songino Array**	**31.53**	**290**	P		**P**	**20 40 50.7**	**-1.1**
	comp=Z,3.3nm,0.5s,baz=54,slow=7.4,SNR=1.9							
	comp=Z,0.3nm,0.5s							
D19K	**Kuna River**	**33.30**	**30**	P		**P**	**20 41 07.8**	**+0.9**
D20K	**Etivluk River**	**33.90**	**30**	P		**P**	**20 41 12.8**	**+0.7**
B20K	**Meade River**	**34.09**	**28**			**P**	**20 41 14.6**	**+0.9**
B20K					IAmb	IAmb	20 41 19.3	
	comp=Z,3.7nm,0.9s							
H21K	**Melozitna Rive**	**34.73**	**36**	P		**P**	**20 41 20.7**	**+1.3**
B21K	**Ikpikpuk River**	**34.83**	**29**			**P**	**20 41 21.4**	**+1.4**
B21K					IAmb	IAmb	20 41 23.1	
	comp=Z,4.2nm,0.9s							
KTH	**Kantishna Hill**	**35.35**	**40**	P		**P**	**20 41 25.2**	**+0.4**
KTH					IAmb	IAmb	20 41 28.5	
	comp=Z,7.3nm,1.0s							
E22K	**Anaktuvuk Pass**	**35.49**	**32**	P		**P**	**20 41 25.7**	**-0.2**
E22K					IAmb	IAmb	20 41 33.7	
	comp=Z,5.1nm,1.4s							
ILAR	**Eielson Array**	**37.16**	**38**	P		**P**	**20 41 40.0**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=274,slow=6.1,SNR=5.3							
	comp=Z,0.5nm,0.9s							
O28M	**Mount Upton**	**40.56**	**44**	P		**P**	**20 42 06.5**	**-2.5**
MKAR	**Makanchi Array**	**47.23**	**298**	P		**P**	**20 43 01.2**	**-1.2**
	comp=Z,1.0nm,0.9s,baz=72,slow=6.8,SNR=7.3							
MKAR					PcP	**PcP**	**20 44 33.8**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=72,slow=3.7,SNR=2.0							
	comp=Z,1.0nm,0.9s							
KURK	**Kurchatov**	**47.72**	**304**	P		**P**	**20 43 05.2**	**-0.9**
KURK	**Kurchatov**	**47.72**	**304**	*e*P		**P**	**20 43 05.2**	**-0.9**
KURBB	**Kurchatov Arra**	**47.81**	**304**	P		**P**	**20 43 05.2**	**-1.6**
	comp=Z,1.0nm,0.9s,baz=66,slow=7.2,SNR=4.5							
	comp=Z,1.0nm,0.9s							
BVAR	**Borovoye Array**	**51.28**	**310**	P		**P**	**20 43 32.3**	**-0.9**
	comp=Z,0.7nm,0.6s							
	comp=Z,0.7nm,0.6s							
CMAR	**Chiang Mai Arr**	**52.14**	**257**	P		**P**	**20 43 41.3**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=43,slow=7.6,SNR=5.6							
CMAR					LR	LR	21 09 41.6	
	comp=Z,34nm,18.0s,baz=100,slow=41							
	comp=Z,0.4nm,0.3s							
ARCES	**ARCESS Array B**	**58.52**	**341**	P		**P**	**20 44 24.8**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=51,slow=6.5,SNR=5.3							
	comp=Z,0.8nm,0.7s							
AB31	**Akbulak array**	**58.85**	**310**			**P**	**20 44 26.4**	**-1.5**
AB31					IAmb	IAmb	20 44 27.9	
	comp=Z,1.4nm,0.6s							
ABKAR	**Akbulak array**	**58.85**	**310**			**P**	**20 44 27.0**	**-0.9**
ABKAR					IAmb	IAmb	20 44 27.9	
	comp=Z,1.4nm,0.6s							
SIMJ	**Simiganj**	**59.80**	**296**	P		**P**	**20 44 33.0**	**-1.8**
SIMJ					IAmb	IAmb	20 44 36.5	
	comp=Z,4.0nm,1.0s							
SUMG	**Summit**	**61.43**	**4**			**P**	**20 44 44.8**	**-0.9**
SUMG	**Summit**	**61.43**	**4**	P		**P**	**20 44 44.8**	**-0.9**
FINES	**FINESS Array B**	**64.67**	**335**	P		**P**	**20 45 06.0**	**-0.8**
	comp=Z,3.1nm,1.0s,baz=33,slow=11,SNR=7.2							
	comp=Z,3.1nm,1.0s							
OBN	**Obninsk**	**65.88**	**326**	*e*P		**P**	**20 45 14.6**	**-0.1**
OBN					pmax	pmax		
	comp=Z,3.0nm,0.9s							
OBN	**Obninsk**	**65.88**	**326**	*e*P		**P**	**20 45 14.6**	**-0.1**
WRA	**Warramunga Arr**	**67.81**	**199**	P		**P**	**20 45 27.0**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=15,slow=6.1,SNR=2.9							
	comp=Z,0.6nm,0.9s							
NB2	**NORSAR Subarra**	**68.90**	**341**	P		**P**	**20 45 33.7**	**-0.2**
	comp=Z,7.1nm,1.1s,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**68.90**	**341**	P		**P**	**20 45 33.5**	**-0.3**
	comp=Z,1.3nm,0.2s,baz=28,slow=6.6,SNR=6.2							
	comp=Z,1.3nm,0.2s							
HFS	**Hagfors**	**69.12**	**340**	P		**P**	**20 45 34.8**	**-0.4**
	comp=Z,4.1nm,0.8s,baz=58,slow=5.6,SNR=8.9							
	comp=Z,4.1nm,0.8s							
KBZ	**Khabaz**	**71.33**	**314**	P		**P**	**20 45 49.3**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=19,slow=3.2,SNR=4.3							
	comp=Z,1.7nm,0.5s							
ASAR	**Alice Springs**	**71.50**	**198**	P		**P**	**20 45 51.6**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=24,slow=9.4,SNR=1.5							
	comp=Z,0.2nm,0.5s							
AKASG	**Malin Array Be**	**72.12**	**326**	P		**P**	**20 45 53.1**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=34,slow=6.5,SNR=9.0							
	comp=Z,1.4nm,0.6s							
GNI	**Garni**	**72.96**	**310**	LR		LR	21 21 10.4	
	comp=Z,138nm,19.3s,baz=280,slow=38							
BURAR	**Bucovina Array**	**76.16**	**327**			**P**	**20 46 17.6**	**+0.2**
BURAR					IAmb	IAmb	20 46 19.1	
	comp=Z,3.8nm,0.8s							
EKA	**Eskdalemuir Ar**	**77.03**	**346**	P		**P**	**20 46 21.9**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=21,slow=6.1,SNR=5.5							
	comp=Z,0.4nm,0.5s							
TXAR	**Lajitas Array**	**77.90**	**60**	P		**P**	**20 46 28.7**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=286,slow=4.3,SNR=8.6							
	comp=Z,0.5nm,0.5s							
BRTR	**Keskin Array B**	**78.88**	**317**	P		**P**	**20 46 34.5**	**+1.7**
	comp=Z,1.5nm,0.9s,baz=90,slow=2.5,SNR=6.9							
	comp=Z,1.5nm,0.9s							
GERES	**GERESS Array B**	**79.08**	**334**	P		**P**	**20 46 34.7**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=32,slow=5.5,SNR=4.4							
	comp=Z,0.3nm,0.6s							
MMAI	**Mount Meron Ar**	**83.25**	**311**	P		**P**	**20 46 57.6**	**+1.5**
	comp=Z,1.4nm,0.5s,baz=34,slow=6.5,SNR=3.9							
	comp=Z,1.4nm,0.5s							
PAULI	**Pauline**	**85.55**	**42**	P		**P**	**20 47 09.3**	**+1.8**

IDC ***08*** *20:37:32.8±0.8, 0˚.58N×126˚.51E, h0km, mb4.1/10, mbtmp4.1/12, ML3.7/2, Error ellipse: s-maj=41.2km s-min=14.4km az=73.0*
DJA ***08*** *20:37:37.9±0.2, 0˚N±2˚×12˚6E±˚, h10km, M3.9/18, mb3.8/5, MLv4.0/18*
NEIC ***08*** *20:37:38.9±1.5, 0˚.31N±0˚.09×126˚.42E±0˚.06, h35km±2km, mb4.3/20, Error ellipse: s-maj=16.0km s-min=8.6km az=152.0*

ISC 08 20:37:39.3±0.5, 0°39N±0'.05×126°39E±0'.05, h47km, n54, σ1§42/56, mb4.3/20, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.05**	**69**			**Pn**	**20 37 57.0**	**-0.6**
TNTI					Sn	**Sn**	**20 38 09.6**	**-1.6**
TNTI	**Ternate**	**1.05**	**69**	P		**Pn**	**20 37 57.5**	**-0.1**
TNTI					S	**Sn**	**20 38 12.8**	**+1.6**
KMSI	**Cibinong**	**2.41**	**274**	P		**Pn**	**20 38 15.2**	**-1.1**
SANI	**Sanana**	**2.46**	**189**	P		**Pn**	**20 38 16.7**	**-0.2**
SGSI	**Sangihe**	**3.38**	**345**	P		**Pn**	**20 38 30.7**	**+1.1**
NLAI	**Namlea**	**3.67**	**169**	P		**Pn**	**20 38 34.7**	**+1.1**
LUWI	**Luwuk**	**3.88**	**249**	Pn		**Pn**	**20 38 35.8**	**-0.7**
LUWI	**Luwuk**	**3.88**	**249**	P		**Pn**	**20 38 38.1**	**+1.6**
AAI	**Ambon**	**4.43**	**156**	P		**Pn**	**20 38 46.4**	**+2.3**
MRSI	**Marisa**	**4.45**	**271**	P		**Pn**	**20 38 46.4**	**+2.2**
MSAI	**Masohi**	**4.50**	**146**	P		**Pn**	**20 38 48.8**	**+3.8**
APSI	**Ampana**	**4.91**	**255**	P		**Pn**	**20 38 52.2**	**+1.6**
SWI	**Sorong**	**5.03**	**104**	P		**Pn**	**20 38 55.6**	**+3.4**
	0.1nm19nm,1.0s							
TOLI2	**Tolitoli**	**5.65**	**277**			**Pn**	**20 39 01.6**	**+0.8**
KDI	**Kendari**	**5.73**	**221**	P		**Pn**	**20 39 02.6**	**+0.7**
MPSI	**Mapaga**	**6.49**	**270**	P		**Pn**	**20 39 14.0**	**+1.7**
KAPI	**Kappang**	**8.53**	**231**	Pn		**Pn**	**20 39 40.2**	**-0.1**
KAPI	**Kappang**	**8.53**	**231**	Pn		**Pn**	**20 39 42.2**	**+1.9**
	1.8nm,0.3s,baz=38,slow=11,SNR=2.3							
	4.8nm,0.4s							
MTN	**Manton Dam**	**13.97**	**160**	Pn		**Pn**	**20 40 52.5**	**-2.2**
KSM	**Kuching**	**16.11**	**274**	Pn		**Pn**	**20 41 22.4**	**-0.4**
KSM				IAmb		IAmb	20 41 26.3	
	comp=Z,16nm,0.9s							
KNRA	**Kununurra**	**16.14**	**172**	Pn		**Pn**	**20 41 21.0**	**-2.0**
FITZ	**Fitzroy Crossi**	**18.39**	**182**	P		**P**	**20 41 48.5**	**-2.0**
FITZ	**Fitzroy Crossi**	**18.39**	**182**	P		**P**	**20 41 50.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=19,slow=11,SNR=4.4							
	comp=Z,3.5nm,0.9s							
WB0	**Warramunga Arr**	**21.52**	**159**			**P**	**20 42 25.1**	**+0.6**
WB0				IAmb		IAmb	20 42 30.5	
	comp=Z,26nm,1.4s							
WRAB	**Tennant Creek**	**21.65**	**159**	P		**P**	**20 42 25.4**	**-0.6**
WRAB				IAmb		IAmb	20 42 31.9	
	comp=Z,28nm,1.4s							
WRA	**Warramunga Arr**	**21.66**	**159**	P		**P**	**20 42 24.5**	**-1.5**
WRA	**Warramunga Arr**	**21.66**	**159**	P		**P**	**20 42 26.4**	**+0.4**
	comp=Z,6.7nm,0.7s,baz=338,slow=11,SNR=55							
	comp=Z,6.7nm,0.7s							
WR8	**Warramunga Arr**	**21.73**	**159**			**P**	**20 42 26.8**	**0.0**
WR8				IAmb		IAmb	20 42 32.2	
	comp=Z,14nm,1.1s							
AS31	**Alice Springs**	**25.00**	**164**			**P**	**20 42 59.6**	**+0.7**
ASAR	**Alice Springs**	**25.00**	**164**			**P**	**20 42 60.0**	**+1.0**
ASAR	**Alice Springs**	**25.00**	**164**	P		**P**	**20 42 59.8**	**+0.8**
	comp=Z,12nm,0.9s,baz=346,slow=11,SNR=70							
	comp=Z,12nm,0.9s							
FORT	**Forrest**	**31.04**	**177**	P		**P**	**20 43 52.1**	**-0.6**
FORT				IAmb		IAmb	20 43 56.6	
	comp=Z,4.1nm,0.8s							
STKA	**Stephens Creek**	**35.17**	**157**	P		**P**	**20 44 27.7**	**-1.2**
STKA	**Stephens Creek**	**35.17**	**157**	P		**P**	**20 44 29.9**	**+1.0**
	comp=Z,4.2nm,0.9s,baz=352,slow=5.4,SNR=12							
	comp=Z,4.2nm,0.9s							
MJAR	**Matsushiro Arr**	**37.60**	**16**	P		**P**	**20 44 47.9**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=194,slow=9.8,SNR=2.3							
	comp=Z,0.4nm,0.4s							
SONM	**Songino Array**	**50.35**	**343**	P		**P**	**20 46 33.1**	**+1.5**
SONM	**Songino Array**	**50.35**	**343**	P		**P**	**20 46 31.4**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=156,slow=8.6,SNR=5.3							
	comp=Z,0.6nm,0.6s							
PEA0B	**Petropavlovsk-**	**58.64**	**22**	P		**P**	**20 47 32.4**	**+0.8**
PETK	**Petropavlovsk-**	**58.64**	**22**	P		**P**	**20 47 32.3**	**+0.7**
PETK	**Petropavlovsk-**	**58.64**	**22**	P		**P**	**20 47 33.5**	**+2.0**
	comp=Z,2.0nm,0.6s,baz=184,slow=5.9,SNR=5.7							
MKAR	**Makanchi Array**	**60.11**	**327**	P		**P**	**20 47 41.0**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=118,slow=8.3,SNR=9.0							
	comp=Z,1.3nm,0.3s							
ZALV	**Zalesovo Beam**	**63.40**	**334**	P		**P**	**20 48 02.5**	**-1.4**
	comp=Z,8.8nm,0.6s,baz=132,slow=2.1,SNR=1.8							
	comp=Z,0.8nm,0.6s							
KURBB	**Kurchatov Arra**	**64.37**	**328**	P		**P**	**20 48 09.9**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=132,slow=6.1,SNR=12							
	comp=Z,2.2nm,0.7s							
KURK	**Kurchatov**	**64.37**	**329**			**P**	**20 48 09.4**	**-0.9**
BVAR	**Borovoye Array**	**69.93**	**328**	P		**P**	**20 48 45.5**	**-0.1**
	comp=Z,0.5nm,0.5s							
	comp=Z,0.5nm,0.5s							
K15K	**Wolf Creek Mou**	**81.39**	**27**	P		**P**	**20 49 53.2**	**+2.4**
K15K				IAmb		IAmb	20 49 55.0	
	comp=Z,3.4nm,0.8s							
O16K	**Kokwok River B**	**82.36**	**30**	P		**P**	**20 49 55.7**	**-0.3**
O16K				IAmb		IAmb	20 49 59.5	
	comp=Z,3.0nm,0.9s							
J17K	**VABM Dome**	**82.76**	**26**			**P**	**20 49 59.3**	**+1.2**
J17K				IAmb		IAmb	20 50 02.4	
	comp=Z,4.1nm,0.8s							
H17K	**Granite Mounta**	**82.78**	**24**			**P**	**20 49 59.0**	**+0.8**
H17K				IAmb

SGSI			S		Sn	20 59 09.7 +1.5
NLAI	Namlea	3.74 170	P		Pn	20 58 35.8 +0.1
LUWI	Luwuk	3.96 248			Pn	20 58 35.2 -3.6
LUWI	Luwuk	3.96 248	P		Pn	20 58 40.7 +1.9
AAI	Ambon	4.49 157	P		Pn	20 58 46.6 +0.6
MRSI	Marisa	4.50 270	P		Pn	20 58 46.2 +0.1
MSAI	Masohi	4.53 147	P		Pn	20 58 47.7 +1.1
APSI	Ampana	4.98 254	P		Pn	20 58 52.9 +0.1
SWI	Sorong	5.00 105	P		Pn	20 58 55.0 +2.0
	0.1nm21nm,0.5s					
TOLI2	Tolitoli	5.69 276			Pn	20 59 00.6 -1.9
KDI	Kendari	5.82 221	P		Pn	20 59 04.3 0.0
MPSI	Mapaga	6.54 269	P		Pn	20 59 15.3 +1.1
	0.1nm12nm,0.9s					
FAKI	Fak Fak	6.71 120	P		Pn	20 59 18.6 +2.1
	0.2nm47nm,1.6s					
TTSI	Tana Toraja	7.48 242	P		Pn	20 59 26.0 -1.1
	0.1nm465nm28nm,0.6s					
BNSI	Bone	7.96 233	P		Pn	20 59 33.8 +0.1
	41nm,1.3s					
SPSI	Sidrap Palu	7.99 236	P		Pn	20 59 34.1 0.0
KAPI	Kappang	8.62 231	Pn		Pn	20 59 41.4 -1.3
KAPI	Kappang	8.62 231	Pn		Pn	20 59 42.9 +0.2
	3.6nm,0.3s,baz=22,slow=5.8,SNR=5.7					
	9.7nm,0.3s					
KKM	Kota Kinabalu	11.61 299	Pn		Pn	21 00 21.8 -2.0
SBUM	Sibu	14.35 278			P	21 01 06.1 -0.9
KSM	Kuching	16.16 274	Pn		Pn	21 01 22.9 -1.6
KSM			IAmb		IAmb	21 01 27.5
	comp=Z,49nm,0.8s					
KNRA	Kununurra	16.21 172			Pn	21 01 24.1 -1.0
FITZ	Fitzroy Crossi	18.47 182	P		P	21 01 52.0 -0.5
FITZ	Fitzroy Crossi	18.47 182	P		P	21 01 52.3 -0.2
	comp=Z,0.3nm,0.3s,baz=5.4,slow=7.2,SNR=6.7					
	comp=Z,2.6nm,0.7s					
WB0	Warramunga Arr	21.57 159			P	21 02 25.4 -0.9
WB0			IAmb		IAmb	21 02 38.1
	comp=Z,12nm,0.8s					
WRA	Warramunga Arr	21.71 160	P		P	21 02 26.9 -0.8
WRA	Warramunga Arr	21.71 160	P		P	21 02 27.2 -0.6
	comp=Z,9.6nm,0.6s,baz=342,slow=10,SNR=53					
WRA			PcP		PcP	21 06 27.5 -0.1
	comp=Z,0.4nm,0.6s,baz=295,slow=4.0,SNR=2.0					
	comp=Z,9.6nm,0.6s					
WR8	Warramunga Arr	21.78 159			P	21 02 27.9 -0.7
WR8			IAmb		IAmb	21 02 35.9
	comp=Z,17nm,0.8s					
AS31	Alice Springs	25.06 164			P	21 02 59.9 -0.8
ASAR	Alice Springs	25.06 164	P		P	21 02 58.7 -2.0
ASAR	Alice Springs	25.06 164	P		P	21 03 01.0 +0.3
	comp=Z,6.2nm,0.5s,baz=344,slow=11,SNR=66					
ASAR			PcP		PcP	21 06 34.6 0.0
	comp=Z,0.6nm,0.6s,baz=334,slow=2.4,SNR=4.2					
	comp=Z,6.2nm,0.5s					
FORT	Forrest	31.11 177	P		P	21 03 54.1 -0.5
NJ2	Nanjing	32.22 348	*e*P		P	21 04 05.1 +0.8
NJ2			pmax		pmax	
	comp=Z,7.0nm,0.5s					
PZH	PanZhiHua	35.14 319	P		P	21 04 32.2 +2.2
STKA	Stephens Creek	35.23 157	P		P	21 04 31.2 +0.7
STKA	Stephens Creek	35.23 157	P		P	21 04 30.9 +0.5
	comp=Z,5.1nm,0.7s,baz=341,slow=9.0,SNR=15					
	comp=Z,5.1nm,0.7s					
KSRS	Korea Array	36.83 2	P		P	21 04 43.5 -0.5
	comp=Z,1.1nm,0.7s,baz=180,slow=10,SNR=4.8					
	comp=Z,1.1nm,0.7s					
MJAR	Matsushiro Arr	37.51 16	P		P	21 04 49.1 -0.9
MJAR	Matsushiro Arr	37.51 16	P		P	21 04 48.0 -1.9
	comp=Z,1.5nm,0.8s,baz=172,slow=11,SNR=5.2					
	comp=Z,1.5nm,0.8s					
ARMA	Armidale	38.96 144	P		P	21 05 02.8 +0.4
ARMA			IAmb		IAmb	21 05 07.5
	comp=Z,11nm,1.1s					
LZH	Lanzhou	41.19 332	*e*P		P	21 05 22.0 +1.2
LZH			pP		pwP	21 05 34.5 -1.2
LZH			sP		sP	21 05 38.9 +0.9
LZH			ScP		ScP	21 11 01.8 -3.8
LZH			pmax		pmax	
	comp=Z,9.0nm,1.1s					
TOO	Toolangi	41.75 157	P		P	21 05 23.4 -1.8
HHC	Hu-ho-hao-te	42.40 343	*e*P		P	21 05 31.3 +0.7
HHC			pmax		pmax	
	comp=Z,11nm,0.5s					
HHC			pmax		pmax	
	comp=Z,110nm,4.4s					
USRK	Ussuriysk Ar.	43.82 6	P		P	21 05 41.6 -0.2
	comp=Z,1.9nm,0.6s,baz=178,slow=6.6,SNR=3.6					
	comp=Z,1.9nm,0.6s					
GTA	Gaotai	45.76 331	*e*P		P	21 05 57.8 +0.3
GTA			pmax		pmax	
	comp=Z,2.0nm,0.8s					
SONM	Songino Array	50.29 343	P		P	21 06 32.7 +0.3
SONM	Songino Array	50.29 343	P		P	21 06 32.3 -0.1
	comp=Z,0.8nm,0.4s,baz=158,slow=6.8,SNR=6.5					
	comp=Z,0.8nm,0.4s					
WMQ	Urumqi	55.24 327	*e*P		P	21 07 10.9 +1.9
WMQ			pP		pwP	21 07 24.7 +0.3
PETK	Petropavlovsk-	58.54 22	P		P	21 07 32.0 -0.1
	comp=Z,2.7nm,0.5s,baz=192,slow=4.7,SNR=8.6					
	comp=Z,2.7nm,0.5s					
THZ	Tophouse	59.34 141	P		P	21 07 37.6 -0.3
MKAR	Makanchi Array	60.07 326	P		P	21 07 42.0 -0.8
	comp=Z,2.8nm,0.3s,baz=120,slow=7.9,SNR=58					
MKAR			PcP		PcP	21 08 28.3 0.0
	comp=Z,1.3nm,0.6s,baz=118,slow=4.5,SNR=4.2					
	comp=Z,2.8nm,0.3s					
MAKZ	Makanchi	60.26 326	P		P	21 07 43.4 -0.7
MAKZ			IAmb		IAmb	21 07 48.9
	comp=Z,2.9nm,0.8s					
ZALV	Zalesovo Beam	63.36 334	P		P	21 08 03.7 -1.0
ZALV	Zalesovo Beam	63.36 334	P		P	21 08 04.0 -0.8
	comp=Z,1.1nm,0.5s,baz=114,slow=3.7,SNR=4.8					
	comp=Z,1.1nm,0.5s					
KURBB	Kurchatov Arra	64.33 328	P		P	21 08 10.7 -0.6
	comp=Z,2.9nm,0.6s,baz=128,slow=6.2,SNR=29					
	comp=Z,2.9nm,0.6s					
KURK	Kurchatov	64.33 328			P	21 08 10.6 -0.7
BVAR	Borovoye Array	69.89 328	P		P	21 08 46.2 -0.3
	comp=Z,0.8nm,0.3s					
	comp=Z,0.8nm,0.3s					
BRVK	Borovoye	69.96 328	P		P	21 08 45.8 -1.2
BRVK			IAmb		IAmb	21 08 52.5
	comp=Z,5.0nm,1.1s					
AB31	Akbulak array	74.49 321	IAmb		IAmb	21 09 17.9
	comp=Z,2.2nm,0.7s					
ABKAR	Akbulak array	74.49 321			P	21 09 13.2 -0.8
ABKAR	Akbulak array	74.49 321	IAmb		IAmb	21 09 17.9
	comp=Z,2.2nm,0.7s					
MAW	Mawson	80.62 200	P		P	21 09 48.5 +0.7
	comp=Z,2.5nm,0.8s,baz=58,slow=8.6,SNR=4.4					
	comp=Z,2.5nm,0.8s					
K15K	Wolf Creek Mou	81.29 27			P	21 09 52.8 +1.2
K15K			IAmb		IAmb	21 10 09.1
	comp=Z,4.1nm,0.9s					
RAYN	Ar Rayn	81.50 294	P		P	21 09 52.1 -1.4
RAYN			IAmb		IAmb	21 09 53.8
	comp=Z,2.5nm,0.7s					
F17K	Baldwin Pennin	82.55 23	IAmb		IAmb	21 10 02.2
	comp=Z,6.8nm,1.0s					
J18K	Innoko River	83.71 26			P	21 10 05.9 +1.7
J18K			IAmb		IAmb	21 10 07.7
	comp=Z,4.0nm,1.0s					
IMAR	Indian Mountai	85.42 24	P		P	21 10 11.1 -1.6
E22K	Anaktuvuk Pass	86.48 22	IAmb		IAmb	21 10 21.2
	comp=Z,4.1nm,0.9s					
COLD	Coldfoot	86.99 23	IAmb		IAmb	21 10 24.5
	comp=Z,2.3nm,0.7s					
I23K	Minto, Yukon-K	87.13 25	IAmb		IAmb	21 10 42.7
	comp=Z,4.6nm,1.5s					
ILAR	Eielson Array	88.15 25	P		P	21 10 26.1 0.0
	comp=Z,0.3nm,0.5s,baz=256,slow=5.3,SNR=4.3					
	comp=Z,0.3nm,0.5s					
QSPA	South Pole Qui	90.40 180	P		P	21 10 37.4 +0.7
	comp=Z,1.6nm,0.9s,baz=273,slow=1.5,SNR=3.6					
	comp=Z,1.6nm,0.9s					
ARCES	ARCESS Array B	93.39 340	P		P	21 10 51.6 +1.2
	comp=Z,1.5nm,0.9s,baz=98,slow=4.6,SNR=2.2					
	comp=Z,1.5nm,0.9s					
TXAR	Lajitas Array	123.78 54	PKP		PKiKP	21 16 35.1 +0.7
	comp=Z,0.3nm,0.5s,baz=312,slow=3.1,SNR=3.5					

IDC 08 20:59:08.4±1.4, 0.°60N×126.°42E, h0km, mb3.9/5, mbtmp4.0/5, MS3.5/2, Error ellipse: s-maj=152.1km s-min=21.8km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	Jayapura	14.61	102	LR	LR	21 08 14.4	
	comp=Z,141nm,19.5s,baz=254,slow=37						
WRA	Warramunga Arr	21.84	160	P	P	21 04 01.5	-1.2
	1.5nm,0.4s,baz=337,slow=11,SNR=2.4						
	1.5nm,0.4s						
ASAR	Alice Springs	25.19	164	P	P	21 04 36.6	+0.7
	3.8nm,0.8s,baz=341,slow=8.2,SNR=4.8						
	3.8nm,0.8s						
SONM	Songino Array	50.16	343	P	P	21 08 05.0	-0.8
	0.4nm,0.5s,baz=160,slow=8.8,SNR=2.3						
	0.4nm,0.5s						
MKAR	Makanchi Array	59.95	326	P	P	21 09 16.6	0.0
	1.2nm,0.4s,baz=120,slow=7.6,SNR=7.4						
MKAR				PcP	PcP	21 10 03.4	+0.5
	0.3nm,0.5s,baz=113,slow=5.6,SNR=1.2						
	1.2nm,0.4s						
MA2	Magadan	61.80	14	LR	LR	21 36 07.5	
	comp=Z,66nm,21.8s,baz=42,slow=36						
KURBB	Kurchatov Arra	64.21	328	P	P	21 09 45.1	0.0
	1.3nm,0.7s,baz=130,slow=5.8,SNR=4.5						
	1.3nm,0.7s						

*IDC **08** 21:02:15.0±0.9, 0.°26N×126.°54E, h0km, mb3.7/8, mbtmp3.7/9, ML3.5/1, Error ellipse: s-maj=62.0km s-min=16.3km az=71.0*
*DJA **08** 21:02:21.5±1.4, 0.°N±3.×12.°6E±.°, h30km±14km, M3.8/9, MLv3.8/9*
ISC 08 21:02:21.7±0.7, 0.°40N±0.°06×126.°35E±0.°06, h47km, n16, σ2$08/17, mb3.8/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	1.08	70	P	Pn	21 02 40.9	+0.4
TNTI				S	Sn	21 02 56.4	+2.0
KMSI	Cibinong	2.38	274	P	Pn	21 02 59.1	+0.9
SANI	Sanana	2.46	188	P	Pn	21 03 00.5	+1.2
SGSI	Sangihe	3.37	346	P	Pn	21 03 10.8	-1.0
NLAI	Namlea	3.69	168	P	Pn	21 03 18.5	+2.3
LUWI	Luwuk	3.85	248	P	Pn	21 03 19.4	+0.9
MRSI	Marisa	4.41	271	P	Pn	21 03 26.5	+0.4
FITZ	Fitzroy Crossi	18.39	182	P	P	21 06 29.3	-3.6
	0.1nm,0.3s,baz=5.7,slow=10,SNR=2.1						
	2.3nm,1.0s						
WRA	Warramunga Arr	21.68	159	P	P	21 07 05.1	-3.5
	1.0nm,0.7s,baz=334,slow=11,SNR=5.0						
	1.0nm,0.7s						
ASAR	Alice Springs	25.02	163	P	P	21 07 39.5	-2.0
	0.9nm,0.8s,baz=350,slow=14,SNR=22						
	0.9nm,0.8s						
STKA	Stephens Creek	35.20	157	P	P	21 09 09.4	-2.0
	0.9nm,0.7s,baz=338,slow=11,SNR=3.1						
	0.9nm,0.7s						
SONM	Songino Array	50.33	343	P	P	21 11 15.3	+1.4
	0.4nm,0.6s,baz=151,slow=9.2,SNR=2.0						
	0.4nm,0.6s						
PETK	Petropavlovsk-	58.64	22	P	P	21 12 13.9	-0.1
	1.6nm,0.7s,baz=227,slow=7.8,SNR=2.0						
	1.6nm,0.7s						
MKAR	Makanchi Array	60.08	327	P	P	21 12 23.8	-0.3
	0.5nm,0.5s,baz=124,slow=7.9,SNR=9.7						
	0.5nm,0.5s						
KURBB	Kurchatov Arra	64.34	328	P	P	21 12 54.5	+2.0
	0.5nm,0.5s,baz=130,slow=6.3,SNR=6.6						
	0.5nm,0.5s						
BVAR	Borovoye Array	69.90	328	P	P	21 13 30.5	+2.7
	0.3nm,0.3s						
	0.3nm,0.3s						

*IDC **08** 21:04:34.0±1.2, 0.°54N×126.°32E, h0km, mb3.8/6, mbtmp3.8/7, ML3.1/1, Error ellipse: s-maj=108.2km s-min=17.6km az=68.0*
*DJA **08** 21:04:38.2±0.3, 0.°N±2.×12.°6E±.°, h10km, M3.5/9, MLv3.5/9*
ISC 08 21:04:40.6±0.9, 0.°46N±0.°07×126.°37E±0.°05, h47km, n12, σ1$07/15, mb3.8/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	1.05	73	P	Pn	21 04 58.0	-0.9
TNTI				S	Sn	21 05 14.4	+2.0
KMSI	Cibinong	2.39	273	P	Pn	21 05 16.9	-0.3
KMSI				S	Sn	21 05 46.9	+1.6
SANI	Sanana	2.52	189	P	Pn	21 05 18.1	-0.9
NLAI	Namlea	3.74	169	P	Pn	21 05 36.0	+0.1
NLAI				S	Sn	21 06 19.4	+0.7
LUWI	Luwuk	3.89	248	P	Pn	21 05 37.5	-0.4
FITZ	Fitzroy Crossi	18.45	182	P	P	21 08 51.5	-0.9
	baz=4.4,slow=13,SNR=1.8						
	4.6nm,1.2s						
WRA	Warramunga Arr	21.73	159	P	P	21 09 27.2	-0.9
	1.6nm,0.4s,baz=338,slow=11,SNR=14						
	1.6nm,0.4s						
ASAR	Alice Springs	25.07	164	P	P	21 10 02.4	+1.5
	1.7nm,0.7s,baz=341,slow=8.3,SNR=13						
	1.7nm,0.7s						
STKA	Stephens Creek	35.24	157	P	P	21 11 30.9	+0.1
	1.7nm,0.9s,baz=324,slow=8.7,SNR=2.1						
	1.7nm,0.9s						
MKAR	Makanchi Array	60.04	327	P	P	21 14 42.4	-0.3
	0.5nm,0.5s,baz=115,slow=7.7,SNR=7.5						
	0.5nm,0.5s						
ZALV	Zalesovo Beam	63.34	334	P	P	21 15 04.1	-0.6
	0.3nm,0.4s,baz=134,slow=6.2,SNR=1.9						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	64.30	328	P	P	21 15 10.4	-0.7
	0.5nm,0.5s,baz=130,slow=5.8,SNR=4.7						
	0.5nm,0.5s						

*VAO **08** 21:05:06.8±4.8, 20.°29S×71.°36W, h45km±18km, mb4.4*
*NEIC **08** 21:05:37.9±1.8, 18.°16S±0.°06×70.°2W±0.°1, h103km±6km, mb4.0/8, ML3.9(GUC), Error ellipse: s-maj=19.7km s-min=6.6km az=109.0*
*GUC **08** 21:05:39.4±0.8, 18.°15S×69.°98W, h106km±5km, ML3.9*
*IDC **08** 21:05:42.0±2.6, 18.°09S×69.°49W, h126km±19km, mb3.6/5, mbtmp4.0/7, Error ellipse: s-maj=52.4km s-min=21.9km az=112.0*
ISC 08 21:05:37.9±0.7, 18.°12S±0.°04×69.°91W±0.°08, h108km±5km, n54, σ1$46/64, mb3.5/5, 5C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB16	IPOC Station P	0.44	119	Pn	Pn	21 05 54.7	-0.2
PB16				Sn	Sn	21 06 06.9	-0.6
PB16	IPOC Station P	0.44	119	⇓*i*P	Pn	21 05 55.1	+0.3
PB16				*i* S	Sn	21 06 06.5	-1.0
PB16				IAML		21 06 08.2	
	comp=E,7μm,0.4s						
AP01	Chacalluta	0.47	239		Pn	21 05 54.4	+0.1
AP01				Sn	Sn	21 06 06.7	0.0
AP01	Chacalluta	0.47	239	⇑*i*P	Pn	21 05 54.4	+0.1
AP01				*i* S	Sn	21 06 06.7	0.0
AP01				IAML		21 06 07.8	
	comp=E,9μm,0.3s						
PB18	Visviri	0.67	38	Pn	Pn	21 05 57.8	+1.4
PB18				Sn	Sn	21 06 12.9	+2.6
PB18	Visviri	0.67	38	⇓*i*P	Pn	21 05 58.0	+1.5
PB11	IPOC Station P	1.65	172	Pn	Pn	21 06 07.1	+0.6
PB11				Sn	Sn	21 06 28.1	-0.2
PB11	IPOC Station P	1.65	172	⇑*i*P	Pn	21 06 07.2	+0.6
PB11				*i* S	Sn	21 06 28.9	+0.6
PB11				IAML		21 06 30.7	
	comp=E,1μm,0.2s						
GO01	Chusmiza	1.68	156	Pn	Pn	21 06 08.6	+1.3
GO01	Chusmiza	1.68	156	⇑*i*P	Pn	21 06 08.9	+1.6
GO01				*i* S	Sn	21 06 31.6	+2.1
PB08	IPOC Station P	2.13	160	Pn	Pn	21 06 14.3	+1.5
PB08	IPOC Station P	2.13	160	⇑*i*P	Pn	21 06 14.4	+1.6
PB08				*i* S	Sn	21 06 41.2	+1.7
PB08				IAML		21 06 43.4	
	comp=N,557nm,0.3s						
HMBC	Humberstone	2.14	179	Pn	Pn	21 06 12.5	-0.2
HMBC	Humberstone	2.14	179	⇑*i*P	Pn	21 06 12.8	+0.1
HMBC				*i* S	Sn	21 06 37.2	-2.2
TA02	Huaiquique	2.15	185	Pn	Pn	21 06 12.0	-0.7
TA02	Huaiquique	2.15	185	*e*P	Pn	21 06 12.6	0.0
TA02				IAML		21 06 42.1	
	comp=N,2μm,0.1s						
PX03	IPOC Station P	2.28	173	*e*P	Pn	21 06 14.6	+0.1
PX03				IAML		21 06 43.1	
	comp=N,1μm,0.2s						
TA01	Diego Aracena	2.44	186	Pn	Pn	21 06 15.8	-0.8
TA01	Diego Aracena	2.44	186	*i* P	Pn	21 06 16.2	-0.3
LPAZ	La Paz	2.50	43	P	Pn	21 06 20.2	+2.3
LPAZ	La Paz	2.50	43	P	Pn	21 06 20.4	+2.5
	comp=N,14nm,0.3s,baz=248,slow=1.6,SNR=123						
LPAZ				S	Sn	21 06 47.3	-1.1
	comp=N,24nm,0.7s,baz=51,slow=8.6,SNR=5.8						
LPAZ	La Paz	2.50	43	*e*P	Pn	21 06 20.4	+2.5
PATCX	Punta Patache	2.69	185	Pn	Pn	21 06 19.6	-0.3
PATCX	Punta Patache	2.69	185	*e*P	Pn	21 06 19.9	0.0
PB01	IPOC Station P	2.93	172	Pn	Pn	21 06 23.4	+0.4
PB01	IPOC Station P	2.93	172	*i* P	Pn	21 06 23.3	+0.2
PB09	IPOC Station P	3.71	170	Pn	Pn	21 06 34.1	+0.6
PB06	IPOC Station P	4.57	176	Pn	Pn	21 06 44.4	-0.7
PB05	IPOC Station P	4.71	183	Pn	Pn	21 06 45.8	-1.2
PB10	IPOC Station P	5.39	186	Pn	Pn	21 06 54.2	-1.9
PB14	IPOC Station P	6.49	184	Pn	Pn	21 07 08.7	-2.5
GO02	Mina Guanaco	7.01	178	Pn	Pn	21 07 16.2	-2.1
AC01	Pan de Azucar	8.01	184	Pn	Pn	21 07 28.4	-3.2
AC02	Maricunga	8.70	175	Pn	Pn	21 07 40.1	-1.3
SIV	San Ignacio	8.72	77	P	Pn	21 07 40.2	-1.0
	comp=N,12nm,0.4s,baz=258,slow=16,SNR=45						
BBSD	Serra de San D	8.92	85	*e*P	Pn	21 07 36.5	-7.5
VILB	Vilhena	10.68	63	Pn	Pn	21 08 07.1	-0.7
VILB	Vilhena	10.68	63	*e*P	Pn	21 08 07.6	-0.3
NPGB	Novo Progresso	17.96	54	*e*P	P	21 09 40.3	+0.4
SNDB	Serra Nova Dou	18.98	74	*e*P	P	21 09 46.8	-4.4
ITTB	Itaituba	19.48	47	*e*P	P	21 09 55.8	-0.7
PLTB	Pedras Altas	20.04	136	P	P	21 10 02.5	0.0
PLTB				IAmb	IAmb	21 10 04.0	
	comp=Z,6.8nm,1.2s						
MAL2	Monte Alegre,	22.24	46	P	P	21 10 24.6	-1.4
BOAV	Boa Vista	22.39	25	P	P	21 10 28.2	+0.6
BOAV				IAmb	IAmb	21 10 29.6	
	comp=Z,6.1nm,0.8s						
BOAV	Boa Vista	22.39	25	*e*P	P	21 10 25.7	-1.9
PLCA	Paso Flores	22.54	181	P	P	21 10 30.5	+1.5
PLCA	Paso Flores	22.54	181	P	P	21 10 31.1	+2.2
	comp=Z,1.5nm,0.6s,baz=8.5,slow=10,SNR=5.1						
	comp=Z,1.5nm,0.6s						
RUSC	La Rusia	24.07	352	P	P	21 10 44.2	+0.3
BAUV	El Baul	26.96	4	P	P	21 11 09.7	+0.1
SNAA	Sanae	65.76	161	P	P	21 16 13.0	+2.0
	comp=Z,0.4nm,0.8s,baz=311,slow=9.3,SNR=3.0						
	comp=Z,0.4nm,0.8s						
DBIC	Dimbokro	68.73	75	P	P	21 16 30.6	0.0
	comp=Z,6.0nm,0.8s,baz=242,slow=5.5,SNR=5.0						
	comp=Z,6.0nm,0.8s						
QSPA	South Pole Qui	72.05	180	P	P	21 16 52.5	+2.4
	comp=Z,0.4nm,0.5s,baz=128,slow=4.0,SNR=2.2						
	comp=Z,0.4nm,0.5s						
TORD	Torodi Ar. Bea	77.15	71	P	P	21 17 19.7	-0.6
	comp=Z,1.0nm,0.4s,baz=258,slow=5.0,SNR=3.7						
	comp=Z,1.0nm,0.4s						
SONM	Songino Array	150.21	5	PKPbc	PKiKP	21 25 17.9	+0.6
	comp=Z,0.3nm,0.4s,baz=2.9,slow=2.9,SNR=2.5						

IDC 08 21:05:39.6±1.8, 0.°85N×126.°89E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=163.0km s-min=23.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.92	161	P	P	21 10 34.0	-0.7
	2.3nm,0.8s,baz=340,slow=10,SNR=4.7						
	2.3nm,0.8s						
ASAR	Alice Springs	25.31	165	P	P	21 11 08.8	+0.6
	1.8nm,0.7s,baz=350,slow=14,SNR=7.7						
	1.8nm,0.7s						
MKAR	Makanchi Array	60.00	326	P	P	21 15 49.1	+0.9
	0.4nm,0.4s,baz=127,slow=6.7,SNR=4.1						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	64.24	328	P	P	21 16 15.3	-1.2
	0.3nm,0.7s,baz=130,slow=5.8,SNR=2.0						
	0.3nm,0.7s						

*IDC **08** 21:08:33.0±1.3, 0.°21N×125.°47E, h0km, mb3.7/5, mbtmp3.8/5, Error ellipse: s-maj=179.6km s-min=18.7km az=64.0*
*DJA **08** 21:08:37.5±0.3, 1.°N±3.×12.°6E±.°, h10km, M3.5/8, MLv3.5/8*
ISC 08 21:08:39.0±0.9, 0.°64N±0.°10×126.°27E±0.°06, h47km, n10, σ1$36/12, mb3.8/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	1.10	83	P	Pn	21 08 58.5	+0.4
TNTI				S	Sn	21 09 13.4	+1.2
KMSI	Cibinong	2.29	268	P	Pn	21 09 13.8	-0.6
LUWI	Luwuk	3.88	244	P	Pn	21 09 38.1	+1.9
NLAI	Namlea	3.94	168	P	Pn	21 09 38.1	+1.1
MRSI	Marisa	4.33	268	P	Pn	21 09 43.2	+0.8
WRA	Warramunga Arr	21.93	159	P	P	21 13 25.9	-2.7
	1.5nm,0.6s,baz=335,slow=11,SNR=9.1						
	1.5nm,0.6s						
ASAR	Alice Springs	25.27	163	P	P	21 14 00.8	-0.3
	1.8nm,0.7s,baz=341,slow=9.2,SNR=12						
	1.8nm,0.7s						
STKA	Stephens Creek	35.45	157	P	P	21 15 30.0	-0.9
	0.6nm,0.5s,baz=344,slow=11,SNR=3.2						
	0.6nm,0.5s						
MKAR	Makanchi Array	59.84	327	P	P	21 18 40.3	+0.5
	0.6nm,0.4s,baz=120,slow=7.5,SNR=10						
MKAR				PcP	PcP	21 19 26.6	+0.7
	0.4nm,0.6s,baz=139,slow=4.8,SNR=1.9						
	0.6nm,0.4s						
KURBB	Kurchatov Arra	64.09	328	P	P	21 19 08.0	-0.3
	0.4nm,0.5s,baz=133,slow=5.8,SNR=7.5						
	0.4nm,0.5s						

*IDC **08** 21:11:10.0±1.3, 0.°69N×126.°54E, h0km, mb3.9/5, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=108.2km s-min=18.1km az=67.0*
*DJA **08** 21:11:15.6±1.2, 0.°N±3.×12.°6E±.°, h18km±11km, M3.6/8, MLv3.6/8*

Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.15**	**72**		**Pn**	**21 31 05.5**	**-1.7**
TNTI				Sn	**Sn**	**21 31 20.6**	**-1.2**
TNTI	**Ternate**	**1.15**	**72**	P	**Pn**	**21 31 05.9**	**-1.3**
KMSI	**Cibinong**	**2.29**	**274**	P	**Pn**	**21 31 21.8**	**-1.0**
SANI	**Sanana**	**2.47**	**186**	P	**Pn**	**21 31 24.8**	**-0.5**
SANI				S	**Sn**	**21 31 55.6**	**+1.3**
SGSI	**Sangihe**	**3.33**	**347**	P	**Pn**	**21 31 38.0**	**+0.9**
NLAI	**Namlea**	**3.73**	**167**	P	**Pn**	**21 31 44.1**	**+1.4**
NLAI				S	**Sn**	**21 32 28.2**	**+2.8**
LUWI	**Luwuk**	**3.79**	**247**	Pn	**Pn**	**21 31 46.6**	**+3.2**
LUWI	**Luwuk**	**3.79**	**247**	P	**Pn**	**21 31 46.4**	**+3.0**
MRSI	**Marisa**	**4.33**	**271**	P	**Pn**	**21 31 51.9**	**+1.0**
AAI	**Ambon**	**4.51**	**155**	P	**Pn**	**21 31 54.6**	**+1.2**
AAI				S	**Sn**	**21 32 48.1**	**+3.4**
MSAI	**Masohi**	**4.59**	**145**	P	**Pn**	**21 31 57.2**	**+2.7**
APSI	**Ampana**	**4.80**	**254**	P	**Pn**	**21 31 58.9**	**+1.5**
SWI	**Sorong**	**5.15**	**104**	P	**Pn**	**21 32 03.1**	**+0.9**
	0.2nm942nm67nm,0.8s						
TOLI2	**Tolitoli**	**5.53**	**277**	Pn	**Pn**	**21 32 08.7**	**+1.4**
KDI	**Kendari**	**5.67**	**220**	P	**Pn**	**21 32 10.1**	**+0.7**
MPSI	**Mapaga**	**6.37**	**269**	P	**Pn**	**21 32 22.1**	**+3.1**
PCI	**Palu**	**6.56**	**258**	P	**Pn**	**21 32 23.9**	**+2.2**
	0.3nm1µm97nm,1.0s						
FAKI	**Fak Fak**	**6.84**	**119**	Pn	**Pn**	**21 32 25.0**	**-0.4**
FAKI	**Fak Fak**	**6.84**	**119**	P	**Pn**	**21 32 26.5**	**+1.1**
	0.3nm51nm,1.1s						
BBSI	**Bau Bau**	**6.93**	**212**	P	**Pn**	**21 32 28.8**	**+2.1**
TTSI	**Tana Toraja**	**7.31**	**242**	P	**Pn**	**21 32 33.1**	**+1.2**
	1µm179nm,0.7s						
BNSI	**Bone**	**7.80**	**232**	P	**Pn**	**21 32 39.6**	**+1.0**
	0.4nm1µm98nm,1.2s						
SPSI	**Sidrap Palu**	**7.82**	**236**	P	**Pn**	**21 32 40.3**	**+1.4**
	2µm157nm,0.6s						
KAPI	**Kappang**	**8.46**	**230**	Pn	**Pn**	**21 32 49.0**	**+1.4**
KAPI	**Kappang**	**8.46**	**230**	Pn	**Pn**	**21 32 47.7**	**+0.1**
	5.5nm,0.3s,baz=57,slow=4.9,SNR=22						
KAPI				Sn	**Sn**	**21 34 20.0**	**-1.9**
	1.4nm,0.3s,baz=93,slow=17,SNR=1.1						
	40nm,0.6s						
BSSI	**Bau Bau, Buton**	**8.71**	**221**	P	**Pn**	**21 32 51.5**	**+0.5**
	145nm,0.7s						
SOEI	**Soe**	**10.30**	**191**	Pn	**Pn**	**21 33 16.0**	**+2.9**
BATI	**Baumata**	**10.87**	**194**	Pn	**Pn**	**21 33 20.6**	**-0.2**
	1.0nm,0.3s,baz=0.0,slow=7.1,SNR=2.1						
BATI				LR	LR	21 38 15.1	
	comp=Z,526nm,20.6s,baz=17,slow=42						
	30nm,0.8s						
KKM	**Kota Kinabalu**	**11.48**	**299**	Pn	**Pn**	**21 33 32.8**	**+3.5**
MTN	**Manton Dam**	**14.04**	**160**	Pn	**Pn**	**21 34 03.4**	**-0.6**
SBUM	**Sibu**	**14.19**	**278**	P	**P**	**21 34 12.2**	**-0.8**
KDU	**Kakadu**	**14.40**	**155**	P	Pn	21 34 04.1	-4.9
JAY	**Jayapura**	**14.72**	**101**	Pn	**Pn**	**21 34 12.4**	**-1.1**
	0.2nm,0.3s,baz=53,slow=9.9,SNR=1.3						
JAY				LR	LR	21 41 06.7	
	comp=Z,553nm,18.6s,baz=294,slow=43						
	8.9nm,0.9s						
JAGI	**Jajag, Banyuwa**	**14.96**	**234**	P	**P**	**21 34 21.1**	**-0.6**
JAGI				IAmb	IAmb	21 34 25.1	
	comp=Z,196nm,1.7s						
KSM	**Kuching**	**15.99**	**274**		**Pn**	**21 34 32.1**	**+2.1**
KNRA	**Kununurra**	**16.18**	**171**	Pn	**Pn**	**21 34 31.7**	**-0.8**
KNRA	**Kununurra**	**16.18**	**171**	P	**Pn**	**21 34 31.5**	**-0.9**
	comp=Z,58nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.41**	**182**	P	**P**	**21 34 59.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**18.41**	**182**	P	**P**	**21 34 59.4**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=14,slow=11,SNR=19						
	comp=Z,23nm,1.0s						
WB0	**Warramunga Arr**	**21.59**	**159**	P	**P**	**21 35 33.0**	**-1.5**
WRAB	**Tennant Creek**	**21.73**	**159**	P	**P**	**21 35 34.8**	**-1.1**
WRAB				IAmb	IAmb	21 35 40.2	
	comp=Z,56nm,1.1s						
WRAB	**Tennant Creek**	**21.73**	**159**	*i* P	**P**	**21 35 34.3**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,50nm,0.9s						
WRA	**Warramunga Arr**	**21.73**	**159**	P	**P**	**21 35 34.8**	**-1.1**
WRA	**Warramunga Arr**	**21.73**	**159**	P	**P**	**21 35 34.6**	**-1.3**
	comp=Z,36nm,0.6s,baz=337,slow=11,SNR=199						
WRA				S	**S**	**21 39 31.3**	**-3.4**
	comp=Z,2.9nm,0.9s,baz=348,slow=20,SNR=6.0						
WRA				LR	LR	21 45 13.6	
	comp=Z,180nm,19.4s,baz=88,slow=40						
	comp=Z,36nm,0.6s						
WR8	**Warramunga Arr**	**21.80**	**159**	P	**P**	**21 35 35.5**	**-1.2**
WR8				IAmb	IAmb	21 35 39.2	
	comp=Z,44nm,0.6s						
COEN	**Coen**	**22.01**	**131**	P	**P**	**21 35 38.8**	**-0.2**
COEN				IAmb	IAmb	21 35 49.1	
	comp=Z,97nm,1.3s						
COEN	**Coen**	**22.01**	**131**	P	**P**	**21 35 38.9**	**-0.2**
	comp=Z,56nm,1.1s						
MBWA	**Marble Bar**	**22.38**	**196**	P	**P**	**21 35 40.9**	**-2.0**
MBWA	**Marble Bar**	**22.38**	**196**	P	**P**	**21 35 40.0**	**-2.9**
GUMO	**Guam**	**22.59**	**54**	LR	LR	21 43 40.5	
	comp=Z,133nm,21.1s,baz=294,slow=35						
YULB	**Yu-li**	**23.34**	**348**	P	**P**	**21 35 50.8**	**-2.0**
TPUB	**Ta-pu**	**23.39**	**347**	P	**P**	**21 35 52.5**	**-0.8**
TPUB				IAmb	IAmb	21 35 58.5	
	comp=Z,44nm,0.9s						
SSLB	**Suanglung**	**23.79**	**348**	P	**P**	**21 35 57.3**	**+0.1**
QIZ	**Qiongzhong**	**24.53**	**320**	P	**P**	**21 36 04.8**	**+0.8**
QIZ				S	**S**	**21 40 25.4**	**+2.9**
QIZ				LR	LR		
	comp=Z,220nm,13.8s						
QIZ				LR	LR		
	comp=Z,200nm,11.6s						
QIZ				LR	LR		
	comp=Z,500nm,17.8s						
AS31	**Alice Springs**	**25.07**	**163**	P	**P**	**21 36 08.2**	**-0.7**
AS31				IAmb	IAmb	21 36 11.2	
	comp=Z,40nm,1.1s						
ASAR	**Alice Springs**	**25.07**	**163**	P	**P**	**21 36 08.6**	**-0.3**
ASAR	**Alice Springs**	**25.07**	**163**	P	**P**	**21 36 08.0**	**-0.9**
	comp=Z,99nm,0.9s,baz=342,slow=9.4,SNR=278						
ASAR				PcP	**PcP**	**21 39 43.6**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=335,slow=2.5,SNR=3.4						
ASAR				S	**S**	**21 40 31.4**	**+0.2**
	comp=Z,4.3nm,0.9s,baz=350,slow=23,SNR=8.1						
ASAR				ScP	**ScP**	**21 43 22.2**	**+2.4**
	comp=Z,0.4nm,0.8s,baz=351,slow=2.2,SNR=4.4						
	comp=Z,99nm,0.9s						
ASAR	**Alice Springs**	**25.07**	**163**	P	**P**	**21 36 08.6**	**-0.3**
UBPT	**Khong Chiam**	**25.30**	**307**	P	**P**	**21 36 11.6**	**+0.6**
UBPT				IAmb	IAmb	21 36 17.6	
	comp=Z,43nm,1.7s						
JOW	**Kunigami**	**26.33**	**4**	P	**P**	**21 36 20.8**	**+0.5**
JOW				IAmb	IAmb	21 36 24.6	
	comp=Z,31nm,0.8s						
JOW	**Kunigami**	**26.33**	**4**	P	**P**	**21 36 20.2**	**0.0**
	comp=Z,31nm,0.8s,baz=206,slow=10,SNR=6.7						
	comp=Z,31nm,0.8s						
CTAO	**Charters Tower**	**28.26**	**137**	P	**P**	**21 36 37.5**	**-0.2**
CTAO				IAmb	IAmb	21 37 10.8	
	comp=Z,19nm,1.1s						
CTAO	**Charters Tower**	**28.26**	**137**	P	**P**	**21 36 37.5**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,19nm,1.1s						
FORT	**Forrest**	**31.07**	**177**	P	**P**	**21 37 01.4**	**-1.0**
FORT				IAmb	IAmb	21 37 03.9	
	comp=Z,20nm,0.8s						
NJ2	**Nanjing**	**32.23**	**348**	*e*P	**P**	**21 37 15.8**	**+3.2**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**32.27**	**305**	P	**P**	**21 37 11.6**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=123,slow=8.7,SNR=6.0						
CMAR				LR	LR	21 51 59.8	
	comp=Z,73nm,19.0s,baz=100,slow=40						
	comp=Z,0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.27**	**305**	*i* P	**P**	**21 37 15.0**	**+1.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KMI	**Kunming**	**33.47**	**319**	P	**P**	**21 37 26.3**	**+2.5**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ENH	**Enshi**	**33.70**	**333**	P	**P**	**21 37 24.3**	**-1.3**
ENH				IAmb	IAmb	21 37 27.2	
	comp=Z,16nm,1.2s						
PZH	**PanZhiHua**	**35.07**	**320**	P	**P**	**21 37 40.3**	**+2.7**
EIDS	**Eidsvold**	**35.11**	**139**	P	**P**	**21 37 37.6**	**-0.2**
EIDS				IAmb	IAmb	21 37 39.5	
	comp=Z,18nm,0.9s						
STKA	**Stephens Creek**	**35.25**	**157**	P	**P**	**21 37 38.4**	**-0.5**
STKA	**Stephens Creek**	**35.25**	**157**	P	**P**	**21 37 37.8**	**-1.1**
	comp=Z,18nm,0.9s,baz=330,slow=9.4,SNR=27						
	comp=Z,18nm,0.9s						
STKA	**Stephens Creek**	**35.25**	**157**	*i* P	**P**	**21 37 36.2**	**-2.7**
INU	**Inuyama**	**36.17**	**15**	P	**P**	**21 37 48.8**	**+2.1**
INU				IAmb	IAmb	21 38 13.7	
	comp=Z,21nm,1.2s						
JGF	**Kuroka**	**36.49**	**15**	P	**P**	**21 37 49.5**	**-0.1**
JGF				IAmb	IAmb	21 37 53.8	
	comp=Z,9.4nm,0.8s						
KSRS	**Korea Array**	**36.88**	**2**	P	**P**	**21 37 51.9**	**-0.8**
	comp=Z,3.2nm,0.7s,baz=181,slow=9.9,SNR=13						
	comp=Z,3.2nm,0.7s						
MJAR	**Matsushiro Arr**	**37.61**	**16**	P	**P**	**21 37 56.9**	**-2.1**
	comp=Z,2.6nm,0.6s,baz=182,slow=9.7,SNR=10						
	comp=Z,2.6nm,0.6s						
MAJO	**Matsushiro**	**37.61**	**16**	P	**P**	**21 38 00.2**	**+1.2**
MAJO	**Matsushiro**	**37.61**	**16**	*i* P	**P**	**21 37 58.5**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,27nm,3.0s						
DL2	**Dalian**	**38.53**	**354**	P	**P**	**21 38 06.5**	**-0.2**
DL2				pmax	pmax		
	comp=Z,28nm,0.7s						
ARMA	**Armidale**	**39.02**	**144**	P	**P**	**21 38 11.6**	**+0.4**
ARMA				IAmb	IAmb	21 38 13.7	
	comp=Z,27nm,0.8s						
BJI	**Beijing**	**40.49**	**348**	P	**P**	**21 38 23.6**	**+0.6**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,24nm,4.0s						
BJI				LR	LR		
	comp=Z,81nm,21.1s						
BJI				LR	LR		
	comp=Z,62nm,16.6s						
BJI				LR	LR		
	comp=Z,100nm,24.2s						
LZH	**Lanzhou**	**41.15**	**332**	*e*P	**P**	**21 38 32.9**	**+4.2**
LZH				pP	sP	21 38 43.2	+1.1
LZH				sP	pwP	21 38 47.5	+6.0
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
CAN	**Canberra**	**41.41**	**151**	P	**P**	**21 38 31.3**	**+0.5**
CAN				IAmb	IAmb	21 38 32.3	
	comp=Z,26nm,1.1s						
CAN	**Canberra**	**41.41**	**151**	P	**P**	**21 38 31.3**	**+0.5**
CAN				pmax	pmax		
	comp=Z,26nm,1.1s						
TOO	**Toolangi**	**41.77**	**157**	P	**P**	**21 38 32.4**	**-1.3**
TOO	**Toolangi**	**41.77**	**157**	P	**P**	**21 38 32.4**	**-1.3**
TOO				pmax	pmax		
	comp=Z,26nm,1.7s						
MSHR	**Mys Shultsa**	**42.20**	**5**	*i* P	**P**	**21 38 35.5**	**-1.5**
JTM	**Tenmabayashi**	**42.37**	**17**	P	**P**	**21 38 40.8**	**+2.4**
HHC	**Hu-ho-hao-te**	**42.40**	**343**	*e*P	**P**	**21 38 41.3**	**+2.5**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,90nm,6.0s						
HHC				LR	LR		
	comp=Z,130nm,16.0s						
HHC				LR	LR		
	comp=Z,130nm,16.0s						
HHC				LR	LR		
	comp=Z,170nm,16.0s						
USA0B	**Ussuriysk Arra**	**43.89**	**6**	*i* P	**P**	**21 38 48.9**	**-1.7**
USRK	**Ussuriysk Ar.**	**43.89**	**6**	P	**P**	**21 38 49.3**	**-1.3**
USRK	**Ussuriysk Ar.**	**43.89**	**6**	P	**P**	**21 38 50.1**	**-0.5**
	comp=Z,3.2nm,0.6s,baz=190,slow=8.4,SNR=7.4						
	comp=Z,3.2nm,0.6s						
USRK	**Ussuriysk Ar.**	**43.89**	**6**	P	**P**	**21 38 49.3**	**-1.3**
MDJ	**Mudanjiang**	**44.10**	**3**	P	P	21 38 59.2	+6.8
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
XLT	**XiLinHaoTe**	**44.23**	**349**	*e*P	P	21 38 59.2	+5.7
XLT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,170nm,5.4s						
LSA	**Lhasa**	**44.34**	**314**	P	**P**	**21 38 53.8**	**-1.3**
LSA	**Lhasa**	**44.34**	**314**	P	**P**	**21 38 53.8**	**-1.3**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BNX	**BinXian**	**45.14**	**1**	⇑P	**P**	**21 38 56.9**	**-3.7**
BNX				pmax	pmax		
	comp=Z,9.0nm,3.2s						
GTA	**Gaotai**	**45.72**	**331**	*e*P	**P**	**21 39 05.7**	**+0.2**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GTA				LR	LR		
	comp=Z,110nm,14.2s						
GTA				LR	LR		
	comp=Z,140nm,16.7s						
GTA				LR	LR		
	comp=Z,260nm,17.8s						
EVN	**Everest**	**46.65**	**309**	P	**P**	**21 39 13.5**	**-0.2**
EVN				IAmb	IAmb	21 39 20.3	
	comp=Z,8.2nm,0.7s						
YSS	**Yuzhno-Sakhali**	**48.53**	**15**	*e*P	**P**	**21 39 28.8**	**+1.7**
YSS				MLR	MLR		
	comp=Z,100nm,15.0s						
KLR	**Kul'dur**	**48.85**	**5**	*i* P	**P**	**21 39 28.5**	**-1.0**
KLR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HEH	**HeiHe**	**49.66**	**1**	*e*P	**P**	**21 39 39.9**	**+4.2**
HEH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ULN	**Ulaanbaatar**	**50.12**	**343**	P	**P**	**21 39 39.0**	**-0.4**
ULN	**Ulaanbaatar**	**50.12**	**343**	*i* P	**P**	**21 39 39.5**	**+0.1**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	**Songino Array**	**50.28**	**343**	P	**P**	**21 39 40.3**	**-0.4**
SONM	**Songino Array**	**50.28**	**343**	P	**P**	**21 39 40.3**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=162,slow=10,SNR=9.8						
	comp=Z,1.6nm,0.5s						
SONM	**Songino Array**	**50.28**	**343**	P	**P**	**21 39 40.3**	**-0.4**
SONM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ZEA	**Zeya**	**53.14**	**1**	*e*P	**P**	**21 40 06.4**	**+4.7**
ZEA				*e*		21 40 17.1	
ZAK	**Zakamensk**	**53.49**	**342**	*e*P	**P**	**21 40 07.8**	**+3.3**
MSVF	**Nonsavu**	**54.03**	**112**	*i* P	**P**	**21 40 08.4**	**-0.6**
MSVF				pmax	pmax		
	comp=Z,52nm,1.8s						
IRK	**Irkutsk**	**54.84**	**344**	*e*P	**P**	**21 40 13.4**	**-0.8**
IRK				pmax	pmax		
	comp=Z,17nm,1.5s						
WMQ	**Urumqi**	**55.19**	**327**	*e*P	**P**	**21 40 19.6**	**+2.7**
MOY	**Mondy**	**55.33**	**341**	*e*P	**P**	**21 40 20.0**	**+2.1**
MOY				pmax	pmax		
	comp=Z,15nm,2.2s						
PEA0B	**Petropavlovsk-**	**58.65**	**22**	P	**P**	**21 40 42.0**	**+0.7**
PEA0B	**Petropavlovsk-**	**58.65**	**22**	*i* P	**P**	**21 40 39.2**	**-2.0**
PETK	**Petropavlovsk-**	**58.65**	**22**	P	**P**	**21 40 41.0**	**-0.2**
PETK	**Petropavlovsk-**	**58.65**	**22**	P	**P**	**21 40 40.1**	**-1.1**
	comp=Z,4.1nm,0.6s,baz=210,slow=7.7,SNR=7.4						
	comp=Z,4.1nm,0.6s						
WUS	**Wushi**	**58.74**	**320**	P	**P**	**21 40 41.9**	**-0.4**
WUS				IAmb	IAmb	21 40 48.4	
	comp=Z,8.2nm,1.2s						
LBZ	**Lake Benmore**	**59.24**	**145**	P	**P**	**21 40 45.0**	**-0.6**
TUWZ	**Tuamarina**	**59.90**	**140**	P	**P**	**21 40 49.9**	**-0.1**
MK31	**Makanchi Array**	**60.02**	**327**	*ce*P	**P**	**21 40 50.5**	**-0.3**
MKAR	**Makanchi Array**	**60.02**	**327**	P	**P**	**21 40 50.0**	**-0.8**
MKAR	**Makanchi Array**	**60.02**	**327**	P	**P**	**21 40 49.9**	**-1.0**
	comp=Z,6.0nm,0.5s,baz=123,slow=8.6,SNR=44						
	comp=Z,6.0nm,0.5s						
MAKZ	**Makanchi**	**60.20**	**326**	P	**P**	**21 40 51.5**	**-0.6**
MAKZ				IAmb	IAmb	21 40 60.0	
	comp=Z,8.3nm,0.9s						
MAKZ	**Makanchi**	**60.20**	**326**	P	**P**	**21 40 51.5**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BKZ	**Black Stump Fm**	**60.48**	**137**	P	**P**	**21 40 53.6**	**-0.5**
RTZ	**Ruatahuna**	**60.56**	**136**	P	**P**	**21 40 54.8**	**0.0**
BOOM	**Boomskoye usch**	**61.50**	**320**	P	**P**	**21 41 01.8**	**+0.6**
BOOM				IAmb	IAmb	21 41 47.3	
	comp=Z,10nm,1.6s						
BOOM	**Boomskoye usch**	**61.50**	**320**	P	**P**	**21 41 01.8**	**+0.6**
BOOM				pmax	pmax		
	comp=Z,10.0nm,1.6s						
YAK	**Yakutsk**	**61.51**	**2**	*e*P	**P**	**21 41 00.6**	**0.0**
YAK				*e**PP	**pP**	**21 41 10.6**	**+0.1**
YAK				*e*		21 41 44.3	
YAK				*e*		21 43 16.5	
YAK				*e*PPP	PPP	21 44 41.5	
YAK				*e*S	**S**	**21 49 20.3**	**+0.8**
YAK				*e**SS	**sS**	**21 49 37.5**	**+1.7**
YAK				*e*		21 50 49.3	
YAK				*e*SS	**SS**	**21 53 22.8**	**+1.8**
YAK				pmax	pmax		
	comp=Z,21nm,1.0s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,144nm,5.2s						
YAK				pmax	pmax		
	comp=N,39nm,4.7s						
YAK				pmax	pmax		
	comp=E,40nm,5.7s						
YAK				smax	smax		
	comp=E,42nm,3.4s						
YAK				smax	smax		
	comp=N,39nm,3.8s						
MA2	**Magadan**	**62.01**	**14**	*i* P	**P**	**21 41 04.3**	**+0.3**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AAK	**Ala-Archa**	**62.51**	**319**	*ce*P	**P**	**21 41 08.9**	**+0.9**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KBL	**Kabul**	**63.19**	**309**	P	**P**	**21 41 13.1**	**+0.4**
KBL				IAmb	IAmb	21 41 16.6	
	comp=Z,4.8nm,0.7s						
KBL	**Kabul**	**63.19**	**309**	P	**P**	**21 41 13.1**	**+0.4**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ZAA0	**Zalesovo Array**	**63.32**	**334**	P	**P**	**21 41 12.2**	**-0.7**
ZALV	**Zalesovo Beam**	**63.32**	**334**	P	**P**	**21 41 11.1**	**-1.8**
ZALV	**Zalesovo Beam**	**63.32**	**334**	P	**P**	**21 41 11.8**	**-1.1**
	comp=Z,1.9nm,0.5s,baz=123,slow=5.5,SNR=8.9						
	comp=Z,1.9nm,0.5s						
ZALV	**Zalesovo Beam**	**63.32**	**334**	P	**P**	**21 41 11.1**	**-1.8**
GAR	**Garm**	**63.84**	**314**	P	**P**	**21 41 15.6**	**-1.2**
GAR				IAmb	IAmb	21 41 18.3	
	comp=Z,13nm,1.0s						
BTK	**Batken**	**63.90**	**315**	P	**P**	**21 41 16.6**	**-0.5**
BTK	**Batken**	**63.90**	**315**	P	**P**	**21 41 16.6**	**-0.5**
BTK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KURBB	**Kurchatov Arra**	**64.28**	**328**	P	**P**	**21 41 18.4**	**-0.8**
	comp=Z,5.0nm,0.6s,baz=127,slow=6.2,SNR=33						
	comp=Z,5.0nm,0.6s						
KURK	**Kurchatov**	**64.28**	**329**	P	**P**	**21 41 17.9**	**-1.4**
KURK	**Kurchatov**	**64.28**	**329**	*ce*P	**P**	**21 41 19.2**	**-0.1**
KURK				pmax	pmax		
	comp=Z,16nm,0.8s						
SIMJ	**Simiganj**	**64.66**	**313**	P	**P**	**21 41 20.6**	**-1.7**
SEY	**Seymchan**	**65.34**	**13**	*i* P	**P**	**21 41 23.1**	**-2.8**
SEY				pmax	pmax		
	comp=Z,15nm,1.8s						
KK31	**Karatay Array**	**65.35**	**318**	P	**P**	**21 41 25.1**	**-1.3**
KK31	**Karatay Array**	**65.35**	**318**	P	**P**	**21 41 25.2**	**-1.3**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KKAR	**Karatay Array**	**65.35**	**318**	P	**P**	**21 41 24.9**	**-1.6**
KKAR	**Karatay Array**	**65.35**	**318**	P	**P**	**21 41 24.9**	**-1.6**
CASY	**Casey**	**67.50**	**187**	P	**P**	**21 41 39.8**	**+0.1**
CASY				IAmb	IAmb	21 41 40.5	
	comp=Z,14nm,1.1s						
CASY	**Casey**	**67.50**	**187**	P	**P**	**21 41 39.1**	**-0.5**
AMKA	**Amchitka**	**67.51**	**33**	P	**P**	**21 41 39.1**	**-0.9**
BVAR	**Borovoye Array**	**69.84**	**328**	P	**P**	**21 41 55.5**	**+0.9**
	comp=Z,3.2nm,0.6s						
	comp=Z,3.2nm,0.6s						
BRVK	**Borovoye**	**69.91**	**328**	P	**P**	**21 41 55.6**	**+0.6**
TIXI	**Tiksi**	**71.14**	**1**	P	**P**	**21 42 01.1**	**-1.0**
TIXI	**Tiksi**	**71.14**	**1**	*ce*P	**P**	**21 42 00.6**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BILL	**Bilibino**	**72.85**	**15**	*ce*P	**P**	**21 42 13.0**	**+0.6**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NRIK	**Noril'sk**	**73.52**	**347**	P	**P**	**21 42 16.8**	**+0.4**
	comp=Z,4.2nm,0.5s,baz=123,slow=5.8,SNR=4.4						
	comp=Z,4.2nm,0.5s						
NRIK	**Noril'sk**	**73.52**	**347**	*i* P	**P**	**21 42 17.3**	**+0.9**
NRIK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AB31	**Akbulak array**	**74.42**	**321**	P	**P**	**21 42 21.0**	**-1.1**
ABKAR	**Akbulak array**	**74.42**	**321**	P	**P**	**21 42 21.1**	**-1.0**
NIKH	**Nikolski High**	**74.78**	**35**	P	**P**	**21 42 24.0**	**0.0**
	baz=250						
UNV	**Unalaska Valle**	**76.39**	**34**	P	**P**	**21 42 32.9**	**-0.3**
	baz=252						
SVE	**Sverdlovsk**	**76.53**	**329**	*e*P	**P**	**21 42 33.5**	**-0.5**
SVE				pmax	pmax		
	comp=Z,27nm,1.4s						
ARTI	**Arti**	**77.56**	**328**	P	**P**	**21 42 38.2**	**-1.6**
ARTI				IAmb	IAmb	21 42 41.8	
	comp=Z,11nm,0.6s						
ARTI	**Arti**	**77.56**	**328**	*c* *i*P	**P**	**21 42 38.2**	**-1.6**
ARTI						21 45 29.1	
ARTI				S	**S**	**21 52 28.6**	**0.0**
ARTI				SS	**SS**	**21 57 24.4**	**-4.0**
ARTI				pmax	pmax		
	comp=Z,21nm,1.4s						
GAMB	**Gambell**	**77.59**	**24**	P	**P**	**21 42 40.2**	**+0.4**
	baz=245						
S12K	**Black Hills**	**79.40**	**33**	P	**P**	**21 42 50.3**	**+0.4**
	baz=255						
TNA	**Tin City**	**79.80**	**23**	P	**P**	**21 42 52.7**	**+0.8**
	baz=248						
K13K	**Kusilvak Mount**	**79.90**	**27**	P	**P**	**21 42 53.0**	**+0.5**
	baz=252						
**

N15K	Kwethluk River	81.54	29	P	P	21 43 01.9	+0.6
	baz=256						
C16K	Lisburne Hills	81.73	20	P	P	21 43 03.0	+0.8
	baz=250						
H16K	Elim	81.76	24	P	P	21 43 03.1	+0.7
	baz=253						
G16K	Koyuk River	81.93	24	IAmb	IAmb	21 45 23.7	
	comp=Z,11nm,0.7s						
G16K	Koyuk River	81.93	24	P	P	21 43 04.2	+0.9
	baz=253						
J16K	Anvik River	82.09	26	IAmb	IAmb	21 43 09.4	
	comp=Z,18nm,1.1s						
J16K	Anvik River	82.09	26	P	P	21 43 04.8	+0.6
	baz=255,SNR=13						
L16K	Owhat River	82.20	28	P	P	21 43 05.4	+0.6
	baz=256						
I17K	Unalakleet	82.20	25	P	P	21 43 04.9	+0.1
	baz=255						
N16K	Nishlik Lake	82.25	29	P	P	21 43 05.5	+0.4
	baz=257						
M16K	Timber Creek	82.28	28	P	P	21 43 05.6	+0.3
	baz=257						
P16K	Nushagak River	82.32	30	P	P	21 43 05.9	+0.4
	baz=258						
D17K	Noatak River	82.34	21	P	P	21 43 06.3	+0.9
	baz=252						
O16K	Kokwok River B	82.39	30	P	P	21 43 06.4	+0.5
	baz=258						
C17K	DeLong Mountai	82.55	21	P	P	21 43 07.2	+0.6
	baz=252,SNR=6.9						
E17K	Hotham Inlet	82.63	22	P	P	21 43 08.5	+1.5
	baz=253						
G17K	Kiwalik Mounta	82.65	24	P	P	21 43 08.4	+1.3
	baz=255,SNR=14						
F17K	Baldwin Pennin	82.67	23	P	P	21 43 08.1	+1.0
	baz=254						
BELG	Belogornoye	82.74	323	*i* P	P	21 43 06.1	-1.6
BELG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
J17K	VABM Dome	82.78	26	IAmb	IAmb	21 43 13.0	
	comp=Z,16nm,0.9s						
J17K	VABM Dome	82.78	26	P	P	21 43 09.3	+1.6
	baz=256,SNR=20						
KIRV	Kirov	82.80	329	*i* P	P	21 43 05.1	-2.8
H17K	Granite Mounta	82.80	24	IAmb	IAmb	21 44 37.8	
	comp=Z,14nm,0.7s						
H17K	Granite Mounta	82.80	24	P	P	21 43 08.7	+0.8
	baz=255,SNR=16						
L17K	Donlin	82.84	27	P	P	21 43 09.1	+0.9
	baz=257,SNR=5.3						
R17L	Mt. Peulik Vol	82.89	32	P	P	21 43 08.8	+0.3
	baz=259						
O17K	Koliganek Bris	82.92	30	P	P	21 43 08.9	+0.3
	baz=259						
K17K	Iditarod	82.97	27	P	P	21 43 08.9	+0.1
	baz=257,SNR=21						
N17K	Nushagak Hills	83.03	29	IAmb	IAmb	21 43 23.2	
	comp=Z,10nm,1.4s						
N17K	Nushagak Hills	83.03	29	P	P	21 43 09.9	+0.8
	baz=258						
M17K	Holitna River	83.08	28	IAmb	IAmb	21 43 14.7	
	comp=Z,9.1nm,1.1s						
M17K	Holitna River	83.08	28	P	P	21 43 10.3	+0.9
	baz=258						
P17K	Kvichak River	83.14	30	P	P	21 43 10.7	+1.0
	baz=259						
E18K	Tukpahlearik C	83.18	22	P	P	21 43 10.7	+0.9
	baz=254,SNR=24						
GNI	Garni	83.24	310	*ce*P	P	21 43 09.9	-1.0
GNI				pmax	pmax		
	comp=Z,8.0nm,1.7s						
Q17K	Contact Creek	83.25	31	P	P	21 43 10.3	-0.1
	baz=260						
B18K	Kokolik River	83.29	20	P	P	21 43 11.0	+0.7
	baz=253,SNR=10						
C18K	Utukok River	83.30	21	IAmb	IAmb	21 43 14.7	
	comp=Z,8.9nm,1.1s						
C18K	Utukok River	83.30	21	P	P	21 43 11.3	+0.8
	baz=254,SNR=7.8						
H18K	Honhosa River	83.49	24	P	P	21 43 12.2	+0.8
H18K	Honhosa River	83.49	24	P	P	21 43 12.8	+1.3
	baz=257,SNR=9.7						
G18K	Tagagawik	83.55	24	P	P	21 43 12.5	+0.8
	baz=256,SNR=9.0						
L18K	Granite Mounta	83.60	27	IAmb	IAmb	21 43 17.0	
	comp=Z,17nm,1.1s						
L18K	Granite Mounta	83.60	27	P	P	21 43 12.8	+0.8
	baz=259,SNR=14						
N18K	Kilae Creek	83.68	29	IAmb	IAmb	21 43 17.0	
	comp=Z,7.1nm,1.1s						
N18K	Kilae Creek	83.68	29	P	P	21 43 12.5	-0.1
	baz=260,SNR=5.6						
Q18K	Katmai Hardscr	83.77	31	P	P	21 43 13.2	+0.1
	baz=260						
A19K	Wainwright	83.78	19	P	P	21 43 13.6	+0.8
	baz=254						
P18K	Big Mountain,	83.78	30	P	P	21 43 13.8	+0.6
	baz=260						
J18K	Innoko River	83.83	26	IAmb	IAmb	21 45 42.1	
	comp=Z,6.2nm,0.8s						
J18K	Innoko River	83.83	26	P	P	21 43 14.0	+0.8
	baz=258,SNR=10						
M18K	Stony River	83.86	28	P	P	21 43 14.1	+0.6
	baz=260,SNR=15						
O18K	Koktuh Hills	83.87	30	IAmb	IAmb	21 43 26.7	
	comp=Z,9.3nm,1.1s						
O18K	Koktuh Hills	83.87	30	P	P	21 43 14.0	+0.4
	baz=260						
C19K	Lookout Ridge	83.98	20	IAmb	IAmb	21 43 19.4	
	comp=Z,18nm,1.1s						
C19K	Lookout Ridge	83.98	20	P	P	21 43 14.8	+0.9
	baz=255,SNR=21						
F19K	Shaleruckik Mo	84.11	23	P	P	21 43 15.7	+1.1
	baz=257						
G19K	Purcell Mounta	84.23	23	P	P	21 43 16.1	+1.0
	baz=258,SNR=14						
D19K	Kuna River	84.35	21	P	P	21 43 16.4	+0.5
	baz=257,SNR=12						
H19K	Roundabout Mou	84.36	24	P	P	21 43 17.3	+1.5
	baz=258,SNR=8.5						
N19K	Bonanza Creek	84.39	29	P	P	21 43 17.1	+0.9
	baz=261,SNR=17						
J19K	Poorman	84.41	26	P	P	21 43 17.0	+0.8
	baz=259						
L19K	White Mountain	84.44	28	IAmb	IAmb	21 43 21.1	
	comp=Z,9.1nm,1.1s						
L19K	White Mountain	84.44	28	P	P	21 43 16.5	+0.1
	baz=260,SNR=8.4						
E19K	Redstone River	84.45	22	P	P	21 43 16.5	+0.2
E19K	Redstone River	84.45	22	P	P	21 43 17.2	+1.0
	baz=258,SNR=6.1						
OHAK	Old Harbor	84.47	33	P	P	21 43 16.9	+0.4
	baz=262						
Q19K	Cape Douglas,	84.52	31	P	P	21 43 16.3	-0.5
	baz=262						
M19K	Big River Lodg	84.61	28	IAmb	IAmb	21 43 22.1	
	comp=Z,7.4nm,1.1s						
M19K	Big River Lodg	84.61	28	P	P	21 43 17.7	+0.5
	baz=261						
P19K	Oil Pt	84.83	30	P	P	21 43 18.5	0.0
	baz=262						
KBZ	Khabaz	84.91	314	P	P	21 43 19.1	0.0
	comp=Z,5.5nm,1.0s,baz=81,slow=4.1,SNR=9.8						
	comp=Z,5.5nm,1.0s						
KBZ	Khabaz	84.91	314	*i* P	P	21 43 18.3	-0.8
KBZ				pmax	pmax		
	comp=Z,12nm,1.1s						
KDAK	Kodiak Island	84.92	32	P	P	21 43 18.3	-0.5
KDAK	Kodiak Island	84.92	32	LR	LR	22 13 33.3	
	comp=Z,66nm,21.5s,baz=222,slow=30						
KDAK	Kodiak Island	84.92	32	P	P	21 43 18.3	-0.5
KDAK				pmax	pmax		
	comp=Z,53nm,1.8s						
KDAK	Kodiak Island	84.92	32	P	P	21 43 18.9	+0.1
	baz=263						
L20K	Farewell, AK	84.93	27	P	P	21 43 19.3	+0.5
	baz=261						
D20K	Etivluk River	84.94	21	P	P	21 43 19.3	+0.5
	baz=258						
F20K	Avaraart Lake	84.94	23	P	P	21 43 19.3	+0.6
	baz=259						
K20K	Telida	84.98	26	P	P	21 43 20.3	+1.2
	baz=261						
H20K	Anotleneega Mo	84.99	24	P	P	21 43 20.3	+1.2
	baz=260						
E20K	Nigu River	85.00	21	P	P	21 43 20.4	+1.3
	baz=258,SNR=11						
B20K	Meade River	85.03	20	IAmb	IAmb	21 43 27.1	
	comp=Z,6.9nm,1.1s						
B20K	Meade River	85.03	20	P	P	21 43 20.3	+1.2
	baz=257						
KIV	Kislovodsk	85.08	314	*e*P	P	21 43 18.3	-1.8
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
J20K	Nowinta River	85.08	26	P	P	21 43 20.5	+1.0
	baz=261						
SHA1	Shidzhatmaz	85.08	314	*i* P	P	21 43 19.7	-0.6
Q20K	Shuyak Island	85.12	31	P	P	21 43 20.3	+0.5
	baz=263						
RED	Redoubt Volcan	85.17	29	IAmb	IAmb	21 43 23.0	
	comp=Z,12nm,1.1s						
M20K	Styx River	85.19	28	P	P	21 43 21.3	+1.0
	baz=262						
O20K	Slope Mountain	85.19	30	P	P	21 43 21.1	+0.8
	baz=262						
A21K	Barrow	85.48	18	P	P	21 43 23.1	+1.8
	baz=258						
HOM	Homer	85.63	30	P	P	21 43 23.7	+1.3
	baz=263						
C21K	Knifeblade Rid	85.67	21	P	P	21 43 23.8	+1.4
	baz=260						
G21K	Allakaket	85.72	23	P	P	21 43 23.8	+1.1
	baz=261						
PPLA	Purkeypile	85.77	27	P	P	21 43 23.7	+0.5
	baz=263						
B21K	Ikpikpuk River	85.82	20	IAmb	IAmb	21 46 35.6	
	comp=Z,4.7nm,0.9s						
B21K	Ikpikpuk River	85.82	20	P	P	21 43 24.4	+1.4
	baz=260						
F21K	Alatna River	85.83	23	P	P	21 43 24.3	+1.0
	baz=261						
CHUM	Lake Minchumin	85.84	26	P	P	21 43 24.2	+0.9
	baz=262						
E21K	Killik River	85.84	21	P	P	21 43 24.4	+1.1
	baz=261						
H21K	Melozitna Rive	85.87	24	P	P	21 43 24.2	+0.8
	baz=262						
CAST	Castle Rocks	85.88	27	P	P	21 43 24.5	+0.9
	baz=263						
A22K	Sinclair Lake	85.94	19	P	P	21 43 24.2	+0.5
	baz=259						
SKT	Skwentna	85.96	28	P	P	21 43 23.9	0.0
	baz=263						
I21K	Tanana	86.15	25	P	P	21 43 25.2	+0.4
	baz=263						
VRH	Novokhopyorsk	86.25	321	*e*P	P	21 43 22.6	-3.0
VRH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SUA	Susitna One	86.27	29	P	P	21 43 25.4	-0.3
	baz=264						
F22K	John River	86.37	22	P	P	21 43 26.2	+0.3
	baz=262						
D22K	Ayikyak River	86.38	21	P	P	21 43 25.9	0.0
	baz=262						
SLKM	Skilak Lake	86.43	30	IAmb	IAmb	21 43 31.3	
	comp=Z,18nm,1.4s						
BPAW	Bear Paw Mtn.	86.44	26	P	P	21 43 27.0	+0.7
	baz=264						
G22K	Bettles	86.56	23	P	P	21 43 27.6	+0.8
	baz=263						
E22K	Anaktuvuk Pass	86.59	22	IAmb	IAmb	21 45 42.5	
	comp=Z,6.2nm,0.6s						
E22K	Anaktuvuk Pass	86.59	22	P	P	21 43 28.0	+1.0
	baz=263						
M22K	Willow	86.60	28	P	P	21 43 28.1	+1.0
	baz=264						
MLY	Manley	86.65	25	P	P	21 43 27.1	-0.3
MLY				IAmb	IAmb	21 45 44.7	
	comp=Z,6.0nm,0.6s						
MLY	Manley	86.65	25	P	P	21 43 28.5	+1.1
	baz=264						
TRF	Thorofare Moun	86.68	27	P	P	21 43 28.2	+0.5
	baz=264						
RC01	Rabbit Creek A	86.72	29	P	P	21 43 28.3	+0.6
	baz=265						
SEW	Seward	86.78	30	P	P	21 43 28.7	+0.8
	baz=265						
VSLR	Vesyoloye	86.97	313	*i* P	P	21 43 27.7	-1.6
VSLR				pmax	pmax		
	comp=Z,20nm,1.1s						
COLD	Coldfoot	87.10	23	IAmb	IAmb	21 45 42.5	
	comp=Z,9.9nm,0.7s						
COLD	Coldfoot	87.10	23	P	P	21 43 30.2	+0.8
	baz=264						
D23K	Nanushuk River	87.11	21	IAmb	IAmb	21 46 14.3	
	comp=Z,19nm,1.6s						
D23K	Nanushuk River	87.11	21	P	P	21 43 30.5	+1.0
	baz=264						
G23K	Bananza Creek	87.12	23	P	P	21 43 30.8	+1.2
	baz=264						
C23K	Itkilik River	87.23	20	IAmb	IAmb	21 43 38.4	
	comp=Z,5.8nm,1.0s						
C23K	Itkillik River	87.23	20	P	P	21 43 31.4	+1.4
	baz=264						
H23K	Yukon River	87.23	24	P	P	21 43 31.5	+1.4
	baz=265						
I23K	Minto, Yukon-K	87.25	25	IAmb	IAmb	21 46 03.5	
	comp=Z,7.3nm,1.1s						
I23K	Minto, Yukon-K	87.25	25	P	P	21 43 31.1	+1.0
	baz=264						
MCK	McKinley	87.31	26	P	P	21 43 31.2	+0.6
	baz=265						
NEA2	Nenana	87.32	25	P	P	21 43 31.7	+1.1
	baz=265						
PWL	Port Wells	87.38	29	P	P	21 43 32.1	+1.1
	baz=266						
E23K	Chandalar	87.40	22	P	P	21 43 31.9	+0.9
	baz=265						
WAT1	Susitna Watana	87.42	27	P	P	21 43 32.4	+1.3
	baz=266						
TOLK	Toolik Lake Re	87.47	21	P	P	21 43 32.9	+1.6
	baz=265						
M23K	Glacier View	87.73	28	P	P	21 43 33.8	+1.1
	baz=267						
WAT6	Susitna Watana	87.78	28	P	P	21 43 34.0	+1.0
	baz=267						
D24K	Happy Valley	87.79	21	P	P	21 43 33.8	+1.1
	baz=265						
P23K	Montague Islan	87.79	30	P	P	21 43 33.7	+0.8
	baz=267						
E24K	Your Creek	87.83	22	P	P	21 43 34.5	+1.5
	baz=266						
VORR	Voronezh	87.84	322	*e*P	P	21 43 27.9	-5.4
VORR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
VSR	Storozhevoye	87.85	321	*e*P	P	21 43 30.5	-2.9
VSR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CCB	Clear Creek Bu	87.87	25	IAmb	IAmb	21 43 39.0	
	comp=Z,8.2nm,1.5s						
C24K	Franklin Bluff	87.88	20	IAmb	IAmb	21 43 51.5	
	comp=Z,11nm,1.5s						
C24K	Franklin Bluff	87.88	20	P	P	21 43 34.0	+0.9
	baz=265						
H24K	Noodor Dome	87.91	24	IAmb	IAmb	21 46 11.7	
	comp=Z,7.1nm,1.0s						
H24K	Noodor Dome	87.91	24	P	P	21 43 34.2	+0.7
	baz=266						
SCM	Sheep Creek Mo	87.93	28	P	P	21 43 34.2	+0.6
	baz=267						
DHY	Denali Highway	87.97	27	P	P	21 43 34.5	+0.6
	baz=267						
GLI	Glacier Island	87.99	29	P	P	21 43 34.7	+0.9
	baz=267						
F24K	Squaw Lake	88.02	23	IAmb	IAmb	21 46 22.1	
	comp=Z,7.6nm,0.8s						
F24K	Squaw Lake	88.02	23	P	P	21 43 34.6	+0.7
	baz=266						
KLMR	Klimovskoe	88.04	331	*e*P	P	21 43 31.5	-2.6
KLMR				pmax	pmax		
	comp=Z,14nm,1.5s						
LPSR	Galich'ya Gora	88.05	322	*e*P	P	21 43 27.9	-6.3
LPSR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
POKR	Poker Plat Res	88.06	25	P	P	21 43 34.7	+0.7
	baz=267						
G24K	Hadweenzic Riv	88.13	23	P	P	21 43 34.4	0.0
	baz=267						
HDA	Harding Lake	88.23	26	P	P	21 43 34.5	-0.4
	baz=267						
ILAR	Eielson Array	88.27	25	P	P	21 43 32.8	-2.3
	comp=Z,0.8nm,0.8s,baz=243,slow=5.2,SNR=10						
	comp=Z,0.8nm,0.8s						
Q23K	Middleton Isla	88.30	31	P	P	21 43 35.8	+0.5
	baz=268						
M24K	Tolsona, Glenn	88.48	28	P	P	21 43 36.4	+0.2
	baz=268						
KLU	Klutina	88.58	29	P	P	21 43 36.8	+0.1
	baz=268						
EYAK	Cordova Ski Ar	88.64	30	P	P	21 43 37.2	+0.3
	baz=268						
D25K	Kavik River	88.67	21	P	P	21 43 37.0	0.0
	baz=268						
G25K	Bearman Lake	88.68	23	P	P	21 43 36.8	-0.2
	baz=268						
K24K	Donnelly Dome	88.72	26	P	P	21 43 37.2	-0.1
	baz=268						
H25L	Birch Creek	88.77	24	P	P	21 43 37.9	+0.5
	baz=268						
PAX	Paxson	88.83	27	P	P	21 43 38.4	+0.5
	baz=269						
PRP	Porcupine Dome	88.87	25	P	P	21 43 38.6	+0.5
	baz=268						
F25K	Christian Rive	88.88	23	P	P	21 43 38.6	+0.6
	baz=268						
J25K	Salcha River,	88.92	26	P	P	21 43 38.4	+0.2
	baz=269						
E25K	Arctic Village	88.92	22	P	P	21 43 38.8	+0.7
	baz=268						
HARP	HAARP	88.97	28	P	P	21 43 39.0	+0.5
	baz=269						
RIDG	Independent Ri	89.13	26	IAmb	IAmb	21 43 44.0	
	comp=Z,14nm,1.6s						
RIDG	Independent Ri	89.13	26	P	P	21 43 39.3	+0.1
	baz=269						
SYO	Syowa Base	89.19	201⇑	*e*P	P	21 43 40.0	+0.7
SYO	Syowa Base	89.19	201⇑	*e*PcP	PcP	21 43 43.5	+2.8
SYO	Syowa Base	89.19	201⇓	*e*sP	sP	21 43 55.8	+2.5
BMRM	Bremner River	89.21	29	P	P	21 43 40.1	+0.5
	baz=269						
N25K	Chitina, Valde	89.22	29	P	P	21 43 40.6	+0.9
	baz=269						
KAIM	Kayak Island	89.29	30	P	P	21 43 41.2	+1.2
	baz=270						
F26K	Sheenjek River	89.46	22	P	P	21 43 41.5	+0.9
	baz=270						
DOT	Dot Lake	89.48	27	IAmb	IAmb	21 43 42.4	
	comp=Z,16nm,2.0s						
OBN	Obninsk	89.48	325	*ce*P	P	21 43 41.6	+0.7
OBN				*e*		21 43 46.1	
OBN				*e*		21 47 11.9	
OBN				*e*PPP	PPP	21 49 08.7	
OBN				pmax	pmax		
	comp=Z,15nm,1.3s						
SCRK	Sand Creek	89.51	26	P	P	21 43 41.5	+0.4
	baz=270						
G26K	Porcupine Rive	89.59	23	P	P	21 43 42.2	+0.9
	baz=270						
C27K	Jago River	89.61	20	P	P	21 43 41.7	+0.4
	baz=270						
J26L	Joseph Creek	89.70	26	P	P	21 43 42.2	+0.3
	baz=270						
L26K	Log Cabin Wild	89.80	27	P	P	21 43 43.2	+0.9
	baz=270						
BGLC	Bering Glacier	89.86	30	P	P	21 43 44.1	+1.5
	baz=270						
I26K	Coal Creek Min	89.86	25	P	P	21 43 43.4	+0.9
	baz=271						
M26K	Nabesna, AK	89.97	28	P	P	21 43 44.2	+1.0
	baz=271						
QSPA	South Pole Qui	90.35	180	P	P	21 43 45.1	+0.1
QSPA	South Pole Qui	90.35	180	P	P	21 43 44.3	-0.7
	comp=Z,3.7nm,0.9s,baz=260,slow=1.0,SNR=17						
	comp=Z,3.7nm,0.9s						
K27K	Chicken	90.35	26	IAmb	IAmb	21 43 48.9	
	comp=Z,5.0nm,0.9s						
K27K	Chicken	90.35	26	P	P	21 43 46.0	+1.1
	baz=272						
E27K	Coleen River	90.41	22	P	P	21 43 46.3	+1.2
	baz=272						
G27K	Doyon Strip	90.44	23	P	P	21 43 46.2	+0.9
	baz=272						
L27K	Beaver Creek,	90.50	27	P	P	21 43 45.9	+0.3
	baz=272						
M27K	Edge Creek, AK	90.50	28	P	P	21 43 46.1	+0.3
	baz=272						
I27K	Kandik River	90.50	25	P	P	21 43 46.5	+0.9
	baz=272						
H27K	Steamboat Moun	90.51	24	P	P	21 43 46.3	+0.7
	baz=272						
BCAR	Beaver Creek A	90.51	27	P	P	21 43 45.6	-0.1
CTG	Chitna Glacier	90.80	29	P	P	21 43 47.4	+0.2
	baz=272						
E28M	Babbage River	91.15	21	P	P	21 43 48.7	+0.2
	baz=274						
YUK3	Moose Creek	91.19	28	P	P	21 43 49.1	0.0
	baz=273						
I28M	Miner Creek	91.20	25	P	P	21 43 48.9	0.0
	baz=274						
O28M	Mount Upton	91.37	29	P	P	21 43 49.5	-0.6
	baz=273						
BRTR	Keskin Array B	91.76	310	P	P	21 43 51.0	-1.1
	comp=Z,0.8nm,0.7s,baz=103,slow=6.5,SNR=6.1						
	comp=Z,0.8nm,0.7s						
BRTR	Keskin Array B	91.76	310	*i* P	P	21 43 50.7	-1.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
E29M	Blow River	91.77	22	P	P	21 43 51.9	+0.5
	baz=276						
H29M	Whitestone	91.79	24	P	P	21 43 51.7	+0.2
	baz=275						
PNL	Peninsula	91.84	30	P	P	21 43 51.7	-0.2
	baz=274						
G29M	Pine Creek	91.86	23	P	P	21 43 51.9	0.0
	baz=275						
I29M	Ogilvie Camp,	91.89	25	P	P	21 43 52.3	+0.3
	baz=275						
M29M	Somme Creek	92.08	28	P	P	21 43 53.6	+0.5
	baz=275						
YUK4	Talbot Arm	92.08	29	P	P	21 43 53.9	+0.7
	baz=275						
L29M	L29M	92.17	27	IAmb	IAmb	21 43 57.4	
	comp=Z,4.6nm,1.0s						
L29M	L29M	92.17	27	P	P	21 43 54.3	+0.9
	baz=275						
O29M	Mount Kennedy	92.20	30	P	P	21 43 54.4	+0.7
	baz=275						
YUK6	Outpost Mounta	92.25	29	P	P	21 43 54.6	+0.6
	baz=275						
K29M	Barlow Dome	92.37	26	P	P	21 43 55.2	+0.8
	baz=276						
EPYK	Eagle Plains	92.44	24	P	P	21 43 55.5	+0.9
	baz=276						
G30M	tAoh Zraii Nji	92.56	23	P	P	21 43 56.1	+1.0
	baz=277						
F30M	Barrier River	92.65	22	P	P	21 43 56.5	+1.0
	baz=277						
P29M	Windy Craggy	92.68	30	P	P	21 43 56.7	+0.9
	baz=275						
HYT	Haines Junctio	92.68	29	P	P	21 43 56.7	+0.8
	baz=276						
I30M	Mount Dempster	92.71	25	P	P	21 43 56.4	+0.5
	baz=277						
J30M	Hart River	92.81	25	P	P	21 43 57.2	+0.8
	baz=277						
N30M	Aishikik Lake	92.82	29	P	P	21 43 57.0	+0.6
	baz=276						
M30M	Minto, Yukon	92.83	27	P	P	21 43 57.3	+0.8
	baz=276						
P30M	Million Dollar	93.02	30	P	P	21 43 58.3	+0.9
	baz=276						
G31M	Satah River	93.33	23	P	P	21 43 59.9	+1.4
	baz=279						
ARCES	ARCESS Array B	93.37	340	P	P	21 43 59.6	+0.8
	comp=Z,2.2nm,0.8s,baz=71,slow=5.5,SNR=9.4						
	comp=Z,2.2nm,0.8s						
INK	Inuvik	93.39	22	P	P	21 44 00.2	+1.4
	baz=280						
N31M	Braeburn, Yuko	93.44	28	P	P	21 44 00.7	+1.5
	baz=277						
F31M	Tsiigehtchic	93.45	22	P	P	21 44 00.9	+1.8
	baz=279						
WHY	Whitehorse	93.98	29	IAmb	IAmb	21 44 05.4	
	comp=Z,7.0nm,1.0s						
WHY	Whitehorse	93.98	29	P	P	21 44 02.4	+0.5
	baz=278						
M31M	Drury Creek, Y	93.99	28	IAmb	IAmb	21 45 10.5	
	comp=Z,8.0nm,1.5s						
M31M	Drury Creek, Y	93.99	28	P	P	21 44 02.5	+0.7
	baz=278						
SIT	Sitka	94.23	33	P	P	21 44 04.3	+1.4
	baz=277						
FARO	Faro, Yukon	94.47	28	P	P	21 44 05.2	+1.2
	baz=279						

FINES	**FINES Array B**	**94.51**	**332**	P	**P**	**21 44 03.3**	**-0.8**
	comp=Z,3.2nm,1.0s,baz=93,slow=3.8,SNR=4.5						
	comp=Z,3.2nm,1.0s						
MNK	**Minsk**	**94.54**	**325**	*i* P	**P**	**21 44 00.6**	**-3.8**
MNK				*i*		21 47 48.9	
MNK				*i* S	**SKSac**	**21 54 33.0**	**-4.0**
MNK				*i* PS	**PS**	**21 56 32.3**	**-2.1**
MNK				*i* SSS	SSS	22 05 19.2	
MNK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
P32M	**Atlin**	**94.72**	**30**	P	**P**	**21 44 06.4**	**+1.2**
	baz=279						
N32M	**Quiet Lake**	**94.78**	**29**	IAmb	IAmb	21 44 09.9	
	comp=Z,7.3nm,1.0s						
N32M	**Quiet Lake**	**94.78**	**29**	P	**P**	**21 44 06.6**	**+1.2**
	baz=280						
P33M	**Teslin, Yukon**	**95.06**	**29**	P	**P**	**21 44 07.8**	**+1.0**
	baz=280						
A36M	**Sachs Harbour**	**95.26**	**17**	P	**P**	**21 44 08.7**	**+1.4**
	baz=288						
MMPY	**Sheldon Lake,**	**95.36**	**27**	IAmb	IAmb	21 44 11.6	
	comp=Z,5.0nm,1.1s						
MMPY	**Sheldon Lake,**	**95.36**	**27**	P	**P**	**21 44 09.1**	**+1.0**
	baz=281						
R33M	**Jennings River**	**96.13**	**30**	P	**P**	**21 44 12.7**	**+1.0**
	baz=281						
MLR	**Muntele Rosu**	**96.94**	**316**	LR	LR	22 33 49.9	
	comp=Z,40nm,20.7s,baz=352,slow=39						
BUR08	**Bucovina Ar. S**	**97.15**	**318**	P	**P**	**21 44 15.1**	**-1.5**
TORD	**Torodi Ar. Bea**	**123.44**	**286**	PKPdf	**PKPdf**	**21 49 41.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**123.44**	**286**	PKP	**PKPdf**	**21 49 41.2**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=44,slow=1.5,SNR=1.6						
TXAR	**Lajitas Array**	**123.95**	**54**	PKP	**PKPdf**	**21 49 42.6**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=302,slow=2.3,SNR=4.2						
CO02	**Combarbal**	**145.28**	**153**		**PKPbc**	**21 50 21.7**	**-0.5**
CPUP	**Villa Florida**	**154.01**	**173**	PKPbc	**PKPbc**	**21 50 44.6**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=208,slow=0.4,SNR=5.7						
LPAZ	**La Paz**	**158.78**	**139**	PKP	**PKPdf**	**21 50 43.8**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=198,slow=3.2,SNR=1.8						
LPAZ				PKPab	**PKPab**	**21 51 19.4**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=208,slow=3.3,SNR=4.7						

*IDC **08** 21:41:05.5±0.5,0.°46N×126.°17E,h0km,mb4.2/19, mbtmp4.2/21,ML4.0/2,Error ellipse: s-maj=28.5km s-min=10.4km az=78.0*

*DJA **08** 21:41:10.6±0.2,0.°N±2.°×12.°6E±.°,h10km,M4.4/20,mB4.5/1, mb4.5/11,MLv4.3/20,Mw(mB)3.7/1*

*NEIC **08** 21:41:11.4±2.6,0.°52N±0.°08×126.°36E±0.°06,h32km±5km, mb4.6/38,Error ellipse: s-maj=12.4km s-min=7.9km az=165.0*

ISC 08 21:41:12.8±0.4,**0.°45N**±0.°04×**126.°36E**±0.°05,**h47**km,**n100,** σ1§**58**/109,**mb4.5**/43,**1D,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.06**	**73**		**Pn**	**21 41 29.2**	**-2.0**
TNTI	**Ternate**	**1.06**	**73**	P	**Pn**	**21 41 29.6**	**-1.6**
TNTI				S	**Sn**	**21 41 45.8**	**+0.9**
KMSI	**Cibinong**	**2.38**	**273**	P	**Pn**	**21 41 48.7**	**-0.6**
KMSI				S	**Sn**	**21 42 19.0**	**+1.8**
SANI	**Sanana**	**2.51**	**188**	P	**Pn**	**21 41 49.7**	**-1.4**
SANI				S	**Sn**	**21 42 21.4**	**+0.8**
NLAI	**Namlea**	**3.74**	**169**	P	**Pn**	**21 42 07.8**	**-0.2**
NLAI				S	**Sn**	**21 42 52.7**	**+1.9**
LUWI	**Luwuk**	**3.88**	**247**	Pn	**Pn**	**21 42 09.9**	**0.0**
LUWI	**Luwuk**	**3.88**	**247**	P	**Pn**	**21 42 11.6**	**+1.7**
MRSI	**Marisa**	**4.41**	**270**	P	**Pn**	**21 42 18.5**	**+1.2**
AAI	**Ambon**	**4.50**	**156**	P	**Pn**	**21 42 19.2**	**+0.7**
AAI				S	**Sn**	**21 43 13.7**	**+4.0**
MSAI	**Masohi**	**4.57**	**146**	P	**Pn**	**21 42 21.5**	**+2.1**
APSI	**Ampana**	**4.90**	**254**	P	**Pn**	**21 42 24.7**	**+0.8**
SWI	**Sorong**	**5.08**	**105**	P	**Pn**	**21 42 28.6**	**+2.3**
	0.1nm37nm,0.6s						
TOLI2	**Tolitoli**	**5.61**	**277**	Pn	**Pn**	**21 42 33.3**	**-0.4**
KDI	**Kendari**	**5.76**	**220**	P	**Pn**	**21 42 35.1**	**-0.6**
MPSI	**Mapaga**	**6.46**	**269**	P	**Pn**	**21 42 46.8**	**+1.5**
	0.1nm25nm,1.1s						
BBSI	**Bau Bau**	**7.01**	**213**	P	**Pn**	**21 42 54.1**	**+1.2**
TTSI	**Tana Toraja**	**7.40**	**242**	P	**Pn**	**21 42 57.4**	**-0.9**
	0.2nm46nm,0.8s						
BNSI	**Bone**	**7.89**	**232**	P	**Pn**	**21 43 04.8**	**-0.1**
	47nm,1.2s						
SPSI	**Sidrap Palu**	**7.91**	**236**	P	**Pn**	**21 43 05.4**	**+0.1**
KAPI	**Kappang**	**8.54**	**230**	Pn	**Pn**	**21 43 13.5**	**-0.5**
KAPI	**Kappang**	**8.54**	**230**	Pn	**Pn**	**21 43 10.8**	**-3.1**
	2.7nm,0.3s,baz=57,slow=4.2,SNR=8.7						
	12nm,0.7s						
EDFI	**Ende, Flores**	**10.26**	**207**	P	**Pn**	**21 43 38.0**	**+0.5**
	27nm,0.6s						
MTN	**Manton Dam**	**14.03**	**160**	Pn	**Pn**	**21 44 26.6**	**-2.5**
SBUM	**Sibu**	**14.27**	**278**	P	**P**	**21 44 37.6**	**-0.7**
KSM	**Kuching**	**16.08**	**274**	P	**P**	**21 44 57.9**	**-0.6**
KSM				IAmb	IAmb	21 44 59.1	
	comp=Z,38nm,0.9s						
KNRA	**Kununurra**	**16.20**	**172**	Pn	**Pn**	**21 44 57.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**18.45**	**182**	P	**P**	**21 45 23.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**18.45**	**182**	P	**P**	**21 45 21.6**	**-3.0**
	comp=Z,0.3nm,0.3s,baz=21,slow=8.8,SNR=6.2						
	comp=Z,3.3nm,0.8s						
WB0	**Warramunga Arr**	**21.59**	**159**	P	**P**	**21 45 57.6**	**-1.1**
WB0				IAmb	IAmb	21 46 15.2	
	comp=Z,26nm,0.8s						
WRAB	**Tennant Creek**	**21.72**	**159**	P	**P**	**21 45 59.1**	**-1.1**
WRAB				IAmb	IAmb	21 46 08.0	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**21.73**	**159**	P	**P**	**21 45 58.4**	**-1.8**
WRA	**Warramunga Arr**	**21.73**	**159**	P	**P**	**21 45 59.0**	**-1.2**
	comp=Z,13nm,0.4s,baz=337,slow=11,SNR=129						
WRA				S	**S**	**21 49 58.3**	**+0.1**
	comp=Z,2.0nm,1.0s,baz=333,slow=17,SNR=4.7						
	comp=Z,13nm,0.4s						
WR8	**Warramunga Arr**	**21.80**	**159**	P	**P**	**21 45 59.8**	**-1.1**
WR8				IAmb	IAmb	21 46 01.7	
	comp=Z,19nm,0.6s						
COEN	**Coen**	**21.96**	**131**	P	**P**	**21 46 02.6**	**-0.2**
COEN				IAmb	IAmb	21 46 09.3	
	comp=Z,16nm,0.8s						
YULB	**Yu-li**	**23.33**	**348**	P	**P**	**21 46 14.7**	**-2.2**
YULB				IAmb	IAmb	21 46 44.7	
	comp=Z,29nm,1.3s						
TPUB	**Ta-pu**	**23.38**	**347**	P	**P**	**21 46 15.0**	**-2.5**
AS31	**Alice Springs**	**25.07**	**163**	P	**P**	**21 46 33.5**	**+0.5**
ASAR	**Alice Springs**	**25.07**	**163**	P	**P**	**21 46 33.3**	**+0.3**
ASAR	**Alice Springs**	**25.07**	**163**	P	**P**	**21 46 32.5**	**-0.5**
	comp=Z,14nm,0.9s,baz=349,slow=14,SNR=111						
ASAR				PcP	**PcP**	**21 50 06.9**	**0.0**
	comp=Z,0.4nm,0.6s,baz=354,slow=3.0,SNR=4.3						
ASAR				S	**S**	**21 51 00.1**	**+5.7**
	comp=Z,0.5nm,0.6s,baz=347,slow=18,SNR=5.2						
	comp=Z,14nm,0.9s						
JOW	**Kunigami**	**26.29**	**4**	P	**P**	**21 46 44.3**	**+0.2**
FORT	**Forrest**	**31.10**	**177**	P	**P**	**21 47 25.8**	**-1.0**
NJ2	**Nanjing**	**32.22**	**348**	*e*P	**P**	**21 47 37.2**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PZH	**PanZhiHua**	**35.10**	**320**	P	**P**	**21 48 03.7**	**+1.8**
STKA	**Stephens Creek**	**35.24**	**157**	P	**P**	**21 48 02.2**	**-0.7**
STKA	**Stephens Creek**	**35.24**	**157**	P	**P**	**21 48 02.6**	**-0.3**
	comp=Z,5.4nm,0.8s,baz=335,slow=7.0,SNR=11						
	comp=Z,5.4nm,0.8s						
KSRS	**Korea Array**	**36.85**	**2**	P	**P**	**21 48 15.8**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=182,slow=7.5,SNR=4.4						
	comp=Z,1.3nm,0.7s						
MJAR	**Matsushiro Arr**	**37.55**	**16**	P	**P**	**21 48 21.4**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=183,slow=10,SNR=4.8						
	comp=Z,0.5nm,0.4s						
ARMA	**Armidale**	**39.00**	**144**	P	**P**	**21 48 35.0**	**0.0**
ARMA				IAmb	IAmb	21 48 37.3	
	comp=Z,23nm,1.2s						
LZH	**Lanzhou**	**41.16**	**332**	*e*P	P	21 49 01.3	+8.4
LZH				sP	sP	21 49 12.8	+2.6
LZH				PcP	**PcP**	**21 50 56.6**	**+5.1**
LZH				ScP	ScP	21 54 49.4	+12
LZH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**42.39**	**343**	*e*P	**P**	**21 49 05.8**	**+3.0**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,63nm,4.9s						
USRK	**Ussuriysk Ar.**	**43.85**	**6**	P	**P**	**21 49 14.6**	**+0.3**
	comp=Z,2.1nm,0.6s,baz=183,slow=7.0,SNR=4.5						
	comp=Z,2.1nm,0.6s						
LSA	**Lhasa**	**44.38**	**314**		**P**	**21 49 19.3**	**-0.1**
BNX	**BinXian**	**45.11**	**1**	‖P	**P**	**21 49 25.6**	**+1.2**
BNX				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GTA	**Gaotai**	**45.73**	**331**	*e*P	**P**	**21 49 32.3**	**+2.7**
GTA				PcP	**PP**	**21 51 18.2**	**+0.7**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				LR	LR		
	comp=N,140nm,15.3s						
GTA				LR	LR		
	comp=E,130nm,16.4s						
GTA				LR	LR		
	comp=Z,120nm,16.0s						
SONM	**Songino Array**	**50.28**	**343**	P	**P**	**21 50 05.1**	**+0.5**
SONM	**Songino Array**	**50.28**	**343**	P	**P**	**21 50 03.8**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=162,slow=8.1,SNR=5.2						
	comp=Z,1.1nm,0.6s						
WMQ	**Urumqi**	**55.21**	**327**	*e*P	**P**	**21 50 43.4**	**+2.4**
WMQ				LR	LR		
	comp=Z,150nm,24.7s						
PETK	**Petropavlovsk-**	**58.59**	**22**	P	**P**	**21 51 05.4**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=193,slow=6.1,SNR=5.3						
	comp=Z,2.2nm,0.7s						
MKAR	**Makanchi Array**	**60.04**	**327**	P	**P**	**21 51 13.9**	**-1.0**
MKAR	**Makanchi Array**	**60.04**	**327**	P	**P**	**21 51 13.4**	**-1.6**
	comp=Z,3.1nm,0.6s,baz=124,slow=8.6,SNR=30						
	comp=Z,3.1nm,0.6s						
MAKZ	**Makanchi**	**60.22**	**326**	P	**P**	**21 51 13.5**	**-2.7**
KDJ	**Kajisay**	**60.56**	**320**	P	**P**	**21 51 17.3**	**-1.4**
KDJ				IAmb	IAmb	21 51 29.9	
	comp=Z,5.5nm,1.0s						
ZALV	**Zalesovo Beam**	**63.34**	**334**	P	**P**	**21 51 35.6**	**-1.3**
ZALV	**Zalesovo Beam**	**63.34**	**334**	P	**P**	**21 51 36.0**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=126,slow=7.5,SNR=5.0						
	comp=Z,1.3nm,0.6s						
GAR	**Garm**	**63.88**	**314**	P	**P**	**21 51 38.2**	**-2.8**
BTK	**Batken**	**63.94**	**315**	P	**P**	**21 51 41.4**	**0.0**
BTK				IAmb	IAmb	21 51 50.5	
	comp=Z,8.5nm,1.4s						
KURBB	**Kurchatov Arra**	**64.30**	**328**	P	**P**	**21 51 42.0**	**-1.3**
	comp=Z,3.7nm,0.6s,baz=128,slow=6.0,SNR=36						
	comp=Z,3.7nm,0.6s						
KURK	**Kurchatov**	**64.30**	**329**	P	**P**	**21 51 41.7**	**-1.6**
KURK				IAmb	IAmb	21 51 46.4	
	comp=Z,7.2nm,0.8s						
KK31	**Karatay Array**	**65.38**	**318**	P	**P**	**21 51 48.8**	**-1.8**
KK31				IAmb	IAmb	21 51 51.8	
	comp=Z,4.1nm,1.2s						
KKAR	**Karatay Array**	**65.38**	**318**	P	**P**	**21 51 48.9**	**-1.7**
BVAR	**Borovoye Array**	**69.86**	**328**	P	**P**	**21 52 17.3**	**-1.3**
	comp=Z,0.8nm,0.6s						
	comp=Z,0.8nm,0.6s						
AB31	**Akbulak array**	**74.45**	**321**	P	**P**	**21 52 45.1**	**-1.0**
ABKAR	**Akbulak array**	**74.45**	**321**	P	**P**	**21 52 44.7**	**-1.4**
ARTI	**Arti**	**77.58**	**328**	P	**P**	**21 53 01.8**	**-2.0**
VNDA	**Vanda**	**80.25**	**173**	P	**P**	**21 53 18.5**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=308,slow=7.1,SNR=3.1						
	comp=Z,2.0nm,0.8s						
MAW	**Mawson**	**80.57**	**200**	P	**P**	**21 53 20.3**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=82,slow=7.2,SNR=4.9						
	comp=Z,2.2nm,0.8s						
K15K	**Wolf Creek Mou**	**81.34**	**27**	P	**P**	**21 53 25.6**	**+1.5**
K15K				IAmb	IAmb	21 53 28.2	
	comp=Z,5.2nm,0.8s						
RAYN	**Ar Rayn**	**81.43**	**294**	P	**P**	**21 53 24.8**	**-0.7**
RAYN				IAmb	IAmb	21 53 25.8	
	comp=Z,6.7nm,0.8s						
M16K	**Timber Creek**	**82.22**	**28**	P	**P**	**21 53 29.4**	**+0.6**
J17K	**VABM Dome**	**82.72**	**26**	P	**P**	**21 53 32.7**	**+1.4**
J17K				IAmb	IAmb	21 53 35.6	
	comp=Z,6.7nm,0.9s						
H17K	**Granite Mounta**	**82.74**	**24**	P	**P**	**21 53 30.6**	**-0.8**
H17K				IAmb	IAmb	21 53 35.1	
	comp=Z,4.0nm,0.8s						
K17K	**Iditarod**	**82.90**	**27**	P	**P**	**21 53 33.5**	**+1.3**
GEVA	**Gevas**	**84.45**	**308**	P	**P**	**21 53 41.5**	**+0.5**
D20K	**Etivluk River**	**84.88**	**21**	P	**P**	**21 53 43.7**	**+1.4**
D20K				IAmb	IAmb	21 53 46.9	
	comp=Z,4.7nm,1.2s						
KBZ	**Khabaz**	**84.95**	**314**	P	**P**	**21 53 42.0**	**-1.2**
	comp=Z,3.5nm,0.9s,baz=100,slow=3.4,SNR=6.3						
	comp=Z,3.5nm,0.9s						
IMAR	**Indian Mountai**	**85.47**	**24**	P	**P**	**21 53 46.5**	**+1.2**
SKT	**Skwentna**	**85.89**	**28**	P	**P**	**21 53 47.6**	**+0.2**
SKT				IAmb	IAmb	21 54 11.8	
	comp=Z,7.5nm,1.5s						
ILAR	**Eielson Array**	**88.20**	**25**	P	**P**	**21 53 58.1**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=261,slow=6.0,SNR=2.4						
	comp=Z,0.2nm,0.6s						
BMAR	**Burnt Mountain**	**89.22**	**23**	P	**P**	**21 54 04.3**	**+0.9**
QSPA	**South Pole Qui**	**90.38**	**180**	P	**P**	**21 54 07.4**	**-1.5**
	comp=Z,1.6nm,0.9s,baz=314,slow=2.0,SNR=9.9						
	comp=Z,1.6nm,0.9s						
I28M	**Miner Creek**	**91.14**	**25**	P	**P**	**21 54 14.3**	**+1.8**
I28M				IAmb	IAmb	21 54 18.2	
	comp=Z,2.4nm,1.0s						
BRTR	**Keskin Array B**	**91.81**	**310**	P	**P**	**21 54 14.5**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=117,slow=5.2,SNR=6.3						
	comp=Z,0.9nm,0.8s						
ARCES	**ARCESS Array B**	**93.37**	**340**	P	**P**	**21 54 20.0**	**-2.6**
	comp=Z,0.7nm,0.7s,baz=99,slow=5.8,SNR=4.1						
	comp=Z,0.7nm,0.7s						
BURAR	**Bucovina Array**	**97.18**	**318**	P	**P**	**21 54 39.8**	**-0.8**
BURAR				IAmb	IAmb	21 54 41.0	
	comp=Z,1.9nm,0.9s						
BUR08	**Bucovina Ar. S**	**97.18**	**318**	P	**P**	**21 54 40.2**	**-0.4**
BUR08				IAmb	IAmb	21 54 40.9	
	comp=Z,3.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**123.52**	**286**	PKP	**PKPdf**	**22 00 05.8**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=42,slow=2.6,SNR=1.3						
CO03	**El Pedregal**	**145.72**	**153**		**PKPab**	**22 00 47.6**	**-0.1**
PLTB	**Pedras Altas**	**148.86**	**180**	PKPbc	**PKPbc**	**22 00 56.5**	**+0.5**
AC01	**Pan de Azucar**	**149.68**	**149**	PKPbc	**PKPbc**	**22 00 58.5**	**+0.3**
AC02	**Maricunga**	**149.84**	**152**	PKPbc	**PKiKP**	**22 01 01.1**	**+0.9**

*IDC **08** 21:56:31.7±0.9,2.°22S×138.°45E,h0km,mb3.6/7, mbtmp3.6/9,ML3.4/2,Error ellipse: s-maj=29.2km s-min=21.0km az=89.0*

*DJA **08** 21:56:39.5±0.9,2.°S±9.°×13.°9E±.°,h25km±5km,M3.6/6, MLv3.6/6*

ISC 08 21:56:33.0±0.7,**2.°25S**±0.°10×**138.°48E**±0.°04,**h10**km,**n16,** σ1§**34**/18,**mb3.5**/6,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.35**	**42**	P	**Pn**	**21 56 45.5**	**+1.4**
WAMI	**Wamena**	**1.64**	**172**	P	Pg	21 57 15.7	+11
GENI	**Genyem**	**1.73**	**101**	P	**Pg**	**21 57 05.8**	**-0.4**
GENI				S	**Sb**	**21 57 27.1**	**+0.5**
JAY	**Jayapura**	**2.24**	**97**	Pn	**Pn**	**21 57 10.4**	**+0.1**
	2.9nm,0.3s,baz=236,slow=9.9,SNR=16						
JAY				Lg	Lg	21 57 38.0	
	12nm,0.3s,baz=112,slow=19,SNR=11						
	17nm,0.6s						
JAY	**Jayapura**	**2.24**	**97**	P	**Pb**	**21 57 12.1**	**-1.6**
JAY				S	**Sn**	**21 57 38.8**	**+0.7**
SRPI	**Serui, Papua**	**2.27**	**279**	P	**Pg**	**21 57 18.8**	**+2.3**
SRPI				S	**Sg**	**21 57 46.8**	**+0.9**
BAKI	**Biak**	**2.59**	**294**	P	**Pg**	**21 57 21.9**	**-0.8**
BAKI				S	**Sg**	**21 57 55.3**	**-1.0**
RKPI	**Ransiki, Papua**	**4.36**	**280**	P	**Pb**	**21 57 47.2**	**-2.6**
WRA	**Warramunga Arr**	**18.05**	**193**	P	**Pn**	**22 00 43.2**	**-0.9**
	0.2nm,0.3s,baz=17,slow=12,SNR=9.2						
	0.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.17**	**218**	P	Pn	22 01 07.7	-1.9
	1.3nm,1.0s,baz=29,slow=10,SNR=1.6						
	1.3nm,1.0s						
ASAR	**Alice Springs**	**21.75**	**191**	P	**P**	**22 01 25.1**	**+0.2**
	1.9nm,0.8s,baz=20,slow=9.3,SNR=16						
	1.9nm,0.8s						
MKAR	**Makanchi Array**	**69.28**	**322**	P	**P**	**22 07 38.9**	**-1.7**
	0.1nm,0.4s,baz=115,slow=5.7,SNR=1.9						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**73.22**	**325**	P	**P**	**22 08 04.7**	**+0.4**
	0.2nm,0.5s,baz=111,slow=5.0,SNR=3.5						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**78.80**	**325**	P	**P**	**22 08 37.2**	**+1.1**
	0.7nm,0.6s						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**85.51**	**24**	P	**P**	**22 09 11.5**	**+0.5**
	0.2nm,0.5s,baz=255,slow=5.7,SNR=5.2						
	0.2nm,0.5s						
QSPA	**South Pole Qui**	**87.69**	**180**	P	**P**	**22 09 23.3**	**+1.5**
	0.7nm,0.8s,baz=331,slow=4.3,SNR=2.0						
	0.7nm,0.8s						

*IDC **08** 21:56:44.3±2.0,0.°81N×126.°89E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=206.9km s-min=22.6km az=66.0*

*DJA **08** 21:56:50.0±1.4,1.°N±5.°×12.°6E±.°,h13km±12km,M3.2/7, MLv3.2/7*

ISC 08 21:56:51.5±1.1,**0.°5N**±0.°2×**126.°40E**±0.°07,**h47**km,**n6,** σ1§**12**/7,**mb3.6**/4,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.01**	**74**	P	**Pn**	**21 57 08.9**	**-0.4**
TNTI				S	**Sn**	**21 57 23.9**	**+1.5**
KMSI	**Cibinong**	**2.42**	**272**	P	**Pn**	**21 57 28.9**	**+0.3**
WRA	**Warramunga Arr**	**21.76**	**159**	P	**P**	**22 01 38.3**	**-1.0**
	0.8nm,0.5s,baz=340,slow=10,SNR=5.7						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**25.10**	**164**	P	**P**	**22 02 13.1**	**+1.0**
	1.1nm,0.7s,baz=342,slow=9.1,SNR=4.7						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**60.02**	**326**	P	**P**	**22 06 52.9**	**-0.7**
	0.3nm,0.4s,baz=118,slow=7.8,SNR=8.7						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**64.28**	**328**	P	**P**	**22 07 21.6**	**-0.4**
	0.5nm,0.7s,baz=132,slow=6.4,SNR=4.5						
	0.5nm,0.7s						

IDC 08 22:07:23.7±1.9,**0.°30N**×**125.°93E**,**h0**km,**mb3.2**/3, **mbtmp3.3**/3,**Error ellipse: s-maj=168.1km s-min=26.6km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.74**	**158**	P	P	22 12 16.3	-0.6
	0.2nm,0.3s,baz=337,slow=10,SNR=7.8						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**25.05**	**163**	P	P	22 12 50.4	+0.5
	0.4nm,0.6s,baz=341,slow=8.6,SNR=5.8						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**59.94**	**327**	P	P	22 17 31.7	-0.1
	0.2nm,0.4s,baz=125,slow=8.0,SNR=5.1						
	0.2nm,0.4s						

IDC 08 22:12:40.6±2.1,**0.°48N**×**126.°24E**,**h0**km,**mb3.3**/3, **mbtmp3.3**/3,**Error ellipse: s-maj=173.5km s-min=28.5km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.79**	**159**	P	P	22 17 33.5	-0.9
	0.9nm,0.5s,baz=338,slow=11,SNR=10						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**25.13**	**163**	P	P	22 18 08.3	+0.7
	0.3nm,0.5s,baz=343,slow=9.5,SNR=5.2						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**59.96**	**327**	P	P	22 22 48.7	-0.1
	0.1nm,0.5s,baz=118,slow=8.7,SNR=1.9						
	0.1nm,0.5s						

IDC 08 22:14:46.5±2.2,**0.°97N**×**127.°19E**,**h0**km,**mb3.5**/3, **mbtmp3.6**/3,**Error ellipse: s-maj=186.1km s-min=25.3km az=66.0,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.93**	**162**	P	P	22 19 41.1	-0.6
	0.7nm,0.6s,baz=340,slow=11,SNR=10						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**25.34**	**165**	P	P	22 20 15.8	+0.5
	1.9nm,1.1s,baz=343,slow=8.9,SNR=9.6						
	1.9nm,1.1s						
MKAR	**Makanchi Array**	**60.08**	**326**	P	P	22 24 55.5	-0.1
	0.3nm,0.4s,baz=124,slow=7.1,SNR=6.7						
	0.3nm,0.4s						

*NEIC **08** 22:18:48.5±1.8,35.°937N±0.°009×117.°30W±0.°01, h5km±1km,Error ellipse: s-maj=2.6km s-min=1.6km az=241.0*

PAS 08 22:18:49.3±1.8,**35.°929N**±0.°010×**117.°31W**±0.°01, **h6**km±4km,**ML3.2**/81,**ML2.9**/92(NEIC),**Error ellipse: s-maj=1.4km s-min=1.3km az=157.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.19**	**312**		Pg	22 18 53.2	0.0
MPMC				Sg	Sg	22 18 56.1	+0.2
CLC	**China Lake**	**0.26**	**244**	Pg	Pg	22 18 54.2	-0.1
CLC				Sg	Sg	22 18 58.0	+0.2
CLC				IAML		22 18 58.2	
	comp=E,2μm,0.1s						
CLC				IAML		22 18 58.2	
	comp=N,3μm,0.2s						
QSM	**Queen of Sheba**	**0.36**	**84**	Pg	Pg	22 18 56.0	-0.3
QSM				Sg	Sg	22 19 01.1	0.0
QSM				IAML		22 19 01.6	
	comp=N,2μm,0.4s						
QSM				IAML		22 19 01.

TUQ	**Turquoise Moun**	**1.23**	**113**			Pg	22 19 12.2	-0.7
DSCC	**Desert Studies**	**1.26**	**128**			Pn	22 19 11.4	-2.0
TPO	**Tropico Hills**	**1.29**	**216**			Pn	22 19 12.8	-1.1
SBB	**Saddle Back Bu**	**1.31**	**199**			Pn	22 19 13.6	-0.6
TEJ	**El Tejon**	**1.32**	**239**			Pn	22 19 13.3	-1.0
LCH	**Last Change Ra**	**1.33**	**348**			Pn	22 19 13.8	-0.7
TPNV	**Topopah Spring**	**1.33**	**40**			Pn	22 19 13.2	-1.3
TPNV					IAML		22 19 33.9	
	comp=N,285nm,0.3s							
TPNV					IAML		22 19 36.2	
	comp=N,216nm,0.4s							
HEC	**Hector,Ludlow**	**1.36**	**144**			Pn	22 19 13.1	-1.7
HEC						Sb	22 19 32.7	0.0
GMN	**Gold Mountain**	**1.37**	**2**			Pn	22 19 14.4	-0.8
GMN					IAML		22 19 37.4	
	comp=N,115nm,0.4s							
THC	**Tehachapi Micr**	**1.50**	**228**			Pn	22 19 17.0	+0.1
HOLC	**Holcomb Ridge**	**1.53**	**197**			Pb	22 19 17.9	-0.2
DSP	**Deep Springs**	**1.53**	**340**			Pn	22 19 16.7	-0.5
JNH	**Juniper Hills**	**1.57**	**200**			Pn	22 19 16.6	-1.2
JNH						Sb	22 19 39.2	+0.3
SIL	**Silver Peak**	**1.63**	**166**			Pb	22 19 19.3	-0.5
BFSC	**Mount Baldy Ra**	**1.71**	**190**			Pn	22 19 19.5	-0.2
BFSC					IAML		22 19 43.8	
	comp=E,130nm,0.6s							
BFSC					IAML		22 19 45.0	
	comp=N,152nm,0.6s							
GMRC	**Granite Mounta**	**1.77**	**130**			Pn	22 19 18.2	-2.3
GMRC						Sb	22 19 44.9	+0.2
MZP	**Montezuma Peak**	**1.77**	**358**	Pn		Pn	22 19 20.1	-0.6
MWC	**Mount Wilson**	**1.81**	**200**	Pn		Pn	22 19 20.7	-0.4
MWC					IAML		22 19 50.1	
	comp=N,152nm,0.6s							
MWC					IAML		22 19 53.0	
	comp=E,141nm,0.5s							
GTM	**Goat Mountain**	**1.81**	**154**			Pb	22 19 22.1	-0.7
SVD	**Seven Oaks Dam**	**1.83**	**174**			Pb	22 19 23.7	+0.5
SHPR	**Sheep Range**	**1.83**	**71**	Pn		Pn	22 19 21.3	-0.2
BLAC	**Blackrock camp**	**2.00**	**158**			Pn	22 19 22.9	-0.9
V12A	**Nelson**	**2.01**	**95**	Pn		Pn	22 19 22.7	-1.1
V12A					IAML		22 20 00.3	
	comp=E,82nm,0.5s							
V12A					IAML		22 20 00.6	
	comp=N,98nm,0.8s							
PEC	**Perris**	**2.04**	**176**			Pn	22 19 23.4	-0.7
TPC	**Twentynine Pal**	**2.09**	**150**			Pn	22 19 23.5	-1.5
EW2	**E Wide Canyon**	**2.12**	**159**			Pn	22 19 24.2	-1.1
HMTC	**Hemet**	**2.23**	**173**			Pn	22 19 25.9	-0.9
POB	**Polly Butte**	**2.26**	**172**			Pn	22 19 26.5	-0.8
ELS	**Elsinore Mount**	**2.28**	**182**	Pn		Pn	22 19 26.3	-1.2
ELS					IAML		22 20 04.9	
	comp=E,45nm,0.4s							
DGR	**Domenigoni Val**	**2.29**	**174**			Pn	22 19 26.9	-0.7
PRN	**Pahroc Range**	**2.34**	**50**	Pn		Pn	22 19 27.3	-1.1
PRN					IAML		22 20 08.7	
	comp=N,64nm,0.5s							
PRN					IAML		22 20 12.5	
	comp=E,79nm,0.8s							
PMD	**Palm Desert**	**2.40**	**161**			Pn	22 19 27.6	-1.5
PMD	**Palm Desert**	**2.40**	**161**	Pn		Pn	22 19 27.5	-1.6
PMD	**Palm Desert**	**2.40**	**161**		IAML		22 20 06.4	
	comp=E,41nm,0.3s							
PFO	**Pinyon Flats O**	**2.42**	**163**	Pn		Pn	22 19 28.0	-1.4
LHV	**Little Huntoon**	**2.51**	**338**	Pn		Pn	22 19 30.0	-0.5
NV11	**Mina Array Sit**	**2.59**	**345**	Pn		Pn	22 19 31.1	-0.7
NVAR	**Mina Array Bea**	**2.62**	**343**	Pn		Pn	22 19 32.2	-0.1
BORC	**Borrego Spring**	**2.75**	**164**	Pn		Pn	22 19 32.4	-1.6
BORC					IAML		22 20 21.0	
	comp=N,29nm,0.6s							
R11B	**Troy Canyon, C**	**2.78**	**29**	Pn		Pn	22 19 33.9	-0.6
R11B					IAML		22 20 18.4	
	comp=E,29nm,0.5s							
PMPB	**Monarch Peak**	**2.84**	**277**	Pn		Pn	22 19 35.0	-0.3
PMPB					IAML		22 20 28.3	
	comp=N,42nm,1.2s							
PMPB					IAML		22 20 42.0	
	comp=E,42nm,1.5s							
RYN	**Ryan**	**2.86**	**341**	Pn		Pn	22 19 35.3	-0.3
W13A	**Hualapai Mount**	**2.92**	**106**	Pn		Pn	22 19 34.5	-1.9
W13A					IAML		22 20 23.5	
	comp=N,44nm,0.3s							
W13A					IAML		22 20 25.3	
	comp=E,43nm,0.6s							
BLYC	**Blythe**	**3.16**	**133**	Pn		Pn	22 19 37.4	-2.2
BLYC					IAML		22 20 34.8	
	comp=N,30nm,0.4s							
BLYC					IAML		22 20 35.7	
	comp=E,29nm,0.4s							
LCMT	**Little Creek M**	**3.45**	**71**	Pn		Pn	22 19 43.1	-0.6
GLA	**Glamis**	**3.53**	**144**	Pn		Pn	22 19 42.7	-2.0
GLA					IAML		22 20 48.0	
	comp=N,25nm,0.6s							
GLA					IAML		22 20 48.7	
	comp=E,30nm,0.8s							
CCUT	**Cedar City**	**3.56**	**62**	Pn		Pn	22 19 45.2	-0.1
KNB	**Kanab**	**3.78**	**72**	Pn		Pn	22 19 46.4	-1.8
KNB					IAML		22 21 03.0	
	comp=N,12nm,1.3s							
KNB					IAML		22 21 15.6	
	comp=E,13nm,3.8s							
PV10	**Paradox Valley**	**7.04**	**67**	Pn		Pn	22 20 30.7	-2.5

RSNC 08 22:18:52.4±0.0, 6°N±1′×7°3W±′, h0km±2km, M2.6, mb3.6, ML2.6, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUSC	**La Rusia**	**0.58**	**308**	P	Pg	22 19 01.7	-1.9
RUSC				P	Pb	22 19 01.8	-4.0
RUSC				P	Pb	22 19 01.8	-4.0
RUSC				S	Sg	22 19 09.7	-1.5
RUSC	**La Rusia**	**0.58**	**308**	P	Pg	22 19 01.6	-2.0
RUSC				S	Sg	22 19 09.2	-2.0
BARC	**Barichara**	**1.19**	**332**	P	Pg	22 19 12.9	-2.4
BARC	**Barichara**	**1.19**	**332**	P	Pg	22 19 12.6	-2.7
BARC				S	Sg	22 19 26.9	-3.9
TAMC	**Tame, Arauca**	**1.22**	**42**	P	Pg	22 19 15.0	-0.8
TAMC				S	Sn	22 19 34.6	+0.6
PTGC	**Puerto Gaitan,**	**1.41**	**160**	P	Pn	22 19 17.6	-1.7
PTGC				P	Pn	22 19 17.6	-1.7
PTGC	**Puerto Gaitan,**	**1.41**	**160**	P	Pn	22 19 17.4	-1.9
PTGC				S	Sg	22 19 37.2	-0.5
CHIC	**Chingaza**	**1.42**	**231**	P	Pg	22 19 16.4	-3.3
CHIC				P	Pn	22 19 16.5	-3.4
CHIC				P	Pb	22 19 16.6	-3.5
CHIC				S	Sb	22 19 39.2	+0.2
CHIC				S	Sb	22 19 39.2	+0.2
CHIC	**Chingaza**	**1.42**	**231**	P	Pg	22 19 16.3	-3.4
CHIC				S	Sg	22 19 38.3	+0.1
SPBC	**San Pablo de B**	**1.45**	**275**	P	Pn	22 19 16.1	-3.9
SPBC				P	Pg	22 19 17.2	-3.0
SPBC	**San Pablo de B**	**1.45**	**275**	P	Pn	22 19 17.0	-3.0
SPBC				S	Sg	22 19 34.4	-4.7
CVER	**Cruz Verde, Cu**	**1.76**	**235**	P	Pn	22 19 23.9	-0.7
CVER				S	Sg	22 19 49.3	+0.2
VILC	**Villavicencio,**	**1.77**	**217**	P	Pn	22 19 22.7	-1.7
VILC				P	Pb	22 19 23.2	-2.6
VILC				P	Pg	22 19 23.3	-3.1
VILC	**Villavicencio,**	**1.77**	**217**	P	Pn	22 19 22.6	-1.8
VILC				S	Sb	22 19 48.7	+0.1
PAMC	**Pamplona, Colo**	**1.80**	**357**	P	Pn	22 19 23.9	-1.3
PAMC				P	Pb	22 19 24.1	-2.5
PAMC				P	Pg	22 19 24.4	-2.5
PAMC				S	Sn	22 19 48.5	-0.5
PAMC	**Pamplona, Colo**	**1.80**	**357**	P	Pn	22 19 23.8	-1.4
PAMC				S	Sn	22 19 48.7	-0.3
BRJC	**Barrancabermej**	**1.82**	**322**	P	Pn	22 19 23.6	-1.4
BRJC				S	Sn	22 19 46.9	-1.8
ROSC	**El Rosal**	**1.83**	**248**	P	Pn	22 19 25.4	0.0
ROSC				S	Sg	22 19 51.5	+0.3
PTBC	**PUERTO BERRIO,**	**2.08**	**299**	P	Pn	22 19 26.9	-1.8
PTBC	**PUERTO BERRIO,**	**2.08**	**299**	P	Pn	22 19 26.5	-2.2
PTBC				S	Sn	22 19 54.5	-0.8
NORC	**Norcasia**	**2.24**	**271**	P	Pn	22 19 30.2	-0.6
NORC				S	Sn	22 19 59.3	+0.1
GUY2C	**Guyana, Caldas**	**2.75**	**264**	P	Pn	22 19 38.3	+0.1
GUY2C				S	Sn	22 20 14.2	+1.8
OCAC	**Ocana**	**2.78**	**346**	P	Pb	22 19 41.1	-2.0
OCAC				S	Sb	22 20 16.7	-1.1
RECRC	**Villamaria, Ca**	**2.78**	**258**	P	Pn	22 19 38.4	-0.3
RECRC				S	Sn	22 20 13.3	+0.1
URMC	**La Uribe, Meta**	**2.87**	**218**	P	Pn	22 19 38.7	-0.8
URMC				S	Sn	22 20 14.4	-0.4
PRAC	**Prado**	**2.89**	**231**	P	Pn	22 19 38.4	-1.4
PRAC				S	Sn	22 20 16.3	+1.0
ZARC	**Zaragoza, Cauc**	**2.96**	**311**	P	Pn	22 19 40.6	-0.1
ZARC				S	Sn	22 20 17.6	+0.7
ANIL	**Santa Ana**	**2.96**	**250**	P	Pn	22 19 39.4	-1.5
HELC	**Santa Helena**	**2.97**	**283**	P	Pn	22 19 40.7	-0.4
HELC				S	Sn	22 20 18.1	+0.5
ORTC	**Ortega, Tolima**	**3.07**	**239**	P	Pn	22 19 40.3	-2.0
ORTC				S	Sn	22 20 19.3	-0.5
MACC	**Macarena, Meta**	**3.58**	**200**	P	Pn	22 19 47.1	-2.1
MACC				S	Sn	22 20 29.5	-2.8
FLOC	**Florencia**	**4.95**	**218**	P	Pn	22 20 06.4	-1.8
SJCC	**San Jacinto, C**	**5.03**	**330**	P	Pn	22 20 08.3	-0.9

NAO ***08*** *22:23:06.1±1.1, 79.05N×2.85E, h15km, ML2.7*
BER ***08*** *22:23:07.9±2.5, 79.22N×3.66E, h10km, mb(Pn)3.6, Confirmed Earthquake*
DNK ***08*** *22:23:08.3±4.5, 79.39N×3.54E, h36km±40km, ML1.9*
KOLA ***08*** *22:23:09.4, 79.04N×4.62E, h0km, ML2.2, Greenland sea,Knipovich ridge, north*
FCIAR ***08*** *22:23:11.0, 79.14N×4.60E, h10km, station ZFI2 has station magnitude of 3.30 station OMEGA has station magnitude of 3.30*

ISC 08 22:23:04.2±1.1, 79°33N±0.06×3°69E±0.06, h10km, n27, σ2s09/46, 1C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.62**	**100**	Pn	Pn	**22 23 34.3**	**+1.7**
KBS				Sn	Sn	**22 23 52.4**	**-1.1**
KBS	**Kingsbay**	**1.62**	**100**	P	Pn	**22 23 34.0**	**+1.4**
KBS				S	Sn	**22 23 52.5**	**-1.1**
KBS	**Kingsbay**	**1.62**	**100**	*e*P	Pn	**22 23 34.2**	**+1.5**
KBS				*e*S	Sn	**22 23 52.3**	**-1.2**
KBS				IAML		22 23 57.5	
	comp=Z,32nm,0.7s						
KBS	**Kingsbay**	**1.62**	**100**	*i* P	Pn	**22 23 34.0**	**+1.4**
KBS				*i* S	Sn	**22 23 52.1**	**-1.4**
BRBB	**Barentsburg B**	**2.41**	**116**	Pn	Pn	**22 23 45.7**	**+2.2**
BRBB				Sn	Sn	**22 24 12.4**	**-0.6**
BRBB	**Barentsburg B**	**2.41**	**116**	P	Pn	**22 23 45.4**	**+1.9**
BRBB				S	Sn	**22 24 12.5**	**-0.6**
BRBB	**Barentsburg B**	**2.41**	**116**	*e*P	Pn	**22 23 45.5**	**+1.9**
BRBB				*e*S	Sn	**22 24 12.7**	**-0.3**
BRBA	**Barentsburg A**	**2.43**	**116**	Pn	Pn	**22 23 46.2**	**+2.3**
BRBA				Sn	Sn	**22 24 14.1**	**+0.5**
BRBA	**Barentsburg A**	**2.43**	**116**	*e*P	Pn	**22 23 46.0**	**+2.2**
BRBA				*e*S	Sn	**22 24 14.3**	**+0.7**
BRBA				IAML		22 24 16.5	
	comp=Z,41nm,0.6s						
SPA0	**Spitsbergen Ar**	**2.74**	**109**	Pn	Pn	**22 23 50.8**	**+2.7**
	baz=289,slow=12						
SPA0				Sn	Sn	**22 24 22.8**	**+1.6**
	baz=291,slow=22						
SPA0	**Spitsbergen Ar**	**2.74**	**109**	*i* P	Pn	**22 23 50.7**	**+2.7**
SPA0				*i* S	Sn	**22 24 20.5**	**-0.6**
SPA0	**Spitsbergen Ar**	**2.74**	**109**	*e*P	Pn	**22 23 50.6**	**+2.5**
SPA0				*e*S	Sn	**22 24 21.7**	**+0.6**
SPA0				IAML		22 24 28.2	
	comp=Z,31nm,0.7s						
SPITS	**Spitsbergen Ar**	**2.74**	**109**	P	Pn	**22 23 50.6**	**+2.5**
SPITS				S	Sn	**22 24 21.3**	**+0.2**
HSPB	**Hornsund (broa**	**3.37**	**128**	Pn	Pn	**22 23 58.8**	**+2.1**
HSPB				Sn	Sn	**22 24 34.1**	**-2.7**
HSPB	**Hornsund (broa**	**3.37**	**128**	P	Pn	**22 23 58.4**	**+1.6**
HSPB				S	Sn	**22 24 34.5**	**-2.2**
HSPB	**Hornsund (broa**	**3.37**	**128**	*e*P	Pn	**22 23 58.2**	**+1.4**
HSPB				*e*S	Sn	**22 24 33.9**	**-2.9**
HSPB	**Hornsund (broa**	**3.37**	**128**	*e*P	Pn	**22 23 58.4**	**+1.6**
HSPB				*e*S	Sn	**22 24 34.7**	**-2.1**
HSPB				IAML		22 24 37.3	
	comp=Z,10nm,0.8s						
NOR	**Nord**	**4.06**	**314**	Pn	Pn	**22 24 07.7**	**+1.5**
NOR	**Nord**	**4.06**	**314**	*e*P	Pn	**22 24 07.8**	**+1.6**
NOR	**Nord**	**4.06**	**314**	*i* P	Pn	22 24 04.0	-2.2
NOR				*i* P	Pb	22 24 08.0	-7.6
HOPEN	**Hopen**	**5.26**	**112**	*e*P	Pn	**22 24 24.0**	**+1.3**
HOPEN				*e*S	Sn	**22 25 18.1**	**-5.2**
DAG	**Danmarks Havn**	**5.27**	**252**	*i* P	Pn	**22 24 23.0**	**+0.2**
DAG				*i* S	Sn	22 25 16.7	-6.8
DAG				IAML		22 25 25.9	
	comp=Z,5.5nm,0.6s						
DBG	**Daneborg**	**7.36**	**239**	*i* P	Pn	**22 24 54.3**	**+2.8**
DBG				*i* S	Sn	22 26 05.1	-10
DBG				IAML		22 26 14.5	
	comp=Z,2.7nm,0.6s						
ZFI2	**Zemlya Franca-**	**7.58**	**58**	*e*P	Pn	**22 24 57.2**	**+2.7**
ZFI2				*e*S	Sn	**22 26 16.8**	**-3.4**
	comp=Z,8.7nm,1.6s						
OMEGA	**Omega**	**7.59**	**58**	*e*P	Pn	**22 24 57.4**	**+2.7**
OMEGA				*e*S	Sn	**22 26 16.9**	**-3.7**
	comp=Z,7.5nm,1.4s						
NEEM	**North Greenlan**	**10.82**	**288**	*i* P	Pn	**22 25 38.2**	**-0.9**
NEEM				*i* S	Sn	22 27 23.9	-16
NEEM				IAML		22 27 32.9	
	comp=Z,2.8nm,0.6s						
ARA0	**ARCESS Array S**	**11.31**	**138**	Pn	Pn	**22 25 44.5**	**-1.1**
	baz=339,slow=11						

IDC ***08*** *22:23:27.0±2.9, 35.33N×139.85E, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=80.2km s-min=25.8km az=60.0*
JMA ***08*** *22:23:31.3±0.2, 35.6N±0.4×140.0E±0.5, h21km±2km, MV3.3/20, CENTRAL CHIBA PREF*
JMA Felt II J1 at CENTRAL CHIBA PREF .

ISC 08 22:23:30.9±0.9, 35°56N±0.05×139°96E±0.04, h32km±6km, n18, σ0s78/19, 4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.21**	**308**	*i* P	Pb	**22 23 37.0**	**-0.5**
TOK				S	Sb	**22 23 42.1**	**0.0**
JSMT	**Sammumatsuo**	**0.40**	**77**	⇓*i* P	Pb	**22 23 40.1**	**+0.1**
JSMT				⇓S	Sb	**22 23 47.4**	**+1.2**
BSO4	**Boso 4**	**0.64**	**151**	P	Pn	**22 23 43.9**	**+0.3**
JYT	**Yasato**	**0.70**	**15**	*i* P	Pn	**22 23 43.8**	**-0.7**
JYT				S	Sb	**22 23 53.5**	**-0.6**
JOD2	**Odawara 2**	**0.77**	**248**	⇓P	Pn	**22 23 45.3**	**-0.3**
JOD2				⇓S	Sn	**22 23 55.6**	**-0.5**
BSO3	**Boso 3**	**0.88**	**149**	P	Pb	**22 23 47.1**	**-0.4**
JAG	**Ashikaga**	**0.96**	**335**	*i* P	Pn	**22 23 48.1**	**-0.1**
JAG				S	Sn	**22 24 00.5**	**-0.3**
JRY	**Ryogami san**	**0.98**	**298**	*i* P	Pn	**22 23 47.9**	**-0.5**
JRY				S	Sn	**22 24 01.5**	**+0.3**
JYN	**Shimob**	**1.16**	**268**	*i* P	Pn	**22 23 51.2**	**+0.2**
MJAR	**Matsushiro Arr**	**1.73**	**305**	Pn	Pn	**22 24 00.3**	**+1.6**
	3.0nm,0.3s,baz=129,slow=14,SNR=69						
MJAR				Sn	Sn	**22 24 21.2**	**+1.4**
	2.3nm,0.3s,baz=116,slow=22,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**28.47**	**116**	T	T	22 58 53.8	
	baz=308,slow=75,SNR=8.1						
H11N1	**WAKE ISLAND Hy**	**28.48**	**117**	T	T	22 58 54.1	
	baz=308,slow=75,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**28.49**	**116**	T	T	22 58 54.9	
	baz=308,slow=75,SNR=8.5						
H11S3	**WAKE ISLAND Hy**	**29.11**	**119**	T	T	22 59 33.7	
	baz=311,slow=75,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**29.11**	**119**	T	T	22 59 33.7	
	baz=311,slow=75,SNR=5.0						
H11S2	**WAKE ISLAND Hy**	**29.13**	**119**	T	T	22 59 37.8	
	baz=311,slow=75,SNR=3.7						
MKAR	**Makanchi Array**	**43.93**	**303**	P	**P**	**22 31 35.2**	**+0.6**
	0.2nm,0.5s,baz=90,slow=8.9,SNR=3.5						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**55.45**	**186**	P	**P**	**22 33 01.6**	**-0.9**
	0.5nm,0.9s,baz=2.0,slow=7.5,SNR=2.5						
	0.5nm,0.9s						

IDC ***08*** *22:24:33.2±1.0, 0.43N×126.18E, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=63.1km s-min=18.8km az=73.0*
DJA ***08*** *22:24:36.4±0.3, 0.0N±3.1×12.6E±′, h10km, M3.7/11, MLv3.7/11*

ISC 08 22:24:39.5±0.8, 0.46N±0.08×126.42E±0.06, h47km, n13, σ0s93/14, mb3.8/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.00**	**72**	P	Pn	**22 24 55.9**	**-1.3**
TNTI				S	Sn	**22 25 10.4**	**+0.3**
KMSI	**Cibinong**	**2.44**	**273**	P	Pn	**22 25 15.8**	**-1.1**
SANI	**Sanana**	**2.53**	**190**	P	Pn	**22 25 16.9**	**-1.2**
NLAI	**Namlea**	**3.73**	**169**	P	Pn	**22 25 34.8**	**+0.1**
LUWI	**Luwuk**	**3.94**	**248**	P	Pn	**22 25 37.2**	**-0.3**
MRSI	**Marisa**	**4.48**	**270**	P	Pn	**22 25 44.3**	**-0.6**
WRA	**Warramunga Arr**	**21.71**	**159**	P	**P**	**22 29 25.7**	**-1.0**
	2.1nm,0.5s,baz=339,slow=10,SNR=21						
	2.1nm,0.5s						
ASAR	**Alice Springs**	**25.06**	**164**	P	**P**	**22 30 00.6**	**+0.9**
	1.6nm,0.5s,baz=341,slow=7.9,SNR=26						
	1.6nm,0.5s						
USRK	**Ussuriysk Ar.**	**43.84**	**6**	P	**P**	**22 32 41.5**	**+0.5**
	1.1nm,0.6s,baz=198,slow=6.1,SNR=3.0						
	1.1nm,0.6s						
SONM	**Songino Array**	**50.29**	**343**	P	**P**	**22 33 32.5**	**+1.0**
	0.3nm,0.3s,baz=170,slow=9.5,SNR=1.9						
	0.3nm,0.3s						
PETK	**Petropavlovsk-**	**58.56**	**22**	P	**P**	**22 34 32.0**	**+0.7**
	1.3nm,0.6s,baz=220,slow=6.7,SNR=2.2						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**60.07**	**326**	P	**P**	**22 34 41.0**	**-0.9**
	0.7nm,0.5s,baz=125,slow=7.8,SNR=9.1						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**64.33**	**328**	P	**P**	**22 35 09.6**	**-0.6**
	3.0nm,0.2s,baz=127,slow=6.2,SNR=2.2						
	3.0nm,0.2s						

IDC ***08*** *22:43:20.0±2.2, 30.71S×177.36W, h0km, mb3.8/3, mbtmp3.8/3, MS4.6/1, Error ellipse: s-maj=46.1km s-min=26.3km az=104.0*

ISC 08 22:43:24.8±2.3, 30.7S±0.1×177.4W±0.3, h33km, n7, σ0s50/7, mb3.8/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.49**	**340**	Pn	Pn	**22 43 49.1**	**-0.2**
	155nm,0.3s,baz=160,slow=18,SNR=5.7						
RAO				Sn	Sb	**22 44 10.6**	**+0.2**
	291nm,0.3s,baz=120,slow=24,SNR=5.7						
URZ	**Urewera**	**8.85**	**210**	Pn	Pn	22 45 25.2	-5.2
	0.5nm,0.3s,baz=45,slow=10.0,SNR=1.4						
URZ				Sn	Sn	22 47 00.7	-8.3
	1.1nm,0.3s,baz=194,slow=22,SNR=5.7						
STKA	**Stephens Creek**	**34.97**	**257**	P	**P**	**22 50 14.4**	**+0.4**
	0.8nm,0.3s,baz=78,slow=11,SNR=3.9						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**43.66**	**267**	P	**P**	**22 51 26.2**	**-0.4**
	0.6nm,0.5s,baz=108,slow=7.5,SNR=7.8						
ASAR				PcP	**PcP**	**22 53 14.1**	**+0.5**
	0.3nm,0.6s,baz=128,slow=3.6,SNR=1.7						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**44.67**	**272**	P	**P**	**22 51 34.2**	**-0.5**
	0.8nm,0.5s,baz=112,slow=7.9,SNR=14						
	0.8nm,0.5s						
BATI	**Baumata**	**58.24**	**277**	LR	LR	23 15 11.2	
	comp=Z,488nm,21.2s,baz=34,slow=33						
FINES	**FINESS Array B**	**145.58**	**340**	PKPbc	**PKPdf**	**23 02 58.8**	**-0.1**
	1.6nm,0.7s,baz=60,slow=4.9,SNR=12						

ISK ***08*** *22:44:23.9, 36.43N×28.72E, h5km, ML2.5/14*
THE ***08*** *22:44:24.7, 36°N±5′×2°9E±′, h0km±5km, M2.3/6, MLh2.3/6*

ISC 08 22:44:24.7±1.1, 36°42N±0.03×28°70E±0.02, h7km±10km, n21, σ0s67/33, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.38**	**55**	Pg	**Pg**	**22 44 32.2**	**+0.1**
FETY				Sg	**Sg**	**22 44 38.0**	**+1.0**
FETY	**Fethiye**	**0.38**	**55**	P	**Pg**	**22 44 32.1**	**+0.1**
FETY				S	**Sg**	**22 44 38.0**	**+1.0**
DALY	**Dalyan (Mula)**	**0.40**	**354**	Pg	**Pg**	**22 44 32.5**	**0.0**
DALY				Sg	**Sb**	**22 44 39.1**	**-1.3**
ARG	**Arkhangelos**	**0.51**	**247**	Pg	**Pg**	**22 44 34.9**	**+0.4**
ARG				Sg	**Sg**	**22 44 43.9**	**+0.3**
ARG	**Arkhangelos**	**0.51**	**247**	P	**Pg**	**22 44 34.3**	**-0.2**
ARG				S	**Sg**	**22 44 40.4**	**-0.7**
TURN	**Turunc**	**0.51**	**314**	Pg	**Pb**	**22 44 35.1**	**-0.9**
TURN				Sg	**Sb**	**22 44 43.3**	**-0.4**
CAME	**Cameli-Denizli**	**0.71**	**43**	Pg	**Pg**	**22 44 38.5**	**0.0**
CAME				Sg	**Sb**	**22 44 49.3**	**-0.3**
AKAS	**Kas**	**0.75**	**104**	Pg	**Pb**	**22 44 39.4**	**-0.9**
KSL	**Kastellorizon**	**0.76**	**110**	P	**Pb**	**22 44 39.7**	**-0.6**
KSL				S	**Sb**	**22 44 50.5**	**-0.4**
DAT	**Datca**	**0.96**	**289**	Pg	**Pb**	**22 44 43.5**	**-0.2**
DAT				Sg	**Sb**	**22 44 57.9**	**+1.3**
ELL	**Elmali**	**1.02**	**71**	Pg	**Pb**	**22 44 44.3**	**-0.6**
MLSB	**Milas**	**1.15**	**320**	Pn	**Pn**	**22 44 47.1**	**-0.2**
APMY	**Acipayam-Deniz**	**1.16**	**24**	Pn	**Pg**	**22 44 46.6**	**-0.3**
BODT	**Bodrum**	**1.29**	**300**	Pn	**Pn**	**22 44 49.9**	**+0.7**
BODT	**Bodrum**	**1.29**	**300**	P	**Pg**	**22 44 49.6**	**+0.4**
BODT				S	**Sn**	**22 45 06.9**	**+0.2**
KARP	**Karpathos**	**1.52**	**236**	P	**Pn**	**22 44 52.6**	**+0.2**
NAZL	**Nazilli-Aydin**	**1.58**	**348**	Pn	**Pg**	**22 44 54.6**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.66**	**337

CHM *e*S **Sn** **22 49 10.1 -1.0**
AML Almayashu **6.34 19** P **Pn** **22 48 04.0 +0.5**
SNR=421
BHK Bhakra **6.62 134** *e*P **Pn** **22 48 09.8 +2.8**
BHK *ex* x 22 49 20.8
BHK IAML 22 49 23.0
comp=E,445nm,0.2s
BHK IAML 22 49 24.5
comp=N,553nm,0.2s
UCH Uchtor **6.68 24** P **Pn** **22 48 08.6 +0.5**
SNR=167
DZA Taraz **6.72 3** *e*PN **Pn** **22 48 07.8 -0.5**
DZA Taraz **6.72 3** *e*P **Pn** **22 48 07.9 -0.5**
SRGN SRI GANGA NAGA **6.73 157** *e*P **Pn** **22 48 09.8 +1.4**
SRGN *e*S **Sn** **22 49 22.3 -1.3**
EKS2 Erkin-Say **6.86 18** P **Pn** **22 48 10.9 +0.6**
SNR=200
BRLS Borolday **6.89 354** *e*PN **Pn** **22 48 06.6 -4.0**
BRLS pmax pmax
comp=Z,19nm,0.5s
BRLS Boroldαy **6.89 354** *e*P **Pn** **22 48 06.7 -4.0**
comp=Z,19nm,0.5s
KK31 Karatay Array **6.93 358** Pn **Pn** **22 48 10.3 -0.8**
KK31 Karatay Array **6.93 358** ⇓P **Pn** **22 48 10.8 -0.2**
comp=Z,104nm,0.4s,baz=183,slow=13,SNR=1852
KK31 ⇓S **Sn** **22 49 23.0 -5.4**
comp=Z,100nm,0.6s,baz=186,slow=25,SNR=4.1
KK31 Karatay Array **6.93 358** PN **Pn** **22 48 10.3 -0.8**
KKAR Karatay Array **6.93 358** Pn **Pn** **22 48 10.2 -0.8**
KKAR Karatay Array **6.93 358** Pn **Pn** **22 48 10.2 -0.8**
KKAR Karatay Array **6.93 358** PN **Pn** **22 48 10.3 -0.8**
AAK Ala-Archα **7.04 22** P **Pn** **22 48 13.6 +0.8**
SNR=107
AAK Ala-Archα **7.04 22** ⇓P **Pn** **22 48 13.5 +0.8**
comp=Z,23nm,0.4s
AAK ⇑S **Sn** **22 49 30.0 -1.3**
comp=Z,121nm,0.8s
AAK Ala-Archα **7.04 22** P **Pn** **22 48 13.1 +0.3**
comp=Z,119nm,0.3s,baz=184,slow=5.2,SNR=95
AAK S **Sn** **22 49 27.5 -3.8**
comp=Z,288nm,0.8s,baz=165,slow=23,SNR=11
AAK Ala-Archα **7.04 22** *i* PN **Pn** **22 48 12.7 -0.1**
AAK Ala-Archα **7.04 22** Pn **Pn** **22 48 13.5 +0.8**
KBK Karagaybulak **7.20 25** P **Pn** **22 48 16.4 +1.4**
SNR=51
FRU1 Bishkek **7.24 23** Pn **Pn** **22 48 16.0 +0.6**
FRU1 Bishkek **7.24 23** PN **Pn** **22 48 16.0 +0.6**
SMLA Simla **7.27 132** *e*P **Pn** **22 48 16.2 +0.4**
SMLA *e*S **Sn** **22 49 34.7 -2.1**
SMLA IAML 22 49 39.0
comp=N,583nm,0.2s
SMLA IAML 22 49 41.7
comp=E,689nm,0.6s
ULHL Ulahol **7.36 33** P **Pn** **22 48 17.8 +0.6**
SNR=35
BOOM Boomskoye usch **7.43 30** Pn **Pn** **22 48 18.3 +0.2**
BOOM Boomskoye usch **7.43 30** PN **Pn** **22 48 18.3 +0.2**
CHMS Chumysh **7.45 23** P **Pn** **22 48 18.6 +0.4**
SNR=118
CHMS Chumysh **7.45 23** ⇓P **Pn** **22 48 18.5 +0.3**
comp=E,110nm,0.4s
CHMS ⇑S **Sn** **22 49 37.3 -3.7**
comp=E,268nm,0.7s
USP Ospenovka **7.62 20** P **Pn** **22 48 21.4 +0.9**
SNR=88
TKM2 Tokmak 2 **7.67 27** P **Pn** **22 48 21.6 +0.3**
SNR=125
TKM2 Tokmak 2 **7.67 27** ⇓P **Pn** **22 48 21.8 +0.5**
comp=E,105nm,0.7s
KLP Kalpa **7.69 125** *e*P **Pn** **22 48 22.4 +0.6**
KLP *e*S **Sn** **22 49 42.1 -5.3**
KLP IAML 22 49 48.9
comp=E,769nm,0.6s
KLP IAML 22 49 52.1
comp=N,686nm,0.5s
KDJ Kajisay **7.71 38** Pn **Pn** **22 48 21.8 -0.1**
KDJ Kajisay **7.71 38** PN **Pn** **22 48 21.8 -0.1**
TARG Taragay, Kyrgy **7.74 42** Pn **Pn** **22 48 23.2 +0.6**
TARG Taragay, Kyrgy **7.74 42** PN **Pn** **22 48 23.2 +0.6**
SGDS Sogindy **7.83 21** *e*P **Pn** **22 48 22.7 -0.6**
comp=N,111nm,0.4s
WUS Wushi **8.23 50** Pn **Pn** **22 48 30.8 +1.8**
DDI Dehra Dun **8.38 132** *e*P **Pn** **22 48 31.1 +0.1**
DDI *e*S **Sn** **22 50 00.1 -3.9**
DDI IAML 22 50 05.6
comp=N,514nm,0.4s
DDI IAML 22 50 08.7
comp=E,499nm,0.4s
BKNR BIKANER **8.38 165** *e*P **Pn** **22 48 30.2 -0.7**
BKNR IAML 22 50 04.3
comp=E,472nm,0.6s
BKNR IAML 22 50 04.6
comp=N,482nm,0.6s
KNDC Almaty **8.46 32** ⇓P **Pn** **22 48 35.0 +3.0**
comp=N,366nm,0.8s
PRZ Przheval'sk **8.59 41** Pn **Pn** **22 48 35.1 +1.3**
PRZ Przheval'sk **8.59 41** PN **Pn** **22 48 35.1 +1.3**
KUU Kurty **8.78 27** *e*PN **Pn** **22 48 35.7 -0.5**
KUU pmax pmax
comp=Z,6.0nm,0.6s
KUU Kurty **8.78 27** *e*P **Pn** **22 48 35.7 -0.5**
comp=Z,5.6nm,0.6s
CHKK Chushkaly **8.99 30** *e*PN **Pn** **22 48 38.8 -0.3**
CHKK Chushkaly **8.99 30** *e*P **Pn** **22 48 38.9 -0.3**
SATY Saty **9.00 38** *e*PN **Pn** **22 48 38.9 -0.5**
SATY Saty **9.00 38** *e*P **Pn** **22 48 39.0 -0.5**
BHGR Bahadurgarh **9.05 144** *e*S **Sn** **22 50 15.7 -4.5**
BHGR IAML 22 50 18.3
comp=E,414nm,0.4s
BHGR IAML 22 50 24.1
comp=N,441nm,0.4s
JOSI Joshimath **9.17 125** *e*P **Pn** **22 48 43.7 +1.8**
JOSI *e*S **Sn** **22 50 18.1 -5.3**
NDI New Delhi **9.19 143** *e*P **Pn** **22 48 42.1 +0.1**
NDI *e*S **Sn** **22 50 18.9 -4.7**
NDI IAML 22 50 22.9
comp=E,126nm,0.4s
NDI IAML 22 50 25.1
comp=N,131nm,0.3s
NPLP NPLP New Delhi **9.21 143** *e*P **Pn** **22 48 42.3 +0.2**
NPLP *e*S **Sn** **22 50 18.7 -5.3**
NPLP IAML 22 50 21.0
comp=N,242nm,0.3s
NPLP IAML 22 50 24.2
comp=E,261nm,0.2s
SHLS Shalkode **9.62 41** *e*P **Pn** **22 48 50.5 +2.7**
SHLS pmax pmax
comp=Z,4.0nm,0.5s
SHLS Shalkode **9.62 41** *e*P **Pn** **22 48 50.5 +2.7**
comp=Z,4.0nm,0.5s
PDGK Podgornoye **9.75 40** ⇓P **Pn** **22 48 49.0 -0.6**
comp=Z,59nm,1.0s
TDK Taldyqorghan **10.51 31** *e*P **Pn** **22 48 59.5 -0.3**
TDK Taldyqorghan **10.51 31** *e*P **Pn** **22 48 59.5 -0.3**
MAKZ Makanchi **13.48 35** Pn **Pn** **22 49 38.5 -0.8**
MAKZ Makanchi **13.48 35** ⇑P **Pn** **22 49 38.2 -1.2**
comp=Z,34nm,0.8s
MAKZ Makanchi **13.48 35** ⇑P **Pn** **22 49 39.6 +0.2**
MK31 Makanchi Array **13.62 35** P **Pn** **22 49 39.8 -1.3**
comp=Z,3.2nm,0.7s,baz=220,slow=12,SNR=142
MK31 Makanchi Array **13.62 35** *ce*P **Pn** **22 49 40.2 -0.9**
MKAR Makanchi Array **13.62 35** Pn **Pn** **22 49 40.2 -1.0**
MKAR Makanchi Array **13.62 35** P **Pn** **22 49 40.7 -0.5**
comp=Z,17nm,0.7s,baz=225,slow=15,SNR=35
BHPL Bhopal **14.08 154** *e*P **Pn** **22 49 45.8 -1.5**
BHPL IAmb IAmb 22 49 48.7
comp=Z,37nm,0.8s
WMQ Urumqi **14.97 54** *e*P **P** **22 50 00.6 -1.1**
WMQ pmax pmax
comp=Z,28nm,0.7s
WMQ LR LR
comp=Z,170nm,23.8s
AB31 Akbulak array **15.32 332** Pn **Pn** **22 50 00.6 -2.2**
ABKAR Akbulak array **15.32 332** Pn **Pn** **22 50 00.5 -2.3**
ZSN Zaisan **15.33 38** *e*P **Pn** **22 50 02.6 -0.4**
ZSN Zaisan **15.33 38** *e*P **Pn** **22 50 02.7 -0.4**
KURBB Kurchatov Arra **15.47 19** P **Pn** **22 50 01.2 -3.5**
comp=Z,2.7nm,0.4s,baz=211,slow=13,SNR=13
KURK Kurchatov **15.57 19** Pn **Pn** **22 50 05.2 -0.8**
KURK IAmb IAmb 22 50 10.6
comp=Z,44nm,1.1s
KURK Kurchatov **15.57 19** ⇓P **Pn** **22 50 03.1 -3.0**
comp=Z,47nm,1.1s
KURK Kurchatov **15.57 19** *ce*P **Pn** **22 50 03.2 -2.8**
KURK pmax pmax
comp=Z,12nm,1.3s
WSAR Wadi Sarin **16.69 223** P **P** **22 50 20.9 +0.2**
baz=308,slow=19,SNR=4.6
BVA0 Borovoye Array **16.85 359** ⇑P **Pn** **22 50 20.7 -1.1**
comp=Z,23nm,0.9s,baz=0.0,slow=0.1,SNR=7.6
BVAR Borovoye Array **16.85 359** P **Pn** **22 50 19.9 -1.9**
BRVK Borovoye **16.89 359** Pn **Pn** **22 50 20.3 -2.0**
BRVK IAmb IAmb 22 50 25.4
comp=Z,36nm,1.3s
BRVK Borovoye **16.89 359** P **Pn** **22 50 20.3 -2.0**
BRVK pmax pmax
comp=Z,36nm,1.3s
HATD Hatta, Dubai **16.98 232** Pn **P** **22 50 25.7 +1.7**
AKTO Aktyubinsk **17.01 331** ⇓P **Pn** **22 50 22.5 -1.3**
comp=Z,36nm,0.8s
AKTO Aktyubinsk **17.01 331** P **Pn** **22 50 22.6 -1.2**
comp=Z,48nm,0.7s,baz=138,slow=10,SNR=51
AKTO S **Sn** 22 53 20.1 -13
comp=Z,6.5nm,0.8s,baz=168,slow=20,SNR=2.5
ASHO Ashiyiah **17.13 232** Pn **P** **22 50 27.3 +1.6**
ALNE Al Ain **17.77 231** P **Pn** **22 50 33.2 -0.1**
LSA Lhasa **18.19 105** P **Pn** **22 50 40.2 +1.4**
LSA Lhasa **18.19 105** P **Pn** **22 50 40.2 +1.4**
LSA pmax pmax
comp=Z,12nm,0.8s
LSA Lhasa **18.19 105** Pn **Pn** **22 50 40.5 +1.8**
AKT Akhty **18.77 293** *e*P **Pn** **22 50 45.0 -0.2**
AKT *e*S **S** **22 54 09.4 -2.6**
AKT pmax pmax
comp=Z,5.0nm,0.5s
AKT smax smax
comp=E,14nm,0.4s
AKT smax smax
comp=N,11nm,0.6s
TAWA Tawang **19.75 110** *e*P **Pn** **22 50 57.5 +0.4**
TAWA IAmb IAmb 22 51 00.3
comp=Z,17nm,0.7s
HYB Hyderabad **19.89 158** *e*P **Pn** **22 50 57.8 -0.5**
MZR Muzera **19.98 234** P **P** **22 50 56.3 -0.5**
ZAA0 Zalesovo Array **20.26 24** P **P** **22 50 59.7 +0.2**
ZALV Zalesovo Beam **20.26 24** P **P** **22 50 59.4 -0.1**
ZALV Zalesovo Beam **20.26 24** P **P** **22 50 59.7 +0.2**
comp=Z,30nm,0.4s,baz=227,slow=11,SNR=150
ZALV S **S** **22 54 37.8 -3.3**
comp=Z,1.7nm,0.7s,baz=217,slow=24,SNR=2.3
comp=Z,30nm,0.4s
ZALV Zalesovo Beam **20.26 24** *i* P **P** **22 50 59.9 +0.4**
ZALV pmax pmax
comp=Z,31nm,0.4s
SHL Shillong **20.87 115** P **P** **22 51 07.6 +1.1**
SHL IAmb IAmb 22 51 09.9
comp=Z,28nm,0.9s
SHL Shillong **20.87 115** P **P** **22 51 07.6 +1.1**
SHL pmax pmax
comp=Z,28nm,0.9s
GNI Garni **20.89 289** P Pn 22 51 08.6 -1.5
GNI IAmb IAmb 22 51 42.2
comp=Z,16nm,0.7s
GNI Garni **20.89 289** P Pn 22 51 09.2 -0.9
comp=Z,18nm,0.9s,baz=39,slow=2.5,SNR=14
GNI Garni **20.89 289** *ce*P **P** **22 51 08.3 +1.6**
GNI pmax pmax
comp=Z,22nm,1.0s
TEZP TEZPUR **20.97 111** *e*P **P** **22 51 08.7 +1.3**
TEZP IAmb IAmb 22 51 16.8
comp=Z,22nm,1.1s
ZIRO ZIRO **21.30 107** *e*P **P** **22 51 12.4 +1.2**
ZIRO IAmb IAmb 22 51 16.3
comp=Z,28nm,0.5s
OZAP Van, Ozalp-Mer **21.46 285** ⇓P **P** **22 51 09.7 -3.1**
SVE Sverdlovsk **21.78 345** *e*P **P** **22 51 17.0 +1.2**
SVE *e*S **S** **22 55 15.0 +4.4**
SVE pmax pmax
comp=Z,27nm,0.9s
ARTI Arti **21.92 341** P **P** **22 51 17.8 +0.6**
ARTI Arti **21.92 341** P **P** **22 51 17.8 +0.6**
comp=Z,37nm,0.8s,baz=152,slow=5.4,SNR=39
comp=Z,37nm,0.8s
ARTI Arti **21.92 341** *d* iP **P** **22 51 18.2 +1.0**
ARTI 22 51 48.6
ARTI S **S** **22 55 15.3 +2.2**
ARTI SS **SnSn** **22 55 57.4 +9.5**
ARTI pmax pmax
comp=Z,51nm,0.9s
AZL Aizawl **22.55 117** *e*P **P** **22 51 26.3 +2.0**
AZL IAmb IAmb 22 51 28.8
comp=Z,25nm,1.3s
KBZ Khabaz **22.66 298** P **P** **22 51 25.4 +0.4**
comp=Z,2.4nm,0.7s,baz=142,slow=6.3,SNR=5.5
KBZ S **S** **22 55 26.8 +1.2**
comp=Z,0.9nm,0.7s,baz=240,slow=13,SNR=1.2
comp=Z,2.4nm,0.7s
KBZ Khabaz **22.66 298** *i* P **P** **22 51 24.5 -0.5**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
IMP Imphal **22.82 113** *e*P **P** **22 51 29.3 +2.3**
IMP IAmb IAmb 22 51 31.2
comp=Z,18nm,0.6s
SHA1 Shidzhatmaz **22.83 298** *i* P **P** **22 51 28.4 +1.3**
KIV Kislovodsk **22.85 299** P **P** **22 51 28.7 +1.6**
KIV IAmb IAmb 22 52 04.0
comp=Z,19nm,0.7s
KIV Kislovodsk **22.85 299** ⇑P **P** **22 51 28.6 +1.5**
KIV Kislovodsk **22.85 299** *e*P **P** **22 51 28.0 +0.9**
KIV *e*S **S** **22 55 30.4 +1.5**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,22nm,14.0s
KIV Kislovodsk **22.85 299** P **P** **22 51 29.5 +2.4**
GTA Gaotai **23.06 73** *e*P **P** **22 51 30.6 +1.3**
GTA sP sP 22 52 09.1 +5.6
GTA pmax pmax
comp=Z,7.0nm,0.8s
BELG Belogornoye **23.08 322** *i* P **P** **22 51 29.0 -0.1**
BELG pmax pmax
comp=Z,10.0nm,0.9s
SAIH SAIHA **23.55 119** *e*P **P** **22 51 36.5 +2.7**
SOC Sochi **24.92 297** *e*P **P** **22 51 43.4 -2.6**
SOC *e*S **S** **22 55 58.6 -3.4**
SOC MLR MLR
comp=Z,22nm,15.0s
RAYN Ar Rayn **25.27 247** P **P** **22 51 49.1 -0.3**
RAYN Ar Rayn **25.27 247** P **P** **22 51 49.1 -0.3**
RAYN pmax pmax
comp=Z,6.0nm,1.0s
RAYN Ar Rayn **25.27 247** P **P** **22 51 48.9 -0.5**
KIRV Kirov **26.49 335** *i* P **P** **22 51 59.7 -0.2**
LZH Lanzhou **26.57 80** *e*P **P** **22 52 04.1 +3.0**
LZH pP pP 22 52 25.7 +1.3
LZH sP sP 22 52 43.1 +6.6
LZH pmax pmax
comp=Z,13nm,1.1s
VORD Divnogorie **26.98 313** *e*P **P** **22 52 08.0 +3.5**
VORD pmax pmax
comp=Z,5.0nm,1.0s
VSR Storozhevoye **27.15 314** *e*P **P** **22 52 10.3 +4.4**
VSR pmax pmax
comp=Z,4.0nm,0.8s
PZH PanZhiHua **27.98 101** P **P** **22 52 15.9 +2.1**
SONM Songino Array **28.61 55** P **P** **22 52 20.5 +1.3**
SONM Songino Array **28.61 55** P **P** **22 52 19.8 +0.7**
comp=Z,1.3nm,0.6s,baz=256,slow=9.4,SNR=12
comp=Z,1.3nm,0.6s
SONM Songino Array **28.61 55** P **P** **22 52 20.5 +1.3**
SONM pmax pmax
comp=Z,4.0nm,1.2s
ULN Ulaanbaatar **29.05 55** *ce*P **P** **22 52 22.5 -0.6**
ULN pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B **29.43 288** P **P** **22 52 27.5 +0.9**
comp=Z,0.7nm,0.6s,baz=89,slow=9.8,SNR=5.5
comp=Z,0.7nm,0.6s
BR106 Keskin Array S **29.45 288** P **P** **22 52 26.7 0.0**
comp=Z,2.2nm,0.9s
MOS Moscow **29.85 321** *e*P **P** **22 52 31.7 +1.9**
MOS *e* 22 52 55.4
MOS *e* 22 53 24.3
OBN Obninsk **30.12 320** *e*P **P** **22 52 31.6 -0.6**
OBN *e**PP **pP** **22 52 56.2 +1.1**
OBN *e**SP **sP** **22 53 07.7 +0.8**
OBN *e* 22 53 33.7
OBN *e* 22 55 33.9
OBN pmax pmax
comp=Z,8.0nm,0.5s
PALK Pallekele **30.14 160** LR LR 23 04 33.4
comp=Z,102nm,20.2s,baz=132,slow=36
CHTO Chiang Mai **30.16 117** P **P** **22 52 35.2 +2.1**
CHTO IAmb IAmb 22 52 36.0
comp=Z,3.8nm,0.5s
CHTO Chiang Mai **30.16 117** P **P** **22 52 35.2 +2.1**
CHTO pmax pmax
comp=Z,4.0nm,0.5s
CMAR Chiang Mai Arr **30.39 118** P **P** **22 52 36.7 +1.6**
comp=Z,2.1nm,0.3s,baz=301,slow=8.1,SNR=8.0
comp=Z,2.1nm,0.3s
CMAR Chiang Mai Arr **30.39 118** *i* P **P** **22 52 37.5 +2.4**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
KLMR Klimovskoe **31.71 331** *e*P **P** **22 52 44.5 -1.7**
KLMR pmax pmax
comp=Z,13nm,1.4s
HHC Hu-ho-hao-te **31.98 69** *e*P **P** **22 52 50.9 +1.9**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,74nm,5.4s
ELL Elmali **32.77 283** P **P** **22 52 56.5 +0.5**
ELL Elmali **32.77 283** P **P** **22 52 56.5 +0.5**
ELL pmax pmax
comp=Z,22nm,1.0s
AK09 Malin Array Si **33.02 309** P **P** **22 52 57.6 -0.1**
AK10 Malin Array Si **33.03 309** P **P** **22 52 57.7 -0.2**
AK08 Malin Array Si **33.04 309** P **P** **22 52 57.7 -0.2**
AK07 Malin Array Si **33.05 309** P **P** **22 52 57.8 -0.3**
AK06 Malin Array Si **33.06 309** P **P** **22 52 57.8 -0.3**
AK05 Malin Array Si **33.07 309** P **P** **22 52 57.8 -0.4**
AKASG Malin Array Be **33.07 309** P **P** **22 52 58.2 +0.1**
comp=Z,0.6nm,0.4s,baz=86,slow=6.8,SNR=11
comp=Z,0.6nm,0.4s
AKBB Malin Array Si **33.07 309** P **P** **22 52 58.6 +0.4**
AKBB Malin Array Si **33.07 309** *ce*P **P** **22 52 58.0 -0.2**
AKBB pmax pmax
comp=Z,9.0nm,1.8s
AK02 Malin Array Si **33.07 309** P **P** **22 52 58.2 0.0**
AK01 Malin Array Si **33.07 309** P **P** **22 52 56.9 -1.3**
KIEV Kiev **33.08 309** P **P** **22 52 58.1 -0.1**
KIEV Kiev **33.08 309** P **P** **22 52 58.1 -0.1**
KIEV pmax pmax
comp=Z,3.0nm,0.8s
AK11 Malin Array Si **33.10 309** P **P** **22 52 57.8 -0.6**
AK12 Malin Array Si **33.10 309** P **P** **22 52 59.0 +0.5**
AK14 Malin Array Si **33.13 309** P **P** **22 52 58.0 -0.7**
AK16 Malin Array Si **33.14 309** P **P** **22 52 58.7 -0.1**
AK17 Malin Array Si **33.17 309** P **P** **22 52 58.5 -0.6**
AK18 Malin Array Si **33.17 309** P **P** **22 52 58.2 -0.9**
AK18 pP **pP** **22 53 22.7 +0.7**
AK22 Malin Array Si **33.17 309** P **P** **22 52 58.6 -0.5**
AK22 pP **pP** **22 53 23.3 +1.2**
AK21 Malin Array Si **33.19 309** P **P** **22 52 58.7 -0.6**
AK19 Malin Array Si **33.20 309** P **P** **22 52 58.8 -0.6**
AK20 Malin Array Si **33.21 309** P **P** **22 52 58.3 -1.1**
AK20 pP **pP** **22 53 23.8 +1.4**
SORM Soroca **33.30 304** P **P** **22 52 59.2 -1.0**
comp=Z,4.6nm,0.7s
LUBAR Lubar, Ukraine **33.88 308** P **P** **22 53 05.2 -0.1**
NDNU Novodnistrovsk **33.99 305** P **P** **22 53 05.7 -0.6**
NRIK Noril'sk **34.47 10** P **P** **22 53 11.5 +1.4**
NRIK Noril'sk **34.47 10** P **P** **22 53 11.5 +1.4**
comp=Z,10nm,0.6s,baz=204,slow=7.0,SNR=11
comp=Z,10nm,0.6s
NRIK Noril'sk **34.47 10** *i* P **P** **22 53 10.1 0.0**
NRIK pmax pmax
comp=Z,15nm,0.8s
HORU Horodok **34.67 306** P **P** **22 53 11.9 -0.2**
MLR Muntele Rosu **34.85 300** P **P** **22 53 14.9 +1.1**
MLR IAmb IAmb 22 53 18.5
comp=Z,7.6nm,0.8s
MLR Muntele Rosu **34.85 300** ⇑P **P** **22 53 16.3 +2.5**
MLR Muntele Rosu **34.85 300** ⇑P **P** **22 53 16.3 +2.5**
MLR Muntele Rosu **34.85 300** P **P** **22 53 14.0 +0.2**
RNPP5 Staryi Chortor **35.23 310** P **P** **22 53 16.9 0.0**
RNPP9 Sopachiv **35.26 310** P **P** **22 53 16.2 -0.9**
RNPP8 Varash **35.27 310** P **P** **22 53 16.2 -1.0**
BURAR Bucovina Array **35.37 303** P **P** **22 53 19.6 +1.4**
BURAR Bucovina Array **35.37 303** ⇑P **P** **22 53 17.4 -0.9**
BURAR Bucovina Array **35.37 303** ⇑P **P** **22 53 17.4 -0.9**
BUR08 Bucovina Ar. S **35.38 303** P **P** **22 53 19.4 +1.0**
VOIR **35.48 300** ⇑P **P** **22 53 20.9 +1.7**
VOIR **35.48 300** ⇑P **P** **22 53 20.9 +1.7**
LOT Lotru **36.38 300** ⇑P **P** **22 53 28.4 +1.2**
TIA Tai'an **37.05 76** P **P** **22 53 34.9 +2.3**
TIA pmax pmax
comp=Z,9.0nm,0.8s
UBPT Khong Chiam **37.19 115** P **P** **22 53 34.5 +0.6**
KOLS Kolonicke sedl **37.38 305** *e*P **P** **22 53 37.3 +2.1**
KOLS pmax pmax
comp=Z,6.0nm,0.8s
KOLS Kolonicke sedl **37.38 305** *e*P **P** **22 53 37.3 +2.1**
SURR Surduc **37.52 300** ⇑P **P** **22 53 38.2 +1.8**
FINES FINESS Array B **37.70 326** P **P** **22 53 37.5 -0.2**
FINES FINESS Array B **37.70 326** P **P** **22 53 38.2 +0.5**
comp=Z,2.2nm,0.6s,baz=120,slow=9.6,SNR=12
FINES LR LR 23 11 19.4
comp=Z,46nm,18.5s,baz=57,slow=39
comp=Z,2.2nm,0.6s
LVZ Lovozero **37.72 339** P **P** **22 53 38.5 +0.6**
LVZ Lovozero **37.72 339** *i* P **P** **22 53 36.7 -1.2**
LVZ pmax pmax
comp=Z,36nm,1.6s
SIRR Siria **37.82 301** ⇑P **P** **22 53 40.3 +1.3**
NJ2 Nanjing **39.63 82** *e*P **P** **22 53 55.3 +1.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
MORC Moravsky Berou **40.47 307** *e*P **P** **22 54 03.7 +2.7**
KEV Kevo **41.06 338** P **P** **22 54 06.6 +1.1**
KEV IAmb IAmb 22 54 45.6
comp=Z,14nm,1.3s
KEV Kevo **41.06 338** P **P** **22 54 06.6 +1.1**
KEV pmax pmax
comp=Z,14nm,1.3s
VRAC Vranov **41.10 306** *e*P **P** **22 54 09.0 +2.8**
RONA Rosalia, Austr **41.40 304** *i* P **P** **22 54 09.1 +0.5**
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B **41.41 338** P **P** **22 54 09.6 +1.2**
ARCES IAmb IAmb 22 54 10.8
comp=Z,5.4nm,0.7s
ARCES ARCESS Array B **41.41 338** P **P** **22 54 09.2 +0.8**
comp=Z,5.1nm,0.6s,baz=114,slow=7.3,SNR=31
comp=Z,5.1nm,0.6s
ARCES ARCESS Array B **41.41 338** P **P** **22 54 09.6 +1.2**
ARCES pmax pmax
comp=Z,5.0nm,0.7s
CONA Conrad Observa **41.67 304** *i* P **P** **22 54 10.4 -0.5**
comp=Z,4.7nm,0.8s
ARSA Arzberg **41.96 303** *i* P **P** **22 54 12.1 -1.1**
comp=Z,2.7nm,1.0s
SOKA Soboth **42.35 302** *i* P **P** **22 54 17.7 +1.2**
comp=Z,2.7nm,1.0s
ZEA Zeya **42.37 47** *i* P **P** **22 54 15.6 -0.8**
HEH HeiHe **42.53 52** *e*P **P** **22 54 18.6 +0.8**
HEH pmax pmax
comp=Z,20nm,0.9s
BRG Berggiesshubel **42.74 309** *e*P **P** **22 54 21.9 +2.5**
BRG Amp 22 54 22.8
comp=Z,4.4nm,0.9s
MOA Molln **42.75 304** *i* P **P** **22 54 21.4 +1.8**
comp=Z,4.3nm,0.8s
BNX BinXian **42.95 59** ⇑P **P** **22 54 21.2 0.0**
BNX pmax pmax
comp=Z,3.0nm,0.7s
GERES GERESS Array B **43.03 306** P **P** **22 54 23.4 +1.4**
comp=Z,0.6nm,0.7s,baz=82,slow=4.7,SNR=4.6
comp=Z,0.6nm,0.7s
HFS Hagfors **43.26 322** P **P** **22 54 23.5 0.0**
comp=Z,3.1nm,0.6s,baz=98,slow=11,SNR=14
HFS LR LR 23 14 17.5
comp=Z,44nm,18.3s,baz=51,slow=38
comp=Z,3.1nm,0.6s
CLL Collm **43.31 309** *e*P **P** **22 54 22.0 -2.1**
CLL Collm **43.31 309** *e*P **P** **22 54 22.0 -2.1**
KBA Koelnbreinsper **43.45 303** *i* P **P** **22 54 24.7 -0.8**
comp=Z,6.6nm,1.7s
LESA Schwarzleotal **43.86 304** *i* P **P** **22 54 27.1 -1.5**
comp=Z,2.1nm,0.7s
ABTA Abfaltersbach **44.06 303** *i* P **P** **22 54 29.5 -0.8**
comp=Z,12nm,1.2s
NC303 NORSAR Array S **44.52 324** P **P** **22 54 33.7 +0.1**
NC303 IAmb IAmb 22 55 02.7
comp=Z,21nm,1.4s

NB2	**NORSAR Subarra**	44.58	323		P		P	22 54 33.8	-0.3	
	comp=Z,1.7nm,0.6s,baz=95,slow=7.9									
NOA	**NORSAR Array B**	44.58	323		P		P	22 54 33.5	-0.5	
	comp=Z,2.6nm,0.3s,baz=97,slow=7.8,SNR=16									
	comp=Z,2.6nm,0.3s									
WTTA	**Wattenberg**	44.59	304	*i*	P		P	22 54 33.9	-0.6	
	comp=Z,2.3nm,0.9s									
SQTA	**Sankt Quirin**	44.88	304	*i*	P		P	22 54 38.0	+1.2	
	comp=Z,2.3nm,0.7s									
MOTA	**Moosalm**	44.93	304	*i*	P		P	22 54 37.0	-0.3	
	comp=Z,2.0nm,0.7s									
TJN	**Taejon**	44.97	72		P		P	22 54 37.0	-0.5	
TJN	**Taejon**	44.97	72		P		P	22 54 37.0	-0.5	
TJN					pmax		pmax			
	comp=Z,79nm,1.2s									
KSAR	**Wonju Array Be**	45.06	71		P		P	22 54 39.1	+0.9	
KSAR	**Wonju Array Be**	45.06	71		P		P	22 54 39.1	+0.9	
KSRS	**Korea Array**	45.09	71		P		P	22 54 38.9	+0.5	
	comp=Z,4.1nm,0.6s,baz=273,slow=6.9,SNR=16									
	comp=Z,4.1nm,0.6s									
RETA	**Reutte**	45.14	304	*i*	P		P	22 54 37.6	-1.3	
	comp=Z,3.4nm,1.2s									
FETA	**Feichten**	45.23	303	*i*	P		P	22 54 38.9	-0.7	
	comp=Z,1.3nm,1.1s									
KONO	**Kongsberg**	45.27	321		P		P	22 54 39.1	-0.4	
KONO					IAmb		IAmb	22 54 47.4		
	comp=Z,15nm,1.1s									
KONO	**Kongsberg**	45.27	321		P		P	22 54 39.1	-0.4	
KONO					pmax		pmax			
	comp=Z,15nm,1.1s									
KLR	**Kul'dur**	45.42	54	*i*	P		P	22 54 40.7	-0.2	
KLR					pmax		pmax			
	comp=Z,5.0nm,0.9s									
DAVA	**Damuels**	45.77	304	*i*	P		P	22 54 43.0	-0.8	
	comp=Z,5.0nm,0.7s									
TIXI	**Tiksi**	46.12	22		P		P	22 54 46.4	+0.4	
TIXI					IAmb		IAmb	22 54 46.9		
	comp=Z,8.3nm,0.9s									
TIXI	**Tiksi**	46.12	22	*ce*	P		P	22 54 46.4	+0.4	
TIXI					pmax		pmax			
	comp=Z,6.0nm,0.7s									
SENIN	**Lac Senin/Sane**	47.67	303		P		P	22 54 59.9	+1.1	
SPITS	**Spitsbergen Ar**	47.79	347		P		P	22 54 59.7	+0.8	
	comp=Z,3.3nm,0.7s,baz=115,slow=11,SNR=5.6									
	comp=Z,3.3nm,0.7s									
JNU	**Nakatsue**	48.78	75		P		P	22 55 08.5	+1.3	
KBS	**Kingsbay**	48.91	347		P		P	22 55 08.0	+0.5	
KBS					IAmb		IAmb	22 55 10.1		
	comp=Z,9.3nm,1.1s									
KBS	**Kingsbay**	48.91	347	*ce*	P		P	22 55 07.4	-0.1	
KBS					pmax		pmax			
	comp=Z,8.0nm,1.3s									
EKA	**Eskdalemuir Ar**	52.45	316		P		P	22 55 33.5	-1.0	
	comp=Z,1.3nm,0.8s,baz=70,slow=7.0,SNR=5.0									
	comp=Z,1.3nm,0.8s									
YSS	**Yuzhno-Sakhali**	53.10	55	*e*	P		P	22 55 39.1	-0.2	
YSS					pmax		pmax			
	comp=Z,20nm,1.1s									
MJAR	**Matsushiro Arr**	53.17	68		P		P	22 55 41.2	+1.1	
MJAR					IAmb		IAmb	22 55 42.5		
	comp=Z,5.1nm,1.2s									
MJAR	**Matsushiro Arr**	53.17	68		P		P	22 55 40.2	+0.1	
	comp=Z,7.7nm,1.0s,baz=294,slow=8.7,SNR=13									
	comp=Z,7.7nm,1.0s									
MJAR	**Matsushiro Arr**	53.17	68		P		P	22 55 41.2	+1.1	
MJAR					pmax		pmax			
	comp=Z,5.0nm,1.3s									
JMM	**Marumori**	54.62	66		P		P	22 55 51.0	+0.4	
DAG	**Danmarks Havn**	55.01	344	*i*	P		P	22 55 53.0	+0.2	
DAG					IAmb		IAmb	22 55 55.0		
	comp=Z,6.4nm,0.7s									
ESDC	**Sonseca Array**	57.52	298		P		P	22 56 11.1	-0.2	
	comp=Z,0.8nm,0.7s,baz=54,slow=6.9,SNR=6.6									
ESDC					LR		LR	23 27 35.2		
	comp=Z,42nm,18.3s,baz=342,slow=43									
	comp=Z,0.8nm,0.7s									
BILL	**Bilibino**	58.95	26	*ce*	P		P	22 56 22.0	+1.3	
BILL					pmax		pmax			
	comp=Z,10.0nm,1.7s									
PETK	**Petropavlovsk-**	60.28	44		P		P	22 56 29.5	-0.6	
	comp=Z,1.6nm,0.7s,baz=326,slow=4.2,SNR=2.3									
	comp=Z,1.6nm,0.7s									
NEEM	**North Greenlan**	61.33	348	*i*	P		P	22 56 38.2	+1.0	
NEEM					IAmb		IAmb	22 56 40.0		
	comp=Z,1.9nm,0.9s									
SUMG	**Summit**	61.34	341		P		P	22 56 38.7	+1.3	
SUMG					IAmb		IAmb	22 56 47.6		
	comp=Z,3.8nm,0.7s									
SUMG	**Summit**	61.34	341		P		P	22 56 38.7	+1.3	
SUMG					pmax		pmax			
	comp=Z,4.0nm,0.7s									
SUMG	**Summit**	61.34	341	*i*	P		P	22 56 37.0	-0.4	
SUMG					IAmb		IAmb	22 56 39.3		
	comp=Z,3.7nm,1.0s									
TORD	**Torodi Ar. Bea**	65.60	269		P		P	22 57 03.7	-2.2	
TORD					IAmb		IAmb	22 57 08.7		
	comp=Z,5.6nm,1.3s									
TORD	**Torodi Ar. Bea**	65.60	269		P		P	22 57 03.7	-2.2	
	comp=Z,2.7nm,0.4s,baz=47,slow=6.1,SNR=2.8									
	comp=Z,2.7nm,0.4s									
A19K	**Wainwright**	67.51	17		P		P	22 57 16.7	-0.4	
	baz=316									
A21K	**Barrow**	67.66	15		P		P	22 57 17.5	-0.5	
	baz=320									
C16K	**Lisburne Hills**	67.80	20		P		P	22 57 18.4	-0.6	
C16K					IAmb		IAmb	22 57 19.8		
	comp=Z,4.4nm,0.7s									
C16K	**Lisburne Hills**	67.80	20		P		P	22 57 19.1	+0.1	
	baz=314,SNR=5.5									
B18K	**Kokolik River**	67.94	18		P		P	22 57 19.9	0.0	
	baz=316,SNR=9.7									
C17K	**DeLong Mountai**	68.23	19		P		P	22 57 20.6	-1.2	
	baz=315,SNR=17									
A22K	**Sinclair Lake**	68.25	15		P		P	22 57 20.7	-1.0	
	baz=321									
B20K	**Meade River**	68.55	16		P		P	22 57 23.9	+0.2	
B20K					IAmb		IAmb	22 57 25.0		
	comp=Z,5.4nm,0.7s									
B20K	**Meade River**	68.55	16		P		P	22 57 23.1	-0.6	
	baz=320,SNR=8.9									
C18K	**Utukok River**	68.61	18		P		P	22 57 24.4	+0.2	
C18K					IAmb		IAmb	22 57 25.1		
	comp=Z,5.2nm,0.6s									
C18K	**Utukok River**	68.61	18		P		P	22 57 23.9	-0.3	
	baz=317,SNR=10									
C19K	**Lookout Ridge**	68.67	17		P		P	22 57 25.0	+0.5	
C19K	**Lookout Ridge**	68.67	17		P		P	22 57 24.7	+0.1	
	baz=318,SNR=27									
D17K	**Noatak River**	68.81	19		P		P	22 57 25.0	-0.3	
	baz=316									
B22K	**Teshekpuk Lake**	69.09	15		P		P	22 57 27.1	+0.1	
	baz=323									
B21K	**Ikpikpuk River**	69.41	15		IAmb		IAmb	22 57 30.3		
	comp=Z,5.6nm,0.7s									
B21K	**Ikpikpuk River**	69.41	15		P		P	22 57 28.7	-0.2	
	baz=322,SNR=9.1									
F14K	**Arctic Creek**	69.45	22		P		P	22 57 28.9	-0.5	
	baz=314									
D19K	**Kuna River**	69.49	17		P		P	22 57 28.9	-0.7	
	baz=319,SNR=26									
E17K	**Hotham Inlet**	69.60	19		P		P	22 57 29.8	-0.4	
	baz=317									
E18K	**Tukpahlearik C**	69.67	19		IAmb		IAmb	22 57 31.2		
	comp=Z,5.6nm,0.6s									
E18K	**Tukpahlearik C**	69.67	19		P		P	22 57 30.1	-0.5	
	baz=318,SNR=14									
D20K	**Etivluk River**	69.67	17		P		P	22 57 30.4	-0.3	
	baz=321,SNR=8.1									
C21K	**Knifeblade Rid**	69.74	16		P		P	22 57 30.4	-0.6	
	baz=322,SNR=7.0									
F15K	**North Star Dit**	69.79	21		IAmb		IAmb	22 57 32.8		
	comp=Z,6.8nm,0.6s									
F15K	**North Star Dit**	69.79	21		P		P	22 57 31.7	+0.3	
	baz=315,SNR=7.7									
C23K	**Itkillik River**	70.06	14		IAmb		IAmb	22 57 34.6		
	comp=Z,7.3nm,0.7s									
C23K	**Itkillik River**	70.06	14		P		P	22 57 32.9	0.0	
	baz=325,SNR=13									
E20K	**Nigu River**	70.13	17		P		P	22 57 33.0	-0.5	
	baz=321,SNR=11									
F17K	**Baldwin Pennin**	70.22	20		IAmb		IAmb	22 57 34.9		
	comp=Z,5.9nm,0.7s									
F17K	**Baldwin Pennin**	70.22	20		P		P	22 57 33.9	-0.1	
	baz=317									
ANM	**Nome**	70.38	22		P		P	22 57 35.1	+0.1	
	baz=315									
D22K	**Ayikyak River**	70.42	15		P		P	22 57 35.1	-0.1	
	baz=324,SNR=5.1									
G15K	**Niukluk**	70.48	22		P		P	22 57 35.3	-0.2	
	baz=316									
E21K	**Killik River**	70.49	16		P		P	22 57 35.3	-0.3	
	baz=323									
E19K	**Redstone River**	70.50	18		P		P	22 57 35.7	0.0	
	baz=320,SNR=7.3									
C24K	**Franklin Bluff**	70.53	14		P		P	22 57 35.8	0.0	
	baz=327									
F18K	**Selawik**	70.53	19		P		P	22 57 35.8	-0.1	
	baz=319									
G16K	**Koyuk River**	70.68	21		P		P	22 57 36.7	-0.1	
	baz=317									
D23K	**Nanushuk River**	70.77	15		P		P	22 57 37.1	-0.2	
	baz=326									
F19K	**Shaleruckik Mo**	70.84	18		P		P	22 57 37.2	-0.6	
	baz=320									
D24K	**Happy Valley**	70.98	14		P		P	22 57 38.0	-0.7	
	baz=327									
C26K	**Camden Bay**	71.05	12		P		P	22 57 37.7	-1.3	
	baz=330									
G17K	**Kiwalik Mounta**	71.08	20		P		P	22 57 38.4	-0.8	
	baz=318									
F20K	**Avaraart Lake**	71.19	18		P		P	22 57 39.7	-0.1	
	baz=322									
E22K	**Anaktuvuk Pass**	71.21	16		P		P	22 57 39.5	-0.6	
	baz=325									
TOLK	**Toolik Lake Re**	71.27	15		P		P	22 57 40.9	+0.5	
TOLK	**Toolik Lake Re**	71.27	15		P		P	22 57 39.9	-0.5	
	baz=326,SNR=19									
H16K	**Elim**	71.27	21		P		P	22 57 40.2	-0.1	
	baz=317									
D25K	**Kavik River**	71.31	13		P		P	22 57 40.7	+0.1	
	baz=329,SNR=11									
G18K	**Tagagawik**	71.33	19		P		P	22 57 40.6	-0.2	
	baz=320									
C27K	**Jago River**	71.51	12		P		P	22 57 41.8	0.0	
	baz=331									
G19K	**Purcell Mounta**	71.55	19		P		P	22 57 41.6	-0.5	
	baz=321,SNR=12									
F21K	**Alatna River**	71.58	17		P		P	22 57 42.3	0.0	
	baz=324,SNR=12									
F22K	**John River**	71.65	16		P		P	22 57 42.9	+0.2	
	baz=324,SNR=11									
H17K	**Granite Mounta**	71.72	20		P		P	22 57 43.2	+0.2	
	baz=319									
E23K	**Chandalar**	71.74	15		P		P	22 57 43.1	-0.2	
	baz=326,SNR=8.7									
E24K	**Your Creek**	71.96	15		P		P	22 57 44.5	-0.1	
	baz=328,SNR=7.6									
H18K	**Honhosa River**	71.98	20		P		P	22 57 44.5	-0.2	
	baz=320									
G21K	**Allakaket**	72.15	17		P		P	22 57 45.2	-0.4	
	baz=324,SNR=7.3									
H19K	**Roundabout Mou**	72.20	19		P		P	22 57 45.9	0.0	
	baz=322,SNR=5.4									
J14K	**Nanvaranak Lak**	72.24	23		P		P	22 57 45.9	-0.3	
	baz=316									
G22K	**Bettles**	72.28	16		P		P	22 57 46.1	-0.3	
	baz=325									
I17K	**Unalakleet**	72.28	21		P		P	22 57 45.8	-0.6	
	baz=318									
COLD	**Coldfoot**	72.31	16		P		P	22 57 46.2	-0.4	
	baz=326,SNR=9.4									
K13K	**Kusilvak Mount**	72.47	24		P		P	22 57 47.2	-0.5	
	baz=316									
IMAR	**Indian Mountai**	72.52	18		P		P	22 57 47.5	-0.4	
F24K	**Squaw Lake**	72.56	15		P		P	22 57 47.6	-0.5	
	baz=328									
D28M	**Stokes Point**	72.57	11		P		P	22 57 47.3	-0.8	
	baz=335									
H20K	**Anotleneega Mo**	72.63	18		P		P	22 57 47.6	-0.9	
	baz=323,SNR=14									
J16K	**Anvik River**	72.76	22		P		P	22 57 48.8	-0.5	
	baz=319									
G23K	**Bananza Creek**	72.78	16		P		P	22 57 48.8	-0.6	
	baz=326									
F25K	**Christian Rive**	72.94	14		P		P	22 57 50.2	-0.2	
	baz=330,SNR=6.9									
H21K	**Melozitna Rive**	73.01	17		P		P	22 57 50.8	0.0	
	baz=324,SNR=8.0									
E28M	**Babbage River**	73.11	11		P		P	22 57 51.4	+0.1	
	baz=335									
J17K	**VABM Dome**	73.12	21		P		P	22 57 51.6	+0.2	
	baz=320									
F26K	**Sheenjek River**	73.13	13		P		P	22 57 51.5	0.0	
	baz=331									
E27K	**Coleen River**	73.15	12		P		P	22 57 51.7	+0.2	
	baz=333									
K15K	**Wolf Creek Mou**	73.22	23		P		P	22 57 52.8	+0.7	
	baz=318									
BMAR	**Burnt Mountain**	73.28	14		P		P	22 57 53.3	+0.9	
I20K	**Naaghedeneel**	73.29	19		P		P	22 57 52.5	+0.2	
	baz=323									
G24K	**Hadweenzic Riv**	73.34	15		P		P	22 57 53.5	+0.8	
G24K					IAmb		IAmb	22 57 53.8		
	comp=Z,3.2nm,0.6s									
G24K	**Hadweenzic Riv**	73.34	15		P		P	22 57 53.2	+0.5	
	baz=328,SNR=7.0									
L14K	**Kuka Creek**	73.55	24		P		P	22 57 54.5	+0.6	
	baz=317									
E29M	**Blow River**	73.56	11		P		P	22 57 54.8	+0.8	
	baz=336,SNR=7.4									
G25K	**Bearman Lake**	73.56	14		P		P	22 57 54.6	+0.6	
	baz=330									
I21K	**Tanana**	73.60	17		P		P	22 57 54.2	0.0	
	baz=325									
J19K	**Poorman**	73.63	19		P		P	22 57 55.0	+0.6	
	baz=322,SNR=9.7									
H23K	**Yukon River**	73.63	16		P		P	22 57 54.7	+0.2	
H23K	**Yukon River**	73.63	16		P		P	22 57 55.5	+1.1	
	baz=327,SNR=7.2									
L15K	**Ungalak Mounta**	73.69	23		P		P	22 57 55.1	+0.3	
	baz=318									
J18K	**Innoko River**	73.75	20		P		P	22 57 55.3	+0.1	
	baz=322,SNR=7.1									
G26K	**Porcupine Rive**	73.86	13		P		P	22 57 56.0	+0.3	
	baz=332									
J20K	**Nowinta River**	73.87	19		P		P	22 57 56.3	+0.5	
	baz=324,SNR=10									
K17K	**Iditarod**	73.88	21		P		P	22 57 56.6	+0.7	
	baz=321,SNR=6.5									
F28M	**Old Crow**	73.95	12		P		P	22 57 56.9	+0.6	
	baz=335									
H24K	**Noodor Dome**	73.99	16		P		P	22 57 57.5	+0.9	
	baz=328,SNR=7.2									
M13K	**Dall Lake**	74.01	25		P		P	22 57 57.6	+0.9	
	baz=317									
MLY	**Manley**	74.02	17		P		P	22 57 57.0	+0.3	
	baz=326									
H25L	**Birch Creek**	74.05	15		P		P	22 57 57.4	+0.6	
	baz=330									
M14K	**Bethel**	74.23	24		P		P	22 57 58.8	+0.9	
	baz=318									
INK	**Inuvik**	74.24	9		P		P	22 57 58.6	+0.7	
	baz=340									
I23K	**Minto, Yukon-K**	74.25	16		P		P	22 57 58.6	+0.6	
	baz=327									
L16K	**Owhat River**	74.30	22		P		P	22 57 59.2	+0.8	
	baz=320									
L17K	**Donlin**	74.33	22		P		P	22 57 59.5	+0.9	
	baz=321									
G27K	**Doyon Strip**	74.37	13		P		P	22 57 59.6	+0.8	
	baz=333,SNR=8.2									
K20K	**Telida**	74.56	19		P		P	22 58 00.1	+0.2	
	baz=324,SNR=7.2									
DBIC	**Dimbokro**	74.57	267		P		P	22 57 59.1	-1.6	
	comp=Z,3.6nm,0.7s,baz=43,slow=7.0,SNR=2.2									
	comp=Z,3.6nm,0.7s									
CHUM	**Lake Minchumin**	74.58	18		P		P	22 58 00.3	+0.4	
	baz=325									
F30M	**Barrier River**	74.59	10		P		P	22 58 00.3	+0.4	
	baz=338									
M15K	**Kasigluk River**	74.69	24		P		P	22 58 01.2	+0.6	
	baz=319									
POKR	**Poker Flat Res**	74.70	16		P		P	22 58 01.3	+0.6	
	baz=329									
L18K	**Granite Mounta**	74.73	21		P		P	22 58 01.3	+0.5	
	baz=322									
BPAW	**Bear Paw Mtn.**	74.74	18		P		P	22 58 00.7	-0.2	
	baz=326									
PRP	**Porcupine Dome**	74.77	15		P		P	22 58 01.4	+0.2	
	baz=330									
NEA2	**Nenana**	74.78	17		P		P	22 58 01.3	+0.2	
	baz=328,SNR=6.9									
COLA	**College**	74.82	16		P		P	22 58 01.4	+0.1	
	baz=328									
G29M	**Pine Creek**	74.89	11		P		P	22 58 02.2	+0.5	
	baz=336									
H27K	**Steamboat Moun**	74.91	13		P		P	22 58 02.7	+0.8	
	baz=333,SNR=9.1									
M16K	**Timber Creek**	74.98	23		P		P	22 58 02.9	+0.6	
	baz=320									
CAST	**Castle Rocks**	75.03	18		P		P	22 58 02.7	+0.1	
	baz=325,SNR=13									
F31M	**Tsiigehtchic**	75.03	10		P		P	22 58 01.9	-0.6	
	baz=340									
G30M	**tAoh Zraii Nji**	75.11	11		P		P	22 58 03.6	+0.6	
	baz=338									
ILAR	**Eielson Array**	75.12	16		P		P	22 58 01.5	-1.6	
ILAR	**Eielson Array**	75.12	16		P		P	22 58 02.0	-1.1	
	comp=Z,3.4nm,1.1s,baz=320,slow=5.2,SNR=16									
	comp=Z,3.4nm,1.1s									
KNRA	**Kununurra**	75.14	122		P		P	22 58 04.0	+0.2	
KNRA					IAmb		IAmb	22 58 05.0		
	comp=Z,12nm,0.9s									
M17K	**Holitna River**	75.16	22		P		P	22 58 04.4	+1.0	
	baz=322									
N15K	**Kwethluk River**	75.28	24		P		P	22 58 04.5	+0.5	
	baz=320									
L19K	**White Mountain**	75.29	20		P		P	22 58 04.4	+0.3	
	baz=323									
L20K	**Farewell, AK**	75.32	20		P		P	22 58 04.6	+0.3	
	baz=324									
PPLA	**Purkeypile**	75.43	19		P		P	22 58 05.4	+0.4	
	baz=325									
I26K	**Coal Creek Min**	75.43	14		P		P	22 58 05.0	+0.2	
	baz=332									
G31M	**Satah River**	75.45	10		P		P	22 58 05.3	+0.4	
	baz=339									
TRF	**Thorofare Moun**	75.45	18		P		P	22 58 04.8	-0.4	
	baz=327									
I27K	**Kandik River**	75.46	13		P		P	22 58 05.5	+0.4	
	baz=333									
N16K	**Nishlik Lake**	75.47	23		P		P	22 58 06.3	+1.1	
	baz=321									
H29M	**Whitestone**	75.47	12		P		P	22 58 05.9	+0.8	
	baz=336,SNR=8.0									
MCK	**McKinley**	75.54	17		P		P	22 58 05.5	-0.1	
	baz=328									
M18K	**Stony River**	75.56	21		P		P	22 58 06.1	+0.5	
	baz=323									
O14K	**Tigyukauivet M**	75.58	25		P		P	22 58 05.8	+0.1	
	baz=319									
J25K	**Salcha River,**	75.59	15		P		P	22 58 05.5	-0.3	
	baz=330,SNR=7.7									
EPYK	**Eagle Plains**	75.60	11		P		P	22 58 06.0	+0.2	
	baz=337									
M19K	**Big River Lodg**	75.64	20		P		P	22 58 06.1	0.0	
	baz=324									
I28M	**Miner Creek**	75.91	13		P		P	22 58 07.9	+0.3	
	baz=335,SNR=8.9									
N17K	**Nushagak Hills**	75.92	22		P		P	22 58 08.4	+0.7	
	baz=322									
M20K	**Styx River**	76.01	20		P		P	22 58 08.7	+0.4	
	baz=325									
J26L	**Joseph Creek**	76.06	15		P		P	22 58 08.6	+0.1	
	baz=332,SNR=7.8									
O15K	**Ungalikthiuk R**	76.12	24		P		P	22 58 09.1	+0.3	
	baz=320									
N18K	**Kilae Creek**	76.19	22		P		P	22 58 09.4	+0.2	
	baz=323									
K24K	**Donnelly Dome**	76.20	16		P		P	22 58 08.8	-0.6	
	baz=330									
I29M	**Ogilvie Camp,**	76.27	12		P		P	22 58 09.8	+0.1	
	baz=336									
SKT	**Skwentna**	76.36	19		P		P	22 58 10.1	-0.1	
	baz=326									
O16K	**Kokwok River B**	76.37	23		P		P	22 58 10.9	+0.7	
	baz=321									
WAT1	**Susitna Watana**	76.40	17		P		P	22 58 10.0	-0.4	
	baz=328									
SCRK	**Sand Creek**	76.44	15		P		P	22 58 10.6	-0.1	
	baz=332,SNR=6.6									
RIDG	**Independent Ri**	76.47	15		P		P	22 58 10.1	-0.7	
	baz=331									
DHY	**Denali Highway**	76.47	17		P		P	22 58 11.0	0.0	
	baz=329,SNR=8.2									
H31M	**Peel River**	76.48	10		P		P	22 58 10.9	+0.1	
	baz=339									
N19K	**Bonanza Creek**	76.50	21		P		P	22 58 11.2	+0.1	
	baz=324									
O17K	**Koliganek Bris**	76.54	23		P		P	22 58 11.4	+0.3	
	baz=322									
I30M	**Mount Dempster**	76.72	11		P		P	22 58 12.6	+0.3	
	baz=338,SNR=7.1									
K27K	**Chicken**	76.78	14		P		P	22 58 12.7	+0.2	
	baz=333									
WAT6	**Susitna Watana**	76.81	17		P		P	22 58 12.1	-0.8	
	baz=329									
SUA	**Susitna One**	77.00	19		P		P	22 58 13.4	-0.5	
	baz=327									
PAX	**Paxson**	77.00	16		P		P	22 58 13.6	-0.2	
	baz=331,SNR=7.5									
O18K	**Koktuh Hills**	77.06	22		P		P	22 58 14.7	+0.5	
	baz=323,SNR=7.4									
P17K	**Kvichak River**	77.20	23		P		P	22 58 15.2	+0.3	
	baz=325									
J30M	**Hart River**	77.33	12		P		P	22 58 15.9	+0.2	
	baz=338,SNR=5.1									
P18K	**Big Mountain,**	77.42	22		P		P	22 58 15.9	-0.3	
	baz=324									
BOSA	**Boshof**	77.43	220		P		P	22 58 15.4	-1.2	
	comp=Z,5.6nm,1.1s,baz=162,slow=2.6,SNR=3.0		

	baz=338							
KDAK	Kodiak Island	79.54	22	P	P	22 58 27.6	-0.2	
	baz=326							
OHAK	Old Harbor	79.79	23	P	P	22 58 29.3	+0.2	
OHAK				IAmb	IAmb	22 59 12.3		
	comp=Z,17nm,1.2s							
OHAK	Old Harbor	79.79	23	P	P	22 58 28.3	-0.8	
	baz=325							
M31M	Drury Creek, Y	79.86	12	P	P	22 58 29.4	-0.2	
	baz=340							
O28M	Mount Upton	80.11	15	P	P	22 58 29.9	-1.3	
	baz=335							
YUK6	Outpost Mounta	80.32	14	P	P	22 58 32.1	-0.2	
	baz=336							
HYT	Haines Junctio	80.59	14	P	P	22 58 33.5	-0.1	
HYT	Haines Junctio	80.59	14	P	P	22 58 33.2	-0.4	
	baz=337							
PINM	Pinnacle	80.71	15	P	P	22 58 33.8	-0.3	
	baz=335							
O30N	Mendenhall	80.91	13	P	P	22 58 34.3	-0.9	
	baz=338							
WHY	Whitehorse	81.23	13	P	P	22 58 36.3	-0.7	
	baz=339							
YKA	Yellowknife Ar	81.58	3	P	P	22 58 39.0	+0.4	
YKA	Yellowknife Ar	81.58	3	P	P	22 58 39.9	+1.3	
	comp=Z,2.1nm,0.6s,baz=331,slow=0.7,SNR=11							
	comp=Z,2.1nm,0.6s							
YKA	Yellowknife Ar	81.58	3 *i*	P	P	22 58 39.9	+1.3	
YKA				pmax	pmax			
	comp=Z,1.0nm,0.4s							
WB0	Warramunga Arr	81.83	122	P	P	22 58 39.7	-0.8	
WRA	Warramunga Arr	81.91	122	P	P	22 58 39.9	-1.1	
	comp=Z,2.8nm,0.7s,baz=324,slow=4.9,SNR=24							
	comp=Z,2.8nm,0.7s							
P33M	Teslin, Yukon	82.00	12	P	P	22 58 40.2	-0.8	
P33M	Teslin, Yukon	82.00	12	P	P	22 58 40.9	-0.1	
	baz=341							
WR8	Warramunga Arr	82.03	122	P	P	22 58 40.5	-1.1	
PLBC	Pleasant Camp	82.08	14	P	P	22 58 41.9	+0.5	
	baz=338							
Q32M	Nakina River	83.28	12	P	P	22 58 48.3	+0.5	
	baz=341							
ASAR	Alice Springs	84.16	125	P	P	22 58 51.8	-0.8	
	comp=Z,2.4nm,0.8s,baz=319,slow=5.4,SNR=23							
	comp=Z,2.4nm,0.8s							
COEN	Coen	84.38	112	P	P	22 58 52.9	-1.0	
COEN				IAmb	IAmb	22 59 31.6		
	comp=Z,14nm,1.2s							
FORT	Forrest	85.52	133	P	P	22 58 58.4	-0.7	
FORT				IAmb	IAmb	22 58 59.8		
	comp=Z,4.1nm,0.8s							
QSPA	South Pole Qui	125.97	180	PKP	PKPdf	23 05 20.5	-1.1	
	comp=Z,1.3nm,0.8s,baz=257,slow=0.3,SNR=6.9							
TRQA	Tornquist	142.66	253	PKPdf	PKPdf	23 05 53.2	-0.4	
TRQA	Tornquist	142.66	253	PKIKP	PKPdf	23 05 53.2	-0.4	
AC02	Maricunga	144.85	274	PKPdf	PKPab	23 05 57.4	-0.4	
CO01	Juntas del Tor	146.87	269		PKPdf	23 06 02.4	+0.9	
GO04	Tololo Observa	147.51	269	PKPbc	PKPdf	23 06 03.9	+1.3	
CO03	El Pedregal	147.65	268	PKPbc	PKPbc	23 06 04.1	-1.3	
MT02	Curacav	148.76	264	PKPdf	PKPdf	23 06 02.7	-1.5	
GO09	Cerro Castillo	149.80	228	PKPbc	PKPbc	23 06 09.6	-0.4	

NEIC ***08*** *22:57:34.7±0.6,35°.62N±0°.01×117°.60W±0°.02,h11km±1km, Error ellipse: s-maj=2.0km s-min=1.3km az=59.0*

PAS 08 22:57:35.3±0.6,35°.62N±0°.01×117°.58W±0°.01,h11km±1km, ML3.1,ML2.4/12(NEIC),**Error ellipse: s-maj=1.8km s-min=1.4km az=181.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mtn Rad**	**0.16**	**209**	Pg	Pg	22 57 38.5	-0.6
LRMC				Sg	Sg	22 57 41.1	-0.6
LRMC				IAML		22 57 42.0	
	comp=E,642nm,0.3s						
CLC	**China Lake**	**0.19**	**357**	Pg	Pg	22 57 39.4	-0.2
CLC				Sg	Sg	22 57 42.4	-0.1
CCCA	**Chr Cany lake**	**0.20**	**119**	Pg	Pg	22 57 39.8	+0.1
CCCA				Sg	Sg	22 57 43.4	+0.7
CCCA				IAML		22 57 43.7	
	comp=E,718nm,0.3s						
CCCA				IAML		22 57 43.8	
	comp=N,758nm,0.4s						
QSM	**Queen of Sheba**	**0.67**	**59**	Pg	Pg	22 57 47.8	-0.5
GSC	**Goldstone, Bar**	**0.71**	**117**	Pg	Pg	22 57 48.7	-0.4
ISA	**Isabella, Lake**	**0.73**	**273**	Pg	Pg	22 57 48.5	-0.8
TPO	**Tropico Hills**	**0.91**	**216**	Pg	Pg	22 57 52.8	0.0
BFSC	**Mount Baldy Ra**	**1.38**	**183**	Pn	Pn	22 58 00.7	0.0
WCT	**Wildcat Mounta**	**1.40**	**33**	Pn	Pn	22 58 00.6	-0.3
PASC	**Pasadena Art C**	**1.53**	**199**	Pn	Pn	22 58 03.0	+0.4

NEIC ***08*** *22:57:40.6±1.6,36°.049N±0°.010×117°.84W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.7km az=131.0*

PAS 08 22:57:41.0±1.5,36°.05N±0°.01×117°.85W±0°.01,h2km±1km, ML3.5,ML3.2/118(NEIC),**Error ellipse: s-maj=1.6km s-min=1.5km az=161.0,California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRVM	**Rose V. Centra**	**0.05**	**221**		Pg	22 57 42.2	+0.2
MFS	**McCloud Flat S**	**0.07**	**355**		Pg	22 57 42.5	+0.1
WCSM	**Coso Springs S**	**0.07**	**109**		Pg	22 57 42.5	+0.1
JRC2	**Joshua Ridge**	**0.07**	**155**		Pg	22 57 42.6	+0.2
WVPM	**Volcano Peak E**	**0.10**	**166**		Pg	22 57 43.1	+0.2
WNMM	**Nine Mile Cany**	**0.21**	**193**		Pg	22 57 48.5	+3.5
TOW	**Tower One**	**0.25**	**164**		Pg	22 57 45.0	-0.8
TOW					Sg	22 57 51.1	+2.1
MPMC	**Manual Prospec**	**0.29**	**88**	Pg	Pg	22 57 46.6	0.0
MPMC				Sg	Sg	22 57 50.8	+0.4
MPMC				IAML		22 57 52.9	
	comp=E,2μm,0.6s						
CLC	**China Lake**	**0.31**	**139**	Pg	Pg	22 57 47.0	+0.1
CLC				Sg	Sg	22 57 51.3	+0.4
CLC				IAML		22 57 51.8	
	comp=N,2μm,0.6s						
CLC				IAML		22 57 51.8	
	comp=E,2μm,0.6s						
CWC	**Cottonwood Cre**	**0.43**	**334**	Pg	Pg	22 57 49.4	+0.1
CWC				Sg	Sg	22 57 55.0	0.0
CWC				IAML		22 57 59.8	
	comp=N,2μm,0.2s						
CWC				IAML		22 57 59.8	
	comp=E,2μm,0.3s						
WORM	**Onyx Ranch**	**0.48**	**222**		Pn	22 57 56.6	+1.6
CGO	**Cerro Gordo**	**0.50**	**4**		Pg	22 57 50.5	-0.1
WHFM	**Hanning Flat**	**0.54**	**229**		Pg	22 57 51.3	0.0
WBSM	**Bird Springs**	**0.56**	**205**		Pg	22 57 50.5	-1.3
WBSM					Sg	22 57 59.7	+0.6
LRMC	**Laurel Mtn Rad**	**0.58**	**167**	Pg	Pg	22 57 52.0	-0.2
LRMC				Sg	Sg	22 57 59.9	+0.2
LRMC				IAML		22 58 01.6	
	comp=E,2μm,0.3s						
LRMC				IAML		22 58 01.8	
	comp=N,2μm,0.2s						
ISA	**Isabella, Lake**	**0.64**	**233**	Pg	Pg	22 57 53.2	0.0
ISA				Sg	Sg	22 58 01.6	+0.1
ISA				IAML		22 58 02.1	
	comp=E,2μm,0.4s						
ISA				IAML		22 58 02.1	
	comp=N,4μm,0.4s						
CCCA	**Chr Cany lake**	**0.65**	**143**	Pg	Pg	22 57 53.9	+0.4
CCCA				Sg	Sg	22 58 03.2	+1.3
WASM	**Alta Sierra Ca**	**0.65**	**242**		Pg	22 57 53.5	0.0
WASM					Sg	22 58 02.6	+0.6
SPG2	**Springville 2**	**0.76**	**282**		Pg	22 57 55.1	-0.4
DTP	**Desert Tortois**	**0.78**	**180**		Pg	22 57 55.7	-0.2
QSM	**Queen of Sheba**	**0.80**	**96**	Pg	Pg	22 57 55.6	-0.7
QSM				IAML		22 57 59.5	
	comp=N,1μm,0.5s						
QSM				IAML		22 58 00.8	
	comp=E,1μm,0.5s						
CCAC	**Calif City Air**	**0.91**	**189**		Pg	22 57 58.0	-0.3
GWY	**Greenwater Val**	**0.96**	**81**	Pg	Pg	22 57 59.2	-0.3
GWY				Sg	Sg	22 58 11.8	-0.2
GWY				IAML		22 58 15.8	
	comp=N,920nm,0.6s						
GWY				IAML		22 58 16.3	
	comp=E,784nm,0.5s						
GRAC	**Grapevine Rang**	**1.02**	**22**	Pg	Pg	22 58 00.1	-0.5
GRAC				IAML		22 58 19.8	
	comp=N,1μm,0.7s						
GRAC				IAML		22 58 19.0	
	comp=E,710nm,0.8s						
VES	**Vestal, Richgr**	**1.02**	**259**		Pg	22 58 00.4	-0.2
VES					Sg	22 58 13.8	-0.1
TEJ	**El Tejon**	**1.07**	**220**		Pg	22 58 00.7	-0.7
TEJ					Sg	22 58 15.0	-0.2
GSC	**Goldstone, Bar**	**1.13**	**131**	Pg	Pg	22 58 02.8	+0.2
GSC				Sg	Sg	22 58 16.8	-0.4
GSC				IAML		22 58 21.1	
	comp=E,907nm,0.6s						
GSC				IAML		22 58 23.6	
	comp=N,611nm,0.7s						
SGV	**South Grapevin**	**1.14**	**35**		Pg	22 58 02.5	-0.3
SGV					Sb	22 58 18.3	-0.5
HYS	**Haystack Butte**	**1.20**	**169**		Pg	22 58 04.0	0.0
TPO	**Tropico Hills**	**1.21**	**195**	Pg	Pg	22 58 03.2	-0.9
TPO				Sg	Sg	22 58 19.6	-0.2
TPO				IAML		22 58 24.7	
	comp=N,748nm,1.0s						
ARVC	**Arvin**	**1.22**	**221**		Pg	22 58 03.9	-0.5
ARVC					Sg	22 58 20.2	0.0
WCT	**Wildcat Mounta**	**1.23**	**53**	Pg	Pg	22 58 04.8	+0.1
WCT				IAML		22 58 24.1	
	comp=N,253nm,1.0s						
WCT				IAML		22 58 24.8	
	comp=E,468nm,1.1s						
TJR	**Tejon Ranch**	**1.25**	**216**		Pg	22 58 04.1	-0.9
TJR					Sg	22 58 21.1	-0.2
VOG	**Valley Oaks Go**	**1.27**	**283**		Pg	22 58 04.7	-0.7
THC	**Tehachapi Micr**	**1.32**	**211**		Pg	22 58 05.1	-1.2
DSP	**Deep Springs**	**1.32**	**356**	Pg	Pg	22 58 05.4	-1.0
AMDNV	**Amargosa**	**1.33**	**72**		Pg	22 58 06.0	-0.5
GMN	**Gold Mountain**	**1.34**	**21**	Pg	Pg	22 58 05.9	-0.7
GMN				IAML		22 58 27.9	
	comp=N,330nm,0.5s						
BHPR	**Bishop**	**1.35**	**338**		Pb	22 58 07.3	+0.2
SBB	**Saddle Back Bu**	**1.36**	**179**		Pg	22 58 06.6	-0.4
SBB					Sb	22 58 24.8	-0.2
LRRC	**Littlerock Res**	**1.53**	**186**		Pb	22 58 10.1	+0.1
TPNV	**Topopah Spring**	**1.57**	**55**		Pn	22 58 09.5	-0.6
TPNV				IAML		22 58 36.6	
	comp=N,386nm,0.9s						
TPNV				IAML		22 58 37.1	
	comp=N,452nm,0.9s						
HOLC	**Holcomb Ridge**	**1.59**	**180**		Pn	22 58 10.4	+0.2
OSI	**Osito Audit: C**	**1.60**	**207**		Pn	22 58 10.3	-0.1
OSI				IAML		22 58 38.1	
	comp=E,419nm,0.6s						
OSI				IAML		22 58 39.2	
	comp=N,346nm,0.5s						
TUQ	**Turquoise Moun**	**1.68**	**111**		Pn	22 58 10.6	-0.9
MZP	**Montezuma Peak**	**1.69**	**13**		Pn	22 58 11.4	-0.4
CHFC	**Chilao Flat St**	**1.72**	**185**		Pb	22 58 13.4	0.0
CRGC	**Crocker Grade**	**1.73**	**243**		Pb	22 58 12.9	-0.6
KCC	**Kaiser Creek**	**1.74**	**318**		Pn	22 58 12.8	+0.5
BENR	**Benton**	**1.76**	**341**		Pb	22 58 13.8	-0.5
MLAC	**Mammoth, Mammo**	**1.77**	**334**		Pb	22 58 14.1	-0.2
BFSC	**Mount Baldy Ra**	**1.81**	**175**	Pn	Pn	22 58 13.2	-0.2
BFSC				IAML		22 58 40.5	
	comp=E,187nm,0.8s						
BFSC				IAML		22 58 42.6	
	comp=N,155nm,0.7s						
MCSM	**Casa Diablo Ho**	**1.81**	**332**		Pb	22 58 14.8	-0.3
MWC	**Mount Wilson**	**1.83**	**185**	Pn	Pn	22 58 12.9	-0.7
MWC				IAML		22 58 41.4	
	comp=E,211nm,0.6s						
MWC				IAML		22 58 45.8	
	comp=N,234nm,0.9s						
DECC	**Green Verdugo**	**1.83**	**193**		Pb	22 58 15.4	+0.1
SSK	**Sunset Peak**	**1.84**	**176**		Pb	22 58 15.8	+0.3
PASC	**Pasadena Art C**	**1.89**	**189**	Pn	Pn	22 58 13.7	-0.7
PASC				IAML		22 58 51.9	
	comp=E,141nm,1.0s						
SMMC	**Simmler**	**1.90**	**248**		Pn	22 58 15.3	+0.8
MTPC	**Mountain Pass**	**1.95**	**106**	Pn	Pn	22 58 13.8	-1.5
MTPC				IAML		22 58 46.7	
	comp=E,113nm,0.7s						
TPH	**Tonopah**	**2.08**	**14**	Pn	Pn	22 58 16.9	-0.2
TSCN	**Private Proper**	**2.09**	**257**		Pn	22 58 17.4	+0.3
GMRC	**Granite Mounta**	**2.19**	**125**		Pn	22 58 16.8	-1.7
PKD	**Bear Valley Ra**	**2.19**	**268**		Pn	22 58 19.0	+0.6
SHPR	**Sheep Range**	**2.22**	**77**	Pn	Pn	22 58 18.8	-0.2
NV11	**Mina Array Sit**	**2.39**	**354**	Pn	Pn	22 58 21.1	-0.3
PMPB	**Monarch Peak**	**2.40**	**275**	Pn	Pn	22 58 20.9	-0.4
NVAR	**Mina Array Bea**	**2.41**	**351**	Pn	Pn	22 58 21.9	+0.3
ELS	**Elsinore Mount**	**2.42**	**172**	Pn	Pn	22 58 20.9	-0.7
ELS				IAML		22 59 03.5	
	comp=E,103nm,1.1s						
TPC	**Twentynine Pal**	**2.44**	**142**		Pn	22 58 20.9	-1.0
V12A	**Nelson**	**2.45**	**97**	Pn	Pn	22 58 21.1	-1.1
MYLM	**Yosemite Lake**	**2.46**	**304**		Pb	22 58 24.8	-1.1
POB	**Polly Butte**	**2.48**	**162**		Pn	22 58 22.2	-0.2
RAMR	**Ramage Ranch**	**2.49**	**261**		Pn	22 58 23.5	+0.9
PRN	**Pahroc Range**	**2.62**	**58**	Pn	Pn	22 58 23.8	-0.7
PRN				IAML		22 59 11.7	
	comp=N,153nm,0.8s						
PRN				IAML		22 59 13.0	
	comp=E,156nm,0.9s						
RYN	**Ryan**	**2.63**	**348**	Pn	Pn	22 58 24.6	-0.1
BBGB	**Big Mountain B**	**2.63**	**283**	Pn	Pn	22 58 24.1	-0.5
PMD	**Palm Desert**	**2.68**	**153**	Pn	Pn	22 58 24.1	-1.1
PMD				IAML		22 59 09.1	
	comp=E,65nm,1.1s						
PMD				IAML		22 59 09.9	
	comp=N,52nm,0.7s						
PFO	**Pinyon Flats O**	**2.69**	**154**	Pn	Pn	22 58 23.9	-1.5
PFO				IAML		22 59 16.8	
	comp=N,58nm,0.9s						
PCCM	**Crazy Canyon**	**2.69**	**272**		Pn	22 58 27.0	+1.7
WAKR	**Walker**	**2.76**	**333**	Pn	Pn	22 58 26.1	-0.3
WAKR				IAML		22 59 16.6	
	comp=E,70nm,1.3s						
WAKR				IAML		22 59 17.4	
	comp=N,57nm,0.8s						
Q09A	**Carvers**	**2.83**	**11**	Pn	Pn	22 58 27.3	-0.1
R11B	**Troy Canyon, C**	**2.92**	**38**	Pn	Pn	22 58 28.3	-0.4
R11B				IAML		22 59 15.5	
	comp=E,65nm,1.3s						
NEE2	**Needles Airpor**	**2.93**	**115**	Pn	Pn	22 58 28.1	-0.5
NEE2				IAML		22 59 25.9	
	comp=E,137nm,0.6s						
SAO	**San Andreas Ge**	**2.99**	**285**	Pn	Pn	22 58 29.8	+0.3
W13A	**Hualapai Mount**	**3.37**	**105**	Pn	Pn	22 58 33.8	-1.0
BLYC	**Blythe**	**3.57**	**129**	Pn	Pn	22 58 35.4	-1.9
BLYC				IAML		22 59 37.6	
	comp=N,38nm,0.6s						
BLYC				IAML		22 59 39.2	
	comp=E,34nm,0.6s						
YUH	**Yuha Desert**	**3.75**	**154**	Pn	Pn	22 58 38.5	-1.3
LCMT	**Little Creek M**	**3.83**	**74**	Pn	Pn	22 58 40.6	-0.5
CBX	**Cerro Bola**	**3.85**	**165**	Pn	Pn	22 58 41.1	-0.3
GLA	**Glamis**	**3.89**	**139**	Pn	Pn	22 58 41.2	-0.7
GLA				IAML		22 59 49.1	
	comp=N,55nm,0.6s						
CCUT	**Cedar City**	**3.90**	**66**	Pn	Pn	22 58 41.9	-0.2
PSUT	**Pine Spring**	**4.04**	**51**	Pn	Pn	22 58 44.0	0.0
PSUT				IAML		22 59 52.3	
	comp=E,57nm,0.8s						
PSUT				IAML		22 59 54.5	
	comp=N,55nm,1.4s						
KNB	**Kanab**	**4.16**	**75**	Pn	Pn	22 58 46.0	+0.3
KNB				IAML		23 00 20.7	
	comp=E,15nm,1.3s						
ESJX	**Sierra Juarez**	**4.33**	**158**	Pn	Pn	22 58 48.0	-0.1
ESJX				IAML		23 01 30.9	
	comp=N,40nm,0.1s						
ELK	**Elko**	**5.12**	**23**	Pn	Pn	22 58 58.4	-0.5
ELK				IAML		23 01 32.2	
	comp=N,8.7nm,0.2s						
ELK				IAML		23 01 32.3	
	comp=N,9.8nm,0.2s						
WUAZ	**Wupatki**	**5.29**	**94**	Pn	Pn	22 58 57.8	-3.4
WUAZ				IAML		22 59 46.5	
	comp=N,15nm,0.9s						
WUAZ				IAML		23 00 43.9	
	comp=N,15nm,1.4s						
X16A	**Lo Mia Camp, P**	**5.49**	**105**	Pn	Pn	22 59 01.3	-2.6
DUG	**Dugway, Tooele**	**5.73**	**42**	Pn	Pn	22 59 06.1	-1.2

NEIC ***08*** *22:58:17.1±1.4,18°.1S±0°.1×177°.8W±0°.1,h601km±10km, mb4.1/22,Error ellipse: s-maj=23.4km s-min=14.3km az=135.0*

IDC ***08*** *22:58:17.2±6.5,18°.03S×178°.00W,h597km±73km, mb3.2/10,mbtmp4.2/10,Error ellipse: s-maj=34.6km s-min=20.9km az=77.0*

ISC 08 22:58:16.4±0.7,18°.1S±0°.1×177°.9W±0°.1,h590km,n42, σ0s97/40,mb4.0/21,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.85**	**275**	P	P	**22 59 43.8**	**+3.5**
AFI	**Afiamalu**	**7.23**	**56**	P	P	**23 00 08.8**	**+0.5**
QRZ	**Quartz Range**	**24.10**	**198**	P	P	**23 02 46.1**	**-0.9**
FOZ	**Fox Glacier**	**27.40**	**200**	P	P	**23 03 15.4**	**-0.5**
COEN	**Coen**	**37.57**	**270**	P	P	**23 04 42.4**	**+0.2**
STKA	**Stephens Creek**	**38.95**	**241**	P	P	**23 04 53.7**	**+0.5**
STKA	**Stephens Creek**	**38.95**	**241**	P	P	**23 04 53.5**	**+0.4**
	3.3nm,0.7s,baz=86,slow=7.1,SNR=5.5						
	3.3nm,0.7s						
JAY	**Jayapura**	**43.40**	**286**	P	P	**23 05 29.0**	**+0.4**
	5.9nm,0.5s,baz=165,slow=18,SNR=5.4						
	5.9nm,0.5s						
WR8	**Warramunga Arr**	**44.90**	**260**	P	P	**23 05 39.2**	**-0.8**
WR8				IAmb	IAmb	23 06 22.3	
	comp=Z,5.8nm,1.1s						
WB0	**Warramunga Arr**	**45.02**	**260**	P	P	**23 05 40.5**	**-0.4**
WB0				IAmb	IAmb	23 05 40.8	
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**45.05**	**260**	P	P	**23 05 40.0**	**-1.1**
WRA	**Warramunga Arr**	**45.05**	**260**	P	P	**23 05 40.4**	**-0.8**
	comp=Z,2.6nm,0.6s,baz=96,slow=6.8,SNR=34						
	comp=Z,2.6nm,0.6s						
AS31	**Alice Springs**	**45.18**	**254**	P	P	**23 05 41.9**	**-0.3**
ASAR	**Alice Springs**	**45.19**	**254**	P	P	**23 05 41.9**	**-0.3**
	comp=Z,4.1nm,0.5s,baz=85,slow=8.6,SNR=44						
	comp=Z,4.1nm,0.5s						
MTN	**Manton Dam**	**49.25**	**268**	P	P	**23 06 11.8**	**-0.9**
MTN				IAmb	IAmb	23 06 41.5	
	comp=Z,23nm,1.3s						
FORT	**Forrest**	**50.35**	**245**	P	P	**23 06 19.3**	**-1.2**
FORT				IAmb	IAmb	23 06 45.7	
	comp=Z,6.4nm,1.1s						
KNRA	**Kununurra**	**50.93**	**264**	P	P	**23 06 24.3**	**-0.5**
KNRA				IAmb	IAmb	23 06 53.4	
	comp=Z,17nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.45**	**261**	P	P	**23 06 41.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**53.45**	**261**	P	P	**23 06 42.4**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=82,slow=6.9,SNR=5.7						
	comp=Z,1.3nm,0.7s						
MJAR	**Matsushiro Arr**	**68.33**	**323**	P	P	**23 08 18.9**	**-1.0**
MJAR	**Matsushiro Arr**	**68.33**	**323**	P	P	**23 08 18.8**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=165,slow=4.8,SNR=4.9						
	comp=Z,1.1nm,0.5s						
KIWB	**Kanaga Island**	**69.64**	**1**	P	P	**23 08 26.9**	**-0.4**
QSPA	**South Pole Qui**	**71.97**	**180**	P	P	**23 08 41.3**	**+0.3**
QSPA				IAmb	IAmb	23 08 44.6	
	comp=Z,8.3nm,1.5s						
QSPA	**South Pole Qui**	**71.97**	**180**	P	P	**23 08 41.5**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=324,slow=0.5,SNR=12						
	comp=Z,1.9nm,0.7s						
PETK	**Petropavlovsk-**	**73.97**	**345**	P	P	**23 08 52.1**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=155,slow=5.8,SNR=3.5						
	comp=Z,2.6nm,0.8s						
N14K	**Kuskokwak Cree**	**78.85**	**8**	P	P	**23 09 19.0**	**+0.1**
N14K				IAmb	IAmb	23 09 39.6	
	comp=Z,10nm,0.9s						
P18K	**Big Mountain,**	**79.40**	**12**	P	P	**23 09 20.8**	**-1.1**
P18K				IAmb	IAmb	23 09 29.8	
	comp=Z,5.8nm,1.4s						
O18K	**Koktuh Hills**	**79.84**	**11**	P	P	**23 09 23.9**	**-0.3**
O18K				IAmb	IAmb	23 09 44.0	
	comp=Z,10nm,1.4s						
M17K	**Holitna River**	**80.90**	**10**	P	P	**23 09 30.6**	**+1.1**
M17K				IAmb	IAmb	23 09 31.3	
	comp=Z,4.0nm,0.9s						
K15K	**Wolf Creek Mou**	**81.16**	**8**	P	P	**23 09 31.1**	**+0.2**
K15K				IAmb	IAmb	23 09 32.5	
	comp=Z,4.6nm,0.8s						
L18K	**Granite Mounta**	**81.79**	**10**	P	P	**23 09 34.2**	**0.0**
J16K	**Anvik River**	**82.23**	**8**	P	P	**23 09 36.4**	**+0.1**
J16K				IAmb	IAmb	23 09 37.8	
	comp=Z,6.0nm,1.4s						
TXAR	**Lajitas Array**	**85.70**	**57**	P	P	**23 09 55.9**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=208,slow=4.8,SNR=2.3						
	comp=Z,0.1nm,0.5s						
ILAR	**Eielson Array**	**85.96**	**13**	P	P	**23 09 53.4**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=207,slow=4.7,SNR=4.2						
	comp=Z,0.4nm,0.4s						
ARCES	**ARCESS Array B**	**126.57**	**350**	PKP	**PKPdf**	**23 16 11.3**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=29,slow=2.8,SNR=4.7						
BUR08	**Bucovina Ar. S**	**144.97**	**332**	PKPdf	PKPbc	23 16 48.1	-0.1
BURAR	**Bucovina Array**	**144.99**	**332**	PKPdf	PKPbc	23 16 48.6	+0.4
BRTR	**Keskin Array B**	**145.24**	**315**	PKPbc	**PKPdf**	**23 16 48.7**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=134,slow=4.0,SNR=6.0						
MMAI	**Mount Meron Ar**	**146.63**	**303**	PKPbc	**PKPbc**	**23 16 53.2**	**0.0**
	comp=Z,1.1nm,0.5s,baz=92,slow=5.3,SNR=4.6						
BORA	**Eskisehir**	**147.25**	**317**	PKPbc	**PKPbc**	**23 16 54.1**	**-0.7**
GERES	**GERESS Array B**	**147.90**	**345**	PKPbc	**PKPbc**	**23 16 55.7**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=7.1,slow=3.2,SNR=9.5						
FNA	**Florina**	**151.94**	**328**	PKPbc	**PKPbc**	**23 17 04.4**	**-1.4**

IDC ***08*** *22:59:40.4±9.1,17°.48S×178°.54W,h483km±106km, mb3.2/6,mbtmp4.1/6,Error ellipse: s-maj=95.9km s-min=32.7km az=160.0*

ISC 08 22:59:45.6±1.5,17°.6S±0°.5×178°.6W±0°.3,h547km,n9, σ0s40/9,mb3.6/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.60**	**241**	P	P	**23 06 21.9**	**-0.3**
	2.4nm,0.5s,baz=87,slow=9.2,SNR=5.9						
	2.4nm,0.5s						
WRA	**Warramunga Arr**	**44.48**	**259**	P	P	**23 07 08.8**	**-0.1**
	1.1nm,0.5s,baz=97,slow=6.8,SNR=9.8						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**44.68**	**254**	P	P	**23 07 10.6**	**+0.3**
	9.0nm,0.6s,baz=88,slow=8.6,SNR=52						
	9.0

TRF Sn Sn 23 04 28.9 +0.4
TRF IAML 23 04 29.7
comp=E,258nm,0.7s
TRF IAML 23 04 29.9
comp=N,510nm,0.6s
M22K Willow 1.05 145 Pn 23 04 13.2 -0.6
M22K Sn Sn 23 04 28.7 -0.9
M20K Styx River 1.11 229 Pn 23 04 14.2 -0.5
M20K Sn Sn 23 04 29.7 -1.3
M20K IAML 23 04 36.5
comp=N,232nm,0.2s
M20K IAML 23 04 37.0
comp=E,410nm,0.2s
STLK Strandline Lak 1.14 191 Pn 23 04 14.6 -0.4
STLK Sn Sn 23 04 30.6 -1.1
WAT7 Susitna Watana 1.18 78 Sn 23 04 31.9 -0.7
SUA Susitna One 1.19 165 Pn 23 04 15.2 -0.5
SUA Susitna One 1.19 165 IAML 23 04 35.4
comp=N,486nm,0.5s
SUA IAML 23 04 35.4
comp=E,451nm,0.6s
WAT1 Susitna Watana 1.32 79 Sn 23 04 34.9 -0.3
CHUM Lake Minchumin 1.34 342 Pn 23 04 17.6 +0.4
CHUM Sn 23 04 35.8 +0.2
RND Reindeer 1.40 54 Pn 23 04 18.1 +0.1
RND Sn Sn 23 04 36.5 -0.4
RND IAML 23 04 37.5
comp=N,238nm,0.4s
RND IAML 23 04 39.1
comp=E,187nm,0.4s
SPCP Crater Peak Br 1.41 196 Pn 23 04 17.9 -0.2
GHO Glory Hole Cre 1.43 125 Pn 23 04 17.7 -0.6
GHO Sn Sn 23 04 37.8 +0.2
K20K Telida 1.44 302 Pn 23 04 18.4 -0.1
K20K Sn Sn 23 04 37.1 -0.6
K20K IAML 23 04 37.6
comp=E,487nm,0.6s
K20K IAML 23 04 38.2
comp=N,521nm,0.6s
PMR Palmer 1.47 133 Pn 23 04 18.1 -0.7
PMR Sn Sn 23 04 37.3 -1.1
PMR IAML 23 04 41.7
comp=E,570nm,0.4s
PMR IAML 23 04 41.7
comp=N,592nm,0.3s
SPCR Spurr Chakacha 1.48 196 Pn 23 04 18.6 -0.4
SPU Mount Spurr 1.48 193 Pn 23 04 18.4 -0.5
SPU Sn Sn 23 04 37.6 -1.0
BPAW Bear Paw Mtn. 1.50 6 Pn 23 04 19.2 +0.1
BPAW Sn Sn 23 04 38.6 -0.4
BPAW IAML 23 04 39.4
comp=N,260nm,0.6s
BPAW IAML 23 04 39.6
comp=E,245nm,0.6s
MCK McKinley 1.57 44 Pn 23 04 20.1 +0.1
MCK Sn Sn 23 04 40.0 -0.8
FIS Fire Island 1.58 159 Pn 23 04 19.9 -0.1
FIS Sn Sn 23 04 43.0 +2.3
M19K Big River Lodg 1.58 244 Pn 23 04 19.7 -0.4
M19K Sn Sn 23 04 39.7 -1.3
L19K White Mountain 1.68 256 Pn 23 04 21.0 -0.4
L19K Sn Sn 23 04 42.1 -1.0
L19K IAML 23 04 44.1
comp=E,252nm,0.5s
RC01 Rabbit Creek A 1.72 152 Pn 23 04 20.6 -1.3
RC01 Sn Sn 23 04 44.8 +0.9
RC01 IAML 23 04 47.5
comp=E,436nm,0.4s
RC01 IAML 23 04 51.5
comp=N,391nm,0.3s
BWN Browne 1.78 28 Pn 23 04 22.1 -0.6
BWN Sn Sn 23 04 45.4 0.0
BWN IAML 23 04 49.1
comp=E,160nm,1.0s
BWN IAML 23 05 15.3
comp=N,150nm,0.9s
KNK Knik Glacier 1.83 130 Pn 23 04 22.7 -0.6
KNK Sn Sn 23 04 46.4 0.0
CAPN Captain Cook N 1.86 177 Pn Pn 23 04 23.5 -0.1
CAPN Sn Sn 23 04 50.5 +3.5
DHY Denali Highway 1.89 74 Pn 23 04 24.2 0.0
DHY Sn Sn 23 04 46.6 -1.4
DHY IAML 23 04 48.7
comp=E,236nm,0.4s
DHY IAML 23 04 49.0
comp=N,252nm,0.3s
J20K Nowinta River 2.00 323 Pn 23 04 25.3 -0.2
J20K Sn Sn 23 04 48.5 -1.9
J20K IAML 23 04 50.0
comp=E,226nm,0.5s
J20K IAML 23 04 51.7
comp=N,176nm,0.9s
SCM Sheep Creek Mo 2.05 111 Pn 23 04 25.3 -0.9
SCM Sn Sn 23 04 51.3 -0.3
SCM IAML 23 04 59.3
comp=E,341nm,0.4s
SLKM Skilak Lake 2.19 165 Pn 23 04 27.7 -0.2
SLKM IAML 23 05 00.7
comp=E,246nm,0.2s
SLKM IAML 23 05 05.0
comp=N,231nm,0.2s
NEA2 Nenana 2.23 26 Pn 23 04 28.1 -0.4
RDSO Redoubt South 2.27 197 Pn 23 04 28.9 -0.2
PWL Port Wells 2.28 139 Pn 23 04 27.4 -1.7
O22K Cooper Landing 2.28 159 Pn 23 04 28.4 -0.7
RED Redoubt Volcan 2.31 198 Pn 23 04 28.5 -1.0
RED IAML 23 05 05.7
comp=N,116nm,0.5s
RED IAML 23 05 05.9
comp=E,92nm,0.5s
N19K Bonanza Creek 2.34 221 Pn 23 04 30.0 +0.1
J19K Poorman 2.37 308 Pn 23 04 30.2 0.0
J19K IAML 23 04 59.4
comp=E,110nm,0.6s
J19K IAML 23 04 59.6
comp=N,133nm,0.4s
WRH Wood River Hil 2.37 37 Pn 23 04 30.1 -0.1
MLY Manley 2.44 6 Pn 23 04 30.9 -0.3
M24K Tolsona, Glenn 2.48 100 Pn 23 04 31.6 -0.1
L18K Granite Mounta 2.51 263 Pn 23 04 31.5 -0.5
J18K Innoko River 2.58 292 Pn 23 04 33.1 +0.1
J18K IAML 23 05 03.8
comp=N,60nm,1.0s
J18K IAML 23 05 04.9
comp=E,79nm,0.9s
CCB Clear Creek Bu 2.59 36 Pn 23 04 32.7 -0.4
CCB IAML 23 05 04.9
comp=N,56nm,0.6s
I20K Naaghedeneel 2.59 329 Pn 23 04 33.4 +0.3
I21K Tanana 2.59 354 Pn 23 04 33.7 +0.6
I21K Tanana 2.59 354 IAML 23 05 04.6
comp=E,80nm,0.6s
I21K IAML 23 05 05.6
comp=N,68nm,0.6s
O20K Slope Mountain 2.62 194 Pn 23 04 33.5 -0.1
HDA Harding Lake 2.68 46 Pn 23 04 34.0 -0.3
HDA IAML 23 05 13.1
comp=N,88nm,0.5s
HDA IAML 23 05 15.7
comp=E,71nm,0.4s
GLI Glacier Island 2.68 129 Pn 23 04 33.0 -1.3
SEW Seward 2.69 159 Pn 23 04 33.8 -0.6
SEW IAML 23 05 15.0
comp=N,176nm,0.4s
SEW IAML 23 05 15.7
comp=E,169nm,0.7s
I23K Minto, Yukon-K 2.69 18 Pn 23 04 34.8 +0.3
I23K IAML 23 05 07.2
comp=N,54nm,0.7s
I23K IAML 23 05 08.8
comp=E,56nm,0.7s
PAX Paxson 2.73 80 Pn 23 04 35.0 -0.1
PAX IAML 23 05 14.5
comp=N,142nm,0.6s
PAX IAML 23 05 17.5
comp=E,116nm,0.5s
COLA College 2.75 33 Pn 23 04 35.0 -0.3
COLA Sn Sn 23 05 06.8 -1.1
COLA IAML 23 05 13.2
comp=E,184nm,0.5s
ILSW Iliamna Southw 2.78 199 Pn 23 04 35.2 -0.5
K24K Donnelly Dome 2.80 62 Pn 23 04 35.7 -0.3
KLU Klutina 2.80 111 Pn 23 04 34.9 -1.2
KLU IAML 23 05 19.6
comp=E,138nm,0.5s
KLU IAML 23 05 22.6
comp=N,175nm,0.5s
O19K Port Alsworth 2.81 212 Pn 23 04 35.7 -0.4
BRLK Bradley Lake 2.87 175 Pn 23 04 36.6 -0.3
BRLK IAML 23 05 20.9
comp=E,126nm,0.3s
BRLK IAML 23 05 21.6
comp=N,128nm,0.4s
HARP HAARP 2.89 92 Pn 23 04 37.5 +0.4
ILAR Eielson Array 2.94 41 Pn 23 04 37.2 -0.6
ILAR Eielson Array 2.94 41 P Pn 23 04 37.6 -0.2
comp=N,4.9nm,0.4s,baz=225,slow=14,SNR=59
ILAR S Sn 23 05 08.3 -4.1
comp=N,5.9nm,0.4s,baz=218,slow=20,SNR=7.7
HOM Homer 2.97 183 Pn Pn 23 04 37.6 -0.6
FID Port Fidalgo 2.99 127 Pn 23 04 37.2 -1.3
DIV Divide 3.04 117 IAML 23 05 13.0
comp=E,78nm,0.3s
POKR Poker Plat Res 3.06 33 IAML 23 05 15.7
comp=N,37nm,0.4s
CNPM China Poot 3.10 179 Pn 23 04 39.6 -0.4
P19K Oil Pt 3.11 198 Pn 23 04 39.7 -0.4
P19K IAML 23 05 24.4
comp=E,93nm,0.5s
P19K IAML 23 05 56.5
comp=N,89nm,0.6s
M17K Holitna River 3.11 250 Pn 23 04 39.6 -0.5
M17K IAML 23 05 32.4
comp=E,45nm,1.1s
M17K IAML 23 05 59.1
comp=N,51nm,0.8s
H21K Melozitna Rive 3.12 349 IAML 23 05 16.6
comp=E,56nm,0.8s
H21K IAML 23 05 17.0
comp=N,65nm,0.6s
RIDG Independent Ri 3.17 66 Pn 23 04 41.4 +0.6
RIDG IAML 23 05 23.9
comp=N,91nm,0.7s
RIDG IAML 23 05 25.5
comp=E,109nm,0.6s
K17K Iditarod 3.20 275 Pn 23 04 41.5 +0.3
K17K IAML 23 05 18.4
comp=E,46nm,0.7s
K17K IAML 23 05 20.1
comp=N,41nm,0.6s
HIN Hinchinbrook I 3.23 132 Pn 23 04 40.5 -1.1
P23K Montague Islan 3.25 142 Pn 23 04 41.1 -0.8
GCSA Galena City Sc 3.25 313 Pn 23 04 42.7 +0.8
H20K Anotleneega Mo 3.27 333 Pn 23 04 42.7 +0.4
H23K Yukon River 3.32 13 Pn 23 04 43.6 +0.7
H23K IAML 23 05 21.7
comp=N,40nm,0.7s
H23K IAML 23 05 22.0
comp=E,69nm,0.8s
N25K Chitina, Valde 3.34 105 Pn 23 04 42.5 -0.7
N25K IAML 23 05 33.5
comp=E,62nm,0.7s
J25K Salcha River, 3.34 51 IAML 23 05 26.7
comp=E,57nm,0.6s
J25K IAML 23 05 30.4
comp=N,42nm,0.5s
EYAK Cordova Ski Ar 3.40 125 Pn 23 04 42.9 -1.0
EYAK IAML 23 05 42.5
comp=E,52nm,0.9s
EYAK IAML 23 05 45.5
comp=N,72nm,0.6s
DOT Dot Lake 3.48 69 Pn 23 04 44.8 -0.2
DOT Dot Lake 3.48 69 IAML 23 05 30.7
comp=E,44nm,0.4s
DOT IAML 23 05 30.8
comp=N,69nm,0.8s
N17K Nushagak Hills 3.48 236 Pn 23 04 45.2 +0.1
MENT Mentasta 3.53 81 Pn 23 04 45.9 +0.1
MENT IAML 23 05 36.3
comp=N,94nm,0.5s
MENT IAML 23 05 49.7
comp=E,101nm,0.5s
IMAR Indian Mountai 3.54 344 Pn 23 04 46.2 +0.5
J17K VABM Dome 3.60 286 Pn 23 04 46.8 +0.2
SCRK Sand Creek 3.60 64 Pn 23 04 46.7 0.0
SCRK IAML 23 05 33.1
comp=N,31nm,0.8s
SCRK IAML 23 05 39.8
comp=E,27nm,0.6s
BMRM Bremner River 3.61 114 Pn 23 04 46.6 -0.2
BMRM IAML 23 05 43.5
comp=N,91nm,0.4s
L26K Log Cabin Wild 3.71 80 Pn 23 04 48.5 +0.5
L26K IAML 23 05 47.9
comp=N,79nm,0.4s
P18K Big Mountain, 3.74 212 Pn 23 04 48.4 -0.2
GLB Gilahina Butte 3.75 105 IAML 23 05 52.2
comp=E,37nm,0.5s
GOAT Goat Mountain 3.77 120 Pn 23 04 47.8 -1.3
Q19K Cape Douglas, 3.87 198 Pn 23 04 50.8 +0.5
Q19K IAML 23 05 54.8
comp=N,59nm,0.9s
PRP Porcupine Dome 3.88 39 Pn 23 04 50.7 +0.2
PRP IAML 23 05 48.3
comp=N,26nm,0.6s
M26K Nabesna, AK 3.89 89 Pn 23 04 51.2 +0.6
M26K IAML 23 05 51.6
comp=E,40nm,0.4s
M26K IAML 23 05 54.1
comp=N,42nm,0.7s
L16K Owhat River 3.91 260 Pn 23 04 51.0 +0.3
RAGM Ragged Mountai 3.91 122 Pn 23 04 50.6 -0.3
M16K Timber Creek 3.94 249 Pn 23 04 50.9 -0.3
J26L Joseph Creek 3.97 58 Pn 23 04 52.1 +0.5
J26L IAML 23 05 43.4
comp=E,70nm,0.7s
J26L IAML 23 05 45.0
comp=N,48nm,0.6s
O17K Koliganek Bris 3.98 227 Pn 23 04 51.8 +0.1
VRDI Verde Repeater 3.99 107 Pn 23 04 50.7 -1.4
VRDI Verde Repeater 3.99 107 IAML 23 05 52.5
comp=N,49nm,0.8s
VRDI IAML 23 05 57.0
comp=E,25nm,0.6s
H18K Honhosa River 4.00 313 IAML 23 05 37.5
comp=E,30nm,0.8s
H18K IAML 23 05 39.8
comp=N,22nm,0.7s
G21K Allakaket 4.02 348 IAML 23 05 41.3
comp=E,20nm,0.6s
G21K IAML 23 05 53.0
comp=N,25nm,0.7s
Q23K Middleton Isla 4.02 140 Pn 23 04 52.0 -0.3
Q23K Middleton Isla 4.02 140 IAML 23 05 37.1
comp=N,60nm,1.5s
SYI Shuyak Island 4.05 188 Pn 23 04 51.9 -0.8
SYI IAML 23 05 49.5
comp=E,24nm,0.8s
SYI IAML 23 05 50.0
comp=N,26nm,0.9s
HMT Hamilton 4.11 121 Pn 23 04 52.0 -1.4
MCARA McCarthy VSAT 4.13 104 Pn Pn 23 04 53.5 -0.2
G23K Bananza Creek 4.15 7 IAML 23 05 42.6
comp=N,29nm,0.7s
G23K IAML 23 05 42.6
comp=E,27nm,0.6s
J16K Anvik River 4.27 283 Pn 23 04 55.9 +0.3
NICHA Nichawak Mount 4.28 121 Pn 23 04 54.5 -1.3
BERG Berg Lake 4.30 118 Pn 23 04 54.7 -1.4
KAIM Kayak Island 4.30 126 Pn 23 04 54.2 -1.9
KAIM Kayak Island 4.30 126 IAML 23 06 17.8
comp=N,28nm,0.7s
KAIM IAML 23 06 30.4
comp=E,28nm,1.4s
G19K Purcell Mounta 4.32 327 Pn 23 04 56.4 +0.1
KAHC Katmai Hardscr 4.37 206 Pn 23 04 56.8 -0.2
I17K Unalakleet 4.40 291 Pn 23 04 58.2 +0.8
I17K IAML 23 05 47.0
comp=N,13nm,0.7s
I17K IAML 23 05 49.6
comp=E,25nm,0.6s
M27K Edge Creek, AK 4.41 89 Pn 23 04 57.9 +0.2
M27K IAML 23 06 14.5
comp=N,20nm,0.7s
BCAR Beaver Creek A 4.42 80 Pn 23 04 56.4 -1.3
G24K Hadweenzic Riv 4.43 20 Pn 23 04 58.2 +0.4
G24K Hadweenzic Riv 4.43 20 IAML 23 05 49.0
comp=N,14nm,1.2s
H17K Granite Mounta 4.45 305 Pn 23 04 58.0 0.0
H17K IAML 23 05 47.9
comp=N,43nm,0.5s
H17K IAML 23 05 49.8
comp=E,26nm,0.5s
KHIT Khitrov Hills 4.46 116 Pn 23 04 57.3 -0.9
SUCK Suckling Hills 4.46 122 Pn 23 04 56.7 -1.5
SUCK Suckling Hills 4.46 122 IAML 23 06 12.2
comp=E,53nm,0.6s
TGL Tana Glacier 4.48 111 Pn Pn 23 04 58.5 0.0
TGL Sn 23 05 47.1 -2.4
G18K Tagagawik 4.57 319 Pn 23 05 00.4 +0.7
G18K Tagagawik 4.57 319 IAML 23 05 51.2
comp=N,17nm,0.7s
G18K IAML 23 05 54.4
comp=E,15nm,0.6s
KIAG Kiagna River 4.61 108 Pn 23 04 58.9 -1.5
WAX Waxell Ridge 4.62 114 Pn 23 04 59.3 -1.2
F21K Alatna River 4.71 350 Pn 23 05 02.4 +0.8
F21K IAML 23 05 56.7
F21K IAML 23 05 57.9
comp=E,10nm,0.6s
K15K Wolf Creek Mou 4.73 271 Pn 23 05 02.1 +0.3
G25K Bearman Lake 4.74 26 Pn 23 05 02.4 +0.5
FYU Fort Yukon 4.76 31 Pn 23 05 03.0 +0.7
FYU IAML 23 06 20.3
comp=N,14nm,1.2s
FYU IAML 23 06 26.6
comp=E,11nm,0.9s
F20K Avaraart Lake 4.82 339 Pn 23 05 03.8 +0.8
F20K IAML 23 06 00.3
comp=E,16nm,0.5s
ACHA Angle Creek He 4.83 206 Pn Pn 23 05 03.2 -0.2
L15K Ungalak Mounta 4.84 263 Pn 23 05 03.3 0.0
P16K Nushagak River 4.84 225 Pn 23 05 03.7 +0.4
P16K Nushagak River 4.84 225 IAML 23 06 40.1
comp=N,38nm,0.9s
P16K IAML 23 07 01.8
comp=E,33nm,0.9s
M15K Kasigluk River 4.84 251 Pn 23 05 03.4 +0.1
N15K Kwethluk River 4.86 244 Pn 23 05 03.6 0.0
N15K IAML 23 06 26.5
comp=N,14nm,0.8s
N15K IAML 23 06 42.6
comp=E,12nm,1.4s
BARN Barnard Glacie 4.86 104 IAML 23 06 15.0
comp=N,26nm,0.9s
BARN IAML 23 06 21.8
comp=E,27nm,0.7s
BAGL Bagley Icefiel 4.92 112 Pn 23 05 03.1 -1.4
F22K John River 4.92 356 Pn 23 05 05.8 +1.3
G17K Kiwalik Mounta 5.00 309 Pn 23 05 06.1 +0.7
YUK2 White River 5.00 95 Pn 23 05 05.0 -0.6
CTGM Chitina Glacie 5.04 105 Pn Pn 23 05 04.9 -1.3
CTGM IAML 23 06 25.9
comp=N,31nm,0.6s
CTGM IAML 23 06 31.4
comp=E,17nm,1.2s
F19K Shaleruckik Mo 5.04 330 Pn 23 05 06.4 +0.4
YAH Yahtse 5.14 112 Pn Pn 23 05 06.6 -1.0
YAH IAML 23 06 29.3
comp=E,32nm,0.9s
YUK3 Moose Creek 5.18 95 Pn 23 05 07.5 -0.6
I27K Kandik River 5.22 51 Pn 23 05 09.6 +1.1
LOGN Logan Glacier 5.25 105 Pn Pn 23 05 08.3 -0.7
LOGN IAML 23 06 29.8
comp=N,21nm,0.6s
LOGN IAML 23 06 29.8
comp=E,19nm,0.9s
F18K Selawik 5.35 322 Pn 23 05 11.2 +1.0
TABL Table Mountain 5.36 109 Pn 23 05 09.2 -1.4
TABL Table Mountain 5.36 109 IAML 23 06 33.1
comp=E,17nm,0.9s
TABL IAML 23 06 35.3
comp=N,18nm,1.0s
M14K Bethel 5.38 254 Pn Pn 23 05 10.7 +0.1
M14K IAML 23 07 21.2
comp=E,8.8nm,1.4s
O15K Ungalikthiuk R 5.38 234 Pn Pn 23 05 11.4 +0.8
O15K IAML 23 06 51.3
comp=E,6.9nm,0.8s
G26K Porcupine Rive 5.42 33 Pn 23 05 11.8 +0.6
E19K Redstone River 5.46 336 Pn 23 05 12.8 +1.2
L14K Kuka Creek 5.49 262 Pn Pn 23 05 12.8 +0.8
E23K Chandalar 5.51 7 Pn 23 05 13.8 +1.3
F25K Christian Rive 5.55 23 Pn 23 05 13.4 +0.5
G16K Koyuk River 5.58 305 Pn 23 05 14.1 +0.8
PLK4 Peulik 4 5.59 209 Pn Pn 23 05 13.1 -0.4
H27K Steamboat Moun 5.59 45 Pn 23 05 13.4 -0.2
E24K Your Creek 5.61 11 Pn 23 05 15.0 +1.2
J14K Nanvaranak Lak 5.61 277 Pn Pn 23 05 13.8 0.0
BMAR Burnt Mountain 5.62 28 Pn 23 05 13.9 0.0
D28M Mount Upton 5.63 104 Pn 23 05 13.9 -0.5
I28M Miner Creek 5.77 55 Pn 23 05 16.5 +0.5
O14K Tigyukauivet M 5.88 239 Pn Pn 23 05 17.9 +0.5
PCA Pinnacle 5.91 110 Pn Pn 23 05 17.7 -0.2
F26K Sheenjek River 5.94 28 Pn 23 05 18.5 +0.3
M29M Somme Creek 5.98 86 Pn 23 05 19.1 +0.2
E25K Arctic Village 6.03 21 Pn 23 05 20.3 +0.8
L29M L29M 6.08 79 Pn 23 05 21.6 +1.4
G15K Niukluk 6.09 299 Pn 23 05 21.8 +1.5
TOLK Toolik Lake Re 6.10 6 Pn 23 05 21.9 +1.5
M13K Dall Lake 6.14 254 Pn Pn 23 05 21.7 +0.7
K13K Kusilvak Mount 6.24 270 Pn Pn 23 05 22.4 +0.1
BCPM Bancas Point 6.25 110 Pn Pn 23 05 22.3 -0.3
D22K Ayikyak River 6.31 356 Pn 23 05 25.5 +2.2
E17K Hotham Inlet 6.32 320 Pn 23 05 24.4 +1.1
I29M Ogilvie Camp, 6.37 59 Pn 23 05 24.3 +0.3
K29M Barlow Dome 6.38 73 Pn 23 05 25.1 +0.8
D23K Nanushuk River 6.38 2 Pn 23 05 26.1 +1.9
F15K North Star Dit 6.58 304 Pn Pn 23 05 27.4 +0.6
H29M Whitestone 6.69 52 Pn 23 05 29.1 +0.7
M30M Minto, Yukon 6.73 84 Pn Pn 23 05 31.1 +2.1
N30M Aishikik Lake 6.82 93 Pn Pn 23 05 29.8 -0.4
HYT Haines Junctio 6.83 99 Pn Pn 23 05 30.1 -0.4
E27K Coleen River 6.91 32 Pn Pn 23 05 31.6 +0.2
J30M Hart River 6.99 67 Pn 23 05 33.2 +0.7
D25K Kavik River 7.03 15 Pn 23 05 35.5 +2.4
I30M Mount Dempster 7.10 62 Pn Pn 23 05 35.5 +1.3
G29M Pine Creek 7.14 47 Pn 23 05 35.9 +1.3
C24K Franklin Bluff 7.21 7 Pn 23 05 37.6 +2.1
P29M Windy Craggy 7.25 108 Pn Pn 23 05 36.2 +0.2
C23K Itkillik River 7.26 2 Pn Pn 23 05 37.3 +1.3
CHGN Chignik 7.28 213 Pn Pn 23 05 35.7 -0.6
C19K Lookout Ridge 7.33 336 Pn 23 05 38.4 +1.3
B20K Meade River 7.78 345 Pn Pn 23 05 42.9 -0.2
G30M tAoh Zrail Nji 7.80 49 Pn Pn 23 05 43.8 +0.3
B22K Teshekpuk Lake 7.80 355 Pn Pn 23 05 44.5 +1.1
TNA Tin City 7.82 299 Pn Pn 23 05 44.7 +0.9
E29M Blow River 8.04 38 Pn Pn 23 05 47.7 +1.0
H31M Peel River 8.07 59 Pn Pn 23 05 48.0 +0.8
C16K Lisburne Hills 8.11 320 Pn Pn 23 05 49.6 +2.0
G31M Satah River 8.47 52 Pn Pn 23 05 52.0 -0.5
U33K Whale Pass 11.33 117 Pn Pn 23 06 31.6 +0.2
U35K Hyder 12.77 112 Pn Pn 23 06 50.7 +0.3
TXAR Lajitas Array 45.26 115 P **P 23 12 02.0 +1.8**
comp=E,0.2nm,0.5s,baz=332,slow=7.6,SNR=2.3
comp=E,0.2nm,0.5s
MKAR Makanchi Array 62.87 322 P **P 23 14 07.1 -0.7**
comp=E,0.3nm,0.4s,baz=37,slow=7.4,SNR=7.6
comp=E,0.3nm,0.4s
AKASG Malin Array Be 67.03 360 P **P 23 14 33.8 -0.7**
comp=E,0.2nm,0.3s,baz=2.5,slow=7.1,SNR=1.8
comp=E,0.2nm,0.3s
QSPA South Pole Qui 152.43 180 PKPbc **PKPbc 23 23 35.2 -0.3**
comp=E,0.2nm,0.4s,baz=147,slow=1.8,SNR=1.4

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*IDC **08** 23:04:45.3±1.6,0.˝44N×126.˝09E,h0km,mb3.7/4, mbtmp3.7/4,MS3.8/2,Error ellipse: s-maj=164.3km s-min=21.0km az=65.0*
*DJA **08** 23:04:48.8±0.3,0.˝N±3.˝×12.˝6E±.˝,h10km,M4.0/6,MLv4.0/6*
ISC 08 23:04:52.2±0.9,0.˝43N±0.˝07×126.˝36E±0.˝07,h47km,n10,
σ2s03/11,mb3.7/4,MS4.0/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.06**	**71**	P	**Pn**	**23 05 09.7**	**-1.0**
TNTI				S	**Sn**	**23 05 25.2**	**+0.9**
KMSI	**Cibinong**	**2.38**	**273**	P	**Pn**	**23 05 27.3**	**-1.5**
SANI	**Sanana**	**2.49**	**189**	P	**Pn**	**23 05 29.8**	**-0.5**
SANI				S	**Sn**	**23 06 00.7**	**+1.2**
WRA	**Warramunga Arr**	**21.71**	**159**	P	**P**	**23 09 38.4**	**-1.0**

1.2nm,0.5s,baz=337,slow=10,SNR=11
1.2nm,0.5s
QIZ Qiongzhong 24.58 320 P P 23 10 08.7 +0.7
QIZ S S 23 14 30.7 +4.7
QIZ LR LR
comp=N,290nm,16.2s
QIZ LR LR
comp=E,170nm,15.9s
QIZ LR LR
comp=Z,570nm,18.9s
ASAR Alice Springs 25.05 163 P P 23 10 13.0 +0.7
comp=Z,1.5nm,0.8s,baz=341,slow=8.6,SNR=9.6
comp=Z,1.5nm,0.8s
STKA Stephens Creek 35.22 157 LR LR 23 27 29.5
comp=Z,133nm,20.6s,baz=4.7,slow=39
MKAR Makanchi Array 60.06 327 P P 23 14 53.3 -1.2
comp=Z,0.3nm,0.4s,baz=118,slow=8.6,SNR=8.7
comp=Z,0.3nm,0.4s
KURBB Kurchatov Arra 64.32 328 P P 23 15 21.6 -1.3
comp=Z,0.5nm,0.5s,baz=126,slow=6.5,SNR=8.6
comp=Z,0.5nm,0.5s
SPITS Spitsbergen Ar 93.62 349 LR LR 00 04 37.8
comp=Z,49nm,20.6s,baz=25,slow=38

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*IDC **08** 23:05:20.0±0.6,0.˚38N×126.˚03E, h0km, mb4.2/16, mbtmp4.2/17, ML3.9/1, MS3.7/3, Error ellipse: s-maj=36.9km s-min=12.7km az=79.0*
*DJA **08** 23:05:25.2±1.0,0.˚N±2.˚×12.˚6E±.˚, h28km±10km, M4.3/20, mB4.8/4, mb4.5/8, MLv4.3/20, Mw(mB)4.1/4, MwMwp4.4/1, Mwp4.8/1*
*NEIC **08** 23:05:27.4±1.6, 0.˚39N±0.˚09×126.˚49E±0.˚04, h43km±8km, mb4.5/45, Error ellipse: s-maj=13.6km s-min=5.5km az=173.0*

ISC 08 23:05:26.6±0.5, 0.˚42N±0.˚05×126.˚40E±0.˚04, h47km, n89, σ1§16/92, mb4.4/38, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.02**	**70**	Pn	**Pn**		**Pn**	**23 05 43.3**	**-1.4**
TNTI				Sn	**Sn**		**Sn**	**23 05 56.9**	**-1.0**
TNTI	**Ternate**	**1.02**	**70**	P	**Pn**		**Pn**	**23 05 43.9**	**-0.8**
TNTI				S	**Sn**		**Sn**	**23 05 57.9**	**0.0**
KMSI	**Cibinong**	**2.43**	**274**	P	**Pn**		**Pn**	**23 06 02.5**	**-1.3**
KMSI				S	**Sn**		**Sn**	**23 06 31.8**	**-0.5**
SANI	**Sanana**	**2.49**	**190**	P	**Pn**		**Pn**	**23 06 02.6**	**-2.1**
SGSI	**Sangihe**	**3.36**	**345**	P	**Pn**		**Pn**	**23 06 15.7**	**-0.9**
NLAI	**Namlea**	**3.70**	**169**	P	**Pn**		**Pn**	**23 06 21.0**	**-0.4**
NLAI				S	**Sn**		**Sn**	**23 07 04.7**	**+0.9**
LUWI	**Luwuk**	**3.91**	**248**		**Pn**		**Pn**	**23 06 25.7**	**+1.4**
LUWI	**Luwuk**	**3.91**	**248**	P	**Pn**		**Pn**	**23 06 24.1**	**-0.1**
AAI	**Ambon**	**4.46**	**156**	P	**Pn**		**Pn**	**23 06 31.5**	**-0.3**
MRSI	**Marisa**	**4.46**	**271**	P	**Pn**		**Pn**	**23 06 29.8**	**-2.0**
APSI	**Ampana**	**4.93**	**254**	P	**Pn**		**Pn**	**23 06 37.1**	**-1.2**
SWI	**Sorong**	**5.02**	**105**	P	**Pn**		**Pn**	**23 06 40.2**	**+0.7**
	0.2nm23nm,0.5s								
TOLI2	**Tolitoli**	**5.66**	**277**				**Pn**	**23 06 49.4**	**+1.1**
KDI	**Kendari**	**5.76**	**221**	P	**Pn**		**Pn**	**23 06 49.4**	**-0.3**
MPSI	**Mapaga**	**6.50**	**269**	P	**Pn**		**Pn**	**23 07 00.0**	**+0.1**
	0.1nm1µm12nm,1.1s								
TTSI	**Tana Toraja**	**7.43**	**242**	P	**Pn**		**Pn**	**23 07 11.1**	**-1.4**
	0.2nm1µm40nm,0.6s								
BNSI	**Bone**	**7.91**	**233**	P	**Pn**		**Pn**	**23 07 18.2**	**-0.9**
	44nm,0.7s								
SPSI	**Sidrap Palu**	**7.93**	**237**	P	**Pn**		**Pn**	**23 07 19.0**	**-0.5**
KAPI	**Kappang**	**8.56**	**231**		**Pn**		**Pn**	**23 07 28.3**	**+0.3**
SBUM	**Sibu**	**14.32**	**278**		**Pn**		**Pn**	**23 08 47.6**	**+0.9**
JAY	**Jayapura**	**14.59**	**102**	LR	LR		LR	23 15 58.8	
	comp=Z,567nm,21.0s,baz=245,slow=43								
JAGI	**Jajag, Banyuwa**	**15.07**	**234**				**P**	**23 08 58.8**	**-2.4**
KSM	**Kuching**	**16.12**	**274**				**Pn**	**23 09 10.8**	**+0.6**
KSM						IAmb	IAmb	23 09 14.7	
	comp=Z,29nm,0.8s								
FITZ	**Fitzroy Crossi**	**18.42**	**182**	P			**P**	**23 09 37.6**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=357,slow=8.4,SNR=6.2								
FITZ				LR			LR	23 18 39.1	
	comp=Z,121nm,20.4s,baz=11,slow=44								
	comp=Z,2.8nm,0.7s								
WB0	**Warramunga Arr**	**21.54**	**159**				**P**	**23 10 11.0**	**-1.1**
WB0						IAmb	IAmb	23 10 15.7	
	comp=Z,17nm,0.9s								
WRAB	**Tennant Creek**	**21.68**	**159**	P			**P**	**23 10 12.9**	**-0.6**
WRAB						IAmb	IAmb	23 10 18.6	
	comp=Z,12nm,0.8s								
WRA	**Warramunga Arr**	**21.68**	**159**	P			**P**	**23 10 12.7**	**-0.9**
WRA	**Warramunga Arr**	**21.68**	**159**	P			**P**	**23 10 12.5**	**-1.1**
	comp=Z,4.9nm,0.4s,baz=339,slow=10,SNR=32								
	comp=Z,4.9nm,0.4s								
WR8	**Warramunga Arr**	**21.75**	**159**				**P**	**23 10 12.7**	**-1.6**
WR8						IAmb	IAmb	23 10 17.4	
	comp=Z,11nm,0.5s								
AS31	**Alice Springs**	**25.03**	**164**				**P**	**23 10 47.3**	**+0.7**
ASAR	**Alice Springs**	**25.03**	**164**				**P**	**23 10 46.4**	**-0.2**
ASAR	**Alice Springs**	**25.03**	**164**	P			**P**	**23 10 46.8**	**+0.2**
	comp=Z,6.3nm,0.4s,baz=341,slow=8.9,SNR=33								
ASAR					PcP		**PcP**	**23 14 20.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=346,slow=2.1,SNR=2.0								
	comp=Z,6.3nm,0.4s								
STKA	**Stephens Creek**	**35.20**	**157**				**P**	**23 12 15.7**	**-0.7**
STKA	**Stephens Creek**	**35.20**	**157**	P			**P**	**23 12 16.4**	**-0.1**
	comp=Z,2.3nm,0.4s,baz=308,slow=8.5,SNR=6.3								
	comp=Z,2.3nm,0.4s								
KSRS	**Korea Array**	**36.88**	**2**	P			**P**	**23 12 31.9**	**+1.2**
	comp=Z,1.2nm,0.6s,baz=183,slow=9.2,SNR=4.7								
	comp=Z,1.2nm,0.6s								
MJAR	**Matsushiro Arr**	**37.57**	**16**	P			**P**	**23 12 36.1**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=170,slow=8.7,SNR=2.1								
	comp=Z,0.7nm,0.3s								
USRK	**Ussuriysk Ar.**	**43.87**	**6**	P			**P**	**23 13 27.7**	**-0.7**
	comp=Z,3.5nm,0.7s,baz=193,slow=5.8,SNR=5.2								
	comp=Z,3.5nm,0.7s								
SONM	**Songino Array**	**50.32**	**343**	P			**P**	**23 14 19.2**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=166,slow=7.9,SNR=8.6								
	comp=Z,1.6nm,0.5s								
PETK	**Petropavlovsk-**	**58.60**	**22**	P			**P**	**23 15 20.9**	**+2.1**
	comp=Z,3.0nm,0.5s,baz=179,slow=3.9,SNR=7.3								
	comp=Z,3.0nm,0.5s								
MKAR	**Makanchi Array**	**60.09**	**327**	P			**P**	**23 15 27.6**	**-1.6**
MKAR	**Makanchi Array**	**60.09**	**327**	P			**P**	**23 15 27.9**	**-1.2**
	comp=Z,2.0nm,0.3s,baz=122,slow=7.7,SNR=31								
	comp=Z,2.0nm,0.3s								
MAKZ	**Makanchi**	**60.27**	**326**	P			**P**	**23 15 30.1**	**-0.3**
ZALV	**Zalesovo Beam**	**63.38**	**334**	P			**P**	**23 15 49.3**	**-1.8**
	comp=Z,1.0nm,0.4s,baz=127,slow=6.9,SNR=5.7								
	comp=Z,1.0nm,0.4s								
KURBB	**Kurchatov Arra**	**64.35**	**328**	P			**P**	**23 15 55.9**	**-1.6**
	comp=Z,1.8nm,0.6s,baz=128,slow=6.4,SNR=14								
	comp=Z,1.8nm,0.6s								
KURK	**Kurchatov**	**64.35**	**329**				**P**	**23 15 56.3**	**-1.2**
KK31	**Karatay Array**	**65.44**	**318**	P			**P**	**23 16 04.1**	**-0.7**
KKAR	**Karatay Array**	**65.44**	**318**	P			**P**	**23 16 04.1**	**-0.7**
KKAR	**Karatay Array**	**65.44**	**318**	P			**P**	**23 16 03.8**	**-1.0**
BRVK	**Borovoye**	**69.98**	**328**	P			**P**	**23 16 36.0**	**+2.8**
NRIK	**Noril'sk**	**73.55**	**347**	P			**P**	**23 16 54.9**	**+0.6**
	comp=Z,3.2nm,0.7s,baz=185,slow=6.3,SNR=4.5								
	comp=Z,3.2nm,0.7s								
K13K	**Kusilvak Mount**	**79.84**	**27**	P			**P**	**23 17 30.7**	**+0.8**
K13K						IAmb	IAmb	23 17 35.2	
	comp=Z,2.8nm,0.7s								
M13K	**Dall Lake**	**79.98**	**28**	P			**P**	**23 17 30.8**	**+0.1**
SDPT	**Sand Point**	**80.11**	**34**	P			**P**	**23 17 30.0**	**-1.5**
VNDA	**Vanda**	**80.21**	**173**	LR			LR	23 51 53.4	
	comp=Z,50nm,20.5s,baz=2.0,slow=35								
MAW	**Mawson**	**80.56**	**200**	P			**P**	**23 17 33.9**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=19,slow=6.1,SNR=4.0								
	comp=Z,1.2nm,0.7s								
M14K	**Bethel**	**80.73**	**28**	P			**P**	**23 17 35.3**	**+0.5**
M14K						IAmb	IAmb	23 17 40.8	
	comp=Z,5.0nm,0.8s								
K15K	**Wolf Creek Mou**	**81.35**	**27**				**P**	**23 17 38.4**	**+0.4**
K15K						IAmb	IAmb	23 17 43.6	
	comp=Z,4.0nm,0.8s								
N15K	**Kwethluk River**	**81.47**	**29**	P			**P**	**23 17 40.4**	**+1.6**
N15K						IAmb	IAmb	23 17 47.2	
	comp=Z,4.3nm,0.9s								
RAYN	**Ar Rayn**	**81.48**	**294**	P			**P**	**23 17 39.3**	**-0.3**
J16K	**Anvik River**	**82.03**	**26**				**P**	**23 17 43.0**	**+1.4**
J16K						IAmb	IAmb	23 17 50.1	
	comp=Z,5.6nm,0.9s								
L16K	**Owhat River**	**82.14**	**28**	P			**P**	**23 17 43.6**	**+1.4**
L16K						IAmb	IAmb	23 17 48.4	
	comp=Z,6.6nm,1.2s								
M16K	**Timber Creek**	**82.22**	**28**				**P**	**23 17 43.9**	**+1.3**
M16K						IAmb	IAmb	23 17 49.3	
	comp=Z,3.3nm,0.8s								

O16K	**Kokwok River B**	**82.32**	**30**				**P**	**23 17 44.0**	**+0.8**
O16K						IAmb	IAmb	23 17 49.2	
	comp=Z,2.7nm,0.8s								
F17K	**Baldwin Pennin**	**82.61**	**23**				**P**	**23 17 45.8**	**+1.2**
F17K						IAmb	IAmb	23 18 02.0	
	comp=Z,5.0nm,1.1s								
J17K	**VABM Dome**	**82.72**	**26**				**P**	**23 17 46.4**	**+1.1**
J17K						IAmb	IAmb	23 17 52.8	
	comp=Z,4.3nm,0.8s								
H17K	**Granite Mounta**	**82.75**	**24**				**P**	**23 17 46.2**	**+0.9**
H17K						IAmb	IAmb	23 17 50.9	
	comp=Z,3.6nm,0.9s								
K17K	**Iditarod**	**82.91**	**27**				**P**	**23 17 47.7**	**+1.5**
E18K	**Tukpahlearik C**	**83.13**	**22**				**P**	**23 17 48.6**	**+1.4**
E18K						IAmb	IAmb	23 17 54.3	
	comp=Z,3.5nm,0.8s								
C18K	**Utukok River**	**83.25**	**21**				**P**	**23 17 48.5**	**+0.6**
H18K	**Honhosa River**	**83.44**	**24**	P			**P**	**23 17 50.2**	**+1.3**
L18K	**Granite Mounta**	**83.54**	**27**	P			**P**	**23 17 50.5**	**+1.1**
ATD	**Arta Tunnel**	**83.60**	**281**	P			**P**	**23 17 50.8**	**-0.1**
N18K	**Kilae Creek**	**83.62**	**29**	P			**P**	**23 17 51.4**	**+1.5**
N18K						IAmb	IAmb	23 17 56.5	
	comp=Z,4.0nm,1.1s								
J18K	**Innoko River**	**83.77**	**26**	P			**P**	**23 17 52.6**	**+2.0**
J18K						IAmb	IAmb	23 18 09.6	
	comp=Z,2.7nm,0.8s								
C19K	**Lookout Ridge**	**83.94**	**20**	P			**P**	**23 17 53.3**	**+1.8**
C19K						IAmb	IAmb	23 17 55.7	
	comp=Z,4.5nm,0.9s								
G19K	**Purcell Mounta**	**84.17**	**23**	P			**P**	**23 17 54.4**	**+1.8**
G19K						IAmb	IAmb	23 17 58.0	
	comp=Z,3.1nm,0.9s								
H19K	**Roundabout Mou**	**84.30**	**24**	P			**P**	**23 17 54.3**	**+1.1**
H19K						IAmb	IAmb	23 18 15.5	
	comp=Z,5.8nm,1.2s								
D19K	**Kuna River**	**84.31**	**21**				**P**	**23 17 53.8**	**+0.5**
N19K	**Bonanza Creek**	**84.32**	**29**				**P**	**23 17 54.7**	**+1.1**
L19K	**White Mountain**	**84.37**	**28**	P			**P**	**23 17 54.8**	**+1.1**
L19K						IAmb	IAmb	23 17 59.0	
	comp=Z,2.7nm,0.8s								
E19K	**Redstone River**	**84.40**	**22**	P			**P**	**23 17 54.8**	**+1.1**
D20K	**Etivluk River**	**84.89**	**21**				**P**	**23 17 57.6**	**+1.4**
G23K	**Bananza Creek**	**87.06**	**23**	P			**P**	**23 18 08.4**	**+1.3**
ILAR	**Eielson Array**	**88.21**	**25**	P			**P**	**23 18 14.7**	**+2.1**
	comp=Z,0.2nm,0.4s,baz=259,slow=5.2,SNR=2.5								
	comp=Z,0.2nm,0.4s								
QSPA	**South Pole Qui**	**90.35**	**180**	P			**P**	**23 18 22.9**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=138,slow=1.3,SNR=6.6								
	comp=Z,0.6nm,0.5s								
I28M	**Miner Creek**	**91.15**	**25**				**P**	**23 18 27.5**	**+1.1**
I28M						IAmb	IAmb	23 18 30.2	
	comp=Z,1.8nm,0.8s								
ARCES	**ARCESS Array B**	**93.42**	**340**	P			**P**	**23 18 35.7**	**-1.0**
	comp=Z,1.2nm,0.9s,baz=82,slow=4.8,SNR=4.4								
	comp=Z,1.2nm,0.9s								
TORD	**Torodi Ar. Bea**	**123.57**	**286**	PKP			**PKPdf**	**23 24 19.3**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=60,slow=2.5,SNR=1.3								
TXAR	**Lajitas Array**	**123.84**	**54**	PKP			**PKPdf**	**23 24 20.5**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=272,slow=0.4,SNR=3.5								

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*IDC **08** 23:11:31.3±1.5, 0.˚12N×125.˚77E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=162.5km s-min=21.7km az=65.0*
*DJA **08** 23:11:36.4±1.3, 0.˚N±3.˚×12.˚6E±.˚, h11km±9km, M3.3/7, MLv3.3/7*

ISC 08 23:11:37.6±1.1, 0.˚3N±0.˚1×126.˚23E±0.˚08, h44km, n7, σ1§62/7, mb3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.22**	**69**	P			**Pn**	**23 11 59.4**	**+1.2**
KMSI	**Cibinong**	**2.26**	**276**	P			**Pn**	**23 12 13.6**	**+1.0**
KMSI				S			Sn	23 12 43.5	+4.2
SANI	**Sanana**	**2.38**	**186**	S			**Sn**	**23 12 43.3**	**+1.1**
WRA	**Warramunga Arr**	**21.66**	**159**	P			**P**	**23 16 22.3**	**-2.3**
	2.3nm,0.7s,baz=335,slow=11,SNR=16								
	2.3nm,0.7s								
ASAR	**Alice Springs**	**24.99**	**163**	P			**P**	**23 16 57.2**	**-0.3**
	1.4nm,0.8s,baz=352,slow=15,SNR=12								
	1.4nm,0.8s								
MKAR	**Makanchi Array**	**60.07**	**327**	P			**P**	**23 21 39.2**	**-1.1**
	0.3nm,0.6s,baz=121,slow=7.6,SNR=5.3								
	0.3nm,0.6s								
KURBB	**Kurchatov Arra**	**64.33**	**328**	P			**P**	**23 22 08.7**	**0.0**
	0.4nm,0.7s,baz=126,slow=6.4,SNR=5.3								
	0.4nm,0.7s								

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*AEIC **08** 23:20:27.2±1.7, 69.˚11N±0.˚01×144.˚62W±0.˚04, h13km±5km, ML4.2, mb4.3/3(NEIC), ML4.3/142(NEIC), Mwr4.1/51(NEIC), Error ellipse: s-maj=2.6km s-min=1.1km az=223.0*
*NEIC **08** 23:20:28.4, 69.˚16N×144.˚59W, h10km*
*NEIC **08** 23:20:28.5±1.6, 69.˚14N±0.˚02×144.˚61W±0.˚06, h10km±2km, Error ellipse: s-maj=4.2km s-min=3.1km az=328.0, Moment Tensor Solution. Moment tensor: Scale 1015Nm; Mrr=0.11; Mθθ=0.04; Mϕϕ=0.14; Mrθ=0.19; Mθϕ=-1.84; Mϕr=0.69; Fault plane solution: M0=1.98000×1015 NP1: ϕs=180.41000°, δ=84.65000°, λ=-20.59000°. NP2: ϕs=272.41000°, δ=69.50000°, λ=-174.29000°. Principal axes: T 1.9652, Plg=10.0000°, Azm=228.0000°; N 0.0293, Plg=69.0000°, Azm=346.0000°; P -1.9945, Plg=18.0000°, Azm=135.0000°;*
*IDC **08** 23:20:30.7±0.8, 69.˚28N×144.˚22W, h0km, mb3.9/18, mbtmp3.9/22, ML3.5/4, MS3.4/13 Error ellipse: s-maj=21.2km s-min=12.6km az=40.0*

ISC 08 23:20:30.3±0.4, 69.˚12N±0.˚03×144.˚55W±0.˚03, h10km, n196, σ1§52/171, mb4.1/24, MS3.4/10, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.59**	**30**				**Pg**	**23 20 39.1**	**-2.6**
C27K					Sg		**Sg**	**23 20 46.5**	**-3.0**
D25K	**Kavik River**	**0.68**	**288**				**Pg**	**23 20 39.4**	**-4.2**
D25K					Sg		**Sg**	**23 20 49.3**	**-3.2**
D25K					IAML			23 20 50.4	
	comp=N,12µm,0.8s								
C26K	**Camden Bay**	**0.81**	**351**				**Sg**	**23 20 55.0**	**-1.5**
C26K	**Camden Bay**	**0.81**	**351**				**Pg**	**23 20 43.3**	**-2.6**
E25K	**Arctic Village**	**1.07**	**201**				**Pg**	**23 20 47.9**	**-3.0**
E25K					Sn		**Sg**	**23 21 04.2**	**-0.6**
D27M	**Malcolm River**	**1.29**	**83**				**Pn**	**23 20 52.1**	**-2.3**
D27M					Sn		**Sb**	**23 21 09.3**	**-1.9**
D27M					IAML			23 21 14.9	
	comp=N,4µm,0.8s								
E27K	**Coleen River**	**1.43**	**130**				**Pn**	**23 20 54.4**	**-2.0**
E27K					Sn		**Sn**	**23 21 14.3**	**-0.9**
F26K	**Sheenjek River**	**1.44**	**174**				**Pn**	**23 20 55.0**	**-1.5**
F26K					Sn		**Sn**	**23 21 13.9**	**-1.6**
F26K					IAML			23 21 15.7	
	comp=E,6µm,0.7s								
F26K					IAML			23 21 16.0	
	comp=N,3µm,1.1s								
D24K	**Happy Valley**	**1.53**	**273**				**Pn**	**23 20 55.8**	**-1.9**
D24K					Sn		**Sn**	**23 21 16.0**	**-1.6**
D24K					IAML			23 21 20.8	
	comp=N,5µm,0.8s								
C24K	**Franklin Bluff**	**1.59**	**294**				**Pn**	**23 20 56.8**	**-1.6**
C24K	**Franklin Bluff**	**1.59**	**294**		IAML			23 21 35.1	
	comp=E,3µm,1.1s								
F25K	**Christian Rive**	**1.59**	**195**				**Pn**	**23 20 57.1**	**-1.4**
F25K							**Pb**	**23 20 58.3**	**-1.5**
F25K	**Christian Rive**	**1.59**	**195**		Sn		**Sn**	**23 21 17.9**	**-1.2**
F25K					IAML			23 21 20.7	
	comp=E,5µm,0.8s								
BMAR	**Burnt Mountain**	**1.70**	**180**				**Pn**	**23 20 58.5**	**-1.5**
E24K	**Your Creek**	**1.79**	**236**				**Sn**	**23 21 23.7**	**-0.4**
E24K	**Your Creek**	**1.79**	**236**				**Pn**	**23 20 59.0**	**-2.3**
TOLK	**Toolik Lake Re**	**1.88**	**258**				**Sn**	**23 21 26.9**	**+0.5**
TOLK	**Toolik Lake Re**	**1.88**	**258**				**Pn**	**23 21 00.4**	**-2.2**
TOLK					IAML			23 21 30.2	
	comp=E,4µm,0.9s								
TOLK					IAML			23 21 35.6	
	comp=N,4µm,1.0s								
E28M	**Babbage River**	**1.89**	**104**				**Sb**	**23 21 28.1**	**-0.5**
E28M	**Babbage River**	**1.89**	**104**				**Pn**	**23 21 01.4**	**-1.3**
D28M	**Stokes Point**	**2.08**	**82**				**Pn**	**23 21 06.0**	**+0.7**
E23K	**Chandalar**	**2.15**	**243**		IAML			23 21 39.6	
	comp=N,2µm,1.2s								
G26K	**Porcupine Rive**	**2.20**	**172**				**Pn**	**23 21 05.3**	**-1.5**
G26K							**Pn**	**23 21 05.9**	**-1.0**
D23K	**Nanushuk River**	**2.21**	**269**				**Pn**	**23 21 05.8**	**-1.3**
	comp=E,2µm,1.1s				IAML			23 21 41.1	
D23K								23 22 00.3	
	comp=N,2µm,1.2s								
C23K	**Itkillik River**	**2.25**	**291**				**Pn**	**23 21 05.8**	**-1.8**
C23K	**Itkillik River**	**2.25**	**291**		IAML			23 21 47.6	
	comp=N,2µm,0.8s								
C23K					IAML			23 21 50.1	
	comp=E,2µm,0.9s								
F28M	**Old Crow**	**2.30**	**129**				**Pn**	**23 21 07.1**	**-1.2**
F28M	**Old Crow**	**2.30**	**129**		IAML			23 21 48.9	
	comp=E,1µm,0.8s								
E29M	**Blow River**	**2.53**	**104**				**Pn**	**23 21 09.9**	**-1.5**
E29M					IAML			23 21 49.1	
	comp=E,1µm,1.1s								
E29M					IAML			23 21 55.3	
	comp=N,1µm,0.7s								
G27K	**Doyon Strip**	**2.57**	**153**				**Pn**	**23 21 10.2**	**-1.8**
FYU	**Fort Yukon**	**2.58**	**186**				**Pn**	**23 21 11.2**	**-0.9**
G24K	**Hadweenzic Riv**	**2.67**	**206**				**Pn**	**23 21 11.6**	**-1.8**
G24K							**Pn**	**23 21 11.8**	**-1.6**
G24K	**Hadweenzic Riv**	**2.67**	**206**		IAML			23 21 55.4	
	comp=N,2µm,0.7s								
E22K	**Anaktuvuk Pass**	**2.84**	**253**				**Pn**	**23 21 14.1**	**-1.6**
COLD	**Coldfoot**	**2.84**	**231**				**Pn**	**23 21 14.6**	**-1.1**
COLD	**Coldfoot**	**2.84**	**231**		IAML			23 22 07.4	
	comp=N,881nm,0.7s								
H25L	**Birch Creek**	**2.91**	**190**				**Pn**	**23 21 15.2**	**-1.4**
D22K	**Ayikyak River**	**2.94**	**269**				**Pn**	**23 21 15.5**	**-1.6**
D22K					IAML			23 22 09.6	
	comp=N,1µm,1.5s								
H27K	**Steamboat Moun**	**3.12**	**157**				**Pn**	**23 21 18.3**	**-1.3**
H27K							**Pn**	**23 21 18.5**	**-1.2**
H27K	**Steamboat Moun**	**3.12**	**157**		IAML			23 22 14.7	
	comp=N,605nm,0.9s								
H27K					IAML			23 22 19.1	
	comp=E,835nm,0.8s								
G23K	**Bananza Creek**	**3.19**	**223**		IAML			23 22 26.6	
	comp=E,589nm,0.8s								
F22K	**John River**	**3.26**	**244**				**Pn**	**23 21 21.1**	**-0.4**
G29M	**Pine Creek**	**3.31**	**129**				**Pn**	**23 21 20.8**	**-1.3**
G29M					IAML			23 22 24.9	
	comp=N,704nm,1.1s								
B22K	**Teshekpuk Lake**	**3.32**	**296**				**Pn**	**23 21 17.8**	**-4.4**
B22K					IAML			23 22 28.0	
	comp=N,1µm,0.8s								
E21K	**Killik River**	**3.50**	**263**				**Pn**	**23 21 22.5**	**-2.2**
E21K	**Killik River**	**3.50**	**263**		IAML			23 22 28.3	
	comp=N,812nm,1.0s								
H24K	**Noodor Dome**	**3.54**	**203**				**Pn**	**23 21 23.6**	**-1.7**
H24K					IAML			23 22 22.9	
	comp=E,574nm,0.8s								
H24K					IAML			23 22 27.3	
	comp=N,519nm,1.0s								
F30M	**Barrier River**	**3.58**	**111**				**Pn**	**23 21 24.1**	**-1.7**
F30M					IAML			23 22 13.0	
	comp=E,728nm,0.9s								
F30M					IAML			23 22 35.0	
	comp=N,605nm,1.2s								
B21K	**Ikpikpuk River**	**3.60**	**283**				**Pn**	**23 21 23.9**	**-2.2**
B21K					IAML			23 22 40.2	
	comp=E,647nm,0.9s								
B21K					IAML			23 22 40.4	
	comp=N,763nm,1.4s								
PRP	**Porcupine Dome**	**3.64**	**186**				**Pn**	**23 21 26.3**	**-0.5**
PRP					IAML			23 22 25.4	
	comp=E,543nm,0.7s								
PRP					IAML			23 22 28.2	
	comp=N,643nm,0.7s								
I27K	**Kandik River**	**3.71**	**161**				**Pn**	**23 21 27.5**	**-0.2**
H29M	**Whitestone**	**3.75**	**138**				**Pn**	**23 21 27.4**	**-0.8**
H29M					IAML			23 22 39.1	
	comp=N,476nm,1.1s								
H29M					IAML			23 22 40.4	
	comp=E,637nm,0.9s								
G30M	**tAoh Zraii Nji**	**3.79**	**121**				**Pn**	**23 21 28.1**	**-0.7**
H23K	**Yukon River**	**3.83**	**212**		IAML			23 22 32.6	
	comp=E,563nm,1.0s								
H23K					IAML			23 22 42.1	
	comp=N,575nm,1.0s								
F21K	**Alatna River**	**3.84**	**244**				**Pn**	**23 21 28.0**	**-1.4**
F21K					IAML			23 22 32.9	
	comp=E,418nm,0.9s								
F21K					IAML			23 22 37.4	
	comp=N,458n

D19K	**Kuna River**	**4.96**	**269**	IAML			23 23 33.4	
	comp=N,286nm,1.1s							
E19K	**Redstone River**	**5.00**	**256**	IAML			23 23 23.2	
	comp=N,307nm,0.9s							
I30M	**Mount Dempster**	**5.04**	**137**			**Pn**	**23 21 45.0**	**-1.0**
I30M	**Mount Dempster**	**5.04**	**137**	IAML			23 23 19.3	
	comp=N,164nm,1.2s							
H31M	**Peel River**	**5.14**	**125**	IAML			23 23 20.9	
H31M	comp=E,188nm,1.4s							
	comp=N,155nm,1.5s			IAML			23 23 36.5	
SCRK	**Sand Creek**	**5.17**	**177**			**Pn**	**23 21 47.2**	**-0.6**
SCRK						**Pn**	**23 21 47.5**	**-0.3**
SCRK	**Sand Creek**	**5.17**	**177**	IAML			23 23 21.6	
	comp=N,169nm,0.9s							
K27K	**Chicken**	**5.21**	**168**			**Pn**	**23 21 47.6**	**-0.6**
K24K	**Donnelly Dome**	**5.37**	**186**			**Pn**	**23 21 49.9**	**-0.4**
C19K	**Lookout Ridge**	**5.38**	**277**	IAML			23 23 43.2	
	comp=E,176nm,1.2s							
C19K				IAML			23 23 45.7	
	comp=N,225nm,1.4s							
RIDG	**Independent Ri**	**5.41**	**181**			**Pn**	**23 21 50.4**	**-0.6**
DOT	**Dot Lake**	**5.50**	**178**			**Pn**	**23 21 51.8**	**-0.4**
MCK	**McKinley**	**5.69**	**200**			**Pn**	**23 21 54.0**	**-0.8**
RND	**Reindeer**	**6.00**	**199**			**Pn**	**23 21 58.2**	**-0.9**
B18K	**Kokolik River**	**6.14**	**280**			**Pn**	**23 21 59.2**	**-1.7**
TRF	**Thorofare Moun**	**6.15**	**205**			**Pn**	**23 22 00.1**	**-1.1**
L27K	**Beaver Creek,**	**6.18**	**168**			**Pn**	**23 22 01.0**	**-0.6**
L27K						**Pn**	**23 22 01.4**	**-0.3**
PAX	**Paxson**	**6.19**	**184**			**Pn**	**23 22 01.6**	**-0.1**
F18K	**Selawik**	**6.24**	**253**			**Pn**	**23 22 01.4**	**-0.9**
G18K	**Tagagawik**	**6.30**	**246**			**Pn**	**23 22 02.3**	**-0.9**
G18K						**Pn**	**23 22 02.7**	**-0.5**
WAT1	**Susitna Watana**	**6.53**	**196**			**Pn**	**23 22 06.0**	**-0.3**
WAT7	**Susitna Watana**	**6.55**	**198**			**Pn**	**23 22 06.3**	**-0.4**
WAT6	**Susitna Watana**	**6.70**	**193**			**Pn**	**23 22 08.1**	**-0.7**
WAT6						**Pn**	**23 22 08.5**	**-0.3**
HARP	**HAARP**	**6.76**	**182**			**Pn**	**23 22 07.0**	**-2.4**
HARP						**Pn**	**23 22 07.8**	**-1.7**
E17K	**Hotham Inlet**	**6.77**	**261**			**Pn**	**23 22 07.5**	**-2.1**
J19K	**Poorman**	**6.77**	**226**			**Pn**	**23 22 07.6**	**-2.1**
M26K	**Nabesna, AK**	**6.78**	**174**			**Pn**	**23 22 10.4**	**+0.6**
F17K	**Baldwin Pennin**	**6.87**	**255**			**Pn**	**23 22 08.3**	**-2.7**
M27K	**Edge Creek, AK**	**6.88**	**170**			**Pn**	**23 22 10.8**	**-0.5**
K20K	**Telida**	**6.94**	**218**			**Pn**	**23 22 10.5**	**-1.5**
PPLA	**Purkeypile**	**6.98**	**210**			**Pn**	**23 22 11.3**	**-1.3**
D17K	**Noatak River**	**6.98**	**267**			**Pn**	**23 22 09.6**	**-2.8**
A36M	**Sachs Harbour**	**7.04**	**57**			**Pn**	**23 22 11.3**	**-1.9**
WACK	**Wrangell Chich**	**7.17**	**179**			**Pn**	**23 22 14.8**	**-0.5**
WACK						**Pn**	**23 22 15.3**	**+0.1**
M30M	**Minto, Yukon**	**7.29**	**151**			**Pn**	**23 22 15.9**	**-1.0**
SCM	**Sheep Creek Mo**	**7.41**	**190**			**Pn**	**23 22 19.1**	**+0.7**
GHO	**Glory Hole Cre**	**7.60**	**196**			**Pn**	**23 22 21.0**	**-0.1**
GHO						**Pn**	**23 22 21.1**	**0.0**
C16K	**Lisburne Hills**	**7.61**	**273**			**Pn**	**23 22 18.6**	**-2.4**
SKT	**Skwentna**	**7.73**	**205**			**Pn**	**23 22 21.9**	**-0.8**
G16K	**Koyuk River**	**7.83**	**250**			**Pn**	**23 22 23.0**	**-1.1**
VRDI	**Verde Repeater**	**7.94**	**176**			**Pn**	**23 22 27.2**	**+1.4**
M20K	**Styx River**	**8.09**	**210**			**Pn**	**23 22 27.0**	**-0.7**
BMRM	**Bremner River**	**8.19**	**180**			**Pn**	**23 22 27.7**	**-1.4**
H16K	**Elim**	**8.27**	**246**			**Pn**	**23 22 29.1**	**-1.0**
KIAG	**Kiagna River**	**8.28**	**173**			**Pn**	**23 22 31.0**	**+0.5**
KIAG						**Pn**	**23 22 32.8**	**+2.3**
N30M	**Aishikik Lake**	**8.29**	**154**			**Pn**	**23 22 29.9**	**-0.6**
M19K	**Big River Lodg**	**8.31**	**214**			**Pn**	**23 22 29.8**	**-0.9**
F15K	**North Star Dit**	**8.44**	**256**			**Pn**	**23 22 30.4**	**-2.1**
PWL	**Port Wells**	**8.45**	**193**			**Pn**	**23 22 33.6**	**+1.0**
MMPY	**Sheldon Lake,**	**8.48**	**134**			**Pn**	**23 22 32.5**	**-0.5**
YUK5	**Granite Creek**	**8.50**	**158**			**Pn**	**23 22 32.4**	**-1.1**
L18K	**Granite Mounta**	**8.53**	**222**			**Pn**	**23 22 32.2**	**-1.6**
YUK6	**Outpost Mounta**	**8.61**	**159**			**Pn**	**23 22 34.7**	**-0.4**
J16K	**Anvik River**	**8.72**	**236**			**Pn**	**23 22 35.3**	**-1.0**
BAGL	**Bagley Icefiel**	**8.73**	**172**			**Pn**	**23 22 35.3**	**-1.1**
BARK	**Barkley Ridge**	**8.80**	**173**			**Pn**	**23 22 36.4**	**-1.1**
TABL	**Table Mountain**	**8.84**	**169**			**Pn**	**23 22 37.4**	**-0.7**
HYT	**Haines Junctio**	**8.84**	**157**			**Pn**	**23 22 37.2**	**-0.9**
L17K	**Donlin**	**9.00**	**226**			**Pn**	**23 22 39.0**	**-1.2**
MESA	**MESA**	**9.05**	**172**			**Pn**	**23 22 40.2**	**-0.8**
N19K	**Bonanza Creek**	**9.33**	**211**			**Pn**	**23 22 43.5**	**-1.2**
N18K	**Kilae Creek**	**9.73**	**215**			**Pn**	**23 22 49.5**	**-0.6**
K15K	**Wolf Creek Mou**	**9.76**	**234**			**Pn**	**23 22 49.5**	**-1.0**
J14K	**Nanvaranak Lak**	**10.01**	**240**			**Pn**	**23 22 52.6**	**-1.4**
Q32M	**Nakina River**	**11.50**	**146**			**Pn**	**23 23 14.8**	**+0.3**
KDAK	**Kodiak Island**	**11.92**	**201**	LR		LR	23 28 17.5	
	comp=N,233nm,18.6s,baz=27,slow=38							
CNTC	**Contact Creek**	**11.97**	**210**			**Pn**	**23 23 21.4**	**+0.5**
O14K	**Tigyukauivet M**	**12.23**	**224**	Pn		**Pn**	**23 23 24.0**	**-0.4**
DLBC	**Dease Lake**	**12.45**	**142**	Pn		**Pn**	**23 23 27.3**	**0.0**
	baz=338,slow=14,SNR=6.1							
DLBC				Lg		Lg	23 26 57.4	
	baz=219,slow=19,SNR=6.4							
DLBC				LR		LR	23 28 39.0	
	comp=N,11nm,21.8s,baz=278,slow=39							
	comp=N,0.1nm,0.3s							
YKA	**Yellowknife Ar**	**13.82**	**104**	Pn		**Pn**	**23 23 42.2**	**-3.8**
	comp=N,0.5nm,0.3s,baz=312,slow=13,SNR=7.6							
YKA				Sn		Sn	23 26 08.6	-11
	comp=N,0.5nm,0.3s,baz=304,slow=23,SNR=5.6							
	comp=N,2.7nm,0.7s							
RES	**Resolute Bay**	**15.92**	**48**	Pn		**Pn**	**23 24 11.1**	**-2.9**
	comp=N,0.4nm,0.3s,baz=270,slow=14,SNR=19							
RES				Sn		Sn	23 26 53.8	-16
	comp=N,0.8nm,0.3s,baz=336,slow=20,SNR=6.2							
RES				LR		LR	23 32 10.0	
	comp=N,56nm,19.5s,baz=346,slow=44							
	comp=N,2.4nm,0.6s							
NEW	**Newport**	**24.88**	**133**	LR		LR	23 36 13.8	
	comp=N,101nm,18.8s,baz=346,slow=38							
FRB	**Frobisher Bay**	**28.99**	**63**	LR		LR	23 37 47.7	
	comp=N,114nm,21.4s,baz=280,slow=36							
PETK	**Petropavlovsk-**	**30.67**	**268**	P		**P**	**23 26 46.4**	**+1.9**
	comp=N,1.0nm,0.6s,baz=47,slow=6.5,SNR=2.4							
PETK				LR		LR	23 40 09.0	
	comp=N,73nm,18.5s,baz=111,slow=38							
	comp=N,1.0nm,0.6s							
SFJD	**Kangerlussuaq**	**31.92**	**48**	LR		LR	23 42 29.2	
	comp=N,62nm,18.0s,baz=318,slow=42							
PDAR	**Pinedale Array**	**32.02**	**127**	P		**P**	**23 26 58.4**	**+1.5**
	comp=N,0.3nm,0.5s,baz=35,slow=5.4,SNR=3.8							
	comp=N,0.3nm,0.5s							
YAK	**Yakutsk**	**33.31**	**301**	LR		LR	23 43 39.6	
	comp=N,95nm,18.2s,baz=176,slow=42							
NVAR	**Mina Array Bea**	**33.86**	**141**	P		**P**	**23 27 15.6**	**+2.7**
	comp=N,1.9nm,0.8s,baz=336,slow=10,SNR=3.2							
	comp=N,1.9nm,0.8s							
SCHQ	**Schefferville**	**36.34**	**73**	P		**P**	**23 27 34.3**	**+0.5**
	comp=N,5.8nm,0.8s,baz=305,slow=9.9,SNR=4.0							
	comp=N,5.8nm,0.8s							
BORG	**Borgarnes**	**40.62**	**33**	LR		LR	23 46 19.4	
	comp=N,36nm,18.6s,baz=327,slow=38							
TXAR	**Lajitas Array**	**46.24**	**128**	P		**P**	**23 28 56.5**	**+1.0**
	comp=N,0.2nm,0.4s,baz=12,slow=6.6,SNR=4.5							
	comp=N,0.2nm,0.4s							
USRK	**Ussuriysk Ar.**	**47.32**	**284**	LR		LR	23 51 05.3	
	comp=N,38nm,19.6s,baz=216,slow=39							
NOA	**NORSAR Array B**	**48.97**	**15**	P		**P**	**23 29 17.7**	**+1.4**
	comp=N,1.0nm,0.3s,baz=348,slow=7.7,SNR=2.4							
	comp=N,1.0nm,0.3s							
FINES	**FINESS Array B**	**49.55**	**6**	P		**P**	**23 29 21.1**	**+0.5**
	comp=N,1.6nm,0.5s,baz=8.9,slow=9.8,SNR=17							
	comp=N,1.6nm,0.5s							
HFS	**Hagfors**	**50.09**	**14**	P		**P**	**23 29 23.2**	**-1.5**
	comp=N,3.3nm,0.7s,baz=20,slow=4.7,SNR=8.1							
	comp=N,3.3nm,0.7s							
ZALV	**Zalesovo Beam**	**52.05**	**325**	P		**P**	**23 29 40.6**	**+1.1**
	comp=N,1.0nm,0.6s,baz=36,slow=7.7,SNR=3.7							
	comp=N,1.0nm,0.6s							
SONM	**Songino Array**	**52.34**	**306**	P		**P**	**23 29 43.6**	**+1.7**
	comp=N,1.1nm,0.9s,baz=15,slow=6.2,SNR=4.2							
SONM				LR		LR	23 56 04.7	
	comp=N,67nm,19.3s,baz=74,slow=41							
	comp=N,1.1nm,0.9s							
EKA	**Eskdalemuir Ar**	**52.69**	**27**	P		**P**	**23 29 43.0**	**-1.2**
	comp=N,0.4nm,0.5s,baz=341,slow=6.6,SNR=5.2							
	comp=N,0.4nm,0.5s							
ARTI	**Arti**	**53.68**	**344**	IAmb		IAmb	23 29 57.8	
	comp=Z,4.1nm,0.6s							
ARTI	**Arti**	**53.68**	**344**	LR		LR	23 53 01.6	
	comp=Z,44nm,21.6s,baz=79,slow=36							
KURBB	**Kurchatov Arra**	**56.44**	**329**	P		**P**	**23 30 12.9**	**+1.4**
	comp=Z,1.9nm,0.9s,baz=15,slow=7.0,SNR=9.3							
	comp=Z,1.9nm,0.9s							
HHC	**Hu-ho-hao-te**	**57.11**	**299**	*e*P		P	23 30 09.0	-7.6
HHC				pmax		pmax		
	comp=Z,11nm,0.7s							
HHC				pmax		pmax		
	comp=Z,64nm,4.6s							
MKAR	**Makanchi Array**	**59.35**	**324**	P		**P**	**23 30 33.2**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=46,slow=7.2,SNR=5.9							
	comp=Z,0.5nm,0.6s							
AKASG	**Malin Array Be**	**60.41**	**5**	P		**P**	**23 30 40.7**	**+1.5**
	comp=Z,0.8nm,0.5s,baz=359,slow=6.9,SNR=5.5							
	comp=Z,0.8nm,0.5s							
AB31	**Akbulak array**	**60.56**	**342**	IAmb		IAmb	23 30 49.4	
	comp=Z,1.9nm,0.9s							
ABKAR	**Akbulak array**	**60.56**	**342**	IAmb		IAmb	23 30 49.4	
	comp=Z,2.0nm,0.9s							
WMQ	**Urumqi**	**60.97**	**319**	*e*P		**P**	**23 30 42.5**	**-0.8**
WMQ				LR		LR		
	comp=Z,240nm,22.5s							
GERES	**GERESS Array B**	**61.26**	**16**	P		**P**	**23 30 47.0**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=3.4,slow=6.7,SNR=5.1							
	comp=Z,0.5nm,0.7s							
GTA	**Gaotai**	**61.96**	**308**	*e*P		**P**	**23 30 51.9**	**+1.8**
GTA				pmax		pmax		
	comp=Z,3.0nm,1.3s							
KSH	**Kashi**	**67.61**	**327**	P		**P**	**23 31 27.9**	**+1.0**
KSH				pmax		pmax		
	comp=Z,8.0nm,0.5s							
ESDC	**Sonseca Array**	**67.67**	**32**	P		**P**	**23 31 29.0**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=345,slow=6.2,SNR=5.0							
	comp=Z,0.5nm,0.6s							
BRTR	**Keskin Array B**	**71.46**	**1**	P		**P**	**23 31 52.4**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=339,slow=6.6,SNR=3.6							
	comp=Z,0.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**81.84**	**301**	P		**P**	**23 32 52.5**	**+3.0**
	comp=Z,1.4nm,0.3s,baz=5.0,slow=5.4,SNR=1.9							
	comp=Z,1.4nm,0.3s							

NEIC ***08*** *23:23:41.2±1.2,35°627N±0°004×117°43W±0°01, h7km±2km, Error ellipse: s-maj=1.6km s-min=0.7km az=74.0*

PAS 08 23:23:41.6±1.1, 35°625N±0°009×117°43W±0°01, h4km±2km, ML3.2/23, ML2.9/144(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=66.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.11**	**152**	Pg	Pg	23 23 44.3	+0.4
CCCA				Sg	Sg	23 23 46.7	+1.2
CLC	**China Lake**	**0.23**	**325**		Pg	23 23 46.1	-0.1
CLC					Sg	23 23 49.6	+0.3
CLC				IAML		23 23 49.9	
	comp=N,3µm,0.5s						
CLC				IAML		23 23 50.2	
	comp=E,2µm,0.6s						
CLC	**China Lake**	**0.23**	**325**		Pg	23 23 46.0	-0.2
LRMC	**Laurel Mtn Rad**	**0.25**	**235**		Pg	23 23 46.6	+0.1
LRMC				Sg	Sg	23 23 50.2	+0.4
SRTC	**Snort**	**0.27**	**285**		Pg	23 23 47.2	+0.4
MPMC	**Manual Prospec**	**0.43**	**354**		Pg	23 23 49.8	-0.3
MPMC				Sg	Sg	23 23 55.9	+0.1
MPMC				IAML		23 23 56.4	
	comp=N,616nm,0.3s						
MPMC				IAML		23 23 58.3	
	comp=E,957nm,0.6s						
WNMM	**Nine Mile Camp**	**0.44**	**300**		Pg	23 23 50.2	+0.1
WVPM	**Volcano Peak E**	**0.45**	**316**		Pg	23 23 50.6	+0.2
JRC2	**Joshua Ridge**	**0.47**	**319**		Pg	23 23 50.7	0.0
WCSM	**Coso Springs S**	**0.48**	**326**		Pg	23 23 50.9	-0.1
WRVM	**Rose V. Centra**	**0.54**	**316**		Pg	23 23 51.8	-0.1
QSM	**Queen of Sheba**	**0.57**	**53**		Pg	23 23 52.4	-0.2
QSM				Sg	Sg	23 23 59.7	-0.3
QSM				IAML		23 24 02.6	
	comp=N,854nm,0.4s						
QSM				IAML		23 24 04.2	
	comp=E,683nm,0.4s						
GSC	**Goldstone, Bar**	**0.60**	**122**		Pg	23 23 53.1	-0.1
GSC				Sg	Sg	23 24 01.3	+0.2
WHFM	**Hanning Flat**	**0.75**	**276**		Pg	23 23 55.7	-0.3
GWY	**Greenwater Val**	**0.83**	**48**		Pg	23 23 57.4	-0.2
GWY				Sg	Sg	23 24 08.2	-0.2
GWY				IAML		23 24 13.5	
	comp=N,703nm,0.5s						
GWY				IAML		23 24 14.4	
	comp=E,740nm,0.5s						
ISA	**Isabella, Lake**	**0.85**	**273**		Pg	23 23 57.4	-0.6
ISA				IAML		23 24 11.8	
	comp=N,289nm,0.3s						
ISA				IAML		23 24 12.6	
	comp=E,302nm,0.3s						
WASM	**Alta Sierra Ca**	**0.92**	**277**		Pg	23 23 58.8	-0.6
CWC	**Cottonwood Cre**	**0.97**	**327**		Pg	23 23 59.8	-0.5
CWC				IAML		23 24 16.2	
	comp=E,315nm,0.2s						
CWC				IAML		23 24 17.7	
	comp=N,295nm,0.2s						
TPO	**Tropico Hills**	**0.99**	**221**		Pg	23 24 00.2	-0.4
TUQ	**Turquoise Moun**	**1.24**	**98**		Pg	23 24 04.5	-0.9
AMDNV	**Amargosa**	**1.25**	**48**		Pg	23 24 04.2	-1.3
WCT	**Wildcat Mounta**	**1.33**	**29**		Pn	23 24 05.8	-1.4
WCT				IAML		23 24 26.0	
	comp=N,193nm,0.6s						
WCT				IAML		23 24 27.1	
	comp=E,284nm,0.4s						
GRAC	**Grapevine Rang**	**1.37**	**2**		Pn	23 24 07.0	-0.6
GRAC				IAML		23 24 30.5	
	comp=N,252nm,0.8s						
GRAC				IAML		23 24 34.6	
	comp=E,236nm,0.6s						
BFSC	**Mount Baldy Ra**	**1.40**	**188**		Pn	23 24 07.4	-0.6
BFSC				IAML		23 24 27.4	
	comp=N,348nm,0.6s						
MWC	**Mount Wilson**	**1.49**	**200**		Pn	23 24 09.3	0.0
MTPC	**Mountain Pass**	**1.54**	**95**		Pn	23 24 08.5	-1.5
MTPC				IAML		23 24 32.1	
	comp=N,127nm,0.5s						
MTPC				IAML		23 24 34.5	
	comp=E,188nm,0.3s						
PASC	**Pasadena Art C**	**1.58**	**203**		Pn	23 24 09.2	-1.2
PASC				IAML		23 24 33.9	
	comp=N,147nm,0.4s						
PASC				IAML		23 24 37.3	
	comp=E,145nm,0.9s						
TPNV	**Topopah Spring**	**1.63**	**35**		Pn	23 24 10.3	-1.0
TPNV				IAML		23 24 35.6	
	comp=E,188nm,0.6s						
TPNV				IAML		23 24 36.8	
	comp=E,160nm,1.0s						
GMRC	**Granite Mounta**	**1.68**	**120**		Pn	23 24 12.1	+0.2
GMN	**Gold Mountain**	**1.68**	**5**		Pn	23 24 10.7	-1.3
DSP	**Deep Springs**	**1.79**	**346**		Pn	23 24 13.0	-0.4
ELS	**Elsinore Mount**	**1.97**	**180**		Pn	23 24 15.3	-0.6
ELS				IAML		23 24 45.7	
	comp=E,61nm,0.4s						
ELS				IAML		23 24 47.4	
	comp=N,71nm,0.3s						
SHPR	**Sheep Range**	**2.04**	**64**		Pn	23 24 16.8	-0.2
MZP	**Montezuma Peak**	**2.07**	**1**		Pn	23 24 16.9	-0.6
V12A	**Nelson**	**2.10**	**86**		Pn	23 24 17.4	-0.3
V12A				IAML		23 24 56.4	
	comp=N,48nm,0.6s						
PMD	**Palm Desert**	**2.15**	**156**		Pn	23 24 17.0	-1.3
PMD				IAML		23 25 01.2	
	comp=E,48nm,0.7s						
PFO	**Pinyon Flats O**	**2.16**	**158**		Pn	23 24 18.2	-0.4
PFO				IAML		23 24 50.1	
	comp=E,48nm,0.6s						
S11A	**Rachel**	**2.43**	**33**		Pb	23 24 26.9	+0.9
S11A				IAML		23 25 03.4	
	comp=N,95nm,0.6s						
S11A				IAML		23 25 09.1	
	comp=E,102nm,1.0s						
TPH	**Tonopah**	**2.45**	**4**		Pb	23 24 26.3	-0.1
NEE2	**Needles Airpor**	**2.46**	**110**		Pb	23 24 27.4	+1.1
BORC	**Borrego Spring**	**2.50**	**160**		Pb	23 24 27.9	+0.9
BORC				IAML		23 25 03.5	
	comp=E,47nm,0.7s						
SBI	**Santa Barbara**	**2.51**	**212**		Pn	23 24 20.8	-2.4
PRN	**Pahroc Range**	**2.62**	**46**		Pg	23 24 31.5	-0.3
PRN				IAML		23 25 10.4	
	comp=N,86nm,0.8s						
PRN				IAML		23 25 14.5	
	comp=E,89nm,0.7s						
DPP	**Dos Picos Cty**	**2.65**	**171**		Pn	23 24 23.1	-2.1
DPP				IAML		23 25 10.1	
	comp=E,36nm,0.6s						
LHV	**Little Huntoon**	**2.76**	**342**		Pn	23 24 27.4	+0.8
LHV				IAML		23 25 22.5	
	comp=N,26nm,1.5s						
LHV				IAML		23 25 30.5	
	comp=E,30nm,1.0s						
PMPB	**Monarch Peak**	**2.80**	**283**		Pn	23 24 28.2	+0.9
PMPB				IAML		23 25 13.8	
	comp=E,72nm,0.8s						
PMPB				IAML		23 25 23.4	
	comp=N,69nm,0.9s						
NV11	**Mina Array Sit**	**2.86**	**349**		Pn	23 24 27.9	-0.3
NVAR	**Mina Array Bea**	**2.89**	**346**		Pg	23 24 35.5	-1.4
W13A	**Hualapai Mount**	**2.94**	**99**		Pn	23 24 28.6	-0.8
W13A				Pg	Pg	23 24 36.8	-1.3
W13A				IAML		23 25 18.9	
	comp=E,28nm,0.7s						
W13A				IAML		23 25 19.1	
	comp=N,26nm,0.6s						
BLYC	**Blythe**	**3.04**	**127**	IAML		23 25 18.2	
	comp=N,45nm,0.5s						
BLYC				IAML		23 25 24.0	
	comp=E,44nm,0.6s						
CMB	**Columbia Colle**	**3.38**	**316**	IAML		23 25 32.5	
	comp=E,24nm,0.9s						
CMB				IAML		23 25 38.5	
	comp=N,24nm,0.8s						
ESJX	**Sierra Juarez**	**3.81**	**161**	IAML		23 27 09.2	
	comp=N,32nm,0.1s						
KNB	**Kanab**	**3.97**	**68**	IAML		23 25 56.9	
	comp=N,11nm,1.4s						
KNB				IAML		23 26 01.3	
	comp=E,9.9nm,1.1s						
SZCU	**Shurtz Canyon**	**4.01**	**59**	IAML		23 27 15.6	
	comp=E,14nm,0.8s						
Y14A	**Wickenburg**	**4.01**	**114**	IAML		23 25 52.9	
	comp=E,19nm,0.7s						
PSUT	**Pine Spring**	**4.08**	**44**	IAML		23 26 06.3	
	comp=E,12nm,1.3s						
PSUT				IAML		23 26 08.9	
	comp=N,11nm,1.4s						
SPR3	**Spring Creek 3**	**4.18**	**35**	IAML		23 25 54.4	
	comp=E,13nm,1.4s						
SPR3				IAML		23 26 04.8	
	comp=N,8.2nm,1.1s						
U15A	**North Rim**	**4.24**	**78**	IAML		23 25 53.4	
	comp=E,11nm,0.8s						
U15A				IAML		23 26 12.9	
	comp=N,11nm,4.5s						
BEKR	**Beckworth**	**4.83**	**332**	IAML		23 26 25.3	
	comp=N,6.7nm,1.1s						
BEKR				IAML		23 26 33.5	
	comp=E,13nm,0.8s						
WUAZ	**Wupatki**	**4.94**	**89**	IAML		23 26 23.1	
	comp=E,12nm,0.5s						
WUAZ				IAML		23 26 32.4	
	comp=E,11nm,3.2s						
X16A	**Lo Mia Camp, P**	**5.06**	**102**	IAML		23 26 31.4	
	comp=E,6.9nm,3.2s						
X16A				IAML		23 26 50.6	
	comp=N,7.5nm,3.3s						

IDC ***08*** *23:35:41.1±1.7,0°47N×126°25E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=165.2km s-min=22.3km az=66.0*

DJA ***08*** *23:35:45.3±0.3,0°N×3°×12°6E±°, h10km, M3.3/7, MLv3.3/7*

ISC 08 23:35:47.7±1.1, 0°27N±0°08×126°30E±0°07, h47km, n8, σ1°49/9, mb3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.17**	**65**	P	**Pn**	**23 36 07.1**	**-0.6**
TNTI				S	**Sn**	**23 36 24.3**	**+1.7**
SANI	**Sanana**	**2.33**	**188**	P	**Pn**	**23 36 22.8**	**-0.7**
KMSI	**Cibinong**	**2.34**	**277**	P	**Pn**	**23 36 24.3**	**+0.6**
NLAI	**Namlea**	**3.58**	**167**	P	**Pn**	**23 36 40.7**	**0.0**
WRA	**Warramunga Arr**	**21.58**	**159**	P	**P**	**23 40 33.2**	**-0.3**
	0.7nm,0.5s,baz=337,slow=11,SNR=6.9						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**24.92**	**163**	P	**P**	**23 41 08.9**	**+2.4**
	0.5nm,0.3s,baz=344,slow=8.0,SNR=9.9						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**60.16**	**327**	P	**P**	**23 45 49.3**	**-1.4**
	0.3nm,0.3s,baz=130,slow=7.5,SNR=7.2						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**64.42**	**328**	P	**P**	**23 46 17.8**	**-1.2**
	0.3nm,0.4s,baz=124,slow=7.9,SNR=1.9						
	0.3nm,0.4s						

IDC ***08*** *23:57:51.4±0.5,0°61N×126°22E, h0km, mb4.4/24, mbtmp4.4/25, ML3.8/1, Error ellipse: s-maj=23.5km s-min=12.0km az=76.0*

NEIC ***08*** *23:57:55.1±1.2,0°69N±0°08×126°36E±0°05, h20km±4km, mb5.2/147, Error ellipse: s-maj=11.5km s-min=6.7km az=173.0*

ISC 08 23:57:57.6±0.3, 0°64N±0°06×126°34E±0°06, h47km, n385, σ1°24/386, mb4.7/40, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.04**	**83**	Pn	**Pn**	**23 58 13.9**	**-1.9**
TNTI				Sn	**

HYB Hyderabad 49.85 292 eP P 00 06 47.3 +0.6
ULN Ulaanbaatar 49.93 343 P P 00 06 46.7 -0.2
SONM Songino Array 50.10 343 P 00 06 48.3 +0.2
SONM Songino Array 50.10 343 P P 00 06 48.2 0.0
comp=Z,2.7nm,0.9s,baz=157,slow=7.1,SNR=16
comp=Z,2.7nm,0.9s
PETK Petropavlovsk- 58.43 22 P P 00 07 48.7 +0.2
PETK Petropavlovsk- 58.43 22 P P 00 07 49.4 +1.0
comp=Z,3.3nm,0.6s,baz=189,slow=4.4,SNR=7.2
comp=Z,3.3nm,0.6s
AIS Amsterdam Isla 58.98 224 P P 00 07 53.4 +0.8
PRZ Przheval'sk 59.80 321 P P 00 07 57.8 -0.7
TARG Taragay, Kyrgy 59.80 320 P P 00 07 58.5 -0.3
MK31 Makanchi Array 59.88 326 P P 00 07 58.4 -0.3
MKAR Makanchi Array 59.88 326 P 00 07 58.0 -0.6
MKAR Makanchi Array 59.88 326 P P 00 07 58.5 -0.2
comp=Z,5.2nm,0.5s,baz=126,slow=8.4,SNR=65
comp=Z,5.2nm,0.5s
BOOM Boomskoye usch 61.39 320 P 00 08 09.0 -0.2
MA2 Magadan 61.78 14 P P 00 08 11.7 +0.4
AAK Ala-Archa 62.40 319 P P 00 08 16.9 +0.9
comp=Z,1.5nm,0.3s,baz=167,slow=4.9,SNR=3.6
comp=Z,1.5nm,0.3s
ZAA0 Zalesovo Array 63.16 334 P 00 08 20.2 -0.4
ZALV Zalesovo Beam 63.16 334 P 00 08 19.9 -0.8
ZALV Zalesovo Beam 63.16 334 P P 00 08 20.3 -0.3
comp=Z,2.8nm,0.6s,baz=104,slow=6.3,SNR=13
comp=Z,2.8nm,0.6s
GAR Garm 63.74 314 P 00 08 23.9 -1.1
BTK Batken 63.80 315 P 00 08 25.3 0.0
BTK IAmb IAmb 00 09 01.8
comp=Z,12nm,1.0s
KURBB Kurchatov Arra 64.13 328 P P 00 08 26.7 -0.4
comp=Z,7.5nm,0.7s,baz=130,slow=6.0,SNR=19
comp=Z,7.5nm,0.7s
KURK Kurchatov 64.14 328 P 00 08 26.9 -0.2
SIMJ Simiganj 64.57 313 P P 00 08 28.9 -1.5
KK31 Karatay Array 65.24 318 P 00 08 33.5 -1.0
KKAR Karatay Array 65.24 318 P 00 08 34.0 -0.5
KKAR Karatay Array 65.24 318 P P 00 08 33.8 -0.7
BRVK Borovoye 69.77 328 P P 00 09 02.5 -0.4
NRIK Noril'sk 73.32 347 P 00 09 23.9 -0.1
NRIK Noril'sk 73.32 347 P P 00 09 24.4 +0.4
comp=Z,11nm,0.9s,baz=133,slow=4.7,SNR=8.6
comp=Z,11nm,0.9s
AB31 Akbulak array 74.30 321 P 00 09 29.7 -0.4
ABKAR Akbulak array 74.30 321 P 00 09 29.6 -0.4
ABKAR Akbulak array 74.30 321 P 00 09 29.7 -0.4
AKTO Aktyubinsk 75.84 322 P P 00 09 39.1 +0.1
comp=Z,7.7nm,0.7s,baz=112,slow=6.4,SNR=22
comp=Z,7.7nm,0.7s
GAMB Gambell 77.36 24 P P 00 09 48.4 +1.2
GAMB Gambell 77.36 24 P P 00 09 49.0 +1.8
baz=245
ARTI Arti 77.41 328 P P 00 09 46.9 -0.8
ARTI Arti 77.41 328 P P 00 09 47.3 -0.4
comp=Z,4.3nm,0.6s,baz=132,slow=3.8,SNR=9.4
comp=Z,4.3nm,0.6s
M11K Mekoryuk 78.47 28 P P 00 09 55.4 +2.0
baz=250
K13K Kusilvak Mount 79.68 27 P P 00 10 01.0 +0.9
K13K IAmb IAmb 00 10 29.9
comp=Z,35nm,1.4s
K13K Kusilvak Mount 79.68 27 P P 00 10 01.8 +1.7
baz=252
M13K Dall Lake 79.82 28 P P 00 10 01.2 +0.4
M13K Dall Lake 79.82 28 P P 00 10 02.8 +2.0
baz=253
SDPT Sand Point 79.96 34 P P 00 10 02.9 +1.2
baz=256
F14K Arctic Creek 80.16 23 P P 00 10 04.5 +1.9
baz=249
ANM Nome 80.23 24 P P 00 10 04.5 +1.5
baz=250
CHNA Chernabura Isl 80.34 34 P P 00 10 05.4 +1.6
baz=257
L14K Kuka Creek 80.40 28 P 00 10 04.6 +0.7
L14K Kuka Creek 80.40 28 P P 00 10 05.6 +1.7
baz=254,SNR=8.2
J14K Nanvaranak Lak 80.42 26 P 00 10 04.0 0.0
J14K IAmb IAmb 00 10 34.5
comp=Z,21nm,1.4s
J14K Nanvaranak Lak 80.42 26 P P 00 10 05.6 +1.6
baz=252
N14K Kuskokwak Cree 80.48 29 P P 00 10 05.8 +1.4
baz=255
O14K Tigyukauivet M 80.51 30 P P 00 10 04.9 +0.3
O14K IAmb IAmb 00 10 35.6
comp=Z,79nm,2.0s
O14K Tigyukauivet M 80.51 30 P P 00 10 06.0 +1.4
baz=255,SNR=5.3
M14K Bethel 80.57 28 P P 00 10 05.4 +0.5
M14K Bethel 80.57 28 P P 00 10 06.4 +1.5
baz=254
S14K Fog Glacier 80.69 33 P P 00 10 07.2 +1.5
baz=257
MAW Mawson 80.74 200 P P 00 10 05.8 +0.1
comp=Z,2.6nm,1.0s,baz=63,slow=2.3,SNR=1.8
comp=Z,2.6nm,1.0s
F15K North Star Dit 80.90 23 P P 00 10 08.2 +1.6
baz=251
L15K Ungalak Mounta 81.04 27 P P 00 10 08.9 +1.5
baz=254,SNR=5.2
M15K Kasigluk River 81.16 28 P P 00 10 09.6 +1.6
baz=255,SNR=7.6
K15K Wolf Creek Mou 81.19 27 P 00 10 09.6 +1.4
K15K Wolf Creek Mou 81.19 27 P P 00 10 10.1 +1.9
baz=254,SNR=7.3
O15K Ungalikthiuk R 81.21 30 P 00 10 08.2 -0.2
O15K Ungalikthiuk R 81.21 30 P P 00 10 09.8 +1.5
baz=256
CHGN Chignik 81.31 33 P P 00 10 09.8 +0.9
N15K Kwethluk River 81.32 29 P 00 10 09.7 +0.7
N15K Kwethluk River 81.32 29 P P 00 10 10.3 +1.4
baz=256,SNR=6.7
RAYN Ar Rayn 81.34 294 P P 00 10 09.0 -0.8
C16K Lisburne Hills 81.50 20 P 00 10 10.5 +0.8
C16K Lisburne Hills 81.50 20 P P 00 10 11.0 +1.3
baz=250,SNR=8.8
H16K Elim 81.54 24 P P 00 10 11.3 +1.4
baz=253
G16K Koyuk River 81.71 24 P P 00 10 12.0 +1.2
G16K Koyuk River 81.71 24 P P 00 10 12.7 +1.8
baz=253,SNR=6.3
J16K Anvik River 81.86 26 P 00 10 12.1 +0.4
J16K Anvik River 81.86 26 P P 00 10 13.9 +2.2
baz=255,SNR=8.6
I17K Unalakleet 81.98 25 P P 00 10 13.4 +1.2
I17K IAmb IAmb 00 10 43.4
comp=Z,53nm,1.4s
I17K Unalakleet 81.98 25 P P 00 10 14.0 +1.8
baz=255
L16K Owhat River 81.98 28 P P 00 10 13.4 +1.1
L16K IAmb IAmb 00 10 42.8
comp=Z,72nm,1.8s
L16K Owhat River 81.98 28 P P 00 10 13.9 +1.5
baz=256
N16K Nishlik Lake 82.03 29 P P 00 10 14.6 +2.0
baz=257,SNR=6.1
M16K Timber Creek 82.06 28 P 00 10 13.4 +0.6
M16K Timber Creek 82.06 28 P P 00 10 14.4 +1.6
baz=257,SNR=6.0
P16K Nushagak River 82.10 30 P P 00 10 13.5 +0.5
P16K IAmb IAmb 00 10 45.4
comp=Z,33nm,0.8s
P16K Nushagak River 82.10 30 P P 00 10 14.7 +1.7
baz=258
D17K Noatak River 82.12 21 P P 00 10 15.1 +2.1
baz=252
O16K Kokwok River B 82.17 30 P 00 10 14.2 +0.8
O16K Kokwok River B 82.17 30 P P 00 10 15.0 +1.6
baz=258,SNR=7.8
C17K DeLong Mountai 82.33 21 P P 00 10 16.0 +1.9
baz=252,SNR=5.2
E17K Hotham Inlet 82.40 22 P P 00 10 16.6 +2.1
baz=253
G17K Kiwalik Mounta 82.42 24 P P 00 10 16.4 +1.8
baz=255,SNR=12
F17K Baldwin Pennin 82.44 23 P 00 10 15.8 +1.2
F17K Baldwin Pennin 82.44 23 P P 00 10 16.6 +1.9
baz=254,SNR=6.1
J17K VABM Dome 82.56 26 P 00 10 17.0 +1.7
J17K VABM Dome 82.56 26 P P 00 10 17.4 +2.1
baz=256,SNR=17
H17K Granite Mounta 82.58 24 P 00 10 16.7 +1.2
H17K Granite Mounta 82.58 24 P P 00 10 17.4 +1.9
baz=256,SNR=15
L17K Donlin 82.62 27 P P 00 10 17.6 +1.9
baz=257,SNR=12
R17L Mt. Peulik Vol 82.67 32 P P 00 10 17.5 +1.4
baz=260
PLK4 Peulik 4 82.67 32 P P 00 10 16.7 +0.5
O17K Koliganek Bris 82.70 30 P P 00 10 18.0 +1.9
baz=259
K17K Iditarod 82.75 27 P 00 10 17.4 +1.1
K17K Iditarod 82.75 27 P P 00 10 18.3 +2.0
baz=257,SNR=21
N17K Nushagak Hills 82.81 29 P 00 10 17.7 +1.0
N17K Nushagak Hills 82.81 29 P P 00 10 18.7 +2.0
baz=258,SNR=6.2
M17K Holitna River 82.86 28 P 00 10 17.9 +0.9
M17K Holitna River 82.86 28 P P 00 10 19.3 +2.3
baz=258,SNR=8.2
E18K Tukpahlearik C 82.95 22 P 00 10 18.8 +1.4
E18K Tukpahlearik C 82.95 22 P P 00 10 19.2 +1.9
baz=254,SNR=16
Q17K Contact Creek 83.03 31 P P 00 10 19.2 +1.2
baz=260
B18K Kokolik River 83.07 20 P P 00 10 20.2 +2.3
baz=253,SNR=8.5
C18K Utukok River 83.07 21 P 00 10 18.5 +0.5
C18K Utukok River 83.07 21 P P 00 10 19.8 +1.8
baz=254,SNR=6.4
F18K Selawik 83.10 23 P P 00 10 19.5 +1.5
baz=256
H18K Honhosa River 83.27 24 P P 00 10 19.7 +0.6
H18K Honhosa River 83.27 24 P P 00 10 20.5 +1.5
baz=257,SNR=10
ACHA Angle Creek He 83.32 31 P P 00 10 19.5 0.0
G18K Tagagawik 83.32 24 P 00 10 20.1 +0.8
G18K Tagagawik 83.32 24 P P 00 10 20.5 +1.2
baz=256,SNR=10
L18K Granite Mounta 83.38 27 P P 00 10 21.2 +1.6
L18K Granite Mounta 83.38 27 P P 00 10 21.4 +1.8
baz=259,SNR=17
N18K Kilae Creek 83.46 29 P 00 10 21.2 +1.1
N18K IAmb IAmb 00 10 50.8
comp=Z,48nm,1.6s
N18K Kilae Creek 83.46 29 P P 00 10 22.0 +1.9
baz=260,SNR=5.7
A19K Wainwright 83.55 19 P P 00 10 22.1 +1.8
baz=254
Q18K Katmai Hardscr 83.55 31 P P 00 10 21.9 +1.1
baz=261
P18K Big Mountain, 83.56 30 P P 00 10 20.5 -0.2
P18K IAmb IAmb 00 10 49.8
comp=Z,11nm,1.1s
P18K Big Mountain, 83.56 30 P P 00 10 22.0 +1.3
baz=260
J18K Innoko River 83.61 26 P 00 10 20.7 -0.1
J18K Innoko River 83.61 26 P P 00 10 22.3 +1.4
baz=259,SNR=7.7
M18K Stony River 83.64 28 P P 00 10 22.4 +1.4
baz=260,SNR=14
O18K Koktuh Hills 83.65 30 P 00 10 21.1 -0.1
O18K Koktuh Hills 83.65 30 P P 00 10 22.5 +1.4
baz=260
C19K Lookout Ridge 83.76 20 P P 00 10 22.6 +1.1
C19K Lookout Ridge 83.76 20 P P 00 10 23.6 +2.1
baz=255,SNR=19
GCSA Galena City Sc 83.80 25 P P 00 10 23.1 +1.5
baz=258
F19K Shaleruckik Mo 83.88 23 P 00 10 22.5 +0.4
F19K Shaleruckik Mo 83.88 23 P P 00 10 23.9 +1.9
baz=257
G19K Purcell Mounta 84.00 23 P P 00 10 23.3 +0.5
G19K Purcell Mounta 84.00 23 P P 00 10 24.4 +1.6
baz=258,SNR=15
D19K Kuna River 84.13 21 P 00 10 24.2 +0.8
D19K IAmb IAmb 00 10 53.0
comp=Z,39nm,1.4s
D19K Kuna River 84.13 21 P P 00 10 24.9 +1.5
baz=257,SNR=9.3
H19K Roundabout Mou 84.13 24 P 00 10 24.5 +1.2
H19K Roundabout Mou 84.13 24 P P 00 10 25.2 +1.8
baz=259
N19K Bonanza Creek 84.17 29 P P 00 10 24.9 +1.0
N19K Bonanza Creek 84.17 29 P P 00 10 25.7 +1.9
baz=261,SNR=21
J19K Poorman 84.19 26 P 00 10 24.5 +0.8
J19K Poorman 84.19 26 P P 00 10 25.8 +2.0
baz=260,SNR=10
L19K White Mountain 84.21 28 P 00 10 24.7 +0.7
L19K White Mountain 84.21 28 P P 00 10 25.7 +1.7
baz=260,SNR=14
E19K Redstone River 84.22 22 P P 00 10 24.3 +0.4
E19K Redstone River 84.22 22 P P 00 10 25.7 +1.8
baz=258,SNR=8.3
OHAK Old Harbor 84.25 33 P P 00 10 24.4 +0.3
OHAK IAmb IAmb 00 10 55.6
comp=Z,25nm,1.0s
OHAK Old Harbor 84.25 33 P P 00 10 25.4 +1.3
baz=262
Q19K Cape Douglas, 84.30 31 P P 00 10 25.1 +0.6
Q19K Cape Douglas, 84.30 31 P P 00 10 25.9 +1.4
baz=262
GEVA Gevas 84.33 308 P P 00 10 24.9 -0.3
M19K Big River Lodg 84.38 28 P 00 10 25.5 +0.7
M19K Big River Lodg 84.38 28 P P 00 10 26.5 +1.7
baz=261,SNR=8.0
P19K Oil Pt 84.61 30 P P 00 10 27.5 +1.5
baz=262
KDAK Kodiak Island 84.70 32 P 00 10 27.0 +0.6
KDAK Kodiak Island 84.70 32 P P 00 10 27.8 +1.3
baz=263
ILSW Iliamna Southw 84.70 30 P P 00 10 26.2 -0.3
L20K Farewell, AK 84.71 27 P P 00 10 28.0 +1.5
baz=261
D20K Etivluk River 84.71 21 P 00 10 27.2 +0.9
D20K Etivluk River 84.71 21 P P 00 10 28.3 +2.0
baz=258
F20K Avaraart Lake 84.71 23 P 00 10 27.8 +1.5
F20K Avaraart Lake 84.71 23 P P 00 10 28.0 +1.7
baz=259,SNR=5.6
K20K Telida 84.76 26 P 00 10 28.0 +1.3
K20K IAmb IAmb 00 10 58.1
comp=Z,50nm,1.9s
K20K Telida 84.76 26 P P 00 10 28.7 +2.1
baz=261
H20K Arrleneeega Mo 84.77 24 P P 00 10 28.4 +1.7
baz=260
E20K Nigu River 84.78 21 P P 00 10 28.4 +1.6
baz=259,SNR=13
B20K Meade River 84.80 20 P 00 10 28.4 +1.7
B20K Meade River 84.80 20 P P 00 10 28.6 +1.9
baz=258
KBZ Khabaz 84.81 314 P P 00 10 27.4 +0.1
comp=Z,2.6nm,0.9s,baz=182,slow=4.7,SNR=4.1
comp=Z,2.6nm,0.9s
J20K Nowinta River 84.86 26 P P 00 10 27.8 +0.7
J20K Nowinta River 84.86 26 P P 00 10 28.8 +1.7
baz=261
RED Redoubt Volcan 84.94 29 P P 00 10 27.2 -0.6
M20K Styx River 84.97 28 P P 00 10 28.8 +0.9
M20K Styx River 84.97 28 P P 00 10 29.5 +1.7
baz=262
O20K Slope Mountain 84.97 30 P P 00 10 29.5 +1.6
baz=262
KIV Kislovodsk 84.98 314 P P 00 10 27.5 -0.8
GURO Guroymak-BITLI 85.14 308 P P 00 10 29.2 -0.2
IMAR Indian Mountai 85.31 24 P P 00 10 30.1 +0.7
SPU Mount Spurr 85.39 29 P P 00 10 30.4 +0.4
HOM Homer 85.41 30 P P 00 10 30.4 +0.5
G21K Allakaket 85.49 23 P P 00 10 31.0 +0.8
G21K Allakaket 85.49 23 P P 00 10 31.7 +1.4
baz=261
B21K Ikpikpuk River 85.59 20 P 00 10 32.1 +1.5
B21K Ikpikpuk River 85.59 20 P P 00 10 32.3 +1.6
baz=260
CNPM China Poot 85.60 30 P P 00 10 31.7 +0.7
F21K Alatna River 85.61 23 P P 00 10 32.3 +1.4
baz=261
E21K Killik River 85.62 21 P P 00 10 32.0 +1.1
baz=261
H21K Melozitna Rive 85.65 24 P P 00 10 31.6 +0.6
H21K Melozitna Rive 85.65 24 P P 00 10 32.2 +1.2
baz=262
CAST Castle Rocks 85.66 27 P P 00 10 30.7 -0.5
SKT Skwentna 85.73 28 P P 00 10 32.9 +1.3
baz=263
BRLK Bradley Lake 85.80 30 P P 00 10 31.8 -0.2
I21K Tanana 85.92 25 P P 00 10 33.4 +1.1
baz=263
I21K Tanana 85.92 25 P P 00 10 34.5 +2.1
baz=263
SUA Susitna One 86.05 29 P P 00 10 33.6 +0.4
SUA Susitna One 86.05 29 P P 00 10 34.3 +1.0
baz=264
F22K John River 86.15 22 P P 00 10 34.9 +1.3
baz=262
D22K Ayikyak River 86.15 21 P P 00 10 35.1 +1.6
baz=262
SLKM Skilak Lake 86.21 30 P 00 10 33.7 -0.3
BPAW Bear Paw Mtn. 86.22 26 P P 00 10 35.2 +1.3
baz=264
H22K Ishtalitna Cre 86.26 24 P P 00 10 35.5 +1.4
baz=263
E22K Anaktuvuk Pass 86.37 22 P P 00 10 35.3 +0.7
E22K Anaktuvuk Pass 86.37 22 P P 00 10 35.7 +1.1
baz=263
M22K Willow 86.38 28 P P 00 10 36.0 +1.3
KOPT Kop Dagi 86.40 310 P P 00 10 36.9 +1.2
MLY Manley 86.43 25 P P 00 10 36.0 +1.0
baz=264
TRF Thorofare Moun 86.46 27 P P 00 10 36.1 +0.8
RC01 Rabbit Creek A 86.50 29 P P 00 10 36.4 +1.1
baz=265
SEW Seward 86.55 30 P P 00 10 37.1 +1.5
baz=265
COLD Coldfoot 86.88 23 P 00 10 37.8 +0.7
COLD Coldfoot 86.88 23 P P 00 10 38.2 +1.2
baz=264
D23K Nanushuk River 86.88 21 P P 00 10 38.2 +1.2
baz=264
BWN Browne 86.89 26 P P 00 10 38.5 +1.4
G23K Bananza Creek 86.89 23 P 00 10 38.1 +0.8
G23K Bananza Creek 86.89 23 P P 00 10 38.6 +1.3
baz=264
C23K Itkillik River 87.00 20 P 00 10 38.4 +0.9
C23K Itkillik River 87.00 20 P P 00 10 39.1 +1.5
baz=264
H23K Yukon River 87.00 24 P P 00 10 38.2 +0.5
H23K Yukon River 87.00 24 P P 00 10 38.9 +1.1
baz=265
I23K Minto, Yukon-K 87.02 25 P P 00 10 38.3 +0.5
I23K Minto, Yukon-K 87.02 25 P P 00 10 39.0 +1.2
baz=265
MCK McKinley 87.09 26 P P 00 10 39.2 +1.0
baz=266
RND Reindeer 87.10 27 P P 00 10 38.3 0.0
PWL Port Wells 87.16 29 P P 00 10 38.9 +0.3
PWL Port Wells 87.16 29 P P 00 10 39.7 +1.1
baz=266
E23K Chandalar 87.18 22 P 00 10 39.4 +0.8
E23K Chandalar 87.18 22 P P 00 10 39.8 +1.2
baz=265
WAT1 Susitna Watana 87.19 27 P P 00 10 40.1 +1.4
baz=266
TOLK Toolik Lake Re 87.25 21 P 00 10 38.9 0.0
TOLK Toolik Lake Re 87.25 21 P P 00 10 40.1 +1.2
baz=265
WRH Wood River Hil 87.51 26 P P 00 10 40.6 +0.5
WRH IAmb IAmb 00 11 09.0
comp=Z,13nm,1.5s
M23K Glacier View 87.51 28 P P 00 10 41.7 +1.4
baz=267
WAT6 Susitna Watana 87.55 28 P P 00 10 41.7 +1.1
baz=267
D24K Happy Valley 87.56 21 P P 00 10 41.6 +1.3
baz=265
P23K Montague Islan 87.57 30 P P 00 10 42.0 +1.4
baz=267
E24K Your Creek 87.60 22 P P 00 10 42.1 +1.5
baz=266
CCB Clear Creek Bu 87.65 25 P 00 10 40.5 -0.3
C24K Franklin Bluff 87.65 20 P P 00 10 41.6 +0.9
C24K IAmb IAmb 00 11 14.2
comp=Z,9.7nm,1.2s
C24K Franklin Bluff 87.65 20 P P 00 10 42.2 +1.5
baz=266
H24K Noodor Dome 87.69 24 P P 00 10 42.9 +1.8
baz=266
SCM Sheep Creek Mo 87.70 28 P P 00 10 42.3 +1.0
SCM Sheep Creek Mo 87.70 28 P P 00 10 43.0 +1.7
baz=267
DHY Denali Highway 87.75 27 P P 00 10 43.0 +1.4
baz=267
GLI Glacier Island 87.77 29 P P 00 10 43.4 +1.9
baz=267
F24K Squaw Lake 87.79 23 P 00 10 42.4 +0.9
F24K Squaw Lake 87.79 23 P P 00 10 43.2 +1.7
baz=266
G24K Hadweenzic Riv 87.90 23 P P 00 10 43.2 +1.1
baz=267
ILAR Eielson Array 88.05 25 P P 00 10 42.3 -0.4
ILAR Eielson Array 88.05 25 P P 00 10 44.6 +1.9
comp=Z,0.4nm,0.5s,baz=269,slow=3.6,SNR=5.1
comp=Z,0.4nm,0.5s
M24K Tolsona, Glenn 88.26 28 P P 00 10 45.2 +1.3
baz=268
KLU Klutina 88.36 29 P P 00 10 45.1 +0.8
baz=268
EYAK Cordova Ski Ar 88.42 30 P P 00 10 46.3 +1.8
baz=268
D25K Kavik River 88.44 21 P P 00 10 45.8 +1.2
baz=268
G25K Bearman Lake 88.45 23 P P 00 10 45.9 +1.3
baz=268
H25L Birch Creek 88.55 24 P P 00 10 47.0 +2.0
baz=268
PAX Paxson 88.61 27 P P 00 10 46.9 +1.3
baz=269
J25K Salcha River, 88.69 26 P P 00 10 45.8 -0.1
baz=269
E25K Arctic Village 88.70 22 P P 00 10 46.4 +0.6
E25K Arctic Village 88.70 22 P P 00 10 46.8 +1.0
baz=268
HARP HAARP 88.74 28 P P 00 10 47.3 +1.2
baz=269
RIDG Independent Ri 88.91 26 P P 00 10 47.3 +0.4
baz=269
RAGM Ragged Mountai 88.95 30 P P 00 10 47.3 +0.2
RAGM IAmb IAmb 00 12 03.2
comp=Z,10nm,1.0s
BMRM Bremner River 88.99 29 P P 00 10 47.8 +0.5
BMRM Bremner River 88.99 29 P P 00 10 48.3 +1.0
baz=270
N25K Chitina, Valde 89.00 29 P P 00 10 48.4 +1.0
baz=270
BMAR Burnt Mountain 89.06 23 P P 00 10 48.1 +0.6
KAIM Kayak Island 89.07 30 P P 00 10 49.2 +1.5
baz=270
F26K Sheenjek River 89.23 22 P P 00 10 49.7 +1.4
baz=270
SCRK Sand Creek 89.29 26 P P 00 10 50.3 +1.5
baz=270
G26K Porcupine Rive 89.37 23 P P 00 10 50.7 +1.8
baz=270
C27K Jago River 89.39 21 P P 00 10 50.0 +1.0
baz=270
SYO Syowa Base 89.42 201⇑ eP P 00 10 50.7 +1.7
J26L Joseph Creek 89.47 26 P P 00 10 49.9 +0.4
baz=270
I26K Coal Creek Min 89.64 25 P P 00 10 51.1 +0.9
baz=271
M26K Nabesna, AK 89.75 28 P P 00 10 52.8 +2.0
baz=271
MCARA McCarthy VSAT 89.75 29 P P 00 10 52.8 +1.9
baz=271
K27K Chicken 90.13 26 P P 00 10 54.4 +1.9
baz=272
E27K Coleen River 90.19 22 P P 00 10 54.3 +1.5
baz=272
G27K Doyon Strip 90.21 23 P P 00 10 54.3 +1.4
baz=272
L27K Beaver Creek, 90.27 27 P P 00 10 53.6 +0.4
L27K Beaver Creek, 90.27 27 P P 00 10 54.4 +1.1
baz=272
M27K Edge Creek, AK 90.27 28 P P 00 10 54.3 +0.9
baz=272
I27K Kandik River 90.27 25 P P 00 10 54.7 +1.5
baz=272
H27K Steamboat Moun 90.29 24 P P 00 10 54.6 +1.3
baz=272
MESA MESA 90.31 30 P P 00 10 52.2 -1.5
MESA MESA 90.31 30 P P 00 10 55.0 +1.3
baz=272
D27M Malcolm River 90.37 21 P P 00 10 54.9 +1.2
baz=273
QSPA South Pole Qui 90.56 180 P P 00 10 55.7 +1.1

comp=Z,1.2nm,0.9s,baz=350,slow=5.4,SNR=4.1
comp=Z,1.2nm,0.9s

BVCY	**Beaver Creek**	**90.74**	**28**	P		**P**	**00 10 56.4 +0.9**
	baz=273						
E28M	**Babbage River**	**90.92**	**21**	P		**P**	**00 10 56.3 +0.2**
	baz=274						
YUK3	**Moose Creek**	**90.96**	**28**	P		**P**	**00 10 58.0 +1.3**
	baz=273						
I28M	**Miner Creek**	**90.98**	**25**			**P**	**00 10 57.6 +1.1**
I28M	**Miner Creek**	**90.98**	**25**	P		**P**	**00 10 57.7 +1.1**
	baz=274						
PINM	**Pinnacle**	**91.16**	**30**	P		**P**	**00 10 58.6 +1.1**
	baz=273						
DAWY	**Dawson**	**91.31**	**26**	P		**P**	**00 10 59.4 +1.3**
	baz=274						
E29M	**Blow River**	**91.54**	**22**	P		**P**	**00 11 00.3 +1.3**
	baz=276						
H29M	**Whitestone**	**91.56**	**24**	P		**P**	**00 11 00.6 +1.4**
	baz=275						
G29M	**Pine Creek**	**91.64**	**23**	P		**P**	**00 11 00.8 +1.3**
	baz=275						
I29M	**Ogilvie Camp,**	**91.67**	**25**	P		**P**	**00 10 59.5 -0.2**
I29M	**Ogilvie Camp,**	**91.67**	**25**	P		**P**	**00 11 00.5 +0.8**
	baz=275						
BRTR	**Keskin Array B**	**91.68**	**310**	P		**P**	**00 11 00.3 -0.2**
	comp=Z,0.5nm,0.7s,baz=112,slow=5.5,SNR=4.1						
	comp=Z,0.5nm,0.7s						
M29M	**Somme Creek**	**91.85**	**28**	P		**P**	**00 11 02.3 +1.6**
M29M	**Somme Creek**	**91.85**	**28**	P		**P**	**00 11 02.3 +1.6**
	baz=275						
YUK4	**Talbot Arm**	**91.86**	**29**	P		**P**	**00 11 02.3 +1.4**
	baz=275						
L29M	**L29M**	**91.95**	**27**			**P**	**00 11 01.7 +0.6**
L29M	**L29M**	**91.95**	**27**	P		**P**	**00 11 02.5 +1.4**
	baz=275						
YUK6	**Outpost Mounta**	**92.03**	**29**	P		**P**	**00 11 02.6 +0.9**
	baz=275						
K29M	**Barlow Dome**	**92.15**	**26**	P		**P**	**00 11 03.5 +1.4**
	baz=276						
G30M	**tAoh Zraii Nji**	**92.34**	**23**	P		**P**	**00 11 03.9 +1.1**
	baz=277						
HYT	**Haines Junctio**	**92.46**	**29**	P		**P**	**00 11 05.2 +1.6**
	baz=276						
P29M	**Windy Craggy**	**92.46**	**30**	P		**P**	**00 11 05.4 +1.9**
	baz=275						
I30M	**Mount Dempster**	**92.49**	**25**	P		**P**	**00 11 04.4 +0.8**
	baz=277						
J30M	**Hart River**	**92.59**	**25**	P		**P**	**00 11 05.8 +1.7**
	baz=277						
N30M	**Aishikik Lake**	**92.59**	**29**	P		**P**	**00 11 05.8 +1.7**
	baz=276						
M30M	**Minto, Yukon**	**92.61**	**27**	P		**P**	**00 11 04.2 +0.1**
M30M	**Minto, Yukon**	**92.61**	**27**	P		**P**	**00 11 05.9 +1.7**
	baz=276						
P30M	**Million Dollar**	**92.80**	**30**	P		**P**	**00 11 07.0 +2.0**
	baz=276						
O30N	**Mendenhall**	**93.16**	**29**	P		**P**	**00 11 08.2 +1.5**
	baz=277						
INK	**Inuvik**	**93.16**	**22**	P		**P**	**00 11 08.0 +1.5**
	baz=280						
ARCES	**ARCESS Array B**	**93.20**	**340**	P		**P**	**00 11 06.8 +0.2**
	comp=Z,1.0nm,0.8s,baz=76,slow=5.8,SNR=4.1						
	comp=Z,1.0nm,0.8s						
S31K	**Pelican**	**93.42**	**32**	P		**P**	**00 11 09.5 +1.6**
	baz=277						
WHY	**Whitehorse**	**93.76**	**29**			**P**	**00 11 10.4 +0.8**
WHY	**Whitehorse**	**93.76**	**29**	P		**P**	**00 11 11.2 +1.7**
	baz=278						
SIT	**Sitka**	**94.01**	**33**	P		**P**	**00 11 12.7 +2.1**
	baz=277						
FARO	**Faro, Yukon**	**94.25**	**28**	P		**P**	**00 11 13.5 +1.8**
	baz=279						
P32M	**Atlin**	**94.49**	**30**	P		**P**	**00 11 14.7 +1.8**
	baz=279						
N32M	**Quiet Lake**	**94.55**	**29**	P		**P**	**00 11 14.8 +1.7**
	baz=280						
P33M	**Teslin, Yukon**	**94.84**	**29**	P		**P**	**00 11 16.0 +1.5**
	baz=280						
MMPY	**Sheldon Lake,**	**95.13**	**27**	P		**P**	**00 11 16.4 +0.6**
MMPY	**Sheldon Lake,**	**95.13**	**27**	P		**P**	**00 11 17.3 +1.6**
	baz=281						
WRAK	**Wrangell Islan**	**95.73**	**33**	P		**P**	**00 11 20.1 +1.6**
	baz=280						
R33M	**Jennings River**	**95.91**	**30**	P		**P**	**00 11 21.1 +1.7**
	baz=281						
DLBC	**Dease Lake**	**96.58**	**31**	P		**P**	**00 11 24.1 +1.7**
	baz=282						
TORD	**Torodi Ar. Bea**	**123.45**	**286**	PKP		**PKiKP**	**00 16 52.2 +1.2**
	comp=Z,0.4nm,0.3s,baz=75,slow=2.7,SNR=2.6						
TXAR	**Lajitas Array**	**123.77**	**54**	PKP		**PKiKP**	**00 16 51.6 +0.2**
	comp=Z,0.3nm,0.7s,baz=228,slow=1.5,SNR=3.8						
MT09	**Talagante**	**143.25**	**156**			**PKPdf**	**00 17 27.8 +0.3**
LCO	**Las Campanas**	**147.43**	**152**			**PKPdf**	**00 17 33.7 -1.3**
LCR2	**La Lucha 2**	**148.08**	**70**			**PKiKP**	**00 17 41.8 +0.5**
CPUP	**Villa Florida**	**154.21**	**172**	PKPbc		**PKiKP**	**00 17 54.2 +0.8**
	comp=Z,0.2nm,0.4s,baz=282,slow=8.2,SNR=2.8						

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*MOS **08** 23:58:17.8±1.1,0.˙64N×126.˙26E,h11km,mb5.3/41,Error ellipse: s-maj=11.4km s-min=5.8km az=104.1*
*IDC **08** 23:58:18.6±0.5,0.˙65N×126.˙19E,h0km,mb4.8/28, mbtmp4.8/29,ML4.3/1,MS3.9/6,Error ellipse: s-maj=21.2km s-min=11.8km az=80.0*
*GCMT **08** 23:58:22.2±0.3,0.˙82N±0.˙02×126.˙21E±0.˙02,h31km±1km, MW5.0/85,Moment Tensor Solution. s27,c29; s85,c116; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.22±.27; Mθθ0.89±.15; Mϕϕ-4.11±.16; Mrθ-0.48±.20; Mθϕ0.11±.09; Mϕr-0.65±.18; Best double couple: Mo3.77100×10¹⁶ NP1:ϕs347.00000°,δ41.00000°,λ73.00000°. NP2: ϕs189.00000°,δ51.00000°,λ104.00000°. Principal axes: T 3.3730, Plg78.0000°, Azm155.0000°; N 0.7930, Plg11.0000°, Azm0.0000°; P -4.1690, Plg5.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **08** 23:58:22.2,0.˙67N×126.˙41E,h36km*
*NEIC **08** 23:58:22.2,0.˙37N×126.˙11E,h36km,Moment Tensor Solution. Duration: 1ꜝ4 Moment tensor: Scale 10¹⁶Nm; Mrr3.89; Mθθ0.17; Mϕϕ-4.06; Mrθ0.52; Mθϕ0.71; Mϕr-0.89; Fault plane solution: Mo4.17000×10¹⁶ NP1: ϕs356.33000°,δ38.53000°,λ98.70000°. NP2: ϕs165.26000°,δ51.99000°,λ83.13000°. Principal axes: T 4.0373, Plg81.0000°, Azm41.0000°; N 0.2542, Plg5.0000°, Azm170.0000°; P -4.2915, Plg7.0000°, Azm260.0000°;*
*NEIC **08** 23:58:23.2±1.5,0.˙67N±0.˙07×126.˙39E±0.˙07,h28km±2km, mb5.2/268,Mww5.0/10 Error ellipse: s-maj=10.4km s-min=9.5km az=79.0*
*DJA **08** 23:58:23.4±0.3,1.˙1N±3.˙3×12.˙6E±.˙,h10km,M4.8/13,mB5.0/1, mb4.8/1,MLv4.8/13,Mw(mB)4.3/1,MwMwp4.7/1,Mwp5.0/1*
*BJI **08** 23:58:30.2,0.˙42N×126.˙25E,h136km,mB5.0/3,mb4.8/21*
ISC 08 23:58:24.7±0.3,0.˙66N±0.˙04×126.˙31E±0.˙06,h47km,n408, σ1ꜝ**05**/409,**mb5.1**/192,**MS4.0**/10,**12C-2D,Northern Moluccа Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**2.33**	**268**	P	**Pn**	**23 59 02.0**	**+1.4**
SANI	**Sanana**	**2.71**	**187**	P	**Pn**	**23 59 04.4**	**-1.4**
SGSI	**Sangihe**	**3.11**	**345**	P	**Pn**	**23 59 15.1**	**+3.8**
LUWI	**Luwuk**	**3.92**	**245**	Pn	**Pn**	**23 59 22.9**	**+0.4**
LUWI	**Luwuk**	**3.92**	**245**	P	**Pn**	**23 59 25.5**	**+3.0**
NLAI	**Namlea**	**3.95**	**169**	P	**Pn**	**23 59 21.0**	**-1.8**
MRSI	**Marisa**	**4.38**	**268**	P	**Pn**	**23 59 32.3**	**+3.6**
AAI	**Ambon**	**4.71**	**156**	P	**Pn**	**23 59 34.8**	**+1.6**
APSI	**Ampana**	**4.92**	**252**	P	**Pn**	**23 59 38.1**	**+2.0**
SWI	**Sorong**	**5.17**	**107**	P	**Pn**	**23 59 39.7**	**+0.1**
TOLI2	**Tolitoli**	**5.55**	**275**	Pn	**Pn**	**23 59 45.7**	**+0.9**
DAV	**Davao City (W)**	**6.41**	**353**	Pn	**Pn**	**23 59 55.3**	**-1.4**
FAKI	**Fak Fak**	**6.92**	**121**	Pn	**Pn**	**00 00 00.6**	**-3.0**
KAPI	**Kappang**	**8.64**	**229**	Pn	**Pn**	**00 00 26.9**	**-0.4**
KAPI	**Kappang**	**8.64**	**229**	Pn	**Pn**	**00 00 27.5**	**+0.2**
	6.2nm,0.3s,baz=16,slow=12,SNR=11						
KAPI	**Kappang**	**8.64**	**229**	*i* P	**Pn**	**00 00 25.6**	**-1.7**
KKM	**Kota Kinabalu**	**11.41**	**298**	Pn	**Pn**	**00 01 03.5**	**-1.8**
SBUM	**Sibu**	**14.20**	**277**	P	**P**	**00 01 49.3**	**-0.2**
MTN	**Manton Dam**	**14.24**	**161**	Pn	**Pn**	**00 01 43.0**	**-0.8**
JAY	**Jayapura**	**14.73**	**102**	LR		00 08 42.4	
	comp=Z,1μm,18.8s,baz=330,slow=42						
JAGI	**Jajag, Banyuwa**	**15.14**	**233**	Pn	**Pn**	**00 01 55.5**	**-0.1**
KSM	**Kuching**	**16.02**	**273**	P	**P**	**00 02 09.1**	**-0.7**
KNRA	**Kununurra**	**16.41**	**172**	Pn	**Pn**	**00 02 09.7**	**-2.2**

UGM	**Wanagama**	**17.90**	**241**	P		**P**	**00 02 31.2 +0.6**
UGM				IAmb	IAmb		00 02 35.8
	comp=Z,239nm,1.6s						
FITZ	**Fitzroy Crossi**	**18.65**	**182**	P		**P**	**00 02 37.6 -1.1**
FITZ	**Fitzroy Crossi**	**18.65**	**182**	P		**P**	**00 02 38.4 -0.4**
	comp=Z,0.7nm,0.3s,baz=1.3,slow=9.1,SNR=8.1						
	comp=Z,6.7nm,0.9s						
WB0	**Warramunga Arr**	**21.79**	**159**	P		**P**	**00 03 12.0 -0.9**
WB0				IAmb	IAmb		00 03 28.9
	comp=Z,75nm,1.1s						
WRAB	**Tennant Creek**	**21.93**	**159**	P		**P**	**00 03 13.4 -0.9**
WRAB	**Tennant Creek**	**21.93**	**159**	*i* P		**P**	**00 03 11.9 -2.4**
WRAB				pmax	pmax		
	comp=Z,32nm,0.6s						
WRA	**Warramunga Arr**	**21.93**	**159**	P		**P**	**00 03 13.0 -1.4**
WRA	**Warramunga Arr**	**21.93**	**159**	P		**P**	**00 03 13.5 -0.9**
	comp=Z,21nm,0.5s,baz=338,slow=11,SNR=5.3						
WRA				LR	LR		00 12 45.2
	comp=Z,419nm,21.9s,baz=330,slow=39						
	comp=Z,21nm,0.5s						
WB2	**Warramunga Arr**	**21.94**	**159**	P		**P**	**00 03 13.0 -1.4**
WB2				IAmb	IAmb		00 03 33.6
	comp=Z,61nm,0.9s						
WR8	**Warramunga Arr**	**22.00**	**159**	P		**P**	**00 03 13.9 -1.2**
WR0	**Warramunga Arr**	**22.02**	**159**	P		**P**	**00 03 14.2 -1.1**
COEN	**Coen**	**22.13**	**132**	P		**P**	**00 03 15.4 -1.1**
COEN	**Coen**	**22.13**	**132**	P		**P**	**00 03 20.7 +4.2**
	comp=Z,47nm,1.1s						
TWG	**Pinlang**	**22.61**	**347**	P		**P**	**00 03 20.2 -1.4**
YULB	**Yu-li**	**23.12**	**348**	P		**P**	**00 03 24.4 -2.5**
TPUB	**Ta-pu**	**23.18**	**347**	P		**P**	**00 03 25.9 -1.6**
TPUB				IAmb	IAmb		00 03 36.6
	comp=Z,57nm,0.8s						
SSLB	**Suanglung**	**23.57**	**348**			**P**	**00 03 30.6 -0.7**
NACB	**Ninganchiao**	**23.82**	**349**	P		**P**	**00 03 33.5 0.0**
YOJ	**Yonaguni jima**	**23.88**	**353**	P		**P**	**00 03 32.4 -1.6**
YOJ				IAmb	IAmb		00 03 36.2
	comp=Z,61nm,0.8s						
QIZ	**Qiongzhong**	**24.38**	**319**	P		**P**	**00 03 39.8 +1.1**
QIZ				pP	sP		00 04 05.0 +9.0
QIZ				S	**S**		**00 07 52.4 -2.9**
QIZ				sS	sS		00 08 37.7 +23
QIZ				LR	LR		
	comp=Z,370nm,17.9s						
QIZ				LR	LR		
	comp=Z,210nm,19.2s						
QIZ				LR	LR		
	comp=Z,1μm,23.4s						
UBPT	**Khong Chiam**	**25.20**	**306**	P		**P**	**00 03 45.8 -0.3**
ASAR	**Alice Springs**	**25.28**	**164**	P		**P**	**00 03 47.0 +0.1**
	comp=Z,12nm,0.5s,baz=345,slow=10,SNR=4.9						
ASAR				PcP		**PcP**	**00 07 21.1 +1.8**
	comp=Z,1.0nm,0.5s,baz=346,slow=2.7,SNR=2.7						
	comp=Z,12nm,0.5s						
IPM	**Ipoh**	**25.54**	**279**	P		**P**	**00 03 49.2 -0.2**
WRKA	**Warakurna**	**25.61**	**176**	P		**P**	**00 03 51.3 +1.4**
	comp=Z,19nm,1.2s						
JOW	**Kunigami**	**26.09**	**4**	P		**P**	**00 03 54.0 -0.2**
JOW				IAmb	IAmb		00 04 00.2
	comp=Z,68nm,0.8s						
JOW	**Kunigami**	**26.09**	**4**	P		**P**	**00 03 55.2 +1.1**
	comp=Z,63nm,0.7s,baz=178,slow=8.0,SNR=9.5						
	comp=Z,63nm,0.7s						
RPSI	**Rantau Prapat**	**27.45**	**275**	P		**P**	**00 04 07.2 +0.6**
RPSI	**Rantau Prapat**	**27.45**	**275**	P		**P**	**00 04 06.1 -0.5**
RPSI				IAmb	IAmb		00 04 13.3
	comp=Z,42nm,1.3s						
PSI	**Prapat**	**27.46**	**275**	P		**P**	**00 04 07.2 +0.4**
	comp=Z,16nm,0.9s,baz=130,slow=5.1,SNR=6.6						
	comp=Z,16nm,0.9s						
SLVN	**Son La**	**30.01**	**315**	P		**P**	**00 04 28.7 -0.6**
FORT	**Forrest**	**31.31**	**177**	P		**P**	**00 04 40.7 +0.1**
CM31	**Chiang Mai Arr**	**32.17**	**305**	P		**P**	**00 04 48.8 +0.5**
CMAR	**Chiang Mai Arr**	**32.17**	**305**	P		**P**	**00 04 48.4 0.0**
CMAR	**Chiang Mai Arr**	**32.17**	**305**	P		**P**	**00 04 48.5 +0.2**
	comp=Z,3.7nm,0.9s,baz=127,slow=6.7,SNR=14						
CMAR				PcP		**PcP**	**00 07 37.2 +0.6**
	comp=Z,1.0nm,0.3s,baz=121,slow=3.3,SNR=6.1						
	comp=Z,3.7nm,0.9s						
CHTO	**Chiang Mai**	**32.35**	**306**			**P**	**00 04 49.4 -0.5**
JNU	**Nakatsue**	**32.58**	**7**	P		**P**	**00 04 51.4 -0.4**
JNU				IAmb	IAmb		00 04 54.2
	comp=Z,48nm,1.2s						
ENH	**Enshi**	**33.52**	**333**	P		**P**	**00 04 59.8 -0.2**
ENH				IAmb	IAmb		00 05 07.3
	comp=Z,40nm,1.1s						
JMN	**Monobe**	**33.66**	**11**	P		**P**	**00 05 01.3 +0.2**
JMN				IAmb	IAmb		00 05 03.8
	comp=Z,52nm,1.1s						
NWAO	**Narrogin (SRO)**	**34.49**	**194**	P		**P**	**00 05 09.1 +0.8**
NWAO				IAmb	IAmb		00 05 13.4
	comp=Z,82nm,1.8s						
NWAO	**Narrogin (SRO)**	**34.49**	**194**	LR	LR		00 20 07.7
	comp=Z,143nm,22.0s,baz=52,slow=38						
PZH	**PanZhiHua**	**34.92**	**319**	P		**P**	**00 05 11.8 -0.5**
STKA	**Stephens Creek**	**35.45**	**157**			**P**	**00 05 14.9 -1.7**
STKA	**Stephens Creek**	**35.45**	**157**	P		**P**	**00 05 16.1 -0.6**
	comp=Z,12nm,0.8s,baz=333,slow=9.1,SNR=6.3						
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**35.45**	**157**	*i* P		**P**	**00 05 14.0 -2.6**
INU	**Inuyama**	**35.93**	**15**	P		**P**	**00 05 21.3 +0.6**
INU				IAmb	IAmb		00 05 22.6
	comp=Z,29nm,0.7s						
JGF	**Kuroka**	**36.25**	**15**	P		**P**	**00 05 24.8 +1.3**
JGF				IAmb	IAmb		00 05 25.7
	comp=Z,16nm,0.6s						
KSRS	**Korea Array**	**36.65**	**2**	P		**P**	**00 05 28.6 +1.8**
	comp=Z,8.4nm,1.0s,baz=175,slow=9.9,SNR=10						
	comp=Z,8.4nm,1.0s						
MAJO	**Matsushiro**	**37.37**	**16**	*i* P		**P**	**00 05 31.1 -1.9**
MAJO				pmax	pmax		
	comp=Z,16nm,0.8s						
MJAR	**Matsushiro Arr**	**37.37**	**16**	P		**P**	**00 05 33.1 +0.1**
	comp=Z,9.6nm,0.7s,baz=179,slow=9.5,SNR=13						
	comp=Z,9.6nm,0.7s						
BRDH	**Bariadhala**	**40.19**	**305**	LR	LR		00 24 33.1
	comp=Z,129nm,20.3s,baz=226,slow=39						
BJT	**Baijiatuan**	**40.25**	**348**			**P**	**00 05 56.9 -0.1**
LZH	**Lanzhou**	**40.96**	**332**	*e*P		**P**	**00 06 03.2 0.0**
LZH				pmax	pmax		
	comp=Z,39nm,1.8s						
LZH				LR	LR		
	comp=Z,250nm,15.2s						
LZH				LR	LR		
	comp=Z,260nm,16.2s						
LZH				LR	LR		
	comp=Z,490nm,17.5s						
MSHR	**Mys Shultsa**	**41.96**	**5**	*ce*P		**P**	**00 06 09.7 -1.3**
MSHR				pmax	pmax		
	comp=Z,46nm,1.3s						
VLA	**Vladivostok**	**42.57**	**6**	*i* P		**P**	**00 06 16.0 +0.1**
VLA				pmax	pmax		
	comp=Z,37nm,0.7s						
USRK	**Ussuriysk Ar.**	**43.65**	**6**	P		**P**	**00 06 26.2 +1.6**
	comp=Z,13nm,0.8s,baz=190,slow=6.9,SNR=13						
	comp=Z,13nm,0.8s						
USA0B	**Ussuriysk Arra**	**43.65**	**6**	*i* P		**P**	**00 06 23.8 -0.9**
MDJ	**Mudanjiang**	**43.87**	**3**	P		**P**	**00 06 27.8 +1.4**
MDJ				pmax	pmax		
	comp=Z,30nm,1.0s						
XLT	**XiLinHaoTe**	**44.01**	**349**	*e*P		**P**	**00 06 27.8 +0.1**
XLT				pmax	pmax		
	comp=Z,16nm,0.9s						
LSA	**Lhasa**	**44.20**	**314**			**P**	**00 06 30.4 +0.4**
BNX	**BinXian**	**44.90**	**1**	⇓P		**P**	**00 06 34.7 0.0**
BNX				pmax	pmax		
	comp=Z,14nm,1.1s						
JKA	**Kamikawa-asahi**	**45.63**	**16**	P		**P**	**00 06 40.8 +0.3**
JKA				IAmb	IAmb		00 06 43.2
	comp=Z,20nm,0.8s						
EVN	**Everest**	**46.54**	**309**	P		**P**	**00 06 48.6 -0.1**
YSS	**Yuzhno-Sakhali**	**48.30**	**15**	P		**P**	**00 07 02.1 +0.8**
YSS				IAmb	IAmb		00 07 08.6
	comp=Z,21nm,1.0s						
YSS	**Yuzhno-Sakhali**	**48.30**	**15**	*e*P		**P**	**00 07 02.5 +1.3**
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
KLR	**Kul'dur**	**48.61**	**5**	P		**P**	**00 07 04.3 +0.7**
	comp=Z,11nm,1.0s,baz=202,slow=6.9,SNR=11						
	comp=Z,11nm,1.0s						
KLR	**Kul'dur**	**48.61**	**5**	*i* P		**P**	**00 07 02.1 -1.6**
KLR				pmax	pmax		
	comp=Z,18nm,1.0s						
HIA	**Hailar**	**48.75**	**354**			**P**	**00 07 05.0 +0.3**
HIA				IAmb	IAmb		00 07 14.6
	comp=Z,34nm,1.2s						
ULN	**Ulaanbaatar**	**49.91**	**343**			**P**	**00 07 13.7 -0.1**
ULN				IAmb	IAmb		00 07 16.2
	comp=Z,25nm,1.4s						
ULN	**Ulaanbaatar**	**49.91**	**343**	*ce*P		**P**	**00 07 14.1 +0.3**
ULN				pmax	pmax		
	comp=Z,24nm,1.7s						
SONM	**Songino Array**	**50.07**	**343**	P		**P**	**00 07 16.2 +1.2**
SONM	**Songino Array**	**50.07**	**343**	P		**P**	**00 07 16.3 +1.3**
	comp=Z,5.9nm,0.8s,baz=166,slow=7.8,SNR=13						
	comp=Z,5.9nm,0.8s						
GRNR	**Gornyy**	**50.66**	**8**	⇑*i*P		**P**	**00 07 20.1 +0.9**
GRNR				pmax	pmax		
	comp=Z,20nm,0.8s						
CIT	**Chita**	**52.30**	**350**	*e*P		**P**	**00 07 33.2 +1.7**
CIT				*e*			00 07 39.6
CIT				*e*			00 08 38.4
CIT				pmax	pmax		
	comp=Z,146nm,1.3s						
ZEA	**Zeya**	**52.91**	**1**	*e*P		**P**	**00 07 36.7 +0.8**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZEA				MLR	MLR		
	comp=N,100nm,24.0s						
ZEA				MLR	MLR		
	comp=Z,100nm,23.0s						
BOD	**Bodaibo**	**57.83**	**352**	*e*P		**P**	**00 08 11.4 +0.2**
BOD				pmax	pmax		
	comp=Z,43nm,1.4s						
PEA0B	**Petropavlovsk-**	**58.42**	**22**			**P**	**00 08 15.4 -0.1**
PEA0B	**Petropavlovsk-**	**58.42**	**22**	*i* P		**P**	**00 08 16.1 +0.6**
PETK	**Petropavlovsk-**	**58.42**	**22**			**P**	**00 08 15.1 -0.3**
PETK	**Petropavlovsk-**	**58.42**	**22**	P		**P**	**00 08 16.7 +1.3**
	comp=Z,8.5nm,0.5s,baz=190,slow=5.4,SNR=23						
	comp=Z,8.5nm,0.5s						
PET	**Petropavlovsk**	**58.71**	**22**	P		**P**	**00 08 18.4 +1.0**
PET				IAmb	IAmb		00 08 20.2
	comp=Z,13nm,0.7s						
PET	**Petropavlovsk**	**58.71**	**22**	*ce*P		**P**	**00 08 17.0 -0.4**
PET				pmax	pmax		
	comp=Z,21nm,1.3s						
ZSN	**Zaisan**	**58.87**	**328**	*e*P		**P**	**00 08 18.2 -0.5**
ZSN				pmax	pmax		
	comp=Z,12nm,1.3s						
ZSN	**Zaisan**	**58.87**	**328**	*e*P		**P**	**00 08 18.3 -0.5**
	comp=Z,12nm,1.3s						
SHLS	**Shalkode**	**59.46**	**322**	*e*P		**P**	**00 08 20.8 -2.2**
SHLS				pmax	pmax		
	comp=Z,11nm,1.1s						
SHLS	**Shalkode**	**59.46**	**322**	*e*P		**P**	**00 08 20.9 -2.2**
	comp=Z,11nm,1.1s						
NIL	**Nilore**	**59.50**	**309**	P		**P**	**00 08 22.0 -1.4**
NIL				IAmb	IAmb		00 09 01.6
	comp=Z,14nm,1.1s						
PRZ	**Przheval'sk**	**59.77**	**321**	P		**P**	**00 08 25.3 0.0**
PRZ				IAmb	IAmb		00 08 29.9
	comp=Z,33nm,1.3s						
TARG	**Taragay, Kyrgy**	**59.77**	**320**	P		**P**	**00 08 24.7 -0.9**
TARG				IAmb	IAmb		00 08 42.5
	comp=Z,16nm,1.1s						
MK31	**Makanchi Array**	**59.85**	**326**	P		**P**	**00 08 25.4 -0.2**
MK31				IAmb	IAmb		00 08 28.5
	comp=Z,15nm,0.8s						
MK31	**Makanchi Array**	**59.85**	**326**	*ce*P		**P**	**00 08 25.8 +0.2**
MKAR	**Makanchi Array**	**59.85**	**326**	P		**P**	**00 08 25.2 -0.3**
MKAR	**Makanchi Array**	**59.85**	**326**	P		**P**	**00 08 25.0 -0.5**
	comp=Z,15nm,0.5s,baz=122,slow=8.0,SNR=21						
MKAR				PcP		**PcP**	**00 09 12.0 +0.3**
	comp=Z,4.0nm,0.7s,baz=117,slow=4.4,SNR=1.0						
	comp=Z,15nm,0.5s						
KSH	**Kashi**	**59.94**	**317**	P		**P**	**00 08 26.3 -0.2**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MAKZ	**Makanchi**	**60.03**	**326**	P		**P**	**00 08 26.5 -0.3**
KDJ	**Kajisay**	**60.38**	**320**			**P**	**00 08 29.0 -0.5**
KDJ				IAmb	IAmb		00 08 40.2
	comp=Z,12nm,0.9s						
TDK	**Taldyqorghan**	**61.08**	**323**	*e*P		**P**	**00 08 33.6 -0.4**
TDK	**Taldyqorghan**	**61.08**	**323**	*e*P		**P**	**00 08 33.6 -0.4**
YAK	**Yakutsk**	**61.27**	**2**			**P**	**00 08 34.9 0.0**
YAK	**Yakutsk**	**61.27**	**2**	*e*P		**P**	**00 08 35.0 +0.1**
YAK				*e*			00 09 16.8
YAK				*e*			00 10 49.9
YAK				*e*PPP	PPP		00 12 14.5
YAK				*e*S	**S**		**00 16 46.4 -5.0**
YAK				*e*SS	**SS**		**00 20 49.2 -3.2**
YAK				*e*SSS	SSS		00 23 38.0
YAK				pmax	pmax		
	comp=Z,45nm,1.4s						
YAK				pmax	pmax		
	comp=N,23nm,1.5s						
YAK				pmax	pmax		
	comp=E,12nm,1.8s						
YAK				pmax	pmax		
	comp=Z,247nm,7.0s						
YAK				pmax	pmax		
	comp=N,57nm,4.2s						
YAK				pmax	pmax		
	comp=E,82nm,4.9s						
YAK				smax	smax		
	comp=E,76nm,6.0s						
YAK				smax	smax		
	comp=N,40nm,3.8s						
BOOM	**Boomskoye usch**	**61.36**	**320**	P		**P**	**00 08 36.5 +0.4**
BOOM				IAmb	IAmb		00 08 40.5
	comp=Z,15nm,1.2s						
CHKK	**Chushkaly**	**61.36**	**321**	*e*P		**P**	**00 08 35.7 -0.2**
CHKK	**Chushkaly**	**61.36**	**321**	*e*P		**P**	**00 08 35.7 -0.2**
MA2	**

KKAR Karatay Array 65.20 318 P P 00 09 01.0 -0.4
CHM Chimkent 65.50 317 *e*P P 00 09 02.9 -0.4
CHM Chimkent 65.50 317 *e*P P 00 09 02.9 -0.4
BRLS Boroldav 65.63 318 *e*P P 00 09 03.4 -0.7
BRLS pmax pmax
comp=Z,9.0nm,1.2s
BRLS Boroldav 65.63 318 *e*P P 00 09 03.5 -0.7
comp=Z,8.6nm,1.2s
BRZS Berezniki 66.96 326 *e*P P 00 09 12.2 -0.3
BRZS Berezniki 66.96 326 *e*P P 00 09 12.2 -0.3
AMKA Amchitka 67.28 33 P 00 09 14.2 -0.2
CASY Casey 67.74 187 P P 00 09 17.8 +0.8
CASY IAmb IAmb 00 09 38.9
comp=Z,49nm,1.9s
BRVK Borovoye 69.74 328 P P 00 09 30.3 +0.6
BRVK IAmb IAmb 00 09 35.2
comp=Z,37nm,1.2s
TIXI Tiksi 70.90 1 P 00 09 36.6 +0.2
TIXI IAmb IAmb 00 09 46.2
comp=Z,32nm,1.3s
TIXI Tiksi 70.90 1 *ce*P P 00 09 37.3 +0.8
TIXI pmax pmax
comp=Z,22nm,1.3s
ATKA Atka Island 71.25 34 P P 00 09 38.7 -0.3
BILL Bilibino 72.61 15 *ce*P P 00 09 48.3 +1.4
BILL pmax pmax
comp=Z,14nm,1.7s
NRIK Noril'sk 73.30 347 P 00 09 51.5 +0.6
NRIK IAmb IAmb 00 09 52.2
comp=Z,35nm,1.2s
NRIK Noril'sk 73.30 347 P P 00 09 51.2 +0.3
comp=Z,14nm,0.9s,baz=133,slow=5.8,SNR=12
comp=Z,14nm,0.9s
NRIK Noril'sk 73.30 347 *i* P P P 00 09 49.9 -1.0
NRIK pmax pmax
comp=Z,41nm,1.4s
AB31 Akbulak array 74.26 321 P P 00 09 57.1 +0.1
AB31 IAmb IAmb 00 10 01.7
comp=Z,16nm,1.0s
ABKAR Akbulak array 74.26 321 P P 00 09 57.5 +0.5
ABKAR Akbulak array 74.26 321 P P 00 09 56.9 -0.1
ABKAR IAmb IAmb 00 10 01.7
comp=Z,16nm,1.0s
AKTO Aktyubinsk 75.81 322 P P 00 10 05.1 -0.8
comp=Z,15nm,0.7s,baz=89,slow=6.8,SNR=16
comp=Z,15nm,0.7s
SVE Sverdlovsk 76.35 329 *e*P P 00 10 09.1 +0.3
SVE pmax pmax
comp=Z,61nm,1.1s
GAMB Gambell 77.36 24 P P 00 10 13.9 -0.3
GAMB IAmb IAmb 00 10 17.3
comp=Z,15nm,0.9s
ARTI Arti 77.38 328 P 00 10 14.1 -0.5
ARTI IAmb IAmb 00 10 16.9
comp=Z,37nm,1.1s
ARTI Arti 77.38 328 P P 00 10 14.0 -0.6
comp=Z,26nm,1.0s,baz=126,slow=3.3,SNR=18
comp=Z,26nm,1.0s
ARTI Arti 77.38 328 *d i* P P 00 10 14.5 -0.1
ARTI 00 13 04.5
ARTI S S 00 20 03.6 +2.1
ARTI SS SS 00 24 59.0 -1.8
ARTI pmax pmax
comp=Z,43nm,1.1s
M13K Dall Lake 79.81 28 P 00 10 29.6 +1.8
M13K IAmb IAmb 00 10 30.8
comp=Z,31nm,1.4s
SDPT Sand Point 79.96 34 P 00 10 29.1 +0.3
CNBA Chernabura Isl 80.34 34 P P 00 10 31.6 +0.8
CNBA IAmb IAmb 00 10 41.6
comp=Z,29nm,1.2s
L14K Kuka Creek 80.39 28 P 00 10 32.1 +1.2
L14K IAmb IAmb 00 10 34.4
comp=Z,32nm,1.2s
J14K Nanvaranak Lak 80.41 26 P 00 10 31.8 +0.7
N14K Kuskokwak Cree 80.47 29 P P 00 10 32.1 +0.7
N14K IAmb IAmb 00 10 36.1
comp=Z,28nm,1.0s
O14K Tigyukauivet M 80.51 30 P 00 10 32.5 +0.8
M14K Bethel 80.57 28 P P 00 10 32.8 +0.9
M14K IAmb IAmb 00 10 35.2
comp=Z,33nm,1.1s
MAW Mawson 80.75 200 P P 00 10 35.1 +2.4
comp=Z,1.2nm,1.0s
MAW Mawson 80.75 200 P P 00 10 34.5 +1.7
comp=Z,3.3nm,0.7s,baz=101,slow=4.7,SNR=7.1
comp=Z,3.3nm,0.7s
F15K North Star Dit 80.89 23 P P 00 10 34.4 +0.8
AKT Akhty 81.01 312 *e*P P 00 10 33.7 -1.2
AKT *e* 00 10 39.6
AKT pmax pmax
comp=Z,15nm,0.9s
K15K Wolf Creek Mou 81.18 27 P P 00 10 36.7 +1.4
K15K IAmb IAmb 00 10 38.2
comp=Z,40nm,1.4s
O15K Ungalikthiuk R 81.20 30 P P 00 10 34.7 -0.7
CHGN Chignik 81.31 33 P P 00 10 36.3 +0.4
CHGN IAmb IAmb 00 10 39.6
comp=Z,26nm,1.0s
N15K Kwethluk River 81.31 29 P 00 10 37.0 +1.1
N15K IAmb IAmb 00 10 38.5
comp=Z,40nm,1.4s
RAYN Ar Rayn 81.31 294 P 00 10 36.9 +0.1
C16K Lisburne Hills 81.49 20 P 00 10 37.8 +1.1
C16K IAmb IAmb 00 10 43.1
comp=Z,23nm,1.2s
G16K Koyuk River 81.70 24 P 00 10 37.5 -0.3
G16K IAmb IAmb 00 10 40.6
comp=Z,21nm,1.4s
J16K Anvik River 81.86 26 P P 00 10 40.2 +1.5
J16K IAmb IAmb 00 10 42.0
comp=Z,31nm,1.2s
I17K Unalakleet 81.97 25 P P 00 10 41.1 +1.8
L16K Owhat River 81.97 28 P P 00 10 40.7 +1.3
M16K Timber Creek 82.06 28 P 00 10 41.1 +1.2
M16K IAmb IAmb 00 10 47.3
comp=Z,19nm,1.1s
O16K Kokwok River B 82.16 30 P P 00 10 40.8 +0.4
O16K IAmb IAmb 00 10 45.1
comp=Z,16nm,1.1s
RDOG Red Dog Mine 82.28 21 P P 00 10 42.5 +1.6
F17K Baldwin Pennin 82.43 23 P P 00 10 43.0 +1.3
J17K VABM Dome 82.55 26 P P 00 10 44.2 +1.8
J17K IAmb IAmb 00 10 57.7
comp=Z,33nm,1.1s
H17K Granite Mounta 82.57 24 P P 00 10 43.8 +1.4
BELG Belogornoye 82.58 323 *i* P P 00 10 41.5 -1.2
BELG pmax pmax
comp=Z,12nm,1.0s
KIRV Kirov 82.62 329 *i* P P 00 10 42.8 0.0
PLK4 Peulik 4 82.67 32 P 00 10 42.7 -0.6
PLK4 IAmb IAmb 00 10 46.9
comp=Z,21nm,0.9s
K17K Iditarod 82.74 27 P P 00 10 44.7 +1.3
N17K Nushagak Hills 82.80 29 P 00 10 45.0 +1.3
M17K Holitna River 82.86 28 P 00 10 44.6 +0.6
M17K IAmb IAmb 00 10 47.2
comp=Z,45nm,1.4s
E18K Tukpahlearik C 82.94 22 P P 00 10 45.4 +1.1
E18K IAmb IAmb 00 10 49.5
comp=Z,26nm,1.0s
C18K Utukok River 83.06 21 P P 00 10 46.3 +1.3
C18K IAmb IAmb 00 10 49.2
comp=Z,24nm,1.1s
GNI Garni 83.13 310 P 00 10 47.4 +1.2
GNI Garni 83.13 310 *ce*P P 00 10 45.2 -0.9
GNI pmax pmax
comp=Z,22nm,1.7s
H18K Honhosa River 83.26 24 P P 00 10 47.3 +1.2
ACHA Angle Creek He 83.31 31 P P 00 10 47.2 +0.7
ACHA IAmb IAmb 00 10 51.6
comp=Z,19nm,1.2s
G18K Tagagawik 83.31 24 P P 00 10 47.9 +1.6
G18K IAmb IAmb 00 10 50.2
comp=Z,40nm,1.6s
L18K Granite Mounta 83.37 27 P P 00 10 48.1 +1.5
L18K IAmb IAmb 00 10 50.2
comp=Z,31nm,1.1s
N18K Kilae Creek 83.46 29 P 00 10 48.3 +1.1
P18K Big Mountain, 83.56 30 P 00 10 47.9 +0.1
J18K Innoko River 83.60 26 P P 00 10 48.6 +0.7
J18K IAmb IAmb 00 10 50.9
comp=Z,32nm,1.2s
O18K Koktuh Hills 83.65 30 P 00 10 49.1 +0.9
C19K Lookout Ridge 83.75 20 P P 00 10 49.6 +1.0

F19K Shaleruckik Mo 83.87 23 P P 00 10 49.9 +0.8
F19K IAmb IAmb 00 10 52.1
comp=Z,37nm,1.8s
G19K Purcell Mounta 83.99 23 P P 00 10 51.2 +1.4
D19K Kuna River 84.12 21 P P 00 10 51.9 +1.5
H19K Roundabout Mou 84.12 24 P P 00 10 52.2 +1.8
O19K Port Alsworth 84.14 30 P P 00 10 51.8 +1.2
N19K Bonanza Creek 84.16 29 P P 00 10 51.4 +0.6
J19K Poorman 84.18 26 P P 00 10 52.0 +1.2
J19K IAmb IAmb 00 10 54.2
comp=Z,35nm,1.4s
L19K White Mountain 84.21 28 P P 00 10 52.3 +1.3
E19K Redstone River 84.21 22 P P 00 10 52.1 +1.2
E19K IAmb IAmb 00 10 55.9
comp=Z,30nm,1.3s
OHAK Old Harbor 84.24 33 P 00 10 51.8 +0.7
GEVA Gevas 84.29 308 P 00 10 53.0 +0.8
M19K Big River Lodg 84.38 28 P P 00 10 52.8 +0.9
M19K IAmb IAmb 00 10 55.4
comp=Z,24nm,1.2s
KARS Kars 84.43 311 P 00 10 52.3 -0.4
PPT2 Papeete2 84.58 108 *e*LR LR 00 37 35.7
comp=Z,107nm,22.8s
P19K Oil Pt 84.61 30 P 00 10 53.3 +0.3
KDAK Kodiak Island 84.69 32 P 00 10 53.6 +0.2
KDAK Kodiak Island 84.69 32 *i* P P 00 10 53.1 -0.4
KDAK pmax pmax
comp=Z,51nm,1.3s
ILSW Iliamna Southw 84.69 30 P P 00 10 53.1 -0.5
D20K Etivluk River 84.70 21 P P 00 10 53.4 0.0
F20K Avaraart Lake 84.70 23 P 00 10 53.0 -0.3
F20K IAmb IAmb 00 10 56.0
comp=Z,21nm,1.5s
K20K Telida 84.75 26 P 00 10 54.9 +1.2
KBZ Khabaz 84.78 314 P P 00 10 54.7 +0.5
comp=Z,12nm,1.0s,baz=74,slow=2.5,SNR=11
comp=Z,12nm,1.0s
KBZ Khabaz 84.78 314 *i* P P 00 10 53.3 -0.9
KBZ pmax pmax
comp=Z,19nm,1.3s
B20K Meade River 84.79 20 P 00 10 54.3 +0.6
B20K IAmb IAmb 00 10 58.8
comp=Z,16nm,1.1s
I20K Naaghedeneel 84.81 25 P P 00 10 54.6 +0.7
J20K Nowinta River 84.85 26 P 00 10 54.2 +0.1
J20K IAmb IAmb 00 10 59.3
comp=Z,16nm,1.4s
RED Redoubt Volcan 84.94 29 P P 00 10 54.6 -0.2
RED IAmb IAmb 00 10 58.4
comp=Z,17nm,1.0s
KIV Kislovodsk 84.95 314 P P 00 10 55.1 -0.1
KIV IAmb IAmb 00 11 08.7
comp=Z,14nm,1.0s
KIV Kislovodsk 84.95 314 *e*P P 00 10 54.5 -0.7
KIV pmax pmax
comp=Z,6.0nm,1.0s
TBI Tubuai 84.95 113 *e*LR LR 00 37 46.6
comp=Z,534nm,26.0s
SHA1 Shidzhatmaz 84.96 314 *i* P P 00 10 55.6 +0.2
M20K Styx River 84.96 28 P P 00 10 54.6 -0.3
GURO Guroymak-BITLI 85.11 308 P P 00 10 57.4 +1.2
IMAR Indian Mountai 85.30 24 P P 00 10 57.3 +0.9
SPU Mount Spurr 85.38 29 P P 00 10 56.7 -0.2
SPU IAmb IAmb 00 10 59.5
comp=Z,17nm,1.4s
G21K Allakaket 85.48 23 P P 00 10 57.5 +0.3
STLK Strandline Lak 85.53 28 P P 00 10 57.7 0.0
B21K Ikpikpuk River 85.58 20 P 00 10 57.9 +0.3
CNPM China Poot 85.60 30 P 00 10 57.6 -0.4
E21K Killik River 85.61 21 P P 00 10 58.8 +0.8
H21K Melozitna River 85.64 24 P P 00 10 58.6 +0.5
CAST Castle Rocks 85.65 27 P P 00 10 58.6 +0.4
SKT Skwentna 85.73 28 P 00 10 58.3 -0.3
SKT IAmb IAmb 00 11 00.1
comp=Z,27nm,1.7s
BRLK Bradley Lake 85.80 30 P P 00 10 58.8 -0.2
I21K Tanana 85.92 25 P P 00 11 00.8 +1.4
SUA Susitna One 86.04 29 P P 00 10 59.9 -0.4
SUA IAmb IAmb 00 11 05.8
comp=Z,13nm,1.0s
VRH Novokhopyorsk 86.09 321 *e*P P 00 10 58.4 -2.2
VRH pmax pmax
comp=Z,20nm,1.0s
B22K Teshekpuk Lake 86.10 20 P P 00 11 01.7 +1.4
B22K IAmb IAmb 00 11 05.1
comp=Z,10nm,0.9s
D22K Ayikyak River 86.14 21 P P 00 11 01.1 +0.6
D22K IAmb IAmb 00 11 05.1
comp=Z,16nm,1.6s
SLKM Skilak Lake 86.20 30 P 00 11 00.8 -0.2
BPAW Bear Paw Mtn. 86.21 26 P 00 11 01.4 +0.5
E22K Anaktuvuk Pass 86.36 22 P P 00 11 02.0 +0.4
E22K IAmb IAmb 00 11 05.2
comp=Z,18nm,1.4s
M22K Willow 86.37 28 P P 00 11 01.4 -0.3
KOPT Kop Dagi 86.37 310 P P 00 11 03.2 +0.6
MLY Manley 86.42 25 P P 00 11 01.6 -0.4
RC01 Rabbit Creek A 86.49 29 P P 00 11 02.2 -0.2
RC01 IAmb IAmb 00 11 08.0
comp=Z,33nm,1.8s
SEW Seward 86.55 30 P P 00 11 03.8 +1.2
PMR Palmer 86.83 28 P P 00 11 04.1 +0.2
PMR IAmb IAmb 00 11 05.8
comp=Z,39nm,1.8s
VSLR Vesyoloye 86.84 313 *e*P P 00 11 03.2 -1.3
VSLR pmax pmax
comp=Z,34nm,1.0s
COLD Coldfoot 86.87 23 P 00 11 04.7 +0.6
D23K Nanushuk River 86.87 21 P 00 11 05.1 +1.1
G23K Bananza Creek 86.88 23 P 00 11 04.6 +0.4
GHO Glory Hole Cre 86.94 28 P P 00 11 05.7 +1.0
GHO IAmb IAmb 00 11 08.6
comp=Z,35nm,1.9s
C23K Itkillik River 86.99 20 P 00 11 05.7 +1.1
H23K Yukon River 87.00 24 P P 00 11 05.3 +0.5
I23K Minto, Yukon-K 87.01 25 P P 00 11 04.8 0.0
I23K IAmb IAmb 00 11 10.3
comp=Z,13nm,1.1s
MCK McKinley 87.08 26 P P 00 11 04.8 -0.4
MCK IAmb IAmb 00 11 07.5
comp=Z,32nm,1.9s
RND Reindeer 87.09 27 P P 00 11 04.6 -0.8
RND IAmb IAmb 00 11 12.7
comp=Z,18nm,1.8s
PWL Port Wells 87.16 29 P P 00 11 05.6 -0.1
E23K Chandalar 87.17 22 P P 00 11 05.5 -0.1
E23K IAmb IAmb 00 11 15.1
comp=Z,11nm,1.0s
TOLK Toolik Lake Re 87.24 21 P 00 11 06.8 +0.9
D24K Happy Valley 87.55 21 P P 00 11 08.2 +0.8
D24K IAmb IAmb 00 11 19.3
comp=Z,11nm,1.1s
E24K Your Creek 87.59 22 P P 00 11 07.8 +0.1
VORD Divnogorie 87.61 321 *e*P P 00 11 08.0 0.0
VORD pmax pmax
comp=Z,10.0nm,1.0s
CCB Clear Creek Bu 87.64 25 P P 00 11 06.8 -1.1
C24K Franklin Bluff 87.64 20 P P 00 11 08.2 +0.4
H24K Noodor Dome 87.68 24 P 00 11 08.6 +0.5
H24K IAmb IAmb 00 11 11.9
comp=Z,17nm,1.6s
VORR Voronezh 87.69 322 *e*P P 00 11 09.2 +0.9
VORR pmax pmax
comp=Z,30nm,1.2s
SCM Sheep Creek Mo 87.70 28 P P 00 11 08.9 +0.6
SCM IAmb IAmb 00 11 12.8
comp=Z,12nm,1.0s
VSR Storozhevoye 87.70 321 *e*P P 00 11 07.5 -0.9
VSR pmax pmax
comp=Z,10.0nm,1.0s
GLI Glacier Island 87.76 29 P P 00 11 10.2 +1.7
GLI IAmb IAmb 00 11 40.1
comp=Z,9.1nm,0.8s
F24K Squaw Lake 87.78 23 P 00 11 08.4 -0.2
KLMR Klimovskoe 87.86 331 *e*P P 00 11 06.7 -2.3
KLMR *e* 00 14 32.0
KLMR SS SS 00 27 42.5 +6.6
KLMR pmax pmax
comp=Z,29nm,1.2s
LPSR Galich'ya Gora 87.89 322 *e*P P 00 11 10.1 +0.8
LPSR pmax pmax
comp=Z,20nm,1.0s
G24K Hadweenzic Riv 87.89 23 P 00 11 09.6 +0.6
G24K IAmb IAmb 00 11 12.5
comp=Z,21nm,1.7s
ILAR Eielson Array 88.04 25 P 00 11 08.6 -1.2
ILAR Eielson Array 88.04 25 P P 00 11 10.8 +1.1
comp=Z,0.8nm,0.6s,baz=255,slow=5.0,SNR=6.3
comp=Z,0.8nm,0.6s
M24K Tolsona, Glenn 88.25 28 P P 00 11 11.8 +0.9
DIV Divide 88.42 29 P 00 11 12.5 +0.8
DIV IAmb IAmb 00 11 45.9
comp=Z,11nm,0.6s
D25K Kavik River 88.43 21 P P 00 11 11.6 0.0
D25K IAmb IAmb 00 11 14.6
comp=Z,11nm,1.4s
PAX Paxson 88.60 27 P 00 11 13.0 +0.4
PAX IAmb IAmb 00 11 16.0
comp=Z,19nm,1.5s
F25K Christian Rive 88.65 23 P P 00 11 12.9 +0.2
J25K Salcha River, 88.69 26 P P 00 11 13.5 +0.6
E25K Arctic Village 88.69 22 P P 00 11 12.4 -0.4
MOS Moscow 88.72 326 *e*P P 00 11 16.2 +3.1
MOS pmax pmax
comp=Z,31nm,1.0s
FYU Fort Yukon 88.78 24 P P 00 11 13.7 +0.5
FYU IAmb IAmb 00 11 18.5
comp=Z,22nm,1.4s
GAZ Gaziantep 88.89 307 P P 00 11 14.8 +0.3
GAZ IAmb IAmb 00 11 26.9
comp=Z,24nm,1.4s
RIDG Independent Ri 88.90 26 P P 00 11 13.9 0.0
RIDG IAmb IAmb 00 11 18.6
comp=Z,8.4nm,1.0s
BMRM Bremner River 88.98 29 P P 00 11 15.0 +0.6
BMRM IAmb IAmb 00 11 17.8
comp=Z,29nm,1.7s
N25K Chitina, Valde 88.99 29 P P 00 11 15.0 +0.6
N25K IAmb IAmb 00 11 18.3
comp=Z,15nm,1.4s
BMAR Burnt Mountain 89.05 23 P P 00 11 16.0 +1.4
F26K Sheenjek River 89.22 22 P P 00 11 15.6 +0.3
DOT Dot Lake 89.25 27 P P 00 11 15.3 -0.3
SCRK Sand Creek 89.28 26 P P 00 11 16.0 +0.2
OBN Obninsk 89.32 325 P P 00 11 15.7 -0.2
OBN Obninsk 89.32 325 *e*P P 00 11 15.4 -0.5
OBN *e* 00 14 46.2
OBN pmax pmax
comp=Z,33nm,1.3s
G26K Porcupine Rive 89.36 23 P P 00 11 17.1 +1.2
GLB Gilahina Butte 89.37 29 P P 00 11 15.8 -0.4
C27K Jago River 89.38 21 P P 00 11 16.5 +0.5
C27K IAmb IAmb 00 11 19.8
comp=Z,5.2nm,0.7s
SYO Syowa Base 89.43 201 *ep*P pP 00 11 26.5 -2.8
TOKA Tokat 89.45 310 P P 00 11 18.3 +1.2
J26L Joseph Creek 89.46 26 P P 00 11 16.3 -0.3
I26K Coal Creek Min 89.63 25 P P 00 11 17.2 0.0
I26K IAmb IAmb 00 11 19.5
comp=Z,19nm,1.9s
M26K Nabesna, AK 89.74 28 P P 00 11 18.4 +0.5
MCARA McCarthy VSAT 89.75 29 P P 00 11 19.3 +1.4
MCARA IAmb IAmb 00 14 03.5
comp=Z,8.3nm,0.9s
WAX Waxell Ridge 89.85 30 P P 00 11 19.3 +0.9
WAX IAmb IAmb 00 12 37.4
comp=Z,8.7nm,0.6s
TGL Tana Glacier 89.85 29 P P 00 11 18.6 +0.1
TGL IAmb IAmb 00 14 16.9
comp=Z,8.1nm,0.8s
ISLE Juniper Island 90.10 30 P P 00 11 19.9 +0.2
K27K Chicken 90.12 26 P P 00 11 20.1 +0.5
K27K IAmb IAmb 00 11 23.4
comp=Z,40nm,1.8s
E27K Coleen River 90.17 22 P P 00 11 20.4 +0.6
E27K IAmb IAmb 00 11 23.1
comp=Z,16nm,1.6s
G27K Doyon Strip 90.20 23 P P 00 11 20.5 +0.5
L27K Beaver Creek, 90.27 27 P P 00 11 20.8 +0.5
M27K Edge Creek, AK 90.27 28 P P 00 11 20.7 +0.2
H27K Steamboat Moun 90.28 24 P 00 11 21.1 +0.8
BCAR Beaver Creek A 90.28 27 P P 00 11 20.8 +0.3
MESA MESA 90.30 30 P P 00 11 20.4 -0.3
GRNC Granite Creek 90.38 29 P P 00 11 21.5 +0.4
GRNC IAmb IAmb 00 11 24.6
comp=Z,10nm,1.2s
YAH Yahtse 90.40 30 P P 00 11 22.0 +0.8
YAH IAmb IAmb 00 11 25.5
comp=Z,16nm,1.1s
MMAI Mount Meron Ar 90.41 303 P P 00 11 24.1 +2.4
comp=Z,4.2nm,0.9s,baz=134,slow=2.4,SNR=4.4
comp=Z,4.2nm,0.9s
BARN Barnard Glacie 90.41 29 P P 00 11 22.4 +1.1
BARN IAmb IAmb 00 12 14.1
comp=Z,6.9nm,0.6s
CTGM Chitina Glacie 90.58 29 P P 00 11 22.4 +0.4
QSPA South Pole Qui 90.58 180 P P 00 11 22.3 +0.5
QSPA South Pole Qui 90.58 180 P P 00 11 23.8 +2.0
comp=Z,4.1nm,0.8s,baz=320,slow=1.5,SNR=8.2
comp=Z,4.1nm,0.8s
TABL Table Mountain 90.69 30 P P 00 11 23.4 +0.8
LOGN Logan Glacier 90.75 29 P P 00 11 23.5 +0.7
LOGN IAmb IAmb 00 11 32.4
comp=Z,6.0nm,0.7s
F28M Old Crow 90.86 22 P P 00 11 22.8 -0.2
E28M Babbage River 90.91 21 P P 00 11 23.6 +0.4
E28M IAmb IAmb 00 11 26.4
comp=Z,16nm,1.4s
I28M Miner Creek 90.97 25 P 00 11 23.9 +0.2
I28M IAmb IAmb 00 11 26.3
comp=Z,33nm,1.8s
O28M Mount Upton 91.14 29 P P 00 11 25.8 +1.0
PCA Pinnacle 91.15 30 P P 00 11 25.2 +0.7
PCA IAmb IAmb 00 11 31.6
comp=Z,12nm,1.0s
DAWY Dawson 91.30 26 P 00 11 24.9 -0.2
DAWY IAmb IAmb 00 11 27.4
comp=Z,18nm,1.6s
E29M Blow River 91.53 22 P 00 11 26.3 +0.3
E29M IAmb IAmb 00 11 28.0
comp=Z,16nm,1.6s
G29M Pine Creek 91.63 23 P 00 11 27.4 +0.9
BRTR Keskin Array B 91.65 310 P P 00 11 27.6 +0.2
BRTR Keskin Array B 91.65 310 P P 00 11 27.1 -0.2
comp=Z,2.0nm,0.9s,baz=124,slow=6.1,SNR=8.8
comp=Z,2.0nm,0.9s
I29M Ogilvie Camp, 91.66 25 P P 00 11 26.7 0.0
I29M IAmb IAmb 00 11 29.6
comp=Z,19nm,1.6s
J29N Klondike Camp 91.78 26 P P 00 11 28.3 +0.9
M29M Somme Creek 91.85 28 P P 00 11 28.4 +0.6
M29M IAmb IAmb 00 11 31.6
comp=Z,13nm,1.5s
L29M L29M 91.94 27 P P 00 11 28.9 +0.7
O29M Mount Kennedy 91.97 30 P P 00 11 29.3 +0.8
CSS Mathiatis 92.08 305 P P 00 11 29.0 -0.3
CSS IAmb IAmb 00 15 07.8
comp=Z,12nm,0.9s
K29M Barlow Dome 92.14 26 P 00 11 29.6 +0.5
K29M IAmb IAmb 00 11 31.8
comp=Z,22nm,1.6s
EPYK Eagle Plains 92.20 24 P P 00 11 28.9 -0.3
G30M tAoh Zraii Nji 92.33 23 P P 00 11 29.8 0.0
G30M IAmb IAmb 00 11 32.1
comp=Z,15nm,1.4s
F30M Barrier River 92.41 22 P P 00 11 30.9 +0.8
F30M IAmb IAmb 00 11 38.9
comp=Z,23nm,1.6s
HYT Haines Junctio 92.45 29 P P 00 11 30.6 0.0
HYT IAmb IAmb 00 11 33.4
comp=Z,15nm,1.6s
P29M Windy Craggy 92.45 30 P P 00 11 31.0 +0.5
I30M Mount Dempster 92.48 25 P P 00 11 31.2 +0.6
J30M Hart River 92.58 25 P P 00 11 31.4 +0.3
J30M IAmb IAmb 00 11 33.7
comp=Z,13nm,1.5s
N30M Aishikik Lake 92.59 29 P P 00 11 32.0 +0.8
N30M IAmb IAmb 00 11 34.0
comp=Z,19nm,1.6s
M30M Minto, Yukon 92.61 27 P P 00 11 31.8 +0.6
M30M IAmb IAmb 00 11 35.6
comp=Z,16nm,1.4s
G31M Satah River 93.10 23 P 00 11 32.8 -0.5
O30N Mendenhall 93.15 29 P P 00 11 34.0 +0.2
O30N IAmb IAmb 00 11 36.5
comp=Z,9.4nm,1.4s
INK Inuvik 93.15 22 P P 00 11 33.8 +0.3
INK IAmb IAmb 00 11 35.9

comp=Z,22nm,1.6s
ARCES **ARCESS Array B** 93.17 340 P **P** 00 11 32.8 -0.8
ARCES **ARCESS Array B** 93.17 340 P **P** 00 11 33.6 +0.1
comp=Z,4.1nm,0.9s,baz=77,slow=4.9,SNR=7.4
comp=Z,4.1nm,0.9s
N31M **Braeburn, Yuko** 93.21 28 P **P** 00 11 35.0 +1.0
N31M IAmb IAmb 00 11 36.8
comp=Z,19nm,1.3s
F31M **Tsiigehtchic** 93.22 22 P **P** 00 11 34.1 +0.3
SPITS **Spitsbergen Ar** 93.39 349 LR LR 00 57 39.1
comp=Z,74nm,21.9s,baz=60,slow=38
SKAG **Skagway** 93.69 30 P **P** 00 11 36.8 +0.6
SKAG IAmb IAmb 00 11 43.8
comp=Z,11nm,0.9s
WHY **Whitehorse** 93.75 29 **P** 00 11 37.6 +1.0
M31M **Drury Creek, Y** 93.76 28 P **P** 00 11 36.4 -0.2
M31M IAmb IAmb 00 11 38.9
comp=Z,18nm,1.5s
AKASG **Malin Array Be** 94.00 321 P **P** 00 11 36.7 -1.1
comp=Z,0.2nm,0.2s,baz=78,slow=3.9,SNR=4.3
comp=Z,0.2nm,0.2s
AKASG **Malin Array Be** 94.00 321 *i* P **P** 00 11 36.0 -1.8
FINES **FINESS Array B** 94.32 332 P **P** 00 11 38.8 -0.3
comp=Z,3.1nm,1.0s,baz=72,slow=6.2,SNR=4.3
comp=Z,3.1nm,1.0s
FINES **FINESS Array B** 94.32 332 *i* P **P** 00 11 39.9 +0.9
FINES pmax pmax
comp=Z,3.0nm,1.0s
MNK **Minsk** 94.37 325 *i* P **P** 00 11 37.8 -1.6
MNK *i* 00 15 25.5
MNK *i* PPP PPP 00 17 27.1
MNK *i* S **SKSac** 00 22 09.2 -1.5
MNK *i* SS **SS** 00 29 12.2 +2.2
MNK *i* SSS SSS 00 32 54.6
MNK pmax pmax
comp=Z,5.0nm,1.0s
MNK MLR MLR
comp=E,84nm,19.0s
P32M **Atlin** 94.49 30 P **P** 00 11 39.9 0.0
P32M IAmb IAmb 00 11 41.9
comp=Z,16nm,1.6s
N32M **Quiet Lake** 94.55 29 P **P** 00 11 41.2 +1.0
N32M IAmb IAmb 00 11 42.7
comp=Z,10nm,0.8s
P33M **Teslin, Yukon** 94.83 29 P **P** 00 11 41.8 +0.3
P33M IAmb IAmb 00 11 44.5
comp=Z,22nm,1.9s
MMPY **Sheldon Lake,** 95.13 27 **P** 00 11 44.2 +1.4
BURAR **Bucovina Array** 97.00 318 **P** 00 11 51.4 -0.2
BURAR IAmb IAmb 00 11 56.5
comp=Z,7.8nm,0.9s
BUR08 **Bucovina Ar. S** 97.00 318 **P** 00 11 51.6 -0.2
BUR08 IAmb IAmb 00 11 56.2
comp=Z,7.8nm,0.9s
KOLS **Kolonicke sedl** 98.71 320 *e*P Pdif 00 12 04.2 +5.0
TORD **Torodi Ar. Bea** 123.42 286 PKP **PKiKP** 00 17 18.3 +0.2
comp=Z,2.4nm,0.7s,baz=35,slow=2.4,SNR=6.5
TXAR **Lajitas Array** 123.77 54 PKP **PKiKP** 00 17 18.7 +0.1
comp=Z,0.7nm,0.8s,baz=251,slow=1.3,SNR=5.0

*NEIC **09** 00:00:00.4±1.4,35°.665N±0°.010×117°.51W±0°.01, h8km±7km, Error ellipse: s-maj=1.6km s-min=1.4km az=65.0*
PAS 09 00:00:01.0±1.3,**35°.681N**±0°.008×**117°.51W**±0°.01, **h6**km±1km, **ML3.3**/18, **ML2.9**/127(NEIC), **Error ellipse: s-maj=1.6km s-min=1.1km az=63.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.15**	**333**		Pg	00 00 04.2	0.0
CLC				Sg	Sg	00 00 06.5	+0.2
SRTC	**Snort**	**0.19**	**273**		Pg	00 00 05.3	+0.4
CCCA	**Chr Cany lake**	**0.20**	**142**		Pg	00 00 05.4	+0.5
CCCA				Sg	Sg	00 00 08.7	+1.2
TOW	**Tower One**	**0.24**	**302**		Pg	00 00 06.2	+0.4
TOW					Sg	00 00 10.7	+1.6
LRMC	**Laurel Mtn Rad**	**0.24**	**215**		Pg	00 00 05.7	-0.1
LRMC				Sg	Sg	00 00 09.2	+0.1
WNMM	**Nine Mile Cany**	**0.36**	**297**		Pg	00 00 08.0	+0.1
WVPM	**Volcano Peak E**	**0.36**	**317**		Pg	00 00 08.1	-0.1
WVPM					Sg	00 00 13.6	+0.5
MPMC	**Manual Prospec**	**0.38**	**3**		Pg	00 00 08.2	-0.3
MPMC					Sg	00 00 13.6	+0.2
JRC2	**Joshua Ridge**	**0.39**	**321**		Pn	00 00 12.5	-0.8
DTP	**Desert Tortois**	**0.49**	**213**		Pg	00 00 10.2	-0.4
QSM	**Queen of Sheba**	**0.60**	**61**		Pg	00 00 12.3	-0.2
QSM					Sg	00 00 20.3	0.0
GSC	**Goldstone, Bar**	**0.69**	**123**		Pg	00 00 14.0	-0.3
GSC				Sg	Sg	00 00 23.2	-0.1
GSC				IAML		00 00 23.6	
comp=N,718nm,0.5s							
ISA	**Isabella, Lake**	**0.78**	**269**		Pg	00 00 15.6	-0.5
ISA				Sg	Sg	00 00 26.1	-0.2
ISA				IAML		00 00 26.7	
comp=N,497nm,0.3s							
ISA				IAML		00 00 26.8	
comp=E,448nm,0.4s							
GWY	**Greenwater Val**	**0.85**	**53**		Pg	00 00 17.1	-0.3
GWY				Sg	Sg	00 00 27.9	-0.5
GWY				IAML		00 00 31.1	
comp=E,798nm,0.4s							
GWY				IAML		00 00 31.2	
comp=N,659nm,0.6s							
CWC	**Cottonwood Cre**	**0.89**	**329**		Pn	00 00 20.3	+0.1
CWC				IAML		00 00 21.0	
comp=N,725nm,0.2s							
CWC				IAML		00 00 21.1	
comp=E,459nm,0.2s							
TPO	**Tropico Hills**	**0.99**	**216**		Pg	00 00 19.5	-0.5
TPO				IAML		00 00 35.9	
comp=N,618nm,0.6s							
SHOC	**Shoshone, Teco**	**1.03**	**77**		Pg	00 00 20.7	-0.1
SPG2	**Springville 2**	**1.14**	**297**		Pg	00 00 21.6	-1.3
DSCC	**Desert Studies**	**1.27**	**115**		Pn	00 00 23.4	-1.9
GRAC	**Grapevine Rang**	**1.32**	**5**		Pn	00 00 25.4	-0.7
GRAC				IAML		00 00 46.5	
comp=E,266nm,0.5s							
GRAC				IAML		00 00 50.2	
comp=N,328nm,0.8s							
WCT	**Wildcat Mounta**	**1.32**	**33**		Pn	00 00 25.2	-1.0
WCT				IAML		00 00 47.1	
comp=N,122nm,0.5s							
WCT				IAML		00 00 47.0	
comp=E,172nm,0.5s							
BFSC	**Mount Baldy Ra**	**1.44**	**185**		Pn	00 00 27.1	-0.7
BFSC				IAML		00 00 49.8	
comp=E,99nm,0.6s							
OSI	**Osito Audit: C**	**1.45**	**223**		Pn	00 00 27.8	-0.2
OSI				IAML		00 00 50.8	
comp=E,227nm,0.7s							
OSI				IAML		00 00 52.2	
comp=N,223nm,0.8s							
MWC	**Mount Wilson**	**1.52**	**197**		Pn	00 00 28.2	-0.8
MWC				IAML		00 00 51.0	
comp=N,217nm,0.4s							
MWC				IAML		00 00 51.9	
comp=E,208nm,0.3s							
PASC	**Pasadena Art C**	**1.60**	**200**		Pn	00 00 29.5	-0.4
PASC				IAML		00 00 56.4	
comp=E,98nm,0.4s							
MTPC	**Mountain Pass**	**1.61**	**96**		Pn	00 00 28.7	-1.5
MTPC				IAML		00 00 54.2	
comp=N,127nm,0.2s							
MTPC				IAML		00 00 54.3	
comp=E,102nm,0.2s							
TPNV	**Topopah Spring**	**1.63**	**39**		Pn	00 00 29.2	-1.2
TPNV				IAML		00 00 55.0	
comp=E,109nm,0.4s							
TPNV				IAML		00 00 59.6	
comp=E,115nm,1.0s							
GMN	**Gold Mountain**	**1.63**	**7**		Pn	00 00 29.4	-1.1
VOG	**Valley Oaks Go**	**1.65**	**293**		Pb	00 00 31.2	-0.6
DSP	**Deep Springs**	**1.73**	**348**		Pn	00 00 30.7	-0.9
MZP	**Montezuma Peak**	**2.02**	**3**		Pn	00 00 35.5	-0.4
ELS	**Elsinore Mount**	**2.03**	**178**		Pn	00 00 35.3	-0.6
SHPR	**Sheep Range**	**2.08**	**66**		Pn	00 00 35.7	-0.9
V12A	**Nelson**	**2.17**	**88**		Pn	00 00 36.4	-1.4
PMD	**Palm Desert**	**2.23**	**155**		Pn	00 00 37.1	-1.5
PMD				IAML		00 01 13.4	
comp=N,46nm,0.3s							
PMD				IAML		00 01 14.0	
comp=E,53nm,0.3s							
PFO	**Pinyon Flats O**	**2.24**	**157**		Pn	00 00 37.2	-1.6
PFO				IAML		00 01 14.0	
comp=E,44nm,0.5s							
TPH	**Tonopah**	**2.40**	**5**		Pn	00 00 40.2	-1.0
TPH				IAML		00 01 21.5	
comp=N,105nm,0.7s							
S11A	**Rachel**	**2.42**	**35**		Pn	00 00 40.7	-0.6
S11A				IAML		00 01 24.1	
comp=N,86nm,1.2s							
NEE2	**Needles Airpor**	**2.54**	**110**		Pn	00 00 41.3	-1.5
NEE2				IAML		00 01 30.6	
comp=N,108nm,0.6s							
NEE2				IAML		00 01 31.5	
comp=E,99nm,0.6s							
BORC	**Borrego Spring**	**2.57**	**159**		Pb	00 00 48.7	+1.1
BORC				IAML		00 01 26.4	
comp=E,54nm,0.7s							
BORC				IAML		00 01 26.7	
comp=N,32nm,0.6s							
PRN	**Pahroc Range**	**2.63**	**48**		Pg	00 00 50.8	-0.6
PRN				IAML		00 01 33.2	
comp=N,72nm,0.5s							
PRN				IAML		00 01 37.6	
comp=E,74nm,0.7s							
LHV	**Little Huntoon**	**2.69**	**343**		Pb	00 00 50.5	+1.0
LHV				IAML		00 01 33.4	
comp=N,33nm,0.7s							
LHV				IAML		00 01 36.5	
comp=E,38nm,1.1s							
DPP	**Dos Picos Cty**	**2.72**	**170**		Pb	00 00 50.0	-0.1
DPP				IAML		00 01 43.0	
comp=N,41nm,0.1s							
DPP				IAML		00 01 43.2	
comp=E,40nm,0.1s							
PMPB	**Monarch Peak**	**2.72**	**282**		Pn	00 00 45.3	-0.1
PMPB				IAML		00 01 39.9	
comp=N,90nm,0.9s							
NV11	**Mina Array Sit**	**2.79**	**350**	Pn	Pn	00 00 45.9	-0.6
NV11					Pb	00 00 52.6	+1.1
NVAR	**Mina Array Bea**	**2.82**	**347**		Pn	00 00 45.6	-1.3
NVAR				Pg	Pg	00 00 53.9	-1.1
BBGB	**Big Mountain B**	**2.99**	**288**		Pn	00 00 48.9	-0.3
BLYC	**Blythe**	**3.13**	**127**	IAML		00 01 40.2	
comp=N,27nm,0.7s							
BLYC				IAML		00 01 44.9	
comp=E,31nm,0.5s							
CMB	**Columbia Colle**	**3.29**	**316**	IAML		00 01 51.5	
comp=E,24nm,0.7s							
CMB				IAML		00 01 52.5	
comp=N,21nm,0.8s							
KNB	**Kanab**	**4.01**	**69**	IAML		00 02 13.9	
comp=N,9.5nm,1.5s							
PSUT	**Pine Spring**	**4.08**	**45**	IAML		00 02 17.3	
comp=E,13nm,1.2s							
PSUT				IAML		00 02 30.0	
comp=N,10nm,1.2s							
Y14A	**Wickenburg**	**4.10**	**114**	IAML		00 01 39.5	
comp=E,15nm,0.1s							
Y14A				IAML		00 02 14.6	
comp=N,23nm,0.5s							
SPR3	**Spring Creek 3**	**4.17**	**36**	IAML		00 02 14.4	
comp=N,10nm,1.5s							
SPR3				IAML		00 02 14.5	
comp=E,14nm,1.3s							
WUAZ	**Wupatki**	**5.00**	**90**	IAML		00 02 45.8	
comp=E,9.6nm,0.7s							
WUAZ				IAML		00 03 21.9	
comp=E,10.0nm,4.6s							

IDC 09 00:13:05.7±1.5,**0°.34N×126°.61E, h0km, mb3.3**/4, **mbtmp3.3**/4, **Error ellipse: s-maj=153.6km s-min=24.4km az=69.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.54**	**160**	P	P	00 17 57.0	+0.3
0.4nm,0.3s,baz=338,slow=11,SNR=3.5							
0.4nm,0.3s							
ASAR	**Alice Springs**	**24.89**	**164**	P	P	00 18 30.2	-0.2
0.3nm,0.5s,baz=351,slow=16,SNR=4.9							
0.3nm,0.5s							
SONM	**Songino Array**	**50.46**	**342**	P	P	00 22 04.8	-0.6
0.2nm,0.3s,baz=157,slow=4.7,SNR=2.0							
0.2nm,0.3s							
MKAR	**Makanchi Array**	**60.27**	**326**	P	P	00 23 16.5	+0.4
0.1nm,0.4s,baz=123,slow=8.7,SNR=2.2							
0.1nm,0.4s							

*IDC **09** 00:18:02.8±1.9,7°.28S×154°.22E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=57.2km s-min=32.9km az=106.0*
ISC 09 00:18:06.9±1.8,**7°.4S**±0°.3×**154°.3E**±0°.4, **h27**km, **n6**, σ**0°.78**/6, **mb3.7**/5, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.00**	**235**	P	**P**	**00 23 09.8**	**-0.1**
2.3nm,0.5s,baz=54,slow=9.9,SNR=31							
2.3nm,0.5s							
ASAR	**Alice Springs**	**25.37**	**228**	P	**P**	**00 23 32.6**	**+0.5**
0.2nm,0.3s,baz=58,slow=8.5,SNR=6.1							
0.2nm,0.3s							
QSPA	**South Pole Qui**	**82.57**	**180**	P	**P**	**00 30 27.4**	**0.0**
1.6nm,0.8s,baz=309,slow=3.7,SNR=4.3							
1.6nm,0.8s							
MKAR	**Makanchi Array**	**83.24**	**319**	P	**P**	**00 30 31.6**	**+0.5**
0.3nm,0.5s,baz=117,slow=5.9,SNR=4.1							
0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**86.74**	**322**	P	**P**	**00 30 48.7**	**+0.2**
0.3nm,0.6s,baz=97,slow=4.5,SNR=2.4							
0.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**152.44**	**284**	PKPab	**PKPab**	**00 38 10.8**	**-1.1**
0.6nm,0.6s,baz=76,slow=2.5,SNR=4.5							

*SNET **09** 00:18:07.0±1.4, 12°.96N×89°.45W, h37km, ML3.9*
*CATAC **09** 00:18:07.5±0.5, 13°.N±3°×8°.9W±°, h28km±2km, M3.9/25, MLv3.9/25, Error ellipse: s-maj=6.4km s-min=2.7km az=21.5, confirmed*
ISC 09 00:18:08.1±1.6,**13°.02N**±0°.06×**89°.43W**±0°.04, **h32**km±11km, **n62**, σ**0°.59**/76, **2C, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.48**	**13**	*e*P	**Pn**	**00 18 18.7**	**-0.1**
LALI				*e*S	Sn	00 18 26.6	+0.5
LALI	**Alcalda de L**	**0.48**	**13**	P	**Pn**	**00 18 18.8**	**0.0**
PANCS	**Alcalda de**	**0.64**	**22**	*e*P	**Pn**	**00 18 20.6**	**-0.5**
PANCS				*e*S	Sn	00 18 30.2	+0.2
PANCS	**Alcalda de**	**0.64**	**22**	P	**Pn**	**00 18 20.6**	**-0.5**
LOMA	**Loma Larga**	**0.67**	**22**	*e*P	**Pn**	**00 18 21.2**	**-0.4**
LOMA				*e*S	Sn	00 18 31.9	+0.9
LOMA	**Loma Larga**	**0.67**	**22**	P	**Pn**	**00 18 21.2**	**-0.4**
LFRS	**El Faro**	**0.70**	**31**	*e*P	**Pb**	**00 18 21.6**	**-0.4**
SEMO	**Seminario San**	**0.71**	**16**	P	**Pn**	**00 18 21.5**	**-0.5**
UTEC	**Universidad Te**	**0.71**	**18**	P	**Pn**	**00 18 21.7**	**-0.3**
UTEC	**Universidad Te**	**0.71**	**18**	S	**Sn**	**00 18 32.7**	**+0.7**
UEES	**Universidad Ev**	**0.72**	**15**	*e*P	**Pn**	**00 18 21.7**	**-0.4**
UEES				*e*S	Sn	00 18 32.6	+0.5
UEES	**Universidad Ev**	**0.72**	**15**	P	**Pn**	**00 18 21.8**	**-0.4**
BOQS	**Boqueron**	**0.72**	**12**	*i*P	**Pb**	**00 18 22.1**	**-0.4**
UDBS	**Universidad Do**	**0.74**	**21**	P	**Pb**	**00 18 22.4**	**-0.2**
UDBS	**Universidad Do**	**0.74**	**21**	S	**Sb**	**00 18 33.3**	**+0.8**
LFU	**La Fuente**	**0.79**	**23**	*e*P	**Pb**	**00 18 23.1**	**-0.4**
COEG	**Centro de Oper**	**0.80**	**42**	*e*P	**Pn**	**00 18 22.7**	**-0.5**
COEG				*e*S	Sn	00 18 34.2	0.0
COEG	**Centro de Oper**	**0.80**	**42**	P	**Pn**	**00 18 22.8**	**-0.5**
COEG	**Centro de Oper**	**0.80**	**42**	S	**Sn**	**00 18 34.0**	**-0.2**
LBRS	**Las Brisas**	**0.81**	**28**	*i*P	**Pb**	**00 18 23.4**	**-0.3**
TECO	**Alcaldia de Te**	**0.81**	**51**	*e*P	**Pn**	**00 18 22.7**	**-0.8**
TECO				*e*S	Sb	00 18 34.9	+0.3
TECO	**Alcaldia de Te**	**0.81**	**51**	P	**Pn**	**00 18 22.7**	**-0.8**
CEVE	**Cerro Verde**	**0.82**	**347**	*e*P	**Pn**	**00 18 23.3**	**-0.5**
CEVE				*e*S	Sb	00 18 37.4	+2.2
CEVE	**Cerro Verde**	**0.82**	**347**	P	**Pn**	**00 18 23.2**	**-0.6**
SBLS	**San Blas**	**0.84**	**347**	*e*P	**Pn**	**00 18 23.3**	**-0.6**
SBLS				*e*S	Sb	00 18 36.7	+1.2
PAVA	**Las Pavas**	**0.84**	**35**	*e*P	**Pn**	**00 18 23.6**	**-0.2**
PAVA				*e*S	Sb	00 18 36.0	+0.7
PAVA	**Las Pavas**	**0.84**	**35**	P	**Pn**	**00 18 23.6**	**-0.2**
UESV	**Universidad de**	**0.88**	**45**	P	**Pn**	**00 18 23.7**	**-0.6**
UESV	**Universidad de**	**0.88**	**45**	S	**Sn**	**00 18 36.0**	**0.0**
ALJI	**Alcalda de J**	**0.89**	**70**	*e*P	**Pb**	**00 18 25.2**	**+0.1**
ALJI				*e*S	Sb	00 18 37.4	+0.7
ALJI	**Alcalda de J**	**0.89**	**70**	P	**Pb**	**00 18 25.0**	**-0.1**
NUBE	**Las Nubes**	**0.94**	**339**	*e*P	**Pn**	**00 18 24.4**	**-0.9**
NUBE				*e*S	Sn	00 18 36.9	-0.8
NUBE	**Las Nubes**	**0.94**	**339**	P	**Pn**	**00 18 24.4**	**-0.9**
SCLA	**Alcaldia de Sa**	**0.96**	**45**	P	**Pn**	**00 18 25.4**	**0.0**
UNIC	**Universidad Ca**	**0.96**	**353**	S	**Sb**	**00 18 38.7**	**-0.1**
UNIC	**Universidad Ca**	**0.96**	**353**	P	**Pn**	**00 18 25.1**	**-0.4**
FAME	**Alcaldia de Sa**	**1.00**	**325**	P	**Pn**	**00 18 24.9**	**-1.1**
TECA	**Tecapa**	**1.02**	**62**	*e*P	**Pn**	**00 18 25.9**	**-0.4**
LOAL	**Lomas de Alarc**	**1.03**	**341**	P	**Pn**	**00 18 26.3**	**-0.2**
PQSS	**Presa 15 de Se**	**1.04**	**55**	S	**Sn**	**00 18 40.2**	**+0.3**
PQSS	**Presa 15 de Se**	**1.04**	**55**	P	**Pn**	**00 18 26.4**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.06**	**341**	P	**Pn**	**00 18 26.3**	**-0.5**
SLOZ	**Alcaldia de Sa**	**1.06**	**341**	S	**Sb**	**00 18 41.1**	**-0.4**
PACA	**Pacayal**	**1.17**	**67**	*e*P	**Pn**	**00 18 28.6**	**+0.2**
PACA				*e*S	Sb	00 18 44.3	-0.4
PACA	**Pacayal**	**1.17**	**67**	P	**Pb**	**00 18 28.7**	**-1.1**
PACA	**Pacayal**	**1.17**	**67**	S	**Sb**	**00 18 44.0**	**-0.7**
LCY	**Lacayo**	**1.18**	**70**	*e*P	**Pn**	**00 18 28.5**	**+0.1**
BLLM	**Bellamira**	**1.23**	**70**	*e*P	**Pn**	**00 18 29.2**	**0.0**
CNRM	**Centro Naciona**	**1.31**	**70**	S	**Sb**	**00 18 48.0**	**-0.5**
CAHU	**Cacacuatique**	**1.40**	**58**	*e*P	**Pn**	**00 18 31.6**	**-0.1**
ESQI	**Esquipulas**	**1.53**	**3**	P	**Pn**	**00 18 33.4**	**0.0**
CNCH	**Conchagua**	**1.57**	**81**	*e*P	**Pn**	**00 18 34.1**	**+0.1**
CNCH				*e*S	Sn	00 18 54.3	+1.0
CNCH	**Conchagua**	**1.57**	**81**	P	**Pn**	**00 18 34.0**	**+0.1**
SARH	**Santa Rosa de**	**1.86**	**20**	P	**Pn**	**00 18 38.2**	**+0.3**
POTN	**Potosi Cosigui**	**1.87**	**90**	P	**Pn**	**00 18 38.2**	**+0.2**
POTN				S	Sn	00 19 00.2	-0.4
CHOHN	**Orocuina**	**2.26**	**78**	P	**Pn**	**00 18 42.9**	**-0.5**
TGUH	**Tegucigalpa,Un**	**2.34**	**64**	P	**Pn**	**00 18 44.3**	**-0.2**
RTAL	**Retalhuleu**	**2.66**	**304**	S	**Sn**	**00 19 21.3**	**+1.3**
CNGN	**Cerro Negro**	**2.71**	**101**	P	**Pn**	**00 18 49.9**	**+0.3**
MOMN	**Momotombo**	**2.88**	**102**	P	**Pn**	**00 18 51.9**	**0.0**
COPN	**Copaltepe**	**2.89**	**106**	P	**Pn**	**00 18 52.4**	**+0.4**
RCVN	**Varillal2**	**3.20**	**80**	P	**Pn**	**00 18 56.1**	**-0.3**

*SJA **09** 00:22:00.2±0.7, 29°.41S×71°.99W, h17km±2km, ML3.6, MW3.8*
*IDC **09** 00:22:00.6±2.3, 29°.57S×71°.86W, h0km, mb3.8/2, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=100.0km s-min=31.7km az=97.0*
*GUC **09** 00:22:03.9±0.7, 29°.48S×71°.80W, h25km±4km, ML3.7*
ISC 09 00:22:01.8±1.5,**29°.46S**±0°.02×**71°.89W**±0°.05, **h5**km±10km, **n49**, σ**1°.69**/73, **6C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.73**	**129**	*i*P	**Pb**	**00 22 16.8**	**-0.2**
CO05				*e*S	**Sb**	**00 22 26.0**	**-1.3**
CO05				IAML		00 22 26.9	
comp=N,4μm,0.6s							
LCO	**Las Campanas**	**1.13**	**67**	*e*P	**Pb**	**00 22 23.5**	**-0.5**
LCO				*i* S	**Sb**	**00 22 38.6**	**-0.4**
LCO	**Las Campanas**	**1.13**	**67**	*e*P	**Pb**	**00 22 23.5**	**-0.5**
LCO				*e*S	**Sn**	**00 22 42.2**	**+1.7**
LCO				IAML		00 22 44.0	
comp=Z,2μm,0.5s							
GO04	**Tololo Observa**	**1.18**	**127**	*i*P	**Pb**	**00 22 24.3**	**-0.6**
GO04				*i* S	**Sb**	**00 22 39.1**	**-1.5**
GO04	**Tololo Observa**	**1.18**	**127**	*e*P	**Pb**	**00 22 24.4**	**-0.6**
CO06	**Fray Jorge**	**1.23**	**170**	*i*P	**Pg**	**00 22 24.6**	**-0.9**
CO06				*e*S	**Sg**	**00 22 40.9**	**-0.7**
CO06				IAML		00 22 45.5	
comp=E,1μm,0.3s							
AC04	**Llanos de Chal**	**1.44**	**30**	*i*P	**Pn**	**00 22 27.5**	**-1.0**
AC04				*e*S	**Sb**	**00 22 46.6**	**-1.0**
AC04	**Llanos de Chal**	**1.44**	**30**	*e*P	**Pn**	**00 22 27.6**	**-1.0**
AC04				*e*S	**Sg**	**00 22 51.1**	**+3.1**
AC04				IAML		00 22 57.5	
comp=Z,609nm,0.7s							
CO01	**Juntas del Tor**	**1.64**	**109**	*i*P	**Pn**	**00 22 31.7**	**+0.1**
CO01				*i* S	**Sn**	**00 22 51.9**	**-1.3**
CO01	**Juntas del Tor**	**1.64**	**109**	*e*P	**Pb**	**00 22 31.9**	**-0.9**
CO01				*e*S	**Sg**	**00 22 55.8**	**+1.0**
CO01				IAML		00 22 57.1	
comp=Z,492nm,0.8s							
CO03	**El Pedregal**	**1.73**	**143**	*i*P	**Pn**	**00 22 32.4**	**-0.1**
CO03				*i* S	**Sn**	**00 22 54.4**	**-0.6**
CO03				IAML		00 22 58.4	
comp=E,790nm,0.6s							
CO03	**El Pedregal**	**1.73**	**143**	*e*P	**Pn**	**00 22 32.5**	**-0.1**
CO03				*e*S	**Sn**	**00 22 50.0**	**-5.1**
CO03				IAML		00 23 04.0	
comp=Z,384nm,0.6s							
CO02	**Combarbal**	**1.90**	**156**	*i*P	**Pn**	**00 22 35.2**	**+0.2**
CO02				*i* S	**Sn**	**00 22 59.5**	**0.0**
CO02				IAML		00 23 09.0	
comp=E,2μm,0.3s							
CO02	**Combarbal**	**1.90**	**156**	*e*P	**Pn**	**00 22 35.3**	**+0.2**
CO02				*e*S	**Sg**	**00 23 03.0**	**0.0**
CO02				IAML		00 23 04.4	
comp=Z,966nm,0.4s							
AROD	**Rodeo**	**2.21**	**109**	*e*P	**Pb**	**00 22 42.1**	**-0.4**
GO03	**Copiapo**	**2.36**	**38**	*e*P	**Pn**	**00 22 41.0**	**-0.3**
GO03				*e*S	**Sn**	**00 23 11.4**	**+0.8**
GO03				IAML		00 23 20.8	
comp=E,495nm,0.5s							
GO03	**Copiapo**	**2.36**	**38**	*e*P	**Pn**	**00 22 41.0**	**-0.3**
GO03				*e*S	**Sn**	**00 23 11.2**	**+0.6**
AC06	**Mina Casimiro**	**2.49**	**33**	*e*P	**Pn**	**00 22 43.2**	**+0.1**
AC06				IAML		00 23 26.3	
comp=E,453nm,0.7s							
ACDV	**Cuesta del Vie**	**2.51**	**107**	*e*P	**Pb**	**00 22 47.6**	**+0.2**
ACDV				IAML		00 23 23.5	
comp=Z,170nm,1.3s							
ACCO	**Cerro Coronel**	**2.69**	**115**	*e*P	**Pb**	**00 22 49.6**	**-1.1**
AGUA	**GUANDACOL**	**2.96**	**91**	*e*P	**Pb**	**00 22 53.5**	**-1.7**
AGUA				IAML		00 23 44.1	
comp=Z,218nm,0.8s							
VCA	**Vinchina**	**3.30**	**78**	*e*P	**Pb**	**00 22 59.0**	**-2.0**
VCA				*e*S	**Sb**	**00 23 40.8**	**-0.7**
VCA	**Vinchina**	**3.30**	**78**	*e*P	**Pn**	**00 22 54.3**	**-0.1**
VCA				IAML		00 23 56.0	
comp=Z,160nm,0.7s							
AC01	**Pan de Azucar**	**3.49**	**19**	*e*P	**Pn**	**00 22 54.8**	**-2.0**
AC01				IAML		00 24 04.5	
comp=E,134nm,0.5s							
AC01	**Pan de Azucar**	**3.49**	**19**	*e*P	**Pn**	**00 22 54.9**	**-1.8**
AC01				*e*S	**Sb**	**00

GO02 **Mina Guanaco** 4.74 26 *eP* **Pn** **00 23 13.6 -0.6**
GO02 *eS* **Sn** **00 24 10.0 +0.2**
APLL PUNTA DE LOS L 4.75 103 *eP* **Pn** **00 23 16.1 +2.0**
ACAN Cantantal 4.92 126 *eP* **Pn** **00 23 18.1 +1.6**
BO01 Tunca 4.97 172 *eP* **Pn** **00 23 16.7 -0.4**
BO01 *eS* **Sb** **00 24 32.5 +3.2**
BO01 IAML 00 24 45.5
comp=Z,28nm,0.9s
H03N1 Juan Fernandez 7.20 235 T T 00 31 29.0
baz=63,slow=71,SNR=528
H03N2 Juan Fernandez 7.21 235 T T 00 31 25.4
baz=63,slow=71,SNR=471
H03N3 Juan Fernandez 7.21 235 T T 00 31 26.4
baz=63,slow=71,SNR=558
LPAZ La Paz 13.55 16 Pn **Pn** **00 25 18.1 +2.7**
comp=Z,0.2nm,0.3s,baz=173,slow=1.5,SNR=4.2
comp=Z,0.8nm,0.5s
SIV San Ignacio 16.69 39 Pn **Pn** **00 25 57.4 +0.8**
baz=206,slow=12,SNR=4.9
comp=Z,0.6nm,0.4s
SNAA Sanae 55.75 159 P **P** **00 31 38.4 -0.8**
comp=Z,0.7nm,0.7s,baz=272,slow=8.6,SNR=8.9
comp=Z,0.7nm,0.7s
TORD Torodi Ar. Bea 82.56 70 P **P** **00 34 25.4 -0.8**
comp=Z,0.9nm,0.8s,baz=244,slow=3.6,SNR=4.1
comp=Z,0.9nm,0.8s
KURBB Kurchatov Arra 149.35 38 PKPbc **PKPbc** **00 41 50.6 -0.8**
comp=Z,0.3nm,0.5s,baz=303,slow=3.0,SNR=4.2
ZALV Zalesovo Beam 150.24 28 PKPbc **PKPbc** **00 41 52.8 -0.8**
comp=Z,0.6nm,0.4s,baz=291,slow=4.3,SNR=4.6

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*DJA **09** 00:27:14.3±1.1,0˚S±2˚×12˚5E±˚, h16km±9km, M4.7/22, mB5.2/4, mb4.7/9, MLv4.6/22, Mw(mB)4.6/4*
*IDC **09** 00:27:16.9±3.2, 0˚.20S×124˚.88E, h70km±30km, mb4.0/19, mbtmp4.3/21, MS3.4/5, Error ellipse: s-maj=22.7km s-min=12.3km az=74.0*
*NEIC **09** 00:27:16.2±1.5, 0˚.14S±0˚.08×125˚.05E±0˚.06, h44km±7km, mb4.6/75, Error ellipse: s-maj=11.0km s-min=8.8km az=169.0*
ISC 09 00:27:15.8±0.3, **0˚.19S**±0˚.04×**125˚.02E**±0˚.05, **h53**km, **n257**, σ1f**34**/257, **mb4.5**/64, **1D**, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.29**	**306**	P	**Pn**	**00 27 35.9**	**-1.6**
SANI	**Sanana**	**2.08**	**152**	P	**Pn**	**00 27 46.6**	**-1.7**
LUWI	**Luwuk**	**2.40**	**249**		**Pn**	**00 27 53.5**	**+0.9**
LUWI	**Luwuk**	**2.40**	**249**	P	**Pn**	**00 27 53.1**	**+0.4**
TNTI	**Ternate**	**2.54**	**68**		**Pn**	**00 27 54.0**	**-0.5**
TNTI	**Ternate**	**2.54**	**68**	P	**Pn**	**00 27 55.3**	**+0.8**
TNTI				S	**Sn**	**00 28 25.6**	**+1.4**
APSI	**Ampana**	**3.44**	**258**	P	**Pn**	**00 28 08.9**	**+1.9**
NLAI	**Namlea**	**3.67**	**146**	P	**Pn**	**00 28 09.3**	**-0.8**
SGSI	**Sangihe**	**3.89**	**8**	P	**Pn**	**00 28 15.1**	**+2.0**
TOLI2	**Tolitoli**	**4.43**	**287**		**Pn**	**00 28 19.4**	**-1.1**
KDI	**Kendari**	**4.44**	**213**	P	**Pn**	**00 28 21.3**	**+0.6**
MSAI	**Masohi**	**5.01**	**129**	P	**Pn**	**00 28 29.7**	**+1.2**
MPSI	**Mapaga**	**5.15**	**276**	P	**Pn**	**00 28 31.2**	**+0.8**
	0.6nm2µm71nm,0.5s						
PCI	**Palu**	**5.23**	**262**	P	**Pn**	**00 28 30.2**	**-1.3**
TTSI	**Tana Toraja**	**5.92**	**241**	P	**Pn**	**00 28 41.9**	**+0.9**
	0.7nm3µm120nm,0.7s						
BNSI	**Bone**	**6.45**	**230**	P	**Pn**	**00 28 48.9**	**+0.7**
	0.3nm74nm,0.6s						
SPSI	**Sidrap Palu**	**6.45**	**234**	P	**Pn**	**00 28 49.4**	**+1.2**
	0.4nm66nm,0.6s						
BKSI	**Bulukumba**	**7.06**	**224**	P	**Pn**	**00 28 57.4**	**+0.8**
	0.2nm32nm,1.2s						
KAPI	**Kappang**	**7.11**	**228**	Pn	**Pn**	**00 28 58.9**	**+1.6**
KAPI	**Kappang**	**7.11**	**228**	P	**Pn**	**00 28 57.9**	**+0.6**
	13nm,0.3s,baz=13,slow=5.4,SNR=8.8						
KAPI				S	**Sn**	**00 30 16.1**	**-0.7**
	23nm,0.5s,baz=180,slow=18,SNR=2.3						
KAPI				LR	LR	00 32 29.1	
	comp=Z,227nm,20.9s,baz=84,slow=45						
DAV	**Davao City (W)**	**7.24**	**4**	LR	LR	00 32 09.3	
	comp=Z,265nm,20.6s,baz=193,slow=40						
FAKI	**Fak Fak**	**7.72**	**111**	Pn	**Pn**	**00 29 04.5**	**-1.2**
FAKI	**Fak Fak**	**7.72**	**111**	P	**Pn**	**00 29 04.0**	**-1.6**
EDFI	**Ende, Flores**	**9.12**	**201**	P	**Pn**	**00 29 26.2**	**+1.2**
BATI	**Baumata**	**10.04**	**180**	LR	LR	00 34 13.8	
	comp=Z,196nm,20.4s,baz=67,slow=42						
JAGI	**Jajag, Banyuwa**	**13.60**	**233**		**P**	**00 30 37.1**	**+3.7**
KNRA	**Kununurra**	**15.82**	**167**	Pn	**Pn**	**00 30 55.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**17.80**	**178**		**Pn**	**00 31 20.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**17.80**	**178**	P	**Pn**	**00 31 19.8**	**-0.1**
	2.7nm,0.7s,baz=15,slow=11,SNR=5.4						
MBWA	**Marble Bar**	**21.47**	**194**		**P**	**00 31 59.9**	**-0.1**
WB0	**Warramunga Arr**	**21.51**	**155**		**P**	**00 31 59.3**	**-1.2**
WRAB	**Tennant Creek**	**21.64**	**156**	P	**P**	**00 32 01.4**	**-0.5**
WRAB				IAmb	IAmb	00 32 28.6	
	comp=Z,15nm,0.8s						
WRA	**Warramunga Arr**	**21.65**	**156**	P	**P**	**00 32 00.5**	**-1.4**
WRA	**Warramunga Af**	**21.65**	**156**	P	**P**	**00 32 00.7**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=335,slow=11,SNR=18						
	comp=Z,1.3nm,0.5s						
WR8	**Warramunga Arr**	**21.73**	**155**		**P**	**00 32 01.8**	**-0.9**
COEN	**Coen**	**22.59**	**128**	P	**P**	**00 32 12.4**	**+0.3**
COEN				IAmb	IAmb	00 32 20.3	
	comp=Z,20nm,1.1s						
YULB	**Yu-li**	**23.72**	**351**	P	**P**	**00 32 21.2**	**-2.0**
TPUB	**Ta-pu**	**23.74**	**350**	P	**P**	**00 32 22.6**	**-0.8**
AS31	**Alice Springs**	**24.88**	**160**	P	**P**	**00 32 35.8**	**+2.1**
ASAR	**Alice Springs**	**24.88**	**160**	P	**P**	**00 32 35.2**	**+1.4**
ASAR	**Alice Springs**	**24.88**	**160**	P	**P**	**00 32 33.8**	**0.0**
	comp=Z,1.4nm,0.8s,baz=338,slow=6.8,SNR=14						
ASAR				PcP	**PcP**	**00 36 09.2**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=344,slow=2.2,SNR=5.7						
	comp=Z,1.4nm,0.8s						
YHNB	**Yeheng**	**24.97**	**352**	P	**P**	**00 32 35.0**	**+0.4**
YHNB				IAmb	IAmb	00 32 47.3	
	comp=Z,55nm,1.5s						
JOW	**Kunigami**	**27.05**	**6**	P	**P**	**00 32 52.7**	**-0.6**
JOW				IAmb	IAmb	00 32 55.0	
	comp=Z,19nm,0.8s						
FORT	**Forrest**	**30.55**	**175**	P	**P**	**00 33 24.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**31.62**	**307**	P	**P**	**00 33 33.1**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=126,slow=9.4,SNR=1.0						
CMAR				PcP	**PcP**	**00 36 25.2**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=137,slow=2.8,SNR=5.1						
CMAR				LR	LR	00 48 14.3	
	comp=Z,30nm,18.4s,baz=180,slow=40						
	comp=Z,0.4nm,0.3s						
GYA	**Guiyang**	**31.86**	**328**	P	**P**	**00 33 37.6**	**+1.5**
GYA				pmax	pmax		
	comp=Z,13nm,0.8s						
NJ2	**Nanjing**	**32.60**	**350**	*eP*	**P**	**00 33 44.6**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PZH	**PanZhiHua**	**34.75**	**322**	P	P	00 34 06.7	+5.4
JMN	**Monobe**	**34.76**	**13**	P	**P**	**00 34 01.8**	**+0.6**
STKA	**Stephens Creek**	**35.20**	**155**	P	**P**	**00 34 05.5**	**+0.6**
STKA	**Stephens Creek**	**35.20**	**155**	P	**P**	**00 34 04.9**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=336,slow=6.2,SNR=5.4						
	comp=Z,1.9nm,0.4s						
EIDS	**Eidsvold**	**35.50**	**137**	P	**P**	**00 34 07.6**	**-0.1**
EIDS				IAmb	IAmb	00 34 32.1	
	comp=Z,6.1nm,1.1s						
JGF	**Kuroka**	**37.42**	**17**	P	**P**	**00 34 23.3**	**-0.7**
JGF				IAmb	IAmb	00 34 31.3	
	comp=Z,12nm,1.2s						
KSRS	**Korea Array**	**37.56**	**4**	P	**P**	**00 34 25.1**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=183,slow=9.9,SNR=7.7						
	comp=Z,2.1nm,0.7s						
MJAR	**Matsushiro Arr**	**38.55**	**17**	P	**P**	**00 34 32.4**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=196,slow=8.6,SNR=2.4						
	comp=Z,1.5nm,0.5s						
JMM	**Marumori**	**40.57**	**19**	P	**P**	**00 34 50.2**	**0.0**
HHC	**Hu-ho-hao-te**	**42.64**	**345**	*eP*	**P**	**00 35 11.1**	**+3.8**
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
XLT	**XiLinHaoTe**	**44.62**	**351**	*eP*	**P**	**00 35 21.4**	**-1.7**
XLT				pP	pP	00 35 34.6	-1.5
XLT				sP	pwP	00 35 39.7	-0.5
XLT				pmax	pmax		
	comp=Z,6.0nm,0.7s						
USA0B	**Ussuriysk Arra**	**44.63**	**7**	P	**P**	**00 35 23.4**	**+0.3**
USA0B				IAmb	IAmb	00 35 25.1	
	comp=Z,13nm,1.4s						
USRK	**Ussuriysk Ar.**	**44.63**	**7**	P	**P**	**00 35 24.5**	**+1.4**
USRK	**Ussuriysk Ar.**	**44.63**	**7**	P	**P**	**00 35 22.6**	**-0.5**
	comp=Z,1.6nm,0.4s,baz=196,slow=7.8,SNR=8.1						
	comp=Z,1.6nm,0.4s						
GTA	**Gaotai**	**45.67**	**333**	*eP*	**P**	**00 35 33.2**	**+1.7**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BNX	**BinXian**	**45.79**	**2**	⇓P	**P**	**00 35 31.6**	**-0.6**
BNX				pmax	pmax		
	comp=Z,5.0nm,0.8s						
EVN	**Everest**	**46.09**	**311**	P	**P**	**00 35 35.5**	**-0.1**
EVN				IAmb	IAmb	00 35 36.4	
	comp=Z,4.9nm,0.7s						
SONM	**Songino Array**	**50.51**	**344**	P	**P**	**00 36 09.3**	**+0.6**
SONM	**Songino Array**	**50.51**	**344**	P	**P**	**00 36 08.3**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=159,slow=8.8,SNR=12						
	comp=Z,2.2nm,0.5s						
PETK	**Petropavlovsk-**	**59.68**	**22**	P	**P**	**00 37 15.1**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=251,slow=9.0,SNR=3.1						
	comp=Z,1.7nm,0.5s						
MKAR	**Makanchi Array**	**59.85**	**327**		**P**	**00 37 14.9**	**-1.1**
MKAR	**Makanchi Array**	**59.85**	**327**	P	**P**	**00 37 14.2**	**-1.8**
	comp=Z,6.5nm,0.4s,baz=116,slow=8.7,SNR=82						
	comp=Z,6.5nm,0.4s						
LTZ	**Lake Taylor**	**59.87**	**141**	P	**P**	**00 37 18.3**	**+2.1**
MAKZ	**Makanchi**	**60.03**	**327**		**P**	**00 37 17.4**	**+0.2**
KDJ	**Kajisay**	**60.20**	**321**	P	**P**	**00 37 19.5**	**+0.8**
KDJ				IAmb	IAmb	00 37 20.3	
	comp=Z,4.2nm,0.5s						
BKZ	**Black Stump Fm**	**60.90**	**136**	P	**P**	**00 37 24.5**	**+1.2**
BOOM	**Boomskoye usch**	**61.17**	**320**	P	**P**	**00 37 25.9**	**+0.6**
ARSB	**Arslanbob**	**62.54**	**318**	P	**P**	**00 37 35.2**	**+0.7**
ARSB				IAmb	IAmb	00 37 35.9	
	comp=Z,4.2nm,0.9s						
KBL	**Kabul**	**62.61**	**310**	P	**P**	**00 37 35.5**	**+0.4**
KBL				IAmb	IAmb	00 37 36.8	
	comp=Z,3.4nm,0.5s						
ZAA0	**Zalesovo Array**	**63.34**	**335**	P	**P**	**00 37 39.1**	**-0.2**
ZAA0				IAmb	IAmb	00 37 39.5	
	comp=Z,2.2nm,0.6s						
ZALV	**Zalesovo Beam**	**63.34**	**335**	P	**P**	**00 37 38.4**	**-0.9**
ZALV	**Zalesovo Beam**	**63.34**	**335**	P	**P**	**00 37 37.7**	**-1.6**
	comp=Z,2.1nm,0.6s,baz=116,slow=6.9,SNR=9.0						
	comp=Z,2.1nm,0.6s						
GAR	**Garm**	**63.38**	**315**		**P**	**00 37 40.6**	**+0.5**
KURBB	**Kutatov Arra**	**64.15**	**329**	P	**P**	**00 37 42.6**	**-2.1**
	comp=Z,3.7nm,0.5s,baz=136,slow=6.9,SNR=76						
KURBB				PcP	**PcP**	**00 38 17.7**	**-1.7**
	comp=Z,1.4nm,0.7s,baz=127,slow=3.7,SNR=6.2						
	comp=Z,3.7nm,0.5s						
KURK	**Kurchatov**	**64.16**	**329**		**P**	**00 37 45.1**	**+0.3**
KK31	**Karatay Array**	**64.98**	**319**		**P**	**00 37 50.7**	**+0.4**
KKAR	**Karatay Array**	**64.98**	**319**	P	**P**	**00 37 50.6**	**+0.3**
KKAR	**Karatay Array**	**64.98**	**319**	P	**P**	**00 37 50.5**	**+0.1**
MSEY	**Mahe Island**	**69.59**	**265**	P	**P**	**00 38 20.0**	**-0.1**
BVAR	**Borovoye Array**	**69.70**	**328**	P	**P**	**00 38 19.4**	**-0.6**
	comp=Z,2.2nm,0.4s						
	comp=Z,1.2nm,0.4s						
KIWB	**Kanaga Island**	**70.88**	**34**	P	**P**	**00 38 27.0**	**-0.2**
NRIK	**Noril'sk**	**73.83**	**347**	P	**P**	**00 38 43.6**	**-0.8**
	comp=Z,9.4nm,0.6s,baz=128,slow=5.7,SNR=15						
	comp=Z,9.4nm,0.6s						
ABKAR	**Akbulak array**	**74.12**	**322**	P	**P**	**00 38 45.8**	**-0.8**
ABKAR	**Akbulak array**	**74.12**	**322**	IAmb	IAmb	00 38 47.6	
	comp=Z,3.9nm,0.9s						
SPIA	**Saint Paul Isl**	**76.72**	**30**	P	**P**	**00 39 03.3**	**+2.0**
	baz=248						
UNV	**Unalaska Valle**	**77.60**	**34**	P	**P**	**00 39 06.5**	**+0.2**
UNV	**Unalaska Valle**	**77.60**	**34**	P	**P**	**00 39 07.8**	**+1.6**
	baz=252						
VOI	**Vohitsoka**	**79.00**	**248**	P	**P**	**00 39 13.6**	**-1.3**
S12K	**Black Hills**	**80.59**	**33**	P	**P**	**00 39 24.0**	**+1.4**
	baz=256						
TNA	**Tin City**	**80.84**	**23**	P	**P**	**00 39 25.4**	**+1.7**
	baz=249						
K13K	**Kusilvak Mount**	**81.01**	**27**	P	**P**	**00 39 26.4**	**+1.7**
	baz=252						
SDPT	**Sand Point**	**81.38**	**34**	P	**P**	**00 39 27.3**	**+0.5**
	baz=257						
J14K	**Nanvaranak Lak**	**81.74**	**26**	P	**P**	**00 39 29.8**	**+1.2**
	baz=253						
L14K	**Kuka Creek**	**81.74**	**28**	P	**P**	**00 39 29.3**	**+0.8**
	baz=254						
CHNA	**Chernabura Isl**	**81.77**	**34**	P	**P**	**00 39 30.2**	**+1.4**
	baz=258						
N14K	**Kuskokwak Cree**	**81.84**	**29**	P	**P**	**00 39 30.1**	**+0.9**
	baz=255						
O14K	**Tigyukauivet M**	**81.88**	**30**	P	**P**	**00 39 30.5**	**+1.1**
	baz=256						
M14K	**Bethel**	**81.92**	**28**	P	**P**	**00 39 30.9**	**+1.4**
	baz=255						
F15K	**North Star Dit**	**82.17**	**23**	P	**P**	**00 39 32.3**	**+1.5**
	baz=252						
L15K	**Ungalak Mounta**	**82.38**	**27**	P	**P**	**00 39 33.8**	**+1.9**
	baz=255						
M15K	**Kasigluk River**	**82.52**	**29**	P	**P**	**00 39 34.5**	**+1.8**
	baz=256						
K15K	**Wolf Creek Mou**	**82.52**	**27**	P	**P**	**00 39 33.5**	**+0.8**
K15K				IAmb	IAmb	00 39 36.3	
	comp=Z,7.5nm,1.1s						
K15K	**Wolf Creek Mou**	**82.52**	**27**	P	**P**	**00 39 34.5**	**+1.8**
	baz=255,SNR=6.0						
O15K	**Ungalikthiuk R**	**82.59**	**30**	P	**P**	**00 39 34.0**	**+1.0**
	baz=257						
N15K	**Kwethluk River**	**82.68**	**29**	P	**P**	**00 39 35.0**	**+1.5**
N15K				IAmb	IAmb	00 39 37.0	
	comp=Z,6.5nm,1.2s						
N15K	**Kwethluk River**	**82.68**	**29**	P	**P**	**00 39 34.7**	**+1.2**
	baz=257						
CHGN	**Chignik**	**82.72**	**33**	P	**P**	**00 39 35.1**	**+1.3**
	baz=259						
C16K	**Lisburne Hills**	**82.74**	**21**	P	**P**	**00 39 34.9**	**+1.2**
C16K	**Lisburne Hills**	**82.74**	**21**	P	**P**	**00 39 35.2**	**+1.6**
	baz=251						
H16K	**Elim**	**82.83**	**24**	P	**P**	**00 39 35.4**	**+1.2**
	baz=254						
G16K	**Koyuk River**	**82.99**	**24**	P	**P**	**00 39 36.1**	**+1.1**
G16K				IAmb	IAmb	00 39 37.7	
	comp=Z,6.6nm,1.1s						
G16K	**Koyuk River**	**82.99**	**24**	P	**P**	**00 39 36.7**	**+1.7**
	baz=254						
J16K	**Anvik River**	**83.18**	**26**	P	**P**	**00 39 38.0**	**+2.0**
J16K				IAmb	IAmb	00 39 39.2	
	comp=Z,9.2nm,0.9s						
J16K	**Anvik River**	**83.18**	**26**	P	**P**	**00 39 38.5**	**+2.5**
	baz=256,SNR=7.8						
I17K	**Unalakleet**	**83.29**	**25**	P	**P**	**00 39 37.9**	**+1.3**
	baz=256						
L16K	**Owhat River**	**83.32**	**28**	P	**P**	**00 39 38.6**	**+1.8**
	baz=257						
D17K	**Noatak River**	**83.37**	**21**	P	**P**	**00 39 39.1**	**+2.2**
	baz=253						
N16K	**Nishlik Lake**	**83.39**	**29**	P	**P**	**00 39 38.6**	**+1.4**
	baz=258,SNR=5.4						
M16K	**Timber Creek**	**83.41**	**28**	P	**P**	**00 39 38.6**	**+1.3**
M16K				IAmb	IAmb	00 39 40.0	
	comp=Z,5.8nm,0.9s						
M16K	**Timber Creek**	**83.41**	**28**	P	**P**	**00 39 38.7**	**+1.4**
	baz=258,SNR=6.0						
O16K	**Kokwok River B**	**83.54**	**30**	P	**P**	**00 39 39.3**	**+1.3**
O16K				IAmb	IAmb	00 39 40.4	
	comp=Z,5.5nm,0.9s						
O16K	**Kokwok River B**	**83.54**	**30**	P	**P**	**00 39 39.3**	**+1.3**
	baz=258						
C17K	**DeLong Mountai**	**83.56**	**21**	P	**P**	**00 39 40.0**	**+2.0**
	baz=253,SNR=6.2						
E17K	**Hotham Inlet**	**83.66**	**22**	P	**P**	**00 39 40.3**	**+1.8**
	baz=254						
G17K	**Kiwalik Mounta**	**83.71**	**24**	P	**P**	**00 39 40.4**	**+1.6**
	baz=256,SNR=5.6						
F17K	**Baldwin Pennin**	**83.71**	**23**	P	**P**	**00 39 40.3**	**+1.6**
F17K				IAmb	IAmb	00 40 11.2	
	comp=Z,3.5nm,1.0s						
F17K	**Baldwin Pennin**	**83.71**	**23**	P	**P**	**00 39 39.9**	**+1.3**
	baz=255						
H17K	**Granite Mounta**	**83.87**	**24**	P	**P**	**00 39 41.0**	**+1.4**
H17K				IAmb	IAmb	00 39 42.3	
	comp=Z,4.0nm,0.9s						
H17K	**Granite Mounta**	**83.87**	**24**	P	**P**	**00 39 41.3**	**+1.7**
	baz=256						
J17K	**VABM Dome**	**83.88**	**26**	P	**P**	**00 39 41.7**	**+2.0**
J17K				IAmb	IAmb	00 39 59.7	
	comp=Z,3.8nm,1.0s						
J17K	**VABM Dome**	**83.88**	**26**	P	**P**	**00 39 41.5**	**+1.8**
	baz=257						
L17K	**Donlin**	**83.96**	**27**	P	**P**	**00 39 42.2**	**+2.1**
	baz=258						
R17L	**Mt. Peulik Vol**	**84.07**	**32**	P	**P**	**00 39 43.0**	**+2.2**
	baz=260						
O17K	**Koliganek Bris**	**84.07**	**30**	P	**P**	**00 39 42.9**	**+2.2**
	baz=259						
K17K	**Iditarod**	**84.08**	**27**	P	**P**	**00 39 42.9**	**+2.3**
K17K				IAmb	IAmb	00 39 44.7	
	comp=Z,7.7nm,1.2s						
K17K	**Iditarod**	**84.08**	**27**	P	**P**	**00 39 43.1**	**+2.5**
	baz=258						
N17K	**Nushagak Hills**	**84.17**	**29**	P	**P**	**00 39 42.1**	**+1.0**
N17K				IAmb	IAmb	00 39 44.6	
	comp=Z,5.3nm,1.3s						
N17K	**Nushagak Hills**	**84.17**	**29**	P	**P**	**00 39 42.9**	**+1.7**
	baz=259						
E18K	**Tukpahlearik C**	**84.21**	**22**	P	**P**	**00 39 42.6**	**+1.3**
E18K				IAmb	IAmb	00 39 44.5	
	comp=Z,5.2nm,1.1s						
E18K	**Tukpahlearik C**	**84.21**	**22**	P	**P**	**00 39 43.1**	**+1.9**
	baz=255,SNR=6.0						
M17K	**Holitna River**	**84.21**	**28**	P	**P**	**00 39 43.6**	**+2.2**
	baz=259						
B18K	**Kokolik River**	**84.29**	**20**	P	**P**	**00 39 43.7**	**+2.1**
	baz=254,SNR=5.4						
C18K	**Utukok River**	**84.31**	**21**	P	**P**	**00 39 43.4**	**+1.5**
C18K				IAmb	IAmb	00 39 44.1	
	comp=Z,3.3nm,0.9s						
C18K	**Utukok River**	**84.31**	**21**	P	**P**	**00 39 43.5**	**+1.7**
	baz=255						
Q17K	**Contact Creek**	**84.42**	**31**	P	**P**	**00 39 43.2**	**+0.5**
	baz=261						
H18K	**Honhosa River**	**84.56**	**24**	P	**P**	**00 39 44.3**	**+1.2**
	baz=258						
G18K	**Tagagawik**	**84.61**	**24**	P	**P**	**00 39 45.1**	**+1.8**
L18K	**Granite Mounta**	**84.72**	**27**	P	**P**	**00 39 45.0**	**+1.1**
L18K				IAmb	IAmb	00 40 18.1	
	comp=Z,3.9nm,1.4s						
L18K	**Granite Mounta**	**84.72**	**27**	P	**P**	**00 39 45.4**	**+1.5**
	baz=260						
A19K	**Wainwright**	**84.76**	**19**	P	**P**	**00 39 45.7**	**+1.8**
	baz=255						
N18K	**Kilae Creek**	**84.82**	**29**	P	**P**	**00 39 46.0**	**+1.5**
	baz=260						
J18K	**Innoko River**	**84.93**	**26**	P	**P**	**00 39 45.8**	**+0.8**
	baz=259						
Q18K	**Katmai Hardscr**	**84.94**	**31**	P	**P**	**00 39 45.9**	**+0.6**
	baz=261						
P18K	**Big Mountain,**	**84.94**	**30**	P	**P**	**00 39 45.9**	**+0.7**
	baz=261						
C19K	**Lookout Ridge**	**84.99**	**20**	P	**P**	**00 39 46.9**	**+1.7**
C19K				IAmb	IAmb	00 39 48.2	
	comp=Z,3.2nm,0.8s						
C19K	**Lookout Ridge**	**84.99**	**20**	P	**P**	**00 39 47.1**	**+1.8**
	baz=256,SNR=6.1						
M18K	**Stony River**	**84.99**	**28**	P	**P**	**00 39 46.4**	**+1.1**
	baz=260						
O18K	**Koktuh Hills**	**85.03**	**30**	P	**P**	**00 39 46.0**	**+0.4**
	baz=261						
R18K	**Karluk**	**85.08**	**32**	P	**P**	**00 39 46.4**	**+0.7**
	baz=262						
G19K	**Purcell Mounta**	**85.28**	**24**	P	**P**	**00 39 48.3**	**+1.6**
	baz=259						
D19K	**Kuna River**	**85.37**	**21**	P	**P**	**00 39 49.0**	**+1.9**
D19K				IAmb	IAmb	00 39 49.8	
	comp=Z,4.6nm,1.4s						
D19K	**Kuna River**	**85.37**	**21**	P	**P**	**00 39 48.6**	**+1.5**
	baz=258						
H19K	**Roundabout Mou**	**85.42**	**24**	P	**P**	**00 39 48.7**	**+1.3**
H19K				IAmb	IAmb	00 39 49.5	
	comp=Z,4.2nm,1.1s						
H19K	**Roundabout Mou**	**85.42**	**24**	P	**P**	**00 39 48.6**	**+1.3**
	baz=259						
E19K	**Redstone River**	**85.48**	**22**	P	**P**	**00 39 49.0**	**+1.4**
E19K				IAmb	IAmb	00 39 53.0	
	comp=Z,2.4nm,0.8s						
E19K	**Redstone River**	**85.48**	**22**	P	**P**	**00 39 49.1**	**+1.4**
	baz=259						
J19K	**Poorman**	**85.50**	**26**	P	**P**	**00 39 49.0**	**+1.2**
	baz=260						
N19K	**Bonanza Creek**	**85.53**	**29**	P	**P**	**00 39 48.8**	**+0.7**
N19K	**Bonanza Creek**	**85.53**	**29**	P	**P**	**00 39 49.2**	**+1.1**
	baz=262						
L19K	**White Mountain**	**85.56**	**28**	P	**P**	**00 39 49.4**	**+1.2**
	baz=261						
OHAK	**Old Harbor**	**85.66**	**33**	P	**P**	**00 39 49.7**	**+1.1**
OHAK				IAmb	IAmb	00 39 53.1	
	comp=Z,10nm,1.1s						
OHAK	**Old Harbor**	**85.66**	**33**	P	**P**	**00 39 49.9**	**+1.2**
	baz=263						
M19K	**Big River Lodg**	**85.73**	**28**	P	**P**	**00 39 50.4**	**+1.4**
	baz=262						
F20K	**Avaraart Lake**	**85.98**	**23**	P	**P**	**00 39 51.5**	**+1.4**
	baz=260						
B20K	**Meade River**	**86.02**	**20**	P	**P**	**00 39 51.3**	**+1.1**
B20K				IAmb	IAmb	00 39 52.6	
	comp=Z,2.2nm,0.9s						
B20K	**Meade River**	**86.02**	**20**	P	**P**	**00 39 51.7**	**+1.5**
	baz=258						
E20K	**Nigu River**	**86.03**	**21**	P	**P**	**00 39 51.4**	**+1.0**
	baz=260						
L20K	**Farewell, AK**	**86.05**	**27**	P	**P**	**00 39 51.8**	**+1.2**
	baz=262						
H20K	**Anofleneega Mo**	**86.06**	**24**	P	**P**	**00 39 52.0**	**+1.4**
	baz=261						
K20K	**Telida**	**86.09**	**27**	P	**P**	**00 39 51.8**

BMAR	**Burnt Mountain**	**90.33**	**23**	P		**P**	00 40 12.0	**+1.1**	
KAIM	**Kayak Island**	**90.45**	**30**	P		**P**	00 40 12.9	**+1.3**	
	baz=270								
BGLC	**Bering Glacier**	**91.02**	**30**	P		**P**	00 40 15.8	**+1.7**	
	baz=271								
BRTR	**Keskin Array B**	**91.19**	**310**	P		**P**	00 40 12.7	**-2.9**	
	comp=Z,0.3nm,0.7s,baz=98,slow=6.0,SNR=1.6								
	comp=Z,0.3nm,0.7s								
E27K	**Coleen River**	**91.44**	**22**	P		**P**	00 40 17.6	**+1.5**	
	baz=273								
K27K	**Chicken**	**91.45**	**26**	P		**P**	00 40 17.6	**+1.5**	
	baz=272								
I27K	**Kandik River**	**91.57**	**25**	P		**P**	00 40 18.0	**+1.3**	
	baz=273								
H27K	**Steamboat Moun**	**91.58**	**24**	P		**P**	00 40 17.7	**+1.0**	
	baz=273								
L27K	**Beaver Creek,**	**91.61**	**27**	P		**P**	00 40 18.0	**+1.0**	
	baz=273								
D27M	**Malcolm River**	**91.61**	**21**	P		**P**	00 40 17.3	**+0.4**	
	baz=274								
M27K	**Edge Creek, AK**	**91.62**	**28**	P		**P**	00 40 16.8	**-0.4**	
	baz=273								
BCAR	**Beaver Creek A**	**91.63**	**27**	P		**P**	00 40 18.1	**+1.1**	
E28M	**Babbage River**	**92.17**	**21**	P		**P**	00 40 21.2	**+1.8**	
E28M				IAmb		IAmb	00 41 01.9		
	comp=Z,4.3nm,1.4s								
E28M	**Babbage River**	**92.17**	**21**	P		**P**	00 40 20.5	**+1.0**	
	baz=275								
I28M	**Miner Creek**	**92.28**	**25**	P		**P**	00 40 20.8	**+0.7**	
I28M				IAmb		IAmb	00 40 21.9		
	comp=Z,3.7nm,1.4s								
I28M	**Miner Creek**	**92.28**	**25**	P		**P**	00 40 21.1	**+1.0**	
	baz=274								
E29M	**Blow River**	**92.80**	**22**	P		**P**	00 40 22.6	**+0.4**	
	baz=276								
H29M	**Whitestone**	**92.85**	**24**	P		**P**	00 40 23.2	**+0.6**	
	baz=276								
G29M	**Pine Creek**	**92.92**	**23**	P		**P**	00 40 23.6	**+0.7**	
G29M				IAmb		IAmb	00 40 24.4		
	comp=Z,4.6nm,1.1s								
G29M	**Pine Creek**	**92.92**	**23**	P		**P**	00 40 23.7	**+0.9**	
	baz=276								
M29M	**Somme Creek**	**93.20**	**28**	P		**P**	00 40 25.0	**+0.6**	
M29M				IAmb		IAmb	00 40 46.8		
	comp=Z,2.7nm,1.2s								
M29M	**Somme Creek**	**93.20**	**28**	P		**P**	00 40 25.4	**+1.0**	
	baz=276								
L29M	**L29M**	**93.28**	**27**	P		**P**	00 40 25.9	**+1.2**	
	baz=276								
K29M	**Barlow Dome**	**93.47**	**26**	P		**P**	00 40 26.5	**+0.9**	
	baz=277								
ARCES	**ARCESS Array B**	**93.51**	**340**	P		**P**	00 40 24.1	**-1.5**	
ARCES	**ARCESS Array B**	**93.51**	**340**	P		**P**	00 40 23.6	**-2.0**	
	comp=Z,1.5nm,0.9s,baz=77,slow=6.0,SNR=5.1								
	comp=Z,1.5nm,0.9s								
G30M	**tAoh Zraii Nji**	**93.61**	**23**	P		**P**	00 40 26.6	**+0.5**	
	baz=278								
M30M	**Minto, Yukon**	**93.95**	**27**	P		**P**	00 40 28.8	**+1.0**	
	baz=277								
SPITS	**Spitsbergen Ar**	**93.97**	**349**	P		**P**	00 40 26.2	**-1.3**	
	comp=Z,1.6nm,0.5s,baz=96,slow=7.8,SNR=4.3								
	comp=Z,1.6nm,0.5s								
FINES	**FINESS Array B**	**94.45**	**332**	P		**P**	00 40 27.5	**-2.5**	
	comp=Z,1.0nm,0.7s,baz=46,slow=6.0,SNR=1.3								
	comp=Z,1.0nm,0.7s								
M31M	**Drury Creek, Y**	**95.11**	**28**	P		**P**	00 40 34.0	**+0.9**	
	baz=279								
WHY	**Whitehorse**	**95.12**	**29**	P		**P**	00 40 34.0	**+0.7**	
	baz=279								
FARO	**Faro, Yukon**	**95.59**	**27**	P		**P**	00 40 36.1	**+0.9**	
	baz=280								
MMPY	**Sheldon Lake,**	**96.47**	**27**	P		**P**	00 40 40.3	**+1.0**	
	baz=282								
LSZ	**Lusaka**	**96.54**	**255**	LR		LR	01 21 54.7		
	comp=Z,33nm,18.4s,baz=118,slow=34								
TORD	**Torodi Ar. Bea**	**122.41**	**285**	PKP		**PKPdf**	00 46 05.1	**-1.1**	
	comp=Z,1.1nm,1.1s,baz=59,slow=2.0,SNR=2.8								

IDC 09 00:54:07.4±2.0, 0°.26N×125°.85E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=186.6km s-min=27.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.74**	**158**	P	P	00 58 59.6	-1.0
	0.3nm,0.4s,baz=336,slow=11,SNR=5.6						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**25.04**	**162**	P	P	00 59 34.2	+0.7
	0.4nm,0.4s,baz=347,slow=12,SNR=5.8						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**59.92**	**327**	P	P	01 04 15.2	-0.1
	0.2nm,0.3s,baz=126,slow=7.0,SNR=4.6						
	0.2nm,0.3s						

IDC 09 00:54:52.2±1.6, 0°.52N×126°.35E, h0km, mb4.1/4, mbtmp4.1/5, ML3.4/1, Error ellipse: s-maj=107.7km s-min=21.7km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.51**	**182**	P	P	00 59 10.0	-0.3
	0.1nm,0.3s,baz=24,slow=10.0,SNR=1.4						
	2.7nm,0.9s						
WRA	**Warramunga Arr**	**21.79**	**159**	P	P	00 59 45.4	-0.6
	3.7nm,0.5s,baz=338,slow=10,SNR=24						
	3.7nm,0.5s						
ASAR	**Alice Springs**	**25.13**	**164**	P	P	01 00 19.8	+0.6
	4.3nm,0.7s,baz=343,slow=11,SNR=22						
	4.3nm,0.7s						
STKA	**Stephens Creek**	**35.30**	**157**	P	P	01 01 49.0	-0.2
	1.2nm,0.4s,baz=328,slow=9.5,SNR=3.8						
	1.2nm,0.4s						
MKAR	**Makanchi Array**	**59.99**	**327**	P	P	01 05 00.6	-0.1
	1.1nm,0.5s,baz=123,slow=7.2,SNR=12						
	1.1nm,0.5s						

*NEIC **09** 00:57:30.3±2.1, 35°.860N±0°.004×117°.71W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.7km az=278.0*

PAS 09 00:57:30.8±2.1, 35°.86N±0°.01×117°.69W±0°.02, h8km±4km, ML3.2/20, ML2.8/146(NEIC), Error ellipse: s-maj=2.0km s-min=1.8km az=215.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**227**		Pg	00 57 33.4	+0.5
CLC	**China Lake**	**0.09**	**121**		Pg	00 57 33.0	-0.1
CLC				Sg	Sg	00 57 34.8	+0.2
CLC				IAML		00 57 35.1	
	comp=E,6μm,0.4s						
WVPM	**Volcano Peak E**	**0.13**	**311**		Pg	00 57 33.8	0.0
WVPM					Sg	00 57 36.0	+0.2
JRC2	**Joshua Ridge**	**0.15**	**322**		Pg	00 57 34.1	0.0
JRC2					Sg	00 57 36.6	+0.3
WNMM	**Nine Mile Cany**	**0.17**	**263**		Pg	00 57 34.3	0.0
WNMM					Sg	00 57 37.5	+0.8
WRVM	**Rose V. Centra**	**0.21**	**312**		Pg	00 57 35.1	-0.1
MPMC	**Manual Prospec**	**0.26**	**40**		Pg	00 57 35.8	-0.2
MPMC				Sg	Sg	00 57 39.4	-0.1
MPMC				IAML		00 57 39.8	
	comp=E,3μm,0.2s						
MPMC				IAML		00 57 40.5	
	comp=N,2μm,0.3s						
MFS	**McCloud Flat S**	**0.28**	**333**		Pg	00 57 36.3	-0.2
MFS					Sg	00 57 40.5	+0.1
LRMC	**Laurel Mtn Rad**	**0.38**	**179**		Pg	00 57 38.0	-0.3
LRMC					Sg	00 57 43.7	+0.3
LRMC				IAML		00 57 44.0	
	comp=E,1μm,0.5s						
CCCA	**Chr Cany lake**	**0.43**	**141**		Pg	00 57 39.2	0.0
CCCA				Sg	Sg	00 57 45.5	+0.7
WBSM	**Bird Springs**	**0.49**	**228**		Pg	00 57 39.9	-0.3
WBSM					Sg	00 57 46.7	+0.1
DTP	**Desert Tortois**	**0.61**	**192**		Pg	00 57 41.9	-0.6
CWC	**Cottonwood Cre**	**0.66**	**332**		Pg	00 57 43.3	-0.2
CWC				Sg	Sg	00 57 51.8	-0.3
CWC				IAML		00 57 53.1	
	comp=N,604nm,0.2s						
CWC				IAML		00 57 55.3	
	comp=E,516nm,0.2s						
ISA	**Isabella, Lake**	**0.67**	**253**		Pg	00 57 43.1	-0.5
ISA				IAML		00 57 52.9	
	comp=N,497nm,0.3s						
ISA				IAML		00 57 53.0	
	comp=E,601nm,0.2s						
QSM	**Queen of Sheba**	**0.68**	**81**		Pg	00 57 43.3	-0.5
QSM				Sg	Sg	00 57 55.1	+0.7
QSM				IAML		00 57 55.6	
	comp=E,681nm,0.5s						
QSM				IAML		00 57 57.1	
	comp=N,555nm,0.5s						
CCAC	**Calif City Air**	**0.76**	**200**		Pg	00 57 44.7	-0.6
GWY	**Greenwater Val**	**0.89**	**68**		Pg	00 57 47.3	-0.6
GWY				Sg	Sg	00 57 59.9	+0.4
GWY				IAML		00 58 02.6	
	comp=N,244nm,0.4s						
GWY				IAML		00 58 05.4	
	comp=E,298nm,0.4s						
GSC	**Goldstone, Bar**	**0.92**	**127**		Pg	00 57 47.6	-0.8
GSC				Sg	Sg	00 57 59.9	-0.3
GSC				IAML		00 58 00.5	
	comp=E,379nm,0.5s						
GSC				IAML		00 58 01.9	
	comp=N,365nm,0.3s						
SPG2	**Springville 2**	**0.93**	**292**		Pg	00 57 47.6	-1.0
TPO	**Tropico Hills**	**1.07**	**204**		Pg	00 57 51.1	-0.3
TPO				Sg	Sg	00 58 04.5	-0.8
TPO				IAML		00 58 13.8	
	comp=E,303nm,1.0s						
TPO				IAML		00 58 13.9	
	comp=N,262nm,1.0s						
VES	**Vestal, Richgr**	**1.13**	**269**		Pg	00 57 51.6	-0.8
GRAC	**Grapevine Rang**	**1.16**	**13**		Pg	00 57 52.4	-0.7
GRAC				Sg	Sg	00 58 07.8	-0.3
GRAC				IAML		00 58 08.9	
	comp=E,348nm,0.3s						
GRAC				IAML		00 58 10.5	
	comp=N,287nm,0.4s						
WCT	**Wildcat Mounta**	**1.27**	**43**		Pn	00 57 53.7	-1.2
WCT				Sg	Sb	00 58 11.1	-0.4
WCT				IAML		00 58 13.4	
	comp=E,218nm,0.5s						
WCT				IAML		00 58 15.5	
	comp=N,129nm,0.4s						
VOG	**Valley Oaks Go**	**1.44**	**289**		Pn	00 57 57.2	0.0
GMN	**Gold Mountain**	**1.48**	**14**		Pn	00 57 56.9	-1.0
GMN					Sb	00 58 17.9	+0.2
GMN				IAML		00 58 20.8	
	comp=N,88nm,0.5s						
DSCC	**Desert Studies**	**1.48**	**119**		Pn	00 57 55.9	-1.9
DSP	**Deep Springs**	**1.52**	**352**		Pn	00 57 57.6	-0.7
BHPR	**Bishop**	**1.57**	**336**		Pb	00 57 59.9	-0.3
TPNV	**Topopah Spring**	**1.59**	**47**		Pn	00 57 58.4	-1.0
TPNV					Sn	00 58 19.9	-0.3
TPNV				IAML		00 58 22.4	
	comp=N,164nm,0.5s						
TPNV				IAML		00 58 25.2	
	comp=N,161nm,0.8s						
BFSC	**Mount Baldy Ra**	**1.62**	**179**		Pn	00 57 59.5	-0.3
BFSC				Sg	Sb	00 58 22.2	+0.6
BFSC				IAML		00 58 23.9	
	comp=E,98nm,0.4s						
BFSC				IAML		00 58 26.3	
	comp=N,69nm,0.3s						
MWC	**Mount Wilson**	**1.66**	**190**		Pn	00 57 59.3	-1.1
MWC					Sn	00 58 21.6	-0.4
MWC				IAML		00 58 24.7	
	comp=N,141nm,0.5s						
MWC				IAML		00 58 24.8	
	comp=E,95nm,0.6s						
PASC	**Pasadena Art C**	**1.73**	**194**		Pn	00 58 00.9	-0.3
MTPC	**Mountain Pass**	**1.78**	**102**	Pn	Pn	00 58 00.8	-1.2
MTPC				Sg	Sb	00 58 26.8	+0.4
MTPC				IAML		00 58 27.6	
	comp=N,102nm,0.6s						
MTPC				IAML		00 58 28.8	
	comp=E,123nm,0.3s						
MZP	**Montezuma Peak**	**1.85**	**8**		Pn	00 58 02.2	-0.9
MZP				Sg	Sg	00 58 30.3	0.0
SHPR	**Sheep Range**	**2.15**	**72**		Pn	00 58 05.6	-1.5
SHPR				Pg	Pb	00 58 10.4	+0.4
ELS	**Elsinore Mount**	**2.22**	**174**		Pn	00 58 07.3	-0.7
ELS				IAML		00 58 43.1	
	comp=N,38nm,0.5s						
ELS				IAML		00 58 43.4	
	comp=E,48nm,0.5s						
TPH	**Tonopah**	**2.24**	**10**	Pn	Pn	00 58 07.6	-0.8
TPH					Pb	00 58 12.4	+0.8
TPH				IAML		00 58 46.1	
	comp=E,109nm,0.4s						
V12A	**Nelson**	**2.31**	**93**	Pn	Pn	00 58 08.3	-1.0
V12A					Pb	00 58 12.5	-0.3
V12A				IAML		00 58 54.1	
	comp=E,32nm,0.7s						
S11A	**Rachel**	**2.37**	**41**		Pb	00 58 14.8	+1.1
NJQ	**Nojoqui County**	**2.43**	**238**		Pn	00 58 10.8	+0.1
PMD	**Palm Desert**	**2.46**	**153**		Pb	00 58 16.0	+0.7
PMD				IAML		00 58 51.0	
	comp=E,34nm,0.6s						
PFO	**Pinyon Flats O**	**2.46**	**155**		Pb	00 58 16.1	+0.7
LHV	**Little Huntoon**	**2.47**	**345**		Pn	00 58 11.0	-0.3
LHV				Pg	Pb	00 58 16.6	+1.2
PMPB	**Monarch Peak**	**2.54**	**279**		Pn	00 58 12.3	-0.1
PMPB				IAML		00 58 52.0	
	comp=E,63nm,0.8s						
PMPB				IAML		00 58 57.2	
	comp=N,70nm,0.9s						
NV11	**Mina Array Sit**	**2.59**	**352**		Pn	00 58 12.2	-0.9
NV11				Pg	Pg	00 58 19.2	-1.2
RAMR	**Ramage Ranch**	**2.59**	**266**		Pn	00 58 14.5	+1.4
NVAR	**Mina Array Bea**	**2.61**	**349**		Pn	00 58 13.0	-0.5
NVAR				Pg	Pb	00 58 19.3	+1.4
PRN	**Pahroc Range**	**2.62**	**53**		Pn	00 58 13.0	-0.6
PRN				IAML		00 59 03.2	
	comp=N,61nm,0.8s						
PRN				IAML		00 59 03.3	
	comp=E,69nm,0.8s						
NEE2	**Needles Airpor**	**2.74**	**113**	Pg	Pg	00 58 23.6	+0.3
NEE2				IAML		00 59 08.4	
	comp=E,68nm,0.7s						
BORC	**Borrego Spring**	**2.79**	**157**	Pn	Pn	00 58 14.3	-1.5
BORC					Pb	00 58 22.4	+1.5
BORC				IAML		00 59 01.1	
	comp=E,39nm,0.8s						
BORC				IAML		00 59 01.8	
	comp=N,28nm,0.7s						
BBGB	**Big Mountain B**	**2.80**	**286**		Pn	00 58 14.8	-1.1
RYN	**Ryan**	**2.84**	**347**		Pg	00 58 23.9	-1.3
DPP	**Dos Picos Cty**	**2.92**	**168**		Pb	00 58 23.6	+0.4
DPP				IAML		00 59 00.7	
	comp=N,42nm,0.1s						
DPP				IAML		00 59 01.6	
	comp=E,29nm,0.2s						
WAKR	**Walker**	**2.98**	**333**		Pb	00 58 25.7	+1.5
WAKR				IAML		00 59 05.9	
	comp=E,19nm,0.6s						
Q09A	**Carvers**	**2.99**	**8**		Pb	00 58 26.1	+1.6
Q09A				IAML		00 59 16.2	
	comp=N,55nm,0.9s						
Q09A				IAML		00 59 23.2	
	comp=E,46nm,1.0s						
R11B	**Troy Canyon, C**	**3.00**	**34**		Pn	00 58 18.1	-0.7
R11B				IAML		00 59 07.8	
	comp=E,31nm,1.1s						
CMB	**Columbia Colle**	**3.06**	**316**		Pn	00 58 19.1	-0.4
CMB				IAML		00 59 10.6	
	comp=E,26nm,0.6s						
CMB				IAML		00 59 14.1	
	comp=N,27nm,0.7s						
SAO	**San Andreas Ge**	**3.16**	**288**		Pn	00 58 19.9	-0.9
W13A	**Hualapai Mount**	**3.20**	**103**		Pg	00 58 30.6	-1.5
BLYC	**Blythe**	**3.35**	**128**		Pg	00 58 34.4	-0.6
BLYC				IAML		00 59 17.4	
	comp=N,23nm,0.5s						
BLYC				IAML		00 59 21.2	
	comp=E,21nm,1.2s						
YUH	**Yuha Desert**	**3.53**	**155**	IAML		00 58 50.1	
	comp=N,12nm,0.9s						
YUH				IAML		00 58 50.2	
	comp=E,18nm,0.4s						
GLA	**Glamis**	**3.67**	**139**		Pn	00 58 27.1	-0.8
LCMT	**Little Creek M**	**3.77**	**71**		Pn	00 58 27.5	-1.8
LCMT				Pg	Pb	00 58 39.9	+2.3
PSUT	**Pine Spring**	**4.06**	**48**	IAML		00 59 45.0	
	comp=N,15nm,1.0s						
PSUT				IAML		00 59 45.7	
	comp=E,14nm,1.4s						
ESJX	**Sierra Juarez**	**4.11**	**159**		Pb	00 58 43.2	-0.4
SPR3	**Spring Creek 3**	**4.12**	**40**	IAML		00 59 41.2	
	comp=E,13nm,0.7s						
SPR3				IAML		00 59 42.5	
	comp=N,13nm,0.9s						
Y14A	**Wickenburg**	**4.30**	**115**	IAML		00 59 49.7	
	comp=E,15nm,0.7s						
BEKR	**Beckworth**	**4.52**	**333**	IAML		01 00 02.2	
	comp=E,12nm,0.6s						
BEKR				IAML		01 00 09.0	
	comp=N,5.8nm,1.8s						
WUAZ	**Wupatki**	**5.16**	**92**	IAML		01 00 16.7	
	comp=N,9.4nm,1.2s						
WUAZ				IAML		01 00 17.2	
	comp=N,8.3nm,1.3s						

IDC 09 01:04:07.4±7.2, 30°.09N×142°.95E, h0km, mb3.5/4, mbtmp3.5/5, ML2.7/1, Error ellipse: s-maj=266.2km s-min=30.5km az=72.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.56**	**330**	Pn	Pn	01 05 58.2	-0.7
	0.1nm,0.3s,baz=154,slow=12,SNR=5.3						
	1.8nm,0.5s						
SONM	**Songino Array**	**33.10**	**313**	P	P	01 10 46.3	+1.2
	0.3nm,0.3s,baz=128,slow=9.5,SNR=1.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**49.14**	**308**	P	P	01 12 56.7	-0.2
	0.3nm,0.6s,baz=81,slow=9.1,SNR=3.5						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**50.43**	**191**	P	P	01 13 06.8	-0.1
	0.3nm,0.5s,baz=9.2,slow=7.8,SNR=2.2						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**51.47**	**313**	P	P	01 13 13.6	-0.8
	0.3nm,0.4s,baz=90,slow=7.3,SNR=6.2						
	0.3nm,0.4s						

*SJA **09** 01:07:54.3±0.7, 36°.76S×70°.98W, h170km±3km, ML4.4, MW4.1*
*NEIC **09** 01:07:55.4±1.3, 36°.76S±0°.06×70°.9W±0°.1, h156km±7km, mb4.7/24, ML4.5(GUC), Error ellipse: s-maj=14.2km s-min=8.0km az=105.0*
*GUC **09** 01:07:55.3±0.8, 36°.77S×70°.75W, h162km±4km, ML4.5*
*VAO **09** 01:07:56.9±1.6, 36°.70S×70°.92W, h167km±17km, mb4.5*
*IDC **09** 01:07:56.7±1.8, 36°.73S×70°.41W, h147km±16km, mb4.0/10, mbtmp4.4/13, Error ellipse: s-maj=24.4km s-min=12.0km az=99.0*

ISC 09 01:07:55.9±0.6, 36°.72S±0°.03×70°.88W±0°.05, h155km±5km, n145, σ1s12/179, mb4.5/14, 1C-10D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI02	**San Fabin de**	**0.32**	**279**		**Pn**	**01 08 17.3**	**+0.1**
BI02				Sn	**Sn**	**01 08 32.8**	**-0.6**
BI02	**San Fabin de**	**0.32**	**279**	*i*P	**Pn**	**01 08 17.4**	**+0.1**
BI02	**San Fabin de**	**0.32**	**279**	*e*P	**Pn**	**01 08 17.4**	**+0.1**
BI02				*e*S	**Sn**	**01 08 34.4**	**+1.0**
ML02	**Panimavida**	**1.05**	**335**	Pn	**Pn**	**01 08 22.4**	**+0.9**
ML02				Sn	**Sn**	**01 08 41.8**	**+0.7**
ML02	**Panimavida**	**1.05**	**335**	*i*P	**Pn**	**01 08 22.5**	**+0.9**
ML02				*e*S	**Sn**	**01 08 42.5**	**+1.3**
ML02				IAML		01 08 43.6	
	comp=E,8μm,0.7s						
ML02	**Panimavida**	**1.05**	**335**	*e*P	**Pn**	**01 08 22.5**	**+0.9**
ML02				*e*S	**Sn**	**01 08 42.5**	**+1.3**
CANA	**Caviahue**	**1.18**	**187**	*e*P	**Pn**	**01 08 22.9**	**0.0**
CANA				*e*S	**Sn**	**01 08 43.9**	**+0.2**
EDS3	**Malargue**	**1.52**	**52**	*e*P	**Pn**	**01 08 27.6**	**+1.3**
EDS3				*e*S	**Sn**	**01 08 51.8**	**+2.3**
BI05	**Punta Hualpn**	**1.86**	**268**		**Pn**	**01 08 30.6**	**+0.9**
BI05				Sn	**Sn**	**01 08 54.9**	**-0.7**
BI05	**Punta Hualpn**	**1.86**	**268**	*e*P	**Pn**	**01 08 30.8**	**+1.1**
BI05				IAML		01 08 57.3	
	comp=N,5μm,0.1s						
BI05	**Punta Hualpn**	**1.86**	**268**	*e*P	**Pn**	**01 08 30.3**	**+0.6**
BI05				IAML		01 08 58.0	
	comp=Z,1μm,0.2s						
GO05	**Hualane**	**1.91**	**333**	*i*P	**Pn**	**01 08 30.6**	**+0.3**
GO05				IAML		01 09 00.9	
	comp=N,2μm,0.2s						
BO02	**Sierra Bellavi**	**1.92**	**2**		**Pn**	**01 08 30.8**	**+0.2**
BO02	**Sierra Bellavi**	**1.92**	**2**	*i*P	**Pn**	**01 08 31.4**	**+0.8**
BO02				*e*S	**Sn**	**01 08 57.8**	**+0.6**
BO02				IAML		01 09 03.2	
	comp=E,3μm,0.2s						
BO02	**Sierra Bellavi**	**1.92**	**2**	*e*P	**Pn**	**01 08 31.4**	**+0.8**
BO02				*e*S	**Sn**	**01 08 58.6**	**+1.4**
BO02				IAML		01 09 04.7	
	comp=Z,1μm,0.2s						
BO02				IAML		01 09 05.7	
	comp=Z,1μm,0.2s						
LC01	**Cunco**	**2.32**	**200**	*e*P	**Pn**	**01 08 34.4**	**-0.6**
LC01				*e*S	**Sn**	**01 09 04.4**	**-0.9**
BO01	**Tunca**	**2.33**	**356**		**Pn**	**01 08 35.3**	**-0.1**
BO01	**Tunca**	**2.33**	**356**	*i*P	**Pn**	**01 08 35.3**	**+0.1**
BO01				IAML		01 09 06.4	
	comp=E,2μm,0.3s						
BO01	**Tunca**	**2.33**	**356**	*e*P	**Pn**	**01 08 35.3**	**+0.1**
BO01				*e*S	**Sn**	**01 09 05.7**	**+0.2**
BO01				IAML		01 09 06.7	
	comp=Z,968nm,0.2s						
BO03	**Pichilemu**	**2.38**	**338**	*i*P	**Pn**	**01 08 36.3**	**+0.4**
BO03				IAML		01 09 08.5	
	comp=N,2μm,0.3s						
BO04	**La Punta**	**2.73**	**5**		**Pn**	**01 08 40.4**	**+0.2**
BO04	**La Punta**	**2.73**	**5**	*i*P	**Pn**	**01 08 40.7**	**+0.5**
BO04				IAML		01 09 16.5	
	comp=N,1μm,0.6s						
RFA	**San Rafael**	**2.76**	**46**	*e*P	**Pn**	**01 08 41.0**	**+0.4**
RFA				*e*S	**Sn**	**01 09 10.3**	**-4.7**
MT01	**Popeta**	**2.86**	**354**		**Pn**	**01 08 41.4**	**-0.4**
MT01	**Popeta**	**2.86**	**354**	*e*P	**Pn**	**01 08 41.3**	**-0.4**
MT01	**Popeta**	**2.86**	**354**	*e*P	**Pn**	**01 08 41.6**	**-0.2**
MT01				*e*S	**Sn**	**01 09 17.8**	**+0.5**
MT01				IAML		01 09 19.4	
	comp=Z,1μm,0.2s						
GO06	**Curarrehue**	**2.90**	**189**	*i*P	**Pn**	**01 08 41.9**	**-0.4**
GO06				*e*S	**Sn**	**01 09 16.7**	**-1.6**
LMEL	**Las Melosas**	**2.92**	**11**		**Pn**	**01 08 43.5**	**+0.9**
LMEL	**Las Melosas**	**2.92**	**11**	*e*P	**Pn**	**01 08 43.5**	**+0.9**
LMEL				*e*S	**Sn**	**01 09 19.0**	**+0.3**
LMEL				IAML		01 09 26.1	
	comp=N,1μm,0.2s						
LMEL	**Las Melosas**	**2.92**	**11**	*e*P	**Pn**	**01 08 43.1**	**+0.5**
LMEL				*e*S	**Sn**	**01 09 19.3**	**+0.6**
BI04	**Isla Mocha**	**2.93**	**234**	*e*P	**Pn**	**01 08 40.9**	**-1.6**
BI04				IAML		01 09 19.0	
	comp=E,2μm,0.2s						
MT09	**Talagante**	**2.94**	**358**		**Pn**	**01 08 42.4**	**-0.4**
VA05	**Santo Domingo**	**3.11**	**349**		**Pn**

LR05 eS **Sn** **01 09 32.0 -2.4**
VA01 Torpederas 3.74 350 **Pn** **01 08 52.8 -0.2**
VA01 Torpederas 3.74 350 eP **Pn** **01 08 52.7 -0.2**
VA01 eS **Sn** **01 09 35.9 -1.3**
VA01 IAML 01 09 39.9
comp=Z,342nm,0.8s
LR04 Corral 3.74 212 Pn **Pn** **01 08 49.0 -3.9**
LR04 Corral 3.74 212 eP **Pn** **01 08 48.7 -4.1**
LR04 IAML 01 09 36.6
comp=Z,325nm,0.2s
VA03 San Esteban 3.95 4 **Pn** **01 08 55.4 -0.4**
VA03 San Esteban 3.95 4 eP **Pn** **01 08 55.6 -0.3**
VA03 eS **Sn** **01 09 40.6 -1.8**
VA03 IAML 01 09 45.0
comp=Z,454nm,0.5s
PLCA Paso Flores 4.02 176 **Pn** **01 08 55.6 -1.0**
PLCA Paso Flores 4.02 176 P **Pn** **01 08 55.8 -0.8**
comp=Z,29nm,0.5s,baz=1.3,slow=12,SNR=86
PLCA S **Sn** **01 09 44.2 +0.4**
comp=Z,60nm,1.0s,baz=54,slow=15,SNR=4.6
PLCA Paso Flores 4.02 176 eP Pn 01 08 51.8 -4.7
PLCA eP 01 08 56.1
PLCA eS **Sn** **01 09 45.5 +1.7**
ASAL Salagasta 4.45 23 eP **Pn** **01 09 02.9 +0.7**
RTLS Leoncito 5.08 15 eP **Pn** **01 09 11.7 +0.9**
RTLS eS **Sn** **01 10 10.1 +0.9**
RTLS IAML 01 10 11.7
comp=Z,789nm,0.5s
LL05 Los Muermos 5.10 203 Pn **Pn** **01 09 07.4 -3.3**
ZON Zonda 5.47 20 **Pn** **01 09 15.3 -0.4**
CO02 Combarbal 5.50 359 **Pn** **01 09 14.9 -1.3**
CO03 El Pedregal 5.87 2 **Pn** **01 09 20.0 -1.0**
CO06 Fray Jorge 6.06 354 **Pn** **01 09 22.6 -0.9**
GO04 Tololo Observa 6.53 1 **Pn** **01 09 28.8 -1.1**
GO07 Milladeo Hill, 6.74 198 **Pn** **01 09 29.8 -2.6**
CO01 Juntas del Tor 6.75 6 **Pn** **01 09 32.5 -0.5**
CO05 La Serena 6.79 357 **Pn** **01 09 32.6 -0.6**
TRQA Tornquist 7.21 103 **Pn** **01 09 36.8 -2.0**
LCO Las Campanas 7.69 1 **Pn** **01 09 43.8 -1.7**
AC04 Llanos de Chal 8.49 359 **Pn** **01 09 54.7 -1.2**
AC06 Mina Casimiro 9.34 3 **Pn** **01 10 04.8 -2.4**
AC02 Maricunga 9.96 9 Pn **Pn** **01 10 14.1 -1.8**
GO02 Mina Guanaco 11.57 6 **Pn** **01 10 36.0 -0.8**
PB14 IPOC Station P 12.06 2 **Pn** **01 10 41.0 -2.2**
AF01 San Pedro de A 13.92 10 Pn **Pn** **01 11 05.9 -1.0**
PB06 IPOC Station P 14.01 5 Pn **Pn** **01 11 07.7 -0.3**
GO09 Cerro Castillo 14.59 184 **P** **01 11 17.0 0.0**
PB09 IPOC Station P 14.94 6 Pn **Pn** **01 11 19.0 -0.5**
CPUP Villa Florida 15.50 52 P **Pn** **01 11 24.8 -1.5**
comp=Z,0.9nm,0.7s,baz=81,slow=11,SNR=8.7
PB01 IPOC Station P 15.66 5 **Pn** **01 11 28.2 -0.3**
PATCX Punta Patache 15.85 2 **Pn** **01 11 30.1 -0.6**
TA01 Diego Aracena 16.11 2 **Pn** **01 11 33.3 -0.5**
TA02 Huaiquique 16.40 2 **P** **01 11 36.7 -0.6**
TA02 IAmb IAmb 01 11 41.2
comp=Z,24nm,0.7s
HMBC Humberstone 16.40 3 P **Pn** **01 11 37.3 -0.2**
HMBC IAmb IAmb 01 11 42.0
comp=Z,33nm,1.2s
PB08 IPOC Station P 16.58 6 P **Pn** **01 11 39.5 -0.5**
PB11 IPOC Station P 16.93 4 **Pn** **01 11 44.0 +0.1**
PB11 IAmb IAmb 01 11 47.2
comp=Z,59nm,0.9s
GO01 Chusmiza 17.05 5 P **Pn** **01 11 45.1 -0.6**
SJPY San Joaquin 17.22 51 eP **Pn** **01 11 47.9 +0.7**
USHA Ushuaia 18.20 175 P **Pn** **01 11 58.3 -0.2**
comp=Z,5.4nm,0.5s,baz=360,slow=10,SNR=21
PB16 IPOC Station P 18.35 4 P **P** **01 11 58.7 -0.7**
PB16 IAmb IAmb 01 12 05.0
comp=Z,30nm,1.0s
PB18 Visviri 19.09 4 P **P** **01 12 06.7 -0.6**
BDQN Bodoquena, MS 20.37 41 eP **P** **01 12 18.5 -2.0**
LPAZ La Paz 20.49 8 **P** **01 12 23.2 +0.7**
LPAZ IAmb IAmb 01 12 30.3
comp=Z,19nm,0.8s
LPAZ La Paz 20.49 8 P Pn 01 12 24.4 -2.2
comp=Z,10nm,0.7s,baz=178,slow=6.0,SNR=49
comp=Z,10nm,0.7s
LPAZ La Paz 20.49 8 eP **P** **01 12 22.1 -0.4**
TRCB Terra Rica 21.00 54 P **P** **01 12 26.7 -0.7**
TRCB Terra Rica 21.00 54 eP **P** **01 12 27.7 +0.4**
TRCB eS **S** **01 16 12.9 +0.3**
BBSD Serra de San D 21.47 28 eP **P** **01 12 31.9 -0.4**
FRTB Fartura 22.70 60 eP **P** **01 12 44.0 -0.5**
PCMB Pacaembu 22.74 54 eP **P** **01 12 44.9 0.0**
PTLB Pontes e Lacer 23.62 29 **P** **01 12 52.5 -0.4**
PTLB Pontes e Lacer 23.62 29 eP **P** **01 12 53.6 +0.7**
C2SB Chapadao do Su 23.90 46 eP **P** **01 12 56.0 +0.5**
SPB Sao Paulo 24.05 64 eP **P** **01 12 56.7 -0.2**
VILB Vilhena 25.53 25 **P** **01 13 10.2 -0.1**
VILB IAmb IAmb 01 13 15.4
comp=Z,13nm,0.7s
VILB Vilhena 25.53 25 eP **P** **01 13 11.0 +0.6**
ESPZ Base Esperanza 28.03 167 P **P** **01 13 30.6 -1.5**
PDRB Porto dos Gac 28.06 31 eP **P** **01 13 32.5 -0.5**
CZSB Cruzeiro do Su 28.90 356 P **P** **01 13 39.6 -0.8**
CZSB IAmb IAmb 01 13 42.8
comp=Z,15nm,1.0s
CZSB Cruzeiro do Su 28.90 356 eP **P** **01 13 39.0 -1.4**
CLDB Colider 29.11 32 eP **P** **01 13 42.4 +0.2**
BDFB Brasilia 29.21 50 P **P** **01 13 41.6 -1.7**
comp=Z,3.7nm,0.9s,baz=303,slow=6.7,SNR=4.1
comp=Z,3.7nm,0.9s
SMAI San Martin Ant 31.54 177 P **P** **01 14 01.9 -1.1**
SMAI IAmb IAmb 01 14 06.0
comp=Z,11nm,1.4s
TBTG Tabatinga, AM 32.39 2 P **P** **01 14 10.3 -0.7**
TBTG Tabatinga, AM 32.39 2 eP **P** **01 14 10.8 -0.2**
NPGB Novo Progresso 32.76 29 eP **P** **01 14 13.7 -0.5**
TEFE Tefe 33.54 11 eP **P** **01 14 21.1 +0.1**
MACA Manacapuru-AM 34.69 18 P **P** **01 14 29.9 -1.0**
MACA IAmb IAmb 01 14 31.5
comp=Z,15nm,0.6s
MACA Manacapuru-AM 34.69 18 eP **P** **01 14 30.2 -0.7**
CMC01 Camacan, BA 35.05 61 eP **P** **01 14 34.0 -0.1**
ITTB Itaituba 35.07 27 eP **P** **01 14 33.1 -1.2**
BOAV Boa Vista 40.09 16 P **P** **01 15 15.4 -0.9**
VNA1 Neumayer--Stat 46.81 156 ⇓P **P** **01 16 10.6 +1.1**
comp=Z,6.8nm,0.8s
VNA1 PcP **PcP** **01 17 41.1 +1.2**
VNA2 Neumayer--Watz 47.15 156 ⇓P **P** **01 16 12.6 +0.5**
comp=Z,9.3nm,0.5s,baz=290,slow=8.8
VNA2 PcP **PcP** **01 17 41.4 +0.3**
baz=342,slow=5.5
SNAA Sanae 48.72 157 ⇓P **P** **01 16 24.6 +0.4**
comp=Z,232nm,0.6s
SNAA PcP **PcP** **01 17 47.0 +0.2**
SNAA Sanae 48.72 157 P **P** **01 16 24.4 +0.1**
SNAA IAmb IAmb 01 16 25.9
comp=Z,17nm,0.9s
SNAA Sanae 48.72 157 P **P** **01 16 24.8 +0.5**
comp=Z,14nm,0.8s,baz=286,slow=7.0,SNR=73
comp=Z,14nm,0.8s
TROLL Troll, Antarti 50.42 157 ⇓P **P** **01 16 37.7 +0.4**
comp=Z,933nm,0.6s
TROLL PcP **PcP** **01 17 53.2 0.0**
QSPA South Pole Qui 53.53 180 P **P** **01 17 01.7 +1.4**
QSPA IAmb IAmb 01 17 02.9
comp=Z,16nm,1.0s
QSPA South Pole Qui 53.53 180 P **P** **01 17 02.0 +1.7**
comp=Z,12nm,0.8s,baz=149,slow=3.6,SNR=67
comp=Z,12nm,0.8s
VNDA Vanda 61.63 191 P **P** **01 17 59.3 +2.8**
comp=Z,1.9nm,0.6s,baz=126,slow=6.2,SNR=5.7
comp=Z,1.9nm,0.6s
MAW Mawson 70.31 163 P **P** **01 18 52.5 +0.5**
comp=Z,3.0nm,0.6s,baz=226,slow=8.4,SNR=9.9
comp=Z,3.0nm,0.6s
TXAR Lajitas Array 72.56 330 P **P** **01 19 08.6 +2.5**
comp=Z,0.5nm,0.6s,baz=148,slow=8.8,SNR=9.6
comp=Z,0.5nm,0.6s
DBIC Dimbokro 75.19 70 P **P** **01 19 22.1 +0.5**
DBIC IAmb IAmb 01 19 37.8
comp=Z,29nm,1.4s
DBIC Dimbokro 75.19 70 P **P** **01 19 21.1 -0.6**
comp=Z,4.7nm,0.5s,baz=262,slow=6.8,SNR=8.3
comp=Z,4.7nm,0.5s
BOSA Boshof 77.99 117 P **P** **01 19 36.5 -0.9**
comp=Z,4.1nm,0.8s,baz=253,slow=2.0,SNR=12
comp=Z,4.1nm,0.8s
TORD Torodi Ar. Bea 84.27 69 P **P** **01 20 10.3 -0.2**
TORD Torodi Ar. Bea 84.27 69 P **P** **01 20 10.7 +0.2**
comp=Z,1.7nm,0.6s,baz=236,slow=4.9,SNR=18
comp=Z,1.7nm,0.6s

WRA Warramunga Arr 118.82 207 PKP **PKiKP** **01 26 26.8 +0.4**
comp=Z,1.0nm,0.4s,baz=162,slow=1.5,SNR=20
ARCES ARCESS Array B 126.06 26 PKP **PKiKP** **01 26 38.9 -0.1**
comp=Z,0.8nm,0.8s,baz=252,slow=2.4,SNR=6.1
BVAR Borovoye Array 148.54 46 PKPbc **PKiKP** **01 27 24.6 -0.7**
KURBB Kurchatov Arra 154.09 48 PKP **PKPdf** **01 27 29.5 +1.0**
comp=Z,0.9nm,0.8s,baz=294,slow=1.6,SNR=5.0
KURBB PKPbc **PKiKP** **01 27 37.9 +1.2**
comp=Z,1.1nm,0.8s,baz=288,slow=2.7,SNR=9.7
KURBB PKPab **PKPab** **01 27 51.9 +0.9**
comp=Z,0.7nm,0.6s,baz=292,slow=4.8,SNR=7.6
MKAR Makanchi Array 157.69 55 PKP **PKPdf** **01 27 34.3 +0.8**
comp=Z,0.5nm,0.6s,baz=270,slow=1.4,SNR=4.2
MKAR PKPab **PKPab** **01 28 07.0 +0.3**
comp=Z,1.0nm,0.6s,baz=287,slow=3.7,SNR=8.4

IDC 09 01:14:12.0±1.7, 0.66N×126.55E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=167.4km s-min=21.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.86**	**160**	P	P	01 19 05.8	-0.7
	1.2nm,0.4s,baz=338,slow=11,SNR=20						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**25.22**	**164**	P	P	01 19 40.3	+0.6
	0.8nm,0.5s,baz=346,slow=11,SNR=10						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**59.97**	**326**	P	P	01 24 20.8	+0.4
	0.4nm,0.5s,baz=112,slow=8.8,SNR=5.8						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**64.22**	**328**	P	P	01 24 48.2	-0.6
	0.4nm,0.8s,baz=123,slow=7.0,SNR=4.5						
	0.4nm,0.8s						

*NEIC **09** 01:27:41.3±1.2, 24.03S±0.09×177.07W±0.1, h107km±7km, mb4.6/35, Error ellipse: s-maj=17.7km s-min=12.3km az=106.0*
*IDC **09** 01:27:49.0±2.0, 23.95S×177.62W, h172km±17km, mb3.9/9, mbtmp4.5/12, Error ellipse: s-maj=19.5km s-min=15.7km az=106.0*
ISC 09 01:27:51.4±0.5, 24.23S±0.05×177.39W±0.08, h200km, n108, σ2.87/111, mb4.3/28, 4D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**5.02**	**185**	P	**Pn**	**01 29 10.0**	**+4.0**
RIZ				S	**Sn**	**01 30 10.8**	**+5.8**
RAO	**Raoul Island**	**5.03**	**185**	Pn	Pn	01 28 57.6	-8.5
RAO	**Raoul Island**	**5.03**	**185**	P	**Pn**	**01 29 07.3**	**+1.2**
	205nm,0.2s,baz=53,slow=20,SNR=1.3						
RAO				S	**Sn**	**01 30 06.7**	**+1.6**
	526nm,0.3s,baz=101,slow=21,SNR=4.0						
GLKZ	**Green Lake**	**5.04**	**185**	P	**Pn**	**01 29 09.4**	**+3.2**
GLKZ				S	**Sn**	**01 30 10.7**	**+5.3**
MSVF	**Nonsavu**	**7.74**	**326**		**Pn**	**01 29 40.0**	**-1.4**
NIUE	**Niue**	**8.63**	**55**	Pn	Pn	01 29 37.7	-15
NIUE	**Niue**	**8.63**	**55**	P	**Pn**	**01 29 49.9**	**-3.0**
NIUE				S	Sn	01 31 16.1	-14
AFI	**Afiamalu**	**11.55**	**28**	Pn	Pn	01 30 22.1	-8.6
OUZ	**Omahuta**	**13.46**	**213**	P	**P**	**01 31 00.8**	**+3.7**
GRZ	**Great Barrier**	**13.48**	**206**	P	P	01 31 02.2	+4.8
WCZ	**Waipu Caves**	**13.68**	**210**	P	**P**	**01 31 02.6**	**+3.0**
WMGZ	**Waiomatatini S**	**14.02**	**194**	P	**S**	**01 33 29.1**	**-8.3**
HAZ	**Te Kaha**	**14.10**	**196**	P	**Pn**	**01 30 58.3**	**-4.2**
HAZ				S	**S**	**01 33 32.9**	**-6.5**
PKGZ	**Pakihiroa**	**14.13**	**195**	P	**Pn**	**01 30 58.8**	**-4.2**
PKGZ				S	S	01 33 28.5	-12
PUZ	**Puketiti**	**14.29**	**194**	P	**Pn**	**01 31 05.0**	**+0.2**
PUZ				S	S	01 33 33.0	-11
RUGZ	**Raukumara Rang**	**14.33**	**196**	P	**Pn**	**01 31 04.8**	**-0.6**
RUGZ				S	S	01 33 33.9	-11
MWZ	**Matawai**	**14.71**	**196**	P	**P**	**01 31 13.2**	**+2.1**
MWZ				S	S	01 33 44.4	-9.1
URZ	**Urewera**	**14.75**	**197**	P	**P**	**01 31 11.5**	**0.0**
	17nm,0.3s,baz=288,slow=3.1,SNR=26						
URZ				S	S	01 33 44.4	-10
	12nm,0.4s,baz=334,slow=16,SNR=12						
URZ	**Urewera**	**14.75**	**197**	P	**P**	**01 31 11.2**	**-0.3**
URZ				S	S	01 33 44.2	-10
DZM	**Mont Dzumac**	**15.02**	**275**		**Pn**	**01 31 13.9**	**-0.2**
DZM	**Mont Dzumac**	**15.02**	**275**	P	**P**	**01 31 15.1**	**+0.4**
	8.5nm,0.8s,baz=119,slow=19,SNR=5.7						
MUGZ	**Murupara**	**15.05**	**198**	P	**Pn**	**01 31 13.4**	**-0.8**
MUGZ				S	**S**	**01 33 53.0**	**-8.2**
SNGZ	**Shannon Statio**	**15.18**	**196**	P	**P**	**01 31 16.4**	**+0.1**
SNGZ				S	**S**	**01 33 54.2**	**-10**
NMHZ	**Naumai**	**15.62**	**197**	P	**P**	**01 31 21.4**	**+0.3**
NMHZ				S	**S**	**01 34 05.9**	**-8.5**
HIZ	**Hauiti**	**15.69**	**203**	P	**Pn**	**01 31 26.8**	**+4.8**
ETVZ	**East Tongariro**	**15.97**	**200**	P	**Pn**	**01 31 25.9**	**+0.4**
ETVZ				S	**S**	**01 34 15.7**	**-6.6**
MCHZ	**McNeill Hill**	**15.97**	**197**	S	**S**	**01 34 14.6**	**-7.6**
TWVZ	**Taurewa**	**16.00**	**201**	P	**Pn**	**01 31 27.0**	**+1.2**
NGZ	**Ngauruhoe**	**16.04**	**200**	P	**Pn**	**01 31 27.5**	**+1.1**
WHVZ	**Whangaehu Hut**	**16.14**	**200**	P	**Pn**	**01 31 27.9**	**+0.2**
WNVZ	**Wahianoa**	**16.18**	**200**	P	**Pn**	**01 31 27.8**	**-0.2**
WNVZ				S	**S**	**01 34 19.9**	**-7.0**
PKVZ	**Pokaka**	**16.23**	**201**	P	**Pn**	**01 31 28.7**	**+0.3**
KAHZ	**Kahuranaki**	**16.26**	**196**	P	**Pn**	**01 31 28.2**	**-0.6**
KAHZ				S	**S**	**01 34 19.7**	**-8.5**
RAR	**Rarotonga**	**16.53**	**83**	P	**Pn**	**01 31 32.9**	**+0.7**
	17nm,0.4s,baz=190,slow=11,SNR=2.4						
TSZ	**Takapari Road**	**16.75**	**198**	P	**P**	**01 31 33.0**	**-0.5**
TSZ				S	S	01 34 26.9	-11
MRZ	**Mangatainoka R**	**17.42**	**198**	P	**P**	**01 31 40.3**	**-0.4**
MRZ				S	S	01 34 40.1	-11
QRZ	**Quartz Range**	**18.58**	**205**	P	**Pn**	**01 31 56.4**	**+0.3**
THZ	**Tophouse**	**19.26**	**202**	P	**P**	**01 32 01.1**	**+0.2**
INZ	**Inchbonnie**	**20.63**	**204**	P	**P**	**01 32 15.9**	**+0.6**
INZ				IAmb	IAmb	01 32 20.2	
	comp=Z,27nm,0.7s						
MQZ	**McQueen's Vall**	**21.08**	**200**	P	**P**	**01 32 21.8**	**+1.7**
WVZ	**Waitaha Valley**	**21.20**	**205**	P	**P**	**01 32 21.1**	**-0.2**
RPZ	**Rata Peaks**	**21.63**	**203**	P	**P**	**01 32 25.7**	**-0.2**
	comp=Z,10.0nm,0.5s,baz=20,slow=3.8,SNR=7.7						
RPZ				S	**S**	**01 36 14.1**	**+2.3**
	comp=Z,3.6nm,0.2s,baz=24,slow=18,SNR=1.5						
	comp=Z,10.0nm,0.5s						
RPZ	**Rata Peaks**	**21.63**	**203**	P	**P**	**01 32 25.9**	**+0.1**
FOZ	**Fox Glacier**	**21.94**	**206**	P	**P**	**01 32 28.7**	**-0.2**
TMZ	**Timaru**	**22.23**	**202**	P	**P**	**01 32 32.8**	**+1.2**
LBZ	**Lake Benmore**	**22.52**	**204**	P	**P**	**01 32 33.4**	**-1.0**
JCZ	**Jackson Bay**	**22.80**	**206**	P	**P**	**01 32 36.9**	**-0.1**
ODZ	**Otahua Downs**	**22.93**	**202**	P	**P**	**01 32 39.9**	**+1.9**
WKZ	**Wanaka**	**23.34**	**205**	P	**P**	**01 32 42.5**	**+0.7**
MLZ	**Mavora Lakes**	**24.14**	**206**	P	**P**	**01 32 50.0**	**+0.9**
WHZ	**Wether Hill Ro**	**24.64**	**205**	P	**P**	**01 32 55.6**	**+2.0**
EIDS	**Eidsvold**	**28.61**	**261**	P	**P**	**01 33 29.8**	**+0.5**
CTAO	**Charters Tower**	**33.86**	**270**	P	**P**	**01 34 15.6**	**+0.3**
TOO	**Toolangi**	**34.29**	**238**	P	**P**	**01 34 21.1**	**+2.4**
TOO				IAmb	IAmb	01 35 05.2	
	comp=Z,11nm,1.5s						
ASAR	**Alice Springs**	**44.33**	**260**	P	**P**	**01 35 41.2**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=94,slow=8.9,SNR=14						
ASAR				PcP	**PcP**	**01 37 22.0**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=119,slow=4.4,SNR=5.2						
ASAR				ScP	**ScP**	**01 40 56.5**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=104,slow=3.9,SNR=4.3						
	comp=Z,1.8nm,0.7s						
WR8	**Warramunga Arr**	**44.61**	**266**	P	**P**	**01 35 43.4**	**-0.9**
WB0	**Warramunga Arr**	**44.76**	**266**	P	**P**	**01 35 43.9**	**-1.4**
WB0				IAmb	IAmb	01 35 45.0	
	comp=Z,5.2nm,0.6s						
WRA	**Warramunga Arr**	**44.76**	**266**	P	**P**	**01 35 43.7**	**-1.7**
WRA	**Warramunga Arr**	**44.76**	**266**	P	**P**	**01 35 44.0**	**-1.3**
	comp=Z,3.8nm,0.5s,baz=92,slow=8.4,SNR=68						
WRA				PcP	**PcP**	**01 37 23.7**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=94,slow=2.6,SNR=3.9						
WRA				ScP	**ScP**	**01 40 59.6**	**+2.3**
	comp=Z,0.2nm,0.5s,baz=101,slow=3.8,SNR=1.9						
	comp=Z,3.8nm,0.5s						
FORT	**Forrest**	**48.43**	**250**	P	**P**	**01 36 12.7**	**-1.0**
FORT				IAmb	IAmb	01 36 18.4	
	comp=Z,8.4nm,1.1s						
KNRA	**Kununurra**	**51.07**	**269**	P	**P**	**01 36 33.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**53.18**	**265**	P	**P**	**01 36 49.4**	**+0.2**
CASY	**Casey**	**60.86**	**206**		**P**	**01 37 44.6**	**+2.2**
QSPA	**South Pole Qui**	**65.86**	**180**		**P**	**01 38 18.6**	**+3.2**
QSPA				IAmb	IAmb	01 38 19.6	
	comp=Z,5.8nm,0.8s						
QSPA	**South Pole Qui**	**65.86**	**180**	P	**P**	**01 38 18.7**	**+3.3**
	comp=Z,5.9nm,0.8s,baz=47,slow=1.0,SNR=42						
	comp=Z,5.9nm,0.8s						
KIWB	**Kanaga Island**	**75.75**	**0**		**P**	**01 39 13.6**	**-1.1**
ADK	**Adak**	**75.78**	**0**	P	**P**	**01 39 13.3**	**-1.5**
MAW	**Mawson**	**78.27**	**200**	P	**P**	**01 39 31.1**	**+2.5**
	comp=Z,1.9nm,0.5s,baz=152,slow=7.3,SNR=8.6						
	comp=Z,1.9nm,0.5s						
PETK	**Petropavlovsk-**	**80.00**	**345**	P	**P**	**01 39 37.0**	**-1.2**
	comp=Z,2.8nm,0.9s,baz=119,slow=5.2,SNR=4.1						
	comp=Z,2.8nm,0.9s						
NVAR	**Mina Array Bea**	**83.35**	**43**	P	**P**	**01 39 56.5**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=228,slow=9.0,SNR=8.1						
	comp=Z,0.9nm,0.6s						
H03S2	**Juan Fernandez**	**83.44**	**124**	T	T	03 12 26.1	
	baz=244						
H03S1	**Juan Fernandez**	**83.45**	**124**	T	T	03 12 12.1	
	baz=244						
H03S3	**Juan Fernandez**	**83.45**	**124**	T	T	03 12 27.2	
	baz=244						
H03N2	**Juan Fernandez**	**83.60**	**124**	T	T	03 11 56.3	
	baz=250,slow=73						
H03N3	**Juan Fernandez**	**83.60**	**124**	T	T	03 12 02.7	
	baz=250,slow=73						
H03N1	**Juan Fernandez**	**83.61**	**124**	T	T	03 12 18.0	
	baz=250,slow=73						
TROLL	**Troll, Antarti**	**84.02**	**180**	⇓P	**P**	**01 40 00.8**	**+1.7**
	comp=Z,579nm,0.6s						
SNAA	**Sanae**	**84.29**	**178**	⇓P	**P**	**01 40 01.9**	**+1.5**
	comp=Z,66nm,0.7s						
SNAA	**Sanae**	**84.29**	**178**		**P**	**01 40 01.9**	**+1.5**
SNAA	**Sanae**	**84.29**	**178**	P	**P**	**01 40 01.9**	**+1.5**
	comp=Z,4.2nm,0.9s,baz=200,slow=3.4,SNR=26						
	comp=Z,4.2nm,0.9s						
VNA2	**Neumayer--Watz**	**84.85**	**177**	⇓P	**P**	**01 40 05.2**	**+2.0**
	comp=Z,8.1nm,0.7s,baz=173,slow=4.8						
VNA1	**Neumayer--Stat**	**85.07**	**176**	⇓P	**P**	**01 40 05.8**	**+1.6**
	comp=Z,7.3nm,0.8s						
N15K	**Kwethluk River**	**85.27**	**9**		**P**	**01 40 05.1**	**-0.1**
N15K				IAmb	IAmb	01 40 06.2	
	comp=Z,7.6nm,0.7s						
P18K	**Big Mountain,**	**85.29**	**11**	P	**P**	**01 40 04.1**	**-1.2**
P18K				IAmb	IAmb	01 40 05.2	
	comp=Z,4.6nm,0.8s						
O18K	**Koktuh Hills**	**85.73**	**11**		**P**	**01 40 06.5**	**-0.9**
O18K				IAmb	IAmb	01 40 07.4	
	comp=Z,7.2nm,0.8s						
O19K	**Port Alsworth**	**86.21**	**11**	P	**P**	**01 40 09.4**	**-0.2**
ILSW	**Iliamna Southw**	**86.23**	**12**	P	**P**	**01 40 09.4**	**-0.6**
K15K	**Wolf Creek Mou**	**87.15**	**7**		**P**	**01 40 13.7**	**-0.5**
K15K				IAmb	IAmb	01 40 15.8	
	comp=Z,3.6nm,0.8s						
SLKM	**Skilak Lake**	**87.29**	**13**		**P**	**01 40 14.8**	**-0.1**
SLKM				IAmb	IAmb	01 40 15.5	
	comp=Z,6.4nm,0.8s						
SUA	**Susitna One**	**88.06**	**12**	P	**P**	**01 40 18.2**	**-0.5**
SUA				IAmb	IAmb	01 40 18.6	
	comp=Z,4.4nm,0.7s						
GHO	**Glory Hole Cre**	**88.71**	**13**	P	**P**	**01 40 21.4**	**-0.3**
K20K	**Telida**	**89.21**	**10**	P	**P**	**01 40 23.8**	**-0.2**
K20K				IAmb	IAmb	01 40 24.5	
	comp=Z,3.3nm,1.0s						
CAST	**Castle Rocks**	**89.61**	**11**		**P**	**01 40 24.6**	**-1.2**
CAST				IAmb	IAmb	01 40 25.2	
	comp=Z,2.8nm,0.8s						
TRF	**Thorofare Moun**	**89.96**	**12**		**P**	**01 40 26.8**	**-0.8**
TRF				IAmb	IAmb	01 40 27.2	
	comp=Z,5.1nm,0.9s						
RND	**Reindeer**	**90.20**	**12**	P	**P**	**01 40 28.1**	**-0.5**
RND				IAmb	IAmb	01 40 29.7	
	comp=Z,4.8nm,1.0s						
WRH	**Wood River Hil**	**91.31**	**12**	P	**P**	**01 40 32.9**	**-0.7**
WRH				IAmb	IAmb	01 40 39.8	
	comp=Z,4.6nm,1.1s						
SCRK	**Sand Creek**	**91.72**	**14**	P	**P**	**01 40 35.1**	**-0.6**
ILAR	**Eielson Array**	**91.81**	**13**	P	**P**	**01 40 34.8**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=211,slow=5.0,SNR=4.3						
	comp=Z,0.3nm,0.5s						
T25A	**Trinidad**	**91.82**	**50**	P	**P**	**01 40 34.2**	**-2.8**
T25A				IAmb	IAmb	01 40 38.3	
	comp=Z,5.8nm,1.1s						
E18K	**Tukpahlearik C**	**92.23**	**6**	P	**P**	**01 40 37.3**	**-0.6**
J26L	**Joseph Creek**	**92.27**	**14**		**P**	**01 40 38.1**	**-0.2**
J26L				IAmb	IAmb	01 40 39.1	
	comp=Z,2.7nm,0.8s						
E19K	**Redstone River**	**92.64**	**8**	P	**P**	**01 40 39.8**	**0.0**
E19K				IAmb	IAmb	01 40 40.8	
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**139.49**	**343**	PKhKP	PKPpre	01 46 42.9	
	comp=Z,2.6nm,1.0s,baz=156,slow=24,SNR=1.8						
HFS	**Hagfors**	**143.29**	**351**	PKhKP	PKPpre	01 46 58.2	
	comp=Z,3.6nm,0.9s,baz=48,slow=2.1,SNR=18						
AKASG	**Malin Array Be**	**146.51**	**329**	PKPbc	**PKPbc**	**01 47 08.1**	**-0.7**
	comp=Z,2.7nm,0.4s,baz=43,slow=4.3,SNR=23						
EKA	**Eskdalemuir Ar**	**148.64**	**6**	PKPbc	**PKPbc**	**01 47 13.8**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=0.5,slow=3.0,SNR=5.0						
BRTR	**Keskin Array B**	**149.66**	**308**	PKPbc	**PKPbc**	**01 47 16.8**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=104,slow=6.1,SNR=5.0						
MMAI	**Mount Meron Ar**	**150.01**	**294**	PKPbc	**PKiKP**	**01 47 19.0**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=74,slow=5.1,SNR=6.5						

IDC 09 01:48:10.2±1.9, 0.88N×127.17E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=174.6km s-min=22.4km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.85**	**162**	P	P	01 53 03.7	-0.8
	0.8nm,0.7s,baz=340,slow=11,SNR=4.9						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**25.26**	**165**	P	P	01 53 38.8	+0.5
	0.5nm,0.5s,baz=343,slow=12,SN

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.79**	**158**	P	P	02 10 15.8	-1.0
	0.9nm,0.7s,baz=336,slow=11,SNR=7.6						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**25.09**	**162**	P	P	02 10 50.4	+0.8
	0.4nm,0.5s,baz=345,slow=12,SNR=5.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**59.87**	**327**	P	P	02 15 30.4	-0.3
	0.1nm,0.4s,baz=114,slow=8.7,SNR=2.0						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**69.70**	**328**	P	P	02 16 34.9	+0.2
	0.4nm,0.4s						
	0.4nm,0.4s						

*IDC **09** 02:11:13.8±1.6,0.°50N×126.°17E,h0km,mb3.9/4, mbtmp4.0/4,Error ellipse: s-maj=164.4km s-min=21.2km az=65.0*

*NEIC **09** 02:11:21.6±1.6,0.°5N±0.°1×126.°47E±0.°07,h38km±7km, mb4.2/24,Error ellipse: s-maj=16.6km s-min=9.7km az=173.0*

ISC 09 02:11:21.5±0.7,0.°4N±0.°1×126.°47E±0.°08,h47km,n33, σ1s28/33,mb4.2/16,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.96**	**69**		**Pn**	**02 11 38.6**	**0.0**
TOLI2	**Tolitoli**	**5.72**	**277**		**Pn**	**02 12 44.4**	**+0.5**
WB0	**Warramunga Arr**	**21.52**	**159**	P	**P**	**02 16 06.0**	**-0.7**
WRA	**Warramunga Arr**	**21.66**	**160**	P	**P**	**02 16 08.0**	**-0.2**
WRA	**Warramunga Arr**	**21.66**	**160**	P	**P**	**02 16 07.1**	**-1.1**
	2.5nm,0.6s,baz=337,slow=11,SNR=20						
	2.5nm,0.6s						
WR8	**Warramunga Arr**	**21.73**	**159**	P	**P**	**02 16 08.4**	**-0.6**
AS31	**Alice Springs**	**25.02**	**164**	P	**P**	**02 16 42.1**	**+0.9**
ASAR	**Alice Springs**	**25.02**	**164**	P	**P**	**02 16 42.7**	**+1.4**
ASAR	**Alice Springs**	**25.02**	**164**	P	**P**	**02 16 41.7**	**+0.4**
	1.6nm,0.5s,baz=352,slow=16,SNR=21						
	1.6nm,0.5s						
FORT	**Forrest**	**31.07**	**177**	P	**P**	**02 17 34.3**	**-1.0**
FORT				IAmb	IAmb	02 17 46.3	
	comp=E,6.1nm,1.0s						
TAU	**Tasmania Unive**	**47.04**	**159**	P	**P**	**02 19 48.6**	**+0.3**
KAAM	**Kaadhehdhoo**	**53.47**	**270**	P	**P**	**02 20 37.1**	**-0.4**
PETK	**Petropavlovsk-**	**58.57**	**21**	P	**P**	**02 21 13.3**	**-0.1**
MKAR	**Makanchi Array**	**60.12**	**326**	P	**P**	**02 21 21.1**	**-3.1**
	comp=Z,1.0nm,0.5s,baz=119,slow=8.5,SNR=8.2						
	comp=Z,1.0nm,0.5s						
MAKZ	**Makanchi**	**60.30**	**326**	P	**P**	**02 21 24.4**	**-1.0**
MAKZ				IAmb	IAmb	02 21 26.3	
	comp=Z,1.7nm,0.8s						
KURBB	**Kurchatov Arra**	**64.38**	**328**	P	**P**	**02 21 50.6**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=130,slow=6.1,SNR=4.1						
	comp=Z,0.5nm,0.3s						
CASY	**Casey**	**67.53**	**187**	P	**P**	**02 22 14.6**	**+2.2**
ABKAR	**Akbulak array**	**74.54**	**321**	P	**P**	**02 22 56.0**	**+0.6**
K13K	**Kusilvak Mount**	**79.81**	**27**	P	**P**	**02 23 24.8**	**+0.2**
K13K				IAmb	IAmb	02 23 27.2	
	comp=Z,1.7nm,0.8s						
M14K	**Bethel**	**80.70**	**28**	P	**P**	**02 23 30.1**	**+0.7**
M14K				IAmb	IAmb	02 23 37.1	
	comp=Z,3.4nm,0.8s						
K15K	**Wolf Creek Mou**	**81.32**	**27**	P	**P**	**02 23 34.7**	**+2.0**
K15K				IAmb	IAmb	02 23 45.5	
	comp=Z,3.5nm,1.1s						
J17K	**VABM Dome**	**82.69**	**26**	P	**P**	**02 23 42.0**	**+2.1**
H17K	**Granite Mounta**	**82.72**	**24**	P	**P**	**02 23 40.8**	**+0.8**
H17K				IAmb	IAmb	02 23 42.8	
	comp=Z,2.0nm,0.7s						
K17K	**Iditarod**	**82.88**	**27**	P	**P**	**02 23 42.7**	**+1.8**
E18K	**Tukpahlearik C**	**83.10**	**22**	P	**P**	**02 23 42.8**	**+0.9**
E18K				IAmb	IAmb	02 23 45.1	
	comp=Z,1.8nm,0.8s						
H18K	**Honhosa River**	**83.41**	**24**	P	**P**	**02 23 45.1**	**+1.5**
H18K				IAmb	IAmb	02 23 45.9	
	comp=Z,1.8nm,1.0s						
G18K	**Tagagawik**	**83.46**	**24**	P	**P**	**02 23 44.6**	**+0.7**
L18K	**Granite Mounta**	**83.50**	**27**	P	**P**	**02 23 43.7**	**-0.4**
L18K				IAmb	IAmb	02 23 46.7	
	comp=Z,1.8nm,0.7s						
J18K	**Innoko River**	**83.74**	**26**	P	**P**	**02 23 46.4**	**+1.0**
J18K				IAmb	IAmb	02 23 48.0	
	comp=Z,1.6nm,0.9s						
C19K	**Lookout Ridge**	**83.91**	**20**	P	**P**	**02 23 47.6**	**+1.5**
D19K	**Kuna River**	**84.28**	**21**	P	**P**	**02 23 49.0**	**+1.0**
D19K				IAmb	IAmb	02 23 52.4	
	comp=Z,1.2nm,0.6s						
N19K	**Bonanza Creek**	**84.29**	**29**	P	**P**	**02 23 49.6**	**+1.4**
D20K	**Etivluk River**	**84.86**	**21**	P	**P**	**02 23 51.5**	**+0.5**
D20K				IAmb	IAmb	02 23 53.9	
	comp=Z,1.1nm,0.8s						

IDC 09 02:12:49.2±1.6,0.°34N×126.°03E,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=167.6km s-min=21.9km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.74**	**158**	P	P	02 17 41.5	-0.9
	2.0nm,0.4s,baz=337,slow=11,SNR=11						
	2.0nm,0.4s						
ASAR	**Alice Springs**	**25.06**	**163**	P	P	02 18 16.1	+0.7
	1.5nm,0.6s,baz=343,slow=12,SNR=9.4						
	1.5nm,0.6s						
MKAR	**Makanchi Array**	**59.96**	**327**	P	P	02 22 57.9	+0.4
	0.3nm,0.3s,baz=124,slow=6.7,SNR=4.8						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**64.22**	**329**	P	P	02 23 25.5	-0.5
	1.0nm,0.8s,baz=132,slow=5.7,SNR=5.5						
	1.0nm,0.8s						

IDC 09 02:18:53.2±1.9,0.°33N×126.°61E,h0km,mb3.5/5, mbtmp3.5/5,Error ellipse: s-maj=181.6km s-min=23.6km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.53**	**160**	P	P	02 23 45.0	+0.9
	0.6nm,0.6s,baz=340,slow=10.0,SNR=4.5						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**24.89**	**164**	P	P	02 24 18.9	+1.0
	0.9nm,0.8s,baz=348,slow=14,SNR=6.7						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**60.28**	**326**	P	P	02 29 04.2	+0.5
	0.1nm,0.4s,baz=116,slow=8.6,SNR=2.3						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**64.53**	**328**	P	P	02 29 32.2	+0.2
	0.1nm,0.3s,baz=123,slow=7.4,SNR=1.5						
	0.1nm,0.3s						
QSPA	**South Pole Qui**	**90.26**	**180**	P	P	02 31 53.8	-2.0
	1.1nm,0.7s,baz=8.3,slow=3.8,SNR=7.2						
	1.1nm,0.7s						

*GUC **09** 02:22:02.5±0.7,24.°65S×69.°99W,h61km±3km,ML3.4*

*SJA **09** 02:22:02.1±0.7,24.°60S×69.°97W,h56km±6km,ML3.3, MW3.5*

ISC 09 02:22:04.0±1.3,24.°62S±0.°03×70.°03W±0.°06,h56km±10km, n23,σ0s90/33,5C-4D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.34**	**269**	*i*P	**Pn**	**02 22 14.3**	**0.0**
PB14				*e*S	**Sn**	**02 22 22.7**	**+0.9**
PB14	**IPOC Station P**	**0.34**	**269**	*i* P	**Pn**	**02 22 14.3**	**0.0**
PB14				*i* S	**Sn**	**02 22 22.0**	**+0.2**
PB14				IAML		02 22 23.4	
	comp=Z,2μm,0.4s						
GO02	**Mina Guanaco**	**0.67**	**144**	*e*P	**Pn**	**02 22 17.0**	**-1.0**
GO02				*e*S	**Sn**	**02 22 27.9**	**-0.2**
GO02				IAML		02 22 29.2	
	comp=E,2μm,0.4s						
GO02	**Mina Guanaco**	**0.67**	**144**	*i* P	**Pn**	**02 22 16.9**	**-1.0**
GO02				*i* S	**Sn**	**02 22 27.7**	**-0.4**
GO02				IAML		02 22 29.4	
	comp=Z,1μm,0.2s						
PB10	**IPOC Station P**	**1.20**	**336**	*i*P	**Pn**	**02 22 24.1**	**-0.5**
PB10				*e*S	**Sn**	**02 22 41.1**	**+1.2**
PB10				IAML		02 22 45.4	
	comp=E,968nm,0.4s						
PB10	**IPOC Station P**	**1.20**	**336**	*i* P	**Pn**	**02 22 23.9**	**-0.7**
PB10				*i* S	**Sn**	**02 22 40.2**	**+0.3**
PB10				IAML		02 22 45.3	
	comp=Z,759nm,0.7s						
AC01	**Pan de Azucar**	**1.60**	**199**	*i*P	**Pn**	**02 22 29.2**	**-0.8**
AC01				*e*S	**Sn**	**02 22 49.6**	**0.0**
AC01				IAML		02 22 54.7	
	comp=E,896nm,0.2s						
AC01	**Pan de Azucar**	**1.60**	**199**	*i* P	**Pn**	**02 22 29.4**	**-0.7**
AC01				IAML		02 22 55.0	
	comp=Z,281nm,0.1s						
PB05	**IPOC Station P**	**1.77**	**355**	*i*P	**Pn**	**02 22 31.3**	**-1.1**
PB05				*e*S	**Sn**	**02 22 56.0**	**+2.2**
PB05				IAML		02 23 01.5	
	comp=N,423nm,0.3s						
PB05	**IPOC Station P**	**1.77**	**355**	*i* P	**Pn**	**02 22 31.3**	**-1.1**
PB05				*i* S	**Sn**	**02 22 54.0**	**+0.2**
PB05				IAML		02 23 01.0	
	comp=Z,231nm,0.4s						
PB06	**IPOC Station P**	**1.95**	**12**	*i*P	**Pn**	**02 22 34.3**	**-0.6**
PB06				*e*S	**Sn**	**02 22 59.3**	**+0.9**
PB06				IAML		02 23 04.7	
	comp=E,323nm,0.2s						
PB06	**IPOC Station P**	**1.95**	**12**	*i* P	**Pn**	**02 22 34.1**	**-0.8**
PB06				IAML		02 23 09.3	
	comp=Z,158nm,0.2s						
AC02	**Maricunga**	**2.35**	**160**	*i*P	**Pn**	**02 22 41.2**	**+0.6**
AC02				*e*S	**Sn**	**02 23 10.3**	**+1.7**
AC02	**Maricunga**	**2.35**	**160**	*i* P	**Pn**	**02 22 41.0**	**+0.4**
AC02				*i* S	**Sn**	**02 23 09.4**	**+0.8**
AC02				IAML		02 23 17.0	
	comp=Z,213nm,0.2s						
AF01	**San Pedro de A**	**2.37**	**46**	*e*P	**Pn**	**02 22 40.6**	**-0.2**
AF01				IAML		02 23 14.2	
AF01	**San Pedro de A**	**2.37**	**46**	IAML		02 23 19.5	
	comp=Z,310nm,0.7s						
PB03	**IPOC Station P**	**2.58**	**6**	*e*P	**Pn**	**02 22 41.9**	**-1.6**
PB03				*e*S	**Sn**	**02 23 13.0**	**-0.6**
PB03				IAML		02 23 26.8	
	comp=E,245nm,0.4s						
AC06	**Mina Casimiro**	**2.74**	**186**	*e*P	**Pn**	**02 22 44.6**	**-1.0**
AC06				*e*S	**Sn**	**02 23 16.9**	**-0.5**
AC06				IAML		02 23 33.5	
	comp=E,200nm,0.2s						
PB09	**IPOC Station P**	**2.91**	**15**	*e*P	**Pn**	**02 22 48.2**	**+0.3**
PB09				IAML		02 23 38.1	
	comp=E,153nm,0.5s						
TA01	**Diego Aracena**	**4.04**	**358**	IAML		02 24 10.0	
	comp=Z,68nm,0.5s						
LCO	**Las Campanas**	**4.41**	**188**	IAML		02 24 14.8	
	comp=Z,88nm,0.2s						
AGUA	**GUANDACOL**	**5.04**	**165**	*i* P	**Pn**	**02 23 17.6**	**+0.5**
AGUA				IAML		02 24 26.5	
	comp=Z,59nm,0.6s						
ASTB	**Santa Barbara**	**5.13**	**84**	IAML		02 24 48.5	
	comp=Z,1.2nm,2.9s						

IDC 09 02:22:29.0±1.8,0.°74N×126.°75E,h0km,mb3.5/4, mbtmp3.5/4,Error ellipse: s-maj=164.6km s-min=22.8km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.86**	**161**	P	P	02 27 22.9	-0.7
	1.1nm,0.4s,baz=339,slow=11,SNR=16						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**25.24**	**164**	P	P	02 27 57.5	+0.6
	0.4nm,0.3s,baz=344,slow=9.6,SNR=7.1						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**60.02**	**326**	P	P	02 32 37.8	+0.1
	0.2nm,0.3s,baz=133,slow=7.5,SNR=4.4						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**64.26**	**328**	P	P	02 33 05.8	-0.2
	0.2nm,0.5s,baz=120,slow=6.3,SNR=2.0						
	0.2nm,0.5s						

*IDC **09** 02:43:20.8±1.7,32.°74S×178.°40W,h0km,mb4.2/3, mbtmp4.2/4,ML4.3/1,MS3.6/2,Error ellipse: s-maj=59.4km s-min=33.9km az=146.0*

ISC 09 02:43:25.3±1.5,33.°0S±0.°1×178.°3W±0.°2,h32km,n13, σ0s74/11,mb4.2/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.46**	**214**	Pn	**Pn**	**02 44 58.7**	**+0.5**
	5.7nm,0.3s,baz=250,slow=6.7,SNR=15						
URZ				Sn	**Sn**	**02 46 10.4**	**-0.2**
	4.4nm,0.3s,baz=238,slow=13,SNR=6.6						
	10nm,0.3s						
DZM	**Mont Dzumac**	**17.31**	**305**	P	**P**	**02 47 26.8**	**+0.9**
	8.6nm,0.8s,baz=111,slow=16,SNR=5.6						
RAR	**Rarotonga**	**20.21**	**59**	LR	LR	02 56 38.5	
	comp=Z,88nm,18.2s,baz=220,slow=40						
STKA	**Stephens Creek**	**33.72**	**261**	LR	LR	03 03 52.1	
	comp=Z,168nm,18.0s,baz=36,slow=37						
ASAR	**Alice Springs**	**42.77**	**270**	P	**P**	**02 51 20.1**	**0.0**
	1.6nm,0.8s,baz=111,slow=7.6,SNR=14						
	1.6nm,0.8s						
WRA	**Warramunga Arr**	**43.98**	**275**	P	**P**	**02 51 29.2**	**-0.6**
	1.5nm,0.3s,baz=114,slow=7.8,SNR=25						
	1.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**52.13**	**272**	P	**P**	**02 52 31.8**	**-1.1**
	3.3nm,0.9s,baz=133,slow=2.5,SNR=2.5						
	3.3nm,0.9s						
ARCES	**ARCESS Array B**	**141.03**	**347**	PKhKP	PKPpre	03 02 48.5	
	0.8nm,0.8s,baz=64,slow=2.1,SNR=3.6						
FINES	**FINESS Array B**	**147.44**	**338**	PKPbc	**PKPbc**	**03 03 05.5**	**+0.3**
	1.9nm,0.4s,baz=35,slow=4.0,SNR=18						
NB2	**NORSAR Subarra**	**151.24**	**350**	PKP	**PKiKP**	**03 03 15.8**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=17,slow=2.6						
HFS	**Hagfors**	**151.69**	**347**	PKPbc	**PKPbc**	**03 03 14.7**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=85,slow=3.2,SNR=4.8						
AKASG	**Malin Array Be**	**153.12**	**319**	PKPbc	**PKPbc**	**03 03 19.2**	**0.0**
	comp=Z,0.7nm,0.6s,baz=69,slow=1.7,SNR=4.2						
BRTR	**Keskin Array B**	**153.49**	**294**	PKPbc	**PKiKP**	**03 03 21.1**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=89,slow=6.3,SNR=1.8						

IDC 09 02:47:28.7±1.9,0.°58N×126.°31E,h0km,mb3.6/4, mbtmp3.7/4,Error ellipse: s-maj=210.6km s-min=23.1km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.86**	**159**	P	P	02 52 22.4	-0.8
	0.9nm,0.6s,baz=338,slow=10,SNR=4.2						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**25.20**	**163**	P	P	02 52 56.9	+0.6
	0.6nm,0.3s,baz=344,slow=11,SNR=7.3						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**59.91**	**327**	P	P	02 57 36.5	-0.1
	0.5nm,0.5s,baz=132,slow=7.6,SNR=5.5						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**64.17**	**328**	P	P	02 58 05.0	-0.1
	0.4nm,0.4s,baz=137,slow=5.9,SNR=1.6						
	0.4nm,0.4s						

*IDC **09** 02:50:35.9±2.6,14.°55N×145.°69E,h72km±23km,mb3.6/8, mbtmp3.9/8,Error ellipse: s-maj=35.3km s-min=22.7km az=91.0*

*NEIC **09** 02:50:39.2±0.8,14.°28N±0.°08×145.°6E±0.°2,h104km±5km, mb4.4/20,Error ellipse: s-maj=23.6km s-min=6.1km az=115.0*

ISC 09 02:50:39.8±0.9,14.°4N±0.°1×145.°4E±0.°2,h109km,n31, σ1s96/33,mb4.3/18,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**			**0.92**	**214**	**Pn**	**02 50 59.3**	**-0.9**
GUMO					Sn	**Sn**	**02 51 14.8**	**-0.7**
GUMO	**Guam**			**0.92**	**214**	P	**Pn**	**02 50 59.0**	**-1.1**
	792nm,0.3s,baz=139,slow=7.0,SNR=23							
GUMO					S	**Sn**	**02 51 13.4**	**-2.1**
	2μm,0.5s,baz=77,slow=23,SNR=8.7							
WRA	**Warramunga Arr**	**35.78**	**198**	P	**P**	**02 57 29.4**	**+0.7**
	0.2nm,0.4s,baz=20,slow=8.3,SNR=1.5							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**39.43**	**197**	P	**P**	**02 58 02.9**	**+3.5**
	0.4nm,0.8s,baz=22,slow=10,SNR=2.2							
	0.4nm,0.8s							
SONM	**Songino Array**	**46.41**	**324**	P	**P**	**02 58 56.3**	**+0.8**
	0.9nm,0.7s,baz=116,slow=5.0,SNR=4.6							
	0.9nm,0.7s							
KIWB	**Kanaga Island**	**47.89**	**31**	P	**P**	**02 59 06.5**	**-0.3**
UNV	**Unalaska Valle**	**54.40**	**33**	P	**P**	**02 59 54.5**	**-0.9**
LVA	**Lava Point**	**54.80**	**33**	P	**P**	**02 59 57.5**	**-0.8**
K13K	**Kusilvak Mount**	**59.20**	**25**	P	**P**	**03 00 28.9**	**-0.2**
K13K				IAmb	IAmb	03 00 30.4	
	comp=Z,2.6nm,0.8s						
L14K	**Kuka Creek**	**59.73**	**26**	P	**P**	**03 00 32.7**	**-0.1**
L14K				IAmb	IAmb	03 00 34.0	
	comp=Z,2.4nm,0.8s						
O15K	**Ungalikthiuk R**	**60.06**	**29**	P	**P**	**03 00 34.5**	**-0.7**
N15K	**Kwethluk River**	**60.35**	**28**	P	**P**	**03 00 36.2**	**-1.0**
K15K	**Wolf Creek Mou**	**60.66**	**25**	P	**P**	**03 00 37.8**	**-1.4**
K15K				IAmb	IAmb	03 00 47.9	
	comp=Z,4.3nm,1.2s						
O16K	**Kokwok River B**	**61.04**	**29**	P	**P**	**03 00 41.4**	**-0.4**
O16K				IAmb	IAmb	03 01 20.2	
	comp=Z,6.4nm,1.4s						
F15K	**North Star Dit**	**61.16**	**21**	P	**P**	**03 00 42.3**	**-0.2**
F15K				IAmb	IAmb	03 00 51.6	
	comp=Z,4.3nm,1.4s						
M16K	**Timber Creek**	**61.21**	**27**	P	**P**	**03 00 42.2**	**-0.7**
M16K				IAmb	IAmb	03 01 14.0	
	comp=Z,6.1nm,1.4s						
L16K	**Owhat River**	**61.27**	**26**	P	**P**	**03 00 42.7**	**-0.6**
MK31	**Makanchi Array**	**61.31**	**316**	P	**P**	**03 00 44.6**	**+0.7**
MKAR	**Makanchi Array**	**61.31**	**316**	P	**P**	**03 00 44.6**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=90,slow=9.3,SNR=12						
	comp=Z,0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**61.31**	**324**	P	**P**	**03 00 43.7**	**0.0**
	comp=Z,1.3nm,0.6s,baz=123,slow=7.4,SNR=4.8						
	comp=Z,1.3nm,0.6s						
N17K	**Nushagak Hills**	**61.81**	**28**	P	**P**	**03 00 46.7**	**-0.3**
N17K				IAmb	IAmb	03 00 47.6	
	comp=Z,5.3nm,1.2s						
M17K	**Holitna River**	**62.04**	**27**	P	**P**	**03 00 48.5**	**0.0**
M17K				IAmb	IAmb	03 00 49.5	
	comp=Z,2.4nm,0.8s						
K17K	**Iditarod**	**62.19**	**26**	P	**P**	**03 00 49.4**	**-0.1**
C16K	**Lisburne Hills**	**62.34**	**19**	P	**P**	**03 00 49.5**	**-0.9**
C16K				IAmb	IAmb	03 01 14.9	
	comp=Z,7.1nm,1.4s						
N18K	**Kilae Creek**	**62.47**	**28**	P	**P**	**03 00 51.6**	**+0.3**
O18K	**Koktuh Hills**	**62.50**	**29**	P	**P**	**03 00 51.6**	**+0.1**
O18K				IAmb	IAmb	03 01 33.0	
	comp=Z,6.6nm,1.3s						
KURBB	**Kurchatov Arra**	**64.38**	**319**	P	**P**	**03 01 04.2**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=103,slow=6.5,SNR=15						
	comp=Z,1.7nm,0.5s						
ILAR	**Eielson Array**	**67.66**	**25**	P	**P**	**03 01 22.6**	**-2.3**
	comp=Z,0.5nm,0.4s,baz=256,slow=5.9,SNR=20						
	comp=Z,0.5nm,0.4s						
BVAR	**Borovoye Array**	**69.65**	**322**	P	**P**	**03 01 37.3**	**-0.2**
	comp=Z,1.4nm,0.5s						
	comp=Z,1.4nm,0.5s						
ABKAR	**Akbulak array**	**76.33**	**318**	P	**P**	**03 02 16.4**	**-0.5**
ABKAR	**Akbulak array**	**76.33**	**318**	P	**P**	**03 02 17.2**	**+0.3**
ABKAR				IAmb	IAmb	03 02 17.4	
	comp=Z,0.8nm,0.8s						

*GEN **09** 02:51:57.3,45.°44N×6.°60E,h8km±1km,Ml1.2*

*ROM **09** 02:51:57.8±0.2,45.°42N±0.°01×6.°64E±0.°02,h9km, ML1.2/12,Error ellipse: s-maj=1.9km s-min=1.0km az=295.0*

*LDG **09** 02:51:58.2±0.1,45.°42N×6.°62E,h2km,Md1.5/2,Ml2.0/3, Error ellipse: s-maj=1.3km s-min=1.0km az=87.0*

STR 09 02:51:58.1±0.3,45.°N±2.°×.°±.°,h3km,MLv1.6/15,LOCSAT earthModelID alpes_taup-2.11 preliminary,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPG	**La Plagne**	**0.12**	**55**	*e*Pg	Pg	02 52 00.8	+0.3
LPG				*e*Sg	Sg	02 52 03.0	+0.9
	36nm,0.2s						
LPL	**La Plagne**	**0.12**	**44**	*e*Pg	Pg	02 52 00.8	+0.3
LPL				*e*Sg	Sg	02 52 02.7	+0.6
	28nm,0.2s						
OGMO	**Fort Saint-Gob**	**0.23**	**168**	P	Pg	02 52 02.9	+0.4
OGMO				S	Sg	02 52 06.1	+0.6
OGMO	**Fort Saint-Gob**	**0.23**	**168**	Pg	Pg	02 52 02.8	+0.3
OGMO				Sg	Sg	02 52 06.0	+0.6
RSL	**Roselend**	**0.26**	**2**	P	Pg	02 52 03.0	0.0
RSL				S	Sg	02 52 06.1	-0.3
RSL	**Roselend**	**0.26**	**2**	Pg	Pg	02 52 03.0	-0.1
RSL				Sg	Sg	02 52 06.8	+0.4
BNI	**Bardonecchia**	**0.38**	**173**	P	Pg	02 52 05.5	0.0
BNI				S	Sg	02 52 10.8	+0.4
BNI	**Bardonecchia**	**0.38**	**173**	P	Pg	02 52 05.5	0.0
BNI				S	Sg	02 52 10.9	+0.5
BNI				AML	AML		
	comp=E,97μm,1.5s						
BNI				AML	AML		
	comp=E,28μm,1.2s						
BNI				AML	AML		
	comp=E,97μm,1.5s						
BNI				AML	AML		
	comp=N,44μm,0.5s						
BNI				AML	AML		
	comp=N,37μm,0.5s						
BNI				AML	AML		
	comp=E,97μm,0.5s						
MRGE	**Morge**	**0.46**	**43**	P	Pg	02 52 07.2	+0.2
MRGE				S	Sg	02 52 12.0	-1.0
MRGE	**Morge**	**0.46**	**43**	P	Pg	02 52 07.0	0.0
MRGE				S	Sg	02 52 13.1	+0.2
MRGE				AML	AML		
	comp=N,28μm,0.6s						
MRGE				AML	AML		
	comp=E,23μm,0.7s						
RRL	**Rocca Remolon**	**0.53**	**166**	P	Pg	02 52 08.4	+0.2
RRL				S	Sg	02 52 15.2	+0.2
RRL	**Rocca Remolon**	**0.53**	**166**	P	Pg	02 52 08.3	+0.2
RRL				S	Sg	02 52 16.1	+1.1
RRL				AML	AML		
	comp=E,32μm,0.9s						
RRL				AML	AML		
	comp=N,39μm,0.3s						
RRL				AML	AML		
	comp=E,32μm,1.1s						
RRL	**Rocca Remolon**	**0.53**	**166**	Pg	Pg	02 52 08.3	+0.1
RRL				Sg	Sg	02 52 15.8	+0.8
OGSI	**Sixt**	**0.64**	**9**	Pg	Pg	02 52 10.3	-0.2
OGSI				Sg	Sg	02 52 18.2	-0.6
OGSM	**Saint Maurice**	**0.67**	**286**	Pg	Pg	02 52 11.0	0.0
OGSM				Sg	Sg	02 52 19.6	0.0
OGMY	**Moye**	**0.68**	**312**	Pg	Pg	02 52 11.2	+0.1
OGMY				Sg	Sg	02 52 20.3	+0.3
CIRO	**Champorcher**	**0.69**	**75**	P	Pg	02 52 11.2	-0.2
CIRO				S	Sg	02 52 19.9	-0.

PZZ	**Stroppo**	**0.99 159**	P	Pg	02 52 16.4	-0.6
PZZ	**Stroppo**	**0.99 159**	P	Pg	02 52 16.4	-0.7
PZZ			AML	AML		
	comp=E,27µm,1.1s					
PZZ			AML	AML		
	comp=N,31µm,0.5s					
PZZ			AML	AML		
	comp=E,27µm,0.9s					
PZZ	**Stroppo**	**0.99 159**	Pg	Pg	02 52 16.5	-0.6
JAUF	**Jausiers**	**1.01 175**	Pg	Pg	02 52 17.2	-0.2
GIMEL	**St. Georges /**	**1.13 348**	Pg	Pb	02 52 20.2	-0.1
GIMEL	**St. Georges /**	**1.13 348**	Pg	Pb	02 52 20.2	-0.1
GIMEL			Sg	Sn	02 52 36.7	-0.3
CABF	**La Chapelle**	**1.24 343**	*e*Pg	Pg	02 52 21.7	-0.1
CABF			*e*Sg	Sn	02 52 39.5	-0.1
	comp=E,1.4nm,0.2s					
RIVEL	**MONT RIVEL**	**1.41 340**	Pn	Pg	02 52 25.6	+0.5
RIVEL			Sn	Sn	02 52 44.1	+0.2
SSB	**Saint Sauveur**	**1.47 265**	Pn	Pb	02 52 26.1	0.0
SSB			Sn	Sb	02 52 43.2	-2.0
VIVF	**Saint-Julien-l**	**1.49 248**	*e*Pg	Pn	02 52 26.0	+0.2
VIVF			*e*Sg	Sb	02 52 44.2	-1.6
	comp=E,5.1nm,0.3s					
SMF	**Signal de Mont**	**2.28 303**	*e*Pg	Pb	02 52 40.6	+0.7
SMF			*e*Sg	Sb	02 53 09.3	+0.8
	comp=E,0.7nm,0.2s					
AVF	**Avril sur Loir**	**2.65 302**	*e*Pg	Pg	02 52 48.1	-0.7
LOR	**Lormes**	**2.65 315**	*e*Pg	Pg	02 52 47.7	-1.1
	baz=127					
SSF	**Saint Saulge**	**2.70 308**	*e*Pg	Pb	02 52 48.0	+0.9
BGF	**Bois d'Agland**	**2.86 295**	*e*Pg	Pg	02 52 51.6	-1.2

*IDC **09** 03:02:13.3±1.9,22°.09N×94°.64E,h117km±20km,mb3.3/12, mbtmp3.7/14,Error ellipse: s-maj=34.9km s-min=12.1km az=41.0*

*NDI **09** 03:02:17.4±2.0,22°.38N×94°.55E,h10km,ML3.5,MW3.3*

ISC 09 03:02:11.9±0.8,22°.17N±0°.07×94°.79E±0°.09,h10km,n23,σ1§96/29,mb3.7/12,Myanmar

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SAIH	**SAIHA**	**1.70**	**281**	*e*P		**Pn**	**03 02 44.0**	**+3.1**
SAIH				*e*S		**Sn**	**03 03 03.9**	**+1.0**
SAIH				IAML			03 03 06.6	
	comp=N,321nm,0.2s							
SAIH				IAML			03 03 06.7	
	comp=E,497nm,0.3s							
AZL	**Aizawl**	**2.49**	**309**	*e*P		**Pn**	**03 02 54.5**	**+3.4**
AZL				*e*S		**Sn**	**03 03 21.8**	**+0.8**
AZL				IAML			03 03 23.2	
	comp=E,798nm,0.3s							
AZL				IAML			03 03 26.0	
	comp=N,668nm,0.3s							
IMP	**Imphal**	**2.76**	**344**	*e*P		Pn	03 02 59.5	+4.9
IMP				*e*S		**Sn**	**03 03 29.1**	**+1.6**
IMP				IAML			03 03 31.5	
	comp=N,123nm,0.2s							
BRDH	**Bariadhala**	**2.96**	**280**	P		**Pn**	**03 02 59.2**	**+2.1**
	comp=N,70nm,0.3s,baz=49,slow=19,SNR=1.5							
BRDH				S		**Sn**	**03 03 31.3**	**-0.7**
	comp=N,162nm,0.4s,baz=25,slow=23,SNR=9.6							
KOHI	**KOHIMA**	**3.59**	**350**	*e*P		Pn	03 03 10.9	+5.1
KOHI				*e*S		**Sn**	**03 03 49.3**	**+1.9**
KOHI				IAML			03 03 53.6	
	comp=N,72nm,0.6s							
KOHI				IAML			03 03 54.5	
	comp=E,87nm,0.3s							
SHL	**Shillong**	**4.31**	**322**	*e*x		x	03 03 14.5	
SHL				*e*S		**Sn**	**03 04 01.5**	**-3.2**
SHL				IAML			03 04 02.5	
	comp=E,195nm,0.1s							
SHL				IAML			03 04 04.7	
	comp=N,158nm,0.1s							
TEZP	**TEZPUR**	**4.79**	**338**	*e*P		**Pn**	**03 03 24.0**	**+2.2**
TEZP				*e*S		**Sn**	**03 04 14.1**	**-2.0**
CMAR	**Chiang Mai Arr**	**5.37**	**133**	P		**Pn**	**03 03 32.5**	**+2.9**
	comp=N,3.4nm,0.6s,baz=311,slow=14,SNR=16							
ZIRO	**ZIRO**	**5.41**	**351**	*e*P		**Pn**	**03 03 33.4**	**+3.1**
ZIRO				*e*S		**Sn**	**03 04 31.1**	**-0.2**
ZIRO				IAML			03 04 35.4	
	comp=E,204nm,0.2s							
ZIRO				IAML			03 04 35.4	
	comp=N,237nm,0.6s							
TAWA	**Tawang**	**6.02**	**334**	*e*P		**Pn**	**03 03 42.5**	**+3.7**
TAWA				*e*S		**Sn**	**03 04 44.3**	**-2.3**
TAWA				IAML			03 04 47.1	
	comp=E,202nm,0.2s							
TAWA				IAML			03 04 47.5	
	comp=N,154nm,0.4s							
MKAR	**Makanchi Array**	**26.57**	**341**	P		**P**	**03 07 41.7**	**+1.1**
	comp=N,0.2nm,0.5s,baz=155,slow=9.1,SNR=2.1							
	comp=N,0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**31.13**	**340**	P		**P**	**03 08 19.2**	**-1.7**
	comp=N,0.2nm,0.3s,baz=143,slow=8.1,SNR=4.1							
	comp=N,0.2nm,0.3s							
AKTO	**Aktyubinsk**	**40.25**	**324**	P		**P**	**03 09 39.4**	**+0.5**
	comp=N,2.4nm,0.6s,baz=123,slow=7.5,SNR=7.4							
	comp=N,2.4nm,0.6s							
WRA	**Warramunga Arr**	**56.96**	**134**	P		**P**	**03 11 47.1**	**-0.1**
	comp=N,0.5nm,0.6s,baz=321,slow=7.5,SNR=8.6							
	comp=N,0.5nm,0.6s							
AKASG	**Malin Array Be**	**57.77**	**317**	P		**P**	**03 11 51.3**	**-1.2**
	comp=N,0.2nm,0.3s,baz=87,slow=6.1,SNR=2.5							
	comp=N,0.2nm,0.3s							
ASAR	**Alice Springs**	**59.35**	**138**	P		**P**	**03 12 03.1**	**-0.8**
	comp=N,0.4nm,0.4s,baz=318,slow=7.5,SNR=5.3							
	comp=N,0.4nm,0.4s							
ARCES	**ARCESS Array B**	**62.19**	**338**	P		**P**	**03 12 22.6**	**+0.1**
	comp=N,1.6nm,1.0s,baz=98,slow=8.7,SNR=5.8							
	comp=N,1.6nm,1.0s							
HFS	**Hagfors**	**66.64**	**327**	P		**P**	**03 12 50.7**	**-0.8**
	comp=N,0.7nm,0.5s,baz=82,slow=4.3,SNR=11							
	comp=N,0.7nm,0.5s							
NOA	**NORSAR Array B**	**67.78**	**329**	P		**P**	**03 12 57.8**	**-1.0**
	comp=N,0.4nm,0.2s,baz=86,slow=6.3,SNR=1.7							
	comp=N,0.4nm,0.2s							
GERES	**GERESS Array B**	**67.89**	**315**	P		**P**	**03 12 59.5**	**-0.3**
	comp=N,0.4nm,0.6s,baz=96,slow=5.4,SNR=4.2							
	comp=N,0.4nm,0.6s							
EKA	**Eskdalemuir Ar**	**76.43**	**324**	P		**P**	**03 13 50.2**	**-0.3**
	comp=N,0.2nm,0.3s,baz=77,slow=5.4,SNR=5.5							
	comp=N,0.2nm,0.3s							
ILAR	**Eielson Array**	**81.35**	**22**	P		**P**	**03 14 16.4**	**-0.7**
	comp=N,0.2nm,0.6s,baz=299,slow=6.2,SNR=3.2							
	comp=N,0.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**87.94**	**283**	P		**P**	**03 14 50.6**	**-0.6**
	comp=N,2.6nm,0.3s,baz=46,slow=5.9,SNR=1.6							

*IDC **09** 03:11:46.1±2.2,30°.36S×177°.92W,h28km±14km,mb4.7/22, mbtmp4.8/23,ML3.7/1,MS4.4/47,Error ellipse: s-maj=14.9km s-min=11.9km az=98.0*

*MOS **09** 03:11:46.3±1.1,30°.39S×177°.97W,h40km,mb5.5/25, MS4.7/13,Error ellipse: s-maj=10.7km s-min=9.1km az=93.0*

*NEIC **09** 03:11:47.5±1.8,30°.37S±0°.06×177°.9W±0°.1,h35km±1km, mb5.2/190,Mww5.1/15,Error ellipse: s-maj=19.5km s-min=10.9km az=85.0*

*GCMT **09** 03:11:49.5±0.1,30°.40S±0°.01×177°.54W±0°.01,h38km, MW5.3/124,Moment Tensor Solution. s113,c186; s124,c199; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr0.81±.02; Mθθ-0.01±.01; Mφφ-0.79±.01; Mrθ0.11±.01; Mθφ-0.25±.01; Mφr0.47±.01; Best double couple: M0.0.96900×10^17 NP1:φs199.00000°,δ30.00000°, λ94.00000°. NP2:φs14.00000°,δ60.00000°,λ88.00000°. Principal axes: T 0.9380, Plg75.0000°, Azm279.0000°; N 0.0610, Plg2.0000°, Azm15.0000°; P -1.0000, Plg15.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 03:11:45.2±0.6,30°.47S±0°.04×177°.74W±0°.05,h25km±3km, h25km:pP-P,n708,σ1§70/635,mb5.2/168,MS4.6/64, 33C-22D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.22**	**352**	P		**Pn**	**03 12 06.1**	**-0.5**
GLKZ				S		**Sn**	**03 12 20.1**	**-2.1**
RAO	**Raoul Island**	**1.23**	**353**			**Pn**	**03 12 06.1**	**-0.6**
RAO						**Sn**	**03 12 21.4**	**-1.1**
RAO	**Raoul Island**	**1.23**	**353**	Pn		**Pn**	**03 12 06.1**	**-0.6**
	2µm,0.3s,baz=103,slow=10,SNR=53							
RAO						**Sn**	**03 12 20.1**	**-2.3**
	18µm,0.3s,baz=257,slow=22,SNR=17							
RIZ	**Raoul Island**	**1.23**	**352**	P		**Pn**	**03 12 06.4**	**-0.4**
RIZ				S		**Sn**	**03 12 20.8**	**-1.8**
MXZ	**Matakaoa Point**	**7.80**	**204**	Pn		**Pn**	**03 13 36.2**	**-0.9**
MXZ	**Matakaoa Point**	**7.80**	**204**	P		**Pn**	**03 13 33.4**	**-3.6**
MXZ				S		**Sn**	**03 15 02.8**	**-1.8**
WMGZ	**Waiomatatini S**	**7.99**	**202**	P		**Pn**	**03 13 38.6**	**-1.1**
WMGZ				S		**Sn**	**03 15 08.3**	**-1.0**
PKGZ	**Pakihiroa**	**8.15**	**204**	P		**Pn**	**03 13 40.0**	**-1.9**
PKGZ				S		**Sn**	**03 15 11.0**	**-2.2**
HAZ	**Te Kaha**	**8.16**	**206**	P		**Pn**	**03 13 40.5**	**-1.5**
HAZ				S		**Sn**	**03 15 13.8**	**+0.4**
PUZ	**Puketiti**	**8.27**	**203**	P		**Pn**	**03 13 40.9**	**-2.7**
PUZ				S		**Sn**	**03 15 14.0**	**-2.2**
RUGZ	**Raukumara Rang**	**8.38**	**206**	P		**Pn**	**03 13 43.2**	**-2.1**
RUGZ				S		**Sn**	**03 15 18.3**	**-0.8**
TWGZ	**Tauwhareparae**	**8.46**	**204**	P		**Pn**	**03 13 45.5**	**-0.7**
TWGZ				S		**Sn**	**03 15 19.2**	**-1.8**
WCZ	**Waipu Caves**	**8.59**	**228**	P		Pn	03 13 53.5	+5.7
CNGZ	**Carnagh Statio**	**8.67**	**202**	P		**Pn**	**03 13 46.3**	**-2.7**
CNGZ				S		**Sn**	**03 15 23.3**	**-2.5**
OUZ	**Omahuta**	**8.69**	**235**	P		Pn	03 13 55.9	+6.6
TKGZ	**Te Karaka**	**8.74**	**203**	P		**Pn**	**03 13 46.9**	**-3.1**
TKGZ				S		**Sn**	**03 15 24.3**	**-3.5**
MWZ	**Matawai**	**8.76**	**205**	P		**Pn**	**03 13 48.4**	**-2.0**
MWZ				S		**Sn**	**03 15 26.2**	**-2.1**
URZ	**Urewera**	**8.86**	**207**	Pn		**Pn**	**03 13 48.2**	**-3.4**
	2.8nm,0.3s,baz=9.5,slow=6.1,SNR=27							
URZ				Sn		**Sn**	**03 15 28.0**	**-2.5**
	13nm,0.3s,baz=18,slow=20,SNR=16							
URZ	**Urewera**	**8.86**	**207**	P		**Pn**	**03 13 48.5**	**-3.0**
URZ				S		**Sn**	**03 15 27.9**	**-2.7**
RAGZ	**Rawiri**	**8.95**	**205**	P		**Pn**	**03 13 49.9**	**-3.1**
RAGZ				S		**Sn**	**03 15 32.4**	**-0.5**
RIGZ	**Rimuhau**	**9.01**	**203**	P		**Pn**	**03 13 51.5**	**-2.3**
RIGZ				S		**Sn**	**03 15 31.5**	**-3.0**
TOZ	**Tahuroa Road**	**9.16**	**216**	Pn		**Pn**	**03 13 56.1**	**+0.4**
TOZ	**Tahuroa Road**	**9.16**	**216**	P		**Pn**	**03 13 58.8**	**+3.1**
PRGZ	**Paritu Road**	**9.17**	**202**	P		**Pn**	**03 13 51.8**	**-4.1**
PRGZ				S		**Sn**	**03 15 35.6**	**-2.6**
MUGZ	**Murupara**	**9.18**	**208**	P		**Pn**	**03 13 53.0**	**-3.1**
MUGZ				S		**Sn**	**03 15 35.2**	**-3.4**
RTZ	**Ruatahuna**	**9.22**	**207**			**Pn**	**03 13 54.4**	**-2.2**
SNGZ	**Shannon Statio**	**9.23**	**205**	P		**Pn**	**03 13 53.0**	**-3.7**
SNGZ				S		**Sn**	**03 15 36.8**	**-2.9**
KNZ	**Kokohu**	**9.33**	**203**	P		**Pn**	**03 13 54.6**	**-3.4**
KNZ				S		**Sn**	**03 15 35.9**	**-6.2**
MHGZ	**Mahia Peninsul**	**9.37**	**201**	P		**Pn**	**03 13 54.7**	**-4.0**
MHGZ				S		**Sn**	**03 15 38.2**	**-5.0**
RAHZ	**Arahi**	**9.44**	**205**	P		**Pn**	**03 13 57.8**	**-1.8**
RAHZ				S		**Sn**	**03 15 41.3**	**-3.6**
MTHZ	**Maungataniwha**	**9.48**	**207**	P		**Pn**	**03 13 57.2**	**-2.9**
MTHZ				S		**Sn**	**03 15 41.1**	**-4.8**
BKZ	**Black Stump Fm**	**9.88**	**207**			**Pn**	**03 14 07.4**	**+1.7**
HIZ	**Hauiti**	**10.08**	**215**	P		**Pn**	**03 14 10.8**	**+2.4**
TMVZ	**Te Maari**	**10.17**	**210**	P		**Pn**	**03 14 08.3**	**-1.3**
ETVZ	**East Tongariro**	**10.18**	**210**	P		**Pn**	**03 14 08.7**	**-1.2**
NGZ	**Ngauruhoe**	**10.26**	**210**	P		**Pn**	**03 14 11.6**	**+0.6**
KAHZ	**Kahuranaki**	**10.29**	**204**	P		Pn	03 14 06.4	-4.9
KAHZ				S		**Sn**	**03 16 00.5**	**-5.4**
KRHZ	**Kereru**	**10.35**	**206**	P		Pn	03 14 06.8	-5.2
PRHZ	**Porangahau**	**10.80**	**204**	P		**Pn**	**03 14 15.2**	**-3.0**
PRHZ				S		**Sn**	**03 16 11.5**	**-6.7**
TSZ	**Takapari Road**	**10.86**	**207**	P		**Pn**	**03 14 14.4**	**-4.6**
TSZ				S		**Sn**	**03 16 14.0**	**-5.8**
BFZ	**Birch Farm**	**11.30**	**204**	P		**Pn**	**03 14 21.6**	**-3.5**
MRZ	**Mangatainoka R**	**11.53**	**206**	P		Pn	03 14 22.8	-5.4
NFK	**Norfolk Island**	**12.53**	**273**	P		**P**	**03 14 48.9**	**-4.4**
TUWZ	**Tuamarina**	**12.84**	**209**			**Pn**	**03 14 47.3**	**+1.3**
NNZ	**Nelson**	**12.91**	**211**	P		**Pn**	**03 14 42.5**	**-4.6**
QRZ	**Quartz Range**	**13.01**	**215**	P		**Pn**	**03 14 49.7**	**+1.3**
MSVF	**Nonsavu**	**13.25**	**342**			**Pn**	**03 14 50.1**	**-1.8**
MSVF	**Nonsavu**	**13.25**	**342**	*i* P		**Pn**	**03 14 54.6**	**+2.7**
CTZ	**Chatham Island**	**13.27**	**176**	P		**Pn**	**03 14 50.6**	**-1.4**
THZ	**Tophouse**	**13.56**	**211**			**Pn**	**03 14 55.1**	**-0.9**
KHZ	**Kahutara**	**13.82**	**208**			Pn	03 14 52.9	-6.6
GVZ	**Greta Valley S**	**14.49**	**208**	P		**Pn**	**03 15 06.0**	**-2.6**
LTZ	**Lake Taylor**	**14.66**	**210**	Pn		**Pn**	**03 15 07.2**	**-3.8**
INZ	**Inbonnie**	**14.98**	**212**			**Pn**	**03 15 16.6**	**+1.3**
OXZ	**Oxford**	**15.20**	**210**			**Pn**	**03 15 19.4**	**+1.2**
OXZ				IAmb		IAmb	03 15 23.1	
	comp=Z,107nm,1.1s							
RPZ	**Rata Peaks**	**15.94**	**211**			**Pn**	**03 15 23.7**	**-4.0**
RPZ	**Rata Peaks**	**15.94**	**211**	Pn		**Pn**	**03 15 23.9**	**-3.9**
	comp=Z,3.5nm,0.3s,baz=0.0,slow=11,SNR=11							
RPZ				Sn		Sn	03 18 06.1	-18
	comp=Z,3.8nm,0.3s,baz=338,slow=19,SNR=8.2							
RPZ				LR		LR	03 21 42.5	
	comp=Z,2µm,21.9s,baz=46,slow=37							
FOZ	**Fox Glacier**	**16.37**	**214**	Pn		**Pn**	**03 15 30.3**	**-2.9**
DZM	**Mont Dzumac**	**16.46**	**297**			**Pn**	**03 15 30.5**	**-4.1**
DZM	**Mont Dzumac**	**16.46**	**297**	*e*Pn		**P**	**03 15 38.8**	**+1.7**
	comp=Z,471nm,1.2s							
DZM				*e*LR		LR	03 19 19.7	
	comp=Z,7µm,24.7s							
DZM	**Mont Dzumac**	**16.46**	**297**	Pn		**P**	**03 15 39.4**	**+2.3**
	comp=Z,0.7nm,0.3s,baz=87,slow=15,SNR=16							
DZM				LR		LR	03 20 44.5	
	comp=Z,4µm,19.2s,baz=160,slow=33							
ODZ	**Otahua Downs**	**17.18**	**209**			**Pn**	**03 15 43.2**	**-0.2**
RAR	**Rarotonga**	**18.59**	**64**	P		**Pn**	**03 16 01.7**	**+0.7**
	comp=Z,2.4nm,0.3s,baz=171,slow=6.2,SNR=3.8							
RAR				S		Sn	03 19 15.3	-13
	comp=Z,23nm,0.8s,baz=233,slow=20,SNR=1.7							
RAR				LR		LR	03 22 45.7	
	comp=Z,821nm,18.8s,baz=261,slow=35							
	comp=Z,19nm,0.5s							
LHI	**Lord Howe Isla**	**19.91**	**261**			**P**	**03 16 13.5**	**-1.5**
LHI				IAmb		IAmb	03 16 21.0	
	comp=Z,106nm,0.8s							
LHI	**Lord Howe Isla**	**19.91**	**261**	P		**Pn**	**03 16 18.9**	**+2.1**
	comp=Z,148nm,0.9s							
TBI	**Tubuai**	**26.15**	**81**	*e*P		**P**	**03 17 13.4**	**-4.1**
	comp=Z,836nm,26.8s							
TBI				*e*S		**S**	**03 21 49.0**	**+1.2**
	comp=Z,8µm,26.5s							
TBI				*e*LR		LR	03 23 45.7	
	comp=Z,2µm,25.2s							
TBI				*e*LR		LR	03 23 50.3	
	comp=Z,14µm,27.0s							
ARMA	**Armidale**	**26.38**	**262**			**P**	**03 17 18.2**	**-1.5**
ARMA				IAmb		IAmb	03 17 24.4	
	comp=Z,64nm,0.9s							
ARMA	**Armidale**	**26.38**	**262**	P		**P**	**03 17 22.9**	**+3.3**
	comp=Z,87nm,1.1s							
RIV	**Riverview**	**26.50**	**255**	P		**P**	**03 17 23.7**	**+3.1**
	comp=Z,221nm,1.1s							
MGCD	**Mangrove Creek**	**26.56**	**256**	P		**P**	**03 17 24.6**	**+3.4**
	comp=Z,224nm,0.9s							
EIDS	**Eidsvold**	**27.97**	**273**	P		**P**	**03 17 32.3**	**-1.6**
EIDS	**Eidsvold**	**27.97**	**273**	P		**P**	**03 17 35.5**	**+1.6**
	comp=Z,118nm,1.0s							
CNB	**Canberra Magne**	**27.97**	**251**	P		**P**	**03 17 36.7**	**+2.8**
	comp=Z,105nm,1.2s							
CAN	**Canberra**	**28.27**	**251**			**P**	**03 17 35.7**	**-0.9**
CAN	**Canberra**	**28.27**	**251**	P		**P**	**03 17 38.9**	**+2.4**
	comp=Z,144nm,1.1s							
CAN	**Canberra**	**28.27**	**251**	P		**P**	**03 17 35.7**	**-0.9**
CAN				pmax		pmax		
	comp=Z,123nm,1.0s							
PPT2	**Papeete2**	**28.65**	**70**	*e*P		**P**	**03 17 39.2**	**-0.9**
	comp=Z,173nm,27.5s							
PPT2				*e*S		**S**	**03 22 22.7**	**-4.8**
	comp=Z,483nm,26.0s							
PPT2				*e*LR		LR	03 24 55.4	
	comp=Z,2µm,25.8s							
PPT2				*e*LR		LR	03 24 55.9	
	comp=Z,3µm,26.2s							
PPT	**Papeete**	**28.66**	**70**	LR		LR	03 26 06.3	
	comp=Z,668nm,21.4s,baz=248,slow=30							
YNG	**Young**	**28.78**	**253**	P		**P**	**03 17 44.0**	**+3.0**
	comp=Z,108nm,1.0s							
RMQ	**Roma**	**29.66**	**269**	P		**P**	**03 17 51.3**	**+2.4**
	comp=Z,49nm,1.1s							
MOO	**Moorlands**	**30.43**	**237**	P		**P**	**03 17 56.7**	**+1.1**
	comp=Z,65nm,1.0s							
TOO	**Toolangi**	**31.14**	**247**	P		**P**	**03 18 01.5**	**-0.5**
TOO				IAmb		IAmb	03 18 05.8	
	comp=Z,40nm,1.1s							
TOO	**Toolangi**	**31.14**	**247**	P		**P**	**03 18 04.0**	**+2.0**
	comp=Z,36nm,1.2s							
TOO	**Toolangi**	**31.14**	**247**	P		**P**	**03 18 01.5**	**-0.5**
TOO				pmax		pmax		
	comp=Z,41nm,1.2s							
CMSA	**Cobar Meteorol**	**31.28**	**259**	P		**P**	**03 18 05.2**	**+2.1**
	comp=Z,221nm,1.1s							
QLP	**Quilpie**	**33.53**	**267**	P		**P**	**03 18 24.2**	**+1.2**
	comp=Z,187nm,1.3s							
CTAO	**Charters Tower**	**34.03**	**279**	P		**P**	**03 18 27.7**	**+0.2**
CTAO	**Charters Tower**	**34.03**	**279**	P		**P**	**03 18 27.7**	**+0.2**
CTAO				pmax		pmax		
	comp=Z,235nm,0.9s							
ARPS	**Mount Arapiles**	**34.06**	**248**	P		**P**	**03 18 28.9**	**+1.5**
	comp=Z,26nm,1.3s							
STKA	**Stephens Creek**	**34.68**	**257**	P		**P**	**03 18 33.4**	**+0.5**
STKA	**Stephens Creek**	**34.68**	**257**	P		**P**	**03 18 34.9**	**+1.9**
	comp=Z,1µm,1.0s							
STKA	**Stephens Creek**	**34.68**	**257**	P		**P**	**03 18 34.7**	**+1.8**
	comp=Z,243nm,0.9s,baz=95,slow=9.8,SNR=266							
STKA				LR		LR	03 31 40.5	
	comp=Z,1µm,18.2s,baz=85,slow=35							
STKA	**Stephens Creek**	**34.68**	**257**	*i* P		**P**	**03 18 32.2**	**-0.8**
HTT	**Hallett**	**36.70**	**254**	P		**P**	**03 18 52.0**	**+1.7**
	comp=Z,88nm,1.0s							
PMG	**Port Moresby**	**38.84**	**295**	LR		LR	03 32 41.4	
	comp=Z,819nm,19.5s,baz=147,slow=32							
COEN	**Coen**	**39.51**	**286**	P		**P**	**03 19 15.6**	**+1.5**
COEN				IAmb		IAmb	03 19 16.9	
	comp=Z,61nm,0.9s							
COEN	**Coen**	**39.51**	**286**	P		**P**	**03 19 15.7**	**+1.6**
	comp=Z,75nm,0.9s							
QIS	**Mount Isa**	**39.55**	**274**	P		**P**	**03 19 15.2**	**+0.8**
	comp=Z,45nm,1.0s							
TAOE	**Nuku Hiva Isla**	**41.12**	**66**	*e*P		**P**	**03 19 27.5**	**-0.1**
	comp=Z,62nm,23.3s							
TAOE				*e*S		**S**	**03 25 32.8**	**-6.6**
	comp=Z,361nm,27.2s							
TAOE				*e*SS		**SS**	**03 28 39.3**	**-3.3**
	comp=Z,293nm,27.0s							
TAOE				*e*LR		LR	03 30 39.3	
	comp=Z,2µm,26.6s							
AS17	**Alice Springs**	**43.26**	**267**	P		**P**	**03 19 44.6**	**-0.2**
	comp=Z,29nm,0.8s							
AS31	**Alice Springs**	**43.33**	**267**	P		**P**	**03 19 45.9**	**+0.4**
ASAR	**Alice Springs**	**43.33**	**267**	P		**P**	**03 19 45.1**	**-0.4**
	comp=Z,22nm,0.7s,baz=109,slow=7.8,SNR=119							
ASAR				PcP		**PcP**	**03 21 33.1**	**-0.9**
	comp=Z,5.5nm,0.8s,baz=121,slow=3.9,SNR=2.7							
ASAR				ScP		**ScP**	**03 25 21.6**	**-2.1**
	comp=Z,3.2nm,0.8s,baz=105,slow=3.9,SNR=6.4							
ASAR				LR		LR	03 37 33.3	
	comp=Z,2µm,18.1s,baz=108,slow=36							
	comp=Z,22nm,0.7s							
WR0	**Warramunga Arr**	**44.15**	**272**	P		**P**	**03 19 51.5**	**-0.5**
DRV	**Dumont d'Urvil**	**44.16**	**203**	⇑P		**P**	**03 19 51.8**	**+0.4**
DRV				PcP		**PcP**	**03 21 35.9**	**0.0**
WR8	**Warramunga Arr**	**44.18**	**272**	P		**P**	**03 19 52.3**	**0.0**
WRAB	**Tennant Creek**	**44.32**	**272**	P		**P**	**03 19 53.2**	**-0.2**
WRAB	**Tennant Creek**	**44.32**	**272**	*i* P		**P**	**03 19 52.8**	**-0.6**
WRAB				pmax		pmax		
	comp=Z,101nm,0.9s							
WRA	**Warramunga Arr**	**44.33**	**272**	P		**P**	**03 19 52.7**	**-0.7**
WRA	**Warramunga Arr**	**44.33**	**272**	P		**P**	**03 19 52.8**	**-0.7**
	comp=Z,61nm,0.8s,baz=111,slow=7.8,SNR=98							
WRA				PcP		**PP**	**03 21 36.9**	**-0.2**
	comp=Z,4.7nm,0.7s,baz=118,slow=3.0,SNR=2.3							
WRA				ScP		**ScP**	**03 25 25.8**	**-2.0**
	comp=Z,2.9nm,1.0s,baz=120,slow=3.6,SNR=5.4							
WRA				S		S	03 26 16.9	-9.5
	comp=Z,0.8nm,0.9s,baz=110,slow=14,SNR=1.0							
WRA				LR		LR	03 36 45.9	
	comp=Z,1µm,21.0s,baz=112,slow=34							
	comp=Z,61nm,0.8s							
WB0	**Warramunga Arr**	**44.35**	**272**	P		**P**	**03 19 53.4**	**-0.3**
FORT	**Forrest**	**46.25**	**255**	P		**P**	**03 20 07.6**	**-0.9**
FORT	**Forrest**	**46.25**	**255**	P		**P**	**03 20 07.6**	**-0.9**
	comp=Z,36nm,1.3s							
WRKA	**Warakurna**	**47.70**	**263**	P		**P**	**03 20 18.6**	**-1.4**
	comp=Z,22nm,1.0s							
VNDA	**Vanda**	**48.05**	**186**	P		**P**	**03 20 23.2**	**+1.3**
VNDA				IAmb		IAmb	03 20 49.3	
	comp=Z,54nm,1.9s		

TTSI Tana Toraja 64.82 282 P **P** **03 22 22.7 +0.4**
comp=Z,12nm,0.4s
PCI Palu 65.95 284 P **P** **03 22 30.6 +1.0**
TOLI2 Tolitoli 66.27 286 **P** **03 22 30.6 -1.1**
MPSI Mapaga 66.58 285 P **P** **03 22 32.2 -1.4**
comp=Z,21nm,0.9s
JAGI Jajag, Banyuwa 66.91 274 P **P** **03 22 33.4 -2.3**
JAGI Jajag, Banyuwa 66.91 274 P **P** **03 22 34.2 -1.6**
GMJI Gumukmas 67.61 274 P **P** **03 22 39.2 -1.0**
comp=Z,36nm,0.9s
JCJ Chichijima 68.88 322 LR LR 03 47 23.3
comp=Z,149nm,21.7s,baz=313,slow=31
SMAI San Martin Ant 69.28 158 P **P** **03 22 50.9 +1.1**
SMAI IAmb IAmb 03 22 52.9
comp=Z,50nm,1.7s
PCJI Pacitan 69.61 272 P **P** **03 22 52.2 -0.5**
BELA Belgrano 2 69.68 172 **P** **03 22 52.5 +0.3**
BELA IAmb IAmb 03 23 03.1
comp=Z,14nm,0.8s
PMSA Palmer Station 72.11 156 LR LR 03 47 29.9
comp=Z,275nm,19.4s,baz=244,slow=30
MAW Mawson 72.32 201 P **P** **03 23 09.2 +1.0**
comp=Z,5.8nm,1.1s
MAW Mawson 72.32 201 P **P** **03 23 09.3 +1.1**
comp=Z,24nm,0.9s,baz=112,slow=6.8,SNR=19
MAW LR LR 03 53 40.5
comp=Z,472nm,20.4s,baz=118,slow=35
comp=Z,24nm,0.9s
KKM Kota Kinabalu 72.80 288 **P** **03 23 10.7 -1.4**
KKM IAmb IAmb 03 23 12.3
comp=Z,38nm,0.9s
TGY Tagaytay City 73.75 298 P **P** **03 23 17.0 -0.6**
comp=Z,72nm,0.3s,baz=140,slow=17,SNR=3.9
TGY LR LR 03 53 48.4
comp=Z,112nm,21.2s,baz=24,slow=34
SBUM Sibu 74.16 283 **P** **03 23 18.7 -1.3**
DBJI Dramaga 74.23 272 P **P** **03 23 20.1 -0.4**
KSM Kuching 75.26 281 P **P** **03 23 25.0 -1.4**
KSM IAmb IAmb 03 23 26.6
comp=Z,21nm,0.9s
ESPZ Base Esperanza 75.41 156 P **P** **03 23 27.3 +0.9**
ESPZ IAmb IAmb 03 23 43.5
comp=Z,31nm,1.0s
JOW Kunigami 76.88 312 LR LR 03 52 59.6
comp=Z,235nm,21.4s,baz=136,slow=32
SYO Syowa Base 77.10 193 ⇑*i*P **P** **03 23 36.4 +0.5**
SYO Syowa Base 77.10 193 ⇑*i*sP sP 03 23 51.8 +6.3
MDSI Maura Dua 77.47 272 P **P** **03 23 36.8 -2.2**
TROLL Troll, Antarti 77.80 180 ⇑P **P** **03 23 41.1 +1.1**
comp=Z,2µm,0.9s
SNAA Sanae 78.08 178 ⇑P **P** **03 23 42.1 +0.7**
comp=Z,104nm,0.3s
SNAA Sanae 78.08 178 P **P** **03 23 42.2 +0.7**
SNAA IAmb IAmb 03 23 49.8
comp=Z,34nm,1.3s
SNAA Sanae 78.08 178 P **P** **03 23 42.1 +0.7**
comp=Z,5.6nm,0.8s,baz=201,slow=4.7,SNR=19
SNAA S **S** **03 33 38.7 +5.1**
comp=Z,0.6nm,0.9s,baz=180,slow=19,SNR=2.2
SNAA LR LR 03 57 01.8
comp=Z,183nm,19.2s,baz=242,slow=35
comp=Z,5.6nm,0.8s
SNAA Sanae 78.08 178*ce*P **P** **03 23 38.9 -2.6**
SNAA pmax pmax
comp=Z,45nm,2.5s
INU Inuyama 78.09 324 **P** **03 23 40.4 -1.5**
JGF Kuroka 78.12 324 **P** **03 23 41.5 -0.5**
JGF IAmb IAmb 03 23 44.6
comp=Z,15nm,0.7s
MJAR Matsushiro Arr 78.43 325 **P** **03 23 42.7 -1.0**
MJAR Matsushiro Arr 78.43 325 P **P** **03 23 42.3 -1.4**
comp=Z,8.6nm,0.9s,baz=161,slow=5.3,SNR=14
comp=Z,8.6nm,0.9s
MJAR Matsushiro Arr 78.43 325 P **P** **03 23 42.7 -1.0**
MJAR pmax pmax
comp=Z,10.0nm,1.2s
MAJO Matsushiro 78.43 325 **P** **03 23 42.7 -1.0**
MAJO Matsushiro 78.43 325 *i*P **P** **03 23 42.2 -1.5**
MAJO pmax pmax
comp=Z,14nm,0.9s
VNA2 Neumayer--Watz 78.66 177 ⇑P **P** **03 23 45.4 +0.9**
comp=Z,46nm,0.6s,baz=168,slow=5.0
COYC Coyhaique 78.73 136 P **P** **03 23 46.0 +0.6**
COYC IAmb IAmb 03 24 03.8
comp=Z,46nm,1.4s
VNA1 Neumayer--Stat 78.89 176 ⇑P **P** **03 23 46.6 +0.8**
comp=Z,86nm,1.0s
JNU Nakatsue 79.76 318 LR LR 03 51 32.6
comp=Z,69nm,21.0s,baz=112,slow=30
H03S2 Juan Fernandez 80.23 123 T T 04 53 11.2
baz=238,slow=74,SNR=60
H03S1 Juan Fernandez 80.25 123 T T 04 53 10.0
baz=238,slow=74,SNR=52
H03S3 Juan Fernandez 80.25 123 T T 04 53 08.8
baz=238,slow=74,SNR=62
H03N3 Juan Fernandez 80.43 123 T T 04 53 23.8
baz=246,slow=78,SNR=69
H03N2 Juan Fernandez 80.43 123 T T 04 53 23.3
baz=246,slow=78,SNR=44
H03N1 Juan Fernandez 80.44 123 T T 04 53 21.8
baz=246,slow=78,SNR=71
AMKA Amchitka 81.53 358 **P** **03 24 00.5 +0.4**
KIWB Kanaga Island 81.97 0 **P** **03 24 02.8 +0.4**
ADK Adak 82.00 1 **P** **03 24 03.0 +0.5**
ADK Adak 82.00 1 P **P** **03 24 03.0 +0.5**
ADK pmax pmax
comp=Z,117nm,1.0s
PLCA Paso Flores 82.29 133 P **P** **03 24 05.9 +1.2**
PLCA IAmb IAmb 03 24 24.9
comp=Z,20nm,1.2s
PLCA Paso Flores 82.29 133 P **P** **03 24 06.5 +1.8**
comp=Z,3.7nm,0.9s,baz=225,slow=2.9,SNR=4.4
PLCA LR LR 03 51 51.7
comp=Z,384nm,21.9s,baz=246,slow=29
comp=Z,3.7nm,0.9s
ATKA Atka Island 82.38 2 **P** **03 24 04.3 -0.2**
ASAJ Asahikawa 82.61 332 LR LR 03 57 26.6
comp=Z,406nm,19.8s,baz=170,slow=33
NIKH Nikolski High 83.45 5 P **P** **03 24 10.1 +0.1**
baz=188
LPIG La Paz 84.38 58 LR LR 03 56 44.6
comp=Z,293nm,18.1s,baz=238,slow=32
UNV Unalaska Valle 84.53 7 P **P** **03 24 15.6 +0.1**
baz=190
KSRS Korea Array 84.55 319 P **P** **03 24 16.0 0.0**
comp=Z,5.1nm,1.0s,baz=142,slow=5.4,SNR=9.1
comp=Z,5.1nm,1.0s
KSAR Wonju Array Be 84.56 319 P **P** **03 24 16.0 -0.1**
KSAR Wonju Array Be 84.56 319 P **P** **03 24 16.0 -0.1**
YSS Yuzhno-Sakhali 84.91 334 **P** **03 24 18.5 +0.9**
YSS Yuzhno-Sakhali 84.91 334 *eP* **P** **03 24 18.6 +1.0**
YSS *e* 03 27 34.8
YSS *eS* **S** **03 34 46.0 +1.6**
YSS pmax pmax
comp=Z,200nm,4.5s
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=Z,200nm,15.0s
YSS MLR MLR
comp=N,200nm,14.0s
YSS MLR MLR
comp=E,300nm,16.0s
TKX Tecate 85.31 48 P **P** **03 24 20.9 +0.8**
ELS Elsinore Mount 85.50 47 P **P** **03 24 21.7 +0.6**
ELS IAmb IAmb 03 24 24.2
comp=Z,18nm,1.3s
RPSI Rantau Prapat 85.62 276 **P** **03 24 20.1 -2.0**
RPSI IAmb IAmb 03 24 21.5
comp=Z,31nm,1.3s
RPSI **PP** **03 27 38.4 -2.7**
MT01 Popeta 85.64 127 P **P** **03 24 22.4 +0.5**
MT01 IAmb IAmb 03 24 43.0
comp=Z,17nm,0.9s
PET Petropavlovsk 85.66 346 *eP* **P** **03 24 21.1 -0.1**
PET *eS* **S** **03 34 51.8 +0.3**
PET pmax pmax
comp=Z,27nm,1.2s
PET pmax pmax
comp=Z,200nm,5.1s
PET pmax pmax
comp=Z,100nm,10.8s
PSI Prapat 85.67 276 P **P** **03 24 19.8 -2.7**
comp=Z,2.8nm,0.3s,baz=142,slow=5.3,SNR=7.8
PSI PP **PP** **03 27 38.6 -3.1**
comp=Z,12nm,1.0s,baz=172,slow=5.9,SNR=5.1
PSI LR LR 04 03 12.2
comp=Z,324nm,20.4s,baz=146,slow=36
comp=Z,2.8nm,0.3s
PSI Prapat 85.67 276 P **P** **03 24 20.1 -2.3**
PSI 03 27 38.4
PSI pmax pmax
comp=Z,31nm,1.3s
BFSC Mount Baldy Ra 85.74 46 P **P** **03 24 22.9 +0.5**
BFSC IAmb IAmb 03 24 50.9
comp=Z,18nm,1.3s
YUH Yuha Desert 85.81 48 **P** **03 24 23.8 +1.3**
YUH IAmb IAmb 03 24 25.8
comp=Z,20nm,1.4s
TPO Tropico Hills 85.82 45 P **P** **03 24 23.9 +1.3**
TPO IAmb IAmb 03 24 25.8
comp=Z,34nm,1.3s
BORC Borrego Spring 85.89 47 P **P** **03 24 23.3 +0.4**
BORC IAmb IAmb 03 24 26.3
comp=Z,32nm,1.6s
PEA0B Petropavlovsk- 85.94 345 **P** **03 24 23.3 +0.7**
PEA0B Petropavlovsk- 85.94 345 *i*P **P** **03 24 20.2 -2.4**
PETK Petropavlovsk- 85.94 345 **P** **03 24 23.5 +0.9**
PETK Petropavlovsk- 85.94 345 P **P** **03 24 22.2 -0.4**
comp=Z,32nm,0.8s,baz=138,slow=6.5,SNR=64
PETK LR LR 03 56 25.6
comp=Z,188nm,21.6s,baz=163,slow=31
comp=Z,32nm,0.8s
PETK Petropavlovsk- 85.94 345 P **P** **03 24 23.5 +0.9**
GSI Gunungsitoli 86.07 274 **P** **03 24 23.5 -0.8**
GSI Gunungsitoli 86.07 274 P **P** **03 24 24.1 -0.2**
PFO Pinyon Flats O 86.09 47 **P** **03 24 24.6 +0.5**
PFO IAmb IAmb 03 24 42.1
comp=Z,27nm,1.6s
PFO Pinyon Flats O 86.09 47 LR LR 03 55 58.4
comp=Z,189nm,20.3s,baz=234,slow=31
PFO Pinyon Flats O 86.09 47 *i*P **P** **03 24 22.5 -1.5**
PFO pmax pmax
comp=Z,23nm,1.4s
ISA Isabella, Lake 86.19 45 P **P** **03 24 25.1 +0.8**
ISA IAmb IAmb 03 24 27.7
comp=Z,27nm,1.3s
ISA Isabella, Lake 86.19 45 P **P** **03 24 25.2 +0.8**
ISA pmax pmax
comp=Z,27nm,1.3s
KMPM Mount Pierce 86.26 38 **P** **03 24 25.4 +0.7**
CHNA Chernabura Isl 86.38 10 P **P** **03 24 24.9 +0.1**
baz=196
NJ2 Nanjing 86.46 310 *eP* **P** **03 24 28.0 +2.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
CMB Columbia Colle 86.66 42 **P** **03 24 27.0 +0.4**
CMB Columbia Colle 86.66 42 P **P** **03 24 27.0 +0.4**
CMB pmax pmax
comp=Z,12nm,1.2s
SDPT Sand Point 86.75 10 P **P** **03 24 27.0 +0.5**
baz=195
O02D Mt. Diablo Mer 86.81 39 **P** **03 24 27.7 +0.4**
S12K Black Hills 86.87 9 **P** **03 24 27.3 +0.2**
S12K Black Hills 86.87 9 P **P** **03 24 27.3 +0.2**
baz=194
AFDM Forest Hills D 86.95 41 **P** **03 24 28.9 +0.8**
GSC Goldstone, Bar 86.97 46 P **P** **03 24 28.6 +0.3**
GSC Goldstone, Bar 86.97 46 P **P** **03 24 28.6 +0.3**
GSC pmax pmax
comp=Z,47nm,1.6s
113A Mohawk Valley, 87.28 49 **P** **03 24 30.4 +0.7**
113A IAmb IAmb 03 24 33.2
comp=Z,16nm,1.4s
USA0B Ussuriysk Arra 87.34 326 **P** **03 24 29.2 -0.5**
USA0B Ussuriysk Arra 87.34 326 *i*P **P** **03 24 28.8 -0.9**
USRK Ussuriysk Ar. 87.34 326 P **P** **03 24 29.6 -0.1**
comp=Z,9.9nm,1.0s,baz=115,slow=3.2,SNR=12
USRK LR LR 04 00 23.2
comp=Z,128nm,19.8s,baz=139,slow=34
comp=Z,9.9nm,1.0s
214A Organ Pipe Nat 87.40 50 IAmb IAmb 03 24 50.0
comp=Z,27nm,1.5s
WAKR Walker 87.53 42 IAmb IAmb 03 24 34.1
comp=Z,28nm,1.5s
SPIA Saint Paul Isl 87.53 4 P **P** **03 24 30.6 +0.3**
baz=186
DSP Deep Springs 87.63 44 IAmb IAmb 03 24 34.3
comp=Z,16nm,1.5s
GRAC Grapevine Rang 87.74 44 IAmb IAmb 03 24 35.2
comp=Z,16nm,1.0s
S14K Fog Glacier 87.79 10 P **P** **03 24 32.0 +0.3**
baz=196
LHV Little Huntoon 87.90 43 P **P** **03 24 34.1 +1.6**
LHV IAmb IAmb 03 24 35.6
comp=Z,15nm,1.2s
BEKR Beckworth 87.93 40 P **P** **03 24 33.9 +1.0**
YBH Yreka Blue Hor 87.95 38 P **P** **03 24 34.9 +2.1**
YBH Yreka Blue Hor 87.95 38 LR LR 03 55 42.7
comp=Z,13nm,21.9s,baz=240,slow=30
YBH Yreka Blue Hor 87.95 38 P **P** **03 24 34.9 +2.1**
YBH pmax pmax
comp=Z,6.0nm,1.1s
GMN Gold Mountain 88.00 44 IAmb IAmb 03 24 36.2
comp=Z,21nm,1.7s
NVAR Mina Array Bea 88.14 43 P **P** **03 24 34.8 +0.8**
NVAR Mina Array Bea 88.14 43 P **P** **03 24 35.3 +1.4**
comp=Z,5.0nm,1.0s,baz=221,slow=7.7,SNR=22
NVAR PKKPbc **PKKPbc** **03 42 20.0 +0.6**
comp=Z,0.7nm,0.7s,baz=106,slow=3.2,SNR=5.6
NVAR LR LR 04 01 43.3
comp=Z,224nm,18.0s,baz=254,slow=34
comp=Z,5.0nm,1.0s
TYV Tymovskoe 88.21 336 *eP* **P** **03 24 34.7 +1.0**
TYV *eS* **S** **03 35 18.4 +2.1**
TYV pmax pmax
comp=Z,25nm,1.0s
TYV pmax pmax
comp=Z,100nm,2.3s
TYV smax smax
comp=N,300nm,6.2s
TYV smax smax
comp=E,100nm,6.2s
NV11 Mina Array Sit 88.22 43 P **P** **03 24 35.5 +1.2**
NV11 IAmb IAmb 03 24 51.8
comp=Z,20nm,1.6s
PAHR Pah Rah Range 88.37 41 P **P** **03 24 36.0 +1.0**
TPNV Topopah Spring 88.39 45 IAmb IAmb 03 24 53.4
comp=Z,14nm,1.3s
V12A Nelson 88.46 46 IAmb IAmb 03 24 38.9
comp=Z,17nm,1.5s
L04D Klamath Falls 88.50 38 IAmb IAmb 03 24 52.3
comp=Z,11nm,0.9s
Y14A Wickenburg 88.51 49 IAmb IAmb 03 24 39.1
comp=Z,29nm,1.6s
TPH Tonopah 88.54 43 P **P** **03 24 37.2 +1.4**
TPH Tonopah 88.54 43 P **P** **03 24 37.3 +1.4**
TPH pmax pmax
comp=Z,105nm,1.4s
W13A Hualapai Mount 88.67 47 IAmb IAmb 03 24 40.1
comp=Z,20nm,1.5s
MDJ Mudanjiang 88.81 325 P **P** **03 24 36.8 +0.1**
MDJ pmax pmax
comp=Z,8.0nm,1.8s
TUC Tucson 88.98 51 P **P** **03 24 38.3 +0.4**
TUC Tucson 88.98 51 P **P** **03 24 38.3 +0.4**
TUC pmax pmax
comp=Z,40nm,1.6s
I03D Drain, OR 89.01 36 IAmb IAmb 03 24 41.1
comp=Z,11nm,1.1s
PRN Pahroc Range 89.41 45 IAmb IAmb 03 24 43.5
comp=Z,23nm,1.3s
319A Douglas 89.44 53 IAmb IAmb 03 24 43.9
comp=Z,35nm,1.5s
BUCK Buck Mountain 89.55 36 IAmb IAmb 03 24 43.4
comp=Z,20nm,1.2s
R17L Mt. Peulik Vol 89.59 11 P **P** **03 24 40.5 +0.5**
baz=198,SNR=8.1
OHAK Old Harbor 89.76 13 P **P** **03 24 41.7 +0.9**
baz=201
J05D Fort Rock, OR 89.81 38 IAmb IAmb 03 24 44.5
comp=Z,18nm,1.3s
X16A Lo Mia Camp, P 89.82 49 IAmb IAmb 03 24 45.7
comp=Z,21nm,1.3s
Q17K Contact Creek 90.27 11 P **P** **03 24 44.0 +0.7**
baz=199,SNR=8.5
H04A Detroit Lake 90.30 36 IAmb IAmb 03 24 46.5
comp=Z,13nm,1.1s
CN2 Changchun 90.34 323 ⇑P **P** **03 24 43.7 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 LR LR
comp=Z,100nm,19.0s
CN2 LR LR
comp=Z,180nm,19.0s
KDAK Kodiak Island 90.42 13 P **P** **03 24 45.1 +1.2**
baz=202
O14K Tigyukauivet M 90.43 8 P **P** **03 24 45.0 +1.1**
baz=194
GRNR Gornyy 90.45 333 ⇓*i*P **P** **03 24 45.0 +0.8**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
Q16K King Salmon 90.54 11 P **P** **03 24 45.4 +1.0**
baz=198
WUAZ Wupatki 90.54 48 IAmb IAmb 03 24 48.7
comp=Z,19nm,1.2s
KNB Kanab 90.54 46 IAmb IAmb 03 24 48.7
comp=Z,22nm,1.5s
O15K Ungalikthiuk R 90.54 9 IAmb IAmb 03 25 30.8
comp=Z,7.7nm,0.9s
O15K Ungalikthiuk R 90.54 9 P **P** **03 24 45.4 +0.9**
baz=195
WVOR Wild Horse Val 90.63 39 IAmb IAmb 03 24 48.1
comp=Z,11nm,1.2s
BNX BinXian 90.70 325 ⇓P **P** **03 24 47.5 +2.0**
BNX sP **pP** **03 24 52.0 -0.6**
BNX S **S** **03 35 44.7 +4.9**
BNX pmax pmax
comp=Z,11nm,0.9s
BNX pmax pmax
comp=Z,60nm,3.3s
BNX LR LR
comp=Z,99nm,14.1s
BNX LR LR
comp=Z,200nm,19.0s
BNX LR LR
comp=Z,140nm,23.3s
Q18K Katmai Hardscr 90.79 12 P **P** **03 24 46.2 +0.4**
baz=200,SNR=10
X18A Snowflake 90.87 50 IAmb IAmb 03 24 50.4
comp=Z,18nm,1.3s
HOOD Mount Hood Mea 91.01 36 IAmb IAmb 03 24 49.5
comp=Z,13nm,1.1s
M11K Mekoryuk 91.02 6 IAmb IAmb 03 24 50.7
comp=Z,15nm,0.9s
M11K Mekoryuk 91.02 6 P **P** **03 24 47.9 +1.3**
baz=190
N14K Kuskokwak Cree 91.03 8 P **P** **03 24 47.6 +1.0**
baz=194
P17K Kvichak River 91.07 11 P **P** **03 24 47.8 +1.0**
baz=198
G05A Wamic 91.13 36 IAmb IAmb 03 25 26.6
comp=Z,17nm,1.1s
O16K Kokwok River B 91.19 10 P **P** **03 24 47.7 +0.3**
baz=197
KLR Kul'dur 91.21 330 LR LR 04 01 36.9
comp=Z,223nm,20.6s,baz=168,slow=33
Q20K Shuyak Island 91.23 13 P **P** **03 24 48.2 +0.6**
baz=202
I07A Izee 91.27 38 IAmb IAmb 03 24 51.1
comp=Z,16nm,1.3s
Q19K Cape Douglas, 91.30 12 P **P** **03 24 48.1 +0.1**
baz=201
J08A Circle Bar Ran 91.34 39 IAmb IAmb 03 25 06.0
comp=Z,10nm,1.2s
NLWA Neilton Lookou 91.39 33 IAmb IAmb 03 24 51.8
comp=Z,14nm,1.2s
ELK Elko 91.44 42 LR LR 03 59 50.4
comp=Z,199nm,19.6s,baz=250,slow=32
P18K Big Mountain, 91.45 11 IAmb IAmb 03 24 53.6
comp=Z,12nm,0.9s
P18K Big Mountain, 91.45 11 P **P** **03 24 48.8 +0.1**
baz=199,SNR=8.2
N15K Kwethluk River 91.47 9 P **P** **03 24 49.2 +0.5**
baz=195,SNR=11
G06A Carlson Farm, 91.47 36 IAmb IAmb 03 24 51.6
comp=Z,20nm,1.3s
O17K Koliganek Bris 91.52 10 P **P** **03 24 49.3 +0.4**
baz=198
GYA Guiyang 91.78 300 P **P** **03 24 52.8 +1.6**
GYA pmax pmax
comp=Z,18nm,0.6s
M14K Bethel 91.81 8 P **P** **03 24 50.7 +0.5**
baz=194
O18K Koktuh Hills 91.89 11 P **P** **03 24 50.9 +0.2**
baz=199,SNR=16
M15K Kasigluk River 91.90 8 P **P** **03 24 51.3 +0.6**
baz=195,SNR=13
N16K Nishlik Lake 91.94 9 P **P** **03 24 51.7 +0.8**
baz=196,SNR=9.5
GNW Green Mountain 92.01 34 IAmb IAmb 03 24 54.2
comp=Z,7.5nm,1.1s
LYN LuoYang 92.22 309 *eP* **P** **03 24 53.5 +0.7**
LYN pmax pmax
comp=Z,21nm,0.8s
LYN pmax pmax
comp=Z,160nm,6.4s
N17K Nushagak Hills 92.22 10 P **P** **03 24 52.5 +0.3**
baz=198
TXAR Lajitas Array 92.23 57 P **P** **03 24 54.2 +1.0**
comp=Z,2.1nm,1.1s,baz=206,slow=5.4,SNR=15
TXAR PKKPbc **PKKPbc** **03 42 08.9 +0.5**
comp=Z,0.5nm,0.9s,baz=85,slow=4.5,SNR=4.7
comp=Z,2.1nm,1.1s
L14K Kuka Creek 92.30 7 P **P** **03 24 53.2 +0.7**
baz=193
MNTX Cornudas Mount 92.33 54 IAmb IAmb 03 25 24.4
comp=Z,11nm,1.7s
HOM Homer 92.35 13 P **P** **03 24 53.2 +0.5**
baz=202
O19K Port Alsworth 92.37 11 P **P** **03 24 53.3 +0.5**
baz=200
ILSW Iliamna Southw 92.38 12 IAmb IAmb 03 24 54.1
comp=Z,14nm,0.9s
G08A Pilot Rock 92.38 37 IAmb IAmb 03 24 56.5
comp=Z,11nm,1.0s
HMU Henry Mountain 92.41 47 IAmb IAmb 03 24 56.6
comp=Z,10.0nm,1.4s
M16K Timber Creek 92.44 9 IAmb IAmb 03 24 59.5
comp=Z,9.8nm,1.0s
M16K Timber Creek 92.44 9 P **P** **03 24 54.1 +0.9**
baz=196,SNR=7.7
HNS HongShan 92.44 313 ⇑P **P** **03 24 54.3 +0.5**
HNS pmax pmax
comp=Z,13nm,0.7s
HNS LR LR
comp=Z,150nm,15.7s
HNS LR LR
comp=Z,190nm,19.1s
HNS LR LR
comp=Z,200nm,20.4s
CMIG Matias Romero 92.56 72 LR LR 04 01 00.5
comp=Z,69nm,18.1s,baz=230,slow=32
O20K Slope Mountain 92.56 12 P **P** **03 24 54.0 +0.1**
baz=202
N18K Kilae Creek 92.57 11 P **P** **03 24 54.2 +0.4**
baz=199
K13K Kusilvak Mount 92.68 6 IAmb IAmb 03 24 57.8
comp=Z,8.5nm,1.1s
K13K Kusilvak Mount 92.68 6 P **P** **03 24 54.8 +0.5**
baz=191
L15K Ungalak Mounta 92.76 8 P **P** **03 24 54.8 +0.1**
baz=194
MFID Camas Ranch 92.83 40 IAmb IAmb 03 25 12.8
comp=Z,7.5nm,1.1s
ALPN Alpine 92.83 56 IAmb IAmb 03 25 07.8
comp=Z,13nm,1.5s
N19K Bonanza Creek 92.92 11 P **P** **03 24 55.5 0.0**
baz=200
BMO Blue Mountains 92.96 38 IAmb IAmb 03 25 49.5
comp=Z,18nm,1.9s
M17K Holitna River 93.02 10 IAmb IAmb 03 25 20.3
comp=Z,13nm,1.1s
M17K Holitna River 93.02 10 P **P** **03 24 56.9 +1.0**
baz=198,SNR=8.4
L16K Owhat River 93.04 9 P **P** **03 24 56.4 +0.5**
baz=196
BBB Bella Bella 93.05 28 LR LR 04 03 02.6
comp=Z,168nm,18.1s,baz=222,slow=33
NNA Nana 93.18 106 LR LR 03 57 10.7
comp=Z,236nm,21.1s,baz=218,slow=29
SEW Seward 93.20 14 P **P** **03 24 57.5 +0.8**
baz=204
M18K Stony River 93.35 10 P **P** **03 24 58.1 +0.8**
baz=199
K15K Wolf Creek Mou 93.36 8 IAmb IAmb 03 25 03.3
comp=Z,10.0nm,0.8s
K15K Wolf Creek Mou 93.36 8 P **P** **03 24 58.1 +0.7**
baz=194
MA2 Magadan 93.42 345 LR LR 04 01 45.4

comp=Z,336nm,21.8s,baz=146,slow=32
MA2 Magadan 93.42 345 *ce* P **P** **03 24 58.5 +0.7**
MA2 pmax pmax
comp=Z,9.0nm,0.8s
ANMO Albuquerque 93.44 51 LR LR 04 04 32.1
comp=Z,121nm,18.3s,baz=341,slow=34
P23K Montague Islan 93.54 15 P **P** **03 24 59.0 +0.8**
baz=206
L17K Donlin 93.60 9 P **P** **03 24 59.2 +0.7**
baz=197,SNR=6.8
CMAR Chiang Mai Arr 93.64 289 **P** **03 24 59.3 -0.4**
CMAR Chiang Mai Arr 93.64 289 P **P** **03 24 59.7 -0.1**
comp=Z,2.7nm,0.8s,baz=140,slow=3.4,SNR=12
CMAR LR LR 04 08 18.1
comp=Z,49nm,20.2s,baz=265,slow=36
comp=Z,2.7nm,0.8s
N20K Mount Spurr 93.68 12 P **P** **03 24 59.8 +0.8**
baz=202
CRAG Craig 93.72 24 P **P** **03 24 59.0 -0.1**
baz=217
PLID Pearl Lake 93.81 39 IAmb IAmb 03 25 02.3
comp=Z,10nm,1.2s
L18K Granite Mounta 93.91 10 P **P** **03 25 00.3 +0.3**
baz=198,SNR=8.2
M19K Big River Lodg 93.97 11 P **P** **03 25 00.9 +0.6**
baz=200
RC01 Rabbit Creek A 94.05 13 IAmb IAmb 03 25 09.5
comp=Z,12nm,1.2s
RC01 Rabbit Creek A 94.05 13 P **P** **03 25 01.1 +0.5**
baz=204
GAMB Gambell 94.05 3 P **P** **03 25 01.1 +0.6**
baz=185
PWL Port Wells 94.12 14 P **P** **03 25 01.4 +0.5**
baz=205
L19K White Mountain 94.15 11 IAmb IAmb 03 25 07.4
comp=Z,13nm,1.1s
L19K White Mountain 94.15 11 P **P** **03 25 01.5 +0.4**
baz=200,SNR=12
M20K Styx River 94.16 11 P **P** **03 25 01.6 +0.4**
baz=201
K17K Iditarod 94.16 9 P **P** **03 25 01.5 +0.4**
baz=197
SUA Susitna One 94.19 13 P **P** **03 25 02.0 +0.6**
baz=203
U33K Whale Pass 94.23 23 P **P** **03 25 01.7 +0.2**
baz=218
GLI Glacier Island 94.40 14 IAmb IAmb 03 25 03.6
comp=Z,12nm,0.9s
GLI Glacier Island 94.40 14 P **P** **03 25 02.4 +0.1**
baz=206
EYAK Cordova Ski Ar 94.40 15 P **P** **03 25 02.8 +0.6**
baz=207
ATAH Atahuaipa 94.41 101 LR LR 03 57 51.8
comp=Z,196nm,20.2s,baz=236,slow=29
J16K Anvik River 94.43 8 IAmb IAmb 03 25 08.0
comp=Z,7.0nm,0.8s
J16K Anvik River 94.43 8 P **P** **03 25 02.9 +0.7**
baz=195
SKT Skwentna 94.53 12 P **P** **03 25 02.8 0.0**
baz=202
M22K Willow 94.58 13 P **P** **03 25 03.4 +0.4**
baz=204
L20K Farewell, AK 94.59 11 P **P** **03 25 03.2 +0.1**
baz=201
PMR Palmer 94.62 13 P **P** **03 25 03.7 +0.5**
baz=205
S31K Pelican 94.72 21 P **P** **03 25 04.2 +0.5**
baz=215
J17K VABM Dome 94.72 8 IAmb IAmb 03 25 09.2
comp=Z,18nm,1.8s
J17K VABM Dome 94.72 8 P **P** **03 25 04.3 +0.6**
baz=196
GHO Glory Hole Cre 94.83 13 IAmb IAmb 03 25 15.7
comp=Z,7.8nm,0.8s
BMRM Bremner River 95.04 16 IAmb IAmb 03 25 29.2
comp=Z,5.2nm,0.7s
BMRM Bremner River 95.04 16 P **P** **03 25 05.6 +0.4**
baz=208
J18K Innoko River 95.10 9 P **P** **03 25 06.7 +1.3**
baz=198
KLU Klutina 95.20 15 P **P** **03 25 07.1 +1.0**
baz=207
SCM Sheep Creek Mo 95.21 14 IAmb IAmb 03 25 23.8
comp=Z,8.1nm,1.0s
SCM Sheep Creek Mo 95.21 14 P **P** **03 25 06.5 +0.5**
baz=206
NEW Newport 95.30 36 LR LR 04 06 36.6
comp=Z,187nm,18.1s,baz=226,slow=34
K20K Telida 95.39 10 P **P** **03 25 07.6 +0.9**
baz=200
XLT XiLinHaoTe 95.55 318 *e* P 03 25 02.1 -5.9
XLT pP PcP 03 25 08.8 +0.5
XLT sP pP 03 25 14.0 -1.2
XLT pmax pmax
comp=Z,6.0nm,0.5s
H16K Elim 95.57 7 P **P** **03 25 08.6 +1.1**
baz=194
N25K Chitina, Valde 95.60 15 P **P** **03 25 09.0 +1.1**
baz=208
M24K Tolsona, Glenn 95.70 14 P **P** **03 25 09.2 +0.9**
baz=207
G15K Niukluk 95.75 6 P **P** **03 25 09.1 +0.8**
baz=192
J19K Poorman 95.75 10 P **P** **03 25 09.4 +1.0**
baz=199
CAST Castle Rocks 95.77 11 P **P** **03 25 09.4 +0.9**
baz=202
MCARA McCarthy VSAT 95.77 16 P **P** **03 25 09.3 +0.8**
baz=210
WAT6 Susitna Watana 95.80 13 P **P** **03 25 09.3 +0.5**
baz=206
CTG Chitna Glacier 95.82 17 P **P** **03 25 09.4 +0.5**
baz=211
WAT1 Susitna Watana 95.87 13 P **P** **03 25 09.4 +0.4**
baz=205
PDAR Pinedale Array 96.03 43 P **P** **03 25 10.9 +0.4**
comp=Z,0.6nm,0.8s,baz=298,slow=3.2,SNR=3.8
PDAR PKKPbc **PKKPbc** **03 41 58.2 -0.9**
comp=Z,1.9nm,0.8s,baz=82,slow=5.1,SNR=14
PDAR LR LR 04 01 09.0
comp=Z,108nm,20.9s,baz=230,slow=31
comp=Z,0.6nm,0.8s
F14K Arctic Creek 96.04 5 P **P** **03 25 09.5 -0.1**
baz=190
SEY Seymchan 96.10 347 LR LR 04 04 52.1
comp=Z,344nm,20.5s,baz=154,slow=33
SEY Seymchan 96.10 347 *i* P **P** **03 25 07.3 -2.6**
SEY pmax pmax
comp=Z,7.0nm,0.9s
H17K Granite Mounta 96.11 8 P **P** **03 25 10.4 +0.5**
baz=196
TRF Thorofare Moun 96.11 12 IAmb IAmb 03 25 27.4
comp=Z,6.5nm,1.0s
TRF Thorofare Moun 96.11 12 P **P** **03 25 10.4 +0.2**
baz=204
J20K Nowinta River 96.15 10 **P** **03 25 10.5 +0.4**
J20K **PP** **03 29 01.3 -2.4**
J20K IAmb IAmb 03 29 02.6
comp=Z,9.9nm,1.4s
J20K Nowinta River 96.15 10 P **P** **03 25 10.4 +0.2**
baz=200
G16K Koyuk River 96.30 6 P **P** **03 25 11.4 +0.6**
baz=193
CD2 Chengdu 96.32 302 P **P** **03 25 14.7 +2.9**
YHL Hebgen Lake 96.33 41 IAmb IAmb 03 25 39.3
comp=Z,8.8nm,1.3s
RND Reindeer 96.33 13 IAmb IAmb 03 25 16.9
comp=Z,12nm,1.0s
ZEA Zeya 96.42 331 *e* P **P** **03 25 11.2 -0.4**
ZEA *e* 03 25 27.3
ZEA *e* 03 37 54.9
ZEA pmax pmax
comp=Z,10.0nm,1.2s
HHC Hu-ho-hao-te 96.45 314 *e* P **P** **03 25 14.7 +2.5**
HHC S **S** **03 36 37.7 +6.6**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,79nm,6.7s
HHC LR LR
comp=Z,130nm,19.3s
HHC LR LR
comp=Z,170nm,15.1s
HHC LR LR
comp=Z,250nm,21.9s
H18K Honhosa River 96.50 8 P **P** **03 25 12.4 +0.7**
baz=197
G17K Kiwalik Mounta 96.57 7 P **P** **03 25 12.6 +0.6**
baz=195
MCK McKinley 96.62 12 IAmb IAmb 03 25 30.4
comp=Z,6.6nm,1.0s
MCK McKinley 96.62 12 P **P** **03 25 12.8 +0.5**
baz=205
PAX Paxson 96.62 14 P **P** **03 25 12.8 +0.4**
baz=208
YUK3 Moose Creek 96.74 17 P **P** **03 25 13.6 +0.4**
baz=212
M27K Edge Creek, AK 96.89 16 IAmb IAmb 03 25 16.6
comp=Z,7.5nm,1.1s
M27K Edge Creek, AK 96.89 16 P **P** **03 25 14.2 +0.4**
baz=211
DLBC Dease Lake 97.10 23 LR LR 04 01 25.3
comp=Z,12nm,21.7s,baz=188,slow=31
H19K Roundabout Mou 97.10 9 P Pdif 03 25 14.7 +0.3
baz=198
G18K Tagagawik 97.18 8 P Pdif 03 25 15.1 +0.2
baz=197
H20K Anotleneega Mo 97.28 9 P Pdif 03 25 15.7 +0.3
baz=200
K24K Donnelly Dome 97.30 14 IAmb IAmb 03 25 17.1
comp=Z,7.6nm,0.9s
K24K Donnelly Dome 97.30 14 P Pdif 03 25 15.9 +0.4
baz=208
I21K Tanana 97.42 11 P Pdif 03 25 16.5 +0.6
baz=202
F17K Baldwin Pennin 97.43 7 P Pdif 03 25 16.6 +0.7
baz=194
RIDG Independent Ri 97.43 14 P Pdif 03 25 16.7 +0.6
baz=208
WRH Wood River Hil 97.45 12 IAmb IAmb 03 25 21.8
comp=Z,6.9nm,1.1s
MLY Manley 97.49 11 P Pdif 03 25 17.2 +0.8
baz=203
L27K Beaver Creek, 97.51 16 P Pdif 03 25 17.4 +0.9
baz=211
JTS Las Juntas de 97.52 83 LR LR 03 59 05.2
comp=Z,166nm,21.2s,baz=275,slow=29
R33M Jennings River 97.52 22 P Pdif 03 25 17.2 +0.5
baz=219
HDA Harding Lake 97.61 13 IAmb IAmb 03 25 22.0
comp=Z,7.6nm,1.3s
HDA Harding Lake 97.61 13 P Pdif 03 25 17.5 +0.6
baz=206
H21K Melozitna Rive 97.74 10 P Pdif 03 25 18.2 +0.8
baz=202
F18K Selawik 97.75 7 P Pdif 03 25 18.1 +0.7
baz=196
M29M Somme Creek 97.81 17 P Pdif 03 25 18.2 +0.3
baz=214
SCRK Sand Creek 97.83 14 P Pdif 03 25 18.4 +0.5
baz=209
COLA College 97.85 12 *i* P **P** **03 25 15.9 -1.9**
COLA pmax pmax
comp=Z,8.0nm,1.0s
IMAR Indian Mountai 97.90 10 P Pdif 03 25 18.5 +0.4
LPAZ La Paz 97.91 114 P Pdif 03 25 22.9 +2.7
comp=Z,0.9nm,0.8s,baz=271,slow=12,SNR=2.5
LPAZ LR LR 04 00 49.7
comp=Z,122nm,21.0s,baz=217,slow=30
comp=Z,0.9nm,0.8s
ILAR Eielson Array 97.94 13 P **P** **03 25 18.0 -0.3**
ILAR Eielson Array 97.94 13 P **P** **03 25 17.4 -0.9**
comp=Z,1.0nm,0.9s,baz=215,slow=5.8,SNR=11
ILAR PP **PP** **03 29 12.8 -4.8**
comp=Z,0.5nm,0.8s,baz=221,slow=6.0,SNR=4.8
ILAR PKKPbc **PKKPbc** **03 41 54.1 -0.2**
comp=Z,0.4nm,0.8s,baz=2.1,slow=3.6,SNR=4.7
ILAR LR LR 04 02 17.1
comp=Z,71nm,21.3s,baz=198,slow=31
comp=Z,1.0nm,0.9s
ILAR Eielson Array 97.94 13 P **P** **03 25 18.0 -0.3**
J25K Salcha River, 98.10 13 P Pdif 03 25 19.5 +0.4
baz=208
H22K Ishtalitna Cre 98.18 11 P Pdif 03 25 19.9 +0.5
baz=203
F19K Shaleruckik Mo 98.18 8 P Pdif 03 25 19.7 +0.4
baz=197
K27K Chicken 98.29 15 P Pdif 03 25 20.6 +0.7
baz=211
M30M Minto, Yukon 98.35 18 P Pdif 03 25 21.1 +0.9
baz=215
J26L Joseph Creek 98.38 14 IAmb IAmb 03 25 23.9
comp=Z,5.7nm,0.8s
J26L Joseph Creek 98.38 14 P Pdif 03 25 21.0 +0.6
baz=209
H23K Yukon River 98.42 11 P Pdif 03 25 21.2 +0.7
baz=204
G21K Allakaket 98.44 10 P Pdif 03 25 21.4 +0.9
baz=201
E18K Tukpahlearik C 98.44 7 P Pdif 03 25 20.9 +0.5
baz=195
L29M L29M 98.45 17 P Pdif 03 25 21.0 +0.3
baz=214
D17K Noatak River 98.49 6 P Pdif 03 25 21.8 +1.2
baz=193
F20K Avaraart Lake 98.64 9 P Pdif 03 25 22.8 +1.5
baz=199
M31M Drury Creek, Y 98.70 19 P Pdif 03 25 23.0 +1.2
baz=217
H24K Noodor Dome 98.72 12 P Pdif 03 25 23.0 +1.1
baz=206
E19K Redstone River 98.84 8 P Pdif 03 25 23.1 +0.9
baz=198
PRP Porcupine Dome 98.87 13 IAmb IAmb 03 25 41.6
comp=Z,7.1nm,1.4s
PRP Porcupine Dome 98.87 13 P Pdif 03 25 22.8 +0.2
baz=208
BILL Bilibino 98.94 354 *ce* P Pdif 03 25 23.1 +0.5
BILL pmax pmax
comp=Z,10.0nm,2.0s
DAWY Dawson 98.94 16 P Pdif 03 25 23.5 +0.7
baz=213
FARO Faro, Yukon 99.02 19 P **Pdif** **03 25 24.1 +0.9**
baz=218
TOAD Toad River Com 99.08 25 P **Pdif** **03 25 24.3 +0.8**
baz=224
G23K Bananza Creek 99.15 11 P **Pdif** **03 25 24.7 +1.0**
baz=204
I26K Coal Creek Min 99.17 14 P **Pdif** **03 25 24.8 +1.1**
baz=210
C17K DeLong Mountai 99.24 5 P **Pdif** **03 25 25.1 +1.1**
baz=193
G24K Hadweenzic Riv 99.57 12 P **Pdif** **03 25 26.8 +1.3**
baz=206
C18K Utukok River 99.58 6 P **Pdif** **03 25 27.0 +1.4**
baz=194
COLD Coldfoot 99.60 11 P **Pdif** **03 25 26.7 +1.1**
baz=204
E20K Nigu River 99.73 8 P **Pdif** **03 25 27.3 +1.0**
baz=199
CPUP Villa Florida 99.76 128 PKKPbc PKKPbc 03 41 47.3 -0.1
comp=Z,0.4nm,0.7s,baz=289,slow=3.1,SNR=4.7
CPUP LR LR 04 02 33.9
comp=Z,61nm,21.9s,baz=106,slow=30
MMPY Sheldon Lake, 99.93 20 P **Pdif** **03 25 28.4 +1.2**
baz=220
I28M Miner Creek 99.98 15 P **Pdif** **03 25 28.7 +1.2**
baz=213
D20K Etivluk River 100.12 8 P **Pdif** **03 25 29.2 +1.3**
baz=198
C19K Lookout Ridge 100.17 7 P **Pdif** **03 25 29.6 +1.4**
baz=196
E22K Anaktuvuk Pass 100.19 10 P **Pdif** **03 25 30.1 +1.8**
baz=203
F24K Squaw Lake 100.24 11 P **Pdif** **03 25 30.0 +1.5**
baz=206
I29M Ogilvie Camp, 100.28 16 P **Pdif** **03 25 30.2 +1.5**
baz=214
H27K Steamboat Moun 100.31 14 P **Pdif** **03 25 30.0 +1.1**
baz=211
E23K Chandalar 100.45 10 P **Pdif** **03 25 31.6 +2.1**
baz=204
G26K Porcupine Rive 100.47 13 P **Pdif** **03 25 31.6 +2.1**
baz=209
I30M Mount Dempster 100.63 16 P **Pdif** **03 25 31.9 +1.4**
baz=216
E24K Your Creek 100.64 11 P **Pdif** **03 25 31.8 +1.5**
baz=206
F25K Christian Rive 100.70 12 P **Pdif** **03 25 32.0 +1.5**
baz=208
C21K Knifeblade Rid 100.75 8 P **Pdif** **03 25 32.3 +1.5**
baz=200
D22K Ayikyak River 100.77 9 P **Pdif** **03 25 32.3 +1.5**
baz=202
G27K Doyon Strip 100.78 14 P **Pdif** **03 25 32.4 +1.5**
baz=211
H29M Whitestone 100.98 15 P **Pdif** **03 25 33.2 +1.4**
baz=214
TOLK Toolik Lake Re 100.99 10 P **Pdif** **03 25 33.5 +1.7**
baz=205
F26K Sheenjek River 101.06 12 P **Pdif** **03 25 33.4 +1.2**
baz=209
D23K Nanushuk River 101.12 10 P **Pdif** **03 25 33.9 +1.5**
baz=204
U38A Gravette 102.58 55 **Pdif** **03 25 39.5 -0.2**
SONM Songino Array 103.35 318 Pdiff **Pdif** **03 25 46.0 +3.0**
comp=Z,0.6nm,0.5s,baz=151,slow=6.6,SNR=1.7
SONM PP **PP** **03 29 54.8 -4.3**
comp=Z,1.4nm,1.0s,baz=114,slow=6.5,SNR=3.7
YKA Yellowknife Ar 105.41 25 PKKPbc PKKPbc 03 41 29.2 -3.0
comp=Z,1.8nm,1.0s,baz=0.0,slow=2.2,SNR=4.1
ULM Lac du Bonnet 107.96 42 PKKPbc PKKPbc 03 41 23.1 -0.8
comp=Z,3.1nm,1.0s,baz=170,slow=10,SNR=2.2
WMQ Urumqi 113.45 308 *e* PKP **PKiKP** **03 30 18.9 -2.0**
BOSA Boshof 117.28 203 PKP **PKPdf** **03 30 28.9 -0.1**
comp=Z,1.3nm,0.5s,baz=202,slow=2.9,SNR=8.9
MK31 Makanchi Array 117.99 310 *c i* PKiKP **PKPdf** **03 30 28.6 -0.9**
MKAR Makanchi Array 117.99 310 PKP **PKPdf** **03 30 28.4 -1.0**
comp=Z,5.2nm,0.7s,baz=128,slow=0.5,SNR=39
MAKZ Makanchi 118.20 310 **PKPdf** **03 30 28.3 -1.6**
MAKZ Makanchi 118.20 310 PKiKP **PKPdf** **03 30 28.3 -1.6**
ZALV Zalesovo Beam 118.24 318 **PKPdf** **03 30 27.6 -2.1**
ZALV Zalesovo Beam 118.24 318 PKP **PKPdf** **03 30 28.6 -1.0**
comp=Z,4.5nm,0.7s,baz=129,slow=2.1,SNR=14
NRIK Noril'sk 119.79 336 PKP **PKPdf** **03 30 31.4 -0.8**
comp=Z,5.9nm,0.8s,baz=104,slow=3.7,SNR=5.4
KSH Kashi 120.47 301 PKP **PKiKP** **03 30 35.0 +0.3**
ULHL Ulahol 120.99 304 P **PKPdf** **03 30 35.6 -0.1**
SNR=20
KURK Kurchatov 121.26 314 **PKPdf** **03 30 34.5 -1.1**
KURK Kurchatov 121.26 314 *c i* PKiKP **PKPdf** **03 30 34.8 -0.8**
KURK pmax pmax
comp=Z,29nm,0.8s
KURBB Kurchatov Arra 121.30 314 PKP **PKPdf** **03 30 34.6 -1.0**
comp=Z,19nm,0.8s,baz=106,slow=2.0,SNR=150
SKOMA Sekoma 121.51 203 *i* P **PKiKP** **03 30 37.3 0.0**
TKM2 Tokmak 2 121.62 304 P **PKPdf** **03 30 36.2 -0.6**
SNR=18
UCH Uchtor 122.23 303 P **PKPdf** **03 30 38.4 +0.1**
SNR=39
KDWAN Kaudwane 122.30 204 *i* P **PKiKP** **03 30 39.6 +0.8**
AAK Ala-Archa 122.34 304 **PKPdf** **03 30 37.5 -0.7**
AAK Ala-Archa 122.34 304 *c i* PKiKP **PKPdf** **03 30 38.1 -0.1**
AAK pmax pmax
comp=Z,20nm,1.3s
USP Ospenovka 122.48 304 P **PKPdf** **03 30 38.1 -0.1**
SNR=13
AML Almayashu 122.80 303 P **PKPdf** **03 30 39.3 -0.1**
SNR=29
EKS2 Erkin-Say 122.86 304 P **PKPdf** **03 30 39.1 0.0**
SNR=13
BROLN Tlhalogang 123.34 208 *i* P **PKiKP** **03 30 40.9 +0.1**
KOOLE Kule 124.12 200 *i* P **PKiKP** **03 30 43.1 +0.6**
SOOWA Sowa 124.28 207 *i* P **PKiKP** **03 30 42.9 +0.1**
KBL Kabul 124.46 293 **PKPdf** **03 30 42.5 0.0**
KBL Kabul 124.46 293 PKiKP **PKPdf** **03 30 42.5 0.0**
SCHQ Schefferville 126.14 42 PKP **PKPdf** **03 30 44.1 -0.7**
comp=Z,7.3nm,0.8s,baz=308,slow=3.8,SNR=4.8
LMN Caledonia Moun 126.58 53 **PKPdf** **03 30 45.8 -0.2**
KSANE Kasane 127.19 208 **PKiKP** **03 30 51.8 +3.1**
LSZ Lusaka 128.12 212 **PKiKP** **03 30 50.5 -0.1**
LSZ Lusaka 128.12 212 PKiKP **PKiKP** **03 30 50.5 -0.1**
GBN Guysborough 128.82 54 **PKPdf** **03 30 50.5 +0.3**
KBS Kingsbay 131.27 358 *c i* PKiKP **PKiKP** **03 30 54.9 0.0**
KBS pmax pmax
comp=Z,16nm,1.7s
SPITS Spitsbergen Ar 131.79 356 PKP **PKPdf** **03 30 54.4 -0.6**
comp=Z,7.7nm,0.8s,baz=93,slow=11,SNR=5.4
SUMG Summit 132.71 16 **PKiKP** **03 30 57.9 -0.5**
SUMG Summit 132.71 16 PKiKP **PKiKP** **03 30 57.9 -0.5**
KIBK Kibwezi 132.79 233 **PKPdf** **03 30 59.4 +0.5**
ABKAR Akbulak array 133.13 311 **PKPdf** **03 30 58.0 -0.2**
ARTI Arti 133.39 321 **PKPdf** **03 30 58.3 -0.3**
ARTI Arti 133.39 321 *i* PKiKP **PKPdf** **03 30 58.4 -0.1**
ARTI 03 33 26.6
ARTI PPP PPP 03 36 19.7
ARTI SS SS 03 51 10.3 +0.6
ARCES ARCESS Array B 138.71 348 PKhKP PKPpre 03 30 59.9
comp=Z,3.3nm,0.7s,baz=27,slow=1.8,SNR=14
ARCES PKP **PKPdf** **03 31 07.3 -0.8**
comp=Z,9.4nm,0.9s,baz=90,slow=0.4,SNR=7.4
ARCES SKPbc **SKPbc** **03 34 41.3 +0.2**
comp=Z,3.7nm,0.8s,baz=11,slow=1.9,SNR=6.9
KLMR Klimovskoe 140.93 332 *e* PKiKP **PKPdf** **03 31 09.3 -3.0**
KLMR *e* 03 34 12.0
KLMR pmax pmax
comp=Z,38nm,1.3s
RAYN Ar Rayn 141.04 270 **PKPdf** **03 31 10.9 -2.9**
RAYN Ar Rayn 141.04 270 PKiKP **PKPdf** **03 31 10.9 -2.9**
AKT Akhty 141.99 300 *e* PKiKP **PKPdf** **03 31 14.6 -0.4**
AKT pmax pmax
comp=Z,16nm,0.9s
AKT MLR MLR
comp=Z,178nm,24.0s
VRH Novokhopyorsk 144.25 317 *e* PKiKP **PKPab** **03 31 16.0 -0.4**
VRH pmax pmax
comp=Z,15nm,0.8s
GNI Garni 144.31 297 PKPbc 03 31 17.5 -0.1
GNI Garni 144.31 297 PKiKP PKPbc 03 31 17.5 -0.1
OZAP Van, Ozalp-Mer 144.92 295 ⇑P **PKPdf** **03 31 20.6 +0.1**
GOF Gofitskoye 145.02 306 *ce* PKiKP **PKPbc** **03 31 18.7 -0.8**
FINES FINESS Array B 145.29 340 **PKPbc** **03 31 18.9 -0.9**
FINES FINESS Array B 145.29 340 PKPbc **PKPbc** **03 31 19.1 -0.6**
comp=Z,183nm,0.8s,baz=52,slow=4.1,SNR=421
LPSR Galich'ya Gora 145.31 320 *e* PKiKP **PKPbc** **03 31 19.3 -0.8**
LPSR pmax pmax
comp=Z,99nm,1.0s
KBZ Khabaz 145.34 304 PKPbc **PKPbc** **03 31 20.1 -0.3**
comp=Z,20nm,1.0s,baz=33,slow=2.5,SNR=23
OBN Obninsk 145.36 325 **PKPbc** **03 31 19.3 -0.9**
OBN Obninsk 145.36 325 ⇑P **PKPbc** **03 31 19.9 -0.3**
OBN Obninsk 145.36 325 *c i* PKiKP **PKPbc** **03 31 19.5 -0.7**
OBN *e* 03 34 39.1
OBN *e* PPP PPP 03 37 56.1
OBN pmax pmax
comp=Z,153nm,1.0s
KIV Kislovodsk 145.46 304 **PKPdf** **03 31 20.2 -0.7**
KIV Kislovodsk 145.46 304 ⇑P **PKPdf** **03 31 20.6 -0.4**
KIV Kislovodsk 145.46 304 *i* PKiKP **PKPdf** **03 31 20.6 -0.4**
KIV pmax pmax
comp=Z,28nm,1.1s
VORR Voronezh 145.54 319 *e* PKiKP **PKPdf** **03 31 20.6 -0.1**
VORR pmax pmax
comp=Z,140nm,1.0s
VSR Storozhevoye 145.74 318 *e* PKHKP PKPpre 03 31 16.4
VSR pmax pmax
comp=Z,80nm,1.0s
VORD Divnogorie 145.76 317 *e* PKHKP PKPpre 03 31 17.4
VORD pmax pmax
comp=Z,70nm,1.0s
SOC Sochi 147.64 304 *e* PKP2 **PKPdf** **03 31 25.3 +0.8**
SOC *e* 03 34 59.5
SOC *e* SS SS 03 53 53.2 -3.9
SOC *e* SSS SSS 03 59 31.7
SOC pmax pmax
comp=Z,35nm,0.9s
SOC MLR MLR
comp=Z,110nm,18.0s
NB2 NORSAR Subarra 148.85 352 PKP **PKPbc** **03 31 29.4 -0.6**
comp=Z,80nm,1.1s,baz=14,slow=2.8
NB2 NORSAR Subarra 148.85 352 PKP **PKPbc** **03 31 29.4 -0.6**
baz=14,slow=2.8
NOA NORSAR Array B 148.85 352 PKP **PKPdf** **03 31 26.0 -0.1**
comp=Z,27nm,0.9s,baz=14,slow=4.3,SNR=74
NOA PKPbc **PKPbc** **03 31 29.5 -0.6**
comp=Z,12nm,0.8s,baz=62,slow=1.9,SNR=22
NOA NORSAR Array B 148.85 352 PKiKP **PKPdf** **03 31 26.0 -0.1**
HFS Hagfors 149.36 349 PKP **PKPdf** **03 31 26.6 -0.2**
comp=Z,40nm,0.8s,baz=66,slow=4.9,SNR=3.6
HFS PKPbc **PKPbc** **03 31 31.0 -0.2**
comp=Z,40nm,0.8s,baz=315,slow=0.2,SNR=42
MNK Minsk 149.76 330 *i* PKP2 **PKPbc** **03 31 32.5 +0.2**
MNK *i* 03 35 04.5
MNK *i* PPP PPP 03 38 25.0
MNK *i* 03 38 34.3
MNK *i* SS SS 03 54 20.6 +1.2
MNK *i* SSS SSS 03 59 59.4
MNK pmax pmax
comp=N,13nm,0.7s
MNK pmax pmax
comp=Z,147nm,0.9s

MNK				pmax	pmax			
	comp=E,50nm,1.0s							
MNK				MLR	MLR			
	comp=N,270nm,20.0s							
MNK				MLR	MLR			
	comp=Z,265nm,22.0s							
KONO	**Kongsberg**	**150.40**	**352**			**PKPbc**	**03 31 33.6**	**-0.1**
KONO	**Kongsberg**	**150.40**	**352**	PKIKP		**PKPbc**	**03 31 33.7**	**-0.1**
STRU	**Stroemstad**	**150.80**	**351**	*i* P		**PKPbc**	**03 31 34.4**	**-0.3**
SIM	**Simferopol'**	**151.17**	**309**	*i* PKIKP		**PKPbc**	**03 31 35.7**	**-0.3**
SIM				*e*			03 31 46.2	
SIM				pmax	pmax			
	comp=Z,28nm,0.8s							
DIKM	**Dikmen**	**151.25**	**302**	⇓P		**PKiKP**	**03 31 37.2**	**+0.4**
AKASG	**Malin Array Be**	**151.49**	**323**	PKP		**PKPdf**	**03 31 29.6**	**-0.9**
	comp=Z,3.8nm,0.8s,baz=58,slow=1.6,SNR=8.2							
AKASG				PKPbc		**PKPbc**	**03 31 36.0**	**-0.6**
	comp=Z,82nm,0.8s,baz=50,slow=3.1,SNR=58							
KIEV	**Kiev**	**151.51**	**323**				**03 31 36.1**	**-0.5**
KIEV	**Kiev**	**151.51**	**323**	⇑P		**PKPbc**	**03 31 36.4**	**-0.2**
KIEV	**Kiev**	**151.51**	**323**	PKIKP		**PKPbc**	**03 31 36.1**	**-0.5**
MMAI	**Mount Meron Ar**	**151.77**	**284**	PKP		**PKPdf**	**03 31 30.3**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=66,slow=3.5,SNR=1.6							
MMAI				PKPbc		**PKiKP**	**03 31 38.6**	**+0.3**
	comp=Z,50nm,0.9s,baz=72,slow=5.4,SNR=31							
HOMB	**Homborsund**	**151.87**	**353**	*i* P		**PKPbc**	**03 31 36.8**	**-0.3**
BORU	**Boraas**	**151.88**	**348**	*i* P		**PKPbc**	**03 31 36.4**	**-0.8**
SNART	**Snartemo**	**151.93**	**354**	*i* P		**PKPbc**	**03 31 37.4**	**+0.1**
SUW	**Suwalki**	**152.04**	**333**	*e*PKP		**PKPbc**	**03 31 37.6**	**-0.1**
BZK	**Bozkurt**	**152.10**	**303**	⇑P		**PKPbc**	**03 31 37.8**	**-0.4**
ONAU	**Onsala**	**152.25**	**349**	*i* P		**PKPbc**	**03 31 37.3**	**-0.8**
BLEU	**Blekinge**	**152.47**	**344**	*i* P		**PKPbc**	**03 31 37.4**	**-1.2**
FABU	**Falkenberg**	**152.49**	**348**	*i* P		**PKPbc**	**03 31 38.7**	**+0.1**
KIRS	**Kirsehir-Merke**	**152.72**	**297**	⇓P		**PKPbc**	**03 31 39.5**	**-0.4**
DEL	**Delary**	**152.76**	**346**	*i* P		**PKPbc**	**03 31 39.7**	**-0.2**
BRTR	**Keskin Array B**	**152.83**	**298**			**PKPdf**	**03 31 32.0**	**-1.0**
BRTR	**Keskin Array B**	**152.83**	**298**	PKP		**PKPdf**	**03 31 32.1**	**-0.9**
	comp=Z,2.1nm,1.0s,baz=126,slow=3.2,SNR=11							
BRTR				PKPbc		**PKPbc**	**03 31 39.4**	**-0.8**
	comp=Z,13nm,0.9s,baz=136,slow=3.4,SNR=33							
PURM	**Purcari**	**153.28**	**315**	⇑P		**PKPbc**	**03 31 40.6**	**-0.1**
BJUU	**Bjuv**	**153.30**	**347**	*i* P		**PKPbc**	**03 31 40.2**	**-0.3**
SORM	**Soroca**	**153.39**	**319**	⇑P		**PKPbc**	**03 31 40.5**	**-0.4**
ANTO	**Ankara**	**153.45**	**299**	⇑P		**PKPdf**	**03 31 36.9**	**+3.1**
MILM	**Milestii Mici**	**153.74**	**316**	⇑P		**PKPbc**	**03 31 41.5**	**-0.2**
TLCR		**154.54**	**313**	⇓P		**PKiKP**	**03 31 43.7**	**+0.2**
BEL	**Belsk**	**154.64**	**333**	*e*PKP		**PKiKP**	**03 31 44.1**	**+0.6**
VLDR	**Vladesti**	**154.70**	**315**	⇓P		**PKPbc**	**03 31 43.0**	**-0.8**
SCTR	**Scanteiesti**	**154.84**	**316**	⇑P		**PKiKP**	**03 31 44.7**	**+0.6**
EKA	**Eskdalemuir Ar**	**154.85**	**7**	PKP		**PKPdf**	**03 31 32.9**	**-2.2**
	comp=Z,0.3nm,0.6s,baz=355,slow=2.6,SNR=2.1							
EKA				PKPab		**PKPab**	**03 31 56.6**	**-2.4**
	comp=Z,6.8nm,0.9s,baz=324,slow=3.0,SNR=11							
TPGR	**Topolog**	**154.94**	**312**	⇑P		**PKiKP**	**03 31 45.4**	**+1.0**
CFR	**Carcaliu**	**154.98**	**313**	⇓P		**PKPbc**	**03 31 44.3**	**-0.1**
TESR	**Tescani**	**155.23**	**317**	⇑P		PKPdf	03 31 45.3	+9.3
KWP	**Kalwaria Pacla**	**155.42**	**327**	*e*PKP		**PKPab**	**03 32 00.7**	**-1.0**
BURAR	**Bucovina Array**	**155.43**	**321**			**PKPdf**	**03 31 35.7**	**-0.7**
VRI	**Vrincioaia**	**155.51**	**316**	⇓P		PKPdf	03 31 44.5	+8.1
TURR	**Turia**	**155.84**	**317**	⇑P		**PKPab**	**03 32 03.6**	**-0.1**
KOLS	**Kolonicke sedl**	**156.10**	**326**	*e*PKIKP		**PKPdf**	**03 31 39.0**	**+1.9**
KOLS				*e*			03 31 47.9	
KOLS	**Kolonicke sedl**	**156.10**	**326**	*e*PKP		**PKPdf**	**03 31 39.7**	**+1.9**
KOLS				*e*			03 31 47.9	
OJC	**Ojcow**	**156.28**	**331**	*e*PKP		**PKPdf**	**03 31 37.3**	**+0.1**
NIE	**Niedzica**	**156.67**	**329**	*e*PKP		**PKPdf**	**03 31 38.5**	**+0.7**
KSP	**Ksiaz**	**157.11**	**337**	*e*PKP		**PKPab**	**03 32 09.0**	**+0.1**
STEB	**Steborice**	**157.32**	**333**	*e*PKPAB		**PKPab**	**03 32 09.7**	**-0.1**
OSTC	**Ostas**	**157.38**	**336**	*e*PKPAB		**PKPab**	**03 32 11.0**	**+0.9**
OSTC				AMS	AMS		04 44 10.0	
	comp=Z,200nm,22.1s							
OSTC	**Ostas**	**157.38**	**336**	*e*PKP2		**PKPab**	**03 32 11.0**	**+0.9**
OSTC				MLR	MLR			
	comp=Z,200nm,22.1s							
CHVC	**Chvalec**	**157.41**	**337**	*e*PKPAB		**PKPab**	**03 32 10.1**	**-0.1**
CHVC				AMS	AMS		04 44 30.0	
	comp=Z,200nm,23.8s							
CHVC	**Chvalec**	**157.41**	**337**	*e*PKP2		**PKPab**	**03 32 10.1**	**-0.1**
CHVC				MLR	MLR			
	comp=Z,200nm,23.8s							
UPC	**Upice**	**157.49**	**337**	*e*PKPAB		**PKPab**	**03 32 11.0**	**+0.5**
UPC				AMS	AMS		04 44 10.0	
	comp=Z,200nm,20.8s							
UPC	**Upice**	**157.49**	**337**	*e*PKP2		**PKPab**	**03 32 11.0**	**+0.5**
UPC				MLR	MLR			
	comp=Z,200nm,20.8s							
DPC	**Dobruska-Polom**	**157.51**	**336**	*e*PKPAB		**PKPab**	**03 32 11.4**	**+0.7**
DPC				AMS	AMS		04 44 50.0	
	comp=Z,200nm,22.7s							
DPC	**Dobruska-Polom**	**157.51**	**336**	*e*PKP2		**PKPab**	**03 32 11.4**	**+0.7**
DPC				MLR	MLR			
	comp=Z,200nm,22.7s							
MORC	**Moravsky Berou**	**157.53**	**333**	*e*PKP		**PKPdf**	**03 31 37.7**	**-1.2**
MORC				*e*			03 32 10.5	
KRLC	**Kraliky**	**157.58**	**335**	*e*PKPAB		**PKPab**	**03 32 11.3**	**+0.3**
KRLC	**Kraliky**	**157.58**	**335**	*e*PKP2		**PKPab**	**03 32 11.3**	**+0.3**
CLL	**Collm**	**157.70**	**342**	⇓*e*PKIKP		**PKPdf**	**03 31 41.0**	**+2.0**
CLL				pmax	pmax			
	comp=Z,26nm,1.0s							
BRG	**Berggiesshubel**	**157.83**	**340**	⇓*e*PKPf			03 31 39.8	
BRG				Amp			03 31 41.0	
	comp=Z,4.4nm,1.1s							
PVCC	**Panska Ves**	**157.94**	**339**	*e*PKPAB		**PKPab**	**03 32 13.4**	**+0.9**
PVCC				AMS	AMS		04 40 50.0	
	comp=Z,200nm,24.1s							
PVCC	**Panska Ves**	**157.94**	**339**	*e*PKP2		**PKPab**	**03 32 13.4**	**+0.9**
PVCC				MLR	MLR			
	comp=Z,200nm,24.1s							
VYHS	**Vyhne**	**158.00**	**330**	*e*PKIKP		**PKPdf**	**03 31 42.3**	**+2.7**
VYHS				*e*			03 31 51.4	
VYHS				*e*			03 32 12.7	
VYHS	**Vyhne**	**158.00**	**330**	*e*PKP		**PKPdf**	**03 31 42.2**	**+2.7**
VYHS				*e*			03 31 51.4	
VYHS				*e*			03 32 12.7	
RICC	**Richard**	**158.07**	**339**	*e*PKPAB		**PKPab**	**03 32 13.8**	**+0.8**
SURR	**Surduc**	**158.25**	**320**	⇓P		PKPdf	03 31 50.1	+10
VRAC	**Vranov**	**158.28**	**334**	*e*PKP		**PKPdf**	**03 31 39.0**	**-0.8**
VRAC				*e*			03 32 14.0	
GOPC	**GO Pecny, Ondr**	**158.41**	**338**	AMS		AMS	04 41 20.0	
	comp=Z,200nm,25.0s							
PRU	**Pruhonice**	**158.42**	**338**	*e*PKPAB		**PKPab**	**03 32 14.7**	**+0.1**
PRU				*ex*		x	04 02 20.8	
PRU				AMS		AMS	04 47 20.0	
	comp=Z,200nm,20.1s							
PRU	**Pruhonice**	**158.42**	**338**	*e*PKP2		**PKPab**	**03 32 14.7**	**+0.1**
PRU				MLR	MLR			
	comp=Z,200nm,20.1s							
KRUC	**Moravsky**	**158.55**	**334**	*e*PKP		**PKPdf**	**03 31 38.9**	**-1.2**
KRUC				*e*			03 32 14.7	
MODS	**Modra-Piesok**	**158.76**	**332**	*e*PKIKP		**PKPdf**	**03 31 40.5**	**+0.1**
MODS				*e*			03 31 52.5	
MODS				*e*			03 32 15.4	
MODS	**Modra-Piesok**	**158.76**	**332**	*e*PKP		**PKPdf**	**03 31 40.5**	**+0.1**
MODS				*e*			03 31 52.5	
MODS				*e*			03 32 15.4	
NKC	**Novy Kostel**	**158.83**	**342**	*e*PKPAB		**PKPab**	**03 32 16.8**	**+0.5**
NKC				AMS	AMS		04 43 50.0	
	comp=Z,200nm,21.6s							
NKC	**Novy Kostel**	**158.83**	**342**	*e*PKP2		**PKPab**	**03 32 16.8**	**+0.5**
NKC				MLR	MLR			
	comp=Z,200nm,21.6s							
ZVC	**Zvikov**	**159.01**	**338**	*e*PKPAB		**PKPab**	**03 32 17.3**	**+0.2**
KHC	**Kasperske Hory**	**159.48**	**338**	*e*PKPDF		**PKPdf**	**03 31 40.5**	**-0.8**
KHC				*e*PKPAB		**PKPab**	**03 32 18.9**	**-0.3**
KHC				AMS	AMS		04 41 40.0	
	comp=Z,200nm,26.0s							
KHC	**Kasperske Hory**	**159.48**	**338**	*e*PKIKP		**PKPdf**	**03 31 40.5**	**-0.8**
KHC				*e*			03 32 18.9	
KHC				MLR	MLR			
	comp=Z,200nm,26.0s							
CKRC	**Cesky Krumlov**	**159.51**	**337**	*e*PKPAB		**PKPab**	**03 32 19.4**	**+0.1**
CKRC				AMS	AMS		04 41 00.0	
	comp=Z,200nm,25.7s							
CKRC	**Cesky Krumlov**	**159.51**	**337**	*e*PKP2		**PKPab**	**03 32 19.4**	**+0.1**
CKRC				MLR	MLR			
	comp=Z,200nm,25.7s							
BEBN	**Eben Emael**	**159.53**	**354**	*d*PKP		**PKPab**	**03 32 19.2**	**-0.1**
UCC	**Uccle**	**159.63**	**356**	*d*PKP		**PKPab**	**03 32 18.4**	**-1.3**
CONA	**Conrad Observa**	**159.68**	**333**	*i* PKP		**PKPab**	**03 32 20.6**	**+0.4**
	comp=Z,8.8nm,0.9s,SNR=4.4							
GERES	**GERESS Array B**	**159.69**	**338**	PKP		**PKPdf**	**03 31 40.4**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=50,slow=1.5,SNR=9.3							
GERES				PKPab		**PKPab**	**03 32 19.8**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=24,slow=4.7,SNR=11							
MEM	**Membach**	**159.69**	**353**	*d*PKP		**PKPab**	**03 32 19.8**	**-0.2**
RONA	**Rosalia, Austr**	**159.69**	**332**	*i* PKP		**PKPab**	**03 32 20.1**	**-0.1**
	comp=Z,10nm,1.1s							
BTNL	**Ternell**	**159.70**	**353**	*d*PKP		**PKPab**	**03 32 20.1**	**0.0**
BSTI	**Sart Tilman**	**159.76**	**354**	*d*PKP		**PKPab**	**03 32 20.3**	**0.0**
MORH	**Mrgy, Hungar**	**159.76**	**326**	⇑P		**PKPdf**	**03 31 41.6**	**-0.1**
BHOU	**Houvegnez**	**159.94**	**353**	*d*PKP		**PKPab**	**03 32 21.1**	**0.0**
BCLA	**Clavier**	**159.94**	**354**	*d*PKP		**PKPab**	**03 32 20.6**	**-0.5**
BGES	**Gesves**	**160.00**	**355**	*d*PKP		**PKPab**	**03 32 20.6**	**-0.7**
BMRD	**Maredsous**	**160.10**	**355**	*d*PKP		**PKPab**	**03 32 21.3**	**-0.5**
DOU	**Doubes**	**160.32**	**356**	*d*PKP		**PKPab**	**03 32 22.7**	**0.0**
MOA	**Molln**	**160.35**	**335**	*i* PKP		**PKPab**	**03 32 23.6**	**+0.6**
	comp=Z,11nm,1.3s							
ARSA	**Arzberg**	**160.37**	**332**	*e*PKP		**PKPab**	**03 32 23.6**	**+0.4**
	comp=Z,8.3nm,1.3s							
WLF	**Walferdange**	**160.60**	**352**	*d*PKP		**PKPab**	**03 32 24.7**	**+0.7**
BIOA	**Bad Ischl, Aus**	**160.71**	**336**	*e*PKP		**PKPab**	**03 32 24.9**	**+0.3**
	comp=Z,15nm,1.0s							
SOKA	**Soboth**	**161.03**	**332**	*i* PKP		**PKPab**	**03 32 26.1**	**-0.1**
	comp=Z,11nm,1.4s							
LESA	**Schwarzleotal**	**161.26**	**338**	*i* PKP		**PKPab**	**03 32 27.2**	**+0.1**
	comp=Z,18nm,1.8s							
KBA	**Koelnbreinsper**	**161.33**	**336**	*i* PKP		**PKPab**	**03 32 29.2**	**+1.7**
	comp=Z,4.8nm,0.7s							
OBKA	**Obir**	**161.36**	**333**	*i* PKP		**PKPab**	**03 32 27.7**	**+0.1**
	comp=Z,12nm,1.5s							
BFO	**Black Forest**	**161.57**	**347**			**PKPab**	**03 32 27.6**	**-0.7**
BFO	**Black Forest**	**161.57**	**347**	PKP2		**PKPab**	**03 32 27.6**	**-0.7**
MYKA	**Terra Mystica**	**161.61**	**334**	*i* PKP		**PKPab**	**03 32 28.1**	**-0.6**
	comp=Z,8.8nm,1.1s							
WATA	**Walderalm**	**161.69**	**339**	*i* PKP		**PKPab**	**03 32 29.3**	**+0.3**
	comp=Z,16nm,1.0s							
WTTA	**Wattenberg**	**161.74**	**339**	*i* PKP		**PKPab**	**03 32 29.2**	**-0.1**
	comp=Z,18nm,0.9s							
RETA	**Reutte**	**161.79**	**341**	*i* PKP		**PKPab**	**03 32 29.5**	**+0.1**
	comp=Z,25nm,1.0s,SNR=11							
MOTA	**Moosalm**	**161.82**	**340**	*i* PKP		**PKPab**	**03 32 30.0**	**+0.4**
	comp=Z,30nm,1.0s,SNR=11							
SQTA	**Sankt Quirin**	**161.90**	**340**	*i* PKP		**PKPab**	**03 32 30.2**	**+0.2**
	comp=Z,20nm,1.1s,SNR=4.5							
ABTA	**Abfaltersbach**	**161.91**	**337**	*i* PKP		**PKPab**	**03 32 29.5**	**-0.5**
	comp=Z,12nm,1.0s,SNR=4.1							
DAVA	**Damuels**	**162.21**	**343**	*i* PKP		**PKPab**	**03 32 31.4**	**+0.1**
	comp=Z,12nm,0.9s							
FETA	**Feichten**	**162.22**	**341**	*i* PKP		**PKPab**	**03 32 31.3**	**-0.1**
	comp=Z,15nm,1.1s							
TORD	**Torodi Ar. Bea**	**162.75**	**178**			**PKPab**	**03 32 34.2**	**0.0**
TORD	**Torodi Ar. Bea**	**162.75**	**178**	PKP		**PKPdf**	**03 31 45.8**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=228,slow=1.7,SNR=1.3							
TORD				PKPab		**PKPab**	**03 32 34.5**	**+0.3**
	comp=Z,6.2nm,0.6s,baz=162,slow=2.0,SNR=5.2							
PMOZ	**Porto Moniz, M**	**163.26**	**77**	*e*PP	PP		03 36 31.8	+10
PMOZ				*i* IAMs_20	IAMs_20		04 38 21.6	
	comp=Z,88nm,20.0s							
PGAV	**Gavieira, Arco**	**165.74**	**34**	*e*PKPdf		**PKPdf**	**03 31 53.4**	**+5.6**
PGAV				*e*PKPab		**pPKPab**	**03 32 53.1**	**-0.9**
PGAV				*e*PP		**PP**	**03 36 39.7**	**+5.9**
PGAV				*e*LR	LR		04 30 28.8	
PGAV				*i* IAMs_20	IAMs_20		04 47 34.5	
	comp=Z,164nm,20.0s							
MVO	**Moncorvo**	**166.94**	**33**	*e*PKPdf		**PKPdf**	**03 31 54.9**	**+6.2**
MVO				*i* IAMs_20	IAMs_20		04 46 19.4	
	comp=Z,213nm,20.0s							
MTE	**Manteigas**	**167.28**	**36**	*e*PKPdf		**PKPdf**	**03 31 51.3**	**+2.4**
MTE				*e*PP		**PP**	**03 36 45.6**	**+3.8**
MTE				*e*SS	SS		03 57 36.5	+11
MTE				*e*LR	LR		04 32 46.1	
MTE				*i* IAMs_20	IAMs_20		04 45 43.2	
	comp=Z,158nm,20.0s							
PMRV	**Marv??o**	**168.07**	**39**	*e*PKPdf		**PKPdf**	**03 31 52.8**	**+3.4**
PMRV				*e*PP		**PP**	**03 36 52.0**	**+6.2**
PMRV				*e*LR	LR		04 35 05.1	
PMRV				*i* IAMs_20	IAMs_20		04 46 05.2	
	comp=Z,196nm,18.0s							
PVAQ	**Vaqueiros**	**169.21**	**47**	*e*PKPdf		**PKPdf**	**03 31 54.7**	**+4.4**
PVAQ				*e*PKPab		**pPKPab**	**03 33 08.5**	**-1.0**
PVAQ				*e*PP		**PP**	**03 36 58.1**	**+6.2**
PVAQ				*e*LR	LR		04 36 12.9	
PVAQ				*i* IAMs_20	IAMs_20		04 50 19.5	
	comp=Z,136nm,18.0s							
ESDC	**Sonseca Array**	**169.50**	**27**	PKP		**PKPdf**	**03 31 50.4**	**0.0**
	comp=Z,2.0nm,1.1s,baz=332,slow=3.7,SNR=8.8							
ESDC				PKPab		**PKPab**	**03 33 03.8**	**+0.2**
	comp=Z,1.9nm,1.1s,baz=311,slow=4.7,SNR=4.4							
TAM	**Tamanrasset**	**171.82**	**202**			**PKPab**	**03 33 15.3**	**+1.0**
TAM	**Tamanrasset**	**171.82**	**202**	PKP2		**PKPab**	**03 33 15.3**	**+1.0**
KEST	**Kesra**	**172.08**	**313**	PKPab		**PKPab**	**03 33 15.4**	**+0.1**
	comp=Z,2.9nm,0.9s,baz=102,slow=1.1,SNR=3.8							

*IDC **09** 03:21:37.0±3.2,7.2°6N×94.1°6E,h0km,mb3.7/2, mbtmp3.7/3,ML4.4/1,Error ellipse: s-maj=95.9km s-min=35.3km az=66.0*

ISC 09 03:21:40.5±1.5,**7.3N**±0.2×**94.2E**±0.2,**h20**km,**n7**,**σ0.9 14**/4, **1C,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.99**	**22**	Pn	**Pn**	**03 24 30.4**	**0.0**
	0.7nm,0.3s,baz=211,slow=15,SNR=8.0						
	0.9nm,0.3s						
H08S3	**Diego Garcia H**	**26.23**	**236**	T	T	03 54 21.2	
	baz=53						
H08S2	**Diego Garcia H**	**26.23**	**236**	T	T	03 54 18.0	
	baz=53						
H08S1	**Diego Garcia H**	**26.25**	**236**	T	T	03 54 21.0	
	baz=53						
ZALV	**Zalesovo Beam**	**47.09**	**352**	P	**P**	**03 30 10.9**	**+0.1**
	0.6nm,0.3s,baz=169,slow=8.4,SNR=4.3						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**47.94**	**125**	P	**P**	**03 30 18.0**	**0.0**
	0.5nm,0.8s,baz=297,slow=8.4,SNR=2.9						
	0.5nm,0.8s						
HOMI	**Horasan**	**56.81**	**314**	⇑P	**P**	**03 31 23.8**	**-0.1**

*IDC **09** 03:22:47.6±1.3,0.7°80N×122.7°35E,h0km,mb3.5/4, mbtmp3.6/5,ML3.9/1,Error ellipse: s-maj=133.3km s-min=20.8km az=64.0*

*DJA **09** 03:23:09.2±1.2,0.7°N±7.7°×12.2°2E±.1°,h138km±14km,M3.1/7, MLv3.1/7*

ISC 09 03:23:06.5±1.0,**0.3N**±0.1°×**121.64E**±0.06,**h150**km,**n10**, **σ2.5 57**/12,**mb3.3**/4,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.33**	**65**	P	**Pn**	**03 23 29.3**	**+2.2**
APSI	**Ampana**	**1.24**	**180**	P	**Pn**	**03 23 36.1**	**+2.7**
MPSI	**Mapaga**	**1.74**	**270**	P	**Pn**	**03 23 40.9**	**+2.2**
MPSI				S	**Sn**	**03 24 04.5**	**+1.2**
PCI	**Palu**	**2.18**	**236**	P	**Pn**	**03 23 46.6**	**+2.8**
KMSI	**Cibinong**	**2.35**	**84**	P	**Pn**	**03 23 48.2**	**+2.4**
KMSI				S	**Sn**	**03 24 18.3**	**+2.2**
FITZ	**Fitzroy Crossi**	**18.74**	**168**	P	**P**	**03 27 12.0**	**-1.9**
	0.3nm,0.3s,baz=352,slow=9.2,SNR=6.3						
	2.4nm,0.7s						
WRA	**Warramunga Arr**	**23.69**	**149**	P	**P**	**03 28 01.8**	**-2.9**
	0.7nm,0.6s,baz=327,slow=11,SNR=14						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**26.67**	**154**	P	**P**	**03 28 29.2**	**-2.4**
	0.2nm,0.3s,baz=344,slow=15,SNR=5.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**57.62**	**329**	P	**P**	**03 32 40.0**	**-0.9**
	0.1nm,0.3s,baz=120,slow=7.5,SNR=0.8						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**62.00**	**330**	P	**P**	**03 33 08.6**	**-2.1**
	0.4nm,0.3s,baz=146,slow=5.6,SNR=4.5						
	0.4nm,0.3s						

*IDC **09** 03:49:08.2±1.2,38.6°60N×20.5°50E,h0km,mb3.7/7, mbtmp3.6/13,ML3.2/5,MS3.6/2,Error ellipse: s-maj=21.1km s-min=18.6km az=32.0*

*BEO **09** 03:49:10.3±0.7,38.4°42N×20.4°40E,h13km±6km,ML3.4/7*

*THE **09** 03:49:10.3,38.4°4N±0.3°×2.1°E±.1°,h4km±2km,M3.6/23, MLh3.6/23*

*ATH **09** 03:49:10.1,38.4°43N×20.5°51E,h8km,ML3.5/30,Manual Solution by G.Panopoulou First location: 2019/07/09 03:49:56, This location: 2019/07/09 09:43:47 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*

*NEIC **09** 03:49:10.1±2.1,38.4°43N±0.5°×20.4°2E±0.7°,h10km±2km, ML3.4/30,Error ellipse: s-maj=11.4km s-min=6.2km az=233.0*

ISC 09 03:49:09.7±0.7,**38.44N**±0.01°×**20.49E**±0.02,**h13**km±4km, **n180**,**σ1.35**/241,**mb3.6**/6,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FSK	**Fiskardo**	**0.06**	**74**	P	**Pg**	**03 49 11.9**	**-0.3**
FSK				S	**Sg**	**03 49 13.3**	**-0.8**
EVGI	**Lefkada island**	**0.22**	**36**	P	**Pg**	**03 49 14.8**	**+0.4**
EVGI				S	**Sg**	**03 49 18.3**	**+0.6**
EVGI	**Lefkada island**	**0.22**	**36**	P	**Pg**	**03 49 14.8**	**+0.4**
EVGI				S	**Sg**	**03 49 18.2**	**+0.4**
DMLN	**Damoulianata-K**	**0.22**	**205**	P	**Pg**	**03 49 14.6**	**+0.1**
DMLN				S	**Sg**	**03 49 17.8**	**-0.1**
DMLN	**Damoulianata-K**	**0.22**	**205**	P	**Pg**	**03 49 14.7**	**+0.1**
DMLN				S	**Sg**	**03 49 17.7**	**-0.1**
SMHA	**Samh**	**0.23**	**147**	P	**Pg**	**03 49 13.6**	**-1.0**
SMHA				S	**Sg**	**03 49 17.4**	**-0.5**
DRAG	**Dragano-Lefkad**	**0.25**	**15**	P	**Pg**	**03 49 15.3**	**+0.3**
DRAG				S	**Sg**	**03 49 19.3**	**+0.7**
DRAG	**Dragano-Lefkad**	**0.25**	**15**	P	**Pg**	**03 49 15.3**	**+0.3**
DRAG				S	**Sg**	**03 49 18.8**	**+0.2**
VLS	**Valsamata**	**0.28**	**164**	P	**Pg**	**03 49 15.4**	**0.0**
VLS				S	**Sg**	**03 49 19.3**	**-0.1**
VLS	**Valsamata**	**0.28**	**164**	P	**Pg**	**03 49 15.5**	**0.0**
VLS				S	**Sg**	**03 49 19.1**	**-0.2**
NYDR	**Nydri-Lefkada**	**0.32**	**31**	P	**Pg**	**03 49 16.3**	**+0.2**
NYDR				S	**Sb**	**03 49 21.1**	**-1.1**
NYDR	**Nydri-Lefkada**	**0.32**	**31**	P	**Pg**	**03 49 16.3**	**+0.2**
NYDR				S	**Sg**	**03 49 20.4**	**0.0**
PSDA	**Pessada-Kefalo**	**0.34**	**168**	P	**Pg**	**03 49 16.5**	**0.0**
PSDA				S	**Sg**	**03 49 20.8**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.34**	**168**	P	**Pg**	**03 49 16.5**	**0.0**
PSDA				S	**Sg**	**03 49 20.9**	**-0.2**
LKD2	**Lefkada island**	**0.37**	**21**	P	**Pg**	**03 49 17.3**	**+0.2**
LKD2				S	**Sg**	**03 49 22.7**	**+0.5**
LKD2	**Lefkada island**	**0.37**	**21**	P	**Pg**	**03 49 17.3**	**+0.2**
LKD2				S	**Sg**	**03 49 22.7**	**+0.5**
TSLK	**Tsoukalades, L**	**0.40**	**18**	P	**Pg**	**03 49 18.0**	**+0.3**
TSLK				S	**Sg**	**03 49 23.5**	**+0.3**
TSLK	**Tsoukalades, L**	**0.40**	**18**	P	**Pg**	**03 49 18.0**	**+0.3**
TSLK				S	**Sb**	**03 49 23.8**	**-1.0**
RTZL	**Ratzakli, Kefa**	**0.43**	**149**	P	**Pg**	**03 49 18.2**	**0.0**
RTZL				S	**Sg**	**03 49 24.4**	**+0.5**
ORTH	**Orthonies,Zaky**	**0.61**	**165**	P	**Pg**	**03 49 21.4**	**-0.2**
ORTH				S	**Sg**	**03 49 28.8**	**-1.0**
AXS	**Araxos**	**0.74**	**109**	P	**Pg**	**03 49 23.8**	**-0.2**
AXS				S	**Sg**	**03 49 33.9**	**+0.2**
AMPL	**Ampelaki**	**0.74**	**49**	P	**Pg**	**03 49 23.6**	**-0.4**
CLEM	**Kyllini,Ilia,G**	**0.75**	**137**	P	**Pg**	**03 49 23.8**	**-0.3**
CLEM				S	**Sg**	**03 49 34.4**	**+

PDG eSn **Sn** 03 50 59.1 -0.5
ACER Acerenza 4.22 305 Pn **Pn** 03 50 13.6 -0.1
HCY Herceg Novi 4.28 340 ePn **Pn** 03 50 14.6 +0.1
BARS Barje 4.48 13 ePn **Pn** 03 50 18.6 +1.3
BARS eSn **Sn** 03 51 10.1 +0.8
TREB Trebinje 4.57 340 ePn **Pn** 03 50 16.7 -1.8
BRY Bratogost 4.70 342 ePn **Pn** 03 50 19.3 -1.0
IDI Anoyia 4.73 130 Pn **Pn** 03 50 21.5 +0.8
IDI Anoyia 4.73 130 Pn **Pn** 03 50 23.9 +3.2
comp=N,1.2nm,0.3s,baz=13,slow=16,SNR=2.4
IDI Sn **Sn** 03 51 16.8 +1.4
comp=N,0.9nm,0.3s,baz=256,slow=22,SNR=2.1
RDO Rodhopi 4.73 54 Pn **Pn** 03 50 22.4 +1.7
SELS Selova 4.79 5 ePn **Pn** 03 50 22.3 +0.7
SELS eSn **Sn** 03 51 17.1 +0.1
SJES Sjenica 4.83 355 ePn **Pn** 03 50 22.6 +0.5
SJES Sjenica 4.83 355 ePn **Pn** 03 50 23.6 +1.5
VAE Valguarnera 4.90 261 Sn **Sn** 03 51 23.6 +4.0
comp=N,1.6nm,0.3s,baz=169,slow=8.7,SNR=3.5
UPM Unac-Piva 4.91 346 ePn **Pn** 03 50 23.6 +0.3
STON Ston 4.91 335 ePn **Pn** 03 50 21.8 -1.3
STON Ston 4.91 335 ePn **Pn** 03 50 22.5 -0.6
STON eSn **Sn** 03 51 17.4 -2.3
SGRT San Giovanni R 4.92 314 Pn **Pn** 03 50 22.7 -0.6
SGRT IAML 03 52 10.5
comp=E,34nm,0.8s
ALN Alexandroupoli 4.94 58 Pn **Pn** 03 50 23.9 +0.4
RAFF Raffo Rosso 5.00 258 Pn **Pn** 03 50 23.5 -1.0
RAFF IAML 03 51 26.6
comp=N,32nm,0.7s
GOCS Kraljevo Serbi 5.12 3 ePn **Pn** 03 50 26.7 +0.5
GOCS eSn **Sn** 03 51 24.0 -1.2
IVAS Ivanjica 5.13 357 ePn **Pn** 03 50 26.5 +0.2
RUDO Rudo 5.24 351 ePn **Pn** 03 50 26.6 -1.1
PAOL Paolisi 5.25 301 Pn **Pn** 03 50 28.0 +0.1
PAOL IAML 03 52 23.7
comp=N,22nm,1.2s
PAOL IAML 03 52 52.3
comp=E,18nm,1.3s
WDD Wied Dalam 5.43 243 Pn **Pn** 03 50 30.1 -0.2
GRUS Gruza 5.44 2 ePn **Pn** 03 50 30.9 +0.4
BBLS Lazi&#263i 5.48 352 ePn **Pn** 03 50 31.5 +0.5
BBLS Lazi&#263i 5.48 352 ePn **Pn** 03 50 30.0 -1.0
BBLS eSn **Sn** 03 51 33.1 -0.8
TRUS Trudelj 5.78 359 ePn **Pn** 03 50 35.3 +0.3
TRUS eSn **Sn** 03 51 39.3 -1.8
KARP Karpathos 6.07 116 Pn **Pn** 03 50 42.1 +3.0
TEKS Tekeris 6.14 354 ePn **Pn** 03 50 38.8 -1.3
TEKS Tekeris 6.14 354 ePn **Pn** 03 50 39.6 -0.5
TEKS eSn **Sn** 03 51 46.8 -3.4
INTR Introdacqua 6.17 307 Pn **Pn** 03 50 40.7 +0.1
A050A Klekovaca 6.73 335 ePn **Pn** 03 50 48.6 +0.5
FRGS Fruska Gora 6.73 356 ePn **Pn** 03 50 46.6 -1.5
BLY Banja Luka 6.77 340 ePn **Pn** 03 50 49.7 +1.0
CAMP Campotosto 6.77 309 Pn **Pn** 03 50 50.9 +2.1
A051A Mrakovica 7.09 339 ePn **Pn** 03 50 52.3 -0.8
NRCA Norcia 7.12 310 Pn **Pn** 03 50 53.9 +0.3
GUMA Gualdo di Mace 7.13 313 Pn **Pn** 03 50 54.4 +0.8
FDMO Fiordimonte 7.25 312 Pn **Pn** 03 50 56.5 +1.2
MURB Monte Urbino 7.72 311 Pn **Pn** 03 51 02.9 +1.1
BOJS Bojanci 8.06 333 ePn **Pn** 03 51 05.7 -0.7
BOJS Bojanci 8.06 333 ePn **Pn** 03 51 06.6 +0.2
MLR Muntele Rosu 8.13 28 Pn Pn 03 51 13.8 +6.4
comp=E,0.2nm,0.3s,baz=188,slow=12,SNR=4.3
CRES Cresnjevec Ost 8.27 335 ePn **Pn** 03 51 08.5 -0.8
CEY Cerknica 8.57 330 ePn **Pn** 03 51 12.4 -1.0
CEY Cerknica 8.57 330 ePn **Pn** 03 51 13.5 +0.1
CEY eSn **Sn** 03 52 45.5 -4.4
SKDS Skadanscina 8.58 328 ePn **Pn** 03 51 12.1 -1.4
SKDS Skadanscina 8.58 328 ePn **Pn** 03 51 12.8 -0.7
SKDS eSn **Sn** 03 52 44.7 -5.4
TRI Trieste 8.81 328 Pn **Pn** 03 51 15.7 -1.0
SABO M.te Sabotino 9.10 328 Pn **Pn** 03 51 20.2 -0.5
SOKA Soboth 9.16 336 *i* Pn **Pn** 03 51 20.8 -0.8
comp=E,6.0nm,0.7s
SOKA *i* Sn **Sn** 03 52 59.7 -4.7
comp=E,2.8nm,0.7s
OBKA Obir 9.18 333 ePn **Pn** 03 51 21.4 -0.4
OBKA Obir 9.18 333 *i* Pn **Pn** 03 51 23.3 +1.5
comp=E,0.9nm,0.2s
OBKA *i* Sn **Sn** 03 53 05.3 +0.4
comp=E,2.1nm,0.4s
KEST Kesra 9.31 257 Pn **Pn** 03 51 25.4 +1.8
comp=E,0.2nm,0.3s,baz=354,slow=14,SNR=1.3
comp=E,0.7nm,0.5s
PRED Cave del Predi 9.49 330 Pn **Pn** 03 51 25.9 -0.1
ARSA Arzberg 9.53 339 *i* Pn **Pn** 03 51 27.5 +1.0
comp=E,1.1nm,0.3s
ARSA eSn **Sn** 03 53 17.9 +4.5
comp=E,4.0nm,1.7s
TEOL Teolo 9.54 319 Pn **Pn** 03 51 25.6 -1.0
MYKA Terra Mystica 9.61 331 ePn **Pn** 03 51 29.4 +1.7
comp=E,1.1nm,0.3s
STAL STALIGIAL 9.70 326 Pn **Pn** 03 51 27.6 -1.3
CIMO Cimolais 9.86 325 Pn **Pn** 03 51 29.9 -1.2
KBA Koelnbreinsper 10.10 331 ePn **Pn** 03 51 35.1 +0.6
comp=E,1.4nm,0.4s
KBA *i* Sn **Sn** 03 53 24.0 -3.6
comp=E,1.1nm,0.5s
ABTA Abfaltersbach 10.17 327 *i* Pn **Pn** 03 51 35.1 -0.2
comp=E,2.5nm,0.5s
BRTR Keskin Array B 10.30 79 Pn **Pn** 03 51 39.4 +2.1
baz=258,slow=12,SNR=1.7
comp=E,0.2nm,0.3s
MOA Molln 10.44 336 *i* Pn **Pn** 03 51 39.3 +0.3
comp=E,2.1nm,0.3s
MOA eSn **Sn** 03 53 33.1 -2.7
comp=E,2.3nm,0.6s
BIOA Bad Ischl, Aus 10.51 334 ePn **Pn** 03 51 41.0 +1.1
comp=E,1.8nm,0.2s
BIOA eSn **Sn** 03 53 33.6 -4.0
comp=E,0.9nm,0.3s
LESA Schwarzleotal 10.64 330 *i* Pn **Pn** 03 51 41.6 -0.3
comp=E,4.3nm,0.5s
LESA *i* Sn **Sn** 03 53 38.8 -2.1
comp=E,3.9nm,0.9s
WTTA Wattenberg 10.95 326 ePn **Pn** 03 51 46.9 +0.8
comp=E,1.3nm,0.3s
WTTA eSn **Sn** 03 53 47.1 -1.3
comp=E,5.5nm,0.6s
WATA Walderalm 11.03 327 *i* Pn **Pn** 03 51 49.0 +1.8
comp=E,1.0nm,0.2s
WATA eSn **Sn** 03 53 53.1 +2.8
comp=E,0.2nm,0.1s
SQTA Sankt Quirin 11.10 325 ePn **Pn** 03 51 49.5 +1.3
comp=E,1.6nm,0.3s
SQTA *i* Sn **Sn** 03 53 55.6 +3.5
comp=E,1.0nm,0.3s
FUORN Ofenpass-Fuorn 11.12 321 Pn **Pn** 03 51 47.7 -0.8
FETA Feichten 11.17 323 ePn **Pn** 03 51 50.6 +1.4
comp=E,0.3nm,0.2s
FETA *i* Sn **Sn** 03 53 53.8 -0.2
comp=E,0.2nm,0.3s
MOTA Moosalm 11.24 325 ePn **Pn** 03 51 50.6 +0.5
comp=E,3.8nm,0.5s
DAVOX Davos/Dischmat 11.42 320 Pn **Pn** 03 51 52.4 -0.2
comp=E,0.5nm,0.3s,baz=151,slow=14,SNR=4.2
DAVOX Sn **Sn** 03 53 55.5 -4.5
comp=E,0.2nm,0.3s,baz=168,slow=18,SNR=1.9
comp=E,1.7nm,0.3s
TUE Stuetta 11.49 318 Pn **Pn** 03 51 54.7 +1.2
GERES GERESS Array B 11.50 337 Pn **Pn** 03 51 52.0 -1.5
baz=156,slow=14,SNR=7.0
GERES Sn **Sn** 03 53 54.1 -7.6
baz=164,slow=22,SNR=1.7
comp=E,0.7nm,0.5s
RETA Reutte 11.50 325 *i* Pn **Pn** 03 51 54.2 +0.6
comp=E,0.5nm,0.3s
RETA eSn **Sn** 03 54 01.9 0.0
comp=E,1.2nm,0.4s
DAVA Damuels 11.77 322 *i* Pn **Pn** 03 51 57.8 +0.5
comp=E,0.4nm,0.2s
DAVA eSn **Sn** 03 54 07.7 -0.8
comp=E,1.7nm,0.3s
KHC Kasperske Hory 11.79 337 ePN **Pn** 03 51 57.9 +0.5
SENIN Lac Senin/Sane 12.55 313 Pn **Pn** 03 52 08.1 +0.1
ESDC Sonseca Array 19.02 281 P **P** 03 53 32.0 +0.7
comp=E,0.1nm,0.3s,baz=84,slow=11,SNR=2.5
comp=E,0.5nm,0.7s
HFS Hagfors 22.14 351 P **P** 03 54 03.3 -1.4
comp=E,1.8nm,0.6s,baz=149,slow=12,SNR=10.0
comp=E,1.8nm,0.6s
EKA Eskdalemuir Ar 23.20 324 P **P** 03 54 16.0 0.0
comp=E,1.1nm,0.8s,baz=125,slow=10,SNR=6.2
comp=E,1.1nm,0.8s

FINES FINESS Array B 23.29 7 P **P** 03 54 15.6 -1.2
comp=E,0.9nm,0.5s,baz=170,slow=12,SNR=7.2
comp=E,0.9nm,0.5s
NOA NORSAR Array B 23.35 349 P **P** 03 54 16.2 -1.4
comp=E,0.5nm,0.2s,baz=152,slow=10,SNR=2.7
comp=E,0.5nm,0.2s
TORD Torodi Ar. Bea 30.22 219 P **P** 03 55 20.2 +0.1
comp=E,1.1nm,0.4s,baz=25,slow=10,SNR=1.3
comp=E,1.1nm,0.4s
KURBB Kurchatov Arra 42.09 54 LR LR 04 19 29.3
comp=E,32nm,20.1s,baz=166,slow=43
MKAR Makanchi Array 45.18 59 P **P** 03 57 25.6 -0.5
comp=E,0.3nm,0.6s,baz=282,slow=8.0,SNR=5.1
comp=E,0.3nm,0.6s
ZALV Zalesovo Beam 45.53 48 P **P** 03 57 29.2 +0.5
comp=E,1.1nm,0.5s,baz=286,slow=7.2,SNR=2.5
comp=E,1.1nm,0.5s
KLR Kul'dur 73.68 40 LR LR 04 37 06.8
comp=E,82nm,18.1s,baz=217,slow=39

*NEIC **09** 04:02:53.2±1.8,35°.92N±0°.01×117°.45W±0°.01,h10km±6km, Error ellipse: s-maj=1.6km s-min=1.6km az=56.0*
PAS 09 04:02:54.1±1.5,35°.922N±0°.010×117°.46W±0°.01, h7km±2km,Mwr3.6/4,ML3.7/166(NEIC),**Error ellipse: s-maj=1.4km s-min=1.4km az=161.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.14**	**350**		Pg	04 02 57.0	-0.1
MPMC				IAML		04 02 59.8	
	comp=N,34µm,0.5s						
MPMC				IAML		04 02 59.8	
	comp=E,31µm,0.4s						
MPMC	**Manual Prospec**	**0.14**	**350**		Sg	04 02 59.4	+0.1
CLC	**China Lake**	**0.15**	**227**		Pg	04 02 57.3	0.0
CLC				Sg	Sg	04 02 59.5	0.0
TOW	**Tower One**	**0.27**	**246**		Pg	04 02 59.9	+0.4
TOW					Sb	04 03 04.7	-1.4
JRC2	**Joshua Ridge**	**0.29**	**282**		Pg	04 02 59.7	-0.1
WRVM	**Rose V. Centra**	**0.36**	**284**		Pg	04 03 00.8	-0.3
WNMM	**Nine Mile Cany**	**0.37**	**258**		Pg	04 03 01.2	-0.1
WNMM					Sg	04 03 07.0	+0.9
MFS	**McCloud Flat S**	**0.38**	**301**		Pg	04 03 01.1	-0.3
CCCA	**Chr Cany lake**	**0.40**	**169**		Pg	04 03 02.0	+0.1
CCCA					Sg	04 03 07.5	+0.2
CCCA				IAML		04 03 08.6	
	comp=E,7µm,0.5s						
CCCA				IAML		04 03 08.7	
	comp=N,9µm,0.2s						
LRMC	**Laurel Mtn Rad**	**0.48**	**202**		Pg	04 03 03.1	-0.2
LRMC					Sg	04 03 09.4	-0.2
LRMC				IAML		04 03 10.2	
	comp=E,9µm,0.4s						
QSM	**Queen of Sheba**	**0.48**	**85**		Pg	04 03 02.8	-0.6
QSM				Sg	Sg	04 03 09.4	-0.4
QSM				IAML		04 03 14.1	
	comp=E,4µm,0.3s						
QSM				IAML		04 03 15.8	
	comp=N,3µm,0.4s						
GWY	**Greenwater Val**	**0.69**	**67**		Pg	04 03 07.0	-0.5
GWY				IAML		04 03 19.5	
	comp=N,4µm,0.3s						
CWC	**Cottonwood Cre**	**0.72**	**316**		Pg	04 03 07.4	-0.6
CWC				Sg	Sg	04 03 17.2	-0.2
CWC				IAML		04 03 18.4	
	comp=N,4µm,0.1s						
CWC				IAML		04 03 19.2	
	comp=E,3µm,0.2s						
GSC	**Goldstone, Bar**	**0.82**	**139**		Pg	04 03 09.2	-0.6
ISA	**Isabella, Lake**	**0.86**	**253**		Pg	04 03 10.1	-0.6
ISA				IAML		04 03 23.4	
	comp=N,2µm,0.2s						
ISA				IAML		04 03 24.0	
	comp=E,2µm,0.1s						
GRAC	**Grapevine Rang**	**1.07**	**4**		Pg	04 03 13.8	-0.9
GRAC				IAML		04 03 33.9	
	comp=E,2µm,0.6s						
GRAC				IAML		04 03 35.2	
	comp=N,2µm,0.5s						
SPG2	**Springville 2**	**1.09**	**285**		Pg	04 03 14.0	-1.1
WCT	**Wildcat Mounta**	**1.10**	**38**		Pg	04 03 14.4	-0.8
WCT				IAML		04 03 30.7	
	comp=N,2µm,0.7s						
WCT				IAML		04 03 31.2	
	comp=E,2µm,0.5s						
TPO	**Tropico Hills**	**1.22**	**211**		Pg	04 03 16.5	-0.9
GMN	**Gold Mountain**	**1.39**	**7**		Pn	04 03 19.1	-1.0
TPNV	**Topopah Spring**	**1.42**	**43**		Pn	04 03 19.0	-1.4
TPNV				IAML		04 03 43.2	
	comp=E,1µm,0.5s						
BAKC	**Calstate**	**1.46**	**247**		Pn	04 03 21.0	+0.1
DSP	**Deep Springs**	**1.50**	**344**		Pn	04 03 20.6	-0.8
DSP				IAML		04 03 44.0	
	comp=E,498nm,0.3s						
MTPC	**Mountain Pass**	**1.61**	**105**		Pn	04 03 21.2	-1.9
MTPC				IAML		04 03 46.4	
	comp=N,831nm,0.4s						
MTPC				IAML		04 03 49.2	
	comp=E,1µm,0.3s						
OSI	**Osito Audit: C**	**1.66**	**219**		Pn	04 03 23.5	-0.3
OSI				IAML		04 03 49.4	
	comp=E,1µm,0.6s						
OSI				IAML		04 03 51.7	
	comp=N,829nm,0.6s						
BFSC	**Mount Baldy Ra**	**1.69**	**186**		Pn	04 03 22.9	-1.2
BFSC				IAML		04 03 51.2	
	comp=E,394nm,0.3s						
MWC	**Mount Wilson**	**1.76**	**196**		Pn	04 03 24.0	-1.2
MZP	**Montezuma Peak**	**1.78**	**2**		Pn	04 03 24.4	-1.1
PASC	**Pasadena Art C**	**1.84**	**199**		Pn	04 03 25.5	-0.7
PASC				IAML		04 03 54.0	
	comp=E,617nm,0.6s						
PASC				IAML		04 03 54.9	
	comp=N,481nm,0.6s						
SHPR	**Sheep Range**	**1.95**	**72**		Pn	04 03 26.4	-1.3
V12A	**Nelson**	**2.13**	**94**		Pn	04 03 28.6	-1.6
V12A				IAML		04 04 04.9	
	comp=N,304nm,0.5s						
V12A				IAML		04 04 08.0	
	comp=E,272nm,0.5s						
TPC	**Twentynine Pal**	**2.15**	**147**		Pn	04 03 28.9	-1.5
TPH	**Tonopah**	**2.16**	**5**		Pn	04 03 30.0	-0.7
S11A	**Rachel**	**2.20**	**38**		Pn	04 03 30.5	-0.8
ELS	**Elsinore Mount**	**2.27**	**179**		Pn	04 03 31.0	-1.1
PMD	**Palm Desert**	**2.44**	**158**		Pn	04 03 32.7	-1.6
PRN	**Pahroc Range**	**2.44**	**52**		Pn	04 03 33.5	-1.0
PRN				IAML		04 04 19.3	
	comp=N,519nm,0.7s						
PRN				IAML		04 04 21.6	
	comp=E,475nm,0.7s						
PFO	**Pinyon Flats O**	**2.45**	**160**		Pn	04 03 33.5	-1.1
PFO				IAML		04 04 17.4	
	comp=E,226nm,1.7s						
LHV	**Little Huntoon**	**2.47**	**341**		Pn	04 03 34.9	+0.1
LHV				IAML		04 04 13.8	
	comp=E,457nm,0.6s						
LHV				IAML		04 04 15.9	
	comp=N,428nm,0.7s						
NV11	**Mina Array Sit**	**2.57**	**348**		Pn	04 03 35.6	-0.6
NEE2	**Needles Airpor**	**2.59**	**116**		Pn	04 03 34.7	-1.8
NVAR	**Mina Array Bea**	**2.59**	**345**		Pn	04 03 36.0	-0.6
PMPB	**Monarch Peak**	**2.72**	**277**		Pn	04 03 38.1	-0.2
PMPB				IAML		04 04 25.1	
	comp=E,241nm,0.8s						
PMPB				IAML		04 04 34.7	
	comp=N,183nm,0.9s						
BORC	**Borrego Spring**	**2.78**	**162**		Pn	04 03 38.5	-0.6
BORC				IAML		04 04 26.5	
	comp=E,168nm,0.8s						
BORC				IAML		04 04 28.4	
	comp=N,154nm,1.0s						
RYN	**Ryan**	**2.83**	**343**		Pn	04 03 39.4	-0.5
RYN				IAML		04 04 24.6	
	comp=N,132nm,0.3s						
R11B	**Troy Canyon, C**	**2.85**	**31**		Pn	04 03 39.5	-0.6
R11B				IAML		04 04 24.1	
	comp=E,211nm,0.6s						
R11B				IAML		04 04 24.3	
	comp=N,126nm,0.9s						
Q09A	**Carvers**	**2.92**	**4**	Pn	Pn	04 03 40.5	-0.5
Q09A				IAML		04 03 59.0	
	comp=N,313nm,0.7s						
Q09A				IAML		04 04 39.7	
	comp=E,251nm,1.3s						

DPP Dos Picos Cty 2.95 172 Pn 04 03 40.4 -0.9
BBGB Big Mountain B 2.97 284 Pn 04 03 42.2 +0.5
W13A Hualapai Mount 3.03 105 IAML 04 04 32.4
comp=N,168nm,0.5s
W13A IAML 04 04 33.1
comp=E,117nm,0.8s
CMB Columbia Colle 3.15 313 IAML 04 04 33.8
comp=E,189nm,0.4s
CMB IAML 04 04 34.1
comp=N,249nm,0.7s
BLYC Blythe 3.24 131 IAML 04 04 40.0
comp=N,260nm,0.6s
BLYC IAML 04 04 41.3
comp=E,191nm,0.6s
TKX Tecate 3.42 168 IAML 04 04 19.5
comp=N,142nm,0.1s
GLA Glamis 3.59 142 IAML 04 04 50.9
comp=N,152nm,0.9s
CBX Cerro Bola 3.66 169 IAML 04 04 48.9
comp=N,184nm,0.6s
PSUT Pine Spring 3.88 47 IAML 04 05 01.8
comp=E,139nm,0.9s
PSUT IAML 04 05 06.4
comp=N,86nm,1.0s
KNB Kanab 3.89 72 IAML 04 05 05.9
comp=E,62nm,0.9s
KNB IAML 04 05 06.0
comp=N,62nm,1.2s
SPR3 Spring Creek 3 3.95 38 IAML 04 04 59.1
comp=N,109nm,1.0s
SPR3 IAML 04 04 59.6
comp=E,114nm,0.8s
ESJX Sierra Juarez 4.10 162 IAML 04 04 31.0
comp=E,63nm,0.1s
ESJX IAML 04 04 42.0
comp=N,81nm,0.1s
AFDM Forest Hills D 4.12 318 IAML 04 05 04.6
comp=E,108nm,0.5s
Y14A Wickenburg 4.16 117 IAML 04 05 08.7
comp=N,129nm,0.6s
Y14A IAML 04 05 09.3
comp=E,115nm,0.7s
U15A North Rim 4.21 82 IAML 04 05 10.9
comp=E,49nm,0.8s
U15A IAML 04 05 18.9
comp=N,54nm,0.9s
113A Mohawk Valley, 4.38 135 IAML 04 05 19.9
comp=N,54nm,0.8s
BEKR Beckworth 4.56 331 IAML 04 05 27.3
comp=E,85nm,0.9s
BEKR IAML 04 05 30.9
comp=N,43nm,0.5s
VTX Valle De La Tr 4.73 162 IAML 04 05 29.6
comp=E,41nm,2.1s
WUAZ Wupatki 4.97 93 IAML 04 05 33.0
comp=E,52nm,1.0s
WUAZ IAML 04 05 34.8
comp=E,66nm,0.9s
ELK Elko 5.12 19 IAML 04 05 39.4
comp=E,28nm,0.5s
ELK IAML 04 05 40.3
comp=E,30nm,0.6s

*IDC **09** 04:06:21.9±0.7,0°.39N×126°.10E,h0km,mb4.2/10, mbtmp4.2/11,ML3.8/1,MS3.5/4,Error ellipse: s-maj=51.4km s-min=14.3km az=71.0*
*DJA **09** 04:06:25.5±1.1,0°.N±4°×12°.6E±°,h10km±9km,M4.2/11, mB5.4/1,mb4.5/4,MLv4.0/11,Mw(mB)4.8/1*
*NEIC **09** 04:06:28.6±1.1,0°.40N±0°.05×126°.45E±0°.06,h41km±8km, mb4.4/29,Error ellipse: s-maj=11.2km s-min=3.0km az=128.0*
ISC 09 04:06:28.2±0.5,0°.40N±0°.07×126°.39E±0°.07,h47km,n63, σ0s91/61,mb4.3/25,1C,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.05**	**69**		**Pn**	**04 06 45.6**	**-0.9**
TNTI				Sn	**Sn**	**04 06 59.4**	**-0.6**
TNTI	**Ternate**	**1.05**	**69**	P	**Pn**	**04 06 45.8**	**-0.7**
KMSI	**Cibinong**	**2.41**	**274**	P	**Pn**	**04 07 04.2**	**-1.0**
MRSI	**Marisa**	**4.45**	**271**	P	**Pn**	**04 07 31.3**	**-1.9**
APSI	**Ampana**	**4.91**	**255**	P	**Pn**	**04 07 39.0**	**-0.6**
TOLI2	**Tolitoli**	**5.65**	**277**		**Pn**	**04 07 50.8**	**+1.1**
TTSI	**Tana Toraja**	**7.40**	**242**	P	**Pn**	**04 08 11.9**	**-1.9**
	32nm,0.7s						
SPSI	**Sidrap Palu**	**7.91**	**237**	P	**Pn**	**04 08 20.8**	**+0.1**
KAPI	**Kappang**	**8.54**	**231**		**Pn**	**04 08 29.9**	**+0.6**
KAPI	**Kappang**	**8.54**	**231**	Pn	**Pn**	**04 08 28.4**	**-0.9**
	3.9nm,0.3s,baz=55,slow=12,SNR=9.8						
JAY	**Jayapura**	**14.61**	**102**	LR	LR	04 15 37.5	
	comp=Z,125nm,18.4s,baz=344,slow=37						
TGY	**Tagaytay City**	**14.64**	**339**	LR	LR	04 16 25.4	
	comp=Z,81nm,19.4s,baz=5.5,slow=42						
KNRA	**Kununurra**	**16.15**	**172**	Pn	**Pn**	**04 10 11.9**	**-0.2**
UGM	**Wanagama**	**17.84**	**242**		**P**	**04 10 33.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**18.40**	**182**	P	**Pn**	**04 10 39.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**18.40**	**182**	P	**P**	**04 10 39.1**	**-0.4**
	0.2nm,0.3s,baz=24,slow=8.9,SNR=7.0						
	4.6nm,1.0s						
WB0	**Warramunga Arr**	**21.53**	**159**		**P**	**04 11 13.5**	**-0.1**
WB0				IAmb	IAmb	04 11 14.6	
	comp=Z,12nm,0.4s						
WRAB	**Tennant Creek**	**21.66**	**159**	P	**P**	**04 11 14.7**	**-0.3**
WRAB				IAmb	IAmb	04 11 16.1	
	comp=Z,8.7nm,0.4s						
WRA	**Warramunga Arr**	**21.67**	**159**	P	**P**	**04 11 13.6**	**-1.5**
WRA	**Warramunga Arr**	**21.67**	**159**	P	**P**	**04 11 14.8**	**-0.2**
	comp=Z,9.7nm,0.4s,baz=338,slow=11,SNR=143						
	comp=Z,9.7nm,0.4s						
WR8	**Warramunga Arr**	**21.74**	**159**		**P**	**04 11 15.7**	**-0.2**
WR8				IAmb	IAmb	04 11 16.9	
	comp=Z,11nm,0.6s						
COEN	**Coen**	**21.91**	**131**	P	**P**	**04 11 17.3**	**-0.4**
COEN				IAmb	IAmb	04 11 30.1	
	comp=Z,16nm,1.3s						
GUMO	**Guam**	**22.51**	**54**	LR	LR	04 19 40.5	
	comp=Z,84nm,20.8s,baz=298,slow=35						
AS31	**Alice Springs**	**25.01**	**164**		**P**	**04 11 48.3**	**+0.3**
AS31				IAmb	IAmb	04 11 50.8	
	comp=Z,5.0nm,0.3s						
ASAR	**Alice Springs**	**25.02**	**164**		**P**	**04 11 48.8**	**+0.8**
ASAR	**Alice Springs**	**25.02**	**164**	P	**P**	**04 11 48.3**	**+0.3**
	comp=Z,4.6nm,0.4s,baz=350,slow=15,SNR=81						
	comp=Z,4.6nm,0.4s						
FORT	**Forrest**	**31.05**	**177**	P	**P**	**04 12 41.9**	**+0.1**
STKA	**Stephens Creek**	**35.19**	**157**	P	**P**	**04 13 17.9**	**0.0**
STKA	**Stephens Creek**	**35.19**	**157**	P	**P**	**04 13 18.6**	**+0.7**
	comp=Z,6.6nm,0.4s,baz=322,slow=8.8,SNR=8.8						
	comp=Z,2.6nm,0.4s						
MJAR	**Matsushiro Arr**	**37.59**	**16**	P	**P**	**04 13 38.5**	**+0.1**
BNX	**BinXian**	**45.16**	**1**	⇑P	**P**	**04 14 39.1**	**-1.1**
BNX				pmax	pmax		
	comp=Z,4.0nm,2.1s						
SONM	**Songino Array**	**50.34**	**343**	P	**P**	**04 15 20.1**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=148,slow=8.5,SNR=2.5						
	comp=Z,0.4nm,0.5s						
PEA0B	**Petropavlovsk-**	**58.63**	**22**	P	**P**	**04 16 22.2**	**+1.8**
PETK	**Petropavlovsk-**	**58.63**	**22**	P	**P**	**04 16 20.7**	**+0.2**
PETK	**Petropavlovsk-**	**58.63**	**22**	P	**P**	**04 16 21.7**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=191,slow=4.5,SNR=6.5						
	comp=Z,1.1nm,0.5s						
MKAR	**Makanchi Array**	**60.10**	**327**		**P**	**04 16 29.5**	**-1.3**
MKAR	**Makanchi Array**	**60.10**	**327**	P	**P**	**04 16 30.1**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=123,slow=7.8,SNR=16						
MKAR				PcP	**PcP**	**04 17 16.1**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=109,slow=5.3,SNR=1.8						
	comp=Z,0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**63.39**	**334**	P	**P**	**04 16 52.1**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=133,slow=8.3,SNR=4.9						
	comp=Z,0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**64.36**	**328**	P	**P**	**04 16 58.4**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=126,slow=6.3,SNR=17						
	comp=Z,1.9nm,0.6s						
KURK	**Kurchatov**	**64.36**	**329**		**P**	**04 16 58.7**	**-0.5**
KURK				IAmb	IAmb	04 17 02.1	
	comp=Z,3.7nm,0.8s						
BVAR	**Borovoye Array**	**69.92**	**328**	P	**P**	**04 17 33.8**	**-0.6**
	comp=Z,0.7nm,0.3s						
	comp=Z,0.7nm,0.3s						
AB31	**Akbulak array**	**74.51**	**321**	P	**P**	**04 18 01.5**	**-0.4**
ABKAR	**Akbulak array**	**74.51**	**321**		**P**	**04 18 01.4**	**-0.5**
ABKAR	**Akbulak array**	**74.51**	**321**	P	**P**	**04 18 01.6**	**-0.3**
ABKAR				IAmb	IAmb	04 18 03.4	
	comp=Z,2.8nm,1.1s						
VOI	**Vohitsoka**	**80.49**	**248**	P	**P**	**04 18 36.8**	**+0.7**

L16K	**Owhat River**	**82.16**	**28**	P		**P**	**04 18 45.2**	**+1.3**
L16K				IAmb		IAmb	04 18 57.3	
	comp=Z,3.7nm,1.4s							
K17K	**Iditarod**	**82.93**	**27**	P		**P**	**04 18 47.5**	**-0.4**
K17K				IAmb		IAmb	04 18 59.1	
	comp=Z,2.9nm,0.9s							
E18K	**Tukpahlearik C**	**83.15**	**22**	P		**P**	**04 18 51.3**	**+2.4**
E18K				IAmb		IAmb	04 19 06.6	
	comp=Z,3.8nm,1.4s							
C18K	**Utukok River**	**83.28**	**21**	P		**P**	**04 18 50.6**	**+0.9**
G18K	**Tagagawik**	**83.52**	**24**	P		**P**	**04 18 51.9**	**+1.0**
G18K				IAmb		IAmb	04 19 06.0	
	comp=Z,4.4nm,1.4s							
L18K	**Granite Mounta**	**83.56**	**27**	P		**P**	**04 18 51.4**	**+0.2**
C19K	**Lookout Ridge**	**83.96**	**20**	P		**P**	**04 18 55.5**	**+2.3**
C19K				IAmb		IAmb	04 18 58.4	
	comp=Z,3.6nm,1.2s							
G19K	**Purcell Mounta**	**84.19**	**23**	P		**P**	**04 18 54.9**	**+0.6**
G19K				IAmb		IAmb	04 18 57.8	
	comp=Z,3.0nm,1.2s							
D19K	**Kuna River**	**84.33**	**21**	P		**P**	**04 18 56.5**	**+1.4**
D19K				IAmb		IAmb	04 18 58.9	
	comp=Z,1.7nm,0.8s							
KDAK	**Kodiak Island**	**84.87**	**32**	P		**P**	**04 18 58.0**	**+0.1**
D20K	**Etivluk River**	**84.92**	**21**	P		**P**	**04 18 58.3**	**+0.3**
D20K				IAmb		IAmb	04 19 08.3	
	comp=Z,2.4nm,1.4s							
CNPM	**China Poot**	**85.78**	**30**	P		**P**	**04 19 03.1**	**+0.7**
BMAR	**Burnt Mountain**	**89.26**	**23**	P		**P**	**04 19 19.6**	**+0.6**
QSPA	**South Pole Qui**	**90.33**	**180**	P		**P**	**04 19 25.0**	**+0.9**
QSPA				IAmb		IAmb	04 19 41.6	
	comp=Z,3.3nm,1.4s							
QSPA	**South Pole Qui**	**90.33**	**180**	P		**P**	**04 19 25.0**	**+0.9**
	comp=Z,2.1nm,1.1s,baz=330,slow=3.1,SNR=3.0							
	comp=Z,2.1nm,1.1s							
BCAR	**Beaver Creek A**	**90.48**	**27**	P		**P**	**04 19 24.6**	**-0.2**
EIL	**Elat**	**91.05**	**300**	LR		LR	05 07 10.0	
	comp=Z,83nm,18.2s,baz=248,slow=40							
TXAR	**Lajitas Array**	**123.86**	**54**	PKP		**PKiKP**	**04 25 23.1**	**+0.9**
	comp=Z,0.1nm,0.8s,baz=257,slow=4.0,SNR=1.8							

*IDC **09** 04:22:36.4±9.2,24˚.39S×179˚.63E,h609km±111km, mb3.0/6, mbtmp3.9/6, Error ellipse: s-maj=47.7km s-min=33.4km az=60.0*

ISC 09 04:22:31.2±0.9, 24˚.4S±0˚.2×179˚.9E±0˚.1, h550km, n9, σ1§19/9, mb3.6/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.54**	**278**	P	**P**	**04 25 16.3**	**+0.9**
	4.4nm,0.8s,baz=76,slow=18,SNR=3.6						
STKA	**Stephens Creek**	**34.42**	**249**	P	**P**	**04 28 32.6**	**-0.6**
	1.3nm,0.5s,baz=91,slow=8.0,SNR=5.2						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**41.83**	**261**	P	**P**	**04 29 33.8**	**+0.2**
	1.6nm,0.9s,baz=98,slow=8.3,SNR=9.0						
	1.6nm,0.9s						
WRA	**Warramunga Arr**	**42.24**	**267**	P	**P**	**04 29 36.8**	**0.0**
	2.7nm,0.5s,baz=101,slow=8.2,SNR=35						
	2.7nm,0.5s						
QSPA	**South Pole Qui**	**65.72**	**180**	P	**P**	**04 32 21.8**	**+0.3**
	0.8nm,0.8s,baz=279,slow=0.7,SNR=5.1						
	0.8nm,0.8s						
TXAR	**Lajitas Array**	**90.79**	**58**	P	**P**	**04 34 37.8**	**+1.4**
	0.5nm,0.8s,baz=221,slow=6.6,SNR=7.2						
	0.5nm,0.8s						
PDAR	**Pinedale Array**	**93.12**	**44**	P	**P**	**04 34 46.8**	**-0.1**
	0.2nm,0.8s,baz=277,slow=5.6,SNR=2.0						
	0.2nm,0.8s						
HFS	**Hagfors**	**142.97**	**349**	PKP	**PKPdf**	**04 41 00.7**	**-1.3**
	1.5nm,0.4s,baz=42,slow=2.3,SNR=12						
EKA	**Eskdalemuir Ar**	**148.99**	**3**	PKPbc	**PKiKP**	**04 41 16.1**	**-1.9**
	0.2nm,0.4s,baz=4.2,slow=3.4,SNR=4.0						

*MOS **09** 04:27:04.3±1.0,48˚.35N×155˚.65E,h24km,mb4.4/5, Error ellipse: s-maj=13.5km s-min=4.5km az=78.4*
*KRSC **09** 04:27:06.9±2.0,48˚.48N×156˚.87E,h30km±17km, Ml4.2*
*SKHL **09** 04:27:06.1±0.5,48˚.30N×155˚.90E,h54km±3km,mb4.5/3*
*NEIC **09** 04:27:09.9±1.8,48˚.5N±0˚.1×155˚.3E±0˚.1,h43km±6km, mb4.3/16, Error ellipse: s-maj=19.4km s-min=12.5km az=154.0*
*IDC **09** 04:27:11.3±2.9,48˚.76N×155˚.38E,h49km±25km,mb3.6/14, mbtmp3.9/18,ML3.4/4,MS3.1/3, Error ellipse: s-maj=35.9km s-min=20.3km az=151.0*

ISC 09 04:27:08.2±0.7, 48˚.44N±0˚.09×155˚.60E±0˚.08, h36km, n102, σ1§28/109, mb4.0/22, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.27**	**8**	i*P	**Pn**	**04 27 42.4**	**-0.6**
SKR				eS	**Sn**	**04 28 10.0**	**+0.3**
SKR				pmax	pmax		
	comp=Z,101nm,0.2s						
SKR				smax	smax		
	comp=E,560nm,0.6s						
SKR				smax	smax		
	comp=N,1μm,0.7s						
SKR				MLR	MLR		
	comp=Z,500nm,12.0s						
SKR	**Severo-Kuril's**	**2.27**	**8**	eP	**Pn**	**04 27 42.7**	**-0.3**
SKR				eS	**Sn**	**04 28 10.5**	**+0.8**
SKR	**Severo-Kuril's**	**2.27**	**8**	eP	**Pn**	**04 27 42.7**	**-0.3**
SKR				AMB	AMB	04 27 43.2	
	comp=Z,40nm,0.4s						
SKR				eS	**Sn**	**04 28 09.8**	**+0.1**
SKR				A	A	04 28 16.0	
	comp=Z,210nm,0.6s						
SKR				A	A	04 28 16.0	
	comp=Z,240nm,0.6s						
PAU	**Pauzhetka**	**3.13**	**14**	PN	**Pn**	**04 27 54.7**	**-0.1**
PAU				S	**Sn**	**04 28 31.8**	**+1.0**
PAU	**Pauzhetka**	**3.13**	**14**	eP	**Pn**	**04 27 54.7**	**-0.1**
PAU				eS	**Sn**	**04 28 31.8**	**+1.0**
PAU	**Pauzhetka**	**3.13**	**14**	eP	**Pn**	**04 27 55.0**	**+0.2**
PAU				AMB	AMB	04 27 56.3	
	comp=Z,40nm,0.3s						
PAU				eS	**Sn**	**04 28 32.0**	**+1.1**
PAU				A	A	04 28 34.7	
	comp=Z,170nm,0.3s						
PAU				A	A	04 28 34.7	
	comp=Z,180nm,0.3s						
MIPR	**Malaya Ipel'ka**	**3.91**	**11**	PN	**Pn**	**04 28 05.9**	**+0.3**
MIPR	**Malaya Ipel'ka**	**3.91**	**11**	eP	**Pn**	**04 28 05.9**	**+0.3**
ASAK	**Asacha**	**4.21**	**20**	PN	**Pn**	**04 28 09.9**	**+0.1**
ASAK	**Asacha**	**4.21**	**20**	eP	**Pn**	**04 28 09.9**	**+0.1**
MTVR	**Mutnovka**	**4.37**	**21**	PN	**Pn**	**04 28 12.0**	**0.0**
MTVR	**Mutnovka**	**4.37**	**21**	eP	**Pn**	**04 28 12.1**	**0.0**
MTVR				eS	**Sn**	**04 29 01.4**	**-0.2**
GRL	**Gorelyy**	**4.41**	**20**	PN	**Pn**	**04 28 12.7**	**+0.2**
GRL	**Gorelyy**	**4.41**	**20**	eP	**Pn**	**04 28 12.7**	**+0.2**
RUS	**Russkaya**	**4.41**	**24**	PN	**Pn**	**04 28 11.0**	**-1.4**
RUS	**Russkaya**	**4.41**	**24**	eP	**Pn**	**04 28 11.1**	**-1.4**
RUS	**Russkaya**	**4.41**	**24**	eP	**Pn**	**04 28 12.0**	**-0.4**
APC	**Apacha**	**4.59**	**12**	PN	**Pn**	**04 28 16.5**	**+1.6**
APC	**Apacha**	**4.59**	**12**	eP	**Pn**	**04 28 16.6**	**+1.6**
PEA0B	**Petropavlovsk-**	**4.86**	**15**	Pn	**Pn**	**04 28 20.1**	**+1.4**
PEA0B	**Petropavlovsk-**	**4.86**	**15**	PN	**Pn**	**04 28 19.9**	**+1.3**
PETK	**Petropavlovsk-**	**4.86**	**15**	Pn	**Pn**	**04 28 19.0**	**+0.4**
PETK	**Petropavlovsk-**	**4.86**	**15**	P	**Pn**	**04 28 19.3**	**+0.7**
	comp=Z,1.5nm,0.3s,baz=203,slow=13,SNR=14						
PETK				LR	LR	04 30 28.7	
	comp=Z,120nm,19.9s,baz=166,slow=43						
	comp=Z,2.2nm,0.3s						
PETK	**Petropavlovsk-**	**4.86**	**15**	PN	**Pn**	**04 28 19.0**	**+0.4**
PET	**Petropavlovsk**	**4.98**	**22**	eP	**Pn**	**04 28 19.0**	**-1.2**
DALK	**Dalny**	**5.01**	**22**	PN	**Pn**	**04 28 20.7**	**0.0**
DALK	**Dalny**	**5.01**	**22**	eP	**Pn**	**04 28 20.7**	**0.0**
UGLR	**Uglovaya**	**5.19**	**22**	PN	**Pn**	**04 28 23.4**	**+0.1**
UGLR	**Uglovaya**	**5.19**	**22**	eP	**Pn**	**04 28 23.4**	**+0.1**
AVH	**Avacha**	**5.22**	**21**	PN	**Pn**	**04 28 24.8**	**+1.2**
AVH	**Avacha**	**5.22**	**21**	eP	**Pn**	**04 28 24.9**	**+1.2**
KOK	**Koryaka**	**5.22**	**20**	PN	**Pn**	**04 28 24.6**	**+0.9**
KOK	**Koryaka**	**5.22**	**20**	eP	**Pn**	**04 28 24.7**	**+0.9**
KOK	**Koryaka**	**5.22**	**20**	eP	**Pn**	**04 28 24.6**	**+0.9**
SMAR	**Somma**	**5.23**	**22**	PN	**Pn**	**04 28 25.3**	**+1.4**
SMAR	**Somma**	**5.23**	**22**	eP	**Pn**	**04 28 25.4**	**+1.4**
KRER	**Koryakskii**	**5.26**	**21**	PN	**Pn**	**04 28 25.0**	**+0.7**
KRER	**Koryakskii**	**5.26**	**21**	eP	**Pn**	**04 28 25.0**	**+0.7**
SDLR	**Sedlovina**	**5.27**	**22**	PN	**Pn**	**04 28 23.8**	**-0.5**
SDLR	**Sedlovina**	**5.27**	**22**	eP	**Pn**	**04 28 23.8**	**-0.5**
KRX	**Arik**	**5.29**	**20**	PN	**Pn**	**04 28 25.6**	**+1.0**
KRX	**Arik**	**5.29**	**20**	eP	**Pn**	**04 28 25.7**	**+1.0**
SPN	**Mys Shipunski**	**5.44**	**29**	PN	**Pn**	**04 28 25.0**	**-1.5**
SPN	**Mys Shipunski**	**5.44**	**29**	eP	**Pn**	**04 28 25.1**	**-1.5**
SPN				eS	**Sn**	**04 29 23.7**	**-4.1**
SPN	**Mys Shipunski**	**5.44**	**29**	eP	**Pn**	**04 28 25.6**	**-1.0**
GNL	**Ganaly**	**5.46**	**15**	PN	**Pn**	**04 28 28.0**	**+1.0**
GNL	**Ganaly**	**5.46**	**15**	eP	**Pn**	**04 28 28.1**	**+1.0**
KUR	**Kuril'sk**	**6.20**	**242**	eP	**Pn**	**04 28 38.8**	**+1.7**
KUR				AMB	AMB	04 28 43.3	
	comp=Z,70nm,0.7s						
KUR				eS	**Sn**	**04 29 47.1**	**+0.5**
KUR				A	A	04 29 56.7	
	comp=Z,40nm,0.6s						
KUR				A	A	04 29 56.7	
	comp=Z,30nm,0.6s						
MKZ	**Mys Kozlova**	**7.21**	**30**	PN	**Pn**	**04 28 49.3**	**-1.6**
MKZ	**Mys Kozlova**	**7.21**	**30**	eP	**Pn**	**04 28 49.4**	**-1.6**
MKZ				eS	**Sn**	**04 30 05.9**	**-5.6**
SHO	**Shikotan**	**7.61**	**236**	eP	**Pn**	**04 28 57.3**	**+0.8**
SHO				eS	**Sn**	**04 30 20.3**	**-1.1**
NMR	**Nemuro--Hokkai**	**8.55**	**237**	eP	**Pn**	**04 29 07.5**	**-1.8**
BKI	**Bering**	**9.32**	**40**	eS	Sn	04 30 52.3	-11
JKA	**Kamikawa-asahi**	**9.98**	**249**	eP	**Pn**	**04 29 30.0**	**+1.0**
ASAJ	**Asahikawa**	**9.99**	**249**	P	**Pn**	**04 29 29.9**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=71,slow=8.7,SNR=4.7						
	comp=Z,3.9nm,0.2s						
ASAJ	**Asahikawa**	**9.99**	**249**	PN	**Pn**	**04 29 30.0**	**+1.0**
ERM	**Erimo**	**10.87**	**238**	Pn	**Pn**	**04 29 40.7**	**-0.4**
ERM	**Erimo**	**10.87**	**238**	PN	**Pn**	**04 29 40.7**	**-0.4**
MA2	**Magadan**	**11.51**	**348**	LR	LR	04 34 43.1	
	comp=Z,79nm,19.1s,baz=123,slow=40						
KLR	**Kul'dur**	**15.71**	**282**	P	**P**	**04 30 48.3**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=64,slow=12,SNR=2.6						
	comp=Z,0.8nm,0.4s						
USRK	**Ussuriysk Ar.**	**16.83**	**264**	P	**P**	**04 31 01.7**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=84,slow=14,SNR=1.7						
	comp=Z,0.9nm,0.5s						
KSRS	**Korea Array**	**22.92**	**252**	P	**P**	**04 32 11.5**	**+2.7**
	comp=Z,1.5nm,0.5s,baz=47,slow=11,SNR=4.7						
	comp=Z,1.5nm,0.5s						
M11K	**Mekoryuk**	**24.84**	**47**	P	**P**	**04 32 26.8**	**+0.1**
M11K				IAmb	IAmb	04 32 30.9	
	comp=Z,13nm,0.8s						
TIXI	**Tiksi**	**26.36**	**341**	P	**P**	**04 32 38.7**	**-1.7**
	comp=Z,0.9nm,0.2s,baz=144,slow=11,SNR=1.6						
	comp=Z,0.9nm,0.2s						
BJT	**Baijiatuan**	**29.21**	**268**	P	**P**	**04 33 04.1**	**-2.1**
BJT				IAmb	IAmb	04 33 09.3	
	comp=Z,3.3nm,0.5s						
BJT	**Baijiatuan**	**29.21**	**268**	P	**P**	**04 33 04.1**	**-2.1**
BJT				pmax	pmax		
	comp=Z,3.0nm,0.5s						
E19K	**Redstone River**	**30.35**	**34**	P	**P**	**04 33 17.6**	**+1.6**
OHAK	**Old Harbor**	**31.41**	**54**	P	**P**	**04 33 27.6**	**+2.2**
D25K	**Kavik River**	**34.65**	**32**	P	**P**	**04 33 54.8**	**+1.2**
CTGM	**Chitina Glacie**	**37.02**	**46**	P	P	04 34 16.6	+2.5
CTGM				IAmb	IAmb	04 34 33.3	
	comp=Z,6.2nm,1.0s						
N30M	**Aishikik Lake**	**38.94**	**45**	P	**P**	**04 34 31.2**	**+1.0**
S31K	**Pelican**	**40.25**	**50**	P	**P**	**04 34 40.3**	**-0.7**
MK31	**Makanchi Array**	**47.66**	**297**	P	**P**	**04 35 40.0**	**-0.7**
MK31				IAmb	IAmb	04 35 40.8	
	comp=Z,1.7nm,0.6s						
MK31	**Makanchi Array**	**47.66**	**297**	P	**P**	**04 35 40.0**	**-0.7**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**47.66**	**297**	P	**P**	**04 35 40.5**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=69,slow=6.6,SNR=4.9						
	comp=Z,0.9nm,0.6s						
KURK	**Kurchatov**	**47.83**	**303**	P	**P**	**04 35 42.5**	**+0.6**
KURK				IAmb	IAmb	04 35 47.0	
	comp=Z,3.2nm,1.3s						
KURK	**Kurchatov**	**47.83**	**303**	P	**P**	**04 35 42.5**	**+0.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KURK	**Kurchatov**	**47.83**	**303**	eP	**P**	**04 35 42.5**	**+0.6**
KURBB	**Kurchatov Arra**	**47.93**	**303**	P	**P**	**04 35 42.0**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=67,slow=8.6,SNR=3.4						
	comp=Z,0.4nm,0.3s						
RES	**Resolute Bay**	**48.69**	**19**	P	**P**	**04 35 49.6**	**+1.5**
RES				IAmb	IAmb	04 36 05.3	
	comp=Z,3.4nm,1.1s						
RES	**Resolute Bay**	**48.69**	**19**	P	**P**	**04 35 49.6**	**+1.5**
RES				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BVAR	**Borovoye Array**	**51.08**	**309**	P	**P**	**04 36 06.1**	**-0.6**
	comp=Z,0.8nm,0.5s						
	comp=Z,0.8nm,0.5s						
TULEG	**Thule**	**52.13**	**12**	P	**P**	**04 36 16.3**	**+2.2**
G03D	**McMinnville, O**	**53.11**	**61**	P	**P**	**04 36 23.6**	**+1.8**
BOOM	**Boomskoye usch**	**53.81**	**296**	P	**P**	**04 36 27.8**	**+0.6**
BOOM				IAmb	IAmb	04 36 29.5	
	comp=Z,1.4nm,0.6s						
BOOM	**Boomskoye usch**	**53.81**	**296**	P	**P**	**04 36 27.8**	**+0.6**
BOOM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NEW	**Newport**	**54.81**	**55**	LR	LR	05 01 09.2	
	comp=Z,34nm,18.4s,baz=278,slow=37						
ARCES	**ARCESS Array B**	**56.80**	**341**	P	**P**	**04 36 46.0**	**-2.2**
	comp=Z,2.8nm,1.1s,baz=46,slow=7.6,SNR=6.5						
	comp=Z,2.8nm,1.1s						
ARCES	**ARCESS Array B**	**56.80**	**341**	P	**P**	**04 36 46.0**	**-2.2**
AB31	**Akbulak array**	**58.62**	**310**	P	**P**	**04 36 60.0**	**-1.2**
AB31				IAmb	IAmb	04 37 13.6	
	comp=Z,1.3nm,0.8s						
ABKAR	**Akbulak array**	**58.62**	**310**	P	**P**	**04 36 60.0**	**-1.3**
ABKAR	**Akbulak array**	**58.62**	**310**	P	**P**	**04 37 00.4**	**-0.8**
ABKAR				IAmb	IAmb	04 37 13.6	
	comp=Z,1.3nm,0.8s						
FINES	**FINESS Array B**	**63.21**	**335**	P	**P**	**04 37 31.6**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=22,slow=6.6,SNR=3.8						
	comp=Z,0.5nm,0.4s						
HFS	**Hagfors**	**67.44**	**340**	P	**P**	**04 37 59.0**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=356,slow=1.9,SNR=5.6						
	comp=Z,0.9nm,0.5s						
HFS	**Hagfors**	**67.44**	**340**	P	**P**	**04 37 59.0**	**-0.6**
KBZ	**Khabaz**	**70.88**	**315**	P	**P**	**04 38 21.1**	**0.0**
	comp=Z,1.6nm,0.6s,baz=22,slow=5.4,SNR=3.6						
	comp=Z,1.6nm,0.6s						
AKASG	**Malin Array Be**	**71.05**	**327**	P	**P**	**04 38 21.3**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=34,slow=6.0,SNR=5.2						
	comp=Z,0.5nm,0.4s						
EKA	**Eskdalemuir Ar**	**75.07**	**348**	P	**P**	**04 38 46.1**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=18,slow=5.0,SNR=8.8						
	comp=Z,0.3nm,0.3s						
TXAR	**Lajitas Array**	**75.20**	**63**	P	**P**	**04 38 48.6**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=289,slow=3.6,SNR=8.7						
	comp=Z,0.4nm,0.7s						
GERES	**GERESS Array B**	**77.64**	**335**	P	**P**	**04 39 01.3**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=35,slow=12,SNR=3.5						
	comp=Z,0.2nm,0.4s						
BRTR	**Keskin Array B**	**78.28**	**318**	P	**P**	**04 39 05.0**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=29,slow=5.6,SNR=7.5						
	comp=Z,1.5nm,0.9s						
BRTR	**Keskin Array B**	**78.28**	**318**	P	**P**	**04 39 05.0**	**+0.6**

*NEIC **09** 04:28:33.6±1.1,63˚.82S±0˚.09×171˚.6E±0˚.4,h10km±1km, mb4.7/15, Error ellipse: s-maj=28.9km s-min=14.4km az=262.0*
*GCMT **09** 04:28:33.6±0.2,63˚.70S±0˚.01×173˚.20E±0˚.04,h16km±1km, MW5.0/99, Moment Tensor Solution. s30,c33; s99,c135; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.91±.16; $M_{\theta\theta}$4.04±.14; $M_{\phi\phi}$-3.14±.12; $M_{r\theta}$-1.13±.34; $M_{\theta\phi}$0.19±.11; $M_{r\phi}$-1.29±.43; Best double couple: M_o4.02800×10^{16} NP1:ϕ_s312.00000°,δ62.00000°,λ-9.00000°. NP2: ϕ_s46.00000°,δ82.00000°,λ-152.00000°. Principal axes: T 4.3150, Plg13.0000°, Azm176.0000°; N -0.5790, Plg61.0000°, Azm61.0000°; P -3.7410, Plg25.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **09** 04:28:33.5±0.8,64˚.02S×171˚.37E,h0km,mb4.1/8, mbtmp4.2/9,ML3.6/1,MS4.2/22 Error ellipse: s-maj=40.1km s-min=17.2km az=67.0*

ISC 09 04:28:33.8±0.5, 63˚.81S±0˚.07×171˚.5E±0˚.2, h10km, n63, σ1§10/36, mb4.5/11, MS4.2/22, 3D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.10**	**189**		**Pn**	**04 31 53.0**	**-0.2**
VNDA	**Vanda**	**14.10**	**189**	Pn	**Pn**	**04 31 52.9**	**-0.4**
	0.3nm,0.3s,baz=37,slow=15,SNR=17						
	11nm,0.9s						

WHZ	**Wether Hill Ro**	**18.07**	**352**	Pn		**Pn**	**04 32 43.3**	**-1.4**
WHZ				IAmb		IAmb	04 32 55.0	
	comp=Z,48nm,1.3s							
DCZ	**Deep Cove**	**18.55**	**350**	P		**P**	**04 32 49.7**	**-0.6**
DCZ				IAmb		IAmb	04 33 09.6	
	comp=Z,67nm,1.4s							
MLZ	**Mavora Lakes**	**18.58**	**352**	P		**P**	**04 32 50.1**	**-0.6**
MLZ				IAmb		IAmb	04 32 59.6	
	comp=Z,64nm,1.5s							
LBZ	**Lake Benmore**	**19.48**	**357**	Pn		**Pn**	**04 33 01.8**	**0.0**
LBZ				IAmb		IAmb	04 33 10.3	
	comp=Z,62nm,1.5s							
RPZ	**Rata Peaks**	**20.14**	**359**	P		Pn	04 33 12.4	+2.8
	comp=Z,7.6nm,0.4s,baz=174,slow=20,SNR=2.3							
RPZ				LR		LR	04 39 36.6	
	comp=Z,710nm,20.4s,baz=158,slow=33							
	comp=Z,7.6nm,0.4s							
CASY	**Casey**	**24.95**	**237**	P		**P**	**04 33 56.7**	**-0.1**
CASY				IAmb		IAmb	04 34 10.8	
	comp=Z,26nm,1.4s							
URZ	**Urewera**	**25.80**	**10**	LR		LR	04 42 18.5	
	comp=Z,595nm,22.0s,baz=159,slow=32							
QSPA	**South Pole Qui**	**26.28**	**180**	P		**P**	**04 34 08.7**	**-0.4**
QSPA				IAmb		IAmb	04 34 33.8	
	comp=Z,30nm,1.5s							
QSPA	**South Pole Qui**	**26.28**	**180**	P		**P**	**04 34 08.6**	**-0.4**
	comp=Z,5.8nm,1.0s,baz=15,slow=5.5,SNR=11							
QSPA				LR		LR	04 43 10.6	
	comp=Z,730nm,18.6s,baz=31,slow=34							
	comp=Z,5.8nm,1.0s							
CAN	**Canberra**	**31.68**	**323**	P		**P**	**04 34 55.5**	**-1.6**
CAN				IAmb		IAmb	04 35 33.3	
	comp=Z,20nm,1.3s							
RAO	**Raoul Island**	**35.23**	**16**	LR		LR	04 48 08.0	
	comp=Z,151nm,19.9s,baz=142,slow=33							
STKA	**Stephens Creek**	**37.04**	**315**	P		**P**	**04 35 46.2**	**+2.7**
	comp=Z,1.9nm,0.8s,baz=238,slow=13,SNR=2.5							
	comp=Z,1.9nm,0.8s							
MAW	**Mawson**	**39.34**	**215**	LR		LR	04 51 22.6	
	comp=Z,447nm,19.8s,baz=134,slow=35							
EIDS	**Eidsvold**	**40.71**	**331**	P		**P**	**04 36 13.9**	**-0.3**
DZM	**Mont Dzumac**	**41.86**	**353**	P		**P**	**04 36 23.1**	**-0.7**
DZM				IAmb		IAmb	04 36 24.2	
	comp=Z,42nm,1.5s							
DZM	**Mont Dzumac**	**41.86**	**353**	eS		S	04 42 55.1	+13
	comp=Z,97nm,23.2s							
DZM				eLR		LR	04 48 24.1	
	comp=Z,700nm,29.2s							
TROLL	**Troll, Antarti**	**44.24**	**185**	||P		**P**	**04 36 41.9**	**-0.8**
	comp=Z,207nm,1.1s							
SNAA	**Sanae**	**44.73**	**183**	||P		**P**	**04 36 45.4**	**-1.2**
	comp=Z,72nm,1.0s							
SNAA	**Sanae**	**44.73**	**183**	P		**P**	**04 36 44.9**	**-1.6**
SNAA				IAmb		IAmb	04 36 52.7	
	comp=Z,9.3nm,1.2s							
SNAA	**Sanae**	**44.73**	**183**	P		**P**	**04 36 45.7**	**-0.9**
	comp=Z,2.2nm,1.1s,baz=162,slow=7.2,SNR=6.0							
SNAA				LR		LR	04 54 45.9	
	comp=Z,677nm,18.4s,baz=246,slow=35							
	comp=Z,2.2nm,1.1s							
H01W1	**Cape Leeuwin H**	**45.00**	**282**	T		T	05 26 07.2	
	baz=147,slow=76,SNR=137							
H01W2	**Cape Leeuwin H**	**45.01**	**282**	T		T	05 26 08.6	
	baz=147,slow=76,SNR=148							
H01W3	**Cape Leeuwin H**	**45.02**	**282**	T		T	05 26 08.5	
	baz=147,slow=76,SNR=148							
NWAO	**Narrogin (SRO)**	**45.35**	**286**	LR		LR	04 51 27.1	
	comp=Z,438nm,19.4s,baz=108,slow=30							
PMSA	**Palmer Station**	**45.40**	**150**	LR		LR	04 53 01.2	
	comp=Z,286nm,18.4s,baz=223,slow=32							
VNA1	**Neumayer--Stat**	**45.81**	**180**	||P		**P**	**04 36 54.2**	**-0.8**
	comp=Z,7.1nm,0.9s							
RAR	**Rarotonga**	**46.73**	**38**	LR		LR	04 55 08.9	
	comp=Z,72nm,18.2s,baz=194,slow=34							
ASAR	**Alice Springs**	**47.15**	**310**	P		**P**	**04 37 07.1**	**+0.9**
ASAR	**Alice Springs**	**47.15**	**310**	P		**P**	**04 37 08.2**	**+2.0**
	comp=Z,2.4nm,1.0s,baz=158,slow=8.0,SNR=13							
ASAR				LR		LR	04 55 16.5	
	comp=Z,160nm,18.3s,baz=143,slow=34							
	comp=Z,2.4nm,1.0s							
AS31	**Alice Springs**	**47.15**	**310**	P

ZALV	**Zalesovo Beam**	31.20	349	P		P	04 36 10.7	+0.7		
	1.3nm,0.3s,baz=165,slow=9.7,SNR=5.5									
	1.3nm,0.3s									
AKASG	**Malin Array Be**	56.65	316	P		P	04 39 32.3	-0.8		
	0.3nm,0.3s,baz=84,slow=6.3,SNR=4.3									
	0.3nm,0.3s									
WRA	**Warramunga Arr**	58.05	135	P		P	04 39 42.1	-1.3		
	1.0nm,0.6s,baz=320,slow=7.5,SNR=19									
	1.0nm,0.6s									
FINES	**FINESS Array B**	59.33	329	P		P	04 39 51.9	+0.2		
	0.6nm,0.3s,baz=75,slow=5.9,SNR=13									
	0.6nm,0.3s									
ASAR	**Alice Springs**	60.50	138	P		P	04 39 59.4	-0.9		
	1.2nm,0.5s,baz=322,slow=7.0,SNR=16									
	1.2nm,0.5s									
ARCES	**ARCESS Array B**	60.82	338	P		P	04 40 02.0	+0.2		
	1.2nm,0.8s,baz=96,slow=8.2,SNR=8.8									
	1.2nm,0.8s									
HFS	**Hagfors**	65.37	327	P		P	04 40 31.7	-0.2		
	1.5nm,0.4s,baz=94,slow=5.9,SNR=11									
	1.5nm,0.4s									
NOA	**NORSAR Array B**	66.50	328	P		P	04 40 38.5	-0.8		
	1.3nm,0.2s,baz=85,slow=6.3,SNR=3.7									
	1.3nm,0.2s									
GERES	**GERESS Array B**	66.79	315	P		P	04 40 41.2	-0.2		
	0.5nm,0.4s,baz=44,slow=5.9,SNR=4.0									
	0.5nm,0.4s									
EKA	**Eskdalemuir Ar**	75.20	324	P		P	04 41 31.8	-0.2		
	0.9nm,0.7s,baz=69,slow=6.6,SNR=4.2									
	0.9nm,0.7s									

IDC ***09*** *04:47:25.5±1.0,31.78N×49.37E,h0km,mb4.1/17, mbtmp4.1/21,MLM3.8/4,MS3.8/3,Error ellipse: s-maj=22.5km s-min=15.3km az=9.0*

MOS ***09*** *04:47:26.3±1.3,31.80N×49.33E,h19km,mb4.3/15,Error ellipse: s-maj=10.5km s-min=5.4km az=105.6*

NEIC ***09*** *04:47:27.7±1.4,31.76N±0.07×49.46E±0.05,h10km±1km, mb4.4/23,Error ellipse: s-maj=12.5km s-min=6.6km az=171.0*

ISN ***09*** *04:47:27.0±0.6,31.77N×49.46E,h9km±35km,ML4.0*

THR ***09*** *04:47:27.1±0.0,31.73N×49.39E,h8km±4km,ML4.3*

TEH ***09*** *04:47:28.0,31.87N×49.50E,h12km±23km*

NAO ***09*** *04:47:31.8,31.85N×48.97E,h33km,mb4.0*

DSN ***09*** *04:47:37.8±1.7,30.81N×49.52E,h15km,ML3.3/5,Error ellipse: s-maj=22.4km s-min=9.7km az=5.0*

ISC 09 04:47:28.4±0.4,31.81N±0.03×49.42E±0.03,h20km,n216, σ2s00/213,mb4.4/49,9C-1D,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GTMR	**Gotvand**	**0.71**	**339**	*e*	PgA		04 47 42.0	
GTMR				*e*	Sg	**Sn**	**04 47 54.1**	**+0.3**
GTMR					IAML		04 47 58.1	
	comp=Z,34nm,1.0s							
AHWZ	**Ahwaz**	**0.81**	**234**		Pg	**Pn**	**04 47 45.9**	**+1.2**
AHWZ					Sg	**Sn**	**04 47 59.8**	**+3.7**
JHBN	**Jahan bin**	**1.14**	**68**		Pg	**Pn**	**04 47 48.6**	**-1.0**
ZNGN	**Zangian**	**1.26**	**75**		Pg	**Pb**	**04 47 51.0**	**-0.7**
ZNGN					Sg	**Sn**	**04 48 10.3**	**+2.5**
ABEH	**Behbahan**	**1.40**	**149**		Pg	**Pb**	**04 47 55.8**	**+1.9**
ABEH					Sg	**Sb**	**04 48 16.5**	**+5.2**
IPIR	**Pirpir**	**1.53**	**55**		Pg	**Pb**	**04 47 55.8**	**-0.4**
IBRJ	**Brojen**	**1.57**	**86**		Pg	**Pb**	**04 47 56.9**	**-0.1**
KHMZ	**Khomeyn**	**1.98**	**13**	*e*	PnA		04 48 04.3	
KHMZ					IAML		04 48 33.2	
	comp=Z,3.6nm,1.0s							
KLNJ	**Kolanjah**	**2.02**	**113**		Pn	**Pb**	**04 48 04.3**	**-0.4**
KLNJ	**Kolanjah**	**2.02**	**113**	*e*	Pn	**Pb**	**04 48 04.3**	**-0.4**
KLNJ					IAML		04 48 43.8	
	comp=Z,2.6nm,1.0s							
IKFM	**Kafar-mosalman**	**2.17**	**323**		Pn	**Pb**	**04 48 06.7**	**-0.2**
IDOB	**Doab**	**2.23**	**333**		Pn	**Pb**	**04 48 07.4**	**-0.8**
IGAR	**Gharneh**	**2.31**	**74**		Pn	**Pb**	**04 48 08.1**	**-1.4**
IKLH	**Kolahrood**	**2.37**	**50**		Pn	**Pb**	**04 48 09.3**	**-1.3**
IRAM	**Ramesheh**	**2.53**	**89**		Pn	**Pb**	**04 48 10.8**	**-2.4**
QAMS	**Qamsar**	**2.55**	**40**		Pn	**Pb**	**04 48 11.6**	**-2.0**
IZEF	**Zefreh**	**2.69**	**65**		Pn	**Pb**	**04 48 13.3**	**-2.8**
ASAO	**Ashtian**	**2.78**	**10**	*e*	PnA		04 48 15.8	
ASAO					IAML		04 49 02.5	
	comp=Z,2.2nm,1.0s							
RAFI	**Al-Rafai**	**2.81**	**269**	*e*	Pn	**Pb**	**04 48 16.0**	**-1.9**
RAFI				*e*	Sn	**Sb**	**04 48 51.5**	**-0.5**
RAFI					AML	AML	04 49 12.8	
	comp=N,995nm,0.6s							
RAFI					AML	AML	04 49 13.0	
	comp=E,981nm,0.0s							
IBZA	**Bozab**	**2.96**	**334**		Pn	**Pn**	**04 48 17.7**	**+3.2**
HAGD	**Aghdareh**	**3.02**	**356**		Pn	**Pn**	**04 48 18.1**	**+2.9**
GHVR	**GHOM**	**3.10**	**30**	*e*	PnA		04 48 20.0	
GHVR					IAML		04 49 13.5	
	comp=Z,1.6nm,1.0s							
KRSH	**Karshahi**	**3.15**	**46**		Pn	**Pb**	**04 48 20.1**	**-3.7**
KCHF	**Cheshme Sefid,**	**3.17**	**322**		Pn	**Pn**	**04 48 20.8**	**+3.5**
IBDR	**Badra**	**3.22**	**295**	*e*	Pn	**Pn**	**04 48 21.5**	**+3.7**
IBDR				*e*	Sn	**Sb**	**04 49 01.0**	**-2.7**
IBDR					AML	AML	04 49 20.2	
	comp=E,476nm,0.5s							
IBDR					AML	AML	04 49 31.9	
	comp=N,561nm,0.8s							
ILBA	**Ilam Banvizeh**	**3.26**	**305**		Pn	**Pn**	**04 48 20.9**	**+2.5**
ILBA	**Ilam Banvizeh**	**3.26**	**305**	*e*	PnA		04 48 20.9	
ILBA					IAML		04 49 53.7	
	comp=Z,0.6nm,1.0s							
SNQR	**Sonqor, Kerman**	**3.39**	**334**		Pn	**Pn**	**04 48 23.6**	**+3.2**
IGHG	**Ghaleghazi**	**3.47**	**317**		Pn	**Pn**	**04 48 25.1**	**+3.6**
ISFB	**Sefidab**	**3.47**	**42**		Pn	**Pn**	**04 48 23.9**	**+2.4**
ISAD	**Sadrabad**	**3.63**	**87**		Pn	**Pn**	**04 48 26.2**	**+2.3**
ILIN	**Lien**	**3.72**	**327**		Pn	**Pn**	**04 48 27.9**	**+2.9**
GLG1	**Gilan-e-Gharb**	**3.74**	**309**		Pn	**Pn**	**04 48 28.9**	**+3.8**
DSBU	**Dashti - Bushe**	**3.79**	**155**		Pn	**Pn**	**04 48 29.1**	**+3.4**
IDHR	**Dehrash**	**3.84**	**319**		Pn	**Pn**	**04 48 30.2**	**+3.6**
QABG	**Abgarm-Qazvin**	**3.90**	**2**		Pn	**Pn**	**04 48 30.5**	**+3.2**
ANAR	**Anarak**	**3.90**	**68**		Pn	**Pn**	**04 48 29.8**	**+2.5**
TAFT	**Taft - Yazd**	**4.05**	**90**		Pn	**Pn**	**04 48 31.8**	**+2.3**
ICHK	**Chekchek**	**4.26**	**83**		Pn	**Pn**	**04 48 34.5**	**+2.1**
THKV	**Tehran--Karaj**	**4.28**	**16**	*e*	Pn	**Pn**	**04 48 35.7**	**+3.1**
THKV					IAML		04 49 56.5	
	comp=Z,0.5nm,1.0s							
CHTH	**Charan**	**4.33**	**19**	*e*	PnA		04 48 36.1	
CHTH					IAML		04 50 00.4	
	comp=Z,0.3nm,1.0s							
IDMV	**Damavand**	**4.35**	**29**		Pn	**Pn**	**04 48 36.0**	**+2.4**
DAMV	**Damavand**	**4.37**	**28**	*e*	PnA		04 48 36.2	
DAMV					IAML		04 50 14.3	
	comp=Z,0.0nm,1.0s							
YZKH	**Yazd**	**4.43**	**81**	*e*	Pn	**Pn**	**04 48 37.2**	**+2.6**
YZKH					IAML		04 49 17.9	
	comp=Z,0.1nm,1.0s							
IMEH	**Mehriz**	**4.45**	**94**		Pn	**Pn**	**04 48 37.8**	**+2.7**
BHD	**Baghdad**	**4.50**	**290**	*e*	Pn	**Pn**	**04 48 39.0**	**+3.6**
BHD				*e*	Sn	**Sn**	**04 49 31.5**	**+4.4**
BHD					AML	AML	04 50 02.7	
	comp=E,478nm,0.5s							
IGZV	**Ghazvin**	**4.62**	**8**		Pn	**Pn**	**04 48 39.9**	**+2.7**
ILAS	**Lasjerd**	**4.63**	**39**		Pn	**Pn**	**04 48 39.9**	**+2.3**
IFIR	**Firoozkooh**	**4.73**	**35**		Pn	**Pn**	**04 48 41.3**	**+2.4**
KLST	**Kelardasht - M**	**4.89**	**16**		Pn	**Pn**	**04 48 44.1**	**+2.9**
MZPU	**Pul - Mazandar**	**4.96**	**21**		Pn	**Pn**	**04 48 45.5**	**+3.6**
IPRN	**Peran**	**5.05**	**28**		Pn	**Pn**	**04 48 46.3**	**+3.2**
IALA	**Alasht**	**5.11**	**33**		Pn	**Pn**	**04 48 47.0**	**+2.9**
IBAF	**Bafgh**	**5.25**	**91**		Pn	**Pn**	**04 48 47.9**	**+2.1**
SRSL	**SARDASHT**	**5.50**	**324**	*e*	PnA		04 48 52.5	
SRSL					IAML		04 49 56.6	
	comp=Z,0.7nm,1.0s							
IKRK	**Kirkuk**	**5.55**	**312**	*e*	Pn	**Pn**	**04 48 53.5**	**+3.7**
IKRK					AML	AML	04 49 56.1	
	comp=E,265nm,0.3s							
IKRK				*e*	Sn	**Sn**	**04 49 57.5**	**+4.5**
IKRK					AML	AML	04 49 57.7	
	comp=N,132nm,0.1s							
IKIA	**Kiasar**	**5.64**	**38**		Pn	**Pn**	**04 48 53.9**	**+2.6**
IGLO	**Ghaloghah**	**5.94**	**37**		Pn	**Pn**	**04 48 58.3**	**+2.8**
TPRV	**Parvadeh(Tabas**	**6.27**	**77**		Pn	**Pn**	**04 49 02.0**	**+2.2**
TNSJ	**Nastanj**	**6.42**	**69**		Pn	**Pn**	**04 49 04.0**	**+2.0**
KRBR	**Kerman**	**6.57**	**104**		Pn	**Pn**	**04 49 06.1**	**+1.9**
KRBR	**Kerman**	**6.57**	**104**	*e*	PnA		04 49 06.0	
KRBR					IAML		04 51 22.5	
	comp=Z,37nm,1.0s							
NGRK	**Negar Kerman**	**6.66**	**107**		Pn	**Pn**	**04 49 07.9**	**+2.4**
TABS	**Tabas**	**6.75**	**72**	*e*	PnA		04 49 08.4	
TABS					IAML		04 51 23.1	
	comp=Z,0.1nm,1.0s							
SHRO	**Shahrood**	**6.89**	**51**	*e*	PnA		04 49 10.8	
SHRO					IAML		04 51 27.6	
	comp=Z,57nm,1.0s							
TAPT	**Tabas- Tapeh t**	**7.17**	**63**		Pn	**Pn**	**04 49 14.0**	**+1.8**
MRVT	**Maraveh tapeh**	**8.02**	**41**	*e*	Pn	**Pn**	**04 49 26.4**	**+2.6**
SBZV	**Sabzevar**	**8.19**	**54**		Pn	**Pn**	**04 49 28.5**	**+2.2**
SBZV	**Sabzevar**	**8.19**	**54**	*e*	PnA		04 49 28.7	
SBZV					IAML		04 50 11.1	
	comp=Z,18nm,1.0s							
SHME	**Shamm**	**8.22**	**133**		P	**Pn**	**04 49 27.2**	**+0.7**
GEVA	**Gevas**	**8.32**	**323**		Pn	**Pn**	**04 49 30.0**	**+1.9**
MSFE	**Esma-Masafi**	**8.74**	**136**		P	**Pn**	**04 49 32.7**	**-1.0**
NAZ	**Nazwa, Dubai**	**8.74**	**139**		P	**Pn**	**04 49 34.5**	**+0.8**
ISFR	**Sfrayin**	**8.81**	**51**		Pn	**Pn**	**04 49 37.7**	**+2.8**
BJRD	**Bojnurd**	**8.82**	**46**	*e*	PnA		04 49 37.9	
BJRD					IAML		04 49 44.7	
	comp=Z,11nm,1.0s							
RAYN	**Ar Rayn**	**8.95**	**204**			**Pn**	**04 49 35.0**	**-1.6**
RAYN	**Ar Rayn**	**8.95**	**204**		P	**Pn**	**04 49 35.0**	**-1.6**
RAYN	**Ar Rayn**	**8.95**	**204**		P	**Pn**	**04 49 35.1**	**-1.6**
UOSS	**Minazif**	**9.08**	**137**		Pn	**Pn**	**04 49 38.8**	**+0.4**
UOSS	**Minazif**	**9.08**	**137**		P	**Pn**	**04 49 38.4**	**0.0**
HATD	**Hatta, Dubai**	**9.13**	**138**		P	**Pn**	**04 49 37.4**	**-1.6**
GNI	**Garni**	**9.14**	**337**	*i*	P	**Pn**	**04 49 38.1**	**-1.2**
ASHO	**Ashiyiah**	**9.20**	**139**		P	**Pn**	**04 49 38.5**	**-1.5**
ASHO					S	**Sn**	**04 51 15.3**	**-7.7**
SHRT	**Shahrakht**	**9.34**	**76**	*e*	Pn	**Pn**	**04 49 45.5**	**+3.5**
ASF	**Jabal al Asfar**	**10.64**	**275**		Pn	**Pn**	**04 49 59.5**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=120,slow=6.4,SNR=6.7							
ASF					Sn	**Sn**	**04 51 53.0**	**-5.3**
	comp=Z,0.9nm,0.3s,baz=313,slow=6.3,SNR=4.1							
	comp=Z,3.4nm,0.3s							
WSAR	**Wadi Sarin**	**11.81**	**134**		Pn	**Pn**	**04 50 15.3**	**-0.5**
	baz=335,slow=24,SNR=18							
WSAR					Sn	**Sn**	**04 52 18.7**	**-8.4**
	baz=90,slow=24,SNR=2.0							
EIL	**Elat**	**12.62**	**264**		Pn	**Pn**	**04 50 26.1**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=25,slow=20,SNR=1.9							
EIL					LR	LR	04 56 36.4	
	comp=Z,151nm,21.9s,baz=254,slow=44							
	comp=Z,1.6nm,0.5s							
KBZ	**Khabaz**	**12.96**	**338**		Pn	Pn	04 50 36.4	+5.0
	comp=Z,0.1nm,0.3s,baz=285,slow=11,SNR=2.1							
	comp=Z,1.4nm,0.8s							
KBZ	**Khabaz**	**12.96**	**338**	⇑	eP	**Pn**	**04 50 30.7**	**-0.7**
KIV	**Kislovodsk**	**13.23**	**338**	*e*	P	**Pn**	**04 50 33.7**	**-1.5**
KIV					pmax	pmax		
	comp=Z,5.0nm,1.0s							
DIKM	**Dikmen**	**14.99**	**315**		P	**Pn**	**04 51 00.2**	**+1.1**
	comp=Z,22nm,1.4s							
BRTR	**Keskin Array B**	**15.03**	**306**		Pn	**Pn**	**04 51 00.7**	**+0.9**
BRTR	**Keskin Array B**	**15.03**	**306**		Pn	**P**	**04 51 06.1**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=129,slow=13,SNR=26							
BRTR	**Keskin Array B**	**15.03**	**306**		P	**Pn**	**04 51 00.7**	**+0.9**
BR131	**Keskin Array S**	**15.04**	**306**		Pn	**Pn**	**04 51 01.2**	**+1.4**
BR131					IAmb	IAmb	04 51 07.8	
	comp=Z,6.7nm,0.7s							
BR131	**Keskin Array S**	**15.04**	**306**		P	**Pn**	**04 51 01.2**	**+1.4**
BR131					pmax	pmax		
	comp=Z,7.0nm,0.7s							
ANTO	**Ankara**	**15.68**	**305**		P	**Pn**	**04 51 09.1**	**+0.9**
	comp=Z,5.7nm,0.8s							
ANN	**Anapa**	**16.00**	**328**	*e*	P	**Pn**	**04 51 10.5**	**-1.7**
ANN				*e*	S	**Sn**	**04 54 08.1**	**-0.8**
ANN					pmax	pmax		
	comp=Z,49nm,0.9s							
KLYT	**Kilyos**	**18.86**	**306**		P	**P**	**04 51 47.6**	**+0.5**
	comp=Z,11nm,0.7s							
KARP	**Karpathos**	**18.89**	**287**		P	**P**	**04 51 47.6**	**0.0**
	comp=Z,51nm,1.2s							
AB31	**Akbulak array**	**19.15**	**21**			**Pn**	**04 51 51.3**	**+0.1**
ABKAR	**Akbulak array**	**19.15**	**21**			**Pn**	**04 51 51.2**	**0.0**
ABKAR	**Akbulak array**	**19.15**	**21**			**Pn**	**04 51 51.7**	**+0.5**
ABKAR					IAmb	IAmb	04 51 53.3	
	comp=Z,3.5nm,0.8s							
AKTO	**Aktyubinsk**	**19.68**	**16**		P	**Pn**	**04 51 56.9**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=218,slow=10,SNR=5.5							
	comp=Z,2.0nm,0.3s							
VRH	**Novokhopyorsk**	**20.20**	**346**	*e*	P	**P**	**04 52 01.6**	**-0.1**
VRH					pmax	pmax		
	comp=Z,22nm,0.5s							
VORD	**Divnogorie**	**20.56**	**342**	*e*	P	**P**	**04 52 04.1**	**-1.5**
VORD					pmax	pmax		
	comp=Z,10.0nm,0.9s							
BELG	**Belogornoye**	**20.61**	**357**		P	**P**	**04 52 06.5**	**+0.3**
	comp=Z,34nm,0.9s,baz=166,slow=1.1,SNR=6.4							
	comp=Z,34nm,0.9s							
BELG	**Belogornoye**	**20.61**	**357**	*i*	P	**P**	**04 52 06.4**	**+0.2**
BELG					pmax	pmax		
	comp=Z,7.0nm,0.9s							
IDI	**Anoyia**	**20.72**	**286**			Pn	04 52 09.1	-1.0
IDI					IAmb	IAmb	04 52 18.1	
	comp=Z,12nm,0.6s							
VSR	**Storozhevoye**	**20.82**	**342**	*e*	P	**P**	**04 52 06.9**	**-1.6**
VSR					pmax	pmax		
	comp=Z,6.0nm,1.0s							
ALN	**Alexandroupoli**	**20.85**	**302**		P	**P**	**04 52 10.1**	**+1.2**
ALN					IAmb	IAmb	04 52 12.2	
	comp=Z,10nm,0.9s							
ALN	**Alexandroupoli**	**20.85**	**302**		P	**P**	**04 52 10.1**	**+1.2**
ALN					pmax	pmax		
	comp=Z,10.0nm,0.9s							
VORR	**Voronezh**	**21.22**	**342**	*e*	P	**P**	**04 52 13.3**	**+0.5**
VORR					pmax	pmax		
	comp=Z,68nm,0.5s							
LPSR	**Galich'ya Gora**	**22.14**	**343**	*e*	P	**P**	**04 52 22.0**	**-0.6**
LPSR					pmax	pmax		
	comp=Z,15nm,0.8s							
AAK	**Ala-Archa**	**22.63**	**54**			**P**	**04 52 27.1**	**-1.1**
AAK					IAmb	IAmb	04 52 30.3	
	comp=Z,14nm,0.7s							
AAK	**Ala-Archa**	**22.63**	**54**	⇑	*i*P	**P**	**04 52 28.7**	**+0.5**
AAK					pmax	pmax		
	comp=Z,8.0nm,0.9s							
MLR	**Muntele Rosu**	**22.76**	**314**		P	**P**	**04 52 30.8**	**+1.3**
ITM	**Ithomi**	**23.24**	**291**		P	**P**	**04 52 35.5**	**+1.1**
ITM					IAmb	IAmb	04 52 46.7	
	comp=Z,23nm,1.3s							
VOIR		**23.29**	**313**		P	**P**	**04 52 36.1**	**+1.2**
	comp=Z,7.6nm,0.8s							
AK07	**Malin Array Si**	**23.99**	**327**		P	**P**	**04 52 41.7**	**+0.2**
AK09	**Malin Array Si**	**24.00**	**327**		P	**P**	**04 52 41.6**	**0.0**
AK10	**Malin Array Si**	**24.00**	**327**		P	**P**	**04 52 41.4**	**-0.2**
AK06	**Malin Array Si**	**24.02**	**327**		P	**P**	**04 52 42.0**	**+0.2**
AK08	**Malin Array Si**	**24.02**	**327**		P	**P**	**04 52 41.8**	**0.0**
AK05	**Malin Array Si**	**24.04**	**327**		P	**P**	**04 52 42.5**	**+0.5**
AK02	**Malin Array Si**	**24.06**	**327**		P	**P**	**04 52 42.4**	**+0.2**
AK12	**Malin Array Si**	**24.08**	**327**		P	**P**	**04 52 42.3**	**0.0**
AK01	**Malin Array Si**	**24.08**	**327**		P	**P**	**04 52 42.7**	**+0.3**
AKASG	**Malin Array Be**	**24.09**	**327**		P	**P**	**04 52 43.0**	**+0.6**
AKASG	**Malin Array Be**	**24.09**	**327**		P	**P**	**04 52 42.6**	**+0.2**
	comp=Z,6.0nm,0.4s,baz=130,slow=7.4,SNR=13							
	comp=Z,6.0nm,0.4s							
AKASG	**Malin Array Be**	**24.09**	**327**	*ce*	P	**P**	**04 52 43.0**	**+0.6**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.3s							
AKBB	**Malin Array Si**	**24.09**	**327**		P	**P**	**04 52 42.5**	**+0.1**
AKBB					IAmb	IAmb	04 52 51.1	
	comp=Z,5.6nm,0.8s							
AKBB	**Malin Array Si**	**24.09**	**327**	*eP*		**P**	**04 52 42.2**	**-0.2**
AKBB					pmax	pmax		
	comp=Z,4.0nm,0.3s							
KIEV	**Kiev**	**24.09**	**327**		P	**P**	**04 52 42.5**	**+0.1**
KIEV	**Kiev**	**24.09**	**327**		P	**P**	**04 52 42.5**	**+0.1**
KIEV					pmax	pmax		
	comp=Z,5.0nm,0.9s							
AK14	**Malin Array Si**	**24.09**	**327**		P	**P**	**04 52 42.5**	**+0.1**
AK11	**Malin Array Si**	**24.10**	**327**		P	**P**	**04 52 42.1**	**-0.4**
AK13	**Malin Array Si**	**24.10**	**327**		P	**P**	**04 52 42.7**	**+0.2**
AK03	**Malin Array Si**	**24.11**	**328**		P	**P**	**04 52 42.6**	**0.0**
AK16	**Malin Array Si**	**24.12**	**327**		P	**P**	**04 52 42.5**	**-0.2**
AK04	**Malin Array Si**	**24.13**	**327**		P	**P**	**04 52 42.9**	**+0.1**
AK17	**Malin Array Si**	**24.15**	**327**		P	**P**	**04 52 43.1**	**+0.1**
AK18	**Malin Array Si**	**24.17**	**327**		P	**P**	**04 52 43.6**	**+0.4**
AK22	**Malin Array Si**	**24.20**	**327**		P	**P**	**04 52 43.9**	**+0.5**
AK19	**Malin Array Si**	**24.20**	**327**		P	**P**	**04 52 43.9**	**+0.5**
AK20	**Malin Array Si**	**24.21**	**327**		P	**P**	**04 52 44.3**	**+0.7**
AK21	**Malin Array Si**	**24.22**	**327**		P	**P**	**04 52 44.0**	**+0.4**
AK21						pP	**pP**	**04 52 47.2**	**-2.7**
FNA	**Florina**	**24.23**	**300**		P	**P**	**04 52 44.8**	**+0.9**
FNA	**Florina**	**24.23**	**300**		P	**P**	**04 52 44.8**	**+0.9**
LUBAR	**Lubar, Ukraine**	**24.26**	**325**		P	**P**	**04 52 43.9**	**-0.1**
LUBAR						pP	**pP**	**04 52 47.5**	**-2.8**
BURAR	**Bucovina Array**	**24.27**	**318**		P	**P**	**04 52 45.3**	**+1.0**
MI28	**Mi28,Pidlybu**	**24.97**	**326**		P	**P**	**04 52 51.0**	**+0.6**
OBN	**Obninsk**	**25.01**	**342**	*e*	P	**P**	**04 52 51.9**	**+1.2**
OBN				*e*			04 53 24.6	
OBN				*e*	PPP	PPP	04 53 32.1	
OBN				*e*			04 56 27.2	
OBN					pmax	pmax		
	comp=Z,7.0nm,0.8s							
MOS	**Moscow**	**25.32**	**344**	*e*	P	**P**	**04 52 53.6**	**+0.1**
ARTI	**Arti**	**25.36**	**12**	*c*	P	**P**	**04 52 55.5**	**+1.6**
ARTI							04 53 29.3	
ARTI					S	**S**	**04 57 23.6**	**+4.4**
ARTI					SS	**SnSn**	**04 58 14.8**	**+3.4**
ARTI					pmax	pmax		
	comp=Z,9.0nm,1.2s							
BVAR	**Borovoye Array**	**26.08**	**29**		P	**P**	**04 53 01.6**	**+1.1**
	comp=Z,2.8nm,0.6s							
	comp=Z,2.8nm,0.6s							
SCTE	**Santa Cesarea**	**26.28**	**297**		P	**P**	**04 53 03.9**	**+1.5**
KOLS	**Kolonicke sedl**	**26.63**	**318**	*e*	P	**P**	**04 53 10.8**	**+5.3**
KOLS	**Kolonicke sedl**	**26.63**	**318**	*e*	P	**P**	**04 53 10.8**	**+5.3**
KIRV	**Kirov**	**26.78**	**0**	*c*	P	**P**	**04 53 07.2**	**+0.5**
NACGM	**Naroch**	**28.11**	**332**	*e*	P	**P**	**04 53 20.2**	**+1.5**
	comp=Z,6.0nm,0.8s,baz=136							
ACER	**Acerenza**	**28.29**	**298**		P	**P**	**04 53 21.1**	**+0.6**
KURBB	**Kurchatov Arra**	**28.58**	**40**		P	**P**	**04 53 24.1**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=244,slow=9.2,SNR=5.0							
	comp=Z,0.8nm,0.5s							
KURK	**Kurchatov**	**28.68**	**40**		P	**P**	**04 53 24.1**	**+0.3**
MK31	**Makanchi Array**	**29.26**	**50**	‖	*e*P	**P**	**04 53 30.6**	**+1.5**
MKAR	**Makanchi Array**	**29.26**	**50**		P	**P**	**04 53 29.4**	**+0.3**
MKAR	**Makanchi Array**	**29.26**	**50**		P	**P**	**04 53 30.2**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=246,slow=9.0,SNR=6.7							
	comp=Z,0.8nm,0.6s							
MKAR	**Makanchi Array**	**29.26**	**50**	*ce*	P	**P**	**04 53 30.3**	**+1.2**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.5s							
RONA	**Rosalia, Austr**	**29.72**	**312**	*i*	P	**P**	**04 53 33.3**	**+0.1**
	comp=Z,2.3nm,0.7s							
KLMR	**Klimovskoe**	**29.78**	**350**	*e*	P	**P**	**04 53 32.1**	**-1.3**
KLMR					pmax	pmax		
	comp=Z,16nm,1.4s							
ARSA	**Arzberg**	**30.07**	**311**	*i*	P	**P**	**04 53 37.7**	**+1.4**
	comp=Z,3.0nm,0.8s							
MYKA	**Terra Mystica**	**31.12**	**309**	*i*	P	**P**	**04 53 45.7**	**+0.1**
	comp=Z,2.1nm,0.6s							
BIOA	**Bad Ischl, Aus**	**31.42**	**311**	*i*	P	**P**	**04 53 49.3**	**+1.1**
	comp=Z,2.8nm,0.4s							
KBA	**Koelnbreinsper**	**31.44**	**310**	*i*	P	**P**	**04 53 50.4**	**+1.9**
	comp=Z,4.7nm,0.6s							
ABTA	**Abfaltersbach**	**31.90**	**309**	*i*	P	**P**	**04 53 53.0**	**+0.5**
	comp=Z,4.2nm,0.8s							
KHC	**Kasperske Hory**	**31.91**	**313**	*i*	P	**P**	**04 53 52.9**	**+0.4**
KHC					pmax	pmax		
	comp=Z,2.0nm,1.0s							
LESA	**Schwarzleotal**	**31.97**	**310**	*i*	P	**P**	**04 53 53.8**	**+0.7**
	comp=Z,3.0nm,0.4s							
WTTA	**Wattenberg**	**32.61**	**309**	*i*	P	**P**	**04 53

KK31				⇑S		Sn	04 52 24.5	+1.6		
	2.9nm,0.2s,baz=184,slow=17,SNR=19									
AAK	**Ala-Archa**	**5.85**	**24**	⇑P		Pn	04 51 17.2	+0.5		
	1.4nm,0.4s									
AAK				⇓S		Sn	04 52 25.1	+0.5		
	5.2nm,0.6s									
AB31	**Akbulak array**	**14.47**	**329**	⇓P		Pn	04 53 10.9	-3.7		
	0.6nm,0.5s,baz=163,slow=10,SNR=5.6									

IDC 09 04:52:24.8±2.0, 0°.75N×125°.56E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=190.2km s-min=26.8km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.29**	**158**	P	P	04 57 24.1	+0.2
	2.4nm,0.4s,baz=336,slow=10,SNR=27						
	2.4nm,0.4s						
ASAR	**Alice Springs**	**25.59**	**162**	P	P	04 57 55.6	-0.2
	0.4nm,0.4s,baz=347,slow=6.9,SNR=5.8						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**59.36**	**327**	P	P	05 02 28.9	0.0
	0.3nm,0.4s,baz=110,slow=7.8,SNR=4.1						
	0.3nm,0.4s						

*IDC **09** 04:59:24.7±1.6, 0°.71N×126°.46E, h0km, mb3.9/4, mbtmp3.9/4, MS3.8/5, Error ellipse: s-maj=173.1km s-min=20.2km az=66.0*
*DJA **09** 04:59:28.3±1.0, 1°.1N±4°×12°.6E±°, h14km±8km, M3.4/7, MLv3.4/7*
ISC 09 04:59:30.8±1.2, 0°.6N±0°.1×126°.4E±0°.1, h47km, n11, σ1§07/7, mb3.9/4, MS3.8/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.01**	**78**	P	**Pn**	**04 59 47.8**	**-0.8**
TNTI				S	**Sn**	**05 00 02.0**	**+0.3**
SANI	**Sanana**	**2.62**	**189**	P	**Pn**	**05 00 09.8**	**-0.8**
WRA	**Warramunga Arr**	**21.82**	**159**	P	**P**	**05 04 19.1**	**0.0**
	1.6nm,0.7s,baz=338,slow=11,SNR=19						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**25.17**	**164**	P	**P**	**05 04 53.7**	**+1.8**
	1.3nm,0.7s,baz=342,slow=10,SNR=12						
	1.3nm,0.7s						
ASAJ	**Asahikawa**	**45.71**	**16**	LR	LR	05 27 21.5	
	comp=Z,119nm,21.6s,baz=166,slow=37						
MKAR	**Makanchi Array**	**59.97**	**326**	P	**P**	**05 09 32.4**	**0.0**
	0.9nm,0.4s,baz=120,slow=7.5,SNR=17						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**64.22**	**328**	P	**P**	**05 10 00.8**	**0.0**
	1.3nm,0.6s,baz=130,slow=6.0,SNR=12						
	1.3nm,0.6s						
TIXI	**Tiksi**	**71.00**	**1**	LR	LR	05 42 26.3	
	comp=Z,53nm,21.6s,baz=176,slow=36						
ASF	**Jabal al Asfar**	**89.27**	**302**	LR	LR	05 57 16.5	
	comp=Z,38nm,19.2s,baz=243,slow=39						
MMAI	**Mount Meron Ar**	**90.52**	**303**	LR	LR	05 58 34.9	
	comp=Z,28nm,19.9s,baz=174,slow=39						
MLR	**Muntele Rosu**	**96.92**	**316**	LR	LR	06 04 28.1	
	comp=Z,65nm,18.7s,baz=140,slow=40						

*SCB **09** 05:19:21.5±1.2, 22°.79S×67°.31W, h144km±43km, ML2.4/1, Error ellipse: s-maj=11.6km s-min=6.4km az=0.0*
*SJA **09** 05:19:37.7±1.0, 22°.28S×68°.89W, h128km±5km, ML3.4, MW3.5*
*GUC **09** 05:19:39.7±0.6, 22°.24S×68°.87W, h117km±3km, ML3.1*
ISC 09 05:19:38.4±1.5, 22°.26S±0°.04×68°.90W±0°.06, h126km±10km, n29, σ0§59/38, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.56**	**326**	*e*P	**Pn**	**05 19 57.9**	**+0.2**
PB09				*i* S	**Sn**	**05 20 11.6**	**-0.5**
PB09				IAML		05 20 13.1	
	comp=N,1μm,0.4s						
PB09	**IPOC Station P**	**0.56**	**326**	*e*P	**Pn**	**05 19 58.3**	**+0.7**
PB09				*e*S	**Sn**	**05 20 12.3**	**+0.2**
PB09				IAML		05 20 12.7	
	comp=Z,1μm,0.3s						
PB09	**IPOC Station P**	**0.56**	**326**	Pg	**Pn**	**05 19 57.7**	**+0.1**
PB06	**IPOC Station P**	**0.76**	**234**	*e*P	**Pn**	**05 19 59.3**	**+0.3**
PB06				*i* S	**Sn**	**05 20 14.7**	**0.0**
PB06				IAML		05 20 15.7	
	comp=E,870nm,0.3s						
PB06	**IPOC Station P**	**0.76**	**234**	*e*P	**Pn**	**05 19 59.4**	**+0.3**
PB06				*e*S	**Sn**	**05 20 14.9**	**+0.2**
PB06				IAML		05 20 15.8	
	comp=Z,316nm,0.3s						
PB06	**IPOC Station P**	**0.76**	**234**	Pg	**Pn**	**05 19 59.0**	**-0.1**
AF01	**San Pedro de A**	**0.96**	**136**	*e*P	**Pn**	**05 20 01.0**	**0.0**
AF01				*i* S	**Sn**	**05 20 17.8**	**-0.2**
AF01	**San Pedro de A**	**0.96**	**136**	*e*P	**Pn**	**05 20 01.0**	**0.0**
PB01	**IPOC Station P**	**1.32**	**336**	*e*P	**Pn**	**05 20 04.1**	**-0.3**
PB01				*i* S	**Sn**	**05 20 23.4**	**-0.8**
PB01				IAML		05 20 24.4	
	comp=E,662nm,0.2s						
PB01	**IPOC Station P**	**1.32**	**336**	*e*P	**Pn**	**05 20 04.4**	**-0.1**
PB01	**IPOC Station P**	**1.32**	**336**	Pg	**Pn**	**05 20 04.7**	**+0.3**
PB05	**IPOC Station P**	**1.34**	**244**	*e*P	**Pn**	**05 20 05.0**	**+0.4**
PB05				*i* S	**Sn**	**05 20 24.5**	**+0.1**
PB05				IAML		05 20 26.1	
	comp=N,311nm,0.3s						
PB05	**IPOC Station P**	**1.34**	**244**	*e*P	**Pn**	**05 20 05.2**	**+0.6**
PB05	**IPOC Station P**	**1.34**	**244**	Pg	**Pn**	**05 20 04.8**	**+0.2**
PB10	**IPOC Station P**	**1.97**	**230**	*e*P	**Pn**	**05 20 12.4**	**+0.5**
PB10				*i* S	**Sn**	**05 20 36.6**	**-0.8**
PB10				IAML		05 20 38.0	
	comp=E,114nm,0.3s						
PB10	**IPOC Station P**	**1.97**	**230**	*e*P	**Pn**	**05 20 12.2**	**+0.4**
TA01	**Diego Aracena**	**2.06**	**325**	*i* S	**Sn**	**05 20 38.6**	**-0.8**
TA01	**Diego Aracena**	**2.06**	**325**	*e*P	**Pn**	**05 20 13.8**	**+0.8**
PB08	**IPOC Station P**	**2.12**	**354**	*e*P	**Pn**	**05 20 14.6**	**+0.6**
PB08				*i* S	**Sn**	**05 20 41.4**	**+0.1**
PB08				IAML		05 20 45.8	
	comp=E,60nm,0.3s						
PB08	**IPOC Station P**	**2.12**	**354**	*e*P	**Pn**	**05 20 14.8**	**+0.7**
PB08	**IPOC Station P**	**2.12**	**354**	Pg	**Pn**	**05 20 12.3**	**-1.8**
PB11	**IPOC Station P**	**2.58**	**344**	*e*P	**Pn**	**05 20 20.6**	**+0.9**
GO01	**Chusmiza**	**2.59**	**354**	*e*P	**Pn**	**05 20 20.6**	**+0.5**
PB14	**IPOC Station P**	**2.73**	**210**	*e*P	**Pn**	**05 20 22.3**	**+0.6**
GO02	**Mina Guanaco**	**2.96**	**192**	*e*P	**Pn**	**05 20 25.0**	**+0.3**
GO02	**Mina Guanaco**	**2.96**	**192**	*e*P	**Pn**	**05 20 24.9**	**+0.2**
AZAP	**Zapla**	**4.04**	**120**	*e*P	**Pn**	**05 20 39.5**	**+0.7**
AC01	**Pan de Azucar**	**4.17**	**201**	*e*P	**Pn**	**05 20 39.3**	**-1.1**
AC02	**Maricunga**	**4.56**	**183**	*e*P	**Pn**	**05 20 46.2**	**+0.1**

IDC 09 05:21:07.8±17.0, 6°.19S×129°.24E, h133km±182km, mb3.3/1, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=138.3km s-min=57.3km az=43.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.35**	**196**	P	Pn	05 23 59.5	+0.3
	0.8nm,0.3s,baz=28,slow=12,SNR=37						
FITZ				S	Sn	05 26 05.5	-10
	2.4nm,0.3s,baz=108,slow=22,SNR=7.8						
	2.4nm,0.3s						
WRA	**Warramunga Arr**	**14.54**	**161**	P	Pn	05 24 26.9	-0.5
	0.2nm,0.3s,baz=341,slow=13,SNR=14						
WRA				S	Sn	05 26 54.5	-14
	0.2nm,0.5s,baz=331,slow=22,SNR=1.6						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**17.95**	**166**	P	P	05 25 07.9	+0.1
	0.3nm,0.3s,baz=347,slow=11,SNR=20						
ASAR				S	S	05 28 09.9	-17
	0.7nm,1.0s,baz=346,slow=22,SNR=2.0						
	1.4nm,0.5s						
MKAR	**Makanchi Array**	**67.14**	**327**	P	P	05 31 47.3	0.0
	0.3nm,0.3s,baz=139,slow=7.3,SNR=5.3						
	0.3nm,0.3s						

*NEIC **09** 05:28:15.2±1.5, 35°.69N±0°.01×117°.51W±0°.01, h10km±1km, Error ellipse: s-maj=2.9km s-min=2.0km az=172.0*
PAS 09 05:28:15.8±1.2, 35°.68N±0°.01×117°.54W±0°.02, h10km±5km, ML3.0/19, ML2.7/82(NEIC), Error ellipse: s-maj=2.5km s-min=1.5km az=224.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.14**	**340**		Pg	05 28 19.1	0.0
CLC					IAML	05 28 21.7	
	comp=N,5μm,0.5s						
CLC					IAML	05 28 21.8	
	comp=E,4μm,0.5s						
SRTC	**Snort**	**0.17**	**273**		Pg	05 28 19.9	+0.3
CCCA	**Chr Cany lake**	**0.21**	**138**		Pg	05 28 20.5	+0.2
TOW	**Tower One**	**0.22**	**304**		Pg	05 28 20.7	+0.3
LRMC	**Laurel Mtn Rad**	**0.23**	**210**		Pg	05 28 20.6	-0.1
WNMM	**Nine Mile Cany**	**0.34**	**298**		Pg	05 28 22.4	-0.2
WVPM	**Volcano Peak E**	**0.35**	**320**		Pg	05 28 22.6	-0.2
WVPM					Sg	05 28 27.7	+0.2
JRC2	**Joshua Ridge**	**0.37**	**324**		Pg	05 28 23.0	-0.2
MPMC	**Manual Prospec**	**0.38**	**6**	IAML		05 28 29.1	
	comp=N,757nm,0.6s						
MPMC				IAML		05 28 29.7	
	comp=E,623nm,0.6s						
QSM	**Queen of Sheba**	**0.61**	**63**		Pg	05 28 27.4	-0.4
QSM				IAML		05 28 38.8	
	comp=E,508nm,0.5s						
QSM				IAML		05 28 38.8	
	comp=N,638nm,0.7s						
GSC	**Goldstone, Bar**	**0.71**	**122**		Pg	05 28 29.1	-0.4
GSC				IAML		05 28 38.9	
	comp=N,494nm,0.4s						
GSC				IAML		05 28 39.1	
	comp=E,575nm,0.5s						
ISA	**Isabella, Lake**	**0.76**	**269**		Pg	05 28 29.9	-0.7
ISA				IAML		05 28 41.7	
	comp=N,233nm,0.2s						
ISA				IAML		05 28 42.2	
	comp=E,230nm,0.3s						
GWY	**Greenwater Val**	**0.86**	**54**		Pg	05 28 31.9	-0.6
GWY				IAML		05 28 44.8	
	comp=N,254nm,0.5s						
GWY				IAML		05 28 48.2	
	comp=E,384nm,0.5s						
CWC	**Cottonwood Cre**	**0.87**	**330**		Pg	05 28 32.4	-0.3
CWC				IAML		05 28 45.0	
	comp=N,146nm,0.2s						
TPO	**Tropico Hills**	**0.98**	**215**		Pg	05 28 34.2	-0.5
AMDNV	**Amargosa**	**1.27**	**53**		Pn	05 28 38.1	-1.7
GRAC	**Grapevine Rang**	**1.32**	**6**		Pn	05 28 39.8	-0.6
GRAC				IAML		05 29 02.8	
	comp=E,103nm,0.5s						
GRAC				IAML		05 29 05.0	
	comp=N,125nm,0.8s						
WCT	**Wildcat Mounta**	**1.33**	**33**		Pn	05 28 39.4	-1.2
WCT				IAML		05 28 59.8	
	comp=E,130nm,0.5s						
WCT				IAML		05 28 59.9	
	comp=N,86nm,0.7s						
TUQ	**Turquoise Moun**	**1.34**	**100**		Pn	05 28 39.6	-1.2
BFSC	**Mount Baldy Ra**	**1.45**	**184**		Pn	05 28 42.2	0.0
BFSC				IAML		05 29 02.7	
	comp=E,103nm,0.3s						
BFSC				IAML		05 29 04.9	
	comp=N,72nm,0.5s						
MWC	**Mount Wilson**	**1.52**	**196**		Pn	05 28 43.5	+0.3
MWC				IAML		05 29 08.9	
	comp=E,89nm,0.5s						
MWC				IAML		05 29 09.5	
	comp=N,125nm,0.5s						
PASC	**Pasadena Art C**	**1.60**	**200**	IAML		05 29 10.3	
	comp=E,80nm,0.5s						
PASC				IAML		05 29 13.5	
	comp=N,89nm,0.4s						
GMN	**Gold Mountain**	**1.63**	**8**		Pn	05 28 44.2	-0.6
MTPC	**Mountain Pass**	**1.63**	**96**		Pn	05 28 43.1	-1.7
MTPC	**Mountain Pass**	**1.63**	**96**	IAML		05 29 07.7	
	comp=E,69nm,0.3s						
MTPC				IAML		05 29 08.3	
	comp=N,78nm,0.3s						
TPNV	**Topopah Spring**	**1.64**	**39**		Pn	05 28 44.7	-0.2
TPNV				IAML		05 29 11.9	
	comp=N,87nm,0.7s						
TPNV				IAML		05 29 12.6	
	comp=N,115nm,0.6s						
DSP	**Deep Springs**	**1.72**	**348**		Pn	05 28 45.1	-0.7
MZP	**Montezuma Peak**	**2.02**	**3**		Pn	05 28 49.9	-0.3
ELS	**Elsinore Mount**	**2.03**	**177**		Pn	05 28 48.6	-1.7
ELS				IAML		05 29 23.3	
	comp=E,36nm,0.5s						
V12A	**Nelson**	**2.19**	**88**		Pn	05 28 52.0	-0.4
V12A				IAML		05 29 31.6	
	comp=E,33nm,0.5s						
V12A				IAML		05 29 31.9	
	comp=N,29nm,0.5s						
PMD	**Palm Desert**	**2.25**	**154**		Pb	05 28 55.0	-1.5
PMD				IAML		05 29 29.6	
	comp=E,29nm,0.5s						
SNDA	**J Saunders Pla**	**2.26**	**160**		Pn	05 28 52.6	-0.8
TPH	**Tonopah**	**2.40**	**6**		Pn	05 28 55.9	+0.4
TPH				IAML		05 29 38.2	
	comp=E,57nm,1.0s						
TPH				IAML		05 29 42.6	
	comp=N,73nm,0.7s						
SBI	**Santa Barbara**	**2.52**	**210**		Pn	05 28 58.2	+1.4
NEE2	**Needles Airpor**	**2.56**	**110**		Pn	05 28 55.0	-2.4
NEE2				IAML		05 29 38.4	
	comp=N,62nm,0.4s						
NEE2				IAML		05 29 40.5	
	comp=E,67nm,0.4s						
LHV	**Little Huntoon**	**2.68**	**343**		Pn	05 28 59.2	+0.2
DPP	**Dos Picos Cty**	**2.72**	**169**	Pn	Pn	05 28 58.4	-1.3
DPP				IAML		05 29 40.9	
	comp=E,32nm,0.4s						
NV11	**Mina Array Sit**	**2.79**	**350**		Pn	05 29 00.3	-0.4
NVAR	**Mina Array Bea**	**2.81**	**348**	Pn	Pn	05 29 01.3	+0.2

*ASRS **09** 05:59:33.0±0.9, 54°.11N×86°.41E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 09 05:59:35.3±3.0, 54°.16N×86°.48E, h0km, mbtmp3.1/2, ML2.4/2, Error ellipse: s-maj=23.7km s-min=13.9km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**258**	I	I	06 06 10.0	
	baz=80,slow=317,SNR=5.5						
ZALV	**Zalesovo Beam**	**1.00**	**258**	Pg	Pg	05 59 53.4	-1.1
	1.1nm,0.3s,baz=74,slow=17,SNR=5.4						
ZALV				Lg	Lg	06 00 08.8	
	1.3nm,0.3s,baz=76,slow=30,SNR=5.6						
KURBB	**Kurchatov Arra**	**6.02**	**237**	Pn	Pn	06 01 06.4	+0.8
	baz=55,slow=14,SNR=1.7						
	1.1nm,0.2s						
MKAR	**Makanchi Array**	**7.84**	**202**	Pn	Pn	06 01 31.8	+1.1
	0.2nm,0.3s,baz=19,slow=14,SNR=5.1						
MKAR				Lg	Lg	06 03 44.9	
	baz=23,slow=26,SNR=3.2						
	0.2nm,0.3s						

*ASRS **09** 06:07:06.0±1.6, 53°.59N×87°.99E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 09 06:07:07.5±3.7, 53°.64N×87°.99E, h0km, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=37.7km s-min=17.2km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**281**	I	I	06 18 40.0	
	0.1nm,0.8s,baz=99,slow=312,SNR=6.4						
ZALV	**Zalesovo Beam**	**1.91**	**281**	Pg	Pn	06 07 41.5	+0.3
	3.6nm,0.3s,baz=100,slow=16,SNR=25						
ZALV				Lg	Lg	06 08 08.1	
	8.4nm,0.3s,baz=95,slow=31,SNR=18						
KURBB	**Kurchatov Arra**	**6.56**	**246**	Pn	Pn	06 08 45.9	+0.8
	0.3nm,0.3s,baz=63,slow=14,SNR=13						
	1.2nm,0.3s						
MKAR	**Makanchi Array**	**7.77**	**210**	Pn	Pn	06 09 02.8	+1.0
	0.4nm,0.3s,baz=30,slow=14,SNR=13						
	0.4nm,0.3s						

*SJA **09** 06:12:30.7±0.8, 34°.96S×70°.86W, h119km±4km, ML3.7, MW3.8*
*IDC **09** 06:12:32.4±3.5, 34°.78S×70°.97W, h80km±34km, mb3.4/6, mbtmp3.6/8, Error ellipse: s-maj=45.5km s-min=18.1km az=86.0*
*NEIC **09** 06:12:33.6±0.9, 34°.89S±0°.02×71°.12W±0°.09, h106km±8km, mb4.1/5, ML4.0(GUC), Error ellipse: s-maj=11.0km s-min=3.5km az=92.0*
*GUC **09** 06:12:33.8±0.8, 34°.88S×71°.07W, h106km±2km, ML4.0*
ISC 09 06:12:33.7±0.6, 34°.90S±0°.03×71°.00W±0°.04, h104km±4km, n95, σ1§31/140, mb3.9/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO02	**Sierra Bellavi**	**0.21**	**59**	*e*P	**Pn**	**06 12 48.5**	**0.0**
BO02	**Sierra Bellavi**	**0.21**	**59**	*e*P	**Pn**	**06 12 48.5**	**0.0**
BO02				*i* S	**Sn**	**06 12 59.7**	**+0.1**
BO02	**Sierra Bellavi**	**0.21**	**59**	*e*P	**Pn**	**06 12 48.3**	**-0.2**
BO02				*e*S	**Sn**	**06 13 00.4**	**+0.9**
BO01	**Tunca**	**0.51**	**352**		**Pn**	**06 12 49.6**	**-0.4**
BO01				Sn	**Sn**	**06 13 01.5**	**-0.7**
BO01	**Tunca**	**0.51**	**352**	*e*P	**Pn**	**06 12 49.5**	**-0.4**
BO01				*i* S	**Sn**	**06 13 01.3**	**-0.9**
BO01				IAML		06 13 02.2	
	comp=N,5μm,0.1s						
BO01	**Tunca**	**0.51**	**352**	*e*P	**Pn**	**06 12 49.3**	**-0.7**
BO01				*e*S	**Sn**	**06 13 01.7**	**-0.5**
BO01				IAML		06 13 01.9	
	comp=Z,3μm,0.2s						
GO05	**Hualane**	**0.77**	**262**	*e*P	**Pn**	**06 12 51.8**	**-0.4**
GO05				*i* S	**Sn**	**06 13 05.2**	**-0.7**
GO05				IAML		06 13 06.8	
	comp=E,6μm,0.3s						
BO03	**Pichilemu**	**0.89**	**297**	*e*P	**Pn**	**06 12 53.3**	**0.0**
BO03				*i* S	**Sn**	**06 13 07.5**	**-0.5**
BO03				IAML		06 13 10.2	
	comp=E,4μm,0.4s						
ML02	**Panimavida**	**0.92**	**201**		**Pn**	**06 12 53.5**	**-0.1**
ML02				Sn	**Sn**	**06 13 08.8**	**+0.2**
ML02	**Panimavida**	**0.92**	**201**	*e*P	**Pn**	**06 12 53.5**	**-0.1**
ML02				*i* S	**Sn**	**06 13 08.8**	**+0.2**
ML02				IAML		06 13 10.6	
	comp=E,3μm,0.5s						
ML02	**Panimavida**	**0.92**	**201**	*e*P	**Pn**	**06 12 52.5**	**-1.1**
ML02				IAML		06 13 11.2	
	comp=Z,1μm,0.3s						
BO04	**La Punta**	**0.97**	**20**		**Pn**	**06 12 54.3**	**+0.1**
BO04				Sn	**Sn**	**06 13 09.8**	**+0.3**
BO04	**La Punta**	**0.97**	**20**	*e*P	**Pn**	**06 12 54.0**	**-0.2**
BO04				*i* S	**Sn**	**06 13 09.6**	**0.0**
BO04				IAML		06 13 10.9	
	comp=N,5μm,0.4s						
MT01	**Popeta**	**1.06**	**349**		**Pn**	**06 12 54.6**	**-0.5**
MT01				Sn	**Sn**	**06 13 10.0**	**-1.0**
MT01	**Popeta**	**1.06**	**349**	*e*P	**Pn**	**06 12 54.6**	**-0.5**
MT01				*i* S	**Sn**	**06 13 09.8**	**-1.3**
MT01	**Popeta**	**1.06**	**349**	*e*P	**Pn**	**06 12 53.7**	**-1.3**
MT01				*e*S	**Sn**	**06 13 10.1**	**-1.0**
MT01				IAML		06 13 12.2	
	comp=Z,3μm,0.1s						
MT09	**Talagante**	**1.12**	**1**		**Pn**	**06 12 55.8**	**-0.2**
MT09				Sn	**Sn**	**06 13 12.2**	**-0.5**
MT09	**Talagante**	**1.12**	**1**	*e*P	**Pn**	**06 12 55.7**	**-0.2**
MT09				*i* S	**Sn**	**06 13 12.2**	**-0.5**
LMEL	**Las Melosas**	**1.24**	**32**		**Pn**	**06 12 58.2**	**+0.9**
LMEL	**Las Melosas**	**1.24**	**32**	*e*P	**Pn**	**06 12 57.7**	**+0.3**
LMEL				*i* S	**Sn**	**06 13 16.3**	**+1.2**
LMEL				IAML		06 13 19.8	
	comp=E,4μm,0.2s						
LMEL	**Las Melosas**	**1.24**	**32**	*e*P	Pn	06 12 52.6	-4.7
LMEL				*e*S	**Sn**	**06 13 16.7**	**+1.6**
VA05	**Santo Domingo**	**1.34**	**338**		**Pn**	**06 12 57.9**	**-0.4**
VA05				Sn	**Sn**	**06 13 16.6**	**-0.3**
VA05	**Santo Domingo**	**1.34**	**338**	*e*P	**Pn**	**06 12 57.8**	**-0.4**
VA05				*i* S	**Sn**	**06 13 15.9**	**-0.9**
VA05				IAML		06 13 19.9	
	comp=E,5μm,0.5s						
MT15	**Las Vizcachas**	**1.36**	**18**	*e*P	**Pn**	**06 12 58.5**	**-0.1**
MT15				*i* S	**Sn**	**06 13 17.8**	**+0.4**
MT15				IAML		06 13 18.9	
	comp=N,5μm,0.3s						
MT03	**Universidad Ad**	**1.46**	**16**		**Pn**	**06 12 60.0**	**+0.1**
MT03	**Universidad Ad**	**1.46**	**16**	*e*P	**Pn**	**06 12 59.8**	**-0.1**
MT03				*i* S	**Sn**	**06 13 19.5**	**-0.2**
MT03				IAML		06 13 23.5	
	comp=E,3μm,0.3s						
MT03	**Universidad Ad**	**1.46**	**16**	*e*P	**Pn**	**06 12 59.8**	**-0.1**
MT03				*e*S	**Sn**	**06 13 20.1**	**+0.5**
MT03				IAML		06 13 22.7	
	comp=Z,2μm,0.1s						
MT05	**Renca**	**1.52**	**8**		**Pn**	**06 13 00.7**	**+0.2**
MT05	**Renca**	**1.52**	**8**	*e*P	**Pn**	**06 13 00.5**	**-0.1**
MT05				*i* S	**Sn**	**06 13 21.0**	**+0.1**
MT05				IAML		06 13 23.4	
	comp=E,3μm,0.5s						
MT05	**Renca**	**1.52**	**8**	*e*P	**Pn**	**06 12 59.9**	**-0.7**
MT05				*e*S	**Sn**	**06 13 21.2**	**+0.4**
MT05				IAML		06 13 23.2	
	comp=Z,2μm,0.2s						
MT16	**CCHEN**	**1.52**	**15**		**Pn**	**06 13 00.8**	**+0.2**
MT16	**CCHEN**	**1.52**	**15**	*e*P	**Pn**	**06 13 00.5**	**-0.1**
MT16				*i* S	**Sn**	**06 13 20.9**	**0.0**
MT14	**Cerro Cal¡n**	**1.55**	**15**	*e*P	**Pn**	**06 13 00.9**	**0.0**
MT14				*i* S	**Sn**	**06 13 21.4**	**-0.1**
MT14				IAML		06 13 22.8	
	comp=E,3μm,0.5s						
EDS3	**Malargue**	**1.57**	**124**	*e*P	**Pn**	**06 13 02.1**	**+0.9**
EDS3				*e*S	**Sn**	**06 13 18.6**	**-3.4**
MT02	**Curacav**	**1.64**	**356**		**Pn**	**06 13 01.9**	**-0.1**
MT02	**Curacav**	**1.64**	**356**	*e*P	**Pn**	**06 13 01.6**	**-0.4**
MT02				*i* S	**Sn**	**06 13 22.3**	**-1.1**
MT02	**Curacav**	**1.64**	**356**	*e*P	**Pn**	**06 13 01.7**	**-0.3**
MT02				*e*S	**Sn**	**06 13 23.1**	**-0.3**
MT02				IAML		06 13 23.8	
	comp=Z,557nm,0.2s						
MT04	**Ro Olivares**	**1.66**	**26**	*i* S	**Sn**	**06 13 24.6**	**+0.5**
MT04				IAML		06 13 27.4	
	comp=N,2μm,0.2s						
MT04	**Ro Olivares**	**1.66**	**26**	*e*P	**Pn**	**06 13 01.1**	**-1.3**
MT04				*e*S	**Sn**	**06 13 25.1**	**+1.1**
MT04				IAML		06 13 27.6	
	comp=Z,783nm,0.2s						
MT08	**Bocatoma Ro**	**1.67**	**30**		**Pn**	**06 13 03.3**	**+0.8**
MT08	**Bocatoma Ro**	**1.67**	**30**	*e*P	**Pn**	**06 13 02.9**	**+0.4**
MT08				*i* S	**Sn**	**06 13 24.8**	**+0.5**
MT08	**Bocatoma Ro**	**1.67**	**30**	*e*P	**Pn**	**06 12 59.2**	**-3.3**
MT08				*e*S	**Sn**	**06 13 26.4**	**+2.1**
MT08				IAML		06 13 29.6	
	comp=Z,333nm,0.2s						
MT10	**Hacienda Santa**	**1.67**	**14**	*e*P	**Pn**	**06 13 02.4**	**-0.1**
MT10			

VA03	**San Esteban**	**2.17**	**10**	*eP*		**Pn**	**06 13 08.5**	**-0.2**
VA03				*i* S		**Sn**	**06 13 35.1**	**-0.4**
VA03				IAML			06 13 39.1	
	comp=E,898nm,0.3s							
VA03	**San Esteban**	**2.17**	**10**	*eP*		**Pn**	**06 13 08.6**	**-0.2**
VA03				*eS*		**Sn**	**06 13 32.3**	**-3.1**
VA03				IAML			06 13 38.2	
	comp=Z,487nm,0.3s							
VA06	**Catapilco**	**2.35**	**354**			**Pn**	**06 13 10.5**	**-0.4**
BI05	**Punta Hualpn**	**2.56**	**223**	Pn		**Pn**	**06 13 12.6**	**-1.2**
BI05	**Punta Hualpn**	**2.56**	**223**	*eP*		**Pn**	**06 13 12.5**	**-1.2**
ASAL	**Salagasta**	**2.93**	**39**	*eP*		**Pn**	**06 13 18.8**	**+0.1**
ASAL				*eS*		Sn	06 13 31.8	-22
CANA	**Caviahue**	**2.98**	**181**	*eP*		Pn	06 13 10.1	-9.3
CANA				*eP*			06 13 20.3	
CANA				*eS*		**Sn**	**06 13 50.7**	**-3.9**
RTLS	**Leoncito**	**3.41**	**25**	*eP*		**Pn**	**06 13 26.7**	**+1.4**
RTLS				*eS*		**Sn**	**06 13 56.9**	**-8.2**
RTLS				IAML			06 13 57.5	
	comp=Z,138nm,0.4s							
CO02	**Combarbal**	**3.69**	**0**			**Pn**	**06 13 28.2**	**-0.7**
CO02	**Combarbal**	**3.69**	**0**	*eP*		**Pn**	**06 13 28.0**	**-0.9**
CO02	**Combarbal**	**3.69**	**0**	*eP*		**Pn**	**06 13 28.1**	**-0.8**
CO02				*eS*		**Sn**	**06 14 13.1**	**+1.5**
CO02				IAML			06 14 25.1	
	comp=Z,113nm,0.2s							
ZON	**Zonda**	**3.87**	**31**			**Pn**	**06 13 33.0**	**+1.7**
CO03	**El Pedregal**	**4.06**	**4**	*eP*		**Pn**	**06 13 33.4**	**-0.5**
CO03				*eS*		**Sn**	**06 14 18.8**	**-1.7**
CO03				IAML			06 14 27.1	
	comp=Z,56nm,0.2s							
ACAN	**Cantantal**	**4.12**	**52**	*eP*		**Pn**	**06 13 34.0**	**-0.6**
ACAN				IAML			06 14 44.1	
	comp=Z,64nm,0.6s							
CO06	**Fray Jorge**	**4.25**	**353**			**Pn**	**06 13 35.1**	**-1.3**
ACCO	**Cerro Coronel**	**4.60**	**21**	*eP*		Pn	06 13 35.6	-5.8
ACCO				*eS*		**Sn**	**06 14 36.1**	**+2.2**
GO04	**Tololo Observa**	**4.72**	**2**			**Pn**	**06 13 42.3**	**-0.6**
GO04	**Tololo Observa**	**4.72**	**2**	*eP*		**Pn**	**06 13 41.9**	**-1.0**
GO04				*eS*		**Sn**	**06 14 34.4**	**-2.3**
CO01	**Juntas del Tor**	**4.97**	**9**			**Pn**	**06 13 46.2**	**-0.2**
ACDV	**Cuesta del Vie**	**4.98**	**19**	*eP*		**Pn**	**06 13 46.6**	**+0.3**
PLCA	**Paso Flores**	**5.83**	**177**	P		**Pn**	**06 13 57.8**	**0.0**
	comp=Z,1.5nm,0.6s,baz=346,slow=15,SNR=18							
LCO	**Las Campanas**	**5.88**	**3**	Pn		**Pn**	**06 13 58.2**	**-0.5**
AC04	**Llanos de Chal**	**6.68**	**359**	Pn		**Pn**	**06 14 07.9**	**-1.4**
TRQA	**Tornquist**	**7.92**	**116**			**Pn**	**06 14 25.4**	**-0.7**
AC02	**Maricunga**	**8.20**	**12**	Pn		**Pn**	**06 14 30.6**	**+0.2**
PLTB	**Pedras Altas**	**14.88**	**83**	Pn		**Pn**	**06 15 59.2**	**+0.5**
PB11	**IPOC Station P**	**15.13**	**5**	Pn		**Pn**	**06 16 01.0**	**-1.1**
PB11				IAmb	IAmb		06 16 33.8	
	comp=Z,25nm,1.4s							
ITAB	**Concordia**	**17.87**	**70**	P		**P**	**06 16 33.5**	**-1.3**
ITAB				IAmb	IAmb		06 16 56.2	
	comp=Z,19nm,1.5s							
LPAZ	**La Paz**	**18.72**	**9**	P		**P**	**06 16 43.3**	**-1.6**
LPAZ	**La Paz**	**18.72**	**9**	P		**Pn**	**06 16 45.3**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=166,slow=8.3,SNR=5.3							
EFI	**East Falkland**	**19.18**	**155**	P		**P**	**06 16 47.5**	**-1.4**
AQDB	**Aquidauana**	**19.72**	**47**	P		**P**	**06 16 55.0**	**0.0**
AQDB				IAmb	IAmb		06 16 56.4	
	comp=Z,7.5nm,1.3s							
USHA	**Ushuaia**	**20.01**	**176**	P		Pn	06 16 59.8	-0.8
	comp=Z,2.4nm,0.6s,baz=2.8,slow=8.6,SNR=2.3							
	comp=Z,2.4nm,0.6s							
SIV	**San Ignacio**	**20.83**	**28**	P		**P**	**06 17 05.4**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=239,slow=8.3,SNR=3.6							
	comp=Z,0.5nm,0.7s							
SNAA	**Sanae**	**50.43**	**158**	P		**P**	**06 21 23.5**	**+3.2**
	comp=Z,1.3nm,0.7s,baz=270,slow=8.3,SNR=5.0							
	comp=Z,1.3nm,0.7s							
QSPA	**South Pole Qui**	**55.34**	**180**	P		**P**	**06 21 57.5**	**+1.0**
	comp=Z,1.8nm,1.2s,baz=45,slow=2.9,SNR=1.4							
	comp=Z,1.8nm,1.2s							
TXAR	**Lajitas Array**	**70.94**	**330**	P		**P**	**06 23 40.8**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=156,slow=9.0,SNR=9.5							
	comp=Z,0.3nm,0.5s							
BOSA	**Boshof**	**78.90**	**117**	P		**P**	**06 24 27.0**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=170,slow=6.1,SNR=1.0							
	comp=Z,1.1nm,0.7s							

*IDC **09** 06:13:54.2±0.9,33°.62N×87°.53E,h0km,mb3.8/6, mbtmp3.9/8,ML3.0/1,MS3.2/2,Error ellipse: s-maj=45.4km s-min=19.4km az=52.0*

ISC 09 06:13:59.5±1.0,33°.6N±0°.1×87°.6E±0°.2,h35km,n11, σ0s92/10,mb4.0/5,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.78**	**345**	Pn	**Pn**	**06 17 13.6**	**+1.4**
	0.1nm,0.3s,baz=145,slow=15,SNR=6.4						
CMAR	**Chiang Mai Arr**	**18.19**	**143**	P	**P**	**06 18 09.8**	**+0.5**
	0.9nm,0.3s,baz=332,slow=14,SNR=6.1						
KURBB	**Kurchatov Arra**	**18.26**	**341**	P	**P**	**06 18 09.2**	**-0.6**
	baz=153,slow=11,SNR=11						
	2.2nm,0.8s						
SONM	**Songino Array**	**20.07**	**39**	P	**P**	**06 18 28.8**	**-1.1**
	0.3nm,0.4s,baz=239,slow=12,SNR=3.6						
	0.3nm,0.4s						
ASF	**Jabal al Asfar**	**42.23**	**283**	LR	LR	06 40 35.9	
	comp=Z,22nm,18.9s,baz=188,slow=38						
FINES	**FINESS Array B**	**47.59**	**325**	P	**P**	**06 22 31.4**	**-0.1**
	2.5nm,1.0s,baz=97,slow=11,SNR=4.2						
FINES				LR	LR	06 42 47.1	
	comp=Z,26nm,18.9s,baz=20,slow=36						
	2.5nm,1.0s						
HFS	**Hagfors**	**53.64**	**323**	P	**P**	**06 23 16.9**	**-0.3**
	6.0nm,1.2s,baz=92,slow=10,SNR=2.1						
	6.0nm,1.2s						
GERES	**GERESS Array B**	**55.48**	**310**	P	**P**	**06 23 30.7**	**-0.1**
	0.6nm,0.5s,baz=96,slow=5.4,SNR=6.4						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**69.44**	**133**	P	**P**	**06 25 04.9**	**+0.7**
	1.1nm,0.8s,baz=326,slow=7.0,SNR=6.0						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**72.03**	**136**	P	**P**	**06 25 20.2**	**+0.3**
	0.5nm,0.6s,baz=329,slow=6.5,SNR=5.2						
	0.5nm,0.6s						
CPUP	**Villa Florida**	**148.85**	**274**	PKPbc	**PKPbc**	**06 33 42.3**	**-1.3**
	0.3nm,0.7s,baz=72,slow=4.1,SNR=3.5						

*NEIC **09** 06:17:56.4±0.9,7°.0S±0°.1×124°.1E±0°.3,h590km±14km, mb4.2/8,Error ellipse: s-maj=45.9km s-min=4.1km az=71.0*

*IDC **09** 06:17:57.0±1.3,7°.11S×123°.95E,h602km±20km,mb2.9/3, mbtmp3.9/8,Error ellipse: s-maj=56.5km s-min=16.4km az=62.0*

ISC 09 06:17:56.5±0.8,7°.1S±0°.1×124°.0E±0°.2,h601km,n25, σ0s83/26,mb3.9/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**2.34**	**229**	P	**P**	**06 19 11.2**	**-1.2**
SOEI	**Soe**	**2.67**	**175**	P	**P**	**06 19 13.3**	**-0.9**
SOEI				S	**S**	**06 20 15.3**	**-2.1**
BATI	**Baumata**	**3.12**	**186**	P	**P**	**06 19 16.6**	**0.0**
	46nm,0.3s,baz=251,slow=2.4,SNR=7.0						
KAPI	**Kappang**	**4.71**	**296**	P	**P**	**06 19 27.4**	**+0.1**
KAPI	**Kappang**	**4.71**	**296**	P	**P**	**06 19 27.8**	**+0.5**
	14nm,0.7s,baz=195,slow=5.6,SNR=7.2						
TOLI2	**Tolitoli**	**8.76**	**338**	P	**P**	**06 20 01.7**	**-1.5**
MTN	**Manton Dam**	**9.05**	**130**	P	**P**	**06 20 05.1**	**-0.9**
KNRA	**Kununurra**	**9.73**	**152**	P	**P**	**06 20 12.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**11.06**	**172**	P	**P**	**06 20 25.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**11.06**	**172**	P	**P**	**06 20 26.1**	**+0.2**
	1.0nm,0.3s,baz=13,slow=9.5,SNR=11						
WB0	**Warramunga Arr**	**16.14**	**142**	P	**P**	**06 21 15.0**	**-0.2**
WRAB	**Tennant Creek**	**16.24**	**143**	P	**P**	**06 21 14.9**	**-1.2**
WRAB				IAmb	IAmb	06 21 17.4	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**16.24**	**143**	P	**P**	**06 21 15.5**	**-0.6**
WRA	**Warramunga Arr**	**16.24**	**143**	P	**P**	**06 21 16.1**	**-0.1**
	comp=Z,3.4nm,0.6s,baz=322,slow=11,SNR=52						
WR8	**Warramunga Arr**	**16.35**	**143**	P	**P**	**06 21 17.2**	**+0.1**
WR8				IAmb	IAmb	06 21 18.5	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**19.03**	**151**	P	**P**	**06 21 42.0**	**+0.5**
ASAR	**Alice Springs**	**19.03**	**151**	P	**P**	**06 21 42.0**	**+0.5**
ASAR	**Alice Springs**	**19.03**	**151**	P	**P**	**06 21 42.2**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=332,slow=9.3,SNR=17						
FORT	**Forrest**	**23.88**	**171**	P	**P**	**06 22 25.1**	**+0.4**
FORT				IAmb	IAmb	06 22 50.6	
	comp=Z,11nm,1.2s						
STKA	**Stephens Creek**	**29.62**	**149**	P	**P**	**06 23 15.4**	**+0.4**
STKA	**Stephens Creek**	**29.62**	**149**	P	**P**	**06 23 15.8**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=307,slow=8.5,SNR=3.4						
	comp=Z,1.1nm,0.3s						
MKAR	**Makanchi Array**	**65.17**	**330**	P	**P**	**06 27 39.9**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=128,slow=7.9,SNR=4.3						
	comp=Z,0.3nm,0.5s						
PETK	**Petropavlovsk-**	**66.41**	**21**	P	**P**	**06 27 47.8**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=151,slow=3.4,SNR=1.9						
	comp=Z,0.8nm,0.6s						
QSPA	**South Pole Qui**	**82.90**	**180**	P	**P**	**06 29 19.9**	**+0.7**
QSPA				IAmb	IAmb	06 29 21.9	
	comp=Z,5.7nm,1.4s						
CPUP	**Villa Florida**	**146.76**	**178**	PKPbc	**PKPbc**	**06 36 32.2**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=175,slow=1.7,SNR=3.0						

*SNET **09** 06:20:35.4±3.9,12°.2N×89°.45W,h26km,ML2.8*

CATAC 09 06:20:36.4±0.8,13°N±4°×90°W±°,h19km±5km,M2.8/12, MLv2.8/12,Error ellipse: s-maj=8.2km s-min=4.4km az=23.2,confirmed,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOMA	**Loma Larga**	**0.76**	**29**	P	Pn	06 20 52.1	-0.2
UEES	**Universidad Ev**	**0.79**	**22**	*eP*	Pg	06 20 52.1	+0.1
UEES	**Universidad Ev**	**0.79**	**22**	P	Pg	06 20 52.1	+0.1
UEES	**Universidad Ev**	**0.79**	**22**	S	Sg	06 21 03.2	+0.7
BOQS	**Boqueron**	**0.79**	**19**	*eP*	Pn	06 20 52.5	-0.4
CEVE	**Cerro Verde**	**0.84**	**355**	S	Sn	06 21 05.2	-0.4
SBLS	**San Blas**	**0.86**	**355**	*eP*	Pg	06 20 53.2	-0.1
SBLS				*eS*	Sn	06 21 05.5	-0.4
COEG	**Centro de Oper**	**0.91**	**46**	*eP*	Pb	06 20 53.8	+0.1
COEG	**Centro de Oper**	**0.91**	**46**	P	Pb	06 20 53.6	-0.1
COEG	**Centro de Oper**	**0.91**	**46**	S	Sg	06 21 06.6	+0.3
TECO	**Alcaldia de Te**	**0.93**	**53**	P	Pb	06 20 53.7	-0.3
TECO	**Alcaldia de Te**	**0.93**	**53**	*S*	Sg	06 21 06.6	-0.3
PAVA	**Las Pavas**	**0.94**	**39**	*eP*	Pn	06 20 54.7	-0.1
PAVA				*eS*	Sn	06 21 08.0	+0.2
PAVA	**Las Pavas**	**0.94**	**39**	P	Pn	06 20 54.7	-0.1
PAVA	**Las Pavas**	**0.94**	**39**	*S*	Sn	06 21 07.9	+0.1
NUBE	**Las Nubes**	**0.94**	**346**	*eP*	Pb	06 20 54.1	-0.2
NUBE				*eS*	Sb	06 21 06.6	+0.1
NUBE	**Las Nubes**	**0.94**	**346**	P	Pb	06 20 54.1	-0.2
FAME	**Alcaldia de Sa**	**0.97**	**332**	P	Pb	06 20 54.2	-0.5
UESV	**Universidad de**	**0.99**	**49**	P	Pb	06 20 54.8	-0.2
UESV	**Universidad de**	**0.99**	**49**	*S*	Sg	06 21 08.4	-0.3
ALJI	**Alcalde de J**	**1.01**	**70**	*S*	Sn	06 21 09.0	-0.4
ALJI	**Alcalde de J**	**1.01**	**70**	P	Pg	06 20 56.1	-0.1
SLOZ	**Alcaldia de Sa**	**1.06**	**348**	P	Pb	06 20 56.2	-0.1
PQSS	**Presa 15 de Se**	**1.16**	**56**	*eP*	Pn	06 20 57.4	-0.2
PQSS				*eS*	Sn	06 21 12.8	-0.1
PQSS	**Presa 15 de Se**	**1.16**	**56**	P	Pn	06 20 57.3	-0.3
PACA	**Pacayal**	**1.29**	**68**	P	Pb	06 21 00.1	-0.1
ESQI	**Esquipulas**	**1.58**	**7**	P	Pb	06 21 04.7	-0.5
ESQI	**Esquipulas**	**1.58**	**7**	*S*	Sb	06 21 25.7	+0.9
CNCH	**Conchagua**	**1.70**	**80**	*S*	Sn	06 21 26.1	-0.3
CNCH	**Conchagua**	**1.70**	**80**	P	Pn	06 21 05.1	0.0

*NEIC **09** 06:24:10.3±1.3,35°.88N±0°.02×117°.65W±0°.02,h5km±1km, Error ellipse: s-maj=2.9km s-min=2.7km az=284.0*

PAS 09 06:24:10.9±1.1,35°.897N±0°.009×117°.69W±0°.02, h2km±6km,ML3.0/20,ML2.9/90(NEIC),Error ellipse: s-maj=2.4km s-min=0.7km az=118.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.11**	**138**		Pg	06 24 13.2	+0.2
WVPM	**Volcano Peak E**	**0.12**	**296**		Pg	06 24 13.6	+0.4
JRC2	**Joshua Ridge**	**0.13**	**311**		Pg	06 24 13.8	+0.3
WCSM	**Coso Springs S**	**0.14**	**333**		Sg	06 24 16.2	+0.5
WNMM	**Nine Mile Cany**	**0.18**	**253**		Pg	06 24 14.8	+0.4
WNMM					Sg	06 24 18.0	+1.1
WRVM	**Rose V. Centra**	**0.20**	**304**		Pg	06 24 15.0	+0.3
SRTC	**Snort**	**0.21**	**194**		Pg	06 24 15.5	+0.6
MPMC	**Manual Prospec**	**0.23**	**45**		Pg	06 24 15.5	+0.2
MPMC				IAML		06 24 20.5	
	comp=N,4μm,0.7s						
MFS	**McCloud Flat S**	**0.26**	**328**		Pg	06 24 16.1	+0.2
LRMC	**Laurel Mtn Rad**	**0.42**	**179**		Pg	06 24 18.9	+0.1
LRMC				IAML		06 24 25.9	
	comp=N,2μm,0.3s						
LRMC				IAML		06 24 26.4	
	comp=E,2μm,0.6s						
CCCA	**Chr Cany lake**	**0.46**	**145**		Pg	06 24 20.1	+0.5
CCCA				IAML		06 24 30.2	
	comp=E,1μm,0.8s						
WHFM	**Hanning Flat**	**0.57**	**250**		Pg	06 24 21.8	-0.1
CWC	**Cottonwood Cre**	**0.63**	**330**		Pg	06 24 23.0	+0.1
CWC				IAML		06 24 32.6	
	comp=N,442nm,0.2s						
QSM	**Queen of Sheba**	**0.67**	**84**		Pg	06 24 23.6	-0.1
ISA	**Isabella, Lake**	**0.68**	**250**		Pg	06 24 23.9	0.0
ISA				IAML		06 24 33.2	
	comp=N,514nm,0.4s						
ISA				IAML		06 24 34.0	
	comp=E,451nm,0.3s						
GWY	**Greenwater Val**	**0.87**	**70**		Pg	06 24 27.6	0.0
GWY				IAML		06 24 39.9	
	comp=E,550nm,0.5s						
GWY				IAML		06 24 45.3	
	comp=N,691nm,0.4s						
GSC	**Goldstone, Bar**	**0.93**	**129**		Pg	06 24 28.2	-0.5
GSC				IAML		06 24 43.4	
	comp=N,309nm,0.5s						
GSC				IAML		06 24 47.2	
	comp=E,494nm,0.5s						
TPO	**Tropico Hills**	**1.11**	**204**		Pg	06 24 31.4	-0.7
TPO				IAML		06 24 49.5	
	comp=N,290nm,0.8s						
TPO				IAML		06 24 49.6	
	comp=E,209nm,0.9s						
GRAC	**Grapevine Rang**	**1.13**	**13**		Pg	06 24 32.0	-0.5
GRAC				IAML		06 24 49.0	
	comp=E,360nm,0.5s						
GRAC				IAML		06 24 56.1	
	comp=N,325nm,0.6s						
WCT	**Wildcat Mounta**	**1.24**	**43**		Pg	06 24 34.0	-0.6
GMN	**Gold Mountain**	**1.44**	**14**		Pn	06 24 37.5	-0.7
GMN				IAML		06 25 00.6	
	comp=N,127nm,0.5s						
DSP	**Deep Springs**	**1.49**	**351**		Pn	06 24 38.5	-0.1
DSP				IAML		06 25 00.1	
	comp=E,193nm,0.7s						
DSP				IAML		06 25 00.1	
	comp=N,122nm,0.6s						
OSI	**Osito Audit: C**	**1.54**	**214**		Pn	06 24 38.9	-0.5
OSI				IAML		06 25 02.9	
	comp=E,99nm,0.6s						
TPNV	**Topopah Spring**	**1.56**	**47**		Pn	06 24 39.0	-0.9
TPNV				IAML		06 25 07.3	
	comp=E,89nm,0.7s						
TPNV				IAML		06 25 08.7	
	comp=E,107nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.66**	**179**		Pb	06 24 42.1	0.0
BFSC				IAML		06 25 06.1	
	comp=N,101nm,0.7s						
BFSC				IAML		06 25 07.2	
	comp=E,92nm,0.3s						
MWC	**Mount Wilson**	**1.70**	**190**		Pn	06 24 41.5	-0.2
MWC				IAML		06 25 07.3	
	comp=E,108nm,0.7s						
MWC				IAML		06 25 08.6	
	comp=N,125nm,0.3s						
PASC	**Pasadena Art C**	**1.77**	**194**		Pb	06 24 43.5	-0.5
MTPC	**Mountain Pass**	**1.79**	**103**		Pn	06 24 42.8	-0.1
MTPC				IAML		06 25 08.1	
	comp=N,193nm,0.4s						
SHPR	**Sheep Range**	**2.13**	**73**		Pn	06 24 47.1	-0.5
TPH	**Tonopah**	**2.21**	**10**		Pn	06 24 48.5	-0.2
ELS	**Elsinore Mount**	**2.25**	**174**		Pn	06 24 49.0	-0.3
POB	**Polly Butte**	**2.29**	**164**		Pn	06 24 49.2	-0.6
V12A	**Nelson**	**2.31**	**93**		Pn	06 24 49.3	-0.7
V12A				IAML		06 25 26.4	
	comp=N,87nm,1.0s						
V12A				IAML		06 25 28.4	
	comp=E,66nm,0.6s						
S11A	**Rachel**	**2.34**	**41**		Pn	06 24 50.3	-0.2
S11A				IAML		06 25 27.6	
	comp=N,68nm,0.8s						
S11A				IAML		06 25 38.7	
	comp=E,86nm,0.9s						
NJQ	**Nojoqui County**	**2.45**	**237**		Pn	06 24 52.8	+0.9
PFO	**Pinyon Flats O**	**2.49**	**156**		Pn	06 24 51.4	-1.2
PMPB	**Monarch Peak**	**2.54**	**278**	Pn	Pn	06 24 51.3	-1.9
PMPB				IAML		06 25 35.9	
	comp=E,92nm,0.6s						
PMPB				IAML		06 25 39.9	
	comp=N,71nm,1.1s						
NVAR	**Mina Array Bea**	**2.58**	**349**		Pn	06 24 54.2	+0.4
PRN	**Pahroc Range**	**2.60**	**54**		Pn	06 24 53.8	-0.3
PRN				IAML		06 25 45.1	
	comp=N,52nm,0.6s						
PRN				IAML		06 25 45.5	
	comp=E,60nm,0.9s						
BBGB	**Big Mountain B**	**2.79**	**285**	Pn	Pn	06 24 55.7	-1.0
CBX	**Cerro Bola**	**3.67**	**166**		Pn	06 25 09.0	+0.2
KNB	**Kanab**	**4.08**	**73**	IAML		06 26 26.8	
	comp=E,8.6nm,0.8s						
KNB				IAML		06 26 33.2	
	comp=N,11nm,1.1s						
Y14A	**Wickenburg**	**4.32**	**116**		Pn	06 25 19.4	+1.9
Y14A				IAML		06 26 28.8	
	comp=E,16nm,1.1s						
Y14A				IAML		06 26 33.0	
	comp=N,21nm,0.6s						

*CATAC **09** 06:31:15.2±0.8,7°.N±1°×7°.3W±°,h160km±6km,M3.5/7, MLv3.5/7,Error ellipse: s-maj=11.8km s-min=5.7km az=90.4,confirmed*

*RSNC **09** 06:31:17.0±0.0,7°.N±1°×7°.3W±°,h149km±1km,M3.1,mb3.8, ML2.9*

ISC 09 06:31:15.0±1.3,6°.85N±0°.03×73°.08W±0°.04,h158km±7km, n50,σ1s13/97,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**202**	P	**Pn**	**06 31 37.0**	**+0.2**
BARC				S	**Sn**	**06 31 52.0**	**-1.4**
PAMC	**Pamplona, Colo**	**0.62**	**38**	P	**Pn**	**06 31 39.8**	**+1.3**
PAMC				S	**Sn**	**06 31 56.7**	**+0.2**
BRJC	**Barrancabermej**	**0.67**	**281**	P	**Pn**	**06 31 38.7**	**+0.6**
BRJC				S	**Sn**	**06 31 56.1**	**+0.2**
BRJC	**Barrancabermej**	**0.67**	**281**	P	**Pn**	**06 31 38.8**	**+0.6**
BRJC				S	**Sn**	**06 31 55.9**	**0.0**
RUSC	**La Rusia**	**0.95**	**180**	P	**Pn**	**06 31 41.0**	**+0.3**
RUSC				S	**Sn**	**06 31 59.7**	**-0.7**
RUSC	**La Rusia**	**0.95**	**180**	P	**Pn**	**06 31 40.8**	**+0.1**
RUSC				S	**Sn**	**06 31 59.3**	**-1.1**
TAMC	**Tame, Arauca**	**1.34**	**108**	P	**Pn**	**06 31 45.1**	**+1.4**
TAMC				S	**Sn**	**06 32 06.7**	**+1.0**
PTBC	**PUERTO BERRIO,**	**1.40**	**258**	P	**Pn**	**06 31 43.6**	**-0.6**
PTBC				S	**Sn**	**06 32 05.1**	**-1.5**
OCAC	**Ocana**	**1.41**	**350**	P	**Pn**	**06 31 45.1**	**+0.7**
OCAC				S	**Sn**	**06 32 08.2**	**+1.1**
SPBC	**San Pablo de B**	**1.54**	**220**	P	**Pn**	**06 31 45.9**	**+0.2**
SPBC				S	**Sn**	**06 32 07.8**	**-1.6**
ZARC	**Zaragoza, Cauc**	**1.88**	**290**	P	**Pn**	**06 31 49.2**	**0.0**
ZARC				S	**Sn**	**06 32 14.8**	**-0.8**
NORC	**Norcasia**	**2.19**	**234**	P	**Pn**	**06 31 53.1**	**+0.2**
NORC				S	**Sn**	**06 32 21.0**	**-1.1**
NORC	**Norcasia**	**2.19**	**234**	P	**Pn**	**06 31 53.2**	**+0.3**
NORC				S	**Sn**	**06 32 21.4**	**-0.7**
CHIC	**Chingaza**	**2.29**	**196**	P	**Pn**	**06 31 54.8**	**+0.2**
CHIC				S	**Sn**	**06 32 24.1**	**-0.9**
CHIC	**Chingaza**	**2.29**	**196**	P	**Pn**	**06 31 54.7**	**+0.2**
CHIC				S	**Sn**	**06 32 24.0**	**-0.9**
ROSC	**El Rosal**	**2.34**	**212**	P	**Pn**	**06 31 56.5**	**+1.5**
ROSC				S	**Sn**	**06 32 26.4**	**+0.5**
CVER	**Cruz Verde, Cu**	**2.51**	**203**	P	**Pn**	**06 31 58.3**	**+1.1**
CVER				S	**Sn**	**06 32 30.0**	**+0.3**
HELC	**Santa Helena**	**2.52**	**255**	P	**Pn**	**06 31 57.7**	**+0.6**
HELC				S	**Sn**	**06 32 30.7**	**+1.1**
HELC	**Santa Helena**	**2.52**	**255**	P	**Pn**	**06 31 57.8**	**+0.6**
HELC				S	**Sn**	**06 32 29.1**	**-0.5**
HELC	**Santa Helena**	**2.52**	**255**	P	**Pn**	**06 31 57.7**	**+0.6**
HELC				S	**Sn**	**06 32 29.4**	**-0.2**
URBC	**San Jos de Ur**	**2.59**	**290**	P	**Pn**	**06 31 57.6**	**-0.1**
UREC				S	**Sn**	**06 32 28.0**	**-2.7**
VILC	**Villavicencio,**	**2.78**	**193**	P	**Pn**	**06 32 00.0**	**-0.2**
VILC				S	**Sn**	**06 32 33.7**	**-1.4**
GUY2C	**Guyana, Caldas**	**2.78**	**235**	P	**Pn**	**06 32 01.1**	**+0.6**
GUY2C				S	**Sn**	**06 32 35.3**	**-0.3**
RECRC	**Villamaria, Ca**	**2.93**	**230**	P	**Pn**	**06 32 04.4**	**+2.0**
RECRC				S	**Sn**	**06 32 39.3**	**+0.2**
NIZA	**Niza - Manizal**	**2.97**	**233**	P	**Pn**	**06 32 04.5**	**+1.9**
NIZA				S	**Sn**	**06 32 40.3**	**+0.9**
CMAN1	**Manizales, Cal**	**3.00**	**234**	P	**Pn**	**06 32 05.4**	**+2.4**
CMAN1				S	**Sn**	**06 32 42.7**	**+2.5**
CBOC

*ASRS **09** 06:49:41.0±1.7,53.78N×88.24E,h0km,M3.0,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **09** 06:49:45.7±2.9,53.75N×88.02E,h0km,mbtmp3.1/2, ML2.8/2,Error ellipse: s-maj=23.7km s-min=16.0km az=58.0*
*NNC **09** 06:49:46.8±2.7,53.52N×87.97E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=20.3km s-min=12.5km az=72.0, Suspected Mining explosion.*

ISC 09 06:49:47.5±3.6,53.7N±0.1×87.9E±0.2,h0km,n8,σ1s11/13, 4C-6D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.82**	**279**	I	I	07 02 16.5	
	1.2nm,1.1s,baz=92,slow=315,SNR=28						
ZAA0	**Zalesovo Array**	**1.82**	**279**	⇓Pn	**Pn**	**06 50 19.8**	**-0.2**
ZAA0	1.1nm,0.6s			⇓Sn	**Sg**	**06 50 47.1**	**+1.3**
	4.3nm,0.5s						
ZALV	**Zalesovo Beam**	**1.82**	**279**	Pg	**Pn**	**06 50 19.6**	**-0.4**
ZALV	2.9nm,0.3s,baz=91,slow=12,SNR=45			Lg	Lg	06 50 47.5	
ZALV	6.4nm,0.3s,baz=93,slow=25,SNR=26			I	I	07 02 18.9	
	baz=113,slow=22,SNR=17						
KURK	**Kurchatov**	**6.41**	**246**	⇑Pn	**Pn**	**06 51 23.2**	**+0.1**
KURK	1.9nm,0.8s			⇑Sn	**Sn**	**06 52 37.2**	**+0.4**
KURK	2.1nm,0.9s			⇓Lg	Lg	06 53 11.1	
KURBB	10nm,1.0s **Kurchatov Arra**	**6.50**	**246**	⇓Pn	**Pn**	**06 51 24.2**	**-0.1**
KURBB	1.8nm,0.5s			⇓Sn	**Sn**	**06 52 37.5**	**-1.7**
KURBB	5.8nm,0.6s			⇑Lg	Lg	06 53 14.8	
KURBB	11nm,0.8s **Kurchatov Arra**	**6.50**	**246**	Pn	**Pn**	**06 51 24.9**	**+0.6**
KURBB	0.2nm,0.3s,baz=61,slow=14,SNR=15			Sn	**Sn**	**06 52 38.4**	**-0.9**
KURBB	0.1nm,0.3s,baz=59,slow=17,SNR=5.2			Lg	Lg	06 53 14.8	
	baz=70,slow=32,SNR=11						
MK31	1.0nm,0.3s **Makanchi Array**	**7.77**	**210**	Pn	**Pn**	**06 51 42.1**	**+0.4**
MK31	0.3nm,0.6s,baz=36,slow=14,SNR=4.9			⇑Sn	**Sn**	**06 53 08.0**	**-2.3**
MK31	0.7nm,0.6s			⇓Lg	Lg	06 53 51.9	
MKAR	2.9nm,1.0s,baz=30,slow=34,SNR=4.2 **Makanchi Array**	**7.77**	**210**	Pn	**Pn**	**06 51 42.6**	**+0.9**
MKAR	0.1nm,0.3s,baz=28,slow=13,SNR=5.9			Sn	**Sn**	**06 53 10.9**	**+0.5**
MKAR	0.1nm,0.3s,baz=30,slow=27,SNR=5.1			Lg	Lg	06 53 53.0	
	0.1nm,0.3s,baz=26,slow=23,SNR=4.4 0.4nm,0.4s						

IDC 09 06:55:37.6±2.2,0.54N×126.47E,h0km,mb3.1/3, mbtmp3.1/3,Error ellipse: s-maj=177.8km s-min=29.3km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.77**	**160**	P	P	07 00 31.1	-0.1
	0.3nm,0.5s,baz=338,slow=11,SNR=6.1 0.3nm,0.5s						
ASAR	**Alice Springs**	**25.13**	**164**	P	P	07 01 04.6	+0.1
	0.1nm,0.3s,baz=339,slow=10,SNR=1.9 0.1nm,0.3s						
MKAR	**Makanchi Array**	**60.03**	**326**	P	P	07 05 46.3	-0.1
	0.2nm,0.5s,baz=121,slow=7.1,SNR=1.7 0.2nm,0.5s						

*NNC **09** 06:59:04.9±1.2,51.79N×74.22E,h0km,mb3.1,mpv2.8, Error ellipse: s-maj=57.4km s-min=7.3km az=27.0, Suspected Mining explosion.*
*IDC **09** 06:59:07.1±1.0,51.99N×74.31E,h0km,mbtmp2.7/3, ML2.2/3,Error ellipse: s-maj=39.5km s-min=7.9km az=28.0*

ISC 09 06:59:08.5±1.2,51.9N±0.1×74.48E±0.07,h0km,n10, σ0s83/10,4C-4D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BVA0	**Borovoye Array**	**2.76**	**297**	⇓Pg	**Pn**	**06 59 53.6**	**-0.4**
BVA0	2.5nm,0.6s			⇑Lg	Lg	07 00 27.9	
BVAR	25nm,0.6s **Borovoye Array**	**2.76**	**297**	Pg	**Pn**	**06 59 54.0**	**0.0**
BVAR	0.1nm,0.3s,baz=118,slow=18,SNR=6.2			Lg	Lg	07 00 28.5	
KURBB	1.1nm,0.3s,baz=122,slow=27,SNR=25 **Kurchatov Arra**	**2.83**	**114**	⇑Pg	**Pb**	**06 59 58.8**	**-1.1**
KURBB	4.1nm,0.6s			⇓Lg	Lg	07 00 37.3	
KURBB	25nm,0.6s **Kurchatov Arra**	**2.83**	**114**	Pn	**Pn**	**06 59 55.4**	**+0.4**
KURBB	0.1nm,0.3s,baz=299,slow=14,SNR=9.6			Pg	**Pb**	**06 59 59.1**	**-0.8**
KURBB	0.1nm,0.3s,baz=297,slow=16,SNR=10.0			Lg	Lg	07 00 37.6	
	0.3nm,0.3s,baz=302,slow=30,SNR=14 0.8nm,0.4s						
KURK	**Kurchatov**	**2.84**	**112**	⇑Pg	**Pb**	**07 00 00.6**	**+0.5**
KURK	1.3nm,0.5s			⇓Lg	Lg	07 00 37.1	
ZALV	21nm,0.7s **Zalesovo Beam**	**6.60**	**67**	Pn	**Pn**	**07 00 47.1**	**+0.5**
	0.2nm,0.3s,baz=259,slow=15,SNR=4.2 0.9nm,0.4s						
MK31	**Makanchi Array**	**7.20**	**132**	⇑Sn	**Sn**	**07 02 16.6**	**-0.7**
MK31	0.4nm,0.5s			⇓Lg	Lg	07 02 54.3	
MKAR	1.6nm,0.6s,baz=317,slow=29,SNR=5.8 **Makanchi Array**	**7.20**	**132**	Pn	**Pn**	**07 00 56.1**	**+1.2**
MKAR	0.2nm,0.3s,baz=318,slow=13,SNR=6.9			Sn	**Sn**	**07 02 17.1**	**-0.2**
MKAR	0.1nm,0.3s,baz=323,slow=30,SNR=2.7			Lg	Lg	07 02 54.2	
	0.2nm,0.3s,baz=312,slow=26,SNR=7.6 0.2nm,0.6s						
AAK	**Ala-Archa**	**9.23**	**180**	Lg	Lg	07 03 58.4	
	0.6nm,0.3s,baz=36,slow=21,SNR=1.5						
I31KZ	**AKTYUBINSK INF**	**10.44**	**268**	I	I	08 02 20.0	
	baz=77,slow=316,SNR=1.9						

*NEIC **09** 07:04:15.8±1.2,35.894N±0.007×117.67W±0.01, h10km±1km,Error ellipse: s-maj=2.9km s-min=2.0km az=357.0*

PAS 09 07:04:16.3±1.0,35.90N±0.01×117.67W±0.01,h8km±7km, ML3.2/20,ML2.9/102(NEIC),Error ellipse: s-maj=1.6km s-min=1.4km az=135.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.10**	**144**		Pg	07 04 18.8	0.0
CLC				Sg	Sg	07 04 20.4	-0.2
CLC				IAML		07 04 20.9	
	comp=N,8μm,0.3s						
CLC				IAML		07 04 21.0	
	comp=E,3μm,0.2s						
WCSM	**Coso Springs S**	**0.15**	**329**		Pg	07 04 21.9	+2.3
WNMM	**Nine Mile Cany**	**0.20**	**253**		Pg	07 04 21.2	+0.9
WNMM					Sg	07 04 23.6	+0.6
WRVM	**Rose V. Centra**	**0.21**	**301**		Pg	07 04 20.5	0.0
MPMC	**Manual Prospec**	**0.22**	**43**		Pg	07 04 20.8	0.0
MPMC				Sg	Sg	07 04 23.8	0.0
MPMC				IAML		07 04 24.2	
	comp=E,3μm,0.2s						
MPMC				IAML		07 04 25.6	
	comp=N,3μm,0.5s						
SRTC	**Snort**	**0.22**	**197**		Pg	07 04 21.0	+0.3
SRTC					Sg	07 04 25.2	+1.5
MFS	**McCloud Flat S**	**0.26**	**326**		Pg	07 04 21.4	-0.2
LRMC	**Laurel Mtn Rad**	**0.42**	**181**		Pg	07 04 24.2	-0.3
CCCA	**Chr Cany lake**	**0.45**	**146**		Pg	07 04 25.2	+0.1
CWC	**Cottonwood Cre**	**0.63**	**329**		Pg	07 04 28.3	-0.3
CWC				IAML		07 04 41.6	
	comp=N,469nm,0.2s						
CWC				IAML		07 04 42.1	
	comp=E,438nm,0.2s						
QSM	**Queen of Sheba**	**0.66**	**84**		Pg	07 04 28.5	-0.5
QSM				IAML		07 04 37.8	
	comp=E,480nm,0.3s						
QSM				IAML		07 04 43.7	
	comp=N,514nm,0.5s						
ISA	**Isabella, Lake**	**0.69**	**250**		Pg	07 04 29.2	-0.5
ISA				IAML		07 04 42.5	
	comp=N,668nm,0.3s						
ISA				IAML		07 04 42.6	
	comp=E,856nm,0.5s						
CCAC	**Calif City Air**	**0.80**	**201**		Pg	07 04 31.0	-0.6
CCAC					Sg	07 04 41.9	-0.1
GWY	**Greenwater Val**	**0.86**	**70**		Pg	07 04 32.5	-0.4
GWY					Sg	07 04 43.9	-0.3
GWY				IAML		07 04 50.2	
	comp=N,533nm,0.6s						
GWY				IAML		07 04 50.9	
	comp=E,579nm,0.5s						
GSC	**Goldstone, Bar**	**0.93**	**130**		Pg	07 04 33.2	-0.9
GSC				IAML		07 04 47.8	
	comp=N,495nm,0.4s						
TPO	**Tropico Hills**	**1.11**	**204**		Pg	07 04 36.6	-1.2
TPO				IAML		07 04 55.0	
	comp=E,211nm,0.6s						
TPO				IAML		07 05 01.2	
	comp=N,249nm,0.7s						
GRAC	**Grapevine Rang**	**1.12**	**13**		Pg	07 04 37.1	-0.8
GRAC				IAML		07 04 54.7	
	comp=N,432nm,0.4s						
WCT	**Wildcat Mounta**	**1.23**	**43**		Pb	07 04 38.6	-1.2
WCT				IAML		07 04 59.0	
	comp=E,124nm,0.4s						
GMN	**Gold Mountain**	**1.44**	**13**		Pn	07 04 42.3	-0.6
GMN				IAML		07 05 03.8	
	comp=N,126nm,0.3s						
VOG	**Valley Oaks Go**	**1.45**	**287**		Pn	07 04 42.9	+0.1
DSP	**Deep Springs**	**1.49**	**351**		Pn	07 04 42.6	-0.8
DSP					Sn	07 05 02.9	0.0
DSP				IAML		07 05 04.7	
	comp=E,175nm,0.4s						
POCCA	**Poleta Canyon**	**1.54**	**342**		Pn	07 04 44.7	+0.4
OSI	**Osito Audit: C**	**1.54**	**214**		Pn	07 04 44.0	-0.2
OSI				IAML		07 05 13.8	
	comp=E,105nm,0.8s						
TPNV	**Topopah Spring**	**1.55**	**47**		Pn	07 04 43.7	-0.7
TPNV				IAML		07 05 08.7	
	comp=E,182nm,0.5s						
TPNV				IAML		07 05 09.1	
	comp=E,147nm,0.6s						
MWC	**Mount Wilson**	**1.70**	**191**	Pn	Pn	07 04 45.8	-0.7
MWC				IAML		07 05 13.2	
	comp=N,152nm,0.3s						
MWC				IAML		07 05 18.0	
	comp=E,111nm,0.5s						
MCSM	**Casa Diablo Ho**	**2.01**	**331**		Pb	07 04 53.5	+0.1
SHPR	**Sheep Range**	**2.12**	**73**		Pn	07 04 51.9	-0.3
TPH	**Tonopah**	**2.20**	**9**		Pn	07 04 53.1	-0.3
TPH				IAML		07 05 30.0	
	comp=E,164nm,1.0s						
TSCN	**Private Proper**	**2.21**	**262**		Pn	07 04 52.6	-0.6
TPC	**Twentynine Pal**	**2.23**	**143**		Pn	07 04 52.4	-1.3
HMTC	**Hemet**	**2.25**	**166**		Pn	07 04 53.1	-0.8
ELS	**Elsinore Mount**	**2.26**	**175**		Pn	07 04 53.2	-0.8
ELS				IAML		07 05 29.8	
	comp=N,70nm,0.4s						
ELS				IAML		07 05 30.2	
	comp=E,138nm,0.4s						
POB	**Polly Butte**	**2.29**	**164**		Pn	07 04 53.7	-0.8
V12A	**Nelson**	**2.30**	**93**		Pn	07 04 53.4	-1.3
LHV	**Little Huntoon**	**2.44**	**344**		Pn	07 04 56.4	0.0
LHV				IAML		07 05 46.0	
	comp=E,38nm,0.8s						
CRY	**Cary Ranch**	**2.45**	**161**		Pn	07 04 56.0	-0.8
PMD	**Palm Desert**	**2.49**	**154**		Pn	07 04 55.6	-1.5
PMD				IAML		07 05 35.9	
	comp=E,46nm,0.5s						
PMD				IAML		07 05 44.2	
	comp=N,35nm,0.7s						
PFO	**Pinyon Flats O**	**2.49**	**156**		Pn	07 04 56.0	-1.3
PFO				IAML		07 05 35.4	
	comp=N,32nm,0.6s						
PFO				IAML		07 05 42.2	
	comp=N,34nm,0.8s						
SNDA	**J Saunders Pla**	**2.50**	**159**		Pn	07 04 56.4	-1.0
NV11	**Mina Array Sit**	**2.56**	**351**		Pn	07 04 58.2	0.0
NVAR	**Mina Array Bea**	**2.57**	**349**		Pn	07 04 58.5	-0.1
PRN	**Pahroc Range**	**2.59**	**54**	Pn	Pn	07 04 58.4	-0.3
PRN				IAML		07 05 48.1	
	comp=N,50nm,1.0s						
PRN				IAML		07 05 51.5	
	comp=E,53nm,0.8s						
BBGB	**Big Mountain B**	**2.80**	**285**	Pn	Pn	07 05 01.7	+0.1
RYN	**Ryan**	**2.81**	**346**		Pn	07 05 01.3	-0.3
SAO	**San Andreas Ge**	**3.17**	**287**		Pn	07 05 06.2	-0.2
W13A	**Hualapai Mount**	**3.19**	**103**	Pn	Pn	07 05 06.0	-1.0
W13A				IAML		07 06 03.5	
	comp=N,20nm,0.7s						
TKX	**Tecate**	**3.44**	**165**		Pn	07 05 10.8	+0.6
TKX				IAML		07 06 03.6	
	comp=E,53nm,0.5s						
YUH	**Yuha Desert**	**3.55**	**155**	Pn	Pn	07 05 10.9	-0.8
CBX	**Cerro Bola**	**3.67**	**167**		Pn	07 05 13.4	-0.2
CPBX	**Cerro Prieto**	**3.99**	**150**	Pn	Pn	07 05 18.3	+0.5
AFDM	**Forest Hills D**	**4.02**	**320**	Pn	Pn	07 05 18.0	-0.2
AFDM				IAML		07 06 23.6	
	comp=E,18nm,0.6s						
AFDM				IAML		07 06 25.9	
	comp=N,14nm,0.5s						
KNB	**Kanab**	**4.07**	**73**	Pn	Pn	07 05 18.6	-0.3
ESJX	**Sierra Juarez**	**4.14**	**159**	Pn	Pn	07 05 19.6	-0.4
ESJX				IAML		07 06 29.4	
	comp=N,10nm,0.7s						
ESJX				IAML		07 06 32.1	
	comp=E,14nm,1.2s						
Y14A	**Wickenburg**	**4.31**	**116**	Pn	Pn	07 05 21.1	-1.1
Y14A				IAML		07 06 39.6	
	comp=E,15nm,0.7s						
Y14A				IAML		07 06 44.0	
	comp=N,19nm,0.7s						
113A	**Mohawk Valley,**	**4.50**	**133**	Pn	Pn	07 05 23.3	-1.4
113A				IAML		07 06 46.5	
	comp=N,7.8nm,3.3s						
113A				IAML		07 06 49.4	
	comp=E,7.0nm,1.6s						
ELK	**Elko**	**5.20**	**21**	Pn	Pn	07 05 34.5	-0.1

*ISN **09** 07:08:17.4±1.0,31.63N×49.60E,h12km±70km,ML3.2*
*TEH **09** 07:08:17.2,31.82N×49.53E,h8km±30km*

ISC 09 07:08:17.8±0.8,31.82N±0.04×49.52E±0.03,h10km,n30, σ2s15/37,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.90**	**237**	Pg	**Pg**	**07 08 34.2**	**-0.8**
AHWZ				Sg	**Sb**	**07 08 47.7**	**+0.3**
JHBN	**Jahan bin**	**1.05**	**67**	Pg	**Pg**	**07 08 37.3**	**-0.8**
JHBN				Sg	**Sn**	**07 08 53.3**	**-0.5**
ZNGN	**Zangian**	**1.17**	**75**	Pg	**Pb**	**07 08 39.4**	**-0.9**
ABEH	**Behbahan**	**1.37**	**153**	Pg	**Pg**	**07 08 43.5**	**-0.5**
ABEH				Sg	**Sg**	**07 09 03.7**	**+1.8**
IPIR	**Pirpir**	**1.44**	**53**	Pg	**Pg**	**07 08 45.0**	**-0.6**
IBRJ	**Brojen**	**1.48**	**86**	Pg	**Pg**	**07 08 45.6**	**-0.6**
KLNJ	**Kolanjah**	**1.95**	**114**	Pn	**Pb**	**07 08 52.1**	**-1.5**
IKFM	**Kafar-mosalman**	**2.21**	**321**	Pn	**Pb**	**07 08 56.3**	**-1.5**
IGAR	**Gharneh**	**2.21**	**74**	Pn	**Pb**	**07 08 56.5**	**-1.6**
IDOB	**Doab**	**2.26**	**330**	Pn	**Pb**	**07 08 57.8**	**-1.0**
IKLH	**Kolahrood**	**2.29**	**49**	Pn	**Pb**	**07 08 57.6**	**-1.7**
IRAM	**Ramesheh**	**2.43**	**90**	Pn	**Pn**	**07 08 58.7**	**+0.9**
QAMS	**Qamsar**	**2.48**	**39**	Pn	**Pb**	**07 09 00.4**	**-2.1**
IZEF	**Zefreh**	**2.60**	**65**	Pn	**Pn**	**07 09 01.7**	**+1.5**
RAFI	**Al-Rafai**	**2.91**	**269**	*e*Pn	**Pb**	**07 09 06.5**	**-3.2**
RAFI				*e*Sn	**Sb**	**07 09 42.0**	**-3.2**
HAGD	**Aghdareh**	**3.01**	**354**	Pn	**Pn**	**07 09 07.4**	**+1.7**
KRSH	**Karshahi**	**3.07**	**45**	Pn	**Pn**	**07 09 08.3**	**+1.8**
IQOM	**Qom**	**3.28**	**23**	Pn	**Pn**	**07 09 10.8**	**+1.4**
IBDR	**Badra**	**3.30**	**294**	*e*Pn	**Pb**	**07 09 13.0**	**-3.4**
IBDR				*e*Sn	**Sb**	**07 09 52.5**	**-4.0**
IBDR				AML	AML	07 10 07.3	
	comp=E,83nm,0.3s						
IBDR				AML	AML	07 10 22.2	
	comp=N,92nm,0.4s						
ISFB	**Sefidab**	**3.40**	**41**	Pn	**Pn**	**07 09 12.4**	**+1.4**
SNQR	**Sonqor, Kerman**	**3.42**	**333**	Pn	**Pn**	**07 09 12.8**	**+1.4**
IVRN	**Varamin**	**3.66**	**30**	Pn	**Pn**	**07 09 15.5**	**+1.0**
HGHA	**Hamedan- Ghaye**	**3.70**	**352**	Pn	**Pn**	**07 09 17.4**	**+2.2**
QABG	**Abgarm-Qazvin**	**3.88**	**1**	Pn	**Pn**	**07 09 19.5**	**+1.9**
IDMV	**Damavand**	**4.29**	**29**	Pn	**Pn**	**07 09 24.9**	**+1.5**
IMEH	**Mehriz**	**4.36**	**94**	Pn	**Pn**	**07 09 25.7**	**+1.4**
ILAS	**Lasjerd**	**4.56**	**38**	Pn	**Pn**	**07 09 28.5**	**+1.4**
BHD	**Baghdad**	**4.58**	**290**	*e*Pn	**Pn**	**07 09 30.0**	**+3.0**
BHD				*e*Sn	**Sn**	**07 10 24.0**	**+3.7**
KLST	**Kelardasht - M**	**4.85**	**15**	Pn	**Pn**	**07 09 33.2**	**+2.1**
IKRK	**Kirkuk**	**5.61**	**311**	*e*Pn	**Pn**	**07 09 45.0**	**+3.8**
IKRK				*e*Sn	**Sn**	**07 10 49.5**	**+3.8**

*IDC **09** 07:17:04.8±0.9,26.50N×44.52W,h0km,mb3.9/9, mbtmp3.9/9,MS3.4/26,Error ellipse: s-maj=32.1km s-min=21.5km az=129.0*
*NEIC **09** 07:17:05.4±1.1,26.2N±0.1×44.2W±0.1,h10km±1km, mb4.5/42,Error ellipse: s-maj=22.9km s-min=18.1km az=137.0*

ISC 09 07:17:05.5±0.6,26.3N±0.1×44.32W±0.09,h11km,n84, σ0s95/57,mb4.4/29,MS3.5/26,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDSD	**La Dsirade Is**	**18.46**	**241**	P	**P**	**07 21 20.7**	**-0.8**
GDSD				IAmb	IAmb	07 21 22.6	
	comp=Z,25nm,0.9s						
TDBA	**Terre de Bas,**	**19.18**	**241**	P	**P**	**07 21 28.1**	**-1.2**
BIM	**Bigot**	**19.55**	**237**	P	**P**	**07 21 33.1**	**-0.3**
GCPR	**Guaynabo City**	**21.62**	**253**	P	**P**	**07 21 56.1**	**+0.3**
GCPR				IAmb	IAmb	07 21 57.8	
	comp=Z,17nm,1.1s						
SJG	**San Juan**	**21.76**	**253**	LR	LR	07 28 27.9	
	comp=Z,58nm,21.8s,baz=54,slow=32						
MDP	**Montagnes des**	**22.51**	**202**	LR	LR	07 29 41.7	
	comp=Z,26nm,19.4s,baz=83,slow=33						
PCRV	**Puerto La Cruz**	**25.01**	**234**	LR	LR	07 30 38.1	
	comp=Z,55nm,20.4s,slow=33						
G65A	**Princeton**	**26.54**	**321**	P	**P**	**07 22 43.2**	**-0.1**
G65A				IAmb	IAmb	07 22 49.1	
	comp=Z,10nm,1.1s						
ACCN	**Adirondack Com**	**29.32**	**313**	P	**P**	**07 23 08.6**	**+0.4**
LUPA	**Lehigh Univers**	**29.41**	**307**	P	**P**	**07 23 09.2**	**+0.1**
LUPA				IAmb	IAmb	07 23 51.3	
	comp=Z,11nm,1.3s						
AVE	**Averroes**	**32.66**	**69**	P	**P**	**07 23 36.8**	**-1.0**
SADO	**Sadowa**	**33.48**	**313**	LR	LR	07 35 03.5	
	comp=Z,77nm,18.3s,baz=99,slow=32						
TKL	**Tuckaleechee C**	**34.91**	**295**	LR	LR	07 35 08.3	
	comp=Z,99nm,19.1s,baz=102,slow=31						
MDT	**Midelt**	**35.01**	**70**	LR	LR	07 35 04.0	
	comp=Z,80nm,19.0s,baz=302,slow=31						
IVI	**Ivigtut**	**35.02**	**357**	P	**P**	**07 23 59.3**	**+1.4**
ROSC	**El Rosal**	**35.73**	**239**	LR	LR	07 38 36.4	
	comp=Z,88nm,18.6s,baz=242,slow=36						
PAB	**San Pablo**	**35.78**	**58**	P	**P**	**07 24 05.3**	**+0.4**
PAB				IAmb	IAmb	07 24 07.3	
	comp=Z,8.2nm,1.2s						
ESDC	**Sonseca Array**	**36.10**	**58**	LR	LR	07 35 19.3	
	comp=Z,28nm,20.6s,baz=270,slow=30						
BRAL	**Brewton**	**37.62**	**288**	P	**P**	**07 24 20.9**	**+0.4**
SFIN	**Lafayette**	**38.04**	**303**	P	**P**	**07 24 22.2**	**-1.8**
TBTG	**Tabatinga, AM**	**39.13**	**223**	P	**P**	**07 24 33.5**	**+0.2**
TBTG				IAmb	IAmb	07 24 35.7	
	comp=Z,18nm,1.4s						
CEST	**Esterri de Car**	**40.45**	**54**	P	**P**	**07 24 42.4**	**-1.9**
CEST				IAmb	IAmb	07 25 22.1	
	comp=Z,21nm,1.3s						
FRB	**Frobisher Bay**	**40.67**	**344**	LR	LR	07 38 46.6	
	comp=Z,72nm,21.0s,baz=141,slow=32						
JTS	**Las Juntas de**	**41.52**	**255**	LR	LR	07 45 33.7	
	comp=Z,19nm,18.4s,baz=358,slow=41						
CRIN	**San Cristobal**	**42.29**	**260**	P	**P**	**07 24 59.5**	**0.0**
DBIC	**Dimbokro**	**42.33**	**110**	LR	LR	07 39 01.0	
	comp=Z,87nm,21.6s,baz=3.5,slow=31						
WLAR	**White Oak Lake**	**42.59**	**292**	P	**P**	**07 25 00.9**	**-0.8**
WLAR				IAmb	IAmb	07 25 13.6	
	comp=Z,10nm,1.1s						
EYMN	**Ely**	**42.59**	**313**	P	**P**	**07 25 01.8**	**+0.3**
EYMN				IAmb	IAmb	07 25 02.3	
	comp=Z,11nm,1.5s						
H10N2	**ASCENSION HYDR**	**44.59**	**135**	T	T	08 13 21.6	
	baz=320,slow=75,SNR=99						
H10N3	**ASCENSION HYDR**	**44.59**	**135**	T	T	08 13 21.8	
	baz=320,slow=75,SNR=100						
H10N1	**ASCENSION HYDR**	**44.61**	**135**	T	T	08 13 23.0	
	baz=320,slow=75,SNR=96						
ECSD	**EROS Data Cent**	**45.46**	**306**	P	**P**	**07 25 25.0**	**+0.3**
ADOK	**Arcadia Dam**	**45.97**	**295**	P	**P**	**07 25 28.9**	**+0.1**
KAN17	**Caldwell West**	**46.21**	**297**	P	**P**	**07 25 30.4**	**-0.3**
BFO	**Black Forest**	**46.26**	**47**	P	**P**	**07 25 29.8**	**-1.2**
BFO				IAmb	IAmb	07 25 31.0	
	comp=Z,3.2nm,0.6s						
KEST	**Kesra**	**46.47**	**65**	LR	LR	07 44 34.5	
	comp=Z,32nm,18.0s,baz=287,slow=36						
LPAZ	**La Paz**	**48.23**	**211**	P	**P**	**07 25 44.9**	**-2.3**
LPAZ				IAmb	IAmb	07 25 57.9	
	comp=Z,3.0nm,0.9s						
LPAZ	**La Paz**	**48.23**	**211**	P	**P**	**07 25 49.1**	**+1.9**
	comp=Z,1.8nm,0.7s,baz=12,slow=4.4,SNR=7.5						
LPAZ				LR	LR	07 45 50.4	
	comp=Z,37nm,18.8s,baz=46,slow=36 comp=Z,1.8nm,0.7s						
GERES	**GERESS Array B**	**49.86**	**47**	P	**P**	**07 25 57.0**	**-1.9**
GERES	**GERESS Array B**	**49.86**	**47**	LR	LR	07 42 25.4	
	comp=Z,31nm,19.8s,baz=143,slow=30						
POIN	**Pond Inlet**	**49.93**	**347**	P	**P**	**07 25 57.7**	**-1.2**
POIN				IAmb	IAmb	07 26 17.7	
	comp=Z,6.2nm,1.1s						
VAE	**Valguarnera**	**50.40**	**62**	LR	LR	07 44 06.2	
	comp=Z,54nm,20.2s,baz=248,slow=32						
NOA	**NORSAR Array B**	**50.81**	**31**	LR	LR	07 44 20.3	
	comp=Z,25nm,18.4s,baz=90,slow=32						
GO01	**Chusmiza**	**51.66**	**210**	P	**P**	**07 26 12.2**	**-0.9**
GO01				IAmb	IAmb	07 26 15.2	
	comp=Z,8.5nm,1.1s						
HFS	**Hagfors**	**51.74**	**33**	P	**P**	**07 26 12.7**	**0.0**
	comp=Z,1.6nm,0.8s,baz=238,slow=14,SNR=3.9 comp=Z,1.6nm,0.8s						
VRAC	**Vranov**	**51.79**	**47**	LR	LR	07 45 42.4	
	comp=Z,33nm,18.1s,baz=281,slow=33						
PB11	**IPOC Station P**	**51.95**	**211**	P	**P**	**07 26 14.1**	**-0.9**
TXAR	**Lajitas Array**	**52.10**	**288**	P	**P**	**07 26 15.8**	**-0.2**
TXAR	**Lajitas Array**	**52.10**	**288**	P	**P**	**07 26 14.7**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=75,slow=6.9,SNR=2.0 comp=Z,0.2nm,0.8s						
ANMO	**Albuquerque**	**53.43**	**295**	P	**P**	**07 26 26.6**	**+0.7**
ANMO	**Albuquerque**	**53.43**

D25K	**Kavik River**	**69.82**	**338**	P	**P**	**07 28 16.5**	**+0.7**
D25K				IAmb	IAmb	07 28 16.8	
	comp=Z,4.0nm,1.1s						
E25K	**Arctic Village**	**69.97**	**337**	P	**P**	**07 28 17.1**	**+0.4**
F25K	**Christian Rive**	**70.18**	**336**	P	**P**	**07 28 18.2**	**+0.2**
F25K				IAmb	IAmb	07 28 21.2	
	comp=Z,3.2nm,1.2s						
BCAR	**Beaver Creek A**	**70.19**	**331**	P	**P**	**07 28 18.3**	**+0.1**
FYU	**Fort Yukon**	**70.39**	**335**	P	**P**	**07 28 19.9**	**+0.6**
FYU				IAmb	IAmb	07 29 00.9	
	comp=Z,7.1nm,1.5s						
PLCA	**Paso Flores**	**70.98**	**201**	P	**P**	**07 28 25.4**	**+2.3**
	comp=Z,0.9nm,0.7s,baz=339,slow=7.5,SNR=3.2						
	comp=Z,0.9nm,0.7s						
F24K	**Squaw Lake**	**71.01**	**337**	P	**P**	**07 28 23.9**	**+0.8**
F24K				IAmb	IAmb	07 28 25.2	
	comp=Z,2.3nm,0.8s						
G24K	**Hadweenzic Riv**	**71.18**	**336**	P	**P**	**07 28 25.2**	**+1.1**
G24K				IAmb	IAmb	07 28 27.0	
	comp=Z,3.2nm,1.1s						
ISLE	**Juniper Island**	**71.27**	**329**	P	**P**	**07 28 24.7**	**-0.2**
VRDI	**Verde Repeater**	**71.56**	**330**	P	**P**	**07 28 26.8**	**+0.1**
IL31		**71.70**	**334**	P	**P**	**07 28 27.3**	**+0.2**
ILAR	**Eielson Array**	**71.70**	**334**	P	**P**	**07 28 27.2**	**0.0**
	comp=Z,0.9nm,0.7s,baz=72,slow=4.8,SNR=14						
	comp=Z,0.9nm,0.7s						
H23K	**Yukon River**	**72.30**	**335**	P	**P**	**07 28 31.9**	**+1.1**
D19K	**Kuna River**	**74.00**	**339**	P	**P**	**07 28 41.3**	**+0.4**
D19K				IAmb	IAmb	07 28 42.8	
	comp=Z,3.1nm,0.9s						
KDAK	**Kodiak Island**	**77.23**	**329**	LR	LR	08 02 11.9	
	comp=Z,57nm,19.8s,baz=136,slow=35						
AKTO	**Aktyubinsk**	**77.54**	**40**	P	**P**	**07 29 02.2**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=294,slow=7.0,SNR=4.1						
AKTO				LR	LR	08 00 53.6	
	comp=Z,26nm,19.8s,baz=252,slow=34						
	comp=Z,0.8nm,0.3s						
PETK	**Petropavlovsk-**	**98.66**	**347**	P	Pdif	07 30 45.4	+0.6

*HEL **09** 07:49:13.6±0.1, 63.97N×28.13E, h0km, ML1.5, Suspected explosion Hypocentre not reviewed by the ISC*

IDC 09 07:49:14.7±1.9, 63.93N×28.16E, h0km, mbtmp2.4/2, ML1.7/2, Error ellipse: s-maj=44.6km s-min=10.5km az=96.0, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIF	**Nilsia**	**0.57**	**196**	PG		07 49 24.2	
NIF				SG		07 49 32.0	
RMF	**Romuvaara**	**0.83**	**69**	PG		07 49 28.9	
	baz=249						
RMF				MSG		07 49 39.3	
	comp=Z,5.4nm,0.2s						
RMF				SG		07 49 39.3	
OUL	**Oulu**	**1.51**	**321**	PG		07 49 40.5	
OUL				SN		07 50 02.9	
SUF	**Sumiainen**	**1.52**	**217**	PG		07 49 41.4	
	baz=38						
SUF				MSG		07 49 59.7	
	comp=Z,1.6nm,0.2s						
OUF	**Merijarvi**	**1.56**	**288**	PG		07 49 40.9	
OUF				MSG		07 49 59.7	
	comp=Z,2.8nm,0.2s						
OUF				SN		07 50 05.3	
OBF4	**Vikkela, Lumij**	**1.59**	**305**	PG		07 49 41.8	
OBF4				MSG		07 50 00.5	
	comp=Z,2.1nm,0.2s						
KU1	**Kurvinen**	**1.75**	**20**	PG		07 49 44.4	
KU2	**Taivalkoski**	**1.78**	**1**	PG		07 49 44.7	
	baz=180						
OBF0	**Syolatti, Pyha**	**1.81**	**290**	PG		07 49 45.6	
OBF0				MSG		07 50 06.7	
	comp=Z,2.1nm,0.2s						
KAF	**Kangasniemi**	**2.01**	**206**	PG		07 49 49.9	
KAF				MSG		07 50 14.2	
	comp=Z,2.4nm,0.2s						
KAF				SG		07 50 16.8	
MSF	**Maaselka**	**2.02**	**10**	PG		07 49 49.2	
	baz=196						
MSF				SG		07 50 13.7	
RANF	**Ranua**	**2.17**	**345**	PG		07 49 52.2	
RANF				SG		07 50 18.5	
KU6	**Riekki**	**2.23**	**19**	PG		07 49 52.4	
KU6				MSG		07 50 18.6	
	comp=Z,1.8nm,0.2s						
KEF	**Keuruu**	**2.32**	**222**	PG		07 49 55.9	
	baz=33						
KEF				MSG		07 50 22.8	
	comp=Z,5.0nm,0.2s						
KEF				SG		07 50 25.3	
OLKF	**Oulanka, Finla**	**2.46**	**12**	PB		07 49 56.1	
	baz=198						
OLKF				MSG		07 50 25.1	
	comp=Z,1.3nm,0.2s						
OLKF				SG		07 50 27.8	
RUF	**Ruokolahti**	**2.54**	**171**	PB		07 49 58.8	
RUF				MSG		07 50 29.8	
	comp=Z,1.7nm,0.2s						
FIA0	**FINESS Array S**	**2.68**	**202**	PB		07 50 00.1	
FIA0				MSG		07 50 33.4	
	comp=Z,1.1nm,0.2s						
FIA0				SG		07 50 34.4	
FINES	**FINESS Array B**	**2.68**	**202**	Pn	Pn	07 50 00.6	+1.7
	comp=Z,0.3nm,0.3s,baz=18,slow=15,SNR=12						
FINES				Sn	Sb	07 50 34.9	-1.8
	comp=Z,0.5nm,0.3s,baz=22,slow=27,SNR=20						
	comp=Z,1.1nm,0.5s						
RNF	**Rovaniemi**	**2.83**	**342**	SB		07 50 38.0	
UMAU	**Umeaa**	**3.31**	**272**	PN		07 50 06.3	
	baz=90						
KLF	**Kolari**	**3.74**	**334**	SG		07 51 07.6	
ARCES	**ARCESS Array B**	**5.72**	**351**	Pn	Pn	07 50 39.9	-0.9
	baz=176,slow=13,SNR=1.5						
ARCES				Sn	Sn	07 51 43.5	-3.6
	baz=168,slow=23,SNR=1.5						
	comp=Z,0.5nm,0.6s						
I37NO	**I37NO**	**6.41**	**328**	I	I	08 25 36.8	
	baz=142,slow=319,SNR=5.0						

*ASRS **09** 07:49:35.0±1.4, 54.37N×86.86E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 07:49:36.1±2.8, 54.34N×86.99E, h0km, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=23.0km s-min=15.6km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.33**	**254**	I	I	07 58 01.9	
	0.1nm,0.8s,baz=68,slow=319,SNR=10						
ZALV	**Zalesovo Beam**	**1.33**	**254**	Pg	Pg	07 50 00.7	-0.9
	1.0nm,0.3s,baz=73,slow=16,SNR=17						
ZALV				Lg	Lg	07 50 19.1	
	1.4nm,0.3s,baz=73,slow=29,SNR=7.7						
KURBB	**Kurchatov Arra**	**6.37**	**238**	Pn	Pn	07 51 11.8	+0.8
	0.1nm,0.3s,baz=54,slow=13,SNR=12						
KURBB				Sn	Sn	07 52 24.5	+0.1
	baz=66,slow=30,SNR=0.9						
KURBB				Lg	Lg	07 52 57.5	
	baz=52,slow=32,SNR=4.7						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**8.12**	**203**	Pn	Pn	07 51 36.5	+1.3
	0.1nm,0.3s,baz=25,slow=14,SNR=5.1						
MKAR				Sn	Sn	07 53 05.5	-2.1
	0.1nm,0.3s,baz=23,slow=28,SNR=5.0						
MKAR				Lg	Lg	07 53 54.0	
	baz=15,slow=32,SNR=2.1						
	0.1nm,0.3s						

RSNC 09 07:53:54.1±0.0, 5°N±1°×7°5W±°, h41km±2km, M2.2, mb3.6, ML1.9, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**0.27**	**98**	P	Pn	07 54 02.0	-0.6
ROSC				S	Sn	07 54 09.2	+0.7
CVER	**Cruz Verde, Cu**	**0.63**	**125**	P	Pn	07 54 06.3	-0.7
CVER				S	Sn	07 54 15.1	-1.1
NORC	**Norcasia**	**0.73**	**338**	P	Pn	07 54 06.9	-1.2
NORC				S	Sn	07 54 17.8	-0.4
RECRC	**Villamaria, Ca**	**0.76**	**276**	P	Pn	07 54 08.4	-0.5
RECRC				S	Sn	07 54 19.4	-0.2
GUY2C	**Guyana, Caldas**	**0.84**	**294**	P	Pn	07 54 09.7	-0.3
GUY2C				S	Sn	07 54 21.8	+0.3
CHIC	**Chingaza**	**0.89**	**106**	P	Pn	07 54 10.0	-0.6
CHIC				S	Sn	07 54 22.7	+0.2
NIZA	**Niza - Manizal**	**0.90**	**281**	P	Pn	07 54 10.1	-0.4
NIZA				S	Sn	07 54 22.2	-0.2
ANIL	**Santa Ana**	**0.90**	**245**	P	Pn	07 54 09.7	-0.8
ANIL				S	Sn	07 54 22.2	-0.3
SPBC	**San Pablo de B**	**0.92**	**34**	P	Pn	07 54 09.2	-1.5
SPBC				S	Sn	07 54 21.8	-1.1
ORTC	**Ortega, Tolima**	**1.17**	**214**	P	Pn	07 54 13.1	-0.9
ORTC				S	Sn	07 54 29.3	+0.6
VILC	**Villavicencio,**	**1.18**	**130**	P	Pn	07 54 14.0	-0.2
VILC				S	Sn	07 54 29.4	+0.3
PRAC	**Prado**	**1.20**	**194**	P	Pn	07 54 13.7	-0.7
PRAC				S	Sn	07 54 30.3	+0.8
HELC	**Santa Helena**	**1.60**	**324**	P	Pn	07 54 20.9	+0.6
HELC				S	Sn	07 54 41.3	+1.3
URMC	**La Uribe, Meta**	**1.64**	**173**	P	Pn	07 54 19.9	-0.6
URMC				S	Sn	07 54 40.4	0.0
PTBC	**PUERTO BERRIO,**	**1.65**	**5**	P	Pn	07 54 19.9	-0.8
PTBC				S	Sn	07 54 41.0	+0.2
PLMC	**San Jos del P**	**1.69**	**271**	P	Pn	07 54 23.2	+2.0
CBOC	**Ciudad Bolivar**	**1.72**	**305**	P	Pn	07 54 23.1	+1.4
CBOC				S	Sn	07 54 45.2	+2.6
RUSC	**La Rusia**	**1.81**	**56**	P	Pn	07 54 22.5	-0.7
RUSC				S	Sn	07 54 45.1	0.0
YOTC	**Yotoco, Valle**	**1.96**	**243**	P	Pn	07 54 27.0	+2.0
YOTC				S	Sn	07 54 51.6	+3.1
BARC	**Barichara**	**2.20**	**39**	P	Pn	07 54 27.6	-0.8
BARC				S	Sn	07 54 53.7	-0.9
ZARC	**Zaragoza, Cauc**	**2.61**	**354**	P	Pn	07 54 35.2	+1.4
ZARC				S	Sn	07 55 06.5	+2.2
OCAC	**Ocana**	**3.57**	**21**	P	Pn	07 54 46.4	-0.7
OCAC				S	Sn	07 55 27.8	-0.3
SJCC	**San Jacinto, C**	**5.02**	**353**	P	Pn	07 55 07.4	+0.4
SJCC				S	Sn	07 56 02.7	-1.1

ROM 09 07:56:06.4±0.1, 42.615N±0.004×13.275E±0.005, h17km, ML1.9/33, 1C-1D, Error ellipse: s-maj=0.4km s-min=0.2km az=262.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.05**	**71**	P	Pg	07 56 09.8	+0.1
SMA1				S	Sg	07 56 12.1	+0.2
SMA1				AML	AML		
	comp=E,799µm,0.2s						
SMA1				AML	AML		
	comp=N,466µm,0.3s						
SMA1				AML	AML		
	comp=E,799µm,0.2s						
SMA1				AML	AML		
	comp=N,466µm,0.3s						
RM33	**Pellescritta (**	**0.12**	**203**	P	Pb	07 56 10.4	+0.1
RM33				S	Sb	07 56 13.1	+0.3
RM33				AML	AML		
	comp=E,1220µm,0.2s						
RM33				AML	AML		
	comp=N,1620µm,0.1s						
RM33				AML	AML		
	comp=N,1535µm,0.1s						
RM33				AML	AML		
	comp=E,1170µm,0.3s						
RM33				AML	AML		
	comp=N,1620µm,0.1s						
RM33				AML	AML		
	comp=N,1534µm,0.1s						
RM33				AML	AML		
	comp=E,1159µm,0.2s						
RM33				AML	AML		
	comp=E,1219µm,0.2s						
CAMP	**Campotosto**	**0.13**	**129**	P	Pb	07 56 10.5	0.0
CAMP				S	Sb	07 56 13.3	+0.2
CAMP				AML	AML		
	comp=N,440µm,0.2s						
CAMP				AML	AML		
	comp=E,596µm,0.2s						
CAMP				AML	AML		
	comp=N,440µm,0.2s						
CAMP				AML	AML		
	comp=E,596µm,0.2s						
MTRA	**Matera**	**0.17**	**32**	P	Pg	07 56 10.8	0.0
MTRA				S	Sg	07 56 14.0	+0.2
MTRA				AML	AML		
	comp=E,1101µm,0.5s						
MTRA				AML	AML		
	comp=N,1145µm,0.1s						
MTRA				AML	AML		
	comp=E,1062µm,0.5s						
MTRA				AML	AML		
	comp=N,1165µm,0.1s						
MTRA				AML	AML		
	comp=E,1104µm,0.5s						
MTRA				AML	AML		
	comp=E,1019µm,0.1s						
MTRA				AML	AML		
	comp=E,1006µm,0.1s						
MTRA				AML	AML		
	comp=N,1147µm,0.1s						
MTRA				AML	AML		
	comp=N,1165µm,0.1s						
LNSS	**Leonessa**	**0.17**	**266**	P	Pg	07 56 11.0	0.0
LNSS				S	Sb	07 56 14.6	+0.1
LNSS				AML	AML		
	comp=E,782µm,0.3s						
LNSS				AML	AML		
	comp=N,516µm,0.3s						
LNSS				AML	AML		
	comp=E,639µm,0.1s						
LNSS				AML	AML		
	comp=E,557µm,0.1s						
LNSS				AML	AML		
	comp=N,478µm,0.1s						
LNSS				AML	AML		
	comp=N,494µm,0.1s						
TERO	**Teramo**	**0.24**	**88**	⇓P	Pg	07 56 11.9	0.0
TERO				S	Sb	07 56 16.1	-0.3
TERO				AML	AML		
	comp=E,436µm,1.6s						
TERO				AML	AML		
	comp=N,286µm,0.1s						
TERO				AML	AML		
	comp=E,686µm,0.1s						
TERO				AML	AML		
	comp=E,436µm,1.6s						
TERO				AML	AML		
	comp=N,678µm,0.4s						
TERO				AML	AML		
	comp=E,436µm,0.4s						
TERO				AML	AML		
	comp=N,286µm,0.1s						
TERO				AML	AML		
	comp=E,686µm,0.1s						
TERO				AML	AML		
	comp=N,286µm,0.1s						
TERO				AML	AML		
	comp=N,561µm,0.1s						
NRCA	**Norcia**	**0.25**	**332**	⇑P	Pg	07 56 12.1	0.0
NRCA				S	Sg	07 56 16.2	+0.2
NRCA				AML	AML		
	comp=N,516µm,0.2s						
NRCA				AML	AML		
	comp=E,1034µm,0.1s						
NRCA				AML	AML		
	comp=N,516µm,0.2s						
NRCA				AML	AML		
	comp=N,511µm,0.1s						
NRCA				AML	AML		
	comp=E,927µm,0.1s						
NRCA				AML	AML		
	comp=E,1032µm,0.1s						
MMO1	**Montemonaco**	**0.29**	**8**	P	Pg	07 56 12.7	0.0
MMO1				S	Sb	07 56 17.6	-0.2
GAVE	**Gavelli**	**0.29**	**285**	P	Pg	07 56 12.7	0.0
GAVE				S	Sb	07 56 17.6	-0.3
GAVE				AML	AML		
	comp=N,322µm,1.0s						
GAVE				AML	AML		
	comp=E,305µm,0.6s						
GAVE				AML	AML		
	comp=E,305µm,1.4s						
GAVE				AML	AML		
	comp=E,259µm,0.2s						
GAVE				AML	AML		
	comp=N,308µm,0.2s						
MC2	**Monte Cornacci**	**0.30**	**348**	P	Pg	07 56 13.1	0.0
MC2				S	Sb	07 56 18.4	+0.1
FIAM	**Fiamignano**	**0.37**	**199**	P	Pg	07 56 14.3	+0.2
ARRO	**Arrone**	**0.38**	**265**	P	Pg	07 56 14.1	-0.1
ARRO				AML	AML		
	comp=N,73µm,0.2s						
ARRO				AML	AML		
	comp=E,70µm,0.2s						
ARRO				AML	AML		
	comp=E,70µm,0.2s						
ARRO				AML	AML		
	comp=N,73µm,0.2s						
FEMA	**Monte Fema**	**0.38**	**334**	P	Pb	07 56 15.0	+0.2
MF5	**Montefalcone A**	**0.40**	**20**	P	Pb	07 56 15.0	0.0
OFFI	**Offida**	**0.44**	**43**	P	Pb	07 56 16.3	+0.6
FDMO	**Fiordimonte**	**0.44**	**342**	P	Pb	07 56 15.8	0.0
FDMO				AML	AML		
	comp=E,43µm,0.2s						
FDMO				AML	AML		
	comp=N,69µm,0.2s						
FDMO				AML	AML		
	comp=E,43µm,0.2s						
FDMO				AML	AML		
	comp=N,69µm,0.2s						
VCEL	**Villa Celiera**	**0.47**	**118**	P	Pg	07 56 16.1	+0.1
VCEL				AML	AML		
	comp=E,146µm,0.4s						
VCEL				AML	AML		
	comp=N,135µm,0.3s						
VCEL				AML	AML		
	comp=E,146µm,1.6s						
VCEL				AML	AML		
	comp=E,123µm,0.3s						
VCEL				AML	AML		
	comp=N,118µm,0.4s						
CESI	**CESI - Serrava**	**0.47**	**325**	P	Pb	07 56 16.2	-0.1
T0110	**Collepietro**	**0.54**	**136**	P	Pg	07 56 16.8	-0.3
T0110				AML	AML		
	comp=E,77µm,0.6s						
T0110				AML	AML		
	comp=N,70µm,0.3s						
T0110				AML	AML		
	comp=N,70µm,1.7s						
T0110				AML	AML		
	comp=E,64µm,0.2s						
T0110				AML	AML		
	comp=N,70µm,0.3s						
MML1	**Montelago di S**	**0.55**	**336**	P	Pb	07 56 17.6	0.0

ROM 09 07:56:30.6±0.1, 42.619N±0.004×13.276E±0.006, h16km, ML2.0/26, Error ellipse: s-maj=0.5km s-min=0.2km az=242.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.04**	**75**	P	Pg	07 56 33.9	+0.1
SMA1				S	Sg	07 56 36.3	+0.5
SMA1				AML	AML		
	comp=N,294µm,0.1s						
SMA1				AML	AML		
	comp=E,438µm,0.3s						
RM33	**Pellescritta (**	**0.12**	**202**	P	Pg	07 56 34.5	+0.1
RM33				S	Sb	07 56 37.2	0.0
RM33				AML	AML		
	comp=N,1305µm,0.1s						
RM33				AML	AML		
	comp=N,1330µm,0.1s						
RM33				AML	AML		
	comp=E,1470µm,0.7s						
RM33				AML	AML		
	comp=E,1385µm,0.7s						
RM33				AML	AML		
	comp=E,1370µm,0.2s						
RM33				AML	AML		
	comp=E,1362µm,0.2s						
RM33				AML	AML		
	comp=N,1329µm,0.1s						
RM33				AML	AML		
	comp=N,1307µm,0.1s						
CAMP	**Campotosto**	**0.13**	**130**	P	Pg	07 56 34.5	0.0
CAMP				S	Sb	07 56 37.4	-0.1
MTRA	**Matera**	**0.16**	**33**	P	Pg	07 56 35.0	0.0
MTRA				S	Sg	07 56 38.1	+0.3
MTRA				AML	AML		
	comp=E,1330µm,0.4s						
MTRA				AML	AML		
	comp=N,1017µm,0.1s						
MTRA				AML	AML		
	comp=E,1330µm,0.5s						
MTRA				AML	AML		
	comp=N,1016µm,0.1s						
MTRA				AML	AML		
	comp=N,1017µm,0.1s						
MTRA				AML	AML		
	comp=E,1081µm,0.1s						
MTRA				AML	AML		
	comp=E,1084µm,0.1s						
MTRA				AML	AML		
	comp=N,1094µm,0.1s						
LNSS	**Leonessa**	**0.17**	**265**	P	Pg	07 56 35.1	0.0
LNSS				S	Sb	07 56 38.7	-0.2
LNSS				AML	AML		
	comp=E,774µm,0.3s						
LNSS				AML	AML		
	comp=N,594µm,0.3s						
LNSS				AML	AML		
	comp=E,774µm,1.7s						
LNSS				AML	AML		
	comp=N,594µm,1.7s						
LNSS				AML	AML		
	comp=N,503µm,0.1s						
LNSS				AML	AML		
	comp=E,582µm,0.1s						
LNSS				AML	AML		
	comp=E,667µm,0.1s						
LNSS				AML	AML		
	comp=N,531µm,0.2s						
TERO	**Teramo**	**0.24**	**89**	P	Pg	07 56 36.0	-0.1
TERO				S	Sg	07 56 40.2	+0.4
TERO				AML	AML		
	comp=N,205µm,0.1s						
TERO				AML	AML		
	comp=E,243µm,0.1s						
TERO				AML	AML		
	comp=E,416µm,0.2s						
TERO				AML	AML		
	comp=N,455µm,0.1s						
NRCA	**Norcia**	**0.25**	**331**	P	Pg	07 56 36.1	-0.1
NRCA				S	Sb	07 56 40.5	-0.4
NRCA				AML	AML		
	comp=E,769µm,0.1s						
NRCA				AML	AML		
	comp=E,857µm,0.2s						
NRCA				AML	AML		
	comp=N,353µm,0.1s						
NRCA				AML	AML		
	comp=N,330µm,0.1s						
MMO1	**Montemonaco**	**0.28**	**8**	P	Pg	07 56 36.8	0.0
MMO1				S	Sb	07 56 41.6	-0.4
GAVE	**Gavelli**	**0.29**	**285**	P	Pg	07 56 36.8	-0.1
GAVE				S	Sg	07 56 41.6	+0.3
GAVE				AML	AML		
	comp=E,158µm,0.2s						
GAVE				AML	AML		
	comp=N,186µm,0.3s						
MC2	**Monte Cornacci**	**0.30**	**348**	P	Pb	07 56 37.5	-0.3
FIAM	**Fiamignano**	**0.37**	**199**	P	Pg	07 56 38.6	+0.3
MF5	**Montefalcone A**	**0.39**	**20**	P	Pb	07 56 39.0	-0.3
FAGN	**Fagnano**	**0.42**	**147**	P	Pb	07 56 39.8	0.0
FDMO	**Fiordimonte**	**0.44**	**342**	P	Pg	07 56 39.5	-0.1
CESI	**CESI - Serrava**	**0.47**	**325**	P	Pb	07 56 41.0	+0.3
VCEL	**Villa Celiera**	**0.47**	**118**	P	Pg	07 56 40.2	+0.1
VCEL				AML	AML		
	comp=N,94µm,0.3s						
VCEL				AML	AML		
	comp=E,101µm,0.3s						
MNTT	**Montottone**	**0.50**	**28**	P	Pb	07 56 41.5	+0.4
T0110	**Collepietro**	**0.54**	**136**	P	Pg	07 56 41.3	-0.1
MML1	**Montelago di S**	**0.54**	**336**	P	Pb	07 56 41.9	+0.1

*ASRS **09** 07:59:12.0±1.2, 54.13N×86.43E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p +*

CD-ROM, 2021.

IDC 09 07:59:15.2±2.5, 54°11N×86°51E, h0km, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=20.8km s-min=12.9km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**262**	I	I	08 05 50.0	
ZALV	**Zalesovo Beam**	**1.01**	**262**	Pg	Pg	07 59 32.9	-1.7
ZALV	0.9nm,0.3s,baz=83,slow=17,SNR=9.2			Lg	Lg	07 59 49.4	
KURBB	**Kurchatov Arra**	**6.00**	**238**	Pn	Pn	08 00 46.1	+0.9
KURBB	0.1nm,0.3s,baz=54,slow=14,SNR=8.1			Lg	Lg	08 02 26.4	
MKAR	**Makanchi Array**	**7.80**	**202**	Pn	Pn	08 01 11.2	+1.3
MKAR	0.2nm,0.3s,baz=26,slow=14,SNR=10			Lg	Lg	08 03 20.8	

baz=58,slow=32,SNR=4.6
1.0nm,0.4s
baz=35,slow=33,SNR=2.0
0.3nm,0.3s

*IDC **09** 08:04:46.1±1.1, 0.°68N×126.°54E, h0km, mb4.1/8, mbtmp4.1/9, ML3.4/1, Error ellipse: s-maj=95.2km s-min=15.5km az=69.0*

*NEIC **09** 08:04:48.0±1.1, 0.°48N±0.°09×126.°09E±0.°08, h9km±3km, mb4.3/16, Error ellipse: s-maj=14.9km s-min=9.3km az=140.0*

*DJA **09** 08:04:50.0±0.3, 0.°N±3.°×12.°6E±.°, h10km, M3.8/8, MLv3.8/8*

ISC 09 08:04:52.3±0.5, 0.°40N±0.°06×126.°20E±0.°06, h44km, n36, σ1°§16/39, mb4.2/18, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.22**	**73**	Pn	**Pn**	**08 05 12.0**	**-0.9**
TNTI				Sn	**Sn**	**08 05 29.9**	**+1.6**
TNTI	**Ternate**	**1.22**	**73**	P	**Pn**	**08 05 12.9**	**0.0**
KMSI	**Cibinong**	**2.23**	**274**	P	**Pn**	**08 05 26.9**	**+0.2**
SANI	**Sanana**	**2.45**	**185**	P	**Pn**	**08 05 29.9**	**+0.1**
NLAI	**Namlea**	**3.73**	**166**	P	**Pn**	**08 05 46.3**	**-1.1**
MTN	**Manton Dam**	**14.04**	**160**	Pn	**Pn**	**08 08 06.9**	**-1.9**
KNRA	**Kununurra**	**16.18**	**171**	P	**Pn**	**08 08 37.5**	**+0.9**
FITZ	**Fitzroy Crossi**	**18.39**	**182**	P	**P**	**08 09 02.1**	**-1.7**
FITZ	**Fitzroy Crossi**	**18.39**	**182**	P	**Pn**	**08 09 04.5**	**+0.3**
	0.1nm,0.3s,baz=7.0,slow=9.6,SNR=1.9						
	1.3nm,0.7s						
WB0	**Warramunga Arr**	**21.59**	**159**		**P**	**08 09 38.7**	**+0.1**
WB0				IAmb	IAmb	08 09 43.4	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**21.74**	**159**	P	**P**	**08 09 40.0**	**-0.2**
	comp=Z,3.7nm,0.4s,baz=339,slow=11,SNR=74						
	comp=Z,3.7nm,0.4s						
WB2	**Warramunga Arr**	**21.74**	**159**	P	**P**	**08 09 40.3**	**+0.1**
WB2				IAmb	IAmb	08 09 45.1	
	comp=Z,9.7nm,0.8s						
WR8	**Warramunga Arr**	**21.81**	**159**		**P**	**08 09 41.1**	**+0.2**
WR8				IAmb	IAmb	08 09 46.0	
	comp=Z,7.4nm,0.8s						
WR0	**Warramunga Arr**	**21.82**	**158**	P	**P**	**08 09 41.5**	**+0.4**
WR0				IAmb	IAmb	08 09 45.8	
	comp=Z,9.6nm,1.1s						
COEN	**Coen**	**22.05**	**131**	P	**P**	**08 09 43.4**	**-0.1**
COEN				IAmb	IAmb	08 09 49.9	
	comp=Z,10nm,1.0s						
AS31	**Alice Springs**	**25.07**	**163**	P	**P**	**08 10 13.2**	**+0.3**
AS31				IAmb	IAmb	08 10 17.0	
	comp=Z,2.3nm,0.5s						
ASAR	**Alice Springs**	**25.07**	**163**	P	**P**	**08 10 13.9**	**+1.0**
ASAR	**Alice Springs**	**25.07**	**163**	P	**P**	**08 10 15.0**	**+2.1**
	comp=Z,2.5nm,0.4s,baz=345,slow=12,SNR=53						
	comp=Z,2.5nm,0.4s						
FORT	**Forrest**	**31.06**	**177**	P	**P**	**08 11 06.6**	**+0.3**
FORT				IAmb	IAmb	08 11 45.7	
	comp=Z,6.2nm,1.1s						
STKA	**Stephens Creek**	**35.26**	**157**	P	**P**	**08 11 43.7**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=331,slow=10,SNR=4.3						
	comp=Z,3.4nm,0.8s						
JGF	**Kuroka**	**36.53**	**15**	P	**P**	**08 11 51.6**	**-2.1**
BNX	**BinXian**	**45.16**	**1**	⇑P	**P**	**08 13 07.0**	**+2.4**
BNX				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**50.28**	**343**	P	**P**	**08 13 42.0**	**-2.5**
	comp=Z,0.4nm,0.4s,baz=165,slow=7.4,SNR=1.7						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**60.00**	**327**	P	**P**	**08 14 52.8**	**-1.7**
MKAR				PcP	**PcP**	**08 15 40.9**	**+0.7**
MKAR	**Makanchi Array**	**60.00**	**327**	P	**P**	**08 14 54.4**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=120,slow=8.3,SNR=12						
MKAR				PcP	**PcP**	**08 15 40.6**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=116,slow=5.5,SNR=5.0						
	comp=Z,0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**64.26**	**328**	P	**P**	**08 15 22.9**	**0.0**
	comp=Z,1.1nm,0.7s,baz=128,slow=6.2,SNR=9.0						
	comp=Z,1.1nm,0.7s						
ABKAR	**Akbulak array**	**74.39**	**321**	P	**P**	**08 16 24.6**	**-1.1**
ABKAR	**Akbulak array**	**74.39**	**321**	P	**P**	**08 16 24.5**	**-1.1**
AKTO	**Aktyubinsk**	**75.94**	**322**	P	**P**	**08 16 34.9**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=114,slow=7.6,SNR=6.5						
	comp=Z,2.1nm,0.6s						
SDPT	**Sand Point**	**80.23**	**34**	P	**P**	**08 16 58.9**	**+0.7**
K15K	**Wolf Creek Mou**	**81.46**	**27**	P	**P**	**08 17 06.1**	**+1.5**
K15K				IAmb	IAmb	08 17 41.9	
	comp=Z,4.6nm,1.4s						
J17K	**VABM Dome**	**82.83**	**26**	P	**P**	**08 17 12.5**	**+0.7**
J17K				IAmb	IAmb	08 17 49.7	
	comp=Z,5.1nm,1.4s						
E18K	**Tukpahlearik C**	**83.22**	**22**	P	**P**	**08 17 14.3**	**+0.6**
IMAR	**Indian Mountai**	**85.58**	**24**	P	**P**	**08 17 26.3**	**+0.6**
QSPA	**South Pole Qui**	**90.33**	**180**	P	**P**	**08 17 49.7**	**+1.1**
QSPA	**South Pole Qui**	**90.33**	**180**	P	**P**	**08 17 50.0**	**+1.4**
	comp=Z,1.2nm,1.0s,baz=328,slow=0.8,SNR=5.1						
	comp=Z,1.2nm,1.0s						

*ASRS **09** 08:14:28.0±1.2, 53.°58N×87.°06E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 08:14:28.7±3.3, 53.°67N×87.°36E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=32.7km s-min=18.0km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.54**	**281**	I	I	08 23 33.4	
	baz=102,slow=312,SNR=7.0						
ZALV	**Zalesovo Beam**	**1.54**	**281**	Pn	Pn	08 14 55.6	-1.7
	0.7nm,0.3s,baz=100,slow=16,SNR=11						
ZALV				Lg	Lg	08 15 18.5	
	0.7nm,0.3s,baz=101,slow=28,SNR=3.9						
KURBB	**Kurchatov Arra**	**6.24**	**244**	Pn	Pn	08 16 02.0	+0.1
	baz=62,slow=14,SNR=2.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.62**	**207**	Pn	Pn	08 16 22.7	+1.9
	0.1nm,0.3s,baz=25,slow=14,SNR=5.6						
	0.1nm,0.3s						

*NEIC **09** 08:17:30.9±1.3, 35.°775N±0.°007×117.°61W±0.°01, h10km±2km, Error ellipse: s-maj=3.0km s-min=1.9km az=197.0*

PAS 09 08:17:31.6±1.0, 35.°781N±0.°010×117.°61W±0.°01, h8km±5km, Mwr3.6/4, ML3.5/148(NEIC), Error ellipse: s-maj=1.6km s-min=1.5km az=120.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.04**	**20**		Pg	08 17 33.4	+0.1
WVPM	**Volcano Peak E**	**0.24**	**316**		Pg	08 17 36.3	-0.1
WVPM					Sg	08 17 39.9	+0.2
JRC2	**Joshua Ridge**	**0.26**	**322**		Pg	08 17 36.7	-0.1
JRC2					Sg	08 17 40.8	+0.5
WCSM	**Coso Springs S**	**0.28**	**333**		Sg	08 17 41.0	+0.1
MPMC	**Manual Prospec**	**0.29**	**20**		Pg	08 17 37.3	-0.3
MPMC				Sg	Sg	08 17 41.4	-0.1
MPMC				IAML		08 17 42.0	
	comp=E,7μm,0.5s						
MPMC				IAML		08 17 42.0	
	comp=N,9μm,0.6s						
LRMC	**Laurel Mtn Rad**	**0.31**	**191**		Pg	08 17 37.5	-0.2
LRMC				Sg	Sg	08 17 41.6	-0.1
WBSM	**Bird Springs**	**0.49**	**241**		Pg	08 17 40.8	-0.4
DTP	**Desert Tortois**	**0.55**	**200**		Pg	08 17 41.8	-0.4
QSM	**Queen of Sheba**	**0.63**	**73**		Pg	08 17 43.3	-0.5
QSM				Sg	Sg	08 17 52.0	-0.1
QSM				IAML		08 17 53.7	
	comp=E,3μm,0.3s						
QSM				IAML		08 17 56.9	
	comp=N,4μm,0.4s						
ISA	**Isabella, Lake**	**0.71**	**261**	IAML		08 17 55.0	
	comp=N,2μm,0.3s						
ISA				IAML		08 17 58.3	
	comp=E,2μm,0.2s						
CWC	**Cottonwood Cre**	**0.76**	**330**		Pg	08 17 46.2	0.0
CWC				Sg	Sg	08 17 56.0	-0.1
CWC				IAML		08 17 57.1	
	comp=E,2μm,0.3s						
CWC				IAML		08 17 57.4	
	comp=N,2μm,0.2s						
GWY	**Greenwater Val**	**0.87**	**62**		Pg	08 17 47.7	-0.6
GWY				Sg	Sg	08 17 59.5	-0.1
GWY				IAML		08 18 05.9	
	comp=N,1μm,0.6s						
GWY				IAML		08 18 06.0	
	comp=E,2μm,0.4s						
TPO	**Tropico Hills**	**1.03**	**209**	IAML		08 18 07.1	
	comp=N,2μm,0.7s						
TPO				IAML		08 18 07.8	
	comp=E,2μm,0.5s						
VES	**Vestal, Richgr**	**1.20**	**273**		Pb	08 17 53.8	-0.8
GRAC	**Grapevine Rang**	**1.23**	**9**		Pb	08 17 54.3	-0.9
WCT	**Wildcat Mounta**	**1.29**	**38**		Pn	08 17 54.5	-1.5
WCT				IAML		08 18 16.5	
	comp=E,519nm,0.5s						
WCT				IAML		08 18 17.0	
	comp=N,507nm,0.6s						
OSI	**Osito Audit: C**	**1.48**	**218**		Pn	08 17 58.4	-0.2
OSI				IAML		08 18 21.4	
	comp=E,695nm,0.6s						
OSI				IAML		08 18 26.9	
	comp=N,620nm,0.7s						
BFSC	**Mount Baldy Ra**	**1.54**	**181**		Pn	08 17 58.1	-1.4
BFSC				IAML		08 18 22.1	
	comp=E,1μm,0.4s						
GMN	**Gold Mountain**	**1.54**	**11**		Pn	08 17 58.8	-1.0
GMN				IAML		08 18 23.7	
	comp=N,519nm,0.6s						
MWC	**Mount Wilson**	**1.60**	**193**		Pn	08 17 59.2	-1.1
TPNV	**Topopah Spring**	**1.60**	**43**		Pn	08 17 59.2	-1.3
TPNV				IAML		08 18 24.4	
	comp=N,429nm,0.4s						
TPNV				IAML		08 18 28.0	
	comp=N,425nm,0.5s						
DSP	**Deep Springs**	**1.61**	**350**		Pn	08 17 59.6	-0.8
DSP				IAML		08 18 23.9	
	comp=E,478nm,0.8s						
PASC	**Pasadena Art C**	**1.67**	**196**		Pn	08 18 00.3	-1.0
PASC				IAML		08 18 32.4	
	comp=E,764nm,0.7s						
PASC				IAML		08 18 32.5	
	comp=N,489nm,0.5s						
MTPC	**Mountain Pass**	**1.70**	**99**		Pn	08 18 00.1	-1.8
MTPC				IAML		08 18 26.2	
	comp=E,966nm,0.3s						
MTPC				IAML		08 18 28.4	
	comp=N,682nm,0.5s						
MZP	**Montezuma Peak**	**1.93**	**5**		Pn	08 18 04.3	-0.7
SHPR	**Sheep Range**	**2.11**	**69**	Pn	Pn	08 18 06.7	-0.8
ELS	**Elsinore Mount**	**2.13**	**176**		Pn	08 18 06.6	-1.0
ELS				IAML		08 18 41.0	
	comp=N,458nm,0.3s						
V12A	**Nelson**	**2.25**	**91**		Pn	08 18 07.5	-1.7
V12A				IAML		08 18 44.4	
	comp=N,250nm,0.7s						
V12A				IAML		08 18 46.0	
	comp=E,184nm,0.3s						
TPH	**Tonopah**	**2.31**	**8**		Pn	08 18 09.6	-0.6
PMD	**Palm Desert**	**2.36**	**154**		Pn	08 18 09.1	-1.7
PMD				IAML		08 18 47.2	
	comp=E,242nm,0.4s						
PMD				IAML		08 18 47.9	
	comp=N,220nm,0.7s						
PFO	**Pinyon Flats O**	**2.36**	**156**		Pn	08 18 09.3	-1.6
PFO				IAML		08 18 51.6	
	comp=N,220nm,0.5s						
PFO				IAML		08 18 51.6	
	comp=N,225nm,0.6s						
S11A	**Rachel**	**2.39**	**38**	IAML		08 18 51.6	
	comp=N,339nm,0.8s						
S11A				IAML		08 18 57.2	
	comp=E,358nm,0.9s						
LHV	**Little Huntoon**	**2.57**	**344**		Pn	08 18 13.7	+0.2
LHV				IAML		08 18 58.9	
	comp=N,174nm,0.5s						
LHV				IAML		08 19 14.3	
	comp=E,140nm,0.9s						
PMPB	**Monarch Peak**	**2.62**	**280**		Pn	08 18 14.3	-0.1
PRN	**Pahroc Range**	**2.62**	**51**	IAML		08 19 02.7	
	comp=E,141nm,0.8s						
PRN				IAML		08 19 03.1	
	comp=N,160nm,0.8s						
BORC	**Borrego Spring**	**2.69**	**158**		Pn	08 18 14.1	-1.2
BORC				IAML		08 18 57.6	
	comp=E,376nm,0.8s						
BORC				IAML		08 19 00.1	
	comp=N,290nm,1.0s						
DPP	**Dos Picos Cty**	**2.83**	**168**	IAML		08 18 59.6	
	comp=N,128nm,0.2s						
DPP				IAML		08 19 00.2	
	comp=E,278nm,0.6s						
RYN	**Ryan**	**2.93**	**346**		Pn	08 18 18.4	-0.3
R11B	**Troy Canyon, C**	**3.03**	**32**		Pn	08 18 18.7	-1.4
WAKR	**Walker**	**3.08**	**332**		Pn	08 18 20.8	-0.1
W13A	**Hualapai Mount**	**3.12**	**102**		Pn	08 18 20.0	-1.4
W13A				IAML		08 19 13.0	
	comp=N,91nm,0.7s						
W13A				IAML		08 19 16.2	
	comp=E,82nm,0.8s						
SAO	**San Andreas Ge**	**3.25**	**289**	Pn	Pn	08 18 22.6	-0.4
BLYC	**Blythe**	**3.25**	**128**	IAML		08 19 15.3	
	comp=E,222nm,0.5s						
TKX	**Tecate**	**3.31**	**165**	Pn	Pn	08 18 23.0	-0.8
TKX				IAML		08 19 15.5	
	comp=N,191nm,0.3s						
CBX	**Cerro Bola**	**3.55**	**167**		Pn	08 18 26.9	-0.3
GLA	**Glamis**	**3.57**	**139**		Pn	08 18 25.1	-2.3
CCUT	**Cedar City**	**3.85**	**61**		Pn	08 18 31.1	-0.3
CCX	**Cicese**	**3.98**	**168**		Pn	08 18 32.9	-0.1
CCX				IAML		08 19 39.3	
	comp=N,98nm,0.6s						
MPK	**Martis Peak**	**4.00**	**332**	Pn	Pn	08 18 33.8	+0.3
MPK				IAML		08 19 50.2	
	comp=E,104nm,0.9s						
ESJX	**Sierra Juarez**	**4.01**	**159**	IAML		08 19 37.5	
	comp=E,87nm,1.1s						
ESJX				IAML		08 19 38.0	
	comp=N,69nm,1.5s						
SZCU	**Shurtz Canyon**	**4.06**	**62**	Pn	Pn	08 18 35.6	+1.2
PSUT	**Pine Spring**	**4.07**	**46**		Pn	08 18 34.7	+0.2
PSUT				IAML		08 19 54.1	
	comp=N,41nm,1.0s						
PSUT				IAML		08 19 59.1	
	comp=E,50nm,0.9s						
SPR3	**Spring Creek 3**	**4.14**	**38**		Pn	08 18 35.5	0.0
Y14A	**Wickenburg**	**4.21**	**115**	IAML		08 19 48.0	
	comp=N,92nm,0.6s						
Y14A				IAML		08 19 49.2	
	comp=E,96nm,0.6s						
113A	**Mohawk Valley,**	**4.38**	**132**	IAML		08 19 55.6	
	comp=E,34nm,1.2s						
113A				IAML		08 20 00.3	
	comp=N,36nm,1.5s						
BEKR	**Beckworth**	**4.62**	**333**		Pn	08 18 41.0	-1.0
BEKR				IAML		08 20 11.1	
	comp=N,35nm,0.8s						
VTX	**Valle De La Tr**	**4.64**	**160**	Pn	Pn	08 18 41.7	-0.4
VTX				IAML		08 20 05.8	
	comp=N,46nm,1.3s						
VTX				IAML		08 20 06.6	
	comp=E,59nm,1.3s						
WUAZ	**Wupatki**	**5.09**	**91**		Pn	08 18 47.8	-0.6
WUAZ				IAML		08 20 13.2	
	comp=E,42nm,0.8s						
WUAZ				IAML		08 20 13.8	
	comp=E,35nm,0.7s						
X16A	**Lo Mia Camp, P**	**5.24**	**103**		Pn	08 18 50.1	-0.3
ELK	**Elko**	**5.30**	**20**	IAML		08 20 21.1	
	comp=E,23nm,0.6s						
HMU	**Henry Mountain**	**5.92**	**67**	Pn	Pn	08 18 58.8	-1.1
X18A	**Snowflake**	**6.40**	**99**	Pn	Pn	08 19 05.8	-0.6

*NEIC **09** 08:18:07.8±0.5, 35.°840N±0.°006×117.°67W±0.°02, h2km±8km, Error ellipse: s-maj=2.1km s-min=0.9km az=82.0*

PAS 09 08:18:08.3±0.6, 35.°847N±0.°006×117.°67W±0.°02, h3km±7km, ML3.0/4, ML3.0/14(NEIC), Error ellipse: s-maj=1.9km s-min=0.9km az=83.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.07**	**118**	Pg	Pg	08 18 10.0	+0.2
CLC				IAML		08 18 11.5	
	comp=N,10μm,0.4s						
WVPM	**Volcano Peak E**	**0.16**	**311**		Pg	08 18 11.6	+0.2
JRC2	**Joshua Ridge**	**0.18**	**320**		Pg	08 18 12.0	+0.1
WCSM	**Coso Springs S**	**0.20**	**336**		Pg	08 18 12.2	0.0
WCSM					Sg	08 18 15.1	+0.3
MPMC	**Manual Prospec**	**0.26**	**35**	Pg	Pg	08 18 13.5	+0.1
MPMC				Sg	Sg	08 18 16.6	-0.1
LRMC	**Laurel Mtn Rad**	**0.37**	**182**	Pg	Pg	08 18 15.4	0.0
LRMC				Sg	Sg	08 18 20.3	0.0
LRMC				IAML		08 18 21.1	
	comp=N,2μm,0.2s						
LRMC				IAML		08 18 21.8	
	comp=E,1μm,0.2s						
CCCA	**Chr Cany lake**	**0.41**	**142**	Pg	Pg	08 18 16.3	+0.1
CCCA				IAML		08 18 24.3	
	comp=N,3μm,0.6s						
CCCA				IAML		08 18 26.9	
	comp=E,3μm,0.5s						
CWC	**Cottonwood Cre**	**0.68**	**331**		Sg	08 18 21.9	-8.3
CWC	**Cottonwood Cre**	**0.68**	**331**	Pg	Pg	08 18 21.6	+0.2
CWC				IAML		08 18 33.2	
	comp=E,332nm,0.3s						
CWC				IAML		08 18 33.9	
	comp=N,322nm,0.2s						
ISA	**Isabella, Lake**	**0.68**	**255**	Pg	Pg	08 18 21.1	-0.3
MOD	**Modoc Plateau**	**6.38**	**342**	Pn	Pn	08 19 42.3	-1.1
BSUT	**Blindstream Ca**	**7.18**	**47**		Pn	08 19 54.3	-0.2
K05A	**Summer Lake**	**7.31**	**341**		Pn	08 19 55.7	-0.4

*NEIC **09** 08:23:46.6±1.1, 36.°02N±0.°01×117.°85W±0.°01, h2km±2km, Error ellipse: s-maj=1.7km s-min=1.5km az=222.0*

PAS 09 08:23:46.9±0.8, 36.°03N±0.°01×117.°87W±0.°01, h1km±2km, ML3.2/23, ML3.0/112(NEIC), Error ellipse: s-maj=1.8km s-min=1.5km az=143.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRVM	**Rose V. Centra**	**0.02**	**222**		Pg	08 23 47.7	+0.2
JRC2	**Joshua Ridge**	**0.07**	**131**		Pg	08 23 48.4	+0.1
WCSM	**Coso Springs S**	**0.08**	**90**		Pg	08 23 48.8	+0.2
WVPM	**Volcano Peak E**	**0.09**	**151**		Pg	08 23 48.8	+0.1
MFS	**McCloud Flat S**	**0.09**	**8**		Pg	08 23 49.0	+0.2
WNMM	**Nine Mile Cany**	**0.18**	**189**		Pg	08 23 50.6	+0.1
CLC	**China Lake**	**0.30**	**133**		Pg	08 23 52.9	+0.1
CLC				Sg	Sg	08 23 57.4	+0.6
CLC				IAML		08 23 57.7	
	comp=N,1μm,0.7s						
CLC				IAML		08 23 58.9	
	comp=E,1μm,0.8s						
MPMC	**Manual Prospec**	**0.31**	**84**		Pg	08 23 53.0	+0.1
MPMC				Sg	Sg	08 23 57.0	+0.1
MPMC				IAML		08 23 58.0	
	comp=E,2μm,0.5s						
MPMC				IAML		08 23 58.9	
	comp=N,2μm,0.6s						
SRTC	**Snort**	**0.35**	**164**		Pg	08 23 54.2	+0.6
CWC	**Cottonwood Cre**	**0.45**	**338**		Pg	08 23 55.6	+0.1
CWC				IAML		08 24 02.6	
	comp=E,1μm,0.4s						
CWC				IAML		08 24 02.6	
	comp=N,1μm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.57**	**164**		Pg	08 23 57.8	0.0
LRMC				Sg	Sg	08 24 05.0	-0.1
LRMC				IAML		08 24 06.3	
	comp=E,1μm,0.7s						
LRMC				IAML		08 24 08.5	
	comp=N,935nm,0.5s						
ISA	**Isabella, Lake**	**0.61**	**234**		Pg	08 23 58.6	0.0
ISA				Sg	Sg	08 24 06.8	+0.3
ISA				IAML		08 24 07.3	
	comp=E,938nm,0.5s						
ISA				IAML		08 24 07.3	
	comp=N,998nm,0.5s						
CCCA	**Chr Cany lake**	**0.65**	**140**		Pg	08 23 59.9	+0.5
SPG2	**Springville 2**	**0.75**	**284**		Pg	08 24 01.0	-0.2
QSM	**Queen of Sheba**	**0.81**	**94**		Pg	08 24 02.3	-0.3
QSM				IAML		08 24 19.3	
	comp=E,540nm,0.5s						
QSM				IAML		08 24 19.4	
	comp=N,407nm,0.7s						
GWY	**Greenwater Val**	**0.98**	**80**		Pg	08 24 05.7	-0.2
GWY				IAML		08 24 25.3	
	comp=N,448nm,0.6s						
GWY				IAML		08 24 25.5	
	comp=E,438nm,0.5s						
GRAC	**Grapevine Rang**	**1.05**	**23**		Pg	08 24 06.8	-0.3
GRAC				IAML		08 24 27.4	
	comp=E,537nm,0.7s						
GSC	**Goldstone, Bar**	**1.13**	**130**		Pg	08 24 08.0	-0.5
GSC				IAML		08 24 28.4	
	comp=N,460nm,0.9s						
TPO	**Tropico Hills**	**1.18**	**194**		Pg	08 24 08.8	-0.7
TPO				IAML		08 24 28.1	
	comp=E,465nm,0.7s						
TPO				IAML		08 24 28.3	
	comp=N,356nm,1.2s						
VOG	**Valley Oaks Go**	**1.26**	**284**		Pg	08 24 10.5	-0.6
WCT	**Wildcat Mounta**	**1.26**	**52**		Pg	08 24 10.9	-0.2
WCT				IAML		08 24 32.0	
	comp=E,220nm,0.7s						
DSP	**Deep Springs**	**1.34**	**357**		Pg	08 24 11.6	-1.1
GMN	**Gold Mountain**	**1.36**	**21**		Pg	08 24 12.4	-0.7
GMN				IAML		08 24 34.8	
	comp=N,208nm,0.5s						
OSI	**Osito Audit: C**	**1.57**	**207**	IAML		08 24 44.7	
	comp=E,315nm,0.7s						
OSI				IAML		08 24 46.3	
	comp=N,209nm,0.7s						
TPNV	**Topopah Spring**	**1.60**	**54**		Pn	08 24 16.3	-0.2
TPNV				IAML		08 24 42.2	
	comp=N,220nm,0.8s						
TPNV				IAML		08 24 43.0	
	comp=N,247nm,1.2s						
MZP	**Montezuma Peak**	**1.72**	**13**		Pn	08 24 18.2	0.0
BFSC	**Mount Baldy Ra**	**1.79**	**174**	IAML		08 24 44.6	
	comp=E,127nm,0.6s						
MWC	**Mount Wilson**	**1.81**	**185**		Pn	08 24 19.2	-0.1
MWC				IAML		08 24 47.4	
	comp=E,108nm,0.7s						
MWC				IAML		08 24 47.6	
	comp=N,183nm,0.7s						
PASC	**Pasadena Art C**	**1.87**	**188**	IAML		08 24 48.3	
	comp=N,73nm,0.7s						
PASC				IAML		08 24 48.5	
	comp=E,77nm,0.9s						
MTPC	**Mountain Pass**	**1.96**	**105**		Pn	08 24 20.1	-1.3
MTPC				IAML		08 24 52.2	
	comp=E,68nm,0.5s						
MTPC				IAML		08 24 57.8	
	comp=N,80nm,0.9s						
TSCN	**Private Proper**	**2.07**	**257**		Pb	08 24 24.5	-0.8
TPH	**Tonopah**	**2.11**	**14**		Pn	08 24 23.0	-0.5
PKD	**Bear Valley Ra**	**2.17**	**269**		Pn	08 24 24

V12A	**Nelson**	**2.47**	**96**		Pn	08 24 28.4	0.0	
BBGB	**Big Mountain B**	**2.62**	**283**		Pn	08 24 30.4	0.0	
RYN	**Ryan**	**2.65**	**349**		Pn	08 24 30.3	-0.6	
PRN	**Pahroc Range**	**2.65**	**58**		Pn	08 24 30.7	-0.2	
PMD	**Palm Desert**	**2.67**	**152**		Pn	08 24 30.5	-0.6	
PMD				IAML		08 25 27.2		
	comp=E,34nm,1.0s							
PFO	**Pinyon Flats O**	**2.67**	**154**		Pn	08 24 30.2	-1.0	
PFO				IAML		08 25 19.6		
	comp=E,37nm,0.8s							
GORC	**Green Oak Ranc**	**2.91**	**169**		Pn	08 24 34.8	+0.4	
NEE2	**Needles Airpor**	**2.94**	**114**		Pn	08 24 33.7	-1.0	
NEE2				IAML		08 25 29.1		
	comp=E,70nm,0.6s							
NEE2				IAML		08 25 29.8		
	comp=N,69nm,0.7s							
R11B	**Troy Canyon, C**	**2.95**	**38**		Pn	08 24 35.0	0.0	
R11B				IAML		08 25 22.3		
	comp=E,41nm,0.9s							
SAO	**San Andreas Ge**	**2.98**	**285**		Pn	08 24 35.0	-0.3	
BORC	**Borrego Spring**	**3.00**	**156**	Pn	Pn	08 24 35.4	-0.2	
BORC				IAML		08 25 27.2		
	comp=E,68nm,0.8s							
BORC				IAML		08 25 27.6		
	comp=N,47nm,0.7s							
DPP	**Dos Picos Cty**	**3.12**	**165**		Pn	08 24 37.0	-0.1	
DPP				IAML		08 25 27.8		
	comp=E,23nm,0.6s							
W13A	**Hualapai Mount**	**3.38**	**105**		Pn	08 24 40.2	-0.7	
CBX	**Cerro Bola**	**3.84**	**165**		Pn	08 24 47.4	+0.2	
CCUT	**Cedar City**	**3.92**	**66**		Pn	08 24 48.5	0.0	
PSUT	**Pine Spring**	**4.06**	**51**	Pn	Pn	08 24 50.8	+0.4	
SZCU	**Shurtz Canyon**	**4.14**	**66**	Pn	Pn	08 24 51.0	-0.5	
KNB	**Kanab**	**4.18**	**75**		Pn	08 24 52.0	0.0	
KNB				IAML		08 26 01.6		
	comp=E,10nm,4.2s							
ESJX	**Sierra Juarez**	**4.32**	**158**		Pn	08 24 53.9	+0.1	
ESJX				IAML		08 26 08.6		
	comp=E,12nm,1.3s							
ESJX				IAML		08 26 12.3		
	comp=N,9.4nm,1.6s							

ASRS ***09*** *08:25:05.0±1.5,53.59N×87.87E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 08:25:07.4±3.1,53.51N×87.95E,h0km,mbtmp3.1/2, ML2.8/2,Error ellipse: s-maj=30.8km s-min=18.4km az=86.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**285**	I	I	08 36 53.2	
	0.2nm,1.0s,baz=100,slow=321,SNR=18						
ZALV	**Zalesovo Beam**	**1.91**	**285**	Pn	Pn	08 25 40.5	-0.7
	1.9nm,0.3s,baz=102,slow=15,SNR=17						
ZALV				Sn	Sb	08 26 07.0	-0.4
	2.5nm,0.3s,baz=102,slow=25,SNR=10						
ZALV				I	I	08 36 53.9	
	baz=61,slow=38,SNR=19						
KURBB	**Kurchatov Arra**	**6.49**	**247**	Pn	Pn	08 26 44.6	+0.7
	0.2nm,0.3s,baz=62,slow=14,SNR=7.5						
KURBB				Sn	Sn	08 27 58.0	-0.7
	baz=67,slow=16,SNR=2.1 1.1nm,0.3s						
MKAR	**Makanchi Array**	**7.64**	**211**	Pn	Pn	08 27 01.6	+1.7
	0.2nm,0.3s,baz=30,slow=14,SNR=5.4						
MKAR				Sn	Sn	08 28 25.5	-1.6
	0.1nm,0.3s,baz=29,slow=18,SNR=1.8						
MKAR				Lg	Lg	08 29 09.8	
	0.1nm,0.3s,baz=31,slow=34,SNR=2.3 0.2nm,0.3s						

ASRS ***09*** *08:30:14.0±1.4,54.32N×86.88E,h0km,M2.9,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 08:30:15.9±3.2,54.39N×86.84E,h0km,mbtmp3.0/2, ML2.6/2,Error ellipse: s-maj=26.1km s-min=16.4km az=61.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**251**	I	I	08 38 30.0	
	baz=71,slow=318,SNR=4.4						
ZALV	**Zalesovo Beam**	**1.27**	**251**	Pg	Pg	08 30 39.0	-1.2
	1.8nm,0.3s,baz=68,slow=16,SNR=11						
ZALV				Lg	Lg	08 30 57.0	
	2.5nm,0.3s,baz=69,slow=24,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.32**	**237**	Pn	Pn	08 31 51.1	+0.9
	0.1nm,0.3s,baz=55,slow=14,SNR=7.2						
KURBB				Lg	Lg	08 33 36.2	
	0.1nm,0.3s,baz=73,slow=32,SNR=6.9 1.0nm,0.5s						
MKAR	**Makanchi Array**	**8.13**	**203**	Pn	Pn	08 32 16.2	+1.0
	0.1nm,0.3s,baz=24,slow=12,SNR=3.2						
MKAR				Sn	Sn	08 33 47.3	-0.4
	0.1nm,0.3s,baz=18,slow=28,SNR=5.8						
MKAR				Lg	Lg	08 34 35.0	
	0.1nm,0.3s,baz=14,slow=31,SNR=5.4 0.2nm,0.3s						

KRSC ***09*** *08:48:14.4±1.1,51.67N×157.94E,h101km±18km,Ml4.0 MOS* ***09*** *08:48:15.0±0.7,51.66N×157.80E,h103km,mb3.8/4,Error ellipse: s-maj=14.3km s-min=4.7km az=78.3*

IDC ***09*** *08:48:17.3±2.2,51.75N×157.62E,h105km±19km,mb3.3/8, mbtmp3.6/8,Error ellipse: s-maj=30.6km s-min=18.0km az=156.0*

ISC 09 08:48:15.8±0.7,51°69N±0°05×157°88E±0°05,h99km±6km, n89,σ1s29/104,mb3.7/13,2C,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAK	**Asacha**	**0.69**	**1**	PN	**Pn**	**08 48 33.1**	**0.0**
ASAK	**Asacha**	**0.69**	**1**	*i* P	**Pn**	**08 48 33.2**	**0.0**
PAU	**Pauzhetka**	**0.70**	**252**	PN	**Pn**	**08 48 33.4**	**+0.4**
PAU	**Pauzhetka**	**0.70**	**252**	*i* P	**Pn**	**08 48 33.5**	**+0.4**
MTVR	**Mutnovka**	**0.82**	**13**	PN	**Pn**	**08 48 34.6**	**+0.2**
MTVR				S	**Sn**	**08 48 48.7**	**+0.4**
MTVR	**Mutnovka**	**0.82**	**13**	*i* P	**Pn**	**08 48 34.6**	**+0.2**
MTVR				*eS*	**Sn**	**08 48 48.7**	**+0.4**
RUS	**Russkaya**	**0.84**	**28**	PN	**Pn**	**08 48 34.2**	**-0.2**
RUS				S	**Sn**	**08 48 48.0**	**-0.4**
RUS	**Russkaya**	**0.84**	**28**	*eP*	**Pn**	**08 48 34.3**	**-0.2**
RUS				*eS*	**Sn**	**08 48 48.0**	**-0.4**
GRL	**Gorelyy**	**0.87**	**8**	PN	**Pn**	**08 48 35.3**	**+0.4**
GRL	**Gorelyy**	**0.87**	**8**	*i* P	**Pn**	**08 48 35.3**	**+0.4**
MIPR	**Malaya Ipel'ka**	**0.91**	**311**	PN	**Pn**	**08 48 34.9**	**-0.2**
MIPR				S	**Sn**	**08 48 49.5**	**-0.1**
MIPR	**Malaya Ipel'ka**	**0.91**	**311**	*eP*	**Pn**	**08 48 35.0**	**-0.2**
MIPR				*eS*	**Sn**	**08 48 49.6**	**-0.1**
KRMR	**Karymshinskiy**	**1.15**	**8**	PN	**Pn**	**08 48 38.1**	**+0.3**
KRMR				S	**Sn**	**08 48 55.3**	**+0.9**
KRMR	**Karymshinskiy**	**1.15**	**8**	*eP*	**Pn**	**08 48 38.1**	**+0.3**
KRMR				*eS*	**Sn**	**08 48 55.4**	**+0.9**
APC	**Apacha**	**1.31**	**341**	PN	**Pn**	**08 48 39.8**	**+0.2**
APC				S	**Sn**	**08 48 57.7**	**0.0**
APC	**Apacha**	**1.31**	**341**	*i* P	**Pn**	**08 48 39.9**	**+0.2**
APC				*eS*	**Sn**	**08 48 57.7**	**0.0**
PET	**Petropavlovsk**	**1.42**	**19**	PN	**Pn**	**08 48 41.2**	**+0.3**
PET				S	**Sn**	**08 49 00.4**	**+0.5**
PET	**Petropavlovsk**	**1.42**	**19**	*eP*	**Pn**	**08 48 41.2**	**+0.3**
PET				*eS*	**Sn**	**08 49 00.5**	**+0.5**
PEA0B	**Petropavlovsk-**	**1.42**	**356**	PN	**Pn**	**08 48 41.3**	**+0.3**
PEA0B				S	**Sn**	**08 49 00.9**	**+0.7**
PETK	**Petropavlovsk-**	**1.42**	**356**	P	**Pn**	**08 48 40.5**	**-0.5**
	60nm,0.5s,baz=161,slow=12,SNR=308						
PETK				S	**Sn**	**08 49 01.4**	**+1.2**
	36nm,0.6s,baz=182,slow=26,SNR=5.3						
PETK				LR	LR	08 49 17.3	
	comp=Z,89nm,18.1s,baz=139,slow=44						
DALK	**Dalny**	**1.45**	**22**	PN	**Pn**	**08 48 41.7**	**+0.4**
DALK				S	**Sn**	**08 49 01.4**	**+0.8**
DALK	**Dalny**	**1.45**	**22**	*eP*	**Pn**	**08 48 41.7**	**+0.4**
DALK				*eS*	**Sn**	**08 49 01.4**	**+0.8**
INSR	**Institute**	**1.45**	**18**	*eS*	**Sn**	**08 49 01.9**	**+1.2**
SKR	**Severo-Kuril's**	**1.50**	**228**	⇑*i* PN	**Pn**	**08 48 43.0**	**+1.1**
SKR				*i* S	**Sn**	**08 49 03.3**	**+1.6**
SKR				pmax	pmax		
	comp=Z,165nm,0.5s						
SKR				smax	smax		
	comp=E,3μm,0.6s						
SKR				smax	smax		
	comp=N,801nm,0.4s						
SKR	**Severo-Kuril's**	**1.50**	**228**	*eP*	**Pn**	**08 48 42.5**	**+0.6**
SKR				*eS*	**Sn**	**08 49 02.6**	**+0.9**
UGLR	**Uglovaya**	**1.63**	**21**	PN	**Pn**	**08 48 44.8**	**+1.2**
UGLR	**Uglovaya**	**1.63**	**21**	*eP*	**Pn**	**08 48 44.9**	**+1.2**
AVH	**Avacha**	**1.66**	**18**	PN	**Pn**	**08 48 45.5**	**+1.5**
AVH	**Avacha**	**1.66**	**18**	*eP*	**Pn**	**08 48 45.6**	**+1.5**
KOK	**Koryaka**	**1.67**	**16**	PN	**Pn**	**08 48 45.6**	**+1.5**
KOK	**Koryaka**	**1.67**	**16**	*eP*	**Pn**	**08 48 45.7**	**+1.5**
SMAR	**Somma**	**1.67**	**19**	PN	**Pn**	**08 48 45.3**	**+1.0**
SMAR	**Somma**	**1.67**	**19**	*eP*	**Pn**	**08 48 45.4**	**+1.0**
KRER	**Koryakskii**	**1.70**	**18**	PN	**Pn**	**08 48 45.9**	**+1.2**
KRER	**Koryakskii**	**1.70**	**18**	*eP*	**Pn**	**08 48 45.9**	**+1.2**
SDLR	**Sedlovina**	**1.71**	**21**	PN	**Pn**	**08 48 45.4**	**+0.8**
SDLR	**Sedlovina**	**1.71**	**21**	*eP*	**Pn**	**08 48 45.4**	**+0.8**
NLC	**Nalytchevo**	**1.73**	**31**	PN	**Pn**	**08 48 44.4**	**-0.4**
NLC	**Nalytchevo**	**1.73**	**31**	*eP*	**Pn**	**08 48 44.5**	**-0.4**
KRX	**Arik**	**1.74**	**16**	PN	**Pn**	**08 48 46.2**	**+1.1**
KRX	**Arik**	**1.74**	**16**	*eP*	**Pn**	**08 48 46.2**	**+1.1**
SPN	**Mys Shipunski**	**1.93**	**42**	PN	**Pn**	**08 48 48.0**	**+0.7**
SPN				S	**Sn**	**08 49 11.4**	**0.0**
SPN	**Mys Shipunski**	**1.93**	**42**	*eP*	**Pn**	**08 48 48.0**	**+0.7**
SPN				*eS*	**Sn**	**08 49 11.5**	**0.0**
GNL	**Ganaly**	**2.01**	**1**	PN	**Pn**	**08 48 49.4**	**+0.9**
GNL	**Ganaly**	**2.01**	**1**	*eP*	**Pn**	**08 48 49.4**	**+0.9**
KII	**Karymskiy**	**2.54**	**21**	PN	**Pn**	**08 48 57.4**	**+2.1**
KII	**Karymskiy**	**2.54**	**21**	*eP*	**Pn**	**08 48 57.5**	**+2.1**
MKZ	**Mys Kozlova**	**3.69**	**37**	PN	**Pn**	**08 49 10.7**	**0.0**
MKZ	**Mys Kozlova**	**3.69**	**37**	*eP*	**Pn**	**08 49 10.7**	**0.0**
TUMD	**Tumrok D**	**3.83**	**22**	PN	**Pn**	**08 49 13.0**	**+0.4**
TUMD	**Tumrok D**	**3.83**	**22**	*eP*	**Pn**	**08 49 13.0**	**+0.4**
KMNR	**Kamenistaya**	**4.31**	**18**	PN	**Pn**	**08 49 21.3**	**+2.2**
KMNR	**Kamenistaya**	**4.31**	**18**	*eP*	**Pn**	**08 49 21.3**	**+2.2**
KBTR	**Krutoberegovo**	**5.38**	**31**	PN	**Pn**	**08 49 34.3**	**+0.7**
KBTR	**Krutoberegovo**	**5.38**	**31**	*eP*	**Pn**	**08 49 34.3**	**+0.7**
BKI	**Bering**	**5.98**	**51**	PN	**Pn**	**08 49 41.4**	**-0.2**
BKI	**Bering**	**5.98**	**51**	*eP*	**Pn**	**08 49 41.4**	**-0.2**
BKI				*eS*	**Sn**	**08 50 42.5**	**-6.2**
MA2	**Magadan**	**8.86**	**336**	*i* PN	**Pn**	**08 50 21.4**	**+0.6**
YSS	**Yuzhno-Sakhali**	**10.94**	**250**	*e*PN	**Pn**	**08 50 48.5**	**-0.6**
KLR	**Kul'dur**	**16.79**	**272**	*i* P	**P**	**08 52 04.6**	**-0.5**
BILL	**Bilibino**	**16.90**	**11**	*i* P	**P**	**08 52 06.5**	**+0.2**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MSHR	**Mys Shultsa**	**20.23**	**254**	*i* P	**P**	**08 52 41.5**	**-1.3**
MSHR				pmax	pmax		
	comp=Z,16nm,2.5s						
MAJO	**Matsushiro**	**20.61**	**230**	*i* P	**P**	**08 52 46.4**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,15nm,2.7s						
BNX	**BinXian**	**20.87**	**265**	⇑P	**P**	**08 52 46.4**	**-3.2**
BNX				pmax	pmax		
	comp=Z,5.0nm,0.4s						
TIXI	**Tiksi**	**23.83**	**338**	*i* P	**P**	**08 53 18.9**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
XLT	**XiLinHaoTe**	**28.81**	**271**	*eP*	**P**	**08 54 01.1**	**-3.2**
XLT				pP	pP	08 54 20.3	-6.2
XLT				sP	sP	08 54 31.8	-6.3
XLT				PP	**PnPn**	**08 54 56.2**	**-4.1**
XLT				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ILAR	**Eielson Array**	**30.77**	**43**	P	**P**	**08 54 22.0**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=265,slow=9.0,SNR=7.7 comp=Z,0.5nm,0.8s						
ULN	**Ulaanbaatar**	**32.50**	**284**	*i* P	**P**	**08 54 36.5**	**-0.4**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**32.67**	**164**	T	T	09 28 51.8	
	baz=349,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**32.69**	**164**	T	T	09 28 52.8	
	baz=349,slow=76,SNR=30						
H11N1	**WAKE ISLAND Hy**	**32.69**	**164**	T	T	09 28 53.3	
	baz=349,slow=76,SNR=34						
H11S1	**WAKE ISLAND Hy**	**33.84**	**165**	T	T	09 30 15.8	
	baz=350,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**33.85**	**165**	T	T	09 30 13.0	
	baz=350,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**33.85**	**165**	T	T	09 30 15.6	
	baz=350,slow=76,SNR=12						
NRIK	**Noril'sk**	**36.28**	**326**	*i* P	**P**	**08 55 10.0**	**+0.9**
NRIK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURK	**Kurchatov**	**47.32**	**302**	P	**P**	**08 56 39.9**	**+0.9**
KURBB	**Kurchatov Arra**	**47.42**	**302**	P	**P**	**08 56 39.9**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=66,slow=7.4,SNR=2.1 comp=Z,0.2nm,0.4s						
MK31	**Makanchi Array**	**47.53**	**296**	*i* P	**P**	**08 56 40.5**	**-0.3**
MKAR	**Makanchi Array**	**47.53**	**296**	P	**P**	**08 56 39.7**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=63,slow=6.4,SNR=7.9 comp=Z,0.4nm,0.4s						
NVAR	**Mina Array Bea**	**57.52**	**68**	P	**P**	**08 57 56.6**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=298,slow=7.7,SNR=4.5 comp=Z,0.4nm,0.5s						
PDAR	**Pinedale Array**	**59.41**	**59**	P	**P**	**08 58 09.7**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=321,slow=2.9,SNR=7.4 comp=Z,0.6nm,0.7s						
OBN	**Obninsk**	**62.95**	**327**	*eP*	**P**	**08 58 29.5**	**-1.7**
OBN				*e**PP	**pP**	**08 58 56.6**	**+0.6**
OBN				*e**SP	**PcP**	**08 59 06.8**	**-1.6**
OBN				*e*		08 59 09.5	
OBN				*e*		09 00 49.1	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TXAR	**Lajitas Array**	**72.45**	**65**	P	**P**	**08 59 33.3**	**+1.8**
	comp=Z,0.7nm,0.5s,baz=299,slow=5.1,SNR=21 comp=Z,0.7nm,0.5s						
WRA	**Warramunga Arr**	**74.25**	**203**	P	**P**	**08 59 41.9**	**0.0**
	comp=Z,0.3nm,0.6s,baz=19,slow=6.2,SNR=4.5 comp=Z,0.3nm,0.6s						
ASAR	**Alice Springs**	**77.93**	**202**	P	**P**	**09 00 05.0**	**+2.3**
	comp=Z,0.2nm,0.5s,baz=17,slow=5.5,SNR=5.3 comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**77.93**	**202**	P	**P**	**09 00 05.0**	**+2.3**
H03N2	**Juan Fernandez**	**135.58**	**89**	T	T	11 38 07.0	
	baz=314,slow=77,SNR=25						
H03N1	**Juan Fernandez**	**135.59**	**89**	T	T	11 38 01.4	
	baz=314,slow=77,SNR=22						
H03N3	**Juan Fernandez**	**135.59**	**89**	T	T	11 38 09.3	
	baz=314,slow=77,SNR=28						

ASRS ***09*** *08:55:48.0±0.8,54.25N×86.20E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 08:55:52.3±2.5,54.12N×86.11E,h0km,mbtmp2.9/2, ML2.7/2,Error ellipse: s-maj=20.3km s-min=11.7km az=61.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.78**	**257**	I	I	08 59 35.4	
	baz=79,slow=314,SNR=3.3						
ZALV	**Zalesovo Beam**	**0.78**	**257**	Pg	Pg	08 56 05.8	-1.5
	1.4nm,0.3s,baz=72,slow=19,SNR=17						
ZALV				Lg	Lg	08 56 19.1	
	1.2nm,0.3s,baz=75,slow=28,SNR=3.6						
KURBB	**Kurchatov Arra**	**5.81**	**236**	Pn	Pn	08 57 21.1	+1.4
	0.1nm,0.3s,baz=51,slow=13,SNR=6.0 0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.73**	**200**	Pn	Pn	08 57 47.0	+0.9
	0.2nm,0.3s,baz=24,slow=13,SNR=6.3 0.2nm,0.3s						

ASRS ***09*** *08:56:49.0±2.3,53.74N×91.06E,h0km,M3.1,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

NNC ***09*** *08:56:55.6±5.9,52.80N×91.14E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=43.5km s-min=30.5km az=81.0, Suspected Mining explosion.*

IDC ***09*** *08:56:56.2±3.2,53.59N×90.73E,h0km,mbtmp3.2/3, ML2.7/3,Error ellipse: s-maj=27.0km s-min=22.8km az=53.0*

ISC 09 08:56:55.9±3.4,53.5N±0.1×90.7E±0.2,h0km,n10, σ2s00/13,4C-7D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.50**	**280**	I	I	09 18 28.4	
	0.5nm,1.3s,baz=91,slow=315,SNR=43						
ZAA0	**Zalesovo Array**	**3.50**	**280**	⇓P	**Pb**	**08 57 56.3**	**-2.3**
	0.8nm,0.5s						
ZAA0				⇑S	**Sg**	**08 58 47.9**	**-0.3**
	13nm,1.1s						
ZALV	**Zalesovo Beam**	**3.50**	**280**	Pn	**Pn**	**08 57 53.5**	**+2.0**
	1.1nm,0.3s,baz=96,slow=13,SNR=6.3						
ZALV				Lg	Lg	08 58 48.1	
	1.8nm,0.3s,baz=91,slow=27,SNR=7.9 2.1nm,0.3s						
KURK	**Kurchatov**	**7.91**	**254**	⇓Pn	**Pn**	**08 58 53.1**	**+1.0**
	3.0nm,1.0s						
KURK				⇓Sn	**Sn**	**09 00 23.5**	**+1.3**
	11nm,0.8s						
KURK				⇓Lg	Lg	09 01 08.2	
	13nm,0.8s						
KURBB	**Kurchatov Arra**	**8.00**	**254**	⇓Pn	**Pn**	**08 58 53.6**	**+0.3**
	1.8nm,0.5s						
KURBB				⇓Sn	**Sn**	**09 00 25.4**	**+0.9**
	30nm,0.8s						
KURBB				⇑Lg	Lg	09 01 09.5	
	33nm,1.0s						
KURBB	**Kurchatov Arra**	**8.00**	**254**	Pn	**Pn**	**08 58 54.3**	**+1.0**
	0.1nm,0.3s,baz=65,slow=14,SNR=7.8						
KURBB				Sn	**Sn**	**09 00 24.9**	**+0.4**
	baz=67,slow=26,SNR=9.1						
KURBB				Lg	Lg	09 01 11.3	
	baz=69,slow=36,SNR=5.3 1.1nm,0.5s						
MK31	**Makanchi Array**	**8.58**	**222**	⇓Pn	**Pn**	**08 59 00.5**	**-0.8**
	0.6nm,0.6s,baz=36,slow=12,SNR=4.6						
MK31				⇑Sn	**Sn**	**09 00 35.7**	**-3.1**
	0.7nm,0.6s						
MK31				⇑Lg	Lg	09 01 25.7	
	6.8nm,0.9s,baz=30,slow=29,SNR=3.8						
MKAR	**Makanchi Array**	**8.58**	**222**	Pn	**Pn**	**08 59 03.7**	**+2.4**
	0.3nm,0.3s,baz=34,slow=12,SNR=8.3						
MKAR				Sn	**Sn**	**09 00 42.0**	**+3.2**
	baz=38,slow=24						
MKAR				Lg	Lg	09 01 28.6	
	baz=27,slow=26,SNR=1.8 0.4nm,0.4s						
SONM	**Songino Array**	**11.47**	**113**	Lg	Lg	09 02 51.8	
	baz=302,slow=26						
I31KZ	**AKTYUBINSK INF**	**20.24**	**274**	I	I	10 59 56.7	
	baz=68,slow=302,SNR=1.5						

HEL ***09*** *09:00:09.0±0.1,67.71N×26.65E,h0km,ML1.6,Suspected explosion Hypocentre not reviewed by the ISC*

IDC 09 09:00:09.6±1.4,67.71N×26.65E,h0km,mbtmp2.8/1, ML2.0/1,Error ellipse: s-maj=30.4km s-min=7.5km az=84.0,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**0.99**	**38**	PG		09 00 25.9	
RAJF				SG		09 00 36.0	
VRF	**Varrio**	**1.13**	**87**	PG		09 00 27.5	
	baz=271						
VRF				MSG		09 00 39.9	
	comp=Z,6.0nm,0.2s						
VRF				SG		09 00 39.9	
RNF	**Rovaniemi**	**1.14**	**193**	PG		09 00 30.4	
RNF				SB		09 00 45.9	
KLF	**Kolari**	**1.14**	**246**	PG		09 00 31.4	
	baz=64						
KLF				MSG		09 00 46.9	
	comp=Z,4.1nm,0.2s						
KLF				SG		09 00 49.1	
HEF	**Hetta**	**1.32**	**303**	*eP*	Pb	09 00 35.1	-0.1
HEF	**Hetta**	**1.32**	**303**	PN		09 00 35.1	
HEF				MSG		09 00 51.8	
	comp=Z,5.6nm,0.2s						
HEF				SN		09 00 54.7	
PAJU	**Pajala**	**1.53**	**245**	PG		09 00 38.6	
PAJU				SN		09 00 59.9	
RANF	**Ranua**	**1.71**	**178**	PN		09 00 39.8	
	baz=1.0						
RANF				SN		09 01 01.0	
OLKF	**Oulanka, Finla**	**1.77**	**141**	PG		09 00 39.4	
OLKF				MSG		09 00 59.8	
	comp=Z,4.3nm,0.2s						
OLKF				SN		09 01 02.9	
LANU	**Lannavaara**	**1.79**	**283**	PB		09 00 40.7	
KTK1	**Kautokeino**	**1.82**	**317**	*eP*	Pb	09 00 43.2	-0.4
KTK1	**Kautokeino**	**1.82**	**317**	PG		09 00 43.3	
KTK1				SG		09 01 08.8	
TOF	**Tornio**	**1.88**	**210**	PG		09 00 43.7	
TOF				MSG		09 01 06.8	
	comp=Z,2.7nm,0.2s						
TOF				SG		09 01 08.1	
ARA0	**ARCESS Array S**	**1.88**	**348**	PG		09 00 43.2	
ARA0				SG		09 01 09.1	
ARCES	**ARCESS Array B**	**1.88**	**348**	Pg	Pn	09 00 43.2	+0.3
	comp=Z,0.5nm,0.3s,baz=162,slow=17,SNR=25						
ARCES				Lg	Lg	09 01 08.8	
	comp=Z,0.7nm,0.3s,baz=168,slow=29,SNR=16						
ARCES				Rg	Rg	09 01 16.2	
	comp=Z,2.5nm,0.7s,baz=155,slow=29,SNR=5.7						
MSF	**Maaselka**	**2.04**	**151**	PG		09 00 44.7	
MSF				SG		09 01 10.6	
KEV	**Kevo**	**2.06**	**3**	PG		09 00 45.3	
KEV				MSG		09 01 09.9	
	comp=Z,4.7nm,0.2s						
KEV				SG		09 01 12.0	
ERTU	**Ertsjaerv**	**2.10**	**238**	PB		09 00 47.2	
	baz=53						
ERTU				SG		09 01 16.5	
KU2	**Taivalkoski**	**2.11**	**162**	PG		09 00 45.8	
	baz=350						
KU2				SG		09 01 13.3	
KU6	**Riekki**	**2.12**	**141**	PG		09 00 45.7	
KU6				MSG		09 01 09.9	
	comp=Z,1.6nm,0.2s						
KU6				SG		09 01 12.6	
KALU	**Kalix**	**2.27**	**217**	PB		09 00 49.4	
	baz=33						
KALU				SG		09 01 20.3	
KU1	**Kurvinen**	**2.45**	**150**	PG		09 00 50.1	
KIF	**Kilpisjarvi**	**2.53**	**304**	PG		09 00 54.8	
KIF				MSG		09 01 26.7	
	comp=Z,1.3nm,0.2s						
I37NO	**I37NO**	**3.28**

QSM					Sg		09 11 35.6	-0.2	
QSM				IAML			09 11 36.5		
	comp=E,678nm,0.2s								
QSM				IAML			09 11 39.6		
	comp=N,948nm,0.6s								
CCAC	**Calif City Air**	**0.64**	**217**		Pg		09 11 27.4	-0.4	
CCAC					Sg		09 11 36.5	+0.4	
WHFM	**Hanning Flat**	**0.66**	**273**		Pg		09 11 27.7	-0.5	
WHFM					Sg		09 11 36.2	-0.5	
GSC	**Goldstone, Bar**	**0.70**	**121**		Pg		09 11 28.0	-0.5	
GSC					Sg	Sg	09 11 38.0	-0.2	
GSC				IAML			09 11 42.5		
	comp=E,556nm,0.3s								
ISA	**Isabella, Lake**	**0.76**	**270**		Pg		09 11 29.6	-0.4	
ISA					Sg	Sg	09 11 39.3	-0.6	
ISA				IAML			09 11 39.5		
	comp=N,358nm,0.6s								
ISA				IAML			09 11 39.8		
	comp=E,375nm,0.2s								
HYS	**Haystack Butte**	**0.80**	**181**		Pg		09 11 30.1	-0.7	
WASM	**Alta Sierra Ca**	**0.83**	**276**		Pg		09 11 30.8	-0.6	
WASM					Sg		09 11 41.8	-0.4	
EDW2	**Edwards Air Fo**	**0.86**	**205**		Pg		09 11 31.2	-0.9	
GWY	**Greenwater Val**	**0.88**	**53**		Pg		09 11 31.8	-0.7	
GWY				IAML			09 11 46.1		
	comp=N,324nm,0.3s								
GWY				IAML			09 11 47.1		
	comp=E,348nm,0.4s								
CWC	**Cottonwood Cre**	**0.89**	**331**		Pg		09 11 32.1	-0.5	
RRX	**Edison Barstow**	**0.91**	**150**		Pb		09 11 33.3	-0.1	
RRX					Sg		09 11 45.1	+0.5	
CGO	**Cerro Gordo**	**0.91**	**347**		Pg		09 11 32.5	-0.6	
TPO	**Tropico Hills**	**0.96**	**216**		Pg		09 11 33.3	-0.6	
FURC	**Furnace Creek,**	**0.97**	**34**		Sb		09 11 47.4	-0.3	
SBB	**Saddle Back Bu**	**1.00**	**193**		Pg		09 11 33.9	-0.8	
SBB					Sb		09 11 48.1	-0.3	
TEJ	**El Tejon**	**1.03**	**246**		Pg		09 11 34.0	-1.2	
SHOC	**Shoshone, Teco**	**1.06**	**77**		Sg		09 11 49.8	+0.2	
VTV	**Victorville**	**1.11**	**171**		Pg		09 11 36.0	-0.8	
VTV					Sb		09 11 52.0	+0.3	
SPG2	**Springville 2**	**1.13**	**299**		Pg		09 11 36.0	-1.1	
SPG2					Sg		09 11 51.0	-0.8	
ALPC	**Antelope**	**1.15**	**213**		Pn		09 11 38.3	+0.3	
TJR	**Tejon Ranch**	**1.17**	**237**		Pg		09 11 36.4	-1.5	
ARVC	**Arvin**	**1.18**	**243**		Pb		09 11 37.1	-1.0	
THC	**Tehachapi Micr**	**1.18**	**231**		Pg		09 11 37.1	-1.1	
LRRC	**Littlerock Res**	**1.20**	**199**		Pb		09 11 37.2	-1.2	
LRRC					Sb		09 11 54.3	+0.1	
LEOC	**Leona Valley**	**1.20**	**211**		Pg		09 11 37.7	-0.8	
HOLC	**Holcomb Ridge**	**1.23**	**192**		Pb		09 11 37.6	-1.4	
HOLC					Sb		09 11 55.2	+0.2	
CJV	**Casa Juvan**	**1.23**	**204**		Pb		09 11 38.8	-0.3	
CJV					Sb		09 11 55.3	+0.1	
JNH	**Juniper Hills**	**1.26**	**196**		Pn		09 11 38.1	-1.4	
JNH					Sg		09 11 56.2	+0.2	
VES	**Vestal, Richgr**	**1.27**	**279**		Sb		09 11 55.5	-0.4	
DSCC	**Desert Studies**	**1.29**	**113**		Pn		09 11 37.7	-2.0	
AMDNV	**Amargosa**	**1.29**	**52**		Pn		09 11 37.4	-2.5	
AMDNV					Sb		09 11 56.8	+0.1	
GRAC	**Grapevine Rang**	**1.34**	**6**		Pn		09 11 39.9	-0.7	
TUQ	**Turquoise Moun**	**1.34**	**99**		Sb		09 11 58.2	-0.1	
WCT	**Wildcat Mounta**	**1.35**	**33**		Pn		09 11 39.5	-1.3	
WCT					Sb		09 11 58.1	-0.5	
WCT				IAML			09 12 00.6		
	comp=E,121nm,0.4s								
SGV	**South Grapevin**	**1.38**	**17**		Pn		09 11 40.1	-1.1	
SGV					Sb		09 11 59.5	+0.1	
CHFC	**Chilao Flat St**	**1.38**	**197**		Pn		09 11 40.0	-1.2	
CHFC					Sb		09 11 59.1	-0.4	
BFSC	**Mount Baldy Ra**	**1.42**	**184**		Pn		09 11 40.5	-1.2	
BFSC					Sb		09 12 00.6	-0.1	
BFSC				IAML			09 12 01.4		
	comp=N,182nm,0.5s								
BFSC				IAML			09 12 02.1		
	comp=E,191nm,0.3s								
OSI	**Osito Audit: C**	**1.42**	**223**		Pn		09 11 40.9	-0.8	
OSI				IAML			09 12 02.2		
	comp=E,170nm,0.7s								
OSI				IAML			09 12 03.3		
	comp=N,200nm,0.6s								
SIL	**Silver Peak**	**1.44**	**156**		Pn		09 11 42.1	+0.1	
SSK	**Sunset Peak**	**1.45**	**185**		Pn		09 11 41.2	-1.0	
BBRC	**Big Bear Solar**	**1.49**	**160**		Pn		09 11 42.9	+0.2	
BBRC					Sn		09 12 02.5	0.0	
MWC	**Mount Wilson**	**1.50**	**197**		Pn		09 11 41.9	-1.0	
LCH	**Last Change Ra**	**1.57**	**357**		Pn		09 11 43.0	-0.8	
PASC	**Pasadena Art C**	**1.58**	**200**		Pn		09 11 42.8	-1.0	
PASC				IAML			09 12 09.2		
	comp=E,158nm,0.3s								
PASC				IAML			09 12 10.4		
	comp=N,130nm,0.9s								
PSRC	**Puddingstone R**	**1.58**	**188**		Pn		09 11 43.2	-0.6	
MTPC	**Mountain Pass**	**1.63**	**96**		Pn		09 11 43.1	-1.6	
MTPC				IAML			09 12 07.7		
	comp=N,157nm,0.3s								
MTPC				IAML			09 12 08.9		
	comp=E,147nm,0.1s								
GMN	**Gold Mountain**	**1.65**	**8**		Pn		09 11 44.2	-0.8	
GMN				IAML			09 12 11.0		
	comp=N,80nm,0.5s								
TPNV	**Topopah Spring**	**1.66**	**39**		Pn		09 11 43.9	-1.1	
TPNV				IAML			09 12 10.4		
	comp=N,113nm,0.4s								
TPNV				IAML			09 12 14.1		
	comp=N,98nm,0.5s								
RVR	**Riverside**	**1.67**	**175**		Pn		09 11 44.1	-1.0	
GTM	**Goat Mountain**	**1.68**	**144**		Pb		09 11 46.5	-0.1	
DSP	**Deep Springs**	**1.74**	**349**		Pn		09 11 45.4	-0.6	
PEC	**Perris**	**1.79**	**170**		Pn		09 11 46.1	-0.7	
BHPR	**Bishop**	**1.80**	**335**		Pb		09 11 49.0	+0.1	
TPC	**Twentynine Pal**	**1.98**	**141**		Pn		09 11 47.9	-1.5	
HMTC	**Hemet**	**2.00**	**167**		Pn		09 11 48.5	-1.1	
ELS	**Elsinore Mount**	**2.01**	**177**		Pn		09 11 48.9	-0.9	
ELS				IAML			09 12 26.2		
	comp=E,59nm,0.6s								
ELS				IAML			09 12 26.7		
	comp=N,48nm,0.6s								
POB	**Polly Butte**	**2.04**	**165**		Pn		09 11 49.3	-0.9	
MZP	**Montezuma Peak**	**2.04**	**4**		Pn		09 11 49.8	-0.6	
DGR	**Domenigoni Val**	**2.06**	**167**		Pn		09 11 49.5	-0.9	
SHPR	**Sheep Range**	**2.11**	**66**		Pn		09 11 50.6	-0.6	
V12A	**Nelson**	**2.19**	**88**	Pn	Pn		09 11 51.1	-1.2	
V12A				IAML			09 12 26.0		
	comp=N,43nm,0.5s								
V12A				IAML			09 12 31.3		
	comp=E,41nm,0.5s								
CRY	**Cary Ranch**	**2.20**	**162**		Pn		09 11 51.5	-0.8	
PMD	**Palm Desert**	**2.23**	**154**		Pn		09 11 51.2	-1.5	
PMD				IAML			09 12 26.3		
	comp=E,41nm,0.6s								
PFO	**Pinyon Flats O**	**2.23**	**156**		Pn		09 11 51.8	-1.1	
PFO	**Pinyon Flats O**	**2.23**	**156**		Pn		09 11 51.5	-1.4	
PFO				IAML			09 12 27.7		
	comp=E,30nm,0.5s								
PFO				IAML			09 12 27.7		
	comp=E,25nm,0.5s								
XPFO	**Pinon Flat**	**2.23**	**156**		Pn		09 11 51.8	-1.2	
SNDA	**J Saunders Pla**	**2.24**	**160**		Pn		09 11 52.4	-0.6	
FRD	**Ford Ranch, An**	**2.30**	**160**		Pn		09 11 52.9	-0.9	
PLM	**Palomar**	**2.37**	**166**		Pn		09 11 54.1	-0.7	
TPH	**Tonopah**	**2.42**	**6**		Pn		09 11 55.1	-0.4	
GORC	**Green Oak Ranc**	**2.52**	**174**		Pn		09 11 55.7	-0.9	
NEE2	**Needles Airpor**	**2.56**	**110**	Pn	Pn		09 11 55.2	-2.0	
NEE2				IAML			09 12 41.0		
	comp=E,82nm,0.5s								
NEE2				IAML			09 12 41.5		
	comp=N,76nm,0.4s								
BORC	**Borrego Spring**	**2.56**	**158**	Pn	Pn		09 11 56.1	-1.3	
BORC				IAML			09 12 37.5		
	comp=E,45nm,0.8s								
BORC				IAML			09 12 39.8		
	comp=N,33nm,0.8s								
PRN	**Pahroc Range**	**2.66**	**48**		Pn		09 11 58.1	-0.7	
PRN				IAML			09 12 45.7		
	comp=N,34nm,0.5s								
PRN				IAML			09 12 55.4		
	comp=E,41nm,0.7s								
LHV	**Little Huntoon**	**2.70**	**344**		Pn		09 11 59.7	+0.6	
LHV				IAML			09 12 47.6		
	comp=E,26nm,1.3s								
LHV				IAML			09 12 57.8		
	comp=N,22nm,1.0s								
PMPB	**Monarch Peak**	**2.70**	**283**	Pn	Pn		09 11 57.9	-1.4	
PMPB				IAML			09 12 43.2		
	comp=N,37nm,1.1s								
PMPB				IAML			09 12 53.9		
	comp=E,41nm,0.9s								
DPP	**Dos Picos Cty**	**2.70**	**169**		Pn		09 11 58.5	-0.7	
DPP				IAML			09 12 39.9		
	comp=E,29nm,0.3s								
NV11	**Mina Array Sit**	**2.81**	**350**		Pn		09 12 00.8	0.0	
NVAR	**Mina Array Bea**	**2.83**	**348**		Pn		09 12 01.4	+0.2	
SDRC	**San Diego Road**	**2.96**	**170**		Pn		09 12 02.3	-0.5	
BBGB	**Big Mountain B**	**2.97**	**289**	Pn	Pn		09 12 02.6	-0.5	
BBGB				IAML			09 12 59.5		
	comp=N,53nm,1.1s								
BBGB				IAML			09 13 09.8		
	comp=E,50nm,0.9s								
W13A	**Hualapai Mount**	**3.04**	**100**		Pn		09 12 03.0	-1.1	
W13A				IAML			09 12 54.5		
	comp=E,18nm,0.8s								
BAR	**Barrett**	**3.06**	**166**	IAML			09 12 51.1		
	comp=N,48nm,0.3s								
RYN	**Ryan**	**3.06**	**346**	Pn	Pn		09 12 03.7	-0.6	
R11B	**Troy Canyon, C**	**3.11**	**30**	Pn	Pn		09 12 04.1	-0.9	
WAKR	**Walker**	**3.21**	**332**	Pn	Pn		09 12 04.0	-2.5	
YUH	**Yuha Desert**	**3.29**	**155**	Pn	Pn		09 12 06.2	-1.2	
CBX	**Cerro Bola**	**3.42**	**167**		Pn		09 12 08.9	-0.3	
GLA	**Glamis**	**3.44**	**138**	Pn	Pn		09 12 07.4	-2.0	
GLA				IAML			09 13 10.4		
	comp=N,21nm,0.8s								
GLA				IAML			09 13 14.2		
	comp=E,27nm,0.8s								
LCMT	**Little Creek M**	**3.72**	**68**		Pn		09 12 14.2	+0.8	
CCUT	**Cedar City**	**3.86**	**60**	Pn	Pn		09 12 15.6	+0.3	
ESJX	**Sierra Juarez**	**3.88**	**160**	Pn	Pn		09 12 15.0	-0.7	
ESJX				IAML			09 13 17.9		
	comp=N,8.4nm,1.0s								
ESJX				IAML			09 13 18.6		
	comp=E,14nm,0.8s								
KNB	**Kanab**	**4.04**	**69**	Pn	Pn		09 12 18.3	+0.4	
KNB				IAML			09 13 34.6		
	comp=E,7.3nm,2.8s								
PSUT	**Pine Spring**	**4.11**	**45**	Pn	Pn		09 12 18.4	-0.5	
PSUT				IAML			09 13 31.7		
	comp=E,8.2nm,3.5s								
PSUT				IAML			09 13 34.5		
	comp=N,6.8nm,1.1s								
Y14A	**Wickenburg**	**4.11**	**113**	Pn	Pn		09 12 17.8	-0.9	
Y14A				IAML			09 13 26.3		
	comp=E,9.3nm,0.5s								
Y14A				IAML			09 13 33.1		
	comp=N,16nm,0.7s								

ASRS ***09*** *09:19:54.0±1.0,53.58N×87.69E,h0km,M3.0,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 09:19:58.5±3.3,53.52N×87.70E,h0km,mbtmp2.7/1, ML2.7/1,Error ellipse: s-maj=27.8km s-min=15.2km az=68.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.77**	**285**	I		I	09 31 05.0	
	0.3nm,1.1s,baz=101,slow=313,SNR=25							
ZALV	**Zalesovo Beam**	**1.77**	**285**	Pn		Pn	09 20 30.4	+0.1
	1.3nm,0.3s,baz=101,slow=15,SNR=8.8							
ZALV				Lg		Lg	09 20 54.5	
	3.6nm,0.3s,baz=104,slow=28,SNR=14							
ZALV				I		I	09 31 09.7	
	baz=78,slow=34,SNR=5.5							
KURBB	**Kurchatov Arra**	**6.35**	**247**	Lg		Lg	09 23 18.7	
	0.1nm,0.3s,baz=61,slow=29,SNR=4.7							
MKAR	**Makanchi Array**	**7.58**	**209**	Pn		Pn	09 21 51.6	+1.4
	0.1nm,0.3s,baz=28,slow=13,SNR=4.4							
MKAR				Sn		Sn	09 23 16.1	-0.6
	0.2nm,0.3s,baz=29,slow=28,SNR=6.1							
MKAR				Lg		Lg	09 23 58.9	
	0.1nm,0.3s,baz=24,slow=36,SNR=5.9 0.2nm,0.4s							

NEIC ***09*** *09:22:31.1±1.6,35.879N×0.008×117.68W×0.01, h1km±1km,Error ellipse: s-maj=1.2km s-min=1.1km az=90.0*

PAS 09 09:22:32.0±1.7,35.878N×0.008×117.69W×0.01, h3km,ML3.2/19,ML2.9/156(NEIC),Error ellipse: s-maj=1.2km s-min=1.2km az=102.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CLC	**China Lake**	**0.10**	**130**			Pg	09 22 34.1	+0.2
CLC				Sg		Sg	09 22 35.9	+0.7
CLC				IAML			09 22 36.1	
	comp=E,4μm,0.6s							
WVPM	**Volcano Peak E**	**0.13**	**304**			Pg	09 22 34.8	+0.2
JRC2	**Joshua Ridge**	**0.14**	**317**			Pg	09 22 35.1	+0.2
WCSM	**Coso Springs S**	**0.16**	**336**			Pg	09 22 35.2	0.0
WCSM						Sg	09 22 37.7	+0.3
WNMM	**Nine Mile Cany**	**0.18**	**259**			Pg	09 22 35.7	+0.2
WNMM						Sg	09 22 38.8	+1.0
SRTC	**Snort**	**0.19**	**195**			Pg	09 22 36.3	+0.6
SRTC						Sg	09 22 40.1	+1.8
WRVM	**Rose V. Centra**	**0.21**	**308**			Pg	09 22 36.2	+0.1
MPMC	**Manual Prospec**	**0.24**	**42**			Pg	09 22 36.8	+0.1
MPMC					Sg	Sg	09 22 40.7	+0.8
MFS	**McCloud Flat S**	**0.28**	**330**			Pg	09 22 37.4	0.0
MFS						Sg	09 22 41.4	+0.5
LRMC	**Laurel Mtn Rad**	**0.40**	**179**			Pg	09 22 39.7	0.0
LRMC						Sg	09 22 45.7	+0.9
LRMC				IAML			09 22 46.5	
	comp=N,2μm,0.5s							
LRMC				IAML			09 22 47.0	
	comp=E,2μm,0.5s							
CCCA	**Chr Cany lake**	**0.44**	**143**			Pg	09 22 41.0	+0.5
CCCA				Sg		Sb	09 22 47.9	-1.6
CCCA				IAML			09 22 47.9	
	comp=N,2μm,0.4s							
CCCA				IAML			09 22 52.9	
	comp=E,2μm,0.6s							
WORM	**Onyx Ranch**	**0.49**	**248**			Pg	09 22 41.2	-0.2
WORM						Sg	09 22 47.8	+0.2
WBSM	**Bird Springs**	**0.50**	**227**			Pg	09 22 41.6	0.0
WBSM						Sg	09 22 48.6	+0.5
WHFM	**Hanning Flat**	**0.57**	**252**			Pg	09 22 42.8	-0.1
DTP	**Desert Tortois**	**0.62**	**192**			Pg	09 22 43.7	-0.3
CWC	**Cottonwood Cre**	**0.65**	**331**			Pg	09 22 44.5	+0.1
CWC					Sg	Sg	09 22 52.9	+0.1
CWC				IAML			09 22 56.1	
	comp=N,603nm,0.1s							
CWC				IAML			09 22 58.7	
	comp=E,530nm,0.3s							
QSM	**Queen of Sheba**	**0.67**	**82**			Pg	09 22 44.5	-0.3
QSM						Sg	09 22 53.9	+0.3
ISA	**Isabella, Lake**	**0.68**	**252**			Pg	09 22 44.9	-0.1
ISA					Sg	Sg	09 22 53.9	+0.1
ISA				IAML			09 22 54.0	
	comp=N,1μm,0.4s							
ISA				IAML			09 22 54.9	
	comp=E,750nm,0.3s							
CGO	**Cerro Gordo**	**0.68**	**352**			Pg	09 22 44.8	-0.3
CGO						Sg	09 22 55.1	+1.2
WASM	**Alta Sierra Ca**	**0.72**	**259**			Pg	09 22 45.7	-0.2
WASM						Sg	09 22 55.4	+0.2
CCAC	**Calif City Air**	**0.77**	**200**			Sg	09 22 57.3	+0.5
GWY	**Greenwater Val**	**0.88**	**69**			Pg	09 22 48.7	-0.2
GWY						Sg	09 23 00.8	+0.5
FURC	**Furnace Creek,**	**0.89**	**48**			Sg	09 23 01.4	+0.8
GSC	**Goldstone, Bar**	**0.92**	**128**			Pg	09 22 49.2	-0.4
GSC					Sg	Sg	09 23 00.9	-0.6
GSC				IAML			09 23 04.1	
	comp=N,528nm,0.5s							
GSC				IAML			09 23 04.3	
	comp=E,641nm,0.5s							
SPG2	**Springville 2**	**0.93**	**291**			Pg	09 22 49.2	-0.7
SPG2						Sg	09 23 01.9	0.0
HYS	**Haystack Butte**	**1.02**	**175**			Pg	09 22 50.9	-0.6
EDW2	**Edwards Air Fo**	**1.03**	**194**			Pg	09 22 51.0	-0.7
TEJ	**El Tejon**	**1.04**	**232**			Pg	09 22 51.2	-0.8
TPO	**Tropico Hills**	**1.09**	**204**			Pg	09 22 52.4	-0.5
TPO				IAML			09 23 10.0	
	comp=N,373nm,0.8s							
TPO				IAML			09 23 11.5	
	comp=E,312nm,0.7s							
VES	**Vestal, Richgr**	**1.14**	**269**			Pg	09 22 53.3	-0.5
VES						Sg	09 23 08.6	0.0
GRAC	**Grapevine Rang**	**1.15**	**13**			Sg	09 23 09.3	+0.5
GRAC	**Grapevine Rang**	**1.15**	**13**			Pg	09 22 53.3	-0.7
SHOC	**Shoshone, Teco**	**1.15**	**89**			Pg	09 22 53.9	-0.1
SHOC						Sg	09 23 09.3	+0.5
SBB	**Saddle Back Bu**	**1.19**	**185**			Pg	09 22 54.7	-0.2
SBB						Sg	09 23 09.4	-0.9
ARVC	**Arvin**	**1.20**	**232**			Pg	09 22 55.0	+0.1
TJR	**Tejon Ranch**	**1.21**	**226**			Pg	09 22 54.1	-1.0
SGV	**South Grapevin**	**1.22**	**25**			Pg	09 22 54.8	-0.6
SGV						Sg	09 23 11.4	+0.1
WCT	**Wildcat Mounta**	**1.25**	**43**	Pg		Pg	09 22 55.2	-0.9
WCT				IAML			09 23 16.5	
	comp=E,199nm,0.6s							
WCT				IAML			09 23 16.5	
	comp=N,183nm,0.6s							
BAKC	**Calstate**	**1.27**	**246**			Sb	09 23 13.5	+0.1
AMDNV	**Amargosa**	**1.27**	**63**			Pg	09 22 55.1	-1.4
AMDNV						Sg	09 23 12.6	-0.4
LCH	**Last Change Ra**	**1.35**	**1**			Pg	09 22 57.0	-1.0
LCH						Sg	09 23 15.0	-0.5
LRRC	**Littlerock Res**	**1.38**	**192**			Pb	09 22 58.7	+0.3
LRRC						Sb	09 23 16.5	+0.1
HOLC	**Holcomb Ridge**	**1.42**	**185**			Pn	09 22 58.8	-0.1
VOG	**Valley Oaks Go**	**1.44**	**288**			Pn	09 22 58.5	-0.5
VOG						Sb	09 23 17.9	-0.4
GMN	**Gold Mountain**	**1.46**	**13**			Pn	09 22 58.7	-0.9
GMN				IAML			09 23 22.0	
	comp=N,135nm,0.6s							
DSCC	**Desert Studies**	**1.49**	**119**			Pn	09 22 57.8	-1.9
TUQ	**Turquoise Moun**	**1.50**	**107**			Pn	09 22 58.6	-1.4
DSP	**Deep Springs**	**1.51**	**351**			Pn	09 22 59.1	-0.8
DSP						Sn	09 23 19.6	-0.6
DSP				IAML			09 23 21.5	
	comp=N,170nm,0.5s							
OSI	**Osito Audit: C**	**1.52**	**214**			Pn	09 22 59.4	-0.8
OSI				IAML			09 23 23.2	
	comp=E,117nm,0.6s							
BHPR	**Bishop**	**1.56**	**336**			Pn	09 23 01.2	+0.3
CHFC	**Chilao Flat St**	**1.57**	**190**			Pb	09 23 01.9	+0.1
TPNV	**Topopah Spring**	**1.58**	**47**			Pn	09 23 00.2	-0.9
TPNV				IAML			09 23 24.2	
	comp=E,144nm,0.4s							
TPNV				IAML			09 23 28.3	
	comp=E,171nm,0.7s							
BFSC	**Mount Baldy Ra**	**1.64**	**179**			Pn	09 23 02.1	+0.2
BFSC				IAML			09 23 25.6	
	comp=E,97nm,0.4s							
BFSC				IAML			09 23 27.5	
	comp=N,93nm,0.5s							
SSK	**Sunset Peak**	**1.66**	**180**			Pb	09 23 03.5	+0.1
MWC	**Mount Wilson**	**1.68**	**191**			Pn	09 23 02.0	-0.5
MWC				IAML			09 23 27.2	
	comp=E,146nm,0.5s							
MWC				IAML			09 23 31.5	
	comp=N,147nm,0.6s							
SIL	**Silver Peak**	**1.68**	**155**			Pb	09 23 03.8	+0.1
BBRC	**Big Bear Solar**	**1.73**	**158**			Pb	09 23 04.8	+0.3
PASC	**Pasadena Art C**	**1.75**	**194**			Pn	09 23 02.4	-0.9
MTPC	**Mountain Pass**	**1.78**	**102**			Pn	09 23 02.5	-1.4
MZP	**Montezuma Peak**	**1.84**	**8**			Pn	09 23 04.0	-0.7
GTM	**Goat Mountain**	**1.92**	**145**			Pb	09 23 07.8	0.0
BENR	**Benton**	**1.97**	**339**			Pb	09 23 08.6	-0.1
MLAC	**Mammoth, Mammo**	**1.98**	**333**			Pb	09 23 08.7	-0.1
MCSM	**Casa Diablo Ho**	**2.03**	**331**			Pb	09 23 09.6	-0.1
SHPR	**Sheep Range**	**2.14**	**72**			Pn	09 23 08.1	-0.7
TPC	**Twentynine Pal**	**2.22**	**142**			Pn	09 23 08.4	-1.4
TPH	**Tonopah**	**2.22**	**9**			Pn	09 23 09.5	-0.5
ELS	**Elsinore Mount**	**2.23**	**174**			Pn	09 23 09.4	-0.7
V12A	**Nelson**	**2.31**	**93**			Pn	09 23 09.6	-1.5
V12A				IAML			09 23 47.1	
	comp=N,102nm,0.5s							
V12A				IAML			09 23 49.5	
	comp=E,61nm,0.6s							
S11A	**Rachel**	**2.35**	**41**	Pn		Pn	09 23 11.0	-0.8
LHV	**Little Huntoon**	**2.46**	**345**			Pn	09 23 13.2	+0.2
LHV				IAML			09 23 56.8	
	comp=E,50nm,1.3s							
LHV				IAML			09 23 57.5	
	comp=N,56nm,0.7s							
PMD	**Palm Desert**	**2.47**	**154**	Pn		Pn	09 23 11.8	-1.5
PFO	**Pinyon Flats O**	**2.48**	**156**	Pn		Pn	09 23 12.2	-1.2
FRD	**Ford Ranch, An**	**2.54**	**159**			Pb	09 23 17.8	-0.5
PMPB	**Monarch Peak**	**2.55**	**279**	Pn		Pn	09 23 14.1	-0.3
PMPB				IAML			09 23 56.1	
	comp=N,82nm,0.6s							
PMPB				IAML			09 24 03.0	
	comp=E,97nm,0.8s							
NV11	**Mina Array Sit**	**2.58**	**352**			Pn	09 23 14.5	-0.3
NVAR	**Mina Array Bea**	**2.59**	**349**			Pn	09 23 14.9	-0.2
PRN	**Pahroc Range**	**2.61**	**53**			Pn	09 23 14.8	-0.5
PRN				IAML			09 24 02.2	
	comp=N,85nm,0.7s							
PRN				IAML			09 24 02.5	
	comp=E,90nm,0.9s							
MYLM	**Yosemite Lake**	**2.66**	**305**			Pb	09 23 19.0	-1.3
NEE2	**Needles Airpor**	**2.74**	**113**			Pn	09 23 15.1	-1.9
BBGB	**Big Mountain B**	**2.80**	**285**	Pn		Pn	09 23 16.6	-1.2
BORC	**Borrego Spring**	**2.81**	**158**	Pn

Y14A IAML 09 24 53.5
comp=E,16nm,0.4s
U15A North Rim 4.40 81 Pn Pn 09 23 40.3 +0.2
U15A IAML 09 25 01.8
comp=E,16nm,1.1s
U15A IAML 09 25 11.1
comp=N,13nm,1.2s
113A Mohawk Valley, 4.49 133 Pn Pn 09 23 39.9 -1.1
BEKR Beckworth 4.51 333 Pn Pn 09 23 39.6 -1.8
BEKR IAML 09 25 11.4
comp=E,16nm,0.7s
BEKR IAML 09 25 12.5
comp=N,7.5nm,0.8s
VTX Valle De La Tr 4.75 160 Pn Pn 09 23 44.0 -0.6
VTX IAML 09 25 26.1
comp=E,9.4nm,4.1s
VTX IAML 09 26 28.5
comp=N,10nm,4.4s
ELK Elko 5.23 21 Pn Pn 09 23 51.7 +0.4
X16A Lo Mia Camp, P 5.32 104 Pn Pn 09 23 52.6 0.0
X16A IAML 09 25 34.8
comp=E,5.1nm,2.6s
X16A IAML 09 25 37.5
comp=N,5.6nm,2.7s
DUG Dugway, Tooele 5.78 40 Pn Pn 09 23 57.6 -1.2

*IDC **09** 09:23:43.7±0.7, 11°.39S×163°.46E, h0km, mb4.1/13, mbtmp4.1/14, ML4.0/1, MS3.5/20, Error ellipse: s-maj=26.7km s-min=17.8km az=133.0*
*NEIC **09** 09:23:45.8±1.4, 11°.79S±0°.07×163°.7E±0°.1, h10km±1km, mb4.6/63, Error ellipse: s-maj=23.7km s-min=11.3km az=271.0*
*NOU **09** 09:23:47.7, 11°.41S×163°.58E, h24km, MLv5.0/9, Solomon Islands*
ISC 09 09:23:48.9±0.5, 11°.70S±0°.06×163°.50E±0°.06, h35km, n102, σ1.138/86, mb4.5/43, MS3.5/19, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	**Huro Makira**	**1.99**	**308**	P	**Pn**	**09 24 17.3**	**-2.8**
LUES	**Luesalemba Tem**	**2.58**	**67**	P	**Pn**	**09 24 25.6**	**-2.6**
ALEG	**Aligegeo Malai**	**4.03**	**316**	P	**Pn**	**09 24 45.7**	**-2.4**
SAVO	**Savo Central**	**4.43**	**305**	P	**Pn**	**09 24 53.5**	**-0.1**
TATA	**Tatamba Isabel**	**4.91**	**312**	P	**Pn**	**09 24 58.9**	**-1.3**
TATA	**Tatamba Isabel**	**4.91**	**312**	S	**Sn**	**09 25 53.9**	**-1.9**
VLAKA	**Lakatoro**	**5.80**	**139**	P	**Pn**	**09 25 14.9**	**+2.4**
DZM	**Mont Dzumac**	**10.69**	**165**	Pn	**Pn**	**09 26 17.6**	**-2.1**
DZM				Sn	**Sn**	**09 28 14.3**	**-3.8**
DZM	**Mont Dzumac**	**10.69**	**165**	Pn	**Pn**	**09 26 21.6**	**+2.0**
	1.0nm,0.3s,baz=40,slow=9.2,SNR=21						
DZM				Sn	**Sn**	**09 28 16.0**	**-2.2**
	0.1nm,0.3s,baz=76,slow=22,SNR=1.7						
DZM				LR	LR	09 30 03.3	
	comp=Z,208nm,22.0s,baz=30,slow=34						
	4.3nm,0.5s						
CTAO	**Charters Tower**	**18.55**	**241**	P	**Pn**	**09 28 03.7**	**+0.4**
MANU	**Manus Island**	**18.66**	**300**	P	**P**	**09 28 03.4**	**-0.6**
MANU				IAmb	IAmb	09 28 06.1	
	comp=Z,62nm,1.3s						
PATS	**Pohnpei**	**19.12**	**344**	P	**P**	**09 28 10.0**	**+0.9**
COEN	**Coen**	**19.95**	**261**	P	**P**	**09 28 18.4**	**+0.4**
COEN				IAmb	IAmb	09 28 25.3	
	comp=Z,29nm,1.2s						
LHI	**Lord Howe Isla**	**20.15**	**191**	P	**P**	**09 28 17.5**	**-2.6**
ARMA	**Armidale**	**21.64**	**209**	P	**P**	**09 28 35.3**	**-1.0**
ARMA				IAmb	IAmb	09 28 53.7	
	comp=Z,29nm,1.4s						
JAY	**Jayapura**	**24.37**	**290**	LR	LR	09 39 18.6	
	comp=Z,91nm,18.8s,baz=10,slow=39						
STKA	**Stephens Creek**	**28.47**	**222**	P	**P**	**09 29 41.8**	**+1.0**
	comp=Z,3.2nm,0.9s,baz=357,slow=7.5,SNR=4.8						
STKA				LR	LR	09 40 17.2	
	comp=Z,125nm,18.4s,baz=41,slow=35						
	comp=Z,3.2nm,0.9s						
WR8	**Warramunga Arr**	**29.05**	**250**	P	**P**	**09 29 47.9**	**+1.8**
WR8				IAmb	IAmb	09 29 50.9	
	comp=Z,10nm,1.3s						
WB0	**Warramunga Arr**	**29.11**	**250**		**P**	**09 29 48.2**	**+1.6**
WB0				IAmb	IAmb	09 29 51.2	
	comp=Z,12nm,1.1s						
URZ	**Urewera**	**29.11**	**158**	LR	LR	09 38 26.7	
	comp=Z,176nm,20.8s,baz=318,slow=30						
WRAB	**Tennant Creek**	**29.18**	**250**	P	**P**	**09 29 47.9**	**+0.6**
WRAB				IAmb	IAmb	09 29 51.3	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**29.19**	**250**	P	**P**	**09 29 47.5**	**+0.2**
WRA	**Warramunga Arr**	**29.19**	**250**	P	**P**	**09 29 48.0**	**+0.7**
	comp=Z,4.4nm,1.0s,baz=77,slow=9.0,SNR=10.0						
WRA				PcP	**PcP**	**09 32 56.2**	**+1.9**
	comp=Z,2.7nm,0.8s,baz=81,slow=2.5,SNR=8.0						
WRA				LR	LR	09 40 20.4	
	comp=Z,138nm,19.9s,baz=19,slow=34						
	comp=Z,4.4nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**30.16**	**6**	T	T	10 01 38.9	
	baz=188,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	**30.17**	**6**	T	T	10 01 44.6	
	baz=188,slow=76,SNR=25						
H11S1	**WAKE ISLAND Hy**	**30.18**	**6**	T	T	10 01 43.1	
	baz=188,slow=76,SNR=20						
ASAR	**Alice Springs**	**30.54**	**243**	P	**P**	**09 30 00.2**	**+1.0**
ASAR	**Alice Springs**	**30.54**	**243**	P	**P**	**09 29 59.7**	**+0.5**
	comp=Z,7.0nm,0.8s,baz=74,slow=9.6,SNR=33						
ASAR				PcP	**PcP**	**09 32 58.9**	**+1.1**
	comp=Z,2.1nm,0.9s,baz=93,slow=2.6,SNR=6.8						
ASAR				LR	LR	09 40 54.5	
	comp=Z,102nm,20.1s,baz=328,slow=34						
	comp=Z,7.0nm,0.8s						
GUMO	**Guam**	**31.19**	**323**	LR	LR	09 42 17.2	
	comp=Z,57nm,20.1s,baz=142,slow=36						
KNRA	**Kununurra**	**33.96**	**259**	P	**P**	**09 30 29.5**	**+0.2**
RAR	**Rarotonga**	**36.39**	**110**	LR	LR	09 45 12.3	
	comp=Z,86nm,18.6s,baz=55,slow=35						
FITZ	**Fitzroy Crossi**	**37.09**	**255**	P	**P**	**09 30 56.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**37.09**	**255**	P	**P**	**09 30 56.3**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=100,slow=11,SNR=2.8						
FITZ				LR	LR	09 45 40.2	
	comp=Z,117nm,18.3s,baz=302,slow=36						
	comp=Z,2.5nm,0.8s						
LUWI	**Luwuk**	**41.77**	**282**	P	**P**	**09 31 36.9**	**+1.6**
DAV	**Davao City (W)**	**42.08**	**294**	P	**P**	**09 31 40.2**	**+2.4**
DAV	**Davao City (W)**	**42.08**	**294**	LR	LR	09 50 31.5	
	comp=Z,22nm,18.1s,baz=142,slow=38						
MBWA	**Marble Bar**	**42.90**	**252**	P	**P**	**09 31 43.4**	**-1.0**
MBWA				IAmb	IAmb	09 31 50.0	
	comp=Z,19nm,1.0s						
JNU	**Nakatsue**	**54.36**	**326**	LR	LR	09 54 19.4	
	comp=Z,31nm,19.8s,baz=188,slow=34						
ASAJ	**Asahikawa**	**58.72**	**342**	LR	LR	09 57 12.6	
	comp=Z,30nm,19.4s,baz=319,slow=34						
USRK	**Ussuriysk Ar.**	**62.57**	**335**	P	**P**	**09 34 07.2**	**-2.1**
	comp=Z,1.2nm,0.7s,baz=116,slow=4.4,SNR=4.1						
USRK				LR	LR	09 58 55.9	
	comp=Z,23nm,21.8s,baz=214,slow=34						
	comp=Z,1.2nm,0.7s						
PETK	**Petropavlovsk-**	**64.74**	**356**	LR	LR	09 58 30.0	
	comp=Z,25nm,18.6s,baz=171,slow=32						
KIWB	**Kanaga Island**	**65.47**	**13**	P	**P**	**09 34 29.6**	**+1.4**
ADK	**Adak**	**65.60**	**13**	P	**P**	**09 34 30.0**	**+0.9**
MA2	**Magadan**	**71.77**	**353**	LR	LR	10 01 24.4	
	comp=Z,20nm,19.7s,baz=211,slow=32						
SONM	**Songino Array**	**77.91**	**325**	P	**P**	**09 35 44.5**	**+1.2**
SONM	**Songino Array**	**77.91**	**325**	P	**P**	**09 35 41.5**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=163,slow=5.7,SNR=3.8						
SONM				LR	LR	10 11 53.2	
	comp=Z,21nm,18.6s,baz=160,slow=37						
	comp=Z,0.2nm,0.3s						
QSPA	**South Pole Qui**	**78.31**	**180**	P	**P**	**09 35 45.2**	**-0.1**
QSPA	**South Pole Qui**	**78.31**	**180**	P	**P**	**09 35 47.1**	**+1.8**
	comp=Z,1.1nm,0.8s,baz=286,slow=1.1,SNR=7.1						
	comp=Z,1.1nm,0.8s						
M16K	**Timber Creek**	**78.33**	**18**	P	**P**	**09 35 45.7**	**+0.5**
M16K				IAmb	IAmb	09 36 05.3	
	comp=Z,7.2nm,1.4s						
O18K	**Koktuh Hills**	**78.61**	**20**	P	**P**	**09 35 47.5**	**+0.8**
O18K				IAmb	IAmb	09 35 53.0	
	comp=Z,10nm,1.4s						
K15K	**Wolf Creek Mou**	**78.64**	**16**	P	**P**	**09 35 46.7**	**-0.1**
L18K	**Granite Mounta**	**79.95**	**18**	P	**P**	**09 35 55.4**	**+1.3**
L18K				IAmb	IAmb	09 35 56.7	
	comp=Z,7.2nm,1.3s						
M19K	**Big River Lodg**	**80.41**	**19**	P	**P**	**09 35 58.0**	**+1.5**
F19K	**Shaleruckik Mo**	**83.26**	**14**		**P**	**09 36 12.2**	**+0.8**
F19K				IAmb	IAmb	09 36 13.3	
	comp=Z,5.4nm,1.3s						
MAW	**Mawson**	**83.29**	**202**	P	**P**	**09 36 14.1**	**+2.4**
	comp=Z,2.0nm,0.6s,baz=90,slow=6.1,SNR=4.2						
	comp=Z,2.0nm,0.6s						
MCK	**McKinley**	**83.47**	**19**	P	**P**	**09 36 13.1**	**+0.5**
MCK				IAmb	IAmb	09 36 20.1	
	comp=Z,4.1nm,0.8s						
I21K	**Tanana**	**83.56**	**17**	P	**P**	**09 36 12.9**	**-0.1**
I21K				IAmb	IAmb	09 36 20.8	
	comp=Z,4.2nm,1.1s						
N25K	**Chitina, Valde**	**83.57**	**22**	P	**P**	**09 36 14.0**	**+0.8**
N25K				IAmb	IAmb	09 36 21.1	
	comp=Z,4.2nm,1.1s						
IMAR	**Indian Mountai**	**83.65**	**16**	P	**P**	**09 36 14.4**	**+1.0**
H21K	**Melozitna Rive**	**83.67**	**17**	P	**P**	**09 36 14.4**	**+0.9**
E19K	**Redstone River**	**83.89**	**14**	P	**P**	**09 36 15.2**	**+0.6**
E19K				IAmb	IAmb	09 36 16.8	
	comp=Z,9.7nm,1.5s						
F20K	**Avaraart Lake**	**83.94**	**15**	P	**P**	**09 36 16.1**	**+1.3**
CCB	**Clear Creek Bu**	**84.46**	**19**		**P**	**09 36 18.4**	**+0.9**
D19K	**Kuna River**	**84.50**	**13**	P	**P**	**09 36 18.8**	**+1.0**
D19K				IAmb	IAmb	09 36 19.5	
	comp=Z,5.7nm,1.4s						
HDA	**Harding Lake**	**84.58**	**19**	P	**P**	**09 36 18.6**	**+0.4**
HDA				IAmb	IAmb	09 36 24.0	
	comp=Z,6.6nm,1.0s						
F21K	**Alatna River**	**84.65**	**15**	P	**P**	**09 36 19.9**	**+1.3**
M26K	**Nabesna, AK**	**84.66**	**22**	P	**P**	**09 36 20.0**	**+1.2**
M26K				IAmb	IAmb	09 36 20.9	
	comp=Z,8.4nm,1.4s						
M27K	**Edge Creek, AK**	**85.05**	**22**	P	**P**	**09 36 21.5**	**+0.7**
DOT	**Dot Lake**	**85.06**	**21**	P	**P**	**09 36 21.9**	**+1.2**
DOT				IAmb	IAmb	09 36 22.7	
	comp=Z,5.3nm,1.2s						
J25K	**Salcha River,**	**85.23**	**20**	P	**P**	**09 36 22.9**	**+1.4**
SCRK	**Sand Creek**	**85.29**	**21**	P	**P**	**09 36 23.3**	**+1.4**
L27K	**Beaver Creek,**	**85.49**	**22**	P	**P**	**09 36 23.1**	**+0.2**
L27K				IAmb	IAmb	09 36 28.4	
	comp=Z,4.4nm,1.3s						
J26L	**Joseph Creek**	**85.76**	**20**	P	**P**	**09 36 23.4**	**-0.9**
J26L				IAmb	IAmb	09 37 01.7	
	comp=Z,4.8nm,1.4s						
YBH	**Yreka Blue Hor**	**85.92**	**46**		**P**	**09 36 26.2**	**+0.7**
YBH	**Yreka Blue Hor**	**85.92**	**46**	P	**P**	**09 36 25.4**	**-0.2**
	baz=218,slow=1.6						
K27K	**Chicken**	**85.99**	**21**	P	**P**	**09 36 27.3**	**+2.1**
K27K				IAmb	IAmb	09 36 28.4	
	comp=Z,6.1nm,1.2s						
D22K	**Ayikyak River**	**86.08**	**15**	P	**P**	**09 36 26.7**	**+1.0**
AFDM	**Forest Hills D**	**86.29**	**49**	P	**P**	**09 36 25.8**	**-1.5**
AFDM				IAmb	IAmb	09 36 29.9	
	comp=Z,6.6nm,1.2s						
HATC	**Hat Creek Radi**	**86.52**	**47**	P	**P**	**09 36 26.8**	**-1.7**
E03A	**Lebam**	**86.98**	**41**		**P**	**09 36 31.7**	**+1.2**
BEKR	**Beckworth**	**87.02**	**48**	P	**P**	**09 36 31.3**	**+0.2**
BEKR				IAmb	IAmb	09 36 33.8	
	comp=Z,5.0nm,1.3s						
NLWA	**Neilton Lookou**	**87.08**	**40**	P	**P**	**09 36 31.2**	**+0.2**
NLWA				IAmb	IAmb	09 36 37.3	
	comp=Z,5.4nm,1.1s						
J05D	**Fort Rock, OR**	**87.46**	**45**		**P**	**09 36 34.1**	**+1.0**
J05D				IAmb	IAmb	09 36 35.9	
	comp=Z,5.4nm,1.0s						
GNW	**Green Mountain**	**87.81**	**41**	P	**P**	**09 36 34.9**	**+0.4**
GNW				IAmb	IAmb	09 36 36.5	
	comp=Z,2.7nm,0.9s						
NVAR	**Mina Array Bea**	**88.13**	**50**	P	**P**	**09 36 36.0**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=254,slow=4.7,SNR=4.8						
	comp=Z,0.9nm,0.8s						
I07A	**Izee**	**88.90**	**45**	IAmb	IAmb	09 36 42.3	
	comp=Z,2.7nm,0.8s						
G08A	**Pilot Rock**	**89.63**	**44**	IAmb	IAmb	09 36 46.0	
	comp=Z,4.1nm,1.3s						
KAAM	**Kaadhehdhoo**	**90.59**	**270**	P	**P**	**09 36 48.4**	**0.0**
BMO	**Blue Mountains**	**90.63**	**44**	IAmb	IAmb	09 36 54.5	
	comp=Z,5.3nm,1.4s						
ELK	**Elko**	**91.03**	**49**		**P**	**09 36 51.4**	**+1.3**
ELK				IAmb	IAmb	09 36 53.0	
	comp=Z,3.4nm,1.2s						
ELK	**Elko**	**91.03**	**49**	P	**P**	**09 36 50.4**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=271,slow=7.9,SNR=5.4						
	comp=Z,0.8nm,0.6s						
SPR3	**Spring Creek 3**	**91.28**	**51**		**P**	**09 36 51.3**	**-0.1**
MFID	**Camas Ranch**	**91.28**	**46**		**P**	**09 36 51.4**	**+0.4**
MFID				IAmb	IAmb	09 37 19.3	
	comp=Z,4.8nm,1.4s						
PLID	**Pearl Lake**	**91.58**	**44**	IAmb	IAmb	09 36 54.7	
	comp=Z,4.9nm,1.1s						
NEW	**Newport**	**91.67**	**41**	P	**P**	**09 36 51.6**	**-1.1**
	comp=Z,1.4nm,0.9s,baz=286,slow=4.4,SNR=3.1						
	comp=Z,1.4nm,0.9s						
HLID	**Hailey**	**92.31**	**46**	P	**P**	**09 36 55.3**	**-0.6**
MKAR	**Makanchi Array**	**92.50**	**317**	P	**P**	**09 36 55.5**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=98,slow=7.6,SNR=2.1						
	comp=Z,0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**92.80**	**325**	LR	LR	10 19 30.6	
	comp=Z,20nm,19.2s,baz=144,slow=36						
PDAR	**Pinedale Array**	**95.61**	**48**	LR	LR	10 14 28.2	
	comp=Z,18nm,18.6s,baz=276,slow=32						
NRIK	**Noril'sk**	**95.97**	**340**	LR	LR	10 24 38.2	
	comp=Z,19nm,18.2s,baz=140,slow=38						
SNAA	**Sanae**	**96.31**	**184**	LR	LR	10 18 16.3	
	comp=Z,54nm,19.4s,baz=96,slow=34						
TXAR	**Lajitas Array**	**98.07**	**62**	P	**P**	**09 37 20.6**	**-1.8**
	comp=Z,0.1nm,0.4s,baz=274,slow=4.1,SNR=3.1						
	comp=Z,0.1nm,0.4s						

*ASRS **09** 09:25:19.0±1.3, 54°.21N×86°.43E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 09 09:25:08.9±3.3, 54°.08N×87°.21E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=29.8km s-min=18.7km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**266**	I	I	09 33 50.0	
	baz=86,slow=320,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.42**	**266**	Pg	Pn	09 25 34.9	-1.0
	0.9nm,0.3s,baz=81,slow=16,SNR=8.0						
ZALV				Lg	Lg	09 25 54.2	
	2.0nm,0.3s,baz=81,slow=30,SNR=9.8						
ZALV				Rg	Rg	09 26 01.0	
	4.4nm,0.4s,baz=81,slow=30,SNR=10						
KURBB	**Kurchatov Arra**	**6.34**	**240**	Pn	Pn	09 26 43.9	+0.3
	baz=59,slow=13,SNR=4.5						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**7.94**	**205**	Pn	Pn	09 27 06.9	+1.4
	0.1nm,0.3s,baz=25,slow=14,SNR=2.4						
	0.1nm,0.2s						

*BKK **09** 09:26:09.4±1.1, 8°.7N±6°.9°4E±°, h14km±9km, M4.2/12, mB4.6/7, mb4.5/9, Mjma3.8/12, ML4.5/7, MLv4.5/5, Mw(mB)3.8/7*
*IDC **09** 09:26:11.4±3.4, 8°.49N×93°.91E, h74km±30km, mb3.8/18, mbtmp4.1/20, MS3.4/4, Error ellipse: s-maj=29.7km s-min=13.2km az=65.0*
*NEIC **09** 09:26:14.2±1.5, 8°.71N±0°.08×94°.03E±0°.08, h80km±7km, mb4.6/66, Error ellipse: s-maj=13.0km s-min=11.3km az=219.0*
ISC 09 09:26:13.1±0.4, 8°.66N±0°.07×94°.02E±0°.06, h80km, n116, σ1.317/105, mb4.5/48, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNTT	**Ranong**	**4.46**	**80**	P	**Pn**	**09 27 17.3**	**-1.0**
LHMI	**Lhok Sumawe**	**4.48**	**139**	Pn	**Pn**	**09 27 20.4**	**+1.8**
SRIT	**Nakonsritamara**	**5.52**	**90**		**Pn**	**09 27 31.7**	**-1.0**
SRIT				Sn	**Sn**	**09 28 35.9**	**+0.9**
SRIT	**Nakonsritamara**	**5.52**	**90**	P	**Pn**	**09 27 30.0**	**-2.8**
KULM	**Kulim**	**7.38**	**117**	Pn	**Pn**	**09 28 00.5**	**+2.3**
PSI	**Prapat**	**7.59**	**140**	P	**Pn**	**09 28 00.4**	**-0.8**
	3.5nm,0.5s,baz=323,slow=13,SNR=7.7						
PSI				LR	LR	09 32 01.9	
	comp=Z,199nm,18.2s,baz=297,slow=46						
RPSI	**Rantau Prapat**	**7.67**	**140**	Pn	**Pn**	**09 28 04.3**	**+2.1**
IPM	**Ipoh**	**8.10**	**120**	Pn	**Pn**	**09 28 08.1**	**0.0**
CM05	**Chiang Mai Arr**	**10.80**	**26**	P	**Pn**	**09 28 46.1**	**+1.2**
	0.0nm176nm12nm,0.5s						
CM13	**Chiang Mai Arr**	**10.80**	**26**	P	**Pn**	**09 28 46.0**	**+1.1**
	127nm11nm,0.6s						
CM04	**Chiang Mai Arr**	**10.82**	**26**	P	**Pn**	**09 28 46.0**	**+0.9**
	0.0nm212nm18nm,0.7s						
CM01	**Chiang Mai Arr**	**10.83**	**26**	P	**Pn**	**09 28 46.5**	**+1.3**
	0.0nm175nm19nm,0.7s						
CM02	**Chiang Mai Arr**	**10.83**	**26**	P	**Pn**	**09 28 45.1**	**-0.2**
CM31	**Chiang Mai Arr**	**10.85**	**26**	Pn	**Pn**	**09 28 47.3**	**+1.7**
CMAR	**Chiang Mai Arr**	**10.85**	**26**	Pn	**Pn**	**09 28 45.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**10.85**	**26**	P	**Pn**	**09 28 47.0**	**+1.5**
	7.8nm,0.5s,baz=213,slow=15,SNR=39						
CMAR				LR	LR	09 32 43.7	
	comp=Z,97nm,19.8s,baz=180,slow=36						
CHTO	**Chiang Mai**	**11.17**	**25**		**Pn**	**09 28 51.0**	**+1.1**
PALK	**Pallekele**	**13.26**	**265**	LR	LR	09 33 40.7	
	comp=Z,193nm,18.6s,baz=111,slow=34						
EVN	**Everest**	**20.37**	**341**		**P**	**09 30 43.9**	**-0.1**
EVN				IAmb	IAmb	09 30 44.9	
	comp=Z,17nm,0.8s						
HMDM	**Hanimaadhoo**	**20.73**	**266**	P	**P**	**09 30 47.7**	**+0.4**
LSA	**Lhasa**	**21.11**	**353**	P	**P**	**09 30 51.0**	**-0.7**
H08S3	**Diego Garcia H**	**26.88**	**234**	T	T	09 58 38.8	
	baz=52,slow=75,SNR=35						
H08S2	**Diego Garcia H**	**26.88**	**234**	T	T	09 58 42.3	
	baz=52,slow=75,SNR=7.4						
H08S1	**Diego Garcia H**	**26.89**	**234**	T	T	09 58 37.0	
	baz=52,slow=75,SNR=11						
NIL	**Nilore**	**31.39**	**325**		**P**	**09 32 26.0**	**-0.5**
MMRI	**Maumere**	**32.95**	**121**	P	**P**	**09 32 39.8**	**-0.5**
TNTI	**Ternate**	**34.12**	**101**	P	**P**	**09 32 50.6**	**+0.1**
KBL	**Kabul**	**34.48**	**322**	P	**P**	**09 32 53.4**	**-0.3**
KBL				IAmb	IAmb	09 32 54.4	
	comp=Z,5.4nm,0.8s						
TARG	**Taragay, Kyrgy**	**35.92**	**339**	P	**P**	**09 33 05.8**	**-0.4**
TARG				IAmb	IAmb	09 33 07.3	
	comp=Z,9.9nm,1.1s						
PRZ	**Przheval'sk**	**36.39**	**340**	P	**P**	**09 33 11.2**	**+1.3**
KDJ	**Kajisay**	**36.50**	**339**	P	**P**	**09 33 11.1**	**+0.3**
KDJ				IAmb	IAmb	09 33 11.9	
	comp=Z,6.2nm,0.8s						
DRK	**Karamyk**	**36.57**	**331**	P	**P**	**09 33 12.2**	**+0.6**
GAR	**Garm**	**36.95**	**329**		**P**	**09 33 14.1**	**-0.5**
BOOM	**Boomskoye usch**	**37.26**	**338**	P	**P**	**09 33 17.1**	**-0.2**
BOOM				IAmb	IAmb	09 33 17.7	
	comp=Z,3.9nm,0.8s						
SIMJ	**Simiganj**	**37.39**	**327**	P	**P**	**09 33 17.5**	**-0.9**
SIMJ				IAmb	IAmb	09 33 18.1	
	comp=Z,6.9nm,0.7s						
ARSB	**Arslanbob**	**37.49**	**334**	P	**P**	**09 33 19.6**	**+0.4**
BTK	**Batken**	**37.50**	**330**		**P**	**09 33 20.2**	**+0.9**
BTK				IAmb	IAmb	09 33 21.7	
	comp=Z,10nm,0.9s						
AAK	**Ala-Archa**	**37.95**	**336**	P	**P**	**09 33 23.9**	**+0.8**
AAK				IAmb	IAmb	09 33 24.9	
	comp=Z,5.0nm,0.7s						
AAK	**Ala-Archa**	**37.95**	**336**	P	**P**	**09 33 22.9**	**-0.2**
	comp=Z,3.7nm,0.6s,baz=184,slow=9.3,SNR=6.7						
	comp=Z,3.7nm,0.6s						
MBWA	**Marble Bar**	**38.94**	**140**	P	**P**	**09 33 31.4**	**-0.1**
MK31	**Makanchi Array**	**39.30**	**347**	P	**P**	**09 33 33.9**	**-0.4**
MKAR	**Makanchi Array**	**39.30**	**347**	P	**P**	**09 33 33.8**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=153,slow=8.2,SNR=11						
	comp=Z,1.6nm,0.9s						
MAKZ	**Makanchi**	**39.39**	**347**	P	**P**	**09 33 34.7**	**-0.2**
KK31	**Karatay Array**	**40.01**	**333**	P	**P**	**09 33 40.3**	**+0.1**
KKAR	**Karatay Array**	**40.01**	**333**	P	**P**	**09 33 40.3**	**+0.1**
SONM	**Songino Array**	**40.43**	**13**	P	**P**	**09 33 44.8**	**+1.2**
SONM	**Songino Array**	**40.43**	**13**	P	**P**	**09 33 43.7**	**0.0**
	comp=Z,0.6nm,0.4s,baz=192,slow=5.3,SNR=4.0						
	comp=Z,0.6nm,0.4s						
KSAR	**Wonju Array Be**	**41.93**	**42**	P	**P**	**09 33 56.7**	**+0.8**
KS19	**Wonju Array Si**	**41.95**	**42**	P	**P**	**09 33 56.1**	**0.0**
KURBB	**Kurchatov Arra**	**43.76**	**346**	P	**P**	**09 34 10.6**	**0.0**
	comp=Z,2.3nm,0.8s,baz=159,slow=6.8,SNR=14						
	comp=Z,2.3nm,0.8s						
KURK	**Kurchatov**	**43.83**	**346**	P	**P**	**09 34 10.9**	**-0.1**
ZAA0	**Zalesovo Array**	**45.77**	**352**		**P**	**09 34 27.0**	**+0.6**
ZAA0				IAmb	IAmb	09 34 27.8	
	comp=Z,12nm,0.9s						
ZALV	**Zalesovo Beam**	**45.77**	**352**		**P**	**09 34 26.8**	**+0.3**
ZALV	**Zalesovo Beam**	**45.77**	**352**	P	**P**	**09 34 27.1**	**+0.6**
	comp=Z,3.0nm,0.3s,baz=180,slow=7.4,SNR=24						
	comp=Z,3.0nm,0.3s						
JSG	**Sagara**	**47.99**	**51**	P	**P**	**09 34 44.2**	**+0.1**
BRVK	**Borovoye**	**48.28**	**341**	P	**P**	**09 34 45.7**	**-0.3**
RAYN	**Ar Rayn**	**48.66**	**294**		**P**	**09 34 50.2**	**+0.7**
RAYN				IAmb	IAmb	09 34 50.5	
	comp=Z,7.9nm,0.6s						
WB0	**Warramunga Arr**	**48.77**	**126**	P	**P**	**09 34 50.7**	**+0.4**
WB0				IAmb	IAmb	09 35 16.4	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**48.81**	**126**	P	**P**	**09 34 50.9**	**+0.3**
WRA	**Warramunga Arr**	**48.81**	**126**	P	**P**	**09 34 48.7**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=298,slow=8.8,SNR=2.7						
	comp=Z,0.6nm,0.8s						
WR8	**Warramunga Arr**	**48.95**	**126**	P	**P**	**09 34 51.4**	**-0.3**
WR8				IAmb	IAmb	09 35 18.8	
	comp=Z,6.8nm,1.4s						

NB2	**NORSAR Subarra**	**78.99**	**331**	P		**P**	**09 38 07.8**	**-0.3**	
	comp=Z,1.0nm,0.7s,baz=96,slow=5.1								
NOA	**NORSAR Array B**	**78.99**	**331**	P		**P**	**09 38 06.7**	**-1.4**	
	comp=Z,1.7nm,0.8s,baz=94,slow=5.3,SNR=6.0								
	comp=Z,1.7nm,0.8s								
SPITS	**Spitsbergen Ar**	**79.05**	**348**	P		**P**	**09 38 08.0**	**-0.1**	
	comp=Z,1.4nm,0.5s,baz=100,slow=13,SNR=4.1								
	comp=Z,1.4nm,0.5s								
C16K	**Lisburne Hills**	**85.94**	**22**	P		**P**	**09 38 45.6**	**+1.6**	
C16K				IAmb		IAmb	09 39 18.8		
	comp=Z,9.4nm,1.4s								
EKA	**Eskdalemuir Ar**	**87.01**	**325**	P		**P**	**09 38 49.0**	**-0.5**	
	comp=Z,1.5nm,0.6s,baz=99,slow=5.3,SNR=7.2								
	comp=Z,1.5nm,0.6s								
C18K	**Utukok River**	**87.32**	**21**	P		**P**	**09 38 52.2**	**+1.3**	
C18K				IAmb		IAmb	09 38 53.8		
	comp=Z,5.4nm,1.1s								
C19K	**Lookout Ridge**	**87.74**	**20**	P		**P**	**09 38 55.4**	**+2.5**	
C19K				IAmb		IAmb	09 39 16.4		
	comp=Z,4.9nm,1.4s								
G16K	**Koyuk River**	**87.81**	**24**	P		**P**	**09 38 55.2**	**+2.1**	
B20K	**Meade River**	**88.24**	**19**	P		**P**	**09 38 57.5**	**+2.4**	
B20K				IAmb		IAmb	09 39 08.8		
	comp=Z,5.8nm,1.4s								
D19K	**Kuna River**	**88.44**	**21**	P		**P**	**09 38 57.9**	**+1.7**	
D20K	**Etivluk River**	**88.88**	**20**	P		**P**	**09 39 00.6**	**+2.4**	
F20K	**Avaraart Lake**	**89.81**	**22**	P		**P**	**09 39 04.4**	**+1.8**	
F20K				IAmb		IAmb	09 39 05.6		
	comp=Z,2.4nm,0.9s								
E21K	**Killik River**	**89.89**	**20**	IAmb		IAmb	09 39 05.7		
	comp=Z,2.4nm,0.8s								
H19K	**Roundabout Mou**	**90.10**	**23**	IAmb		IAmb	09 39 07.6		
	comp=Z,4.6nm,1.1s								
TORD	**Torodi Ar. Bea**	**90.30**	**283**	P		**P**	**09 39 06.4**	**+0.5**	
G21K	**Allakaket**	**90.83**	**22**	IAmb		IAmb	09 39 10.2		
	comp=Z,3.7nm,1.1s								
IMAR	**Indian Mountai**	**90.96**	**22**	P		**P**	**09 39 10.2**	**+2.2**	
H21K	**Melozitna Rive**	**91.44**	**22**	IAmb		IAmb	09 39 13.2		
	comp=Z,1.8nm,0.7s								
CAST	**Castle Rocks**	**92.67**	**24**	IAmb		IAmb	09 39 19.1		
	comp=Z,4.0nm,1.1s								
N19K	**Bonanza Creek**	**92.71**	**27**			**P**	**09 39 18.3**	**+2.0**	
N19K				IAmb		IAmb	09 39 19.6		
	comp=Z,3.4nm,0.9s								
F25K	**Christian Rive**	**93.06**	**19**	P		**P**	**09 39 20.6**	**+2.9**	
F25K				IAmb		IAmb	09 39 21.7		
	comp=Z,2.9nm,1.3s								
PDAR	**Pinedale Array**	**124.48**	**21**	PKP		**PKPdf**	**09 45 03.2**	**-0.5**	
	comp=Z,0.3nm,0.7s,baz=352,slow=3.5,SNR=3.8								
TXAR	**Lajitas Array**	**138.56**	**24**	PKP		**PKPdf**	**09 45 30.8**	**+0.3**	
	comp=Z,0.1nm,0.5s,baz=7.2,slow=0.8,SNR=3.8								
PLCA	**Paso Flores**	**145.24**	**201**	PKPbc		**PKPbc**	**09 45 39.1**	**-2.6**	
	comp=Z,3.4nm,1.0s,baz=212,slow=5.4,SNR=4.9								
LPAZ	**La Paz**	**161.00**	**245**	PKPab		**PKPab**	**09 46 47.9**	**-1.2**	
	comp=Z,0.9nm,0.7s,baz=106,slow=3.3,SNR=4.2								

*NEIC **09** 09:37:26.7±1.1, 18°.80N±0°.05×155°.20W±0°.02, h35km±2km, Error ellipse: s-maj=9.2km s-min=3.4km az=350.0*

HVO 09 09:37:28.3±1.1, 18°.79N±0°.07×155°.21W±0°.04, h38km±8km, ML3.5/49, ML3.6/44(NEIC), Error ellipse: s-maj=10.5km s-min=4.0km az=158.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.44**	**312**		Pn	09 37 37.0	-0.9
HPO					Sn	09 37 44.4	-0.5
HTC	**Hot Caves**	**0.48**	**338**		Pn	09 37 37.7	-0.9
HLP	**Hilina Pali**	**0.51**	**349**		Pn	09 37 38.2	-0.9
HLP					Sn	09 37 45.9	-0.8
PUH	**Pauahi**	**0.58**	**359**		Pn	09 37 38.6	-1.7
PUH					Sn	09 37 46.2	-2.4
KNHH	**Kane Nui o Ham**	**0.58**	**4**		Pn	09 37 38.7	-1.6
KHU	**Kahuku**	**0.59**	**320**		Pn	09 37 38.8	-1.8
KHU					Sn	09 37 47.0	-2.1
KHU				IAML		09 37 47.5	
	comp=E,3μm,0.3s						
STCH	**Steam Cracks**	**0.59**	**8**		Pn	09 37 38.8	-1.7
STCH					Sn	09 37 46.6	-2.3
STCH				IAML		09 37 46.7	
	comp=E,3μm,0.3s						
STCH				IAML		09 37 47.0	
	comp=N,3μm,0.4s						
JCUZ	**Jacuzzi**	**0.60**	**10**		Pn	09 37 38.8	-1.7
JCUZ					Sn	09 37 46.5	-2.5
SDHH	**Sand Hill**	**0.60**	**352**		Pn	09 37 38.9	-1.7
SDHH					Sn	09 37 46.5	-2.5
RIM	**Rim**	**0.60**	**354**		Pn	09 37 38.9	-1.7
RIM					Sn	09 37 46.7	-2.5
KKO	**Keanakako'i**	**0.60**	**355**		Pn	09 37 39.0	-1.7
KKO					Sn	09 37 46.8	-2.4
NPOC	**North of Pu'u**	**0.60**	**9**		Pn	09 37 38.9	-1.7
NPOC					Sn	09 37 46.8	-2.4
WRMHI	**West Rim**	**0.62**	**352**		Pn	09 37 39.0	-1.8
WRMHI					Sn	09 37 47.3	-2.2
BYL	**Byron's Ledge**	**0.62**	**355**		Pn	09 37 39.0	-1.8
BYL					Sn	09 37 47.3	-2.2
BYL				IAML		09 37 47.7	
	comp=N,3μm,0.4s						
AIN	**Ainahou**	**0.62**	**338**		Pn	09 37 39.6	-1.4
AIN					Sn	09 37 48.1	-1.6
OBL	**Observatory Le**	**0.63**	**353**		Pn	09 37 39.1	-1.8
OBL					Sn	09 37 47.5	-2.3
HATHI	**Halema'uma'u T**	**0.63**	**355**		Pn	09 37 39.2	-1.8
HATHI					Sn	09 37 47.4	-2.4
HATHI				IAML		09 37 48.0	
	comp=N,2μm,0.2s						
HATHI				IAML		09 37 54.5	
	comp=E,2μm,0.5s						
UWE	**Uwekahuna**	**0.63**	**353**		Pn	09 37 39.1	-1.8
UWE					Sn	09 37 47.6	-2.2
UWE				IAML		09 37 48.4	
	comp=E,4μm,0.6s						
UWE				IAML		09 37 48.4	
	comp=N,3μm,0.5s						
UWB	**Uwekahuna Bluf**	**0.63**	**354**		Pn	09 37 39.1	-1.9
UWB					Sn	09 37 47.7	-2.2
SBLHI	**Steaming Bluff**	**0.63**	**355**		Pn	09 37 39.1	-1.9
SBLHI					Sn	09 37 47.1	-2.8
JOKA	**Jonika Flow**	**0.67**	**17**		Pn	09 37 39.7	-1.6
JOKA					Sn	09 37 48.1	-2.5
JOKA				IAML		09 37 49.0	
	comp=N,2μm,0.9s						
JOKA				IAML		09 37 49.0	
	comp=E,2μm,0.7s						
RSD	**Rainshed**	**0.67**	**354**		Sn	09 37 48.4	-2.4
RSD	**Rainshed**	**0.67**	**354**		Pn	09 37 40.4	-1.1
MLH	**Mauna Loa**	**0.72**	**346**		Pn	09 37 40.6	-1.6
MLH					Sn	09 37 49.9	-2.2
MLH				IAML		09 37 50.3	
	comp=E,3μm,0.3s						
MWH	**Mokuaweoweo**	**0.78**	**332**		Pn	09 37 41.3	-2.0
MWH					Sn	09 37 51.4	-2.6
MWH				IAML		09 37 51.8	
	comp=N,2μm,0.2s						
MWH				IAML		09 37 53.1	
	comp=E,3μm,0.6s						
HMH	**Humu'ula Sheep**	**0.85**	**342**		Pn	09 37 42.4	-1.6
HMH					Sn	09 37 52.8	-2.6
HMH				IAML		09 37 54.1	
	comp=N,3μm,0.3s						
ALEP	**Alea Permanent**	**0.85**	**331**		Pn	09 37 41.9	-2.2
ALEP					Sn	09 37 52.6	-3.0
CPH	**Captain Cook**	**0.96**	**316**		Pn	09 37 43.0	-2.3
POHA	**Pohakuloa**	**1.01**	**342**		Pn	09 37 44.0	-2.1
POHA					Sn	09 37 55.5	-3.6
POHA	**Pohakuloa**	**1.01**	**342**	IAML		09 37 56.5	
	comp=N,1μm,0.5s						
HUH	**Hualalai**	**1.07**	**326**		Pn	09 37 45.0	-1.9
HUH					Sn	09 37 58.3	-2.4
HUH	**Hualalai**	**1.07**	**326**	IAML		09 38 07.3	
	comp=E,2μm,0.3s						
HUH				IAML		09 38 09.6	
	comp=N,2μm,0.3s						
KKH	**Kailua Kona**	**1.15**	**318**		Pn	09 37 45.6	-2.3
KKH					Sn	09 37 58.9	-3.4
MHA	**Mahukona**	**1.54**	**335**		Pn	09 37 51.0	-2.1
MHA					Sn	09 38 07.8	-4.0
HLK	**Haleakala**	**2.19**	**334**		Pn	09 37 59.6	-2.8
HLK					Sn	09 38 22.7	-5.6
KHLH	**Kahului Airpor**	**2.39**	**331**		Pn	09 38 02.8	-2.0
KHLH					Sn	09 38 27.6	-5.3
WMR	**Waimanalo Ridg**	**3.42**	**318**		Pn	09 38 16.0	-3.2
WMR					Sn	09 38 50.3	-8.2
DHH	**Diamond Head**	**3.46**	**316**		Pn	09 38 16.6	-3.1
DHH					Sn	09 38 53.4	-6.0
HON	**Honolulu**	**3.64**	**314**		Pn	09 38 18.6	-3.4
HON					Sn	09 38 55.8	-8.0
KIP	**Kipapa**	**3.71**	**315**		Pn	09 38 20.3	-2.8
KIP					Sn	09 38 56.0	-10
OPA	**Opana**	**3.90**	**318**		Pn	09 38 22.2	-3.5
OPA					Sn	09 38 59.6	-11

*IDC **09** 09:41:41.0±0.7, 17°.03S×167°.27E, h0km, mb4.1/11, mbtmp4.2/12, ML5.3/2, MS3.5/5, Error ellipse: s-maj=24.4km s-min=17.9km az=85.0*

*NOU **09** 09:41:43.2, 17°.14S×167°.31E, h3km, mb4.9/16, Vanuatu Islands*

*NEIC **09** 09:41:45.2±1.8, 17°.2S±0°.1×167°.1E±0°.1, h10km±1km, mb4.5/16, Error ellipse: s-maj=23.3km s-min=16.6km az=133.0*

ISC 09 09:41:45.1±0.5, 17°.13S±0°.05×167°.32E±0°.06, h25km, n53, σ1§28/50, mb4.3/17, MS3.7/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.01**	**126**	P	**Pn**	**09 42 03.0**	**-0.8**
DVP	**Devils Point**	**1.01**	**126**	P	**Sb**	**09 42 16.6**	**-0.3**
DVP	**Devils Point**	**1.01**	**126**	P	**Pn**	**09 42 02.9**	**-0.8**
DVP	**Devils Point**	**1.01**	**126**	S	**Sb**	**09 42 17.0**	**+0.1**
VLAKA	**Lakatoro**	**1.02**	**5**	P	**Pn**	**09 42 02.7**	**-1.2**
VLAKA	**Lakatoro**	**1.02**	**5**	P	**Pn**	**09 42 02.5**	**-1.4**
VLAKA	**Lakatoro**	**1.02**	**5**	S	**Sb**	**09 42 16.3**	**-1.0**
INH	**Isangel**	**3.03**	**143**	P	**Pn**	**09 42 31.2**	**-0.4**
KOUNC	**Koumac, New Ca**	**4.46**	**220**	P	**Pn**	**09 42 50.9**	**-0.2**
DZM	**Mont Dzumac**	**4.98**	**189**		**Pn**	**09 42 58.2**	**-0.2**
DZM	**Mont Dzumac**	**4.98**	**189**	Pn	**Pn**	**09 42 57.9**	**-0.6**
	11nm,0.3s,baz=27,slow=18,SNR=201						
DZM				Sn	**Sn**	**09 43 54.1**	**-1.3**
	5.3nm,0.3s,baz=142,slow=23,SNR=6.1						
	28nm,0.3s						
DZM	**Mont Dzumac**	**4.98**	**189**	P	**Pn**	**09 42 58.1**	**-0.4**
OUENC	**Ouen Island, N**	**5.28**	**185**	P	**Pn**	**09 43 03.0**	**+0.5**
HURO	**Huro Makira**	**8.46**	**321**	P	**Pn**	**09 43 45.9**	**-0.3**
MSVF	**Nonsavu**	**10.26**	**95**	Pn	Pn	09 44 16.1	+5.2
SAVO	**Savo Central**	**10.79**	**316**	P	**Pn**	**09 44 18.9**	**+0.8**
TATA	**Tatamba Isabel**	**11.37**	**319**	P	**Pn**	**09 44 29.0**	**+2.9**
LHI	**Lord Howe Isla**	**16.17**	**206**	Pn	**Pn**	**09 45 29.1**	**-1.6**
RAO	**Raoul Island**	**18.13**	**134**	P	**Pn**	**09 45 55.1**	**-0.2**
	95nm,0.3s,baz=53,slow=22,SNR=1.9						
URZ	**Urewera**	**22.73**	**160**	P	**P**	**09 46 45.6**	**+0.3**
	6.8nm,1.0s,baz=1.5,slow=20,SNR=1.8						
	6.8nm,1.0s						
CAN	**Canberra**	**24.39**	**219**	P	**P**	**09 47 00.1**	**-1.5**
CAN				IAmb	IAmb	09 47 33.6	
	comp=Z,17nm,1.2s						
STKA	**Stephens Creek**	**27.54**	**233**	P	**P**	**09 47 30.8**	**+0.7**
STKA				IAmb	IAmb	09 47 39.3	
	comp=Z,19nm,1.1s						
STKA	**Stephens Creek**	**27.54**	**233**	P	**P**	**09 47 29.5**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=80,slow=7.6,SNR=5.1						
	comp=Z,2.5nm,0.8s						
WR8	**Warramunga Arr**	**31.22**	**260**	P	**P**	**09 48 02.0**	**-0.9**
WR8				IAmb	IAmb	09 48 41.4	
	comp=Z,7.1nm,1.3s						
RAR	**Rarotonga**	**31.31**	**103**	LR	LR	09 57 56.4	
	comp=Z,62nm,19.9s,baz=128,slow=31						
WB0	**Warramunga Arr**	**31.32**	**260**	P	**P**	**09 48 03.2**	**-0.6**
WB0				IAmb	IAmb	09 48 14.5	
	comp=Z,8.4nm,1.4s						
WRA	**Warramunga Arr**	**31.37**	**260**	P	**P**	**09 48 02.2**	**-2.0**
WRA	**Warramunga Arr**	**31.37**	**260**	P	**P**	**09 48 02.9**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=80,slow=6.0,SNR=21						
WRA				PcP	**PcP**	**09 50 57.9**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=86,slow=3.2,SNR=5.5						
	comp=Z,0.9nm,0.7s						
AS31	**Alice Springs**	**31.94**	**253**	P	**P**	**09 48 08.7**	**-0.5**
ASAR	**Alice Springs**	**31.94**	**253**	P	**P**	**09 48 08.2**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=81,slow=8.8,SNR=55						
ASAR				PcP	**PcP**	**09 50 59.6**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=84,slow=2.3,SNR=5.5						
	comp=Z,3.0nm,0.8s						
KNRA	**Kununurra**	**36.98**	**267**	P	**P**	**09 48 52.2**	**-0.7**
KNRA				IAmb	IAmb	09 49 22.3	
	comp=Z,7.3nm,1.1s						
GUMO	**Guam**	**37.73**	**323**	LR	LR	10 06 45.7	
	comp=Z,16nm,18.1s,baz=169,slow=40						
FITZ	**Fitzroy Crossi**	**39.68**	**262**	P	**P**	**09 49 15.0**	**-0.6**
MBWA	**Marble Bar**	**45.01**	**257**	P	**P**	**09 49 59.3**	**+0.3**
DAV	**Davao City (W)**	**47.76**	**297**	LR	LR	10 08 55.0	
	comp=Z,77nm,19.2s,baz=192,slow=34						
MJAR	**Matsushiro Arr**	**60.05**	**333**	P	**P**	**09 51 49.1**	**-1.0**
	comp=Z,4.1nm,1.1s,baz=152,slow=8.2,SNR=6.6						
	comp=Z,4.1nm,1.1s						
JKA	**Kamikawa-asahi**	**65.01**	**341**	P	**P**	**09 52 24.8**	**+1.8**
PETK	**Petropavlovsk-**	**70.44**	**354**	P	**P**	**09 52 56.8**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=188,slow=6.9,SNR=4.5						
	comp=Z,2.2nm,0.8s						
QSPA	**South Pole Qui**	**72.91**	**180**	P	**P**	**09 53 13.3**	**+1.2**
QSPA				IAmb	IAmb	09 53 31.8	
	comp=Z,6.6nm,1.4s						
QSPA	**South Pole Qui**	**72.91**	**180**	P	**P**	**09 53 13.4**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=345,slow=0.8,SNR=11						
	comp=Z,1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**75.98**	**295**	P	**P**	**09 53 30.8**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=112,slow=7.7,SNR=2.2						
	comp=Z,0.8nm,0.3s						
OHAK	**Old Harbor**	**81.01**	**20**	P	**P**	**09 54 01.2**	**+3.9**
K13K	**Kusilvak Mount**	**81.88**	**13**	P	**P**	**09 54 03.9**	**+1.9**
J16K	**Anvik River**	**83.97**	**14**	P	**P**	**09 54 15.3**	**+2.5**
J16K				IAmb	IAmb	09 54 24.0	
	comp=Z,2.2nm,1.1s						
J17K	**VABM Dome**	**84.42**	**14**	P	**P**	**09 54 17.6**	**+2.6**
J17K				IAmb	IAmb	09 54 28.6	
	comp=Z,5.5nm,1.4s						
SONM	**Songino Array**	**84.45**	**324**	P	**P**	**09 54 14.9**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=149,slow=6.3,SNR=5.0						
	comp=Z,0.6nm,0.5s						
PFO	**Pinyon Flats O**	**88.35**	**54**	LR	LR	10 29 32.7	
	comp=Z,47nm,18.6s,baz=148,slow=32						
ILAR	**Eielson Array**	**88.78**	**18**	P	**P**	**09 54 34.8**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=239,slow=5.0,SNR=9.5						
	comp=Z,0.4nm,0.6s						
SNAA	**Sanae**	**91.17**	**183**	P	**P**	**09 54 47.4**	**-0.3**
	comp=Z,1.8nm,1.1s,baz=151,slow=1.5,SNR=5.0						
	comp=Z,1.8nm,1.1s						
ANMO	**Albuquerque**	**96.61**	**56**	LR	LR	10 34 20.2	
	comp=Z,29nm,18.8s,baz=46,slow=33						
SPITS	**Spitsbergen Ar**	**117.31**	**354**	PKP	**PKPdf**	**10 00 26.9**	**-0.7**
	comp=Z,4.3nm,0.9s,baz=330,slow=8.3,SNR=4.2						
ARCES	**ARCESS Array B**	**122.58**	**345**	PKP	**PKPdf**	**10 00 37.5**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=50,slow=2.3,SNR=16						
AKASG	**Malin Array Be**	**132.73**	**325**	PKP	**PKPdf**	**10 00 56.6**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=56,slow=0.7,SNR=1.9						

*ASRS **09** 09:49:33.0±0.8, 54°.36N×86°.66E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 09:49:36.6±3.5, 54°.35N×86°.63E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=27.3km s-min=15.5km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.13**	**250**	I	I	09 57 20.0	
	baz=70,slow=327,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.13**	**250**	Pg	Pg	09 49 57.4	-0.9
	0.7nm,0.3s,baz=66,slow=17,SNR=4.9						
ZALV				Lg	Lg	09 50 14.0	
	1.6nm,0.3s,baz=67,slow=21,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.19**	**236**	Pn	Pn	09 51 10.0	+0.9
	baz=49,slow=13,SNR=2.4						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**8.05**	**202**	Pn	Pn	09 51 35.9	+1.3
	0.1nm,0.3s,baz=25,slow=14,SNR=4.1						
MKAR				Sn	Sn	09 53 05.1	-1.2
	0.1nm,0.3s,baz=23,slow=26,SNR=1.7						
	0.1nm,0.3s						

IDC 09 10:08:09.9±1.8, 0°.57N×126°.32E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=175.8km s-min=23.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.85**	**159**	P	P	10 13 03.1	-1.1
	1.1nm,0.7s,baz=338,slow=11,SNR=11						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**25.20**	**163**	P	P	10 13 38.2	+0.8
	0.7nm,0.7s,baz=342,slow=11,SNR=12						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**59.92**	**327**	P	P	10 18 17.8	-0.1
	0.2nm,0.4s,baz=124,slow=6.3,SNR=2.4						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.18**	**328**	P	P	10 18 46.3	0.0
	0.2nm,0.5s,baz=115,slow=5.3,SNR=1.2						
	0.2nm,0.5s						

*NEIC **09** 10:21:52.0±1.2, 35°.948N±0°.010×117°.67W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.7km az=12.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=1.90; $M_{\theta\theta}$=-0.19; $M_{\phi\phi}$=2.08; $M_{r\theta}$=0.74; $M_{\theta\phi}$=0.69; $M_{\phi r}$=-0.66; Fault plane solution: M_0=2.33000×10^{14} NP1: ϕ_s=353.06000°, δ55.76000°, λ=-119.39000°. NP2: ϕ_s=218.08000°, δ=43.92000°, λ=-54.21000°. Principal axes: T 2.3249, Plg6.0000°, Azm103.0000°; N 0.0159, Plg24.0000°, Azm11.1.0000°; P -2.3408, Plg65.0000°, Azm207.0000°;*

*NEIC **09** 10:21:52.3, 35°.96N×117°.68W, h1km*

PAS 09 10:21:52.3±1.4, 35°.96N±0°.01×117°.68W±0°.01, h1km±1km, Mwr3.5/4, ML3.4/74(NEIC), Mwr3.5/35(NEIC), Error ellipse: s-maj=1.6km s-min=1.2km az=194.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.15**	**155**		Pg	10 21 55.4	+0.2
CLC					Sg	10 21 57.8	+0.5
TOW	**Tower One**	**0.16**	**206**		Pg	10 21 56.1	+0.7
MFS	**McCloud Flat S**	**0.22**	**318**		Pg	10 22 00.2	+3.7
WNMM	**Nine Mile Cany**	**0.22**	**239**		Pg	10 21 56.8	+0.4
SRTC	**Snort**	**0.27**	**192**		Pg	10 21 58.1	+0.6
LRMC	**Laurel Mtn Rad**	**0.47**	**180**		Pg	10 22 01.5	+0.1
LRMC					Sg	10 22 08.6	+1.0
LRMC				IAML		10 22 09.2	
	comp=N,2μm,0.5s						
LRMC				IAML		10 22 09.5	
	comp=E,3μm,0.6s						
CCCA	**Chr Cany lake**	**0.50**	**149**		Pg	10 22 02.6	+0.7
CCCA					Sg	10 22 09.9	+1.6
WORM	**Onyx Ranch**	**0.53**	**241**		Pg	10 22 02.4	0.0
WORM					Sg	10 22 09.7	+0.4
WBSM	**Bird Springs**	**0.56**	**222**		Pg	10 22 03.2	+0.1
WBSM					Sg	10 22 11.1	+0.8
CWC	**Cottonwood Cre**	**0.58**	**326**	Pg	Pg	10 22 03.4	-0.1
CWC				IAML		10 22 13.8	
	comp=N,1μm,0.2s						
CGO	**Cerro Gordo**	**0.60**	**350**		Pg	10 22 04.0	+0.1
WHFM	**Hanning Flat**	**0.60**	**245**		Pg	10 22 03.9	+0.1
WHFM					Sg	10 22 12.3	+0.6
QSM	**Queen of Sheba**	**0.66**	**89**		Pg	10 22 04.9	0.0
QSM				IAML		10 22 18.4	
	comp=N,4μm,0.6s						
QSM				IAML		10 22 18.4	
	comp=E,2μm,0.4s						
ISA	**Isabella, Lake**	**0.71**	**246**		Pg	10 22 05.9	0.0
ISA				IAML		10 22 16.1	
	comp=N,3μm,0.4s						
ISA				IAML		10 22 16.6	
	comp=E,2μm,0.3s						
ISA	**Isabella, Lake**	**0.71**	**246**		Sg	10 22 15.8	+0.7
WASM	**Alta Sierra Ca**	**0.75**	**253**		Pg	10 22 06.7	+0.1
WASM					Sg	10 22 17.0	+0.7
CCAC	**Calif City Air**	**0.85**	**199**		Pg	10 22 08.4	-0.2
CCAC					Sg	10 22 20.5	+1.0
GWY	**Greenwater Val**	**0.85**	**74**		Pg	10 22 08.7	+0.1
GWY					Sg	10 22 20.6	+1.1
GWY				IAML		10 22 25.0	
	comp=E,2μm,0.5s						
SPG2	**Springville 2**	**0.92**	**286**		Pg	10 22 09.3	-0.5
SPG2					Sg	10 22 21.5	-0.2
GSC	**Goldstone, Bar**	**0.96**	**132**		Pg	10 22 10.5	-0.3
GSC	**Goldstone, Bar**	**0.96**	**132**		Sg	10 22 23.7	+0.4
GRAC	**Grapevine Rang**	**1.07**	**14**	Pg	Pg	10 22 12.7	-0.1
GRAC				IAML		10 22 34.1	
	comp=E,900nm,1.1s						
GRAC				IAML		10 22 34.7	
	comp=N,1μm,0.9s						
HYS	**Haystack Butte**	**1.09**	**175**		Pg	10 22 12.7	-0.6
TEJ	**El Tejon**	**1.10**	**229**		Pg	10 22 12.7	-0.7
EDW2	**Edwards Air Fo**	**1.10**	**194**		Pg	10 22 12.7	-0.7
SGV	**South Grapevin**	**1.15**	**27**		Pg	10 22 14.2	-0.1
VES	**Vestal, Richgr**	**1.15**	**265**		Pg	10 22 14.1	-0.2
VES					Sg	10 22 29.8	+0.6
TPO	**Tropico Hills**	**1.17**	**203**		Pg	10 22 14.0	-0.6
TPO				IAML		10 22 33.0	
	comp=N,1μm,0.9s						
TPO				IAML		10 22 37.2	
	comp=E,1μm,1.0s						
WCT	**Wildcat Mounta**	**1.19**	**45**		Pg	10 22 14.7	-0.5
WCT				IAML		10 22 36.5	
	comp=E,812nm,0.8s						
WCT				IAML		10 22 37.5	
	comp=N,508nm,0.9s						
RRX	**

CMB				IAML		10 23 37.0		
	comp=E,70nm,0.9s							
W13A	**Hualapai Mount**	**3.21**	**104**	Pn	Pn	10 22 41.9		-2.2
LCMT	**Little Creek M**	**3.73**	**72**		Pn	10 22 50.0		-1.1
CCUT	**Cedar City**	**3.81**	**64**	Pn	Pn	10 22 52.6		+0.2
PAHR	**Pah Rah Range**	**3.98**	**341**	Pn	Pn	10 22 54.5		-0.1
SZCU	**Shurtz Canyon**	**4.03**	**65**	Pn	Pn	10 22 55.1		-0.3
KNB	**Kanab**	**4.05**	**73**	Pn	Pn	10 22 54.6		-1.1

*IDC **09** 10:25:09.5±1.1,6°.84S×143°.98E,h0km,mb3.7/6, mbtmp3.8/10,ML3.5/2,Error ellipse: s-maj=26.0km s-min=18.8km az=87.0*
ISC 09 10:25:14.2±0.8,**6°.88S**±0°.08×**143°.89E**±0°.09,**h30km**,**n10,** σ1§**09**/12,**mb3.8/5,New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
PMG	**Port Moresby**	**4.10**	**128**	Pn	**Pn**	**10 26 14.9**		**+0.1**
	6.9nm,0.5s,baz=291,slow=14,SNR=1.6							
PMG				Sn	**Sn**	**10 27 02.7**		**+0.9**
	2.5nm,0.3s,baz=324,slow=16,SNR=1.7							
JAY	**Jayapura**	**5.37**	**324**	Pn	**Pn**	**10 26 33.5**		**+1.0**
	0.8nm,0.3s,baz=179,slow=9.8,SNR=4.1 12nm,1.0s							
WRA	**Warramunga Arr**	**15.95**	**215**	Pn	**Pn**	**10 28 54.8**		**-1.9**
	0.3nm,0.3s,baz=38,slow=11,SNR=9.5							
WRA				Sn	**Sn**	**10 31 53.2**		**+0.4**
	0.1nm,0.3s,baz=38,slow=21,SNR=1.6							
WRA				Lg	Lg	10 33 39.8		
	0.1nm,0.3s,baz=30,slow=29,SNR=5.2 0.5nm,0.4s							
ASAR	**Alice Springs**	**19.25**	**209**	P	**P**	**10 29 37.2**		**+0.8**
	3.7nm,0.6s,baz=39,slow=9.5,SNR=55							
ASAR				Lg	Lg	10 35 23.2		
	baz=30,slow=32,SNR=3.6							
FITZ	**Fitzroy Crossi**	**20.99**	**236**	P	**P**	**10 29 55.1**		**-0.3**
	1.1nm,0.6s,baz=54,slow=15,SNR=6.0 1.1nm,0.6s							
KSRS	**Korea Array**	**46.56**	**342**	P	**P**	**10 33 38.6**		**-0.6**
	0.9nm,0.8s,baz=146,slow=8.8,SNR=4.4 0.9nm,0.8s							
CMAR	**Chiang Mai Arr**	**50.98**	**300**	P	**P**	**10 34 14.4**		**+0.8**
	0.6nm,0.3s,baz=115,slow=6.6,SNR=5.3 0.6nm,0.3s							
MKAR	**Makanchi Array**	**76.23**	**322**	P	**P**	**10 37 00.4**		**+0.5**
	0.6nm,0.8s,baz=128,slow=6.3,SNR=3.9 0.6nm,0.8s							
QSPA	**South Pole Qui**	**83.09**	**180**	P	**P**	**10 37 37.3**		**+0.3**
	1.6nm,1.1s,baz=350,slow=1.8,SNR=2.5 1.6nm,1.1s							
ILAR	**Eielson Array**	**87.51**	**24**	P	**P**	**10 37 57.1**		**-1.7**
	0.4nm,0.9s,baz=252,slow=4.9,SNR=4.6 0.4nm,0.9s							

*IDC **09** 10:33:28.4±2.1,1°.48N×125°.47E,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=182.1km s-min=27.4km az=65.0*
*DJA **09** 10:33:34.7±0.4,2°.N±4°×12°.5E±°,h10km,M3.5/5,MLv3.5/5*
ISC 09 10:33:29.5±1.6,**1°.4N**±0°.2×**125°.4E**±0°.1,**h10km**,**n4,** σ1§**62**/5, **mb3.5**/3,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
KMSI	**Cibinong**	**1.69**	**239**	P	**Pn**	**10 33 57.5**		**-1.6**
KMSI				S	**Sb**	**10 34 23.4**		**+1.4**
WRA	**Warramunga Arr**	**22.98**	**158**	P	**P**	**10 38 34.6**		**+0.1**
	0.8nm,0.5s,baz=336,slow=10,SNR=12 0.8nm,0.5s							
ASAR	**Alice Springs**	**26.28**	**162**	P	**P**	**10 39 06.1**		**+0.7**
	0.4nm,0.4s,baz=343,slow=9.9,SNR=18 0.4nm,0.4s							
MKAR	**Makanchi Array**	**58.71**	**327**	P	**P**	**10 43 28.0**		**+0.5**
	0.1nm,0.4s,baz=122,slow=6.9,SNR=1.9 0.1nm,0.4s							

*HEL **09** 10:34:27.7±0.1,64°.43N×24°.67E,h0km,ML1.4,Explosion Hypocentre not reviewed by the ISC*
*IDC **09** 10:34:28.5±1.4,64°.47N×24°.80E,h0km,mbtmp2.4/2, ML1.6/1,Error ellipse: s-maj=41.8km s-min=8.7km az=85.0*
*UPP **09** 10:34:28.9±0.9,64°.46N×24°.39E,h0km,ML1.8*
ISC 09 10:34:26.9±1.1,**64°.38N**±0°.05×**24°.91E**±0°.09,**h10km**,**n10,** σ1§**32**/13,**Finland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
OUF	**Merijarvi**	**0.08**	**259**	PG		10 34 28.2		
	baz=342							
OUF				SG		10 34 28.9		
OBF0	**Syolatti, Pyha**	**0.31**	**292**	PG		10 34 31.2		
OBF4	**Vikkela, Lumij**	**0.44**	**11**	PG		10 34 35.6		
	baz=208							
OBF4				SG		10 34 40.8		
OBF8	**Ulkokalla**	**0.64**	**266**	PG		10 34 37.7		
OBF8				MSG		10 34 45.1		
	comp=Z,4.0nm,0.2s							
OBF8				SG		10 34 46.8		
OUL	**Oulu**	**0.82**	**30**	PG		10 34 43.4		
OUL				SB		10 34 54.7		
KALU	**Kalix**	**1.62**	**337**	P	**Pn**	**10 34 55.7**		**+0.2**
KALU				S	**Sn**	**10 35 15.3**		**-1.0**
KALU	**Kalix**	**1.62**	**337**	PG		10 34 55.6		
KALU				SN		10 35 16.2		
NIF	**Nilsia**	**1.62**	**127**	PG		10 34 59.2		
	baz=305							
NIF				SG		10 35 22.9		
TOF	**Tornio**	**1.72**	**352**	PG		10 34 58.1		
	baz=177							
TOF				MSG		10 35 17.5		
	comp=Z,1.6nm,0.2s							
TOF				SN		10 35 19.5		
SUF	**Sumiainen**	**1.76**	**161**	PG		10 35 01.0		
	baz=339							
SUF				MSG		10 35 22.4		
	comp=Z,1.8nm,0.2s							
SUF				SG		10 35 26.1		
SJUU	**Sjulsmark**	**1.81**	**310**	P	**Pn**	**10 34 58.3**		**+0.3**
RANF	**Ranua**	**1.82**	**25**	PG		10 35 00.8		
	baz=214							
RANF				SN		10 35 24.0		
UMAU	**Umeaa**	**1.92**	**257**	P	**Pn**	**10 35 00.2**		**+0.7**
UMAU				S	**Sn**	**10 35 23.7**		**-0.1**
UMAU	**Umeaa**	**1.92**	**257**	PG		10 35 00.3		
	baz=69							
UMAU				SG		10 35 25.0		
KU2	**Taivalkoski**	**1.94**	**45**	PG		10 35 03.1		
	baz=234							
KU2				SG		10 35 29.1		
RMF	**Romuvaara**	**2.19**	**92**	PB		10 35 08.1		
RMF				MSG		10 35 35.9		
	comp=Z,1.7nm,0.2s							
RMF				SG		10 35 39.6		
KEF	**Keuruu**	**2.22**	**180**	PG		10 35 08.3		
	baz=1.0							
KEF				MSG		10 35 34.8		
	comp=Z,2.0nm,0.2s							
KEF				SG		10 35 38.1		
RNF	**Rovaniemi**	**2.28**	**11**	PG		10 35 07.4		
RNF				SG		10 35 37.2		
KU1	**Kurvinen**	**2.31**	**57**	PG		10 35 09.8		
KU1				SG		10 35 40.8		
SVAU	**Svanoeiden**	**2.32**	**275**	P	**Pn**	**10 35 05.4**		**+0.4**
MSF	**Maaselka**	**2.32**	**47**	SG		10 35 40.5		
KAF	**Kangasniemi**	**2.36**	**164**	PB		10 35 10.7		
	baz=344							
KAF				MSG		10 35 39.7		
	comp=Z,1.9nm,0.2s							
KAF				SB		10 35 42.9		
HARU	**Harads**	**2.44**	**319**	P	**Pn**	**10 35 07.8**		**+1.1**
ERTU	**Ertsjaerv**	**2.46**	**334**	P	**Pn**	**10 35 08.5**		**+1.5**
ERTU	**Ertsjaerv**	**2.46**	**334**	PG		10 35 09.8		
ERTU				SG		10 35 40.1		
KU6	**Riekki**	**2.67**	**50**	PB		10 35 13.7		
	baz=240							
KU6				SB		10 35 46.2		
KU6				MSG		10 35 47.8		
	comp=Z,0.7nm,0.2s							
PAJU	**Pajala**	**2.76**	**345**	P	**Pn**	**10 35 13.1**		**+2.0**
PAJU	**Pajala**	**2.76**	**345**	PB		10 35 13.1		
PAJU				SG		10 35 50.8		
KPF	**Kankaanpaa**	**2.87**	**208**	PB		10 35 16.8		
KPF				SG		10 35 56.2		
KLF	**Kolari**	**2.89**	**353**	PG		10 35 16.5		
KLF				MSG		10 35 51.1		
	comp=Z,0.7nm,0.2s							
KLF				SG		10 35 54.1		
FIA0	**FINESS Array S**	**3.00**	**169**	PB		10 35 20.5		
	baz=353							
FIA0				MSG		10 35 57.6		
	comp=Z,0.9nm,0.2s							
FIA0				SB		10 36 00.2		
FINES	**FINESS Array B**	**3.00**	**169**	Pn	**Pb**	**10 35 20.1**		**-0.2**
	comp=Z,0.2nm,0.3s,baz=351,slow=14,SNR=9.4							
FINES				Sn	**Sb**	**10 35 56.6**		**-0.3**
	comp=Z,0.3nm,0.3s,baz=352,slow=26,SNR=6.9							
FINES				Lg	Lg	10 36 05.3		
	comp=Z,0.2nm,0.3s,baz=347,slow=30,SNR=3.0 comp=Z,1.0nm,0.4s							
VRF	**Varrio**	**3.88**	**27**	PN		10 35 29.4		
HEF	**Hetta**	**4.08**	**353**	SN		10 36 12.6		
ARCES	**ARCESS Array B**	**5.18**	**2**	Pn	**Pn**	**10 35 45.6**		**+1.2**
	comp=Z,0.5nm,0.8s,baz=183,slow=13,SNR=1.0							
ARCES				Sn	**Sn**	**10 36 41.6**		**-2.5**
	comp=Z,0.1nm,0.3s,baz=184,slow=24,SNR=1.7							
I37NO	**I37NO**	**5.33**	**335**	I	I	11 06 24.0		
	baz=152,slow=322,SNR=1.8							

*SNET **09** 10:36:13.6±1.1,12°.78N×88°.54W,h56km,ML3.1*
CATAC 09 10:36:14.1±0.5,**13°.N**±3°×**8°.9W**±°,**h38**km±5km,**M3.0/13, MLv3.0/13,Error ellipse: s-maj=7.9km s-min=3.0km az=24.3,confirmed,Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
ALJI	**Alcalda de J**	**0.56**	**356**	P	Pn	10 36 27.0		+1.3
ALJI	**Alcalda de J**	**0.56**	**356**	S	Sn	10 36 36.1		+2.4
LCY	**Lacayo**	**0.70**	**20**	*e*P	Pn	10 36 28.1		+0.6
PACA	**Pacayal**	**0.73**	**16**	*e*P	Pn	10 36 28.6		+0.6
PACA	**Pacayal**	**0.73**	**16**	P	Pn	10 36 28.6		+0.5
PACA	**Pacayal**	**0.73**	**16**	S	Sn	10 36 40.2		+2.2
TECO	**Alcaldia de Te**	**0.81**	**343**	P	Pn	10 36 28.9		0.0
TECO	**Alcaldia de Te**	**0.81**	**343**	S	Sn	10 36 40.5		+0.7
CNCH	**Conchagua**	**0.85**	**53**	P	Pn	10 36 29.9		+0.2
CNCH	**Conchagua**	**0.85**	**53**	S	Sn	10 36 42.7		+1.7
PQSS	**Presa 15 de Se**	**0.85**	**358**	*e*P	Pn	10 36 29.9		+0.3
PQSS				*e*S	Sn	10 36 42.0		+1.1
PQSS	**Presa 15 de Se**	**0.85**	**358**	P	Pn	10 36 29.9		+0.3
PQSS	**Presa 15 de Se**	**0.85**	**358**	S	Sn	10 36 42.0		+1.0
UESV	**Universidad de**	**0.90**	**344**	P	Pn	10 36 30.3		+0.1
UESV	**Universidad de**	**0.90**	**344**	S	Sn	10 36 42.9		+0.8
COEG	**Centro de Oper**	**0.92**	**338**	*e*P	Pn	10 36 30.6		+0.1
COEG				*e*S	Sn	10 36 42.9		+0.4
COEG	**Centro de Oper**	**0.92**	**338**	P	Pn	10 36 30.5		0.0
SCLA	**Alcaldia de Sa**	**0.95**	**349**	*e*P	Pn	10 36 31.5		+0.5
SCLA				*e*S	Sn	10 36 44.6		+1.3
SCLA	**Alcaldia de Sa**	**0.95**	**349**	P	Pn	10 36 31.5		+0.5
LFRS	**El Faro**	**1.00**	**329**	*e*P	Pn	10 36 31.7		+0.1
LFRS				*e*S	Sn	10 36 44.7		+0.2
PAVA	**Las Pavas**	**1.02**	**337**	*e*P	Pn	10 36 32.6		+0.7
PAVA				*e*S	Sn	10 36 46.5		+1.4
PAVA	**Las Pavas**	**1.02**	**337**	P	Pn	10 36 32.2		+0.3
POTN	**Potosi Cosigui**	**1.03**	**77**	P	Pn	10 36 32.3		+0.4
POTN				S	Sn	10 36 46.4		+1.3
LALI	**Alcalda de L**	**1.05**	**313**	P	Pn	10 36 32.6		+0.3
LOMA	**Loma Larga**	**1.07**	**325**	*e*P	Pn	10 36 32.7		0.0
LOMA				*e*S	Sn	10 36 47.2		+0.8
LOMA	**Loma Larga**	**1.07**	**325**	P	Pn	10 36 32.6		-0.1
LOMA	**Loma Larga**	**1.07**	**325**	S	Sn	10 36 46.9		+0.5
UEES	**Universidad Ev**	**1.17**	**324**	S	Sn	10 36 49.9		+1.2
CRIN	**San Cristobal**	**1.45**	**92**	P	Pn	10 36 38.6		+0.8
CHOHN	**Orocuina**	**1.52**	**62**	P	Pn	10 36 39.0		+0.2
CHOHN	**Orocuina**	**1.52**	**62**	S	Sn	10 36 58.1		+0.7
PKGN	**Cerro Pekin**	**1.52**	**93**	P	Pn	10 36 39.1		+0.4
PKGN				S	Sn	10 36 58.1		+0.8
UNIC	**Universidad Ca**	**1.56**	**321**	S	Sn	10 36 58.9		+0.5
NUBE	**Las Nubes**	**1.66**	**313**	P	Pn	10 36 40.8		+0.1
NUBE	**Las Nubes**	**1.66**	**313**	S	Sn	10 37 01.0		+0.1
POLN	**Al Sur del Vol**	**1.68**	**94**	P	Pn	10 36 41.0		0.0
POLN				S	Sn	10 37 01.0		-0.4
TGUH	**Tegucigalpa,Un**	**1.78**	**44**	P	Pn	10 36 42.7		+0.3
TGUH				S	Sn	10 37 03.4		-0.5

*NEIC **09** 10:41:31.5±1.5,35°.695N±0°.008×117°.546W±0°.009, h5km±1km,Error ellipse: s-maj=2.1km s-min=1.3km az=273.0*
PAS 09 10:41:31.9±1.3,**35°.684N**±0°.007×**117°.54W**±0°.01, **h5**km±2km,**ML3.0**/20,**ML2.8**/90(NEIC),**Error ellipse: s-maj=1.2km s-min=1.0km az=113.0,Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
CLC	**China Lake**	**0.14**	**341**		Pg	10 41 34.8		0.0
CLC				Sg	Sg	10 41 37.0		+0.4
SRTC	**Snort**	**0.17**	**273**		Pg	10 41 35.7		+0.4
SRTC					Sg	10 41 39.0		+1.5
CCCA	**Chr Cany lake**	**0.21**	**138**		Pg	10 41 36.6		+0.6
CCCA				Sg	Sg	10 41 40.3		+1.4
TOW	**Tower One**	**0.22**	**305**		Pg	10 41 36.6		+0.4
LRMC	**Laurel Mtn Rad**	**0.23**	**209**		Pg	10 41 36.5		0.0
LRMC				Sg	Sg	10 41 40.0		+0.5
WNMM	**Nine Mile Cany**	**0.34**	**298**		Pg	10 41 38.5		+0.1
WVPM	**Volcano Peak E**	**0.35**	**320**		Pg	10 41 38.6		-0.1
JRC2	**Joshua Ridge**	**0.37**	**324**		Pg	10 41 39.0		-0.1
JRC2					Sg	10 41 44.6		+0.6
MPMC	**Manual Prospec**	**0.38**	**6**		Pg	10 41 39.1		-0.2
MPMC				Sg	Sg	10 41 44.4		+0.2
MPMC				IAML		10 41 46.0		
	comp=E,2μm,0.6s							
MPMC				IAML		10 41 46.0		
	comp=N,2μm,0.5s							
WCSM	**Coso Springs S**	**0.39**	**332**		Pg	10 41 39.3		-0.1
WCSM					Sg	10 41 44.8		+0.3
WRVM	**Rose V. Centra**	**0.43**	**319**		Pg	10 41 40.0		-0.2
DTP	**Desert Tortois**	**0.48**	**211**		Pg	10 41 40.9		-0.3
DTP					Sg	10 41 47.9		+0.4
MFS	**McCloud Flat S**	**0.50**	**330**		Pg	10 41 41.5		-0.1
MFS					Sg	10 41 48.8		+0.7
WBSM	**Bird Springs**	**0.51**	**253**		Sg	10 41 48.5		+0.2
WORM	**Onyx Ranch**	**0.57**	**271**		Pg	10 41 42.5		-0.4
QSM	**Queen of Sheba**	**0.61**	**63**		Pg	10 41 43.5		-0.3
QSM				Sg	Sg	10 41 51.7		0.0
QSM				IAML		10 41 52.3		
	comp=E,515nm,0.5s							
QSM				IAML		10 41 53.0		
	comp=N,477nm,0.3s							
CCAC	**Calif City Air**	**0.66**	**216**		Pg	10 41 44.3		-0.2
WHFM	**Hanning Flat**	**0.66**	**271**		Pg	10 41 44.2		-0.4
WHFM					Sg	10 41 52.9		-0.2
GSC	**Goldstone, Bar**	**0.71**	**122**		Pg	10 41 45.3		-0.2
GSC				Sg	Sg	10 41 55.1		+0.3
GSC				IAML		10 41 55.4		
	comp=N,494nm,0.3s							
GSC				IAML		10 41 55.9		
	comp=E,555nm,0.5s							
ISA	**Isabella, Lake**	**0.76**	**269**		Pg	10 41 46.1		-0.4
ISA				Sg	Sg	10 41 56.0		-0.3
ISA				IAML		10 41 56.5		
	comp=N,645nm,0.5s							
HYS	**Haystack Butte**	**0.82**	**182**		Pg	10 41 47.0		-0.6
HYS					Sg	10 41 57.9		-0.3
WASM	**Alta Sierra Ca**	**0.83**	**274**		Pg	10 41 47.4		-0.4
WASM					Sg	10 41 58.7		+0.1
GWY	**Greenwater Val**	**0.87**	**54**	Pg	Pg	10 41 48.0		-0.6
GWY				Sg	Sg	10 41 59.7		-0.2
GWY				IAML		10 42 05.8		
	comp=E,471nm,0.5s							
GWY				IAML		10 42 07.3		
	comp=N,306nm,0.6s							
CWC	**Cottonwood Cre**	**0.87**	**330**		Pg	10 41 48.5		-0.2
EDW2	**Edwards Air Fo**	**0.88**	**205**		Pg	10 41 48.0		-0.8
CGO	**Cerro Gordo**	**0.89**	**346**		Pg	10 41 48.7		-0.3
TPO	**Tropico Hills**	**0.98**	**215**		Pg	10 41 50.0		-0.7
TPO				IAML		10 42 07.2		
	comp=N,396nm,0.5s							
TPO				IAML		10 42 08.9		
	comp=E,415nm,0.5s							
SBB	**Saddle Back Bu**	**1.02**	**193**		Pg	10 41 50.6		-0.9
SBB					Sb	10 42 05.6		-0.3
TEJ	**El Tejon**	**1.04**	**245**		Pg	10 41 50.7		-1.1
SPG2	**Springville 2**	**1.12**	**298**		Pg	10 41 52.4		-1.0
SPG2					Sg	10 42 07.1		-0.8
TJR	**Tejon Ranch**	**1.18**	**237**		Pg	10 41 53.2		-1.3
THC	**Tehachapi Micr**	**1.20**	**230**		Pg	10 41 54.2		-0.7
LEOC	**Leona Valley**	**1.22**	**211**		Pg	10 41 54.4		-1.0
LRRC	**Littlerock Res**	**1.22**	**199**		Pg	10 41 54.3		-1.0
LRRC					Sb	10 42 11.6		0.0
HOLC	**Holcomb Ridge**	**1.25**	**192**		Pg	10 41 54.7		-1.2
HOLC					Sb	10 42 12.4		-0.1
CJV	**Casa Juvan**	**1.25**	**203**		Pn	10 41 56.3		0.0
CJV					Sb	10 42 12.7		+0.1
VES	**Vestal, Richgr**	**1.27**	**278**		Sg	10 42 12.0		-0.5
AMDNV	**Amargosa**	**1.28**	**53**		Pg	10 41 54.9		-1.5
AMDNV					Sg	10 42 13.1		+0.1
JNH	**Juniper Hills**	**1.28**	**195**		Pg	10 41 55.2		-1.2
DSCC	**Desert Studies**	**1.29**	**114**		Pn	10 41 55.5		-1.1
DSCC					Sg	10 42 13.5		+0.1
HEC	**Hector,Ludlow**	**1.30**	**130**		Pg	10 41 56.1		-0.8
HEC					Sg	10 42 13.2		-0.6
GRAC	**Grapevine Rang**	**1.32**	**6**		Pn	10 41 56.4		-0.7
GRAC				IAML		10 42 19.6		
	comp=N,280nm,0.7s							
WCT	**Wildcat Mounta**	**1.33**	**34**		Pn	10 41 56.5		-0.7
TUQ	**Turquoise Moun**	**1.34**	**100**		Pn	10 41 56.6		-0.9
TUQ					Sg	10 42 14.7		-0.3
SGV	**South Grapevin**	**1.36**	**17**		Pn	10 41 56.7		-1.0
SGV					Sg	10 42 15.5		0.0
CHFC	**Chilao Flat St**	**1.41**	**197**		Pn	10 41 57.2		-1.2
CHFC					Sn	10 42 17.2		-0.2
OSI	**Osito Audit: C**	**1.44**	**223**		Pn	10 41 58.7		0.0
OSI				IAML		10 42 23.9		
	comp=E,90nm,0.7s							
OSI				IAML		10 42 24.2		
	comp=N,90nm,0.8s							
BFSC	**Mount Baldy Ra**	**1.45**	**184**		Pn	10 41 57.8		-1.1
BFSC					Sb	10 42 18.1		0.0
BFSC				IAML		10 42 18.4		
	comp=E,128nm,0.8s							
BFSC				IAML		10 42 18.6		
	comp=N,103nm,0.7s							
SIL	**Silver Peak**	**1.46**	**156**		Pg	10 41 59.8		-0.1
SSK	**Sunset Peak**	**1.48**	**185**		Pn	10 41 59.1		-0.2
BBRC	**Big Bear Solar**	**1.51**	**160**		Pb	10 42 00.3		-0.2
BBRC					Sn	10 42 19.8		-0.2
MWC	**Mount Wilson**	**1.52**	**196**		Pn	10 41 59.2		-0.7
MWC				IAML		10 42 22.2		
	comp=E,220nm,0.5s							
MWC				IAML		10 42 22.5		
	comp=N,220nm,0.6s							
LCH	**Last Change Ra**	**1.55**	**357**		Pn	10 41 59.5		-0.8
LCH					Sb	10 42 21.3		+0.1
DECC	**Green Verdugo**	**1.57**	**205**		Pb	10 42 01.2		-0.3
PASC	**Pasadena Art C**	**1.60**	**200**		Pn	10 42 00.1		-0.8
PASC				IAML		10 42 26.4		
	comp=E,118nm,0.6s							
PASC				IAML		10 42 27.9		
	comp=N,97nm,0.8s							
SVD	**Seven Oaks Dam**	**1.61**	**167**		Pb	10 42 02.4		+0.2
SVD					Sb	10 42 23.2		+0.3
GMN	**Gold Mountain**	**1.63**	**8**		Pn	10 42 00.7		-0.8
MTPC	**Mountain Pass**	**1.63**	**96**		Pn	10 41 59.9		-1.6
MTPC				IAML		10 42 24.1		
	comp=E,114nm,0.2s							
MTPC				IAML		10 42 25.3		
	comp=N,107nm,0.3s							
TPNV	**Topopah Spring**	**1.64**	**39**		Pn	10 42 01.0		-0.6
TPNV				IAML		10 42 26.5		
	comp=N,120nm,0.6s							
TPNV				IAML		10 42 28.3		
	comp=N,111nm,0.7s							
GTM	**Goat Mountain**	**1.69**	**145**		Pb	10 42 03.4		-0.2
BLCC	**Black Canyon**	**1.71**	**213**		Pn	10 42 01.8		-0.6
DSP	**Deep Springs**	**1.72**	**349**		Pn	10 42 02.0		-0.5
BHPR	**Bishop**	**1.78**	**335**		Pb	10 42 05.1		-0.1
BLAC	**Blackrock camp**	**1.87**	**149**		Pb	10 42 06.9		+0.3
TPC	**Twentynine Pal**	**2.00**	**142**		Pn	10 42 05.3		-1.0
MZP	**Montezuma Peak**	**2.02**	**4**		Pn	10 42 06.4		-0.5
ELS	**Elsinore Mount**	**2.03**	**177**		Pn	10 42 06.1		-0.8
ELS				IAML		10 42 42.6		
	comp=E,45nm,0.6s							
POB	**Polly Butte**	**2.06**	**165**		Pn	10 42 06.9		-0.4
SHPR	**Sheep Range**	**2.10**	**66**	Pn	Pn	10 42 06.0		-1.9
V12A	**Nelson**	**2.19**	**88**	Pn	Pn	10 42 08.0		-1.1
V12A				IAML		10 42 43.1		
	comp=E,39nm,0.4s							
V12A				IAML		10 42 43.3		
	comp=N,46nm,0.9s							
BENR	**Benton**	**2.19**	**338**		Pb	10 42 12.4		+0.2
PMD	**Palm Desert**	**2.25**	**154**	Pn	Pn	10 42 08.8		-1.0
PMD				IAML		10 42 43.4		
	comp=E,48nm,0.6s							
PMD				IAML		10 42 44.3		
	comp=N,44nm,0.4s							
PFO	**Pinyon Flats O**	**2.25**	**156**	Pn	Pn	10 42 09.2		-0.8
PFO				IAML		10 42 50.8		
	comp=N,38nm,0.8s							
BORC	**Borrego Spring**	**2.58**	**159**	Pn	Pn	10 42 13.4		-1.0
BORC				IAML		10 42 55.8		
	comp=N,40nm,0.6s							
BORC				IAML		10 43 00.8		
	comp=E,45nm,0.8s							
PRN	**Pahroc Range**	**2.64**	**49**	Pn	Pn	10 42 14.6		-0.8
PRN				IAML		10 43 02.9		
	comp=N,30nm,0.5s							
PRN				IAML		10 43 04.6		
	comp=E,32nm,0.8s							
LHV	**Little Huntoon**	**2.68**	**344**	Pn	Pn	10 42 15.0		-0.7
LHV				IAML		10 43 03.4		
	comp=N,25nm,1.2s							
PMPB	**Monarch Peak**	**2.70**	**282**	Pn	Pn	10 42 15.4		-0.7
PMPB				IAML		10 43 08.6		
	comp=N,72nm,0.9s							
DPP	**Dos Picos Cty**	**2.72**	**169**	Pn	Pn	10 42 15.7		-0.7
DPP				IAML		10 43 01.9

NDS				*e*S	**Sb**	**10 46 13.3**	**-0.1**
TWE	**Neicheng**	**0.75**	**256**	P	**Pg**	**10 46 03.5**	**+0.1**
TWE				*e*S	**Sn**	**10 46 15.4**	**-0.8**
EWUT	**Wuta**	**0.78**	**234**	*e*P	**Pb**	**10 46 04.1**	**-0.1**
EWUT				*e*S	**Sb**	**10 46 15.7**	**+1.1**
EOS4	**EOS4**	**0.80**	**190**	*i* P	**Pn**	**10 46 05.2**	**-0.2**
EOS4				S	**Sn**	**10 46 16.4**	**-0.4**
PCYT	**Pengchaiyu**	**0.80**	**333**	P	**Pg**	**10 46 04.2**	**-0.2**
TWA	**Mucha**	**0.81**	**275**	*e*P	**Pb**	**10 46 04.8**	**+0.2**
FUSB	**Fushanzhiwuyua**	**0.81**	**260**	*e*P	**Pb**	**10 46 04.8**	**0.0**
FUSB				*e*S	**Sb**	**10 46 17.0**	**+1.4**
ENA	**Nanau**	**0.82**	**234**	*e*P	**Pg**	**10 46 04.5**	**-0.2**
ENA				*e*S	**Sb**	**10 46 16.0**	**+0.3**
YM08	**YM08**	**0.84**	**289**	*e*P	**Pn**	**10 46 06.2**	**-0.2**
YM01	**YM01**	**0.85**	**286**	*e*P	**Pb**	**10 46 05.6**	**+0.2**
ENTT	**Nioudou**	**0.86**	**252**	*e*P	**Pb**	**10 46 05.8**	**+0.2**
ENTT				S	**Sn**	**10 46 18.5**	**-0.5**
TWY	**Chenhua**	**0.87**	**295**	*e*P	**Pn**	**10 46 06.5**	**-0.1**
ZUZH	**Zhuzihu**	**0.87**	**287**	*e*P	**Pn**	**10 46 06.8**	**+0.1**
EAHA	**Aohua**	**0.88**	**229**	*e*P	**Pb**	**10 46 06.0**	**+0.1**
EAHA				S	**Sg**	**10 46 17.0**	**-0.4**
NWLT	**Wulai**	**0.89**	**262**	*e*P	**Pb**	**10 46 06.6**	**+0.6**
NWLT				*e*S	**Sn**	**10 46 19.6**	**0.0**
ANP	**Anpu**	**0.90**	**288**	*e*P	**Pn**	**10 46 07.2**	**0.0**
LATG	**Datong**	**0.93**	**247**	*e*P	**Pb**	**10 46 07.0**	**+0.1**
LATG				*i* S	**Sb**	**10 46 19.5**	**+0.4**
YHNB	**Yeheng**	**1.02**	**257**	*e*P	**Pb**	**10 46 08.5**	**+0.1**
YHNB				S	**Sb**	**10 46 22.7**	**+1.0**
NSK	**Sanguang**	**1.03**	**257**	*e*P	**Pb**	**10 46 08.8**	**+0.2**
NSK				*e*S	**Sb**	**10 46 22.6**	**+0.6**
ETL	**Fush Village**	**1.07**	**226**	*e*P	**Pn**	**10 46 09.6**	**+0.2**
NACB	**Ninganchiao**	**1.08**	**227**	*e*P	**Pb**	**10 46 08.9**	**-0.4**
NACB				S	**Sb**	**10 46 23.5**	**+0.2**
NNSB	**Datong**	**1.10**	**244**	*e*P	**Pb**	**10 46 09.6**	**-0.1**
NNSB				*i* S	**Sg**	**10 46 24.7**	**+0.3**
NNS	**Nan Shan**	**1.10**	**245**	*e*P	**Pb**	**10 46 09.3**	**-0.4**
NNS				*i* S	**Sg**	**10 46 24.5**	**0.0**
ETLH	**Xiulin Townshi**	**1.14**	**232**	*e*P	**Pb**	**10 46 10.3**	**0.0**
ETLH				*i* S	**Sb**	**10 46 25.2**	**+0.2**
TWD	**Chiawan**	**1.15**	**224**	*e*P	**Pn**	**10 46 10.7**	**+0.3**
KSHI	**Guanxi Townshi**	**1.18**	**264**	*e*P	**Pg**	**10 46 11.6**	**0.0**
NFF	**Wufeng Townshi**	**1.26**	**258**	P	**Pn**	**10 46 12.2**	**+0.1**
IRIF	**Iriomote-Funau**	**1.28**	**116**	*e*P	**Pg**	**10 46 14.5**	**+0.9**
ETM	**Tongmen**	**1.29**	**224**	*e*P	**Pg**	**10 46 14.0**	**+0.2**
LXIB	**Xiulin Townshi**	**1.31**	**228**	*e*P	**Pb**	**10 46 13.5**	**+0.2**
LXIB				S	**Sg**	**10 46 31.1**	**0.0**
WHF	**Hehuan Shan**	**1.33**	**235**	*i* P	**Pg**	**10 46 14.2**	**-0.3**
WHF				S	**Sb**	**10 46 31.3**	**+0.3**
LIOB	**Emei**	**1.35**	**259**	P	**Pn**	**10 46 13.5**	**+0.3**
ESL	**Shilin**	**1.44**	**221**	*e*P	**Pb**	**10 46 15.8**	**+0.3**
OWD	**Renai**	**1.51**	**231**	*i* P	**Pb**	**10 46 17.0**	**+0.2**
WHP	**Taichung City**	**1.52**	**246**	*e*P	**Pb**	**10 46 17.3**	**+0.4**
WUSB	**Renai**	**1.53**	**234**	*e*P	**Pb**	**10 46 17.5**	**+0.4**
WUSB				*i* S	**Sg**	**10 46 37.8**	**-0.5**
WARBT	**Fenglin Townsh**	**1.54**	**220**	*e*P	**Pn**	**10 46 16.4**	**+0.4**
WCS	**Beigang Elemen**	**1.65**	**239**	*e*P	**Pb**	**10 46 18.9**	**-0.2**
VWDT	**VWDT**	**1.67**	**227**	*e*P	**Pb**	**10 46 18.9**	**-0.4**
HGSD	**Ruisui**	**1.70**	**214**	*e*P	**Pn**	**10 46 18.4**	**+0.3**
WHYT	**Xinyi Township**	**1.91**	**231**	*e*P	**Pb**	**10 46 24.1**	**+0.6**
WHYT				*e*S	**Sg**	**10 46 48.9**	**-1.2**

*IDC **09** 10:46:11.2±1.5, 0°.78N×126°.89E, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=152.1km s-min=19.7km az=65.0*

*DJA **09** 10:46:15.9±0.4, 0°.N±5°×12°.6E±°, h10km, M3.6/7, mb3.6/1, MLv3.5/7*

ISC 09 10:46:18.1±1.0, **0°.5N**±0°.1×**126°.42E**±0°.07, **h47**km, **n7, σ0s96/8, mb4.0/5, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.98**	**73**	P	**Pn**	**10 46 34.9**	**-0.7**
TNTI				S	**Sn**	**10 46 49.9**	**+1.4**
KMSI	**Cibinong**	**2.44**	**272**	P	**Pn**	**10 46 55.6**	**0.0**
WRA	**Warramunga Arr**	**21.73**	**160**	P	**P**	**10 51 05.5**	**-0.2**
	5.4nm,0.7s,baz=340,slow=11,SNR=43						
	5.4nm,0.7s						
ASAR	**Alice Springs**	**25.08**	**164**	P	**P**	**10 51 39.6**	**+1.1**
	3.6nm,0.8s,baz=350,slow=14,SNR=39						
	3.6nm,0.8s						
STKA	**Stephens Creek**	**35.24**	**157**	P	**P**	**10 53 07.8**	**-0.5**
	1.7nm,0.7s,baz=338,slow=11,SNR=3.8						
	1.7nm,0.7s						
MKAR	**Makanchi Array**	**60.05**	**326**	P	**P**	**10 56 19.7**	**-0.7**
	0.7nm,0.5s,baz=126,slow=8.6,SNR=7.5						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**64.31**	**328**	P	**P**	**10 56 49.0**	**+0.2**
	0.4nm,0.3s,baz=125,slow=6.2,SNR=4.3						
	0.4nm,0.3s						

IDC 09 10:48:55.4±2.3, **0°.82N**×**127°.38E**, **h0**km, **mb3.5**/3, **mbtmp3.6**/3, **Error ellipse: s-maj=170.9km s-min=28.6km az=66.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.73**	**162**	P	P	10 53 48.1	-0.4
	1.6nm,0.7s,baz=341,slow=11,SNR=8.3						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**25.15**	**166**	P	P	10 54 22.8	+0.3
	1.3nm,0.8s,baz=347,slow=10,SNR=7.1						
	1.3nm,0.8s						
MKAR	**Makanchi Array**	**60.30**	**326**	P	P	10 59 05.9	-0.1
	0.3nm,0.6s,baz=111,slow=8.1,SNR=2.6						
	0.3nm,0.6s						

*NEIC **09** 10:50:42.1±0.8, 37°.48N±0°.01×118°.77W±0°.02, h10km±1km, Error ellipse: s-maj=3.0km s-min=2.4km az=10.0*

NCEDC 09 10:50:42.1±0.8, **37°.48N**±0°.01×**118°.75W**±0°.02, **h11**km±6km, **ML3.0**/21, **ML2.7**/44(NEIC), **Error ellipse: s-maj=2.2km s-min=1.7km az=210.0, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCVM	**Convict Lake**	**0.12**	**328**		Pg	10 50 45.4	0.0
MLAC	**Mammoth, Mammo**	**0.16**	**334**		Pg	10 50 46.1	+0.3
MLAC					Sg	10 50 49.2	+0.7
MDRNC	**Doe Ridge**	**0.17**	**335**		Pg	10 50 46.3	+0.4
MLCM	**Laurel Creek C**	**0.18**	**314**		Pg	10 50 46.4	+0.1
MGPM	**Gravel Pit**	**0.19**	**319**		Pg	10 50 46.5	+0.2
MCBM	**Casa Benchmark**	**0.20**	**323**		Pg	10 50 46.8	+0.3
MCBM					Sg	10 50 50.2	+0.6
MLHM	**Little Hot Cre**	**0.20**	**345**		Pg	10 50 46.9	+0.4
MCSM	**Casa Diablo Ho**	**0.21**	**324**		Pg	10 50 47.0	+0.3
MEMM	**East Mammoth H**	**0.24**	**320**		Pg	10 50 47.4	+0.2
MMLB	**Mammoth Lakes**	**0.25**	**314**		Pg	10 50 47.7	+0.2
MMPM	**Mammoth Pass**	**0.26**	**299**		Pg	10 50 47.5	0.0
MLIM	**Lincoln Peak**	**0.26**	**305**		Pg	10 50 47.9	+0.2
MLIM					Sg	10 50 52.0	+0.6
BENR	**Benton**	**0.27**	**31**		Pg	10 50 47.8	0.0
MRDM	**Red Cones**	**0.27**	**295**		Pg	10 50 47.8	+0.1
MDYM	**Dry Creek**	**0.27**	**310**		Pg	10 50 48.0	+0.2
MDYM					Sg	10 50 52.1	+0.5
BHPR	**Bishop**	**0.28**	**132**		Pg	10 50 48.0	+0.2
LMCR	**Lookout Mounta**	**0.29**	**327**		Pg	10 50 48.6	+0.5
MINS	**Minaret Summit**	**0.30**	**304**		Pg	10 50 48.3	0.0
MDCM	**Deadman Creek**	**0.33**	**314**		Pg	10 50 48.7	0.0
MGNR	**McGee Canyon**	**0.33**	**7**		Pg	10 50 49.1	+0.2
POCCA	**Poleta Canyon**	**0.39**	**108**		Pg	10 50 50.0	+0.1
KCC	**Kaiser Creek**	**0.48**	**251**		Pg	10 50 51.3	-0.2
TIN	**Tinemaha, Big**	**0.59**	**136**		Pg	10 50 53.7	+0.1
DSP	**Deep Springs**	**0.63**	**100**		Pg	10 50 54.0	-0.2
DSP				Sg	Sg	10 51 02.2	-0.3
DSP				IAML		10 51 07.1	
	comp=N,177nm,1.0s						
LHV	**Little Huntoon**	**0.79**	**14**		Pg	10 50 57.3	0.0
LHV				IAML		10 51 09.2	
	comp=E,376nm,0.4s						
LHV				IAML		10 51 10.7	
	comp=N,344nm,0.4s						
MMIM	**Miami Mountain**	**0.80**	**266**		Pg	10 50 57.0	-0.5
FRI	**Friant**	**0.91**	**238**		Pg	10 50 58.9	-0.7
LCH	**Last Change Ra**	**0.91**	**106**		Sg	10 51 11.9	+0.3
MHDM	**Hidden Dam**	**0.99**	**249**		Pg	10 51 00.3	-0.7
NVAR	**Mina Array Bea**	**1.01**	**20**	Pg	Pg	10 50 57.5	-4.0
NV11	**Mina Array Sit**	**1.06**	**26**	Pg	Pg	10 51 02.1	-0.3
NV11				Sg	Sg	10 51 16.0	-0.2
NV11				IAML		10 51 17.2	
	comp=E,93nm,0.9s						
MBUM	**Mount Bullion**	**1.06**	**274**		Pg	10 51 01.6	-0.8
KARE	**Kearney REC, C**	**1.07**	**215**		Pb	10 51 01.8	-0.9
MZP	**Montezuma Peak**	**1.10**	**78**		Pg	10 51 03.2	-0.2
BUCR	**Buckhorn Ranch**	**1.13**	**280**		Pb	10 51 02.7	-1.1
BUCR	**Buckhorn Ranch**	**1.13**	**280**	IAML		10 51 18.1	
	comp=N,180nm,0.4s						
BUCR				IAML		10 51 18.4	
	comp=E,114nm,0.4s						
LEGD	**La Grand CA**	**1.15**	**257**		Pb	10 51 03.2	-0.7
WAKR	**Walker**	**1.16**	**332**	Pg	Pb	10 51 04.1	-0.1
RYN	**Ryan**	**1.16**	**9**	Pg	Pb	10 51 04.1	-0.1
RYN				IAML		10 51 20.1	
	comp=N,255nm,0.2s						
RYN				IAML		10 51 20.2	
	comp=E,247nm,0.3s						
CWC	**Cottonwood Cre**	**1.17**	**153**	Pg	Pb	10 51 02.1	-2.4
CWC				Sg	Sb	10 51 19.1	-0.6
CWC				IAML		10 51 19.2	
	comp=E,256nm,0.1s						
GMN	**Gold Mountain**	**1.20**	**98**	Pg	Pb	10 51 04.3	-0.7
GMN				IAML		10 51 23.4	
	comp=N,89nm,0.6s						
GMN				IAML		10 51 27.1	
	comp=E,70nm,0.6s						
GRAC	**Grapevine Rang**	**1.21**	**113**	Pn	Pg	10 51 05.4	+0.2
GRAC				IAML		10 51 28.0	
	comp=E,237nm,0.2s						
VOG	**Valley Oaks Go**	**1.27**	**204**		Pn	10 51 05.8	+0.1
SPG2	**Springville 2**	**1.28**	**181**		Sb	10 51 22.2	-0.6
SPG2	**Springville 2**	**1.28**	**181**		Pn	10 51 05.5	-0.5
MYLM	**Yosemite Lake**	**1.34**	**266**		Pn	10 51 06.6	-0.1
TPH	**Tonopah**	**1.34**	**64**		Pn	10 51 06.8	-0.3
TPH				IAML		10 51 30.0	
	comp=E,177nm,0.7s						
TPH				IAML		10 51 33.0	
	comp=N,208nm,0.5s						
CMB	**Columbia Colle**	**1.41**	**293**	Pn	Pn	10 51 07.1	-0.7
CMB				IAML		10 51 26.8	
	comp=E,136nm,0.1s						
CMB				IAML		10 51 30.1	
	comp=N,147nm,0.4s						
SGV	**South Grapevin**	**1.46**	**110**		Pb	10 51 09.3	-0.1
SGV					Sb	10 51 28.4	+0.4
WSRE	**Westside REC,**	**1.59**	**224**		Pn	10 51 11.4	-0.1
Q09A	**Carvers**	**1.83**	**42**		Pn	10 51 13.5	-0.1
BMSM	**Mercy Hot Spri**	**1.83**	**244**		Pn	10 51 15.1	-0.6
SCKWR	**San Luis Creek**	**1.88**	**261**		Pb	10 51 16.0	-0.4
SLD	**San Luis Dam**	**2.02**	**259**		Pn	10 51 17.4	+1.3
BBGB	**Big Mountain B**	**2.04**	**244**		Pn	10 51 16.1	-0.5
PSMM	**Smith Mountain**	**2.05**	**227**		Pn	10 51 17.9	+1.3
MTOS	**Mt Oso, Westle**	**2.05**	**271**		Pb	10 51 18.1	-1.3
MTOS	**Mt Oso, Westle**	**2.05**	**271**	IAML		10 51 48.4	
	comp=N,92nm,0.5s						
HPCM	**Pacheco Lake**	**2.06**	**259**		Pn	10 51 18.1	+1.3
MPK	**Martis Peak**	**2.07**	**331**	Pn	Pn	10 51 15.6	-1.5
MPK				IAML		10 52 00.2	
	comp=N,42nm,0.7s						
MPK				IAML		10 52 00.4	
	comp=E,22nm,0.4s						
PMPB	**Monarch Peak**	**2.08**	**233**		Pn	10 51 16.9	-0.1
PHFM	**Heflinger Ranc**	**2.08**	**220**		Pn	10 51 18.1	+1.1
PSNM	**Stone Corral**	**2.10**	**217**		Pn	10 51 18.5	+1.2
LRV	**Little Rabbit**	**2.10**	**241**		Pb	10 51 19.6	-0.7
PKD	**Bear Valley Ra**	**2.11**	**224**		Pn	10 51 18.3	+0.9
PHPM	**Hope Ranch**	**2.12**	**225**		Pn	10 51 18.7	+1.2
PAGB	**Antelope Grade**	**2.13**	**215**		Pn	10 51 18.7	+1.0
HFEM	**San Felipe**	**2.18**	**258**		Pb	10 51 20.4	-1.1
BPIM	**Pinnacles**	**2.18**	**244**		Pn	10 51 19.8	+1.5
PBPM	**Bitterwater Pu**	**2.18**	**210**		Pn	10 51 19.6	+1.2
GHS	**Gilroy Hot Spr**	**2.19**	**261**		Pb	10 51 20.3	-1.4
CSTL	**Corral Hollow**	**2.19**	**275**		Pb	10 51 20.8	-1.0
BJOM	**Mount Johnson**	**2.22**	**248**		Pb	10 51 20.7	-1.5
PSAM	**San Ardo**	**2.25**	**230**		Pn	10 51 20.9	+1.6
BSGM	**Shirttail Gulc**	**2.27**	**243**		Pn	10 51 21.2	+1.6
SAO	**San Andreas Ge**	**2.27**	**252**	Pn	Pn	10 51 19.2	-0.4
PAHR	**Pah Rah Range**	**2.27**	**348**	Pn	Pn	10 51 18.1	-1.7
AFDM	**Forest Hills D**	**2.28**	**311**	Pn	Pn	10 51 19.2	-0.6
AFDM				IAML		10 51 55.6	
	comp=N,61nm,0.4s						
SCZ	**Santa Cruz**	**2.30**	**248**		Pn	10 51 21.3	+1.3
SCZ	**Santa Cruz**	**2.30**	**248**	IAML		10 51 56.8	
	comp=N,21nm,0.6s						
BJCM	**Johnson Can.**	**2.31**	**247**		Pn	10 51 21.7	+1.5
PCCM	**Crazy Canyon**	**2.39**	**235**		Pn	10 51 22.7	+1.5
S11A	**Rachel**	**2.39**	**85**	Pn	Pn	10 51 21.3	0.0
S11A				IAML		10 52 12.1	
	comp=N,60nm,0.8s						
HCBM	**Chamberlain**	**2.39**	**258**		Pn	10 51 22.8	+1.6
BSMM	**Soledad Missio**	**2.41**	**244**		Pn	10 51 23.3	+1.7
LCUV	**Le Cuvier**	**2.43**	**222**		Pn	10 51 23.0	+1.2
PANM	**San Antonio Re**	**2.43**	**226**		Pn	10 51 23.3	+1.5
BCWM	**Chews Ridge**	**2.55**	**243**		Pn	10 51 24.9	+1.4
R11B	**Troy Canyon, C**	**2.65**	**70**		Pn	10 51 24.4	-0.5
BEKR	**Beckworth**	**2.69**	**333**		Pn	10 51 23.5	-2.0
PRN	**Pahroc Range**	**2.94**	**90**	Pn	Pn	10 51 27.6	-1.4
PSUT	**Pine Spring**	**4.00**	**73**		Pn	10 51 41.0	-2.6

IDC 09 11:01:09.7±2.1, **0°.97N**×**127°.10E**, **h0**km, **mb3.6**/3, **mbtmp3.6**/3, **Error ellipse: s-maj=173.1km s-min=25.3km az=66.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.96**	**162**	P	P	11 06 04.5	-0.7
	0.9nm,0.6s,baz=340,slow=11,SNR=13						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**25.36**	**165**	P	P	11 06 39.2	+0.5
	0.5nm,0.3s,baz=343,slow=11,SNR=14						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**60.03**	**326**	P	P	11 11 18.3	-0.1
	0.4nm,0.4s,baz=121,slow=8.8,SNR=6.1						
	0.4nm,0.4s						

*IDC **09** 11:02:16.5±0.9, 0°.45N×126°.27E, h0km, mb4.2/7, mbtmp4.2/8, ML3.3/1, Error ellipse: s-maj=40.5km s-min=16.8km az=71.0*

*NEIC **09** 11:02:22.8±2.5, 0°.42N±0°.03×126°.39E±0°.05, h35km±1km, mb4.4/22, Error ellipse: s-maj=9.5km s-min=4.7km az=63.0*

ISC 09 11:02:23.1±0.6, **0°.35N**±0°.08×**126°.29E**±0°.08, **h47**km, **n37, σ1s17/37, mb4.3/17, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.15**	**69**		**Pn**	**11 02 39.4**	**-3.4**
LUWI	**Luwuk**	**3.78**	**249**	Pn	**Pn**	**11 03 18.7**	**-0.2**
TOLI2	**Tolitoli**	**5.56**	**278**	Pn	**Pn**	**11 03 43.0**	**-0.3**
FAKI	**Fak Fak**	**6.78**	**119**	Pn	**Pn**	**11 03 58.2**	**-1.9**
KAPI	**Kappang**	**8.43**	**231**	Pn	**Pn**	**11 04 20.6**	**-2.1**
	0.4nm,0.3s,baz=298,slow=22,SNR=1.1						
	1.5nm,0.3s						
MYLDM	**Lahad Datu**	**9.14**	**302**	Pn	**Pn**	**11 04 31.2**	**-1.2**
JAGI	**Jajag, Banyuwa**	**14.94**	**234**	Pn	**Pn**	**11 05 50.8**	**-0.5**
JAGI				IAmb	IAmb	11 06 21.7	
	comp=Z,50nm,1.3s						
KSM	**Kuching**	**16.02**	**274**	Pn	**Pn**	**11 06 04.9**	**-0.5**
KNRA	**Kununurra**	**16.11**	**171**	Pn	**Pn**	**11 06 06.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**18.34**	**182**		**P**	**11 06 33.4**	**-0.4**
WB0	**Warramunga Arr**	**21.51**	**159**	P	**P**	**11 07 08.1**	**-0.1**
WB0				IAmb	IAmb	11 07 12.6	
	comp=Z,8.5nm,0.7s						
WRAB	**Tennant Creek**	**21.65**	**159**	P	**P**	**11 07 09.6**	**-0.1**
WRAB				IAmb	IAmb	11 07 14.4	
	comp=Z,7.5nm,0.7s						
WRA	**Warramunga Arr**	**21.66**	**159**	P	**P**	**11 07 08.5**	**-1.3**
WRA	**Warramunga Arr**	**21.66**	**159**	P	**P**	**11 07 09.1**	**-0.7**
	comp=Z,6.8nm,0.6s,baz=339,slow=11,SNR=24						
	comp=Z,6.8nm,0.6s						
WB2	**Warramunga Arr**	**21.66**	**159**	P	**P**	**11 07 09.8**	**0.0**
WB2				IAmb	IAmb	11 07 14.5	
	comp=Z,9.1nm,0.7s						
WR8	**Warramunga Arr**	**21.73**	**159**	P	**P**	**11 07 10.4**	**-0.1**
WR8				IAmb	IAmb	11 07 15.2	
	comp=Z,8.0nm,0.8s						
GUMO	**Guam**	**22.61**	**54**	P	**P**	**11 07 19.5**	**-0.6**
AS31	**Alice Springs**	**24.99**	**163**		**P**	**11 07 43.6**	**+1.0**
ASAR	**Alice Springs**	**24.99**	**163**		**P**	**11 07 43.6**	**+0.9**
ASAR	**Alice Springs**	**24.99**	**163**	P	**P**	**11 07 44.0**	**+1.4**
	comp=Z,7.4nm,0.8s,baz=350,slow=14,SNR=41						
	comp=Z,7.4nm,0.8s						

FORT	**Forrest**	**31.00**	**177**	P	**P**	**11 08 37.9**	**+1.7**
FORT				IAmb	IAmb	11 09 10.4	
	comp=Z,6.8nm,1.0s						
STKA	**Stephens Creek**	**35.18**	**157**	P	**P**	**11 09 13.5**	**+0.9**
STKA				IAmb	IAmb	11 09 24.9	
	comp=Z,16nm,0.8s						
STKA	**Stephens Creek**	**35.18**	**157**	P	**P**	**11 09 12.8**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=341,slow=9.6,SNR=6.0						
	comp=Z,3.9nm,0.8s						
ARMA	**Armidale**	**38.95**	**144**	P	**P**	**11 09 46.1**	**+1.2**
ARMA				IAmb	IAmb	11 09 47.8	
	comp=Z,14nm,1.2s						
PEA0B	**Petropavlovsk-**	**58.71**	**22**	P	**P**	**11 12 17.2**	**+1.4**
PETK	**Petropavlovsk-**	**58.71**	**22**	P	**P**	**11 12 17.1**	**+1.2**
PETK	**Petropavlovsk-**	**58.71**	**22**	P	**P**	**11 12 15.6**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=210,slow=8.3,SNR=4.5						
	comp=Z,1.8nm,0.8s						
LTZ	**Lake Taylor**	**59.50**	**142**	P	**P**	**11 12 22.5**	**+0.8**
MKAR	**Makanchi Array**	**60.09**	**327**	P	**P**	**11 12 24.9**	**-0.6**
MKAR	**Makanchi Array**	**60.09**	**327**	P	**P**	**11 12 24.5**	**-1.1**
	comp=Z,1.3nm,0.4s,baz=119,slow=8.5,SNR=12						
	comp=Z,1.3nm,0.4s						
MAKZ	**Makanchi**	**60.27**	**326**	P	**P**	**11 12 27.2**	**+0.4**
MAKZ				IAmb	IAmb	11 12 29.1	
	comp=Z,1.7nm,0.5s						
MIDW	**Midway**	**60.53**	**58**	P	**P**	**11 12 28.8**	**0.0**
KURBB	**Kurchatov Arra**	**64.35**	**328**	P	**P**	**11 12 53.0**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=130,slow=6.3,SNR=6.1						
	comp=Z,0.9nm,0.5s						
BVAR	**Borovoye Array**	**69.91**	**328**	P	**P**	**11 13 29.5**	**+0.3**
	comp=Z,0.8nm,0.5s						
	comp=Z,0.8nm,0.5s						
SKT	**Skwentna**	**86.01**	**28**	P	**P**	**11 14 59.1**	**+0.8**
SKT				IAmb	IAmb	11 15 01.8	
	comp=Z,1.6nm,0.8s						
E23K	**Chandalar**	**87.46**	**22**	P	**P**	**11 15 07.1**	**+1.7**
E23K				IAmb	IAmb	11 15 29.2	
	comp=Z,2.5nm,1.3s						
F25K	**Christian Rive**	**88.94**	**23**	P	**P**	**11 15 14.1**	**+1.7**
F25K				IAmb	IAmb	11 15 56.6	
	comp=Z,2.1nm,1.3s						

*HVO **09** 11:09:35.7±2.4, 19°.417N±0°.007×155°.61W±0°.01, h-2km±7km, ML2.8/1, ML1.7/25(NEIC), Error ellipse: s-maj=1.5km s-min=0.9km az=111.0*

NEIC 09 11:09:35.6±1.9, **19°.404N**±0°.006×**155°.581W**±0°.008, **h6**km±3km, **Error ellipse: s-maj=1.1km s-min=0.9km az=59.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Mokuaweoweo**	**0.08**	**350**		Pg	11 09 38.0	+0.1
AIN	**Ainahou**	**0.12**	**105**	Pg	Pg	11 09 38.5	+0.2
AIN					Sg	11 09 40.6	+0.6
ALEP	**Alea Permanent**	**0.15**	**337**		Pg	11 09 39.0	+0.2
KHU	**Kahuku**	**0.16**	**191**		Pg	11 09 38.7	-0.3
KHU				IAML		11 09 39.7	
	comp=N,153nm,3.5s						
KHU				IAML		11 09 40.2	
	comp=E,199nm,4.0s						
KHU					Sg	11 09 41.4	+0.2
MLH	**Mauna Loa**	**0.20**	**64**		Pg	11 09 39.0	-0.8
MLH					Sg	11 09 44.0	+1.4
MLH				IAML		11 09 44.1	
	comp=N,123nm,3.8s						
MLH				IAML		11 09 46.4	
	comp=E,140nm,2.7s						
HMH	**Humu'ula Sheep**	**0.22**	**25**	Pg	Pg	11 09 38.5	-1.5
HMH				IAML		11 09 41.1	
	comp=N,105nm,2.1s						
HMH				IAML		11 09 41.3	
	comp=E,123nm,3.3s						
UWE	**Uwekahuna**	**0.27**	**86**	Pg	Pg	11 09 40.3	-0.7
HLP	**Hilina Pali**	**0.28**	**112**	Pg	Pg	11 09 40.7	-0.4
BYL	**Byron's Ledge**	**0.30**	**88**	Pg	Pg	11 09 42.1	+0.5
BYL				IAML		11 09 43.4	
	comp=N,154nm,4.2s						
POHA	**Pohakuloa**	**0.35**	**7**	Pg	Pg	11 09 41.9	-0.7
POHA				IAML		11 09 47.8	
	comp=N,90nm,4.0s						
POHA				IAML		11 09 49.8	
	comp=N,110nm,3.6s						

*IDC **09** 11:29:32.3±2.6, 0°.45N×126°.61E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=247.9km s-min=28.6km az=66.0*

*DJA **09** 11:29:

-0.1260, Plg52.0000°, Azm194.0000°; P -3.2350, Plg4.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function

BGR ***09*** *11:33:36.1, 48.48N×144.75E, h400km, mb5.7*

ISC 09 11:33:31.3±0.2, 47.40N±0.03×145.03E±0.03, h439km±2km, h438km:pP-P, n1857, σ1935/1983, mb5.4/700, 160C-74D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YSS	**Yuzhno-Sakhali**	**1.61**	**255**		**P**		**P**	**11 34 30.2**	**+1.5**
YSS	**Yuzhno-Sakhali**	**1.61**	**255**	P			**P**	**11 34 29.6**	**+0.9**
YSS	**Yuzhno-Sakhali**	**1.61**	**255**	*α i* PN			**P**	**11 34 30.2**	**+1.5**
YSS				*e*S			**S**	**11 35 16.0**	**+0.7**
YSS				pmax		pmax			
	comp=Z,11μm,0.9s								
YSS				pmax		pmax			
	comp=N,5μm,0.5s								
YSS				pmax		pmax			
	comp=E,4μm,0.5s								
YSS				pmax		pmax			
	comp=Z,5μm,4.3s								
YSS				smax		smax			
	comp=N,63μm,5.2s								
YSS				smax		smax			
	comp=E,78μm,5.5s								
YSS				smax		smax			
	comp=N,7μm,0.7s								
YSS				smax		smax			
	comp=E,14μm,1.0s								
YSS	**Yuzhno-Sakhali**	**1.61**	**255**	*i* P			**P**	**11 34 30.0**	**+1.3**
YSS				AMB		AMB		11 34 32.0	
	comp=E,108μm,0.9s								
YSS				AMB		AMB		11 34 32.8	
	comp=E,5μm,4.0s								
YSS				*e*S		S		**11 35 16.2**	**+0.9**
YSS				A		A		11 35 17.6	
	comp=E,53μm,5.2s								
YSS				A		A		11 35 17.6	
	comp=E,78μm,5.2s								
YSS				A		A		11 35 18.5	
	comp=E,1μm,0.7s								
YSS				A		A		11 35 18.5	
	comp=E,140μm,0.7s								
UGL	**Uglegorsk**	**2.59**	**311**	*de*PN		P		11 34 27.2	-7.1
UGL				*e*S		S		11 35 16.6	-9.1
UGL				pmax		pmax			
	comp=Z,20μm,1.1s								
UGL				pmax		pmax			
	comp=Z,12μm,1.1s								
UGL				smax		smax			
	comp=N,25μm,1.6s								
UGL				smax		smax			
	comp=E,21μm,0.7s								
UGL				smax		smax			
	comp=N,5μm,0.6s								
UGL				smax		smax			
	comp=E,53μm,2.4s								
UGL	**Uglegorsk**	**2.59**	**311**	*e*P		**P**		**11 34 36.4**	**+2.1**
UGL				AMB		AMB		11 34 38.4	
	comp=E,20μm,1.1s								
UGL				AMB		AMB		11 34 39.2	
	comp=E,8μm,0.5s								
UGL				*e*S		**S**		**11 35 28.1**	**+2.4**
UGL				A		A		11 35 29.7	
	comp=E,21μm,0.5s								
UGL				A		A		11 35 29.7	
	comp=E,12μm,0.5s								
UGL				A		A		11 35 29.8	
	comp=E,53μm,2.0s								
UGL				A		A		11 35 29.8	
	comp=E,28μm,2.0s								
KUR	**Kuril'sk**	**2.93**	**137**	*c i* PN		**P**		**11 34 35.1**	**-1.8**
KUR				*i* S		**S**		**11 35 27.3**	**-2.8**
KUR				pmax		pmax			
	comp=Z,7μm,3.8s								
KUR				pmax		pmax			
	comp=Z,1μm,0.5s								
KUR				pmax		pmax			
	comp=N,250nm,0.6s								
KUR				pmax		pmax			
	comp=E,285nm,0.7s								
KUR				smax		smax			
	comp=E,71μm,2.4s								
KUR				smax		smax			
	comp=N,23μm,2.6s								
KUR				smax		smax			
	comp=E,4μm,0.5s								
KUR				smax		smax			
	comp=N,928nm,0.4s								
KUR	**Kuril'sk**	**2.93**	**137**	*i* P		**P**		**11 34 35.1**	**-1.8**
KUR				AMB		AMB		11 34 37.7	
	comp=N,7μm,3.8s								
KUR				AMB		AMB		11 34 41.2	
	comp=N,1μm,0.5s								
KUR				*i* S		**S**		**11 35 27.3**	**-2.8**
KUR				*i* S		S		11 35 27.4	-2.7
KUR				A		A		11 35 29.7	
	comp=N,23μm,2.6s								
KUR				A		A		11 35 29.7	
	comp=N,71μm,2.6s								
KUR				A		A		11 35 53.7	
	comp=N,930nm,0.4s								
KUR				A		A		11 35 53.7	
	comp=N,4μm,0.4s								
JSE	**Soyaes**	**2.98**	**216**	*i* P		**P**		**11 34 37.6**	**+0.3**
JSE				S		**S**		**11 35 30.3**	**-0.5**
JSE	**Soyaes**	**2.98**	**216**	A		A		11 34 37.6	
	comp=N,38nm,2.6s,comp=E,41nm,3.5s								
JWK2	**Keihoku**	**3.01**	**227**	*i* P		**P**		**11 34 38.8**	**+1.3**
JWK2				S		**S**		**11 35 32.1**	**+0.9**
JWK2	**Keihoku**	**3.01**	**227**	A		A		11 34 38.8	
	comp=N,84nm,2.5s,comp=E,73nm,2.7s								
RUSJ	**Misakicho**	**3.30**	**177**	*i* PN		**P**		**11 34 39.0**	**-0.8**
RUSJ				*e*S		**S**		**11 35 35.0**	**-0.5**
JRBN	**Rebuntou**	**3.38**	**236**	*i* P		**P**		**11 34 40.9**	**+0.5**
JRBN				S		**S**		**11 35 36.0**	**-0.5**
JRBN	**Rebuntou**	**3.38**	**236**	A		A		11 34 40.9	
	comp=N,56nm,2.6s,comp=E,32nm,3.5s								
YUK	**Yuzh-Kuril'sk**	**3.42**	**170**	*c i* PN		**P**		**11 34 39.1**	**-1.7**
YUK				*e*S		**S**		**11 35 34.2**	**-3.0**
YUK				pmax		pmax			
	comp=Z,26μm,0.5s								
YUK				pmax		pmax			
	comp=N,5μm,0.6s								
YUK				pmax		pmax			
	comp=E,3μm,0.3s								
YUK				smax		smax			
	comp=E,21μm,0.8s								
YUK				smax		smax			
	comp=N,15μm,0.6s								
YUK	**Yuzh-Kuril'sk**	**3.42**	**170**	*i* P		**P**		**11 34 39.1**	**-1.7**
YUK				AMB		AMB		11 34 40.8	
	comp=N,26μm,0.5s								
YUK				*e*S		**S**		**11 35 34.2**	**-3.0**
YUK				A		A		11 35 36.0	
	comp=N,6μm,2.0s								
YUK				A		A		11 35 36.0	
	comp=N,10μm,2.0s								
YUK				A		A		11 35 39.1	
	comp=N,15μm,0.7s								
YUK				A		A		11 35 39.1	
	comp=N,21μm,0.7s								
JRR	**Rishiri**	**3.43**	**230**	A		A		11 34 41.8	
	comp=N,178nm,2.9s,comp=E,100nm,2.9s								
JRA	**Rausu**	**3.46**	**179**	P		**P**		**11 34 39.8**	**-1.4**
JRA				S		**S**		**11 35 36.7**	**-1.2**
JRA	**Rausu**	**3.46**	**179**	A		A		11 34 39.8	
	comp=N,14nm,2.0s,comp=E,41nm,1.7s								
JTKR	**Abashiri--Toko**	**3.52**	**193**	*i* P		**P**		**11 34 41.1**	**-0.5**
JTKR				S		**S**		**11 35 38.2**	**-0.5**
JTKR	**Abashiri--Toko**	**3.52**	**193**	A		A		11 34 41.1	
	comp=N,13nm,2.5s,comp=E,7.0nm,4.4s								
JMP	**Maruseppu**	**3.59**	**200**	*i* P		**P**		**11 34 41.6**	**-0.7**
JMP				*e*S		**S**		**11 35 39.9**	**0.0**
JMP	**Maruseppu**	**3.59**	**200**	A		A		11 34 41.6	
	comp=N,9.0nm,0.9s,comp=E,12nm,4.3s								
JNSB	**Nemuroshibetsu**	**3.63**	**180**	A		A		11 34 41.2	
	comp=N,30nm,3.1s,comp=E,52nm,3.9s								
GLVR	**Golovnino**	**3.68**	**174**	*e*PN		**P**		**11 34 41.7**	**-1.3**
GLVR				*i* S		**S**		**11 35 38.7**	**-2.5**
GLVR				pmax		pmax			
	comp=Z,23μm,0.6s								
GLVR				pmax		pmax			
	comp=E,2μm,0.2s								
GLVR				pmax		pmax			
	comp=N,2μm,0.4s								
GLVR				smax		smax			
	comp=N,18μm,0.7s								
GLVR				smax		smax			
	comp=E,26μm,0.7s								
GLVR	**Golovnino**	**3.68**	**174**	*e*P		**P**		**11 34 41.7**	**-1.3**
GLVR				AMB		AMB		11 34 42.9	
	comp=E,23μm,0.6s								
GLVR				*i* S		**S**		**11 35 38.7**	**-2.5**
GLVR				A		A		11 35 42.6	
	comp=E,18μm,0.7s								
GLVR				A		A		11 35 42.6	
	comp=E,26μm,0.7s								
ASAJ	**Asahikawa**	**3.70**	**208**	P		**P**		**11 34 43.1**	**0.0**
	comp=E,2μm,0.4s,baz=11,slow=5.8,SNR=1895								
ASAJ				S		**S**		**11 35 41.1**	**-0.4**
	comp=E,639nm,0.6s,baz=121,slow=32,SNR=9.7								
ASAJ	**Asahikawa**	**3.70**	**208**	A		A		11 34 42.8	
	comp=N,16nm,1.9s,comp=E,30nm,3.0s								
JKA	**Kamikawa-asahi**	**3.70**	**208**			**P**		**11 34 43.0**	**-0.1**
JSS	**Shosan**	**3.73**	**218**	*i* P		**P**		**11 34 43.9**	**+0.5**
JSS				S		**S**		**11 35 42.7**	**+0.7**
JSS	**Shosan**	**3.73**	**218**	A		A		11 34 43.9	
	comp=N,31nm,5.6s,comp=E,74nm,2.9s								
SHO	**Shikotan**	**3.75**	**160**	*c i* PN		**P**		**11 34 41.6**	**-2.0**
SHO				*e*S		**S**		**11 35 36.8**	**-5.5**
SHO				pmax		pmax			
	comp=Z,6μm,0.6s								
SHO				pmax		pmax			
	comp=N,2μm,0.7s								
SHO				pmax		pmax			
	comp=E,1μm,0.6s								
SHO				smax		smax			
	comp=N,12μm,0.6s								
SHO				smax		smax			
	comp=E,11μm,0.6s								
SHO	**Shikotan**	**3.75**	**160**	*i* P		**P**		**11 34 41.6**	**-2.0**
SHO				AMB		AMB		11 34 43.0	
	comp=E,6μm,0.6s								
SHO				*e*S		**S**		**11 35 36.8**	**-5.5**
SHO				A		A		11 35 38.5	
	comp=E,2μm,2.0s								
SHO				A		A		11 35 38.5	
	comp=E,4μm,2.0s								
SHO				A		A		11 35 38.7	
	comp=E,12μm,0.6s								
SHO				A		A		11 35 38.7	
	comp=E,11μm,0.6s								
TYV	**Tymovskoe**	**3.80**	**337**	*e*PN		**P**		**11 34 46.7**	**+3.0**
TYV				pmax		pmax			
	comp=Z,2μm,0.8s								
TYV	**Tymovskoe**	**3.80**	**337**	*e*P		**P**		**11 34 45.7**	**+2.0**
TYV				AMB		AMB		11 34 47.1	
	comp=Z,5μm,0.4s								
TYV				*e*S		**S**		**11 35 43.9**	**+1.1**
TYV				A		A		11 35 46.4	
	comp=Z,16μm,2.0s								
TYV				A		A		11 35 46.4	
	comp=Z,17μm,2.0s								
TYV				A		A		11 35 47.2	
	comp=Z,2μm,0.8s								
TYV				A		A		11 35 47.2	
	comp=Z,2μm,0.8s								
JNK	**Nakash**	**3.82**	**183**	*i* P		**P**		**11 34 42.6**	**-1.6**
JNK				*e*S		**S**		**11 35 42.1**	**-1.4**
JNK	**Nakash**	**3.82**	**183**	A		A		11 34 42.6	
	comp=N,15nm,2.2s,comp=E,20nm,3.0s								
JKK2	**Kamakawa 2**	**3.88**	**205**	*i* P		**P**		**11 34 44.2**	**-0.4**
JKK2				S		**S**		**11 35 42.9**	**-1.4**
JKK2	**Kamakawa 2**	**3.88**	**205**	A		A		11 34 44.2	
	comp=N,16nm,2.0s,comp=E,28nm,2.8s								
JYG	**Yagishiri**	**3.90**	**221**	A		A		11 34 44.9	
	comp=N,41nm,2.6s,comp=E,55nm,2.9s								
NMR	**Nemuro--Hokkai**	**4.06**	**173**	*i* PN		**P**		**11 34 42.9**	**-3.4**
NMR				*e*S		**S**		**11 35 40.5**	**-6.8**
NMR	**Nemuro--Hokkai**	**4.06**	**173**	*i* P		**P**		**11 34 43.2**	**-3.1**
NMR				*e*S		**S**		**11 35 41.4**	**-5.9**
NEM2	**Nemuro 2**	**4.07**	**173**	P		**P**		**11 34 42.6**	**-3.8**
NEM2				S		**S**		**11 35 40.5**	**-6.9**
NEM2	**Nemuro 2**	**4.07**	**173**	A		A		11 34 42.6	
	comp=N,22nm,0.7s,comp=E,26nm,2.7s								
JAR	**Ashorobuto**	**4.20**	**193**	P		**P**		**11 34 46.3**	**-1.3**
JAR				*e*S		**S**		**11 35 46.7**	**-2.9**
JAR	**Ashorobuto**	**4.20**	**193**	A		A		11 34 46.3	
	comp=N,8.0nm,2.6s,comp=E,9.0nm,5.2s								
JKHN	**Kushirohamanak**	**4.32**	**179**	A		A		11 34 46.7	
	comp=N,22nm,1.9s,comp=E,20nm,2.0s								
JHR	**Hokuryu**	**4.33**	**214**	*i* P		**P**		**11 34 48.7**	**-0.1**
JHR				S		**S**		**11 35 51.5**	**-0.3**
JHR	**Hokuryu**	**4.33**	**214**	A		A		11 34 48.7	
	comp=N,36nm,2.1s,comp=E,35nm,2.4s								
JAB	**Ashibetsu**	**4.37**	**208**	A		A		11 34 48.2	
	comp=N,44nm,3.9s,comp=E,41nm,2.3s								
AKK	**Akkeshi**	**4.39**	**182**	*e*P		**P**		**11 34 46.5**	**-2.8**
JAK	**Akkeshi**	**4.41**	**183**	*i* P		**P**		**11 34 46.8**	**-2.7**
JAK				S		**S**		**11 35 47.3**	**-5.8**
JAK	**Akkeshi**	**4.41**	**183**	A		A		11 34 46.8	
	comp=N,37nm,2.2s,comp=E,33nm,0.5s								
JFR	**Furan**	**4.57**	**203**	P		**P**		**11 34 50.4**	**-0.7**
JFR				*e*S		**S**		**11 35 54.2**	**-1.8**
JFR	**Furan**	**4.57**	**203**	A		A		11 34 50.4	
	comp=N,15nm,2.2s,comp=E,15nm,4.3s								
JOB	**Onbets**	**4.58**	**191**	A		A		11 34 49.2	
	comp=N,11nm,1.6s,comp=E,10.0nm,0.5s								
JISS	**Ishikarishitsu**	**4.85**	**213**	A		A		11 34 52.6	
	comp=N,94nm,2.6s,comp=E,48nm,2.8s								
JCH	**Churui**	**4.93**	**194**	*i* P		**P**		**11 34 51.8**	**-2.7**
JCH				S		**S**		**11 35 55.2**	**-7.0**
JCH	**Churui**	**4.93**	**194**	A		A		11 34 51.8	
	comp=N,5.0nm,2.0s,comp=E,5.0nm,5.8s								
JBT2	**Biratori 2**	**4.99**	**203**	*i* P		**P**		**11 34 54.0**	**-1.1**
JBT2				S		**S**		**11 35 59.4**	**-3.9**
JBT2	**Biratori 2**	**4.99**	**203**	A		A		11 34 54.0	
	comp=N,16nm,5.6s,comp=E,12nm,1.0s								
JSK	**Shakotan**	**5.17**	**220**	A		A		11 34 55.9	
	comp=N,40nm,3.1s,comp=E,29nm,3.4s								
JEW	**Eniwo**	**5.22**	**210**	P		**P**		**11 34 56.5**	**-0.8**
JEW				S		**S**		**11 36 04.3**	**-3.0**
JEW	**Eniwo**	**5.22**	**210**	A		A		11 34 56.5	
	comp=N,31nm,3.2s,comp=E,28nm,4.0s								
JTHR	**Tokachihiroo**	**5.26**	**194**	A		A		11 34 55.4	
	comp=N,8.0nm,0.9s,comp=E,8.0nm,2.1s								
JIAM	**Iburiatsuma**	**5.26**	**206**	A		A		11 34 56.0	
	comp=N,56nm,0.8s,comp=E,59nm,1.2s								
JSHD	**Hidakashinhida**	**5.31**	**201**	A		A		11 34 56.2	
	comp=N,27nm,3.0s,comp=E,22nm,2.3s								
JNBK	**Urakawa-nobuka**	**5.37**	**198**	*i* P		**P**		**11 34 56.3**	**-2.5**
JNBK				*e*S		**S**		**11 36 03.7**	**-6.4**
JNBK	**Urakawa-nobuka**	**5.37**	**198**	A		A		11 34 56.3	
	comp=N,22nm,0.5s,comp=E,22nm,0.5s								
JEM	**Erimo**	**5.55**	**195**	P		**P**		**11 34 59.3**	**-1.3**
JEM	**Erimo**	**5.55**	**195**	A		A		11 34 58.1	
	comp=N,14nm,1.6s,comp=E,19nm,4.9s								
ERM	**Erimo**	**5.55**	**195**			**P**		**11 34 59.2**	**-1.4**
ERM	**Erimo**	**5.55**	**195**	P		**P**		**11 34 59.3**	**-1.3**
ERM	**Erimo**	**5.55**	**195**	*ce*PN		**P**		**11 34 57.9**	**-2.7**
ERM				pmax		pmax			
	comp=Z,5μm,0.5s								
JNB	**Noboribetsu**	**5.69**	**211**	A		A		11 35 00.3	
	comp=N,15nm,5.4s,comp=E,8.0nm,4.1s								
JSH	**Shimam**	**5.92**	**218**	A		A		11 35 03.0	
	comp=N,11nm,5.4s,comp=E,8.0nm,3.4s								
JHST	**Hiyamasetana**	**6.18**	**218**	A		A		11 35 05.5	
	comp=N,13nm,5.1s,comp=E,14nm,5.8s								
JKB	**Kayabe**	**6.21**	**209**	A		A		11 35 05.2	
	comp=N,17nm,0.9s,comp=E,24nm,1.6s								
JYM2	**Yakumo 2**	**6.24**	**214**	A		A		11 35 05.8	
	comp=N,10.0nm,4.2s,comp=E,9.0nm,4.3s								
OKH	**Okha**	**6.30**	**349**	*c i* PN		**P**		**11 35 05.3**	**-2.7**
OKH				*i* S		**S**		**11 36 25.7**	**-1.6**
OKH				pmax		pmax			
	comp=Z,900nm,6.5s								
OKH				smax		smax			
	comp=E,10μm,8.3s								
OKH				smax		smax			
	comp=N,13μm,8.1s								
OKH				MLR		MLR			
	comp=E,2μm,8.0s								
OKH				MLR		MLR			
	comp=N,1μm,6.0s								
OKH				MLR		MLR			
	comp=Z,800nm,7.0s								
OKH	**Okha**	**6.30**	**349**	*e*P		**P**		**11 35 06.3**	**-1.7**
OKH				AMB		AMB		11 35 07.2	
	comp=Z,8μm,1.0s								
OKH				*e*S		**S**		**11 36 29.0**	**+1.7**
OKH				A		A		11 36 30.4	
	comp=Z,3μm,3.0s								
OKH				A		A		11 36 30.4	
	comp=Z,3μm,3.0s								
TEY	**Ternei**	**6.31**	**251**	*e*PN		P		11 34 59.5	-8.8
TEY				pmax		pmax			
	comp=N,900nm,2.7s								
TEY				pmax		pmax			
	comp=Z,4μm,2.7s								
TEY				pmax		pmax			
	comp=N,110nm,1.4s								
TEY				pmax		pmax			
	comp=E,270nm,1.4s								
TEY				pmax		pmax			
	comp=Z,600nm,1.4s								
TEY				pmax		pmax			
	comp=E,2μm,2.7s								
TEY				MLR		MLR			
	comp=E,1μm,7.0s								
TEY				MLR		MLR			
	comp=N,800nm,3.0s								
TEY				MLR		MLR			
	comp=Z,1μm,6.0s								
NKL	**Nikolayevsk**	**6.39**	**336**	*e*PN		**P**		**11 35 06.4**	**-2.6**
NKL				*e*S		**S**		**11 36 26.9**	**-2.2**
NKL				pmax		pmax			
	comp=N,1μm,0.4s								
NKL				pmax		pmax			
	comp=E,6μm,0.5s								
NKL				pmax		pmax			
	comp=Z,12μm,0.5s								
NKL				smax		smax			
	comp=E,9μm,1.3s								
NKL				smax		smax			
	comp=N,30μm,1.8s								
NKL	**Nikolayevsk**	**6.39**	**336**	*e*P		**P**		**11 35 11.2**	**+2.2**
NKL				AMB		AMB		11 35 12.4	
	comp=N,4μm,1.0s								
NKL				*e*S		**S**		**11 36 31.9**	**+2.8**
NKL				A		A		11 36 34.0	
	comp=N,2μm,2.5s								
NKL				A		A		11 36 34.0	
	comp=N,1μm,2.5s								
GRNR	**Gornyy**	**6.58**	**304**	*i* PN		**P**		**11 35 13.2**	**+2.0**
GRNR				pmax		pmax			
	comp=N,380nm,0.8s								
GRNR				pmax		pmax			
	comp=E,730nm,0.8s								
GRNR				pmax		pmax			
	comp=Z,1μm,0.8s								
GRNR				MLR		MLR			
	comp=E,1μm,10.0s								
GRNR				MLR		MLR			
	comp=N,980nm,17.0s								
GRNR				MLR		MLR			
	comp=Z,2μm,11.0s								
JOSM	**Okushiri--Mats**	**6.63**	**219**	P		**P**		**11 35 09.8**	**-2.1**
JOSM				S		**S**		**11 36 30.6**	**-3.3**
JOT	**Ohata**	**6.66**	**207**	P		**P**		**11 35 09.1**	**-3.2**
JOT				S		**S**		**11 36 26.4**	**-8.1**
JSI2	**Shiura 2**	**7.16**	**209**	P		**P**		**11 35 14.1**	**-3.4**
JSI2				S		**S**		**11 36 37.9**	**-6.5**
JTM	**Tenmabayashi**	**7.20**	**205**			**P**		**11 35 15.1**	**-3.0**
JTM	**Tenmabayashi**	**7.20**	**205**	P		**P**		**11 35 15.5**	**-2.5**
JANG	**Nango**	**7.47**	**201**	P		**P**		**11 35 17.8**	**-3.2**
JIW	**Iwasaki**	**7.71**	**210**	P		**P**		**11 35 20.5**	**-3.0**
SKR	**Severo-Kuril's**	**7.99**	**62**	*i* PN		**P**		**11 35 26.8**	**+0.5**
SKR				*e*S		**S**		**11 36 56.5**	**-4.2**
SKR				pmax		pmax			
	comp=Z,8μm,2.5s								
SKR				pmax		pmax			
	comp=Z,3μm,0.6s								
SKR				smax		smax			
	comp=E,2μm,0.6s								
SKR				smax		smax			
	comp=N,3μm,0.6s								
SKR				MLR		MLR			
	comp=Z,6μm,15.0s								
SKR	**Severo-Kuril's**	**7.99**	**62**	*e*P		**P**		**11 35 26.8**	**+0.5**
SKR				AMB		AMB		11 35 27.7	
	comp=Z,9μm,2.0s								
SKR				AMB		AMB		11 35 29.7	
	comp=Z,3μm,0.6s								
SKR				*e*S		**S**		**11 36 57.5**	**-3.2**
SKR				A		A		11 37 01.0	
	comp=Z,6μm,2.0s								
SKR				A		A		11 37 01.0	
	comp=Z,1μm,2.0s								
SKR				A		A		11 37 04.6	
	comp=Z,4μm,0.6s								
SKR				A		A		11 37 04.6	
	comp=Z,2μm,0.6s								
PAU	**Pauzhetka**	**8.69**	**58**	*e*P		**P**		**11 35 34.4**	**+0.5**
PAU				AMB		AMB		11 35 35.3	
	comp=Z,5μm,2.0s								
PAU				*e*S		**S**		**11 37 12.6**	**-2.1**
PAU				A		A		11 37 16.0	
	comp=Z,8μm,2.0s								
PAU				A		A		11 37 16.0	
	comp=Z,6μm,2.0s								
KLR	**Kul'dur**	**9.04**	**287**	P		**P**		**11 35 39.2**	**+1.4**
	comp=Z,341nm,0.7s,baz=96,slow=11,SNR=976								
KLR				S		**S**		**11 37 23.6**	**+1.7**
	comp=Z,56nm,0.7s,baz=2.9,slow=21,SNR=12								
KLR				ScP		**ScP**		**11 44 02.0**	**-0.9**
	comp=Z,11nm,0.7s,baz=65,slow=2.3,SNR=8.2								
KLR	**Kul'dur**	**9.04**	**287**	*e*P		**P**		**11 35 39.8**	**+2.1**
USA0B	**Ussuriysk Arra**	**9.65**	**255**			**P**		**11 35 44.2**	**-0.4**
USA0B	**Ussuriysk Arra**	**9.65**	**255**	*d i* PN		**P**		**11 35 44.2**	**-0.4**
USRK	**Ussuriysk Ar.**	**9.65**	**255**	P		**P**		**11 35 44.8**	**+0.3**
	comp=Z,280nm,0.6s,baz=65,slow=11,SNR=309								
PEA0B	**Petropavlovsk-**	**9.92**	**50**			**P**		**11 35 47.5**	**+0.2**
PEA0B	**Petropavlovsk-**	**9.92**	**50**	PN		**P**		**11 35 47.5**	**+0.2**
PETK	**Petropavlovsk-**	**9.92**	**50**	P		**P**		**11 35 47.3**	**0.0**
PETK	**Petropavlovsk-**	**9.92**	**50**	P		**P**		**11 35 47.6**	**+0.3**
	comp=Z,116nm,0.8s,baz=226,slow=9.0,SNR=142								
PETK				ScP		**ScP**		**11 44 03.6**	**-0.3**
	comp=Z,12nm,1.0s,baz=158,slow=4.3,SNR=6.4								
JMM	**Marumori**	**10.03**	**200**	P		**P**		**11 35 48.5**	**-0.3**
JMM	**Marumori**	**10.03**	**200**	P		**P**		**11 35 48.9**	**+0.2**
JMM	**Marumori**	**10.03**	**200**	S		**S**		**11 37 41.7**	**-0.3**
VLA	**Vladivostok**	**10.21**	**250**	*c i* PN		**P**		**11 35 50.1**	**-0.5**
PET	**Petropavlovsk**	**10.38**	**52**	P		**P**		**11 35 52.0**	**-0.3**
PET	**Petropavlovsk**	**10.38**	**52**	P		**P**		**11 35 52.4**	**+0.1**
PET	**Petropavlovsk**	**10.38**	**52**	*e*PN		**P**		**11 35 52.3**	**0.0**
PET				*e*S		**S**		**11 37 44.3**	**-4.4**
PET				pmax		pmax			
	comp=Z,200nm,3.9s								
PET				pmax		pmax			
	comp=Z,500nm,3.2s								
PET				pmax		pmax			
	comp=Z,162nm,0.7s								
PET				MLR		MLR			
	comp=Z,900nm,11.0s								
PET				MLR		MLR			
	comp=Z,2μm,6.0s								
PET	**Petropavlovsk**	**10.38**	**52**	*e*P		**P**		**11 35 52.3**	**0.0**
PET				AMB		AMB		11 35 53.4	
	comp=Z,540nm,3.0s								
PET				AMB		AMB		11 35 56.7	
	comp=Z,160nm,0.7s

MJAR Matsushiro Arr 11.97 207 P **P** **11 36 10.2 +0.1**
comp=Z,355nm,0.7s,baz=19,slow=12,SNR=440
MJAR S **S** **11 38 22.3 +1.2**
comp=Z,29nm,0.8s,baz=19,slow=24,SNR=5.0
MJAR ScP **ScP** **11 44 06.6 -0.5**
comp=Z,3.8nm,0.9s,baz=18,slow=1.4,SNR=5.9
BNX BinXian 12.24 269 ⇓P **P** **11 36 12.0 -0.8**
BNX pmax pmax
comp=Z,160nm,0.7s
MA2 Magadan 12.66 13 P **P** **11 36 18.7 +1.6**
MA2 Magadan 12.66 13 P **P** **11 36 18.4 +1.3**
comp=Z,1μm,0.8s,baz=196,slow=9.2,SNR=612
MA2 Magadan 12.66 13 P **P** **11 36 18.3 +1.2**
MA2 Magadan 12.66 13 *c* iPN **P** **11 36 18.7 +1.6**
ZEA Zeya 12.94 306 *e*PN **P** **11 36 21.0 +0.8**
ZEA *e*S **S** **11 38 36.5 -3.3**
ZEA pmax pmax
comp=E,300nm,2.7s
ZEA pmax pmax
comp=N,200nm,2.3s
ZEA pmax pmax
comp=Z,400nm,2.8s
ZEA pmax pmax
comp=N,70nm,0.6s
ZEA pmax pmax
comp=E,50nm,0.7s
ZEA pmax pmax
comp=Z,110nm,0.7s
ZEA smax smax
comp=E,3μm,3.2s
ZEA smax smax
comp=N,4μm,7.0s
ZEA MLR MLR
comp=E,1μm,7.0s
ZEA MLR MLR
comp=Z,1μm,5.0s
ZEA Zeya 12.94 306 *e*P **P** **11 36 20.7 +0.5**
JGF Kuroka 13.11 209 **P** **11 36 22.3 -0.1**
JGF Kuroka 13.11 209 P **P** **11 36 22.7 +0.3**
INU Inuyama 13.45 209 **P** **11 36 26.0 0.0**
INU Inuyama 13.45 209 P **P** **11 36 26.4 +0.4**
INU Inuyama 13.45 209 S **S** **11 38 50.5 +0.1**
JSG Sagara 13.71 204 P **P** **11 36 29.7 +0.8**
JSG Sagara 13.71 204 P **P** **11 36 30.0 +1.1**
CN2 Changchun 14.17 262 ⇓*i*P **P** **11 36 32.7 -1.0**
CN2 sP 11 38 12.2
CN2 S **S** **11 39 00.9 -3.5**
CN2 pmax pmax
comp=Z,250nm,0.6s
CN2 pmax pmax
comp=Z,880nm,6.0s
JHJ2 Mitsune 14.81 197 **P** **11 36 40.6 -0.1**
JHJ2 Mitsune 14.81 197 P **P** **11 36 41.1 +0.4**
KS19 Wonju Array Si 16.04 238 P **P** **11 36 54.6 +0.8**
KSRS Korea Array 16.04 238 P **P** **11 36 54.8 +1.1**
comp=Z,99nm,0.5s,baz=39,slow=11,SNR=300
KSRS S **S** **11 39 41.3 +0.3**
comp=Z,8.2nm,1.0s,baz=50,slow=14,SNR=4.8
KSRS PcP **PcP** **11 41 22.8 +0.9**
comp=Z,14nm,0.8s,baz=34,slow=0.7,SNR=17
KSRS ScP **ScP** **11 44 14.5 +0.5**
comp=Z,22nm,1.0s,baz=25,slow=1.0,SNR=28
JMN Monobe 16.05 216 **P** **11 36 54.6 +0.6**
JMN Monobe 16.05 216 P **P** **11 36 54.9 +1.0**
JMN Monobe 16.05 216 S **S** **11 36 44.2 +2.8**
KSAR Wonju Array Be 16.07 238 **P** **11 36 54.6 +0.6**
KSAR **PcP** **11 41 22.9 +1.0**
KSAR Wonju Array Be 16.07 238 P **P** **11 36 54.6 +0.6**
SEY Seymchan 16.10 12 P **P** **11 36 55.2 +1.1**
comp=Z,1μm,0.5s,baz=192,slow=7.9,SNR=2854
SEY PKiKP **PKiKP** **11 49 13.4 -1.1**
comp=Z,1.1nm,0.7s,baz=217,slow=2.7,SNR=4.0
SNY Shenyang 16.24 258 ⇓P **P** **11 36 55.9 +0.1**
SNY S **S** **11 39 38.5 -6.3**
SNY pmax pmax
comp=Z,750nm,1.6s
INCN Inchon 16.77 240 **P** **11 37 02.1 +0.6**
INCN Inchon 16.77 240 P **P** **11 37 02.5 +1.0**
INCN Inchon 16.77 240 P **P** **11 37 02.1 +0.6**
HIA Hailar 16.90 286 P **P** **11 37 01.1 -1.6**
HIA Hailar 16.90 286 P **P** **11 37 02.5 -0.2**
HIA Hailar 16.90 286 S **S** **11 39 58.6 +1.2**
HIA Hailar 16.90 286 P **P** **11 37 01.1 -1.6**
YAK Yakutsk 17.06 335 P **P** **11 37 03.1 -1.0**
comp=Z,1μm,0.6s,baz=44,slow=0.4,SNR=99
YAK S **S** **11 39 57.7 -2.3**
comp=Z,363nm,0.9s,baz=91,slow=21,SNR=15
YAK Yakutsk 17.06 335 *e*P **P** **11 37 03.1 -1.0**
YAK *e*S **S** **11 39 59.8 -0.2**
YAK pmax pmax
comp=Z,802nm,1.2s
YAK pmax pmax
comp=N,205nm,1.7s
YAK pmax pmax
comp=E,216nm,1.9s
YAK smax smax
comp=E,2μm,2.0s
YAK smax smax
comp=N,2μm,2.2s
YAK Yakutsk 17.06 335 *e*P **P** **11 37 03.3 -0.8**
TJN Taejon 17.11 236 **P** **11 37 04.8 -0.2**
TJN Taejon 17.11 236 P **P** **11 37 05.4 +0.4**
TJN Taejon 17.11 236 *d* iP **P** **11 37 05.5 +0.4**
JTU Tsushima 17.42 228 P **P** **11 37 08.9 +0.6**
JNU Nakatsue 17.85 222 P **P** **11 37 12.9 0.0**
comp=N,220nm,0.8s,baz=10,slow=2.7,SNR=89
JNU Nakatsue 17.85 222 P **P** **11 37 12.9 0.0**
DL2 Dalian 19.01 252 ⇓*i*P **P** **11 37 24.4 +0.2**
DL2 S **S** **11 40 34.9 +0.4**
DL2 pmax pmax
comp=N,300nm,0.8s
DL2 pmax pmax
comp=N,2μm,4.0s
SMY Shemya 19.33 63 **P** **11 37 28.1 +1.2**
SMY Shemya 19.33 63 P **P** **11 37 29.0 +2.1**
SMY Shemya 19.33 63 P **P** **11 37 28.1 +1.2**
JCJ Chichijima 20.39 187 **P** **11 37 35.9 -1.0**
JCJ Chichijima 20.39 187 P **P** **11 37 36.8 -0.2**
XLT XiLinHaoTe 20.48 271 *e*P **P** **11 37 36.8 -0.9**
XLT S **S** **11 40 50.5 -7.9**
XLT pmax pmax
comp=N,320nm,0.6s
XLT pmax pmax
comp=N,780nm,5.0s
CIT Chita 20.77 295 *e*P **P** **11 37 40.0 -0.2**
CIT *e*S **S** **11 41 00.8 -2.1**
CIT pmax pmax
comp=Z,459nm,2.0s
BOD Bodaibo 21.34 311 *e*P **P** **11 37 44.5 -0.7**
BOD pmax pmax
comp=Z,200nm,0.6s
BJI Beijing 22.02 261 P **P** **11 37 52.2 +0.6**
BJI S **S** **11 41 23.0 +0.1**
BJI pmax pmax
comp=Z,88nm,0.6s
BJI pmax pmax
comp=Z,680nm,5.0s
BJT Baijiatuau 22.04 261 P **P** **11 37 53.5 +1.7**
AMKA Amchitka 22.53 67 **P** **11 37 56.4 +0.4**
AMKA PcP **PcP** **11 41 34.2 +0.8**
BILL Bilibino 23.35 20 **P** **11 38 02.9 -0.3**
BILL Bilibino 23.35 20 *c* iP **P** **11 38 02.4 -0.8**
BILL pmax pmax
comp=Z,129nm,0.8s
TIA Tai'an 23.49 252 P **P** **11 38 05.0 +0.1**
TIA PP PP 11 39 14.8 +5.3
TIA S **S** **11 41 46.8 +0.6**
TIA pmax pmax
comp=Z,34nm,1.2s
TIA pmax pmax
comp=Z,490nm,4.1s
JMZ Minamidaito 2 24.15 212 P **P** **11 38 10.7 -0.2**
HNS HongShan 24.38 257 ⇓P **P** **11 38 13.6 +0.8**
HNS sP **sP** **11 40 19.0 +0.3**
HNS PcP **PcP** **11 41 38.8 +1.2**
HNS S **S** **11 42 00.9 +0.8**
HNS ScP **ScP** **11 44 34.7 +0.8**
HNS pmax pmax
comp=Z,61nm,0.8s
HNS pmax pmax
comp=Z,540nm,7.0s
JOW Kunigami 24.40 219 **P** **11 38 12.5 -0.6**
JOW Kunigami 24.40 219 P **P** **11 38 13.6 +0.5**
SSE Sheshan 24.47 237 P **P** **11 38 14.4 +0.7**
SSE S **S** **11 42 02.9 +1.2**
SSE pmax pmax
comp=Z,18nm,0.8s
SSE pmax pmax
comp=Z,340nm,3.2s
KIWB Kanaga Island 24.71 66 **P** **11 38 15.4 -0.1**
HHC Hu-ho-hao-te 24.76 267 *i* P **P** **11 38 17.0 +0.7**
HHC S **S** **11 42 06.8 +0.5**
HHC pmax pmax
comp=Z,120nm,0.8s
HHC pmax pmax
comp=Z,560nm,5.9s
ADK Adak 24.99 65 **P** **11 38 18.0 -0.1**
ADK Adak 24.99 65 P **P** **11 38 18.3 +0.3**
ADK Adak 24.99 65 P **P** **11 38 18.0 -0.1**
NJ2 Nanjing 25.14 242 ⇑P **P** **11 38 19.9 +0.3**
NJ2 S **S** **11 42 10.4 -1.8**
NJ2 pmax pmax
comp=Z,15nm,0.6s
NJ2 pmax pmax
comp=Z,420nm,4.0s
GSTR Great Sitkin T 25.36 65 P **P** **11 38 21.2 -0.1**
ULN Ulaanbaatar 25.43 285 **P** **11 38 22.5 +0.3**
ULN Ulaanbaatar 25.43 285 *d* iP **P** **11 38 22.3 +0.1**
ULN pmax pmax
comp=Z,108nm,1.7s
TIXI Tiksi 25.48 348 **P** **11 38 21.3 -0.8**
TIXI Tiksi 25.48 348 *ce*P **P** **11 38 21.1 -1.0**
TIXI *i* *SP **sP** **11 40 28.7 -1.0**
TIXI pmax pmax
comp=Z,65nm,1.0s
SONM Songino Array 25.87 285 **P** **11 38 26.0 -0.1**
SONM Songino Array 25.87 285 P **P** **11 38 25.6 -0.5**
comp=Z,17nm,0.6s,baz=70,slow=8.2,SNR=44
SONM pP **pP** **11 39 39.9 -2.0**
comp=Z,9.6nm,0.7s,baz=88,slow=9.5,SNR=1.5
SONM PcP **PcP** **11 41 41.5 +0.5**
comp=Z,12nm,0.7s,baz=128,slow=2.3,SNR=6.1
SONM ScP **ScP** **11 44 37.7 -0.5**
comp=Z,21nm,0.9s,baz=98,slow=2.3,SNR=17
comp=Z,17nm,0.6s
BTO Baotou 25.92 268 *e*P **P** **11 38 27.0 +0.4**
BTO sP **sP** **11 40 30.6 -3.6**
BTO S **S** **11 42 32.4 +7.9**
BTO pmax pmax
comp=Z,44nm,0.9s
BTO pmax pmax
comp=Z,920nm,4.1s
ATKA Atka Island 26.49 64 P **P** **11 38 30.6 -0.7**
LYN LuoYang 27.52 254 P **P** **11 38 41.4 +0.8**
LYN pP PP 11 39 55.0 +0.9
LYN PP **PP** **11 40 00.2 +6.1**
LYN sP sP 11 40 49.3 +1.4
LYN PcP **PcP** **11 41 46.8 +1.7**
LYN S **S** **11 42 49.7 +0.3**
LYN ScP **ScP** **11 44 40.4 -2.9**
LYN ScS **ScS** **11 48 38.2 +2.2**
LYN pmax pmax
comp=Z,68nm,0.6s
LYN pmax pmax
comp=Z,750nm,3.6s
SPIA Saint Paul Isl 28.56 53 **P** **11 38 49.9 +0.5**
SPIA Saint Paul Isl 28.56 53 P **P** **11 38 49.3 -0.1**
baz=269
SPIA S **S** **11 43 06.6 +1.5**
baz=269
GAMB Gambell 28.69 39 **P** **11 38 50.0 -0.5**
GAMB Gambell 28.69 39 P **P** **11 38 49.9 -0.6**
baz=256,SNR=6.3
GAMB S **S** **11 43 06.0 -1.0**
baz=256
YOJ Yonaguni jima 28.83 225 P **P** **11 38 51.0 -1.2**
YOJ IAmb IAmb 11 39 42.8
comp=Z,229nm,1.5s
YOJ Yonaguni jima 28.83 225 P **P** **11 38 51.0 -1.2**
YOJ pmax pmax
comp=Z,229nm,1.5s
WHN Wuhan 28.94 245 P **P** **11 38 53.3 +0.2**
WHN S **S** **11 43 11.4 -0.3**
WHN pmax pmax
comp=Z,220nm,0.6s
P08K Saint George I 28.94 54 P **P** **11 38 52.9 0.0**
P08K IAmb IAmb 11 38 56.1
comp=Z,201nm,0.9s
P08K Saint George I 28.94 54 P **P** **11 38 52.5 -0.3**
baz=271
NIKH Nikolski High 29.63 62 P **P** **11 38 57.7 -1.2**
NIKH Nikolski High 29.63 62 P **P** **11 38 57.6 -1.2**
baz=278
NIKH S **S** **11 43 20.5 -1.5**
baz=278
XAN Xi'an 30.16 257 ⇓P **P** **11 39 03.9 +0.1**
XAN pP pwP 11 40 26.1 +2.9
XAN S **S** **11 43 28.1 -2.6**
XAN pmax pmax
comp=Z,56nm,1.1s
SSLB Suanglung 30.40 228 **P** **11 39 05.5 -0.5**
YULB Yu-li 30.56 227 P **P** **11 39 07.5 +0.1**
YULB Yu-li 30.56 227 P **P** **11 39 08.2 +0.8**
TNA Tin City 30.70 37 P **P** **11 39 07.9 -0.1**
TNA IAmb IAmb 11 39 09.9
comp=Z,148nm,1.0s
TNA Tin City 30.70 37 P **P** **11 39 07.9 -0.1**
baz=257,SNR=13
TNA S **S** **11 43 37.4 -0.6**
baz=257
M11K Mekoryuk 30.76 47 P **P** **11 39 09.6 +1.0**
M11K IAmb IAmb 11 39 11.3
comp=Z,164nm,0.8s
M11K Mekoryuk 30.76 47 P **P** **11 39 09.5 +1.0**
baz=267,SNR=13
M11K S **S** **11 43 41.1 +1.9**
baz=267
UNV Unalaska Valle 30.90 60 P **P** **11 39 09.7 -0.2**
UNV Unalaska Valle 30.90 60 P **P** **11 39 09.1 -0.8**
baz=278
UNV S **S** **11 43 42.5 +0.9**
baz=278
TPUB Ta-pu 30.97 228 P **P** **11 39 11.2 +0.3**
TPUB Ta-pu 30.97 228 P **P** **11 39 11.4 +0.5**
TWG Pinlang 31.15 226 P **P** **11 39 12.0 -0.5**
TWG IAmb IAmb 11 39 15.4
comp=Z,61nm,0.5s
AKUT Akutan 31.29 59 P **P** **11 39 12.9 -0.3**
F14K Arctic Creek 31.33 37 P **P** **11 39 14.0 +0.6**
baz=259,SNR=52
F14K S **S** **11 43 47.5 -0.3**
baz=259
CNSH ChangSha 31.48 244 P **P** **11 39 14.5 -0.8**
CNSH S **S** **11 43 48.5 -2.6**
CNSH pmax pmax
comp=Z,40nm,1.2s
ANM Nome 31.57 39 **P** **11 39 15.8 +0.3**
ANM IAmb IAmb 11 39 17.8
comp=Z,147nm,1.0s
ANM Nome 31.57 39 P **P** **11 39 15.8 +0.3**
ANM pmax pmax
comp=Z,147nm,1.0s
ANM Nome 31.57 39 P **P** **11 39 15.9 +0.4**
baz=261,SNR=40
ANM S **S** **11 43 52.0 +0.4**
baz=261
K13K Kusilvak Mount 31.60 44 P **P** **11 39 16.1 +0.4**
K13K IAmb IAmb 11 39 18.0
comp=Z,270nm,1.6s
K13K Kusilvak Mount 31.60 44 P **P** **11 39 16.2 +0.4**
baz=266,SNR=124
K13K S **S** **11 43 51.8 -0.2**
baz=266
F15K North Star Dit 32.06 37 P **P** **11 39 19.9 +0.3**
F15K IAmb IAmb 11 39 21.9
comp=Z,99nm,0.8s
F15K North Star Dit 32.06 37 P **P** **11 39 20.0 +0.3**
baz=260,SNR=95
F15K S **S** **11 43 58.9 -0.1**
baz=260
J14K Nanvaranak Lak 32.17 43 **P** **11 39 20.8 +0.2**
J14K Nanvaranak Lak 32.17 43 P **P** **11 39 20.7 +0.1**
baz=266,SNR=40
J14K S **S** **11 44 00.6 -0.2**
baz=266
M13K Dall Lake 32.18 47 P **P** **11 39 21.9 +1.1**
M13K Dall Lake 32.18 47 P **P** **11 39 22.1 +1.3**
baz=270,SNR=102
M13K S **S** **11 44 03.2 +2.2**
baz=270
ENH Enshi 32.19 251 **P** **11 39 20.9 -0.5**
ENH Enshi 32.19 251 P **P** **11 39 21.7 +0.3**
G15K Niukluk 32.20 38 P **P** **11 39 21.2 +0.3**
baz=262,SNR=107
G15K S **S** **11 44 02.5 +1.3**
baz=262
C16K Lisburne Hills 32.34 32 IAmb IAmb 11 39 23.8
comp=Z,247nm,0.8s
C16K Lisburne Hills 32.34 32 P **P** **11 39 21.3 -0.7**
baz=255,SNR=89
C16K S **S** **11 44 02.1 -1.1**
baz=255
LZH Lanzhou 32.39 265 ⇓P **P** **11 39 24.3 +1.2**
LZH sP sP 11 41 34.4 +2.2
LZH S **S** **11 44 04.6 -0.6**
LZH sS sS 11 46 25.3 -3.5
LZH SS **SS** **11 46 40.4 -7.2**
LZH pmax pmax
comp=Z,330nm,1.2s
LZH pmax pmax
comp=Z,730nm,4.1s
L14K Kuka Creek 32.51 45 IAmb IAmb 11 39 26.6
comp=Z,196nm,1.0s
L14K Kuka Creek 32.51 45 P **P** **11 39 24.6 +0.9**
baz=269
L14K S **S** **11 44 06.8 +0.7**
baz=269
M14K Bethel 32.86 46 **P** **11 39 27.4 +0.8**
M14K Bethel 32.86 46 P **P** **11 39 27.4 +0.8**
baz=270,SNR=154
M14K S **S** **11 44 12.8 +1.4**
baz=270
H16K Elim 32.92 39 P **P** **11 39 27.2 +0.2**
baz=264
H16K S **S** **11 44 12.6 +0.4**
baz=264
G16K Koyuk River 32.95 38 P **P** **11 39 27.4 0.0**
baz=263,SNR=351
G16K S **S** **11 44 12.7 -0.1**
baz=263
N14K Kuskokwak Cree 33.02 48 P **P** **11 39 28.8 +0.8**
baz=272,SNR=42
N14K S **S** **11 44 14.6 +0.7**
baz=272
D17K Noatak River 33.04 33 P **P** **11 39 27.8 -0.2**
baz=259,SNR=365
D17K S **S** **11 44 12.7 -1.3**
baz=259
K15K Wolf Creek Mou 33.08 43 IAmb IAmb 11 39 31.2
comp=Z,141nm,0.8s
K15K Wolf Creek Mou 33.08 43 P **P** **11 39 29.4 +0.9**
baz=268,SNR=171
K15K S **S** **11 44 15.0 +0.1**
baz=268
L15K Ungalak Mounta 33.09 45 P **P** **11 39 29.0 +0.4**
baz=270,SNR=64
L15K S **S** **11 44 14.1 -0.8**
baz=270
C17K DeLong Mountai 33.16 32 P **P** **11 39 29.1 -0.1**
baz=257,SNR=209
C17K S **S** **11 44 14.2 -1.8**
baz=257
RDOG Red Dog Mine 33.17 33 P **P** **11 39 28.7 -0.5**
baz=258,SNR=12
RDOG S **S** **11 44 14.0 -2.1**
baz=258
S12K Black Hills 33.19 56 P **P** **11 39 29.7 +0.2**
baz=278
S12K S **S** **11 44 15.5 -1.1**
baz=278
O14K Tigyukauivet M 33.26 49 IAmb IAmb 11 39 32.9
comp=Z,154nm,0.8s
O14K Tigyukauivet M 33.26 49 P **P** **11 39 31.0 +0.9**
baz=273,SNR=84
O14K S **S** **11 44 17.7 +0.1**
baz=273
E17K Hotham Inlet 33.41 35 P **P** **11 39 31.3 +0.1**
baz=261,SNR=966
E17K S **S** **11 44 18.1 -1.5**
baz=261
GTA Gaotai 33.41 273 P **P** **11 39 32.9 +1.1**
GTA PcP **PcP** **11 42 01.7 +0.8**
GTA S **S** **11 44 20.9 +0.2**
GTA ScP **ScP** **11 45 03.7 +0.8**
GTA ScS **ScS** **11 49 05.0 -0.3**
GTA pmax pmax
comp=Z,61nm,0.9s
GTA pmax pmax
comp=Z,440nm,8.0s
M15K Kasigluk River 33.49 46 P **P** **11 39 32.6 +0.6**
baz=272,SNR=331
M15K S **S** **11 44 21.2 +0.2**
baz=272
I17K Unalakleet 33.53 41 P **P** **11 39 32.7 +0.5**
baz=267,SNR=82
I17K S **S** **11 44 21.4 -0.1**
baz=267
F17K Baldwin Pennin 33.54 36 IAmb IAmb 11 39 33.8
comp=Z,135nm,0.6s
F17K Baldwin Pennin 33.54 36 P **P** **11 39 32.4 +0.1**
baz=262,SNR=123
F17K S **S** **11 44 21.2 -0.4**
baz=262
J16K Anvik River 33.54 42 P **P** **11 39 32.7 +0.3**
baz=268,SNR=42
J16K S **S** **11 44 22.8 +1.0**
baz=268
G17K Kiwalik Mounta 33.67 38 P **P** **11 39 33.8 +0.3**
baz=264,SNR=321
G17K S **S** **11 44 23.9 +0.2**
baz=264
N15K Kwethluk River 33.80 47 **P** **11 39 35.7 +1.0**
N15K Kwethluk River 33.80 47 P **P** **11 39 35.7 +1.0**
baz=273,SNR=317
N15K S **S** **11 44 26.3 +0.4**
baz=273
B18K Kokolik River 33.84 31 P **P** **11 39 35.0 +0.1**
baz=258,SNR=92
B18K S **S** **11 44 24.1 -2.2**
baz=258
C18K Utukok River 33.91 32 P **P** **11 39 35.0 -0.6**
baz=259,SNR=510
C18K S **S** **11 44 24.9 -2.6**
baz=259
E18K Tukpahlearik C 33.93 34 IAmb IAmb 11 39 37.5
comp=Z,170nm,0.7s
E18K Tukpahlearik C 33.93 34 P **P** **11 39 35.7 +0.1**
baz=262,SNR=280
E18K S **S** **11 44 26.5 -1.1**
baz=262
H17K Granite Mounta 33.94 39 P **P** **11 39 36.3 +0.5**
baz=266,SNR=312
H17K S **S** **11 44 28.2 +0.4**
baz=266
O15K Ungalikthiuk R 34.01 49 IAmb IAmb 11 39 39.0
comp=Z,134nm,0.9s
O15K Ungalikthiuk R 34.01 49 P **P** **11 39 37.0 +0.6**
baz=275,SNR=80
O15K S **S** **11 44 28.9 -0.1**
baz=275
L16K Owhat River 34.05 45 IAmb IAmb 11 39 38.9
comp=Z,137nm,0.8s
L16K Owhat River 34.05 45 P **P** **11 39 36.9 +0.2**
baz=271
L16K S **S** **11 44 29.5 0.0**
baz=271
SDPT Sand Point 34.14 56 **P** **11 39 36.4 -1.1**
SDPT IAmb IAmb 11 39 38.2
comp=Z,105nm,0.6s
SDPT **PcP** **11 42 02.6 +0.1**
SDPT Sand Point 34.14 56 P **P** **11 39 38.1 +0.6**
SDPT Sand Point 34.14 56 P **P** **11 39 36.2 -1.3**
baz=280,SNR=18
SDPT S **S** **11 44 28.8 -2.1**
baz=280
F18K Selawik 34.19 36 P **P** **11 39 38.0 +0.1**
baz=264,SNR=425
F18K S **S** **11 44 31.7 +0.1**
baz=264
J17K VABM Dome 34.23 42 IAmb IAmb 11 39 40.9
comp=Z,177nm,0.9s
J17K VABM Dome 34.23 42 P **P** **11 39 38.9 +0.7**
baz=269,SNR=185
J17K S **S** **11 44 32.7 +0.4**
baz=269
A19K Wainwright 34.28 29 P **P** **11 39 38.6 +0.1**
baz=257,SNR=26

A19K S **S** **11 44 30.5 -2.3**
baz=257
M16K **Timber Creek** **34.32 46** P **P** **11 39 39.6 +0.5**
baz=273,SNR=164
M16K S **S** **11 44 33.9 +0.2**
baz=273
N16K **Nishlik Lake** **34.45 47** P **P** **11 39 41.0 +0.8**
baz=274,SNR=259
N16K S **S** **11 44 36.0 +0.4**
baz=274
S14K **Fog Glacier** **34.50 54** P **P** **11 39 40.8 +0.1**
baz=279,SNR=10
S14K S **S** **11 44 36.0 -0.7**
baz=279
G18K **Tagagawik** **34.53 37** P **P** **11 39 40.8 0.0**
baz=266,SNR=1000
G18K S **S** **11 44 36.1 -0.7**
baz=266
C19K **Lookout Ridge** **34.57 31** P **P** **11 39 40.9 -0.2**
C19K IAmb IAmb 11 39 43.4
comp=Z,244nm,1.0s
C19K **Lookout Ridge** **34.57 31** P **P** **11 39 41.0 -0.2**
baz=260,SNR=280
C19K S **S** **11 44 34.8 -2.6**
baz=260
K17K **Iditarod** **34.59 43** P **P** **11 39 42.0 +0.8**
baz=271,SNR=229
K17K S **S** **11 44 38.9 +1.3**
baz=271
L17K **Donlin** **34.60 44** P **P** **11 39 42.3 +1.0**
baz=272,SNR=303
L17K S **S** **11 44 38.9 +1.0**
baz=272
H18K **Honhosa River** **34.60 38** IAmb IAmb 11 39 43.3
comp=Z,243nm,0.8s
H18K **Honhosa River** **34.60 38** P **P** **11 39 41.5 +0.1**
baz=267,SNR=348
H18K S **S** **11 44 37.4 -0.6**
baz=267
CHNA **Chernabura Isl** **34.73 57** P **P** **11 39 42.9 +0.4**
CHNA **Chernabura Isl** **34.73 57** P **P** **11 39 41.8 -0.7**
baz=281,SNR=50
CHNA S **S** **11 44 36.9 -3.1**
baz=281
CNBA **Chernabura Isl** **34.73 57** **P** **11 39 41.6 -0.9**
CNBA **PcP** **11 42 04.2 -0.1**
O16K **Kokwok River B** **34.85 48** **P** **11 39 44.0 +0.5**
O16K IAmb IAmb 11 39 46.1
comp=Z,153nm,1.0s
O16K **Kokwok River B** **34.85 48** P **P** **11 39 44.1 +0.6**
baz=275,SNR=104
O16K S **S** **11 44 42.0 +0.2**
baz=275
MIDW **Midway** **34.91 110** P **P** **11 39 44.0 -0.4**
MIDW IAmb IAmb 11 39 46.1
comp=Z,228nm,1.1s
MIDW **Midway** **34.91 110** P **P** **11 39 44.9 +0.5**
F19K **Shaleruckik Mo** **34.96 35** **P** **11 39 44.1 -0.3**
F19K **Shaleruckik Mo** **34.96 35** P **P** **11 39 44.0 -0.3**
baz=265,SNR=1000
F19K S **S** **11 44 41.0 -2.2**
baz=265
P16K **Nushagak River** **34.96 49** P **P** **11 39 45.6 +1.2**
baz=276,SNR=49
P16K S **S** **11 44 45.0 +1.7**
baz=276
D19K **Kuna River** **35.01 33** P **P** **11 39 44.4 -0.4**
baz=262
D19K S **S** **11 44 41.4 -2.6**
baz=262
M17K **Holitna River** **35.04 45** P **P** **11 39 46.2 +1.1**
baz=273,SNR=390
M17K S **S** **11 44 45.9 +1.4**
baz=273
G19K **Purcell Mounta** **35.19 37** P **P** **11 39 45.7 -0.6**
G19K **Purcell Mounta** **35.19 37** P **P** **11 39 45.8 -0.5**
baz=267,SNR=825
G19K S **S** **11 44 44.8 -1.9**
baz=267
GCSA **Galena City Sc** **35.22 39** P **P** **11 39 46.0 -0.6**
baz=269,SNR=156
GCSA S **S** **11 44 45.1 -2.1**
baz=269
N17K **Nushagak Hills** **35.22 47** IAmb IAmb 11 39 49.4
comp=Z,109nm,0.9s
N17K **Nushagak Hills** **35.22 47** P **P** **11 39 47.3 +0.7**
baz=275,SNR=144
N17K S **S** **11 44 48.5 +1.2**
baz=275
E19K **Redstone River** **35.22 34** P **P** **11 39 46.8 +0.2**
baz=265
E19K S **S** **11 44 45.7 -1.5**
baz=265
J18K **Innoko River** **35.30 41** IAmb IAmb 11 39 49.1
comp=Z,122nm,0.8s
J18K **Innoko River** **35.30 41** P **P** **11 39 47.2 0.0**
baz=271,SNR=195
J18K S **S** **11 44 47.0 -1.4**
baz=271
O17K **Koliganek Bris** **35.34 48** P **P** **11 39 48.6 +1.0**
baz=276,SNR=274
O17K S **S** **11 44 50.6 +1.5**
baz=276
NRIK **Noril'sk** **35.34 329** **P** **11 39 47.3 -0.2**
NRIK **Noril'sk** **35.34 329** P **P** **11 39 47.4 -0.1**
comp=Z,17nm,0.5s,baz=107,slow=9.3,SNR=34
NRIK PcP **PcP** **11 42 06.3 +0.4**
comp=Z,17nm,0.5s,baz=116,slow=3.8,SNR=4.2
NRIK ScP **ScP** **11 45 08.5 -0.6**
comp=Z,7.0nm,0.6s,baz=138,slow=11,SNR=4.3
comp=Z,17nm,0.5s
NRIK **Noril'sk** **35.34 329***c i* P **P** **11 39 47.1 -0.4**
NRIK pmax pmax
comp=Z,26nm,0.7s
L18K **Granite Mounta** **35.35 44** P **P** **11 39 48.6 +0.9**
L18K IAmb IAmb 11 39 50.5
comp=Z,161nm,0.8s
L18K **Granite Mounta** **35.35 44** P **P** **11 39 48.6 +0.9**
baz=273,SNR=228
L18K S **S** **11 44 48.9 -0.3**
baz=273
H19K **Roundabout Mou** **35.42 38** P **P** **11 39 48.5 +0.3**
baz=268,SNR=1000
H19K S **S** **11 44 49.5 -0.6**
baz=268
CD2 **Chengdu** **35.52 257** P **P** **11 39 49.7 +0.1**
CD2 PP **PP** **11 41 21.8 -0.7**
CD2 S **S** **11 44 52.2 -0.4**
CD2 sS sS 11 47 18.1 +0.3
CD2 ScS **ScS** **11 49 17.1 +0.3**
CD2 pmax pmax
comp=Z,120nm,0.6s
CD2 pmax pmax
comp=Z,590nm,4.9s
B20K **Meade River** **35.56 30** P **P** **11 39 49.2 -0.1**
baz=261,SNR=1000
B20K S **S** **11 44 49.2 -2.9**
baz=261
D20K **Etivluk River** **35.58 32** P **P** **11 39 49.3 -0.3**
baz=264
D20K S **S** **11 44 49.9 -2.7**
baz=264
E20K **Nigu River** **35.69 33** P **P** **11 39 50.4 -0.1**
baz=265,SNR=1000
E20K S **S** **11 44 52.2 -2.2**
baz=265
Q16K **King Salmon** **35.69 50** P **P** **11 39 51.3 +0.7**
baz=278,SNR=24
Q16K S **S** **11 44 55.5 +1.1**
baz=278
P17K **Kvichak River** **35.74 49** P **P** **11 39 51.9 +0.9**
baz=277,SNR=68
P17K S **S** **11 44 56.7 +1.6**
baz=277
J19K **Poorman** **35.77 40** IAmb IAmb 11 39 53.0
comp=Z,188nm,0.8s
J19K **Poorman** **35.77 40** P **P** **11 39 51.0 -0.1**
baz=271,SNR=401
J19K S **S** **11 44 53.6 -1.9**
baz=271
F20K **Avaraart Lake** **35.78 35** IAmb IAmb 11 39 53.7
comp=Z,138nm,0.8s
F20K **Avaraart Lake** **35.78 35** P **P** **11 39 50.8 -0.3**
baz=267,SNR=370
F20K S **S** **11 44 53.5 -2.0**
baz=267
M18K **Stony River** **35.80 45** P **P** **11 39 52.4 +0.9**
baz=275,SNR=167
M18K S **S** **11 44 57.4 +1.3**
baz=275
N18K **Kilae Creek** **35.84 46** IAmb IAmb 11 39 54.9
comp=Z,194nm,0.8s
N18K **Kilae Creek** **35.84 46** P **P** **11 39 53.0 +1.1**
baz=276,SNR=164
N18K S **S** **11 44 58.8 +2.0**
baz=276
A21K **Barrow** **35.95 28** P **P** **11 39 52.3 -0.2**
baz=260,SNR=67
A21K S **S** **11 44 55.2 -2.7**
baz=260
R17L **Mt. Peulik Vol** **36.01 51** P **P** **11 39 53.1 -0.1**
baz=280,SNR=16
R17L S **S** **11 44 58.4 -0.9**
baz=280
H20K **Anotleneega Mo** **36.08 38** P **P** **11 39 53.8 +0.1**
baz=270,SNR=1000
H20K S **S** **11 44 59.6 -0.5**
baz=270
Q17K **Contact Creek** **36.15 50** P **P** **11 39 54.8 +0.2**
baz=279,SNR=84
Q17K S **S** **11 45 00.7 -0.9**
baz=279
L19K **White Mountain** **36.21 44** P **P** **11 39 55.2 +0.3**
baz=274,SNR=66
L19K S **S** **11 45 01.7 -0.6**
baz=274
I20K **Naaghedeneel** **36.25 39** P **P** **11 39 55.5 +0.3**
I20K **Naaghedeneel** **36.25 39** P **P** **11 39 55.6 +0.5**
baz=271,SNR=184
I20K S **S** **11 45 03.6 +0.9**
baz=271
O18K **Koktuh Hills** **36.28 47** IAmb IAmb 11 39 58.4
comp=Z,109nm,0.9s
O18K **Koktuh Hills** **36.28 47** P **P** **11 39 56.4 +0.9**
baz=277,SNR=65
O18K S **S** **11 45 05.2 +1.9**
baz=277
C21K **Knifeblade Rid** **36.28 32** P **P** **11 39 55.6 +0.2**
baz=265,SNR=1000
C21K S **S** **11 45 01.1 -2.0**
baz=265
P18K **Big Mountain,** **36.33 48** IAmb IAmb 11 39 59.1
comp=Z,155nm,1.1s
P18K **Big Mountain,** **36.33 48** P **P** **11 39 56.5 +0.6**
baz=278,SNR=99
P18K S **S** **11 45 04.9 +0.8**
baz=278
B21K **Ikpikpuk River** **36.39 31** P **P** **11 39 56.2 +0.1**
baz=264,SNR=944
B21K S **S** **11 45 02.2 -2.4**
baz=264
J20K **Nowinta River** **36.41 40** P **P** **11 39 56.9 +0.4**
baz=272,SNR=705
J20K S **S** **11 45 04.9 -0.2**
baz=272
A22K **Sinclair Lake** **36.43 29** P **P** **11 39 56.4 -0.1**
baz=262,SNR=52
A22K S **S** **11 45 02.8 -2.3**
baz=262
M19K **Big River Lodg** **36.45 44** P **P** **11 39 57.4 +0.6**
baz=275,SNR=46
M19K S **S** **11 45 05.8 0.0**
baz=275
K20K **Telida** **36.49 41** P **P** **11 39 57.5 +0.4**
baz=274,SNR=74
K20K S **S** **11 45 05.8 -0.5**
baz=274
N19K **Bonanza Creek** **36.52 46** IAmb IAmb 11 40 00.3
comp=Z,108nm,0.8s
N19K **Bonanza Creek** **36.52 46** P **P** **11 39 58.5 +0.9**
baz=277,SNR=66
N19K S **S** **11 45 08.6 +1.6**
baz=277
E21K **Killik River** **36.52 33** P **P** **11 39 57.1 -0.3**
baz=267
E21K S **S** **11 45 03.6 -3.2**
baz=267
IMAR **Indian Mountai** **36.54 37** P **P** **11 39 57.3 -0.3**
Q18K **Katmai Hardscr** **36.55 49** P **P** **11 39 58.1 +0.2**
baz=279,SNR=145
Q18K S **S** **11 45 06.8 -0.8**
baz=279
GYA **Guiyang** **36.61 249** P **P** **11 39 58.9 +0.1**
GYA pP pP 11 41 21.8 +3.0
GYA PP **PP** **11 41 35.0 +0.7**
GYA PcP **PcP** **11 42 11.5 +0.9**
GYA S **S** **11 45 05.9 -3.4**
GYA pmax pmax
comp=Z,53nm,0.7s
GYA pmax pmax
comp=Z,310nm,5.2s
L20K **Farewell, AK** **36.64 43** P **P** **11 39 58.9 +0.4**
baz=275,SNR=90
L20K S **S** **11 45 08.4 -0.3**
baz=275
G21K **Allakaket** **36.64 36** P **P** **11 39 58.8 +0.4**
baz=270
G21K S **S** **11 45 08.1 -0.4**
baz=270
F21K **Alatna River** **36.66 35** P **P** **11 39 58.3 -0.3**
baz=269,SNR=786
F21K S **S** **11 45 07.9 -0.9**
baz=269
O19K **Port Alsworth** **36.67 47** P **P** **11 39 59.3 +0.6**
baz=278,SNR=10
O19K S **S** **11 45 10.4 +1.3**
baz=278
B22K **Teshekpuk Lake** **36.86 30** P **P** **11 39 59.9 -0.3**
baz=265,SNR=124
B22K S **S** **11 45 09.9 -1.8**
baz=265
H21K **Melozitna Rive** **36.94 38** P **P** **11 40 00.8 -0.1**
baz=272,SNR=743
H21K S **S** **11 45 12.0 -0.9**
baz=272
D22K **Ayikyak River** **37.02 32** P **P** **11 40 01.6 +0.1**
baz=267,SNR=588
D22K S **S** **11 45 11.8 -2.4**
baz=267
R18K **Karluk** **37.03 51** S **S** **11 45 11.7 -2.8**
baz=281
M20K **Styx River** **37.05 44** IAmb IAmb 11 40 04.9
comp=Z,167nm,0.9s
M20K **Styx River** **37.05 44** P **P** **11 40 03.0 +1.1**
baz=276,SNR=177
M20K S **S** **11 45 16.5 +1.7**
baz=276
F22K **John River** **37.17 34** P **P** **11 40 03.0 +0.2**
baz=270
F22K S **S** **11 45 14.9 -1.5**
baz=270
Q19K **Cape Douglas,** **37.20 49** P **P** **11 40 03.2 0.0**
baz=280,SNR=62
Q19K S **S** **11 45 17.1 -0.1**
baz=280
CHUM **Lake Minchumin** **37.23 41** P **P** **11 40 04.1 +0.8**
baz=274,SNR=35
CHUM S **S** **11 45 18.0 +0.6**
baz=274
P19K **Oil Pt** **37.30 48** IAmb IAmb 11 40 06.3
comp=Z,136nm,0.9s
P19K **Oil Pt** **37.30 48** P **P** **11 40 04.3 +0.4**
baz=279,SNR=25
P19K S **S** **11 45 17.9 -0.6**
baz=279
I21K **Tanana** **37.30 38** IAmb IAmb 11 40 06.7
comp=Z,179nm,1.0s
I21K **Tanana** **37.30 38** P **P** **11 40 04.1 +0.3**
baz=273
I21K S **S** **11 45 18.5 +0.1**
baz=273
E22K **Anaktuvuk Pass** **37.31 33** **P** **11 40 03.9 -0.1**
E22K **Anaktuvuk Pass** **37.31 33** P **P** **11 40 04.0 -0.1**
baz=269,SNR=1000
E22K S **S** **11 45 15.8 -2.8**
baz=269
CAST **Castle Rocks** **37.38 41** P **P** **11 40 05.1 +0.6**
baz=275,SNR=436
CAST S **S** **11 45 19.9 +0.3**
baz=275
SII **Sitkinak Islan** **37.38 53** IAmb IAmb 11 40 06.3
comp=Z,160nm,1.4s
SII **Sitkinak Islan** **37.38 53** P **P** **11 40 04.5 -0.1**
baz=282
SII S **S** **11 45 19.3 -0.5**
baz=282
PPLA **Purkeypile** **37.38 42** P **P** **11 40 05.7 +1.0**
baz=276,SNR=62
PPLA S **S** **11 45 20.5 +0.6**
baz=276
RED **Redoubt Volcan** **37.41 46** IAmb IAmb 11 40 07.8
comp=Z,165nm,0.9s
G22K **Bettles** **37.43 35** P **P** **11 40 04.6 -0.3**
baz=271
G22K S **S** **11 45 18.1 -2.2**
baz=271
H22K **Ishtalitna Cre** **37.52 37** P **P** **11 40 06.0 +0.4**
baz=272,SNR=675
H22K S **S** **11 45 21.2 -0.4**
baz=272
O20K **Slope Mountain** **37.53 47** P **P** **11 40 06.1 +0.2**
baz=279,SNR=12
O20K S **S** **11 45 22.1 +0.1**
baz=279
N20K **Mount Spurr** **37.57 45** P **P** **11 40 07.1 +0.9**
baz=278
N20K S **S** **11 45 24.3 +1.7**
baz=278
SPCR **Spurr Chakacha** **37.57 45** P **P** **11 40 07.0 +0.8**
baz=278,SNR=26
SPCR S **S** **11 45 24.4 +1.8**
baz=278
SPU **Mount Spurr** **37.65 45** IAmb IAmb 11 40 09.6
comp=Z,104nm,0.8s
ZAA0 **Zalesovo Array** **37.68 303** P **P** **11 40 06.8 -0.3**
ZALV **Zalesovo Beam** **37.68 303** P **P** **11 40 06.7 -0.5**
ZALV **Zalesovo Beam** **37.68 303** P **P** **11 40 06.8 -0.3**
comp=Z,34nm,0.5s,baz=66,slow=6.7,SNR=95
ZALV PcP **PcP** **11 42 13.1 -0.2**
comp=Z,50nm,0.7s,baz=52,slow=2.4,SNR=29
ZALV ScP **ScP** **11 45 17.9 -0.3**
comp=Z,12nm,0.8s,baz=72,slow=4.8,SNR=6.7
ZALV P3KPbc 12 10 13.4
comp=Z,0.4nm,0.4s,baz=251,slow=4.5,SNR=3.8
comp=Z,34nm,0.5s
OHAK **Old Harbor** **37.72 52** **P** **11 40 07.1 -0.3**
OHAK IAmb IAmb 11 40 09.6
comp=Z,91nm,0.8s
OHAK **PcP** **11 42 13.7 +0.4**
OHAK **Old Harbor** **37.72 52** P **P** **11 40 07.7 +0.4**
OHAK **Old Harbor** **37.72 52** P **P** **11 40 07.1 -0.3**
baz=282,SNR=26
OHAK S **S** **11 45 22.6 -2.1**
baz=282
D23K **Nanushuk River** **37.74 32** IAmb IAmb 11 40 09.5
comp=Z,240nm,0.9s
D23K **Nanushuk River** **37.74 32** P **P** **11 40 07.6 +0.1**
baz=269,SNR=259
D23K S **S** **11 45 23.1 -1.9**
baz=269
SKT **Skwentna** **37.79 44** P **P** **11 40 07.9 -0.1**
baz=277,SNR=37
SKT S **S** **11 45 24.5 -1.3**
baz=277
C23K **Itkillik River** **37.79 31** P **P** **11 40 07.8 -0.1**
baz=268,SNR=419
C23K S **S** **11 45 23.4 -2.1**
baz=268
BPAW **Bear Paw Mtn.** **37.80 40** IAmb IAmb 11 40 10.2
comp=Z,119nm,0.8s
BPAW **Bear Paw Mtn.** **37.80 40** P **P** **11 40 08.2 +0.2**
baz=275,SNR=38
BPAW S **S** **11 45 25.4 -0.5**
baz=275
MLY **Manley** **37.83 39** IAmb IAmb 11 40 11.1
comp=Z,138nm,1.0s
MLY **Manley** **37.83 39** P **P** **11 40 08.6 +0.3**
baz=274,SNR=143
MLY S **S** **11 45 25.9 -0.5**
baz=274
KTH **Kantishna Hill** **37.88 41** IAmb IAmb 11 40 11.3
comp=Z,264nm,0.9s
Q20K **Shuyak Island** **37.90 49** P **P** **11 40 08.5 -0.3**
baz=281,SNR=26
Q20K S **S** **11 45 24.0 -3.5**
baz=281
SYI **Shuyak Island** **37.91 49** IAmb IAmb 11 40 10.3
comp=Z,425nm,1.6s
COLD **Coldfoot** **37.94 35** P **P** **11 40 09.0 -0.1**
baz=272,SNR=922
COLD S **S** **11 45 25.6 -2.3**
baz=272
KDAK **Kodiak Island** **37.97 50** **P** **11 40 08.9 -0.5**
KDAK IAmb IAmb 11 40 11.4
comp=Z,132nm,0.6s
KDAK **Kodiak Island** **37.97 50** P **P** **11 40 09.0 -0.5**
comp=Z,124nm,0.5s,baz=61,slow=1.6,SNR=454
KDAK PcP **PcP** **11 42 15.0 +0.8**
comp=Z,43nm,0.8s,baz=262,slow=8.3,SNR=7.7
KDAK ScP **ScP** **11 45 19.8 +0.6**
comp=Z,46nm,1.0s,baz=42,slow=1.1,SNR=8.7
comp=Z,124nm,0.5s
KDAK **Kodiak Island** **37.97 50** P **P** **11 40 09.0 -0.4**
KDAK 11 42 15.0
KDAK **Kodiak Island** **37.97 50** P **P** **11 40 09.0 -0.4**
baz=282
KDAK S **S** **11 45 25.8 -2.7**
baz=282
KDAK **Kodiak Island** **37.97 50** P **P** **11 40 09.1 -0.3**
KDAK PcP **PcP** **11 42 14.9 +0.8**
KDAK ScP **ScP** **11 45 19.6 +0.4**
G23K **Bananza Creek** **38.03 36** **P** **11 40 09.6 -0.2**
G23K **Bananza Creek** **38.03 36** P **P** **11 40 09.7 -0.2**
baz=273,SNR=768
G23K S **S** **11 45 28.2 -1.1**
baz=273
HOM **Homer** **38.09 47** IAmb IAmb 11 40 18.2
comp=Z,146nm,1.1s
HOM **Homer** **38.09 47** P **P** **11 40 10.1 -0.3**
baz=280
HOM S **S** **11 45 27.9 -2.3**
baz=280
E23K **Chandalar** **38.14 34** **P** **11 40 10.9 +0.1**
E23K **Chandalar** **38.14 34** P **P** **11 40 10.9 +0.1**
baz=271,SNR=838
E23K S **S** **11 45 29.4 -1.6**
baz=271
TOLK **Toolik Lake Re** **38.15 33** IAmb IAmb 11 40 12.0
comp=Z,170nm,0.8s
TOLK **Toolik Lake Re** **38.15 33** P **P** **11 40 10.7 -0.2**
baz=270,SNR=258
TOLK S **S** **11 45 29.0 -2.0**
baz=270
TRF **Thorofare Moun** **38.17 41** IAmb IAmb 11 40 13.1
comp=Z,359nm,1.9s
TRF **Thorofare Moun** **38.17 41** P **P** **11 40 11.3 +0.1**
baz=277,SNR=65
TRF S **S** **11 45 30.5 -1.3**
baz=277
H23K **Yukon River** **38.27 37** P **P** **11 40 12.4 +0.6**
baz=274,SNR=626
H23K S **S** **11 45 33.1 +0.2**
baz=274
CUT **Chulitna** **38.32 43** IAmb IAmb 11 40 13.8
comp=Z,248nm,1.1s
CUT **Chulitna** **38.32 43** P **P** **11 40 11.8 -0.4**
baz=278,SNR=19
CUT S **S** **11 45 30.8 -2.7**
baz=278
CNPM **China Poot** **38.32 47** IAmb IAmb 11 40 14.2
comp=Z,201nm,0.9s
I23K **Minto, Yukon-K** **38.41 38** IAmb IAmb 11 40 15.1
comp=Z,201nm,0.8s
I23K **Minto, Yukon-K** **38.41 38** P **P** **11 40 13.2 +0.3**
baz=275,SNR=380
I23K S **S** **11 45 34.2 -0.6**
baz=275
D24K **Happy Valley** **38.41 32** P **P** **11 40 12.8 -0.1**
baz=271,SNR=822
D24K S **S** **11 45 32.4 -2.4**
baz=271
BRLK **Bradley Lake** **38.45 47** P **P** **11 40 13.1 -0.3**
BRLK IAmb IAmb 11 40 15.2
comp=Z,164nm,0.9s
BRLK **PcP** **11 42 16.1 +0.4**
GOMU **GeErMu** **38.45 272** P **P** **11 40 14.5 +0.3**
GOMU S **S** **11 45 33.9 -3.1**
GOMU SS **SS** **11 48 35.7 -13**
GOMU pmax pmax
comp=Z,90nm,0.6s
C24K **Franklin Bluff** **38.45 31** P **P** **11 40 12.8 -0.4**
baz=270
C24K S **S** **11 45 33.0 -2.4**
baz=270

M22K Willow 38.48 44 P P 11 40 12.6 -1.0
baz=279,SNR=14
M22K S S 11 45 33.7 -2.2
baz=279
E24K Your Creek 38.56 34 P P 11 40 14.3 +0.1
E24K Your Creek 38.56 34 P P 11 40 14.3 +0.1
baz=272,SNR=561
E24K S S 11 45 35.5 -1.7
baz=272
NEA2 Nenana 38.58 39 P P 11 40 14.5 +0.1
baz=276,SNR=512
NEA2 S S 11 45 36.2 -1.3
baz=276
SLKM Skilak Lake 38.64 46 IAmb IAmb 11 40 16.3
comp=Z,153nm,1.2s
MCK McKinley 38.74 41 IAmb IAmb 11 40 17.6
comp=Z,112nm,0.8s
MCK McKinley 38.74 41 P P 11 40 15.6 -0.2
baz=277,SNR=63
MCK S S 11 45 37.3 -2.6
baz=277
RC01 Rabbit Creek A 38.77 45 IAmb IAmb 11 40 18.2
comp=Z,91nm,0.6s
RC01 Rabbit Creek A 38.77 45 P P 11 40 15.7 -0.3
baz=280,SNR=18
RC01 S S 11 45 37.3 -3.0
baz=280
F24K Squaw Lake 38.82 34 P P 11 40 16.3 -0.1
baz=274,SNR=801
F24K S S 11 45 39.7 -1.3
baz=274
RND Reindeer 38.82 41 IAmb IAmb 11 40 18.3
comp=Z,108nm,0.6s
O22K Cooper Landing 38.89 46 P P 11 40 16.3 -0.6
baz=281,SNR=30
H24K Noodor Dome 38.96 37 P P 11 40 18.1 +0.6
baz=276,SNR=615
H24K S S 11 45 43.2 +0.1
baz=276
PMR Palmer 38.97 44 P P 11 40 17.9 +0.3
PMR Palmer 38.97 44 P P 11 40 17.0 -0.6
baz=280,SNR=54
PMR S S 11 45 40.5 -2.6
baz=280
WRH Wood River Hil 39.02 39 IAmb IAmb 11 40 20.4
comp=Z,191nm,0.9s
G24K Hadweenzic Riv 39.04 36 P P 11 40 18.5 +0.4
baz=275,SNR=755
G24K S S 11 45 43.7 -0.4
baz=275
GHO Glory Hole Cre 39.04 44 P P 11 40 17.8 -0.4
WAT1 Susitna Watana 39.04 42 P P 11 40 17.5 -0.7
baz=279
WAT1 S S 11 45 40.3 -4.0
baz=279
COLA College 39.07 39 P P 11 40 18.6 +0.3
COLA College 39.07 39 P P 11 40 18.7 +0.3
COLA College 39.07 39*c* *i*P P 11 40 18.4 +0.1
COLA pmax pmax
comp=Z,453nm,0.8s
COLA College 39.07 39 P P 11 40 18.6 +0.3
baz=277
COLA S S 11 45 42.9 -1.7
baz=277
COLA College 39.07 39 ⇑P P 11 40 18.5 +0.1
SEW Seward 39.09 46 P P 11 40 18.1 -0.5
SEW IAmb IAmb 11 40 20.1
comp=Z,200nm,0.9s
SEW Seward 39.09 46 P P 11 40 18.1 -0.5
baz=281,SNR=66
SEW S S 11 45 42.0 -2.9
baz=281
POKR Poker Plat Res 39.22 38 IAmb IAmb 11 40 22.7
comp=Z,183nm,0.9s
POKR Poker Plat Res 39.22 38 P P 11 40 20.0 +0.4
baz=277,SNR=74
POKR S S 11 45 45.7 -1.1
baz=277
D25K Kavik River 39.28 31 P P 11 40 19.8 -0.2
baz=273,SNR=576
D25K S S 11 45 44.5 -3.3
baz=273
KNK Knik Glacier 39.32 44 P P 11 40 20.5 0.0
baz=280,SNR=39
KNK S S 11 45 46.4 -2.0
baz=280
WAT6 Susitna Watana 39.45 42 P P 11 40 21.1 -0.6
baz=280,SNR=86
WAT6 S S 11 45 47.5 -3.1
baz=280
PWL Port Wells 39.48 45 IAmb IAmb 11 40 23.9
comp=Z,74nm,0.5s
PWL Port Wells 39.48 45 P P 11 40 21.1 -0.7
baz=281,SNR=46
PWL S S 11 45 47.8 -3.1
baz=281
WMQ Urumqi 39.49 287 *e*P P 11 40 24.2 +2.0
ILAR Eielson Array 39.49 39 P P 11 40 21.0 -0.8
ILAR Eielson Array 39.49 39 P P 11 40 21.6 -0.2
comp=Z,208nm,0.8s,baz=273,slow=6.5,SNR=669
ILAR S S 11 45 49.0 -1.9
comp=Z,11nm,1.2s,baz=268,slow=12,SNR=8.2
ILAR P3KPbc 12 10 06.9
comp=Z,0.3nm,0.8s,baz=98,slow=2.7,SNR=4.2
comp=Z,208nm,0.8s
HDA Harding Lake 39.52 39 P P 11 40 21.1 -0.8
HDA IAmb IAmb 11 40 25.2
comp=Z,104nm,0.6s
HDA Harding Lake 39.52 39 P P 11 40 21.2 -0.8
baz=278,SNR=119
HDA S S 11 45 47.9 -3.4
baz=278
DHY Denali Highway 39.53 41 IAmb IAmb 11 40 23.7
comp=Z,269nm,1.0s
DHY Denali Highway 39.53 41 P P 11 40 21.9 -0.4
baz=279,SNR=295
DHY S S 11 45 48.7 -3.1
baz=279
G25K Bearman Lake 39.58 36 P P 11 40 22.9 +0.5
baz=276,SNR=288
G25K S S 11 45 51.8 -0.2
baz=276
M23K Glacier View 39.59 43 P P 11 40 22.6 -0.1
baz=281,SNR=31
M23K S S 11 45 51.0 -1.4
baz=281
E25K Arctic Village 39.65 33 IAmb IAmb 11 40 26.4
comp=Z,96nm,0.8s
E25K Arctic Village 39.65 33 P P 11 40 23.4 +0.3
baz=275,SNR=289
E25K S S 11 45 52.4 -0.8
baz=275
F25K Christian Rive 39.67 34 IAmb IAmb 11 40 26.4
comp=Z,159nm,0.8s
F25K Christian Rive 39.67 34 P P 11 40 23.8 +0.5
baz=275,SNR=359
F25K S S 11 45 53.5 -0.1
baz=275
H25L Birch Creek 39.74 36 P P 11 40 24.5 +0.7
baz=277,SNR=486
H25L S S 11 45 55.5 +1.1
baz=277
PZH PanZhiHua 39.75 254 ⇓P P 11 40 24.5 -0.1
PZH PP **PP** 11 42 07.0 -0.7
PZH sP **sP** 11 42 37.4 +1.9
PZH S S 11 45 53.9 -1.9
PZH pmax pmax
comp=Z,110nm,0.6s
PZH pmax pmax
comp=Z,320nm,8.1s
C26K Camden Bay 39.76 31 P P 11 40 24.2 +0.4
baz=273,SNR=8.0
C26K S S 11 45 53.1 -1.5
baz=273
SCM Sheep Creek Mo 39.77 43 IAmb IAmb 11 40 27.4
comp=Z,122nm,0.8s
SCM Sheep Creek Mo 39.77 43 P P 11 40 24.3 +0.1
baz=281,SNR=88
SCM S S 11 45 53.8 -1.4
baz=281
ZSN Zaisan 39.79 293 *e*P P 11 40 25.0 +0.5
ZSN *e*S S 11 45 57.2 +1.4
ZSN Zaisan 39.79 293 *e*P P 11 40 24.1 -0.4
ZSN *e*S S 11 45 57.2 +1.4
PRP Porcupine Dome 39.96 37 P P 11 40 25.8 0.0
baz=278,SNR=646
PRP S S 11 45 56.9 -1.1
baz=278
KMI Kunming 40.06 251 ⇓P P 11 40 27.6 +0.4
KMI pP pwP 11 41 52.0 +1.4
KMI PP **PP** 11 42 10.8 -0.3
KMI PcP **PcP** 11 42 22.4 +0.7
KMI S S 11 45 53.3 -7.3
KMI sS sS 11 48 29.2 +0.8
KMI SS SS 11 49 06.7 -13
KMI pmax pmax
comp=Z,43nm,0.7s
KMI pmax pmax
comp=Z,340nm,4.2s
GLI Glacier Island 40.08 45 IAmb IAmb 11 40 28.1
comp=Z,89nm,0.8s
GLI Glacier Island 40.08 45 P P 11 40 26.1 -0.5
baz=282,SNR=28
GLI S S 11 45 58.1 -1.4
baz=282
BMAR Burnt Mountain 40.09 34 P 11 40 27.1 +0.5
P23K Montague Islan 40.12 46 P 11 40 27.0 +0.1
P23K IAmb IAmb 11 40 29.4
comp=Z,257nm,0.9s
P23K Montague Islan 40.12 46 P P 11 40 27.0 +0.1
baz=283,SNR=48
P23K S S 11 46 00.0 -0.1
baz=283
K24K Donnelly Dome 40.12 40 P P 11 40 26.3 -0.7
baz=280,SNR=185
K24K S S 11 45 56.8 -3.3
baz=280
J25K Salcha River, 40.16 39 P P 11 40 25.8 -1.5
J25K Salcha River, 40.16 39 P P 11 40 25.6 -1.7
baz=279,SNR=105
J25K S S 11 45 57.2 -3.6
baz=279
C27K Jago River 40.20 31 P P 11 40 27.6 +0.2
C27K Jago River 40.20 31 P P 11 40 27.7 +0.2
baz=275,SNR=439
C27K S S 11 45 58.7 -2.4
baz=275
F26K Sheenjek River 40.23 34 P P 11 40 28.5 +0.7
baz=277,SNR=700
F26K S S 11 46 02.1 +0.4
baz=277
M24K Tolsona, Glenn 40.26 43 IAmb IAmb 11 40 31.2
comp=Z,139nm,0.8s
M24K Tolsona, Glenn 40.26 43 P P 11 40 28.6 +0.6
baz=282,SNR=48
M24K S S 11 46 02.6 +0.4
baz=282
QIZ Qiongzhong 40.26 238 P P 11 40 29.6 +1.0
QIZ S S 11 46 05.9 +2.7
QIZ sS **sS** 11 48 31.5 +0.3
QIZ pmax pmax
comp=Z,74nm,2.4s
QIZ pmax pmax
comp=Z,1μm,3.5s
FID Port Fidalgo 40.40 45 IAmb IAmb 11 40 31.6
comp=Z,203nm,1.4s
PAX Paxson 40.41 41 P P 11 40 28.6 -0.7
baz=281,SNR=50
PAX S S 11 46 01.8 -2.7
baz=281
G26K Porcupine Rive 40.46 35 P P 11 40 30.3 +0.7
baz=278,SNR=733
G26K S S 11 46 05.3 +0.3
baz=278
HIN Hinchinbrook I 40.47 45 IAmb IAmb 11 40 31.9
comp=Z,110nm,0.8s
KLU Klutina 40.50 44 P P 11 40 30.3 +0.2
KLU IAmb IAmb 11 40 32.7
comp=Z,214nm,0.8s
KLU Klutina 40.50 44 P P 11 40 30.3 +0.2
baz=282,SNR=160
KLU S S 11 46 05.7 -0.1
baz=282
RIDG Independent Ri 40.54 40 IAmb IAmb 11 40 32.0
comp=Z,130nm,0.7s
RIDG Independent Ri 40.54 40 P P 11 40 29.3 -1.0
baz=281,SNR=142
RIDG S S 11 46 03.0 -3.3
baz=281
DIV Divide 40.65 44 IAmb IAmb 11 40 34.0
comp=Z,140nm,0.6s
HARP HAARP 40.66 42 P P 11 40 32.1 +0.8
baz=282,SNR=87
HARP S S 11 46 07.7 -0.4
baz=282
Q23K Middleton Isla 40.77 47 IAmb IAmb 11 40 35.4
comp=Z,251nm,0.9s
Q23K Middleton Isla 40.77 47 P P 11 40 32.6 +0.5
baz=284,SNR=9.0
Q23K S S 11 46 11.3 +1.7
baz=284
Q23K S S 11 46 11.3 +1.7
baz=284
EYAK Cordova Ski Ar 40.79 45 IAmb IAmb 11 40 35.3
comp=Z,168nm,0.8s
EYAK Cordova Ski Ar 40.79 45 P P 11 40 33.2 +0.9
EYAK Cordova Ski Ar 40.79 45 P P 11 40 32.9 +0.6
baz=284,SNR=65
EYAK S S 11 46 10.6 +0.7
baz=284
SCRK Sand Creek 40.87 40 IAmb IAmb 11 40 34.1
comp=Z,226nm,0.8s
SCRK Sand Creek 40.87 40 P P 11 40 32.3 -0.8
baz=281,SNR=448
SCRK S S 11 46 07.9 -3.4
baz=281
DOT Dot Lake 40.90 40 P P 11 40 32.2 -1.0
DOT IAmb IAmb 11 40 34.6
comp=Z,64nm,0.5s
J26L Joseph Creek 40.95 39 P P 11 40 32.0 -1.6
baz=281,SNR=120
J26L S S 11 46 09.1 -3.3
baz=281
I26K Coal Creek Min 40.97 37 P P 11 40 32.5 -1.2
baz=280
I26K S S 11 46 11.3 -1.2
baz=280
N25K Chitina, Valde 41.09 43 P P 11 40 35.2 +0.3
N25K Chitina, Valde 41.09 43 P P 11 40 35.4 +0.6
baz=283,SNR=61
N25K S S 11 46 14.7 +0.2
baz=283
E27K Coleen River 41.12 33 IAmb IAmb 11 40 38.2
comp=Z,100nm,0.8s
E27K Coleen River 41.12 33 P P 11 40 35.0 +0.1
baz=278,SNR=141
E27K S S 11 46 13.5 -1.2
baz=278
MENT Mentasta 41.20 41 P P 11 40 36.4 +0.8
D27M Malcolm River 41.20 31 IAmb IAmb 11 40 37.4
comp=Z,99nm,0.8s
D27M Malcolm River 41.20 31 P P 11 40 35.5 -0.1
baz=278,SNR=100
D27M S S 11 46 13.5 -2.4
baz=278
BMRM Bremner River 41.24 44 P P 11 40 36.4 +0.4
BMRM IAmb IAmb 11 40 38.9
comp=Z,117nm,1.0s
BMRM Bremner River 41.24 44 P P 11 40 36.5 +0.5
baz=284,SNR=45
BMRM S S 11 46 17.3 +0.7
baz=284
G27K Doyon Strip 41.32 35 P P 11 40 37.0 +0.5
G27K IAmb IAmb 11 40 40.4
comp=Z,110nm,0.8s
G27K Doyon Strip 41.32 35 P P 11 40 37.0 +0.5
baz=280,SNR=300
G27K S S 11 46 18.5 +1.0
baz=280
L26K Log Cabin Wild 41.34 41 IAmb IAmb 11 40 39.7
comp=Z,115nm,1.1s
L26K Log Cabin Wild 41.34 41 P P 11 40 37.1 +0.3
baz=283,SNR=48
L26K S S 11 46 17.7 -0.3
baz=283
RAGM Ragged Mountai 41.35 45 IAmb IAmb 11 40 40.4
comp=Z,200nm,1.2s
H27K Steamboat Moun 41.47 36 IAmb IAmb 11 40 40.5
comp=Z,150nm,0.8s
H27K Steamboat Moun 41.47 36 P P 11 40 38.5 +0.8
baz=280,SNR=293
H27K S S 11 46 19.2 -0.6
baz=280
I27K Kandik River 41.55 37 P P 11 40 38.4 -0.1
baz=281,SNR=303
I27K S S 11 46 21.8 +0.8
baz=281
KAIM Kayak Island 41.59 46 IAmb IAmb 11 40 43.9
comp=Z,122nm,0.9s
KAIM Kayak Island 41.59 46 P P 11 40 38.4 -0.3
baz=285,SNR=15
M26K Nabesna, AK 41.64 42 IAmb IAmb 11 40 42.6
comp=Z,186nm,1.0s
M26K Nabesna, AK 41.64 42 P P 11 40 40.1 +0.9
baz=284,SNR=183
M26K S S 11 46 23.1 +0.7
baz=284
MK31 Makanchi Array 41.67 293 *i* P P 11 40 39.6 0.0
MK31 pmax pmax
comp=Z,47nm,0.6s
MKAR Makanchi Array 41.67 293 P 11 40 39.6 0.0
MKAR Makanchi Array 41.67 293 P P 11 40 39.8 +0.2
comp=Z,41nm,0.6s,baz=70,slow=7.6,SNR=307
MKAR PcP PcP 11 42 26.8 +0.4
comp=Z,7.3nm,0.3s,baz=70,slow=6.2,SNR=11
MKAR ScP ScP 11 45 34.2 +0.2
comp=Z,3.1nm,0.6s,baz=31,slow=3.4,SNR=3.0
MKAR S S 11 46 22.1 -1.1
comp=Z,9.5nm,1.0s,baz=72,slow=15,SNR=9.2
MKAR ScS ScS 11 49 52.0 -0.5
comp=Z,1.0nm,0.9s,baz=69,slow=7.9,SNR=2.2
MKAR P3KPbc 12 09 57.7
comp=Z,0.7nm,0.7s,baz=250,slow=3.5,SNR=7.2
comp=Z,41nm,0.6s
K27K Chicken 41.68 39 IAmb IAmb 11 40 41.6
comp=Z,302nm,1.1s
K27K Chicken 41.68 39 P P 11 40 39.7 +0.3
baz=282
K27K S S 11 46 21.5 -1.3
baz=282
VRDI Verde Repeater 41.72 44 P 11 40 40.5 +0.6
VRDI IAmb IAmb 11 40 42.4
comp=Z,141nm,1.1s
E28M Babbage River 41.81 32 IAmb IAmb 11 40 42.3
comp=Z,172nm,0.8s
E28M Babbage River 41.81 32 P P 11 40 40.5 +0.1
baz=280,SNR=203
E28M S S 11 46 23.2 -1.4
baz=280
BERG Berg Lake 41.81 45 P P 11 40 41.2 +0.7
BERG IAmb IAmb 11 40 44.0
comp=Z,170nm,0.9s
MAKZ Makanchi 41.86 293 P 11 40 41.3 +0.2
MAKZ Makanchi 41.86 293 P P 11 40 41.3 +0.2
MAKZ Makanchi 41.86 293 P P 11 40 41.3 +0.2
MAKZ PcP PcP 11 42 26.7 -0.4
F28M Old Crow 41.86 34 IAmb IAmb 11 40 43.2
comp=Z,161nm,0.9s
F28M Old Crow 41.86 34 P P 11 40 41.2 +0.5
baz=280,SNR=231
F28M S S 11 46 25.9 +0.5
baz=280
MCARA McCarthy VSAT 41.88 43 P P 11 40 42.0 +1.0
MCARA IAmb IAmb 11 40 44.5
comp=Z,148nm,0.7s
MCARA McCarthy VSAT 41.88 43 P P 11 40 42.1 +1.0
baz=285,SNR=45
MCARA S S 11 46 27.0 +1.2
baz=285
D28M Stokes Point 41.98 31 P P 11 40 41.7 +0.1
baz=279,SNR=7.9
CRQM Cirque 41.99 44 IAmb IAmb 11 40 45.4
comp=Z,236nm,0.9s
L27K Beaver Creek, 42.01 41 IAmb IAmb 11 40 45.4
comp=Z,211nm,1.0s
L27K Beaver Creek, 42.01 41 P P 11 40 42.9 +0.8
baz=284,SNR=497
L27K S S 11 46 28.5 +0.9
baz=284
CRQE Cirque 42.01 44 P P 11 40 42.8 +0.6
baz=285,SNR=54
CRQE S S 11 46 29.1 +1.2
baz=285
BCAR Beaver Creek A 42.03 41 P P 11 40 43.0 +0.7
SLVN Son La 42.05 246 P 11 40 43.7 +0.7
SLVN Son La 42.05 246 P P 11 40 44.1 +1.1
BGLC Bering Glacier 42.09 45 P P 11 40 43.9 +1.3
baz=286
TGL Tana Glacier 42.13 44 P P 11 40 43.5 +0.3
TGL IAmb IAmb 11 40 45.7
comp=Z,179nm,1.1s
M27K Edge Creek, AK 42.16 42 P P 11 40 44.1 +0.7
M27K IAmb IAmb 11 40 46.2
comp=Z,190nm,1.0s
M27K Edge Creek, AK 42.16 42 P P 11 40 44.3 +0.9
baz=284,SNR=204
M27K S S 11 46 29.5 -0.6
baz=284
WAX Waxell Ridge 42.21 45 IAmb IAmb 11 40 47.2
comp=Z,259nm,1.4s
I28M Miner Creek 42.27 37 P P 11 40 44.8 +0.6
baz=283,SNR=719
I28M S S 11 46 32.0 +0.6
baz=283
KURK Kurchatov 42.33 300 P 11 40 44.6 -0.1
KURK IAmb IAmb 11 40 45.3
comp=Z,62nm,0.6s
KURK Kurchatov 42.33 300*c* *e*P P 11 40 44.6 -0.1
KURK pmax pmax
comp=Z,53nm,0.6s
KURK Kurchatov 42.33 300 *e*P P 11 40 44.6 -0.1
KURK Kurchatov 42.33 300 P P 11 40 44.7 -0.1
KURK PcP PcP 11 42 28.7 +0.2
KURBB Kurchatov Arra 42.41 300 P P 11 40 45.4 0.0
comp=Z,53nm,0.5s,baz=70,slow=8.8,SNR=203
KURBB pP **pP** 11 42 09.3 +0.9
comp=Z,4.2nm,0.6s,baz=74,slow=8.7,SNR=2.2
KURBB PcP PcP 11 42 28.9 +0.1
comp=Z,52nm,0.7s,baz=73,slow=3.3,SNR=25
KURBB ScP ScP 11 45 36.0 -0.9
comp=Z,8.4nm,0.9s,baz=70,slow=3.3,SNR=7.2
KURBB S S 11 46 32.5 -1.3
comp=Z,8.1nm,0.9s,baz=73,slow=15,SNR=12
KURBB ScS ScS 11 49 55.8 -1.0
comp=Z,2.1nm,0.8s,baz=79,slow=6.1,SNR=4.6
comp=Z,53nm,0.5s
KURBB Kurchatov Arra 42.41 300 P P 11 40 45.3 -0.1
E29M Blow River 42.45 32 IAmb IAmb 11 40 47.6
comp=Z,211nm,0.8s
E29M Blow River 42.45 32 P P 11 40 45.8 +0.4
baz=281,SNR=288
E29M S S 11 46 32.7 -1.0
baz=281
BARN Barnard Glacie 42.60 43 IAmb IAmb 11 40 49.1
comp=Z,80nm,0.6s
BVCY Beaver Creek 42.60 41 P P 11 40 47.5 +0.7
baz=285,SNR=110
GRNC Granite Creek 42.65 44 P P 11 40 47.9 +0.5
GRNC IAmb IAmb 11 40 49.9
comp=Z,103nm,0.9s
G29M Pine Creek 42.70 35 IAmb IAmb 11 40 50.1
comp=Z,160nm,1.1s
G29M Pine Creek 42.70 35 P P 11 40 48.3 +0.8
baz=283,SNR=124
G29M S S 11 46 38.4 +0.8
baz=283
MESA MESA 42.71 45 P P 11 40 48.6 +0.8
baz=287,SNR=19
H29M Whitestone 42.72 36 P 11 40 48.2 +0.5
H29M IAmb IAmb 11 40 50.0
comp=Z,159nm,0.8s
H29M Whitestone 42.72 36 P P 11 40 48.2 +0.5
baz=283,SNR=164
H29M S S 11 46 38.4 +0.6
baz=283
YAH Yahtse 42.76 45 IAmb IAmb 11 40 50.9
comp=Z,150nm,1.1s
CTG Chitna Glacier 42.78 44 P P 11 40 49.0 +0.8
baz=286,SNR=78
CTG S S 11 46 38.6 -0.4
baz=286
CTGM Chitina Glacie 42.78 44 IAmb IAmb 11 40 50.8
comp=Z,289nm,1.2s
DAWY Dawson 42.82 39 P P 11 40 48.1 -0.4
baz=285,SNR=49
DAWY S S 11 46 38.8 -0.6
baz=285
TNCH TengChong 42.87 255 ⇓P P 11 40 50.4 +0.8
TNCH pP pwP 11 42 15.2 +0.9
TNCH PcP PcP 11 42 32.6 +1.6
TNCH PP **PP** 11 42 39.9 +0.4

TNCH ScP **ScP** 11 45 40.9 +1.5
TNCH S **S** 11 46 42.7 +1.4
TNCH sS sS 11 49 12.1 +1.2
TNCH SS **ScS** 11 50 00.9 0.0
TNCH pmax pmax
comp=Z,52nm,0.6s
TNCH pmax pmax
comp=Z,320nm,3.9s
I29M **Ogilvie Camp,** **42.95 37** IAmb IAmb 11 40 51.6
comp=Z,102nm,0.9s
I29M **Ogilvie Camp,** **42.95 37** P **P** **11 40 49.6 +0.2**
baz=284,SNR=212
I29M S **S** **11 46 41.1 0.0**
baz=284
YUK3 **Moose Creek** **42.96 42** P **P** **11 40 49.9 +0.1**
baz=286,SNR=69
YUK3 S **S** **11 46 41.7 0.0**
baz=286
J29N **Klondike Camp** **43.22 38** P **P** **11 40 51.6 0.0**
baz=285,SNR=13
J29N S **S** **11 46 44.9 -0.1**
baz=285
EPYK **Eagle Plains** **43.34 35** P **P** **11 40 52.8 +0.3**
baz=284,SNR=355
EPYK S **S** **11 46 46.3 -0.4**
baz=284
O28M **Mount Upton** **43.37 44** P **P** **11 40 53.5 +0.3**
baz=287,SNR=13
O28M S **S** **11 46 47.8 0.0**
baz=287
G30M **tAoh Zraii Nji** **43.38 34** IAmb IAmb 11 40 56.1
comp=Z,254nm,0.9s
G30M **tAoh Zraii Nji** **43.38 34** P **P** **11 40 52.9 +0.1**
baz=284,SNR=229
G30M S **S** **11 46 46.1 -1.2**
baz=284
F30M **Barrier River** **43.39 33** **P** **11 40 53.5 +0.7**
F30M **Barrier River** **43.39 33** P **P** **11 40 53.8 +0.9**
baz=284,SNR=646
F30M S **S** **11 46 47.5 +0.1**
baz=284
YUK8 **Steele Glacier** **43.42 43** P **P** **11 40 53.7 +0.2**
baz=287,SNR=21
PINM **Pinnacle** **43.55 45** P **P** **11 40 54.6 +0.3**
baz=288,SNR=16
L29M **L29M** **43.62 40** P **P** **11 40 55.6 +0.8**
L29M IAmb IAmb 11 40 58.0
comp=Z,176nm,0.8s
L29M **L29M** **43.62 40** P **P** **11 40 56.1 +1.3**
baz=286,SNR=364
L29M S **S** **11 46 53.0 +2.2**
baz=286
M29M **Somme Creek** **43.67 41** P **P** **11 40 56.2 +1.0**
M29M **Somme Creek** **43.67 41** P **P** **11 40 56.2 +1.0**
baz=287,SNR=90
M29M S **S** **11 46 53.1 +1.5**
baz=287
K29M **Barlow Dome** **43.68 39** IAmb IAmb 11 40 57.7
comp=Z,106nm,0.9s
K29M **Barlow Dome** **43.68 39** P **P** **11 40 55.7 +0.4**
baz=286,SNR=202
K29M S **S** **11 46 51.3 -0.4**
baz=286
I30M **Mount Dempster** **43.77 37** P **P** **11 40 56.3 +0.3**
baz=286,SNR=650
I30M S **S** **11 46 52.3 -0.8**
baz=286
YUK4 **Talbot Arm** **43.91 42** P **P** **11 40 57.9 +0.6**
baz=288,SNR=35
J30M **Hart River** **43.97 38** P **P** **11 40 58.0 +0.4**
baz=286,SNR=112
J30M S **S** **11 46 56.0 0.0**
baz=286
INK **Inuvik** **44.04 32** **P** **11 40 57.8 -0.1**
INK IAmb IAmb 11 40 59.2
comp=Z,171nm,0.7s
INK **Inuvik** **44.04 32** P **P** **11 40 57.8 -0.1**
INK pmax pmax
comp=Z,171nm,0.7s
INK **Inuvik** **44.04 32** P **P** **11 40 57.9 -0.1**
baz=285,SNR=243
INK S **S** **11 46 54.6 -2.0**
baz=285
PNL **Peninsula** **44.09 45** P **P** **11 41 00.2 +1.7**
PNL **Peninsula** **44.09 45** P **P** **11 40 58.7 +0.2**
baz=289,SNR=7.4
G31M **Satah River** **44.13 34** P **P** **11 40 58.1 -0.5**
G31M **Satah River** **44.13 34** P **P** **11 40 58.3 -0.4**
baz=286,SNR=264
G31M S **S** **11 46 55.8 -2.1**
baz=286
YUK6 **Outpost Mounta** **44.17 43** P **P** **11 41 00.1 +0.8**
baz=288,SNR=36
YUK6 S **S** **11 46 59.7 +0.6**
baz=288
F31M **Tsiigehtchic** **44.19 33** **P** **11 40 58.8 -0.2**
F31M IAmb IAmb 11 41 00.8
comp=Z,210nm,0.8s
F31M **Tsiigehtchic** **44.19 33** P **P** **11 40 58.9 -0.2**
baz=286,SNR=254
F31M S **S** **11 46 56.8 -1.9**
baz=286
O29M **Mount Kennedy** **44.28 44** P **P** **11 41 01.0 +1.0**
baz=289,SNR=11
O29M S **S** **11 47 01.2 +0.8**
baz=289
M30M **Minto, Yukon** **44.37 40** IAmb IAmb 11 41 03.7
comp=Z,124nm,1.1s
M30M **Minto, Yukon** **44.37 40** P **P** **11 41 01.8 +1.2**
baz=288,SNR=197
M30M S **S** **11 47 04.1 +2.7**
baz=288
H31M **Peel River** **44.42 36** P **P** **11 41 01.2 +0.2**
baz=287,SNR=388
H31M S **S** **11 47 01.2 -0.9**
baz=287
MAYO **Mayo, Yukon** **44.44 39** IAmb IAmb 11 41 06.4
comp=Z,173nm,0.9s
MAYO **Mayo, Yukon** **44.44 39** P **P** **11 41 01.9 +0.8**
baz=288,SNR=47
MAYO S **S** **11 47 04.2 +1.7**
baz=288
N30M **Aishikik Lake** **44.59 42** P **P** **11 41 03.1 +0.7**
baz=289,SNR=29
HYT **Haines Junctio** **44.61 43** P **P** **11 41 04.1 +1.5**
baz=289,SNR=388
HYT S **S** **11 47 07.5 +2.4**
baz=289
LSA **Lhasa** **44.75 267** IAmb IAmb 11 41 07.6
comp=Z,74nm,0.5s
LSA **Lhasa** **44.75 267** *i* P **P** **11 41 06.5 +1.9**
SNR=22
LSA **Lhasa** **44.75 267** P **P** **11 41 06.5 +1.9**
TDK **Taldyqorghan** **44.89 293** *eP* **P** **11 41 05.5 +0.6**
TDK pmax pmax
comp=Z,58nm,0.6s
TDK **Taldyqorghan** **44.89 293** *eP* **P** **11 41 05.6 +0.6**
comp=Z,58nm,0.6s
P29M **Windy Craggy** **44.90 45** P **P** **11 41 06.6 +1.8**
baz=290,SNR=176
P29M S **S** **11 47 11.5 +2.4**
baz=290
PDGK **Podgornoye** **45.01 290** P **P** **11 41 05.6 -0.4**
P30M **Million Dollar** **45.10 44** P **P** **11 41 07.8 +1.5**
baz=290
SHLS **Shalkode** **45.11 290** *d* *i* P **P** **11 41 04.9 -1.8**
SHLS **Shalkode** **45.11 290** ⇓ *i* P **P** **11 41 05.0 -1.8**
N31M **Braeburn, Yuko** **45.17 42** IAmb IAmb 11 41 10.2
comp=Z,240nm,1.2s
N31M **Braeburn, Yuko** **45.17 42** P **P** **11 41 08.2 +1.4**
baz=290,SNR=116
O30N **Mendenhall** **45.28 43** P **P** **11 41 08.7 +1.0**
baz=290,SNR=81
O30N S **S** **11 47 15.7 +1.3**
baz=290
M31M **Drury Creek, Y** **45.55 40** P **P** **11 41 10.4 +0.7**
baz=290,SNR=53
M31M S **S** **11 47 20.2 +2.0**
baz=290
PLBC **Pleasant Camp** **45.62 44** P **P** **11 41 11.6 +1.3**
baz=291,SNR=42
PLBC S **S** **11 47 21.5 +2.4**
baz=291
ARXS **Arharly** **45.63 292** *eP* **P** **11 41 11.0 +0.3**
A36M **Sachs Harbour** **45.70 26** IAmb IAmb 11 41 12.8
comp=Z,186nm,0.8s
A36M **Sachs Harbour** **45.70 26** P **P** **11 41 10.9 +0.3**
baz=288,SNR=67
A36M S **S** **11 47 19.5 -0.4**
baz=288
UBPT **Khong Chiam** **45.76 239** **PcP** **11 42 42.1 +1.2**
UBPT **Khong Chiam** **45.76 239** P **P** **11 41 12.9 +1.0**
WHY **Whitehorse** **45.87 43** IAmb IAmb 11 41 16.0
comp=Z,166nm,1.1s
WHY **Whitehorse** **45.87 43** P **P** **11 41 13.5 +1.2**
baz=291,SNR=67
FARO **Faro, Yukon** **45.99 40** P **P** **11 41 13.9 +0.7**
baz=291
BVAR **Borovoye Array** **46.09 306** P **P** **11 41 14.0 +0.1**
comp=Z,31nm,0.5s
BVAR PcP **PcP** **11 42 41.6 +0.1**
BVAR S **S** **11 47 25.7 -0.3**
comp=Z,31nm,0.5s
BRZS **Berezniki** **46.10 301** *c* *i* P **P** **11 41 14.2 +0.1**
BRZS **Berezniki** **46.10 301** ⇓ *i* P **P** **11 41 14.2 +0.1**
SKAG **Skagway** **46.11 44** **P** **11 41 15.3 +1.3**
SKAG **Skagway** **46.11 44** P **P** **11 41 15.6 +1.6**
SKAG **Skagway** **46.11 44** P **P** **11 41 15.3 +1.3**
baz=292,SNR=36
BRVK **Borovoye** **46.13 306** **P** **11 41 14.7 +0.4**
BRVK **Borovoye** **46.13 306** P **P** **11 41 14.7 +0.4**
BRVK pmax pmax
comp=Z,61nm,0.7s
BRVK **Borovoye** **46.13 306** P **P** **11 41 15.0 +0.7**
BRVK PcP **PcP** **11 42 41.9 +0.2**
BRVK ScP **ScP** **11 45 52.4 +0.2**
S31K **Pelican** **46.24 46** P **P** **11 41 16.4 +1.4**
baz=293,SNR=15
R31K **City Hall, Gus** **46.31 46** P **P** **11 41 16.7 +1.2**
baz=293
CHKK **Chushkaly** **46.34 292** *eP* **P** **11 41 16.5 +0.5**
CHKK **Chushkaly** **46.34 292** *eP* **P** **11 41 16.5 +0.5**
N32M **Quiet Lake** **46.51 41** P **P** **11 41 17.7 +0.6**
baz=292
N32M S **S** **11 47 33.0 +1.2**
baz=292
SGSI **Sangihe** **46.69 207** P **P** **11 41 18.8 -0.2**
AAA **Alma-Ata** **46.70 291** *eP* **P** **11 41 19.4 +0.5**
AAA **Alma-Ata** **46.70 291** *eP* **P** **11 41 19.5 +0.5**
MMPY **Sheldon Lake,** **46.76 39** P **P** **11 41 20.1 +1.2**
baz=292,SNR=86
MMPY S **S** **11 47 37.2 +2.1**
baz=292
TNSS **Tian-Shan** **46.77 291** *eP* **P** **11 41 19.8 0.0**
TNSS **Tian-Shan** **46.77 291** *eP* **P** **11 41 19.9 0.0**
P32M **Atlin** **46.82 44** P **P** **11 41 20.5 +1.0**
baz=293,SNR=23
SHL **Shillong** **46.92 262** P **P** **11 41 21.0 0.0**
SHL IAmb IAmb 11 41 22.0
comp=Z,61nm,0.6s
SHL **Shillong** **46.92 262** P **P** **11 41 21.0 0.0**
SHL pmax pmax
comp=Z,61nm,0.6s
R32K **Eaglecrest** **46.96 45** P **P** **11 41 22.0 +1.5**
baz=294,SNR=30
P33M **Teslin, Yukon** **46.99 43** IAmb IAmb 11 41 24.5
comp=Z,83nm,0.7s
P33M **Teslin, Yukon** **46.99 43** P **P** **11 41 21.9 +1.1**
baz=293,SNR=194
P33M S **S** **11 47 41.2 +2.6**
baz=293
JIS **Juneau Island** **47.02 45** P **P** **11 41 22.9 +2.0**
CHTO **Chiang Mai** **47.03 249** **P** **11 41 22.3 +0.6**
CHTO **Chiang Mai** **47.03 249** P **P** **11 41 22.5 +0.8**
CHTO **Chiang Mai** **47.03 249** P **P** **11 41 22.3 +0.6**
CHTO pmax pmax
comp=Z,40nm,0.5s
CHTO **Chiang Mai** **47.03 249** P **P** **11 41 22.0 +0.3**
CHTO PcP **PcP** **11 42 45.1 -0.3**
SIT **Sitka** **47.05 47** **P** **11 41 23.1 +1.9**
SIT IAmb IAmb 11 41 25.8
comp=Z,138nm,1.3s
SIT **Sitka** **47.05 47** P **P** **11 41 23.5 +2.3**
SIT **Sitka** **47.05 47** P **P** **11 41 23.1 +1.9**
SIT pmax pmax
comp=Z,138nm,1.3s
SIT **Sitka** **47.05 47** P **P** **11 41 23.2 +1.9**
baz=294,SNR=23
CMAR **Chiang Mai Arr** **47.30 248** P **P** **11 41 24.4 +0.7**
comp=Z,6.2nm,0.4s,baz=27,slow=7.4,SNR=39
CMAR PcP **PcP** **11 42 47.3 +0.9**
comp=Z,9.4nm,0.8s,baz=5.1,slow=2.8,SNR=18
CMAR ScP **ScP** **11 45 58.6 +1.0**
comp=Z,7.7nm,0.8s,baz=14,slow=3.7,SNR=11
comp=Z,6.2nm,0.4s
CMAR **Chiang Mai Arr** **47.30 248** *i* P **P** **11 41 24.3 +0.6**
CMAR pmax pmax
comp=Z,8.0nm,0.4s
BTLS **Baital** **47.59 295** *d* *i* P **P** **11 41 25.4 0.0**
BTLS **Baital** **47.59 295** ⇓ *i* P **P** **11 41 25.5 0.0**
ULHL **Ulahol** **47.62 290** P **P** **11 41 27.2 +1.2**
SNR=20
TKM2 **Tokmak 2** **47.68 292** P **P** **11 41 27.2 +0.7**
SNR=14
BOOM **Boomskoye usch** **47.68 291** P **P** **11 41 27.5 +1.0**
BOOM **PcP** **11 42 48.4 +0.7**
Q32M **Nakina River** **47.75 44** P **P** **11 41 28.4 +1.7**
Q32M **Nakina River** **47.75 44** P **P** **11 41 28.3 +1.5**
baz=294,SNR=43
SGDS **Sogindy** **48.02 293** *eP* **P** **11 41 29.3 +0.5**
KKM **Kota Kinabalu** **48.03 220** P **P** **11 41 29.6 +0.3**
R33M **Jennings River** **48.18 43** P **P** **11 41 31.5 +1.6**
baz=295,SNR=37
USP **Osopovka** **48.20 292** P **P** **11 41 31.1 +0.9**
SNR=19
KBK **Karagaybulak** **48.23 292** P **P** **11 41 31.6 +1.1**
SNR=8.1
TGTN **Hyland Airport** **48.48 40** P **P** **11 41 33.2 +1.1**
baz=295,SNR=38
TGTN S **S** **11 48 00.6 +1.4**
baz=295
AAK **Ala-Archa** **48.52 292** P **P** **11 41 33.7 +0.9**
SNR=9.2
AAK **Ala-Archa** **48.52 292** **P** **11 41 33.6 +0.9**
AAK PcP **PcP** **11 42 50.9 +0.2**
AAK **Ala-Archa** **48.52 292** *ce* P **P** **11 41 33.6 +0.8**
AAK pmax pmax
comp=Z,17nm,0.8s
AAK **Ala-Archa** **48.52 292** *i* P **P** **11 41 33.6 +0.8**
SNR=9.5
AAK **Ala-Archa** **48.52 292** *eP* **P** **11 41 33.6 +0.8**
U33K **Whale Pass** **48.56 48** P **P** **11 41 34.4 +1.8**
baz=296,SNR=13
U33K S **S** **11 48 04.0 +3.8**
baz=296
UCH **Uchtor** **48.72 291** P P 11 41 40.1 +5.4
SNR=5.1
S34M **Telegraph Cree** **48.74 45** P **P** **11 41 35.5 +1.6**
baz=296,SNR=22
WRAK **Wrangell Islan** **48.81 47** P **P** **11 41 36.3 +1.8**
baz=296,SNR=17
CRAG **Craig** **48.84 48** P **P** **11 41 36.1 +1.4**
CRAG **Craig** **48.84 48** P **P** **11 41 36.7 +1.9**
baz=297,SNR=10.0
WTLY **Watson Lake, Y** **48.86 42** P **P** **11 41 35.8 +1.0**
WTLY IAmb IAmb 11 41 37.6
comp=Z,159nm,1.4s
EKS2 **Erkin-Say** **48.96 292** P **P** **11 41 36.8 +0.8**
SNR=32
BAKI **Biak** **49.02 192** P **P** **11 41 35.8 -0.8**
comp=Z,53nm,1.2s
DLBC **Dease Lake** **49.03 44** P **P** **11 41 37.8 +1.6**
baz=296,SNR=58
KSH **Kashi** **49.24 287** P P 11 41 43.0 +4.9
KSH S **S** **11 48 19.2 +8.9**
KSH pmax pmax
comp=Z,22nm,0.8s
AML **Almayashu** **49.29 292** P **P** **11 41 39.9 +1.1**
SNR=9.8
SVE **Sverdlovsk** **49.49 314** *d* *i* P **P** **11 41 40.1 +0.5**
SVE *i* S **S** **11 48 12.1 -1.0**
SVE pmax pmax
comp=Z,180nm,0.6s
SMPI **Sarmi** **49.50 188** P **P** **11 41 41.4 +1.3**
comp=Z,1μmcomp=Z,110nm,0.8s
EUNU **Eureka** **49.53 10** P **P** **11 41 39.4 -0.2**
EUNU IAmb IAmb 11 41 41.3
comp=Z,159nm,0.8s
SWI **Sorong** **49.55 198** P **P** **11 41 41.2 +0.7**
comp=Z,55nm,0.7s
T35M **Bob Quinn** **49.59 46** P **P** **11 41 42.8 +2.5**
baz=297,SNR=28
ALE **Alert** **49.59 5** P **P** **11 41 40.0 0.0**
ALE PcP **PcP** **11 42 53.0 -0.7**
RKPI **Ransiki, Papua** **49.63 194** P **P** **11 41 41.2 +0.1**
comp=Z,74nm,0.6s
V35K **Ketchikan** **49.67 48** P **P** **11 41 42.2 +1.3**
baz=298,SNR=9.7
WRGLY **Wrigley** **49.75 36** P **P** **11 41 42.1 +0.7**
baz=297,SNR=15
WRGLY S **S** **11 48 17.7 +1.4**
baz=297
JAY **Jayapura** **49.85 186** P **P** **11 41 42.9 +0.1**
comp=Z,14nm,0.7s,baz=343,slow=2.9,SNR=4.8
comp=Z,14nm,0.7s
KAVG **Kavieng** **50.03 172** P **P** **11 41 45.1 +1.0**
DZA **Taraz** **50.37 294** *eP* **P** **11 41 46.7 +0.4**
DZA **Taraz** **50.37 294** *eP* **P** **11 41 46.8 +0.4**
LIRD **Liard River Hi** **50.40 42** P **P** **11 41 47.4 +1.2**
baz=298,SNR=17
TOLI2 **Tolitoli** **50.70 212** **P** **11 41 48.9 -0.1**
TOLI2 **Tolitoli** **50.70 212** P **P** **11 41 49.7 +0.7**
KK31 **Karatay Array** **50.77 294** **P** **11 41 49.4 +0.2**
KK31 **Karatay Array** **50.77 294** *i* P **P** **11 41 49.2 0.0**
KKAR **Karatay Array** **50.77 294** P **P** **11 41 49.5 +0.3**
KKAR **Karatay Array** **50.77 294** IAmb IAmb 11 41 50.5
comp=Z,28nm,0.8s
KKAR **Karatay Array** **50.77 294** P **P** **11 41 49.5 +0.3**
ARTI **Arti** **50.80 314** P **P** **11 41 49.2 -0.1**
ARTI **Arti** **50.80 314** *c* *i* P **P** **11 41 49.1 -0.1**
ARTI 11 42 58.1
ARTI *PP **pP** **11 43 17.2 +1.3**
ARTI S **S** **11 48 31.1 +0.2**
ARTI 11 50 49.6
ARTI pmax pmax
comp=Z,112nm,0.6s
ARTI **Arti** **50.80 314** P **P** **11 41 49.2 -0.1**
ARTI PcP **PcP** **11 42 58.5 -0.1**
ARTI ScP **ScP** **11 46 09.9 -2.1**
NOR **Nord** **50.87 357** *i* P **P** **11 41 48.5 -0.9**
NOR IAmb IAmb 11 41 50.4
comp=Z,62nm,1.0s
MRSI **Marisa** **50.88 210** P **P** **11 41 50.5 +0.2**
comp=Z,55nm,0.9s
SPB2 **Spitsbergen Ar** **50.91 348** P **P** **11 41 49.5 -0.2**
SPB2 PcP **PcP** **11 42 58.6 -0.1**
SPITS **Spitsbergen Ar** **50.91 348** P **P** **11 41 49.0 -0.7**
comp=Z,15nm,0.4s,baz=66,slow=8.3,SNR=60
SPITS PcP **PcP** **11 42 58.8 +0.1**
comp=Z,11nm,0.5s,baz=92,slow=5.0,SNR=11
SPITS ScP **ScP** **11 46 11.1 -1.0**
comp=Z,4.0nm,0.5s,baz=93,slow=5.0,SNR=4.5
comp=Z,15nm,0.4s
KBS **Kingsbay** **50.93 350** P **P** **11 41 49.8 0.0**
KBS **Kingsbay** **50.93 350** *c* *i* P **P** **11 41 49.8 0.0**
KBS pmax pmax
comp=Z,51nm,0.6s
KBS **Kingsbay** **50.93 350** *i* P **P** **11 41 49.5 -0.3**
KOTAN **Kotaneelee Air** **50.96 40** P **P** **11 41 51.3 +1.0**
baz=299,SNR=12
TOAD **Toad River Com** **51.06 42** P **P** **11 41 52.5 +1.3**
baz=299,SNR=107
BRLS **Borolday** **51.22 295** *eP* **P** **11 41 54.3 +1.8**
BRLS **Borolday** **51.22 295** *eP* **P** **11 41 54.4 +1.8**
FAKI **Fak Fak** **51.35 196** P **P** **11 41 53.5 -0.2**
FAKI PcP **PcP** **11 43 00.9 -0.4**
FAKI **Fak Fak** **51.35 196** P **P** **11 41 54.9 +1.1**
FAKI **Fak Fak** **51.35 196** P **P** **11 41 54.3 +0.5**
comp=Z,118nm,0.9s
HG4B **Hotspring** **51.36 51** **P** **11 41 53.6 +0.2**
IUG **Iuzhnay** **51.58 294** *eP* **P** **11 41 55.6 +0.3**
IUG **Iuzhnay** **51.58 294** *eP* **P** **11 41 55.6 +0.3**
MPSI **Mapaga** **51.74 213** P **P** **11 41 57.2 +0.6**
CHM **Chimkent** **51.75 294** *eP* **P** **11 41 56.9 +0.5**
CHM **Chimkent** **51.75 294** *eP* **P** **11 41 57.0 +0.5**
HSPB **Hornsund (broa** **51.90 347** *eP* **P** **11 41 56.5 -0.4**
RES **Resolute Bay** **51.90 17** P **P** **11 41 56.8 -0.2**
RES IAmb IAmb 11 41 58.7
comp=Z,251nm,0.8s
RES PcP **PcP** **11 43 02.4 0.0**
RES **Resolute Bay** **51.90 17** P **P** **11 41 56.8 -0.2**
RES 11 43 02.4
RES pmax pmax
comp=Z,251nm,0.8s
KIP **Kipapa** **52.30 99** P **P** **11 42 01.4 +0.9**
KIP IAmb IAmb 11 42 02.9
comp=Z,100nm,0.6s
KIP **Kipapa** **52.30 99** P **P** **11 42 01.5 +0.9**
KIP pmax pmax
comp=Z,99nm,0.6s
KIP **Kipapa** **52.30 99** P **P** **11 42 02.1 +1.5**
SBUM **Sibu** **53.02 223** P **P** **11 42 07.7 +1.9**
BBB **Bella Bella** **53.05 50** P **P** **11 42 06.2 +0.7**
YKAW3 **Yellowknife Wh** **53.58 34** P **P** **11 42 09.3 +0.1**
YKAW3 IAmb IAmb 11 42 11.1
comp=Z,159nm,1.4s
YKAW3 PcP **PcP** **11 43 09.5 +0.4**
YKA **Yellowknife Ar** **53.62 35** P **P** **11 42 09.3 -0.1**
comp=Z,66nm,0.9s,baz=308,slow=7.4,SNR=137
YKA PcP **PcP** **11 43 09.7 +0.5**
comp=Z,17nm,0.8s,baz=317,slow=4.2,SNR=16
YKA pP **pP** **11 43 38.3 +1.2**
comp=Z,2.8nm,0.8s,baz=307,slow=8.0,SNR=1.9
YKA ScP **ScP** **11 46 24.1 0.0**
comp=Z,4.3nm,0.8s,baz=309,slow=4.9,SNR=5.4
comp=Z,66nm,0.9s
YKA **Yellowknife Ar** **53.62 35** *i* P **P** **11 42 09.3 -0.1**
YKA pmax pmax
comp=Z,48nm,0.7s
AB31 **Akbulak array** **53.66 306** P **P** **11 42 10.3 +0.3**
AB31 IAmb IAmb 11 42 10.8
comp=Z,78nm,0.5s
AB31 **Akbulak array** **53.66 306** *i* P **P** **11 42 10.1 +0.1**
ABKAR **Akbulak array** **53.66 306** P **P** **11 42 10.3 +0.3**
ABKAR IAmb IAmb 11 42 10.8
comp=Z,79nm,0.5s
YKAW1 **Yellowknife Wh** **53.67 35** P **P** **11 42 10.0 +0.1**
YKAW1 IAmb IAmb 11 42 11.7
comp=Z,194nm,1.5s
YKAW1 PcP **PcP** **11 43 09.7 +0.3**
KIRV **Kirov** **53.82 320** *c* *i* P **P** **11 42 10.7 -0.2**
LVZ **Lovozero** **53.86 334** P **P** **11 42 11.0 -0.2**
LVZ **Lovozero** **53.86 334** P **P** **11 42 11.0 -0.2**
LVZ pmax pmax
comp=Z,34nm,0.7s
LVZ **Lovozero** **53.86 334** P **P** **11 42 10.6 -0.6**
HOLB **Holberg** **53.86 52** **P** **11 42 12.2 +0.7**
HOLB IAmb IAmb 11 42 13.9
comp=Z,166nm,0.7s
AKTO **Aktyubinsk** **54.07 308** P **P** **11 42 12.4 -0.5**
SIMJ **Simiganj** **54.20 290** P **P** **11 42 14.6 +0.5**
SIMJ **Simiganj** **54.20 290** P **P** **11 42 14.5 +0.3**
NIL **Nilore** **54.41 283** P **P** **11 42 16.7 +1.1**
NIL **Nilore** **54.41 283** P **P** **11 42 16.7 +1.1**
NIL pmax pmax
comp=Z,76nm,0.9s
NIL **Nilore** **54.41 283** P **P** **11 42 16.9 +1.2**
NIL ScP **ScP** **11 46 28.6 +0.3**
APA **Apatity** **54.44 334** ⇓ *i* P **P** **11 42 13.2 -2.0**
APA *i* 11 43 11.9
APA *i* 11 43 43.7
APA *i* 11 44 24.0
APA *i* S **S** **11 49 16.6 -2.5**
APA *i* 11 51 16.2
APA *i* SS **SS** **11 53 06.9 -1.4**
APA pmax pmax
comp=Z,4.0nm,0.7s
TULEG **Thule** **54.46 9** P **P** **11 42 14.5 -0.8**
TULEG IAmb IAmb 11 42 16.4
comp=Z,121nm,0.9s
TULEG **Thule** **54.46 9** *i* P **P** **11 42 14.4 -0.9**
TULEG IAmb IAmb 11 42 16.1
comp=Z,136nm,0.9s
KSM **Kuching** **54.77 224** P **P** **11 42 19.4 +1.1**
KEV **Kevo** **54.77 338** P **P** **11 42 17.4 -0.1**
KEV **Kevo** **54.77 338** P **P** **11 42 17.4 -0.1**
KEV pmax pmax
comp=Z,59nm,0.7s
KEV **Kevo** **54.77 338** P **P** **11 42 17.4 -0.1**
NEEM **North Greenlan** **55.02 4** *i* P **P** **11 42 18.7 -0.9**
NEEM IAmb IAmb 11 42 21.0
comp=Z,195nm,0.9s
POHA **Pohakuloa** **55.12 99** P **P** **11 42 22.2 +1.2**
POHA **Pohakuloa** **55.12 99** P **P** **11 42 22.0 +1.0**
POHA **Pohakuloa** **55.12 99** P **P** **11 42 22.4 +1.4**

HMH Humu'ula Sheep 55.26 99 lAmb lAmb 11 42 24.5
comp=Z,267nm,0.8s
ARCES ARCESS Array B 55.30 338 P **P** **11 42 21.2 0.0**
ARCES PcP **PcP** **11 43 15.0 -0.7**
ARCES ARCESS Array B 55.30 338 P **P** **11 42 21.1 -0.2**
comp=Z,14nm,0.4s,baz=44,slow=7.3,SNR=174
ARCES PcP **PcP** **11 43 15.8 +0.2**
comp=Z,7.7nm,0.6s,baz=46,slow=5.2,SNR=5.7
comp=Z,14nm,0.4s
ARCES ARCESS Array B 55.30 338 P **P** **11 42 21.3 0.0**
ARCES 11 43 15.0
ARCES pmax pmax
comp=Z,49nm,1.2s
UWE Uwekahuna 55.51 99 P **P** **11 42 24.2 +0.5**
UWE lAmb lAmb 11 42 35.0
comp=Z,147nm,0.7s
BYL Byron's Ledge 55.54 99 lAmb lAmb 11 42 25.9
comp=Z,118nm,0.7s
STCH Steam Cracks 55.65 99 lAmb lAmb 11 42 26.6
comp=Z,191nm,0.8s
DAG Danmarks Havn 55.67 356 *i* P **P** **11 42 22.8 -1.0**
DAG lAmb lAmb 11 42 25.0
comp=Z,113nm,1.1s
JOKA Jonika Flow 55.70 98 lAmb lAmb 11 42 26.8
comp=Z,154nm,0.8s
POIN Pond Inlet 56.52 14 P **P** **11 42 28.9 -0.8**
KLMR Klimovskoe 56.56 326 *d* iP **P** **11 42 27.6 -2.6**
KLMR *e**PP **pP** **11 43 58.8 -0.7**
KLMR *e* 11 44 40.3
KLMR S **S** **11 49 45.7 -1.3**
KLMR pmax pmax
comp=Z,165nm,1.5s
KBL Kabul 56.63 286 P **P** **11 42 31.3 -0.1**
KBL Kabul 56.63 286 P **P** **11 42 31.3 -0.1**
KBL pmax pmax
comp=Z,59nm,0.9s
KAPI Kappang 56.75 211 P **P** **11 42 32.5 +0.4**
comp=Z,17nm,0.5s,baz=355,slow=0.8,SNR=6.6
comp=Z,17nm,0.5s
CLRS Cowichan Lake 57.03 52 P **P** **11 42 34.7 +1.0**
CLRS lAmb lAmb 11 42 36.2
comp=Z,75nm,0.7s
IPM Ipoh 57.04 236 P **P** **11 42 35.0 +0.8**
C03A Quillayute Air 57.31 53 lAmb lAmb 11 42 38.6
comp=Z,89nm,0.8s
KULLO Kullorsuaq 57.39 7 *i* P **P** **11 42 34.5 -1.3**
KULLO lAmb lAmb 11 42 36.7
comp=Z,112nm,1.1s
PGC Sidney 57.50 52 lAmb lAmb 11 42 39.5
comp=Z,128nm,0.6s
A04D Lummi Island 57.85 51 P **P** **11 42 40.4 +1.2**
A04D lAmb lAmb 11 42 42.0
comp=Z,110nm,0.7s
NLWA Neilton Lookou 58.02 53 P **P** **11 42 42.2 +1.7**
NLWA lAmb lAmb 11 42 43.7
comp=Z,157nm,0.7s
DBG Daneborg 58.17 355 *i* P **P** **11 42 39.1 -2.0**
DBG lAmb lAmb 11 42 41.0
comp=Z,35nm,1.0s
WISH Wishkah 58.24 53 lAmb lAmb 11 42 45.5
comp=Z,134nm,0.7s
BELG Belogornoye 58.25 314 *c* iP **P** **11 42 41.8 -0.1**
BELG pmax pmax
comp=Z,14nm,0.6s
ILON Igloolik, Nuna 58.56 18 lAmb lAmb 11 42 43.2
comp=Z,65nm,0.6s
F03A Seaside 59.08 54 lAmb lAmb 11 42 50.6
comp=Z,130nm,0.9s
D05A Enumclaw 59.17 52 P **P** **11 42 50.1 +1.9**
D05A lAmb lAmb 11 42 51.5
comp=Z,130nm,0.7s
UPNV Upernavik 59.21 7 *i* P **P** **11 42 47.1 -1.0**
UPNV lAmb lAmb 11 42 49.5
comp=Z,133nm,1.0s
F04D Rainier, OR 59.29 54 lAmb lAmb 11 42 51.7
comp=Z,88nm,0.7s
HEBO Mount Hebo 59.41 55 P **P** **11 42 51.6 +1.6**
PSI Prapat 59.60 237 P **P** **11 42 51.9 +0.2**
comp=Z,14nm,0.6s,baz=352,slow=8.0,SNR=13
PSI PcP **PcP** **11 43 33.5 -0.1**
comp=Z,10nm,0.8s,baz=35,slow=1.9,SNR=5.7
PSI pP **pP** **11 44 23.7 +1.6**
comp=Z,7.9nm,0.8s,baz=21,slow=2.9,SNR=2.7
comp=Z,14nm,0.6s
PSI Prapat 59.60 237 P **P** **11 42 52.3 +0.6**
G03D McMinnville, O 59.68 55 lAmb lAmb 11 42 54.6
comp=Z,79nm,0.7s
RPSI Rantau Prapat 59.68 236 P **P** **11 42 51.9 -0.2**
RPSI Rantau Prapat 59.68 236 lAmb lAmb 11 42 53.4
comp=Z,28nm,1.1s
I02E Swisshome, OR 60.04 56 lAmb lAmb 11 42 57.6
comp=Z,149nm,0.7s
COR Corvallis 60.05 56 P **P** **11 42 56.4 +2.2**
COR Corvallis 60.05 56 P **P** **11 42 56.4 +2.2**
COR pmax pmax
comp=Z,270nm,0.7s
COR Corvallis 60.05 56 P **P** **11 42 56.4 +2.2**
SUMG Summit 60.30 1 lAmb lAmb 11 42 59.1
comp=Z,191nm,0.9s
SUMG Summit 60.30 1 *i* P **P** **11 42 55.7 -0.2**
SUMG lAmb lAmb 11 42 58.9
comp=Z,161nm,0.8s
H04D Lebanon 60.41 55 lAmb lAmb 11 43 00.4
comp=Z,130nm,0.8s
BATI Baumata 60.43 204 P **P** **11 42 57.0 0.0**
comp=Z,30nm,0.4s,baz=133,slow=0.9,SNR=4.4
comp=Z,30nm,0.4s
BUCK Buck Mountain 60.47 56 lAmb lAmb 11 43 00.5
comp=Z,128nm,0.8s
KEBM Edson Butte 60.53 58 lAmb lAmb 11 43 00.9
comp=Z,161nm,0.8s
J01E Myrtle Point 60.58 57 lAmb lAmb 11 43 01.2
comp=Z,169nm,0.8s
H04A Detroit Lake 60.61 55 lAmb lAmb 11 43 01.0
comp=Z,155nm,0.7s
MOS Moscow 60.64 322 *e*P **P** **11 42 54.7 -3.2**
MOS *e**PP **pP** **11 44 27.3 -1.5**
MOS *e* 11 45 14.0
MOS *e*S **S** **11 50 35.2 -3.8**
MOS *e* 11 51 58.5
MOS pmax pmax
comp=Z,58nm,0.7s
MOS smax smax
comp=E,800nm,3.0s
MOS smax smax
comp=N,800nm,2.9s
NUUG Nuugaatsiaq 60.66 7 *i* P **P** **11 42 57.0 -0.7**
NUUG lAmb lAmb 11 42 59.7
comp=Z,61nm,1.0s
E07A Sunnyside 60.70 52 lAmb lAmb 11 43 01.4
comp=Z,70nm,0.8s
WAH2 Wahluke Slope 60.73 52 lAmb lAmb 11 43 01.1
comp=Z,127nm,0.6s
G05A Wamic 60.74 54 lAmb lAmb 11 43 07.8
comp=Z,155nm,0.8s
C09A Chrisman Ranch 60.75 50 lAmb lAmb 11 43 01.1
comp=Z,96nm,0.7s
KEF Keuruu 60.80 332 *e*P **P** **11 42 58.5 -0.4**
KDU Kakadu 60.86 194 P **P** **11 42 59.6 -0.3**
comp=Z,19nm,0.8s
MNSI Mandailing Nat 60.88 235 P **P** **11 43 00.1 0.0**
comp=Z,35nm,0.4s
D08A Wollman Farm, 60.88 51 lAmb lAmb 11 43 02.0
comp=Z,54nm,0.7s
FIA1 FINESS Array S 60.95 331 P **P** **11 42 59.7 -0.2**
FINES FINESS Array B 60.95 331 P **P** **11 42 59.7 -0.2**
FINES FINESS Array B 60.95 331 P **P** **11 42 59.5 -0.3**
comp=Z,213nm,0.5s,baz=41,slow=7.5,SNR=1199
FINES S **S** **11 50 41.0 -1.7**
comp=Z,8.4nm,1.0s,baz=45,slow=14,SNR=5.3
comp=Z,213nm,0.5s
HAWA Hanford 60.98 52 lAmb lAmb 11 43 03.0
comp=Z,70nm,0.7s
KBO Bosley Butte 61.01 58 lAmb lAmb 11 43 03.8
comp=Z,102nm,0.7s
K02D Willamette Mer 61.03 57 lAmb lAmb 11 43 04.0
comp=Z,78nm,0.9s
NEW Newport 61.05 49 lAmb lAmb 11 43 03.2
comp=Z,74nm,0.8s
F07A Phinny Hill Vi 61.08 53 lAmb lAmb 11 43 04.1
comp=Z,132nm,0.7s
COEN Coen 61.10 182 P **P** **11 43 01.5 +0.1**
comp=Z,59nm,0.9s
COEN Coen 61.10 182 P **P** **11 43 02.2 +0.7**
E08A Dider Farm, El 61.17 52 lAmb lAmb 11 43 04.2
comp=Z,85nm,0.8s

MTN Manton Dam 61.25 195 lAmb lAmb 11 44 36.3
comp=Z,211nm,1.8s
MTN Manton Dam 61.25 195 P **P** **11 43 02.6 +0.2**
comp=Z,66nm,0.8s
MTN Manton Dam 61.25 195 P **P** **11 43 03.0 +0.6**
I05D Terrebonne, OR 61.30 55 lAmb lAmb 11 43 05.5
comp=Z,129nm,0.7s
L02F Cave Junction 61.44 58 lAmb lAmb 11 43 06.6
comp=Z,76nm,0.7s
KSXB Camp Six Broad 61.45 58 lAmb lAmb 11 43 06.5
comp=Z,61nm,0.7s
BBOR Butler Butte 61.47 57 lAmb lAmb 11 43 07.0
comp=Z,67nm,0.8s
HYB Hyderabad 61.50 265 *e*P **P** **11 43 04.1 -0.1**
HYB IVmB_BB 11 43 05.0
comp=Z,511nm,1.5s
YPT Yellepit 61.51 52 lAmb lAmb 11 43 06.6
comp=Z,104nm,0.7s
OBN Obninsk 61.51 322 P **P** **11 43 03.4 -0.3**
OBN Obninsk 61.51 322 *c* iP **P** **11 43 03.1 -0.5**
OBN *e* 11 43 41.1
OBN *e**PP **pP** **11 44 35.8 +0.9**
OBN *e**SP **sP** **11 45 22.4 +0.1**
OBN *e* 11 45 26.2
OBN *i* S **S** **11 50 47.3 -2.5**
OBN *e*SS **SS** **11 55 03.0 +3.8**
OBN pmax pmax
comp=Z,59nm,0.7s
OBN Obninsk 61.51 322 *e*P **P** **11 43 03.1 -0.5**
UMMG Uummannaq 61.58 6 *i* P **P** **11 43 03.1 -0.7**
UMMG lAmb lAmb 11 43 05.3
comp=Z,36nm,0.6s
GSI Gunungsitoli 61.59 237 P **P** **11 43 05.8 +1.0**
GSI Gunungsitoli 61.59 237 P **P** **11 43 05.4 +0.6**
comp=Z,45nm,0.7s
E09A Wood Farm, Sta 61.64 51 lAmb lAmb 11 43 07.0
comp=Z,102nm,0.8s
KRPM Rodgers 61.79 59 lAmb lAmb 11 43 09.2
comp=Z,58nm,0.7s
VRH Novokhopyorsk 61.83 316 *c* iP **P** **11 43 05.2 -0.7**
VRH pmax pmax
comp=Z,106nm,0.6s
JCC Jacoby Creek, 62.01 59 lAmb lAmb 11 43 10.1
comp=Z,72nm,0.8s
J05D Fort Rock, OR 62.03 56 lAmb lAmb 11 43 10.9
comp=Z,152nm,0.7s
SCO Scoresbysund 62.05 355 *i* P **P** **11 43 06.9 0.0**
SCO lAmb lAmb 11 43 07.8
comp=Z,42nm,0.6s
KHMM Horse Mountain 62.15 59 lAmb lAmb 11 43 11.7
comp=Z,99nm,0.8s
LPSR Galich'ya Gora 62.18 319 *c* iP **P** **11 43 07.6 -0.5**
LPSR pmax pmax
comp=Z,80nm,0.6s
YBH Yreka Blue Hor 62.19 58 lAmb lAmb 11 43 11.8
comp=Z,93nm,0.8s
KMPM Mount Pierce 62.21 60 lAmb lAmb 11 43 12.0
comp=Z,143nm,0.7s
MEF Metsahovi 62.41 331 *e*P **P** **11 43 09.4 -0.1**
ARBE Arbavere 62.47 330 *e*P **P** **11 43 10.0 +0.2**
KMRM Mail Ridge 62.58 60 lAmb lAmb 11 43 14.3
comp=Z,126nm,0.7s
K05A Summer Lake 62.58 56 P **P** **11 43 13.0 +1.8**
RAF Rauma 62.64 333 *e*P **P** **11 43 10.4 -0.6**
LHSI Lahat 62.68 228 P **P** **11 43 12.8 +0.9**
comp=Z,82nm,0.6s
VORR Voronezh 62.69 318 *e*P **P** **11 43 09.6 -1.8**
VORR pmax pmax
comp=Z,90nm,0.4s
VSU Vasula 62.93 329 *c e*P **P** **11 43 11.8 -1.1**
VSU pmax pmax
comp=Z,128nm,0.6s
VSU Vasula 62.93 329 *e*P **P** **11 43 12.0 -0.9**
KCPM Cahto Peak 63.00 60 lAmb lAmb 11 43 16.7
comp=Z,91nm,0.7s
VSR Storozhevoye 63.01 317 *e*P **P** **11 43 11.2 -2.4**
VSR *e**PP **pP** **11 44 47.0 +1.7**
VSR pmax pmax
comp=Z,30nm,0.8s
ILULI Ilulissat 63.09 6 lAmb lAmb 11 43 14.1
comp=Z,62nm,0.7s
ILULI Ilulissat 63.09 6 *i* P **P** **11 43 12.8 -1.0**
ILULI lAmb lAmb 11 43 13.8
comp=Z,64nm,0.7s
VORD Divnogorie 63.13 317 *e*P **P** **11 43 12.8 -1.5**
VORD *e**PP **pP** **11 44 48.2 +2.1**
VORD pmax pmax
comp=Z,30nm,0.8s
O02D Mt. Diablo Mer 63.14 59 lAmb lAmb 11 43 17.6
comp=Z,72nm,0.7s
J08A Circle Bar Ran 63.52 54 lAmb lAmb 11 43 20.8
comp=Z,85nm,0.8s
MSO Missoula 63.62 49 lAmb lAmb 11 43 19.7
comp=Z,83nm,0.8s
FFC Flin Flon 63.65 37 P **P** **11 43 17.9 +0.3**
FFC lAmb lAmb 11 43 19.2
comp=Z,83nm,0.8s
FFC Flin Flon 63.65 37 P **P** **11 43 17.9 +0.3**
FFC pmax pmax
comp=Z,83nm,0.8s
FFC Flin Flon 63.65 37 P **P** **11 43 18.1 +0.4**
FFC PcP **PcP** **11 43 50.0 +0.6**
PLID Pearl Lake 63.71 51 P **P** **11 43 19.0 +0.5**
PLID lAmb lAmb 11 43 20.7
comp=Z,85nm,0.6s
GDXM Geysers 64.03 60 lAmb lAmb 11 43 23.6
comp=Z,65nm,0.9s
WVOR Wild Horse Val 64.03 55 lAmb lAmb 11 43 23.8
comp=Z,101nm,0.8s
ORV Oroville 64.30 59 lAmb lAmb 11 43 23.9
comp=Z,75nm,0.7s
MAK Makhachkala 64.34 306 *e*P **P** **11 43 19.9 -2.3**
MAK *e**PP **pP** **11 44 52.2 -2.1**
MAK *e**SP **sP** **11 45 38.9 -2.6**
MAK *e*S **S** **11 51 21.1 -3.8**
MAK pmax pmax
comp=Z,464nm,2.0s
MCCM Marconi Confer 64.42 61 P **P** **11 43 23.4 +0.6**
MCCM lAmb lAmb 11 43 24.8
comp=Z,65nm,0.8s
KNRA Kununurra 64.46 197 P **P** **11 43 23.2 0.0**
KNRA Kununurra 64.46 197 P **P** **11 43 23.4 +0.1**
comp=Z,13nm,1.2s
HRY Holter Researc 64.77 48 P **P** **11 43 26.3 +1.2**
MFID Camas Ranch 64.92 53 lAmb lAmb 11 43 29.3
comp=Z,56nm,0.7s
SLIT Slitere, Latvi 65.10 330 *e*P **P** **11 43 26.4 -0.4**
AKT Akhty 65.20 305 *e*P **P** **11 43 28.4 +0.5**
AKT *e* 11 43 59.0
AKT *e**PP **pP** **11 45 01.5 +1.1**
AKT *e**SP **sP** **11 45 47.5 +0.1**
AKT *e*S **S** **11 51 35.2 -0.5**
AKT pmax pmax
comp=Z,117nm,0.7s
AKT MLR MLR
comp=Z,201nm,13.0s
MTSU Mount Surprise 65.23 181 P **P** **11 43 28.6 +0.5**
comp=Z,13nm,0.7s
MTSU Mount Surprise 65.23 181 P **P** **11 43 29.2 +1.0**
IDID Didziasalis 65.29 326 *e*P **P** **11 43 27.3 -0.7**
SFJD Kangerlussuaq 65.31 7 P **P** **11 43 27.8 -0.2**
SFJD lAmb lAmb 11 43 29.5
comp=Z,58nm,0.7s
SFJD Kangerlussuaq 65.31 7 P **P** **11 43 27.8 -0.2**
SFJD Kangerlussuaq 65.31 7 *i* P **P** **11 43 26.5 -1.5**
SFJD lAmb lAmb 11 43 28.1
comp=Z,72nm,0.9s
SFJD Kangerlussuaq 65.31 7 P **P** **11 43 28.0 0.0**
SFJD PcP **PcP** **11 43 55.8 -0.3**
ISAL Salakas 65.32 327 *e*P **P** **11 43 30.7 +2.4**
MPK Martis Peak 65.32 58 P **P** **11 43 30.4 +1.4**
MPK lAmb lAmb 11 43 31.3
comp=Z,125nm,0.8s
PAHR Pah Rah Range 65.42 58 P **P** **11 43 30.3 +0.9**
MNK Minsk 65.46 325 *i* P **P** **11 43 28.4 -0.8**
comp=E,30nm,0.8s
MNK *i* P **P** **11 43 28.4 -0.8**
comp=N,23nm,0.8s
MNK *i* P **P** **11 43 28.4 -0.8**
comp=Z,148nm,0.7s,baz=42
MNK *i* pP **pP** **11 44 59.4 -2.3**
MNK *i* PP **PP** **11 45 59.2 -0.2**
MNK *i* PPP PPP 11 47 41.0
MNK *i* S **S** **11 51 39.4 +1.3**
MNK *i* sS **sS** **11 54 22.3 +0.7**

MNK *i* SS **SS** **11 56 04.0 +3.6**
MNK *i* SSS SSS 11 59 21.9
MNK Minsk 65.46 325 *i* P **P** **11 43 28.3 -0.8**
MNK *i* *PP **pP** **11 44 59.3 -2.3**
MNK *i* 11 45 59.1
MNK *i* PPP PPP 11 47 41.0
MNK *i* S **S** **11 51 39.3 +1.3**
MNK *i* SS **SS** **11 56 04.0 +3.6**
MNK pmax pmax
comp=E,30nm,0.8s
MNK pmax pmax
comp=N,23nm,0.8s
MNK pmax pmax
comp=Z,148nm,0.7s
NACGM Naroch 65.58 326 ⇑ iP **P** **11 43 29.8 -0.1**
comp=Z,93nm,0.8s,baz=41
NB2 NORSAR Subarra 65.66 337 P **P** **11 43 30.0 -0.3**
comp=Z,93nm,0.5s,baz=31,slow=6.5
NB2 NORSAR Subarra 65.66 337 P **P** **11 43 30.0 -0.3**
baz=31,slow=6.5
NOA NORSAR Array B 65.66 337 P **P** **11 43 30.1 -0.3**
comp=Z,141nm,0.7s,baz=33,slow=6.4,SNR=588
NOA pP **pP** **11 45 03.8 +0.8**
comp=Z,2.7nm,0.6s,baz=33,slow=6.4,SNR=2.7
comp=Z,141nm,0.7s
HFS Hagfors 65.75 336 P **P** **11 43 30.4 -0.4**
comp=Z,252nm,0.5s,baz=46,slow=6.4,SNR=1128
HFS S **S** **11 51 38.9 -2.4**
comp=Z,2.8nm,0.8s,baz=61,slow=12,SNR=3.8
comp=Z,252nm,0.5s
NBO00 NORSAR Array S 65.78 338 P **P** **11 43 30.9 -0.2**
NBO00 lAmb lAmb 11 43 32.0
comp=Z,117nm,0.8s
VSVD Vaisvydziai 65.81 328 *e*P **P** **11 43 31.6 +0.3**
NAO01 NORSAR Array S 65.91 337 lAmb lAmb 11 43 33.3
comp=Z,107nm,0.8s
CMB Columbia Colle 65.96 60 lAmb lAmb 11 43 35.2
comp=Z,86nm,0.8s
PABE Paberze 66.16 328 P **P** **11 43 33.5 -0.1**
PABE Paberze 66.16 328 *e*P **P** **11 43 33.4 -0.1**
ERBR Yeremizino-Bor 66.17 312 *e*P **P** **11 43 33.2 -0.6**
ERBR *e*S **S** **11 51 48.3 +1.5**
ERBR pmax pmax
comp=Z,229nm,0.7s
WAKR Walker 66.20 59 P **P** **11 43 35.7 +1.3**
WAKR lAmb lAmb 11 43 37.2
comp=Z,85nm,0.7s
KIV Kislovodsk 66.25 310 P **P** **11 43 35.4 +0.9**
KIV Kislovodsk 66.25 310 ⇓ P **P** **11 43 35.9 +1.5**
KIV Kislovodsk 66.25 310 *e*P **P** **11 43 35.4 +0.9**
KIV *e**PP **pP** **11 45 07.1 -0.1**
KIV *e*S **S** **11 51 50.0 +1.9**
KIV *e*SS **SS** **11 56 12.0 -1.4**
KIV pmax pmax
comp=Z,271nm,1.0s
KIV pmax pmax
comp=Z,44nm,2.8s
KIV MLR MLR
comp=Z,121nm,17.0s
KIV Kislovodsk 66.25 310 *i* P **P** **11 43 35.5 +1.1**
SNR=29
KIV Kislovodsk 66.25 310 *e*P **P** **11 43 35.5 +1.1**
KIV Kislovodsk 66.25 310 P **P** **11 43 35.6 +1.1**
KIV PcP **PcP** **11 43 59.0 -1.6**
KBZ Khabaz 66.30 309 P **P** **11 43 35.7 +1.1**
comp=Z,103nm,0.7s,baz=53,slow=5.0,SNR=192
KBZ S **S** **11 51 48.2 -0.1**
comp=Z,5.1nm,1.1s,baz=214,slow=23,SNR=5.9
comp=Z,103nm,0.7s
KBZ Khabaz 66.30 309 *c* iP **P** **11 43 35.6 +1.1**
KBZ pmax pmax
comp=Z,100nm,0.7s
YHL Hebgen Lake 66.38 49 lAmb lAmb 11 43 37.8
comp=Z,81nm,0.8s
YHB Horse Butte 66.44 49 P **P** **11 43 37.1 +1.3**
PBUR Paburge 66.48 329 *e*P **P** **11 43 35.5 0.0**
GCMT Greycliff 66.49 47 P **P** **11 43 37.4 +1.4**
BBGB Big Mountain B 66.55 61 lAmb lAmb 11 43 39.2
comp=Z,119nm,0.9s
RYN Ryan 66.64 58 lAmb lAmb 11 43 39.8
comp=Z,86nm,0.8s
LABN Labinsk 66.79 311 *e*P **P** **11 43 37.1 -0.6**
LABN *e*S **S** **11 51 56.4 +2.2**
LABN pmax pmax
comp=Z,115nm,0.7s
YNE Yellowstone No 66.87 48 lAmb lAmb 11 43 40.9
comp=Z,87nm,0.7s
NVAR Mina Array Bea 66.90 58 P **P** **11 43 39.8 +1.0**
NVAR Mina Array Bea 66.90 58 P **P** **11 43 40.0 +1.2**
comp=Z,115nm,0.7s,baz=293,slow=5.9,SNR=560
NVAR PKPPKP 12 12 00.5
comp=Z,0.6nm,0.8s,baz=142,slow=7.5,SNR=4.2
comp=Z,115nm,0.7s
PMPB Monarch Peak 66.94 61 P **P** **11 43 39.4 +0.6**
YMP Mirror Lake Pl 66.98 48 lAmb lAmb 11 43 41.8
comp=Z,49nm,0.7s
NV11 Mina Array Sit 66.99 58 P **P** **11 43 40.0 +0.8**
NV11 lAmb lAmb 11 43 41.9
comp=Z,77nm,0.8s
H17A Grant Village 67.01 49 lAmb lAmb 11 43 43.6
comp=Z,109nm,0.8s
RLMT Red Lodge 67.16 48 lAmb lAmb 11 43 42.6
comp=Z,70nm,0.8s
KONO Kongsberg 67.27 337 P **P** **11 43 39.9 -0.4**
KONO Kongsberg 67.27 337 *c* iP **P** **11 43 40.3 0.0**
KONO pmax pmax
comp=Z,45nm,0.9s
ANGG Ammassalik, Gr 67.30 1 P **P** **11 43 40.0 -0.5**
ANGG lAmb lAmb 11 43 40.8
comp=Z,64nm,0.6s
ANGG Ammassalik, Gr 67.30 1 *i* P **P** **11 43 39.4 -1.0**
ANGG lAmb lAmb 11 43 40.5
comp=Z,63nm,0.6s
FXWY Fox Creek 67.31 50 lAmb lAmb 11 43 44.0
comp=Z,57nm,0.8s
ISOG Isortoq, Green 67.34 2 *i* P **P** **11 43 39.9 -0.8**
ISOG lAmb lAmb 11 43 40.7
comp=Z,77nm,0.7s
STRU Stroemstad 67.37 336 *i* P **P** **11 43 40.9 -0.1**
PALK Pallekele 67.40 256 P **P** **11 43 42.3 +0.4**
comp=Z,23nm,0.8s,baz=40,slow=4.5,SNR=11
comp=Z,23nm,0.8s
TPAW Teton Pass 67.45 50 lAmb lAmb 11 43 46.0
comp=Z,65nm,0.8s
FITZ Fitzroy Crossi 67.49 200 P **P** **11 43 42.4 +0.2**
comp=Z,4.2nm,0.8s
FITZ Fitzroy Crossi 67.49 200 P **P** **11 43 43.0 +0.8**
comp=Z,14nm,0.7s,baz=13,slow=6.5,SNR=9.1
FITZ pP **pP** **11 45 16.5 +1.1**
comp=Z,15nm,0.9s,baz=23,slow=6.8,SNR=7.0
comp=Z,14nm,0.7s
FITZ Fitzroy Crossi 67.49 200 P **P** **11 43 43.2 +1.0**
LAO LASA Array 67.54 45 lAmb lAmb 11 43 44.5
comp=Z,96nm,0.8s
SNOW Snow King Moun 67.57 50 lAmb lAmb 11 43 45.7
comp=Z,47nm,0.8s
SUW Suwalki 67.61 327 *e*P **P** **11 43 41.9 -0.7**
SUW Suwalki 67.61 327 *e*P **P** **11 43 42.2 -0.3**
BORG Borgarnes 67.68 354 P **P** **11 43 43.9 +1.1**
BORG lAmb lAmb 11 43 46.1
comp=Z,66nm,0.7s
BORG Borgarnes 67.68 354 P **P** **11 43 43.9 +1.1**
BORG pmax pmax
comp=Z,66nm,0.7s
BORG Borgarnes 67.68 354 P **P** **11 43 44.1 +1.3**
BORG PcP **PcP** **11 44 04.4 -1.6**
WRAB Tennant Creek 67.71 191 P **P** **11 43 43.3 -0.3**
WRAB Tennant Creek 67.71 191 P **P** **11 43 43.3 -0.3**
WRAB pmax pmax
comp=Z,22nm,0.8s
WR8 Warramunga Arr 67.71 191 P **P** **11 43 43.4 -0.2**
WR8 lAmb lAmb 11 43 44.2
comp=Z,33nm,0.6s
WRA Warramunga Arr 67.72 191 P **P** **11 43 43.0 -0.6**
WRA PcP **PcP** **11 44 07.1 +0.4**
WRA Warramunga Arr 67.72 191 P **P** **11 43 43.7 +0.1**
comp=Z,20nm,0.6s,baz=8.7,slow=6.4,SNR=51
WRA PcP **PcP** **11 44 07.2 +0.4**
comp=Z,16nm,0.8s,baz=2.8,slow=4.6,SNR=14
WRA pP **pP** **11 45 16.1 -0.7**
comp=Z,7.6nm,0.9s,baz=13,slow=7.0,SNR=4.4
WRA PKPPKP **P'P'df** **12 12 00.2 +4.0**
comp=Z,5.1nm,0.8s,baz=189,slow=2.8,SNR=26
comp=Z,20nm,0.6s
WRA Warramunga Arr 67.72 191 *i* P **P** **11 43 43.7 +0.1**
WRA pmax pmax

comp=Z,21nm,0.6s
TPH Tonopah 67.77 58 P **P 11 43 45.3 +1.2**
TPH Tonopah 67.77 58 P **P 11 43 45.3 +1.2**
TPH pmax pmax
comp=Z,430nm,0.7s
GNI Garni 67.77 305 P **P 11 43 44.8 +0.8**
GNI IAmb IAmb 11 44 10.9
comp=Z,41nm,0.7s
GNI Garni 67.77 305*c i*P **P 11 43 46.0 +2.0**
GNI pmax pmax
comp=Z,34nm,0.8s
GNI Garni 67.77 305 P **P 11 43 46.1 +2.1**
AKASG Malin Array Be 67.77 322 P **P 11 43 43.2 -0.3**
AKASG IAmb IAmb 11 43 44.3
comp=Z,99nm,0.7s
AKASG Malin Array Be 67.77 322 P **P 11 43 43.3 -0.3**
comp=Z,106nm,0.6s,baz=38,slow=6.3,SNR=300
AKASG pP **pP 11 45 18.0 +1.1**
comp=Z,12nm,0.8s,baz=38,slow=6.7,SNR=4.7
AKASG S **S 11 52 01.3 -4.2**
comp=Z,0.4nm,0.4s,baz=38,slow=13,SNR=8.6
comp=Z,106nm,0.6s
AKASG Malin Array Be 67.77 322 *i* P **P 11 43 43.2 -0.3**
AKASG pmax pmax
comp=Z,104nm,0.6s
AKBB Malin Array Si 67.77 322 IAmb IAmb 11 43 44.2
comp=Z,105nm,0.7s
AKBB Malin Array Si 67.77 322*ce*P **P 11 43 43.2 -0.4**
AKBB pmax pmax
comp=Z,103nm,0.7s
KIEV Kiev 67.78 322 P **P 11 43 43.3 -0.3**
KIEV IAmb IAmb 11 43 44.2
comp=Z,96nm,0.6s
KIEV Kiev 67.78 322 ⇑P **P 11 43 43.5 -0.2**
KIEV Kiev 67.78 322 P **P 11 43 43.5 -0.2**
KIEV Kiev 67.78 322 *i* P **P 11 43 43.5 -0.2**
SNR=14
KIEV Kiev 67.78 322 ⇑P **P 11 43 43.4 -0.3**
DSP Deep Springs 67.82 59 P **P 11 43 45.8 +1.7**
DSP IAmb IAmb 11 43 46.9
comp=Z,75nm,0.8s
QIS Mount Isa 67.82 185 P **P 11 43 44.0 -0.2**
comp=Z,24nm,0.8s
QIS Mount Isa 67.82 185 P **P 11 43 44.4 +0.2**
AHID Auburn Hatcher 67.88 51 IAmb IAmb 11 43 46.8
comp=Z,49nm,0.8s
VSLR Vesyoloye 67.97 311*c i*P **P 11 43 45.9 +0.9**
VSLR pmax pmax
comp=Z,132nm,0.7s
NUUK Nuuk 67.98 8 *i* P **P 11 43 44.5 -0.1**
NUUK IAmb IAmb 11 43 45.3
comp=Z,97nm,0.8s
SOC Sochi 68.05 311 *e*P **P 11 43 44.9 -0.6**
SOC *e* 11 46 21.0
SOC *e*PPP PPP 11 48 07.6
SOC *e*S **S 11 52 10.1 +1.1**
SOC *e*SS **SS 11 56 40.2 -0.6**
SOC pmax pmax
comp=Z,100nm,0.6s
BORU Boraas 68.10 335 *i* P **P 11 43 44.7 -0.8**
BLEU Blekinge 68.29 332 *i* P **P 11 43 45.6 -1.0**
ANN Anapa 68.34 313 *e*P **P 11 43 46.4 -0.8**
ANN *e**PP **pP 11 45 17.9 -2.8**
ANN *e* 11 46 23.7
ANN *e*S **S 11 52 13.5 +1.2**
ANN pmax pmax
comp=Z,108nm,0.6s
ANN Anapa 68.34 313 *e*P **P 11 43 47.2 0.0**
HWUT Hardware Ranch 68.45 52 IAmb IAmb 11 43 51.0
comp=Z,98nm,0.8s
ONAU Onsala 68.55 335 *i* P **P 11 43 47.5 -0.7**
FABU Falkenberg 68.65 334 *i* P **P 11 43 47.8 -1.1**
BW06 Boulder Array 68.68 50 IAmb IAmb 11 43 51.8
comp=Z,111nm,0.7s
PD31 Pinedale Array 68.68 50 IAmb IAmb 11 43 51.8
comp=Z,109nm,0.7s
PDAR Pinedale Array 68.68 50 P **P 11 43 50.1 +0.5**
PDAR Pinedale Array 68.68 50 P **P 11 43 50.2 +0.6**
comp=Z,149nm,0.9s,baz=303,slow=1.6,SNR=716
PDAR PKPPKP **P'P'df 12 11 53.1 -7.4**
comp=Z,3.7nm,1.2s,baz=322,slow=0.9,SNR=8.9
comp=Z,149nm,0.9s
HOMB Homborsund 68.75 337 *i* P **P 11 43 49.3 -0.1**
DEL Delary 68.75 333 *i* P **P 11 43 48.7 -0.8**
SPR3 Spring Creek 3 68.76 55 IAmb IAmb 11 43 53.2
comp=Z,64nm,0.8s
DUG Dugway, Tooele 68.77 53 IAmb IAmb 11 43 52.5
comp=Z,80nm,0.8s
TCUT Toone Canyon 68.88 52 IAmb IAmb 11 43 53.2
comp=Z,89nm,0.8s
WCT Wildcat Mounta 68.99 58 IAmb IAmb 11 43 53.9
comp=Z,53nm,0.7s
SNART Snartemo 69.03 338 *i* P **P 11 43 51.3 +0.2**
OVD Ostervraa, Den 69.11 336 *i* P **P 11 43 51.4 -0.2**
OVD IAmb IAmb 11 43 53.0
comp=Z,157nm,0.7s
OZAP Van, Ozalp-Mer 69.22 305 ⇑P **P 11 43 55.1 +2.1**
OSI Osito Audit: C 69.27 61 IAmb IAmb 11 43 55.5
comp=Z,99nm,0.8s
LRW Lerwick 69.34 343 *e*P **P 11 43 53.3 +0.3**
LRW IAmb IAmb 11 43 53.6
comp=Z,71nm,0.6s
BJUU Bjuv 69.34 334 *i* P **P 11 43 53.0 -0.1**
PSUT Pine Spring 69.36 55 IAmb IAmb 11 43 56.3
comp=Z,75nm,0.7s
TPO Tropico Hills 69.38 61 IAmb IAmb 11 43 56.4
comp=Z,118nm,0.8s
HOMI Horasan 69.40 307 ⇓P **P 11 43 55.5 +1.5**
ULM Lac du Bonnet 69.48 37 P **P 11 43 53.8 -0.2**
comp=Z,118nm,0.7s,baz=317,slow=6.9,SNR=233
ULM PKP2bc 12 11 53.9
comp=Z,2.5nm,0.9s,baz=130,slow=5.2,SNR=5.1
comp=Z,118nm,0.7s
MPU Maple Canyon 69.53 53 IAmb IAmb 11 43 57.4
comp=Z,92nm,0.7s
BSD Bornholm Skovb 69.56 332 *e*P **P 11 43 54.3 -0.1**
BSD Bornholm Skovb 69.56 332 *i* P **P 11 43 54.1 -0.3**
BSD IAmb IAmb 11 43 54.9
comp=Z,148nm,0.6s
BSUT Blindstream Ca 69.64 52 IAmb IAmb 11 43 58.9
comp=Z,88nm,0.9s
SIM Simferopol' 69.85 315 *e*P **P 11 43 55.9 -0.4**
SIM *e*S **S 11 52 25.7 -4.1**
SIM pmax pmax
comp=Z,97nm,0.9s
SIM smax smax
comp=E,73µm,12.9s
COP Copenhagen 69.85 334 *i* P **P 11 43 56.1 0.0**
COP IAmb IAmb 11 43 57.0
comp=Z,280nm,0.6s
MWC Mount Wilson 69.94 61 IAmb IAmb 11 43 59.0
comp=Z,62nm,0.8s
SHPR Sheep Range 70.04 58 IAmb IAmb 11 44 00.7
comp=Z,53nm,0.7s
MUD Monsted U'grnd 70.14 336 *i* P **P 11 43 58.2 +0.4**
MUD IAmb IAmb 11 43 58.9
comp=Z,64nm,0.6s
BFSC Mount Baldy Ra 70.16 61 IAmb IAmb 11 44 00.7
comp=Z,84nm,0.7s
BEL Belsk 70.22 327 *e*P **P 11 43 59.1 +0.7**
TMUT Trail Mountain 70.28 53 IAmb IAmb 11 44 01.9
comp=Z,111nm,0.7s
GKP Gorka Klasztor 70.32 330 *e*P **P 11 43 58.9 -0.1**
GKP Gorka Klasztor 70.32 330 *e*P **P 11 43 59.2 +0.2**
RSSD Black Hills 70.47 46 P **P 11 44 00.7 +0.3**
RSSD IAmb IAmb 11 44 01.9
comp=Z,93nm,0.8s
RSSD Black Hills 70.47 46 P **P 11 44 00.7 +0.3**
RSSD pmax pmax
comp=Z,93nm,0.8s
RSSD Black Hills 70.47 46 P **P 11 44 00.9 +0.6**
MTPC Mountain Pass 70.53 59 IAmb IAmb 11 44 02.9
comp=Z,52nm,0.7s
P18A Preston Nutter 70.56 52 IAmb IAmb 11 44 03.4
comp=Z,68nm,0.9s
BANOM Banah 70.57 287 *i* P **P 11 44 01.4 +0.4**
SNR=6.6
SHME Shamm 70.58 288 *i* P **P 11 44 01.1 0.0**
SNR=8.9
DGTI Dogotuki 70.64 145 P **P 11 44 02.8 +1.5**
ELS Elsinore Mount 70.71 61 IAmb IAmb 11 44 03.4
comp=Z,43nm,0.7s
KIS Kishinev 70.75 319⇑*i*P **P 11 44 01.7 0.0**
comp=Z,240nm,1.9s
KIS Kishinev 70.75 319*c i*P **P 11 44 01.7 0.0**
KIS pmax pmax
comp=Z,240nm,1.9s
V12A Nelson 70.76 58 IAmb IAmb 11 44 04.5
comp=Z,60nm,0.8s
EPLO Experimental L 70.79 36 IAmb IAmb 11 44 02.5
comp=Z,103nm,0.9s
MILM Milestii Mici 70.81 319⇑*i*P **P 11 44 00.7 -1.3**
comp=Z,220nm,3.2s
MILM Milestii Mici 70.81 319 ⇑P **P 11 44 01.7 -0.4**
MILM Milestii Mici 70.81 319*c i*P **P 11 44 00.7 -1.3**
MILM pmax pmax
comp=Z,220nm,3.2s
MDH Madha 71.00 287 P **P 11 44 04.0 +0.5**
MSFE Esma-Masafi 71.05 287 P **P 11 44 04.3 +0.4**
IVI Ivigtut 71.22 7 IAmb IAmb 11 44 05.0
comp=Z,81nm,0.6s
IVI Ivigtut 71.22 7 *i* P **P 11 44 03.5 -0.6**
IVI IAmb IAmb 11 44 04.8
comp=Z,76nm,0.7s
IVI Ivigtut 71.22 7 P **P 11 44 04.0 -0.2**
KWP Kalwaria Pacla 71.25 325 *e*P **P 11 44 05.2 +0.6**
O20A White River Ci 71.26 51 IAmb IAmb 11 44 07.7
comp=Z,101nm,0.9s
MSVF Nonsavu 71.30 147 P **P 11 44 07.0 +1.7**
MSVF Nonsavu 71.30 147 P **P 11 44 07.5 +2.2**
MSVF Nonsavu 71.30 147 P **P 11 44 07.0 +1.7**
MSVF pmax pmax
comp=Z,52nm,1.3s
UOSS Minazif 71.31 287 P **P 11 44 05.6 +0.2**
UOSS Minazif 71.31 287 *i* P **P 11 44 05.3 -0.1**
SNR=7.0
PFO Pinyon Flats O 71.31 61 P **P 11 44 06.0 +0.5**
PFO Pinyon Flats O 71.31 61*c i*P **P 11 44 05.9 +0.5**
PFO pmax pmax
comp=Z,64nm,0.8s
PFO Pinyon Flats O 71.31 61 ⇑P **P 11 44 05.8 +0.4**
PFO PcP **PcP 11 44 23.5 +1.3**
PMD Palm Desert 71.33 61 IAmb IAmb 11 44 06.9
comp=Z,43nm,0.7s
BIGH Upper Bighouse 71.40 343⇑*e*P **P 11 44 05.5 +0.2**
BIGH IAmb IAmb 11 44 05.9
comp=Z,54nm,0.6s
AS16 Alice Springs 71.41 191 P **P 11 44 06.3 +0.5**
comp=Z,40nm,0.9s
AS01 Alice Springs 71.44 191 P **P 11 44 07.3 +1.4**
HATD Hatta, Dubai 71.44 287 *i* P **P 11 44 06.6 +0.5**
SNR=12
ASAR Alice Springs 71.44 191 P **P 11 44 06.8 +0.9**
comp=Z,25nm,0.7s,baz=3.6,slow=5.2,SNR=90
ASAR pP **pP 11 45 40.2 -0.1**
comp=Z,14nm,0.8s,baz=10,slow=6.1,SNR=6.4
ASAR PKiKP **PKiKP 11 50 08.4 +1.5**
comp=Z,0.4nm,0.7s,baz=20,slow=3.0,SNR=4.4
comp=Z,25nm,0.7s
NRS Narsarsuaq 71.46 5 P **P 11 44 04.8 -0.8**
NRS Narsarsuaq 71.46 5 P **P 11 44 04.8 -0.8**
NRS pmax pmax
comp=Z,46nm,0.9s
NRS Narsarsuaq 71.46 5 *i* P **P 11 44 05.0 -0.6**
NRS IAmb IAmb 11 44 06.7
comp=Z,42nm,0.8s
VASR Vaslui 71.48 320 ⇑P **P 11 44 06.7 +0.7**
ASHO Ashiyiah 71.59 287 *i* P **P 11 44 07.4 +0.3**
SNR=9.0
SOHO SOHO 71.66 286 *i* P **P 11 44 07.4 0.0**
SNR=6.4
DIKM Dikmen 71.72 312 ⇑P **P 11 44 08.9 +1.4**
U15A North Rim 71.72 56 IAmb IAmb 11 44 10.9
comp=Z,81nm,0.7s
W13A Hualapai Mount 71.76 58 IAmb IAmb 11 44 10.6
comp=Z,58nm,0.8s
DZM Mont Dzumac 71.79 159 P **P 11 44 09.5 +1.4**
DZM Mont Dzumac 71.79 159 *e*P **P 11 44 09.2 +1.1**
comp=Z,33nm,1.0s
DZM *e*pP **pP 11 45 41.0 -0.8**
comp=Z,108nm,29.4s
DZM *e*S S 11 52 42.8 -10
comp=Z,141nm,23.6s
DZM Mont Dzumac 71.79 159 *e*LQ LQ 12 03 04.6
comp=Z,1µm,28.6s
DZM *e*LR LR 12 06 39.9
comp=Z,191nm,26.1s
DZM Mont Dzumac 71.79 159 P **P 11 44 09.6 +1.5**
BUR08 Bucovina Ar. S 71.81 322 P **P 11 44 08.4 +0.4**
BUR08 IAmb IAmb 11 44 09.5
comp=Z,80nm,0.6s
BURAR Bucovina Array 71.83 322 P **P 11 44 08.5 +0.3**
BURAR Bucovina Array 71.83 322 ⇑P **P 11 44 08.7 +0.6**
BURAR Bucovina Array 71.83 322 P **P 11 44 08.7 +0.6**
OJC Ojcow 71.90 326 *e*P **P 11 44 08.7 +0.3**
MBWA Marble Bar 71.95 205 P **P 11 44 09.2 +0.2**
MBWA Marble Bar 71.95 205 P **P 11 44 08.8 -0.1**
comp=Z,32nm,1.1s
MBWA Marble Bar 71.95 205 P **P 11 44 08.7 -0.2**
VLDR Vladesti 71.97 319 ⇓P **P 11 44 09.7 +0.9**
LINV Loch Inver, As 71.97 344 *e*P **P 11 44 08.6 0.0**
KOLS Kolonicke sedl 71.98 324 *e*P **P 11 44 09.5 +0.6**
KOLS pmax pmax
comp=Z,59nm,0.8s
KOLS Kolonicke sedl 71.98 324 *e*P **P 11 44 09.5 +0.6**
BSEG Bad Segeberg 71.99 334 *e*P **P 11 44 09.4 +0.6**
comp=Z,60nm,0.8s,baz=30,slow=5.7
ARPR Arapgir-MALATY 72.00 308 IAmb IAmb 11 44 12.2
comp=Z,76nm,0.9s
PV23 Carpenter Ridg 72.07 53 P **P 11 44 10.9 +0.9**
TESR Tescani 72.08 320 ⇑P **P 11 44 10.1 +0.5**
ASUD Al Ashush, Dub 72.10 287 P **P 11 44 10.5 +0.5**
BZK Bozkurt 72.12 313 ⇑P **P 11 44 11.1 +1.3**
MCD Coleburn Disti 72.12 343 *e*P **P 11 44 09.6 +0.1**
MCD IAmb IAmb 11 44 10.0
comp=Z,44nm,0.6s
SCTR Scanteiesti 72.14 319 ⇑P **P 11 44 10.9 +1.0**
RUE Ruedersdorf 72.14 331 *e*P **P 11 44 09.8 0.0**
TLCR 72.14 318 ⇑P **P 11 44 10.5 +0.6**
TLCR 72.14 318 P **P 11 44 10.4 +0.6**
PV04 Paradox Valley 72.17 52 IAmb IAmb 11 44 13.0
comp=Z,116nm,0.9s
ALNE Al Ain 72.22 286 *i* P **P 11 44 10.9 +0.2**
SNR=8.3
PV16 Nyswonger Mesa 72.23 53 IAmb IAmb 11 44 12.9
comp=Z,90nm,0.8s
PV11 David Mesa, Pa 72.26 53 IAmb IAmb 11 44 14.6
comp=Z,162nm,1.1s
PV07 Paradox Valley 72.28 52 IAmb IAmb 11 44 13.4
comp=Z,69nm,0.8s
PV12 Saucer Basin, 72.28 52 IAmb IAmb 11 44 25.1
comp=Z,142nm,0.8s
NEGRR Negrea 72.29 319 ⇑P **P 11 44 11.9 +1.1**
PV03 Paradox Valley 72.31 53 IAmb IAmb 11 44 13.7
comp=Z,66nm,0.8s
ONER Baraj Valea Uz 72.33 320 ⇑P **P 11 44 11.6 +0.6**
PANC Panciu 72.36 320 ⇓P **P 11 44 13.0 +1.8**
NIE Niedzica 72.36 326 *e*P **P 11 44 12.1 +0.9**
SCHLR Schela 72.36 319 ⇑P **P 11 44 11.9 +0.7**
PV13 Radium Mtn., P 72.39 53 IAmb IAmb 11 44 14.7
comp=Z,122nm,0.7s
PV02 Paradox Valley 72.40 53 IAmb IAmb 11 44 13.8
comp=Z,65nm,0.8s
JURR Jurilovca 72.44 318 ⇓P **P 11 44 12.4 +0.8**
PV15 Paradox Valley 72.44 52 IAmb IAmb 11 44 14.8
comp=Z,141nm,0.9s
CFR Carcaliu 72.45 319 ⇓P **P 11 44 12.4 +0.7**
CFR Carcaliu 72.45 319 P **P 11 44 12.4 +0.7**
ODBI Odobesti 72.48 320 ⇓P **P 11 44 13.7 +1.9**
BMR Baia Mare 72.49 323 ⇑P **P 11 44 13.1 +1.2**
BMR Baia Mare 72.49 323 P **P 11 44 13.1 +1.2**
GORT1 Trebel 72.50 333 *e*P **P 11 44 12.5 +0.8**
comp=Z,107nm,1.3s,baz=30,slow=5.7
PV01 Paradox Valley 72.54 52 P **P 11 44 13.6 +0.9**
PV01 IAmb IAmb 11 44 14.9
comp=Z,56nm,0.6s
VRI Vrincioaia 72.55 320 ⇑P **P 11 44 13.0 +0.8**
VRI Vrincioaia 72.55 320 P **P 11 44 14.3 +2.0**
TPGR Topolog 72.58 318 ⇑P **P 11 44 13.2 +0.7**
DRUM Mains of Drumt 72.58 342⇑*e*P **P 11 44 12.2 0.0**
DRUM IAmb IAmb 11 44 12.7
comp=Z,72nm,0.9s
PLOR Plostina 72.59 320 ⇑P **P 11 44 13.3 +0.7**
PLOR Plostina 72.59 320 P **P 11 44 13.2 +0.7**
ARCR ARCALIA 72.61 322 ⇓P **P 11 44 14.2 +1.7**
SUSD Miller 72.62 42 P **P 11 44 13.2 +0.5**
EIDS Eidsvold 72.64 174 P **P 11 44 13.7 +0.8**
comp=Z,31nm,1.3s
EIDS Eidsvold 72.64 174 P **P 11 44 14.4 +1.5**
KSP Ksiaz 72.66 329 *e*P **P 11 44 13.2 +0.4**
GLA Glamis 72.67 60 IAmb IAmb 11 44 15.4
comp=Z,84nm,0.7s
CIDE Kastamonu/Cide 72.70 314 ⇓P **P 11 44 13.1 -0.1**
TURR Turia 72.71 320 ⇑P **P 11 44 14.7 +1.5**
F33A 5 Mile Ranch, 72.73 40 IAmb IAmb 11 44 14.8
comp=Z,101nm,0.6s
ESJX Sierra Juarez 72.75 61 IAmb IAmb 11 44 15.9
comp=Z,55nm,0.8s
OZUR 72.78 321 ⇑P **P 11 44 15.0 +1.3**
BISRR Bisoca 72.80 320 ⇓P **P 11 44 15.3 +1.5**
KPL Plockton 72.82 344⇑*e*P **P 11 44 13.8 +0.3**
KPL IAmb IAmb 11 44 14.6
comp=Z,119nm,0.7s
OKC Ostrava-Krasne 72.83 327 *e*P **P 11 44 14.4 +0.6**
OKC *e*S **S 11 53 03.0 -0.3**
OKC Ostrava-Krasne 72.83 327 *e*P **P 11 44 14.4 +0.6**
OKC *e*S **S 11 53 03.0 -0.3**
ISCO Idaho Springs 72.88 50 P **P 11 44 15.6 +0.9**
ISCO Idaho Springs 72.88 50 P **P 11 44 15.6 +0.9**
ISCO pmax pmax
comp=Z,29nm,0.8s
STEB Steborice 72.88 327 *e*P **P 11 44 14.9 +0.8**
TIRR Tirgusor 72.89 318 ⇑P **P 11 44 15.0 +0.7**
TIRR Tirgusor 72.89 318 P **P 11 44 14.9 +0.7**
WUAZ Wupatki 72.89 56 P **P 11 44 16.1 +1.4**
WUAZ IAmb IAmb 11 44 17.2
comp=Z,48nm,0.8s
LANS Liptovska Anna 72.89 326 *e*P **P 11 44 15.7 +1.4**
LANS pmax pmax
comp=Z,61nm,0.7s
LANS Liptovska Anna 72.89 326 *e*P **P 11 44 15.7 +1.4**
HARR Harsova 72.92 318 ⇑P **P 11 44 15.3 +0.9**
HARR Harsova 72.92 318 P **P 11 44 15.3 +0.9**
OSTC Ostas 72.93 329 *e*P **P 11 44 15.0 +0.6**
OSTC Ostas 72.93 329 *e*P **P 11 44 15.0 +0.6**
OSTC MLR MLR
comp=Z,1µm,18.5s
ILGA Ilgaz 72.94 313 IAmb IAmb 11 44 17.4
comp=Z,85nm,0.7s
CHVC Chvalec 72.96 329 *e*P **P 11 44 15.1 +0.5**
CHVC Chvalec 72.96 329 *e*P **P 11 44 15.1 +0.5**
TLBR Topalu 72.98 318 ⇓P **P 11 44 15.5 +0.7**
UPC Upice 73.04 329 *e*P **P 11 44 15.8 +0.8**
UPC *e*S **S 11 53 04.1 -1.6**
UPC Upice 73.04 329 *e*P **P 11 44 15.8 +0.8**
UPC *e*S **S 11 53 04.1 -1.6**
KECS Kecovo 73.05 325 *e*P **P 11 44 15.9 +0.8**
KECS pmax pmax
comp=Z,50nm,0.7s
KECS Kecovo 73.05 325 *e*P **P 11 44 15.9 +0.8**
DOPR Dopca 73.05 321 ⇓P **P 11 44 16.1 +1.0**
DPC Dobruska-Polom 73.06 328 *e*P **P 11 44 16.3 +1.1**
DPC *e*S **S 11 53 05.9 -0.1**
DPC Dobruska-Polom 73.06 328 *e*P **P 11 44 16.3 +1.1**
DPC *e*S **S 11 53 05.9 -0.1**
FLTG Flechtingen 73.09 332 *e*P **P 11 44 15.2 0.0**
comp=Z,75nm,0.7s,baz=30,slow=5.7
MFTR Murfatlar 73.10 318 ⇑P **P 11 44 16.1 +0.7**
MORC Moravsky Berou 73.10 327 IAmb IAmb 11 44 17.2
comp=Z,79nm,0.7s
MORC Moravsky Berou 73.10 327 *e*P **P 11 44 16.1 +0.7**
MORC *e*S **S 11 53 05.5 -0.9**
MORC Moravsky Berou 73.10 327 ⇑P **P 11 44 16.3 +0.9**
MORC Moravsky Berou 73.10 327 P **P 11 44 16.3 +0.9**
Y14A Wickenburg 73.10 58 IAmb IAmb 11 44 18.3
comp=Z,107nm,0.6s
KRLC Kraliky 73.13 328 *e*P **P 11 44 16.5 +0.9**
KRLC Kraliky 73.13 328 *e*P **P 11 44 16.5 +0.9**
MESR Meseseni 73.14 323 ⇑P **P 11 44 16.7 +1.0**
MLR Muntele Rosu 73.18 320 IAmb IAmb 11 44 18.2
comp=Z,65nm,0.6s
MLR Muntele Rosu 73.18 320 ⇑P **P 11 44 16.8 +0.7**
MLR Muntele Rosu 73.18 320 P **P 11 44 17.9 +1.8**
CBBR Cluj-Babes-Bol 73.19 322 ⇑P **P 11 44 16.8 +0.8**
ISR Istrita 73.21 319 ⇑P **P 11 44 17.4 +1.2**
ISR Istrita 73.21 319 P **P 11 44 17.3 +1.2**
CJR Cluj-Napoca 73.22 322 ⇑P **P 11 44 17.3 +1.1**
CJR Cluj-Napoca 73.22 322 P **P 11 44 17.3 +1.1**
MVCO Mesa Verde 73.25 53 IAmb IAmb 11 44 19.2
comp=Z,112nm,0.7s
NRDL Niedersach Rie 73.30 333 *e*P **P 11 44 16.8 +0.4**
comp=Z,41nm,0.8s,baz=30,slow=5.7
MANR Mangalia 73.30 317 ⇓P **P 11 44 17.2 +0.6**
MAUC Maruska 73.33 327 *e*P **P 11 44 17.3 +0.5**
MAUC *e*S **S 11 53 08.4 -0.7**
CLL Collm 73.39 331⇑*i*P **P 11 44 17.0 0.0**
CLL *e**SP **sP 11 46 37.0 -1.4**
CLL *e*S **S 11 53 08.0 -1.5**
CLL *e* 11 53 40.0
CLL pmax pmax
comp=Z,127nm,0.6s
CLL Collm 73.39 331⇑*i*P **P 11 44 17.0 0.0**
comp=Z,127nm,0.6s
CLL *e*sP **sP 11 46 37.0 -1.4**
CLL *e*PP **PP 11 47 07.0 0.0**
CLL *e*S **S 11 53 08.0 -1.5**
CLL *e*SKSac **SKSac 11 53 40.0 -0.3**
CLL *e*sS **sS 11 55 58.0 -0.7**
CLL *e*SS **SS 11 57 54.0 -7.5**
CLL *e*sSS 12 00 30.0
CLL *e*SSS SSS 12 01 24.0
CLL *e*SSSS 12 03 48.0
CLL Collm 73.39 331 *e*P **P 11 44 17.1 0.0**
comp=Z,109nm,0.6s,baz=30,slow=5.7
ICOR Ion Corvin 73.43 318 ⇓P **P 11 44 19.0 +1.7**
ASSE Asse, Remlinge 73.44 333 *e*P **P 11 44 17.6 +0.5**
comp=Z,46nm,1.1s,baz=30,slow=5.7
MARR Marisel-Cluj 73.44 322 ⇓P **P 11 44 17.7 +0.1**
BRG Berggiesshubel 73.45 330 *e*P **P 11 44 17.5 +0.2**
comp=Z,28nm,0.9s,baz=30,slow=5.7
BRG Berggiesshubel 73.45 330⇑*i*P **P 11 44 17.5 +0.2**
BRG Amp 11 44 18.2
comp=Z,28nm,0.9s
BRG PP **PP 11 47 10.6 +3.0**
BRG Amp 11 47 12.7
comp=Z,11nm,1.1s
BRG Berggiesshubel 73.45 330 S **S 11 53 09.0 -1.2**
BRG Berggiesshubel 73.45 330 SS SS 11 58 06.0 +3.7
DRGR 73.52 323 ⇓P **P 11 44 18.0 +0.1**
DRGR 73.52 323 P **P 11 44 18.0 +0.1**
PVCC Panska Ves 73.52 330 *e*P **P 11 44 18.5 +0.7**
PVCC Panska Ves 73.52 330 *e*P **P 11 44 18.5 +0.7**
ESY Stoneypath 73.53 342 *e*P **P 11 44 17.8 +0.1**
VOIR 73.61 321 ⇑P **P 11 44 19.6 +1.1**
VOIR 73.61 321 P **P 11 44 19.6 +1.1**
QLP Quilpie 73.64 181 P **P 11 44 19.2 +0.6**
comp=Z,51nm,1.1s
QLP Quilpie 73.64 181 P **P 11 44 20.2 +1.6**
X16A Lo Mia Camp, P 73.65 57 IAmb IAmb 11 44 22.0
comp=Z,97nm,0.7s
WRKA Warakurna 73.66 196 P **P 11 44 19.0 +0.1**
comp=Z,20nm,0.8s
RICC Richard 73.67 330 *e*P **P 11 44 19.5 +0.9**
VYHS Vyhne 73.67 326 *e*P **P 11 44 19.6 +0.9**
VYHS pmax pmax
comp=Z,57nm,0.8s
VYHS Vyhne 73.67 326 *e*P **P 11 44 19.6 +0.9**
PSZ Piszkesteto 73.74 325 IAmb IAmb 11 44 20.8
comp=Z,51nm,0.8s
PSZ Piszkesteto 73.74 325 ⇑P **P 11 44 20.2 +1.0**
PSZ Piszkesteto 73.74 325 P **P 11 44 20.2 +1.0**
PSZ Piszkesteto 73.74 325 *e*P **P 11 44 19.9 +0.8**
TNR Turnu Rosu 73.78 321 ⇓P **P 11 44 20.1 +0.7**
TNR Turnu Rosu 73.78 321 P **P 11 44 20.0 +0.7**
CLZ Clausthal 73.78 333 *e*P **P 11 44 20.0 +0.7**
comp=Z,76nm,0.7s,baz=30,slow=5.7
LAWE Loch Awe, Argy 73.78 343⇑*e*P **P 11 44 19.2 +0.1**
LAWE IAmb IAmb 11 44 19.7
comp=Z,56nm,0.8s
JAVC Velka Javorina 73.81 327 *e*P **P 11 44 21.3 +1.8**
VRAC Vranov 73.83 328 *e*P **P 11 44 20.5 +0.9**
VRAC *e*S **S 11 53 14.0 -0.5**
VRAC Vranov 73.83 328 ⇓P **P 11 44 20.7 +1.1**
VRAC Vranov 73.83 328 P **P 11 44 20.7 +1.1**
ARR Arges 73.85 321 ⇓P **P 11 44 21.4 +1.5**
NEUB Neuenburg 73.88 332 *e*P **P 11 44 20.1 +0.3**
comp=Z,68nm,0.8s,baz=30,slow=5.7
PRA Prague 73.96 329 *e*P **P 11 44 21.2 +0.9**
PRA Prague 73.96 329 *e*P **P 11 44 21.2 +0.9**
GOPC GO Pecny, Ondr 73.97 329 *e*P **P 11 44 21.4 +1.0**
GOPC GO Pecny, Ondr 73.97 329 *e*P **P 11 44 21.4 +1.0**
BR131 Keskin Array S 73.97 312 P **P 11 44 21.4 +0.7**
BR131 Keskin Array S 73.97 312 P **P 11 44 21.5 +0.7**
BR131 pmax pmax

comp=Z,44nm,0.8s
BRTR Keskin Array B 73.97 312 P P 11 44 21.2 +0.4
BRTR Keskin Array B 73.97 312 P P 11 44 21.5 +0.7
comp=Z,33nm,0.7s,baz=75,slow=4.0,SNR=148
BRTR pP **pP 11 45 56.8 +0.6**
comp=Z,1.5nm,0.7s,baz=62,slow=3.4,SNR=2.1
comp=Z,33nm,0.7s
BRTR Keskin Array B 73.97 312 *i* P **P 11 44 21.5 +0.7**
BRTR pmax pmax
comp=Z,34nm,0.7s
PRU Pruhonice 73.99 329 *e*P **P 11 44 21.2 +0.7**
PRU *e*S **S 11 53 15.3 -0.9**
PRU Pruhonice 73.99 329 *e*P **P 11 44 21.2 +0.7**
PRU *e*S **S 11 53 15.3 -0.9**
GAZ Gaziantep 74.01 308 IAmb IAmb 11 46 36.4
comp=Z,40nm,0.4s
PGBU Glenifferbraes 74.02 343⇑*e*P **P 11 44 20.9 +0.4**
PGBU IAmb IAmb 11 44 21.4
comp=Z,220nm,0.8s
KRUC Moravsky 74.11 328 *e*P **P 11 44 22.0 +0.8**
KRUC *e*S **S 11 53 17.3 -0.2**
LOT Lotru 74.15 321⇑P **P 11 44 21.9 +0.2**
GTTG Gottingen 74.16 333 *e*P **P 11 44 22.0 +0.6**
comp=Z,50nm,0.8s,baz=30,slow=5.7
IBBN Ibbenburen 74.17 334 *e*P **P 11 44 21.8 +0.4**
comp=Z,91nm,0.6s,baz=30,slow=5.7
SMOL Smolenice 74.19 327 *e*P **P 11 44 23.1 +1.5**
SMOL pmax pmax
comp=Z,36nm,0.8s
EKA Eskdalemuir Ar 74.19 342 P **P 11 44 21.7 +0.2**
comp=Z,49nm,0.7s,baz=23,slow=5.2,SNR=198
EKA PP **PP 11 47 14.3 +0.7**
comp=Z,1.8nm,0.6s,baz=26,slow=7.8,SNR=3.6
comp=Z,49nm,0.7s
ESK Eskdalemuir 74.22 342 P **P 11 44 21.7 +0.1**
ESK IAmb IAmb 11 44 22.9
comp=Z,60nm,0.7s
ESK Eskdalemuir 74.22 342⇑*e*P **P 11 44 21.8 +0.1**
ESK IAmb IAmb 11 44 22.3
comp=Z,61nm,0.7s
ESK Eskdalemuir 74.22 342 P **P 11 44 21.7 +0.1**
ESK pmax pmax
comp=Z,60nm,0.7s
TREC Trest 74.24 328 *e*P **P 11 44 22.8 +0.8**
TREC Trest 74.24 328 *e*P **P 11 44 22.8 +0.8**
KIRS Kirsehir-Merke 74.28 311⇑P **P 11 44 23.5 +1.1**
ANTO Ankara 74.29 312 P **P 11 44 23.8 +1.3**
ANTO Ankara 74.29 312⇓P **P 11 44 24.2 +1.7**
ANTO Ankara 74.29 312 P **P 11 44 23.8 +1.3**
ANTO pmax pmax
comp=Z,137nm,0.7s
TANN Tannenbergstha 74.33 331 *e*P **P 11 44 22.8 +0.3**
comp=Z,13nm,1.0s,baz=30,slow=5.7
MODS Modra-Piesok 74.36 327 *e*P **P 11 44 22.5 -0.1**
MODS pmax pmax
comp=Z,115nm,1.0s
MODS Modra-Piesok 74.36 327 *e*P **P 11 44 22.5 -0.1**
SIRR Siria 74.37 323⇑P **P 11 44 23.5 +0.8**
EDMD Edmundbyers 74.40 341 *e*P **P 11 44 22.6 -0.1**
X18A Snowflake 74.41 56 IAmb IAmb 11 44 25.8
comp=Z,50nm,0.8s
MOX Moxa 74.42 331 *e*P **P 11 44 23.2 +0.3**
comp=Z,31nm,0.8s,baz=30,slow=5.7
SRO Srobarova 74.43 326 *e*P **P 11 44 24.6 +1.6**
SRO pmax pmax
comp=Z,74nm,0.7s
SRO Srobarova 74.43 326 *e*P **P 11 44 24.6 +1.6**
MZR Muzera 74.44 287 *i* P **P 11 44 23.3 -0.2**
SNR=8.4
RAZG Razgrad 74.44 318⇓P **P 11 44 23.6 +0.4**
NKC Novy Kostel 74.49 331 *e*P **P 11 44 23.3 -0.1**
NKC Novy Kostel 74.49 331 *e*P **P 11 44 23.3 -0.1**
SAHE Sakarya_HENDEK 74.50 314⇑P **P 11 44 24.1 +0.5**
LOZB Loznitsa 74.56 318⇓P **P 11 44 24.4 +0.6**
COPA Copaceanca 74.57 320⇑P **P 11 44 24.3 +0.4**
ZVC Zvikov 74.58 329 *e*P **P 11 44 24.1 +0.3**
SURR Surduc 74.60 322⇑P **P 11 44 24.6 +0.6**
GZR Gura Zlata 74.61 322⇓P **P 11 44 24.9 +0.7**
GZR Gura Zlata 74.61 322 P **P 11 44 24.9 +0.7**
NEWG New Galloway 74.62 342 *e*P **P 11 44 23.6 -0.3**
NEWG IAmb IAmb 11 44 24.4
comp=Z,40nm,0.9s
214A Organ Pipe Nat 74.64 60 IAmb IAmb 11 44 26.6
comp=Z,66nm,0.8s
SCHQ Schefferville 74.65 18 P **P 11 44 23.9 -0.3**
comp=Z,44nm,0.6s,baz=347,slow=4.8,SNR=60
comp=Z,44nm,0.6s
SPMN Marine on St. 74.72 38 IAmb IAmb 11 44 25.5
comp=Z,83nm,0.9s
UBBA Unterbreizbach 74.78 332 *e*P **P 11 44 25.1 +0.3**
comp=Z,192nm,1.8s,baz=30,slow=5.7
MANZ Manzenberg 74.82 331 *e*P **P 11 44 25.6 +0.4**
comp=Z,6.4nm,0.8s,baz=30,slow=5.7
KESW Keswick, Cumbr 74.87 341⇑*e*P **P 11 44 25.9 +0.5**
KESW IAmb IAmb 11 44 26.8
comp=Z,138nm,0.9s
BZS Buzias 74.92 323⇓P **P 11 44 26.5 +0.6**
BZS Buzias 74.92 323 P **P 11 44 26.4 +0.6**
SZH Strazhitsa 74.92 319 P **P 11 44 25.9 0.0**
KASTN Kahler Asten 74.94 333 *e*P **P 11 44 26.4 +0.5**
comp=Z,46nm,0.8s,baz=30,slow=5.7
GAL1 Galloway 74.95 342 *e*P **P 11 44 25.5 -0.3**
GAL1 IAmb IAmb 11 44 26.7
comp=Z,103nm,0.7s
ROTZ Rotzenmuhle 74.97 330 *e*P **P 11 44 26.7 +0.6**
comp=Z,8.7nm,1.0s,baz=30,slow=5.7
SRE Strehaia 75.02 321⇑P **P 11 44 27.3 +0.8**
SRE Strehaia 75.02 321 P **P 11 44 27.2 +0.8**
CLGH Cloghs, Cushen 75.03 343⇑*e*P **P 11 44 26.4 +0.2**
KHC Kasperske Hory 75.05 329 *e*P **P 11 44 27.2 +0.6**
KHC *e*S **S 11 53 26.1 -1.8**
KHC AMS AMS 12 19 30.0
comp=Z,200nm,16.6s
KHC Kasperske Hory 75.05 329 *e*P **P 11 44 27.2 +0.6**
KHC *e*S **S 11 53 26.1 -1.8**
KHC MLR MLR
comp=Z,200nm,16.6s
CKRC Cesky Krumlov 75.06 329 *e*P **P 11 44 27.1 +0.5**
CKRC *e*S **S 11 53 27.3 -0.7**
CKRC Cesky Krumlov 75.06 329 *e*P **P 11 44 27.1 +0.5**
CKRC *e*S **S 11 53 27.3 -0.7**
KLYT Kilyos 75.07 315⇑P **P 11 44 27.0 +0.2**
BUG Bochum--Univer 75.07 334 *e*P **P 11 44 26.8 +0.2**
comp=Z,72nm,0.8s,baz=30,slow=5.7
HPK Haverah Park 75.13 340⇑*e*P **P 11 44 27.3 +0.5**
HPK IAmb IAmb 11 44 28.2
comp=Z,160nm,0.7s
HERR Herculane 75.18 322⇑P **P 11 44 27.1 -0.2**
GEC2 GERESS Array S 75.25 329 *e*P **P 11 44 28.1 +0.4**
comp=Z,37nm,0.6s,baz=30,slow=5.7
GERES GERESS Array B 75.25 329 P **P 11 44 27.9 +0.2**
GERES GERESS Array B 75.25 329 P **P 11 44 28.0 +0.2**
comp=Z,27nm,0.5s,baz=31,slow=5.4,SNR=202
comp=Z,27nm,0.5s
CONA Conrad Observa 75.25 327 *i* P **P 11 44 28.8 +1.1**
comp=Z,51nm,0.6s,SNR=43
CTYL Yalikoy Yolu 75.25 316⇑P **P 11 44 28.7 +0.9**
JMB Yambol 75.28 318 P **P 11 44 28.4 +0.5**
WET Wettzell 75.28 330 *e*P **P 11 44 28.8 +1.0**
comp=Z,59nm,0.8s,baz=30,slow=5.7
RONA Rosalia, Austr 75.28 327 *i* P **P 11 44 29.2 +1.3**
comp=Z,96nm,1.0s,SNR=30
IDGL Inch Island, C 75.30 344 P **P 11 44 28.0 +0.2**
IDGL Inch Island, C 75.30 344⇑*e*P **P 11 44 28.0 +0.2**
IDGL IAmb IAmb 11 44 28.4
comp=Z,62nm,0.8s
BGNE Belgrade 75.35 44 P **P 11 44 28.5 +0.1**
GRA1 Grafenberg Arr 75.36 331 P **P 11 44 29.1 +0.8**
GRF Grafenberg Arr 75.36 331 P **P 11 44 29.1 +0.8**
GRF pmax pmax
comp=Z,121nm,0.7s
GRF Grafenberg Arr 75.36 331 *e*P **P 11 44 29.2 +0.9**
comp=Z,114nm,0.7s,baz=30,slow=5.7
GRFO Grafenberg 75.37 331 P **P 11 44 28.9 +0.6**
GRFO IAmb IAmb 11 44 30.1
comp=Z,110nm,0.7s
GRFO Grafenberg 75.37 331 P **P 11 44 28.9 +0.6**
GRFO pmax pmax
comp=Z,110nm,0.7s
PUNG Punghina 75.44 321⇑P **P 11 44 29.0 +0.2**
BORA Eskisehir 75.45 314 P **P 11 44 29.6 +0.6**
IOMK Kirk Michael 75.49 342⇑*e*P **P 11 44 28.9 +0.1**
IOMK IAmb IAmb 11 44 29.4
comp=Z,33nm,0.7s
PHSR Pinarhisar 75.49 317⇑P **P 11 44 30.3 +1.2**

T25A Trinidad 75.49 51 IAmb IAmb 11 44 31.1
comp=Z,79nm,0.8s
COWI Conover 75.50 36 IAmb IAmb 11 44 30.6
comp=Z,110nm,0.8s
MDVR Moldovita 75.55 322⇑P **P 11 44 29.6 +0.1**
TUC Tucson 75.56 58 P **P 11 44 30.6 +0.8**
TUC Tucson 75.56 58 P **P 11 44 30.6 +0.8**
TUC pmax pmax
comp=Z,41nm,0.9s
WIM Isle of Man 75.62 342 *e*P **P 11 44 29.7 +0.2**
MORH Mrgy, Hungar 75.62 325⇑P **P 11 44 29.6 -0.1**
LBWR Ladybower, Pea 75.67 340⇑*e*P **P 11 44 30.4 +0.5**
LBWR IAmb IAmb 11 44 31.2
comp=Z,205nm,0.9s
L34A Svendsen Farm, 75.73 43 P **P 11 44 30.4 -0.1**
G40A Rib Lake 75.76 37 IAmb IAmb 11 44 32.0
comp=Z,112nm,0.8s
TNS Taunus Mts 75.79 333 *e*P **P 11 44 31.2 +0.5**
comp=Z,60nm,0.7s,baz=30,slow=5.7
MOA Molln 75.90 328 *i* P **P 11 44 32.0 +0.7**
comp=Z,30nm,0.7s,SNR=28
ARSA Arzberg 75.95 327 *i* P **P 11 44 32.4 +0.8**
comp=Z,62nm,1.1s,SNR=16
FRGS Fruska Gora 76.03 323⇑*i*P **P 11 44 32.2 +0.1**
DIM Dimitrovgrad 76.06 318 P **P 11 44 33.3 +1.0**
STNC Stoke 76.06 340⇑*e*P **P 11 44 32.6 +0.5**
STNC IAmb IAmb 11 44 33.1
comp=Z,68nm,0.8s
ILTH Belurgan, Co L 76.07 343 P **P 11 44 31.5 -0.5**
BEBN Eben Emael 76.11 335 *d*P **P 11 44 32.5 +0.2**
comp=Z,170nm,0.7s
BTNL Ternell 76.17 334 *d*P **P 11 44 32.8 +0.1**
comp=Z,60nm,0.8s
F42A Maple Grove Fa 76.18 35 IAmb IAmb 11 44 34.5
comp=Z,58nm,0.7s
MEM Membach 76.18 335 *d*P **P 11 44 32.7 -0.1**
comp=Z,73nm,0.9s
CWF Charnwood Fore 76.18 340⇑*e*P **P 11 44 32.8 0.0**
CWF IAmb IAmb 11 44 33.6
comp=Z,42nm,0.7s
BAND Balkesir-Ban 76.22 315⇑P **P 11 44 34.2 +1.0**
WME Myndd Eilian 76.24 342⇑*e*P **P 11 44 33.0 -0.1**
BIOA Bad Ischl, Aus 76.25 329 *i* P **P 11 44 34.1 +0.8**
comp=Z,58nm,0.9s,SNR=18
WPS Cemaes, Angles 76.28 342 *e*P **P 11 44 33.1 -0.1**
BSTI Sart Tilman 76.33 335 *d*P **P 11 44 34.0 +0.4**
comp=Z,25nm,0.6s
KOGS Kog 76.35 326 *i* P **P 11 44 33.9 +0.1**
KOGS *i* S **S 11 53 40.0 -2.0**
PLD Plovdiv 76.36 319 P **P 11 44 34.6 +0.7**
WLF1 Llynfaes 76.36 342⇑*e*P **P 11 44 33.4 -0.3**
WLF1 IAmb IAmb 11 44 34.1
comp=Z,69nm,0.8s
BHOU Houvegnez 76.41 334 *d*P **P 11 44 34.4 +0.4**
comp=Z,48nm,0.6s
YLL Llanberis 76.45 341 *e*P **P 11 44 34.5 +0.2**
FOEL Foel Wylfa 76.48 341⇑*e*P **P 11 44 34.9 +0.5**
FOEL IAmb IAmb 11 44 35.4
comp=Z,142nm,0.7s
UCC Uccle 76.48 336 *d*P **P 11 44 34.1 -0.3**
comp=Z,28nm,0.6s
BOVS Bovan 76.49 321⇑P **P 11 44 34.6 0.0**
KDZ Kurdzhali 76.50 318 P **P 11 44 35.6 +0.9**
RJOB Jochberg 76.51 329 *e*P **P 11 44 35.8 +1.0**
comp=Z,60nm,0.8s,baz=30,slow=5.7
BCLA Clavier 76.56 335 *d*P **P 11 44 34.9 0.0**
comp=Z,63nm,0.8s
BCLA *d*pP **pP 11 46 10.0 -0.8**
SOKA Soboth 76.61 327 *i* P **P 11 44 35.9 +0.5**
comp=Z,63nm,0.9s,SNR=32
TEKS Tekeris 76.64 323⇑*i*P **P 11 44 35.3 -0.2**
BGES Gesves 76.65 335 *d*P **P 11 44 35.3 0.0**
comp=Z,63nm,0.8s
VTS Vitosha 76.65 320 P **P 11 44 36.3 +0.5**
FUR Furstenfeldbru 76.67 330 *e*P **P 11 44 36.4 +0.8**
comp=Z,106nm,0.8s,SNR=28,slow=5.7
RZN Rozhen 76.72 318 P **P 11 44 36.3 +0.1**
HLM1 Long Mynd 76.75 341⇑*e*P **P 11 44 36.2 +0.3**
HLM1 IAmb IAmb 11 44 36.8
comp=Z,67nm,0.7s
ALN Alexandroupoli 76.76 317 P **P 11 44 36.3 +0.1**
RDO Rodhopi 76.79 318 IAmb IAmb 11 44 38.4
comp=Z,76nm,0.8s
RDO Rodhopi 76.79 318 P **P 11 44 36.0 -0.3**
BMRD Maredsous 76.81 335 *d*P **P 11 44 36.4 +0.1**
comp=Z,103nm,0.8s
DSB Dublin 76.81 343 P **P 11 44 36.3 +0.1**
LESA Schwarzleotal 76.82 329 *i* P **P 11 44 37.3 +0.8**
comp=Z,59nm,0.5s,SNR=51
STU Stuttgart 76.82 332 IAmb IAmb 11 44 37.8
comp=Z,82nm,0.8s
STU Stuttgart 76.82 332 *e*P **P 11 44 36.6 +0.3**
STU Stuttgart 76.82 332 *e*P **P 11 44 36.8 +0.4**
comp=Z,194nm,0.8s,baz=30,slow=5.7
ENEZ Enez 76.83 317 P **P 11 44 36.7 +0.1**
CAVK Edirne/Enez-Ca 76.86 317⇑P **P 11 44 37.6 +0.9**
KBA Koelnbreinsper 76.88 328 *i* P **P 11 44 38.4 +1.4**
comp=Z,111nm,0.6s
RTBA Rita Blanca 76.90 50 IAmb IAmb 11 44 38.4
comp=Z,51nm,0.8s
OBKA Obir 76.93 327⇑*i*P **P 11 44 37.2 +0.1**
OBKA Obir 76.93 327 *i* P **P 11 44 37.4 +0.3**
comp=Z,26nm,0.6s,SNR=13
WLF Walferdange 76.98 334 *e*P **P 11 44 37.7 +0.5**
comp=Z,60nm,1.1s,baz=30,slow=5.7
ISP Isparta 77.00 312 IAmb IAmb 11 44 39.5
comp=Z,56nm,0.8s
ELSH Elham, Standar 77.04 338⇑*e*P **P 11 44 37.8 +0.3**
ELSH IAmb IAmb 11 44 38.7
comp=Z,227nm,0.9s
DOU Dourbes 77.05 335 *d*P **P 11 44 37.5 -0.1**
comp=Z,28nm,0.9s
E46A Sault Ste Mari 77.12 33 IAmb IAmb 11 44 40.1
comp=Z,116nm,0.7s
MYKA Terra Mystica 77.16 328 *i* P **P 11 44 38.4 +0.1**
comp=Z,49nm,0.9s,SNR=21
CRES Cresnjevec Ost 77.17 326⇑*i*P **P 11 44 38.4 0.0**
IGLA Glengowla, Co 77.22 345 P **P 11 44 37.9 -0.5**
IGLA Glengowla, Co 77.22 345 *e*P **P 11 44 38.0 -0.4**
IGLA IAmb IAmb 11 44 38.5
comp=Z,34nm,0.8s
BBLS Lazi&#263i 77.26 323⇑*i*P **P 11 44 39.4 +0.5**
MCH1 Michaelchurch 77.26 340⇑*e*P **P 11 44 39.0 +0.3**
MCH1 IAmb IAmb 11 44 39.9
comp=Z,122nm,0.7s
STRD Stroud 77.27 340⇑*e*P **P 11 44 39.2 +0.4**
STRD IAmb IAmb 11 44 40.7
comp=Z,152nm,0.8s
WATA Walderalm 77.28 330 *i* P **P 11 44 39.8 +0.7**
comp=Z,80nm,0.6s,SNR=28
MMB Musomishta 77.28 319 P **P 11 44 39.1 +0.1**
A051A Mrakovica 77.30 325⇑*i*P **P 11 44 38.8 -0.4**
KKB Krupnik 77.32 319 P **P 11 44 39.4 +0.2**
WTTA Wattenberg 77.32 330 *i* P **P 11 44 40.2 +0.8**
comp=Z,92nm,0.5s,SNR=43
SMTH Samothraki Isl 77.33 317 P **P 11 44 38.3 -1.0**
LJU Ljubljana 77.33 327 *i* P **P 11 44 39.1 -0.1**
LJU *i* 11 44 39.8
comp=Z,16nm,0.4s
MONM Monmouth 77.36 340 *e*P **P 11 44 39.7 +0.4**
KAVA Kavala 77.38 319 P **P 11 44 39.9 +0.3**
GADA Gokgeada 77.38 317 P **P 11 44 39.9 +0.3**
R32A Long Quarter, 77.40 46 IAmb IAmb 11 44 42.2
comp=Z,40nm,0.6s
BLY Banja Luka 77.41 325⇑*i*P **P 11 44 39.6 -0.1**
BLY Banja Luka 77.41 325⇑P **P 11 44 39.8 +0.1**
I42A Draeger Farm, 77.41 37 IAmb IAmb 11 44 41.1
comp=Z,86nm,0.7s
RETA Reutte 77.43 330 *i* P **P 11 44 40.4 +0.6**
comp=Z,127nm,1.4s,SNR=16
SWN1 Swindon 77.43 339⇑*e*P **P 11 44 40.3 +0.7**
SWN1 IAmb IAmb 11 44 41.1
comp=Z,329nm,0.7s
MOTA Moosalm 77.43 330 *i* P **P 11 44 40.6 +0.7**
comp=Z,131nm,0.8s,SNR=53
MEEK Meekatharra 77.45 204 P **P 11 44 39.7 -0.2**
comp=Z,13nm,1.1s
MANT Manisa 77.45 314 IAmb IAmb 11 44 41.8
comp=Z,73nm,0.8s
ABTA Abfaltersbach 77.46 329 *i* P **P 11 44 39.6 -0.4**
comp=Z,93nm,1.5s,SNR=11
OLDB Oldbury-Upon-S 77.47 340 *e*P **P 11 44 39.8 -0.1**
EZN Ezine 77.47 316 P **P 11 44 39.9 -0.2**
EZN Ezine 77.47 316⇑P **P 11 44 40.3 +0.2**
EZN Ezine 77.47 316 P **P 11 44 40.3 +0.2**

RUDO Rudo 77.47 323 *e*P **P 11 44 39.9 -0.2**
WOL Wolverton 77.48 339⇑*e*P **P 11 44 40.1 +0.2**
WOL IAmb IAmb 11 44 40.9
comp=Z,278nm,0.6s
BFO Black Forest 77.49 332 P **P 11 44 39.9 -0.2**
BFO IAmb IAmb 11 44 40.8
comp=Z,52nm,0.7s
BFO Black Forest 77.49 332 P **P 11 44 39.9 -0.2**
BFO pmax pmax
comp=Z,52nm,0.7s
BFO Black Forest 77.49 332 *e*P **P 11 44 40.5 +0.4**
comp=Z,50nm,0.8s,baz=30,slow=5.7
HMNX Herstmonceux 77.50 338⇑*e*P **P 11 44 41.1 +1.1**
HMNX IAmb IAmb 11 44 42.0
comp=Z,407nm,0.8s
SQTA Sankt Quirin 77.50 330 *i* P **P 11 44 41.1 +0.8**
comp=Z,99nm,0.8s,SNR=27
SJES Sjenica 77.52 322⇑*i*P **P 11 44 40.9 +0.5**
BOJS Bojanci 77.52 326⇑*i*P **P 11 44 40.2 0.0**
THAS Thassos island 77.60 318 P **P 11 44 40.4 -0.4**
CEY Cerknica 77.63 327⇑*i*P **P 11 44 40.4 -0.5**
CEY Cerknica 77.63 327 *i* P **P 11 44 40.6 -0.3**
CEY *i* pP **pP 11 46 23.9 +6.6**
CEY *i* S **S 11 53 53.3 -2.4**
CEY *e* 12 05 01.1
JFWS Jewell Farm 77.67 38 P **P 11 44 40.5 -0.6**
JFWS IAmb IAmb 11 44 42.1
comp=Z,68nm,0.6s
JFWS Jewell Farm 77.67 38 P **P 11 44 40.5 -0.6**
JFWS pmax pmax
comp=Z,69nm,0.6s
ARMA Armidale 77.69 174 P **P 11 44 42.4 +1.1**
comp=Z,30nm,1.4s
ARMA Armidale 77.69 174 P **P 11 44 43.4 +2.1**
RSBS Rosebush, Pemb 77.69 341⇑*e*P **P 11 44 40.8 -0.2**
RSBS IAmb IAmb 11 44 43.4
comp=Z,79nm,1.3s
SRS Serrai 77.70 319 P **P 11 44 40.7 -0.6**
PLE Pljevlja 77.70 323⇑*i*P **P 11 44 42.3 +0.8**
IWEX Carrickbyrne, 77.72 343 P **P 11 44 41.5 +0.4**
IWEX Carrickbyrne, 77.72 343⇑*e*P **P 11 44 41.6 +0.4**
IWEX IAmb IAmb 11 44 42.4
comp=Z,74nm,0.7s
SABO M.te Sabotino 77.73 328 P **P 11 44 40.8 -0.6**
FETA Feichten 77.84 330 *i* P **P 11 44 42.7 +0.5**
comp=Z,62nm,1.1s,SNR=31
IVA Berane 77.87 322⇑*i*P **P 11 44 42.9 +0.6**
KSU1 Kansas State U 77.89 44 IAmb IAmb 11 44 42.9
comp=Z,78nm,0.8s
A050A Klekovaca 77.89 325⇑*i*P **P 11 44 42.2 -0.2**
DAVA Damuels 77.90 331 *i* P **P 11 44 42.9 +0.4**
comp=Z,89nm,0.7s,SNR=27
SKDS Skadanscina 77.95 327⇑*i*P **P 11 44 41.7 -0.9**
L40A Anamosa 77.95 39 IAmb IAmb 11 44 43.5
comp=Z,85nm,0.7s
LIA Limnos Island 77.95 317 P **P 11 44 42.1 -0.5**
SKO Skopje 77.95 321 *i* P **P 11 44 43.8 +1.2**
ECH Echery 77.96 333 IAmb IAmb 11 44 43.8
comp=Z,70nm,0.8s
KNT Kendrikon 77.97 319 P **P 11 44 42.8 0.0**
UPM Unac-Piva 78.01 323 *e*P **P 11 44 42.2 -1.0**
UPM Unac-Piva 78.01 323⇑*i*P **P 11 44 42.8 -0.4**
SOH Sokhos 78.04 319 P **P 11 44 42.6 -0.6**
KOME Kolasin 78.05 322⇑P **P 11 44 43.3 0.0**
TAVA DENIZLI_Tavas 78.08 313⇓P **P 11 44 43.9 +0.3**
MMAI Mount Meron Ar 78.10 306 P **P 11 44 44.9 +1.2**
comp=Z,25nm,0.5s,baz=41,slow=5.7,SNR=37
comp=Z,25nm,0.5s
OUR Ouranopolis 78.15 318 P **P 11 44 43.7 -0.1**
SIGR SIGRI 78.18 316 P **P 11 44 43.7 -0.3**
BLCB Balcova 78.27 315 P **P 11 44 44.5 +0.1**
HORT Hortiatis 78.34 319 P **P 11 44 44.5 -0.4**
FUORN Ofenpass-Fuorn 78.35 330 IAmb IAmb 11 44 47.0
comp=Z,79nm,1.1s
NKME Niksic 78.35 323⇑*i*P **P 11 44 44.4 -0.5**
BRY Bratogost 78.41 323⇑*i*P **P 11 44 44.7 -0.6**
BRY Bratogost 78.41 323⇑*i*P **P 11 44 44.6 -0.7**
PDG Podgorica 78.50 322⇑*i*P **P 11 44 45.5 -0.1**
PDG Podgorica 78.50 322⇑P **P 11 44 45.7 +0.1**
PDG Podgorica 78.50 322⇑*i*P **P 11 44 45.6 -0.1**
HTL Hartland 78.53 341⇑*e*P **P 11 44 46.1 +0.5**
HTL IAmb IAmb 11 44 46.6
comp=Z,58nm,0.6s
CEME Cevo 78.55 322⇑*i*P **P 11 44 45.5 -0.5**
PUK Puka 78.56 322 P **P 11 44 45.9 -0.1**
CMSA Cobar Meteorol 78.58 179 P **P 11 44 46.9 +1.0**
comp=Z,30nm,1.0s
CMSA Cobar Meteorol 78.58 179 P **P 11 44 47.6 +1.7**
PAIG Paliouri 78.62 318 P **P 11 44 46.2 0.0**
K43A Burlington 78.63 37 IAmb IAmb 11 44 46.9
comp=Z,94nm,0.8s
TREB Trebinje 78.64 323 *e*P **P 11 44 45.4 -1.0**
L42A Oliver, Polo 78.66 38 IAmb IAmb 11 44 46.7
comp=Z,68nm,0.8s
KAN08 Anthony NE Sta 78.70 46 IAmb IAmb 11 44 48.1
comp=Z,88nm,0.7s
DRME Dracevica, Mon 78.73 322⇑*i*P **P 11 44 46.8 -0.1**
DRME Dracevica, Mon 78.73 322⇑*i*P **P 11 44 47.0 +0.1**
CHOS Chios island 78.74 315 P **P 11 44 46.0 -1.1**
BUM Brajici-Budva 78.76 322⇑*i*P **P 11 44 46.8 -0.3**
MSTX Muleshoe 78.77 52 IAmb IAmb 11 44 49.4
comp=Z,48nm,0.8s
STON Ston 78.78 323⇑*i*P **P 11 44 45.9 -1.1**
TUE Stuetta 78.79 331 IAmb IAmb 11 44 51.4
comp=Z,63nm,0.7s
HCY Herceg Novi 78.80 323⇑*i*P **P 11 44 46.6 -0.7**
KAN01 Argonia South 78.86 46 IAmb IAmb 11 44 48.8
comp=Z,101nm,0.8s
ULC Ulcinj 78.89 322⇑*i*P **P 11 44 47.4 -0.4**
SMG Samos 78.90 315 P **P 11 44 47.5 -0.4**
OHR Ohrid 78.93 320 *i* P **P 11 44 48.5 +0.4**
KAN09 Caldwell North 78.95 46 IAmb IAmb 11 44 50.1
comp=Z,75nm,0.7s
KAN17 Caldwell West 78.95 46 IAmb IAmb 11 44 49.3
comp=Z,63nm,0.8s
FNA Florina 78.95 320 P **P 11 44 47.8 -0.4**
TEOL Teolo 78.95 329 IAmb IAmb 11 44 48.9
comp=Z,73nm,0.9s
STKA Stephens Creek 78.97 183 IAmb IAmb 11 44 49.7
comp=Z,88nm,1.1s
STKA Stephens Creek 78.97 183 P **P 11 44 48.4 +0.4**
comp=Z,88nm,0.9s
STKA Stephens Creek 78.97 183 P **P 11 44 49.0 +1.0**
comp=Z,13nm,0.8s,baz=337,slow=7.9,SNR=19
STKA pP **pwP 11 46 25.9 -1.4**
comp=Z,3.4nm,0.8s,baz=11,slow=6.8,SNR=3.3
comp=Z,13nm,0.8s
STKA Stephens Creek 78.97 183 P **P 11 44 49.4 +1.3**
SBD Saint Breward 78.98 341⇑*e*P **P 11 44 48.2 +0.2**
MNTX Cornudas Mount 79.07 55 IAmb IAmb 11 44 51.0
comp=Z,49nm,0.8s
KAN13 South Haven SW 79.11 46 IAmb IAmb 11 44 50.5
comp=Z,96nm,0.7s
BDRM Kayabasi 79.12 314⇑P **P 11 44 49.6 +0.6**
AOS Alonnisos 79.13 317 P **P 11 44 48.4 -0.7**
RAYN Ar Rayn 79.16 293 P **P 11 44 49.9 +0.4**
RAYN Ar Rayn 79.16 293 P **P 11 44 49.9 +0.4**
RAYN pmax pmax
comp=Z,24nm,0.8s
RAYN Ar Rayn 79.16 293 *i* P **P 11 44 49.9 +0.4**
SNR=23
KZN Kozani 79.17 319 P **P 11 44 48.4 -0.9**
N41A Harden Midland 79.22 40 P **P 11 44 49.4 -0.1**
N41A IAmb IAmb 11 44 50.3
comp=Z,88nm,0.9s
SMWD Samnorwood 79.22 49 P **P 11 44 50.4 +0.8**
L44A Lake County Fo 79.24 37 P **P 11 44 49.5 -0.1**
L44A IAmb IAmb 11 44 50.4
comp=Z,96nm,0.9s
NEO Neokhori 79.33 318 P **P 11 44 49.1 -1.0**
NEST Nestorio 79.39 320 P **P 11 44 50.2 -0.4**
ARG Arkhangelos 79.45 313 IAmb IAmb 11 44 52.4
comp=Z,90nm,1.0s
ARG Arkhangelos 79.45 313 P **P 11 44 51.0 +0.2**
CCA1 Carnmenellis 79.46 341⇑*e*P **P 11 44 50.7 +0.2**
CCA1 IAmb IAmb 11 44 52.5
comp=Z,84nm,0.9s
KYMI Kymi, Euboea I 79.46 317 P **P 11 44 49.7 -1.1**
HQIL Hanson Quary C 79.58 37 IAmb IAmb 11 44 52.3
comp=Z,122nm,0.8s
JLP Les Platons 79.61 339 *e*P **P 11 44 51.8 +0.4**
KPRO Kipourio 79.63 319 P **P 11 44 50.8 -1.0**
BUKO Buck Lake 79.65 30 IAmb IAmb 11 44 52.3
comp=Z,58nm,0.8s

THL **Klokotos Trika** 79.66 319 P **P** 11 44 49.9 -1.9
JSA **Saint Aubin** 79.68 339↑ *e*P **P** 11 44 52.1 +0.4
JSA IAmb IAmb 11 44 52.6
comp=Z,94nm,0.8s
OK051 **E0350 and S346** 79.83 46 IAmb IAmb 11 44 54.3
comp=Z,89nm,0.8s
OK048 **Pawnee Station** 79.85 46 IAmb IAmb 11 44 54.5
comp=Z,100nm,0.8s
LDAQ **Lac Daran** 79.90 24 IAmb IAmb 11 44 53.8
comp=Z,75nm,0.8s
LKR **Lokris** 79.96 318 P **P** 11 44 52.6 -0.8
DKNS **Dickens** 79.98 51 IAmb IAmb 11 44 56.5
comp=Z,83nm,0.7s
VHRN **Van Horn** 79.98 55 IAmb IAmb 11 44 56.1
comp=Z,59nm,0.8s
AXAR **Agios Charalam** 80.02 318 P **P** 11 44 52.5 -1.3
MAKR **Makrakomi, Fth** 80.06 318 P **P** 11 44 52.9 -1.1
ZCCA **Zocca** 80.07 328 IAmb IAmb 11 44 57.3
comp=Z,57nm,0.8s
OK029 **Liberty Lake** 80.08 47 IAmb IAmb 11 44 55.9
comp=Z,104nm,0.9s
POST **Post** 80.14 51 IAmb IAmb 11 44 56.5
comp=Z,77nm,0.7s
QUOK **Quay** 80.16 46 IAmb IAmb 11 44 56.1
comp=Z,71nm,0.8s
TETR **Tetrakomo, Epi** 80.17 319 P **P** 11 44 54.5 -0.2
OK052 **Battle Ridge R** 80.25 46 IAmb IAmb 11 44 56.7
comp=Z,79nm,0.8s
ODSA **Odessa** 80.30 53 IAmb IAmb 11 44 58.6
comp=Z,86nm,0.9s
GUMA **Gualdo di Mace** 80.32 326 IAmb IAmb 11 45 00.2
comp=Z,61nm,0.8s
WHYH **Whyalla** 80.35 186 P **P** 11 44 56.6 +1.3
FDMO **Fiordimonte** 80.44 326 IAmb IAmb 11 44 57.0
comp=Z,51nm,0.7s
MURB **Monte Urbino** 80.45 327 IAmb IAmb 11 44 58.3
comp=Z,121nm,1.0s
KARP **Karpathos** 80.45 313 IAmb IAmb 11 44 58.5
comp=Z,108nm,0.9s
ANX **Ano Chora** 80.50 318 P **P** 11 44 55.3 -1.1
SGRT **San Giovanni R** 80.50 324 IAmb IAmb 11 44 56.5
comp=Z,41nm,0.7s
KEK **Kerkira** 80.52 320 IAmb IAmb 11 44 59.2
comp=Z,55nm,0.8s
DEOK **Depew** 80.52 46 IAmb IAmb 11 44 58.1
comp=Z,97nm,0.8s
LMQ **La Malbaie** 80.53 23 IAmb IAmb 11 44 56.6
comp=Z,67nm,0.7s
NRCA **Norcia** 80.60 326 IAmb IAmb 11 44 58.5
comp=Z,91nm,0.8s
MNHN **Monahans** 80.79 53 IAmb IAmb 11 44 59.9
comp=Z,56nm,0.8s
K50A **Casco** 80.81 33 IAmb IAmb 11 44 59.0
comp=Z,82nm,0.8s
KLV **Kalavryta, Ach** 80.84 318 P **P** 11 44 56.0 -2.1
X34A **Smith Ranch, M** 80.84 48 IAmb IAmb 11 45 00.3
comp=Z,85nm,0.9s
LKD2 **Lefkada island** 80.90 319 P **P** 11 44 57.5 -1.0
RLO **Rose Lookout** 80.98 45 IAmb IAmb 11 45 00.6
comp=Z,75nm,0.8s
MATE **Matera** 81.04 323 ⇑P **P** 11 44 59.1 +0.1
ALPN **Alpine** 81.05 55 IAmb IAmb 11 45 01.4
comp=Z,84nm,0.8s
DELO **Deloro Mine** 81.06 29 IAmb IAmb 11 44 59.8
comp=Z,68nm,0.8s
U38A **Gravette** 81.07 45 IAmb IAmb 11 45 00.4
comp=Z,76nm,0.8s
SFIN **Lafayette** 81.08 38 IAmb IAmb 11 45 00.6
comp=Z,69nm,0.6s
DRO **Drossia** 81.11 318 P **P** 11 44 59.0 -0.5
WTFS **Witchita Falls** 81.17 49 IAmb IAmb 11 45 01.2
comp=Z,97nm,0.8s
SLM **Saint Louis** 81.19 41 IAmb IAmb 11 45 00.9
comp=Z,129nm,0.8s
CCM **Cathedral Cave** 81.22 42 P **P** 11 45 00.0 0.0
CCM IAmb IAmb 11 45 01.1
comp=Z,113nm,0.9s
CCM **Cathedral Cave** 81.22 42 P **P** 11 45 00.0 0.0
CCM pmax pmax
comp=Z,113nm,0.9s
SGCY **Sterling City** 81.23 52 P **P** 11 45 00.5 +0.2
SGCY IAmb IAmb 11 45 05.7
comp=Z,42nm,0.6s
N47A **Urbana** 81.24 36 P **P** 11 44 59.9 -0.1
D62A **Allapoint, All** 81.30 23 P **P** 11 45 00.0 -0.3
D62A IAmb IAmb 11 45 01.1
comp=Z,76nm,0.6s
WBO **Williamsburg** 81.39 28 IAmb IAmb 11 45 01.3
comp=Z,115nm,0.8s
HHAR **Hobbs** 81.41 44 IAmb IAmb 11 45 02.7
comp=Z,54nm,0.7s
MNTQ **Montreal, Queb** 81.45 26 IAmb IAmb 11 45 01.9
comp=Z,133nm,0.9s
Q44A **Meyer Farm, Va** 81.50 40 IAmb IAmb 11 45 02.6
comp=Z,86nm,0.8s
VLI **Velíai** 81.55 317 P **P** 11 44 59.2 -2.6
E62A **Clayton Lake** 81.60 23 IAmb IAmb 11 45 02.5
comp=Z,55nm,0.7s
FVM **French Village** 81.64 41 IAmb IAmb 11 45 03.4
comp=Z,58nm,0.9s
ITM **Ithomi** 81.65 317 IAmb IAmb 11 45 02.8
comp=Z,67nm,0.8s
BLDU **Balliou** 81.74 204 P **P** 11 45 03.0 +0.4
IDI **Anoyia** 81.78 314 P **P** 11 45 01.7 -1.4
PECO **Prince Edward** 81.79 29 IAmb IAmb 11 45 03.4
comp=Z,83nm,0.8s
N49A **Columbus Grove** 81.80 35 IAmb IAmb 11 45 04.2
comp=Z,129nm,0.8s
TXAR **Lajitas Array** 81.83 55 P **P** 11 45 04.4 +0.9
comp=Z,93nm,0.6s,baz=294,slow=4.0,SNR=921
TXAR pP **pP** 11 46 42.9 +2.3
comp=Z,1.8nm,0.7s,baz=304,slow=5.1,SNR=1.6
TXAR PKKPbc **PKKPbc** 12 03 28.9 +0.5
comp=Z,1.3nm,0.8s,baz=153,slow=4.2,SNR=16
comp=Z,93nm,0.6s
M50A **Fremont** 81.83 34 IAmb IAmb 11 45 04.9
comp=Z,124nm,0.8s
BATG **Bathurst New B** 81.88 21 P **P** 11 45 03.6 +0.4
CUC **Castrocucco** 81.96 323 P **P** 11 45 02.9 -1.0
MEDO **Medina** 81.98 31 IAmb IAmb 11 45 04.7
comp=Z,89nm,0.8s
O48B **Farmland** 81.98 36 IAmb IAmb 11 45 04.8
comp=Z,84nm,0.8s
OZNA **Ozona** 82.00 53 IAmb IAmb 11 45 06.6
comp=Z,48nm,0.8s
PLPT **Palo Pinto** 82.00 49 IAmb IAmb 11 45 05.7
comp=Z,73nm,0.9s
OLIL **Olney** 82.04 39 IAmb IAmb 11 45 05.5
comp=Z,61nm,0.8s
J55A **Hilton** 82.11 30 IAmb IAmb 11 45 05.5
comp=Z,118nm,0.8s
SAND **Sanderson** 82.20 54 IAmb IAmb 11 45 07.5
comp=Z,120nm,0.8s
TIP **Timpagrande** 82.26 322 ⇑P **P** 11 45 05.7 +0.2
FW06 **Azle** 82.27 49 IAmb IAmb 11 45 07.8
comp=Z,123nm,0.9s
BLO **Bloomington** 82.34 38 IAmb IAmb 11 45 07.5
comp=Z,46nm,0.6s
ERPA **Erie** 82.35 32 IAmb IAmb 11 45 07.0
comp=Z,84nm,0.8s
O49A **Covington** 82.37 36 IAmb IAmb 11 45 06.9
comp=Z,62nm,0.8s
KLBR **Kellerberrin** 82.38 203 P **P** 11 45 06.4 +0.6
HPIG 82.52 58 IAmb IAmb 11 45 09.5
comp=Z,70nm,0.8s
P48A **Milroy** 82.55 37 IAmb IAmb 11 45 09.3
comp=Z,58nm,0.8s
FCAR **Ozark Folk Cen** 82.58 43 IAmb IAmb 11 45 08.0
comp=Z,103nm,0.8s
J57A **Williamstown** 82.59 29 IAmb IAmb 11 45 07.6
comp=Z,61nm,0.8s
F64A **Sherman** 82.61 23 IAmb IAmb 11 45 07.9
comp=Z,73nm,0.8s
FW13 **Cleburne** 82.82 49 IAmb IAmb 11 45 10.8
comp=Z,114nm,0.8s
BRDY **Brady** 82.85 51 IAmb IAmb 11 45 10.0
comp=Z,49nm,0.8s
USIN **University of** 82.87 39 IAmb IAmb 11 45 09.8
comp=Z,70nm,0.8s
LCAR **Lake Charles** 82.89 43 IAmb IAmb 11 45 11.3
comp=Z,50nm,0.8s
FW14 **Alvarado** 82.91 49 IAmb IAmb 11 45 11.3
comp=Z,96nm,0.9s
PKME **Peaks-Kenny Pk** 82.92 24 IAmb IAmb 11 45 09.8
comp=Z,51nm,0.9s
MIAR **Mount Ida** 82.98 45 IAmb IAmb 11 45 14.3
comp=Z,62nm,0.8s
JCT **Junction City** 83.05 52 IAmb IAmb 11 45 11.4
comp=Z,85nm,0.7s
WHTX **Lake Whitney,** 83.09 49 IAmb IAmb 11 45 11.4
comp=Z,66nm,0.8s
LBNH **Lisbon** 83.11 26 IAmb IAmb 11 45 11.8
comp=Z,53nm,0.8s
WCI **Wyandotte Cave** 83.23 38 P **P** 11 45 10.7 +0.4
WCI IAmb IAmb 11 45 11.6
comp=Z,81nm,0.8s
WCI **Wyandotte Cave** 83.23 38 P **P** 11 45 10.7 +0.4
WCI pmax pmax
comp=Z,81nm,0.9s
Z38A **Mt. Pleasant** 83.33 47 P **P** 11 45 11.5 +0.6
X40A **Basin Creek Fa** 83.39 45 IAmb IAmb 11 45 11.9
comp=Z,60nm,0.9s
G65A **Princeton** 83.44 23 IAmb IAmb 11 45 12.3
comp=Z,104nm,0.8s
WVL **Waterville** 83.46 24 IAmb IAmb 11 45 13.2
comp=Z,53nm,0.8s
P51A **Williamsport** 83.48 35 IAmb IAmb 11 45 12.3
comp=Z,92nm,0.8s
HNH **Hanover** 83.48 26 IAmb IAmb 11 45 12.9
comp=Z,66nm,0.8s
BINY **Binghamton** 83.67 29 IAmb IAmb 11 45 13.3
comp=Z,85nm,0.8s
P52A **Corning** 83.71 35 IAmb IAmb 11 45 13.5
comp=Z,61nm,0.8s
J61A **Chester** 83.73 27 IAmb IAmb 11 45 14.9
comp=Z,97nm,0.7s
NWAO **Narogin (SRO)** 83.78 203 P **P** 11 45 13.1 +0.2
comp=Z,39nm,0.8s,baz=26,slow=3.8,SNR=18
comp=Z,39nm,0.8s
NWAO **Narrogin (SRO)** 83.78 203 P **P** 11 45 13.5 +0.7
HALT **Halls** 83.84 42 IAmb IAmb 11 45 14.8
comp=Z,105nm,0.8s
O54A **Avella** 83.90 33 IAmb IAmb 11 45 15.0
comp=Z,92nm,0.8s
237A **Washetta, Mont** 83.93 48 IAmb IAmb 11 45 15.6
comp=Z,59nm,0.8s
TRY **Troy** 83.94 28 IAmb IAmb 11 45 14.8
comp=Z,53nm,0.8s
R50A **Paris** 84.00 37 IAmb IAmb 11 45 15.5
comp=Z,41nm,0.8s
HNDO **Hondo** 84.08 52 IAmb IAmb 11 45 16.9
comp=Z,42nm,0.7s
P53A **Whipple** 84.12 34 IAmb IAmb 11 45 16.0
comp=Z,76nm,0.8s
Q52A **Bidwell** 84.24 35 IAmb IAmb 11 45 16.3
comp=Z,46nm,0.8s
WVT **Waverly** 84.33 40 P **P** 11 45 16.2 +0.4
WVT IAmb IAmb 11 45 17.6
comp=Z,78nm,0.6s
WVT **Waverly** 84.33 40 P **P** 11 45 16.2 +0.4
WVT pmax pmax
comp=Z,78nm,0.6s
Z41A **Richland Creek** 84.40 45 P **P** 11 45 16.3 +0.1
Z41A IAmb IAmb 11 45 18.9
comp=Z,51nm,0.9s
SSPA **Standing Stone** 84.41 31 P **P** 11 45 16.3 +0.1
SSPA IAmb IAmb 11 45 18.1
comp=Z,104nm,0.8s
K62A **Royalston** 84.45 27 P **P** 11 45 16.7 +0.4
K62A IAmb IAmb 11 45 17.8
comp=Z,54nm,0.8s
L61B **Northampton** 84.51 27 P **P** 11 45 16.9 +0.3
MCWV **Mont Chateau** 84.56 33 IAmb IAmb 11 45 18.7
comp=Z,81nm,0.8s
BRAT **Ballarat** 84.58 181 P **P** 11 45 18.2 +1.5
TOO **Toolangi** 84.60 180 P **P** 11 45 17.9 +1.0
TOO **Toolangi** 84.60 180 P **P** 11 45 17.9 +1.0
TOO pmax pmax
comp=Z,10.0nm,0.8s
N58A **Sunbury** 84.64 30 P **P** 11 45 17.2 0.0
N58A IAmb IAmb 11 45 18.3
comp=Z,101nm,0.8s
GBN **Guysborough** 84.68 18 IAmb IAmb 11 45 18.7
comp=Z,61nm,0.8s
Q54A **Coxs Mills** 84.77 34 P **P** 11 45 18.5 +0.6
HRV **Adam Dziewonsk** 84.80 26 P **P** 11 45 18.2 +0.2
HRV IAmb IAmb 11 45 19.6
comp=Z,52nm,0.8s
HRV **Adam Dziewonsk** 84.80 26 P **P** 11 45 18.2 +0.2
HRV pmax pmax
comp=Z,52nm,0.8s
CEST **Esterri de Car** 84.82 334 IAmb IAmb 11 45 20.5
comp=Z,81nm,1.0s
S51A **Beattyville** 84.85 37 IAmb IAmb 11 45 19.8
comp=Z,69nm,0.7s
VSL **Villasalto** 84.89 327 P **P** 11 45 18.0 -0.5
833A **Chaparral WMA,** 84.96 53 IAmb IAmb 11 45 22.1
comp=Z,69nm,0.8s
WES **Weston** 84.98 26 IAmb IAmb 11 45 20.4
comp=Z,96nm,0.8s
BCX **Boston College** 85.07 26 IAmb IAmb 11 45 20.6
comp=Z,46nm,0.8s
PLAL **Pickwick Lake** 85.18 41 IAmb IAmb 11 45 21.1
comp=Z,52nm,0.8s
UCCT **U. Connecticut** 85.24 27 IAmb IAmb 11 45 21.5
comp=Z,60nm,0.8s
LUPA **Lehigh Univers** 85.31 30 IAmb IAmb 11 45 21.1
comp=Z,42nm,0.9s
Q56A **Snyder Ridge,** 85.34 33 IAmb IAmb 11 45 21.7
comp=Z,44nm,0.9s
PAL **Palisades** 85.43 28 IAmb IAmb 11 45 22.8
comp=Z,62nm,0.7s
BRNJ **Basking Ridge** 85.50 29 IAmb IAmb 11 45 23.6
comp=Z,82nm,0.8s
143A **Socs Landing,** 85.53 45 IAmb IAmb 11 45 23.9
comp=Z,86nm,0.7s
L64A **Millersborough** 85.53 26 IAmb IAmb 11 45 24.3
comp=Z,74nm,0.8s
CPNY **Central Park** 85.60 29 IAmb IAmb 11 45 22.7
comp=Z,43nm,0.8s
S54A **Dingess, Beckl** 85.62 35 IAmb IAmb 11 45 23.5
comp=Z,62nm,0.8s
N62A **Caumsett State** 85.64 28 IAmb IAmb 11 45 23.0
comp=Z,99nm,0.9s
M63A **Gales Ferry** 85.65 27 IAmb IAmb 11 45 24.4
comp=Z,66nm,0.8s
TZTN **Troxell** 85.81 37 IAmb IAmb 11 45 24.5
comp=Z,53nm,0.9s
SWET **Sewanee** 85.93 40 IAmb IAmb 11 45 24.7
comp=Z,95nm,0.8s
X48A **Hartselle** 86.09 41 IAmb IAmb 11 45 25.3
comp=Z,42nm,0.8s
W50A **Signal Mountai** 86.21 39 IAmb IAmb 11 45 27.1
comp=Z,70nm,0.8s
441A **DeRidder** 86.25 47 IAmb IAmb 11 45 27.7
comp=Z,66nm,1.0s
CPCT **Cooper Cave** 86.34 39 IAmb IAmb 11 45 26.9
comp=Z,70nm,0.8s
TAOE **Nuku Hiva Isla** 86.36 107 P **P** 11 45 26.6 +0.6
TAOE IAmb IAmb 11 45 27.9
comp=Z,78nm,0.7s
TAOE **Nuku Hiva Isla** 86.36 107 *e*P P 11 45 19.7 -6.3
comp=Z,36nm,23.1s
TAOE *e*S **SKSac** 11 55 13.0 +3.0
comp=Z,211nm,25.5s
TAOE **Nuku Hiva Isla** 86.36 107 *e*LR LR 12 13 27.2
comp=Z,91nm,23.6s
TKL **Tuckaleechee C** 86.47 38 P **P** 11 45 26.5 +0.2
TKL IAmb IAmb 11 45 27.6
comp=Z,65nm,0.9s
TKL **Tuckaleechee C** 86.47 38 P **P** 11 45 26.5 +0.2
TKL pmax pmax
comp=Z,65nm,0.9s
BLA **Blacksburg** 86.48 35 IAmb IAmb 11 45 27.7
comp=Z,67nm,0.9s
U54A **Nelsons Funny** 86.53 36 P **P** 11 45 27.0 +0.4
U54A IAmb IAmb 11 45 28.0
comp=Z,71nm,0.8s
S57A **Dark Hollow, R** 86.56 33 IAmb IAmb 11 45 28.2
comp=Z,36nm,0.8s
FPAL **Fort Paine** 86.64 40 P **P** 11 45 27.3 +0.1
Z47A **Carrollton** 86.68 42 IAmb IAmb 11 45 28.8
comp=Z,85nm,0.9s
Y49A **Blount Mountai** 86.87 41 IAmb IAmb 11 45 29.3
comp=Z,48nm,0.8s
X51A **Calhoun** 86.95 39 IAmb IAmb 11 45 29.9
comp=Z,57nm,0.9s
PPT **Papeete** 87.16 120 P **P** 11 45 29.4 -0.2
comp=Z,73nm,1.0s,baz=38,slow=2.5,SNR=4.1
comp=Z,73nm,1.0s
PPT2 **Papeete2** 87.17 120 *e*S **S** 11 55 34.1 +2.3
comp=Z,152nm,24.8s
PPT2 **Papeete2** 87.17 120 *e*LQ LQ 12 09 33.9
comp=Z,376nm,22.5s
PPT2 *e*LR LR 12 13 31.1
comp=Z,110nm,23.0s
U56A **King** 87.25 35 IAmb IAmb 11 45 31.7
comp=Z,77nm,0.7s
BG3 **Lake Jocassee** 87.39 38 IAmb IAmb 11 45 32.7
comp=Z,91nm,0.8s
346A **Big Creek Wild** 87.54 44 IAmb IAmb 11 45 33.9
comp=Z,79nm,0.7s
PBRG **Braganca** 87.71 339 *e*P **P** 11 45 31.4 -0.7
PBRG *i* IAmb IAmb 11 45 34.2
comp=Z,18nm,1.7s
PGAV **Gavieira, Arco** 87.92 340 *e*P **P** 11 45 32.2 -0.8
PGAV *i* IAmb IAmb 11 45 34.7
comp=Z,30nm,1.2s
PAULI **Pauline** 88.00 37 IAmb IAmb 11 45 35.1
comp=Z,57nm,0.8s
PCAB **Cabril** 88.11 340 *e*P **P** 11 45 33.7 -0.2
PCAB *i* IAmb IAmb 11 45 42.2
comp=Z,29nm,1.8s
KEST **Kesra** 88.21 325 P **P** 11 45 33.9 -0.7
comp=Z,12nm,0.8s,baz=347,slow=4.5,SNR=14
comp=Z,12nm,0.8s
V58A **Windy Hill, Pi** 88.22 35 IAmb IAmb 11 45 36.5
comp=Z,55nm,0.7s
HODGE **Hodges** 88.33 38 IAmb IAmb 11 45 36.5
comp=Z,50nm,0.8s
POLO **Lamas de Olo** 88.37 340 *e*P **P** 11 45 34.6 -0.6
POLO *i* IAmb IAmb 11 45 37.4
comp=Z,15nm,1.5s
MVO **Moncorvo** 88.39 339 *e*P **P** 11 45 34.5 -0.7
MVO *i* IAmb IAmb 11 45 37.7
comp=Z,24nm,1.1s
PVRL **Vila Real** 88.45 340 *e*P **P** 11 45 34.9 -0.6
PVRL *i* IAmb IAmb 11 45 35.2
comp=Z,34nm,1.0s
GOGA **Godfrey** 88.53 39 IAmb IAmb 11 45 37.6
comp=Z,45nm,0.8s
152A **Waverly Hall** 88.62 40 IAmb IAmb 11 45 37.6
comp=Z,35nm,0.8s
JSC **Jenkinsville** 88.70 37 IAmb IAmb 11 45 38.1
comp=Z,39nm,0.9s
BIRD **Birdtown, Kers** 88.70 36 IAmb IAmb 11 45 38.2
comp=Z,45nm,0.8s
ESDC **Sonseca Array** 89.01 337 P **P** 11 45 37.7 -0.5
ESDC **Sonseca Array** 89.01 337 P **P** 11 45 37.7 -0.5
comp=Z,6.9nm,0.6s,baz=17,slow=3.9,SNR=36
ESDC pP **pP** 11 47 19.7 +2.1
comp=Z,2.5nm,0.9s,baz=12,slow=4.1,SNR=5.3
ESDC PP **PP** 11 49 15.2 +0.8
comp=Z,0.8nm,0.7s,baz=15,slow=7.5,SNR=4.4
comp=Z,6.9nm,0.6s
PVIS **Viseu** 89.02 340 *e*P **P** 11 45 37.4 -0.8
TOZ **Tahuroa Road** 89.03 156 P **P** 11 45 39.2 +1.4
W59A **Clinton** 89.03 34 IAmb IAmb 11 45 39.9
comp=Z,75nm,0.7s
X58A **Rowland** 89.22 35 IAmb IAmb 11 45 40.6
comp=Z,82nm,0.8s
MTE **Manteigas** 89.24 339 *e*P **P** 11 45 38.6 -0.7
MTE *i* IAmb IAmb 11 45 43.6
comp=Z,32nm,1.6s
352A **Blakely** 89.55 41 P **P** 11 45 41.4 +0.6
COI **Coimbra** 89.62 340 *e*P **P** 11 45 39.7 -1.2
COI *i* IAmb IAmb 11 45 41.5
comp=Z,37nm,0.8s
ATD **Arta Tunnel** 89.70 287 IAmb IAmb 11 45 44.3
comp=Z,34nm,0.9s
PCBR **Castelo Branco** 89.75 339 *e*P **P** 11 45 40.6 -0.9
PCBR *i* IAmb IAmb 11 45 42.8
comp=Z,15nm,1.9s
PCAS **Casmilo, Conde** 89.79 340 *e*P **P** 11 45 38.0 -3.7
PCAS *i* IAmb IAmb 11 45 48.9
comp=Z,33nm,2.0s
PMRV **Marv??o** 90.12 339 *e*P **P** 11 45 45.1 +1.8
PMRV *i* IAmb IAmb 11 45 56.7
comp=Z,14nm,1.4s
RTZ **Ruatahuna** 90.26 156 IAmb IAmb 11 45 44.3
comp=Z,41nm,1.1s
EVO **Evora** 91.12 339 *e*P **P** 11 45 47.6 -0.3
EVO *i* IAmb IAmb 11 46 02.9
comp=Z,16nm,2.2s
PBAR **Barrancos** 91.22 338 *e*P **P** 11 45 47.5 -0.9
PBAR *i* IAmb IAmb 11 45 48.5
comp=Z,14nm,2.3s
TBI **Tubuai** 91.74 123 *e*S **S** 11 56 07.0 -6.0
comp=Z,722nm,29.0s
TBI **Tubuai** 91.74 123 *e*LQ LQ 12 11 57.7
comp=Z,2µm,39.8s
TBI *e*LR LR 12 15 34.0
comp=Z,372nm,22.8s
MESJ **Messejana** 91.83 339 *e*P **P** 11 45 50.6 -0.6
MESJ IAmb IAmb 11 45 53.2
comp=Z,17nm,1.2s
MESJ *e*PP **PP** 11 49 36.9 +0.5
MESJ **Messejana** 91.83 339 *e*P **P** 11 45 50.6 -0.6
MESJ *e* 11 49 36.8
PVAQ **Vaqueiros** 92.12 339 *e*P **P** 11 45 52.1 -0.4
PVAQ *i* IAmb IAmb 11 45 54.0
comp=Z,18nm,2.2s
PTEO **Sao Teotonio** 92.23 339 *e*P **P** 11 45 52.4 -0.6
PTEO *i* IAmb IAmb 11 45 54.7
comp=Z,31nm,1.5s
DBIC **Dimbokro** 119.94 325 PKP **PKPdf** 11 51 30.1 -1.1
comp=Z,11nm,0.5s,baz=18,slow=3.5,SNR=17
VNDA **Vanda** 125.09 176 PKP **PKPdf** 11 51 39.2 +0.1
comp=Z,8.7nm,0.8s,baz=315,slow=4.3,SNR=21
MDP **Montagnes des** 125.44 22 PKP **PKiKP** 11 51 42.0 -0.2
comp=Z,12nm,0.5s,baz=231,slow=1.3,SNR=6.4
BOAV **Boa Vista** 125.58 32 *e*P **PKPdf** 11 51 41.3 -0.8
TBTG **Tabatinga, AM** 127.49 46 *e*P **PKPdf** 11 51 45.4 -0.3
CZSB **Cruzeiro do Su** 129.09 51 *e*P **PKPdf** 11 51 48.5 -0.2
TEFE **Tefe** 129.33 40 *e*P **PKiKP** 11 51 49.8 -0.2
MAW **Mawson** 129.97 210 PKP **PKiKP** 11 51 49.2 -0.2
comp=Z,14nm,0.7s,baz=80,slow=2.0,SNR=36
MAW SKPbc SKPab 11 54 30.9 +1.3
comp=Z,41nm,1.0s,baz=56,slow=5.5,SNR=35
BOSA **Boshof** 130.25 270 PKP **PKiKP** 11 51 51.1 -0.4
comp=Z,5.2nm,0.7s,baz=270,slow=1.6,SNR=8.2
BOSA SKPbc **SKPbc** 11 54 31.2 -0.8
comp=Z,24nm,0.9s,baz=63,slow=3.1,SNR=18
MACA **Manacapuru-AM** 130.64 35 *e*P **PKPdf** 11 51 49.5 -2.1
ITTB **Itaituba** 133.54 29 *e*P **PKPdf** 11 51 57.2 +0.1
TMAB **Tom-Au,PA,Br** 133.72 18 *e*P **PKPdf** 11 51 56.8 -0.7
NPGB **Novo Progresso** 136.17 30 *e*P **PKPdf** 11 52 00.9 -1.1
PRPB **Parauapebas** 136.99 22 *e*P **PKPdf** 11 52 04.1 +0.6
QSPA **South Pole Qui** 137.14 180 PKhKP PKPpre 11 51 51.0
comp=Z,4.7nm,0.5s,baz=162,slow=0.4,SNR=16
QSPA PKP **PKPdf** 11 52 01.6 -0.6
comp=Z,19nm,0.8s,baz=294,slow=2.3,SNR=19
QSPA SKPbc **SKPbc** 11 54 51.9 -1.4
comp=Z,9.7nm,0.8s,baz=326,slow=2.3,SNR=6.7
NBPB **Pedra_Branca-C** 138.11 7 *e*P **PKPdf** 11 52 04.2 -1.5
SYO **Syowa Base** 138.56 212 ⇑*i*PKPdf **PKiKP** 11 52 07.4 +0.5
SYO **Syowa Base** 138.56 212 ⇓*e*PKiKP **PKiKP** 11 52 09.2 +2.3
SYO **Syowa Base** 138.56 212 ⇑*i*SKPdf **SKPbc** 11 54 57.1 0.0
RCBR **Riachuelo** 138.57 1 PKP **PKPdf** 11 52 06.2 -0.2
comp=Z,4.9nm,0.8s,baz=282,slow=5.3,SNR=6.1
RCBR SKPbc **SKPbc** 11 54 58.2 -0.9
comp=Z,6.8nm,1.1s,baz=303,slow=22,SNR=3.2
RCBR **Riachuelo** 138.57 1 *e*P **PKPdf** 11 52 06.8 +0.3
LPAZ **La Paz** 138.65 53 PKhKP PKPpre 11 51 59.2
comp=Z,3.2nm,0.6s,baz=354,slow=6.0,SNR=13
LPAZ PKP **PKPdf** 11 52 06.2 -1.0
comp=Z,11nm,0.8s,baz=13,slow=6.2,SNR=23
LPAZ SKPbc **SKPbc** 11 54 59.1 -0.7
comp=Z,12nm,1.1s,baz=353,slow=4.1,SNR=12
CLDB **Colider** 139.57 33 *e*P **PKPdf** 11 52 04.7 -3.6
SMTB **Santa Maria do** 140.12 20 *e*P **PKPdf** 11 52 08.8 -0.4
SNDB **Serra Nova Dou** 142.11 27 *e*P **PKPdf** 11 52 11.5 -1.2
PTLB **Pontes e Lacer** 142.37 40 *e*P **PKPdf** 11 52 10.9 -2.2
NBAN **Anadia - AL** 142.38 2 *e*P **PKPdf** 11 52 10.1 -3.2
BBSD **Serra de San D** 143.22 44 *e*P PKPbc 11 52 12.4 0.0
SDBA **SAO DESIDERIO** 144.13 17 *e*P **PKPab** 11 52 15.7 +0.1
SALV **Santo Antonio** 144.21 36 *e*P **PKPab** 11 52 15.9 +0.1
ARAG **Araguaiana, MT** 145.45 29 *e*P **PKPbc** 11 52 19.1 -0.3
BDFB **Brasilia** 146.53 23 PKPdf **PKPdf** 11 52 19.9 -0.6
BDFB PKPbc **PKPbc** 11 52 22.7 0.0
BDFB PKPab **PKPab** 11 52 24.4 -0.4
BDFB Brasilia 146.53 23 PKPbc **PKPdf** 11 52 21.2 +0.7
comp=Z,48nm,0.5s,baz=302,slow=1.5,SNR=57

BDFB	**Brasilia**	**146.53**	**23**	PKIKP	**PKPdf**	**11 52 19.9**	**-0.6**
BDFB						11 52 24.4		
JANB	**Januaria**	**146.83**	**17**	*eP*	**PKPdf**	**11 52 21.3**	**+0.4**
LCO	**Las Campanas**	**146.84**	**69**	PKPdf	**PKPdf**	**11 52 21.5**	**+0.7**
LCO				PKPbc	**PKPbc**	**11 52 23.9**	**+0.5**
LCO	**Las Campanas**	**146.84**	**69**	PKIKP	**PKPdf**	**11 52 21.5**	**+0.7**
LCO						11 52 23.9		
CO06	**Fray Jorge**	**147.35**	**72**		**PKPdf**	**11 52 20.7**	**-0.6**
CO06				PKPbc	**PKPbc**	**11 52 24.4**	**-0.1**
CO06				PKPab	**PKPab**	**11 52 27.3**	**-0.4**
GO04	**Tololo Observa**	**147.56**	**71**		**PKPdf**	**11 52 22.1**	**+0.2**
GO04				PKPbc	**PKPbc**	**11 52 25.3**	**0.0**
GO04				PKPab	**PKPab**	**11 52 29.2**	**+0.3**
BDQN	**Bodoquena, MS**	**147.83**	**41**	*eP*	**PKPdf**	**11 52 22.9**	**+0.5**
CMC01	**Camacan, BA**	**147.83**	**8**	*eP*	**PKPdf**	**11 52 22.9**	**+0.4**
NVL	**N'lazarevskaya**	**147.83**	**207**	*eP*	**PKPbc**	**11 52 24.8**	**+0.4**
NVL				pmax	pmax			
	comp=Z,8.0nm,0.4s							
C2SB	**Chapadao do Su**	**147.92**	**33**	*eP*	**PKPdf**	**11 52 22.8**	**+0.3**
CO03	**El Pedregal**	**148.07**	**72**	PKPdf	**PKPdf**	**11 52 23.0**	**+0.4**
CO03				PKPbc	**PKPbc**	**11 52 26.1**	**-0.3**
CO03				PKPab	**PKPab**	**11 52 31.2**	**+0.5**
AQDB	**Aquidauana**	**148.31**	**39**	*eP*	**PKPdf**	**11 52 23.4**	**+0.3**
MURT	**Porto Murtinho**	**148.49**	**43**	*eP*	**PKPdf**	**11 52 23.5**	**+0.2**
IPMB	**Ipameri, GO**	**148.71**	**25**	*eP*	**PKPdf**	**11 52 23.7**	**-0.2**
VA06	**Catapilco**	**148.79**	**75**		**PKPdf**	**11 52 23.7**	**+0.2**
VA06				PKPbc	**PKPbc**	**11 52 27.2**	**-0.7**
VA06				PKPab	**PKPab**	**11 52 33.9**	**+0.4**
GUA01	**Guaratinga, BA**	**149.01**	**9**	*eP*	**PKPdf**	**11 52 23.9**	**-0.5**
RPRD	**Ribas do Rio P**	**149.14**	**36**	*eP*	**PKPdf**	**11 52 24.6**	**+0.1**
BELA	**Belgrano 2**	**149.41**	**180**	PKPbc	**PKPbc**	**11 52 27.4**	**-0.8**
BELA				PKPab	**PKPab**	**11 52 34.5**	**-0.4**
ITRB	**Iturama**	**149.66**	**30**	*eP*	**PKPdf**	**11 52 25.5**	**+0.1**
MT05	**Renca**	**149.67**	**76**		**PKPbc**	**11 52 30.3**	**+0.1**
PMNB	**Patos De Minas**	**149.72**	**22**	*eP*	**PKPdf**	**11 52 25.7**	**+0.2**
MT09	**Talagante**	**149.74**	**76**		**PKPdf**	**11 52 24.7**	**-0.5**
MT09				PKPbc	**PKPbc**	**11 52 29.8**	**-0.7**
MT09				PKPab	**PKPab**	**11 52 37.9**	**+0.2**
ZON	**Zonda**	**149.83**	**71**	PKPdf	**PKPdf**	**11 52 26.4**	**+1.1**
ZON				PKPbc	**PKPbc**	**11 52 30.7**	**+0.1**
ZON				PKPab	**PKPab**	**11 52 38.8**	**+0.8**
ZON	**Zonda**	**149.83**	**71**	PKHKP	PKPpre	11 52 30.7		
ZON						11 52 38.8		
TROLL	**Troll, Antarti**	**149.88**	**202**	⇓P	**PKPdf**	**11 52 24.0**	**-0.3**
	comp=Z,9μm,0.8s							
TROLL				⇓x	x	11 54 16.7		
	comp=Z,923nm,0.7s							
DIAM	**Diamantina, MG**	**150.11**	**17**	*eP*	**PKPdf**	**11 52 25.2**	**-1.1**
SJMB	**Sao Joao De Ma**	**150.93**	**12**	*eP*	**PKPdf**	**11 52 27.0**	**-0.3**
PCMB	**Pacaembu**	**151.10**	**33**	*eP*	**PKPdf**	**11 52 27.8**	**+0.3**
SNAA	**Sanae**	**151.42**	**201**	⇓P	**PKPdf**	**11 52 25.8**	**-0.7**
	comp=Z,368nm,0.3s							
SNAA				⇓PKPab	**PKPab**	**11 52 43.6**	**+0.1**
SNAA				⇓x	x	11 54 19.3		
	comp=Z,202nm,0.9s							
SNAA	**Sanae**	**151.42**	**201**	PKP	**PKPdf**	**11 52 25.9**	**-0.7**
	comp=Z,3.3nm,0.8s,baz=144,slow=1.5,SNR=20							
SNAA				PKPbc	**PKPbc**	**11 52 32.6**	**-0.5**
	comp=Z,16nm,0.4s,baz=216,slow=1.3,SNR=162							
SNAA				PKPab	**PKPab**	**11 52 42.8**	**-0.7**
	comp=Z,10.0nm,0.9s,baz=129,slow=10,SNR=3.5							
SNAA				pPKPbc	**pPKPbc**	**11 54 18.4**	**+1.2**
	comp=Z,8.8nm,0.9s,baz=123,slow=0.2,SNR=3.5							
BB19B	**Bebedouro**	**151.52**	**27**	*eP*	**PKPdf**	**11 52 28.4**	**+0.2**
RIB01	**Linhares ES**	**151.64**	**11**	*eP*	**PKPdf**	**11 52 28.5**	**+0.2**
TRCB	**Terra Rica**	**151.65**	**36**	*eP*	**PKPdf**	**11 52 28.5**	**+0.2**
SJPY	**San Joaquin**	**152.05**	**44**	*eP*	**PKPdf**	**11 52 29.0**	**+0.2**
BSCB	**Bom Sucesso**	**152.49**	**20**	*eP*	**PKPdf**	**11 52 29.4**	**-0.3**
CPUP	**Villa Florida**	**152.57**	**48**	PKP	**PKPdf**	**11 52 27.9**	**-1.6**
	comp=Z,1.6nm,1.0s,baz=232,slow=2.9,SNR=8.8							
CPUP				PKPbc	**PKPbc**	**11 52 36.8**	**-0.1**
	comp=Z,5.4nm,0.8s,baz=178,slow=2.4,SNR=31							
CPUP				PKPab	**PKPab**	**11 52 49.1**	**-0.4**
	comp=Z,11nm,0.8s,baz=193,slow=4.9,SNR=27							
CPUP				PP	**PP**	**11 56 23.3**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=193,slow=5.2,SNR=4.7							
CPUP	**Villa Florida**	**152.57**	**48**	*eP*	**PKPdf**	**11 52 29.4**	**-0.1**
LDASE	**Londrina, Braz**	**152.78**	**34**	*eP*	**PKPdf**	**11 52 30.0**	**0.0**
VNA2	**Neumayer--Watz**	**153.00**	**200**	⇓P	**PKPdf**	**11 52 28.4**	**-0.3**
	comp=Z,80nm,0.6s,baz=115,slow=2.0							
VNA2				⇓PKPab	**PKPab**	**11 52 49.6**	**-0.5**
	baz=115,slow=2.0							
VNA2				⇓x	x	11 54 24.0		
	comp=Z,34nm,0.7s,baz=107,slow=2.1							
FRTB	**Fartura**	**153.30**	**31**	*eP*	**PKPdf**	**11 52 31.3**	**+0.5**
VNA1	**Neumayer--Stat**	**153.40**	**200**	⇓P	**PKPdf**	**11 52 29.1**	**-0.2**
	comp=Z,35nm,0.9s							
VNA1				⇓PKPab	**PKPab**	**11 52 51.0**	**-0.8**
VNA1				⇓x	x	11 54 24.7		
	comp=Z,21nm,1.0s							
PTGB	**Pitanga**	**153.59**	**37**	*eP*	**PKPdf**	**11 52 31.1**	**0.0**
PLCA	**Paso Flores**	**153.75**	**88**	PKP	**PKPdf**	**11 52 29.3**	**-1.6**
	comp=Z,3.4nm,0.9s,baz=281,slow=4.4,SNR=6.1							
PLCA				PKPbc	**PKiKP**	**11 52 39.5**	**+0.3**
	comp=Z,14nm,0.7s,baz=263,slow=2.0,SNR=47							
PLCA				PKPab	**PKPab**	**11 52 55.3**	**+0.9**
	comp=Z,20nm,0.9s,baz=294,slow=4.7,SNR=11							
VAO	**Valinhos**	**153.82**	**26**	*eP*	**PKPdf**	**11 52 31.4**	**-0.2**
CAM01	**Campos-RJ**	**153.92**	**14**	*eP*	**PKPdf**	**11 52 31.8**	**+0.3**
VAS01	**Vassouras-RJ**	**154.02**	**18**	*eP*	**PKPdf**	**11 52 32.3**	**+0.6**
DUB01	**Friburgo-RJ**	**154.04**	**16**	*eP*	**PKPdf**	**11 52 32.2**	**+0.4**
SPB	**Sao Paulo**	**154.23**	**27**	*eP*	**PKPdf**	**11 52 31.5**	**-0.5**
MAN01	**Angra dos Reis**	**154.47**	**20**	*eP*	**PKPdf**	**11 52 32.1**	**-0.3**
PARB	**Paraibuna**	**154.52**	**23**	*eP*	**PKPdf**	**11 52 32.8**	**+0.3**
PET01	**Itanhaem-SP**	**154.94**	**27**	*eP*	**PKPdf**	**11 52 34.0**	**+1.1**
ITAB	**Concordia**	**155.78**	**40**	*eP*	**PKPdf**	**11 52 33.9**	**-0.1**
MAJ01	**Sao Joao Batis**	**157.19**	**34**	*eP*	**PKPdf**	**11 52 36.2**	**+0.4**
CNLB	**Canela**	**158.14**	**40**	*eP*	**PKPdf**	**11 52 37.0**	**0.0**
TRQA	**Tornquist**	**158.17**	**75**	*eP*	**PKPdf**	**11 52 37.4**	**+0.7**
PLTB	**Pedras Altas**	**158.87**	**49**	*eP*	**PKPdf**	**11 52 36.8**	**-0.9**

*NEIC **09** 11:35:01.8±0.9, 19°.35N±0°.05×155°.34W±0°.03, h34km±9km, Error ellipse: s-maj=8.2km s-min=3.4km az=168.0*

HVO 09 11:35:03.5±0.9, 19°.34N±0°.04×155°.33W±0°.03, h27km±7km, ML2.7/31, ML2.8/42(NEIC), Error ellipse: s-maj=5.3km s-min=4.4km az=158.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.04**	**157**		Pb	11 35 08.1	-0.1
HLP					Sb	11 35 11.5	+0.2
HLP				IAML		11 35 11.6	
	comp=N,3μm,0.2s						
HLP				IAML		11 35 11.7	
	comp=E,3μm,0.3s						
SDHHI	**Sand Hill**	**0.06**	**31**		Pb	11 35 08.0	-0.4
SDHHI					Sb	11 35 11.2	-0.4
WRMHI	**West Rim**	**0.07**	**20**		Pb	11 35 07.9	-0.5
WRMHI					Sb	11 35 11.2	-0.5
RIM	**Rim**	**0.08**	**41**		Pb	11 35 08.0	-0.4
RIM					Sb	11 35 11.3	-0.4
KKO	**Keanakako'i**	**0.08**	**44**		Pb	11 35 08.1	-0.4
KKO					Sb	11 35 11.1	-0.7
OBL	**Observatory Le**	**0.09**	**27**		Pb	11 35 08.0	-0.5
OBL					Sb	11 35 11.3	-0.5
UWE	**Uwekahuna**	**0.09**	**21**		Pb	11 35 08.1	-0.4
UWE					Sb	11 35 11.5	-0.4
UWE				IAML		11 35 11.9	
	comp=E,1μm,0.5s						
UWE				IAML		11 35 12.2	
	comp=N,993nm,0.3s						
BYL	**Byron's Ledge**	**0.10**	**40**		Pb	11 35 08.3	-0.2
BYL					Sb	11 35 11.7	-0.2
UWB	**Uwekahuna Bluf**	**0.10**	**28**		Pb	11 35 07.9	-0.6
UWB					Sb	11 35 11.2	-0.8
HATHI	**Halema'uma'u T**	**0.10**	**36**		Pb	11 35 08.2	-0.4
HATHI					Sb	11 35 11.3	-0.7
SBLHI	**Steaming Bluff**	**0.10**	**32**		Pb	11 35 08.0	-0.6
SBLHI					Sb	11 35 11.3	-0.7
PUH	**Pauahi**	**0.11**	**71**		Pb	11 35 08.2	-0.3
PUH					Sb	11 35 11.8	-0.3
HTC	**Hot Caves**	**0.12**	**214**		Pb	11 35 08.5	-0.1
AIN	**Ainahou**	**0.13**	**286**		Pb	11 35 08.7	-0.1
AIN					Sb	11 35 12.5	+0.1
RSD	**Rainshed**	**0.13**	**20**		Sb	11 35 11.7	-0.7
RSD	**Rainshed**	**0.13**	**20**		Pn	11 35 09.8	-0.2
KNHH	**Kane Nui o Ham**	**0.15**	**74**		Pb	11 35 08.6	-0.4
MLH	**Mauna Loa**	**0.17**	**340**		Pb	11 35 08.9	-0.3
MLH					Sb	11 35 12.8	-0.4
MLH				IAML		11 35 16.0	
	comp=N,2μm,0.1s						

STCH	**Steam Cracks**	**0.20**	**76**		Pb	11 35 08.9	-0.4
STCH					Sb	11 35 12.8	-0.6
STCH				IAML		11 35 13.0	
	comp=N,1μm,0.1s						
STCH				IAML		11 35 13.4	
	comp=E,1μm,0.1s						
NPOC	**North of Pu'u**	**0.21**	**75**		Pb	11 35 09.0	-0.5
NPOC					Sb	11 35 13.0	-0.7
JCUZ	**Jacuzzi**	**0.22**	**78**		Pb	11 35 09.1	-0.5
JCUZ					Sb	11 35 13.2	-0.6
KHU	**Kahuku**	**0.29**	**252**		Pb	11 35 09.8	-0.9
KHU					Sb	11 35 14.5	-1.0
KHU				IAML		11 35 14.7	
	comp=N,2μm,0.2s						
MWH	**Mokuaweoweo**	**0.29**	**300**		Pb	11 35 10.1	-1.0
MWH					Sb	11 35 15.3	-0.8
MWH				IAML		11 35 15.7	
	comp=N,847nm,0.3s						
MWH				IAML		11 35 22.0	
	comp=E,690nm,0.3s						
HMH	**Humu'ula Sheep**	**0.30**	**331**		Pb	11 35 10.5	-0.5
HMH					Sb	11 35 15.6	-0.5
JOKA	**Jonika Flow**	**0.32**	**72**		Sb	11 35 15.0	-1.1
JOKA	**Jonika Flow**	**0.32**	**72**	Pg	Pb	11 35 10.1	-0.8
JOKA				IAML		11 35 15.2	
	comp=E,437nm,0.3s						
JOKA				IAML		11 35 15.9	
	comp=N,804nm,0.5s						
HPO	**Honuapo**	**0.33**	**221**		Pb	11 35 11.0	-0.1
HPO					Sb	11 35 15.8	-0.4
ALEP	**Alea Permanent**	**0.36**	**304**		Pb	11 35 10.6	-1.2
ALEP					Sb	11 35 16.1	-1.4
POHA	**Pohakuloa**	**0.46**	**335**		Pb	11 35 11.9	-1.4
POHA					Sb	11 35 17.9	-2.0
POHA	**Pohakuloa**	**0.46**	**335**	IAML		11 35 18.6	
	comp=N,489nm,0.2s						
POHA				IAML		11 35 18.6	
	comp=N,492nm,0.3s						
CPH	**Captain Cook**	**0.58**	**285**		Pb	11 35 13.1	-2.0
HUH	**Hualalai**	**0.59**	**306**		Pb	11 35 14.0	-1.4
HUH				IAML		11 35 37.1	
	comp=E,579nm,0.3s						
HUH				IAML		11 35 37.8	
	comp=N,543nm,0.5s						
KKH	**Kailua Kona**	**0.73**	**296**		Pb	11 35 15.2	-2.3
MHA	**Mahukona**	**1.00**	**327**		Sb	11 35 30.6	-4.5
MHA	**Mahukona**	**1.00**	**327**	Pn	Pn	11 35 19.5	-2.3
HLK	**Haleakala**	**1.66**	**329**		Pn	11 35 27.9	-3.1
HLK					Sn	11 35 46.8	-4.8
KHLH	**Kahului Airpor**	**1.86**	**327**		Pn	11 35 31.4	-2.2
KHLH					Sn	11 35 52.2	-4.1

*DJA **09** 11:36:19.2±0.8,9°.S±4°×12°.5E±°, h13km±6km, M4.2/10, mb4.5/6, MLv4.2/10*

ISC 09 11:36:22.2±1.3, 9°.4S±0°.1×125°.38E±0°.10, h35km, n16, σ0s.82/16, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.15**	**252**	P	**Pn**	**11 36 43.9**	**+1.9**
SOEI	**Soe**	**1.15**	**252**	P	**Pn**	**11 36 42.1**	**+0.1**
BATI	**Baumata**	**1.87**	**245**	P	**Pn**	**11 36 52.0**	**+0.2**
MMRI	**Maumere**	**3.20**	**284**	P	**Pn**	**11 37 11.1**	**+1.0**
MMRI	**Maumere**	**3.20**	**284**	P	**Pn**	**11 37 10.0**	**-0.1**
EDFI	**Ende, Flores**	**3.70**	**280**	P	**Pn**	**11 37 17.4**	**+0.3**
BBSI	**Bau Bau**	**4.79**	**324**	P	**Pn**	**11 37 31.4**	**-0.5**
BASI	**Baing, Sumba**	**4.80**	**260**	P	**Pn**	**11 37 31.6**	**-0.5**
WBSI	**Waikabubak, Su**	**5.91**	**267**	P	**Pn**	**11 37 45.8**	**-1.7**
	0.2nm36nm,0.9s						
DRS	**Darwin Rock St**	**6.20**	**120**	P	**Pn**	**11 37 50.9**	**-0.4**
AAI	**Ambon**	**6.33**	**26**	P	**Pn**	**11 37 53.1**	**0.0**
	0.3nm43nm,0.8s						
PLAI	**Plampang**	**7.53**	**274**	P	**Pn**	**11 38 09.8**	**+0.1**
PLAI	**Plampang**	**7.53**	**274**	P	**Pn**	**11 38 09.7**	**+0.1**
	0.1nm35nm,1.5s						
KDU	**Kakadu**	**7.69**	**116**	P	**Pn**	**11 38 11.4**	**-0.4**
TWSI	**Taliwang, Sumb**	**8.42**	**274**	P	**Pn**	**11 38 21.2**	**-0.7**
KUZ	**Kuaotunu**	**52.95**	**129**	P	**P**	**11 45 35.3**	**0.0**

*NEIC **09** 11:40:23.9±1.3, 8°.46N±0°.09×93°.72E±0°.06, h10km±1km, mb4.6/18, Error ellipse: s-maj=17.6km s-min=3.0km az=215.0*

*IDC **09** 11:40:25.0±1.1, 8°.49N×93°.25E, h0km, mb3.9/11, mbtmp4.0/13, ML4.3/2, MS3.6/4, Error ellipse: s-maj=47.2km s-min=19.2km az=53.0*

*BKK **09** 11:40:31.8±1.5, 9°.N±6°.×9°.4E±1°.4, h10km, M4.3/10, mB4.8/4, mb4.5/6, Mjma4.0/10, ML4.3/7, MLv4.4/7, Mw(mB)4.0/4, MwMwp5.1/1, Mwp5.3/1*

*NDI **09** 11:40:33.5±2.8, 8°.50N×93°.87E, h29km±28km, mb4.4, ML4.4, MW4.5*

ISC 09 11:40:26.5±0.5, 8°.40N±0°.05×93°.77E±0°.05, h22km, n61, σ2s.80/59, mb4.5/21, MS3.7/3, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**1.39**	**173**	*eP*	**Pb**	**11 40 55.9**	**+4.1**
CMBY				*eS*	**Sb**	**11 41 13.3**	**+4.2**
CMBY				IAML		11 41 19.3	
	comp=N,9μm,0.6s						
CMBY				IAML		11 41 22.2	
	comp=E,9μm,0.6s						
RNTT	**Ranong**	**4.76**	**78**	P	**Pn**	**11 41 38.6**	**+1.6**
SRIT	**Nakonsritamara**	**5.78**	**88**	Pn	**Pn**	**11 41 50.2**	**-0.7**
SRIT				Sn	**Sn**	**11 42 56.7**	**+0.1**
SRIT	**Nakonsritamara**	**5.78**	**88**	P	**Pn**	**11 41 52.7**	**+1.8**
KULM	**Kulim**	**7.50**	**114**	Pn	**Pn**	**11 42 13.5**	**-1.1**
PSI	**Prapat**	**7.57**	**137**	Pn	Pn	11 42 24.2	+8.6
	comp=E,0.7nm,0.3s,baz=318,slow=10,SNR=7.1						
PSI				LR	LR	11 45 43.3	
	comp=E,268nm,18.9s,baz=181,slow=40						
	comp=E,7.1nm,0.6s						
RPSI	**Rantau Prapat**	**7.64**	**138**	Pn	**Pn**	**11 42 14.0**	**-2.6**
GSI	**Gunungsitoli**	**8.00**	**152**	Pn	**Pn**	**11 42 18.5**	**-3.1**
IPM	**Ipoh**	**8.20**	**118**	Pn	**Pn**	**11 42 22.8**	**-1.5**
BKNI	**Bangkinang**	**10.81**	**138**	Pn	**Pn**	**11 42 58.9**	**-1.1**
CM31	**Chiang Mai Arr**	**11.19**	**26**		**Pn**	**11 43 02.9**	**-2.4**
CMAR	**Chiang Mai Arr**	**11.19**	**26**	Pn	**Pn**	**11 43 03.3**	**-2.0**
CMAR	**Chiang Mai Arr**	**11.19**	**26**	Pn	**Pn**	**11 43 08.5**	**+3.2**
	comp=E,2.2nm,0.3s,baz=213,slow=15,SNR=20						
	comp=E,7.1nm,0.4s						
CHTO	**Chiang Mai**	**11.51**	**25**	Pn	**Pn**	**11 43 07.3**	**-2.4**
PALK	**Pallekele**	**12.99**	**266**	Pn	**Pn**	**11 43 26.2**	**-3.8**
VIS	**Vishakhapatnam**	**13.75**	**313**	*eP*	**P**	**11 43 46.4**	**-2.2**
VIS				*eS*	**Sn**	**11 46 20.0**	**+7.6**
MDRS	**Chennai**	**14.07**	**290**	*eP*	**P**	**11 43 51.5**	**-0.7**
MDRS				IAmb	IAmb	11 43 57.4	
	comp=Z,30nm,2.7s						
MDRS				*eS*	**Sn**	**11 46 29.2**	**+9.0**
AZL	**Aizawl**	**15.29**	**356**	*eP*	**P**	**11 44 07.1**	**+1.2**
AZL				*eS*	**Sn**	**11 46 55.1**	**+5.1**
IMP	**Imphal**	**16.34**	**1**	*eP*	**P**	**11 44 20.7**	**+3.2**
IMP				*eS*	**Sn**	**11 47 18.5**	**+2.9**
TRD	**Trivandrum**	**16.63**	**272**	*eP*	**P**	**11 44 25.1**	**+4.5**
TRD				*eS*	**S**	**11 47 30.8**	**-2.8**
KOHI	**KOHIMA**	**17.23**	**1**	*eP*	**P**	**11 44 30.0**	**+2.5**
KOHI				*eS*	**Sn**	**11 47 40.1**	**+2.9**
H08S3	**Diego Garcia H**	**26.52**	**234**	T	T	12 13 02.3	
	baz=51,slow=76,SNR=36						
H08S2	**Diego Garcia H**	**26.52**	**234**	T	T	12 13 06.7	
	baz=51,slow=76,SNR=29						
H08S1	**Diego Carcia H**	**26.54**	**234**	T	T	12 13 07.6	
	baz=51,slow=76,SNR=15						
KAPI	**Kappang**	**29.14**	**116**	LR	LR	11 59 01.4	
	comp=Z,184nm,19.1s,baz=10.0,slow=38						
GAR	**Garm**	**37.04**	**329**	P	**P**	**11 47 32.0**	**-3.0**
GAR				IAmb	IAmb	11 47 36.1	
	comp=Z,11nm,1.0s						
BOOM	**Boomskoye usch**	**37.41**	**338**	P	**P**	**11 47 36.2**	**-2.0**
BOOM				IAmb	IAmb	11 47 57.8	
	comp=Z,18nm,1.4s						
SIMJ	**Simiganj**	**37.47**	**327**	P	**P**	**11 47 36.6**	**-2.1**
SIMJ				IAmb	IAmb	11 47 39.4	
	comp=Z,5.3nm,0.6s						
JOW	**Kunigami**	**37.47**	**56**	P	**P**	**11 47 36.6**	**-2.1**
BTK	**Batken**	**37.60**	**331**	P	**P**	**11 47 36.4**	**-3.3**
BTK				IAmb	IAmb	11 47 42.1	
	comp=Z,6.9nm,0.9s						
ARSB	**Arslanbob**	**37.61**	**334**	P	**P**	**11 47 37.4**	**-2.5**
ARSB				IAmb	IAmb	11 47 41.5	
	comp=Z,7.3nm,0.6s						

AAK	**Ala-Archa**	**38.08**	**337**	P	**P**	**11 47 41.1**	**-2.7**
UOSS	**Minazif**	**39.39**	**299**	P	**P**	**11 47 51.5**	**-3.4**
MKAR	**Makanchi Array**	**39.50**	**348**	P	**P**	**11 47 53.5**	**-1.9**
MKAR	**Makanchi Array**	**39.50**	**348**	P	**P**	**11 47 56.0**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=157,slow=9.1,SNR=1.7							
	comp=Z,0.8nm,0.6s							
FITZ	**Fitzroy Crossi**	**41.03**	**130**	LR	LR	12 06 13.6		
	comp=Z,101nm,19.9s,baz=332,slow=37							
KURBB	**Kurchatov Arra**	**43.95**	**346**	P	**P**	**11 48 32.0**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=155,slow=7.2,SNR=2.5							
	comp=Z,1.2nm,0.7s							
ZAA0	**Zalesovo Array**	**45.99**	**353**		**P**	**11 48 46.1**	**-1.9**
ZAA0					IAmb	IAmb	11 48 49.1	
	comp=Z,7.5nm,0.9s							
ZALV	**Zalesovo Beam**	**45.99**	**353**		**P**	**11 48 46.2**	**-1.7**
ZALV	**Zalesovo Beam**	**45.99**	**353**	P	**P**	**11 48 48.6**	**+0.6**
	comp=Z,2.4nm,0.3s,baz=170,slow=9.0,SNR=9.9							
	comp=Z,2.4nm,0.3s							
BRVK	**Borovoye**	**48.44**	**341**	P	**P**	**11 49 05.8**	**-1.3**
BRVK					IAmb	IAmb	11 49 10.7	
	comp=Z,10nm,1.4s							
WRA	**Warramunga Arr**	**48.87**	**126**	P	P	11 49 17.3	+6.4
	comp=Z,0.4nm,0.8s,baz=300,slow=7.7,SNR=1.6							
	comp=Z,0.4nm,0.8s							
ASAR	**Alice Springs**	**50.53**	**130**	P	**P**	**11 49 27.7**	**+4.1**
	comp=Z,0.2nm,0.6s,baz=298,slow=8.8,SNR=1.4							
ASAR					LR	LR	12 13 14.4	
	comp=Z,56nm,19.5s,baz=336,slow=39							
	comp=Z,0.2nm,0.6s							
ERM	**Erimo**	**54.78**	**44**	P	**P**	**11 49 53.7**	**-1.1**
BR131	**Keskin Array S**	**61.81**	**311**	P	**P**	**11 50 41.9**	**-2.2**
BRTR	**Keskin Array B**	**61.81**	**311**	P	**P**	**11 50 41.5**	**-2.6**
BRTR	**Keskin Array B**	**61.81**	**311**	P	**P**	**11 50 43.7**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=99,slow=7.6,SNR=3.8							
	comp=Z,1.5nm,0.8s							
H04N2	**CROZET ISLANDS**	**65.98**	**211**	T	T	13 02 32.5		
	baz=45,slow=75,SNR=3.8							
H04N1	**CROZET ISLANDS**	**65.99**	**211**	T	T	13 02 27.8		
	baz=45,slow=75,SNR=3.9							
H04N3	**CROZET ISLANDS**	**66.00**	**211**	T	T	13 02 30.5		
	baz=45,slow=75,SNR=4.2							
FIA1	**FINESS Array S**	**72.08**	**332**	P	**P**	**11 51 47.7**	**-1.1**
FINES	**FINESS Array B**	**72.08**	**332**	P	**P**	**11 51 47.6**	**-1.2**
FINES	**FINESS Array B**	**72.08**	**332**	P	**P**	**11 51 48.8**	**0.0**
	comp=Z,0.7nm,0.4s,baz=99,slow=7.3,SNR=4.3							
	comp=Z,0.7nm,0.4s							
ARCES	**ARCESS Array B**	**74.65**	**340**	P	**P**	**11 52 04.3**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=105,slow=6.8,SNR=4.0							
	comp=Z,1.0nm,0.7s							
HFS	**Hagfors**	**77.82**	**330**	P	**P**	**11 52 22.4**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=98,slow=6.1,SNR=4.4							
	comp=Z,1.7nm,0.6s							
NC405	**NORSAR Array S**	**78.86**	**331**	P	**P**	**11 52 26.4**	**-1.4**
NC405					IAmb	IAmb	11 52 42.6	
	comp=Z,7.5nm,1.1s							
NOA	**NORSAR Array B**	**79.09**	**331**	P	**P**	**11 52 29.2**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=92,slow=5.3,SNR=3.8							
	comp=Z,0.9nm,0.7s							
EKA	**Eskdalemuir Ar**	**87.08**	**325**	P	**P**	**11 53 10.5**	**0.0**
	comp=Z,0.7nm,0.6s,baz=97,slow=5.8,SNR=4.0							
	comp=Z,0.7nm,0.6s							
C18K	**Utukok River**	**87.65**	**21**	P	**P**	**11 53 12.8**	**-0.2**
C18K					IAmb	IAmb	11 53 28.6	
	comp=Z,4.3nm,1.4s							
C19K	**Lookout Ridge**	**88.07**	**20**	P	**P**	**11 53 14.3**	**-0.7**
C19K					IAmb	IAmb	11 53 42.4

*IDC **09** 12:08:14.5±0.8, 1°.18N×96°.95E, h0km, mb4.2/16, mbtmp4.2/18, ML3.9/2, MS3.3/2, Error ellipse: s-maj=24.4km s-min=14.1km az=53.0*

*NEIC **09** 12:08:17.2±1.5, 1°.24N±0°.06×96°.93E±0°.04, h10km±1km, mb4.5/33, Mwr4.3/12, Error ellipse: s-maj=11.3km s-min=4.9km az=143.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr 0.10; Mθθ 1.46; Mφφ -1.57; Mrθ 0.62; Mrφ -3.18; Mθr -1.90; Fault plane solution: Mw 4.05000×10^15 NP1: ϕs 167.77000°, δ87.70000°, λ29.46000°. NP2: ϕs 76.48000°, δ60.56000°, λ177.36000°. Principal axes: T 4.0971, Plg22.0000°, Azm36.0000°; N -0.0889, Plg60.0000°, Azm172.0000°; P -4.0082, Plg19.0000°, Azm298.0000°;*

*DJA **09** 12:08:18.0±1.1, 1°N±3°×9°7E±°, h22km±9km, M4.4/13, mb4.6/7, MLv4.3/13*

*NEIC **09** 12:08:21, 1°.26N×97°.05E, h35km*

ISC 09 12:08:18.6±0.6, 1°.22N±0°.06×96°.98E±0°.06, h25km, n90, σ0s71/79, mb4.4/34, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.60**	**82**		**Pb**	**12 08 30.9**	**+0.4**
GSI	**Gunungsitoli**	**0.60**	**82**	P	**Pb**	**12 08 30.6**	**+0.1**
PBSI	**Pulau Batu**	**1.82**	**134**	P	**Pn**	**12 08 49.0**	**+0.7**
RPSI	**Rantau Prapat**	**2.44**	**53**		**Pn**	**12 08 57.3**	**+0.5**
RPSI					**Sn**	**12 09 27.1**	**+1.4**
RPSI	**Rantau Prapat**	**2.44**	**53**		**Pn**	**12 08 57.2**	**+0.5**
PSI	**Prapat**	**2.50**	**51**	Pn	**Pn**	**12 08 57.3**	**-0.5**
	9.6nm,0.3s,baz=220,slow=4.5,SNR=33						
PSI				Sn	**Sn**	**12 09 27.1**	**-0.4**
	6.3nm,0.3s,baz=264,slow=0.5,SNR=4.3						
PSI				LR	LR	12 09 45.1	
	comp=Z,504nm,19.2s,baz=327,slow=36						
	22nm,0.3s						
MNSI	**Mandailing Nat**	**2.64**	**99**	P	**Pn**	**12 08 59.1**	**-0.4**
TSI	**Tuntungan**	**2.77**	**35**	P	**Pn**	**12 09 01.6**	**+0.3**
MLSI	**Meulaboh, Aceh**	**3.08**	**349**	P	**Pn**	**12 09 04.5**	**-1.1**
SISI	**Saibi**	**3.30**	**140**	P	**Pn**	**12 09 09.1**	**+0.5**
LHMI	**Lhok Sumawe**	**3.98**	**360**	Pn	**Pn**	**12 09 18.4**	**+0.4**
LHMI	**Lhok Sumawe**	**3.98**	**360**	P	**Pn**	**12 09 17.9**	**-0.2**
IPM	**Ipoh**	**5.18**	**51**		**Pn**	**12 09 34.7**	**+0.2**
KULM	**Kulim**	**5.46**	**42**		**Pn**	**12 09 38.1**	**-0.3**
MYKOM	**Kota Tinggi**	**6.89**	**85**	Pn	**Pn**	**12 09 58.7**	**+0.6**
MNAI	**Manna**	**8.15**	**133**	Pn	**Pn**	**12 10 15.7**	**+0.3**
MNAI	**Manna**	**8.15**	**133**	P	**Pn**	**12 10 15.3**	**-0.1**
MDSI	**Maura Dua**	**9.16**	**128**	P	**Pn**	**12 10 28.6**	**-0.6**
UBPT	**Khong Chiam**	**16.29**	**31**	Pn	**Pn**	**12 12 06.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**17.24**	**6**		**Pn**	**12 12 17.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**17.24**	**6**	P	**Pn**	**12 12 16.6**	**-1.2**
	0.3nm,0.3s,baz=200,slow=11,SNR=12						
CMAR				LR	LR	12 18 44.0	
	comp=Z,109nm,18.7s,baz=115,slow=36						
	4.4nm,0.9s						
KKM	**Kota Kinabalu**	**19.78**	**76**		**P**	**12 12 47.0**	**-0.3**
SLVN	**Son La**	**21.10**	**18**		**P**	**12 13 01.3**	**-0.2**
SLVN				IAmb	IAmb	12 13 02.5	
	comp=Z,24nm,0.8s						
MYLDM	**Lahad Datu**	**21.84**	**79**	P	**P**	**12 13 08.5**	**-1.0**
MYLDM				IAmb	IAmb	12 13 20.1	
	comp=Z,18nm,1.0s						
TOLI2	**Tolitoli**	**23.80**	**90**	P	**P**	**12 13 28.8**	**-0.9**
TOLI2				IAmb	IAmb	12 13 29.5	
	comp=Z,35nm,1.5s						
SHL	**Shillong**	**24.70**	**349**	P	**P**	**12 13 36.9**	**-1.1**
H08S2	**Diego Garcia H**	**25.96**	**250**	T	T	12 40 54.2	
	baz=70,slow=75,SNR=3886						
H08S3	**Diego Garcia H**	**25.96**	**250**	T	T	12 40 48.0	
	baz=70,slow=75,SNR=4143						
H08S1	**Diego Carcia H**	**25.98**	**250**	T	T	12 40 49.1	
	baz=70,slow=75,SNR=2759						
ENH	**Enshi**	**31.24**	**21**	P	**P**	**12 14 35.1**	**-1.2**
YULB	**Yu-li**	**32.28**	**45**	P	**P**	**12 14 46.8**	**+1.2**
FITZ	**Fitzroy Crossi**	**34.12**	**126**	P	**P**	**12 15 01.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**34.12**	**126**	P	**P**	**12 15 00.9**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=311,slow=6.5,SNR=6.1						
	comp=Z,2.1nm,0.8s						
MTN	**Manton Dam**	**36.66**	**113**	P	**P**	**12 15 21.6**	**-2.0**
GTA	**Gaotai**	**38.10**	**4**	*eP*	**P**	**12 15 36.0**	**+0.4**
GTA				pP	sP	12 15 44.6	-1.0
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NIL	**Nilore**	**39.18**	**328**	P	**P**	**12 15 44.7**	**+0.1**
NIL				IAmb	IAmb	12 16 14.0	
	comp=Z,9.2nm,1.1s						
H01W3	**Cape Leeuwin H**	**39.35**	**158**	T	T	12 57 23.5	
	baz=333,slow=76,SNR=53						
H01W2	**Cape Leeuwin H**	**39.36**	**158**	T	T	12 57 24.5	
	baz=333,slow=76,SNR=51						
H01W1	**Cape Leeuwin H**	**39.36**	**157**	T	T	12 57 24.7	
	baz=333,slow=76,SNR=47						
JOW	**Kunigami**	**39.39**	**47**	P	**P**	**12 15 46.5**	**0.0**
WB0	**Warramunga Arr**	**42.21**	**122**	P	**P**	**12 16 09.4**	**-0.4**
WRA	**Warramunga Arr**	**42.23**	**122**	P	**P**	**12 16 09.1**	**-1.0**
WRA	**Warramunga Arr**	**42.23**	**122**	P	**P**	**12 16 09.9**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=301,slow=9.1,SNR=21						
	comp=Z,2.2nm,0.7s						
WRAB	**Tennant Creek**	**42.24**	**122**	P	**P**	**12 16 10.4**	**+0.3**
WR8	**Warramunga Arr**	**42.38**	**122**	P	**P**	**12 16 11.1**	**-0.2**
WR8				IAmb	IAmb	12 16 12.3	
	comp=Z,4.8nm,0.8s						
BJT	**Baijiatuau**	**42.38**	**22**	P	**P**	**12 16 11.5**	**+0.6**
BJT				IAmb	IAmb	12 16 12.5	
	comp=Z,6.6nm,0.6s						
ASAR	**Alice Springs**	**43.59**	**127**	P	**P**	**12 16 21.2**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=297,slow=8.1,SNR=18						
	comp=Z,2.1nm,0.8s						
AS31	**Alice Springs**	**43.59**	**127**	P	**P**	**12 16 21.4**	**+0.4**
TARG	**Taragay, Kyrgy**	**43.87**	**339**	P	**P**	**12 16 21.8**	**-1.7**
TARG				IAmb	IAmb	12 17 05.9	
	comp=Z,4.8nm,1.0s						
KDJ	**Kajisay**	**44.45**	**339**	P	**P**	**12 16 29.3**	**+1.5**
KDJ				IAmb	IAmb	12 16 30.3	
	comp=Z,7.6nm,0.8s						
BOOM	**Boomskoye usch**	**45.22**	**338**	P	**P**	**12 16 35.6**	**+1.7**
BOOM				IAmb	IAmb	12 17 07.6	
	comp=Z,6.4nm,1.2s						
ARSB	**Arslanbob**	**45.42**	**335**	P	**P**	**12 16 36.7**	**+1.1**
ARSB				IAmb	IAmb	12 16 56.6	
	comp=Z,5.1nm,0.9s						
XLT	**XiLinHaoTe**	**45.77**	**19**	*eP*	**P**	**12 16 38.9**	**+0.7**
XLT				pP	pP	12 16 46.8	+1.0
XLT				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KSAR	**Wonju Array Be**	**45.93**	**35**	P	**P**	**12 16 39.5**	**+0.1**
KSRS	**Korea Array**	**45.96**	**35**	P	**P**	**12 16 39.3**	**-0.3**
	comp=Z,4.7nm,0.9s,baz=222,slow=8.8,SNR=14						
	comp=Z,4.7nm,0.9s						
KS19	**Wonju Array Si**	**45.96**	**35**	P	**P**	**12 16 39.2**	**-0.5**
SONM	**Songino Array**	**47.15**	**9**	P	**P**	**12 16 49.3**	**+0.3**
SONM				IAmb	IAmb	12 16 50.3	
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**47.15**	**9**	P	**P**	**12 16 49.3**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=192,slow=9.0,SNR=17						
	comp=Z,3.6nm,0.7s						
MKAR	**Makanchi Array**	**47.17**	**346**		**P**	**12 16 49.5**	**+0.5**
MKAR	**Makanchi Array**	**47.17**	**346**	P	**P**	**12 16 49.7**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=160,slow=8.7,SNR=20						
	comp=Z,2.4nm,0.6s						
MAKZ	**Makanchi**	**47.26**	**346**	P	**P**	**12 16 50.0**	**+0.3**
KK31	**Karatay Array**	**47.94**	**334**	P	**P**	**12 16 56.1**	**+1.0**
KK31				IAmb	IAmb	12 16 56.9	
	comp=Z,2.4nm,0.8s						
KKAR	**Karatay Array**	**47.94**	**334**	P	**P**	**12 16 55.7**	**+0.6**
KKAR				IAmb	IAmb	12 16 57.0	
	comp=Z,2.5nm,0.8s						
KURBB	**Kurchatov Arra**	**51.65**	**345**	P	**P**	**12 17 23.8**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=165,slow=7.0,SNR=15						
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**51.72**	**345**		**P**	**12 17 24.1**	**+0.5**
BNX	**BinXian**	**51.77**	**27**	⇑P	**P**	**12 17 23.2**	**-0.9**
BNX				pmax	pmax		
	comp=Z,9.0nm,0.7s						
USA0B	**Ussuriysk Arra**	**52.87**	**31**		**P**	**12 17 32.7**	**+0.4**
USRK	**Ussuriysk Ar.**	**52.87**	**31**		**P**	**12 17 32.6**	**+0.3**
USRK	**Ussuriysk Ar.**	**52.87**	**31**	P	**P**	**12 17 31.6**	**-0.7**
	comp=Z,9.1nm,0.8s,baz=231,slow=8.1,SNR=15						
	comp=Z,9.1nm,0.8s						
ZAA0	**Zalesovo Array**	**53.50**	**351**		**P**	**12 17 37.2**	**+0.4**
ZAA0				IAmb	IAmb	12 17 38.0	
	comp=Z,9.2nm,0.9s						
ZALV	**Zalesovo Beam**	**53.50**	**351**	P	**P**	**12 17 37.3**	**+0.5**
	comp=Z,12nm,0.6s,baz=192,slow=5.5,SNR=27						
	comp=Z,12nm,0.6s						
STKA	**Stephens Creek**	**53.53**	**132**	P	**P**	**12 17 37.0**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=306,slow=11,SNR=3.3						
	comp=Z,1.1nm,0.6s						
BVAR	**Borovoye Array**	**56.16**	**341**	P	**P**	**12 17 55.8**	**-0.3**
	comp=Z,2.3nm,0.5s						
	comp=Z,2.3nm,0.5s						
AB31	**Akbulak array**	**57.39**	**332**		**P**	**12 18 05.3**	**+0.4**
AB31				IAmb	IAmb	12 18 05.9	
	comp=Z,5.6nm,0.8s						
ABKAR	**Akbulak array**	**57.39**	**332**		**P**	**12 18 05.3**	**+0.4**
H04N2	**CROZET ISLANDS**	**61.66**	**214**	T	T	13 25 33.4	
	baz=53,slow=75,SNR=1746						
H04N1	**CROZET ISLANDS**	**61.68**	**214**	T	T	13 25 34.1	
	baz=53,slow=75,SNR=1414						
H04N3	**CROZET ISLANDS**	**61.68**	**214**	T	T	13 25 32.6	
	baz=53,slow=75,SNR=938						
H04S1	**CROZET ISLANDS**	**62.01**	**213**	T	T	13 25 54.1	
	baz=53,slow=75,SNR=292						
H04S3	**CROZET ISLANDS**	**62.02**	**213**	T	T	13 25 53.9	
	baz=53,slow=75,SNR=367						
H04S2	**CROZET ISLANDS**	**62.02**	**213**	T	T	13 25 52.2	
	baz=53,slow=75,SNR=185						
KBZ	**Khabaz**	**63.91**	**319**	P	**P**	**12 18 50.0**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=122,slow=1.3,SNR=3.9						
	comp=Z,1.1nm,0.5s						
PETK	**Petropavlovsk-**	**71.84**	**34**	P	**P**	**12 19 39.6**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=255,slow=8.8,SNR=1.9						
	comp=Z,0.8nm,0.6s						
PET	**Petropavlovsk**	**72.34**	**34**		**P**	**12 19 42.1**	**0.0**
PET				IAmb	IAmb	12 19 42.7	
	comp=Z,7.1nm,0.9s						
AKASG	**Malin Array Be**	**75.11**	**322**	P	**P**	**12 19 57.9**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=96,slow=5.0,SNR=4.0						
	comp=Z,0.4nm,0.5s						
FINES	**FINESS Array B**	**79.88**	**333**	P	**P**	**12 20 24.9**	**0.0**
	comp=Z,2.2nm,0.8s,baz=264,slow=5.6,SNR=3.8						
	comp=Z,2.2nm,0.8s						
ARCES	**ARCESS Array B**	**82.44**	**340**	P	**P**	**12 20 39.2**	**+0.7**
ARCES				IAmb	IAmb	12 20 51.4	
	comp=Z,6.7nm,1.3s						
ARCES	**ARCESS Array B**	**82.44**	**340**	P	**P**	**12 20 38.1**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=81,slow=7.5,SNR=6.3						
	comp=Z,1.1nm,0.6s						
TXAR	**Lajitas Array**	**143.77**	**31**	PKP	PKPbc	12 27 50.4	+0.5
	comp=Z,0.2nm,0.4s,baz=45,slow=1.9,SNR=4.2						
CPUP	**Villa Florida**	**144.87**	**223**	PKP	**PKPdf**	**12 27 53.7**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=262,slow=16,SNR=1.4						

IDC 09 12:10:40.1±2.0, 0°.95N×127°.09E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=188.4km s-min=23.2km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.95**	**161**	P	P	12 15 34.9	-0.6
	0.6nm,0.6s,baz=340,slow=10,SNR=7.8						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**25.35**	**165**	P	P	12 16 09.4	+0.4
	0.5nm,0.6s,baz=343,slow=10,SNR=12						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**60.04**	**326**	P	P	12 20 49.3	+0.5
	0.2nm,0.4s,baz=129,slow=5.9,SNR=2.4						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.27**	**328**	P	P	12 21 16.5	-0.6
	0.2nm,0.5s,baz=131,slow=7.0,SNR=1.7						
	0.2nm,0.5s						

*KOLA **09** 12:25:30.7, 64°.77N×31°.01E, h0km, ML2.3, Error ellipse: s-maj=18.0km s-min=10.7km az=170.0, Kostomuksha, Karelia*

*IDC **09** 12:25:30.4±2.2, 64°.71N×30°.95E, h0km, mbtmp3.0/3, ML2.2/3, Error ellipse: s-maj=30.2km s-min=8.8km az=105.0*

ISC 09 12:25:29.2±1.4, 64°.80N±0°.06×30°.63E±0°.08, h0km, n9, σ1s85/16, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KVDA	**Kovda**	**2.12**	**25**	P	**Pn**	**12 26 06.1**	**+0.3**
KVDA				S	**Sn**	**12 26 33.6**	**+0.8**
APA0	**Apatity Array**	**2.98**	**18**	P	**Pn**	**12 26 19.0**	**+1.3**
APA0				S	**Sn**	**12 26 51.0**	**-3.1**
FINES	**FINESS Array B**	**3.95**	**214**	Pn	**Pn**	**12 26 32.0**	**+1.0**
	0.2nm,0.3s,baz=32,slow=14,SNR=6.8						
FINES				Sn	**Sn**	**12 27 19.1**	**+1.2**
	0.3nm,0.3s,baz=29,slow=26,SNR=3.4						
FINES				Lg	Lg	12 27 33.1	
	1.4nm,0.3s,baz=30,slow=29,SNR=12						
	0.3nm,0.4s						
ARCES	**ARCESS Array B**	**5.16**	**340**	Pn	**Pn**	**12 26 47.7**	**0.0**
	0.3nm,0.3s,baz=155,slow=13,SNR=19						
ARCES				Sn	**Sn**	**12 27 47.9**	**+0.1**
	0.2nm,0.3s,baz=157,slow=26,SNR=3.6						
ARCES				Lg	Lg	12 28 08.0	
	0.6nm,0.3s,baz=156,slow=33,SNR=6.2						
	0.7nm,0.3s						
ARCES	**ARCESS Array B**	**5.16**	**340**	P	**Pn**	**12 26 48.0**	**+0.3**
ARCES				S	**Sn**	**12 27 47.5**	**-0.3**
VADS	**Vadso**	**5.37**	**355**	P	**Pn**	**12 26 52.0**	**+1.5**
VADS				S	**Sn**	**12 27 53.4**	**+0.4**
I37NO	**I37NO**	**6.38**	**318**	I	I	13 01 40.0	
	baz=129,slow=318,SNR=2.7						
FAUS	**Fauske**	**6.75**	**299**	P	**Pn**	**12 27 12.6**	**+3.2**
FAUS				S	**Sn**	**12 28 26.7**	**-0.2**
HFS	**Hagfors**	**9.12**	**247**	Pn	**Pn**	**12 27 42.0**	**+0.2**
	0.1nm,0.3s,baz=53,slow=12,SNR=2.2						
HFS				Sn	**Sn**	**12 29 20.9**	**-4.2**
	0.2nm,0.3s,baz=50,slow=23,SNR=1.7						
	1.6nm,0.7s						

*BJI **09** 12:36:55.4, 6°.56N×125°.19E, h15km, mB5.7/65, mb5.3/92, Ms5.5/98, Ms7 5.2/93*

*MOS **09** 12:36:56.3±1.0, 6°.77N×125°.05E, h12km, mb5.7/76, MS5.1/29, Error ellipse: s-maj=7.1km s-min=3.8km az=111.5*

*NEIC **09** 12:36:58.9±1.9, 6°.81N±0°.06×125°.12E±0°.07, h10km±1km, mb5.7/377, Ms_20 5.2/265, Mwb5.5/32, Mww5.6/52, Error ellipse: s-maj=12.1km s-min=9.3km az=79.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 0.40; Mθθ 1.80; Mφφ -2.20; Mrθ -0.78; Mθφ -0.10; Mφr -1.15; Fault plane solution: Mw 2.46000×10^17 NP1: ϕs 315.92000°, δ54.54000°, λ4.10000°. NP2: ϕs 223.54000°, δ86.66000°, λ144.47000°. Principal axes: T 2.1830, Plg27.0000°, Azm174.0000°; N 0.4894, Plg54.0000°, Azm39.0000°; P -2.6724, Plg22.0000°, Azm275.0000°;*

*MAN **09** 12:36:58.6, 6°.84N×125°.04E, h10km, mb6.0, ML5.1, MS5.6*

MAN INTENSITY VI - ANTIPAS KIDAPAWAN CITY MAKILALA MATALAM M"LANG AND TULUNAN COTABATO; INTENSITY V - DIGOS CITY MAGSAYSAY AND SANTA CRUZ DAVAO DEL SUR; KORONADAL CITY SOUTH COTABATO; INTENSITY IV - DAVAO CITY; BANSALAN DAVAO DEL SUR; KABACAN AND MAGPET COTABATO; POLOMOLOK SANTO NIO TAMPAKAN AND TUPI SOUTH COTABATO; ALABEL GLAN AND; MALUNGON SARANGANI; PRESIDENT QUIRINO SULTAN KUDARAT; INTENSITY III - GENERAL SANTOS CITY; PIKIT COTABATO; CARMEN COTABATO; KIAMBA SARANGANI; BAGUMBAYAN SULTAN KUDARAT; DAMULOG AND KALILANGAN BUKIDNON; INTENSITY II - COTABATO CITY; PIKIT COTABATO; NABUNTURAN COMPOSTELA VALLEY; CABANGLASAN LANTAPAN KADINGILAN KIBAWE MARAMAG AND VALENCIA CITY BUKIDNON;; CAGAYAN DE ORO CITY; ALUBIJID BALINGASAG BALINGOAN BINUANGAN CLAVERIA GITAGUM INITAO JASAAN KINOGUITAN LAGONGLONG LAGUINDINGAN LIBERTAD LUGAIT MAGSAYSAY; MANTICAO MEDINA NAAWAN OPOL SALAY SUGBONGCOGON TAGOLOAN TALISAYAN AND VILLANUEVA MISAMIS ORIENTAL.

*IDC **09** 12:36:59.1±2.1, 6°.71N×125°.05E, h20km±13km, mb4.9/46, mbtmp5.1/50, ML5.0/4, MS5.0/59, Error ellipse: s-maj=12.0km s-min=8.1km az=76.0*

*NEIC **09** 12:37:00, 6°.81N×125°.12E, h18km, Moment Tensor Solution. Duration: 3s2 Moment tensor: Scale 10^17 Nm; Mrr -0.25; Mθθ 2.90; Mφφ -2.64; Mrθ -0.33; Mθφ -0.97; Mφr -0.11; Fault plane solution: Mw 2.96000×10^17 NP1: ϕs 324.70000°, δ83.71000°, λ1.04000°. NP2: ϕs 234.59000°, δ88.96000°, λ173.71000°. Principal axes: T 3.0886, Plg5.0000°, Azm189.0000°; N -0.2713, Plg84.0000°, Azm45.0000°; P -2.8173, Plg4.0000°, Azm280.0000°;*

*NEIC **09** 12:37:00, 6°.81N×125°.12E, h17km*

*NEIC **09** 12:37:00, 6°.81N×125°.12E, h18km*

*DJA **09** 12:37:00.5±0.3, 7°N±3°×12°5E±°, h10km, M5.7/49, mB6.2/49, mb5.9/49, MLv6.3/9, Mw5.6/39, Mw(mB)5.8/49, MwMwp5.4/42, Mwp5.5/42*

*GCMT **09** 12:37:01.5±0.1, 6°.86N±0°.01×125°.01E±0°.01, h21km, MW5.6/154, Moment Tensor Solution. s121,c208; s154,c315; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr-0.16±.04; Mθθ 3.31±.04; Mφφ -3.15±.04; Mrθ -1.20±.08; Mφφ -0.84±.03; Mθr-0.60±.08; Best double couple: Mo 3.59100×10^17 NP1: ϕs 323.00000°, δ69.00000°, λ2.00000°. NP2: ϕs 232.00000°, δ88.00000°, λ159.00000°. Principal axes: T 3.7420, Plg16.0000°, Azm186.0000°; N -0.3040, Plg69.0000°, Azm48.0000°; P -3.4400, Plg14.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 12:36:59.4±0.3, 6°.76N±0°.02×125°.19E±0°.03, h19km±1km, h19km:pP-P, n1286, σ1s67/1216, mb5.6/334, MS5.1/235, 23C-38D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**0.50**	**51**	Pg	**Pb**	**12 37 10.8**	**+1.1**
	15μm,0.3s,baz=255,slow=1.8,SNR=712						
DAV				Lg	Lg	12 37 20.6	
	24μm,0.3s,baz=122,slow=20,SNR=17						
DAV	**Davao City (W)**	**0.50**	**51**	P	**Pg**	**12 37 07.0**	**-2.5**
DAV	**Davao City (W)**	**0.50**	**51**	P	**Pn**	**12 37 11.7**	**0.0**
DAV	**Davao City (W)**	**0.50**	**51**	P	**Pb**	**12 37 11.1**	**+1.5**
SGSI	**Sangihe**	**3.07**	**174**	P	**Pn**	**12 37 49.1**	**+2.1**
KMSI	**Cibinong**	**6.26**	**191**	P	**Pn**	**12 38 32.0**	**+1.1**
TNTI	**Ternate**	**6.33**	**160**		**Pn**	**12 38 33.8**	**+2.0**
TNTI	**Ternate**	**6.33**	**160**	P	**Pn**	**12 38 35.1**	**+3.2**
TNTI	**Ternate**	**6.33**	**160**	P	**Pn**	**12 38 34.3**	**+2.4**
	5.8nm18μm1μm,1.1s						
TNTI				S	**Sn**	**12 39 47.7**	**+4.0**
	5.8nm18μm1μm,1.1s						
MYLDM	**Lahad Datu**	**6.83**	**257**		**Pn**	**12 38 39.8**	**+1.0**
MYLDM	**Lahad Datu**	**6.83**	**257**	P	**Pn**	**12 38 40.3**	**+1.6**
MRSI	**Marisa**	**7.03**	**208**	P	**Pn**	**12 38 41.3**	**-0.1**
TOLI2	**Tolitoli**	**7.12**	**218**	Pn	**Pn**	**12 38 40.2**	**-2.6**
LUWI	**Luwuk**	**8.11**	**197**		**Pn**	**12 38 57.8**	**+1.5**
LUWI	**Luwuk**	**8.11**	**197**	P	**Pn**	**12 38 58.9**	**+2.6**
LUWI	**Luwuk**	**8.11**	**197**	P	**Pn**	**12 38 58.7**	**+2.4**
MPSI	**Mapaga**	**8.28**	**220**	P	**Pn**	**12 38 59.2**	**+0.6**
	11μm235nm,1.1s						
APSI	**Ampana**	**8.39**	**205**	P	**Pn**	**12 39 02.4**	**+2.2**
TGY	**Tagaytay City**	**8.41**	**331**	Pn	**Pn**	**12 39 00.8**	**+0.3**
	38nm,0.3s,baz=282,slow=6.6,SNR=5.4						
TGY				LR	LR	12 42 36.4	
	comp=Z,15μm,19.4s,baz=145,slow=40						
	114nm,0.3s						
SANI	**Sanana**	**8.78**	**175**	P	**Pn**	**12 39 06.6**	**+1.0**
SANI	**Sanana**	**8.78**	**175**	P	**Pn**	**12 39 06.2**	**+0.6**
	15μm12μm1μm,0.9s						
KKM	**Kota Kinabalu**	**8.94**	**266**		**Pn**	**12 39 08.7**	**+0.9**
KKM	**Kota Kinabalu**	**8.94**	**266**	P	Pn	12 39 12.6	+4.8
PCI	**Palu**	**9.30**	**215**	P	**Pn**	**12 39 12.8**	**+0.2**
	15μm6μm521nm,0.9s						
SWI	**Sorong**	**9.70**	**141**	P	**Pn**	**12 39 21.3**	**+3.2**
	7μm669nm,1.3s						
NLAI	**Namlea**	**10.11**	**169**	P	**Pn**	**12 39 24.6**	**+0.8**
	10μm9μm1μm,0.7s						
SMKI	**Samarinda**	**10.70**	**228**	P	**Pn**	**12 39 33.2**	**+1.3**
MSAI	**Masohi**	**10.71**	**159**	P	**Pn**	**12 39 35.0**	**+3.0**
	8μm7μm684nm,1.0s						
AAI	**Ambon**	**10.80**	**164**	P	**Pn**	**12 39 34.8**	**+1.6**
	9μm9μm739nm,1.4s						
KDI	**Kendari**	**10.95**	**194**	P	**Pn**	**12 39 36.8**	**+1.6**
TTSI	**Tana Toraja**	**11.11**	**209**	P	**Pn**	**12 39 39.7**	**+2.2**
BKB	**Balikpapan**	**11.48**	**226**	Pn	**Pn**	**12 39 39.4**	**-3.1**
FAKI	**Fak Fak**	**11.92**	**144**		**Pn**	**12 39 51.4**	**+2.8**
FAKI	**Fak Fak**	**11.92**	**144**	P	**Pn**	**12 39 51.4**	**+2.8**
FAKI	**Fak Fak**	**11.92**	**144**	P	**Pn**	**12 39 51.3**	**+2.8**
	14μm1μm,1.5s						
SPSI	**Sidrap Palu**	**11.94**	**207**	P	**Pn**	**12 39 51.5**	**+2.6**
	10μm4μm315nm,1.4s						
BNDI	**Bandanaira**	**12.15**	**157**	P	**Pn**	**12 39 53.7**	**+2.0**
	2μm2μm,1.6s						
RKPI	**Ransiki, Papua**	**12.16**	**132**	P	Pn	12 39 57.1	+5.2
	8μm15μm929nm,1.2s						
BNSI	**Bone**	**12.19**	**205**	P	**Pn**	**12 39 55.3**	**+3.1**
	12μm9μm681nm,1.2s						
BBSI	**Bau Bau**	**12.44**	**192**	P	**Pn**	**12 39 58.3**	**+2.6**
	9μm12μm583nm,1.2s						
KAPI	**Kappang**	**12.89**	**205**		**Pn**	**12 40 03.6**	**+1.8**
KAPI	**Kappang**	**12.89**	**205**	Pn	**Pn**	**12 40 00.8**	**-1.0**
	2.8nm,0.3s,baz=18,slow=7.7,SNR=18						
KAPI				LR	LR	12 45 14.7	
	comp=Z,12μm,21.0s,baz=48,slow=39						
	41nm,0.9s						
KAPI	**Kappang**	**12.89**	**205**	P	Pn	12 40 07.4	+5.6
KAPI				P	Pn	12 40 07.4	+5.6
KAPI				S	S

SRBI	**Singaraja**	**17.78**	**214**	P	**P**	**12**	**41**	**11.0**	**+4.2**
JAY	**Jayapura**	**18.02**	**120**	P	**Pn**	**12**	**41**	**09.7**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=254,slow=8.2,SNR=9.4								
JAY				LR	LR	12	47	48.5	
	comp=Z,5µm,21.4s,baz=299,slow=36								
	comp=Z,27nm,0.8s								
JAY	**Jayapura**	**18.02**	**120**	P	**P**	**12**	**41**	**12.7**	**+3.2**
YHNB	**Yeheng**	**18.18**	**349**		**Pn**	**12**	**41**	**09.1**	**-2.0**
TATO	**Taipei**	**18.46**	**349**	P	**Pn**	**12**	**41**	**12.2**	**-2.1**
GRJI	**Gresik**	**18.58**	**223**	P	**Pn**	**12**	**41**	**18.9**	**+3.0**
	comp=Z,7µmcomp=Z,13µmcomp=Z,825nm,1.5s								
JAGI	**Jajag, Banyuwa**	**18.70**	**216**		**P**	**12**	**41**	**16.9**	**-0.1**
JAGI				IAmb	IAmb	12	41	28.6	
	comp=Z,382nm,1.1s								
JAGI	**Jajag, Banyuwa**	**18.70**	**216**	P	**Pn**	**12**	**41**	**18.5**	**+1.1**
JAGI	**Jajag, Banyuwa**	**18.70**	**216**	P	**Pn**	**12**	**41**	**18.3**	**+0.9**
	comp=Z,5µmcomp=Z,5µmcomp=Z,384nm,1.1s								
HKPS	**Hong Kong Po S**	**18.75**	**326**	P	**P**	**12**	**41**	**15.2**	**-2.3**
KNMB	**Chin-men Tao**	**18.77**	**340**	P	**P**	**12**	**41**	**16.3**	**-1.3**
QZH	**Quanzhou**	**19.16**	**341**	⇑*i*P	**Pn**	**12**	**41**	**24.2**	**+1.4**
QZH				S	**Sn**	**12**	**44**	**56.0**	**-1.1**
QZH				pmax	pmax				
	comp=Z,280nm,1.5s								
QZH				pmax	pmax				
	comp=Z,7µm,7.6s								
QZH				LR	LR				
	comp=Z,7µm,23.0s								
QZH				LR	LR				
	comp=Z,18µm,23.0s								
QZH				LR	LR				
	comp=Z,11µm,20.6s								
QIZ	**Qiongzhong**	**19.28**	**311**	P	**P**	**12**	**41**	**20.6**	**-2.7**
QIZ	**Qiongzhong**	**19.28**	**311**	P	**P**	**12**	**41**	**23.1**	**-0.2**
QIZ				pP	**sP**	**12**	**41**	**29.5**	**-1.5**
QIZ				sP	**pP**	**12**	**41**	**32.7**	**+4.0**
QIZ				S	**S**	**12**	**45**	**00.7**	**-0.3**
QIZ				pmax	pmax				
	comp=Z,430nm,1.4s								
QIZ				pmax	pmax				
	comp=Z,5µm,3.4s								
QIZ				LR	LR				
	comp=Z,8µm,14.4s								
QIZ				LR	LR				
	comp=Z,7µm,15.7s								
QIZ				LR	LR				
	comp=Z,21µm,18.3s								
JMZ	**Minamidaito 2**	**19.82**	**16**	P	**P**	**12**	**41**	**28.4**	**-0.6**
GZH	**Guangzhou**	**19.84**	**326**	P	**Pn**	**12**	**41**	**33.7**	**+2.7**
GZH				pP	**sP**	**12**	**41**	**39.4**	**+2.4**
GZH				S	**Sn**	**12**	**45**	**19.1**	**+5.5**
GZH				pmax	pmax				
	comp=Z,230nm,1.0s								
GZH				LR	LR				
	comp=Z,11µm,22.5s								
GZH				LR	LR				
	comp=Z,10µm,17.5s								
GZH				LR	LR				
	comp=Z,10µm,15.9s								
DRS	**Darwin Rock St**	**19.89**	**163**	P	**P**	**12**	**41**	**30.8**	**+0.8**
JOW	**Kunigami**	**20.18**	**8**	P	**P**	**12**	**41**	**33.3**	**+0.2**
JOW	**Kunigami**	**20.18**	**8**	P	Pn	12	41	34.8	-0.2
	comp=Z,382nm,0.9s,baz=190,slow=8.4,SNR=45								
JOW				LR	LR	12	49	25.8	
	comp=Z,3µm,21.2s,baz=179,slow=37								
	comp=Z,382nm,0.9s								
MTN	**Manton Dam**	**20.35**	**163**	P	**P**	**12**	**41**	**35.7**	**+0.7**
MTN				IAmb	IAmb	12	41	46.0	
	comp=Z,380nm,0.8s								
MTN	**Manton Dam**	**20.35**	**163**	P	**P**	**12**	**41**	**35.3**	**+0.4**
	comp=Z,0.0nmcomp=Z,526nm,1.0s								
MTN	**Manton Dam**	**20.35**	**163**	P	**P**	**12**	**41**	**35.5**	**+0.5**
GUMO	**Guam**	**20.52**	**69**	P	**P**	**12**	**41**	**38.0**	**+1.2**
GUMO	**Guam**	**20.52**	**69**	P	**P**	**12**	**41**	**37.5**	**+0.7**
	comp=Z,27nm,0.3s,baz=15,slow=22,SNR=2.8								
GUMO				LR	LR	12	51	40.7	
	comp=Z,2µm,18.0s,baz=248,slow=43								
	comp=Z,27nm,0.3s								
GUMO	**Guam**	**20.52**	**69**	P	**P**	**12**	**41**	**38.0**	**+1.2**
GUMO				pmax	pmax				
	comp=Z,709nm,1.2s								
KDU	**Kakadu**	**20.63**	**159**	P	**P**	**12**	**41**	**38.3**	**+0.3**
	comp=Z,0.0nmcomp=Z,1µm,0.9s								
KDU	**Kakadu**	**20.63**	**159**	P	**P**	**12**	**41**	**38.1**	**+0.1**
UGM	**Wanagama**	**20.64**	**225**	P	**P**	**12**	**41**	**38.6**	**+0.3**
UGM	**Wanagama**	**20.64**	**225**	P	Pn	12	41	42.3	+1.7
UBPT	**Khong Chiam**	**21.11**	**295**	P	**P**	**12**	**41**	**42.9**	**-0.3**
UBPT				IAmb	IAmb	12	41	59.8	
	comp=Z,308nm,1.3s								
UBPT	**Khong Chiam**	**21.11**	**295**	P	**P**	**12**	**41**	**46.2**	**+3.0**
MYKOM	**Kota Tinggi**	**21.84**	**258**	P	**P**	**12**	**41**	**50.3**	**-0.7**
BBJI	**Bungbulang**	**22.48**	**231**	P	**P**	**12**	**42**	**00.1**	**+2.0**
KNRA	**Kununurra**	**22.57**	**171**	P	**P**	**12**	**41**	**58.8**	**-0.1**
KNRA	**Kununurra**	**22.57**	**171**	P	**P**	**12**	**41**	**58.5**	**-0.4**
	comp=Z,0.0nmcomp=Z,619nm,0.9s								
GULI	**GuiLin**	**23.25**	**324**	P	**P**	**12**	**42**	**05.3**	**-0.6**
GULI				S	**S**	**12**	**46**	**19.1**	**+1.8**
GULI				pmax	pmax				
	comp=Z,89nm,1.1s								
GULI				LR	LR				
	comp=Z,6µm,19.5s								
GULI				LR	LR				
	comp=Z,6µm,17.3s								
GULI				LR	LR				
	comp=Z,6µm,19.0s								
MANU	**Manus Island**	**23.80**	**111**	P	**P**	**12**	**42**	**12.2**	**+0.7**
IPM	**Ipoh**	**24.15**	**266**		**P**	**12**	**42**	**13.7**	**-1.0**
IPM				IAmb	IAmb	12	42	25.5	
	comp=Z,191nm,1.2s								
IPM	**Ipoh**	**24.15**	**266**	P	**P**	**12**	**42**	**17.6**	**+2.9**
CNSH	**ChangSha**	**24.27**	**333**	P	**P**	**12**	**42**	**15.1**	**-0.5**
CNSH				S	**S**	**12**	**46**	**32.7**	**-0.9**
CNSH				pmax	pmax				
	comp=Z,72nm,1.5s								
CNSH				LR	LR				
	comp=Z,5µm,19.9s								
CNSH				LR	LR				
	comp=Z,9µm,18.4s								
CNSH				LR	LR				
	comp=Z,7µm,16.5s								
KULM	**Kulim**	**24.44**	**268**		**P**	**12**	**42**	**16.7**	**-0.7**
KULM				IAmb	IAmb	12	42	36.8	
	comp=Z,432nm,1.6s								
SSE	**Sheshan**	**24.50**	**352**	P	**P**	**12**	**42**	**18.7**	**+1.0**
SSE				pP	**sP**	**12**	**42**	**23.4**	**-2.4**
SSE				S	**S**	**12**	**46**	**40.7**	**+3.4**
SSE				pmax	pmax				
	comp=Z,74nm,1.2s								
SSE				pmax	pmax				
	comp=Z,1µm,3.5s								
SSE				LR	LR				
	comp=Z,2µm,16.5s								
FITZ	**Fitzroy Crossi**	**24.70**	**179**		**P**	**12**	**42**	**19.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**24.70**	**179**	P	**P**	**12**	**42**	**19.3**	**-0.3**
MNAI	**Manna**	**24.79**	**244**		**P**	**12**	**42**	**19.4**	**-1.1**
BKNI	**Bangkinang**	**24.92**	**256**	P	**P**	**12**	**42**	**22.3**	**+0.6**
SLVN	**Son La**	**25.17**	**307**		**P**	**12**	**42**	**23.5**	**-0.5**
SLVN				IAMs_20	IAMs_20	12	53	39.6	
	comp=Z,8µm,19.0s								
SRIT	**Nakonsritamara**	**25.42**	**276**	P	**P**	**12**	**42**	**25.8**	**-0.5**
SRIT				IAmb	IAmb	12	42	51.3	
	comp=Z,237nm,1.4s								
WHN	**Wuhan**	**25.76**	**338**	P	**P**	**12**	**42**	**30.1**	**+1.0**
WHN				pP	**sP**	**12**	**42**	**36.4**	**-0.8**
WHN				sP	**pP**	**12**	**42**	**39.6**	**+4.7**
WHN				S	**S**	**12**	**47**	**01.0**	**+3.6**
WHN				pmax	pmax				
	comp=Z,130nm,1.0s								
WHN				pmax	pmax				
	comp=Z,5µm,3.8s								
WHN				LR	LR				
	comp=Z,18µm,19.6s								
WHN				LR	LR				
	comp=Z,9µm,13.8s								
WHN				LR	LR				
	comp=Z,15µm,19.7s								
NJ2	**Nanjing**	**25.85**	**348**	⇑P	**P**	**12**	**42**	**31.8**	**+1.9**
NJ2				pP	**sP**	**12**	**42**	**37.5**	**-0.5**
NJ2				sP	**pP**	**12**	**42**	**40.7**	**+5.0**
NJ2				S	**S**	**12**	**47**	**03.2**	**+4.3**
NJ2				pmax	pmax				
	comp=Z,72nm,1.0s								
NJ2				pmax	pmax				
	comp=Z,2µm,3.5s								
NJ2				LR	LR				
	comp=Z,2µm,20.8s								
NJ2				LR	LR				
	comp=Z,7µm,18.5s								
NJ2				LR	LR				
	comp=Z,3µm,22.7s								
JCJ	**Chichijima**	**25.89**	**37**	P	**P**	**12**	**42**	**29.4**	**-1.0**
JCJ				IAmb	IAmb	12	42	52.4	
	comp=Z,150nm,0.8s								
JCJ	**Chichijima**	**25.89**	**37**	P	**P**	**12**	**42**	**30.9**	**+0.5**
	comp=Z,37nm,0.4s,baz=180,slow=0.0								
	comp=Z,37nm,0.4s								
GYA	**Guiyang**	**26.36**	**320**	⇓P	**P**	**12**	**42**	**34.9**	**+0.1**
GYA				S	**S**	**12**	**47**	**04.0**	**-3.4**
GYA				pmax	pmax				
	comp=Z,38nm,1.2s								
GYA				pmax	pmax				
	comp=Z,1µm,6.8s								
GYA				LR	LR				
	comp=Z,9µm,17.3s								
GYA				LR	LR				
	comp=Z,7µm,16.8s								
GYA				LR	LR				
	comp=Z,8µm,15.6s								
PSI	**Prapat**	**26.46**	**263**	LR	LR	12	56	09.1	
	comp=Z,2µm,18.1s,baz=95,slow=44								
PSI	**Prapat**	**26.46**	**263**	P	**P**	**12**	**42**	**35.8**	**0.0**
PSI				pmax	pmax				
	comp=Z,105nm,1.0s								
RPSI	**Rantau Prapat**	**26.48**	**262**	P	**P**	**12**	**42**	**35.8**	**0.0**
RPSI				IAmb	IAmb	12	42	42.3	
	comp=Z,105nm,1.0s								
JNU	**Nakatsue**	**26.76**	**11**		**P**	**12**	**42**	**38.3**	**+0.1**
JNU				IAmb	IAmb	12	42	44.5	
	comp=Z,133nm,1.1s								
JNU	**Nakatsue**	**26.76**	**11**	P	**P**	**12**	**42**	**38.3**	**+0.1**
	comp=Z,89nm,1.0s,baz=175,slow=7.2,SNR=9.2								
JNU				LR	LR	12	52	39.9	
	comp=Z,2µm,21.4s,baz=185,slow=35								
	comp=Z,89nm,1.0s								
JNU	**Nakatsue**	**26.76**	**11**	P	**P**	**12**	**42**	**42.8**	**+4.6**
COEN	**Coen**	**27.25**	**139**		**P**	**12**	**42**	**43.2**	**+0.5**
COEN	**Coen**	**27.25**	**139**	P	**P**	**12**	**42**	**43.7**	**+1.0**
	comp=Z,0.0nmcomp=Z,547nm,1.5s								
COEN	**Coen**	**27.25**	**139**	P	**P**	**12**	**42**	**43.2**	**+0.5**
ENH	**Enshi**	**27.66**	**330**	P	**P**	**12**	**42**	**45.5**	**-0.8**
ENH				IAmb	IAmb	12	42	55.0	
	comp=Z,157nm,1.1s								
ENH				IAMs_20	IAMs_20	12	54	47.3	
	comp=Z,4µm,18.0s								
WB0	**Warramunga Arr**	**27.87**	**161**		**P**	**12**	**42**	**47.5**	**-0.8**
WB9	**Warramunga Arr**	**27.89**	**161**	P	**P**	**12**	**42**	**47.4**	**-1.0**
WRAB	**Tennant Creek**	**28.01**	**161**	P	**P**	**12**	**42**	**49.0**	**-0.5**
WRAB	**Tennant Creek**	**28.01**	**161**	*c i*P	**P**	**12**	**42**	**48.8**	**-0.7**
WRAB				pmax	pmax				
	comp=Z,96nm,1.1s								
WRA	**Warramunga Arr**	**28.02**	**161**		**P**	**12**	**42**	**49.2**	**-0.4**
WRA	**Warramunga Arr**	**28.02**	**161**	P	**P**	**12**	**42**	**48.6**	**-1.0**
	comp=Z,44nm,1.0s,baz=338,slow=9.7,SNR=95								
	comp=Z,44nm,1.0s								
WRA	**Warramunga Arr**	**28.02**	**161**	*i* P	**P**	**12**	**42**	**48.2**	**-1.4**
WRA				pmax	pmax				
	comp=Z,46nm,1.0s								
JMN	**Monobe**	**28.02**	**16**		**P**	**12**	**42**	**48.5**	**-1.1**
JMN				IAmb	IAmb	12	42	56.0	
	comp=Z,163nm,1.0s								
JMN				IAMs_20	IAMs_20	12	53	38.1	
	comp=Z,4µm,18.0s								
JMN	**Monobe**	**28.02**	**16**	P	**P**	**12**	**42**	**51.7**	**+2.2**
GSI	**Gunungsitoli**	**28.06**	**260**		**P**	**12**	**42**	**48.8**	**-1.2**
CM31	**Chiang Mai Arr**	**28.08**	**297**	P	**P**	**12**	**42**	**49.6**	**-0.5**
CM31				IAmb	IAmb	12	43	20.3	
	comp=Z,168nm,1.4s								
CM31	**Chiang Mai Arr**	**28.08**	**297**	P	**P**	**12**	**42**	**50.7**	**+0.5**
	SNR=16								
CM31				P	**P**	**12**	**42**	**50.7**	**+0.5**
	SNR=16								
CMAR	**Chiang Mai Arr**	**28.08**	**297**		**P**	**12**	**42**	**49.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**28.08**	**297**	P	**P**	**12**	**42**	**49.7**	**-0.5**
	comp=Z,15nm,1.1s,baz=120,slow=6.9,SNR=45								
CMAR				ScP	**ScP**	**12**	**49**	**42.1**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=148,slow=2.1,SNR=5.0								
CMAR				LR	LR	12	53	54.2	
	comp=Z,3µm,20.2s,baz=120,slow=36								
	comp=Z,15nm,1.1s								
CMAR	**Chiang Mai Arr**	**28.08**	**297**	*i* P	**P**	**12**	**42**	**50.5**	**+0.3**
CMAR				pmax	pmax				
	comp=Z,11nm,0.9s								
WR8	**Warramunga Arr**	**28.08**	**161**		**P**	**12**	**42**	**49.6**	**-0.5**
LHMI	**Lhok Sumawe**	**28.12**	**268**	P	**P**	**12**	**42**	**49.4**	**-1.3**
KMI	**Kunming**	**28.19**	**313**	⇓P	**P**	**12**	**42**	**51.6**	**+0.3**
KMI				sP	sP	12	43	03.1	+3.8
KMI				S	**S**	**12**	**47**	**38.3**	**+1.9**
KMI				pmax	pmax				
	comp=Z,92nm,1.3s								
KMI				pmax	pmax				
	comp=Z,690nm,6.3s								
KMI				LR	LR				
	comp=Z,4µm,17.2s								
KMI				LR	LR				
	comp=Z,4µm,17.8s								
KMI				LR	LR				
	comp=Z,5µm,18.0s								
CHTO	**Chiang Mai**	**28.21**	**298**		**P**	**12**	**42**	**50.7**	**-0.7**
CHTO				IAmb	IAmb	12	43	07.0	
	comp=Z,124nm,1.4s								
CHTO	**Chiang Mai**	**28.21**	**298**	P	**P**	**12**	**42**	**51.5**	**+0.1**
CHTO				P	**P**	**12**	**42**	**51.5**	**+0.1**
CHTO				S	**S**	**12**	**47**	**39.6**	**+3.2**
CHTO				S	**S**	**12**	**47**	**39.6**	**+3.2**
CHTO	**Chiang Mai**	**28.21**	**298**	P	**P**	**12**	**42**	**50.7**	**-0.7**
CHTO				pmax	pmax				
	comp=Z,124nm,1.4s								
CHTO				MLR	MLR				
	comp=Z,3µm,22.0s								
MBWA	**Marble Bar**	**28.25**	**191**		**P**	**12**	**42**	**51.3**	**-0.3**
MBWA	**Marble Bar**	**28.25**	**191**	P	**P**	**12**	**42**	**50.8**	**-0.8**
	comp=Z,193nm,1.3s								
MBWA	**Marble Bar**	**28.25**	**191**	P	**P**	**12**	**42**	**51.3**	**-0.3**
JHJ2	**Mitsune**	**29.54**	**25**	IAMs_20	IAMs_20	12	54	03.5	
	comp=Z,5µm,19.0s								
TJN	**Taejon**	**29.55**	**4**	*e*P	**P**	**12**	**43**	**05.6**	**+2.6**
PZH	**PanZhiHua**	**29.73**	**314**	P	**P**	**12**	**43**	**04.1**	**-0.8**
PZH				S	**S**	**12**	**48**	**00.8**	**+0.4**
PZH				pmax	pmax				
	comp=Z,60nm,1.1s								
PZH				pmax	pmax				
	comp=Z,380nm,5.0s								
PZH				LR	LR				
	comp=Z,4µm,19.4s								
PZH				LR	LR				
	comp=Z,3µm,21.2s								
PZH				LR	LR				
	comp=Z,3µm,19.2s								
LYN	**LuoYang**	**30.05**	**339**	⇑*i*P	**P**	**12**	**43**	**08.2**	**+0.7**
LYN				pP	sP	12	43	12.8	-2.7
LYN				S	**S**	**12**	**48**	**01.8**	**-3.2**
LYN				sS	sS	12	48	14.8	+0.2
LYN				pmax	pmax				
	comp=Z,67nm,1.7s								
LYN				pmax	pmax				
	comp=Z,1µm,4.0s								
LYN				LR	LR				
	comp=Z,8µm,22.3s								
LYN				LR	LR				
	comp=Z,9µm,22.3s								
LYN				LR	LR				
	comp=Z,8µm,22.0s								
TIA	**Tai'an**	**30.23**	**347**	P	**P**	**12**	**43**	**08.9**	**-0.2**
TIA				S	**S**	**12**	**48**	**07.9**	**+0.1**
TIA				pmax	pmax				
	comp=Z,42nm,1.7s								
TIA				pmax	pmax				
	comp=Z,1µm,6.5s								
TIA				LR	LR				
	comp=Z,2µm,20.1s								
TIA				LR	LR				
	comp=Z,7µm,25.0s								
TIA				LR	LR				
	comp=Z,4µm,24.4s								
JSG	**Sagara**	**30.26**	**22**	IAMs_20	IAMs_20	12	55	35.5	
	comp=Z,5µm,19.0s								
INU	**Inuyama**	**30.46**	**19**		**P**	**12**	**43**	**09.7**	**-1.5**
INU				IAmb	IAmb	12	43	16.9	
	comp=Z,152nm,0.9s								
INU				IAMs_20	IAMs_20	12	55	38.0	
	comp=Z,4µm,18.0s								
INU	**Inuyama**	**30.46**	**19**	P	**P**	**12**	**43**	**14.8**	**+3.7**
QIS	**Mount Isa**	**30.62**	**153**	P	**P**	**12**	**43**	**12.8**	**+0.1**
	comp=Z,277nm,1.1s								
QIS	**Mount Isa**	**30.62**	**153**	P	**P**	**12**	**43**	**13.1**	**+0.4**
KSAR	**Wonju Array Be**	**30.64**	**4**		**P**	**12**	**43**	**11.6**	**-1.1**
KSAR	**Wonju Array Be**	**30.64**	**4**	P	**P**	**12**	**43**	**11.6**	**-1.1**
KSRS	**Korea Array**	**30.66**	**4**	P	**P**	**12**	**43**	**12.9**	**+0.1**
	comp=Z,7.8nm,0.8s,baz=186,slow=8.6,SNR=18								
	comp=Z,7.8nm,0.8s								
KS19	**Wonju Array Si**	**30.70**	**4**	P	**P**	**12**	**43**	**12.3**	**-1.0**
KS19				IAmb	IAmb	12	43	19.4	
	comp=Z,132nm,1.3s								
JGF	**Kuroka**	**30.81**	**20**		**P**	**12**	**43**	**13.7**	**-0.5**
JGF	**Kuroka**	**30.81**	**20**	P	**P**	**12**	**43**	**17.9**	**+3.7**
XAN	**Xi'an**	**31.04**	**333**	⇓P	**P**	**12**	**43**	**15.7**	**-0.6**
XAN				pP	sP	12	43	23.8	-0.5
XAN				S	**S**	**12**	**48**	**18.4**	**-2.2**
XAN				pmax	pmax				
	comp=Z,75nm,1.1s								
XAN				pmax	pmax				
	comp=Z,790nm,6.4s								
XAN				LR	LR				
	comp=Z,6µm,19.2s								
XAN				LR	LR				
	comp=Z,11µm,20.6s								
XAN				LR	LR				
	comp=Z,9µm,15.8s								
MTSU	**Mount Surprise**	**31.12**	**143**	P	**P**	**12**	**43**	**20.5**	**+3.4**
	comp=Z,53nm,1.1s								
MTSU	**Mount Surprise**	**31.12**	**143**	P	**P**	**12**	**43**	**19.0**	**+1.9**
CD2	**Chengdu**	**31.31**	**323**	P	**P**	**12**	**43**	**18.8**	**0.0**
CD2				pP	sP	12	43	26.3	-0.5
CD2				sP	pP	12	43	30.1	+5.6
CD2				S	**S**	**12**	**48**	**26.1**	**+1.1**
CD2				sS	sS	12	48	38.2	+3.7
CD2				pmax	pmax				
	comp=Z,140nm,1.1s								
CD2				pmax	pmax				
	comp=Z,690nm,6.7s								
CD2				LR	LR				
	comp=Z,9µm,21.6s								
CD2				LR	LR				
	comp=Z,9µm,18.7s								
CD2				LR	LR				
	comp=Z,7µm,17.0s								
TNCH	**TengChong**	**31.32**	**308**	⇑P	**P**	**12**	**43**	**19.6**	**+0.6**
TNCH				PP	**PnPn**	**12**	**44**	**23.4**	**+1.9**
TNCH				S	**S**	**12**	**48**	**26.3**	**+0.8**
TNCH				pmax	pmax				
	comp=Z,130nm,1.6s								
TNCH				pmax	pmax				
	comp=Z,610nm,4.1s								
TNCH				LR	LR				
	comp=Z,2µm,16.0s								
TNCH				LR	LR				
	comp=Z,2µm,16.3s								
TNCH				LR	LR				
	comp=Z,5µm,17.5s								
AS15	**Alice Springs**	**31.39**	**165**	P	**P**	**12**	**43**	**19.5**	**0.0**
	comp=Z,134nm,1.1s								
AS31	**Alice Springs**	**31.41**	**165**		**P**	**12**	**43**	**18.7**	**-1.0**
ASAR	**Alice Springs**	**31.41**	**165**		**P**	**12**	**43**	**19.0**	**-0.7**
ASAR	**Alice Springs**	**31.41**	**165**	P	**P**	**12**	**43**	**18.9**	**-0.8**
	comp=Z,14nm,0.5s,baz=336,slow=6.8,SNR=101								
ASAR				LR	LR	12	58	11.6	
	comp=Z,825nm,21.6s,baz=351,slow=40								
	comp=Z,14nm,0.5s								
ASAR	**Alice Springs**	**31.41**	**165**	P	**P**	**12**	**43**	**19.0**	**-0.7**
AS01	**Alice Springs**	**31.42**	**164**	P	**P**	**12**	**43**	**19.5**	**-0.3**
WRKA	**Warakurna**	**31.75**	**175**	P	**P**	**12**	**43**	**22.4**	**-0.2**
	comp=Z,47nm,1.2s								
MAJO	**Matsushiro**	**31.95**	**20**		**P**	**12**	**43**	**23.1**	**-1.1**
MAJO				IAmb	IAmb	12	43	29.0	
	comp=Z,92nm,1.1s								
MAJO	**Matsushiro**	**31.95**	**20**	IAMs_20	IAMs_20	12	55	40.2	
	comp=Z,4µm,20.0s								
MAJO	**Matsushiro**	**31.95**	**20**	*c i*P	**P**	**12**	**43**	**23.1**	**-1.1**
MAJO				pmax	pmax				
	comp=Z,25nm,1.0s								
MJAR	**Matsushiro Arr**	**31.95**	**20**		**P**	**12**	**43**	**23.1**	**-1.1**
MJAR				IAmb	IAmb	12	43	29.1	
	comp=Z,71nm,1.0s								
MJAR	**Matsushiro Arr**	**31.95**	**20**	P	**P**	**12**	**43**	**24.0**	**-0.3**
	comp=Z,58nm,0.9s,baz=189,slow=8.8,SNR=18								
	comp=Z,58nm,0.9s								
MJAR	**Matsushiro Arr**	**31.95**	**20**	P	**P**	**12**	**43**	**24.0**	**-0.3**
HNS	**HongShan**	**31.96**	**344**	⇓P	**P**	**12**	**43**	**24.1**	**-0.2**
HNS				pP	**sP**	**12**	**43**	**29.6**	**-2.7**
HNS				sP	**pP**	**12**	**43**	**33.1**	**+3.0**
HNS				PP	**PnPn**	**12**	**44**	**32.8**	**+3.3**
HNS				S	**S**	**12**	**48**	**33.8**	**-1.0**
HNS				pmax	pmax				
	comp=Z,87nm,1.4s								
HNS				LR	LR				
	comp=Z,4µm,19.4s								
HNS				LR	LR				
	comp=Z,5µm,18.6s								
HNS				LR	LR				
	comp=Z,6µm,20.4s								
DL2	**Dalian**	**32.17**	**355**	P	**P**	**12**	**43**	**26.7**	**+0.6**
DL2				S	**S**	**12**	**48**	**39.0**	**+1.0**
DL2				pmax	pmax				
	comp=Z,88nm,1.3s								
DL2				pmax	pmax				
	comp=Z,590nm,4.8s								
DL2				LR	LR				
	comp=Z,2µm,16.9s								
DL2				LR	LR				
	comp=Z,3µm,16.3s								
DL2				LR	LR				
	comp=Z,3µm,17.2s								
CTAO	**Charters Tower**	**33.78**	**143**	P	**P**	**12**	**43**	**41.0**	**+0.6**
CTAO				IAmb	IAmb	12	43	49.5	
	comp=Z,147nm,1.2s								
CTAO	**Charters Tower**	**33.78**	**143**	IAMs_20	IAMs_20	12	58	58.6	
	comp=Z,4µm,21.0s								
CTAO	**Charters Tower**	**33.78**	**143**	P	**P**	**12**	**43**	**42.3**	**+1.8**
CTAO	**Charters Tower**	**33.78**	**143**	P	**P**	**12**	**43**	**41.0**	**+0.6**
CTAO				pmax	pmax				
	comp=Z,147

LZH LR LR
comp=Z,6µm,18.1s
BRDH Bariadhala 35.97 300 P **P** **12 43 57.3 -2.0**
comp=Z,72nm,0.4s,baz=79,slow=11,SNR=4.3
BRDH LR LR 13 01 41.5
comp=Z,3µm,18.9s,baz=116,slow=41
comp=Z,72nm,0.4s
HHC Hu-ho-hao-te 36.06 342 ⇓*i*P **P** **12 44 00.7 +0.7**
HHC pP sP 12 44 05.9 -2.2
HHC S **S** **12 49 41.2 +2.7**
HHC pmax pmax
comp=Z,62nm,1.2s
HHC pmax pmax
comp=Z,1µm,7.6s
HHC LR LR
comp=Z,4µm,20.6s
HHC LR LR
comp=Z,3µm,22.4s
HHC LR LR
comp=Z,7µm,22.3s
MSHR Mys Shultsa 36.07 7*c i*P **P** **12 44 00.6 +0.7**
MSHR pmax pmax
comp=Z,52nm,0.9s
PSTR Posyet 36.09 7 *e*P **P** **12 44 01.6 +1.5**
BTO Baotou 36.33 340 *e*P **P** **12 44 04.1 +1.8**
BTO pP **sP** **12 44 08.2 -2.2**
BTO sP **pP** **12 44 10.8 +2.6**
BTO PP **PP** **12 45 31.0 +5.8**
BTO S **S** **12 49 45.6 +3.0**
BTO SS **SnSn** **12 52 10.6 +0.2**
BTO pmax pmax
comp=Z,27nm,0.9s
BTO pmax pmax
comp=Z,3µm,6.2s
BTO LR LR
comp=Z,7µm,21.6s
BTO LR LR
comp=Z,10µm,17.2s
BTO LR LR
comp=Z,13µm,21.6s
MORW Morawa 36.69 193 **P 12 44 04.9 -0.5**
MORW IAmb IAmb 12 44 07.6
comp=Z,92nm,1.1s
MORW Morawa 36.69 193 P **P** **12 44 04.8 -0.6**
comp=Z,96nm,1.2s
MORW Morawa 36.69 193 P **P** **12 44 04.8 -0.6**
VLA Vladivostok 36.70 8*d i*P **P** **12 44 07.0 +1.8**
VLA *i* *PP **sP** **12 44 11.3 -2.0**
VLA pmax pmax
comp=Z,109nm,1.0s
JTM Tenmabayashi 36.74 20 **P 12 44 04.6 -1.0**
JTM IAmb IAmb 12 44 12.0
comp=Z,179nm,1.0s
JTM Tenmabayashi 36.74 20 P **P** **12 44 09.9 +4.3**
SHL Shillong 36.88 304 **P 12 44 06.6 -0.8**
SHL Shillong 36.88 304 P **P** **12 44 07.3 -0.1**
SNR=24
SHL Shillong 36.88 304 P **P** **12 44 06.6 -0.8**
SHL pmax pmax
comp=Z,340nm,1.3s
CN2 Changchun 36.90 0 P **P** **12 44 06.1 -0.9**
CN2 sP sP 12 44 12.7 -2.3
CN2 S **S** **12 49 50.2 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,1.7s
CN2 pmax pmax
comp=Z,80nm,4.0s
CN2 LR LR
comp=Z,2µm,19.0s
CN2 LR LR
comp=Z,2µm,19.0s
FORT Forrest 37.42 176 **P 12 44 11.0 -0.6**
FORT IAmb IAmb 12 44 18.9
comp=Z,73nm,0.8s
FORT Forrest 37.42 176 P **P** **12 44 11.2 -0.4**
comp=Z,103nm,0.7s
TATA Tatamba Isabel 37.65 113 P **P** **12 44 14.6 +0.8**
USA0B Ussuriysk Arra 37.77 8 **P 12 44 14.3 0.0**
USA0B Ussuriysk Arra 37.77 8*c i*P **P** **12 44 15.8 +1.5**
USRK Ussuriysk Ar. 37.77 8 P **P** **12 44 14.9 +0.5**
comp=Z,37nm,0.9s,baz=196,slow=9.2,SNR=30
USRK LR LR 13 00 23.1
comp=Z,2µm,21.3s,baz=190,slow=37
comp=Z,37nm,0.9s
XLT XiLinHaoTe 37.85 349 *e*P **P** **12 44 14.7 -0.5**
XLT pP sP 12 44 19.9 -3.3
XLT PP **PnPn** **12 45 46.7 +3.7**
XLT PcP **PcP** **12 46 29.1 -2.3**
XLT S **S** **12 50 02.7 -2.9**
XLT pmax pmax
comp=Z,65nm,1.1s
XLT pmax pmax
comp=Z,1µm,3.8s
XLT LR LR
comp=Z,4µm,23.4s
XLT LR LR
comp=Z,2µm,25.9s
MDJ Mudanjiang 37.91 5 P **P** **12 44 15.9 +0.3**
MDJ Mudanjiang 37.91 5 P **P** **12 44 16.0 +0.5**
MDJ pP sP 12 44 21.8 -1.8
MDJ PP **PnPn** **12 45 48.0 +4.4**
MDJ S **S** **12 50 07.9 +1.7**
MDJ sS ScP 12 50 22.1 +3.8
MDJ pmax pmax
comp=Z,91nm,1.4s
MDJ pmax pmax
comp=Z,2µm,3.6s
MDJ LR LR
comp=Z,1µm,17.9s
MDJ LR LR
comp=Z,3µm,23.7s
MDJ LR LR
comp=Z,3µm,16.5s
QLP Quilpie 37.94 152 P **P** **12 44 15.8 -0.3**
comp=Z,223nm,1.0s
QLP Quilpie 37.94 152 P **P** **12 44 16.5 +0.5**
BLDU Ballidu 38.04 192 P **P** **12 44 15.7 -1.0**
BLDU Ballidu 38.04 192 P **P** **12 44 16.0 -0.8**
KMBL Kambalda 38.04 185 P **P** **12 44 14.5 -2.3**
ERM Erimo 38.56 22 **P 12 44 20.6 -0.4**
ERM IAmb IAmb 12 44 28.8
comp=Z,183nm,1.1s
ERM Erimo 38.56 22 IAMs_20 IAMs_20 13 00 20.6
comp=Z,4µm,20.0s
ERM Erimo 38.56 22 P P 12 44 25.8 +4.7
ERM Erimo 38.56 22*d i*P **P** **12 44 23.7 +2.6**
ERM pmax pmax
comp=Z,54nm,1.1s
KLBR Kellerberrin 38.79 190 P **P** **12 44 22.7 -0.4**
comp=Z,235nm,1.0s
KLBR Kellerberrin 38.79 190 P **P** **12 44 22.6 -0.4**
BNX BinXian 38.88 2 ⇑P **P** **12 44 24.0 +0.3**
BNX S **S** **12 50 23.1 +2.2**
BNX sS **sS** **12 50 29.6 -0.9**
BNX pmax pmax
comp=Z,44nm,1.4s
BNX LR LR
comp=Z,2µm,17.3s
BNX LR LR
comp=Z,2µm,15.5s
BNX LR LR
comp=Z,2µm,18.6s
LSA Lhasa 39.31 310 P **P** **12 44 28.0 -0.1**
LSA IAmb IAmb 12 44 47.9
comp=Z,374nm,1.9s
LSA IAMs_20 IAMs_20 13 02 04.4
comp=Z,2µm,18.0s
LSA Lhasa 39.31 310 P **P** **12 44 28.7 +0.5**
LSA P **P** **12 44 28.7 +0.5**
LSA Lhasa 39.31 310 P **P** **12 44 28.0 -0.1**
LSA pmax pmax
comp=Z,374nm,1.9s
LSA MLR MLR
comp=Z,2µm,18.0s
TEY Ternei 39.41 13⇑*e*P P 12 44 19.3 -8.8
TEY *e* 12 44 23.9
TEY pmax pmax
comp=N,30nm,0.8s
TEY pmax pmax
comp=E,10.0nm,0.8s
TEY pmax pmax
comp=Z,40nm,0.8s
TEY pmax pmax
comp=E,100nm,1.5s
TEY pmax pmax
comp=N,400nm,1.3s
TEY pmax pmax
comp=Z,600nm,1.4s
TEY MLR MLR
comp=N,100nm,19.0s
TEY MLR MLR
comp=Z,100nm,18.0s
MUN Mundaring 39.46 192 P **P** **12 44 28.3 -0.4**
comp=Z,103nm,1.1s
MUN Mundaring 39.46 192 P **P** **12 44 29.3 +0.6**
GTA Gaotai 39.73 329 *e*P **P** **12 44 32.2 +1.1**
GTA sP sP 12 44 44.7 +5.5
GTA PP **PnPn** **12 46 11.1 +5.5**
GTA S **S** **12 50 33.7 -0.4**
GTA SS **SS** **12 53 27.1 -3.0**
GTA pmax pmax
comp=Z,200nm,1.2s
GTA pmax pmax
comp=Z,690nm,5.8s
GTA LR LR
comp=Z,3µm,16.4s
GTA LR LR
comp=Z,4µm,16.4s
GTA LR LR
comp=Z,5µm,16.0s
NWAO Narrogin (SRO) 40.18 190 **P 12 44 34.8 +0.1**
NWAO IAmb IAmb 12 44 41.5
comp=Z,240nm,1.1s
NWAO Narrogin (SRO) 40.18 190 P **P** **12 44 34.6 -0.2**
NWAO Narrogin (SRO) 40.18 190 LR LR 13 02 57.9
comp=Z,1µm,21.4s,baz=12,slow=39
NWAO Narrogin (SRO) 40.18 190 P **P** **12 44 34.8 +0.1**
NWAO P **P** **12 44 34.8 +0.1**
NWAO Narrogin (SRO) 40.18 190 P **P** **12 44 34.5 -0.2**
NWAO Narrogin (SRO) 40.18 190 P **P** **12 44 34.8 +0.1**
NWAO pmax pmax
comp=Z,240nm,1.2s
ASAJ Asahikawa 40.22 19 P **P** **12 44 35.6 +0.8**
comp=Z,21nm,0.8s,baz=200,slow=10,SNR=12
ASAJ LR LR 13 00 42.2
comp=Z,2µm,20.3s,baz=220,slow=35
comp=Z,21nm,0.8s
ASAJ Asahikawa 40.22 19 P **P** **12 44 36.4 +1.6**
ASAJ pmax pmax
comp=Z,247nm,1.0s
JKA Kamikawa-asahi 40.22 20 **P 12 44 36.4 +1.5**
JKA IAmb IAmb 12 44 42.8
comp=Z,247nm,1.0s
GOMU GeErMu 40.38 321 P **P** **12 44 38.1 +1.3**
GOMU pP sP 12 44 41.3 -3.6
GOMU sP pP 12 44 46.4 +3.8
GOMU PP **PnPn** **12 46 13.7 +0.1**
GOMU S **S** **12 50 48.9 +4.5**
GOMU pmax pmax
comp=Z,37nm,1.5s
GOMU LR LR
comp=Z,3µm,17.0s
GOMU LR LR
comp=Z,2µm,17.5s
GOMU LR LR
comp=Z,4µm,17.6s
EIDS Eidsvold 40.67 143 **P 12 44 39.3 +0.5**
EIDS IAMs_20 IAMs_20 13 03 18.9
comp=Z,4µm,20.0s
EIDS Eidsvold 40.67 143 P **P** **12 44 38.5 -0.4**
comp=Z,106nm,0.9s
WHYH Whyalla 41.29 164 P **P** **12 44 44.8 +1.0**
STKA Stephens Creek 41.49 159 **P 12 44 46.2 +0.7**
STKA Stephens Creek 41.49 159 P **P** **12 44 45.8 +0.3**
comp=Z,1µm,0.9s
STKA Stephens Creek 41.49 159 P **P** **12 44 46.0 +0.5**
comp=Z,70nm,0.9s,baz=335,slow=8.1,SNR=44
comp=Z,70nm,0.9s
STKA Stephens Creek 41.49 159 P **P** **12 44 45.5 0.0**
STKA Stephens Creek 41.49 159 P **P** **12 44 46.2 +0.7**
STKA pmax pmax
comp=Z,921nm,1.0s
RKGY Rocky Gully 41.87 190 P **P** **12 44 49.6 +1.1**
comp=Z,90nm,1.1s
EVN Everest 41.99 305 P **P** **12 44 50.8 +0.3**
EVN IAmb IAmb 12 44 58.4
comp=Z,216nm,1.2s
HTT Hallett 42.04 163 P **P** **12 44 50.9 +0.8**
comp=Z,50nm,1.3s
HTT Hallett 42.04 163 P **P** **12 44 50.9 +0.8**
HIA Hailar 42.61 355 P **P** **12 44 54.7 +0.2**
HIA IAmb IAmb 12 45 00.9
comp=Z,207nm,1.5s
HIA Hailar 42.61 355 IAMs_20 IAMs_20 13 03 36.0
comp=Z,2µm,18.0s
HIA Hailar 42.61 355 P **P** **12 44 54.7 +0.2**
HIA pmax pmax
comp=Z,207nm,1.5s
HIA MLR MLR
comp=Z,2µm,18.0s
KLR Kul'dur 42.69 6 P **P** **12 44 54.8 -0.3**
comp=Z,21nm,0.7s,baz=204,slow=6.0,SNR=61
KLR LR LR 13 06 28.0
comp=Z,2µm,18.1s,baz=199,slow=41
comp=Z,21nm,0.7s
YSS Yuzhno-Sakhali 42.80 18 **P 12 44 56.2 +0.3**
YSS IAmb IAmb 12 45 03.8
comp=Z,201nm,1.2s
YSS Yuzhno-Sakhali 42.80 18 *e*P **P** **12 44 56.8 +0.8**
YSS *e* 12 46 37.4
YSS *e* 12 46 49.1
YSS *e*S **S** **12 51 14.6 -4.6**
YSS pmax pmax
comp=Z,600nm,6.1s
YSS pmax pmax
comp=N,300nm,5.1s
YSS pmax pmax
comp=E,300nm,5.5s
YSS pmax pmax
comp=Z,130nm,1.2s
YSS smax smax
comp=N,1µm,16.5s
YSS smax smax
comp=E,800nm,16.5s
YSS MLR MLR
comp=N,900nm,19.0s
YSS MLR MLR
comp=Z,1µm,19.0s
YSS MLR MLR
comp=E,500nm,18.0s
CMSA Cobar Meteorol 42.83 154 P **P** **12 44 57.0 +0.6**
comp=Z,99nm,0.9s
CMSA Cobar Meteorol 42.83 154 P **P** **12 44 57.7 +1.3**
KUR Kuril'sk 43.10 24 *e*P **P** **12 45 00.6 +2.2**
KUR *e*S **S** **12 51 27.4 +3.8**
KUR MLR MLR
comp=Z,1µm,17.0s
HEH HeiHe 43.39 2 *e*P **P** **12 45 00.4 -0.3**
HEH pP **pP** **12 45 05.0 -1.9**
HEH PP **PP** **12 46 45.0 +3.2**
HEH S **S** **12 51 30.5 +2.7**
HEH pmax pmax
comp=Z,130nm,1.3s
HEH pmax pmax
comp=Z,2µm,4.6s
HEH LR LR
comp=Z,2µm,20.0s
HEH LR LR
comp=Z,2µm,17.1s
HEH LR LR
comp=Z,2µm,22.8s
ULN Ulaanbaatar 43.79 342 **P 12 45 04.0 -0.2**
ULN IAmb IAmb 12 45 19.4
comp=Z,173nm,1.4s
ULN Ulaanbaatar 43.79 342 P **P** **12 45 05.4 +1.2**
ULN P **P** **12 45 05.4 +1.2**
ULN S **S** **12 51 34.7 +0.7**
ULN S **S** **12 51 34.7 +0.7**
ULN Ulaanbaatar 43.79 342*d i*P **P** **12 45 04.1 -0.1**
ULN pmax pmax
comp=Z,29nm,1.3s
SONM Songino Array 43.96 342 P **P** **12 45 05.3 -0.2**
SONM IAmb IAmb 12 45 21.4
comp=Z,119nm,1.4s
SONM Songino Array 43.96 342 P **P** **12 45 04.0 -1.5**
comp=Z,9.4nm,1.0s,baz=160,slow=6.9,SNR=34
SONM LR LR 13 04 22.2
comp=Z,6µm,21.9s,baz=157,slow=37
comp=Z,9.4nm,1.0s
SONM Songino Array 43.96 342 P **P** **12 45 05.3 -0.2**
SONM pmax pmax
comp=Z,119nm,1.4s
PALK Pallekele 44.14 273 LR LR 13 05 52.7
comp=Z,953nm,18.3s,baz=74,slow=39
UGL Uglegorsk 44.52 16 *e*P **P** **12 45 07.4 -2.4**
UGL *e*S **S** **12 51 37.6 -6.7**
UGL pmax pmax
comp=Z,400nm,1.1s
UGL smax smax
comp=N,2µm,9.5s
UGL smax smax
comp=E,1µm,9.5s
UGL MLR MLR
comp=E,1µm,12.0s
UGL MLR MLR
comp=N,1µm,13.0s
UGL MLR MLR
comp=Z,2µm,16.0s
ARMA Armidale 44.82 147 **P 12 45 13.8 +1.1**
ARMA IAmb IAmb 12 45 20.9
comp=Z,91nm,0.8s
ARMA Armidale 44.82 147 P **P** **12 45 14.3 +1.6**
comp=Z,136nm,1.0s
ARMA Armidale 44.82 147 P **P** **12 45 14.0 +1.4**
GRNR Gornyy 44.86 10⇓*i*P **P** **12 45 13.7 +1.2**
GRNR pmax pmax
comp=N,20nm,0.9s
GRNR pmax pmax
comp=Z,30nm,0.9s
GRNR MLR MLR
comp=E,560nm,17.0s
GRNR MLR MLR
comp=N,1µm,18.0s
GRNR MLR MLR
comp=Z,1µm,18.0s
ARPS Mount Arapiles 46.02 161 P **P** **12 45 22.6 +0.7**
comp=Z,84nm,1.0s
CIT Chita 46.13 350 *e*P **P** **12 45 23.5 +0.8**
CIT pmax pmax
comp=Z,200nm,2.9s
TYV Tymovskoe 46.31 15 *e*P **P** **12 45 26.3 +2.3**
TYV *e*S **S** **12 52 13.9 +3.8**
TYV pmax pmax
comp=Z,200nm,2.4s
TYV pmax pmax
comp=Z,70nm,1.3s
TYV smax smax
comp=N,700nm,4.6s
TYV smax smax
comp=E,600nm,4.6s
YNG Young 46.36 153 P **P** **12 45 26.0 +1.3**
comp=Z,143nm,1.1s
HYB Hyderabad 46.70 288 *e*P **P** **12 45 27.3 -0.3**
MGCD Mangrove Creek 46.76 150 P **P** **12 45 31.9 +4.2**
comp=Z,62nm,1.4s
ZEA Zeya 46.87 2 *e*P **P** **12 45 28.9 +0.6**
ZEA *e* 12 47 24.2
ZEA *e*S **S** **12 52 24.0 +5.9**
ZEA *e* 12 52 39.0
ZEA pmax pmax
comp=N,50nm,1.1s
ZEA pmax pmax
comp=Z,80nm,1.0s
ZEA pmax pmax
comp=N,300nm,7.0s
ZEA pmax pmax
comp=Z,400nm,7.7s
ZEA pmax pmax
comp=N,400nm,8.0s
ZEA pmax pmax
comp=Z,500nm,6.3s
ZEA smax smax
comp=E,200nm,4.2s
RIV Riverview 47.28 150 P **P** **12 45 36.0 +4.2**
comp=Z,175nm,1.0s
CAN Canberra 47.49 153 **P 12 45 34.8 +1.3**
CAN Canberra 47.49 153 P **P** **12 45 35.2 +1.7**
comp=Z,237nm,1.1s
CAN Canberra 47.49 153 P **P** **12 45 35.3 +1.8**
CAN Canberra 47.49 153 P **P** **12 45 34.8 +1.3**
CAN pmax pmax
comp=Z,236nm,1.0s
VLAKA Lakatoro 47.58 119 P **P** **12 45 36.6 +2.2**
CNB Canberra Magne 47.65 153 P **P** **12 45 36.9 +2.1**
comp=Z,207nm,1.0s
CNB Canberra Magne 47.65 153 P **P** **12 45 36.8 +2.1**
NKL Nikolayevsk 47.95 13 *e*P **P** **12 45 35.0 -1.7**
NKL *e*S **S** **12 52 34.2 +0.8**
NKL pmax pmax
comp=N,291nm,1.3s
NKL pmax pmax
comp=Z,2µm,1.3s
NKL smax smax
comp=E,534nm,3.1s
NKL smax smax
comp=N,334nm,2.1s
NKL MLR MLR
comp=E,6µm,16.0s
NKL MLR MLR
comp=N,3µm,15.0s
NKL MLR MLR
comp=Z,6µm,19.0s
TOO Toolangi 48.00 158 P **P** **12 45 37.9 +0.5**
TOO IAmb IAmb 12 45 46.9
comp=Z,63nm,1.1s
TOO Toolangi 48.00 158 P **P** **12 45 39.1 +1.7**
comp=Z,62nm,1.6s
TOO Toolangi 48.00 158 P **P** **12 45 37.9 +0.5**
TOO pmax pmax
comp=Z,63nm,1.1s
IRK Irkutsk 48.50 343 *e*P **P** **12 45 42.7 +1.7**
IRK *e* 12 47 40.3
IRK *e* 12 52 50.1
IRK pmax pmax
comp=Z,115nm,2.1s
MOY Mondy 49.03 340 *e*P **P** **12 45 45.7 +0.4**
MOY pmax pmax
comp=Z,147nm,2.1s
WMQ Urumqi 49.38 325 *e*P **P** **12 45 48.9 +0.9**
WMQ pP sP 12 45 54.5 -1.7
WMQ PP **PP** **12 47 45.2 +3.0**
WMQ S **S** **12 52 54.8 +0.7**
WMQ pmax pmax
comp=Z,79nm,1.3s
WMQ pmax pmax
comp=Z,480nm,3.7s
WMQ LR LR
comp=Z,4µm,15.9s
WMQ LR LR
comp=Z,3µm,15.9s
WMQ LR LR
comp=Z,2µm,19.3s
DZM Mont Dzumac 49.54 126 P **P** **12 45 50.4 +0.8**
DZM IAMs_20 IAMs_20 13 07 32.0
comp=Z,2µm,21.0s
DZM Mont Dzumac 49.54 126 *e*P **P** **12 45 49.6 0.0**
comp=Z,659nm,1.3s
DZM *e*S S 12 52 50.7 -6.3
comp=Z,632nm,31.2s
DZM *e*LQ LQ 12 57 44.5
comp=Z,7µm,38.0s
DZM *e*LR LR 12 59 55.7
comp=Z,5µm,31.6s
DZM Mont Dzumac 49.54 126 P **P** **12 45 50.6 +1.0**
comp=Z,16nm,0.9s,baz=250,slow=11,SNR=13
DZM LR LR 13 05 08.4
comp=Z,1µm,21.8s,baz=310,slow=34
comp=Z,16nm,0.9s
DZM Mont Dzumac 49.54 126 P **P** **12 45 51.6 +2.0**
OUENC Ouen Island, N 50.04 127 P **P** **12 45 55.4 +2.2**
SKR Severo-Kuril's 50.79 25 *e*P **P** **12 45 57.6 -0.9**
SKR *e*S **S** **12 53 15.6 +2.2**
SKR pmax pmax
comp=Z,48nm,0.9s
SKR pmax pmax
comp=Z,200nm,6.8s
SKR MLR MLR
comp=Z,2µm,18.0s
BOD Bodaibo 51.67 352 *e*P **P** **12 46 04.4 -0.6**
BOD pmax pmax
comp=Z,106nm,1.8s
GLAD Gladstone 51.93 158 P **P** **12 46 08.5 +1.4**
MOO Moorlands 52.91 160 P **P** **12 46 18.3 +3.9**
comp=Z,92nm,1.2s
MOO Moorlands 52.91 160 P **P** **12 46 17.7 +3.3**
MOO Moorlands 52.91 160 P P 12 46 20.2 +5.8
ZSN Zaisan 53.15 327 *e*P **P** **12 46 15.7 -0.4**

ZSN eS S 12 53 46.5 +0.5
ZSN Zaisan 53.15 327 eP P 12 46 15.8 -0.4
ZSN eS S 12 53 46.5 +0.5
PEA0B Petropavlovsk- 53.26 24 P P 12 46 17.5 +0.7
PEA0B Petropavlovsk- 53.26 24*c i*P P 12 46 18.2 +1.3
PETK Petropavlovsk- 53.26 24 P P 12 46 17.7 +0.8
PETK Petropavlovsk- 53.26 24 P P 12 46 17.4 +0.5
comp=Z,44nm,0.9s,baz=206,slow=4.8,SNR=25
PETK LR LR 13 08 54.4
comp=Z,2µm,19.8s,baz=223,slow=36
comp=Z,44nm,0.9s
PETK Petropavlovsk- 53.26 24 P P 12 46 17.7 +0.8
TAU Tasmania Unive 53.37 160 P P 12 46 19.9 +2.1
PET Petropavlovsk 53.59 24 P P 12 46 19.7 +0.4
PET Petropavlovsk 53.59 24 eP P 12 46 20.5 +1.3
PET eS S 12 53 45.8 -5.8
PET pmax pmax
comp=Z,600nm,4.1s
PET pmax pmax
comp=Z,137nm,1.4s
PET pmax pmax
comp=Z,200nm,8.2s
PET MLR MLR
comp=Z,1µm,20.0s
PET MLR MLR
comp=Z,900nm,16.0s
PET Petropavlovsk 53.59 24 P P 12 46 20.3 +1.1
comp=Z,2µmcomp=Z,104nm,1.4s
SHLS Shalkode 54.05 320 eP P 12 46 20.2 -2.8
SHLS pmax pmax
comp=Z,89nm,1.5s
SHLS Shalkode 54.05 320 eP P 12 46 20.2 -2.8
comp=Z,89nm,1.5s
PDGK Podgornoye 54.12 320 P P 12 46 22.9 -0.6
MK31 Makanchi Array 54.21 325 *i* P P 12 46 23.6 -0.4
MK31 pmax pmax
comp=Z,118nm,1.5s
MKAR Makanchi Array 54.21 325 P P 12 46 23.5 -0.5
MKAR Makanchi Array 54.21 325 P P 12 46 23.3 -0.7
comp=Z,11nm,0.7s,baz=120,slow=8.6,SNR=84
MKAR LR LR 13 10 01.1
comp=Z,2µm,20.7s,baz=124,slow=37
comp=Z,11nm,0.7s
MKAR Makanchi Array 54.21 325 *i* P P 12 46 23.7 -0.3
MKAR pmax pmax
comp=Z,11nm,0.7s
MAKZ Makanchi 54.40 325 P P 12 46 24.9 -0.5
MAKZ IAmb IAmb 12 46 46.2
comp=Z,126nm,1.4s
MAKZ IAMs_20 IAMs_20 13 09 56.1
comp=Z,2µm,20.0s
MAKZ Makanchi 54.40 325 P P 12 46 24.9 -0.5
MAKZ pmax pmax
comp=Z,126nm,1.4s
MAKZ MLR MLR
comp=Z,2µm,20.0s
PRZ Przheval'sk 54.43 318 P P 12 46 25.9 0.0
PRZ Przheval'sk 54.43 318 P P 12 46 25.9 0.0
PRZ pmax pmax
comp=Z,221nm,1.2s
TARG Taragay, Kyrgy 54.49 317 P P 12 46 27.2 +0.7
TARG IAmb IAmb 12 46 52.8
comp=Z,130nm,1.3s
TARG IAMs_20 IAMs_20 13 11 09.6
comp=Z,2µm,21.0s
TARG Taragay, Kyrgy 54.49 317 P P 12 46 27.3 +0.7
TARG pmax pmax
comp=Z,130nm,1.3s
TARG MLR MLR
comp=Z,2µm,21.0s
KSH Kashi 54.84 314 P P 12 46 30.9 +2.1
KSH PP PP 12 48 35.6 +3.9
KSH S S 12 54 07.7 -1.6
KSH pmax pmax
comp=Z,60nm,1.5s
KSH LR LR
comp=Z,4µm,20.4s
KSH LR LR
comp=Z,2µm,21.0s
KSH LR LR
comp=Z,2µm,18.0s
NIL Nilore 54.88 307 P P 12 46 29.2 +0.1
NIL Nilore 54.88 307 P P 12 46 28.0 -1.1
NIL P P 12 46 28.0 -1.1
NIL Nilore 54.88 307 P P 12 46 29.2 +0.1
NIL pmax pmax
comp=Z,208nm,1.1s
KDJ Kajisay 55.08 318 P P 12 46 30.3 -0.3
KDJ IAmb IAmb 12 46 38.3
comp=Z,128nm,1.2s
KDJ Kajisay 55.08 318 P P 12 46 30.3 -0.3
KDJ pmax pmax
comp=Z,128nm,1.2s
YAK Yakutsk 55.26 3 P P 12 46 31.6 +0.4
YAK Yakutsk 55.26 3 P P 12 46 31.3 +0.1
comp=Z,41nm,0.8s,baz=188,slow=5.9,SNR=16
YAK LR LR 13 10 59.8
comp=Z,1µm,21.8s,baz=198,slow=37
comp=Z,41nm,0.8s
YAK Yakutsk 55.26 3 eP P 12 46 31.2 0.0
YAK *e* 12 47 32.0
YAK *e* 12 48 31.7
YAK eS S 12 54 15.6 +1.7
YAK *e* 12 56 20.7
YAK eSS SS 12 58 00.8 +2.5
YAK eSSS SSS 13 00 04.8
YAK pmax pmax
comp=Z,72nm,1.3s
YAK pmax pmax
comp=N,40nm,1.2s
YAK pmax pmax
comp=E,55nm,1.9s
YAK pmax pmax
comp=Z,511nm,7.8s
YAK pmax pmax
comp=N,296nm,7.1s
YAK pmax pmax
comp=E,179nm,5.4s
YAK smax smax
comp=E,497nm,4.2s
YAK smax smax
comp=N,239nm,3.6s
YAK MLR MLR
comp=Z,1µm,21.0s
YAK MLR MLR
comp=N,546nm,20.0s
YAK MLR MLR
comp=E,964nm,17.0s
ARXS Arharly 55.60 320 eP P 12 46 33.8 -0.4
TDK Taldyqorghan 55.61 321 eP P 12 46 33.6 -0.5
TDK eS S 12 54 19.5 +0.3
TDK pmax pmax
comp=Z,56nm,1.0s
TDK Taldyqorghan 55.61 321 eP P 12 46 33.6 -0.5
comp=Z,56nm,1.0s
TDK eS S 12 54 19.5 +0.3
TNSS Tian-Shan 55.63 319 eP P 12 46 33.8 -1.0
TNSS Tian-Shan 55.63 319 eP P 12 46 33.9 -1.0
AAA Alma-Ata 55.73 319 eP P 12 46 34.5 -0.6
AAA pmax pmax
comp=Z,81nm,1.2s
AAA Alma-Ata 55.73 319 eP P 12 46 34.6 -0.6
comp=Z,81nm,1.2s
ULHL Ulahol 55.76 317 P P 12 46 36.0 +0.5
SNR=39
CHKK Chushkaly 55.97 319 eP P 12 46 36.1 -0.7
CHKK Chushkaly 55.97 319 eP P 12 46 36.1 -0.7
BOOM Boomskoye usch 56.07 318 P P 12 46 37.6 -0.1
BOOM IAmb IAmb 12 46 39.4
comp=Z,111nm,1.4s
BOOM Boomskoye usch 56.07 318 P P 12 46 37.6 -0.1
BOOM pmax pmax
comp=Z,111nm,1.4s
MA2 Magadan 56.19 15 P P 12 46 39.2 +1.3
MA2 IAmb IAmb 12 46 45.9
comp=Z,81nm,0.9s
MA2 IAMs_20 IAMs_20 13 10 30.5
comp=Z,2µm,21.0s
MA2 Magadan 56.19 15 P P 12 46 39.1 +1.1
comp=Z,26nm,0.8s,baz=196,slow=6.1,SNR=17
comp=Z,26nm,0.8s
MA2 Magadan 56.19 15 P P 12 46 42.6 +4.6
MA2 Magadan 56.19 15*d i*P P 12 46 38.9 +0.9
MA2 pmax pmax
comp=Z,82nm,2.0s
MA2 Magadan 56.19 15 P P 12 46 39.4 +1.4
comp=Z,2µmcomp=Z,140nm,1.1s
TKM2 Tokmak 2 56.48 318 P P 12 46 41.2 +0.6
SNR=53
KBK Karagaybulak 56.80 317 P P 12 46 44.2 +1.3
SNR=13
UCH Uchtor 56.92 317 P P 12 46 44.5 +0.3
SNR=118
CHMS Chumysh 57.08 318 P P 12 46 45.2 +0.6
SNR=19
FRU1 Bishkek 57.08 317 P P 12 46 45.7 +0.9
FRU1 IAmb IAmb 12 47 04.5
comp=Z,41nm,0.7s
FRU1 Bishkek 57.08 317 P P 12 46 45.7 +0.9
FRU1 pmax pmax
comp=Z,41nm,0.7s
AAK Ala-Archa 57.10 317 P P 12 46 46.1 +1.0
SNR=16
AAK Ala-Archa 57.10 317 P P 12 46 45.9 +0.9
AAK IAmb IAmb 12 46 55.5
comp=Z,142nm,1.4s
AAK Ala-Archa 57.10 317 IAMs_20 IAMs_20 13 11 08.8
comp=Z,2µm,22.0s
AAK Ala-Archa 57.10 317 P P 12 46 45.6 +0.6
comp=Z,38nm,1.3s,baz=110,slow=6.0,SNR=60
AAK LR LR 13 12 45.0
comp=Z,2µm,21.8s,baz=104,slow=38
comp=Z,38nm,1.3s
AAK Ala-Archa 57.10 317 P P 12 46 45.5 +0.5
AAK P P 12 46 45.5 +0.5
AAK S S 12 54 42.2 +2.7
AAK S S 12 54 42.2 +2.7
AAK Ala-Archa 57.10 317*d i*P P 12 46 45.2 +0.2
AAK pmax pmax
comp=Z,114nm,1.7s
ZAA0 Zalesovo Array 57.21 333 P P 12 46 44.3 -1.1
ZALV Zalesovo Beam 57.21 333 P P 12 46 44.2 -1.1
ZALV Zalesovo Beam 57.21 333 P P 12 46 44.7 -0.6
comp=Z,7.8nm,1.0s,baz=110,slow=6.5,SNR=27
ZALV LR LR 13 13 04.9
comp=Z,2µm,18.4s,baz=132,slow=38
ZALV PKP2bc 13 16 44.7
comp=Z,0.8nm,0.6s,baz=289,slow=4.5,SNR=4.6
comp=Z,7.8nm,1.0s
SGDS Sogindy 57.34 318*j i*P P 12 46 46.0 -0.6
comp=Z,36nm,1.6s
USP Ospenovka 57.35 318 P P 12 46 46.8 +0.2
SNR=34
AML Almayashu 57.45 316 P P 12 46 49.0 +1.3
SNR=55
MSVF Nonsavu 57.59 116 P P 12 46 49.0 +0.3
MSVF Nonsavu 57.59 116 IAMs_20 IAMs_20 13 09 26.2
comp=Z,2µm,20.0s
MSVF Nonsavu 57.59 116 P P 12 46 51.2 +2.5
MSVF Nonsavu 57.59 116 P P 12 46 49.0 +0.3
MSVF pmax pmax
comp=Z,228nm,1.1s
EKS2 Erkin-Say 57.60 317 P P 12 46 49.5 +1.0
SNR=21
ARSB Arslanbob 57.63 315 P P 12 46 49.1 +0.3
ARSB Arslanbob 57.63 315 P P 12 46 49.1 +0.3
ARSB pmax pmax
comp=Z,278nm,1.5s
DRK Karamyk 57.83 313 P P 12 46 51.4 +1.0
DRK Karamyk 57.83 313 P P 12 46 51.4 +1.0
KURBB Kurchatov Arra 58.38 327 P P 12 46 53.2 -0.4
comp=Z,24nm,1.0s,baz=128,slow=5.7,SNR=103
KURBB LR LR 13 14 01.0
comp=Z,1µm,19.7s,baz=146,slow=38
KURBB PKPPKP **P'P'df** **13 16 31.1 -3.6**
comp=Z,1.0nm,0.9s,baz=274,slow=3.4,SNR=8.0
comp=Z,24nm,1.0s
KURBB Kurchatov Arra 58.38 327 P P 12 46 51.7 -1.9
KURK Kurchatov 58.38 327 P P 12 46 53.4 -0.2
KURK IAmb IAmb 12 46 54.5
comp=Z,93nm,1.2s
KURK Kurchatov 58.38 327 IAMs_20 IAMs_20 13 10 24.5
comp=Z,1µm,20.0s
KURK Kurchatov 58.38 327 P P 12 46 52.8 -0.8
KURK P P 12 46 52.8 -0.8
KURK S S 12 54 55.3 -0.2
KURK S S 12 54 55.3 -0.2
KURK Kurchatov 58.38 327*ce*P P 12 46 52.9 -0.7
KURK pmax pmax
comp=Z,106nm,1.3s
BTLS Baital 58.38 320*d i*P P 12 46 53.2 -0.6
BTLS *e*S S 12 54 56.0 +0.2
BTLS pmax pmax
comp=Z,47nm,1.4s
BTLS Baital 58.38 320*j i*P P 12 46 53.2 -0.6
comp=Z,47nm,1.4s
BTLS *e*S S 12 54 56.0 +0.2
KBL Kabul 58.48 306 P P 12 46 54.9 -0.1
KBL Kabul 58.48 306 P P 12 46 55.2 +0.3
SNR=28
KBL P P 12 46 55.2 +0.3
SNR=28
KBL S S 12 54 58.0 +0.1
KBL S S 12 54 58.0 +0.1
KBL Kabul 58.48 306 P P 12 46 54.9 -0.1
KBL pmax pmax
comp=Z,43nm,1.0s
BTK Batken 58.73 313 P P 12 46 55.9 -0.6
BTK Batken 58.73 313 P P 12 46 55.9 -0.6
BTK pmax pmax
comp=Z,385nm,1.5s
GAR Garm 58.76 312 P P 12 46 57.0 +0.3
DZA Taraz 59.35 316 eP P 12 46 59.8 -0.8
DZA Taraz 59.35 316 eP P 12 46 59.8 -0.8
SEY Seymchan 59.47 14 LR LR 13 12 15.7
comp=Z,686nm,21.9s,baz=211,slow=36
SEY Seymchan 59.47 14*d i*P P 12 47 02.4 +1.5
SEY pmax pmax
comp=Z,82nm,1.7s
SIMJ Simiganj 59.63 311 P P 12 47 02.7 -0.1
SIMJ IAmb IAmb 12 47 09.7
comp=Z,131nm,1.6s
KK31 Karatay Array 59.99 316 P P 12 47 04.8 -0.2
KK31 Karatay Array 59.99 316 *i* P P 12 47 03.8 -1.2
KKAR Karatay Array 59.99 316 P P 12 47 04.2 -0.8
KKAR Karatay Array 59.99 316 P P 12 47 04.2 -0.8
IUG luzhnay 59.99 315 eP P 12 47 04.4 -0.7
IUG pmax pmax
comp=Z,101nm,1.8s
IUG luzhnay 59.99 315 eP P 12 47 04.4 -0.7
comp=Z,101nm,1.8s
FUTU Fugatoga 60.00 111 P P 12 47 06.1 +0.7
CHM Chimkent 60.35 315 eP P 12 47 06.8 -0.6
CHM pmax pmax
comp=Z,43nm,1.1s
CHM Chimkent 60.35 315 eP P 12 47 06.8 -0.6
comp=Z,43nm,1.1s
BRLS Boroldaу 60.43 316*d i*P P 12 47 07.7 -0.2
BRLS *e*S S 12 55 22.9 +0.5
BRLS pmax pmax
comp=Z,43nm,1.5s
BRLS Boroldaу 60.43 316*j i*P P 12 47 07.8 -0.2
comp=Z,43nm,1.5s
BRLS *e*S S 12 55 22.9 +0.5
BRZS Berezniki 61.35 324*d i*P P 12 47 13.4 -0.7
BRZS Berezniki 61.35 324*j i*P P 12 47 13.4 -0.7
OUZ Omahuta 61.79 136 P P 12 47 19.7 +2.4
OUZ Omahuta 61.79 136 P P 12 47 20.7 +3.4
MKAZ Moumakai 63.87 137 P P 12 47 32.6 +1.6
BVAR Borovoye Array 63.96 327 P P 12 47 30.6 -0.9
comp=Z,12nm,1.0s
BVAR LR LR 13 16 30.9
comp=Z,2µm,21.0s,baz=116,slow=37
comp=Z,12nm,1.0s
MSZ Milford Sound 63.99 147 P P 12 47 32.9 +1.2
BRVK Borovoye 64.03 327 P P 12 47 31.4 -0.5
BRVK IAmb IAmb 12 47 53.4
comp=Z,57nm,1.1s
BRVK Borovoye 64.03 327 IAMs_20 IAMs_20 13 16 21.0
comp=Z,2µm,20.0s
BRVK Borovoye 64.03 327 P P 12 47 30.4 -1.5
BRVK P P 12 47 30.4 -1.5
BRVK Borovoye 64.03 327 P P 12 47 31.4 -0.5
BRVK pmax pmax
comp=Z,57nm,1.1s
BRVK MLR MLR
comp=Z,2µm,20.0s
JCZ Jackson Bay 64.06 146 P P 12 47 34.7 +2.4
JCZ Jackson Bay 64.06 146 P P 12 47 33.1 +0.8
QRZ Quartz Range 64.24 142 P P 12 47 35.7 +2.3
QRZ IAmb IAmb 12 47 52.1
comp=Z,73nm,1.0s
QRZ Quartz Range 64.24 142 P P 12 47 35.8 +2.3
QRZ Quartz Range 64.24 142 P P 12 47 35.6 +2.1
DSZ Denniston Nort 64.35 143 IAmb IAmb 12 47 44.3
comp=Z,80nm,1.0s
DSZ Denniston Nort 64.35 143 P P 12 47 36.1 +2.0
HIZ Hauiti 64.42 138 P P 12 47 37.8 +3.1
TOZ Tahuroa Road 64.43 137 IAmb IAmb 12 47 44.5
comp=Z,60nm,1.2s
VRZ Vera Road 64.69 139 P P 12 47 39.4 +3.0
MRNZ Matariki Terra 64.72 142 P P 12 47 36.6 0.0
MRNZ Matariki Terra 64.72 142 P P 12 47 38.2 +1.7
INZ Inchbonnie 64.72 144 P P 12 47 39.4 +2.9
TIXI Tiksi 64.86 1 P P 12 47 36.1 -0.9
TIXI IAmb IAmb 12 47 56.0
comp=Z,99nm,1.4s
TIXI IAMs_20 IAMs_20 13 17 16.0
comp=Z,2µm,20.0s
TIXI Tiksi 64.86 1 LR LR 13 17 38.2
comp=Z,2µm,20.7s,baz=212,slow=38
TIXI Tiksi 64.86 1*eP* P 12 47 36.1 -0.9
TIXI pmax pmax
comp=Z,39nm,1.8s
NNZ Nelson 64.99 142 P P 12 47 38.3 0.0
THZ Tophouse 65.02 142 P P 12 47 39.0 +0.4
THZ IAmb IAmb 12 47 52.9
comp=Z,58nm,0.7s
THZ Tophouse 65.02 142 P P 12 47 38.6 0.0
LBZ Lake Benmore 65.04 146 P P 12 47 39.2 +0.6
LBZ Lake Benmore 65.04 146 P P 12 47 39.1 +0.6
DUWZ D'Urville Isla 65.09 141 P P 12 47 40.0 +1.0
KIWB Kanaga Island 65.09 35 IAmb IAmb 12 47 49.9
comp=Z,88nm,1.2s
RPZ Rata Peaks 65.11 145 P P 12 47 40.3 +1.2
RPZ Rata Peaks 65.11 145 P P 12 47 38.4 -0.7
comp=Z,19nm,0.9s,baz=327,slow=2.7,SNR=12
RPZ LR LR 13 17 10.8
comp=Z,1µm,19.0s,baz=306,slow=37
comp=Z,19nm,0.9s
RPZ Rata Peaks 65.11 145 P P 12 47 42.7 +3.6
LTZ Lake Taylor 65.24 144 P P 12 47 40.9 +0.9
NNVZ North Ngauruho 65.25 139 P P 12 47 40.2 -0.1
OTVZ Oturere 65.30 139 P P 12 47 41.0 +0.4
TMVZ Te Maari 65.30 139 P P 12 47 41.8 +1.3
RAO Raoul Island 65.34 126 LR LR 13 11 33.4
comp=Z,358nm,21.3s,baz=314,slow=32
WNVZ Wahianoa 65.35 139 P P 12 47 43.0 +2.1
ADK Adak 65.37 35 P P 12 47 41.0 +0.3
ADK IAmb IAmb 12 47 51.5
comp=Z,81nm,1.1s
ADK Adak 65.37 35 IAMs_20 IAMs_20 13 11 57.7
comp=Z,2µm,22.0s
ADK Adak 65.37 35 P P 12 47 46.0 +5.4
ADK Adak 65.37 35 P P 12 47 41.0 +0.3
ADK pmax pmax
comp=Z,81nm,1.1s
TUWZ Tuamarina 65.46 142 P P 12 47 42.8 +1.4
MRHZ Matea Rd 65.62 138 P P 12 47 43.1 +0.5
ODZ Otahua Downs 65.71 146 P P 12 47 47.8 +4.9
KHZ Kahutara 65.78 143 P P 12 47 44.0 +0.6
KHZ Kahutara 65.78 143 P P 12 47 43.1 -0.3
URZ Urewera 65.79 137 P P 12 47 42.3 -1.2
comp=Z,5.8nm,0.4s,baz=248,slow=7.9,SNR=6.2
URZ LR LR 13 17 22.2
comp=Z,898nm,20.9s,baz=300,slow=37
comp=Z,5.8nm,0.4s
URZ Urewera 65.79 137 P P 12 47 46.1 +2.5
URZ Urewera 65.79 137 P P 12 47 43.9 +0.4
GVZ Greta Valley S 65.81 143 P P 12 47 45.0 +1.4
BKZ Black Stump Fm 65.85 138 P P 12 47 44.7 +0.7
BKZ Black Stump Fm 65.85 138 P P 12 47 44.2 +0.2
SNZO South Karori 65.87 141 P P 12 47 43.8 -0.2
OGWZ Otaki Gorge 65.89 140 P P 12 47 44.0 -0.2
RTZ Ruatahuna 65.89 138 P P 12 47 44.2 -0.1
MTHZ Maungataniwha 65.92 138 P P 12 47 44.5 0.0
HAZ Te Kaha 65.99 136 P P 12 47 45.9 +1.1
KRHZ Kereru 66.02 139 P P 12 47 45.7 +0.6
NMHZ Naumai 66.02 138 P P 12 47 46.9 +1.7
RUGZ Raukumara Rang 66.02 137 P P 12 47 45.1 -0.2
PNHZ Pukenui 66.05 139 P P 12 47 45.6 +0.3
MRZ Mangatainoka R 66.06 140 P P 12 47 46.7 +1.5
MWZ Matawai 66.11 137 P P 12 47 45.7 0.0
RAHZ Arahi 66.11 138 P P 12 47 46.1 +0.4
RAGZ Rawiri 66.12 137 P P 12 47 46.7 +0.9
MCHZ McNeill Hill 66.13 138 P P 12 47 45.3 -0.5
HOWZ Holdsworth Sta 66.15 140 P P 12 47 45.4 -0.4
SNGZ Shannon Statio 66.21 138 P P 12 47 46.8 +0.5
JMDO Jabal Madar 66.28 291 P P 12 47 51.0 +3.8
JMDO P P 12 47 51.0 +3.8
BIDO Bidbid 66.31 293 P P 12 47 50.0 +2.7
BIDO P P 12 47 50.0 +2.7
PLWZ Palliser 66.36 141 P P 12 47 47.1 -0.1
PAWZ Paruwai Farm 66.36 141 P P 12 47 48.3 +1.1
MHTO MHTO 66.36 290 P P 12 47 51.5 +3.9
MHTO P P 12 47 51.5 +3.9
SMDO Samad 66.36 292 P P 12 47 52.7 +5.0
TKGZ Te Karaka 66.38 137 P P 12 47 49.0 +1.7
KAHZ Kahuranaki 66.43 139 P P 12 47 49.9 +2.2
WMGZ Waiomatatini S 66.46 136 P P 12 47 48.9 +1.0
PUZ Puketiti 66.47 137 P P 12 47 48.4 +0.4
BFZ Birch Farm 66.50 140 P P 12 47 50.7 +2.6
BFZ Birch Farm 66.50 140 P P 12 47 48.3 +0.2
TMWZ Te Maipa 66.50 140 P P 12 47 47.8 -0.3
CNGZ Carnagh Statio 66.65 137 P P 12 47 49.7 +0.6
DQM DQM 66.74 289 P P 12 47 53.6 +3.5
DQM P P 12 47 53.6 +3.5
ATKA Atka Island 66.92 36 P P 12 47 50.9 +0.3
ATKA Atka Island 66.92 36 P P 12 47 52.5 +1.9
BILL Bilibino 67.05 16 P P 12 47 51.9 +0.7
BILL IAmb IAmb 12 48 10.4
comp=Z,52nm,1.1s
BILL IAMs_20 IAMs_20 13 19 35.6
comp=Z,975nm,21.0s
BILL Bilibino 67.05 16*de*P P 12 47 51.2 0.0
BILL pmax pmax
comp=Z,40nm,1.5s
HOQ Hoqain 67.07 293 P P 12 47 55.3 +3.2
NRIK Noril'sk 67.14 346 P P 12 47 50.9 -0.8
NRIK IAmb IAmb 12 48 23.0
comp=Z,38nm,1.1s
NRIK Noril'sk 67.14 346 P P 12 47 50.5 -1.3
comp=Z,8.9nm,0.7s,baz=142,slow=6.0,SNR=16
NRIK LR LR 13 19 31.8
comp=Z,3µm,20.2s,baz=152,slow=38
comp=Z,8.9nm,0.7s
NRIK Noril'sk 67.14 346*d i*P P 12 47 50.4 -1.3
NRIK pmax pmax
comp=Z,44nm,1.6s
SOHO SOHO 67.80 293 P P 12 47 59.6 +2.9
BANOM Banah 68.10 295 P P 12 47 59.9 +1.2
HATD Hatta, Dubai 68.20 294 P P 12 48 02.8 +3.6
MASF Masafi 68.20 295 P P 12 48 01.2 +1.9
SHME Shamm 68.25 295 P P 12 48 03.7 +4.2
SHME P P 12 48 03.7 +4.2
ASHO Ashiyiah 68.26 294 P P 12 48 01.4 +1.8
ASHO P P 12 48 01.4 +1.8
AB31 Akbulak array 68.85 320 P P 12 48 02.0 -0.8
AB31 IAmb IAmb 12 48 04.1
comp=Z,103nm,1.4s
AB31 Akbulak array 68.85 320 P P 12 48 01.4 -1.4
ABKAR Akbulak array 68.85 320 P P 12 48 02.1 -0.8
ABKAR Akbulak array 68.85 320 IAmb IAmb 12 48 04.1
comp=Z,103nm,1.4s
DOK Doka 69.95 287 P P 12 48 11.5 +1.3
NIKH Nikolski High 70.26 36 P P 12 48 15.5 +4.1
NIKH Nikolski High 70.26 36 P P 12 48 11.6 +0.2
baz=254
WHFO Wadi Hawf 70.30 287 P P 12 48 14.6 +2.2
AKTO Aktyubinsk 70.35 321 LR LR 13 21 39.9
comp=Z,2µm,19.9s,baz=97,slow=38
AKTO Aktyubinsk 70.35 321 P P 12 48 10.5 -1.6
SVE Sverdlovsk 70.59 328*ce*P P 12 48 12.3 -1.1
SVE *e* 12 50 51.4
SVE *e*S S 12 57 26.9 +0.7
SVE pmax pmax
comp=Z,78nm,1.4s
SVE MLR MLR
comp=Z,1µm,19.0s
SPIA Saint Paul Isl 70.71 31 P P 12 48 14.2 +0.1
baz=252
ABTO Aybut 70.76 286 P P 12 48 18.8 +3.6
P08K Saint George I 70.90 32 P P 12 48 14.8 -0.4
baz=253

JRN Qarnain Island 71.18 294 P **P** 12 48 17.6 0.0
ARTI Arti 71.66 327 P **P** 12 48 18.5 -1.3
ARTI IAmb IAmb 12 48 53.8
comp=Z,72nm,1.5s
ARTI IAMs_20 IAMs_20 13 23 33.6
comp=Z,1μm,19.0s
ARTI Arti 71.66 327 LR LR 13 21 14.5
comp=Z,1μm,21.7s,baz=102,slow=37
ARTI Arti 71.66 327 *d iP* **P** 12 48 18.1 -1.8
ARTI 12 48 34.0
ARTI 12 50 57.1
ARTI S **S** 12 57 38.5 -0.1
ARTI 12 58 20.2
ARTI SS **SS** 13 02 17.7 +3.6
ARTI pmax pmax
comp=Z,25nm,1.2s
ARTI MLR MLR
comp=Z,1μm,22.0s
UNV Unalaska Valle 71.84 35 P **P** 12 48 20.0 -1.0
UNV IAmb IAmb 12 48 30.1
comp=Z,73nm,0.9s
UNV IAMs_20 IAMs_20 13 13 46.8
comp=Z,2μm,22.0s
UNV Unalaska Valle 71.84 35 P **P** 12 48 21.3 +0.3
baz=256
LVA Lava Point 72.19 35 P **P** 12 48 23.6 +0.5
GAMB Gambell 72.29 25 P **P** 12 48 24.4 +0.9
GAMB IAmb IAmb 12 48 31.8
comp=Z,120nm,1.2s
GAMB Gambell 72.29 25 P **P** 12 48 24.2 +0.7
baz=248
AKUT Akutan 72.33 35 P P 12 48 29.8 +5.9
RER Riviere de l'E 73.52 246 P **P** 12 48 30.9 -0.9
RER IAmb IAmb 12 48 43.8
comp=Z,68nm,0.9s
CASY Casey 73.63 186 P **P** 12 48 31.2 -0.1
CASY IAmb IAmb 12 48 38.5
comp=Z,54nm,1.0s
M11K Mekoryuk 73.66 29 P **P** 12 48 33.2 +1.5
M11K IAmb IAmb 12 48 46.8
comp=Z,98nm,1.2s
M11K Mekoryuk 73.66 29 P **P** 12 48 32.0 +0.3
baz=254
TNA Tin City 74.43 23 P **P** 12 48 36.0 -0.1
TNA Tin City 74.43 23 P **P** 12 48 36.6 +0.6
baz=252
S12K Black Hills 74.75 34 P **P** 12 48 39.5 +1.4
baz=260
K13K Kusilvak Mount 74.79 27 P **P** 12 48 38.7 +0.5
K13K IAmb IAmb 12 48 46.9
comp=Z,65nm,1.1s
K13K Kusilvak Mount 74.79 27 P **P** 12 48 39.4 +1.2
baz=256,SNR=34
F14K Arctic Creek 75.03 24 P **P** 12 48 40.7 +1.1
baz=253,SNR=26
M13K Dall Lake 75.04 29 P **P** 12 48 40.0 +0.4
M13K IAmb IAmb 12 48 48.7
comp=Z,62nm,1.1s
M13K Dall Lake 75.04 29 P **P** 12 48 39.7 0.0
baz=257
ANM Nome 75.17 25 P **P** 12 48 40.3 -0.1
baz=254
J14K Nanvaranak Lak 75.48 27 IAmb IAmb 12 48 50.7
comp=Z,57nm,1.1s
J14K Nanvaranak Lak 75.48 27 P **P** 12 48 43.1 +0.9
baz=256,SNR=20
L14K Kuka Creek 75.56 28 IAmb IAmb 12 48 51.5
comp=Z,118nm,1.1s
L14K Kuka Creek 75.56 28 P **P** 12 48 42.6 -0.1
baz=258
SDPT Sand Point 75.58 35 P **P** 12 48 46.9 +4.0
SDPT Sand Point 75.58 35 P **P** 12 48 43.1 +0.2
baz=261,SNR=13
N14K Kuskokwak Cree 75.75 30 IAmb IAmb 12 48 56.5
comp=Z,71nm,1.1s
N14K Kuskokwak Cree 75.75 30 P **P** 12 48 44.2 +0.5
baz=259
F15K North Star Dit 75.77 24 IAmb IAmb 12 48 52.3
comp=Z,88nm,1.2s
F15K IAMs_20 IAMs_20 13 22 18.8
comp=Z,768nm,19.0s
F15K North Star Dit 75.77 24 P **P** 12 48 44.5 +0.6
baz=255,SNR=22
M14K Bethel 75.78 29 P **P** 12 48 44.9 +0.9
baz=258,SNR=28
G15K Niukluk 75.83 24 P **P** 12 48 44.7 +0.5
baz=255,SNR=17
O14K Tigyukauivet M 75.83 31 IAmb IAmb 12 48 53.7
comp=Z,48nm,1.1s
O14K Tigyukauivet M 75.83 31 P **P** 12 48 44.7 +0.4
baz=259,SNR=12
CNBA Chernabura Isl 76.00 35 IAmb IAmb 12 48 53.2
comp=Z,62nm,1.0s
CNBA IAMs_20 IAMs_20 13 14 23.9
comp=Z,1μm,22.0s
CHNA Chernabura Isl 76.00 35 P **P** 12 48 49.9 +4.6
CHNA Chernabura Isl 76.00 35 P **P** 12 48 44.7 -0.7
baz=262,SNR=5.9
AKT Akhty 76.16 311 *e*P **P** 12 48 45.4 -1.3
AKT *e* 12 51 33.6
AKT *e*PPP PPP 12 53 23.5
AKT *e*S **S** 12 58 27.1 -3.0
AKT pmax pmax
comp=Z,103nm,1.4s
AKT MLR MLR
comp=Z,1μm,22.0s
L15K Ungalak Mounta 76.19 28 P **P** 12 48 46.3 0.0
baz=258,SNR=29
C16K Lisburne Hills 76.22 21 IAmb IAmb 12 48 55.2
comp=Z,88nm,1.1s
C16K Lisburne Hills 76.22 21 P **P** 12 48 47.4 +1.0
baz=253,SNR=12
S14K Fog Glacier 76.24 34 P **P** 12 48 46.1 -0.7
baz=262
K15K Wolf Creek Mou 76.30 27 IAmb IAmb 12 48 55.7
comp=Z,48nm,1.0s
K15K Wolf Creek Mou 76.30 27 P **P** 12 48 47.6 +0.7
baz=258,SNR=25
M15K Kasigluk River 76.39 29 P **P** 12 48 48.5 +1.1
baz=259,SNR=27
MAK Makhachkala 76.41 312 *e*P P 12 48 43.2 -4.7
MAK *e*S **S** 12 58 27.4 -5.1
MAK *e*SS **SS** 13 03 23.2 -3.9
MAK *e*SSS SSS 13 06 42.7
MAK pmax pmax
comp=Z,226nm,0.9s
MAK MLR MLR
comp=Z,889nm,16.0s
H16K Elim 76.49 25 P **P** 12 48 48.7 +0.7
baz=257
O15K Ungalikthiuk R 76.55 31 P **P** 12 48 49.0 +0.6
baz=260
N15K Kwethluk River 76.58 30 IAmb IAmb 12 48 57.1
comp=Z,73nm,1.0s
N15K Kwethluk River 76.58 30 P **P** 12 48 50.0 +1.4
baz=260,SNR=28
G16K Koyuk River 76.62 24 P **P** 12 48 49.5 +0.9
baz=257,SNR=15
KIRV Kirov 76.85 329 LR LR 13 26 09.0
comp=Z,781nm,18.6s,baz=97,slow=38
KIRV Kirov 76.85 329 *d iP* **P** 12 48 48.4 -1.7
D17K Noatak River 76.89 22 P **P** 12 48 51.1 +1.0
baz=256,SNR=122
J16K Anvik River 76.92 27 IAmb IAmb 12 48 59.2
comp=Z,55nm,1.1s
J16K Anvik River 76.92 27 P **P** 12 48 51.8 +1.5
baz=259,SNR=34
I17K Unalakleet 76.99 26 IAmb IAmb 12 48 59.7
comp=Z,96nm,1.2s
I17K Unalakleet 76.99 26 P **P** 12 48 52.2 +1.4
baz=259,SNR=14
RDOG Red Dog Mine 77.04 22 IAmb IAmb 12 49 01.3
comp=Z,75nm,1.0s
RDOG Red Dog Mine 77.04 22 P **P** 12 48 52.3 +1.3
baz=256
C17K DeLong Mountai 77.05 21 P **P** 12 48 51.8 +0.7
baz=255,SNR=24
BELG Belogornoye 77.09 322 LR LR 13 25 30.8
comp=Z,895nm,18.7s,baz=88,slow=38
BELG Belogornoye 77.09 322 *d iP* **P** 12 48 50.1 -1.4
BELG pmax pmax
comp=Z,20nm,1.4s
L16K Owhat River 77.14 28 IAmb IAmb 12 49 00.2
comp=Z,69nm,1.1s
L16K Owhat River 77.14 28 P **P** 12 48 52.7 +1.0
baz=260,SNR=29
E17K Hotham Inlet 77.21 23 P **P** 12 48 52.6 +0.6
baz=257,SNR=42
M16K Timber Creek 77.28 29 IAmb IAmb 12 49 01.0
comp=Z,78nm,1.1s
M16K Timber Creek 77.28 29 P **P** 12 48 53.2 +0.7
baz=261,SNR=48
N16K Nishlik Lake 77.28 30 P **P** 12 48 53.9 +1.4
baz=261,SNR=32
F17K Baldwin Pennin 77.29 23 P **P** 12 48 52.4 0.0
F17K IAmb IAmb 12 49 01.0
comp=Z,60nm,1.1s
F17K Baldwin Pennin 77.29 23 P **P** 12 48 53.3 +0.9
baz=258,SNR=17
G17K Kiwalik Mounta 77.33 24 P **P** 12 48 53.3 +0.6
baz=258,SNR=46
P16K Nushagak River 77.46 31 P **P** 12 48 52.5 -1.0
P16K IAmb IAmb 12 49 05.7
comp=Z,91nm,1.1s
P16K Nushagak River 77.46 31 P **P** 12 48 54.7 +1.2
baz=262
O16K Kokwok River B 77.49 30 IAmb IAmb 12 49 02.1
comp=Z,45nm,1.0s
O16K Kokwok River B 77.49 30 P **P** 12 48 54.5 +0.8
baz=262,SNR=19
H17K Granite Mounta 77.53 25 IAmb IAmb 12 49 02.4
comp=Z,104nm,1.3s
H17K Granite Mounta 77.53 25 P **P** 12 48 55.2 +1.4
baz=259,SNR=29
J17K VABM Dome 77.61 27 IAmb IAmb 12 49 03.1
comp=Z,78nm,1.3s
J17K VABM Dome 77.61 27 P **P** 12 48 55.6 +1.3
baz=260,SNR=18
E18K Tukpahlearik C 77.75 22 IAmb IAmb 12 49 04.2
comp=Z,59nm,0.9s
E18K Tukpahlearik C 77.75 22 P **P** 12 48 56.4 +1.4
baz=258
B18K Kokolik River 77.75 20 P **P** 12 48 55.9 +1.0
baz=256
L17K Donlin 77.76 28 P **P** 12 48 57.2 +2.0
baz=261,SNR=34
C18K Utukok River 77.80 21 IAmb IAmb 12 49 04.2
comp=Z,49nm,0.9s
C18K Utukok River 77.80 21 P **P** 12 48 56.5 +1.2
baz=257,SNR=52
K17K Iditarod 77.85 27 P **P** 12 48 57.5 +1.9
baz=261,SNR=45
RAYN Ar Rayn 77.90 293 P **P** 12 48 55.9 -0.9
RAYN Ar Rayn 77.90 293 IAMs_20 IAMs_20 13 29 02.2
comp=Z,751nm,20.0s
RAYN Ar Rayn 77.90 293 P **P** 12 48 58.1 +1.4
RAYN Ar Rayn 77.90 293 P **P** 12 48 55.9 -0.9
RAYN pmax pmax
comp=Z,30nm,0.9s
F18K Selawik 77.95 23 P **P** 12 48 57.3 +1.2
baz=259,SNR=42
O17K Koliganek Bris 78.01 30 P **P** 12 48 57.8 +1.3
baz=263,SNR=28
M17K Holitna River 78.06 29 IAmb IAmb 12 49 05.9
comp=Z,62nm,1.0s
M17K Holitna River 78.06 29 P **P** 12 48 58.8 +2.0
baz=262,SNR=27
N17K Nushagak Hills 78.06 30 IAmb IAmb 12 49 05.9
comp=Z,71nm,1.1s
N17K Nushagak Hills 78.06 30 P **P** 12 48 58.8 +1.9
baz=263,SNR=30
Q16K King Salmon 78.11 32 P **P** 12 48 57.6 +0.5
baz=263
R17L Mt. Peulik Vol 78.14 33 P **P** 12 48 58.0 +0.6
baz=264,SNR=9.6
PLK4 Peulik 4 78.14 33 IAmb IAmb 12 49 06.0
comp=Z,56nm,1.0s
A19K Wainwright 78.19 20 P **P** 12 48 58.3 +0.9
baz=257
H18K Honhosa River 78.22 25 IAmb IAmb 12 49 05.9
comp=Z,61nm,1.2s
H18K Honhosa River 78.22 25 P **P** 12 48 58.2 +0.5
baz=260
G18K Tagagawik 78.22 24 IAMs_20 IAMs_20 13 26 14.6
comp=Z,710nm,20.0s
G18K Tagagawik 78.22 24 P **P** 12 48 58.3 +0.6
baz=260,SNR=20
P17K Kvichak River 78.28 31 P **P** 12 48 59.1 +1.0
baz=264,SNR=34
GNI Garni 78.38 309 P **P** 12 48 59.4 +0.1
GNI Garni 78.38 309 LR LR 13 28 38.6
comp=Z,255nm,19.7s,baz=83,slow=40
GNI Garni 78.38 309 P **P** 12 49 01.1 +1.9
GNI P **P** 12 49 01.1 +1.9
GNI Garni 78.38 309 *d iP* **P** 12 48 59.3 +0.1
GNI pmax pmax
comp=Z,151nm,1.5s
GNI Garni 78.38 309 P **P** 12 48 59.7 +0.4
comp=Z,1μmcomp=Z,99nm,1.3s
Q17K Contact Creek 78.46 32 P **P** 12 48 59.0 -0.3
baz=264,SNR=17
C19K Locust Ridge 78.47 21 P **P** 12 48 60.0 +1.0
baz=259
L18K Granite Mounta 78.52 28 P **P** 12 49 00.4 +1.1
L18K Granite Mounta 78.52 28 P **P** 12 49 00.4 +1.1
baz=263,SNR=28
RAR Rarotonga 78.63 113 P **P** 12 49 01.4 +0.7
comp=Z,8.7nm,0.6s,baz=124,slow=12,SNR=1.1
comp=Z,8.7nm,0.6s
J18K Innoko River 78.67 27 P **P** 12 49 00.7 +0.6
J18K Innoko River 78.67 27 P **P** 12 49 00.8 +0.6
baz=262,SNR=23
N18K Kilae Creek 78.72 30 IAmb IAmb 12 49 12.1
comp=Z,112nm,1.6s
N18K Kilae Creek 78.72 30 P **P** 12 49 01.7 +1.2
baz=264,SNR=18
F19K Shaleruckik Mo 78.73 23 P **P** 12 49 01.1 +0.8
baz=261,SNR=16
ACHA Angle Creek He 78.75 32 P **P** 12 49 01.3 +0.5
GCSA Galena City Sc 78.78 25 P **P** 12 49 01.9 +1.2
baz=262,SNR=25
M18K Stony River 78.84 29 P **P** 12 49 02.5 +1.4
baz=264,SNR=45
D19K Kuna River 78.88 21 IAmb IAmb 12 49 10.3
comp=Z,53nm,0.8s
D19K Kuna River 78.88 21 P **P** 12 49 01.8 +0.5
baz=260
G19K Purcell Mounta 78.89 24 IAmb IAmb 12 49 09.7
comp=Z,87nm,1.4s
G19K Purcell Mounta 78.89 24 P **P** 12 49 02.3 +1.0
baz=262,SNR=38
P18K Big Mountain, 78.91 31 P **P** 12 49 02.0 +0.4
baz=264,SNR=6.2
Q18K Katmai Hardscr 78.96 32 P **P** 12 49 01.7 -0.3
baz=265,SNR=9.2
O18K Koktuh Hills 78.97 30 P **P** 12 49 03.4 +1.5
baz=264,SNR=29
E19K Redstone River 79.04 23 IAmb IAmb 12 49 10.6
comp=Z,62nm,1.1s
E19K Redstone River 79.04 23 P **P** 12 49 03.3 +1.2
baz=261
H19K Roundabout Mou 79.06 25 P **P** 12 49 03.7 +1.5
baz=262,SNR=87
R18K Karluk 79.16 33 P **P** 12 49 03.2 +0.3
baz=266
J19K Poorman 79.22 26 IAmb IAmb 12 49 13.7
comp=Z,80nm,1.2s
J19K Poorman 79.22 26 P **P** 12 49 04.7 +1.5
baz=263,SNR=50
SII Sitkinak Islan 79.23 34 P **P** 12 49 04.1 +0.7
baz=266
L19K White Mountain 79.37 28 IAmb IAmb 12 49 13.3
comp=Z,99nm,1.3s
L19K White Mountain 79.37 28 P **P** 12 49 05.2 +1.1
baz=264,SNR=25
N19K Bonanza Creek 79.42 29 IAmb IAmb 12 49 13.2
comp=Z,52nm,0.9s
N19K Bonanza Creek 79.42 29 P **P** 12 49 06.0 +1.5
baz=265,SNR=23
O19K Port Alsworth 79.44 30 IAmb IAmb 12 49 12.6
comp=Z,62nm,1.1s
O19K Port Alsworth 79.44 30 P **P** 12 49 04.5 +0.1
baz=265
D20K Etivluk River 79.46 21 IAmb IAmb 12 49 21.2
comp=Z,167nm,1.6s
D20K Etivluk River 79.46 21 P **P** 12 49 05.0 +0.6
baz=262
B20K Meade River 79.47 20 IAmb IAmb 12 49 21.3
comp=Z,97nm,1.1s
B20K Meade River 79.47 20 P **P** 12 49 05.6 +1.3
baz=261,SNR=38
E20K Nigu River 79.55 22 P **P** 12 49 05.9 +0.9
baz=262
F20K Avaraart Lake 79.56 23 P **P** 12 49 06.1 +1.2
baz=263,SNR=42
M19K Big River Lodg 79.56 28 P **P** 12 49 06.5 +1.4
baz=265
KARS Kars 79.65 310 P **P** 12 49 06.2 +0.1
KARS Kars 79.65 310 P **P** 12 49 06.3 +0.1
KARS pmax pmax
comp=Z,238nm,1.0s
GEVA Gevas 79.68 308 P **P** 12 49 06.2 -0.3
GEVA IAmb IAmb 12 49 13.7
comp=Z,109nm,1.3s
Q19K Cape Douglas, 79.69 31 IAmb IAmb 12 49 12.8
comp=Z,75nm,0.9s
Q19K Cape Douglas, 79.69 31 P **P** 12 49 06.1 +0.2
baz=266,SNR=5.2
H20K Anotleneega Mo 79.71 25 P **P** 12 49 07.1 +1.3
baz=264,SNR=36
OHAK Old Harbor 79.77 33 P **P** 12 49 06.3 +0.1
baz=267,SNR=12
KBZ Khabaz 79.80 313 P **P** 12 49 05.5 -1.1
comp=Z,28nm,1.2s,baz=94,slow=7.2,SNR=36
KBZ LR LR 13 28 35.5
comp=Z,969nm,19.5s,baz=78,slow=39
comp=Z,28nm,1.2s
KBZ Khabaz 79.80 313 *i* P **P** 12 49 05.6 -1.1
KBZ pmax pmax
comp=Z,72nm,1.5s
I20K Naaghedeneel 79.80 25 P **P** 12 49 06.7 +0.4
baz=264,SNR=18
K20K Telida 79.84 27 IAmb IAmb 12 49 15.4
comp=Z,71nm,1.2s
K20K Telida 79.84 27 P **P** 12 49 06.6 0.0
baz=265,SNR=26
L20K Farewell, AK 79.85 28 P **P** 12 49 08.3 +1.6
baz=265,SNR=23
A21K Barrow 79.86 19 P **P** 12 49 07.4 +1.0
baz=261
J20K Nowinta River 79.89 26 P **P** 12 49 07.5 +0.7
baz=265,SNR=27
P19K Oil Pt 79.95 31 P **P** 12 49 07.4 +0.1
baz=266
KIV Kislovodsk 79.95 313 P **P** 12 49 07.0 -0.8
KIV IAmb IAmb 12 49 14.2
comp=Z,109nm,1.3s
KIV IAMs_20 IAMs_20 13 31 22.5
comp=Z,922nm,19.0s
KIV Kislovodsk 79.95 313 P **P** 12 49 07.3 -0.4
KIV P **P** 12 49 07.3 -0.4
KIV Kislovodsk 79.95 313 ⇓P **P** 12 49 07.1 -0.6
KIV Kislovodsk 79.95 313 P **P** 12 49 07.1 -0.6
KIV Kislovodsk 79.95 313 P **P** 12 49 07.7 0.0
comp=Z,677nmcomp=Z,53nm,1.4s
ILSW Iliamna Southw 80.02 30 P **P** 12 49 08.1 +0.3
M20K Styx River 80.16 28 IAmb IAmb 12 49 17.2
comp=Z,88nm,1.0s
M20K Styx River 80.16 28 P **P** 12 49 10.1 +1.7
baz=266,SNR=68
C21K Knifeblade Rid 80.17 21 P **P** 12 49 09.4 +1.1
baz=263,SNR=22
KDAK Kodiak Island 80.18 33 P **P** 12 49 09.2 +0.7
KDAK Kodiak Island 80.18 33 LR LR 13 22 07.3
comp=Z,415nm,19.5s,baz=249,slow=34
KDAK Kodiak Island 80.18 33 P **P** 12 49 09.2 +0.7
KDAK pmax pmax
comp=Z,38nm,0.8s
KDAK Kodiak Island 80.18 33 P **P** 12 49 09.2 +0.7
baz=267
IMAR Indian Mountai 80.23 24 P **P** 12 49 09.0 +0.4
RED Redoubt Volcan 80.23 30 IAmb IAmb 12 49 16.0
comp=Z,69nm,1.0s
O20K Slope Mountain 80.28 30 P **P** 12 49 09.2 +0.1
baz=267
B21K Ikpikpuk River 80.29 20 IAmb IAmb 12 49 21.7
comp=Z,81nm,1.0s
B21K Ikpikpuk River 80.29 20 P **P** 12 49 10.1 +1.2
baz=263,SNR=65
Q20K Shuyak Island 80.32 32 P **P** 12 49 08.7 -0.5
baz=267,SNR=6.3
SYI Shuyak Island 80.32 32 P **P** 12 49 10.0 +0.8
SYI IAmb IAmb 12 49 21.8
comp=Z,154nm,1.6s
A22K Sinclair Lake 80.34 19 P **P** 12 49 09.7 +0.6
baz=263
G21K Allakaket 80.37 24 P **P** 12 49 10.3 +0.9
baz=265
E21K Killik River 80.39 22 IAmb IAmb 12 49 25.4
comp=Z,55nm,0.9s
E21K Killik River 80.39 22 P **P** 12 49 09.6 +0.1
baz=264
F21K Alatna River 80.45 23 P **P** 12 49 10.5 +0.7
baz=265,SNR=19
GURO Guroymak-BITLI 80.48 308 P **P** 12 49 11.0 +0.2
GURO IAmb IAmb 12 49 18.3
comp=Z,189nm,1.6s
N20K Mount Spurr 80.55 29 P **P** 12 49 11.1 +0.5
baz=267
SPCR Spurr Chakacha 80.55 29 P **P** 12 49 10.9 +0.4
baz=267
H21K Melozitna Rive 80.58 25 IAmb IAmb 12 49 19.2
comp=Z,107nm,1.6s
H21K Melozitna Rive 80.58 25 P **P** 12 49 11.7 +1.1
baz=266,SNR=70
PPLA Purkeypile 80.66 27 P **P** 12 49 11.7 +0.6
PPLA IAmb IAmb 12 49 31.3
comp=Z,67nm,1.2s
PPLA Purkeypile 80.66 27 P **P** 12 49 12.1 +0.9
baz=267,SNR=12
CHUM Lake Minchumin 80.67 26 P **P** 12 49 12.2 +1.3
baz=266
VRH Novokhopyorsk 80.68 321 *e*P **P** 12 49 09.0 -2.3
VRH pmax pmax
comp=Z,79nm,1.6s
CAST Castle Rocks 80.74 27 IAmb IAmb 12 49 19.6
comp=Z,111nm,1.2s
CAST Castle Rocks 80.74 27 P **P** 12 49 12.5 +1.0
baz=267,SNR=64
HOM Homer 80.76 31 P **P** 12 49 13.5 +2.0
baz=268
B22K Teshekpuk Lake 80.78 20 IAmb IAmb 12 49 24.1
comp=Z,70nm,1.0s
B22K IAMs_20 IAMs_20 13 28 53.4
comp=Z,748nm,20.0s
B22K Teshekpuk Lake 80.78 20 P **P** 12 49 12.5 +1.0
baz=264,SNR=28
OPO Ambohidratompo 80.86 250 P **P** 12 49 12.1 -1.0
comp=Z,19nm,1.0s,baz=64,slow=5.1,SNR=12
comp=Z,19nm,1.0s
I21K Tanana 80.89 25 IAmb IAmb 12 49 20.3
comp=Z,45nm,0.9s
I21K Tanana 80.89 25 P **P** 12 49 13.7 +1.5
baz=266,SNR=49
D22K Ayikyak River 80.90 21 IAmb IAmb 12 49 29.6
comp=Z,127nm,1.7s
D22K Ayikyak River 80.90 21 P **P** 12 49 13.5 +1.3
baz=265,SNR=20
ABPO Ambohimpanom 80.90 250 P **P** 12 49 12.7 -0.6
ABPO Ambohimpanom 80.90 250 P **P** 12 49 12.7 -0.6
ABPO pmax pmax
comp=Z,33nm,1.1s
CNPM China Poot 80.96 31 P **P** 12 49 13.1 +0.5
F22K John River 80.97 23 P **P** 12 49 14.1 +1.5
baz=266
CAPN Captain Cook N 81.05 30 P **P** 12 49 13.9 +0.9
baz=268
BRLK Bradley Lake 81.14 31 P **P** 12 49 13.9 +0.3
BRLK IAmb IAmb 12 49 20.9
comp=Z,78nm,0.9s
E22K Anaktuvuk Pass 81.16 22 P **P** 12 49 14.3 +0.7
E22K IAmb IAmb 12 49 30.7
comp=Z,118nm,1.5s
E22K Anaktuvuk Pass 81.16 22 P **P** 12 49 14.8 +1.2
baz=266,SNR=50
H22K Ishtalitna Cre 81.19 24 P **P** 12 49 15.3 +1.5
baz=267,SNR=58
G22K Bettles 81.20 23 P **P** 12 49 14.8 +1.1
baz=266
ATD Arta Tunnel 81.20 281 LR LR 13 24 18.1
comp=Z,14nm,21.6s,baz=74,slow=35
BPAW Bear Paw Mtn. 81.26 26 P **P** 12 49 15.2 +0.9
baz=267,SNR=26
KTH Kantishna Hill 81.27 27 IAmb IAmb 12 49 24.2
comp=Z,137nm,1.3s
LABN Labinsk 81.36 314 *e*P **P** 12 49 14.9 -0.2
LABN *e**PP **pP** 12 49 17.6 -3.8
LABN *e*S **S** 12 59 27.8 +2.5
LABN pmax pmax
comp=Z,33nm,0.5s
LABN MLR MLR
comp=E,524nm,15.0s

LABN					MLR	MLR			
	comp=N,2µm,16.0s								
LABN					MLR	MLR			
	comp=Z,1µm,18.0s								
MLY	**Manley**	**81.41**	**25**		IAmb	IAmb	12 49 26.1		
	comp=Z,77nm,1.2s								
MLY	**Manley**	**81.41**	**25**		P	**P**	**12 49 15.6**	**+0.6**	
	baz=268,SNR=58								
ERBR	**Yeremizino-Bor**	**81.51**	**315**		*e*P	**P**	**12 49 13.7**	**-2.2**	
ERBR					*e**PP	**pP**	**12 49 18.9**	**-3.2**	
ERBR					*e*S	**S**	**12 59 25.7**	**-1.2**	
ERBR					pmax	pmax			
	comp=Z,53nm,0.8s								
CUT	**Chulitna**	**81.52**	**28**		P	**P**	**12 49 15.8**	**+0.2**	
	baz=268								
TRF	**Thorofare Moun**	**81.55**	**27**		P	**P**	**12 49 16.5**	**+0.6**	
TRF	**Thorofare Moun**	**81.55**	**27**		P	**P**	**12 49 16.5**	**+0.6**	
	baz=268,SNR=48								
M22K	**Willow**	**81.58**	**29**		P	**P**	**12 49 16.1**	**+0.3**	
	baz=269,SNR=14								
D23K	**Nanushuk River**	**81.63**	**21**		P	**P**	**12 49 17.6**	**+1.6**	
	baz=267,SNR=35								
KOPT	**Kop Dagi**	**81.64**	**309**		P	**P**	**12 49 16.8**	**-0.2**	
KOPT					IAmb	IAmb	12 49 26.1		
	comp=Z,107nm,1.3s								
C23K	**Itkillik River**	**81.70**	**20**		P	**P**	**12 49 17.5**	**+1.2**	
	baz=267,SNR=36								
COLD	**Coldfoot**	**81.72**	**23**		IAmb	IAmb	12 49 24.6		
	comp=Z,42nm,0.9s								
COLD	**Coldfoot**	**81.72**	**23**		P	**P**	**12 49 18.0**	**+1.4**	
	baz=268,SNR=93								
O22K	**Cooper Landing**	**81.74**	**30**		P	**P**	**12 49 17.4**	**+0.7**	
	baz=269,SNR=8.2								
RC01	**Rabbit Creek A**	**81.75**	**29**		P	**P**	**12 49 17.2**	**+0.4**	
	baz=269								
G23K	**Bananza Creek**	**81.77**	**24**		IAmb	IAmb	12 49 33.5		
	comp=Z,49nm,1.1s								
G23K	**Bananza Creek**	**81.77**	**24**		P	**P**	**12 49 18.3**	**+1.4**	
	baz=268,SNR=52								
VOI	**Vohitsoka**	**81.82**	**247**		P	**P**	**12 49 17.1**	**-1.0**	
VOI					IAmb	IAmb	12 49 25.9		
	comp=Z,64nm,1.1s								
VOI	**Vohitsoka**	**81.82**	**247**		P	**P**	**12 49 17.1**	**-1.0**	
SEW	**Seward**	**81.87**	**30**		IAmb	IAmb	12 49 25.1		
	comp=Z,88nm,1.0s								
SEW	**Seward**	**81.87**	**30**		P	**P**	**12 49 18.2**	**+0.7**	
	baz=269,SNR=17								
VSLR	**Vesyoloye**	**81.88**	**313**	*c*	*i*P	**P**	**12 49 17.2**	**-0.7**	
VSLR					pmax	pmax			
	comp=Z,97nm,1.3s								
H23K	**Yukon River**	**81.94**	**24**		P	**P**	**12 49 19.2**	**+1.4**	
	baz=268,SNR=53								
E23K	**Chandalar**	**81.98**	**22**		IAmb	IAmb	12 49 35.3		
	comp=Z,99nm,1.1s								
E23K	**Chandalar**	**81.98**	**22**		P	**P**	**12 49 19.6**	**+1.6**	
	baz=268,SNR=67								
I23K	**Minto, Yukon-K**	**82.00**	**25**		IAmb	IAmb	12 49 26.5		
	comp=Z,44nm,0.8s								
I23K	**Minto, Yukon-K**	**82.00**	**25**		P	**P**	**12 49 19.2**	**+1.2**	
	baz=269,SNR=44								
TOLK	**Toolik Lake Re**	**82.01**	**22**		IAmb	IAmb	12 49 27.6		
	comp=Z,45nm,0.8s								
TOLK	**Toolik Lake Re**	**82.01**	**22**		P	**P**	**12 49 18.9**	**+0.7**	
	baz=268,SNR=43								
KLMR	**Klimovskoe**	**82.03**	**330**		*e*P	**P**	**12 49 15.4**	**-2.9**	
KLMR					*e*		12 52 22.1		
KLMR					S	**S**	**12 59 27.2**	**-4.4**	
KLMR					SS	**SS**	**13 04 47.9**	**-2.6**	
KLMR					pmax	pmax			
	comp=Z,69nm,1.2s								
KLMR					MLR	MLR			
	comp=Z,1µm,16.0s								
PMR	**Palmer**	**82.05**	**29**		P	**P**	**12 49 18.3**	**0.0**	
	baz=270,SNR=19								
SOC	**Sochi**	**82.11**	**313**		*e*P	**P**	**12 49 16.0**	**-3.1**	
SOC					*e*		12 52 23.0		
SOC					*e*S	**S**	**12 59 30.7**	**-2.4**	
SOC					*e*SS	**SS**	**13 04 45.4**	**-7.1**	
SOC					*e*SSS	SSS	13 08 19.5		
SOC					MLR	MLR			
	comp=Z,727nm,21.0s								
NEA2	**Nenana**	**82.11**	**26**		IAmb	IAmb	12 49 35.1		
	comp=Z,43nm,1.0s								
NEA2	**Nenana**	**82.11**	**26**		P	**P**	**12 49 19.1**	**+0.4**	
	baz=269,SNR=44								
MCK	**McKinley**	**82.16**	**27**		P	**P**	**12 49 19.5**	**+0.6**	
	baz=269,SNR=81								
RND	**Reindeer**	**82.19**	**27**		IAmb	IAmb	12 49 27.2		
	comp=Z,117nm,1.2s								
RND					IAMs_20	IAMs_20	13 29 12.5		
	comp=Z,961nm,21.0s								
VORD	**Divnogorie**	**82.21**	**320**		*e*P	**P**	**12 49 15.9**	**-3.5**	
VORD					pmax	pmax			
	comp=Z,20nm,1.1s								
FOMA	**Nahampoana Res**	**82.23**	**244**		P	**P**	**12 49 18.8**	**-1.3**	
FOMA					IAmb	IAmb	12 49 28.2		
	comp=Z,86nm,1.2s								
VORR	**Voronezh**	**82.25**	**321**		*e*P	**P**	**12 49 18.2**	**-1.4**	
VORR					pmax	pmax			
	comp=Z,85nm,0.6s								
VSR	**Storozhevoye**	**82.29**	**321**		*e*P	**P**	**12 49 15.8**	**-4.0**	
VSR					pmax	pmax			
	comp=Z,10.0nm,1.1s								
D24K	**Happy Valley**	**82.30**	**21**		IAmb	IAmb	12 49 29.2		
	comp=Z,50nm,0.8s								
D24K					IAMs_20	IAMs_20	13 29 53.0		
	comp=Z,1µm,20.0s								
D24K	**Happy Valley**	**82.30**	**21**		P	**P**	**12 49 20.9**	**+1.4**	
	baz=269,SNR=33								
WAT1	**Susitna Watana**	**82.33**	**28**		P	**P**	**12 49 20.3**	**+0.5**	
	baz=270								
C24K	**Franklin Bluff**	**82.36**	**21**		IAmb	IAmb	12 49 36.7		
	comp=Z,148nm,1.6s								
C24K					IAMs_20	IAMs_20	13 30 48.0		
	comp=Z,872nm,19.0s								
C24K	**Franklin Bluff**	**82.36**	**21**		P	**P**	**12 49 20.5**	**+0.7**	
	baz=269								
E24K	**Your Creek**	**82.40**	**22**		IAMs_20	IAMs_20	13 31 44.8		
	comp=Z,680nm,21.0s								
E24K	**Your Creek**	**82.40**	**22**		P	**P**	**12 49 21.8**	**+1.6**	
	baz=269,SNR=38								
LPSR	**Galich'ya Gora**	**82.41**	**322**		*e*P	**P**	**12 49 18.8**	**-1.6**	
LPSR					pmax	pmax			
	comp=Z,36nm,1.0s								
PWL	**Port Wells**	**82.43**	**30**		P	**P**	**12 49 21.5**	**+1.1**	
	baz=270,SNR=33								
WRH	**Wood River Hil**	**82.53**	**26**		IAmb	IAmb	12 49 39.9		
	comp=Z,76nm,1.1s								
WRH					IAMs_20	IAMs_20	13 26 37.5		
	comp=Z,566nm,18.0s								
F24K	**Squaw Lake**	**82.62**	**23**		IAMs_20	IAMs_20	13 28 56.7		
	comp=Z,644nm,20.0s								
F24K	**Squaw Lake**	**82.62**	**23**		P	**P**	**12 49 22.8**	**+1.5**	
	baz=270,SNR=64								
H24K	**Noodor Dome**	**82.62**	**24**		IAmb	IAmb	12 49 31.5		
	comp=Z,54nm,0.9s								
H24K	**Noodor Dome**	**82.62**	**24**		P	**P**	**12 49 22.6**	**+1.3**	
	baz=270,SNR=71								
COLA	**College**	**82.64**	**25**		P	**P**	**12 49 21.9**	**+0.6**	
COLA	**College**	**82.64**	**25**		P	P	12 49 26.1	+4.8	
COLA	**College**	**82.64**	**25**	*d*	*i*P	**P**	**12 49 21.3**	**0.0**	
COLA					pmax	pmax			
	comp=Z,15nm,1.0s								
COLA	**College**	**82.64**	**25**		P	**P**	**12 49 21.3**	**0.0**	
	baz=270								
CCB	**Clear Creek Bu**	**82.66**	**26**		IAmb	IAmb	12 49 29.6		
	comp=Z,98nm,1.5s								
WAT6	**Susitna Watana**	**82.70**	**28**		P	**P**	**12 49 22.8**	**+0.8**	
	baz=271,SNR=59								
M23K	**Glacier View**	**82.71**	**29**		P	**P**	**12 49 22.4**	**+0.5**	
	baz=271,SNR=13								
G24K	**Hadweenzic Riv**	**82.79**	**24**		P	**P**	**12 49 23.5**	**+1.3**	
	baz=270,SNR=58								
POKR	**Poker Plat Res**	**82.81**	**25**		P	**P**	**12 49 23.2**	**+0.9**	
	baz=270								
DHY	**Denali Highway**	**82.86**	**27**		IAmb	IAmb	12 49 32.5		
	comp=Z,142nm,1.9s								
DHY	**Denali Highway**	**82.86**	**27**		P	**P**	**12 49 22.9**	**+0.1**	
	baz=271,SNR=21								
P23K	**Montague Islan**	**82.90**	**30**		P	**P**	**12 49 24.1**	**+1.2**	
	baz=271,SNR=12								
SCM	**Sheep Creek Mo**	**82.90**	**29**		P	**P**	**12 49 23.9**	**+0.9**	
	baz=271,SNR=21								
HDA	**Harding Lake**	**83.03**	**26**		IAmb	IAmb	12 49 31.0		
	comp=Z,51nm,0.8s								
HDA					IAMs_20	IAMs_20	13 30 40.7		
	comp=Z,640nm,19.0s								
HDA	**Harding Lake**	**83.03**	**26**		P	**P**	**12 49 23.0**	**-0.4**	
	baz=271,SNR=33								
GLI	**Glacier Island**	**83.03**	**29**		IAmb	IAmb	12 49 31.6		
	comp=Z,69nm,0.9s								
GLI	**Glacier Island**	**83.03**	**29**		P	**P**	**12 49 24.3**	**+0.8**	
	baz=271,SNR=17								
IL31		**83.05**	**26**		IAmb	IAmb	12 49 30.2		
	comp=Z,35nm,1.1s								
ILAR	**Eielson Array**	**83.05**	**26**		P	**P**	**12 49 22.9**	**-0.7**	
	comp=Z,4.1nm,0.8s,baz=254,slow=4.6,SNR=49								
ILAR					PKKPbc	**PKKPbc**	**13 07 44.6**	**-3.3**	
	comp=Z,0.7nm,1.0s,baz=64,slow=2.1,SNR=5.1								
ILAR					PKPPKP	**P'P'df**	**13 15 51.2**	**-0.9**	
	comp=Z,0.4nm,1.0s,baz=76,slow=1.5,SNR=4.4								
	comp=Z,4.1nm,0.8s								
MOS	**Moscow**	**83.09**	**325**		*e*P	**P**	**12 49 22.1**	**-1.8**	
MOS					*e*		12 52 36.6		
MOS					pmax	pmax			
	comp=Z,54nm,0.6s								
MOS					pmax	pmax			
	comp=Z,42nm,0.6s								
MOS					MLR	MLR			
	comp=Z,1µm,19.0s								
D25K	**Kavik River**	**83.17**	**21**		P	**P**	**12 49 25.0**	**+0.8**	
D25K					IAmb	IAmb	12 49 40.2		
	comp=Z,124nm,1.6s								
D25K					IAMs_20	IAMs_20	13 30 49.0		
	comp=Z,870nm,20.0s								
D25K	**Kavik River**	**83.17**	**21**		P	**P**	**12 49 25.1**	**+1.0**	
	baz=271,SNR=29								
G25K	**Bearman Lake**	**83.33**	**24**		P	**P**	**12 49 26.6**	**+1.7**	
	baz=272,SNR=26								
FID	**Port Fidalgo**	**83.34**	**30**		P	**P**	**12 49 25.3**	**+0.2**	
HIN	**Hinchinbrook I**	**83.34**	**30**		P	**P**	**12 49 25.6**	**+0.5**	
ARPR	**Arapgir-MALATY**	**83.35**	**309**		P	**P**	**12 49 25.6**	**-0.2**	
ARPR					IAmb	IAmb	12 50 09.1		
	comp=Z,76nm,1.4s								
M24K	**Tolsona, Glenn**	**83.44**	**28**		P	**P**	**12 49 27.3**	**+1.6**	
	baz=272,SNR=19								
Q23K	**Middleton Isla**	**83.45**	**31**		P	**P**	**12 49 26.7**	**+1.1**	
	baz=272								
H25L	**Birch Creek**	**83.46**	**24**		P	**P**	**12 49 27.1**	**+1.5**	
	baz=272,SNR=51								
F25K	**Christian Rive**	**83.49**	**23**		IAMs_20	IAMs_20	13 29 15.4		
	comp=Z,894nm,20.0s								
F25K	**Christian Rive**	**83.49**	**23**		P	**P**	**12 49 27.4**	**+1.6**	
	baz=272,SNR=38								
E25K	**Arctic Village**	**83.50**	**22**		IAmb	IAmb	12 49 43.3		
	comp=Z,92nm,1.4s								
E25K					IAMs_20	IAMs_20	13 28 06.7		
	comp=Z,777nm,21.0s								
E25K	**Arctic Village**	**83.50**	**22**		P	**P**	**12 49 27.2**	**+1.3**	
	baz=272,SNR=42								
K24K	**Donnelly Dome**	**83.56**	**27**		P	**P**	**12 49 26.9**	**+0.6**	
	baz=272,SNR=47								
KLU	**Klutina**	**83.58**	**29**		IAmb	IAmb	12 49 34.8		
	comp=Z,66nm,1.2s								
KLU	**Klutina**	**83.58**	**29**		P	**P**	**12 49 27.5**	**+1.0**	
	baz=272,SNR=23								
PRP	**Porcupine Dome**	**83.61**	**25**		P	**P**	**12 49 27.4**	**+0.8**	
	baz=272,SNR=15								
C26K	**Camden Bay**	**83.67**	**20**		P	**P**	**12 49 27.1**	**+0.5**	
	baz=272								
ANN	**Anapa**	**83.70**	**314**		*e*P	**P**	**12 49 25.4**	**-1.8**	
ANN					*e**PP	**pP**	**12 49 29.4**	**-4.1**	
ANN					*e*S	**S**	**12 59 46.9**	**-2.3**	
ANN					pmax	pmax			
	comp=Z,51nm,1.1s								
EYAK	**Cordova Ski Ar**	**83.71**	**30**		P	**P**	**12 49 28.0**	**+1.0**	
	baz=273,SNR=11								
J25K	**Salcha River,**	**83.71**	**26**		P	**P**	**12 49 26.7**	**-0.3**	
	baz=272,SNR=28								
OBN	**Obninsk**	**83.72**	**325**		IAMs_20	IAMs_20	13 30 25.6		
	comp=Z,1µm,21.0s								
OBN	**Obninsk**	**83.72**	**325**		LR	LR	13 29 30.2		
	comp=Z,1µm,19.9s,baz=26,slow=38								
OBN	**Obninsk**	**83.72**	**325**		*e*P	**P**	**12 49 26.1**	**-1.0**	
OBN					*e*		12 49 32.3		
OBN					*e*		12 52 39.2		
OBN					*i* S	**S**	**12 59 47.5**	**-1.5**	
OBN					*e*SS	**SS**	**13 05 16.8**	**+1.1**	
OBN					*e*SSS	SSS	13 08 46.1		
OBN					pmax	pmax			
	comp=Z,26nm,1.0s								
OBN					MLR	MLR			
	comp=Z,1µm,22.0s								
PAX	**Paxson**	**83.73**	**27**		IAmb	IAmb	12 49 35.5		
	comp=Z,71nm,1.1s								
PAX					IAMs_20	IAMs_20	13 30 01.4		
	comp=Z,960nm,20.0s								
PAX	**Paxson**	**83.73**	**27**		P	**P**	**12 49 28.3**	**+1.1**	
	baz=272,SNR=64								
BMAR	**Burnt Mountain**	**83.90**	**23**		P	**P**	**12 49 29.2**	**+1.3**	
HARP	**HAARP**	**83.90**	**28**		P	**P**	**12 49 28.9**	**+0.9**	
	baz=273,SNR=8.0								
RIDG	**Independent Ri**	**83.98**	**27**		P	**P**	**12 49 29.1**	**+0.7**	
RIDG	**Independent Ri**	**83.98**	**27**		P	**P**	**12 49 28.9**	**+0.5**	
	baz=273,SNR=71								
LVZ	**Lovozero**	**83.99**	**338**		P	**P**	**12 49 27.3**	**-1.1**	
LVZ					IAmb	IAmb	12 50 00.0		
	comp=Z,39nm,1.1s								
LVZ	**Lovozero**	**83.99**	**338**	*d*	*i*P	**P**	**12 49 26.6**	**-1.8**	
LVZ					pmax	pmax			
	comp=Z,40nm,1.3s								
F26K	**Sheenjek River**	**84.05**	**23**		IAMs_20	IAMs_20	13 29 44.4		
	comp=Z,881nm,20.0s								
F26K	**Sheenjek River**	**84.05**	**23**		P	**P**	**12 49 29.9**	**+1.2**	
	baz=273,SNR=23								
C27K	**Jago River**	**84.10**	**21**		P	**P**	**12 49 30.4**	**+1.6**	
	baz=273,SNR=27								
N25K	**Chitina, Valde**	**84.21**	**29**		P	**P**	**12 49 31.2**	**+1.5**	
	baz=273,SNR=20								
G26K	**Porcupine Rive**	**84.24**	**23**		P	**P**	**12 49 31.3**	**+1.7**	
	baz=274,SNR=46								
BMRM	**Bremner River**	**84.25**	**29**		P	**P**	**12 49 31.1**	**+1.2**	
	baz=274,SNR=24								
DOT	**Dot Lake**	**84.33**	**27**		IAmb	IAmb	12 49 38.8		
	comp=Z,67nm,1.1s								
SCRK	**Sand Creek**	**84.34**	**26**		IAmb	IAmb	12 49 39.8		
	comp=Z,66nm,1.1s								
SCRK	**Sand Creek**	**84.34**	**26**		P	**P**	**12 49 30.7**	**+0.4**	
	baz=274,SNR=43								
KAIM	**Kayak Island**	**84.40**	**30**		P	**P**	**12 49 32.0**	**+1.4**	
	baz=274,SNR=7.9								
APA	**Apatity**	**84.49**	**337**		*e*P	**P**	**12 49 28.7**	**-2.1**	
APA					*i*		12 52 48.6		
APA					*i* S	**SKSac**	**12 59 52.8**	**-0.8**	
APA					pmax	pmax			
	comp=Z,2.0nm,1.1s								
APA					MLR	MLR			
	comp=Z,2µm,16.4s								
J26L	**Joseph Creek**	**84.49**	**26**		IAmb	IAmb	12 49 39.7		
	comp=Z,53nm,0.9s								
J26L	**Joseph Creek**	**84.49**	**26**		P	**P**	**12 49 31.6**	**+0.5**	
	baz=274,SNR=90								
MENT	**Mentasta**	**84.53**	**27**		IAmb	IAmb	12 49 47.9		
	comp=Z,61nm,1.1s								
I26K	**Coal Creek Min**	**84.61**	**25**		P	**P**	**12 49 32.0**	**+0.5**	
	baz=274								
L26K	**Log Cabin Wild**	**84.70**	**27**		IAmb	IAmb	12 49 41.8		
	comp=Z,46nm,1.0s								
L26K					IAMs_20	IAMs_20	13 30 39.8		
	comp=Z,924nm,19.0s								
L26K	**Log Cabin Wild**	**84.70**	**27**		P	**P**	**12 49 33.2**	**+1.2**	
	baz=274,SNR=54								
VRDI	**Verde Repeater**	**84.79**	**29**		IAmb	IAmb	12 49 41.6		
	comp=Z,74nm,1.1s								
VRDI					IAMs_20	IAMs_20	13 23 06.3		
	comp=Z,982nm,22.0s								
M26K	**Nabesna, AK**	**84.91**	**28**		IAmb	IAmb	12 49 43.0		
	comp=Z,85nm,1.2s								
M26K	**Nabesna, AK**	**84.91**	**28**		P	**P**	**12 49 34.2**	**+1.1**	
	baz=275,SNR=21								
E27K	**Coleen River**	**84.98**	**22**		IAmb	IAmb	12 49 43.6		
	comp=Z,68nm,1.1s								
E27K					IAMs_20	IAMs_20	13 32 36.8		
	comp=Z,666nm,20.0s								
E27K	**Coleen River**	**84.98**	**22**		P	**P**	**12 49 34.9**	**+1.5**	
	baz=276,SNR=29								
MCARA	**McCarthy VSAT**	**84.98**	**29**		P	**P**	**12 49 34.8**	**+1.4**	
	baz=275,SNR=7.5								
CRQE	**Cirque**	**85.00**	**30**		P	**P**	**12 49 34.7**	**+1.0**	
	baz=275,SNR=12								
G27K	**Doyon Strip**	**85.09**	**23**		IAmb	IAmb	12 49 44.4		
	comp=Z,51nm,1.1s								
G27K	**Doyon Strip**	**85.09**	**23**		P	**P**	**12 49 35.6**	**+1.7**	
	baz=276,SNR=37								
D27M	**Malcolm River**	**85.10**	**21**		P	**P**	**12 49 35.2**	**+1.3**	
	baz=276,SNR=17								
TGL	**Tana Glacier**	**85.13**	**30**		IAmb	IAmb	12 49 43.5		
	comp=Z,74nm,1.0s								
K27K	**Chicken**	**85.18**	**26**		IAMs_20	IAMs_20	13 31 56.8		
	comp=Z,630nm,19.0s								
K27K	**Chicken**	**85.18**	**26**		P	**P**	**12 49 36.2**	**+1.8**	
	baz=276								
H27K	**Steamboat Moun**	**85.19**	**24**		IAmb	IAmb	12 49 44.5		
	comp=Z,59nm,1.0s								
H27K	**Steamboat Moun**	**85.19**	**24**		P	**P**	**12 49 36.2**	**+1.6**	
	baz=276,SNR=42								
I27K	**Kandik River**	**85.22**	**25**		P	**P**	**12 49 36.4**	**+1.8**	
	baz=276,SNR=63								
BNN	**Bunyan**	**85.30**	**308**		P	**P**	**12 49 35.6**	**-0.1**	
ISLE	**Juniper Island**	**85.38**	**30**		P	**P**	**12 49 36.6**	**+0.9**	
L27K	**Beaver Creek,**	**85.38**	**27**		P	**P**	**12 49 36.4**	**+0.9**	
L27K					IAmb	IAmb	12 49 45.7		
	comp=Z,79nm,1.1s								
L27K	**Beaver Creek,**	**85.38**	**27**		P	**P**	**12 49 37.0**	**+1.6**	
	baz=276,SNR=34								
BCAR	**Beaver Creek A**	**85.40**	**27**		P	**P**	**12 49 36.5**	**+0.9**	
M27K	**Edge Creek, AK**	**85.43**	**28**		P	**P**	**12 49 37.1**	**+1.3**	
M27K					IAmb	IAmb	12 49 45.9		
	comp=Z,59nm,1.1s								
M27K					IAMs_20	IAMs_20	13 31 17.3		
	comp=Z,632nm,20.0s								
M27K	**Edge Creek, AK**	**85.43**	**28**		P	**P**	**12 49 36.9**	**+1.0**	
	baz=276,SNR=16								
EGAK	**Eagle**	**85.50**	**25**		IAMs_20	IAMs_20	13 29 32.1		
	comp=Z,628nm,18.0s								
FURI	**Furi**	**85.54**	**278**		IAMs_20	IAMs_20	13 27 50.1		
	comp=Z,1µm,20.0s								
MESA	**MESA**	**85.62**	**30**		P	**P**	**12 49 38.2**	**+1.3**	
	baz=276,SNR=6.7								
E28M	**Babbage River**	**85.69**	**21**		IAmb	IAmb	12 49 47.1		
	comp=Z,90nm,1.4s								
E28M					IAMs_20	IAMs_20	13 32 58.5		
	comp=Z,695nm,20.0s								
E28M	**Babbage River**	**85.69**	**21**		P	**P**	**12 49 38.0**	**+1.2**	
	baz=277,SNR=24								
F28M	**Old Crow**	**85.69**	**23**		IAmb	IAmb	12 49 46.9		
	comp=Z,73nm,1.1s								
F28M					IAMs_20	IAMs_20	13 32 30.6		
	comp=Z,826nm,19.0s								
F28M	**Old Crow**	**85.69**	**23**		P	**P**	**12 49 38.0**	**+1.1**	
	baz=277,SNR=32								
YAH	**Yahtse**	**85.70**	**30**		IAmb	IAmb	12 49 47.1		
	comp=Z,73nm,1.0s								
CTG	**Chitna Glacier**	**85.83**	**29**		P	**P**	**12 49 39.4**	**+1.5**	
	baz=276,SNR=11								
D28M	**Stokes Point**	**85.88**	**21**		P	**P**	**12 49 39.0**	**+1.3**	
	baz=278								
BVCY	**Beaver Creek**	**85.90**	**28**		P	**P**	**12 49 39.6**	**+1.5**	
	baz=277,SNR=11								
I28M	**Miner Creek**	**85.94**	**25**		IAMs_20	IAMs_20	13 32 50.3		
	comp=Z,804nm,21.0s								
I28M	**Miner Creek**	**85.94**	**25**		P	**P**	**12 49 39.3**	**+1.0**	
	baz=277,SNR=49								
LOGN	**Logan Glacier**	**86.01**	**29**		IAmb	IAmb	12 49 56.0		
	comp=Z,44nm,1.0s								
SIM	**Simferopol'**	**86.04**	**315**		*e*P	**P**	**12 49 38.1**	**-1.0**	
SIM					*e*S	**S**	**13 00 11.4**	**-1.1**	
SIM					pmax	pmax			
	comp=Z,67nm,1.3s								
SIM					smax	smax			
	comp=E,167nm,16.5s								
SIM					MLR	MLR			
	comp=Z,622nm,22.9s								
MAW	**Mawson**	**86.05**	**200**		P	**P**	**12 49 37.1**	**-1.4**	
	comp=Z,11nm,1.0s,baz=46,slow=6.6,SNR=16								
MAW					LR	LR	13 21 34.8		
	comp=Z,366nm,21.4s,baz=60,slow=31								
	comp=Z,11nm,1.0s								
YUK3	**Moose Creek**	**86.16**	**28**		P	**P**	**12 49 40.5**	**+0.9**	
	baz=277,SNR=5.9								
MMAI	**Mount Meron Ar**	**86.18**	**303**		P	**P**	**12 49 39.3**	**-0.9**	
	comp=Z,9.3nm,0.8s,baz=33,slow=3.2,SNR=12								
MMAI					LR	LR	13 32 24.7		
	comp=Z,551nm,21.7s,baz=80,slow=39								
	comp=Z,9.3nm,0.8s								
GHAJ	**Ghor Haditha**	**86.21**	**301**		P	**P**	**12 49 39.6**	**-0.6**	
GHAJ					IAmb	IAmb	12 49 51.8		
	comp=Z,46nm,0.8s								
E29M	**Blow River**	**86.32**	**22**		P	**P**	**12 49 40.5**	**+0.6**	
E29M					IAMs_20	IAMs_20	13 34 12.2		
	comp=Z,646nm,20.0s								
E29M	**Blow River**	**86.32**	**22**		P	**P**	**12 49 40.6**	**+0.6**	
	baz=279,SNR=6.1								
DAWY	**Dawson**	**86.35**	**26**		P	**P**	**12 49 41.4**	**+1.1**	
DAWY					IAmb	IAmb	12 49 50.3		
	comp=Z,39nm,1.1s								
DAWY	**Dawson**	**86.35**	**26**		P	**P**	**12 49 40.9**	**+0.7**	
	baz=278,SNR=16								
O28M	**Mount Upton**	**86.41**	**29**		P	**P**	**12 49 42.1**	**+1.1**	
O28M	**Mount Upton**	**86.41**	**29**		P	**P**	**12 49 40.2**	**-0.8**	
	baz=277								
H29M	**Whitestone**	**86.47**	**24**		IAmb	IAmb	12 49 50.7		
	comp=Z,40

comp=Z,753nm,22.0s
K29M Barlow Dome 87.20 26 P **P** **12 49 44.9 +0.4**
baz=280,SNR=8.6
SPITS Spitsbergen Ar 87.23 349 P **P** **12 49 43.6 -0.7**
comp=Z,5.2nm,0.8s,baz=148,slow=21,SNR=3.5
SPITS LR LR 13 32 14.9
comp=Z,2µm,21.3s,baz=59,slow=38
comp=Z,5.2nm,0.8s
F30M Barrier River 87.23 22 IAMs_20 IAMs_20 13 34 05.5
comp=Z,761nm,20.0s
F30M Barrier River 87.23 22 P **P** **12 49 44.9 +0.5**
baz=281
O29M Mount Kennedy 87.27 30 IAMs_20 IAMs_20 13 26 27.1
comp=Z,683nm,21.0s
O29M Mount Kennedy 87.27 30 P **P** **12 49 45.6 +0.7**
baz=279
YUK6 Outpost Mounta 87.28 29 P **P** **12 49 45.5 +0.4**
baz=279
KIBK Kibwezi 87.43 267 IAmb IAmb 12 49 59.7
comp=Z,62nm,1.4s
KIBK Kibwezi 87.43 267 P P 12 49 52.1 +5.5
I30M Mount Dempster 87.44 25 IAmb IAmb 12 49 58.4
comp=Z,46nm,1.4s
I30M Mount Dempster 87.44 25 P **P** **12 49 46.2 +0.5**
baz=280,SNR=15
PPT Papeete 87.50 108 LR LR 13 22 47.3
comp=Z,334nm,21.0s,baz=274,slow=31
PPT2 Papeete2 87.50 108 *eP* **P** **12 49 44.5 -2.3**
comp=Z,56nm,24.0s
PPT2 Papeete2 87.50 108 *eS* **S** **13 00 27.0 -0.8**
comp=Z,270nm,28.2s
PPT2 *eSS* **SS** **13 06 07.8 -5.8**
comp=Z,379nm,28.2s
PPT2 *eLQ* LQ 13 13 54.1
comp=Z,4µm,40.5s
PPT2 *eLR* LR 13 17 29.3
comp=Z,1µm,27.5s
PPT2 *eLR* LR 13 17 32.6
comp=Z,1µm,25.2s
J30M Hart River 87.58 25 P **P** **12 49 47.3 +0.9**
baz=281,SNR=6.5
CSS Mathiatis 87.69 305 P **P** **12 49 46.3 -1.1**
CSS IAmb IAmb 12 49 48.2
comp=Z,56nm,1.4s
HYT Haines Junctio 87.71 29 P **P** **12 49 47.7 +0.7**
baz=280,SNR=21
M30M Minto, Yukon 87.74 27 IAMs_20 IAMs_20 13 32 33.3
comp=Z,720nm,20.0s
M30M Minto, Yukon 87.74 27 P **P** **12 49 47.9 +0.9**
baz=280,SNR=17
P29M Windy Craggy 87.79 30 IAmb IAmb 12 49 59.8
comp=Z,31nm,1.1s
P29M Windy Craggy 87.79 30 P **P** **12 49 48.3 +0.9**
baz=280
N30M Aishikik Lake 87.80 28 IAMs_20 IAMs_20 13 32 41.9
comp=Z,739nm,20.0s
N30M Aishikik Lake 87.80 28 P **P** **12 49 48.2 +0.8**
baz=280,SNR=21
HSPB Hornsund (broa 87.81 348 *eP* **P** **12 49 43.1 -3.9**
HSPB *ePP* **PP** **12 53 18.9 +6.4**
INK Inuvik 87.92 21 P **P** **12 49 48.0 +0.3**
baz=283,SNR=11
G31M Satah River 87.95 23 P **P** **12 49 47.9 0.0**
baz=282,SNR=10
F31M Tsiigehtchic 88.04 22 P **P** **12 49 48.1 -0.1**
baz=283,SNR=12
KMBO Kilima Mbogo 88.08 269 P **P** **12 49 50.2 +0.3**
KMBO IAmb IAmb 12 50 03.1
comp=Z,45nm,1.4s
KMBO Kilima Mbogo 88.08 269 IAMs_20 IAMs_20 13 31 33.0
comp=Z,791nm,19.0s
KMBO Kilima Mbogo 88.08 269 P **P** **12 49 50.2 +0.3**
KMBO pmax pmax
comp=Z,45nm,1.4s
KMBO MLR MLR
comp=Z,800nm,19.0s
P30M Million Dollar 88.10 30 P **P** **12 49 48.5 -0.4**
baz=280
H31M Peel River 88.16 24 P **P** **12 49 48.2 -0.8**
H31M Peel River 88.16 24 P **P** **12 49 48.8 -0.2**
baz=282,SNR=9.0
O30N Mendenhall 88.40 29 P **P** **12 49 50.6 +0.4**
O30N Mendenhall 88.40 29 P **P** **12 49 51.1 +0.9**
baz=281
TBI Tubuai 88.40 114 *eP* P 12 49 46.2 -4.7
comp=Z,310nm,29.8s
TBI Tubuai 88.40 114 *eS* **S** **13 00 34.2 -1.8**
comp=Z,1µm,28.5s
TBI *eSS* **SS** **13 06 28.5 +2.1**
comp=Z,2µm,29.0s
TBI *eLQ* LQ 13 14 10.2
comp=Z,7µm,39.8s
TBI *eLR* LR 13 17 51.5
comp=Z,1µm,26.2s
TBI *eLR* LR 13 17 57.8
comp=Z,6µm,28.2s
N31M Braeburn, Yuko 88.41 28 P **P** **12 49 49.8 -0.5**
N31M IAmb IAmb 12 50 01.4
comp=Z,34nm,0.9s
N31M IAMs_20 IAMs_20 13 33 00.1
comp=Z,877nm,20.0s
N31M Braeburn, Yuko 88.41 28 P **P** **12 49 51.4 +1.1**
baz=281,SNR=17
FIA1 FINESS Array S 88.45 332 P **P** **12 49 49.3 -1.0**
FINES FINESS Array B 88.45 332 P **P** **12 49 49.1 -1.3**
FINES FINESS Array B 88.45 332 P **P** **12 49 47.8 -2.5**
comp=Z,5.5nm,0.8s,baz=117,slow=11,SNR=9.6
FINES PP **PP** **12 53 17.4 -0.7**
comp=Z,7.3nm,1.1s,baz=93,slow=7.0,SNR=3.4
FINES LR LR 13 33 22.7
comp=Z,1µm,19.7s,baz=72,slow=38
comp=Z,5.5nm,0.8s
FINES FINESS Array B 88.45 332 *i* P **P** **12 49 50.7 +0.3**
FINES pmax pmax
comp=Z,5.0nm,0.8s
PLBC Pleasant Camp 88.51 30 P **P** **12 49 51.2 +0.5**
baz=281
AKASG Malin Array Be 88.59 321 P **P** **12 49 49.5 -1.7**
AKASG Malin Array Be 88.59 321 P **P** **12 49 49.1 -2.2**
comp=Z,3.5nm,0.8s,baz=69,slow=4.2,SNR=22
AKASG PP **PP** **12 53 18.9 -0.6**
comp=Z,1.4nm,0.8s,baz=77,slow=6.6,SNR=4.1
AKASG LR LR 13 33 03.1
comp=Z,1µm,19.4s,baz=72,slow=38
comp=Z,3.5nm,0.8s
AKASG Malin Array Be 88.59 321 *i* P **P** **12 49 49.4 -1.8**
AKASG pmax pmax
comp=Z,13nm,1.2s
AKBB Malin Array Si 88.59 321 P **P** **12 49 49.6 -1.6**
AKBB Malin Array Si 88.59 321 *d i* P **P** **12 49 49.2 -2.0**
AKBB pmax pmax
comp=Z,16nm,1.2s
KIEV Kiev 88.60 321 P **P** **12 49 49.5 -1.8**
KIEV Kiev 88.60 321 ⇑P **P** **12 49 49.6 -1.7**
KIEV Kiev 88.60 321 P **P** **12 49 49.5 -1.8**
MDUB Mudurnu 88.69 310 P **P** **12 49 51.0 -1.1**
VSU Vasula 88.70 329 ⇓*eP* **P** **12 49 48.9 -2.7**
VSU pmax pmax
comp=Z,20nm,1.2s
MNK Minsk 88.78 325 *i* P **P** **12 49 50.3 -1.8**
MNK *i* 12 53 18.9
MNK *i* PPP PPP 12 55 14.8
MNK *i* S **SKSac** **13 00 19.1 -1.5**
MNK *i* 13 00 42.6
MNK *i* SS **SS** **13 06 30.4 +0.5**
MNK *i* SSS SSS 13 10 05.0
MNK pmax pmax
comp=N,5.0nm,0.5s
MNK pmax pmax
comp=Z,29nm,0.9s
MNK pmax pmax
comp=E,23nm,0.9s
MNK MLR MLR
comp=E,688nm,20.0s
MNK MLR MLR
comp=Z,617nm,16.0s
MNK MLR MLR
comp=N,741nm,16.0s
S31K Pelican 88.86 32 P **P** **12 49 53.5 +1.2**
baz=281
M31M Drury Creek, Y 88.91 27 IAMs_20 IAMs_20 13 25 30.2
comp=Z,664nm,22.0s
M31M Drury Creek, Y 88.91 27 P **P** **12 49 53.9 +1.4**
baz=282,SNR=10
WHY Whitehorse 89.01 29 IAmb IAmb 12 50 01.2
comp=Z,44nm,0.8s
WHY Whitehorse 89.01 29 P **P** **12 49 54.1 +0.9**
baz=282,SNR=22
SKAG Skagway 89.03 30 P **P** **12 49 54.1 +1.0**
baz=282,SNR=11
BORA Eskisehir 89.34 310 P **P** **12 49 53.7 -1.5**
NACGM Naroch 89.34 325 *eP* P 12 50 00.1 +5.4
comp=Z,13nm,0.9s,baz=79
FARO Faro, Yukon 89.38 27 P **P** **12 49 55.5 +0.7**
FARO IAmb IAmb 12 50 05.2
comp=Z,29nm,0.9s
FARO Faro, Yukon 89.38 27 P **P** **12 49 55.6 +0.7**
baz=283
LODK Lodwar 89.43 273 P **P** **12 49 55.8 -0.2**
LODK IAMs_20 IAMs_20 13 29 17.6
comp=Z,675nm,21.0s
KIS Kishinev 89.44 317 *eP* **P** **12 49 59.0 +3.7**
KIS *eL* L 13 28 26.0
KIS LQM 13 28 54.0
comp=Z,400nm,22.0s
KIS LRM MLR 13 33 58.0
comp=Z,250nm,19.0s
KIS Kishinev 89.44 317 *eP* **P** **12 49 59.0 +3.7**
KIS MLR MLR
comp=Z,250nm,19.0s
SIT Sitka 89.52 33 P **P** **12 49 56.0 +0.6**
baz=282
A36M Sachs Harbour 89.56 17 P **P** **12 49 55.7 +0.3**
baz=291
R32K Eaglecrest 89.69 31 P **P** **12 49 56.9 +0.6**
baz=282
N32M Quiet Lake 89.75 28 IAmb IAmb 12 50 28.3
comp=Z,37nm,0.9s
N32M IAMs_20 IAMs_20 13 33 41.4
comp=Z,1µm,19.0s
N32M Quiet Lake 89.75 28 P **P** **12 49 57.0 +0.4**
baz=284
P32M Atlin 89.81 30 P **P** **12 49 57.5 +0.6**
baz=283
S32K Killisnoo 89.83 32 P **P** **12 49 57.1 +0.2**
baz=282
P33M Teslin, Yukon 90.10 29 IAMs_20 IAMs_20 13 26 42.9
comp=Z,716nm,21.0s
P33M Teslin, Yukon 90.10 29 P **P** **12 49 58.7 +0.4**
baz=284,SNR=10
TIRR Tirgusor 90.13 315 IAMs_20 IAMs_20 13 37 16.8
comp=Z,955nm,21.0s
MMPY Sheldon Lake, 90.23 27 P **P** **12 49 58.9 +0.1**
baz=285,SNR=10
PSN Preselentsi 90.47 314 P **P** **12 50 04.0 +3.8**
Q32M Nakina River 90.68 30 P **P** **12 50 01.6 +0.5**
baz=284
U33K Whale Pass 90.91 33 P **P** **12 50 01.9 0.0**
baz=284
TESR Tescani 90.99 317 ⇑P **P** **12 50 01.3 -1.3**
MANT Manisa 91.00 309 P **P** **12 50 01.7 -1.5**
MANT IAmb IAmb 12 50 03.1
comp=Z,40nm,1.3s
VRI Vrincioaia 91.06 316 ⇑P **P** **12 50 02.3 -0.6**
VRI Vrincioaia 91.06 316 P **P** **12 50 02.3 -0.6**
CRAG Craig 91.06 34 IAmb IAmb 12 50 11.8
comp=Z,40nm,1.5s
CRAG Craig 91.06 34 P **P** **12 50 03.0 +0.3**
baz=284
PLOR Plostina 91.11 316 ⇓P **P** **12 50 01.7 -1.6**
PLOR Plostina 91.11 316 P **P** **12 50 01.6 -1.6**
R33M Jennings River 91.22 30 P **P** **12 50 04.8 +1.2**
R33M Jennings River 91.22 30 P **P** **12 50 03.9 +0.3**
baz=285
WRAK Wrangell Islan 91.26 33 IAmb IAmb 12 50 11.6
comp=Z,38nm,1.3s
WRAK Wrangell Islan 91.26 33 P **P** **12 50 04.0 +0.4**
baz=284,SNR=5.5
S34M Telegraph Cree 91.52 31 P **P** **12 50 05.7 +0.9**
baz=285
SUW Suwalki 91.58 325 *eP* **P** **12 50 03.5 -1.6**
SUW *ePP* **PP** **12 53 37.8 -5.3**
MLR Muntele Rosu 91.67 316 LR LR 13 38 01.7
comp=Z,940nm,19.1s,baz=68,slow=40
MLR Muntele Rosu 91.67 316 ⇓P **P** **12 50 04.6 -1.4**
MLR Muntele Rosu 91.67 316 P **P** **12 50 04.5 -1.4**
BURAR Bucovina Array 91.73 318 P **P** **12 50 05.1 -1.0**
BURAR Bucovina Array 91.73 318 ⇑P **P** **12 50 05.2 -1.0**
BURAR Bucovina Array 91.73 318 P **P** **12 50 05.1 -1.0**
BUR08 Bucovina Ar. S 91.74 318 P **P** **12 50 05.6 -0.6**
EUNU Eureka 91.83 5 P **P** **12 50 05.5 -0.4**
TGTN Hyland Airport 91.89 27 P **P** **12 50 07.3 +0.8**
baz=288
V35K Ketchikan 91.93 34 P **P** **12 50 07.1 +0.4**
baz=285
DLBC Dease Lake 91.94 31 LR LR 13 28 01.1
comp=Z,32nm,21.7s,baz=274,slow=33
DLBC Dease Lake 91.94 31 P **P** **12 50 07.2 +0.3**
baz=286
DIB Dawson Inlet, 91.97 36 IAmb IAmb 12 50 14.5
comp=Z,28nm,1.2s
WTLY Watson Lake, Y 92.07 29 IAmb IAmb 12 50 17.1
comp=Z,56nm,1.2s
WTLY Watson Lake, Y 92.07 29 P **P** **12 50 08.0 +0.7**
baz=287
T35M Bob Quinn 92.23 32 P **P** **12 50 08.8 +0.7**
baz=286
EZN Ezine 92.48 310 ⇑P **P** **12 50 07.3 -2.4**
EZN Ezine 92.48 310 P **P** **12 50 07.2 -2.4**
KDZ Kurdzhali 92.86 312 P **P** **12 50 09.6 -1.8**
KWP Kalwaria Pacla 92.91 321 *eP* **P** **12 50 10.3 -1.1**
KWP *ePP* PP 12 53 45.2 -8.5
MARR Marisel-Cluj 93.34 318 ⇑P **P** **12 50 11.7 -1.9**
WRGLY Wrigley 93.42 25 IAmb IAmb 12 50 22.7
comp=Z,25nm,1.1s
WRGLY Wrigley 93.42 25 P **P** **12 50 13.8 +0.4**
baz=292
BEL Belsk 93.53 323 *eP* **P** **12 50 14.2 0.0**
DRGR 93.58 318 ⇓P **P** **12 50 13.3 -1.4**
DRGR 93.58 318 P **P** **12 50 13.2 -1.4**
LIRD Liard River Hi 93.59 29 P **P** **12 50 14.7 +0.4**
baz=290
MPEP Malo Peshtene 93.66 314 P **P** **12 50 13.6 -1.4**
GZR Gura Zlata 93.87 316 ⇓P **P** **12 50 15.0 -1.1**
GZR Gura Zlata 93.87 316 P **P** **12 50 14.9 -1.1**
PLNA Plana 94.08 313 P **P** **12 50 15.7 -1.4**
VTS Vitosha 94.18 314 P **P** **12 50 14.2 -3.4**
TOAD Toad River Com 94.20 29 P **P** **12 50 17.5 +0.3**
baz=290
KOTAN Kotaneelee Air 94.30 28 P **P** **12 50 18.1 +0.5**
baz=291
SIRR Siria 94.41 317 ⇓P **P** **12 50 16.9 -1.5**
KKB Krupnik 94.44 313 P **P** **12 50 16.7 -1.9**
IDI Anoyia 94.47 306 IAmb IAmb 12 50 24.9
comp=Z,26nm,1.1s
IDI Anoyia 94.47 306 LR LR 13 39 11.5
comp=Z,178nm,21.1s,baz=71,slow=40
NIE Niedzica 94.48 321 *eP* **P** **12 50 18.2 -0.5**
NIE *ePP* **PP** **12 54 00.7 -5.4**
MBAR Mbarara 94.49 270 IAMs_20 IAMs_20 13 34 10.0
comp=Z,719nm,20.0s
OJC Ojcow 94.57 322 *eP* **P** **12 50 18.3 -0.7**
HFS Hagfors 94.64 332 P **P** **12 50 18.0 -1.1**
comp=Z,3.9nm,1.0s,baz=112,slow=11,SNR=3.9
HFS LR LR 13 34 56.8
comp=Z,2µm,21.8s,baz=60,slow=37
comp=Z,3.9nm,1.0s
HFS Hagfors 94.64 332 P **P** **12 50 18.0 -1.1**
SYO Syowa Base 94.68 201 ⇑*eP cP* **PcP** **12 50 21.9 +2.6**
SYO Syowa Base 94.68 201 ⇓*ep* pP pP 12 50 24.2 -1.0
BBB Bella Bella 94.80 36 LR LR 13 27 37.3
comp=Z,160nm,21.8s,baz=290,slow=32
RES Resolute Bay 95.12 10 LR LR 13 35 52.6
comp=Z,459nm,20.8s,baz=320,slow=37
NB2 NORSAR Subarra 95.41 333 P **P** **12 50 21.9 -0.8**
comp=Z,40nm,2.5s,baz=67,slow=4.6
NB2 NORSAR Subarra 95.41 333 P **P** **12 50 21.9 -0.8**
baz=67,slow=4.6
NOA NORSAR Array B 95.41 333 P **P** **12 50 22.1 -0.6**
comp=Z,1.0nm,0.7s,baz=66,slow=4.5,SNR=4.6
NOA LR LR 13 37 14.7
comp=Z,1µm,18.5s,baz=75,slow=38
comp=Z,1.0nm,0.7s
TAOE Nuku Hiva Isla 95.61 98 *eS* **S** **13 01 40.0 -1.6**
comp=Z,426nm,29.5s
TAOE *eSS* **SS** **13 08 04.5 -6.1**
comp=Z,317nm,27.3s
TAOE Nuku Hiva Isla 95.61 98 *eLR* LR 13 21 19.2
comp=Z,2µm,25.8s
VYHS Vyhne 95.66 320 *eP* P 12 50 37.2 +13
VYHS *e* 12 54 18.5
OKC Ostrava-Krasne 95.70 322 *ePP* **PP** **12 54 16.3 +0.8**
OKC AMS AMS 13 38 30.0
comp=Z,900nm,18.9s
MORC Moravsky Berou 96.09 322 *eP* **P** **12 50 24.9 -1.2**
MORC *ePP* **PP** **12 54 22.7 +4.1**
JAVC Velka Javorina 96.29 321 *eP* **P** **12 50 27.0 0.0**
TULEG Thule 96.44 3 IAMs_20 IAMs_20 13 41 49.6
comp=Z,745nm,19.0s
KSP Ksiaz 96.52 323 *eP* **P** **12 50 27.1 -0.8**
KSP *ePP* PP 12 54 02.1 -20
JMIC Jan Mayen 96.57 346 LR LR 13 39 19.0
comp=Z,646nm,19.2s,baz=47,slow=39
QSPA South Pole Qui 96.64 180 P **P** **12 50 28.5 +0.3**
QSPA IAmb IAmb 12 50 34.7
comp=Z,20nm,1.2s
QSPA South Pole Qui 96.64 180 P **P** **12 50 27.4 -0.8**
comp=Z,5.5nm,1.0s,baz=318,slow=3.5,SNR=9.0
QSPA PP **PP** **12 54 21.7 -0.9**
comp=Z,10nm,1.1s,baz=18,slow=2.3,SNR=3.3
QSPA PKKP **PKKPbc** **13 07 13.2 -1.8**
comp=Z,0.6nm,0.8s,baz=230,slow=2.3,SNR=2.0
QSPA LR LR 13 37 00.6
comp=Z,272nm,18.8s,baz=350,slow=37
comp=Z,5.5nm,1.0s
OSTC Ostas 96.66 323 *ePP* **PP** **12 54 25.6 +2.7**
OSTC AMS AMS 13 38 00.0
comp=Z,1µm,18.5s
DPC Dobruska-Polom 96.66 322 AMS AMS 13 38 10.0
comp=Z,1µm,18.4s
UPC Upice 96.80 323 AMS AMS 13 38 00.0
comp=Z,1µm,18.1s
VRAC Vranov 96.83 321 *eP* **P** **12 50 28.4 -1.0**
VRAC *ePP* **PP** **12 54 24.8 +0.6**
VRAC Vranov 96.83 321 LR LR 13 37 43.9
comp=Z,631nm,21.0s,baz=70,slow=38
TIR Tirane 96.93 313 IAMs_20 IAMs_20 13 41 54.9
comp=Z,668nm,22.0s
KRUC Moravsky 97.03 321 *eP* **P** **12 50 28.9 -1.4**
KRUC *ePP* **PP** **12 54 25.1 -0.7**
PDG Podgorica 97.08 314 IAMs_20 IAMs_20 13 39 06.6
comp=Z,559nm,20.0s
CBB Campbell River 97.12 38 P **P** **12 50 30.2 -0.4**
CBB IAmb IAmb 12 50 38.6
comp=Z,14nm,1.0s
YKA Yellowknife Ar 97.38 24 P **P** **12 50 29.9 -1.6**
YKA Yellowknife Ar 97.38 24 P **P** **12 50 31.5 -0.1**
comp=Z,1.9nm,0.8s,baz=303,slow=5.3,SNR=6.0
comp=Z,1.9nm,0.8s
YKA Yellowknife Ar 97.38 24 *i* P **P** **12 50 32.0 +0.5**
YKA pmax pmax
comp=Z,2.0nm,0.8s
PVCC Panska Ves 97.66 323 AMS AMS 13 36 10.0
comp=Z,900nm,21.4s
GOPC GO Pecny, Ondr 97.74 322 AMS AMS 13 38 50.0
comp=Z,1µm,17.5s
PRU Pruhonice 97.86 322 AMS AMS 13 38 50.0
comp=Z,1µm,17.7s
PRA Prague 97.90 323 AMS AMS 13 38 50.0
comp=Z,1µm,17.7s
BRG Berggiesshubel 97.91 323 *eP* **P** **12 50 33.3 -0.9**
BRG Amp 12 50 34.9
comp=Z,8.1nm,1.1s
BRG Berggiesshubel 97.91 323 P Pdif 12 50 39.1 +4.9
BRG Amp 12 50 46.0
comp=Z,4.0nm,0.8s
BRG Berggiesshubel 97.91 323 SP SP 13 03 20.0 -2.3
RICC Richard 97.93 323 AMS AMS 13 36 20.0
comp=Z,1µm,21.9s
ZVC Zvikov 98.26 322 AMS AMS 13 39 00.0
comp=Z,1µm,16.6s
CLL Collm 98.30 324 *i* P **P** **12 50 34.2 -1.7**
CLL *e* 13 01 15.0
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL MLR MLR
comp=Z,2µm,21.8s
CKRC Cesky Krumlov 98.41 321 *eSKS* **SKSac** **13 01 10.0 -3.8**
CKRC AMS AMS 13 39 00.0
comp=Z,1µm,21.6s
LSZ Lusaka 98.47 256 IAMs_20 IAMs_20 13 33 23.7
comp=Z,976nm,19.0s
LSZ Lusaka 98.47 256 P **P** **12 50 36.3 -1.2**
comp=Z,4.5nm,0.3s,baz=127,slow=4.0,SNR=3.4
LSZ LR LR 13 33 16.9
comp=Z,749nm,19.8s,baz=90,slow=34
comp=Z,4.5nm,0.3s
MATP Matopo 98.57 250 P **P** **12 50 36.3 -1.7**
comp=Z,2.6nm,0.9s,baz=86,slow=8.4,SNR=7.2
comp=Z,2.6nm,0.9s
KHC Kasperske Hory 98.75 322 *ePP* **PP** **12 54 40.0 +1.0**
KHC *eSKS* **SKSac** **13 01 12.2 -3.3**
KHC AMS AMS 13 39 20.0
comp=Z,900nm,15.7s
PGC Sidney 98.77 39 P **P** **12 50 37.0 -1.1**
GERES GERESS Array B 98.77 322 P **P** **12 50 37.1 -1.1**
GERES GERESS Array B 98.77 322 P **P** **12 50 37.3 -0.9**
comp=Z,0.3nm,0.4s,baz=75,slow=6.9,SNR=8.0
GERES PP **PP** **12 54 38.4 -0.9**
comp=Z,0.3nm,0.5s,baz=95,slow=5.5,SNR=1.3
GERES LR LR 13 39 01.2
comp=Z,677nm,19.4s,baz=64,slow=38
comp=Z,0.3nm,0.4s
NLWA Neilton Lookou 98.94 40 P **P** **12 50 38.2 -0.8**
NLWA IAmb IAmb 12 50 47.9
comp=Z,16nm,1.2s
LLLB Lillooet 99.00 36 P Pdif 12 50 37.7 -1.4
LLLB IAmb IAmb 12 50 47.8
comp=Z,21nm,1.1s
SUMG Summit 100.12 355 IAMs_20 IAMs_20 13 41 11.6
comp=Z,662nm,21.0s
CUC Castrocucco 100.27 313 IAMs_20 IAMs_20 13 42 35.2
comp=Z,783nm,22.0s
BOSA Boshof 101.90 242 PP **PP** **12 55 02.5 -1.4**
comp=Z,6.4nm,1.1s,baz=306,slow=4.9,SNR=2.7
ECH Echery 103.02 323 IAMs_20 IAMs_20 13 42 02.2
comp=Z,882nm,20.0s
ILULI Ilulissat 104.16 359 IAMs_20 IAMs_20 13 45 56.1
comp=Z,515nm,19.0s
BORG Borgarnes 104.46 346 IAMs_20 IAMs_20 13 37 37.8
comp=Z,679nm,22.0s
VSL Villasalto 105.10 314 IAMs_20 IAMs_20 13 43 48.2
comp=Z,455nm,21.0s
WAKR Walker 105.16 47 IAMs_20 IAMs_20 13 29 35.1
comp=Z,683nm,20.0s
RYN Ryan 105.78 47 IAMs_20 IAMs_20 13 29 30.4
comp=Z,566nm,20.0s
LHV Little Huntoon 105.93 47 IAMs_20 IAMs_20 13 26 33.6
comp=Z,673nm,19.0s
CLF Chambon-Foret 106.01 324 IAMs_20 IAMs_20 13 44 17.2
comp=Z,892nm,20.0s
NVAR Mina Array Bea 106.01 47 Pdiff **Pdif** **12 51 11.4 +0.6**
comp=Z,0.9nm,0.9s,baz=258,slow=5.9,SNR=5.6
NVAR PP **PP** **12 55 32.9 -1.2**
comp=Z,1.8nm,1.0s,baz=296,slow=8.3,SNR=4.0
NVAR PKKPbc **PKKPbc** **13 06 44.4 -1.9**
comp=Z,0.2nm,0.3s,baz=124,slow=5.5,SNR=4.1
SFJD Kangerlussuaq 106.37 358 IAMs_20 IAMs_20 13 45 59.4
comp=Z,541nm,19.0s
SNAA Sanae 107.72 195 IAMs_20 IAMs_20 13 37 46.4
comp=Z,715nm,20.0s
SNAA Sanae 107.72 195 PKKPbc PKKPbc 13 06 40.4 -1.4
comp=Z,1.0nm,0.9s,baz=219,slow=7.0,SNR=4.2
SNAA PKKPab **PKKPab** **13 06 52.6 -0.6**
comp=Z,1.3nm,0.8s,baz=323,slow=7.7,SNR=3.7
YHB Horse Butte 108.05 39 IAMs_20 IAMs_20 13 31 19.4
comp=Z,719nm,18.0s
FXWY Fox Creek 108.70 40 IAMs_20 IAMs_20 13 31 51.8
comp=Z,625nm,20.0s
V12A Nelson 109.61 48 IAMs_20 IAMs_20 13 29 25.2
comp=Z,404nm,19.0s
PDAR Pinedale Array 110.06 40 Pdiff **Pdif** **12 51 28.8 0.0**
comp=Z,0.1nm,0.3s,baz=305,slow=7.7,SNR=1.7
PDAR PKiKP **PKiKP** **12 55 30.3 -0.3**
comp=Z,0.1nm,0.3s,baz=269,slow=3.2,SNR=1.6
PDAR PP **PP** **12 56 03.6 +0.2**
comp=Z,0.9nm,0.8s,baz=298,slow=3.2,SNR=4.1
PDAR PKKPbc **PKKPbc** **13 06 30.9 -2.8**
comp=Z,0.3nm,0.7s,baz=48,slow=2.2,SNR=3.4
PDAR PKKPab **PKKPab** **13 06 44.2 -0.6**
comp=Z,1.8nm,1.1s,baz=117,slow=5.2,SNR=6.7
ESJX Sierra Juarez 110.22 52 IAMs_20 IAMs_20 13 34 44.0
comp=Z,751nm,21.0s
KNB Kanab 110.55 46 IAMs_20 IAMs_20 13 38 02.8
comp=Z,682nm,19.0s
CPBX Cerro Prieto 110.57 52 IAMs_20 IAMs_20 13 28 44.1
comp=Z,543nm,19.0s
HMU Henry Mountain 111.61 45 IAMs_20 IAMs_20 13 35 51.7
comp=Z,708nm,19.0s
ULM Lac du Bonnet 113.03 27 PKiKP **PKiKP** **12 55 35.1 -0.5**

comp=Z,1.0nm,0.5s,baz=242,slow=12,SNR=1.8
CART Cartagena 113.25 316 IAMs_20 IAMs_20 13 53 12.9
comp=Z,379nm,18.0s
ESDC Sonseca Array 114.18 319 PP **PP** **12 56 32.2 -0.5**
comp=Z,3.5nm,1.1s,baz=66,slow=7.6,SNR=4.6
PAB San Pablo 114.50 319 IAMs_20 IAMs_20 13 49 36.5
comp=Z,608nm,21.0s
MTE Manteigas 116.05 321 IAMs_20 IAMs_20 13 46 09.3
comp=Z,822nm,22.0s
EPT El Paso 117.59 49 IAMs_20 IAMs_20 13 48 46.4
comp=Z,445nm,18.0s
SCHQ Schefferville 117.82 8 PKP **PKPdf** **12 55 43.5 -1.2**
comp=Z,4.2nm,0.9s,baz=326,slow=14,SNR=2.4
MESJ Messejana 117.96 319 *e*PP **PP** **12 56 59.8 +0.7**
MESJ IAMs_20 IAMs_20 13 50 25.5
comp=Z,675nm,22.0s
SPMN Marine on St. 118.06 30 IAMs_20 IAMs_20 13 51 28.2
comp=Z,615nm,18.0s
CBKS Cedar Bluff 118.45 39 IAMs_20 IAMs_20 13 52 13.7
comp=Z,632nm,20.0s
TORD Torodi Ar. Bea 120.49 289 **PKPdf** **12 55 49.9 -1.0**
TORD Torodi Ar. Bea 120.49 289 PKP **PKPdf** **12 55 50.2 -0.7**
comp=Z,2.6nm,0.4s,baz=111,slow=1.2,SNR=1.5
TXAR Lajitas Array 120.91 50 **PKPdf** **12 55 51.7 +0.2**
TXAR Lajitas Array 120.91 50 PKP **PKPdf** **12 55 50.5 -1.0**
comp=Z,2.0nm,1.1s,baz=270,slow=1.3,SNR=10
TXAR PP **PP** **12 57 20.6 +0.6**
comp=Z,1.2nm,1.0s,baz=290,slow=5.2,SNR=4.2
TXAR PKKPab **PKKPbc** **13 05 54.4 -1.1**
comp=Z,2.3nm,1.1s,baz=124,slow=6.7,SNR=11
TXAR Lajitas Array 120.91 50 PKIKP **PKPdf** **12 55 51.7 +0.2**
WHTX Lake Whitney, 124.00 44 IAMs_20 IAMs_20 13 51 03.4
comp=Z,532nm,19.0s
K50A Casco 124.59 25 IAMs_20 IAMs_20 13 50 52.2
comp=Z,736nm,22.0s
833A Chaparral WMA, 124.64 49 IAMs_20 IAMs_20 13 48 44.3
comp=Z,587nm,18.0s
DBIC Dimbokro 128.40 284 PKP **PKPdf** **12 56 04.3 -1.8**
comp=Z,4.0nm,1.0s,baz=340,slow=12,SNR=2.0
SDMD Soldier's Deli 129.74 22 IAMs_20 IAMs_20 13 56 32.3
comp=Z,492nm,21.0s
Y57A Sumter 132.76 29 IAMs_20 IAMs_20 14 01 52.2
comp=Z,600nm,21.0s
Y60A Bolivia 133.80 27 IAMs_20 IAMs_20 14 03 14.3
comp=Z,560nm,20.0s
656A Willston 135.26 35 IAMs_20 IAMs_20 13 51 56.4
comp=Z,604nm,20.0s
TEIG Tepich 137.55 50 IAMs_20 IAMs_20 13 44 14.4
comp=Z,445nm,19.0s
060A Indiantown 138.28 35 IAMs_20 IAMs_20 13 55 31.2
comp=Z,557nm,21.0s
061Z Ochoppi 138.84 37 IAMs_20 IAMs_20 14 01 52.3
comp=Z,473nm,20.0s
BBSR BB Station 139.97 13 IAMs_20 IAMs_20 13 45 11.9
comp=Z,366nm,18.0s
CAMR Camarioca 140.60 40 IAMs_20 IAMs_20 13 39 33.4
comp=Z,259nm,18.0s
HERN Volcan Telica 142.81 59 IAMs_20 IAMs_20 13 47 38.3
comp=Z,470nm,21.0s
PLCA Paso Flores 143.36 160 PKP PKPbc 12 56 32.1 +1.9
comp=Z,16nm,1.2s,baz=237,slow=4.4,SNR=9.0
PLCA Paso Flores 143.36 160 *e*P PKPab 12 56 30.8 +1.7
ACON Acoyapa 144.54 58 IAMs_20 IAMs_20 14 07 23.9
comp=Z,358nm,19.0s
CHIV Chivirico 145.98 38 IAMs_20 IAMs_20 14 13 59.6
comp=Z,377nm,19.0s
NMDO Nuevo Mundo 146.39 36 IAMs_20 IAMs_20 14 06 58.0
comp=Z,457nm,21.0s
BI02 San Fabin de 146.65 156 **PKPdf** **12 56 39.6 +0.6**
ML02 Panimavida 147.36 154 PKPbc **PKPbc** **12 56 42.8 +0.4**
TRQA Tornquist 148.17 169 PKPbc **PKPbc** **12 56 45.1 +0.4**
TRQA Tornquist 148.17 169 PKP2 **PKPbc** **12 56 45.1 +0.4**
BO02 Sierra Bellavi 148.46 154 PKPbc **PKPbc** **12 56 46.0 +0.4**
BO01 Tunca 148.66 154 PKPbc **PKPbc** **12 56 45.8 -0.2**
LMEL Las Melosas 149.51 154 PKPbc **PKPbc** **12 56 49.0 +0.6**
VA01 Torpederas 149.54 151 PKPbc **PKPbc** **12 56 47.8 -0.5**
MT02 Curacav 149.59 152 PKPbc **PKPbc** **12 56 48.4 0.0**
MT05 Renca 149.66 153 PKPbc **PKPbc** **12 56 49.5 +0.9**
SDDR Presa de Saban 149.71 32 **PKPbc** **12 56 49.0 -0.1**
SDDR IAMs_20 IAMs_20 14 07 57.3
comp=Z,551nm,22.0s
MT16 CCHEN 149.72 153 **PKPbc** **12 56 48.7 -0.1**
PEL Peldehue 149.89 153 PKPbc **PKPbc** **12 56 49.0 -0.2**
PEL Peldehue 149.89 153 PKP2 **PKPbc** **12 56 49.0 -0.2**
AGPR Aguadilla, PR 152.15 26 IAMs_20 IAMs_20 14 08 55.1
comp=Z,503nm,22.0s
SJG San Juan 152.87 24 IAMs_20 IAMs_20 14 10 17.1
comp=Z,357nm,21.0s
PDPR Patillas Dam, 153.01 24 IAMs_20 IAMs_20 14 10 15.6
comp=Z,308nm,21.0s
PLTB Pedras Altas 155.09 182 *e*P **PKPdf** **12 56 48.7 -3.4**
OTAV Otavalo 155.41 75 *e*P **PKPdf** **12 56 50.3 -3.3**
ATAH Atahualpa 156.59 92 PKP **PKPdf** **12 56 53.6 -1.4**
comp=Z,18nm,1.2s,baz=39,slow=1.0,SNR=7.1
ROSC El Rosal 157.38 60 PKP **PKPdf** **12 56 54.5 -1.5**
comp=Z,5.2nm,0.3s,baz=321,slow=18,SNR=3.8
ILAM Ilet Lapin Mar 157.78 16 IAMs_20 IAMs_20 13 47 27.0
comp=Z,393nm,20.0s
ITAB Concordia 159.47 187 *e*P **PKPdf** **12 56 56.0 -1.7**
CPUP Villa Florida 160.39 177 PKP **PKPdf** **12 56 58.1 -0.6**
comp=Z,3.3nm,1.2s,baz=340,slow=1.5,SNR=8.8
RCBR Riachuelo 161.18 272 PKPab **PKPab** **12 57 41.5 -1.9**
comp=Z,6.9nm,1.1s,baz=145,slow=21,SNR=2.8
SJPY San Joaquin 161.82 176 *e*P **PKPdf** **12 56 57.1 -3.2**
PTGB Pitanga 161.95 188 *e*P **PKPdf** **12 56 58.0 -2.5**
VAO Valinhos 162.17 204 *e*P **PKPdf** **12 56 59.2 -1.6**
CZSB Cruzeiro do Su 162.22 94 *e*P **PKPdf** **12 56 57.4 -3.6**
FRTB Fartura 162.75 196 *e*P **PKPdf** **12 56 59.6 -1.7**
BSCB Bom Sucesso 162.83 213 *e*P **PKPdf** **12 56 58.8 -2.7**
LPAZ La Paz 163.89 127 PKP **PKPdf** **12 57 01.9 -1.4**
comp=Z,21nm,1.1s,baz=16,slow=1.7,SNR=26
LPAZ La Paz 163.89 127 *e*P **PKPdf** **12 56 58.9 -4.4**
DIAM Diamantina, MG 164.21 222 *e*P **PKPdf** **12 57 01.3 -1.7**
PCMB Pacaembu 164.84 193 *e*P **PKPdf** **12 57 02.4 -0.9**
MURT Porto Murtinho 164.94 170 *e*P **PKPdf** **12 56 59.2 -4.1**
PMNB Patos De Minas 165.73 214 *e*P **PKPdf** **12 57 01.7 -2.5**
BDQN Bodoquena, MS 166.26 172 *e*P **PKPdf** **12 57 02.9 -1.6**
RPRD Ribas do Rio P 166.31 184 *e*P **PKPdf** **12 57 02.5 -2.0**
ITRB Iturama 166.42 198 *e*P **PKPdf** **12 57 02.5 -2.1**
JANB Januaria 166.80 230 *e*P **PKPdf** **12 57 03.3 -1.8**
IPMB Ipameri, GO 167.12 209 *e*P **PKPdf** **12 57 04.0 -1.2**
MDP Montagnes des 168.02 350 PKP **PKPdf** **12 57 04.9 -1.0**
comp=Z,6.7nm,1.0s,baz=54,slow=5.6,SNR=2.2
MDP PKPab **PKPab** **12 58 10.4 -2.6**
comp=Z,5.9nm,0.8s,baz=22,slow=12,SNR=2.0
BBSD Serra de San D 168.19 152 *e*P **PKPdf** **12 57 05.0 -0.9**
BDFB Brasilia 168.94 216 PKP **PKPdf** **12 57 05.8 -0.8**
comp=Z,6.3nm,1.1s,baz=343,slow=9.6,SNR=4.3
BDFB PKPab **PKPab** **12 58 16.7 -0.6**
comp=Z,10nm,1.0s,baz=80,slow=3.7,SNR=4.3
SIV San Ignacio 168.96 147 PKP **PKPdf** **12 57 06.5 0.0**
comp=Z,8.8nm,1.1s,baz=234,slow=1.8,SNR=18
SIV PKPab **PKPab** **12 58 17.4 +0.1**
comp=Z,1.9nm,0.6s,baz=264,slow=4.6,SNR=5.2
BOAV Boa Vista 169.27 32 *e*P **PKPdf** **12 57 03.0 -3.7**
PTLB Pontes e Lacer 170.38 154 *e*P **PKPdf** **12 57 04.3 -3.0**
ARAG Araguaiana, MT 170.63 198 *e*P **PKPdf** **12 57 05.6 -1.8**
TMAB Tom-Au,PA,Br 172.01 303 *e*P **PKPdf** **12 57 03.8 -4.4**
PDRB Porto dos Gac 174.82 159 *e*P **PKPdf** **12 57 07.2 -2.0**
CLDB Colider 175.80 167 *e*P **PKPdf** **12 57 08.7 -0.9**
ITTB Itaituba 177.46 21 *e*P **PKPdf** **12 57 05.8 -4.1**

IDC 09 12:41:29.7±1.8,3°96N×128°50E,h0km,**mb3.9**/5,
mbtmp4.0/5,Error ellipse: s-maj=86.8km s-min=28.8km az=67.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.43**	**167**	P	P	12 46 50.0	-0.2
	5.2nm,1.0s,baz=345,slow=9.6,SNR=1.2						
	5.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**32.30**	**299**	P	P	12 48 01.2	+0.6
	0.7nm,0.5s,baz=110,slow=7.8,SNR=2.5						
	0.7nm,0.5s						
SONM	**Songino Array**	**47.67**	**340**	P	P	12 50 08.2	+0.2
	1.4nm,0.8s,baz=152,slow=9.5,SNR=2.7						
	1.4nm,0.8s						
MKAR	**Makanchi Array**	**58.39**	**324**	P	P	12 51 26.9	-0.2
	0.6nm,0.4s,baz=112,slow=7.3,SNR=4.2						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**62.51**	**327**	P	P	12 51 54.7	-0.4
	1.6nm,0.8s,baz=124,slow=6.5,SNR=2.4						
	1.6nm,0.8s						

IDC 09 12:45:23.4±1.8,0°82N×126°79E,h0km,**mb3.8**/4,
mbtmp3.8/4,Error ellipse: s-maj=171.2km s-min=22.3km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.92**	**161**	P	P	12 50 17.5	-1.0
	3.5nm,0.9s,baz=339,slow=11,SNR=8.0						
	3.5nm,0.9s						
ASAR	**Alice Springs**	**25.30**	**165**	P	P	12 50 52.5	+0.7
	1.1nm,0.6s,baz=344,slow=11,SNR=7.1						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**59.98**	**326**	P	P	12 55 31.4	-0.4
	0.5nm,0.4s,baz=122,slow=7.8,SNR=6.0						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**64.22**	**328**	P	P	12 56 00.3	+0.3
	0.8nm,0.6s,baz=131,slow=6.0,SNR=4.0						
	0.8nm,0.6s						

*IDC **09** 12:45:56.6±1.6,25°.24S×179°.83E,h485km±17km, mb3.7/16,mbtmp4.6/19,Error ellipse: s-maj=16.3km s-min=15.4km az=64.0*
*NEIC **09** 12:45:57.9±1.5,25°.1S±0°.2×179°.7E±0°.1,h473km±8km, mb4.5/38,Error ellipse: s-maj=26.7km s-min=16.3km az=152.0*

ISC 09 12:45:58.1±0.4,**25°35S**±0°06×**179°77E**±0°08,**h500**km,
n100,σ1$40/119,mb4.4/35,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**4.39**	**153**	P	P	**12 47 20.1**	**+0.5**
RAO	**Raoul Island**	**4.40**	**153**	P	P	**12 47 18.6**	**-1.1**
	355nm,0.3s,baz=58,slow=24,SNR=1.6						
GLKZ	**Green Lake**	**4.41**	**153**	P	P	**12 47 21.7**	**+2.0**
MSVF	**Nonsavu**	**7.75**	**348**	P	P	**12 47 50.1**	**-2.0**
HAZ	**Te Kaha**	**12.48**	**187**	P	P	**12 48 43.7**	**+2.1**
PKGZ	**Pakihiroa**	**12.56**	**186**	P	P	**12 48 43.7**	**+1.2**
PKGZ				S	S	**12 50 55.6**	**-2.4**
DZM	**Mont Dzumac**	**12.63**	**282**	P	P	**12 48 44.8**	**+1.2**
DZM	**Mont Dzumac**	**12.63**	**282**	P	P	**12 48 44.0**	**+0.5**
	30nm,0.9s,baz=75,slow=17,SNR=12						
RUGZ	**Raukumara Rang**	**12.70**	**188**	P	P	**12 48 43.7**	**-0.4**
PUZ	**Puketiti**	**12.75**	**185**	P	P	**12 48 43.7**	**-0.7**
URZ	**Urewera**	**13.06**	**189**	P	P	**12 48 47.3**	**-0.5**
AFI	**Afiamalu**	**13.89**	**37**	P	P	**12 48 53.5**	**-3.3**
QRZ	**Quartz Range**	**16.57**	**200**	P	P	**12 49 24.3**	**-0.3**
NNZ	**Nelson**	**16.69**	**197**	P	P	**12 49 23.3**	**-2.5**
NNZ				S	S	**12 52 14.3**	**-1.9**
MRNZ	**Matariki Terra**	**17.03**	**198**	P	P	**12 49 28.4**	**-0.8**
MRNZ				S	S	**12 52 23.9**	**+1.8**
THZ	**Tophouse**	**17.33**	**197**	P	P	**12 49 30.5**	**-1.7**
THZ				S	S	**12 52 23.3**	**-3.8**
DSZ	**Denniston Nort**	**17.63**	**200**	P	P	**12 49 34.5**	**-0.4**
KHZ	**Kahutara**	**17.78**	**195**	P	P	**12 49 33.3**	**-2.9**
KHZ				S	S	**12 52 30.4**	**-3.9**
GVZ	**Greta Valley S**	**18.42**	**196**	P	P	**12 49 39.8**	**-2.3**
GVZ				S	S	**12 52 40.5**	**-4.2**
LTZ	**Lake Taylor**	**18.45**	**198**	P	P	**12 49 39.9**	**-2.5**
LTZ				S	S	**12 52 40.2**	**-5.1**
INZ	**Inchbonnie**	**18.63**	**200**	P	P	**12 49 42.5**	**-1.5**
OXZ	**Oxford**	**19.02**	**198**	P	P	**12 49 44.2**	**-3.4**
LHI	**Lord Howe Isla**	**19.20**	**247**	P	P	**12 49 52.5**	**+3.0**
RPZ	**Rata Peaks**	**19.65**	**199**	P	P	**12 49 52.5**	**-0.9**
	12nm,0.8s,baz=28,slow=18,SNR=1.5						
ARMA	**Armidale**	**25.34**	**252**	P	P	**12 50 46.6**	**+1.8**
ARMA				IAmb	IAmb	12 50 47.3	
	comp=Z,26nm,0.7s						
EIDS	**Eidsvold**	**25.90**	**264**		P	**12 50 50.6**	**+1.0**
EIDS				IAmb	IAmb	12 50 51.3	
	comp=Z,28nm,0.8s						
CAN	**Canberra**	**28.25**	**242**	P	P	**12 51 12.0**	**+1.7**
CAN				IAmb	IAmb	12 51 12.5	
	comp=Z,16nm,0.7s						
CTAO	**Charters Tower**	**31.30**	**273**	P	P	**12 51 37.9**	**+1.1**
TOO	**Toolangi**	**31.50**	**239**	P	P	**12 51 39.8**	**+1.5**
RABL	**Rabaul**	**33.84**	**304**	P	P	**12 51 58.5**	**-0.1**
STKA	**Stephens Creek**	**34.01**	**250**	P	P	**12 52 00.9**	**+1.2**
STKA	**Stephens Creek**	**34.01**	**250**	P	P	**12 52 00.4**	**+0.7**
	comp=Z,11nm,0.5s,baz=96,slow=11,SNR=40						
	comp=Z,11nm,0.5s						
COEN	**Coen**	**36.16**	**281**	P	P	**12 52 18.9**	**+1.0**
MANU	**Manus Island**	**38.87**	**301**	P	P	**12 52 40.0**	**-0.2**
AS31	**Alice Springs**	**41.61**	**262**		P	**12 53 02.4**	**+0.3**
AS31				IAmb	IAmb	12 53 03.4	
	comp=Z,11nm,0.5s						
ASAR	**Alice Springs**	**41.61**	**262**	P	P	**12 53 02.5**	**+0.4**
ASAR	**Alice Springs**	**41.61**	**262**	P	P	**12 53 02.0**	**0.0**
	comp=Z,36nm,0.8s,baz=90,slow=7.5,SNR=176						
	comp=Z,36nm,0.8s						
WR8	**Warramunga Arr**	**41.97**	**268**		P	**12 53 04.5**	**-0.5**
WR8				IAmb	IAmb	12 53 05.2	
	comp=Z,27nm,0.8s						
WRAB	**Tennant Creek**	**42.11**	**268**	P	P	**12 53 05.8**	**-0.2**
WRAB				IAmb	IAmb	12 53 06.4	
	comp=Z,30nm,0.8s						
WB0	**Warramunga Arr**	**42.12**	**268**	P	P	**12 53 06.0**	**-0.2**
WRA	**Warramunga Arr**	**42.12**	**268**		P	**12 53 05.7**	**-0.4**
WRA	**Warramunga Arr**	**42.12**	**268**	P	P	**12 53 05.5**	**-0.6**
	comp=Z,32nm,0.6s,baz=99,slow=6.8,SNR=162						
WRA				S	S	**12 58 47.3**	**-2.0**
	comp=Z,0.9nm,0.9s,baz=119,slow=16,SNR=3.2						
	comp=Z,32nm,0.6s						
JAY	**Jayapura**	**43.91**	**295**	P	P	**12 53 19.3**	**-0.9**
	comp=Z,9.1nm,0.6s,baz=118,slow=4.6,SNR=6.1						
	comp=Z,9.1nm,0.6s						
FORT	**Forrest**	**45.62**	**251**	P	P	**12 53 32.8**	**-0.4**
FORT				IAmb	IAmb	12 53 33.8	
	comp=Z,12nm,0.6s						
MTN	**Manton Dam**	**47.37**	**276**	P	P	**12 53 46.6**	**0.0**
MTN				IAmb	IAmb	12 54 12.5	
	comp=Z,15nm,1.2s						
KNRA	**Kununurra**	**48.48**	**271**		P	**12 53 55.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**50.52**	**267**	P	P	**12 54 10.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**50.52**	**267**	P	P	**12 54 09.8**	**-0.3**
	comp=Z,10nm,0.5s,baz=110,slow=7.3,SNR=58						
	comp=Z,10nm,0.5s						
TOLI2	**Tolitoli**	**62.75**	**285**	P	P	**12 55 33.5**	**-0.8**
TOLI2				IAmb	IAmb	12 55 35.6	
	comp=Z,11nm,0.9s						
QSPA	**South Pole Qui**	**64.74**	**180**	P	P	**12 55 47.7**	**+1.3**
	comp=Z,1.6nm,0.9s,baz=255,slow=5.1,SNR=1.0						
	comp=Z,1.6nm,0.9s						
KSM	**Kuching**	**72.15**	**280**	P	P	**12 56 32.3**	**+0.2**
KSM				IAmb	IAmb	12 56 32.5	
	comp=Z,9.1nm,0.7s						
MJAR	**Matsushiro Arr**	**72.97**	**326**	P	P	**12 56 36.3**	**-0.1**
MJAR	**Matsushiro Arr**	**72.97**	**326**	P	P	**12 56 35.7**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=152,slow=6.1,SNR=6.9						
	comp=Z,2.4nm,0.6s						
MAJO	**Matsushiro**	**72.97**	**326**	P	P	**12 56 36.9**	**+0.5**
JNU	**Nakatsue**	**74.47**	**319**	P	P	**12 56 45.2**	**+0.2**
JNU				IAmb	IAmb	12 57 13.1	
	comp=Z,40nm,1.5s						
JNU	**Nakatsue**	**74.47**	**319**	P	P	**12 56 44.4**	**-0.6**
	comp=Z,4.6nm,0.8s,baz=243,slow=3.5,SNR=5.8						
	comp=Z,4.6nm,0.8s						
YULB	**Yu-li**	**74.54**	**306**	P	P	**12 56 44.7**	**-0.9**
YULB				IAmb	IAmb	12 56 55.3	
	comp=Z,13nm,1.0s						
MAW	**Mawson**	**76.32**	**201**	P	P	**12 56 55.2**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=86,slow=2.2,SNR=8.2						
	comp=Z,1.9nm,0.6s						
KIWB	**Kanaga Island**	**76.92**	**2**	P	P	**12 56 58.1**	**0.0**
KIWB				IAmb	IAmb	12 57 26.0	
	comp=Z,27nm,1.4s						
MYKOM	**Kota Tinggi**	**78.06**	**278**	P	P	**12 57 05.6**	**+0.4**
MYKOM				IAmb	IAmb	12 57 09.9	
	comp=Z,14nm,1.2s						
KSRS	**Korea Array**	**79.22**	**320**	P	P	**12 57 10.5**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=138,slow=5.8,SNR=11						
	comp=Z,2.5nm,0.8s						
KSAR	**Wonju Array Be**	**79.24**	**320**	P	P	**12 57 10.6**	**-0.3**
PEA0B	**Petropavlovsk-**	**80.46**	**347**	P	P	**12 57 17.6**	**+0.5**
PEA0B				IAmb	IAmb	12 57 41.0	
	comp=Z,15nm,1.2s						
PETK	**Petropavlovsk-**	**80.46**	**347**	P	P	**12 57 17.0**	**0.0**
PETK	**Petropavlovsk-**	**80.46**	**347**	P	P	**12 57 16.1**	**-0.9**
	comp=Z,2.8nm,0.8s,baz=119,slow=7.0,SNR=9.7						
	comp=Z,2.8nm,0.8s						
IPM	**Ipoh**	**81.77**	**279**	P	P	**12 57 25.3**	**+0.5**
IPM				IAmb	IAmb	12 57 25.4	
	comp=Z,6.1nm,0.7s						
USRK	**Ussuriysk Ar.**	**81.87**	**327**	P	P	**12 57 24.6**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=119,slow=5.1,SNR=1.5						
	comp=Z,0.7nm,0.4s						
SNAA	**Sanae**	**83.22**	**179**	P	P	**12 57 31.1**	**0.0**
	comp=Z,1.0nm,1.0s,baz=172,slow=8.5,SNR=1.1						
	comp=Z,1.0nm,1.0s						
SLBS	**Sierra La Lagu**	**83.70**	**60**	P	P	**12 57 36.1**	**+1.8**
SLBS				IAmb	IAmb	12 57 47.7	
	comp=Z,27nm,1.4s						
KHMM	**Horse Mountain**	**84.20**	**39**	P	P	**12 57 38.3**	**+1.8**
O02D	**Mt. Diablo Mer**	**84.30**	**40**	P	P	**12 57 38.7**	**+1.8**
O02D				IAmb	IAmb	12 57 39.3	
	comp=Z,6.2nm,1.1s						
KRMB	**Red Mountain**	**84.52**	**39**	P	P	**12 57 39.7**	**+1.6**
NVAR	**Mina Array Bea**	**85.94**	**44**	P	P	**12 57 43.9**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=217,slow=8.3,SNR=5.2						
	comp=Z,0.8nm,0.6s						
N15K	**Kwethluk River**	**86.80**	**10**	P	P	**12 57 50.3**	**+1.9**
J05D	**Fort Rock, OR**	**87.17**	**39**	P	P	**12 57 52.1**	**+1.3**
J05D				IAmb	IAmb	12 57 52.2	
	comp=Z,6.2nm,1.1s						
PINE	**Pine Mountain**	**87.66**	**39**	P	P	**12 57 54.2**	**+1.1**
PINE				IAmb	IAmb	12 57 55.2	
	comp=Z,6.1nm,1.1s						
I07A	**Izee**	**88.65**	**39**	P	P	**12 57 58.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**89.83**	**290**	P	P	**12 58 02.2**	**-1.3**
CMAR	**Chiang Mai Arr**	**89.83**	**290**	P	P	**12 58 03.1**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=160,slow=4.2,SNR=10.0						
	comp=Z,0.8nm,0.3s						
TXAR	**Lajitas Array**	**91.38**	**58**	P	P	**12 58 10.2**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=215,slow=4.9,SNR=4.4						
	comp=Z,2.1nm,0.9s						
KURBB	**Kurchatov Arra**	**116.14**	**316**	PKP	**PKPdf**	**13 03 42.6**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=95,slow=1.8,SNR=6.5						
ARCES	**ARCESS Array B**	**133.26**	**348**	SKPbc	**SKPbc**	**13 06 57.3**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=32,slow=5.3,SNR=4.6						
FINES	**FINESS Array B**	**139.75**	**341**	PKhKP	PKPpre	13 04 20.3	
	comp=Z,3.7nm,1.0s,baz=64,slow=3.2,SNR=4.6						
FINES	PKP				**PKPdf**	**13 04 28.4**	**+0.2**
	comp=Z,2.6nm,1.0s,baz=160,slow=28,SNR=4.1						
FINES	SKPbc				**SKPbc**	**13 07 17.2**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=60,slow=3.4,SNR=6.6						
NB2	**NORSAR Subarra**	**143.47**	**351**	PKP	PKPab	13 04 32.7	-0.4
	comp=Z,1.1nm,0.6s,baz=21,slow=4.0						
HFS	**Hagfors**	**143.92**	**348**	PKP	PKPbc	13 04 33.9	-0.8
	comp=Z,6.5nm,0.6s,baz=54,slow=3.8,SNR=27						
PABE	**Paberze**	**145.06**	**336**	PKPdf	**PKPbc**	**13 04 38.9**	**+0.5**
AKASG	**Malin Array Be**	**146.06**	**326**	PKPbc	**PKPdf**	**13 04 40.5**	**+1.0**
	comp=Z,1.6nm,0.4s,baz=43,slow=4.6,SNR=14						
KIEV	**Kiev**	**146.07**	**326**	PKPab	**PKPab**	**13 04 43.3**	**-0.1**
ILGA	**Ilgaz**	**147.80**	**308**	PKPbc	**PKPbc**	**13 04 46.6**	**-0.1**
MMAI	**Mount Meron Ar**	**148.08**	**292**	PKPbc	**PKiKP**	**13 04 48.6**	**-0.3**
	comp=Z,2.9nm,0.5s,baz=111,slow=3.2,SNR=3.8						
BR131	**Keskin Array S**	**148.26**	**305**	PKPdf	**PKPdf**	**13 04 43.9**	**+0.1**
BR131				PKPbc	**PKPbc**	**13 04 47.8**	**0.0**
BR131					**PKPab**	**13 04 52.6**	**-0.1**
BRTR	**Keskin Array B**	**148.26**	**305**	PKPdf	**PKPdf**	**13 04 44.0**	**+0.2**
BRTR					**PKPbc**	**13 04 47.8**	**0.0**
BRTR				PKPab	**PKPab**	**13 04 52.8**	**0.0**
BRTR	**Keskin Array B**	**148.26**	**305**	PKPbc	**PKPbc**	**13 04 47.5**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=143,slow=3.9,SNR=4.6						
RGN	**Rugen**	**149.16**	**345**	PKPdf	**PKPdf**	**13 04 45.7**	**+1.2**
RGN				PKPbc	**PKiKP**	**13 04 50.2**	**0.0**
RGN				PKPab	**PKPab**	**13 04 56.4**	**+0.7**
CSS	**Mathiatis**	**149.56**	**296**	PKPdf	**PKPdf**	**13 04 44.7**	**-1.1**
CSS				PKPbc	**PKiKP**	**13 04 51.6**	**-0.1**
CSS				PKPab	**PKPab**	**13 04 57.7**	**-0.5**
BUR08	**Bucovina Ar. S**	**150.03**	**324**	PKPdf	**PKPdf**	**13 04 46.5**	**+0.2**
BURAR	**Bucovina Array**	**150.03**	**324**	PKPbc	**PKiKP**	**13 04 53.5**	**+1.0**
BORA	**Eskisehir**	**150.54**	**307**	PKPdf	**PKPdf**	**13 04 46.6**	**-0.6**
BORA				PKPbc	**PKPbc**	**13 04 53.5**	**+0.2**
BORA				PKPab	**PKPab**	**13 05 01.6**	**-0.6**
OJC	**Ojcow**	**150.74**	**333**	PKPdf	**PKPdf**	**13 04 48.0**	**+0.9**
OJC				PKPbc	**PKiKP**	**13 04 53.9**	**+0.2**
MLR	**Muntele Rosu**	**150.91**	**320**	PKPdf	**PKPdf**	**13 04 48.1**	**+0.4**
MLR				PKPab	**PKPab**	**13 05 03.6**	**0.0**

*NEIC **09** 12:48:59.8±1.3,61°.41N±0°.03×151°.13W±0°.06,h64km±6km, Error ellipse: s-maj=5.0km s-min=3.6km az=147.0*
AEIC 09 12:49:00.3±1.1,**61°.41N**±0°.03×**151°.14W**±0°.06,**h67**km±5km,
ML2.4,mL2.5/116(NEIC),**Error ellipse: s-maj=5.0km s-min=2.9km az=127.0,Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STLK	**Strandline Lak**	**0.34**	**285**		Pn	12 49 10.9	-0.6
STLK					Sn	12 49 19.6	-0.2
SPU	**Mount Spurr**	**0.50**	**243**		Pn	12 49 12.0	-0.9
SPU					Sn	12 49 21.4	-0.7
FIS	**Fire Island**	**0.52**	**121**		Pn	12 49 12.5	-0.5
SPCR	**Spurr Chakacha**	**0.56**	**248**		Pn	12 49 12.7	-0.8
SPCR					Sn	12 49 22.6	-0.6
SPCR	**Spurr Chakacha**	**

SEW				IAML		12 49 50.4		
	comp=E,73nm,0.5s							
PPLA	**Purkeypile**	**1.57**	**342**		Pn	12 49 26.1	-0.1	
M19K	**Big River Lodg**	**1.63**	**289**	Pn	Pn	12 49 26.2	-0.6	
M19K				IAML		12 49 47.6		
	comp=N,20nm,0.2s							
M19K				IAML		12 49 47.8		
	comp=E,17nm,0.3s							
M23K	**Glacier View**	**1.68**	**75**		Pn	12 49 26.1	-1.4	
N19K	**Bonanza Creek**	**1.73**	**251**	Pn	Pn	12 49 27.5	-0.8	
ILSW	**Iliamna Southw**	**1.74**	**215**	Pn	Pn	12 49 27.8	-0.7	
HOM	**Homer**	**1.78**	**188**	Pn	Pn	12 49 29.0	+0.2	
SCM	**Sheep Creek Mo**	**1.87**	**75**	Pn	Pn	12 49 28.9	-1.2	
SCM				IAML		12 49 56.6		
	comp=E,48nm,0.7s							
SCM				IAML		12 50 01.2		
	comp=N,53nm,0.7s							
CNPM	**China Poot**	**1.89**	**181**	Pn	Pn	12 49 29.1	-1.3	
CNPM				IAML		12 49 58.0		
	comp=E,46nm,0.7s							
CNPM				IAML		12 49 59.0		
	comp=N,43nm,0.6s							
L19K	**White Mountain**	**1.92**	**295**	Pn	Pn	12 49 30.4	-0.5	
P19K	**Oil Pt**	**2.05**	**211**	Pn	Pn	12 49 32.7	+0.2	
P19K				IAML		12 50 01.1		
	comp=N,34nm,0.6s							
CAST	**Castle Rocks**	**2.06**	**348**	Pn	Pn	12 49 32.7	0.0	
CAST				IAML		12 50 00.2		
	comp=E,19nm,0.5s							
TRF	**Thorofare Moun**	**2.08**	**11**	Pn	Pn	12 49 33.4	+0.3	
TRF				IAML		12 49 59.9		
	comp=N,34nm,1.2s							
TRF				IAML		12 50 06.0		
	comp=E,26nm,1.0s							
KTH	**Kantishna Hill**	**2.15**	**3**	Pn	Pn	12 49 34.5	+0.6	
KTH				IAML		12 50 02.4		
	comp=N,38nm,1.1s							
KTH				IAML		12 50 02.6		
	comp=E,31nm,0.8s							
RND	**Reindeer**	**2.27**	**27**	Pn	Pn	12 49 34.9	-0.6	
RND				IAML		12 50 06.9		
	comp=E,20nm,1.0s							
RND				IAML		12 50 11.4		
	comp=N,20nm,1.1s							
K20K	**Telida**	**2.38**	**326**	Pn	Pn	12 49 37.0	0.0	
N18K	**Kilae Creek**	**2.42**	**254**	Pn	Pn	12 49 36.6	-1.0	
DHY	**Denali Highway**	**2.43**	**45**	Pn	Pn	12 49 37.2	-0.6	
DHY				IAML		12 50 05.7		
	comp=E,18nm,1.0s							
DHY				IAML		12 50 14.0		
	comp=N,31nm,1.2s							
M24K	**Tolsona, Glenn**	**2.46**	**71**	Pn	Pn	12 49 37.8	-0.4	
KLU	**Klutina**	**2.51**	**86**	Pn	Pn	12 49 36.9	-1.9	
KLU				IAML		12 50 06.9		
	comp=N,54nm,0.4s							
KLU				IAML		12 50 08.1		
	comp=E,22nm,0.8s							
O18K	**Koktuh Hills**	**2.54**	**234**	Pn	Pn	12 49 36.8	-2.4	
MCK	**McKinley**	**2.54**	**23**	Pn	Pn	12 49 36.8	-2.4	
MCK				IAML		12 50 06.3		
	comp=E,20nm,1.0s							
MCK				IAML		12 50 08.1		
	comp=N,17nm,1.0s							
DIV	**Divide**	**2.61**	**94**	Pn	Pn	12 49 38.2	-1.9	
DIV				IAML		12 50 11.2		
	comp=E,22nm,1.0s							
DIV				IAML		12 50 19.2		
	comp=N,38nm,1.2s							
Q19K	**Cape Douglas,**	**2.79**	**208**	Pn	Pn	12 49 41.9	-0.7	
P18K	**Big Mountain,**	**2.87**	**227**	Pn	Pn	12 49 42.3	-1.4	
SYI	**Shuyak Island**	**2.88**	**193**	Pn	Pn	12 49 41.8	-2.0	
SYI				IAML		12 50 24.4		
	comp=N,21nm,0.6s							
SYI				IAML		12 50 26.1		
	comp=E,13nm,0.7s							
M17K	**Holitna River**	**3.03**	**273**	Pn	Pn	12 49 45.0	-0.8	
M17K				IAML		12 50 22.8		
	comp=E,18nm,1.0s							
M17K				IAML		12 50 48.4		
	comp=N,13nm,0.9s							
N17K	**Nushagak Hills**	**3.08**	**256**	Pn	Pn	12 49 45.3	-1.2	
PAX	**Paxson**	**3.08**	**57**	Pn	Pn	12 49 45.9	-0.7	
PAX				IAML		12 50 12.2		
	comp=E,15nm,1.2s							
PAX				IAML		12 50 33.0		
	comp=N,12nm,1.1s							
J20K	**Nowinta River**	**3.10**	**335**	Pn	Pn	12 49 46.5	-0.2	
J20K				IAML		12 50 23.7		
	comp=N,18nm,0.8s							
J20K				IAML		12 50 24.7		
	comp=E,9.0nm,1.1s							
N25K	**Chitina, Valde**	**3.14**	**84**	Pn	Pn	12 49 46.9	-0.5	
N25K				IAML		12 50 21.3		
	comp=E,12nm,1.2s							
N25K				IAML		12 50 35.3		
	comp=N,13nm,1.2s							
J18K	**Innoko River**	**3.31**	**311**	Pn	Pn	12 49 49.0	-0.6	
CCB	**Clear Creek Bu**	**3.58**	**24**	Pn	Pn	12 49 53.5	+0.2	
CCB				IAML		12 50 27.8		
	comp=N,6.7nm,1.2s							
CCB				IAML		12 50 38.6		
	comp=E,6.4nm,1.1s							
M16K	**Timber Creek**	**3.80**	**268**	Pn	Pn	12 49 56.1	-0.2	
M16K				IAML		12 50 53.6		
	comp=N,4.2nm,1.0s							
O16K	**Kokwok River B**	**3.89**	**245**	Pn	Pn	12 49 56.4	-1.1	
O16K				IAML		12 50 30.6		
	comp=E,5.1nm,1.1s							
O16K				IAML		12 50 35.4		
	comp=N,3.9nm,1.1s							
DOT	**Dot Lake**	**3.97**	**53**	Pn	Pn	12 49 57.2	-1.5	
M26K	**Nabesna, AK**	**3.98**	**72**	Pn	Pn	12 49 58.7	-0.1	
M26K				IAML		12 50 50.9		
	comp=E,5.8nm,1.1s							
M26K				IAML		12 51 09.2		
	comp=N,7.0nm,0.6s							
L16K	**Owhat River**	**4.00**	**278**	Pn	Pn	12 49 58.5	-0.5	
L16K				IAML		12 50 33.3		
	comp=E,4.0nm,1.2s							
J25K	**Salcha River,**	**4.15**	**37**	Pn	Pn	12 50 01.8	+0.7	
J25K				IAML		12 50 59.6		
	comp=N,6.4nm,1.2s							
P16K	**Nushagak River**	**4.17**	**238**	Pn	Pn	12 50 01.5	+0.2	
H21K	**Melozitna River**	**4.33**	**351**	Pn	Pn	12 50 01.9	-1.6	
H21K				IAML		12 50 51.1		
	comp=E,4.4nm,1.0s							
H21K				IAML		12 51 03.6		
	comp=N,4.2nm,1.1s							
N15K	**Kwethluk River**	**4.56**	**258**	Pn	Pn	12 50 06.6	-0.1	
IMAR	**Indian Mountai**	**4.73**	**347**	Pn	Pn	12 50 09.2	+0.2	
J16K	**Anvik River**	**4.79**	**297**	Pn	Pn	12 50 09.2	-0.6	
J16K				IAML		12 51 12.5		
	comp=E,3.6nm,1.1s							
J16K				IAML		12 51 34.2		
	comp=N,3.9nm,1.1s							

*IDC **09** 12:49:41.4±1.2,0°.71N×126°.62E,h0km,mb4.0/5, mbtmp4.0/7,ML3.7/2,Error ellipse: s-maj=52.7km s-min=19.1km az=69.0*

*DJA **09** 12:49:46.0±0.4,0°.7N±5°×12°.6E±°,h10km,M3.7/6,MLv3.7/6*

ISC 09 12:49:48.4±0.9,0°.47N±0°.10×126°.40E±0°.08,h47km,n11, σ1§51/12,mb4.0/5,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.01**	**73**	P	**Pn**	**12 50 06.1**	**-0.1**
TNTI				S	**Sn**	**12 50 21.5**	**+2.2**
KMSI	**Cibinong**	**2.42**	**273**	P	**Pn**	**12 50 24.5**	**-1.0**
SANI	**Sanana**	**2.53**	**189**	P	**Pn**	**12 50 24.7**	**-2.3**
APSI	**Ampana**	**4.95**	**254**	P	**Pn**	**12 50 58.9**	**-1.3**
KAPI	**Kappang**	**8.59**	**231**	Pn	**Pn**	**12 51 52.2**	**+2.0**
	1.7nm,0.3s,baz=17,slow=15,SNR=1.5 6.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**18.46**	**182**	P	**P**	**12 54 00.4**	**0.0**
	0.1nm,0.3s,baz=359,slow=12,SNR=1.6 3.6nm,1.0s						
WRA	**Warramunga Arr**	**21.72**	**159**	P	**P**	**12 54 35.5**	**-0.3**
	3.4nm,0.4s,baz=339,slow=11,SNR=8.9 3.4nm,0.4s						
ASAR	**Alice Springs**	**25.07**	**164**	P	**P**	**12 55 09.7**	**+1.0**
	3.7nm,0.8s,baz=345,slow=11,SNR=11 3.7nm,0.8s						
STKA	**Stephens Creek**	**35.24**	**157**	P	**P**	**12 56 39.3**	**+0.8**
	1.3nm,0.5s,baz=338,slow=12,SNR=2.5						
MKAR	**Makanchi Array**	**60.06**	**327**	P	**P**	**12 59 49.8**	**-0.9**
	0.3nm,0.4s,baz=120,slow=7.6,SNR=4.8 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**64.31**	**328**	P	**P**	**13 00 17.9**	**-1.1**
	1.1nm,0.8s,baz=128,slow=6.0,SNR=7.3 1.1nm,0.8s						

*IDC **09** 12:52:55.5±1.7,0°.63N×126°.57E,h0km,mb3.7/4, mbtmp3.8/4,Error ellipse: s-maj=163.8km s-min=21.7km az=66.0*

*DJA **09** 12:53:00.4±1.8,0°N±4°×12°6E±°,h13km±14km,M3.5/7, MLv3.5/7*

ISC 09 12:53:01.3±1.1,0°.5N±0°.2×126°.20E±0°.10,h44km,n6, σ1§14/6,mb3.7/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.21**	**75**	S	**Sn**	**12 53 36.1**	**-0.9**
KMSI	**Cibinong**	**2.23**	**273**	P	**Pn**	**12 53 34.7**	**-1.0**
WRA	**Warramunga Arr**	**21.78**	**159**	P	**P**	**12 57 49.5**	**0.0**
	1.7nm,0.3s,baz=339,slow=11,SNR=28 1.7nm,0.3s						
ASAR	**Alice Springs**	**25.11**	**163**	P	**P**	**12 58 22.9**	**+0.7**
	1.0nm,0.4s,baz=342,slow=11,SNR=20 1.0nm,0.4s						
MKAR	**Makanchi Array**	**59.96**	**327**	P	**P**	**13 03 04.4**	**+1.1**
	0.3nm,0.5s,baz=126,slow=7.3,SNR=3.5 0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**64.22**	**328**	P	**P**	**13 03 32.2**	**+0.6**
	0.4nm,0.6s,baz=127,slow=6.2,SNR=6.1 0.4nm,0.6s						

*NEIC **09** 12:58:21.4±1.7,35°.679N±0°.009×117°.48W±0°.01, h7km±1km,Error ellipse: s-maj=1.3km s-min=1.2km az=68.0,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.35; $M_{\theta\theta}$=1.01; $M_{\phi\phi}$1.36; $M_{r\theta}$0.84; $M_{\theta\phi}$0.91; $M_{r\phi}$0.06; Fault plane solution: $M_0$1.74000×10^{14} NP1: ϕ_s240.32000°,δ76.91000°,λ-28.68000°. NP2: ϕ_s337.38000°,δ62.13000°,λ-165.16000°. Principal axes: T 1.7228, Plg10.0000°, Azm291.0000°; N 0.0364, Plg59.0000°, Azm38.0000°; P -1.7593, Plg29.0000°, Azm196.0000°;*

*NEIC **09** 12:58:21.7,35°.67N×117°.48W,h2km*

PAS 09 12:58:21.7±1.6,35°.674N±0°.007×117°.48W±0°.01, h2km±2km,Mwr3.5/4,ML3.4/132(NEIC),**Mwr3.4/**25(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=65.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.17**	**327**		Pg	12 58 25.2	+0.2
CLC				Sg	Sg	12 58 27.9	+0.7
CLC				IAML		12 58 28.0	
	comp=N,10μm,0.4s						
CCCA	**Chr Cany lake**	**0.18**	**147**		Pg	12 58 25.8	+0.7
CCCA				Sg	Sg	12 58 29.0	+1.6
CCCA				IAML		12 58 30.7	
	comp=E,12μm,0.9s						
SRTC	**Snort**	**0.22**	**275**		Pg	12 58 26.5	+0.6
SRTC					Sg	12 58 30.6	+1.9
LRMC	**Laurel Mtn Rad**	**0.25**	**220**		Pg	12 58 26.7	+0.2
LRMC				Sg	Sg	12 58 30.4	+0.6
LRMC				IAML		12 58 30.8	
	comp=N,8μm,0.6s						
TOW	**Tower One**	**0.26**	**301**		Pg	12 58 27.4	+0.7
TOW					Sb	12 58 32.4	-1.9
WNMM	**Nine Mile Cany**	**0.38**	**296**		Pg	12 58 29.3	+0.3
MPMC	**Manual Prospec**	**0.38**	**359**		Pg	12 58 29.1	0.0
MPMC				Sg	Sg	12 58 34.8	+0.7
MPMC				IAML		12 58 36.3	
	comp=N,5μm,0.7s						
WVPM	**Volcano Peak E**	**0.39**	**316**		Pg	12 58 29.4	+0.2
JRC2	**Joshua Ridge**	**0.41**	**320**		Pg	12 58 29.8	+0.3
WRVM	**Rose V. Centra**	**0.47**	**315**		Pg	12 58 30.8	+0.1
DTP	**Desert Tortois**	**0.50**	**216**		Pg	12 58 31.2	-0.1
DTP					Sg	12 58 38.2	+0.5
MFS	**McCloud Flat S**	**0.54**	**326**		Pg	12 58 32.0	+0.1
MFS					Sg	12 58 39.7	+0.8
WBSM	**Bird Springs**	**0.55**	**256**		Pg	12 58 32.3	0.0
WBSM					Sg	12 58 39.9	+0.5
QSM	**Queen of Sheba**	**0.58**	**60**		Pg	12 58 32.9	+0.1
QSM				Sg	Sg	12 58 40.9	+0.6
QSM				IAML		12 58 42.2	
	comp=N,3μm,0.6s						
WORM	**Onyx Ranch**	**0.62**	**272**		Pg	12 58 33.4	-0.2
GSC	**Goldstone, Bar**	**0.67**	**124**		Pg	12 58 34.5	+0.1
GSC				IAML		12 58 44.0	
	comp=N,2μm,0.6s						
GSC				IAML		12 58 45.7	
	comp=E,2μm,0.5s						
GSC	**Goldstone, Bar**	**0.67**	**124**		Sg	12 58 43.8	+0.6
CCAC	**Calif City Air**	**0.68**	**220**		Pg	12 58 34.6	-0.1
WHFM	**Hanning Flat**	**0.70**	**272**		Pg	12 58 35.0	-0.2
WHFM					Sg	12 58 44.8	+0.5
ISA	**Isabella, Lake**	**0.81**	**269**		Pg	12 58 36.9	-0.3
ISA				Sg	Sg	12 58 47.4	-0.2
ISA				IAML		12 58 48.4	
	comp=E,1μm,0.5s						
ISA				IAML		12 58 51.9	
	comp=N,1μm,0.7s						
HYS	**Haystack Butte**	**0.81**	**185**		Pg	12 58 36.8	-0.4
GWY	**Greenwater Val**	**0.84**	**52**		Pg	12 58 37.4	-0.3
GWY				IAML		12 58 54.5	
	comp=E,2μm,0.7s						
GWY				IAML		12 58 55.6	
	comp=N,2μm,0.8s						
WASM	**Alta Sierra Ca**	**0.88**	**274**		Pg	12 58 38.3	-0.2
WASM					Sg	12 58 50.4	+0.6
EDW2	**Edwards Air Fo**	**0.89**	**208**		Pg	12 58 38.2	-0.6
CWC	**Cottonwood Cre**	**0.90**	**328**		Pg	12 58 39.1	+0.1
CWC				Sg	Sg	12 58 51.0	+0.3
CWC				IAML		12 58 51.8	
	comp=E,584nm,0.3s						
CGO	**Cerro Gordo**	**0.91**	**344**		Pg	12 58 38.7	-0.5
TPO	**Tropico Hills**	**1.00**	**218**		Pg	12 58 40.3	-0.5
TPO				Sg	Sg	12 58 54.2	+0.4
TPO				IAML		12 58 59.9	
	comp=E,1μm,0.6s						
TPO				IAML		12 59 00.6	
	comp=N,1μm,0.6s						
SBB	**Saddle Back Bu**	**1.02**	**196**		Pg	12 58 40.6	-0.6
ADO	**Adelanto Recei**	**1.12**	**178**		Pb	12 58 43.9	0.0
SPG2	**Springville 2**	**1.17**	**297**		Pg	12 58 43.3	-0.7
SPG2					Sg	12 58 58.9	-0.2
ARVC	**Arvin**	**1.23**	**244**		Sg	12 59 00.8	-0.3
LRRC	**Littlerock Res**	**1.23**	**201**		Pg	12 58 44.6	-0.6
THC	**Tehachapi Micr**	**1.23**	**232**		Pg	12 58 44.7	-0.6
LEOC	**Leona Valley**	**1.24**	**213**		Pg	12 58 44.8	-0.6
DSCC	**Desert Studies**	**1.25**	**115**		Pg	12 58 44.4	-1.1
AMDNV	**Amargosa**	**1.25**	**51**		Sb	12 59 02.5	+0.1
HOLC	**Holcomb Ridge**	**1.25**	**194**		Pg	12 58 44.8	-0.8
CJV	**Casa Juvan**	**1.26**	**206**		Pg	12 58 45.0	-0.9
HEC	**Hector,Ludlow**	**1.26**	**132**		Sg	12 59 02.2	-0.1
JNH	**Juniper Hills**	**1.28**	**198**		Pg	12 58 45.4	-0.9
TUQ	**Turquoise Moun**	**1.29**	**100**		Pg	12 58 45.7	-0.8
VES	**Vestal, Richgr**	**1.31**	**278**		Pg	12 58 46.2	-0.6
VES					Sg	12 59 04.0	+0.2
WCT	**Wildcat Mounta**	**1.31**	**32**		Pg	12 58 46.3	-0.6
WCT				Sg	Sg	12 59 03.4	-0.5
WCT				IAML		12 59 05.9	
	comp=N,358nm,0.6s						
GRAC	**Grapevine Rang**	**1.32**	**4**	Pg	Pg	12 58 46.5	-0.5
GRAC				IAML		12 59 08.0	
	comp=N,972nm,0.7s						
GRAC				IAML		12 59 09.2	
	comp=E,801nm,0.8s						
SGV	**South Grapevin**	**1.35**	**16**		Pg	12 58 46.8	-0.8
CHFC	**Chilao Flat St**	**1.41**	**199**		Pn	12 58 47.1	-1.4
SIL	**Silver Peak**	**1.43**	**158**		Pg	12 58 49.0	-0.1
BFSC	**Mount Baldy Ra**	**1.44**	**186**		Pn	12 58 47.7	-1.2
OSI	**Osito Audit: C**	**1.47**	**224**		Pn	12 58 48.8	-0.4
OSI				IAML		12 59 11.2	
	comp=E,627nm,1.1s						
OSI				IAML		12 59 11.3	
	comp=N,570nm,0.7s						
SSK	**Sunset Peak**	**1.47**	**187**		Pn	12 58 48.4	-0.9
BBRC	**Big Bear Solar**	**1.48**	**162**		Pn	12 58 49.5	0.0
TIN	**Tinemaha, Big**	**1.50**	**337**		Sb	12 59 09.9	0.0
MWC	**Mount Wilson**	**1.52**	**198**		Pn	12 58 49.4	-0.7
MWC				IAML		12 59 14.8	
	comp=N,410nm,0.6s						
MWC				IAML		12 59 15.5	
	comp=E,357nm,0.7s						
LCH	**Last Change Ra**	**1.56**	**355**		Pn	12 58 50.0	-0.6
LCH					Sb	12 59 11.7	0.0
MTPC	**Mountain Pass**	**1.58**	**96**		Pn	12 58 50.0	-0.9
MTPC				IAML		12 59 14.0	
	comp=N,257nm,0.5s						
PSRC	**Puddingstone R**	**1.60**	**190**		Pb	12 58 52.0	+0.1
PASC	**Pasadena Art C**	**1.61**	**201**		Pn	12 58 50.2	-0.8
PASC				IAML		12 59 18.0	
	comp=E,305nm,0.8s						
PASC				IAML		12 59 18.5	
	comp=N,247nm,0.6s						
TPNV	**Topopah Spring**	**1.62**	**38**		Pn	12 58 50.7	-0.7
TPNV				IAML		12 59 16.9	
	comp=N,498nm,0.6s						
TPNV				IAML		12 59 18.8	
	comp=N,344nm,0.8s						
GMN	**Gold Mountain**	**1.63**	**6**		Pn	12 58 51.1	-0.6
GMN				IAML		12 59 01.1	
	comp=N,211nm,0.6s						
DSP	**Deep Springs**	**1.74**	**347**		Pn	12 58 52.7	-0.2
DSP				IAML		12 59 18.3	
	comp=E,287nm,0.7s						
DSP				IAML		12 59 18.4	
	comp=N,254nm,0.5s						
GMRC	**Granite Mounta**	**1.74**	**120**		Pn	12 58 50.9	-2.1
BHPR	**Bishop**	**1.81**	**334**		Pb	12 58 55.5	-0.2
CRGC	**Crocker Grade**	**1.88**	**257**		Pb	12 58 56.7	-0.1
TPC	**Twentynine Pal**	**1.96**	**143**		Pn	12 58 54.6	-1.3
HMTC	**Hemet**	**2.00**	**168**		Pn	12 58 55.8	-0.7
ELS	**Elsinore Mount**	**2.02**	**179**		Pn	12 58 56.1	-0.8
MZP	**Montezuma Peak**	**2.02**	**2**		Pn	12 58 56.9	-0.1
POB	**Polly Butte**	**2.04**	**167**		Pn	12 58 56.3	-0.7
SHPR	**Sheep Range**	**2.06**	**66**		Pn	12 58 57.8	+0.3
SHPR				IAML		12 59 31.6	
	comp=N,143nm,0.8s						
V12A	**Nelson**	**2.14**	**88**		Pn	12 58 58.2	-0.4
V12A				IAML		12 59 31.7	
	comp=N,124nm,1.2s						
PMD	**Palm Desert**	**2.22**	**155**		Pn	12 58 58.0	-1.4
PFO	**Pinyon Flats O**	**2.22**	**157**		Pn	12 58 58.5	-1.2
PFO				IAML		12 59 40.3	
	comp=N,139nm,0.9s						
FRD	**Ford Ranch, An**	**2.29**	**161**		Pn	12 58 59.8	-0.7
TPH	**Tonopah**	**2.41**	**5**	Pn	Pn	12 59 01.7	-0.5
S11A	**Rachel**	**2.41**	**35**	Pn	Pn	12 59 02.8	+0.5
S11A				IAML		12 59 52.8	
	comp=N,276nm,0.9s						
S11A				IAML		13 00 03.2	
	comp=E,298nm,0.9s						
NEE2	**Needles Airpor**	**2.51**	**110**		Pn	12 59 02.1	-1.5
NEE2				IAML		12 59 56.9	
	comp=E,229nm,0.7s						
BORC	**Borrego Spring**	**2.56**	**160**		Pn	12 59 03.6	-0.5
BORC				IAML		12 59 53.1	
	comp=E,122nm,0.9s						
BORC				IAML		12 59 57.1	
	comp=N,82nm,1.2s						
PRN	**Pahroc Range**	**2.61**	**48**		Pn	12 59 04.2	-0.8
PRN				IAML		12 59 54.5	
	comp=N,202nm,0.9s						
PRN				IAML		12 59 56.4	
	comp=E,230nm,0.8s						
SALN	**Salton City**	**2.69**	**152**	Pn	Pn	12 59 05.0	-0.9
LHV	**Little Huntoon**	**2.70**	**343**		Pn	12 59 05.8	-0.2
LHV				IAML		12 59 53.9	
	comp=N,118nm,0.8s						
LHV				IAML		12 59 55.6	
	comp=E,165nm,1.4s						
DPP	**Dos Picos Cty**	**2.71**	**170**		Pn	12 59 05.2	-1.0
DPP				IAML		12 59 48.4	
	comp=E,129nm,0.6s						
PMPB	**Monarch Peak**	**2.75**	**282**		Pn	12 59 06.6	-0.2
PMPB				IAML		13 00 00.2	
	comp=N,235nm,0.8s						
NV11	**Mina Array Sit**	**2.80**	**349**		Pn	12 59 07.4	-0.3
NVAR	**Mina Array Bea**	**2.83**	**347**		Pn	12 59 08.0	-0.1
W13A	**Hualapai Mount**	**3.00**	**100**		Pn	12 59 10.2	-0.1
W13A				IAML		13 00 07.2	
	comp=N,60nm,0.9s						
BBGB	**Big Mountain B**	**3.02**	**288**	Pn	Pn	12 59 09.7	-0.9
RYN	**Ryan**	**3.06**	**345**		Pn	12 59 10.4	-0.8
R11B	**Troy Canyon, C**	**3.07**	**29**		Pn	12 59 10.0	-1.4
BLYC	**Blythe**	**3.10**	**127**		Pn	12 59 09.8	-1.9
BLYC				IAML		13 00 03.3	
	comp=N,162nm,0.7s						
BLYC				IAML		13 00 06.9	
	comp=E,109nm,0.8s						
Q09A	**Carvers**	**3.16**	**4**	Pn	Pn	12 59 10.5	-2.2
TKX	**Tecate**	**3.18**	**167**	Pn	Pn	12 59 12.1	-0.7
TKX				IAML		13 00 13.2	
	comp=N,109nm,0.1s						
TKX				IAML		13 01 10.7	
	comp=E,97nm,0.1s						
WAKR	**Walker**	**3.23**	**332**	Pn	Pn	12 59 13.1	-0.5
YUH	**Yuha Desert**	**3.29**	**156**	Pn	Pn	12 59 13.1	-1.1
CMB	**Columbia Colle**	**3.31**	**316**	Pn	Pn	12 59 12.6	-1.9
CMB				IAML		13 00 13.0	
	comp=N,82nm,0.7s						
CMB				IAML		13 00 16.5	
	comp=E,74nm,0.8s						
SAO	**San Andreas Ge**	**3.38**	**290**		Pn	12 59 13.6	-1.9
GLA	**Glamis**	**3.42**	**139**		Pn	12 59 14.3	-1.7
GLA				IAML		13 00 18.7	
	comp=N,131nm,1.2s						
CBX	**Cerro Bola**	**3.42**	**168**		Pn	12 59 14.1	-2.0
LCMT	**Little Creek M**	**3.67**	**67**		Pn	12 59 18.4	-1.2
CCUT	**Cedar City**	**3.81**	**59**	Pn	Pn	12 59 21.2	-0.3
CCX	**Cicese**	**3.86**	**170**	Pn	Pn	12 59 21.1	-0.9
CCX				IAML		13 00 33.7	
	comp=N,81nm,0.1s						
ESJX	**Sierra Juarez**	**3.88**	**160**	Pn	Pn	12 59 22.2	-0.3
ESJX				IAML		13 00 14.4	
	comp=E,49nm,0.1s						
ESJX				IAML		13 00 27.6	
	comp=N,30nm,0.8s						

IDC 09 13:08:11.5±4.4,6°.71N×126°.16E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=126.0km s-min=9.2km az=41.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.68**	**302**	Pg	Pg	13 08 24.1	-0.4
	144nm,0.3s,baz=252,slow=6.4,SNR=2.4						
DAV				Lg	Lg	13 08 34.4	
	214nm,0.3s,baz=340,slow=23,SNR=26						
FITZ	**Fitzroy Crossi**	**24.66**	**181**	P	P	13 13 33.2	-0.9
	1.2nm,1.0s,baz=0.0,slow=3.0,SNR=1.4 1.2nm,1.0s						
WRA	**Warramunga Arr**	**27.68**	**163**	P	P	13 14 00.7	-0.8
	0.9nm,0.8s,

0.2nm,0.6s

IDC 09 13:16:30.6±4.4, 22°.67N×11°.97W, h0km, mb3.5/1, mbtmp3.8/2, ML3.9/1, Error ellipse: s-maj=144.3km s-min=67.3km az=62.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.07**	**124**	Pn	Pn	13 20 17.8	-0.2
	0.5nm,0.3s,baz=314,slow=14,SNR=1.4						
	2.3nm,0.4s						
I42PT	**GRACIOSA ISLAN**	**21.30**	**324**	I	I	15 25 40.0	
	baz=141,slow=325,SNR=2.1						
MKAR	**Makanchi Array**	**76.63**	**45**	P	P	13 28 23.0	-0.2
	0.3nm,0.6s,baz=290,slow=4.2,SNR=2.5						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**148.53**	**91**	PKPbc	PKPbc	13 36 19.8	-0.3
	0.5nm,1.1s,baz=297,slow=3.2,SNR=5.8						

*IDC **09** 13:21:23.9±2.3, 1°.11N×96°.83E, h0km, mb3.4/4, mbtmp3.3/5, ML2.5/1, Error ellipse: s-maj=58.9km s-min=31.3km az=47.0*

*DJA **09** 13:21:28.1±1.7, 1°.N±6°×9°.7E±1°.1, h27km±9km, M3.5/4, MLv3.5/4*

ISC 09 13:21:27.4±1.3, 1°.14N±0°.07×96°.86E±0°.10, h25km, n20, σ1§23/11, mb3.3/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.74**	**77**	P	**Pn**	**13 21 41.4**	**-0.8**
GSI				S	**Sb**	**13 21 50.4**	**-0.9**
PBSI	**Pulau Batu**	**1.85**	**130**	P	**Pn**	**13 21 56.8**	**-0.8**
PBSI				S	**Sn**	**13 22 20.7**	**+0.5**
PSI	**Prapat**	**2.65**	**51**	Pn	**Pn**	**13 22 07.5**	**-1.2**
	1.0nm,0.3s,baz=229,slow=7.9,SNR=4.0						
PSI				Sn	**Sb**	**13 22 48.2**	**+1.9**
	baz=234,slow=21						
	5.6nm,0.4s						
MLSI	**Meulaboh, Aceh**	**3.14**	**352**	S	**Sn**	**13 22 51.7**	**-0.4**
H08S2	**Diego Garcia H**	**25.82**	**250**	T	T	13 53 57.5	
	baz=70,slow=76,SNR=346						
H08S3	**Diego Garcia H**	**25.82**	**250**	T	T	13 53 52.3	
	baz=70,slow=76,SNR=472						
H08S1	**Diego Carcia H**	**25.84**	**250**	T	T	13 53 53.4	
	baz=70,slow=76,SNR=460						
H01W3	**Cape Leeuwin H**	**39.32**	**157**	T	T	14 10 30.7	
	baz=334,slow=76,SNR=7.5						
H01W2	**Cape Leeuwin H**	**39.33**	**157**	T	T	14 10 37.5	
	baz=334,slow=76,SNR=6.3						
H01W1	**Cape Leeuwin H**	**39.33**	**157**	T	T	14 10 36.8	
	baz=334,slow=76,SNR=8.6						
WRA	**Warramunga Arr**	**42.29**	**122**	P	**P**	**13 29 19.7**	**+0.3**
	0.3nm,0.8s,baz=298,slow=7.8,SNR=1.7						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**47.22**	**346**	P	**P**	**13 29 59.0**	**+0.7**
	0.2nm,0.5s,baz=165,slow=6.0,SNR=1.7						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**51.70**	**345**	P	**P**	**13 30 31.3**	**-1.1**
	0.1nm,0.3s,baz=161,slow=6.9,SNR=2.1						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**53.57**	**351**	P	**P**	**13 30 47.7**	**+1.6**
	0.6nm,0.3s,baz=168,slow=7.4,SNR=1.9						
	0.6nm,0.3s						
H04N2	**CROZET ISLANDS**	**61.53**	**214**	T	T	14 38 36.5	
	baz=53,slow=75,SNR=175						
H04N1	**CROZET ISLANDS**	**61.54**	**214**	T	T	14 38 36.7	
	baz=53,slow=75,SNR=136						
H04N3	**CROZET ISLANDS**	**61.55**	**214**	T	T	14 38 35.3	
	baz=53,slow=75,SNR=140						
H04S1	**CROZET ISLANDS**	**61.87**	**213**	T	T	14 38 59.7	
	baz=53,slow=75,SNR=48						
H04S3	**CROZET ISLANDS**	**61.88**	**213**	T	T	14 38 59.5	
	baz=53,slow=75,SNR=91						
H04S2	**CROZET ISLANDS**	**61.89**	**213**	T	T	14 39 00.9	
	baz=53,slow=75,SNR=45						

*PAS **09** 13:28:47.7±0.6, 35°.545N±0°.009×117°.386W±0°.010, h-0km±1km, ML3.2/24, ML3.2/156(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=148.0*

NEIC 09 13:28:47.4±0.8, 35°.553N±0°.009×117°.38W±0°.01, h2km±3km, Error ellipse: s-maj=1.5km s-min=1.2km az=221.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.03**	**162**		Sg	13 28 49.1	+0.5
CCCA	**Chr Cany lake**	**0.03**	**162**		Pg	13 28 48.5	+0.4
LRMC	**Laurel Mtn Rad**	**0.26**	**254**		Pg	13 28 52.6	+0.2
LRMC				IAML		13 28 57.7	
	comp=N,8μm,0.4s						
LRMC				IAML		13 28 58.2	
	comp=E,6μm,0.4s						
CLC	**China Lake**	**0.32**	**326**		Pg	13 28 54.1	+0.6
CLC				IAML		13 28 59.3	
	comp=E,2μm,0.8s						
CLC				IAML		13 28 59.3	
	comp=N,3μm,0.4s						
SRTC	**Snort**	**0.33**	**295**		Pg	13 28 54.1	+0.3
TOW	**Tower One**	**0.41**	**309**		Pb	13 28 56.4	-0.9
DTP	**Desert Tortois**	**0.48**	**233**		Pg	13 28 57.0	+0.5
DTP					Sg	13 29 04.0	+1.3
MPMC	**Manual Prospec**	**0.51**	**350**		Pg	13 28 57.7	+0.5
MPMC				IAML		13 29 05.6	
	comp=E,964nm,0.4s						
MPMC				IAML		13 29 05.8	
	comp=N,1μm,0.6s						
MPMC	**Manual Prospec**	**0.51**	**350**		Sg	13 29 05.4	+1.5
GSC	**Goldstone, Bar**	**0.53**	**118**		Pg	13 28 58.2	+0.7
GSC	**Goldstone, Bar**	**0.53**	**118**		Sg	13 29 05.8	+1.5
QSM	**Queen of Sheba**	**0.58**	**45**		Pg	13 28 59.2	+0.7
QSM				IAML		13 29 07.7	
	comp=E,2μm,0.6s						
QSM				IAML		13 29 12.0	
	comp=N,2μm,0.6s						
WBSM	**Bird Springs**	**0.62**	**269**		Pg	13 28 59.9	+0.6
GWY	**Greenwater Val**	**0.85**	**42**		Pg	13 29 04.3	+0.5
ISA	**Isabella, Lake**	**0.90**	**277**		Pg	13 29 04.8	+0.1
ISA				IAML		13 29 20.4	
	comp=E,454nm,0.5s						
SHOC	**Shoshone, Teco**	**0.96**	**69**		Pn	13 29 19.6	+12
TPO	**Tropico Hills**	**0.97**	**226**		Pg	13 29 06.0	0.0
CWC	**Cottonwood Cre**	**1.05**	**327**		Pg	13 29 07.3	-0.3
DSCC	**Desert Studies**	**1.12**	**111**		Pg	13 29 08.7	-0.1
TUQ	**Turquoise Moun**	**1.19**	**95**		Pg	13 29 10.1	-0.1
AMDNV	**Amargosa**	**1.26**	**44**		Pg	13 29 11.0	-0.6
BFSC	**Mount Baldy Ra**	**1.33**	**190**		Pg	13 29 12.1	-0.8
BFSC				IAML		13 29 35.5	
	comp=N,216nm,1.0s						
WCT	**Wildcat Mounta**	**1.38**	**26**		Pn	13 29 12.8	-0.9
WCT				IAML		13 29 34.2	
	comp=N,291nm,0.5s						
WCT				IAML		13 29 41.7	
	comp=E,321nm,0.6s						
GRAC	**Grapevine Rang**	**1.44**	**0**		Pn	13 29 14.2	-0.3
GRAC				IAML		13 29 38.7	
	comp=E,438nm,0.3s						
GRAC				IAML		13 29 38.8	
	comp=N,534nm,0.6s						
MWC	**Mount Wilson**	**1.44**	**203**		Pn	13 29 13.9	-0.7
MWC				IAML		13 29 35.6	
	comp=N,296nm,0.6s						
MWC				IAML		13 29 36.4	
	comp=E,286nm,0.6s						
OSI	**Osito Audit: C**	**1.45**	**230**		Pn	13 29 14.4	-0.2
OSI				IAML		13 29 40.3	
	comp=N,538nm,0.8s						
OSI				IAML		13 29 41.8	
	comp=E,608nm,0.7s						
MTPC	**Mountain Pass**	**1.49**	**92**		Pn	13 29 14.2	-1.1
MTPC				IAML		13 29 39.6	
	comp=N,280nm,0.3s						
MTPC				IAML		13 29 40.0	
	comp=E,355nm,0.3s						
GTM	**Goat Mountain**	**1.51**	**146**		Pg	13 29 16.3	0.0
PASC	**Pasadena Art C**	**1.53**	**206**		Pn	13 29 15.0	-0.7
GMRC	**Granite Mounta**	**1.60**	**118**		Pn	13 29 15.2	-1.6
TPNV	**Topopah Spring**	**1.66**	**33**		Pn	13 29 17.4	-0.3
TPNV				IAML		13 29 45.0	
	comp=E,450nm,0.5s						
GMN	**Gold Mountain**	**1.75**	**3**		Pn	13 29 18.8	-0.1
DANC	**Danby, Needles**	**1.87**	**119**		Pn	13 29 19.2	-1.2
DSP	**Deep Springs**	**1.88**	**345**		Pn	13 29 20.4	0.0
ELS	**Elsinore Mount**	**1.90**	**181**		Pn	13 29 20.4	-0.4
ELS				IAML		13 29 49.3	
	comp=E,121nm,0.3s						
SHPR	**Sheep Range**	**2.03**	**61**		Pn	13 29 22.2	-0.6
SHPR				IAML		13 30 00.3	
	comp=E,95nm,0.8s						
V12A	**Nelson**	**2.06**	**84**	IAML		13 30 01.3	
	comp=E,111nm,0.6s						
V12A				IAML		13 30 04.8	
	comp=N,118nm,1.0s						
PMD	**Palm Desert**	**2.07**	**156**	IAML		13 30 04.0	
	comp=E,125nm,0.7s						
PFO	**Pinyon Flats O**	**2.08**	**158**	IAML		13 29 55.5	
	comp=E,117nm,0.8s						
PFO				IAML		13 30 01.0	
	comp=E,101nm,0.8s						
BORC	**Borrego Spring**	**2.41**	**161**	IAML		13 30 05.3	
	comp=E,82nm,0.7s						
BORC				IAML		13 30 12.6	
	comp=N,79nm,1.0s						
DPP	**Dos Picos Cty**	**2.57**	**172**	IAML		13 30 14.8	
	comp=E,81nm,0.9s						
LHV	**Little Huntoon**	**2.84**	**342**	IAML		13 30 25.7	
	comp=E,53nm,1.0s						
LHV				IAML		13 30 38.9	
	comp=N,48nm,0.8s						
PMPB	**Monarch Peak**	**2.86**	**284**	IAML		13 30 31.2	
	comp=E,85nm,0.8s						
PMPB				IAML		13 30 38.1	
	comp=N,131nm,1.1s						
W13A	**Hualapai Mount**	**2.89**	**98**	IAML		13 30 24.4	
	comp=N,61nm,0.7s						
BLYC	**Blythe**	**2.96**	**127**	IAML		13 30 26.0	
	comp=E,118nm,0.8s						
BLYC				IAML		13 30 27.7	
	comp=N,134nm,0.5s						
R11B	**Troy Canyon, C**	**3.14**	**27**	IAML		13 30 31.9	
	comp=E,39nm,0.5s						
Q09A	**Carvers**	**3.28**	**3**	IAML		13 30 49.7	
	comp=E,94nm,1.2s						
CMB	**Columbia Colle**	**3.46**	**317**	IAML		13 30 41.1	
	comp=E,31nm,1.1s						
CMB				IAML		13 30 48.8	
	comp=N,42nm,0.7s						
ESJX	**Sierra Juarez**	**3.73**	**161**	IAML		13 30 48.4	
	comp=E,40nm,0.6s						
Y14A	**Wickenburg**	**3.94**	**113**	IAML		13 31 00.8	
	comp=E,52nm,0.6s						
KNB	**Kanab**	**3.96**	**67**	IAML		13 31 02.9	
	comp=N,27nm,1.7s						
KNB				IAML		13 31 18.6	
	comp=E,19nm,0.9s						
SZCU	**Shurtz Canyon**	**4.01**	**58**	IAML		13 31 02.4	
	comp=E,22nm,0.7s						
SZCU				IAML		13 31 07.3	
	comp=N,20nm,0.7s						
113A	**Mohawk Valley,**	**4.08**	**132**	IAML		13 30 58.0	
	comp=N,20nm,0.7s						
PSUT	**Pine Spring**	**4.10**	**42**	IAML		13 31 11.9	
	comp=E,39nm,1.3s						
PSUT				IAML		13 31 14.2	
	comp=N,31nm,1.3s						
SPR3	**Spring Creek 3**	**4.21**	**34**	IAML		13 31 02.8	
	comp=E,30nm,0.8s						
SPR3				IAML		13 31 03.1	
	comp=N,26nm,0.6s						
VTX	**Valle De La Tr**	**4.36**	**162**	IAML		13 31 08.4	
	comp=N,18nm,0.9s						
VTX				IAML		13 31 19.0	
	comp=E,25nm,0.9s						
AFDM	**Forest Hills D**	**4.44**	**321**	IAML		13 31 14.2	
	comp=E,35nm,0.9s						
AFDM				IAML		13 31 14.4	
	comp=N,21nm,1.4s						
WUAZ	**Wupatki**	**4.89**	**89**	IAML		13 31 26.9	
	comp=N,22nm,0.5s						
WUAZ				IAML		13 31 43.3	
	comp=N,21nm,1.1s						
BEKR	**Beckworth**	**4.91**	**332**	IAML		13 31 37.3	
	comp=N,11nm,0.8s						
BEKR				IAML		13 31 37.6	
	comp=E,24nm,0.9s						
X16A	**Lo Alia Camp, P**	**5.00**	**101**	IAML		13 31 34.4	
	comp=E,17nm,1.0s						
X16A				IAML		13 31 44.9	
	comp=N,13nm,1.0s						

*IDC **09** 13:30:16.5±2.1, 19°.07N×93°.16E, h0km, mb3.7/6, mbtmp3.6/7, ML3.4/1, Error ellipse: s-maj=55.4km s-min=22.9km az=46.0*

ISC 09 13:30:21.6±1.7, 19°.1N±0°.2×93°.2E±0°.2, h35km, n7, σ1§19/8, mb3.5/6, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.49**	**95**	Pn	**Pn**	**13 31 40.0**	**-0.9**
	0.3nm,0.3s,baz=268,slow=14,SNR=6.4						
CMAR				Sn	**Sn**	**13 32 43.3**	**+0.5**
	0.3nm,0.3s,baz=266,slow=15,SNR=1.3						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**29.07**	**344**	P	**P**	**13 36 18.9**	**+0.3**
	0.6nm,0.5s,baz=163,slow=9.9,SNR=9.7						
	0.6nm,0.5s						
SONM	**Songino Array**	**30.64**	**18**	P	**P**	**13 36 34.4**	**+1.6**
	0.3nm,0.3s,baz=200,slow=12,SNR=1.5						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**33.57**	**343**	P	**P**	**13 36 57.6**	**-0.6**
	1.3nm,0.8s,baz=157,slow=8.6,SNR=10						
	1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**35.41**	**351**	P	**P**	**13 37 13.4**	**-0.6**
	0.7nm,0.3s,baz=157,slow=7.8,SNR=3.7						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**58.15**	**135**	P	**P**	**13 40 13.1**	**+0.9**
	0.2nm,0.5s,baz=312,slow=6.8,SNR=1.8						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**84.77**	**22**	P	**P**	**13 42 50.7**	**-1.3**
	0.2nm,0.6s,baz=313,slow=6.0,SNR=3.1						
	0.2nm,0.6s						

*IDC **09** 13:41:23.5±1.2, 6°.50N×125°.15E, h0km, mb3.6/5, mbtmp3.6/5, MS3.9/1, Error ellipse: s-maj=30.5km s-min=9.6km az=117.0*

*NEIC **09** 13:41:26.0±1.3, 6°.6N±0°.1×125°.2E±0°.2, h10km±1km, mb4.4/9, Error ellipse: s-maj=30.8km s-min=6.6km az=122.0*

ISC 09 13:41:28.3±0.8, 6°.58N±0°.09×125°.3E±0°.1, h35km, n19, σ1§75/18, mb4.1/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.56**	**30**	Pg	**Pn**	**13 41 37.0**	**-2.8**
DAV	**Davao City (W)**	**0.56**	**30**	Pg	**Pn**	**13 41 36.9**	**-3.0**
	400nm,0.3s,baz=230,slow=1.6,SNR=23						
DAV				Lg	Lg	13 41 47.1	
	443nm,0.3s,baz=180,slow=20,SNR=30						
TOLI2	**Tolitoli**	**7.05**	**220**	Pn	**Pn**	**13 43 06.5**	**-2.6**
FITZ	**Fitzroy Crossi**	**24.52**	**179**	P	**P**	**13 46 46.0**	**+1.3**
COEN	**Coen**	**27.05**	**139**	P	**P**	**13 47 08.2**	**+0.6**
COEN				IAmb	IAmb	13 47 35.4	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**27.82**	**162**	P	**P**	**13 47 15.1**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=338,slow=9.7,SNR=2.0						
	comp=Z,0.3nm,0.6s						
WB2	**Warramunga Arr**	**27.82**	**161**	P	**P**	**13 47 15.7**	**+1.1**
WB2				IAmb	IAmb	13 47 56.1	
	comp=Z,4.9nm,1.1s						
WR8	**Warramunga Arr**	**27.88**	**161**	P	**P**	**13 47 16.3**	**+1.3**
WR8				IAmb	IAmb	13 47 49.4	
	comp=Z,8.9nm,1.4s						
WR0	**Warramunga Arr**	**27.90**	**161**	P	**P**	**13 47 16.2**	**+1.0**
WR0				IAmb	IAmb	13 47 41.1	
	comp=Z,11nm,1.4s						
AS31	**Alice Springs**	**31.22**	**165**	P	**P**	**13 47 46.2**	**+1.6**
ASAR	**Alice Springs**	**31.22**	**165**	P	**P**	**13 47 44.2**	**-0.4**
ASAR	**Alice Springs**	**31.22**	**165**	P	**P**	**13 47 45.1**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=343,slow=8.3,SNR=18						
	comp=Z,0.3nm,0.5s						
BRDH	**Bariadhala**	**36.15**	**300**	LR	LR	14 06 34.6	
	comp=Z,183nm,18.1s,baz=195,slow=42						
USRK	**Ussuriysk Ar.**	**37.93**	**8**	P	**P**	**13 48 44.5**	**+2.2**
	comp=Z,2.1nm,0.7s,baz=171,slow=6.7,SNR=3.4						
	comp=Z,2.1nm,0.7s						
STKA	**Stephens Creek**	**41.29**	**159**	P	**P**	**13 49 09.5**	**-0.9**
STKA	**Stephens Creek**	**41.29**	**159**	P	**P**	**13 49 08.7**	**-1.7**
	comp=Z,1.0nm,0.6s,baz=336,slow=12,SNR=3.2						
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**54.41**	**325**	P	**P**	**13 50 51.6**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=133,slow=8.3,SNR=2.2						
	comp=Z,0.1nm,0.5s						
F17K	**Baldwin Pennin**	**77.41**	**23**	P	**P**	**13 53 21.2**	**+1.7**
D19K	**Kuna River**	**79.00**	**21**	P	**P**	**13 53 29.5**	**+1.1**
D19K				IAmb	IAmb	13 54 09.1	
	comp=Z,4.1nm,1.4s						

*IDC **09** 14:05:26.6±5.7, 36°.69N×70°.32E, h193km±51km, mb3.8/2, mbtmp4.0/7, Error ellipse: s-maj=61.9km s-min=40.0km az=140.0*

*NNC **09** 14:05:31.8±4.8, 36°.99N×70°.33E, h213km±65km, mb2.6, mpv3.6, Error ellipse: s-maj=48.5km s-min=39.2km az=4.0*

ISC 09 14:05:27.8±1.8, 36°.7N±0°.2×70°.3E±0°.2, h200km, n11, σ0§95/14, 4C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.36**	**1**	⇓P	**Pn**	**14 07 00.5**	**+0.9**
	1.4nm,0.1s,baz=175,slow=11,SNR=39						
KK31				⇑S	**Sn**	**14 08 11.0**	**-1.4**
	0.8nm,0.2s,baz=188,slow=22,SNR=4.9						
AAK	**Ala-Archa**	**6.71**	**27**	⇑P	**Pn**	**14 07 05.2**	**+0.9**
	1.7nm,0.6s						
AAK				⇑S	**Sn**	**14 08 20.6**	**-0.3**
	6.2nm,0.7s						
AAK	**Ala-Archa**	**6.71**	**27**	P	**Pn**	**14 07 04.4**	**0.0**
	2.6nm,0.3s,baz=214,slow=3.6,SNR=4.3						
AAK				S	**Sn**	**14 08 19.6**	**-1.3**
	4.1nm,0.3s,baz=162,slow=20,SNR=14						
MKAR	**Makanchi Array**	**13.43**	**38**	P	**Pn**	**14 08 30.9**	**+0.4**
	0.3nm,0.4s,baz=218,slow=9.0,SNR=6.0						
AB31	**Akbulak array**	**14.61**	**332**	P	**P**	**14 08 47.5**	**+1.3**
	0.7nm,0.5s,baz=141,slow=12,SNR=25						
KURBB	**Kurchatov Arra**	**15.08**	**20**	P	**P**	**14 08 51.9**	**+0.6**
	1.4nm,0.2s,baz=208,slow=9.6,SNR=1.8						
AKTO	**Aktyubinsk**	**16.30**	**331**	⇑P	**P**	**14 09 04.4**	**-0.4**
	1.7nm,0.8s						
AKTO	**Aktyubinsk**	**16.30**	**331**	P	**P**	**14 09 04.3**	**-0.6**
	0.9nm,0.3s,baz=144,slow=8.7,SNR=7.3						
ZALV	**Zalesovo Beam**	**19.93**	**26**	P	**P**	**14 09 43.2**	**-1.0**
	1.7nm,0.3s,baz=215,slow=11,SNR=10						
ARCES	**ARCESS Array B**	**40.71**	**338**	P	**P**	**14 12 48.6**	**+0.1**
	2.4nm,0.9s,baz=122,slow=8.0,SNR=5.7						
	2.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**65.17**	**268**	P	**P**	**14 15 46.9**	**-1.0**
	2.6nm,0.4s,baz=46,slow=7.5,SNR=1.9						
	2.6nm,0.4s						

*BJI **09** 14:12:54.5, 6°.67N×125°.23E, h10km, mB5.1/14, mb4.6/49, Ms4.5/32, Ms7 4.1/32*

*IDC **09** 14:12:54.3±0.5, 6°.69N×124°.92E, h0km, mb4.3/23, mbtmp4.3/25, ML4.6/2, MS4.0/43, Error ellipse: s-maj=10.7km s-min=8.7km az=140.0*

*GCMT **09** 14:12:58.4±0.2, 6°.86N±0°.01×125°.07E±0°.02, h27km±1km, MW5.0/100, Moment Tensor Solution. s31,c38; s100,c144; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.62±.20; $M_{\theta\theta}$3.83±.14; $M_{\phi\phi}$-3.21±.14; $M_{r\theta}$-0.99±.22; $M_{\theta\phi}$1.74±.10; $M_{\phi r}$-0.18±.28; Best double couple: M_o4.02700×10^{16} NP1:ϕ_s211.00000°, δ81.00000°, λ173.00000°. NP2:ϕ_s302.00000°, δ83.00000°, λ9.00000°. Principal axes: T 4.4360, Plg11.0000°, Azm167.0000°; N -0.8230, Plg79.0000°, Azm342.0000°; P -3.6170, Plg1.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **09** 14:12:58.4±1.4, 6°.79N±0°.07×125°.11E±0°.04, h16km±5km, mb4.9/145 Error ellipse: s-maj=11.1km s-min=3.7km az=151.0*

*DJA **09** 14:13:00.2±0.4, 7°.N±2°×12°.5E±°, h28km±4km, M4.9/54, mb5.0/54, mB5.4/27, MLv5.5/10, Mw(mB)4.8/27, MwMwp4.6/2, Mwp5.0/2*

ISC 09 14:12:57.5±0.3, 6°.77N±0°.04×125°.10E±0°.05, h13km, n461, σ1§18/384, mb4.8/109, MS4.1/50, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.56**	**58**	Pg	**Pb**	**14 13 09.3**	**+0.2**
DAV	**Davao City (W)**	**0.56**	**58**	Pg	**Pb**	**14 13 09.6**	**+0.4**
	13μm,0.3s,baz=239,slow=5.9,SNR=455						
DAV				Lg	Lg	14 13 19.4	
	8μm,0.3s,baz=336,slow=19,SNR=9.2						
DAV				LR	LR	14 13 33.2	
	comp=Z,17μm,20.0s,baz=22,slow=52						
SGSI	**Sangihe**	**3.09**	**172**	P	**Pn**	**14 13 47.7**	**+1.7**
KMSI	**Cibinong**	**6.25**	**190**	P	**Pn**	**14 14 31.5**	**+2.0**
TNTI	**Ternate**	**6.37**	**159**		**Pn**	**14 14 32.0**	**+0.9**
TNTI	**Ternate**	**6.37**	**159**	P	**Pn**	**14 14 33.6**	**+2.5**
	0.8nm3μm151nm,0.9s						
MRSI	**Marisa**	**7.00**	**207**	P	**Pn**	**14 14 40.7**	**+0.9**
TOLI2	**Tolitoli**	**7.08**	**218**		**Pn**	**14 14 39.1**	**-1.8**
LUWI	**Luwuk**	**8.10**	**197**		**Pn**	**14 14 56.2**	**+1.3**
LUWI	**Luwuk**	**8.10**	**197**	P	**Pn**	**14 14 59.1**	**+4.2**
MPSI	**Mapaga**	**8.23**	**219**	P	**Pn**	**14 15 00.1**	**+3.4**
TGY	**Tagaytay City**	**8.36**	**331**	LR	LR	14 18 34.3	
	comp=Z,1μm,18.8s,baz=101,slow=41						
APSI	**Ampana**	**8.37**	**204**	P	**Pn**	**14 15 02.1**	**+3.5**
SANI	**Sanana**	**8.80**	**174**	P	**Pn**	**14 15 05.1**	**+0.5**
	2μm150nm,0.8s						
KKM	**Kota Kinabalu**	**8.86**	**266**		**Pn**	**14 15 05.8**	**+0.4**
SWI	**Sorong**	**9.76**	**141**	P	**Pn**	**14 15 20.4**	**+2.7**
	817nm80nm,1.1s						
NLAI	**Namlea**	**10.14**	**169**	P	**Pn**	**14 15 22.7**	**-0.2**
	2μm157nm,1.0s						
AAI	**Ambon**	**10.84**	**163**	P	**Pn**	**14 15 32.9**	**+0.5**
	119nm,0.9s						
KDI	**Kendari**	**10.94**	**193**	P	**Pn**	**14 15 37.1**	**+3.2**
TTSI	**Tana Toraja**	**11.09**	**209**	P	**Pn**	**14 15 39.8**	**+4.0**
SPSI	**Sidrap Palu**	**11.92**	**207**	P	**Pn**	**14 15 52.0**	**+4.7**
	37nm,1.0s						
FAKI	**Fak Fak**	**11.98**	**143**		**Pn**	**14 15 49.5**	**+1.4**
FAKI	**Fak Fak**	**11.98**	**143**	P	**Pn**	**14 15 50.0**	**+1.9**
	97nm,1.0s						
BNSI	**Bone**	**12.16**	**204**	P	**Pn**	**14 15 53.9**	**+3.3**
	1μm103nm,1.6s						
RKPI	**Ransiki, Papua**	**12.23**	**132**	P	**Pn**	**14 15 54.2**	**+2.6**
	2μm178nm,1.3s						
KAPI	**Kappang**	**12.87**	**205**	Pn	**Pn**	**14 16 03.5**	**+3.3**
	baz=27,slow=14						
KAPI				Sn	**Sn**	**14 18 19.5**	**-4.0**
	0.6nm,0.3s,baz=52,slow=16,SNR=1.0						
KAPI				LR	LR	14 21 12.7	
	comp=Z,999nm,20.2s,baz=36,slow=39						
BAKI	**Biak**	**13.53**	**125**	P	**Pn**	**14 16 11.9**	**+2.6**
	1μm84nm,1.3s						
SBUM	**Sibu**	**13.54**	**252**		**Pn**	**14 16 09.3**	**-0.1**

JAY LR LR 14 22 54.9
comp=Z,283nm,20.3s,baz=304,slow=33
comp=Z,9.6nm,0.9s
QZH Quanzhou 19.12 342 *e*P **P 14 17 20.8 +0.5**
QZH *e*S **Sn 14 20 55.6 +0.3**
QZH LR LR
comp=Z,930nm,22.3s
QZH LR LR
comp=Z,1µm,23.4s
QZH LR LR
comp=Z,1µm,26.1s
QIZ Qiongzhong 19.21 311 P **P 14 17 21.9 +0.5**
QIZ S **Sn 14 20 56.7 -0.9**
QIZ LR LR
comp=Z,680nm,14.3s
QIZ LR LR
comp=Z,560nm,18.1s
QIZ LR LR
comp=Z,990nm,14.8s
NGJI Ngawi 19.55 224 P **Pn 14 17 29.6 +3.1**
comp=Z,64nm,1.1s
JOW Kunigami 20.18 8 **P 14 17 31.0 -0.9**
JOW IAmb IAmb 14 17 37.9
comp=Z,48nm,0.9s
JOW Kunigami 20.18 8 P **P 14 17 31.3 -0.6**
comp=Z,17nm,0.7s,baz=180,slow=6.1,SNR=7.8
JOW LR LR 14 25 24.1
comp=Z,396nm,20.6s,baz=158,slow=37
comp=Z,17nm,0.7s
MTN Manton Dam 20.39 163 **P 14 17 34.2 +0.1**
MTN IAmb IAmb 14 17 37.9
comp=Z,55nm,0.9s
GUMO Guam 20.59 69 LR LR 14 27 11.3
comp=Z,176nm,18.7s,baz=246,slow=41
UBPT Khong Chiam 21.03 295 P **P 14 17 41.2 0.0**
LEM Lembang 22.06 233 P **P 14 17 57.1 +4.6**
comp=Z,83nm,1.0s
KNRA Kununurra 22.59 171 **P 14 17 57.2 -0.7**
MDSI Maura Dua 23.69 242 P **P 14 18 10.8 +1.6**
comp=Z,17nm,0.9s
LHSI Lahat 23.98 245 P **P 14 18 13.8 +1.8**
comp=Z,44nm,0.9s
LWLI Liwa 24.05 241 P **P 14 18 14.6 +1.8**
IPM Ipoh 24.07 266 P **P 14 18 11.1 -1.7**
IPM IAmb IAmb 14 18 19.5
comp=Z,68nm,1.6s
KULM Kulim 24.36 268 **P 14 18 15.0 -0.5**
FITZ Fitzroy Crossi 24.71 179 **P 14 18 17.4 -1.2**
NJ2 Nanjing 25.82 348 *e*P **P 14 18 29.7 +1.1**
NJ2 pmax pmax
comp=Z,14nm,0.6s
PSI Prapat 26.38 263 LR LR 14 30 23.8
comp=Z,259nm,18.5s,baz=96,slow=40
RPSI Rantau Prapat 26.40 262 **P 14 18 33.6 -0.4**
RPSI IAmb IAmb 14 18 40.4
comp=Z,33nm,1.2s
SISI Saibi 27.18 254 P **P 14 18 43.2 +2.1**
comp=Z,44nm,1.2s
COEN Coen 27.31 139 P **P 14 18 42.1 -0.1**
WB0 Warramunga Arr 27.91 161 IAmb IAmb 14 19 05.7
comp=Z,19nm,0.9s
CMAR Chiang Mai Arr 28.00 297 **P 14 18 47.7 -0.7**
CMAR Chiang Mai Arr 28.00 297 P **P 14 18 46.6 -1.8**
comp=Z,1.5nm,0.7s,baz=111,slow=9.2,SNR=12
CMAR LR LR 14 29 50.6
comp=Z,115nm,22.0s,baz=105,slow=36
comp=Z,1.5nm,0.7s
WRAB Tennant Creek 28.05 161 P **P 14 18 46.9 -1.9**
WRAB IAmb IAmb 14 19 06.7
comp=Z,29nm,1.1s
WRA Warramunga Arr 28.06 161 **P 14 18 47.8 -1.1**
WRA Warramunga Arr 28.06 161 P **P 14 18 46.6 -2.3**
comp=Z,4.0nm,0.7s,baz=339,slow=9.0,SNR=34
WRA S **S 14 23 34.6 +1.2**
comp=Z,1.1nm,0.9s,baz=335,slow=16,SNR=2.1
comp=Z,4.0nm,0.7s
KMI Kunming 28.12 313 P **P 14 18 50.8 +1.2**
KMI pmax pmax
comp=Z,14nm,1.4s
KMI LR LR
comp=Z,550nm,21.6s
KMI LR LR
comp=Z,390nm,25.5s
KMI LR LR
comp=Z,340nm,19.0s
WR8 Warramunga Arr 28.12 161 P **P 14 18 47.8 -1.6**
WR8 IAmb IAmb 14 19 29.6
comp=Z,45nm,1.4s
CHTO Chiang Mai 28.13 298 **P 14 18 48.3 -1.2**
MBWA Marble Bar 28.25 191 P **P 14 18 51.1 +0.6**
MBWA IAmb IAmb 14 19 10.6
comp=Z,25nm,1.1s
PZH PanZhiHua 29.66 314 P **P 14 19 05.7 +2.5**
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,5.0s
KSRS Korea Array 30.65 4 P **P 14 19 09.2 -2.5**
comp=Z,1.0nm,0.7s,baz=187,slow=10,SNR=9.8
comp=Z,1.0nm,0.7s
CD2 Chengdu 31.25 323 P **P 14 19 20.0 +2.8**
CD2 S **S 14 24 24.0 +0.4**
CD2 pmax pmax
comp=Z,30nm,1.5s
CD2 pmax pmax
comp=Z,270nm,7.8s
CD2 LR LR
comp=Z,930nm,26.4s
CD2 LR LR
comp=Z,970nm,25.3s
CD2 LR LR
comp=Z,650nm,17.5s
ASAR Alice Springs 31.45 164 **P 14 19 17.7 -1.2**
ASAR Alice Springs 31.45 164 P **P 14 19 17.3 -1.6**
comp=Z,2.4nm,0.6s,baz=343,slow=8.8,SNR=70
ASAR S **S 14 24 24.6 -2.0**
comp=Z,0.4nm,0.7s,baz=338,slow=11,SNR=2.0
comp=Z,2.4nm,0.6s
HNS HongShan 31.93 344 ⇑P **P 14 19 25.3 +2.4**
HNS pmax pmax
comp=Z,27nm,1.1s
HNS LR LR
comp=Z,380nm,23.1s
HNS LR LR
comp=Z,490nm,20.0s
HNS LR LR
comp=Z,400nm,21.4s
MJAR Matsushiro Arr 31.96 20 P **P 14 19 21.7 -1.6**
comp=Z,3.6nm,0.7s,baz=192,slow=9.0,SNR=7.1
comp=Z,3.6nm,0.7s
JMM Marumori 34.08 22 P **P 14 19 40.8 -0.9**
BJI Beijing 34.08 348 P **P 14 19 43.4 +1.7**
BJI sP **sP 14 19 49.9 +2.5**
BJI S **S 14 25 05.6 -1.6**
BJI pmax pmax
comp=Z,12nm,1.2s
BJI LR LR
comp=Z,78nm,22.2s
BJI LR LR
comp=Z,240nm,23.8s
BJI LR LR
comp=Z,95nm,15.4s
LZH Lanzhou 35.08 329 *e*P **P 14 19 52.9 +2.3**
LZH sP sP 14 19 59.7 +3.3
LZH pmax pmax
comp=Z,28nm,1.5s
LZH LR LR
comp=Z,620nm,15.2s
LZH LR LR
comp=Z,440nm,14.6s
LZH LR LR
comp=Z,400nm,16.2s
BRDH Bariadhala 35.89 300 LR LR 14 35 45.1
comp=Z,421nm,19.1s,baz=132,slow=38
HHC Hu-ho-hao-te 36.03 342 ⇓*i*P P 14 20 05.0 +6.3
HHC S **S 14 25 42.0 +4.6**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,89nm,5.9s
HHC LR LR
comp=N,300nm,21.0s
HHC LR LR
comp=E,220nm,17.7s
HHC LR LR
comp=Z,490nm,18.5s
CN2 Changchun 36.89 0 P **P 14 20 06.9 +1.1**
CN2 *e*S **S 14 25 51.3 +1.1**
CN2 LR LR
comp=Z,150nm,16.0s
CN2 LR LR
comp=Z,120nm,16.0s
CN2 LR LR
comp=Z,3µm,18.0s
FORT Forrest 37.44 176 IAmb IAmb 14 20 22.4
comp=Z,10nm,0.7s
USA0B Ussuriysk Arra 37.77 8 P **P 14 20 13.2 -0.1**
USA0B IAmb IAmb 14 20 18.8
comp=Z,29nm,1.1s
USRK Ussuriysk Ar. 37.77 8 P **P 14 20 12.4 -0.9**
comp=Z,15nm,0.9s,baz=185,slow=7.9,SNR=18
USRK LR LR 14 34 54.7
comp=Z,182nm,22.0s,baz=188,slow=35
comp=Z,15nm,0.9s
XLT XiLinHaoTe 37.82 349 *e*P **P 14 20 15.2 +1.4**
XLT pP sP 14 20 19.4 -0.2
XLT sP pP 14 20 22.7 +4.8
XLT pmax pmax
comp=Z,16nm,0.9s
XLT pmax pmax
comp=Z,140nm,3.9s
XLT LR LR
comp=Z,420nm,21.3s
XLT LR LR
comp=Z,170nm,20.4s
MDJ Mudanjiang 37.90 5 P **P 14 20 13.4 -1.0**
MDJ pmax pmax
comp=Z,30nm,1.0s
BNX BinXian 38.87 3 ⇑P **P 14 20 22.4 -0.2**
BNX pP **pP 14 20 25.7 -1.0**
BNX sP **sP 14 20 27.0 -1.3**
BNX S **S 14 26 21.3 +1.0**
BNX pmax pmax
comp=Z,8.0nm,1.9s
BNX pmax pmax
comp=Z,110nm,5.6s
BNX LR LR
comp=Z,180nm,15.7s
BNX LR LR
comp=Z,230nm,19.5s
BNX LR LR
comp=Z,110nm,19.6s
GTA Gaotai 39.67 329 *e*P **P 14 20 31.2 +1.7**
GTA sP sP 14 20 43.5 +8.2
GTA pmax pmax
comp=Z,8.0nm,1.3s
GTA LR LR
comp=Z,410nm,20.4s
GTA LR LR
comp=Z,270nm,20.0s
GTA LR LR
comp=Z,250nm,21.8s
NWAO Narrogin (SRO) 40.18 190 LR LR 14 41 02.4
comp=Z,164nm,18.1s,baz=92,slow=42
ASAJ Asahikawa 40.23 20 LR LR 14 36 39.1
comp=Z,252nm,20.4s,baz=215,slow=35
EIDS Eidsvold 40.73 143 P **P 14 20 38.5 +0.2**
EIDS IAmb IAmb 14 20 44.5
comp=Z,29nm,1.6s
STKA Stephens Creek 41.53 159 **P 14 20 44.1 -0.7**
STKA Stephens Creek 41.53 159 P **P 14 20 44.1 -0.7**
comp=Z,6.7nm,0.6s,baz=333,slow=10,SNR=12
STKA LR LR 14 39 26.7
comp=Z,159nm,20.6s,baz=347,slow=38
comp=Z,6.7nm,0.6s
KLR Kul'dur 42.69 6 LR LR 14 39 46.8
comp=Z,150nm,20.4s,baz=199,slow=38
HEH HeiHe 43.38 2 *e*P **P 14 20 58.9 -0.7**
HEH pmax pmax
comp=Z,21nm,1.0s
SONM Songino Array 43.92 342 P **P 14 21 03.1 -1.1**
comp=Z,0.6nm,0.4s,baz=157,slow=7.8,SNR=8.1
SONM LR LR 14 40 09.5
comp=Z,382nm,21.7s,baz=158,slow=37
comp=Z,0.6nm,0.4s
PALK Pailekele 44.06 273 LR LR 14 39 51.1
comp=Z,124nm,18.9s,baz=87,slow=37
ARMA Armidale 44.88 147 **P 14 21 11.8 -0.2**
WMQ Urumqi 49.32 325 *e*P **P 14 21 48.2 +1.7**
WMQ LR LR
comp=Z,450nm,22.7s
WMQ LR LR
comp=Z,320nm,17.5s
WMQ LR LR
comp=Z,130nm,20.5s
DZM Mont Dzumac 49.62 126 *e*LR LR 14 35 53.9
comp=Z,259nm,24.6s
PETK Petropavlovsk- 53.28 24 P **P 14 22 16.6 +0.6**
PETK Petropavlovsk- 53.28 24 P **P 14 22 16.3 +0.3**
comp=Z,7.3nm,0.7s,baz=221,slow=7.1,SNR=15
PETK LR LR 14 44 51.7
comp=Z,180nm,19.9s,baz=218,slow=36
comp=Z,7.3nm,0.7s
PET Petropavlovsk 53.61 25 P **P 14 22 18.4 +0.1**
MKAR Makanchi Array 54.15 325 P **P 14 22 22.8 +0.3**
MKAR Makanchi Array 54.15 325 P **P 14 22 21.9 -0.6**
comp=Z,3.2nm,0.7s,baz=122,slow=8.0,SNR=27
MKAR LR LR 14 45 41.6
comp=Z,153nm,20.9s,baz=118,slow=36
comp=Z,3.2nm,0.7s
KSH Kashi 54.77 314 P **P 14 22 28.3 +1.0**
KSH pmax pmax
comp=Z,11nm,1.2s
NIL Nilore 54.81 307 **P 14 22 26.8 -0.8**
KDJ Kajisay 55.02 318 IAmb IAmb 14 22 34.7
comp=Z,9.5nm,0.9s
YAK Yakutsk 55.25 3 LR LR 14 46 57.0
comp=Z,132nm,20.3s,baz=204,slow=37
AAK Ala-Archa 57.04 317 LR LR 14 49 53.7
comp=Z,208nm,21.6s,baz=106,slow=39
ZALV Zalesovo Beam 57.16 333 P **P 14 22 44.0 0.0**
ZALV Zalesovo Beam 57.16 333 P **P 14 22 43.7 -0.2**
comp=Z,1.0nm,0.6s,baz=116,slow=3.4,SNR=4.3
ZALV LR LR 14 49 01.8
comp=Z,79nm,18.6s,baz=140,slow=38
comp=Z,1.0nm,0.6s
KURBB Kurchatov Arra 58.32 327 P **P 14 22 51.0 -1.2**
comp=Z,4.0nm,0.7s,baz=125,slow=6.5,SNR=18
comp=Z,4.0nm,0.7s
KURK Kurchatov 58.33 327 P **P 14 22 52.1 -0.1**
KURK IAmb IAmb 14 23 09.5
comp=Z,14nm,1.1s
GAR Garm 58.70 312 P **P 14 22 55.1 -0.1**
SEY Seymchan 59.48 14 LR LR 14 51 09.8
comp=Z,65nm,18.8s,baz=219,slow=38
KK31 Karatay Array 59.92 316 P **P 14 23 03.1 -0.3**
KK31 IAmb IAmb 14 23 10.7
comp=Z,17nm,1.2s
KKAR Karatay Array 59.92 316 P **P 14 23 02.6 -0.9**
KKAR Karatay Array 59.92 316 IAmb IAmb 14 23 10.7
comp=Z,18nm,1.2s
BVAR Borovoye Array 63.91 327 LR LR 14 53 06.1
comp=Z,89nm,18.5s,baz=122,slow=38
TIXI Tiksi 64.85 1 LR LR 14 53 26.0
comp=Z,209nm,20.6s,baz=208,slow=38
NRIK Noril'sk 67.11 346 LR LR 14 55 21.3
comp=Z,174nm,19.5s,baz=155,slow=38
AB31 Akbulak array 68.79 320 P **P 14 24 00.2 -1.2**
AB31 IAmb IAmb 14 24 08.9
comp=Z,16nm,1.4s
ABKAR Akbulak array 68.79 320 P **P 14 24 00.2 -1.2**
ABKAR IAmb IAmb 14 24 08.9
comp=Z,16nm,1.4s
AKTO Aktyubinsk 70.29 321 P **P 14 24 09.5 -1.2**
comp=Z,3.6nm,0.9s,baz=110,slow=8.2,SNR=6.3
AKTO LR LR 14 57 45.2
comp=Z,133nm,18.4s,baz=64,slow=38
comp=Z,3.6nm,0.9s
NIKH Nikolski High 70.30 36 P **P 14 24 10.7 +0.1**
baz=255
ARTI Arti 71.60 327 LR LR 14 55 38.3
comp=Z,88nm,21.9s,baz=92,slow=36
UNV Unalaska Valle 71.88 35 P **P 14 24 20.0 -0.2**
baz=256
GAMB Gambell 72.31 25 P **P 14 24 22.7 +0.1**
baz=248
M11K Mekoryuk 73.69 29 P **P 14 24 31.2 +0.4**
baz=255
TNA Tin City 74.45 23 P **P 14 24 35.3 +0.2**
baz=252
S12K Black Hills 74.78 34 P **P 14 24 37.4 0.0**
baz=260
K13K Kusilvak Mount 74.81 27 P **P 14 24 37.9 +0.6**
baz=256
F14K Arctic Creek 75.06 24 P **P 14 24 39.2 +0.5**
baz=253
M13K Dall Lake 75.07 29 P **P 14 24 39.2 +0.3**
baz=257
ANM Nome 75.19 25 P **P 14 24 39.8 +0.3**
baz=254
J14K Nanvaranak Lak 75.51 27 P **P 14 24 42.0 +0.7**
baz=256
L14K Kuka Creek 75.59 28 IAmb IAmb 14 24 45.8
comp=Z,12nm,1.1s
L14K Kuka Creek 75.59 28 P **P 14 24 42.3 +0.5**
baz=258
SDPT Sand Point 75.61 35 P **P 14 24 42.4 +0.3**
baz=261
N14K Kuskokwak Cree 75.78 30 P **P 14 24 43.4 +0.5**
baz=259
F15K North Star Dit 75.79 24 P **P 14 24 43.5 +0.6**
baz=255
M14K Bethel 75.81 29 P **P 14 24 43.9 +0.8**
baz=258
G15K Niukluk 75.85 24 P **P 14 24 44.1 +0.8**
baz=255
O14K Tigyukauivet M 75.86 31 P **P 14 24 43.4 -0.1**
baz=259
CHNA Chernabura Isl 76.04 35 P **P 14 24 44.8 +0.3**
baz=262
L15K Ungalak Mounta 76.22 28 P **P 14 24 45.8 +0.4**
baz=258
C16K Lisburne Hills 76.24 21 IAmb IAmb 14 24 48.5
comp=Z,9.0nm,0.9s
C16K Lisburne Hills 76.24 21 P **P 14 24 46.2 +0.8**
baz=253
S14K Fog Glacier 76.27 34 P **P 14 24 46.3 +0.4**
baz=262
K15K Wolf Creek Mou 76.33 27 P **P 14 24 46.9 +0.8**
baz=258
M15K Kasigluk River 76.41 29 P **P 14 24 47.1 +0.6**
baz=260
H16K Elim 76.52 25 P **P 14 24 47.3 +0.2**
baz=257
O15K Ungalikthiuk R 76.58 31 P **P 14 24 47.7 +0.1**
baz=261
N15K Kwethluk River 76.61 30 IAmb IAmb 14 24 55.0
comp=Z,12nm,1.1s
N15K Kwethluk River 76.61 30 P **P 14 24 48.0 +0.3**
baz=260
G16K Koyuk River 76.64 24 P **P 14 24 48.4 +0.7**
baz=257
KIRV Kirov 76.80 329 LR LR 15 02 05.8
comp=Z,78nm,19.4s,baz=97,slow=38
D17K Noatak River 76.91 22 P **P 14 24 49.9 +0.7**
baz=256,SNR=26
J16K Anvik River 76.94 27 P **P 14 24 49.9 +0.4**
baz=259
I17K Unalakleet 77.02 26 P **P 14 24 50.2 +0.3**
baz=259
BELG Belogornoye 77.03 322 LR LR 14 59 36.4
comp=Z,88nm,20.2s,baz=74,slow=36
RDOG Red Dog Mine 77.06 22 P **P 14 24 50.8 +0.7**
baz=256
C17K DeLong Mountai 77.07 21 P **P 14 24 51.1 +0.9**
baz=255
L16K Owhat River 77.17 28 IAmb IAmb 14 24 57.5
comp=Z,8.0nm,0.9s
L16K Owhat River 77.17 28 P **P 14 24 51.4 +0.6**
baz=260,SNR=7.2
E17K Hotham Inlet 77.23 23 P **P 14 24 51.9 +0.9**
baz=257,SNR=6.4
M16K Timber Creek 77.30 29 IAmb IAmb 14 24 58.3
comp=Z,6.4nm,0.8s
M16K Timber Creek 77.30 29 P **P 14 24 52.3 +0.7**
baz=261,SNR=9.0
N16K Nishlik Lake 77.31 30 P **P 14 24 52.7 +1.0**
baz=261,SNR=7.1
F17K Baldwin Pennin 77.31 23 P **P 14 24 51.9 +0.4**
baz=258
G17K Kiwalik Mounta 77.36 24 P **P 14 24 52.7 +0.9**
baz=258,SNR=7.0
O16K Kokwok River B 77.52 30 IAmb IAmb 14 24 57.9
comp=Z,9.0nm,1.1s
O16K Kokwok River B 77.52 30 P **P 14 24 53.4 +0.7**
baz=262
H17K Granite Mounta 77.55 25 P **P 14 24 52.9 0.0**
baz=259
J17K VABM Dome 77.64 27 P **P 14 24 54.0 +0.6**
baz=260,SNR=5.7
B18K Kokolik River 77.77 20 P **P 14 24 54.7 +0.6**
baz=256
E18K Tukpahlearik C 77.77 22 P **P 14 24 55.0 +0.9**
baz=258
L17K Donlin 77.79 28 P **P 14 24 55.3 +1.0**
baz=261,SNR=7.2
C18K Utukok River 77.82 21 P **P 14 24 55.2 +0.8**
baz=257
RAYN Ar Rayn 77.82 293 P **P 14 24 54.8 -0.6**
K17K Iditarod 77.88 27 IAmb IAmb 14 25 02.5
comp=Z,16nm,1.1s
K17K Iditarod 77.88 27 P **P 14 24 55.7 +0.9**
baz=261,SNR=8.8
F18K Selawik 77.97 23 P **P 14 24 56.1 +1.0**
baz=259,SNR=5.4
O17K Koliganek Bris 78.04 30 P **P 14 24 56.7 +1.0**
baz=263
M17K Holitna River 78.09 29 IAmb IAmb 14 25 03.7
comp=Z,10nm,1.1s
M17K Holitna River 78.09 29 P **P 14 24 57.0 +1.0**
baz=262
N17K Nushagak Hills 78.09 30 IAmb IAmb 14 25 00.3
comp=Z,10nm,1.1s
N17K Nushagak Hills 78.09 30 P **P 14 24 56.9 +0.9**
baz=263
Q16K King Salmon 78.14 32 P **P 14 24 57.1 +0.9**
baz=264
R17L Mt. Peulik Vol 78.18 33 P **P 14 24 57.2 +0.7**
baz=264
H18K Honhosa River 78.24 25 P **P 14 24 57.6 +0.8**
baz=261
G18K Tagagawik 78.24 24 P **P 14 24 57.7 +0.9**
baz=260
P17K Kvichak River 78.31 31 P **P 14 24 58.0 +0.9**
baz=264
C19K Lookout Ridge 78.48 21 P **P 14 24 59.2 +1.2**
baz=259
Q17K Contact Creek 78.49 32 P **P 14 24 58.5 +0.1**
baz=264
L18K Granite Mounta 78.55 28 P **P 14 24 58.5 +0.1**
baz=263,SNR=6.1
J18K Innoko River 78.70 27 P **P 14 25 00.1 +0.8**
baz=262
N18K Kilae Creek 78.75 30 P **P 14 25 00.2 +0.6**
baz=264
F19K Shaleruckik Mo 78.75 23 P **P 14 25 00.2 +0.8**
baz=261
GCSA Galena City Sc 78.80 25 P **P 14 25 00.6 +0.9**
baz=262
M18K Stony River 78.87 29 P **P 14 25 01.0 +0.8**
baz=264
D19K Kuna River 78.90 21 P **P 14 25 00.9 +0.6**
baz=260
G19K Purcell Mounta 78.92 24 P **P 14 25 01.0 +0.6**
baz=262
P18K Big Mountain, 78.94 31 P **P 14 25 00.7 0.0**
baz=265
Q18K Katmai Hardscr 78.99 32 P **P 14 25 00.9 -0.3**
baz=265
O18K Koktuh Hills 79.00 30 IAmb IAmb 14 25 04.8
comp=Z,11nm,0.8s
O18K Koktuh Hills 79.00 30 P **P 14 25 01.9 +0.8**
baz=264,SNR=6.0
E19K Redstone River 79.06 23 P **P 14 25 02.0 +0.8**
baz=261
H19K Roundabout Mou 79.09 25 IAmb IAmb 14 25 07.5
comp=Z,12nm,1.1s
H19K Roundabout Mou 79.09 25 P **P 14 25 01.8 +0.5**
baz=262,SNR=12
R18K Karluk 79.19 33 P **P 14 25 03.0 +0.9**
baz=266
J19K Poorman 79.25 26 P **P 14 25 03.0 +0.7**
baz=263
SII Sitkinak Islan 79.27 34 P **P 14 25 03.4 +0.8**
baz=266
L19K White Mountain 79.40 28 P **P 14 25 04.5 +1.3**
baz=264,SNR=5.4
N19K Bonanza Creek 79.45 29 IAmb IAmb 14 25 10.6
comp=Z,11nm,0.9s
N19K Bonanza Creek 79.45 29 P **P 14 25 04.6 +1.0**
baz=265
O19K Port Alsworth 79.47 30 P **P 14 25 04.1 +0.5**

	baz=265					
D20K	**Etivluk River**	79.48	21	P	P	14 25 04.2 +0.7
	baz=262					
B20K	**Meade River**	79.48	20	IAmb	IAmb	14 25 09.9
	comp=Z,8.9nm,0.8s					
B20K	**Meade River**	79.48	20	P	P	14 25 04.4 +0.9
	baz=261					
E20K	**Nigu River**	79.56	22	P	P	14 25 04.9 +0.9
	baz=262					
F20K	**Avaraart Lake**	79.58	23	P	P	14 25 04.6 +0.6
	baz=263					
M19K	**Big River Lodg**	79.59	28	P	P	14 25 05.0 +0.7
	baz=265					
Q19K	**Cape Douglas,**	79.72	31	P	P	14 25 05.5 +0.5
	baz=266					
KBZ	**Khabaz**	79.73	313	P	P	14 25 02.7 -2.6
	comp=Z,1.9nm,1.0s,baz=86,slow=3.7,SNR=5.4					
KBZ				LR	LR	15 04 22.9
	comp=Z,111nm,19.5s,baz=72,slow=39					
	comp=Z,1.9nm,1.0s					
H20K	**Anotleneega Mo**	79.73	25	P	P	14 25 05.6 +0.6
	baz=264,SNR=7.9					
OHAK	**Old Harbor**	79.80	33	P	P	14 25 06.6 +1.2
	baz=267					
I20K	**Naaghedeneel**	79.83	25	P	P	14 25 06.3 +0.9
	baz=264					
K20K	**Telida**	79.87	27	IAmb	IAmb	14 25 12.0
	comp=Z,13nm,1.4s					
K20K	**Telida**	79.87	27	P	P	14 25 06.5 +0.8
	baz=265					
A21K	**Barrow**	79.87	19	P	P	14 25 06.4 +0.9
	baz=261					
L20K	**Farewell, AK**	79.88	28	P	P	14 25 06.9 +1.1
	baz=265					
J20K	**Nowinta River**	79.91	26	IAmb	IAmb	14 25 12.8
	comp=Z,23nm,1.6s					
J20K	**Nowinta River**	79.91	26	P	P	14 25 07.1 +1.2
	baz=265					
P19K	**Oil Pt**	79.98	31	P	P	14 25 07.5 +1.1
	baz=266					
M20K	**Styx River**	80.18	28	IAmb	IAmb	14 25 11.1
	comp=Z,8.1nm,0.8s					
M20K	**Styx River**	80.18	28	P	P	14 25 08.4 +0.8
	baz=266,SNR=7.6					
C21K	**Knifeblade Rid**	80.19	21	P	P	14 25 07.7 +0.3
	baz=263					
KDAK	**Kodiak Island**	80.21	33	LR	LR	14 54 47.7
	comp=Z,92nm,21.4s,baz=199,slow=31					
KDAK	**Kodiak Island**	80.21	33	P	P	14 25 08.0 +0.4
	baz=267					
IMAR	**Indian Mountai**	80.25	24	P	P	14 25 07.6 -0.1
B21K	**Ikpikpuk River**	80.31	21	IAmb	IAmb	14 25 16.7
	comp=Z,13nm,0.9s					
B21K	**Ikpikpuk River**	80.31	21	P	P	14 25 08.7 +0.7
	baz=263,SNR=8.4					
O20K	**Slope Mountain**	80.31	30	P	P	14 25 09.1 +0.8
	baz=267					
Q20K	**Shuyak Island**	80.35	32	P	P	14 25 09.0 +0.7
	baz=267					
A22K	**Sinclair Lake**	80.36	19	P	P	14 25 09.0 +0.9
	baz=263					
G21K	**Allakaket**	80.39	24	P	P	14 25 08.9 +0.4
	baz=265					
E21K	**Killik River**	80.40	22	P	P	14 25 09.1 +0.5
	baz=264					
F21K	**Alatna River**	80.47	23	P	P	14 25 09.7 +0.8
	baz=265					
H21K	**Melozitna Rive**	80.61	25	P	P	14 25 10.0 +0.3
	baz=266,SNR=11					
PPLA	**Purkeypile**	80.69	27	P	P	14 25 10.4 +0.1
	baz=267					
CHUM	**Lake Minchumin**	80.69	26	P	P	14 25 10.6 +0.5
	baz=266					
CAST	**Castle Rocks**	80.77	27	IAmb	IAmb	14 25 14.0
	comp=Z,12nm,0.9s					
CAST	**Castle Rocks**	80.77	27	P	P	14 25 10.8 +0.2
	baz=267,SNR=21					
B22K	**Teshekpuk Lake**	80.79	20	IAmb	IAmb	14 25 19.2
	comp=Z,10nm,0.8s					
B22K	**Teshekpuk Lake**	80.79	20	P	P	14 25 11.0 +0.5
	baz=264					
D22K	**Ayikyak River**	80.92	21	P	P	14 25 11.7 +0.5
	baz=265					
I21K	**Tanana**	80.92	25	IAmb	IAmb	14 25 15.2
	comp=Z,8.8nm,0.9s					
I21K	**Tanana**	80.92	25	P	P	14 25 11.7 +0.5
	baz=266,SNR=7.7					
SKT	**Skwentna**	80.94	28	IAmb	IAmb	14 25 14.4
	comp=Z,9.8nm,0.9s					
SKT	**Skwentna**	80.94	28	P	P	14 25 11.5 -0.1
	baz=267,SNR=10.0					
F22K	**John River**	81.00	23	P	P	14 25 12.6 +0.9
	baz=266					
CAPN	**Captain Cook N**	81.07	30	P	P	14 25 12.6 +0.5
	baz=268					
E22K	**Anaktuvuk Pass**	81.18	22	IAmb	IAmb	14 25 19.4
	comp=Z,10nm,1.1s					
E22K	**Anaktuvuk Pass**	81.18	22	P	P	14 25 13.8 +1.1
	baz=266,SNR=12					
H22K	**Ishtalitna Cre**	81.21	24	P	P	14 25 13.8 +0.9
	baz=267,SNR=7.4					
G22K	**Bettles**	81.22	23	P	P	14 25 14.0 +1.1
	baz=267					
BPAW	**Bear Paw Mtn.**	81.29	26	P	P	14 25 14.2 +0.9
	baz=268					
MLY	**Manley**	81.44	25	P	P	14 25 14.3 +0.2
	baz=268,SNR=12					
CUT	**Chulitna**	81.55	28	P	P	14 25 15.4 +0.7
	baz=268					
TRF	**Thorofare Moun**	81.57	27	IAmb	IAmb	14 25 18.3
	comp=Z,14nm,1.0s					
TRF	**Thorofare Moun**	81.57	27	P	P	14 25 15.2 +0.2
	baz=268,SNR=13					
M22K	**Willow**	81.60	29	P	P	14 25 15.5 +0.6
	baz=269,SNR=15					
D23K	**Nanushuk River**	81.64	21	IAmb	IAmb	14 25 24.0
	comp=Z,9.9nm,1.0s					
D23K	**Nanushuk River**	81.64	21	P	P	14 25 16.2 +1.1
	baz=267					
C23K	**Itkillik River**	81.71	20	P	P	14 25 16.4 +1.0
	baz=267,SNR=13					
COLD	**Coldfoot**	81.74	23	IAmb	IAmb	14 25 19.6
	comp=Z,8.5nm,0.9s					
COLD	**Coldfoot**	81.74	23	P	P	14 25 17.0 +1.3
	baz=268,SNR=13					
O22K	**Cooper Landing**	81.77	30	P	P	14 25 16.6 +0.7
	baz=269					
RC01	**Rabbit Creek A**	81.78	29	IAmb	IAmb	14 25 18.4
	comp=Z,9.2nm,0.9s					
RC01	**Rabbit Creek A**	81.78	29	P	P	14 25 16.6 +0.6
	baz=269					
G23K	**Bananza Creek**	81.79	24	P	P	14 25 17.0 +1.0
	baz=268,SNR=8.5					
SEW	**Seward**	81.90	30	IAmb	IAmb	14 25 23.1
	comp=Z,19nm,1.2s					
SEW	**Seward**	81.90	30	P	P	14 25 17.3 +0.8
	baz=270					
H23K	**Yukon River**	81.96	24	P	P	14 25 17.2 +0.4
	baz=269,SNR=6.6					
E23K	**Chandalar**	82.00	22	IAmb	IAmb	14 25 24.1
	comp=Z,11nm,0.9s					
E23K	**Chandalar**	82.00	22	P	P	14 25 17.9 +0.8
	baz=268,SNR=13					
I23K	**Minto, Yukon-K**	82.02	25	P	P	14 25 17.8 +0.7
	baz=269,SNR=9.6					
TOLK	**Toolik Lake Re**	82.03	22	P	P	14 25 18.0 +0.8
	baz=268					
PMR	**Palmer**	82.07	29	IAmb	IAmb	14 25 20.0
	comp=Z,8.6nm,0.9s					
PMR	**Palmer**	82.07	29	P	P	14 25 18.1 +0.7
	baz=270					
NEA2	**Nenana**	82.14	26	IAmb	IAmb	14 25 21.6
	comp=Z,8.6nm,1.0s					
NEA2	**Nenana**	82.14	26	P	P	14 25 18.6 +0.8
	baz=269					
MCK	**McKinley**	82.18	27	P	P	14 25 18.7 +0.6
	baz=269,SNR=9.0					
RND	**Reindeer**	82.22	27	IAmb	IAmb	14 25 27.1
	comp=Z,13nm,1.0s					
D24K	**Happy Valley**	82.32	21	IAmb	IAmb	14 25 26.4
	comp=Z,12nm,0.9s					
D24K	**Happy Valley**	82.32	21	P	P	14 25 19.6 +1.0
	baz=269					
WAT1	**Susitna Watana**	82.35	28	P	P	14 25 19.4 +0.4
	baz=270					
C24K	**Franklin Bluff**	82.37	21	IAmb	IAmb	14 25 25.4
	comp=Z,18nm,1.3s					
C24K	**Franklin Bluff**	82.37	21	P	P	14 25 19.1 +0.2
	baz=269					
KNK	**Knik Glacier**	82.39	29	P	P	14 25 19.8 +0.6
	baz=270					
E24K	**Your Creek**	82.42	22	P	P	14 25 20.0 +0.8
	baz=269					
PWL	**Port Wells**	82.46	30	P	P	14 25 20.4 +0.8
	baz=270,SNR=8.4					
F24K	**Squaw Lake**	82.64	23	P	P	14 25 20.7 +0.3
	baz=270					
H24K	**Noodor Dome**	82.65	24	IAmb	IAmb	14 25 24.2
	comp=Z,7.4nm,0.9s					
H24K	**Noodor Dome**	82.65	24	P	P	14 25 21.1 +0.6
	baz=270,SNR=10					
CCB	**Clear Creek Bu**	82.68	26	IAmb	IAmb	14 25 31.4
	comp=Z,12nm,1.4s					
WAT6	**Susitna Watana**	82.73	28	P	P	14 25 21.5 +0.4
	baz=271,SNR=11					
M23K	**Glacier View**	82.74	29	P	P	14 25 21.3 +0.3
	baz=271					
G24K	**Hadweenzic Riv**	82.81	24	P	P	14 25 21.9 +0.7
	baz=270,SNR=7.7					
POKR	**Poker Plat Res**	82.84	25	P	P	14 25 22.1 +0.7
	baz=271					
DHY	**Denali Highway**	82.89	27	P	P	14 25 22.4 +0.5
	baz=271					
P23K	**Montague Islan**	82.93	30	P	P	14 25 22.5 +0.5
	baz=271					
SCM	**Sheep Creek Mo**	82.93	29	P	P	14 25 22.7 +0.6
	baz=271					
HDA	**Harding Lake**	83.06	26	IAmb	IAmb	14 25 28.4
	comp=Z,5.8nm,0.7s					
HDA	**Harding Lake**	83.06	26	P	P	14 25 23.2 +0.6
	baz=271					
GLI	**Glacier Island**	83.06	29	P	P	14 25 23.3 +0.6
	baz=271					
ILAR	**Eielson Array**	83.07	26	P	P	14 25 22.1 -0.6
ILAR	**Eielson Array**	83.07	26	P	P	14 25 21.6 -1.1
	comp=Z,2.9nm,0.9s,baz=256,slow=5.8,SNR=17					
	comp=Z,2.9nm,0.9s					
D25K	**Kavik River**	83.19	21	IAmb	IAmb	14 25 29.1
	comp=Z,6.7nm,1.1s					
D25K	**Kavik River**	83.19	21	P	P	14 25 24.0 +0.8
	baz=271					
G25K	**Bearman Lake**	83.35	24	P	P	14 25 25.1 +1.1
	baz=272					
M24K	**Tolsona, Glenn**	83.47	28	P	P	14 25 25.7 +0.9
	baz=272					
H25L	**Birch Creek**	83.48	24	P	P	14 25 25.8 +1.2
	baz=272					
Q23K	**Middleton Isla**	83.48	31	P	P	14 25 25.4 +0.6
	baz=272					
F25K	**Christian Rive**	83.50	23	P	P	14 25 25.9 +0.9
	baz=272					
E25K	**Arctic Village**	83.52	22	IAmb	IAmb	14 25 30.7
	comp=Z,16nm,1.4s					
E25K	**Arctic Village**	83.52	22	P	P	14 25 25.1 +0.2
	baz=272,SNR=5.3					
K24K	**Donnelly Dome**	83.59	27	P	P	14 25 25.7 +0.3
	baz=272,SNR=7.3					
KLU	**Klutina**	83.61	29	P	P	14 25 26.7 +1.2
	baz=272					
PRP	**Porcupine Dome**	83.63	25	P	P	14 25 26.5 +0.8
	baz=272					
C26K	**Camden Bay**	83.69	20	P	P	14 25 26.9 +1.2
	baz=272					
J25K	**Salcha River,**	83.73	26	IAmb	IAmb	14 25 36.7
	comp=Z,5.3nm,0.9s					
J25K	**Salcha River,**	83.73	26	P	P	14 25 26.9 +0.8
	baz=272					
EYAK	**Cordova Ski Ar**	83.74	30	P	P	14 25 27.2 +1.1
	baz=273					
PAX	**Paxson**	83.76	27	IAmb	IAmb	14 25 29.7
	comp=Z,8.1nm,1.1s					
PAX	**Paxson**	83.76	27	P	P	14 25 27.2 +0.8
	baz=273,SNR=8.1					
BMAR	**Burnt Mountain**	83.92	23	P	P	14 25 27.6 +0.6
HARP	**HAARP**	83.93	28	P	P	14 25 28.1 +1.0
	baz=273					
RIDG	**Independent Ri**	84.00	27	P	P	14 25 27.9 +0.4
	baz=273,SNR=15					
F26K	**Sheenjek River**	84.07	23	P	P	14 25 28.7 +1.0
	baz=273					
C27K	**Jago River**	84.12	21	P	P	14 25 28.8 +0.9
	baz=274					
N25K	**Chitina, Valde**	84.24	29	IAmb	IAmb	14 25 35.5
	comp=Z,7.8nm,1.1s					
N25K	**Chitina, Valde**	84.24	29	P	P	14 25 29.2 +0.4
	baz=274					
G26K	**Porcupine Rive**	84.26	23	P	P	14 25 29.6 +0.9
	baz=274					
BMRM	**Bremner River**	84.28	29	P	P	14 25 29.4 +0.4
	baz=274					
DOT	**Dot Lake**	84.36	27	IAmb	IAmb	14 25 32.9
	comp=Z,6.1nm,1.0s					
SCRK	**Sand Creek**	84.37	26	IAmb	IAmb	14 25 34.9
	comp=Z,12nm,1.2s					
SCRK	**Sand Creek**	84.37	26	P	P	14 25 30.2 +0.8
	baz=274					
KAIM	**Kayak Island**	84.43	30	P	P	14 25 30.2 +0.5
	baz=274					
J26L	**Joseph Creek**	84.52	26	P	P	14 25 30.5 +0.4
	baz=274					
MENT	**Mentasta**	84.56	27	IAmb	IAmb	14 25 36.7
	comp=Z,6.9nm,0.9s					
I26K	**Coal Creek Min**	84.63	25	P	P	14 25 31.2 +0.6
	baz=274					
L26K	**Log Cabin Wild**	84.72	27	IAmb	IAmb	14 25 39.5
	comp=Z,5.0nm,0.9s					
L26K	**Log Cabin Wild**	84.72	27	P	P	14 25 32.0 +0.9
	baz=274					
M26K	**Nabesna, AK**	84.94	28	P	P	14 25 33.3 +1.0
	baz=275					
BGLC	**Bering Glacier**	84.99	30	P	P	14 25 33.1 +0.7
	baz=275					
E27K	**Coleen River**	85.00	22	IAmb	IAmb	14 25 39.4
	comp=Z,9.8nm,1.1s					
E27K	**Coleen River**	85.00	22	P	P	14 25 33.4 +0.9
	baz=276					
MCARA	**McCarthy VSAT**	85.01	29	P	P	14 25 33.3 +0.7
	baz=275					
CRQE	**Cirque**	85.03	30	P	P	14 25 33.8 +0.9
	baz=275					
G27K	**Doyon Strip**	85.11	23	IAmb	IAmb	14 25 37.8
	comp=Z,18nm,1.7s					
G27K	**Doyon Strip**	85.11	23	P	P	14 25 34.2 +1.1
	baz=276					
D27M	**Malcolm River**	85.12	21	IAmb	IAmb	14 25 39.9
	comp=Z,11nm,1.1s					
D27M	**Malcolm River**	85.12	21	P	P	14 25 33.9 +0.8
	baz=276					
K27K	**Chicken**	85.20	26	P	P	14 25 34.2 +0.7
	baz=276					
H27K	**Steamboat Moun**	85.22	24	IAmb	IAmb	14 25 46.3
	comp=Z,5.9nm,0.9s					
H27K	**Steamboat Moun**	85.22	24	P	P	14 25 34.2 +0.6
	baz=276					
I27K	**Kandik River**	85.24	25	P	P	14 25 34.8 +1.0
	baz=276,SNR=18					
L27K	**Beaver Creek,**	85.41	27	IAmb	IAmb	14 25 41.6
	comp=Z,4.7nm,0.8s					
L27K	**Beaver Creek,**	85.41	27	P	P	14 25 35.1 +0.5
	baz=276					
BCAR	**Beaver Creek A**	85.43	27	P	P	14 25 34.9 +0.1
M27K	**Edge Creek, AK**	85.46	28	P	P	14 25 35.6 +0.6
	baz=276					
MESA	**MESA**	85.65	30	P	P	14 25 36.5 +0.5
	baz=276					
BARN	**Barnard Glacie**	85.70	29	IAmb	IAmb	14 25 55.4
	comp=Z,8.5nm,0.9s					
E28M	**Babbage River**	85.71	21	P	P	14 25 36.2 +0.2
	baz=278					
CTG	**Chitna Glacier**	85.86	29	P	P	14 25 37.5 +0.5
	baz=276					
BVCY	**Beaver Creek**	85.92	28	P	P	14 25 37.6 +0.5
	baz=277					
I28M	**Miner Creek**	85.96	25	P	P	14 25 37.7 +0.3
	baz=277,SNR=27					
MAW	**Mawson**	86.04	200	P	P	14 25 35.2 -2.2
	comp=Z,1.0nm,0.3s,baz=43,slow=4.5,SNR=4.5					
	comp=Z,1.0nm,0.3s					
MMAI	**Mount Meron Ar**	86.11	303	LR	LR	15 09 35.2
	comp=Z,55nm,18.0s,baz=90,slow=40					
YUK3	**Moose Creek**	86.19	28	P	P	14 25 39.2 +0.4
	baz=277					
E29M	**Blow River**	86.33	22	P	P	14 25 39.7 +0.7
	baz=279					
DAWY	**Dawson**	86.37	26	IAmb	IAmb	14 25 51.4
	comp=Z,20nm,2.0s					
DAWY	**Dawson**	86.37	26	P	P	14 25 40.1 +0.7
	baz=278					
O28M	**Mount Upton**	86.44	29	P	P	14 25 40.3 +0.2
	baz=277					
H29M	**Whitestone**	86.49	24	P	P	14 25 40.4 +0.5
	baz=279					
PINM	**Pinnacle**	86.50	30	P	P	14 25 40.5 +0.4
	baz=277					
G29M	**Pine Creek**	86.52	23	P	P	14 25 40.7 +0.7
	baz=279					
YUK8	**Steele Glacier**	86.58	29	P	P	14 25 40.7 0.0
	baz=278					
I29M	**Ogilvie Camp,**	86.64	25	IAmb	IAmb	14 25 52.4
	comp=Z,10nm,1.4s					
I29M	**Ogilvie Camp,**	86.64	25	P	P	14 25 40.9 +0.3
	baz=279					
J29N	**Klondike Camp**	86.82	26	P	P	14 25 41.9 +0.3
	baz=279					
BRTR	**Keskin Array B**	86.85	309	P	P	14 25 39.9 -2.4
	comp=Z,1.0nm,0.8s,baz=105,slow=3.3,SNR=4.4					
BRTR				LR	LR	15 09 48.4
	comp=Z,53nm,21.3s,baz=117,slow=39					
	comp=Z,1.0nm,0.8s					
PNL	**Peninsula**	86.98	30	P	P	14 25 42.7 +0.3
	baz=278					
M29M	**Somme Creek**	87.03	28	P	P	14 25 43.1 +0.4
	baz=279					
ARCES	**ARCESS Array B**	87.06	340	P	P	14 25 41.5 -1.0
	comp=Z,3.2nm,0.9s,baz=63,slow=5.4,SNR=4.2					
ARCES				LR	LR	15 09 45.6
	comp=Z,114nm,18.3s,baz=78,slow=39					
	comp=Z,3.2nm,0.9s					
L29M	**L29M**	87.07	27	P	P	14 25 43.2 +0.4
	baz=279					
YUK4	**Talbot Arm**	87.11	29	P	P	14 25 43.4 +0.1
	baz=279					
EPYK	**Eagle Plains**	87.12	24	P	P	14 25 43.2 +0.3
	baz=280					
SPITS	**Spitsbergen Ar**	87.20	349	LR	LR	15 08 23.0
	comp=Z,103nm,20.8s,baz=62,slow=38					
G30M	**tAoh Zraii Nji**	87.20	23	P	P	14 25 43.5 +0.1
	baz=281					
K29M	**Barlow Dome**	87.22	26	P	P	14 25 43.3 -0.4
	baz=280					
F30M	**Barrier River**	87.25	22	P	P	14 25 44.1 +0.6
	baz=281					
YUK6	**Outpost Mounta**	87.30	29	P	P	14 25 44.2 0.0
	baz=279					
I30M	**Mount Dempster**	87.47	25	P	P	14 25 45.1 +0.3
	baz=281					
PPT2	**Papeete2**	87.59	108	*e*LR	LR	14 53 30.8
	comp=Z,132nm,24.5s					
PPT2				*e*LR	LR	14 53 32.1
	comp=Z,139nm,27.0s					
J30M	**Hart River**	87.61	25	P	P	14 25 45.9 +0.4
	baz=281					
HYT	**Haines Junctio**	87.74	29	P	P	14 25 46.4 +0.3
	baz=280					
M30M	**Minto, Yukon**	87.77	27	P	P	14 25 46.6 +0.4
	baz=280					
P29M	**Windy Craggy**	87.82	30	P	P	14 25 47.0 +0.5
	baz=280					
N30M	**Aishikik Lake**	87.83	28	P	P	14 25 47.2 +0.7
	baz=280					
INK	**Inuvik**	87.94	21	LR	LR	15 09 23.3
	comp=Z,71nm,19.4s,baz=107,slow=38					
INK	**Inuvik**	87.94	21	P	P	14 25 47.4 +0.6
	baz=283					
G31M	**Satah River**	87.97	23	P	P	14 25 47.5 +0.6
	baz=282					
P30M	**Million Dollar**	88.13	30	P	P	14 25 48.5 +0.6
	baz=280					
H31M	**Peel River**	88.18	24	P	P	14 25 48.2 +0.1
	baz=282					
FINES	**FINESS Array B**	88.41	332	P	P	14 25 47.7 -1.4
	comp=Z,1.5nm,0.8s,baz=96,slow=5.6,SNR=3.9					
FINES				LR	LR	15 09 41.7
	comp=Z,110nm,19.9s,baz=66,slow=39					
	comp=Z,1.5nm,0.8s					
O30N	**Mendenhall**	88.43	29	P	P	14 25 49.6 +0.2
	baz=281					
N31M	**Braeburn, Yuko**	88.44	28	IAmb	IAmb	14 25 53.7
	comp=Z,5.2nm,0.8s					
N31M	**Braeburn, Yuko**	88.44	28	P	P	14 25 49.5 +0.1
	baz=281					
AKASG	**Malin Array Be**	88.53	321	P	P	14 25 49.3 -0.7
	comp=Z,0.3nm,0.3s,baz=76,slow=3.3,SNR=4.5					
AKASG				LR	LR	15 08 50.8
	comp=Z,50nm,21.6s,baz=52,slow=38					
	comp=Z,0.3nm,0.3s					
S31K	**Pelican**	88.89	32	P	P	14 25 52.3 +0.9
	baz=281					
M31M	**Drury Creek, Y**	88.94	27	P	P	14 25 52.4 +0.7
	baz=282					
WHY	**Whitehorse**	89.03	29	P	P	14 25 53.0 +0.7
	baz=282					
SKAG	**Skagway**	89.06	30	P	P	14 25 52.8 +0.5
	baz=282					
FARO	**Faro, Yukon**	89.41	27	P	P	14 25 54.4 +0.5
	baz=283					
N32M	**Quiet Lake**	89.78	28	P	P	14 25 55.7 0.0
	baz=284					
P32M	**Atlin**	89.84	30	P	P	14 25 56.5 +0.6
	baz=283					
S32K	**Killisnoo**	89.86	32	P	P	14 25 56.2 +0.2
	baz=282					
P33M	**Teslin, Yukon**	90.13	29	IAmb	IAmb	14 28 10.4
	comp=Z,13nm,2.0s					
P33M	**Teslin, Yukon**	90.13	29	P	P	14 25 57.8 +0.3
	baz=284					
MMPY	**Sheldon Lake,**	90.25	27	IAmb	IAmb	14 26 01.1
	comp=Z,6.5nm,1.2s					
MMPY	**Sheldon Lake,**	90.25	27	P	P	14 25 58.8 +0.9
	baz=285					
Q32M	**Nakina River**	90.71	30	P	P	14 26 00.5 +0.2
	baz=284					
U33K	**Whale Pass**	90.95	33	P	P	14 26 01.4 +0.3
	baz=284					
CRAG	**Craig**	91.10	34	P	P	14 26 02.4 +0.5
	baz=284					
R33M	**Jennings River**	91.24	30	P	P	14 26 02.9 +0.2
	baz=285					
MLR	**Muntele Rosu**	91.60	316	LR	LR	15 11 07.7
	comp=Z,109nm,21.4s,baz=72,slow=38					
V35K	**Ketchikan**	91.97	34	P	P	14 26 06.1 +0.2
	baz=285					
DLBC	**Dease Lake**	91.97	31	P	P	14 26 06.2 +0.2
	baz=286					
TOAD	**Toad River Com**	94.22	29	P	P	14 26 16.3 0.0
	baz=290					
HFS	**Hagfors**	94.59	332	LR	LR	15 10 44.4
	comp=Z,185nm,21.6s,baz=67,slow=37					
NOA	**NORSAR Array B**	95.36	333	LR	LR	15 14 54.4
	comp=Z,105nm,18.8s,baz=70,slow=39					
QSPA	**South Pole Qui**	96.66	180	P	P	14 26 26.4 -0.9
	comp=Z,1.2nm,1.1s,baz=288,slow=3.2,SNR=2.7					
	comp=Z,1.2nm,1.1s					
VRAC	**Vranov**	96.77	321	LR	LR	15 12 23.5
	comp=Z,79nm,21.9s,baz=62,slow=37					
YKA	**Yellowknife Ar**	97.40	24	P	Pdif	14 26 31.6 +0.9
	comp=Z,1.1nm,0.8s,baz=276,slow=4.1,SNR=4.1					
	comp=Z,1.1nm,0.8s					
LSZ	**Lusaka**	98.40	256	LR	LR	15 08 11.6
	comp=Z,89nm,19.8s,baz=224,slow=34					
TORD	**Torodi Ar. Bea**	120.41	289	PKP	PKiKP	14 31 50.0 +0.1
	comp=Z,2.5nm,0.4s,baz=106,slow=2.8,SNR=1.5					
TXAR	**Lajitas Array**	120.96	50	PKP	PKPdf	14 31 49.3 -1.3
	comp=Z,0.2nm,0.7s,baz=294,slow=4.7,SNR=2.0					
PLCA	**Paso Flores**	143.40	160	PKP	PKPdf	14 32 31.3 -1.0
	comp=Z,1.9nm,0.9s,baz=220,slow=2.3,SNR=4.1					
LPAZ	**La Paz**	163.96	127	PKP	PKPdf	14 33 02.5 +0.1
	comp=Z,0.5nm,0.3s,baz=239,slow=5.9,SNR=4.5					

NEIC ***09*** *14:19:32.2±0.6,35˚.842N±0˚.010•98˚.07W±0˚.01, h6km±4km, Error ellipse: s-maj=1.6km s-min=1.4km az=67.0*

NEIC 09 14:19:31.8±0.6,**35˚.832N**±0˚.009•**98˚.07W**±0˚.01,**h5**km±1km, **mb_Lg2.4**/21,**ML2.6**/36,**ML2.6**/54,**Error ellipse: s-maj=2.9km s-min=1.9km az=280.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
**BCOK

comp=N,256nm,0.3s
FNO Franklin 0.79 136 Pb 14 19 47.6 -0.5
FNO IAML 14 20 01.2
comp=E,171nm,0.5s
FNO IAML 14 20 01.2
comp=N,214nm,0.6s
OK038 West end E0370 0.84 320 Pg 14 19 48.0 +0.1
OK038 Sg 14 19 59.5 +0.6
GC02 Grant County # 1.03 10 Pg 14 19 51.0 -0.6
GC02 Sg 14 20 05.3 +0.3
OK052 Battle Ridge R 1.04 81 Pg 14 19 51.5 -0.3
OK052 Sb 14 20 06.2 -0.1
OK052 IAML 14 20 07.2
comp=N,124nm,0.2s
OK052 IAML 14 20 07.9
comp=N,141nm,0.2s
OK048 Pawnee Station 1.08 57 Pg 14 19 52.3 -0.3
OK048 IAML 14 20 09.3
comp=N,188nm,0.3s
ELIS Ellis County 1.12 282 Pg 14 19 52.8 -0.4
ELIS IAML 14 20 14.7
comp=E,151nm,0.2s
ELIS IAML 14 20 18.8
comp=N,164nm,0.2s
KAN14 Manchester OK 1.13 4 IAML 14 20 01.8
comp=N,150nm,0.1s
KAN14 IAML 14 20 02.5
comp=E,190nm,0.1s
BLOK Blackwell 1.16 37 Pg 14 19 53.8 -0.2
BLOK Sb 14 20 09.4 -0.2
QUOK Quay 1.16 73 Pg 14 19 53.5 -0.4
QUOK Sb 14 20 09.5 -0.1
OK051 E0350 and S346 1.21 56 Pg 14 19 54.7 -0.2
OK051 Sb 14 20 10.9 -0.1
WMOK Wichita Mounta 1.24 208 Pg 14 19 54.8 -0.7
X34A Smith Ranch, M 1.24 171 Pg 14 19 54.4 -1.2
X34A IAML 14 20 14.9
comp=E,90nm,0.4s
X34A IAML 14 20 18.9
comp=N,65nm,0.3s
KAN13 South Haven SW 1.27 22 Pg 14 19 55.2 -0.9
KAN13 Sb 14 20 12.9 -0.1
DEOK Depew 1.28 89 Pg 14 19 54.9 -1.4
DEOK Sb 14 20 13.1 0.0
DEOK IAML 14 20 17.3
comp=E,111nm,0.2s
DEOK IAML 14 20 18.7
comp=N,102nm,0.2s
KAN01 Argonia South 1.34 11 Pn 14 19 56.7 -0.6
KAN09 Caldwell North 1.35 16 Pn 14 19 56.8 -0.5
TUL3 Leonard 1.85 87 Pn 14 20 03.0 -1.2
SMWD Samnorwood 1.91 248 Pn 14 20 03.7 -1.4
SMWD IAmb_Lg 14 20 35.2
comp=Z,16nm,0.7s
LOOK Love County 1.98 158 Pb 14 20 07.8 -0.4
R32A Long Quarter, 2.63 349 IAmb_Lg 14 21 02.1
comp=Z,10nm,0.7s
U38A Gravette 3.05 77 IAmb_Lg 14 21 08.2
comp=Z,6.6nm,0.7s
AMTX Amarillo 3.10 253 IAmb_Lg 14 21 14.8
comp=Z,11nm,0.7s
CBKS Cedar Bluff 3.26 336 IAmb_Lg 14 21 22.8
comp=Z,10nm,0.9s
HHAR Hobbs 3.38 81 IAmb_Lg 14 21 23.4
comp=Z,10nm,0.9s
ABTX Abilene, Hawle 3.45 203 IAmb_Lg 14 21 20.7
comp=Z,11nm,1.0s
SN07 Snyder 07 3.59 221 IAmb_Lg 14 21 34.5
comp=Z,8.8nm,0.9s
POST Post 3.95 227 IAmb_Lg 14 21 41.8
comp=Z,9.3nm,0.9s
KSCO Kaye Shedlock' 4.82 313 IAmb_Lg 14 22 12.2
comp=Z,6.2nm,0.8s
JCT Junction City 5.53 196 IAmb_Lg 14 22 39.4
comp=Z,7.5nm,0.9s

IDC 09 14:23:39.4±327.0, 57°.88N×28°.48E, h0km, Error ellipse: s-maj=140.3km s-min=106.1km az=99.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.88**	**100**	I	I	14 55 35.0	
	0.1nm,1.3s,baz=282,slow=316,SNR=2.6						
I37NO	**I37NO**	**12.05**	**343**	I	I	15 29 49.6	
	baz=151,slow=324,SNR=1.7						
I26DE	**FREYUNG INFRAS**	**12.60**	**231**	I	I	15 42 40.0	
	baz=38,slow=326,SNR=0.4						

*IDC **09** 14:28:23.9±0.5, 27°.66S×176°.18W, h0km, mb4.2/16, mbtmp4.2/18, ML4.0/2, MS3.6/2, Error ellipse: s-maj=19.7km s-min=16.3km az=123.0*
*NEIC **09** 14:28:25.4±1.3, 28°.0S±0°.1×176°.0W±0°.1, h10km±1km, mb4.7/22, Error ellipse: s-maj=23.4km s-min=17.2km az=146.0*

ISC 09 14:28:28.3±0.5, 27°.92S±0°.07×176°.15W±0°.08, h28km, n72, σ1§15/69, mb4.5/30, 1C-4D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.05**	**229**		**Pn**	**14 29 01.3**	**+0.4**
RAO	**Raoul Island**	**2.05**	**229**	Pn	**Pb**	**14 29 03.7**	**-1.1**
RAO	151nm,0.3s,baz=53,slow=20,SNR=4.5			Sn	**Sb**	**14 29 32.0**	**+2.2**
	610nm,0.3s,baz=49,slow=19,SNR=7.5						
URZ	**Urewera**	**11.75**	**207**	Pn	Pn	14 31 09.6	-4.4
	407nm,0.3s						
URZ	0.3nm,0.3s,baz=57,slow=3.5,SNR=1.5			Sn	**Sn**	**14 33 20.9**	**-3.3**
	1.4nm,0.3s,baz=18,slow=20,SNR=8.4						
RTZ	**Ruatahuna**	**12.11**	**207**	Pn	Pn	14 31 13.7	-5.3
TUWZ	**Tuamarina**	**15.73**	**209**	Pn	Pn	14 32 01.3	-6.6
RAR	**Rarotonga**	**16.32**	**69**	LR	LR	14 37 23.4	
	comp=Z,168nm,22.0s,baz=260,slow=33						
DZM	**Mont Dzumac**	**16.82**	**286**		**P**	**14 32 25.1**	**+1.3**
DZM				IAmb	IAmb	14 32 41.5	
	comp=Z,64nm,1.5s						
DZM	**Mont Dzumac**	**16.82**	**286**	*e*Pn	**P**	**14 32 25.2**	**+1.3**
	comp=Z,83nm,1.5s						
DZM	**Mont Dzumac**	**16.82**	**286**	Pn	**Pn**	**14 32 21.3**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=74,slow=18,SNR=7.5						
	comp=Z,7.2nm,1.0s						
RPZ	**Rata Peaks**	**18.83**	**210**	Pn	**P**	**14 32 45.4**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=31,slow=3.4,SNR=7.5						
ODZ	**Otahua Downs**	**20.07**	**208**	P	**P**	**14 32 57.6**	**-1.8**
ODZ				IAmb	IAmb	14 33 21.9	
	comp=Z,64nm,1.5s						
TBI	**Tubuai**	**24.46**	**85**	*e*LR	LR	14 39 17.9	
	comp=Z,619nm,38.8s						
PPT2	**Papeete2**	**26.52**	**73**	*e*LR	LR	14 40 18.7	
	comp=Z,162nm,28.5s						
PPT2				*e*LR	LR	14 40 23.0	
	comp=Z,97nm,22.2s						
CTAO	**Charters Tower**	**35.12**	**274**	P	**P**	**14 35 19.7**	**+0.2**
CTAO				IAmb	IAmb	14 35 43.9	
	comp=Z,21nm,1.4s						
STKA	**Stephens Creek**	**36.68**	**253**	P	**P**	**14 35 32.7**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=80,slow=18,SNR=2.9						
	comp=Z,2.0nm,0.7s						
COEN	**Coen**	**40.26**	**282**	P	**P**	**14 36 04.3**	**+1.3**
AS31	**Alice Springs**	**44.93**	**264**	P	**P**	**14 36 40.7**	**-0.3**
ASAR	**Alice Springs**	**44.93**	**264**		**P**	**14 36 39.6**	**-1.4**
ASAR	**Alice Springs**	**44.93**	**264**	P	**P**	**14 36 39.1**	**-1.8**
	comp=Z,1.4nm,0.8s,baz=110,slow=8.3,SNR=23						
ASAR				PcP	**PcP**	**14 38 21.5**	**-0.6**
	comp=Z,0.8nm,1.0s,baz=111,slow=3.3,SNR=1.9						
ASAR				LR	LR	14 54 06.3	
	comp=Z,86nm,19.3s,baz=328,slow=34						
	comp=Z,1.4nm,0.8s						
WR8	**Warramunga Arr**	**45.55**	**269**	P	**P**	**14 36 44.8**	**-1.2**
WR8				IAmb	IAmb	14 36 47.0	
	comp=Z,4.5nm,0.8s						
WRA	**Warramunga Arr**	**45.70**	**269**	P	**P**	**14 36 45.1**	**-2.0**
WRA	**Warramunga Arr**	**45.70**	**269**	P	**P**	**14 36 45.3**	**-1.8**
	comp=Z,4.2nm,0.9s,baz=108,slow=7.9,SNR=19						
WRA				PcP	**PcP**	**14 38 25.4**	**+0.5**
	comp=Z,1.3nm,1.0s,baz=113,slow=3.7,SNR=3.4						
	comp=Z,4.2nm,0.9s						
WB0	**Warramunga Arr**	**45.71**	**269**		**P**	**14 36 45.9**	**-1.3**
WB0				IAmb	IAmb	14 36 58.3	
	comp=Z,6.5nm,0.9s						
MTN	**Manton Dam**	**51.27**	**276**	P	**P**	**14 37 30.9**	**+0.9**
KNRA	**Kununurra**	**52.20**	**271**	P	**P**	**14 37 35.8**	**-1.2**
KNRA				IAmb	IAmb	14 37 50.0	
	comp=Z,9.4nm,1.1s						
FITZ	**Fitzroy Crossi**	**54.04**	**267**	P	**P**	**14 37 49.8**	**-0.7**
QSPA	**South Pole Qui**	**62.18**	**180**	P	**P**	**14 38 49.5**	**+2.5**
	comp=Z,11nm,0.9s,baz=38,slow=5.0,SNR=30						
	comp=Z,11nm,0.9s						
BELA	**Belgrano 2**	**72.01**	**172**	P	**P**	**14 39 47.9**	**-1.1**
MAW	**Mawson**	**75.19**	**200**	P	**P**	**14 40 10.1**	**+2.4**
	comp=Z,1.0nm,0.5s,baz=124,slow=18,SNR=3.7						
	comp=Z,1.0nm,0.5s						
MJAR	**Matsushiro Arr**	**77.17**	**324**	P	**P**	**14 40 19.0**	**-0.4**
MJAR				IAmb	IAmb	14 40 33.8	
	comp=Z,5.6nm,1.2s						
MJAR	**Matsushiro Arr**	**77.17**	**324**	P	**P**	**14 40 18.9**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=153,slow=6.5,SNR=6.7						
	comp=Z,2.7nm,0.7s						
KIWB	**Kanaga Island**	**79.43**	**359**	P	**P**	**14 40 31.2**	**-0.3**
KIWB				IAmb	IAmb	14 40 32.8	
	comp=Z,12nm,0.9s						
ATKA	**Atka Island**	**79.80**	**1**	P	**P**	**14 40 33.6**	**+0.2**
TROLL	**Troll, Antarti**	**80.34**	**180**	⇓P	**P**	**14 40 37.8**	**+1.2**
	comp=Z,372nm,1.1s						
SNAA	**Sanae**	**80.57**	**178**	⇓P	**P**	**14 40 38.5**	**+0.7**
	comp=Z,85nm,0.9s						
SNAA	**Sanae**	**80.57**	**178**		**P**	**14 40 37.2**	**-0.5**
SNAA				IAmb	IAmb	14 40 40.6	
	comp=Z,11nm,1.3s						
SNAA	**Sanae**	**80.57**	**178**	P	**P**	**14 40 38.4**	**+0.7**
	comp=Z,6.3nm,1.1s,baz=186,slow=7.2,SNR=12						
	comp=Z,6.3nm,1.1s						
VNA2	**Neumayer--Watz**	**81.11**	**176**	⇓P	**P**	**14 40 41.2**	**+0.7**
	comp=Z,6.9nm,1.1s,baz=184,slow=4.3						
VNA1	**Neumayer--Stat**	**81.33**	**176**	⇓P	**P**	**14 40 42.6**	**+0.9**
	comp=Z,7.6nm,0.9s						
PLCA	**Paso Flores**	**82.99**	**132**	P	**P**	**14 40 52.0**	**+0.9**
	comp=Z,3.0nm,0.9s,baz=227,slow=13,SNR=5.1						
	comp=Z,3.0nm,0.9s						
KSRS	**Korea Array**	**83.55**	**318**	P	**P**	**14 40 53.9**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=152,slow=6.1,SNR=4.4						
	comp=Z,0.8nm,0.6s						
PETK	**Petropavlovsk-**	**83.84**	**344**	P	**P**	**14 40 54.2**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=160,slow=9.1,SNR=4.3						
	comp=Z,2.7nm,0.8s						
NVAR	**Mina Array Bea**	**85.32**	**42**	P	**P**	**14 41 02.2**	**-0.7**
	comp=Z,2.8nm,1.1s,baz=239,slow=7.4,SNR=6.7						
	comp=Z,2.8nm,1.1s						
NJ2	**Nanjing**	**85.90**	**310**	*e*P	**P**	**14 41 06.3**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
USRK	**Ussuriysk Ar.**	**86.02**	**325**	P	**P**	**14 41 07.3**	**+1.3**
	comp=Z,2.2nm,0.8s,baz=107,slow=4.8,SNR=4.1						
N14K	**Kuskokwak Cree**	**88.33**	**7**	P	**P**	**14 41 17.3**	**+0.6**
N15K	**Kwethluk River**	**88.75**	**8**	P	**P**	**14 41 19.4**	**+0.7**
BNX	**BinXian**	**89.43**	**324**	⇑P	**P**	**14 41 23.0**	**+0.7**
BNX				pmax	pmax		
	comp=Z,4.0nm,0.4s						
G08A	**Pilot Rock**	**89.51**	**36**	P	**P**	**14 41 22.6**	**-0.3**
G08A				IAmb	IAmb	14 41 34.3	
	comp=Z,3.2nm,1.0s						
TXAR	**Lajitas Array**	**89.68**	**56**	P	**P**	**14 41 23.4**	**-0.6**
TXAR	**Lajitas Array**	**89.68**	**56**	P	**P**	**14 41 23.0**	**-1.0**
	comp=Z,0.9nm,1.0s,baz=250,slow=4.7,SNR=6.1						
	comp=Z,0.9nm,1.0s						
M16K	**Timber Creek**	**89.72**	**8**	P	**P**	**14 41 23.9**	**+0.6**
M16K				IAmb	IAmb	14 41 35.5	
	comp=Z,6.5nm,1.1s						
KLR	**Kul'dur**	**89.74**	**329**	P	**P**	**14 41 23.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=124,slow=18,SNR=1.9						
	comp=Z,0.3nm,0.3s						
PLID	**Pearl Lake**	**90.96**	**38**	P	**P**	**14 41 29.2**	**-0.6**
PLID				IAmb	IAmb	14 41 40.9	
	comp=Z,3.6nm,1.0s						
ENH	**Enshi**	**91.57**	**304**		**P**	**14 41 32.9**	**+0.2**
PDAR	**Pinedale Array**	**93.22**	**43**	P	**P**	**14 41 39.7**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=218,slow=2.3,SNR=3.7						
	comp=Z,0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**94.13**	**289**	P	**P**	**14 41 44.2**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=122,slow=4.3,SNR=6.5						
	comp=Z,0.9nm,0.8s						
ILAR	**Eielson Array**	**95.16**	**12**	P	**P**	**14 41 46.2**	**-2.2**
	comp=Z,0.1nm,0.6s,baz=198,slow=4.7,SNR=1.9						
	comp=Z,0.1nm,0.6s						
HHC	**Hu-ho-hao-te**	**95.70**	**313**	*e*P	**P**	**14 41 52.8**	**+1.3**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
ZALV	**Zalesovo Beam**	**117.25**	**319**	PKP	**PKPdf**	**14 47 08.3**	**-2.1**
	comp=Z,0.8nm,0.6s,baz=101,slow=6.0,SNR=2.3						
MKAR	**Makanchi Array**	**117.41**	**311**	PKP	**PKPdf**	**14 47 09.8**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=80,slow=2.0,SNR=6.1						
KURBB	**Kurchatov Arra**	**120.53**	**315**	PKP	**PKPdf**	**14 47 16.1**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=95,slow=2.1,SNR=4.2						
AKTO	**Aktyubinsk**	**133.59**	**314**	PKP	**PKPdf**	**14 47 42.4**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=63,slow=4.5,SNR=2.3						
FINES	**FINESS Array B**	**143.33**	**342**	PKhKP	PKPpre	14 47 54.9	
	comp=Z,1.1nm,0.6s,baz=57,slow=5.1,SNR=5.0						
NB2	**NORSAR Subarra**	**146.51**	**354**	PKP	**PKPbc**	**14 48 05.8**	**-0.6**
	comp=Z,6.1nm,1.0s,baz=6.4,slow=3.8						
NOA	**NORSAR Array B**	**146.51**	**354**	PKPbc	**PKPbc**	**14 48 05.7**	**-0.6**
	comp=Z,3.3nm,0.8s,baz=11,slow=2.4,SNR=14						
HFS	**Hagfors**	**147.10**	**351**	PKPbc	**PKPdf**	**14 48 06.9**	**+1.1**
	comp=Z,6.5nm,0.7s,baz=29,slow=3.3,SNR=12						
AKASG	**Mina Array Be**	**150.22**	**327**	PKPbc	**PKPbc**	**14 48 15.8**	**-0.5**
	comp=Z,3.7nm,0.9s,baz=44,slow=3.4,SNR=12						
EKA	**Eskdalemuir Ar**	**152.14**	**9**	PKPbc	**PKPbc**	**14 48 20.2**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=344,slow=3.0,SNR=3.4						
MMAI	**Mount Meron Ar**	**152.40**	**288**	PKPbc	**PKPbc**	**14 48 21.7**	**-0.4**
	comp=Z,3.5nm,0.9s,baz=72,slow=4.7,SNR=2.0						
BRTR	**Keskin Array B**	**152.72**	**303**	PKPbc	**PKPbc**	**14 48 22.8**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=94,slow=2.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**165.16**	**172**	PKPab	**PKPab**	**14 49 28.3**	**+0.8**
	comp=Z,1.7nm,0.3s,baz=183,slow=3.7,SNR=1.4						

*SOME **09** 14:41:27.4, 43°.42N×81°.90E, h5km*
*NNC **09** 14:41:32.0±2.1, 43°.54N×81°.69E, h0km, mb3.3, mpv3.1, Error ellipse: s-maj=20.1km s-min=11.0km az=156.0, Suspected Mining explosion.*

ISC 09 14:41:25.2±1.9, 43°.4N±0°.1×81°.95E±0°.08, h0km, n21, σ1§88/32, 2C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.17**	**273**	P	**Pb**	**14 41 50.0**	**+1.7**
	4.6nm,0.1s						
KTMS				S	**Sb**	**14 42 05.9**	**+1.8**
	11nm,0.2s						
KTMS	**Ketmen**	**1.17**	**273**	*e*P	**Pb**	**14 41 50.0**	**+1.7**
	5.2nm,0.1s						
KTMS				*e*S	**Sb**	**14 42 05.9**	**+1.8**
	14nm,0.2s						
PDGK	**Podgornoye**	**1.80**	**269**	⇑P	**Pg**	**14 42 01.0**	**+1.4**
	21nm,0.5s						
PDGK				⇓S	**Sg**	**14 42 24.5**	**+1.6**
	35nm,0.6s						
SHLS	**Shalkode**	**1.83**	**263**	P	**Pn**	**14 41 57.0**	**-1.1**
	24nm,0.3s						
SHLS				S	**Sn**	**14 42 17.7**	**-4.4**
	45nm,0.6s						
SHLS	**Shalkode**	**1.83**	**263**	*e*P	**Pn**	**14 41 56.5**	**-1.6**
	22nm,0.1s						
SHLS				*e*S	**Sn**	**14 42 17.2**	**-4.9**
	51nm,0.3s						
KNOS	**Konyrlen**	**2.22**	**297**	Pg	**Pg**	**14 42 08.7**	**+1.0**
	5.7nm,0.2s						
KNOS				Lg	Lg	14 42 38.0	
	5.3nm,0.4s						
BLB	**Baldybastay**	**2.61**	**287**	Pg	**Pg**	**14 42 15.4**	**+0.1**
	13nm,0.4s						
BLB				Lg	Lg	14 42 49.3	
	19nm,0.5s						
ARXS	**Arharly**	**3.10**	**287**	Pg	**Pb**	**14 42 21.8**	**+0.7**
	1.6nm,0.3s						
ARXS				Lg	Lg	14 43 00.4	
	6.0nm,0.5s						
MK31	**Makanchi Array**	**3.40**	**4**	Pn	**Pb**	**14 42 26.3**	**0.0**
	0.6nm,0.4s,baz=191,slow=13,SNR=19						
MK31				⇑Lg	Lg	14 43 16.4	
	0.8nm,0.3s,baz=194,slow=30,SNR=4.1						
KOTS	**Kotyrbulak**	**3.54**	**269**	Pg	**Pb**	**14 42 31.7**	**+3.0**
	2.3nm,0.6s						
KOTS				Lg	Lg	14 43 17.4	
	12nm,0.7s						
KOTS	**Kotyrbulak**	**3.54**	**269**	*e*P	**Pg**	**14 42 32.7**	**-0.3**
	1.7nm,0.2s						
KOTS				*e*S	**Sg**	**14 43 19.2**	**+0.4**
	22nm,0.3s						
CHKK	**Chushkaly**	**3.63**	**279**	*e*P	**Pg**	**14 42 34.0**	**-0.8**
	5.7nm,0.1s						
CHKK				*e*S	**Sg**	**14 43 21.4**	**-0.5**
	6.8nm,0.4s						
TNSS	**Tian-Shan**	**3.68**	**266**	Pg	**Pb**	**14 42 34.9**	**+3.6**
	0.7nm,0.2s						
TNSS				Lg	Lg	14 43 22.5	
	1.0nm,0.5s						
TNSS	**Tian-Shan**	**3.68**	**266**	*e*P	**Pg**	**14 42 35.4**	**-0.2**
	0.1nm,0.0s						
TNSS				*e*S	**Sg**	**14 43 23.8**	**+0.5**
	1.6nm,0.2s						
KTBS	**Karatobe**	**3.84**	**276**	Pg	**Pg**	**14 42 39.1**	**+0.2**
	1.9nm,0.4s						
KTBS				Lg	Lg	14 43 30.4	
	6.6nm,0.4s						
IZV	**Izvestkoviy**	**3.92**	**266**	Pg	**Pb**	**14 42 37.9**	**+2.7**
	2.3nm,0.3s						
IZV				Lg	Lg	14 43 28.2	
	8.9nm,0.7s						
IZV	**Izvestkoviy**	**3.92**	**266**	*e*P	**Pg**	**14 42 39.5**	**-0.8**
	1.9nm,0.1s						
IZV				*e*S	**Sg**	**14 43 30.9**	**-0.2**
	5.2nm,0.2s						
KST	**Kastek**	**4.39**	**267**	Pg	**Pg**	**14 42 47.8**	**-1.5**
	0.6nm,0.2s						
KST				Lg	Lg	14 43 45.2	
	2.5nm,0.6s						
KST	**Kastek**	**4.39**	**267**	*e*P	**Pg**	**14 42 48.7**	**-0.6**
	0.7nm,0.1s						
KST				*e*S	**Sg**	**14 43 46.7**	**+0.5**
	5.8nm,0.4s						
ZSN	**Zaisan**	**4.54**	**26**	*e*P	**Pg**	**14 42 52.4**	**+0.2**
	0.9nm,0.1s						
ZSN				*e*S	**Sg**	**14 43 52.8**	**+1.8**
	2.2nm,0.2s						
KRBS	**Karabastau**	**4.57**	**276**	Pg	**Pg**	**14 42 52.0**	**-0.8**
	0.8nm,0.5s						
KRBS				Lg	Lg	14 43 52.5	
	2.7nm,0.5s						

*NEIC **09** 14:44:08.8±0.5, 35°.840N±0°.004×98°.07W±0°.01, h5km±1km, mb_Lg3.1/103, ML3.1/54, ML3.3/58, Error ellipse: s-maj=2.9km s-min=1.7km az=280.0*

NEIC 09 14:44:09.0±0.6, 35°.838N±0°.005×98°.08W±0°.01, h6km±4km, Error ellipse: s-maj=1.4km s-min=0.3km az=59.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.42**	**115**		Pg	14 44 17.4	+0.2
BCOK					Sg	14 44 23.8	+1.0
OK029	**Liberty Lake**	**0.51**	**94**		Pg	14 44 18.7	-0.1
CSTR	**Hydro, Custer**	**0.53**	**249**		Pg	14 44 19.4	+0.1
CSTR					Sg	14 44 27.2	+1.0
OK004	**Okla Sci Mus**	**0.58**	**122**		Pg	14 44 20.4	+0.2
OK004					Sg	14 44 28.8	+0.9
ADOK	**Arcadia Dam**	**0.60**	**108**		Pg	14 44 20.8	+0.1
CROK	**Carrier**	**0.67**	**7**		Pg	14 44 21.8	-0.2
CROK				IAML		14 44 39.8	
	comp=N,1μm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.68**	**129**	Pg	Pg	14 44 21.9	-0.1
OKCSW				IAML		14 44 31.7	
	comp=E,1μm,0.4s						
FNO	**Franklin**	**0.80**	**136**		Pg	14 44 24.2	-0.2
FNO					Sb	14 44 36.0	-0.4
FNO				IAML		14 44 38.2	
	comp=E,1μm,0.5s						
FNO				IAML		14 44 38.2	
	comp=N,1μm,0.8s						
OK038	**West end E0370**	**0.83**	**320**		Pg	14 44 25.0	-0.1
GC02	**Grant County #**	**1.03**	**10**		Pg	14 44 28.1	-0.7
OK052	**Battle Ridge R**	**1.05**	**81**		Pg	14 44 28.7	-0.4
OK052					Sg	14 44 43.0	+0.2
OK052				IAML		14 44 44.2	
	comp=N,562nm,0.2s						
OK052				IAML		14 44 49.1	
	comp=N,620nm,0.2s						
OK048	**Pawnee Station**	**1.09**	**58**		Pg	14 44 29.2	-0.7
OK048				IAML		14 44 48.2	
	comp=N,902nm,0.2s						
ELIS	**Ellis County**	**1.11**	**282**		Pg	14 44 29.7	-0.6
ELIS				IAML		14 45 03.7	
	comp=N,974nm,0.3s						
KAN14	**Manchester OK**	**1.12**	**5**		Pg	14 44 29.7	-0.8
KAN14					Sg	14 44 45.3	+0.2
KAN14				IAML		14 44 51.0	
	comp=N,572nm,0.1s						
KAN14				IAML		14 44 56.4	
	comp=E,532nm,0.1s						
BLOK	**Blackwell**	**1.16**	**37**		Pg	14 44 30.7	-0.5
QUOK	**Quay**	**1.16**	**73**		Pg	14 44 30.6	-0.7
QUOK					Sb	14 44 46.6	-0.2
OK051	**E0350 and S346**	**1.21**	**56**		Pg	14 44 31.6	-0.5
OK051					Sb	14 44 48.0	-0.1
KAN17	**Caldwell West**	**1.23**	**12**		Pg	14 44 31.8	-0.8
KAN17					Sg	14 44 48.4	-0.2
KAN17				IAML		14 44 57.5	
	comp=N,721nm,0.3s						
WMOK	**Wichita Mounta**	**1.24**	**208**		Pg	14 44 31.5	-1.3
X34A	**Smith Ranch, M**	**1.25**	**171**		Pg	14 44 32.3	-0.7
X34A				IAML		14 44 51.8	
	comp=E,772nm,0.4s						
X34A				IAML		14 44 55.9	
	comp=N,561nm,0.3s						
KAN13	**South Haven SW**	**1.27**	**22**		Pn	14 44 32.3	-0.9
KAN13					Sg	14 44 49.8	0.0
KAN10	**Anthony SW Sta**	**1.28**	**359**		Pn	14 44 32.8	-0.7
KAN10					Sg	14 44 50.2	-0.1
DEOK	**Depew**	**1.28**	**89**	Pg	Pn	14 44 32.4	-1.1
DEOK					Sg	14 44 50.0	-0.3
DEOK				IAML		14 44 54.3	
	comp=E,616nm,0.2s						
DEOK				IAML		14 44 55.7	
	comp=N,534nm,0.3s						
KAN01	**Argonia South**	**1.34**	**11**		Pn	14 44 33.6	-0.6
KAN01					Sb	14 44 51.8	-0.1
KAN01				IAML		14 44 55.1	
	comp=N,462nm,0.2s						
KAN01				IAML		14 44 55.9	
	comp=E,375nm,0.3s						
T35A	**Sooner Cattle**	**1.66**	**49**		Pn	14 44 38.8	+0.2
TUL3	**Leonard**	**1.86**	**87**		Pn	14 44 41.6	+0.2
TUL3				IAmb_Lg		14 45 08.3	
	comp=Z,127nm,0.8s						
SMWD	**Samnorwood**	**1.91**	**248**		Pn	14 44 42.4	+0.2
WTFS	**Witchita Falls**	**2.09**	**189**		Pn	14 44 45.3	+0.7
R32A	**Long Quarter, 2.63**		**349**	IAmb_Lg		14 45 39.0	
	comp=Z,56nm,0.7s						
FW03	**Perrin-Whitt E**	**2.79**	**180**	IAmb_Lg		14 45 38.4	
	comp=Z,61nm,0.8s						
APMT	**Aspermont**	**3.02**	**214**	IAmb_Lg		14 45 47.6	
	comp=Z,48nm,0.9s						
AMTX	**Amarillo**	**3.09**	**253**	IAmb_Lg		14 45 45.0

comp=Z,25nm,0.7s
NATX Nacogdoches 4.96 144 IAmb_Lg 14 46 57.8
comp=Z,29nm,0.8s
435B Jarrell 5.06 175 IAmb_Lg 14 46 57.2
comp=Z,49nm,0.9s
Z41A Richland Creek 5.06 119 IAmb_Lg 14 46 57.9
comp=Z,40nm,0.9s
P38A Dawn 5.22 42 IAmb_Lg 14 47 05.1
comp=Z,42nm,0.9s
R40A Maddies Statio 5.25 60 IAmb_Lg 14 46 58.0
comp=Z,41nm,0.7s
T25A Trinidad 5.26 286 IAmb_Lg 14 46 58.9
comp=Z,45nm,0.9s
OZNA Ozona 5.53 208 IAmb_Lg 14 47 07.7
comp=Z,42nm,0.9s
BGNE Belgrade 5.56 359 IAmb_Lg 14 47 20.2
comp=Z,30nm,0.8s
LCAR Lake Charles 5.62 86 IAmb_Lg 14 47 13.3
comp=Z,24nm,0.7s
CCM Cathedral Cave 5.90 66 IAmb_Lg 14 47 16.6
comp=Z,52nm,0.8s
MNHN Monahans 5.95 222 IAmb_Lg 14 47 30.6
comp=Z,20nm,0.8s
MLDN Muldoon 6.10 172 IAmb_Lg 14 47 24.4
comp=Z,21nm,0.7s
SDCO Great Sand Dun 6.25 290 IAmb_Lg 14 47 40.9
comp=Z,23nm,1.1s
HNDO Hondo 6.37 189 IAmb_Lg 14 47 38.7
comp=Z,29nm,0.8s
Q24A Divide 6.43 301 IAmb_Lg 14 47 48.1
comp=Z,24nm,0.8s
FVM French Village 6.50 68 IAmb_Lg 14 47 44.4
comp=Z,29nm,0.8s
PECS Pecos 6.57 229 IAmb_Lg 14 47 41.6
comp=Z,38nm,1.1s
SAND Sanderson 6.78 211 IAmb_Lg 14 47 52.6
comp=Z,28nm,0.8s
CGM3 Cape Girardeau 6.93 75 IAmb_Lg 14 47 46.0
comp=Z,23nm,0.8s
ALPN Alpine 7.17 222 IAmb_Lg 14 48 10.1
comp=Z,29nm,1.1s
OXF Oxford 7.22 98 IAmb_Lg 14 48 05.2
comp=Z,20nm,0.9s
S44A Carbondale 7.32 73 IAmb_Lg 14 48 11.1
comp=Z,34nm,0.7s
MNTX Cornudas Mount 7.35 238 IAmb_Lg 14 48 13.9
comp=Z,16nm,0.8s
833A Chaparral WMA, 7.57 189 IAmb_Lg 14 48 14.6
comp=Z,16nm,0.8s
VHRN Van Horn 7.67 231 IAmb_Lg 14 48 32.6
comp=Z,20nm,1.1s
I37A Lemond, Waseca 8.92 22 IAmb_Lg 14 48 58.4
comp=Z,25nm,0.9s
L42A Oliver, Polo 8.99 44 IAmb_Lg 14 48 53.9
comp=Z,27nm,0.8s

IDC 09 14:50:55.2±1.5,2°19N×126°78E,h0km,mb3.4/5, mbtmp3.4/5,Error ellipse: s-maj=121.1km s-min=20.2km az=69.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.19**	**183**	P	P	14 55 31.9	+0.3
	0.9nm,0.7s,baz=4.9,slow=12,SNR=0.8 0.9nm,0.7s						
WRA	**Warramunga Arr**	**23.21**	**162**	P	P	14 56 03.7	-0.4
	0.9nm,0.5s,baz=340,slow=10,SNR=11 0.9nm,0.5s						
ASAR	**Alice Springs**	**26.62**	**165**	P	P	14 56 35.5	-0.2
	0.1nm,0.3s,baz=344,slow=11,SNR=10						
ASAR				PcP	PcP	15 00 00.2	+0.1
	0.3nm,0.9s,baz=349,slow=2.4,SNR=1.8 0.1nm,0.3s						
MKAR	**Makanchi Array**	**58.84**	**326**	P	P	15 00 55.3	-0.5
	0.3nm,0.6s,baz=124,slow=6.7,SNR=2.2 0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**63.05**	**328**	P	P	15 01 24.5	+0.3
	0.4nm,0.5s,baz=129,slow=6.4,SNR=8.4 0.4nm,0.5s						

*NEIC **09** 14:52:21.5±0.8,35°844N×0°010×98°08W±0°01,h7km±4km, Error ellipse: s-maj=1.5km s-min=1.3km az=168.0*

NEIC 09 14:52:21.3±0.7,35°838N×0°010×98°072W±0°005, h5km±1km,mb_Lg2.6/26,ML2.6/43,ML2.7/56,Error ellipse: s-maj=2.9km s-min=1.7km az=245.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.42**	**116**		Pg	14 52 30.0	+0.7
BCOK					Sg	14 52 36.0	+1.2
OK029	**Liberty Lake**	**0.50**	**95**		Pg	14 52 31.1	+0.1
OK029					Sg	14 52 38.7	+1.2
CSTR	**Hydro, Custer**	**0.54**	**249**		Pg	14 52 32.1	+0.4
CROK	**Carrier**	**0.67**	**6**		Pg	14 52 34.1	-0.1
CROK					Sg	14 52 43.7	+0.8
CROK				IAML		14 52 51.0	
	comp=E,230nm,0.2s						
CROK				IAML		14 52 52.4	
	comp=N,312nm,0.2s						
FNO	**Franklin**	**0.80**	**136**		Pg	14 52 36.6	0.0
FNO				IAML		14 52 50.5	
	comp=E,278nm,0.5s						
FNO				IAML		14 52 50.5	
	comp=N,300nm,0.5s						
OK038	**West end E0370**	**0.84**	**320**		Pg	14 52 37.1	-0.3
OK038					Sg	14 52 48.8	+0.5
GC02	**Grant County #**	**1.03**	**10**		Pg	14 52 40.5	-0.5
GC02					Sg	14 52 54.6	+0.3
OK052	**Battle Ridge R**	**1.04**	**81**		Pg	14 52 41.0	-0.3
OK052					Sb	14 52 55.6	-0.2
OK052				IAML		14 52 57.0	
	comp=N,197nm,0.2s						
OK052				IAML		14 53 02.0	
	comp=N,160nm,0.3s						
OK048	**Pawnee Station**	**1.08**	**57**	IAML		14 52 58.5	
	comp=N,256nm,0.3s						
ELIS	**Ellis County**	**1.11**	**282**		Pg	14 52 42.4	-0.3
ELIS				IAML		14 53 04.2	
	comp=E,171nm,0.2s						
ELIS				IAML		14 53 08.1	
	comp=N,235nm,0.2s						
KAN14	**Manchester OK**	**1.12**	**4**		Pg	14 52 42.2	-0.6
KAN14					Sg	14 52 57.6	+0.2
KAN14				IAML		14 52 59.5	
	comp=N,140nm,0.1s						
KAN14				IAML		14 53 02.6	
	comp=E,159nm,0.2s						
BLOK	**Blackwell**	**1.15**	**37**		Pg	14 52 43.2	-0.2
BLOK					Sg	14 52 58.6	+0.3
QUOK	**Quay**	**1.16**	**73**		Pg	14 52 42.9	-0.6
QUOK					Sb	14 52 58.9	-0.2
QUOK				IAML		14 53 02.1	
	comp=N,235nm,0.2s						
OK051	**E0350 and S346**	**1.20**	**56**		Pg	14 52 44.0	-0.4
OK051					Sg	14 52 60.0	0.0
KAN17	**Caldwell West**	**1.23**	**12**		Pg	14 52 44.2	-0.7
KAN17					Sg	14 53 00.8	-0.1
WMOK	**Wichita Mounta**	**1.24**	**208**		Pg	14 52 43.9	-1.2
X34A	**Smith Ranch, M**	**1.25**	**171**		Pg	14 52 44.9	-0.4
X34A				IAML		14 53 04.2	
	comp=E,116nm,0.3s						
KAN13	**South Haven SW**	**1.27**	**22**		Pg	14 52 44.5	-1.1
KAN13					Sg	14 53 02.0	-0.1
DEOK	**Depew**	**1.28**	**89**		Pg	14 52 44.9	-1.0
DEOK				IAML		14 53 07.9	
	comp=E,140nm,0.3s						
DEOK				IAML		14 53 08.0	
	comp=N,129nm,0.2s						
KAN10	**Anthony SW Sta**	**1.28**	**359**		Pg	14 52 45.1	-0.8
KAN01	**Argonia South**	**1.34**	**11**		Pn	14 52 45.9	-0.8
KAN01				IAML		14 53 06.9	
	comp=E,134nm,0.2s						
KAN01				IAML		14 53 07.5	
	comp=N,128nm,0.2s						
KAN09	**Caldwell North**	**1.35**	**16**		Pn	14 52 46.0	-0.8
KAN08	**Anthony NE Sta**	**1.39**	**3**		Pn	14 52 47.0	-0.4
T35A	**Sooner Cattle**	**1.66**	**49**		Pn	14 52 50.3	-0.7
TUL3	**Leonard**	**1.85**	**87**	IAmb_Lg		14 53 23.8	
	comp=Z,22nm,1.0s						
SMWD	**Samnorwood**	**1.92**	**248**		Pn	14 52 54.2	-0.5
LOOK	**Love County**	**1.98**	**158**		Pb	14 52 57.2	-0.7
WTFS	**Witchita Falls**	**2.09**	**189**		Pn	14 52 56.5	-0.6
RLO	**Rose Lookout**	**2.49**	**82**		Pn	14 53 02.0	-0.6
CBKS	**Cedar Bluff**	**3.25**	**336**	IAmb_Lg		14 54 12.7	
	comp=Z,20nm,0.9s						
HHAR	**Hobbs**	**3.38**	**81**	IAmb_Lg		14 54 17.4	
	comp=Z,12nm,0.8s						
SN05	**Snyder 5**	**3.76**	**219**	IAmb_Lg		14 54 25.0	
	comp=Z,19nm,1.1s						
MIAR	**Mount Ida**	**3.90**	**108**	IAmb_Lg		14 54 27.4	
	comp=Z,15nm,1.1s						
POST	**Post**	**3.96**	**227**	IAmb_Lg		14 54 33.1	
	comp=Z,12nm,0.7s						
X40A	**Basin Creek Fa**	**4.50**	**106**	IAmb_Lg		14 54 47.9	
	comp=Z,11nm,0.7s						
SGCY	**Sterling City**	**4.67**	**214**	IAmb_Lg		14 54 54.6	
	comp=Z,14nm,0.8s						
P38A	**Dawn**	**5.22**	**42**	IAmb_Lg		14 55 17.2	
	comp=Z,7.8nm,0.9s						
JCT	**Junction City**	**5.54**	**196**	IAmb_Lg		14 55 28.7	
	comp=Z,9.5nm,0.9s						
CCM	**Cathedral Cave**	**5.90**	**66**	IAmb_Lg		14 55 28.9	
	comp=Z,8.9nm,0.8s						
PBMO	**Poplar Bluff**	**6.24**	**79**	IAmb_Lg		14 55 38.4	
	comp=Z,9.7nm,0.7s						

IDC 09 14:59:23.1±1.6,0°55N×126°07E,h0km,mb3.7/4, mbtmp3.8/4,Error ellipse: s-maj=187.6km s-min=20.5km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.92**	**159**	P	P	15 04 17.8	-0.5
	2.1nm,1.1s,baz=337,slow=10,SNR=13 2.1nm,1.1s						
ASAR	**Alice Springs**	**25.25**	**163**	P	P	15 04 51.5	+0.4
	1.0nm,0.7s,baz=344,slow=11,SNR=16 1.0nm,0.7s						
MKAR	**Makanchi Array**	**59.80**	**327**	P	P	15 09 31.0	+0.8
	0.7nm,0.4s,baz=125,slow=8.6,SNR=8.6 0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**64.06**	**328**	P	P	15 09 58.0	-0.8
	1.0nm,0.7s,baz=131,slow=6.1,SNR=11 1.0nm,0.7s						

*NEIC **09** 15:10:58.5±0.5,35°922N±0°009×117°73W±0°01, h9km±3km,Error ellipse: s-maj=1.5km s-min=1.2km az=61.0*

PAS 09 15:10:59.0±0.6,35°924N±0°004×117°74W±0°01, h9km±3km,ML2.9/84,ML2.7/86(NEIC),Error ellipse: s-maj=1.3km s-min=0.6km az=106.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.07**	**291**		Pg	15 11 01.2	0.0
WVPM					Sg	15 11 02.8	0.0
JRC2	**Joshua Ridge**	**0.08**	**314**		Pg	15 11 01.4	0.0
JRC2					Sg	15 11 03.1	+0.1
WCSM	**Coso Springs S**	**0.10**	**346**		Pg	15 11 01.6	-0.1
WCSM					Sg	15 11 03.5	-0.1
TOW	**Tower One**	**0.12**	**191**		Pg	15 11 02.1	+0.3
TOW					Sg	15 11 04.6	+0.9
WRVM	**Rose V. Centra**	**0.15**	**304**		Pg	15 11 02.4	+0.1
WRVM					Sg	15 11 04.9	+0.2
CLC	**China Lake**	**0.16**	**134**		Pg	15 11 02.2	-0.2
CLC				IAML		15 11 04.9	
	comp=N,4μm,0.2s						
CLC				IAML		15 11 05.0	
	comp=E,3μm,0.4s						
WNMM	**Nine Mile Cany**	**0.16**	**239**		Pg	15 11 02.5	+0.1
WNMM					Sg	15 11 05.0	+0.3
MFS	**McCloud Flat S**	**0.21**	**333**		Pg	15 11 03.5	0.0
MFS					Sg	15 11 06.5	0.0
SRTC	**Snort**	**0.23**	**183**		Pg	15 11 04.0	+0.3
SRTC					Sg	15 11 08.2	+1.3
MPMC	**Manual Prospec**	**0.24**	**56**		Pg	15 11 03.8	-0.1
MPMC				IAML		15 11 07.6	
	comp=N,2μm,0.6s						
MPMC				IAML		15 11 09.4	
	comp=E,1μm,0.6s						
LRMC	**Laurel Mtn Rad**	**0.45**	**174**		Pg	15 11 07.2	-0.5
LRMC				IAML		15 11 14.0	
	comp=E,850nm,0.3s						
LRMC				IAML		15 11 14.2	
	comp=N,1μm,0.2s						
LRMC	**Laurel Mtn Rad**	**0.45**	**174**		Sg	15 11 13.8	+0.2
WORM	**Onyx Ranch**	**0.47**	**241**		Pg	15 11 07.9	-0.3
WORM					Sg	15 11 14.2	-0.2
CCCA	**Chr Cany lake**	**0.50**	**143**		Sg	15 11 16.0	+0.7
CCCA	**Chr Cany lake**	**0.50**	**143**		Pg	15 11 08.7	-0.1
CCCA				IAML		15 11 16.9	
	comp=N,4μm,0.6s						
CCCA				IAML		15 11 17.9	
	comp=E,3μm,0.2s						
WBSM	**Bird Springs**	**0.51**	**220**		Pg	15 11 08.6	-0.3
WBSM					Sg	15 11 15.4	-0.2
WHFM	**Hanning Flat**	**0.55**	**246**		Pg	15 11 09.4	-0.2
WHFM					Sg	15 11 16.7	-0.1
CWC	**Cottonwood Cre**	**0.58**	**332**		Pg	15 11 10.2	-0.2
CWC				IAML		15 11 18.7	
	comp=E,381nm,0.2s						
CWC				IAML		15 11 22.8	
	comp=N,424nm,0.2s						
ISA	**Isabella, Lake**	**0.65**	**247**		Pg	15 11 11.1	-0.5
ISA				IAML		15 11 20.2	
	comp=N,774nm,0.3s						
ISA				IAML		15 11 20.2	
	comp=E,617nm,0.3s						
QSM	**Queen of Sheba**	**0.70**	**86**		Pg	15 11 11.8	-0.8
QSM				IAML		15 11 16.4	
	comp=E,243nm,0.3s						
QSM				IAML		15 11 23.4	
	comp=N,276nm,0.1s						
CCAC	**Calif City Air**	**0.80**	**197**		Pg	15 11 14.0	-0.5
GWY	**Greenwater Val**	**0.90**	**73**	IAML		15 11 30.1	
	comp=N,283nm,0.5s						
GWY				IAML		15 11 30.9	
	comp=E,276nm,0.3s						
GSC	**Goldstone, Bar**	**0.98**	**129**		Pg	15 11 16.9	-1.0
GSC				IAML		15 11 32.3	
	comp=N,290nm,0.4s						
GRAC	**Grapevine Rang**	**1.11**	**15**		Pg	15 11 19.4	-0.9
GRAC				IAML		15 11 36.7	
	comp=N,244nm,0.5s						
TPO	**Tropico Hills**	**1.12**	**201**		Pg	15 11 19.2	-1.3
TPO				IAML		15 11 37.1	
	comp=N,192nm,0.5s						
TPO				IAML		15 11 42.1	
	comp=E,184nm,1.1s						
WCT	**Wildcat Mounta**	**1.25**	**46**		Pn	15 11 22.1	-0.7
WCT				IAML		15 11 39.3	
	comp=N,134nm,0.3s						
WCT				IAML		15 11 41.0	
	comp=E,235nm,0.4s						
AMDNV	**Amargosa**	**1.29**	**65**		Pn	15 11 22.0	-1.2
GMN	**Gold Mountain**	**1.43**	**15**	Pn	Pn	15 11 25.3	-0.1
GMN				IAML		15 11 47.8	
	comp=N,58nm,0.7s						
DSP	**Deep Springs**	**1.46**	**353**	Pn	Pn	15 11 25.2	-0.3
BHPR	**Bishop**	**1.50**	**336**		Pb	15 11 27.0	-0.2
OSI	**Osito Audit: C**	**1.54**	**212**	Pn	Pn	15 11 26.4	-0.3
OSI				IAML		15 11 54.5	
	comp=N,60nm,0.5s						
OSI				IAML		15 11 58.4	
	comp=E,72nm,0.8s						
TPNV	**Topopah Spring**	**1.57**	**49**	Pn	Pn	15 11 27.2	-0.1
TPNV				IAML		15 11 52.0	
	comp=E,153nm,0.4s						
BFSC	**Mount Baldy Ra**	**1.68**	**178**	Pn	Pn	15 11 28.0	-0.8
BFSC				IAML		15 11 57.7	
	comp=E,40nm,0.8s						
BFSC				IAML		15 11 59.4	
	comp=N,43nm,0.8s						
MWC	**Mount Wilson**	**1.72**	**189**	Pn	Pn	15 11 28.8	-0.5
MWC				IAML		15 11 59.7	
	comp=E,60nm,0.5s						
MWC				IAML		15 12 01.3	
	comp=N,65nm,0.5s						
PASC	**Pasadena Art C**	**1.79**	**192**		Pn	15 11 30.1	-0.1
MZP	**Montezuma Peak**	**1.80**	**9**		Pn	15 11 30.4	-0.1
MTPC	**Mountain Pass**	**1.83**	**103**		Pn	15 11 29.4	-1.4
MTPC				IAML		15 11 58.5	
	comp=E,66nm,0.2s						
MTPC				IAML		15 11 59.8	
	comp=N,64nm,0.4s						
TPH	**Tonopah**	**2.19**	**11**	IAML		15 12 12.9	
	comp=E,88nm,0.4s						
V12A	**Nelson**	**2.35**	**94**	IAML		15 12 20.2	
	comp=E,20nm,0.7s						
PFO	**Pinyon Flats O**	**2.54**	**155**	IAML		15 12 22.6	
	comp=E,20nm,0.9s						
BORC	**Borrego Spring**	**2.86**	**157**	IAML		15 12 24.4	
	comp=N,25nm,0.0s						
BORC				IAML		15 12 30.9	
	comp=E,30nm,0.0s						
WUAZ	**Wupatki**	**5.19**	**93**	IAML		15 13 48.8	
	comp=E,7.9nm,1.2s						
WUAZ				IAML		15 13 54.3	
	comp=E,9.0nm,3.7s						

*IDC **09** 15:18:23.0±1.3,10°24S×119°08E,h0km,mb3.7/5, mbtmp3.7/10,ML3.7/5,Error ellipse: s-maj=38.8km s-min=17.8km az=47.0*

*DJA **09** 15:18:27.1±0.4,10°S±4°×11°9E±°,h10km,M4.0/13, mb4.2/5,MLv3.9/13*

ISC 09 15:18:27.9±0.8,10°26S±0°06×119°25E±0°05,h35km,n30, σ2s54/34,mb3.7/5,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.63**	**13**	P	**Pn**	**15 18 38.2**	**-2.2**
WBSI				S	**Sn**	**15 18 46.9**	**-2.3**
WSI	**Waingapu**	**1.19**	**61**	P	**Pn**	**15 18 48.0**	**0.0**
BASI	**Baing, Sumba**	**1.31**	**88**	P	**Pn**	**15 18 50.6**	**+0.9**
PLAI	**Plampang**	**2.03**	**314**	P	**Pn**	**15 19 01.6**	**+1.9**
PLAI	**Plampang**	**2.03**	**314**	P	**Pn**	**15 19 00.8**	**+1.1**
PLAI				S	**Sn**	**15 19 28.1**	**+4.3**
EDFI	**Ende, Flores**	**2.84**	**58**	P	**Pn**	**15 19 12.0**	**+1.2**
MMRI	**Maumere**	**3.36**	**62**	P	**Pn**	**15 19 19.7**	**+1.8**
MMRI				S	**Sn**	**15 19 58.4**	**+1.8**
BSSI	**Bau Bau, Buton**	**4.27**	**17**	P	**Pn**	**15 19 30.3**	**-0.1**
BATI	**Baumata**	**4.34**	**90**	Pn	**Pn**	**15 19 34.1**	**+2.6**
	5.9nm,0.3s,baz=260,slow=5.6,SNR=6.4						
BATI				Sn	**Sn**	**15 20 27.1**	**+6.1**
	4.2nm,0.3s,baz=217,slow=20,SNR=1.6 14nm,0.3s						
BATI	**Baumata**	**4.34**	**90**	P	**Pn**	**15 19 33.5**	**+2.0**
BATI				S	**Sn**	**15 20 24.6**	**+3.6**
SOEI	**Soe**	**4.97**	**85**	P	Pn	15 19 45.1	+5.0
SOEI	**Soe**	**4.97**	**85**	P	**Pn**	**15 19 42.5**	**+2.4**
KAPI	**Kappang**	**5.23**	**5**	Pn	**Pn**	**15 19 42.1**	**-1.6**
	3.1nm,0.3s,baz=196,slow=11,SNR=2.2						
KAPI				Sn	**Sn**	**15 20 44.1**	**+1.2**
	1.0nm,0.3s,baz=202,slow=19,SNR=1.4 7.1nm,0.4s						
JAGI	**Jajag, Banyuwa**	**5.33**	**289**	P	**Pn**	**15 19 46.7**	**+1.6**
JAGI	**Jajag, Banyuwa**	**5.33**	**289**	P	**Pn**	**15 19 45.1**	**0.0**
	0.2nm41nm,1.3s						
BNSI	**Bone**	**5.88**	**8**	P	**Pn**	**15 19 55.7**	**+3.1**
	0.1nm15nm,1.0s						
GMJI	**Gumukmas**	**6.06**	**289**	P	**Pn**	**15 19 56.4**	**+1.4**
FITZ	**Fitzroy Crossi**	**9.95**	**142**	Pn	**Pn**	**15 20 48.4**	**-0.1**
	0.4nm,0.3s,baz=326,slow=11,SNR=19						
FITZ				Sn	**Sn**	**15 22 36.3**	**-2.7**
	0.5nm,0.3s,baz=224,slow=10,SNR=12 1.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**9.95**	**142**	P	**Pn**	**15 20 49.6**	**+1.1**
MTN	**Manton Dam**	**11.92**	**104**	P	**Pn**	**15 21 16.3**	**+0.8**
WRA	**Warramunga Arr**	**17.45**	**125**	P	**Pn**	**15 22 28.2**	**-0.5**
	0.2nm,0.3s,baz=302,slow=14,SNR=4.8						
WRA				S	Sn	15 25 31.9	-10
	0.3nm,0.7s,baz=295,slow=23,SNR=1.2 0.7nm,0.6s						
ASAR	**Alice Springs**	**19.32**	**135**	P	**Pn**	**15 22 52.0**	**+0.5**
	0.3nm,0.3s,baz=314,slow=12,SNR=26						
ASAR				S	**S**	**15 26 19.4**	**-7.8**
	0.3nm,0.5s,baz=306,slow=22,SNR=5.1 1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**34.87**	**325**	P	**P**	**15 25 15.5**	**-0.6**
	0.4nm,0.4s,baz=144,slow=9.2,SNR=2.2 0.4nm,0.4s						
H08S2	**Diego Garcia H**	**46.23**	**269**	T	T	16 16 13.4	
	baz=96,slow=74						
H08S3	**Diego Garcia H**	**46.24**	**269**	T	T	16 16 11.6	
	baz=96,slow=74						
H08S1	**Diego Carcia H**	**46.25**	**269**	T	T	16 16 14.6	
	baz=96						
SONM	**Songino Array**	**58.95**	**350**	P	**P**	**15 28 23.3**	**-0.5**
	0.3nm,0.4s,baz=148,slow=12,SNR=1.5 0.3nm,0.4s						
MKAR	**Makanchi Array**	**65.68**	**333**	P	**P**	**15 29 09.6**	**+0.8**
	0.7nm,0.6s,baz=137,slow=7.9,SNR=6.4 0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**70.20**	**334**	P	**P**	**15 29 36.5**	**-0.6**
	0.5nm,0.7s,baz=132,slow=4.0,SNR=0.9 0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**70.30**	**339**	P	**P**	**15 29 37.6**	**0.0**
	0.5nm,0.4s,baz=151,slow=3.3,SNR=2.1 0.5nm,0.4s						

*BJI **09** 15:31:41.2,6°44N×125°37E,h10km,mB5.1/19,mb4.7/59, Ms4.6/46,Ms7 4.2/46*

*IDC **09** 15:31:42.7±0.5,6°72N×124°93E,h0km,mb4.3/23, mbtmp4.4/25,ML4.7/2,MS4.1/47,Error ellipse: s-maj=10.6km s-min=8.6km az=137.0*

*NEIC **09** 15:31:45.7±1.5,6°73N±0°06×125°06E±0°05,h10km, mb4.9/161,Error ellipse: s-maj=11.0km s-min=7.7km az=152.0*

*GCMT **09** 15:31:46.7±0.2,6°81N±0°01×125°08E±0°01,h18km±1km, MW5.0/105,Moment Tensor Solution. s40,c45; s105,c163; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.30±.12; Mθθ3.05±.10; Mϕϕ-2.75±.10; Mrθ-0.97±.20; Mθϕ1.59±.07; Mϕr-0.89±.22; Best double couple: M03.54200×10^16 NP1:ϕs301.00000°,δ70.00000°, λ3.00000°. NP2:ϕs211.00000°,δ88.00000°,λ160.00000°. Principal axes: T 3.7890, Plg16.0000°, Azm164.0000°; N -0.4930, Plg69.0000°, Azm24.0000°; P -3.2950, Plg12.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **09** 15:31:48.1±0.4,7°N±2°×12°5E±°,h27km±4km,M5.0/61, mb5.0/61,mB5.4/31,MLv5.5/9,Mw(mB)4.8/31, MwMwp4.6/2,Mwp5.0/2*

ISC 09 15:31:45.3±0.3,6°69N±0°03×125°07E±0°05,h10km,n520, σ1s30/434,mb4.8/136,MS4.2/58,2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.63**	**53**		**Pg**	**15 31 57.6**	**0.0**
DAV	**Davao City (W)**	**0.63**	**53**	Pg	**Pg**	**15 31 57.7**	**+0.1**
	6μm,0.3s,baz=236,slow=3.6,SNR=832						
DAV				Lg	Lg	15 32 07.2	
	baz=253,slow=19						
DAV				LR	LR	15 32 27.9	
	comp=Z,22μm,20.0s,baz=348,slow=61						
DAV	**Davao City (W)**	**0.63**	**53**	P	**Pg**	**15 31 56.0**	**-1.6**
DAV	**Davao City (W)**	**0.63**	**53**	P	**Pg**	**15 31 57.7**	**+0.1**
DAV	**Davao City (W)**	**0.63**	**53**	P	Pn	15 32 08.4	+8.0
SGSI	**Sangihe**	**3.02**	**171**	P	**Pn**	**15 32 36.2**	**+3.0**
KMSI	**Cibinong**	**6.17**	**190**	P	**Pn**	**15 33 20.0**	**+3.4**
TNTI	**Ternate**	**6.31**	**159**		**Pn**	**15 33 19.3**	**+0.9**
TNTI	**Ternate**	**6.31**	**159**	P	**Pn**	**15 33 23.0**	**+4.5**
TNTI	**Ternate**	**6.31**	**159**	P	**Pn**	**15 33 22.1**	**+3.6**
	1.0nm2μm3μm228nm,1.4s						
MRSI	**Marisa**	**6.91**	**207**	P	**Pn**	**15 33 28.5**	**+1.7**
TOLI2	**Tolitoli**	**7.00**	**218**		**Pn**	**15 33 27.0**	**-1.0**
TOLI2	**Tolitoli**	**7.00**	**218**	P	**Pn**	**15 33 27.3**	**-0.7**
LUWI	**Luwuk**	**8.01**	**197**	Pn	**Pn**	**15 33 42.9**	**+1.0**
LUWI	**Luwuk**	**8.01**	**197**	P	**Pn**	**15 33 45.3**	**+3.4**
LUWI	**Luwuk**	**8.01**	**197**	P	**Pn**	**15 33 45.7**	**+3.8**
MPSI	**Mapaga**	**8.15**	**219**	P	**Pn**	**15 33 46.4**	**+2.6**
APSI	**Ampana**	**8.28**	**204**	P	Pn	15 33 51.2	+5.6
TGY	**Tagaytay City**	**8.41**	**331**	LR	LR	15 37 24.3	
	comp=Z,2μm,18.2s,baz=120,slow=41						
SANI	**Sanana**	**8.73**	**174**	P	**Pn**	**15 33 53.9**	**+2.2**
SANI	**Sanana**	**8.73**	**174**	P	**Pn**	**15 33 52.7**	**+1.0**
	2μm198nm,1.1s						
KKM	**Kota Kinabalu**	**8.82**	**266**		**Pn**	**15 33 53.3**	**+0.2**
PCI	**Palu**	**9.17**	**215**	P	**Pn**	**15 34 02.2

TTSI Tana Toraja 11.00 209 P Pn 15 34 27.8 +5.0
SPSI Sidrap Palu 11.83 207 P **Pn** **15 34 37.6 +3.4**
50nm,1.1s
FAKI Fak Fak 11.94 143 **Pn** **15 34 35.4 -0.3**
FAKI Fak Fak 11.94 143 P **Pn** **15 34 38.9 +3.2**
FAKI Fak Fak 11.94 143 P **Pn** **15 34 37.0 +1.3**
2µm153nm,1.1s
BNSI Bone 12.08 204 P Pn 15 34 43.1 +5.5
1µm97nm,1.1s
RKPI Ransiki, Papua 12.21 132 P **Pn** **15 34 43.5 +4.1**
132nm,1.5s
KAPI Kappang 12.78 205 Pn **Pn** **15 34 48.6 +1.4**
3.4nm,0.3s,baz=22,slow=19,SNR=9.7
KAPI Sn Sn 15 36 57.2 -13
1.2nm,0.3s,baz=63,slow=9.0,SNR=1.2
BKSI Bulukumba 12.91 203 P Pn 15 34 54.4 +5.4
644nm48nm,1.1s
BAKI Biak 13.52 125 P **P** **15 35 03.8 -2.7**
1µm98nm,1.1s
STKI Sintang 15.07 245 P **Pn** **15 35 20.3 +1.8**
MMRI Maumere 15.48 191 P **P** **15 35 28.6 +0.2**
2µm100nm,0.9s
EDFI Ende, Flores 15.70 192 P **Pn** **15 35 28.9 +2.0**
37nm,1.1s
SMPI Sarmi 16.12 122 P **Pn** **15 35 33.4 +1.2**
47nm,1.2s
SOEI Soe 16.36 183 **P** **15 35 37.8 -0.4**
SOEI Soe 16.36 183 P **Pn** **15 35 36.4 +1.1**
2µm142nm,1.1s
BATI Baumata 16.84 185 Pn **Pn** **15 35 41.9 +0.4**
7.1nm,0.3s,baz=356,slow=3.3,SNR=13
BATI Sn **Sn** **15 38 46.4 -2.3**
0.3nm,0.3s,baz=20,slow=18,SNR=1.0
95nm,1.0s
BATI Baumata 16.84 185 P **Pn** **15 35 42.9 +1.5**
1µm140nm,0.8s
PLAI Plampang 17.04 205 P **P** **15 35 48.6 +2.9**
121nm,0.9s
TPUB Ta-pu 17.06 346 **P** **15 35 45.6 -0.3**
WBSI Waikabubak, Su 17.18 199 P **Pn** **15 35 46.6 +0.9**
1µm98nm,1.2s
SSLB Suanglung 17.45 347 P **Pn** **15 35 48.5 -0.5**
KMMI Kalianget 17.58 219 P **P** **15 35 55.3 +3.7**
92nm,1.0s
SRBI Singaraja 17.66 214 P **P** **15 35 55.6 +3.0**
45nm,1.0s
GENI Genyem 17.67 121 P **P** **15 35 54.7 +2.0**
1µm95nm,1.3s
JAY Jayapura 18.09 120 P **Pn** **15 35 57.3 +0.3**
1.0nm,0.3s,baz=315,slow=8.6,SNR=7.4
JAY S **Sn** **15 39 19.1 0.0**
4.9nm,0.8s,baz=346,slow=8.3,SNR=1.5
JAY LR LR 15 41 42.9
comp=Z,361nm,20.1s,baz=300,slow=33
13nm,0.8s
JAY Jayapura 18.09 120 P **P** **15 35 58.1 +0.7**
31nm,0.8s
JAGI Jajag, Banyuwa 18.58 216 P **Pn** **15 36 06.7 +3.8**
91nm,1.1s
QZH Quanzhou 19.18 342 *e*P **Pn** **15 36 10.4 +0.2**
QZH S **S** **15 39 48.4 +1.6**
QZH LR LR
comp=N,1µm,26.5s
QZH LR LR
comp=E,1µm,25.1s
QZH LR LR
comp=Z,1µm,26.1s
QIZ Qiongzhong 19.23 311 P **Pn** **15 36 10.8 0.0**
QIZ S **S** **15 39 49.2 +1.3**
QIZ pmax pmax
comp=Z,840nm,3.7s
QIZ LR LR
comp=N,660nm,17.5s
QIZ LR LR
comp=E,540nm,18.1s
QIZ LR LR
comp=Z,1µm,14.6s
NGJI Ngawi 19.47 224 P **Pn** **15 36 15.2 +1.5**
80nm,1.0s
JOW Kunigami 20.26 8 P **P** **15 36 20.9 -0.3**
JOW IAmb IAmb 15 36 26.2
comp=Z,56nm,0.9s
JOW Kunigami 20.26 8 P **P** **15 36 20.8 -0.3**
comp=Z,50nm,0.8s,baz=182,slow=11,SNR=7.4
JOW LR LR 15 44 13.0
comp=Z,588nm,20.1s,baz=150,slow=37
comp=Z,50nm,0.8s
MTN Manton Dam 20.32 163 **P** **15 36 22.2 +0.5**
MTN IAmb IAmb 15 36 29.7
comp=Z,81nm,1.1s
MTN Manton Dam 20.32 163 P **P** **15 36 22.3 +0.5**
comp=Z,83nm,1.3s
KDU Kakadu 20.61 159 P **P** **15 36 25.2 +0.3**
comp=Z,105nm,0.7s
GUMO Guam 20.65 69 LR LR 15 43 01.3
comp=Z,238nm,21.5s,baz=249,slow=33
UBPT Khong Chiam 21.03 296 P **P** **15 36 30.2 +0.7**
LEM Lembang 21.99 233 P **P** **15 36 43.0 +3.1**
comp=Z,71nm,1.0s
DBJI Dramaga 22.52 235 P **P** **15 36 48.6 +3.1**
comp=Z,50nm,0.4s
KNRA Kununurra 22.52 171 **P** **15 36 44.8 -0.6**
KNRA Kununurra 22.52 171 P **P** **15 36 45.2 -0.3**
comp=Z,75nm,0.6s
MDSI Maura Dua 23.62 243 P **P** **15 36 58.4 +1.5**
comp=Z,28nm,1.1s
LWLI Liwa 23.98 242 P **P** **15 37 00.9 +0.5**
comp=Z,156nm,0.9s
IPM Ipoh 24.03 266 P **P** **15 37 00.1 -0.7**
IPM IAmb IAmb 15 37 06.8
comp=Z,33nm,1.1s
KULM Kulim 24.32 268 P **P** **15 37 03.5 0.0**
KULM IAmb IAmb 15 37 10.6
comp=Z,57nm,1.3s
FITZ Fitzroy Crossi 24.64 179 P **P** **15 37 05.7 -0.5**
FITZ Fitzroy Crossi 24.64 179 P **P** **15 37 05.7 -0.5**
SLVN Son La 25.12 308 IAmb IAmb 15 37 29.7
comp=Z,43nm,1.6s
NJ2 Nanjing 25.89 348 *e*P **P** **15 37 18.3 +0.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
PSI Prapat 26.33 263 LR LR 15 48 07.6
comp=Z,405nm,19.8s,baz=71,slow=38
RPSI Rantau Prapat 26.35 263 P **P** **15 37 21.6 -0.3**
RPSI IAmb IAmb 15 37 30.5
comp=Z,40nm,1.3s
COEN Coen 27.27 139 P **P** **15 37 29.7 -0.4**
COEN Coen 27.27 139 P **P** **15 37 31.1 +1.0**
comp=Z,61nm,1.1s
WB9 Warramunga Arr 27.86 161 P **P** **15 37 34.2 -1.2**
GSI Gunungsitoli 27.93 260 P **P** **15 37 34.5 -1.6**
comp=Z,55nm,0.9s
WRAB Tennant Creek 27.99 161 P **P** **15 37 35.1 -1.4**
WRA Warramunga Arr 27.99 161 P **P** **15 37 35.4 -1.1**
WRA Warramunga Arr 27.99 161 P **P** **15 37 35.4 -1.1**
comp=Z,7.7nm,1.0s,baz=338,slow=9.1,SNR=28
WRA S **S** **15 42 18.4 -2.6**
comp=Z,2.5nm,1.1s,baz=337,slow=13,SNR=4.0
comp=Z,7.7nm,1.0s
CMAR Chiang Mai Arr 28.01 297 P **P** **15 37 36.1 -0.6**
CMAR Chiang Mai Arr 28.01 297 P **P** **15 37 35.6 -1.1**
comp=Z,1.5nm,0.8s,baz=113,slow=8.7,SNR=12
CMAR LR LR 15 49 27.2
comp=Z,248nm,18.1s,baz=120,slow=38
comp=Z,1.5nm,0.8s
CHTO Chiang Mai 28.14 298 P **P** **15 37 37.4 -0.5**
KMI Kunming 28.15 313 P **P** **15 37 39.2 +1.0**
KMI sP sP 15 37 44.8 +2.1
KMI S **S** **15 42 21.2 -2.6**
KMI pmax pmax
comp=Z,13nm,0.9s
KMI LR LR
comp=Z,480nm,20.0s
KMI LR LR
comp=Z,480nm,16.7s
KMI LR LR
comp=Z,420nm,21.1s
MBWA Marble Bar 28.17 191 P **P** **15 37 36.2 -1.9**
comp=Z,20nm,1.3s
PZH PanZhiHua 29.69 314 P **P** **15 37 51.3 -0.5**
PZH S **S** **15 42 50.2 +2.3**
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,80nm,5.2s
PZH LR LR
comp=Z,460nm,20.8s
PZH LR LR
comp=Z,420nm,21.6s
PZH LR LR
comp=Z,360nm,19.0s
LYN LuoYang 30.07 339 *e*P **P** **15 37 58.8 +3.9**
LYN pmax pmax
comp=Z,20nm,1.2s
LYN pmax pmax
comp=Z,150nm,5.9s
QIS Mount Isa 30.61 152 P **P** **15 37 59.6 -0.3**
comp=Z,26nm,0.8s
KSAR Wonju Array Be 30.72 4 P **P** **15 37 59.5 -1.1**
KSRS Korea Array 30.73 4 P **P** **15 37 59.8 -0.8**
comp=Z,2.5nm,0.9s,baz=188,slow=11,SNR=9.2
comp=Z,2.5nm,0.9s
TNCH TengChong 31.27 309 *e*P **P** **15 38 07.4 +1.6**
TNCH pmax pmax
comp=Z,20nm,1.4s
CD2 Chengdu 31.30 323 P **P** **15 38 09.5 +3.7**
CD2 sP sP 15 38 15.2 +4.9
CD2 S **S** **15 43 16.5 +3.7**
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 pmax pmax
comp=Z,240nm,7.6s
CD2 LR LR
comp=Z,2µm,21.2s
CD2 LR LR
comp=Z,1µm,19.7s
CD2 LR LR
comp=Z,530nm,22.6s
AS15 Alice Springs 31.35 164 P **P** **15 38 05.8 -0.6**
comp=Z,15nm,0.7s
AS31 Alice Springs 31.38 164 P **P** **15 38 06.2 -0.3**
comp=Z,4.6nm,0.5s
ASAR Alice Springs 31.38 164 P **P** **15 38 05.8 -0.8**
comp=Z,3.4nm,0.5s,baz=343,slow=8.8,SNR=96
ASAR S **S** **15 43 16.5 +2.4**
comp=Z,0.6nm,0.8s,baz=337,slow=14,SNR=2.2
ASAR LR LR 15 53 53.9
comp=Z,176nm,18.2s,baz=310,slow=42
comp=Z,3.4nm,0.5s
WRKA Warakurna 31.69 174 P **P** **15 38 09.5 +0.2**
comp=Z,5.4nm,0.8s
MJAR Matsushiro Arr 32.05 20 P **P** **15 38 10.5 -1.9**
MJAR Matsushiro Arr 32.05 20 P **P** **15 38 09.6 -2.8**
comp=Z,5.5nm,0.8s,baz=199,slow=9.3,SNR=10
comp=Z,5.5nm,0.8s
MEEK Meekatharra 33.71 190 P **P** **15 38 26.3 -0.7**
comp=Z,17nm,0.6s
BJI Beijing 34.15 348 P **P** **15 38 30.5 -0.1**
BJI pP **pP** **15 38 33.8 0.0**
BJI sP **sP** **15 38 40.0 +4.9**
BJI S **S** **15 43 57.5 +0.6**
BJI pmax pmax
comp=Z,12nm,0.9s
BJI LR LR
comp=Z,68nm,25.1s
BJI LR LR
comp=Z,200nm,25.5s
BJI LR LR
comp=Z,140nm,17.9s
LZH Lanzhou 35.13 329 *e*P **P** **15 38 40.0 +0.6**
LZH pP sP 15 38 44.8 +0.9
LZH sP pP 15 38 48.5 +5.9
LZH pmax pmax
comp=Z,15nm,1.3s
LZH LR LR
comp=Z,580nm,15.5s
LZH LR LR
comp=Z,500nm,15.9s
LZH LR LR
comp=Z,530nm,16.8s
BRDH Bariadhala 35.90 300 LR LR 15 54 33.0
comp=Z,383nm,18.4s,baz=132,slow=38
HHC Hu-ho-hao-te 36.09 342 *e*P **P** **15 38 49.1 +1.6**
HHC S **S** **15 44 31.0 +4.0**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,78nm,5.9s
HHC LR LR
comp=Z,310nm,19.3s
HHC LR LR
comp=Z,160nm,13.5s
HHC LR LR
comp=Z,580nm,20.0s
BTO Baotou 36.36 341 *e*P **P** **15 38 48.0 -1.8**
BTO PP **PP** **15 40 16.0 +3.5**
BTO S **S** **15 44 24.3 -6.7**
BTO SS **SnSn** **15 46 54.6 -3.9**
BTO pmax pmax
comp=Z,10.0nm,0.6s
BTO pmax pmax
comp=Z,310nm,4.7s
BTO LR LR
comp=Z,500nm,21.8s
BTO LR LR
comp=Z,1µm,17.7s
BTO LR LR
comp=Z,990nm,20.0s
CN2 Changchun 36.97 0 *e*P **P** **15 38 58.5 +3.7**
CN2 LR LR
comp=Z,190nm,18.0s
CN2 LR LR
comp=Z,250nm,18.0s
CN2 LR LR
comp=Z,160nm,18.0s
FORT Forrest 37.36 176 IAmb IAmb 15 39 05.8
comp=Z,18nm,0.8s
FORT Forrest 37.36 176 P **P** **15 38 57.9 -0.3**
comp=Z,23nm,0.8s
USRK Ussuriysk Ar. 37.85 8 P **P** **15 39 01.7 -0.5**
comp=Z,15nm,0.8s,baz=191,slow=7.0,SNR=19
comp=Z,15nm,0.8s
XLT XiLinHaoTe 37.89 349 *e*P **P** **15 39 03.8 +1.0**
XLT S **S** **15 44 53.9 -0.4**
XLT pmax pmax
comp=Z,17nm,1.2s
XLT LR LR
comp=Z,420nm,21.3s
XLT LR LR
comp=Z,220nm,22.1s
QLP Quilpie 37.94 151 P **P** **15 39 01.5 -1.7**
comp=Z,27nm,1.1s
KMBL Kambalda 37.96 184 P **P** **15 39 01.1 -2.3**
comp=Z,15nm,1.1s
MDJ Mudanjiang 37.99 5 P **P** **15 39 03.4 0.0**
MDJ PP **PnPn** **15 40 31.1 -0.5**
MDJ S **S** **15 45 00.4 +4.9**
MDJ pmax pmax
comp=Z,23nm,1.2s
MDJ LR LR
comp=Z,280nm,17.9s
MDJ LR LR
comp=Z,180nm,13.1s
MDJ LR LR
comp=Z,310nm,18.6s
KLBR Kellerberrin 38.70 190 P **P** **15 39 07.9 -1.7**
comp=Z,29nm,1.0s
BNX BinXian 38.96 3 ⇑P **P** **15 39 11.2 -0.3**
BNX S **S** **15 45 17.2 +7.1**
BNX pmax pmax
comp=Z,3.0nm,0.5s
BNX pmax pmax
comp=Z,120nm,3.7s
BNX LR LR
comp=Z,210nm,21.0s
BNX LR LR
comp=Z,330nm,16.3s
BNX LR LR
comp=Z,210nm,21.2s
GTA Gaotai 39.73 329 *e*P **P** **15 39 19.6 +1.3**
GTA sP sP 15 39 28.7 +5.9
GTA pmax pmax
comp=Z,11nm,1.0s
GTA LR LR
comp=Z,470nm,17.8s
GTA LR LR
comp=Z,250nm,18.2s
GTA LR LR
comp=Z,370nm,20.4s
NWAO Narrogin (SRO) 40.09 190 LR LR 15 59 31.0
comp=Z,116nm,18.2s,baz=40,slow=42
ASAJ Asahikawa 40.32 20 LR LR 15 55 28.0
comp=Z,338nm,20.3s,baz=214,slow=35
JKA Kamikawa-asahi 40.32 20 P **P** **15 39 22.7 -0.3**
STKA Stephens Creek 41.47 159 P **P** **15 39 32.2 -0.3**
STKA Stephens Creek 41.47 159 P **P** **15 39 32.3 -0.3**
comp=Z,72nm,0.8s
STKA Stephens Creek 41.47 159 P **P** **15 39 32.7 +0.2**
comp=Z,6.3nm,0.7s,baz=338,slow=11,SNR=15
STKA LR LR 15 59 48.0
comp=Z,100nm,21.4s,baz=351,slow=41
comp=Z,6.3nm,0.7s
EVN Everest 41.93 305 P **P** **15 39 37.0 -0.2**
EVN IAmb IAmb 15 39 45.1
comp=Z,37nm,1.1s
HTT Hallett 42.01 163 P **P** **15 39 37.8 +0.8**
comp=Z,3.9nm,0.9s
CMSA Cobar Meteorol 42.81 154 P **P** **15 39 43.8 +0.3**
comp=Z,19nm,1.0s
HEH HeiHe 43.47 2 *e*P **P** **15 39 47.1 -1.4**
HEH pmax pmax
comp=Z,13nm,0.8s
SONM Songino Array 43.99 342 P **P** **15 39 52.3 -0.7**
SONM Songino Array 43.99 342 P **P** **15 39 51.5 -1.5**
comp=Z,0.4nm,0.3s,baz=139,slow=6.8,SNR=6.5
SONM LR LR 15 59 20.8
comp=Z,460nm,21.1s,baz=158,slow=38
comp=Z,0.4nm,0.3s
PALK Pallekele 44.03 274 LR LR 16 00 37.7
comp=Z,116nm,18.2s,baz=87,slow=40
ARMA Armidale 44.83 147 P **P** **15 40 01.0 +1.0**
ARMA IAmb IAmb 15 40 34.7
comp=Z,14nm,1.0s
ARMA Armidale 44.83 147 P **P** **15 39 59.4 -0.5**
comp=Z,15nm,0.7s
ARPS Mount Arapiles 46.00 161 P **P** **15 40 09.1 +0.2**
comp=Z,10nm,1.2s
YNG Young 46.35 153 P **P** **15 40 12.3 +0.4**
comp=Z,19nm,2.0s
CAN Canberra 47.48 153 P **P** **15 40 21.4 +0.7**
CAN Canberra 47.48 153 P **P** **15 40 21.2 +0.5**
comp=Z,11nm,1.2s
CNB Canberra Magne 47.64 153 P **P** **15 40 22.6 +0.7**
comp=Z,32nm,1.4s
TOO Toolangi 47.98 158 P **P** **15 40 25.1 +0.6**
TOO IAmb IAmb 15 40 32.7
comp=Z,18nm,1.4s
TOO Toolangi 47.98 158 P **P** **15 40 25.6 +1.1**
comp=Z,8.3nm,1.5s
WMQ Urumqi 49.37 325 *e*P **P** **15 40 37.1 +1.9**
WMQ LR LR
comp=Z,580nm,20.7s
WMQ LR LR
comp=Z,300nm,17.7s
WMQ LR LR
comp=Z,260nm,16.7s
DZM Mont Dzumac 49.60 126 *e*P **P** **15 40 38.4 +1.2**
comp=Z,54nm,1.1s
DZM Mont Dzumac 49.60 126 *e*LR LR 15 54 41.0
comp=Z,254nm,24.3s
PETK Petropavlovsk- 53.37 24 P **P** **15 41 05.3 +0.3**
PETK Petropavlovsk- 53.37 24 P **P** **15 41 03.5 -1.4**
comp=Z,5.0nm,0.8s,baz=212,slow=8.0,SNR=15
PETK LR LR 16 03 30.7
comp=Z,223nm,19.9s,baz=218,slow=36
comp=Z,5.0nm,0.8s
PET Petropavlovsk 53.70 24 P **P** **15 41 07.4 +0.1**
MKAR Makanchi Array 54.20 325 P **P** **15 41 10.5 -0.7**
MKAR Makanchi Array 54.20 325 P **P** **15 41 10.3 -0.9**
comp=Z,2.5nm,0.7s,baz=126,slow=8.3,SNR=23
MKAR LR LR 16 04 31.1
comp=Z,207nm,21.9s,baz=118,slow=36
comp=Z,2.5nm,0.7s
MAKZ Makanchi 54.39 325 P **P** **15 41 12.0 -0.5**
MAKZ IAmb IAmb 15 41 25.7
comp=Z,14nm,1.1s
KSH Kashi 54.80 314 P **P** **15 41 16.8 +1.0**
KSH pmax pmax
comp=Z,15nm,1.1s
NIL Nilore 54.83 307 P **P** **15 41 15.5 -0.5**
YAK Yakutsk 55.33 3 P **P** **15 41 18.8 -0.2**
YAK Yakutsk 55.33 3 LR LR 16 05 36.6
comp=Z,191nm,20.8s,baz=192,slow=37
AAK Ala-Archa 57.07 317 P **P** **15 41 32.3 +0.2**
AAK IAmb IAmb 15 41 42.3
comp=Z,20nm,1.3s
AAK Ala-Archa 57.07 317 LR LR 16 07 49.8
comp=Z,350nm,21.8s,baz=106,slow=38
ZALV Zalesovo Beam 57.22 333 P **P** **15 41 30.9 -1.7**
ZALV Zalesovo Beam 57.22 333 P **P** **15 41 30.5 -2.2**
comp=Z,1.3nm,0.7s,baz=119,slow=5.3,SNR=7.0
ZALV LR LR 16 07 08.4
comp=Z,122nm,21.5s,baz=134,slow=37
comp=Z,1.3nm,0.7s
KURBB Kurchatov Arra 58.37 327 P **P** **15 41 39.7 -1.1**
comp=Z,5.0nm,0.9s,baz=126,slow=6.1,SNR=21
KURBB LR LR 16 08 57.4
comp=Z,118nm,19.1s,baz=183,slow=38
comp=Z,5.0nm,0.9s
KURK Kurchatov 58.37 327 P **P** **15 41 39.9 -1.0**
KK31 Karatay Array 59.96 316 P **P** **15 41 50.8 -1.2**
KKAR Karatay Array 59.96 316 P **P** **15 41 51.1 -0.9**
KKAR Karatay Array 59.96 316 IAmb IAmb 15 41 58.8
comp=Z,36nm,1.1s
BVAR Borovoye Array 63.95 327 LR LR 16 11 34.4
comp=Z,116nm,19.6s,baz=111,slow=38
TIXI Tiksi 64.93 1 LR LR 16 12 14.8
comp=Z,275nm,20.3s,baz=202,slow=38
URZ Urewera 65.82 137 LR LR 16 13 00.4
comp=Z,101nm,18.2s,baz=309,slow=38
BKZ Black Stump Fm 65.88 138 P **P** **15 42 30.8 -0.7**
RTZ Ruatahuna 65.92 138 P **P** **15 42 31.1 -0.7**
NRIK Noril'sk 67.18 346 P **P** **15 42 36.7 -2.5**
comp=Z,1.5nm,0.4s,baz=135,slow=4.3,SNR=3.9
NRIK LR LR 16 14 10.7
comp=Z,242nm,19.6s,baz=154,slow=38
comp=Z,1.5nm,0.4s
AB31 Akbulak array 68.83 320 P **P** **15 42 48.8 -1.2**
AB31 IAmb IAmb 15 42 59.9
comp=Z,12nm,1.2s
ABKAR Akbulak array 68.83 320 P **P** **15 42 48.7 -1.2**
ABKAR IAmb IAmb 15 42 59.9
comp=Z,12nm,1.2s
AKTO Aktyubinsk 70.33 321 LR LR 16 15 49.1
comp=Z,227nm,21.4s,baz=99,slow=38
NIKH Nikolski High 70.38 36 P **P** **15 42 58.6 -0.9**
baz=254
SPIA Saint Paul Isl 70.83 31 P **P** **15 43 01.1 -1.0**
baz=252
P08K Saint George I 71.02 32 P **P** **15 43 01.8 -1.5**
baz=253
ARTI Arti 71.65 327 LR LR 16 18 21.8
comp=Z,69nm,18.4s,baz=30,slow=39
UNV Unalaska Valle 71.96 35 P **P** **15 43 08.6 -0.5**
baz=256
M11K Mekoryuk 73.78 29 P **P** **15 43 19.5 -0.1**
baz=255
TNA Tin City 74.54 23 P **P** **15 43 23.7 -0.3**
baz=252
K13K Kusilvak Mount 74.90 27 P **P** **15 43 26.5 +0.3**
baz=256
F14K Arctic Creek 75.14 24 P **P** **15 43 28.0 +0.5**
baz=253
M13K Dall Lake 75.16 29 P **P** **15 43 28.2 +0.5**
baz=257
ANM Nome 75.28 25 P **P** **15 43 28.9 +0.6**
baz=254
J14K Nanvaranak Lak 75.60 27 P **P** **15 43 30.8 +0.7**
baz=256
L14K Kuka Creek 75.68 28 IAmb IAmb 15 43 37.2
comp=Z,11nm,0.9s
L14K Kuka Creek 75.68 28 P **P** **15 43 31.2 +0.5**
baz=258,SNR=12
SDPT Sand Point 75.70 35 P **P** **15 43 30.7 -0.2**
baz=261
N14K Kuskokwak Cree 75.87 30 P **P** **15 43 31.8 +0.1**
baz=259
F15K North Star Dit 75.88 24 P **P** **15 43 31.8 0.0**
baz=255
M14K Bethel 75.90 29 IAmb IAmb 15 43 38.4
comp=Z,12nm,0.8s
M14K Bethel 75.90 29 P **P** **15 43 32.1 +0.2**
baz=258
G15K Niukluk 75.94 24 P **P** **15 43 32.6 +0.5**
baz=255
O14K Tigyukauivet M 75.95 31 IAmb IAmb 15 43 38.9
comp=Z,12nm,0.9s
O14K Tigyukauivet M 75.95 31 P **P** **15 43 32.5 +0.2**
baz=259
CHNA Chernabura Isl 76.13 35 P **P** **15 43 33.0 -0.3**
baz=262

L15K **Ungalak Mounta** 76.31 28 P P 15 43 34.7 +0.4
baz=258
C16K **Lisburne Hills** 76.33 21 P P 15 43 34.7 +0.4
baz=253
S14K **Fog Glacier** 76.36 34 P P 15 43 34.3 -0.4
baz=262
K15K **Wolf Creek Mou** 76.41 27 IAmb IAmb 15 43 43.4
comp=Z,10.0nm,1.1s
K15K **Wolf Creek Mou** 76.41 27 P P 15 43 34.9 0.0
baz=258
M15K **Kasigluk River** 76.50 29 P P 15 43 35.3 -0.1
baz=260,SNR=10
H16K **Elim** 76.60 25 P P 15 43 35.8 -0.1
baz=257
O15K **Ungalikthiuk R** 76.67 31 P P 15 43 36.4 +0.1
baz=261
N15K **Kwethluk River** 76.70 30 P P 15 43 36.3 -0.3
N15K IAmb IAmb 15 43 57.6
comp=Z,11nm,1.0s
N15K **Kwethluk River** 76.70 30 P P 15 43 36.6 +0.1
baz=260
G16K **Koyuk River** 76.73 24 P P 15 43 36.7 +0.1
baz=257
KIRV **Kirov** 76.85 329 LR LR 16 19 52.4
comp=Z,143nm,19.8s,baz=103,slow=38
D17K **Noatak River** 77.00 22 P P 15 43 38.1 0.0
baz=256
J16K **Anvik River** 77.03 27 P P 15 43 38.5 +0.2
baz=259
BELG **Belogornoye** 77.07 322 LR LR 16 18 25.0
comp=Z,87nm,20.4s,baz=130,slow=36
RDOG **Red Dog Mine** 77.15 22 P P 15 43 39.3 +0.3
baz=256
C17K **DeLong Mountai** 77.16 21 P P 15 43 39.0 0.0
baz=255
L16K **Owhat River** 77.26 28 IAmb IAmb 15 43 45.9
comp=Z,11nm,1.1s
L16K **Owhat River** 77.26 28 P P 15 43 39.6 0.0
baz=260
E17K **Hotham Inlet** 77.32 23 P P 15 43 39.9 0.0
baz=257
M16K **Timber Creek** 77.39 29 IAmb IAmb 15 43 47.7
comp=Z,11nm,1.0s
M16K **Timber Creek** 77.39 29 P P 15 43 40.7 +0.3
baz=261
N16K **Nishlik Lake** 77.40 30 P P 15 43 40.4 -0.1
baz=261
F17K **Baldwin Pennin** 77.40 23 P P 15 43 40.2 -0.1
baz=258
G17K **Kiwalik Mounta** 77.44 24 P P 15 43 40.5 -0.2
baz=258
P16K **Nushagak River** 77.58 31 P P 15 43 41.3 -0.1
baz=262
O16K **Kokwok River B** 77.60 30 IAmb IAmb 15 43 50.3
comp=Z,12nm,1.1s
O16K **Kokwok River B** 77.60 30 P P 15 43 41.9 +0.3
baz=262
H17K **Granite Mounta** 77.64 25 IAmb IAmb 15 43 49.3
comp=Z,11nm,1.0s
H17K **Granite Mounta** 77.64 25 P P 15 43 42.5 +0.7
baz=259
J17K **VABM Dome** 77.72 27 IAmb IAmb 15 43 49.8
comp=Z,10nm,0.9s
J17K **VABM Dome** 77.72 27 P P 15 43 41.8 -0.4
baz=260,SNR=5.7
RAYN **Ar Rayn** 77.82 293 P P 15 43 43.5 -0.1
B18K **Kokolik River** 77.86 20 P P 15 43 42.9 0.0
baz=256
E18K **Tukpahlearik C** 77.86 22 P P 15 43 42.8 -0.1
baz=258
L17K **Donlin** 77.88 28 P P 15 43 43.1 0.0
baz=261,SNR=6.7
C18K **Utukok River** 77.91 21 IAmb IAmb 15 43 49.9
comp=Z,7.7nm,0.8s
C18K **Utukok River** 77.91 21 P P 15 43 43.1 -0.1
baz=257
K17K **Iditarod** 77.96 27 P P 15 43 43.3 -0.2
baz=261,SNR=5.4
F18K **Selawik** 78.06 23 P P 15 43 44.4 +0.5
baz=259
O17K **Koliganek Bris** 78.13 30 P P 15 43 44.8 +0.3
baz=263
M17K **Holitna River** 78.17 29 IAmb IAmb 15 43 52.6
comp=Z,12nm,1.1s
M17K **Holitna River** 78.17 29 P P 15 43 45.3 +0.5
baz=262
N17K **Nushagak Hills** 78.18 30 IAmb IAmb 15 43 59.5
comp=Z,13nm,1.2s
N17K **Nushagak Hills** 78.18 30 P P 15 43 44.8 -0.1
baz=263
R17L **Mt. Peulik Vol** 78.26 33 P P 15 43 44.5 -0.8
baz=264
A19K **Wainwright** 78.30 20 P P 15 43 45.5 +0.3
baz=257
H18K **Honhosa River** 78.33 25 P P 15 43 46.0 +0.5
baz=261
G18K **Tagagawik** 78.33 24 P P 15 43 45.5 -0.1
baz=260
P17K **Kvichak River** 78.39 31 P P 15 43 46.3 +0.3
baz=264
C19K **Lookout Ridge** 78.57 21 P P 15 43 47.0 +0.1
baz=259,SNR=7.6
Q17K **Contact Creek** 78.58 32 P P 15 43 47.3 +0.1
baz=264,SNR=5.3
L18K **Granite Mounta** 78.64 28 P P 15 43 46.7 -0.6
L18K **Granite Mounta** 78.64 28 P P 15 43 47.3 0.0
baz=263
J18K **Innoko River** 78.78 27 P P 15 43 47.9 -0.3
baz=262
N18K **Kilae Creek** 78.83 30 P P 15 43 48.6 +0.1
baz=264
F19K **Shaleruckik Mo** 78.84 23 P P 15 43 48.4 +0.1
baz=261
ACHA **Angle Creek He** 78.87 32 IAmb IAmb 15 43 55.5
comp=Z,11nm,1.2s
GCSA **Galena City Sc** 78.89 25 P P 15 43 48.9 +0.3
baz=262
M18K **Stony River** 78.96 29 P P 15 43 48.9 -0.2
baz=264
D19K **Kuna River** 78.98 21 P P 15 43 49.3 +0.1
baz=260
G19K **Purcell Mounta** 79.00 24 P P 15 43 49.5 +0.2
baz=262
P18K **Big Mountain,** 79.03 31 P P 15 43 49.8 +0.2
baz=265
Q18K **Katmai Hardscr** 79.08 32 P P 15 43 49.7 -0.3
baz=265
O18K **Koktuh Hills** 79.09 30 IAmb IAmb 15 43 56.4
comp=Z,12nm,0.8s
O18K **Koktuh Hills** 79.09 30 P P 15 43 49.5 -0.4
baz=264
E19K **Redstone River** 79.14 23 P P 15 43 50.0 0.0
baz=261
H19K **Roundabout Mou** 79.17 25 IAmb IAmb 15 43 57.8
comp=Z,13nm,0.9s
H19K **Roundabout Mou** 79.17 25 P P 15 43 50.4 +0.3
baz=262,SNR=16
R18K **Karluk** 79.28 33 P P 15 43 50.8 -0.1
baz=266
J19K **Poorman** 79.33 26 P P 15 43 51.3 +0.2
baz=263
L19K **White Mountain** 79.49 28 P P 15 43 52.0 0.0
baz=264,SNR=11
N19K **Bonanza Creek** 79.53 29 IAmb IAmb 15 43 59.0
comp=Z,7.5nm,0.8s
N19K **Bonanza Creek** 79.53 29 P P 15 43 52.2 -0.2
baz=265
D20K **Etivluk River** 79.56 21 P P 15 43 52.2 -0.1
baz=262
B20K **Meade River** 79.57 20 IAmb IAmb 15 43 59.3
comp=Z,9.4nm,0.8s
B20K **Meade River** 79.57 20 P P 15 43 52.5 +0.2
baz=261
E20K **Nigu River** 79.65 22 P P 15 43 52.9 +0.1
baz=262
F20K **Avaraarat Lake** 79.67 23 P P 15 43 53.3 +0.5
baz=263
M19K **Big River Lodg** 79.68 28 P P 15 43 52.9 -0.1
baz=265
KBZ **Khabaz** 79.76 313 P P 15 43 52.5 -1.3
comp=Z,3.5nm,0.9s,baz=79,slow=5.2,SNR=5.1
KBZ LR LR 16 23 12.1
comp=Z,146nm,19.4s,baz=83,slow=39
comp=Z,3.5nm,0.9s
Q19K **Cape Douglas,** 79.81 31 P P 15 43 53.3 -0.5
baz=266
H20K **Anotleneega Mo** 79.82 25 P P 15 43 53.7 0.0
baz=264

OHAK **Old Harbor** 79.89 33 P P 15 43 54.6 +0.4
baz=267
I20K **Naaghedeneel** 79.92 25 IAmb IAmb 15 44 03.4
comp=Z,11nm,0.9s
I20K **Naaghedeneel** 79.92 25 P P 15 43 54.2 0.0
baz=264
K20K **Telida** 79.96 27 P P 15 43 55.0 +0.5
baz=265
J20K **Nowinta River** 80.00 26 P P 15 43 54.8 +0.1
baz=265
P19K **Oil Pt** 80.07 31 P P 15 43 55.3 +0.1
baz=266
M20K **Styx River** 80.27 28 IAmb IAmb 15 44 11.4
comp=Z,12nm,1.0s
M20K **Styx River** 80.27 28 P P 15 43 56.0 -0.3
baz=266
C21K **Knifeblade Rid** 80.28 21 P P 15 43 56.5 +0.4
baz=263
KDAK **Kodiak Island** 80.30 33 LR LR 16 16 43.5
comp=Z,108nm,19.7s,baz=233,slow=34
KDAK **Kodiak Island** 80.30 33 P P 15 43 56.0 -0.4
baz=267
B21K **Ikpikpuk River** 80.39 20 IAmb IAmb 15 44 08.1
comp=Z,12nm,0.8s
B21K **Ikpikpuk River** 80.39 20 P P 15 43 56.9 +0.2
baz=263,SNR=6.7
O20K **Slope Mountain** 80.40 30 P P 15 43 56.8 -0.2
baz=267
Q20K **Shuyak Island** 80.44 32 P P 15 43 56.9 -0.2
baz=267
G21K **Allakaket** 80.48 24 P P 15 43 57.3 0.0
baz=265
E21K **Killik River** 80.49 22 P P 15 43 57.6 +0.3
baz=264
F21K **Alatna River** 80.56 23 P P 15 43 57.5 -0.2
baz=265
N20K **Mount Spurr** 80.67 29 P P 15 43 58.4 -0.1
baz=267
SPCR **Spurr Chakacha** 80.67 29 P P 15 43 58.4 -0.1
baz=267
H21K **Melozitna Rive** 80.69 25 P P 15 43 58.5 0.0
baz=266
SPU **Mount Spurr** 80.74 29 IAmb IAmb 15 44 06.7
comp=Z,14nm,1.2s
PPLA **Purkeypile** 80.77 27 IAmb IAmb 15 45 22.6
comp=Z,18nm,1.0s
PPLA **Purkeypile** 80.77 27 P P 15 43 58.9 -0.2
baz=267
CHUM **Lake Minchumin** 80.78 26 P P 15 43 58.6 -0.3
baz=266
CAST **Castle Rocks** 80.85 27 IAmb IAmb 15 44 07.4
comp=Z,13nm,0.8s
CAST **Castle Rocks** 80.85 27 P P 15 43 59.2 -0.1
baz=267,SNR=20
HOM **Homer** 80.87 31 P P 15 43 59.4 0.0
baz=268
B22K **Teshekpuk Lake** 80.88 20 P P 15 43 58.8 -0.5
B22K IAmb IAmb 15 44 11.4
comp=Z,9.0nm,0.9s
B22K **Teshekpuk Lake** 80.88 20 P P 15 43 59.9 +0.7
baz=264
D22K **Ayikyak River** 81.00 21 P P 15 44 00.4 +0.3
baz=265
I21K **Tanana** 81.00 25 IAmb IAmb 15 44 09.1
comp=Z,10nm,0.9s
I21K **Tanana** 81.00 25 P P 15 43 59.8 -0.3
baz=266
SKT **Skwentna** 81.03 28 IAmb IAmb 15 44 07.8
comp=Z,15nm,1.1s
SKT **Skwentna** 81.03 28 P P 15 44 00.2 -0.2
baz=267
F22K **John River** 81.08 23 P P 15 44 00.3 -0.2
baz=265
CAPN **Captain Cook N** 81.16 30 P P 15 44 00.8 -0.2
baz=268
E22K **Anaktuvuk Pass** 81.27 22 P P 15 44 01.6 +0.1
baz=266,SNR=10
H22K **Ishtalitna Cre** 81.30 24 P P 15 44 01.5 -0.2
baz=267
G22K **Bettles** 81.31 23 P P 15 44 01.4 -0.2
baz=267
BPAW **Bear Paw Mtn.** 81.38 26 P P 15 44 01.9 -0.2
baz=268
MLY **Manley** 81.52 25 IAmb IAmb 15 44 11.1
comp=Z,12nm,1.0s
MLY **Manley** 81.52 25 P P 15 44 03.1 +0.2
baz=268,SNR=7.0
CUT **Chulitna** 81.64 28 P P 15 44 03.5 0.0
baz=268
TRF **Thorofare Moun** 81.66 27 P P 15 44 03.5 -0.3
baz=268,SNR=5.4
M22K **Willow** 81.69 29 P P 15 44 03.7 -0.1
baz=269
D23K **Nanushuk River** 81.73 21 P P 15 44 03.9 0.0
baz=267
C23K **Itkillik River** 81.80 20 IAmb IAmb 15 44 16.6
comp=Z,12nm,1.0s
C23K **Itkillik River** 81.80 20 P P 15 44 04.5 +0.3
baz=267,SNR=8.3
COLD **Coldfoot** 81.83 23 IAmb IAmb 15 44 13.1
comp=Z,12nm,1.0s
COLD **Coldfoot** 81.83 23 P P 15 44 04.4 -0.1
baz=268,SNR=5.8
RC01 **Rabbit Creek A** 81.86 29 P P 15 44 04.7 -0.1
baz=269
SEW **Seward** 81.99 30 P P 15 44 05.8 +0.4
baz=269
H23K **Yukon River** 82.05 24 IAmb IAmb 15 44 17.3
comp=Z,6.4nm,0.8s
H23K **Yukon River** 82.05 24 P P 15 44 06.1 +0.4
baz=269
E23K **Chandalar** 82.08 22 IAmb IAmb 15 44 27.8
comp=Z,8.5nm,0.9s
E23K **Chandalar** 82.08 22 P P 15 44 06.4 +0.5
baz=268
I23K **Minto, Yukon-K** 82.11 25 IAmb IAmb 15 44 13.5
comp=Z,7.2nm,0.8s
I23K **Minto, Yukon-K** 82.11 25 P P 15 44 06.4 +0.5
baz=269,SNR=9.2
TOLK **Toolik Lake Re** 82.12 22 IAmb IAmb 15 44 13.6
comp=Z,6.9nm,0.8s
TOLK **Toolik Lake Re** 82.12 22 P P 15 44 06.5 +0.5
baz=268
PMR **Palmer** 82.16 29 IAmb IAmb 15 44 12.1
comp=Z,10.0nm,0.9s
PMR **Palmer** 82.16 29 P P 15 44 06.8 +0.6
baz=270
NEA2 **Nenana** 82.22 26 IAmb IAmb 15 44 15.0
comp=Z,8.2nm,0.9s
NEA2 **Nenana** 82.22 26 P P 15 44 06.4 -0.1
baz=269
MCK **McKinley** 82.27 27 IAmb IAmb 15 44 14.8
comp=Z,13nm,0.9s
MCK **McKinley** 82.27 27 P P 15 44 06.6 -0.3
baz=269
D24K **Happy Valley** 82.41 21 IAmb IAmb 15 44 27.1
comp=Z,8.8nm,0.8s
D24K **Happy Valley** 82.41 21 P P 15 44 07.6 +0.2
baz=269
WAT1 **Susitna Watana** 82.44 28 P P 15 44 07.9 +0.1
baz=270
C24K **Franklin Bluff** 82.46 21 P P 15 44 08.1 +0.5
baz=269
KNK **Knik Glacier** 82.48 29 P P 15 44 08.5 +0.5
baz=270
E24K **Your Creek** 82.51 22 P P 15 44 08.6 +0.5
baz=269
PWL **Port Wells** 82.54 30 P P 15 44 08.7 +0.4
baz=270
F24K **Squaw Lake** 82.73 23 P P 15 44 09.8 +0.5
baz=270
H24K **Noodor Dome** 82.73 24 IAmb IAmb 15 44 18.2
comp=Z,10nm,0.9s
H24K **Noodor Dome** 82.73 24 P P 15 44 09.5 +0.3
baz=270
WAT6 **Susitna Watana** 82.81 28 P P 15 44 09.8 0.0
baz=271
M23K **Glacier View** 82.83 29 P P 15 44 10.2 +0.4
baz=271
G24K **Hadweenzic Riv** 82.89 24 IAmb IAmb 15 44 18.8
comp=Z,7.7nm,0.9s
G24K **Hadweenzic Riv** 82.89 24 P P 15 44 10.4 +0.3
baz=270
POKR **Poker Plat Res** 82.92 25 P P 15 44 10.3 +0.1
baz=271
DHY **Denali Highway** 82.97 27 P P 15 44 10.3 -0.4
baz=271
P23K **Montague Islan** 83.02 30 P P 15 44 11.1 +0.4
baz=271
SCM **Sheep Creek Mo** 83.02 29 P P 15 44 11.1 +0.3
baz=271
HDA **Harding Lake** 83.14 26 P P 15 44 11.0 -0.4
baz=271,SNR=7.2
IL31 **** 83.16 26 IAmb IAmb 15 44 15.8
comp=Z,8.1nm,1.3s
ILAR **Eielson Array** 83.16 26 P P 15 44 10.4 -1.0
ILAR **Eielson Array** 83.16 26 P P 15 44 10.2 -1.3
comp=Z,1.0nm,0.8s,baz=254,slow=5.5,SNR=14
comp=Z,1.0nm,0.8s
D25K **Kavik River** 83.28 21 P P 15 44 12.2 +0.2
baz=271
G25K **Bearman Lake** 83.44 24 P P 15 44 13.3 +0.5
baz=272
H25L **Birch Creek** 83.57 24 P P 15 44 14.2 +0.7
baz=272,SNR=6.8
F25K **Christian Rive** 83.59 23 P P 15 44 14.1 +0.4
baz=272,SNR=5.3
E25K **Arctic Village** 83.60 22 IAmb IAmb 15 44 29.3
comp=Z,9.7nm,1.1s
E25K **Arctic Village** 83.60 22 P P 15 44 14.2 +0.5
baz=272
KLU **Klutina** 83.70 29 P P 15 44 14.6 +0.2
baz=272
OBN **Obninsk** 83.71 325 LR LR 16 22 45.9
comp=Z,141nm,22.0s,baz=340,slow=37
PRP **Porcupine Dome** 83.72 25 P P 15 44 14.8 +0.4
baz=272
C26K **Camden Bay** 83.77 20 P P 15 44 15.0 +0.5
baz=272
J25K **Salcha River,** 83.82 26 IAmb IAmb 15 44 20.6
comp=Z,4.8nm,0.8s
J25K **Salcha River,** 83.82 26 P P 15 44 14.8 -0.1
baz=272,SNR=6.2
EYAK **Cordova Ski Ar** 83.82 30 P P 15 44 14.9 0.0
baz=273
PAX **Paxson** 83.85 27 IAmb IAmb 15 44 22.2
comp=Z,6.0nm,0.8s
PAX **Paxson** 83.85 27 P P 15 44 15.4 +0.2
baz=273
BMAR **Burnt Mountain** 84.01 23 P P 15 44 15.8 0.0
HARP **HAARP** 84.02 28 P P 15 44 16.2 +0.3
baz=273
RIDG **Independent Ri** 84.09 27 P P 15 44 16.8 +0.5
baz=273
F26K **Sheenjek River** 84.16 23 P P 15 44 16.9 +0.4
baz=273
C27K **Jago River** 84.20 21 P P 15 44 17.2 +0.5
baz=274
N25K **Chitina, Valde** 84.33 29 P P 15 44 17.8 +0.2
baz=274
G26K **Porcupine Rive** 84.35 23 P P 15 44 18.0 +0.6
baz=274
BMRM **Bremner River** 84.36 29 P P 15 44 18.1 +0.4
baz=274
DOT **Dot Lake** 84.44 27 IAmb IAmb 15 44 26.2
comp=Z,5.7nm,0.9s
SCRK **Sand Creek** 84.46 26 IAmb IAmb 15 44 32.9
comp=Z,6.9nm,1.0s
SCRK **Sand Creek** 84.46 26 P P 15 44 18.2 0.0
baz=274
KAIM **Kayak Island** 84.52 30 P P 15 44 18.0 -0.5
baz=274
J26L **Joseph Creek** 84.60 26 IAmb IAmb 15 44 38.8
comp=Z,12nm,1.4s
J26L **Joseph Creek** 84.60 26 P P 15 44 18.4 -0.5
baz=274,SNR=9.2
MENT **Mentasta** 84.65 27 IAmb IAmb 15 44 33.3
comp=Z,7.2nm,0.9s
I26K **Coal Creek Min** 84.72 25 P P 15 44 19.2 -0.2
baz=274
L26K **Log Cabin Wild** 84.81 27 IAmb IAmb 15 44 28.2
comp=Z,6.5nm,0.9s
L26K **Log Cabin Wild** 84.81 27 P P 15 44 20.2 +0.3
baz=274
ASF **Jabal al Asfar** 84.94 302 LR LR 16 28 18.9
comp=Z,68nm,19.1s,baz=107,slow=40
M26K **Nabesna, AK** 85.02 28 P P 15 44 21.6 +0.6
baz=275
BGLC **Bering Glacier** 85.08 30 P P 15 44 21.4 +0.2
baz=275
E27K **Coleen River** 85.08 22 IAmb IAmb 15 44 43.2
comp=Z,11nm,1.2s
E27K **Coleen River** 85.08 22 P P 15 44 21.3 +0.1
baz=276
MCARA **McCarthy VSAT** 85.10 29 P P 15 44 21.4 +0.1
baz=275
CRQE **Cirque** 85.12 30 P P 15 44 21.8 +0.1
baz=275
G27K **Doyon Strip** 85.19 23 P P 15 44 22.1 +0.3
baz=276
D27M **Malcolm River** 85.20 21 IAmb IAmb 15 44 34.1
comp=Z,12nm,1.1s
D27M **Malcolm River** 85.20 21 P P 15 44 22.4 +0.6
baz=276
BNN **Bunyan** 85.25 308 P P 15 44 22.0 -0.8
K27K **Chicken** 85.29 26 P P 15 44 22.5 +0.2
baz=276
H27K **Steamboat Moun** 85.31 24 IAmb IAmb 15 44 34.9
comp=Z,8.1nm,1.1s
H27K **Steamboat Moun** 85.31 24 P P 15 44 22.8 +0.4
baz=276
I27K **Kandik River** 85.33 25 P P 15 44 23.2 +0.6
baz=276,SNR=29
L27K **Beaver Creek,** 85.50 27 IAmb IAmb 15 44 30.8
comp=Z,5.1nm,0.8s
L27K **Beaver Creek,** 85.50 27 P P 15 44 23.9 +0.5
baz=276,SNR=5.9
BCAR **Beaver Creek A** 85.52 27 P P 15 44 22.5 -1.0
M27K **Edge Creek, AK** 85.55 28 P P 15 44 23.8 0.0
baz=276
MESA **MESA** 85.73 30 P P 15 44 25.2 +0.4
baz=276
E28M **Babbage River** 85.79 21 IAmb IAmb 15 44 34.4
comp=Z,7.3nm,1.0s
E28M **Babbage River** 85.79 21 P P 15 44 25.4 +0.7
baz=278
F28M **Old Crow** 85.80 22 IAmb IAmb 15 44 40.8
comp=Z,9.6nm,1.0s
F28M **Old Crow** 85.80 22 P P 15 44 25.4 +0.7
baz=277,SNR=5.6
MAW **Mawson** 85.95 200 P P 15 44 24.8 -0.5
comp=Z,0.8nm,0.5s,baz=50,slow=8.9,SNR=4.5
MAW LR LR 16 17 07.1
comp=Z,42nm,21.8s,baz=71,slow=32
comp=Z,0.8nm,0.5s
CTG **Chitna Glacier** 85.95 29 P P 15 44 26.7 +0.9
baz=276
BVCY **Beaver Creek** 86.01 28 P P 15 44 26.5 +0.6
baz=277
I28M **Miner Creek** 86.05 25 P P 15 44 26.5 +0.3
baz=277,SNR=12
MMAI **Mount Meron Ar** 86.12 303 LR LR 16 27 50.5
comp=Z,76nm,20.6s,baz=84,slow=39
YUK3 **Moose Creek** 86.28 28 P P 15 44 27.6 +0.1
baz=277
E29M **Blow River** 86.42 22 P P 15 44 28.8 +1.0
baz=279
DAWY **Dawson** 86.46 26 P P 15 44 28.9 +0.8
baz=278
O28M **Mount Upton** 86.53 29 P P 15 44 28.8 0.0
baz=277
VNDA **Vanda** 86.55 173 P P 15 44 26.9 -1.3
comp=Z,1.6nm,0.8s,baz=324,slow=4.3,SNR=3.9
VNDA LR LR 16 25 23.8
comp=Z,53nm,18.3s,baz=6.5,slow=37
comp=Z,1.6nm,0.8s
H29M **Whitestone** 86.58 24 IAmb IAmb 15 44 37.3
comp=Z,5.6nm,0.8s
H29M **Whitestone** 86.58 24 P P 15 44 29.3 +0.7
baz=279
PINM **Pinnacle** 86.59 30 P P 15 44 29.0 +0.1
baz=277
G29M **Pine Creek** 86.61 23 IAmb IAmb 15 44 38.0
comp=Z,10nm,0.9s
G29M **Pine Creek** 86.61 23 P P 15 44 29.3 +0.5
baz=279
YUK8 **Steele Glacier** 86.67 29 P P 15 44 29.7 +0.3
baz=278
I29M **Ogilvie Camp,** 86.73 25 IAmb IAmb 15 45 10.4
comp=Z,19nm,1.8s
I29M **Ogilvie Camp,** 86.73 25 P P 15 44 30.0 +0.6
baz=279
EIL **Elat** 86.83 299 LR LR 16 29 18.8
comp=Z,59nm,19.7s,baz=66,slow=40
BRTR **Keskin Array B** 86.87 309 P P 15 44 28.4 -2.4
comp=Z,1.2nm,0.8s,baz=119,slow=3.9,SNR=5.8
comp=Z,1.2nm,0.8s

PNL	Peninsula	87.07	30	P	P	15 44 31.6	+0.4
	baz=278						
M29M	Somme Creek	87.11	28	P	P	15 44 31.8	+0.3
	baz=279						
ARCES	ARCESS Array B	87.12	340	LR	LR	16 28 35.7	
	comp=Z,108nm,19.0s,baz=80,slow=39						
L29M	L29M	87.16	27	IAmb	IAmb	15 44 44.2	
	comp=Z,8.5nm,1.1s						
L29M	L29M	87.16	27	P	P	15 44 31.9	+0.3
	baz=279						
YUK4	Talbot Arm	87.19	29	P	P	15 44 32.1	+0.1
	baz=279						
EPYK	Eagle Plains	87.21	24	P	P	15 44 32.0	+0.3
	baz=280						
SPITS	Spitsbergen Ar	87.27	349	LR	LR	16 27 02.0	
	comp=Z,129nm,20.9s,baz=60,slow=38						
G30M	tAoh Zraii Nji	87.29	23	IAmb	IAmb	15 45 09.1	
	comp=Z,11nm,1.6s						
G30M	tAoh Zraii Nji	87.29	23	P	P	15 44 32.3	+0.2
	baz=281						
K29M	Barlow Dome	87.31	26	IAmb	IAmb	15 44 41.9	
	comp=Z,20nm,1.9s						
K29M	Barlow Dome	87.31	26	P	P	15 44 32.5	+0.1
	baz=280						
F30M	Barrier River	87.34	22	P	P	15 44 32.3	0.0
	baz=281						
YUK6	Outpost Mounta	87.39	29	P	P	15 44 33.0	0.0
	baz=279						
I30M	Mount Dempster	87.56	25	P	P	15 44 34.2	+0.7
	baz=281						
PPT2	Papeete2	87.59	108	*e*LR	LR	16 12 17.2	
	comp=Z,102nm,24.5s						
PPT2				*e*LR	LR	16 12 20.0	
	comp=Z,95nm,25.5s						
J30M	Hart River	87.69	25	P	P	15 44 34.9	+0.7
	baz=281						
HYT	Haines Junctio	87.83	29	IAmb	IAmb	15 45 46.6	
	comp=Z,5.7nm,0.7s						
HYT	Haines Junctio	87.83	29	P	P	15 44 35.5	+0.6
	baz=280						
M30M	Minto, Yukon	87.85	27	P	P	15 44 35.4	+0.5
	baz=280						
P29M	Windy Craggy	87.91	30	P	P	15 44 35.8	+0.6
	baz=280						
N30M	Aishikik Lake	87.92	28	P	P	15 44 35.7	+0.5
	baz=280						
G31M	Satah River	88.06	23	IAmb	IAmb	15 44 41.1	
	comp=Z,5.1nm,0.9s						
G31M	Satah River	88.06	23	P	P	15 44 36.2	+0.5
	baz=282						
F31M	Tsiigehtchic	88.14	22	P	P	15 44 36.8	+0.7
	baz=283						
P30M	Million Dollar	88.21	30	P	P	15 44 37.0	+0.3
	baz=280						
H31M	Peel River	88.27	24	P	P	15 44 37.3	+0.5
	baz=282						
FINES	FINESS Array B	88.46	332	P	P	15 44 36.1	-1.6
	comp=Z,2.4nm,0.8s,baz=68,slow=5.9,SNR=4.2						
FINES				LR	LR	16 27 17.9	
	comp=Z,114nm,21.2s,baz=72,slow=38						
	comp=Z,2.4nm,0.8s						
TBI	Tubuai	88.48	114	*e*LR	LR	16 12 40.3	
	comp=Z,397nm,31.5s						
N31M	Braeburn, Yuko	88.53	28	IAmb	IAmb	15 44 46.6	
	comp=Z,12nm,1.3s						
N31M	Braeburn, Yuko	88.53	28	P	P	15 44 38.7	+0.6
	baz=281						
AKASG	Malin Array Be	88.57	321	P	P	15 44 35.7	-2.8
	comp=Z,0.7nm,0.5s,baz=71,slow=4.7,SNR=4.2						
AKASG				LR	LR	16 27 04.2	
	comp=Z,100nm,21.4s,baz=57,slow=38						
	comp=Z,0.7nm,0.5s						
PLBC	Pleasant Camp	88.63	30	P	P	15 44 38.9	+0.3
	baz=281						
S31K	Pelican	88.98	32	P	P	15 44 40.3	+0.1
	baz=281						
M31M	Drury Creek, Y	89.03	27	P	P	15 44 40.7	+0.3
	baz=282						
WHY	Whitehorse	89.12	29	P	P	15 44 41.2	+0.1
	baz=282						
SKAG	Skagway	89.15	30	P	P	15 44 41.6	+0.6
	baz=282						
FARO	Faro, Yukon	89.50	27	P	P	15 44 42.8	+0.1
	baz=283						
SIT	Sitka	89.64	33	P	P	15 44 43.7	+0.4
	baz=282						
R32K	Eaglecrest	89.81	31	P	P	15 44 44.1	0.0
	baz=282						
N32M	Quiet Lake	89.87	28	P	P	15 44 44.5	+0.1
	baz=284						
P32M	Atlin	89.92	30	P	P	15 44 44.1	-0.6
	baz=283						
S32K	Killisnoo	89.95	32	P	P	15 44 44.0	-0.8
	baz=282						
P33M	Teslin, Yukon	90.22	29	P	P	15 44 46.3	+0.1
	baz=284						
MMPY	Sheldon Lake,	90.34	27	P	P	15 44 47.1	+0.4
	baz=285						
Q32M	Nakina River	90.80	30	P	P	15 44 48.1	-0.8
	baz=284						
U33K	Whale Pass	91.03	33	P	P	15 44 49.4	-0.5
	baz=284						
CRAG	Craig	91.18	34	P	P	15 44 50.4	-0.1
	baz=284						
R33M	Jennings River	91.33	30	P	P	15 44 51.6	+0.2
	baz=285						
MLR	Muntele Rosu	91.64	316	LR	LR	16 30 07.0	
	comp=Z,146nm,22.0s,baz=68,slow=38						
S34M	Telegraph Cree	91.64	31	P	P	15 44 52.3	-0.4
	baz=285						
TGTN	Hyland Airport	92.00	27	P	P	15 44 54.0	-0.3
	baz=288						
V35K	Ketchikan	92.05	34	P	P	15 44 54.9	+0.3
	baz=285						
DLBC	Dease Lake	92.06	31	P	P	15 44 55.1	+0.4
	baz=286						
WTLY	Watson Lake, Y	92.18	29	P	P	15 44 55.4	+0.2
	baz=287						
T35M	Bob Quinn	92.35	32	P	P	15 44 56.3	+0.3
	baz=286						
WRGLY	Wrigley	93.53	25	P	P	15 45 01.7	+0.4
	baz=292						
TOAD	Toad River Com	94.31	29	P	P	15 45 05.1	0.0
	baz=290						
SYO	Syowa Base	94.57	201	*e*P	pP	15 45 10.3	+1.0
HFS	Hagfors	94.65	332	LR	LR	16 29 44.2	
	comp=Z,221nm,21.8s,baz=64,slow=37						
RES	Resolute Bay	95.21	10	LR	LR	16 32 37.1	
	comp=Z,43nm,19.0s,baz=332,slow=38						
NOA	NORSAR Array B	95.42	333	LR	LR	16 33 42.5	
	comp=Z,79nm,19.2s,baz=60,slow=39						
TAOE	Nuku Hiva Isla	95.71	98	*e*LR	LR	16 16 04.9	
	comp=Z,146nm,24.1s						
QSPA	South Pole Qui	96.58	180	P	P	15 45 15.1	-0.1
	comp=Z,1.5nm,1.1s,baz=325,slow=0.9,SNR=2.1						
QSPA				LR	LR	16 29 35.1	
	comp=Z,50nm,20.8s,baz=8.0,slow=36						
	comp=Z,1.5nm,1.1s						
JMIC	Jan Mayen	96.61	346	LR	LR	16 33 56.0	
	comp=Z,76nm,19.8s,baz=60,slow=39						
VRAC	Vranov	96.81	321	LR	LR	16 33 43.0	
	comp=Z,58nm,20.3s,baz=64,slow=38						
YKA	Yellowknife Ar	97.49	24	P	Pdif	15 45 20.0	+0.6
	comp=Z,0.8nm,0.7s,baz=311,slow=6.1,SNR=3.8						
YKA				LR	LR	16 29 01.2	
	comp=Z,40nm,21.6s,baz=310,slow=35						
	comp=Z,0.8nm,0.7s						
TORD	Torodi Ar. Bea	120.41	289	PKP	PKPdf	15 50 36.3	-1.8
	comp=Z,2.4nm,0.3s,baz=102,slow=0.5,SNR=1.5						
TXAR	Lajitas Array	121.04	50	PKP	PKPdf	15 50 37.4	-1.8
	comp=Z,0.3nm,0.6s,baz=285,slow=1.2,SNR=4.4						
PLCA	Paso Flores	143.34	160	PKP	PKPbc	15 51 19.1	+1.6
	comp=Z,1.7nm,0.9s,baz=214,slow=3.6,SNR=3.4						
LPAZ	La Paz	163.94	128	PKP	PKPdf	15 51 49.6	-1.1
	comp=Z,2.2nm,0.9s,baz=236,slow=3.6,SNR=6.4						
LPAZ	La Paz	163.94	128	*e*P	PKPdf	15 51 51.1	+0.4
SIV	San Ignacio	168.97	147	PKP	PKPdf	15 51 52.5	-1.4
	comp=Z,1.2nm,0.9s,baz=275,slow=6.6,SNR=4.3						
PRPB	Paraupebas	174.89	275	*e*P	PKPdf	15 51 56.8	+0.1

IDC 09 15:33:12.8±324.0, 58.01N×28.33E, h0km, Error ellipse: s-maj=142.9km s-min=106.6km az=102.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	4.98	101	I	I	16 05 55.0	
	0.1nm,1.6s,baz=285,slow=297,SNR=13						
I37NO	I37NO	11.89	343	I	I	16 40 20.0	
	baz=151,slow=325,SNR=2.4						
I26DE	FREYUNG INFRAS	12.63	230	I	I	16 50 10.0	
	baz=38,slow=320,SNR=0.5						

*NEIC **09** 15:40:45.1±0.7, 35.572N±0.009×117.35W±0.02, h6km±5km, Error ellipse: s-maj=1.9km s-min=1.3km az=77.0*
PAS 09 15:40:45.4±0.8, 35.573N±0.009×117.36W±0.02, h2km±1km, Mwr3.5/4, ML3.4/154(NEIC), Error ellipse: s-maj=1.8km s-min=1.3km az=87.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	Chr Cany lake	0.05	183	Pg	Pg	15 40 47.2	+0.8
CCCA				IAML		15 40 47.6	
	comp=E,33μm,0.2s						
CCCA				IAML		15 40 47.9	
	comp=N,40μm,0.5s						
LRMC	Laurel Mtn Rad	0.28	251		Pg	15 40 51.0	+0.2
LRMC				IAML		15 40 55.4	
	comp=N,9μm,0.5s						
LRMC				IAML		15 40 56.1	
	comp=E,4μm,0.1s						
CLC	China Lake	0.31	322		Pg	15 40 51.4	+0.1
CLC				IAML		15 40 56.2	
	comp=N,5μm,0.3s						
CLC				IAML		15 40 56.9	
	comp=E,5μm,0.3s						
CLC	China Lake	0.31	322		Sg	15 40 56.0	+0.6
SRTC	Snort	0.34	291		Pg	15 40 52.5	+0.6
SRTC					Sg	15 40 58.1	+1.8
TOW	Tower One	0.40	306		Pg	15 40 53.8	+0.6
TOW					Sb	15 41 00.3	-1.7
MPMC	Manual Prospec	0.49	348	Pg	Pg	15 40 54.8	-0.1
MPMC				IAML		15 41 04.1	
	comp=E,2μm,0.5s						
MPMC				IAML		15 41 04.5	
	comp=N,2μm,0.4s						
DTP	Desert Tortois	0.50	232		Pg	15 40 55.0	0.0
WNMM	Nine Mile Cany	0.52	302		Pg	15 40 55.5	+0.2
GSC	Goldstone, Bar	0.53	121		Pg	15 40 55.8	+0.3
WVPM	Volcano Peak E	0.53	316		Pg	15 40 55.7	+0.2
WVPM					Sg	15 41 03.3	+0.9
JRC2	Joshua Ridge	0.55	318		Pn	15 41 03.8	+3.4
QSM	Queen of Sheba	0.56	46		Pg	15 40 56.4	+0.2
QSM				IAML		15 41 04.2	
	comp=E,3μm,0.5s						
QSM				IAML		15 41 08.1	
	comp=N,3μm,0.2s						
WCSM	Coso Springs S	0.56	324		Pg	15 40 56.0	-0.1
CCAC	Calif City Air	0.68	232		Pg	15 40 58.5	+0.1
HYS	Haystack Butte	0.73	194		Pg	15 40 58.9	-0.4
HYS					Sg	15 41 09.1	+0.4
GWY	Greenwater Val	0.83	42		Pg	15 41 01.2	-0.2
ISA	Isabella, Lake	0.91	276		Pg	15 41 02.4	-0.5
ISA				IAML		15 41 17.6	
	comp=N,1μm,0.3s						
ISA				IAML		15 41 17.8	
	comp=E,2μm,0.5s						
TPO	Tropico Hills	0.99	226		Pg	15 41 04.2	-0.2
CWC	Cottonwood Cre	1.04	326		Pg	15 41 04.9	-0.5
CWC				IAML		15 41 21.1	
	comp=E,634nm,0.3s						
CWC				IAML		15 41 24.1	
	comp=N,722nm,0.2s						
HEC	Hector,Ludlow	1.12	131		Pg	15 41 06.5	-0.4
AMDNV	Amargosa	1.24	45		Pg	15 41 08.2	-1.0
SPG2	Springville 2	1.30	299		Pg	15 41 09.4	-1.0
BFSC	Mount Baldy Ra	1.35	190		Pg	15 41 10.1	-1.3
BFSC				IAML		15 41 29.8	
	comp=E,369nm,0.6s						
BFSC				IAML		15 41 30.3	
	comp=N,351nm,0.5s						
WCT	Wildcat Mounta	1.35	26		Pg	15 41 10.0	-1.4
WCT				IAML		15 41 30.7	
	comp=N,468nm,0.4s						
WCT				IAML		15 41 33.4	
	comp=E,643nm,0.5s						
GRAC	Grapevine Rang	1.42	360		Pn	15 41 11.5	-0.8
GRAC				IAML		15 41 41.2	
	comp=N,620nm,0.8s						
GRAC				IAML		15 41 41.5	
	comp=E,597nm,0.5s						
MWC	Mount Wilson	1.46	203		Pn	15 41 12.1	-0.9
MWC				IAML		15 41 34.3	
	comp=N,515nm,0.7s						
MWC				IAML		15 41 40.4	
	comp=E,411nm,0.5s						
OSI	Osito Audit: C	1.47	230		Pn	15 41 12.4	-0.6
OSI				IAML		15 41 35.7	
	comp=N,866nm,0.5s						
MTPC	Mountain Pass	1.48	93		Pn	15 41 11.4	-1.8
MTPC				IAML		15 41 34.2	
	comp=E,362nm,0.2s						
MTPC				IAML		15 41 34.7	
	comp=N,386nm,0.3s						
PASC	Pasadena Art C	1.55	206		Pn	15 41 12.7	-1.4
PASC				IAML		15 41 41.2	
	comp=N,284nm,1.0s						
TPNV	Topopah Spring	1.64	33		Pn	15 41 14.4	-1.1
TPNV				IAML		15 41 40.0	
	comp=N,632nm,0.4s						
GMN	Gold Mountain	1.73	3		Pn	15 41 15.8	-0.9
DSP	Deep Springs	1.86	345		Pn	15 41 17.6	-0.7
DANC	Danby, Needles	1.87	119		Pb	15 41 20.3	-0.1
ELS	Elsinore Mount	1.92	182		Pn	15 41 18.2	-1.0
SHPR	Sheep Range	2.01	62		Pn	15 41 19.4	-1.2
V12A	Nelson	2.05	85	IAML		15 41 51.2	
	comp=N,190nm,0.5s						
V12A				IAML		15 41 57.8	
	comp=E,199nm,0.6s						
PMD	Palm Desert	2.08	157	IAML		15 42 03.0	
	comp=E,152nm,0.7s						
BORC	Borrego Spring	2.43	161	IAML		15 42 04.2	
	comp=E,121nm,0.8s						
S11A	Rachel	2.44	32	IAML		15 42 13.5	
	comp=N,302nm,0.8s						
TPH	Tonopah	2.50	3	IAML		15 42 07.1	
	comp=E,316nm,0.9s						
DPP	Dos Picos Cty	2.59	172	IAML		15 42 07.5	
	comp=E,37nm,0.4s						
LHV	Little Huntoon	2.83	341	IAML		15 42 21.9	
	comp=N,79nm,0.9s						
LHV				IAML		15 42 23.4	
	comp=E,82nm,0.5s						
W13A	Hualapai Mount	2.88	98	IAML		15 42 22.3	
	comp=E,83nm,0.6s						
W13A				IAML		15 42 23.0	
	comp=N,88nm,0.8s						
BLYC	Blythe	2.96	127	IAML		15 42 20.3	
	comp=N,184nm,0.6s						
BLYC				IAML		15 42 21.8	
	comp=E,163nm,0.6s						
Q09A	Carvers	3.26	2	IAML		15 42 41.8	
	comp=E,116nm,0.8s						
Q09A				IAML		15 42 47.8	
	comp=N,135nm,0.7s						
WAKR	Walker	3.36	331	IAML		15 42 49.0	
	comp=N,47nm,0.9s						
CMB	Columbia Colle	3.45	316	IAML		15 42 40.8	
	comp=E,68nm,0.7s						
CMB				IAML		15 42 43.5	
	comp=N,95nm,0.8s						
KNB	Kanab	3.94	67	IAML		15 42 56.2	
	comp=E,30nm,1.1s						
KNB				IAML		15 42 58.4	
	comp=N,35nm,1.1s						
Y14A	Wickenburg	3.94	113	IAML		15 42 52.0	
	comp=N,91nm,0.9s						
Y14A				IAML		15 42 54.5	
	comp=E,70nm,0.3s						
SZCU	Shurtz Canyon	3.99	58	IAML		15 42 56.9	
	comp=E,30nm,0.4s						
PSUT	Pine Spring	4.07	42	IAML		15 43 09.1	
	comp=E,51nm,1.1s						
PSUT				IAML		15 43 10.6	
	comp=N,47nm,1.3s						
113A	Mohawk Valley,	4.09	132	IAML		15 42 57.6	
	comp=N,31nm,0.7s						
113A				IAML		15 42 59.9	
	comp=E,30nm,0.9s						
SPR3	Spring Creek 3	4.19	34	IAML		15 42 59.0	
	comp=E,44nm,0.7s						
SPR3				IAML		15 43 05.7	
	comp=N,26nm,0.6s						
AFDM	Forest Hills D	4.43	321	IAML		15 43 10.7	
	comp=E,45nm,1.1s						
AFDM				IAML		15 43 17.7	
	comp=N,33nm,1.0s						
WUAZ	Wupatki	4.88	89	IAML		15 43 27.4	
	comp=N,33nm,0.6s						
WUAZ				IAML		15 43 34.0	
	comp=N,28nm,0.8s						
X16A	Lo Mia Camp, P	5.00	102	IAML		15 43 26.9	
	comp=E,15nm,1.3s						
X16A				IAML		15 43 38.7	
	comp=N,14nm,0.8s						

*IDC **09** 15:41:33.9±2.0, 10.31S×118.86E, h0km, mb3.7/2, mbtmp3.6/5, ML3.6/3, Error ellipse: s-maj=79.7km s-min=25.1km az=42.0*
*DJA **09** 15:41:40.5±0.4, 10.2S±4.4×11.9E±.7, h10km, M3.9/13, mb4.1/6, MLv3.8/13*
ISC 09 15:41:38.1±1.1, 10.31S±0.07×119.24E±0.06, h10km, n21, σ1§68/21, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.68	13	P	Pg	15 41 51.6	+0.3
WBSI				S	Sb	15 41 59.9	-1.7
WSI	Waingapu	1.22	59	P	Pb	15 42 01.0	-0.3
BASI	Baing, Sumba	1.32	86	P	Pn	15 42 03.0	+0.4
PLAI	Plampang	2.06	315	P	Pn	15 42 13.4	+0.6
PLAI				S	Sb	15 42 42.2	+0.9
EDFI	Ende, Flores	2.87	58	P	Pn	15 42 25.0	+0.9
EDFI				S	Sn	15 42 59.2	+0.4
MMRI	Maumere	3.39	61	P	Pn	15 42 32.0	+0.8
BSSI	Bau Bau, Buton	4.32	17	P	Pn	15 42 44.0	+0.1
BATI	Baumata	4.36	89	Pn	Pn	15 42 46.9	+2.5
	5.8nm,0.3s,baz=285,slow=20,SNR=4.8						
BATI				Sn	Sn	15 43 35.0	-0.4
	3.7nm,0.3s,baz=266,slow=17,SNR=1.6						
	8.9nm,0.3s						
BATI	Baumata	4.36	89	P	Pn	15 42 45.2	+0.8
SOEI	Soe	4.98	84	P	Pn	15 42 56.8	+3.7
BKSI	Bulukumba	5.03	10	P	Pn	15 42 54.6	+0.9
BNSI	Bone	5.93	8	P	Pn	15 43 08.9	+2.8
	0.1nm18nm,0.9s						
GMJI	Gumukmas	6.07	289	P	Pn	15 43 10.7	+2.8
	19nm,1.2s						
SPSI	Sidrap Palu	6.33	5	P	Pn	15 43 12.1	+0.6
	0.0nm8.1nm,0.5s						
WRA	Warramunga Arr	17.43	125	P	Pn	15 45 41.6	+0.1
	0.2nm,0.3s,baz=299,slow=14,SNR=4.8						
WRA				S	Sn	15 48 45.7	-10
	0.2nm,0.5s,baz=303,slow=20,SNR=4.7						
	0.3nm,0.5s						
ASAR	Alice Springs	19.29	135	P	P	15 46 04.0	+0.6
	0.2nm,0.3s,baz=317,slow=12,SNR=14						
ASAR				S	Sn	15 49 32.0	-8.8
	0.2nm,0.6s,baz=309,slow=23,SNR=5.4						
	0.6nm,0.6s						
H08S2	Diego Garcia H	46.22	269	T	T	16 39 27.1	
	baz=98,slow=74						
H08S3	Diego Garcia H	46.23	269	T	T	16 39 28.0	
	baz=98,slow=74						
H08S1	Diego Carcia H	46.24	269	T	T	16 39 27.9	
	baz=98						
MKAR	Makanchi Array	65.72	333	P	P	15 52 18.7	-4.4
	0.4nm,0.6s,baz=144,slow=5.8,SNR=3.6						
	0.4nm,0.6s						
ZALV	Zalesovo Beam	70.34	339	P	P	15 52 49.2	-2.7
	0.4nm,0.3s,baz=146,slow=8.3,SNR=2.6						
	0.4nm,0.3s						

*NOU **09** 16:26:11.4, 41.87S×172.65E, h90km, MLv3.9/20, South Island, New Zealand*
*WEL **09** 16:26:13.8±0.5, 42.2S±3.3×17.3E±.7, h63km±6km, M3.6/56, ML3.5/12, MLv3.6/56, Error ellipse: s-maj=4.8km s-min=3.4km az=117.3, confirmed*
ISC 09 16:26:11.2±1.3, 41.85S±0.03×172.62E±0.03, h98km±6km, n138, σ1§31/148, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	Tophouse	0.23	68	P	Pn	16 26 25.8	+0.4
THZ				S	Sn	16 26 34.8	-1.2
MATW	Matariki Wadsw	0.42	8	P	Pn	16 26 26.5	+0.1
MATW				S	Sn	16 26 36.2	-1.4
MRNZ	Matariki Terra	0.46	13	P	Pn	16 26 26.8	+0.2
MRNZ				S	Sn	16 26 36.7	-1.3
INGS	Inangahua Fire	0.50	269	P	Pn	16 26 27.1	+0.3
INGS				S	Sn	16 26 37.5	-1.0
MOLW	Molesworth Sta	0.53	117	P	Pn	16 26 28.7	+1.5
SJFS	Springs Juncti	0.59	214	P	Pn	16 26 28.2	+0.7
SJFS				S	Sn	16 26 39.0	-0.7
DSZ	Denniston Nort	0.62	279	P	Pn	16 26 28.1	+0.2
DSZ				S	Sn	16 26 38.7	-1.6
HSES	Hanmer Springs	0.69	167	P	Pn	16 26 29.7	+1.3
HSES				S	Sn	16 26 41.4	+0.1
KASC	Karamea School	0.71	327	P	Pn	16 26 29.0	+0.4
KASC				S	Sn	16 26 40.6	-0.9
MOTS	Motueka DOC wo	0.78	22	P	Pn	16 26 29.5	+0.3
WTMC	Te Mara Farm W	0.83	158	P	Pn	16 26 31.3	+1.6
NNZ	Nelson	0.85	42	P	Pn	16 26 30.8	+0.9
NNZ				S	Sn	16 26 44.1	+0.2
TKNZ	Takaka Hill	0.85	17	P	Pn	16 26 30.2	+0.2
TKNZ				S	Sn	16 26 43.3	-0.8
KHZ	Kahutara	0.89	130	P	Pn	16 26 31.4	+1.1
KHZ	Kahutara	0.89	130	P	Pn	16 26 45.1	+15
KHZ	Kahutara	0.89	130	P	Pn	16 26 31.4	+1.1
KHZ				S	Sn	16 26 44.5	-0.1
BSWZ	Blackbirch Sta	0.95	82	P	Pn	16 26 32.3	+1.4
LTZ	Lake Taylor	0.97	195	P	Pn	16 26 32.5	+1.3
KIKS	Kaikoura	0.98	127	P	Pn	16 26 33.0	+1.7
QRZ	Quartz Range	1.02	356	P	Pn	16 26 32.1	+0.3
QRZ	Quartz Range	1.02	356	P	Pn	16 26 46.2	+14
QRZ	Quartz Range	1.02	356	P	Pn	16 26 32.2	+0.4
BWRS	Waikakaho Road	1.04	67	P	Pn	16 26 33.2	+1.2
HAVS	Havelock	1.04	57	P	Pn	16 26 33.2	+1.2
TUWZ	Tuamarina	1.07	68	P	Pn	16 26 34.3	+2.0
CECS	Cheviot Emerge	1.08	154	P	Pn	16 26 34.1	+1.7
WAKC	Waikari	1.12	177	P	Pn	16 26 34.0	+1.1
WDFS	Ward Fire Stat	1.13	89	P	Pn	16 26 34.5	+1.5
GVZ	Greta Valley S	1.16	165	P	Pn	16 26 34.8	+1.4
GVZ				S	Sn	16 26 49.9	-0.1
CMWZ	Cape Campbell	1.19	86	P	Pn	16 26 35.4	+1.7
INZ	Inchbonnie	1.24	225	P	Pn	16 26 35.5	+1.3
KHLK	Kaihoka Lakes	1.29	360	P	Pn	16 26 35.6	+0.8
AMCZ	Amberley	1.33	179	P	Pn	16 26 36.5	+1.2
APPS	Arthurs Pass P	1.35	215	P	Pn	16 26 36.8	+1.2
TCW	Tory Channel	1.40	63	P	Pn	16 26 37.2	+1.2
SMHS	Summerhill	1.43	188	P	Pn	16 26 37.4	+0.9
DUWZ	D'Urville Isla	1.43	44	P	Pn	16 26 38.1	+1.5
CSHS	Castle Hill	1.53	205	P	Pn	16 26 38.4	+0.6
OXZ	Oxford	1.54	196	P	Pn	16 26 38.4	+0.6
SPRS	Springfield Vo	1.57	199	P	Pn	16 26 38.8	+0.5
SNZO	South Karori	1.65	72	P	Pn	16 26 39.5	+0.3
SNZO	South Karori	1.65	72	P	Sn	16 27 00.3	-0.2
WEL	Wellington	1.71	71	P	Pn	16 26 40.6	+0.6
BHW	Baring Head	1.74	76	P	Pn	16 26 40.8	+0.4
MHCZ	Mount Hutt	1.85	204	P	Pn	16 26 42.4	+0.5
MQZ	McQueen's Vall	1.86	179	P	Pn	16 26 42.0	+0.2
WVZ	Waitaha Valley	1.86	228	P	Pn	16 26 42.8	+0.9
OKCZ	Okains Bay	1.90	170	P	Pn	16 26 43.4	+0.9
RACZ	Rakaia	1.91	191	P	Pn	16 26 43.1	+0.6
CAW	Cannon Point	1.98	69	P

NMEZ	Namu Road	2.61	22	P	Pn	16 26 53.8	+2.0	
FOZ	Fox Glacier	2.67	230	P	Pn	16 26 53.1	+0.7	
TIWZ	Tintock	2.68	68	P	Pn	16 26 52.1	-0.6	
LREZ	Lake Rotokare	2.74	30	P	Pn	16 26 56.0	+2.5	
NBEZ	Newall Road No	2.75	21	P	Pn	16 26 55.5	+2.0	
WAZ	Wanganui	2.75	41	P	Pn	16 26 55.7	+2.0	
KHEZ	Kahui Hut	2.76	23	P	Pn	16 26 55.6	+1.8	
KHEZ	Kahui Hut	2.76	23	P	Pn	16 26 55.7	+1.8	
PREZ	Palmer Road	2.76	26	P	Pn	16 26 55.7	+1.9	
TMZ	Timaru	2.80	204	P	Pn	16 26 54.6	+0.4	
NEZ	North Egmont	2.81	24	P	Pn	16 26 56.0	+1.5	
PRWZ	Pori Road	2.84	64	P	Pn	16 26 54.3	-0.5	
PKE	Pukeiti	2.85	22	P	Pn	16 26 56.9	+2.0	
DREZ	Durham Road	2.92	25	P	Pn	16 26 57.6	+1.8	
BFZ	Birch Farm	2.97	68	P	Pn	16 26 55.2	-1.3	
BFZ	Birch Farm	2.97	68	S	Sn	16 27 29.9	-1.5	
BFZ	Birch Farm	2.97	68	P	Pn	16 26 55.5	-1.0	
DVHZ	Dannevirke	3.09	61	P	Pn	16 26 57.1	-1.1	
TSZ	Takapari Road	3.10	56	P	Pn	16 26 57.8	-0.4	
LBZ	Lake Benmore	3.10	214	P	Pn	16 26 57.9	-0.4	
VRZ	Vera Road	3.17	32	P	Pn	16 27 01.1	+1.8	
MTVZ	Mangateitei	3.28	42	P	Pn	16 27 02.6	+1.9	
PKVZ	Pokaka	3.29	40	P	Pn	16 27 02.3	+1.4	
PNHZ	Pukenui	3.33	56	P	Pn	16 27 00.5	-0.9	
WNVZ	Wahianoa	3.39	43	P	Pn	16 27 02.6	+0.4	
MOVZ	Moawhango	3.41	45	P	Pn	16 27 02.5	0.0	
MAVZ	Matarangi	3.41	42	P	Pn	16 27 06.7	+3.9	
WHVZ	Whangaehu Hut	3.42	42	P	Pn	16 27 03.3	+0.6	
FWVZ	Far West T-bar	3.42	42	P	Pn	16 27 03.4	+0.6	
COVZ	Chateau Observ	3.46	41	P	Pn	16 27 05.7	+2.6	
TUVZ	Tukino	3.46	43	P	Pn	16 27 04.1	+0.8	
NGZ	Ngauruhoe	3.50	41	P	Pn	16 27 06.5	+2.7	
ODZ	Otahua Downs	3.50	204	P	Pn	16 27 03.8	+0.1	
ODZ	Otahua Downs	3.50	204	S	Sn	16 27 43.5	-0.7	
ODZ	Otahua Downs	3.50	204	P	Pn	16 27 03.8	+0.1	
TWVZ	Taurewa	3.51	39	P	Pn	16 27 06.3	+2.5	
NNVZ	North Ngauruho	3.54	41	P	Pn	16 27 06.2	+1.8	
WTVZ	West Tongariro	3.54	41	P	Pn	16 27 07.3	+2.9	
OTVZ	Oturere	3.55	42	P	Pn	16 27 05.1	+0.7	
KRVZ	Karewarewa	3.59	41	P	Pn	16 27 07.7	+2.7	
JCZ	Jackson Bay	3.59	230	P	Pn	16 27 05.3	+0.4	
JCZ	Jackson Bay	3.59	230	S	Sn	16 27 44.9	-1.5	
JCZ	Jackson Bay	3.59	230	P	Pn	16 27 06.1	+1.3	
ETVZ	East Tongariro	3.59	42	P	Pn	16 27 06.2	+1.2	
KRHZ	Kereru	3.60	54	P	Pn	16 27 04.4	-0.5	
NTVZ	North Tongarir	3.60	41	P	Pn	16 27 08.4	+3.3	
TMVZ	Te Maari	3.60	42	P	Pn	16 27 06.5	+1.3	
HIZ	Hauiti	3.74	28	P	Pn	16 27 08.0	+1.0	
HIZ	Hauiti	3.74	28	S	Sn	16 27 48.9	-1.1	
HIZ	Hauiti	3.74	28	P	Pn	16 27 07.9	+1.0	
WKZ	Wanaka	3.97	220	P	Pn	16 27 08.6	-1.4	
BKZ	Black Stump Fm	3.98	49	P	Pn	16 27 09.5	-0.7	
TLZ	Tolley Road	4.17	33	P	Pn	16 27 13.8	+1.1	
NMHZ	Naumai	4.21	51	P	Pn	16 27 12.3	-1.0	
MTHZ	Maungataniwha	4.40	49	P	Pn	16 27 14.3	-1.5	
MSZ	Milford Sound	4.44	229	P	Pn	16 27 16.9	+0.6	
RTZ	Ruatahuna	4.64	47	P	Pn	16 27 20.0	+0.8	
TOZ	Tahuroa Road	4.67	29	P	Pn	16 27 20.3	+0.8	
URZ	Urewera	4.97	45	P	Pn	16 27 24.0	+0.5	
AWAZ	Awhitu Peninsu	5.03	19	P	Pn	16 27 26.2	+1.9	
MKAZ	Moumakai	5.13	23	P	Pn	16 27 27.2	+1.5	
WTAZ	Waiatarua	5.14	18	P	Pn	16 27 28.2	+2.4	
ETAZ	East Tamaki Re	5.20	21	P	Pn	16 27 28.5	+1.8	
MBAZ	Motutapu North	5.37	20	P	Pn	16 27 31.4	+2.5	
WIAZ	Waiheke Island	5.41	22	P	Pn	16 27 31.4	+1.9	
ABAZ	Army Bay	5.51	19	P	Pn	16 27 32.9	+2.0	
KUZ	Kuaotunu	5.63	26	P	Pn	16 27 32.8	+0.3	
KUZ	Kuaotunu	5.63	26	P	Pn	16 27 33.0	+0.5	
WCZ	Waipu Caves	6.05	13	P	Pn	16 27 40.2	+2.0	
OUZ	Omahuta	6.66	7	P	Pn	16 27 48.5	+2.0	
OUZ	Omahuta	6.66	7	P	Pn	16 27 48.1	+1.6	

IDC 09 16:45:12.2±2.2,0°38N×125°84E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=194.5km s-min=29.0km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.84	158	P	P	16 50 05.3	-1.3
	0.3nm,0.5s,baz=336,slow=10,SNR=2.5 0.3nm,0.5s						
ASAR	Alice Springs	25.15	162	P	P	16 50 40.2	+0.8
	1.1nm,0.9s,baz=344,slow=9.6,SNR=7.1 1.1nm,0.9s						
MKAR	Makanchi Array	59.82	327	P	P	16 55 19.4	-0.2
	0.2nm,0.6s,baz=120,slow=7.8,SNR=1.7 0.2nm,0.6s						

*NEIC **09** 16:47:02.4±0.7,35°.897N×0°.008×117°.700W±0°.009, h12km±4km,Error ellipse: s-maj=1.5km s-min=0.5km az=219.0*

PAS 09 16:47:03.1±0.7,35°.892N×0°.005×117°.71W±0°.01, h7km±2km,ML3.5,ML3.2/138(NEIC),**Error ellipse: s-maj=1.3km s-min=0.6km az=113.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	Tower One	0.09	208		Pg	16 47 05.9	+0.5
TOW					Sg	16 47 08.6	+1.6
CLC	China Lake	0.12	130	Pg	Pg	16 47 05.8	0.0
CLC				IAML		16 47 08.0	
	comp=N,14μm,0.2s						
CLC				IAML		16 47 08.1	
	comp=E,13μm,0.6s						
WCSM	Coso Springs S	0.14	341		Pg	16 47 06.2	-0.1
WNMM	Nine Mile Cany	0.17	253		Pg	16 47 06.6	+0.1
WRVM	Rose V. Centra	0.19	308		Pg	16 47 07.0	0.0
SRTC	Snort	0.20	189		Sg	16 47 11.6	+1.6
MPMC	Manual Prospec	0.24	47		Pg	16 47 07.9	-0.1
MPMC				IAML		16 47 11.7	
	comp=N,6μm,0.5s						
MPMC				IAML		16 47 12.1	
	comp=E,4μm,0.6s						
MPMC	Manual Prospec	0.24	47		Sg	16 47 11.5	+0.1
MFS	McCloud Flat S	0.25	332		Sg	16 47 12.1	+0.4
LRMC	Laurel Mtn Rad	0.41	177		Pg	16 47 10.8	-0.4
LRMC				IAML		16 47 17.2	
	comp=E,3μm,0.2s						
LRMC				IAML		16 47 17.9	
	comp=N,3μm,0.2s						
LRMC	Laurel Mtn Rad	0.41	177		Sg	16 47 17.0	+0.4
CCCA	Chr Cany lake	0.46	142		Pg	16 47 12.2	+0.1
WORM	Onyx Ranch	0.48	246		Sg	16 47 18.4	-0.2
CWC	Cottonwood Cre	0.62	331		Pg	16 47 14.7	-0.5
CWC				IAML		16 47 24.9	
	comp=N,921nm,0.2s						
CWC				IAML		16 47 25.8	
	comp=E,814nm,0.2s						
ISA	Isabella, Lake	0.66	250		Pg	16 47 15.4	-0.5
ISA				IAML		16 47 24.5	
	comp=N,1μm,0.5s						
ISA				IAML		16 47 26.0	
	comp=E,954nm,0.5s						
QSM	Queen of Sheba	0.69	84		Pg	16 47 15.6	-0.8
QSM				IAML		16 47 28.5	
	comp=E,1μm,0.5s						
QSM				IAML		16 47 30.1	
	comp=N,1μm,0.6s						
CCAC	Calif City Air	0.78	199		Pg	16 47 17.6	-0.6
FURC	Furnace Creek,	0.89	50		Sg	16 47 32.1	+0.2
GWY	Greenwater Val	0.89	71	IAML		16 47 33.8	
	comp=N,516nm,0.6s						
GWY				IAML		16 47 41.4	
	comp=E,585nm,0.5s						
SPG2	Springville 2	0.91	290		Pg	16 47 19.7	-1.0
GSC	Goldstone, Bar	0.94	128		Pg	16 47 20.5	-0.8
GSC	Goldstone, Bar	0.94	128	IAML		16 47 35.4	
	comp=N,859nm,0.4s						
TPO	Tropico Hills	1.10	203		Pg	16 47 23.0	-1.2
TPO				IAML		16 47 41.2	
	comp=N,801nm,0.8s						
TPO				IAML		16 47 41.2	
	comp=E,727nm,0.5s						
GRAC	Grapevine Rang	1.14	14		Pg	16 47 24.1	-0.9
GRAC				IAML		16 47 43.6	
	comp=N,826nm,0.4s						
WCT	Wildcat Mounta	1.25	44		Pn	16 47 25.7	-1.5
WCT				IAML		16 47 45.8	
	comp=E,507nm,0.5s						
WCT				IAML		16 47 46.0	
	comp=N,300nm,0.7s						
GMN	Gold Mountain	1.45	14		Pn	16 47 29.0	-1.0
DSP	Deep Springs	1.49	352		Pn	16 47 29.5	-0.8
OSI	Osito Audit: C	1.52	213		Pn	16 47 30.1	-0.8
OSI				IAML		16 47 54.3	
	comp=E,270nm,0.6s						
OSI				IAML		16 47 59.5	
	comp=N,272nm,0.8s						
TUQ	Turquoise Moun	1.52	107		Pn	16 47 29.2	-1.7
TPNV	Topopah Spring	1.58	48		Pn	16 47 30.6	-1.2
TPNV				IAML		16 47 55.4	
	comp=N,447nm,0.6s						
BFSC	Mount Baldy Ra	1.65	179		Pn	16 47 31.4	-1.2
BFSC				IAML		16 48 01.1	
	comp=E,160nm,0.7s						
BFSC				IAML		16 48 03.3	
	comp=N,153nm,0.7s						
MWC	Mount Wilson	1.69	190		Pn	16 47 32.4	-0.9
MWC				IAML		16 47 58.7	
	comp=E,186nm,0.4s						
MWC				IAML		16 47 58.9	
	comp=N,357nm,0.5s						
PASC	Pasadena Art C	1.76	193	Pn	Pn	16 47 33.4	-0.6
CRGC	Crocker Grade	1.77	249		Pb	16 47 35.2	-0.8
MTPC	Mountain Pass	1.80	102		Pn	16 47 33.0	-1.8
MTPC				IAML		16 48 00.9	
	comp=N,288nm,0.5s						
MTPC				IAML		16 48 01.4	
	comp=E,276nm,0.4s						
MZP	Montezuma Peak	1.82	8		Pn	16 47 34.3	-0.9
KCC	Kaiser Creek	1.93	318		Pb	16 47 38.2	-0.5
SHPR	Sheep Range	2.15	73		Pn	16 47 38.4	-1.2
V12A	Nelson	2.33	93	IAML		16 48 24.2	
	comp=N,118nm,0.7s						
PFO	Pinyon Flats O	2.50	155	IAML		16 48 27.7	
	comp=N,89nm,0.9s						
PMPB	Monarch Peak	2.53	278	IAML		16 48 23.7	
	comp=E,149nm,0.7s						
PMPB				IAML		16 48 36.2	
	comp=N,141nm,0.7s						
PRN	Pahroc Range	2.62	54	IAML		16 48 37.0	
	comp=E,144nm,0.9s						
BORC	Borrego Spring	2.83	157	IAML		16 48 35.2	
	comp=N,69nm,0.7s						
BORC				IAML		16 48 36.1	
	comp=E,123nm,0.9s						
DPP	Dos Picos Cty	2.96	167	IAML		16 48 35.9	
	comp=E,50nm,0.5s						
R11B	Troy Canyon, C	2.98	34	IAML		16 48 37.1	
	comp=E,56nm,0.8s						
CMB	Columbia Colle	3.03	316	IAML		16 48 42.4	
	comp=N,56nm,0.8s						
CMB				IAML		16 48 44.4	
	comp=E,57nm,0.7s						
W13A	Hualapai Mount	3.22	103	IAML		16 48 47.8	
	comp=N,36nm,0.9s						
BLYC	Blythe	3.38	128	IAML		16 48 51.9	
	comp=E,42nm,0.6s						
BLYC				IAML		16 48 54.5	
	comp=N,53nm,0.8s						
MPK	Martis Peak	3.87	332	IAML		16 49 22.5	
	comp=E,57nm,1.0s						
AFDM	Forest Hills D	4.01	321	IAML		16 49 09.1	
	comp=N,31nm,0.4s						
AFDM				IAML		16 49 11.0	
	comp=E,44nm,0.5s						
SPR3	Spring Creek 3	4.10	40	IAML		16 49 14.4	
	comp=E,34nm,1.2s						
SPR3				IAML		16 49 23.1	
	comp=N,35nm,1.1s						
ESJX	Sierra Juarez	4.14	159	IAML		16 49 13.7	
	comp=N,18nm,1.3s						
ESJX				IAML		16 49 20.7	
	comp=E,40nm,0.1s						
Y14A	Wickenburg	4.33	115	IAML		16 49 23.6	
	comp=E,43nm,0.7s						
BEKR	Beckworth	4.49	333	IAML		16 49 34.3	
	comp=E,31nm,0.6s						
BEKR				IAML		16 49 42.7	
	comp=N,14nm,0.7s						
VTX	Valle De La Tr	4.77	160	IAML		16 49 37.4	
	comp=N,14nm,1.1s						
VTX				IAML		16 49 41.9	
	comp=E,16nm,0.9s						
WUAZ	Wupatki	5.17	92	IAML		16 49 46.0	
	comp=E,19nm,0.8s						
WUAZ				IAML		16 49 56.9	
	comp=E,19nm,1.1s						
ELK	Elko	5.22	21	IAML		16 49 51.9	
	comp=E,12nm,0.5s						
X16A	Lo Mia Camp, P	5.34	104	IAML		16 50 00.4	
	comp=E,6.9nm,1.3s						
X16A				IAML		16 50 02.8	
	comp=N,8.0nm,1.1s						

*IDC **09** 17:01:59.8±1.0,3°.84N×127°.99E,h0km,mb3.6/8, mbtmp3.6/8,MS2.8/1,Error ellipse: s-maj=47.6km s-min=17.5km az=74.0*

*DJA **09** 17:02:04.2±1.1,4°.N±7°×12°.8E±°,h12km±12km,M4.2/12, mB5.0/2,mb4.5/7,MLv4.1/12,Mw(mB)4.3/2*

ISC 09 17:02:05.7±0.9,4°.00N±0°.09×128°.42E±0°.09,h46km,n21, σ1s83/17,mb3.7/8,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	2.90	264	P	Pn	17 02 49.8	+0.4
SGSI				S	Sn	17 03 25.1	+2.0
TNTI	Ternate	3.38	198	P	Pn	17 02 56.5	+0.5
KMSI	Cibinong	5.59	233	P	Pn	17 03 25.6	-0.8
	2μm116nm,1.1s						
SWI	Sorong	5.61	150	P	Pn	17 03 28.5	+1.9
	0.1nm32nm,0.8s						
SANI	Sanana	6.49	202	P	Pn	17 03 37.3	-1.4
	0.1nm39nm,0.8s						
MRSI	Marisa	7.36	242	P	Pn	17 03 53.1	+2.5
FAKI	Fak Fak	7.87	151	P	Pn	17 03 58.8	+1.1
	33nm,1.9s						
APSI	Ampana	8.34	234	P	Pn	17 04 07.7	+3.6
	33nm,1.1s						
BBSI	Bau Bau	11.09	212	P	Pn	17 04 44.1	+2.3
GUMO	Guam	18.82	59	LR	LR	17 12 19.8	
	comp=Z,25nm,19.5s,baz=160,slow=32						
FITZ	Fitzroy Crossi	22.13	187	P	P	17 06 55.7	-1.9
	1.7nm,0.9s,baz=7.1,slow=8.1,SNR=1.5 1.7nm,0.9s						
WRA	Warramunga Arr	24.50	166	P	P	17 07 20.7	-0.1
	0.8nm,0.6s,baz=345,slow=11,SNR=14 0.8nm,0.6s						
ASAR	Alice Springs	28.02	169	P	P	17 07 51.5	-1.1
	0.2nm,0.6s,baz=356,slow=8.4,SNR=7.2 0.2nm,0.6s						
CMAR	Chiang Mai Arr	32.20	299	P	P	17 08 26.1	-3.7
	0.3nm,0.3s,baz=100,slow=7.9,SNR=1.4 0.3nm,0.3s						
H11S3	WAKE ISLAND Hy	40.08	66	T	T	17 52 46.3	
	baz=252						
H11S2	WAKE ISLAND Hy	40.10	66	T	T	17 52 47.8	
	baz=252						
H11S1	WAKE ISLAND Hy	40.10	66	T	T	17 52 51.6	
	baz=252						
SONM	Songino Array	47.60	340	P	P	17 10 37.3	+0.1
	0.7nm,0.4s,baz=159,slow=9.3,SNR=2.7 0.7nm,0.4s						
PETK	Petropavlovsk-	54.55	21	P	P	17 11 31.5	+2.3
	0.7nm,0.6s,baz=216,slow=7.1,SNR=4.1 0.7nm,0.6s						
MKAR	Makanchi Array	58.30	324	P	P	17 11 56.4	+0.5
	0.6nm,0.6s,baz=114,slow=6.7,SNR=6.8 0.6nm,0.6s						
KURBB	Kurchatov Arra	62.43	327	P	P	17 12 24.2	+0.2
	0.7nm,0.7s,baz=126,slow=5.9,SNR=7.1 0.7nm,0.7s						

*NEIC **09** 17:09:10.3±1.6,35°.15N±0°.02×95°.35W±0°.01,h5km±1km, Error ellipse: s-maj=3.2km s-min=2.9km az=153.0*

NEIC 09 17:09:10.2±1.5,35°.13N±0°.02×95°.35W±0°.02,h5km±1km, mb_Lg2.2/8,ML2.4/7,ML2.6/12,**Error ellipse: s-maj=3.1km s-min=2.9km az=139.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL3	Leonard	0.86	335		Pg	17 09 26.5	-0.1
RLO	Rose Lookout	1.06	14		Pg	17 09 30.1	-0.6
RLO					Sg	17 09 44.5	0.0
DEOK	Depew	1.18	307		Pg	17 09 32.4	-0.4
DEOK					Sg	17 09 48.0	-0.1
DEOK				IAML		17 09 49.9	
	comp=E,108nm,0.1s						
DEOK				IAML		17 09 52.6	
	comp=N,98nm,0.3s						
OK052	Battle Ridge R	1.47	306		Pn	17 09 37.2	-0.1
OK052					Sb	17 09 57.0	+0.1
QUOK	Quay	1.52	314		Pn	17 09 38.1	+0.1
QUOK					Sg	17 09 58.9	-0.1
U38A	Gravette	1.52	31		Pn	17 09 38.1	0.0
U38A					Sn	17 09 58.2	0.0
MIAR	Mount Ida	1.57	111		Pn	17 09 39.1	+0.4
MIAR					Sg	17 10 00.8	+0.2
HHAR	Hobbs	1.62	45		Pn	17 09 40.0	+0.5
HHAR					Sb	17 10 01.4	0.0
FNO	Franklin	1.69	275		Pn	17 09 40.9	+0.5
FNO					Sg	17 10 04.1	-0.3
OK048	Pawnee Station	1.82	315		Pb	17 09 43.3	-0.8
OK051	E0350 and S346	1.83	319	Pn	Pn	17 09 42.9	+0.6
OK029	Liberty Lake	1.84	292		Pb	17 09 43.5	-0.8
OK029					Sg	17 10 08.9	-0.5
Z38A	Mt. Pleasant	1.89	171	Pn	Pn	17 09 44.1	+0.9
T35A	Sooner Cattle	2.02	332		Pn	17 09 46.0	+1.1
X34A	Smith Ranch, M	2.11	256	Pn	Pn	17 09 46.5	+0.3
X40A	Basin Creek Fa	2.17	107		Pn	17 09 47.5	+0.6
WLAR	White Oak Lake	2.34	127	Pn	Pn	17 09 50.0	+0.6
TREL	Terrell	2.47	195	Pn	Pn	17 09 52.0	+0.8
WHAR	Wooly Hollow	2.51	86		Pn	17 09 52.3	+0.6
CROK	Carrier	2.54	303	Pn	Pn	17 09 51.8	-0.3
KAN13	South Haven SW	2.55	318	Pn	Pn	17 09 50.7	-1.6
KAN17	Caldwell West	2.73	315	Pn	Pn	17 09 53.4	-1.3
FCAR	Ozark Folk Cen	2.74	73		Pn	17 09 53.7	-1.1
KAN14	Manchester OK	2.79	311		Pn	17 09 54.5	-1.1
KAN14				IAmb_Lg		17 10 45.9	
	comp=Z,11nm,1.0s						
WMOK	Wichita Mounta	2.85	263	Pn	Pn	17 09 56.3	0.0
LCAR	Lake Charles	3.54	73	IAmb_Lg		17 11 08.6	
	comp=Z,3.9nm,1.1s						
R40A	Maddies Statio	4.01	37		Pn	17 10 11.7	-0.6
R40A				IAmb_Lg		17 11 19.2	
	comp=Z,6.1nm,0.8s						
CCM	Cathedral Cave	4.41	47		Pn	17 10 16.1	-1.6

*NEIC **09** 17:11:27.8±2.5,35°.701N±0°.010×117°.50W±0°.02, h10km±1km,Error ellipse: s-maj=2.8km s-min=2.1km az=246.0*

PAS 09 17:11:28.7±2.8,35°.701N±0°.010×117°.49W±0°.01, h9km±5km,Mwr3.6/4,ML3.5/160(NEIC),**Error ellipse: s-maj=1.7km s-min=1.4km az=74.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	China Lake	0.14	323		Pg	17 11 31.8	0.0
CLC				Sg	Sg	17 11 34.4	+0.3
CLC				IAML		17 11 34.8	
	comp=E,18μm,0.5s						
CLC				IAML		17 11 34.9	
	comp=N,14μm,0.4s						
CCCA	Chr Cany lake	0.20	149		Pg	17 11 33.3	+0.4
CCCA				Sg	Sg	17 11 36.8	+1.1
SRTC	Snort	0.21	268		Pg	17 11 33.3	+0.3
SRTC					Sg	17 11 37.4	+1.5
TOW	Tower One	0.25	296		Sg	17 11 38.5	+1.5
LRMC	Laurel Mtn Rad	0.27	215		Pg	17 11 33.9	-0.2
LRMC				Sg	Sg	17 11 37.7	-0.1
MPMC	Manual Prospec	0.36	0		Pg	17 11 35.4	-0.4
MPMC				Sg	Sg	17 11 40.5	-0.1
MPMC				IAML		17 11 41.2	
	comp=N,7μm,0.5s						
MPMC				IAML		17 11 43.3	
	comp=E,5μm,0.3s						
WVPM	Volcano Peak E	0.36	313		Pg	17 11 35.6	-0.2
WCSM	Coso Springs S	0.39	326		Pg	17 11 36.1	-0.4
WRVM	Rose V. Centra	0.45	314		Pg	17 11 37.1	-0.3
QSM	Queen of Sheba	0.57	62		Pg	17 11 39.3	-0.5
QSM				IAML		17 11 47.6	
	comp=N,4μm,0.4s						
QSM				IAML		17 11 48.2	
	comp=E,3μm,0.4s						
QSM	Queen of Sheba	0.57	62		Sg	17 11 47.3	0.0
GSC	Goldstone, Bar	0.69	125		Pg	17 11 41.4	-0.6
GSC					Sg	17 11 50.7	-0.2
GSC				IAML		17 11 53.6	
	comp=N,4μm,0.3s						
ISA	Isabella, Lake	0.80	268		Pg	17 11 43.3	-0.8
GWY	Greenwater Val	0.82	54		Pg	17 11 43.9	-0.7
GWY				IAML		17 11 57.8	
	comp=N,2μm,0.4s						
GWY				IAML		17 12 00.2	
	comp=E,2μm,0.5s						
HYS	Haystack Butte	0.84	184		Pg	17 11 44.0	-0.9
CWC	Cottonwood Cre	0.88	327		Pg	17 11 44.9	-0.7
CWC				IAML		17 11 58.0	
	comp=N,1μm,0.2s						
CWC				IAML		17 11 59.7	
	comp=E,1μm,0.2s						
EDW2	Edwards Air Fo	0.92	207		Pg	17 11 45.2	-1.0
FURC	Furnace Creek,	0.92	34		Sg	17 11 58.7	+0.3
TPO	Tropico Hills	1.02	216		Pg	17 11 47.3	-0.9
AMDNV	Amargosa	1.24	52		Pn	17 11 50.4	-1.8
WCT	Wildcat Mounta	1.30	32		Pn	17 11 51.6	-1.5
WCT				IAML		17 12 11.6	
	comp=E,958nm,0.6s						
WCT				IAML		17 12 12.5	
	comp=N,795nm,0.4s						
GRAC	Grapevine Rang	1.30	4		Pn	17 11 52.1	-1.0
GRAC				IAML		17 12 15.7	
	comp=E,1μm,0.5s						
GRAC				IAML		17 12 15.7	
	comp=N,1μm,0.6s						
BFSC	Mount Baldy Ra	1.47	185		Pn	17 11 53.8	-1.6
BFSC				IAML		17 12 15.4	
	comp=E,626nm,0.6s						
BFSC				IAML		17 12 15.8	
	comp=N,590nm,0.3s						
OSI	Osito Audit: C	1.48	223		Pn	17 11 54.6	-1.0
OSI				IAML		17 12 18.5	
	comp=N,1μm,0.8s						
OSI				IAML		17 12 20.7	
	comp=E,1μm,0.7s						
BBRC	Big Bear Solar	1.51	162		Pb	17 11 57.3	+0.2
MWC	Mount Wilson	1.54	198		Pn	17 11 55.5	-1.1
MWC				IAML		17 12 19.1	
	comp=E,1μm,0.5s						
MWC				IAML		17 12 19.4	
	comp=N,1μm,0.5s						
MTPC	Mountain Pass	1.59	97		Pn	17 11 55.4	-1.9
MTPC				IAML		17 12 19.4	
	comp=E,505nm,0.4s						
MTPC				IAML		17 12 19.7	
	comp=N,639nm,0.3s						
TPNV	Topopah Spring	1.60	39		Pn	17 11 56.1	-1.3
TPNV				IAML		17 12 21.6	
	comp=N,898nm,0.5s						
TPNV				IAML		17 12 21.8	
	comp=N,689nm,0.7s						
GMN	Gold Mountain	1.

BORC				IAML		17 12 52.4		
	comp=E,138nm,0.8s							
LHV	**Little Huntoon**	**2.67**	**343**		Pn	17 12 11.8	-0.1	
SALN	**Salton City**	**2.72**	**152**		Pn	17 12 12.0	-0.5	
PMPB	**Monarch Peak**	**2.73**	**282**		Pn	17 12 11.5	-1.4	
PMPB				IAML		17 12 58.3		
	comp=N,288nm,0.9s							
PMPB				IAML		17 13 05.5		
	comp=E,271nm,0.9s							
DPP	**Dos Picos Cty**	**2.73**	**170**		Pn	17 12 11.6	-1.3	
DPP				IAML		17 12 54.4		
	comp=E,143nm,0.6s							
DPP				IAML		17 13 35.8		
	comp=N,124nm,0.1s							
NV11	**Mina Array Sit**	**2.78**	**349**		Pn	17 12 12.2	-1.3	
NVAR	**Mina Array Bea**	**2.80**	**347**		Pn	17 12 12.8	-1.1	
BBGB	**Big Mountain B**	**3.00**	**288**		Pn	17 12 15.3	-1.3	
W13A	**Hualapai Mount**	**3.01**	**100**		Pn	17 12 15.2	-1.6	
W13A				IAML		17 13 07.7		
	comp=N,103nm,0.6s							
RYN	**Ryan**	**3.04**	**345**		Pn	17 12 16.4	-0.8	
R11B	**Troy Canyon, C**	**3.05**	**29**		Pn	17 12 16.6	-0.8	
BLYC	**Blythe**	**3.12**	**128**		Pn	17 12 16.9	-1.2	
BLYC				IAML		17 13 11.0		
	comp=E,242nm,0.7s							
Q09A	**Carvers**	**3.14**	**4**		Pn	17 12 17.5	-1.0	
Q09A				IAML		17 13 21.6		
	comp=N,226nm,0.9s							
Q09A				IAML		17 13 23.8		
	comp=E,205nm,0.9s							
WAKR	**Walker**	**3.20**	**332**		Pn	17 12 18.4	-1.0	
TJX	**Tijuana**	**3.20**	**173**	Pn	Pn	17 12 18.4	-0.9	
TJX				IAML		17 13 17.7		
	comp=N,222nm,0.7s							
TJX				IAML		17 13 20.6		
	comp=E,222nm,0.7s							
TKX	**Tecate**	**3.21**	**167**		Pn	17 12 18.3	-1.1	
TKX				IAML		17 13 40.2		
	comp=N,213nm,0.1s							
CMB	**Columbia Colle**	**3.29**	**316**		Pn	17 12 19.2	-1.3	
CMB				IAML		17 13 16.3		
	comp=E,100nm,0.5s							
CMB				IAML		17 13 19.3		
	comp=N,84nm,0.8s							
YUH	**Yuha Desert**	**3.31**	**156**		Pn	17 12 18.7	-2.1	
SAO	**San Andreas Ge**	**3.37**	**290**		Pn	17 12 20.3	-1.2	
GLA	**Glamis**	**3.44**	**139**		Pn	17 12 20.0	-2.6	
CBX	**Cerro Bola**	**3.45**	**168**		Pn	17 12 21.9	-0.9	
CCX	**Cicese**	**3.88**	**170**	Pn	Pn	17 12 27.2	-1.4	
CCX				IAML		17 15 00.6		
	comp=E,75nm,0.1s							
CCX				IAML		17 15 03.6		
	comp=N,71nm,0.1s							
ESJX	**Sierra Juarez**	**3.90**	**160**		Pn	17 12 27.5	-1.6	
Y14A	**Wickenburg**	**4.09**	**114**		Pn	17 12 31.6	+0.1	
Y14A				IAML		17 13 42.0		
	comp=E,104nm,0.6s							
MPK	**Martis Peak**	**4.12**	**331**	IAML		17 13 52.6		
	comp=E,94nm,0.8s							
SPR3	**Spring Creek 3**	**4.14**	**36**	IAML		17 13 40.9		
	comp=E,40nm,0.8s							
SPR3				IAML		17 13 44.0		
	comp=N,56nm,0.8s							
113A	**Mohawk Valley,**	**4.25**	**132**	IAML		17 13 45.0		
	comp=N,31nm,0.5s							
113A				IAML		17 13 45.4		
	comp=E,31nm,1.2s							
AFDM	**Forest Hills D**	**4.26**	**320**	IAML		17 13 48.8		
	comp=E,52nm,0.8s							
AFDM				IAML		17 13 50.6		
	comp=N,42nm,0.4s							
PAHR	**Pah Rah Range**	**4.27**	**340**		Pn	17 12 33.3	-0.8	
VTX	**Valle De La Tr**	**4.53**	**161**	IAML		17 13 56.2		
	comp=E,30nm,0.8s							
BEKR	**Beckworth**	**4.74**	**332**	IAML		17 14 11.6		
	comp=E,44nm,0.7s							
WUAZ	**Wupatki**	**4.99**	**90**	IAML		17 14 09.4		
	comp=E,40nm,0.7s							
WUAZ				IAML		17 14 19.7		
	comp=E,31nm,1.4s							
ORV	**Oroville**	**4.99**	**322**		Pn	17 12 42.5	-1.4	
ORV				IAML		17 14 14.2		
	comp=N,26nm,0.8s							
ORV				IAML		17 14 15.9		
	comp=E,28nm,0.8s							
X16A	**Lo Mia Camp, P**	**5.13**	**103**		Pn	17 12 45.6	-0.3	
X16A				IAML		17 14 16.3		
	comp=E,24nm,1.1s							
X16A				IAML		17 14 24.7		
	comp=N,20nm,1.1s							
SFX	**San Felipe**	**5.15**	**154**	IAML		17 14 20.1		
	comp=N,21nm,0.8s							
SFX				IAML		17 14 26.2		
	comp=E,23nm,1.7s							
ELK	**Elko**	**5.34**	**19**	IAML		17 14 19.9		
	comp=E,18nm,0.6s							
DUG	**Dugway, Tooele**	**5.81**	**38**		Pn	17 12 55.9	+0.6	
W18A	**Petrified Fore**	**6.36**	**93**		Pn	17 13 03.0	+0.1	
PV19	**Morning Glory**	**7.29**	**67**		Pn	17 13 13.7	-2.0	
PV18	**Skein Mesa, Pa**	**7.33**	**67**		Pn	17 13 13.5	-2.6	
PV02	**Paradox Valley**	**7.44**	**68**		Pn	17 13 15.4	-2.3	

*IDC **09** 17:13:17.0±2.7, 35°.72N×141°.31E, h0km, mb3.3/3, mbtmp3.2/4, ML1.9/1, MS3.0/1, Error ellipse: s-maj=77.7km s-min=30.1km az=48.0*
*JMA **09** 17:13:21.1±0.2, 35°.6N±0°.5×14°1E±°, h14km±1km, MV3.3/35, NEAR CHOSHI CITY*
JMA Felt I J1 at NEAR CHOSHI CITY .

ISC 09 17:13:19.4±1.9, 35°.64N±0°.05×141°.11E±0°.09, h11km±12km, n19, σ0°58/17, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.54**	**270**	*i* P	**Pg**	**17 13 30.5**	**+0.5**
JIHU	**Itakohorinouch**	**0.58**	**304**	P	**Pb**	**17 13 32.0**	**+0.5**
JIHU				S	**Sb**	**17 13 40.3**	**+0.6**
KTR	**Katsuura**	**0.82**	**233**	P	**Pg**	**17 13 35.2**	**0.0**
KTR				S	**Sg**	**17 13 45.4**	**-0.5**
BSO4	**Boso 4**	**0.91**	**224**	P	**Pg**	**17 13 37.5**	**+0.6**
JYT	**Yasato**	**0.95**	**308**	*i* P	**Pg**	**17 13 37.5**	**-0.1**
JYT				S	**Sg**	**17 13 49.5**	**-0.5**
BSO3	**Boso 3**	**0.97**	**211**	P	**Pg**	**17 13 38.2**	**+0.1**
BSO1	**Boso 1**	**0.99**	**186**	P	**Pg**	**17 13 38.3**	**-0.1**
JHO	**Hitachi**	**1.06**	**336**	P	**Pb**	**17 13 39.9**	**+0.1**
JHO				*e*S	**Sb**	**17 13 53.9**	**+0.2**
MJAR	**Matsushiro Arr**	**2.52**	**292**	Pn	**Pn**	**17 14 00.2**	**0.0**
	0.2nm,0.3s,baz=98,slow=15,SNR=12						
MJAR				Sn	**Sb**	**17 14 34.3**	**-1.3**
	0.4nm,0.3s,baz=57,slow=24,SNR=7.0 1.7nm,0.5s						
USRK	**Ussuriysk Ar.**	**11.04**	**323**	LR	LR	17 19 20.6	
	comp=Z,79nm,20.5s,baz=342,slow=33						
H11N2	**WAKE ISLAND Hy**	**27.68**	**118**	T	T	17 48 04.2	
	baz=311,slow=75,SNR=39						
H11N1	**WAKE ISLAND Hy**	**27.68**	**118**	T	T	17 48 04.7	
	baz=311,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**27.69**	**118**	T	T	17 48 05.1	
	baz=311,slow=75,SNR=49						
H11S1	**WAKE ISLAND Hy**	**28.34**	**120**	T	T	17 48 52.3	
	baz=312,slow=75,SNR=256						
H11S3	**WAKE ISLAND Hy**	**28.34**	**120**	T	T	17 48 50.3	
	baz=312,slow=75,SNR=212						
H11S2	**WAKE ISLAND Hy**	**28.35**	**120**	T	T	17 48 54.7	
	baz=312,slow=75,SNR=175						
MKAR	**Makanchi Array**	**44.66**	**303**	P	**P**	**17 21 31.4**	**-0.7**
	0.1nm,0.5s,baz=90,slow=7.6,SNR=1.9 0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**46.68**	**309**	P	**P**	**17 21 48.4**	**+0.5**
	0.3nm,0.6s,baz=77,slow=7.6,SNR=2.3 0.3nm,0.6s						
WRA	**Warramunga Arr**	**55.65**	**188**	P	**P**	**17 22 55.6**	**+0.1**
	0.4nm,0.9s,baz=7.2,slow=7.4,SNR=2.0 0.4nm,0.9s						

*IDC **09** 17:14:23.3±0.7, 3°.88N×128°.32E, h0km, mb3.8/13, mbtmp3.8/13, MS3.4/7, Error ellipse: s-maj=36.9km s-min=14.2km az=74.0*
*DJA **09** 17:14:23.6±0.5, 4°N±4°×12°9E±°, h10km, M4.5/14, mB5.1/6, mb4.7/13, MLv4.6/14, Mw(mB)4.4/6*
*NEIC **09** 17:14:31.6±1.6, 3°.8N±0°.1×128°.2E±0°.1, h63km±9km, mb4.2/36, Error ellipse: s-maj=17.6km s-min=13.9km az=66.0*

ISC 09 17:14:29.4±0.6, 3°.93N±0°.06×128°.50E±0°.08, h46km, n78, σ1°43/70, mb4.2/31, MS3.6/5, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.98**	**265**	P	**Pn**	**17 15 13.8**	**-0.4**
TNTI	**Ternate**	**3.33**	**200**		**Pn**	**17 15 17.9**	**-1.2**
TNTI	**Ternate**	**3.33**	**200**	P	**Pn**	**17 15 20.0**	**+0.9**
DAV	**Davao City (W)**	**4.26**	**317**	LR	LR	17 17 13.8	
	comp=Z,131nm,20.1s,baz=90,slow=41						
KMSI	**Cibinong**	**5.61**	**234**	P	**Pn**	**17 15 49.4**	**-1.0**
KMSI				S	**Sn**	**17 16 58.8**	**+5.2**
SANI	**Sanana**	**6.45**	**203**	P	**Pn**	**17 16 00.8**	**-1.1**
	0.1nm38nm,0.9s						
MSAI	**Masohi**	**7.24**	**177**	P	**Pn**	**17 16 11.5**	**-1.2**
	0.2nm38nm,1.0s						
NLAI	**Namlea**	**7.26**	**191**	P	**Pn**	**17 16 12.3**	**-0.7**
	0.2nm38nm,0.7s						
MRSI	**Marisa**	**7.40**	**243**	P	**Pn**	**17 16 16.9**	**+2.0**
	1µm160nm,0.7s						
LUWI	**Luwuk**	**7.56**	**229**		**Pn**	**17 16 15.8**	**-1.3**
LUWI	**Luwuk**	**7.56**	**229**	P	**Pn**	**17 16 18.3**	**+1.2**
	0.2nm906nm39nm,0.7s						
AAI	**Ambon**	**7.57**	**182**	P	**Pn**	**17 16 16.8**	**-0.5**
	0.2nm22nm,0.5s						
FAKI	**Fak Fak**	**7.77**	**151**	Pn	**Pn**	**17 16 21.4**	**+1.4**
FAKI	**Fak Fak**	**7.77**	**151**	P	**Pn**	**17 16 18.7**	**-1.3**
	0.2nm33nm,0.4s						
TOLI2	**Tolitoli**	**8.20**	**250**		**Pn**	**17 16 24.4**	**-1.5**
APSI	**Ampana**	**8.37**	**235**	P	**Pn**	**17 16 29.3**	**+1.1**
	797nm89nm,1.1s						
BAKI	**Biak**	**9.15**	**124**	P	Pn	17 16 33.1	-5.8
	16nm,1.0s						
KMPI	**Kaimana, Papua**	**9.16**	**145**	P	Pn	17 16 34.5	-4.6
SRPI	**Serui, Papua**	**9.64**	**127**	P	Pn	17 16 39.5	-6.2
KDI	**Kendari**	**9.79**	**217**	P	**Pn**	**17 16 47.3**	**-0.5**
TGY	**Tagaytay City**	**12.56**	**324**	LR	LR	17 22 29.1	
	comp=Z,77nm,20.7s,baz=123,slow=39						
SBUM	**Sibu**	**16.32**	**265**		**Pn**	**17 18 12.2**	**-3.3**
KNRA	**Kununurra**	**19.48**	**179**	P	**P**	**17 18 50.7**	**-1.9**
KNRA				IAmb	IAmb	17 19 04.2	
	comp=Z,19nm,1.4s						
YULB	**Yu-li**	**20.56**	**341**	P	**P**	**17 19 04.9**	**+0.4**
SSLB	**Suanglung**	**21.04**	**340**	P	**P**	**17 19 08.3**	**-1.3**
FITZ	**Fitzroy Crossi**	**22.07**	**187**	P	**P**	**17 19 18.8**	**-1.8**
FITZ	**Fitzroy Crossi**	**22.07**	**187**	P	**P**	**17 19 18.6**	**-2.1**
	comp=Z,1.0nm,0.7s,baz=354,slow=9.2,SNR=1.5 comp=Z,1.0nm,0.7s						
WB0	**Warramunga Arr**	**24.25**	**166**		**P**	**17 19 41.2**	**-1.1**
WB0				IAmb	IAmb	17 19 52.5	
	comp=Z,9.0nm,1.1s						
WRA	**Warramunga Arr**	**24.41**	**167**	P	**P**	**17 19 43.3**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=343,slow=10,SNR=19						
WRA				LR	LR	17 31 20.7	
	comp=Z,71nm,19.1s,baz=117,slow=42 comp=Z,2.6nm,0.8s						
WB2	**Warramunga Arr**	**24.41**	**167**	P	**P**	**17 19 42.0**	**-1.7**
WB2				IAmb	IAmb	17 19 59.6	
	comp=Z,8.6nm,1.2s						
WR8	**Warramunga Arr**	**24.46**	**166**	P	**P**	**17 19 43.8**	**-0.4**
WR8				IAmb	IAmb	17 19 54.3	
	comp=Z,5.9nm,1.0s						
WR0	**Warramunga Arr**	**24.47**	**166**	P	**P**	**17 19 44.1**	**-0.3**
AS31	**Alice Springs**	**27.93**	**169**	P	**P**	**17 20 15.4**	**-0.2**
ASAR	**Alice Springs**	**27.93**	**169**	P	**P**	**17 20 15.0**	**-0.6**
ASAR	**Alice Springs**	**27.93**	**169**	P	**P**	**17 20 15.1**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=355,slow=7.9,SNR=11						
ASAR				PcP	**PcP**	**17 23 31.6**	**+1.2**
	comp=Z,0.4nm,1.0s,baz=348,slow=2.2,SNR=2.0 comp=Z,0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**32.31**	**299**	P	**P**	**17 20 53.8**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=120,slow=7.7,SNR=7.7 comp=Z,0.7nm,0.7s						
KSRS	**Korea Array**	**33.37**	**359**	P	**P**	**17 21 03.2**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=179,slow=9.6,SNR=1.8 comp=Z,0.5nm,0.8s						
STKA	**Stephens Creek**	**37.73**	**162**	P	**P**	**17 21 41.0**	**+0.2**
STKA	**Stephens Creek**	**37.73**	**162**	P	**P**	**17 21 41.9**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=338,slow=10,SNR=4.0						
STKA				LR	LR	17 40 04.7	
	comp=Z,82nm,18.8s,baz=5.7,slow=41 comp=Z,1.4nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**40.04**	**66**	T	T	18 05 14.2	
	baz=253,slow=74						
H11S2	**WAKE ISLAND Hy**	**40.05**	**66**	T	T	18 05 12.4	
	baz=253,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.05**	**66**	T	T	18 05 14.6	
	baz=253						
PALK	**Pallekele**	**47.67**	**276**	LR	LR	17 43 33.9	
	comp=Z,88nm,19.6s,baz=92,slow=37						
SONM	**Songino Array**	**47.70**	**340**	P	**P**	**17 23 02.2**	**+0.6**
SONM	**Songino Array**	**47.70**	**340**	P	**P**	**17 23 01.9**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=157,slow=8.2,SNR=5.3 comp=Z,1.2nm,0.6s						
PETK	**Petropavlovsk-**	**54.59**	**21**	P	**P**	**17 23 54.0**	**+0.9**
PETK	**Petropavlovsk-**	**54.59**	**21**	P	**P**	**17 23 54.9**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=180,slow=8.9,SNR=4.3 comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**58.41**	**324**	P	**P**	**17 24 19.3**	**-1.1**
MKAR	**Makanchi Array**	**58.41**	**324**	P	**P**	**17 24 20.7**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=114,slow=8.2,SNR=13						
MKAR				LR	LR	17 52 34.3	
	comp=Z,36nm,19.6s,baz=194,slow=39 comp=Z,0.7nm,0.3s						
MAKZ	**Makanchi**	**58.60**	**324**		**P**	**17 24 20.0**	**-1.7**
MAKZ				IAmb	IAmb	17 24 46.1	
	comp=Z,3.3nm,1.1s						
ZALV	**Zalesovo Beam**	**61.22**	**332**	P	**P**	**17 24 38.6**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=90,slow=6.4,SNR=4.9 comp=Z,0.5nm,0.5s						
KURK	**Kurchatov**	**62.53**	**327**		**P**	**17 24 47.2**	**-1.3**
KURBB	**Kurchatov Arra**	**62.53**	**327**	P	**P**	**17 24 48.1**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=124,slow=6.0,SNR=16 comp=Z,1.8nm,0.7s						
BRVK	**Borovoye**	**68.20**	**326**	P	**P**	**17 25 23.9**	**-1.2**
BRVK				IAmb	IAmb	17 25 25.6	
	comp=Z,1.9nm,0.8s						
AB31	**Akbulak array**	**73.12**	**320**	P	**P**	**17 25 53.7**	**-1.4**
ABKAR	**Akbulak array**	**73.12**	**320**	P	**P**	**17 25 53.6**	**-1.5**
E18K	**Tukpahlearik C**	**79.11**	**22**	P	**P**	**17 26 30.2**	**+1.4**
E18K				IAmb	IAmb	17 26 32.3	
	comp=Z,2.1nm,0.9s						
C19K	**Lookout Ridge**	**79.94**	**20**	P	**P**	**17 26 35.0**	**+1.6**
C19K				IAmb	IAmb	17 26 52.2	
	comp=Z,6.9nm,1.4s						
D19K	**Kuna River**	**80.30**	**21**	P	**P**	**17 26 36.8**	**+1.5**
D19K				IAmb	IAmb	17 26 50.4	
	comp=Z,3.1nm,1.1s						
E19K	**Redstone River**	**80.38**	**22**	P	**P**	**17 26 35.7**	**0.0**
E19K				IAmb	IAmb	17 26 40.7	
	comp=Z,3.0nm,1.1s						
D20K	**Etivluk River**	**80.89**	**21**	P	**P**	**17 26 39.7**	**+1.3**
D20K				IAmb	IAmb	17 26 44.3	
	comp=Z,2.4nm,0.8s						
G21K	**Allakaket**	**81.63**	**23**	P	**P**	**17 26 42.8**	**+0.4**
G21K				IAmb	IAmb	17 26 45.3	
	comp=Z,5.1nm,1.4s						
B21K	**Ikpikpuk River**	**81.78**	**20**		**P**	**17 26 44.4**	**+1.4**
B21K				IAmb	IAmb	17 26 46.4	
	comp=Z,2.7nm,0.8s						
E21K	**Killik River**	**81.78**	**21**	P	**P**	**17 26 44.6**	**+1.4**
I21K	**Tanana**	**82.05**	**25**	P	**P**	**17 26 44.6**	**+0.1**
I21K				IAmb	IAmb	17 27 07.7	
	comp=Z,4.2nm,1.1s						
B22K	**Teshekpuk Lake**	**82.31**	**20**	P	**P**	**17 26 46.1**	**+0.3**
E22K	**Anaktuvuk Pass**	**82.53**	**22**	P	**P**	**17 26 48.5**	**+1.4**
E22K				IAmb	IAmb	17 26 54.1	
	comp=Z,1.7nm,0.7s						
MLY	**Manley**	**82.55**	**25**	P	**P**	**17 26 48.6**	**+1.3**
COLD	**Coldfoot**	**83.02**	**23**		**P**	**17 26 50.9**	**+1.2**
COLD				IAmb	IAmb	17 26 53.4	
	comp=Z,2.9nm,0.9s						
G23K	**Bananza Creek**	**83.03**	**23**		**P**	**17 26 51.0**	**+1.2**
D23K	**Nanushuk River**	**83.05**	**21**	P	**P**	**17 26 51.5**	**+1.7**
D23K				IAmb	IAmb	17 26 53.9	
	comp=Z,3.5nm,1.1s						
C23K	**Itkillik River**	**83.19**	**20**		**P**	**17 26 51.9**	**+1.5**
E23K	**Chandalar**	**83.34**	**22**		**P**	**17 26 52.7**	**+1.4**
F24K	**Squaw Lake**	**83.94**	**23**	P	**P**	**17 26 56.7**	**+2.3**
F24K				IAmb	IAmb	17 26 58.2	
	comp=Z,3.6nm,1.2s						
G24K	**Hadweenzic Riv**	**84.04**	**23**		**P**	**17 26 57.1**	**+2.2**
G24K				IAmb	IAmb	17 26 58.5	
	comp=Z,3.1nm,0.8s						
ILAR	**Eielson Array**	**84.17**	**25**	P	**P**	**17 26 56.2**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=251,slow=5.3,SNR=4.5						
	comp=Z,0.5nm,0.9s						
ARCES	**ARCESS Array B**	**90.87**	**340**	P	**P**	**17 27 29.5**	**+1.7**
	comp=Z,1.2nm,0.7s,baz=103,slow=5.9,SNR=1.4 comp=Z,1.2nm,0.7s						
FINES	**FINESS Array B**	**92.49**	**332**	LR	LR	18 13 06.1	
	comp=Z,25nm,19.3s,baz=68,slow=38						

*UCR **09** 17:17:37.0±1.3, 12°.23N×87°.79W, h83km±37km, MW4.0*
*SNET **09** 17:17:38.9±1.2, 12°.13N×87°.94W, h7km±14km, ML3.5*
*CATAC **09** 17:17:38.5±0.6, 12°N±3°×8°8W±°, h26km±5km, M3.8/25, MLv3.8/25, Error ellipse: s-maj=6.5km s-min=3.3km az=24.2, confirmed*

ISC 09 17:17:36.1±1.4, 12°.14N±0°.04×87°.67W±0°.04, h4km±11km, n75, σ1°03/88, 13D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.83**	**47**	⇓*i*P	**Pn**	**17 17 55.4**	**+0.8**
CRIN				*e*S	**Sn**	**17 18 11.2**	**+3.9**
CRIN	**San Cristobal**	**0.83**	**47**	S	**Sn**	**17 18 07.9**	**+0.7**
CRIN	**San Cristobal**	**0.83**	**47**	⇓P	**Pn**	**17 17 55.3**	**+0.8**
ALEN	**Leon**	**0.85**	**68**	P	**Pn**	**17 17 54.8**	**0.0**
ALEN	**Leon**	**0.85**	**68**	S	**Sn**	**17 18 07.4**	**-0.3**
PKGN	**Cerro Pekin**	**0.86**	**52**	P	**Pn**	**17 17 55.5**	**+0.5**
PKGN				S	**Sn**	**17 18 07.5**	**-0.5**
POTN	**Potosi Cosigui**	**0.87**	**11**	⇓*i*P	**Pn**	**17 17 55.6**	**+0.4**
POTN				*e*S	**Sn**	**17 18 07.4**	**-0.9**
POTN	**Potosi Cosigui**	**0.87**	**11**	⇓P	**Pn**	**17 17 55.8**	**+0.6**
POTN				S	**Sn**	**17 18 09.2**	**+0.9**
POLN	**Al Sur del Vol**	**0.98**	**59**	P	**Pn**	**17 17 56.5**	**-0.2**
POLN				S	**Sn**	**17 18 10.0**	**-1.0**
PLRN	**Geotermica Pol**	**0.99**	**63**	P	**Pn**	**17 17 56.3**	**-0.5**
PLRN				S	**Sn**	**17 18 11.2**	**-0.1**
CNGA	**Al SSO del Vol**	**1.01**	**69**	P	**Pn**	**17 17 57.2**	**+0.1**
CNGA				S	**Sn**	**17 18 11.0**	**-0.9**
CNGN	**Cerro Negro**	**1.02**	**69**	S	**Sn**	**17 18 12.1**	**+0.1**
CNGN	**Cerro Negro**	**1.02**	**69**	P	**Pn**	**17 17 57.3**	**+0.1**
ILCN	**San Idelfonso**	**1.05**	**65**	P	**Pn**	**17 17 57.7**	**+0.1**
COPN	**Copaltepe**	**1.06**	**88**	⇓*i*P	**Pn**	**17 17 57.5**	**-0.3**
COPN				*e*S	**Sn**	**17 18 15.2**	**+2.3**
COPN	**Copaltepe**	**1.06**	**88**	⇓P	**Pn**	**17 17 57.4**	**-0.3**
BC86	**Nagarote**	**1.09**	**83**	S	**Sn**	**17 18 14.3**	**+0.6**
BC86	**Nagarote**	**1.09**	**83**	P	**Pn**	**17 17 59.6**	**+1.5**
BC84	**Volcan Momotom**	**1.14**	**77**	P	**Pg**	**17 17 58.9**	**+0.9**
BC84	**Volcan Momotom**	**1.14**	**77**	S	**Sn**	**17 18 15.3**	**+0.4**
MOMN	**Momotombo**	**1.14**	**76**	⇓P	**Pg**	**17 17 58.4**	**+0.4**
CNCH	**Conchagua**	**1.14**	**352**	*e*P	**Pg**	**17 17 59.7**	**+1.6**
CNCH				*e*P	Pn	17 18 08.2	+9.2
CNCH	**Conchagua**	**1.14**	**352**	⇓P	**Pg**	**17 17 59.6**	**+1.6**
LCND	**La Caada**	**1.18**	**350**	*e*P	**Pg**	**17 18 00.6**	**+1.7**
MOM2	**El Cardon**	**1.20**	**76**	⇓P	**Pg**	**17 17 59.5**	**+0.3**
SAPS	**Ciudad Sandino**	**1.24**	**88**	P	**Pb**	**17 17 59.9**	**-0.3**
APQ2	**Apoyeque**	**1.32**	**87**	P	**Pn**	**17 18 00.8**	**-0.5**
CRUN	**El Crucero**	**1.35**	**96**	P	**Pb**	**17 18 01.7**	**-0.4**
TISN	**Laguna Tiscapa**	**1.37**	**90**	P	**Pn**	**17 18 01.8**	**-0.3**
BLLM	**Bellamira**	**1.41**	**337**	*e*P	**Pg**	**17 18 03.1**	**-0.1**
LCY	**Lacayo**	**1.41**	**335**	*e*P	**Pb**	**17 18 03.1**	**-0.1**
LCY				IAML		17 18 27.1	
	comp=Z,1µm,0.2s						
WILN	**Americas 2**	**1.45**	**89**	⇓P	**Pb**	**17 18 03.1**	**-0.7**
WILN				S	**Sn**	**17 18 21.3**	**-1.4**
PACA	**Pacayal**	**1.47**	**334**	*e*P	**Pg**	**17 18 04.3**	**0.0**
PACA	**Pacayal**	**1.47**	**334**	P	**Pb**	**17 18 04.0**	**-0.1**
NANN	**Nandasmo**	**1.53**	**97**	P	**Pb**	**17 18 04.8**	**-0.3**
TECA	**Tecapa**	**1.57**	**329**	*e*P	**Pb**	**17 18 05.3**	**-0.6**
TECA				*e*P	**Pg**	**17 18 05.5**	**-0.8**
TECA				*e*S	**Sb**	**17 18 25.9**	**-0.3**
TECA				IAML		17 18 27.3	
	comp=Z,1µm,0.3s						
TECA				IAML		17 18 28.2	
	comp=Z,292nm,0.3s						
NADN	**Granada**	**1.65**	**103**	*e*P	**Pn**	**17 18 05.0**	**-0.9**
CAHU	**Cacaucatique**	**1.71**	**342**	*e*P	**Pg**	**17 18 08.5**	**-0.4**
PQSS	**Presa 15 de Se**	**1.71**	**330**	*e*P	**Pb**	**17 18 07.6**	**-0.5**
PQSS				*e*S	**Sg**	**17 18 30.5**	**-0.7**
PQSS	**Presa 15 de Se**	**1.71**	**330**	P	**Pb**	**17 18 08.1**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.86**	**327**	*e*P	**Pb**	**17 18 09.9**	**-0.9**
SCLA				*e*S	**Sb**	**17 18 33.4**	**-1.1**
SCLA	**Alcaldia de Sa**	**1.86**	**327**	P	**Pb**	**17 18 10.2**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.86**	**327**	S	**Sb**	**17 18 34.7**	**+0.2**
MATN	**Matagalpa**	**1.88**	**65**	⇓P	**Pn**	**17 18 08.4**	**-0.7**
RCVN	**Varillal2**	**2.04**	**45**	⇓P	**Pb**	**17 18 12.7**	**-1.1**
JAPN	**Al SSO del Vol**	**2.04**	**107**	*e*P	**Pn**	**17 18 10.8**	**-0.5**
JAPN	**Al SSO del Vol**	**

TBO	**Thunder Bay**	**2.46**	**62**			**Pn**	**17 30 00.4 +0.9**
TBO	comp=N,104nm,0.9s			IAML			17 30 38.5
TBO	comp=E,66nm,0.9s			IAML			17 30 39.9
COWI	**Conover**	**2.81**	**119**			**Pn**	**17 30 04.5 +0.1**
G40A	**Rib Lake**	**2.83**	**142**			**Pn**	**17 30 04.5 0.0**
F33A	**5 Mile Ranch,**	**3.01**	**237**	Pn		**Pn**	**17 30 06.6 -0.4**
ULM	**Lac du Bonnet**	**3.45**	**323**	Pn		**Pn**	**17 30 13.0 -0.1**
ULM	**Lac du Bonnet**	**3.45**	**323**	Pn		**Pn**	**17 30 12.8 -0.2**
ULM	comp=E,0.4nm,0.3s,baz=144,slow=16,SNR=9.2			Pg		**Pb**	**17 30 19.9 -0.2**
ULM	comp=E,0.4nm,0.3s,baz=143,slow=17,SNR=5.1			Lg	Lg		17 31 03.9
I10CA	comp=E,1.2nm,0.3s,baz=43,slow=21,SNR=12 comp=E,0.7nm,0.4s **LAC DU BONNET**	**3.48**	**322**	I	I		17 49 35.0
I37A	baz=141,slow=312,SNR=11 **Lemond, Waseca**	**3.54**	**189**			**Pn**	**17 30 15.0 +0.7**
F42A	**Maple Grove Fa**	**3.59**	**118**			**Pn**	**17 30 14.0 -1.0**
I40A	**Norwalk**	**3.91**	**158**	Pn		**Pn**	**17 30 20.2 +0.8**
I42A	**Draeger Farm,**	**4.49**	**143**	Pn		**Pn**	**17 30 28.3 +1.0**
H43A	**Windswept, Lux**	**4.58**	**130**	Pn		**Pn**	**17 30 28.7 +0.1**
ECSD	**EROS Data Cent**	**4.69**	**218**	Pn		**Pn**	**17 30 31.3 +1.2**
MDND	**Maddock**	**4.69**	**277**	Pn		**Pn**	**17 30 30.4 +0.3**
JFWS	**Jewell Farm**	**4.92**	**159**	Pn		**Pn**	**17 30 33.5 +0.3**
L40A	**Anamosa**	**5.56**	**169**	Pn		**Pn**	**17 30 41.2 -0.8**
E28A	**Huff**	**5.56**	**263**	Pn		**Pn**	**17 30 43.7 +1.5**
PDAR	**Pinedale Array** comp=E,0.1nm,0.3s,baz=66,slow=39,SNR=1.7	**12.83**	**254**	Pn		**Pn**	**17 32 20.9 -1.0**
PDAR	baz=58,slow=30			Lg	Lg		17 35 51.0
YKA	**Yellowknife Ar** comp=E,0.1nm,0.3s,baz=133,slow=11,SNR=2.5 comp=E,0.5nm,0.6s	**19.42**	**329**	P		**Pn**	**17 33 48.2 +1.6**

*IDC **09** 17:40:34.3±1.0, 1°.06N×79°.48W, h0km, mb3.8/6, mbtmp3.9/7, ML3.7/1, MS3.1/3, Error ellipse: s-maj=54.1km s-min=19.1km az=69.0*
*IGQ **09** 17:40:34.1±0.4, 1°N±3°×8°W±°, h6km±1km, MLv3.8/24*
*RSNC **09** 17:40:34.0±0.7, 1°N±3°×8°W±°, h0km, M3.4, mB4.6, mb4.2, ML3.0, MLv3.8, Mw(mB)3.8*
ISC 09 17:40:34.3±1.4, 0°.91N±0°.03×79°.82W±0°.03, h0km±10km, n105, σ1§83/107, mb4.0/5, 26C-2D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AATC	**Ecuador-Atacam**	**0.07**	**224**	⇓P	**Pg**	**17 40 35.5**	**-0.1**
AATC				S	**Sg**	**17 40 37.3**	**+0.8**
AMA1	**Acelerografo,**	**0.10**	**76**	⇑P	**Pg**	**17 40 37.4**	**+1.2**
AES2	**Ecuador-Puerto**	**0.19**	**65**	⇑P	**Pg**	**17 40 39.3**	**+1.4**
AES2				S	**Sg**	**17 40 44.9**	**+4.5**
AV21	**Acelerografo,**	**0.37**	**133**	⇑P	**Pg**	**17 40 42.3**	**+0.9**
AV21				S	**Sb**	**17 40 49.8**	**-0.2**
RVRD	**Rio Verde**	**0.46**	**70**	⇑P	**Pg**	**17 40 43.9**	**+0.7**
RVRD				S	**Sb**	**17 40 52.8**	**+0.1**
BV15	**Puerto Quito-O**	**0.96**	**141**	⇑P	**Pg**	**17 40 51.6**	**-1.1**
BV15				S	**Sg**	**17 41 05.8**	**+0.7**
SNLR	**San Lorenzo-Es**	**1.04**	**69**	⇑P	**Pg**	**17 40 54.2**	**-0.2**
SNLR				S	**Sn**	**17 41 11.5**	**0.0**
APR2	**Miler**	**1.19**	**134**	P	**Pg**	**17 40 55.6**	**-1.5**
PAC1	**Pacto, Paraso**	**1.21**	**122**	⇑P	**Pg**	**17 40 55.4**	**-2.2**
PAC1	**Pacto, Paraso**	**1.21**	**122**	P	**Pg**	**17 40 55.1**	**-2.5**
FLF1	**Flavio Alfaro-**	**1.26**	**181**	⇑P	**Pg**	**17 40 57.8**	**-0.7**
FF1	**Flavio Alfaro-**	**1.26**	**181**	P	**Pg**	**17 40 57.4**	**-1.1**
TUMC	**Tumaco**	**1.42**	**50**	P	**Pn**	**17 41 01.6**	**0.0**
TUMC	**Tumaco**	**1.42**	**50**	P	**Pn**	**17 40 58.1**	**-3.3**
ALIT	**Ecuador-Imbabu**	**1.46**	**95**	P	**Pn**	**17 40 59.1**	**-3.1**
LITE1	**Lita**	**1.46**	**95**	P	**Pn**	**17 40 58.1**	**-4.0**
OTAV	**Otavalo**	**1.52**	**116**	⇑P	**Pn**	**17 41 00.8**	**-2.5**
OTAV	**Otavalo**	**1.52**	**116**	P	**Pn**	**17 41 00.6**	**-2.6**
CUSE	**Cuicocha Este**	**1.54**	**113**	⇑P	**Pn**	**17 41 01.0**	**-2.5**
CUSE	**Cuicocha Este**	**1.54**	**113**	P	**Pn**	**17 41 00.6**	**-2.9**
CUIC	**Cuicocha-Domo**	**1.58**	**112**	⇑P	**Pn**	**17 41 01.4**	**-2.5**
PULU	**Pululahua**	**1.58**	**124**	⇑P	**Pn**	**17 41 02.2**	**-1.9**
COTA	**Cotacachi**	**1.59**	**111**	P	**Pn**	**17 41 01.8**	**-2.4**
PINO	**Pino**	**1.61**	**131**	⇑P	**Pn**	**17 41 02.7**	**-1.9**
YANA	**Yana**	**1.61**	**129**	⇑P	**Pn**	**17 41 02.7**	**-1.8**
TERV	**Terraza Guagua**	**1.62**	**132**	⇑P	**Pn**	**17 41 02.7**	**-2.0**
URCU	**Urcuqui**	**1.63**	**107**	⇑P	**Pn**	**17 41 02.2**	**-2.5**
GGPC	**Guagua Pichinc**	**1.63**	**132**	P	**Pn**	**17 41 02.9**	**-1.9**
GGPT	**Toaza - Volcan**	**1.65**	**133**	⇑P	**Pn**	**17 41 02.9**	**-2.0**
PECV	**Mancha de Ca P**	**1.69**	**188**	P	**Pn**	**17 41 02.9**	**+0.2**
IMBA	**Imbabura, San**	**1.71**	**111**	P	**Pn**	**17 41 05.2**	**-1.0**
CHMA	**Chilma**	**1.76**	**92**	⇑P	**Pn**	**17 41 03.5**	**-2.9**
LNGL	**El Angel-Carch**	**1.82**	**95**	P	**Pn**	**17 41 05.3**	**-2.1**
YAHU	**Yahuarcocha**	**1.83**	**107**	P	**Pn**	**17 41 06.2**	**-1.1**
ECEN	**Cerro Negro**	**1.85**	**93**	⇑P	**Pn**	**17 41 05.5**	**-2.3**
CHL1	**Volcɲn Chiles**	**1.88**	**94**	P	**Pn**	**17 41 06.2**	**-2.0**
ILLI	**Illinizas Sur**	**1.95**	**146**	P	**Pn**	**17 41 08.0**	**-1.2**
TOMA	**Boca Toma-Volc**	**1.97**	**135**	P	**Pb**	**17 41 10.6**	**-0.7**
ANGU	**Angureal**	**2.00**	**115**	⇑P	**Pn**	**17 41 09.3**	**-0.6**
PITA	**Cotopaxi Volc**	**2.01**	**136**	⇓P	**Pn**	**17 41 09.6**	**-0.4**
SUCR	**Mariscal Sucre**	**2.03**	**139**	P	**Pn**	**17 41 10.0**	**-0.3**
SRAM	**San Ramn-Vol**	**2.07**	**143**	P	**Pn**	**17 41 10.4**	**-0.4**
BREF	**Cotopaxi Volca**	**2.09**	**139**	⇑P	**Pn**	**17 41 10.9**	**-0.3**
BVC2	**Cotopaxi Volca**	**2.10**	**138**	⇑P	**Pn**	**17 41 11.0**	**-0.2**
ANTG	**Antisana-Guama**	**2.10**	**132**	⇑P	**Pn**	**17 41 10.9**	**-0.4**
BTAM	**Cotopaxi Volca**	**2.12**	**138**	P	**Pn**	**17 41 11.3**	**-0.2**
BMOR	**Cotopaxi Volca**	**2.12**	**140**	⇑P	**Pn**	**17 41 10.9**	**-0.7**
ANTI	**Antisana**	**2.14**	**129**	⇑P	**Pn**	**17 41 11.5**	**-0.3**
ANTM	**Antisana-La Mi**	**2.15**	**132**	P	**Pn**	**17 41 09.1**	**-2.8**
BRRN	**Barrancas-Volc**	**2.15**	**141**	P	**Pn**	**17 41 12.2**	**+0.2**
TAMB	**Tambo**	**2.16**	**138**	⇑P	**Pn**	**17 41 11.9**	**-0.1**
ANTS	**Antisana-Sarah**	**2.16**	**130**	P	**Pn**	**17 41 12.5**	**+0.3**
VCES	**Cotopaxi**	**2.22**	**140**	P	**Pn**	**17 41 12.7**	**-0.2**
BONI	**La Bonita**	**2.33**	**101**	P	**Pn**	**17 41 14.3**	**0.0**
BONI	**La Bonita**	**2.33**	**101**	P	**Pn**	**17 41 13.9**	**-0.3**
REVN	**San Rafael**	**2.40**	**114**	P	**Pn**	**17 41 16.2**	**+1.0**
LAV4	**Lava4-Reventad**	**2.41**	**114**	P	**Pn**	**17 41 15.9**	**+0.7**
REVS	**Reventador Sur**	**2.42**	**115**	P	**Pn**	**17 41 16.8**	**+1.4**
PIS1	**Pisayambo**	**2.42**	**144**	P	**Pn**	**17 41 15.3**	**-0.4**
PIAT	**Ana Tenorio**	**2.45**	**141**	P	**Pn**	**17 41 16.9**	**+0.9**
PIAT	**Ana Tenorio**	**2.45**	**141**	P	**Pn**	**17 41 15.9**	**-0.1**
ISPT	**Isla de la Pla**	**2.50**	**210**	P	**Pb**	**17 41 20.6**	**+0.5**
CHSH	**Refugio Sur-Vo**	**2.57**	**158**	P	**Pn**	**17 41 19.3**	**+1.6**
PORT	**Chimborazo Vol**	**2.58**	**156**	P	**Pn**	**17 41 17.5**	**-0.4**
CASC	**Dorado de Casc**	**2.60**	**107**	P	**Pn**	**17 41 19.2**	**+1.5**
PPLP	**Puerto Lpez**	**2.62**	**201**	P	**Pn**	**17 41 22.4**	**+0.2**
TAMH	**Tambohuasha Ch**	**2.65**	**157**	P	**Pn**	**17 41 20.5**	**+1.7**
GR1C	**Gorgona, Isla**	**2.65**	**38**	P	**Pn**	**17 41 14.0**	**-4.4**
IGUA	**Igualata**	**2.66**	**154**	P	**Pb**	**17 41 21.4**	**-1.9**
JUI6	**Juive**	**2.68**	**150**	P	**Pb**	**17 41 21.4**	**-2.1**
POND	**Pondoa**	**2.69**	**149**	P	**Pb**	**17 41 21.5**	**-2.1**
BULB	**Ulba Tungurahu**	**2.73**	**149**	P	**Pn**	**17 41 21.3**	**+1.6**
ARRY	**Arrayan**	**2.76**	**150**	P	**Pn**	**17 41 21.7**	**+1.4**
BPAT	**Tungurahua Vol**	**2.77**	**150**	P	**Pn**	**17 41 22.4**	**+2.0**
BBAC	**Balboa, Cauca**	**2.80**	**67**	P	**Pn**	**17 41 18.8**	**-1.8**
BBAC	**Balboa, Cauca**	**2.80**	**67**	P	**Pn**	**17 41 18.5**	**-2.1**
CRUC	**La Cruz**	**2.94**	**77**	P	**Pn**	**17 41 23.5**	**+0.9**
SALI	**Salinas**	**3.29**	**201**	P	**Pb**	**17 41 30.4**	**-3.3**
COHC	**Cochancay**	**3.40**	**170**	P	**Pn**	**17 41 28.1**	**-0.5**
COHC	**Cochancay**	**3.40**	**170**	P	**Pn**	**17 41 27.0**	**-1.7**
MORR	**Playas El Morr**	**3.57**	**188**	P	**Pn**	**17 41 33.4**	**+2.5**
ISPG	**Isla Puna-Puer**	**3.87**	**185**	P	**Pb**	**17 41 40.4**	**-3.1**
JAMC	**Jamundi, Valle**	**3.89**	**54**	P	**Pn**	**17 41 31.6**	**-4.0**
TAIS	**Taisha**	**4.01**	**145**	P	**Pn**	**17 41 40.4**	**+3.3**
PCRA	**Pucara 2**	**4.10**	**176**	P	**Pn**	**17 41 39.0**	**+0.2**
FLOC	**Florencia**	**4.22**	**81**	P	**Pn**	**17 41 42.4**	**+2.4**
FLOC	**Florencia**	**4.22**	**81**	P	**Pn**	**17 41 40.8**	**+0.9**
BOSC	**San Juan Bosco**	**4.25**	**162**	P	**Pn**	**17 41 42.0**	**+1.5**
ARNL	**Arenillas**	**4.44**	**183**	P	**Pn**	**17 41 43.6**	**+0.7**
GARC	**Garzon, Huila**	**4.50**	**74**	P	**Pn**	**17 41 44.8**	**+0.7**
YOTC	**Yotoco, Valle**	**4.62**	**49**	P	**Pn**	**17 41 46.4**	**+0.8**
ORTC	**Ortega, Tolima** 19nm,0.9s	**5.45**	**57**	P	**Pn**	**17 41 57.0**	**+0.1**
MACC	**Macarena, Meta**	**6.09**	**78**	P	**Pn**	**17 42 06.5**	**+0.8**
ATAH	**Atahualpa** 1.0nm,0.3s,baz=354,slow=9.2,SNR=4.9	**8.12**	**170**	Pn	**Pn**	**17 42 36.1**	**+2.2**
ATAH	0.2nm,0.3s,baz=36,slow=19,SNR=1.5 5.4nm,0.6s			Sn	**Sn**	**17 44 11.3**	**+4.6**
JTS	**Las Juntas de** comp=Z,77nm,19.0s,baz=140,slow=33	**10.62**	**331**	LR	LR	17 46 29.7	
LPAZ	**La Paz** 0.9nm,0.4s,baz=343,slow=13,SNR=4.7 0.9nm,0.4s	**20.62**	**146**	P	**P**	**17 45 16.8**	**+0.7**
CPUP	**Villa Florida** comp=Z,13nm,18.6s,baz=44,slow=43	**34.70**	**143**	LR	LR	18 05 13.7	
ANMO	**Albuquerque**	**41.99**	**327**	LR	LR	18 08 16.1	
	comp=Z,46nm,18.6s,baz=10,slow=40						
PLCA	**Paso Flores** 1.5nm,0.9s,baz=337,slow=9.1,SNR=3.3 1.5nm,0.9s	**42.30**	**170**	P	**P**	**17 48 29.0**	**-0.9**
PDAR	**Pinedale Array** 0.6nm,0.4s,baz=124,slow=3.7,SNR=3.7 0.6nm,0.4s	**49.46**	**331**	P	**P**	**17 49 26.6**	**0.0**
NVAR	**Mina Array Bea** 1.3nm,0.7s,baz=149,slow=4.5,SNR=5.8 1.3nm,0.7s	**51.35**	**321**	P	**P**	**17 49 41.3**	**+0.2**
BBB	**Bella Bella** 1.2nm,0.5s,baz=146,slow=3.6,SNR=4.6 1.2nm,0.5s	**65.04**	**330**	P	**P**	**17 51 17.7**	**+1.4**
ESDC	**Sonseca Array** 0.4nm,0.7s,baz=263,slow=6.1,SNR=2.0 0.4nm,0.7s	**78.54**	**50**	P	**P**	**17 52 35.7**	**-2.3**
ASAR	**Alice Springs** 0.2nm,0.9s,baz=121,slow=1.7,SNR=1.3	**140.25**	**233**	PKhKP	PKPpre	17 59 57.0	
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=107,slow=2.4,SNR=4.6	**141.60**	**238**	PKhKP	PKPpre	17 59 59.6	

*IDC **09** 17:49:25.5±1.8, 0°.61N×126°.88E, h0km, mb3.2/4, mbtmp3.3/4, Error ellipse: s-maj=172.0km s-min=23.3km az=66.0*
*DJA **09** 17:49:30.9±0.3, 0°N±4°×12°6E±°, h10km, M3.1/7, MLv3.1/7*
ISC 09 17:49:32.8±1.1, 0°.13N±0°.09×125°.99E±0°.07, h44km, n8, σ1§24/8, mb3.2/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.52**	**65**	P	**Pn**	**17 49 58.1**	**+0.6**
KMSI	**Cibinong**	**2.06**	**282**	P	**Pn**	**17 50 04.6**	**-0.3**
SANI	**Sanana**	**2.17**	**180**	P	**Pn**	**17 50 06.4**	**0.0**
LUWI	**Luwuk**	**3.42**	**250**	P	**Pn**	**17 50 24.9**	**+1.2**
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=339,slow=10,SNR=6.7 0.5nm,0.7s	**21.56**	**158**	P	**P**	**17 54 17.2**	**-1.5**
ASAR	**Alice Springs** 0.6nm,1.0s,baz=354,slow=16,SNR=6.0 0.6nm,1.0s	**24.87**	**163**	P	**P**	**17 54 52.8**	**+1.3**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=119,slow=7.1,SNR=3.5 0.1nm,0.4s	**60.11**	**327**	P	**P**	**17 59 36.2**	**+0.5**
KURBB	**Kurchatov Arra** 0.1nm,0.4s,baz=130,slow=5.3,SNR=4.2 0.1nm,0.4s	**64.38**	**329**	P	**P**	**18 00 02.9**	**-1.3**

*SOME **09** 17:51:21.7, 42°.78N×83°.00E, h5km*
*NNC **09** 17:51:27.4±6.8, 43°.03N×82°.84E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=59.4km s-min=34.1km az=154.0*
ISC 09 17:51:19.6±2.9, 42°.7N±0°.1×83°.1E±0°.1, h10km, n8, σ2§52/14, 4C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen** 1.3nm,0.5s	**2.16**	**293**	Pg	**Pb**	**17 51 59.7**	**+0.7**
KTMS	5.0nm,0.3s			Lg	Lg	17 52 28.3	
KTMS	**Ketmen** 0.6nm,0.1s	**2.16**	**293**	*e*P	**Pb**	**17 51 59.9**	**+0.9**
KTMS	5.2nm,0.2s			*e*S	**Sg**	**17 52 28.4**	**-0.8**
SHLS	**Shalkode** 3.3nm,0.4s	**2.72**	**282**	Pg	**Pn**	**17 52 04.0**	**+0.5**
SHLS	23nm,0.4s			Lg	Lg	17 52 35.9	
SHLS	**Shalkode** 2.7nm,0.2s	**2.72**	**282**	*e*P	**Pn**	**17 52 04.3**	**+0.8**
SHLS	21nm,0.3s			*e*S	**Sn**	**17 52 35.9**	**-0.5**
PDGK	**Podgornoye** 0.5nm,0.3s	**2.73**	**286**	⇑Pn	**Pg**	**17 52 12.0**	**0.0**
PDGK	8.4nm,0.6s			⇑Sn	**Sg**	**17 52 44.3**	**-3.0**
KNOS	**Konyrlen** 0.6nm,0.5s	**3.32**	**302**	Pg	**Pb**	**17 52 17.5**	**-1.3**
KNOS	9.3nm,0.3s			Lg	Lg	17 52 58.8	
MK31	**Makanchi Array** 0.2nm,0.5s,baz=301,slow=18,SNR=5.2	**4.19**	**352**	⇑Pn	**Pn**	**17 52 28.1**	**+4.5**
MK31	0.2nm,0.4s,baz=164,slow=17,SNR=5.0			Pg	**Pg**	**17 52 38.7**	**-1.1**
MK31	0.7nm,0.6s,baz=175,slow=26,SNR=2.7			⇑Sn	**Sn**	**17 53 16.3**	**+3.8**
MK31	0.2nm,0.3s,baz=240,slow=51,SNR=4.3			⇑Lg	Lg	17 53 28.9	
ZSN	**Zaisan** 1.7nm,0.2s	**4.96**	**14**	*e*P	**Pg**	**17 52 51.2**	**-3.5**
ZSN	1.9nm,0.2s			*e*S	**Sg**	**17 53 56.1**	**-2.8**

*IDC **09** 18:00:53.3±0.6, 0°.24N×126°.14E, h0km, mb4.2/13, mbtmp4.2/14, ML3.4/1, MS3.1/1, Error ellipse: s-maj=39.3km s-min=13.2km az=76.0*
*DJA **09** 18:00:57.1±0.2, 0°N±2°×12°6E±°, h10km, M4.2/23, mB5.1/1, mb4.4/9, MLv4.1/23, Mw(mB)4.5/1*
*NEIC **09** 18:00:59.4±2.8, 0°.27N±0°.08×126°.38E±0°.07, h43km±8km, mb4.3/28, Error ellipse: s-maj=12.4km s-min=8.7km az=155.0*
ISC 09 18:00:59.6±0.4, 0°.23N±0°.05×126°.34E±0°.05, h50km, n75, σ1§18/77, mb4.2/23, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.16**	**63**		**Pn**	**18 01 18.1**	**-1.4**
TNTI	**Ternate**	**1.16**	**63**	P	**Pn**	**18 01 18.0**	**-1.4**
SANI	**Sanana**	**2.29**	**189**	P	**Pn**	**18 01 33.6**	**-1.4**
KMSI	**Cibinong**	**2.38**	**278**	P	**Pn**	**18 01 33.8**	**-2.4**
KMSI				S	**Sn**	**18 02 04.7**	**+0.5**
SGSI	**Sangihe**	**3.52**	**347**	P	**Pn**	**18 01 52.2**	**+0.3**
NLAI	**Namlea**	**3.53**	**168**	P	**Pn**	**18 01 53.2**	**+1.2**
LUWI	**Luwuk**	**3.79**	**250**		**Pn**	**18 01 56.4**	**+0.9**
LUWI	**Luwuk**	**3.79**	**250**	P	**Pn**	**18 01 55.5**	**+0.1**
MSAI	**Masohi**	**4.40**	**144**	P	**Pn**	**18 02 06.9**	**+3.0**
MRSI	**Marisa**	**4.40**	**273**	P	**Pn**	**18 02 04.2**	**+0.3**
APSI	**Ampana**	**4.83**	**256**	P	**Pn**	**18 02 09.8**	**+0.1**
SWI	**Sorong** 0.1nm23nm,1.2s	**5.04**	**102**	P	**Pn**	**18 02 12.6**	**-0.1**
KDI	**Kendari**	**5.58**	**222**	P	**Pn**	**18 02 19.6**	**-0.5**
TOLI2	**Tolitoli**	**5.62**	**279**		**Pn**	**18 02 21.5**	**+0.8**
MPSI	**Mapaga** 0.1nm8.4nm,0.8s	**6.44**	**271**	P	**Pn**	**18 02 32.5**	**+0.6**
PCI	**Palu** 0.1nm25nm,1.1s	**6.60**	**260**	P	**Pn**	**18 02 33.9**	**-0.2**
BBSI	**Bau Bau**	**6.82**	**213**	P	**Pn**	**18 02 35.2**	**-1.9**
TTSI	**Tana Toraja** 0.1nm20nm,0.6s	**7.29**	**243**	P	**Pn**	**18 02 43.4**	**-0.1**
BNSI	**Bone** 0.1nm13nm,0.6s	**7.74**	**233**	P	**Pn**	**18 02 48.0**	**-1.8**
SPSI	**Sidrap Palu** 32nm,0.7s	**7.78**	**238**	P	**Pn**	**18 02 50.0**	**-0.2**
KMPI	**Kaimana, Papua**	**8.32**	**118**	P	**Pn**	**18 02 58.2**	**+0.6**
MTN	**Manton Dam**	**13.84**	**160**	Pn	**Pn**	**18 04 11.2**	**-1.9**
SBUM	**Sibu**	**14.28**	**279**	Pn	**Pn**	**18 04 20.1**	**+0.9**
KNRA	**Kununurra** comp=Z,9.7nm,0.8s	**15.99**	**171**		**Pn**	**18 04 40.5**	**-0.8**
KNRA				IAmb	IAmb	18 04 47.5	
KSM	**Kuching**	**16.07**	**274**		**Pn**	**18 04 43.1**	**+0.7**
KSM	comp=Z,21nm,1.2s			IAmb	IAmb	18 04 52.9	
FITZ	**Fitzroy Crossi**	**18.23**	**182**		**Pn**	**18 05 09.1**	**0.0**
FITZ	**Fitzroy Crossi** comp=Z,0.1nm,0.3s,baz=0.0,slow=14,SNR=2.1 comp=Z,1.8nm,0.7s	**18.23**	**182**	P	**Pn**	**18 05 09.4**	**+0.3**
WB0	**Warramunga Arr**	**21.39**	**159**		**P**	**18 05 42.8**	**-0.4**
WRAB	**Tennant Creek**	**21.52**	**159**	P	**P**	**18 05 44.4**	**-0.2**
WRAB	comp=Z,16nm,0.7s			IAmb	IAmb	18 05 49.4	
WRA	**Warramunga Arr**	**21.53**	**159**		**P**	**18 05 42.7**	**-2.0**
WRA	**Warramunga Arr** comp=Z,15nm,0.7s,baz=336,slow=11,SNR=46 comp=Z,15nm,0.7s	**21.53**	**159**	P	**P**	**18 05 44.6**	**0.0**
WR8	**Warramunga Arr**	**21.60**	**159**		**P**	**18 05 44.4**	**-1.1**
WR8	comp=Z,12nm,0.7s			IAmb	IAmb	18 05 50.2	
COEN	**Coen**	**21.84**	**131**	P	**P**	**18 05 47.0**	**-1.0**
COEN	comp=Z,7.9nm,0.9s			IAmb	IAmb	18 06 23.1	
MBWA	**Marble Bar**	**22.22**	**196**	P	**P**	**18 05 52.3**	**+0.2**
MBWA	comp=Z,21nm,1.2s			IAmb	IAmb	18 05 57.9	

GUMO	**Guam** comp=Z,52nm,21.0s,baz=218,slow=35	**22.65**	**53**	LR	LR	18 14 08.2	
AS31	**Alice Springs**	**24.87**	**163**	P	**P**	**18 06 18.3**	**+0.5**
ASAR	**Alice Springs**	**24.87**	**163**	P	**P**	**18 06 18.9**	**+1.1**
ASAR	**Alice Springs** comp=Z,9.5nm,0.8s,baz=354,slow=17,SNR=67	**24.87**	**163**	P	**P**	**18 06 19.8**	**+2.0**
ASAR	comp=Z,0.3nm,0.7s,baz=4.5,slow=2.5,SNR=2.3 comp=Z,9.5nm,0.8s			PcP	**PcP**	**18 09 53.6**	**+0.7**
JMN	**Monobe**	**34.06**	**11**	P	**P**	**18 07 40.6**	**+1.3**
NWAO	**Narrogin (SRO)**	**34.08**	**194**	P	**P**	**18 07 35.7**	**-3.7**
STKA	**Stephens Creek**	**35.05**	**157**	P	**P**	**18 07 47.7**	**-0.1**
STKA	**Stephens Creek** comp=Z,3.9nm,0.8s,baz=328,slow=8.7,SNR=7.0 comp=Z,3.9nm,0.8s	**35.05**	**157**	P	**P**	**18 07 47.9**	**+0.1**
JGF	**Kuroka**	**36.65**	**15**	P	**P**	**18 08 01.6**	**+0.1**
KSRS	**Korea Array** comp=Z,1.6nm,0.7s,baz=180,slow=9.4,SNR=6.9 comp=Z,1.6nm,0.7s	**37.06**	**2**	P	**P**	**18 08 05.7**	**+0.8**
MJAR	**Matsushiro Arr** comp=Z,1.0nm,0.7s,baz=188,slow=11,SNR=2.1 comp=Z,1.0nm,0.7s	**37.77**	**16**	P	**P**	**18 08 10.3**	**-0.6**
ARMA	**Armidale**	**38.83**	**144**	P	**P**	**18 08 22.7**	**+2.6**
JMM	**Marumori**	**39.75**	**18**	P	**P**	**18 08 28.0**	**+0.5**
USA0B	**Ussuriysk Arra**	**44.06**	**6**	P	**P**	**18 09 02.2**	**-0.4**
USA0B	comp=Z,4.8nm,0.9s			IAmb	IAmb	18 09 27.8	
USRK	**Ussuriysk Ar.**	**44.06**	**6**	P	**P**	**18 09 02.6**	**0.0**
USRK	**Ussuriysk Ar.** comp=Z,2.5nm,0.6s,baz=168,slow=3.2,SNR=5.8 comp=Z,2.5nm,0.6s	**44.06**	**6**	P	**P**	**18 09 02.9**	**+0.3**
SONM	**Songino Array** comp=Z,1.8nm,0.8s,baz=157,slow=9.7,SNR=7.9 comp=Z,1.8nm,0.8s	**50.48**	**343**	P	**P**	**18 09 53.4**	**+0.8**
PEA0B	**Petropavlovsk-**	**58.80**	**22**	P	**P**	**18 10 53.7**	**+1.0**
PETK	**Petropavlovsk-**	**58.80**	**22**	P	**P**	**18 10 53.7**	**+1.1**
PETK	**Petropavlovsk-** comp=Z,2.1nm,0.7s,baz=185,slow=5.5,SNR=7.0 comp=Z,2.1nm,0.7s	**58.80**	**22**	P	**P**	**18 10 54.2**	**+1.6**
TUWZ	**Tuamarina**	**59.71**	**140**	P	**P**	**18 11 00.6**	**+1.4**
KHZ	**Kahutara**	**59.97**	**141**	P	**P**	**18 11 02.4**	**+1.4**
MKAR	**Makanchi Array**	**60.21**	**327**	P	**P**	**18 11 01.6**	**-1.1**
MKAR	**Makanchi Array** comp=Z,1.6nm,0.7s,baz=117,slow=8.7,SNR=14	**60.21**	**327**	P	**P**	**18 11 01.8**	**-0.8**
MKAR	comp=Z,1.4nm,0.8s,baz=123,slow=5.3,SNR=4.8 comp=Z,1.6nm,0.7s			PcP	**PcP**	**18 11 48.0**	**+0.3**
YAK	**Yakutsk**	**61.69**	**2**	P	**P**	**18 11 11.6**	**-0.7**
ZAA0	**Zalesovo Array**	**63.52**	**334**	P	**P**	**18 11 23.5**	**-1.1**
ZAA0	comp=Z,3.3nm,1.2s			IAmb	IAmb	18 11 28.9	
ZALV	**Zalesovo Beam**	**63.52**	**334**	P	**P**	**18 11 23.7**	**-0.9**
ZALV	**Zalesovo Beam** comp=Z,1.3nm,0.7s,baz=101,slow=3.2,SNR=5.2 comp=Z,1.3nm,0.7s	**63.52**	**334**	P	**P**	**18 11 24.6**	**0.0**
KURBB	**Kurchatov Arra** comp=Z,2.7nm,0.6s,baz=125,slow=5.9,SNR=32 comp=Z,2.7nm,0.6s	**64.47**	**328**	P	**P**	**18 11 31.1**	**+0.1**
KURK	**Kurchatov**	**64.48**	**329**	P	**P**	**18 11 29.5**	**-1.5**
KK31	**Karatay Array** comp=Z,3.7nm,1.4s	**65.53**	**318**	P	**P**	**18 11 36.1**	**-2.0**
KK31				IAmb	IAmb	18 11 45.0	
KKAR	**Karatay Array**	**65.53**	**318**	P	**P**	**18 11 37.0**	**-1.0**
KKAR	**Karatay Array**	**65.53**	**318**	P	**P**	**18 11 36.6**	**-1.5**
KKAR	comp=Z,3.9nm,1.4s			IAmb	IAmb	18 11 45.0	
BVAR	**Borovoye Array** comp=Z,1.3nm,0.7s,baz=145,slow=5.3,SNR=5.6 comp=Z,1.3nm,0.7s	**70.03**	**328**	P	**P**	**18 12 06.8**	**+0.6**
BRVK	**Borovoye**	**70.11**	**328**	P	**P**	**18 12 06.3**	**-0.3**
BRVK	comp=Z,2.2nm,0.8s			IAmb	IAmb	18 12 08.4

SMWD	**Samnorwood**	**1.92**	**248**			Pn	18 06 47.4	+0.3
SMWD				IAmb_Lg			18 07 20.1	
	comp=Z,42nm,0.7s							
LOOK	**Love County**	**1.99**	**158**			Pn	18 06 48.9	+1.0
LOOK						Sg	18 07 16.9	-0.6
WTFS	**Witchita Falls**	**2.10**	**189**			Pn	18 06 50.1	+0.7
WTFS						Sb	18 07 19.1	+0.6
WTFS				IAmb_Lg			18 07 19.5	
	comp=Z,23nm,1.2s							
RLO	**Rose Lookout**	**2.50**	**82**			Pn	18 06 56.2	+1.3
RLO						Sb	18 07 30.6	+0.6
Z35A	**Perchaven, San**	**2.60**	**165**			Pn	18 06 57.8	+1.5
FW03	**Perrin-Whitt E**	**2.80**	**180**	Pn		Pn	18 07 00.5	+1.4
FW03				IAmb_Lg			18 07 41.5	
	comp=Z,23nm,0.7s							
FW06	**Azle**	**2.90**	**171**			Pn	18 06 59.9	-0.6
APMT	**Aspermont**	**3.03**	**214**			Pn	18 07 01.6	-0.6
APMT				IAmb_Lg			18 07 52.1	
	comp=Z,17nm,0.9s							
PLPT	**Palo Pinto**	**3.03**	**184**			Pn	18 07 01.9	-0.3
U38A	**Gravette**	**3.04**	**78**			Pn	18 07 02.4	-0.1
AMTX	**Amarillo**	**3.10**	**253**			Pn	18 07 03.6	+0.3
AMTX				IAmb_Lg			18 07 51.9	
	comp=Z,24nm,0.7s							
DKNS	**Dickens**	**3.20**	**228**			Pn	18 07 04.1	-0.5
DKNS				IAmb_Lg			18 08 02.4	
	comp=Z,20nm,0.8s							
CBKS	**Cedar Bluff**	**3.25**	**336**			Pn	18 07 04.8	-0.5
HHAR	**Hobbs**	**3.38**	**81**			Pn	18 07 06.0	-1.1
HHAR				IAmb_Lg			18 08 01.4	
	comp=Z,15nm,0.8s							
ABTX	**Abilene, Hawle**	**3.46**	**202**			Pn	18 07 09.3	+1.0
SN07	**Snyder 07**	**3.60**	**221**	IAmb_Lg			18 08 17.2	
	comp=Z,14nm,0.8s							
SN05	**Snyder 5**	**3.76**	**219**			Pn	18 07 10.5	-1.9
RTBA	**Rita Blanca**	**3.82**	**280**			Pn	18 07 13.2	-0.1
MIAR	**Mount Ida**	**3.90**	**108**			Pn	18 07 12.8	-1.5
POST	**Post**	**3.96**	**227**	Pn		Pn	18 07 14.9	-0.3
MSTX	**Muleshoe**	**4.29**	**246**			Pn	18 07 19.4	-0.3
MSTX				IAmb_Lg			18 08 41.6	
	comp=Z,12nm,0.8s							
X40A	**Basin Creek Fa**	**4.50**	**106**	Pn		Pn	18 07 23.0	+0.5
X40A				IAmb_Lg			18 08 39.7	
	comp=Z,15nm,0.7s							
BRDY	**Brady**	**4.61**	**190**			Pn	18 07 24.8	+0.8
WLAR	**White Oak Lake**	**4.62**	**116**	IAmb_Lg			18 08 51.6	
	comp=Z,17nm,0.8s							
SGCY	**Sterling City**	**4.67**	**214**	Pn		Pn	18 07 24.7	-0.1
WHAR	**Wooly Hollow**	**4.75**	**95**			Pn	18 07 25.6	-0.3
WHAR				IAmb_Lg			18 08 49.6	
	comp=Z,16nm,1.1s							
UALR	**University of**	**4.81**	**101**	Pn		Pn	18 07 27.4	+0.7
KSCO	**Kaye Shedlock'**	**4.81**	**312**	IAmb_Lg			18 08 57.2	
	comp=Z,16nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.83**	**88**			Pn	18 07 26.7	-0.3
435B	**Jarrell**	**5.06**	**175**	IAmb_Lg			18 09 01.8	
	comp=Z,12nm,0.8s							
P38A	**Dawn**	**5.21**	**42**	Pn		Pn	18 07 31.5	-0.8
P38A				IAmb_Lg			18 09 04.1	
	comp=Z,16nm,1.1s							
R40A	**Maddies Statio**	**5.25**	**61**	Pn		Pn	18 07 31.8	-0.9
R40A				IAmb_Lg			18 09 12.7	
	comp=Z,12nm,0.9s							
T25A	**Trinidad**	**5.27**	**286**	Pn		Pn	18 07 31.4	-1.8
T25A				IAmb_Lg			18 09 02.0	
	comp=Z,17nm,0.9s							
OZNA	**Ozona**	**5.53**	**208**	Pn		Pn	18 07 33.6	-3.1
OZNA				IAmb_Lg			18 09 12.2	
	comp=Z,12nm,0.9s							
PBMO	**Poplar Bluff**	**6.24**	**79**	IAmb_Lg			18 09 30.9	
	comp=Z,13nm,0.8s							
HNDO	**Hondo**	**6.38**	**190**	IAmb_Lg			18 09 39.4	
	comp=Z,7.7nm,0.7s							
Q24A	**Divide**	**6.43**	**301**	IAmb_Lg			18 09 41.9	
	comp=Z,9.6nm,1.0s							
PECS	**Pecos**	**6.58**	**229**	IAmb_Lg			18 09 48.9	
	comp=Z,10nm,0.9s							
DRIO	**Del Rio**	**6.75**	**199**	IAmb_Lg			18 09 52.9	
	comp=Z,11nm,0.9s							
SAND	**Sanderson**	**6.79**	**211**	IAmb_Lg			18 09 57.1	
	comp=Z,8.8nm,0.8s							
CGM3	**Cape Girardeau**	**6.93**	**75**	IAmb_Lg			18 09 59.4	
	comp=Z,6.0nm,0.8s							
S44A	**Carbondale**	**7.32**	**73**	IAmb_Lg			18 10 13.8	
	comp=Z,10.0nm,0.7s							
SIUC	**Southern Illin**	**7.35**	**73**	IAmb_Lg			18 10 11.6	
	comp=Z,12nm,0.8s							
MNTX	**Cornudas Mount**	**7.36**	**238**	IAmb_Lg			18 10 18.4	
	comp=Z,5.3nm,0.8s							

*TEH **09** 18:31:04.9,30˚.05N×51˚.71E,h9km*
*OMAN **09** 18:31:07.6±0.1,29˚.89N×51˚.85E,h10km,mb4.3/8,ml3.2/1,*
Error ellipse: s-maj=1.7km s-min=0.7km az=13.0
*DSN **09** 18:31:10.0±0.9,29˚.79N×51˚.99E,h16km±17km,ML3.2/5,*
Error ellipse: s-maj=23.7km s-min=18.7km az=76.0

ISC 09 18:31:05.9±1.0,29˚.98N±0˚.05×51˚.81E±0˚.04,h8km,n49,
σ1°07/61,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ2	**Kazeron-Fars-I**	**0.39**	**199**	**Pg**	**Pg**	**18 31 13.6**	**+0.1**
KAZ2				Sg	**Sb**	**18 31 20.5**	**-0.8**
SHI	**Shiraz**	**0.70**	**119**	**Pg**	**Pg**	**18 31 19.9**	**+0.5**
KLNJ	**Kolanjah**	**1.04**	**350**	Pg	Pg	18 31 23.0	-2.9
ABEH	**Behbahan**	**1.48**	**295**	**Pg**	**Pn**	**18 31 31.4**	**-1.4**
DSBU	**Dashti - Bushe**	**1.68**	**197**	**Pg**	**Pg**	**18 31 38.1**	**0.0**
QIR1	**Qir**	**1.85**	**144**	Pn	**Pb**	**18 31 40.3**	**+0.3**
IRAM	**Rameshe'**	**1.89**	**15**	Pn	**Pn**	**18 31 39.1**	**+0.4**
IBRJ	**Brojen**	**1.98**	**346**	Pn	**Pn**	**18 31 40.2**	**+0.2**
ZNGN	**Zangian**	**2.28**	**339**	Pn	**Pn**	**18 31 43.7**	**-0.5**
JHBN	**Jahan bin**	**2.45**	**337**	Pn	**Pn**	**18 31 46.9**	**+0.4**
IMEH	**Mehriz**	**2.79**	**59**	Pn	**Pn**	**18 31 53.2**	**+2.0**
IZEF	**Zefreh**	**2.94**	**9**	Pn	**Pn**	**18 31 53.9**	**+0.7**
IKLH	**Kolahrood**	**3.33**	**357**	Pn	**Pn**	**18 31 58.9**	**+0.4**
ANAR	**Anarak**	**3.59**	**27**	Pn	**Pn**	**18 32 02.7**	**+0.7**
KBD	**Kabd**	**3.67**	**258**	P	**Pn**	**18 32 04.4**	**+1.4**
KBD				S	**Sn**	**18 32 47.9**	**+1.4**
QAMS	**Qamsar**	**3.76**	**355**	Pn	**Pn**	**18 32 04.7**	**+0.3**
KRSH	**Karshahi**	**3.99**	**4**	Pn	**Pn**	**18 32 07.2**	**-0.3**
SAKB	**Bahrain**	**4.14**	**196**	P	**Pn**	**18 32 11.8**	**+2.4**
SAKB				S	**Sn**	**18 33 01.2**	**+3.1**
NGRK	**Negar Kerman**	**4.29**	**93**	Pn	**Pn**	**18 32 14.2**	**+2.3**
KRBR	**Kerman**	**4.30**	**89**	Pn	**Pn**	**18 32 14.5**	**+2.6**
ISFB	**Sefidab**	**4.37**	**5**	Pn	**Pn**	**18 32 12.9**	**+0.2**
SHME	**Shamm**	**5.48**	**135**	P	**Pn**	**18 32 28.1**	**+0.3**
SHME				P	**Pn**	**18 32 28.1**	**+0.3**
SHME				S	**Sn**	**18 33 31.2**	**+0.2**
SHME				S	**Sn**	**18 33 31.2**	**+0.2**
SHME	**Shamm**	**5.48**	**135**	P	**Pn**	**18 32 27.7**	**-0.2**
SLWR	**Sila**	**5.89**	**181**	P	**Pn**	**18 32 34.8**	**+1.4**
SLWR				S	**Sn**	**18 33 41.7**	**+0.6**
ILBA	**Ilam Banvizeh**	**5.99**	**309**	Pn	**Pn**	**18 32 34.6**	**-0.4**
MASF	**Masafi**	**6.00**	**139**	P	**Pn**	**18 32 35.9**	**+0.9**
	SNR=5.9						
MASF				S	**Sn**	**18 33 43.9**	**0.0**
MSFE	**Esma-Masafi**	**6.01**	**139**	P	**Pn**	**18 32 35.3**	**+0.2**
NAZ	**Nazwa, Dubai**	**6.04**	**145**	P	**Pn**	**18 32 36.9**	**+1.3**
MDH	**Madha**	**6.13**	**138**	P	**Pn**	**18 32 37.5**	**+0.7**
MDH				S	**Sn**	**18 33 46.6**	**-0.6**
MDH	**Madha**	**6.13**	**138**	P	**Pn**	**18 32 36.0**	**-0.8**
ASUD	**Al Ashush, Dub**	**6.18**	**149**	P	**Pn**	**18 32 38.8**	**+1.2**
	SNR=6.3						
FAQ	**Al Faqa, Dubai**	**6.21**	**146**	P	**Pn**	**18 32 39.0**	**+1.2**
UOSS	**Minazif**	**6.36**	**141**	P	**Pn**	**18 32 40.3**	**+0.4**
UOSS				S	**Sn**	**18 33 51.6**	**-1.2**
HATD	**Hatta, Dubai**	**6.41**	**142**	P	**Pn**	**18 32 41.8**	**+1.1**
HATD				S	**Sn**	**18 33 52.8**	**-1.4**
ASHO	**Ashiyiah**	**6.49**	**143**	P	**Pn**	**18 32 42.4**	**+0.6**
ASHO				S	**Sn**	**18 33 54.8**	**-1.3**
ASHO	**Ashiyiah**	**6.49**	**143**	P	**Pn**	**18 32 42.0**	**+0.2**
ASHO				S	**Sn**	**18 33 53.9**	**-2.2**
ALNE	**Al Ain**	**6.87**	**148**	P	**Pn**	**18 32 47.8**	**+0.8**
MZR	**Muzera**	**7.11**	**167**	P	**Pn**	**18 32 51.3**	**+1.0**
SOHO	**SOHO**	**7.19**	**143**	P	**Pn**	**18 32 51.1**	**-0.2**
SOHO	**SOHO**	**7.19**	**143**	P	**Pn**	**18 32 50.8**	**-0.5**
UMZA	**Um Al Zommool**	**7.84**	**157**	P	**Pn**	**18 33 00.6**	**+0.3**
ARQ	**Araqi**	**7.84**	**146**	P	**Pn**	**18 33 00.7**	**+0.3**
HOQ	**Hoqain**	**8.05**	**141**	P	**Pn**	**18 33 03.5**	**+0.3**
RAYN	**Ar Rayn**	**8.55**	**223**	P	**Pn**	**18 33 10.3**	**+0.2**
SMDO	**Samad**	**8.87**	**140**	P	**Pn**	**18 33 14.6**	**+0.1**
JLN	**Jalan Bani Buh**	**10.37**	**137**	P	**Pn**	**18 33 33.4**	**-1.5**
MHTO	**MHTO**	**10.54**	**147**	P	**Pn**	**18 33 36.5**	**-0.8**
WHFO	**Wadi Hawf**	**12.14**	**171**	P	**Pn**	**18 33 59.0**	**-0.3**
	SNR=5.8						
ABTO	**Aybut**	**12.64**	**173**	P	**Pn**	**18 34 05.7**	**-0.4**

CATAC 09 18:33:39.9±0.6,11˚N±3˚×8˚8W±˚,h10km,M3.5/13,
MLv3.5/13,3C-1D,Error ellipse: s-maj=7.1km
s-min=4.0km az=25.0,confirmed,Near coast of
Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.37**	**46**	P	Pn	18 34 04.9	-0.3
ALEN	**Leon**	**1.42**	**30**	S	Sn	18 34 24.0	-0.7
ALEN	**Leon**	**1.42**	**30**	P	Pn	18 34 05.4	-0.4
AMTN	**Mateare**	**1.52**	**48**	P	Pb	18 34 08.5	+0.2
CNGA	**Al SSO del Vol**	**1.54**	**34**	⇑P	Pn	18 34 07.7	+0.2
CNGA				S	Sn	18 34 27.8	+0.2
CNGN	**Cerro Negro**	**1.55**	**34**	S	Sb	18 34 28.4	0.0
CNGN	**Cerro Negro**	**1.55**	**34**	⇓P	Pn	18 34 07.6	0.0
PKGN	**Cerro Pekin**	**1.56**	**23**	P	Pn	18 34 08.0	+0.3
PKGN				S	Sn	18 34 28.3	+0.2
CRIN	**San Cristobal**	**1.56**	**20**	S	Sn	18 34 28.2	-0.1
CRIN	**San Cristobal**	**1.56**	**20**	⇑P	Pb	18 34 08.5	-0.5
MOMN	**Momotombo**	**1.57**	**41**	⇑P	Pn	18 34 08.1	+0.1
MOMN				S	Sb	18 34 29.1	0.0
PLRN	**Geotermica Pol**	**1.58**	**31**	P	Pn	18 34 07.6	-0.5
PLRN				S	Sn	18 34 28.5	0.0
ILCN	**San Idelfonso**	**1.61**	**33**	P	Pn	18 34 08.3	-0.1
NANN	**Nandasmo**	**1.61**	**63**	S	Sb	18 34 30.7	+0.5
POLN	**Al Sur del Vol**	**1.61**	**28**	P	Pn	18 34 08.5	0.0
POLN				S	Sb	18 34 29.9	-0.4
NADN	**Granada**	**1.62**	**71**	S	Sn	18 34 29.0	-0.5
MOM2	**El Cardon**	**1.63**	**42**	P	Pb	18 34 09.4	-0.7
MOM2				S	Sn	18 34 30.1	+0.4
ARIN	**Rivas**	**1.74**	**82**	S	Sn	18 34 31.6	-0.9
POTN	**Potosi Cosigui**	**1.77**	**3**	P	Pn	18 34 11.1	+0.5
POTN				S	Sn	18 34 33.1	-0.2
CARN	**Rivas**	**2.03**	**91**	S	Sn	18 34 39.4	-0.3
CNCH	**Conchagua**	**2.06**	**353**	P	Pn	18 34 14.7	0.0
ALJI	**Alcalda de J**	**2.30**	**336**	S	Sn	18 34 45.9	-0.5
PACA	**Pacayal**	**2.35**	**342**	P	Pn	18 34 18.5	-0.2
PACA	**Pacayal**	**2.35**	**342**	S	Sn	18 34 47.1	-0.6
PQSS	**Presa 15 de Se**	**2.57**	**339**	P	Pn	18 34 22.4	+0.8
PQSS	**Presa 15 de Se**	**2.57**	**339**	S	Sn	18 34 52.5	-0.5

*NEIC **09** 18:37:36.5±1.7,35˚.724N×0˚.010×117˚.54W±0˚.01,*
h14km±3km,Error ellipse: s-maj=1.5km s-min=1.3km
az=47.0

PAS 09 18:37:37.4±1.6,35˚.728N±0˚.009×117˚.55W±0˚.01,
h9km±5km,ML3.5/15,ML3.1/158(NEIC),Error ellipse:
s-maj=1.6km s-min=1.3km az=68.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.10**	**335**	Pg	Pg	18 37 39.9	0.0
CLC				Sg	Sg	18 37 42.0	+0.2
SRTC	**Snort**	**0.17**	**258**		Pg	18 37 41.4	+0.4
SRTC					Sg	18 37 44.9	+1.5
TOW	**Tower One**	**0.19**	**295**		Pg	18 37 41.8	+0.4
CCCA	**Chr Cany lake**	**0.25**	**143**		Pg	18 37 42.7	+0.2
CCCA					Sg	18 37 46.7	+0.8
LRMC	**Laurel Mtn Rad**	**0.27**	**204**	Sg	Sg	18 37 46.5	-0.1
LRMC	**Laurel Mtn Rad**	**0.27**	**204**		Pg	18 37 42.7	-0.2
WVPM	**Volcano Peak E**	**0.31**	**315**		Pg	18 37 43.5	-0.2
WVPM					Sg	18 37 48.4	+0.5
WNMM	**Nine Mile Cany**	**0.31**	**292**		Pg	18 37 43.5	-0.1
WNMM					Sg	18 37 48.3	+0.5
JRC2	**Joshua Ridge**	**0.33**	**320**		Pg	18 37 43.9	-0.2
MPMC	**Manual Prospec**	**0.33**	**8**	Pg	Pg	18 37 43.7	-0.4
WCSM	**Coso Springs S**	**0.35**	**329**		Pg	18 37 44.1	-0.2
DTP	**Desert Tortois**	**0.52**	**208**		Pg	18 37 47.0	-0.5
DTP					Sg	18 37 54.4	+0.1
QSM	**Queen of Sheba**	**0.60**	**67**		Sg	18 37 56.5	-0.4
QSM	**Queen of Sheba**	**0.60**	**67**		Pg	18 37 48.6	-0.4
GSC	**Goldstone, Bar**	**0.74**	**125**	Pg	Pg	18 37 50.9	-0.8
GSC				Sg	Sg	18 38 00.8	-0.6
GSC				IAML		18 38 04.7	
	comp=N,1μm,0.6s						
ISA	**Isabella, Lake**	**0.76**	**265**	Pg	Pg	18 37 51.2	-0.8
ISA				Sg	Sg	18 38 00.7	-1.1
ISA				IAML		18 38 02.0	
	comp=N,1μm,0.2s						
ISA				IAML		18 38 02.4	
	comp=E,1μm,0.2s						
WASM	**Alta Sierra Ca**	**0.82**	**271**		Pg	18 37 52.6	-0.6
CWC	**Cottonwood Cre**	**0.83**	**329**		Pg	18 37 52.9	-0.5
CWC					Sg	18 38 04.0	-0.3
CWC				IAML		18 38 05.3	
	comp=N,608nm,0.2s						
CWC				IAML		18 38 05.6	
	comp=E,513nm,0.2s						
CGO	**Cerro Gordo**	**0.85**	**346**		Pg	18 37 52.9	-0.8
CGO					Sg	18 38 05.2	+0.4
GWY	**Greenwater Val**	**0.85**	**57**		Pg	18 37 53.1	-0.6
TPO	**Tropico Hills**	**1.01**	**213**		Pg	18 37 56.0	-0.9
TPO					Sg	18 38 09.7	-0.4
TPO				IAML		18 38 16.2	
	comp=N,819nm,0.4s						
TPO				IAML		18 38 16.6	
	comp=E,746nm,0.7s						
SHOC	**Shoshone, Teco**	**1.05**	**80**		Pg	18 37 57.1	-0.4
TEJ	**El Tejon**	**1.05**	**242**		Pg	18 37 56.3	-1.4
SPG2	**Springville 2**	**1.09**	**296**		Pg	18 37 57.2	-1.2
ADO	**Adelanto Recei**	**1.18**	**175**		Pb	18 37 59.6	-0.3
ARVC	**Arvin**	**1.21**	**241**		Pb	18 37 59.9	-0.6
AMDNV	**Amargosa**	**1.26**	**54**		Pn	18 37 59.3	-1.8
GRAC	**Grapevine Rang**	**1.27**	**7**		Pn	18 38 00.5	-0.9
GRAC				IAML		18 38 25.1	
	comp=N,440nm,0.6s						
GRAC				IAML		18 38 25.3	
	comp=E,404nm,0.4s						
WCT	**Wildcat Mounta**	**1.30**	**35**		Pn	18 38 00.2	-1.6
WCT				IAML		18 38 20.3	
	comp=E,480nm,0.5s						
WCT				IAML		18 38 20.4	
	comp=N,327nm,0.5s						
TUQ	**Turquoise Moun**	**1.36**	**102**		Pn	18 38 01.1	-1.6
OSI	**Osito Audit: C**	**1.47**	**221**		Pn	18 38 03.5	-0.7
OSI				IAML		18 38 25.0	
	comp=E,290nm,0.5s						
OSI				IAML		18 38 26.6	
	comp=N,455nm,0.7s						
BFSC	**Mount Baldy Ra**	**1.49**	**184**		Pn	18 38 03.1	-1.4
BFSC				IAML		18 38 26.4	
	comp=N,171nm,0.3s						
BFSC				IAML		18 38 28.6	
	comp=E,173nm,0.3s						
MWC	**Mount Wilson**	**1.56**	**196**		Pn	18 38 04.1	-1.4
MWC				IAML		18 38 29.6	
	comp=E,306nm,0.4s						
MWC				IAML		18 38 30.2	
	comp=N,304nm,0.6s						
GMN	**Gold Mountain**	**1.59**	**8**		Pn	18 38 04.8	-1.1
TPNV	**Topopah Spring**	**1.61**	**40**		Pn	18 38 04.8	-1.3
TPNV				IAML		18 38 30.0	
	comp=N,390nm,0.5s						
TPNV				IAML		18 38 35.1	
	comp=N,317nm,0.6s						
PASC	**Pasadena Art C**	**1.64**	**199**		Pn	18 38 05.2	-1.2
PASC				IAML		18 38 32.4	
	comp=N,133nm,0.5s						
PASC				IAML		18 38 33.3	
	comp=E,180nm,0.5s						
MTPC	**Mountain Pass**	**1.64**	**98**		Pn	18 38 04.7	-1.9
MTPC				IAML		18 38 31.0	
	comp=N,210nm,0.4s						
MTPC				IAML		18 38 32.9	
	comp=E,180nm,0.3s						
DSP	**Deep Springs**	**1.67**	**348**		Pn	18 38 06.1	-0.7
MZP	**Montezuma Peak**	**1.97**	**4**		Pn	18 38 09.9	-1.3
ELS	**Elsinore Mount**	**2.08**	**177**		Pn	18 38 11.3	-1.2
SHPR	**Sheep Range**	**2.08**	**67**		Pn	18 38 11.7	-1.0
SHPR				IAML		18 38 44.8	
	comp=N,97nm,0.8s						
V12A	**Nelson**	**2.19**	**89**		Pn	18 38 12.2	-1.9
V12A				IAML		18 38 48.0	
	comp=N,72nm,0.6s						
V12A				IAML		18 38 53.4	
	comp=E,104nm,0.5s						
PMD	**Palm Desert**	**2.29**	**155**		Pn	18 38 13.6	-1.7
PMD				IAML		18 38 52.9	
	comp=E,64nm,0.5s						
PFO	**Pinyon Flats O**	**2.29**	**157**		Pn	18 38 14.0	-1.6
PFO				IAML		18 38 52.5	
	comp=E,66nm,0.9s						
TPH	**Tonopah**	**2.36**	**6**		Pn	18 38 15.1	-1.4
TPH				IAML		18 38 30.5	
	comp=N,164nm,0.6s						
TPH				IAML		18 39 03.6	
	comp=E,185nm,1.0s						
S11A	**Rachel**	**2.40**	**37**		Pn	18 38 16.1	-0.9
S11A				IAML		18 39 00.7	
	comp=E,150nm,1.0s						
S11A				IAML		18 39 06.8	
	comp=N,139nm,0.7s						
NEE2	**Needles Airpor**	**2.58**	**111**		Pn	18 38 17.3	-2.1
PRN	**Pahroc Range**	**2.62**	**49**		Pn	18 38 18.0	-2.0
PRN				IAML		18 39 11.8	
	comp=E,135nm,0.8s						
PRN				IAML		18 39 12.2	
	comp=N,133nm,0.8s						
BORC	**Borrego Spring**	**2.62**	**159**		Pn	18 38 18.9	-1.1
BORC				IAML		18 39 03.3	
	comp=E,74nm,0.6s						
BORC				IAML		18 39 09.8	
	comp=N,66nm,0.8s						
LHV	**Little Huntoon**	**2.63**	**343**		Pn	18 38 18.9	-1.1
PMPB	**Monarch Peak**	**2.68**	**281**		Pn	18 38 19.5	-1.3
PMPB				IAML		18 39 12.0	
	comp=N,126nm,0.9s						
PMPB				IAML		18 39 13.3	
	comp=E,120nm,0.8s						
NV11	**Mina Array Sit**	**2.74**	**350**		Pn	18 38 20.9	-0.8
NVAR	**Mina Array Bea**	**2.76**	**348**		Pn	18 38 20.2	-1.9
DPP	**Dos Picos Cty**	**2.77**	**169**		Pn	18 38 20.6	-1.3
DPP				IAML		18 39 04.0	
	comp=E,42nm,0.6s						
BBGB	**Big Mountain B**	**2.95**	**288**		Pn	18 38 23.4	-1.2
RYN	**Ryan**	**3.00**	**345**		Pn	18 38 24.1	-1.2
R11B	**Troy Canyon, C**	**3.05**	**30**		Pn	18 38 24.7	-1.3
R11B				IAML		18 39 14.3	
	comp=E,36nm,0.5s						
W13A	**Hualapai Mount**	**3.06**	**101**		Pn	18 38 24.5	-1.6
W13A				IAML		18 39 17.8	
	comp=N,31nm,0.5s						
Q09A	**Carvers**	**3.11**	**5**	Pn	Pn	18 38 25.5	-1.4
Q09A				IAML		18 39 28.6	
	comp=E,61nm,1.1s						
Q09A				IAML		18 39 31.8	
	comp=N,70nm,0.7s						
WAKR	**Walker**	**3.16**	**332**		Pn	18 38 26.3	-1.2
BLYC	**Blythe**	**3.18**	**128**		Pn	18 38 25.3	-2.2
BLYC				IAML		18 39 17.9	
	comp=N,89nm,0.5s						
BLYC				IAML		18 39 21.2	
	comp=E,81nm,0.6s						
CMB	**Columbia Colle**	**3.24**	**316**		Pn	18 38 26.4	-2.1
TKX	**Tecate**	**3.25**	**166**		Pn	18 38 27.6	-0.9
SAO	**San Andreas Ge**	**3.32**	**289**		Pn	18 38 27.8	-1.6
YUH	**Yuha Desert**	**3.35**	**156**		Pn	18 38 28.0	-2.0
CBX	**Cerro Bola**	**3.48**	**168**		Pn	18 38 30.6	-1.3
GLA	**Glamis**	**3.49**	**139**		Pn	18 38 29.4	-2.6
LCMT	**Little Creek M**	**3.70**	**68**		Pn	18 38 33.5	-1.4
CCUT	**Cedar City**	**3.83**	**60**		Pn	18 38 35.6	-1.1
CCUT				IAML		18 39 41.4	
	comp=N,19nm,1.1s						
CCUT				IAML		18 39 43.2	
	comp=E,17nm,1.4s						
ESJX	**Sierra Juarez**	**3.94**	**160**		Pn	18 38 35.6	-2.7
ESJX				IAML		18 40 23.9	
	comp=N,29nm,0.1s						
ESJX				IAML		18 40 25.1	
	comp=E,32nm,0.1s						
KNB	**Kanab**	**4.03**	**70**		Pn	18 38 37.6	-1.8
KNB				IAML		18 39 46.8	
	comp=E,25nm,0.9s						
KNB				IAML		18 39 54.4	
	comp=N,18nm,1.4s						
SZCU	**Shurtz Canyon**	**4.04**	**61**		Pn	18 38 38.1	-1.5
PSUT	**Pine Spring**	**4.07**	**45**		Pn	18 38 38.7	-1.3
PSUT				IAML		18 39 53.6	
	comp=E,19nm,1.1s						
PSUT				IAML		18 40 03.0	
	comp=N,20nm,1.2s						
MPK	**Martis Peak**	**4.07**	**332**	Pn	Pn	18 38 38.3	-1.8
MPK				IAML		18 40 00.4	
	comp=E,35nm,0.7s						
MPK				IAML		18 40 04.2	
	comp=N,39nm,0.8s						
Y14A	**Wickenburg**	**4.14**	**114**		Pn	18 38 39.9	-1.0
Y14A				IAML		18 39 51.4	
	comp=N,42nm,0.6s						
Y14A				IAML		18 39 52.6	
	comp=E,34nm,0.5s						
SPR3	**Spring Creek 3**	**4.15**	**37**		Pn	18 38 39.3	-1.9
AFDM	**Forest Hills D**	**4.22**	**321**		Pn	18 38 39.4	-2.5
AFDM				IAML		18 39 54.9	
	comp=E,16nm,0.8s						
AFDM				IAML		18 39 57.9	
	comp=N,14nm,0.6s

CCCA				Sg	Sg	18 41 32.2	+0.8	
CWC	**Cottonwood Cre**	**0.61**	**329**		Pg	18 41 27.4	-0.3	
CWC				IAML		18 41 36.3		
	comp=N,422nm,0.2s							
CWC				IAML		18 41 37.8		
	comp=E,285nm,0.2s							
CGO	**Cerro Gordo**	**0.64**	**352**		Pg	18 41 27.7	-0.6	
DTP	**Desert Tortois**	**0.67**	**191**		Pg	18 41 28.3	-0.6	
QSM	**Queen of Sheba**	**0.67**	**86**		Pg	18 41 28.5	-0.4	
QSM				IAML		18 41 30.9		
	comp=E,307nm,0.1s							
QSM				IAML		18 41 31.1		
	comp=N,325nm,0.2s							
ISA	**Isabella, Lake**	**0.69**	**248**		Pg	18 41 28.8	-0.5	
ISA				Sg	Sg	18 41 37.1	-1.2	
ISA				IAML		18 41 39.1		
	comp=E,304nm,0.2s							
ISA				IAML		18 41 39.3		
	comp=N,302nm,0.2s							
GWY	**Greenwater Val**	**0.87**	**72**		Pg	18 41 32.4	-0.4	
GWY				Sg	Sg	18 41 43.9	-0.1	
GWY				IAML		18 41 46.9		
	comp=E,194nm,0.4s							
GWY				IAML		18 41 52.3		
	comp=N,131nm,0.4s							
SPG2	**Springville 2**	**0.92**	**288**		Pg	18 41 32.8	-0.8	
GSC	**Goldstone, Bar**	**0.95**	**130**		Pg	18 41 33.4	-0.9	
GSC				Sg	Sg	18 41 45.9	-0.7	
GSC				IAML		18 41 48.6		
	comp=N,250nm,0.3s							
GRAC	**Grapevine Rang**	**1.10**	**14**		Pg	18 41 36.5	-0.7	
GRAC				Sg	Sg	18 41 51.0	-0.6	
TPO	**Tropico Hills**	**1.13**	**203**		Pg	18 41 36.6	-1.1	
TPO				Sg	Sg	18 41 51.4	-1.0	
TPO				IAML		18 41 55.8		
	comp=N,150nm,0.5s							
TPO				IAML		18 42 01.1		
	comp=E,175nm,0.8s							
VES	**Vestal, Richgr**	**1.14**	**266**		Pg	18 41 37.6	-0.3	
WCT	**Wildcat Mounta**	**1.22**	**44**		Pg	18 41 38.4	-1.2	
WCT				IAML		18 41 56.2		
	comp=N,109nm,0.3s							
WCT				IAML		18 41 57.5		
	comp=E,156nm,0.3s							
GMN	**Gold Mountain**	**1.42**	**14**		Pn	18 41 41.7	-1.0	
GMN				IAML		18 42 04.4		
	comp=N,57nm,0.7s							
DSP	**Deep Springs**	**1.46**	**351**		Pn	18 41 42.4	-0.6	
TPNV	**Topopah Spring**	**1.55**	**48**		Pn	18 41 43.5	-0.9	
TPNV				IAML		18 42 08.7		
	comp=N,104nm,0.5s							
TPNV				IAML		18 42 08.9		
	comp=N,136nm,0.3s							
OSI	**Osito Audit: C**	**1.56**	**213**		Pn	18 41 43.3	-1.0	
OSI				IAML		18 42 08.1		
	comp=E,75nm,0.6s							
OSI				IAML		18 42 13.3		
	comp=N,66nm,1.0s							
BFSC	**Mount Baldy Ra**	**1.68**	**179**		Pn	18 41 44.9	-1.2	
MWC	**Mount Wilson**	**1.72**	**190**		Pn	18 41 45.6	-1.1	
MWC				IAML		18 42 12.8		
	comp=N,81nm,0.5s							
MWC				IAML		18 42 18.5		
	comp=E,48nm,0.5s							
MTPC	**Mountain Pass**	**1.79**	**103**		Pn	18 41 45.9	-1.8	
MTPC				IAML		18 42 13.9		
	comp=N,92nm,0.5s							
MTPC				IAML		18 42 14.0		
	comp=E,80nm,0.2s							
MZP	**Montezuma Peak**	**1.79**	**8**		Pn	18 41 46.2	-1.5	
SHPR	**Sheep Range**	**2.13**	**73**		Pn	18 41 50.2	-2.1	
TPH	**Tonopah**	**2.18**	**10**		Pn	18 41 51.6	-1.5	
ELS	**Elsinore Mount**	**2.28**	**175**		Pn	18 41 52.8	-1.4	
V12A	**Nelson**	**2.31**	**94**		Pn	18 41 53.3	-1.5	
V12A				IAML		18 42 32.1		
	comp=N,20nm,0.4s							
V12A				IAML		18 42 32.8		
	comp=E,22nm,0.5s							
POB	**Polly Butte**	**2.32**	**164**		Pn	18 41 54.3	-0.5	
S11A	**Rachel**	**2.32**	**42**	Pn	Pn	18 41 53.5	-1.4	
LHV	**Little Huntoon**	**2.42**	**345**		Pn	18 41 54.9	-1.1	
PMD	**Palm Desert**	**2.51**	**154**		Pn	18 41 55.6	-1.8	
PMD				IAML		18 42 38.0		
	comp=E,16nm,0.7s							
PFO	**Pinyon Flats O**	**2.52**	**156**		Pn	18 41 56.0	-1.6	
NV11	**Mina Array Sit**	**2.53**	**352**		Pn	18 41 55.1	-2.8	
PMPB	**Monarch Peak**	**2.54**	**278**		Pn	18 41 55.7	-2.1	
PMPB				IAML		18 42 45.2		
	comp=E,43nm,0.7s							
PMPB				IAML		18 42 52.9		
	comp=N,34nm,0.9s							
NVAR	**Mina Array Bea**	**2.55**	**349**		Pn	18 41 55.5	-2.6	
PRN	**Pahroc Range**	**2.59**	**54**		Pn	18 41 56.5	-2.1	
PRN				IAML		18 42 45.7		
	comp=N,31nm,0.7s							
PRN				IAML		18 42 49.3		
	comp=E,30nm,0.9s							
RYN	**Ryan**	**2.78**	**346**		Pn	18 41 59.4	-1.9	
BBGB	**Big Mountain B**	**2.79**	**285**	Pn	Pn	18 41 59.2	-2.1	
BORC	**Borrego Spring**	**2.85**	**158**		Pn	18 42 00.1	-1.9	
BORC				IAML		18 42 49.2		
	comp=E,18nm,0.9s							
BORC				IAML		18 42 53.7		
	comp=N,12nm,0.8s							
WAKR	**Walker**	**2.93**	**332**		Pn	18 42 01.3	-2.1	
R11B	**Troy Canyon, C**	**2.95**	**34**		Pn	18 42 01.7	-1.9	
R11B				IAML		18 42 49.0		
	comp=E,14nm,0.8s							
DPP	**Dos Picos Cty**	**2.98**	**168**		Pn	18 42 00.9	-3.0	
DPP				IAML		18 43 05.4		
	comp=E,19nm,0.1s							
DPP				IAML		18 43 17.0		
	comp=N,12nm,0.0s							
CMB	**Columbia Colle**	**3.02**	**315**	Pn	Pn	18 42 02.2	-2.3	
CMB				IAML		18 42 55.8		
	comp=N,13nm,0.8s							
SAO	**San Andreas Ge**	**3.15**	**287**	Pn	Pn	18 42 04.9	-1.2	
W13A	**Hualapai Mount**	**3.21**	**104**		Pn	18 42 05.6	-1.6	
W13A				IAML		18 43 04.3		
	comp=N,10nm,0.7s							
BLYC	**Blythe**	**3.39**	**129**		Pn	18 42 08.3	-1.1	
BLYC				IAML		18 43 06.0		
	comp=N,13nm,0.7s							
BLYC				IAML		18 43 08.1		
	comp=E,15nm,1.0s							
YUH	**Yuha Desert**	**3.58**	**155**	Pn	Pn	18 42 09.1	-2.9	
CBX	**Cerro Bola**	**3.70**	**166**		Pn	18 42 11.6	-2.2	
LCMT	**Little Creek M**	**3.74**	**72**		Pn	18 42 13.0	-1.5	
LCMT				IAML		18 42 39.8		
	comp=N,6.5nm,0.1s							
LCMT				IAML		18 42 41.7		
	comp=E,6.2nm,0.1s							
CCUT	**Cedar City**	**3.84**	**64**		Pn	18 42 15.4	-0.4	
AFDM	**Forest Hills D**	**3.99**	**320**	Pn	Pn	18 42 16.6	-1.2	
AFDM				IAML		18 43 23.1		
	comp=E,8.6nm,0.4s							
AFDM				IAML		18 43 27.4		
	comp=N,8.0nm,0.7s							
PSUT	**Pine Spring**	**4.02**	**48**		Pn	18 42 18.0	-0.4	
PSUT				IAML		18 43 25.4		
	comp=E,13nm,1.1s							
PSUT				IAML		18 43 26.4		
	comp=N,9.5nm,0.6s							
SPR3	**Spring Creek 3**	**4.07**	**40**	Pn	Pn	18 42 19.5	+0.3	
SPR3				IAML		18 43 27.2		
	comp=N,8.5nm,1.1s							
SPR3				IAML		18 43 30.9		
	comp=E,6.2nm,0.8s							
KNB	**Kanab**	**4.07**	**73**		Pn	18 42 18.7	-0.4	
KNB				IAML		18 42 58.6		
	comp=E,5.6nm,4.1s							
KNB				IAML		18 43 09.1		
	comp=N,4.9nm,4.2s							
Y14A	**Wickenburg**	**4.33**	**116**		Pn	18 42 19.9	-2.5	
Y14A				IAML		18 43 34.7		
	comp=E,11nm,0.7s							
BEKR	**Beckworth**	**4.47**	**333**		Pn	18 42 22.9	-1.6	
BEKR				IAML		18 43 42.6		
	comp=E,4.4nm,0.5s							

*MOS **09** 18:43:41.1±0.9,53°.00N×167°.55W,h28km,mb5.8/93, MS4.8/62,Error ellipse: s-maj=7.8km s-min=4.0km az=101.0*

*BJI **09** 18:43:41.0,52°.90N×167°.50W,h36km,mB5.2/44, mb5.4/84,Ms5.1/73,Ms7 4.9/77*

*NEIC **09** 18:43:42.6,52°.91N×167°.46W,h40km*

*NEIC **09** 18:43:42.7,52°.92N×167°.47W,h27km*

*NEIC **09** 18:43:42.6,52°.51N×167°.96W,h40km,Moment Tensor Solution. Duration: 2s9 Moment tensor: Scale 10^{17}Nm; M_{rr}1.60; $M_{\theta\theta}$-1.43; $M_{\phi\phi}$-0.17; $M_{r\theta}$0.71; $M_{\theta\phi}$-0.75; $M_{r\phi}$0.92; Fault plane solution: M_o2.06000×10^{17} NP1: ϕ_s260.94000°,δ31.30000°,λ117.59000°. NP2: ϕ_s49.49000°,δ62.59000°,λ74.27000°. Principal axes: T 2.0377, Plg68.0000°, Azm288.0000°; N 0.0425, Plg14.0000°, Azm57.0000°; P -2.0801, Plg16.0000°, Azm151.0000°;*

*IDC **09** 18:43:42.7±1.4,52°.94N×167°.60W,h27km±8km,mb5.2/40, mbtmp5.3/41,ML4.4/1,MS4.7/87 Error ellipse: s-maj=11.8km s-min=7.9km az=167.0*

*NEIC **09** 18:43:43.4±2.6,52°.90N±0°.05×167°.48W±0°.05,h33km±3km, mb5.4/839,ML5.3/22,Ms_20 4.9/297,Mwr5.4/14, Mww5.5/62,ML5.1(AEIC),Error ellipse: s-maj=7.3km s-min=4.2km az=163.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.66; $M_{\theta\theta}$-0.27; $M_{\phi\phi}$-0.39; $M_{r\theta}$1.23; $M_{\theta\phi}$-0.31; $M_{r\phi}$0.71; Fault plane solution: M_o1.56000×10^{17} NP1:ϕ_s57.63000°,δ78.07000°, λ97.21000°. NP2:ϕ_s206.15000°,δ13.91000°,λ59.27000°. Principal axes: T 1.6015, Plg56.0000°, Azm337.0000°; N -0.0766, Plg7.0000°, Azm236.0000°; P -1.5249, Plg33.0000°, Azm142.0000°;*

*AEIC **09** 18:43:43.2±2.9,52°.84N±0°.04×167°.43W±0°.06,h26km±2km Error ellipse: s-maj=6.3km s-min=5.1km az=161.0*

*GCMT **09** 18:43:45.4±0.1,52°.80N±0°.01×167°.44W±0°.01,h34km, MW5.5/151,Moment Tensor Solution. s141,c263; s151,c298; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.49±.02; $M_{\theta\theta}$-1.19±.02; $M_{\phi\phi}$-0.29±.02; $M_{r\theta}$0.92±.03; $M_{\theta\phi}$-0.77±.01; $M_{r\phi}$0.51±.02; Best double couple: M_o1.88700×10^{17} NP1:ϕ_s239.00000°,δ28.00000°, λ89.00000°. NP2:ϕ_s61.00000°,δ62.00000°,λ91.00000°. Principal axes: T 1.8140, Plg73.0000°, Azm332.0000°; N 0.1480, Plg1.0000°, Azm240.0000°; P -1.9610, Plg17.0000°, Azm150.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **09** 18:43:47.4,53°.68N×167°.62W,h33km,mb5.2,Ms4.5*

ISC 09 18:43:43.4±0.2,52°.88N±0°.03×167°.50W±0°.02,h40km±1km, h40km:pP-P,n1901,σ1s52/1636,mb5.4/620,MS4.9/298, 145C-33D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.59**	**335**		**Pn**	**18 43 56.0**	**+0.7**
OKFG					Sn	18 44 05.8	+2.0
OKFG					Sn	18 44 06.3	+2.6
OKTU	**Okmok Mt. Tuli**	**0.60**	**327**		**Pn**	**18 43 56.3**	**+0.7**
OKSP	**Okmok Steeple**	**0.61**	**308**		**Pn**	**18 43 55.8**	**+0.2**
OKCE	**Okmok Cone E**	**0.68**	**324**		**Pn**	**18 43 57.7**	**+1.1**
OKNC	**Okmok New Cone**	**0.69**	**327**		**Pn**	**18 43 57.6**	**+0.9**
NIKH	**Nikolski High**	**0.83**	**277**		**Pn**	**18 43 58.5**	**-0.1**
NIKH					**Sn**	**18 44 07.8**	**-1.8**
NIKH				IAML		18 44 11.1	
	comp=N,137μm,0.8s						
NIKH	**Nikolski High**	**0.83**	**277**	P	**Pn**	**18 43 58.6**	**+0.1**
NIKH	**Nikolski High**	**0.83**	**277**	S	**Sn**	**18 44 10.1**	**+0.5**
NIKH	**Nikolski High**	**0.83**	**277**	P	**Pn**	**18 43 58.8**	**+0.3**
	baz=99,SNR=1000						
NIKH				S	**Sn**	**18 44 09.7**	**+0.2**
	baz=99						
MAPS	**Pakushin South**	**0.99**	**19**		**Pn**	**18 44 01.0**	**+0.3**
MAPS					**Sn**	**18 44 14.6**	**+1.1**
MGOD	**Makushin Gods**	**0.99**	**22**		**Pn**	**18 44 01.0**	**+0.2**
MGOD					**Sn**	**18 44 13.9**	**+0.3**
MGOD						18 44 14.0	
MREP	**Makushin Rep't**	**1.03**	**25**		**Pn**	**18 44 01.8**	**+0.4**
UNV	**Unalaska Valle**	**1.14**	**31**		**Sn**	**18 44 17.8**	**+0.7**
UNV	**Unalaska Valle**	**1.14**	**31**		**Pn**	**18 44 02.6**	**-0.2**
UNV				IAML		18 44 24.1	
	comp=E,32μm,0.7s						
UNV	**Unalaska Valle**	**1.14**	**31**	P	**Pn**	**18 44 03.0**	**+0.3**
UNV	**Unalaska Valle**	**1.14**	**31**	S	**Sn**	**18 44 19.6**	**+2.5**
UNV	**Unalaska Valle**	**1.14**	**31**	P	**Pn**	**18 44 03.0**	**+0.3**
	baz=209						
UNV				S	**Sn**	**18 44 17.2**	**+0.1**
	baz=209						
ZRO	**Akutan Zero**	**1.52**	**36**		**Pn**	**18 44 09.3**	**+1.3**
ZRO					**Sn**	**18 44 28.3**	**+1.8**
AKBBA	**Akutan Broad B**	**1.54**	**37**		**Pn**	**18 44 08.8**	**+0.5**
AKBBA						18 44 09.9	
LVA	**Lava Point**	**1.55**	**34**		**Pn**	**18 44 09.4**	**+0.9**
LVA				Sn	**Sn**	**18 44 29.3**	**+1.9**
LVA				IAML		18 44 39.8	
	comp=E,51μm,0.6s						
AKUT	**Akutan**	**1.62**	**39**		**Pn**	**18 44 09.8**	**+0.3**
AKUT				Sn	**Sn**	**18 44 29.9**	**+0.8**
AKUT				IAML		18 44 40.2	
	comp=N,18μm,0.7s						
AKUT				IAML		18 44 45.8	
	comp=E,23μm,0.8s						
AKUT	**Akutan**	**1.62**	**39**	P	**Pn**	**18 44 10.3**	**+0.9**
WECS	**Westdahl Cape**	**2.31**	**43**		**Pn**	**18 44 20.6**	**+1.6**
WESE	**West Dahl East**	**2.35**	**46**		**Pn**	**18 44 20.9**	**+1.4**
WEBT	**Westdahl Beart**	**2.37**	**42**		**Sn**	**18 44 50.3**	**+2.8**
P08K	**Saint George I**	**3.91**	**343**		**Pn**	**18 44 42.4**	**+1.6**
P08K	**Saint George I**	**3.91**	**343**	P	**Pn**	**18 44 41.4**	**+0.5**
	baz=161,SNR=12						
PN7A	**Pavlof North-7**	**4.12**	**49**		**Pn**	**18 44 46.1**	**+2.3**
PS4A	**Pavlof South-4**	**4.14**	**51**		**Pn**	**18 44 46.3**	**+2.3**
ATKA	**Atka Island**	**4.15**	**263**		**Pn**	**18 44 45.9**	**+1.9**
ATKA				Sn	**Sn**	**18 45 36.0**	**+4.7**
ATKA				IAML		18 45 55.7	
	comp=N,5μm,1.3s						
ATKA				IAML		18 45 58.1	
	comp=E,4μm,1.2s						
ATKA	**Atka Island**	**4.15**	**263**	P	**Pn**	**18 44 46.8**	**+2.7**
ATKA	**Atka Island**	**4.15**	**263**	S	**Sn**	**18 45 32.3**	**+1.1**
PVV	**Pavlof Volcano**	**4.18**	**51**		**Pn**	**18 44 47.1**	**+2.5**
PS1A	**Pavlof South-1**	**4.23**	**51**		**Pn**	**18 44 47.7**	**+2.4**
S12K	**Black Hills**	**4.26**	**46**		**Pn**	**18 44 47.0**	**+1.3**
S12K				IAML		18 45 56.6	
	comp=E,3μm,1.5s						
S12K	**Black Hills**	**4.26**	**46**	P	**Pn**	**18 44 45.7**	**+0.1**
	baz=230,SNR=35						
SPIA	**Saint Paul Isl**	**4.59**	**341**		**Pn**	**18 44 51.5**	**+1.4**
SPIA				IAML		18 45 25.2	
	comp=N,2μm,0.7s						
SPIA				IAML		18 46 02.8	
	comp=E,2μm,0.7s						
SPIA	**Saint Paul Isl**	**4.59**	**341**	P	**Pn**	**18 44 52.8**	**+2.7**
SPIA	**Saint Paul Isl**	**4.59**	**341**	P	**Pn**	**18 44 51.7**	**+1.6**
	baz=159,SNR=42						
SDPT	**Sand Point**	**4.81**	**56**		**Pn**	**18 44 54.1**	**+0.9**
SDPT				IAML		18 46 12.8	
	comp=E,4μm,1.2s						
SDPT	**Sand Point**	**4.81**	**56**	P	**Pn**	**18 44 54.8**	**+1.6**
SDPT	**Sand Point**	**4.81**	**56**	P	**Pn**	**18 44 54.2**	**+1.0**
	baz=241,SNR=46						
CNBA	**Chernabura Isl**	**5.07**	**64**		**Pn**	**18 44 57.1**	**+0.4**
CNBA				IAML		18 46 22.9	
	comp=N,1μm,1.1s						
CHNA	**Chernabura Isl**	**5.07**	**64**	P	**Pn**	**18 44 56.9**	**+0.2**
	baz=250						
GSIG	**Igitkin Island**	**5.24**	**264**		**Pn**	**18 45 01.3**	**+2.3**
GSTR	**Great Sitkin T**	**5.29**	**265**		**Pn**	**18 45 02.1**	**+2.3**
GSSP	**Great Sitkin S**	**5.36**	**265**		**Pn**	**18 45 03.5**	**+2.7**
GSSP					**Sn**	**18 46 06.1**	**+4.9**
GSCK	**Great Sitkin C**	**5.37**	**264**		**Pn**	**18 45 03.6**	**+2.7**
ETKA	**Kagalaska Isla**	**5.55**	**263**		**Pn**	**18 45 05.5**	**+2.1**
ADAG	**Mount Adagdak**	**5.64**	**264**		**Pn**	**18 45 08.3**	**+3.6**
VNKR	**Veniaminof 5**	**5.70**	**53**		**Pn**	**18 45 07.8**	**+2.4**
ADK	**Adak**	**5.72**	**264**		**Pn**	**18 45 07.8**	**+2.2**
ADK	**Adak**	**5.72**	**264**		**Sn**	**18 46 09.2**	**-0.7**
ADK	**Adak**	**5.72**	**264**	P	**Pn**	**18 45 08.1**	**+2.5**
S14K	**Fog Glacier**	**5.74**	**50**	P	**Pn**	**18 45 07.5**	**+1.4**
	baz=236,SNR=87						
VNFG	**Fog Glacier, M**	**5.74**	**50**		**Pn**	**18 45 08.7**	**+2.6**
VNFG	**Fog Glacier, M**	**5.74**	**50**		**Pn**	**18 45 08.2**	**+2.1**
VNHG	**Veniaminof 1**	**5.89**	**52**		**Pn**	**18 45 10.5**	**+2.5**
KIRH	**Kanaga Island**	**5.96**	**264**		**Pn**	**18 45 11.6**	**+2.6**
KINC	**Kanaga Island**	**5.97**	**265**		**Pn**	**18 45 11.9**	**+2.8**
KIWB	**Kanaga Island**	**6.00**	**264**		**Pn**	**18 45 11.5**	**+2.0**
KIWB					**Sn**	**18 46 18.3**	**+1.3**
KIMD	**Kanaga Island**	**6.08**	**263**		**Pn**	**18 45 13.3**	**+2.7**
KIMD					**Sn**	**18 46 22.3**	**+3.6**
CHGN	**Chignik**	**6.29**	**53**		**Pn**	**18 45 15.3**	**+1.8**
ANPB	**Aniakchak Plen**	**6.61**	**50**		**Pn**	**18 45 20.9**	**+2.9**
ANPK	**Aniakchak Peak**	**6.71**	**50**		**Pn**	**18 45 21.9**	**+2.6**
ANNE	**Aniakchak Nort**	**6.78**	**50**		**Pn**	**18 45 23.0**	**+2.8**
GAEA	**Gareloi East**	**6.98**	**265**		**Pn**	**18 45 26.1**	**+3.1**
O14K	**Tigyukauivet M**	**7.28**	**26**		**Pn**	**18 45 29.1**	**+2.2**
O14K	**Tigyukauivet M**	**7.28**	**26**	P	**Pn**	**18 45 28.4**	**+1.5**
	baz=211						
M11K	**Mekoryuk**	**7.56**	**5**		**Pn**	**18 45 33.0**	**+2.2**
M11K	**Mekoryuk**	**7.56**	**5**	P	**Pn**	**18 45 33.2**	**+2.4**
	baz=186,SNR=118						
O15K	**Ungalikthiuk R**	**7.63**	**31**		**Pn**	**18 45 34.0**	**+2.2**
O15K	**Ungalikthiuk R**	**7.63**	**31**	P	**Pn**	**18 45 33.0**	**+1.1**
	baz=217,SNR=172						
N14K	**Kuskokwak Cree**	**7.76**	**22**		**Pn**	**18 45 36.2**	**+2.7**
N14K	**Kuskokwak Cree**	**7.76**	**22**	P	**Pn**	**18 45 36.2**	**+2.7**
	baz=207,SNR=89						
PLBL	**Peulik Blue Cr**	**7.77**	**47**		**Pn**	**18 45 36.4**	**+2.5**
M13K	**Dall Lake**	**7.89**	**15**		**Pn**	**18 45 37.5**	**+2.2**
M13K	**Dall Lake**	**7.89**	**15**	P	**Pn**	**18 45 38.3**	**+2.9**
	baz=198						
PLK5	**Peulik 5**	**7.92**	**45**		**Pn**	**18 45 38.3**	**+2.5**
PLK1	**Peulik 1**	**7.92**	**47**		**Pn**	**18 45 38.7**	**+2.9**
R17L	**Mt. Peulik Vol**	**7.94**	**49**	P	**Pn**	**18 45 37.2**	**+1.1**
	baz=237,SNR=138						
PLK4	**Peulik 4**	**7.94**	**49**		**Pn**	**18 45 37.8**	**+1.5**
CEAP	**Semis' Anvil P**	**7.95**	**269**		**Pn**	**18 45 39.3**	**+3.0**
CESW	**Semis' Southwe**	**7.98**	**268**		**Pn**	**18 45 39.6**	**+2.9**
CETU	**Semis' Tuman**	**8.01**	**269**		**Pn**	**18 45 40.2**	**+3.1**
PLK3	**Peulik 3**	**8.01**	**49**		**Pn**	**18 45 39.7**	**+2.5**
PLK2	**Peulik 2**	**8.03**	**48**		**Pn**	**18 45 40.0**	**+2.7**
P16K	**Nushagak River**	**8.15**	**37**		**Pn**	**18 45 40.9**	**+2.0**
P16K	**Nushagak River**	**8.15**	**37**	P	**Pn**	**18 45 40.0**	**+1.1**
	baz=224						
AMKA	**Amchitka**	**8.26**	**265**		**Pn**	**18 45 42.1**	**+1.6**
N15K	**Kwethluk River**	**8.37**	**26**		**Pn**	**18 45 44.8**	**+2.8**
N15K	**Kwethluk River**	**8.37**	**26**	P	**Pn**	**18 45 45.3**	**+3.3**
	baz=212,SNR=380						
Q16K	**King Salmon**	**8.42**	**42**	P	**Pn**	**18 45 45.1**	**+2.4**
	baz=231						
M14K	**Bethel**	**8.45**	**19**		**Pn**	**18 45 45.1**	**+2.0**
M14K	**Bethel**	**8.45**	**19**	P	**Pn**	**18 45 45.2**	**+2.2**
	baz=203,SNR=200						
Q17K	**Contact Creek**	**8.50**	**46**	P	**Pn**	**18 45 45.8**	**+1.9**
	baz=235,SNR=143						
CNTC	**Contact Creek**	**8.50**	**46**		**Pn**	**18 45 46.3**	**+2.4**
O16K	**Kokwok River B**	**8.52**	**34**		**Pn**	**18 45 46.5**	**+2.5**
O16K	**Kokwok River B**	**8.52**	**34**	P	**Pn**	**18 45 46.3**	**+2.3**
	baz=222,SNR=401						
SII	**Sitkinak Islan**	**8.54**	**59**		**Pn**	**18 45 45.3**	**+1.0**
SII	**Sitkinak Islan**	**8.54**	**59**	P	**Pn**	**18 45 45.9**	**+1.6**
	baz=250						
LSPA	**Little Sitkin**	**8.57**	**269**		**Pn**	**18 45 47.4**	**+2.6**
LSSE	**Little Sitkin**	**8.58**	**269**		**Pn**	**18 45 48.3**	**+3.5**
LSNW	**Little Sitkin**	**8.60**	**269**		**Pn**	**18 45 48.2**	**+3.1**
ANCK	**Angle Creek**	**8.64**	**47**		**Pn**	**18 45 47.9**	**+2.2**
M15K	**Kasigluk River**	**8.67**	**23**	P	**Pn**	**18 45 48.9**	**+2.8**
	baz=208,SNR=248						
ACHA	**Angle Creek He**	**8.72**	**47**		**Pn**	**18 45 49.3**	**+2.5**
R18K	**Karluk**	**8.80**	**53**		**Pn**	**18 45 48.0**	**0.0**
R18K	**Karluk**	**8.80**	**53**	P	**Pn**	**18 45 47.9**	**-0.1**
	baz=243						
P17K	**Kvichak River**	**8.84**	**40**		**Pn**	**18 45 51.9**	**+3.4**
P17K	**Kvichak River**	**8.84**	**40**	P	**Pn**	**18 45 49.6**	**+1.1**
	baz=229,SNR=80						
L14K	**Kuka Creek**	**8.88**	**15**		**Pn**	**18 45 50.6**	**+1.7**
L14K	**Kuka Creek**	**8.88**	**15**	P	**Pn**	**18 45 51.1**	**+2.2**
	baz=199,SNR=185						
N16K	**Nishlik Lake**	**8.99**	**29**		**Pn**	**18 45 54.1**	**+3.5**
N16K	**Nishlik Lake**	**8.99**	**29**	P	**Pn**	**18 45 54.2**	**+3.7**
	baz=216						
O17K	**Koliganek Bris**	**9.00**	**36**	P	**Pn**	**18 45 52.5**	**+1.9**
	baz=224,SNR=165						
KAHC	**Katmai Hardscr**	**9.10**	**46**		**Pn**	**18 45 54.9**	**+2.8**
Q18K	**Katmai Hardscr**	**9.10**	**46**	P	**Pn**	**18 45 53.6**	**+1.5**
	baz=236,SNR=112						
K13K	**Kusilvak Mount**	**9.21**	**8**		**Pn**	**18 45 55.5**	**+2.1**
K13K	**Kusilvak Mount**	**9.21**	**8**	P	**Pn**	**18 45 56.2**	**+2.9**
	baz=191,SNR=126						
OHAK	**Old Harbor**	**9.24**	**56**		**Pn**	**18 45 53.9**	**0.0**
OHAK	**Old Harbor**	**9.24**	**56**	P	**Pn**	**18 45 56.2**	**+2.4**
OHAK	**Old Harbor**	**9.24**	**56**	P	**Pn**	**18 45 53.8**	**0.0**
	baz=248						
M16K	**Timber Creek**	**9.39**	**26**		**Pn**	**18 45 58.0**	**+2.0**
M16K	**Timber Creek**	**9.39**	**26**	P	**Pn**	**18 45 58.6**	**+2.7**
	baz=213,SNR=112						
L15K	**Ungalak Mounta**	**9.40**	**18**		**Pn**	**18 45 59.1**	**+3.0**
L15K	**Ungalak Mounta**	**9.40**	**18**	P	**Pn**	**18 45 58.5**	**+2.5**
	baz=202,SNR=203						
P18K	**Big Mountain,**	**9.45**	**41**		**Pn**	**18 45 58.1**	**+1.3**
P18K	**Big Mountain,**	**9.45**	**41**	P	**Pn**	**18 45 59.0**	**+2.2**
	baz=231						
N17K	**Nushagak Hills**	**9.52**	**32**		**Pn**	**18 45 59.9**	**+2.2**
N17K	**N

GAMB Gambell 11.15 350 Pn 18 46 21.2 +1.3
GAMB Gambell 11.15 350 P Pn 18 46 23.0 +3.1
baz=167,SNR=29
CNPM China Poot 11.22 47 Pn 18 46 21.9 +0.9
J17K VABM Dome 11.43 19 Pn 18 46 25.0 +1.2
J17K VABM Dome 11.43 19 P Pn 18 46 25.9 +2.1
baz=206,SNR=115
M19K Big River Lodg 11.45 33 Pn 18 46 25.6 +1.4
M19K Big River Lodg 11.45 33 P Pn 18 46 25.2 +1.1
baz=223,SNR=74
BRLK Bradley Lake 11.49 47 Pn 18 46 25.4 +0.7
L19K White Mountain 11.51 31 Pn 18 46 26.6 +1.6
L19K White Mountain 11.51 31 P Pn 18 46 26.0 +1.1
baz=221,SNR=164
I17K Unalakleet 11.59 15 Pn 18 46 26.9 +1.0
I17K Unalakleet 11.59 15 P Pn 18 46 28.1 +2.2
baz=201
N20K Mount Spurr 11.75 39 P Pn 18 46 29.2 +0.9
baz=231
SPCR Spurr Chakacha 11.75 39 P Pn 18 46 30.9 +2.6
baz=231,SNR=6.8
ANM Nome 11.77 4 Pn 18 46 28.9 +0.5
ANM Nome 11.77 4 P Pn 18 46 28.9 +0.5
ANM Nome 11.77 4 P Pn 18 46 32.0 +3.6
baz=186
SPU Mount Spurr 11.80 39 Pn Pn 18 46 30.1 +1.1
M20K Styx River 11.86 35 Pn 18 46 31.0 +1.2
M20K Styx River 11.86 35 P Pn 18 46 32.5 +2.6
baz=227,SNR=85
CAPN Captain Cook N 11.91 42 P Pn 18 46 30.5 +0.2
baz=235
J18K Innoko River 12.02 24 Pn 18 46 33.4 +1.5
J18K Innoko River 12.02 24 P Pn 18 46 33.9 +2.0
baz=213,SNR=100
L20K Farewell, AK 12.04 32 P Pn 18 46 33.0 +0.9
baz=223,SNR=99
STLK Strandline Lak 12.08 38 Pn 18 46 33.2 +0.5
H16K Elim 12.10 11 P Pn 18 46 35.4 +2.5
baz=195
SLKM Skilak Lake 12.16 44 Pn 18 46 33.2 -0.6
G15K Niukluk 12.28 7 P Pn 18 46 38.8 +3.4
baz=190,SNR=92
SEW Seward 12.29 47 Pn 18 46 35.1 -0.4
SEW Seward 12.29 47 P Pn 18 46 37.3 +1.8
baz=242,SNR=23
O22K Cooper Landing 12.35 45 Pn 18 46 36.2 -0.2
O22K Cooper Landing 12.35 45 P Pn 18 46 37.6 +1.2
baz=240
SKT Skwentna 12.50 37 Pn 18 46 38.1 -0.3
SKT Skwentna 12.50 37 P Pn 18 46 41.1 +2.7
baz=230,SNR=45
K20K Telida 12.64 29 Pn 18 46 41.0 +0.6
K20K Telida 12.64 29 P Pn 18 46 42.6 +2.2
baz=220,SNR=63
F14K Arctic Creek 12.65 2 P Pn 18 46 43.6 +3.2
baz=183
RC01 Rabbit Creek A 12.67 43 Pn 18 46 41.5 +0.8
RC01 Rabbit Creek A 12.67 43 P Pn 18 46 42.0 +1.3
baz=237,SNR=15
H17K Granite Mounta 12.70 15 Pn 18 46 42.5 +1.4
H17K Granite Mounta 12.70 15 P Pn 18 46 44.3 +3.2
baz=201,SNR=69
TNA Tin City 12.72 359 Pn 18 46 42.3 +0.9
TNA Tin City 12.72 359 P Pn 18 46 42.7 +1.3
baz=179
J19K Poorman 12.73 24 Pn 18 46 42.9 +1.3
J19K Poorman 12.73 24 P Pn 18 46 43.3 +1.8
baz=214,SNR=116
G16K Koyuk River 12.82 10 Pn 18 46 43.9 +1.1
G16K Koyuk River 12.82 10 P Pn 18 46 44.9 +2.1
baz=194
PPLA Purkeypile 12.88 33 Pn 18 46 44.3 +0.5
PPLA Purkeypile 12.88 33 P Pn 18 46 45.5 +1.7
baz=226
M22K Willow 12.89 40 Pn 18 46 44.6 +0.9
M22K Willow 12.89 40 P Pn 18 46 45.1 +1.4
baz=234
F15K North Star Dit 12.95 5 P Pn 18 46 45.9 +1.4
baz=188
GCSA Galena City Sc 13.08 20 P Pn 18 46 47.8 +1.5
baz=209
G17K Kiwalik Mounta 13.12 13 P Pn 18 46 48.5 +1.6
baz=198
PWL Port Wells 13.14 45 Pn 18 46 46.8 -0.3
PWL Port Wells 13.14 45 P Pn 18 46 47.5 +0.4
baz=241,SNR=26
H18K Honhosa River 13.15 17 Pn 18 46 46.8 -0.6
H18K Honhosa River 13.15 17 P Pn 18 46 48.1 +0.8
baz=205
P23K Montague Islan 13.16 49 Pn 18 46 45.0 -2.5
P23K Montague Islan 13.16 49 P Pn 18 46 46.2 -1.3
baz=246,SNR=11
PMR Palmer 13.19 41 P Pn 18 46 50.5 +2.8
PMR Palmer 13.19 41 P Pn 18 46 50.3 +2.6
baz=236
CUT Chulitna 13.23 37 P Pn 18 46 50.8 +2.5
baz=231
J20K Nowinta River 13.26 26 Pn 18 46 48.2 -0.6
J20K Nowinta River 13.26 26 P Pn 18 46 50.1 +1.3
baz=217,SNR=122
CAST Castle Rocks 13.29 31 Pn 18 46 48.7 -0.5
CAST Castle Rocks 13.29 31 P Pn 18 46 50.4 +1.2
baz=224,SNR=61
KNK Knik Glacier 13.36 43 Pn 18 46 48.6 -1.6
KNK Knik Glacier 13.36 43 P Pn 18 46 50.1 -0.2
baz=238,SNR=11
GHO Glory Hole Cre 13.37 41 Pn 18 46 49.3 -1.0
Q23K Middleton Isla 13.45 52 Pn 18 46 51.0 -0.3
Q23K Middleton Isla 13.45 52 P Pn 18 46 51.1 -0.3
baz=250
CHUM Lake Minchumin 13.55 30 P Pn 18 46 55.0 +2.2
baz=222,SNR=38
I20K Naaghedeneel 13.68 24 Pn 18 46 54.5 +0.1
I20K Naaghedeneel 13.68 24 P Pn 18 46 56.8 +2.3
baz=215,SNR=46
GLI Glacier Island 13.68 46 Pn 18 46 53.6 -1.0
GLI Glacier Island 13.68 46 P Pn 18 46 56.3 +1.7
baz=243
HIN Hinchinbrook I 13.74 48 Pn 18 46 53.2 -2.1
G18K Tagagawik 13.79 15 P Pn 18 46 58.7 +2.8
baz=203,SNR=216
H19K Roundabout Mou 13.86 19 P Pn 18 46 58.5 +1.6
baz=209,SNR=126
M23K Glacier View 13.86 42 P Pn 18 46 56.0 -1.0
baz=239,SNR=34
TRF Thorofare Moun 13.89 34 P Pn 18 46 58.8 +1.2
baz=228,SNR=34
FID Port Fidalgo 13.90 47 Pn 18 46 55.9 -1.6
F17K Baldwin Pennin 13.95 10 Pn 18 46 57.3 -0.9
F17K Baldwin Pennin 13.95 10 P Pn 18 46 59.4 +1.2
baz=196
SCM Sheep Creek Mo 14.04 42 Pn 18 46 57.3 -2.2
SCM Sheep Creek Mo 14.04 42 P Pn 18 46 57.3 -2.2
SCM Sheep Creek Mo 14.04 42 P Pn 18 46 58.5 -1.0
baz=239,SNR=66
WAT1 Susitna Watana 14.12 38 P Pn 18 47 00.6 +0.1
baz=234
BPAW Bear Paw Mtn. 14.12 31 P Pn 18 47 01.9 +1.5
baz=225,SNR=59
EYAK Cordova Ski Ar 14.14 49 Pn 18 46 58.0 -2.8
EYAK Cordova Ski Ar 14.14 49 P P 18 47 04.4 -3.2
EYAK Cordova Ski Ar 14.14 49 P Pn 18 46 58.4 -2.3
baz=246
H20K Anotleneega Mo 14.16 22 P Pn 18 47 03.2 +2.2
baz=212,SNR=157
WAT6 Susitna Watana 14.28 39 P Pn 18 47 02.1 -0.7
baz=236,SNR=43
G19K Purcell Mounta 14.28 17 P Pn 18 47 04.8 +2.1
baz=206,SNR=44
F18K Selawik 14.30 13 P Pn 18 47 05.3 +2.5
baz=199,SNR=57
DIV Divide 14.37 46 Pn 18 47 01.1 -2.9
KLU Klutina 14.47 45 P Pn 18 47 04.4 -0.8
baz=243,SNR=90
E17K Hotham Inlet 14.52 9 P Pn 18 47 08.2 +2.4
baz=194,SNR=60
KAIM Kayak Island 14.54 52 P Pn 18 47 07.8 +1.6
baz=251
MCK McKinley 14.54 34 P Pn 18 47 08.2 +2.1
baz=230,SNR=21
RAGM Ragged Mountai 14.57 50 Pn 18 47 04.6 -2.1
I21K Tanana 14.63 27 P Pn 18 47 08.8 +1.5
baz=220,SNR=176
M24K Tolsona, Glenn 14.65 43 P Pn 18 47 08.0 +0.3
baz=240,SNR=57
DHY Denali Highway 14.70 38 P Pn 18 47 10.9 +2.5
baz=235,SNR=34
HMT Hamilton 14.75 50 Pn 18 47 07.1 -1.9
H21K Melozitna Rive 14.79 24 P Pn 18 47 11.9 +2.4
baz=217,SNR=308
F19K Shaleruckik Mo 14.79 15 P Pn 18 47 10.9 +1.4
baz=203,SNR=252
BMRM Bremner River 14.82 48 P Pn 18 47 10.5 +0.5
baz=237,SNR=17
IMAR Indian Mountai 14.83 22 Pn 18 47 11.4 +1.4
MLY Manley 14.87 28 P Pn 18 47 11.7 +1.2
baz=223,SNR=93
E18K Tukpahlearik C 14.97 10 P P 18 47 14.9 -1.9
baz=196,SNR=87
D17K Noatak River 15.02 7 P Pn 18 47 15.1 +2.6
baz=190,SNR=102
NEA2 Nenana 15.06 32 P Pn 18 47 14.2 +1.1
baz=227,SNR=9.6
N25K Chitina, Valde 15.09 46 P Pn 18 47 12.2 -1.3
baz=245,SNR=47
HARP HAARP 15.21 42 P Pn 18 47 15.7 +0.6
baz=241,SNR=26
G21K Allakaket 15.33 22 P Pn 18 47 17.7 +1.1
baz=213
F20K Avaraart Lake 15.34 18 Pn 18 47 17.2 +0.5
F20K Avaraart Lake 15.34 18 P Pn 18 47 18.6 +1.9
baz=208,SNR=196
H22K Ishtalitna Cre 15.34 26 P Pn 18 47 18.4 +1.7
baz=215,SNR=156
I23K Minto, Yukon-K 15.36 30 P Pn 18 47 17.6 +0.7
baz=225,SNR=85
PAX Paxson 15.37 40 P Pn 18 47 16.6 -0.6
baz=239,SNR=28
RDOG Red Dog Mine 15.38 7 Pn 18 47 19.3 +2.0
RDOG Red Dog Mine 15.38 7 P P 18 47 20.1 -1.3
baz=190,SNR=23
CRQM Cirque 15.41 50 IAmb IAmb 18 47 25.8
comp=Z,268nm,0.7s
CRQE Cirque 15.43 50 P Pn 18 47 18.5 +0.4
baz=250,SNR=16
WAX Waxell Ridge 15.45 51 IAmb IAmb 18 47 25.7
comp=Z,278nm,1.0s
E19K Redstone River 15.45 15 P Pn 18 47 19.8 +1.6
baz=204
C16K Lisburne Hills 15.48 3 P Pn 18 47 20.2 +1.7
baz=185
COLA College 15.64 32 Pn 18 47 19.0 -1.6
COLA College 15.64 32 P P 18 47 22.5 -1.7
COLA College 15.64 32 *i* P Pn 18 47 18.8 -1.8
COLA MLR MLR
comp=Z,4µm,17.0s
COLA College 15.64 32 P Pn 18 47 21.4 +0.9
baz=229
HDA Harding Lake 15.64 34 P Pn 18 47 21.9 +1.3
baz=232,SNR=15
MCARA McCarthy VSAT 15.69 48 P Pn 18 47 20.8 -0.5
baz=248,SNR=18
K24K Donnelly Dome 15.70 37 P P 18 47 23.3 -1.7
baz=236,SNR=23
ISLE Juniper Island 15.74 51 IAmb IAmb 18 47 29.1
comp=Z,308nm,1.4s
C17K DeLong Mountai 15.78 6 P P 18 47 25.0 -0.8
baz=190,SNR=45
H23K Yukon River 15.79 28 P Pn 18 47 23.6 +1.0
baz=223,SNR=102
MESA MESA 15.79 52 Pn 18 47 20.9 -1.9
MESA IAmb IAmb 18 47 30.9
comp=Z,183nm,0.7s
MESA MESA 15.79 52 P Pn 18 47 23.8 +0.9
baz=254,SNR=8.6
ILAR Eielson Array 15.89 33 Pn 18 47 20.7 -3.1
ILAR Eielson Array 15.89 33 Pn Pn 18 47 22.6 -1.2
comp=Z,1.4nm,0.3s,baz=231,slow=9.5,SNR=48
ILAR PcP PcP 18 52 20.4 +0.5
comp=Z,3.8nm,0.6s,baz=289,slow=3.2,SNR=9.1
ILAR LR LR 18 54 10.0
comp=Z,6µm,18.5s,baz=224,slow=40
ILAR ScP ScP 18 55 52.1 +1.4
comp=Z,1.8nm,1.0s,baz=289,slow=2.8,SNR=4.7
comp=Z,6.6nm,0.7s
F21K Alatna River 15.93 20 P P 18 47 26.3 -1.2
baz=212,SNR=81
POKR Poker Plat Res 15.93 32 P Pn 18 47 23.8 -0.6
baz=229,SNR=7.9
YAH Yahtse 15.95 52 IAmb IAmb 18 47 32.2
comp=Z,203nm,0.8s
RIDG Independent Ri 16.01 38 Pn 18 47 24.2 -1.3
GRNC Granite Creek 16.05 51 IAmb IAmb 18 47 33.2
comp=Z,334nm,0.8s
MENT Mentasta 16.05 42 P P 18 47 27.7 -1.1
C18K Utukok River 16.10 8 P P 18 47 28.4 -1.0
baz=194
M26K Nabesna, AK 16.11 44 P Pn 18 47 26.6 -0.1
baz=245,SNR=83
G22K Bettles 16.12 23 P Pn 18 47 28.0 +1.3
baz=217
BARN Barnard Glacie 16.20 49 Pn 18 47 26.0 -1.9
BARN IAmb IAmb 18 47 34.5
comp=Z,621nm,1.7s
L26K Log Cabin Wild 16.24 42 P Pn 18 47 27.2 -1.1
baz=242,SNR=93
TABL Table Mountain 16.25 52 IAmb IAmb 18 47 37.1
comp=Z,179nm,0.7s
H24K Noodor Dome 16.28 30 P Pn 18 47 28.8 -0.1
baz=226,SNR=45
D19K Kuna River 16.29 12 P Pn 18 47 29.9 +1.0
baz=200
J25K Salcha River, 16.31 35 P Pn 18 47 27.8 -1.4
baz=234,SNR=95
CTG Chitna Glacier 16.32 50 P Pn 18 47 29.5 +0.1
baz=252,SNR=74
CTGM Chitina Glacie 16.32 50 IAmb IAmb 18 47 35.5
comp=Z,275nm,0.8s
G23K Bananza Creek 16.32 25 P P 18 47 30.7 -1.1
baz=220,SNR=149
E20K Nigu River 16.35 15 P P 18 47 31.6 -0.5
baz=205,SNR=133
LOGN Logan Glacier 16.43 51 IAmb IAmb 18 47 37.3
comp=Z,212nm,0.8s
F22K John River 16.45 21 P P 18 47 33.4 +0.3
baz=214,SNR=94
SCRK Sand Creek 16.46 38 Pn 18 47 29.5 -1.7
SCRK Sand Creek 16.46 38 P Pn 18 47 31.9 +0.7
baz=238,SNR=186
M27K Ed Creek, AK 16.57 45 P Pn 18 47 31.8 -0.7
baz=246,SNR=102
PCA Pinnacle 16.59 53 Pn 18 47 33.0 +0.1
PCA IAmb IAmb 18 47 39.3
comp=Z,246nm,0.9s
PINM Pinnacle 16.59 53 P P 18 47 34.5 -0.4
baz=256,SNR=44
COLD Coldfoot 16.68 24 P Pn 18 47 33.9 +0.2
baz=219,SNR=143
C19K Lookout Ridge 16.70 10 P P 18 47 35.4 -0.6
baz=197
D20K Etivluk River 16.70 14 IAmb IAmb 18 47 40.6
comp=Z,141nm,0.8s
D20K Etivluk River 16.70 14 P Pn 18 47 34.9 +0.9
baz=203
B18K Kokolik River 16.75 7 P P 18 47 36.9 +0.4
baz=192,SNR=106
O28M Mount Upton 16.80 51 P Pn 18 47 34.1 -1.5
baz=254,SNR=40
PRP Porcupine Dome 16.81 33 P Pn 18 47 35.1 -0.4
baz=231,SNR=17
BCPM Bancas Point 16.86 54 Pn 18 47 35.1 -1.1
BCPM IAmb IAmb 18 47 41.6
comp=Z,197nm,1.0s
L27K Beaver Creek, 16.88 43 P Pn 18 47 37.0 +0.6
baz=244,SNR=49
E21K Killik River 16.89 17 P P 18 47 38.5 +0.4
baz=209,SNR=87
BCAR Beaver Creek A 16.90 43 Pn 18 47 35.1 -1.5
J26L Joseph Creek 16.90 37 P Pn 18 47 37.3 +0.6
baz=238,SNR=205
PNL Peninsula 16.92 55 P P 18 47 39.0 +0.5
PNL Peninsula 16.92 55 P P 18 47 37.8 -0.6
baz=258,SNR=44
YUK3 Moose Creek 16.98 48 P Pn 18 47 36.9 -0.9
baz=250,SNR=60
G24K Hadweenzic Riv 17.00 28 P Pn 18 47 37.6 -0.2
baz=225,SNR=156
BVCY Beaver Creek 17.03 45 P Pn 18 47 37.8 -0.4
baz=248,SNR=21
E22K Anaktuvuk Pass 17.05 20 IAmb IAmb 18 47 48.0
comp=Z,383nm,1.9s
E22K Anaktuvuk Pass 17.05 20 P P 18 47 40.2 +0.4
baz=214,SNR=116
YUK8 Steele Glacier 17.14 50 P Pn 18 47 40.4 +0.6
baz=253,SNR=59
H25L Birch Creek 17.20 30 P P 18 47 41.8 +0.4
baz=229,SNR=46
K27K Chicken 17.22 40 P P 18 47 41.5 -0.2
baz=241
C21K Knifeblade Rid 17.38 15 P P 18 47 44.3 +0.8
baz=206,SNR=211
G25K Bearman Lake 17.44 29 P P 18 47 43.8 -0.3
baz=227,SNR=50
O29M Mount Kennedy 17.46 53 P Pn 18 47 43.9 +0.3
baz=258,SNR=34
E23K Chandalar 17.47 23 P P 18 47 45.4 +0.9
baz=218,SNR=88
F24K Squaw Lake 17.48 25 P P 18 47 45.8 +1.2
baz=222,SNR=121
I26K Coal Creek Min 17.48 35 P Pn 18 47 41.9 -1.9
I26K Coal Creek Min 17.48 35 P Pn 18 47 43.6 -0.2
baz=236,SNR=57
D22K Ayikyak River 17.50 18 P P 18 47 46.6 +1.8
baz=211,SNR=94
A19K Wainwright 17.63 7 P P 18 47 47.4 +1.2
baz=193
YUK4 Talbot Arm 17.68 50 P P 18 47 47.5 +0.5
baz=254,SNR=92
YUK6 Outpost Mounta 17.71 51 P P 18 47 48.2 +0.8
baz=256,SNR=82
P29M Windy Craggy 17.75 56 P P 18 47 49.5 +1.9
baz=260,SNR=50
E24K Your Creek 17.75 24 P P 18 47 48.8 +1.1
baz=220,SNR=122
B21K Ikpikpuk River 17.83 15 P P 18 47 49.2 +0.8
baz=206,SNR=100
B20K Meade River 17.83 12 P P 18 47 48.9 +0.5
baz=201,SNR=48
TOLK Toolik Lake Re 17.94 21 P P 18 47 50.6 +0.9
TOLK Toolik Lake Re 17.94 21 P P 18 47 51.2 +1.6
baz=217,SNR=94
D23K Nanushuk River 17.97 20 P P 18 47 51.5 +1.6
baz=214,SNR=86
M29M Somme Creek 18.08 47 IAmb IAmb 18 47 56.8
comp=Z,146nm,0.8s
M29M Somme Creek 18.08 47 P P 18 47 52.3 +0.9
baz=251,SNR=261
HYT Haines Junctio 18.09 52 P P 18 47 53.2 +1.8
baz=257,SNR=273
F25K Christian Rive 18.14 27 P P 18 47 52.5 +0.6
baz=226,SNR=126
I27K Kandik River 18.19 36 P P 18 47 52.9 +0.4
baz=238,SNR=92
P30M Million Dollar 18.21 54 P P 18 47 53.8 +1.1
baz=260
G26K Porcupine Rive 18.26 30 P Pn 18 47 53.4 +0.2
baz=231,SNR=59
DAWY Dawson 18.29 41 P Pn 18 47 54.6 +0.8
baz=245,SNR=94
BMAR Burnt Mountain 18.33 29 P 18 47 52.5 -1.5
S31K Pelican 18.35 61 P P 18 47 52.3 -1.9
S31K Pelican 18.35 61 P Pn 18 47 55.5 +1.0
baz=267,SNR=20
PLBC Pleasant Camp 18.41 57 P Pn 18 47 56.4 +1.3
baz=263,SNR=74
N30M Aishikik Lake 18.43 50 P Pn 18 47 58.1 +2.6
baz=256,SNR=540
L29M L29M 18.45 45 P Pn 18 47 55.9 +0.2
baz=250,SNR=178
D24K Happy Valley 18.52 21 P Pn 18 47 57.5 +1.1
baz=218,SNR=70
E25K Arctic Village 18.53 26 P Pn 18 47 57.5 +0.9
baz=225,SNR=54
H27K Steamboat Moun 18.56 34 P P 18 47 55.7 -0.8
baz=236,SNR=159
F26K Sheenjek River 18.63 28 P P 18 47 56.0 -1.3
F26K Sheenjek River 18.63 28 P P 18 47 57.5 +0.3
baz=229,SNR=65
R31K City Hall, Gus 18.64 60 P Pn 18 48 00.2 +2.3
baz=266
B22K Teshekpuk Lake 18.66 15 IAmb IAmb 18 48 05.0
comp=Z,266nm,1.1s
B22K Teshekpuk Lake 18.66 15 P Pn 18 47 58.0 -0.1
baz=207,SNR=49
C23K Itkillik River 18.71 18 IAmb IAmb 18 48 09.9
comp=Z,177nm,1.1s
C23K Itkillik River 18.71 18 P Pn 18 47 58.9 +0.2
baz=213,SNR=157
I28M Miner Creek 18.71 37 P P 18 47 57.7 -0.5
baz=241,SNR=115
O30N Mendenhall 18.75 53 IAmb IAmb 18 48 03.9
comp=Z,190nm,0.8s
O30N Mendenhall 18.75 53 P Pn 18 48 01.1 +1.7
baz=259,SNR=284
SIT Sitka 18.83 64 P Pn 18 48 01.8 +1.6
SIT Sitka 18.83 64 P Pn 18 48 00.9 +0.7
baz=271,SNR=33
G27K Doyon Strip 18.84 32 P P 18 47 57.6 -2.0
G27K Doyon Strip 18.84 32 P P 18 47 58.0 -1.6
baz=235,SNR=85
M30M Minto, Yukon 18.86 47 P Pn 18 48 00.7 0.0
baz=253,SNR=132
J29N Klondike Camp 18.92 41 IAmb IAmb 18 48 04.6
comp=Z,98nm,0.6s
J29N Klondike Camp 18.92 41 P Pn 18 48 01.6 +0.3
baz=246,SNR=21
SKAG Skagway 18.94 57 IAmb IAmb 18 48 05.5
comp=Z,376nm,1.0s
SKAG Skagway 18.94 57 P Pn 18 48 04.2 +2.7
SKAG Skagway 18.94 57 P Pn 18 48 03.9 +2.4
baz=264,SNR=88
K29M Barlow Dome 18.97 43 P Pn 18 48 01.8 -0.2
baz=248,SNR=140
C24K Franklin Bluff 19.00 20 IAmb IAmb 18 48 07.0
comp=Z,117nm,0.8s
C24K Franklin Bluff 19.00 20 P P 18 48 01.7 +0.5
baz=217
A22K Sinclair Lake 19.04 13 P Pn 18 48 02.4 -0.2
baz=204
N31M Braeburn, Yuko 19.05 51 P Pn 18 48 05.1 +2.2
baz=257,SNR=259
A21K Barrow 19.13 11 P Pn 18 48 03.4 -0.3
baz=200,SNR=11
D25K Kavik River 19.20 23 IAmb IAmb 18 48 11.3
comp=Z,262nm,1.0s
D25K Kavik River 19.20 23 P Pn 18 48 04.9 +0.2
baz=221,SNR=248
S32K Killisnoo 19.23 63 P P 18 48 04.1 +0.2
S32K IAmb IAmb 18 48 09.0
comp=Z,219nm,0.9s
S32K Killisnoo 19.23 63 P Pn 18 48 06.9 +1.9
baz=270,SNR=197
I29M Ogilvie Camp, 19.27 38 P Pn 18 48 05.3 -0.3
baz=243,SNR=70
R32K Eaglecrest 19.27 61 IAmb IAmb 18 48 08.7
comp=Z,144nm,0.9s
R32K Eaglecrest 19.27 61 P Pn 18 48 07.2 +1.6
baz=268,SNR=135
WHY Whitehorse 19.32 53 P Pn 18 48 07.8 +1.6
baz=261,SNR=259
JIS Juneau Island 19.34 61 P Pn 18 48 08.5 +2.1
MAYO Mayo, Yukon 19.56 44 IAmb IAmb 18 48 13.7
comp=Z,323nm,1.2s
MAYO Mayo, Yukon 19.56 44 P Pn 18 48 08.4 -0.6
baz=251
H29M Whitestone 19.65 36 IAmb IAmb 18 48 16.2
comp=Z,142nm,0.7s
H29M Whitestone 19.65 36 P P 18 48 09.0 +0.6
baz=241,SNR=194
E27K Coleen River 19.69 29 P Pn 18 48 10.1 -0.3
baz=232,SNR=20
BILL Bilibino 19.70 330 P P 18 48 09.7 +0.8
BILL IAmb IAmb 18 48 24.5
comp=Z,439nm,1.7s
BILL Bilibino 19.70 330 *c i* P Pn 18 48 10.4 -0.1
BILL MLR MLR
comp=Z,5µm,16.0s
J30M Hart River 19.72 41 P P 18 48 09.8 +0.6
baz=248,SNR=114
P32M Atlin 19.77 57 IAmb IAmb 18 48 13.8
comp=Z,261nm,0.9s
P32M Atlin 19.77 57 P Pn 18 48 13.0 +1.4
baz=265,SNR=344
M31M Drury Creek, Y 19.85 49 P Pn 18 48 11.9 -0.5
M31M IAmb IAmb 18 48 15.1
comp=Z,285nm,0.9s
M31M Drury Creek, Y 19.85 49 P Pn 18 48 13.1 +0.7
baz=257,SNR=360
F28M Old Crow 19.88 31 P P 18 48 11.0 +0.1
baz=236,SNR=22
I30M Mount Dempster 19.95 40 P P 18 48 11.3 -0.5
baz=246,SNR=179

C26K	**Camden Bay**	**19.99**	**23**	P	**Pn**	**18 48 14.5**	**+0.6**	
	baz=223,SNR=42							
C27K	**Jago River**	**20.07**	**24**	IAMs_20	IAMs_20	18 56 44.1		
	comp=Z,6µm,19.0s							
C27K	**Jago River**	**20.07**	**24**	P	Pn	18 48 14.6	-0.3	
	baz=225,SNR=201							
U33K	**Whale Pass**	**20.10**	**67**	P	Pn	18 48 15.2	-0.1	
U33K				IAmb	IAmb	18 48 28.5		
	comp=Z,157nm,1.2s							
U33K	**Whale Pass**	**20.10**	**67**	P	Pn	18 48 14.8	-0.5	
	baz=275,SNR=31							
G29M	**Pine Creek**	**20.11**	**34**	IAmb	IAmb	18 48 16.6		
	comp=Z,159nm,0.8s							
G29M	**Pine Creek**	**20.11**	**34**	P	**P**	**18 48 13.3**	**-0.1**	
	baz=240,SNR=206							
T33K	**Petersburg**	**20.14**	**65**	P	Pn	18 48 14.7	-1.0	
	baz=273							
CRAG	**Craig**	**20.16**	**69**	P	Pn	18 48 16.2	+0.1	
CRAG				IAmb	IAmb	18 48 18.3		
	comp=Z,100nm,0.8s							
CRAG	**Craig**	**20.16**	**69**	P	Pn	18 48 17.6	+1.5	
CRAG	**Craig**	**20.16**	**69**	P	Pn	18 48 16.3	+0.2	
	baz=277,SNR=39							
N32M	**Quiet Lake**	**20.27**	**52**	IAmb	IAmb	18 48 19.8		
	comp=Z,218nm,0.8s							
N32M	**Quiet Lake**	**20.27**	**52**	P	Pn	18 48 18.0	+0.7	
	baz=261							
P33M	**Teslin, Yukon**	**20.28**	**55**	IAmb	IAmb	18 48 22.6		
	comp=Z,137nm,0.9s							
P33M	**Teslin, Yukon**	**20.28**	**55**	P	Pn	18 48 17.8	+0.3	
	baz=264,SNR=131							
PET	**Petropavlovsk**	**20.29**	**284**	P	**P**	**18 48 14.7**	**-0.7**	
PET				IAmb	IAmb	18 48 22.5		
	comp=Z,145nm,1.2s							
PET	**Petropavlovsk**	**20.29**	**284**	P	**P**	**18 48 16.6**	**+1.2**	
PET	**Petropavlovsk**	**20.29**	**284**	*e*P	**P**	**18 48 15.2**	**-0.2**	
PET				*e*S	**S**	**18 51 51.5**	**-9.0**	
PET				pmax	pmax			
	comp=Z,900nm,14.1s							
PET				pmax	pmax			
	comp=Z,158nm,1.3s							
PET				pmax	pmax			
	comp=Z,900nm,8.3s							
PET				MLR	MLR			
	comp=Z,2µm,18.0s							
PET				MLR	MLR			
	comp=Z,2µm,17.0s							
EPYK	**Eagle Plains**	**20.31**	**36**	IAmb	IAmb	18 48 16.1		
	comp=Z,223nm,0.8s							
EPYK				IAMs_20	IAMs_20	18 56 38.6		
	comp=Z,4µm,18.0s							
EPYK	**Eagle Plains**	**20.31**	**36**	P	**P**	**18 48 15.4**	**-0.2**	
	baz=243,SNR=220							
FARO	**Faro, Yukon**	**20.33**	**49**	IAmb	IAmb	18 48 22.5		
	comp=E,183nm,0.9s							
FARO	**Faro, Yukon**	**20.33**	**49**	P	Pn	18 48 17.8	-0.3	
	baz=258,SNR=332							
Q32M	**Nakina River**	**20.47**	**59**	IAmb	IAmb	18 48 30.4		
	comp=Z,131nm,0.9s							
Q32M	**Nakina River**	**20.47**	**59**	P	**P**	**18 48 18.1**	**+0.5**	
	baz=268,SNR=91							
WRAK	**Wrangell Islan**	**20.50**	**66**	P	**P**	**18 48 16.9**	**-0.7**	
WRAK	**Wrangell Islan**	**20.50**	**66**	P	Pn	18 48 19.7	-0.3	
	baz=275,SNR=32							
D27M	**Malcolm River**	**20.54**	**27**	IAmb	IAmb	18 48 23.9		
	comp=Z,274nm,1.4s							
D27M	**Malcolm River**	**20.54**	**27**	P	Pn	18 48 19.8	-0.6	
	baz=230,SNR=80							
E28M	**Babbage River**	**20.55**	**29**	P	**P**	**18 48 17.8**	**-0.3**	
	baz=234,SNR=61							
G30M	**tAoh Zraii Nji**	**20.77**	**35**	IAmb	IAmb	18 48 26.0		
	comp=Z,89nm,0.7s							
G30M	**tAoh Zraii Nji**	**20.77**	**35**	P	**P**	**18 48 19.5**	**-1.0**	
	baz=242,SNR=133							
PEA0B	**Petropavlovsk-**	**20.83**	**285**	IAmb	IAmb	18 48 41.2		
	comp=Z,288nm,1.4s							
PEA0B	**Petropavlovsk-**	**20.83**	**285**	*c i*P	**P**	**18 48 21.5**	**+0.2**	
PETK	**Petropavlovsk-**	**20.83**	**285**	P	**P**	**18 48 20.9**	**-0.5**	
	comp=Z,24nm,0.7s,baz=81,slow=15,SNR=48							
PETK				S	**S**	**18 52 13.8**	**+2.5**	
	comp=Z,11nm,1.1s,baz=58,slow=23,SNR=4.1							
PETK				PcP	**PcP**	**18 52 29.6**	**+1.2**	
	comp=Z,8.6nm,0.9s,baz=86,slow=1.8,SNR=5.4							
PETK				ScP	**ScP**	**18 56 03.8**	**+2.1**	
	comp=Z,6.6nm,1.1s,baz=158,slow=5.3,SNR=5.1							
PETK				LR	LR	18 56 26.6		
	comp=Z,2µm,20.9s,baz=91,slow=37							
PETK				PKiKP	**PKiKP**	**19 00 15.7**	**0.0**	
	comp=Z,0.5nm,0.6s,baz=105,slow=3.9,SNR=3.5							
	comp=Z,24nm,0.7s							
E29M	**Blow River**	**20.93**	**31**	IAmb	IAmb	18 48 23.6		
	comp=Z,161nm,1.1s							
E29M	**Blow River**	**20.93**	**31**	P	**P**	**18 48 20.9**	**-1.3**	
	baz=237,SNR=122							
DIB	**Dawson Inlet,**	**20.94**	**75**		**P**	**18 48 22.9**	**+0.6**	
H02S1	**DAWSON INLET T**	**20.94**	**75**	T	T	19 09 60.0		
	SNR=125							
H31M	**Peel River**	**20.96**	**39**	IAmb	IAmb	18 48 23.1		
	comp=Z,151nm,0.9s							
H31M	**Peel River**	**20.96**	**39**	P	**P**	**18 48 21.4**	**-1.2**	
	baz=248,SNR=211							
V35K	**Ketchikan**	**21.04**	**69**	IAmb	IAmb	18 48 31.2		
	comp=Z,106nm,1.0s							
V35K	**Ketchikan**	**21.04**	**69**	P	**P**	**18 48 25.6**	**+2.2**	
	baz=278,SNR=52							
S34M	**Telegraph Cree**	**21.07**	**62**	IAmb	IAmb	18 48 42.7		
	comp=Z,185nm,1.1s							
S34M	**Telegraph Cree**	**21.07**	**62**	P	**P**	**18 48 26.0**	**+2.2**	
	baz=272,SNR=97							
R33M	**Jennings River**	**21.16**	**58**	IAmb	IAmb	18 48 33.5		
	comp=Z,185nm,1.1s							
R33M	**Jennings River**	**21.16**	**58**	P	**P**	**18 48 26.7**	**+1.8**	
	baz=268,SNR=211							
F30M	**Barrier River**	**21.21**	**34**	IAmb	IAmb	18 48 29.6		
	comp=Z,128nm,0.8s							
F30M				IAMs_20	IAMs_20	18 57 18.4		
	comp=Z,4µm,19.0s							
F30M	**Barrier River**	**21.21**	**34**	P	**P**	**18 48 24.1**	**-1.1**	
	baz=242,SNR=130							
D28M	**Stokes Point**	**21.21**	**28**	P	**P**	**18 48 25.3**	**+0.1**	
	baz=234,SNR=7.0							
MMPY	**Sheldon Lake,**	**21.36**	**49**	P	**P**	**18 48 28.1**	**+1.1**	
	baz=259,SNR=475							
G31M	**Satah River**	**21.43**	**36**		**P**	**18 48 25.0**	**-2.5**	
G31M				IAmb	IAmb	18 48 34.3		
	comp=Z,69nm,0.6s							
G31M	**Satah River**	**21.43**	**36**	P	**P**	**18 48 25.6**	**-1.9**	
	baz=245,SNR=54							
T35M	**Bob Quinn**	**21.60**	**64**	P	**P**	**18 48 31.0**	**+1.4**	
	baz=275,SNR=42							
DLBC	**Dease Lake**	**21.64**	**60**	P	**P**	**18 48 32.1**	**+2.1**	
	comp=Z,5.4nm,0.8s,baz=249,slow=12,SNR=42							
DLBC				PcP	**PcP**	**18 52 31.7**	**+1.7**	
	comp=Z,1.2nm,0.9s,baz=262,slow=3.1,SNR=3.6							
DLBC				LR	LR	18 57 06.6		
	comp=Z,128nm,20.3s,baz=266,slow=37							
DLBC	**Dease Lake**	**21.64**	**60**	P	**P**	**18 48 30.6**	**+0.6**	
	baz=271,SNR=104							
F31M	**Tsiigehtchic**	**21.84**	**35**	IAmb	IAmb	18 48 35.1		
	comp=Z,91nm,0.7s							
F31M	**Tsiigehtchic**	**21.84**	**35**	P	**P**	**18 48 32.3**	**+0.4**	
	baz=245,SNR=77							
HG4B	**Hotspring**	**21.92**	**77**	IAmb	IAmb	18 48 55.0		
	comp=Z,101nm,1.2s							
WTLY	**Watson Lake, Y**	**22.28**	**56**	IAmb	IAmb	18 48 49.6		
	comp=Z,83nm,0.9s							
WTLY	**Watson Lake, Y**	**22.28**	**56**	P	**P**	**18 48 37.9**	**+1.1**	
	baz=268,SNR=9.9							
INK	**Inuvik**	**22.29**	**33**	IAmb	IAmb	18 48 39.6		
	comp=Z,142nm,0.8s							
INK	**Inuvik**	**22.29**	**33**	LR	LR	18 58 11.6		
	comp=Z,4µm,18.2s,baz=240,slow=39							
INK	**Inuvik**	**22.29**	**33**	P	**P**	**18 48 35.3**	**-1.5**	
	baz=243,SNR=106							
SKR	**Severo-Kuril's**	**22.47**	**279**	*e*P	**P**	**18 48 34.5**	**-4.3**	
SKR				*e*S	S	18 52 30.3	-12	
SKR				pmax	pmax			
	comp=Z,600nm,12.5s							
SKR				pmax	pmax			
	comp=Z,94nm,0.8s							
SKR				MLR	MLR			
	comp=Z,2µm,16.0s							
TGTN	**Hyland Airport**	**22.61**	**52**	P	**P**	**18 48 41.9**	**+1.5**	
	baz=265,SNR=80							
SEY	**Seymchan**	**23.17**	**311**	LR	LR	18 57 24.5		
	comp=Z,2µm,21.9s,baz=102,slow=36							
SEY	**Seymchan**	**23.17**	**311**	*c i*P	**P**	**18 48 46.1**	**+0.1**	
SEY				MLR	MLR			
	comp=Z,1µm,17.0s							
LIRD	**Liard River Hi**	**23.65**	**57**	P	**P**	**18 48 53.2**	**+2.5**	
	baz=272							
BBB	**Bella Bella**	**23.77**	**76**	LR	LR	18 56 34.6		
	comp=Z,1µm,21.0s,baz=296,slow=32							
MA2	**Magadan**	**23.81**	**303**		**P**	**18 48 52.2**	**-0.1**	
MA2	**Magadan**	**23.81**	**303**	LR	LR	18 57 25.1		
	comp=Z,2µm,21.6s,baz=96,slow=35							
MA2	**Magadan**	**23.81**	**303**	P	**P**	**18 48 53.5**	**+1.3**	
MA2	**Magadan**	**23.81**	**303**	*c e*P	**P**	**18 48 52.7**	**+0.5**	
MA2				pmax	pmax			
	comp=Z,141nm,0.7s							
MA2				MLR	MLR			
	comp=Z,2µm,17.0s							
TOAD	**Toad River Com**	**24.12**	**59**	P	**P**	**18 48 58.1**	**+3.0**	
	baz=274,SNR=45							
HOLB	**Holberg**	**24.26**	**79**	IAmb	IAmb	18 49 01.6		
	comp=Z,73nm,1.0s							
KOTAN	**Kotaneelee Air**	**24.65**	**56**	P	**P**	**18 49 02.8**	**+2.9**	
	baz=272,SNR=32							
WRGLY	**Wrigley**	**24.98**	**48**	P	**P**	**18 49 05.4**	**+2.6**	
	baz=266,SNR=174							
A36M	**Sachs Harbour**	**26.43**	**28**	P	**P**	**18 49 17.6**	**+1.8**	
	baz=246,SNR=15							
OZB	**Mount Ozzard**	**26.49**	**81**	IAmb	IAmb	18 49 37.1		
	comp=Z,65nm,1.1s							
CLRS	**Cowichan Lake**	**27.36**	**81**		**P**	**18 49 26.3**	**+1.8**	
NLWA	**Neilton Lookou**	**28.15**	**83**		**P**	**18 49 33.6**	**+2.0**	
NLWA				IAMs_20	IAMs_20	18 57 47.3		
	comp=Z,3µm,21.0s							
YKAW3	**Yellowknife Wh**	**29.03**	**50**	IAmb	IAmb	18 49 43.0		
	comp=Z,47nm,0.7s							
YKA	**Yellowknife Ar**	**29.04**	**50**	P	**P**	**18 49 40.4**	**+1.1**	
YKA	**Yellowknife Ar**	**29.04**	**50**	P	**P**	**18 49 40.9**	**+1.6**	
	comp=Z,28nm,0.8s,baz=278,slow=11,SNR=101							
YKA				PcP	**PcP**	**18 52 48.0**	**+1.6**	
	comp=Z,13nm,0.7s,baz=295,slow=2.8,SNR=10							
YKA				ScP	**ScP**	**18 56 27.4**	**+2.8**	
	comp=Z,1.9nm,0.9s,baz=284,slow=3.3,SNR=4.8							
YKA				LR	LR	19 03 33.0		
	comp=Z,1µm,19.1s,baz=268,slow=41							
	comp=Z,28nm,0.8s							
YKA	**Yellowknife Ar**	**29.04**	**50**	*i* P	**P**	**18 49 40.9**	**+1.6**	
YKA				pmax	pmax			
	comp=Z,38nm,0.9s							
YKAW1	**Yellowknife Wh**	**29.10**	**50**	IAmb	IAmb	18 49 42.6		
	comp=Z,64nm,0.8s							
HEBO	**Mount Hebo**	**29.29**	**87**	P	**P**	**18 49 43.5**	**+1.8**	
HEBO				IAmb	IAmb	18 50 04.0		
	comp=Z,48nm,1.0s							
I02E	**Swisshome, OR**	**29.82**	**89**	IAmb	IAmb	18 50 14.7		
	comp=Z,59nm,1.0s							
COR	**Corvallis**	**29.89**	**88**	P	**P**	**18 49 47.2**	**+0.2**	
COR				IAmb	IAmb	18 49 51.8		
	comp=Z,53nm,0.8s							
COR	**Corvallis**	**29.89**	**88**	IAMs_20	IAMs_20	18 58 35.5		
	comp=Z,3µm,22.0s							
COR	**Corvallis**	**29.89**	**88**	P	**P**	**18 49 47.2**	**+0.2**	
COR				pmax	pmax			
	comp=Z,53nm,0.9s							
COR				MLR	MLR			
	comp=Z,3µm,22.0s							
KEBM	**Edson Butte**	**30.21**	**92**	IAmb	IAmb	18 50 21.4		
	comp=Z,68nm,1.1s							
H04D	**Lebanon**	**30.27**	**88**	IAmb	IAmb	18 50 18.1		
	comp=Z,41nm,0.9s							
J01E	**Myrtle Point**	**30.29**	**91**	IAmb	IAmb	18 50 17.2		
	comp=Z,43nm,1.0s							
BUCK	**Buck Mountain**	**30.29**	**89**	P	**P**	**18 49 52.6**	**+2.0**	
BUCK				IAmb	IAmb	18 49 55.5		
	comp=Z,34nm,0.9s							
TYV	**Tymovskoe**	**30.35**	**287**	*e*P	**P**	**18 49 53.7**	**+2.7**	
TYV				*e*S	**S**	**18 54 51.9**	**+3.6**	
TYV				pmax	pmax			
	comp=Z,11nm,1.0s							
TYV				pmax	pmax			
	comp=Z,200nm,6.3s							
TYV				smax	smax			
	comp=N,400nm,8.5s							
TYV				smax	smax			
	comp=E,400nm,8.5s							
H04A	**Detroit Lake**	**30.52**	**87**	IAmb	IAmb	18 50 13.8		
	comp=Z,38nm,0.9s							
KBO	**Bosley Butte**	**30.65**	**93**	IAmb	IAmb	18 50 45.5		
	comp=Z,57nm,1.2s							
G05A	**Wamic**	**30.75**	**86**	IAmb	IAmb	18 50 22.8		
	comp=Z,50nm,1.0s							
WAH2	**Wahluke Slope**	**31.04**	**82**	IAmb	IAmb	18 50 17.1		
	comp=Z,40nm,1.0s							
KSXB	**Camp Six Broad**	**31.08**	**93**	IAmb	IAmb	18 50 31.3		
	comp=Z,50nm,1.1s							
BBOR	**Butler Butte**	**31.20**	**90**	IAmb	IAmb	18 50 03.7		
	comp=Z,34nm,1.0s							
HAWA	**Hanford**	**31.24**	**82**	P	**P**	**18 50 01.2**	**+2.3**	
KRMB	**Red Mountain**	**31.25**	**94**	IAmb	IAmb	18 50 18.4		
	comp=Z,49nm,1.3s							
J04A	**Umpqua Nationa**	**31.35**	**89**	IAmb	IAmb	18 50 24.7		
	comp=Z,58nm,0.8s							
KRPM	**Rodgers**	**31.39**	**94**	IAmb	IAmb	18 50 19.7		
	comp=Z,63nm,1.3s							
E08A	**Dider Farm, El**	**31.48**	**82**	P	**P**	**18 50 02.8**	**+1.8**	
JCC	**Jacoby Creek,**	**31.60**	**95**	IAmb	IAmb	18 50 07.5		
	comp=Z,42nm,1.1s							
KHMM	**Horse Mountain**	**31.74**	**94**	IAmb	IAmb	18 50 47.4		
	comp=Z,58nm,1.1s							
PINE	**Pine Mountain**	**31.75**	**88**	P	**P**	**18 50 05.1**	**+1.5**	
PINE					**PcP**	**18 52 56.2**	**+2.0**	
NEW	**Newport**	**31.78**	**78**	LR	LR	19 00 50.1		
	comp=Z,1µm,21.0s,baz=306,slow=32							
KMPM	**Mount Pierce**	**31.78**	**95**	IAmb	IAmb	18 50 09.0		
	comp=Z,66nm,0.9s							
L04D	**Klamath Falls**	**31.81**	**91**	P	**P**	**18 50 05.1**	**+1.0**	
L04D				IAmb	IAmb	18 50 34.9		
	comp=Z,47nm,1.1s							
L04D				PcP	**PcP**	**18 52 55.5**	**+1.2**	
YBH	**Yreka Blue Hor**	**31.85**	**92**	LR	LR	18 59 53.7		
	comp=Z,199nm,21.1s,baz=288,slow=30							
J05D	**Fort Rock, OR**	**31.85**	**89**	P	**P**	**18 50 05.8**	**+1.3**	
J05D				IAmb	IAmb	18 50 27.6		
	comp=Z,42nm,1.0s							
J05D				PcP	**PcP**	**18 52 56.1**	**+1.7**	
K04D	**Chiloquin, OR**	**31.91**	**90**	IAmb	IAmb	18 50 48.0		
	comp=Z,57nm,0.9s							
E09A	**Wood Farm, Sta**	**32.01**	**81**	IAmb	IAmb	18 50 26.2		
	comp=Z,34nm,1.2s							
YSS	**Yuzhno-Sakhali**	**32.03**	**280**	P	**P**	**18 50 04.8**	**-1.0**	
YSS				IAmb	IAmb	18 50 08.8		
	comp=Z,56nm,1.0s							
YSS	**Yuzhno-Sakhali**	**32.03**	**280**	P	**P**	**18 50 06.8**	**+1.0**	
YSS	**Yuzhno-Sakhali**	**32.03**	**280**	*d* P	**P**	**18 50 04.4**	**-1.4**	
YSS				pmax	pmax			
	comp=Z,71nm,1.1s							
YSS				MLR	MLR			
	comp=Z,971nm,19.0s							
KMRM	**Mail Ridge**	**32.15**	**95**	IAmb	IAmb	18 50 48.4		
	comp=Z,123nm,1.6s							
K05A	**Summer Lake**	**32.38**	**89**	IAmb	IAmb	18 50 29.6		
	comp=Z,56nm,1.0s							
I07A	**Izee**	**32.46**	**86**	P	**P**	**18 50 11.5**	**+1.7**	
I07A				IAmb	IAmb	18 50 36.4		
	comp=Z,28nm,1.0s							
KCPM	**Cahto Peak**	**32.56**	**96**	IAmb	IAmb	18 50 37.1		
	comp=Z,60nm,1.1s							
O02D	**Mt. Diablo Mer**	**32.74**	**95**	IAmb	IAmb	18 50 42.9		
	comp=Z,45nm,0.9s							
O02D					**PcP**	**18 52 58.1**	**+1.3**	
O02D				IAMs_20	IAMs_20	18 59 53.0		
	comp=Z,2µm,21.0s							
TIXI	**Tiksi**	**32.89**	**328**	P	**P**	**18 50 13.0**	**-0.1**	
TIXI				IAMs_20	IAMs_20	19 03 45.9		
	comp=Z,3µm,21.0s							
TIXI	**Tiksi**	**32.89**	**328**	⇑ *i*P	**P**	**18 50 13.2**	**+0.1**	
TIXI				pmax	pmax			
	comp=Z,30nm,0.9s							
TIXI				MLR	MLR			
	comp=Z,2µm,16.0s							
HATC	**Hat Creek Radi**	**33.15**	**93**	P	**P**	**18 50 16.5**	**+0.7**	
HATC				IAMs_20	IAMs_20	19 00 34.9		
	comp=Z,2µm,20.0s							
HOPS	**Hopland Field**	**33.30**	**97**	P	**P**	**18 50 18.2**	**+1.2**	
HOPS				IAmb	IAmb	18 50 46.1		
	comp=Z,66nm,1.2s							
J08A	**Circle Bar Ran**	**33.48**	**86**	IAmb	IAmb	18 50 45.2		
	comp=Z,35nm,1.1s							
GDXM	**Geysers**	**33.59**	**97**	IAmb	IAmb	18 50 24.5		
	comp=Z,38nm,1.0s							
ASAJ	**Asahikawa**	**33.60**	**275**	PcP	**PcP**	**18 53 00.1**	**+1.0**	
	comp=Z,20nm,0.9s,baz=34,slow=3.6,SNR=4.7							
ASAJ				LR	LR	19 03 07.1		
	comp=Z,1µm,20.4s,baz=75,slow=35							
YAK	**Yakutsk**	**33.70**	**311**	P	**P**	**18 50 18.4**	**-1.8**	
YAK				IAmb	IAmb	18 50 20.0		
	comp=Z,52nm,0.8s							
YAK					**PcP**	**18 52 59.6**	**+0.7**	
YAK	**Yakutsk**	**33.70**	**311**	*c i*P	**P**	**18 50 18.7**	**-1.5**	
YAK				*e**PP	**pP**	**18 50 32.6**	**+1.4**	
YAK				*e*		18 51 30.6		
YAK				*e*		18 52 58.0		
YAK				*e*S	**S**	**18 55 37.6**	**-2.6**	
YAK				*e*SS	**SnSn**	**18 57 44.6**	**-1.6**	
YAK				*e*		19 00 38.7		
YAK				pmax	pmax			
	comp=Z,81nm,1.2s							
YAK				pmax	pmax			
	comp=N,11nm,1.3s							
YAK				pmax	pmax			
	comp=E,43nm,1.3s							
YAK				pmax	pmax			
	comp=Z,61nm,1.6s							
YAK				pmax	pmax			
	comp=N,40nm,2.8s							
YAK				pmax	pmax			
	comp=E,53nm,1.1s							
YAK				smax	smax			
	comp=E,114nm,6.4s							
YAK				smax	smax			
	comp=N,36nm,2.5s							
YAK				MLR	MLR			
	comp=Z,1µm,17.0s							
YAK				MLR	MLR			
	comp=N,629nm,22.0s							
YAK				MLR	MLR			
	comp=E,326nm,13.0s							
YAK	**Yakutsk**	**33.70**	**311**	P	**P**	**18 50 19.1**	**-1.1**	
YAK				pP	**pP**	**18 50 29.0**	**-2.2**	
YAK				PcP	**PcP**	**18 52 59.9**	**+1.0**	
WVOR	**Wild Horse Val**	**33.91**	**88**	IAmb	IAmb	18 50 27.5		
	comp=Z,22nm,0.8s							
WVOR				IAMs_20	IAMs_20	19 01 06.8		
	comp=Z,2µm,22.0s							
MCCM	**Marconi Confer**	**33.96**	**98**	IAMs_20	IAMs_20	19 00 28.6		
	comp=Z,2µm,21.0s							
GRNR	**Gornyy**	**33.98**	**289**	⇑ *i*P	**P**	**18 50 22.3**	**-0.5**	
GRNR				pmax	pmax			
	comp=E,10.0nm,0.8s							
GRNR				pmax	pmax			
	comp=Z,20nm,0.9s							
GRNR				MLR	MLR			
	comp=E,840nm,20.0s							
GRNR				MLR	MLR			
	comp=N,590nm,18.0s							
GRNR				MLR	MLR			
	comp=Z,1µm,18.0s							
PLID	**Pearl Lake**	**34.03**	**82**	IAMs_20	IAMs_20	19 01 46.9		
	comp=Z,2µm,20.0s							
POHA	**Pohakuloa**	**34.34**	**160**	IAMs_20	IAMs_20	19 01 36.9		
	comp=Z,3µm,20.0s							
MSO	**Missoula**	**34.36**	**78**		**PcP**	**18 53 01.5**	**+0.2**	
ERM	**Erimo**	**34.45**	**272**	P	**P**	**18 50 27.7**	**+0.9**	
ERM				IAmb	IAmb	18 50 32.7		
	comp=Z,43nm,0.8s							
ERM					**PcP**	**18 53 03.0**	**+1.6**	
ERM	**Erimo**	**34.45**	**272**	IAMs_20	IAMs_20	19 03 50.8		
	comp=Z,2µm,22.0s							
ERM	**Erimo**	**34.45**	**272**	P	**P**	**18 50 28.3**	**+1.4**	
ERM	**Erimo**	**34.45**	**272**	*c i*P	**P**	**18 50 28.4**	**+1.5**	
ERM				pmax	pmax			
	comp=Z,42nm,0.8s							
JEM	**Erimo**	**34.45**	**272**	P	**P**	**18 50 28.4**	**+1.5**	
MLH	**Mauna Loa**	**34.63**	**160**	P	**P**	**18 50 31.1**	**+2.2**	
MPK	**Martis Peak**	**34.95**	**94**	IAmb	IAmb	18 51 00.0		
	comp=Z,49nm,0.9s							
PAHR	**Pah Rah Range**	**35.09**	**92**	IAmb	IAmb	18 51 14.5		
	comp=Z,38nm,1.0s							
RES	**Resolute Bay**	**35.41**	**26**	P	**P**	**18 50 34.2**	**-0.7**	
RES				IAmb	IAmb	18 50 51.3		
	comp=Z,26nm,0.9s							
RES	**Resolute Bay**	**35.41**	**26**	LR	LR	19 07 04.9		
	comp=Z,2µm,19.8s,baz=282,slow=40							
RES	**Resolute Bay**	**35.41**	**26**	P	**P**	**18 50 34.2**	**-0.7**	
RES				pmax	pmax			
	comp=Z,26nm,0.9s							
CMB	**Columbia Colle**	**35.53**	**95**	IAMs_20	IAMs_20	19 01 17.1		
	comp=Z,2µm,22.0s							
SAO	**San Andreas Ge**	**35.73**	**98**	IAmb	IAmb	18 51 05.8		
	comp=Z,40nm,1.1s							
SAO				IAMs_20	IAMs_20	19 01 18.3		
	comp=Z,2µm,20.0s							
WAKR	**Walker**	**35.81**	**94**	IAmb	IAmb	18 51 07.6		
	comp=Z,30nm,0.9s							
MCMT	**McKenzie Canyo**	**36.06**	**80**	P	**P**	**18 50 42.3**	**+1.2**	
EGMT	**Eagleton**	**36.23**	**74**	IAmb	IAmb	18 50 56.7		
	comp=Z,64nm,0.8s							
RYN	**Ryan**	**36.28**	**93**	IAmb	IAmb	18 51 13.3		
	comp=Z,39nm,1.2s							
PMPB	**Monarch Peak**	**36.48**	**98**	IAmb	IAmb	18 51 40.2		
	comp=Z,82nm,1.3s							
LHV	**Little Huntoon**	**36.53**	**94**	IAmb	IAmb	18 51 24.6		
	comp=Z,79nm,1.4s							
NVAR	**Mina Array Bea**	**36.54**	**93**	P	**P**	**18 50 47.2**	**+2.0**	
NVAR	**Mina Array Bea**	**36.54**	**93**	P	**P**	**18 50 47.5**	**+2.3**	
	comp=Z,12nm,0.8s,baz=294,slow=8.6,SNR=39							
NVAR				PcP	**PcP**	**18 53 09.8**	**+1.8**	
	comp=Z,10nm,0.8s,baz=304,slow=4.2,SNR=7.0							
NVAR				ScP	**ScP**	**18 56 53.3**	**+2.2**	
	comp=Z,2.3nm,0.9s,baz=313,slow=4.0,SNR=4.5							
NVAR				LR	LR

ZEA MLR MLR
comp=Z,600nm,17.0s
RLMT Red Lodge 38.03 78 IAmb IAmb 18 51 01.2
comp=Z,38nm,0.9s
AHID Auburn Hatcher 38.27 82 IAMs_20 IAMs_20 19 04 22.9
comp=Z,2µm,20.0s
JMM Marumori 38.43 268 P **P** **18 51 00.7 -0.2**
JMM Marumori 38.43 268 P **P** **18 51 01.9 +1.0**
H11N2 WAKE ISLAND Hy 38.58 221 T T 19 32 19.6
baz=24,slow=76,SNR=6347
H11N3 WAKE ISLAND Hy 38.58 221 T T 19 32 20.1
baz=24,slow=76,SNR=5701
H11N1 WAKE ISLAND Hy 38.59 221 T T 19 32 20.9
baz=24,slow=76,SNR=5854
HWUT Hardware Ranch 38.67 84 **S** **18 56 56.7 -0.3**
TPNV Topopah Spring 38.74 93 IAMs_20 IAMs_20 19 03 39.9
comp=Z,2µm,21.0s
DUG Dugway, Tooele 38.77 87 **S** **18 56 57.2 -1.3**
DUG IAMs_20 IAMs_20 19 04 02.3
comp=Z,2µm,22.0s
CTU Camp Tracy 39.10 85 P **P** **18 51 07.7 +0.9**
PDAR Pinedale Array 39.19 81 P **P** **18 51 08.4 +0.9**
PDAR Pinedale Array 39.19 81 P **P** **18 51 09.1 +1.5**
comp=Z,25nm,0.9s,baz=310,slow=5.0,SNR=99
PDAR ScP **ScP** **18 57 02.0 +0.9**
comp=Z,0.6nm,0.3s,baz=295,slow=4.6,SNR=2.5
PDAR LR LR 19 05 17.6
comp=Z,738nm,20.3s,baz=309,slow=33
comp=Z,25nm,0.9s
DGMT Dagmar 39.20 70 IAmb IAmb 18 51 09.8
comp=Z,42nm,0.8s
HEH HeiHe 39.31 293 *eP* **P** **18 51 06.4 -1.7**
HEH pP **pP** **18 51 15.4 -3.6**
HEH PP **PP** **18 52 39.7 +1.2**
HEH S **S** **18 57 13.1 +7.1**
HEH sS **sS** **18 57 25.8 +2.2**
HEH pmax pmax
comp=Z,41nm,1.2s
HEH pmax pmax
comp=Z,250nm,6.8s
HEH LR LR
comp=Z,2µm,20.7s
HEH LR LR
comp=Z,1µm,21.8s
HEH LR LR
comp=Z,3µm,23.3s
PASC Pasadena Art C 39.44 98 IAMs_20 IAMs_20 19 03 08.6
comp=Z,2µm,22.0s
MWC Mount Wilson 39.48 98 IAmb IAmb 18 51 35.7
comp=Z,109nm,1.6s
H11S1 WAKE ISLAND Hy 39.76 220 T T 19 33 47.9
baz=23,slow=76,SNR=7471
H11S2 WAKE ISLAND Hy 39.77 220 T T 19 33 49.6
baz=23,slow=76,SNR=8897
H11S3 WAKE ISLAND Hy 39.78 220 T T 19 33 52.6
baz=23,slow=76,SNR=8797
BSUT Blindstream Ca 39.80 85 IAmb IAmb 18 51 38.1
comp=Z,83nm,1.7s
ALE Alert 39.85 11 P **P** **18 51 12.8 +0.6**
ALE PcP **PcP** **18 53 18.8 +1.5**
JSD Sado 39.85 270 P **P** **18 51 14.1 +1.3**
USA0B Ussuriysk Arra 39.90 283 **PcP** **18 53 19.4 +1.4**
USRK Ussuriysk Ar. 39.90 283 P **P** **18 51 11.7 -1.4**
USRK **PcP** **18 53 19.3 +1.3**
USRK Ussuriysk Ar. 39.90 283 P **P** **18 51 12.3 -0.8**
comp=Z,3.3nm,0.5s,baz=65,slow=7.8,SNR=9.7
USRK PcP **PcP** **18 53 18.8 +0.7**
comp=Z,13nm,0.8s,baz=54,slow=4.0,SNR=11
USRK ScP **ScP** **18 57 05.1 +1.6**
comp=Z,2.4nm,0.8s,baz=20,slow=4.6,SNR=5.3
USRK LR LR 19 09 29.7
comp=Z,534nm,18.8s,baz=57,slow=39
comp=Z,3.3nm,0.5s
CCUT Cedar City 40.10 90 P **P** **18 51 16.4 +1.3**
TMUT Trail Mountain 40.29 86 IAmb IAmb 18 51 20.1
comp=Z,37nm,0.9s
ILON Igloolik, Nuna 40.54 33 IAmb IAmb 18 51 19.3
comp=Z,54nm,0.9s
Q16A Castle Valley 40.55 87 IAmb IAmb 18 51 39.3
comp=Z,61nm,1.3s
VLA Vladivostok 40.58 281 *d iP* **P** **18 51 19.0 +0.2**
VLA pmax pmax
comp=Z,63nm,1.3s
VLA MLR MLR
comp=Z,846nm,20.0s
P18A Preston Nutter 40.67 85 P **P** **18 51 21.5 +1.6**
P18A IAmb IAmb 18 51 45.1
comp=Z,66nm,1.2s
MJAR Matsushiro Arr 40.85 269 P **P** **18 51 22.0 +0.9**
MJAR Matsushiro Arr 40.85 269 P **P** **18 51 22.1 +1.0**
comp=Z,78nm,1.0s,baz=48,slow=7.5,SNR=127
MJAR PcP **PcP** **18 53 22.6 +1.3**
comp=Z,32nm,1.1s,baz=68,slow=1.7,SNR=7.4
MJAR ScP **ScP** **18 57 08.9 +1.5**
comp=Z,8.2nm,1.0s,baz=37,slow=3.2,SNR=11
comp=Z,78nm,1.0s
MAJO Matsushiro 40.85 269 P **P** **18 51 22.2 +1.1**
MAJO Matsushiro 40.85 269 IAMs_20 IAMs_20 19 05 39.5
comp=Z,2µm,22.0s
MAJO Matsushiro 40.85 269 P **P** **18 51 22.5 +1.4**
MAJO Matsushiro 40.85 269 *c iP* **P** **18 51 21.8 +0.7**
MAJO *i* *PP **sP** **18 51 34.8 -1.6**
MAJO pmax pmax
comp=Z,302nm,1.1s
MAJO Matsushiro 40.85 269 P **P** **18 51 22.4 +1.3**
MAJO PcP **PcP** **18 53 21.6 +0.3**
MAJO ScP **ScP** **18 57 08.8 +1.4**
PFO Pinyon Flats O 40.86 97 P **P** **18 51 21.7 +0.4**
PFO Pinyon Flats O 40.86 97 IAMs_20 IAMs_20 19 04 48.3
comp=Z,2µm,20.0s
PFO Pinyon Flats O 40.86 97 LR LR 19 04 49.8
comp=Z,2µm,20.9s,baz=300,slow=31
PFO Pinyon Flats O 40.86 97 *ñ iP* **P** **18 51 22.0 +0.7**
MDJ Mudanjiang 41.08 285 IAMs_20 IAMs_20 19 07 20.7
comp=Z,1µm,21.0s
MDJ Mudanjiang 41.08 285 P **P** **18 51 23.0 +0.2**
MDJ PP **PnPn** **18 53 04.2 +1.8**
MDJ S **S** **18 57 31.4 -1.1**
MDJ pmax pmax
comp=Z,37nm,1.8s
MDJ LR LR
comp=Z,790nm,23.0s
MDJ LR LR
comp=Z,1µm,22.0s
MDJ LR LR
comp=Z,2µm,22.7s
MDJ Mudanjiang 41.08 285 P **P** **18 51 24.2 +1.4**
BORC Borrego Spring 41.12 98 IAmb IAmb 18 51 47.0
comp=Z,51nm,1.2s
TULEG Thule 41.25 21 IAMs_20 IAMs_20 19 11 35.6
comp=Z,2µm,20.0s
TULEG Thule 41.25 21 *i* P **P** **18 51 23.7 -0.2**
TULEG IAmb IAmb 18 51 24.3
comp=Z,38nm,0.9s
MSHR Mys Shultsa 41.33 281 *c iP* **P** **18 51 24.4 -0.5**
MSHR pmax pmax
comp=Z,168nm,1.2s
MSHR MLR MLR
comp=Z,649nm,20.0s
HMU Henry Mountain 41.44 88 IAmb IAmb 18 51 29.4
comp=Z,58nm,0.8s
PSTR Posyet 41.50 281 *ų iP* **P** **18 51 27.0 +0.7**
O20A White River Ci 41.56 83 IAmb IAmb 18 51 30.1
comp=Z,94nm,1.0s
CBX Cerro Bola 41.65 99 IAmb IAmb 18 52 07.7
comp=Z,175nm,1.7s
RSSD Black Hills 41.68 76 P **P** **18 51 28.7 +0.6**
RSSD Black Hills 41.68 76 P **P** **18 51 28.7 +0.6**
RSSD pmax pmax
comp=Z,15nm,0.7s
RSSD MLR MLR
comp=Z,1µm,22.0s
RSSD Black Hills 41.68 76 P **P** **18 51 28.9 +0.8**
RSSD pP **pP** **18 51 38.9 -0.1**
RSSD sP **sP** **18 51 43.4 +0.2**
RSSD PcP **PcP** **18 53 24.9 +0.8**
BNX BinXian 41.71 287 ⇑P **P** **18 51 26.8 -1.2**
BNX pP **pP** **18 51 39.9 +0.8**
BNX S **S** **18 57 39.6 -2.4**
BNX pmax pmax
comp=Z,11nm,1.1s
BNX pmax pmax
comp=Z,120nm,7.5s
BNX LR LR
comp=Z,340nm,16.8s
BNX LR LR
comp=Z,820nm,18.1s
BNX LR LR
comp=Z,660nm,17.9s
BLYC Blythe 41.93 95 IAmb IAmb 18 51 48.3
comp=Z,40nm,0.9s
JGF Kuroka 41.99 268 P **P** **18 51 32.2 +1.7**
PV21 Cone Mtn., Par 42.11 86 P **P** **18 51 31.9 +0.3**
MDND Maddock 42.14 68 IAmb IAmb 18 51 34.0
comp=Z,120nm,0.9s
MDND IAMs_20 IAMs_20 19 08 04.7
comp=Z,1µm,20.0s
PV23 Carpenter Ridg 42.15 86 IAmb IAmb 18 51 50.8
comp=Z,50nm,0.8s
PV10 Paradox Valley 42.19 86 P **P** **18 51 32.5 +0.2**
PV10 IAmb IAmb 18 51 35.7
comp=Z,85nm,0.9s
PV10 **PcP** **18 53 27.4 +1.5**
E28A Huff 42.22 71 IAmb IAmb 18 51 34.8
comp=Z,82nm,1.1s
E28A IAMs_20 IAMs_20 19 08 26.1
comp=Z,1µm,21.0s
PV22 Blue Mesa, Par 42.24 86 IAmb IAmb 18 51 36.5
comp=Z,50nm,0.9s
PV20 West Nyswonger 42.25 86 IAmb IAmb 18 51 35.1
comp=Z,52nm,1.0s
PV04 Paradox Valley 42.26 86 IAmb IAmb 18 51 35.2
comp=Z,40nm,0.8s
PV19 Morning Glory 42.26 86 IAmb IAmb 18 52 50.1
comp=Z,72nm,1.1s
PV17 East Wray Mesa 42.30 86 IAmb IAmb 18 51 35.5
comp=Z,52nm,0.8s
PV11 David Mesa, Pa 42.34 86 IAmb IAmb 18 51 37.3
comp=Z,56nm,0.8s
PV18 Skein Mesa, Pa 42.35 86 IAmb IAmb 18 51 36.5
comp=Z,110nm,1.0s
PV12 Saucer Basin, 42.37 86 IAmb IAmb 18 51 36.2
comp=Z,60nm,0.8s
INU Inuyama 42.37 268 P **P** **18 51 35.1 +1.6**
INU Inuyama 42.37 268 ⇑P **P** **18 51 33.9 +0.4**
INU pP **pP** **18 51 43.5 -0.7**
PV03 Paradox Valley 42.38 86 P **P** **18 51 34.5 +0.7**
PV03 IAmb IAmb 18 51 36.1
comp=Z,42nm,0.8s
PV03 PcP **PcP** **18 53 27.8 +1.3**
PV13 Radium Mtn., P 42.46 86 IAmb IAmb 18 51 37.5
comp=Z,112nm,0.9s
PV15 Paradox Valley 42.55 86 IAmb IAmb 18 51 38.0
comp=Z,43nm,0.9s
BOD Bodaibo 42.56 309 *eP* **P** **18 51 33.5 -1.3**
BOD pmax pmax
comp=Z,79nm,1.1s
PV01 Paradox Valley 42.62 86 IAmb IAmb 18 51 38.2
comp=Z,48nm,0.8s
WUAZ Wupatki 42.64 91 IAmb IAmb 18 51 39.8
comp=Z,38nm,0.9s
WUAZ IAMs_20 IAMs_20 19 06 13.0
comp=Z,2µm,21.0s
ULM Lac du Bonnet 42.90 64 P **P** **18 51 38.0 +0.4**
comp=Z,19nm,0.8s,baz=305,slow=8.5,SNR=26
ULM PcP **PcP** **18 53 27.9 +0.1**
comp=Z,9.8nm,0.5s,baz=335,slow=5.3,SNR=4.7
ULM LR LR 19 10 27.2
comp=Z,823nm,18.0s,baz=312,slow=37
comp=Z,19nm,0.8s
113A Mohawk Valley, 43.07 96 P **P** **18 51 40.2 +1.0**
ISCO Idaho Springs 43.35 82 IAMs_20 IAMs_20 19 07 22.4
comp=Z,2µm,22.0s
CN2 Changchun 43.97 286 *eP* **P** **18 51 45.7 -0.6**
CN2 S **S** **18 58 10.2 -5.0**
CN2 sS sS 18 58 36.4 +3.5
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 pmax pmax
comp=Z,130nm,4.0s
CN2 LR LR
comp=Z,850nm,19.0s
CN2 LR LR
comp=Z,930nm,19.0s
CN2 LR LR
comp=Z,810nm,22.0s
AGMN Agassiz Nation 43.98 66 IAmb IAmb 18 51 47.8
comp=Z,39nm,1.0s
HIA Hailar 44.06 296 IAMs_20 IAMs_20 19 12 07.1
comp=Z,1µm,19.0s
HIA Hailar 44.06 296 P **P** **18 51 46.7 -0.3**
NEEM North Greenlan 44.18 16 *i* P **P** **18 51 47.9 -0.1**
NEEM IAmb IAmb 18 51 49.2
comp=Z,51nm,0.7s
214A Organ Pipe Nat 44.21 96 P **P** **18 51 48.8 +0.4**
EPLO Experimental L 44.38 63 IAmb IAmb 18 51 51.1
comp=Z,42nm,0.9s
SUSD Miller 44.45 72 P **P** **18 51 50.1 -0.1**
KULLO Kullorsuaq 44.75 21 *i* P **P** **18 51 52.8 +0.6**
KULLO IAmb IAmb 18 51 53.4
comp=Z,44nm,0.9s
OGNE Ogallala 44.77 78 IAmb IAmb 18 51 56.1
comp=Z,61nm,0.8s
NOR Nord 44.85 6 *i* P **P** **18 51 53.0 +0.1**
NOR IAmb IAmb 18 51 54.3
comp=Z,21nm,0.9s
JCJ Chichijima 45.14 255 P **P** **18 51 55.0 -0.8**
comp=Z,137nm,0.9s
JCJ LR LR 19 07 17.0
comp=Z,265nm,21.6s,baz=134,slow=31
comp=Z,137nm,0.9s
JCJ Chichijima 45.14 255 P **P** **18 51 57.0 +1.1**
F33A 5 Mile Ranch, 45.15 69 IAMs_20 IAMs_20 19 10 16.4
comp=Z,1µm,20.0s
TUC Tucson 45.19 94 P **P** **18 51 57.4 +1.1**
TUC Tucson 45.19 94 P **P** **18 51 57.4 +1.1**
TUC pmax pmax
comp=Z,32nm,1.4s
JMN Monobe 45.37 269 P **P** **18 51 59.1 +1.5**
KSCO Kaye Shedlock' 45.64 81 IAmb IAmb 18 52 02.6
comp=Z,76nm,1.1s
T25A Trinidad 45.78 84 IAmb IAmb 18 52 29.1
comp=Z,95nm,1.2s
CIT Chita 45.80 302 *eP* **P** **18 52 00.6 -0.3**
CIT *e* 18 52 10.6
CIT *e* 18 53 39.0
CIT *e* 18 53 50.2
CIT *e* 18 54 25.6
CIT pmax pmax
comp=Z,72nm,1.3s
ANMO Albuquerque 46.00 88 IAMs_20 IAMs_20 19 09 09.9
comp=Z,2µm,20.0s
ANMO Albuquerque 46.00 88 LR LR 19 08 50.1
comp=Z,2µm,21.8s,baz=40,slow=33
ANMO Albuquerque 46.00 88 *c iP* **P** **18 52 04.4 +1.6**
ANMO pmax pmax
comp=Z,14nm,1.4s
ANMO Albuquerque 46.00 88 P **P** **18 52 04.4 +1.6**
ANMO PcP **PcP** **18 53 40.8 +1.9**
ANMO ScP **ScP** **18 57 30.7 +2.1**
DUN6 Lazy B Ranch 46.04 92 IAmb IAmb 18 52 43.0
comp=Z,75nm,1.3s
UPNV Upernavik 46.09 23 *i* P **P** **18 52 03.6 +0.9**
UPNV IAmb IAmb 18 52 04.0
comp=Z,63nm,1.0s
ECSD EROS Data Cent 46.23 72 IAMs_20 IAMs_20 19 09 44.0
comp=Z,1µm,21.0s
ECSD EROS Data Cent 46.23 72 IAmb IAmb 18 52 18.5
comp=Z,23nm,0.8s
SNY Shenyang 46.26 285 ⇑P **P** **18 52 05.1 +0.6**
SNY S **S** **18 58 47.5 -0.8**
SNY pmax pmax
comp=Z,46nm,1.3s
SNY LR LR
comp=Z,690nm,19.9s
SNY LR LR
comp=Z,600nm,20.7s
SNY LR LR
comp=Z,1µm,21.2s
BNM Barren Site 46.44 89 P **P** **18 52 08.1 +1.8**
BNM PcP **PcP** **18 53 41.2 +0.7**
KSRS Korea Array 46.47 278 P **P** **18 52 07.2 +0.9**
comp=Z,37nm,1.0s,baz=58,slow=7.2,SNR=65
KSRS PcP **PcP** **18 53 41.6 +1.4**
comp=Z,15nm,0.9s,baz=56,slow=4.2,SNR=8.7
KSRS ScP **ScP** **18 57 33.1 +3.0**
comp=Z,4.1nm,1.1s,baz=48,slow=3.9,SNR=5.8
KSRS LR LR 19 10 01.7
comp=Z,549µm,22.0s,baz=60,slow=34
comp=Z,37nm,1.0s
KS19 Wonju Array Si 46.48 278 IAmb IAmb 18 52 08.8
comp=Z,67nm,1.1s
KSAR Wonju Array Be 46.51 278 P **P** **18 52 06.6 +0.1**
KSAR PcP **PcP** **18 53 41.5 +1.2**
KSAR Wonju Array Be 46.51 278 P **P** **18 52 06.6 +0.1**
KSAR 18 53 41.5
NRIK Noril'sk 46.52 332 IAmb IAmb 18 52 09.4
comp=Z,41nm,1.1s
NRIK Noril'sk 46.52 332 P **P** **18 52 06.1 -0.1**
comp=Z,26nm,0.9s,baz=65,slow=6.4,SNR=29
NRIK PcP **PcP** **18 53 40.9 +1.0**
comp=Z,30nm,1.1s,baz=128,slow=2.5,SNR=4.6
NRIK LR LR 19 14 19.6
comp=Z,2µm,18.7s,baz=80,slow=40
comp=Z,26nm,0.9s
NRIK Noril'sk 46.52 332 *c iP* **P** **18 52 06.3 +0.1**
NRIK *e*PP **pP** **18 52 15.7 -1.8**
NRIK pmax pmax
comp=Z,43nm,1.1s
NRIK MLR MLR
comp=Z,2µm,19.0s
EYMN Ely 46.58 64 IAmb IAmb 18 52 08.4
comp=Z,40nm,0.9s
INCN Inchon 47.23 279 P **P** **18 52 12.6 +0.4**
INCN Inchon 47.23 279 IAMs_20 IAMs_20 19 09 41.1
comp=Z,1µm,22.0s
INCN Inchon 47.23 279 P **P** **18 52 13.2 +1.0**
INCN Inchon 47.23 279 P **P** **18 52 13.6 +1.4**
INCN Inchon 47.23 279 P **P** **18 52 12.6 +0.4**
INCN pmax pmax
comp=Z,133nm,1.0s
INCN MLR MLR
comp=Z,1µm,22.0s
RTBA Rita Blanca 47.25 83 IAmb IAmb 18 52 39.7
comp=Z,50nm,1.2s
TBO Thunder Bay 47.29 62 IAmb IAmb 18 52 20.6
comp=Z,27nm,0.7s
E38A The Farm, Brul 47.34 65 IAmb IAmb 18 52 14.0
comp=Z,51nm,1.0s
SPMN Marine on St. 47.48 68 IAmb IAmb 18 52 28.7
comp=Z,30nm,1.1s
SPMN IAMs_20 IAMs_20 19 11 40.1
comp=Z,1µm,19.0s
TJN Taejon 47.52 277 P **P** **18 52 15.6 +1.2**
TJN Taejon 47.52 277 *c iP* **P** **18 52 15.4 +1.0**
NUUG Nuugaatsiaq 47.58 23 *i* P **P** **18 52 14.2 -0.3**
NUUG IAmb IAmb 18 52 15.7
comp=Z,68nm,1.1s
JNU Nakatsue 47.60 271 P **P** **18 52 16.4 +1.3**
comp=Z,267nm,1.0s,baz=2.8,slow=0.6,SNR=54
JNU LR LR 19 11 03.7
comp=Z,2µm,21.8s,baz=56,slow=34
comp=Z,267nm,1.0s
JNU Nakatsue 47.60 271 P **P** **18 52 17.0 +1.8**
FRB Frobisher Bay 47.90 36 LR LR 19 13 56.2
comp=Z,2µm,20.4s,baz=300,slow=38
EPT El Paso 48.15 91 IAmb IAmb 18 52 22.8
comp=Z,51nm,0.9s
UMMG Uummannaq 48.42 24 *i* P **P** **18 52 21.6 +0.7**
UMMG IAmb IAmb 18 52 22.2
comp=Z,24nm,0.9s
MNTX Cornudas Mount 48.89 90 IAmb IAmb 18 52 28.2
comp=Z,34nm,0.8s
MNTX IAMs_20 IAMs_20 19 10 06.4
comp=Z,1µm,21.0s
G40A Rib Lake 48.90 66 IAmb IAmb 18 53 51.1
comp=Z,27nm,0.8s
AMTX Amarillo 48.93 84 IAmb IAmb 18 52 27.7
comp=Z,29nm,1.1s
COWI Conover 48.98 65 IAmb IAmb 18 52 39.4
comp=Z,17nm,0.7s
DAG Danmarks Havn 49.11 9 *i* P **P** **18 52 25.0 -1.1**
DAG IAmb IAmb 18 52 27.1
comp=Z,69nm,0.6s
SPITS Spitsbergen Ar 49.18 359 P **P** **18 52 27.1 +0.3**
comp=Z,5.8nm,0.4s,baz=41,slow=7.7,SNR=20
SPITS PcP **PcP** **18 53 49.9 +0.6**
comp=Z,12nm,0.6s,baz=64,slow=3.8,SNR=6.2
SPITS LR LR 19 14 21.8
comp=Z,576nm,19.2s,baz=1.5,slow=37
comp=Z,5.8nm,0.4s
XLT XiLinHaoTe 49.27 292 *eP* **P** **18 52 28.6 +0.6**
XLT pP sP 18 52 43.3 -0.4
XLT PcP **PcP** **18 53 50.4 +0.1**
XLT PP **PP** **18 54 22.2 +0.4**
XLT S **S** **18 59 33.1 +2.0**
XLT pmax pmax
comp=Z,33nm,0.8s
XLT pmax pmax
comp=Z,220nm,7.1s
XLT LR LR
comp=Z,1µm,21.7s
XLT LR LR
comp=Z,2µm,20.8s
DL2 Dalian 49.27 283 P **P** **18 52 27.9 0.0**
DL2 pmax pmax
comp=Z,62nm,1.0s
DL2 pmax pmax
comp=Z,150nm,6.1s
DL2 LR LR
comp=Z,660nm,21.4s
DL2 LR LR
comp=Z,590nm,20.0s
DL2 LR LR
comp=Z,880nm,24.7s
ELIS Ellis County 49.49 81 IAmb IAmb 18 52 32.2
comp=Z,44nm,0.7s
KAN12 Harper NE Stat 49.52 79 IAmb IAmb 18 52 32.6
comp=Z,19nm,0.8s
I40A Norwalk 49.53 68 IAmb IAmb 18 52 44.2
comp=Z,26nm,0.8s
I40A IAMs_20 IAMs_20 19 12 23.4
comp=Z,1µm,20.0s
KAN08 Anthony NE Sta 49.58 79 IAmb IAmb 18 52 32.3
comp=Z,18nm,0.7s
OK038 West end E0370 49.62 80 IAmb IAmb 18 52 33.2
comp=Z,46nm,0.8s
SMWD Samnorwood 49.65 83 IAmb IAmb 18 52 33.0
comp=Z,38nm,0.8s
F42A Maple Grove Fa 49.74 64 IAmb IAmb 18 52 32.9
comp=Z,54nm,1.0s
VHRN Van Horn 49.77 91 IAmb IAmb 18 52 35.7
comp=Z,51nm,0.9s
SUMG Summit 49.95 18 *i* P **P** **18 52 34.0 +0.9**
SUMG IAmb IAmb 18 52 34.8
comp=Z,86nm,0.9s
N38A Joes South For 50.02 72 P **P** **18 52 33.5 0.0**
CROK Carrier 50.06 80 IAmb IAmb 18 52 35.2
comp=Z,33nm,0.9s
DKNS Dickens 50.22 85 P **P** **18 52 36.1 +0.9**
DKNS PcP **PcP** **18 53 55.2 +1.3**
DKNS IAmb IAmb 18 53 56.5
comp=Z,40nm,0.8s
IRK Irkutsk 50.30 307 *eP* **P** **18 52 34.3 -1.2**
IRK *e* 18 53 54.5
IRK pmax pmax
comp=Z,69nm,0.8s
ODSA Odessa 50.31 87 P **P** **18 52 36.1 +0.1**
ODSA IAmb IAmb 18 53 02.4
comp=Z,49nm,1.1s
ODSA PcP **PcP** **18 53 55.6 +1.3**
L40A Anamosa 50.36 70 IAmb IAmb 18 52 50.2
comp=Z,30nm,0.9s
L40A IAMs_20 IAMs_20 19 12 35.3
comp=Z,1µm,21.0s
JFWS Jewell Farm 50.36 69 IAMs_20 IAMs_20 19 12 58.4
comp=Z,1µm,21.0s
JFWS Jewell Farm 50.36 69 IAmb IAmb 18 52 36.6
comp=Z,31nm,1.0s
I42A Draeger Farm, 50.49 67 IAmb IAmb 18 52 51.3
comp=Z,32nm,0.6s
I42A IAMs_20 IAMs_20 19 13 32.5
comp=Z,1µm,20.0s
P38A Dawn 50.61 74 IAmb IAmb 18 52 38.8
comp=Z,50nm,0.8s
SN07 Snyder 07 50.63 85 IAmb IAmb 18 53 02.5
comp=Z,92nm,1.6s
T35A Sooner Cattle 50.66 78 IAmb IAmb 18 52 39.5
comp=Z,27nm,0.7s
MNHN Monahans 50.73 88 IAmb IAmb 18 52 41.1
comp=Z,36nm,0.8s
OK048 Pawnee Station 50.73 79 P **P** **18 52 38.6 -0.4**
OK048 IAmb IAmb 18 52 40.8
comp=Z,64nm,1.0s
OK051 E0350 and S346 50.74 79 IAmb IAmb 18 53 50.0
comp=Z,42nm,0.8s
H43A Windswept, Lux 50.75 65 IAmb IAmb 18 52 40.1
comp=Z,52nm,0.9s
WMOK Wichita Mounta 50.77 82 IAMs_20 IAMs_20 19 11 60.0

comp=Z,908nm,20.0s
WMOK Wichita Mounta **50.77** **82** IAmb IAmb 18 52 41.3
comp=Z,31nm,0.8s
SN05 Snyder 5 **50.79** **85** IAmb IAmb 18 52 41.3
comp=Z,31nm,1.0s
OK029 Liberty Lake **50.85** **80** IAmb IAmb 18 52 42.3
comp=Z,54nm,0.8s
ALPN Alpine **50.88** **90** IAmb IAmb 18 52 42.6
comp=Z,30nm,0.8s
APMT Aspermont **50.94** **84** IAmb IAmb 18 53 58.8
comp=Z,39nm,1.1s
QUOK Quay **51.04** **79** IAmb IAmb 18 52 43.4
comp=Z,46nm,0.9s
DBG Daneborg **51.20** **11** *i* P **P** **18 52 42.2 +0.2**
DBG IAmb IAmb 18 52 42.7
comp=Z,57nm,0.6s
FNO Franklin **51.25** **81** IAmb IAmb 18 52 44.6
comp=Z,55nm,0.8s
L42A Oliver, Polo **51.28** **69** IAmb IAmb 18 53 14.4
comp=Z,25nm,1.0s
L42A IAMs_20 IAMs_20 19 13 45.6
comp=Z,1μm,20.0s
SGCY Sterling City **51.31** **86** IAmb IAmb 18 52 45.4
comp=Z,65nm,1.1s
SFJD Kangerlussuaq **51.41** **27** P **P** **18 52 44.3 +0.7**
SFJD IAmb IAmb 18 52 44.9
comp=Z,40nm,0.8s
SFJD Kangerlussuaq **51.41** **27** IAMs_20 IAMs_20 19 16 22.3
comp=Z,1μm,20.0s
SFJD Kangerlussuaq **51.41** **27** LR LR 19 16 44.0
comp=Z,1μm,19.8s,baz=319,slow=39
SFJD Kangerlussuaq **51.41** **27** P **P** **18 52 44.3 +0.7**
SFJD pmax pmax
comp=Z,40nm,0.8s
SFJD MLR MLR
comp=Z,1μm,20.0s
SFJD Kangerlussuaq **51.41** **27** *i* P **P** **18 52 44.3 +0.7**
SFJD IAmb IAmb 18 52 44.7
comp=Z,41nm,0.8s
E46A Sault Ste Mari **51.42** **62** P **P** **18 52 44.0 0.0**
E46A IAmb IAmb 18 52 45.5
comp=Z,58nm,1.0s
E46A PcP **PcP** **18 53 57.8 -0.2**
E46A IAMs_20 IAMs_20 19 15 29.0
comp=Z,1μm,20.0s
N41A Harden Midland **51.45** **71** IAmb IAmb 18 52 45.2
comp=Z,69nm,1.2s
N41A IAMs_20 IAMs_20 19 13 20.2
comp=Z,1μm,21.0s
LPIG La Paz **51.45** **101** LR LR 19 09 23.4
comp=Z,769nm,21.3s,baz=287,slow=30
P40A Paris **51.54** **73** IAMs_20 IAMs_20 19 12 48.7
comp=Z,955nm,20.0s
K43A Burlington **51.58** **68** IAmb IAmb 18 52 59.2
comp=Z,37nm,0.8s
K43A IAMs_20 IAMs_20 19 13 57.4
comp=Z,1μm,21.0s
TXAR Lajitas Array **51.60** **91** P **P** **18 52 46.8 +1.0**
TXAR Lajitas Array **51.60** **91** P **P** **18 52 47.3 +1.6**
comp=Z,43nm,0.8s,baz=300,slow=5.3,SNR=392
TXAR PcP **PcP** **18 54 00.5 +1.4**
comp=Z,14nm,1.0s,baz=306,slow=3.0,SNR=1.4
TXAR ScP **ScP** **18 57 54.0 +1.6**
comp=Z,3.3nm,1.0s,baz=299,slow=2.6,SNR=5.9
comp=Z,43nm,0.8s
WTFS Witchita Falls **51.63** **83** IAmb IAmb 18 54 01.0
comp=Z,30nm,1.0s
ULN Ulaanbaatar **51.65** **301** P **P** **18 52 45.8 -0.2**
ULN IAmb IAmb 18 52 47.4
comp=Z,34nm,0.7s
ULN PcP **PcP** **18 53 59.6 +0.5**
ULN Ulaanbaatar **51.65** **301** P **P** **18 52 46.1 +0.2**
ULN Ulaanbaatar **51.65** **301** P **P** **18 52 46.1 +0.2**
ULN Ulaanbaatar **51.65** **301** P **P** **18 52 46.1 +0.2**
ULN sP **sP** **18 53 01.1 -0.6**
ULN PcP **PcP** **18 54 00.7 +1.6**
BJI Beijing **51.71** **288** P **P** **18 52 47.0 +0.8**
BJI S **S** **19 00 06.2 +1.4**
BJI pmax pmax
comp=Z,16nm,0.9s
BJI LR LR
comp=Z,380nm,24.3s
BJI LR LR
comp=Z,580nm,22.4s
BJI LR LR
comp=Z,1μm,22.0s
ABTX Abilene, Hawle **51.71** **85** IAmb IAmb 18 52 48.6
comp=Z,33nm,0.9s
ABTX IAMs_20 IAMs_20 19 12 21.0
comp=Z,1μm,21.0s
BJT Baijiatuau **51.73** **288** IAmb IAmb 18 52 49.2
comp=Z,44nm,1.2s
BJT Baijiatuau **51.73** **288** P **P** **18 52 47.3 +0.9**
BJT Baijiatuau **51.73** **288** P **P** **18 52 46.9 +0.5**
BJT pP **pP** **18 52 56.9 -0.9**
TUL3 Leonard **51.76** **79** IAmb IAmb 18 52 47.9
comp=Z,32nm,0.7s
ZAK Zakamensk **51.95** **306** *e*P P 18 52 33.1 -15
ZAK pmax pmax
comp=Z,14nm,1.1s
SLBS Sierra La Lagu **51.99** **101** P **P** **18 52 49.8 +1.2**
SLBS IAmb IAmb 18 53 08.6
comp=Z,55nm,1.4s
OZNA Ozona **52.01** **87** IAmb IAmb 18 52 50.7
comp=Z,34nm,1.1s
SONM Songino Array **52.01** **301** P **P** **18 52 48.6 0.0**
SONM PcP **PcP** **18 54 02.0 +1.6**
SONM IAmb IAmb 18 54 03.0
comp=Z,23nm,0.8s
SONM Songino Array **52.01** **301** P **P** **18 52 48.9 +0.3**
comp=Z,21nm,0.9s,baz=51,slow=7.6,SNR=78
SONM PcP **PcP** **18 54 01.9 +1.4**
comp=Z,17nm,0.8s,baz=71,slow=2.1,SNR=14
SONM ScP **ScP** **18 57 56.0 +2.2**
comp=Z,5.8nm,1.0s,baz=72,slow=4.7,SNR=3.9
SONM LR LR 19 17 15.9
comp=Z,2μm,19.7s,baz=50,slow=39
SONM P4KPbc 19 30 18.0
comp=Z,1.3nm,0.9s,baz=84,slow=4.0,SNR=7.1
comp=Z,21nm,0.9s
RLO Rose Lookout **52.05** **78** IAmb IAmb 18 52 49.8
comp=Z,44nm,1.0s
U38A Gravette **52.24** **77** IAmb IAmb 18 52 50.9
comp=Z,39nm,0.9s
MOY Mondy **52.24** **308** *e*P **P** **18 52 50.5 +0.3**
MOY pmax pmax
comp=Z,37nm,1.3s
FW03 Perrin-Whitt E **52.38** **83** IAmb IAmb 18 53 27.8
comp=Z,40nm,0.7s
PLPT Palo Pinto **52.38** **84** IAmb IAmb 18 52 53.3
comp=Z,57nm,0.9s
M44A Midewin, Midew **52.60** **69** IAmb IAmb 18 53 17.4
comp=Z,67nm,1.3s
HHAR Hobbs **52.61** **77** IAmb IAmb 18 52 53.4
comp=Z,20nm,0.7s
Z35A Perchaven, San **52.66** **82** IAMs_20 IAMs_20 19 13 11.9
comp=Z,1μm,20.0s
FW07 Weatherford **52.78** **83** P **P** **18 52 54.3 0.0**
FW07 PcP **PcP** **18 54 04.4 +1.0**
FW07 IAmb IAmb 18 54 05.8
comp=Z,30nm,0.8s
P43A Skaggs, Pawnee **52.92** **71** IAmb IAmb 18 52 56.1
comp=Z,59nm,1.3s
CCM Cathedral Cave **52.99** **74** P **P** **18 52 54.4 -1.4**
CCM IAmb IAmb 18 52 56.2
comp=Z,20nm,0.7s
CCM Cathedral Cave **52.99** **74** P **P** **18 52 54.4 -1.4**
CCM pmax pmax
comp=Z,20nm,0.7s
CCM Cathedral Cave **52.99** **74** P **P** **18 52 55.0 -0.7**
CCM PcP **PcP** **18 54 05.3 +1.2**
BRDY Brady **53.04** **85** IAmb IAmb 18 52 58.0
comp=Z,27nm,0.8s
JCT Junction City **53.13** **87** IAmb IAmb 18 52 58.6
comp=Z,40nm,0.8s
JCT IAMs_20 IAMs_20 19 13 39.5
comp=Z,1μm,19.0s
NUUK Nuuk **53.15** **30** *i* P **P** **18 52 57.4 +0.9**
NUUK IAmb IAmb 18 52 58.5
comp=Z,18nm,0.8s
FW13 Cleburne **53.24** **83** IAmb IAmb 18 54 07.6
comp=Z,57nm,0.9s
FW14 Alvarado **53.35** **83** IAmb IAmb 18 53 01.1
comp=Z,54nm,0.8s
DRIO Del Rio **53.39** **88** IAmb IAmb 18 53 00.1
comp=Z,34nm,0.9s
WHTX Lake Whitney, **53.48** **84** IAMs_20 IAMs_20 19 12 52.6
comp=Z,1μm,22.0s
FVM French Village **53.51** **73** IAmb IAmb 18 53 00.1
comp=Z,32nm,0.9s
JOW Kunigami **53.66** **267** LR LR 19 17 17.7
comp=Z,125nm,18.8s,baz=108,slow=38
JOW Kunigami **53.66** **267** P **P** **18 53 02.1 +1.2**
Q44A Meyer Farm, Va **53.70** **72** IAmb IAmb 18 53 01.8
comp=Z,39nm,1.1s
Q44A IAMs_20 IAMs_20 19 14 07.0
comp=Z,1μm,21.0s
PATS Pohnpei **53.71** **224** P **P** **18 53 03.2 +1.9**
comp=Z,129nm,2.2s
TIA Tai'an **53.73** **284** P **P** **18 53 01.7 +0.4**
TIA pmax pmax
comp=Z,100nm,0.9s
TIA LR LR
comp=Z,490nm,25.0s
TIA LR LR
comp=Z,410nm,18.1s
TIA LR LR
comp=Z,1μm,24.9s
I49A Point Hope **53.80** **63** IAmb IAmb 18 53 03.0
comp=Z,38nm,1.0s
HHC Hu-ho-hao-te **53.80** **292** *e*P **P** **18 53 03.3 +1.5**
HHC S **S** **19 00 33.8 +0.3**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,140nm,8.4s
HHC LR LR
comp=Z,1μm,17.8s
HHC LR LR
comp=Z,1μm,18.8s
HHC LR LR
comp=Z,2μm,20.7s
SFIN Lafayette **53.81** **69** IAmb IAmb 18 53 10.2
comp=Z,27nm,0.7s
VLDQ Val d'Or **53.84** **56** IAmb IAmb 18 53 13.4
comp=Z,38nm,0.9s
FCAR Ozark Folk Cen **53.95** **76** IAmb IAmb 18 53 02.8
comp=Z,54nm,0.8s
MIAR Mount Ida **54.02** **79** P **P** **18 53 03.0 -0.4**
MIAR IAmb IAmb 18 53 04.9
comp=Z,36nm,1.0s
MIAR PcP **PcP** **18 54 07.9 -0.1**
MIAR Mount Ida **54.02** **79** P **P** **18 53 03.0 -0.4**
MIAR 18 54 07.9
MIAR pmax pmax
comp=Z,36nm,1.0s
MIAR MLR MLR
comp=Z,700nm,20.0s
435B Jarrell **54.25** **85** IAmb IAmb 18 53 07.4
comp=Z,31nm,0.7s
P46A Rosedale **54.26** **70** IAMs_20 IAMs_20 19 14 57.5
comp=Z,1μm,22.0s
N47A Urbana **54.26** **68** IAmb IAmb 18 53 18.7
comp=Z,47nm,0.9s
SCHQ Schefferville **54.27** **44** P **P** **18 53 05.8 +0.8**
comp=Z,104nm,0.9s,baz=318,slow=7.7,SNR=63
SCHQ LR LR 19 19 42.2
comp=Z,980nm,18.7s,baz=316,slow=40
comp=Z,104nm,0.9s
PBMO Poplar Bluff **54.33** **74** IAmb IAmb 18 54 11.0
comp=Z,30nm,1.1s
HNS HongShan **54.33** **287** ⇑P **P** **18 53 06.8 +1.2**
HNS sS **sS** **19 00 57.9 -1.9**
HNS pmax pmax
comp=Z,150nm,1.2s
HNS LR LR
comp=Z,850nm,16.7s
HNS LR LR
comp=Z,510nm,16.7s
HNS LR LR
comp=Z,890nm,18.0s
OLIL Olney **54.35** **71** IAmb IAmb 18 53 06.7
comp=Z,52nm,1.1s
GUMO Guam **54.35** **242** P **P** **18 53 04.5 -1.5**
GUMO Guam **54.35** **242** P **P** **18 53 04.8 -1.1**
comp=Z,181nm,1.0s,baz=304,slow=3.6,SNR=7.1
GUMO LR LR 19 15 25.4
comp=Z,317nm,19.5s,baz=50,slow=35
comp=Z,181nm,1.0s
GUMO Guam **54.35** **242** P **P** **18 53 05.2 -0.8**
S44A Carbondale **54.39** **73** IAmb IAmb 18 53 06.5
comp=Z,26nm,0.8s
S44A IAMs_20 IAMs_20 19 14 29.2
comp=Z,824nm,20.0s
LCAR Lake Charles **54.39** **76** P **P** **18 53 04.6 -1.5**
LCAR PcP **PcP** **18 54 09.0 -0.4**
SIUC Southern Illin **54.40** **73** IAmb IAmb 18 53 20.3
comp=Z,30nm,0.8s
237A Washetta, Mont **54.46** **82** IAmb IAmb 18 53 08.7
comp=Z,37nm,0.8s
SCO Scoresbysund **54.47** **14** *i* P **P** **18 53 06.0 -0.1**
SCO IAmb IAmb 18 53 07.5
comp=Z,28nm,0.6s
BTO Baotou **54.83** **293** *e*P **P** **18 53 10.0 +0.7**
BTO pP **sP** **18 53 22.6 -2.6**
BTO PP **PP** **18 55 16.9 +4.9**
BTO S **S** **19 00 49.5 +2.1**
BTO pmax pmax
comp=Z,56nm,0.7s
BTO pmax pmax
comp=Z,370nm,4.1s
BTO LR LR
comp=Z,2μm,17.5s
BTO LR LR
comp=Z,1μm,17.1s
BTO LR LR
comp=Z,3μm,23.9s
SOEG Soedalen **54.92** **18** *i* P **P** **18 53 09.3 -0.2**
SOEG IAmb IAmb 18 53 10.3
comp=Z,29nm,0.8s
O48B Farmland **54.98** **68** IAmb IAmb 18 53 10.8
comp=Z,52nm,0.9s
N49A Columbus Grove **55.08** **67** IAmb IAmb 18 53 11.6
comp=Z,20nm,0.8s
N49A IAMs_20 IAMs_20 19 16 36.0
comp=Z,897nm,20.0s
H06N1 SOCORRO T-PHAS **55.09** **106** T T 19 52 55.9
SNR=8.7
USIN University of **55.12** **72** P **P** **18 53 10.8 -0.5**
SADO Sadowa **55.20** **60** IAmb IAmb 18 53 19.5
comp=Z,36nm,0.7s
SADO Sadowa **55.20** **60** LR LR 19 17 47.2
comp=Z,617nm,18.9s,baz=324,slow=37
T45A Paducah **55.20** **73** IAMs_20 IAMs_20 19 14 51.8
comp=Z,836nm,20.0s
P48A Milroy **55.37** **69** IAmb IAmb 18 53 13.4
comp=Z,46nm,1.2s
O49A Covington **55.49** **67** IAmb IAmb 18 53 27.6
comp=Z,32nm,1.3s
735A Kenedy **55.50** **87** IAMs_20 IAMs_20 19 16 03.3
comp=Z,968nm,20.0s
ISOG Isortoq, Green **55.52** **23** *i* P **P** **18 53 13.6 -0.1**
ISOG IAmb IAmb 18 53 14.1
comp=Z,34nm,0.9s
JMIC Jan Mayen **55.52** **8** LR LR 19 18 50.6
comp=Z,670nm,19.0s,baz=356,slow=38
NJ2 Nanjing **55.60** **279** ⇑*i*P **P** **18 53 15.2 +0.4**
NJ2 pmax pmax
comp=Z,72nm,0.9s
NJ2 LR LR
comp=Z,540nm,21.8s
NJ2 LR LR
comp=Z,830nm,19.9s
NJ2 LR LR
comp=Z,1μm,24.4s
ANGG Ammassalik, Gr **55.78** **23** IAmb IAmb 18 53 16.6
comp=Z,55nm,1.1s
ANGG Ammassalik, Gr **55.78** **23** *i* P **P** **18 53 14.9 -0.7**
ANGG IAmb IAmb 18 53 15.7
comp=Z,60nm,1.2s
HKT Hockley **55.90** **84** P **P** **18 53 17.5 +0.5**
HKT IAmb IAmb 18 53 19.7
comp=Z,39nm,1.2s
HKT Hockley **55.90** **84** IAMs_20 IAMs_20 19 15 11.5
comp=Z,1μm,22.0s
HKT Hockley **55.90** **84** *c* *i*P **P** **18 53 18.1 +1.2**
HKT pmax pmax
comp=Z,40nm,1.3s
N51A Ashland **56.08** **65** IAMs_20 IAMs_20 19 18 02.5
comp=Z,891nm,19.0s
T47A Sharon Grove **56.12** **72** IAmb IAmb 18 53 33.3
comp=Z,41nm,0.9s
T47A IAMs_20 IAMs_20 19 16 33.8
comp=Z,1μm,21.0s
DELO Deloro Mine **56.17** **59** IAmb IAmb 18 53 26.9
comp=Z,32nm,0.7s
M52A Chesterland **56.21** **64** IAmb IAmb 18 53 20.0
comp=Z,32nm,1.0s
M52A IAMs_20 IAMs_20 19 19 15.9
comp=Z,994nm,18.0s
ACSO Alum Creek Sta **56.21** **66** IAMs_20 IAMs_20 19 17 09.1
comp=Z,935nm,21.0s
WVT Waverly **56.29** **73** P **P** **18 53 19.4 -0.4**
WVT IAmb IAmb 18 53 20.9
comp=Z,26nm,0.8s
WVT Waverly **56.29** **73** P **P** **18 53 19.4 -0.4**
WVT pmax pmax
comp=Z,26nm,0.8s
WVT Waverly **56.29** **73** P **P** **18 53 19.8 +0.1**
WVT PcP **PcP** **18 54 18.0 +1.2**
IVI Ivigtut **56.48** **30** IAmb IAmb 18 53 22.5
comp=Z,42nm,0.8s
IVI Ivigtut **56.48** **30** *i* P **P** **18 53 21.6 +1.0**
IVI IAmb IAmb 18 53 22.3
comp=Z,42nm,0.8s
IVI Ivigtut **56.48** **30** P **P** **18 53 21.7 +1.1**
IVI sP **sP** **18 53 36.5 -0.3**
ERPA Erie **56.56** **63** IAmb IAmb 18 53 23.0
comp=Z,29nm,1.2s
TRQ Mont Tremblant **56.57** **56** IAmb IAmb 18 53 34.4
comp=Z,31nm,0.9s
MEDO Medina **56.66** **61** IAmb IAmb 18 53 23.9
comp=Z,50nm,0.9s
R50A Paris **56.81** **69** IAmb IAmb 18 54 20.8
comp=Z,24nm,0.9s
R50A IAMs_20 IAMs_20 19 16 46.9
comp=Z,1μm,21.0s
Q51A Peebles **56.84** **68** IAmb IAmb 18 53 24.8
comp=Z,49nm,1.1s
Y45A Yeager Farm, C **56.88** **76** IAmb IAmb 18 54 21.4
comp=Z,42nm,0.8s
PECO Prince Edward **56.90** **60** IAmb IAmb 18 53 32.6
comp=Z,36nm,0.8s
J55A Hilton **56.93** **61** IAmb IAmb 18 53 25.6
comp=Z,34nm,0.9s
O52A Adamsville **56.93** **66** IAmb IAmb 18 53 25.0
comp=Z,47nm,1.0s
O52A IAMs_20 IAMs_20 19 17 19.3
comp=Z,789nm,22.0s
PLAL Pickwick Lake **56.95** **74** P **P** **18 53 24.1 -0.4**
PLAL IAmb IAmb 18 53 25.1
comp=Z,34nm,0.9s
PLAL IAMs_20 IAMs_20 19 16 24.1
comp=Z,822nm,20.0s
LDAQ Lac Daran **57.00** **53** IAmb IAmb 18 53 37.5
comp=Z,23nm,0.9s
N53A Lisbon **57.00** **65** IAmb IAmb 18 53 25.6
comp=Z,33nm,1.0s
N53A IAMs_20 IAMs_20 19 19 59.8
comp=Z,693nm,18.0s
WBO Williamsburg **57.05** **58** IAmb IAmb 18 53 26.2
comp=Z,51nm,1.0s
WVNY West Valley, N **57.10** **62** IAmb IAmb 18 53 34.3
comp=Z,39nm,0.8s
V48A Smith Brothers **57.15** **73** IAMs_20 IAMs_20 19 16 24.2
comp=Z,882nm,20.0s
O53A New Philadelph **57.18** **65** IAmb IAmb 18 53 40.0
comp=Z,20nm,0.8s
U49A Red Boiling Sp **57.21** **72** IAmb IAmb 18 54 22.5
comp=Z,33nm,1.0s
U49A IAMs_20 IAMs_20 19 17 09.8
comp=Z,1μm,20.0s
KEV Kevo **57.22** **354** P **P** **18 53 25.2 -0.6**
KEV IAmb IAmb 18 54 22.2
comp=Z,34nm,1.1s
KEV Kevo **57.22** **354** P **P** **18 53 25.2 -0.6**
KEV pmax pmax
comp=Z,34nm,1.1s
KEV MLR MLR
comp=Z,600nm,20.0s
MMNY Mt. Morris Dam **57.25** **61** IAmb IAmb 18 53 27.8
comp=Z,48nm,1.2s
NRS Narsarsuaq **57.34** **29** *i* P **P** **18 53 27.3 +0.5**
NRS IAmb IAmb 18 53 28.9
comp=Z,36nm,1.0s
T50A Nancy **57.39** **70** IAmb IAmb 18 53 28.0
comp=Z,18nm,0.8s
T50A IAMs_20 IAMs_20 19 16 22.6
comp=Z,836nm,20.0s
Q52A Bidwell **57.49** **67** IAMs_20 IAMs_20 19 17 39.0
comp=Z,940nm,20.0s
ARCES ARCESS Array B **57.53** **355** P **P** **18 53 27.6 -0.5**
ARCES PcP **PcP** **18 54 21.3 +0.2**
ARCES IAmb IAmb 18 54 22.9
comp=Z,53nm,1.1s
ARCES ARCESS Array B **57.53** **355** P **P** **18 53 27.8 -0.2**
comp=Z,12nm,0.8s,baz=0.9,slow=7.5,SNR=44
ARCES PcP **PcP** **18 54 21.8 +0.8**
comp=Z,29nm,0.9s,baz=16,slow=5.1,SNR=10
ARCES LR LR 19 21 28.8
comp=Z,545nm,18.2s,baz=6.5,slow=39
ARCES PKPPKP **P'P'df** **19 23 17.9 -2.9**
comp=Z,1.6nm,0.7s,baz=198,slow=5.7,SNR=4.2
comp=Z,12nm,0.8s
MNTQ Montreal, Queb **57.54** **56** IAmb IAmb 18 53 40.7
comp=Z,30nm,0.8s
P53A Whipple **57.61** **66** IAmb IAmb 18 53 29.9
comp=Z,20nm,0.9s
LYN LuoYang **57.62** **286** P **P** **18 53 30.1 +1.0**
LYN S **S** **19 01 23.0 -1.3**
LYN pmax pmax
comp=Z,170nm,1.2s
LYN pmax pmax
comp=Z,510nm,9.0s
LYN LR LR
comp=Z,950nm,19.6s
LYN LR LR
comp=Z,740nm,21.0s
LYN LR LR
comp=Z,2μm,26.8s
S51A Beattyville **57.67** **69** IAmb IAmb 18 54 23.9
comp=Z,23nm,0.9s
LONY Lake Ozonia **57.67** **58** IAmb IAmb 18 53 38.1
comp=Z,25nm,0.7s
LONY IAMs_20 IAMs_20 19 16 19.1
comp=Z,891nm,22.0s
O54A Avella **57.69** **65** IAmb IAmb 18 53 30.4
comp=Z,51nm,1.1s
LMQ La Malbaie **57.73** **53** IAmb IAmb 18 53 41.9
comp=Z,37nm,0.8s
ICQ Pointe Anglais **57.78** **49** IAmb IAmb 18 53 46.0
comp=Z,56nm,1.0s
ZAA0 Zalesovo Array **57.81** **318** IAmb IAmb 18 54 24.7
comp=Z,54nm,1.1s
ZALV Zalesovo Beam **57.81** **318** P **P** **18 53 29.1 -1.1**
ZALV PcP **PcP** **18 54 23.1 +0.7**
ZALV Zalesovo Beam **57.81** **318** P **P** **18 53 29.8 -0.4**
comp=Z,14nm,0.5s,baz=39,slow=6.9,SNR=70
ZALV PcP **PcP** **18 54 23.6 +1.2**
comp=Z,29nm,0.7s,baz=49,slow=4.4,SNR=17
ZALV ScP **ScP** **18 58 21.4 +2.4**
comp=Z,1.1nm,0.6s,baz=18,slow=5.2,SNR=2.6
ZALV LR LR 19 19 30.1
comp=Z,1μm,21.5s,baz=46,slow=37
comp=Z,14nm,0.5s
X48A Hartselle **57.93** **74** IAmb IAmb 18 53 31.1
comp=Z,22nm,0.7s
X48A IAMs_20 IAMs_20 19 16 53.9
comp=Z,689nm,20.0s
K57A Scipio Center **57.98** **60** IAmb IAmb 18 53 39.6
comp=Z,29nm,0.7s
FRNY Flat Rock **58.03** **57** IAmb IAmb 18 53 32.9
comp=Z,22nm,0.8s
146A Union **58.03** **77** IAMs_20 IAMs_20 19 20 26.9
comp=Z,692nm,19.0s
Q54A Coxs Mills **58.27** **66** IAmb IAmb 18 53 48.0
comp=Z,22nm,0.7s
MCWV Mont Chateau **58.34** **65** IAmb IAmb 18 53 35.3
comp=Z,42nm,1.0s
W50A Signal Mountai **58.40** **72** IAmb IAmb 18 53 49.2
comp=Z,23nm,0.9s
W50A IAMs_20 IAMs_20 19 17 24.4
comp=Z,856nm,20.0s
LVZ Lovozero **58.41** **350** P **P** **18 53 33.7 -0.6**
LVZ IAMs_20 IAMs_20 19 19 28.8
comp=Z,777nm,20.0s
LVZ Lovozero **58.41** **350** ⇑*i*P **P** **18 53 34.7 +0.4**
LVZ pmax pmax
comp=Z,54nm,0.7s
LVZ MLR MLR
comp=Z,784nm,21.0s

TZTN Tazewell 58.46 70 IAmb IAmb 18 54 00.6
comp=Z,43nm,1.3s
J59A Piesco 58.52 58 IAmb IAmb 18 54 04.6
comp=Z,37nm,0.9s
J59A IAMs_20 IAMs_20 19 19 45.7
comp=Z,928nm,18.0s
YOJ Yonaguni jima 58.60 270 P **P** **18 53 36.8 +0.7**
M57A Sunshine Farm, 58.64 62 IAmb IAmb 18 53 51.8
comp=Z,33nm,1.0s
D62A Allapoint, All 58.68 52 IAmb IAmb 18 53 49.4
comp=Z,36nm,1.0s
D62A IAMs_20 IAMs_20 19 20 46.5
comp=Z,1µm,21.0s
FPAL Fort Paine 58.70 73 IAmb IAmb 18 53 37.3
comp=Z,18nm,0.9s
Y49A Blount Mountai 58.72 74 IAmb IAmb 18 53 37.0
comp=Z,32nm,1.1s
SSPA Standing Stone 58.72 63 P **P** **18 53 36.3 -0.5**
SSPA IAmb IAmb 18 53 38.1
comp=Z,54nm,1.1s
SSPA Standing Stone 58.72 63 IAMs_20 IAMs_20 19 19 45.3
comp=Z,1µm,20.0s
SSPA Standing Stone 58.72 63 P **P** **18 53 37.3 +0.5**
E62A Clayton Lake 58.78 53 IAmb IAmb 18 53 43.7
comp=Z,23nm,0.7s
E62A IAMs_20 IAMs_20 19 21 23.2
comp=Z,988nm,18.0s
VT1 Waterbury 58.80 57 IAmb IAmb 18 54 07.1
comp=Z,39nm,1.0s
APA Apatity 58.85 351 ⇓*i*P **P** **18 53 36.4 -0.9**
APA *i* 18 54 23.6
APA *i* 18 55 46.4
APA *i*S **S** **19 01 35.7 -3.8**
APA *i* 19 03 22.6
APA MLR MLR
comp=Z,798nm,21.8s
LRAL Lakeview Retre 58.96 75 IAmb IAmb 18 53 38.8
comp=Z,19nm,0.8s
TKL Tuckaleechee C 58.96 71 IAmb IAmb 18 54 29.4
comp=Z,18nm,1.0s
TKL Tuckaleechee C 58.96 71 LR LR 19 18 06.8
comp=Z,994nm,21.6s,baz=322,slow=35
X51A Calhoun 59.12 72 IAMs_20 IAMs_20 19 17 14.3
comp=Z,848nm,21.0s
TATO Taipei 59.14 271 P **P** **18 53 40.1 +0.2**
TATO Taipei 59.14 271 P **P** **18 53 41.7 +1.8**
Q56A Snyder Ridge, 59.14 65 IAmb IAmb 18 53 41.0
comp=Z,26nm,1.1s
Q56A IAMs_20 IAMs_20 19 21 09.5
comp=Z,931nm,18.0s
KSPA Keystone Colle 59.21 61 IAmb IAmb 18 53 41.7
comp=Z,24nm,0.9s
N58A Sunbury 59.21 62 IAmb IAmb 18 53 41.6
comp=Z,35nm,1.1s
W52A Murphy 59.27 71 IAmb IAmb 18 53 54.6
comp=Z,17nm,1.0s
W52A IAMs_20 IAMs_20 19 17 53.4
comp=Z,1µm,21.0s
G62A West of Eustis 59.28 55 IAmb IAmb 18 53 53.6
comp=Z,37nm,0.8s
LBNH Lisbon 59.29 56 IAmb IAmb 18 53 41.9
comp=Z,20nm,0.9s
LBNH IAMs_20 IAMs_20 19 19 56.9
comp=Z,1µm,20.0s
WHN Wuhan 59.37 281 ⇑*i*P **P** **18 53 42.0 +0.6**
WHN LR LR
comp=Z,3µm,25.7s
U54A Nelsons Funny 59.46 69 IAmb IAmb 18 53 57.3
comp=Z,32nm,1.1s
P57A Homestead Farm 59.47 64 IAmb IAmb 18 53 43.3
comp=Z,30nm,1.0s
P57A IAMs_20 IAMs_20 19 19 50.2
comp=Z,870nm,21.0s
TRY Troy 59.47 59 IAmb IAmb 18 53 43.6
comp=Z,31nm,0.9s
TRY IAMs_20 IAMs_20 19 20 15.9
comp=Z,887nm,19.0s
HNH Hanover 59.49 57 IAMs_20 IAMs_20 19 19 54.2
comp=Z,977nm,19.0s
V53A Saluda 59.50 70 IAmb IAmb 18 54 43.2
comp=Z,18nm,0.9s
J61A Chester 59.61 57 IAmb IAmb 18 54 10.5
comp=Z,39nm,1.1s
NACB Ninganchiao 59.67 271 P **P** **18 53 44.1 +0.5**
BLA Blacksburg 59.76 67 IAmb IAmb 18 54 17.1
comp=Z,42nm,0.9s
BORG Borgarnes 59.83 16 IAMs_20 IAMs_20 19 19 24.5
comp=Z,707nm,19.0s
BORG Borgarnes 59.83 16 LR LR 19 21 28.3
comp=Z,466nm,19.2s,baz=342,slow=38
PKME Peaks-Kenny Pk 59.86 54 P **P** **18 53 43.9 -0.6**
PKME IAmb IAmb 18 53 57.4
comp=Z,30nm,0.9s
F64A Sherman 59.89 53 IAmb IAmb 18 53 57.4
comp=Z,24nm,0.8s
BG3 Lake Jocassee 59.92 71 P **P** **18 53 44.6 -0.5**
BG3 PcP **PcP** **18 54 32.1 +1.0**
BG3 IAmb IAmb 18 54 33.8
comp=Z,25nm,0.9s
BATG Bathurst New B 59.95 50 IAmb IAmb 18 53 58.3
comp=Z,34nm,0.9s
XAN Xi'an 60.04 288 ⇑P **P** **18 53 46.3 +0.3**
XAN pP pP 18 53 58.0 +0.4
XAN S **S** **19 01 58.7 +2.9**
XAN pmax pmax
comp=Z,110nm,1.0s
XAN pmax pmax
comp=Z,360nm,3.7s
XAN LR LR
comp=Z,960nm,20.6s
XAN LR LR
comp=Z,860nm,23.4s
XAN LR LR
comp=Z,2µm,23.4s
XAN Xi'an 60.04 288 P **P** **18 53 46.4 +0.4**
XAN sP **sP** **18 54 01.3 -0.8**
XAN PcP **PcP** **18 54 32.4 +0.7**
Y52A Lilburn 60.08 73 IAMs_20 IAMs_20 19 18 05.7
comp=Z,1µm,22.0s
I63A Otisfield 60.10 56 IAmb IAmb 18 53 47.7
comp=Z,25nm,0.9s
I63A IAMs_20 IAMs_20 19 20 04.3
comp=Z,932nm,19.0s
LUPA Lehigh Univers 60.10 61 IAmb IAmb 18 53 54.9
comp=Z,34nm,0.8s
250A Grady 60.15 76 IAMs_20 IAMs_20 19 17 41.8
comp=Z,692nm,19.0s
SDMD Soldier's Deli 60.16 63 IAmb IAmb 18 53 47.8
comp=Z,24nm,1.1s
S57A Dark Hollow, R 60.18 66 IAmb IAmb 18 54 01.8
comp=Z,41nm,1.3s
S57A IAMs_20 IAMs_20 19 20 39.1
comp=Z,838nm,20.0s
L61B Northampton 60.18 58 IAmb IAmb 18 54 16.3
comp=Z,21nm,0.9s
L61B IAMs_20 IAMs_20 19 20 04.7
comp=Z,806nm,20.0s
WVL Waterville 60.19 55 IAmb IAmb 18 53 59.0
comp=Z,20nm,1.0s
K62A Royalston 60.26 58 IAmb IAmb 18 53 49.0
comp=Z,42nm,0.9s
K62A IAMs_20 IAMs_20 19 21 45.6
comp=Z,932nm,19.0s
V55A Taylorsville 60.28 69 IAmb IAmb 18 54 13.1
comp=Z,36nm,1.3s
SSLB Suanglung 60.35 271 P **P** **18 53 48.1 -0.2**
SSLB Suanglung 60.35 271 P **P** **18 53 49.4 +1.2**
U56A King 60.40 68 IAmb IAmb 18 54 14.7
comp=Z,20nm,0.8s
U56A IAMs_20 IAMs_20 19 19 08.9
comp=Z,1µm,20.0s
YULB Yu-li 60.44 270 P **P** **18 53 47.8 -1.0**
YULB Yu-li 60.44 270 P **P** **18 53 50.3 +1.5**
152A Waverly Hall 60.56 74 IAmb IAmb 18 53 49.3
comp=Z,15nm,0.7s
152A IAMs_20 IAMs_20 19 17 55.5
comp=Z,680nm,19.0s
T57A Hurt 60.56 67 IAmb IAmb 18 54 17.8
comp=Z,19nm,0.8s
PAL Palisades 60.58 60 IAmb IAmb 18 54 00.0
comp=Z,42nm,0.9s
R58B Mineral 60.63 65 IAmb IAmb 18 54 24.3
comp=Z,56nm,1.6s
PAULI Pauline 60.68 70 IAmb IAmb 18 54 36.3
comp=Z,15nm,0.7s
CPNY Central Park 60.71 60 IAmb IAmb 18 53 59.2
comp=Z,34nm,0.8s

HRV Adam Dziewonsk 60.72 57 P **P** **18 53 50.1 -0.3**
HRV IAmb IAmb 18 53 60.0
comp=Z,22nm,0.9s
HRV IAMs_20 IAMs_20 19 20 31.8
comp=Z,762nm,20.0s
HRV Adam Dziewonsk 60.72 57 P **P** **18 53 50.2 -0.3**
HRV pmax pmax
comp=Z,22nm,0.9s
HRV MLR MLR
comp=Z,800nm,20.0s
GOGA Godfrey 60.75 72 IAMs_20 IAMs_20 19 20 04.5
comp=Z,900nm,20.0s
G65A Princeton 60.75 53 IAmb IAmb 18 54 03.4
comp=Z,23nm,0.9s
G65A IAMs_20 IAMs_20 19 22 31.4
comp=Z,826nm,20.0s
N62A Caumsett State 60.87 60 IAMs_20 IAMs_20 19 18 06.8
comp=Z,668nm,20.0s
UCCT U. Connecticut 60.89 58 IAmb IAmb 18 53 53.4
comp=Z,43nm,1.0s
TPUB Ta-pu 60.91 271 P **P** **18 53 51.9 -0.2**
TPUB Ta-pu 60.91 271 P **P** **18 53 53.1 +1.0**
QZH Quanzhou 60.92 274 ⇑*i*P **P** **18 53 53.2 +1.1**
QZH *e*S **S** **19 02 13.5 +6.3**
QZH pmax pmax
comp=Z,230nm,1.1s
QZH LR LR
comp=Z,860nm,22.3s
WES Weston 60.93 57 IAmb IAmb 18 53 53.4
comp=Z,44nm,0.9s
WES IAMs_20 IAMs_20 19 20 48.3
comp=Z,882nm,19.0s
TWGBT Beinan 61.00 270 P **P** **18 53 54.3 +1.7**
TWG Pinlang 61.00 270 P **P** **18 53 52.4 -0.3**
P61A Hammonton 61.07 62 IAMs_20 IAMs_20 19 21 06.4
comp=Z,758nm,19.0s
GGN Saint George 61.16 53 IAmb IAmb 18 54 05.5
comp=Z,17nm,0.9s
EMMW East Machias 61.16 53 IAmb IAmb 18 54 06.2
comp=Z,25nm,0.8s
EMMW IAMs_20 IAMs_20 19 22 29.3
comp=Z,982nm,19.0s
GTA Gaotai 61.25 298 *e*P **P** **18 53 54.1 -0.2**
GTA PcP **PcP** **18 54 31.4 -5.2**
GTA ScS **SKSac** **19 03 41.9 -0.4**
GTA pmax pmax
comp=Z,45nm,0.9s
GTA pmax pmax
comp=Z,240nm,5.5s
GTA LR LR
comp=Z,730nm,19.6s
GTA LR LR
comp=Z,1µm,21.1s
GTA LR LR
comp=Z,1µm,22.9s
M63A Gales Ferry 61.26 59 IAMs_20 IAMs_20 19 22 30.3
comp=Z,741nm,18.0s
JSC Jenkinsville 61.38 70 IAmb IAmb 18 53 55.6
comp=Z,18nm,0.8s
451A Vernon 61.44 76 IAMs_20 IAMs_20 19 21 03.1
comp=Z,792nm,20.0s
LZH Lanzhou 61.45 293 ⇑P **P** **18 53 56.4 +0.6**
LZH S S 19 02 05.1 -9.0
LZH sS sS 19 02 31.5 -1.9
LZH pmax pmax
comp=Z,39nm,1.8s
LZH LR LR
comp=Z,2µm,15.9s
LZH LR LR
comp=Z,1µm,17.1s
LZH LR LR
comp=Z,2µm,18.1s
W57A Gilead 61.47 69 IAmb IAmb 18 53 56.8
comp=Z,48nm,1.6s
L64A Middleborough 61.50 57 IAMs_20 IAMs_20 19 20 56.5
comp=Z,848nm,20.0s
V58A Windy Hill, Pi 61.51 68 P **P** **18 53 55.6 -0.2**
V58A IAmb IAmb 18 53 57.4
comp=Z,48nm,1.2s
V58A IAMs_20 IAMs_20 19 20 14.2
comp=Z,891nm,20.0s
T59A Double "B" Far 61.52 66 IAmb IAmb 18 53 57.7
comp=Z,45nm,1.0s
T59A IAMs_20 IAMs_20 19 21 37.6
comp=Z,953nm,19.0s
154A Montrose 61.53 73 IAMs_20 IAMs_20 19 18 50.3
comp=Z,1µm,22.0s
BIRD Birdtown, Kers 61.58 69 IAmb IAmb 18 53 57.5
comp=Z,37nm,1.3s
M65A Busby, Falmout 61.87 58 IAMs_20 IAMs_20 19 21 26.3
comp=Z,777nm,20.0s
CNSH ChangSha 61.93 280 P **P** **18 53 59.8 +0.9**
CNSH pmax pmax
comp=Z,210nm,1.0s
W59A Clinton 62.34 68 IAMs_20 IAMs_20 19 20 40.2
comp=Z,989nm,20.0s
ENH Enshi 62.44 284 P **P** **18 54 02.2 -0.1**
ENH IAMs_20 IAMs_20 19 22 21.0
comp=Z,780nm,20.0s
ENH Enshi 62.44 284 P **P** **18 54 03.5 +1.2**
ENH Enshi 62.44 284 P **P** **18 54 03.0 +0.7**
ZSN Zaisan 62.64 313 *c*iP **P** **18 54 03.8 +0.4**
ZSN pmax pmax
comp=Z,19nm,0.4s
ZSN Zaisan 62.64 313 ⇑*i*P **P** **18 54 03.8 +0.4**
comp=Z,19nm,0.4s
KURK Kurchatov 62.74 319 P **P** **18 54 03.2 -0.7**
KURK PcP **PcP** **18 54 41.8 -0.5**
KURK IAmb IAmb 18 54 44.8
comp=Z,57nm,1.1s
KURK Kurchatov 62.74 319 P **P** **18 54 04.1 +0.1**
KURK Kurchatov 62.74 319 *c*iP **P** **18 54 03.9 -0.1**
KURK pmax pmax
comp=Z,34nm,0.7s
KURK Kurchatov 62.74 319 P **P** **18 54 04.0 +0.1**
KURK PcP **PcP** **18 54 43.3 +1.0**
KURBB Kurchatov Arra 62.85 319 P **P** **18 54 04.7 0.0**
comp=Z,17nm,0.7s,baz=51,slow=7.4,SNR=151
KURBB PcP **PcP** **18 54 43.3 +0.6**
comp=Z,29nm,1.0s,baz=31,slow=4.2,SNR=14
KURBB PP **PP** **18 56 18.4 -4.3**
comp=Z,4.5nm,1.0s,baz=44,slow=9.5,SNR=4.1
KURBB LR LR 19 22 43.3
comp=Z,2µm,21.5s,baz=16,slow=37
comp=Z,17nm,0.7s
257A Skidaway Islan 63.20 72 IAMs_20 IAMs_20 19 19 52.4
comp=Z,931nm,22.0s
GBN Guysborough 63.45 49 IAmb IAmb 18 54 17.7
comp=Z,36nm,0.8s
TLIG Tlapa 63.49 96 IAmb IAmb 18 54 30.6
comp=Z,30nm,1.0s
456A Hilliard 63.54 74 IAMs_20 IAMs_20 19 19 58.5
comp=Z,660nm,20.0s
SVE Sverdlovsk 63.76 333 *d*iP **P** **18 54 11.5 +0.9**
SVE *e*S **S** **19 02 40.7 -1.4**
SVE pmax pmax
comp=Z,80nm,1.3s
SVE MLR MLR
comp=Z,787nm,18.0s
BVAR Borovoye Array 63.94 325 LR LR 19 25 01.3
comp=Z,1µm,19.3s,baz=39,slow=39
BRVK Borovoye 63.95 325 P **P** **18 54 11.4 -0.5**
BRVK PcP **PcP** **18 54 47.2 +0.1**
BRVK Borovoye 63.95 325 P **P** **18 54 12.3 +0.3**
BRVK Borovoye 63.95 325 *c*iP **P** **18 54 12.2 +0.3**
BRVK pmax pmax
comp=Z,47nm,0.8s
BRVK Borovoye 63.95 325 ⇑P **P** **18 54 12.2 +0.3**
BRVK PcP **PcP** **18 54 48.5 +1.3**
WMQ Urumqi 64.11 309 *e*P **P** **18 54 14.4 +1.2**
WMQ pP pP 18 54 24.1 -0.5
WMQ PcP **PcP** **18 54 50.1 +2.0**
WMQ pmax pmax
comp=Z,46nm,0.7s
WMQ LR LR
comp=Z,930nm,18.7s
WMQ LR LR
comp=Z,560nm,21.5s
WMQ LR LR
comp=Z,600nm,24.5s
MK31 Makanchi Array 64.27 314 *c*iP **P** **18 54 13.5 -0.7**
MKAR Makanchi Array 64.27 314 P **P** **18 54 13.1 -1.1**
MKAR Makanchi Array 64.27 314 P **P** **18 54 13.6 -0.7**
comp=Z,26nm,0.8s,baz=47,slow=6.2,SNR=148
MKAR PcP **PcP** **18 54 49.0 +0.4**
comp=Z,8.0nm,0.8s,baz=29,slow=4.2,SNR=5.0

MKAR LR LR 19 22 46.7
comp=Z,1µm,20.7s,baz=26,slow=36
MKAR PKPPKP **P'P'df** **19 23 03.1 -5.8**
comp=Z,0.4nm,0.8s,baz=223,slow=3.2,SNR=3.8
comp=Z,26nm,0.8s
MAKZ Makanchi 64.40 314 P **P** **18 54 13.7 -1.3**
MAKZ PcP **PcP** **18 54 48.4 -0.7**
MAKZ IAmb IAmb 18 54 51.1
comp=Z,43nm,1.2s
MAKZ Makanchi 64.40 314 P **P** **18 54 14.4 -0.6**
MAKZ Makanchi 64.40 314 ⇑P **P** **18 54 14.3 -0.6**
MAKZ PcP **PcP** **18 54 50.0 +0.9**
KLMR Klimovskoe 64.58 346 *e*P **P** **18 54 14.2 -1.7**
KLMR *e* 18 54 48.3
KLMR S **S** **19 02 47.3 -4.8**
KLMR SS **SS** **19 07 11.3 +9.4**
KLMR pmax pmax
comp=Z,88nm,1.3s
KLMR MLR MLR
comp=Z,759nm,18.0s
ARTI Arti 64.76 334 P **P** **18 54 16.7 -0.5**
ARTI Arti 64.76 334 LR LR 19 25 42.0
comp=Z,990nm,20.7s,baz=33,slow=39
ARTI Arti 64.76 334 *c*iP **P** **18 54 17.4 +0.3**
ARTI *PP **pP** **18 54 29.4 +0.5**
ARTI 18 54 51.0
ARTI 18 56 38.7
ARTI S **S** **19 02 53.3 -1.2**
ARTI pmax pmax
comp=Z,121nm,1.3s
ARTI MLR MLR
comp=Z,1µm,21.0s
ARTI Arti 64.76 334 ⇑P **P** **18 54 17.5 +0.3**
KEF Keuruu 64.88 354 *e*P **P** **18 54 17.6 -0.2**
KIRV Kirov 64.93 340 LR LR 19 26 49.2
comp=Z,1µm,19.9s,baz=21,slow=40
KIRV Kirov 64.93 340 *c*iP **P** **18 54 18.2 0.0**
CD2 Chengdu 65.29 289 P **P** **18 54 22.2 +1.1**
CD2 PcP **PcP** **18 54 52.9 -0.2**
CD2 S **S** **19 03 02.2 +0.3**
CD2 pmax pmax
comp=Z,180nm,1.1s
CD2 pmax pmax
comp=Z,680nm,4.4s
CD2 LR LR
comp=Z,950nm,18.6s
CD2 LR LR
comp=Z,1µm,19.0s
CD2 LR LR
comp=Z,1µm,20.6s
SZP Santa 65.38 267 P **P** **18 54 23.6 +1.9**
FIA1 FINESS Array S 65.51 353 P **P** **18 54 21.5 -0.4**
FINES FINESS Array B 65.51 353 P **P** **18 54 21.3 -0.6**
FINES FINESS Array B 65.51 353 P **P** **18 54 21.9 0.0**
comp=Z,20nm,0.5s,baz=17,slow=6.5,SNR=161
FINES PKP2bc 19 22 59.2
comp=Z,2.7nm,0.9s,baz=112,slow=3.7,SNR=7.4
FINES LR LR 19 23 09.4
comp=Z,638nm,22.0s,baz=14,slow=36
comp=Z,20nm,0.5s
FINES FINESS Array B 65.51 353 P **P** **18 54 22.0 0.0**
HKPS Hong Kong Po S 65.60 275 P **P** **18 54 23.9 +0.8**
BRZS Berezniki 65.61 322 *c*iP **P** **18 54 22.9 +0.1**
BRZS Berezniki 65.61 322 ⇑*i*P **P** **18 54 22.9 +0.1**
TAOE Nuku Hiva Isla 65.77 150 *e*P P 18 54 30.4 +6.1
comp=Z,98nm,28.3s
TAOE *e*S **S** **19 03 13.8 +5.9**
comp=Z,408nm,28.0s
TAOE *e*SS **SS** **19 07 28.3 +5.1**
comp=Z,531nm,27.0s
TAOE *e*LQ LQ 19 11 02.5
comp=Z,420nm,26.1s
TAOE *e*LR LR 19 14 12.1
comp=Z,2µm,23.3s
DWPF Disney Wildern 65.82 75 P **P** **18 54 25.2 +0.8**
CMIG Matias Romero 66.07 93 LR LR 19 19 11.8
comp=Z,814nm,21.5s,baz=312,slow=32
NC204 NORSAR Array S 66.18 1 IAmb IAmb 18 54 28.1
comp=Z,57nm,1.2s
RAF Rauma 66.20 355 *e*P **P** **18 54 26.7 +0.3**
NC303 NORSAR Array S 66.24 1 IAmb IAmb 18 54 27.8
comp=Z,27nm,0.8s
GOMU GeErMu 66.29 299 P **P** **18 54 28.0 +0.2**
GOMU S **S** **19 03 20.0 +5.5**
GOMU pmax pmax
comp=Z,25nm,0.6s
GOMU LR LR
comp=Z,890nm,19.2s
GOMU LR LR
comp=Z,580nm,19.7s
GOMU LR LR
comp=Z,790nm,19.5s
NC405 NORSAR Array S 66.35 0 IAmb IAmb 18 54 28.6
comp=Z,40nm,1.1s
NB201 NORSAR Array S 66.42 1 IAmb IAmb 18 54 28.9
comp=Z,39nm,1.0s
NB2 NORSAR Subarra 66.42 1 P **P** **18 54 27.7 -0.2**
comp=Z,35nm,1.1s,baz=2.1,slow=6.5
NB2 NORSAR Subarra 66.42 1 P **P** **18 54 27.7 -0.2**
baz=2.1,slow=6.5
NOA NORSAR Array B 66.42 1 P **P** **18 54 27.6 -0.3**
comp=Z,19nm,1.0s,baz=0.3,slow=6.3,SNR=36
NOA PKP2bc 19 22 58.5
comp=Z,1.2nm,0.8s,baz=177,slow=3.6,SNR=3.8
NOA LR LR 19 25 45.8
comp=Z,397nm,18.9s,baz=355,slow=38
comp=Z,19nm,1.0s
NBO00 NORSAR Array S 66.43 1 IAmb IAmb 18 54 29.7
comp=Z,49nm,1.5s
NAO01 NORSAR Array S 66.62 1 IAmb IAmb 18 54 60.0
comp=Z,29nm,1.1s
NC602 NORSAR Array S 66.73 1 IAmb IAmb 18 54 30.7
comp=Z,47nm,1.2s
MEF Metsahovi 66.85 354 *e*P **P** **18 54 30.2 -0.3**
GYA Guiyang 66.93 284 ⇑P **P** **18 54 32.8 +1.1**
GYA pP pP 18 54 42.8 0.0
GYA PP **PP** **18 56 55.4 -3.7**
GYA S **S** **19 03 18.0 -4.0**
GYA pmax pmax
comp=Z,300nm,1.0s
GYA LR LR
comp=Z,990nm,27.9s
ALEG Aligegeo Malai 67.12 214 P **P** **18 54 35.0 +2.3**
HFS Hagfors 67.33 359 P **P** **18 54 33.4 -0.2**
comp=Z,17nm,0.4s,baz=28,slow=3.5,SNR=152
HFS PcP **PcP** **18 54 57.7 -3.3**
comp=Z,8.7nm,0.5s,baz=27,slow=3.6,SNR=4.3
HFS LR LR 19 22 43.7
comp=Z,415nm,21.1s,baz=2.5,slow=35
comp=Z,17nm,0.4s
TDK Taldyqorghan 67.36 315 *c*iP **P** **18 54 34.3 +0.3**
TDK pmax pmax
comp=Z,38nm,0.8s
TDK Taldyqorghan 67.36 315 ⇑*i*P **P** **18 54 34.4 +0.3**
comp=Z,38nm,0.8s
ARBE Arbavere 67.51 353 *e*P **P** **18 54 34.7 0.0**
TEIG Tepich 67.68 86 P **P** **18 54 36.1 -0.2**
TEIG IAmb IAmb 18 54 39.1
comp=Z,45nm,1.1s
TEIG Tepich 67.68 86 P **P** **18 54 37.1 +0.7**
TGY Tagaytay City 67.76 264 P **P** **18 54 38.3 +1.3**
comp=Z,235nm,0.3s,baz=354,slow=3.4,SNR=13
SAVO Savo Central 67.79 215 P **P** **18 54 39.3 +2.3**
KONO Kongsberg 67.80 2 P **P** **18 54 36.5 -0.1**
KONO Kongsberg 67.80 2 ⇑*i*P **P** **18 54 36.6 0.0**
KONO pmax pmax
comp=Z,59nm,1.3s
061Z Ochoppi 67.81 76 IAMs_20 IAMs_20 19 22 30.9
comp=Z,731nm,22.0s
PDGK Podgornoye 68.22 314 P **P** **18 54 39.1 -0.6**
ARXS Arharly 68.23 315 *e*P **P** **18 54 40.2 +0.5**
HURO Huro Makira 68.31 213 P **P** **18 54 42.1 +1.9**
CCIG Comitan 68.36 91 IAmb IAmb 18 55 01.9
comp=Z,56nm,1.3s
SHLS Shalkode 68.38 314 *e*P **P** **18 54 39.9 -0.7**
SHLS pmax pmax
comp=Z,28nm,0.6s
SHLS Shalkode 68.38 314 *e*P **P** **18 54 39.9 -0.7**
comp=Z,26nm,0.6s
VSU Vasula 68.41 352 *c*iP **P** **18 54 39.6 -0.8**
VSU pmax pmax
comp=Z,92nm,0.8s
VSU Vasula 68.41 352 *e*P **P** **18 54 39.2 -1.2**
STRU Stroemstad 68.44 1 *i*P **P** **18 54 41.0 +0.5**
CHKK Chushkaly 68.88 316 *e*P **P** **18 54 44.1 +0.5**
CHKK Chushkaly 68.88 316 *e*P **P** **18 54 44.1 +0.5**

SNART **Snartemo** 69.06 3 *i* P P 18 54 45.1 +0.7
KUU **Kurty** 69.12 316 *e* P P 18 54 45.3 +0.1
KUU **Kurty** 69.12 316 *e* P P 18 54 45.3 +0.1
BTLS **Baital** 69.13 318 *c i* P P 18 54 45.3 +0.2
BTLS pmax pmax
comp=Z,13nm,0.4s
BTLS **Baital** 69.13 318⇑ *i* P P 18 54 45.3 +0.2
comp=Z,13nm,0.4s
KPL **Plockton** 69.14 10 *e* P P 18 54 44.9 0.0
MCD **Coleburn Disti** 69.15 9 *e* P P 18 54 45.5 +0.5
HOMB **Homborsund** 69.16 2 *i* P P 18 54 45.8 +0.7
PETF **Flores** 69.25 89 IAmb IAmb 18 54 48.2
comp=Z,43nm,0.9s
PRZ **Przheval'sk** 69.38 314 P P 18 54 47.5 +0.5
PRZ IAmb IAmb 18 54 50.0
comp=Z,73nm,1.3s
PRZ **Przheval'sk** 69.38 314 P P 18 54 47.5 +0.5
PRZ pmax pmax
comp=Z,73nm,1.3s
AAA **Alma-Ata** 69.44 315 *e* P P 18 54 47.4 +0.3
AAA pmax pmax
comp=Z,31nm,0.7s
AAA **Alma-Ata** 69.44 315 *e* P P 18 54 47.5 +0.3
comp=Z,31nm,0.7s
SLIT **Slitere, Latvi** 69.56 354 *e* P P 18 54 47.6 +0.1
CAMR **Camarioca** 69.67 79 IAmb IAmb 18 54 50.7
comp=Z,135nm,0.8s
PZH **PanZhiHua** 69.77 287 ⇑P P 18 54 50.7 +1.2
PZH pP **pP** 18 55 00.1 -1.2
PZH S **S** 19 03 56.0 +0.2
PZH pmax pmax
comp=Z,390nm,1.3s
PZH pmax pmax
comp=Z,370nm,4.2s
PZH LR LR
comp=Z,390nm,21.2s
PZH LR LR
comp=Z,380nm,19.6s
PZH LR LR
comp=Z,370nm,20.4s
DGTI **Dogotuki** 69.77 193 P P 18 54 51.4 +2.1
MOS **Moscow** 69.78 345 *e* P P 18 54 48.3 -0.6
MOS *e* 18 55 09.3
MOS *e* 18 57 23.2
MOS pmax pmax
comp=Z,100nm,0.7s
MOS pmax pmax
comp=Z,137nm,0.7s
MOS pmax pmax
comp=N,100nm,0.9s
BORU **Boraas** 69.84 360 *i* P P 18 54 49.4 +0.1
DRUM **Mains of Drumt** 69.88 9 *e* P P 18 54 49.7 +0.2
DRUM IAmb IAmb 18 54 51.0
comp=Z,123nm,1.0s
ONAU **Onsala** 70.08 0 *i* P P 18 54 50.1 -0.6
AKTO **Aktyubinsk** 70.13 331 LR LR 19 30 09.3
comp=Z,731nm,18.1s,baz=36,slow=40
AKTO **Aktyubinsk** 70.13 331 P P 18 54 50.9 -0.3
JAY **Jayapura** 70.14 237 P P 18 54 52.5 +0.8
comp=Z,28nm,1.1s,baz=327,slow=7.2,SNR=12
JAY LR LR 19 21 58.5
comp=Z,331nm,19.9s,baz=26,slow=33
comp=Z,28nm,1.1s
JAY **Jayapura** 70.14 237 P P 18 54 53.0 +1.3
KDJ **Kajisay** 70.20 314 P P 18 54 51.6 -0.4
KDJ IAmb IAmb 18 55 15.8
comp=Z,40nm,1.1s
KDJ **Kajisay** 70.20 314 P P 18 54 51.6 -0.4
KDJ pmax pmax
comp=Z,40nm,1.1s
SGDS **Sogindy** 70.20 317⇑ *i* P P 18 54 52.4 +0.5
LAWE **Loch Awe, Argy** 70.23 11⇑ *e* P P 18 54 51.9 +0.2
LAWE IAmb IAmb 18 54 52.9
comp=Z,45nm,0.9s
TKM2 **Tokmak 2** 70.23 316 P P 18 54 52.1 -0.1
SNR=50
KMI **Kunming** 70.24 286 ⇑P P 18 54 53.6 +1.1
KMI sP sP 18 55 08.9 +0.1
KMI S **S** 19 04 02.3 +0.8
KMI pmax pmax
comp=Z,170nm,1.3s
KMI LR LR
comp=Z,590nm,22.6s
KMI LR LR
comp=Z,330nm,22.0s
KMI LR LR
comp=Z,770nm,26.5s
TARG **Taragay, Kyrgy** 70.25 314 P P 18 54 52.8 +0.2
TARG IAmb IAmb 18 54 56.6
comp=Z,30nm,0.5s
TARG **Taragay, Kyrgy** 70.25 314 P P 18 54 52.8 +0.2
TARG pmax pmax
comp=Z,29nm,0.5s
USP **Ospenovka** 70.41 317 P P 18 54 53.9 +0.8
SNR=76
BOOM **Boomskoye usch** 70.44 315 P P 18 54 53.7 +0.3
BOOM **Boomskoye usch** 70.44 315 P P 18 54 53.7 +0.3
BOOM pmax pmax
comp=Z,143nm,1.4s
GENI **Genyem** 70.48 237 P P 18 54 55.7 +2.0
GENI **Genyem** 70.48 237 P P 18 54 54.5 +0.8
comp=Z,1μmcomp=Z,101nm,1.0s
FABU **Falkenberg** 70.48 360 *i* P P 18 54 53.0 -0.1
ULHL **Ulahol** 70.51 315 P P 18 54 55.6 +1.7
SNR=6.4
CHMS **Chumysh** 70.52 316 P P 18 54 54.7 +0.9
SNR=8.2
OBN **Obninsk** 70.54 346 P P 18 54 53.1 -0.4
OBN **Obninsk** 70.54 346 LR LR 19 31 25.3
comp=Z,602nm,18.2s,baz=332,slow=41
OBN **Obninsk** 70.54 346 *c i* P P 18 54 53.0 -0.6
OBN *e* *PP pP 18 55 04.7 -0.7
OBN *e* 18 55 14.1
OBN *e* 18 57 28.6
OBN *e* PPP PPP 18 59 10.6
OBN *e* S **S** 19 04 04.8 +1.1
OBN *e* SS **SS** 19 08 37.0 +2.9
OBN pmax pmax
comp=Z,142nm,1.0s
OBN MLR MLR
comp=Z,829nm,20.0s
AB31 **Akbulak array** 70.59 329 P P 18 54 53.9 -0.1
AB31 **Akbulak array** 70.59 329 *i* P P 18 54 53.9 -0.1
ABKAR **Akbulak array** 70.59 329 P P 18 54 54.0 0.0
ABKAR **Akbulak array** 70.59 329 P P 18 54 54.1 +0.1
ABKAR PcP **PcP** 18 55 15.4 +0.5
QIZ **Qiongzhong** 70.67 276 P 18 54 56.3 +1.3
QIZ **Qiongzhong** 70.67 276 IAMs_20 IAMs_20 19 24 11.8
comp=Z,603nm,21.0s
QIZ **Qiongzhong** 70.67 276 P P 18 54 56.6 +1.7
QIZ S **S** 19 04 13.2 +7.0
QIZ pmax pmax
comp=Z,210nm,1.3s
QIZ pmax pmax
comp=Z,1μm,2.9s
QIZ LR LR
comp=Z,580nm,19.2s
QIZ LR LR
comp=Z,460nm,19.6s
QIZ LR LR
comp=Z,950nm,18.9s
QIZ **Qiongzhong** 70.67 276 P P 18 54 56.7 +1.8
SMPI **Sarmi** 70.71 239 P P 18 54 56.5 +1.4
comp=Z,35nm,1.2s
KBK **Karagaybulak** 70.72 316 P P 18 54 56.1 +0.9
SNR=22
AAK **Ala-Archa** 70.93 316 P P 18 54 57.4 +0.9
SNR=21
AAK **Ala-Archa** 70.93 316 P P 18 54 56.7 +0.3
AAK IAmb IAmb 18 54 59.5
comp=Z,36nm,0.8s
AAK **Ala-Archa** 70.93 316 LR LR 19 30 12.1
comp=Z,580nm,18.1s,baz=38,slow=39
AAK **Ala-Archa** 70.93 316 P P 18 54 57.0 +0.7
AAK **Ala-Archa** 70.93 316 *c i* P P 18 54 57.1 +0.7
AAK pmax pmax
comp=Z,78nm,1.3s
AAK **Ala-Archa** 70.93 316 *i* P P 18 54 57.1 +0.7
SNR=20
AAK **Ala-Archa** 70.93 316 P P 18 54 57.3 +0.9
MUD **Monsted U'grnd** 70.99 2 *i* P P 18 54 57.6 +1.3
MUD IAmb IAmb 18 54 57.8
comp=Z,23nm,0.8s
DEL **Delary** 71.01 359 *i* P P 18 54 56.0 -0.4
BELG **Belogornoye** 71.05 338 LR LR 19 28 38.7
comp=Z,908nm,21.6s,baz=312,slow=38
BELG **Belogornoye** 71.05 338 *c i* P P 18 54 56.8 +0.1
BELG pmax pmax
comp=Z,23nm,1.0s
BELG MLR MLR
comp=Z,192nm,22.0s
VSVD **Vaisvydziai** 71.09 353 *e* P P 18 54 56.9 0.0
IDGL **Inch Island, C** 71.14 12 P P 18 54 57.6 +0.4
IDGL **Inch Island, C** 71.14 12 *e* P P 18 54 57.7 +0.4
BLEU **Blekinge** 71.14 358 *i* P P 18 54 57.4 +0.2
PBUR **Paburge** 71.18 354 *e* P P 18 54 58.2 +0.8
EKS2 **Erkin-Say** 71.20 317 P P 18 54 58.9 +0.9
SNR=62
UCH **Uchtor** 71.26 316 P P 18 54 59.5 +0.8
SNR=24
ISAL **Salakas** 71.33 352 *e* P P 18 55 00.5 +2.1
EKA **Eskdalemuir Ar** 71.38 9 P P 18 54 59.2 +0.5
comp=Z,27nm,0.8s,baz=342,slow=4.6,SNR=72
comp=Z,27nm,0.8s
ESK **Eskdalemuir** 71.39 9 P P 18 54 59.0 +0.2
ESK IAmb IAmb 18 55 00.4
comp=Z,45nm,0.9s
ESK **Eskdalemuir** 71.39 9 IAMs_20 IAMs_20 19 27 41.0
comp=Z,638nm,20.0s
ESK **Eskdalemuir** 71.39 9 P P 18 54 59.0 +0.2
ESK pmax pmax
comp=Z,45nm,1.0s
ESK MLR MLR
comp=Z,600nm,20.0s
ESK **Eskdalemuir** 71.39 9 P P 18 54 59.3 +0.6
ESK PcP **PcP** 18 55 19.1 +0.9
BAKI **Biak** 71.40 241 P P 18 55 01.3 +1.9
BJUU **Bjuv** 71.41 360 *i* P P 18 54 59.4 +0.6
MSVF **Nonsavu** 71.42 195 P P 18 55 01.1 +1.7
MSVF IAmb IAmb 18 55 19.2
comp=Z,35nm,1.1s
MSVF **Nonsavu** 71.42 195 P P 18 55 01.6 +2.2
MSVF **Nonsavu** 71.42 195 P P 18 55 01.1 +1.7
MSVF pmax pmax
comp=Z,35nm,1.2s
NEWG **New Galloway** 71.48 10 *e* P P 18 54 59.5 +0.2
MTO3 **Montecristo** 71.50 91 IAmb IAmb 18 55 01.4
comp=Z,21nm,0.9s
IDID **Didziasalis** 71.53 351 *e* P P 18 54 58.9 -0.7
PABE **Paberze** 71.56 353 P P 18 54 59.1 -0.7
PABE IAMs_20 IAMs_20 19 28 30.6
comp=Z,734nm,20.0s
PABE **Paberze** 71.56 353 *e* P P 18 54 59.2 -0.6
GAL1 **Galloway** 71.68 10 *e* P P 18 55 00.4 -0.1
GAL1 IAmb IAmb 18 55 01.6
comp=Z,50nm,0.8s
COP **Copenhagen** 71.80 0 *i* P P 18 55 02.3 +1.1
COP IAmb IAmb 18 55 02.5
comp=Z,83nm,0.9s
PPT **Papeete** 71.85 162 LR LR 19 20 29.8
comp=Z,1μm,20.3s,baz=319,slow=31
PPT2 **Papeete2** 71.87 162 *e* P P 18 54 56.9 -5.2
comp=Z,101nm,26.5s
PPT2 *e* S **S** 19 04 14.4 -5.5
comp=Z,677nm,29.8s
PPT2 *e* SS **SS** 19 08 51.6 -5.7
comp=Z,435nm,28.5s
PPT2 *e* LQ LQ 19 13 37.5
comp=Z,267nm,21.5s
PPT2 *e* LR LR 19 16 49.4
comp=Z,2μm,23.8s
PPT2 *e* LR LR 19 16 49.7
comp=Z,2μm,23.5s
SRPI **Serui, Papua** 71.90 241 P P 18 55 03.5 +1.1
comp=Z,69nm,1.0s
EDMD **Edmundbyers** 71.99 9 *e* P P 18 55 02.7 +0.3
EDMD IAmb IAmb 18 55 03.7
comp=Z,46nm,1.1s
DZA **Taraz** 72.01 319 *e* P P 18 55 03.0 +0.3
DZA **Taraz** 72.01 319 *e* P P 18 55 03.1 +0.3
KESW **Keswick, Cumbr** 72.12 9 *e* P P 18 55 03.4 +0.3
KESW IAmb IAmb 18 55 04.6
comp=Z,38nm,0.9s
KK31 **Karatay Array** 72.16 319 P P 18 55 03.1 -0.5
KK31 **Karatay Array** 72.16 319 *i* P P 18 55 03.2 -0.5
KKAR **Karatay Array** 72.16 319 P P 18 55 03.4 -0.2
KKAR **Karatay Array** 72.16 319 P P 18 55 03.4 -0.2
KKAR pmax pmax
comp=Z,107nm,1.3s
MNK **Minsk** 72.22 351 *i* P P 18 55 02.8 -1.0
MNK *i* *PP pP 18 55 14.8 -0.9
MNK *i* 18 57 43.3
MNK *i* PPP PPP 18 59 27.5
MNK *i* S **S** 19 04 23.0 -0.2
MNK *i* 19 05 05.6
MNK *i* SS **SS** 19 09 01.9 +2.0
MNK pmax pmax
comp=Z,130nm,0.9s
MNK pmax pmax
comp=E,87nm,1.1s
MNK pmax pmax
comp=N,12nm,0.8s
MNK MLR MLR
comp=E,488nm,20.0s
MNK MLR MLR
comp=Z,799nm,21.0s
MNK MLR MLR
comp=N,370nm,22.0s
IOMK **Kirk Michael** 72.29 10⇑ *e* P P 18 55 04.4 +0.3
IOMK IAmb IAmb 18 55 04.9
comp=Z,16nm,0.9s
ILTH **Belurgan, Co L** 72.31 12 P P 18 55 04.4 +0.2
ILTH **Belurgan, Co L** 72.31 12 *e* P P 18 55 04.5 +0.2
BSD **Bornholm Skovb** 72.35 359 *i* P P 18 55 04.4 -0.1
BSD IAmb IAmb 18 55 04.8
comp=Z,40nm,1.0s
SLVN **Son La** 72.45 282 P P 18 55 07.0 +1.3
SLVN IAMs_20 IAMs_20 19 27 26.8
comp=Z,585nm,20.0s
SLVN **Son La** 72.45 282 P P 18 55 07.5 +1.8
BRLS **Boroldoy** 72.49 320 *c i* P P 18 55 07.2 +1.7
BRLS **Boroldoy** 72.49 320⇑ *i* P P 18 55 07.3 +1.7
IGLA **Glengowla, Co** 72.51 14 P P 18 55 05.3 -0.1
IGLA **Glengowla, Co** 72.51 14 *e* P P 18 55 05.7 +0.3
LPSR **Galich'ya Gora** 72.58 343 *e* P P 18 55 05.0 -0.9
LPSR pmax pmax
comp=Z,87nm,1.0s
ARSB **Arslanbob** 72.64 317 P P 18 55 06.8 +0.1
ARSB IAmb IAmb 18 55 09.2
comp=Z,82nm,1.2s
ARSB **Arslanbob** 72.64 317 P P 18 55 06.8 +0.1
ARSB pmax pmax
comp=Z,82nm,1.2s
RKPI **Ransiki, Papua** 72.70 243 P P 18 55 05.8 -1.4
comp=Z,3μmcomp=Z,93nm,1.0s
TNCH **TengChong** 72.75 289 ⇑P P 18 55 09.1 +1.5
TNCH sP sP 18 55 23.3 -0.6
TNCH S **S** 19 04 30.3 -0.2
TNCH SS **SS** 19 09 11.0 +0.9
TNCH pmax pmax
comp=Z,200nm,1.1s
TNCH LR LR
comp=Z,530nm,20.8s
TNCH LR LR
comp=Z,670nm,18.0s
TNCH LR LR
comp=Z,760nm,23.9s
KSH **Kashi** 72.86 314 P P 18 55 11.9 +3.9
KSH sP sP 18 55 23.8 -0.2
KSH pmax pmax
comp=Z,94nm,1.2s
KSH pmax pmax
comp=Z,230nm,5.3s
KSH LR LR
comp=Z,620nm,20.3s
KSH LR LR
comp=Z,750nm,17.2s
HPK **Haverah Park** 72.88 9 *e* P P 18 55 08.4 +0.8
HPK IAmb IAmb 18 55 09.2
comp=Z,138nm,1.5s
RGN **Rugen** 72.94 360 IAMs_20 IAMs_20 19 28 25.8
comp=Z,566nm,19.0s
TGUH **Tegucigalpa,Un** 73.03 89 IAMs_20 IAMs_20 19 24 19.9
comp=Z,768nm,20.0s
DSB **Dublin** 73.08 12 P P 18 55 09.0 +0.2
SUW **Suwalki** 73.11 353 *e* P P 18 55 08.3 -0.7
SUW **Suwalki** 73.11 353 P P 18 55 08.5 -0.5
SUW IAMs_20 IAMs_20 19 29 25.3
comp=Z,643nm,20.0s
SUW **Suwalki** 73.11 353 P P 18 55 08.5 -0.5
SUW MLR MLR
comp=Z,600nm,20.0s
SUW **Suwalki** 73.11 353 *e* P P 18 55 06.6 -2.4
WPS **Cemaes, Angles** 73.14 11 *e* P P 18 55 09.2 0.0
IUG **Iuzhnay** 73.16 319 *e* P P 18 55 10.2 +0.5
IUG pmax pmax
comp=Z,51nm,0.9s
IUG **Iuzhnay** 73.16 319 *e* P P 18 55 10.2 +0.5
comp=Z,51nm,0.9s
WME **Myndd Eilian** 73.17 10⇑ *e* P P 18 55 09.5 +0.2
CHM **Chimkent** 73.18 319 *e* P P 18 55 10.0 +0.3
CHM pmax pmax
comp=Z,46nm,0.8s
CHM **Chimkent** 73.18 319 *e* P P 18 55 10.1 +0.3
comp=Z,46nm,0.8s
LSA **Lhasa** 73.25 297 P 18 55 11.2 +0.4
LSA IAMs_20 IAMs_20 19 29 26.9
comp=Z,631nm,21.0s
LSA **Lhasa** 73.25 297 P P 18 55 12.1 +1.3
LSA pmax pmax
comp=Z,49nm,0.6s
LSA **Lhasa** 73.25 297 P P 18 55 12.2 +1.4
LSA **Lhasa** 73.25 297 P P 18 55 11.2 +0.4
LSA pmax pmax
comp=Z,160nm,1.5s
LSA MLR MLR
comp=Z,600nm,21.0s
LSA **Lhasa** 73.25 297 *i* P P 18 55 12.3 +1.4
SNR=27
SGSI **Sangihe** 73.30 254 P P 18 55 10.5 -0.2
comp=Z,110nm,1.1s
VRH **Novokhopyorsk** 73.41 341 *e* P P 18 55 10.3 -0.5
VRH pmax pmax
comp=Z,61nm,0.6s
LBWR **Ladybower, Pea** 73.42 9⇑ *e* P P 18 55 11.5 +0.6
LBWR IAmb IAmb 18 55 12.3
comp=Z,67nm,0.9s
VORR **Voronezh** 73.43 343 *e* P P 18 55 10.5 -0.4
VORR pmax pmax
comp=Z,59nm,0.6s
BSEG **Bad Segeberg** 73.54 1 *e* P P 18 55 12.7 +1.2
comp=Z,27nm,0.9s,baz=360,slow=5.7
SWI **Sorong** 73.76 246 P P 18 55 14.6 +1.2
FOEL **Foel Wylfa** 73.78 10⇑ *e* P P 18 55 13.8 +0.7
FOEL IAmb IAmb 18 55 14.7
comp=Z,131nm,0.9s
VAL **Valentia** 73.82 14 P P 18 55 13.8 +0.6
VSR **Storozhevoye** 73.87 343 *e* P P 18 55 11.4 -2.2
VSR pmax pmax
comp=Z,60nm,1.0s
IWEX **Carrickbyrne,** 73.88 12 P P 18 55 14.1 +0.6
IWEX **Carrickbyrne,** 73.88 12 *e* P P 18 55 14.2 +0.6
RAR **Rarotonga** 74.08 173 LR LR 19 22 23.0
comp=Z,601nm,19.8s,baz=322,slow=31
VORD **Divnogorie** 74.09 343 *e* P P 18 55 12.7 -2.1
VORD pmax pmax
comp=Z,60nm,1.0s
CWF **Charnwood Fore** 74.12 9 *e* P P 18 55 15.6 +0.6
GKP **Gorka Klasztor** 74.15 357 *e* P P 18 55 15.4 +0.3
GKP **Gorka Klasztor** 74.15 357 *e* P P 18 55 15.3 +0.2
HLM1 **Long Mynd** 74.18 10⇑ *e* P P 18 55 15.9 +0.5
HLM1 IAmb IAmb 18 55 17.4
comp=Z,40nm,1.0s
WACR **West Acre** 74.30 7 *e* P P 18 55 16.2 +0.2
WACR IAmb IAmb 18 55 17.2
comp=Z,192nm,0.9s
GORT1 **Trebel** 74.50 1 *e* P P 18 55 18.6 +1.5
baz=360,slow=5.7
RSBS **Rosebush, Pemb** 74.54 11⇑ *e* P P 18 55 17.9 +0.5
RSBS IAmb IAmb 18 55 18.9
comp=Z,91nm,0.8s
TNTI **Ternate** 74.61 250 P P 18 55 19.2 +0.9
comp=Z,24nm,1.0s
DRK **Karamyk** 74.68 316 P P 18 55 19.2 +0.3
DRK **Karamyk** 74.68 316 P P 18 55 19.2 +0.3
DRK pmax pmax
comp=Z,84nm,1.1s
MCH1 **Michaelchurch** 74.69 10⇑ *e* P P 18 55 18.7 +0.4
MCH1 IAmb IAmb 18 55 19.8
comp=Z,72nm,0.9s
MONM **Monmouth** 74.86 10⇑ *e* P P 18 55 19.9 +0.6
MONM IAmb IAmb 18 55 20.9
comp=Z,76nm,1.0s
FAKI **Fak Fak** 74.93 244 P P 18 55 20.9 +0.8
FAKI IAMs_20 IAMs_20 19 21 36.4
comp=Z,542nm,21.0s
FAKI **Fak Fak** 74.93 244 P P 18 55 21.8 +1.6
FAKI **Fak Fak** 74.93 244 P P 18 55 21.8 +1.6
CHIV **Chivirico** 74.97 77 IAmb IAmb 18 55 22.4
comp=Z,96nm,0.8s
NRDL **Niedersach Rie** 74.98 2 *e* P P 18 55 20.9 +1.0
comp=Z,24nm,0.9s,baz=360,slow=5.7
STRD **Stroud** 74.99 9 *e* P P 18 55 20.9 +0.8
STRD IAmb IAmb 18 55 21.7
comp=Z,118nm,0.9s
RUE **Ruedersdorf** 75.01 359 *e* P P 18 55 18.2 -1.9
R9F13 **Warsaw-Wawer** 75.02 355 *i* P P 18 55 20.9 +0.7
IBBN **Ibenburen** 75.11 3 *e* P P 18 55 21.8 +1.1
comp=Z,61nm,1.0s,baz=360,slow=5.7
FLTG **Flechtingen** 75.16 1 *e* P P 18 55 21.5 +0.5
comp=Z,16nm,0.7s,baz=360,slow=5.7
ASSE **Asse, Remlinge** 75.35 1 *e* P P 18 55 23.1 +1.0
comp=Z,25nm,0.9s,baz=360,slow=5.7
NMDO **Nuevo Mundo** 75.36 75 P P 18 55 22.7 0.0
NMDO IAmb IAmb 18 55 25.2
comp=Z,64nm,0.9s
BEL **Belsk** 75.42 355 *e* P P 18 55 23.2 +0.7
HTL **Hartland** 75.51 11⇑ *e* P P 18 55 23.8 +0.8
HTL IAmb IAmb 18 55 24.6
comp=Z,67nm,0.9s
WOL **Wolverton** 75.54 9⇑ *e* P P 18 55 23.8 +0.6
CLZ **Clausthal** 75.64 1 *e* P P 18 55 25.2 +1.3
comp=Z,31nm,0.8s,baz=360,slow=5.7
GAR **Garm** 75.70 317 P P 18 55 24.8 +0.3
GTBY **Guantanamo Bay** 75.77 76 IAMs_20 IAMs_20 19 29 47.7
comp=Z,535nm,19.0s
AKASG **Malin Array Be** 75.83 349 P P 18 55 24.0 -0.9
AKASG **Malin Array Be** 75.83 349 P P 18 55 24.3 -0.6
comp=Z,53nm,0.6s,baz=14,slow=5.6,SNR=116
AKASG LR LR 19 36 24.2
comp=Z,671nm,18.1s,baz=24,slow=42
comp=Z,53nm,0.6s
AKBB **Malin Array Si** 75.83 349 *c i* P P 18 55 24.3 -0.6
AKBB pmax pmax
comp=Z,123nm,0.8s
KIEV **Kiev** 75.84 349 P P 18 55 23.9 -1.0
KIEV **Kiev** 75.84 349 P P 18 55 23.9 -1.0
KIEV pmax pmax
comp=Z,106nm,0.8s
KIEV MLR MLR
comp=Z,800nm,22.0s
KIEV **Kiev** 75.84 349 *i* P P 18 55 24.4 -0.6
SNR=12
SBD **Saint Breward** 75.91 11 *e* P P 18 55 25.7 +0.3
GTTG **Gottingen** 75.93 2 *e* P P 18 55 26.7 +1.3
comp=Z,50nm,0.9s,baz=360,slow=5.7
BUG **Bochum--Univer** 75.96 3 *e* P P 18 55 26.3 +0.7
comp=Z,21nm,0.8s,baz=360,slow=5.7
SHL **Shillong** 76.08 294 P P 18 55 26.5 -0.5
SHL **Shillong** 76.08 294 P P 18 55 26.5 -0.5
SHL **Shillong** 76.08 294 P P 18 55 26.5 -0.5
SHL pmax pmax
comp=Z,82nm,0.9s
DYA **Yadsworthy** 76.13 11 *e* P P 18 55 27.0 +0.4
CLL **Collm** 76.19 360 P P 18 55 26.5 -0.4
CLL IAmb IAmb 18 55 28.4
comp=Z,24nm,0.8s
CLL IAMs_20 IAMs_20 19 31 27.7
comp=Z,519nm,19.0s
CLL **Collm** 76.19 360 *i* P P 18 55 26.9 0.0
CLL *e* S **S** 19 05 08.0 +0.3
CLL pmax pmax
comp=Z,29nm,0.9s
CLL MLR MLR
comp=Z,500nm,19.0s
CLL **Collm** 76.19 360 *e* P P 18 55 27.5 +0.6
comp=Z,21nm,0.8s,baz=360,slow=5.7
UBPT **Khong Chiam** 76.20 277 P P 18 55 28.5 +1.0
UBPT **Khong Chiam** 76.20 277 P P 18 55 29.1 +1.6
CCA1 **Carnmenellis** 76.22 12 *e* P P 18 55 27.8 +0.7
CCA1 IAmb IAmb 18 55 28.2
comp=Z,72nm,0.6s
KASTN **Kahler Asten** 76.23 3 *e* P P 18 55 28.2 +0.9
comp=Z,18nm,0.9s,baz=360,slow=5.7
NEUB **Neuenburg** 76.28 0 *e* P P 18 55 28.5 +1.0

comp=Z,37nm,0.8s,baz=360,slow=5.7
UCC Uccle 76.47 5 IAmb IAmb 18 55 30.0
comp=Z,82nm,1.8s
UCC Uccle 76.47 5 *d*P **P 18 55 28.8 +0.4**
BEBN Eben Emael 76.54 4 *d*P **P 18 55 29.2 +0.4**
comp=Z,48nm,0.0s
KSP Ksiaz 76.60 358 *e*P **P 18 55 29.8 +0.6**
BRG Berggiesshubel 76.61 359 *e*P **P 18 55 30.2 +0.9**
comp=Z,25nm,1.0s,baz=360,slow=5.7
BRG Berggiesshubel 76.61 359⇑ *i*P **P 18 55 29.9 +0.6**
BRG Amp 18 55 31.9
comp=Z,41nm,1.2s
BRG Berggiesshubel 76.61 359 S **S 19 05 20.0 +7.6**
KMSI Cibinong 76.72 253 P **P 18 55 29.6 -0.8**
MEM Membach 76.74 4 *d*P **P 18 55 30.6 +0.5**
comp=Z,29nm,1.2s
BSTI Sart Tilman 76.74 5 *d*P **P 18 55 30.9 +0.8**
comp=Z,10.0nm,0.8s
BTNL Ternell 76.77 4 *d*P **P 18 55 31.0 +0.8**
comp=Z,26nm,1.1s
MOX Moxa 76.85 1 *e*P **P 18 55 31.7 +1.0**
comp=Z,25nm,0.7s,baz=360,slow=5.7
MOX *e*L L 19 34 08.4
comp=Z,334nm,21.9s
CHVC Chvalec 76.86 358 *e*P **P 18 55 31.8 +1.0**
CHVC AMS AMS 19 39 20.0
comp=Z,400nm,17.8s
CHVC Chvalec 76.86 358 *e*P **P 18 55 31.8 +1.0**
CHVC MLR MLR
comp=Z,400nm,17.8s
OSTC Ostas 76.89 358 *e*P **P 18 55 31.5 +0.6**
OSTC AMS AMS 19 39 00.0
comp=Z,400nm,17.3s
OSTC Ostas 76.89 358 *e*P **P 18 55 31.5 +0.6**
OSTC MLR MLR
comp=Z,400nm,17.3s
BCLA Clavier 76.89 5 *d*P **P 18 55 30.8 -0.2**
comp=Z,19nm,1.1s
BGES Gesves 76.92 5 *d*P **P 18 55 31.3 +0.2**
comp=Z,17nm,0.9s
KKM Kota Kinabalu 76.94 263 IAmb IAmb 18 55 34.6
comp=Z,73nm,1.2s
KKM IAMs_20 IAMs_20 19 25 56.7
comp=Z,492nm,21.0s
KKM Kota Kinabalu 76.94 263 P **P 18 55 33.6 +1.8**
RICC Richard 76.94 359 *e*P **P 18 55 32.5 +1.3**
UPC Upice 76.94 358 *e*P **P 18 55 32.2 +1.0**
UPC AMS AMS 19 38 20.0
comp=Z,400nm,18.3s
UPC Upice 76.94 358 *e*P **P 18 55 32.2 +1.0**
UPC MLR MLR
comp=Z,400nm,18.3s
PVCC Panska Ves 76.95 359 *e*P **P 18 55 31.2 -0.1**
PVCC AMS AMS 19 32 10.0
comp=Z,500nm,21.3s
PVCC Panska Ves 76.95 359 *e*P **P 18 55 31.2 -0.1**
PVCC MLR MLR
comp=Z,500nm,21.3s
BMRD Maredsous 76.98 5 *d*P **P 18 55 32.1 +0.7**
comp=Z,37nm,0.9s
BHOU Houvegnez 76.99 4 *d*P **P 18 55 32.3 +0.8**
comp=Z,10nm,1.0s
TANN Tannenbergstha 77.08 0 *e*P **P 18 55 33.1 +1.0**
comp=Z,11nm,1.0s,baz=360,slow=5.7
OJC Ojcow 77.09 355 *e*P **P 18 55 32.3 +0.2**
OJC Ojcow 77.09 355 P **P 18 55 32.4 +0.3**
OJC Ojcow 77.09 355 P **P 18 55 32.4 +0.3**
DPC Dobruska-Polom 77.09 357 *e*P **P 18 55 33.5 +1.4**
DPC AMS AMS 19 38 50.0
comp=Z,400nm,17.7s
DPC Dobruska-Polom 77.09 357 *e*P **P 18 55 33.5 +1.4**
DPC MLR MLR
comp=Z,400nm,17.7s
MSAI Masohi 77.11 247 P **P 18 55 31.2 -1.4**
comp=Z,135nm,1.0s
DOU Dourbes 77.18 5 *d*P **P 18 55 33.0 +0.4**
comp=Z,24nm,1.0s
TNS Taunus Mts 77.22 3 *e*P **P 18 55 33.8 +1.0**
comp=Z,15nm,0.7s,baz=360,slow=5.7
NKC Novy Kostel 77.26 0 *e*P **P 18 55 34.1 +1.1**
NKC AMS AMS 19 41 50.0
comp=Z,300nm,16.3s
NKC Novy Kostel 77.26 0 *e*P **P 18 55 34.1 +1.1**
NKC MLR MLR
comp=Z,300nm,16.3s
CHTO Chiang Mai 77.33 284 P **P 18 55 34.1 +0.2**
CHTO Chiang Mai 77.33 284 P **P 18 55 34.5 +0.6**
CHTO Chiang Mai 77.33 284 P **P 18 55 35.1 +1.2**
CHTO Chiang Mai 77.33 284 P **P 18 55 34.1 +0.2**
CHTO pmax pmax
comp=Z,133nm,1.2s
CHTO MLR MLR
comp=Z,700nm,20.0s
KRLC Kraliky 77.36 357 *e*P **P 18 55 34.8 +1.2**
KRLC Kraliky 77.36 357 *e*P **P 18 55 34.8 +1.2**
JTS Las Juntas de 77.37 90 LR LR 19 29 02.4
comp=Z,203nm,21.6s,baz=310,slow=35
PRA Prague 77.41 359 *e*P **P 18 55 34.9 +1.1**
PRA AMS AMS 19 32 40.0
comp=Z,500nm,18.9s
PRA Prague 77.41 359 *e*P **P 18 55 34.9 +1.1**
PRA MLR MLR
comp=Z,500nm,18.9s
STEB Steborice 77.46 357 *e*P **P 18 55 35.2 +1.1**
PRU Pruhonice 77.49 359 *e*P **P 18 55 35.2 +0.9**
PRU AMS AMS 19 32 50.0
comp=Z,600nm,20.2s
PRU Pruhonice 77.49 359 *e*P **P 18 55 35.2 +0.9**
PRU MLR MLR
comp=Z,600nm,20.2s
KWP Kalwaria Pacla 77.50 353 *e*P **P 18 55 35.1 +0.7**
MANZ Manzenberg 77.51 0 *e*P **P 18 55 35.5 +1.0**
comp=Z,2.6nm,0.8s,baz=360,slow=5.7
TBI Tubuai 77.52 163 *e*P **P 18 55 33.2 -1.3**
comp=Z,298nm,25.0s
TBI *e*S **S 19 05 18.1 -4.4**
comp=Z,2μm,38.8s
TBI *e*SS **SS 19 10 21.2 -1.7**
comp=Z,1μm,27.5s
TBI *e*LQ LQ 19 15 49.0
comp=Z,1μm,26.2s
TBI *e*LR LR 19 19 26.5
comp=Z,2μm,23.5s
TBI *e*LR LR 19 19 33.0
comp=Z,5μm,22.8s
OKC Ostrava-Krasne 77.55 356 *e*P **P 18 55 35.1 +0.5**
OKC AMS AMS 19 28 20.0
comp=Z,600nm,18.0s
OKC Ostrava-Krasne 77.55 356 *e*P **P 18 55 35.1 +0.5**
OKC MLR MLR
comp=Z,600nm,18.0s
JSA Saint Aubin 77.55 10 *e*P **P 18 55 34.9 +0.3**
JSA IAmb IAmb 18 55 35.5
comp=Z,30nm,0.7s
GOPC GO Pecny, Ondr 77.56 358 *e*P **P 18 55 35.6 +0.9**
GOPC AMS AMS 19 33 00.0
comp=Z,600nm,20.2s
GOPC GO Pecny, Ondr 77.56 358 *e*P **P 18 55 35.6 +0.9**
GOPC MLR MLR
comp=Z,600nm,20.2s
CM31 Chiang Mai Arr 77.61 284 P **P 18 55 36.1 +0.7**
CM31 Chiang Mai Arr 77.61 284 P **P 18 55 36.9 +1.4**
CMAR Chiang Mai Arr 77.61 284 P **P 18 55 36.0 +0.6**
CMAR Chiang Mai Arr 77.61 284 P **P 18 55 36.6 +1.2**
comp=Z,134nm,1.0s,baz=24,slow=5.7,SNR=323
CMAR LR LR 19 31 17.7
comp=Z,539nm,21.2s,baz=45,slow=37
comp=Z,134nm,1.0s
MORC Moravsky Berou 77.63 357 P **P 18 55 35.5 +0.4**
MORC IAmb IAmb 18 55 37.1
comp=Z,54nm,1.1s
MORC Moravsky Berou 77.63 357 *e*P **P 18 55 35.8 +0.7**
MORC Moravsky Berou 77.63 357⇑⇑P **P 18 55 36.1 +1.0**
MORC Moravsky Berou 77.63 357 P **P 18 55 36.3 +1.2**
WLF Walferdange 77.69 4 IAmb IAmb 18 55 37.7
comp=Z,41nm,1.1s
WLF IAMs_20 IAMs_20 19 36 29.5
comp=Z,690nm,20.0s
WLF Walferdange 77.69 4 *d*P **P 18 55 36.5 +1.1**
comp=Z,21nm,1.1s
WLF Walferdange 77.69 4 *e*P **P 18 55 36.8 +1.4**
comp=Z,23nm,0.9s,baz=360,slow=5.7
SANI Sanana 77.70 250 P **P 18 55 37.7 +1.8**
SANI Sanana 77.70 250 P **P 18 55 35.1 -0.8**
comp=Z,1μmcomp=Z,93nm,1.1s
ROTZ Rotzenmuhle 77.73 0 *e*P **P 18 55 36.9 +1.3**
comp=Z,3.3nm,0.8s,baz=360,slow=5.7
AAI Ambon 77.80 247 P **P 18 55 37.3 +0.9**
comp=Z,140nm,1.1s
GRA1 Grafenberg Arr 77.80 1 IAmb IAmb 18 55 38.4
comp=Z,58nm,1.0s
GRF Grafenberg Arr 77.80 1 *e*P **P 18 55 37.5 +1.5**
comp=Z,35nm,0.8s,baz=360,slow=5.7
GRF *e*L L 19 28 40.5
comp=Z,253nm,21.7s
GRFO Grafenberg 77.80 1 P **P 18 55 36.3 +0.3**
GRFO IAmb IAmb 18 55 38.4
comp=Z,63nm,1.1s
GRFO Grafenberg 77.80 1 P **P 18 55 36.3 +0.3**
GRFO pmax pmax
comp=Z,63nm,1.1s
GRFO MLR MLR
comp=Z,300nm,20.0s
STHS Stebnicka Huta 77.81 354 *e*P **P 18 55 36.8 +0.7**
STHS pmax pmax
comp=Z,96nm,0.9s
STHS Stebnicka Huta 77.81 354 *e*P **P 18 55 36.8 +0.7**
NIE Niedzica 77.86 355 *e*P **P 18 55 37.7 +1.3**
MRSI Marisa 77.98 255 P **P 18 55 37.4 -0.1**
comp=Z,991nmcomp=Z,71nm,1.3s
DZM Mont Dzumac 78.00 205 P **P 18 55 37.9 +0.5**
DZM IAmb IAmb 18 55 53.8
comp=Z,34nm,1.0s
DZM Mont Dzumac 78.00 205 *e*P P 18 55 31.0 -6.4
comp=Z,97nm,24.9s
DZM Mont Dzumac 78.00 205 *e*PP **PP 18 58 28.5 -5.8**
comp=Z,76nm,23.2s
DZM *e*S **S 19 05 24.1 -4.0**
comp=Z,299nm,28.1s
DZM *e*SS **SS 19 10 25.3 -5.2**
comp=Z,225nm,26.8s
DZM *e*LQ LQ 19 16 28.0
comp=Z,491nm,28.9s
DZM *e*LR LR 19 19 38.2
comp=Z,2μm,22.5s
DZM Mont Dzumac 78.00 205 LR LR 19 23 20.9
comp=Z,1μm,21.0s,baz=36,slow=30
DZM Mont Dzumac 78.00 205 P **P 18 55 39.8 +2.4**
MAUC Maruska 78.03 356 *e*P **P 18 55 38.8 +1.4**
NLAI Namlea 78.04 248 P **P 18 55 38.6 +0.8**
comp=Z,53nm,1.1s
ZVC Zvikov 78.05 359 *e*P **P 18 55 38.7 +1.3**
ZVC AMS AMS 19 32 50.0
comp=Z,500nm,17.7s
VRAC Vranov 78.13 357 *e*P **P 18 55 38.8 +0.9**
VRAC Vranov 78.13 357 LR LR 19 30 03.1
comp=Z,262nm,20.6s,baz=11,slow=36
VRAC Vranov 78.13 357⇑P **P 18 55 39.1 +1.2**
VRAC Vranov 78.13 357 P **P 18 55 39.1 +1.2**
TOLI2 Tolitoli 78.15 256 P **P 18 55 38.1 -0.4**
TOLI2 IAmb IAmb 18 55 40.0
comp=Z,61nm,1.2s
TOLI2 Tolitoli 78.15 256 P **P 18 55 38.9 +0.5**
TREC Trest 78.17 358 *e*P **P 18 55 39.0 +0.9**
TREC AMS AMS 19 39 50.0
comp=Z,400nm,15.7s
TREC Trest 78.17 358 *e*P **P 18 55 39.0 +0.9**
TREC MLR MLR
comp=Z,400nm,15.7s
LANS Liptovska Anna 78.17 355 *e*P **P 18 55 40.1 +1.9**
LANS pmax pmax
comp=Z,60nm,0.8s
LANS Liptovska Anna 78.17 355 *e*P **P 18 55 40.1 +1.9**
KOLS Kolonicke sedl 78.22 353 *e*P **P 18 55 39.4 +1.0**
KOLS pmax pmax
comp=Z,45nm,0.8s
KOLS Kolonicke sedl 78.22 353 *e*P **P 18 55 39.4 +1.0**
WET Wettzell 78.35 360 *e*P **P 18 55 40.4 +1.3**
comp=Z,44nm,1.3s,baz=360,slow=5.7
KHC Kasperske Hory 78.36 359 *e*P **P 18 55 40.0 +0.8**
KHC *e*S **S 19 05 32.0 +0.5**
KHC AMS AMS 19 32 30.0
comp=Z,500nm,18.5s
KHC Kasperske Hory 78.36 359*c i*P **P 18 55 40.3 +1.1**
KHC pmax pmax
comp=Z,74nm,1.3s
KRUC Moravsky 78.38 357 *e*P **P 18 55 39.9 +0.7**
BRDH Bariadhala 78.50 292 LR LR 19 34 03.1
comp=Z,695nm,19.3s,baz=73,slow=38
JAVC Velka Javorina 78.54 357 *e*P **P 18 55 42.3 +2.1**
GEC2 GERESS Array S 78.65 359 P **P 18 55 40.9 +0.1**
GEC2 IAmb IAmb 18 55 44.2
comp=Z,26nm,0.9s
GEC2 GERESS Array S 78.65 359 *e*P **P 18 55 41.9 +1.0**
comp=Z,18nm,0.8s,baz=360,slow=5.7
GERES GERESS Array B 78.65 359 P **P 18 55 40.7 -0.1**
GERES GERESS Array B 78.65 359 P **P 18 55 41.5 +0.7**
comp=Z,14nm,0.8s,baz=0.0,slow=4.4,SNR=113
GERES PKKPbc **PKKPbc 19 14 33.7 +0.2**
comp=Z,0.4nm,0.5s,baz=167,slow=1.7,SNR=5.0
GERES PKPPKP P'P'df 19 22 35.9 -8.8
comp=Z,1.4nm,1.1s,baz=253,slow=6.1,SNR=5.2
GERES LR LR 19 33 41.4
comp=Z,298nm,18.3s,baz=7.5,slow=38
comp=Z,14nm,0.8s
CKRC Cesky Krumlov 78.67 359 *e*P **P 18 55 41.7 +0.8**
CKRC AMS AMS 19 33 40.0
comp=Z,600nm,18.8s
CKRC Cesky Krumlov 78.67 359 *e*P **P 18 55 41.7 +0.8**
CKRC MLR MLR
comp=Z,600nm,18.8s
STU Stuttgart 78.69 2 *e*P **P 18 55 41.1 +0.1**
LUWI Luwuk 78.72 253 P **P 18 55 41.1 -0.4**
LUWI Luwuk 78.72 253 P **P 18 55 42.0 +0.4**
LUWI Luwuk 78.72 253 P **P 18 55 41.7 +0.1**
SDDR Presa de Saban 78.75 74 IAmb IAmb 18 55 43.8
comp=Z,49nm,0.8s
KECS Kecovo 78.78 355 *e*P **P 18 55 42.8 +1.3**
KECS pmax pmax
comp=Z,77nm,1.0s
KECS Kecovo 78.78 355 *e*P **P 18 55 42.8 +1.3**
VYHS Vyhne 78.86 356 *e*P **P 18 55 43.0 +1.1**
VYHS pmax pmax
comp=Z,106nm,1.1s
VYHS Vyhne 78.86 356 *e*P **P 18 55 43.0 +1.1**
COEN Coen 78.88 229 P **P 18 55 42.6 +0.2**
COEN IAmb IAmb 18 55 44.3
comp=Z,36nm,1.1s
SMOL Smolenice 78.90 357 *e*P **P 18 55 43.8 +1.7**
SMOL pmax pmax
comp=Z,43nm,1.1s
ERBR Yeremizino-Bor 78.90 340 *e*P **P 18 55 42.3 +0.1**
ERBR *e**PP **pP 18 55 55.6 +1.8**
ERBR *e*S **S 19 05 38.6 +1.4**
ERBR pmax pmax
comp=Z,339nm,1.2s
NIL Nilore 78.95 312 P **P 18 55 42.9 +0.2**
NIL Nilore 78.95 312 P **P 18 55 43.6 +0.9**
NIL Nilore 78.95 312 P **P 18 55 42.9 +0.2**
NIL pmax pmax
comp=Z,166nm,1.1s
NIL MLR MLR
comp=Z,1μm,19.0s
GOF Gofitskoye 78.98 338*c i*P **P 18 55 44.1 +1.5**
MODS Modra-Piesok 79.04 357 *e*P **P 18 55 43.1 +0.2**
MODS pmax pmax
comp=Z,239nm,1.2s
MODS Modra-Piesok 79.04 357 *e*P **P 18 55 43.1 +0.2**
BFO Black Forest 79.10 3 P **P 18 55 43.2 -0.1**
BFO IAmb IAmb 18 55 45.1
comp=Z,76nm,1.6s
BFO Black Forest 79.10 3 P **P 18 55 43.2 -0.1**
BFO pmax pmax
comp=Z,76nm,1.6s
BFO MLR MLR
comp=Z,300nm,19.0s
BFO Black Forest 79.10 3 *e*P **P 18 55 44.2 +0.9**
comp=Z,18nm,0.9s,baz=360,slow=5.7
ECH Echery 79.18 4 IAmb IAmb 18 55 45.5
comp=Z,32nm,0.9s
BUR08 Bucovina Ar. S 79.27 351 P **P 18 55 44.3 0.0**
BUR08 IAmb IAmb 18 55 45.9
comp=Z,42nm,0.8s
APSI Ampana 79.27 254 P **P 18 55 44.4 -0.2**
comp=Z,683nmcomp=Z,68nm,1.1s
MPSI Mapaga 79.29 256 P **P 18 55 44.8 +0.1**
comp=Z,862nmcomp=Z,64nm,1.2s
BURAR Bucovina Array 79.30 351 P **P 18 55 44.3 -0.1**
BURAR IAmb IAmb 18 55 46.3
comp=Z,52nm,0.8s
PSZ Piszkesteto 79.38 355 P **P 18 55 45.7 +0.8**
PSZ Piszkesteto 79.38 355⇑P **P 18 55 46.2 +1.3**
PSZ Piszkesteto 79.38 355 P **P 18 55 46.1 +1.3**
PSZ Piszkesteto 79.38 355 *e*P **P 18 55 44.9 +0.1**
BMR Baia Mare 79.39 352⇑P **P 18 55 45.6 +0.8**
BMR Baia Mare 79.39 352 P **P 18 55 45.5 +0.8**
CONA Conrad Observa 79.53 358 *i*P **P 18 55 47.0 +1.3**
comp=Z,65nm,0.9s,SNR=47
KIS Kishinev 79.53 349⇑ *e*P **P 18 55 45.0 -0.5**
comp=Z,100nm,1.6s
KIS *e*L L 19 29 31.0
KIS LRM MLR 19 39 00.0
comp=Z,300nm,16.5s
KIS Kishinev 79.53 349*c e*P **P 18 55 45.0 -0.5**
KIS pmax pmax
comp=Z,100nm,1.6s
KIS MLR MLR
comp=Z,300nm,16.5s
SRO Srobarova 79.56 356 *e*P **P 18 55 47.8 +2.1**
SRO pmax pmax
comp=Z,119nm,1.4s
SRO Srobarova 79.56 356 *e*P **P 18 55 47.8 +2.1**
MILM Milestii Mici 79.61 349⇑ *i*P **P 18 55 45.0 -1.0**
comp=Z,190nm,1.4s
MILM *e*S **S 19 05 40.0 -4.7**
MILM Milestii Mici 79.61 349 ⇑P **P 18 55 45.4 -0.6**
MILM Milestii Mici 79.61 349*c i*P **P 18 55 45.0 -1.0**
MILM *e*S **S 19 05 40.0 -4.7**
MILM *i* PS **PnS 19 06 41.0 +9.4**
MILM pmax pmax
comp=Z,190nm,1.4s
MOA Molln 79.64 359 *i*P **P 18 55 46.9 +0.7**
comp=Z,23nm,1.1s,SNR=14
SAUI Saumlaki 79.67 242 P **P 18 55 48.1 +1.4**
SAUI Saumlaki 79.67 242 P **P 18 55 48.6 +1.9**
SAUI Saumlaki 79.67 242 P **P 18 55 49.1 +2.4**
RONA Rosalia, Austr 79.75 357 *i*P **P 18 55 48.2 +1.5**
comp=Z,46nm,1.2s,SNR=21
RJOB Jochberg 79.76 360 *e*P **P 18 55 48.2 +1.3**
comp=Z,26nm,0.8s,baz=360,slow=5.7
BIOA Bad Ischl, Aus 79.80 359 *i*P **P 18 55 47.9 +0.8**
comp=Z,36nm,1.1s,SNR=22
LABN Labinsk 79.88 340 *e*P **P 18 55 48.6 +1.1**
LABN *e**PP **sP 18 56 01.3 -2.8**
LABN *e*S **S 19 05 51.1 +3.5**
LABN pmax pmax
comp=Z,104nm,1.0s
LABN MLR MLR
comp=Z,549nm,21.0s
LABN MLR MLR
comp=E,391nm,15.0s
LABN MLR MLR
comp=N,234nm,16.0s
MAK Makhachkala 79.88 335 *e*P **P 18 55 48.0 +0.5**
MAK *e* 18 58 48.2
MAK *e*PPP PPP 19 00 39.3
MAK *e*S **S 19 05 49.6 +1.9**
MAK pmax pmax
comp=Z,270nm,1.3s
VASR Vaslui 80.00 349⇑P **P 18 55 48.6 +0.5**
RETA Reutte 80.00 1 *i*P **P 18 55 49.1 +0.9**
comp=Z,29nm,0.9s,SNR=25
KBL Kabul 80.03 316 P **P 18 55 48.0 -0.8**
KBL Kabul 80.03 316 P **P 18 55 48.5 -0.3**
KBL Kabul 80.03 316 P **P 18 55 48.0 -0.8**
KBL pmax pmax
comp=Z,83nm,1.0s
LESA Schwarzleotal 80.07 360 *i*P **P 18 55 49.6 +1.0**
comp=Z,33nm,1.3s,SNR=18
KVAR Kislovodsk Arr 80.11 338 LR LR 19 34 50.4
comp=Z,783nm,21.5s,baz=264,slow=38
KIV Kislovodsk 80.11 338 P **P 18 55 49.4 +0.5**
KIV Kislovodsk 80.11 338 P **P 18 55 50.1 +1.2**
KIV Kislovodsk 80.11 338 *e*P **P 18 55 50.1 +1.2**
KIV *e* 18 58 51.2
KIV *e*S **S 19 05 51.6 +1.3**
KIV *e*SS **SS 19 10 57.5 -2.2**
KIV pmax pmax
comp=Z,108nm,1.1s
KIV pmax pmax
comp=Z,55nm,3.4s
KIV MLR MLR
comp=Z,699nm,19.0s
KIV Kislovodsk 80.11 338 *i*P **P 18 55 50.1 +1.2**
SNR=31
MOTA Moosalm 80.14 1 *i*P **P 18 55 50.0 +0.8**
comp=Z,60nm,0.9s,SNR=34
WATA Walderalm 80.16 1 *i*P **P 18 55 50.2 +1.0**
comp=Z,72nm,1.2s,SNR=22
DAVA Damuels 80.19 2 *e*P **P 18 55 49.9 +0.5**
comp=Z,23nm,0.7s,SNR=12
ARSA Arzberg 80.21 358 P **P 18 55 50.3 +1.0**
ARSA IAmb IAmb 18 55 52.0
comp=Z,63nm,1.1s
ARSA Arzberg 80.21 358 *i*P **P 18 55 50.7 +1.4**
comp=Z,54nm,1.1s,SNR=33
WTTA Wattenberg 80.23 1 *i*P **P 18 55 50.8 +1.2**
comp=Z,34nm,0.7s,SNR=17
TESR Tescani 80.25 350⇑P **P 18 55 49.3 -0.2**
SQTA Sankt Quirin 80.27 1 *i*P **P 18 55 50.9 +1.1**
comp=Z,78nm,0.9s,SNR=43
KBZ Khabaz 80.28 338 P **P 18 55 50.9 +1.3**
comp=Z,43nm,0.9s,baz=70,slow=1.2,SNR=56
KBZ LR LR 19 34 51.2
comp=Z,928nm,21.7s,baz=4.0,slow=38
comp=Z,43nm,0.9s
KBZ Khabaz 80.28 338*c i*P **P 18 55 51.0 +1.3**
KBZ pmax pmax
comp=Z,80nm,1.1s
KBZ MLR MLR
comp=Z,962nm,22.0s
DRGR 80.32 353⇓P **P 18 55 50.1 +0.1**
DRGR 80.32 353 P **P 18 55 50.0 +0.1**
PCI Palu 80.33 256 P **P 18 55 50.1 -0.2**
comp=Z,1μmcomp=Z,114nm,1.2s
CJR Cluj-Napoca 80.33 352⇑P **P 18 55 50.9 +0.8**
CJR Cluj-Napoca 80.33 352 P **P 18 55 50.8 +0.8**
ANN Anapa 80.37 342 *e*P **P 18 55 48.8 -1.3**
ANN *e**PP **pP 18 56 00.0 -1.8**
ANN *e*S **S 19 05 51.2 -1.5**
ANN *e*SS **SS 19 11 04.4 +1.2**
ANN pmax pmax
comp=Z,91nm,0.9s
KBA Koelnbreinsper 80.42 359 *i*P **P 18 55 53.0 +2.4**
comp=Z,132nm,0.8s
ONER Baraj Valea Uz 80.45 350⇓P **P 18 55 51.7 +1.2**
FETA Feichten 80.47 1 *i*P **P 18 55 52.0 +1.1**
comp=Z,64nm,0.8s,SNR=33
DAVOX Davos/Dischmat 80.69 2 LR LR 19 30 20.0
comp=Z,232nm,21.9s,baz=16,slow=35
OZUR 80.75 351⇑P **P 18 55 53.2 +1.0**
ABTA Abfaltersbach 80.75 360 *i*P **P 18 55 53.2 +0.9**
comp=Z,88nm,1.1s,SNR=26
VLDR Vladesti 80.75 349⇓P **P 18 55 53.0 +0.8**
TURR Turia 80.77 351⇑P **P 18 55 53.0 +0.7**
SOKA Soboth 80.80 358 *i*P **P 18 55 53.7 +1.2**
comp=Z,85nm,1.0s,SNR=71
SIM Simferopol' 80.80 345 *e*P **P 18 55 53.0 +0.6**
SIM *e*S **S 19 05 55.9 -1.4**
SIM pmax pmax
comp=Z,84nm,1.1s
SIM smax smax
comp=N,28μm,14.3s
SIM MLR MLR
comp=Z,593nm,20.1s
PERS Pernice 80.84 358 *i*P **P 18 55 53.8 +1.0**
PERS *i* 18 55 54.8
comp=Z,82nm,0.8s
FUORN Ofenpass-Fuorn 80.86 2 IAMs_20 IAMs_20 19 38 50.4
comp=Z,476nm,21.0s
MYKA Terra Mystica 80.86 359 *i*P **P 18 55 53.5 +0.7**
comp=Z,46nm,1.4s,SNR=14
PLOR Plostina 80.90 350⇑P **P 18 55 53.5 +0.4**
PLOR Plostina 80.90 350 P **P 18 55 53.4 +0.4**
SCTR Scanteiesti 80.93 349⇑P **P 18 55 53.8 +0.7**
ODBI Odobesti 80.95 350⇓P **P 18 55 54.8 +1.6**
BEHE Becsehely 80.96 357 P **P 18 55 53.9 +0.7**
BEHE IAmb IAmb 18 55 56.1
comp=Z,50nm,1.2s
OBKA Obir 80.97 359⇑ *i*P **P 18 55 54.4 +0.9**
OBKA Obir 80.97 359 *i*P **P 18 55 54.6 +1.1**
comp=Z,82nm,0.7s,SNR=27
TUE Stuetta 80.99 2 IAmb IAmb 18 55 56.4
comp=Z,37nm,0.8s
KOGS Kog 81.00 357 *i*P **P 18 55 54.6 +1.1**
SENIN Lac Senin/Sane 81.03 4 IAMs_20 IAMs_20 19 36 21.0

comp=Z,407nm,20.0s
PRED Cave del Predi 81.05 359 P **P** **18 55 53.8 0.0**
PRED IAmb IAmb 18 55 55.5
comp=Z,59nm,0.9s
NEGRR Negrea 81.08 349 ⇓P **P** **18 55 54.4 +0.5**
IZVR Izvoarele 81.08 349 ⇓P **P** **18 55 54.9 +0.9**
SOC Sochi 81.10 340 *e*P **P** **18 55 53.5 -0.6**
SOC *e*PPP PPP 19 00 45.4
SOC *e*S **S** **19 06 01.2 +0.8**
SOC *e*SS **SS** **19 11 13.7 -0.5**
SOC *e*SSS SSS 19 14 46.2
SOC pmax pmax
comp=Z,96nm,0.6s
SOC MLR MLR
comp=Z,849nm,20.0s
SCHL Schela 81.12 349 ⇑P **P** **18 55 55.6 +1.5**
MORH Mrgy, Hungar 81.14 356 ⇑P **P** **18 55 54.7 +0.4**
VSLR Vesyoloye 81.15 340*c i*P **P** **18 55 55.6 +1.2**
VSLR pmax pmax
comp=Z,163nm,1.1s
AKT Akhty 81.21 334*c i*P **P** **18 55 55.5 +0.7**
AKT *e* 18 56 00.8
AKT *e*PP **sP** **18 56 10.1 -1.3**
AKT *e*S **S** **19 05 59.5 -2.4**
AKT pmax pmax
comp=Z,183nm,1.3s
AKT MLR MLR
comp=Z,1µm,23.0s
STAL STALIGIAL 81.24 360 P **P** **18 55 54.6 -0.2**
STAL IAmb IAmb 18 55 56.5
comp=Z,14nm,0.6s
CADS Cadrg 81.26 359 *i*P **P** **18 55 55.1 +0.2**
TNR Turnu Rosu 81.33 352 ⇑P **P** **18 55 56.0 +0.7**
TNR Turnu Rosu 81.33 352 P **P** **18 55 56.0 +0.7**
MLR Muntele Rosu 81.33 350 IAmb IAmb 18 55 58.2
comp=Z,35nm,1.0s
MLR Muntele Rosu 81.33 350 LR LR 19 38 10.0
comp=Z,601nm,18.4s,baz=28,slow=40
MLR Muntele Rosu 81.33 350 ⇓P **P** **18 55 56.7 +1.2**
MLR Muntele Rosu 81.33 350 P **P** **18 55 56.6 +1.2**
NEHR Nehoiu 81.36 350 ⇑P **P** **18 55 56.0 +0.5**
CFR Carcaliu 81.40 349 ⇑P **P** **18 55 56.0 +0.3**
CFR Carcaliu 81.40 349 P **P** **18 55 55.9 +0.3**
VOIR 81.47 351 ⇑P **P** **18 55 56.7 +0.5**
VOIR 81.47 351 P **P** **18 55 56.6 +0.5**
SABO M.te Sabotino 81.51 359 P **P** **18 55 56.4 +0.1**
SABO IAmb IAmb 18 56 06.2
comp=Z,58nm,1.3s
BZS Buzias 81.57 354 ⇑P **P** **18 55 57.0 +0.4**
BZS Buzias 81.57 354 P **P** **18 55 56.9 +0.4**
CRES Cresnjevec Ost 81.64 358⇑*i*P **P** **18 55 55.8 -1.1**
JURR Jurilovca 81.72 348 ⇓P **P** **18 55 58.3 +1.0**
CEY Cerknica 81.75 359⇑*i*P **P** **18 55 57.4 -0.1**
TRI Trieste 81.78 359 P **P** **18 55 56.9 -0.8**
TRI IAmb IAmb 18 56 01.1
comp=Z,36nm,1.0s
TRI Trieste 81.78 359 P **P** **18 55 56.9 -0.8**
TRI pmax pmax
comp=Z,36nm,1.0s
HARR Harsova 81.91 349 ⇓P **P** **18 55 58.9 +0.6**
HARR Harsova 81.91 349 P **P** **18 55 58.9 +0.6**
SKDS Skadarscina 81.94 359⇑*i*P **P** **18 55 58.9 +0.4**
UUPR Utuado, UPR, P 81.95 71 IAmb IAmb 18 56 01.7
comp=Z,43nm,0.8s
BOJS Bojanci 81.97 358⇑*i*P **P** **18 55 59.4 +0.8**
SSB Saint Sauveur 81.98 6 IAmb IAmb 18 56 01.1
comp=Z,43nm,1.1s
TLBR Topalu 82.04 349 ⇓P **P** **18 55 59.7 +0.8**
TTSI Tana Toraja 82.06 254 P **P** **18 55 59.7 +0.2**
comp=Z,877nmcomp=Z,45nm,0.9s
TIRR Tirgusor 82.08 349 P **P** **18 55 59.3 +0.1**
TIRR Tirgusor 82.08 349 P **P** **18 55 59.3 +0.1**
TIRR pmax pmax
comp=Z,62nm,0.9s
TIRR MLR MLR
comp=Z,900nm,21.0s
SULR 82.10 350 ⇓P **P** **18 55 59.9 +0.6**
FRGS Fruska Gora 82.14 355⇑*i*P **P** **18 56 00.1 +0.5**
SBUM Sibu 82.19 264 P **P** **18 56 02.0 +1.8**
HERR Herculane 82.25 353 ⇓P **P** **18 56 00.6 +0.5**
RAO Raoul Island 82.29 189 LR LR 19 27 24.4
comp=Z,769nm,19.6s,baz=61,slow=32
BNI Bardonecchia 82.32 4 IAMs_20 IAMs_20 19 34 52.0
comp=Z,469nm,21.0s
SJG San Juan 82.39 70 P **P** **18 56 01.4 +0.2**
SJG IAmb IAmb 18 56 03.5
comp=Z,48nm,0.8s
SJG San Juan 82.39 70 IAMs_20 IAMs_20 19 32 00.7
comp=Z,572nm,22.0s
SJG San Juan 82.39 70 LR LR 19 32 34.6
comp=Z,378nm,21.1s,baz=342,slow=36
SJG San Juan 82.39 70 P **P** **18 56 01.4 +0.2**
SJG pmax pmax
comp=Z,48nm,0.9s
SJG MLR MLR
comp=Z,600nm,22.0s
SJG San Juan 82.39 70 P **P** **18 56 02.6 +1.4**
comp=Z,26nm,0.8s
MDVR Moldovita 82.39 353 ⇑P **P** **18 56 01.6 +0.6**
SRE Strehaia 82.40 352 ⇑P **P** **18 56 01.6 +0.7**
SRE Strehaia 82.40 352 P **P** **18 56 01.6 +0.7**
A051A Mrakovica 82.41 357⇑*i*P **P** **18 56 01.4 +0.3**
BBSI Bau Bau 82.45 251 P **P** **18 56 02.4 +0.9**
comp=Z,75nm,1.2s
ICOR Ion Corvin 82.49 349 ⇑P **P** **18 56 02.3 +1.0**
BLY Banja Luka 82.67 357⇑*i*P **P** **18 56 02.5 +0.2**
BLY Banja Luka 82.67 357 ⇑P **P** **18 56 03.0 +0.7**
TEKS Tekeris 82.76 355⇑*i*P **P** **18 56 03.1 +0.3**
PUNG Punghina 82.81 352 ⇑P **P** **18 56 03.1 +0.1**
SPSI Sidrap Palu 82.83 254 P **P** **18 56 03.8 +0.3**
A050A Klekovaca 82.95 357⇑*i*P **P** **18 56 04.4 +0.5**
CTAO Charters Tower 82.97 223 P **P** **18 56 05.2 +1.2**
BNSI Bone 82.99 253 P **P** **18 56 05.0 +0.7**
comp=Z,26nm,1.1s
KDU Kakadu 83.00 238 P **P** **18 56 05.6 +1.3**
MSSA Maissana 83.15 2 IAmb IAmb 18 56 06.4
comp=Z,47nm,0.9s
GNI Garni 83.23 336 P **P** **18 56 06.1 +0.6**
GNI IAmb IAmb 18 56 23.7
comp=Z,41nm,0.9s
GNI Garni 83.23 336 IAMs_20 IAMs_20 19 39 09.6
comp=Z,580nm,20.0s
GNI Garni 83.23 336 LR LR 19 39 21.9
comp=Z,540nm,19.8s,baz=13,slow=40
GNI Garni 83.23 336 P **P** **18 56 07.1 +1.6**
GNI Garni 83.23 336*c i*P **P** **18 56 07.4 +1.9**
GNI pmax pmax
comp=Z,37nm,0.9s
GNI Garni 83.23 336 P **P** **18 56 07.3 +1.9**
VALD Valchedram 83.35 352 ⇑P **P** **18 56 06.1 +0.3**
LOZB Loznitsa 83.36 350 ⇑P **P** **18 56 06.2 +0.3**
NEF NEVSHA 83.39 349 P **P** **18 56 07.1 +1.0**
BBLS Lazi&#263i 83.45 355⇑*i*P **P** **18 56 07.5 +1.0**
PRD Provadia 83.48 349 P **P** **18 56 07.4 +0.9**
SZH Strazhitsa 83.53 350 P **P** **18 56 07.2 +0.4**
MPEP Malo Peshtene 83.65 352 P **P** **18 56 07.3 -0.1**
KAPI Kappang 83.69 253 P **P** **18 56 08.2 +0.3**
KAPI Kappang 83.69 253 P **P** **18 56 08.1 +0.2**
comp=Z,10.0nm,0.5s,baz=58,slow=3.9,SNR=11
KAPI LR LR 19 30 49.3
comp=Z,130nm,19.9s,baz=24,slow=34
comp=Z,10.0nm,0.5s
KAPI Kappang 83.69 253 P **P** **18 56 09.5 +1.6**
KAPI Kappang 83.69 253*c i*P **P** **18 56 09.2 +1.3**
KAPI pmax pmax
comp=Z,46nm,1.3s
RUDO Rudo 83.70 355⇑*i*P **P** **18 56 08.0 +0.3**
DIKM Dikmen 83.81 343 ⇑P **P** **18 56 10.4 +2.1**
MTN Manton Dam 83.83 239 P **P** **18 56 08.6 +0.1**
MTN Manton Dam 83.83 239 P **P** **18 56 09.8 +1.3**
PGAV Gavieira, Arco 83.84 15 *e*P **P** **18 56 09.7 +1.2**
PGAV *i* IAmb IAmb 18 56 11.3
comp=Z,58nm,1.4s
PGAV *e*PP **PP** **18 59 17.1 -4.1**
PGAV *e*SKSac **S** **19 06 33.0 +4.3**
PGAV *e*LR LR 19 27 48.6
PGAV *i* IAMs_20 IAMs_20 19 33 47.2
comp=Z,678nm,20.0s
PLE Pljevlja 83.98 355⇑*i*P **P** **18 56 10.2 +0.9**
SJES Sjenica 84.02 355⇑*i*P **P** **18 56 10.4 +1.0**
KSM Kuching 84.11 265 P **P** **18 56 10.7 +0.5**
KSM Kuching 84.11 265 P **P** **18 56 11.8 +1.7**
PCAB Cabril 84.13 15 *e*P **P** **18 56 11.0 +1.1**
PCAB *i* IAmb IAmb 18 56 13.1
comp=Z,70nm,1.4s
PBRG Braganca 84.23 14 *e*P **P** **18 56 11.4 +1.0**
PBRG *i* IAmb IAmb 18 56 12.8
comp=Z,67nm,1.6s
JMB Yambol 84.24 350 P **P** **18 56 13.0 +2.6**
APAC Apartado, Choc 84.32 85 P **P** **18 56 13.8 +2.6**
comp=Z,65nm,1.1s
KOPT Kop Dagi 84.35 339 P **P** **18 56 12.7 +1.3**
IVA Berane 84.41 355⇑*i*P **P** **18 56 11.9 +0.5**
VTS Vitosha 84.43 352 P **P** **18 56 11.8 +0.2**
GUMA Gualdo di Mace 84.43 359 P **P** **18 56 12.4 +0.9**
SABA Saba 84.43 68 IAMs_20 IAMs_20 19 23 10.6
comp=Z,579nm,20.0s
PGB Panagyurishte 84.45 351 P P 18 56 17.5 +6.0
BRY Bratogost 84.45 356⇑*i*P **P** **18 56 11.8 +0.1**
BRY Bratogost 84.45 356⇑*i*P **P** **18 56 11.8 +0.1**
KOME Kolasin 84.45 355⇑*i*P **P** **18 56 11.8 +0.2**
POLO Lamas de Olo 84.49 15 *e*P **P** **18 56 12.7 +0.8**
POLO *i* IAmb IAmb 18 56 15.1
comp=Z,32nm,1.5s
STON Ston 84.52 356⇑*i*P **P** **18 56 11.6 -0.2**
STKI Sintang 84.52 263 P **P** **18 56 13.1 +0.9**
comp=Z,58nm,0.9s
PLNA Plana 84.55 352 P **P** **18 56 12.2 0.0**
NKME Niksic 84.57 355⇑*i*P **P** **18 56 12.3 +0.2**
PTO Porto 84.59 16 *e*P **P** **18 56 13.1 +0.9**
PTO *i* IAmb IAmb 18 56 14.9
comp=Z,117nm,1.5s
PVRL Vila Real 84.60 15 *e*P **P** **18 56 13.3 +0.9**
PVRL *i* IAmb IAmb 18 56 15.7
comp=Z,93nm,1.4s
TREB Trebinje 84.65 356⇑*i*P **P** **18 56 12.2 -0.3**
PLD Plovdiv 84.76 351 P **P** **18 56 14.6 +1.6**
CEME Cevo 84.79 355⇑*i*P **P** **18 56 13.2 -0.1**
MVO Moncorvo 84.82 15 *e*P **P** **18 56 14.3 +0.9**
MVO *i* IAmb IAmb 18 56 16.5
comp=Z,73nm,1.5s
MVO *e*SKSac **SKSac** **19 06 36.0 +1.6**
MVO *e*LQ LQ 19 18 31.5
MVO *e*LR LR 19 24 31.2
MVO *i* IAMs_20 IAMs_20 19 35 46.6
comp=Z,534nm,20.0s
OZAP Van, Ozalp-Mer 84.82 336 ⇓P **P** **18 56 16.0 +2.2**
TOKA Tokat 84.88 342 P **P** **18 56 14.6 +0.9**
PDG Podgorica 84.89 355 IAMs_20 IAMs_20 19 33 33.0
comp=Z,422nm,22.0s
PDG Podgorica 84.89 355⇑*i*P **P** **18 56 13.7 0.0**
PDG Podgorica 84.89 355 ⇑P **P** **18 56 14.2 +0.5**
PDG Podgorica 84.89 355⇑*i*P **P** **18 56 13.9 +0.2**
HCY Herceg Novi 84.91 356⇑*i*P **P** **18 56 14.3 +0.5**
SRIT Nakonsritamara 84.97 277 P **P** **18 56 15.5 +1.1**
SRIT IAmb IAmb 18 56 21.6
comp=Z,51nm,1.2s
SRIT Nakonsritamara 84.97 277 P **P** **18 56 16.0 +1.5**
SOEI Soe 84.97 247 P **P** **18 56 16.2 +1.7**
SOEI Soe 84.97 247 P **P** **18 56 12.7 -1.8**
comp=Z,51nm,0.8s
BUM Brajici-Budva 85.04 355⇑*i*P **P** **18 56 14.5 0.0**
PVIS Viseu 85.12 15 *e*P **P** **18 56 15.9 +0.9**
DRME Dracevica, Mon 85.13 355 *e*P **P** **18 56 15.4 +0.2**
DRME Dracevica, Mon 85.13 355⇑*i*P **P** **18 56 15.4 +0.5**
KKB Krupnik 85.21 352 P **P** **18 56 16.2 +0.9**
SKO Skopje 85.21 353 *i*P **P** **18 56 16.1 +0.8**
RZN Rozhen 85.21 351 P **P** **18 56 16.4 +0.8**
KDZ Kurdzhali 85.21 350 P **P** **18 56 16.2 +0.8**
DBBC Dabeiba 85.24 85 P **P** **18 56 17.9 +2.0**
ULC Ulcinj 85.35 355⇑*i*P **P** **18 56 16.2 +0.1**
GURO Guroymak-BITLI 85.40 337 IAmb IAmb 18 56 19.6
comp=Z,49nm,1.3s
MTE Manteigas 85.48 15 *e*P **P** **18 56 17.5 +0.7**
MTE *i* IAmb IAmb 18 56 19.1
comp=Z,50nm,1.6s
MTE *e*PP **PP** **18 59 36.5 +2.0**
MTE *e*SKSac **S** **19 06 51.2 +6.1**
MTE *e*LR LR 19 28 11.0
MTE *i* IAMs_20 IAMs_20 19 32 44.7
comp=Z,553nm,24.0s
MTE Manteigas 85.48 15 *e*P **P** **18 56 18.1 +1.3**
COI Coimbra 85.53 16 IAMs_20 IAMs_20 19 35 45.3
comp=Z,557nm,20.0s
EDFI Ende, Flores 85.60 249 P **P** **18 56 14.5 -3.2**
comp=Z,48nm,1.3s
PCAS Casmilo, Conde 85.67 16 *e*P **P** **18 56 15.3 -2.4**
PCAS *i* IAmb IAmb 18 56 17.8
comp=Z,82nm,1.7s
BATI Baumata 85.68 247 P **P** **18 56 18.6 +0.6**
comp=Z,48nm,0.8s,baz=90,slow=4.0,SNR=5.7
BATI LR LR 19 29 14.4
comp=Z,496nm,21.2s,baz=282,slow=32
comp=Z,48nm,0.8s
BATI Baumata 85.68 247 P **P** **18 56 18.4 +0.5**
comp=Z,38nm,0.7s
EIDS Eidsvold 85.86 217 P **P** **18 56 19.3 +0.7**
EIDS IAmb IAmb 18 56 21.2
comp=Z,24nm,1.4s
ANTO Ankara 85.97 344 P **P** **18 56 20.3 +1.1**
ANTO Ankara 85.97 344 P **P** **18 56 20.8 +1.6**
ANTO Ankara 85.97 344 P **P** **18 56 20.3 +1.1**
ANTO pmax pmax
comp=Z,164nm,0.9s
BR131 Keskin Array S 85.97 344 P **P** **18 56 20.2 +0.9**
SNR=75
BR131 Keskin Array S 85.97 344*c i*P **P** **18 56 20.5 +1.2**
BRTR Keskin Array B 85.97 344 P **P** **18 56 19.0 -0.3**
BRTR Keskin Array B 85.97 344 P **P** **18 56 20.6 +1.2**
comp=Z,62nm,0.8s,baz=34,slow=2.4,SNR=310
BRTR PKKPbc **PKKPbc** **19 14 18.0 +1.1**
comp=Z,0.4nm,0.8s,baz=164,slow=6.2,SNR=5.6
BRTR PKPPKP P'P'df 19 22 16.9 -14
comp=Z,0.9nm,0.8s,baz=155,slow=4.8,SNR=3.6
BRTR LR LR 19 38 26.5
comp=Z,670nm,21.9s,baz=3.0,slow=38
comp=Z,62nm,0.8s
PCBR Castelo Branco 86.04 15 *e*P **P** **18 56 19.8 +0.4**
OHR Ohrid 86.11 354 *i*P **P** **18 56 20.9 +1.1**
BAND Balkesir-Ban 86.16 348 ⇑P **P** **18 56 21.0 +0.9**
PSARD Sardoal 86.17 16 *e*P **P** **18 56 20.4 +0.3**
PSARD *i* IAmb IAmb 18 56 23.0
comp=Z,31nm,1.3s
QIS Mount Isa 86.28 229 P **P** **18 56 22.0 +1.3**
PMRV Marv??o 86.46 15 *e*P **P** **18 56 22.8 +1.2**
PMRV *i* IAmb IAmb 18 56 24.1
comp=Z,32nm,1.7s
PMRV *e*SKSac **S** **19 06 57.6 +3.1**
PMRV *e*LQ LQ 19 19 25.7
PMRV *e*LR LR 19 28 52.8
PMRV *i* IAMs_20 IAMs_20 19 33 03.5
comp=Z,506nm,22.0s
PMTG Montargil 86.67 16 *e*P **P** **18 56 23.2 +0.6**
PMTG *i* IAmb IAmb 18 56 43.1
comp=Z,22nm,1.6s
ESBB Sonseca Array 86.72 13 IAmb IAmb 18 56 24.2
comp=Z,20nm,0.9s
ESDC Sonseca Array 86.72 13 P **P** **18 56 22.9 0.0**
ESDC IAmb IAmb 18 56 24.8
comp=Z,72nm,1.8s
ESDC Sonseca Array 86.72 13 P **P** **18 56 23.5 +0.6**
comp=Z,14nm,0.8s,baz=345,slow=4.6,SNR=95
ESDC PKKPbc **PKKPbc** **19 14 14.9 -0.1**
comp=Z,1.2nm,0.9s,baz=195,slow=2.4,SNR=6.8
ESDC LR LR 19 38 38.2
comp=Z,429nm,18.1s,baz=356,slow=38
comp=Z,14nm,0.8s
MATE Matera 86.78 357 *e*P **P** **18 56 22.9 -0.1**
PAB San Pablo 86.79 13 P **P** **18 56 23.3 0.0**
PAB IAmb IAmb 18 56 24.5
comp=Z,14nm,0.9s
PAB San Pablo 86.79 13 IAMs_20 IAMs_20 19 37 10.6
comp=Z,489nm,20.0s
PAB San Pablo 86.79 13 P **P** **18 56 23.3 0.0**
EZN Ezine 86.89 349 ⇑P **P** **18 56 24.1 +0.5**
EZN Ezine 86.89 349 P **P** **18 56 24.1 +0.5**
KULM Kulim 86.94 275 P **P** **18 56 24.2 0.0**
KULM Kulim 86.94 275 P **P** **18 56 26.1 +1.9**
PESTR Estremoz 86.97 16 IAmb IAmb 18 56 25.6
comp=Z,42nm,1.2s
PESTR Estremoz 86.97 16 *e*P **P** **18 56 23.8 -0.3**
PESTR *i* IAmb IAmb 18 56 25.8
comp=Z,34nm,1.1s
PAMC Pamplona, Colo 87.09 82 P **P** **18 56 26.7 +1.1**
SDV Santo Domingo 87.11 79 LR LR 19 36 12.3
comp=Z,238nm,20.5s,baz=329,slow=36
WSI Waingapu 87.14 250 P **P** **18 56 23.6 -1.5**
GUY2C Guyana, Caldas 87.16 85 P **P** **18 56 27.6 +1.7**
comp=Z,493nmcomp=Z,38nm,1.0s
EVO Evora 87.23 16 *e*P **P** **18 56 25.4 0.0**
EVO *i* IAmb IAmb 18 56 27.0
comp=Z,27nm,1.3s
IPM Ipoh 87.36 274 P **P** **18 56 27.9 +1.6**
BARC Barichara 87.40 83 P **P** **18 56 29.1 +2.4**
KNRA Kununurra 87.44 240 IAmb IAmb 18 56 28.3
comp=Z,32nm,1.1s
CUC Castrocucco 87.46 357 IAMs_20 IAMs_20 19 40 07.0
comp=Z,466nm,20.0s
WBSI Waikabubak, Su 87.64 251 P **P** **18 56 25.1 -2.4**
comp=Z,59nm,1.2s
PBAR Barrancos 87.74 15 *e*P **P** **18 56 28.0 +0.3**
PBAR *i* IAmb IAmb 18 56 29.6
comp=Z,51nm,1.2s
PBEJ Beja 87.75 16 *e*P **P** **18 56 28.8 +0.9**
PBEJ *i* IAmb IAmb 18 56 29.9
comp=Z,35nm,1.3s
MYKOM Kota Tinggi 87.77 270 P **P** **18 56 29.0 +0.8**
MYKOM Kota Tinggi 87.77 270 P **P** **18 56 29.9 +1.7**
MESJ Messejana 87.87 16 *e*P **P** **18 56 28.9 +0.6**
MESJ IAMs_20 IAMs_20 19 37 40.5
comp=Z,539nm,17.1s
MESJ Messejana 87.87 16 *e*P **P** **18 56 29.0 +0.6**
JAMC Jamundi, Valle 87.96 87 P **P** **18 56 31.4 +2.0**
comp=Z,745nmcomp=Z,59nm,0.9s
VSL Villasalto 87.96 2 IAmb IAmb 18 56 30.3
comp=Z,18nm,0.8s
WB0 Warramunga Arr 88.05 233 P **P** **18 56 28.8 -0.5**
PTEO Sao Teotonio 88.07 17 *e*P **P** **18 56 29.7 +0.3**
PTEO *i* IAmb IAmb 18 56 30.9
comp=Z,78nm,1.3s
ROSC El Rosal 88.10 85 P **P** **18 56 31.8 +1.6**
comp=Z,12nm,0.7s,baz=166,slow=12,SNR=3.6
ROSC LR LR 19 35 22.7
comp=Z,187nm,21.9s,baz=40,slow=35
comp=Z,12nm,0.7s
PCVE Castro Verde 88.11 16 *e*P **P** **18 56 29.9 +0.4**
PCVE *i* IAmb IAmb 18 56 32.9
comp=Z,21nm,1.2s
WR8 Warramunga Arr 88.15 233 P **P** **18 56 29.5 -0.3**
WRAB Tennant Creek 88.21 233 P **P** **18 56 29.8 -0.3**
WRAB Tennant Creek 88.21 233*c i*P **P** **18 56 30.4 +0.3**
WRAB pmax pmax
comp=Z,69nm,1.3s
WRA Warramunga Arr 88.22 233 P **P** **18 56 29.5 -0.6**
WRA Warramunga Arr 88.22 233 P **P** **18 56 30.6 +0.5**
comp=Z,33nm,1.0s,baz=37,slow=5.6,SNR=158
WRA PP **PP** **18 59 56.2 -1.8**
comp=Z,2.4nm,1.0s,baz=24,slow=7.0,SNR=4.7
WRA LR LR 19 30 52.6
comp=Z,317nm,20.9s,baz=0.0,slow=32
comp=Z,33nm,1.0s
TIP Timpagrande 88.24 357 IAMs_20 IAMs_20 19 41 29.7
comp=Z,550nm,21.0s
ORTC Ortega, Tolima 88.27 86 P **P** **18 56 32.1 +1.4**
comp=Z,543nmcomp=Z,61nm,0.9s
ISP Isparta 88.32 346⇑*i*P **P** **18 56 31.4 +0.7**
ISP pmax pmax
comp=Z,57nm,1.2s
MORF Marmelete 88.32 17 *e*P **P** **18 56 31.2 +0.6**
MORF IAMs_20 IAMs_20 19 37 08.9
comp=Z,835nm,22.2s
MORF Marmelete 88.32 17 *e*P **P** **18 56 31.2 +0.6**
MORF *i* IAmb IAmb 18 56 33.0
comp=Z,57nm,1.5s
MORF Marmelete 88.32 17 *e*P **P** **18 56 31.2 +0.6**
PVAQ Vaqueiros 88.38 16 *e*P **P** **18 56 31.6 +0.7**
PVAQ *i* IAmb IAmb 18 56 34.1
comp=Z,31nm,1.5s
PVAQ *e*PP **PP** **18 59 59.2 +1.4**
PVAQ *e*SKSac **sS** **19 07 34.8 +1.5**
PVAQ *e*LQ LQ 19 22 23.8
PVAQ *e*LR LR 19 30 28.0
PVAQ *i* IAMs_20 IAMs_20 19 41 18.3
comp=Z,471nm,18.0s
PFVI Vila Bisbo 88.46 17 *e*P **P** **18 56 31.9 +0.7**
PFVI *i* IAmb IAmb 18 56 32.9
comp=Z,80nm,1.2s
PBDV Barranco-do-Ve 88.50 16 *e*P **P** **18 56 32.8 +1.3**
BBAC Balboa, Cauca 88.55 89 P **P** **18 56 34.2 +2.0**
comp=Z,20nm,1.0s
TAVA DENIZLI_Tavas 88.90 347 ⇑P **P** **18 56 34.4 +1.0**
CEL Celeste 89.19 357 IAmb IAmb 18 56 35.3
comp=Z,22nm,0.8s
CEL IAMs_20 IAMs_20 19 39 52.7
comp=Z,417nm,22.0s
OTAV Otavalo 89.23 91 P **P** **18 56 35.9 +0.2**
OTAV IAmb IAmb 18 56 39.3
comp=Z,13nm,0.9s
OTAV Otavalo 89.23 91 P **P** **18 56 35.9 +0.2**
OTAV pmax pmax
comp=Z,13nm,0.9s
OTAV Otavalo 89.23 91 *e*P **P** **18 56 37.6 +1.9**
GARC Garzon, Huila 89.48 87 P **P** **18 56 38.8 +2.2**
QLP Quilpie 89.59 222 P **P** **18 56 38.5 +2.1**
PCRV Puerto La Cruz 89.61 74 LR LR 19 35 43.1
comp=Z,521nm,21.4s,slow=35
TSI Tuntungan 89.62 275 P **P** **18 56 38.0 +1.1**
comp=Z,101nm,1.1s
GRGR Grenville 89.75 70 IAMs_20 IAMs_20 19 39 06.7
comp=Z,457nm,20.0s
PSI Prapat 89.95 275 LR LR 19 42 33.5
comp=Z,177nm,18.0s,baz=24,slow=39
PSI Prapat 89.95 275 P **P** **18 56 40.2 +1.5**
PSI Prapat 89.95 275 P **P** **18 56 38.9 +0.2**
PSI pmax pmax
comp=Z,76nm,1.3s
VAE Valguarnera 90.00 358 LR LR 19 41 42.0
comp=Z,422nm,18.0s,baz=342,slow=39
RPSI Rantau Prapat 90.04 274 P **P** **18 56 38.9 0.0**
RAFF Raffo Rosso 90.25 359 IAmb IAmb 18 56 42.9
comp=Z,32nm,0.9s
ARMA Armidale 90.28 214 P **P** **18 56 41.1 +1.4**
ARMA Armidale 90.28 214 P **P** **18 56 41.5 +1.9**
BKNI Bangkinang 90.63 271 P **P** **18 56 43.1 +1.5**
PMOZ Porto Moniz, M 90.81 25 *e*P **P** **18 56 43.8 +1.4**
PMOZ *i* IAmb IAmb 18 56 49.7
comp=Z,80nm,1.7s
PMOZ *e*LR LR 19 27 38.2
PMOZ *i* IAMs_20 IAMs_20 19 38 59.3
comp=Z,282nm,20.0s
PMAR Madeira 90.98 24 *e*PcP **PcP** **18 56 45.8 +1.5**
PMAR *i* IAmb IAmb 18 56 47.4
comp=Z,126nm,1.4s
KARP Karpathos 91.02 348 IAMs_20 IAMs_20 19 40 18.4
comp=Z,592nm,21.0s
FITZ Fitzroy Crossi 91.09 241 P **P** **18 56 43.7 +0.2**
FITZ Fitzroy Crossi 91.09 241 P **P** **18 56 44.8 +1.2**
comp=Z,29nm,0.9s,baz=20,slow=6.0,SNR=64
FITZ LR LR 19 34 21.0
comp=Z,279nm,20.7s,baz=34,slow=33
comp=Z,29nm,0.9s
TOZ Tahuroa Road 91.44 193 P **P** **18 56 45.7 +1.0**
TOZ IAmb IAmb 18 57 05.0
comp=Z,30nm,1.1s
IDI Anoyia 91.54 350 LR LR 19 43 15.4
comp=Z,256nm,19.5s,baz=336,slow=39
AS31 Alice Springs 91.60 232 P **P** **18 56 46.1 +0.2**
ASAR Alice Springs 91.60 232 P **P** **18 56 46.1 +0.2**
ASAR Alice Springs 91.60 232 P **P** **18 56 46.9 +1.0**
comp=Z,22nm,0.8s,baz=32,slow=4.6,SNR=158
ASAR PKKPbc **PKKPbc** **19 14 05.5 +1.6**
comp=Z,0.3nm,0.5s,baz=205,slow=1.9,SNR=6.3
ASAR LR LR 19 32 52.9
comp=Z,398nm,21.6s,baz=25,slow=32
comp=Z,22nm,0.8s
KEST Kesra 91.71 3 P **P** **18 56 47.3 +0.8**
comp=Z,16nm,1.1s,baz=342,slow=2.1,SNR=7.3
comp=Z,16nm,1.1s
KEST Kesra 91.71 3 P **P** **18 56 47.5 +1.0**
URZ Urewera 91.75 192 LR LR 19 35 32.8
comp=Z,712nm,18.6s,baz=15,slow=34
GSI Gunungsitoli 91.95 275 P **P** **18 56 46.6 -1.2**
GSI Gunungsitoli 91.95 275 P **P** **18 56 49.5 +1.7**
GSI Gunungsitoli 91.95 275 P **P** **18 56 48.0 +0.2**
comp=Z,38nm,1.1s
MMAI Mount Meron Ar 92.16 341 P **P** **18 56 49.8 +1.2**
comp=Z,21nm,0.9s,baz=34,slow=6.2,SNR=19
MMAI LR LR 19 45 48.1
comp=Z,159nm,18.3s,baz=4.0,slow=40
comp=Z,21nm,0.9s
AVE Averroes 92.44 17 IAMs_20 IAMs_20 19 44 51.2
comp=Z,380nm,19.0s
MDSI Maura Dua 92.53 266 P **P** **18 56 49.1 -1.3**

	comp=Z,34nm,1.1s							
BLSI	**Bandar Lampung**	**92.58**	**265**	P		**P**	**18 56 49.4**	**-1.3**
ASF	**Jabal al Asfar**	**92.67**	**339**	LR		LR	19 41 34.9	
	comp=Z,246nm,21.9s,baz=47,slow=38							
SHME	**Shamm**	**92.70**	**322**	P		**P**	**18 56 50.7**	**-0.5**
KBD	**Kabd**	**92.72**	**330**	P		**P**	**18 56 51.4**	**+0.2**
MASF	**Masafi**	**93.31**	**321**	P		**P**	**18 56 53.6**	**-0.4**
MSFE	**Esma-Masafi**	**93.32**	**321**	P		**P**	**18 56 53.5**	**-0.6**
MDH	**Madha**	**93.32**	**321**	P		**P**	**18 56 53.5**	**-0.5**
MDT	**Midelt**	**93.37**	**14**	LR		LR	19 39 40.3	
	comp=Z,204nm,22.0s,baz=12,slow=36							
UOSS	**Minazif**	**93.68**	**321**	P		**P**	**18 56 54.2**	**-1.5**
UOSS	**Minazif**	**93.68**	**321**	IAMs_20		IAMs_20	19 46 13.1	
	comp=Z,355nm,20.0s							
UOSS	**Minazif**	**93.68**	**321**	P		**P**	**18 56 54.9**	**-0.8**
UOSS	**Minazif**	**93.68**	**321**	*i* P		**P**	**18 56 54.6**	**-1.0**
	SNR=6.1							
GHAJ	**Ghor Haditha**	**93.79**	**340**	IAMs_20		IAMs_20	19 44 20.9	
	comp=Z,368nm,21.0s							
HATD	**Hatta, Dubai**	**93.81**	**321**	P		**P**	**18 56 55.8**	**-0.5**
	SNR=6.0							
HATD	**Hatta, Dubai**	**93.81**	**321**	*i* P		**P**	**18 56 57.0**	**+0.7**
	SNR=6.0							
NAZ	**Nazwa, Dubai**	**93.84**	**322**	P		**P**	**18 56 56.1**	**-0.3**
NAZ	**Nazwa, Dubai**	**93.84**	**322**	*i* P		**P**	**18 56 56.1**	**-0.3**
	SNR=7.2							
ASHO	**Ashiyiah**	**93.97**	**321**	P		**P**	**18 56 57.0**	**-0.1**
	SNR=7.6							
ASHO	**Ashiyiah**	**93.97**	**321**	*i* P		**P**	**18 56 56.7**	**-0.4**
	SNR=7.4							
SOHO	**SOHO**	**94.28**	**320**	P		**P**	**18 56 57.8**	**-0.6**
SOHO	**SOHO**	**94.28**	**320**	*i* P		**P**	**18 56 57.7**	**-0.7**
	SNR=12							
ASUD	**Al Ashush, Dub**	**94.30**	**322**	P		**P**	**18 56 58.4**	**0.0**
ASUD	**Al Ashush, Dub**	**94.30**	**322**	*i* P		**P**	**18 56 58.5**	**0.0**
	SNR=6.2							
HOQ	**Hoqain**	**94.48**	**320**	P		**P**	**18 56 58.4**	**-0.9**
ALNE	**Al Ain**	**94.65**	**321**	P		**P**	**18 56 59.8**	**-0.4**
	SNR=9.3							
ALNE	**Al Ain**	**94.65**	**321**	*i* P		**P**	**18 56 59.7**	**-0.4**
	SNR=9.3							
SMDO	**Samad**	**94.66**	**319**	P		**P**	**18 56 60.0**	**-0.3**
JLN	**Jalan Bani Buh**	**94.92**	**317**	P		**P**	**18 57 02.1**	**+0.8**
ARQ	**Araqi**	**95.01**	**320**	P		**P**	**18 57 01.7**	**-0.1**
BSY	**Bisya**	**95.28**	**319**	P		**P**	**18 57 01.2**	**-1.8**
STKA	**Stephens Creek**	**95.33**	**222**	P		**P**	**18 57 03.5**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=320,slow=2.9,SNR=3.6							
STKA				LR		LR	19 33 22.2	
	comp=Z,316nm,21.9s,baz=20,slow=31							
	comp=Z,2.2nm,0.6s							
EIL	**Elat**	**95.50**	**340**	LR		LR	19 46 13.3	
	comp=Z,179nm,19.6s,baz=64,slow=39							
SMRA	**Abu-Samra**	**95.81**	**325**	P		**P**	**18 57 04.0**	**-1.4**
MZR	**Muzera**	**96.46**	**323**	P		**P**	**18 57 08.4**	**0.0**
MZR	**Muzera**	**96.46**	**323**	*i* P		**P**	**18 57 08.3**	**-0.1**
	SNR=9.0							
MHTO	**MHTO**	**96.55**	**318**	P		**P**	**18 57 09.0**	**+0.2**
PALK	**Pallekele**	**97.08**	**292**	P		**P**	**18 57 11.7**	**+0.3**
PALK	**Pallekele**	**97.08**	**292**	LR		LR	19 44 29.9	
	comp=Z,364nm,21.3s,baz=24,slow=38							
PALK	**Pallekele**	**97.08**	**292**	P		Pdif	18 57 12.4	+0.9
PALK	**Pallekele**	**97.08**	**292**	P		**P**	**18 57 11.7**	**+0.3**
PALK				pmax		pmax		
	comp=Z,59nm,1.2s							
RPZ	**Rata Peaks**	**97.97**	**196**	LR		LR	19 36 13.9	
	comp=Z,504nm,20.1s,baz=332,slow=32							
BOAV	**Boa Vista**	**98.27**	**75**	IAmb		IAmb	18 57 18.2	
	comp=Z,9.6nm,1.2s							
RAYN	**Ar Rayn**	**98.68**	**330**	P		**P**	**18 57 18.1**	**-0.4**
RAYN	**Ar Rayn**	**98.68**	**330**	P		**P**	**18 57 18.6**	**+0.2**
RAYN	**Ar Rayn**	**98.68**	**330**	P		**P**	**18 57 18.1**	**-0.4**
RAYN				pmax		pmax		
	comp=Z,28nm,0.8s							
RAYN				MLR		MLR		
	comp=Z,600nm,20.0s							
RAYN	**Ar Rayn**	**98.68**	**330**	*i* P		**P**	**18 57 18.6**	**+0.2**
	SNR=32							
DOK	**Doka**	**100.21**	**320**	P		**Pdif**	**18 57 24.7**	**-0.5**
WHFO	**Wadi Hawf**	**100.98**	**320**	P		**Pdif**	**18 57 28.3**	**-0.4**
ABTO	**Aybut**	**101.68**	**320**	P		**Pdif**	**18 57 31.5**	**-0.4**
TAM	**Tamanrasset**	**104.41**	**7**	IAMs_20		IAMs_20	19 51 38.9	
	comp=Z,318nm,19.0s							
LPAZ	**La Paz**	**108.45**	**93**	*e*P		**Pdif**	**18 58 03.9**	**+1.4**
H03N2	**Juan Fernandez**	**115.06**	**113**	T		T	21 07 49.2	
	baz=322,slow=78,SNR=170							
H03N1	**Juan Fernandez**	**115.07**	**113**	T		T	21 07 47.9	
	baz=322,slow=78,SNR=188							
H03N3	**Juan Fernandez**	**115.08**	**113**	T		T	21 07 54.1	
	baz=322,slow=78,SNR=195							
DBIC	**Dimbokro**	**118.87**	**20**	PKP		**PKPdf**	**19 02 27.6**	**+0.1**
	comp=Z,4.0nm,0.6s,baz=16,slow=2.4,SNR=5.7							
BDFB	**Brasilia**	**120.03**	**76**	PKP		**PKiKP**	**19 02 30.5**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=74,slow=7.4,SNR=3.2							
CPUP	**Villa Florida**	**122.58**	**91**	PKP		**PKPdf**	**19 02 34.3**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=342,slow=3.2,SNR=5.6							
CPUP				PKKPbc		**PKKPab**	**19 12 28.6**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=158,slow=5.2,SNR=3.1							
KMBO	**Kilima Mbogo**	**124.46**	**329**	IAMs_20		IAMs_20	20 01 07.2	
	comp=Z,258nm,21.0s							
PLCA	**Paso Flores**	**124.94**	**113**			**PKPdf**	**19 02 38.8**	**+0.4**
PLCA	**Paso Flores**	**124.94**	**113**	PKP		**PKiKP**	**19 02 39.0**	**+0.2**
	comp=Z,5.3nm,0.8s,baz=294,slow=2.7,SNR=15							
PLCA	**Paso Flores**	**124.94**	**113**	*e*P		**PKiKP**	**19 02 40.3**	**+1.6**
MBAR	**Mbarara**	**125.72**	**337**	IAMs_20		IAMs_20	20 04 54.3	
	comp=Z,292nm,20.0s							
SJMB	**Sao Joao De Ma**	**126.42**	**72**	*e*P		**PKiKP**	**19 02 43.4**	**+1.2**
CPSB	**Cacapava Do Su**	**127.88**	**92**	*e*P		**PKiKP**	**19 02 46.0**	**+1.2**
TRQA	**Tornquist**	**128.04**	**105**			**PKPdf**	**19 02 44.6**	**+0.2**
TRQA	**Tornquist**	**128.04**	**105**	PKIKP		**PKPdf**	**19 02 44.6**	**+0.2**
PLTB	**Pedras Altas**	**128.74**	**93**			**PKPdf**	**19 02 45.6**	**-0.3**
PLTB	**Pedras Altas**	**128.74**	**93**	*e*P		**PKiKP**	**19 02 47.4**	**+0.9**
VNDA	**Vanda**	**131.53**	**189**	PKP		**PKPdf**	**19 02 50.3**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=313,slow=2.4,SNR=4.3							
VNDA				SKPbc		**SKPbc**	**19 06 11.9**	**+0.3**
	comp=Z,5.9nm,1.1s,baz=52,slow=2.8,SNR=4.5							
OPO	**Ambohidratompo**	**136.43**	**308**	PKP		**PKPdf**	**19 03 01.5**	**+0.5**
	comp=Z,5.3nm,1.0s,baz=315,slow=7.1,SNR=3.0							
LSZ	**Lusaka**	**140.48**	**336**			PKPpre	19 03 00.2	
LSZ	**Lusaka**	**140.48**	**336**	PKhKP		PKPpre	19 03 01.7	
	comp=Z,7.0nm,0.5s,baz=20,slow=3.4,SNR=13							
LSZ				PKP		**PKPdf**	**19 03 10.1**	**+1.7**
	comp=Z,5.2nm,0.6s,baz=38,slow=3.5,SNR=6.8							
LSZ				SKPbc		**SKPbc**	**19 06 42.5**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=346,slow=4.2,SNR=3.3							
LSZ	**Lusaka**	**140.48**	**336**	PKHKP		PKPpre	19 03 00.2	
SMAI	**San Martin Ant**	**141.12**	**144**			PKPpre	19 03 02.5	
QSPA	**South Pole Qui**	**142.65**	**180**			PKPpre	19 03 06.0	
QSPA	**South Pole Qui**	**142.65**	**180**	PKhKP		PKPpre	19 03 06.5	
	comp=Z,20nm,0.9s,baz=356,slow=0.3,SNR=58							
QSPA				SKPbc		**SKPbc**	**19 06 45.7**	**+0.7**
	comp=Z,4.8nm,1.0s,baz=34,slow=7.3,SNR=5.0							
MATP	**Matopo**	**145.32**	**333**	PKPbc		**PKPab**	**19 03 17.9**	**+1.1**
	comp=Z,72nm,0.9s,baz=359,slow=2.8,SNR=279							
SOOWA	**Sowa**	**146.04**	**337**	*i* P		**PKPab**	**19 03 20.8**	**+1.3**
TSUM	**Tsumeb**	**146.16**	**351**			**PKPbc**	**19 03 19.7**	**+0.4**
TSUM	**Tsumeb**	**146.16**	**351**	PKPbc		**PKPab**	**19 03 20.1**	**+0.2**
	comp=Z,22nm,0.6s,baz=0.5,slow=3.3,SNR=32							
MREMI	**Moremi**	**147.65**	**334**			**PKPbc**	**19 03 23.6**	**+0.1**
MREMI	**Moremi**	**147.65**	**334**	*i* P		**PKPbc**	**19 03 24.5**	**+1.1**
GRTLG	**Ghanzi**	**147.83**	**345**	*i* P		**PKPbc**	**19 03 25.4**	**+1.4**
LPHEP	**Lephephe**	**148.82**	**336**	*i* P		**PKPbc**	**19 03 27.3**	**+0.8**
KGCAE	**Kacgae**	**149.12**	**342**			**PKPdf**	**19 03 22.2**	**-0.9**
KGCAE	**Kacgae**	**149.12**	**342**	*i* P		**PKiKP**	**19 03 28.8**	**+0.3**
KDWAN	**Kaudwane**	**149.12**	**338**	*i* P		**PKPbc**	**19 03 28.1**	**+0.9**
KOOLE	**Kule**	**149.59**	**346**	*i* P		**PKiKP**	**19 03 29.7**	**+0.2**
SKOMA	**Sekoma**	**150.38**	**339**	*i* P		**PKPbc**	**19 03 29.4**	**-0.9**
LBTB	**Lobatse**	**150.47**	**335**	PKPbc		**PKiKP**	**19 03 32.0**	**+0.8**
	comp=Z,53nm,0.9s,baz=336,slow=3.2,SNR=51							
POGA	**Pongola**	**150.76**	**323**			**PKPbc**	**19 03 31.3**	**+0.3**
MAKGR	**Makgori**	**151.43**	**336**	*i* P		**PKPbc**	**19 03 32.8**	**+0.1**
PHPEN	**Phepeng**	**151.54**	**340**			**PKPdf**	**19 03 25.5**	**-1.2**
MAW	**Mawson**	**151.99**	**219**	PKPbc		**PKiKP**	**19 03 33.6**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=72,slow=2.3,SNR=5.7							
BOSA	**Boshof**	**153.98**	**334**	PKP		**PKPdf**	**19 03 31.1**	**+0.8**
	comp=Z,6.8nm,1.0s,baz=339,slow=2.3,SNR=7.0							
BOSA				PKPbc		**PKiKP**	**19 03 39.1**	**+0.7**
	comp=Z,7.8nm,0.6s,baz=8.1,slow=2.6,SNR=7.0							
BOSA				PKPab		**PKPab**	**19 03 52.5**	**+0.8**
	comp=Z,38nm,0.9s,baz=20,slow=3.8,SNR=18							
SYO	**Syowa Base**	**159.46**	**208**	*e*PKPdf		**PKPdf**	**19 03 35.8**	**0.0**
SYO	**Syowa Base**	**159.46**	**208**	*es*PKPdf		sPKPdf	19 03 51.5	-0.7
VNA2	**Neumayer--Watz**	**159.81**	**161**	P		**PKPdf**	**19 03 35.0**	**-1.3**
	comp=Z,11nm,0.8s,baz=312,slow=2.5							
VNA2				PKPab		**PKPab**	**19 04 16.1**	**+0.4**
	baz=312,slow=2.5							
VNA1	**Neumayer--Stat**	**159.85**	**160**	P		**PKPdf**	**19 03 34.6**	**-1.7**
	comp=Z,9.0nm,1.0s							
VNA1				PKPab		**PKPab**	**19 04 16.6**	**+0.9**
SNAA	**Sanae**	**159.96**	**166**	P		**PKPdf**	**19 03 36.1**	**-0.4**
	comp=Z,47nm,0.8s							
SNAA				PKPab		**PKPab**	**19 04 17.1**	**+0.7**
SNAA	**Sanae**	**159.96**	**166**			**PKPdf**	**19 03 35.1**	**-1.4**
SNAA	**Sanae**	**159.96**	**166**	PKP		**PKPdf**	**19 03 35.4**	**-1.1**
	comp=Z,2.9nm,0.9s,baz=184,slow=1.9,SNR=7.8							
SNAA				PKPab		**PKPab**	**19 04 15.9**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=209,slow=6.2,SNR=1.6							
TROLL	**Troll, Antarti**	**160.31**	**171**	P		**PKPdf**	**19 03 36.8**	**-0.2**
	comp=Z,166nm,1.1s							
TROLL				PKPab		**PKPab**	**19 04 18.7**	**+0.7**

IDC 09 18:44:01.4±4.1, 14.48S×166.25E, h0km, mb3.8/4, mbtmp3.7/5, ML3.2/1, Error ellipse: s-maj=76.1km s-min=36.6km az=46.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.55**	**179**	Pn	Pn	18 45 53.1	+0.2
	0.4nm,0.3s,baz=351,slow=19,SNR=1.3						
DZM				Sn	Sn	18 47 17.5	-1.8
	baz=6.6,slow=10						
	2.6nm,0.7s						
STKA	**Stephens Creek**	**28.41**	**228**	P	P	18 49 58.6	+0.8
	2.4nm,0.7s,baz=31,slow=5.9,SNR=4.1						
	2.4nm,0.7s						
WRA	**Warramunga Arr**	**30.93**	**255**	P	P	18 50 19.7	-0.6
	0.4nm,0.8s,baz=83,slow=8.9,SNR=2.1						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**31.84**	**248**	P	P	18 50 28.4	+0.1
	0.3nm,0.6s,baz=76,slow=9.4,SNR=9.9						
	0.3nm,0.6s						
QSPA	**South Pole Qui**	**75.55**	**180**	P	P	18 55 47.6	-0.1
	0.9nm,0.8s,baz=339,slow=2.9,SNR=2.7						
	0.9nm,0.8s						

*AEIC **09** 18:57:32.6±1.1, 52.85N±0.06×167.48W±0.06, h28km±7km, Error ellipse: s-maj=9.4km s-min=4.1km az=158.0*
NEIC 09 18:57:33.2±0.6, 52.85N±0.01×167.55W±0.05, h35km±2km, ML2.4/8, MLZ2.4(AEIC)**, Error ellipse: s-maj=5.4km s-min=3.1km az=277.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.60**	**339**		Pn	18 57 45.0	-0.2
OKFG					Sn	18 57 54.0	+0.3
OKTU	**Okmok Mt. Tuli**	**0.61**	**331**		Pn	18 57 45.4	0.0
OKTU					Sn	18 57 54.9	+0.9
OKCE	**Okmok Cone E**	**0.68**	**328**		Pn	18 57 46.7	+0.3
OKNC	**Okmok New Cone**	**0.70**	**331**		Pn	18 57 46.6	0.0
OKNC					Sn	18 57 57.1	+1.0
OKRE	**Okmok R'deer P**	**0.77**	**331**		Pn	18 57 47.3	-0.2
NIKH	**Nikolski High**	**0.80**	**279**		Pn	18 57 47.2	-0.8
NIKH					Sn	18 57 58.6	0.0
NIKH	**Nikolski High**	**0.80**	**279**	IAML		18 57 59.2	
	comp=N,138nm,0.8s						
NIKH				IAML		18 58 02.5	
	comp=E,141nm,0.8s						
MAPS	**Pakushin South**	**1.03**	**21**		Pn	18 57 50.3	-0.8
MGOD	**Makushin Gods**	**1.03**	**23**		Pn	18 57 50.4	-0.8
MGOD					Sn	18 58 04.2	-0.2
MREP	**Makushin Rep't**	**1.07**	**26**		Pn	18 57 51.2	-0.6
UNV	**Unalaska Valle**	**1.18**	**32**		Pn	18 57 52.2	-0.9
UNV					Sn	18 58 05.8	-2.1
MTBL	**Makushin Table**	**1.24**	**25**		Sn	18 58 10.2	+0.7
AKMO	**Akutan Morgan**	**1.55**	**36**		Pn	18 57 58.0	-0.2
AKRB	**Akutan Reef Bi**	**1.56**	**34**		Pn	18 57 58.4	+0.1
ZRO	**Akutan Zero**	**1.56**	**37**		Pn	18 57 58.5	+0.1
LVA	**Lava Point**	**1.59**	**34**		Pn	18 57 58.0	-0.9
LVA					Sn	18 58 18.9	+0.6
AKGG	**Akutan Green G**	**1.64**	**34**		Pn	18 57 59.6	+0.1
AKUT	**Akutan**	**1.67**	**39**	Pn	Pn	18 57 59.6	-0.3
AKUT				Sn	Sn	18 58 20.1	+0.1
AKUT				IAML		18 58 27.9	
	comp=E,51nm,0.6s						
AKUT				IAML		18 58 33.6	
	comp=N,41nm,0.7s						
WESE	**West Dahl East**	**2.40**	**46**		Pn	18 58 10.0	0.0

CATAC 09 19:01:23.9±0.5, 12.7N±3.7°×88.8W±°, h35km±3km, M2.9/12, MLv2.9/12, 3D, Error ellipse: s-maj=7.5km s-min=3.6km az=31.2, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.56**	**55**	⇓P	Pn	19 01 36.9	+1.3
CRIN	**San Cristobal**	**0.56**	**55**	S	Sn	19 01 47.3	+3.6
PKGN	**Cerro Pekin**	**0.61**	**61**	⇓P	Pn	19 01 36.9	+0.8
PKGN				S	Sn	19 01 46.6	+1.9
POTN	**Potosi Cosigui**	**0.62**	**1**	⇓P	Pn	19 01 36.9	+0.5
POTN				S	Sn	19 01 46.8	+1.6
POLN	**Al Sur del Vol**	**0.74**	**68**	P	Pn	19 01 38.8	+0.8
POLN				S	Sn	19 01 49.3	+1.2
PLRN	**Geotermica Pol**	**0.76**	**74**	P	Pn	19 01 38.3	0.0
PLRN				S	Sn	19 01 49.4	+0.8
CNGA	**Al SSO del Vol**	**0.81**	**81**	P	Pn	19 01 39.3	+0.3
CNGA				S	Sn	19 01 50.9	+1.2
CNGN	**Cerro Negro**	**0.81**	**81**	P	Pn	19 01 39.9	+0.9
CNGN	**Cerro Negro**	**0.81**	**81**	S	Sn	19 01 51.3	+1.4
ILCN	**San Idelfonso**	**0.83**	**76**	P	Pn	19 01 41.2	+2.1
ILCN				S	Sn	19 01 51.4	+1.2
COPN	**Copaltepe**	**0.93**	**102**	P	Pn	19 01 40.6	+0.1
COPN				S	Sn	19 01 52.9	+0.2
CNCH	**Conchagua**	**0.95**	**341**	P	Pn	19 01 40.8	-0.2
CNCH	**Conchagua**	**0.95**	**341**	S	Sn	19 01 53.6	+0.3
MOMN	**Momotombo**	**0.96**	**88**	P	Pn	19 01 41.2	+0.2
MOMN				S	Sn	19 01 54.1	+0.6
MOM2	**El Cardon**	**1.01**	**86**	P	Pn	19 01 42.0	+0.3
MOM2				S	Sn	19 01 56.0	+1.2
CHOHN	**Orocuina**	**1.16**	**18**	P	Pn	19 01 43.7	-0.1
CHOHN	**Orocuina**	**1.16**	**18**	S	Sn	19 01 59.7	+1.3
RANC	**El Ranchito**	**1.29**	**325**	P	Pn	19 01 47.2	+1.5
PACA	**Pacayal**	**1.34**	**324**	P	Pn	19 01 46.4	+0.1
PACA	**Pacayal**	**1.34**	**324**	S	Sn	19 02 02.8	-0.2
YUSH	**Yuscaran**	**1.71**	**23**	P	Pn	19 01 51.9	+0.6
YUSH	**Yuscaran**	**1.71**	**23**	S	Sn	19 02 13.1	+1.2
RCPN	**Sur Rio San Ju**	**1.80**	**50**	P	Pn	19 01 52.2	-0.4
RCPN	**Sur Rio San Ju**	**1.80**	**50**	S	Sn	19 02 14.9	+0.5

IDC 09 19:04:16.4±2.1, 0.57N×126.10E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=181.6km s-min=26.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.93**	**159**	P	P	19 09 10.5	-1.2
	0.8nm,0.7s,baz=337,slow=11,SNR=6.9						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**25.26**	**163**	P	P	19 09 45.3	+0.8
	0.6nm,0.7s,baz=342,slow=10,SNR=11						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**59.80**	**327**	P	P	19 14 23.5	-0.1
	0.3nm,0.7s,baz=120,slow=7.4,SNR=4.2						
	0.3nm,0.7s						

*KRSC **09** 19:14:46.5±1.2, 56.05N×164.74E, h55km±20km, Mc4.3, Ml4.8*
*NEIC **09** 19:14:46.5±1.8, 56.10N±0.08×164.6E±0.1, h10km±1km, mb4.3/90, Error ellipse: s-maj=13.7km s-min=11.3km az=172.0*
*IDC **09** 19:14:46.1±0.7, 56.23N×164.48E, h0km, mb4.0/25, mbtmp4.1/30, ML4.1/5, MS3.4/2, Error ellipse: s-maj=15.3km s-min=11.7km az=142.0*
*MOS **09** 19:14:48.6±0.8, 56.08N×164.69E, h39km, mb4.6/14, Error ellipse: s-maj=6.4km s-min=4.2km az=59.5*
ISC 09 19:14:46.1±1.9, 56.07N±0.04×164.70E±0.03, h8km±12km, n472, σ1§15/486, mb4.3/68, 12C-2D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.06**	**278**	PN	**Pb**	**19 15 05.6**	**-1.1**
KBTR	**Krutoberegovo**	**1.06**	**278**	*i* P	**Pb**	**19 15 05.6**	**-1.1**
BKI	**Bering**	**1.13**	**140**	PN	**Pb**	**19 15 07.4**	**-0.3**
BKI				S	**Sb**	**19 15 21.6**	**-0.9**
BKI	**Bering**	**1.13**	**140**	*i* P	**Pb**	**19 15 07.4**	**-0.3**
BKI				*e*S	**Sb**	**19 15 21.6**	**-0.9**
KBG	**Krutoberegovo**	**1.13**	**280**	PN	**Pb**	**19 15 06.7**	**-1.1**
KBG				S	**Sb**	**19 15 21.9**	**-0.8**
KBG	**Krutoberegovo**	**1.13**	**280**	*e*P	**Pb**	**19 15 06.8**	**-1.1**
KBG				*e*S	**Sb**	**19 15 21.9**	**-0.8**
SMKR	**Semkarok**	**1.87**	**287**	PN	**Pn**	**19 15 18.7**	**+0.3**
SMKR				S	**Sn**	**19 15 41.2**	**-1.1**
SMKR	**Semkarok**	**1.87**	**287**	*e*P	**Pn**	**19 15 18.8**	**+0.3**
SMKR				*e*S	**Sn**	**19 15 41.2**	**-1.1**
ZLN	**Zelenaya**	**2.19**	**270**	PN	**Pn**	**19 15 24.3**	**+1.6**
ZLN	**Zelenaya**	**2.19**	**270**	*e*P	**Pn**	**19 15 24.4**	**+1.6**
CIRR	**Tsirk**	**2.22**	**273**	PN	**Pn**	**19 15 24.5**	**+1.3**
CIRR	**Tsirk**	**2.22**	**273**	*e*P	**Pn**	**19 15 24.6**	**+1.3**
LGNR	**Loginova**	**2.25**	**272**	PN	**Pn**	**19 15 25.3**	**+1.5**
LGNR	**Loginova**	**2.25**	**272**	*e*P	**Pn**	**19 15 25.3**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**2.25**	**268**	PN	**Pn**	**19 15 25.1**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**2.25**	**268**	*e*P	**Pn**	**19 15 25.1**	**+1.4**
MKZ	**Mys Kozlova**	**2.28**	**229**	PN	**Pn**	**19 15 23.6**	**-0.2**
MKZ				S	**Sn**	**19 15 49.9**	**-2.1**
MKZ	**Mys Kozlova**	**2.28**	**229**	*e*P	**Pn**	**19 15 23.7**	**-0.2**
MKZ				*e*S	**Sn**	**19 15 50.0**	**-2.1**
KLY	**Klyuchi**	**2.28**	**278**	PN	**Pn**	**19 15 23.4**	**-0.5**
KLY				S	**Sn**	**19 15 50.4**	**-1.7**
KLY	**Klyuchi**	**2.28**	**278**	*e*P	**Pn**	**19 15 23.5**	**-0.5**
KLY				*e*S	**Sn**	**19 15 50.4**	**-1.7**
BZWR	**Bezymyannyi-We**	**2.36**	**269**	PN	**Pn**	**19 15 26.7**	**+1.4**
BZWR	**Bezymyannyi-We**	**2.36**	**269**	*e*P	**Pn**	**19 15 26.7**	**+1.4**
BZMR	**Bezymyannaya**	**2.37**	**269**	PN	**Pn**	**19 15 26.8**	**+1.5**
BZMR	**Bezymyannaya**	**2.37**	**269**	*e*P	**Pn**	**19 15 26.8**	**+1.5**
KIRR	**Kirishev**	**2.45**	**269**	PN	**Pn**	**19 15 28.1**	**+1.7**
KIRR				S	**Sn**	**19 15 58.1**	**+1.7**
KIRR	**Kirishev**	**2.45**	**269**	*e*P	**Pn**	**19 15 28.1**	**+1.7**
KIRR				*e*S	**Sn**	**19 15 58.4**	**+1.7**
KPT	**Kopyto**	**2.52**	**270**	PN	**Pn**	**19 15 28.9**	**+1.6**
KPT	**Kopyto**	**2.52**	**270**	*e*P	**Pn**	**19 15 28.9**	**+1.6**
KMNR	**Kamenistaya**	**2.53**	**265**	PN	**Pn**	**19 15 29.2**	**+1.7**
KMNR	**Kamenistaya**	**2.53**	**265**	*e*P	**Pn**	**19 15 29.3**	**+1.7**
TUMD	**Tumrok D**	**2.59**	**252**	PN	**Pn**	**19 15 29.5**	**+1.3**
TUMD				S	**Sn**	**19 16 00.1**	**+0.3**
TUMD	**Tumrok D**	**2.59**	**252**	*e*P	**Pn**	**19 15 29.6**	**+1.3**
TUMD				*e*S	**Sn**	**19 16 00.2**	**+0.3**
KOZ	**Kozyrevsk**	**2.71**	**272**	PN	**Pn**	**19 15 31.8**	**+2.0**
KOZ	**Kozyrevsk**	**2.71**	**272**	*e*P	**Pn**	**19 15 31.8**	**+2.0**
SRDR	**Sredinnyy**	**2.80**	**277**	PN	**Pn**	**19 15 32.8**	**+1.7**
SRDR				S	**Sn**	**19 16 06.8**	**+1.8**
SRDR	**Sredinnyy**	**2.80**	**277**	*e*P	**Pn**	**19 15 32.9**	**+1.7**
SRDR				*e*S	**Sn**	**19 16 06.9**	**+1.8**
OSSR	**Ossora**	**3.31**	**345**	PN	**Pn**	**19 15 37.9**	**-0.2**
OSSR	**Ossora**	**3.31**	**345**	*e*P	**Pn**	**19 15 37.9**	**-0.2**
ESO	**Esso**	**3.37**	**270**	PN	**Pn**	**19 15 40.5**	**+1.5**
**

YSS IAmb IAmb 19 18 42.6
comp=Z,18nm,0.7s
YSS Yuzhno-Sakhali 16.36 245 *e*P **Pn 19 18 37.3 +1.4**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,300nm,13.0s
UNV Unalaska Valle 16.63 86 P **Pn 19 18 39.4 +0.2**
baz=290
K13K Kusilvak Mount 16.73 57 P **P 19 18 43.1 +0.4**
K13K Kusilvak Mount 16.73 57 P **Pn 19 18 40.4 0.0**
baz=264,SNR=6.6
F14K Arctic Creek 16.83 44 P **Pn 19 18 41.7 0.0**
baz=250
ANM Nome 16.93 48 P **Pn 19 18 43.2 +0.3**
baz=254
M13K Dall Lake 17.26 62 **P 19 18 48.5 -0.2**
M13K IAmb IAmb 19 18 52.6
comp=Z,17nm,0.9s
M13K Dall Lake 17.26 62 P **Pn 19 18 47.3 +0.2**
baz=270
J14K Nanvaranak Lak 17.34 54 **P 19 18 50.1 +0.6**
J14K Nanvaranak Lak 17.34 54 P **Pn 19 18 48.1 0.0**
baz=262
F15K North Star Dit 17.57 44 P **Pn 19 18 50.8 -0.1**
baz=252
GRNR Gornyy 17.60 264 *e*P **P 19 18 54.2 +1.8**
G15K Niukluk 17.60 47 P **Pn 19 18 51.3 0.0**
baz=254
L14K Kuka Creek 17.61 59 **P 19 18 56.6 +4.1**
L14K IAmb IAmb 19 18 58.1
comp=Z,20nm,0.5s
L14K Kuka Creek 17.61 59 P **Pn 19 18 51.1 -0.4**
baz=267,SNR=22
M14K Bethel 17.95 61 P **Pn 19 18 55.5 -0.2**
baz=270
N14K Kuskokwak Cree 18.10 64 P **Pn 19 18 57.2 -0.3**
baz=273
L15K Ungalak Mounta 18.20 58 P **Pn 19 18 58.4 -0.4**
baz=268,SNR=16
K15K Wolf Creek Mou 18.22 56 **P 19 19 02.6 +3.3**
K15K IAmb IAmb 19 19 05.4
comp=Z,14nm,0.8s
K15K Wolf Creek Mou 18.22 56 P **Pn 19 18 58.7 -0.3**
baz=266,SNR=13
H16K Elim 18.26 49 P **Pn 19 18 58.9 -0.6**
baz=258
C16K Lisburne Hills 18.32 36 P **Pn 19 18 59.6 -0.5**
baz=243
O14K Tigyukauivet M 18.36 66 P **P 19 19 02.3 +1.5**
O14K Tigyukauivet M 18.36 66 P **Pn 19 19 00.5 -0.2**
baz=275
G16K Koyuk River 18.39 46 P **P 19 19 00.3 -0.7**
baz=255
JKA Kamikawa-asahi 18.45 239 **P 19 19 02.2 +0.3**
ASAJ Asahikawa 18.45 239 P **Pn 19 19 02.4 +0.4**
comp=Z,4.5nm,0.3s,baz=28,slow=5.6,SNR=33
ASAJ LR LR 19 27 16.0
comp=Z,207nm,19.9s,baz=36,slow=41
comp=Z,58nm,0.7s
ASAJ Asahikawa 18.45 239 P **P 19 19 02.2 +0.3**
ASAJ pmax pmax
comp=Z,70nm,0.9s
S12K Black Hills 18.55 77 P **Pn 19 19 04.7 +1.6**
S12K IAmb IAmb 19 19 17.8
comp=Z,24nm,0.9s
S12K Black Hills 18.55 77 P **P 19 19 02.3 -0.6**
baz=285
M15K Kasigluk River 18.58 61 P **P 19 19 02.7 -0.4**
baz=271
J16K Anvik River 18.75 53 P **P 19 19 04.6 -0.4**
baz=264
I17K Unalakleet 18.78 51 P **P 19 19 04.5 -0.8**
baz=262
YAK Yakutsk 18.79 303 P **P 19 19 04.8 -0.6**
YAK IAmb IAmb 19 19 17.2
comp=Z,12nm,0.7s
YAK Yakutsk 18.79 303 P **P 19 19 05.1 -0.4**
comp=Z,0.8nm,0.3s,baz=44,slow=1.4,SNR=6.6
comp=Z,6.6nm,0.7s
YAK Yakutsk 18.79 303 *e*P **P 19 19 05.3 -0.2**
YAK *e*S **Sn 19 22 35.1 -0.9**
YAK pmax pmax
comp=Z,3.0nm,0.7s
YAK pmax pmax
comp=N,1.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.6s
YAK pmax pmax
comp=Z,71nm,4.1s
YAK pmax pmax
comp=N,113nm,8.6s
YAK pmax pmax
comp=E,63nm,6.7s
YAK smax smax
comp=N,112nm,7.5s
YAK smax smax
comp=E,76nm,5.7s
D17K Noatak River 18.85 39 P **P 19 19 05.3 -0.8**
baz=248
N15K Kwethluk River 18.89 63 **Pn 19 19 08.8 +1.6**
N15K Kwethluk River 18.89 63 P **P 19 19 06.0 -0.6**
baz=273,SNR=11
E17K Hotham Inlet 19.09 41 P **P 19 19 08.1 -0.6**
baz=251
O15K Ungalikthiuk R 19.11 66 **Pn 19 19 09.7 0.0**
O15K Ungalikthiuk R 19.11 66 P **P 19 19 08.1 -0.9**
baz=276
G17K Kiwalik Mounta 19.11 46 P **P 19 19 08.4 -0.6**
baz=257
F17K Baldwin Pennin 19.11 43 P **P 19 19 08.4 -0.5**
baz=254
C17K DeLong Mountai 19.13 37 P **P 19 19 08.4 -0.8**
baz=246
L16K Owhat River 19.16 58 P **P 19 19 09.3 -0.2**
baz=269,SNR=15
H17K Granite Mounta 19.29 48 P **Pn 19 19 12.7 +0.7**
H17K IAmb IAmb 19 19 24.7
comp=Z,11nm,0.9s
H17K Granite Mounta 19.29 48 P **P 19 19 10.3 -0.7**
baz=260,SNR=8.1
M16K Timber Creek 19.41 60 P **P 19 19 11.2 -1.2**
baz=272
J17K VABM Dome 19.44 53 P **P 19 19 11.7 -0.9**
baz=265,SNR=5.5
N16K Nishlik Lake 19.53 62 P **P 19 19 12.0 -1.7**
baz=273
E18K Tukpahlearik C 19.65 41 **Pn 19 19 16.8 +0.6**
E18K Tukpahlearik C 19.65 41 P **P 19 19 13.3 -1.5**
baz=252,SNR=5.9
L17K Donlin 19.73 57 P **P 19 19 15.1 -0.6**
baz=269,SNR=5.1
K17K Iditarod 19.75 55 P **P 19 19 15.3 -0.6**
K17K IAmb IAmb 19 19 33.7
comp=Z,15nm,0.9s
K17K Iditarod 19.75 55 P **P 19 19 16.0 0.0**
baz=268
S14K Fog Glacier 19.77 74 P **P 19 19 15.9 -0.4**
baz=285,SNR=9.0
F18K Selawik 19.77 43 P **P 19 19 15.6 -0.6**
baz=255,SNR=5.1
ERM Erimo 19.81 234 **P 19 19 15.6 -1.1**
ERM Erimo 19.81 234 *i* P **P 19 19 17.5 +0.8**
ERM pmax pmax
comp=Z,19nm,0.4s
C18K Utukok River 19.87 37 **P 19 19 17.4 +0.1**
C18K IAmb IAmb 19 19 29.8
comp=Z,9.0nm,0.7s
C18K Utukok River 19.87 37 P **P 19 19 16.7 -0.6**
baz=248
O16K Kokwok River B 19.94 64 P **P 19 19 18.5 +0.4**
O16K Kokwok River B 19.94 64 P **P 19 19 17.3 -0.8**
baz=276
B18K Kokolik River 19.95 35 P **P 19 19 17.2 -1.0**
baz=245,SNR=5.4
H18K Honhosa River 19.98 48 P **P 19 19 17.2 -1.3**
baz=261,SNR=8.9
G18K Tagagawik 20.00 46 **P 19 19 17.9 -0.8**
G18K Tagagawik 20.00 46 P **P 19 19 17.5 -1.2**
baz=258,SNR=6.2
P16K Nushagak River 20.06 66 P **P 19 19 18.8 -0.6**
baz=278
M17K Holitna River 20.14 59 **P 19 19 20.5 +0.3**
M17K IAmb IAmb 19 19 40.2
comp=Z,13nm,0.8s
M17K Holitna River 20.14 59 P **P 19 19 19.7 -0.5**
baz=272,SNR=9.2

CHNA Chernabura Isl 20.16 79 P **P 19 19 20.2 -0.2**
baz=288
N17K Nushagak Hills 20.31 62 P **P 19 19 22.4 +0.3**
N17K Nushagak Hills 20.31 62 P **P 19 19 21.8 -0.3**
baz=274
O17K Koliganek Bris 20.43 64 P **P 19 19 22.6 -0.7**
baz=277
L18K Granite Mounta 20.48 57 **P 19 19 24.1 +0.1**
L18K Granite Mounta 20.48 57 P **P 19 19 23.3 -0.7**
baz=270,SNR=5.9
J18K Innoko River 20.50 53 **P 19 19 24.4 +0.2**
J18K IAmb IAmb 19 19 37.4
comp=Z,17nm,0.9s
J18K Innoko River 20.50 53 P **P 19 19 23.5 -0.7**
baz=267,SNR=11
GCSA Galena City Sc 20.55 49 P **P 19 19 24.3 -0.3**
baz=263
F19K Shaleruckik Mo 20.55 43 **P 19 19 25.2 +0.5**
F19K IAmb IAmb 19 19 37.7
comp=Z,11nm,0.9s
F19K Shaleruckik Mo 20.55 43 P **P 19 19 23.7 -0.9**
baz=257,SNR=7.2
C19K Lookout Ridge 20.58 37 **P 19 19 25.0 0.0**
C19K Lookout Ridge 20.58 37 P **P 19 19 24.4 -0.6**
baz=249,SNR=12
G19K Purcell Mounta 20.68 45 IAmb IAmb 19 19 28.5
comp=Z,6.6nm,0.7s
G19K Purcell Mounta 20.68 45 P **P 19 19 25.4 -0.6**
baz=259,SNR=11
Q16K King Salmon 20.80 67 P **P 19 19 27.0 -0.3**
baz=280
H19K Roundabout Mou 20.83 47 **P 19 19 28.2 +0.6**
H19K IAmb IAmb 19 19 40.0
comp=Z,7.9nm,0.8s
H19K Roundabout Mou 20.83 47 P **P 19 19 26.6 -1.0**
baz=262,SNR=5.5
P17K Kvichak River 20.83 65 P **P 19 19 27.0 -0.7**
baz=279
D19K Kuna River 20.88 39 P **P 19 19 27.8 -0.4**
D19K Kuna River 20.88 39 P **P 19 19 27.3 -0.9**
baz=252
E19K Redstone River 20.91 42 **P 19 19 28.4 -0.1**
E19K Redstone River 20.91 42 P **P 19 19 28.2 -0.3**
baz=256
M18K Stony River 20.91 59 P **P 19 19 28.2 -0.4**
baz=273
N18K Kilae Creek 20.93 61 P **P 19 19 27.9 -1.0**
baz=275
KLR Kul'dur 20.98 265 P **P 19 19 29.1 -0.3**
comp=Z,4.2nm,0.7s,baz=61,slow=9.0,SNR=13
comp=Z,4.2nm,0.7s
KLR Kul'dur 20.98 265 *d* P **P 19 19 29.3 -0.1**
KLR pmax pmax
comp=Z,3.0nm,0.6s
J19K Poorman 21.02 52 **P 19 19 30.1 +0.3**
J19K Poorman 21.02 52 P **P 19 19 29.1 -0.7**
baz=267,SNR=8.8
R17L Mt. Peulik Vol 21.16 70 P **P 19 19 31.1 -0.2**
baz=283,SNR=6.3
PLK4 Peulik 4 21.16 70 **P 19 19 31.6 +0.2**
PLK4 IAmb IAmb 19 19 45.4
comp=Z,16nm,0.9s
Q17K Contact Creek 21.27 68 P **P 19 19 32.5 -0.2**
baz=281
L19K White Mountain 21.34 57 **P 19 19 33.9 +0.6**
L19K White Mountain 21.34 57 P **P 19 19 32.3 -1.0**
baz=272,SNR=5.9
O18K Koktuh Hills 21.36 63 P **P 19 19 34.4 +0.9**
O18K IAmb IAmb 19 19 45.8
comp=Z,14nm,1.3s
O18K Koktuh Hills 21.36 63 P **P 19 19 32.7 -0.8**
baz=278
F20K Avaraart Lake 21.39 43 P **P 19 19 33.0 -0.6**
baz=259,SNR=5.2
P18K Big Mountain, 21.42 64 P **P 19 19 33.7 -0.3**
baz=279
D20K Etivluk River 21.47 39 P **P 19 19 34.9 +0.3**
D20K IAmb IAmb 19 19 47.0
comp=Z,14nm,0.9s
D20K Etivluk River 21.47 39 P **P 19 19 33.1 -1.4**
baz=254,SNR=6.4
H20K Anotleneega Mo 21.47 48 P **P 19 19 33.6 -1.0**
baz=264
ZEA Zeya 21.49 280 *e*P **P 19 19 34.5 -0.3**
ZEA MLR MLR
comp=E,100nm,16.0s
ZEA MLR MLR
comp=N,200nm,13.0s
ZEA MLR MLR
comp=Z,100nm,14.0s
E20K Nigu River 21.49 40 P **P 19 19 34.0 -0.9**
baz=255,SNR=5.4
M19K Big River Lodg 21.57 57 P **P 19 19 35.1 -0.6**
baz=273,SNR=7.7
I20K Naaghedeneel 21.57 50 P **P 19 19 35.1 -0.6**
baz=266
N19K Bonanza Creek 21.61 60 **P 19 19 36.5 +0.3**
N19K Bonanza Creek 21.61 60 P **P 19 19 36.4 +0.1**
baz=276
Q18K Katmai Hardscr 21.65 66 P **P 19 19 36.6 -0.1**
baz=281
TIXI Tiksi 21.67 330 **P 19 19 36.7 +0.1**
TIXI Tiksi 21.67 330 P **P 19 19 34.7 -2.0**
comp=Z,3.0nm,0.8s,baz=123,slow=10,SNR=14
comp=Z,3.0nm,0.8s
TIXI Tiksi 21.67 330 *ce*P **P 19 19 38.2 +1.6**
TIXI pmax pmax
comp=Z,12nm,0.8s
J20K Nowinta River 21.68 51 P **P 19 19 37.0 +0.2**
J20K IAmb IAmb 19 19 56.0
comp=Z,9.0nm,1.1s
J20K Nowinta River 21.68 51 P **P 19 19 36.0 -0.8**
baz=268
K20K Telida 21.69 54 P **P 19 19 37.0 0.0**
K20K IAmb IAmb 19 19 48.9
comp=Z,9.0nm,1.0s
K20K Telida 21.69 54 P **P 19 19 36.4 -0.6**
baz=270
B20K Meade River 21.70 35 **P 19 19 37.3 +0.3**
B20K IAmb IAmb 19 19 53.5
comp=Z,11nm,0.7s
B20K Meade River 21.70 35 P **P 19 19 36.3 -0.7**
baz=250
JTM Tenmabayashi 21.74 235 P **P 19 19 35.2 -2.4**
L20K Farewell, AK 21.79 56 P **P 19 19 38.1 0.0**
baz=272
IMAR Indian Mountai 22.00 46 P **P 19 19 40.8 +0.6**
G21K Allakaket 22.16 45 P **P 19 19 43.3 +1.3**
G21K Allakaket 22.16 45 P **P 19 19 41.6 -0.4**
baz=262
M20K Styx River 22.17 57 P **P 19 19 41.6 -0.6**
baz=274
R18K Karluk 22.17 69 P **P 19 19 42.2 +0.1**
baz=284
C21K Knifeblade Rid 22.23 38 P **P 19 19 42.3 -0.4**
baz=255,SNR=5.1
F21K Alatna River 22.28 43 **P 19 19 44.6 +1.3**
F21K IAmb IAmb 19 19 56.4
comp=Z,8.6nm,0.9s
F21K Alatna River 22.28 43 P **P 19 19 42.7 -0.5**
baz=261
Q19K Cape Douglas, 22.30 65 P **P 19 19 45.0 +1.4**
Q19K Cape Douglas, 22.30 65 P **P 19 19 43.2 -0.4**
baz=281
E21K Killik River 22.34 40 **P 19 19 45.5 +1.6**
E21K Killik River 22.34 40 P **P 19 19 43.4 -0.4**
baz=257
H21K Melozitna River 22.35 47 P **P 19 19 43.8 -0.2**
H21K Melozitna Rive 22.35 47 P **P 19 19 43.1 -1.0**
baz=265,SNR=7.4
P19K Oil Pt 22.38 63 P **P 19 19 43.3 -1.1**
baz=280
B21K Ikpikpuk River 22.41 37 **P 19 19 45.3 +0.7**
B21K IAmb IAmb 19 19 58.1
comp=Z,16nm,0.9s
B21K Ikpikpuk River 22.41 37 P **P 19 19 43.5 -1.1**
baz=254,SNR=7.2
PPLA Purkeypile 22.55 55 P **P 19 19 44.8 -1.5**
baz=272
SII Sitkinak Islan 22.57 72 P **P 19 19 45.1 -1.4**
baz=286
CAST Castle Rocks 22.59 53 P **P 19 19 45.3 -1.3**
baz=271
O20K Slope Mountain 22.62 62 P **P 19 19 45.9 -1.1**
baz=279
I21K Tanana 22.66 49 P **P 19 19 46.3 -1.0**
baz=267,SNR=8.4

F22K John River 22.82 43 P **P 19 19 47.6 -1.5**
baz=261,SNR=7.4
OHAK Old Harbor 22.87 70 P **P 19 19 47.7 -1.8**
baz=285
HEH HeiHe 22.89 271 *e*P **P 19 19 46.7 -3.1**
HEH pmax pmax
comp=Z,11nm,0.6s
D22K Ayikyak River 22.89 39 P **P 19 19 48.5 -1.2**
baz=258
SKT Skwentna 22.92 57 P **P 19 19 48.7 -1.4**
baz=275
H22K Ishtalitna Cre 22.96 47 P **P 19 19 49.0 -1.4**
baz=266
G22K Bettles 23.00 44 P **P 19 19 49.9 -0.9**
baz=264
Q20K Shuyak Island 23.00 66 P **P 19 19 49.6 -1.4**
baz=282
E22K Anaktuvuk Pass 23.06 41 P **P 19 19 52.9 +1.3**
E22K IAmb IAmb 19 20 02.8
comp=Z,8.2nm,0.6s
E22K Anaktuvuk Pass 23.06 41 P **P 19 19 50.5 -1.0**
baz=260,SNR=8.5
BPAW Bear Paw Mtn. 23.06 52 P **P 19 19 50.5 -1.0**
baz=271
KDAK Kodiak Island 23.09 68 P **P 19 19 50.6 -1.3**
baz=284
MLY Manley 23.18 49 P **P 19 19 51.7 -1.1**
baz=269,SNR=5.3
TRF Thorofare Moun 23.39 53 P **P 19 19 54.9 -0.2**
baz=273
CNPM China Poot 23.40 63 P **P 19 19 54.8 -0.2**
CNPM IAmb IAmb 19 20 05.1
comp=Z,12nm,1.0s
COLD Coldfoot 23.54 44 P **P 19 19 56.0 -0.4**
COLD Coldfoot 23.54 44 P **P 19 19 55.6 -0.8**
baz=264
G23K Bananza Creek 23.57 45 P **P 19 19 55.8 -0.8**
baz=265,SNR=5.1
D23K Nanushuk River 23.62 39 P **P 19 19 56.1 -1.0**
baz=260
H23K Yukon River 23.70 47 P **P 19 19 57.3 -0.6**
baz=268,SNR=5.6
I23K Minto, Yukon-K 23.77 49 P **P 19 19 57.8 -0.7**
baz=270,SNR=5.8
C23K Itkillik River 23.82 37 **P 19 19 59.1 +0.2**
C23K IAmb IAmb 19 20 10.2
comp=Z,20nm,1.4s
C23K Itkillik River 23.82 37 P **P 19 19 58.3 -0.7**
baz=258
USA0B Ussuriysk Arra 23.85 254 P **P 19 19 58.4 -1.1**
USA0B IAmb IAmb 19 20 33.8
comp=Z,18nm,1.5s
USA0B Ussuriysk Arra 23.85 254 P **P 19 19 58.4 -1.1**
USA0B pmax pmax
comp=Z,18nm,1.5s
USRK Ussuriysk Ar. 23.85 254 P **P 19 19 58.0 -1.5**
USRK Ussuriysk Ar. 23.85 254 P **P 19 19 58.4 -1.1**
comp=Z,2.6nm,0.6s,baz=50,slow=13,SNR=5.5
comp=Z,2.6nm,0.6s
USRK Ussuriysk Ar. 23.85 254 P **P 19 19 58.0 -1.5**
E23K Chandalar 23.86 42 **P 19 19 58.2 -1.4**
E23K IAmb IAmb 19 20 12.6
comp=Z,10nm,1.1s
E23K Chandalar 23.86 42 P **P 19 19 59.2 -0.4**
baz=263
RC01 Rabbit Creek A 23.88 59 P **P 19 19 59.7 0.0**
baz=279
TOLK Toolik Lake Re 23.96 40 P **P 19 19 59.2 -1.3**
TOLK IAmb IAmb 19 20 12.8
comp=Z,8.3nm,0.9s
TOLK Toolik Lake Re 23.96 40 P **P 19 20 00.3 -0.1**
baz=262,SNR=5.8
O22K Cooper Landing 23.98 60 P **P 19 20 00.1 -0.5**
baz=280
MCK McKinley 23.98 52 P **P 19 19 59.5 -1.1**
baz=273
WAT1 Susitna Watana 24.22 55 P **P 19 20 02.1 -0.8**
baz=276
JMM Marumori 24.24 231 P **P 19 20 03.7 +0.5**
E24K Your Creek 24.29 42 P **P 19 20 02.1 -1.4**
E24K IAmb IAmb 19 20 16.1
comp=Z,11nm,0.8s
E24K Your Creek 24.29 42 P **P 19 20 02.8 -0.7**
baz=264,SNR=7.1
D24K Happy Valley 24.31 39 P **P 19 20 02.7 -0.9**
baz=261
H24K Noodor Dome 24.39 47 P **P 19 20 03.8 -0.6**
baz=270,SNR=7.3
COLA College 24.41 50 *e*P **P 19 20 05.4 +0.9**
COLA pmax pmax
comp=Z,2.0nm,0.4s
C24K Franklin Bluff 24.45 38 P **P 19 20 04.5 -0.4**
baz=260,SNR=6.5
F24K Squaw Lake 24.46 43 P **P 19 20 04.9 -0.2**
baz=266
G24K Hadweenzic Riv 24.58 45 IAmb IAmb 19 20 19.8
comp=Z,11nm,0.9s
G24K Hadweenzic Riv 24.58 45 P **P 19 20 05.9 -0.1**
baz=268
POKR Poker Plat Res 24.58 49 P **P 19 20 05.4 -0.7**
baz=272
PWL Port Wells 24.59 59 P **P 19 20 06.3 0.0**
PWL Port Wells 24.59 59 P **P 19 20 05.9 -0.3**
baz=280
WAT6 Susitna Watana 24.62 55 P **P 19 20 05.6 -1.1**
baz=277
M23K Glacier View 24.73 57 P **P 19 20 06.7 -0.8**
baz=278
DHY Denali Highway 24.73 54 IAmb IAmb 19 20 20.2
comp=Z,7.1nm,0.8s
DHY Denali Highway 24.73 54 P **P 19 20 06.5 -1.2**
baz=276
ILAR Eielson Array 24.82 50 P **P 19 20 09.7 +1.4**
comp=Z,0.4nm,0.6s,baz=256,slow=5.7,SNR=26
comp=Z,0.4nm,0.6s
SCM Sheep Creek Mo 24.91 57 P **P 19 20 09.7 +0.5**
SCM Sheep Creek Mo 24.91 57 P **P 19 20 09.7 +0.5**
SCM pmax pmax
comp=Z,30nm,0.8s
SCM Sheep Creek Mo 24.91 57 P **P 19 20 08.2 -0.9**
baz=279
GLI Glacier Island 25.18 59 P **P 19 20 10.8 -0.7**
baz=281
D25K Kavik River 25.20 39 P **P 19 20 10.6 -1.1**
baz=263,SNR=8.1
P23K Montague Islan 25.21 61 P **P 19 20 11.1 -0.7**
baz=282
H25L Birch Creek 25.23 46 P **P 19 20 11.2 -0.7**
baz=270
F25K Christian Rive 25.33 43 IAmb IAmb 19 20 26.4
comp=Z,7.7nm,0.9s
F25K Christian Rive 25.33 43 P **P 19 20 12.0 -0.9**
baz=268,SNR=7.8
PRP Porcupine Dome 25.37 48 P **P 19 20 12.8 -0.6**
baz=272,SNR=5.4
K24K Donnelly Dome 25.38 52 P **P 19 20 12.3 -1.0**
baz=276
E25K Arctic Village 25.38 42 P **P 19 20 12.7 -0.6**
baz=267
BNX BinXian 25.39 262 ⇑P **P 19 20 12.5 -1.0**
BNX pmax pmax
comp=Z,12nm,0.9s
M24K Tolsona, Glenn 25.41 56 P **P 19 20 13.0 -0.7**
M24K Tolsona, Glenn 25.41 56 P **P 19 20 12.9 -0.8**
baz=279
J25K Salcha River, 25.48 50 P **P 19 20 13.6 -0.7**
baz=274
PAX Paxson 25.61 54 P **P 19 20 14.8 -0.8**
baz=278
KLU Klutina 25.63 57 P **P 19 20 15.4 -0.3**
baz=280
BMAR Burnt Mountain 25.73 43 **P 19 20 15.9 -0.6**
C26K Camden Bay 25.77 38 P **P 19 20 15.8 -1.0**
baz=264
HARP HAARP 25.83 55 P **P 19 20 16.7 -0.8**
baz=279
EYAK Cordova Ski Ar 25.89 59 P **P 19 20 17.1 -0.9**
baz=282
F26K Sheenjek River 25.90 43 P **P 19 20 17.6 -0.5**
baz=269
G26K Porcupine Rive 26.04 45 **P 19 20 18.5 -0.8**
G26K IAmb IAmb 19 20 34.1
comp=Z,5.4nm,1.0s
G26K Porcupine Rive 26.04 45 P **P 19 20 18.8 -0.5**
baz=271
SCRK Sand Creek 26.15 51 IAmb IAmb 19 20 30.5
comp=Z,6.0nm,0.9s

SCRK	**Sand Creek**	**26.15**	**51**	P		**P**	**19 20 19.9**	**-0.5**
	baz=277,SNR=7.4								
C27K	**Jago River**	**26.16**	**38**	IAmb		IAmb	19 20 33.6		
	comp=Z,4.9nm,0.8s								
N25K	**Chitina, Valde**	**26.23**	**57**	P		**P**	**19 20 20.4**	**-0.8**
	baz=281								
J26L	**Joseph Creek**	**26.27**	**50**	P		**P**	**19 20 20.9**	**-0.6**
	baz=276								
BMRM	**Bremner River**	**26.36**	**58**	P		**P**	**19 20 21.0**	**-1.3**
	baz=282								
I26K	**Coal Creek Min**	**26.37**	**48**	P		**P**	**19 20 21.6**	**-0.7**
	baz=275								
MJA0	**Matsu Arr-Jizo**	**26.47**	**234**	*e*P		**P**	**19 20 25.4**	**+1.9**
MJA0				pmax	pmax				
	comp=Z,8.0nm,0.7s								
MAJO	**Matsushiro**	**26.49**	**234**			**P**	**19 20 23.1**	**-0.5**
MAJO	**Matsushiro**	**26.49**	**234**	*c i*P		**P**	**19 20 25.2**	**+1.6**
MAJO				pmax	pmax				
	comp=Z,22nm,0.8s								
MJAR	**Matsushiro Arr**	**26.49**	**234**			**P**	**19 20 23.3**	**-0.3**
MJAR				IAmb	IAmb		19 20 36.9		
	comp=Z,6.2nm,1.1s								
MJAR	**Matsushiro Arr**	**26.49**	**234**	P		**P**	**19 20 25.0**	**+1.4**
	comp=Z,8.3nm,0.7s,baz=33,slow=8.6,SNR=18								
	comp=Z,8.3nm,0.7s								
MJAR	**Matsushiro Arr**	**26.49**	**234**	P		**P**	**19 20 23.3**	**-0.3**
MJAR				pmax	pmax				
	comp=Z,6.0nm,1.1s								
L26K	**Log Cabin Wild**	**26.56**	**53**	P		**P**	**19 20 23.9**	**-0.2**
	baz=279								
KAIM	**Kayak Island**	**26.68**	**60**	P		**P**	**19 20 25.4**	**+0.3**
	baz=284								
M26K	**Nabesna, AK**	**26.82**	**55**	P		**P**	**19 20 26.6**	**+0.1**
	baz=281								
E27K	**Coleen River**	**26.87**	**42**	P		**P**	**19 20 26.8**	**0.0**
	baz=270								
G27K	**Doyon Strip**	**26.89**	**45**	P		**P**	**19 20 27.0**	**0.0**
	baz=273								
H27K	**Steamboat Moun**	**26.97**	**46**	IAmb		IAmb	19 20 45.1		
	comp=Z,8.0nm,1.3s								
H27K	**Steamboat Moun**	**26.97**	**46**	P		**P**	**19 20 27.5**	**-0.2**
	baz=274								
K27K	**Chicken**	**26.97**	**51**	P		**P**	**19 20 27.5**	**-0.3**
	baz=278								
I27K	**Kandik River**	**26.99**	**48**	P		**P**	**19 20 27.7**	**-0.2**
	baz=275								
MCARA	**McCarthy VSAT**	**27.02**	**57**	P		**P**	**19 20 27.9**	**-0.2**
	baz=283								
D27M	**Malcolm River**	**27.11**	**39**	P		**P**	**19 20 28.9**	**-0.1**
	baz=269								
CRQE	**Cirque**	**27.12**	**58**	P		**P**	**19 20 29.0**	**-0.3**
	baz=284								
L27K	**Beaver Creek,**	**27.24**	**53**	IAmb		IAmb	19 20 42.0		
	comp=Z,4.4nm,0.8s								
L27K	**Beaver Creek,**	**27.24**	**53**	P		**P**	**19 20 30.4**	**+0.2**
	baz=280								
M27K	**Edge Creek, AK**	**27.34**	**55**	P		**P**	**19 20 31.2**	**-0.1**
	baz=282								
F28M	**Old Crow**	**27.54**	**43**	P		**P**	**19 20 32.4**	**-0.4**
	baz=273								
E28M	**Babbage River**	**27.63**	**41**	P		**P**	**19 20 33.7**	**+0.1**
	baz=271								
JGF	**Kuroka**	**27.65**	**234**	P		**P**	**19 20 33.9**	**-0.2**
JGF				IAmb		IAmb	19 20 49.2		
	comp=Z,8.7nm,0.9s								
I28M	**Miner Creek**	**27.70**	**48**	P		**P**	**19 20 34.4**	**0.0**
	baz=277								
MESA	**MESA**	**27.82**	**59**	P		**P**	**19 20 35.3**	**-0.3**
	baz=286								
D28M	**Stokes Point**	**27.90**	**39**	P		**P**	**19 20 35.7**	**-0.3**
	baz=271								
CTG	**Chitna Glacier**	**27.91**	**57**	P		**P**	**19 20 36.2**	**-0.1**
	baz=284								
DAWY	**Dawson**	**28.14**	**51**	P		**P**	**19 20 36.8**	**-1.4**
	baz=280								
E29M	**Blow River**	**28.24**	**41**	P		**P**	**19 20 38.8**	**-0.2**
	baz=273								
H29M	**Whitestone**	**28.25**	**46**	P		**P**	**19 20 39.0**	**-0.1**
	baz=277								
G29M	**Pine Creek**	**28.31**	**44**	P		**P**	**19 20 39.5**	**-0.2**
G29M				IAmb		IAmb	19 20 57.7		
	comp=Z,7.4nm,1.1s								
G29M	**Pine Creek**	**28.31**	**44**	P		**P**	**19 20 39.6**	**0.0**
	baz=276								
YUK8	**Steele Glacier**	**28.57**	**56**	P		**P**	**19 20 41.1**	**-1.2**
	baz=285								
PINM	**Pinnacle**	**28.66**	**59**	P		**P**	**19 20 43.2**	**+0.3**
	baz=287								
L29M	**L29M**	**28.88**	**52**	P		**P**	**19 20 45.0**	**+0.2**
	baz=283								
M29M	**Somme Creek**	**28.88**	**54**	P		**P**	**19 20 44.6**	**-0.3**
	baz=284								
EPYK	**Eagle Plains**	**28.89**	**45**	P		**P**	**19 20 44.7**	**-0.2**
	baz=278								
K29M	**Barlow Dome**	**28.99**	**51**	P		**P**	**19 20 45.8**	**0.0**
	baz=282								
G30M	**tAoh Zraii Nji**	**29.00**	**44**	P		**P**	**19 20 46.2**	**+0.3**
	baz=277								
PNL	**Peninsula**	**29.20**	**59**	P		**P**	**19 20 47.4**	**-0.2**
	baz=288								
I30M	**Mount Dempster**	**29.21**	**48**	P		**P**	**19 20 47.2**	**-0.6**
	baz=280								
YUK6	**Outpost Mounta**	**29.31**	**57**	P		**P**	**19 20 48.5**	**-0.4**
	baz=286								
J30M	**Hart River**	**29.35**	**49**	P		**P**	**19 20 48.5**	**-0.6**
	baz=282								
HYT	**Haines Junctio**	**29.75**	**57**	P		**P**	**19 20 51.4**	**-1.3**
	baz=287								
N31M	**Braeburn, Yuko**	**30.36**	**55**	P		**P**	**19 20 56.8**	**-1.1**
	baz=287								
KSRS	**Korea Array**	**30.82**	**248**	P		**P**	**19 21 02.6**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=35,slow=8.7,SNR=11								
	comp=Z,1.9nm,0.5s								
KSRS	**Korea Array**	**30.82**	**248**	*e*P		**P**	**19 21 03.0**	**+0.9**
KSRS				pmax	pmax				
	comp=Z,2.0nm,0.5s								
KSAR	**Wonju Array Be**	**30.84**	**248**	P		**P**	**19 21 01.5**	**-0.9**
KSAR	**Wonju Array Be**	**30.84**	**248**	P		**P**	**19 21 01.5**	**-0.9**
XLT	**XiLinHaoTe**	**32.85**	**269**	*e*P		**P**	**19 21 16.6**	**-3.5**
XLT				pP		pwP	19 21 29.6	+2.6
XLT				pmax	pmax				
	comp=Z,4.0nm,0.9s								
Q32M	**Nakina River**	**32.87**	**58**	P		**P**	**19 21 19.2**	**-1.0**
	baz=293								
R33M	**Jennings River**	**33.31**	**57**	P		**P**	**19 21 23.0**	**-1.0**
	baz=293								
U33K	**Whale Pass**	**33.64**	**63**	P		**P**	**19 21 26.4**	**-0.3**
	baz=297								
WRAK	**Wrangell Islan**	**33.90**	**63**	P		**P**	**19 21 28.2**	**-0.7**
	baz=297								
DLBC	**Dease Lake**	**34.15**	**58**	P		**P**	**19 21 30.1**	**-1.1**
	baz=295,SNR=5.8								
ULN	**Ulaanbaatar**	**35.49**	**282**	P		**P**	**19 21 41.1**	**-1.9**
ULN				IAmb		IAmb	19 21 44.5		
	comp=Z,4.5nm,1.1s								
ULN	**Ulaanbaatar**	**35.49**	**282**	*i*P		**P**	**19 21 43.7**	**+0.7**
ULN				pmax	pmax				
	comp=Z,5.0nm,1.2s								
SONM	**Songino Array**	**35.87**	**282**	P		**P**	**19 21 44.5**	**-1.7**
SONM	**Songino Array**	**35.87**	**282**	P		**P**	**19 21 46.1**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=54,slow=8.5,SNR=13								
	comp=Z,1.5nm,0.5s								
SONM	**Songino Array**	**35.87**	**282**	*e*P		**P**	**19 21 46.5**	**+0.3**
SONM				pmax	pmax				
	comp=Z,2.0nm,0.4s								
H11N2	**WAKE ISLAND Hy**	**36.32**	**177**	T		T	20 00 35.1		
	baz=357,slow=76,SNR=559								
H11N3	**WAKE ISLAND Hy**	**36.33**	**176**	T		T	20 00 48.1		
	baz=357,slow=76,SNR=300								
H11N1	**WAKE ISLAND Hy**	**36.34**	**177**	T		T	20 00 48.3		
	baz=357,slow=76,SNR=477								
HG4B	**Hotspring**	**36.50**	**68**	P		**P**	**19 21 50.5**	**-1.0**
HG4B				IAmb		IAmb	19 22 04.5		
	comp=Z,5.1nm,0.8s								
HHC	**Hu-ho-hao-te**	**37.38**	**269**	*e*P		**P**	**19 21 58.5**	**-0.6**
HHC				pmax	pmax				
	comp=Z,12nm,0.9s								
YKA	**Yellowknife Ar**	**39.16**	**47**	P		**P**	**19 22 14.9**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=302,slow=8.9,SNR=4.9								
	comp=Z,0.4nm,0.6s								
LLLB	**Lillooet**	**42.26**	**65**	P		**P**	**19 22 39.5**	**0.0**
LLLB				IAmb		IAmb	19 22 52.5		
	comp=Z,9.7nm,1.0s								
NLWA	**Neilton Lookou**	**43.21**	**70**	P		**P**	**19 22 47.1**	**-0.2**
NLWA				IAmb		IAmb	19 23 00.4		
	comp=Z,6.9nm,0.9s								
SPITS	**Spitsbergen Ar**	**44.62**	**351**	P		**P**	**19 22 58.7**	**+0.5**
	comp=Z,5.0nm,0.6s,baz=88,slow=6.8,SNR=8.4								
	comp=Z,5.0nm,0.6s								
GTA	**Gaotai**	**44.93**	**277**	*e*P		**P**	**19 23 01.2**	**-0.1**
GTA				pP		sP	19 23 05.8	+2.8	
GTA				pmax	pmax				
	comp=Z,7.0nm,1.0s								
GTA				LR		LR			
	comp=N,220nm,16.0s								
GTA				LR		LR			
	comp=E,240nm,16.0s								
GTA				LR		LR			
	comp=Z,310nm,17.1s								
BBOR	**Butler Butte**	**46.80**	**74**	P		**P**	**19 23 14.7**	**-1.3**
BBOR				IAmb		IAmb	19 23 29.0		
	comp=Z,5.0nm,1.0s								
PINE	**Pine Mountain**	**47.12**	**72**	P		**P**	**19 23 17.8**	**-0.8**
KHMM	**Horse Mountain**	**47.61**	**77**	P		**P**	**19 23 21.1**	**-1.2**
KURK	**Kurchatov**	**48.43**	**302**	*i*P		**P**	**19 23 28.0**	**-0.4**
KURK				pmax	pmax				
	comp=Z,3.0nm,0.7s								
KURBB	**Kurchatov Arra**	**48.54**	**302**	P		**P**	**19 23 28.9**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=55,slow=8.0,SNR=10								
	comp=Z,1.8nm,0.5s								
MK31	**Makanchi Array**	**49.27**	**296**	P		**P**	**19 23 33.8**	**-1.2**
MK31	**Makanchi Array**	**49.27**	**296**	P		**P**	**19 23 33.8**	**-1.2**
MK31				pmax	pmax				
	comp=Z,2.0nm,1.2s								
MKAR	**Makanchi Array**	**49.27**	**296**	P		**P**	**19 23 33.8**	**-1.1**
MKAR	**Makanchi Array**	**49.27**	**296**	P		**P**	**19 23 34.5**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=56,slow=6.4,SNR=18								
	comp=Z,0.5nm,0.4s								
MKAR	**Makanchi Array**	**49.27**	**296**	P		**P**	**19 23 33.8**	**-1.1**
HOPS	**Hopland Field**	**49.29**	**78**	P		**P**	**19 23 33.3**	**-1.8**
MAKZ	**Makanchi**	**49.42**	**296**	P		**P**	**19 23 35.1**	**-0.9**
MAKZ				IAmb		IAmb	19 24 00.2		
	comp=Z,1.6nm,0.8s								
MAKZ	**Makanchi**	**49.42**	**296**	P		**P**	**19 23 35.1**	**-0.9**
MAKZ				pmax	pmax				
	comp=Z,2.0nm,0.8s								
SUMG	**Summit**	**50.64**	**9**	P		**P**	**19 23 45.3**	**-0.1**
SUMG	**Summit**	**50.64**	**9**	P		**P**	**19 23 45.3**	**-0.1**
SUMG				pmax	pmax				
	comp=Z,9.0nm,1.2s								
BRVK	**Borovoye**	**50.65**	**309**			**P**	**19 23 45.4**	**+0.1**
BRVK	**Borovoye**	**50.65**	**309**	*c i*P		**P**	**19 23 45.9**	**+0.6**
BRVK				pmax	pmax				
	comp=Z,6.0nm,0.6s								
LVZ	**Lovozero**	**50.96**	**338**	*ce*P		**P**	**19 23 49.1**	**+1.6**
LVZ				pmax	pmax				
	comp=Z,4.0nm,0.7s								
ARCES	**ARCESS Array B**	**51.26**	**343**	P		**P**	**19 23 49.0**	**-0.6**
ARCES	**ARCESS Array B**	**51.26**	**343**	P		**P**	**19 23 49.1**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=22,slow=9.7,SNR=5.6								
	comp=Z,2.7nm,0.8s								
ARCES	**ARCESS Array B**	**51.26**	**343**	P		**P**	**19 23 49.0**	**-0.6**
ARCES				pmax	pmax				
	comp=Z,11nm,1.4s								
ARTI	**Arti**	**53.09**	**318**	P		**P**	**19 24 03.2**	**-0.2**
ARTI	**Arti**	**53.09**	**318**	*c i*P		**P**	**19 24 03.7**	**+0.3**
ARTI							19 25 58.5		
ARTI				S		**S**	**19 31 34.7**	**+1.3**
ARTI				SS		**SS**	**19 35 09.0**	**-2.9**
ARTI				pmax	pmax				
	comp=Z,4.0nm,0.7s								
PZH	**PanZhiHua**	**53.42**	**264**	P		**P**	**19 24 07.3**	**+0.9**
PDAR	**Pinedale Array**	**53.78**	**66**	P		**P**	**19 24 10.6**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=317,slow=6.6,SNR=1.6								
	comp=Z,0.2nm,0.3s								
AKTO	**Aktyubinsk**	**57.75**	**314**	P		**P**	**19 24 37.3**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=27,slow=4.3,SNR=4.8								
	comp=Z,2.3nm,0.8s								
FINES	**FINESS Array B**	**58.41**	**338**	P		**P**	**19 24 41.4**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=31,slow=5.1,SNR=5.6								
	comp=Z,1.8nm,0.7s								
FINES	**FINESS Array B**	**58.41**	**338**	*e*P		**P**	**19 24 41.7**	**+0.3**
FINES				pmax	pmax				
	comp=Z,2.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**61.37**	**260**	P		**P**	**19 25 03.6**	**+1.2**
	comp=Z,5.2nm,0.7s,baz=21,slow=7.0,SNR=44								
	comp=Z,5.2nm,0.7s								
CMAR	**Chiang Mai Arr**	**61.37**	**260**	*e*P		**P**	**19 25 03.6**	**+1.2**
CMAR				pmax	pmax				
	comp=Z,6.0nm,0.7s								
NB2	**NORSAR Subarra**	**61.38**	**346**	P		**P**	**19 25 02.1**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=17,slow=6.9								
NOA	**NORSAR Array B**	**61.38**	**346**	P		**P**	**19 25 01.7**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=18,slow=6.7,SNR=9.0								
	comp=Z,1.6nm,0.7s								
NOA	**NORSAR Array B**	**61.38**	**346**	*e*P		**P**	**19 25 02.1**	**+0.2**
NOA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
HFS	**Hagfors**	**61.88**	**344**	P		**P**	**19 25 04.9**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=74,slow=6.3,SNR=8.4								
	comp=Z,2.7nm,0.7s								
TXAR	**Lajitas Array**	**67.07**	**71**	P		**P**	**19 25 41.1**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=331,slow=6.5,SNR=4.9								
	comp=Z,0.5nm,0.7s								
AKASG	**Malin Array Be**	**67.37**	**331**	P		**P**	**19 25 39.9**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=30,slow=6.8,SNR=2.6								
	comp=Z,0.7nm,0.4s								
EKA	**Eskdalemuir Ar**	**68.52**	**353**	P		**P**	**19 25 48.7**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=17,slow=5.2,SNR=4.0								
	comp=Z,1.2nm,0.7s								
KBZ	**Khabaz**	**69.14**	**319**	P		**P**	**19 25 53.1**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=45,slow=1.4,SNR=4.0								
	comp=Z,1.9nm,0.8s								
KBZ	**Khabaz**	**69.14**	**319**	*e*P		**P**	**19 25 53.2**	**+0.8**
KBZ				pmax	pmax				
	comp=Z,2.0nm,0.8s								
GERES	**GERESS Array B**	**72.69**	**340**	P		**P**	**19 26 14.7**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=40,slow=6.5,SNR=5.4								
	comp=Z,0.7nm,0.7s								
GERES	**GERESS Array B**	**72.69**	**340**	*e*P		**P**	**19 26 13.2**	**-0.9**
GERES				pmax	pmax				
	comp=Z,1.0nm,0.6s								
WRA	**Warramunga Arr**	**79.95**	**209**	P		**P**	**19 26 57.8**	**+2.4**
	comp=Z,0.4nm,0.9s,baz=15,slow=5.7,SNR=2.2								
	comp=Z,0.4nm,0.9s								
ASAR	**Alice Springs**	**83.62**	**208**	P		**P**	**19 27 18.1**	**+3.4**
	comp=Z,0.4nm,0.8s,baz=13,slow=5.5,SNR=9.1								
	comp=Z,0.4nm,0.8s								
QSPA	**South Pole Qui**	**145.82**	**180**	PKPbc		**PKPdf**	**19 34 23.9**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=46,slow=3.4,SNR=2.4								

TAP 09 19:17:14.6, 24.71N×121.98E, h76km, ML2.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.16**	**231**	*e*P	Pn	19 17 25.9	+0.2
TWC				*e*S	Sn	19 17 33.5	-0.4
NDS	**Dongshan**	**0.26**	**253**	*e*P	Pn	19 17 26.2	0.0
NDS				*e*S	Sn	19 17 35.3	+0.6
TWE	**Neicheng**	**0.29**	**272**	*e*P	Pn	19 17 26.8	+0.5
TWE				*e*S	Sn	19 17 36.6	+1.6
TIPB	**Shuangxi**	**0.30**	**331**	P	Pn	19 17 26.4	-0.1
TIPB				S	Sn	19 17 34.7	-0.5
EWUT	**Wuta**	**0.32**	**216**	*e*P	Pn	19 17 26.8	+0.3
EWUT				*e*S	Sn	19 17 36.2	+0.8
ENA	**Nanau**	**0.36**	**218**	*e*P	Pn	19 17 27.4	+0.6
ENA				*e*S	Sn	19 17 36.5	+0.7
FUSB	**Fushanzhiwuyua**	**0.36**	**278**	P	Pn	19 17 27.3	+0.4
FUSB				*e*S	Sn	19 17 37.0	+1.0
EOS2	**EOS2**	**0.37**	**142**	*e*P	Pn	19 17 27.8	+1.1
EOS2				*e*S	Sn	19 17 37.3	+1.7
ENTT	**Nioudou**	**0.39**	**260**	P	Pn	19 17 28.0	+1.0
ENTT				*e*S	Sn	19 17 37.6	+1.4
LATG	**Datong**	**0.45**	**248**	P	Pn	19 17 28.5	+0.9
LATG				*e*S	Sn	19 17 38.6	+1.3
YHNB	**Yeheng**	**0.56**	**266**	*e*P	Pn	19 17 28.9	+0.3
YHNB				*e*S	Sn	19 17 39.3	+0.4
NSK	**Sanguang**	**0.57**	**267**	*e*P	Pn	19 17 29.2	+0.5
NSK				S	Sn	19 17 39.4	+0.3
YM01	**YM01**	**0.57**	**319**	*e*P	Pn	19 17 28.6	-0.1
YM01				*e*S	Sn	19 17 39.2	0.0
NNSB	**Datong**	**0.61**	**243**	*e*P	Pn	19 17 29.7	+0.6
NNSB				*e*S	Sn	19 17 41.0	+1.1
NACB	**Ninganchiao**	**0.64**	**214**	*e*S	Sn	19 17 40.7	+0.6
EOS4	**EOS4**	**0.66**	**152**	*e*S	Sn	19 17 41.0	+1.2
NFF	**Wufeng Townshi**	**0.79**	**265**	*e*S	Sn	19 17 44.1	+0.9
WUSB	**Renai**	**1.06**	**228**	*e*P	Pn	19 17 35.0	+0.7
WUSB				*e*S	Sn	19 17 50.1	+1.0

JMA 09 19:27:25.0±0.4, 25°N±4°×122°3E±°, h134km±3km, MV1.9/7, 1D, NW OFF ISHIGAKIJIMA IS, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**1.05**	**123**	*e*P	Pn	19 27 48.9	+0.2
IRIF				*e*S	Sn	19 28 06.9	+0.2
JKRS	**Kuro-shima**	**1.31**	**121**	P	Pn	19 27 52.0	+0.6
JKRS				*e*S	Sn	19 28 11.8	+0.4
JIJ	**Ishigaki jima**	**1.36**	**113**	P	Pn	19 27 52.0	+0.1
JIJ				S	Sn	19 28 11.5	-0.9
JISG	**Ishigakijimahi**	**1.44**	**103**	P	Pn	19 27 52.8	+0.1
JISG				*e*S	Sn	19 28 13.0	-0.8
AB31	**Akbulak array**	**53.97**	**314**	⇓P	P	19 36 34.5	-0.4
	0.1nm,0.2s,baz=145,slow=13,SNR=7.5						

TAP 09 19:28:01.1, 24.31N×121.78E, h14km, ML1.3, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.12**	**342**	P	Pg	19 28 04.7	+0.1
ENA				*e*S	Sg	19 28 07.2	+0.3
NACB	**Ninganchiao**	**0.22**	**232**	*e*P	Pg	19 28 03.4	-2.6
NACB				*e*S	Sg	19 28 09.5	+0.1
TWD	**Chiawan**	**0.28**	**217**	*e*P	Pg	19 28 06.6	-0.5
TWD				*e*S	Sg	19 28 11.7	+0.4
ETLH	**Xiulin Townshi**	**0.29**	**250**	*e*P	Pb	19 28 08.1	-0.1
ETLH				*e*S	Sb	19 28 12.4	-0.5
ETM	**Tongmen**	**0.43**	**218**	*e*P	Pb	19 28 10.8	+0.3
TEYL	**Yanliau Villag**	**0.47**	**201**	*e*P	Pb	19 28 11.8	+0.6
TEYL				*e*S	Sg	19 28 17.3	+0.5
WHF	**Hehuan Shan**	**0.50**	**251**	*e*P	Pb	19 28 11.8	-0.1
WHF				*e*S	Sg	19 28 17.2	-0.8
YHNB	**Yeheng**	**0.52**	**314**	*e*P	Pg	19 28 11.5	+0.1
NSK	**Sanguang**	**0.53**	**313**	*e*P	Pg	19 28 10.7	-1.0
SHUL	**Shoufeng**	**0.56**	**201**	*e*P	Pg	19 28 11.2	-0.9
OWD	**Renai**	**0.66**	**238**	*e*P	Pg	19 28 14.1	0.0

IDC 09 19:42:00.3±326.0, 23.64N×159.63W, h0km, Error ellipse: s-maj=172.0km s-min=107.5km az=151.0, Hawaiian Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I59US	**HAWAII INFRASO**	**5.32**	**139**	I	I	20 16 10.0	
	baz=322,slow=318,SNR=2.7						
I58US	**Midway Islands**	**16.60**	**290**	I	I	21 24 20.0	
	0.1nm,0.6s,baz=107,slow=311,SNR=1.1						
I60US	**Wake Island**	**31.67**	**269**	I	I	22 52 50.0	
	baz=79,slow=308,SNR=1.1						

IDC 09 19:45:26.6±2.2, 0.51N×126.42E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=185.7km s-min=29.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.76**	**160**	P	P	19 50 20.9	+0.9
	0.5nm,0.6s,baz=338,slow=11,SNR=4.8						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**25.11**	**164**	P	P	19 50 52.7	-0.7
	0.2nm,0.5s,baz=346,slow=11,SNR=4.9						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**60.02**	**326**	P	P	19 55 35.3	0.0
	0.1nm,0.4s,baz=116,slow=5.9,SNR=2.3						
	0.1nm,0.4s						

IDC 09 19:49:30.9±2.4, 0.79N×127.16E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=185.6km s-min=28.9km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.77**	**162**	P	P	19 54 24.2	-0.3
	0.3nm,0.5s,baz=340,slow=10,SNR=4.8						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**25.17**	**165**	P	P	19 54 58.5	+0.2
	0.2nm,0.4s,baz=344,slow=11,SNR=6.4						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**60.21**	**326**	P	P	19 59 40.8	-0.1
	0.1nm,0.4s,baz=111,slow=6.9,SNR=1.7						
	0.1nm,0.4s						

*NEIC **09** 19:49:49.9±1.6, 35.897N±0.010×117.72W±0.01, h7km±5km, Error ellipse: s-maj=1.6km s-min=1.4km az=61.0*

PAS 09 19:49:50.6±1.8, 35.902N±0.010×117.72W±0.01, h2km±3km, ML3.1/22, ML2.9/140(NEIC), Error ellipse: s-maj=1.8km s-min=1.4km az=68.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WVPM	**Volcano Peak E**	**0.09**	**301**		Pg	19 49 52.7	+0.2
TOW	**Tower One**	**0.10**	**202**		Pg	19 49 53.1	+0.5
JRC2	**Joshua Ridge**	**0.11**	**318**		Pg	19 49 53.0	+0.2
CLC	**China Lake**	**0.13**	**131**		Pg	19 49 53.2	0.0
CLC				Sg	Sg	19 49 55.2	+0.3
CLC				IAML		19 49 55.6	
	comp=N,3μm,0.5s						
CLC				IAML		19 49 55.8	
	comp=E,4μm,0.5s						

TPNV IAML 19 50 45.0
comp=N,212nm,0.7s
TPNV IAML 19 50 48.8
comp=N,149nm,0.7s
BFSC Mount Baldy Ra 1.66 178 Pn 19 50 19.5 -1.3
BFSC IAML 19 50 44.7
comp=N,90nm,0.4s
MWC Mount Wilson 1.70 190 Pn 19 50 20.5 -0.8
MWC IAML 19 50 50.8
comp=E,90nm,1.0s
MWC IAML 19 50 51.3
comp=N,136nm,0.6s
PASC Pasadena Art C 1.77 193 Pn 19 50 21.2 -1.0
MTPC Mountain Pass 1.81 103 Pn 19 50 21.5 -1.4
MTPC IAML 19 50 49.0
comp=N,136nm,0.4s
MTPC IAML 19 50 50.1
comp=E,198nm,0.3s
MZP Montezuma Peak 1.82 8 Pn 19 50 22.1 -1.0
SHPR Sheep Range 2.15 73 Pn 19 50 26.9 -0.8
TPH Tonopah 2.21 10 Pn 19 50 27.2 -1.2
ELS Elsinore Mount 2.26 174 Pn 19 50 28.0 -1.0
ELS IAML 19 51 05.1
comp=E,48nm,0.3s
V12A Nelson 2.34 93 Pn 19 50 28.8 -1.3
V12A IAML 19 51 12.4
comp=N,56nm,0.5s
S11A Rachel 2.35 42 Pn 19 50 29.4 -1.0
LHV Little Huntoon 2.43 345 Pn 19 50 29.9 -1.3
LHV IAML 19 51 22.4
comp=N,41nm,1.2s
PMD Palm Desert 2.50 153 Pn 19 50 31.0 -1.3
PMD IAML 19 51 12.0
comp=N,39nm,0.5s
PMD IAML 19 51 12.2
comp=E,51nm,0.7s
PFO Pinyon Flats O 2.51 155 Pn 19 50 31.4 -1.1
PFO IAML 19 51 15.3
comp=E,50nm,1.2s
PMPB Monarch Peak 2.52 278 Pn 19 50 30.8 -1.7
NV11 Mina Array Sit 2.55 352 Pn 19 50 31.3 -1.8
NVAR Mina Array Bea 2.57 350 Pn 19 50 32.7 -0.7
PRN Pahroc Range 2.62 54 Pn 19 50 33.6 -0.4
PRN IAML 19 51 26.8
comp=E,83nm,0.7s
PRN IAML 19 51 26.8
comp=N,74nm,0.8s
BBGB Big Mountain B 2.77 285 Pn 19 50 35.6 -0.4
NEE2 Needles Airpor 2.77 113 Pn 19 50 34.6 -1.4
RYN Ryan 2.80 347 Pn 19 50 35.3 -1.1
BORC Borrego Spring 2.84 157 Pn 19 50 35.0 -1.8
BORC IAML 19 51 23.7
comp=E,66nm,0.7s
BORC IAML 19 51 23.7
comp=N,41nm,0.6s
WAKR Walker 2.94 333 Pn 19 50 36.4 -2.0
DPP Dos Picos Cty 2.97 167 Pn 19 50 37.1 -1.5
DPP IAML 19 51 24.5
comp=E,39nm,0.5s
R11B Troy Canyon, C 2.98 34 Pn 19 50 37.5 -1.5
R11B IAML 19 51 25.0
comp=E,32nm,0.9s
CMB Columbia Colle 3.02 316 Pn 19 50 38.3 -1.1
CMB IAML 19 51 30.2
comp=N,22nm,0.7s
SAO San Andreas Ge 3.13 287 Pn 19 50 39.8 -1.1
W13A Hualapai Mount 3.23 103 Pn 19 50 41.0 -1.5
W13A IAML 19 51 36.3
comp=N,19nm,1.4s
BLYC Blythe 3.39 128 Pn 19 50 42.8 -1.7
BLYC IAML 19 51 39.2
comp=N,34nm,0.6s
BLYC IAML 19 51 49.5
comp=E,30nm,0.9s
YUH Yuha Desert 3.57 155 Pn 19 50 46.3 -0.7
CBX Cerro Bola 3.69 166 Pn 19 50 47.9 -0.8
GLA Glamis 3.71 139 Pn 19 50 46.9 -2.0
GLA IAML 19 51 53.4
comp=N,40nm,0.6s
LCMT Little Creek M 3.77 72 Pn 19 50 48.1 -1.8
CCUT Cedar City 3.87 64 Pn 19 50 49.4 -1.8
AFDM Forest Hills D 3.99 321 Pn 19 50 50.7 -2.1
AFDM IAML 19 51 59.3
comp=N,16nm,0.4s
AFDM IAML 19 52 05.3
comp=E,19nm,0.8s
PSUT Pine Spring 4.05 48 Pn 19 50 52.2 -1.6
PSUT IAML 19 52 02.7
comp=N,14nm,1.3s
PSUT IAML 19 52 10.4
comp=E,20nm,1.0s
KNB Kanab 4.10 73 Pn 19 50 52.5 -1.9
SPR3 Spring Creek 3 4.10 40 Pn 19 50 52.1 -2.4
SPR3 IAML 19 51 59.9
comp=N,12nm,1.0s
SPR3 IAML 19 52 00.6
comp=E,14nm,1.0s
ESJX Sierra Juarez 4.16 159 Pn 19 50 53.6 -1.6
Y14A Wickenburg 4.34 115 Pn 19 50 56.1 -1.5
Y14A IAML 19 52 15.8
comp=E,15nm,0.6s
Y14A IAML 19 52 18.3
comp=N,22nm,0.8s
BEKR Beckworth 4.48 333 Pn 19 50 57.3 -2.3
BEKR IAML 19 52 26.5
comp=E,14nm,0.8s
BEKR IAML 19 52 34.3
comp=N,7.0nm,0.8s
ELK Elko 5.21 21 Pn Pn 19 51 07.7 -2.1
ELK IAML 19 52 36.5
comp=N,6.2nm,0.8s
ELK IAML 19 52 38.2
comp=N,4.1nm,0.7s
DUG Dugway, Tooele 5.77 41 Pn Pn 19 51 15.7 -1.6

IDC 09 19:53:38.7±1.7, 0°42'N×126°48'E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=169.9km s-min=22.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.65**	**160**	P	P	19 58 30.3	-0.7
	0.4nm,0.4s,baz=338,slow=11,SNR=7.5 0.4nm,0.4s						
ASAR	**Alice Springs**	**25.01**	**164**	P	P	19 59 04.9	+0.4
	0.5nm,0.5s,baz=345,slow=10,SNR=8.3 0.5nm,0.5s						
MKAR	**Makanchi Array**	**60.13**	**326**	P	P	20 03 46.5	-1.6
	0.2nm,0.3s,baz=121,slow=7.6,SNR=6.3 0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**64.39**	**328**	P	P	20 04 18.3	+1.8
	0.5nm,0.7s,baz=118,slow=7.5,SNR=4.2 0.5nm,0.7s						

*AEIC **09** 19:58:59.8±0.8, 52°.81N±0°.05×167°.48W±0°.05, h25km±6km, Error ellipse: s-maj=7.5km s-min=4.3km az=160.0*
NEIC 09 19:58:57.4±2.2, 52°.59N±0°.07×167°.43W±0°.06, h35km±2km, ML3.0/10, ML2.7(AEIC), Error ellipse: s-maj=11.5km s-min=5.9km az=345.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	**Okmok Steeple**	**0.84**	**322**		Pn	19 59 12.7	-0.1
OKFG	**Magazine Ridge**	**0.87**	**341**		Pn	19 59 12.9	-0.2
OKFG					Sn	19 59 22.0	-2.7
OKTU	**Okmok Mt. Tuli**	**0.88**	**335**		Pn	19 59 13.2	0.0
OKTU					Sn	19 59 22.8	-2.0
NIKH	**Nikolski High**	**0.95**	**294**		Pn	19 59 15.1	+0.9
NIKH					Sn	19 59 25.1	-1.3
NIKH				IAML		19 59 26.9	
	comp=N,576nm,0.7s						
NIKH				IAML		19 59 26.9	
	comp=E,402nm,0.6s						
OKCE	**Okmok Cone E**	**0.95**	**332**		Pn	19 59 14.4	+0.2
OKCE					Sn	19 59 25.4	-1.2
OKNC	**Okmok New Cone**	**0.96**	**335**		Pn	19 59 14.5	+0.1
MGOD	**Makushin Gods**	**1.25**	**15**		Pn	19 59 18.3	-0.1
MGOD					Sn	19 59 32.1	-1.9
MAPS	**Pakushin South**	**1.25**	**13**		Pn	19 59 18.3	-0.1
MREP	**Makushin Rep't**	**1.29**	**18**		Pn	19 59 19.3	+0.3
UNV	**Unalaska Valle**	**1.38**	**24**		Pn	19 59 20.3	+0.3
UNV					Sn	19 59 33.6	-3.4
UNV				IAML		19 59 35.4	
	comp=N,103nm,0.4s						
AKMO	**Akutan Morgan**	**1.73**	**29**		Pn	19 59 25.7	+0.8
AKRB	**Akutan Reef Bi**	**1.75**	**27**		Pn	19 59 26.2	+1.0
LVA	**Lava Point**	**1.78**	**27**		Pn	19 59 26.8	+1.1
LVA					Sn	19 59 45.1	-2.0
LVA				IAML		19 59 55.4	
	comp=E,227nm,0.5s						
LVA				IAML		19 59 59.4	
	comp=N,310nm,0.8s						
AKGG	**Akutan Green G**	**1.83**	**28**		Pn	19 59 26.9	+0.7
AKUT	**Akutan**	**1.84**	**32**	Pn	Pn	19 59 27.3	+0.9
AKUT					Sn	19 59 47.8	-0.7
AKUT				IAML		20 00 03.3	
	comp=E,59nm,0.6s						
ATKA	**Atka Island**	**4.16**	**267**	Pn	Pn	19 59 57.8	-0.5

*IDC **09** 20:03:52.9±2.1, 10°.10S×114°.51E, h0km, mb3.3/5, mbtmp3.5/7, ML3.4/2, Error ellipse: s-maj=84.8km s-min=19.5km az=45.0*
ISC 09 20:03:57.8±1.2, 10°.1S±0°.2×114°.7E±0°.1, h35km, n7, σ2s22/9, mb3.5/5, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**8.79**	**91**	Pn	Pn	**20 06 04.2**	**+1.7**
	0.8nm,0.3s,baz=170,slow=23,SNR=1.2						
BATI					Sn	**20 07 39.5**	**-0.9**
	2.8nm,0.3s,baz=158,slow=22,SNR=1.4 9.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**13.21**	**128**	Pn	Pn	**20 07 03.3**	**+0.4**
	0.1nm,0.3s,baz=300,slow=6.5,SNR=1.5						
FITZ					Sn	20 09 18.0	-11
	0.3nm,0.3s,baz=165,slow=22,SNR=5.7 1.3nm,0.7s						
WRA	**Warramunga Arr**	**21.27**	**120**	P	P	**20 08 42.6**	**+1.3**
	0.5nm,0.8s,baz=291,slow=12,SNR=3.5						
WRA					S	**20 12 31.9**	**-4.2**
	0.2nm,0.5s,baz=292,slow=22,SNR=1.6 0.5nm,0.8s						
ASAR	**Alice Springs**	**22.71**	**129**	P	P	**20 08 59.2**	**+2.5**
	0.5nm,0.7s,baz=304,slow=9.1,SNR=10 0.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**32.40**	**331**	P	P	**20 10 23.6**	**-0.9**
	0.7nm,0.8s,baz=151,slow=9.8,SNR=5.2 0.7nm,0.8s						
SONM	**Songino Array**	**58.18**	**353**	P	P	**20 13 48.2**	**-0.2**
	0.9nm,0.8s,baz=169,slow=8.5,SNR=4.6 0.9nm,0.8s						
MKAR	**Makanchi Array**	**63.65**	**336**	P	P	**20 14 25.4**	**-0.1**
	0.2nm,0.5s,baz=149,slow=6.5,SNR=2.0 0.2nm,0.5s						

*IDC **09** 20:19:00.9±0.5, 3°.90N×128°.44E, h0km, mb4.3/19, mbtmp4.2/22, ML4.1/3, MS3.3/5, Error ellipse: s-maj=23.5km s-min=10.1km az=76.0*
*NEIC **09** 20:19:06.7±2.1, 3°.91N±0°.07×128°.41E±0°.08, h36km±7km, mb4.6/99, Error ellipse: s-maj=12.6km s-min=8.8km az=64.0*
*DJA **09** 20:19:06.9±0.5, 4°N±4°×12°9E±°, h41km±5km, M4.6/25, mb4.6/25, mB5.1/6, MLv4.6/14, Mw(mB)4.5/6*
ISC 09 20:19:07.4±0.4, 3°.91N±0°.04×128°.40E±0°.06, h46km, n362, σ1837/336, mb4.5/75, MS3.5/4, 1C-1D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.87**	**266**	P	Pn	**20 19 51.3**	**+0.6**
TNTI	**Ternate**	**3.28**	**198**		Pn	**20 19 54.5**	**-1.8**
TNTI	**Ternate**	**3.28**	**198**	P	Pn	**20 19 58.3**	**+2.0**
DAV	**Davao City (W)**	**4.21**	**318**	Pn	Pn	**20 20 08.5**	**-0.7**
DAV					Sn	**20 20 57.7**	**+0.6**
DAV	**Davao City (W)**	**4.21**	**318**	Pn	Pn	**20 20 08.7**	**-0.4**
	64nm,0.3s,baz=19,slow=13,SNR=4.3						
DAV					Sn	**20 20 57.6**	**+0.5**
	baz=280,slow=17 195nm,0.4s						
KMSI	**Cibinong**	**5.51**	**233**	P	Pn	**20 20 29.4**	**+2.4**
SWI	**Sorong**	**5.53**	**149**	P	Pn	**20 20 27.2**	**-0.1**
SANI	**Sanana**	**6.39**	**202**	P	Pn	**20 20 40.1**	**+1.1**
	0.2nm766nm52nm,0.8s						
NLAI	**Namlea**	**7.21**	**190**	P	Pn	**20 20 52.5**	**+2.1**
	0.1nm30nm,0.7s						
MRSI	**Marisa**	**7.29**	**242**	P	Pn	**20 20 53.9**	**+2.4**
LUWI	**Luwuk**	**7.47**	**229**		Pn	**20 20 53.4**	**-0.4**
LUWI	**Luwuk**	**7.47**	**229**	P	Pn	**20 20 56.4**	**+2.6**
FAKI	**Fak Fak**	**7.80**	**150**	Pn	Pn	**20 20 58.1**	**-0.3**
FAKI	**Fak Fak**	**7.80**	**150**	P	Pn	**20 20 58.8**	**+0.4**
	0.3nm42nm,1.3s						
TOLI2	**Tolitoli**	**8.10**	**250**		Pn	**20 21 02.5**	**0.0**
APSI	**Ampana**	**8.27**	**235**	P	Pn	**20 21 08.5**	**+3.7**
MPSI	**Mapaga**	**9.20**	**248**	P	Pn	**20 21 20.4**	**+2.8**
	14nm,0.9s						
KDI	**Kendari**	**9.71**	**217**	P	Pn	**20 21 26.4**	**+1.8**
PCI	**Palu**	**9.80**	**241**	P	Pn	**20 21 27.9**	**+2.1**
	36nm,0.8s						
SPSI	**Sidrap Palu**	**11.64**	**228**	P	Pn	**20 21 52.8**	**+1.8**
	13nm,0.6s						
BNSI	**Bone**	**11.69**	**225**	P	Pn	**20 21 53.3**	**+1.6**
	18nm,1.1s						
KAPI	**Kappang**	**12.37**	**224**	Pn	Pn	**20 21 59.6**	**-1.4**
	1.0nm,0.3s,baz=268,slow=2.0,SNR=2.1						
KAPI					Sn	**20 24 16.9**	**-0.7**
	0.3nm,0.3s,baz=221,slow=19,SNR=1.7 3.3nm,0.4s						
TGY	**Tagaytay City**	**12.52**	**324**	LR	LR	20 28 16.4	
	comp=Z,130nm,18.9s,baz=87,slow=44						
BSSI	**Bau Bau, Buton**	**12.73**	**218**	P	Pn	**20 22 05.8**	**-0.1**
	29nm,1.8s						
JAY	**Jayapura**	**13.86**	**117**	Pn	Pn	**20 22 18.8**	**-2.6**
	0.2nm,0.3s,baz=298,slow=20,SNR=2.0						
JAY				LR	LR	20 27 24.2	
	comp=Z,82nm,18.7s,baz=232,slow=36 4.0nm,0.9s						
SOEI	**Soe**	**14.18**	**197**	Pn	Pn	**20 22 25.8**	**0.0**
SOEI	**Soe**	**14.18**	**197**	P	Pn	**20 22 26.9**	**+1.1**
	28nm,0.9s						
EDFI	**Ende, Flores**	**14.24**	**208**	P	Pn	**20 22 28.8**	**+2.2**
	19nm,0.7s						
WBSI	**Waikabubak, Su**	**16.17**	**214**	P	P	**20 22 53.9**	**-0.4**
	39nm,1.0s						
SBUM	**Sibu**	**16.22**	**265**		Pn	**20 22 49.5**	**-2.8**
PLAI	**Plampang**	**16.50**	**220**	P	P	**20 22 58.5**	**+0.7**
	53nm,1.0s						
MTN	**Manton Dam**	**16.86**	**171**	Pn	Pn	**20 22 59.3**	**-1.0**
KSM	**Kuching**	**18.23**	**263**		P	**20 23 15.7**	**-1.3**
JAGI	**Jajag, Banyuwa**	**18.79**	**229**	P	Pn	**20 23 25.9**	**+1.9**
	43nm,1.3s						
KNRA	**Kununurra**	**19.46**	**179**		P	**20 23 30.3**	**-0.2**
YULB	**Yu-li**	**20.55**	**341**	P	P	**20 23 40.3**	**-2.0**
YULB				IAmb	IAmb	20 23 58.6	
	comp=Z,25nm,1.2s						
SSLB	**Suanglung**	**21.03**	**341**	P	P	**20 23 45.6**	**-1.9**
SSLB				IAmb	IAmb	20 23 58.9	
	comp=Z,14nm,0.8s						
FITZ	**Fitzroy Crossi**	**22.03**	**187**	P	P	**20 23 55.6**	**-2.6**
FITZ	**Fitzroy Crossi**	**22.03**	**187**	P	P	**20 23 56.9**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=20,slow=13,SNR=7.3 comp=Z,1.5nm,0.5s						
COEN	**Coen**	**23.02**	**141**	P	P	**20 24 07.8**	**-0.9**
QIZ	**Qiongzhong**	**23.55**	**311**	P	P	**20 24 11.1**	**-2.8**
QIZ				IAmb	IAmb	20 24 32.2	
	comp=Z,33nm,1.3s						
WB0	**Warramunga Arr**	**24.25**	**166**		P	**20 24 18.6**	**-1.8**
WRAB	**Tennant Creek**	**24.40**	**166**	P	P	**20 24 21.1**	**-0.6**
WRA	**Warramunga Arr**	**24.41**	**166**	P	P	**20 24 18.9**	**-2.8**
WRA	**Warramunga Arr**	**24.41**	**166**	P	P	**20 24 21.0**	**-0.8**
	comp=Z,4.1nm,0.8s,baz=345,slow=11,SNR=27						
WRA					S	**20 28 43.8**	**+5.2**
	comp=Z,2.2nm,1.2s,baz=355,slow=18,SNR=5.2 comp=Z,4.1nm,0.8s						
WR8	**Warramunga Arr**	**24.46**	**166**		P	**20 24 21.4**	**-0.8**
UBPT	**Khong Chiam**	**25.24**	**298**	P	P	**20 24 28.7**	**-0.6**
UBPT				IAmb	IAmb	20 24 36.5	
	comp=Z,17nm,1.2s						
AS31	**Alice Springs**	**27.93**	**169**		P	**20 24 52.3**	**-1.2**
ASAR	**Alice Springs**	**27.93**	**169**	P	P	**20 24 52.1**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=351,slow=7.5,SNR=9.8						
ASAR				PcP	PcP	**20 28 09.6**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=354,slow=2.7,SNR=3.6 comp=Z,0.9nm,0.7s						
NJ2	**Nanjing**	**29.40**	**343**	*e*P	P	**20 25 08.2**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
GSI	**Gunungsitoli**	**30.89**	**266**	P	P	**20 25 20.9**	**+0.9**
CM31	**Chiang Mai Arr**	**32.23**	**299**	P	P	**20 25 29.8**	**-1.9**
CM31				IAmb	IAmb	20 25 42.4	
	comp=Z,5.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**32.23**	**299**	P	P	**20 25 29.9**	**-1.8**
CMAR	**Chiang Mai Arr**	**32.23**	**299**	P	P	**20 25 32.9**	**+1.2**
	comp=Z,2.7nm,0.8s,baz=109,slow=6.8,SNR=19						
CMAR				LR	LR	20 39 35.2	
	comp=Z,46nm,18.1s,baz=125,slow=38 comp=Z,2.7nm,0.8s						
CHTO	**Chiang Mai**	**32.37**	**300**		P	**20 25 30.9**	**-2.0**
CHTO				IAmb	IAmb	20 25 34.4	
	comp=Z,5.1nm,0.7s						
KMI	**Kunming**	**32.45**	**313**	P	P	**20 25 35.6**	**+1.8**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KSRS	**Korea Array**	**33.39**	**359**	P	P	**20 25 41.4**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=177,slow=9.7,SNR=5.4 comp=Z,1.6nm,0.7s						
MJAR	**Matsushiro Arr**	**33.71**	**14**	P	P	**20 25 43.8**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=175,slow=9.9,SNR=2.9 comp=Z,1.0nm,0.7s						
PZH	**PanZhiHua**	**34.00**	**314**	P	P	**20 25 48.8**	**+1.7**
XAN	**Xi'an**	**35.04**	**331**	⇓P	P	**20 25 56.4**	**+0.5**
XAN				pP	pP	20 26 02.3	-4.6
XAN				pmax	pmax		
	comp=Z,30nm,1.0s						
JMM	**Marumori**	**35.65**	**17**	P	P	**20 26 00.5**	**-0.6**
STKA	**Stephens Creek**	**37.74**	**161**	P	P	**20 26 18.4**	**-0.5**
STKA	**Stephens Creek**	**37.74**	**161**	P	P	**20 26 18.7**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=354,slow=7.8,SNR=6.0 comp=Z,2.1nm,0.6s						
HHC	**Hu-ho-hao-te**	**39.78**	**340**	*e*P	P	20 26 39.6	+3.5
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**40.14**	**66**	T	T	21 09 47.3	
	baz=253,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**40.16**	**66**	T	T	21 09 46.6	
	baz=253,slow=75,SNR=3.6						
H11S2	**WAKE ISLAND Hy**	**40.16**	**66**	T	T	21 09 46.3	
	baz=253,slow=75,SNR=10						
USRK	**Ussuriysk Ar.**	**40.25**	**4**	P	P	**20 26 40.6**	**+0.9**
	comp=Z,2.5nm,0.7s,baz=178,slow=6.6,SNR=4.4 comp=Z,2.5nm,0.7s						
XLT	**XiLinHaoTe**	**41.29**	**346**	*e*P	P	20 26 43.5	-5.0
XLT				pP	pP	20 26 54.0	-5.2
XLT				sP	sP	20 27 00.0	-4.0
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BNX	**BinXian**	**41.68**	**359**	⇑P	P	**20 26 52.0**	**+0.5**
BNX				pmax	pmax		
	comp=Z,3.0nm,0.9s						
JKA	**Kamikawa-asahi**	**41.96**	**15**	P	P	**20 26 55.1**	**+1.2**
GTA	**Gaotai**	**43.82**	**328**	*e*P	P	**20 27 10.6**	**+1.4**
GTA				pP	pP	20 27 19.8	-0.6
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ULN	**Ulaanbaatar**	**47.49**	**341**	P	P	**20 27 37.0**	**-1.1**
SONM	**Songino Array**	**47.68**	**340**	P	P	**20 27 39.7**	**+0.2**
SONM	**Songino Array**	**47.68**	**340**	P	P	**20 27 39.8**	**+0.3**
	comp=Z,3.5nm,0.8s,baz=156,slow=8.3,SNR=24						
SONM				LR	LR	20 51 13.2	
	comp=Z,64nm,18.5s,baz=228,slow=40 comp=Z,3.5nm,0.8s						
TAU	**Tasmania Unive**	**49.65**	**162**	P	P	**20 27 53.9**	**-0.6**
WMQ	**Urumqi**	**53.55**	**324**	*e*P	P	**20 28 26.0**	**+2.3**
WMQ				sP	pwP	20 28 50.5	+10
WMQ				PP	PP	**20 30 24.8**	**0.0**
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				LR	LR		
	comp=Z,180nm,24.1s						
PETK	**Petropavlovsk-**	**54.65**	**21**	P	P	**20 28 32.0**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=222,slow=7.0,SNR=4.5 comp=Z,1.9nm,0.6s						
YAK	**Yakutsk**	**58.00**	**1**		P	**20 28 53.7**	**-1.4**
MKAR	**Makanchi Array**	**58.37**	**324**		P	**20 28 58.0**	**-0.2**
MKAR	**Makanchi Array**	**58.37**	**324**	P	P	**20 28 58.8**	**+0.6**
	comp=Z,3.1nm,0.5s,baz=116,slow=8.1,SNR=42						
MKAR				PcP	PcP	**20 29 49.3**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=132,slow=4.8,SNR=1.5 comp=Z,3.1nm,0.5s						
MAKZ	**Makanchi**	**58.56**	**324**		P	**20 28 59.3**	**-0.2**
MAKZ				IAmb	IAmb	20 29 09.5	
	comp=Z,5.9nm,0.8s						
TARG	**Taragay, Kyrgy**	**58.74**	**317**	P	P	**20 29 00.5**	**-0.8**
TARG				IAmb	IAmb	20 29 14.9	
	comp=Z,4.4nm,0.7s						
KSH	**Kashi**	**59.10**	**314**	P	P	**20 29 05.4**	**+1.9**
KSH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NIL	**Nilore**	**59.14**	**307**		P	**20 29 03.3**	**-0.4**
KDJ	**Kajisay**	**59.33**	**318**		P	**20 29 04.6**	**-0.5**
BOOM	**Boomskoye usch**	**60.32**	**318**	P	P	**20 29 12.4**	**+0.6**
LBZ	**Lake Benmore**	**60.91**	**147**	P	P	**20 29 16.5**	**+0.9**
ZAA0	**Zalesovo Array**	**61.20**	**332**		P	**20 29 16.1**	**-1.3**
ZAA0				IAmb	IAmb	20 29 17.7	
	comp=Z,2.9nm,0.9s						
ZALV	**Zalesovo Beam**	**61.20**	**332**		P	**20 29 15.9**	**-1.4**
ZALV	**Zalesovo Beam**	**61.20**	**332**	P	P	**20 29 17.2**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=90,slow=5.9,SNR=9.0 comp=Z,1.7nm,0.7s						
KURK	**Kurchatov**	**62.50**	**327**		P	**20 29 25.2**	**-1.0**
KURBB	**Kurchatov Arra**	**62.50**	**327**	P	P	**20 29 26.3**	**+0.1**
	comp=Z,5.4nm,0.7s,baz=125,slow=6.2,SNR=35 comp=Z,5.4nm,0.7s						
GAR	**Garm**	**63.03**	**312**		P	**20 29 29.2**	**-1.0**
KK31	**Karatay Array**	**64.24**	**316**		P	**20 29 38.0**	**0.0**
KK31				IAmb	IAmb	20 29 47.8	
	comp=Z,3.8nm,0.8s						
KKAR	**Karatay Array**	**64.24**	**316**	P	P	**20 29 37.9**	**-0.1**
KKAR				IAmb	IAmb	20 29 47.8	
	comp=Z,4.0nm,0.8s						
KKAR	**Karatay Array**	**64.24**	**316**		P	**20 29 36.8**	**-1.2**
TIXI	**Tiksi**	**67.66**	**0**	P	P	**20 29 58.8**	**-0.4**
TIXI				IAmb	IAmb	20 29 60.0	
	comp=Z,4.2nm,0.8s						
BRVK	**Borovoye**	**68.16**	**326**		P	**20 30 02.8**	**0.0**
BRVK				IAmb	IAmb	20 30 03.9	
	comp=Z,4.0nm,0.8s						
NIKH	**Nikolski High**	**70.72**	**35**	P	P	**20 30 19.4**	**+0.8**
	baz=250						
SPIA	**Saint Paul Isl**	**71.50**	**30**	P	P	**20 30 24.5**	**+1.2**
	baz=247						
UNV	**Unalaska Valle**	**72.34**	**34**	P	P	**20 30 29.6**	**+1.3**
	baz=252						
AB31	**Akbulak array**	**73.07**	**320**		P	**20 30 32.5**	**-0.3**
ABKAR	**Akbulak array**	**73.07**	**320**		P	**20 30 32.3**	**-0.5**
ABKAR	**Akbulak array**	**73.07**	**320**	P	P	**20 30 32.0**	**-0.8**
GAMB	**Gambell**	**73.57**	**24**	P	P	**20 30 37.0**	**+1.6**
	baz=244						
M11K	**Mekoryuk**	**74.63**	**28**	P	P	**20 30 42.3**	**+0.6**
	baz=250						
S12K	**Black Hills**	**75.33**	**33**	P	P	**20 30 46.9**	**+1.0**
	baz=255						
TNA	**Tin City**	**75.78**	**23**	P	P	**20 30 49.8**	**+1.6**
	baz=247						
K13K	**Kusilvak Mount**	**75.86**	**27**	P	P	**20 30 50.5**	**+1.9**
	baz=251						
M13K	**Dall Lake**	**75.98**	**28**	P	P	**20 30 50.6**	**+1.2**
	baz=253						
SDPT	**Sand Point**	**76.12**	**34**	P	P	**20 30 51.8**	**+1.4**
	baz=257						
F14K	**Arctic Creek**	**76.37**	**23**	P	P	**20 30 52.9**	**+1.4**
	baz=249						
ANM	**Nome**	**76.43**	**24**	P	P	**20 30 53.3**	**+1.3**
	baz=250						
CHNA	**Chernabura Isl**	**76.50**	**34**	P	P	**20 30 53.5**	**+1.0**
	baz=257						
L14K	**Kuka Creek**	**76.57**	**28**	P	P	**20 30 54.5**	**+1.8**
	baz=253						
J14K	**Nanvaranak Lak**	**76.60**	**26**	P	P	**20 30 54.9**	**+2.0**
	baz=252						
N14K	**Kuskokwak Cree**	**76.64**	**29**	P	P	**20 30 55.3**	**+2.1**
	baz=254						
O14K	**Tigyukauivet M**	**76.67**	**30**	P	P	**20 30 54.5**	**+1.1**
	baz=255						
M14K	**Bethel**	**76.74**	**28**	P	P	**20 30 53.8**	**+0.1**
M14K	**Bethel**	**76.74**	**28**	P	P	**20 30 55.1**	**+1.4**
	baz=254						
S14K	**Fog Glacier**	**76.84**	**33**	P	P	**20 30 55.8**	**+1.3**
	baz=257						
F15K	**North Star Dit**	**77.11**	**23**	P	P	**20 30 56.8**	**+1.1**
	baz=250						
G15K	**Niuklu

L15K	Ungalak Mounta	77.22	27	P	P	20 30 58.3 +1.9
	baz=254					
M15K	Kasigluk River	77.33	28	P	P	20 30 58.5 +1.5
	baz=255					
K15K	Wolf Creek Mou	77.36	27	P	P	20 30 57.9 +0.7
K15K				IAmb	IAmb	20 31 00.7
	comp=Z,6.5nm,1.1s					
K15K	Wolf Creek Mou	77.36	27	P	P	20 30 58.2 +1.0
	baz=254					
O15K	Ungalikthiuk R	77.37	30	P	P	20 30 58.2 +0.8
	baz=256					
N15K	Kwethluk River	77.48	29	P	P	20 30 59.0 +1.1
	baz=256					
H16K	Elim	77.73	24	P	P	20 31 00.3 +1.1
	baz=253					
C16K	Lisburne Hills	77.74	20	P	P	20 31 00.6 +1.4
	baz=249					
G16K	Koyuk River	77.91	24	P	P	20 31 00.8 +0.6
	baz=253					
J16K	Anvik River	78.04	26	P	P	20 31 02.4 +1.4
	baz=255					
L16K	Owhat River	78.15	28		P	20 31 02.5 +0.9
L16K				IAmb	IAmb	20 31 04.7
	comp=Z,5.5nm,0.9s					
L16K	Owhat River	78.15	28	P	P	20 31 03.2 +1.6
	baz=256					
I17K	Unalakleet	78.17	25	P	P	20 31 03.2 +1.5
	baz=254					
N16K	Nishlik Lake	78.19	29	P	P	20 31 03.3 +1.4
	baz=257					
M16K	Timber Creek	78.23	28	IAmb	IAmb	20 31 05.2
	comp=Z,4.5nm,0.9s					
M16K	Timber Creek	78.23	28	P	P	20 31 03.5 +1.4
	baz=257					
P16K	Nushagak River	78.26	30	P	P	20 31 03.4 +1.2
	baz=258					
O16K	Kokwok River B	78.33	30	P	P	20 31 04.1 +1.4
	baz=258					
D17K	Noatak River	78.35	21	P	P	20 31 04.2 +1.6
	baz=252					
RDOG	Red Dog Mine	78.52	21	P	P	20 31 04.3 +0.8
RDOG				IAmb	IAmb	20 31 07.0
	comp=Z,12nm,1.5s					
RDOG	Red Dog Mine	78.52	21	P	P	20 31 05.1 +1.5
	baz=252					
C17K	DeLong Mountai	78.56	20	P	P	20 31 05.6 +1.8
	baz=251					
E17K	Hotham Inlet	78.62	22	P	P	20 31 05.5 +1.4
	baz=253					
G17K	Kiwalik Mounta	78.62	24	P	P	20 31 05.8 +1.7
	baz=254					
F17K	Baldwin Pennin	78.65	23	P	P	20 31 06.3 +2.1
	baz=254					
J17K	VABM Dome	78.74	26	IAmb	IAmb	20 31 08.2
	comp=Z,5.0nm,1.0s					
J17K	VABM Dome	78.74	26	P	P	20 31 06.7 +1.8
	baz=256					
H17K	Granite Mounta	78.77	24	P	P	20 31 06.7 +1.7
	baz=255					
L17K	Donlin	78.79	27	P	P	20 31 06.9 +1.8
	baz=257					
R17L	Mt. Peulik Vol	78.83	32	P	P	20 31 07.2 +1.7
	baz=260					
O17K	Koliganek Bris	78.86	30	P	P	20 31 07.2 +1.7
	baz=258					
K17K	Iditarod	78.92	27	IAmb	IAmb	20 31 09.9
	comp=Z,11nm,1.1s					
K17K	Iditarod	78.92	27	P	P	20 31 07.7 +1.9
	baz=257					
N17K	Nushagak Hills	78.97	29	P	P	20 31 07.5 +1.3
	baz=258					
M17K	Holitna River	79.03	28	IAmb	IAmb	20 31 14.2
	comp=Z,5.3nm,1.1s					
M17K	Holitna River	79.03	28	P	P	20 31 08.1 +1.6
	baz=258					
P17K	Kvichak River	79.08	30	P	P	20 31 08.4 +1.7
	baz=259					
E18K	Tukpahlearik C	79.17	22		P	20 31 08.5 +1.4
E18K				IAmb	IAmb	20 31 10.2
	comp=Z,5.7nm,0.9s					
E18K	Tukpahlearik C	79.17	22	P	P	20 31 08.7 +1.6
	baz=254					
Q17K	Contact Creek	79.19	31	P	P	20 31 08.3 +0.8
	baz=260					
F18K	Selawik	79.31	23	P	P	20 31 09.4 +1.5
	baz=255					
C18K	Utukok River	79.31	21	P	P	20 31 09.0 +1.1
	baz=253					
B18K	Kokolik River	79.32	20	P	P	20 31 09.4 +1.5
	baz=252					
H18K	Honhosa River	79.46	24	P	P	20 31 10.1 +1.3
	baz=256					
G18K	Tagagawik	79.52	24	P	P	20 31 10.5 +1.4
	baz=256					
L18K	Granite Mounta	79.55	27	P	P	20 31 10.8 +1.5
	baz=258					
N18K	Kilae Creek	79.63	29	IAmb	IAmb	20 31 13.8
	comp=Z,8.3nm,1.2s					
N18K	Kilae Creek	79.63	29	P	P	20 31 11.3 +1.5
	baz=259					
P18K	Big Mountain,	79.72	30	P	P	20 31 11.6 +1.3
	baz=260					
J18K	Innoko River	79.79	26	P	P	20 31 12.0 +1.4
	baz=258					
M18K	Stony River	79.81	28	P	P	20 31 12.0 +1.3
	baz=259					
A19K	Wainwright	79.81	19	P	P	20 31 11.5 +1.0
	baz=253					
O18K	Koktuh Hills	79.81	30	P	P	20 31 12.3 +1.5
	baz=260					
SII	Sitkinak Islan	79.83	33	P	P	20 31 12.3 +1.4
	baz=262					
R18K	Karluk	79.83	32	P	P	20 31 12.1 +1.3
	baz=261					
GCSA	Galena City Sc	79.99	25	P	P	20 31 12.6 +1.0
	baz=258					
C19K	Lookout Ridge	80.00	20	P	P	20 31 13.3 +1.7
	baz=255,SNR=5.6					
F19K	Shaleruckik Mo	80.09	23	P	P	20 31 13.6 +1.5
	baz=257					
G19K	Purcell Mounta	80.20	23	P	P	20 31 14.1 +1.3
	baz=257					
H19K	Roundabout Mou	80.33	24	IAmb	IAmb	20 31 18.1
	comp=Z,4.5nm,0.9s					
H19K	Roundabout Mou	80.33	24	P	P	20 31 14.9 +1.5
	baz=258					
N19K	Bonanza Creek	80.33	29		P	20 31 14.6 +0.9
N19K				IAmb	IAmb	20 31 19.0
	comp=Z,6.0nm,0.9s					
N19K	Bonanza Creek	80.33	29	P	P	20 31 15.1 +1.5
	baz=261					
D19K	Kuna River	80.36	21	IAmb	IAmb	20 31 17.9
	comp=Z,6.1nm,0.9s					
D19K	Kuna River	80.36	21	P	P	20 31 14.7 +1.0
	baz=256,SNR=9.9					
J19K	Poorman	80.37	26	P	P	20 31 15.3 +1.6
	baz=259					
L19K	White Mountain	80.39	28	P	P	20 31 15.0 +1.1
	baz=260					
OHAK	Old Harbor	80.41	33	P	P	20 31 15.2 +1.2
	baz=262					
E19K	Redstone River	80.44	22		P	20 31 15.2 +1.1
E19K				IAmb	IAmb	20 31 17.1
	comp=Z,7.9nm,1.0s					
E19K	Redstone River	80.44	22	P	P	20 31 15.8 +1.8
	baz=257,SNR=9.7					
Q19K	Cape Douglas,	80.46	31	P	P	20 31 15.2 +0.9
	baz=262					
M19K	Big River Lodg	80.55	28	P	P	20 31 15.9 +1.1
	baz=261					
P19K	Oil Pt	80.77	30	P	P	20 31 17.3 +1.3
	baz=262					
KDAK	Kodiak Island	80.86	32	P	P	20 31 17.9 +1.6
	baz=263					
L20K	Farewell, AK	80.88	27	P	P	20 31 17.9 +1.4
	baz=261					
F20K	Avaraart Lake	80.93	23	P	P	20 31 18.3 +1.7
	baz=258					
K20K	Telida	80.94	26	IAmb	IAmb	20 31 20.2
	comp=Z,5.5nm,1.1s					
K20K	Telida	80.94	26	P	P	20 31 18.4 +1.6
	baz=261					
D20K	Etivluk River	80.95	21	IAmb	IAmb	20 31 19.6
	comp=Z,6.2nm,0.8s					
D20K	Etivluk River	80.95	21	P	P	20 31 18.4 +1.7
	baz=257,SNR=12					
H20K	Anotleneega Mo	80.96	24	P	P	20 31 18.7 +1.8
	baz=260,SNR=6.6					
E20K	Nigu River	81.00	21	P	P	20 31 18.7 +1.6
	baz=258,SNR=17					
I20K	Naaghedeneel	81.01	25	P	P	20 31 19.0 +1.9
	baz=260					
J20K	Nowinta River	81.04	26	IAmb	IAmb	20 31 20.7
	comp=Z,4.8nm,0.9s					
J20K	Nowinta River	81.04	26	P	P	20 31 18.5 +1.2
	baz=260,SNR=7.6					
B20K	Meade River	81.05	20	IAmb	IAmb	20 31 20.1
	comp=Z,4.7nm,0.8s					
B20K	Meade River	81.05	20	P	P	20 31 18.9 +1.7
	baz=257					
Q20K	Shuyak Island	81.06	31	P	P	20 31 19.0 +1.6
	baz=263					
O20K	Slope Mountain	81.13	30	P	P	20 31 19.6 +1.6
	baz=262					
M20K	Styx River	81.14	28	IAmb	IAmb	20 31 21.8
	comp=Z,4.3nm,0.8s					
M20K	Styx River	81.14	28	P	P	20 31 19.3 +1.3
	baz=262					
IMAR	Indian Mountai	81.51	24	P	P	20 31 20.9 +1.1
A21K	Barrow	81.53	18	P	P	20 31 20.3 +0.7
	baz=257					
C21K	Knifeblade Rid	81.69	21	P	P	20 31 22.0 +1.4
	baz=259					
G21K	Allakaket	81.69	23	P	P	20 31 22.3 +1.6
	baz=261,SNR=7.4					
PPLA	Purkeypile	81.72	27	P	P	20 31 22.6 +1.5
	baz=262					
F21K	Alatna River	81.82	23	P	P	20 31 23.0 +1.6
	baz=261					
CAST	Castle Rocks	81.83	27	P	P	20 31 22.5 +1.0
	baz=262					
B21K	Ikpikpuk River	81.83	20	P	P	20 31 23.1 +1.8
	baz=259,SNR=13					
H21K	Melozitna River	81.84	24	IAmb	IAmb	20 31 24.8
	comp=Z,5.0nm,1.1s					
H21K	Melozitna River	81.84	24	P	P	20 31 22.7 +1.2
	baz=261,SNR=7.5					
E21K	Killik River	81.84	21	IAmb	IAmb	20 31 24.3
	comp=Z,4.7nm,0.8s					
E21K	Killik River	81.84	21	P	P	20 31 22.7 +1.2
	baz=260,SNR=10.0					
SKT	Skwentna	81.90	28	P	P	20 31 23.2 +1.3
	baz=263					
RAYN	Ar Rayn	81.94	293		P	20 31 24.0 +1.0
I21K	Tanana	82.11	25	IAmb	IAmb	20 31 26.3
	comp=Z,9.1nm,1.1s					
I21K	Tanana	82.11	25	P	P	20 31 24.1 +1.2
	baz=262,SNR=8.6					
SUA	Susitna One	82.21	29	IAmb	IAmb	20 31 26.6
	comp=Z,6.5nm,0.8s					
SUA	Susitna One	82.21	29	P	P	20 31 24.9 +1.2
	baz=264					
F22K	John River	82.36	22	P	P	20 31 25.2 +1.0
	baz=262					
KTH	Kantishna Hill	82.37	26	IAmb	IAmb	20 31 27.4
	comp=Z,8.2nm,1.1s					
B22K	Teshekpuk Lake	82.37	20	P	P	20 31 24.9 +0.8
	baz=260					
D22K	Ayikyak River	82.38	21	P	P	20 31 25.7 +1.4
	baz=261					
BPAW	Bear Paw Mtn.	82.40	26	P	P	20 31 25.5 +1.0
	baz=264,SNR=7.3					
H22K	Ishtalitna Cre	82.46	24	P	P	20 31 26.0 +1.3
	baz=263,SNR=7.2					
G22K	Bettles	82.54	23	P	P	20 31 27.1 +2.0
	baz=262					
E22K	Anaktuvuk Pass	82.59	22		P	20 31 26.5 +1.1
E22K				IAmb	IAmb	20 31 29.4
	comp=Z,7.0nm,1.1s					
E22K	Anaktuvuk Pass	82.59	22	P	P	20 31 27.0 +1.5
	baz=262,SNR=7.4					
MLY	Manley	82.62	25	IAmb	IAmb	20 31 28.5
	comp=Z,7.5nm,1.1s					
MLY	Manley	82.62	25	P	P	20 31 27.0 +1.4
	baz=263,SNR=9.9					
TRF	Thorofare Moun	82.64	27	IAmb	IAmb	20 31 28.0
	comp=Z,5.6nm,1.0s					
TRF	Thorofare Moun	82.64	27	P	P	20 31 27.1 +1.1
	baz=264					
RC01	Rabbit Creek A	82.66	29	P	P	20 31 27.1 +1.2
	baz=265					
SEW	Seward	82.72	30	P	P	20 31 27.5 +1.3
	baz=265					
PMR	Palmer	83.00	29	P	P	20 31 28.4 +0.8
	baz=265					
COLD	Coldfoot	83.09	23	P	P	20 31 29.2 +1.3
	baz=264					
G23K	Bananza Creek	83.10	23	P	P	20 31 29.3 +1.2
	baz=264,SNR=14					
D23K	Nanushuk River	83.11	21	P	P	20 31 29.6 +1.5
	baz=263,SNR=9.9					
H23K	Yukon River	83.20	24	P	P	20 31 30.1 +1.5
	baz=264,SNR=12					
I23K	Minto, Yukon-K	83.21	25	P	P	20 31 29.9 +1.3
	baz=265,SNR=13					
C23K	Itkillik River	83.25	20		P	20 31 29.5 +0.8
C23K	Itkillik River	83.25	20	P	P	20 31 30.0 +1.3
	baz=263,SNR=7.7					
MCK	McKinley	83.27	26	P	P	20 31 29.8 +0.8
	baz=265					
RND	Reindeer	83.28	27	IAmb	IAmb	20 31 30.8
	comp=Z,5.9nm,0.8s					
NEA2	Nenana	83.28	26	P	P	20 31 30.0 +1.0
	baz=265					
KNK	Knik Glacier	83.31	29	P	P	20 31 30.3 +1.1
	baz=266					
PWL	Port Wells	83.33	29	P	P	20 31 30.1 +0.8
	baz=266					
WAT1	Susitna Watana	83.37	27	P	P	20 31 30.9 +1.3
	baz=266					
E23K	Chandalar	83.40	22	P	P	20 31 31.0 +1.3
	baz=264,SNR=21					
TOLK	Toolik Lake Re	83.48	21	P	P	20 31 31.8 +1.8
	baz=264,SNR=6.7					
M23K	Glacier View	83.68	28	P	P	20 31 32.8 +1.7
	baz=266					
WRH	Wood River Hil	83.69	26	IAmb	IAmb	20 31 33.0
	comp=Z,5.8nm,1.1s					
WAT6	Susitna Watana	83.72	28	P	P	20 31 32.7 +1.2
	baz=266,SNR=9.2					
P23K	Montague Islan	83.73	30	P	P	20 31 32.7 +1.3
	baz=267					
D24K	Happy Valley	83.80	21	P	P	20 31 33.5 +1.9
	baz=265					
E24K	Your Creek	83.82	22	IAmb	IAmb	20 31 34.9
	comp=Z,5.0nm,1.2s					
E24K	Your Creek	83.82	22	P	P	20 31 33.5 +1.7
	baz=265					
CCB	Clear Creek Bu	83.83	26		P	20 31 32.0 +0.2
CCB				IAmb	IAmb	20 31 33.4
	comp=Z,5.5nm,1.0s					
SCM	Sheep Creek Mo	83.87	28	P	P	20 31 33.6 +1.4
	baz=267					
H24K	Noodor Dome	83.88	24	IAmb	IAmb	20 31 35.3
	comp=Z,10nm,1.4s					
H24K	Noodor Dome	83.88	24	P	P	20 31 33.2 +1.1
	baz=266,SNR=5.5					
C24K	Franklin Bluff	83.89	20	P	P	20 31 33.7 +1.7
	baz=265					
DHY	Denali Highway	83.92	27	P	P	20 31 33.3 +0.8
	baz=267					
GLI	Glacier Island	83.93	29	P	P	20 31 33.8 +1.3
	baz=267					
F24K	Squaw Lake	84.00	23	P	P	20 31 33.9 +1.2
	baz=266,SNR=8.6					
POKR	Poker Flat Res	84.02	25	P	P	20 31 34.1 +1.3
	baz=266					
G24K	Hadweenzic Riv	84.11	23	P	P	20 31 34.4 +1.2
	baz=266,SNR=12					
HDA	Harding Lake	84.19	26	IAmb	IAmb	20 31 35.9
	comp=Z,2.8nm,0.6s					
HDA	Harding Lake	84.19	26	P	P	20 31 34.8 +1.1
	baz=267					
ILAR	Eielson Array	84.23	25	P	P	20 31 33.8 -0.1
	comp=Z,1.1nm,0.9s,baz=245,slow=6.6,SNR=10					
	comp=Z,1.1nm,0.9s					
M24K	Tolsona, Glenn	84.43	28	P	P	20 31 36.3 +1.3
	baz=268					
KLU	Klutina	84.53	29	P	P	20 31 36.7 +1.2
	baz=268					
EYAK	Cordova Ski Ar	84.58	30	P	P	20 31 37.2 +1.5
	baz=268					
G25K	Bearman Lake	84.66	23	P	P	20 31 37.4 +1.5
	baz=268					
K24K	Donnelly Dome	84.67	26	P	P	20 31 37.4 +1.2
	baz=268					
D25K	Kavik River	84.68	21	P	P	20 31 37.4 +1.3
	baz=267					
H25L	Birch Creek	84.75	24	P	P	20 31 37.7 +1.3
	baz=268					
PAX	Paxson	84.78	27	P	P	20 31 37.8 +1.0
	baz=268,SNR=5.3					
F25K	Christian Rive	84.87	23	IAmb	IAmb	20 31 40.6
	comp=Z,4.0nm,1.1s					
F25K	Christian Rive	84.87	23	P	P	20 31 38.9 +1.7
	baz=268					
J25K	Salcha River,	84.88	26	P	P	20 31 38.1 +0.9
	baz=268					
HARP	HAARP	84.91	28	P	P	20 31 39.0 +1.6
	baz=269					
E25K	Arctic Village	84.92	22	P	P	20 31 38.7 +1.4
	baz=268,SNR=5.9					
RIDG	Independent Ri	85.08	26	IAmb	IAmb	20 31 40.4
	comp=Z,9.9nm,1.1s					
RIDG	Independent Ri	85.08	26	P	P	20 31 39.9 +1.6
	baz=269					
BMRM	Bremner River	85.15	29	P	P	20 31 39.8 +1.1
	baz=269					
N25K	Chitina, Valde	85.16	29	P	P	20 31 39.7 +1.0
	baz=269					
C26K	Camden Bay	85.22	20	P	P	20 31 40.3 +1.6
	baz=268					
KAIM	Kayak Island	85.23	30	P	P	20 31 40.7 +1.8
	baz=270					
BMAR	Burnt Mountain	85.27	23		P	20 31 40.4 +1.3
F26K	Sheenjek River	85.44	22	P	P	20 31 41.4 +1.5
	baz=269					
SCRK	Sand Creek	85.47	26	P	P	20 31 41.9 +1.6
	baz=270					
G26K	Porcupine Rive	85.58	23	P	P	20 31 42.4 +1.9
	baz=270					
C27K	Jago River	85.63	21	P	P	20 31 42.4 +1.6
	baz=270					
J26L	Joseph Creek	85.66	26	P	P	20 31 42.5 +1.3
	baz=270					
I26K	Coal Creek Min	85.83	25	P	P	20 31 43.5 +1.7
	baz=270					
MCARA	McCarthy VSAT	85.92	29	P	P	20 31 44.4 +2.1
	baz=271					
M26K	Nabesna, AK	85.92	28	P	P	20 31 44.2 +1.8
	baz=271					
K27K	Chicken	86.31	26	P	P	20 31 45.9 +1.6
	baz=271					
E27K	Coleen River	86.41	22	P	P	20 31 46.3 +1.6
	baz=272					
G27K	Doyon Strip	86.42	23	P	P	20 31 46.3 +1.5
	baz=272					
M27K	Edge Creek, AK	86.44	28	P	P	20 31 46.2 +1.0
	baz=272					
L27K	Beaver Creek,	86.44	27	P	P	20 31 46.4 +1.4
	baz=272					
I27K	Kandik River	86.47	25	P	P	20 31 46.8 +1.7
	baz=272					
MESA	MESA	86.47	30	P	P	20 31 46.6 +1.2
	baz=272					
H27K	Steamboat Moun	86.48	24	P	P	20 31 46.5 +1.4
	baz=272					
D27M	Malcolm River	86.60	21	P	P	20 31 47.0 +1.3
	baz=272					
F28M	Old Crow	87.08	23	P	P	20 31 49.1 +1.1
	baz=273					
YUK3	Moose Creek	87.13	28	P	P	20 31 49.3 +0.7
	baz=273					
E28M	Babbage River	87.15	22	P	P	20 31 49.2 +0.9
	baz=273					
I28M	Miner Creek	87.17	25		P	20 31 49.3 +0.7
I28M				IAmb	IAmb	20 31 51.7
	comp=Z,2.6nm,0.8s					
I28M	Miner Creek	87.17	25	P	P	20 31 49.5 +0.9
	baz=273					
PINM	Pinnacle	87.32	30	P	P	20 31 50.1 +0.7
	baz=273					
D28M	Stokes Point	87.39	21	P	P	20 31 50.4 +1.0
	baz=274					
DAWY	Dawson	87.49	26	P	P	20 31 50.5 +0.4
	baz=274					
H29M	Whitestone	87.76	24	P	P	20 31 51.9 +0.6
	baz=275					
E29M	Blow River	87.77	22	P	P	20 31 52.3 +1.0
	baz=275					
PNL	Peninsula	87.78	30	P	P	20 31 52.6 +1.1
	baz=274					
G29M	Pine Creek	87.85	23	P	P	20 31 52.8 +1.1
	baz=275					
I29M	Ogilvie Camp,	87.86	25	P	P	20 31 53.0 +1.2
	baz=275					
M29M	Somme Creek	88.03	28	P	P	20 31 53.6 +0.8
	baz=275					
YUK4	Talbot Arm	88.03	29	P	P	20 31 53.5 +0.6
	baz=275					
L29M	L29M	88.12	27	P	P	20 31 53.8 +0.7
	baz=275					
O29M	Mount Kennedy	88.14	30	P	P	20 31 54.2 +0.9
	baz=275					
YUK6	Outpost Mounta	88.19	29	P	P	20 31 54.3 +0.5
	baz=275					
K29M	Barlow Dome	88.33	26	P	P	20 31 55.1 +0.9
	baz=275					
EPYK	Eagle Plains	88.41	24	P	P	20 31 54.9 +0.5
	baz=276					
G30M	tAoh Zraii Nji	88.54	23	P	P	20 31 55.9 +0.9
	baz=277					
HYT	Haines Junctio	88.62	29	P	P	20 31 56.6 +1.0
	baz=276					
F30M	Barrier River	88.64	22	P	P	20 31 56.2 +0.8
	baz=277					
I30M	Mount Dempster	88.68	25	P	P	20 31 56.3 +0.6
	baz=276					
N30M	Aishikik Lake	88.76	29	P	P	20 31 56.9 +0.7
	baz=276					
J30M	Hart River	88.77	25	P	P	20 31 56.6 +0.4
	baz=276					
M30M	Minto, Yukon	88.78	27	P	P	20 31 56.7 +0.4
	baz=276					
G31M	Satah River	89.31	23	P	P	20 31 59.1 +0.6
	baz=278					
O30N	Mendenhall	89.32	29	P	P	20 31 59.9 +1.1
	baz=277					
N31M	Braeburn, Yuko	89.38	29	P	P	20 31 59.7 +0.6
	baz=277					
H31M	Peel River	89.45	24	P	P	20 32 00.5 +1.3
	baz=278					
S31K	Pelican	89.57	32	P	P	20 32 01.3 +1.4
	baz=277					
SIT	Sitka	90.17	33	P	P	20 32 03.7 +1.0
	baz=277					
FARO	Faro, Yukon	90.42	28	P	P	20 32 04.9 +1.0
	baz=279					
ARCES	ARCESS Array B	90.86	340	P	P	20 32 05.0 -0.7
	comp=Z,2.1nm,0.7s,baz=63,slow=5.2,SNR=7.5					
	comp=Z,2.1nm,0.7s					
MMPY	Sheldon Lake,	91.31	27	P	P	20 32 09.5 +1.4
	baz=281					
FINES	FINESS Array B	92.46	332	P	P	20 32 11.8 -1.5
	comp=Z,1.7nm,0.8s,baz=101,slow=1.9,SNR=6.4					
	comp=Z,1.7nm,0.8s					
AKASG	Malin Array Be	92.80	321	P	P	20 32 13.5 -1.6
	comp=Z,1.0nm,0.6s,baz=68,slow=4.8,SNR=4.9					
	comp=Z,1.0nm,0.6s					
QSPA	South Pole Qui	93.81	180	P	P	20 32 20.0 +0.4
	comp=Z,2.6nm,1.0s,baz=316,slow=1.8,SNR=7.3					
	comp=Z,2.6nm,1.0s					
HFS	Hagfors	98.63	333	P	P	20 32 39.8 -1.6
	comp=Z,1.2nm,0.7s,baz=116,slow=6.8,SNR=5.1					
	comp=Z,1.2nm,0.7s					
NOA	NORSAR Array B	99.36	334	LR	LR	21 25 26.0
	comp=Z,11nm,19.0s,baz=175,slow=40					

IDC 09 20:22:28.6±29.0, 19.79S×178.19W, h550km±269km, mb2.9/2, mbtmp3.8/2, Error ellipse: s-maj=221.9km s-min=122.2km az=117.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	44.51	256	P	P	20 29 51.8	0.0
	1.4nm,0.8s,baz=89,slow=8.5,SNR=11						
ASAR				PcP	PcP	20 31 21.9	-1.2
	0.3nm,0.7s,baz=95,slow=3.0,SNR=4.2						
	1.4nm,0.8s						
WRA	Warramunga Arr	44.52	261	P	P	20 29 51.7	-0.2
	1.0nm,0.7s,baz=96,slow=7.6,SNR=16						
	1.0nm,0.7s						
AKASG	Malin Array Be	142.30	331	PKhKP	PKPpre	20 40 54.5	
	0.5nm,0.3s,baz=48,slow=4.2,SNR=6.5						

EKA Eskdalemuir Ar 144.31 5 PKP PKPbc 20 41 01.1 -0.6
0.2nm,0.4s,baz=7.6,slow=3.9,SNR=1.7
BRTR Keskin Array B 146.22 313 PKPbc PKPbc 20 41 08.0 -0.1
0.4nm,0.6s,baz=96,slow=4.3,SNR=2.4

KRSC 09 20:22:44.9±1.0, 54°.94N×164°.64E, h43km±23km, MI3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.81**	**70**	*i* P	Pn	20 23 00.8	+1.0
BKI				*e*S	Sn	20 23 11.3	+0.6
KBTR	**Krutoberegovo**	**1.64**	**322**	*e*P	Pn	20 23 12.4	+1.2
KBTR				*e*S	Sn	20 23 31.5	+0.5
KBG	**Krutoberegovo**	**1.72**	**321**	*e*P	Pn	20 23 13.9	+1.7
KBG				*e*S	Sn	20 23 33.9	+0.9
MKZ	**Mys Kozlova**	**1.73**	**258**	*e*P	Pn	20 23 14.7	+2.3
SMKR	**Semkarok**	**2.44**	**314**	*e*P	Pn	20 23 25.7	+3.5
SMKR				*e*S	Sn	20 23 33.7	+3.0
TUMD	**Tumrok D**	**2.45**	**278**	*e*P	Pn	20 23 25.8	+3.5
TUMD				*e*S	Sn	20 23 53.9	+2.8
BZGR	**Bezymyannyi-Gr**	**2.46**	**296**	*e*P	Pn	20 23 26.3	+3.7
BZMR	**Bezymyannaya**	**2.57**	**295**	*e*P	Pn	20 23 27.4	+3.4
BZWR	**Bezymyannyi-We**	**2.58**	**295**	*e*P	Pn	20 23 28.3	+4.1
KMNR	**Kamenistaya**	**2.65**	**290**	*e*P	Pn	20 23 29.3	+4.2
KIRR	**Kirishev**	**2.65**	**294**	*e*P	Pn	20 23 29.3	+4.1
KPT	**Kopyto**	**2.72**	**294**	*e*P	Pn	20 23 30.5	+4.4
KOZ	**Kozyrevsk**	**2.94**	**294**	*e*P	Pn	20 23 33.7	+4.8
SRDR	**Sredinnyy**	**3.12**	**298**	*e*P	Pn	20 23 34.7	+3.2
KII	**Karymskiy**	**3.16**	**256**	*e*P	Pn	20 23 36.4	+4.3
SPN	**Mys Shipunski**	**3.29**	**238**	*e*P	Pn	20 23 36.6	+2.8
SPN				*e*S	Sn	20 24 12.0	+0.4
ESO	**Esso**	**3.53**	**289**	*e*P	Pn	20 23 40.8	+3.7
SDLR	**Sedlovina**	**3.77**	**246**	*e*P	Pn	20 23 44.5	+3.9
SMAR	**Somma**	**3.83**	**246**	*e*P	Pn	20 23 45.3	+3.9
SMAR				*e*S	Sn	20 24 27.6	+2.4
KRER	**Koryakskii**	**3.83**	**247**	*e*P	Pn	20 23 46.0	+4.5
UGLR	**Uglovaya**	**3.84**	**246**	*e*P	Pn	20 23 45.3	+3.9
AVH	**Avacha**	**3.86**	**247**	*e*P	Pn	20 23 46.2	+4.5
KRX	**Arik**	**3.86**	**248**	*e*P	Pn	20 23 45.8	+4.0
KOK	**Koryaka**	**3.90**	**247**	*e*P	Pn	20 23 46.8	+4.5
PET	**Petropavlovsk**	**4.02**	**244**	*e*P	Pn	20 23 48.5	+4.7
GNL	**Ganaly**	**4.12**	**255**	*e*P	Pn	20 23 49.7	+4.4
KRMR	**Karymshinskiy**	**4.39**	**244**	*e*P	Pn	20 23 52.7	+3.8
MTVR	**Mutnovka**	**4.56**	**240**	*e*P	Pn	20 23 55.3	+3.9
GRL	**Gorelyy**	**4.57**	**241**	*e*P	Pn	20 23 56.2	+4.7
ASAK	**Asacha**	**4.76**	**240**	*e*P	Pn	20 23 58.6	+4.6
APC	**Apacha**	**4.86**	**249**	*e*S	Sn	20 24 55.5	+5.2
TILK	**Tilichiki**	**5.58**	**8**	*e*P	Pn	20 24 08.9	+3.7

*NEIC **09** 20:25:45.3±1.4, 18°.9S±0°.2×174°.54W±0°.05, h55km±9km, mb4.4/12, Error ellipse: s-maj=27.6km s-min=6.3km az=183.0*
*IDC **09** 20:25:54.5±6.5, 18°.93S×174°.69W, h142km±55km, mb3.7/7, mbtmp4.1/8, Error ellipse: s-maj=31.1km s-min=16.3km az=97.0*
ISC 09 20:25:53.5±0.9, 18°.9S±0°.1×174°.7W±0°.2, h133km, n26, σ0s72/26, mb4.2/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.55**	**93**		Pn	20 26 49.0	-12
DZM	**Mont Dzumac**	**17.92**	**257**		**P**	**20 29 53.0**	**-0.4**
DZM	**Mont Dzumac**	**17.92**	**257**	P	**Pn**	**20 29 53.8**	**-0.8**
	2.4nm,0.6s,baz=82,slow=18,SNR=6.9						
URZ	**Urewera**	**20.59**	**199**	P	**P**	**20 30 21.7**	**-0.2**
	5.0nm,0.5s,baz=37,slow=20,SNR=2.9						
URZ				S	**S**	**20 34 03.8**	**-1.0**
	6.8nm,0.8s,baz=158,slow=3.2,SNR=3.0						
	5.0nm,0.5s						
LTZ	**Lake Taylor**	**26.25**	**202**	P	**P**	**20 31 17.2**	**+1.0**
LTZ				IAmb	IAmb	20 31 22.9	
	comp=Z,24nm,1.2s						
ARMA	**Armidale**	**32.55**	**243**	P	**P**	**20 32 13.5**	**+1.3**
ARMA				IAmb	IAmb	20 32 15.5	
	comp=Z,15nm,1.4s						
CTAO	**Charters Tower**	**36.75**	**261**	P	**P**	**20 32 48.6**	**+0.3**
WRAB	**Tennant Creek**	**47.89**	**260**	P	**P**	**20 34 17.9**	**-0.6**
WRAB				IAmb	IAmb	20 34 27.9	
	comp=Z,7.7nm,1.3s						
WRA	**Warramunga Arr**	**47.90**	**260**	P	**P**	**20 34 18.0**	**-0.6**
WRA				PcP	**PcP**	**20 35 43.4**	**-1.7**
WRA	**Warramunga Arr**	**47.90**	**260**	P	**P**	**20 34 18.5**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=97,slow=7.3,SNR=102						
WRA				PcP	**PcP**	**20 35 46.1**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=103,slow=3.1,SNR=1.6						
	comp=Z,1.6nm,0.3s						
AS31	**Alice Springs**	**47.90**	**255**	P	**P**	**20 34 18.9**	**+0.3**
AS31				IAmb	IAmb	20 34 19.9	
	comp=Z,1.9nm,1.1s						
ASAR	**Alice Springs**	**47.90**	**255**	P	**P**	**20 34 18.5**	**-0.2**
ASAR	**Alice Springs**	**47.90**	**255**	P	**P**	**20 34 18.9**	**+0.2**
	comp=Z,2.8nm,0.5s,baz=92,slow=7.7,SNR=71						
ASAR				PcP	**PcP**	**20 35 44.1**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=103,slow=4.2,SNR=4.8						
	comp=Z,2.8nm,0.5s						
FORT	**Forrest**	**52.77**	**245**	P	**P**	**20 34 54.8**	**-0.3**
KNRA	**Kununurra**	**53.87**	**264**	P	**P**	**20 35 03.3**	**0.0**
KNRA				IAmb	IAmb	20 35 43.7	
	comp=Z,4.2nm,0.9s						
FITZ	**Fitzroy Crossi**	**56.32**	**260**	P	**P**	**20 35 21.0**	**+0.1**
FITZ				IAmb	IAmb	20 35 37.8	
	comp=Z,2.4nm,1.4s						
FITZ	**Fitzroy Crossi**	**56.32**	**260**	P	**P**	**20 35 21.3**	**+0.5**
	comp=Z,4.3nm,1.1s,baz=105,slow=6.6,SNR=6.5						
	comp=Z,4.3nm,1.1s						
MJAR	**Matsushiro Arr**	**70.80**	**321**	P	**P**	**20 36 55.9**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=148,slow=6.6,SNR=4.7						
	comp=Z,1.0nm,0.7s						
QSPA	**South Pole Qui**	**71.19**	**180**	P	**P**	**20 36 57.7**	**0.0**
QSPA	**South Pole Qui**	**71.19**	**180**	P	**P**	**20 36 57.9**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=63,slow=5.3,SNR=8.1						
	comp=Z,0.9nm,0.6s						
HOPS	**Hopland Field**	**75.15**	**39**	P	**P**	**20 37 21.6**	**+0.5**
H03S2	**Juan Fernandez**	**84.35**	**124**	T	T	22 10 57.7	
	baz=249,slow=75,SNR=29						
H03S1	**Juan Fernandez**	**84.36**	**124**	T	T	22 10 58.7	
	baz=249,slow=75,SNR=32						
H03S3	**Juan Fernandez**	**84.36**	**124**	T	T	22 10 57.5	
	baz=249,slow=75,SNR=29						
ILAR	**Eielson Array**	**86.08**	**12**	P	**P**	**20 38 17.9**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=211,slow=4.4,SNR=6.2						
	comp=Z,0.4nm,0.6s						
BRTR	**Keskin Array B**	**147.91**	**316**	PKPbc	**PKPbc**	**20 45 23.5**	**0.0**
	comp=Z,0.9nm,0.8s,baz=64,slow=2.9,SNR=5.6						

*IDC **09** 20:38:03.6±3.6, 5°.19S×149°.64E, h396km±35km, mb3.1/12, mbtmp3.9/13, Error ellipse: s-maj=35.7km s-min=14.7km az=100.0*
*NEIC **09** 20:38:03.7±1.4, 5°.1S±0°.1×149°.6E±0°.1, h386km±8km, mb4.0/12, Error ellipse: s-maj=20.1km s-min=17.8km az=222.0*
ISC 09 20:38:04.1±0.7, 5°.15S±0°.09×149°.6E±0°.1, h400km, n31, σ1s03/31, mb3.6/14, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.72**	**70**		**Pn**	**20 39 02.9**	**-2.3**
MANU	**Manus Island**	**3.81**	**324**		**Pn**	**20 39 13.0**	**-1.5**
JAY	**Jayapura**	**9.26**	**286**	P	**P**	**20 40 11.9**	**-1.7**
	13nm,0.4s,baz=151,slow=6.3,SNR=33						
COEN	**Coen**	**10.81**	**215**	P	**Pn**	**20 40 32.1**	**+0.6**
CTAO	**Charters Tower**	**15.20**	**192**	P	**P**	**20 41 20.1**	**+1.3**
CTAO				IAmb	IAmb	20 41 60.0	
	comp=Z,14nm,1.4s						
MTN	**Manton Dam**	**19.77**	**246**	P	**P**	**20 42 06.6**	**0.0**
EIDS	**Eidsvold**	**20.15**	**176**	P	**P**	**20 42 10.6**	**+0.7**
EIDS				IAmb	IAmb	20 42 12.2	
	comp=Z,7.0nm,0.8s						
WR8	**Warramunga Arr**	**20.80**	**224**	P	**P**	**20 42 14.2**	**-1.8**
WR8				IAmb	IAmb	20 42 38.4	
	comp=Z,7.9nm,1.4s						
WRAB	**Tennant Creek**	**20.89**	**224**	P	**P**	**20 42 16.1**	**-0.7**
WRA	**Warramunga Arr**	**20.91**	**224**	P	**P**	**20 42 16.9**	**0.0**
	comp=Z,0.6nm,0.5s,baz=46,slow=10.0,SNR=7.9						
	comp=Z,0.6nm,0.5s						
KNRA	**Kununurra**	**22.99**	**241**	P	**P**	**20 42 35.2**	**-0.6**
ASAR	**Alice Springs**	**23.83**	**218**	P	**P**	**20 42 43.4**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=51,slow=9.2,SNR=6.6						
	comp=Z,0.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**26.72**	**239**	P	**P**	**20 43 08.2**	**-1.0**
FITZ	**Fitzroy Crossi**	**26.72**	**239**	P	**P**	**20 43 08.9**	**-0.3**
	comp=Z,2.4nm,0.3s,baz=47,slow=11,SNR=31						
	comp=Z,2.4nm,0.3s						
STKA	**Stephens Creek**	**27.63**	**195**	P	**P**	**20 43 16.6**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=343,slow=11,SNR=4.5						
	comp=Z,1.7nm,0.8s						
MJAR	**Matsushiro Arr**	**42.83**	**346**	P	**P**	**20 45 25.1**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=162,slow=8.9,SNR=6.2						
	comp=Z,1.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**55.17**	**297**	P	**P**	**20 46 58.5**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=105,slow=7.7,SNR=2.4						
	comp=Z,0.9nm,0.9s						
PETK	**Petropavlovsk-**	**58.44**	**6**	P	**P**	**20 47 20.0**	**+0.5**
PETK	**Petropavlovsk-**	**58.44**	**6**	P	**P**	**20 47 20.4**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=176,slow=7.7,SNR=3.4						
	comp=Z,1.2nm,0.5s						
SONM	**Songino Array**	**64.97**	**329**	P	**P**	**20 48 03.9**	**+1.1**
SONM	**Songino Array**	**64.97**	**329**	P	**P**	**20 48 03.8**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=139,slow=5.1,SNR=4.4						
	comp=Z,0.8nm,0.6s						
O14K	**Tigyukauivet M**	**75.03**	**24**	P	**P**	**20 49 03.9**	**+1.2**
L14K	**Kuka Creek**	**75.82**	**22**	P	**P**	**20 49 07.8**	**+0.6**
L14K				IAmb	IAmb	20 49 09.5	
	comp=Z,2.7nm,0.7s						
MKAR	**Makanchi Array**	**78.52**	**320**	P	**P**	**20 49 22.3**	**-0.1**
MKAR	**Makanchi Array**	**78.52**	**320**	P	**P**	**20 49 22.6**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=102,slow=8.0,SNR=6.6						
	comp=Z,0.5nm,0.7s						
L19K	**White Mountain**	**79.30**	**23**	P	**P**	**20 49 27.4**	**+1.2**
L19K				IAmb	IAmb	20 49 28.3	
	comp=Z,2.4nm,1.0s						
ZALV	**Zalesovo Beam**	**79.70**	**327**	P	**P**	**20 49 28.0**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=131,slow=8.2,SNR=3.2						
	comp=Z,0.8nm,0.6s						
E19K	**Redstone River**	**81.49**	**18**	P	**P**	**20 49 38.8**	**+1.1**
E19K				IAmb	IAmb	20 49 39.5	
	comp=Z,1.7nm,0.8s						
KURBB	**Kurchatov Arra**	**82.13**	**323**	P	**P**	**20 49 41.1**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=100,slow=3.7,SNR=6.4						
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**83.69**	**23**	P	**P**	**20 49 48.2**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=248,slow=6.0,SNR=9.1						
	comp=Z,0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**147.37**	**286**	PKPbc	**PKPbc**	**20 57 01.2**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=56,slow=3.1,SNR=2.2						

IDC 09 20:40:28.4±2.0, 0°.37N×125°.89E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=154.7km s-min=27.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.82**	**158**	P	P	20 45 21.6	-0.9
	1.7nm,0.5s,baz=336,slow=11,SNR=17						
	1.7nm,0.5s						
ASAR	**Alice Springs**	**25.13**	**162**	P	P	20 45 56.0	+0.6
	0.8nm,0.6s,baz=350,slow=15,SNR=14						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**59.85**	**327**	P	P	20 50 35.8	-0.1
	0.3nm,0.7s,baz=132,slow=7.3,SNR=2.2						
	0.3nm,0.7s						

*SOME **09** 20:51:40.9, 42°.10N×78°.82E, h5km*
*KRNET **09** 20:51:41.6±0.1, 42°.13N×78°.79E, h14km, mb2.5*
*NNC **09** 20:51:42.1±1.3, 42°.15N×78°.84E, h0km, mb2.4, mpv2.5, Error ellipse: s-maj=10.3km s-min=3.8km az=163.0*
ISC 09 20:51:43.0±1.3, 42°.13N±0°.06×78°.69E±0°.05, h10km, n25, σ1s60/44, 11C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**0.41**	**328**	⇑*i*P	**Pg**	**20 51 50.8**	**-0.3**
PRZ				⇑*e*S	**Sg**	**20 51 57.9**	**+1.3**
KDJ	**Kajisay**	**1.12**	**270**	⇑*e*P	**Pg**	**20 52 04.6**	**0.0**
KDJ				⇑*e*S	**Sn**	**20 52 20.9**	**+0.3**
SHLS	**Shalkode**	**1.17**	**29**	P	**Pn**	**20 52 06.3**	**+0.8**
	0.8nm,0.1s						
SHLS				S	**Sn**	**20 52 24.8**	**+3.1**
	3.1nm,0.3s						
SHLS	**Shalkode**	**1.17**	**29**	*e*P	**Pn**	**20 52 06.5**	**+1.0**
SHLS				*e*S	**Sn**	**20 52 24.7**	**+3.1**
SHLS	**Shalkode**	**1.17**	**29**	*e*P	**Pn**	**20 52 06.5**	**+1.0**
	0.6nm,0.0s						
SHLS				*e*S	**Sn**	**20 52 24.7**	**+3.1**
	1.5nm,0.1s						
PDGK	**Podgornoye**	**1.33**	**26**	⇑P	**Pn**	**20 52 05.3**	**-2.4**
	0.1nm,0.2s						
PDGK				⇓S	**Sb**	**20 52 22.5**	**-2.8**
	1.4nm,0.5s						
TNSS	**Tian-Shan**	**1.57**	**306**	P	**Pb**	**20 52 12.2**	**-0.2**
	0.4nm,0.2s						
TNSS				S	**Sg**	**20 52 34.9**	**+1.3**
	0.5nm,0.3s						
TNSS	**Tian-Shan**	**1.57**	**306**	*e*P	**Pb**	**20 52 12.2**	**-0.2**
TNSS				*e*S	**Sg**	**20 52 34.9**	**+1.3**
TNSS	**Tian-Shan**	**1.57**	**306**	*e*P	**Pb**	**20 52 12.2**	**-0.2**
	0.1nm,0.0s						
TNSS				*e*S	**Sg**	**20 52 34.9**	**+1.3**
	0.6nm,0.1s						
IZV	**Izvestkoviy**	**1.78**	**301**	P	**Pb**	**20 52 16.1**	**+0.3**
	0.9nm,0.2s						
IZV				S	**Sg**	**20 52 41.7**	**+1.4**
	3.8nm,0.3s						
IZV	**Izvestkoviy**	**1.78**	**301**	*e*P	**Pb**	**20 52 16.1**	**+0.3**
IZV				*e*S	**Sg**	**20 52 41.7**	**+1.4**
IZV	**Izvestkoviy**	**1.78**	**301**	*e*P	**Pb**	**20 52 16.1**	**+0.3**
	1.5nm,0.1s						
IZV				*e*S	**Sg**	**20 52 41.7**	**+1.4**
	5.2nm,0.1s						
ULHL	**Ulahol**	**1.82**	**274**	⇑*i*P	**Pb**	**20 52 16.8**	**+0.2**
ULHL				⇑*i*S	**Sg**	**20 52 42.5**	**+0.9**
BLB	**Baldybastay**	**1.97**	**355**	Pg	**Pb**	**20 52 18.4**	**-0.6**
	12nm,0.3s						
BLB				Lg	Lg	20 52 45.6	
	1.4nm,0.3s						
BOOM	**Boomskoye usch**	**2.07**	**281**	⇑*i*P	**Pb**	**20 52 20.2**	**-0.6**
BOOM				⇑*i*S	**Sb**	**20 52 48.8**	**+2.1**
CHKK	**Chushkaly**	**2.13**	**325**	Pg	**Pg**	**20 52 22.1**	**-1.6**
	10nm,0.2s						
CHKK				Lg	Lg	20 52 51.8	
	2.6nm,0.2s						
CHKK	**Chushkaly**	**2.13**	**325**	*e*P	**Pg**	**20 52 22.1**	**-1.6**
	5.8nm,0.1s						
CHKK				*e*S	**Sg**	**20 52 51.8**	**+0.5**
	5.9nm,0.1s						
NRN	**Naryn**	**2.13**	**252**	⇑*e*P	**Pb**	**20 52 22.1**	**+0.2**
NRN				⇑*e*S	**Sg**	**20 52 50.8**	**-0.7**
KTBS	**Karatobe**	**2.16**	**318**	Pg	**Pg**	**20 52 22.8**	**-1.6**
	1.6nm,0.4s						
KTBS				Lg	Lg	20 52 53.5	
	11nm,0.5s						
KST	**Kastek**	**2.21**	**295**	Pg	**Pb**	**20 52 23.3**	**+0.2**
	0.8nm,0.4s						
KST				Lg	Lg	20 52 54.4	
	2.6nm,0.4s						
KST	**Kastek**	**2.21**	**295**	*e*P	**Pb**	**20 52 23.3**	**+0.2**
	0.5nm,0.1s						
KST				*e*S	**Sg**	**20 52 53.9**	**-0.2**
	3.3nm,0.4s						
KNOS	**Konyrlen**	**2.25**	**9**	Pg	**Pb**	**20 52 22.6**	**-1.2**
	0.7nm,0.1s						
KNOS				Lg	Lg	20 52 52.8	
	6.1nm,0.3s						
TKM2	**Tokmak 2**	**2.42**	**290**	⇓*i*P	**Pb**	**20 52 25.0**	**-1.7**
TKM2				⇓*i*S	**Sb**	**20 52 57.1**	**+0.4**
KRBS	**Karabastau**	**2.71**	**306**	Pg	**Pb**	**20 52 31.8**	**+0.2**
	0.5nm,0.5s						
KRBS				Lg	Lg	20 53 08.7	
	4.8nm,0.5s						
USP	**Ospenovka**	**3.29**	**292**	⇓*i*P	**Pb**	**20 52 37.5**	**-4.0**
USP				⇓*i*S	**Sb**	**20 53 18.3**	**-3.3**

*IDC **09** 20:54:42.8±1.9, 0°.30N×125°.32E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=186.8km s-min=24.9km az=64.0*
*DJA **09** 20:54:46.0±0.3, 0°.N±3°×12°.6E±°, h10km, M3.6/12, mb3.8/3, MLv3.5/12*
ISC 09 20:54:48.1±1.1, 0°.30N±0°.07×125°.86E±0°.06, h44km, n9, σ1s64/10, mb3.3/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.58**	**73**	P	**Pn**	**20 55 13.4**	**-0.2**
KMSI	**Cibinong**	**1.90**	**278**	P	**Pn**	**20 55 16.3**	**-1.7**
KMSI				S	**Sn**	**20 55 40.4**	**-0.3**
SANI	**Sanana**	**2.34**	**177**	P	**Pn**	**20 55 22.2**	**-1.9**
SGSI	**Sangihe**	**3.38**	**354**	P	**Pn**	**20 55 37.9**	**-0.4**
APSI	**Ampana**	**4.38**	**254**	P	**Pn**	**20 55 53.4**	**+1.3**
MPSI	**Mapaga**	**5.96**	**270**	P	**Pn**	**20 56 14.0**	**+0.2**
WRA	**Warramunga Arr**	**21.77**	**158**	P	**P**	**20 59 37.2**	**+1.0**
	0.5nm,0.5s,baz=334,slow=11,SNR=10						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**25.08**	**162**	P	**P**	**21 00 11.6**	**+2.9**
	0.4nm,0.4s,baz=345,slow=12,SNR=12						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**59.89**	**327**	P	**P**	**21 04 48.4**	**-1.1**
	0.4nm,0.5s,baz=119,slow=8.1,SNR=7.0						
	0.4nm,0.5s						

IDC 09 20:57:35.4±2.1, 17°.12S×176°.66W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=60.1km s-min=42.6km az=18.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.42**	**259**	P	P	21 06 04.0	-0.3
	0.6nm,0.5s,baz=94,slow=7.2,SNR=20						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**46.62**	**253**	P	P	21 06 06.2	+0.3
	1.7nm,0.5s,baz=86,slow=8.8,SNR=31						
	1.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**54.81**	**260**	P	P	21 07 07.1	-0.6
	2.2nm,1.0s,baz=90,slow=8.1,SNR=1.4						
	2.2nm,1.0s						
QSPA	**South Pole Qui**	**72.93**	**180**	P	P	21 09 06.5	0.0
	0.4nm,0.5s,baz=344,slow=0.2,SNR=5.0						
	0.4nm,0.5s						
GERES	**GERESS Array B**	**147.25**	**347**	PKPbc	PKPbc	21 17 20.3	-0.6
	0.3nm,0.6s,baz=17,slow=5.7,SNR=2.3						

*IDC **09** 21:01:30.2±1.1, 53°.07N×167°.73W, h0km, mb4.0/15, mbtmp4.0/16, ML3.2/1, MS2.8/3, Error ellipse: s-maj=30.1km s-min=17.2km az=174.0*
*AEIC **09** 21:01:35.2±1.8, 52°.88N±0°.07×167°.50W±0°.06, h26km±5km, Error ellipse: s-maj=11.1km s-min=3.6km az=162.0*
*NEIC **09** 21:01:36.0±1.7, 52°.91N±0°.02×167°.57W±0°.07, h45km±9km, mb3.7/23, ML3.7/22, ML3.6(AEIC), Error ellipse: s-maj=6.2km s-min=1.0km az=109.0*
ISC 09 21:01:35.8±1.2, 52°.89N±0°.09×167°.52W±0°.05, h45km±10km, n121, σ1s58/122, mb4.0/17, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**0.58**	**336**		**Pn**	**21 01 47.2**	**-0.5**
OKFG					**Sn**	**21 01 56.0**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**0.59**	**328**		**Pn**	**21 01 47.6**	**-0.3**
OKSP	**Okmok Steeple**	**0.59**	**309**		**Pn**	**21 01 47.0**	**-0.9**
OKCE	**Okmok Cone E**	**0.67**	**325**		**Pn**	**21 01 48.7**	**-0.2**
OKCE					**Sn**	**21 01 58.3**	**-0.1**
OKNC	**Okmok New Cone**	**0.68**	**328**		**Pn**	**21 01 48.9**	**-0.2**
OKNC					**Sn**	**21 01 59.3**	**+0.7**
NIKH	**Nikolski High**	**0.81**	**277**		**Pn**	**21 01 49.7**	**-1.2**
NIKH				Sn	**Sn**	**21 02 00.2**	**-1.6**
NIKH				IAML		21 02 01.3	
	comp=N,4μm,0.7s						
NIKH				IAML		21 02 01.3	
	comp=E,3μm,0.6s						
MAPS	**Pakushin South**	**0.99**	**20**		**Pn**	**21 01 52.7**	**-0.5**
MAPS					**Sn**	**21 02 05.9**	**-0.1**
MGOD	**Makushin Gods**	**0.99**	**23**		**Pn**	**21 01 52.8**	**-0.5**
MGOD					**Sn**	**21 02 06.3**	**+0.1**
MREP	**Makushin Rep't**	**1.04**	**26**		**Pn**	**21 01 53.7**	**-0.3**
UNV	**Unalaska Valle**	**1.14**	**32**	Pn	**Pn**	**21 01 54.7**	**-0.5**
UNV				Sn	**Sn**	**21 02 08.7**	**-1.0**
UNV				IAML		21 02 10.1	
	comp=N,1μm,0.4s						
UNV				IAML		21 02 14.6	
	comp=E,1μm,0.6s						
AKMO	**Akutan Morgan**	**1.51**	**36**		**Pn**	**21 02 00.5**	**+0.2**
ZRO	**Akutan Zero**	**1.52**	**37**		**Pn**	**21 02 00.7**	**+0.3**
LVA	**Lava Point**	**1.56**	**34**		**Pn**	**21 01 01.7**	**+0.7**
AKGG	**Akutan Green G**	**1.60**	**34**		**Pn**	**21 02 02.2**	**+0.6**
AKUT	**Akutan**	**1.63**	**39**	Pn	**Pn**	**21 02 02.0**	**+0.1**
AKUT				Sn	**Sn**	**21 02 22.1**	**+0.4**
AKUT				IAML		21 02 27.4	
	comp=E,739nm,0.4s						
AKUT				IAML		21 02 30.9	
	comp=N,624nm,0.5s						
WESE	**West Dahl East**	**2.36**	**46**		**Pn**	**21 02 12.3**	**+0.3**
WEBT	**Westdahl Beart**	**2.37**	**43**		**Pn**	**21 02 12.4**	**+0.3**
SSLS	**Shishaldin Sou**	**2.77**	**47**		**Pn**	**21 02 18.0**	**+0.3**
ISLZ	**Isanotski Laza**	**2.91**	**49**		**Pn**	**21 02 20.0**	**+0.4**
ISNN	**Isanotski Nort**	**2.95**	**47**		**Pn**	**21 02 20.8**	**+0.7**
P08K	**Saint George I**	**3.91**	**343**	Pn	**Pn**	**21 02 33.4**	**+0.3**
P08K				IAML		21 03 43.7	
	comp=N,86nm

comp=Z,0.1nm,0.3s
F21K **Alatna River** 15.93 20 P 21 05 20.0 +0.5
H24K **Noodor Dome** 16.28 30 Pn 21 05 21.3 +0.3
SCRK **Sand Creek** 16.47 38 Pn 21 05 23.8 +0.4
M27K **Edge Creek, AK** 16.57 45 Pn 21 05 25.1 +0.4
M27K IAmb IAmb 21 05 39.4
comp=Z,4.4nm,1.1s
BCAR **Beaver Creek A** 16.90 43 Pn 21 05 29.5 +0.7
I26K **Coal Creek Min** 17.49 35 Pn 21 05 34.7 -1.3
E24K **Your Creek** 17.75 24 P P 21 05 39.7 0.0
E24K IAmb IAmb 21 05 49.9
comp=Z,4.3nm,1.4s
M29M **Somme Creek** 18.09 47 P P 21 05 44.4 +0.9
M29M IAmb IAmb 21 05 48.3
comp=Z,3.8nm,0.7s
HYT **Haines Junctio** 18.09 52 P P 21 05 46.0 +2.4
HYT IAmb IAmb 21 05 51.3
comp=Z,7.2nm,0.7s
L29M **L29M** 18.45 45 P Pn 21 05 47.8 0.0
L29M IAmb IAmb 21 05 53.6
comp=Z,3.3nm,0.9s
C23K **Itkillik River** 18.71 18 P Pn 21 05 50.6 -0.2
C23K IAmb IAmb 21 05 52.5
comp=Z,4.4nm,1.1s
I28M **Miner Creek** 18.71 37 P P 21 05 50.6 +0.3
I28M IAmb IAmb 21 05 59.3
comp=Z,3.9nm,1.1s
SKAG **Skagway** 18.95 57 P Pn 21 05 54.3 +0.6
SKAG IAmb IAmb 21 05 56.7
comp=Z,7.1nm,0.7s
WHY **Whitehorse** 19.33 53 Pn 21 05 59.3 +0.9
WHY IAmb IAmb 21 06 03.6
comp=Z,7.9nm,0.8s
EPYK **Eagle Plains** 20.31 36 P P 21 06 06.8 -0.8
FARO **Faro, Yukon** 20.34 49 P P 21 06 09.3 +1.4
PEA0B **Petropavlovsk-** 20.82 285 P P 21 06 12.4 -0.7
PETK **Petropavlovsk-** 20.82 285 P P 21 06 12.0 -1.2
comp=Z,0.7nm,0.4s,baz=80,slow=12,SNR=4.0
comp=Z,0.7nm,0.4s
F30M **Barrier River** 21.21 34 P 21 06 16.4 -0.9
F30M IAmb IAmb 21 06 22.3
comp=Z,4.4nm,0.7s
MMPY **Sheldon Lake,** 21.36 49 P 21 06 20.7 +1.7
MMPY IAmb IAmb 21 06 24.8
comp=Z,5.6nm,0.8s
DLBC **Dease Lake** 21.65 60 P P 21 06 23.1 +1.0
baz=264,slow=16
DLBC LR LR 21 13 38.5
comp=Z,5.9nm,18.4s,baz=188,slow=34
SEY **Seymchan** 23.16 311 LR LR 21 17 24.8
comp=Z,50nm,18.0s,baz=151,slow=42
YKA **Yellowknife Ar** 29.05 50 P P 21 07 31.6 +0.4
comp=Z,0.6nm,0.6s,baz=280,slow=9.2,SNR=7.8
comp=Z,0.6nm,0.6s
H11N2 **WAKE ISLAND Hy** 38.57 221 T T 21 50 17.8
baz=24,slow=76,SNR=136
H11N3 **WAKE ISLAND Hy** 38.58 221 T T 21 50 18.5
baz=24,slow=76,SNR=222
H11N1 **WAKE ISLAND Hy** 38.59 221 T T 21 50 28.3
baz=24,slow=76,SNR=138
PDAR **Pinedale Array** 39.20 81 P P 21 08 60.0 +0.4
comp=Z,2.1nm,0.3s,baz=293,slow=8.4,SNR=3.3
comp=Z,2.1nm,0.3s
H11S1 **WAKE ISLAND Hy** 39.76 220 T T 21 51 58.1
baz=24,slow=76,SNR=250
H11S2 **WAKE ISLAND Hy** 39.77 220 T T 21 51 58.0
baz=24,slow=76,SNR=156
H11S3 **WAKE ISLAND Hy** 39.77 220 T T 21 51 58.1
baz=24,slow=76,SNR=137
TXAR **Lajitas Array** 51.62 91 P P 21 10 39.5 +1.7
comp=Z,0.8nm,0.5s,baz=294,slow=6.3,SNR=8.6
comp=Z,0.8nm,0.5s
ARCES **ARCESS Array B** 57.52 355 P P 21 11 19.6 -0.2
comp=Z,1.7nm,0.8s,baz=18,slow=6.8,SNR=1.6
comp=Z,1.7nm,0.8s
KURBB **Kurchatov Arra** 62.84 319 P P 21 11 55.7 -0.7
comp=Z,1.3nm,0.2s,baz=49,slow=6.2,SNR=4.9
comp=Z,1.3nm,0.2s
BRVK **Borovoye** 63.94 325 P P 21 12 03.1 -0.6
MKAR **Makanchi Array** 64.26 314 P P 21 12 04.6 -1.4
MKAR **Makanchi Array** 64.26 314 P P 21 12 04.4 -1.5
comp=Z,0.6nm,0.7s,baz=46,slow=6.9,SNR=5.0
comp=Z,0.6nm,0.7s
FINES **FINESS Array B** 65.50 353 P P 21 12 12.4 -1.3
FINES **FINESS Array B** 65.50 353 P P 21 12 12.3 -1.4
comp=Z,1.0nm,0.5s,baz=18,slow=8.0,SNR=13
comp=Z,1.0nm,0.5s
HFS **Hagfors** 67.33 359 P P 21 12 25.3 -0.1
comp=Z,1.6nm,0.8s,baz=37,slow=3.7,SNR=6.2
comp=Z,1.6nm,0.8s
AB31 **Akbulak array** 70.58 329 P P 21 12 44.7 -1.0
AB31 IAmb IAmb 21 13 19.0
comp=Z,1.3nm,1.0s
ABKAR **Akbulak array** 70.58 329 P P 21 12 44.5 -1.2
KKAR **Karatay Array** 72.14 319 P P 21 12 55.0 -0.3
AKASG **Malin Array Be** 75.82 349 P P 21 13 16.1 -0.6
comp=Z,1.9nm,0.5s,baz=15,slow=5.7,SNR=11
comp=Z,1.9nm,0.5s
CMAR **Chiang Mai Arr** 77.59 284 P P 21 13 28.2 +1.1
comp=Z,0.9nm,0.4s,baz=33,slow=5.7,SNR=9.0
comp=Z,0.9nm,0.4s
GERES **GERESS Array B** 78.64 359 P P 21 13 32.8 +0.2
comp=Z,0.5nm,0.7s,baz=3.1,slow=3.5,SNR=4.3
comp=Z,0.5nm,0.7s
BRTR **Keskin Array B** 85.96 344 P P 21 14 11.8 +0.7
BRTR **Keskin Array B** 85.96 344 P P 21 14 12.2 +1.2
comp=Z,1.9nm,0.6s,baz=22,slow=2.7,SNR=12
comp=Z,1.9nm,0.6s
ESDC **Sonseca Array** 86.72 13 P P 21 14 14.8 +0.1
comp=Z,0.6nm,0.7s,baz=342,slow=4.6,SNR=4.9
comp=Z,0.6nm,0.7s
WRA **Warramunga Arr** 88.21 233 P P 21 14 22.0 +0.1
comp=Z,0.6nm,0.9s,baz=24,slow=5.3,SNR=1.9
comp=Z,0.6nm,0.8s
QSPA **South Pole Qui** 142.65 180 PKhKP PKPpre 21 21 00.5
comp=Z,0.7nm,0.8s,baz=29,slow=1.9,SNR=2.2

*IDC **09** 21:13:30.9±1.5, 33.°98N×135.°20E, h0km, mb3.5/1, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=27.6km s-min=14.0km az=150.0*
*NIED **09** 21:13:32.5, 34.°06N×135.°07E, h12km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.37; Mθθ0.95; Mφφ-1.32; Mrθ-0.00; Mθφ-0.68; Mφr-0.03; Fault plane solution: M₀1.32000×10¹⁴ NP1:φs60.00000°, δ89.00000°, λ-180.00000°. NP2:φs330.00000°, δ90.00000°, λ-1.00000°.*
*JMA **09** 21:13:32.5±0.1, 34.°1N±0.°2×135.°1E±0.°2, h12km±1km, MV3.7/20, NW WAKAYAMA PREF .*
JMA Felt II J1 at NW WAKAYAMA PREF .

ISC 09 21:13:32.4±0.9, 34.°06N±0.°03×135.°06E±0.°03, h15km±9km, n13, σ0s89/23, 9D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JWM	**Minbae**	0.32	131	⇓*i*P		Pg		21 13 39.2	0.0
JWM				⇓S		Sg		21 13 43.5	-0.2
JAWN	**Awajishima-nag**	0.45	343	*i*P		Pg		21 13 41.5	+0.1
JAWN				S		Sg		21 13 47.6	+0.1
JWY	**Kouya**	0.47	70	⇓*i*P		Pg		21 13 41.4	-0.4
JWY				⇓S		Sg		21 13 48.1	0.0
JTNC	**Tanabenakahech**	0.52	118	⇓*i*P		Pg		21 13 42.9	+0.2
JTNC				⇓S		Sg		21 13 49.5	0.0
JAI	**Aioi**	0.57	243	*i*P		Pg		21 13 43.9	+0.1
JAI				S		Sg		21 13 51.4	0.0
JHE	**Heguri**	0.79	41	*i*P		Pg		21 13 47.4	-0.3
JHE				*e*S		Sg		21 13 58.0	-0.1
JKS	**Kasai**	0.94	349	*i*P		Pg		21 13 50.2	-0.4
JKS				S		Sg		21 14 02.6	-0.4
JJS	**Sakaide**	0.99	289	⇓P		Pb		21 13 50.9	-0.3
JKN2	**Miekihoku**	1.02	80	⇓P		Pb		21 13 50.8	-1.0
JKN2				⇓S		Sb		21 14 05.2	+0.2
MJAR	**Matsushiro Arr**	3.57	45	Pn		Pn		21 14 26.1	-1.2
	0.2nm,0.3s,baz=233,slow=14,SNR=9.5								
MJAR				Pg		Pb		21 14 36.4	+1.1
	0.3nm,0.3s,baz=228,slow=15,SNR=18								
MJAR				Lg		Lg		21 15 25.4	
	0.1nm,0.3s,baz=226,slow=36,SNR=4.6								
	1.1nm,0.4s								
JNU	**Nakatsue**	3.62	256	Pn		Pn		21 14 29.0	+1.1
	3.6nm,0.3s,baz=53,slow=5.8,SNR=10.0								
JNU				Pg		Pg		21 14 39.3	-2.4
	5.9nm,0.3s,baz=38,slow=6.4,SNR=15								
JNU				Lg		Lg		21 15 29.7	
	1.9nm,0.3s,baz=262,slow=19,SNR=4.9								
	7.5nm,0.3s								
KSRS	**Korea Array**	6.72	302	Pn		Pn		21 15 12.3	+1.8
	0.3nm,0.3s,baz=118,slow=15,SNR=2.2								
	0.8nm,0.4s								
WRA	**Warramunga Arr**	53.70	181	P		P		21 22 54.0	+0.2
	0.3nm,0.6s,baz=358,slow=7.3,SNR=5.7								
	0.3nm,0.6s								

AUST 09 21:23:34.0±0.3, 19.°5S±2.°, 12.°8E±.°, h10km, mb3.6/4, ML2.9/5, ML3.6/4, Error ellipse: s-maj=6.7km s-min=5.3km az=82.9, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
FITZ	**Fitzroy Crossi**	2.64	292	P		Pn		21 24 15.4	-1.2
KNRA	**Kununurra**	3.45	9	P		Pn		21 24 28.7	+0.9
KNRA				S		Sn		21 25 09.6	+1.0
WRAB	**Tennant Creek**	5.85	99	P		Pn		21 25 01.4	+0.7
	comp=Z,0.0nmcomp=Z,38µmcomp=Z,7.8nm,2.0s								
WRAB				S		Sn		21 26 08.3	+0.4
WB2	**Warramunga Arr**	5.85	99	P		Pn		21 25 01.5	+0.7
WB2	**Warramunga Arr**	5.85	99	S		Sn		21 26 07.3	-0.7
WRKA	**Warakurna**	5.91	179	P		Pn		21 25 03.4	+1.8
WRKA				S		Sn		21 26 08.9	-0.6
MTN	**Manton Dam**	6.83	25	P		Pn		21 25 13.2	-1.1
	comp=Z,0.0nmcomp=Z,46µmcomp=Z,10nm,1.6s								
MTN	**Manton Dam**	6.83	25	S		Sn		21 26 26.6	-5.5
AS07	**Alice Springs**	7.03	131	P		Pn		21 25 19.9	+2.9
	comp=Z,0.0nmcomp=Z,3.5nm,1.2s								
FORT	**Forrest**	11.63	181	P		Pn		21 26 18.9	-1.1
	comp=Z,11nm,1.0s								

IDC 09 21:32:02.8±2.5, 0.°51N×126.°19E, h0km, mb3.3/3, mbtmp3.3/3, MS2.9/1, Error ellipse: s-maj=258.9km s-min=26.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	21.84	159	P		P		21 36 55.4	-1.6
	0.4nm,0.6s,baz=336,slow=11,SNR=7.1								
	0.4nm,0.6s								
GUMO	**Guam**	22.61	54	LR		LR		21 44 43.8	
	comp=Z,31nm,21.8s,baz=26,slow=34								
ASAR	**Alice Springs**	25.17	163	P		P		21 37 31.1	+1.1
	0.4nm,0.5s,baz=345,slow=12,SNR=11								
	0.4nm,0.5s								
MKAR	**Makanchi Array**	59.90	327	P		P		21 42 10.4	-0.2
	0.2nm,0.5s,baz=119,slow=7.9,SNR=4.4								
	0.2nm,0.5s								

*NEIC **09** 21:33:53.4±1.5, 18.°90S±0.°09×177.°4W±0.°1, h617km±11km, mb4.2/29, Error ellipse: s-maj=19.9km s-min=12.9km az=92.0*
*IDC **09** 21:33:55.1±3.9, 18.°87S×177.°55W, h632km±50km, mb3.5/9, mbtmp4.4/11, Error ellipse: s-maj=29.8km s-min=22.9km az=167.0*

ISC 09 21:33:52.0±0.7, 19.°0S±0.°1×177.°4W±0.°1, h600km, n46, σ1s42/49, mb4.2/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MSVF	**Nonsavu**	4.52	286	P		P		21 35 25.1	+3.8
AFI	**Afiamalu**	7.41	47	P		P		21 35 47.2	+1.3
AFI				S		S		21 37 17.1	-2.0
DZM	**Mont Dzumac**	15.44	256	P		P		21 37 06.4	+2.0
DZM				IAmb	IAmb			21 37 25.0	
	comp=Z,9.9nm,1.0s								
DZM	**Mont Dzumac**	15.44	256	P		P		21 37 06.6	+2.2
	comp=Z,3.6nm,0.4s,baz=141,slow=23,SNR=13								
URZ	**Urewera**	19.76	193	P		P		21 37 45.1	+1.8
	comp=Z,6.0nm,0.7s,baz=24,slow=8.3,SNR=2.7								
URZ				S		S		21 40 46.9	-3.5
	comp=Z,4.7nm,0.9s,baz=133,slow=9.7,SNR=1.5								
EIDS	**Eidsvold**	29.82	252	P		P		21 39 12.3	0.0
EIDS				IAmb	IAmb			21 39 13.6	
	comp=Z,5.9nm,0.8s								
ARMA	**Armidale**	30.25	242	P		P		21 39 17.5	+1.5
CAN	**Canberra**	33.82	234	P		P		21 39 48.1	+2.0
CTAO	**Charters Tower**	34.23	262	P		P		21 39 49.7	-0.1
TOO	**Toolangi**	37.24	232	P		P		21 40 15.5	+1.3
TOO				IAmb	IAmb			21 40 17.3	
	comp=Z,3.8nm,0.8s								
COEN	**Coen**	38.09	272	P		P		21 40 21.5	+0.1
STKA	**Stephens Creek**	38.96	243	P		P		21 40 29.5	+1.3
STKA	**Stephens Creek**	38.96	243	P		P		21 40 29.6	+1.3
	comp=Z,4.2nm,0.4s,baz=80,slow=8.3,SNR=19								
	comp=Z,4.2nm,0.4s								
INKA	**Innaminka**	39.24	249	P		P		21 40 31.7	+1.2
INKA				IAmb	IAmb			21 40 32.8	
	comp=Z,4.0nm,0.7s								
JAY	**Jayapura**	44.15	287	P		P		21 41 08.7	-0.6
	comp=Z,17nm,0.6s,baz=146,slow=6.0,SNR=9.6								
	comp=Z,17nm,0.6s								
BOXOZ	**Borroloola**	44.16	266	P		P		21 41 09.1	-0.2
WB0	**Warramunga Arr**	45.36	261			P		21 41 18.0	-0.5
WRA	**Warramunga Arr**	45.39	260	P		P		21 41 17.7	-1.0
WRA	**Warramunga Arr**	45.39	260	P		P		21 41 18.3	-0.4
	comp=Z,8.8nm,0.3s,baz=97,slow=7.4,SNR=293								
WRA				S		S		21 47 09.3	-8.1
	comp=Z,0.6nm,1.0s,baz=94,slow=12,SNR=2.7								
	comp=Z,8.8nm,0.3s								
AS31	**Alice Springs**	45.43	255			P		21 41 18.9	-0.1
ASAR	**Alice Springs**	45.43	255			P		21 41 18.5	-0.4
ASAR	**Alice Springs**	45.43	255	P		P		21 41 19.1	+0.2
	comp=Z,14nm,0.7s,baz=87,slow=8.1,SNR=177								
ASAR				PcP		PcP		21 42 45.1	-0.1
	comp=Z,0.6nm,0.5s,baz=90,slow=3.7,SNR=3.1								
ASAR				S		S		21 47 13.7	-4.3
	comp=Z,0.4nm,0.7s,baz=90,slow=12,SNR=2.3								
	comp=Z,14nm,0.7s								
MTN	**Manton Dam**	49.74	269	P		P		21 41 50.0	-1.1
MTN				IAmb	IAmb			21 41 51.0	
	comp=Z,8.8nm,0.8s								
FORT	**Forrest**	50.41	245	P		P		21 41 55.5	-0.3
FORT				IAmb	IAmb			21 42 19.0	
	comp=Z,17nm,1.0s								
KNRA	**Kununurra**	51.34	265	P		P		21 42 01.9	-0.8
KNRA				IAmb	IAmb			21 42 03.2	
	comp=Z,7.4nm,0.6s								
FITZ	**Fitzroy Crossi**	53.81	261	P		P		21 42 20.0	-0.2
FITZ	**Fitzroy Crossi**	53.81	261	P		P		21 42 20.2	+0.1
	comp=Z,2.6nm,0.3s,baz=70,slow=3.2,SNR=28								
	comp=Z,2.6nm,0.3s								
SOEI	**Soe**	57.04	271	P		P		21 42 42.4	-0.5
SOEI				IAmb	IAmb			21 42 53.3	
	comp=Z,22nm,0.7s								
MBWA	**Marble Bar**	58.75	256	P		P		21 42 53.4	-0.6
MORW	**Morawa**	60.93	247	P		P		21 43 07.8	-0.5
JAGI	**Jajag, Banyuwa**	66.98	269	P		P		21 43 45.0	-1.9
ADK	**Adak**	70.60	0	P		P		21 44 06.6	-1.2
ADK				IAmb	IAmb			21 44 09.3	
	comp=Z,16nm,1.0s								
PETK	**Petropavlovsk-**	75.00	345	P		P		21 44 31.7	-1.2
	comp=Z,1.4nm,0.6s,baz=154,slow=4.9,SNR=2.9								
	comp=Z,1.4nm,0.6s								
KDAK	**Kodiak Island**	79.25	13	P		P		21 44 55.6	-0.2
KDAK				IAmb	IAmb			21 45 19.3	
	comp=Z,7.0nm,1.1s								
NVAR	**Mina Array Bea**	79.56	43	P		P		21 44 59.9	+1.7
	comp=Z,0.6nm,0.6s,baz=198,slow=5.8,SNR=3.8								
	comp=Z,0.6nm,0.6s								
M16K	**Timber Creek**	81.14	9	P		P		21 45 06.0	+0.4
M16K				IAmb	IAmb			21 45 07.8	
	comp=Z,4.5nm,1.0s								
K15K	**Wolf Creek Mou**	82.02	7	P		P		21 45 10.3	+0.3
K15K				IAmb	IAmb			21 45 11.4	
	comp=Z,7.6nm,0.9s								
SUA	**Susitna One**	83.00	13	P		P		21 45 14.7	-0.4
SUA				IAmb	IAmb			21 45 15.0	
	comp=Z,4.0nm,0.7s								
GHO	**Glory Hole Cre**	83.66	13	P		P		21 45 17.9	-0.4
GHO				IAmb	IAmb			21 45 18.6	
	comp=Z,5.0nm,0.6s								
J18K	**Innoko River**	83.80	9	P		P		21 45 18.8	0.0
RND	**Reindeer**	85.14	12	P		P		21 45 24.7	-0.7
RND				IAmb	IAmb			21 45 26.3	
	comp=Z,4.9nm,1.1s								
ILAR	**Eielson Array**	86.75	13	P		P		21 45 32.2	-0.8
	comp=Z,0.5nm,0.4s,baz=211,slow=4.8,SNR=8.4								
	comp=Z,0.5nm,0.4s								
PDAR	**Pinedale Array**	87.50	43	P		P		21 45 38.1	+0.7
	comp=Z,0.3nm,0.5s,baz=268,slow=3.1,SNR=1.8								
	comp=Z,0.3nm,0.5s								
ARCES	**ARCESS Array B**	127.58	350	PKP		PKPdf		21 51 48.9	-0.3
	comp=Z,4.5nm,0.9s,baz=355,slow=1.0,SNR=4.7								
EKA	**Eskdalemuir Ar**	143.49	6	PKP		PKPab		21 52 16.9	-0.9
	comp=Z,1.3nm,0.5s,baz=322,slow=2.9,SNR=12								
GERES	**GERESS Array B**	148.93	346	PKPbc		PKPbc		21 52 32.6	-0.6
	comp=Z,0.5nm,0.7s,baz=48,slow=1.5,SNR=3.8								

IDC 09 21:44:28.4±49.0, 22.°98S×178.°34W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=889.9km s-min=163.1km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
STKA	**Stephens Creek**	36.48	247	P		P		21 51 35.1	-0.3
	1.6nm,0.9s,baz=68,slow=11,SNR=3.1								
	1.6nm,0.9s								
ASAR	**Alice Springs**	43.70	259	P		P		21 52 35.2	-0.3
	0.3nm,0.5s,baz=94,slow=7.6,SNR=6.0								
	0.3nm,0.5s								
WRA	**Warramunga Arr**	44.00	265	P		P		21 52 38.0	+0.1
	0.8nm,0.3s,baz=102,slow=7.9,SNR=33								
	0.8nm,0.3s								

*NEIC **09** 21:52:48.7±1.4, 35.°88N±0.°01×117.°70W±0.°02, h10km±4km, Error ellipse: s-maj=1.8km s-min=1.4km az=63.0*
PAS 09 21:52:49.4±1.2, 35.°886N±0.°009×117.°70W±0.°01, h5km±2km, ML3.3/16, ML3.1/82(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=68.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
TOW	**Tower One**	0.09	213			Pg		21 52 51.9	+0.6
TOW						Sg		21 52 54.4	+1.7
CLC	**China Lake**	0.11	130	Pg		Pg		21 52 51.7	+0.1
CLC				Sg		Sg		21 52 53.6	+0.4
CLC				IAML				21 52 53.9	
	comp=N,10µm,0.3s								
CLC				IAML				21 52 53.9	
	comp=E,7µm,0.4s								
WVPM	**Volcano Peak E**	0.11	304			Pg		21 52 51.9	+0.1
JRC2	**Joshua Ridge**	0.13	318			Pg		21 52 52.1	0.0
JRC2						Sg		21 52 54.5	+0.7
WCSM	**Coso Springs S**	0.15	339			Pg		21 52 54.6	+2.2
WNMM	**Nine Mile Cany**	0.17	255			Pg		21 52 52.9	+0.2
WRVM	**Rose V. Centra**	0.20	309			Pg		21 52 53.3	0.0
MPMC	**Manual Prospec**	0.24	45	Pg		Pg		21 52 54.1	0.0
MPMC				Sg		Sg		21 52 57.6	+0.2
MPMC				IAML				21 52 57.9	
	comp=N,5µm,0.6s								
MPMC				IAML				21 52 59.6	
	comp=E,4µm,0.4s								
MFS	**McCloud Flat S**	0.26	332			Pg		21 52 54.4	-0.1
MFS						Sg		21 52 58.4	+0.3
LRMC	**Laurel Mtn Rad**	0.41	178			Pg		21 52 57.1	-0.2
LRMC				Sg		Sg		21 53 02.8	+0.2
LRMC				IAML				21 53 03.7	
	comp=N,3µm,0.2s								
CCCA	**Chr Cany lake**	0.45	143	Pg		Pg		21 52 58.4	+0.3
CCCA						Sg		21 53 04.6	+0.6
CWC	**Cottonwood Cre**	0.63	331			Pg		21 53 01.3	-0.2
CWC						Sg		21 53 09.6	-0.2
CWC				IAML				21 53 10.3	
	comp=E,963nm,0.3s								
CWC				IAML				21 53 10.8	
	comp=N,752nm,0.2s								
ISA	**Isabella, Lake**	0.67	251			Pg		21 53 01.9	-0.3
ISA				IAML				21 53 10.9	
	comp=N,1µm,0.4s								
ISA				IAML				21 53 10.9	
	comp=E,994nm,0.4s								
QSM	**Queen of Sheba**	0.68	83			Pg		21 53 02.0	-0.5
QSM						Sg		21 53 10.8	-0.5
QSM				IAML				21 53 15.0	
	comp=E,863nm,0.5s								
QSM				IAML				21 53 16.1	
	comp=N,1µm,0.6s								
GWY	**Greenwater Val**	0.89	70			Pg		21 53 06.1	-0.4
GWY						Sg		21 53 18.0	0.0
GWY				IAML				21 53 20.5	
	comp=N,669nm,0.6s								
GWY				IAML				21 53 23.4	
	comp=E,739nm,0.5s								
GSC	**Goldstone, Bar**	0.93	128			Pg		21 53 06.6	-0.7
GSC				IAML				21 53 21.6	
	comp=N,906nm,0.3s								
GSC				IAML				21 53 21.9	
	comp=E,775nm,0.5s								
TPO	**Tropico Hills**	1.09	203			Pg		21 53 09.4	-0.9
TPO				IAML				21 53 32.4	
	comp=N,718nm,0.9s								
TPO				IAML				21 53 32.7	
	comp=E,586nm,0.9s								
GRAC	**Grapevine Rang**	1.14	14			Pg		21 53 10.6	-0.7
GRAC				IAML				21 53 31.2	
	comp=E,353nm,0.6s								
GRAC				IAML				21 53 31.7	
	comp=N,376nm,0.8s								
WCT	**Wildcat Mounta**	1.25	44			Pg		21 53 12.5	-0.9
WCT						Sg		21 53 28.9	-0.8
WCT				IAML				21 53 33.5	
	comp=N,274nm,0.7s								
WCT				IAML				21 53 33.7	
	comp=E,326nm,0.4s								
AMDNV	**Amargosa**	1.28	63			Pn		21 53 12.2	-1.7
LCH	**Last Change Ra**	1.34	2			Pn		21 53 13.8	-1.1
GMN	**Gold Mountain**	1.46	14			Pn		21 53 15.8	-0.7
DSP	**Deep Springs**	1.50	352			Pn		21 53 16.2	-0.7
TPNV	**Topopah Spring**	1.58	47			Pn		21 53 17.3	-0.9
TPNV				IAML				21 53 41.0	
	comp=E,280nm,0.4s								
TPNV				IAML				21 53 42.5	
	comp=E,360nm,0.8s								
BFSC	**Mount Baldy Ra**	1.64	179			Pn		21 53 18.6	-0.4
BFSC				IAML				21 53 44.0	
	comp=N,124nm,0.3s								
BFSC				IAML				21 53 44.0	
	comp=E,118nm,0.6s								
MWC	**Mount Wilson**	1.68	190			Pn		21 53 18.8	-0.8
MWC				IAML				21 53 46.0	
	comp=E,180nm,0.5s								
MWC				IAML				21 53 50.1	
	comp=N,162nm,0.6s								
PASC	**Pasadena Art C**	1.76	193			Pn		21 53 19.6	-0.9
MTPC	**Mountain Pass**	1.79	102			Pn		21 53 19.5	-1.6
MTPC				IAML				21 53 48.8	
	comp=E,124nm,0.3s								
MTPC				IAML				21 53 50.9	
	comp=N,107nm,0.3s								
MZP	**Montezuma Peak**	1.83	8			Pn		21 53 21.2	-0.6
SMMC	**Simmler**	1.96	254			Pb		21 53 24.4	-1.1
SHPR	**Sheep Range**	2.15	73			Pn		21 53 25.1	-0.9
TSCN	**Private Proper**	2.18	262			Pb		21 53 28.1	-1.2
TPH	**Tonopah**	2.22	10			Pn		21 53 25.6	-1.4
TPH				IAML				21 53 38.8	
	comp=N,204nm,0.6s								
TPH				IAML				21 54 07.7	
	comp=E,162nm,0

CBX	Cerro Bola	3.67	166		Pn		21 53 46.0	-0.8
MPK	Martis Peak	3.87	332	Pn	Pn		21 53 49.1	-0.8
AFDM	Forest Hills D	4.01	321		Pn		21 53 51.9	+0.4
ELK	Elko	5.22	21		Pn		21 54 08.7	+0.4

IDC 09 21:58:36.9±1.5, 0°00S×125°36E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=177.1km s-min=21.5km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 4.2nm,0.9s,baz=335,slow=12,SNR=14 4.2nm,0.9s	21.68	157	P	P	22 03 29.5	0.0
ASAR	Alice Springs 0.6nm,0.3s,baz=339,slow=8.6,SNR=13 0.6nm,0.3s	24.94	161	P	P	22 04 02.1	0.0
MKAR	Makanchi Array 0.5nm,0.6s,baz=122,slow=8.0,SNR=6.0 0.5nm,0.6s	59.88	327	P	P	22 08 45.1	+0.6
KURBB	Kurchatov Arra 0.4nm,0.6s,baz=135,slow=6.4,SNR=5.2 0.4nm,0.6s	64.17	329	P	P	22 09 12.7	-0.6

*THE **09** 22:00:14.6, 37°N±3°×2°9E±°, h0km±9km, M3.0/8, MLh3.0/8*
*ISK **09** 22:00:14.3, 37°15N×28°66E, h6km, ML3.2/22*
*AFAD **09** 22:00:14.6, 37°12N×28°67E, h7km±3km, MW3.6*

ISC 09 22:00:14.8±1.0, 37°14N±0°02×28°67E±0°02, h8km±9km, n42, σ0s57/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MULA	Mugla, Merkez-	0.30	292	P	Pg	22 00 20.9	-0.1
MULA				S	Sb	22 00 26.1	-1.6
DNZT	Denizli-Tavas-	0.31	64	P	Pg	22 00 21.4	+0.3
DNZT				S	Sg	22 00 25.8	+0.5
DALY	Dalyan (Mula)	0.32	183	Pg	Pg	22 00 20.9	-0.3
DALY				Sg	Sb	22 00 27.1	-1.1
SABU	Mula-Dalaman	0.40	143	P	Pg	22 00 22.1	-0.5
SABU				S	Sg	22 00 28.3	+0.5
TURN	Turunc	0.50	223	Pg	Pg	22 00 24.3	-0.3
TURN	Turunc	0.50	223	P	Pg	22 00 23.8	-0.8
TURN				S	Sg	22 00 32.0	+0.9
CAME	Cameli-Denizli	0.54	111	Pg	Pg	22 00 25.1	-0.3
APMY	Acipayam-Deniz	0.60	57	Pg	Pg	22 00 26.4	-0.1
FETY	Fethiye	0.60	147	Pg	Pg	22 00 26.2	-0.3
FETY				Sg	Sb	22 00 35.4	-0.9
FETY	Fethiye	0.60	147	P	Pg	22 00 26.1	-0.4
FETY				S	Sb	22 00 35.4	-0.9
FETY	Fethiye	0.60	147	P	Pb	22 00 27.1	-0.6
FETY				S	Sb	22 00 36.4	+0.1
ESEN	Aydn-Nazilli	0.70	339	P	Pg	22 00 28.3	-0.1
ESEN				S	Sg	22 00 37.3	-0.4
MLSB	Milas	0.73	282	Pg	Pg	22 00 28.6	-0.3
NAZL	Nazilli-Aydin	0.88	340	Pg	Pg	22 00 31.7	0.0
DAT	Datca	0.97	245	Pg	Pg	22 00 33.1	-0.4
BDRM	Kayabasi	0.98	266	P	Pg	22 00 33.7	-0.1
BDRM				S	Sn	22 00 48.9	-0.1
AYDB	Zeytinkoy-Aydi	1.02	323	Pg	Pg	22 00 34.2	-0.2
ARG	Arkhangelos	1.02	206	Pg	Pg	22 00 34.3	-0.2
ARG	Arkhangelos	1.02	206	P	Pg	22 00 34.0	-0.5
ARG				S	Sn	22 00 49.8	-0.1
ELL	Elmali	1.06	111	Pg	Pb	22 00 35.8	+0.2
YAZI	Mula-Dat§a-	1.08	245	P	Pg	22 00 35.3	-0.3
YAZI				S	Sb	22 00 50.6	+0.7
BODT	Bodrum	1.09	266	Pn	Pg	22 00 35.4	-0.4
BODT	Bodrum	1.09	266	P	Pg	22 00 35.5	-0.4
BODT				S	Sn	22 00 52.3	+0.6
AKAS	Kas	1.18	140	Pn	Pn	22 00 37.8	+0.1
DDIM	Aydin, Didim	1.18	286	P	Pg	22 00 36.7	-0.8
DDIM				S	Sn	22 00 54.9	+1.0
ODEM	Odemis-Izmir	1.23	337	Pn	Pg	22 00 37.8	-0.6
KSL	Kastellorizon	1.23	143	P	Pb	22 00 38.4	0.0
GCAM	G?zelcaml?	1.27	296	Pn	Pn	22 00 38.9	0.0
GCAM	G?zelcaml?	1.27	296	P	Pg	22 00 39.3	0.0
GCAM				S	Sn	22 00 57.5	+1.4
KORT	Korkueli	1.35	95	Pn	Pb	22 00 40.4	0.0
KULA	Kula-Manisa	1.37	360	Pn	Pn	22 00 40.3	0.0
SMG	Samos	1.57	292	P	Pn	22 00 42.9	-0.1
SMG				S	Sn	22 01 03.2	-0.3
ANTB	Antalya	1.60	98	Pn	Pb	22 00 44.2	-0.5
ISP	Isparta	1.62	65	Pn	Pb	22 00 44.6	-0.4
BLCB	Balcova	1.79	314	Pn	Pn	22 00 46.2	+0.2
BLCB	Balcova	1.79	314	P	Pn	22 00 46.2	+0.2
GORD	Gordes-Manisa	1.81	348	Pn	Pn	22 00 46.6	+0.3
KARP	Karpathos	2.00	218	Pn	Pn	22 00 49.8	+0.8
KARP	Karpathos	2.00	218	P	Pn	22 00 49.4	+0.4
KARP				S	Sb	22 01 17.6	+0.9
URLA	Izmir	2.05	307	Pn	Pn	22 00 50.1	+0.5
CHOS	Chios island	2.42	302	P	Pn	22 00 55.7	+0.9
CHOS				S	Sb	22 01 27.8	-0.8
APE	Apeiranthos	2.51	269	P	Pn	22 00 56.2	+0.2

IDC 09 22:00:33.1±1.7, 0°58N×125°93E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=175.6km s-min=22.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.7nm,0.6s,baz=336,slow=11,SNR=5.4 0.7nm,0.6s	22.00	158	P	P	22 05 27.9	-1.2
ASAR	Alice Springs 0.3nm,0.4s,baz=341,slow=11,SNR=6.2 0.3nm,0.4s	25.32	163	P	P	22 06 02.6	+0.9
MKAR	Makanchi Array 0.3nm,0.3s,baz=121,slow=7.9,SNR=6.6 0.3nm,0.3s	59.70	327	P	P	22 10 39.8	+0.3
KURBB	Kurchatov Arra 0.3nm,0.4s,baz=133,slow=6.7,SNR=3.3 0.3nm,0.4s	63.97	329	P	P	22 11 07.6	-0.5

*IDC **09** 22:39:58.2±0.7, 0°32N×126°07E, h0km, mb3.9/12, mbtmp3.9/14, ML3.6/2, Error ellipse: s-maj=34.6km s-min=14.1km az=78.0*
*NEIC **09** 22:40:03.6±1.6, 0°34N±0°04×126°10E±0°05, h35km±2km, mb4.0/13, Error ellipse: s-maj=9.6km s-min=4.7km az=238.0*
*DJA **09** 22:40:03.4±0.2, 0°N±2°×12°6E±°, h10km, M4.0/16, mB4.9/2, mb4.0/6, MLv4.0/16, Mw(mB)4.2/2*

ISC 09 22:40:04.4±0.5, 0°27N±0°05×126°15E±0°05, h44km, n47, σ1s54/51, mb4.0/16, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.32	68	Pn	Pn	22 40 25.6	-0.8
TNTI				Sn	Sn	22 40 42.5	-0.3
TNTI	Ternate	1.32	68	P	Pn	22 40 28.1	+1.7
TNTI				S	Sn	22 40 48.1	+5.3
KMSI	Cibinong	2.19	278	P	Pn	22 40 38.2	-0.1
KMSI				S	Sn	22 41 05.8	+1.6
SANI	Sanana	2.31	184	P	Pn	22 40 39.6	-0.5
SANI				S	Sn	22 41 07.8	+0.5
SGSI	Sangihe	3.45	350	P	Pn	22 40 57.7	+2.0
LUWI	Luwuk	3.62	249	Pn	Pn	22 40 56.5	-1.5
LUWI	Luwuk	3.62	249	P	Pn	22 41 00.3	+2.3
MRSI	Marisa	4.21	273	P	Pn	22 41 08.5	+2.4
MSAI	Masohi	4.54	142	P	Pn	22 41 13.1	+2.4
APSI	Ampana	4.65	255	P	Pn	22 41 14.5	+2.3
TOLI2	Tolitoli	5.43	279		Pn	22 41 22.6	-0.3
KDI	Kendari	5.48	220	P	Pn	22 41 25.2	+1.5
MPSI	Mapaga 0.1nm12nm,1.1s	6.25	271	P	Pn	22 41 36.4	+2.2
TTSI	Tana Toraja	7.13	242	P	Pn	22 41 47.7	+1.4
BNSI	Bone 26nm,1.6s	7.61	232	P	Pn	22 41 53.8	+0.9
SPSI	Sidrap Palu	7.64	236	P	Pn	22 41 54.5	+1.3
KAPI	Kappang	8.27	230	Pn	Pn	22 42 03.9	+2.0
KAPI	Kappang 2.7nm,0.3s,baz=144,slow=20,SNR=1.5 7.5nm,0.2s	8.27	230	Pn	Pn	22 42 00.5	-1.4
KSM	Kuching comp=Z,9.9nm,0.8s	15.88	274	IAmb	Pn IAmb	22 43 45.5 22 43 49.0	+0.4
KNRA	Kununurra comp=Z,15nm,1.2s	16.06	171	Pn IAmb	Pn IAmb	22 43 48.6 22 44 17.2	+1.4
FITZ	Fitzroy Crossi comp=Z,0.1nm,0.3s,baz=5.7,slow=10,SNR=2.3 comp=Z,3.2nm,1.0s	18.26	182	P	P	22 44 13.7	-0.8
WB0	Warramunga Arr comp=Z,7.3nm,0.9s	21.49	158	IAmb	P IAmb	22 44 48.2 22 45 09.3	-1.5
WRA	Warramunga Arr comp=Z,1.6nm,0.4s,baz=337,slow=11,SNR=19 comp=Z,1.6nm,0.4s	21.63	159	P	P	22 44 48.0	-3.2
WRA	Warramunga Arr comp=Z,7.2nm,0.9s	21.63	159	P	P	22 44 50.2	-1.0
COEN	Coen comp=Z,7.2nm,0.9s	22.00	131	P IAmb	P IAmb	22 44 55.2 22 45 12.4	+0.1
AS31	Alice Springs	24.96	163	P	P	22 45 24.5	+0.5
ASAR	Alice Springs comp=Z,0.7nm,0.3s,baz=345,slow=12,SNR=14 comp=Z,0.7nm,0.3s	24.96	163	P	P	22 45 24.9	+0.9
STKA	Stephens Creek comp=Z,2.7nm,0.7s,baz=328,slow=13,SNR=2.5 comp=Z,2.7nm,0.7s	35.16	157	P	P	22 46 53.9	-0.3
KSRS	Korea Array comp=Z,0.7nm,0.6s,baz=173,slow=9.3,SNR=2.2 comp=Z,0.7nm,0.6s	37.03	2	P	P	22 47 09.7	-0.3
MJAR	Matsushiro Arr comp=Z,1.6nm,0.8s,baz=175,slow=8.5,SNR=4.1 comp=Z,1.6nm,0.8s	37.78	16	P	P	22 47 15.0	-1.5
SONM	Songino Array comp=Z,1.3nm,1.0s	50.39	343	P IAmb	P IAmb	22 48 56.3 22 48 58.9	-1.1
SONM	Songino Array comp=Z,0.6nm,0.6s,baz=162,slow=7.4,SNR=4.3 comp=Z,0.6nm,0.6s	50.39	343	P	P	22 48 56.9	-0.5
PETK	Petropavlovsk- comp=Z,2.0nm,0.5s,baz=201,slow=7.7,SNR=5.5 comp=Z,2.0nm,0.5s	58.83	22	P	P	22 49 59.6	+1.1
MKAR	Makanchi Array	60.08	327	P	P	22 50 06.4	-0.8
MKAR	Makanchi Array comp=Z,0.9nm,0.5s,baz=127,slow=6.9,SNR=12 comp=Z,0.9nm,0.5s	60.08	327	P	P	22 50 06.8	-0.3
ZALV	Zalesovo Beam comp=Z,0.3nm,0.3s,baz=125,slow=6.7,SNR=1.9 comp=Z,0.3nm,0.3s	63.41	334	P	P	22 50 29.5	+0.1
KURBB	Kurchatov Arra comp=Z,0.8nm,0.8s,baz=128,slow=6.2,SNR=8.4 comp=Z,0.8nm,0.8s	64.34	329	P	P	22 50 34.9	-0.7
KURK	Kurchatov	64.35	329	P	P	22 50 34.3	-1.3
KKAR	Karatay Array	65.38	318	P	P	22 50 41.5	-1.1
BVAR	Borovoye Array comp=Z,0.3nm,0.4s comp=Z,0.3nm,0.4s	69.90	328	P	P	22 51 09.6	-1.2
BRVK	Borovoye comp=Z,1.5nm,0.9s	69.97	328	P IAmb	P IAmb	22 51 11.3 22 51 22.7	0.0
ABKAR	Akbulak array	74.46	322	P	P	22 51 37.2	-1.0
ABKAR	Akbulak array comp=Z,1.5nm,0.9s	74.46	322	P IAmb	P IAmb	22 51 37.1 22 51 48.6	-1.0
J17K	VABM Dome	82.97	26	P	P	22 52 24.3	-0.4
K17K	Iditarod	83.16	27	P	P	22 52 24.6	-1.1
QSPA	South Pole Qui comp=Z,1.1nm,1.1s,baz=345,slow=3.7,SNR=1.6 comp=Z,1.1nm,1.1s	90.20	180	P	P	22 53 00.2	+0.1

WEL 09 22:40:32.2±1.7, 34°S±11°×177°9E±1°0, h12km, M4.3/9, mB4.7/1, ML4.3/12, MLv4.3/9, Mw(mB)3.9/1, Error ellipse: s-maj=16.3km s-min=9.5km az=40.4, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.87	193	P	Pn	22 41 31.2	-0.4
WMGZ	Waiomatatini S	4.10	191	P	Pn	22 41 35.0	+0.3
HAZ	Te Kaha	4.17	198	P	Pn	22 41 35.0	-0.8
PKGZ	Pakihiroa	4.21	195	P	Pn	22 41 35.1	-1.1
PKGZ				S	Sn	22 42 27.2	+1.8
PUZ	Puketiti	4.37	192	P	Pn	22 41 38.0	-0.5
PUZ				S	Sn	22 42 30.1	+0.8
RUGZ	Raukumara Rang	4.40	198	P	Pn	22 41 39.8	+0.8
WHRZ	Whale Island	4.52	206	P	Pn	22 41 40.0	-0.5
TWGZ	Tauwhareparae	4.53	195	P	Pn	22 41 41.1	+0.5
WCZ	Waipu Caves	4.70	242	P	Pn	22 41 44.6	+1.6
CNGZ	Carnagh Statio	4.78	192	P	Pn	22 41 43.7	-0.4
MWZ	Matawai	4.79	198	P	Pn	22 41 45.6	+1.4
URZ	Urewera	4.84	202	P	Pn	22 41 44.9	+0.1
RAGZ	Rawiri	4.97	199	P	Pn	22 41 46.6	-0.1
OUZ	Omahuta	5.03	252	P	Pn	22 41 48.0	+0.5
OUZ				S	Sn	22 42 45.5	0.0
RIGZ	Rimuhau	5.08	195	P	Pn	22 41 47.9	-0.4
PRGZ	Paritu Road	5.27	193	P	Pn	22 41 49.4	-1.4
RAHZ	Arahi	5.45	200	P	Pn	22 41 54.3	+1.0
MTHZ	Maungataniwha	5.46	202	P	Pn	22 41 54.3	+0.8
MHGZ	Mahia Peninsul	5.49	193	P	Pn	22 41 51.7	-2.1

IDC 09 22:44:04.2±47.0, 24°70S×177°93E, h684km±441km, mb2.9/3, mbtmp4.1/3, Error ellipse: s-maj=391.8km s-min=194.3km az=90.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs 0.7nm,0.5s,baz=93,slow=7.0,SNR=9.7 0.7nm,0.5s	40.05	262	P	P	22 50 43.8	-0.8
WRA	Warramunga Arr 2.0nm,0.5s,baz=104,slow=7.8,SNR=19 2.0nm,0.5s	40.48	268	P	P	22 50 48.0	+0.1
FITZ	Fitzroy Crossi 1.7nm,0.6s,baz=121,slow=6.8,SNR=5.5 1.7nm,0.6s	48.89	267	P	P	22 51 52.6	+1.0
MMAI	Mount Meron Ar	146.28	293	PKPbc	PKPdf	23 02 28.8	+0.2
	0.7nm,0.5s,baz=100,slow=3.2,SNR=2.1						
BRTR	Keskin Array B 0.5nm,0.6s,baz=126,slow=2.0,SNR=2.6	146.52	305	PKPbc	PKPbc	23 02 32.5	+0.8

*IDC **09** 22:54:19.3±1.1, 4°05S×101°58E, h0km, mb4.1/14, mbtmp4.1/16, ML3.6/2, Error ellipse: s-maj=40.8km s-min=14.4km az=52.0*
*NEIC **09** 22:54:26.1±1.5, 3°99S±0°05×101°68E±0°07, h38km±8km, mb4.4/21, Error ellipse: s-maj=9.7km s-min=6.5km az=79.0*
*DJA **09** 22:54:26.4±0.2, 4°S±3°×10°2E±°, h63km±6km, M4.8/24, mB5.5/4, mb4.8/18, MLv4.8/24, Mw(mB)4.9/4*

ISC 09 22:54:26.8±1.1, 4°02S±0°07×101°70E±0°06, h51km±10km, n96, σ1s30/94, mb4.4/27, 1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	0.96	68	P	Pn	22 54 44.0	-0.1
KSI				S	Sn	22 54 58.0	+1.2
MNAI	Manna	1.30	105		Pn	22 54 48.2	-0.4
MNAI				Sn	Sn	22 55 01.0	-3.9
MNAI	Manna	1.30	105	P	Pn	22 54 48.2	-0.4
MNAI				S	Sn	22 55 05.3	+0.5
LHSI	Lahat	1.83	84	P	Pn	22 54 57.2	+1.4
LHSI				S	Sn	22 55 20.2	+2.4
PPSI	Pulau Pagai	2.10	306	P	Pn	22 54 59.9	+0.4
MDSI	Maura Dua	2.51	101	P	Pn	22 55 05.7	+0.5
MDSI				S	Sn	22 55 35.8	+1.2
LWLI	Liwa	2.55	113	P	Pn	22 55 05.8	0.0
LWLI				S	Sn	22 55 36.4	+0.6
KASI	Kota Agung	3.16	118	P	Pn	22 55 13.8	-0.3
PMBI	Palembang	3.25	71	Pn	Pn	22 55 13.4	-1.8
PMBI				Sn	Sn	22 55 52.3	-0.5
PMBI	Palembang	3.25	71	P	Pn	22 55 12.2	-3.1
KLI	Kotabumi	3.26	105	P	Pn	22 55 16.5	+1.1
SISI	Saibi	3.73	316	P	Pn	22 55 21.5	-0.4
SISI				S	Sn	22 56 05.0	+0.3
BLSI	Bandar Lampung	3.78	111	P	Pn	22 55 24.6	+2.0
BKNI	Bangkinang	4.36	351	Pn	Pn	22 55 27.6	-3.0
BKNI	Bangkinang	4.36	351	P	Pn	22 55 33.0	+2.4
CGJI	Cibinong	4.74	123	P	Pn	22 55 34.8	-0.9
SBJI	Serang	4.88	116	P	Pn	22 55 38.9	+1.2
MNSI	Mandailing Nat	5.23	336	P	Pn	22 55 42.3	-0.1
DBJI	Dramaga 0.8nm131nm,1.0s	5.62	117	P	Pn	22 55 47.6	-0.3
TPI	Tanjungpandan 0.3nm26nm,0.6s	6.07	78	P	Pn	22 55 54.5	+0.5
MYKOM	Kota Tinggi	6.15	20		Pn	22 55 56.4	+1.2
CNJI	Cibinong 0.3nm37nm,0.6s	6.32	121	P	Pn	22 55 56.5	-0.9
LEM	Lembang 0.3nm101nm,0.9s	6.52	116	P	Pn	22 56 01.7	+1.4
GSI	Gunungsitoli	6.70	322		Pn	22 56 02.0	-0.7
GSI	Gunungsitoli	6.70	322	P	Pn	22 56 02.1	-0.6
RPSI	Rantau Prapat	7.22	337		Pn	22 56 07.7	-2.1
RPSI	Rantau Prapat	7.22	337		Pn	22 56 07.4	-2.4
PSI	Prapat 2.3nm,0.3s,baz=309,slow=10,SNR=13	7.32	338	Pn	Pn	22 56 07.4	-3.8
PSI				Sn	Sn	22 57 20.3	-13
	1.3nm,0.3s,baz=205,slow=6.1,SNR=3.6 4.6nm,0.3s						
IPM	Ipoh	8.46	355	Pn	Pn	22 56 26.2	-0.6
KULM	Kulim	9.30	354	Pn	Pn	22 56 37.2	-1.1
UGM	Wanagama	9.59	114	Pn	Pn	22 56 41.8	-0.5
UGM	Wanagama 88nm,1.6s	9.59	114	P	Pn	22 56 43.1	+0.8
MLSI	Meulaboh, Aceh	9.78	327	P	Pn	22 56 44.5	-0.4
PCJI	Pacitan 55nm,0.9s	10.29	114	P	Pn	22 56 51.4	-0.5
GMJI	Gumukmas 22nm,1.1s	12.42	110	P	Pn	22 57 21.1	+0.2
JAGI	Jajag, Banyuwa	13.14	110		Pn	22 57 29.3	-1.5
JAGI	Jajag, Banyuwa 37nm,0.9s	13.14	110	P	Pn	22 57 30.0	-0.8
PLAI	Plampang 28nm,1.2s	16.67	107	P	Pn	22 58 14.7	-2.3
KAPI	Kappang 0.1nm,0.3s,baz=154,slow=15,SNR=2.1 4.9nm,0.8s	18.02	94	P	Pn	22 58 33.9	+0.2
WBSI	Waikabubak, Su 30nm,0.6s	18.43	109	P	P	22 58 36.4	-1.7
UBPT	Khong Chiam	19.53	11	P	P	22 58 49.7	-0.4
BASI	Baing, Sumba	19.71	109	P	P	22 58 52.7	+0.5
TOLI2	Tolitoli	19.74	75	P	P	22 58 52.4	0.0
CMAR	Chiang Mai Arr 1.0nm,0.3s,baz=171,slow=9.2,SNR=6.1 1.0nm,0.3s	22.50	353	P	P	22 59 22.1	-0.1
MBWA	Marble Bar	24.44	136	P	P	22 59 40.5	-0.4
MBWA				IAmb	IAmb	23 00 08.1	
	comp=Z,17nm,1.2s						
FITZ	Fitzroy Crossi	27.29	123	P	P	23 00 06.2	-0.5
KNRA	Kununurra	29.02	115	P	P	23 00 22.4	+0.2
KNRA				IAmb	IAmb	23 00 26.4	
	comp=Z,10nm,1.1s						
H08S2	Diego Garcia H baz=84,slow=76,SNR=86	29.27	262	T	T	23 30 28.6	
H08S3	Diego Garcia H baz=84,slow=76,SNR=476	29.28	262	T	T	23 30 29.0	
H08S1	Diego Carcia H baz=84,slow=76,SNR=247	29.28	262	T	T	23 30 29.9	
PZH	PanZhiHua	30.34	0	P	P	23 00 38.1	+4.3
MTN	Manton Dam	30.37	109	P	P	23 00 33.8	-0.4
H01W3	Cape Leeuwin H baz=338,slow=76,SNR=28	32.81	161	T	T	23 35 04.6	
H01W2	Cape Leeuwin H baz=338,slow=76,SNR=59	32.82	161	T	T	23 35 05.6	
H01W1	Cape Leeuwin H baz=338,slow=76,SNR=51	32.82	161	T	T	23 35 06.5	
WB0	Warramunga Arr	35.51	119	P	P	23 01 18.3	-0.6
WB0				IAmb	IAmb	23 01 40.9	
	comp=Z,6.2nm,1.1s						
WRA	Warramunga Arr comp=Z,0.5nm,0.3s,baz=302,slow=9.1,SNR=11	35.52	119	P	P	23 01 18.6	-0.5
WRA				S	S	23 06 50.2	-1.1
	comp=Z,1.2nm,1.1s,baz=289,slow=16,SNR=3.9 comp=Z,0.5nm,0.3s						
ASAR	Alice Springs	36.70	125	P	P	23 01 28.8	-0.4
ASAR	Alice Springs comp=Z,0.8nm,0.4s,baz=294,slow=8.3,SNR=14	36.70	125	P	P	23 01 29.1	-0.1
ASAR				S	S	23 07 08.2	-1.1
	comp=Z,0.9nm,1.0s,baz=298,slow=15,SNR=4.9 comp=Z,0.8nm,0.4s						
AS31	Alice Springs	36.71	125	P	P	23 01 28.4	-0.9
CTAO	Charters Tower	46.22	114	P	P	23 02 47.5	+0.4
STKA	Stephens Creek	46.55	131	P	P	23 02 50.3	+0.7
STKA	Stephens Creek comp=Z,3.2nm,0.5s,baz=301,slow=6.7,SNR=9.9 comp=Z,3.2nm,0.5s	46.55	131	P	P	23 02 50.1	+0.6
KSRS	Korea Array comp=Z,0.9nm,0.5s,baz=231,slow=7.7,SNR=2.7 comp=Z,0.9nm,0.5s	47.93	28	P	P	23 02 59.0	-1.2
XLT	XiLinHaoTe	49.42	14	eP	P	23 03 08.6	-3.0
XLT				sP	sP	23 03 39.0	+7.7
XLT				pmax	pmax		
	comp=Z,6.0nm,0.4s						
SONM	Songino Array	51.80	4	P	P	23 03 29.4	-0.2
SONM	Songino Array comp=Z,2.0nm,0.5s,baz=184,slow=9.1,SNR=12 comp=Z,2.0nm,0.5s	51.80	4	P	P	23 03 29.6	+0.1
BOOM	Boomskoye usch	51.85	336	P	P	23 03 31.0	+0.9
BOOM				IAmb	IAmb	23 03 32.7	
	comp=Z,8.6nm,1.2s						
MKAR	Makanchi Array	53.42	343		P	23 03 41.7	+0.3
MKAR	Makanchi Array comp=Z,1.2nm,0.5s,baz=145,slow=7.0,SNR=13 comp=Z,1.2nm,0.5s	53.42	343	P	P	23 03 41.5	0.0
MAKZ	Makanchi	53.52	343	P	P	23 03 42.7	+0.5
MAKZ				IAmb	IAmb	23 03 44.7	
	comp=Z,4.7nm,1.4s						
BNX	BinXian	54.56	22	⇓P	P	23 03 49.3	-0.4
BNX				pmax	pmax		
	comp=Z,5.0nm,0.8s						
USA0B	Ussuriysk Arra	55.16	26	P	P	23 03 53.8	-0.3
USRK	Ussuriysk Ar. comp=Z,4.9nm,0.6s,baz=220,slow=5.2,SNR=8.2 comp=Z,4.9nm,0.6s	55.16	26	P	P	23 03 53.5	-0.6
KURBB	Kurchatov Arra comp=Z,0.9nm,0.6s,baz=159,slow=7.0,SNR=7.6 comp=Z,0.9nm,0.6s	57.96	343	P	P	23 04 13.5	-0.3
KURK	Kurchatov	58.01	343		P	23 04 15.0	+0.8
KURK				IAmb	IAmb	23 04 21.9	
	comp=Z,2.3nm,0.6s						
ZAA0	Zalesovo Array	59.46	349		P	23 04 24.3	+0.1
ZAA0				IAmb	IAmb	23 04 26.5	
	comp=Z,3.4nm,0.8s						
ZALV	Zalesovo Beam	59.46	349		P	23 04 24.0	-0.2
ZALV	Zalesovo Beam comp=Z,2.0nm,0.5s,baz=219,slow=1.9,SNR=11 comp=Z,2.0nm,0.5s	59.46	349	P	P	23 04 23.2	-1.0
H04N2	CROZET ISLANDS baz=60,slow=75,SNR=1026	60.22	218	T	T	00 09 25.1	
H04N1	CROZET ISLANDS baz=60,slow=75,SNR=1322	60.24	218	T	T	00 09 24.7	
H04N3	CROZET ISLANDS baz=60,slow=75,SNR=1197	60.24	218	T	T	00 09 24.2	
H04S1	CROZET ISLANDS baz=61,slow=75,SNR=167	60.48	217	T	T	00 09 31.5	
H04S3	CROZET ISLANDS baz=61,slow=75,SNR=594	60.49	217	T	T	00 09 29.4	
H04S2	CROZET ISLANDS baz=61,slow=75,SNR=211	60.50	217	T	T	00 09 30.6	
BVAR	Borovoye Array comp=Z,1.3nm,0.5s comp=Z,1.3nm,0.5s	62.65	339	P	P	23 04 45.1	-0.8
BRVK	Borovoye comp=Z,2.6nm,0.7s	62.72	339	IAmb	P IAmb	23 04 46.5 23 04 58.5	+0.2
AB

σ1§13/24, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.18**	**218**	Pg	**Pn**	**23 11 40.4**	**+1.9**
K22A				IAML		23 12 02.0	
	112nm,0.5s						
K22A				IAML		23 12 02.4	
	115nm,0.3s						
RSSD	**Black Hills**	**1.22**	**63**	Pg	**Pg**	**23 11 37.9**	**+0.1**
RSSD				Sg	**Sg**	**23 11 53.6**	**+0.1**
PD31	**Pinedale Array**	**3.05**	**256**	Pg	**Pb**	**23 12 11.0**	**+1.2**
PDAR	**Pinedale Array**	**3.05**	**256**	Pg	**Pb**	**23 12 11.4**	**+1.6**
PDAR	**Pinedale Array**	**3.05**	**256**	Pn	**Pb**	**23 12 09.3**	**-0.4**
	2.3nm,0.3s,baz=64,slow=14,SNR=25						
PDAR				Pg	**Pg**	**23 12 12.1**	**-0.8**
	2.3nm,0.3s,baz=70,slow=16,SNR=30						
PDAR				Lg	Lg	23 12 52.5	
	0.5nm,0.3s,baz=76,slow=32,SNR=4.1						
	0.8nm,0.3s						
BW06	**Boulder Array**	**3.05**	**256**	Pn	**Pn**	**23 12 04.1**	**-0.1**
BW06				IAML		23 12 57.1	
	16nm,0.6s						
BW06				IAML		23 12 57.5	
	18nm,0.5s						
RLMT	**Red Lodge**	**3.08**	**301**	Pg	**Pb**	**23 12 10.5**	**+0.2**
RLMT				IAML		23 13 12.4	
	18nm,0.6s						
LAO	**LASA Array**	**3.14**	**351**	Pn	**Pn**	**23 12 06.5**	**+1.2**
YNE	**Yellowstone No**	**3.50**	**295**	Pn	**Pn**	**23 12 11.1**	**+0.6**
YNE				IAML		23 13 15.8	
	comp=E,27nm,0.5s						
YNE				IAML		23 13 57.2	
	comp=N,21nm,1.2s						
YMP	**Mirror Lake Pl**	**3.51**	**291**	Pn	**Pn**	**23 12 10.2**	**-0.4**
YMP				IAML		23 13 15.9	
	comp=N,28nm,0.6s						
GCMT	**Greycliff**	**3.67**	**308**	Pn	**Pn**	**23 12 13.0**	**+0.3**
LOHW	**Long Hollow**	**3.67**	**272**	Pn	**Pn**	**23 12 14.7**	**+1.9**
LOHW				IAML		23 13 24.9	
	comp=N,10nm,1.3s						
H17A	**Grant Village**	**3.72**	**284**	Pn	**Pn**	**23 12 14.3**	**+0.9**
SNOW	**Snow King Moun**	**3.79**	**270**	Pn	**Pn**	**23 12 13.4**	**-1.1**
SNOW				IAML		23 13 33.0	
	comp=N,18nm,0.6s						
TPAW	**Teton Pass**	**3.93**	**270**	Pn	**Pn**	**23 12 16.3**	**-0.1**
TPAW				IAML		23 13 42.1	
	comp=N,11nm,1.0s						
TPAW				IAML		23 13 46.3	
	comp=N,8.0nm,1.4s						
FXWY	**Fox Creek**	**3.98**	**273**	Pn	**Pn**	**23 12 17.1**	**0.0**
AHID	**Auburn Hatcher**	**4.14**	**260**	Pn	**Pn**	**23 12 18.9**	**-0.4**
AHID				IAML		23 13 39.5	
	comp=N,10nm,1.1s						
AHID				IAML		23 13 41.8	
	comp=N,9.2nm,0.9s						
PV23	**Carpenter Ridg**	**5.76**	**208**	Pg	**Pg**	**23 13 05.0**	**0.0**
PV20	**West Nyswonger**	**5.85**	**207**	Pn	**Pn**	**23 12 43.5**	**+0.9**
PV16	**Nyswonger Mesa**	**5.86**	**207**	Pn	**Pn**	**23 12 41.8**	**-1.0**
PV19	**Morning Glory**	**5.88**	**207**	Pn	**Pn**	**23 12 40.6**	**-2.5**
I56US	**NEWPORT INFRAS**	**9.32**	**304**	I	I	00 09 20.0	
	baz=119,slow=310,SNR=1.6						
ULM	**Lac du Bonnet**	**9.38**	**41**	Pn	**Pn**	**23 13 29.3**	**-1.6**
	comp=N,0.3nm,0.3s,baz=231,slow=13,SNR=2.6						
ULM				Lg	Lg	23 16 02.1	
	comp=N,0.1nm,0.3s,baz=305,slow=6.6,SNR=2.2						
	comp=N,0.9nm,0.3s						

*IDC **09** 23:15:31.1±1.9, 39.°11N×75.°41E, h0km, mb3.6/9, mbtmp3.6/12, ML3.0/3, Error ellipse: s-maj=35.8km s-min=20.9km az=124.0*
*KRNET **09** 23:15:34.5±0.1, 39.°07N×75.°28E, mb3.9*
*SOME **09** 23:15:35.1, 39.°32N×75.°32E, h5km*
*NNC **09** 23:15:38.0±2.0, 39.°39N×75.°30E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=15.5km s-min=10.5km az=160.0*

ISC 09 23:15:32.7±0.9, **38.°95N**±0.°06×**75.°38E**±0.°04, **h10**km, **n69,** σ1§**82**/99, **mb3.7**/7, **29C-24D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.80**	**307**	⇑*iP*	**Pn**	**23 16 04.6**	**+0.5**
SFK				⇑*iS*	**Sn**	**23 16 26.7**	**-0.4**
SALK	**Salom-Alik**	**2.28**	**329**	⇓*eP*	**Pn**	**23 16 11.0**	**+0.5**
SALK				⇓*iS*	**Sn**	**23 16 37.5**	**-1.3**
NRN	**Naryn**	**2.53**	**11**	⇓*eP*	**Pn**	**23 16 15.0**	**+0.9**
NRN				⇓*eS*	**Sn**	**23 16 44.1**	**-1.1**
OHH	**Osh**	**2.55**	**309**	⇓*iP*	**Pn**	**23 16 14.6**	**+0.4**
OHH				⇓*iS*	**Sn**	**23 16 44.0**	**-1.3**
DRK	**Karamyk**	**2.83**	**282**	⇓*iP*	**Pn**	**23 16 19.4**	**+1.1**
DRK				⇓*iS*	**Sn**	**23 16 52.1**	**-0.5**
ARSB	**Arslanbob**	**3.00**	**323**	⇑*eP*	**Pn**	**23 16 21.0**	**+0.5**
ARSB				⇑*eS*	**Sn**	**23 16 54.9**	**-1.8**
UCH	**Uchtor**	**3.34**	**349**	P	**Pn**	**23 16 27.0**	**+1.6**
	SNR=32						
UCH	**Uchtor**	**3.34**	**349**	⇑*iP*	**Pn**	**23 16 26.1**	**+0.6**
UCH				⇑*iS*	**Sn**	**23 17 03.8**	**-1.7**
ULHL	**Ulahol**	**3.36**	**11**	P	Pn	23 16 31.0	+5.5
	SNR=9.6						
ULHL	**Ulahol**	**3.36**	**11**	⇑*iP*	**Pn**	**23 16 26.5**	**+1.0**
ULHL				⇑*iS*	**Sn**	**23 17 04.3**	**-1.3**
KDJ	**Kajisay**	**3.46**	**23**	⇑*iP*	**Pn**	**23 16 28.2**	**+1.3**
KDJ				⇑*iS*	**Sn**	**23 17 07.5**	**-0.5**
BOOM	**Boomskoye usch**	**3.57**	**7**	⇑*iP*	**Pn**	**23 16 29.3**	**+1.0**
BOOM				⇑*eS*	**Sn**	**23 17 09.4**	**-1.2**
BTK	**Batken**	**3.70**	**289**	⇑*eP*	**Pn**	**23 16 31.0**	**+1.0**
BTK				⇑*iS*	**Sn**	**23 17 12.4**	**-1.3**
KBK	**Karagaybulak**	**3.72**	**355**	P	**Pn**	**23 16 33.0**	**+2.6**
	SNR=16						
KBK	**Karagaybulak**	**3.72**	**355**	⇓*iP*	**Pn**	**23 16 31.2**	**+0.8**
KBK				⇓*iS*	**Sn**	**23 17 12.5**	**-1.9**
AAK	**Ala-Archa**	**3.75**	**350**	⇑Pn	**Pn**	**23 16 32.4**	**+1.7**
	1.4nm,0.4s						
AAK				⇑Pg	**Pb**	**23 16 42.8**	**+3.7**
	7.5nm,0.6s						
AAK				⇑Lg	Lg	23 17 16.8	
	9.8nm,0.6s						
AAK	**Ala-Archa**	**3.75**	**350**	Pn	**Pn**	**23 16 32.1**	**+1.3**
	2.8nm,0.3s,baz=165,slow=12,SNR=7.4						
AAK				Sn	**Sn**	**23 17 14.3**	**-0.7**
	5.7nm,0.3s,baz=36,slow=15,SNR=4.6						
	6.3nm,0.3s						
AAK	**Ala-Archa**	**3.75**	**350**	⇑*iP*	**Pn**	**23 16 31.4**	**+0.6**
AAK				⇑*iS*	**Sn**	**23 17 13.2**	**-1.8**
ARK	**Arkit**	**3.87**	**319**	⇑*iP*	**Pn**	**23 16 32.9**	**+0.6**
ARK				⇑*iS*	**Sn**	**23 17 15.6**	**-2.2**
GAR	**Garm**	**3.95**	**272**	⇓*iP*	**Pn**	**23 16 35.2**	**+1.8**
GAR				⇓*iS*	**Sn**	**23 17 19.0**	**-0.9**
TKM2	**Tokmak 2**	**3.98**	**2**	P	**Pn**	**23 16 36.1**	**+2.2**
	SNR=40						
TKM2	**Tokmak 2**	**3.98**	**2**	⇓*eP*	**Pn**	**23 16 34.8**	**+0.9**
TKM2				⇓*iS*	**Sn**	**23 17 18.7**	**-2.0**
CHMS	**Chumysh**	**4.08**	**353**	P	**Pn**	**23 16 37.2**	**+2.1**
	SNR=9.2						
CHMS	**Chumysh**	**4.08**	**353**	⇓*iP*	**Pn**	**23 16 35.8**	**+0.7**
CHMS				⇓*iS*	**Sn**	**23 17 20.9**	**-2.0**
MRKS	**Merke**	**4.13**	**337**	Pg	**Pb**	**23 16 46.2**	**+0.7**
	5.1nm,0.2s						
MRKS				Lg	Lg	23 17 37.6	
	16nm,0.7s						
MRKS	**Merke**	**4.13**	**337**	*eP*	**Pb**	**23 16 45.0**	**-0.6**
	2.4nm,0.1s						
MRKS				*eS*	**Sb**	**23 17 35.4**	**-0.3**
	22nm,0.4s						
TRKS	**Terek-Say**	**4.15**	**310**	⇓*eP*	**Pn**	**23 16 35.9**	**-0.3**
TRKS				⇓*eS*	**Sn**	**23 17 21.0**	**-3.9**
MNAS	**Manas**	**4.16**	**329**	⇑*iP*	**Pn**	**23 16 37.0**	**+0.6**
MNAS				⇑*iS*	**Sn**	**23 17 22.7**	**-2.4**
IZV	**Izvestkoviy**	**4.19**	**12**	Pg	**Pb**	**23 16 46.5**	**-0.1**
	23nm,0.5s						
IZV				Lg	Lg	23 17 38.1	
	25nm,0.6s						
IZV	**Izvestkoviy**	**4.19**	**12**	*eP*	**Pb**	**23 16 46.5**	**-0.1**
	23nm,0.5s						
IZV				*eS*	**Sb**	**23 17 37.9**	**+0.5**
	24nm,0.4s						
PRZ	**Przheval'sk**	**4.21**	**32**	⇑*eP*	**Pn**	**23 16 39.2**	**+2.0**
PRZ				⇑*eS*	**Sn**	**23 17 26.2**	**-0.3**
MTBS	**Maitube**	**4.26**	**10**	Pg	**Pb**	**23 16 48.1**	**+0.5**
	10.0nm,0.5s						
MTBS				Lg	Lg	23 17 41.1	
	12nm,0.4s						
MTBS	**Maitube**	**4.26**	**10**	*eP*	**Pb**	**23 16 47.2**	**-0.4**
	2.9nm,0.1s						
MTBS				*eS*	**Sb**	**23 17 39.1**	**0.0**
	20nm,0.2s						
TNSS	**Tian-Shan**	**4.26**	**16**	Pg	**Pb**	**23 16 47.3**	**-0.6**
	2.8nm,0.4s						
TNSS				Lg	Lg	23 17 39.2	
	14nm,1.1s						
TNSS	**Tian-Shan**	**4.26**	**16**	*eP*	**Pb**	**23 16 47.3**	**-0.6**
	2.8nm,0.4s						
TNSS				*eS*	**Sb**	**23 17 39.2**	**-0.2**
	9.0nm,0.6s						
USP	**Ospenovka**	**4.37**	**352**	P	**Pn**	**23 16 41.4**	**+2.3**
	SNR=7.2						
USP	**Ospenovka**	**4.37**	**352**	⇑*iP*	**Pn**	**23 16 39.9**	**+0.7**
USP				⇑*iS*	**Sn**	**23 17 27.8**	**-2.3**
KOTS	**Kotyrbulak**	**4.48**	**16**	Pg	**Pb**	**23 16 52.5**	**+1.0**
	20nm,0.5s						
KOTS				Lg	Lg	23 17 48.3	
	58nm,0.7s						
KOTS	**Kotyrbulak**	**4.48**	**16**	*eP*	**Pb**	**23 16 51.9**	**+0.3**
	20nm,0.5s						
KOTS				*eS*	**Sb**	**23 17 47.0**	**+1.4**
	71nm,0.5s						
SGDS	**Sogindy**	**4.54**	**353**	Pg	**Pb**	**23 16 52.8**	**+0.4**
	12nm,0.5s						
SGDS				Lg	Lg	23 17 49.0	
	10nm,0.3s						
KRBS	**Karabastau**	**4.75**	**3**	Pg	**Pb**	**23 16 56.6**	**+0.5**
	8.5nm,0.6s						
KRBS				Lg	Lg	23 17 55.4	
	24nm,0.5s						
KTBS	**Karatobe**	**4.86**	**11**	Pg	**Pb**	**23 16 58.7**	**+0.7**
	8.0nm,0.4s						
KTBS				Lg	Lg	23 17 59.1	
	38nm,0.7s						
KUU	**Kurty**	**5.00**	**8**	Pg	**Pb**	**23 17 01.1**	**+0.8**
	1.9nm,0.1s						
KUU				Lg	Lg	23 18 02.7	
	25nm,0.8s						
KUU	**Kurty**	**5.00**	**8**	*eP*	**Pb**	**23 17 01.1**	**+0.8**
	1.9nm,0.1s						
KUU				*eS*	**Sb**	**23 18 02.7**	**+2.3**
	25nm,0.8s						
CHKK	**Chushkaly**	**5.05**	**13**	*eP*	**Pb**	**23 17 02.4**	**+1.3**
	6.9nm,0.1s						
CHKK				*eS*	**Sb**	**23 18 05.3**	**+3.3**
	15nm,0.4s						
IUG	**Iuzhnay**	**5.18**	**310**	Pg	**Pb**	**23 17 06.4**	**+3.0**
	44nm,0.5s						
IUG				Lg	Lg	23 18 12.1	
	58nm,0.7s						
PDGK	**Podgornoye**	**5.37**	**34**	⇓Pn	**Pn**	**23 16 54.1**	**+1.2**
	5.8nm,0.5s						
PDGK				⇑Pg	**Pb**	**23 17 09.3**	**+2.7**
	7.7nm,0.5s						
PDGK				⇓Lg	Lg	23 18 12.0	
	16nm,0.8s						
KK31	**Karatay Array**	**5.55**	**320**	Pn	**Pn**	**23 16 55.9**	**+0.5**
	1.1nm,0.2s,baz=123,slow=12,SNR=71						
KK31				⇑Sn	**Sn**	**23 17 55.9**	**-3.3**
	4.6nm,0.3s,baz=133,slow=24,SNR=4.1						
KK31				⇓Lg	Lg	23 18 19.8	
	3.8nm,0.5s						
KKAR	**Karatay Array**	**5.55**	**320**	⇓*iP*	**Pn**	**23 16 56.0**	**+0.6**
KKAR				⇓*iS*	**Sn**	**23 17 55.7**	**-3.5**
ARXS	**Arharly**	**5.57**	**18**	Pg	**Pb**	**23 17 12.7**	**+2.6**
	7.6nm,0.8s						
ARXS				Lg	Lg	23 18 23.0	
	8.2nm,0.9s						
BRLS	**Borolday**	**5.85**	**316**	Pg	**Pb**	**23 17 17.1**	**+2.3**
	3.0nm,0.3s						
BRLS				Lg	Lg	23 18 30.5	
	7.5nm,0.4s						
BRLS	**Borolday**	**5.85**	**316**	*eP*	**Pb**	**23 17 17.1**	**+2.3**
	3.0nm,0.1s						
BRLS				*eS*	**Sb**	**23 18 30.6**	**+5.6**
	7.5nm,0.4s						
BTLS	**Baital**	**6.17**	**351**	Pg	**Pb**	**23 17 21.6**	**+1.3**
	1.8nm,0.8s						
BTLS				Lg	Lg	23 18 38.3	
	1.5nm,1.2s						
BTLS	**Baital**	**6.17**	**351**	*eP*	**Pb**	**23 17 23.4**	**+3.2**
	0.9nm,0.2s						
BTLS				*eS*	**Sb**	**23 18 41.4**	**+7.3**
	8.1nm,0.5s						
MKAR	**Makanchi Array**	**9.34**	**31**	Pn	Pn	23 17 44.8	-2.5
	0.1nm,0.3s,baz=197,slow=14,SNR=7.1						
	0.6nm,0.6s						
AB31	**Akbulak array**	**15.11**	**318**	P	Pn	23 19 03.5	-2.6
	1.1nm,0.5s,baz=134,slow=12,SNR=21						
ZALV	**Zalesovo Beam**	**16.33**	**20**	Pn	**Pn**	**23 19 20.6**	**-1.3**
	0.1nm,0.3s,baz=213,slow=10,SNR=5.4						
	1.0nm,0.5s						
AKTO	**Aktyubinsk**	**16.82**	**319**	⇓P	**Pn**	**23 19 25.7**	**-2.4**
	0.4nm,0.5s						
AKTO	**Aktyubinsk**	**16.82**	**319**	Pn	**Pn**	**23 19 27.2**	**-0.9**
	0.2nm,0.3s,baz=101,slow=12,SNR=4.6						
ARTI	**Arti**	**20.77**	**333**	P	**P**	**23 20 12.4**	**-1.2**
	0.9nm,0.4s,baz=141,slow=9.3,SNR=2.9						
	0.9nm,0.4s						
BRTR	**Keskin Array B**	**32.09**	**285**	P	**P**	**23 21 59.1**	**-0.9**
	0.8nm,0.8s,baz=90,slow=12,SNR=5.8						
	0.8nm,0.8s						
FINES	**FINESS Array B**	**37.50**	**323**	P	**P**	**23 22 46.3**	**0.0**
	1.2nm,0.4s,baz=100,slow=7.5,SNR=14						
	1.2nm,0.4s						
HFS	**Hagfors**	**43.36**	**320**	P	**P**	**23 23 33.5**	**-1.3**
	0.7nm,0.4s,baz=110,slow=11,SNR=7.1						
	0.7nm,0.4s						
NB2	**NORSAR Subarra**	**44.58**	**321**	P	**P**	**23 23 44.1**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=89,slow=8.6						
NOA	**NORSAR Array B**	**44.58**	**321**	P	P	23 23 43.0	-1.7
	comp=Z,0.4nm,0.5s,baz=89,slow=8.0,SNR=3.8						
	comp=Z,0.4nm,0.5s						
EKA	**Eskdalemuir Ar**	**52.97**	**315**	P	P	23 24 47.6	-1.5
	comp=Z,0.1nm,0.3s,baz=72,slow=9.0,SNR=1.7						
	comp=Z,0.1nm,0.3s						
ESDC	**Sonseca Array**	**59.38**	**298**	P	**P**	**23 25 34.7**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=72,slow=6.4,SNR=2.0						
	comp=Z,0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**69.22**	**270**	P	**P**	**23 26 40.5**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=49,slow=5.7,SNR=5.1						
	comp=Z,0.2nm,0.5s						
ILAR	**Eielson Array**	**71.44**	**18**	P	**P**	**23 26 52.3**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=337,slow=6.2,SNR=2.0						
	comp=Z,0.3nm,0.4s						

*GUC **09** 23:17:16.9±0.8, 22.°42S×67.°88W, h179km±5km, ML3.6*
*SCB **09** 23:17:17.1±1.4, 22.°44S×67.°76W, h146km±17km, ML3.4/3, MW3.2, Error ellipse: s-maj=5.3km s-min=4.2km az=0.0*
*IDC **09** 23:17:21.1±2.8, 22.°13S×67.°67W, h200km±24km, mb3.5/3, mbtmp3.7/5, Error ellipse: s-maj=39.0km s-min=21.7km az=66.0*

ISC 09 23:17:16.4±0.8, **22.°43S**±0.°04×**67.°76W**±0.°04, **h166**km±7km, **n35,** σ1§**05**/51, **7C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.64**	**216**	*eP*	**Pn**	**23 17 41.4**	**+0.7**
AF01				*iS*	**Sn**	**23 18 00.4**	**+1.1**
PB09	**IPOC Station P**	**1.51**	**294**	*eP*	**Pn**	**23 17 48.5**	**+1.1**
PB09				*iS*	**Sn**	**23 18 11.7**	**+0.3**
PB09				IAML		23 18 13.9	
	comp=N,207nm,0.5s						
PB09	**IPOC Station P**	**1.51**	**294**	Pg	**Pn**	**23 17 48.3**	**+0.8**
PB06	**IPOC Station P**	**1.69**	**260**	⇑*iP*	**Pn**	**23 17 49.8**	**+0.4**
PB06				*iS*	**Sn**	**23 18 14.9**	**+0.1**
PB06				IAML		23 18 17.6	
	comp=E,559nm,0.1s						
PB06	**IPOC Station P**	**1.69**	**260**	Pg	**Pn**	**23 17 50.1**	**+0.8**
PB03	**IPOC Station P**	**1.88**	**281**	⇑*iP*	**Pn**	**23 17 51.8**	**+0.4**
PB03				*iS*	**Sn**	**23 18 17.8**	**-0.6**
PB03	**IPOC Station P**	**1.88**	**281**	Pg	**Pn**	**23 17 52.0**	**+0.6**
YJA	**Yavi**	**2.10**	**83**	Pg	**Pn**	**23 17 54.7**	**+0.6**
PB01	**IPOC Station P**	**2.12**	**310**	⇑*iP*	**Pn**	**23 17 54.2**	**+0.2**
PB01				*iS*	**Sn**	**23 18 22.4**	**-0.5**
PB01				IAML		23 18 25.1	
	comp=N,381nm,0.2s						
PB01	**IPOC Station P**	**2.12**	**310**	Pg	**Pn**	**23 17 54.5**	**+0.6**
PB01				Sg	**Sn**	**23 18 22.3**	**-0.6**
PB01				IAML		23 18 25.2	
	comp=N,401nm,0.2s						
PB02	**IPOC Station P**	**2.27**	**299**	⇑*iP*	**Pn**	**23 17 55.9**	**+0.2**
PB02				*iS*	**Sn**	**23 18 24.7**	**-1.4**
PB02	**IPOC Station P**	**2.27**	**299**	Pg	**Pn**	**23 17 56.2**	**+0.5**
PB05	**IPOC Station P**	**2.29**	**259**	⇑*iP*	**Pn**	**23 17 56.2**	**+0.3**
PB05				*iS*	**Sn**	**23 18 25.3**	**-1.2**
PB05				IAML		23 18 26.8	
	comp=N,272nm,0.5s						
PB05	**IPOC Station P**	**2.29**	**259**	Pg	**Pn**	**23 17 56.5**	**+0.5**
MOCB	**Mochara**	**2.30**	**60**	Pg	**Pn**	**23 17 56.7**	**+0.3**
MOCB				Sg	**Sn**	**23 18 25.9**	**-1.4**
MOCB				IAML		23 18 30.9	
	comp=N,56nm,0.4s						
PB08	**IPOC Station P**	**2.62**	**330**	⇑*iP*	**Pn**	**23 18 01.2**	**+1.0**
PB08				*iS*	**Sn**	**23 18 34.7**	**+0.6**
PB08				IAML		23 18 37.1	
	comp=N,85nm,0.2s						
PB08	**IPOC Station P**	**2.62**	**330**	Pg	**Pn**	**23 18 01.5**	**+1.3**
PATCX	**Punta Patache**	**2.74**	**305**	*eP*	**Pn**	**23 18 01.2**	**-0.1**
PATCX				*iS*	**Sn**	**23 18 34.6**	**-1.6**
PATCX				IAML		23 18 37.8	
	comp=E,245nm,0.2s						
PB10	**IPOC Station P**	**2.79**	**247**	*eP*	**Pn**	**23 18 01.9**	**+0.1**
PB10				*iS*	**Sn**	**23 18 35.1**	**-2.0**
PB10				IAML		23 18 37.5	
	comp=E,154nm,0.3s						
PB10	**IPOC Station P**	**2.79**	**247**	Pg	**Pn**	**23 18 02.1**	**+0.3**
HMBC	**Humberstone**	**2.92**	**317**	*eP*	**Pn**	**23 18 02.8**	**-0.8**
HMBC				*iS*	**Sn**	**23 18 38.1**	**-2.0**
HMBC				IAML		23 18 41.7	
	comp=E,192nm,0.4s						
HMBC	**Humberstone**	**2.92**	**317**	Pg	**Pn**	**23 18 03.4**	**-0.1**
GO01	**Chusmiza**	**3.06**	**334**	Pg	**Pn**	**23 18 06.3**	**+0.7**
PB11	**IPOC Station P**	**3.19**	**326**	Pg	**Pn**	**23 18 06.8**	**-0.2**
PB11				Sg	**Sn**	**23 18 45.4**	**-0.9**
PB11				IAML		23 18 46.3	
	comp=E,110nm,0.2s						
GO02	**Mina Guanaco**	**3.19**	**211**	⇑*iP*	**Pn**	**23 18 07.5**	**+0.5**
GO02				*iS*	**Sn**	**23 18 45.9**	**-0.7**
PB14	**IPOC Station P**	**3.26**	**227**	Pg	**Pn**	**23 18 08.2**	**+0.2**
BBOE	**La Paz, Chanca**	**5.59**	**358**	Pg	**Pn**	**23 18 40.0**	**+1.5**
LPAZ	**La Paz**	**6.12**	**357**	P	**Pn**	**23 18 46.8**	**+1.3**
	comp=E,1.3nm,0.3s,baz=166,slow=4.5,SNR=15						
LPAZ				S	**Sn**	**23 19 54.1**	**-1.2**
	comp=E,1.0nm,0.5s,baz=326,slow=16,SNR=3.5						
LPAZ	**La Paz**	**6.12**	**357**	Pg	**Pn**	**23 18 46.0**	**+0.5**
BBOB	**La Paz, Bander**	**6.27**	**357**	Pg	**Pn**	**23 18 48.1**	**+0.8**
CPUP	**Villa Florida**	**10.27**	**114**	P	**P**	**23 19 45.6**	**-3.1**
	comp=E,0.2nm,0.5s,baz=295,slow=18,SNR=2.9						
QSPA	**South Pole Qui**	**67.77**	**180**	P	**P**	**23 27 58.3**	**+2.4**
	comp=E,0.8nm,0.9s,baz=170,slow=8.4,SNR=1.9						
	comp=E,0.8nm,0.9s						
ULM	**Lac du Bonnet**	**76.52**	**342**	P	**P**	**23 28 48.5**	**+0.6**
	comp=E,0.9nm,0.4s,baz=146,slow=8.4,SNR=2.2						
	comp=E,0.9nm,0.4s						
TORD	**Torodi Ar. Bea**	**76.67**	**70**	P	**P**	**23 28 49.2**	**-0.2**
	comp=E,0.9nm,0.6s,baz=255,slow=5.6,SNR=13						
	comp=E,0.9nm,0.6s						
WRA	**Warramunga Arr**	**132.67**	**209**	PKP	**PKPdf**	**23 36 13.0**	**+0.9**
	comp=E,0.6nm,1.0s,baz=148,slow=1.9,SNR=1.4						

*IDC **09** 23:18:58.5±1.8, 31.°08S×177.°06W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=49.5km s-min=25.1km az=73.0*

ISC 09 23:19:02.7±1.6, **31.°16S**±0.°09×**177.°3W**±0.°3, **h27**km, **n6,** σ1§**73**/7, **mb3.8**/3, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.97**	**345**	Pn	**Pn**	**23 19 32.9**	**-1.4**
	285nm,0.3s,baz=57,slow=22,SNR=9.0						
RAO				Sn	**Sn**	**23 19 57.8**	**-0.3**
	966nm,0.3s,baz=101,slow=21,SNR=11						
URZ	**Urewera**	**8.42**	**211**	Sn	**Sn**	**23 22 35.1**	**-1.9**
	3.3nm,0.3s,baz=59,slow=21,SNR=7.2						
ASAR	**Alice Springs**	**43.63**	**267**	P	**P**	**23 27 07.0**	**+1.9**
	0.4nm,0.8s,baz=109,slow=8.5,SNR=1.6						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**44.69**	**273**	P	**P**	**23 27 15.2**	**+1.6**
	0.5nm,0.3s,baz=111,slow=8.0,SNR=11						
	0.5nm,0.3s						
SNAA	**Sanae**	**77.38**	**178**	P	**P**	**23 30 54.8**	**0.0**
	0.9nm,0.8s,baz=198,slow=6.4,SNR=5.0						
	0.9nm,0.8s						
FINES	**FINESS Array B**	**146.05**	**340**	PKPbc	**PKPbc**	**23 38 39.7**	**+0.4**
	0.3nm,0.4s,baz=27,slow=3.4,SNR=5.4						

*IDC **09** 23:26:38.3±1.9, 37.°52N×26.°06E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=345.8km s-min=27.9km az=141.0*
*ISK **09** 23:26:55.3, 36.°68N×26.°72E, h140km±1km, ML2.3/15*
*THE **09** 23:26:55.8, 37.°N±3.°×2.°7E±.°, h137km±7km, M2.3/6, MLh2.3/6*
*ATH **09** 23:26:55.4, 36.°68N×26.°75E, h139km±5km, ML2.6/5, Manual Solution by A.Fokaefs First location: 2019/07/09 23:28:27, This location: 2019/07/10 05:54:36 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
*AFAD **09** 23:26:56.1, 36.°51N×27.°03E, h10km±2km, ML2.0*

ISC 09 23:26:54.5±0.9, **36.°67N**±0.°04×**26.°74E**±0.°03, **h145**km±6km, **n55,** σ0§**91**/76, **Dodecanese Islands**

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CAME	**Cameli-Denizli**	**2.07**	**82**	Pn		**Pn**	**23 27 31.5**	**+1.1**
CAEL	**Denizli, Camel**	**2.12**	**77**	P		**Pn**	**23 27 31.6**	**+0.8**
CAEL				S		**Sn**	**23 27 59.0**	**+0.2**
CAEL				*i* IAML			23 28 03.0	
	comp=N,15nm,0.3s							
CAEL				*i* IAML			23 28 39.0	
	comp=E,28nm,1.7s							
TMBK	**Timbaki Heraki**	**2.26**	**226**	P		**Pn**	**23 27 33.4**	**+0.8**
KNIK	**Mula-Seydike**	**2.28**	**85**	P		**Pn**	**23 27 33.5**	**+0.6**
KNIK				S		**Sn**	**23 28 01.9**	**-0.4**
GOLH	**Golhisar**	**2.33**	**75**	P		**Pn**	**23 27 35.0**	**+1.5**
GOLH				S		**Sn**	**23 28 03.5**	**+0.2**
GOLH				*i* IAML			23 28 04.0	
	comp=N,11nm,0.4s							
GOLH				*i* IAML			23 28 12.0	
	comp=E,11nm,0.8s							
AKAS	**Kas**	**2.35**	**100**	P		**Pn**	**23 27 35.2**	**+1.5**
AKAS				S		**Sn**	**23 28 02.8**	**-1.1**
AKAS				*i* IAML			23 28 41.0	
	comp=E,25nm,2.0s							
KSL	**Kastellorizon**	**2.35**	**102**	P		**Pn**	**23 27 34.1**	**+0.5**
CHAN	**Chania**	**2.47**	**243**	P		**Pn**	**23 27 34.8**	**-0.2**
GVD	**Gavdhos**	**2.83**	**230**	Pn		**Pn**	**23 27 40.8**	**+1.2**
AKUM	**Antalya-Kumluc**	**2.92**	**96**	P		**Pn**	**23 27 42.3**	**+1.5**
AKUM				S		**Sn**	**23 28 13.5**	**-2.9**
AKUM				*i* IAML			23 28 29.0	
	comp=N,7.5nm,1.1s							
AKUM				*i* IAML			23 28 34.0	
	comp=E,7.4nm,1.5s							
VLI	**Velíai**	**3.06**	**272**	P		**Pn**	**23 27 42.7**	**+0.3**
GUR	**Goura**	**3.73**	**291**	P		**Pn**	**23 27 52.3**	**+1.1**
ITM	**Ithomi**	**3.89**	**279**	P		**Pn**	**23 27 54.2**	**+1.0**
KLV	**Kalavryta, Ach**	**3.91**	**292**	P		**Pn**	**23 27 54.9**	**+1.4**
TORD	**Torodi Ar. Bea**	**32.44**	**230**	P		**P**	**23 33 11.5**	**+0.5**
	0.3nm,0.4s,baz=39,slow=9.1,SNR=5.0 0.3nm,0.4s							
MKAR	**Makanchi Array**	**41.88**	**58**	P		**P**	**23 34 30.4**	**+0.1**
	0.3nm,0.5s,baz=274,slow=8.9,SNR=4.7 0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**43.03**	**47**	P		**P**	**23 34 37.8**	**-1.6**
	0.6nm,0.5s,baz=262,slow=10.0,SNR=2.0 0.6nm,0.5s							

IDC ***09*** *23:31:50.7±1.9,26˚51N×54˚96E,h0km,mb3.5/4, mbtmp3.6/5,ML3.8/1,Error ellipse: s-maj=50.4km s-min=25.1km az=175.0*

TEH ***09*** *23:31:55.8,26˚69N×54˚61E,h8km±37km*

DSN ***09*** *23:31:56.5±2.0,26˚90N×54˚51E,h10km,ML3.0/9,Error ellipse: s-maj=24.2km s-min=5.6km az=176.0*

OMAN ***09*** *23:31:57.1±0.4,26˚77N×54˚42E,h10km,ml3.2/16,Error ellipse: s-maj=4.8km s-min=2.5km az=37.0*

ISC 09 23:31:56.5±0.6**, 26.74N**±0.03×**54.59E**±0.04**, h10**km**, n56,** σ**2**s**58**/65**, mb3.8**/4**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.95**	**349**	Pg	**Pg**	**23 32 14.6**	**-0.1**
LAR1				Sg	**Sn**	**23 32 30.0**	**+0.5**
LMD1	**Lamerd**	**1.40**	**296**	Pg	**Pg**	**23 32 23.7**	**+0.3**
SHME	**Shamm**	**1.56**	**116**	Pn	**Pg**	**23 32 25.9**	**-0.4**
	SNR=5.6						
SHME				Sn	**Sg**	**23 32 49.7**	**+3.2**
SHME	**Shamm**	**1.56**	**116**	P	**Pg**	**23 32 25.5**	**-0.9**
SHME				S	**Sg**	**23 32 49.3**	**+2.8**
BNDS	**Bandar-Abbas**	**1.56**	**65**	Pg	**Pg**	**23 32 25.5**	**-1.0**
GENO	**Geno**	**1.56**	**65**	Pg	**Pg**	**23 32 25.7**	**-0.7**
MASF	**Masafi**	**1.96**	**134**	Pn	**Pg**	**23 32 32.3**	**-1.9**
MASF				Sg	**Sg**	**23 33 05.9**	**+6.2**
JHRM	**Jahrom**	**1.97**	**333**	Pn	**Pb**	**23 32 31.6**	**-1.0**
NAZ	**Nazwa, Dubai**	**2.00**	**151**	Pn	**Pg**	**23 32 33.2**	**-1.5**
NAZ				Sg	**Sg**	**23 33 05.8**	**+5.2**
NAZ	**Nazwa, Dubai**	**2.00**	**151**	P	**Pg**	**23 32 33.1**	**-1.6**
MDH	**Madha**	**2.11**	**133**	Pn	**Pg**	**23 32 34.4**	**-2.4**
MDH				Sg	Sg	23 33 11.0	+6.8
FAQ	**Al Faqa, Dubai**	**2.18**	**155**	Pn	**Pb**	**23 32 35.2**	**-0.8**
QIR1	**Qir**	**2.21**	**322**	Pn	**Pb**	**23 32 35.7**	**-0.8**
ASUD	**Al Ashush, Dub**	**2.21**	**162**	Pn	**Pg**	**23 32 36.5**	**-2.4**
	SNR=7.3						
ASUD				Sg	**Sg**	**23 33 13.5**	**+6.0**
ASUD	**Al Ashush, Dub**	**2.21**	**162**	P	**Pb**	**23 32 35.7**	**-0.8**
UOSS	**Minazif**	**2.31**	**140**	Pn	**Pb**	**23 32 36.5**	**-1.7**
UOSS				Sg	**Sg**	**23 33 17.3**	**+6.7**
HATD	**Hatta, Dubai**	**2.36**	**143**	Pn	**Pb**	**23 32 38.3**	**-0.8**
HATD				Sg	Sg	23 33 19.9	+7.5
HATD	**Hatta, Dubai**	**2.36**	**143**	P	**Pb**	**23 32 38.5**	**-0.6**
ASHO	**Ashiyiah**	**2.44**	**147**	Pn	**Pb**	**23 32 38.7**	**-1.7**
ASHO				Sg	Sg	23 33 22.0	+7.1
ASHO	**Ashiyiah**	**2.44**	**147**	P	**Pb**	**23 32 38.5**	**-2.0**
ALNE	**Al Ain**	**2.87**	**158**	Pn	**Pb**	**23 32 44.9**	**-2.9**
ALNE				Sg	**Sg**	**23 33 35.1**	**+6.4**
ALNE	**Al Ain**	**2.87**	**158**	P	**Pb**	**23 32 44.7**	**-3.1**
JASK	**Jask - Hormozg**	**3.07**	**106**	Pn	**Pn**	**23 32 45.8**	**+0.8**
SOHO	**SOHO**	**3.13**	**145**	Pn	**Pn**	**23 32 47.6**	**+1.6**
NGRK	**Negar Kerman**	**3.46**	**33**	Pn	**Pn**	**23 32 52.5**	**+1.8**
KRBR	**Kerman**	**3.76**	**30**	Pn	**Pn**	**23 32 57.4**	**+2.6**
ARQ	**Araqi**	**3.82**	**152**	Pn	**Pn**	**23 32 57.3**	**+2.0**
MZR	**Muzera**	**3.85**	**195**	Pn	**Pn**	**23 32 57.1**	**+1.3**
MZR	**Muzera**	**3.85**	**195**	P	**Pn**	**23 33 22.4**	**+1.3**
KHGB	**Koh Gabri**	**3.99**	**24**	Pn	**Pn**	**23 32 59.6**	**+1.8**
HOQ	**Hoqain**	**4.00**	**141**	Pn	**Pn**	**23 33 00.6**	**+2.8**
HOQ				Sn	**Sb**	**23 33 49.3**	**-6.1**
UMZA	**Um Al Zommool**	**4.04**	**172**	Pn	**Pn**	**23 33 00.5**	**+2.1**
CHMN	**Cheshme madani**	**4.06**	**39**	Pn	**Pn**	**23 33 01.1**	**+2.1**
KBAM	**BAM**	**4.17**	**54**	Pn	**Pn**	**23 33 02.7**	**+2.4**
KRM1	**Kerman Provinc**	**4.43**	**32**	Pn	**Pn**	**23 33 06.1**	**+2.2**
BSY	**Bisya**	**4.63**	**149**	Pn	**Pn**	**23 33 08.6**	**+2.0**
IMEH	**Mehriz**	**4.63**	**0**	Pn	**Pn**	**23 33 08.4**	**+1.6**
SMDO	**Samad**	**4.83**	**139**	Pn	**Pn**	**23 33 11.4**	**+2.1**
SMDO				Sn	**Sn**	**23 34 09.8**	**+4.4**
KLNJ	**Kolanjah**	**5.00**	**329**	Pn	**Pn**	**23 33 13.1**	**+1.3**
ISAD	**Sadrabad**	**5.22**	**352**	Pn	**Pn**	**23 33 17.1**	**+2.2**
IRAM	**Rameshеh**	**5.41**	**340**	Pn	**Pn**	**23 33 18.7**	**+1.3**
CHBR	**Chabahar**	**5.42**	**101**	Pn	**Pn**	**23 33 18.6**	**+1.3**
JHBN	**Jahan bin**	**6.45**	**329**	Pn	**Pn**	**23 33 33.7**	**+1.9**
MHTO	**MHTO**	**6.51**	**151**	Pn	**Pn**	**23 33 33.9**	**+1.5**
IKOO	**Kooshah**	**6.85**	**33**	Pn	**Pn**	**23 33 38.9**	**+1.7**
DQM	**DQM**	**7.30**	**158**	Pn	**Pn**	**23 33 44.0**	**+0.8**
DOK	**Doka**	**8.09**	**183**	Pn	**Pn**	**23 33 55.2**	**+1.0**
WHFO	**Wadi Hawf**	**8.81**	**185**	Pn	**Pn**	**23 34 05.5**	**+1.6**
	SNR=8.0						
DMTO	**DMTO**	**8.99**	**178**	Pn	**Pn**	**23 34 07.2**	**+0.8**
ABTO	**Aybut**	**9.42**	**188**	Pn	**Pn**	**23 34 12.8**	**+0.5**
MMAI	**Mount Meron Ar**	**17.76**	**295**	P	**Pn**	**23 36 03.5**	**-0.4**
	0.3nm,0.3s,baz=109,slow=11,SNR=2.2 0.8nm,0.6s						
BRTR	**Keskin Array B**	**21.72**	**312**	P	**P**	**23 36 46.9**	**-1.1**
	0.6nm,0.7s,baz=131,slow=11,SNR=6.0 0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**35.15**	**31**	P	**P**	**23 38 47.4**	**-2.8**
	0.4nm,0.4s,baz=217,slow=9.1,SNR=4.5 0.4nm,0.4s						
FINES	**FINESS Array B**	**39.64**	**339**	P	**P**	**23 39 26.9**	**-1.3**
	2.7nm,0.9s,baz=144,slow=12,SNR=4.7 2.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**51.19**	**266**	P	**P**	**23 40 59.3**	**-1.1**
	0.2nm,0.4s,baz=62,slow=8.7,SNR=5.5 0.2nm,0.4s						
MJAR	**Matsushiro Arr**	**69.80**	**59**	P	P	23 43 01.7	-5.6
	6.7nm,0.7s,baz=276,slow=7.5,SNR=13						

CATAC ***10*** *00:07:15.6±0.6,14˚N×3˚×9˚1W±˚,h25km±4km,M4.6/18, MLv4.6/18,Error ellipse: s-maj=7.9km s-min=3.3km az=33.6,confirmed*

SNET ***10*** *00:07:16.6±0.8,14˚01N×91˚22W,h46km±29km,ML4.3*

GCG ***10*** *00:07:16.1±2.0,14˚06N×91˚23W,h64km±9km,MD4.3, ML4.8,MW4.2*

IDC ***10*** *00:07:16.2±2.0,14˚25N×90˚97W,h75km±19km,mb3.4/11, mbtmp3.8/15,MS3.4/24,Error ellipse: s-maj=27.1km s-min=12.3km az=46.0*

NEIC ***10*** *00:07:17.1±2.5,14˚08N±0˚08×91˚16W±0˚07,h62km±7km, mb4.3/100,Error ellipse: s-maj=14.3km s-min=6.9km az=215.0*

ISC 10 00:07:16.5±0.7**, 14˚04N**±0˚05×**91˚19W**±0˚04**, h75**km±6km**, n236,** σ**1**s**55**/212**, mb4.2**/46**, 2D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**0.41**	**339**	*e*P	**Pn**	**00 07 31.0**	**+1.7**
STG0				*e*S	**Sn**	**00 07 42.6**	**+3.9**
STG0				IAML		00 07 46.3	
	comp=E,87μm,0.2s						
STG2	**El Palmar, Qui**	**0.43**	**335**	*e*P	**Pn**	**00 07 31.6**	**+2.2**
STG2				*e*S	**Sn**	**00 07 43.0**	**+4.0**
STG8	**El Palmar, Qui**	**0.44**	**339**	*e*P	**Pn**	**00 07 31.6**	**+2.0**
STG8				*e*S	**Sn**	**00 07 43.6**	**+4.4**
STG8				IAML		00 07 44.8	
	comp=N,90μm,0.2s						
STG8				IAML		00 07 50.0	
	comp=E,52μm,0.4s						
ESSG	**Sabana Grande**	**0.49**	**45**	*i* P	**Pn**	**00 07 28.6**	**-1.2**
ESSG				*i* S	**Sn**	**00 07 38.0**	**-1.6**
ESSG				IAML		00 07 38.6	
	comp=E,61μm,0.5s						
FG8	**Yepocapa, Chim**	**0.65**	**70**	*i* P	**Pn**	**00 07 28.7**	**-2.7**
FG8				*i* S	**Sn**	**00 07 38.2**	**-4.2**
RTAL	**Retalhuleu**	**0.69**	**315**		**Pn**	**00 07 30.0**	**-1.7**
RTAL				Sn	**Sn**	**00 07 40.7**	**-2.3**
RTAL	**Retalhuleu**	**0.69**	**315**	*e*P	**Pn**	**00 07 30.1**	**-1.6**
RTAL				*e*S	**Sn**	**00 07 40.2**	**-2.7**
RTAL				IAML		00 07 54.3	
	comp=Z,4μm,0.5s						
RTAL	**Retalhuleu**	**0.69**	**315**	P	**Pn**	**00 07 30.2**	**-1.5**
FG16	**Alotenango, Sa**	**0.70**	**70**	*i* P	**Pn**	**00 07 29.4**	**-2.6**
FG16				*e*S	**Sn**	**00 07 39.6**	**-3.9**
FG16				IAML		00 07 43.2	
	comp=E,238μm,0.2s						
SOKI	**Kika Raxquin**	**0.80**	**345**	*e*P	**Pn**	**00 07 32.6**	**-0.8**
SOKI				*e*S	**Sn**	**00 07 45.2**	**-0.7**
SOKI				IAML		00 07 49.1	
	comp=E,43μm,0.8s						
ESSJ	**San Jos, E**	**0.82**	**125**	*i* P	Pn	00 07 27.6	-5.5
ESSJ				*i* S	**Sn**	**00 07 38.1**	**-7.4**
GCG4	**OSOP**	**0.84**	**49**	*e*P	**Pn**	**00 07 33.7**	**+0.1**
GCG4				*i* S	**Sn**	**00 07 48.1**	**+1.9**
QUEO	**Labor Ovalle**	**0.89**	**339**	*e*P	**Pn**	**00 07 33.4**	**-0.8**
FAME	**Alcaldia de Sa**	**1.16**	**100**	P	**Pn**	**00 07 36.6**	**-0.6**
SMCA	**Catarina**	**1.18**	**314**	*e*P	**Pn**	**00 07 36.1**	**-1.5**
SMCA				*e*S	**Sn**	**00 07 50.9**	**-2.5**
SMCA				IAML		00 07 53.0	
	comp=N,7μm,0.1s						
HUEH	**Huehuetenango**	**1.31**	**347**	Pn	**Pn**	**00 07 39.3**	**-0.1**
HUEH	**Huehuetenango**	**1.31**	**347**	*e*P	**Pn**	**00 07 39.7**	**+0.3**
HUEH	**Huehuetenango**	**1.31**	**347**	*i* P	**Pn**	**00 07 39.8**	**+0.3**
HUEH				IAML		00 08 07.5	
	comp=E,8μm,0.7s						
HUEH	**Huehuetenango**	**1.31**	**347**	P	**Pn**	**00 07 40.1**	**+0.7**
HUEH	**Huehuetenango**	**1.31**	**347**	S	**Sn**	**00 07 58.7**	**+2.1**
THIG		**1.35**	**310**	*e*P	**Pn**	**00 07 38.9**	**-0.8**
THIG				*e*S	**Sn**	**00 07 55.8**	**-1.5**
THIG				IAML		00 07 59.8	
	comp=E,19μm,0.4s						
SLOZ	**Alcaldia de Sa**	**1.36**	**90**	*e*P	**Pn**	**00 07 40.1**	**+0.3**
SLOZ	**Alcaldia de Sa**	**1.36**	**90**	S	**Sn**	**00 07 59.1**	**+1.6**
SLOZ	**Alcaldia de Sa**	**1.36**	**90**	P	**Pn**	**00 07 40.2**	**+0.3**
LOAL	**Lomas de Alarc**	**1.37**	**92**	*e*P	**Pn**	**00 07 40.4**	**+0.5**
LOAL	**Lomas de Alarc**	**1.37**	**92**	S	**Sn**	**00 07 58.9**	**+1.2**
LOAL	**Lomas de Alarc**	**1.37**	**92**	P	**Pn**	**00 07 40.4**	**+0.5**
NUBE	**Las Nubes**	**1.37**	**96**	*e*P	**Pn**	**00 07 40.1**	**0.0**
NUBE	**Las Nubes**	**1.37**	**96**	*i* P	**Pn**	**00 07 40.1**	**0.0**
NUBE				*e*S	**Sn**	**00 07 56.8**	**-1.2**
NUBE	**Las Nubes**	**1.37**	**96**	P	**Pn**	**00 07 40.2**	**+0.1**
NUBE	**Las Nubes**	**1.37**	**96**	S	**Sn**	**00 07 58.6**	**+0.6**
RTR	**El Retiro**	**1.50**	**95**	*e*P	**Pn**	**00 07 42.5**	**+0.6**
CEVE	**Cerro Verde**	**1.53**	**98**	*e*P	**Pn**	**00 07 42.7**	**+0.3**
CEVE				IAML		00 08 09.1	
	comp=Z,21μm,0.3s						
CEVE	**Cerro Verde**	**1.53**	**98**	P	**Pn**	**00 07 42.9**	**+0.6**
CEVE	**Cerro Verde**	**1.53**	**98**	S	**Sn**	**00 08 03.2**	**+1.4**
SBLS	**San Blas**	**1.53**	**97**	*e*P	**Pn**	**00 07 42.6**	**+0.3**
SNJE	**San Jose**	**1.55**	**96**	*e*P	**Pn**	**00 07 42.6**	**+0.2**
UNIC	**Universidad Ca**	**1.59**	**92**	S	**Sn**	**00 08 04.2**	**+1.3**
UNIC	**Universidad Ca**	**1.59**	**92**	P	**Pn**	**00 07 42.8**	**-0.1**
MTO3	**Montecristo**	**1.81**	**78**		**Pn**	**00 07 45.5**	**-0.4**
ESQI	**Esquipulas**	**1.86**	**74**	Pn	**Pn**	**00 07 46.5**	**-0.1**
ESQI	**Esquipulas**	**1.86**	**74**	*e*P	**Pn**	**00 07 46.6**	**+0.1**
ESQI	**Esquipulas**	**1.86**	**74**	P	**Pn**	**00 07 46.7**	**+0.1**
BOQS	**Boqueron**	**1.88**	**99**	*e*P	**Pn**	**00 07 47.3**	**+0.4**
LALI	**Alcalda de L**	**1.90**	**107**	*e*P	**Pn**	**00 07 47.0**	**+0.1**
LALI	**Alcalda de L**	**1.90**	**107**	*e*P	**Pn**	**00 07 46.9**	**+0.1**
LALI				*i* S	**Sn**	**00 08 10.3**	**+0.4**
LALI				IAML		00 08 18.2	
	comp=N,1μm,0.3s						
LALI	**Alcalda de L**	**1.90**	**107**	P	**Pn**	**00 07 47.4**	**+0.6**
UEES	**Universidad Ev**	**1.92**	**99**	P	**Pn**	**00 07 48.4**	**+1.2**
UEES	**Universidad Ev**	**1.92**	**99**	S	**Sn**	**00 08 12.2**	**+1.5**
LOMA	**Loma Larga**	**2.00**	**101**	*e*P	**Pn**	**00 07 48.5**	**+0.2**
LOMA	**Loma Larga**	**2.00**	**101**	S	**Sn**	**00 08 13.8**	**+1.2**
LOMA	**Loma Larga**	**2.00**	**101**	P	**Pn**	**00 07 48.6**	**+0.2**
LFRS	**El Faro**	**2.11**	**101**	*e*P	**Pn**	**00 07 50.4**	**+0.6**
PAVA	**Las Pavas**	**2.21**	**98**	P	**Pn**	**00 07 51.7**	**+0.5**
COEG	**Centro de Oper**	**2.28**	**100**	P	**Pn**	**00 07 53.3**	**+1.1**
TECO	**Alcaldia de Te**	**2.39**	**102**	*e*P	**Pn**	**00 07 53.9**	**+0.4**
TECO	**Alcaldia de Te**	**2.39**	**102**	P	**Pn**	**00 07 54.2**	**+0.7**
CCIG	**Comitan**	**2.41**	**338**	Pn	**Pn**	**00 07 54.3**	**+0.4**
CCIG	**Comitan**	**2.41**	**338**	*i* P	**Pn**	**00 07 55.2**	**+1.3**
CCIG				IAML		00 08 48.2	
	comp=N,723nm,0.4s						
SCLA	**Alcaldia de Sa**	**2.41**	**98**	*i* P	**Pn**	**00 07 54.3**	**+0.4**
SCLA	**Alcaldia de Sa**	**2.41**	**98**	P	**Pn**	**00 07 54.5**	**+0.6**
SARH	**Santa Rosa de**	**2.46**	**72**	*e*P	**Pn**	**00 07 55.1**	**+0.5**
TECA	**Tecapa**	**2.67**	**101**	*e*P	**Pn**	**00 07 57.9**	**+0.5**
PACA	**Pacayal**	**2.84**	**101**	P	**Pn**	**00 08 01.1**	**+1.4**
MARCA	**Marcala la Paz**	**3.06**	**87**	*e*P	**Pn**	**00 08 02.1**	**-0.6**
PETF	**Flores**	**3.13**	**24**	Pn	**Pn**	**00 08 04.2**	**+0.7**
PETF	**Flores**	**3.13**	**24**	*e*P	**Pn**	**00 08 04.2**	**+0.7**
TGIG		**3.30**	**326**	*e*P	**Pn**	**00 08 06.6**	**+0.7**
POTN	**Potosi Cosigui**	**3.73**	**106**	*e*P	**Pn**	**00 08 12.5**	**+0.8**
TGUH	**Tegucigalpa,Un**	**3.80**	**89**	Pn	**Pn**	**00 08 12.2**	**-0.6**
CRIN	**San Cristobal**	**4.24**	**108**	Pn	**Pn**	**00 08 20.1**	**+1.4**
CRIN	**San Cristobal**	**4.24**	**108**	*e*P	**Pn**	**00 08 20.6**	**+1.8**
HERN	**Volcan Telica**	**4.47**	**108**	Pn	**Pn**	**00 08 21.9**	**-0.1**
CNGN	**Cerro Negro**	**4.63**	**109**	Pn	**Pn**	**00 08 23.2**	**-0.8**
CMIG	**Matias Romero**	**4.68**	**311**	P	**Pn**	**00 08 24.7**	**+0.1**
	comp=N,24nm,0.3s,baz=119,slow=8.2,SNR=63						
CMIG				S	**Sn**	**00 09 18.3**	**+0.6**
	comp=N,74nm,0.4s,baz=279,slow=17,SNR=7.5						
COPN	**Copaltepe**	**4.84**	**112**	*e*P	**Pn**	**00 08 27.5**	**+0.5**
SCIG	**Sabancuy**	**4.90**	**0**	*e*P	**Pn**	**00 08 25.5**	**-2.2**
SCIG				IAML		00 10 10.3	
	comp=E,359nm,1.1s						
BOAB	**BOACO BROADBAN**	**5.60**	**106**	Pn	**Pn**	**00 08 36.2**	**-1.1**
LCRUZ	**La Cruz**	**6.17**	**118**	*e*P	**Pn**	**00 08 45.8**	**+0.7**
ACON	**Acoyapa**	**6.21**	**109**	Pn	**Pn**	**00 08 44.1**	**-1.5**
ACON	**Acoyapa**	**6.21**	**109**	*e*P	**Pn**	**00 08 46.3**	**+0.7**
ELI1	**Hacienda Flor**	**6.46**	**121**	*e*P	**Pn**	**00 08 51.4**	**+2.5**
LAPC	**Finca la Perla**	**6.50**	**119**	*e*P	**Pn**	**00 08 49.8**	**+0.3**
GPS3	**Bodega del ICE**	**6.56**	**119**	*e*P	**Pn**	**00 08 50.4**	**0.0**
GPS2	**Hotel Rincn d**	**6.57**	**119**	*e*P	**Pn**	**00 08 53.5**	**+2.9**
MESS	**Mesas**	**6.71**	**119**	*e*P	**Pn**	**00 08 54.2**	**+1.7**
TEIG	**Tepich**	**6.75**	**24**	Pn	**Pn**	**00 08 53.1**	**+0.1**
CUI	**Cuipilapa**	**6.78**	**119**	*e*P	**Pn**	**00 08 56.0**	**+2.6**
PLVR	**Palo Verde**	**6.78**	**122**	*e*P	**Pn**	**00 08 56.0**	**+2.4**
TENO	**El Achiote**	**6.91**	**118**	*e*P	Pn	00 09 01.5	+6.2
ESPN	**Las Esperanzas**	**6.96**	**104**	Pn	**Pn**	**00 08 57.6**	**+1.8**
NYURE	**Nandayure**	**7.06**	**124**	*e*P	**Pn**	**00 08 58.0**	**+0.8**
JTS	**Las Juntas de**	**7.14**	**121**	Pn	**Pn**	**00 09 00.1**	**+1.7**
JTS	**Las Juntas de**	**7.14**	**121**	P	**Pn**	**00 08 58.1**	**-0.3**
	comp=E,3.7nm,0.3s,baz=291,slow=14,SNR=8.0						
JTS	**Las Juntas de**	**7.14**	**121**	*e*P	**Pn**	**00 08 59.9**	**+1.5**
ARE1	**Arenal 1**	**7.25**	**119**	*e*P	**Pn**	**00 09 02.0**	**+2.1**
CEDE	**Laguna Cedeo**	**7.25**	**118**	*e*P	**Pn**	**00 09 02.9**	**+2.9**
VARE2	**V. Arenal**	**7.25**	**119**	*e*P	**Pn**	**00 09 02.1**	**+2.1**
TLIG	**Tlapa**	**7.92**	**297**	Pn	**Pn**	**00 09 10.1**	**+1.1**
PAR1A	**Puntarenas Pro**	**8.10**	**122**	*e*P	Pn	00 09 15.2	+3.8
PICV	**PH. Pirrs**	**8.13**	**122**	*e*P	**Pn**	**00 09 15.2**	**+3.3**
ABE2	**San Pablo**	**8.20**	**121**	*e*P	**Pn**	**00 09 16.6**	**+3.5**
LCR2	**La Lucha 2**	**8.22**	**121**	Pn	**Pn**	**00 09 14.8**	**+1.4**
LCR2	**La Lucha 2**	**8.22**	**121**	*e*P	**Pn**	**00 09 16.7**	**+3.4**
PIEC	**Cerro El Cedra**	**8.33**	**121**	*e*P	**Pn**	**00 09 17.1**	**+2.4**
SAJE	**San Jernim**	**8.85**	**121**	*e*P	**Pn**	**00 09 23.2**	**+1.4**
DRK0	**Durika**	**9.11**	**121**	*e*P	**Pn**	**00 09 27.9**	**+2.4**
MOIG	**Morelia**	**11.09**	**302**	Pn	**Pn**	**00 09 55.1**	**+2.6**
ZAIG	**Zacatecas**	**13.85**	**310**	Pn	**Pn**	**00 10 31.5**	**+1.8**
833A	**Chaparral WMA,**	**16.13**	**333**		**P**	**00 11 01.2**	**+0.6**
HNVL	**Huntsville, TX**	**17.10**	**347**		**P**	**00 11 11.3**	**+0.1**
HNVL				IAmb	IAmb	00 11 13.1	
	comp=Z,13nm,0.8s						
HNDO	**Hondo**	**17.14**	**335**		**Pn**	**00 11 11.4**	**+0.2**
DRIO	**Del Rio**	**17.62**	**332**		**P**	**00 11 18.1**	**+1.0**
JCT	**Junction City**	**18.19**	**336**		**Pn**	**00 11 25.6**	**+1.7**
143A	**Socs Landing,**	**18.58**	**359**	P	**Pn**	**00 11 28.9**	**+0.3**
BRDY	**Brady**	**18.60**	**339**	P	**Pn**	**00 11 29.4**	**+0.4**
HPIG		**18.64**	**316**	P	**Pn**	**00 11 30.8**	**+1.1**
WHTX	**Lake Whitney,**	**18.77**	**343**	P	**Pn**	**00 11 31.0**	**+0.1**
WHTX				IAmb	IAmb	00 11 56.2	
	comp=Z,13nm,0.6s						
SAND	**Sanderson**	**18.78**	**329**	P	**Pn**	**00 11 32.2**	**+1.1**
ROSC	**El Rosal**	**18.97**	**117**	P	**P**	**00 11 31.9**	**-0.4**
	comp=Z,5.0nm,0.5s,baz=42,slow=18,SNR=4.5						
FW14	**Alvarado**	**19.08**	**344**	P	**P**	**00 11 33.6**	**+0.6**
TXAR	**Lajitas Array**	**19.11**	**325**		**Pn**	**00 11 35.0**	**0.0**
TXAR	**Lajitas Array**	**19.11**	**325**	P	**P**	**00 11 33.2**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=141,slow=8.1,SNR=11						
OZNA	**Ozona**	**19.13**	**333**	P	**P**	**00 11 34.2**	**+0.5**
Z47A	**Carrollton**	**19.28**	**8**	P	**P**	**00 11 34.9**	**-0.4**
Z47A				IAmb	IAmb	00 11 58.3	
	comp=Z,16nm,0.9s						
LRAL	**Lakeview Retre**	**19.29**	**11**	P	**Pn**	**00 11 36.7**	**-0.4**
LRAL				IAmb	IAmb	00 11 41.4	
	comp=Z,13nm,1.1s						
152A	**Waverly Hall**	**19.46**	**17**	P	**P**	**00 11 38.2**	**+1.0**
152A				IAmb	IAmb	00 11 50.1	
	comp=Z,11nm,0.7s						
FW07	**Weatherford**	**19.53**	**343**	P	**P**	**00 11 39.0**	**+1.1**
FW07				IAmb	IAmb	00 11 44.1	
	comp=Z,11nm,0.7s						
FLOC	**Florencia**	**19.73**	**128**	P	**P**	**00 11 42.3**	**+2.1**
FLOC				IAmb	IAmb	00 11 48.1	
	comp=Z,23nm,0.9s						
PLPT	**Palo Pinto**	**19.79**	**342**	P	**P**	**00 11 41.5**	**+0.7**
ALPN	**Alpine**	**19.90**	**327**	P	**Pn**	**00 11 44.6**	**+0.2**
SGCY	**Sterling City**	**19.98**	**335**	P	**P**	**00 11 43.3**	**+0.4**
Y49A	**Blount Mountai**	**20.20**	**12**	P	**P**	**00 11 46.5**	**+1.3**
Y49A				IAmb	IAmb	00 11 49.0	
	comp=Z,9.3nm,0.7s						
MNHN	**Monahans**	**20.23**	**330**	P	Pn	00 11 47.4	-0.9
MNHN				IAmb	IAmb	00 11 48.5	
	comp=Z,12nm,0.8s						
GOGA	**Godfrey**	**20.52**	**19**	P	**P**	**00 11 49.4**	**+0.7**
GOGA				IAmb	IAmb	00 12 03.4	
	comp=Z,15nm,1.0s						
MIAR	**Mount Ida**

comp=Z,5.2nm,0.9s
YKA Yellowknife Ar 51.17 346 P P 00 16 10.0 -1.7
comp=Z,1.6nm,0.8s,baz=152,slow=7.1,SNR=6.4
YKA LR LR 00 40 51.2
comp=Z,48nm,18.2s,baz=140,slow=40
comp=Z,1.6nm,0.8s
CPUP Villa Florida 51.91 141 P P 00 16 17.1 -0.6
comp=Z,0.3nm,0.8s,baz=181,slow=8.1,SNR=2.8
CPUP LR LR 00 37 47.4
comp=Z,13nm,18.1s,baz=115,slow=35
comp=Z,0.3nm,0.8s
FRB Frobisher Bay 52.10 13 LR LR 00 38 16.7
comp=Z,60nm,21.8s,baz=276,slow=36
DLBC Dease Lake 52.94 336 P P 00 16 25.3 +0.3
comp=Z,0.2nm,0.7s,baz=144,slow=8.1,SNR=5.7
comp=Z,0.2nm,0.7s
Q32M Nakina River 54.18 335 P P 00 16 36.3 +2.1
Q32M IAmb IAmb 00 17 01.1
comp=Z,5.8nm,1.4s
MMPY Sheldon Lake, 56.14 339 P P 00 16 48.5 +0.4
MMPY IAmb IAmb 00 17 29.7
comp=Z,5.4nm,1.5s
PLCA Paso Flores 57.76 162 LR LR 00 36 55.5
comp=Z,76nm,18.3s,baz=222,slow=31
M29M Somme Creek 58.69 336 P P 00 17 06.4 +0.3
M29M IAmb IAmb 00 17 43.7
comp=Z,4.2nm,1.4s
L29M L29M 58.94 337 P P 00 17 09.5 +1.8
L29M IAmb IAmb 00 17 44.2
comp=Z,1.8nm,0.9s
SFJD Kangerlussuaq 59.24 17 LR LR 00 42 42.2
comp=Z,82nm,20.9s,baz=236,slow=36
G31M Satah River 59.94 342 P P 00 17 13.8 -0.7
G31M IAmb IAmb 00 17 44.3
comp=Z,4.4nm,1.4s
BCAR Beaver Creek A 60.32 336 P P 00 17 17.1 -0.1
INK Inuvik 60.63 343 LR LR 00 49 35.0
comp=Z,42nm,18.0s,baz=74,slow=42
RES Resolute Bay 60.67 359 LR LR 00 44 51.1
comp=Z,41nm,19.0s,baz=186,slow=37
J26L Joseph Creek 61.72 337 P P 00 17 27.1 +0.4
J26L IAmb IAmb 00 18 08.5
comp=Z,1.8nm,0.7s
J25K Salcha River, 62.46 337 P P 00 17 31.9 +0.3
KDAK Kodiak Island 63.10 328 P P 00 17 36.5 +0.6
KDAK Kodiak Island 63.10 328 LR LR 00 45 23.2
comp=Z,76nm,18.2s,baz=121,slow=36
ILAR Eielson Array 63.12 337 P P 00 17 35.4 -0.5
comp=Z,0.7nm,0.7s,baz=131,slow=4.6,SNR=9.8
comp=Z,0.7nm,0.7s
BMAR Burnt Mountain 63.53 340 P P 00 17 38.4 -0.3
SKT Skwentna 63.94 333 P P 00 17 43.9 +2.5
SKT IAmb IAmb 00 17 45.5
comp=Z,2.4nm,0.7s
MLY Manley 64.72 336 P P 00 17 45.7 -0.8
MLY IAmb IAmb 00 17 51.0
comp=Z,1.9nm,0.8s
PLK4 Peulik 4 65.01 327 P P 00 17 48.7 +0.1
E23K Chandalar 65.52 339 P P 00 17 52.5 +0.8
E23K IAmb IAmb 00 17 53.9
comp=Z,1.8nm,0.8s
PPT Papeete 65.61 243 LR LR 00 41 47.3
comp=Z,130nm,18.2s,baz=74,slow=31
O16K Kokwok River B 66.35 329 P P 00 17 56.8 -0.2
O16K IAmb IAmb 00 17 58.5
comp=Z,2.2nm,0.8s
F21K Alatna River 66.56 338 P P 00 17 58.5 +0.2
F21K IAmb IAmb 00 18 00.7
comp=Z,2.5nm,1.0s
S12K Black Hills 67.75 325 P P 00 18 05.8 -0.2
K15K Wolf Creek Mou 68.55 332 P P 00 18 11.7 +0.8
K15K IAmb IAmb 00 18 17.7
comp=Z,3.0nm,0.9s
UNV Unalaska Valle 70.13 322 P P 00 18 22.0 +1.3
BBTS Babate 71.99 79 LR LR 00 45 06.9
comp=Z,24nm,21.7s,baz=173,slow=32
ADK Adak 76.33 321 P P 00 18 57.7 +0.4
EKA Eskdalemuir Ar 77.47 36 P P 00 19 00.0 -3.7
comp=Z,1.3nm,0.8s,baz=270,slow=4.1,SNR=4.4
comp=Z,1.3nm,0.8s
ESDC Sonseca Array 79.07 52 P P 00 19 10.7 -2.2
comp=Z,0.5nm,0.8s,baz=288,slow=3.6,SNR=4.4
comp=Z,0.5nm,0.8s
NOA NORSAR Array B 83.73 29 LR LR 00 56 16.5
comp=Z,6.4nm,18.5s,baz=270,slow=35
KURBB Kurchatov Arra 114.99 7 PKP PKiKP 00 25 47.3 -1.5
comp=Z,0.5nm,0.8s,baz=332,slow=2.8,SNR=5.3
MKAR Makanchi Array 119.17 5 PKP PKPdf 00 25 55.0 -2.1
comp=Z,0.4nm,0.8s,baz=355,slow=2.6,SNR=3.6
WRA Warramunga Arr 136.17 256 PKPdf PKPdf 00 26 31.2 +1.2
WRA Warramunga Arr 136.17 256 PKP PKPdf 00 26 30.5 +0.5
comp=Z,1.1nm,0.8s,baz=86,slow=1.9,SNR=8.0
ASAR Alice Springs 136.42 250 PKP PKPdf 00 26 32.0 +1.6
comp=Z,0.4nm,0.4s,baz=64,slow=2.9,SNR=5.3
CMAR Chiang Mai Arr 146.20 343 PKPbc PKPdf 00 26 49.2 +1.1
comp=Z,4.1nm,0.6s,baz=326,slow=3.5,SNR=17

GCG 10 00:09:08.9±0.8, 14°.14N×91°.22W, h68km±7km, MD3.6, ML4.2, MW4.2, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STG0	**El Palmar, Qui**	**0.31**	**338**	*eP*	Pn	00 09 23.9	+3.7
STG0				*eS*	Sn	00 09 34.8	+6.5
STG0				IAML		00 09 37.6	
	comp=N,9μm,0.3s						
STG2	**El Palmar, Qui**	**0.33**	**333**	*eP*	Pn	00 09 24.2	+4.0
STG2				*eS*	Sn	00 09 35.9	+7.4
STG8	**El Palmar, Qui**	**0.33**	**338**	*eP*	Pn	00 09 24.2	+3.8
STG8				*eS*	Sn	00 09 36.2	+7.4
STG8				IAML		00 09 40.3	
	comp=N,7μm,0.2s						
ESSG	**Sabana Grande**	**0.45**	**57**	*eP*	Pn	00 09 21.1	-0.1
ESSG				*eS*	Sn	00 09 30.3	+0.2
ESSG				*i* S		00 09 31.0	
ESSG				IAML		00 09 31.3	
	comp=N,4μm,0.1s						
FG8	**Yepocapa, Chim**	**0.65**	**80**	*i* P	Pn	00 09 21.3	-2.0
FG8				*eS*	Sn	00 09 30.8	-3.1
SOKI	**Kika Raxquin**	**0.70**	**345**	*eP*	Pn	00 09 25.3	+1.2
SOKI				*eS*	Sn	00 09 37.9	+2.7
FG16	**Alotenango, Sa**	**0.70**	**79**	*i* P	Pn	00 09 21.9	-2.0
FG16				*i* S	Sn	00 09 32.9	-2.1
FG16				IAML		00 09 38.5	
	comp=N,35μm,0.2s						
ESSJ	**San Jos, E**	**0.91**	**129**	*i* P	Pn	00 09 20.2	-5.9
ESSJ				*i* S	Sn	00 09 30.7	-8.2
SMCA	**Catarina**	**1.09**	**311**	*eP*	Pn	00 09 28.9	+0.4
SMCA				*i* S	Sn	00 09 43.4	+0.3
THIG		**1.27**	**307**	*eP*	Pn	00 09 30.9	+0.2
THIG				*eS*	Sn	00 09 48.8	+1.7
THIG				IAML		00 09 52.0	
	comp=N,2μm,0.3s						

GCG 10 00:12:50.5±0.6, 14°.09N×91°.25W, h61km±9km, MD3.1, ML3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STG0	**El Palmar, Qui**	**0.35**	**344**	*i* P	Pn	00 13 05.7	+4.3
STG0				*i* S	Sn	00 13 17.2	+8.0
STG0				IAML		00 13 20.3	
	comp=E,2μm,0.2s						
STG2	**El Palmar, Qui**	**0.37**	**340**	*i* P	Pn	00 13 06.1	+4.6
STG2				*eS*	Sn	00 13 17.1	+7.7
STG8	**El Palmar, Qui**	**0.37**	**344**	*i* P	Pn	00 13 06.0	+4.3
STG8				*i* S	Sn	00 13 17.9	+8.3
STG8				IAML		00 13 20.0	
	comp=N,2μm,0.2s						
ESSG	**Sabana Grande**	**0.50**	**54**	*i* P	Pn	00 13 02.8	+0.1
ESSG				*i* P		00 13 02.8	
ESSG				*eS*	Sn	00 13 12.2	+0.7
ESSG				IAML		00 13 12.6	
	comp=N,856nm,0.1s						
FG8	**Yepocapa, Chim**	**0.68**	**76**	*eP*	Pn	00 13 02.6	-2.2
FG8				*i* S	Sn	00 13 12.1	-3.1
FG16	**Alotenango, Sa**	**0.73**	**76**	*eP*	Pn	00 13 03.5	-1.9
FG16				IAML		00 13 18.5	
	comp=E,4μm,0.1s						
ESSJ	**San Jos, E**	**0.89**	**126**	*i* P	Pn	00 13 01.7	-5.6

GCG 10 00:13:37.0±0.9, 14°.13N×91°.21W, h72km±5km, MD3.8, ML4.2, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STG0	**El Palmar, Qui**	**0.32**	**337**	*i* P	Pn	00 13 52.5	+3.7
STG0				*i* S	Sn	00 14 04.5	+7.1
STG0				IAML		00 14 06.2	
	comp=N,5μm,0.2s						
STG2	**El Palmar, Qui**	**0.34**	**332**	*i* P	Pn	00 13 52.9	+4.0
STG2				*i* S	Sn	00 14 05.0	+7.4
STG8	**El Palmar, Qui**	**0.34**	**337**	*i* P	Pn	00 13 52.7	+3.7
STG8				*i* S	Sn	00 14 04.8	+7.0
STG8				IAML		00 14 06.4	
	comp=E,13μm,0.2s						
ESSG	**Sabana Grande**	**0.45**	**56**	*i* P	Pn	00 13 49.7	0.0
ESSG				*i* S	Sn	00 13 59.1	+0.1
FG8	**Yepocapa, Chim**	**0.65**	**79**	*i* P	Pn	00 13 49.7	-1.9
FG8				*i* S	Sn	00 13 59.8	-2.6
FG16	**Alotenango, Sa**	**0.69**	**78**	*i* P	Pn	00 13 50.9	-1.4
FG16				*i* S	Sn	00 14 01.2	-2.3
FG16				IAML		00 14 03.4	
	comp=E,14μm,0.2s						
SOKI	**Kika Raxquin**	**0.71**	**345**	*i* P	Pn	00 13 53.8	+1.2
SOKI				*i* S	Sn	00 14 06.6	+2.5
ESSJ	**San Jos, E**	**0.90**	**129**	*i* P	Pn	00 13 48.7	-5.6
ESSJ				*i* S	Sn	00 13 59.2	-8.0
NUBE	**Las Nubes**	**1.41**	**99**	*i* P	Pn	00 14 01.7	+0.7
NUBE				*i* S	Sn	00 14 20.0	+0.9

IDC 10 00:17:40.1±1.8, 2°.44N×127°.33E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=151.1km s-min=22.2km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.28**	**163**	P	P	00 22 50.0	+0.3
	0.4nm,0.3s,baz=343,slow=10,SNR=9.4						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**26.73**	**166**	P	P	00 23 20.4	-1.0
	0.3nm,0.5s,baz=333,slow=14,SNR=3.6						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**58.95**	**325**	P	P	00 27 42.2	+0.9
	0.4nm,0.5s,baz=114,slow=8.3,SNR=4.9						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**63.14**	**328**	P	P	00 28 09.3	-0.4
	0.9nm,0.7s,baz=128,slow=5.9,SNR=7.2						
	0.9nm,0.7s						

DJA 10 00:23:02.3±0.2, 0°.5±2°, 122°.5E±°, h10km, M4.1/12, mB5.0/2, mb4.3/4, MLv4.0/12, Mw(mB)4.4/2, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.96**	**326**	P	Pg	00 23 20.5	-0.3
KMSI				S	Sg	00 23 33.3	0.0
LUWI	**Luwuk**	**1.92**	**245**	P	Pn	00 23 35.0	0.0
LUWI				S	Sb	00 24 01.2	-0.2
SANI	**Sanana**	**2.33**	**141**	P	Pn	00 23 38.6	-2.2
MRSI	**Marisa**	**2.66**	**285**	P	Pn	00 23 42.4	-2.9
MRSI				S	Sn	00 24 11.5	-6.2
APSI	**Ampana**	**2.94**	**257**	P	Pn	00 23 50.0	+0.9
NLAI	**Namlea**	**3.95**	**139**	P	Pn	00 24 02.4	-0.7
NLAI				S	Sn	00 24 45.1	-4.4
KDI	**Kendari**	**4.16**	**207**	S	Sn	00 24 49.6	-5.0
MPSI	**Mapaga**	**4.65**	**277**	P	Pn	00 24 15.7	+3.1
TTSI	**Tana Toraja**	**5.46**	**239**	P	Pn	00 24 24.7	+0.9
	1μm39nm,0.6s						
SPSI	**Sidrap Palu**	**6.02**	**232**	P	Pn	00 24 32.1	+0.7
	2μm17nm,0.5s						
BNSI	**Bone**	**6.04**	**227**	P	Pn	00 24 31.9	+0.1
	0.1nm27nm,0.6s						

IDC 10 00:32:06.6±0.9, 6°.63N×124°.99E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=18.9km s-min=10.0km az=137.0
DJA 10 00:32:07.8±1.3, 7°.1N±26°×12°.5E±°, h25km±23km, M4.8/7, mB4.9/2, mb4.9/6, MLv4.7/7, Mw(mB)4.2/2

ISC 10 00:32:09.2±0.7, 6°.79N±0°.08×125°.2E±0°.1, h13km, n15, σ1°.32/15, mb3.9/8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**0.44**	**50**	Pg	**Pn**	**00 32 21.3**	**+0.1**
	1μm,0.3s,baz=260,slow=7.6,SNR=98						
DAV				Lg	Lg	00 32 30.3	
	2μm,0.3s,baz=33,slow=21,SNR=10.0						
DAV				LR	LR	00 32 51.0	
	comp=Z,1μm,20.8s,baz=342,slow=61						
DAV	**Davao City (W)**	**0.44**	**50**	*i* P	**Pg**	**00 32 17.0**	**-0.8**
SGSI	**Sangihe**	**3.09**	**175**	P	**Pn**	**00 33 00.1**	**+2.4**
MRSI	**Marisa**	**7.08**	**208**	P	**Pn**	**00 33 52.4**	**-0.2**
	0.3nm717nm55nm,0.5s						
APSI	**Ampana**	**8.45**	**205**	P	**Pn**	**00 34 12.3**	**+1.0**
	39nm,0.6s						
SANI	**Sanana**	**8.81**	**175**	P	**Pn**	**00 34 17.3**	**+1.0**
	36nm,0.7s						
NLAI	**Namlea**	**10.13**	**169**	P	**Pn**	**00 34 35.5**	**+1.1**
WRA	**Warramunga Arr**	**28.03**	**162**	P	**P**	**00 37 58.5**	**-1.8**
	0.3nm,0.3s,baz=333,slow=11,SNR=9.5						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**31.43**	**165**	P	**P**	**00 38 29.3**	**-1.1**
	0.7nm,0.5s,baz=339,slow=6.5,SNR=7.4						
	0.7nm,0.5s						
GTA	**Gaotai**	**39.73**	**329**	*eP*	**P**	**00 39 42.7**	**+1.0**
GTA				pP	sP	00 39 47.4	0.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
STKA	**Stephens Creek**	**41.49**	**159**	P	**P**	**00 39 55.4**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=351,slow=6.0,SNR=3.0						
	comp=Z,1.7nm,0.5s						
SONM	**Songino Array**	**43.95**	**342**	P	**P**	**00 40 17.4**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=163,slow=5.3,SNR=3.6						
	comp=Z,0.1nm,0.3s						
PETK	**Petropavlovsk-**	**53.21**	**24**	P	**P**	**00 41 28.0**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=216,slow=7.1,SNR=2.2						
	comp=Z,1.9nm,0.8s						
MKAR	**Makanchi Array**	**54.22**	**325**	P	**P**	**00 41 34.0**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=131,slow=8.1,SNR=5.7						
	comp=Z,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**58.38**	**327**	P	**P**	**00 42 02.7**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=124,slow=6.2,SNR=6.5						
	comp=Z,0.8nm,0.6s						

CATAC 10 00:41:00.6±0.7, 14°.1N±4°×9°.1W±°, h28km±4km, M3.8/11, MLv3.8/11, Error ellipse: s-maj=8.8km s-min=3.1km az=24.9, confirmed
GCG 10 00:41:01.8±0.7, 14°.15N×91°.24W, h71km±6km, MD3.6, ML4.4

ISC 10 00:41:01.7±2.0, 14°.1N±0°.1×91°.13W±0°.07, h85km±12km, n20, σ2°.24/28, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STG0	**El Palmar, Qui**	**0.36**	**324**	*i* P	**Pn**	**00 41 16.5**	**+1.3**
STG0				*i* S	**Sn**	**00 41 28.3**	**+3.2**
STG0				IAML		00 41 29.5	
	comp=E,15μm,0.2s						
ESSG	**Sabana Grande**	**0.38**	**49**	*i* P	**Pn**	**00 41 14.1**	**-1.1**
ESSG				*i* S	**Sn**	**00 41 23.9**	**-1.3**
STG8	**El Palmar, Qui**	**0.39**	**325**	*i* P	**Pn**	**00 41 17.1**	**+1.7**
STG8				*i* S	**Sn**	**00 41 29.1**	**+3.6**
STG8				IAML		00 41 30.0	
	comp=N,11μm,0.2s						
STG2	**El Palmar, Qui**	**0.39**	**321**	*i* P	**Pn**	**00 41 17.2**	**+1.9**
STG2				*i* S	**Sn**	**00 41 29.1**	**+3.7**
FG8	**Yepocapa, Chim**	**0.56**	**77**	*i* P	**Pn**	**00 41 14.2**	**-2.4**
FG8				*i* S	**Sn**	**00 41 23.9**	**-3.8**
FG16	**Alotenango, Sa**	**0.61**	**77**	*i* P	**Pn**	**00 41 15.5**	**-1.7**
FG16				*i* S	**Sn**	**00 41 25.8**	**-2.9**
FG16				IAML		00 41 32.0	
	comp=N,23μm,0.2s						
RTAL	**Retalhuleu**	**0.68**	**305**	P	**Pn**	**00 41 15.6**	**-2.0**
RTAL	**Retalhuleu**	**0.68**	**305**	S	**Sn**	**00 41 26.5**	**-2.9**
SOKI	**Kika Raxquin**	**0.74**	**339**	*i* P	**Pn**	**00 41 18.2**	**-0.4**
SOKI				*i* S	**Sn**	**00 41 30.8**	**-0.4**
FAME	**Alcaldia de Sa**	**1.12**	**105**	P	**Pn**	**00 41 21.7**	**-0.8**
FAME	**Alcaldia de Sa**	**1.12**	**105**	S	**Sn**	**00 41 38.4**	**+0.3**
SMCA	**Catarina**	**1.17**	**308**	*i* P	**Pn**	**00 41 21.7**	**-1.4**
SMCA				*i* S	**Sn**	**00 41 36.3**	**-2.8**
HUEH	**Huehuetenango**	**1.23**	**343**	S	**Sn**	**00 41 42.3**	**+1.3**
HUEH	**Huehuetenango**	**1.23**	**343**	P	**Pn**	**00 41 25.3**	**+1.1**
SLOZ	**Alcaldia de Sa**	**1.31**	**94**	P	**Pn**	**00 41 26.3**	**+1.5**
SLOZ	**Alcaldia de Sa**	**1.31**	**94**	S	**Sn**	**00 41 44.3**	**+2.0**
LOAL	**Lomas de Alarc**	**1.31**	**96**	S	**Sn**	**00 41 45.1**	**+2.7**
LOAL	**Lomas de Alarc**	**1.31**	**96**	P	**Pn**	**00 41 25.1**	**+0.2**
NUBE	**Las Nubes**	**1.33**	**100**	S	**Sn**	**00 41 43.6**	**+0.7**
NUBE	**Las Nubes**	**1.33**	**100**	P	**Pn**	**00 41 25.9**	**+0.7**

FUNV 10 00:43:19.5, 11°.48N×70°.30W, h5km, MW3.5
RSNC 10 00:43:20.9±0.0, 12°.N±6°×7°.0W±°, h32km±15km, M3.1, mB4.6, mb4.4, ML3.0, Mw(mB)3.8

ISC 10 00:43:19.0±1.7, 11°.63N±0°.06×70°.33W±0°.04, h28km±19km, n30, σ1°.67/53, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JACV	**Jacura**	**1.57**	**110**	*eP*	**Pb**	**00 43 46.7**	**-0.7**
JACV				*eS*	**Sb**	**00 44 07.2**	**+0.4**
URIC	**Uribia, Colomb**	**1.63**	**273**	P	**Pn**	**00 43 45.1**	**-0.8**
URIC				S	**Sn**	**00 44 05.5**	**-0.5**
TEPV	**Terepaima**	**2.00**	**146**	*eP*	**Pn**	**00 43 51.0**	**0.0**
TEPV				*eS*	**Sn**	**00 44 15.1**	**-0.1**
CRJC	**Cerrejon, Guaj**	**2.58**	**257**	P	**Pn**	**00 43 58.5**	**-0.5**
CRJC				S	**Sn**	**00 44 28.3**	**-1.1**
MCQV	**Machiques**	**2.68**	**234**	*eP*	**Pn**	**00 44 02.1**	**+1.8**
MCQV				*eS*	**Sn**	**00 44 33.1**	**+1.3**
SDV	**Santo Domingo**	**2.74**	**186**	P	**Pn**	**00 44 02.6**	**+1.2**
SDV				S	**Sn**	**00 44 34.6**	**+0.9**
BENV	**Beln**	**3.15**	**121**	*eP*	**Pn**	**00 44 07.9**	**+1.0**
BENV				*eS*	**Sn**	**00 44 43.1**	**-0.6**
SOCV	**Socops**	**3.37**	**189**	*eP*	**Pn**	**00 44 09.5**	**-0.3**
SOCV				*eS*	**Sn**	**00 44 47.0**	**-1.9**
BAUV	**El Baul**	**3.49**	**140**	*eP*	**Pn**	**00 44 11.3**	**-0.2**
BAUV				*eS*	**Sn**	**00 44 50.8**	**-1.2**
TACV	**Tcata**	**3.57**	**114**	*eS*	**Sn**	**00 44 52.4**	**-1.5**
SMRC	**Santa Marta, M**	**3.85**	**263**	P	**Pn**	**00 44 16.9**	**+0.5**
SMRC				S	**Sn**	**00 45 01.1**	**+0.4**
CAPV	**Capacho**	**4.22**	**208**	*eP*	**Pn**	**00 44 21.5**	**-0.2**
CAPV				*eS*	**Sn**	**00 45 07.9**	**-2.4**
ARGC	**Ariguani, Magd**	**4.23**	**246**	P	**Pn**	**00 44 21.8**	**+0.1**
ARGC				S	**Sn**	**00 45 10.0**	**-0.2**
OCAC	**Ocana**	**4.48**	**221**	P	**Pn**	**00 44 25.7**	**+0.5**
OCAC				S	**Sn**	**00 45 15.9**	**-0.6**
PAMC	**Pamplona, Colo**	**4.86**	**209**	P	**Pn**	**00 44 32.2**	**+1.4**
PAMC				S	**Sn**	**00 45 25.1**	**-1.3**
SJCC	**San Jacinto, C**	**5.07**	**251**	P	**Pn**	**00 44 34.2**	**+1.0**
SJCC				S	**Sn**	**00 45 32.2**	**+1.3**
TAMC	**Tame, Arauca**	**5.36**	**196**	P	**Pn**	**00 44 38.4**	**+1.1**
TAMC				S	**Sn**	**00 45 37.2**	**-0.9**
CACV	**CAICARA DEL OR**	**5.50**	**137**	*eP*	**Pn**	**00 44 43.5**	**+4.3**
CACV				*eS*	**Sn**	**00 45 47.7**	**+6.2**
BRJC	**Barrancabermej**	**5.73**	**216**	P	**Pn**	**00 44 43.0**	**+0.8**
BRJC				S	**Sn**	**00 45 46.0**	**-1.0**
BARC	**Barichara**	**5.75**	**210**	P	**Pn**	**00 44 44.1**	**+1.4**
ZARC	**Zaragoza, Cauc**	**6.07**	**228**	P	**Pn**	**00 44 46.7**	**-0.3**
RUSC	**La Rusia**	**6.32**	**206**	P	**Pn**	**00 44 51.7**	**+0.9**
RUSC				S	**Sn**	**00 46 00.5**	**-1.8**
PTBC	**PUERTO BERRIO,**	**6.50**	**219**	P	**Pn**	**00 44 51.8**	**-1.0**
PTBC				S	**Sn**	**00 46 02.4**	**-3.7**
HELC	**Santa Helena**	**7.46**	**224**	P	**Pn**	**00 45 08.7**	**+2.4**
SJG	**San Juan**	**7.60**	**32**	P	**Pn**	**00 45 08.8**	**+0.8**
CHIC	**Chingaza**	**7.73**	**206**	P	**Pn**	**00 45 10.7**	**+0.6**
CHIC				S	**Sn**	**00 46 34.0**	**-3.0**
GUY2C	**Guyana, Caldas**	**8.08**	**218**	P	**Pn**	**00 45 17.3**	**+2.3**
GUY2C				S	**Sn**	**00 46 45.7**	**-0.1**
PRAC	**Prado**	**9.07**	**210**	P	**Pn**	**00 45 29.3**	**+1.1**
PRAC				S	**Sn**	**00 47 09.9**	**+0.4**
ORTC	**Ortega, Tolima**	**9.09**	**213**	P	**Pn**	**00 45 29.5**	**+1.1**
URMC	**La Uribe, Meta**	**9.25**	**206**	P	**Pn**	**00 45 31.0**	**+0.3**

SOME 10 00:43:17.2, 40°.38N×77°.82E, h10km
KRNET 10 00:43:18.1±0.1, 40°.45N×77°.80E, h17km, mb2.7
NNC 10 00:43:19.3±1.1, 40°.49N×77°.87E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=7.7km s-min=6.3km az=29.0

ISC 10 00:43:24.5±3.2, 40°.7N±0°.1×77°.71E±0°.05, h17km±15km, n23, σ0°.91/36, 12C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.08**	**4**	*i*P	**Pb**	**00 43 42.5**	**-2.5**
TARG				*i*S	**Sn**	**00 44 00.3**	**+0.2**
NRN	**Naryn**	**1.51**	**302**	*eP*	**Pn**	**00 43 49.9**	**-1.2**
NRN				*eS*	**Sg**	**00 44 13.0**	**-0.3**
KDJ	**Kajisay**	**1.53**	**345**	*i*P	**Pn**	**00 43 50.7**	**-0.5**
KDJ				*i*S	**Sg**	**00 44 14.5**	**+0.5**
PRZ	**Przheval'sk**	**1.91**	**16**	*eP*	**Pn**	**00 43 56.5**	**+0.1**
PRZ				*eS*	**Sg**	**00 44 24.5**	**-1.4**
ULHL	**Ulahol**	**1.94**	**326**	*i*P	**Pb**	**00 43 58.2**	**-1.3**
ULHL				*i*S	**Sg**	**00 44 27.6**	**+0.6**
BOOM	**Boomskoye usch**	**2.27**	**325**	*i*P	**Pn**	**00 44 01.8**	**+0.5**
BOOM				*i*S	**Sb**	**00 44 33.3**	**+0.4**
TNSS	**Tian-Shan**	**2.45**	**347**	Pg	**Pb**	**00 44 07.8**	**-0.6**
	1.4nm,0.2s						
TNSS				Lg	Lg	00 44 44.3	
	4.9nm,0.7s						
TNSS	**Tian-Shan**	**2.45**	**347**	*eP*	**Pb**	**00 44 07.8**	**-0.6**
	1.4nm,0.2s						
TNSS				*eS*	**Sg**	**00 44 44.3**	**+0.9**
	3.3nm,0.2s						
IZV	**Izvestkoviy**	**2.52**	**341**	Pg	**Pb**	**00 44 09.6**	**+0.2**
	3.2nm,0.2s						
IZV				Lg	Lg	00 44 46.8	
	8.7nm,0.3s						
IZV	**Izvestkoviy**	**2.52**	**341**	*eP*	**Pb**	**00 44 09.6**	**+0.2**
	2.7nm,0.1s						
IZV				*eS*	**Sg**	**00 44 47.5**	**+1.9**
	9.6nm,0.2s						
KOTS	**Kotyrbulak**	**2.62**	**350**	Pg	**Pb**	**00 44 10.4**	**-0.7**
	1.4nm,0.1s						
KOTS				Lg	Lg	00 44 48.4	
	17nm,0.7s						
KOTS	**Kotyrbulak**	**2.62**	**350**	*eP*	**Pb**	**00 44 10.4**	**-0.7**
	1.5nm,0.2s						
KOTS				*eS*	**Sg**	**00 44 48.7**	**0.0**
	18nm,0.5s						
KST	**Kastek**	**2.73**	**332**	Pg	**Pb**	**00 44 12.6**	**-0.2**
	3.1nm,0.3s						
KST				Lg	Lg	00 44 52.0	
	4.5nm,0.4s						
KST	**Kastek**	**2.73**	**332**	*eP*	**Pb**	**00 44 12.6**	**-0.2**
	2.9nm,0.2s						
KST				*eS*	**Sg**	**00 44 52.5**	**+0.5**
	4.2nm,0.2s						
SHLS	**Shalkode**	**2.83**	**27**	P

h5km±1km, Error ellipse: s-maj=2.1km s-min=1.5km az=95.0
*PAS **10** 00:48:17.6±1.3,36°.058N×0°.007×117°.847W±0°.008, h2km±1km, Mwr4.1/6, mb3.9/11(NEIC), ML3.8/136(NEIC), Error ellipse: s-maj=1.3km s-min=0.3km az=217.0*
*IDC **10** 00:48:18.5±0.7,36°.07N×117°.74W, h0km, mb3.5/3, mbtmp3.5/8, ML3.2/5, MS3.2/15, Error ellipse: s-maj=15.4km s-min=5.5km az=73.0*

ISC 10 00:48:17.9±0.8, 36°.05N±0°.01×117°.85W±0°.02, h5km±5km, n194, σ1§18/213, mb4.0/7, MS3.5/9, 1C, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRVM	**Rose V. Centra**	**0.06**	**216**			**Pg**	**00 48 18.9**	**-0.5**
MFS	**McCloud Flat S**	**0.06**	**356**			**Pg**	**00 48 18.9**	**-0.7**
MFS						Sg	00 48 20.4	-0.5
WCSM	**Coso Springs S**	**0.07**	**112**			**Pg**	**00 48 19.2**	**-0.5**
WCSM						Sg	00 48 20.6	-0.2
JRC2	**Joshua Ridge**	**0.08**	**155**			**Pg**	**00 48 19.4**	**-0.4**
JRC2						Sg	00 48 21.0	-0.1
WVPM	**Volcano Peak E**	**0.11**	**166**			**Pg**	**00 48 19.9**	**-0.3**
WNMM	**Nine Mile Cany**	**0.21**	**192**			**Pg**	**00 48 21.9**	**-0.2**
WNMM						Sg	00 48 25.3	+0.4
TOW	**Tower One**	**0.25**	**164**			**Pg**	**00 48 23.2**	**+0.4**
TOW						Sg	00 48 27.8	+1.6
MPMC	**Manual Prospec**	**0.29**	**89**			**Pg**	**00 48 23.3**	**-0.4**
MPMC				Sg		Sg	00 48 27.0	-0.6
MPMC				IAML			00 48 29.8	
	comp=E,9μm,0.7s							
CLC	**China Lake**	**0.31**	**139**	Pg		**Pg**	**00 48 23.7**	**-0.3**
CLC				Sg		Sg	00 48 27.7	-0.4
SRTC	**Snort**	**0.37**	**167**			**Pg**	**00 48 25.4**	**+0.3**
SRTC						Sb	00 48 31.8	-1.3
CWC	**Cottonwood Cre**	**0.43**	**334**	Pg		**Pg**	**00 48 25.8**	**-0.4**
CWC				Sg		Sg	00 48 31.3	-0.6
CWC				IAML			00 48 32.4	
	comp=E,5μm,0.2s							
WORM	**Onyx Ranch**	**0.48**	**222**			**Pg**	**00 48 26.7**	**-0.4**
WORM						Sg	00 48 33.5	+0.2
CGO	**Cerro Gordo**	**0.50**	**4**			**Pg**	**00 48 27.0**	**-0.5**
WHFM	**Hanning Flat**	**0.54**	**229**			**Pg**	**00 48 28.0**	**-0.3**
WHFM						Sg	00 48 35.6	+0.3
WBSM	**Bird Springs**	**0.57**	**205**			**Pg**	**00 48 28.5**	**-0.3**
WBSM						Sg	00 48 36.5	+0.3
LRMC	**Laurel Mtn Rad**	**0.59**	**167**	Pg		**Pg**	**00 48 28.7**	**-0.5**
LRMC				Sg		Sg	00 48 36.9	+0.1
LRMC				IAML			00 48 38.0	
	comp=E,4μm,0.6s							
LRMC				IAML			00 48 39.8	
	comp=N,6μm,0.6s							
ISA	**Isabella, Lake**	**0.64**	**233**	Pg		**Pg**	**00 48 29.7**	**-0.5**
ISA				Sg		Sg	00 48 38.3	-0.2
ISA				IAML			00 48 39.0	
	comp=E,5μm,0.6s							
ISA				IAML			00 48 39.0	
	comp=N,4μm,0.6s							
WASM	**Alta Sierra Ca**	**0.66**	**242**			**Pg**	**00 48 30.2**	**-0.3**
WASM						Sg	00 48 39.3	+0.3
CCCA	**Chr Cany lake**	**0.66**	**143**	Pg		**Pg**	**00 48 30.6**	**+0.1**
CCCA				Sg		Sb	00 48 40.1	-1.2
SPG2	**Springville 2**	**0.76**	**281**			**Pg**	**00 48 31.8**	**-0.6**
DTP	**Desert Tortois**	**0.78**	**180**			**Pg**	**00 48 32.4**	**-0.5**
DTP						Sg	00 48 42.8	-0.3
QSM	**Queen of Sheba**	**0.80**	**96**	Pg		**Pg**	**00 48 32.7**	**-0.6**
QSM				Sg		Sg	00 48 43.8	+0.2
QSM				IAML			00 48 50.3	
	comp=E,3μm,0.6s							
QSM				IAML			00 48 50.5	
	comp=N,3μm,0.8s							
FURC	**Furnace Creek,**	**0.90**	**62**			**Sb**	**00 48 48.0**	**-0.2**
CCAC	**Calif City Air**	**0.91**	**189**			**Pg**	**00 48 34.8**	**-0.5**
CCAC						Sg	00 48 47.3	+0.2
GWY	**Greenwater Val**	**0.96**	**82**	Pg		**Pg**	**00 48 35.9**	**-0.5**
GWY				Sg		Sg	00 48 48.7	-0.3
GWY				IAML			00 48 54.6	
	comp=E,2μm,0.7s							
GWY				IAML			00 48 54.7	
	comp=N,3μm,1.0s							
GRAC	**Grapevine Rang**	**1.02**	**22**			**Pg**	**00 48 37.0**	**-0.4**
GRAC	**Grapevine Rang**	**1.02**	**22**	Sg		**Sb**	**00 48 51.0**	**-0.7**
GRAC				IAML			00 48 59.4	
	comp=E,4μm,0.9s							
GRAC	**Grapevine Rang**	**1.02**	**22**	Pg		**Pg**	**00 48 36.5**	**-1.0**
VES	**Vestal, Richgr**	**1.02**	**258**			**Pg**	**00 48 37.0**	**-0.6**
VES						Sg	00 48 51.2	+0.4
TIN	**Tinemaha, Big**	**1.04**	**343**			**Pg**	**00 48 37.6**	**-0.3**
TEJ	**El Tejon**	**1.07**	**220**			**Pg**	**00 48 37.9**	**-0.5**
TEJ						Sg	00 48 51.8	-0.5
MAGC	**SCE Magundon P**	**1.11**	**232**			**Pg**	**00 48 39.2**	**0.0**
GSC	**Goldstone, Bar**	**1.13**	**131**	Pg		**Pg**	**00 48 39.0**	**-0.6**
GSC				Sg		Sg	00 48 54.0	-0.3
GSC				IAML			00 49 01.7	
	comp=N,2μm,1.1s							
SGV	**South Grapevin**	**1.14**	**35**			**Pb**	**00 48 39.4**	**-0.8**
EDW2	**Edwards Air Fo**	**1.18**	**186**			**Pg**	**00 48 39.4**	**-1.0**
EDW2						Sg	00 48 55.4	-0.3
LCH	**Last Change Ra**	**1.19**	**8**			**Pg**	**00 48 39.5**	**-1.3**
HYS	**Haystack Butte**	**1.21**	**169**			**Pg**	**00 48 40.0**	**-1.1**
TPO	**Tropico Hills**	**1.21**	**195**	Pg		**Pg**	**00 48 40.2**	**-1.0**
TPO				Sg		Sg	00 48 56.1	-0.7
TPO				IAML			00 49 00.8	
	comp=N,2μm,1.0s							
ARVC	**Arvin**	**1.22**	**221**			**Pg**	**00 48 40.9**	**-0.5**
WCT	**Wildcat Mounta**	**1.23**	**53**			**Pg**	**00 48 40.6**	**-0.9**
WCT	**Wildcat Mounta**	**1.23**	**53**	IAML			00 49 03.6	
	comp=E,2μm,0.9s							
TJR	**Tejon Ranch**	**1.26**	**216**			**Pg**	**00 48 40.9**	**-1.1**
TJR						Sg	00 48 58.5	+0.2
VOG	**Valley Oaks Go**	**1.27**	**283**			**Pg**	**00 48 41.4**	**-0.9**
DSP	**Deep Springs**	**1.32**	**356**			**Pg**	**00 48 41.8**	**-1.4**
THC	**Tehachapi Micr**	**1.32**	**210**			**Pg**	**00 48 41.9**	**-1.3**
AMDNV	**Amargosa**	**1.33**	**72**			**Pg**	**00 48 42.3**	**-1.1**
GMN	**Gold Mountain**	**1.33**	**21**	Pg		**Pg**	**00 48 42.5**	**-1.0**
GMN				IAML			00 49 08.6	
	comp=N,880nm,1.2s							
BHPR	**Bishop**	**1.35**	**338**			**Pg**	**00 48 42.8**	**-0.9**
POCCA	**Poleta Canyon**	**1.35**	**345**			**Pg**	**00 48 43.3**	**-0.5**
SBB	**Saddle Back Bu**	**1.36**	**179**			**Pn**	**00 48 43.5**	**-0.1**
SBB						Sg	00 49 01.7	+0.1
RRX	**Edison Barstow**	**1.37**	**149**			**Pb**	**00 48 44.2**	**+0.2**
LEOC	**Leona Valley**	**1.47**	**195**			**Pn**	**00 48 44.7**	**-0.3**
LEOC						Sg	00 49 04.6	-0.4
LRRC	**Littlerock Res**	**1.53**	**186**			**Pn**	**00 48 46.1**	**+0.3**
TPNV	**Topopah Spring**	**1.57**	**55**			**Pn**	**00 48 46.0**	**-0.6**
TPNV				IAML			00 49 12.6	
	comp=N,2μm,0.8s							
TPNV				IAML			00 49 13.0	
	comp=N,2μm,1.0s							
HOLC	**Holcomb Ridge**	**1.59**	**180**			**Pn**	**00 48 46.2**	**-0.6**
OSI	**Osito Audit: C**	**1.60**	**207**			**Pn**	**00 48 47.0**	**+0.1**
OSI				IAML			00 49 24.5	
	comp=N,1μm,1.1s							
JNH	**Juniper Hills**	**1.60**	**183**			**Pn**	**00 48 46.4**	**-0.6**
TUQ	**Turquoise Moun**	**1.68**	**111**			**Pn**	**00 48 47.6**	**-0.5**
MZP	**Montezuma Peak**	**1.69**	**13**			**Pn**	**00 48 48.1**	**-0.1**
BCW	**Bitter Crk WRg**	**1.69**	**229**			**Pn**	**00 48 49.1**	**+0.9**
CHFC	**Chilao Flat St**	**1.72**	**185**			**Pb**	**00 48 50.3**	**+0.2**
CRGC	**Crocker Grade**	**1.73**	**243**			**Pn**	**00 48 49.6**	**+0.9**
KCC	**Kaiser Creek**	**1.73**	**317**			**Pn**	**00 48 49.4**	**+0.7**
KCC						Sn	00 49 11.4	+0.2
HEC	**Hector,Ludlow**	**1.74**	**134**			**Pn**	**00 48 48.1**	**-0.7**
BENR	**Benton**	**1.76**	**341**			**Pn**	**00 48 49.7**	**+0.5**
MLAC	**Mammoth, Mammo**	**1.76**	**334**			**Pb**	**00 48 50.4**	**-0.5**
FRI	**Friant**	**1.77**	**303**			**Sn**	**00 49 12.4**	**+0.5**
CARC	**Carrizo Plain**	**1.79**	**246**			**Pb**	**00 48 51.1**	**-0.1**
MCSM	**Casa Diablo Ho**	**1.81**	**332**			**Pb**	**00 48 51.1**	**-0.6**
BFSC	**Mount Baldy Ra**	**1.82**	**175**	Pn		**Pn**	**00 48 49.9**	**0.0**
BFSC				IAML			00 49 18.5	
	comp=E,903nm,0.8s							
BFSC				IAML			00 49 19.6	
	comp=N,606nm,0.9s							
OAT	**Oat Mountain**	**1.82**	**200**			**Pn**	**00 48 50.9**	**+1.0**
MWC	**Mount Wilson**	**1.83**	**185**	Pn		**Pn**	**00 48 50.0**	**-0.2**
MWC				IAML			00 49 20.8	
	comp=N,1μm,0.6s							
MWC				IAML			00 49 22.3	
	comp=E,1μm,0.9s							
SS2	**San Sevaine**	**1.86**	**171**			**Pn**	**00 48 51.3**	**+0.9**
PASC	**Pasadena Art C**	**1.90**	**188**	Pn		**Pn**	**00 48 50.6**	**-0.3**
SMMC	**Simmler**	**1.90**	**248**			**Pn**	**00 48 51.9**	**+1.0**
BLCC	**Black Canyon**	**1.93**	**201**			**Pn**	**00 48 51.7**	**+0.3**
MTPC	**Mountain Pass**	**1.95**	**106**	Pn		**Pn**	**00 48 50.8**	**-1.1**
MTPC				IAML			00 49 23.7	
	comp=N,561nm,1.6s							
PKM	**Mcpherson Peak**	**1.98**	**235**			**Pn**	**00 48 53.2**	**+1.0**
DJJ	**Donna J Jenkin**	**2.00**	**195**			**Pn**	**00 48 53.0**	**+0.6**
TPH	**Tonopah**	**2.08**	**14**	Pn		**Pn**	**00 48 53.2**	**-0.4**
TSCN	**Private Proper**	**2.09**	**257**			**Pn**	**00 48 54.8**	**+1.2**
PKD	**Bear Valley Ra**	**2.19**	**268**			**Pn**	**00 48 55.7**	**+0.8**
GMRC	**Granite Mounta**	**2.19**	**125**			**Pn**	**00 48 53.8**	**-1.3**
SHPR	**Sheep Range**	**2.22**	**77**	Pn		**Pn**	**00 48 55.6**	**+0.1**
PSMM	**Smith Mountain**	**2.23**	**271**			**Pn**	**00 48 57.4**	**+1.8**
LHV	**Little Huntoon**	**2.26**	**347**	Pn		**Pn**	**00 48 56.2**	**+0.4**
LHV				IAML			00 49 41.4	
	comp=N,632nm,1.9s							
LHV				IAML			00 49 46.2	
	comp=E,658nm,0.9s							
NV11	**Mina Array Sit**	**2.39**	**354**	Pn		**Pn**	**00 48 57.7**	**-0.1**
PMPB	**Monarch Peak**	**2.40**	**275**	Pn		**Pn**	**00 48 58.0**	**+0.2**
NVAR	**Mina Array Bea**	**2.40**	**351**	Pn		**Pn**	**00 48 58.1**	**+0.1**
NVAR	**Mina Array Bea**	**2.40**	**351**	Pn		**Pn**	**00 48 58.5**	**+0.5**
	comp=E,4.1nm,0.3s,baz=174,slow=16,SNR=29							
NVAR				Pg		**Pg**	**00 49 04.5**	**+0.6**
	comp=E,37nm,0.3s,baz=168,slow=17,SNR=49							
NVAR				LR		LR	00 49 24.7	
	comp=E,89nm,19.0s,baz=166,slow=28							
NVAR				Lg		Lg	00 49 33.8	
	comp=E,18nm,0.3s,baz=174,slow=31,SNR=5.2							
	comp=E,51nm,0.8s							
ELS	**Elsinore Mount**	**2.42**	**172**	Pn		**Pn**	**00 48 58.2**	**0.0**
ELS				IAML			00 49 39.1	
	comp=E,254nm,0.8s							
TPC	**Twentynine Pal**	**2.44**	**142**			**Pn**	**00 48 57.9**	**-0.6**
MYLM	**Yosemite Lake**	**2.46**	**303**			**Pb**	**00 49 01.1**	**-1.4**
V12A	**Nelson**	**2.46**	**97**	Pn		**Pn**	**00 48 58.0**	**-0.7**
V12A				IAML			00 49 40.3	
	comp=N,315nm,1.5s							
DANC	**Danby, Needles**	**2.46**	**124**			**Pn**	**00 48 57.8**	**-0.9**
POB	**Polly Butte**	**2.48**	**162**			**Pn**	**00 48 59.1**	**+0.1**
RAMR	**Ramage Ranch**	**2.49**	**261**			**Pn**	**00 49 00.2**	**+1.1**
DPD	**Davis Peak**	**2.52**	**252**			**Pb**	**00 49 03.0**	**-0.7**
PRN	**Pahroc Range**	**2.62**	**58**	Pn		**Pn**	**00 49 01.0**	**0.0**
PRN				IAML			00 49 48.8	
	comp=N,656nm,1.0s							
RYN	**Ryan**	**2.63**	**348**	Pn		**Pn**	**00 49 01.3**	**+0.2**
RYN				IAML			00 49 50.0	
	comp=E,256nm,1.4s							
BBGB	**Big Mountain B**	**2.63**	**282**	Pn		**Pn**	**00 49 01.6**	**+0.5**
PMD	**Palm Desert**	**2.69**	**153**	Pn		**Pn**	**00 49 01.1**	**-0.7**
PMD				IAML			00 49 49.0	
	comp=E,268nm,1.3s							
PFO	**Pinyon Flats O**	**2.69**	**154**	Pn		**Pn**	**00 49 01.4**	**-0.5**
	comp=E,2.9nm,0.3s,baz=341,slow=7.8,SNR=28							
PFO				Pg		**Pg**	**00 49 08.0**	**-1.5**
	comp=E,22nm,0.3s,baz=335,slow=16,SNR=31							
PFO				Lg		Lg	00 49 43.7	
	comp=E,18nm,0.3s,baz=271,slow=6.5,SNR=10.0							
	comp=E,13nm,0.3s							
XPFO	**Pinon Flat**	**2.69**	**154**			**Pn**	**00 49 02.6**	**+0.6**
CTCC	**Cactus City**	**2.84**	**147**			**Pb**	**00 49 08.3**	**-0.7**
R11B	**Troy Canyon, C**	**2.92**	**38**	Pn		**Pn**	**00 49 04.7**	**-0.4**
R11B				IAML			00 49 54.5	
	comp=E,211nm,1.3s							
NEE2	**Needles Airpor**	**2.93**	**115**	Pn		**Pn**	**00 49 04.5**	**-0.6**
NEE2				IAML			00 49 58.3	
	comp=E,416nm,0.8s							
NEE2				IAML			00 50 03.1	
	comp=N,336nm,0.8s							
BORC	**Borrego Spring**	**3.02**	**157**	Pn		**Pn**	**00 49 06.4**	**0.0**
BORC				IAML			00 49 56.9	
	comp=N,208nm,1.2s							
BORC				IAML			00 50 08.0	
	comp=E,271nm,1.1s							
DPP	**Dos Picos Cty**	**3.14**	**166**	Pn		**Pn**	**00 49 07.9**	**-0.1**
SALN	**Salton City**	**3.16**	**150**	Pn		**Pn**	**00 49 08.3**	**0.0**
W13A	**Hualapai Mount**	**3.37**	**105**	Pn		**Pn**	**00 49 11.0**	**-0.4**
W13A				IAML			00 50 14.0	
	comp=E,120nm,1.6s							
W13A				IAML			00 50 15.3	
	comp=N,164nm,1.9s							
BLYC	**Blythe**	**3.57**	**129**	Pn		**Pn**	**00 49 12.3**	**-1.6**
BLYC				IAML			00 50 14.7	
	comp=N,164nm,1.2s							
BLYC				IAML			00 50 15.4	
	comp=E,119nm,1.1s							
YUH	**Yuha Desert**	**3.75**	**154**	Pn		**Pn**	**00 49 16.5**	**+0.1**
LCMT	**Little Creek M**	**3.83**	**74**	Pn		**Pn**	**00 49 18.6**	**+0.9**
PAHR	**Pah Rah Range**	**3.84**	**342**	Pn		**Pn**	**00 49 18.6**	**+0.8**
PAHR				IAML			00 50 31.9	
	comp=E,107nm,1.5s							
PAHR				IAML			00 50 45.7	
	comp=N,82nm,1.7s							
CBX	**Cerro Bola**	**3.86**	**165**	Pn		**Pn**	**00 49 18.3**	**+0.3**
GLA	**Glamis**	**3.90**	**139**	Pn		**Pn**	**00 49 17.3**	**-1.1**
GLA				IAML			00 50 29.0	
	comp=N,179nm,1.1s							
CCUT	**Cedar City**	**3.90**	**66**	Pn		**Pn**	**00 49 19.0**	**+0.3**
PSUT	**Pine Spring**	**4.03**	**51**	Pn		**Pn**	**00 49 20.9**	**+0.5**
SPR3	**Spring Creek 3**	**4.06**	**43**	Pn		**Pn**	**00 49 20.7**	**-0.2**
SPR3				IAML			00 50 31.9	
	comp=E,162nm,1.2s							
SPR3				IAML			00 50 34.3	
	comp=N,97nm,1.3s							
SZCU	**Shurtz Canyon**	**4.12**	**67**	Pn		**Pn**	**00 49 22.4**	**+0.8**
SZCU				IAML			00 50 54.3	
	comp=N,90nm,3.5s							
KNB	**Kanab**	**4.16**	**75**	Pn		**Pn**	**00 49 23.0**	**+0.8**
KNB				IAML			00 50 45.9	
	comp=E,80nm,1.5s							
KNB				IAML			00 50 46.6	
	comp=N,104nm,1.7s							
ESJX	**Sierra Juarez**	**4.33**	**158**	Pn		**Pn**	**00 49 25.5**	**+0.9**
ESJX				IAML			00 50 11.6	
	comp=N,58nm,0.1s							
ESJX				IAML			00 50 11.6	
	comp=E,64nm,0.1s							
113A	**Mohawk Valley,**	**4.70**	**133**	Pn		**Pn**	**00 49 28.5**	**-1.0**
113A				IAML			00 51 01.9	
	comp=N,50nm,1.3s							
113A				IAML			00 51 21.2	
	comp=E,46nm,2.9s							
ELK	**Elko**	**5.11**	**23**	Pn		**Pn**	**00 49 35.4**	**+0.1**
ELK				IAML			00 51 06.6	
	comp=E,33nm,1.2s							
ELK	**Elko**	**5.11**	**23**	Pn		**Pn**	**00 49 36.5**	**+1.2**
	comp=E,1.3nm,0.3s,baz=214,slow=12,SNR=27							
ELK				Pg		**Pb**	**00 49 51.3**	**+3.3**
	comp=E,2.5nm,0.3s,baz=220,slow=13,SNR=18							
ELK				Lg		Lg	00 50 58.8	
	comp=E,5.2nm,0.3s,baz=116,slow=23,SNR=8.1							
	comp=E,5.8nm,0.5s							
X16A	**Lo Mia Camp, P**	**5.49**	**105**	Pn		**Pn**	**00 49 41.3**	**+0.8**
KCPM	**Cahto Peak**	**5.81**	**310**	Pn		**Pn**	**00 49 46.3**	**+1.6**
214A	**Organ Pipe Nat**	**5.85**	**133**	Pn		**Pn**	**00 49 43.3**	**-2.0**
BGU	**Big Grassy Mou**	**6.16**	**36**	Pn		**Pn**	**00 49 51.0**	**+1.4**
KMPM	**Mount Pierce**	**6.58**	**313**	Pn		**Pn**	**00 49 55.6**	**+0.2**
YBH	**Yreka Blue Hor**	**6.82**	**328**	Pn		**Pn**	**00 50 01.6**	**+3.0**
	baz=134,slow=7.0,SNR=5.9							
YBH				Pg		**Pb**	**00 50 15.3**	**-1.6**
	baz=173,slow=9.8,SNR=6.2							
YBH				Lg		Lg	00 51 53.8	
	baz=40,slow=18,SNR=3.6							
YBH				LR		LR	00 52 13.4	
	comp=E,8.5nm,20.5s,baz=148,slow=34							
HVU	**Hansel Valley**	**6.95**	**33**	Pn		**Pn**	**00 50 02.3**	**+1.8**
KRPM	**Rodgers**	**7.02**	**318**	Pn		**Pn**	**00 50 02.8**	**+1.4**
L04D	**Klamath Falls**	**7.06**	**332**	Pn		**Pn**	**00 50 03.5**	**+1.5**
K05A	**Summer Lake**	**7.07**	**341**	Pn		**Pn**	**00 50 03.6**	**+1.5**
PV05	**Paradox Valley**	**7.28**	**71**	Pn		**Pn**	**00 50 08.9**	**+3.8**
HWUT	**Hardware Ranch**	**7.40**	**40**	Pn		**Pn**	**00 50 07.8**	**+1.1**
PV10	**Paradox Valley**	**7.40**	**69**	Pn		**Pn**	**00 50 08.3**	**+1.5**
PV17	**East Wray Mesa**	**7.44**	**70**	Pn		**Pn**	**00 50 09.3**	**+2.1**
PV23	**Carpenter Ridg**	**7.44**	**69**	Pn		**Pn**	**00 50 09.8**	**+2.4**
PV20	**West Nyswonger**	**7.45**	**70**	Pn		**Pn**	**00 50 09.6**	**+2.2**
PV18	**Skein Mesa, Pa**	**7.47**	**70**	Pn		**Pn**	**00 50 09.9**	**+2.2**
PV16	**Nyswonger Mesa**	**7.48**	**70**	Pn		**Pn**	**00 50 09.8**	**+2.0**
PV04	**Paradox Valley**	**7.51**	**69**	Pn		**Pn**	**00 50 10.4**	**+2.2**
PV13	**Radium Mtn., P**	**7.51**	**71**	Pn		**Pn**	**00 50 10.4**	**+2.1**
MFID	**Camas Ranch**	**7.52**	**11**	Pn		**Pn**	**00 50 09.4**	**+1.2**
PV03	**Paradox Valley**	**7.52**	**70**	Pn		**Pn**	**00 50 10.7**	**+2.3**
PV12	**Saucer Basin,**	**7.57**	**70**	Pn		**Pn**	**00 50 11.3**	**+2.3**
PV02	**Paradox Valley**	**7.59**	**71**	Pn		**Pn**	**00 50 11.8**	**+2.4**
PV22	**Blue Mesa, Par**	**7.64**	**68**	Pn		**Pn**	**00 50 12.8**	**+2.8**
PV01	**Paradox Valley**	**7.70**	**72**	Pn		**Pn**	**00 50 11.5**	**+0.6**
PV07	**Paradox Valley**	**7.71**	**69**	Pn		**Pn**	**00 50 13.3**	**+2.2**
PV15	**Paradox Valley**	**7.82**	**70**	Pn		**Pn**	**00 50 13.5**	**+1.0**
HLID	**Hailey**	**7.95**	**18**	Pn		**Pn**	**00 50 16.5**	**+2.2**
AHID	**Auburn Hatcher**	**8.49**	**36**	Pn		**Pn**	**00 50 22.4**	**+0.7**
TPAW	**Teton Pass**	**9.13**	**33**	Pn		**Pn**	**00 50 30.7**	**+0.2**
PDAR	**Pinedale Array**	**9.28**	**41**	Pn		**Pn**	**00 50 33.5**	**+1.0**
PDAR	**Pinedale Array**	**9.28**	**41**	Pn		**Pn**	**00 50 34.6**	**+2.1**
	baz=202,slow=11,SNR=6.6							
PDAR				LR		LR	00 53 50.3	
	comp=E,25nm,21.5s,baz=226,slow=36							
	comp=E,0.8nm,0.9s							
ANMO	**Albuquerque**	**9.36**	**93**	Pg		**Pn**	**00 51 07.7**	**+34**
	comp=E,0.1nm,0.3s,baz=0.6,slow=11,SNR=3.6							
ANMO				LR		LR	00 54 33.4	
	comp=E,308nm,20.2s,baz=32,slow=40							
CRNM	**Carthage**	**9.36**	**100**	Pn		**Pn**	**00 50 35.7**	**+2.1**
BPMT	**Black Pine Rid**	**10.89**	**16**	Pn		**Pn**	**00 50 58.4**	**+3.9**
NEW	**Newport**	**12.21**	**2**	LR		LR	00 55 19.9	
	comp=E,26nm,20.7s,baz=268,slow=35							
OGNE	**Ogallala**	**13.31**	**64**	Pn		**Pn**	**00 51 28.6**	**+1.0**
LPIG	**La Paz**	**13.57**	**149**	LR		LR	00 56 18.0	
	comp=E,84nm,19.9s,baz=72,slow=35							
TXAR	**Lajitas Array**	**13.69**	**115**	Pn		**Pn**	**00 51 36.8**	**+4.0**
TXAR	**Lajitas Array**	**13.69**	**115**	Pn		**Pn**	**00 51 34.8**	**+2.1**
	baz=293,slow=11,SNR=7.5							
	comp=E,0.7nm,0.8s							
DKNS	**Dickens**	**14.10**	**95**			**P**	**00 51 44.4**	**-1.8**
SN07	**Snyder 07**	**14.28**	**97**	Pn		**Pn**	**00 51 42.6**	**+1.8**
SN05	**Snyder 5**	**14.35**	**98**	P		**P**	**00 51 46.9**	**-2.0**
PLPT	**Palo Pinto**	**16.44**	**96**	P		**P**	**00 52 12.1**	**0.0**
PLPT				IAmb		IAmb	00 52 17.7	
	comp=Z,9.3nm,1.1s							
FNO	**Franklin**	**16.64**	**87**	P		**P**	**00 52 14.2**	**-0.1**
FNO				IAmb		IAmb	00 52 46.9	
	comp=Z,6.7nm,0.6s							
FW07	**Weatherford**	**16.89**	**96**	P		**P**	**00 52 17.7**	**+0.6**
FW07				IAmb		IAmb	00 52 22.3	
	comp=Z,8.2nm,0.5s							
833A	**Chaparral WMA,**	**17.40**	**111**	P		**Pn**	**00 52 21.7**	**+0.3**
BBB	**Bella Bella**	**17.70**	**339**	LR		LR	01 00 38.9	
	comp=Z,82nm,18.1s,baz=122,slow=42							
MIAR	**Mount Ida**	**19.86**	**87**	P		**Pn**	**00 52 51.7**	**+0.4**
ULM	**Lac du Bonnet**	**21.30**	**41**	P		**P**	**00 53 05.4**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=227,slow=19,SNR=3.0							
	comp=Z,1.2nm,0.7s							
FFC	**Flin Flon**	**21.65**	**25**	P		**P**	**00 53 09.2**	**+0.2**
FFC				IAmb		IAmb	00 53 10.5	
	comp=Z,4.0nm,1.0s							
I40A	**Norwalk**	**22.22**	**61**	P		**P**	**00 53 15.9**	**+0.7**
I40A				IAmb		IAmb	00 53 17.7	
	comp=Z,6.7nm,1.1s							
DLBC	**Dease Lake**	**23.80**	**344**	LR		LR	01 04 04.3	
	comp=Z,13nm,18.5s,baz=141,slow=40							
Q32M	**Nakina River**	**24.79**	**342**	P		**P**	**00 53 37.1**	**-3.6**
TKL	**Tuckaleechee C**	**27.54**	**81**	LR		LR	01 05 35.0	
	comp=Z,73nm,21.5s,baz=288,slow=38							
CMIG	**Matias Romero**	**27.78**	**127**	LR		LR	01 04 35.5	
	comp=Z,63nm,19.5s,baz=194,slow=35							
SADO	**Sadowa**	**30.49**	**61**	LR		LR	01 07 27.2	
	comp=Z,128nm,18.5s,baz=308,slow=38							
KDAK	**Kodiak Island**	**31.62**	**324**	LR		LR	01 05 30.6	
	comp=Z,84nm,18.2s,baz=164,slow=33							
INK	**Ink**	**33.49**	**350**	LR		LR	01 10

TNTI	**Ternate**	**6.42 159**			**Pn**	**00 58 10.2**	**-0.2**
TNTI	**Ternate**	**6.42 159**	P		**Pn**	**00 58 11.8**	**+1.4**
	2µm3µm231nm,1.2s						
MRSI	**Marisa**	**7.05 207**	P		**Pn**	**00 58 18.8**	**-0.2**
	3µm335nm,0.8s						
TOLI2	**Tolitoli**	**7.12 217**			**Pn**	**00 58 17.0**	**-3.0**
LUWI	**Luwuk**	**8.15 197**			**Pn**	**00 58 35.5**	**+1.4**
LUWI	**Luwuk**	**8.15 197**	P		Pn	00 58 40.5	+6.4
	528nm,0.8s						
LUWI	**Luwuk**	**8.15 197**	P		**Pn**	**00 58 36.6**	**+2.5**
MPSI	**Mapaga**	**8.27 219**	P		**Pn**	**00 58 37.5**	**+1.7**
TGY	**Tagaytay City**	**8.31 331**	LR		LR	01 02 47.5	
	comp=Z,1µm,20.5s,baz=74,slow=45						
APSI	**Ampana**	**8.42 204**	P		**Pn**	**00 58 39.2**	**+1.4**
	2µm236nm,1.0s						
KKM	**Kota Kinabalu**	**8.86 265**			**Pn**	**00 58 44.4**	**+0.4**
KKM	**Kota Kinabalu**	**8.86 265**	P		**Pn**	**00 58 47.5**	**+3.5**
	58nm,0.9s						
SANI	**Sanana**	**8.86 174**	P		**Pn**	**00 58 42.0**	**-1.9**
	1µm108nm,0.7s						
PCI	**Palu**	**9.30 215**	P		**Pn**	**00 58 52.0**	**+2.1**
	101nm,1.0s						
SWI	**Sorong**	**9.81 141**	P		**Pn**	**00 58 57.1**	**+0.3**
	59nm,0.7s						
NLAI	**Namlea**	**10.20 169**	P		**Pn**	**00 59 01.2**	**-1.0**
	1µm130nm,0.8s						
MSAI	**Masohi**	**10.80 159**	P		**Pn**	**00 59 13.2**	**+2.7**
	67nm,1.0s						
AAI	**Ambon**	**10.89 163**	P		**Pn**	**00 59 13.7**	**+2.0**
	109nm,0.7s						
KDI	**Kendari**	**10.99 193**	P		**Pn**	**00 59 13.1**	**0.0**
TTSI	**Tana Toraja**	**11.13 208**	P		**Pn**	**00 59 16.4**	**+1.4**
	2µm206nm,1.1s						
SPSI	**Sidrap Palu**	**11.96 207**	P		**Pn**	**00 59 26.5**	**+0.1**
	1µm28nm,0.8s						
FAKI	**Fak Fak**	**12.03 143**			**Pn**	**00 59 28.8**	**+1.6**
FAKI	**Fak Fak**	**12.03 143**	P		**Pn**	**00 59 28.9**	**+1.6**
	143nm,1.2s						
BNSI	**Bone**	**12.21 204**	P		**Pn**	**00 59 31.9**	**+2.1**
	79nm,1.3s						
RKPI	**Ransiki, Papua**	**12.28 132**	P		Pn	00 59 35.7	+5.0
	132nm,1.2s						
KAPI	**Kappang**	**12.91 205**			**Pn**	**00 59 40.3**	**+0.9**
KAPI	**Kappang**	**12.91 205**	Pn		**Pn**	**00 59 36.6**	**-2.8**
	2.9nm,0.3s,baz=117,slow=16,SNR=1.6						
KAPI			LR		LR	01 04 50.2	
	comp=Z,1µm,20.8s,baz=48,slow=39						
	7.5nm,0.3s						
KAPI	**Kappang**	**12.91 205**	P		**P**	**00 59 47.7**	**-2.1**
	33nm,1.4s						
SBUM	**Sibu**	**13.55 252**	Pn		**Pn**	**00 59 46.7**	**-1.4**
SBUM	**Sibu**	**13.55 252**	P		**Pn**	**00 59 51.4**	**+3.4**
	40nm,1.4s						
MMRI	**Maumere**	**15.62 191**	Pn		**Pn**	**01 00 16.0**	**0.0**
MMRI	**Maumere**	**15.62 191**	P		**P**	**01 00 23.6**	**+3.7**
	83nm,1.0s						
KSM	**Kuching**	**15.67 251**			**Pn**	**01 00 17.4**	**+0.8**
KSM	**Kuching**	**15.67 251**	P		**P**	**01 00 19.8**	**-0.7**
	63nm,1.2s						
EDFI	**Ende, Flores**	**15.84 192**	P		**Pn**	**01 00 19.5**	**+0.6**
SOEI	**Soe**	**16.49 183**			**P**	**01 00 28.5**	**-1.2**
SOEI	**Soe**	**16.49 183**	P		**P**	**01 00 36.1**	**+6.4**
	129nm,1.1s						
SOEI	**Soe**	**16.49 183**	P		**P**	**01 00 28.8**	**-0.9**
	3µm129nm,1.1s						
TPUB	**Ta-pu**	**16.94 346**	P		**Pn**	**01 00 33.3**	**+0.5**
TPUB			IAmb		IAmb	01 00 39.1	
	comp=Z,431nm,2.0s						
TPUB	**Ta-pu**	**16.94 346**	P		**P**	**01 00 35.6**	**+1.1**
	comp=Z,83nm,1.3s						
BATI	**Baumata**	**16.98 185**	Pn		**Pn**	**01 00 32.0**	**-1.3**
	comp=Z,7.1nm,0.3s,baz=86,slow=22,SNR=8.1						
BATI			LR		LR	01 07 41.5	
	comp=Z,1µm,21.1s,baz=26,slow=40						
	comp=Z,15nm,0.3s						
BATI	**Baumata**	**16.98 185**	P		**P**	**01 00 36.2**	**+1.2**
	comp=Z,2µmcomp=Z,130nm,0.7s						
PLAI	**Plampang**	**17.18 205**	P		**P**	**01 00 42.2**	**+5.0**
	comp=Z,121nm,1.1s						
WBSI	**Waikabubak, Su**	**17.32 199**	P		**P**	**01 00 38.9**	**+0.1**
	comp=Z,2µmcomp=Z,108nm,1.4s						
SSLB	**Suanglung**	**17.33 347**			**Pn**	**01 00 36.8**	**-0.8**
SSLB	**Suanglung**	**17.33 347**	P		**P**	**01 00 39.3**	**+0.4**
	comp=Z,58nm,1.1s						
TWSI	**Taliwang, Sumb**	**17.49 208**	P		**P**	**01 00 41.6**	**+0.9**
	comp=Z,1µmcomp=Z,68nm,1.1s						
YHNB	**Yeheng**	**18.10 349**	P		**P**	**01 00 50.1**	**+2.7**
	comp=Z,59nm,2.0s						
JAY	**Jayapura**	**18.13 120**	P		**P**	**01 00 49.0**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=333,slow=6.2,SNR=6.9						
JAY			LR		LR	01 07 25.7	
	comp=Z,674nm,21.7s,baz=318,slow=36						
	comp=Z,11nm,0.8s						
JAY	**Jayapura**	**18.13 120**	P		**P**	**01 00 48.6**	**+0.8**
JAGI	**Jajag, Banyuwa**	**18.70 216**			**Pn**	**01 00 55.1**	**+0.5**
JAGI	**Jajag, Banyuwa**	**18.70 216**	P		**Pn**	**01 01 00.0**	**+5.4**
	comp=Z,82nm,1.2s						
QZH	**Quanzhou**	**19.06 342**	*e*P		**Pn**	**01 01 00.1**	**+1.3**
QZH			S		**S**	**01 04 32.3**	**-0.4**
QZH			LR		LR		
	comp=Z,1µm,22.7s						
QZH			LR		LR		
	comp=Z,2µm,24.7s						
QZH			LR		LR		
	comp=Z,2µm,20.6s						
QIZ	**Qiongzhong**	**19.16 311**			**P**	**01 00 59.5**	**+0.4**
QIZ	**Qiongzhong**	**19.16 311**	P		**Pn**	**01 01 00.1**	**0.0**
QIZ			S		**S**	**01 04 34.8**	**-0.1**
QIZ			pmax		pmax		
	comp=Z,90nm,1.2s						
QIZ			pmax		pmax		
	comp=Z,1µm,3.6s						
QIZ			LR		LR		
	comp=Z,1µm,16.3s						
QIZ			LR		LR		
	comp=Z,900nm,15.1s						
QIZ			LR		LR		
	comp=Z,2µm,20.0s						
QIZ	**Qiongzhong**	**19.16 311**	P		**Pn**	**01 01 00.7**	**+0.6**
	comp=Z,64nm,1.2s						
SMRI	**Semarang**	**20.09 227**	P		**P**	**01 01 09.7**	**+0.5**
JOW	**Kunigami**	**20.13 8**	P		**P**	**01 01 10.2**	**+0.7**
JOW	**Kunigami**	**20.13 8**	P		Pn	01 01 10.9	-0.5
	comp=Z,81nm,0.7s,baz=123,slow=22,SNR=8.2						
JOW			LR		LR	01 09 23.1	
	comp=Z,467nm,20.5s,baz=198,slow=38						
	comp=Z,81nm,0.7s						
MTN	**Manton Dam**	**20.44 163**			**P**	**01 01 12.4**	**-0.6**
MTN			IAmb		IAmb	01 01 20.0	
	comp=Z,122nm,1.2s						
MTN	**Manton Dam**	**20.44 163**	P		**P**	**01 01 13.3**	**+0.3**
	comp=Z,78nm,0.8s						
GUMO	**Guam**	**20.58 69**	LR		LR	01 11 08.0	
	comp=Z,279nm,18.1s,baz=244,slow=42						
KDU	**Kakadu**	**20.72 159**	P		**P**	**01 01 15.3**	**-0.8**
	comp=Z,153nm,0.9s						
UBPT	**Khong Chiam**	**21.00 295**	P		**P**	**01 01 18.5**	**-0.6**
UBPT	**Khong Chiam**	**21.00 295**	P		Pn	01 01 20.9	-0.9
	comp=Z,54nm,1.2s						
MYKOM	**Kota Tinggi**	**21.76 258**	P		**P**	**01 01 27.4**	**+0.1**
MYKOM	**Kota Tinggi**	**21.76 258**	P		**P**	**01 01 31.4**	**+4.1**
	comp=Z,41nm,1.3s						
BBJI	**Bungbulang**	**22.45 231**	P		**P**	**01 01 37.9**	**+3.1**
	comp=Z,80nm,1.0s						
KNRA	**Kununurra**	**22.65 171**			**P**	**01 01 35.6**	**-1.1**
KNRA			IAmb		IAmb	01 01 49.5	
	comp=Z,67nm,0.7s						
KNRA	**Kununurra**	**22.65 171**	P		**P**	**01 01 36.1**	**-0.6**
	comp=Z,96nm,0.7s						
IPM	**Ipoh**	**24.06 266**	P		**P**	**01 01 50.4**	**-0.5**
IPM			IAmb		IAmb	01 01 58.4	
	comp=Z,47nm,1.0s						
IPM	**Ipoh**	**24.06 266**	P		**P**	**01 01 53.3**	**+2.4**
	comp=Z,53nm,1.1s						
KULM	**Kulim**	**24.36 268**	P		**P**	**01 01 52.6**	**-0.9**
KULM			IAmb		IAmb	01 02 04.4	
	comp=Z,93nm,1.5s						
KULM	**Kulim**	**24.36 268**	P		**P**	**01 01 55.9**	**+2.3**
	comp=Z,40nm,1.1s						
FITZ	**Fitzroy Crossi**	**24.77 179**	P		**P**	**01 01 56.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**24.77 179**	P		**P**	**01 01 56.3**	**-0.9**
	comp=Z,11nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.77 179**	P		**P**	**01 01 56.4**	**-0.7**
	comp=Z,25nm,0.8s,baz=13,slow=9.3,SNR=42						
	comp=Z,25nm,0.8s						
BKNI	**Bangkinang**	**24.85 256**	P		**P**	**01 01 57.4**	**-0.7**
SLVN	**Son La**	**25.06 307**	P		**P**	**01 01 59.1**	**-0.8**
SLVN	**Son La**	**25.06 307**	P		**P**	**01 02 01.8**	**+1.9**
	comp=Z,22nm,1.7s						
SRIT	**Nakonsritamara**	**25.32 276**	P		**P**	**01 02 01.5**	**-0.8**
SRIT	**Nakonsritamara**	**25.32 276**	P		**P**	**01 02 05.0**	**+2.7**
	comp=Z,22nm,0.9s						
WHN	**Wuhan**	**25.66 338**	P		**P**	**01 02 08.1**	**+2.9**
WHN			sP		**sP**	**01 02 15.7**	**-0.6**
WHN			LR		LR		
	comp=Z,2µm,19.9s						
NJ2	**Nanjing**	**25.77 348**	*e*P		**P**	**01 02 08.1**	**+2.0**
NJ2			pmax		pmax		
	comp=Z,34nm,0.7s						
GYA	**Guiyang**	**26.26 320**	⇑P		**P**	**01 02 11.8**	**+1.0**
GYA			pP		pP	01 02 20.2	+1.6
GYA			S		**S**	**01 06 43.4**	**+1.5**
GYA			sS		sS	01 06 58.6	+3.8
GYA			pmax		pmax		
	comp=Z,17nm,1.0s						
GYA			LR		LR		
	comp=Z,1µm,15.6s						
PSI	**Prapat**	**26.38 263**	LR		LR	01 15 45.3	
	comp=Z,316nm,18.7s,baz=89,slow=44						
PSI	**Prapat**	**26.38 263**	P		**P**	**01 02 13.1**	**+1.1**
	comp=Z,36nm,1.2s						
PSI	**Prapat**	**26.38 263**	P		**P**	**01 02 11.8**	**-0.2**
PSI			pmax		pmax		
	comp=Z,24nm,0.9s						
RPSI	**Rantau Prapat**	**26.40 262**	P		**P**	**01 02 11.8**	**-0.3**
JNU	**Nakatsue**	**26.71 11**	P		**P**	**01 02 14.4**	**-0.4**
JNU	**Nakatsue**	**26.71 11**	LR		LR	01 12 48.5	
	comp=Z,208nm,21.4s,baz=194,slow=36						
JNU	**Nakatsue**	**26.71 11**	P		**P**	**01 02 19.2**	**+4.5**
	comp=Z,45nm,1.5s						
COEN	**Coen**	**27.36 139**	P		**P**	**01 02 20.8**	**+0.2**
COEN	**Coen**	**27.36 139**	P		**P**	**01 02 22.4**	**+1.7**
	comp=Z,47nm,1.1s						
ENH	**Enshi**	**27.55 330**	P		**P**	**01 02 21.4**	**-0.9**
ENH			IAmb		IAmb	01 02 31.2	
	comp=Z,37nm,0.9s						
ENH	**Enshi**	**27.55 330**	P		**P**	**01 02 23.6**	**+1.3**
	comp=Z,44nm,0.9s						
WB0	**Warramunga Arr**	**27.96 161**	P		**P**	**01 02 24.4**	**-1.7**
WB0			IAmb		IAmb	01 02 43.3	
	comp=Z,34nm,0.9s						
CM31	**Chiang Mai Arr**	**27.97 297**	P		**P**	**01 02 26.1**	**0.0**
CMAR	**Chiang Mai Arr**	**27.97 297**	P		**P**	**01 02 25.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**27.97 297**	P		**P**	**01 02 24.1**	**-2.0**
	comp=Z,3.8nm,0.8s,baz=118,slow=6.6,SNR=18						
CMAR			LR		LR	01 13 38.4	
	comp=Z,388nm,18.9s,baz=110,slow=37						
	comp=Z,3.8nm,0.8s						
JMN	**Monobe**	**27.98 16**	P		**P**	**01 02 25.2**	**-0.9**
JMN			IAmb		IAmb	01 02 31.9	
	comp=Z,46nm,0.8s						
JMN	**Monobe**	**27.98 16**	P		**P**	**01 02 31.3**	**+5.2**
	comp=Z,72nm,0.9s						
GSI	**Gunungsitoli**	**27.98 260**	P		**P**	**01 02 25.2**	**-1.2**
GSI	**Gunungsitoli**	**27.98 260**	P		**P**	**01 02 27.4**	**+1.1**
	comp=Z,90nm,0.8s						
KMI	**Kunming**	**28.07 313**	P		**P**	**01 02 28.7**	**+1.4**
KMI			pP		pP	01 02 33.5	-1.7
KMI			pmax		pmax		
	comp=Z,39nm,1.0s						
KMI			LR		LR		
	comp=Z,660nm,22.0s						
KMI			LR		LR		
	comp=Z,440nm,22.9s						
KMI			LR		LR		
	comp=Z,620nm,16.7s						
CHTO	**Chiang Mai**	**28.10 298**	P		**P**	**01 02 26.2**	**-1.1**
CHTO	**Chiang Mai**	**28.10 298**	P		**P**	**01 02 27.8**	**+0.5**
	comp=Z,8.5nm,1.5s						
CHTO	**Chiang Mai**	**28.10 298**	P		**P**	**01 02 26.2**	**-1.1**
CHTO			pmax		pmax		
	comp=Z,14nm,1.1s						
WRAB	**Tennant Creek**	**28.11 161**	*d*iP		**P**	**01 02 26.2**	**-1.1**
WRAB			pmax		pmax		
	comp=Z,28nm,1.9s						
WRA	**Warramunga Arr**	**28.11 161**	P		**P**	**01 02 25.7**	**-1.7**
WRA	**Warramunga Arr**	**28.11 161**	P		**P**	**01 02 25.8**	**-1.7**
	comp=Z,4.8nm,0.8s,baz=342,slow=9.2,SNR=18						
	comp=Z,4.8nm,0.8s						
WRA	**Warramunga Arr**	**28.11 161**	P		**P**	**01 02 25.7**	**-1.7**
WRA			pmax		pmax		
	comp=Z,4.0nm,1.6s						
WR8	**Warramunga Arr**	**28.18 161**	P		**P**	**01 02 25.8**	**-2.2**
WR8			IAmb		IAmb	01 02 45.4	
	comp=Z,47nm,1.1s						
MBWA	**Marble Bar**	**28.30 191**	P		**P**	**01 02 31.2**	**+2.2**
	comp=Z,22nm,1.8s						
TJN	**Taejon**	**29.49 4**	⇓*i*P		**P**	**01 02 38.2**	**-1.2**
PZH	**PanZhiHua**	**29.62 314**	P		**P**	**01 02 45.3**	**+4.4**
PZH			S		**S**	**01 07 35.3**	**+0.3**
PZH			pmax		pmax		
	comp=Z,30nm,1.4s						
PZH			pmax		pmax		
	comp=Z,150nm,5.3s						
PZH			LR		LR		
	comp=Z,500nm,17.8s						
PZH			LR		LR		
	comp=Z,400nm,20.2s						
PZH			LR		LR		
	comp=Z,410nm,17.8s						
LYN	**LuoYang**	**29.95 339**	P		**P**	**01 02 44.0**	**+0.4**
LYN			pP		pP	01 02 50.2	-1.2
LYN			S		**S**	**01 07 38.4**	**-1.3**
LYN			sS		sS	01 07 51.2	-1.5
LYN			pmax		pmax		
	comp=Z,37nm,1.2s						
LYN			pmax		pmax		
	comp=Z,100nm,4.0s						
LYN			LR		LR		
	comp=Z,920nm,23.7s						
LYN			LR		LR		
	comp=Z,1µm,23.0s						
LYN			LR		LR		
	comp=Z,760nm,22.3s						
TIA	**Tai'an**	**30.15 347**	P		**P**	**01 02 45.5**	**+0.2**
TIA			pmax		pmax		
	comp=Z,16nm,0.9s						
JSG	**Sagara**	**30.23 22**	P		**P**	**01 02 46.4**	**+0.3**
INU	**Inuyama**	**30.43 19**	P		**P**	**01 02 46.8**	**-1.0**
KSAR	**Wonju Array Be**	**30.58 4**	P		**P**	**01 02 48.6**	**-0.5**
KSAR	**Wonju Array Be**	**30.58 4**	P		**P**	**01 02 48.6**	**-0.5**
KSRS	**Korea Array**	**30.60 4**	P		**P**	**01 02 49.0**	**-0.2**
	comp=Z,7.0nm,0.8s,baz=183,slow=9.9,SNR=17						
	comp=Z,7.0nm,0.8s						
QIS	**Mount Isa**	**30.72 153**	P		**P**	**01 02 50.3**	**-0.2**
	comp=Z,43nm,1.0s						
JGF	**Kuroka**	**30.77 20**	P		**P**	**01 02 50.0**	**-0.8**
JGF	**Kuroka**	**30.77 20**	P		P	01 02 55.8	+4.9
	comp=Z,26nm,1.0s						
XAN	**Xi'an**	**30.94 333**	⇓P		**P**	**01 02 52.2**	**-0.2**
XAN			pP		pP	01 02 57.6	-2.6
XAN			S		**S**	**01 08 02.9**	**+7.6**
XAN			pmax		pmax		
	comp=Z,39nm,0.8s						
XAN			pmax		pmax		
	comp=Z,180nm,6.7s						
XAN			LR		LR		
	comp=Z,740nm,16.5s						
XAN			LR		LR		
	comp=Z,1µm,20.6s						
XAN			LR		LR		
	comp=Z,1µm,19.2s						
TNCH	**TengChong**	**31.20 308**	P		**P**	**01 02 56.0**	**+1.0**
TNCH			sP		pP	01 03 04.4	+1.6
TNCH			S		**S**	**01 08 00.2**	**+0.2**
TNCH			pmax		pmax		
	comp=Z,35nm,0.7s						
TNCH			pmax		pmax		
	comp=Z,140nm,5.5s						
TNCH			LR		LR		
	comp=Z,340nm,16.9s						
TNCH			LR		LR		
	comp=Z,390nm,15.6s						
TNCH			LR		LR		
	comp=Z,620nm,18.3s						
CD2	**Chengdu**	**31.21 323**	P		**P**	**01 02 55.0**	**+0.2**
CD2			pP		pP	01 02 59.1	-3.6
CD2			sP		sP	01 03 02.9	-3.1
CD2			S		**S**	**01 08 00.7**	**+1.1**
CD2			pmax		pmax		
	comp=Z,70nm,0.9s						
CD2			pmax		pmax		
	comp=Z,190nm,5.6s						
CD2			LR		LR		
	comp=Z,1µm,22.8s						
CD2			LR		LR		
	comp=Z,1µm,20.5s						
CD2			LR		LR		
	comp=Z,770nm,16.8s						
MTSU	**Mount Surprise**	**31.23 143**	P		**P**	**01 02 57.3**	**+2.3**
	comp=Z,9.9nm,0.8s						
MTSU	**Mount Surprise**	**31.23 143**	P		P	01 03 03.9	+8.9
	comp=Z,9.8nm,0.8s						
AS15	**Alice Springs**	**31.48 164**	P		**P**	**01 02 57.0**	**-0.2**
	comp=Z,15nm,0.8s						
AS31	**Alice Springs**	**31.50 164**	P		**P**	**01 02 57.4**	**0.0**
ASAR	**Alice Springs**	**31.50 164**	P		**P**	**01 02 56.6**	**-0.8**
	comp=Z,2.2nm,0.5s,baz=341,slow=7.0,SNR=29						
	comp=Z,2.2nm,0.5s						
WRKA	**Warakurna**	**31.82 174**	P		**P**	**01 03 02.3**	**+2.1**
	comp=Z,6.1nm,0.9s						
HNS	**HongShan**	**31.87 344**	⇑P		**P**	**01 03 00.7**	**+0.3**
HNS			pP		**pP**	**01 03 06.1**	**-2.2**
HNS			sP		**sP**	**01 03 11.6**	**0.0**
HNS			PP		**PP**	**01 04 10.0**	**-2.7**
HNS			pmax		pmax		
	comp=Z,38nm,1.0s						
HNS			LR		LR		
	comp=Z,390nm,19.6s						
HNS			LR		LR		
	comp=Z,630nm,19.4s						
HNS			LR		LR		
	comp=Z,730nm,19.1s						
MAJO	**Matsushiro**	**31.92 20**	P		**P**	**01 02 59.1**	**-1.8**
MAJO			IAmb		IAmb	01 03 05.3	
	comp=Z,20nm,0.8s						
MAJO	**Matsushiro**	**31.92 20**	P		**P**	**01 03 05.6**	**+4.7**
	comp=Z,26nm,0.9s						
MAJO	**Matsushiro**	**31.92 20**	⇑*i*P		**P**	**01 02 59.3**	**-1.6**
MAJO			pmax		pmax		
	comp=Z,11nm,0.8s						
MJAR	**Matsushiro Arr**	**31.92 20**	P		**P**	**01 02 59.4**	**-1.5**
MJAR			IAmb		IAmb	01 03 05.4	
	comp=Z,22nm,0.8s						
MJAR	**Matsushiro Arr**	**31.92 20**	P		**P**	**01 02 60.0**	**-1.0**
	comp=Z,21nm,0.8s,baz=186,slow=9.0,SNR=16						
	comp=Z,21nm,0.8s						
MJAR	**Matsushiro Arr**	**31.92 20**	P		**P**	**01 02 59.4**	**-1.5**
MJAR			pmax		pmax		
	comp=Z,22nm,0.8s						
JSD	**Sado**	**33.29 19**	P		P	01 03 17.8	+4.9
	comp=Z,19nm,0.9s						
MEEK	**Meekatharra**	**33.85 190**	P		**P**	**01 03 19.0**	**+1.1**
	comp=Z,32nm,1.5s						
CTAO	**Charters Tower**	**33.89 143**	P		**P**	**01 03 17.3**	**-1.1**
CTAO			IAmb		IAmb	01 03 25.8	
	comp=Z,37nm,1.4s						
CTAO	**Charters Tower**	**33.89 143**	P		P	01 03 25.4	+7.1
CTAO	**Charters Tower**	**33.89 143**	P		**P**	**01 03 17.3**	**-1.1**
CTAO			pmax		pmax		
	comp=Z,37nm,1.4s						
BJT	**Baijiatuau**	**34.01 348**	P		**P**	**01 03 19.7**	**+0.6**
BJT	**Baijiatuau**	**34.01 348**	P		**P**	**01 03 20.1**	**+1.0**
	comp=Z,60nm,1.1s						
BJT	**Baijiatuau**	**34.01 348**	P		**P**	**01 03 19.7**	**+0.6**
BJT			pmax		pmax		
	comp=Z,43nm,0.8s						
BJT	**Baijiatuau**	**34.01 348**	P		**P**	**01 03 19.8**	**+0.7**
BJT			sP		**sP**	**01 03 32.6**	**+2.3**
BJI	**Beijing**	**34.03 348**	P		**P**	**01 03 19.5**	**+0.2**
BJI			sP		**pP**	**01 03 27.8**	**+0.6**
BJI			sS		**sS**	**01 08 56.4**	**+0.3**
BJI			pmax		pmax		
	comp=Z,28nm,0.9s						
BJI			pmax		pmax		
	comp=Z,120nm,4.9s						
BJI			LR		LR		
	comp=Z,140nm,23.2s						
BJI			LR		LR		
	comp=Z,350nm,26.1s						
BJI			LR		LR		
	comp=Z,150nm,17.6s						
JMM	**Marumori**	**34.03 22**	P		**P**	**01 03 18.3**	**-1.1**
JMM	**Marumori**	**34.03 22**	P		**P**	**01 03 20.6**	**+1.3**
	comp=Z,143nm,1.1s						
LZH	**Lanzhou**	**35.03 329**	*e*P		**P**	**01 03 29.9**	**+1.7**
LZH			pP		pP	01 03 36.3	+0.1
LZH			S		**S**	**01 09 04.9**	**+5.8**
LZH			SS		**SnSn**	**01 11 16.7**	**+0.8**
LZH			pmax		pmax		
	comp=Z,72nm,1.3s						
LZH			LR		LR		
	comp=Z,820nm,14.6s						
LZH			LR		LR		
	comp=Z,590nm,15.2s						
LZH			LR		LR		
	comp=Z,680nm,14.9s						
BRDH	**Bariadhala**	**35.86 300**	LR		LR	01 20 45.8	
	comp=Z,409nm,18.7s,baz=128,slow=41						
HHC	**Hu-ho-hao-te**	**35.97 342**	⇑*i*P		**P**	**01 03 37.5**	**+1.3**
HHC			sP		pP	01 03 43.5	-0.6
HHC			S		**S**	**01 09 11.4**	**-1.9**
HHC			pmax		pmax		
	comp=Z,29nm,0.8s						
HHC			LR		LR		
	comp=Z,450nm,22.6s						
HHC			LR		LR		
	comp=Z,330nm,22.7s						
HHC			LR		LR		
	comp=Z,750nm,20.6s						
MSHR	**Mys Shultsa**	**36.01 8**	*e*P		**P**	**01 03 35.7**	**-0.6**
MSHR			pmax		pmax		
	comp=Z,35nm,0.9s						
BTO	**Baotou**	**36.24 340**	*e*P		**P**	**01 03 36.6**	**-1.9**
BTO			S		**S**	**01 09 15.1**	**-2.3**
BTO			SS		**SnSn**	**01 11 46.4**	**+1.4**
BTO			pmax		pmax		
	comp=Z,16nm,0.7s						
BTO			pmax		pmax		
	comp=Z,220nm,4.4s						
BTO			LR		LR		
	comp=Z,1µm,20.4s						
BTO			LR		LR		
	comp=Z,1µm,19.0s						
BTO			LR		LR		
	comp=Z,2µm,19.1s						
CN2	**Changchun**	**36.83 0**	⇑P		**P**	**01 03 46.9**	**+3.6**
CN2			pmax		pmax		
	comp=Z,10.0nm,0.6s						
FORT	**Forrest**	**37.50 176**	P		**P**	**01 03 48.6**	**-0.5**
FORT	**Forrest**	**37.50 176**	P		**P**	**01 03 51.6**	**+2.5**
	comp=Z,23nm,0.8s						
USA0B	**Ussuriysk Arra**	**37.72 8**	P		**P**	**01 03 50.9**	**+0.1**
USA0B			IAmb		IAmb	01 03 57.6	
	comp=Z,38nm,0.9s						
USA0B	**Ussuriysk Arra**	**37.72 8**	⇑*i*P		**P**	**01 03 51.8**	**+1.0**
USRK	**Ussuriysk Ar.**	**37.72 8**	P		**P**	**01 03 50.8**	**-0.1**
	comp=Z,20nm,0.8s,baz=195,slow=7.2,SNR=26						
	comp=Z,20nm,0.8s						
XLT	**XiLinHaoTe**	**37.77 349**	*e*P		**P**	**01 03 51.4**	**0.0**
XLT			S		**S**	**01 09 45.3**	**+4.8**
XLT			SS		**SnSn**	**01 12 17.2**	**-4.6**
XLT			ScS		**ScS**	**01 13 55.8**	**-6.8**
XLT			pmax		pmax		
	comp=Z,38nm,0.7s						
XLT			pmax		pmax		
	comp=Z,230nm,3.9s						
XLT			LR		LR		
	comp=Z,600nm,22.5s						
XLT			LR		LR		
	comp=Z,290nm,24.9s						
MDJ	**Mudanjiang**	**37.85 5**	P		**P**	**01 03 52.5**	**+0.5**
MDJ			IAmb		IAmb	01 03 59.8	
	comp=Z,38nm,0.9s						
MDJ	**Mudanjiang**	**37.85 5**	P		**P**	**01 03 53.0**	**+1.0**
MDJ

ERM Erimo 38.53 22 *e*P P 01 03 59.2 +1.5
ERM pmax pmax
comp=Z,42nm,0.9s
JEM Erimo 38.53 22 P P 01 04 01.8 +4.0
comp=Z,48nm,0.9s
BNX BinXian 38.82 3 ⇑P P 01 04 00.1 0.0
BNX pP pP 01 04 06.4 -1.8
BNX PcP PcP 01 06 10.5 -0.6
BNX S S 01 09 58.3 +2.1
BNX pmax pmax
comp=Z,17nm,1.0s
BNX pmax pmax
comp=Z,82nm,4.1s
BNX LR LR
comp=Z,200nm,19.0s
BNX LR LR
comp=Z,320nm,19.0s
BNX LR LR
comp=Z,330nm,19.9s
KLBR Kellerberrin 38.84 190 P P 01 04 02.0 +1.6
comp=Z,41nm,0.9s
LSA Lhasa 39.20 310 P P 01 04 02.5 -1.7
LSA Lhasa 39.20 310 P P 01 04 02.5 -1.7
LSA pmax pmax
comp=Z,19nm,0.9s
TEY Ternei 39.36 13 *e*P P 01 03 55.6 -9.0
TEY *e* 01 09 59.9
GTA Gaotai 39.62 329 P P 01 04 08.9 +1.8
GTA PcP PcP 01 06 14.6 +0.7
GTA S S 01 10 12.6 +3.8
GTA SS SS 01 13 04.2 -0.3
GTA pmax pmax
comp=Z,93nm,1.0s
GTA LR LR
comp=Z,340nm,17.1s
GTA LR LR
comp=Z,470nm,17.5s
GTA LR LR
comp=Z,550nm,17.1s
ASAJ Asahikawa 40.18 20 LR LR 01 20 18.2
comp=Z,274nm,20.1s,baz=182,slow=35
ASAJ Asahikawa 40.18 20 P P 01 04 11.4 -0.1
ASAJ pmax pmax
comp=Z,70nm,0.9s
JKA Kamikawa-asahi 40.18 20 P P 01 04 11.4 -0.1
NWAO Narrogin (SRO) 40.23 190 LR LR 01 22 22.1
comp=Z,204nm,20.8s,baz=45,slow=39
GOMU GeErMu 40.27 321 P P 01 04 14.1 +1.3
GOMU pP pP 01 04 17.2 -3.7
GOMU sP sP 01 04 21.8 -2.3
GOMU S S 01 10 24.8 +5.8
GOMU pmax pmax
comp=Z,10.0nm,1.0s
GOMU LR LR
comp=Z,390nm,17.6s
GOMU LR LR
comp=Z,350nm,17.8s
GOMU LR LR
comp=Z,520nm,17.7s
EIDS Eidsvold 40.78 143 P P 01 04 17.5 +0.8
EIDS Eidsvold 40.78 143 P P 01 04 19.2 +2.5
comp=Z,17nm,1.0s
STKA Stephens Creek 41.58 159 P P 01 04 22.6 -0.6
STKA Stephens Creek 41.58 159 P P 01 04 23.3 +0.1
comp=Z,111nm,0.9s
STKA Stephens Creek 41.58 159 P P 01 04 22.2 -0.9
comp=Z,9.0nm,0.7s,baz=339,slow=10,SNR=13
STKA LR LR 01 23 05.5
comp=Z,355nm,21.4s,baz=346,slow=38
comp=Z,9.0nm,0.7s
STKA Stephens Creek 41.58 159 *i* P P 01 04 22.9 -0.3
HTT Hallett 42.13 163 P P 01 04 29.3 +1.6
comp=Z,7.3nm,1.0s
HIA Hailar 42.54 355 P P 01 04 31.1 +0.2
HIA IAmb IAmb 01 04 38.4
comp=Z,44nm,1.0s
HIA Hailar 42.54 355 P P 01 04 31.7 +0.9
comp=Z,50nm,1.1s
HIA Hailar 42.54 355 *d i*P P 01 04 31.0 +0.2
HIA pmax pmax
comp=Z,34nm,0.9s
KLR Kul'dur 42.63 6 LR LR 01 26 03.7
comp=Z,235nm,18.1s,baz=198,slow=42
KLR Kul'dur 42.63 6 *d i*P P 01 04 31.7 +0.2
KLR pmax pmax
comp=Z,28nm,0.9s
YSS Yuzhno-Sakhali 42.76 18 P P 01 04 32.5 -0.1
YSS IAmb IAmb 01 04 39.1
comp=Z,49nm,1.2s
YSS Yuzhno-Sakhali 42.76 18 P P 01 04 36.6 +4.0
comp=Z,29nm,1.0s
YSS Yuzhno-Sakhali 42.76 18 *e*P P 01 04 37.8 +5.2
YSS *e*S S 01 11 04.0 +9.1
YSS *e*SS ScS 01 14 29.9 -2.1
YSS pmax pmax
comp=Z,30nm,1.0s
YSS smax smax
comp=N,100nm,4.9s
YSS MLR MLR
comp=Z,200nm,15.0s
YSS MLR MLR
comp=N,100nm,16.0s
CMSA Cobar Meteorol 42.92 154 P P 01 04 35.9 +1.8
comp=Z,16nm,1.5s
CMSA Cobar Meteorol 42.92 154 P P 01 04 38.6 +4.5
comp=Z,16nm,1.5s
HEH HeiHe 43.33 2 *e*P P 01 04 37.2 +0.1
HEH pP pP 01 04 42.2 -3.1
HEH S S 01 11 06.9 +3.8
HEH pmax pmax
comp=Z,53nm,0.9s
HEH pmax pmax
comp=Z,250nm,5.3s
HEH LR LR
comp=Z,350nm,17.7s
HEH LR LR
comp=Z,220nm,19.4s
HEH LR LR
comp=Z,390nm,18.4s
ULN Ulaanbaatar 43.69 342 P P 01 04 39.6 -0.8
ULN Ulaanbaatar 43.69 342 *ce*P P 01 04 40.5 +0.1
ULN pmax pmax
comp=Z,5.0nm,0.7s
SONM Songino Array 43.87 342 P P 01 04 41.0 -0.7
SONM Songino Array 43.87 342 P P 01 04 41.0 -0.7
comp=Z,5.1nm,0.8s,baz=157,slow=9.4,SNR=21
SONM LR LR 01 24 08.6
comp=Z,752nm,21.0s,baz=157,slow=38
comp=Z,5.1nm,0.8s
SONM Songino Array 43.87 342 P P 01 04 41.0 -0.7
PALK Pallekele 44.05 273 LR LR 01 23 32.9
comp=Z,157nm,20.2s,baz=73,slow=37
GRNR Gornyy 44.81 10 ⇓*i*P P 01 04 50.2 +1.2
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR MLR MLR
comp=E,160nm,20.0s
GRNR MLR MLR
comp=N,180nm,18.0s
GRNR MLR MLR
comp=Z,230nm,19.0s
ARMA Armidale 44.93 147 P P 01 04 50.5 +0.1
ARMA Armidale 44.93 147 P P 01 04 52.6 +2.2
comp=Z,14nm,1.0s
ARMA Armidale 44.93 147 P P 01 04 57.0 +6.6
comp=Z,14nm,1.0s
ARPS Mount Arapiles 46.12 161 P P 01 05 01.6 +2.1
comp=Z,15nm,1.6s
TYV Tymovskoe 46.27 15 *e*P P 01 05 07.2 +6.6
TYV pmax pmax
comp=Z,14nm,1.3s
TYV pmax pmax
comp=Z,100nm,2.3s
HYB Hyderabad 46.59 287 *e*P P 01 05 04.1 +0.4
ZEA Zeya 46.81 2 *e*P P 01 05 05.0 +0.2
ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=Z,40nm,0.8s
ZAK Zakamensk 47.09 341 *e*P P 01 05 06.4 -0.7
ZAK pmax pmax
comp=Z,7.0nm,1.6s
CAN Canberra 47.59 153 P P 01 05 11.4 +0.2
CAN IAmb IAmb 01 05 30.0
comp=Z,32nm,1.2s
CAN Canberra 47.59 153 P P 01 05 18.7 +7.5
comp=Z,44nm,1.3s
CAN Canberra 47.59 153 P P 01 05 11.4 +0.2
CAN pmax pmax
comp=Z,32nm,1.2s
CNB Canberra Magne 47.75 153 P P 01 05 14.4 +1.9
comp=Z,23nm,1.0s
CNB Canberra Magne 47.75 153 P P 01 05 19.9 +7.5
comp=Z,23nm,1.0s
TOO Toolangi 48.10 158 P P 01 05 15.6 +0.5
TOO Toolangi 48.10 158 P P 01 05 17.5 +2.5
comp=Z,12nm,2.6s
TOO Toolangi 48.10 158 P P 01 05 15.6 +0.5
TOO pmax pmax
comp=Z,8.0nm,1.1s
IRK Irkutsk 48.41 343 *e*P P 01 05 23.9 +6.6
IRK pmax pmax
comp=Z,21nm,2.2s
MOY Mondy 48.94 340 *e*P P 01 05 21.4 -0.1
MOY pmax pmax
comp=Z,23nm,2.4s
WMQ Urumqi 49.27 325 *e*P P 01 05 26.1 +2.0
WMQ LR LR
comp=Z,620nm,20.7s
WMQ LR LR
comp=Z,370nm,15.9s
WMQ LR LR
comp=Z,420nm,24.1s
DZM Mont Dzumac 49.66 126 P P 01 05 26.6 -0.7
DZM IAmb IAmb 01 05 40.4
comp=Z,29nm,1.0s
DZM Mont Dzumac 49.66 126 *e*P P 01 05 31.3 +3.9
comp=Z,69nm,1.1s
DZM *e*S S 01 12 33.6 -1.1
comp=Z,219nm,24.2s
DZM *e*LR LR 01 19 41.3
comp=Z,379nm,23.8s
DZM Mont Dzumac 49.66 126 P P 01 05 33.7 +6.3
comp=Z,31nm,1.1s
BOD Bodaibo 51.60 352 *e*P P 01 05 40.7 -0.6
BOD pmax pmax
comp=Z,28nm,1.5s
ZSN Zaisan 53.04 327 *e*P P 01 05 52.0 -0.3
ZSN Zaisan 53.04 327 *e*P P 01 05 52.0 -0.3
PEA0B Petropavlovsk- 53.24 24 P P 01 05 53.7 +0.1
PEA0B Petropavlovsk- 53.24 24 ⇑*e*P P 01 05 53.0 -0.6
PETK Petropavlovsk- 53.24 24 P P 01 05 54.4 +0.8
PETK Petropavlovsk- 53.24 24 P P 01 05 53.8 +0.2
comp=Z,13nm,0.8s,baz=210,slow=4.8,SNR=15
PETK LR LR 01 28 30.7
comp=Z,232nm,19.9s,baz=225,slow=36
comp=Z,13nm,0.8s
PET Petropavlovsk 53.56 25 P P 01 05 55.9 0.0
PET IAmb IAmb 01 06 12.8
comp=Z,33nm,1.1s
PET Petropavlovsk 53.56 25 P P 01 05 58.2 +2.3
comp=Z,103nm,1.4s
PET Petropavlovsk 53.56 25 *e*P P 01 05 57.5 +1.6
PET *e*S S 01 13 30.6 +3.1
PET pmax pmax
comp=Z,29nm,1.2s
PET MLR MLR
comp=Z,200nm,20.0s
PET MLR MLR
comp=Z,200nm,20.0s
SHLS Shalkode 53.95 320 *e*P P 01 05 56.7 -2.4
SHLS pmax pmax
comp=Z,11nm,0.6s
SHLS Shalkode 53.95 320 *e*P P 01 05 56.7 -2.4
comp=Z,11nm,0.6s
PDGK Podgornoye 54.01 320 P P 01 05 59.2 -0.4
MK31 Makanchi Array 54.10 325 *d i*P P 01 06 00.2 +0.1
MKAR Makanchi Array 54.10 325 P P 01 05 58.8 -1.3
MKAR Makanchi Array 54.10 325 P P 01 06 00.4 +0.3
comp=Z,14nm,0.7s,baz=128,slow=8.1,SNR=123
MKAR LR LR 01 29 25.7
comp=Z,166nm,21.3s,baz=122,slow=36
comp=Z,14nm,0.7s
MAKZ Makanchi 54.29 325 P P 01 06 00.9 -0.5
MAKZ IAmb IAmb 01 06 02.8
comp=Z,16nm,0.8s
MAKZ Makanchi 54.29 325 P P 01 06 01.0 -0.5
MAKZ pmax pmax
comp=Z,16nm,0.8s
MAKZ Makanchi 54.29 325 P P 01 06 01.9 +0.5
TARG Taragay, Kyrgy 54.38 317 IAmb IAmb 01 06 27.4
comp=Z,20nm,0.9s
KSH Kashi 54.73 314 P P 01 06 06.6 +1.7
KSH sP pP 01 06 14.5 +1.3
KSH pmax pmax
comp=Z,19nm,1.3s
KSH LR LR
comp=Z,490nm,18.6s
KSH LR LR
comp=Z,220nm,17.5s
KSH LR LR
comp=Z,300nm,15.1s
NIL Nilore 54.77 307 P P 01 06 05.1 -0.1
NIL Nilore 54.77 307 P P 01 06 05.1 -0.1
NIL pmax pmax
comp=Z,60nm,0.9s
YAK Yakutsk 55.20 3 *e*P P 01 06 12.8 +5.1
YAK *e**PP sP 01 06 19.0 -0.2
YAK *e* 01 07 11.9
YAK *e* 01 08 17.2
YAK *e*PPP PPP 01 09 29.8
YAK *e*S S 01 13 59.8 +11
YAK *e**SS sS 01 14 09.4 +6.5
YAK pmax pmax
comp=Z,30nm,1.1s
YAK pmax pmax
comp=N,17nm,1.7s
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK pmax pmax
comp=Z,11nm,0.5s
YAK pmax pmax
comp=N,25nm,2.4s
YAK pmax pmax
comp=E,73nm,4.8s
YAK smax smax
comp=N,31nm,2.0s
YAK smax smax
comp=E,38nm,3.0s
ARXS Arharly 55.49 320 *e*P P 01 06 10.3 0.0
TDK Taldyqorghan 55.50 321 *e*P P 01 06 09.9 -0.3
TDK Taldyqorghan 55.50 321 *e*P P 01 06 10.0 -0.3
TNSS Tian-Shan 55.53 319 *e*P P 01 06 10.2 -0.7
TNSS Tian-Shan 55.53 319 *e*P P 01 06 10.2 -0.7
ULHL Ulahol 55.65 317 P P 01 06 12.8 +1.2
SNR=6.3
CHKK Chushkaly 55.86 319 *e*P P 01 06 12.3 -0.5
CHKK Chushkaly 55.86 319 *e*P P 01 06 12.4 -0.5
MA2 Magadan 56.14 15 P P 01 06 14.6 +0.1
MA2 IAmb IAmb 01 06 16.5
comp=Z,15nm,0.8s
MA2 Magadan 56.14 15 P P 01 06 18.7 +4.1
comp=Z,24nm,0.9s
MA2 Magadan 56.14 15 ⇑*i*P P 01 06 14.0 -0.6
MA2 pmax pmax
comp=Z,31nm,1.3s
KUU Kurty 56.30 319 *e*P P 01 06 15.6 -0.4
KUU Kurty 56.30 319 *e*P P 01 06 15.6 -0.4
TKM2 Tokmak 2 56.37 318 P P 01 06 17.1 +0.3
SNR=20
KBK Karagaybulak 56.69 317 P P 01 06 20.5 +1.4
SNR=12
UCH Ucor 56.81 317 P P 01 06 21.4 +1.2
SNR=35
CHMS Chumysh 56.97 318 P P 01 06 21.5 +0.7
SNR=9.4
AAK Ala-Archa 56.99 317 P P 01 06 21.2 +0.1
AAK IAmb IAmb 01 06 36.1
comp=Z,33nm,1.4s
AAK Ala-Archa 56.99 317 LR LR 01 32 19.4
comp=Z,297nm,21.7s,baz=103,slow=38
AAK Ala-Archa 56.99 317 *d i*P P 01 06 21.6 +0.5
AAK pmax pmax
comp=Z,21nm,1.3s
ZALV Zalesovo Beam 57.11 333 P P 01 06 20.2 -1.3
ZALV Zalesovo Beam 57.11 333 P P 01 06 20.6 -0.9
comp=Z,5.8nm,1.0s,baz=115,slow=7.0,SNR=20
ZALV LR LR 01 33 29.2
comp=Z,178nm,18.6s,baz=132,slow=39
comp=Z,5.8nm,1.0s
ZALV Zalesovo Beam 57.11 333 P P 01 06 20.2 -1.3
SGDS Sogindy 57.23 318 *e*P P 01 06 22.2 -0.5
USP Ospenovka 57.24 318 P P 01 06 23.6 +0.9
SNR=22
EKS2 Erkin-Say 57.49 317 P P 01 06 26.0 +1.4
SNR=11
MSVF Nonsavu 57.70 116 P P 01 06 26.0 -0.3
MSVF IAmb IAmb 01 06 36.2
comp=Z,20nm,0.9s
MSVF Nonsavu 57.70 116 P P 01 06 34.3 +8.0
comp=Z,25nm,1.5s
MSVF Nonsavu 57.70 116 *e*P P 01 06 26.7 +0.4
MSVF pmax pmax
comp=Z,15nm,1.0s
KURBB Kurchatov Arra 58.27 327 P P 01 06 29.3 -0.4
comp=Z,17nm,0.8s,baz=126,slow=6.0,SNR=132
KURBB LR LR 01 33 26.2
comp=Z,168nm,19.8s,baz=166,slow=38
comp=Z,17nm,0.8s
KURK Kurchatov 58.27 327 P P 01 06 29.1 -0.7
KURK Kurchatov 58.27 327 *ce*P P 01 06 29.3 -0.5
KURK pmax pmax
comp=Z,35nm,0.9s
KURK Kurchatov 58.27 327 P P 01 06 29.7 0.0
KURK pP pP 01 06 39.0 +0.9
KBL Kabul 58.37 306 P P 01 06 30.7 -0.4
KBL IAmb IAmb 01 06 38.9
comp=Z,13nm,0.8s
KBL Kabul 58.37 306 P P 01 06 30.7 -0.4
KBL pmax pmax
comp=Z,13nm,0.8s
DGTI Dogotuki 58.74 114 P P 01 06 40.1 +6.5
comp=Z,40nm,1.9s
DZA Taraz 59.24 316 *e*P P 01 06 36.2 -0.5
DZA pmax pmax
comp=Z,14nm,1.2s
DZA Taraz 59.24 316 *e*P P 01 06 36.2 -0.5
comp=Z,14nm,1.2s
SEY Seymchan 59.42 14 LR LR 01 31 52.1
comp=Z,105nm,21.8s,baz=216,slow=36
SEY Seymchan 59.42 14 ⇓*i*P P 01 06 38.9 +1.4
SEY *i* *SP pP 01 06 45.6 -0.3
SEY pmax pmax
comp=Z,16nm,1.3s
SIMJ Simiganj 59.52 311 P P 01 06 38.2 -0.7
SIMJ IAmb IAmb 01 06 40.8
comp=Z,14nm,1.1s
KK31 Karatay Array 59.88 316 P P 01 06 40.7 -0.4
KK31 Karatay Array 59.88 316 P P 01 06 40.7 -0.4
KK31 pmax pmax
comp=Z,36nm,1.0s
KKAR Karatay Array 59.88 316 P P 01 06 40.5 -0.6
KKAR Karatay Array 59.88 316 P P 01 06 40.5 -0.6
KKAR pmax pmax
comp=Z,37nm,1.0s
IUG Iuzhnay 59.88 315 *e*P P 01 06 40.8 -0.4
IUG pmax pmax
comp=Z,15nm,0.9s
IUG Iuzhnay 59.88 315 *e*P P 01 06 40.8 -0.4
comp=Z,16nm,0.9s
CHM Chimkent 60.24 315 *e*P P 01 06 43.2 -0.4
CHM Chimkent 60.24 315 *e*P P 01 06 43.2 -0.4
BRLS Borolday 60.32 316 *d i*P P 01 06 44.0 -0.1
BRLS pmax pmax
comp=Z,13nm,0.9s
BRLS Borolday 60.32 316 ⇓*i*P P 01 06 44.0 -0.1
comp=Z,13nm,0.9s
BRZS Berezniki 61.24 324 *d i*P P 01 06 50.0 -0.2
BRZS Berezniki 61.24 324 ⇓*i*P P 01 06 50.1 -0.2
BVAR Borovoye Array 63.86 327 P P 01 07 06.9 -0.7
comp=Z,8.8nm,0.9s
BVAR LR LR 01 36 05.8
comp=Z,217nm,20.5s,baz=117,slow=37
comp=Z,8.8nm,0.9s
BRVK Borovoye 63.93 327 P P 01 07 07.2 -0.9
BRVK IAmb IAmb 01 07 33.3
comp=Z,19nm,1.0s
BRVK Borovoye 63.93 327 *ce*P P 01 07 07.4 -0.7
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 63.93 327 P P 01 07 07.5 -0.6
TIXI Tiksi 64.80 1 LR LR 01 37 14.1
comp=Z,281nm,20.6s,baz=202,slow=38
TIXI Tiksi 64.80 1 *ce*P P 01 07 12.3 -1.1
TIXI pmax pmax
comp=Z,8.0nm,0.9s
RPZ Rata Peaks 65.21 145 P P 01 07 23.7 +7.1
comp=Z,60nm,2.7s
URZ Urewera 65.90 137 LR LR 01 37 29.8
comp=Z,108nm,19.4s,baz=305,slow=37
BKZ Black Stump Fm 65.96 138 P P 01 07 29.4 +7.8
comp=Z,38nm,2.3s
RTZ Ruatahuna 66.00 138 P P 01 07 20.6 -1.3
ATKA Atka Island 66.92 36 P P 01 07 28.6 +1.2
BILL Bilibino 67.01 16 ⇑*i*P P 01 07 28.1 +0.3
BILL pmax pmax
comp=Z,11nm,1.3s
NRIK Noril'sk 67.06 346 P P 01 07 26.3 -1.7
NRIK IAmb IAmb 01 07 27.7
comp=Z,10nm,0.9s
NRIK Noril'sk 67.06 346 P P 01 07 26.4 -1.6
comp=Z,6.8nm,0.7s,baz=117,slow=6.7,SNR=12
NRIK LR LR 01 39 17.6
comp=Z,312nm,19.1s,baz=152,slow=38
comp=Z,6.8nm,0.7s
NRIK Noril'sk 67.06 346 ⇑*i*P P 01 07 26.4 -1.6
NRIK pmax pmax
comp=Z,12nm,0.9s
AB31 Akbulak array 68.74 320 P P 01 07 38.1 -0.9
AB31 IAmb IAmb 01 07 39.6
comp=Z,23nm,1.1s
AB31 Akbulak array 68.74 320 *i* P P 01 07 38.1 -0.9
ABKAR Akbulak array 68.74 320 P P 01 07 38.1 -0.9
ABKAR IAmb IAmb 01 07 39.6
comp=Z,23nm,1.1s
AKTO Aktyubinsk 70.24 321 LR LR 01 41 24.1
comp=Z,297nm,18.5s,baz=108,slow=38
AKTO Aktyubinsk 70.24 321 P P 01 07 47.2 -1.1
NIKH Nikolski High 70.26 36 P P 01 07 48.4 +0.1
baz=255
SVE Sverdlovsk 70.49 328 *e*P P 01 07 48.6 -1.0
SVE pmax pmax
comp=Z,22nm,1.0s
ARTI Arti 71.55 327 P P 01 07 54.0 -2.1
ARTI Arti 71.55 327 LR LR 01 40 50.2
comp=Z,138nm,21.8s,baz=104,slow=37
ARTI Arti 71.55 327 *d i*P P 01 07 54.3 -1.8
ARTI 01 08 16.1
ARTI 01 10 30.6
ARTI S S 01 17 14.1 +0.7
ARTI SS SS 01 21 47.7 -1.0
ARTI pmax pmax
comp=Z,8.0nm,0.8s
ARTI Arti 71.55 327 P P 01 07 54.5 -1.6
UNV Unalaska Valle 71.84 35 P P 01 08 03.2 +5.4
comp=Z,40nm,0.9s
UNV Unalaska Valle 71.84 35 P P 01 07 58.5 +0.7
baz=256
GAMB Gambell 72.26 25 P P 01 07 59.9 -0.3
GAMB IAmb IAmb 01 08 08.9
comp=Z,29nm,1.0s
GAMB Gambell 72.26 25 P P 01 08 00.7 +0.5
baz=249
AKUT Akutan 72.33 35 P P 01 08 01.0 +0.2
AKUT Akutan 72.33 35 P P 01 08 06.1 +5.4
comp=Z,77nm,1.2s
M11K Mekoryuk 73.64 29 P P 01 08 09.4 +1.0
baz=255
CASY Casey 73.69 186 P P 01 08 09.5 +1.1
TNA Tin City 74.40 23 P P 01 08 13.9 +1.1
baz=252
S12K Black Hills 74.74 34 P P 01 08 15.6 +0.6
baz=260
K13K Kusilvak Mount 74.77 27 IAmb IAmb 01 08 23.3
comp=Z,17nm,1.0s
K13K Kusilvak Mount 74.77 27 P P 01 08 16.0 +1.0
baz=256,SNR=13
F14K Arctic Creek 75.01 24 P P 01 08 17.3 +1.0
baz=253,SNR=12
M13K Dall Lake 75.03 29 P P 01 08 16.8 +0.4
baz=257
ANM Nome 75.14 25 P P 01 08 17.7 +0.6
baz=254
J14K Nanvaranak Lak 75.47 27 P P 01 08 19.6 +0.6
J14K Nanvaranak Lak 75.47 27 P P 01 08 19.2 +0.2
baz=256
L14K Kuka Creek 75.55 28 P P 01 08 20.3 +0.8
baz=258

SDPT **Sand Point** 75.57 35 P P 01 08 24.7 +5.0
comp=Z,67nm,0.9s
SDPT **Sand Point** 75.57 35 P **P** **01 08 20.0 +0.3**
baz=261
N14K **Kuskokwak Cree** 75.74 30 P **P** **01 08 21.1 +0.6**
baz=259
F15K **North Star Dit** 75.75 24 IAmb IAmb 01 08 28.8
comp=Z,22nm,1.1s
F15K **North Star Dit** 75.75 24 P **P** **01 08 21.2 +0.7**
baz=255,SNR=12
M14K **Bethel** 75.77 29 P **P** **01 08 21.2 +0.5**
baz=258
G15K **Niukluk** 75.81 24 P **P** **01 08 21.9 +1.0**
baz=256,SNR=5.8
O14K **Tigyukauivet M** 75.82 31 IAmb IAmb 01 08 29.1
comp=Z,20nm,1.0s
O14K **Tigyukauivet M** 75.82 31 P **P** **01 08 21.7 +0.7**
baz=259
CNBA **Chernabura Isl** 76.00 35 P **P** **01 08 22.0 -0.2**
CNBA IAmb IAmb 01 08 39.0
comp=Z,24nm,1.0s
CHNA **Chernabura Isl** 76.00 35 P P 01 08 29.3 +7.1
comp=Z,24nm,0.9s
CHNA **Chernabura Isl** 76.00 35 P **P** **01 08 23.1 +0.9**
baz=262
AKT **Akhty** 76.05 311 *e*P **P** **01 08 20.7 -2.2**
AKT *e* 01 08 33.0
AKT pmax pmax
comp=Z,29nm,0.9s
L15K **Ungalak Mounta** 76.18 28 P **P** **01 08 23.8 +0.7**
baz=259,SNR=5.7
C16K **Lisburne Hills** 76.19 21 P **P** **01 08 23.7 +0.7**
baz=253,SNR=10.0
S14K **Fog Glacier** 76.23 34 P **P** **01 08 23.5 -0.1**
baz=262
K15K **Wolf Creek Mou** 76.28 27 IAmb IAmb 01 08 32.1
comp=Z,17nm,1.1s
K15K **Wolf Creek Mou** 76.28 27 P **P** **01 08 24.1 +0.4**
baz=258,SNR=12
M15K **Kasigluk River** 76.37 29 P **P** **01 08 24.6 +0.4**
baz=260,SNR=14
H16K **Elim** 76.47 25 P **P** **01 08 25.1 +0.5**
baz=257
O15K **Ungalikthiuk R** 76.53 31 P **P** **01 08 26.0 +0.8**
O15K **Ungaliikthiuk R** 76.53 31 P **P** **01 08 25.7 +0.6**
baz=261
N15K **Kwethluk River** 76.57 30 P **P** **01 08 26.5 +1.1**
baz=260,SNR=18
G16K **Koyuk River** 76.59 24 P **P** **01 08 26.1 +0.8**
baz=257,SNR=7.8
KIRV **Kirov** 76.75 329 LR LR 01 45 45.8
comp=Z,125nm,19.3s,baz=100,slow=38
KIRV **Kirov** 76.75 329 ||*i*P **P** **01 08 24.7 -1.6**
D17K **Noatak River** 76.86 22 P **P** **01 08 27.7 +0.9**
baz=256,SNR=32
J16K **Anvik River** 76.89 27 IAmb IAmb 01 08 35.7
comp=Z,16nm,0.9s
J16K **Anvik River** 76.89 27 P **P** **01 08 28.2 +1.1**
baz=259,SNR=11
I17K **Unalakleet** 76.97 26 IAmb IAmb 01 08 36.2
comp=Z,26nm,1.0s
I17K **Unalakleet** 76.97 26 P **P** **01 08 28.8 +1.3**
baz=259,SNR=12
BELG **Belogornoye** 76.98 322 LR LR 01 45 05.8
comp=Z,112nm,18.6s,baz=78,slow=38
BELG **Belogornoye** 76.98 322*d*i*P* **P** **01 08 26.3 -1.5**
BELG pmax pmax
comp=Z,8.0nm,1.1s
RDOG **Red Dog Mine** 77.01 22 IAmb IAmb 01 08 37.8
comp=Z,21nm,0.9s
RDOG **Red Dog Mine** 77.01 22 P **P** **01 08 28.4 +0.7**
baz=256
C17K **DeLong Mountai** 77.02 21 P **P** **01 08 28.6 +0.8**
baz=256
L16K **Owhat River** 77.13 28 IAmb IAmb 01 08 36.7
comp=Z,30nm,1.1s
L16K **Owhat River** 77.13 28 P **P** **01 08 29.5 +1.1**
baz=260,SNR=18
E17K **Hotham Inlet** 77.19 23 P **P** **01 08 29.5 +0.8**
baz=257,SNR=16
M16K **Timber Creek** 77.26 29 P **P** **01 08 30.1 +0.9**
baz=261,SNR=14
F17K **Baldwin Pennin** 77.27 23 IAmb IAmb 01 08 37.0
comp=Z,18nm,0.8s
F17K **Baldwin Pennin** 77.27 23 P **P** **01 08 30.1 +1.0**
baz=258,SNR=12
N16K **Nishlik Lake** 77.27 30 P **P** **01 08 30.1 +0.8**
baz=261,SNR=14
G17K **Kiwalik Mounta** 77.31 24 P **P** **01 08 30.2 +0.8**
baz=258,SNR=17
P16K **Nushagak River** 77.45 31 P **P** **01 08 30.8 +0.5**
baz=262
O16K **Kokwok River B** 77.47 30 IAmb IAmb 01 08 39.1
comp=Z,16nm,1.0s
O16K **Kokwok River B** 77.47 30 P **P** **01 08 31.4 +0.9**
baz=262,SNR=15
H17K **Granite Mounta** 77.51 25 IAmb IAmb 01 08 39.0
comp=Z,27nm,0.9s
H17K **Granite Mounta** 77.51 25 P **P** **01 08 31.3 +0.8**
baz=259,SNR=12
J17K **VABM Dome** 77.59 27 IAmb IAmb 01 08 39.6
comp=Z,21nm,0.9s
J17K **VABM Dome** 77.59 27 P **P** **01 08 31.9 +0.9**
baz=260,SNR=22
B18K **Kokolik River** 77.72 20 P **P** **01 08 32.1 +0.5**
baz=257
E18K **Tukpahlearik C** 77.72 22 P **P** **01 08 32.7 +1.0**
baz=258,SNR=17
L17K **Donlin** 77.74 28 P **P** **01 08 32.9 +1.0**
baz=261,SNR=16
C18K **Utukok River** 77.77 21 IAmb IAmb 01 08 40.1
comp=Z,15nm,0.9s
C18K **Utukok River** 77.77 21 P **P** **01 08 32.3 +0.3**
baz=257,SNR=13
RAYN **Ar Rayn** 77.79 293 P **P** **01 08 32.4 -0.6**
RAYN IAmb IAmb 01 08 34.5
comp=Z,18nm,0.8s
RAYN **Ar Rayn** 77.79 293 P **P** **01 08 32.4 -0.6**
RAYN pmax pmax
comp=Z,19nm,0.9s
K17K **Iditarod** 77.83 27 P **P** **01 08 33.4 +1.0**
baz=261,SNR=25
F18K **Selawik** 77.93 23 P **P** **01 08 33.7 +0.9**
baz=259,SNR=18
O17K **Koliganek Bris** 78.00 30 P **P** **01 08 34.3 +0.9**
baz=263,SNR=12
M17K **Holitna River** 78.04 29 IAmb IAmb 01 08 42.4
comp=Z,25nm,1.0s
M17K **Holitna River** 78.04 29 P **P** **01 08 34.4 +0.8**
baz=262,SNR=17
N17K **Nushagak Hills** 78.05 30 IAmb IAmb 01 08 43.0
comp=Z,26nm,1.1s
N17K **Nushagak Hills** 78.05 30 P **P** **01 08 34.7 +1.1**
baz=263,SNR=23
R17L **Mt. Peulik Vol** 78.14 33 P **P** **01 08 34.7 +0.5**
baz=264
PLK4 **Peulik 4** 78.14 33 IAmb IAmb 01 08 41.9
comp=Z,24nm,1.1s
A19K **Wainwright** 78.16 20 P **P** **01 08 34.4 +0.4**
baz=257
H18K **Honhosa River** 78.19 25 IAmb IAmb 01 08 42.4
comp=Z,18nm,1.1s
H18K **Honhosa River** 78.19 25 P **P** **01 08 35.1 +0.7**
baz=261
G18K **Tagagawik** 78.20 24 P **P** **01 08 34.9 +0.6**
baz=260,SNR=7.3
P17K **Kvichak River** 78.26 31 P **P** **01 08 35.5 +0.7**
baz=264,SNR=12
GNI **Garni** 78.27 309 P **P** **01 08 35.4 -0.1**
GNI **Garni** 78.27 309*c*e*P* **P** **01 08 35.8 +0.3**
GNI pmax pmax
comp=Z,43nm,1.5s
C19K **Lookout Ridge** 78.44 21 IAmb IAmb 01 08 38.1
comp=Z,21nm,0.9s
C19K **Lookout Ridge** 78.44 21 P **P** **01 08 36.2 +0.6**
baz=259,SNR=21
Q17K **Contact Creek** 78.45 32 P **P** **01 08 36.2 +0.2**
baz=264
L18K **Granite Mounta** 78.50 28 IAmb IAmb 01 08 44.8
comp=Z,21nm,1.2s
L18K **Granite Mounta** 78.50 28 P **P** **01 08 36.9 +0.8**
baz=263,SNR=15
J18K **Innoko River** 78.65 27 P **P** **01 08 37.3 +0.3**
baz=262,SNR=16
F19K **Shaleruckik Mo** 78.70 23 P **P** **01 08 37.5 +0.4**
baz=261
N18K **Kilae Creek** 78.70 30 P **P** **01 08 37.5 +0.2**
baz=264
RAR **Rarotonga** 78.74 113 LR LR 01 39 56.6
comp=Z,96nm,20.1s,baz=280,slow=33
GCSA **Galena City Sc** 78.75 25 P **P** **01 08 38.0 +0.6**
baz=262
M18K **Stony River** 78.82 29 P **P** **01 08 38.1 +0.2**
baz=264,SNR=14
OZAP **Van, Ozalp-Mer** 78.83 308 ⇑P **P** **01 08 39.7 +1.0**
D19K **Kuna River** 78.85 21 IAmb IAmb 01 08 45.1
comp=Z,7nm,0.7s
D19K **Kuna River** 78.85 21 P **P** **01 08 38.5 +0.5**
baz=260,SNR=34
G19K **Purcell Mounta** 78.87 24 IAmb IAmb 01 08 46.3
comp=Z,15nm,0.9s
G19K **Purcell Mounta** 78.87 24 P **P** **01 08 38.9 +0.9**
baz=262
P18K **Big Mountain,** 78.90 31 P **P** **01 08 38.4 0.0**
baz=265
Q18K **Katmai Hardscr** 78.95 32 P **P** **01 08 37.9 -0.9**
baz=265
O18K **Koktuh Hills** 78.96 30 P **P** **01 08 39.4 +0.7**
baz=265,SNR=11
E19K **Redstone River** 79.01 23 IAmb IAmb 01 08 59.2
comp=Z,17nm,0.9s
E19K **Redstone River** 79.01 23 P **P** **01 08 39.5 +0.7**
baz=261,SNR=13
H19K **Roundabout Mou** 79.04 25 IAmb IAmb 01 08 47.5
comp=Z,30nm,1.0s
H19K **Roundabout Mou** 79.04 25 P **P** **01 08 39.6 +0.6**
baz=262,SNR=17
R18K **Karluk** 79.15 33 P **P** **01 08 39.9 +0.2**
baz=266
J19K **Poorman** 79.20 26 P **P** **01 08 40.3 +0.3**
baz=263,SNR=9.9
SII **Sitkinak Islan** 79.22 34 P **P** **01 08 40.3 +0.1**
baz=266
L19K **White Mountain** 79.35 28 IAmb IAmb 01 08 49.3
comp=Z,19nm,1.0s
L19K **White Mountain** 79.35 28 P **P** **01 08 41.6 +0.7**
baz=264,SNR=20
N19K **Bonanza Creek** 79.40 29 IAmb IAmb 01 08 49.7
comp=Z,15nm,0.8s
N19K **Bonanza Creek** 79.40 29 P **P** **01 08 41.9 +0.7**
baz=265,SNR=9.2
D20K **Etivluk River** 79.43 21 P **P** **01 08 41.4 +0.3**
D20K IAmb IAmb 01 08 52.6
comp=Z,29nm,1.1s
D20K **Etivluk River** 79.43 21 P **P** **01 08 41.7 +0.6**
baz=262,SNR=17
B20K **Meade River** 79.44 20 IAmb IAmb 01 08 43.0
comp=Z,17nm,0.8s
B20K **Meade River** 79.44 20 P **P** **01 08 41.7 +0.6**
baz=261,SNR=7.8
E20K **Nigu River** 79.52 22 P **P** **01 08 42.3 +0.7**
baz=262,SNR=18
F20K **Avaraart Lake** 79.53 23 P **P** **01 08 42.5 +0.9**
baz=263,SNR=8.8
M19K **Big River Lodg** 79.55 28 P **P** **01 08 42.5 +0.6**
baz=265
GOF **Gofitskoye** 79.60 314*c*e*P* **P** **01 08 41.8 -0.7**
Q19K **Cape Douglas,** 79.68 31 P **P** **01 08 43.3 +0.7**
baz=266
H20K **Anotleneega Mo** 79.69 25 P **P** **01 08 43.1 +0.5**
baz=264,SNR=21
KBZ **Khabaz** 79.69 313 P **P** **01 08 40.8 -2.1**
comp=Z,11nm,1.1s,baz=68,slow=1.1,SNR=10.0
KBZ LR LR 01 48 01.4
comp=Z,132nm,19.4s,baz=78,slow=39
comp=Z,11nm,1.1s
KBZ **Khabaz** 79.69 313 ||*i*P **P** **01 08 42.0 -0.9**
KBZ pmax pmax
comp=Z,23nm,1.2s
OHAK **Old Harbor** 79.76 33 P **P** **01 08 43.3 +0.3**
OHAK IAmb IAmb 01 08 50.5
comp=Z,18nm,1.0s
OHAK **Old Harbor** 79.76 33 P **P** **01 08 47.6 +4.6**
comp=Z,19nm,0.9s
OHAK **Old Harbor** 79.76 33 P **P** **01 08 43.9 +0.9**
baz=267
I20K **Naaghedeneel** 79.78 25 P **P** **01 08 44.1 +1.0**
baz=264,SNR=7.0
A21K **Barrow** 79.82 19 P **P** **01 08 43.8 +0.7**
baz=261
K20K **Telida** 79.82 27 IAmb IAmb 01 08 52.0
comp=Z,14nm,0.9s
K20K **Telida** 79.82 27 P **P** **01 08 44.4 +1.0**
baz=265,SNR=8.9
L20K **Farewell, AK** 79.83 28 P **P** **01 08 44.3 +0.9**
baz=265,SNR=8.9
KIV **Kislovodsk** 79.84 313 P **P** **01 08 43.2 -0.7**
KIV IAmb IAmb 01 08 45.1
comp=Z,33nm,1.1s
KIV **Kislovodsk** 79.84 313 ⇑P **P** **01 08 44.9 +1.0**
J20K **Nowinta River** 79.86 26 P **P** **01 08 44.4 +0.9**
baz=265,SNR=7.8
P19K **Oil Pt** 79.94 31 P **P** **01 08 43.5 -0.5**
baz=266
M20K **Styx River** 80.14 28 P **P** **01 08 46.2 +1.0**
baz=266,SNR=13
C21K **Knifeblade Rid** 80.14 21 P **P** **01 08 45.6 +0.6**
baz=263,SNR=8.0
KDAK **Kodiak Island** 80.17 33 P **P** **01 08 45.7 +0.4**
KDAK IAmb IAmb 01 08 52.7
comp=Z,14nm,0.8s
KDAK **Kodiak Island** 80.17 33 LR LR 01 39 36.3
comp=Z,89nm,21.8s,baz=234,slow=32
KDAK **Kodiak Island** 80.17 33 *i*P **P** **01 08 45.6 +0.4**
KDAK pmax pmax
comp=Z,15nm,1.1s
KDAK **Kodiak Island** 80.17 33 P **P** **01 08 45.8 +0.4**
baz=267
IMAR **Indian Mountai** 80.20 24 P **P** **01 08 45.1 -0.2**
RED **Redoubt Volcan** 80.22 30 P **P** **01 08 44.9 -0.7**
RED IAmb IAmb 01 08 53.1
comp=Z,25nm,1.0s
B21K **Ikpikpuk River** 80.26 21 IAmb IAmb 01 08 47.5
comp=Z,23nm,0.8s
B21K **Ikpikpuk River** 80.26 21 P **P** **01 08 46.5 +1.0**
baz=263,SNR=18
O20K **Slope Mountain** 80.27 30 P **P** **01 08 46.2 +0.3**
baz=267
A22K **Sinclair Lake** 80.31 19 P **P** **01 08 46.1 +0.3**
baz=263
Q20K **Shuyak Island** 80.31 32 P **P** **01 08 46.0 0.0**
baz=267
G21K **Allakaket** 80.35 24 P **P** **01 08 46.7 +0.6**
baz=265,SNR=15
E21K **Killik River** 80.36 22 P **P** **01 08 46.8 +0.7**
baz=264
GURO **Guroymak-BITLI** 80.37 308 IAmb IAmb 01 08 48.6
comp=Z,21nm,1.1s
F21K **Alatna River** 80.42 23 P **P** **01 08 47.0 +0.5**
baz=265
H21K **Melozitna Rive** 80.56 25 P **P** **01 08 48.1 +0.9**
baz=266,SNR=8.5
VRH **Novokhopyorsk** 80.57 321 *e*P **P** **01 08 44.2 -3.3**
VRH pmax pmax
comp=Z,10.0nm,1.0s
PPLA **Purkeypile** 80.64 27 IAmb IAmb 01 08 56.4
comp=Z,13nm,0.7s
PPLA **Purkeypile** 80.64 27 P **P** **01 08 48.3 +0.4**
baz=267,SNR=6.4
CAST **Castle Rocks** 80.72 27 IAmb IAmb 01 08 56.8
comp=Z,25nm,0.8s
CAST **Castle Rocks** 80.72 27 P **P** **01 08 48.8 +0.6**
baz=267,SNR=45
B22K **Teshekpuk Lake** 80.74 20 P **P** **01 08 49.0 +0.9**
baz=264
ABPO **Ambohimpanom** 80.84 250 P **P** **01 08 48.1 -1.7**
ABPO IAmb IAmb 01 10 06.5
comp=Z,46nm,1.9s
ABPO **Ambohimpanom** 80.84 250 P **P** **01 08 48.1 -1.7**
ABPO pmax pmax
comp=Z,46nm,2.0s
D22K **Ayikyak River** 80.87 21 IAmb IAmb 01 09 00.2
comp=Z,34nm,1.8s
D22K **Ayikyak River** 80.87 21 P **P** **01 08 49.4 +0.5**
baz=265,SNR=7.8
SKT **Skwentna** 80.90 28 IAmb IAmb 01 08 56.7
comp=Z,28nm,0.9s
SKT **Skwentna** 80.90 28 P **P** **01 08 49.7 +0.6**
baz=267,SNR=11
CNPM **China Poot** 80.94 31 IAmb IAmb 01 08 56.2
comp=Z,25nm,0.9s
F22K **John River** 80.95 23 P **P** **01 08 50.5 +1.2**
baz=266
E22K **Anaktuvuk Pass** 81.13 22 IAmb IAmb 01 09 01.4
comp=Z,14nm,0.9s
E22K **Anaktuvuk Pass** 81.13 22 P **P** **01 08 50.9 +0.6**
baz=266,SNR=21
H22K **Ishtalitna Cre** 81.16 24 P **P** **01 08 51.3 +0.8**
baz=267,SNR=11
G22K **Bettles** 81.17 23 P **P** **01 08 51.1 +0.6**
baz=267
BPAW **Bear Paw Mtn.** 81.24 26 P **P** **01 08 51.5 +0.5**
baz=268,SNR=32
LABN **Labinsk** 81.25 314 *e*P **P** **01 08 50.2 -1.1**
LABN *e**PP **PcP** **01 08 56.8 -0.7**
LABN *e*S **S** **01 18 59.7 -0.6**
LABN pmax pmax
comp=Z,9.0nm,0.6s
KTH **Kantishna Hill** 81.25 27 IAmb IAmb 01 08 59.6
comp=Z,14nm,0.8s
SUA **Susitna One** 81.25 29 P **P** **01 08 51.5 +0.3**
baz=268
MLY **Manley** 81.39 25 IAmb IAmb 01 09 00.4
comp=Z,14nm,0.8s
MLY **Manley** 81.39 25 P **P** **01 08 52.2 +0.5**
baz=268,SNR=25
ERBR **Yeremizino-Bor** 81.40 315 *e*P **P** **01 08 50.3 -1.8**
ERBR *e**PP **PcP** **01 08 56.8 -1.4**
ERBR *e*S **S** **01 19 00.1 -1.7**
ERBR pmax pmax
comp=Z,32nm,1.1s
KOPT **Kop Dagi** 81.52 309 P **P** **01 08 52.0 -1.3**
TRF **Thorofare Moun** 81.53 27 IAmb IAmb 01 09 00.6
comp=Z,27nm,0.9s
TRF **Thorofare Moun** 81.53 27 P **P** **01 08 53.3 +0.7**
baz=268,SNR=27
M22K **Willow** 81.56 29 P **P** **01 08 53.2 +0.7**
baz=269
D23K **Nanushuk River** 81.59 21 IAmb IAmb 01 09 04.9
comp=Z,24nm,1.1s
D23K **Nanushuk River** 81.59 21 P **P** **01 08 53.6 +0.9**
baz=267,SNR=19
C23K **Itkillik River** 81.67 20 IAmb IAmb 01 09 02.5
comp=Z,18nm,0.7s
C23K **Itkillik River** 81.67 20 P **P** **01 08 53.6 +0.6**
baz=267,SNR=7.5
COLD **Coldfoot** 81.70 23 IAmb IAmb 01 08 59.9
comp=Z,16nm,0.9s
COLD **Coldfoot** 81.70 23 P **P** **01 08 54.2 +0.9**
baz=268,SNR=14
RC01 **Rabbit Creek A** 81.73 29 P **P** **01 08 53.3 -0.3**
baz=269
G23K **Bananza Creek** 81.75 24 P **P** **01 08 54.2 +0.6**
baz=268,SNR=20
SEW **Seward** 81.86 30 P **P** **01 08 53.9 -0.3**
SEW **Seward** 81.86 30 P **P** **01 08 55.3 +1.1**
baz=270
H23K **Yukon River** 81.92 24 IAmb IAmb 01 09 03.8
comp=Z,12nm,0.8s
H23K **Yukon River** 81.92 24 P **P** **01 08 55.3 +0.8**
baz=269,SNR=23
KLMR **Klimovskoe** 81.93 330 *e*P **P** **01 08 51.7 -2.9**
KLMR *e* 01 11 59.8
KLMR pmax pmax
comp=Z,31nm,1.1s
E23K **Chandalar** 81.95 22 IAmb IAmb 01 09 04.0
comp=Z,18nm,0.9s
E23K **Chandalar** 81.95 22 P **P** **01 08 55.7 +1.0**
baz=268,SNR=29
I23K **Minto, Yukon-K** 81.98 25 P **P** **01 08 55.2 +0.5**
baz=269,SNR=33
TOLK **Toolik Lake Re** 81.98 22 IAmb IAmb 01 08 57.0
comp=Z,13nm,0.9s
TOLK **Toolik Lake Re** 81.98 22 P **P** **01 08 55.4 +0.6**
baz=268,SNR=12
PMR **Palmer** 82.03 29 P **P** **01 08 55.6 +0.5**
baz=270
NEA2 **Nenana** 82.09 26 IAmb IAmb 01 09 01.9
comp=Z,15nm,0.8s
NEA2 **Nenana** 82.09 26 P **P** **01 08 56.0 +0.6**
baz=269,SNR=16
VORD **Divnogorie** 82.10 320 *e*P **P** **01 08 52.4 -3.3**
VORD pmax pmax
comp=Z,10.0nm,1.1s
GHO **Glory Hole Cre** 82.13 29 P **P** **01 08 55.9 +0.2**
GHO IAmb IAmb 01 09 06.2
comp=Z,16nm,0.9s
MCK **McKinley** 82.14 27 P **P** **01 08 55.6 -0.1**
baz=270,SNR=13
VORR **Voronezh** 82.14 321 *e*P **P** **01 08 52.8 -3.1**
VORR pmax pmax
comp=Z,10.0nm,1.1s
RND **Reindeer** 82.17 27 IAmb IAmb 01 09 04.3
comp=Z,18nm,0.9s
VSR **Storozhevoye** 82.18 321 *e*P **P** **01 08 52.7 -3.4**
VSR pmax pmax
comp=Z,9.0nm,1.1s
D24K **Happy Valley** 82.27 21 IAmb IAmb 01 09 12.4
comp=Z,16nm,0.8s
D24K **Happy Valley** 82.27 21 P **P** **01 08 56.8 +0.6**
baz=269,SNR=12
LPSR **Galich'ya Gora** 82.30 322 *e*P **P** **01 08 54.0 -2.7**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
WAT1 **Susitna Watana** 82.31 28 P **P** **01 08 56.7 +0.1**
baz=270
C24K **Franklin Bluff** 82.33 21 IAmb IAmb 01 09 07.4
comp=Z,26nm,1.2s
C24K **Franklin Bluff** 82.33 21 P **P** **01 08 56.7 +0.2**
baz=269
KNK **Knik Glacier** 82.35 29 P **P** **01 08 57.2 +0.4**
baz=270
E24K **Your Creek** 82.37 22 P **P** **01 08 57.6 +0.8**
baz=269,SNR=14
PWL **Port Wells** 82.41 30 P **P** **01 08 57.9 +0.8**
baz=270
WRH **Wood River Hil** 82.51 26 IAmb IAmb 01 09 05.7
comp=Z,13nm,0.9s
F24K **Squaw Lake** 82.60 23 P **P** **01 08 58.5 +0.4**
F24K **Squaw Lake** 82.60 23 P **P** **01 08 58.8 +0.8**
baz=270,SNR=15
H24K **Noodor Dome** 82.60 24 IAmb IAmb 01 09 07.9
comp=Z,17nm,0.9s
H24K **Noodor Dome** 82.60 24 P **P** **01 08 58.7 +0.6**
baz=270,SNR=17
COLA **College** 82.61 25 P P 01 09 03.1 +5.0
comp=Z,9.6nm,0.8s
COLA **College** 82.61 25*c*i*P* **P** **01 08 58.0 -0.1**
COLA pmax pmax
comp=Z,5.0nm,1.0s
CCB **Clear Creek Bu** 82.64 26 IAmb IAmb 01 09 06.1
comp=Z,13nm,0.7s
WAT6 **Susitna Watana** 82.68 28 P **P** **01 08 58.7 0.0**
baz=271,SNR=15
M23K **Glacier View** 82.70 29 P **P** **01 08 59.2 +0.5**
baz=271
G24K **Hadweenzic Riv** 82.76 24 P **P** **01 08 59.6 +0.7**
baz=270,SNR=12
DHY **Denali Highway** 82.84 27 IAmb IAmb 01 09 08.0
comp=Z,9.5nm,0.6s
DHY **Denali Highway** 82.84 27 P **P** **01 09 00.0 +0.5**
baz=271,SNR=15
SCM **Sheep Creek Mo** 82.89 29 P **P** **01 09 00.2 +0.6**
baz=271
P23K **Montague Islan** 82.89 30 P **P** **01 09 00.0 +0.4**
baz=271
MOS **Moscow** 82.98 325 *e*P **P** **01 08 59.3 -0.9**
HDA **Harding Lake** 83.01 26 IAmb IAmb 01 09 09.6
comp=Z,18nm,0.8s
HDA **Harding Lake** 83.01 26 P **P** **01 09 00.7 +0.5**
baz=271,SNR=12
GLI **Glacier Island** 83.02 30 P **P** **01 09 00.5 +0.2**
baz=272
IL31 **83.03** 26 IAmb IAmb 01 09 07.5
comp=Z,8.7nm,0.7s
ILAR **Eielson Array** 83.03 26 P **P** **01 08 59.1 -1.2**
ILAR **Eielson Array** 83.03 26 P **P** **01 08 59.5 -0.8**
comp=Z,4.0nm,0.9s,baz=249,slow=5.6,SNR=30
ILAR LR LR 01 48 14.2
comp=Z,56nm,18.9s,baz=246,slow=37
comp=Z,4.0nm,0.9s
ILAR **Eielson Array** 83.03 26 P **P** **01 08 59.1 -1.2**
D25K **Kavik River** 83.14 21 IAmb IAmb 01 09 02.7
comp=Z,12nm,1.0s
D25K **Kavik River** 83.14 21 P **P** **01 09 01.2 +0.4**
baz=271,SNR=14
G25K **Bearman Lake** 83.31 24 P **P** **01 09 02.6 +1.0**
baz=272,SNR=6.7
M24K **Tolsona, Glenn** 83.42 28 P **P** **01 09 02.9 +0.5**
baz=272
H25L **Birch Creek** 83.43 24 P **P** **01 09 03.4 +1.1**
baz=272,SNR=15
Q23K **Middleton Isla** 83.44 31 P **P** **01 09 03.1 +0.7**

	baz=272								
F25K	**Christian Rive**	**83.46**	**23**	P		**P**		**01 09 03.4**	**+0.9**
	baz=272,SNR=11								
E25K	**Arctic Village**	**83.47**	**22**	IAmb		IAmb		01 09 14.2	
	comp=Z,17nm,1.2s								
E25K	**Arctic Village**	**83.47**	**22**	P		**P**		**01 09 03.3**	**+0.8**
	baz=272,SNR=13								
K24K	**Donnelly Dome**	**83.54**	**27**	P		**P**		**01 09 03.5**	**+0.5**
	baz=272,SNR=12								
KLU	**Klutina**	**83.57**	**29**	IAmb		IAmb		01 09 10.8	
	comp=Z,9.2nm,0.8s								
KLU	**Klutina**	**83.57**	**29**	P		**P**		**01 09 03.9**	**+0.6**
	baz=272								
PRP	**Porcupine Dome**	**83.58**	**25**	P		**P**		**01 09 03.9**	**+0.6**
	baz=272								
ANN	**Anapa**	**83.58**	**314**	*e*P		**P**		**01 09 02.2**	**-1.3**
ANN				*e*PP		**PcP**		**01 09 08.1**	**+0.4**
ANN				*e*S		**S**		**01 19 23.3**	**-0.8**
ANN				pmax		pmax			
	comp=Z,45nm,1.0s								
OBN	**Obninsk**	**83.61**	**325**	*de*P		**P**		**01 09 03.0**	**-0.4**
OBN				*e*				01 12 17.6	
OBN				*e*S		**S**		**01 19 22.6**	**-1.3**
OBN				pmax		pmax			
	comp=Z,8.0nm,0.6s								
OBN				MLR		MLR			
	comp=Z,132nm,19.0s								
C26K	**Camden Bay**	**83.64**	**20**	P		**P**		**01 09 04.1**	**+0.9**
	baz=272								
J25K	**Salcha River,**	**83.69**	**26**	P		**P**		**01 09 04.5**	**+0.8**
	baz=273,SNR=16								
EYAK	**Cordova Ski Ar**	**83.69**	**30**	P		**P**		**01 09 08.2**	**+4.5**
	comp=Z,20nm,1.2s								
EYAK	**Cordova Ski Ar**	**83.69**	**30**	P		**P**		**01 09 04.4**	**+0.7**
	baz=273								
PAX	**Paxson**	**83.72**	**27**	IAmb		IAmb		01 09 12.1	
	comp=Z,18nm,1.0s								
PAX	**Paxson**	**83.72**	**27**	P		**P**		**01 09 04.5**	**+0.5**
	baz=273,SNR=10								
BMAR	**Burnt Mountain**	**83.87**	**23**	P		**P**		**01 09 05.3**	**+0.7**
HARP	**HAARP**	**83.89**	**28**	P		**P**		**01 09 05.4**	**+0.6**
	baz=273								
RIDG	**Independent Ri**	**83.96**	**27**	P		**P**		**01 09 05.7**	**+0.6**
	baz=273,SNR=26								
F26K	**Sheenjek River**	**84.03**	**23**	P		**P**		**01 09 06.5**	**+1.1**
	baz=273,SNR=8.1								
C27K	**Jago River**	**84.07**	**21**	P		**P**		**01 09 06.6**	**+1.1**
	baz=274,SNR=11								
N25K	**Chitina, Valde**	**84.19**	**29**	IAmb		IAmb		01 09 28.3	
	comp=Z,11nm,0.9s								
N25K	**Chitina, Valde**	**84.19**	**29**	P		**P**		**01 09 07.1**	**+0.7**
	baz=274,SNR=8.2								
G26K	**Porcupine Rive**	**84.21**	**23**	IAmb		IAmb		01 09 18.9	
	comp=Z,17nm,1.0s								
G26K	**Porcupine Rive**	**84.21**	**23**	P		**P**		**01 09 07.2**	**+1.0**
	baz=274,SNR=15								
BMRM	**Bremner River**	**84.23**	**29**	P		**P**		**01 09 07.2**	**+0.6**
	baz=274								
GAZ	**Gaziantep**	**84.24**	**307**	IAmb		IAmb		01 09 09.0	
	comp=Z,26nm,1.5s								
DOT	**Dot Lake**	**84.31**	**27**	IAmb		IAmb		01 09 08.9	
	comp=Z,21nm,1.2s								
SCRK	**Sand Creek**	**84.32**	**26**	P		**P**		**01 09 07.2**	**+0.1**
	baz=274,SNR=18								
KAIM	**Kayak Island**	**84.39**	**30**	P		**P**		**01 09 07.7**	**+0.4**
	baz=274								
J26L	**Joseph Creek**	**84.47**	**26**	IAmb		IAmb		01 09 17.5	
	comp=Z,9.5nm,0.8s								
J26L	**Joseph Creek**	**84.47**	**26**	P		**P**		**01 09 08.3**	**+0.5**
	baz=274,SNR=16								
MENT	**Mentasta**	**84.52**	**27**	IAmb		IAmb		01 09 19.1	
	comp=Z,14nm,0.8s								
MENT	**Mentasta**	**84.52**	**27**	P		P		01 09 14.6	+6.6
	comp=Z,20nm,0.9s								
GLB	**Gilahina Butte**	**84.58**	**29**	P		**P**		**01 09 08.6**	**+0.3**
GLB				IAmb		IAmb		01 09 19.9	
	comp=Z,18nm,0.9s								
TOKA	**Tokat**	**84.58**	**310**	IAmb		IAmb		01 09 09.5	
	comp=Z,17nm,0.9s								
I26K	**Coal Creek Min**	**84.58**	**25**	P		**P**		**01 09 08.8**	**+0.5**
	baz=274								
L26K	**Log Cabin Wild**	**84.68**	**27**	P		**P**		**01 09 09.7**	**+0.9**
	baz=275								
VRDI	**Verde Repeater**	**84.77**	**29**	IAmb		IAmb		01 09 29.6	
	comp=Z,16nm,1.0s								
M26K	**Nabesna, AK**	**84.89**	**28**	IAmb		IAmb		01 09 30.9	
	comp=Z,23nm,1.2s								
M26K	**Nabesna, AK**	**84.89**	**28**	P		**P**		**01 09 10.8**	**+0.9**
	baz=275,SNR=7.4								
ASF	**Jabal al Asfar**	**84.89**	**302**	LR		LR		01 53 09.2	
	comp=Z,69nm,19.7s,baz=137,slow=40								
BGLC	**Bering Glacier**	**84.94**	**30**	P		**P**		**01 09 11.0**	**+0.9**
	baz=275								
E27K	**Coleen River**	**84.95**	**22**	IAmb		IAmb		01 09 18.4	
	comp=Z,15nm,0.9s								
E27K	**Coleen River**	**84.95**	**22**	P		**P**		**01 09 10.7**	**+0.7**
	baz=276,SNR=16								
MCARA	**McCarthy VSAT**	**84.96**	**29**	P		**P**		**01 09 10.9**	**+0.7**
	baz=275								
CRQE	**Cirque**	**84.98**	**30**	P		**P**		**01 09 11.2**	**+0.7**
	baz=275								
G27K	**Doyon Strip**	**85.06**	**23**	IAmb		IAmb		01 09 21.4	
	comp=Z,14nm,1.2s								
G27K	**Doyon Strip**	**85.06**	**23**	P		**P**		**01 09 11.6**	**+1.0**
	baz=276,SNR=16								
D27M	**Malcolm River**	**85.07**	**21**	P		**P**		**01 09 11.8**	**+1.1**
	baz=276,SNR=12								
K27K	**Chicken**	**85.16**	**26**	P		**P**		**01 09 12.1**	**+1.0**
	baz=276,SNR=29								
H27K	**Steamboat Moun**	**85.17**	**24**	IAmb		IAmb		01 09 22.1	
	comp=Z,13nm,0.9s								
H27K	**Steamboat Moun**	**85.17**	**24**	P		**P**		**01 09 12.8**	**+1.6**
	baz=276,SNR=20								
I27K	**Kandik River**	**85.20**	**25**	P		**P**		**01 09 12.6**	**+1.2**
	baz=276,SNR=46								
L27K	**Beaver Creek,**	**85.36**	**27**	IAmb		IAmb		01 09 25.6	
	comp=Z,8.3nm,0.9s								
L27K	**Beaver Creek,**	**85.36**	**27**	P		**P**		**01 09 13.2**	**+1.0**
	baz=276,SNR=15								
BCAR	**Beaver Creek A**	**85.38**	**27**	P		**P**		**01 09 12.7**	**+0.3**
M27K	**Edge Creek, AK**	**85.41**	**28**	IAmb		IAmb		01 09 22.0	
	comp=Z,13nm,1.1s								
M27K	**Edge Creek, AK**	**85.41**	**28**	P		**P**		**01 09 13.3**	**+0.7**
	baz=276,SNR=5.7								
MESA	**MESA**	**85.60**	**30**	P		**P**		**01 09 15.4**	**+1.7**
	baz=276								
E28M	**Babbage River**	**85.66**	**21**	IAmb		IAmb		01 09 21.8	
	comp=Z,13nm,0.8s								
E28M	**Babbage River**	**85.66**	**21**	P		**P**		**01 09 14.3**	**+0.8**
	baz=276,SNR=16								
F28M	**Old Crow**	**85.66**	**22**	IAmb		IAmb		01 09 21.6	
	comp=Z,13nm,0.8s								
F28M	**Old Crow**	**85.66**	**22**	P		**P**		**01 09 14.7**	**+1.1**
	baz=277,SNR=27								
CTG	**Chitna Glacier**	**85.82**	**29**	P		**P**		**01 09 15.4**	**+0.7**
	baz=276,SNR=6.1								
BVCY	**Beaver Creek**	**85.88**	**28**	P		**P**		**01 09 15.5**	**+0.7**
	baz=277								
I28M	**Miner Creek**	**85.91**	**25**	P		**P**		**01 09 15.5**	**+0.6**
	baz=277,SNR=25								
MMAI	**Mount Meron Ar**	**86.07**	**303**	P		**P**		**01 09 15.6**	**-0.9**
	comp=Z,26nm,1.2s,baz=85,slow=10,SNR=12								
MMAI				LR		LR		01 52 40.7	
	comp=Z,79nm,19.1s,baz=82,slow=39								
	comp=Z,26nm,1.2s								
MAW	**Mawson**	**86.08**	**200**	P		**P**		**01 09 14.4**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=33,slow=6.9,SNR=3.5								
MAW				LR		LR		01 46 37.8	
	comp=Z,36nm,19.5s,baz=79,slow=35								
	comp=Z,0.7nm,0.6s								
YUK3	**Moose Creek**	**86.14**	**28**	P		**P**		**01 09 16.8**	**+0.4**
	baz=277								
E29M	**Blow River**	**86.29**	**22**	IAmb		IAmb		01 09 26.7	
	comp=Z,23nm,1.8s								
E29M	**Blow River**	**86.29**	**22**	P		**P**		**01 09 17.2**	**+0.5**
	baz=279								
DAWY	**Dawson**	**86.33**	**26**	IAmb		IAmb		01 09 27.1	
	comp=Z,20nm,1.4s								
DAWY	**Dawson**	**86.33**	**26**	P		**P**		**01 09 17.7**	**+0.7**
	baz=278								
O28M	**Mount Upton**	**86.40**	**29**	P		**P**		**01 09 18.1**	**+0.4**
	baz=278								
H29M	**Whitestone**	**86.44**	**24**	IAmb		IAmb		01 09 32.4	
	comp=Z,11nm,0.9s								
H29M	**Whitestone**	**86.44**	**24**	P		**P**		**01 09 18.0**	**+0.6**
	baz=279								
PINM	**Pinnacle**	**86.46**	**30**	P		**P**		**01 09 18.4**	**+0.6**
	baz=278								
G29M	**Pine Creek**	**86.47**	**23**	IAmb		IAmb		01 09 31.2	
	comp=Z,17nm,1.0s								
G29M	**Pine Creek**	**86.47**	**23**	P		**P**		**01 09 18.4**	**+0.8**
	baz=279,SNR=20								
YUK8	**Steele Glacier**	**86.54**	**29**	P		**P**		**01 09 18.4**	**+0.1**
	baz=278								
I29M	**Ogilvie Camp,**	**86.60**	**25**	IAmb		IAmb		01 09 28.4	
	comp=Z,26nm,1.5s								
I29M	**Ogilvie Camp,**	**86.60**	**25**	P		**P**		**01 09 18.8**	**+0.5**
	baz=279,SNR=9.3								
VNDA	**Vanda**	**86.68**	**173**	P		**P**		**01 09 16.9**	**-1.4**
	comp=Z,1.8nm,1.0s,baz=310,slow=2.3,SNR=3.8								
VNDA				LR		LR		01 48 41.2	
	comp=Z,44nm,19.4s,baz=337,slow=36								
	comp=Z,1.8nm,1.0s								
J29N	**Klondike Camp**	**86.78**	**26**	P		**P**		**01 09 19.9**	**+0.7**
	baz=279								
EIL	**Elat**	**86.79**	**299**	LR		LR		01 55 12.5	
	comp=Z,95nm,18.4s,baz=66,slow=41								
BR131	**Keskin Array S**	**86.81**	**309**	⇑*i*P		**P**		**01 09 18.5**	**-1.5**
BRTR	**Keskin Array B**	**86.81**	**309**	P		**P**		**01 09 17.7**	**-2.3**
BRTR	**Keskin Array B**	**86.81**	**309**	P		**P**		**01 09 18.5**	**-1.5**
	comp=Z,1.6nm,0.8s,baz=94,slow=5.1,SNR=11								
	comp=Z,1.6nm,0.8s								
PNL	**Peninsula**	**86.94**	**30**	P		**P**		**01 09 20.6**	**+0.6**
	baz=278								
M29M	**Somme Creek**	**86.98**	**28**	IAmb		IAmb		01 09 30.2	
	comp=Z,20nm,1.6s								
M29M	**Somme Creek**	**86.98**	**28**	P		**P**		**01 09 20.8**	**+0.5**
	baz=279								
ARCES	**ARCESS Array B**	**87.00**	**340**	P		**P**		**01 09 19.2**	**-0.9**
	comp=Z,5.0nm,0.9s,baz=81,slow=8.0,SNR=7.1								
ARCES				LR		LR		01 53 15.5	
	comp=Z,175nm,18.1s,baz=85,slow=39								
	comp=Z,5.0nm,0.9s								
L29M	**L29M**	**87.03**	**27**	IAmb		IAmb		01 09 33.5	
	comp=Z,17nm,1.1s								
L29M	**L29M**	**87.03**	**27**	P		**P**		**01 09 20.7**	**+0.3**
	baz=279,SNR=18								
YUK4	**Talbot Arm**	**87.06**	**29**	P		**P**		**01 09 21.5**	**+0.6**
	baz=279								
EPYK	**Eagle Plains**	**87.07**	**24**	IAmb		IAmb		01 09 28.6	
	comp=Z,7.7nm,0.8s								
EPYK	**Eagle Plains**	**87.07**	**24**	P		**P**		**01 09 20.8**	**+0.2**
	baz=280,SNR=6.8								
SPITS	**Spitsbergen Ar**	**87.15**	**349**	LR		LR		01 53 39.1	
	comp=Z,192nm,19.5s,baz=59,slow=39								
G30M	**tAoh Zraii Nji**	**87.16**	**23**	P		**P**		**01 09 21.5**	**+0.5**
	baz=281								
K29M	**Barlow Dome**	**87.18**	**26**	P		**P**		**01 09 21.8**	**+0.6**
	baz=280								
F30M	**Barrier River**	**87.20**	**22**	IAmb		IAmb		01 09 30.9	
	comp=Z,11nm,1.2s								
F30M	**Barrier River**	**87.20**	**22**	P		**P**		**01 09 22.0**	**+0.8**
	baz=281								
O29M	**Mount Kennedy**	**87.26**	**30**	P		**P**		**01 09 22.3**	**+0.6**
	baz=279								
YUK6	**Outpost Mounta**	**87.26**	**29**	P		**P**		**01 09 21.7**	**-0.2**
	baz=279								
I30M	**Mount Dempster**	**87.42**	**25**	IAmb		IAmb		01 09 35.1	
	comp=Z,9.1nm,1.1s								
I30M	**Mount Dempster**	**87.42**	**25**	P		**P**		**01 09 22.2**	**-0.2**
	baz=281,SNR=9.8								
J30M	**Hart River**	**87.56**	**25**	IAmb		IAmb		01 09 38.2	
	comp=Z,16nm,1.8s								
J30M	**Hart River**	**87.56**	**25**	P		**P**		**01 09 23.4**	**+0.4**
	baz=281								
PPT	**Papeete**	**87.61**	**108**	LR		LR		01 44 16.1	
	comp=Z,38nm,18.3s,baz=302,slow=33								
PPT2	**Papeete2**	**87.61**	**108**	*e*LR		LR		01 37 09.7	
	comp=Z,168nm,33.5s								
PPT2				*e*LR		LR		01 37 09.8	
	comp=Z,189nm,25.2s								
HYT	**Haines Junctio**	**87.69**	**29**	P		**P**		**01 09 24.5**	**+0.7**
	baz=280								
M30M	**Minto, Yukon**	**87.72**	**27**	P		**P**		**01 09 24.3**	**+0.5**
	baz=280								
P29M	**Windy Craggy**	**87.78**	**30**	IAmb		IAmb		01 09 46.2	
	comp=Z,9.1nm,1.1s								
P29M	**Windy Craggy**	**87.78**	**30**	P		**P**		**01 09 24.7**	**+0.5**
	baz=280								
N30M	**Aishikik Lake**	**87.78**	**28**	P		**P**		**01 09 24.5**	**+0.4**
	baz=280								
INK	**Inuvik**	**87.89**	**21**	P		**P**		**01 09 23.6**	**-0.7**
INK	**Inuvik**	**87.89**	**21**	LR		LR		01 53 05.9	
	comp=Z,40nm,18.6s,baz=251,slow=39								
INK	**Inuvik**	**87.89**	**21**	P		**P**		**01 09 23.7**	**-0.7**
INK				pmax		pmax			
	comp=Z,5.0nm,0.8s								
INK	**Inuvik**	**87.89**	**21**	P		**P**		**01 09 24.7**	**+0.3**
	baz=283,SNR=8.5								
G31M	**Satah River**	**87.92**	**23**	IAmb		IAmb		01 09 31.7	
	comp=Z,7.9nm,0.8s								
G31M	**Satah River**	**87.92**	**23**	P		**P**		**01 09 25.2**	**+0.7**
	baz=282								
MAYO	**Mayo, Yukon**	**87.94**	**26**	P		**P**		**01 09 24.8**	**0.0**
	baz=281								
KMBO	**Kilima Mbogo**	**87.99**	**269**	P		**P**		**01 09 25.1**	**-1.2**
KMBO				IAmb		IAmb		01 09 39.1	
	comp=Z,13nm,1.3s								
KMBO	**Kilima Mbogo**	**87.99**	**269**	P		**P**		**01 09 25.1**	**-1.2**
KMBO				pmax		pmax			
	comp=Z,13nm,1.3s								
F31M	**Tsiigehtchic**	**88.01**	**22**	IAmb		IAmb		01 09 32.0	
	comp=Z,8.4nm,0.8s								
F31M	**Tsiigehtchic**	**88.01**	**22**	P		**P**		**01 09 25.0**	**0.0**
	baz=283								
P30M	**Million Dollar**	**88.08**	**30**	P		**P**		**01 09 26.3**	**+0.7**
	baz=280								
H31M	**Peel River**	**88.14**	**24**	IAmb		IAmb		01 09 33.5	
	comp=Z,6.9nm,0.8s								
H31M	**Peel River**	**88.14**	**24**	P		**P**		**01 09 26.7**	**+1.0**
	baz=282,SNR=9.5								
FINES	**FINESS Array B**	**88.35**	**332**	P		**P**		**01 09 24.0**	**-2.7**
	comp=Z,3.7nm,0.9s,baz=54,slow=9.7,SNR=8.7								
FINES				LR		LR		01 52 58.7	
	comp=Z,170nm,20.4s,baz=64,slow=38								
	comp=Z,3.7nm,0.9s								
FINES	**FINESS Array B**	**88.35**	**332**	*ce*P		**P**		**01 09 24.7**	**-2.0**
FINES				pmax		pmax			
	comp=Z,4.0nm,0.9s								
O30N	**Mendenhall**	**88.39**	**29**	P		**P**		**01 09 27.6**	**+0.6**
	baz=281								
N31M	**Braeburn, Yuko**	**88.39**	**28**	IAmb		IAmb		01 09 36.1	
	comp=Z,9.0nm,0.8s								
N31M	**Braeburn, Yuko**	**88.39**	**28**	P		**P**		**01 09 27.4**	**+0.4**
	baz=281								
AKASG	**Malin Array Be**	**88.48**	**321**	P		**P**		**01 09 25.7**	**-1.9**
	comp=Z,5.3nm,0.9s,baz=72,slow=4.3,SNR=10								
AKASG				LR		LR		01 52 38.3	
	comp=Z,134nm,19.1s,baz=70,slow=38								
	comp=Z,5.3nm,0.9s								
AKBB	**Malin Array Si**	**88.48**	**321**	IAmb		IAmb		01 09 26.9	
	comp=Z,6.6nm,0.8s								
AKBB	**Malin Array Si**	**88.48**	**321**	*c i*P		**P**		**01 09 25.6**	**-2.0**
AKBB				pmax		pmax			
	comp=Z,7.0nm,0.9s								
KIEV	**Kiev**	**88.49**	**321**	P		**P**		**01 09 25.5**	**-2.1**
KIEV	**Kiev**	**88.49**	**321**	⇓P		**P**		**01 09 26.2**	**-1.4**
KIEV	**Kiev**	**88.49**	**321**	⇓P		**P**		**01 09 26.2**	**-1.4**
PLBC	**Pleasant Camp**	**88.50**	**30**	P		**P**		**01 09 28.0**	**+0.6**
	baz=281								
TBI	**Tubuai**	**88.51**	**114**	*e*LR		LR		01 37 30.8	
	comp=Z,738nm,26.8s								
MNK	**Minsk**	**88.67**	**325**	*i* P		**P**		**01 09 25.8**	**-2.6**
MNK				*i*				01 12 54.1	
MNK				*i* PPP		PPP		01 14 49.7	
MNK				*i* S		**SKSac**		**01 19 53.3**	**-2.6**
MNK				*i* SS		**SS**		**01 26 04.5**	**-0.1**
MNK				*i* SSS		SSS		01 29 39.1	
MNK				pmax		pmax			
	comp=E,5.0nm,0.9s								
MNK				pmax		pmax			
	comp=Z,19nm,0.9s								
MNK				pmax		pmax			
	comp=N,10.0nm,0.9s								
MNK				MLR		MLR			
	comp=N,143nm,21.0s								
MNK				MLR		MLR			
	comp=Z,143nm,20.0s								
MNK				MLR		MLR			
	comp=E,115nm,20.0s								
S31K	**Pelican**	**88.85**	**32**	P		**P**		**01 09 29.9**	**+0.8**
	baz=281								
M31M	**Drury Creek, Y**	**88.89**	**27**	P		**P**		**01 09 30.2**	**+0.9**
	baz=282								
WHY	**Whitehorse**	**88.99**	**29**	P		**P**		**01 09 30.2**	**+0.3**
	baz=282								
BORA	**Eskisehir**	**89.22**	**310**	IAmb		IAmb		01 09 30.3	
	comp=Z,7.9nm,0.9s								
FARO	**Faro, Yukon**	**89.36**	**27**	IAmb		IAmb		01 09 39.5	
	comp=Z,9.5nm,0.9s								
FARO	**Faro, Yukon**	**89.36**	**27**	P		**P**		**01 09 31.9**	**+0.4**
	baz=284								
ISP	**Isparta**	**89.46**	**308**	⇑*i*P		**P**		**01 09 32.0**	**-0.6**
ISP				pmax		pmax			
	comp=Z,9.0nm,0.7s								
SIT	**Sitka**	**89.51**	**33**	P		**P**		**01 09 32.3**	**+0.1**
	baz=282								
A36M	**Sachs Harbour**	**89.53**	**17**	P		**P**		**01 09 32.7**	**+0.6**
A36M				IAmb		IAmb		01 09 42.6	
	comp=Z,8.1nm,0.9s								
A36M	**Sachs Harbour**	**89.53**	**17**	P		**P**		**01 09 32.6**	**+0.6**
	baz=291								
R32K	**Eaglecrest**	**89.68**	**31**	P		**P**		**01 09 33.4**	**+0.4**
	baz=282								
N32M	**Quiet Lake**	**89.74**	**28**	P		**P**		**01 09 33.9**	**+0.5**
	baz=284								
S32K	**Killisnoo**	**89.82**	**32**	P		**P**		**01 09 34.3**	**+0.6**
	baz=282								
P33M	**Teslin, Yukon**	**90.09**	**29**	P		**P**		**01 09 35.1**	**0.0**
P33M	**Teslin, Yukon**	**90.09**	**29**	P		**P**		**01 09 35.0**	**0.0**
	baz=284								
CFR	**Carcaliu**	**90.09**	**315**	⇓P		**P**		**01 09 33.3**	**-2.0**
CFR	**Carcaliu**	**90.09**	**315**	⇓P		**P**		**01 09 33.3**	**-2.0**
MMPY	**Sheldon Lake,**	**90.21**	**27**	P		**P**		**01 09 35.4**	**-0.1**
MMPY	**Sheldon Lake,**	**90.21**	**27**	P		**P**		**01 09 36.3**	**+0.8**
	baz=285								
Q32M	**Nakina River**	**90.66**	**30**	P		**P**		**01 09 38.0**	**+0.1**
	baz=284								
TESR	**Tescani**	**90.88**	**317**	⇑P		**P**		**01 09 37.7**	**-1.2**
MANT	**Manisa**	**90.89**	**309**	IAmb		IAmb		01 09 39.1	
	comp=Z,11nm,1.1s								
U33K	**Whale Pass**	**90.91**	**33**	P		**P**		**01 09 38.9**	**+0.2**
	baz=284								
VRI	**Vrincioaia**	**90.95**	**316**	⇑P		**P**		**01 09 38.2**	**-1.1**
VRI	**Vrincioaia**	**90.95**	**316**	⇑P		**P**		**01 09 38.2**	**-1.1**
PLOR	**Plostina**	**91.00**	**316**	⇓P		**P**		**01 09 38.9**	**-0.6**
PLOR	**Plostina**	**91.00**	**316**	⇓P		**P**		**01 09 38.9**	**-0.6**
CRAG	**Craig**	**91.06**	**34**	P		**P**		**01 09 39.9**	**+0.5**
	baz=284								
R33M	**Jennings River**	**91.20**	**30**	P		**P**		**01 09 40.8**	**+0.5**
	baz=286								
WRAK	**Wrangell Islan**	**91.25**	**33**	P		**P**		**01 09 41.4**	**+1.0**
	baz=284								
NEHR	**Nehoiu**	**91.33**	**316**	⇑P		**P**		**01 09 40.5**	**-0.6**
TURR	**Turia**	**91.40**	**317**	⇓P		**P**		**01 09 39.2**	**-2.1**
MLR	**Muntele Rosu**	**91.56**	**316**	LR		LR		01 55 36.4	
	comp=Z,142nm,20.9s,baz=68,slow=39								
MLR	**Muntele Rosu**	**91.56**	**316**	⇑P		**P**		**01 09 41.2**	**-1.1**
MLR	**Muntele Rosu**	**91.56**	**316**	⇑P		**P**		**01 09 41.2**	**-1.1**
BURAR	**Bucovina Array**	**91.62**	**318**	P		**P**		**01 09 41.2**	**-1.3**
BURAR	**Bucovina Array**	**91.62**	**318**	⇑P		**P**		**01 09 42.2**	**-0.3**
BURAR	**Bucovina Array**	**91.62**	**318**	⇑P		**P**		**01 09 42.2**	**-0.3**
TGTN	**Hyland Airport**	**91.87**	**27**	P		**P**		**01 09 43.6**	**+0.4**
	baz=288								
V35K	**Ketchikan**	**91.92**	**34**	P		**P**		**01 09 44.1**	**+0.6**
	baz=285								
DLBC	**Dease Lake**	**91.93**	**31**	P		**P**		**01 09 44.2**	**+0.6**
	baz=286								
EZN	**Ezine**	**92.37**	**310**	⇑P		**P**		**01 09 44.2**	**-1.7**
EZN	**Ezine**	**92.37**	**310**	⇑P		**P**		**01 09 44.2**	**-1.7**
LOT	**Lotru**	**93.06**	**316**	⇓P		**P**		**01 09 48.3**	**-0.9**
LIRD	**Liard River Hi**	**93.57**	**29**	P		**P**		**01 09 51.4**	**+0.4**
	baz=290								
TOAD	**Toad River Com**	**94.18**	**29**	P		**P**		**01 09 54.1**	**+0.2**
	baz=290								
KOTAN	**Kotaneelee Air**	**94.29**	**28**	P		**P**		**01 09 55.0**	**+0.7**
	baz=292								
HFS	**Hagfors**	**94.54**	**332**	LR		LR		01 54 33.1	
	comp=Z,218nm,21.9s,baz=59,slow=37								
SYO	**Syowa Base**	**94.71**	**201**	⇓*i*P		**P**		**01 09 56.6**	**+0.6**
RES	**Resolute Bay**	**95.07**	**10**	LR		LR		01 57 44.9	
	comp=Z,71nm,18.6s,baz=330,slow=39								
NB2	**NORSAR Subarra**	**95.31**	**333**	P		**P**		**01 09 56.0**	**-3.1**
	comp=Z,7.2nm,1.7s,baz=64,slow=5.1								
NOA	**NORSAR Array B**	**95.31**	**333**	P		**P**		**01 09 56.4**	**-2.7**
	comp=Z,0.9nm,0.9s,baz=67,slow=4.7,SNR=3.7								
NOA				LR		LR		01 58 31.1	
	comp=Z,177nm,18.2s,baz=70,slow=39								
	comp=Z,0.9nm,0.9s								
TAOE	**Nuku Hiva Isla**	**95.71**	**98**	*e*LR		LR		01 41 06.1	
	comp=Z,238nm,26.5s								
OSTC	**Ostas**	**96.55**	**323**	AMS		AMS		01 57 40.0	
	comp=Z,200nm,19.1s								
DPC	**Dobruska-Polom**	**96.55**	**322**	AMS		AMS		01 57 40.0	
	comp=Z,200nm,17.2s								
CHVC	**Chvalec**	**96.64**	**323**	AMS		AMS		01 57 40.0	
	comp=Z,200nm,17.6s								
UPC	**Upice**	**96.69**	**323**	AMS		AMS		01 57 40.0	
	comp=Z,200nm,14.6s								
QSPA	**South Pole Qui**	**96.71**	**180**	LR		LR		01 56 27.4	
	comp=Z,61nm,19.1s,baz=348,slow=37		

CPUP	**Villa Florida**	**160.46**	**173**	PKP	**PKPdf**	**01 16 35.9**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=110,slow=10,SNR=4.2						
LPAZ	**La Paz**	**164.00**	**127**	PKP	**PKPdf**	**01 16 40.9**	**+0.7**
	comp=Z,2.2nm,0.8s,baz=34,slow=0.3,SNR=9.9						

*CATAC **10** 00:58:55.1±0.8, 14°N±4°×9°1W±°, h21km±5km, M4.0/9, MLv4.0/9, Error ellipse: s-maj=10.5km s-min=3.7km az=29.0, confirmed*
*GCG **10** 00:58:56.9±1.4, 14°.08N×91°.26W, h59km±9km, MD3.9, ML4.5, MW3.5*
ISC 10 00:58:56.5±1.7**, 13°.92N**±0°.09×**91°.20W**±0°.06**, h67**km±12km**, n25**, σ2**49**/32**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
STG0	**El Palmar, Qui**	**0.52**	**344**	*i* P		**Pn**	**00 59 11.3**	**+1.8**
STG0				*i* S		**Sn**	**00 59 23.0**	**+4.0**
STG0				IAML			00 59 23.7	
	comp=E,28μm,0.2s							
STG2	**El Palmar, Qui**	**0.54**	**341**	*i* P		**Pn**	**00 59 12.1**	**+2.4**
STG2				*i* S		**Sn**	**00 59 23.9**	**+4.6**
STG8	**El Palmar, Qui**	**0.55**	**344**	*i* P		**Pn**	**00 59 11.9**	**+2.1**
STG8				*i* S		**Sn**	**00 59 23.8**	**+4.2**
STG8				IAML			00 59 24.4	
	comp=N,28μm,0.1s							
ESSG	**Sabana Grande**	**0.58**	**37**	*i* P		**Pn**	**00 59 08.9**	**-1.1**
ESSG				*i* S		**Sn**	**00 59 18.5**	**-1.4**
ESSG				IAML			00 59 19.1	
	comp=E,8μm,0.3s							
FG8	**Yepocapa, Chim**	**0.70**	**61**	*i* P		**Pn**	**00 59 08.9**	**-2.5**
FG8				*i* S		**Sn**	**00 59 18.8**	**-3.5**
FG16	**Alotenango, Sa**	**0.75**	**62**	*i* P		**Pn**	**00 59 09.7**	**-2.3**
FG16				*i* S		**Sn**	**00 59 20.6**	**-2.8**
FG16				IAML			00 59 21.8	
	comp=N,58μm,0.2s							
ESSJ	**San Jos, E**	**0.76**	**118**	*i* P		Pn	00 59 08.0	-3.9
ESSJ				*i* S		**Sn**	**00 59 18.4**	**-4.9**
RTAL	**Retalhuleu**	**0.77**	**321**	S		**Sn**	**00 59 19.9**	**-3.6**
RTAL	**Retalhuleu**	**0.77**	**321**	P		**Pn**	**00 59 10.2**	**-1.9**
SOKI	**Kika Raxquin**	**0.92**	**347**	*i* P		**Pn**	**00 59 12.9**	**-1.4**
SOKI				*i* S		**Sn**	**00 59 25.2**	**-2.1**
SOKI				IAML			00 59 26.3	
	comp=N,7μm,0.4s							
FAME	**Alcaldia de Sa**	**1.15**	**94**	P		**Pn**	**00 59 17.0**	**+0.2**
FAME	**Alcaldia de Sa**	**1.15**	**94**	S		**Sn**	**00 59 33.1**	**+1.2**
SMCA	**Catarina**	**1.26**	**318**	*i* P		**Pn**	**00 59 16.3**	**-1.9**
SMCA				IAML			00 59 32.8	
	comp=E,1μm,0.1s							
NUBE	**Las Nubes**	**1.38**	**91**	*i* P		**Pn**	**00 59 20.4**	**+0.6**
NUBE	**Las Nubes**	**1.38**	**91**	P		**Pn**	**00 59 20.4**	**+0.6**
NUBE	**Las Nubes**	**1.38**	**91**	S		**Sn**	**00 59 39.0**	**+1.6**
LOAL	**Lomas de Alarc**	**1.38**	**87**	S		**Sn**	**00 59 39.7**	**+2.1**
LOAL	**Lomas de Alarc**	**1.38**	**87**	P		**Pn**	**00 59 20.7**	**+0.9**
THIG		**1.43**	**314**	*i* P		**Pn**	**00 59 19.2**	**-1.3**
CEVE	**Cerro Verde**	**1.53**	**93**	P		**Pn**	**00 59 23.1**	**+1.1**
CEVE	**Cerro Verde**	**1.53**	**93**	S		**Sn**	**00 59 43.5**	**+2.3**
CCIG	**Comitan**	**2.52**	**339**	*i* P		**Pn**	**00 59 35.5**	**+0.2**
CCIG	**Comitan**	**2.52**	**339**	P		**Pn**	**00 59 35.6**	**+0.2**
PETF	**Flores**	**3.24**	**23**	*i* P		**Pn**	**00 59 45.1**	**+0.1**
PKGN	**Cerro Pekin**	**4.29**	**106**	P		**Pn**	**01 00 00.4**	**+1.0**

*IDC **10** 01:08:48.6±2.7, 20°.53S×178°.32W, h521km±28km, mb4.1/16, mbtmp4.9/18, Error ellipse: s-maj=15.8km s-min=11.8km az=80.0*
*NEIC **10** 01:08:48.1±1.6, 20°.5S±0°.1×178°.2W±0°.1, h518km±2km, mb4.7/291, Error ellipse: s-maj=17.7km s-min=15.1km az=123.0*
*BJI **10** 01:08:48.3, 20°.26S×177°.98W, h533km, mB4.8/5, mb4.7/25*
*NOU **10** 01:08:49.9, 20°.62S×178°.23W, h538km, mb4.9/56, Fiji Islands Region*
*MOS **10** 01:08:49.5±2.4, 19°.84S×178°.72W, h503km, mb4.7/17, Error ellipse: s-maj=11.8km s-min=10.4km az=115.6*
ISC 10 01:08:49.1±0.3**, 20°.56S**±0°.05×**178°.21W**±0°.06**, h534**km**, n935**, σ0**90**/825**, mb4.7**/208**, 74C-91D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
LKBA	**Tubou, Lakemba**	**2.38**	**346**	P		**P**	**01 10 00.7**	**+1.4**
LKBA	**Tubou, Lakemba**	**2.38**	**346**	S		**S**	**01 10 58.0**	**+1.7**
LKBA	**Tubou, Lakemba**	**2.38**	**346**	P		**P**	**01 11 00.6**	**+1.3**
TAVE	**Taveuni**	**4.15**	**337**	P		**P**	**01 10 12.7**	**+1.5**
TAVE	**Taveuni**	**4.15**	**337**	P		**P**	**01 10 12.6**	**+1.4**
MSVF	**Nonsavu**	**4.51**	**308**			**P**	**01 10 15.1**	**+1.0**
MSVF	**Nonsavu**	**4.51**	**308**	P		**P**	**01 10 15.6**	**+1.5**
MSVF	**Nonsavu**	**4.51**	**308**	*c* P		**P**	**01 10 15.4**	**+1.3**
DGTI	**Dogotuki**	**4.66**	**335**	P		**P**	**01 10 16.2**	**+0.9**
DGTI	**Dogotuki**	**4.66**	**335**	P		**P**	**01 10 16.0**	**+0.7**
FUTU	**Fugatoga**	**6.22**	**1**	P		**P**	**01 10 28.9**	**-0.2**
FUTU	**Fugatoga**	**6.22**	**1**	P		**P**	**01 10 30.2**	**+1.1**
NIUE	**Niue**	**7.94**	**81**	P		**P**	**01 10 44.0**	**-1.8**
RIZ	**Raoul Island**	**8.65**	**178**	S		**S**	**01 12 32.4**	**-2.1**
RAO	**Raoul Island**	**8.66**	**178**	S		**S**	**01 12 33.7**	**-0.9**
	435nm,0.3s,baz=292,slow=22,SNR=4.1							
GLKZ	**Green Lake**	**8.67**	**178**	P		**P**	**01 10 51.4**	**-1.6**
GLKZ				S		**S**	**01 12 34.0**	**-0.8**
AFI	**Afiamalu**	**9.03**	**44**	P		**P**	**01 10 54.0**	**-3.0**
AFI	**Afiamalu**	**9.03**	**44**	P		**P**	**01 10 54.1**	**-3.0**
AFI	**Afiamalu**	**9.03**	**44**	P		**P**	**01 10 54.1**	**-3.0**
DVP	**Devils Point**	**13.16**	**280**	P		**P**	**01 11 41.3**	**+1.5**
OUENC	**Ouen Island, N**	**14.04**	**260**	P		**P**	**01 11 51.3**	**+2.4**
VLAKA	**Lakatoro**	**14.34**	**286**	P		**P**	**01 11 52.7**	**+0.6**
DZM	**Mont Dzumac**	**14.38**	**261**	P		**P**	**01 11 50.9**	**-1.6**
DZM	**Mont Dzumac**	**14.38**	**261**	P		**P**	**01 11 51.1**	**-1.4**
	7.7nm,0.7s,baz=132,slow=12,SNR=8.1							
DZM	**Mont Dzumac**	**14.38**	**261**	P		**P**	**01 11 53.2**	**+0.7**
DZM	**Mont Dzumac**	**14.38**	**261**	P		**P**	**01 11 54.4**	**+1.9**
OUZ	**Omahuta**	**16.29**	**205**	P		**P**	**01 12 12.9**	**+1.1**
GRZ	**Great Barrier**	**16.59**	**198**	P		**P**	**01 12 14.6**	**0.0**
KUZ	**Kuaotunu**	**16.98**	**197**	P		**P**	**01 12 19.7**	**+1.5**
KUZ	**Kuaotunu**	**16.98**	**197**	P		**P**	**01 12 19.1**	**+0.9**
KUZ	**Kuaotunu**	**16.98**	**197**	P		**P**	**01 12 19.5**	**+1.3**
MXZ	**Matakaoa Point**	**17.21**	**189**	P		**P**	**01 12 20.1**	**-0.3**
MXZ	**Matakaoa Point**	**17.21**	**189**	P		**P**	**01 12 19.8**	**-0.6**
HAZ	**Te Kaha**	**17.49**	**191**	P		**P**	**01 12 21.4**	**-1.5**
PKGZ	**Pakihiroa**	**17.55**	**190**	P		**P**	**01 12 23.6**	**+0.1**
RUGZ	**Raukumara Rang**	**17.71**	**191**	P		**P**	**01 12 26.6**	**+1.5**
RUGZ				S		S	01 15 41.4	+20
TWGZ	**Tauwhareparae**	**17.86**	**190**	P		**P**	**01 12 26.7**	**+0.3**
TOZ	**Tahuroa Road**	**17.96**	**196**	P		**P**	**01 12 28.3**	**+1.1**
MWZ	**Matawai**	**18.09**	**191**	P		**P**	**01 12 27.6**	**-1.0**
URZ	**Urewera**	**18.10**	**192**	P		**P**	**01 12 27.5**	**-1.0**
	45nm,0.6s,baz=336,slow=3.9,SNR=24							
URZ				S		**S**	**01 15 30.2**	**+3.1**
	8.4nm,0.7s,baz=117,slow=21,SNR=3.5							
URZ	**Urewera**	**18.10**	**192**	P		**P**	**01 12 28.1**	**-0.4**
URZ	**Urewera**	**18.10**	**192**	P		**P**	**01 12 27.2**	**-1.3**
MUGZ	**Murupara**	**18.38**	**193**	P		**P**	**01 12 29.9**	**-1.2**
RTZ	**Ruatahuna**	**18.47**	**192**	P		**P**	**01 12 30.1**	**-1.9**
TLZ	**Tolley Road**	**18.52**	**196**	P		**P**	**01 12 33.8**	**+1.4**
MTHZ	**Maungataniwha**	**18.73**	**192**	P		**P**	**01 12 33.0**	**-1.3**
HIZ	**Hauiti**	**18.87**	**197**	P		**P**	**01 12 36.3**	**+0.8**
HIZ	**Hauiti**	**18.87**	**197**	P		**P**	**01 12 38.0**	**+2.4**
BKZ	**Black Stump Fm**	**19.10**	**193**	P		**P**	**01 12 36.7**	**-1.0**
ETVZ	**East Tongariro**	**19.24**	**194**	P		**P**	**01 12 38.7**	**-0.4**
NGZ	**Ngauruhoe**	**19.30**	**195**	P		**P**	**01 12 37.6**	**-2.1**
KHEZ	**Kahui Hut**	**19.84**	**198**	P		**P**	**01 12 45.1**	**+0.7**
PXZ	**Pawanui**	**19.86**	**191**	P		**P**	**01 12 44.1**	**-0.5**
BFZ	**Birch Farm**	**20.61**	**192**	P		**P**	**01 12 51.5**	**+0.2**
BFZ	**Birch Farm**	**20.61**	**192**	S		**S**	**01 16 06.3**	**-1.2**
QRZ	**Quartz Range**	**21.69**	**199**	P		**P**	**01 13 01.3**	**+0.2**
NNZ	**Nelson**	**21.80**	**197**	P		**P**	**01 13 00.6**	**-1.5**
KHZ	**Kahutara**	**22.88**	**196**	P		**P**	**01 13 10.7**	**-0.9**
TATA	**Tatamba Isabel**	**24.44**	**296**	P		**P**	**01 13 25.7**	**-0.3**
RPZ	**Rata Peaks**	**24.77**	**199**	P		**P**	**01 13 27.0**	**-1.5**
	13nm,0.5s,baz=330,slow=1.5,SNR=8.3 13nm,0.5s							
JCZ	**Jackson Bay**	**25.83**	**202**	P		**P**	**01 13 37.7**	**-0.3**
ODZ	**Otahua Downs**	**26.10**	**198**	P		**P**	**01 13 40.7**	**+0.5**
EIDS	**Eidsvold**	**28.64**	**255**	P		**P**	**01 14 02.4**	**-0.4**
EIDS				IAmb		IAmb	01 14 03.8	
	comp=Z,11nm,0.6s							
EIDS	**Eidsvold**	**28.64**	**255**	P		**P**	**01 14 03.6**	**+0.8**
EIDS	**Eidsvold**	**28.64**	**255**	P		**P**	**01 14 03.7**	**+0.9**
ARMA	**Armidale**	**28.86**	**244**	P		**P**	**01 14 05.7**	**+0.9**
CNB	**Canberra Magne**	**32.03**	**236**	P		**P**	**01 14 33.2**	**+1.3**
CTAO	**Charters Tower**	**33.29**	**264**	P		**P**	**01 14 42.6**	**-0.1**
CTAO	**Charters Tower**	**33.29**	**264**	P		**P**	**01 14 42.9**	**+0.2**
CTAO	**Charters Tower**	**33.29**	**264**	P		**P**	**01 14 42.6**	**-0.1**
CTAO				pmax	pmax			
	comp=Z,70nm,1.1s							
QLP	**Quilpie**	**34.85**	**253**	P		**P**	**01 14 56.2**	**+0.4**
QLP	**Quilpie**	**34.85**	**253**	S		**S**	**01 19 47.7**	**-1.3**
MTSU	**Mount Surprise**	**35.39**	**267**	P		**P**	**01 15 00.6**	**+0.2**
MTSU	**Mount Surprise**	**35.39**	**267**	S		**S**	**01 19 56.4**	**-0.9**
TOO	**Toolangi**	**35.70**	**234**	P		**P**	**01 15 03.6**	**+0.9**
TOO	**Toolangi**	**35.70**	**234**	P		**P**	**01 15 03.6**	**+0.9**
TOO				pmax	pmax			
	comp=Z,6.0nm,1.0s							
COEN	**Coen**	**37.39**	**274**	P		**P**	**01 15 17.1**	**+0.2**
COEN				IAmb		IAmb	01 15 18.2	
	comp=Z,28nm,0.8s							
COEN	**Coen**	**37.39**	**274**	P		**P**	**01 15 17.2**	**+0.3**
STKA	**Stephens Creek**	**37.58**	**244**	P		**P**	**01 15 18.5**	**+0.2**
STKA	**Stephens Creek**	**37.58**	**244**	P		**P**	**01 15 17.1**	**-1.2**
	comp=Z,4.9nm,0.5s,baz=94,slow=13,SNR=10							
STKA				PcP		**PcP**	**01 17 22.0**	**0.0**
	comp=Z,4.4nm,0.6s,baz=63,slow=4.5,SNR=4.7 comp=Z,4.9nm,0.5s							
QIS	**Mount Isa**	**39.41**	**262**	P		**P**	**01 15 33.6**	**+0.3**
QIS	**Mount Isa**	**39.41**	**262**	S		**S**	**01 20 56.6**	**-0.3**
JAY	**Jayapura**	**43.87**	**289**	P		**P**	**01 16 08.8**	**+0.2**
WR8	**Warramunga Arr**	**44.24**	**262**	P		**P**	**01 16 10.4**	**-1.0**
WR8				IAmb		IAmb	01 16 12.3	
	comp=Z,35nm,1.1s							
AS01	**Alice Springs**	**44.27**	**257**	P		**P**	**01 16 11.7**	**+0.1**
AS31	**Alice Springs**	**44.31**	**257**	P		**P**	**01 16 11.4**	**-0.5**
AS31				IAmb		IAmb	01 16 12.7	
	comp=Z,13nm,0.6s							
ASAR	**Alice Springs**	**44.31**	**257**	P		**P**	**01 16 11.9**	**0.0**
ASAR	**Alice Springs**	**44.31**	**257**	P		**P**	**01 16 12.0**	**+0.1**
	comp=Z,36nm,0.6s,baz=97,slow=7.8,SNR=358							
ASAR				PcP		**PcP**	**01 17 44.7**	**+0.1**
	comp=Z,9.3nm,0.5s,baz=107,slow=3.8,SNR=18							
ASAR				S		**S**	**01 22 04.7**	**-2.7**
	comp=Z,9.2nm,0.7s,baz=94,slow=16,SNR=33 comp=Z,36nm,0.6s							
GENI	**Genyem**	**44.31**	**288**	P		**P**	**01 16 13.0**	**+1.0**
GENI	**Genyem**	**44.31**	**288**	P		**P**	**01 16 12.0**	**0.0**
	comp=Z,144nm,0.7s							
WB0	**Warramunga Arr**	**44.37**	**262**	P		**P**	**01 16 12.0**	**-0.4**
WRAB	**Tennant Creek**	**44.39**	**262**	P		**P**	**01 16 11.8**	**-0.6**
WRAB				IAmb		IAmb	01 16 12.8	
	comp=Z,28nm,0.8s							
WRAB	**Tennant Creek**	**44.39**	**262**	*d* iP		**P**	**01 16 11.9**	**-0.6**
WRAB				pmax	pmax			
	comp=Z,55nm,1.4s							
WRA	**Warramunga Arr**	**44.40**	**262**	P		**P**	**01 16 11.1**	**-1.5**
WRA	**Warramunga Arr**	**44.40**	**262**	P		**P**	**01 16 11.8**	**-0.8**
	comp=Z,23nm,0.6s,baz=97,slow=8.6,SNR=187							
WRA				PcP		**PcP**	**01 17 45.1**	**+0.2**
	comp=Z,3.9nm,0.6s,baz=95,slow=3.2,SNR=6.5							
WRA				S		**S**	**01 22 04.8**	**-3.8**
	comp=Z,7.3nm,1.1s,baz=97,slow=13,SNR=7.9 comp=Z,23nm,0.6s							
SMPI	**Sarmi**	**45.88**	**288**	P		**P**	**01 16 23.8**	**-0.2**
	comp=Z,1μmcomp=Z,65nm,1.1s							
KDU	**Kakadu**	**47.75**	**271**	P		**P**	**01 16 37.7**	**-0.4**
BAKI	**Biak**	**48.56**	**287**	P		**P**	**01 16 45.5**	**+1.3**
	comp=Z,117nm,1.0s							
MTN	**Manton Dam**	**48.96**	**271**	P		**P**	**01 16 46.5**	**-0.6**
MTN	**Manton Dam**	**48.96**	**271**	P		**P**	**01 16 46.8**	**-0.3**
DRS	**Darwin Rock St**	**49.30**	**271**	P		**P**	**01 16 49.6**	**0.0**
KNRA	**Kununurra**	**50.46**	**266**			**P**	**01 16 58.0**	**-0.1**
FAKI	**Fak Fak**	**51.32**	**283**	P		**P**	**01 17 03.9**	**-0.5**
FAKI				IAmb		IAmb	01 17 05.8	
	comp=Z,67nm,1.3s							
FITZ	**Fitzroy Crossi**	**52.82**	**262**	P		**P**	**01 17 15.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**52.82**	**262**	P		**P**	**01 17 15.3**	**+0.2**
SWI	**Sorong**	**53.07**	**285**	P		**P**	**01 17 16.7**	**-0.3**
NLAI	**Namlea**	**55.92**	**280**	P		**P**	**01 17 36.6**	**-0.4**
	comp=Z,92nm,0.8s							
SOEI	**Soe**	**56.30**	**272**	P		**P**	**01 17 41.4**	**+1.6**
SOEI	**Soe**	**56.30**	**272**	P		**P**	**01 17 40.9**	**+1.1**
BATI	**Baumata**	**56.73**	**271**	P		**P**	**01 17 43.7**	**+1.1**
	comp=Z,69nm,0.7s							
TNTI	**Ternate**	**57.28**	**285**	P		**P**	**01 17 47.3**	**+0.9**
TNTI	**Ternate**	**57.28**	**285**	P		**P**	**01 17 46.6**	**+0.2**
	comp=Z,78nm,1.0s							
SANI	**Sanana**	**57.40**	**281**	P		**P**	**01 17 46.4**	**-0.8**
	comp=Z,77nm,0.9s							
MBWA	**Marble Bar**	**57.65**	**257**	P		**P**	**01 17 48.2**	**-0.5**
MBWA				IAmb		IAmb	01 17 49.2	
	comp=Z,36nm,0.7s							
MBWA	**Marble Bar**	**57.65**	**257**	P		**P**	**01 17 48.4**	**-0.4**
VNDA	**Vanda**	**57.83**	**185**	P		**P**	**01 17 50.5**	**+1.4**
VNDA	**Vanda**	**57.83**	**185**	P		**P**	**01 17 51.0**	**+2.0**
	comp=Z,3.8nm,0.6s,baz=357,slow=7.7,SNR=23 comp=Z,3.8nm,0.6s							
MMRI	**Maumere**	**58.56**	**272**	P		**P**	**01 17 54.2**	**-0.8**
	comp=Z,107nm,0.8s							
EDFI	**Ende, Flores**	**59.03**	**272**	P		**P**	**01 17 57.8**	**-0.5**
	comp=Z,51nm,0.8s							
MORW	**Morawa**	**59.62**	**248**	P		**P**	**01 18 01.8**	**-0.2**
MORW				IAmb		IAmb	01 18 03.3	
	comp=Z,28nm,1.4s							
WSI	**Waingapu**	**60.05**	**271**	P		**P**	**01 18 04.6**	**-0.4**
SGSI	**Sangihe**	**60.19**	**287**	P		**P**	**01 18 05.1**	**-0.8**
	comp=Z,4μmcomp=Z,109nm,0.7s							
WBSI	**Waikabubak, Su**	**60.91**	**270**	P		**P**	**01 18 10.3**	**-0.4**
	comp=Z,38nm,0.8s							
APSI	**Ampana**	**61.83**	**280**	P		**P**	**01 18 17.0**	**+0.3**
	comp=Z,61nm,0.8s							
BNSI	**Bone**	**61.98**	**276**	P		**P**	**01 18 17.8**	**+0.1**
	comp=Z,46nm,0.8s							
KAPI	**Kappang**	**62.09**	**275**	P		**P**	**01 18 18.9**	**+0.5**
KAPI				IAmb		IAmb	01 18 29.6	
	comp=Z,15nm,0.9s							
KAPI	**Kappang**	**62.09**	**275**	P		**P**	**01 18 18.9**	**+0.5**
KAPI				pmax	pmax			
	comp=Z,15nm,0.9s							
MRSI	**Marisa**	**62.11**	**282**	P		**P**	**01 18 18.1**	**-0.4**
	comp=Z,32nm,1.0s							
SPSI	**Sidrap Palu**	**62.44**	**276**	P		**P**	**01 18 19.6**	**-1.1**
	comp=Z,2μmcomp=Z,26nm,1.1s							
PLAI	**Plampang**	**62.67**	**271**	P		**P**	**01 18 22.4**	**+0.2**
PLAI	**Plampang**	**62.67**	**271**	P		**P**	**01 18 21.6**	**-0.6**
	comp=Z,96nm,1.0s							
TOLI2	**Tolitoli**	**63.42**	**282**	P		**P**	**01 18 26.6**	**-0.4**
TOLI2				IAmb		IAmb	01 18 27.7	
	comp=Z,34nm,1.0s							
TOLI2	**Tolitoli**	**63.42**	**282**	P		**P**	**01 18 26.9**	**-0.1**
PCI	**Palu**	**63.51**	**280**	P		**P**	**01 18 28.7**	**+1.1**
	comp=Z,104nm,0.9s							
TWSI	**Taliwang, Sumb**	**63.54**	**270**	P		**P**	**01 18 27.1**	**-0.7**
	comp=Z,64nm,0.8s							
CASY	**Casey**	**63.83**	**205**	P		**P**	**01 18 29.1**	**+0.4**
MPSI	**Mapaga**	**63.93**	**281**	P		**P**	**01 18 30.0**	**-0.2**
	comp=Z,1μmcomp=Z,58nm,0.8s							
PCJI	**Pacitan**	**69.06**	**269**	P		**P**	**01 19 02.0**	**0.0**
	comp=Z,99nm,0.8s							
QSPA	**South Pole Qui**	**69.51**	**180**	P		**P**	**01 19 05.2**	**+1.2**
QSPA				IAmb		IAmb	01 19 06.4	
	comp=Z,14nm,0.8s							
QSPA	**South Pole Qui**	**69.51**	**180**	P		**P**	**01 19 05.5**	**+1.5**
	comp=Z,14nm,0.8s,baz=358,slow=0.8,SNR=74 comp=Z,14nm,0.8s							
KKM	**Kota Kinabalu**	**69.58**	**285**	P		**P**	**01 19 05.0**	**-0.2**
KKM				IAmb		IAmb	01 19 06.3	
	comp=Z,29nm,0.8s							
JGF	**Kuroka**	**69.94**	**323**	P		**P**	**01 19 06.9**	**0.0**
MJAR	**Matsushiro Arr**	**70.14**	**324**	P		**P**	**01 19 07.3**	**-0.6**
MJAR	**Matsushiro Arr**	**70.14**	**324**	P		**P**	**01 19 08.1**	**+0.2**
	comp=Z,7.3nm,0.5s,baz=154,slow=6.1,SNR=18 comp=Z,7.3nm,0.5s							
MAJO	**Matsushiro**	**70.14**	**324**	P		**P**	**01 19 08.4**	**+0.4**
MAJO				IAmb		IAmb	01 19 08.9	
	comp=Z,13nm,0.6s							
MAJO	**Matsushiro**	**70.14**	**324**	P		**P**	**01 19 08.8**	**+0.8**
MAJO	**Matsushiro**	**70.14**	**324**	*d* iP		**P**	**01 19 07.9**	**-0.1**
MAJO				pmax	pmax			
	comp=Z,12nm,0.7s							
JSD	**Sado**	**71.20**	**325**	P		**P**	**01 19 16.1**	**+1.9**
KIWB	**Kanaga Island**	**72.10**	**1**	P		**P**	**01 19 18.9**	**-0.2**
ADK	**Adak**	**72.14**	**1**	P		**P**	**01 19 18.9**	**-0.4**
ADK	**Adak**	**72.14**	**1**	P		**P**	**01 19 19.1**	**-0.2**
ADK	**Adak**	**72.14**	**1**	P		**P**	**01 19 18.9**	**-0.4**
ADK				pmax	pmax			
	comp=Z,58nm,0.6s							
JNU	**Nakatsue**	**72.18**	**317**	P		**P**	**01 19 20.3**	**+0.2**
GSTR	**Great Sitkin T**	**72.36**	**1**	P		**P**	**01 19 20.3**	**-0.3**
ATKA	**Atka Island**	**72.53**	**3**	P		**P**	**01 19 21.1**	**-0.5**
LEM	**Lembang**	**72.84**	**269**	P		**P**	**01 19 24.8**	**+0.3**
	comp=Z,70nm,1.0s							
KSM	**Kuching**	**73.22**	**278**	P		**P**	**01 19 27.5**	**+1.0**
YULB	**Yu-li**	**73.36**	**303**	P		**P**	**01 19 26.7**	**-0.4**
YULB				IAmb		IAmb	01 20 08.4	
	comp=Z,34nm,1.2s							
NIKH	**Nikolski High**	**73.67**	**6**	P		**P**	**01 19 27.8**	**-0.2**
NIKH	**Nikolski High**	**73.67**	**6**	P		**P**	**01 19 27.7**	**-0.3**
	baz=189							
SSLB	**Suanglung**	**73.84**	**304**	P		**P**	**01 19 28.8**	**-1.0**
SSLB				IAmb		IAmb	01 19 30.0	
	comp=Z,34nm,1.1s							
SSLB	**Suanglung**	**73.84**	**304**	P		**P**	**01 19 29.4**	**-0.4**
TPUB	**Ta-pu**	**73.84**	**303**	P		**P**	**01 19 29.8**	**+0.1**
TPUB	**Ta-pu**	**73.84**	**303**	P		**P**	**01 19 29.6**	**-0.2**
UNV	**Unalaska Valle**	**74.78**	**7**	P		**P**	**01 19 33.5**	**-0.7**
UNV	**Unalaska Valle**	**74.78**	**7**	P		**P**	**01 19 33.6**	**-0.7**
	baz=191							
LVA	**Lava Point**	**75.15**	**7**	P		**P**	**01 19 35.8**	**-0.6**
AKUT	**Akutan**	**75.15**	**8**	P		**P**	**01 19 35.4**	**-1.0**
YSS	**Yuzhno-Sakhali**	**75.86**	**334**	P		**P**	**01 19 41.9**	**+1.4**
YSS	**Yuzhno-Sakhali**	**75.86**	**334**	*e*P		**P**	**01 19 41.3**	**+0.8**
YSS				pmax	pmax			
	comp=Z,30nm,1.1s							
PEA0B	**Petropavlovsk-**	**76.28**	**345**	P		**P**	**01 19 42.6**	**0.0**
PEA0B				IAmb		IAmb	01 19 43.9	
	comp=Z,36nm,1.1s							
PEA0B	**Petropavlovsk-**	**76.28**	**345**	*d* iP		**P**	**01 19 42.7**	**0.0**
PEA0B				*i* *PP		**pP**	**01 21 33.2**	**-2.4**
PETK	**Petropavlovsk-**	**76.28**	**345**	P		**P**	**01 19 42.7**	**0.0**
PETK	**Petropavlovsk-**	**76.28**	**345**	P		**P**	**01 19 42.2**	**-0.4**
	comp=Z,16nm,0.7s,baz=134,slow=7.6,SNR=36 comp=Z,16nm,0.7s							
PETK	**Petropavlovsk-**	**76.28**	**345**	P		**P**	**01 19 42.7**	**0.0**
CNBA	**Chernabura Isl**	**76.75**	**11**	P		**P**	**01 19 44.6**	**-0.6**
CHNA	**Chernabura Isl**	**76.76**	**11**	P		**P**	**01 19 44.8**	**-0.4**
	baz=198							
KSRS	**Korea Array**	**76.80**	**319**	P		**P**	**01 19 46.4**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=140,slow=7.1,SNR=12 comp=Z,3.9nm,0.9s							
MDSI	**Maura Dua**	**76.84**	**270**	P		**P**	**01 19 45.5**	**-1.2**
	comp=Z,32nm,1.2s							
SDPT	**Sand Point**	**77.10**	**10**	P		**P**	**01 19 46.5**	**-0.6**
SDPT	**Sand Point**	**77.10**	**10**	P		**P**	**01 19 46.8**	**-0.3**
SDPT	**Sand Point**	**77.10**	**10**	P		**P**	**01 19 46.6**	**-0.5**
	baz=197							
S12K	**Black Hills**	**77.19**	**9**	P		**P**	**01 19 47.3**	**-0.3**
S12K	**Black Hills**	**77.19**	**9**	P		**P**	**01 19 47.1**	**-0.5**
	baz=195							
SPIA	**Saint Paul Isl**	**77.72**	**4**	P		**P**	**01 19 51.1**	**+0.7**
S14K	**Fog Glacier**	**78.15**	**11**	P		**P**	**01 19 53.2**	**+0.3**
	baz=198							
SAO	**San Andreas Ge**	**78.21**	**43**	P		**P**	**01 19 55.0**	**+1.4**
SAO				IAmb		IAmb	01 19 56.3	
	comp

N15K Kwethluk River 81.78 9 P P 01 20 12.1 +0.3
N15K IAmb IAmb 01 20 14.5
comp=Z,31nm,0.8s
N15K Kwethluk River 81.78 9 P P 01 20 12.8 +1.1
baz=197,SNR=29
P18K Big Mountain, 81.86 12 P P 01 20 12.0 -0.2
baz=202,SNR=8.8
O17K Koliganek Bris 81.89 11 P P 01 20 12.2 0.0
baz=200,SNR=14
M14K Bethel 82.08 8 P P 01 20 14.1 +0.9
baz=195,SNR=16
K05A Summer Lake 82.13 39 IAmb IAmb 01 20 17.1
comp=Z,38nm,0.9s
H04D Lebanon 82.19 37 IAmb IAmb 01 20 16.9
comp=Z,24nm,1.1s
M15K Kasigluk River 82.20 9 P P 01 20 14.7 +0.9
baz=196,SNR=38
N16K Nishlik Lake 82.27 10 P P 01 20 15.3 +1.1
baz=198,SNR=33
O18K Koktuh Hills 82.30 11 P P 01 20 14.7 +0.3
baz=202,SNR=23
WHN Wuhan 82.32 306 P P 01 20 16.1 +1.0
BNX BinXian 82.36 325 ⇑P P 01 20 15.6 +0.6
BNX pmax pmax
comp=Z,17nm,1.3s
KLR Kul'dur 82.48 330 *d i* P P 01 20 16.4 +0.9
KLR pmax pmax
comp=Z,12nm,1.4s
P19K Oil Pt 82.50 12 P P 01 20 15.5 +0.1
baz=203
L14K Kuka Creek 82.56 7 P P 01 20 16.5 +1.0
L14K IAmb IAmb 01 20 17.6
comp=Z,32nm,0.9s
L14K Kuka Creek 82.56 7 P P 01 20 16.6 +1.0
baz=194
N17K Nushagak Hills 82.58 10 P P 01 20 15.9 +0.2
baz=200,SNR=7.7
H04A Detroit Lake 82.59 37 IAmb IAmb 01 20 18.4
comp=Z,32nm,1.2s
M16K Timber Creek 82.77 9 P P 01 20 18.1 +1.4
baz=198,SNR=42
PRN Pahroc Range 82.78 46 IAmb IAmb 01 20 20.4
comp=Z,21nm,0.9s
O19K Port Alsworth 82.78 12 P P 01 20 16.9 +0.2
baz=202,SNR=13
CNPM China Poot 82.80 13 P P 01 20 17.1 +0.2
CNPM IAmb IAmb 01 20 18.2
comp=Z,29nm,0.8s
HOM Homer 82.83 13 P P 01 20 17.7 +0.7
baz=205
K13K Kusilvak Mount 82.92 6 P P 01 20 18.4 +1.0
baz=193
IPM Ipoh 82.94 277 P P 01 20 18.5 -0.2
IPM IAmb IAmb 01 20 20.5
comp=Z,19nm,0.9s
IPM Ipoh 82.94 277 P P 01 20 19.6 +0.9
N18K Kilae Creek 82.95 11 P P 01 20 17.7 +0.1
baz=201,SNR=8.1
O20K Slope Mountain 83.02 13 P P 01 20 18.1 +0.1
baz=204
L15K Ungalak Mounta 83.04 8 P P 01 20 18.8 +0.7
baz=196,SNR=33
TIA Tai'an 83.17 313 P P 01 20 20.1 +0.8
TIA pmax pmax
comp=Z,11nm,1.4s
HG4B Hotspring 83.28 27 IAmb IAmb 01 20 21.7
comp=Z,33nm,1.3s
RED Redoubt Volcan 83.29 12 IAmb IAmb 01 20 19.9
comp=Z,23nm,0.9s
WVOR Wild Horse Val 83.30 40 IAmb IAmb 01 20 22.6
comp=Z,18nm,1.1s
N19K Bonanza Creek 83.33 11 IAmb IAmb 01 20 20.2
comp=Z,22nm,0.8s
N19K Bonanza Creek 83.33 11 P P 01 20 19.3 -0.3
baz=202,SNR=16
L16K Owhat River 83.35 9 IAmb IAmb 01 20 21.7
comp=Z,22nm,1.1s
L16K Owhat River 83.35 9 P P 01 20 20.6 +1.1
baz=198,SNR=14
M17K Holitna River 83.36 10 IAmb IAmb 01 20 22.1
comp=Z,33nm,1.0s
M17K Holitna River 83.36 10 P P 01 20 21.0 +1.4
baz=199,SNR=28
NLWA Neilton Lookou 83.40 34 IAmb IAmb 01 20 22.9
comp=Z,19nm,1.1s
K15K Wolf Creek Mou 83.63 8 P P 01 20 22.2 +1.2
baz=196,SNR=24
M18K Stony River 83.72 11 P P 01 20 22.0 +0.6
baz=201,SNR=12
SEW Seward 83.72 14 IAmb IAmb 01 20 22.3
comp=Z,21nm,0.8s
SEW Seward 83.72 14 P P 01 20 21.5 +0.1
baz=207
I07A Izee 83.76 38 IAmb IAmb 01 20 24.9
comp=Z,18nm,0.9s
MA2 Magadan 83.79 345 ⇑*i* P P 01 20 20.7 -1.1
MA2 pmax pmax
comp=Z,27nm,1.0s
J14K Nanvaranak Lak 83.83 7 P P 01 20 22.5 +0.6
baz=194
319A Douglas 83.84 53 IAmb IAmb 01 20 26.3
comp=Z,25nm,1.0s
L17K Donlin 83.93 9 P P 01 20 23.8 +1.4
baz=199,SNR=12
J08A Circle Bar Ran 83.94 39 IAmb IAmb 01 20 25.7
comp=Z,22nm,1.2s
KNB Kanab 84.08 47 IAmb IAmb 01 20 27.0
comp=Z,18nm,1.4s
P23K Montague Islan 84.11 15 P P 01 20 23.4 0.0
baz=209
SPCR Spurr Chakacha 84.12 12 P P 01 20 23.0 -0.6
baz=204
CLRS Cowichan Lake 84.18 33 P P 01 20 25.2 +1.2
CLRS IAmb IAmb 01 20 26.3
comp=Z,10nm,0.9s
GAMB Gambell 84.21 3 P P 01 20 24.8 +1.1
baz=186
L18K Granite Mounta 84.26 10 IAmb IAmb 01 20 26.1
comp=Z,18nm,0.8s
L18K Granite Mounta 84.26 10 P P 01 20 25.1 +1.1
baz=200,SNR=26
M19K Big River Lodg 84.36 11 P P 01 20 24.6 0.0
baz=202
PGC Sidney 84.42 33 IAmb IAmb 01 20 27.4
comp=Z,12nm,0.9s
STLK Strandline Lak 84.47 12 IAmb IAmb 01 20 25.3
comp=Z,16nm,0.7s
K17K Iditarod 84.48 9 IAmb IAmb 01 20 27.1
comp=Z,18nm,1.4s
K17K Iditarod 84.48 9 P P 01 20 25.9 +0.7
baz=199,SNR=8.2
L19K White Mountain 84.53 11 IAmb IAmb 01 20 27.1
comp=Z,25nm,1.0s
L19K White Mountain 84.53 11 P P 01 20 25.8 +0.4
baz=202,SNR=24
RC01 Rabbit Creek A 84.54 13 IAmb IAmb 01 20 26.6
comp=Z,27nm,0.9s
RC01 Rabbit Creek A 84.54 13 P P 01 20 25.6 +0.2
baz=206,SNR=7.8
M20K Styx River 84.57 12 P P 01 20 25.4 -0.3
M20K Styx River 84.57 12 P P 01 20 25.3 -0.4
baz=203
PWL Port Wells 84.65 14 P P 01 20 26.0 0.0
baz=208,SNR=5.1
SUA Susitna One 84.66 13 P P 01 20 26.0 -0.2
baz=206
J16K Anvik River 84.70 8 P P 01 20 26.9 +0.7
J16K IAmb IAmb 01 20 28.9
comp=Z,9.4nm,0.6s
J16K Anvik River 84.70 8 P P 01 20 26.8 +0.6
baz=196
G08A Pilot Rock 84.78 38 IAmb IAmb 01 20 29.7
comp=Z,16nm,0.9s
KAIM Kayak Island 84.80 16 P P 01 20 27.5 +0.7
baz=211
CRAG Craig 84.85 24 P P 01 20 28.3 +1.2
baz=222
GLI Glacier Island 84.95 15 P P 01 20 27.7 +0.2
baz=209,SNR=8.6
SKT Skwentna 84.97 12 P P 01 20 26.6 -1.0
baz=205
L20K Farewell, AK 84.98 11 P P 01 20 27.6 0.0
baz=203,SNR=12
EYAK Cordova Ski Ar 85.00 15 IAmb IAmb 01 20 28.9
comp=Z,26nm,1.2s
EYAK Cordova Ski Ar 85.00 15 P P 01 20 28.1 +0.4
EYAK Cordova Ski Ar 85.00 15 P P 01 20 27.7 +0.1
baz=210

J17K VABM Dome 85.02 9 P P 01 20 28.4 +0.7
baz=198
GSI Gunungsitoli 85.03 273 P P 01 20 29.3 +0.3
comp=Z,29nm,1.4s
M22K Willow 85.05 13 P P 01 20 27.9 0.0
baz=206,SNR=6.9
KNK Knik Glacier 85.11 14 P P 01 20 28.5 +0.2
baz=208
PMR Palmer 85.12 13 P P 01 20 28.7 +0.5
PMR Palmer 85.12 13 P P 01 20 28.5 +0.3
baz=207,SNR=5.6
SIT Sitka 85.25 22 P P 01 20 29.9 +0.9
baz=220
HEH HeiHe 85.25 328 *e* P P 01 20 29.4 +0.2
HEH pmax pmax
comp=Z,16nm,1.2s
I17K Unalakleet 85.27 8 P P 01 20 30.1 +1.2
baz=196
V35K Ketchikan 85.33 25 P P 01 20 30.7 +1.3
baz=223,SNR=6.4
U33K Whale Pass 85.33 23 IAmb IAmb 01 20 31.9
comp=Z,18nm,0.9s
U33K Whale Pass 85.33 23 P P 01 20 30.8 +1.4
baz=222,SNR=12
J18K Innoko River 85.43 10 IAmb IAmb 01 20 31.3
comp=Z,20nm,1.2s
J18K Innoko River 85.43 10 P P 01 20 30.2 +0.4
baz=200,SNR=19
ANM Nome 85.43 6 P P 01 20 30.1 +0.4
baz=192
HNS HongShan 85.44 313 ⇑P P 01 20 31.8 +1.4
HNS pmax pmax
comp=Z,15nm,0.9s
BMO Blue Mountains 85.48 39 IAmb IAmb 01 20 32.6
comp=Z,8.4nm,0.8s
CUT Chulitna 85.61 13 P P 01 20 31.3 +0.7
baz=206
M23K Glacier View 85.61 14 P P 01 20 30.8 +0.1
baz=208
LYN LuoYang 85.64 309 P P 01 20 31.9 +0.5
LYN pmax pmax
comp=Z,28nm,1.0s
BMRM Bremner River 85.64 16 P P 01 20 30.8 -0.1
BMRM IAmb IAmb 01 20 32.3
comp=Z,21nm,0.8s
BMRM Bremner River 85.64 16 P P 01 20 31.4 +0.5
baz=211,SNR=5.3
S31K Pelican 85.64 21 IAmb IAmb 01 20 34.4
comp=Z,9.3nm,0.8s
S31K Pelican 85.64 21 P P 01 20 31.8 +1.0
baz=219
PPLA Purkeypile 85.68 12 P P 01 20 31.4 +0.2
baz=204
MESA MESA 85.68 17 P P 01 20 31.9 +0.6
baz=214,SNR=5.5
SCM Sheep Creek Mo 85.74 14 P P 01 20 31.7 +0.3
baz=205,SNR=25
SRIT Nakonsritamara 85.75 281 P P 01 20 32.8 +0.4
K20K Telida 85.76 11 P P 01 20 31.5 +0.2
baz=202,SNR=19
KLU Klutina 85.77 15 P P 01 20 31.8 +0.2
baz=210,SNR=6.0
H16K Elim 85.82 7 P P 01 20 31.9 +0.3
baz=195,SNR=6.2
S32K Killisnoo 85.83 22 IAmb IAmb 01 20 34.0
comp=Z,11nm,1.1s
S32K Killisnoo 85.83 22 P P 01 20 32.8 +1.0
baz=220,SNR=6.1
WRAK Wrangell Islan 85.85 24 P P 01 20 33.3 +1.4
baz=222,SNR=6.3
CRQE Cirque 85.85 16 P P 01 20 32.4 +0.3
baz=213,SNR=5.8
ENH Enshi 85.91 304 P P 01 20 34.3 +1.4
G15K Niukluk 85.97 6 P P 01 20 32.5 +0.2
baz=193,SNR=12
PNL Peninsula 86.00 19 P P 01 20 33.5 +0.9
PNL Peninsula 86.00 19 P P 01 20 33.3 +0.7
baz=216,SNR=5.0
PINM Pinnacle 86.09 18 P P 01 20 33.6 +0.5
baz=215
J19K Poorman 86.10 10 IAmb IAmb 01 20 34.8
comp=Z,11nm,1.1s
J19K Poorman 86.10 10 P P 01 20 33.6 +0.7
baz=201,SNR=9.7
TABL Table Mountain 86.12 17 IAmb IAmb 01 20 35.0
comp=Z,22nm,0.8s
VRDI Verde Repeater 86.16 16 P P 01 20 33.1 -0.4
VRDI IAmb IAmb 01 20 35.0
comp=Z,33nm,1.4s
CAST Castle Rocks 86.17 11 P P 01 20 32.3 -1.0
baz=204,SNR=31
N25K Chitina, Valde 86.19 15 P P 01 20 33.9 +0.4
baz=211,SNR=13
TNA Tin City 86.21 4 P P 01 20 33.5 +0.1
baz=190
F14K Arctic Creek 86.24 5 P P 01 20 34.1 +0.5
baz=191,SNR=7.1
M24K Tolsona, Glenn 86.25 14 P P 01 20 34.2 +0.5
baz=210
GLB Gilahina Butte 86.25 16 P P 01 20 33.6 -0.1
GLB IAmb IAmb 01 20 34.6
comp=Z,12nm,0.7s
WAT6 Susitna Watana 86.30 14 P P 01 20 34.2 0.0
baz=208,SNR=21
WAT1 Susitna Watana 86.35 13 P P 01 20 34.1 -0.1
baz=208
H17K Granite Mounta 86.38 8 P P 01 20 34.2 0.0
baz=197,SNR=5.8
PLID Pearl Lake 86.38 39 IAmb IAmb 01 20 36.6
comp=Z,9.0nm,0.8s
SEY Seymchan 86.39 347 *i* P P 01 20 34.4 +0.1
SEY pmax pmax
comp=Z,28nm,0.9s
MCARA McCarthy VSAT 86.40 16 P P 01 20 35.2 +0.8
baz=213
R32K Eaglecrest 86.47 21 P P 01 20 35.7 +0.9
baz=220
P29M Windy Craggy 86.47 19 IAmb IAmb 01 20 37.1
comp=Z,11nm,0.8s
P29M Windy Craggy 86.47 19 P P 01 20 36.1 +1.3
baz=217
LOGN Logan Glacier 86.48 17 IAmb IAmb 01 20 36.7
comp=Z,33nm,1.3s
HLID Halo 86.50 41 IAmb IAmb 01 20 38.2
comp=Z,8.3nm,0.9s
CTG Chitna Glacier 86.50 17 P P 01 20 35.7 +0.6
baz=214
J20K Nowinta River 86.51 10 IAmb IAmb 01 20 36.4
comp=Z,16nm,1.3s
J20K Nowinta River 86.51 10 P P 01 20 35.0 +0.2
baz=202,SNR=12
KTH Kantishna Hill 86.52 12 IAmb IAmb 01 20 35.1
comp=Z,20nm,1.0s
G16K Koyuk River 86.54 7 P P 01 20 35.1 +0.2
baz=195
TRF Thorofare Moun 86.55 12 P P 01 20 34.6 -0.7
TRF Thorofare Moun 86.55 12 P P 01 20 34.8 -0.5
baz=206,SNR=33
CHUM Lake Minchumin 86.56 11 P P 01 20 34.8 -0.3
baz=204,SNR=11
GCSA Galena City Sc 86.61 9 P P 01 20 35.8 +0.6
baz=200
F15K North Star Dit 86.62 6 P P 01 20 35.4 +0.1
baz=193
SYO Syowa Base 86.63 193 ⇑*e* P P 01 20 36.2 +0.7
O28M Mount Upton 86.67 18 IAmb IAmb 01 20 37.7
comp=Z,18nm,0.8s
O28M Mount Upton 86.67 18 P P 01 20 36.8 +0.7
baz=215,SNR=9.7
HARP HAARP 86.74 15 P P 01 20 36.7 +0.7
baz=211
O29M Mount Kennedy 86.76 19 P P 01 20 37.1 +0.9
baz=217
PLBC Pleasant Camp 86.77 20 P P 01 20 37.2 +1.0
baz=219,SNR=9.1
H18K Honhosa River 86.79 8 P P 01 20 37.1 +0.9
baz=198
DHY Denali Highway 86.82 14 P P 01 20 36.7 +0.1
baz=209,SNR=9.2
G17K Kiwalik Mounta 86.83 7 P P 01 20 36.5 +0.1
baz=195,SNR=8.1
VHRN Van Horn 86.85 56 IAmb IAmb 01 20 40.4
comp=Z,12nm,0.9s
MNTX Cornudas Mount 86.95 55 IAmb IAmb 01 20 40.5
comp=Z,14nm,1.1s
BPAW Bear Paw Mtn. 87.00 12 P P 01 20 36.0 -1.2
baz=205,SNR=10
I20K Naaghedeneel 87.03 10 IAmb IAmb 01 20 38.9
comp=Z,14nm,0.9s
I20K Naaghedeneel 87.03 10 P P 01 20 37.9 +0.6
baz=202
T35M Bob Quinn 87.05 24 P P 01 20 38.4 +0.7
baz=224
MCK McKinley 87.07 13 P P 01 20 37.4 -0.2
baz=207,SNR=16
P30M Million Dollar 87.10 19 P P 01 20 39.1 +1.3
baz=218
PAX Paxson 87.16 14 P P 01 20 37.9 -0.2
baz=210,SNR=5.5
YUK8 Steele Glacier 87.21 17 P P 01 20 39.2 +0.6
baz=216
TXAR Lajitas Array 87.25 57 P P 01 20 41.3 +1.9
comp=Z,6.3nm,0.9s,baz=210,slow=7.2,SNR=47
comp=Z,6.3nm,0.9s
M26K Nabesna, AK 87.27 16 P P 01 20 38.3 -0.2
M26K IAmb IAmb 01 20 40.3
comp=Z,14nm,0.9s
M26K Nabesna, AK 87.27 16 P P 01 20 39.3 +0.7
baz=213,SNR=9.1
YUK6 Outpost Mounta 87.33 18 P P 01 20 39.8 +0.6
baz=217,SNR=5.2
PV10 Paradox Valley 87.36 47 IAmb IAmb 01 20 41.5
comp=Z,10.0nm,0.8s
PV19 Morning Glory 87.37 47 IAmb IAmb 01 20 41.8
comp=Z,8.1nm,0.9s
S34M Telegraph Cree 87.40 23 P P 01 20 40.9 +1.7
baz=223,SNR=13
H19K Roundabout Mou 87.41 9 IAmb IAmb 01 20 40.6
comp=Z,14nm,0.9s
H19K Roundabout Mou 87.41 9 P P 01 20 39.6 +0.6
baz=200,SNR=20
YUK3 Moose Creek 87.42 17 P P 01 20 40.2 +0.7
baz=215,SNR=25
PV23 Carpenter Ridg 87.42 47 IAmb IAmb 01 20 42.2
comp=Z,14nm,0.9s
G18K Tagagawik 87.46 8 P P 01 20 38.6 -0.7
G18K Tagagawik 87.46 8 P P 01 20 39.3 0.0
baz=198,SNR=11
HYT Haines Junctio 87.49 19 IAmb IAmb 01 20 41.7
comp=Z,9.9nm,0.9s
HYT Haines Junctio 87.49 19 P P 01 20 40.7 +0.9
baz=218,SNR=13
PV12 Saucer Basin, 87.50 47 IAmb IAmb 01 20 43.2
comp=Z,8.2nm,0.8s
M27K Edge Creek, AK 87.52 16 P P 01 20 40.7 +0.8
baz=214,SNR=30
PV01 Paradox Valley 87.57 48 P P 01 20 41.7 +0.9
YUK4 Talbot Arm 87.57 18 P P 01 20 41.3 +1.1
baz=217,SNR=6.7
ZEA Zeya 87.58 331 *e* P P 01 20 41.0 +0.9
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ANMO Albuquerque 87.60 51 *d i* P P 01 20 42.1 +1.2
ANMO pmax pmax
comp=Z,10.0nm,1.3s
H20K Anotleneega Mo 87.61 10 P P 01 20 40.5 +0.5
baz=202,SNR=27
TROLL Troll, Antarti 87.67 180 ⇑P P 01 20 41.2 +0.6
comp=Z,93nm,0.8s
F17K Baldwin Pennin 87.67 7 IAmb IAmb 01 20 41.5
comp=Z,12nm,0.8s
F17K Baldwin Pennin 87.67 7 P P 01 20 40.4 +0.2
baz=196,SNR=6.2
L26K Log Cabin Wild 87.71 15 P P 01 20 41.3 +0.7
baz=212,SNR=6.1
P32M Atlin 87.74 21 P P 01 20 42.0 +1.2
baz=221
Q32M Nakina River 87.76 22 IAmb IAmb 01 20 43.0
comp=Z,9.2nm,0.8s
Q32M Nakina River 87.76 22 P P 01 20 42.3 +1.2
baz=222,SNR=10
K24K Donnelly Dome 87.81 14 P P 01 20 41.6 +0.5
baz=210,SNR=13
NEA2 Nenana 87.81 12 IAmb IAmb 01 20 41.5
comp=Z,12nm,0.6s
NEA2 Nenana 87.81 12 P P 01 20 40.2 -0.8
baz=207,SNR=16
BVCY Beaver Creek 87.83 16 P P 01 20 41.9 +0.7
baz=215,SNR=7.4
XLT XiLinHaoTe 87.85 319 *e* P P 01 20 41.8 0.0
XLT pmax pmax
comp=Z,9.0nm,0.8s
O30N Mendenhall 87.88 19 P P 01 20 41.5 +0.1
O30N IAmb IAmb 01 20 43.4
comp=Z,13nm,0.7s
O30N Mendenhall 87.88 19 P P 01 20 42.2 +0.8
baz=219,SNR=22
MLY Manley 87.89 11 P P 01 20 40.8 -0.6
baz=206,SNR=36
G19K Purcell Mounta 87.90 8 IAmb IAmb 01 20 42.7
comp=Z,14nm,0.8s
G19K Purcell Mounta 87.90 8 P P 01 20 41.5 +0.2
baz=200,SNR=23
SNAA Sanae 87.96 179 P P 01 20 41.6 -0.3
comp=Z,0.6nm,0.9s,baz=219,slow=13,SNR=1.6
RIDG Independent Ri 87.97 14 IAmb IAmb 01 20 43.1
comp=Z,15nm,1.0s
RIDG Independent Ri 87.97 14 P P 01 20 42.1 +0.3
baz=211,SNR=12
F18K Selawik 88.01 7 P P 01 20 41.6 -0.2
baz=197,SNR=6.4
XAN Xi'an 88.01 307 ⇑P P 01 20 44.2 +1.5
XAN pmax pmax
comp=Z,31nm,1.2s
DOT Dot Lake 88.07 15 IAmb IAmb 01 20 43.5
comp=Z,16nm,1.0s
HDA Harding Lake 88.08 13 P P 01 20 42.2 -0.1
baz=209,SNR=32
H21K Melozitna Rive 88.10 10 IAmb IAmb 01 20 44.7
comp=Z,12nm,0.7s
H21K Melozitna Rive 88.10 10 P P 01 20 42.7 +0.4
baz=204,SNR=31
L27K Beaver Creek, 88.12 16 IAmb IAmb 01 20 44.1
comp=Z,12nm,1.1s
L27K Beaver Creek, 88.12 16 P P 01 20 43.0 +0.5
baz=214,SNR=14
N30M Aishikik Lake 88.12 18 IAmb IAmb 01 20 44.2
comp=Z,6.8nm,0.8s
N30M Aishikik Lake 88.12 18 P P 01 20 43.2 +0.6
baz=218,SNR=10
BCAR Beaver Creek A 88.13 16 P P 01 20 43.4 +0.8
AHID Auburn Hatcher 88.15 43 IAmb IAmb 01 20 45.8
comp=Z,7.8nm,0.9s
WHY Whitehorse 88.17 20 P P 01 20 43.8 +0.9
baz=220,SNR=13
DLBC Dease Lake 88.18 23 P P 01 20 43.9 +1.0
baz=224,SNR=9.1
E17K Hotham Inlet 88.23 6 P P 01 20 43.2 +0.3
baz=195,SNR=7.9
IMAR Indian Mountai 88.25 10 P P 01 20 42.9 -0.1
I23K Minto, Yukon-K 88.25 12 IAmb IAmb 01 20 43.6
comp=Z,10nm,0.6s
I23K Minto, Yukon-K 88.25 12 P P 01 20 42.3 -0.7
baz=207,SNR=20
COLA College 88.31 12 P P 01 20 43.2 0.0
COLA College 88.31 12 *d i* P P 01 20 42.8 -0.4
COLA pmax pmax
comp=Z,38nm,0.7s
COLA College 88.31 12 P P 01 20 42.9 -0.4
baz=208
SCRK Sand Creek 88.37 14 P P 01 20 44.0 +0.3
SCRK IAmb IAmb 01 20 46.3
comp=Z,7.5nm,0.8s
SCRK Sand Creek 88.37 14 P P 01 20 44.1 +0.3
baz=212,SNR=17
IL31 88.42 13 IAmb IAmb 01 20 44.4
comp=Z,20nm,1.1s
ILAR Eielson Array 88.42 13 P P 01 20 42.6 -1.2
ILAR Eielson Array 88.42 13 P P 01 20 43.5 -0.3
comp=Z,3nm,0.9s,baz=223,slow=5.9,SNR=88
comp=Z,13nm,0.9s
F19K Shaleruckik Mo 88.46 8 IAmb IAmb 01 20 45.0
comp=Z,13nm,0.8s
F19K Shaleruckik Mo 88.46 8 P P 01 20 44.1 +0.2
baz=199,SNR=28
P33M Teslin, Yukon 88.50 21 IAmb IAmb 01 20 46.3
comp=Z,6.8nm,0.9s
P33M Teslin, Yukon 88.50 21 P P 01 20 45.3 +0.9
baz=222,SNR=9.5
M29M Somme Creek 88.51 17 P P 01 20 45.4 +1.0
baz=217,SNR=41
N31M Braeburn, Yuko 88.53 19 P P 01 20 45.5 +1.1
baz=219,SNR=9.8
R33M Jennings River 88.54 22 P P 01 20 45.3 +0.6
R33M IAmb IAmb 01 20 47.1
comp=Z,20nm,1.4s

R33M **Jennings River** 88.54 22 P P 01 20 46.0 +1.3
baz=223,SNR=9.9
H22K **Ishtalitna Cre** 88.56 11 P P 01 20 44.8 +0.4
baz=205,SNR=35
J25K **Salcha River,** 88.60 14 P P 01 20 45.0 +0.2
baz=210,SNR=23
TPAW **Teton Pass** 88.61 42 IAmb IAmb 01 20 48.1
comp=Z,12nm,1.1s
FXWY **Fox Creek** 88.64 42 IAmb IAmb 01 20 49.0
comp=Z,8.2nm,1.1s
E18K **Tukpahlearik C** 88.69 7 IAmb IAmb 01 20 46.4
comp=Z,13nm,0.9s
E18K **Tukpahlearik C** 88.69 7 P P 01 20 45.4 +0.4
baz=196,SNR=16
D17K **Noatak River** 88.71 6 P P 01 20 45.6 +0.6
baz=194,SNR=13
O20A **White River Ci** 88.74 46 IAmb IAmb 01 20 48.3
comp=Z,13nm,1.4s
VNA1 **Neumayer--Stat** 88.76 177 ⇑P P 01 20 44.9 -0.6
comp=Z,4.6nm,0.9s
G21K **Allakaket** 88.78 10 P P 01 20 45.6 +0.1
G21K **Allakaket** 88.78 10 P P 01 20 45.9 +0.4
baz=203,SNR=36
H23K **Yukon River** 88.83 11 IAmb IAmb 01 20 46.6
comp=Z,5.4nm,0.8s
H23K **Yukon River** 88.83 11 P P 01 20 45.2 -0.5
baz=207,SNR=5.7
K27K **Chicken** 88.87 15 IAmb IAmb 01 20 48.0
comp=Z,15nm,0.8s
K27K **Chicken** 88.87 15 P P 01 20 46.8 +0.9
baz=213,SNR=27
LOHW **Long Hollow** 88.89 42 IAmb IAmb 01 20 48.6
comp=Z,5.8nm,0.8s
J26L **Joseph Creek** 88.91 14 P P 01 20 47.2 +1.0
baz=212,SNR=56
F20K **Avaraart Lake** 88.94 9 IAmb IAmb 01 20 47.5
comp=Z,14nm,0.8s
F20K **Avaraart Lake** 88.94 9 P P 01 20 46.6 +0.5
baz=201,SNR=27
RDOG **Red Dog Mine** 89.07 6 P P 01 20 47.2 +0.4
baz=194
BILL **Bilibino** 89.07 354 *d i* P P 01 20 47.0 +0.2
BILL pmax pmax
comp=Z,5.0nm,0.6s
C16K **Lisburne Hills** 89.08 5 P P 01 20 46.7 0.0
baz=192
M30M **Minto, Yukon** 89.09 18 P P 01 20 47.8 +0.7
baz=218,SNR=39
N32M **Quiet Lake** 89.12 20 P P 01 20 48.5 +1.3
baz=222
E19K **Redstone River** 89.13 8 P P 01 20 47.5 +0.5
baz=200,SNR=52
L29M **L29M** 89.14 17 P P 01 20 48.4 +1.1
baz=217,SNR=43
PD31 **Pinedale Array** 89.14 43 IAmb IAmb 01 20 49.7
comp=Z,8.3nm,0.8s
PDAR **Pinedale Array** 89.14 43 P P 01 20 48.3 +0.3
PDAR **Pinedale Array** 89.14 43 P P 01 20 48.7 +0.7
comp=Z,5.5nm,0.6s,baz=210,slow=3.3,SNR=60
comp=Z,5.5nm,0.6s
H24K **Noodor Dome** 89.15 12 P P 01 20 46.0 -1.3
baz=208,SNR=6.2
YHL **Hebgen Lake** 89.15 41 IAmb IAmb 01 20 51.2
comp=Z,18nm,1.0s
KMI **Kunming** 89.20 297 P P 01 20 48.4 -0.3
KMI pmax pmax
comp=Z,13nm,1.1s
HHC **Hu-ho-hao-te** 89.25 314 *e* P P 01 20 47.3 -1.1
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,83nm,5.6s
BOZ **Bozeman (W)** 89.26 40 IAmb IAmb 01 20 50.9
comp=Z,10nm,0.9s
PRP **Porcupine Dome** 89.35 13 P P 01 20 48.2 -0.1
PRP IAmb IAmb 01 20 50.4
comp=Z,9.3nm,0.8s
PRP **Porcupine Dome** 89.35 13 P P 01 20 48.0 -0.3
baz=210,SNR=15
F21K **Alatna River** 89.43 9 IAmb IAmb 01 20 49.6
comp=Z,6.4nm,0.8s
F21K **Alatna River** 89.43 9 P P 01 20 48.6 +0.1
baz=203,SNR=12
C17K **DeLong Mountai** 89.45 5 P P 01 20 48.9 +0.3
baz=194
G22K **Bettles** 89.47 10 P P 01 20 49.3 +0.6
baz=205
M31M **Drury Creek, Y** 89.51 19 IAmb IAmb 01 20 50.2
comp=Z,6.7nm,0.8s
M31M **Drury Creek, Y** 89.51 19 P P 01 20 49.4 +0.4
baz=220,SNR=8.2
G23K **Bananza Creek** 89.54 11 IAmb IAmb 01 20 50.5
comp=Z,9.2nm,1.1s
G23K **Bananza Creek** 89.54 11 P P 01 20 49.3 +0.3
baz=206,SNR=13
DAWY **Dawson** 89.57 16 P P 01 20 49.8 +0.6
baz=216,SNR=29
I26K **Coal Creek Min** 89.69 14 P P 01 20 50.3 +0.6
baz=212
DRIO **Del Rio** 89.71 58 IAmb IAmb 01 20 52.8
comp=Z,11nm,0.9s
C18K **Utukok River** 89.81 6 IAmb IAmb 01 20 51.3
comp=Z,7.5nm,1.1s
C18K **Utukok River** 89.81 6 P P 01 20 50.4 +0.2
baz=196,SNR=5.5
WTLY **Watson Lake, Y** 89.82 22 P P 01 20 51.6 +1.2
baz=225
FARO **Faro, Yukon** 89.85 19 P P 01 20 51.0 +0.4
baz=221
K29M **Barlow Dome** 89.89 17 P P 01 20 51.6 +0.8
baz=218,SNR=31
F22K **John River** 89.90 10 P P 01 20 51.0 +0.3
baz=204
H25L **Birch Creek** 89.94 13 P P 01 20 50.6 -0.2
baz=210
CMAR **Chiang Mai Arr** 89.95 290 P P 01 20 53.7 +1.7
comp=Z,8.5nm,1.0s,baz=122,slow=3.0,SNR=35
comp=Z,8.5nm,1.0s
COLD **Coldfoot** 89.97 11 P P 01 20 52.1 +1.2
COLD **Coldfoot** 89.97 11 P P 01 20 51.6 +0.7
baz=206,SNR=22
G24K **Hadweenzic Riv** 89.99 12 P P 01 20 51.2 +0.1
baz=208,SNR=6.3
D19K **Kuna River** 90.00 7 P P 01 20 51.5 +0.3
baz=199,SNR=23
E20K **Nigu River** 90.02 8 P P 01 20 51.7 +0.5
baz=200,SNR=54
CHTO **Chiang Mai** 90.08 290 P P 01 20 53.8 +1.2
CHTO IAmb IAmb 01 20 55.0
comp=Z,20nm,1.3s
CHTO **Chiang Mai** 90.08 290 P P 01 20 54.2 +1.6
CHTO **Chiang Mai** 90.08 290 P P 01 20 53.8 +1.2
CHTO pmax pmax
comp=Z,20nm,1.3s
MAYO **Mayo, Yukon** 90.14 18 P P 01 20 53.2 +1.4
baz=219
J29N **Klondike Camp** 90.19 16 P P 01 20 53.3 +1.2
baz=217
TOAD **Toad River Com** 90.28 25 P P 01 20 53.6 +1.0
baz=228
I27K **Kandik River** 90.29 14 P P 01 20 52.9 +0.4
baz=214,SNR=9.0
G25K **Bearman Lake** 90.32 12 P P 01 20 53.1 +0.5
baz=210
LIRD **Liard River Hi** 90.33 24 P P 01 20 53.3 +0.6
baz=228
D20K **Etivluk River** 90.39 8 P P 01 20 53.5 +0.5
baz=200,SNR=22
C19K **Lookout Ridge** 90.42 7 P P 01 20 53.8 +0.7
baz=197,SNR=17
B18K **Kokolik River** 90.44 6 P P 01 20 53.6 +0.5
baz=195,SNR=5.2
E21K **Killik River** 90.49 9 P P 01 20 53.5 +0.1
baz=202
E22K **Anaktuvuk Pass** 90.53 10 P P 01 20 54.1 +0.5
baz=204,SNR=22
PZH **PanZhiHua** 90.56 298 P P 01 20 55.8 +1.0
I28M **Miner Creek** 90.56 15 IAmb IAmb 01 20 55.0
comp=Z,9.5nm,0.8s
I28M **Miner Creek** 90.56 15 P P 01 20 54.1 +0.3
baz=215,SNR=18
F24K **Squaw Lake** 90.64 11 IAmb IAmb 01 20 55.8
comp=Z,9.3nm,1.1s
F24K **Squaw Lake** 90.64 11 P P 01 20 54.9 +0.8
baz=208,SNR=10
J30M **Hart River** 90.79 17 IAmb IAmb 01 20 56.6
comp=Z,5.3nm,0.9s
J30M **Hart River** 90.79 17 P P 01 20 55.6 +0.7
baz=219,SNR=5.2
MMPY **Sheldon Lake,** 90.79 20 IAmb IAmb 01 20 57.7
comp=Z,6.4nm,0.8s
MMPY **Sheldon Lake,** 90.79 20 P P 01 20 55.7 +0.8
baz=223,SNR=12
E23K **Chandalar** 90.82 10 P P 01 20 55.6 +0.6
baz=206
H27K **Steamboat Moun** 90.83 14 IAmb IAmb 01 20 56.8
comp=Z,8.3nm,0.9s
H27K **Steamboat Moun** 90.83 14 P P 01 20 55.6 +0.6
baz=214,SNR=14
I29M **Ogilvie Camp,** 90.89 16 IAmb IAmb 01 20 56.4
comp=Z,16nm,1.3s
I29M **Ogilvie Camp,** 90.89 16 P P 01 20 55.5 +0.2
baz=217,SNR=18
G26K **Porcupine Rive** 90.95 13 P P 01 20 55.9 +0.4
G26K **Porcupine Rive** 90.95 13 P P 01 20 56.3 +0.8
baz=212,SNR=20
TGTN **Hyland Airport** 91.00 22 P P 01 20 56.8 +0.9
baz=226
E24K **Your Creek** 91.03 11 P P 01 20 56.5 +0.6
baz=208,SNR=6.6
C21K **Knifeblade Rid** 91.05 8 P P 01 20 56.8 +0.9
baz=202,SNR=20
D22K **Ayikyak River** 91.08 9 P P 01 20 56.9 +0.8
baz=204,SNR=13
F25K **Christian Rive** 91.13 12 IAmb IAmb 01 20 58.4
comp=Z,10nm,1.4s
F25K **Christian Rive** 91.13 12 P P 01 20 57.3 +0.9
baz=210,SNR=6.6
BMAR **Burnt Mountain** 91.19 12 P P 01 20 57.1 +0.5
I30M **Mount Dempster** 91.28 16 IAmb IAmb 01 20 58.6
comp=Z,14nm,0.9s
I30M **Mount Dempster** 91.28 16 P P 01 20 57.5 +0.3
baz=219,SNR=20
G27K **Dayon Strip** 91.29 14 P P 01 20 57.5 +0.4
baz=214,SNR=5.0
A19K **Wainwright** 91.33 6 P P 01 20 57.6 +0.5
baz=196
TOLK **Toolik Lake Re** 91.35 10 IAmb IAmb 01 20 58.8
comp=Z,13nm,1.4s
TOLK **Toolik Lake Re** 91.35 10 P P 01 20 57.8 +0.4
baz=207,SNR=5.8
D23K **Nanushuk River** 91.46 10 IAmb IAmb 01 20 59.6
comp=Z,13nm,1.0s
D23K **Nanushuk River** 91.46 10 P P 01 20 58.8 +0.9
baz=206,SNR=15
B21K **Ikpikpuk River** 91.50 8 IAmb IAmb 01 20 59.3
comp=Z,16nm,1.4s
B21K **Ikpikpuk River** 91.50 8 P P 01 20 58.4 +0.4
baz=202
F26K **Sheenjek River** 91.51 12 P P 01 20 59.1 +1.0
baz=212,SNR=5.5
B20K **Meade River** 91.55 7 P P 01 20 58.7 +0.6
B20K **Meade River** 91.55 7 P P 01 20 58.7 +0.6
baz=200,SNR=6.9
H29M **Whitestone** 91.57 15 P P 01 20 58.9 +0.5
baz=217,SNR=19
E25K **Arctic Village** 91.60 12 P P 01 20 59.2 +0.7
baz=210
D24K **Happy Valley** 91.93 10 P P 01 21 00.5 +0.5
baz=207
YAK **Yakutsk** 92.09 338 *e* P P 01 20 58.8 -2.0
YAK pmax pmax
comp=Z,22nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,0.8s
EPYK **Eagle Plains** 92.09 16 IAmb IAmb 01 21 02.0
comp=Z,10nm,0.8s
EPYK **Eagle Plains** 92.09 16 P P 01 21 01.2 +0.4
baz=218,SNR=8.9
G29M **Pine Creek** 92.20 15 IAmb IAmb 01 21 02.5
comp=Z,5.7nm,0.7s
G29M **Pine Creek** 92.20 15 P P 01 21 01.5 +0.2
baz=217,SNR=7.7
C23K **Itkillik River** 92.26 9 P P 01 21 02.2 +0.7
baz=206
H31M **Peel River** 92.27 17 IAmb IAmb 01 21 24.4
comp=Z,5.0nm,1.1s
H31M **Peel River** 92.27 17 P P 01 21 02.4 +0.8
baz=220
B22K **Teshekpuk Lake** 92.33 8 P P 01 21 02.1 +0.4
baz=203
F28M **Old Crow** 92.35 14 P P 01 21 02.2 +0.3
baz=216
E27K **Coleen River** 92.45 13 P P 01 21 03.1 +0.7
baz=214,SNR=5.0
C24K **Franklin Bluff** 92.46 10 P P 01 21 03.1 +0.7
baz=207
D25K **Kavik River** 92.50 11 P P 01 21 02.5 -0.2
baz=210
G30M **tAoh Zraii Nji** 92.70 15 P P 01 21 03.7 +0.1
baz=219,SNR=21
A22K **Sinclair Lake** 92.74 7 P P 01 21 03.8 +0.2
baz=202
A21K **Barrow** 92.85 7 P P 01 21 04.1 0.0
baz=200
G31M **Satah River** 93.14 16 P P 01 21 05.7 +0.2
baz=221,SNR=12
E28M **Babbage River** 93.23 13 IAmb IAmb 01 21 07.3
comp=Z,4.9nm,0.7s
E28M **Babbage River** 93.23 13 P P 01 21 06.6 +0.6
baz=216,SNR=8.1
C27K **Jago River** 93.24 11 IAmb IAmb 01 21 07.0
comp=Z,4.2nm,0.8s
C27K **Jago River** 93.24 11 P P 01 21 06.7 +0.7
baz=212
C26K **Camden Bay** 93.27 11 P P 01 21 06.9 +0.8
baz=210
F30M **Barrier River** 93.30 15 IAmb IAmb 01 21 08.1
comp=Z,6.7nm,0.9s
F30M **Barrier River** 93.30 15 P P 01 21 07.5 +1.2
baz=219,SNR=5.5
E29M **Blow River** 93.42 14 IAmb IAmb 01 21 08.6
comp=Z,7.2nm,1.4s
E29M **Blow River** 93.42 14 P P 01 21 06.9 +0.2
baz=217
D27M **Malcolm River** 93.45 12 IAmb IAmb 01 21 08.9
comp=Z,13nm,1.5s
D27M **Malcolm River** 93.45 12 P P 01 21 07.4 +0.4
baz=214
F31M **Tsiigehtchic** 93.67 16 P P 01 21 08.3 +0.3
baz=221,SNR=11
INK **Inuvik** 94.38 15 IAmb IAmb 01 21 11.9
comp=Z,9.1nm,1.2s
INK **Inuvik** 94.38 15 P P 01 21 11.1 -0.1
baz=221,SNR=7.4
ULN **Ulaanbaatar** 95.28 319 ⇑*i* P P 01 21 16.0 +0.1
ULN pmax pmax
comp=Z,2.0nm,0.7s
SONM **Songino Array** 95.67 319 P P 01 21 17.4 -0.2
comp=Z,0.6nm,0.6s,baz=144,slow=2.8,SNR=5.1
comp=Z,0.6nm,0.6s
A36M **Sachs Harbour** 98.98 15 P P 01 21 32.5 +0.7
baz=229
ZALV **Zelenuvo Beam** 110.41 321 PKiKP PKiKP 01 26 19.5 -0.9
comp=Z,4.1nm,0.6s,baz=204,slow=0.7,SNR=19
MK31 **Makanchi Array** 111.09 313 *c i* PKiKP PKiKP 01 26 20.6 -1.4
MKAR **Makanchi Array** 111.09 313 PKiKP PKiKP 01 26 20.9 -1.0
comp=Z,3.5nm,0.6s,baz=80,slow=0.4,SNR=43
MKAR **Makanchi Array** 111.09 313 *i* PKiKP PKiKP 01 26 21.0 -1.0
KURK **Kurchatov** 113.90 317 *c i* PKiKP PKiKP 01 26 26.0 -1.1
KURK pmax pmax
comp=Z,7.0nm,0.7s
KURBB **Kurchatov Arra** 113.95 317 PKiKP PKiKP 01 26 25.9 -1.3
comp=Z,5.1nm,0.6s,baz=92,slow=1.8,SNR=52
KURBB PP PP 01 27 25.8 -5.7
comp=Z,1.4nm,0.9s,baz=95,slow=6.5,SNR=6.8
BVAR **Borovoye Array** 119.00 320 PKP PKPdf 01 26 36.3 -0.6
BRVK **Borovoye** 119.06 320 PKPdf 01 26 36.4 -0.6
BRVK **Borovoye** 119.06 320 *c i* PKiKP PKPdf 01 26 36.3 -0.7
BRVK pmax pmax
comp=Z,11nm,0.8s
KKAR **Karatay Array** 119.13 309 PKPdf PKPdf 01 26 36.3 -1.2
KKAR **Karatay Array** 119.13 309 PKiKP PKPdf 01 26 36.3 -1.2
KBL **Kabul** 119.74 299 PKPdf PKPdf 01 26 38.6 -0.6
KBL **Kabul** 119.74 299 PKiKP PKPdf 01 26 38.6 -0.6
ABPO **Ambohimpanom** 120.60 232 *i* PKiKP PKPdf 01 26 39.3 -2.0
LMN **Caledonia Moun** 120.65 48 PKPdf PKPdf 01 26 38.9 -1.4
SPITS **Spitsbergen Ar** 121.91 356 PKP PKPdf 01 26 41.6 -0.2
comp=Z,7.6nm,0.7s,baz=126,slow=11,SNR=6.7
SPB2 **Spitsbergen Ar** 121.91 356 PKPdf PKPdf 01 26 41.5 -0.4
SUMG **Summit** 123.26 13 PKPdf PKPdf 01 26 45.2 +0.1
SUMG **Summit** 123.26 13 PKiKP PKPdf 01 26 45.2 +0.1
SVE **Sverdlovsk** 123.92 325 *e* PKiKP PKPdf 01 26 46.3 +0.1
SVE pmax pmax
comp=Z,16nm,0.8s
ARTI **Arti** 125.24 325 PKPdf PKPdf 01 26 48.3 -0.5
ARTI **Arti** 125.24 325 PKP PKPdf 01 26 48.9 +0.1
comp=Z,17nm,0.8s,baz=122,slow=0.3,SNR=29
ARTI **Arti** 125.24 325 *i* PKiKP PKPdf 01 26 48.8 +0.1
ARTI 01 28 45.2
ARTI 01 33 10.4
ARTI SS SS 01 44 55.1 -8.3
ABKAR **Akbulak array** 125.99 317 PKPdf PKPdf 01 26 50.0 -0.4
BOSA **Boshof** 126.12 206 PKP PKPdf 01 26 51.2 -0.4
comp=Z,1.9nm,0.8s,baz=54,slow=5.2,SNR=3.1
KIRV **Kirov** 128.91 330 *i* PKiKP PKPdf 01 26 55.4 -0.2
ARCES **ARCESS Array B** 128.94 350 PKPdf PKPdf 01 26 55.1 -0.4
ARCES **ARCESS Array B** 128.94 350 PKhKP PKPpre 01 26 42.3
comp=Z,0.9nm,0.7s,baz=357,slow=2.4,SNR=5.2
ARCES PKP PKPdf 01 26 55.2 -0.3
comp=Z,6.7nm,0.7s,baz=22,slow=0.9,SNR=19
KLMR **Klimovskoe** 131.85 336 *e* PKiKP PKPdf 01 26 59.3 -1.9
KLMR *e* 01 29 30.3
KLMR pmax pmax
comp=Z,9.0nm,0.9s
FINES **FINESS Array B** 135.77 344 PKhKP PKPpre 01 26 56.0
comp=Z,1.2nm,0.6s,baz=33,slow=4.3,SNR=8.8
FINES PKP PKPdf 01 27 08.7 +0.2
comp=Z,4.3nm,0.6s,baz=80,slow=3.0,SNR=8.0
VRH **Novokhopyorsk** 136.34 324 *e* PKiKP PKPdf 01 27 08.5 -1.3
VRH pmax pmax
comp=Z,10.0nm,0.8s
LPSR **Galich'ya Gora** 137.08 327 *e* PKiKP PKPdf 01 27 12.0 +0.8
LPSR pmax pmax
comp=Z,11nm,0.9s
VORR **Voronezh** 137.44 326 *e* PKiKP PKPdf 01 27 10.3 -1.6
VORR pmax pmax
comp=Z,10.0nm,0.8s
VSR **Storozhevoye** 137.71 325 *e* PKiKP PKPdf 01 27 09.8 -2.6
VSR pmax pmax
comp=Z,7.0nm,0.9s
VORD **Divnogorie** 137.78 325 *e* PKiKP PKPdf 01 27 10.1 -2.4
VORD pmax pmax
comp=Z,8.0nm,0.9s
VSU **Vasula** 138.04 341 *c i* PKiKP PKPdf 01 27 13.4 +0.7
VSU pmax pmax
comp=Z,30nm,1.9s
GNI **Garni** 138.58 308 PKP PKPdf 01 27 15.4 +0.8
comp=Z,3.8nm,0.5s,baz=297,slow=12,SNR=3.8
GNI **Garni** 138.58 308 *c i* PKiKP PKPdf 01 27 12.3 -2.3
GNI pmax pmax
comp=Z,8.0nm,1.0s
KBZ **Khabaz** 138.79 314 PKP PKiKP 01 27 16.0 -0.9
comp=Z,3.4nm,0.9s,baz=215,slow=0.5,SNR=6.0
NB2 **NORSAR Subarra** 139.01 353 PKP PKPdf 01 27 05.6 -9.0
comp=Z,0.9nm,0.6s,baz=16,slow=3.2
NB2 pPKP sPKPdf 01 30 01.2 -11
comp=Z,0.9nm,0.8s,baz=11,slow=2.8
NOA **NORSAR Array B** 139.01 353 PKhKP PKPpre 01 27 05.3
comp=Z,4.1nm,0.6s,baz=14,slow=2.3,SNR=27
NOA SKPbc SKPbc 01 29 59.6 +0.1
comp=Z,2.1nm,0.9s,baz=15,slow=4.3,SNR=5.4
RAYN **Ar Rayn** 139.48 282 PKPpre PKPpre 01 27 06.5
RAYN **Ar Rayn** 139.48 282 PKHKP PKPpre 01 27 06.5
HFS **Hagfors** 139.56 351 PKhKP PKPpre 01 27 07.4
comp=Z,6.7nm,0.4s,baz=74,slow=5.3,SNR=51
HFS SKPbc SKPbc 01 30 01.5 +0.6
comp=Z,3.1nm,0.8s,baz=30,slow=3.6,SNR=4.5
KONO **Kongsberg** 140.55 354 PKPpre PKPpre 01 27 10.2
KONO **Kongsberg** 140.55 354 PKHKP PKPpre 01 27 10.2
MNK **Minsk** 140.75 336 *i* PKiKP PKPdf 01 27 18.3 +0.5
MNK *i* 01 33 34.9
MNK *i* PPP PPP 01 33 36.7
MNK *i* 01 42 58.3
MNK *i* SS SS 01 48 10.3 +2.3
MNK pmax pmax
comp=Z,12nm,0.9s
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK pmax pmax
comp=N,9.0nm,0.9s
STRU **Stroemstad** 140.97 352 *i* P PKPdf 01 27 12.9 -5.1
HOMB **Homborsund** 142.02 354 *i* P PKPdf 01 27 16.1 -3.9
BORU **Boraas** 142.10 350 *i* P PKPdf 01 27 15.4 -4.7
ONAU **Onsala** 142.46 351 *i* P PKPdf 01 27 16.9 -3.8
FABU **Falkenberg** 142.72 350 *i* P PKPdf 01 27 17.7 -3.5
BLEU **Blekinge** 142.80 347 *i* P PKPdf 01 27 17.8 -3.6
SUW **Suwalki** 142.82 339 *e* PKP PKPdf 01 27 19.3 -2.2
AKASG **Malin Array Be** 142.97 331 PKhKP PKPpre 01 27 18.8
comp=N,35nm,0.5s,baz=44,slow=4.3,SNR=303
AKASG SKPbc SKiKP 01 30 11.2 +0.4
comp=N,0.7nm,0.6s,baz=37,slow=4.4,SNR=6.4
KIEV **Kiev** 142.98 331 PKPpre PKPpre 01 27 18.4
KIEV **Kiev** 142.98 331 ⇓P PKPdf 01 27 19.0 -2.9
KIEV **Kiev** 142.98 331 ⇓PKHKP PKPpre 01 27 19.0
DEL **Delary** 143.03 349 *i* P PKPab 01 27 18.9 -0.4
LODK **Lodwar** 143.14 247 PKPbc 01 27 21.9 +0.4
BJUU **Bjuv** 143.55 349 *i* P PKPab 01 27 20.9 -0.4
MUD **Monsted U'grnd** 143.73 353 *i* P PKPab 01 27 21.8 -0.1
COP **Copenhagen** 144.03 350 *i* P PKPbc 01 27 22.5 -0.4
BSD **Bornholm Skovb** 144.10 347 *i* P PKPbc 01 27 22.9 -0.2
SSRD **Sdr. Stenderup** 144.63 352 *i* P PKPab 01 27 25.7 +0.3
R9F13 **Warsaw-Wawer** 145.00 339 *e* PKP PKPbc 01 27 26.3 +0.3
EKA **Eskdalemuir Ar** 145.08 5 PKPbc PKPdf 01 27 25.5 +0.1
comp=N,16nm,0.7s,baz=354,slow=2.7,SNR=40
ESK **Eskdalemuir** 145.09 5 PKPbc 01 27 26.1 -0.2
ESK **Eskdalemuir** 145.09 5 PKiKP PKPbc 01 27 26.1 -0.2
GKP **Gorka Klasztor** 145.25 344 *e* PKP PKPbc 01 27 26.5 -0.2
PURM **Purcari** 145.42 325 ⇑P PKPbc 01 27 27.1 -0.4
BEL **Belsk** 145.44 339 *e* PKP PKPbc 01 27 27.9 +0.6
KIS **Kishinev** 145.68 327 ⇑P PKPdf 01 27 26.6 0.0
KIS **Kishinev** 145.68 327 ⇑PKHKP PKPpre 01 27 26.6
MILM **Milestii Mici** 145.73 326 ⇓P PKPbc 01 27 27.9 -0.5
MILM **Milestii Mici** 145.73 326 ⇓PKiKP PKPbc 01 27 27.9 -0.5
VASR **Vaslui** 146.44 327 ⇓P PKPbc 01 27 31.1 +0.7
KWP **Kalwaria Pacla** 146.55 335 *e* PKP PKPbc 01 27 30.7 +0.1
BEIL **Beino** 146.65 302 *e* P PKPbc 01 27 31.9 +0.5
PRAR **RASCA** 146.72 329 ⇑P PKPbc 01 27 31.3 +0.2
BRTR **Keskin Array B** 146.73 312 PKPdf 01 27 28.3 -0.6
BRTR **Keskin Array B** 146.73 312 PKP PKPdf 01 27 28.0 -0.9
comp=N,16nm,0.6s,baz=140,slow=3.2,SNR=90
BRTR PKPbc PKPbc 01 27 31.4 -0.2
comp=N,16nm,0.6s,baz=134,slow=3.9,SNR=79
BRTR **Keskin Array B** 146.73 312 PKHKP PKPpre 01 27 28.3
BIR **Birlad** 146.78 327 ⇓P PKPbc 01 27 32.2 +0.9
BIR **Birlad** 146.78 327 ⇓PKiKP PKPbc 01 27 32.2 +0.9
KIRS **Kirsehir-Merke** 146.79 311 ⇓P PKPbc 01 27 30.4 -1.3
VLDR **Vladesti** 146.81 326 ⇓P PKPbc 01 27 32.1 +0.7
TLCR 146.84 324 ⇓P PKPbc 01 27 31.8 +0.4
TLCR 146.84 324 ⇓PKiKP PKPbc 01 27 31.8 +0.4
VARL **Varlezi** 146.90 326 ⇑P PKPbc 01 27 32.4 +0.8
HWQ **Hawqa** 146.91 302 *e* P PKPbc 01 27 32.3 +0.1
SCTR **Scanteiesti** 146.97 325 ⇑P PKPbc 01 27 32.6 +0.8
BURAR **Bucovina Array** 147.01 330 PKPdf 01 27 29.9 +0.8
BURAR **Bucovina Array** 147.01 330 ⇑P PKPbc 01 27 32.9 +0.9
BURAR **Bucovina Array** 147.01 330 ⇑PKiKP PKPbc 01 27 32.9 +0.9
JURR **Jurilovca** 147.07 323 ⇑P PKPbc 01 27 32.7 +0.6
ZAHL **Zahle** 147.07 301 *e* P PKPbc 01 27 33.2 +0.6
TESR **Tescani** 147.11 328 ⇓P PKPbc 01 27 32.3 +0.2
OJC **Ojcow** 147.14 339 *e* PKP PKPbc 01 27 32.0 -0.1
IZVR **Izvoarele** 147.18 325 ⇓P PKiKP 01 27 33.7 -0.4
TUDR 147.20 326 ⇓P PKPbc 01 27 32.9 +0.5
RCY **Rachaya** 147.20 300 *e* P PKPbc 01 27 33.3 +0.3
CFR **Carcaliu** 147.22 325 ⇓P PKPbc 01 27 32.5 0.0
CFR **Carcaliu** 147.22 325 ⇓PKiKP PKPbc 01 27 32.5 0.0
BHL **Bhannes** 147.24 301 *e* P PKPbc 01 27 33.3 +0.2
ANTO **Ankara** 147.25 313 PKPbc PKPbc 01 27 33.1 +0.2
ANTO **Ankara** 147.25 313 ⇓P PKPdf 01 27 31.3 +1.6
ANTO **Ankara** 147.25 313 PKiKP PKPbc 01 27 33.1 +0.2
TPGR **Topolog** 147.26 324 ⇓P PKPbc 01 27 32.9 +0.3
KOLS **Kolonicke sedl** 147.28 335 *e* PKiKP PKPdf 01 27 30.6 +1.3
KOLS **Kolonicke sedl** 147.28 335 *e* PKP PKPdf 01 27 30.6 +1.3
KOLS *e* 01 27 33.5
PANC **Panciu** 147.29 326 ⇑P PKiKP 01 27 33.8 -0.5
STHS **Stebnicka Huta** 147.29 336 *e* PKiKP PKPbc 01 27 32.5 -0.1
STHS *e* 01 27 36.7
STHS **Stebnicka Huta** 147.29 336 *e* PKP PKPbc 01 27 32.5 -0.1
STHS *e* 01 27 36.7
SHBL **Chebaa** 147.31 300 *e* P PKPbc 01 27 33.9 +0.6
QRWL **Qaraoun** 147.31 300 *e* P PKPbc 01 27 33.8 +0.6
ONER **Baraj Valea Uz** 147.36 328 ⇓P PKPbc 01 27 33.5 +0.7
DQRL **Deir Qamar** 147.36 301 *e* P PKPbc 01 27 34.0 +0.6
ODBI **Odobesti** 147.41 326 ⇓P PKiKP 01 27 34.2 -0.3
VRI **Vrincioaia** 147.51 327 ⇓P PKPbc 01 27 32.9 -0.3
TIRR **Tirgusor** 147.52 323 ⇓P PKPbc 01 27 33.4 +0.1
TIRR **Tirgusor** 147.52 323 ⇓PKiKP PKPbc 01 27 33.4 +0.1

PLOR	Plostina	147.56	327	⇑P	PKPbc	01 27 33.5	+0.1	
PLOR	Plostina	147.56	327	⇑PKIKP	PKPbc	01 27 33.5	+0.1	
NIE	Niedzica	147.64	337	*e*PKP	PKPbc	01 27 33.8	+0.3	
HARR	Harsova	147.64	324	⇓P	PKPbc	01 27 34.1	+0.5	
HARR	Harsova	147.64	324	⇓PKIKP	PKPbc	01 27 34.1	+0.5	
TLBR	Topalu	147.67	324	⇓P	PKPbc	01 27 34.3	+0.6	
MMAI	Mount Meron Ar	147.67	300	PKPbc	PKPbc	01 27 34.9	+0.7	
	comp=N,28nm,0.5s,baz=76,slow=4.8,SNR=143							
KSP	Ksiaz	147.69	343	*e*PKP	PKPbc	01 27 34.2	+0.7	
MFTR	Murfatlar	147.69	323	⇑P	PKiKP	01 27 34.6	-0.6	
BISRR	Bisoca	147.73	326	⇑P	PKPbc	01 27 34.7	+0.8	
TUR	Turia	147.74	328	⇓P	PKPbc	01 27 33.5	-0.4	
BMR	Baia Mare	147.75	332	⇑P	PKiKP	01 27 34.7	-0.5	
BMR	Baia Mare	147.75	332	⇑PKIKP	PKiKP	01 27 34.7	-0.5	
ARCR	ARCALIA	147.80	331	⇑P	PKiKP	01 27 34.9	-0.5	
MANR	Mangalia	147.81	322	⇓P	PKPbc	01 27 34.8	+0.7	
TSMN	Mangalia Port-	147.82	322	⇓P	PKiKP	01 27 35.0	-0.5	
OZUR		147.82	328	⇓P	PKPbc	01 27 34.5	+0.4	
BOSR	Bodos	147.90	328	⇓P	PKiKP	01 27 35.2	-0.5	
OSTC	Ostas	147.97	343	⇑*e*PKP	PKiKP	01 27 35.5	-0.1	
OSTC	Ostas	147.97	343	*e*PKIKP	PKiKP	01 27 35.5	-0.1	
CHVC	Chvalec	147.98	343	⇑*e*PKP	PKPbc	01 27 35.0	+0.7	
CHVC	Chvalec	147.98	343	*e*PKIKP	PKPbc	01 27 35.0	+0.7	
OKC	Ostrava-Krasne	148.02	340	⇑*e*PKP	PKPbc	01 27 35.0	+0.6	
OKC	Ostrava-Krasne	148.02	340	*e*PKIKP	PKPbc	01 27 35.0	+0.6	
NEHR	Nehoiu	148.03	327	⇓P	PKPbc	01 27 34.0	-0.6	
STEB	Steborice	148.05	340	⇑*e*PKP	PKPbc	01 27 35.2	+0.7	
CLL	Collm	148.07	347	PKPbc	PKPbc	01 27 35.1	+0.6	
CLL	Collm	148.07	347	⇓*e*PKHKP	PKPpre	01 27 31.0		
CLL				*i*		01 27 34.9		
CLL				*i*		01 27 39.3		
CLL				pmax	pmax			
	comp=Z,79nm,0.8s							
CLL				pmax	pmax			
	comp=Z,30nm,0.6s							
CLL	Collm	148.07	347	*e*PKPdf	PKPdf	01 27 31.0	+0.5	
CLL				⇓*i*PKPbc	PKPbc	01 27 34.9	+0.4	
	comp=Z,79nm,0.8s							
CLL				*i* PKPab	PKPab	01 27 39.3	+0.1	
	comp=Z,30nm,0.6s							
CLL				*e*(pPKPab)		01 29 41.0		
CLL				*ex*	x	01 31 17.0		
ICOR	Ion Corvin	148.07	323	⇑P	PKiKP	01 27 35.6	-0.4	
ISR	Istrita	148.11	326	⇓P	PKPbc	01 27 35.4	+0.6	
ISR	Istrita	148.11	326	⇓PKIKP	PKPbc	01 27 35.4	+0.6	
DOPR	Dopca	148.11	328	⇓P	PKiKP	01 27 35.9	-0.2	
DPC	Dobruska-Polom	148.12	342	*e*PKPDF	PKPdf	01 27 31.2	+0.5	
DPC				⇑*e*PKP	PKiKP	01 27 35.5	-0.5	
DPC	Dobruska-Polom	148.12	342	*e*PKHKP	PKPpre	01 27 31.2		
DPC				*e*		01 27 35.5		
LANS	Liptovska Anna	148.16	338	*e*PKP2	PKiKP	01 27 36.5	+0.4	
LANS	Liptovska Anna	148.16	338	*e*PKP	PKiKP	01 27 36.5	+0.4	
LANS				*e*		01 27 41.3		
MLR	Muntele Rosu	148.16	327	⇓P	PKPbc	01 27 35.2	+0.1	
MLR	Muntele Rosu	148.16	327	⇓PKIKP	PKPbc	01 27 35.2	+0.1	
PSN	Preselentsi	148.18	322	P	PKPbc	01 27 35.6	+0.6	
KRLC	Kraliky	148.23	342	*e*PKPDF	PKPdf	01 27 31.4	+0.5	
KRLC				⇑*e*PKP	PKiKP	01 27 35.7	-0.6	
KRLC	Kraliky	148.23	342	*e*PKHKP	PKPpre	01 27 31.4		
KRLC				*e*		01 27 35.7		
MORC	Moravsky Berou	148.26	340	*e*PKP	PKPbc	01 27 35.3	+0.2	
MORC	Moravsky Berou	148.26	340	⇓P	PKPbc	01 27 35.1	0.0	
MORC	Moravsky Berou	148.26	340	⇓PKIKP	PKPbc	01 27 35.1	0.0	
KECS	Kecovo	148.34	336	*e*PKIKP	PKiKP	01 27 36.4	-0.1	
KECS				*e*		01 27 41.4		
KECS	Kecovo	148.34	336	*e*PKP	PKiKP	01 27 36.3	-0.2	
KECS				*e*		01 27 41.4		
MESR	Meseseni	148.39	332	⇓P	PKPbc	01 27 35.0	-0.4	
CBBR	Cluj-Babes-Bol	148.41	331	⇓P	PKPbc	01 27 35.3	-0.1	
CJR	Cluj-Napoca	148.43	331	⇓P	PKPbc	01 27 36.2	+0.6	
CJR	Cluj-Napoca	148.43	331	⇓PKIKP	PKPbc	01 27 36.2	+0.6	
PVCC	Panska Ves	148.43	344	⇑*e*PKP	PKiKP	01 27 36.2	-0.4	
PVCC	Panska Ves	148.43	344	*e*PKIKP	PKiKP	01 27 36.2	-0.4	
MAUC	Maruska	148.53	340	⇑*e*PKP	PKiKP	01 27 36.7	-0.2	
RICC	Richard	148.53	345	⇑*e*PKP	PKiKP	01 27 36.6	-0.2	
RICC				*e*PKPAB	PKPab	01 27 42.5	+1.3	
SULR		148.55	326	⇑P	PKPbc	01 27 36.1	+0.3	
VOIR		148.66	328	⇑P	PKPbc	01 27 36.6	+0.4	
VOIR		148.66	328	⇑PKIKP	PKPbc	01 27 36.6	+0.4	
MARR	Marisel-Cluj	148.67	331	⇑P	PKPbc	01 27 36.7	+0.4	
SILT	Sile	148.70	317	⇓P	PKPbc	01 27 35.9	-0.4	
DRGR		148.76	332	⇑P	PKPbc	01 27 35.4	-1.1	
DRGR		148.76	332	⇑PKHKP	PKPpre	01 27 35.4		
AVR	AVREN	148.77	322	P	PKiKP	01 27 37.1	-0.4	
CSS	Mathiatis	148.77	304	PKPbc	PKPbc	01 27 36.7	0.0	
TNR	Turnu Rosu	148.88	329	⇑P	PKPbc	01 27 36.7	0.0	
TNR	Turnu Rosu	148.88	329	⇑PKHKP	PKPpre	01 27 36.7		
PRD	Provadia	148.89	322	P	PKPbc	01 27 37.0	+0.2	
NEF	NEVSHA	148.91	323	P	PKPbc	01 27 37.3	+0.5	
ARR	Arges	148.91	328	⇑P	PKiKP	01 27 38.3	+0.5	
PRU	Pruhonice	148.93	344	⇑*e*PKP	PKiKP	01 27 37.3	-0.3	
PRU				*e*PKPAB	PKPab	01 27 43.3	+0.5	
PRU	Pruhonice	148.93	344	*e*PKHKP	PKPpre	01 27 37.3		
PRU				*e*		01 27 43.3		
GOPC	GO Pecny, Ondr	148.94	344	⇑*e*PKP	PKiKP	01 27 37.3	-0.4	
GOPC	GO Pecny, Ondr	148.94	344	*e*PKHKP	PKPpre	01 27 37.3		
VYHS	Vyhne	148.94	338	*e*PKHKP	PKPpre	01 27 34.0		
VYHS				*e*		01 27 43.7		
VYHS	Vyhne	148.94	338	*e*PKP	PKPdf	01 27 34.0	+2.0	
VYHS				*e*		01 27 37.3		
VYHS				*e*		01 27 43.7		
VRAC	Vranov	148.97	341	*e*PKP	PKPbc	01 27 37.1	+0.3	
VRAC	Vranov	148.97	341	⇓P	PKPbc	01 27 37.3	+0.5	
VRAC	Vranov	148.97	341	⇓PKHKP	PKPpre	01 27 37.3		
JAVC	Velka Javorina	149.02	339	*e*PKP	PKiKP	01 27 38.2	+0.3	
PSZ	Piszkesteto	149.03	336	⇑P	PKiKP	01 27 37.7	-0.3	
PSZ	Piszkesteto	149.03	336	⇑PKHKP	PKPpre	01 27 37.7		
RAZG	Razgrad	149.15	324	⇓P	PKPbc	01 27 37.7	+0.3	
NKC	Novy Kostel	149.21	347	⇑*e*PKP	PKiKP	01 27 38.1	-0.1	
NKC				*e*PKPAB	PKPab	01 27 44.5	+0.5	
NKC	Novy Kostel	149.21	347	*e*PKHKP	PKPpre	01 27 38.1		
NKC				*e*		01 27 44.5		
LOZB	Loznitsa	149.22	323	⇓P	PKPbc	01 27 37.8	+0.2	
KRUC	Moravsky	149.25	341	*e*PKP	PKPbc	01 27 37.5	0.0	
LOT	Lotru	149.28	329	⇓P	PKPbc	01 27 37.4	-0.4	
TREC	Trest	149.31	342	⇑*e*PKP	PKPbc	01 27 37.9	+0.3	
TREC				*e*PKPAB	PKPab	01 27 45.1	+0.7	
TREC	Trest	149.31	342	*e*PKHKP	PKPpre	01 27 37.9		
TREC				*e*		01 27 45.1		
HUMR	Humele	149.32	326	⇓P	PKPbc	01 27 37.5	-0.2	
DEV	Deva	149.37	330	⇑P	PKiKP	01 27 38.3	-0.3	
DEV	Deva	149.37	330	⇑PKHKP	PKPpre	01 27 38.3		
BSZH	Besenyszg	149.39	335	⇑P	PKPbc	01 27 38.2	+0.4	
ZVC	Zvikov	149.53	344	*e*PKPDF	PKPdf	01 27 34.3	+1.4	
ZVC				⇑*e*PKP	PKiKP	01 27 38.8	-0.1	
MODS	Modra-Piesok	149.57	339	*e*PKHKP	PKPpre	01 27 38.1		
MODS				*e*		01 27 45.4		
MODS	Modra-Piesok	149.57	339	*e*PKP	PKPbc	01 27 38.0	-0.3	
MODS				*e*		01 27 45.4		
SIRR	Siria	149.63	332	⇑P	PKPbc	01 27 38.5	0.0	
SZH	Strazhitsa	149.64	324	P	PKPbc	01 27 38.8	+0.2	
BEBN	Eben Emael	149.67	355	*d*PKiKP	PKPbc	01 27 38.4	+0.1	
SRO	Srobarova	149.70	338	*e*PKHKP	PKPpre	01 27 39.7		
SRO				*e*		01 27 47.7		
SRO	Srobarova	149.70	338	*e*PKP	PKiKP	01 27 39.7	+0.4	
SRO				*e*		01 27 47.7		
ZIMR		149.71	325	⇓P	PKPbc	01 27 38.8	+0.1	
ZIMR		149.71	325	⇓PKHKP	PKPpre	01 27 38.8		
PHSR	Pinarhisar	149.75	320	⇑P	PKiKP	01 27 39.4	-0.2	
UCC	Uccle	149.75	357	*d*PKiKP	PKPbc	01 27 38.9	+0.3	
UCC				*d*PKP	PKPab	01 27 46.0	-0.1	
GZR	Gura Zlata	149.79	330	⇑P	PKPbc	01 27 38.6	-0.3	
GZR	Gura Zlata	149.79	330	⇑PKHKP	PKPpre	01 27 38.6		
JMB	Yambol	149.82	322	P	PKPbc	01 27 39.2	+0.2	
SURR	Surduc	149.82	331	⇓P	PKPbc	01 27 38.9	0.0	
MEM	Membach	149.83	355	*d*PKiKP	PKPbc	01 27 39.8	+0.1	
MEM				*d*PKP	PKPab	01 27 45.5	-1.0	
BTNL	Ternell	149.84	354	*d*PKiKP	PKPbc	01 27 38.8	0.0	
BSTI	Sart Tilman	149.89	355	*d*PKiKP	PKiKP	01 27 39.4	-0.2	
KHC	Kasperske Hory	149.97	344	*e*PKPDF	PKPdf	01 27 34.6	+0.9	
KHC				⇑*e*PKP	PKiKP	01 27 39.8	-0.1	
KHC				*e*PKPAB	PKPab	01 27 48.0	+0.8	
KHC	Kasperske Hory	149.97	344	*e*PKIKP	PKPdf	01 27 34.6	+0.9	
KHC				*e*		01 27 39.8		
KHC				*e*		01 27 48.0		
GRFO	Grafenberg	149.97	348	PKPbc	PKPbc	01 27 39.5	+0.3	
GRFO	Grafenberg	149.97	348	PKHKP	PKPpre	01 27 39.5		
VLAD	Vladila	149.99	326	⇓P	PKiKP	01 27 40.0	0.0	
CKRC	Cesky Krumlov	150.06	343	⇑*e*PKP	PKiKP	01 27 39.9	-0.1	
CKRC	Cesky Krumlov	150.06	343	*e*PKHKP	PKPpre	01 27 39.9		
BCLA	Clavier	150.07	355	*d*PKiKP	PKPbc	01 27 39.2	-0.1	
BCLA				*d*PKP	PKPab	01 27 46.3	-1.2	
BHOU	Houvegnez	150.08	355	*d*PKiKP	PKiKP	01 27 39.9	-0.1	
BHOU				*d*PKP	PKPab	01 27 47.9	+0.3	
BAND	Balkesir-Ban	150.12	317	⇓P	PKPbc	01 27 39.3	-0.5	
BGES	Gesves	150.12	356	*d*PKiKP	PKPbc	01 27 39.6	+0.2	
BGES				*d*PKP	PKPab	01 27 47.2	-0.5	
SRE	Strehaia	150.12	328	⇑P	PKiKP	01 27 40.6	+0.3	
SRE	Strehaia	150.12	328	⇑PKHKP	PKPpre	01 27 40.6		
BZS	Buzias	150.15	331	⇓P	PKPdf	01 27 34.3	+0.3	
BZS	Buzias	150.15	331	⇓PKIKP	PKPdf	01 27 34.3	+0.3	
GERES	GERESS Array B	150.20	344	PKP	PKPdf	01 27 34.2	+0.1	
	comp=Z,1.2nm,0.8s,baz=304,slow=0.5,SNR=12							
GERES				PKPbc	PKPbc	01 27 40.0	+0.1	
	comp=Z,14nm,0.7s,baz=20,slow=2.0,SNR=78							
BMRD	Maredsous	150.22	356	*d*PKiKP	PKPbc	01 27 39.6	-0.1	
BMRD				*d*PKP	PKPab	01 27 48.0	-0.1	
HERR	Herculane	150.34	330	⇓P	PKPbc	01 27 40.3	+0.1	
CONA	Conrad Observa	150.42	341	*e*PKiKP	PKiKP	01 27 40.7	-0.1	
	comp=Z,13nm,0.6s,SNR=14							
DOU	Dourbes	150.44	356	*d*PKiKP	PKiKP	01 27 40.5	-0.2	
DOU				*d*PKP	PKPab	01 27 49.0	-0.1	
RONA	Rosalia, Austr	150.48	340	*e*PKiKP	PKiKP	01 27 40.8	-0.1	
	comp=Z,17nm,0.6s,SNR=19							
BANR	Banloc	150.55	332	⇑P	PKiKP	01 27 41.9	+0.9	
DIM	Dimitrovgrad	150.65	322	P	PKiKP	01 27 41.5	+0.1	
VALD	Valchedram	150.71	327	P	PKiKP	01 27 41.7	+0.2	
MDVR	Moldovita	150.75	330	⇑P	PKiKP	01 27 41.5	-0.1	
WLF	Walferdange	150.75	354	*d*PKiKP	PKiKP	01 27 41.7	+0.3	
MPEP	Malo Peshtene	150.78	326	P	PKiKP	01 27 41.7	0.0	
MORH	Mrgy, Hungar	150.92	336	⇓P	PKPbc	01 27 41.2	-0.2	
MOA	Molln	150.96	343	*e*PKiKP	PKPbc	01 27 41.4	-0.1	
	comp=Z,10nm,0.6s							
KDZ	Kurdzhali	151.05	322	P	PKPbc	01 27 41.8	-0.1	
TAVA	DENIZLI_Tavas	151.05	311	⇑P	PKiKP	01 27 42.4	-0.1	
ARSA	Arzberg	151.13	340	*e*PKiKP	PKPbc	01 27 41.7	-0.3	
	comp=Z,3.9nm,0.9s							
RDO	Rodhopi	151.23	321	PKPbc	PKPbc	01 27 41.6	-0.7	
BIOA	Bad Ischl, Aus	151.28	343	*e*PKiKP	PKPbc	01 27 41.9	-0.4	
	comp=Z,12nm,0.8s,SNR=6.4							
RZN	Rozhen	151.35	322	P	PKPbc	01 27 42.5	-0.3	
EZN	Ezine	151.54	318	⇓P	PKPbc	01 27 42.7	-0.3	
EZN	Ezine	151.54	318	⇓PKIKP	PKPbc	01 27 42.7	-0.3	
PLNA	Plana	151.56	325	P	PKiKP	01 27 43.5	0.0	
VTS	Vitosha	151.56	325	P	PKPbc	01 27 43.4	+0.2	
BOVS	Bovan	151.61	329	⇑P	PKPbc	01 27 43.0	-0.1	
LESA	Schwarzleotal	151.78	344	*i* PKiKP	PKPbc	01 27 43.0	-0.5	
	comp=Z,12nm,0.6s							
SOKA	Soboth	151.79	341	*i* PKiKP	PKPbc	01 27 43.0	-0.6	
	comp=Z,11nm,0.8s							
BFO	Black Forest	151.79	351	PKPbc	PKPbc	01 27 42.1	-1.3	
BFO	Black Forest	151.79	351	PKIKP	PKPbc	01 27 42.1	-1.3	
PERS	Pernice	151.80	340	*i* PKPbc	PKPbc	01 27 42.9	-0.6	
KBA	Koelnbreinsper	151.92	343	*i* PNiKP	PKPbc	01 27 43.7	-0.3	
	comp=Z,12nm,0.7s							
MMB	Musomishta	152.01	323	P	PKPbc	01 27 43.8	-0.3	
ZAVS	Zavodnje	152.01	340	*i* PKPbc	PKPbc	01 27 43.3	-0.7	
OBKA	Obir	152.09	341	*e*PKiKP	PKPbc	01 27 43.5	-0.7	
	comp=Z,8.0nm,0.8s							
WATA	Walderalm	152.13	346	*e*PKiKP	PKPbc	01 27 44.0	-0.3	
	comp=Z,12nm,0.6s,SNR=6.2							
KKB	Krupnik	152.15	324	P	PKPbc	01 27 44.2	-0.2	
RETA	Reutte	152.17	347	*i* PKiKP	PKPbc	01 27 44.0	-0.3	
	comp=Z,7.4nm,0.7s							
WTTA	Wattenberg	152.18	346	*i* PKiKP	PKPbc	01 27 44.4	-0.1	
	comp=Z,9.7nm,0.5s,SNR=8.3							
MOTA	Moosalm	152.23	346	*i* PKiKP	PKPbc	01 27 44.3	-0.3	
	comp=Z,13nm,0.8s,SNR=5.4							
MYKA	Terra Mystica	152.25	342	*i* PKiKP	PKPbc	01 27 43.6	-1.0	
	comp=Z,7.4nm,0.6s							
BDRM	Kayabasi	152.27	312	⇓P	PKPbc	01 27 44.6	-0.2	
SQTA	Sankt Quirin	152.32	346	*i* PKiKP	PKPbc	01 27 44.5	-0.2	
	comp=Z,16nm,0.8s,SNR=6.4							
PRED	Cave del Predi	152.44	342	PKPbc	PKPbc	01 27 44.3	-0.6	
ABTA	Abfaltersbach	152.45	344	*e*PKiKP	PKPbc	01 27 44.3	-0.7	
	comp=Z,24nm,0.6s,SNR=8.6							
FETA	Feichten	152.62	347	*i* PKiKP	PKPbc	01 27 45.4	0.0	
	comp=Z,13nm,0.9s							
GBAS	Gorenja Brezov	152.64	341	*i* PKPbc	PKPbc	01 27 44.9	-0.4	
FNA	Florina	153.84	325	PKPbc	PKPbc	01 27 47.1	-1.0	
FNA	Florina	153.84	325	PKIKP	PKPbc	01 27 47.1	-1.0	
SENIN	Lac Senin/Sane	153.87	351	PKPbc	PKPbc	01 27 47.0	-1.3	
SENIN					PKPab	01 28 04.4	+0.4	
ESDC	Sonseca Array	160.32	13	PKP	PKPdf	01 27 46.9	-0.9	
	comp=Z,1.1nm,1.0s,baz=353,slow=6.0,SNR=6.1							
ESDC				PKPab	PKPab	01 28 31.7	-0.3	
	comp=Z,4.7nm,1.0s,baz=344,slow=4.5,SNR=22							
KEST	Kesra	163.49	338	PKPab	PKPab	01 28 45.5	-0.5	
	comp=Z,3.9nm,0.7s,baz=5.6,slow=2.3,SNR=8.6							
TORD	Torodi Ar. Bea	172.63	179	PKP	PKPdf	01 27 57.3	-0.4	
	comp=Z,1.3nm,0.4s,baz=355,slow=2.3,SNR=5.2							

MOS ***10*** *01:10:26.1±1.0,37.°69N×72.°20E,h139km,mb4.1/8, Error ellipse: s-maj=10.4km s-min=5.4km az=96.9*

NEIC ***10*** *01:10:27.2±1.3,37.°69N±0.°06×72.°08E±0.°10,h131km±3km, mb4.1/11, Error ellipse: s-maj=11.4km s-min=9.0km az=109.0*

IDC ***10*** *01:10:27.5±3.8,37.°73N×72.°51E,h143km±32km,mb3.6/10, mbtmp4.1/16, Error ellipse: s-maj=29.5km s-min=18.8km az=18.0*

NNC ***10*** *01:10:33.0±4.0,38.°23N×72.°03E,h205km±41km,mb3.1, mpv4.1, Error ellipse: s-maj=37.8km s-min=23.1km az=13.0*

ISC 10 01:10:26.8±0.4,**37.°62N**±0.°04×**72.°34E**±0.°05,**h150km**,**n123**, *c*2**88**/143,**mb4.0**/19,**12C-10D**,**Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	Karamyk	1.90	347	Pn	Pn	01 10 59.4	-1.7
DRK	Karamyk	1.90	347	PN	Pn	01 10 59.4	-1.7
GAR	Garm	2.10	312	Pn	Pn	01 11 00.1	-3.2
BTK	Batken	2.71	335	Pn	Pn	01 11 09.3	-1.2
BTK	Batken	2.71	335	PN	Pn	01 11 09.3	-1.2
KSH	Kashi	3.42	55	Pn	Pn	01 11 16.6	-3.0
KSH				Sn	Sn	01 11 52.5	-8.1
KSH				smax	smax		
	comp=N,630nm,0.4s						
KSH				smax	smax		
	comp=E,410nm,0.5s						
ARSB	Arslanbob	3.73	8	Pn	Pn	01 11 21.9	-1.7
ARSB	Arslanbob	3.73	8	PN	Pn	01 11 21.9	-1.7
NIL	Nilore	4.03	169	Pn	Pn	01 11 28.6	+1.1
NIL	Nilore	4.03	169	PN	Pn	01 11 28.6	+1.1
SRNI	Srinagar	4.06	149	*e*S	Sn	01 12 14.2	-1.1
KBL	Kabul	4.07	222	Pn	Pn	01 11 27.6	-0.6
KBL	Kabul	4.07	222	PN	Pn	01 11 27.6	-0.6
UCH	Uchtor	4.90	19	P	Pn	01 11 39.0	-0.2
	SNR=22						
EKS2	Erkin-Say	5.16	12	P	Pn	01 11 42.4	+0.1
	SNR=14						
AAK	Ala-Archa	5.28	18	P	Pn	01 11 44.5	+0.6
	SNR=16						
AAK	Ala-Archa	5.28	18	Pn	Pn	01 11 44.3	+0.3
AAK	Ala-Archa	5.28	18	⇑P	Pn	01 11 44.1	+0.1
	comp=E,3.0nm,0.3s						
AAK				⇑S	Sn	01 12 41.5	-2.6
	comp=E,80nm,1.0s						
AAK	Ala-Archa	5.28	18	P	Pn	01 11 43.6	-0.3
	comp=E,28nm,0.3s,baz=173,slow=5.9,SNR=32						
AAK				S	Sn	01 12 41.6	-2.6
	comp=E,41nm,0.6s,baz=331,slow=21,SNR=23						
AAK	Ala-Archa	5.28	18	*d*PN	Pn	01 11 44.4	+0.5
JMU	Jammu	5.32	156	*e*P	Pn	01 11 44.5	+0.1
JMU				*e*S	Sn	01 12 38.4	-6.7
JMU				IAML		01 12 46.8	
	comp=E,566nm,0.3s						
JMU				IAML		01 12 59.1	
	comp=E,508nm,0.4s						
FRU1	Bishkek	5.47	18	Pn	Pn	01 11 47.4	+1.0
FRU1	Bishkek	5.47	18	*e*PN	Pn	01 11 47.4	+1.0
ULHL	Ulahol	5.51	32	P	Pn	01 11 47.5	+0.4
	SNR=13						
BOOM	Boomskoye usch	5.59	28	Pn	Pn	01 11 48.3	+0.1
BOOM	Boomskoye usch	5.59	28	PN	Pn	01 11 48.3	+0.1
KK31	Karatay Array	5.65	346	Pn	Pn	01 11 47.1	-1.7
KK31	Karatay Array	5.65	346	P	Pn	01 11 47.6	-1.1
	comp=E,38nm,0.4s,baz=167,slow=13,SNR=298						
KK31				⇑S	Sn	01 12 47.6	-5.3
	comp=E,44nm,0.3s,baz=168,slow=22,SNR=17						
KK31	Karatay Array	5.65	346	PN	Pn	01 11 47.1	-1.7
KKAR	Karatay Array	5.65	346	Pn	Pn	01 11 47.0	-1.8
KKAR	Karatay Array	5.65	346	PN	Pn	01 11 47.0	-1.8

CHMS	Chumysh	5.68	18	P	Pn	01 11 49.4	+0.2	
	SNR=15							
KDJ	Kajisay	5.84	38	Pn	Pn	01 11 52.9	+1.4	
KDJ	Kajisay	5.84	38	PN	Pn	01 11 52.9	+1.4	
TKM2	Tokmak 2	5.85	24	P	Pn	01 11 52.7	+1.1	
	SNR=10							
USP	Ospenovka	5.88	16	P	Pn	01 11 51.5	-0.3	
	SNR=7.0							
DHRM	DHARAMSHALA	6.27	148	*e*P	Pn	01 11 57.4	+0.1	
DHRM				*e*S	Sn	01 13 02.2	-5.9	
DHRM				IAML		01 13 07.0		
	comp=E,540nm,0.4s							
DHRM				IAML		01 13 08.5		
	comp=E,604nm,0.3s							
BHK	Bhakra	7.04	150	*e*P	Pn	01 12 07.8	+0.3	
BHK				*e*S	Sn	01 13 25.4	-1.0	
BHK				IAML		01 13 27.8		
	comp=E,256nm,0.3s							
BHK				IAML		01 13 39.6		
	comp=E,273nm,0.3s							
HNLY	HANLEY	7.27	130	*e*P	Pn	01 12 10.3	-0.7	
HNLY				*e*S	Sn	01 13 28.0	-4.5	
SMLA	Simla	7.61	147	*e*P	Pn	01 12 14.2	-0.7	
SMLA				*e*S	Sn	01 13 33.7	-6.2	
SMLA				IAML		01 13 36.3		
	comp=E,325nm,0.6s							
SMLA				IAML		01 13 37.4		
	comp=E,265nm,0.3s							
KLP	Kalpa	7.79	140	*e*P	Pn	01 12 17.3	-0.3	
KLP				*e*S	Sn	01 13 38.2	-6.5	
KLP				IAML		01 13 41.5		
	comp=E,211nm,0.4s							
KLP				IAML		01 13 51.3		
	comp=E,192nm,0.4s							
DDI	Dehra Dun	8.69	145	*e*P	Pn	01 12 29.5	+0.1	
DDI				*e*S	Sn	01 13 58.8	-7.3	
DDI				IAML		01 14 05.6		
	comp=E,117nm,0.2s							
DDI				IAML		01 14 06.3		
	comp=E,175nm,0.4s							
JOSI	Joshimath	9.24	138	*e*S	Sn	01 14 11.9	-7.7	
JOSI				IAML		01 14 20.3		
	comp=E,150nm,0.4s							
JOSI				IAML		01 14 21.6		
	comp=N,213nm,0.5s							
NDI	New Delhi	9.80	154	*e*S	Sn	01 14 25.4	-7

HHC				pmax	pmax			
	comp=Z,10.0nm,0.7s							
HHC				pmax	pmax			
	comp=Z,79nm,6.1s							
MNK	**Minsk**	**34.48**	**314**	*i* P	**P**	**01**	**16**	**59.9 -0.1**
	comp=E,7.0nm,0.9s							
MNK				*i* P	**P**	**01**	**16**	**59.9 -0.1**
	comp=N,9.0nm,0.9s							
MNK				*i* P	**P**	**01**	**16**	**59.9 -0.1**
	comp=Z,5.0nm,0.9s,baz=101							
MNK				*i* pP	**pP**	**01**	**17**	**27.5 -5.7**
MNK				*i* PP	**PP**	**01**	**18**	**20.8 -0.2**
MNK				*i* S	**S**	**01**	**22**	**18.8 +1.7**
MNK				*i* SS	**SnSn**	**01**	**24**	**45.8 0.0**
MNK				*i* LRM	MLR	01	33	05.9
	comp=N,97nm,22.3s							
MNK				*i* LRM	MLR	01	33	58.2
	comp=Z,32nm,17.0s							
MNK	**Minsk**	**34.48**	**314**	*i* P	**P**	**01**	**16**	**59.9 -0.1**
MNK				*i* *PP	**pP**	**01**	**17**	**27.5 -5.7**
MNK				*i*		01	18	20.8
MNK				*i* S	**S**	**01**	**22**	**18.8 +1.7**
MNK				pmax	pmax			
	comp=E,7.0nm,0.9s							
MNK				pmax	pmax			
	comp=Z,5.0nm,0.9s							
MNK				pmax	pmax			
	comp=N,9.0nm,0.9s							
MNK				MLR	MLR			
	comp=N,97nm,22.0s							
MNK				MLR	MLR			
	comp=E,142nm,25.0s							
MNK				MLR	MLR			
	comp=Z,32nm,17.0s							
TESR	**Tescani**	**34.64**	**300**	⇑P	**P**	**01**	**17**	**03.6 +2.0**
PLOR	**Plostina**	**34.67**	**298**	⇑P	**P**	**01**	**17**	**04.8 +3.0**
PLOR	**Plostina**	**34.67**	**298**	⇑P	**P**	**01**	**17**	**04.8 +3.0**
MLR	**Muntele Rosu**	**35.18**	**298**	⇓P	**P**	**01**	**17**	**10.1 +3.7**
MLR	**Muntele Rosu**	**35.18**	**298**	⇓P	**P**	**01**	**17**	**10.1 +3.7**
BURAR	**Bucovina Array**	**35.59**	**302**	P	**P**	**01**	**17**	**11.6 +1.8**
BURAR				IAmb	IAmb	01	17	13.0
	comp=Z,1.0nm,0.8s							
BURAR	**Bucovina Array**	**35.59**	**302**	⇓P	**P**	**01**	**17**	**12.1 +2.3**
BURAR	**Bucovina Array**	**35.59**	**302**	⇓P	**P**	**01**	**17**	**12.1 +2.3**
VOIR		**35.82**	**298**	⇑P	**P**	**01**	**17**	**14.2 +2.5**
VOIR		**35.82**	**298**	⇑P	**P**	**01**	**17**	**14.2 +2.5**
FIA1	**FINESS Array S**	**37.16**	**325**	P	**P**	**01**	**17**	**24.7 +1.9**
FINES	**FINESS Array B**	**37.17**	**325**	P	**P**	**01**	**17**	**23.9 +1.1**
FINES	**FINESS Array B**	**37.17**	**325**	P	**P**	**01**	**17**	**24.6 +1.8**
	comp=Z,1.5nm,0.4s,baz=117,slow=9.6,SNR=19							
	comp=Z,1.5nm,0.4s							
ARCES	**ARCESS Array B**	**40.53**	**337**	P	**P**	**01**	**17**	**52.6 +1.9**
ARCES				IAmb	IAmb	01	17	53.4
	comp=Z,6.0nm,1.1s							
ARCES	**ARCESS Array B**	**40.53**	**337**	P	**P**	**01**	**17**	**52.2 +1.5**
	comp=Z,0.9nm,0.4s,baz=115,slow=8.8,SNR=16							
	comp=Z,0.9nm,0.4s							
ARCES	**ARCESS Array B**	**40.53**	**337**	P	**P**	**01**	**17**	**52.6 +1.9**
ARCES				pmax	pmax			
	comp=Z,6.0nm,1.1s							
HFS	**Hagfors**	**42.86**	**321**	P	**P**	**01**	**18**	**11.3 +1.6**
	comp=Z,3.7nm,0.5s,baz=98,slow=11,SNR=24							
	comp=Z,3.7nm,0.5s							
CUC	**Castrocucco**	**43.48**	**291**	P	**P**	**01**	**18**	**17.3 +2.2**
CUC				IAmb	IAmb	01	18	18.7
	comp=Z,3.9nm,0.6s							
NC405	**NORSAR Array S**	**43.90**	**322**	P	**P**	**01**	**18**	**19.1 +1.0**
NC405				IAmb	IAmb	01	18	39.0
	comp=Z,4.4nm,1.1s							
NB2	**NORSAR Subarra**	**44.14**	**322**	P	**P**	**01**	**18**	**21.3 +1.3**
	comp=Z,0.8nm,0.5s,baz=92,slow=7.9							
NOA	**NORSAR Array B**	**44.14**	**322**	P	**P**	**01**	**18**	**21.4 +1.4**
	comp=Z,1.3nm,0.4s,baz=93,slow=7.7,SNR=12							
	comp=Z,1.3nm,0.4s							
KONO	**Kongsberg**	**44.90**	**320**	P	**P**	**01**	**18**	**27.1 +1.1**
KONO				IAmb	IAmb	01	18	28.4
	comp=Z,6.7nm,1.1s							
KONO	**Kongsberg**	**44.90**	**320**	P	**P**	**01**	**18**	**27.1 +1.1**
KONO				pmax	pmax			
	comp=Z,7.0nm,1.1s							
EKA	**Eskdalemuir Ar**	**52.23**	**316**	P	**P**	**01**	**19**	**22.5 +0.4**
	comp=Z,0.9nm,0.8s,baz=83,slow=6.6,SNR=5.2							
	comp=Z,0.9nm,0.8s							
ESDC	**Sonseca Array**	**57.88**	**298**	P	**P**	**01**	**20**	**03.9 +1.0**
	comp=Z,0.5nm,0.7s,baz=52,slow=8.4,SNR=5.6							
	comp=Z,0.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**66.81**	**269**	P	**P**	**01**	**21**	**03.0 +0.4**
YKA	**Yellowknife Ar**	**80.07**	**3**	P	**P**	**01**	**22**	**21.7 +2.4**
YKA	**Yellowknife Ar**	**80.07**	**3**	*i* P	**P**	**01**	**22**	**22.3 +3.0**
WRA	**Warramunga Arr**	**81.69**	**123**	P	**P**	**01**	**22**	**29.8 +1.2**
	comp=Z,0.4nm,0.3s,baz=327,slow=5.1,SNR=8.4							
	comp=Z,0.4nm,0.3s							
WRA	**Warramunga Arr**	**81.69**	**123**	*i* P	**P**	**01**	**22**	**29.7 +1.2**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.3s							
QSPA	**South Pole Qui**	**127.41**	**180**	PKPdf	**PKiKP**	**01**	**29**	**15.7 +2.5**
PB08	**IPOC Station P**	**142.36**	**287**	PKPpre	PKPpre	01	29	38.6

WEL 10 01:10:44.3±1.3,34°S±20°×177°W±2°2, h327km±33km, mB4.5/4, ML4.5/12, MLv4.0/10, Mw(mB)3.6/4, Error ellipse: s-maj=29.7km s-min=25.0km az=122.6, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h	m	s	Res ISC
MXZ	**Matakaoa Point**	**4.28**	**205**	P		Pn	01	11	55.2	+0.4
MXZ				S		S	01	12	52.1	+0.3
PKGZ	**Pakihiroa**	**4.64**	**205**	P		Pn	01	11	57.2	-1.6
PKGZ				S		S	01	12	58.7	0.0
HAZ	**Te Kaha**	**4.65**	**208**	P		Pn	01	11	58.4	-0.5
HAZ				S		S	01	12	59.1	+0.2
PUZ	**Puketiti**	**4.76**	**202**	P		Pn	01	12	01.0	+0.8
PUZ				S		S	01	13	01.4	+0.1
RUGZ	**Raukumara Rang**	**4.87**	**208**	P		Pn	01	12	01.2	-0.3
RUGZ				S		S	01	13	04.0	+0.3
TWGZ	**Tauwhareparae**	**4.95**	**204**	P		Pn	01	12	03.9	+1.7
TKGZ	**Te Karaka**	**5.23**	**204**	P		Pn	01	12	06.2	+0.8
TKGZ				S		S	01	13	13.0	+2.2
MWZ	**Matawai**	**5.25**	**207**	P		Pn	01	12	05.4	-0.2
MWZ				S		S	01	13	10.4	-0.9
URZ	**Urewera**	**5.35**	**210**	P		Pn	01	12	06.2	-0.5
URZ				S		S	01	13	13.3	-0.1
RIGZ	**Rimuhau**	**5.50**	**203**	P		Pn	01	12	09.0	+0.5
RIGZ				S		S	01	13	19.0	+2.5
WCZ	**Waipu Caves**	**5.58**	**244**	P		Pn	01	12	10.6	+1.3
MUGZ	**Murupara**	**5.68**	**211**	P		Pn	01	12	10.2	-0.4
MTHZ	**Maungataniwha**	**5.97**	**209**	P		Pn	01	12	14.0	+0.1
HIZ	**Hauiti**	**6.67**	**222**	P		Pn	01	12	23.3	+1.1
TMVZ	**Te Maari**	**6.68**	**214**	P		Pn	01	12	21.8	-0.6
ETVZ	**East Tongariro**	**6.70**	**214**	P		Pn	01	12	20.4	-2.1

*SFS **10** 01:11:12.1,34.97N×6.01W, h6km, ML3.1/6, ML3.1/7, MLv3.1/7*
*CNRM **10** 01:11:12.1,34.80N×5.98W, h11km, ML2.1*
ISC 10 01:11:11.6±1.1, 34.96N±0.02×5.96W±0.04, h16km±7km, n45, σ1§37/56, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h	m	s	Res ISC
RSA	**Sarsar**	**0.14**	**123**	P		**Pg**	**01**	**11**	**14.9**	**-0.6**
RSA	**Sarsar**	**0.14**	**123**	S		**Sg**	**01**	**11**	**18.0**	**0.0**
CHEFC	**Chefchaouen**	**0.53**	**74**	P		**Pg**	**01**	**11**	**23.8**	**+1.7**
LCRM	**LCR**	**1.56**	**144**	P		**Pn**	**01**	**11**	**38.8**	**-0.1**
LCRM	**LCR**	**1.56**	**144**	S		**Sn**	**01**	**12**	**00.2**	**+1.2**
ZHG	**ZHG**	**1.61**	**201**	P		**Pn**	**01**	**11**	**39.8**	**+0.3**
ZHG	**ZHG**	**1.61**	**201**	S		**Sn**	**01**	**12**	**02.3**	**+2.3**
AKLM	**AKL**	**1.79**	**104**	P		**Pn**	**01**	**11**	**41.4**	**-0.5**
AKLM	**AKL**	**1.79**	**104**	S		**Sn**	**01**	**12**	**03.6**	**-0.7**
AVE	**Averroes**	**2.05**	**216**	Pn		**Pn**	**01**	**11**	**46.6**	**+1.2**
AVE				Sn		**Sn**	**01**	**12**	**13.0**	**+2.4**
AVE	**Averroes**	**2.05**	**216**	P		**Pn**	**01**	**11**	**44.8**	**-0.6**
AVE	**Averroes**	**2.05**	**216**	S		**Sn**	**01**	**12**	**10.4**	**-0.2**
CZD	**Col de Zad**	**2.07**	**158**	P		**Pn**	**01**	**11**	**45.2**	**-0.7**
CZD	**Col de Zad**	**2.07**	**158**	S		**Sn**	**01**	**12**	**10.4**	**-1.2**
MD31	**MD31**	**2.31**	**154**	P		**Pn**	**01**	**11**	**47.9**	**-1.2**
MD31	**MD31**	**2.31**	**154**	S		**Sn**	**01**	**12**	**16.6**	**-0.7**
MDT	**Midelt**	**2.42**	**152**	P		**Pn**	**01**	**11**	**50.0**	**-0.6**
MDT	**Midelt**	**2.42**	**152**	S		**Sn**	**01**	**12**	**20.0**	**+0.1**
ELGU	**Los Guajares,**	**2.69**	**44**	Sn		**Sn**	**01**	**12**	**27.7**	**+1.2**
PBDV	**Barranco-do-Ve**	**2.78**	**326**	*e*P		**Pn**	**01**	**11**	**55.3**	**-0.2**
PBDV				*e*S		**Sn**	**01**	**12**	**27.8**	**-1.0**
PVAQ	**Vaqueiros**	**2.82**	**330**	Sn		**Sn**	**01**	**12**	**29.6**	**-0.2**
PVAQ				P		**Pn**	**01**	**11**	**55.8**	**-0.3**
PVAQ	**Vaqueiros**	**2.82**	**330**	*e*P		**Pn**	**01**	**11**	**56.4**	**+0.4**
PVAQ				*e*S		**Sn**	**01**	**12**	**29.2**	**-0.5**
PVAQ				IAML			01	12	31.1	
PVAQ				IAML			01	12	32.7	
PVAQ				IAML			01	12	33.7	
PVAQ	**Vaqueiros**	**2.82**	**330**	P		**Pn**	**01**	**11**	**58.9**	**+2.9**
EGRO	**El Granado**	**2.85**	**335**	Sn		**Sn**	**01**	**12**	**29.1**	**-1.2**
EGRO				Pn		**Pn**	**01**	**11**	**56.3**	**0.0**
EMIN	**Mina Concepcio**	**2.86**	**349**	Sn		**Sn**	**01**	**12**	**29.4**	**-1.3**
JBK	**JBK**	**2.87**	**102**	P		**Pn**	**01**	**11**	**56.9**	**+0.1**
TAF	**Taforalt**	**2.92**	**92**	P		**Pn**	**01**	**11**	**59.3**	**+1.8**
SRHM	**Skhour des Reh**	**2.96**	**214**	P		**Pn**	**01**	**12**	**01.1**	**+3.1**
ECAB	**El Cabril**	**3.14**	**8**	Sn		**Sn**	**01**	**12**	**35.7**	**-2.0**
ECAB				Pn		**Pn**	**01**	**12**	**01.6**	**+1.2**
PCVE	**Castro Verde**	**3.15**	**328**	Sn		**Sn**	**01**	**12**	**36.1**	**-1.7**
PCVE	**Castro Verde**	**3.15**	**328**	*e*S		**Sn**	**01**	**12**	**36.9**	**-0.9**
PBAR	**Barrancos**	**3.32**	**345**	Sn		**Sn**	**01**	**12**	**40.5**	**-1.6**
PBAR				Pn		**Pn**	**01**	**12**	**02.7**	**-0.2**
PBAR	**Barrancos**	**3.32**	**345**	*e*S		**Sn**	**01**	**12**	**40.8**	**-1.3**
EADA	**Adamuz**	**3.39**	**19**	Sn		**Sn**	**01**	**12**	**43.0**	**-0.8**
PTEO	**Sao Teotonio**	**3.41**	**320**	*e*P		**Pn**	**01**	**12**	**05.0**	**+0.9**
PTEO				*e*S		**Sn**	**01**	**12**	**44.0**	**-0.3**
EBAD	**Badajoz**	**3.88**	**348**	Sn		**Sn**	**01**	**12**	**55.0**	**-0.9**
EBAD				Pn		**Pn**	**01**	**12**	**11.2**	**+0.7**
OUZM	**OUZ**	**4.09**	**190**	P		**Pn**	**01**	**12**	**13.5**	**-0.2**
PESTR	**Estremoz**	**4.11**	**342**	Sn		**Sn**	**01**	**12**	**59.1**	**-2.5**
PESTR	**Estremoz**	**4.11**	**342**	*e*S		**Sn**	**01**	**13**	**01.1**	**-0.4**
TIO	**Tiouine**	**4.17**	**196**	Pn		**Pn**	**01**	**12**	**13.5**	**-1.2**
TIO				Sn		**Sn**	**01**	**12**	**59.5**	**-3.6**
TZRR	**Tazzarine**	**4.18**	**175**	P		**Pn**	**01**	**12**	**13.7**	**-1.1**
PMTG	**Montargil**	**4.48**	**337**	*e*P		**Pn**	**01**	**12**	**20.0**	**+1.2**
TTIG	**Tnine Tigouga,**	**4.87**	**206**	P		**Pn**	**01**	**12**	**23.2**	**-1.1**
PSARD	**Sardoal**	**4.95**	**340**	*e*S		**Sn**	**01**	**13**	**21.0**	**-1.3**
PCBR	**Castelo Branco**	**5.02**	**347**	*e*P		**Pn**	**01**	**12**	**27.2**	**+1.0**
PCBR				*e*S		**Sn**	**01**	**13**	**22.0**	**-1.9**

*SJA **10** 01:32:08.8±0.7,24.19S×67.23W, h187km±3km, ML3.4, MW3.5*
*GUC **10** 01:32:11.0±0.5,24.14S×67.62W, h217km±6km, ML3.6*
ISC 10 01:32:07.3±1.6, 24.19S±0.04×67.25W±0.04, h205km±12km, n38, σ1§33/67, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h	m	s	Res ISC
SALTA		**0.83**	**92**	*e*P		**Pn**	**01**	**32**	**36.9**	**-0.3**
SALTA				IAML			01	32	37.2	
	comp=Z,248nm,1.0s									
SALTA				IAML			01	32	55.4	
	comp=Z,22nm,0.8s									
SALTA				*e*S		**S**	**01**	**32**	**57.5**	**-2.6**
AF01	**San Pedro de A**	**1.50**	**325**	*e*P		**Pn**	**01**	**32**	**42.2**	**+0.4**
AF01				*e*S		**S**	**01**	**33**	**07.4**	**-0.8**
AF01				IAML			01	33	13.8	
	comp=Z,104nm,0.5s									
SLA	**San Lorenzo**	**1.68**	**109**	*e*P		**Pn**	**01**	**32**	**44.2**	**+1.0**
SLA				*e*S		**S**	**01**	**33**	**09.7**	**-1.0**
AZAP	**Zapla**	**2.00**	**91**	*e*P		**Pn**	**01**	**32**	**47.1**	**+0.7**
AZAP				*e*S		**S**	**01**	**33**	**56.6**	**-0.7**
FSA	**Cafayete**	**2.23**	**149**	*e*P		**Pn**	**01**	**32**	**49.6**	**+0.8**
FSA				*e*S		**S**	**01**	**33**	**20.2**	**-0.5**
GO02	**Mina Guanaco**	**2.34**	**245**	*e*P		**Pn**	**01**	**32**	**51.4**	**+1.4**
GO02				*i* S		**S**	**01**	**33**	**23.0**	**+0.2**
GO02	**Mina Guanaco**	**2.34**	**245**	*e*P		**Pn**	**01**	**32**	**51.5**	**+1.5**
GO02				*e*S		**S**	**01**	**33**	**23.0**	**+0.2**
YJA	**Yavi**	**2.56**	**39**	*e*P		**Pn**	**01**	**32**	**54.4**	**+1.6**
YJA				*e*S		**S**	**01**	**33**	**28.1**	**+0.5**
ASTB	**Santa Barbara**	**2.57**	**85**	*e*P		Pn	01	32	45.3	-7.2
PB06	**IPOC Station P**	**2.59**	**304**	*e*P		**Pn**	**01**	**32**	**54.3**	**+1.5**
PB06				*e*S		**S**	**01**	**33**	**26.5**	**-1.0**
PB06				IAML			01	33	28.8	
	comp=N,214nm,0.2s									
PB06	**IPOC Station P**	**2.59**	**304**	*e*P		**Pn**	**01**	**32**	**54.1**	**+1.3**
PB06				*e*S		**S**	**01**	**33**	**27.6**	**0.0**
PB06				IAML			01	33	33.0	
	comp=Z,147nm,0.5s									
PB14	**IPOC Station P**	**2.91**	**261**	*e*P		**Pn**	**01**	**32**	**57.5**	**+1.1**
PB14				*i* S		**S**	**01**	**33**	**33.0**	**-1.1**
PB14				IAML			01	33	36.1	
	comp=E,78nm,0.3s									
PB14	**IPOC Station P**	**2.91**	**261**	*e*P		**Pn**	**01**	**32**	**57.5**	**+1.1**
PB14				*e*S		**S**	**01**	**33**	**33.8**	**-0.4**
PB14				IAML			01	33	38.1	
	comp=Z,78nm,0.5s									
PB09	**IPOC Station P**	**3.01**	**322**	*e*P		**Pn**	**01**	**32**	**59.5**	**+1.9**
PB09				*i* S		**S**	**01**	**33**	**36.4**	**+0.3**
PB09				IAML			01	33	37.2	
	comp=N,162nm,0.4s									
PB09	**IPOC Station P**	**3.01**	**322**	*e*P		**Pn**	**01**	**32**	**59.6**	**+2.1**
PB09				*e*S		**S**	**01**	**33**	**36.9**	**+0.8**
PB09				IAML			01	33	37.1	
	comp=Z,154nm,0.5s									
ALOL	**LOMAS DE OLMED**	**3.01**	**84**	*e*P		**Pn**	**01**	**32**	**58.6**	**+1.2**
PB05	**IPOC Station P**	**3.02**	**296**	*e*P		**Pn**	**01**	**32**	**58.6**	**+1.0**
PB05				*i* S		**S**	**01**	**33**	**34.1**	**-2.1**
PB05				IAML			01	33	38.7	
	comp=E,70nm,0.3s									
PB05	**IPOC Station P**	**3.02**	**296**	*e*P		**Pn**	**01**	**32**	**58.8**	**+1.2**
PB05				*e*S		**S**	**01**	**33**	**36.7**	**+0.5**
PB05				IAML			01	33	39.7	
	comp=Z,37nm,0.2s									
PB10	**IPOC Station P**	**3.10**	**282**	*e*P		**Pn**	**01**	**32**	**59.9**	**+1.5**
PB10				*i* S		**S**	**01**	**33**	**35.3**	**-2.4**
PB10				IAML			01	33	42.9	
	comp=E,63nm,0.3s									
PB10	**IPOC Station P**	**3.10**	**282**	*e*P		**Pn**	**01**	**32**	**59.9**	**+1.5**
PB10				*e*S		**S**	**01**	**33**	**38.8**	**+1.1**
PB10				IAML			01	33	40.5	
	comp=Z,41nm,0.2s									
AC02	**Maricunga**	**3.13**	**212**	*e*P		**Pn**	**01**	**33**	**01.1**	**+1.8**
AC02				*e*S		S	01	33	56.7	+17
PB03	**IPOC Station P**	**3.14**	**312**	*e*P		**Pn**	**01**	**33**	**00.4**	**+1.3**
PB03				*i* S		**S**	**01**	**33**	**37.9**	**-1.0**
PB03				IAML			01	33	39.8	
	comp=N,133nm,0.3s									
PB03	**IPOC Station P**	**3.14**	**312**	*e*P		**Pn**	**01**	**33**	**00.4**	**+1.3**
PB03				*e*S		**S**	**01**	**33**	**37.9**	**-1.0**
PB03				IAML			01	33	40.4	
	comp=Z,133nm,0.3s									
AC01	**Pan de Azucar**	**3.60**	**237**	*e*P		**Pn**	**01**	**33**	**04.9**	**+0.5**
AC01				*i* S		**S**	**01**	**33**	**47.1**	**-1.6**
AC01	**Pan de Azucar**	**3.60**	**237**	*e*P		**Pn**	**01**	**33**	**05.0**	**+0.5**
AC01				*e*S		**S**	**01**	**33**	**47.5**	**-1.2**
AC01				IAML			01	33	48.6	
	comp=Z,67nm,0.3s									
PB01	**IPOC Station P**	**3.75**	**326**	*i* P		**Pn**	**01**	**33**	**07.4**	**+1.0**
PB01				*i* S		**S**	**01**	**33**	**49.6**	**-2.6**
PB01	**IPOC Station P**	**3.75**	**326**	*e*P		**Pn**	**01**	**33**	**07.5**	**+1.1**
PB01				IAML			01	33	53.4	
	comp=Z,66nm,0.4s									
PB02	**IPOC Station P**	**3.76**	**319**	*e*P		**Pn**	**01**	**33**	**07.1**	**+0.7**
PB02				*e*S		**S**	**01**	**33**	**49.3**	**-3.0**
PB02	**IPOC Station P**	**3.76**	**319**	*e*P		**Pn**	**01**	**33**	**07.6**	**+1.1**
PB02				IAML			01	33	56.9	
	comp=Z,196nm,0.3s									
PATCX	**Punta Patache**	**4.29**	**321**	*e*P		**Pn**	**01**	**33**	**13.5**	**+0.4**
PATCX				*i* S		**S**	**01**	**34**	**02.8**	**-1.5**
PATCX	**Punta Patache**	**4.29**	**321**	*e*P		**Pn**	**01**	**33**	**13.8**	**+0.7**
PATCX				*e*S		**S**	**01**	**34**	**01.7**	**-2.6**
PATCX				IAML			01	34	17.3	
	comp=Z,34nm,0.4s									
GO03	**Copiapo**	**4.32**	**218**	*e*P		**Pn**	**01**	**33**	**14.1**	**+0.7**
GO03				*i* S		**S**	**01**	**34**	**03.4**	**-1.5**
PB08	**IPOC Station P**	**4.40**	**336**	*e*P		**Pn**	**01**	**33**	**16.7**	**+2.0**
PB08				*e*S		**S**	**01**	**34**	**06.7**	**-0.4**
PB08				IAML			01	34	09.9	
	comp=Z,19nm,0.2s									
TA01	**Diego Aracena**	**4.51**	**323**	*e*P		**Pn**	**01**	**33**	**16.2**	**+0.5**
TA01				IAML			01	34	18.2	
	comp=Z,24nm,0.4s									
HMBC	**Humberstone**	**4.59**	**327**	*e*P		**Pn**	**01**	**33**	**16.8**	**-0.1**
HMBC				*i* S		**S**	**01**	**34**	**09.2**	**-2.1**
HMBC	**Humberstone**	**4.59**	**327**	*e*P		**Pn**	**01**	**33**	**17.1**	**+0.2**
HMBC				IAML			01	34	17.1	
	comp=Z,53nm,1.6s									
PB11	**IPOC Station P**	**4.94**	**333**	*e*P		**Pn**	**01**	**33**	**21.6**	**+0.3**
PB11				*e*S		**S**	**01**	**34**	**18.0**	**-1.2**
PB11				IAML			01	34	23.1	
	comp=Z,18nm,0.4s									
AC04	**Llanos de Chal**	**5.27**	**220**	*e*P		**Pn**	**01**	**33**	**25.3**	**0.0**
AC04				*e*S		S	01	34	15.5	-11
AC04				IAML			01	34	38.4	
	comp=Z,17nm,0.7s									

*PAS **10** 01:43:02.6±1.6,35.902N±0.008×117.69W±0.01, h2km±2km, Mwr4.0/6, mb3.9/5(NEIC), ML3.9/142(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=76.0*
*NEIC **10** 01:43:02.1±1.6,35.900N±0.007×117.680W±0.004, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.3km az=40.0*
*IDC **10** 01:43:03.1±0.7,35.93N×117.60W, h0km, mb3.7/3, mbtmp3.5/8, ML3.5/5, MS3.0/6, Error ellipse: s-maj=15.8km s-min=5.4km az=73.0*
ISC 10 01:43:03.0±0.9, 35.90N±0.01×117.68W±0.02, h5km±7km, n162, σ0§97/184, mb3.8/5, MS3.4/4, 1C, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h	m	s	Res ISC
CLC	**China Lake**	**0.11**	**140**			**Pg**	**01**	**43**	**05.1**	**-0.2**
CLC				Sg		**Sg**	**01**	**43**	**06.8**	**+0.1**
TOW	**Tower One**	**0.11**	**217**			**Pg**	**01**	**43**	**05.4**	**+0.1**
WVPM	**Volcano Peak E**	**0.12**	**295**			**Pg**	**01**	**43**	**05.2**	**-0.4**
JRC2	**Joshua Ridge**	**0.13**	**309**			**Pg**	**01**	**43**	**05.4**	**-0.4**
WCSM	**Coso Springs S**	**0.15**	**332**			**Pg**	**01**	**43**	**05.5**	**-0.5**
WCSM						**Sg**	**01**	**43**	**07.8**	**-0.2**
WNMM	**Nine Mile Cany**	**0.19**	**253**			**Pg**	**01**	**43**	**06.5**	**-0.2**
WRVM	**Rose V. Centra**	**0.20**	**303**			**Pg**	**01**	**43**	**06.6**	**-0.4**
WRVM						**Sg**	**01**	**43**	**09.9**	**+0.3**
SRTC	**Snort**	**0.21**	**195**			**Pg**	**01**	**43**	**07.4**	**+0.2**
SRTC						**Sg**	**01**	**43**	**11.8**	**+1.9**
MPMC	**Manual Prospec**	**0.22**	**44**	Pg		**Pg**	**01**	**43**	**07.2**	**-0.3**
MPMC				Sg		**Sg**	**01**	**43**	**10.3**	**-0.1**
MPMC				IAML			01	43	10.8	
	comp=E,20μm,0.6s									
MPMC				IAML			01	43	12.3	
	comp=N,31μm,0.7s									
MFS	**McCloud Flat S**	**0.26**	**327**			**Pg**	**01**	**43**	**07.7**	**-0.4**
MFS						**Sg**	**01**	**43**	**11.9**	**+0.3**
LRMC	**Laurel Mtn Rad**	**0.42**	**180**	Pg		**Pg**	**01**	**43**	**10.7**	**-0.4**
LRMC				Sg		**Sg**	**01**	**43**	**16.8**	**+0.2**
LRMC				IAML			01	43	18.1	
	comp=E,10μm,0.6s									
LRMC				IAML			01	43	18.1	
	comp=N,7μm,0.6s									
CCCA	**Chr Cany lake**	**0.45**	**145**	Pg		**Pg**	**01**	**43**	**11.8**	**+0.1**
CCCA				Sg		**Sb**	**01**	**43**	**19.0**	**-1.6**
WORM	**Onyx Ranch**	**0.50**	**246**			**Pg**	**01**	**43**	**12.0**	**-0.6**
WORM						**Sg**	**01**	**43**	**18.7**	**-0.3**
WBSM	**Bird Springs**	**0.52**	**226**			**Pg**	**01**	**43**	**12.6**	**-0.4**
WBSM						**Sg**	**01**	**43**	**19.9**	**+0.1**
WHFM	**Hanning Flat**	**0.58**	**250**			**Pg**	**01**	**43**	**13.6**	**-0.6**
WHFM						**Sg**	**01**	**43**	**21.3**	**-0.3**
CWC	**Cottonwood Cre**	**0.63**	**329**	Pg		**Pg**	**01**	**43**	**14.4**	**-0.8**
CWC				Sg		**Sg**	**01**	**43**	**23.3**	**-0.1**
DTP	**Desert Tortois**	**0.64**	**192**			**Pg**	**01**	**43**	**14.8**	**-0.6

ELS	**Elsinore Mount**	**2.25**	**175**	Pn	**Pn**	**01 43 40.2**	**-0.9**
ELS				IAML		01 44 17.8	
	comp=E,571nm,0.8s						
ELS				IAML		01 44 18.4	
	comp=N,479nm,0.9s						
HMTC	**Hemet**	**2.25**	**165**		**Pn**	**01 43 40.8**	**-0.3**
V12A	**Nelson**	**2.31**	**93**	Pn	**Pn**	**01 43 40.6**	**-1.2**
V12A				IAML		01 44 18.5	
	comp=N,1μm,0.6s						
V12A				IAML		01 44 27.8	
	comp=E,674nm,0.9s						
DGR	**Domenigoni Val**	**2.31**	**166**		**Pn**	**01 43 41.3**	**-0.5**
S11A	**Rachel**	**2.33**	**41**	Pn	**Pn**	**01 43 41.6**	**-0.6**
S11A				IAML		01 44 24.5	
	comp=N,1μm,1.2s						
S11A				IAML		01 44 27.3	
	comp=E,1μm,1.2s						
BACC	**Bachelor Mtn.**	**2.34**	**167**		**Pn**	**01 43 41.7**	**-0.6**
PSMM	**Smith Mountain**	**2.37**	**275**		**Pn**	**01 43 44.0**	**+1.3**
LHV	**Little Huntoon**	**2.44**	**345**	Pn	**Pn**	**01 43 43.4**	**-0.2**
LHV				IAML		01 44 27.2	
	comp=E,535nm,1.1s						
LHV				IAML		01 44 36.1	
	comp=N,451nm,2.1s						
PMD	**Palm Desert**	**2.49**	**154**	Pn	**Pn**	**01 43 43.0**	**-1.2**
PMD				IAML		01 44 27.5	
	comp=E,372nm,1.0s						
PMD				IAML		01 44 28.3	
	comp=N,345nm,1.1s						
PFO	**Pinyon Flats O**	**2.49**	**156**	Pn	**Pn**	**01 43 43.5**	**-0.9**
PFO				IAML		01 44 28.8	
	comp=N,417nm,1.1s						
PFO				IAML		01 44 30.7	
	comp=N,321nm,0.8s						
PFO	**Pinyon Flats O**	**2.49**	**156**	Pn	**Pn**	**01 43 43.5**	**-0.9**
	comp=N,2.6nm,0.3s,baz=340,slow=14,SNR=19						
PFO				Pg	**Pg**	**01 43 49.6**	**-1.2**
	comp=N,28nm,0.3s,baz=334,slow=14,SNR=72						
PFO				Lg	Lg	01 44 21.9	
	comp=N,74nm,0.3s,baz=51,slow=14,SNR=12						
PFO				LR	LR	01 44 45.0	
	comp=N,289nm,20.4s,baz=340,slow=41						
	comp=N,5.6nm,0.3s						
SNDA	**J Saunders Pla**	**2.50**	**159**		**Pn**	**01 43 44.1**	**-0.4**
NV11	**Mina Array Sit**	**2.56**	**352**	Pn	**Pn**	**01 43 45.0**	**-0.3**
NVAR	**Mina Array Bea**	**2.58**	**349**	Pn	**Pn**	**01 43 45.0**	**-0.6**
NVAR	**Mina Array Bea**	**2.58**	**349**	Pn	**Pn**	**01 43 45.8**	**+0.1**
	comp=N,3.2nm,0.3s,baz=172,slow=14,SNR=106						
NVAR				Pg	**Pg**	**01 43 51.3**	**-1.1**
	comp=N,32nm,0.3s,baz=175,slow=19,SNR=52						
NVAR				Lg	Lg	01 44 23.7	
	comp=N,19nm,0.3s,baz=162,slow=33,SNR=8.1						
	comp=N,16nm,0.6s						
PRN	**Pahroc Range**	**2.60**	**54**	Pn	**Pn**	**01 43 45.4**	**-0.5**
PRN				IAML		01 44 34.3	
	comp=N,788nm,0.8s						
PLM	**Palomar**	**2.63**	**165**		**Pn**	**01 43 45.9**	**-0.4**
MYLM	**Yosemite Lake**	**2.66**	**305**		**Pb**	**01 43 50.1**	**-1.0**
NEE2	**Needles Airpor**	**2.75**	**113**	Pn	**Pn**	**01 43 47.1**	**-0.7**
BBGB	**Big Mountain B**	**2.80**	**285**	Pn	**Pn**	**01 43 48.5**	**-0.1**
RYN	**Ryan**	**2.81**	**346**	Pn	**Pn**	**01 43 48.8**	**0.0**
BORC	**Borrego Spring**	**2.82**	**158**	Pn	**Pn**	**01 43 48.1**	**-0.8**
BORC				IAML		01 44 42.7	
	comp=E,542nm,1.4s						
BORC				IAML		01 44 44.4	
	comp=N,478nm,0.8s						
MATG	**Mataguay Scout**	**2.82**	**162**		**Pn**	**01 43 48.6**	**-0.3**
DPP	**Dos Picos Cty**	**2.96**	**168**	Pn	**Pn**	**01 43 49.9**	**-0.8**
DPP				IAML		01 44 39.1	
	comp=E,344nm,0.9s						
Q09A	**Carvers**	**2.96**	**8**	Pn	**Pn**	**01 43 51.0**	**+0.1**
Q09A				IAML		01 44 44.8	
	comp=N,589nm,0.7s						
R11B	**Troy Canyon, C**	**2.96**	**34**	Pn	**Pn**	**01 43 50.0**	**-1.0**
W13A	**Hualapai Mount**	**3.20**	**103**	Pn	**Pn**	**01 43 52.9**	**-1.3**
W13A				IAML		01 44 46.2	
	comp=E,215nm,1.3s						
W13A				IAML		01 44 51.1	
	comp=N,326nm,0.9s						
BLYC	**Blythe**	**3.37**	**129**	Pn	**Pn**	**01 43 54.3**	**-2.0**
BLYC				IAML		01 44 54.8	
	comp=E,385nm,0.7s						
BLYC				IAML		01 44 55.1	
	comp=N,369nm,0.9s						
TJX	**Tijuana**	**3.42**	**171**	Pn	**Pn**	**01 43 57.1**	**+0.1**
YUH	**Yuha Desert**	**3.55**	**155**	Pn	**Pn**	**01 43 57.5**	**-1.4**
CBX	**Cerro Bola**	**3.67**	**166**	Pn	**Pn**	**01 43 60.0**	**-0.7**
GLA	**Glamis**	**3.69**	**139**	Pn	**Pn**	**01 43 58.5**	**-2.3**
GLA				IAML		01 45 06.3	
	comp=N,373nm,0.7s						
LCMT	**Little Creek M**	**3.75**	**71**	Pn	**Pn**	**01 44 01.7**	**0.0**
CCUT	**Cedar City**	**3.84**	**63**	Pn	**Pn**	**01 44 03.3**	**+0.2**
CCUT				IAML		01 45 17.3	
	comp=N,110nm,1.4s						
CCUT				IAML		01 45 17.4	
	comp=E,130nm,2.3s						
AFDM	**Forest Hills D**	**4.02**	**320**	Pn	**Pn**	**01 44 05.0**	**-0.3**
AFDM				IAML		01 45 13.2	
	comp=E,162nm,1.3s						
AFDM				IAML		01 45 16.7	
	comp=N,149nm,1.6s						
PSUT	**Pine Spring**	**4.03**	**48**	Pn	**Pn**	**01 44 05.3**	**-0.4**
PSUT				IAML		01 45 20.1	
	comp=N,184nm,1.1s						
SZCU	**Shurtz Canyon**	**4.06**	**64**	Pn	**Pn**	**01 44 05.9**	**-0.1**
KNB	**Kanab**	**4.07**	**73**	Pn	**Pn**	**01 44 06.2**	**0.0**
KNB				IAML		01 45 25.1	
	comp=N,152nm,1.0s						
KNB				IAML		01 45 29.8	
	comp=E,138nm,2.1s						
SPR3	**Spring Creek 3**	**4.08**	**40**	Pn	**Pn**	**01 44 05.1**	**-1.4**
SPR3				IAML		01 45 12.5	
	comp=E,105nm,0.8s						
SPR3				IAML		01 45 26.0	
	comp=N,100nm,1.3s						
ESJX	**Sierra Juarez**	**4.14**	**159**	Pn	**Pn**	**01 44 06.7**	**-0.4**
ESJX				IAML		01 45 19.7	
	comp=E,144nm,1.5s						
ESJX				IAML		01 45 24.1	
	comp=N,128nm,1.1s						
Y14A	**Wickenburg**	**4.31**	**116**	Pn	**Pn**	**01 44 08.1**	**-1.3**
Y14A				IAML		01 45 28.4	
	comp=E,206nm,0.8s						
113A	**Mohawk Valley,**	**4.50**	**133**	Pn	**Pn**	**01 44 11.8**	**0.0**
113A				IAML		01 45 33.0	
	comp=N,78nm,1.1s						
113A				IAML		01 45 33.0	
	comp=E,88nm,1.2s						
ELK	**Elko**	**5.21**	**21**	Pn	**Pn**	**01 44 22.0**	**+0.1**
ELK	**Elko**	**5.21**	**21**	Pn	**Pn**	**01 44 22.1**	**+0.3**
	comp=E,1.0nm,0.3s,baz=196,slow=11,SNR=18						
ELK				Pg	**Pb**	**01 44 37.5**	**+2.8**
	comp=E,0.4nm,0.3s,baz=228,slow=8.1,SNR=10						
ELK				Lg	Lg	01 45 44.9	
	comp=E,2.1nm,0.3s,baz=308,slow=5.5,SNR=3.0						
	comp=E,3.4nm,0.4s						
X16A	**Lo Mia Camp, P**	**5.32**	**104**	Pn	**Pn**	**01 44 23.4**	**0.0**
X16A				IAML		01 45 56.2	
	comp=N,49nm,1.6s						
X16A				IAML		01 46 08.3	
	comp=E,63nm,1.6s						
214A	**Organ Pipe Nat**	**5.64**	**133**	Pn	Pn	01 44 22.7	-4.9
DUG	**Dugway, Tooele**	**5.76**	**40**	Pn	**Pn**	**01 44 30.1**	**+0.8**
HMU	**Henry Mountain**	**5.92**	**68**	Pn	**Pn**	**01 44 31.9**	**+0.2**
TMUT	**Trail Mountain**	**6.16**	**55**	Pn	**Pn**	**01 44 36.0**	**+1.0**
BGU	**Big Grassy Mou**	**6.21**	**35**	Pn	**Pn**	**01 44 37.5**	**+2.0**
X18A	**Snowflake**	**6.47**	**100**	Pn	**Pn**	**01 44 39.5**	**+0.3**
SRU	**San Rafael Swe**	**6.53**	**58**	Pn	**Pn**	**01 44 41.5**	**+1.5**
JLU	**Jordanelle**	**6.79**	**44**	Pn	**Pn**	**01 44 44.7**	**+1.1**
HVU	**Hansel Valley**	**7.01**	**32**	Pn	**Pn**	**01 44 47.6**	**+1.1**
YBH	**Yreka Blue Hor**	**7.02**	**328**	Pn	**Pn**	**01 44 47.4**	**+0.7**
	baz=181,slow=9.5,SNR=1.7						
YBH				Lg	Lg	01 46 43.1	
	baz=182,slow=8.6,SNR=4.1						
YBH				LR	LR	01 47 33.0	
	comp=E,14nm,21.1s,baz=162,slow=38						
PV10	**Paradox Valley**	**7.33**	**68**	Pn	**Pn**	**01 44 51.3**	**+0.3**
PV19	**Morning Glory**	**7.36**	**68**	Pn	**Pn**	**01 44 48.7**	**-2.6**
PV23	**Carpenter Ridg**	**7.38**	**67**	Pn	**Pn**	**01 44 53.3**	**+1.6**
PV20	**West Nyswonger**	**7.38**	**68**	Pn	**Pn**	**01 44 52.9**	**+1.2**
PV18	**Skein Mesa, Pa**	**7.39**	**69**	Pn	**Pn**	**01 44 52.6**	**+0.8**
PV16	**Nyswonger Mesa**	**7.41**	**68**	Pn	**Pn**	**01 44 54.1**	**+2.0**
PV13	**Radium Mtn., P**	**7.44**	**70**	Pn	**Pn**	**01 44 53.6**	**+1.1**
PV03	**Paradox Valley**	**7.44**	**69**	Pn	**Pn**	**01 44 53.5**	**+1.0**
PV12	**Saucer Basin,**	**7.49**	**69**	Pn	**Pn**	**01 44 54.9**	**+1.7**
PV22	**Blue Mesa, Par**	**7.57**	**67**	Pn	**Pn**	**01 44 56.5**	**+2.3**
PV01	**Paradox Valley**	**7.62**	**70**	Pn	**Pn**	**01 44 56.1**	**+1.1**
PV07	**Paradox Valley**	**7.64**	**68**	Pn	**Pn**	**01 44 56.1**	**+0.8**
ANMO	**Albuquerque**	**9.21**	**93**	Pg	Pn	01 45 51.8	+35
	comp=E,0.3nm,0.3s,baz=9.3,slow=12,SNR=17						
ANMO				Lg	Lg	01 47 47.8	
	comp=E,0.3nm,0.3s,baz=108,slow=20,SNR=6.1						
PDAR	**Pinedale Array**	**9.30**	**40**	Pn	**Pn**	**01 45 20.4**	**+2.4**
	comp=E,0.1nm,0.3s,baz=233,slow=12,SNR=6.6						
	comp=E,0.5nm,0.5s						
LOHW	**Long Hollow**	**9.43**	**33**	Pn	**Pn**	**01 45 22.0**	**+2.2**
MCMT	**McKenzie Canyo**	**9.65**	**21**	Pn	**Pn**	**01 45 23.0**	**+0.2**
SDCO	**Great Sand Dun**	**9.94**	**76**	Pn	**Pn**	**01 45 29.9**	**+3.1**
MNTX	**Cornudas Mount**	**11.05**	**109**	Pn	**Pn**	**01 45 41.1**	**-0.8**
TXAR	**Lajitas Array**	**13.50**	**115**	Pn	**Pn**	**01 46 15.4**	**+0.1**
TXAR	**Lajitas Array**	**13.50**	**115**	Pn	**Pn**	**01 46 16.8**	**+1.5**
	comp=E,0.1nm,0.3s,baz=294,slow=12,SNR=6.8						
TXAR				Lg	Lg	01 50 05.0	
	baz=296,slow=29,SNR=8.6						
	comp=E,0.2nm,0.5s						
SMWD	**Samnorwood**	**14.23**	**88**	P	**P**	**01 46 32.2**	**-0.6**
KAN09	**Caldwell North**	**16.18**	**80**	Pn	**Pn**	**01 46 50.2**	**-1.0**
TUL3	**Leonard**	**17.73**	**84**		**P**	**01 47 11.6**	**-0.1**
TUL3				IAmb	IAmb	01 47 14.4	
	comp=Z,7.1nm,0.8s						
MIAR	**Mount Ida**	**19.73**	**87**	P	**P**	**01 47 33.9**	**+0.3**
MIAR				IAmb	IAmb	01 47 43.4	
	comp=Z,8.6nm,1.2s						
ULM	**Lac du Bonnet**	**21.33**	**41**	P	**P**	**01 47 50.9**	**+0.1**
ULM	**Lac du Bonnet**	**21.33**	**41**	P	**P**	**01 47 49.5**	**-1.2**
	comp=Z,2.5nm,0.9s,baz=204,slow=8.8,SNR=4.2						
	comp=Z,2.5nm,0.9s						
FFC	**Flin Flon**	**21.73**	**25**	P	**P**	**01 47 54.9**	**-0.2**
FFC				IAmb	IAmb	01 47 59.3	
	comp=Z,3.7nm,0.8s						
DLBC	**Dease Lake**	**23.98**	**344**	LR	LR	01 57 25.7	
	comp=Z,8.5nm,21.9s,baz=190,slow=36						
ILAR	**Eielson Array**	**33.78**	**338**	P	**P**	**01 49 46.6**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=152,slow=6.6,SNR=5.9						
ILAR				LR	LR	02 02 32.3	
	comp=Z,58nm,19.7s,baz=243,slow=35						
	comp=Z,0.6nm,0.9s						
JTS	**Las Juntas de**	**39.12**	**123**	LR	LR	02 08 25.5	
	comp=Z,77nm,19.0s,baz=314,slow=39						
SEY	**Seymchan**	**58.70**	**328**	LR	LR	02 15 53.6	
	comp=Z,45nm,18.4s,baz=278,slow=34						
PETK	**Petropavlovsk-**	**59.23**	**316**	P	**P**	**01 53 06.8**	**+1.6**
	comp=Z,1.3nm,0.6s,baz=70,slow=9.5,SNR=3.2						
	comp=Z,1.3nm,0.6s						
BNX	**BinXian**	**79.80**	**320**	⇑P	**P**	**01 55 11.9**	**-0.4**
BNX				pmax	pmax		
	comp=Z,6.0nm,1.7s						

IDC 10 01:43:11.3±3.2, 9.93S×119.58E, h0km, mb3.4/1, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=265.6km s-min=30.6km az=50.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.38**	**127**	P	Pn	01 47 15.7	+0.3
	0.1nm,0.3s,baz=300,slow=13,SNR=5.8						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**19.33**	**137**	P	P	01 47 38.4	0.0
	0.1nm,0.3s,baz=317,slow=12,SNR=6.9						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**65.54**	**333**	P	P	01 53 56.7	0.0
	0.3nm,0.6s,baz=134,slow=6.2,SNR=3.5						
	0.3nm,0.6s						

*UCR **10** 01:47:32.1±0.6, 8.33N×82.85W, h26km±2km, MW3.6, Fault plane solution: NP1:ϕs166.51000°, δ55.15000°, λ83.90000°.*
*UPA **10** 01:47:33.2±0.9, 8.41N×82.82W, h20km±2km, ML3.9, MW3.9*
*CATAC **10** 01:47:34.0±0.8, 8.7N±4.7×8.7W±7.7, h12km±2km, M3.6/9, MLv3.6/9, Error ellipse: s-maj=10.2km s-min=5.8km az=154.0, confirmed*

ISC 10 01:47:32.9±0.9, 8.46N±0.04×82.81W±0.02, h31km±5km, n63, σ0.99/90, 3C-14D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.06**	**158**	*eP*	**Pb**	**01 47 37.2**	**-1.1**
LESP3				AMP		01 47 37.3	
	comp=Z,22μm,0.1s						
LESP3				*eS*	**Sb**	**01 47 40.0**	**-1.8**
LPPC	**Paso Canoas**	**0.07**	**340**	*ePi*	**Pb**	**01 47 37.9**	**-0.4**
LPPC				*eS*	**Sb**	**01 47 42.0**	**0.0**
CDITO	**Canoas**	**0.12**	**332**	P	**Pn**	**01 47 38.4**	**-0.4**
CDITO	**Canoas**	**0.12**	**332**	S	**Sb**	**01 47 43.2**	**+0.7**
NELY	**Ciudad Neily**	**0.23**	**325**	*ePi*	**Pn**	**01 47 39.6**	**-0.6**
NELY				*eS*	**Sb**	**01 47 45.1**	**+1.0**
PRISO	**Paraso**	**0.30**	**48**	*ePi*	**Pn**	**01 47 41.1**	**-0.1**
MLIR3	**Monte Lirio, C**	**0.33**	**358**	*eP*	**Pn**	**01 47 42.4**	**+0.7**
MLIR3				*eS*	**Sn**	**01 47 47.8**	**+0.3**
CLLRA	**Cordillera,**	**0.34**	**35**	*ePi*	**Pn**	**01 47 41.9**	**-0.1**
BRU2	**Volcan**	**0.35**	**20**	*ePi*	**Pn**	**01 47 42.1**	**+0.1**
BRU2				*eS*	**Sn**	**01 47 49.4**	**+1.4**
BRU2	**Volcan**	**0.35**	**20**	*eP*	**Pn**	**01 47 42.1**	**+0.1**
BRU2				*eS*	**Sn**	**01 47 49.4**	**+1.4**
BRU2	**Volcan**	**0.35**	**20**	P	**Pn**	**01 47 42.2**	**+0.1**
RSRNO	**Rio Sereno**	**0.36**	**352**	*eP*	**Pn**	**01 47 43.0**	**+0.9**
DVD	**David**	**0.36**	**94**	*eP*	**Pb**	**01 47 41.0**	**-0.3**
DVD				AMP		01 47 41.3	
	comp=Z,18μm,0.1s						
DVD				*eS*	**Sn**	**01 47 47.2**	**-0.9**
TBS2		**0.36**	**25**	*ePi*	**Pn**	**01 47 43.1**	**+0.9**
SCLRA	**Santa Clara, W**	**0.37**	**5**	*ePi*	**Pn**	**01 47 42.5**	**+0.2**
CSTBL	**De las Acacias**	**0.37**	**98**	*ePi*	**Pb**	**01 47 41.0**	**-0.5**
CSTBL				*eS*	**Sb**	**01 47 46.9**	**-0.5**
VITO	**San Vito**	**0.39**	**336**	*eP*	**Pn**	**01 47 42.7**	**+0.2**
PTAR3	**Potrerillos Ar**	**0.39**	**54**	*eP*	**Pn**	**01 47 42.2**	**-0.3**
PTAR3				*eS*	**Sn**	**01 47 49.0**	**+0.1**
LOCO3	**Loma Colorada,**	**0.39**	**97**	*eP*	**Pb**	**01 47 41.5**	**-0.3**
LOCO3				*eS*	**Sb**	**01 47 47.8**	**-0.1**
PEDE3	**Pedregal, Chir**	**0.40**	**101**	*eP*	**Pb**	**01 47 41.1**	**-0.7**
PEDE3				*eS*	**Sb**	**01 47 47.5**	**-0.4**
EDAD	**Golfito**	**0.40**	**298**	*ePi*	**Pb**	**01 47 40.7**	**-1.2**
BC3P	**Paso Ancho**	**0.41**	**30**	*eP*	**Pn**	**01 47 42.7**	**-0.1**
BC3P				*eS*	**Sn**	**01 47 51.0**	**+1.6**
LOMA3	**Las Lomas, Chi**	**0.42**	**94**	*eP*	**Pb**	**01 47 41.8**	**-0.4**
LOMA3				*eS*	**Sn**	**01 47 48.7**	**-0.8**
BQTLY	**Boquete Panama**	**0.46**	**50**	*ePi*	**Pn**	**01 47 43.2**	**-0.3**
BQSF3	**Alto Boquete,**	**0.47**	**53**	*eP*	**Pn**	**01 47 43.3**	**-0.3**
BQSF3				*eS*	**Sn**	**01 47 50.3**	**-0.6**
CHIR3	**Chiriqui UPA,**	**0.48**	**98**	*eP*	**Pb**	**01 47 42.6**	**-0.6**
CHIR3				AMP		01 47 43.3	
	comp=Z,7μm,0.1s						
CHIR3				*eS*	**Sb**	**01 47 50.1**	**-0.1**
ALCO	**Alturas Coton,**	**0.48**	**358**	*eP*	**Pn**	**01 47 43.8**	**-0.1**
PTJ1	**Puerto Jimnez**	**0.49**	**279**	*eP*	**Pb**	**01 47 42.1**	**-1.2**
PTJ1	**Puerto Jimnez**	**0.49**	**279**	*eP*	**Pb**	**01 47 42.5**	**-0.7**
PTJ1				*eS*	**Sb**	**01 47 50.1**	**-0.2**
PTJ1	**Puerto Jimnez**	**0.49**	**279**	P	**Pb**	**01 47 42.5**	**-0.7**
PTJ1	**Puerto Jimnez**	**0.49**	**279**	S	**Sn**	**01 47 51.6**	**+0.4**
LNBQ3	**Los Naranjos,**	**0.49**	**48**	*eP*	**Pn**	**01 47 43.5**	**-0.4**
LNBQ3				*eS*	**Sn**	**01 47 52.3**	**+0.8**
PSOM3	**Paja de Sombre**	**0.53**	**65**	*eP*	**Pn**	**01 47 43.8**	**-0.6**
PSOM3				*eS*	**Sn**	**01 47 52.7**	**+0.3**
EDP2	**Potrero Grande**	**0.66**	**327**	*ePi*	**Pn**	**01 47 46.5**	**+0.4**
PBNVO	**Pueblo Nuevo,**	**0.75**	**55**	*ePi*	**Pn**	**01 47 47.1**	**-0.2**
RBALA	**Bur**	**0.77**	**58**	*ePi*	**Pn**	**01 47 47.9**	**+0.2**
DRK0	**Durika**	**0.90**	**332**	*i P*	**Pn**	**01 47 49.9**	**+0.2**
DRK0	**Durika**	**0.90**	**332**	*eP*	**Pn**	**01 47 50.1**	**+0.4**
DRK0				*eS*	**Sn**	**01 48 02.8**	**+1.1**
DRK0	**Durika**	**0.90**	**332**	P	**Pn**	**01 47 50.1**	**+0.4**
DRK0	**Durika**	**0.90**	**332**	S	**Sb**	**01 48 01.1**	**-0.9**
RMDIO	**Remedios, Chir**	**1.00**	**103**	*ePi*	**Pn**	**01 47 50.4**	**-0.4**
EDPE	**Pejibaye, P**	**1.02**	**313**	*eP*	**Pb**	**01 47 51.4**	**-0.7**
OCHAL	**Ojochal**	**1.04**	**308**	P	**Pn**	**01 47 51.5**	**+0.2**
OCHAL	**Ojochal**	**1.04**	**308**	S	**Sn**	**01 48 07.1**	**+2.3**
KKNTU	**Kakint²**	**1.06**	**69**	*ePi*	**Pn**	**01 47 51.5**	**-0.2**
SAJE	**San Jernim**	**1.11**	**322**	*ePi*	**Pn**	**01 47 52.6**	**0.0**
PDCAN	**Manzana , Fuen**	**1.12**	**99**	*eP*	**Pn**	**01 47 52.0**	**-0.5**
PIEC	**Cerro El Cedra**	**1.61**	**316**	*ePi*	**Pn**	**01 48 00.5**	**+1.0**
GMAL	**Guarumal, Vera**	**1.71**	**114**	*eP*	**Pn**	**01 48 00.7**	**+0.1**
GMAL				*eS*	**Sn**	**01 48 21.5**	**+0.1**
LCR2	**La Lucha 2**	**1.73**	**317**	P	**Pb**	**01 48 02.4**	**-1.8**
CVTQ	**Turrialba Volc**	**1.80**	**329**	*eP*	**Pb**	**01 48 04.4**	**-1.1**
STIA3	**Santiago, Vera**	**1.86**	**101**	*eP*	**Pn**	**01 48 03.0**	**+0.4**
CALO3	**Calobre, Verag**	**1.96**	**94**	*eP*	**Pn**	**01 48 05.5**	**+1.5**
CALO3				*eS*	**Sn**	**01 48 28.7**	**+1.2**
MARI3	**Mariato, Verag**	**1.98**	**114**	*eP*	**Pn**	**01 48 05.7**	**+1.5**
MARI3				*eS*	**Sn**	**01 48 28.7**	**+0.7**
CRIS3	**El Cristo, Coc**	**2.18**	**95**	*eP*	**Pn**	**01 48 08.2**	**+1.1**
CRIS3				*eS*	**Sn**	**01 48 34.7**	**+1.6**
CACAO	**El Cacao, Verag**	**2.23**	**120**	*eP*	**Pn**	**01 48 08.2**	**+0.5**
CACAO				*eS*	**Sn**	**01 48 34.8**	**+0.6**
TRT2	**Tortugero**	**2.27**	**336**	P	**Pn**	**01 48 10.3**	**+1.9**
AZU	**Azuero**	**2.60**	**105**	*eP*	**Pn**	**01 48 14.4**	**+1.6**
AZU				*eS*	**Sn**	**01 48 44.3**	**+0.9**
SOCE	**Pocosol**	**2.61**	**317**	P	**Pb**	**01 48 16.9**	**-2.2**
COVE	**Coope Vega, Sa**	**2.74**	**325**	P	**Pb**	**01 48 18.7**	**-2.5**
JTS	**Las Juntas de**	**2.79**	**311**	*eP*	**Pn**	**01 48 17.1**	**+1.7**
JTS				*eS*	**Sn**	**01 48 49.8**	**+1.8**
JTS	**Las Juntas de**	**2.79**	**311**	P	**Pb**	**01 48 19.2**	**-2.9**
BCIP	**Isla Barro Col**	**3.02**	**76**	*eP*	**Pn**	**01 48 19.7**	**+1.0**
BCIP				*eS*	**Sn**	**01 48 55.0**	**+1.2**

IDC 10 01:55:49.3±8.1, 15.68S×175.74W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=357.5km s-min=36.8km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.59**	**257**	P	P	02 04 26.8	-0.5
	0.6nm,0.6s,baz=95,slow=7.3,SNR=10						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**47.88**	**252**	P	P	02 04 29.8	+0.2
	3.0nm,0.5s,baz=84,slow=8.0,SNR=42						
	3.0nm,0.5s						
ILAR	**Eielson Array**	**83.17**	**12**	P	P	02 08 16.9	0.0
	0.3nm,0.7s,baz=220,slow=5.2,SNR=5.1						
	0.3nm,0.7s						

*NEIC **10** 02:07:25.6±1.7, 15.64S±0.08×70.1W±0.1, h236km±8km, mb4.3/32, Error ellipse: s-maj=19.7km s-min=11.5km az=100.0*
*IDC **10** 02:07:26.5±1.2, 15.50S×69.72W, h237km±8km, mb3.6/8, mbtmp4.0/10, Error ellipse: s-maj=22.1km s-min=16.3km az=90.0*

ISC 10 02:07:24.5±0.5, 15.57S±0.06×69.95W±0.10, h224km, n69, σ1.06/68, mb4.2/17, 1C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.89**	**113**		Pn	02 08 07.6	+3.1
LPAZ	**La Paz**	**1.89**	**113**	P	Pn	02 08 07.7	+3.2
	294nm,0.3s,baz=336,slow=7.2,SNR=3661						
LPAZ				S	**S**	**02 08 37.0**	**+1.5**
	109nm,0.5s,baz=197,slow=21,SNR=28						
PB18	**Visviri**	**2.06**	**168**	Pn	**Pn**	**02 08 09.5**	**+3.5**
PB16	**IPOC Station P**	**2.78**	**171**	Pn	**Pn**	**02 08 16.0**	**+2.3**
AP01	**Chacalluta**	**2.81**	**188**	Pn	**Pn**	**02 08 14.3**	**+1.0**
AP01	**Chacalluta**	**2.81**	**188**	*eP*	**Pn**	**02 08 14.4**	**+1.0**
AP01				*eS*	**S**	**02 08 50.3**	**-1.3**
AP01				IAML		02 08 52.1	
	comp=E,622nm,0.3s						
GO01	**Chusmiza**	**4.14**	**170**	Pn	**Pn**	**02 08 30.9**	**+1.5**
PB11	**IPOC Station P**	**4.18**	**176**	Pn	**Pn**	**02 08 29.8**	**+0.2**
PB11	**IPOC Station P**	**4.18**	**176**	⇑P	**Pn**	**02 08 30.0**	**+0.4**
PB08	**IPOC Station P**	**4.61**	**171**	Pn	**Pn**	**02 08 36.1**	**+1.0**
TA02	**Huaiquique**	**4.68**	**182**	Pn	**Pn**	**02 08 34.6**	**-0.9**
HMBC	**Humberstone**	**4.69**	**179**	Pn	**Pn**	**02 08 35.4**	**-0.4**
TA01	**Diego Aracena**	**4.98**	**183**	Pn	**Pn**	**02 08 38.4**	**-0.8**
PATCX	**Punta Patache**	**5.23**	**182**	Pn	**Pn**	**02 08 42.1**	**-0.4**
PB02	**IPOC Station P**	**5.72**	**180**	Pn	**Pn**	**02 08 48.3**	**-0.4**
PB09	**IPOC Station P**	**6.23**	**174**	Pn	**Pn**	**02 08 55.2**	**0.0**
PB03	**IPOC Station P**	**6.45**	**178**	Pn	**Pn**	**02 08 57.3**	**-0.8**

QSPA	**South Pole Qui**	**74.59**	**180**	P		**P**	**02 18 39.9**	**+1.1**
QSPA	**South Pole Qui**	**74.59**	**180**	P		**P**	**02 18 40.0**	**+1.2**
	comp=Z,1.2nm,0.9s,baz=149,slow=0.7,SNR=7.2							
	comp=Z,1.2nm,0.9s							
TORD	**Torodi Ar. Bea**	**76.38**	**72**	P		**P**	**02 18 48.2**	**-1.6**
TORD	**Torodi Ar. Bea**	**76.38**	**72**	P		**P**	**02 18 49.2**	**-0.6**
	comp=Z,2.8nm,0.5s,baz=267,slow=6.2,SNR=3.6							
	comp=Z,2.8nm,0.5s							
WRA	**Warramunga Arr**	**137.39**	**215**	PKP		**PKiKP**	**02 26 23.7**	**-0.5**
	comp=Z,0.8nm,1.0s,baz=132,slow=1.8,SNR=4.6							
SONM	**Songino Array**	**147.68**	**5**	PKPbc		**PKiKP**	**02 26 43.5**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=35,slow=0.8,SNR=3.8							

ISC 10 02:14:01.2±1.5, 26°69N±0°06×110°99W±0°09, h10km, n6, σ0§67/10, 2C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SNIRB	**San Nicol¡s**	**0.52**	**254**	⇑*i*P		**Pb**		**02 14 13.2**	**+0.7**
SNIRB				*e*S		**Sb**		**02 14 20.3**	**+0.1**
NE77	**Loreto B.C.S**	**0.75**	**207**	⇓*i*P		**Pb**		**02 14 16.9**	**+0.6**
NE77				*e*S		**Sb**		**02 14 27.2**	**+0.6**
NE77				IAML				02 14 28.5	
	comp=E,3µm,0.3s								
NE77				IAML				02 14 29.2	
	comp=N,2µm,0.3s								
UAGRB	**Rancho Ultima**	**1.15**	**192**	*e*P		**Pb**		**02 14 22.6**	**-0.6**
UAGRB				*e*S		**Sg**		**02 14 37.7**	**-0.4**
GUYB	**Guaymas**	**1.21**	**5**	⇓*e*P		**Pn**		**02 14 24.6**	**+0.3**
SRIG	**Santa Rosalia**	**1.28**	**300**	*e*P		**Pn**		**02 14 24.7**	**-0.5**
SRIG				*e*S		**Sb**		**02 14 41.1**	**-1.0**
SRIG				⇑*e*				02 14 44.7	
SRIG				IAML				02 14 44.7	
	comp=E,758nm,0.5s								
SRIG				IAML				02 14 47.2	
	comp=N,2µm,0.6s								
SRIG				⇓*e*				02 14 47.2	
SFQB	**San Francisqui**	**2.39**	**316**	*e*P		**Pn**		**02 14 40.7**	**+0.3**

*IDC **10** 02:53:55.9±1.2, 36°.30N×28°.65E, h0km, mb3.6/5, mbtmp3.7/12, ML3.4/5, MS3.1/4, Error ellipse: s-maj=23.8km s-min=17.3km az=18.0*
*ISK **10** 02:54:01.8, 36°.18N×28°.57E, h41km±1km, ML3.5/15*
*ATH **10** 02:54:02.1, 36°.18N×28°.60E, h45km±2km, ML3.3/12, Manual Solution by A.Plessa First location: 2019/07/10 02:55:22, This location: 2019/07/10 03:20:45 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*AFAD **10** 02:54:02.9, 36°.19N×28°.54E, h17km±4km, MW3.4*
*NIC **10** 02:54:02.1, 35°.92N×28°.70E, h51km±4km, Ml3.5/14*
*THE **10** 02:54:02.4, 36°N±2°×2°.9E±°, h41km±4km, M3.2/13, MLh3.2/13*
*HLW **10** 02:54:02.0, 36°.00N×28°.71E, h30km±9km, Md4.3, Ml3.8*
*GII **10** 02:54:05.9±0.0, 35°.671N±0°.003×28°.877E±0°.001, h40km, Mws3.4, confirmed*

ISC 10 02:54:00.7±0.8, 36°10N±0°03×28°64E±0°02, h43km±10km, n152, σ1§62/198, mb3.6/5, 2C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.43**	**286**	Pg		**Pn**		**02 54 11.3**	**+0.6**
ARG				Sg		**Sn**		**02 54 18.1**	**+0.4**
ARG	**Arkhangelos**	**0.43**	**286**	P		**Pn**		**02 54 11.3**	**+0.6**
ARG				S		**Sn**		**02 54 18.6**	**+0.9**
ARG	**Arkhangelos**	**0.43**	**286**	P		**Pn**		**02 54 11.3**	**+0.6**
ARG				S		**Sn**		**02 54 18.5**	**+0.8**
ARG	**Arkhangelos**	**0.43**	**286**	P		**Pn**		**02 54 11.3**	**+0.6**
ARG				AML	AML			02 54 18.3	
	3.7nm,0.3s								
ARG				AML	AML			02 54 20.0	
	4.1nm,0.2s								
RODB	**Rodos**	**0.48**	**316**	P		**Pn**		**02 54 12.0**	**+0.6**
RODB				S		**Sn**		**02 54 19.0**	**+0.1**
IZZE	**Mula-Seydike**	**0.58**	**54**	P		**Pn**		**02 54 13.8**	**+1.1**
IZZE				S		**Sn**		**02 54 22.5**	**+1.2**
FETY	**Fethiye**	**0.65**	**34**	Pg		**Pn**		**02 54 14.1**	**+0.5**
FETY	**Fethiye**	**0.65**	**34**	P		**Pn**		**02 54 13.9**	**+0.4**
FETY				S		**Sn**		**02 54 22.7**	**0.0**
FETY	**Fethiye**	**0.65**	**34**	P		**Pn**		**02 54 15.0**	**+1.4**
FETY				S		**Sn**		**02 54 24.8**	**+2.0**
DALY	**Dalyan (Mula)**	**0.72**	**1**	Pg		**Pn**		**02 54 14.8**	**+0.3**
DALY				Sg		**Sn**		**02 54 24.5**	**+0.1**
TURN	**Turunc**	**0.75**	**335**	Pg		**Pn**		**02 54 15.1**	**+0.3**
TURN	**Turunc**	**0.75**	**335**	P		**Pn**		**02 54 15.3**	**+0.5**
TURN				S		**Sn**		**02 54 25.1**	**+0.1**
KSL	**Kastellorizon**	**0.77**	**86**	P		**Pn**		**02 54 17.0**	**+1.9**
KSL				S		**Sn**		**02 54 28.1**	**+2.5**
KSL	**Kastellorizon**	**0.77**	**86**	P		**Pn**		**02 54 17.0**	**+1.9**
KSL				S		**Sn**		**02 54 27.9**	**+2.4**
KSL	**Kastellorizon**	**0.77**	**86**	⇑*i*P		**Pn**		**02 54 17.0**	**+1.9**
KSL				S		**Sn**		**02 54 28.1**	**+2.5**
KSL				AML	AML			02 54 29.4	
	3.4nm,0.4s								
KSL				AML	AML			02 54 29.6	
	2.4nm,0.5s								
SABU	**Mula-Dalaman**	**0.77**	**20**	P		**Pn**		**02 54 15.9**	**+0.7**
SABU				S		**Sn**		**02 54 25.7**	**0.0**
AKAS	**Kas**	**0.80**	**80**	Pg		**Pn**		**02 54 17.4**	**+1.8**
CAME	**Cameli-Denizli**	**1.00**	**32**	Pg		**Pn**		**02 54 19.4**	**+0.9**
CAME				Sg		**Sn**		**02 54 32.4**	**+0.9**
DEMR	**Demre-Antalya**	**1.04**	**82**	Pn		**Pn**		**02 54 21.3**	**+2.5**
DAT	**Datca**	**1.06**	**307**	Pg		**Pn**		**02 54 19.7**	**+0.5**
DAT	**Datca**	**1.06**	**307**	S		**Sn**		**02 54 33.2**	**+0.3**
YAZI	**Mula-Dat§a-**	**1.12**	**302**	P		**Pn**		**02 54 20.5**	**+0.6**
YAZI				S		**Sn**		**02 54 34.2**	**+0.1**
CAEL	**Denizli, Camel**	**1.16**	**28**	P		**Pn**		**02 54 22.2**	**+1.5**
MULA	**Mugla, Merkez-**	**1.19**	**348**	P		**Pn**		**02 54 22.3**	**+1.4**
MULA				S		**Sn**		**02 54 36.7**	**+0.8**
ELL	**Elmali**	**1.22**	**57**	Pn		**Pn**		**02 54 23.2**	**+1.8**
ELL	**Elmali**	**1.22**	**57**	P		**Pn**		**02 54 23.6**	**+2.3**
ELL				S		**Sn**		**02 54 40.7**	**+4.0**
ELL				AML	AML			02 54 42.4	
	5.0nm,0.4s								
ELL				AML	AML			02 54 44.3	
	2.9nm,0.4s								
DNZT	**Denizli-Tavas-**	**1.22**	**15**	P		**Pn**		**02 54 22.7**	**+1.3**
DNZT				S		**Sn**		**02 54 37.8**	**+1.0**
KARP	**Karpathos**	**1.32**	**246**	Pn		**Pn**		**02 54 24.1**	**+1.8**
KARP	**Karpathos**	**1.32**	**246**	P		**Pn**		**02 54 24.5**	**+1.8**
KARP				S		**Sn**		**02 54 41.0**	**+2.0**
KARP	**Karpathos**	**1.32**	**246**	P		**Pn**		**02 54 24.5**	**+1.8**
KARP				S		**Sn**		**02 54 40.5**	**+1.4**
KARP	**Karpathos**	**1.32**	**246**	⇓*i*P		**Pn**		**02 54 24.4**	**+1.8**
KARP				S		**Sn**		**02 54 41.0**	**+2.0**
KARP				AML	AML			02 54 41.7	
	3.1nm,0.2s								
KARP				AML	AML			02 54 43.6	
	3.1nm,0.5s								
NISR	**Nisiros**	**1.32**	**293**	P		**Pn**		**02 54 23.6**	**+0.9**
NISR				S		**Sn**		**02 54 38.6**	**-0.5**
BDRM	**Kayabasi**	**1.36**	**316**	P		**Pn**		**02 54 23.4**	**+0.1**
BDRM				S		**Sn**		**02 54 39.7**	**-0.4**
MLSB	**Milas**	**1.38**	**330**	Pn		**Pn**		**02 54 23.9**	**+0.3**
MLSB				S		**Sn**		**02 54 40.3**	**-0.3**
TAVA	**DENIZLI_Tavas**	**1.39**	**9**	P		**Pn**		**02 54 24.8**	**+1.1**
TAVA				S		**Sn**		**02 54 41.6**	**+0.8**
BODT	**Bodrum**	**1.44**	**312**	Pn		**Pn**		**02 54 24.6**	**+0.3**
BODT				S		**Sn**		**02 54 41.7**	**-0.3**
BODT	**Bodrum**	**1.44**	**312**	P		**Pn**		**02 54 24.6**	**+0.3**
BODT				S		**Sn**		**02 54 41.1**	**-0.8**
APMY	**Acipayam-Deniz**	**1.47**	**21**	Pn		**Pn**		**02 54 26.1**	**+1.2**
YKAV	**Yalikavak-Bodr**	**1.50**	**314**	Pn		**Pn**		**02 54 25.7**	**+0.6**
DNIZ	**Denizli-Tavas-**	**1.56**	**12**	P		**Pn**		**02 54 27.3**	**+1.3**
DNIZ				S		**Sn**		**02 54 45.6**	**+0.5**
KLNA	**Kalymnos**	**1.59**	**303**	P		**Pn**		**02 54 26.4**	**+0.1**
KORT	**Korkueli**	**1.65**	**56**	Pn		**Pn**		**02 54 29.5**	**+2.2**
ESEN	**Aydn-Nazilli**	**1.71**	**352**	P		**Pn**		**02 54 30.6**	**+2.5**
ESEN				S		**Sn**		**02 54 50.7**	**+1.9**
DDIM	**Aydin, Didim**	**1.76**	**321**	P		**Pn**		**02 54 28.9**	**+0.2**
ANTB	**Antalya**	**1.81**	**63**	Pn		**Pn**		**02 54 31.9**	**+2.5**
NAZL	**Nazilli-Aydin**	**1.88**	**352**	Pn		**Pn**		**02 54 31.5**	**+1.1**
ASTA	**Astypalaia**	**1.90**	**284**	P		**Pn**		**02 54 31.0**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.94**	**342**	Pn		**Pn**		**02 54 32.0**	**+0.7**
GCAM	**G?zelcaml?**	**1.96**	**325**	Pn		**Pn**		**02 54 31.8**	**+0.4**
SMG	**Samos**	**2.16**	**319**	P		**Pn**		**02 54 34.3**	**+0.1**
SMG				S		**Sn**		**02 54 58.2**	**-1.6**
SMG	**Samos**	**2.16**	**319**	P		**Pn**		**02 54 34.3**	**+0.1**
ZKR	**Zakros**	**2.20**	**244**	Pn		**Pn**		**02 54 37.1**	**+2.3**
ZKR				Sn		**Sn**		**02 55 02.6**	**+1.8**
ZKR	**Zakros**	**2.20**	**244**	P		**Pn**		**02 54 37.2**	**+2.4**
ZKR	**Zakros**	**2.20**	**244**	P		**Pn**		**02 54 36.9**	**+2.2**
ZKR	**Zakros**	**2.20**	**244**	P		**Pn**		**02 54 37.1**	**+2.3**
ZKR				AML	AML			02 55 02.3	
	1.4nm,0.4s								
ZKR				S		**Sn**		**02 55 03.1**	**+2.3**
ZKR				AML	AML			02 55 04.0	
	0.6nm,0.3s								
ODEM	**Odemis-Izmir**	**2.22**	**349**	Pn		**Pn**		**02 54 36.2**	**+1.1**
ISP	**Isparta**	**2.29**	**41**	P		**Pn**		**02 54 37.4**	**+1.3**
GMLD	**Gumuldur**	**2.41**	**326**	Pn		**Pn**		**02 54 38.1**	**+0.5**
THERA	**Ancient Thera,**	**2.57**	**277**	P		**Pn**		**02 54 40.5**	**+0.7**
THERA	**Ancient Thera,**	**2.57**	**277**	P		**Pn**		**02 54 40.3**	**+0.5**
THR8	**Santorini-Mono**	**2.57**	**278**	P		**Pn**		**02 54 40.5**	**+0.7**
BLCB	**Balcova**	**2.62**	**331**	P		**Pn**		**02 54 40.3**	**-0.1**
THR6	**Thira Island,**	**2.63**	**277**	P		**Pn**		**02 54 41.5**	**+0.9**
THR3	**Thira Island,**	**2.63**	**278**	P		**Pn**		**02 54 41.5**	**+0.8**
CMBO	**Columbo, Santo**	**2.64**	**279**	P		**Pn**		**02 54 41.8**	**+1.0**
CMBO	**Columbo, Santo**	**2.64**	**279**	P		**Pn**		**02 54 41.6**	**+0.9**
THR9	**Santorini-Faro**	**2.66**	**277**	P		**Pn**		**02 54 42.1**	**+1.0**
THR9	**Santorini-Faro**	**2.66**	**277**	P		**Pn**		**02 54 42.1**	**+1.0**
THR5	**Thira Island,**	**2.68**	**278**	P		**Pn**		**02 54 42.4**	**+1.1**
SAP3	**Santorini-Thir**	**2.68**	**278**	P		**Pn**		**02 54 42.5**	**+1.1**
SAP3	**Santorini-Thir**	**2.68**	**278**	P		**Pn**		**02 54 42.2**	**+0.9**
APE	**Apeiranthos**	**2.68**	**292**	P		**Pn**		**02 54 42.1**	**+0.7**
APE	**Apeiranthos**	**2.68**	**292**	P		**Pn**		**02 54 42.3**	**+0.9**
APE	**Apeiranthos**	**2.68**	**292**	P		**Pn**		**02 54 41.8**	**+0.4**
CHOS	**Chios island**	**3.08**	**319**	P		**Pn**		**02 54 46.9**	**+0.1**
CHOS				S		**Sn**		**02 55 21.8**	**-0.6**
CHOS	**Chios island**	**3.08**	**319**	P		**Pn**		**02 54 46.6**	**-0.2**
IDI	**Anoyia**	**3.15**	**256**	P		**Pn**		**02 54 48.9**	**+1.1**
IDI	**Anoyia**	**3.15**	**256**	Pn		**Pn**		**02 54 49.0**	**+1.1**
	22nm,0.2s,baz=26,slow=1.8,SNR=62								
IDI						Sn		**02 55 22.9**	**-1.5**
	18nm,0.3s,baz=321,slow=15,SNR=11								
IDI	**Anoyia**	**3.15**	**256**	P		**Pn**		**02 54 48.8**	**+0.9**
AKMS	**Akamas**	**3.20**	**109**	⇑*i*P		**Pn**		**02 54 49.5**	**+1.0**
AKMS				S		**Sn**		**02 55 25.7**	**+0.2**
AKMS				AML	AML			02 55 27.1	
	1.3nm,0.6s								
AKMS				AML	AML			02 55 31.6	
	0.6nm,0.3s								
ALFC	**Alefka**	**3.36**	**105**	P		**Pn**		**02 54 51.2**	**+0.4**
ALFC				S		**Sn**		**02 55 30.4**	**+1.0**
ALFC				AML	AML			02 55 30.5	
	0.8nm,0.5s								
ALFC				AML	AML			02 55 33.7	
	0.6nm,0.3s								
NATA	**Nata**	**3.47**	**111**	P		**Pn**		**02 54 53.4**	**+1.1**
NATA				S		**Sn**		**02 55 32.4**	**+0.3**
NATA				AML	AML			02 55 38.4	
	1.7nm,0.6s								
NATA				AML	AML			02 55 40.0	
	1.1nm,0.3s								
TROD	**Troodos**	**3.64**	**107**	P		**Pn**		**02 54 55.2**	**+0.5**
TROD				S		**Sn**		**02 55 36.4**	**-0.1**
TROD				AML	AML			02 55 44.9	
	0.3nm,0.6s								
TROD				AML	AML			02 55 47.0	
	0.2nm,0.4s								
APOL	**The Sanctuary**	**3.73**	**111**	P		**Pn**		**02 54 56.8**	**+1.0**
APOL				S		**Sn**		**02 55 39.0**	**+0.4**
APOL				AML	AML			02 55 42.3	
	0.5nm,0.2s								
APOL				AML	AML			02 55 44.5	
	0.5nm,0.2s								
XYLS	**Xyliatos**	**3.76**	**105**	P		**Pn**		**02 54 56.8**	**+0.7**
XYLS				S		**Sn**		**02 55 40.2**	**+1.0**
XYLS				AML	AML			02 55 44.2	
	0.3nm,0.3s								
XYLS				AML	AML			02 55 47.3	
	0.4nm,0.3s								
SIGR	**SIGRI**	**3.81**	**325**	P		**Pn**		**02 54 57.3**	**+0.4**
SIGR				S		**Sn**		**02 55 38.5**	**-1.9**
SIGR	**SIGRI**	**3.81**	**325**	P		**Pn**		**02 54 57.0**	**+0.1**
KARY	**Karystos**	**3.87**	**301**	P		**Pn**		**02 54 58.6**	**+0.9**
GVD	**Gavdhos**	**3.92**	**253**	P		**Pn**		**02 55 00.1**	**+1.7**
ASGA	**Asgata**	**3.99**	**108**	P		**Pn**		**02 55 00.2**	**+0.9**
ASGA				S		**Sn**		**02 55 45.5**	**+0.8**
ASGA				AML	AML			02 55 47.8	
	0.3nm,0.4s								
ASGA				AML	AML			02 55 52.0	
	0.4nm,0.2s								
CSS	**Mathiatis**	**3.99**	**105**	S		**Sn**		**02 55 45.3**	**+0.4**
CSS	**Mathiatis**	**3.99**	**105**	P		**Pn**		**02 54 59.9**	**+0.5**
CSS	**Mathiatis**	**3.99**	**105**	P		**Pn**		**02 55 00.2**	**+0.8**
CSS				S		**Sn**		**02 55 46.2**	**+1.3**
CSS				AML	AML			02 55 51.0	
	0.2nm,0.3s								
CSS				AML	AML			02 55 52.3	
	0.2nm,0.5s								
MVOU	**Mavrovouni**	**4.21**	**103**	P		**Pn**		**02 55 02.8**	**+0.4**
MVOU				S		**Sn**		**02 55 50.5**	**+0.1**
MVOU				AML	AML			02 55 55.1	
	0.2nm,0.5s								
MVOU				AML	AML			02 55 56.9	
	0.2nm,0.3s								
DION	**Dionisos Attik**	**4.25**	**299**	P		**Pn**		**02 55 03.9**	**+1.0**
ANKY	**Antikythira Is**	**4.33**	**269**	P		**Pn**		**02 55 05.3**	**+1.3**
MET4	**Agioi Theodoro**	**4.47**	**291**	P		**Pn**		**02 55 07.5**	**+1.6**
VLI	**Veliai**	**4.64**	**279**	P		**Pn**		**02 55 10.0**	**+1.7**
LIA	**Limnos Island**	**4.67**	**325**	P		**Pn**		**02 55 09.4**	**+0.7**
VIL2	**Platees**	**4.78**	**298**	P		**Pn**		**02 55 10.8**	**+0.6**
MATC	**Matruh**	**4.88**	**194**	P		**Pn**		**02 55 12.4**	**+0.9**
SMTH	**Samothraki Isl**	**5.00**	**332**	P		**Pn**		**02 55 13.9**	**+0.6**
GUR	**Goura**	**5.36**	**292**	P		**Pn**		**02 55 20.4**	**+2.2**
BRTR	**Keskin Array B**	**5.36**	**46**	Pn		**Pn**		**02 55 16.9**	**-1.4**
	0.4nm,0.3s,baz=225,slow=14,SNR=15								
BRTR						Sn		**02 56 13.7**	**-5.2**
	0.6nm,0.3s,baz=211,slow=28,SNR=11								
	0.6nm,0.3s								
SLUM	**Salum**	**5.41**	**213**	P		**Pn**		**02 55 19.7**	**+1.0**
SLUM				S		**Sn**		**02 56 15.0**	**-4.7**
HNTI	**Hanita**	**6.17**	**117**	S		**Sn**		**02 56 36.6**	**-2.0**
HNTI	**Hanita**	**6.17**	**117**	P		**Pn**		**02 55 30.4**	**+1.1**
MMA0B	**Mount Meron ar**	**6.37**	**117**	S		**Sn**		**02 56 41.4**	**-2.3**
MMA0B	**Mount Meron ar**	**6.37**	**117**	P		**Pn**		**02 55 32.6**	**+0.5**
MMAI	**Mount Meron Ar**	**6.37**	**117**	Pn		**Pn**		**02 55 32.5**	**+0.3**
	5.3nm,0.3s,baz=304,slow=11,SNR=44								
MMAI						Sn		**02 56 40.7**	**-2.9**
	24nm,0.3s,baz=289,slow=23,SNR=21								
GEM	**Giv'at Ha'Em**	**6.47**	**114**	S		**Sn**		**02 56 43.4**	**-2.5**
GEM	**Giv'at Ha'Em**	**6.47**	**114**	P		**Pn**		**02 55 33.8**	**+0.4**
NATI	**Neve Ativ**	**6.50**	**114**	S		**Sn**		**02 56 44.1**	**-2.4**
NATI	**Neve Ativ**	**6.50**	**114**	P		**Pn**		**02 55 34.5**	**+0.8**
MMLI	**Mount Malkishu**	**6.70**	**121**	S		**Sn**		**02 56 47.6**	**-4.0**
MMLI	**Mount Malkishu**	**6.70**	**121**	P		**Pn**		**02 55 37.1**	**+0.6**
KOT	**Kottamia**	**6.71**	**156**	P		**Pn**		**02 55 37.5**	**+0.8**
HMDT	**Nahal Hemdat**	**6.88**	**122**	P		**Pn**		**02 55 39.2**	**+0.2**
KZIT	**Kziot**	**7.07**	**135**	S		**Sn**		**02 56 55.1**	**-5.5**
KZIT	**Kziot**	**7.07**	**135**	P		**Pn**		**02 55 42.1**	**+0.5**
RYAN	**Fayoum**	**7.13**	**168**	P		**Pn**		**02 55 42.8**	**+0.4**
YTIR	**Yattir**	**7.17**	**129**	S		**Sn**		**02 56 59.4**	**-3.9**
YTIR	**Yattir**	**7.17**	**129**	P		**Pn**		**02 55 42.3**	**-0.8**
DSI	**Dead Sea**	**7.20**	**127**	S		**Sn**		**02 57 00.7**	**-3.3**
DSI	**Dead Sea**	**7.20**	**127**	P		**Pn**		**02 55 43.8**	**+0.4**
SWA2		**7.34**	**202**	P		**Pn**		**02 55 46.4**	**+1.1**
SWA2				S		**Sn**		**02 57 03.0**	**-4.3**
MSBI	**Mazada**	**7.36**	**129**	P		**Pn**		**02 55 45.5**	**0.0**
GHAJ	**Ghor Haditha**	**7.50**	**128**	P		**Pn**		**02 55 48.6**	**+1.2**
ZAF	**Zafarana**	**7.55**	**153**	P		**Pn**		**02 55 49.4**	**+1.2**
NBNS	**Bani Suef**	**7.78**	**162**	P		**Pn**		**02 55 52.0**	**+0.6**
PRNI	**Paran**	**7.83**	**135**	S		**Sn**		**02 57 14.4**	**-4.9**
PRNI	**Paran**	**7.83**	**135**	P		**Pn**		**02 55 52.1**	**0.0**
KRMI	**Paran Flat**	**7.85**	**138**	S		**Sn**		**02 57 14.9**	**-5.0**
KRMI	**Paran Flat**	**7.85**	**138**	P		**Pn**		**02 55 52.3**	**0.0**
ASF	**Jabal al Asfar**	**7.89**	**117**	Pn		**Pn**		**02 55 54.0**	**+1.1**
	0.9nm,0.3s,baz=350,slow=5.2,SNR=7.0								
ASF						Sn		**02 57 19.2**	**-1.7**
	1.7nm,0.3s,baz=195,slow=15,SNR=5.6								
	1.7nm,0.3s								
HRFI	**Mount Harif**	**8.08**	**137**	S		**Sn**		**02 57 20.7**	**-5.0**
HRFI	**Mount Harif**	**8.08**	**137**	P		**Pn**		**02 55 55.6**	**0.0**
MBRI	**Mt Berech**	**8.20**	**138**	P		**Pn**		**02 55 57.2**	**-0.1**
EIL	**Elat**	**8.32**	**139**	Pn		**Pn**		**02 55 58.8**	**0.0**
	2.3nm,0.3s,baz=317,slow=3.0,SNR=27								
EIL						Sn		**02 57 27.4**	**-4.1**
	2.7nm,0.3s,baz=188,slow=18,SNR=5.1								
	4.3nm,0.3s								
EIL	**Elat**	**8.32**	**139**	P		**Pn**		**02 55 58.7**	**-0.1**
HBST	**Basata**	**8.57**	**141**	P		**Pn**		**02 56 02.7**	**+0.5**
MLR	**Muntele Rosu**	**9.60**	**349**	LR		LR		03 00 51.2	
	comp=Z,37nm,18.4s,baz=84,slow=44								
GNI	**Garni**	**13.31**	**67**	LR		LR		03 02 25.0	
	comp=Z,23nm,21.3s,baz=69,slow=38								
KEST	**Kesra**	**15.64**	**274**	Pn		**Pn**		**02 57 39.0**	**+0.9**
	0.1nm,0.3s,baz=52,slow=21,SNR=4.0								
	2.8nm,0.8s								
GERES	**GERESS Array B**	**16.80**	**324**	Pn		**Pn**		**02 57 53.6**	**+0.8**
	baz=125,slow=12,SNR=7.2								
	0.5nm,0.4s								
FINES	**FINESS Array B**	**25.42**	**357**	P		**P**		**02 59 23.5**	**-0.5**
	0.5nm,0.3s,baz=154,slow=14,SNR=8.9								
	0.5nm,0.3s								
ESDC	**Sonseca Array**	**25.90**	**288**	P		**P**		**02 59 28.0**	**-0.6**
	1.0nm,0.5s,baz=83,slow=9.0,SNR=20								
	1.0nm,0.5s								
HFS	**Hagfors**	**25.91**	**343**	P		**P**		**02 59 26.5**	**-2.0**
	2.1nm,0.9s,baz=158,slow=8.5,SNR=2.2								
	2.1nm,0.9s								
ARCES	**ARCESS Array B**	**33.54**	**358**	P		**P**		**03 00 35.0**	**-1.0**
	0.6nm,0.7s,baz=180,slow=8.9,SNR=1.1								
	0.6nm,0.7s								
MKAR	**Makanchi Array**	**40.89**	**58**	P		**P**		**03 01 38.8**	**+0.3**
	0.2nm,0.6s,baz=286,slow=10,SNR=2.1								
	0.2nm,0.6s								
CMAR	**Chiang Mai Arr**	**63.66**	**86**	LR		LR		03 35 48.0	
	comp=Z,37nm,18.6s,baz=235,slow=40								
ASAJ	**Asahikawa**	**80.21**	**42**	LR		LR		03 45 45.1	
	comp=Z,36nm,18.3s,baz=172,slow=39								

*IDC **10** 03:00:59.4±0.8, 30°.63S×177°.96W, h0km, mb4.4/6, mbtmp4.4/6, MS3.5/1, Error ellipse: s-maj=28.3km s-min=17.7km az=98.0*
*NEIC **10** 03:01:04.0±1.7, 30°.58S±0°.08×177°.7W±0°.2, h35km±2km, mb4.6/14, Error ellipse: s-maj=29.8km s-min=13.0km az=79.0*

ISC 10 03:01:05.4±0.8, 30°60S±0°07×177°9W±0°2, h46km, n43, σ1§12/35, mb4.5/15, 4C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.34**	**1**			**Pn**		**03 01 25.0**	**-2.6**
RAO					Sn	**Sn**		**03 01 42.9**	**-1.4**
RAO	**Raoul Island**	**1.34**	**1**	Pn		**Pn**		**03 01 27.2**	**-0.5**
	230nm,0.3s,baz=354,slow=23,SNR=6.0								
RAO					Sn	**Sn**		**03 01 44.2**	**-0.1**
	672nm,0.3s,baz=98,slow=19,SNR=5.7								
TOZ	**Tahuroa Road**	**8.95**	**216**	Pn		**Pn**		**03 03 11.6**	**-0.4**
THZ	**Taphouse**	**13.36**	**211**	Pn		**Pn**		**03 04 09.1**	**-3.3**
DZM	**Mont Dzumac**	**16.36**	**298**	*e*LR		LR		03 09 04.4	
	173nm,22.6s								
TBI	**Tubuai**	**26.34**	**81**	*e*LR		LR		03 13 12.1	
	497nm,28.0s								
PPT2	**Papeete2**	**28.86**	**70**	*e*LR		LR		03 14 17.4	
	96nm,27.5s								
PPT2				*e*LR		LR		03 14 53.4	
	98nm,29.8s								
CTAO	**Charters Tower**	**33.88**	**279**	P		**P**		**03 07 44.5**	**+0.6**
CTAO				IAm

M_0~1.46±.05; Best double couple: $M_0$1.92500×10^{16} NP1:$\phi_0$66.00000°,δ28.00000°,λ-175.00000°. NP2: $\phi_0$332.00000°,δ88.00000°,λ-63.00000°. Principal axes: T 2.0270, Plg37.0000°, Azm38.000°; N -0.2050, Plg27.0000°, Azm151.0000°; P -1.8220, Plg41.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*GCG **10** 03:05:54.1±1.3, 13°.18N×89°.53W, h51km±11km, MD4.5, ML5.0, MW4.2*

*NEIC **10** 03:05:55, 13°.14N×89°.44W, h60km*

*RSNC **10** 03:05:59.4±0.5, 12°.N±3°×8°.9W±°, h0km, M4.6, mB5.2, mb4.8, ML3.9, Mw(mB)4.6*

*UCR **10** 03:06:56.6±1.4, 10°.70N×85°.59W, h25km±3km, MW3.6*

ISC 10 03:05:52.4±0.4, **13°.19N**±0°.03×**89°.48W**±0°.04, **h61**km±3km, **h61**km:**pP-P, n765,** σ1**69**/732, **mb4.7**/94, **11C-47D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.33**	**28**	⇓*i*	*i*	P	**Pn**	**03 06 04.0**	**+1.1**
LALI					*e*	S	**Sn**	**03 06 11.9**	**+1.4**
LALI	**Alcalda de L**	**0.33**	**28**	*i*	*i*	P	**Pn**	**03 06 04.0**	**+1.1**
LALI					*i*	S	**Sn**	**03 06 12.3**	**+1.8**
LALI	**Alcalda de L**	**0.33**	**28**	⇓	P		**Pn**	**03 06 04.0**	**+1.1**
PANCS	**Alcalda de**	**0.51**	**35**	*e*	P		**Pn**	**03 06 05.9**	**+1.2**
PANCS	**Alcalda de**	**0.51**	**35**		S		**Sn**	**03 06 13.5**	**+1.8**
PANCS	**Alcalda de**	**0.51**	**35**	⇓	P		**Pn**	**03 06 05.9**	**+1.2**
LOMA	**Loma Larga**	**0.54**	**34**	*e*	P		**Pn**	**03 06 06.5**	**+1.4**
SEMO	**Seminario San**	**0.57**	**26**		S		**Sn**	**03 06 17.0**	**+2.2**
SEMO	**Seminario San**	**0.57**	**26**	⇓	P		**Pn**	**03 06 06.7**	**+1.4**
UEES	**Universidad Ev**	**0.57**	**25**	⇓*i*	P		**Pn**	**03 06 06.8**	**+1.5**
UEES	**Universidad Ev**	**0.57**	**25**		S		**Sn**	**03 06 17.1**	**+2.3**
UEES	**Universidad Ev**	**0.57**	**25**	⇓	P		**Pn**	**03 06 06.8**	**+1.5**
BOQS	**Boqueron**	**0.57**	**20**	⇓*i*	P		**Pn**	**03 06 07.1**	**+1.5**
UTEC	**Universidad Te**	**0.57**	**29**	⇓*e*	P		**Pn**	**03 06 06.9**	**+1.5**
UTEC	**Universidad Te**	**0.57**	**29**		S		**Sn**	**03 06 17.0**	**+2.2**
UTEC	**Universidad Te**	**0.57**	**29**	⇓	P		**Pn**	**03 06 06.9**	**+1.5**
UESS	**Universidad de**	**0.59**	**28**	⇓*e*	P		**Pn**	**03 06 07.2**	**+1.7**
LFRS	**El Faro**	**0.59**	**44**	⇑*i*	P		**Pn**	**03 06 07.1**	**+1.5**
CEVE	**Cerro Verde**	**0.65**	**348**	⇓*e*	P		**Pn**	**03 06 07.9**	**+1.5**
CEVE					*e*	S	**Sn**	**03 06 19.0**	**+2.5**
CEVE	**Cerro Verde**	**0.65**	**348**		S		**Sn**	**03 06 18.0**	**+1.5**
CEVE	**Cerro Verde**	**0.65**	**348**	⇓	P		**Pn**	**03 06 07.9**	**+1.5**
SBLS	**San Blas**	**0.66**	**348**	⇓*i*	P		**Pn**	**03 06 07.9**	**+1.5**
LFU	**La Fuente**	**0.66**	**33**	⇓*i*	P		**Pn**	**03 06 08.2**	**+1.9**
QUIZ	**Alcaldia de Qu**	**0.67**	**18**	*e*	P		**Pn**	**03 06 08.3**	**+1.9**
SNJE	**San Jose**	**0.68**	**350**	⇓*i*	P		**Pn**	**03 06 08.3**	**+1.5**
LBRS	**Las Brisas**	**0.69**	**38**	⇓*i*	P		**Pn**	**03 06 08.7**	**+1.9**
RTR	**El Retiro**	**0.72**	**347**	⇓*i*	P		**Pn**	**03 06 08.8**	**+1.7**
COEG	**Centro de Oper**	**0.72**	**54**	⇓*e*	P		**Pn**	**03 06 08.6**	**+1.4**
COEG	**Centro de Oper**	**0.72**	**54**		S		**Sn**	**03 06 20.0**	**+2.1**
COEG	**Centro de Oper**	**0.72**	**54**	⇓	P		**Pn**	**03 06 08.5**	**+1.4**
PAVA	**Las Pavas**	**0.74**	**46**	⇓*i*	P		**Pn**	**03 06 09.3**	**+1.9**
PAVA	**Las Pavas**	**0.74**	**46**		S		**Sn**	**03 06 21.4**	**+3.1**
PAVA	**Las Pavas**	**0.74**	**46**	⇓	P		**Pn**	**03 06 09.2**	**+1.9**
SNVI	**San Vicente**	**0.75**	**56**	*e*	P		**Pn**	**03 06 09.0**	**+1.5**
NUBE	**Las Nubes**	**0.76**	**338**	⇓*e*	P		**Pn**	**03 06 08.9**	**+1.2**
NUBE	**Las Nubes**	**0.76**	**338**	*i*	P		**Pn**	**03 06 08.9**	**+1.2**
NUBE					*i*	S	**Sn**	**03 06 20.4**	**+1.7**
NUBE	**Las Nubes**	**0.76**	**338**	⇓	P		**Pn**	**03 06 08.9**	**+1.2**
TECO	**Alcaldia de Te**	**0.77**	**63**	⇓*e*	P		**Pn**	**03 06 08.6**	**+1.1**
TECO					*e*	S	**Sn**	**03 06 20.2**	**+1.6**
TECO	**Alcaldia de Te**	**0.77**	**63**	⇓	P		**Pn**	**03 06 08.8**	**+1.1**
UNIC	**Universidad Ca**	**0.79**	**355**	*e*	P		**Pn**	**03 06 09.6**	**+1.8**
UESV	**Universidad de**	**0.81**	**57**	*e*	P		**Pn**	**03 06 09.8**	**+1.7**
UESV	**Universidad de**	**0.81**	**57**		S		**Sn**	**03 06 22.0**	**+2.4**
UESV	**Universidad de**	**0.81**	**57**	⇓	P		**Pn**	**03 06 09.6**	**+1.5**
LOAL	**Lomas de Alarc**	**0.85**	**340**	*e*	P		**Pn**	**03 06 10.6**	**+1.9**
LOAL	**Lomas de Alarc**	**0.85**	**340**		S		**Sn**	**03 06 24.0**	**+3.4**
LOAL	**Lomas de Alarc**	**0.85**	**340**		P		**Pn**	**03 06 10.5**	**+1.9**
SLOZ	**Alcaldia de Sa**	**0.88**	**341**	*e*	P		**Pn**	**03 06 10.7**	**+1.7**
SLOZ	**Alcaldia de Sa**	**0.88**	**341**		S		**Sn**	**03 06 24.4**	**+3.2**
SLOZ	**Alcaldia de Sa**	**0.88**	**341**		P		**Pn**	**03 06 10.6**	**+1.7**
SCLA	**Alcaldia de Sa**	**0.89**	**55**	⇓*e*	P		**Pn**	**03 06 11.1**	**+1.9**
SCLA	**Alcaldia de Sa**	**0.89**	**55**		S		**Sn**	**03 06 24.3**	**+2.8**
SCLA	**Alcaldia de Sa**	**0.89**	**55**	⇓	P		**Pn**	**03 06 11.1**	**+1.9**
ALJI	**Alcalda de J**	**0.90**	**81**	⇓*e*	P		**Pn**	**03 06 11.2**	**+2.0**
ALJI	**Alcalda de J**	**0.90**	**81**		S		**Sn**	**03 06 24.5**	**+2.9**
ALJI	**Alcalda de J**	**0.90**	**81**	⇓	P		**Pn**	**03 06 11.1**	**+1.9**
PQSS	**Presa 15 de Se**	**0.99**	**64**	*e*	P		**Pn**	**03 06 12.2**	**+1.8**
PQSS	**Presa 15 de Se**	**0.99**	**64**		P		**Pn**	**03 06 12.6**	**+2.2**
PQSS	**Presa 15 de Se**	**0.99**	**64**		S		**Sn**	**03 06 26.6**	**+2.8**
TECA	**Tecapa**	**1.00**	**72**	⇓*e*	P		**Pn**	**03 06 11.9**	**+1.2**
TECA				⇓	*i*	P	**Pn**	**03 06 12.0**	**+1.2**
ESSJ	**San Jos, E**	**1.06**	**290**	*i*	P		Pn	03 06 18.8	+7.6
PACA	**Pacayal**	**1.16**	**76**	*e*	P		**Pn**	**03 06 15.0**	**+2.2**
PACA	**Pacayal**	**1.16**	**76**		P		**Pn**	**03 06 15.0**	**+2.2**
PACA	**Pacayal**	**1.16**	**76**		S		**Sn**	**03 06 31.5**	**+3.6**
LCY	**Lacayo**	**1.18**	**79**	⇓*e*	P		**Pn**	**03 06 14.7**	**+1.7**
BLLM	**Bellamira**	**1.24**	**78**	⇑*e*	P		**Pn**	**03 06 15.4**	**+1.7**
CNRM	**Centro Naciona**	**1.31**	**78**	*e*	P		**Pn**	**03 06 16.6**	**+2.0**
CNRM	**Centro Naciona**	**1.31**	**78**		P		**Pn**	**03 06 17.2**	**+2.6**
CNRM	**Centro Naciona**	**1.31**	**78**		S		**Sn**	**03 06 35.3**	**+4.2**
CAHU	**Cacaocuatique**	**1.36**	**65**	⇓*e*	P		**Pn**	**03 06 17.3**	**+1.8**
ESQI	**Esquipulas**	**1.37**	**6**				**Pn**	**03 06 17.6**	**+2.1**
ESQI						Sn	**Sn**	**03 06 35.9**	**+3.2**
ESQI	**Esquipulas**	**1.37**	**6**	⇑*i*	*i*	P	**Pn**	**03 06 17.6**	**+2.1**
ESQI	**Esquipulas**	**1.37**	**6**		S		**Sn**	**03 06 36.3**	**+3.6**
ESQI	**Esquipulas**	**1.37**	**6**	⇑	P		**Pn**	**03 06 17.3**	**+2.1**
FG16	**Alotenango, Sa**	**1.47**	**317**	*i*	P		Pn	03 06 23.2	+6.3
FG16					*i*	S	Sn	03 06 46.2	+11
FG16					IAML			03 06 50.7	
	comp=E,54μm,0.3s								
FG8	**Yepocapa, Chim**	**1.49**	**315**	*i*	P		Pn	03 06 23.7	+6.5
FG8					*i*	S	Sn	03 06 47.1	+11
CNCH	**Conchagua**	**1.61**	**87**	*e*	P		**Pn**	**03 06 20.4**	**+1.7**
CNCH	**Conchagua**	**1.61**	**87**		S		**Sn**	**03 06 42.0**	**+3.5**
CNCH	**Conchagua**	**1.61**	**87**	⇓	P		**Pn**	**03 06 20.4**	**+1.7**
MARCA	**Marcala la Paz**	**1.70**	**56**	*i*	P		**Pn**	**03 06 21.9**	**+1.9**
MARCA					*i*	S	**Sn**	**03 06 44.0**	**+3.2**
SARH	**Santa Rosa de**	**1.72**	**24**	*i*	P		**Pn**	**03 06 22.9**	**+2.6**
ESSG	**Sabana Grande**	**1.77**	**312**	*i*	P		**Pn**	**03 06 22.2**	**+1.4**
ESSG					IAML			03 06 49.3	
	comp=E,7μm,0.4s								
POTN	**Potosi Cosigui**	**1.94**	**95**		P		**Pn**	**03 06 24.1**	**+1.1**
POTN					S		**Sn**	**03 06 48.1**	**+1.8**
STG0	**El Palmar, Qui**	**2.18**	**304**	*i*	P		Pn	03 06 32.7	+6.2
STG0					IAML			03 07 08.3	
	comp=E,19μm,0.2s								
STG8	**El Palmar, Qui**	**2.20**	**305**	*i*	P		Pn	03 06 33.2	+6.3
STG2	**El Palmar, Qui**	**2.21**	**304**	*i*	P		Pn	03 06 33.6	+6.6
TGUH	**Tegucigalpa,Un**	**2.31**	**68**				**Pn**	**03 06 29.9**	**+1.6**
TGUH	**Tegucigalpa,Un**	**2.31**	**68**	⇑	P		**Pn**	**03 06 29.9**	**+1.6**
TGUH					S		**Sn**	**03 06 57.8**	**+2.1**
CRIN	**San Cristobal**	**2.42**	**101**				**Pn**	**03 06 31.4**	**+1.7**
CRIN	**San Cristobal**	**2.42**	**101**		S		**Sn**	**03 06 58.7**	**+0.4**
CRIN	**San Cristobal**	**2.42**	**101**	⇓	P		**Pn**	**03 06 31.4**	**+1.7**
CRIN	**San Cristobal**	**2.42**	**101**		P		**Pn**	**03 06 31.5**	**+1.5**
CRIN					S		**Sn**	**03 06 55.5**	**-2.8**
SOKI	**Kika Raxquin**	**2.47**	**311**	*i*	P		**Pn**	**03 06 33.3**	**+2.6**
SOKI					IAML			03 07 10.0	
	comp=N,5μm,0.7s								
PKGN	**Cerro Pekin**	**2.50**	**102**	⇓	P		**Pn**	**03 06 31.8**	**+1.1**
PKGN					S		**Sn**	**03 06 59.8**	**-0.3**
RTAL	**Retalhuleu**	**2.52**	**302**				**Pn**	**03 06 31.8**	**+0.8**
RTAL	**Retalhuleu**	**2.52**	**302**		P		**Pn**	**03 06 34.1**	**+3.0**
RTAL	**Retalhuleu**	**2.52**	**302**		S		**Sn**	**03 07 04.0**	**+3.4**
HERN	**Volcan Telica**	**2.65**	**102**				**Pn**	**03 06 33.5**	**+0.7**
ALEN	**Leon**	**2.65**	**106**		P		**Pn**	**03 06 33.4**	**+0.6**
ALEN	**Leon**	**2.65**	**106**		S		**Sn**	**03 07 02.1**	**-1.7**
POLN	**Al Sur del Vol**	**2.66**	**101**	⇓	P		**Pn**	**03 06 33.9**	**+1.0**
POLN					S		**Sn**	**03 07 05.6**	**+1.5**
CNGA	**Al SSO del Vol**	**2.80**	**104**	⇑	P		**Pn**	**03 06 35.9**	**+1.0**
CNGA					S		**Sn**	**03 07 07.6**	**0.0**
CNGN	**Cerro Negro**	**2.80**	**104**				**Pn**	**03 06 35.4**	**+0.5**
CNGN	**Cerro Negro**	**2.80**	**104**		S		**Sn**	**03 07 09.2**	**+1.6**
CNGN	**Cerro Negro**	**2.80**	**104**	⇓	P		**Pn**	**03 06 35.5**	**+0.6**
HUEH	**Huehuetenango**	**2.88**	**317**				**Pn**	**03 06 37.4**	**+1.2**
AESN	**El Sauce Leon**	**2.88**	**96**		P		**Pn**	**03 06 36.2**	**+0.2**
OCON	**Estacion meteo**	**2.96**	**81**	⇓	P		**Pn**	**03 06 38.7**	**+1.7**
MOMN	**Momotombo**	**2.98**	**105**	⇓	P		**Pn**	**03 06 37.8**	**+0.6**
MOMN					S		**Sn**	**03 07 11.9**	**+0.1**
BC84	**Volcan Momotom**	**2.98**	**105**		P		**Pn**	**03 06 38.1**	**+0.9**
BC84	**Volcan Momotom**	**2.98**	**105**		S		**Sn**	**03 07 11.9**	**+0.1**
BC86	**Nagarote**	**3.00**	**108**		P		**Pn**	**03 06 38.7**	**+1.3**
BC86	**Nagarote**	**3.00**	**108**		S		**Sn**	**03 07 12.0**	**-0.2**
COPN	**Copaltepe**	**3.00**	**109**		P		**Pn**	**03 06 38.3**	**+0.8**
SMCA	**Catarina**	**3.01**	**304**	*i*	P		**Pn**	**03 06 39.4**	**+1.7**
MOM2	**El Cardon**	**3.02**	**104**	⇓	P		**Pn**	**03 06 38.6**	**+0.8**
MOM2					S		**Sn**	**03 07 14.9**	**+2.1**
LIMN	**Finca el Limon**	**3.04**	**92**		P		**Pn**	**03 06 39.3**	**+1.1**
AMTN	**Mateare**	**3.13**	**107**		P		**Pn**	**03 06 40.7**	**+1.4**
AMTN	**Mateare**	**3.13**	**107**		S		**Sn**	**03 07 16.1**	**+0.6**
SAPS	**Ciudad Sandino**	**3.17**	**108**		S		**Sn**	**03 07 16.5**	**-0.1**
SAPS	**Ciudad Sandino**	**3.17**	**108**	⇑	P		**Pn**	**03 06 40.2**	**+0.3**
APQ3	**Volcan Apoyequ**	**3.17**	**106**		P		**Pn**	**03 06 41.3**	**+1.4**
APQ3					S		**Sn**	**03 07 16.4**	**-0.2**
BC87	**San Francisco**	**3.19**	**102**		P		**Pn**	**03 06 41.7**	**+1.5**
BC87	**San Francisco**	**3.19**	**102**		S		**Sn**	**03 07 18.5**	**+1.6**
THIG		**3.19**	**303**	*i*	P		**Pn**	**03 06 42.1**	**+1.9**
THIG				*i*	S		**Sn**	**03 07 18.7**	**+1.7**
THIG					IAML			03 07 23.0	
	comp=E,4μm,0.2s								
RCVN	**Varillal2**	**3.23**	**83**		S		**Sn**	**03 07 20.6**	**+2.5**
RCVN	**Varillal2**	**3.23**	**83**	⇓	P		**Pn**	**03 06 42.3**	**+1.5**
APQ2	**Apoyeque**	**3.24**	**107**		P		**Pn**	**03 06 42.5**	**+1.7**
APQ2					S		**Sn**	**03 07 17.7**	**-0.4**
ABCN	**Banco Central**	**3.28**	**109**		P		**Pn**	**03 06 41.3**	**0.0**
ABCN	**Banco Central**	**3.28**	**109**		S		**Sn**	**03 07 18.2**	**-0.9**
ALLN	**Telcor Managua**	**3.30**	**108**		P		**Pn**	**03 06 42.7**	**+1.1**
ALLN	**Telcor Managua**	**3.30**	**108**		S		**Sn**	**03 07 19.7**	**0.0**
TISN	**Laguna Tiscapa**	**3.31**	**108**		P		**Pn**	**03 06 42.9**	**+1.1**
USIM	**UNAN**	**3.31**	**109**		Pn		**Pn**	**03 06 42.4**	**+0.6**
USIM	**UNAN**	**3.31**	**109**		P		**Pn**	**03 06 43.4**	**+1.6**
USIM	**UNAN**	**3.31**	**109**		S		**Sn**	**03 07 19.5**	**-0.5**
UNAN	**Cigeo UNAN**	**3.31**	**109**	⇓	P		**Pn**	**03 06 43.1**	**+1.3**
UNAN					S		**Sn**	**03 07 19.9**	**-0.2**
RCPN	**Sur Rio San Ju**	**3.32**	**84**		S		**Sn**	**03 07 22.1**	**+1.8**
RCPN	**Sur Rio San Ju**	**3.32**	**84**	⇓	P		**Pn**	**03 06 42.8**	**+0.8**
ENAN	**Enatrel Managu**	**3.32**	**108**		P		**Pn**	**03 06 42.8**	**+0.8**
ENAN	**Enatrel Managu**	**3.32**	**108**		S		**Sn**	**03 07 20.0**	**-0.3**
MGAN	**Managua**	**3.33**	**108**		P		**Pn**	**03 06 43.3**	**+1.3**
MGAN	**Managua**	**3.33**	**108**		S		**Sn**	**03 07 19.7**	**-0.6**
CRUN	**El Crucero**	**3.33**	**111**		P		**Pn**	**03 06 42.3**	**+0.1**
CRUN					S		**Sn**	**03 07 21.8**	**+1.1**
MAFN	**Magfor**	**3.35**	**109**		P		**Pn**	**03 06 45.8**	**+3.5**
MAFN	**Magfor**	**3.35**	**109**		S		**Sn**	**03 07 20.8**	**-0.2**
WILN	**Americas 2**	**3.38**	**107**		P		**Pn**	**03 06 44.9**	**+2.2**
WILN					S		**Sn**	**03 07 21.2**	**-0.4**
AERN	**Aeropuerto Man**	**3.40**	**107**		P		**Pn**	**03 06 43.8**	**+0.8**
AERN	**Aeropuerto Man**	**3.40**	**107**		S		**Sn**	**03 07 21.9**	**-0.2**
SABN	**Sabanita**	**3.47**	**110**		P		**Pn**	**03 06 46.6**	**+2.6**
MATN	**Matagalpa**	**3.48**	**94**		S		**Sn**	**03 07 25.7**	**+1.5**
MATN	**Matagalpa**	**3.48**	**94**	⇑	P		**Pn**	**03 06 44.6**	**+0.4**
NANN	**Nandasmo**	**3.51**	**110**		S		**Sn**	**03 07 25.3**	**+0.4**
NANN	**Nandasmo**	**3.51**	**110**		P		**Pn**	**03 06 47.3**	**+2.7**
PETF	**Flores**	**3.72**	**354**				**Pn**	**03 06 49.7**	**+2.8**
PETF	**Flores**	**3.72**	**354**	*i*	P		**Pn**	**03 06 50.9**	**+3.4**
PETF	**Flores**	**3.72**	**354**	⇑	P		**Pn**	**03 06 50.8**	**+3.4**
BOAB	**BOACO BROADBAN**	**3.80**	**101**				**Pn**	**03 06 49.1**	**+0.6**
CCIG	**Comitan**	**4.00**	**320**				**Pn**	**03 06 53.5**	**+2.1**
CCIG	**Comitan**	**4.00**	**320**	*i*	P		**Pn**	**03 06 55.6**	**+4.2**
CCIG	**Comitan**	**4.00**	**320**		P		**Pn**	**03 06 56.0**	**+4.5**
JAPN	**Al SSO del Vol**	**4.07**	**114**		P		**Pn**	**03 06 54.6**	**+2.4**
JAPN					S		**Sn**	**03 07 40.3**	**+1.6**
MORN	**Al O del Volca**	**4.09**	**113**		P		**Pn**	**03 06 55.1**	**+2.6**
CARN	**Rivas**	**4.36**	**117**		P		**Pn**	**03 06 58.7**	**+2.5**
ACON	**Acoyapa**	**4.38**	**106**				**Pn**	**03 06 56.4**	**0.0**
ACON	**Acoyapa**	**4.38**	**106**		P		**Pn**	**03 06 57.0**	**+0.5**
ACON	**Acoyapa**	**4.38**	**106**		P		**Pn**	**03 06 56.0**	**-0.4**
ACON					S		**Sn**	**03 07 43.6**	**-2.6**
SIUN	**Universidad Ur**	**4.61**	**83**		P		**Pn**	**03 07 01.8**	**+2.2**
SIUN					S		**Sn**	**03 07 55.4**	**+3.4**
LAPC	**Finca la Perla**	**4.64**	**121**	*e*	P		**Pn**	**03 07 02.3**	**+2.2**
ALIBA	**Liberia Airpor**	**4.64**	**123**	*e*	P		**Pn**	**03 07 02.9**	**+2.9**
GPS3	**Bodega del ICE**	**4.70**	**121**	*e*	P		Pn	03 07 08.0	+7.1
GPS1	**Guardaparques**	**4.71**	**120**	*e*	P		**Pn**	**03 07 04.0**	**+3.0**
GPS2	**Hotel Rincn d**	**4.71**	**121**	*e*	P		**Pn**	**03 07 03.6**	**+2.5**
MESS	**Mesas**	**4.85**	**120**	*e*	P		**Pn**	**03 07 04.9**	**+1.9**
HORNC	**Hornillas**	**4.88**	**120**	*e*	P		**Pn**	**03 07 04.8**	**+1.4**
COLC	**Colonia**	**4.88**	**121**	*e*	P		**Pn**	**03 07 06.8**	**+3.3**
CUI	**Cuipilapa**	**4.92**	**120**	*e*	P		**Pn**	**03 07 06.0**	**+2.1**
PLVR	**Palo Verde**	**4.94**	**125**	*e*	P		**Pn**	**03 07 07.0**	**+2.8**
NICO	**Nicoya**	**4.99**	**127**	*e*	P		**Pn**	**03 07 07.2**	**+2.5**
TGIG		**5.01**	**316**	*i*	P		**Pn**	**03 07 07.8**	**+2.8**
TENO	**El Achiote**	**5.06**	**119**	*e*	P		**Pn**	**03 07 08.4**	**+2.6**
CMARA	**Lajas Hojancha**	**5.08**	**128**	*e*	P		**Pn**	**03 07 08.3**	**+2.2**
CMARA	**Lajas Hojancha**	**5.08**	**128**		S		**Sn**	**03 08 02.7**	**-0.7**
CMARA	**Lajas Hojancha**	**5.08**	**128**	⇓	P		**Pn**	**03 07 08.3**	**+2.2**
TIMP	**Tierras Morena**	**5.08**	**120**	*e*	P		**Pn**	**03 07 08.2**	**+2.0**
INVE	**Universidad In**	**5.10**	**121**	*e*	P		**Pn**	**03 07 09.3**	**+3.0**
INDI	**Punta indio, G**	**5.11**	**130**		P		**Pn**	**03 07 08.6**	**+2.1**
INDI	**Punta indio, G**	**5.11**	**130**		S		**Sn**	**03 08 02.6**	**-1.7**
ESPN	**Las Esperanzas**	**5.16**	**101**				**Pn**	**03 07 07.3**	**+0.3**
ESPN	**Las Esperanzas**	**5.16**	**101**		P		**Pn**	**03 07 09.0**	**+1.9**
ESPN	**Las Esperanzas**	**5.16**	**101**		S		**Sn**	**03 08 09.5**	**+4.3**
QUEB	**Quebradon, Cot**	**5.17**	**119**	*e*	P		**Pn**	**03 07 09.3**	**+2.0**
TILA	**Tilaran**	**5.18**	**121**	*e*	P		**Pn**	**03 07 10.2**	**+2.8**
NYURE	**Nandayure**	**5.22**	**127**	*e*	P		**Pn**	**03 07 10.3**	**+2.3**
JTS	**Las Juntas de**	**5.29**	**123**				**Pn**	**03 07 08.3**	**-0.7**
JTS	**Las Juntas de**	**5.29**	**123**		P		**Pn**	**03 07 09.0**	**0.0**
	comp=E,54nm,0.5s,baz=292,slow=23,SNR=52								
JTS					S		**Sn**	**03 08 08.7**	**0.0**
	comp=E,56nm,0.5s,baz=153,slow=20,SNR=1.4								
JTS	**Las Juntas de**	**5.29**	**123**	*e*	P		**Pn**	**03 07 11.0**	**+2.0**
JTS	**Las Juntas de**	**5.29**	**123**	*e*	P		**Pn**	**03 07 11.5**	**+2.5**
JTS					S		**Sn**	**03 08 15.2**	**+6.5**
JUNT	**Juntas**	**5.29**	**123**	*e*	P		**Pn**	**03 07 11.5**	**+2.6**
TABAC	**Tabacon**	**5.34**	**120**	*e*	P		**Pn**	**03 07 13.0**	**+3.3**
ARE1	**Arenal 1**	**5.40**	**120**	*e*	P		**Pn**	**03 07 13.4**	**+3.0**
CEDE	**Laguna Cedeo**	**5.40**	**119**	*e*	P		**Pn**	**03 07 13.1**	**+2.7**
VARE2	**V. Arenal**	**5.40**	**120**	*e*	P		**Pn**	**03 07 13.4**	**+2.9**
CASO	**Castillo**	**5.40**	**120**	*e*	P		**Pn**	**03 07 13.4**	**+2.9**
VACR	**Volcan Arenal**	**5.43**	**119**	*e*	P		**Pn**	**03 07 14.3**	**+3.5**
FORC	**Fortuna**	**5.44**	**119**	*e*	P		**Pn**	**03 07 14.2**	**+3.3**
SOCE	**Pocosol**	**5.52**	**120**				**Pn**	**03 07 12.6**	**+0.4**
SOCE	**Pocosol**	**5.52**	**120**		P		**Pn**	**03 07 15.0**	**+2.9**
CBL1	**Cabuya**	**5.60**	**129**	*e*	P		**Pn**	**03 07 15.6**	**+2.4**
BLUN	**Bluefields**	**5.70**	**101**		P		**Pn**	**03 07 16.5**	**+2.0**
BLUN	**Bluefields**	**5.70**	**101**		P		**Pn**	**03 07 15.9**	**+1.4**
	comp=E,991nmcomp=E,40nm,0.8s								
BLUN					S		Sn	03 08 31.1	+13
	comp=E,991nmcomp=E,40nm,0.8s								
VPL2	**V. Platanar**	**5.76**	**119**	*e*	P		**Pn**	**03 07 17.8**	**+2.3**
SRA1	**San Ramn**	**5.79**	**122**	*e*	P		**Pn**	**03 07 19.8**	**+3.8**
TCS1	**Tacares**	**5.97**	**121**	*e*	P		**Pn**	**03 07 22.5**	**+4.2**
TCS1	**Tacares**	**5.97**	**121**		P		**Pn**	**03 07 21.2**	**+3.0**
BILN	**Bilwi Airport**	**6.00**	**81**	⇑	P		**Pn**	**03 07 20.6**	**+2.0**
VBV1	**V. Barva**	**6.10**	**120**	*e*	P		**Pn**	**03 07 23.1**	**+2.8**
HDC	**Heredia**	**6.14**	**121**				**Pn**	**03 07 21.0**	**+0.2**
HDC	**Heredia**	**6.14**	**121**	*e*	P		**Pn**	**03 07 23.4**	**+2.6**
TRT2	**Tortugero**	**6.21**	**114**	*e*	P		**Pn**	**03 07 22.6**	**+1.1**
TRT2	**Tortugero**	**6.21**	**114**		P		**Pn**	**03 07 23.0**	**+1.5**
TRT2	**Tortugero**	**6.21**	**114**		S		**Sn**	**03 08 33.4**	**+2.3**
ACOS	**Acosta**	**6.21**	**122**	*e*	P		**Pn**	**03 07 25.0**	**+3.3**
PAR1A	**Puntarenas Pro**	**6.25**	**124**	*e*	P		**Pn**	**03 07 25.7**	**+3.6**
PICV	**Pt. Pirrs**	**6.28**	**124**	*e*	P		**Pn**	**03 07 25.9**	**+3.4**
PISJ	**San Jermim**	**6.34**	**123**	*e*	P		**Pn**	**03 07 26.6**	**+3.2**
ABE2	**San Pablo**	**6.35**	**123**	*e*	P		**Pn**	**03 07 26.6**	**+2.9**
LCR2	**La Lucha 2**	**6.37**	**122**				**Pn**	**03 07 24.3**	**+0.4**
LCR2	**La Lucha 2**	**6.37**	**122**	*e*	P		**Pn**	**03 07 26.5**	**+2.6**
LCR2	**La Lucha 2**	**6.37**	**122**		S		**Sn**	**03 08 35.9**	**+0.5**
LCR2	**La Lucha 2**	**6.37**	**122**		P		**Pn**	**03 07 26.8**	**+2.8**
RAFA	**San Farael, Vo**	**6.42**	**119**	*e*	P		**Pn**	**03 07 27.8**	**+3.1**
CVTR	**Volcan Turrial**	**6.43**	**119**	*e*	P		**Pn**	**03 07 27.8**	**+2.8**
CVTQ	**Turrialba Volc**	**6.43**	**119**	*e*	P		**Pn**	**03 07 27.9**	**+3.0**
REPA	**Paraso**	**6.44**	**121**	*e*	P		**Pn**	**03 07 28.4**	**+3.5**
LLNJ	**Naranjito**	**6.44**	**124**	*e*	P		**Pn**	**03 07 28.7**	**+4.0**
CVTV	**Tajo**	**6.45**	**119**	*e*	P		**Pn**	**03 07 27.9**	**+2.8**
PIEC	**Cerro El Cedra**	**6.48**	**123**	*e*	P		**Pn**	**03 07 28.4**	**+3.0**
ABRB	**Las Abras (San**	**6.48**	**119**	*e*	P		**Pn**	**03 07 28.1**	**+2.7**
CMIG	**Matias Romero**	**6.50**	**307**		P		**Pn**	**03 07 28.2**	**+2.7**
	comp=E,31nm,0.5s,baz=103,slow=9.4,SNR=44								
CMIG					S		**Sn**	**03 08 41.0**	**+2.8**
	comp=E

comp=Z,32nm,1.0s
X48A **Hartselle** 21.28 6 P 03 10 34.3 +0.5
X48A IAmb IAmb 03 10 37.1
comp=Z,24nm,1.0s
BAUV **El Baul** 21.46 99 P 03 10 35.1 -0.8
ABTX **Abilene, Hawle** 21.46 336 IAmb IAmb 03 10 39.1
comp=Z,22nm,0.8s
MIAR **Mount Ida** 21.58 351 IAmb IAmb 03 10 41.4
comp=Z,26nm,0.8s
UALR **University of** 21.64 354 IAmb IAmb 03 10 41.9
comp=Z,45nm,0.9s
X51A **Calhoun** 21.69 10 IAmb IAmb 03 10 58.8
comp=Z,32nm,1.3s
PLAL **Pickwick Lake** 21.73 3 P 03 10 40.0 +1.4
PLAL ScP 03 18 11.1 +1.5
WTFS **Witchita Falls** 22.05 340 IAmb IAmb 03 10 43.3
comp=Z,28nm,0.9s
WHAR **Wooly Hollow** 22.15 354 IAmb IAmb 03 10 47.7
comp=Z,27nm,1.0s
SN05 **Snyder 5** 22.19 334 IAmb IAmb 03 10 46.8
comp=Z,29nm,1.2s
W50A **Signal Mountai** 22.23 9 IAmb IAmb 03 11 05.4
comp=Z,22nm,1.0s
JSC **Jenkinsville** 22.28 18 IAmb IAmb 03 10 47.3
comp=Z,34nm,1.0s
SN07 **Snyder 07** 22.38 334 IAmb IAmb 03 10 47.3
comp=Z,14nm,0.6s
Y58A **Scranton** 22.47 22 P P 03 10 46.6 0.0
LPIG **La Paz** 22.48 302 LR LR 03 19 10.8
comp=Z,150nm,21.8s,baz=114,slow=35
V48A **Smith Brothers** 22.58 6 P P 03 10 48.0 +0.3
V48A IAmb IAmb 03 10 49.4
comp=Z,16nm,0.8s
VHRN **Van Horn** 22.61 323 P 03 10 49.0 +0.7
CPCT **Cooper Cave** 22.61 11 IAmb IAmb 03 10 49.8
comp=Z,23nm,1.2s
X34A **Smith Ranch, M** 22.62 342 IAmb IAmb 03 10 52.1
comp=Z,34nm,0.7s
POST **Post** 22.62 333 IAmb IAmb 03 10 51.7
comp=Z,27nm,1.0s
LCAR **Lake Charles** 22.83 357 IAmb IAmb 03 10 52.5
comp=Z,38nm,1.1s
BIRD **Birdtown, Kers** 22.87 19 P 03 10 51.3 +0.5
BIRD IAmb IAmb 03 11 09.2
comp=Z,26nm,1.0s
WVT **Waverly** 22.89 3 P 03 10 51.1 +0.1
DKNS **Dickens** 22.89 335 IAmb IAmb 03 10 52.9
comp=Z,17nm,0.7s
TKL **Tuckaleechee C** 22.95 12 P P 03 10 49.9 -1.8
comp=Z,31nm,1.2s,baz=184,slow=10,SNR=14
TKL LR LR 03 20 18.3
comp=Z,345nm,21.0s,baz=190,slow=38
comp=Z,31nm,1.2s
ATAH **Atahualpa** 23.00 151 LR LR 03 18 56.0
comp=Z,99nm,18.6s,baz=331,slow=34
WMOK **Wichita Mounta** 23.05 340 IAmb IAmb 03 10 55.1
comp=Z,26nm,1.1s
HHAR **Hobbs** 23.34 351 IAmb IAmb 03 11 11.0
comp=Z,31nm,1.3s
RLO **Rose Lookout** 23.41 349 P 03 10 56.6 +0.5
RLO IAmb IAmb 03 10 57.5
comp=Z,48nm,1.6s
W57A **Gilead** 23.49 20 IAmb IAmb 03 10 58.5
comp=Z,16nm,1.0s
TZTN **Tazewell** 23.86 12 P 03 11 00.2 +0.1
TZTN IAmb IAmb 03 11 17.8
comp=Z,22nm,1.1s
OK048 **Pawnee Station** 24.08 345 P 03 11 03.0 +0.8
OK048 IAmb IAmb 03 11 04.2
comp=Z,32nm,0.8s
ELIS **Ellis County** 24.47 340 P 03 11 06.8 +1.1
ELIS IAmb IAmb 03 11 24.1
comp=Z,35nm,1.2s
PCRV **Puerto La Cruz** 24.51 94 LR LR 03 22 53.5
comp=Z,116nm,19.1s,slow=42
CCM **Cathedral Cave** 24.81 357 P 03 11 09.7 +0.8
CCM IAmb IAmb 03 11 27.3
comp=Z,31nm,0.9s
CCM ScP 03 18 17.4 -0.4
WCI **Wyandotte Cave** 25.09 6 P 03 11 11.1 -0.3
WCI IAmb IAmb 03 11 12.0
comp=Z,21nm,0.8s
T57A **Hurt** 25.41 19 P 03 11 14.7 +0.4
T57A IAmb IAmb 03 11 36.0
comp=Z,26nm,1.1s
CRNM **Carthage** 25.94 326 P 03 11 21.1 +1.7
T59A **Double "B" Far** 25.98 22 P 03 11 19.5 +0.1
T59A IAmb IAmb 03 11 20.7
comp=Z,17nm,0.8s
RTBA **Rita Blanca** 26.03 335 P 03 11 21.1 +1.1
RTBA IAmb IAmb 03 11 53.2
comp=Z,14nm,0.9s
DUN6 **Lazy B Ranch** 26.33 320 IAmb IAmb 03 11 29.9
comp=Z,21nm,1.0s
P40A **Paris** 26.33 356 IAmb IAmb 03 11 23.7
comp=Z,13nm,0.8s
ANMO **Albuquerque** 26.55 328 LR LR 03 24 24.2
comp=Z,90nm,19.3s,baz=240,slow=42
CZSB **Cruzeiro do Su** 26.64 140 eP P 03 11 26.5 +0.8
N38A **Joes South For** 27.69 354 IAmb IAmb 03 11 39.9
comp=Z,22nm,1.1s
L42A **Oliver, Polo** 28.70 360 P 03 11 43.5 -0.2
L42A IAmb IAmb 03 11 43.9
comp=Z,17nm,0.6s
JFWS **Jewell Farm** 29.62 359 P 03 11 52.1 +0.2
JFWS IAmb IAmb 03 11 52.6
comp=Z,39nm,1.4s
Y14A **Wickenburg** 29.72 318 P P 03 11 54.6 +1.6
Y14A PcP 03 14 55.9 +0.1
TEFE **Tefe** 29.73 122 eP P 03 11 51.3 -1.9
M57A **Sunshine Farm,** 30.04 19 IAmb IAmb 03 11 56.1
comp=Z,13nm,1.1s
M57A P 03 11 56.7 +1.0
PV18 **Skein Mesa, Pa** 30.34 329 P 03 12 00.1 +1.5
PV18 IAmb IAmb 03 12 02.5
comp=Z,13nm,0.7s
PV18 PcP 03 14 58.5 +0.9
I42A **Draeger Farm,** 30.59 1 P 03 12 00.8 +0.2
WVNY **West Valley, N** 30.60 16 IAmb IAmb 03 12 01.1
comp=Z,14nm,0.8s
L56A **Greenwood** 30.64 18 IAmb IAmb 03 12 01.4
comp=Z,13nm,0.9s
ECSD **EROS Data Cent** 31.05 350 IAmb IAmb 03 13 05.3
comp=Z,22nm,1.2s
I49A **Point Hope** 31.17 9 IAmb IAmb 03 12 05.5
comp=Z,17nm,0.8s
BINY **Binghamton** 31.19 20 IAmb IAmb 03 12 06.3
comp=Z,14nm,1.0s
L59A **Walton** 31.50 21 IAmb IAmb 03 12 08.7
comp=Z,9.1nm,0.9s
PFO **Pinyon Flats O** 31.86 314 LR LR 03 25 57.9
comp=Z,124nm,18.1s,baz=119,slow=38
UCCT **U. Connecticut** 32.21 25 IAmb IAmb 03 12 15.6
comp=Z,14nm,0.8s
CCUT **Cedar City** 32.28 323 P P 03 12 16.7 +1.0
SADO **Sadowa** 32.69 14 IAmb IAmb 03 12 18.2
comp=Z,11nm,0.6s
SADO **Sadowa** 32.69 14 P P 03 12 17.8 -1.1
comp=Z,8.0nm,0.4s,baz=210,slow=8.9,SNR=14
SADO LR LR 03 25 59.3
comp=Z,249nm,21.6s,baz=204,slow=37
comp=Z,8.0nm,0.4s
SHPR **Sheep Range** 32.70 320 P 03 12 18.6 -0.7
DELO **Deloro Mine** 32.83 16 P 03 12 19.6 -0.5
DELO IAmb IAmb 03 12 20.6
comp=Z,13nm,0.9s
K22A **Casper** 32.85 337 IAmb IAmb 03 12 22.2
comp=Z,17nm,1.2s
MACA **Manacapuru-AM** 32.88 118 P 03 12 20.8 -0.2
MACA **Manacapuru-AM** 32.88 118 eP P 03 12 19.6 -1.3
F33A **5 Mile Ranch,** 33.05 351 IAmb IAmb 03 12 21.9
comp=Z,9.5nm,0.8s
RSSD **Black Hills** 33.25 341 P 03 12 25.1 +1.0
RSSD IAmb IAmb 03 12 28.2
comp=Z,5.6nm,0.8s
RSSD **Black Hills** 33.25 341 P P 03 12 25.3 +1.2
LONY **Lake Ozonia** 33.81 19 IAmb IAmb 03 12 28.7
comp=Z,8.3nm,0.9s
PDAR **Pinedale Array** 34.20 333 P 03 12 33.2 +0.8
PDAR **Pinedale Array** 34.20 333 P P 03 12 33.0 +0.7
comp=Z,1.3nm,0.6s,baz=128,slow=11,SNR=17
PDAR PcP PcP 03 15 07.2 -0.9
comp=Z,0.7nm,0.6s,baz=115,slow=5.8,SNR=5.1
PDAR pPcP 03 15 26.1
comp=Z,1.1nm,0.8s,baz=139,slow=5.8,SNR=5.4
PDAR ScP ScP 03 18 48.9 +0.8
comp=Z,0.7nm,0.9s,baz=151,slow=3.4,SNR=4.9
comp=Z,1.3nm,0.6s
ELK **Elko** 35.52 325 P 03 12 44.5 +0.7
ELK PcP 03 15 13.0 +1.0
NVAR **Mina Array Bea** 35.85 320 P 03 12 48.6 +2.0
NVAR **Mina Array Bea** 35.85 320 P P 03 12 49.2 +2.6
comp=Z,3.6nm,0.8s,baz=135,slow=6.9,SNR=13
NVAR pP sP 03 13 06.2 -2.8
comp=Z,2.9nm,0.7s,baz=137,slow=8.4,SNR=6.7
NVAR PcP PcP 03 15 14.1 +1.1
comp=Z,4.7nm,0.9s,baz=138,slow=4.1,SNR=11
NVAR pPcP 03 15 33.1
comp=Z,4.2nm,0.8s,baz=136,slow=4.0,SNR=8.9
NVAR ScP ScP 03 18 55.8 +1.8
comp=Z,1.1nm,0.7s,baz=130,slow=3.9,SNR=6.8
NVAR LR LR 03 29 25.5
comp=Z,180nm,18.7s,baz=94,slow=39
comp=Z,3.6nm,0.8s
RLMT **Red Lodge** 36.00 336 IAmb IAmb 03 12 50.8
comp=Z,12nm,1.0s
LPAZ **La Paz** 36.11 144 P 03 12 50.1 +0.6
LPAZ **La Paz** 36.11 144 P P 03 12 50.9 +1.4
comp=Z,1.2nm,0.6s,baz=0.0,slow=25,SNR=6.7
LPAZ LR LR 03 27 53.1
comp=Z,77nm,21.4s,baz=66,slow=37
comp=Z,1.2nm,0.6s
LPAZ **La Paz** 36.11 144 P P 03 12 50.8 +1.4
LPAZ pP pP 03 13 02.1 -2.5
LPAZ sP sP 03 13 08.9 -2.8
MDP **Montagnes des** 37.21 99 LR LR 03 31 09.7
comp=Z,92nm,19.0s,baz=280,slow=41
ULM **Lac du Bonnet** 37.32 353 P P 03 12 57.4 -1.3
comp=Z,8.7nm,0.4s,baz=168,slow=8.6,SNR=27
ULM LR LR 03 30 03.8
comp=Z,182nm,21.7s,baz=174,slow=39
comp=Z,8.7nm,0.4s
ITTB **Itaituba** 37.78 115 eP P 03 13 00.4 -2.7
EGMT **Eagleton** 38.61 338 IAmb IAmb 03 13 11.7
comp=Z,14nm,0.8s
VILB **Vilhena** 38.95 131 P 03 13 13.8 +0.9
VILB **Vilhena** 38.95 131 eP P 03 13 13.2 +0.3
NPGB **Novo Progresso** 39.41 119 eP P 03 13 14.0 -2.7
YBH **Yreka Blue Hor** 40.52 321 LR LR 03 31 50.2
comp=Z,13nm,20.3s,baz=121,slow=38
PDRB **Porto dos Gac** 40.78 126 eP P 03 13 27.1 -1.0
CLDB **Colider** 41.10 124 eP P 03 13 28.4 -2.3
PTLB **Pontes e Lacer** 41.37 133 P 03 13 33.4 +0.6
PTLB **Pontes e Lacer** 41.37 133 eP P 03 13 32.8 0.0
BBSD **Serra de San D** 41.53 136 eP P 03 13 34.9 +0.8
NEW **Newport** 41.82 332 LR LR 03 34 05.2
comp=Z,96nm,19.9s,baz=138,slow=40
FFC **Flin Flon** 42.58 349 P 03 13 42.3 +0.1
FFC IAmb IAmb 03 13 43.1
comp=Z,15nm,1.1s
FFC **Flin Flon** 42.58 349 P P 03 13 42.4 +0.1
FFC pP pP 03 13 56.8 -1.0
SALV **Santo Antonio** 44.19 130 eP P 03 13 55.6 -0.1
DRLN **Deer Lake** 44.55 30 P 03 13 57.0 -1.2
SCHQ **Schefferville** 45.17 18 P P 03 14 01.4 -1.7
comp=Z,17nm,0.8s,baz=217,slow=7.0,SNR=29
SCHQ LR LR 03 32 13.5
comp=Z,84nm,20.8s,baz=271,slow=35
comp=Z,17nm,0.8s
SNDB **Serra Nova Dou** 45.39 122 eP P 03 14 05.0 -0.3
BDQN **Bodoquena, MS** 46.41 136 eP P 03 14 13.4 +0.2
SMTB **Santa Maria do** 47.02 116 eP P 03 14 17.3 -0.8
ARAG **Araguaiana, MT** 47.04 126 eP P 03 14 17.2 -1.1
AQDB **Aquidauana** 47.15 135 P 03 14 19.9 +1.0
AQDB IAmb IAmb 03 14 37.3
comp=Z,15nm,1.0s
H03N2 **Juan Fernandez** 47.45 168 T T 04 05 00.2
baz=347,slow=76,SNR=8.1
H03N1 **Juan Fernandez** 47.46 168 T T 04 05 02.1
baz=347,slow=76,SNR=9.2
H03N3 **Juan Fernandez** 47.47 168 T T 04 05 05.2
baz=347,slow=76,SNR=9.0
KUQ **Kuujjuuaa** 47.57 15 P 03 14 20.6 -1.2
RPRD **Ribas do Rio P** 48.56 133 eP P 03 14 30.1 +0.2
ZON **Zonda** 48.76 156 P 03 14 31.4 +0.1
BBB **Bella Bella** 49.67 330 LR LR 03 37 26.6
comp=Z,82nm,19.5s,baz=181,slow=38
SJPY **San Joaquin** 50.01 139 eP P 03 14 42.4 +1.5
BDFB **Brasilia** 50.03 124 P P 03 14 40.6 -0.8
comp=Z,3.6nm,0.8s,baz=290,slow=4.7,SNR=6.5
BDFB pP pP 03 14 57.5 +0.3
comp=Z,6.2nm,0.7s,baz=276,slow=11,SNR=5.7
BDFB LR LR 03 36 33.0
comp=Z,86nm,21.9s,baz=333,slow=37
comp=Z,3.6nm,0.8s
CPUP **Villa Florida** 50.21 142 P P 03 14 42.3 -0.1
comp=Z,0.7nm,1.0s,baz=116,slow=2.3,SNR=3.6
CPUP pP pP 03 14 59.2 +1.0
comp=Z,0.5nm,0.5s,baz=195,slow=9.4,SNR=4.7
CPUP LR LR 03 37 15.8
comp=Z,24nm,18.7s,baz=88,slow=38
comp=Z,0.7nm,1.0s
BO01 **Tunca** 50.45 160 P 03 14 43.8 -0.3
BO01 IAmb IAmb 03 15 07.9
comp=Z,15nm,1.1s
PCMB **Pacaembu** 51.02 132 eP P 03 14 48.4 -0.2
YKAW1 **Yellowknife Wh** 52.35 346 P 03 14 57.8 -0.2
YKAW1 IAmb IAmb 03 14 58.5
comp=Z,19nm,1.0s
YKA **Yellowknife Ar** 52.39 346 P P 03 14 57.3 -0.9
comp=Z,14nm,0.8s,baz=148,slow=6.8,SNR=85
comp=Z,14nm,0.8s
YKAW3 **Yellowknife Wh** 52.45 346 IAmb IAmb 03 14 59.8
comp=Z,28nm,1.1s
FRB **Frobisher Bay** 52.58 12 LR LR 03 37 41.3
comp=Z,195nm,21.9s,baz=198,slow=37
TOAD **Toad River Com** 52.80 338 P P 03 15 00.9 -0.5
baz=134
V35K **Ketchikan** 53.21 331 P P 03 15 03.5 -0.9
baz=125
KOTAN **Kotaneelee Air** 53.29 339 P P 03 15 04.9 -0.1
baz=136
LIRD **Liard River Hi** 53.51 338 P P 03 15 06.3 -0.2
baz=134
CRAG **Craig** 54.00 331 P P 03 15 09.4 -0.8
baz=124
ITAB **Cordilla** 54.12 138 eP P 03 15 13.1 +1.7
U33K **Whale Pass** 54.36 332 P P 03 15 11.9 -0.9
baz=124
DLBC **Dease Lake** 54.40 335 P P 03 15 13.1 0.0
baz=129
S34M **Telegraph Cree** 54.53 334 P P 03 15 14.1 +0.1
baz=127
TAOE **Nuku Hiva Isla** 54.87 249 eLR LR 03 31 17.5
comp=Z,212nm,25.5s
DIAM **Diamantina, MG** 54.96 124 eP P 03 15 17.2 -0.7
R33M **Jennings River** 55.38 336 P P 03 15 20.2 -0.1
baz=128
Q32M **Nakina River** 55.64 335 P P 03 15 22.0 -0.3
baz=127
TGTN **Hyland Airport** 55.75 339 P P 03 15 23.0 +0.3
baz=132
S32K **Killisnoo** 55.78 332 P P 03 15 22.7 -0.3
baz=124
ILON **Igloolik, Nuna** 56.35 3 P 03 15 26.1 -0.7
PLTB **Pedras Altas** 56.40 143 P 03 15 28.7 +0.9
PLTB IAmb IAmb 03 15 47.0
comp=Z,11nm,1.0s
PLTB **Pedras Altas** 56.40 143 eP P 03 15 30.9 +3.1
PLCA **Paso Flores** 56.45 163 P P 03 15 28.9 +0.8
comp=Z,2.6nm,0.8s,baz=305,slow=7.9,SNR=7.8
PLCA LR LR 03 34 17.3
comp=Z,102nm,19.7s,baz=237,slow=30
comp=Z,2.6nm,0.8s
PLCA **Paso Flores** 56.45 163 P P 03 15 29.1 +1.0
RCBR **Riachuelo** 56.47 106 LR LR 03 42 06.8
comp=Z,34nm,20.0s,baz=268,slow=39
P32M **Atlin** 56.62 335 P P 03 15 27.6 -1.4
baz=126
P33M **Teslin, Yukon** 56.62 336 P P 03 15 29.0 0.0
baz=127
S31K **Pelican** 56.80 332 P P 03 15 28.4 -1.7
baz=122
CMC01 **Camacan, BA** 56.99 118 eP P 03 15 32.0 -0.2
TRQA **Tornquist** 57.13 154 P P 03 15 33.5 +0.6
TRQA IAmb IAmb 03 15 53.6
comp=Z,14nm,1.2s
MMPY **Sheldon Lake,** 57.53 339 IAmb IAmb 03 15 36.8
comp=Z,11nm,1.4s
MMPY **Sheldon Lake,** 57.53 339 P P 03 15 35.1 -0.3
baz=130
WHY **Whitehorse** 57.71 335 P P 03 15 36.2 -0.6
baz=125
FARO **Faro, Yukon** 58.04 338 P P 03 15 39.2 +0.2
baz=127
RIB01 **Linhares ES** 58.14 123 eP P 03 15 39.8 -0.5
O30N **Mendenhall** 58.27 335 P P 03 15 40.8 +0.2
baz=124
P30M **Million Dollar** 58.27 334 P P 03 15 40.7 0.0
baz=122
P29M **Windy Craggy** 58.34 334 P P 03 15 41.6 +0.5
baz=121
M31M **Drury Creek, Y** 58.42 337 P P 03 15 42.2 +0.6
baz=126
N31M **Braeburn, Yuko** 58.54 336 P P 03 15 42.3 -0.2
baz=124
HYT **Haines Junctio** 58.88 335 P P 03 15 45.4 +0.4
baz=122
N30M **Aishikik Lake** 59.05 336 P P 03 15 45.8 -0.2
baz=123
O29M **Mount Kennedy** 59.05 334 P P 03 15 45.5 -0.6
baz=121
PNL **Peninsula** 59.09 333 P P 03 15 45.3 -1.0
baz=120
YUK6 **Outpost Mounta** 59.30 335 P P 03 15 46.3 -1.6
baz=122
M30M **Minto, Yukon** 59.55 337 P P 03 15 49.0 -0.5
baz=124
SFJD **Kangerlussuaq** 59.56 17 LR LR 03 41 34.1
comp=Z,108nm,19.0s,baz=220,slow=36
POIN **Pond Inlet** 59.87 4 IAmb IAmb 03 15 51.3
comp=Z,9.9nm,1.1s
O28M **Mount Upton** 59.98 334 P P 03 15 50.7 -2.1
baz=120
YUK8 **Steele Glacier** 60.06 335 P P 03 15 51.9 -1.3
baz=120
M29M **Somme Creek** 60.13 336 P P 03 15 53.3 -0.2
baz=122
L29M **L29M** 60.36 337 IAmb IAmb 03 16 41.5
comp=Z,3.8nm,1.0s
L29M **L29M** 60.36 337 P P 03 15 54.3 -0.7
baz=123
MESA **MESA** 60.46 333 P P 03 15 54.7 -1.3
baz=117
J30M **Hart River** 60.52 339 P P 03 15 55.4 -0.8
baz=125
K29M **Barlow Dome** 60.53 338 P P 03 15 55.0 -1.2
baz=124
COYC **Coyhaique** 60.57 166 P P 03 15 58.4 +1.9
COYC sP pP 03 16 15.5 +2.8
H31M **Peel River** 60.58 341 P P 03 15 55.7 -0.8
baz=128
I30M **Mount Dempster** 60.91 339 P P 03 15 58.3 -0.5
baz=126
BGLC **Bering Glacier** 61.03 332 P P 03 15 58.7 -0.8
baz=116
BVCY **Beaver Creek** 61.07 335 P P 03 15 58.8 -1.0
baz=120
G31M **Satah River** 61.26 342 P P 03 16 00.3 -0.6
G31M IAmb IAmb 03 16 01.3
comp=Z,8.6nm,1.1s
G31M **Satah River** 61.26 342 P P 03 16 00.5 -0.5
baz=128,SNR=9.1
DAWY **Dawson** 61.35 337 P P 03 16 00.9 -0.8
baz=122
F31M **Tsiigehtchic** 61.42 342 P P 03 16 01.8 -0.3
baz=129,SNR=6.9
M27K **Edge Creek, AK** 61.46 335 P P 03 16 01.6 -0.9
baz=119
RES **Resolute Bay** 61.56 358 P 03 16 01.8 -1.1
RES **Resolute Bay** 61.56 358 LR LR 03 45 10.8
comp=Z,79nm,18.4s,baz=208,slow=38
I29M **Ogilvie Camp,** 61.66 339 P P 03 16 02.7 -1.1
baz=124
EPYK **Eagle Plains** 61.70 340 P P 03 16 03.5 -0.5
baz=126
L27K **Beaver Creek,** 61.78 336 P P 03 16 03.6 -1.0
baz=119
G30M **tAoh Zraii Nji** 61.90 341 P P 03 16 05.1 -0.3
baz=126
INK **Inuvik** 61.91 343 P 03 16 05.2 -0.1
INK **Inuvik** 61.91 343 LR LR 03 47 04.4
comp=Z,99nm,19.7s,baz=90,slow=40
INK **Inuvik** 61.91 343 P P 03 16 04.9 -0.4
baz=130,SNR=12
M26K **Nabesna, AK** 61.94 335 P P 03 16 04.9 -0.8
baz=118
BMRM **Bremner River** 61.99 333 P P 03 16 04.9 -1.2
baz=115
F30M **Barrier River** 62.14 342 P 03 16 07.0 +0.1
F30M **Barrier River** 62.14 342 P P 03 16 06.9 -0.1
baz=127,SNR=13
H29M **Whitestone** 62.16 340 P P 03 16 06.3 -0.7
baz=124
N25K **Chitina, Valde** 62.26 334 P P 03 16 07.0 -0.9
baz=116
I28M **Miner Creek** 62.28 339 P P 03 16 07.3 -0.7
baz=122
EYAK **Cordova Ski Ar** 62.33 332 P P 03 16 07.1 -1.1
baz=114
K27K **Chicken** 62.35 337 P P 03 16 07.5 -0.9
baz=119
L26K **Log Cabin Wild** 62.37 335 P P 03 16 08.1 -0.5
baz=117
G29M **Pine Creek** 62.44 341 P P 03 16 08.3 -0.6
G29M IAmb IAmb 03 16 09.6
comp=Z,7.8nm,1.1s
G29M **Pine Creek** 62.44 341 P P 03 16 08.1 -0.8
baz=125,SNR=8.1
A36M **Sachs Harbour** 62.52 348 P 03 16 08.2 -1.0
A36M **Sachs Harbour** 62.52 348 P P 03 16 08.3 -1.0
baz=140
KLU **Klutina** 62.79 333 P P 03 16 10.3 -1.1
baz=114
HARP **HAARP** 62.84 334 P P 03 16 10.3 -1.3
baz=115
P23K **Montague Islan** 62.87 331 P P 03 16 11.6 -0.3
baz=112
I27K **Kandik River** 62.96 338 P P 03 16 11.6 -0.9
baz=120
SCRK **Sand Creek** 63.06 336 P P 03 16 12.5 -0.8
baz=117
GLI **Glacier Island** 63.06 332 P P 03 16 13.0 -0.2
baz=113
J26L **Joseph Creek** 63.14 337 P P 03 16 13.2 -0.5
baz=118
M24K **Tolsona, Glenn** 63.15 334 P P 03 16 12.6 -1.2
baz=114
PAX **Paxson** 63.22 335 P P 03 16 12.8 -1.5
baz=115
E29M **Blow River** 63.25 342 P 03 16 14.3 0.0
E29M IAmb IAmb 03 16 15.3
comp=Z,10nm,1.4s
E29M **Blow River** 63.25 342 P P 03 16 13.8 -0.5
baz=125,SNR=6.4
H27K **Steamboat Moun** 63.25 339 P 03 16 15.1 +0.7
H27K IAmb IAmb 03 16 15.2
comp=Z,5.4nm,1.1s
H27K **Steamboat Moun** 63.25 339 P P 03 16 13.9 -0.4
baz=121,SNR=6.2
RIDG **Independent Ri** 63.30 336 P P 03 16 14.3 -0.4
baz=116
I26K **Coal Creek Min** 63.37 338 P P 03 16 14.5 -0.6
baz=119
F28M **Old Crow** 63.43 341 P 03 16 15.8 +0.3
F28M **Old Crow** 63.43 341 P P 03 16 14.7 -0.8
baz=123,SNR=19
SCM **Sheep Creek Mo** 63.54 333 P P 03 16 14.9 -1.4
baz=113
G27K **Doyon Strip** 63.59 340 P 03 16 16.3 -0.3
G27K **Doyon Strip** 63.59 340 P P 03 16 16.2 -0.4
baz=121
PWL **Port Wells** 63.62 332 P P 03 16 15.5 -1.3
baz=112
K24K **Donnelly Dome** 63.70 336 P P 03 16 17.1 -0.3
baz=115
SEW **Seward** 63.87 331 P P 03 16 17.7 -0.7
baz=110
E28M **Babbage River** 63.87 342 P 03 16 17.8 -0.6
E28M **Babbage River** 63.87 342 P P 03 16 17.8 -0.6
baz=124,SNR=5.8
J25K **Salcha River,** 63.89 337 P 03 16 18.7 +0.1
J25K IAmb IAmb 03 16 19.3
comp=Z,2.9nm,0.6s
J25K **Salcha River,** 63.89 337 P P 03 16 17.6 -1.1
baz=116,SNR=6.3
WAT6 **Susitna Watana** 64.01 334 P P 03 16 18.5 -1.0
baz=113
DHY **Denali Highway** 64.05 335 P P 03 16 18.7 -1.1
baz=114
PMR **Palmer** 64.25 333 P P 03 16 19.8 -1.1

baz=111
E27K **Coleen River** 64.28 341 P 03 16 21.1 -0.1
E27K **Coleen River** 64.28 341 P P 03 16 20.6 -0.5
baz=122
RC01 **Rabbit Creek A** 64.34 332 P P 03 16 21.0 -0.5
baz=110
PRP **Porcupine Dome** 64.35 337 P P 03 16 21.1 -0.6
baz=116
G26K **Porcupine Rive** 64.39 339 P 03 16 21.5 -0.3
G26K **Porcupine Rive** 64.39 339 P P 03 16 21.3 -0.5
baz=119
HDA **Harding Lake** 64.42 336 P P 03 16 21.2 -0.8
baz=114
WAT1 **Susitna Watana** 64.45 334 P P 03 16 21.2 -1.1
baz=112
ILAR **Eielson Array** 64.55 336 P P 03 16 21.9 -0.9
comp=Z,3.4nm,1.0s,baz=129,slow=5.5,SNR=30
ILAR LR LR 03 48 25.5
comp=Z,72nm,18.3s,baz=132,slow=40
comp=Z,3.4nm,1.0s
D27M **Malcolm River** 64.65 342 P P 03 16 23.7 +0.2
baz=122
KDAK **Kodiak Island** 64.69 328 P P 03 16 22.6 -1.3
baz=106
M22K **Willow** 64.74 333 P P 03 16 23.2 -1.0
baz=110
H25L **Birch Creek** 64.79 338 P P 03 16 23.8 -0.5
baz=116
Q20K **Shuyak Island** 64.83 329 P P 03 16 23.0 -1.7
baz=107
F26K **Sheenjek River** 64.87 340 P P 03 16 24.3 -0.7
baz=119
BMAR **Burnt Mountain** 64.89 340 P 03 16 25.4 +0.2
SUA **Susitna One** 64.93 332 P P 03 16 24.9 -0.6
baz=110
MCK **McKinley** 64.95 335 P P 03 16 24.2 -1.4
baz=112
COLA **College** 64.97 336 P P 03 16 24.3 -1.2
baz=114
CUT **Chulitna** 65.03 333 P P 03 16 25.2 -0.8
baz=110
G25K **Bearman Lake** 65.12 339 P P 03 16 25.8 -0.7
baz=116
SII **Sitkinak Islan** 65.21 327 P P 03 16 25.4 -1.9
baz=104
F25K **Christian Rive** 65.33 339 P P 03 16 27.1 -0.8
baz=117,SNR=7.1
NEA2 **Nenana** 65.34 336 P P 03 16 26.6 -1.4
baz=112
O20K **Slope Mountain** 65.37 331 P P 03 16 26.8 -1.6
baz=107
H24K **Noodor Dome** 65.37 337 P P 03 16 27.5 -0.7
baz=114
TRF **Thorofare Moun** 65.41 334 P P 03 16 27.7 -1.0
baz=111
SKT **Skwentna** 65.45 333 P P 03 16 27.2 -1.6
baz=109
Q19K **Cape Douglas,** 65.54 329 P P 03 16 28.6 -0.9
baz=106
E25K **Arctic Village** 65.55 340 P P 03 16 28.9 -0.4
baz=117
G24K **Hadweenzic Riv** 65.58 338 P 03 16 29.7 +0.1
G24K **Hadweenzic Riv** 65.58 338 P P 03 16 28.7 -0.8
baz=115,SNR=5.9
ILSW **Iliamna Southw** 65.59 330 P P 03 16 32.1 +2.2
ILSW IAmb IAmb 03 17 05.8
comp=Z,6.7nm,0.5s
R18K **Karluk** 65.60 328 P P 03 16 28.8 -0.9
baz=104
I23K **Minto, Yukon-K** 65.66 336 P P 03 16 29.3 -0.7
baz=112
C27K **Jago River** 65.68 342 P P 03 16 29.9 -0.2
baz=120
BPAW **Bear Paw Mtn.** 65.93 335 P P 03 16 30.9 -1.0
baz=110,SNR=7.2
H23K **Yukon River** 65.99 337 P P 03 16 31.4 -0.8
baz=112
PPLA **Purkeypile** 66.04 334 P P 03 16 31.7 -1.0
baz=109
F24K **Squaw Lake** 66.07 339 P P 03 16 32.6 -0.1
baz=115
M20K **Styx River** 66.14 332 P P 03 16 31.8 -1.5
baz=107
Q18K **Katmai Hardscr** 66.15 329 P P 03 16 32.0 -1.5
baz=104
CAST **Castle Rocks** 66.16 334 P P 03 16 32.2 -1.1
baz=109
MLY **Manley** 66.16 336 P 03 16 33.0 -0.4
MLY IAmb IAmb 03 16 33.5
comp=Z,8.7nm,1.1s
MLY **Manley** 66.16 336 P P 03 16 32.8 -0.6
baz=111,SNR=12
D25K **Kavik River** 66.36 341 P P 03 16 33.7 -0.9
baz=117,SNR=11
SUMG **Summit** 66.37 15 P 03 16 34.0 -1.0
P18K **Big Mountain,** 66.45 329 P P 03 16 33.6 -1.6
baz=104
N19K **Bonanza Creek** 66.46 331 P P 03 16 34.3 -1.1
baz=106
Q17K **Contact Creek** 66.51 328 P P 03 16 34.6 -1.2
baz=103
E24K **Your Creek** 66.51 339 P P 03 16 34.9 -0.6
baz=114
G23K **Bananza Creek** 66.51 338 P P 03 16 34.8 -0.8
baz=112
O18K **Koktuh Hills** 66.55 330 P P 03 16 34.8 -1.1
baz=105
R17L **Mt. Peulik Vol** 66.61 327 P P 03 16 35.2 -1.2
baz=103
L20K **Farewell, AK** 66.65 333 P P 03 16 35.5 -1.0
baz=107
M19K **Big River Lodg** 66.72 332 P P 03 16 35.8 -1.0
baz=106
H22K **Ishtalitna Cre** 66.72 337 P P 03 16 35.6 -1.3
baz=111
PPT **Papeete** 66.72 244 LR LR 03 37 09.5
comp=Z,189nm,18.8s,baz=102,slow=28
PPT2 **Papeete2** 66.73 244 eLR LR 03 36 37.1
comp=Z,344nm,28.5s
PPT2 eLR LR 03 36 38.8
comp=Z,247nm,31.0s
COLD **Coldfoot** 66.78 338 P P 03 16 36.3 -0.9
baz=112
E23K **Chandalar** 66.89 339 P 03 16 38.7 +0.6
E23K IAmb IAmb 03 16 39.4
comp=Z,6.4nm,1.1s
E23K **Chandalar** 66.89 339 P P 03 16 37.5 -0.6
baz=113,SNR=6.2
K20K **Telida** 66.99 334 P P 03 16 37.4 -1.3
baz=107
L19K **White Mountain** 67.00 332 P P 03 16 37.7 -1.1
baz=106
P17K **Kvichak River** 67.00 329 P P 03 16 37.5 -1.2
baz=103
D24K **Happy Valley** 67.07 340 P P 03 16 38.7 -0.3
baz=114
N18K **Kilae Creek** 67.09 331 P P 03 16 38.4 -0.9
baz=104
TOLK **Toolik Lake Re** 67.11 340 P P 03 16 38.6 -0.8
baz=114
G22K **Bettles** 67.14 338 P P 03 16 39.4 -0.1
baz=111
H21K **Melozitna Rive** 67.19 336 P P 03 16 39.2 -0.7
baz=109
M18K **Stony River** 67.26 332 P P 03 16 39.1 -1.3
baz=105
J20K **Nowinta River** 67.27 335 P P 03 16 39.3 -1.1
baz=107
C24K **Franklin Bluff** 67.27 341 P P 03 16 40.1 -0.2
baz=115
O17K **Koliganek Bris** 67.46 330 P P 03 16 40.7 -0.9
baz=103
F22K **John River** 67.59 338 P P 03 16 41.9 -0.4
baz=111
I20K **Naaghedeneel** 67.59 335 P P 03 16 41.2 -1.1
baz=107
D23K **Nanushuk River** 67.61 340 P P 03 16 42.4 0.0
baz=113
N17K **Nushagak Hills** 67.68 330 P P 03 16 42.1 -0.9
baz=103
E22K **Anaktuvuk Pass** 67.69 339 P 03 16 43.4 +0.4
E22K **Anaktuvuk Pass** 67.69 339 P P 03 16 42.2 -0.7
baz=111,SNR=6.2
G21K **Allakaket** 67.74 337 P P 03 16 42.7 -0.7
baz=109,SNR=5.9
J19K **Poorman** 67.84 334 P 03 16 43.2 -0.7
J19K **Poorman** 67.84 334 P P 03 16 42.8 -1.1
baz=106

L18K **Granite Mounta** 67.84 332 P P 03 16 43.1 -0.9
baz=104
CHNA **Chernabura Isl** 67.87 324 P P 03 16 43.5 -0.8
baz=99
O16K **Kokwok River B** 67.92 329 P P 03 16 43.1 -1.4
baz=102
C23K **Itkillik River** 67.93 341 P 03 16 44.8 +0.4
C23K IAmb IAmb 03 16 45.4
comp=Z,9.3nm,0.9s
C23K **Itkillik River** 67.93 341 P P 03 16 44.4 0.0
baz=113
H20K **Anotleneega Mo** 67.96 336 P P 03 16 43.6 -1.1
baz=107
F21K **Alatna River** 67.97 338 P 03 16 45.5 +0.7
F21K IAmb IAmb 03 16 46.4
comp=Z,6.9nm,0.8s
F21K **Alatna River** 67.97 338 P P 03 16 44.6 -0.1
baz=109,SNR=16
M17K **Holitna River** 67.99 331 P P 03 16 44.3 -0.7
baz=103
J18K **Innoko River** 68.17 334 P P 03 16 45.3 -0.7
baz=105
D22K **Ayikyak River** 68.25 340 P P 03 16 46.2 -0.3
baz=111
N16K **Nishlik Lake** 68.43 330 P P 03 16 46.9 -0.8
baz=102
E21K **Killik River** 68.55 339 P P 03 16 47.6 -0.7
baz=109
L17K **Donlin** 68.56 332 P P 03 16 47.1 -1.3
baz=103
H19K **Roundabout Mou** 68.60 336 P 03 16 48.1 -0.5
H19K **Roundabout Mou** 68.60 336 P P 03 16 47.3 -1.3
baz=106,SNR=7.0
M16K **Timber Creek** 68.63 331 P P 03 16 47.4 -1.6
baz=102
K17K **Iditarod** 68.69 333 P P 03 16 47.9 -1.4
baz=103
O15K **Ungalikthiuk R** 68.71 329 P P 03 16 47.7 -1.7
baz=100
F20K **Avaraart Lake** 68.75 337 P P 03 16 48.5 -1.0
baz=107
BORG **Borgarnes** 68.88 25 LR LR 03 47 45.2
comp=Z,28nm,18.2s,baz=260,slow=37
TBI **Tubuai** 68.99 238 eLR LR 03 37 50.2
comp=Z,755nm,26.8s
L16K **Owhat River** 69.01 331 P P 03 16 49.8 -1.4
baz=101
G19K **Purcell Mounta** 69.02 336 P P 03 16 50.0 -1.3
baz=105
N15K **Kwethluk River** 69.02 330 P P 03 16 49.6 -1.8
baz=100
C21K **Knifeblade Rid** 69.06 340 P P 03 16 50.8 -0.7
baz=109
B21K **Ikpikpuk River** 69.15 340 P P 03 16 51.9 -0.1
baz=109
J17K **VABM Dome** 69.18 333 P P 03 16 51.2 -1.1
baz=102
E20K **Nigu River** 69.27 339 P P 03 16 52.2 -0.7
baz=107,SNR=6.1
H18K **Honhosa River** 69.28 335 P P 03 16 51.7 -1.3
baz=104
S12K **Black Hills** 69.39 325 P P 03 16 52.5 -1.2
baz=97
M15K **Kasigluk River** 69.40 330 P P 03 16 52.8 -0.9
baz=100
E19K **Redstone River** 69.42 338 P P 03 16 52.6 -1.1
baz=106
O14K **Tigyukauivet M** 69.45 329 P P 03 16 53.4 -0.6
baz=99
F19K **Shaleruckik Mo** 69.46 337 P P 03 16 52.8 -1.2
baz=105
D20K **Etivluk River** 69.55 339 P P 03 16 54.0 -0.6
baz=107,SNR=7.6
G18K **Tagagawik** 69.57 336 P 03 16 55.1 +0.4
G18K **Tagagawik** 69.57 336 P P 03 16 54.4 -0.4
baz=104
A22K **Sinclair Lake** 69.72 341 P P 03 16 55.2 -0.3
baz=109
N14K **Kuskokwak Cree** 69.77 329 P P 03 16 55.0 -0.9
baz=99
J16K **Anvik River** 69.83 333 P P 03 16 55.9 -0.4
baz=101
H17K **Granite Mounta** 69.87 335 P P 03 16 55.8 -0.8
baz=102
L15K **Ungalak Mounta** 69.95 331 P P 03 16 56.6 -0.5
baz=100
I17K **Unalakleet** 69.99 334 P P 03 16 56.5 -0.7
baz=101
D19K **Kuna River** 70.02 339 P P 03 16 56.9 -0.6
baz=105
M14K **Bethel** 70.03 330 P P 03 16 56.8 -0.7
baz=99
K15K **Wolf Creek Mou** 70.07 332 P P 03 16 57.5 -0.3
baz=100
B20K **Meade River** 70.11 340 P P 03 16 57.3 -0.6
baz=107
G17K **Kiwalik Mounta** 70.29 335 P P 03 16 59.0 -0.2
baz=102
A21K **Barrow** 70.33 342 P P 03 16 59.3 +0.1
baz=108
M13K **Dall Lake** 70.66 330 P P 03 17 01.5 +0.1
baz=98
C19K **Lookout Ridge** 70.69 339 IAmb IAmb 03 17 02.8
comp=Z,15nm,1.4s
C19K P 03 17 03.4 +1.9
C19K **Lookout Ridge** 70.69 339 P P 03 17 01.8 +0.2
baz=104
H16K **Elim** 70.79 334 P P 03 17 01.5 -0.7
baz=100
G16K **Koyuk River** 70.97 335 P P 03 17 02.2 -1.0
baz=100
J14K **Nanvaranak Lak** 71.07 332 P P 03 17 03.0 -0.9
baz=98
E17K **Hotham Inlet** 71.07 337 P P 03 17 02.7 -1.1
baz=101
C18K **Utukok River** 71.16 338 P P 03 17 04.1 -0.3
baz=102
B18K **Kokolik River** 71.52 339 P P 03 17 06.5 0.0
baz=102
D17K **Noatak River** 71.67 337 P P 03 17 06.8 -0.6
baz=100
C17K **DeLong Mountai** 71.84 338 P P 03 17 07.3 -1.1
baz=100
F15K **North Star Dit** 71.96 335 P P 03 17 08.5 -0.7
baz=98
C16K **Lisburne Hills** 72.60 338 P P 03 17 12.9 0.0
baz=98
NIKH **Nikolski High** 73.19 322 P P 03 17 15.6 -1.1
baz=90
EKA **Eskdalemuir Ar** 77.19 36 P P 03 17 36.3 -3.4
comp=Z,3.2nm,0.8s,baz=273,slow=7.1,SNR=8.6
EKA pP pP 03 17 55.5 -1.1
comp=Z,1.7nm,0.9s,baz=262,slow=5.8,SNR=2.5
comp=Z,3.2nm,0.8s
ESDC **Sonseca Array** 78.29 52 P P 03 17 42.9 -3.4
comp=Z,2.1nm,0.9s,baz=280,slow=5.1,SNR=10
ESDC pP pP 03 18 02.1 -1.0
comp=Z,1.0nm,0.8s,baz=284,slow=5.2,SNR=4.9
ESDC LR LR 03 46 01.8
comp=Z,74nm,21.8s,baz=282,slow=31
comp=Z,2.1nm,0.9s
MDT **Midelt** 78.72 59 LR LR 03 46 52.2
comp=Z,68nm,20.4s,baz=260,slow=32
SPITS **Spitsbergen Ar** 80.38 12 P P 03 17 54.7 -2.1
comp=Z,1.4nm,0.3s,baz=325,slow=1.0,SNR=14
SPITS LR LR 03 56 37.8
comp=Z,36nm,18.2s,baz=292,slow=38
comp=Z,1.4nm,0.3s
DBIC **Dimbokro** 83.30 85 LR LR 03 50 25.0
comp=Z,44nm,21.5s,baz=323,slow=32
NB2 **NORSAR Subarra** 83.68 29 P P 03 18 12.6 -1.8
comp=Z,6.0nm,1.2s,baz=283,slow=5.6
NOA **NORSAR Array B** 83.68 29 P P 03 18 12.2 -2.2
comp=Z,1.3nm,0.9s,baz=286,slow=5.1,SNR=4.8
NOA LR LR 03 51 25.3
comp=Z,42nm,21.9s,baz=275,slow=33
comp=Z,1.3nm,0.9s
HFS **Hagfors** 85.11 29 P P 03 18 19.4 -2.2
comp=Z,1.7nm,0.7s,baz=158,slow=1.6,SNR=6.0
HFS LR LR 03 53 08.5
comp=Z,44nm,21.4s,baz=282,slow=34
comp=Z,1.7nm,0.7s
ARCES **ARCESS Array B** 86.12 19 P P 03 18 25.1 -1.4
comp=Z,1.6nm,0.8s,baz=292,slow=5.0,SNR=16
ARCES LR LR 03 58 05.3
comp=Z,18nm,19.2s,baz=290,slow=36
comp=Z,1.6nm,0.8s
DAVOX **Davos/Dischmat** 86.80 43 LR LR 03 54 07.7
comp=Z,25nm,18.3s,baz=266,slow=34

CLL **Collm** 87.46 38 eP P 03 18 36.0 +2.7
GERES **GERESS Array B** 88.65 40 P P 03 18 37.1 -2.1
comp=Z,0.2nm,0.4s,baz=243,slow=7.3,SNR=4.6
GERES LR LR 03 53 07.6
comp=Z,41nm,21.8s,baz=284,slow=32
comp=Z,0.2nm,0.4s
KEST **Kesra** 89.41 54 LR LR 03 52 00.2
comp=Z,46nm,21.7s,baz=293,slow=31
FINES **FINESS Array B** 90.17 26 P P 03 18 45.3 -0.6
comp=Z,3.7nm,1.0s,baz=264,slow=5.6,SNR=4.7
FINES LR LR 03 57 47.5
comp=Z,51nm,21.3s,baz=254,slow=35
comp=Z,3.7nm,1.0s
VRAC **Vranov** 90.29 39 LR LR 03 56 27.0
comp=Z,39nm,20.3s,baz=290,slow=34
SEY **Seymchan** 90.48 336 LR LR 04 03 10.2
comp=Z,35nm,21.3s,baz=91,slow=38
VAE **Valguarnera** 92.79 51 LR LR 03 54 04.8
comp=Z,120nm,21.8s,baz=308,slow=31
MA2 **Magadan** 92.91 334 LR LR 04 06 52.7
comp=Z,34nm,19.0s,baz=46,slow=39
AKASG **Malin Array Be** 97.03 34 LR LR 04 01 15.9
comp=Z,23nm,19.4s,baz=242,slow=34
MLR **Muntele Rosu** 97.64 40 LR LR 04 02 03.3
comp=Z,29nm,18.6s,baz=285,slow=35
NRIK **Noril'sk** 97.65 1 LR LR 04 04 50.6
comp=Z,114nm,21.4s,baz=346,slow=36
OBN **Obninsk** 98.26 28 LR LR 04 01 54.2
comp=Z,40nm,21.6s,baz=184,slow=34
YAK **Yakutsk** 98.97 342 LR LR 04 08 35.6
comp=Z,32nm,21.9s,baz=18,slow=38
DZM **Mont Dzumac** 107.72 251 eLR LR 03 55 34.0
comp=Z,103nm,30.1s
ZALV **Zalesovo Beam** 112.95 4 PP PP 03 25 09.2 -1.6
comp=Z,8nm,0.7s,baz=350,slow=7.5,SNR=8.1
KURBB **Kurchatov Arra** 115.60 8 PKP PKiKP 03 24 26.9 -0.8
comp=Z,0.9nm,0.7s,baz=341,slow=2.2,SNR=9.0
BOSA **Boshof** 117.80 115 PKP PKiKP 03 24 32.8 +0.1
comp=Z,2.6nm,0.7s,baz=295,slow=2.7,SNR=6.3
BOSA pPKP pPKPdf 03 24 51.0 +0.4
comp=Z,2.9nm,0.8s,baz=282,slow=2.3,SNR=2.8
KSRS **Korea Array** 118.58 327 PKP PKiKP 03 24 34.3 +0.4
comp=Z,1.2nm,0.5s,baz=351,slow=2.0,SNR=3.6
MKAR **Makanchi Array** 119.83 7 PKPdf PKPdf 03 24 35.0 -1.1
MKAR **Makanchi Array** 119.83 7 PKP PKPdf 03 24 34.6 -1.4
comp=Z,0.6nm,0.6s,baz=352,slow=1.7,SNR=5.7
MAW **Mawson** 122.69 168 PKP PKiKP 03 24 42.0 +1.0
comp=Z,2.3nm,0.8s,baz=341,slow=3.5,SNR=4.3
HHC **Hu-ho-hao-te** 122.81 341 eP PKiKP 03 24 45.6 +3.3
WMQ **Urumqi** 123.20 2 ePKP PKiKP 03 24 45.4 +2.5
WMQ LR LR
comp=N,450nm,23.3s
WMQ LR LR
comp=E,400nm,19.3s
WMQ LR LR
comp=Z,170nm,24.0s
GTA **Gaotai** 126.96 351 ePKP PKPdf 03 24 50.2 +0.1
GTA sPKP 03 25 09.2
NJ2 **Nanjing** 127.46 329 eP PKiKP 03 24 52.5 +0.9
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
WRA **Warramunga Arr** 137.56 255 PKP PKiKP 03 25 13.4 +1.1
comp=Z,2.4nm,0.8s,baz=87,slow=2.6,SNR=15
WRA SKPbc SKPbc 03 28 40.9 +2.0
comp=Z,1.4nm,0.8s,baz=91,slow=2.8,SNR=8.3
ASAR **Alice Springs** 137.69 249 PKP PKiKP 03 25 13.5 +1.0
comp=Z,0.7nm,0.7s,baz=146,slow=2.1,SNR=5.8
ASAR SKPbc SKPbc 03 28 41.3 +2.1
comp=Z,0.6nm,0.6s,baz=100,slow=2.9,SNR=6.4
PZH **PanZhiHua** 139.06 345 PKP PKPdf 03 25 13.7 +0.5
CHTO **Chiang Mai** 147.13 345 PKPdf 03 25 27.6 +0.2
CMAR **Chiang Mai Arr** 147.47 345 PKPdf 03 25 27.5 -0.5
CMAR **Chiang Mai Arr** 147.47 345 PKPbc PKPbc 03 25 29.7 -0.8
comp=Z,6.7nm,0.4s,baz=8.9,slow=3.0,SNR=5.6

IDC ***10*** *03:06:54.9±7.2, 17°.97S×178°.14W, h397km±72km, mb3.2/8, mbtmp4.0/8, Error ellipse: s-maj=25.9km s-min=21.5km az=127.0*

ISC 10 03:06:55.0±0.7, 18°.0S±0°.2×178°.2W±0°.2, h400km, n11, σ1§14/13, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.80**	**260**	P	P	P	**03 14 32.0**	**+0.5**
	0.4nm,0.4s,baz=92,slow=6.8,SNR=13							
WRA				PcP	PcP	PcP	03 16 04.1	-1.5
	0.3nm,0.3s,baz=90,slow=3.8,SNR=6.5							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**44.95**	**254**	P	P	P	**03 14 34.5**	**+1.9**
	4.1nm,0.5s,baz=89,slow=8.3,SNR=50							
ASAR				PcP	PcP	PcP	03 16 05.3	-0.8
	0.5nm,0.4s,baz=101,slow=3.5,SNR=4.2							
	4.1nm,0.5s							
QSPA	**South Pole Qui**	**72.09**	**180**	P	P	P	**03 17 37.6**	**+0.6**
	1.2nm,0.7s,baz=347,slow=1.1,SNR=12							
	1.2nm,0.7s							
NVAR	**Mina Array Bea**	**79.34**	**44**	P	P	P	**03 18 18.6**	**+0.5**
	0.6nm,0.7s,baz=222,slow=9.1,SNR=4.8							
	0.6nm,0.7s							
TXAR	**Lajitas Array**	**85.87**	**58**	P	P	P	**03 18 52.7**	**+1.3**
	0.7nm,0.7s,baz=226,slow=6.7,SNR=8.4							
	0.7nm,0.7s							
ILAR	**Eielson Array**	**85.90**	**13**	P	P	P	**03 18 50.4**	**-0.2**
	0.4nm,0.4s,baz=221,slow=5.5,SNR=17							
	0.4nm,0.4s							
PDAR	**Pinedale Array**	**87.27**	**43**	P	P	P	**03 18 58.0**	**+0.2**
	0.3nm,0.5s,baz=212,slow=2.6,SNR=4.8							
	0.3nm,0.5s							
SNAA	**Sanae**	**90.54**	**179**	P	P	P	**03 19 11.2**	**-1.3**
	0.4nm,0.6s,baz=218,slow=11,SNR=5.6							
	0.4nm,0.6s							
ARCES	**ARCESS Array B**	**126.40**	**350**	PKP	PKPdf	PKPdf	**03 25 09.2**	**-1.3**
	0.6nm,0.5s,baz=82,slow=2.6,SNR=5.5							
BRTR	**Keskin Array B**	**144.94**	**315**	PKPbc	PKPab	**03 25 45.6**	**-0.8**
	0.3nm,0.5s,baz=117,slow=2.0,SNR=4.2							
GERES	**GERESS Array B**	**147.71**	**345**	PKPbc	PKPbc	**03 25 53.1**	**-0.3**
	1.4nm,0.5s,baz=15,slow=2.8,SNR=16							

CATAC 10 03:37:55.9±0.4, 12°N±3°×8°6W±°, h59km±4km, M3.2/23, MLv3.2/23, 15C-2D, Error ellipse: s-maj=8.7km s-min=4.0km az=45.8, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.49**	**23**	P	P	Pn	03 38 05.7	-2.1
SABN	**Sabanita**	**0.53**	**38**	P	P	Pn	03 38 08.4	+0.2
NANN	**Nandasmo**	**0.55**	**42**	S	S	Sn	03 38 21.6	+4.2
NANN	**Nandasmo**	**0.55**	**42**	⇑P	P	Pn	03 38 10.0	+1.7
UNAN	**Cigeo UNAN**	**0.62**	**21**	P	P	Pn	03 38 10.6	+1.4
UNAN				S	S	Sn	03 38 21.7	+2.9
USIM	**UNAN**	**0.62**	**20**	P	P	Pn	03 38 09.8	+0.6
USIM	**UNAN**	**0.62**	**20**	S	S	Sn	03 38 20.9	+2.1
ENAN	**Enatrel Managu**	**0.62**	**22**	P	P	Pn	03 38 09.4	+0.2
ENAN	**Enatrel Managu**	**0.62**	**22**	S	S	Sn	03 38 22.3	+3.4
SAPS	**Ciudad Sandino**	**0.64**	**8**	P	P	Pn	03 38 10.1	+0.7
SAPS	**Ciudad Sandino**	**0.64**	**8**	S	S	Sn	03 38 21.5	+2.3
TISN	**Laguna Tiscapa**	**0.65**	**20**	P	P	Pn	03 38 10.5	+1.0
TISN				S	S	Sn	03 38 22.7	+3.3
COPN	**Copaltepe**	**0.65**	**352**	⇑P	P	Pn	03 38 09.5	-0.1
ALLN	**Telcor Managua**	**0.66**	**19**	S	S	Sn	03 38 22.4	+2.8
ALLN	**Telcor Managua**	**0.66**	**19**	⇑P	P	Pn	03 38 10.2	+0.6
APQ2	**Apoyeque**	**0.68**	**14**	P	P	Pn	03 38 09.9	0.0
APQ2				S	S	Sn	03 38 21.8	+1.7
WILN	**Americas 2**	**0.69**	**26**	P	P	Pn	03 38 10.6	+0.5
WILN				S	S	Sn	03 38 23.5	+3.1
AMTN	**Mateare**	**0.70**	**5**	S	S	Sn	03 38 21.3	+0.7
AMTN	**Mateare**	**0.70**	**5**	⇑P	P	Pn	03 38 09.5	-0.6
APQ3	**Volcan Apoyequ**	**0.75**	**10**	⇑P	P	Pn	03 38 11.5	+0.8
APQ3				S	S	Sn	03 38 23.8	+2.3
JAPN	**AI SSO del Vol**	**0.80**	**90**	⇑P	P	Pn	03 38 12.2	+0.8
MORN	**AI O del Volca**	**0.83**	**89**	⇑P	P	Pn	03 38 12.3	+0.6
MOMN	**Momotombo**	**0.87**	**357**	P	P	Pn	03 38 09.6	-2.8
MOMN				S	S	Sn	03 38 25.5	+1.1
MOM2	**El Cardon**	**0.90**	**1**	⇑P	P	Pn	03 38 13.1	+0.5
MOM2				S	S	Sn	03 38 27.3	+2.3
CNGA	**AI SSO del Vol**	**0.98**	**348**	⇑P	P	Pn	03 38 13.9	+0.2
CNGA				S	S	Sn	03 38 28.2	+1.4
CNGN	**Cerro Negro**	**0.98**	**348**	S	S	Sn	03 38 28.2	+1.2
CNGN	**Cerro Negro**	**0.98**	**348**	⇑P	P	Pn	03 38 13.8	+0.1
ALEN	**Leon**	**0.99**	**338**	⇑P	P	Pn	03 38 14.1	+0.3
CARN	**Rivas**	**1.01**	**110**	⇑P	P	Pn	03 38 14.2	+0.1
CARN				S	S	Sn	03 38 27.8	+0.3
PLRN	**Geotermica Pol**	**1.08**	**346**	⇓P	P	Pn	03 38 14.7	-0.3

PLRN				S	Sn	03 38 29.2	+0.1	
POLN	**Al Sur del Vol**	**1.15**	**344**	P	Pn	03 38 15.9	0.0	
POLN				S	Sn	03 38 30.5	-0.4	
PKGN	**Cerro Pekin**	**1.23**	**337**	P	Pn	03 38 17.1	+0.2	
PKGN				S	Sn	03 38 34.1	+1.5	
ACON	**Acoyapa**	**1.36**	**71**	S	Sn	03 38 35.4	-0.5	
ACON	**Acoyapa**	**1.36**	**71**	⇑P	Pn	03 38 18.9	+0.1	
MATN	**Matagalpa**	**1.50**	**22**	S	Sn	03 38 38.7	-0.5	
MATN	**Matagalpa**	**1.50**	**22**	⇑P	Pn	03 38 21.0	+0.4	
CMARA	**Lajas Hojancha**	**1.83**	**145**	⇑P	Pn	03 38 26.1	+0.9	
RCPN	**Sur Rio San Ju**	**2.02**	**11**	⇓P	Pn	03 38 28.6	+0.9	
RCVN	**Varillal2**	**2.06**	**8**	P	Pn	03 38 28.0	-0.4	

NEIC ***10*** *03:42:54.1±1.8, 35°.640N±0°.010×117°.45W±0°.01, h12km±2km, Error ellipse: s-maj=1.5km s-min=1.4km az=61.0*

PAS 10 03:42:55.0±1.9, 35°.642N±0°.010×117°.45W±0°.01, h11km±3km, ML3.6/16, ML3.4/162(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=61.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.14**	**148**		Pg	03 42 58.4	+0.2
CCCA				Sg	Sg	03 43 01.0	+0.4
CLC	**China Lake**	**0.21**	**326**		Pg	03 42 59.2	-0.2
CLC				IAML		03 43 00.0	
	comp=N,5μm,0.3s						
CLC				Sg	Sg	03 43 02.5	-0.1
CLC				IAML		03 43 03.2	
	comp=E,4μm,0.2s						
SRTC	**Snort**	**0.25**	**282**		Pg	03 43 00.2	+0.2
LRMC	**Laurel Mtn Rad**	**0.25**	**229**		Pg	03 42 59.8	-0.3
LRMC				Sg	Sg	03 43 03.6	-0.1
LRMC				IAML		03 43 04.5	
	comp=N,12μm,0.2s						
TOW	**Tower One**	**0.30**	**303**		Sb	03 43 06.6	-0.9
MPMC	**Manual Prospec**	**0.42**	**356**		Pg	03 43 02.7	-0.6
MPMC				Sg	Sg	03 43 08.5	-0.4
WNMM	**Nine Mile Cany**	**0.42**	**299**		Pg	03 43 03.0	-0.3
WVPM	**Volcano Peak E**	**0.43**	**316**		Pg	03 43 03.0	-0.4
WVPM					Sg	03 43 09.5	+0.4
JRC2	**Joshua Ridge**	**0.45**	**320**		Pg	03 43 03.5	-0.3
WCSM	**Coso Springs S**	**0.46**	**326**		Pg	03 43 03.8	-0.2
DTP	**Desert Tortois**	**0.49**	**221**		Pg	03 43 04.0	-0.6
DTP					Sg	03 43 11.4	+0.3
QSM	**Queen of Sheba**	**0.57**	**56**		Pg	03 43 05.7	-0.5
QSM				IAML		03 43 16.8	
	comp=E,3μm,0.3s						
QSM				IAML		03 43 17.3	
	comp=N,4μm,0.3s						
QSM	**Queen of Sheba**	**0.57**	**56**		Sg	03 43 14.0	+0.2
GSC	**Goldstone, Bar**	**0.63**	**123**		Pg	03 43 06.5	-0.7
GSC				IAML		03 43 16.2	
	comp=N,3μm,0.4s						
GSC	**Goldstone, Bar**	**0.63**	**123**		Sg	03 43 15.0	-0.4
CCAC	**Calif City Air**	**0.67**	**223**		Pg	03 43 07.4	-0.6
ISA	**Isabella, Lake**	**0.83**	**272**		Pg	03 43 10.2	-0.8
ISA				IAML		03 43 21.7	
	comp=N,3μm,0.2s						
GWY	**Greenwater Val**	**0.84**	**49**		Pg	03 43 10.4	-0.7
GWY				IAML		03 43 24.3	
	comp=E,2μm,0.4s						
GWY				IAML		03 43 24.6	
	comp=N,2μm,0.4s						
CWC	**Cottonwood Cre**	**0.94**	**328**		Pg	03 43 12.4	-0.8
CWC				IAML		03 43 28.4	
	comp=N,631nm,0.2s						
CWC				IAML		03 43 28.8	
	comp=E,606nm,0.2s						
SHOC	**Shoshone, Teco**	**0.99**	**75**		Pg	03 43 13.6	-0.4
TPO	**Tropico Hills**	**0.99**	**220**		Pg	03 43 13.2	-0.9
SPG2	**Springville 2**	**1.20**	**298**		Pn	03 43 16.8	-1.0
WCT	**Wildcat Mounta**	**1.33**	**30**	Pn	Pn	03 43 18.3	-1.3
GRAC	**Grapevine Rang**	**1.35**	**3**	Pn	Pn	03 43 19.1	-0.7
GRAC				IAML		03 43 41.7	
	comp=E,1μm,0.6s						
BFSC	**Mount Baldy Ra**	**1.41**	**187**		Pn	03 43 19.4	-1.3
BFSC				IAML		03 43 40.6	
	comp=N,936nm,0.5s						
BFSC				IAML		03 43 40.0	
	comp=E,913nm,0.6s						
OSI	**Osito Audit: C**	**1.46**	**226**		Pn	03 43 21.4	0.0
OSI				IAML		03 43 44.1	
	comp=N,700nm,0.8s						
OSI				IAML		03 43 45.8	
	comp=E,730nm,0.6s						
MWC	**Mount Wilson**	**1.50**	**200**		Pn	03 43 21.3	-0.7
MWC				IAML		03 43 44.2	
	comp=E,835nm,0.2s						
MWC				IAML		03 43 44.2	
	comp=N,959nm,0.7s						
MTPC	**Mountain Pass**	**1.56**	**95**		Pn	03 43 21.0	-1.7
MTPC				IAML		03 43 44.5	
	comp=N,903nm,0.4s						
PASC	**Pasadena Art C**	**1.59**	**203**		Pn	03 43 22.3	-0.7
PASC				IAML		03 43 47.2	
	comp=E,474nm,0.6s						
PASC				IAML		03 43 48.3	
	comp=N,502nm,0.6s						
TPNV	**Topopah Spring**	**1.63**	**36**		Pn	03 43 22.7	-1.1
TPNV				IAML		03 43 48.9	
	comp=N,370nm,0.6s						
TPNV				IAML		03 43 51.7	
	comp=N,418nm,0.5s						
GMN	**Gold Mountain**	**1.66**	**5**		Pn	03 43 23.6	-0.7
GMN				IAML		03 43 48.8	
	comp=E,283nm,0.5s						
GMN				IAML		03 43 49.6	
	comp=N,344nm,0.4s						
DSP	**Deep Springs**	**1.77**	**347**		Pn	03 43 25.0	-0.5
ELS	**Elsinore Mount**	**1.99**	**179**		Pn	03 43 27.5	-1.1
ELS				IAML		03 43 57.6	
	comp=N,175nm,0.4s						
ELS				IAML		03 43 58.9	
	comp=E,408nm,0.3s						
SHPR	**Sheep Range**	**2.05**	**64**		Pn	03 43 28.6	-0.9
BACC	**Bachelor Mtn.**	**2.05**	**170**		Pn	03 43 28.6	-0.9
MZP	**Montezuma Peak**	**2.06**	**2**		Pn	03 43 29.1	-0.6
V12A	**Nelson**	**2.12**	**87**		Pn	03 43 28.9	-1.6
V12A				IAML		03 44 02.9	
	comp=N,348nm,0.5s						
V12A				IAML		03 44 05.5	
	comp=E,267nm,0.5s						
PMD	**Palm Desert**	**2.18**	**156**		Pn	03 43 29.6	-1.6
PFO	**Pinyon Flats O**	**2.19**	**158**		Pn	03 43 29.8	-1.6
S11A	**Rachel**	**2.42**	**34**		Pn	03 43 34.5	-0.2
S11A				IAML		03 44 19.8	
	comp=E,256nm,0.8s						
S11A				IAML		03 44 20.0	
	comp=N,225nm,0.6s						
TPH	**Tonopah**	**2.44**	**4**		Pn	03 43 34.5	-0.4
NEE2	**Needles Airpor**	**2.48**	**110**	Pn	Pn	03 43 35.5	+0.2
BORC	**Borrego Spring**	**2.52**	**160**		Pn	03 43 34.4	-1.4
BORC				IAML		03 44 15.9	
	comp=N,89nm,0.3s						
BORC				IAML		03 44 16.9	
	comp=E,110nm,0.6s						
PRN	**Pahroc Range**	**2.62**	**47**		Pn	03 43 36.5	-0.8
PRN				IAML		03 44 23.7	
	comp=E,205nm,0.5s						
PRN				IAML		03 44 24.6	
	comp=N,214nm,0.6s						
SALN	**Salton City**	**2.65**	**152**	Pn	Pn	03 43 37.4	-0.2
DPP	**Dos Picos Cty**	**2.67**	**171**		Pn	03 43 36.9	-1.1
DPP				IAML		03 44 18.7	
	comp=E,170nm,0.7s						
LHV	**Little Huntoon**	**2.74**	**342**		Pn	03 43 38.9	+0.1
LHV				IAML		03 44 29.0	
	comp=N,72nm,0.7s						
PMPB	**Monarch Peak**	**2.78**	**283**		Pn	03 43 39.2	-0.2
PMPB				IAML		03 44 24.8	
	comp=N,261nm,1.0s						
PMPB				IAML		03 44 36.7	
	comp=E,214nm,0.8s						
NV11	**Mina Array Sit**	**2.84**	**349**		Pn	03 43 40.1	-0.3
NVAR	**Mina Array Bea**	**2.86**	**347**		Pn	03 43 40.1	-0.7
W13A	**Hualapai Mount**	**2.96**	**100**		Pn	03 43 40.9	-1.3
W13A				IAML		03 44 30.5	
	comp=N,129nm,0.7s						
W13A				IAML		03 44 31.4	
	comp=E,116nm,0.7s						
BLYC	**Blythe**	**3.06**	**127**	IAML		03 44 32.1	
	comp=N,150nm,0.6s						
BLYC				IAML		03 44 34.7	
	comp=E,135nm,0.7s						
TKX	**Tecate**	**3.15**	**167**	IAML		03 44 33.3	
	comp=E,140nm,0.4s						
TKX				IAML		03 44 33.3	
	comp=N,93nm,0.3s						
CMB	**Columbia Colle**	**3.35**	**316**	IAML		03 44 45.9	
	comp=N,58nm,0.6s						
CMB				IAML		03 44 46.5	
	comp=E,58nm,0.8s						
ESJX	**Sierra Juarez**	**3.84**	**161**	IAML		03 45 02.6	
	comp=E,32nm,0.9s						
KNB	**Kanab**	**3.98**	**69**	IAML		03 45 12.8	
	comp=N,32nm,1.2s						
Y14A	**Wickenburg**	**4.04**	**114**	IAML		03 45 11.3	
	comp=E,101nm,0.6s						
PSUT	**Pine Spring**	**4.08**	**44**	IAML		03 45 08.5	
	comp=N,30nm,0.9s						
PSUT				IAML		03 45 13.3	
	comp=N,30nm,0.8s						
SPR3	**Spring Creek 3**	**4.17**	**36**	IAML		03 45 07.7	
	comp=N,32nm,0.7s						
SPR3				IAML		03 45 07.7	
	comp=E,30nm,1.4s						
MPK	**Martis Peak**	**4.18**	**331**	IAML		03 45 18.2	
	comp=N,73nm,0.9s						
MPK				IAML		03 45 20.6	
	comp=E,91nm,1.0s						
113A	**Mohawk Valley,**	**4.19**	**132**	IAML		03 45 14.5	
	comp=N,24nm,0.8s						
U15A	**North Rim**	**4.26**	**78**	IAML		03 45 11.1	
	comp=E,54nm,0.8s						
U15A				IAML		03 45 15.6	
	comp=N,38nm,0.6s						
AFDM	**Forest Hills D**	**4.33**	**321**	IAML		03 45 14.4	
	comp=N,30nm,1.0s						
AFDM				IAML		03 45 15.9	
	comp=E,43nm,0.7s						
214A	**Organ Pipe Nat**	**5.33**	**132**	IAML		03 45 48.9	
	comp=N,15nm,0.9s						
214A				IAML		03 45 55.7	
	comp=E,16nm,0.9s						
ELK	**Elko**	**5.38**	**18**	IAML		03 45 47.1	
	comp=E,14nm,0.6s						

ASRS ***10*** *04:00:22.0±1.3, 55°.63N×86°.23E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 10 04:00:23.9±3.6, 55°.75N×86°.17E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=30.5km s-min=29.6km az=138.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.97**	**204**	I	I	04 12 35.0	
	baz=22,slow=320,SNR=14						
ZALV	**Zalesovo Beam**	**1.97**	**204**	Pn	Pn	04 00 57.6	-0.9
	3.0nm,0.3s,baz=28,slow=16,SNR=14						
ZALV				Lg	Lg	04 01 26.3	
	2.4nm,0.3s,baz=25,slow=25,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.89**	**225**	Pn	Pn	04 02 05.5	-0.6
	0.1nm,0.3s,baz=47,slow=14,SNR=2.1						
KURBB				Lg	Lg	04 04 03.6	
	baz=43,slow=30,SNR=4.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**9.29**	**197**	Pn	Pn	04 02 39.8	+0.7
	0.1nm,0.3s,baz=18,slow=12,SNR=1.7						
	0.2nm,0.6s						

NEIC ***10*** *04:14:11.2±1.5, 35°.936N±0°.008×117°.675W±0°.008, h4km±2km, Error ellipse: s-maj=1.4km s-min=0.7km az=209.0*

PAS 10 04:14:11.8±1.5, 35°.946N±0°.005×117°.68W±0°.01, h3km±2km, ML3.0/20, ML2.9/146(NEIC), Error ellipse: s-maj=1.5km s-min=0.5km az=59.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCSM	**Coso Springs S**	**0.11**	**320**		Pg	04 14 14.0	0.0
WCSM					Sg	04 14 16.1	+0.6
WVPM	**Volcano Peak E**	**0.11**	**272**		Pg	04 14 14.2	+0.2
CLC	**China Lake**	**0.15**	**152**		Pg	04 14 14.7	0.0
CLC					Sg	04 14 17.1	+0.4
CLC	**China Lake**	**0.15**	**152**	IAML		04 14 17.3	
	comp=E,2μm,0.7s						
CLC				IAML		04 14 18.0	
	comp=N,2μm,0.5s						
TOW	**Tower One**	**0.15**	**206**		Pg	04 14 15.2	+0.5
WRVM	**Rose V. Centra**	**0.18**	**290**		Pg	04 14 15.4	+0.1
MPMC	**Manual Prospec**	**0.19**	**54**		Pg	04 14 15.7	+0.1
MPMC				Sg	Sg	04 14 18.2	+0.1
MPMC				IAML		04 14 19.3	
	comp=E,5μm,0.2s						
WNMM	**Nine Mile Cany**	**0.21**	**240**		Pg	04 14 16.0	+0.2
WNMM					Sg	04 14 19.8	+1.3
MFS	**McCloud Flat S**	**0.22**	**321**		Pg	04 14 16.2	+0.1
MFS					Sg	04 14 19.8	+0.8
SRTC	**Snort**	**0.26**	**192**		Pg	04 14 17.2	+0.4
LRMC	**Laurel Mtn Rad**	**0.47**	**180**		Pg	04 14 20.8	0.0
LRMC				IAML		04 14 28.3	
	comp=N,1μm,0.3s						
CCCA	**Chr Cany lake**	**0.49**	**148**		Pg	04 14 21.6	+0.3
CCCA				Sg	Sg	04 14 28.6	+0.9
CWC	**Cottonwood Cre**	**0.59**	**327**		Pg	04 14 22.7	-0.4
CWC				Sg	Sg	04 14 31.2	+0.5
WHFM	**Hanning Flat**	**0.60**	**246**		Pg	04 14 23.1	-0.2
CGO	**Cerro Gordo**	**0.61**	**351**		Pg	04 14 23.5	0.0
CGO					Sg	04 14 32.7	+1.2
QSM	**Queen of Sheba**	**0.66**	**88**		Pg	04 14 24.1	-0.4
QSM				IAML		04 14 35.3	
	comp=N,760nm,0.5s						
QSM				IAML		04 14 37.6	
	comp=E,962nm,0.6s						
QSM	**Queen of Sheba**	**0.66**	**88**		Sg	04 14 33.3	+0.3
ISA	**Isabella, Lake**	**0.70**	**247**		Pg	04 14 25.0	-0.3
ISA				IAML		04 14 34.6	
	comp=N,594nm,0.5s						
ISA				IAML		04 14 35.5	
	comp=E,610nm,0.3s						
GWY	**Greenwater Val**	**0.86**	**73**		Pg	04 14 28.1	-0.1
GWY	**Greenwater Val**	**0.86**	**73**	IAML		04 14 43.6	
	comp=E,538nm,0.4s						
GWY				IAML		04 14 45.4	
	comp=N,578nm,0.5s						
SPG2	**Springville 2**	**0.91**	**286**		Pg	04 14 28.6	-0.7
GSC	**Goldstone, Bar**	**0.96**	**132**		Pg	04 14 29.5	-0.7
GSC				IAML		04 14 44.9	
	comp=N,578nm,0.5s						
GRAC	**Grapevine Rang**	**1.08**	**14**		Pg	04 14 31.9	-0.6
GRAC				IAML		04 14 50.7	
	comp=E,438nm,0.7s						
GRAC				IAML		04 14 52.2	
	comp=N,458nm,0.7s						
TPO	**Tropico Hills**	**1.15**	**203**		Pg	04 14 33.1	-0.8
TPO				IAML		04 14 51.6	
	comp=N,425nm,0.6s						
TPO				IAML		04 14 54.7	
	comp=E,250nm,0.6s						
SGV	**South Grapevin**	**1.16**	**27**		Pg	04 14 33.8	-0.2
SGV					Sg	04 14 49.4	+0.3
WCT	**Wildcat Mounta**	**1.20**	**45**		Pg	04 14 34.4	-0.4
WCT	**Wildcat Mounta**	**1.20**	**45**	IAML		04 14 56.3	
	comp=E,168nm,0.9s						
AMDNV	**Amargosa**	**1.24**	**66**		Pg	04 14 34.6	-1.0
GMN	**Gold Mountain**	**1.39**	**14**		Pn	04 14 38.2	-0.1
GMN				IAML		04 15 00.4	
	comp=E,118nm,0.6s						
GMN				IAML		04 15 01.8	
	comp=N,147nm,0.6s						
DSP	**Deep Springs**	**1.44**	**351**		Pn	04 14 38.4	-0.3
DSP				IAML		04 14 59.5	
	comp=E,189nm,0.6s						
DSP				IAML		04 14 59.5	
	comp=N,118nm,0.5s						
BHPR	**Bishop**	**1.50**	**335**		Pn	04 14 40.1	+0.3
TPNV	**Topopah Spring**	**1.53**	**49**		Pn	04 14 38.9	-1.2
TPNV				IAML		04 15 06.3	
	comp=N,176nm,0.9s						
TPNV				IAML		04 15 07.2	
	comp=N,181nm,1.1s						
OSI	**Osito Audit: C**	**1.58**	**213**		Pn	04 14 39.7	-1.0
OSI				IAML		04 15 04.7	
	comp=E,111nm,0.7s						
BFSC	**Mount Baldy Ra**	**1.70**	**179**		Pn	04 14 42.0	-0.5
BFSC				IAML		04 15 07.1	
	comp=N,115nm,0.4s						
BFSC				IAML		04 15 11.8	
	comp=E,93nm,0.5s						
MWC	**Mount Wilson**	**1.75**	**190**		Pn	04 14 42.6	-0.5
MWC				IAML		04 15 09.0	
	comp=E,170nm,0.5s						
MWC				IAML		04 15 09.2	
	comp=N,221nm,0.6s						
MZP	**Montezuma Peak**	**1.77**	**8**		Pn	04 14 43.1	-0.4
MTPC	**Mountain Pass**	**1.79**	**104**		Pn	04 14 42.6	-1.2
MTPC				IAML		04 15 12.4	
	comp=N,175nm,0.2s						
MTPC				IAML		04 15 12.7	
	comp=E,170nm,0.3s						
PASC	**Pasadena Art C**	**1.82**	**193**		Pn	04 14 43.2	-0.7
TPH	**Tonopah**	**2.16**	**10**		Pn	04 14 48.0	-0.8
S11A	**Rachel**	**2.30**	**42**		Pn	04 14 49.6	-1.1
S11A				IAML		04 15 28.2	
	comp=N,123nm,0.9s						
ELS	**Elsinore Mount**	**2.30**	**175**		Pn	04 14 50.0	-0.7
ELS				IAML		04 15 27.6	
	comp=E,68nm,0.7s						
ELS				IAML		04 15 31.0	
	comp=N,62nm,0.9s						
V12A	**Nelson**	**2.31**	**95**		Pn	04 14 49.6	-1.2
V12A				IAML		04 15 27.4	
	comp=N,44nm,1.2s						
V12A				IAML		04 15 34.6	
	comp=E,42nm,0.6s						
LHV	**Little Huntoon**	**2.39**	**344**		Pn	04 14 52.8	+1.0
LHV				IAML		04 15 35.9	
	comp=E,50nm,1.0s						
LHV				IAML		04 15 40.1	
	comp=N,46nm,1.8s						
NV11	**Mina Array Sit**	**2.51**	**351**	Pn	Pn	04 14 53.5	-0.1
NVAR	**Mina Array Bea**	**2.53**	**349**		Pn	04 14 53.3	-0.7
PFO	**Pinyon Flats O**	**2.54**	**156**		Pn	04 14 53.3	-0.6
PFO				IAML		04 15 37.9	
	comp=N,41nm,1.9s						
PFO				IAML		04 15 41.0	
	comp=N,40nm,0.8s						
PMPB	**Monarch Peak**	**2.54**	**277**		Pn	04 14 52.9	-1.1
PRN	**Pahroc Range**	**2.57**	**55**	Pn	Pn	04 14 54.1	-0.3
PRN				IAML		04 15 48.7	
	comp=E,75nm,0.9s						
PRN				IAML		04 15 49.1	
	comp=N,60nm,0.7s						
RYN	**Ryan**	**2.76**	**346**	Pn	Pn	04 14 56.7	-0.3
NEE2	**Needles Airpor**	**2.77**	**114**		Pn	04 14 56.3	-0.7
BBGB	**Big Mountain B**	**2.79**	**284**		Pn	04 14 56.4	-0.9
BORC	**Borrego Spring**	**2.87**	**158**		Pn	04 14 57.7	-0.7
BORC				IAML		04 15 48.3	
	comp=E,57nm,0.8s						
BORC				IAML		04 15 48.4	
	comp=N,35nm,0.9s						
WAKR	**Walker**	**2.91**	**332**	Pn	Pn	04 14 58.6	-0.5
R11B	**Troy Canyon, C**	**2.93**	**34**	Pn	Pn	04 14 59.0	-0.4
DPP	**Dos Picos Cty**	**3.00**	**168**	IAML		04 15 46.6	
	comp=E,46nm,0.9s						
CMB	**Columbia Colle**	**3.00**	**315**	IAML		04 15 55.6	
	comp=E,23nm,0.8s						
W13A	**Hualapai Mount**	**3.21**	**104**	IAML		04 15 56.2	
	comp=E,22nm,0.6s						
W13A				IAML		04 15 57.5	
	comp=N,30nm,0.8s						
BLYC	**Blythe**	**3.40**	**129**	IAML		04 16 02.3	
	comp=N,29nm,0.8s						
BLYC				IAML		04 16 08.3	
	comp=E,32nm,0.6s						
YUH	**Yuha Desert**	**3.60**	**156**	IAML		04 16 10.2	
	comp=E,13nm,0.8s						
AFDM	**Forest Hills D**	**3.98**	**320**	IAML		04 16 22.0	
	comp=N,12nm,0.7s						
AFDM				IAML		04 16 22.7	
	comp=E,15nm,1.0s						
PSUT	**Pine Spring**	**4.00**	**49**	IAML		04 16 25.9	
	comp=N,17nm,1.2s						
PSUT				IAML		04 16 30.1	
	comp=E,17nm,1.4s						
SPR3	**Spring Creek 3**	**4.05**	**40**	IAML		04 16 20.1	
	comp=E,16nm,0.8s						
SPR3				IAML		04 16 20.5	
	comp=N,10nm,1.2s						
KNB	**Kanab**	**4.06**	**73**	IAML		04 16 33.4	
	comp=N,9.4nm,1.1s						
ESJX	**Sierra Juarez**	**4.19**	**159**	IAML		04 16 26.4	
	comp=E,14nm,0.5s						
ESJX				IAML		04 16 35.5	
	comp=N,9.3nm,0.8s						
Y14A	**Wickenburg**	**4.33**	**116**	IAML		04 16 30.9	
	comp=E,18nm,0.8s						
Y14A				IAML		04 16 31.9	
	comp=N,22nm,0.4s						
BEKR	**Beckworth**	**4.45**	**332**	IAML		04 16 46.3	
	comp=E,12nm,0.6s						
113A	**Mohawk Valley,**	**4.53**	**133**	IAML		04 16 42.4	
	comp=N,7.6nm,1.0s						
X16A	**Lo Mia Camp, P**	**5.33**	**105**	IAML		04 17 12.8	
	comp=E,3.8nm,2.0s						
X16A				IAML		04 18 06.4	
	comp=N,4.4nm,3.9s						

SNET ***10*** *04:17:15.0±1.0, 13°.14N×89°.55W, h49km±8km, ML3.5*
GCG ***10*** *04:17:16.8±0.9, 13°.19N×89°.53W, h49km±10km, MD4.1, ML3.6*
CATAC ***10*** *04:17:16.2±0.4, 13°N±2°×9°0W±°, h30km±3km, M3.8/26, MLv3.8/26, Error ellipse: s-maj=5.1km s-min=3.2km az=34.6, confirmed*

ISC 10 04:17:17.8±1.5, 13°.17N±0°.06×89°.48W±0°.04, h46km±11km, n101, σ0.90/105, 4C-10D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.35**	**26**	ǁ *i* P	**Pn**	**04 17 26.5**	**-0.6**
LALI				*e* S	Sn	04 17 34.4	+0.7
LALI	**Alcalda de L**	**0.35**	**26**	*i* P	**Pn**	**04 17 26.6**	**-0.6**
LALI				IAML		04 17 35.6	
	comp=E,595nm,0.3s						
LALI	**Alcalda de L**	**0.35**	**26**	P	**Pn**	**04 17 26.7**	**-0.4**
PANCS	**Alcalda de**	**0.52**	**34**	*e* P	**Pn**	**04 17 28.4**	**-0.8**
PANCS	**Alcalda de**	**0.52**	**34**	P	**Pn**	**04 17 28.4**	**-0.8**
PANCS	**Alcalda de**	**0.52**	**34**	S	**Sn**	**04 17 37.6**	**+0.3**
LOMA	**Loma Larga**	**0.56**	**33**	ǁ *i* P	**Pn**	**04 17 29.1**	**-0.6**
LOMA				*e* S	**Sn**	**04 17 38.9**	**+0.8**
LOMA	**Loma Larga**	**0.56**	**33**	P	**Pn**	**04 17 29.1**	**-0.6**
LOMA	**Loma Larga**	**0.56**	**33**	S	**Sn**	**04 17 39.4**	**+1.2**
SEMO	**Seminario San**	**0.58**	**25**	P	**Pn**	**04 17 29.4**	**-0.6**
SEMO	**Seminario San**	**0.58**	**25**	S	**Sn**	**04 17 39.4**	**+0.8**
UEES	**Universidad Ev**	**0.59**	**23**	*eP*	**Pn**	**04 17 29.4**	**-0.7**
UEES	**Universidad Ev**	**0.59**	**23**	P	**Pn**	**04 17 29.5**	**-0.6**
UEES	**Universidad Ev**	**0.59**	**23**	S	**Sn**	**04 17 39.2**	**+0.4**
UTEC	**Universidad Te**	**0.59**	**27**	P	**Pn**	**04 17 29.6**	**-0.5**
UTEC	**Universidad Te**	**0.59**	**27**	S	**Sn**	**04 17 40.0**	**+1.1**
BOQS	**Boqueron**	**0.59**	**19**	ǁ *eP*	**Pn**	**04 17 29.6**	**-0.6**
BOQS				*e* S	**Sn**	**04 17 39.9**	**+0.8**
LFRS	**El Faro**	**0.60**	**42**	⇑ *eP*	**Pn**	**04 17 29.7**	**-0.6**
CEVE	**Cerro Verde**	**0.67**	**348**	ǁ *eP*	**Pn**	**04 17 30.4**	**-0.9**
CEVE	**Cerro Verde**	**0.67**	**348**	P	**Pn**	**04 17 30.6**	**-0.6**
CEVE	**Cerro Verde**	**0.67**	**348**	S	**Sn**	**04 17 41.6**	**+0.7**
LFU	**La Fuente**	**0.67**	**32**	*eP*	**Pn**	**04 17 30.8**	**-0.4**
SBLS	**San Blas**	**0.68**	**348**

UNIC	**Universidad Ca**	**0.81**	**355**	S		**Sn**	**04 17 44.3**	**+0.4**
UESV	**Universidad de**	**0.82**	**56**	P		**Pn**	**04 17 32.5**	**-0.5**
UESV	**Universidad de**	**0.82**	**56**	S		**Sn**	**04 17 44.5**	**+0.5**
FAME	**Alcaldia de Sa**	**0.84**	**322**	P		**Pn**	**04 17 31.7**	**-1.7**
FAME	**Alcaldia de Sa**	**0.84**	**322**	S		**Sn**	**04 17 43.3**	**-1.4**
LOAL	**Lomas de Alarc**	**0.87**	**340**	*eP*		**Pn**	**04 17 33.1**	**-0.7**
LOAL	**Lomas de Alarc**	**0.87**	**340**	P		**Pn**	**04 17 33.0**	**-0.8**
LOAL	**Lomas de Alarc**	**0.87**	**340**	S		**Sn**	**04 17 46.5**	**+1.1**
ALJI	**Alcalda de J**	**0.90**	**80**	*eP*		**Pn**	**04 17 34.1**	**+0.1**
ALJI	**Alcalda de J**	**0.90**	**80**	P		**Pn**	**04 17 34.2**	**+0.1**
ALJI	**Alcalda de J**	**0.90**	**80**	S		**Sn**	**04 17 47.2**	**+1.2**
SLOZ	**Alcaldia de Sa**	**0.90**	**341**	*eP*		**Pn**	**04 17 33.1**	**-1.0**
SLOZ	**Alcaldia de Sa**	**0.90**	**341**	P		**Pn**	**04 17 33.5**	**-0.7**
SLOZ	**Alcaldia de Sa**	**0.90**	**341**	S		**Sn**	**04 17 46.9**	**+0.8**
SCLA	**Alcaldia de Sa**	**0.90**	**54**	*eP*		**Pn**	**04 17 33.9**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.90**	**54**	P		**Pn**	**04 17 34.0**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.90**	**54**	S		**Sn**	**04 17 47.7**	**+1.6**
PQSS	**Presa 15 de Se**	**1.00**	**63**	*eP*		**Pn**	**04 17 34.7**	**-0.7**
PQSS	**Presa 15 de Se**	**1.00**	**63**	P		**Pn**	**04 17 34.2**	**-1.2**
PQSS	**Presa 15 de Se**	**1.00**	**63**	S		**Sn**	**04 17 49.4**	**+0.9**
TECA	**Tecapa**	**1.00**	**71**	*eP*		**Pn**	**04 17 34.7**	**-1.0**
PACA	**Pacayal**	**1.16**	**75**	*eP*		**Pn**	**04 17 37.7**	**-0.2**
PACA	**Pacayal**	**1.16**	**75**	P		**Pn**	**04 17 37.6**	**-0.3**
PACA	**Pacayal**	**1.16**	**75**	S		**Sn**	**04 17 53.9**	**+1.2**
LCY	**Lacayo**	**1.18**	**78**[1]	*eP*		**Pn**	**04 17 38.0**	**-0.1**
BLLM	**Bellamira**	**1.24**	**77**	*eP*		**Pn**	**04 17 38.5**	**-0.3**
CNRM	**Centro Naciona**	**1.31**	**77**	P		**Pn**	**04 17 38.9**	**-0.8**
CNRM	**Centro Naciona**	**1.31**	**77**	S		**Sn**	**04 17 57.2**	**+1.2**
CAHU	**Cacacuatique**	**1.37**	**64**	*eP*		**Pn**	**04 17 39.9**	**-0.8**
ESQI	**Esquipulas**	**1.39**	**6**[1]	*eP*		**Pn**	**04 17 40.2**	**-0.7**
ESQI	**Esquipulas**	**1.39**	**6**	P		**Pn**	**04 17 40.0**	**-0.8**
ESQI	**Esquipulas**	**1.39**	**6**	S		**Sn**	**04 17 58.5**	**+0.5**
FG16	**Alotenango, Sa**	**1.48**	**318**	*i* P		**Pn**	**04 17 45.9**	**+3.6**
FG16				*i* S		Sn	04 18 08.6	+8.0
FG16					IAML		04 18 13.0	
	comp=N,3μm,0.2s							
FG8	**Yepocapa, Chim**	**1.51**	**316**	*i* P		Pn	04 17 46.7	+4.1
FG8				*i* S		Sn	04 18 09.6	+8.6
CNCH	**Conchagua**	**1.61**	**86**	*eP*		**Pn**	**04 17 43.2**	**-0.6**
CNCH	**Conchagua**	**1.61**	**86**	P		**Pn**	**04 17 43.6**	**-0.3**
CNCH	**Conchagua**	**1.61**	**86**	S		**Sn**	**04 18 04.4**	**+1.0**
MARCA	**Marcala la Paz**	**1.71**	**55**	*i* P		**Pn**	**04 17 44.5**	**-0.8**
MARCA				*i* S		**Sn**	**04 18 06.9**	**+0.8**
MARCA	**Marcala la Paz**	**1.71**	**55**	P		**Pn**	**04 17 44.4**	**-0.9**
MARCA	**Marcala la Paz**	**1.71**	**55**	S		**Sn**	**04 18 05.2**	**-0.9**
SARH	**Santa Rosa de**	**1.74**	**24**	*i* P		**Pn**	**04 17 45.4**	**-0.2**
SARH				*i* S		**Sn**	**04 18 07.0**	**+0.3**
SARH	**Santa Rosa de**	**1.74**	**24**	P		**Pn**	**04 17 45.5**	**-0.1**
SARH	**Santa Rosa de**	**1.74**	**24**	S		**Sn**	**04 18 07.4**	**+0.7**
POTN	**Potosi Cosigui**	**1.93**	**95**	P		**Pn**	**04 17 47.0**	**-1.2**
STG0	**El Palmar, Qui**	**2.20**	**305**	*i* P		Pn	04 17 55.7	+3.6
STG8	**El Palmar, Qui**	**2.22**	**305**	*i* P		Pn	04 17 56.3	+3.9
STG2	**El Palmar, Qui**	**2.23**	**305**	*i* P		Pn	04 17 56.3	+3.9
CHOHN	**Orocuina**	**2.28**	**82**	P		**Pn**	**04 17 52.5**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.32**	**67**	P		**Pn**	**04 17 52.5**	**-1.1**
TGUH				S		**Sn**	**04 18 21.2**	**+0.1**
CRIN	**San Cristobal**	**2.42**	**101**	P		**Pn**	**04 17 54.7**	**-0.2**
PKGN	**Cerro Pekin**	**2.49**	**101**	P		**Pn**	**04 17 54.9**	**-1.0**
PKGN				S		**Sn**	**04 18 24.2**	**-0.9**
POLN	**Al Sur del Vol**	**2.65**	**101**	P		**Pn**	**04 17 56.7**	**-1.4**
POLN				S		Sn	04 18 19.2	-10
YUSH	**Yuscaran**	**2.68**	**73**	P		**Pn**	**04 17 57.8**	**-0.7**
CNGA	**Al SSO del Vol**	**2.79**	**104**	P		**Pn**	**04 17 59.7**	**-0.4**
CNGN	**Cerro Negro**	**2.79**	**104**	P		**Pn**	**04 17 59.5**	**-0.6**
CNGN	**Cerro Negro**	**2.79**	**104**	S		**Sn**	**04 18 33.5**	**+0.7**
MOMN	**Momotombo**	**2.97**	**105**	P		**Pn**	**04 18 02.4**	**0.0**
COPN	**Copaltepe**	**2.99**	**109**	P		**Pn**	**04 18 02.1**	**-0.6**
RCVN	**Varillal2**	**3.22**	**82**	P		**Pn**	**04 18 05.0**	**-1.0**

GCG 10 04:22:12.4±0.6, 14°19N×91°21W, h72km±11km, MD3.6, ML3.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**0.27**	**331**	*i* P	Pn	04 22 27.6	+3.7
STG0				*i* S	Sn	04 22 39.0	+6.7
STG0				IAML		04 22 39.6	
	comp=E,456nm,0.1s						
STG8	**El Palmar, Qui**	**0.30**	**331**	*i* P	Pn	04 22 27.8	+3.7
STG8				*i* S	Sn	04 22 40.0	+7.3
STG8				IAML		04 22 41.1	
	comp=E,410nm,0.2s						
STG2	**El Palmar, Qui**	**0.30**	**326**	*i* P	Pn	04 22 28.1	+4.1
FG8	**Yepocapa, Chim**	**0.63**	**84**	*i* P	Pn	04 22 24.8	-2.0
FG8				*i* S	Sn	04 22 34.2	-3.3
FG16	**Alotenango, Sa**	**0.68**	**83**	*i* P	Pn	04 22 25.5	-1.9
FG16				*i* S	Sn	04 22 36.1	-2.4
FG16				IAML		04 22 41.4	
	comp=N,858nm,0.2s						

GCG 10 04:28:54.0±0.4, 14°32N×91°17W, h80km±6km, MD3.6, ML2.6, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG8	**El Palmar, Qui**	**0.22**	**307**	*i* P	Pn	04 29 09.6	+3.5
STG8				*i* S	Sn	04 29 21.3	+6.2
STG8				IAML		04 29 21.8	
	comp=N,278nm,0.2s						
FG8	**Yepocapa, Chim**	**0.59**	**95**	*i* P	Pn	04 29 06.4	-2.3
FG16	**Alotenango, Sa**	**0.64**	**94**	*i* P	Pn	04 29 07.3	-2.0
FG16				*i* S	Sn	04 29 17.6	-2.9
FG16				IAML		04 29 20.5	
	comp=N,470nm,0.2s						

NEIC ***10*** *04:34:19.0±2.3, 38°51N±0°02×118°34W±0°02, h7km±6km, Error ellipse: s-maj=2.7km s-min=2.0km az=153.0*

REN 10 04:34:19.4±2.1, 38°51N±0°02×118°35W±0°02, h7km±6km, ML2.7/4, ML2.7/50(NEIC), Error ellipse: s-maj=2.7km s-min=1.9km az=152.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NV09	**Mina Array Sit**	**0.08**	**173**		Pg	04 34 21.2	-0.3
NV09					Sg	04 34 23.3	+0.3
NV08	**Mina Array Sit**	**0.11**	**168**		Pg	04 34 21.8	-0.1
NV08					Sg	04 34 24.0	+0.3
NV11	**Mina Array Sit**	**0.17**	**117**		Pg	04 34 22.9	0.0
NV11				IAML		04 34 26.5	
	comp=N,2μm,0.4s						
NV11	**Mina Array Sit**	**0.17**	**117**		Sg	04 34 25.9	+0.6
NV11	**Mina Array Sit**	**0.17**	**117**	IAML		04 34 23.6	
	comp=E,1μm,0.3s						
RYN	**Ryan**	**0.18**	**310**		Pg	04 34 23.1	0.0
RYN					Sg	04 34 26.0	+0.3
RYN	**Ryan**	**0.18**	**310**	IAML		04 34 26.5	
	comp=E,3μm,0.5s						
RYN				IAML		04 34 26.8	
	comp=N,3μm,0.3s						
LHV	**Little Huntoon**	**0.29**	**206**		Pg	04 34 25.2	+0.2
LHV					Sg	04 34 29.6	+0.8
LHV	**Little Huntoon**	**0.29**	**206**	IAML		04 34 34.3	
	comp=N,1μm,0.5s						
LHV				IAML		04 34 34.7	
	comp=E,1μm,0.5s						
TVH1	**TV Hill, Hawth**	**0.33**	**261**		Pg	04 34 26.1	+0.1
TVH1					Sg	04 34 31.2	+0.7
ANTCA	**Antelope Range**	**0.62**	**196**		Pg	04 34 31.4	+0.1
MGNR	**McGee Canyon**	**0.75**	**202**		Pg	04 34 33.8	0.0
BENR	**Benton**	**0.81**	**193**		Pg	04 34 35.0	-0.1
WAKR	**Walker**	**0.85**	**270**		Pg	04 34 35.6	-0.3
MLAC	**Mammoth, Mammo**	**0.96**	**204**		Pb	04 34 38.3	-0.2
MCBM	**Casa Benchmark**	**0.97**	**207**		Pg	04 34 38.1	+0.1
Q09A	**Carvers**	**0.97**	**70**	Pg	Pg	04 34 37.8	-0.2
TPH	**Tonopah**	**0.99**	**116**		Pg	04 34 38.1	-0.3
MDYM	**Dry Creek**	**1.00**	**212**		Pn	04 34 40.3	+0.1
MZP	**Montezuma Peak**	**1.11**	**136**		Pg	04 34 40.5	-0.2
MZP	**Montezuma Peak**	**1.11**	**136**	IAML		04 34 58.6	
	comp=N,126nm,0.4s						
MZP				IAML		04 34 59.1	
	comp=E,129nm,0.4s						
DSP	**Deep Springs**	**1.18**	**165**		Pg	04 34 42.0	0.0
BHPR	**Bishop**	**1.21**	**185**		Pg	04 34 42.6	-0.1
LCH	**Last Change Ra**	**1.39**	**156**		Pn	04 34 45.4	0.0
PAHR	**Pah Rah Range**	**1.44**	**326**		Pn	04 34 45.7	-0.4
PAHR	**Pah Rah Range**	**1.44**	**326**	IAML		04 35 07.2	
	comp=N,77nm,0.3s						
PAHR				IAML		04 35 07.4	
	comp=E,70nm,0.7s						
GMN	**Gold Mountain**	**1.48**	**144**		Pb	04 34 47.4	0.0
GMN	**Gold Mountain**	**1.48**	**144**	IAML		04 35 09.6	
	comp=N,139nm,0.4s						
GMN				IAML		04 35 11.2	
	comp=E,84nm,0.5s						
MPK	**Martis Peak**	**1.53**	**301**		Pb	04 34 48.1	-0.2
MPK	**Martis Peak**	**1.53**	**301**	IAML		04 35 11.6	
	comp=N,137nm,0.7s						
MPK				IAML		04 35 12.1	
	comp=E,115nm,0.8s						
PEAR	**Peavine Mounta**	**1.67**	**312**		Pb	04 34 50.3	-0.3
CMB	**Columbia Colle**	**1.67**	**254**		Pb	04 34 50.0	-0.6
CMB	**Columbia Colle**	**1.67**	**254**	IAML		04 35 16.8	
	comp=N,52nm,0.9s						
GRAC	**Grapevine Rang**	**1.70**	**152**		Pb	04 34 50.6	-0.4
GRAC	**Grapevine Rang**	**1.70**	**152**	IAML		04 35 17.2	
	comp=E,94nm,0.3s						
GRAC				IAML		04 35 17.7	
	comp=N,79nm,0.3s						
SGV	**South Grapevin**	**1.85**	**145**		Pn	04 34 52.5	+0.9
BEKR	**Beckworth**	**2.07**	**312**		Pb	04 34 57.0	-0.4
AFDM	**Forest Hills D**	**2.10**	**283**		Pn	04 34 55.0	0.0
R11B	**Troy Canyon, C**	**2.17**	**93**	Pn	Pn	04 34 55.8	-0.4
R11B				IAML		04 35 30.8	
	comp=N,54nm,0.3s						
S11A	**Rachel**	**2.23**	**112**		Pn	04 34 56.6	-0.3
TPNV	**Topopah Spring**	**2.28**	**133**		Pn	04 34 56.9	-0.8
TPNV				IAML		04 35 37.6	
	comp=N,40nm,0.5s						
TPNV				IAML		04 35 46.7	
	comp=N,34nm,1.0s						
MPMC	**Manual Prospec**	**2.54**	**164**	Pn	Pn	04 35 00.9	-0.4
CLC	**China Lake**	**2.76**	**167**	Pn	Pn	04 35 04.0	-0.1
PRN	**Pahroc Range**	**2.83**	**112**		Pn	04 35 04.6	-0.5
PRN				IAML		04 36 03.6	
	comp=E,45nm,0.9s						
PRN				IAML		04 36 08.8	
	comp=N,44nm,0.8s						
BBGB	**Big Mountain B**	**2.88**	**229**	Pn	Pn	04 35 05.4	-0.4
SPR3	**Spring Creek 3**	**3.18**	**80**	Pn	Pn	04 35 09.4	-0.7
SHPR	**Sheep Range**	**3.23**	**127**	Pn	Pn	04 35 09.3	-1.4
ELK	**Elko**	**3.28**	**46**	Pn	Pn	04 35 11.2	-0.1
PSUT	**Pine Spring**	**3.52**	**88**	Pn	Pn	04 35 15.3	+0.5
WVOR	**Wild Horse Val**	**3.92**	**357**	Pn	Pn	04 35 19.1	-1.1
WVOR				IAML		04 36 25.5	
	comp=N,5.8nm,1.3s						
WVOR				IAML		04 36 28.3	
	comp=N,6.3nm,0.6s						
CCUT	**Cedar City**	**4.05**	**102**	Pn	Pn	04 35 22.3	+0.3
SZCU	**Shurtz Canyon**	**4.25**	**101**	Pn	Pn	04 35 24.1	-0.6
LCMT	**Little Creek M**	**4.31**	**109**	Pn	Pn	04 35 26.2	+0.6
DUG	**Dugway, Tooele**	**4.61**	**67**	Pn	Pn	04 35 29.3	-0.3
DUG				IAML		04 36 49.0	
	comp=N,10nm,0.7s						
KNB	**Kanab**	**4.62**	**107**	Pn	Pn	04 35 30.1	+0.2
BGU	**Big Grassy Mou**	**4.76**	**58**	Pn	Pn	04 35 31.3	-0.3
J08A	**Circle Bar Ran**	**4.84**	**359**	Pn	Pn	04 35 31.9	-0.9
U15A	**North Rim**	**5.25**	**111**	Pn	Pn	04 35 37.9	-0.6
HLID	**Hailey**	**5.86**	**29**	Pn	Pn	04 35 47.1	+0.4
TKX	**Tecate**	**6.10**	**166**		Pn	04 35 49.6	-0.4

IDC 10 04:46:08.5±1.7, 0°44N×126°32E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=172.3km s-min=21.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.73**	**159**	P	P	04 51 00.7	-0.8
	2.1nm,0.6s,baz=338,slow=11,SNR=12						
	2.1nm,0.6s						
ASAR	**Alice Springs**	**25.07**	**163**	P	P	04 51 35.4	+0.6
	0.6nm,0.5s,baz=346,slow=9.6,SNR=9.6						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**60.03**	**327**	P	P	04 56 17.1	-0.2
	0.4nm,0.5s,baz=126,slow=8.8,SNR=5.9						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**64.29**	**328**	P	P	04 56 45.7	+0.1
	0.3nm,0.3s,baz=127,slow=6.0,SNR=6.5						
	0.3nm,0.3s						

NEIC ***10*** *04:57:13.9±1.8, 6°15N±0°04×123°82E±0°08, h10km±1km, mb4.5/10, Error ellipse: s-maj=13.8km s-min=7.1km az=257.0*

IDC ***10*** *04:57:21.6±3.9, 6°29N×124°03E, h75km±37km, mb3.7/9, mbtmp4.1/10, ML4.2/1, Error ellipse: s-maj=35.8km s-min=13.6km az=73.0*

ISC 10 04:57:16.7±0.6, 6°12N±0°07×123°82E±0°09, h35km, n30, σ1s09/31, mb4.3/15, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.99**	**62**	Pn	**Pn**	**04 57 48.0**	**+0.1**
DAV	**Davao City (W)**	**1.99**	**62**	P	**Pn**	**04 57 47.7**	**-0.2**
	212nm,0.3s,baz=140,slow=5.3,SNR=5.3						
DAV				S	**Sn**	**04 58 11.3**	**-0.4**
	788nm,0.6s,baz=336,slow=23,SNR=10						
DAV				LR	LR	04 58 14.5	
	comp=Z,254nm,19.7s,baz=230,slow=31						
DAV	**Davao City (W)**	**1.99**	**62**[1]	*i* P	**Pn**	**04 57 51.0**	**+3.1**
TOLI2	**Tolitoli**	**5.82**	**211**		**Pn**	**04 58 40.4**	**-0.2**
LUWI	**Luwuk**	**7.19**	**188**	Pn	**Pn**	**04 58 58.4**	**-1.0**
KAPI	**Kappang**	**11.78**	**200**	Pn	**Pn**	**05 00 02.4**	**0.0**
JAY	**Jayapura**	**18.92**	**116**	P	**P**	**05 01 34.5**	**-0.2**
	0.7nm,0.3s,baz=107,slow=0.5,SNR=5.1						
	6.8nm,0.6s						
KNRA	**Kununurra**	**22.20**	**167**	P	**P**	**05 02 09.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**24.13**	**176**	P	**P**	**05 02 28.6**	**-0.9**
WB0	**Warramunga Arr**	**27.75**	**158**	P	**P**	**05 03 03.1**	**+0.8**
WB0				IAmb	IAmb	05 03 40.4	
	comp=Z,15nm,1.4s						
WRAB	**Tennant Creek**	**27.89**	**158**	P	**P**	**05 03 03.5**	**0.0**
WRAB				IAmb	IAmb	05 03 11.6	
	comp=Z,9.3nm,1.4s						
WRA	**Warramunga Arr**	**27.89**	**158**	P	**P**	**05 03 05.0**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=335,slow=10.0,SNR=9.8						
	comp=Z,1.5nm,0.8s						
WB2	**Warramunga Arr**	**27.89**	**158**	P	**P**	**05 03 04.0**	**+0.4**
WB2				IAmb	IAmb	05 03 22.7	
	comp=Z,8.1nm,1.2s						
WR0	**Warramunga Arr**	**27.98**	**158**	P	**P**	**05 03 05.2**	**+0.8**
WR0				IAmb	IAmb	05 03 20.4	
	comp=Z,13nm,1.5s						
ASAR	**Alice Springs**	**31.20**	**162**	P	**P**	**05 03 35.0**	**+2.1**
	comp=Z,1.3nm,0.8s,baz=331,slow=6.8,SNR=11						
	comp=Z,1.3nm,0.8s						
KSRS	**Korea Array**	**31.41**	**6**	P	**P**	**05 03 33.8**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=189,slow=9.5,SNR=5.0						
	comp=Z,1.5nm,0.7s						
STKA	**Stephens Creek**	**41.41**	**157**	P	**P**	**05 05 02.3**	**+2.3**
	comp=Z,4.8nm,0.8s,baz=332,slow=14,SNR=3.9						
	comp=Z,4.8nm,0.8s						
SONM	**Songino Array**	**44.15**	**343**	P	**P**	**05 05 22.4**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=167,slow=8.5,SNR=5.9						
	comp=Z,1.2nm,0.8s						
ARMA	**Armidale**	**45.06**	**145**	P	**P**	**05 05 28.3**	**-1.3**
MKAR	**Makanchi Array**	**53.95**	**326**	P	**P**	**05 06 37.2**	**+0.1**
MKAR	**Makanchi Array**	**53.95**	**326**	P	**P**	**05 06 37.8**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=129,slow=8.2,SNR=16						
	comp=Z,2.0nm,0.7s						
PETK	**Petropavlovsk-**	**54.40**	**24**	P	**P**	**05 06 39.7**	**-0.5**
ZALV	**Zalesovo Beam**	**57.16**	**334**	P	**P**	**05 06 59.7**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=116,slow=3.4,SNR=1.6						
	comp=Z,0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**58.18**	**328**	P	**P**	**05 07 07.7**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=125,slow=6.5,SNR=24						
	comp=Z,2.4nm,0.7s						
KURK	**Kurchatov**	**58.18**	**328**	P	**P**	**05 07 07.9**	**+0.7**
KKAR	**Karatay Array**	**59.52**	**317**	P	**P**	**05 07 17.3**	**+0.6**
ABKAR	**Akbulak array**	**68.47**	**321**	P	**P**	**05 08 15.5**	**+0.1**
M14K	**Bethel**	**77.00**	**29**	P	**P**	**05 09 05.1**	**-0.6**
M14K				IAmb	IAmb	05 09 12.7	
	comp=Z,5.7nm,1.1s						
N15K	**Kwethluk River**	**77.81**	**30**	P	**P**	**05 09 10.1**	**-0.2**
N15K				IAmb	IAmb	05 09 11.6	
	comp=Z,5.7nm,1.2s						
ILAR	**Eielson Array**	**84.21**	**26**	P	**P**	**05 09 42.6**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=267,slow=5.9,SNR=11						
	comp=Z,0.6nm,0.7s						

NEIC ***10*** *04:59:45.6±0.8, 19°21N±0°02×155°47W±0°02, h36km±2km, Error ellipse: s-maj=3.0km s-min=2.4km az=148.0*

HVO 10 04:59:47.1±1.2, 19°19N±0°04×155°47W±0°03, h31km±7km, ML2.7/38, ML2.9/40(NEIC), Error ellipse: s-maj=6.2km s-min=4.4km az=155.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.08**	**54**		Pb	04 59 52.2	-0.3
HPO	**Honuapo**	**0.13**	**220**		Pb	04 59 52.6	-0.2
HPO					Sb	04 59 56.8	+0.1
KHU	**Kahuku**	**0.15**	**291**		Pb	04 59 52.5	-0.8
KHU					Sb	04 59 56.4	-1.1
KHU	**Kahuku**	**0.15**	**291**	IAML		04 59 56.6	
	comp=N,1μm,0.3s						
KHU				IAML		04 59 56.7	
	comp=E,1μm,0.2s						
AIN	**Ainahou**	**0.18**	**2**		Pb	04 59 53.0	-0.5
AIN					Sb	04 59 57.2	-0.6
AIN	**Ainahou**	**0.18**	**2**	IAML		04 59 57.8	
	comp=E,4μm,0.4s						
AIN				IAML		04 59 57.9	
	comp=N,6μm,0.3s						
HLP	**Hilina Pali**	**0.18**	**55**		Pb	04 59 52.9	-0.5
HLP	**Hilina Pali**	**0.18**	**55**	IAML		04 59 57.5	
	comp=N,2μm,0.3s						
HLP				IAML		04 59 59.5	
	comp=E,1μm,0.2s						
SDHHI	**Sand Hill**	**0.26**	**39**		Pb	04 59 53.3	-0.9
WRMHI	**West Rim**	**0.27**	**36**		Pb	04 59 53.4	-1.0
WRMHI					Sb	04 59 58.2	-1.1
RIM	**Rim**	**0.27**	**42**		Pb	04 59 53.5	-1.0
KKO	**Keanakako'i**	**0.28**	**42**		Pb	04 59 53.6	-0.9
KKO					Sb	04 59 58.4	-1.2
UWE	**Uwekahuna**	**0.28**	**35**		Pb	04 59 53.6	-1.0
UWE					Sb	04 59 58.5	-1.2
UWE	**Uwekahuna**	**0.28**	**35**	IAML		05 00 02.3	
	comp=N,2μm,0.3s						
UWE				IAML		05 00 06.1	
	comp=E,2μm,0.4s						
OBL	**Observatory Le**	**0.28**	**37**		Pb	04 59 53.6	-1.0
OBL					Sb	04 59 58.4	-1.3
UWB	**Uwekahuna Bluf**	**0.29**	**37**		Pb	04 59 53.6	-1.1
BYL	**Byron's Ledge**	**0.29**	**41**		Pb	04 59 53.7	-1.0
BYL					Sb	04 59 58.6	-1.3
BYL	**Byron's Ledge**	**0.29**	**41**	IAML		05 00 00.0	
	comp=N,585nm,0.4s						
BYL				IAML		05 00 00.4	
	comp=E,740nm,0.3s						
PUH	**Pauahi**	**0.30**	**52**		Pb	04 59 53.7	-1.1
PUH					Sb	04 59 58.7	-1.2
PUH	**Pauahi**	**0.30**	**52**	IAML		04 59 58.9	
	comp=E,1μm,0.4s						
PUH				IAML		04 59 59.1	
	comp=N,834nm,0.2s						
SBLHI	**Steaming Bluff**	**0.30**	**38**		Pb	04 59 53.7	-1.1
HATHI	**Halema'uma'u T**	**0.30**	**40**		Pb	04 59 53.7	-1.1
HATHI					Sb	04 59 58.8	-1.3
HATHI	**Halema'uma'u T**	**0.30**	**40**	IAML		05 00 01.5	
	comp=N,721nm,0.6s						
HATHI				IAML		05 00 03.7	
	comp=E,825nm,0.5s						
MLH	**Mauna Loa**	**0.31**	**14**		Pb	04 59 54.1	-0.9
MLH					Sb	04 59 59.2	-1.3
MLH	**Mauna Loa**	**0.31**	**14**	IAML		04 59 59.6	
	comp=E,1μm,0.3s						
MLH				IAML		04 59 59.8	
	comp=N,2μm,0.3s						
MWH	**Mokuaweoweo**	**0.32**	**337**		Pb	04 59 54.1	-1.3
MWH	**Mokuaweoweo**	**0.32**	**337**	IAML		04 59 59.7	
	comp=N,699nm,0.5s						
MWH				IAML		04 59 59.9	
	comp=E,1μm,0.4s						
RSD	**Rainshed**	**0.32**	**33**		Pb	04 59 53.5	-1.7
RSD	**Rainshed**	**0.32**	**33**		Sb	04 59 58.7	-1.9
KNHH	**Kane Nui o Ham**	**0.34**	**56**		Pb	04 59 54.2	-1.1
STCH	**Steam Cracks**	**0.38**	**59**		Pb	04 59 54.6	-1.2
STCH					Sb	05 00 00.1	-1.5
STCH	**Steam Cracks**	**0.38**	**59**	IAML		05 00 00.4	
	comp=E,553nm,0.2s						
STCH				IAML		05 00 01.4	
	comp=N,459nm,0.2s						
ALEP	**Alea Permanent**	**0.39**	**334**		Pb	04 59 54.8	-1.4
NPOC	**North of Pu'u**	**0.39**	**59**		Pb	04 59 54.8	-1.3
NPOC					Sb	05 00 00.4	-1.7
JCUZ	**Jacuzzi**	**0.39**	**61**		Pb	04 59 54.9	-1.1
HMH	**Humu'ula Sheep**	**0.41**	**358**		Pb	04 59 55.5	-1.0
HMH					Sb	05 00 01.5	-1.4
HMH	**Humu'ula Sheep**	**0.41**	**358**	I

DBIC LR LR 05 23 18.0
comp=Z,144nm,21.2s,baz=333,slow=32 4.0nm,0.9s
H10N2 ASCENSION HYDR 44.95 135 T T 05 56 46.1
baz=320,slow=75,SNR=361
H10N3 ASCENSION HYDR 44.95 135 T T 05 56 46.3
baz=320,slow=75,SNR=373
H10N1 ASCENSION HYDR 44.97 135 T T 05 56 47.5
baz=320,slow=75,SNR=358
TORD Torodi Ar. Bea 45.35 98 LR LR 05 26 27.2
comp=Z,150nm,20.4s,baz=320,slow=34
ULM Lac du Bonnet 45.54 315 P **P 05 08 58.1 -0.7**
1.7nm,0.7s,baz=111,slow=8.6,SNR=4.4
ULM LR LR 05 25 57.1
comp=Z,34nm,20.2s,baz=54,slow=33 1.7nm,0.7s
H10S3 ASCENSION HYDR 45.70 136 T T 05 57 43.2
baz=320,slow=74,SNR=114
H10S2 ASCENSION HYDR 45.72 136 T T 05 57 44.4
baz=260,slow=74,SNR=56
KEST Kesra 46.67 65 P **P 05 09 08.8 +0.7**
7.5nm,1.0s,baz=308,slow=3.9,SNR=4.8
KEST LR LR 05 26 38.1
comp=Z,64nm,19.3s,baz=354,slow=33 7.5nm,1.0s
DAVOX Davos/Dischmat 47.21 50 LR LR 05 25 44.6
comp=Z,39nm,20.3s,baz=256,slow=32
CMIG Matias Romero 47.31 269 LR LR 05 28 22.1
comp=Z,31nm,19.5s,baz=54,slow=35
BRDY Brady 47.42 289 **P 05 09 14.6 +0.6**
BRDY IAmb IAmb 05 09 21.8
comp=Z,4.5nm,0.9s
ILON Igloolik, Nuna 48.11 343 **P 05 09 19.4 +0.7**
LPAZ La Paz 48.23 211 **P 05 09 20.8 -0.2**
LPAZ IAmb IAmb 05 09 23.4
comp=Z,2.9nm,0.8s
LPAZ La Paz 48.23 211 P **P 05 09 20.7 -0.2**
comp=Z,2.0nm,0.6s,baz=6.3,slow=6.5,SNR=9.1
LPAZ LR LR 05 29 30.2
comp=Z,41nm,18.4s,baz=44,slow=36 comp=Z,2.0nm,0.6s
GERES GERESS Array B 49.96 47 P **P 05 09 32.5 -0.9**
comp=Z,0.3nm,0.4s,baz=256,slow=11,SNR=5.5 comp=Z,0.3nm,0.4s
VAE Valguarnera 50.58 62 LR LR 05 28 27.2
comp=Z,108nm,19.0s,baz=145,slow=33
NB2 NORSAR Subarra 50.81 31 P **P 05 09 39.9 +0.4**
comp=Z,7.8nm,1.2s,baz=252,slow=7.9
NOA NORSAR Array B 50.81 31 P **P 05 09 39.1 -0.4**
comp=Z,2.1nm,0.9s,baz=253,slow=7.8,SNR=6.2
NOA LR LR 05 27 34.2
comp=Z,41nm,19.4s,baz=245,slow=32 comp=Z,2.1nm,0.9s
GO01 Chusmiza 51.67 210 P **P 05 09 45.4 -1.4**
GO01 IAmb IAmb 05 09 46.8
comp=Z,6.3nm,0.9s
TXAR Lajitas Array 51.74 288 P **P 05 09 46.1 -0.9**
TXAR Lajitas Array 51.74 288 P **P 05 09 46.5 -0.5**
comp=Z,0.4nm,0.7s,baz=92,slow=6.8,SNR=6.3 comp=Z,0.4nm,0.7s
HFS Hagfors 51.75 33 P **P 05 09 45.7 -0.8**
comp=Z,4.5nm,0.8s,baz=224,slow=8.3,SNR=7.3
HFS LR LR 05 27 09.6
comp=Z,47nm,21.0s,baz=208,slow=31 comp=Z,4.5nm,0.8s
PB11 IPOC Station P 51.95 210 **P 05 09 47.4 -1.3**
ANMO Albuquerque 53.07 295 LR LR 05 30 12.7
comp=Z,130nm,20.7s,baz=180,slow=34
HPIG 54.00 285 **P 05 10 01.9 -2.1**
EGMT Eagleton 54.41 312 **P 05 10 06.5 +0.1**
PD31 Pinedale Array 54.55 305 **P 05 10 07.6 -0.2**
PD31 IAmb IAmb 05 10 26.4
comp=Z,5.7nm,1.2s
PDAR Pinedale Array 54.55 305 **P 05 10 07.3 -0.5**
PDAR Pinedale Array 54.55 305 P **P 05 10 08.2 +0.5**
comp=Z,1.5nm,0.7s,baz=81,slow=9.2,SNR=16
PDAR LR LR 05 32 30.2
comp=Z,62nm,18.3s,baz=104,slow=35 comp=Z,1.5nm,0.7s
BW06 Boulder Array 54.55 305 P **P 05 10 07.7 0.0**
YNE Yellowstone No 54.71 308 P **P 05 10 08.6 -0.3**
YNE IAmb IAmb 05 10 33.1
comp=Z,6.4nm,1.2s
P18A Preston Nutter 55.40 301 P **P 05 10 13.4 -0.7**
TPAW Teton Pass 55.50 306 P **P 05 10 14.5 -0.1**
TPAW IAmb IAmb 05 10 24.6
comp=Z,4.1nm,1.0s
SRU San Rafael Swe 55.68 301 P **P 05 10 16.6 +0.6**
DUG Dugway, Tooele 57.28 302 P **P 05 10 27.8 +0.6**
DUG IAmb IAmb 05 10 34.8
comp=Z,6.9nm,1.5s
YKA Yellowknife Ar 57.63 329 P **P 05 10 28.9 -0.2**
comp=Z,0.9nm,0.7s,baz=89,slow=7.8,SNR=6.6
YKA LR LR 05 34 03.5
comp=Z,166nm,19.8s,baz=80,slow=35 comp=Z,0.9nm,0.7s
BURAR Bucovina Array 57.66 49 **P 05 10 29.2 -0.6**
FINES FINESS Array B 57.94 32 P **P 05 10 30.9 -0.5**
comp=Z,4.3nm,0.8s,baz=287,slow=9.6,SNR=9.9 comp=Z,4.3nm,0.8s
ARCES ARCESS Array B 58.54 23 P **P 05 10 34.5 -0.9**
comp=Z,4.0nm,0.7s,baz=261,slow=7.2,SNR=12 comp=Z,4.0nm,0.7s
SPR3 Spring Creek 3 58.63 301 **P 05 10 38.1 +1.2**
LPIG La Paz 58.81 283 LR LR 05 34 53.6
comp=Z,43nm,20.5s,baz=52,slow=35
NEW Newport 59.31 312 IAmb IAmb 05 10 50.4
comp=Z,4.5nm,0.9s
NEW Newport 59.31 312 LR LR 05 35 08.0
comp=Z,104nm,18.4s,baz=68,slow=35
AKASG Malin Array Be 59.99 45 P **P 05 10 44.8 -0.9**
comp=Z,1.9nm,0.8s,baz=280,slow=6.0,SNR=6.9 comp=Z,1.9nm,0.8s
LNOR Lincton Mounta 60.41 310 P **P 05 10 48.2 -0.6**
LNOR IAmb IAmb 05 10 56.5
comp=Z,4.3nm,1.0s
PFO Pinyon Flats O 61.45 296 LR LR 05 34 49.9
comp=Z,94nm,20.9s,baz=48,slow=33
WRGLY Wrigley 61.70 330 P **P 05 10 56.6 -0.5**
baz=87
NVAR Mina Array Bea 61.79 301 LR LR 05 35 43.0
comp=Z,123nm,21.0s,baz=50,slow=34
A36M Sachs Harbour 62.17 340 **P 05 11 01.0 +0.9**
A36M Sachs Harbour 62.17 340 P **P 05 11 00.4 +0.3**
baz=91
KOTAN Kotaneelee Air 62.20 326 P **P 05 11 00.4 -0.2**
baz=85
K05A Summer Lake 62.81 306 **P 05 11 06.2 +1.0**
TOAD Toad River Com 62.93 325 P **P 05 11 03.9 -1.6**
baz=83
J05D Fort Rock, OR 62.94 307 P **P 05 11 06.0 -0.1**
J05D IAmb IAmb 05 11 10.5
comp=Z,4.0nm,1.1s
LIRD Liard River Hi 63.31 326 P **P 05 11 07.3 -0.7**
baz=82
YBH Yreka Blue Hor 64.34 306 LR LR 05 38 31.6
comp=Z,6.1nm,19.4s,baz=69,slow=35
BRTR Keskin Array B 65.02 56 **P 05 11 19.0 -0.8**
BRTR Keskin Array B 65.02 56 P **P 05 11 19.9 +0.2**
comp=Z,2.4nm,1.0s,baz=262,slow=3.7,SNR=8.7 comp=Z,2.4nm,1.0s
INK Inuvik 65.28 336 IAmb IAmb 05 11 21.3
comp=Z,2.2nm,0.7s
INK Inuvik 65.28 336 LR LR 05 38 44.9
comp=Z,58nm,19.0s,baz=67,slow=35
INK Inuvik 65.28 336 P **P 05 11 20.5 -0.2**
baz=81
MMPY Sheldon Lake, 65.31 329 P **P 05 11 21.3 +0.2**
baz=80
DLBC Dease Lake 65.47 325 P **P 05 11 21.7 -0.6**
baz=79
F31M Tsiigehtchic 65.51 335 P **P 05 11 22.1 -0.2**
baz=81
BBB Bella Bella 65.65 318 LR LR 05 39 25.4
comp=Z,52nm,18.4s,baz=44,slow=36
R33M Jennings River 65.77 326 IAmb IAmb 05 11 25.8
comp=Z,2.4nm,0.8s
R33M Jennings River 65.77 326 P **P 05 11 23.4 -0.8**
baz=78
G31M Satah River 65.81 334 **P 05 11 23.6 -0.5**
G31M Satah River 65.81 334 P **P 05 11 23.6 -0.5**
baz=80
T35M Bob Quinn 65.87 323 P **P 05 11 23.9 -0.9**
baz=78
H31M Peel River 66.05 333 P **P 05 11 25.8 0.0**
baz=79
F30M Barrier River 66.25 335 P **P 05 11 27.1 +0.1**
baz=79
FARO Faro, Yukon 66.34 329 P **P 05 11 27.7 0.0**
baz=78
Q32M Nakina River 66.51 326 P **P 05 11 28.3 -0.8**
baz=77
P33M Teslin, Yukon 66.52 327 P **P 05 11 28.2 -0.7**
baz=78
G30M tAoh Zraii Nji 66.55 335 P **P 05 11 28.5 -0.5**
baz=78
M31M Drury Creek, Y 66.82 329 P **P 05 11 30.6 -0.2**
baz=77
E29M Blow River 66.86 336 P **P 05 11 30.3 -0.5**
baz=78
EPYK Eagle Plains 66.88 334 P **P 05 11 31.0 -0.2**
baz=78
D28M Stokes Point 66.93 337 P **P 05 11 31.2 -0.1**
baz=77
V35K Ketchikan 66.98 322 P **P 05 11 31.2 -0.6**
baz=76
I30M Mount Dempster 67.00 333 P **P 05 11 31.2 -0.8**
baz=77
P32M Atlin 67.09 326 P **P 05 11 31.6 -1.0**
baz=76
WRAK Wrangell Islan 67.13 323 P **P 05 11 32.8 0.0**
baz=76
J30M Hart River 67.13 332 IAmb IAmb 05 11 34.2
comp=Z,2.8nm,0.8s
J30M Hart River 67.13 332 P **P 05 11 31.4 -1.4**
baz=77,SNR=6.3
G29M Pine Creek 67.25 335 P **P 05 11 32.7 -0.7**
baz=77
E28M Babbage River 67.39 337 P **P 05 11 34.4 +0.1**
baz=76
WHY Whitehorse 67.41 328 P **P 05 11 34.2 -0.5**
baz=76
H29M Whitestone 67.56 334 IAmb IAmb 05 11 36.5
comp=Z,3.0nm,0.7s
H29M Whitestone 67.56 334 P **P 05 11 35.2 -0.2**
baz=76,SNR=5.2
N31M Braeburn, Yuko 67.63 329 P **P 05 11 35.9 -0.1**
baz=76,SNR=8.8
D27M Malcolm River 67.72 337 P **P 05 11 36.2 -0.2**
baz=75
I29M Ogilvie Camp, 67.75 333 P **P 05 11 36.0 -0.6**
baz=76
F28M Old Crow 67.77 336 IAmb IAmb 05 11 37.9
comp=Z,2.8nm,0.7s
F28M Old Crow 67.77 336 P **P 05 11 36.1 -0.6**
baz=75,SNR=7.1
CRAG Craig 67.78 322 P **P 05 11 35.6 -1.3**
baz=75
K29M Barlow Dome 67.82 331 P **P 05 11 35.7 -1.6**
baz=76
M30M Minto, Yukon 67.82 330 IAmb IAmb 05 11 39.6
comp=Z,4.6nm,1.2s
M30M Minto, Yukon 67.82 330 P **P 05 11 36.1 -1.1**
baz=75
O30N Mendenhall 67.96 328 P **P 05 11 36.9 -1.2**
baz=75
S32K Killisnoo 68.05 324 P **P 05 11 38.7 +0.1**
baz=75
E27K Coleen River 68.24 336 IAmb IAmb 05 11 51.5
comp=Z,5.6nm,1.3s
E27K Coleen River 68.24 336 P **P 05 11 40.1 +0.4**
baz=74
N30M Aishikik Lake 68.25 329 P **P 05 11 40.1 +0.2**
baz=75
L29M L29M 68.27 331 IAmb IAmb 05 11 41.1
comp=Z,2.4nm,0.8s
L29M L29M 68.27 331 P **P 05 11 39.9 -0.1**
baz=75
I28M Miner Creek 68.39 333 IAmb IAmb 05 11 42.7
comp=Z,3.6nm,1.2s
I28M Miner Creek 68.39 333 P **P 05 11 41.0 +0.3**
baz=74
PLBC Pleasant Camp 68.44 327 P **P 05 11 40.8 -0.2**
baz=74
C27K Jago River 68.54 338 P **P 05 11 41.6 +0.1**
baz=73
P30M Million Dollar 68.55 327 P **P 05 11 41.8 0.0**
baz=74
DAWY Dawson 68.55 332 **P 05 11 41.1 -0.6**
DAWY IAmb IAmb 05 11 42.4
comp=Z,4.6nm,1.1s
DAWY Dawson 68.55 332 P **P 05 11 41.5 -0.2**
baz=74,SNR=6.1
SIT Sitka 68.55 324 P **P 05 11 40.7 -1.0**
baz=74
M29M Somme Creek 68.60 330 IAmb IAmb 05 11 51.9
comp=Z,4.0nm,1.2s
M29M Somme Creek 68.60 330 P **P 05 11 41.0 -1.1**
baz=74
HYT Haines Junctio 68.61 328 P **P 05 11 41.4 -0.9**
baz=74
G27K Doyon Strip 68.66 335 P **P 05 11 42.8 +0.4**
baz=74
S31K Pelican 68.78 325 P **P 05 11 42.5 -0.6**
baz=74
H27K Steamboat Moun 68.79 334 **P 05 11 43.2 0.0**
H27K IAmb IAmb 05 11 44.3
comp=Z,2.5nm,0.8s
H27K Steamboat Moun 68.79 334 P **P 05 11 43.1 0.0**
baz=73,SNR=5.7
C26K Camden Bay 68.84 339 P **P 05 11 43.6 +0.2**
baz=72
EIL Elat 68.97 67 LR LR 05 43 09.0
comp=Z,27nm,18.1s,baz=244,slow=37
YUK6 Outpost Mounta 68.98 329 P **P 05 11 43.8 -0.9**
baz=73
YUK4 Talbot Arm 69.00 329 P **P 05 11 43.7 -1.0**
baz=73
I27K Kandik River 69.01 334 P **P 05 11 44.0 -0.5**
baz=73
P29M Windy Craggy 69.06 327 P **P 05 11 44.5 -0.4**
baz=73
O29M Mount Kennedy 69.27 328 P **P 05 11 45.6 -0.7**
baz=73
F26K Sheenjek River 69.31 336 IAmb IAmb 05 11 57.8
comp=Z,3.3nm,1.1s
F26K Sheenjek River 69.31 336 P **P 05 11 46.0 -0.4**
baz=72,SNR=6.1
G26K Porcupine Rive 69.42 335 P **P 05 11 46.5 -0.5**
baz=72,SNR=7.6
D25K Kavik River 69.53 338 IAmb IAmb 05 11 49.6
comp=Z,3.9nm,0.8s
D25K Kavik River 69.53 338 P **P 05 11 47.5 -0.2**
baz=70
YUK8 Steele Glacier 69.53 329 P **P 05 11 47.1 -1.1**
baz=72
E25K Arctic Village 69.67 337 P **P 05 11 48.3 -0.3**
baz=71,SNR=6.8
BVCY Beaver Creek 69.68 330 P **P 05 11 48.0 -0.7**
baz=72
K27K Chicken 69.69 332 P **P 05 11 48.5 -0.2**
baz=72
YUK3 Moose Creek 69.70 330 P **P 05 11 48.3 -0.7**
baz=72
I26K Coal Creek Min 69.72 334 P **P 05 11 49.2 +0.4**
baz=72
PNL Peninsula 69.85 327 P **P 05 11 49.3 -0.5**
baz=72
F25K Christian Rive 69.88 336 IAmb IAmb 05 11 52.3
comp=Z,3.2nm,0.8s
F25K Christian Rive 69.88 336 P **P 05 11 49.7 -0.3**
baz=70,SNR=7.1
O28M Mount Upton 69.89 329 P **P 05 11 49.6 -0.7**
baz=72
L27K Beaver Creek, 69.89 331 P **P 05 11 49.9 -0.2**
baz=72
PINM Pinnacle 70.13 328 P **P 05 11 51.1 -0.5**
baz=72
C24K Franklin Bluff 70.14 339 P **P 05 11 52.1 +0.8**
baz=69
M27K Edge Creek, AK 70.14 331 P **P 05 11 51.6 -0.1**
baz=71
J26L Joseph Creek 70.15 333 P **P 05 11 51.6 -0.1**
baz=71
G25K Bearman Lake 70.34 336 P **P 05 11 52.2 -0.4**
baz=70
H25L Birch Creek 70.42 335 P **P 05 11 53.8 +0.7**
baz=70
SCRK Sand Creek 70.50 332 P **P 05 11 52.9 -1.0**
baz=70
KBZ Khabaz 70.56 50 P **P 05 11 54.9 +0.5**
comp=Z,1.1nm,0.5s,baz=267,slow=2.2,SNR=3.6 comp=Z,1.1nm,0.5s
PRP Porcupine Dome 70.57 334 IAmb IAmb 05 11 57.1
comp=Z,3.5nm,1.0s
PRP Porcupine Dome 70.57 334 P **P 05 11 53.7 -0.6**
baz=70,SNR=5.3
M26K Nabesna, AK 70.62 331 P **P 05 11 53.4 -1.1**
baz=70
E24K Your Creek 70.71 337 IAmb IAmb 05 11 58.6
comp=Z,5.3nm,1.2s
E24K Your Creek 70.71 337 P **P 05 11 54.6 -0.3**
baz=68
C23K Itkillik River 70.71 339 P **P 05 11 54.3 -0.5**
baz=67
F24K Squaw Lake 70.71 337 P **P 05 11 54.8 -0.2**
baz=68,SNR=8.1
J25K Salcha River, 70.84 333 P **P 05 11 55.1 -0.7**
baz=69
TOLK Toolik Lake Re 70.85 338 P **P 05 11 55.8 0.0**
baz=67
G24K Hadweenzic Riv 70.87 336 IAmb IAmb 05 11 58.1
comp=Z,3.6nm,0.8s
G24K Hadweenzic Riv 70.87 336 P **P 05 11 55.4 -0.5**
baz=68
RIDG Independent Ri 70.94 332 P **P 05 11 56.0 -0.4**
baz=69
D23K Nanushuk River 71.09 338 P **P 05 11 57.3 +0.1**
baz=67
E23K Chandalar 71.10 337 P **P 05 11 57.8 +0.4**
baz=67
CRQE Cirque 71.24 329 P **P 05 11 57.9 -0.5**
baz=70
K24K Donnelly Dome 71.30 333 P **P 05 11 58.8 +0.2**
baz=69
H24K Noodor Dome 71.36 335 P **P 05 11 59.3 +0.4**
baz=68
B22K Teshekpuk Lake 71.36 340 P **P 05 11 59.3 +0.5**
baz=65
IL31 71.39 334 IAmb IAmb 05 12 00.2
comp=Z,2.7nm,0.7s
ILAR Eielson Array 71.39 334 P **P 05 11 58.4 -0.7**
comp=Z,2.2nm,0.7s,baz=73,slow=4.6,SNR=28
ILAR LR LR 05 42 18.1
comp=Z,57nm,19.2s,baz=36,slow=35 comp=Z,2.2nm,0.7s
PAX Paxson 71.49 332 P **P 05 11 59.7 -0.1**
baz=68
HARP HAARP 71.56 331 P **P 05 11 59.8 -0.4**
baz=68
N25K Chitina, Valde 71.61 330 P **P 05 12 00.7 +0.1**
baz=69
COLD Coldfoot 71.65 337 P **P 05 12 01.1 +0.5**
baz=66
D22K Ayikyak River 71.78 339 P **P 05 12 02.2 +0.8**
baz=65
CCB Clear Creek Bu 71.80 334 IAmb IAmb 05 12 14.9
comp=Z,5.5nm,1.4s
G23K Bananza Creek 71.80 336 **P 05 12 02.6 +1.0**
G23K IAmb IAmb 05 12 03.3
comp=Z,2.8nm,0.8s
G23K Bananza Creek 71.80 336 P **P 05 12 02.2 +0.7**
baz=66
E22K Anaktuvuk Pass 71.82 338 P **P 05 12 02.4 +0.7**
baz=65
H23K Yukon River 71.99 335 IAmb IAmb 05 12 04.9
comp=Z,4.0nm,0.8s
H23K Yukon River 71.99 335 P **P 05 12 03.2 +0.5**
baz=66,SNR=7.3
B21K Ikpikpuk River 72.06 340 P **P 05 12 03.4 +0.4**
baz=64
M24K Tolsona, Glenn 72.12 331 P **P 05 12 03.5 -0.1**
baz=68
KAIM Kayak Island 72.15 329 P **P 05 12 03.3 -0.5**
baz=68
I23K Minto, Yukon-K 72.20 335 IAmb IAmb 05 12 05.7
comp=Z,3.5nm,0.8s
I23K Minto, Yukon-K 72.20 335 P **P 05 12 03.9 -0.1**
baz=66
F22K John River 72.22 337 P **P 05 12 04.3 +0.3**
baz=65
G22K Bettles 72.24 337 P **P 05 12 04.5 +0.4**
baz=65
KLU Klutina 72.24 330 P **P 05 12 03.5 -0.8**
baz=68
DHY Denali Highway 72.25 332 P **P 05 12 03.9 -0.6**
baz=67
NEA2 Nenana 72.32 334 P **P 05 12 04.4 -0.3**
baz=66
C21K Knifeblade Rid 72.33 339 P **P 05 12 05.0 +0.3**
baz=63
E21K Killik River 72.40 339 P **P 05 12 05.1 -0.1**
baz=64
EYAK Cordova Ski Ar 72.53 329 P **P 05 12 05.2 -0.8**
baz=67
WAT6 Susitna Watana 72.60 332 P **P 05 12 05.4 -1.2**
baz=66
MCK McKinley 72.62 333 P **P 05 12 06.2 -0.3**
baz=66
B20K Meade River 72.64 341 P **P 05 12 07.2 +0.7**
baz=61
H22K Ishtalitna Cre 72.64 336 P **P 05 12 05.7 -0.9**
baz=65
SCM Sheep Creek Mo 72.72 331 P **P 05 12 07.2 -0.1**
baz=68
MLY Manley 72.78 335 P **P 05 12 08.3 +0.8**
baz=65
F21K Alatna River 72.80 337 P **P 05 12 08.6 +1.0**
baz=64
WAT1 Susitna Watana 72.84 332 P **P 05 12 08.6 +0.7**
baz=66
GLI Glacier Island 73.01 330 P **P 05 12 08.9 0.0**
baz=66
D20K Etivluk River 73.12 339 IAmb IAmb 05 12 11.6
comp=Z,5.3nm,0.9s
D20K Etivluk River 73.12 339 P **P 05 12 10.9 +1.5**
baz=61,SNR=5.1
G21K Allakaket 73.14 337 IAmb IAmb 05 12 11.6
comp=Z,3.5nm,0.9s
G21K Allakaket 73.14 337 P **P 05 12 10.9 +1.4**
baz=63,SNR=5.6
E20K Nigu River 73.21 339 P **P 05 12 11.2 +1.2**
baz=62
Q23K Middleton Isla 73.25 328 P **P 05 12 10.9 +0.7**
baz=66
H21K Melozitna Rive 73.28 336 IAmb IAmb 05 12 13.6
comp=Z,6.6nm,1.4s
H21K Melozitna Rive 73.28 336 P **P 05 12 11.0 +0.6**
baz=64,SNR=5.4
BPAW Bear Paw Mtn. 73.28 334 P **P 05 12 10.6 +0.1**
baz=64
TRF Thorofare Moun 73.29 333 P **P 05 12 11.2 +0.6**
baz=65
P23K Montague Islan 73.51 329 P **P 05 12 12.2 +0.5**
baz=66
PMR Palmer 73.61 331 P **P 05 12 13.0 +0.7**
baz=65
F20K Avaraart Lake 73.65 338 P **P 05 12 13.6 +1.1**
baz=62
D19K Kuna River 73.71 339 P **P 05 12 13.6 +0.7**
baz=60,SNR=6.2
C19K Lookout Ridge 73.84 340 P **P 05 12 14.4 +0.7**
baz=59
CHUM Lake Minchumin 73.91 334 P **P 05 12 13.6 -0.5**
baz=63
E19K Redstone River 73.96 338 P **P 05 12 15.5 +1.2**
baz=60
RC01 Rabbit Creek A 74.09 331 P **P 05 12 15.5 +0.4**
baz=64
H20K Anotleneega Mo 74.12 336 P **P 05 12 15.6 +0.3**
baz=62
PPLA Purkeypile 74.31 333 P **P 05 12 16.5 -0.2**
baz=63
SUA Susitna One 74.36 331 P **P 05 12 16.6 -0.3**
baz=64
B18K Kokolik River 74.36 341 P **P 05 12 17.9 +1.3**
baz=57
SEW Seward 74.39 330 P **P 05 12 16.8 -0.1**
baz=64
F19K Shaleruckik Mo 74.46 338 P **P 05 12 18.3 +1.0**
baz=60
SKT Skwentna 74.46 332 P **P 05 12 17.0 -0.4**
baz=63
J20K Nowinta River 74.48 335 P **P 05 12 18.1 +0.7**
baz=62
G19K Purcell Mounta 74.58 337 P **P 05 12 18.9 +0.9**
baz=60
C18K Utukok River 74.58 340 P **P 05 12 19.1 +1.1**
baz=57
H19K Roundabout Mou 74.67 336 P **P 05 12 19.0 +0.6**
baz=60
K20K Telida 74.85 334 P **P 05 12 19.7 +0.1**
baz=62
CAPN Captain Cook N 74.85 331 P **P 05 12 19.7 +0.2**
baz=63

E18K	**Tukpahlearik C**	**75.08 339**	P	**P**	**05 12 20.9 +0.1**
	baz=58				
J19K	**Poorman**	**75.14 335**	P	**P**	**05 12 20.8 -0.4**
	baz=61				
M20K	**Styx River**	**75.17 332**	P	**P**	**05 12 21.7 +0.1**
	baz=62				
ARTI	**Arti**	**75.18 34**	LR	LR	05 42 06.8
	comp=Z,37nm,18.0s,baz=132,slow=33				
L20K	**Farewell, AK**	**75.20 333**	P	**P**	**05 12 21.9 +0.3**
	baz=62				
F18K	**Selawik**	**75.22 338**	P	**P**	**05 12 21.8 +0.2**
	baz=58				
GCSA	**Galena City Sc**	**75.22 336**	P	**P**	**05 12 21.7 +0.1**
	baz=60				
G18K	**Tagagawik**	**75.26 337**	P	**P**	**05 12 22.5 +0.6**
	baz=59				
C17K	**DeLong Mountai**	**75.28 340**	P	**P**	**05 12 22.2 +0.2**
	baz=56				
H18K	**Honhosa River**	**75.55 336**	P	**P**	**05 12 23.9 +0.3**
	baz=59				
HOM	**Homer**	**75.58 330**	P	**P**	**05 12 24.0 +0.2**
	baz=62				
E17K	**Hotham Inlet**	**75.66 339**	P	**P**	**05 12 25.7 +1.6**
	baz=56				
M19K	**Big River Lodg**	**75.69 333**	P	**P**	**05 12 24.5 +0.1**
	baz=61				
D17K	**Noatak River**	**75.70 340**	P	**P**	**05 12 25.1 +0.8**
	baz=56				
L19K	**White Mountain**	**75.74 333**	P	**P**	**05 12 25.3 +0.5**
	baz=61				
O20K	**Slope Mountain**	**75.82 331**	P	**P**	**05 12 25.3 +0.1**
	baz=62				
J18K	**Innoko River**	**75.82 335**	P	**P**	**05 12 26.0 +0.8**
	baz=60				
F17K	**Baldwin Pennin**	**75.84 338**	P	**P**	**05 12 25.9 +0.7**
	baz=57				
C16K	**Lisburne Hills**	**76.05 341**	P	**P**	**05 12 26.9 +0.6**
	baz=54				
G17K	**Kiwalik Mounta**	**76.17 337**	P	**P**	**05 12 27.6 +0.5**
	baz=57				
H17K	**Granite Mounta**	**76.22 337**	P	**P**	**05 12 27.6 +0.2**
	baz=57				
N19K	**Bonanza Creek**	**76.27 332**	P	**P**	**05 12 27.7 -0.1**
	baz=60				
P19K	**Oil Pt**	**76.29 330**	P	**P**	**05 12 28.2 +0.3**
	baz=61				
Q20K	**Shuyak Island**	**76.42 329**	P	**P**	**05 12 28.4 -0.2**
	baz=62				
L18K	**Granite Mounta**	**76.46 333**	P	**P**	**05 12 29.3 +0.5**
	baz=59				
M18K	**Stony River**	**76.48 333**	P	**P**	**05 12 28.7 -0.2**
	baz=60				
J17K	**VABM Dome**	**76.76 335**	P	**P**	**05 12 30.6 +0.1**
	baz=58				
G16K	**Koyuk River**	**76.81 338**	P	**P**	**05 12 31.5 +0.8**
	baz=56				
Q19K	**Cape Douglas,**	**76.83 330**	P	**P**	**05 12 30.9 -0.1**
	baz=61				
K17K	**Iditarod**	**76.83 334**	P	**P**	**05 12 30.8 -0.1**
	baz=58				
KDAK	**Kodiak Island**	**76.90 328**	LR	LR	05 48 39.7
	comp=Z,91nm,18.2s,baz=82,slow=38				
KDAK	**Kodiak Island**	**76.90 328**	P	**P**	**05 12 31.7 +0.3**
	baz=61				
N18K	**Kilae Creek**	**76.93 332**	P	**P**	**05 12 31.7 +0.2**
	baz=59				
O18K	**Koktuh Hills**	**77.06 331**	P	**P**	**05 12 33.3 +1.0**
	baz=60				
I17K	**Unalakleet**	**77.09 336**	P	**P**	**05 12 33.0 +0.7**
	baz=56				
L17K	**Donlin**	**77.14 334**	P	**P**	**05 12 34.0 +1.3**
	baz=58				
M17K	**Holitna River**	**77.19 333**	P	**P**	**05 12 34.2 +1.2**
	baz=58				
H16K	**Elim**	**77.21 337**	P	**P**	**05 12 34.0 +1.0**
	baz=55				
P18K	**Big Mountain,**	**77.31 331**	P	**P**	**05 12 34.0 +0.3**
	baz=60				
F15K	**North Star Dit**	**77.39 338**	P	**P**	**05 12 34.6 +0.6**
	baz=54				
J16K	**Anvik River**	**77.40 335**	P	**P**	**05 12 34.8 +0.8**
	baz=56				
OHAK	**Old Harbor**	**77.51 328**	P	**P**	**05 12 35.4 +0.6**
	baz=60				
N17K	**Nushagak Hills**	**77.56 332**	P	**P**	**05 12 36.0 +1.0**
	baz=58				
Q18K	**Katmai Hardscr**	**77.59 330**	P	**P**	**05 12 36.1 +0.7**
	baz=60				
AKTO	**Aktyubinsk**	**77.59 40**	LR	LR	05 45 04.5
	comp=Z,53nm,18.8s,baz=93,slow=34				
G15K	**Niukluk**	**77.62 338**	P	**P**	**05 12 36.0 +0.8**
	baz=54				
L16K	**Owhat River**	**77.84 334**	P	**P**	**05 12 37.8 +1.2**
	baz=57				
R18K	**Karluk**	**77.88 329**	P	**P**	**05 12 37.6 +0.8**
	baz=60				
O17K	**Koliganek Bris**	**77.92 331**	P	**P**	**05 12 38.5 +1.5**
	baz=58				
P17K	**Kvichak River**	**77.94 331**	P	**P**	**05 12 38.5 +1.4**
	baz=58				
M16K	**Timber Creek**	**78.02 333**	P	**P**	**05 12 39.4 +1.8**
	baz=57				
F14K	**Arctic Creek**	**78.09 339**	P	**P**	**05 12 39.3 +1.4**
	baz=52				
Q17K	**Contact Creek**	**78.18 330**	P	**P**	**05 12 39.6 +0.9**
	baz=59				
N16K	**Nishlik Lake**	**78.24 332**	P	**P**	**05 12 39.9 +1.0**
	baz=57				
SII	**Sitkinak Islan**	**78.27 328**	P	**P**	**05 12 40.6 +1.5**
	baz=60				
ANM	**Nome**	**78.34 338**	P	**P**	**05 12 40.7 +1.5**
	baz=53				
TNA	**Tin City**	**78.55 339**	P	**P**	**05 12 42.8 +2.4**
	baz=51				
L15K	**Ungalak Mounta**	**78.65 334**	P	**P**	**05 12 42.6 +1.6**
	baz=55				
R17L	**Mt. Peulik Vol**	**78.73 329**	P	**P**	**05 12 42.7 +1.1**
	baz=58				
J14K	**Nanvaranak Lak**	**78.80 336**	P	**P**	**05 12 43.4 +1.6**
	baz=54				
M15K	**Kasigluk River**	**78.90 333**	P	**P**	**05 12 43.2 +0.7**
	baz=56				
N15K	**Kwethluk River**	**78.96 333**	P	**P**	**05 12 43.7 +0.9**
	baz=56				
L14K	**Kuka Creek**	**79.32 334**	P	**P**	**05 12 45.5 +0.9**
	baz=54				
CHIR	**Chirikof Islan**	**79.34 328**	P	**P**	**05 12 45.7 +0.8**
	baz=58				
M14K	**Bethel**	**79.38 334**	P	**P**	**05 12 45.7 +0.7**
	baz=55				
O15K	**Ungalikthiuk R**	**79.41 332**	P	**P**	**05 12 45.7 +0.4**
	baz=56				
K13K	**Kusilvak Mount**	**79.71 335**	P	**P**	**05 12 47.7 +0.9**
	baz=53				
N14K	**Kuskokwak Cree**	**79.76 333**	P	**P**	**05 12 47.7 +0.6**
	baz=55				
O14K	**Tigyukauivet M**	**79.97 332**	P	**P**	**05 12 48.8 +0.6**
	baz=55				
M13K	**Dall Lake**	**80.13 334**	P	**P**	**05 12 49.9 +0.8**
	baz=53				
S14K	**Fog Glacier**	**80.93 329**	P	**P**	**05 12 54.2 +0.6**
	baz=55				
GAMB	**Gambell**	**80.95 339**	P	**P**	**05 12 54.6 +1.1**
	baz=47				
M11K	**Mekoryuk**	**81.26 335**	P	**P**	**05 12 56.0 +0.8**
	baz=51				
CHNA	**Chernabura Isl**	**81.78 328**	P	**P**	**05 12 58.7 +0.7**
	baz=55				
SDPT	**Sand Point**	**81.90 329**	P	**P**	**05 12 59.6 +1.0**
	baz=54				
S12K	**Black Hills**	**82.42 330**	P	**P**	**05 13 03.3 +1.9**
	baz=53				
BVAR	**Borovoye Array**	**82.88 33**	P	**P**	**05 13 04.0 +0.1**
	comp=Z,1.9nm,0.7s				
	comp=Z,1.9nm,0.7s				
LBTB	**Lobatse**	**84.94 121**	LR	LR	05 44 53.1
	comp=Z,32nm,19.6s,baz=292,slow=31				
SPIA	**Saint Paul Isl**	**84.97 334**	P	**P**	**05 13 16.7 +2.3**
	baz=48				
UNV	**Unalaska Valle**	**85.59 330**	P	**P**	**05 13 19.5 +2.0**
	baz=50				
BOSA	**Boshof**	**86.60 124**	LR	LR	05 46 38.7
	comp=Z,52nm,19.5s,baz=274,slow=32				
NIKH	**Nikolski High**	**87.23 330**	P	**P**	**05 13 27.3 +1.7**
	baz=48				
KURBB	**Kurchatov Arra**	**88.34 32**	P	**P**	**05 13 31.2 +0.2**
	comp=Z,0.3nm,0.5s,baz=307,slow=6.7,SNR=4.9				
	comp=Z,0.3nm,0.5s				
ZALV	**Zalesovo Beam**	**88.82 27**	P	**P**	**05 13 33.5 +0.3**

comp=Z,1.0nm,0.6s,baz=308,slow=7.3,SNR=4.8
comp=Z,1.0nm,0.6s

AAK	**Ala-Archa**	**91.33 40**	LR	LR	05 53 57.0	
	comp=Z,44nm,18.6s,baz=180,slow=35					
VNDA	**Vanda**	**127.38 187**	PKP	**PKiKP**	**05 19 43.8**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=260,slow=3.6,SNR=4.8					

IDC 10 05:19:45.5±1.8, 0.23N×126.45E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=164.3km s-min=24.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.49**	**159**	P	P	05 24 35.3	-0.7
	0.9nm,0.5s,baz=338,slow=12,SNR=11						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**24.84**	**164**	P	P	05 25 10.4	+0.7
	0.4nm,0.4s,baz=342,slow=10.0,SNR=4.4						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**60.28**	**327**	P	P	05 29 54.5	-1.4
	0.2nm,0.5s,baz=119,slow=8.4,SNR=2.7						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**64.53**	**328**	P	P	05 30 25.6	+1.3
	0.3nm,0.3s,baz=114,slow=6.2,SNR=1.7						
	0.3nm,0.3s						

GCG 10 05:26:58.4±0.6, 14.20N×91.20W, h76km±10km, MD3.8, ML3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STG0	**El Palmar, Qui**	**0.26**	**329**	*i* P	Pn	05 27 13.8	+3.5
STG0				IAML		05 27 30.3	
	comp=E,896nm,0.1s						
STG8	**El Palmar, Qui**	**0.29**	**330**	*i* P	Pn	05 27 14.1	+3.6
STG8				*i* S	Sn	05 27 26.3	+6.9
STG8				IAML		05 27 26.6	
	comp=N,826nm,0.2s						
STG2	**El Palmar, Qui**	**0.29**	**324**	*i* P	Pn	05 27 14.2	+3.8
ESSG	**Sabana Grande**	**0.40**	**63**	*i* P	Pn	05 27 11.2	+0.1
ESSG				*i* S	Sn	05 27 20.9	+0.5
FG8	**Yepocapa, Chim**	**0.62**	**84**	*i* P	Pn	05 27 11.2	-1.9
FG8				*i* S	Sn	05 27 21.1	-2.9
FG16	**Alotenango, Sa**	**0.67**	**84**	*i* P	Pn	05 27 12.0	-1.7
FG16				*i* S	Sn	05 27 22.7	-2.3
FG16				IAML		05 27 30.0	
	comp=N,4μm,0.2s						
NUBE	**Las Nubes**	**1.41**	**102**	*i* P	Pn	05 27 22.8	+0.2

*TEH **10** 05:44:30.2, 33.02N×47.38E, h10km±58km*
*ISN **10** 05:44:30.5±0.7, 33.02N×47.40E, h36km±4km, ML2.7*
ISC 10 05:44:30.3±1.3, 33.08N±0.07×47.39E±0.06, h15km, n9, σ0.77/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.59**	**40**	Pg	**Pb**	**05 44 43.1**	**+0.8**
IKFM				Sg	**Sn**	**05 44 52.4**	**-1.0**
ILBA	**Ilam Banvizeh**	**1.13**	**299**	Pg	**Pb**	**05 44 51.5**	**-0.1**
IBDR	**Badra**	**1.23**	**272**	*e*Pg	**Pn**	**05 44 53.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**05 45 10.0**	**0.0**
IBDR				AML	AML	05 45 34.9	
	comp=E,89nm,0.3s						
IBDR				AML	AML	05 45 36.4	
	comp=N,69nm,0.6s						
IGHG	**Ghaleghazi**	**1.43**	**331**	Pg	**Pg**	**05 44 58.5**	**+0.7**
GLG1	**Gilan-e-Gharb**	**1.61**	**310**	Pg	**Pg**	**05 45 02.4**	**+1.1**
RAFI	**Al-Rafai**	**1.73**	**219**	*e*Pn	**Pn**	**05 45 00.0**	**+0.2**
RAFI				*e*Sn	**Sn**	**05 45 20.5**	**-1.1**
RAFI				AML	AML	05 45 24.4	
	comp=N,189nm,0.2s						
RAFI				AML	AML	05 45 40.9	
	comp=E,160nm,0.1s						
SNQR	**Sonqor, Kerman**	**1.79**	**6**	Pn	**Pg**	**05 45 04.4**	**-0.3**
IDHR	**Dehrash**	**1.82**	**333**	Pn	**Pg**	**05 45 04.3**	**-1.0**
BHD	**Baghdad**	**2.53**	**275**	*e*Pn	**Pn**	**05 45 11.0**	**+0.1**
BHD				*e*Sn	**Sn**	**05 45 41.0**	**-0.4**

IDC 10 05:45:00.8±1.7, 0.55N×126.43E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=168.9km s-min=21.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.79**	**160**	P	P	05 49 53.9	-0.7
	1.1nm,0.6s,baz=338,slow=10,SNR=9.1						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**25.14**	**164**	P	P	05 50 28.3	+0.5
	1.4nm,0.6s,baz=344,slow=11,SNR=13						
	1.4nm,0.6s						
MKAR	**Makanchi Array**	**60.00**	**326**	P	P	05 55 09.3	0.0
	0.5nm,0.3s,baz=117,slow=8.1,SNR=7.0						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**64.25**	**328**	P	P	05 55 37.6	-0.1
	0.3nm,0.4s,baz=133,slow=6.2,SNR=4.5						
	0.3nm,0.4s						

WEL 10 05:48:35.4±0.8, 34.5S±14.×18.0W±2.1, h286km±19km, mB4.4/14, ML4.4/18, MLv4.1/23, Mw(mB)3.5/14, Error ellipse: s-maj=31.3km s-min=10.7km az=120.8, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.31**	**200**	P	Pn	05 49 43.3	-1.1
MXZ				S	S	05 50 38.1	-1.4
WMGZ	**Waiomatatini S**	**4.52**	**198**	P	Pn	05 49 45.5	-1.3
WMGZ				S	S	05 50 45.0	+1.1
HAZ	**Te Kaha**	**4.65**	**204**	P	Pn	05 49 46.5	-1.8
HAZ				S	S	05 50 47.4	+0.7
PKGZ	**Pakihiroa**	**4.66**	**201**	P	Pn	05 49 48.0	-0.4
PKGZ				S	S	05 50 48.2	+1.3
PUZ	**Puketiti**	**4.80**	**198**	P	Pn	05 49 50.5	+0.4
PUZ				S	S	05 50 50.5	+0.5
RUGZ	**Raukumara Rang**	**4.88**	**204**	P	Pn	05 49 50.7	-0.3
RUGZ				S	S	05 50 51.2	-0.5
TWGZ	**Tauwhareparae**	**4.98**	**200**	P	Pn	05 49 53.3	+1.2
TWGZ				S	S	05 50 55.3	+1.7
CNGZ	**Carnagh Statio**	**5.21**	**197**	P	Pn	05 49 53.4	-1.3
CNGZ				S	S	05 50 57.6	-0.8
MWZ	**Matawai**	**5.26**	**203**	P	Pn	05 49 54.8	-0.7
MWZ				S	S	05 51 00.1	+0.3
URZ	**Urewera**	**5.34**	**207**	P	Pn	05 49 56.3	0.0
URZ				S	S	05 51 01.5	+0.1
RAGZ	**Rawiri**	**5.45**	**203**	P	Pn	05 49 59.4	+1.7
RIGZ	**Rimuhau**	**5.53**	**200**	P	Pn	05 49 58.3	-0.4
RIGZ				S	S	05 51 08.0	+2.4
MUGZ	**Murupara**	**5.66**	**208**	P	Pn	05 49 59.4	-0.8
MUGZ				S	S	05 51 09.4	+1.0
PRGZ	**Paritu Road**	**5.70**	**198**	P	Pn	05 50 00.6	-0.2
PRGZ				S	S	05 51 11.0	+1.7
RTZ	**Ruatahuna**	**5.70**	**206**	P	Pn	05 50 01.7	+0.9
SNGZ	**Shannon Statio**	**5.73**	**203**	P	Pn	05 50 00.1	-1.0
SNGZ				S	S	05 51 10.5	+0.6
ALRZ	**Allen Road**	**5.91**	**210**	P	Pn	05 50 04.1	+0.9
MHGZ	**Mahia Peninsul**	**5.91**	**197**	P	Pn	05 50 04.7	+1.5
RAHZ	**Arahi**	**5.94**	**204**	P	Pn	05 50 03.5	0.0
RAHZ				S	S	05 51 14.8	+0.3
MTHZ	**Maungataniwha**	**5.96**	**206**	P	Pn	05 50 05.0	+1.1
MTHZ				S	S	05 51 14.6	-0.5
NMHZ	**Naumai**	**6.19**	**205**	P	Pn	05 50 07.5	+0.8
ARHZ	**Aropaoanui**	**6.28**	**203**	P	Pn	05 50 08.2	+0.6
BKZ	**Black Stump Fm**	**6.37**	**207**	P	Pn	05 50 09.1	+0.3
BKZ				S	S	05 51 23.4	-0.7
KWHZ	**Kaweka Forest**	**6.62**	**206**	P	Pn	05 50 11.6	-0.3
KWHZ				S	S	05 51 30.3	+0.6
NTVZ	**North Tongarir**	**6.64**	**212**	P	Pn	05 50 12.8	+0.6
TMVZ	**Te Maari**	**6.65**	**212**	P	Pn	05 50 12.5	+0.2
ETVZ	**East Tongariro**	**6.66**	**211**	P	Pn	05 50 12.6	+0.1
NNVZ	**North Ngauruho**	**6.70**	**212**	P	Pn	05 50 13.4	+0.5
TWVZ	**Taurewa**	**6.73**	**213**	P	Pn	05 50 14.2	+0.9
SNVZ	**South Ngauruho**	**6.73**	**212**	P	Pn	05 50 13.9	+0.6
NGZ	**Ngauruhoe**	**6.74**	**212**	P	Pn	05 50 14.1	+0.7
KAHZ	**Kahuranaki**	**6.80**	**202**	P	Pn	05 50 14.3	+0.3
KAHZ				S	S	05 51 36.7	+3.1
FWVZ	**Far West T-bar**	**6.83**	**212**	P	Pn	05 50 14.0	-0.6
KRHZ	**Kereru**	**6.83**	**205**	P	Pn	05 50 12.6	-1.8
KRHZ				S	S	05 51 33.8	-0.6
MAVZ	**Matarangi**	**6.83**	**212**	P	Pn	05 50 14.8	0.0
WNVZ	**Wahianoa**	**6.87**	**211**	P	Pn	05 50 14.1	-1.0
MOVZ	**Moawhango**	**6.87**	**210**	P	Pn	05 50 14.1	-0.8
PXZ	**Pawanui**	**7.02**	**201**	P	Pn	05 50 17.0	+0.3
PXZ				S	S	05 51 39.1	+0.6
PNHZ	**Pukenui**	**7.13**	**205**	P	Pn	05 50 16.5	-1.7
PNHZ				S	S	05 51 39.9	-1.2
PRHZ	**Porangahau**	**7.31**	**202**	P	Pn	05 50 19.7	-0.5
ANWZ	**Angora Road**	**7.53**	**202**	P	Pn	05 50 23.2	+0.2
ANWZ				S	S	05 51 51.0	+1.0
BFZ	**Birch Farm**	**7.81**	**202**	P	Pn	05 50 26.0	-0.4

*ASRS **10** 05:59:52.0±0.9, 54.11N×86.40E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 10 05:59:52.0±3.3, 54.15N×86.69E, h0km, mbtmp2.6/2, ML2.5/2, Error ellipse: s-maj=27.1km s-min=15.8km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVINFRA**	**1.12**	**261**	I	I	06 06 20.0	
	baz=79,slow=326,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.12**	**261**	Pg	Pg	06 00 12.1	-1.4
	0.8nm,0.3s,baz=80,slow=18,SNR=7.2						
ZALV				Lg	Lg	06 00 29.3	
	1.7nm,0.3s,baz=78,slow=29,SNR=6.5						
KURBB	**Kurchatov Arra**	**6.11**	**238**	Pn	Pn	06 01 25.1	+1.6
	0.1nm,0.3s,baz=53,slow=14,SNR=2.8						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.88**	**203**	Pn	Pn	06 01 48.4	+0.7
	0.1nm,0.3s,baz=23,slow=13,SNR=1.9						
	0.1nm,0.4s						

IDC 10 06:06:07.4±1.6, 0.40N×126.55E, h0km, mb3.5/4, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=111.9km s-min=21.4km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.41**	**183**	P	P	06 10 24.6	+0.4
	0.1nm,0.3s,baz=4.1,slow=14,SNR=1.9						
	3.2nm,1.1s						
WRA	**Warramunga Arr**	**21.61**	**160**	P	P	06 10 58.4	-0.9
	0.8nm,0.5s,baz=338,slow=11,SNR=15						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**24.97**	**164**	P	P	06 11 33.3	+0.4
	0.4nm,0.5s,baz=352,slow=16,SNR=7.5						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**60.19**	**326**	P	P	06 16 16.5	-0.7
	0.3nm,0.4s,baz=123,slow=7.2,SNR=5.4						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**64.44**	**328**	P	P	06 16 46.4	+0.8
	0.5nm,0.7s,baz=116,slow=6.3,SNR=1.5						
	0.5nm,0.7s						

GCG 10 06:10:28.8±0.4, 14.13N×91.22W, h70km±9km, MD3.6, ML2.8, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STG0	**El Palmar, Qui**	**0.31**	**339**	*i* P	Pn	06 10 44.0	+3.7
STG0				*i* S	Sn	06 10 55.7	+7.0
STG0				IAML		06 10 58.9	
	comp=E,236nm,0.2s						
STG2	**El Palmar, Qui**	**0.34**	**334**	*i* P	Pn	06 10 44.5	+4.1
STG2				*i* S	Sn	06 10 56.5	+7.5
STG8	**El Palmar, Qui**	**0.34**	**339**	*i* P	Pn	06 10 44.4	+3.8
STG8				IAML		06 10 57.4	
	comp=N,163nm,0.2s						
FG8	**Yepocapa, Chim**	**0.66**	**79**	*i* P	Pn	06 10 41.3	-2.1
FG8				*i* S	Sn	06 10 51.1	-3.0
FG16	**Alotenango, Sa**	**0.71**	**79**	*i* P	Pn	06 10 42.2	-1.8
FG16				*i* S	Sn	06 10 52.8	-2.4
FG16				IAML		06 10 53.7	
	comp=E,944nm,0.2s						

GCG 10 06:16:44.7±0.7, 14.22N×91.19W, h76km±12km, MD3.5, ML3.3, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STG0	**El Palmar, Qui**	**0.25**	**325**	*i* P	Pn	06 17 00.3	+3.8
STG0				*i* S	Sn	06 17 11.6	+6.5
STG8	**El Palmar, Qui**	**0.28**	**326**	*i* P	Pn	06 17 00.5	+3.8
STG8				*i* S	Sn	06 17 12.0	+6.5
STG8				IAML		06 17 13.0	
	comp=N,1μm,0.1s						
ESSG	**Sabana Grande**	**0.39**	**65**	*i* P	Pn	06 16 57.3	0.0
ESSG				*i* S	Sn	06 17 06.9	+0.4
ESSG				IAML		06 17 07.1	
	comp=N,671nm,0.1s						
FG8	**Yepocapa, Chim**	**0.61**	**86**	*i* P	Pn	06 16 57.3	-2.0
FG8				*i* S	Sn	06 17 07.1	-3.0
FG16	**Alotenango, Sa**	**0.66**	**85**	*i* P	Pn	06 16 58.1	-1.8
FG16				*i* S	Sn	06 17 08.5	-2.6
FG16				IAML		06 17 11.8	
	comp=E,2μm,0.2s						
NUBE	**Las Nubes**	**1.41**	**103**	*i* P	Pn	06 17 09.1	+0.3

*NEIC **10** 06:24:15.6±0.6, 36.055N±0.010×117.86W±0.02, h4km±5km, Error ellipse: s-maj=2.0km s-min=1.4km az=89.0*
PAS 10 06:24:16.0±0.9, 36.05N±0.01×117.86W±0.02, h2km±1km, ML3.0/23, ML2.8/74(NEIC), Error ellipse: s-maj=2.2km s-min=1.4km az=106.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRVM	**Rose V. Centra**	**0.05**	**212**		Pg	06 24 17.2	+0.1
MFS	**McCloud Flat S**	**0.07**	**1**		Pg	06 24 17.5	+0.1
WCSM	**Coso Springs S**	**0.08**	**110**		Pg	06 24 17.8	+0.2
JRC2	**Joshua Ridge**	**0.08**	**151**		Pg	06 24 17.8	+0.2
WNMM	**Nine Mile Cany**	**0.21**	**191**		Pg	06 24 23.5	+3.4
MPMC	**Manual Prospec**	**0.30**	**89**	Pg	Pg	06 24 21.9	+0.1
MPMC				IAML		06 24 27.9	
	comp=E,1μm,0.7s						
MPMC				IAML		06 24 27.9	
	comp=N,1μm,0.7s						
CLC	**China Lake**	**0.32**	**138**		Pg	06 24 22.2	+0.2
SRTC	**Snort**	**0.37**	**166**		Pg	06 24 23.8	+0.6
SRTC					Sb	06 24 29.9	-1.7
CWC	**Cottonwood Cre**	**0.43**	**335**		Pn	06 24 30.5	+1.0
CWC	**Cottonwood Cre**	**0.43**	**335**	IAML		06 24 34.3	
	comp=E,946nm,0.2s						
CWC				IAML		06 24 34.4	
	comp=N,1μm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.59**	**166**		Pg	06 24 27.3	0.0
LRMC				IAML		06 24 36.1	
	comp=E,618nm,0.5s						
LRMC				IAML		06 24 37.6	
	comp=N,596nm,0.6s						
ISA	**Isabella, Lake**	**0.64**	**232**		Pg	06 24 28.2	0.0
ISA				IAML		06 24 37.0	
	comp=N,405nm,0.6s						
ISA				IAML		06 24 37.1	
	comp=E,391nm,0.5s						
SPG2	**Springville 2**	**0.75**	**282**		Pg	06 24 30.0	-0.4
QSM	**Queen of Sheba**	**0.81**	**96**		Pg	06 24 31.3	-0.1
QSM				IAML		06 24 35.0	
	comp=N,354nm,0.5s						
QSM				IAML		06 24 48.6	

WCT					IAML		06 25 02.0	
	comp=E,198nm,0.7s							
VOG	**Valley Oaks Go**	**1.26 283**			Pg		06 24 39.6	-0.6
DSP	**Deep Springs**	**1.32 356**			Pg		06 24 40.2	-1.1
DSP					IAML		06 24 59.9	
	comp=E,107nm,0.6s							
GMN	**Gold Mountain**	**1.33 21**			Pg		06 24 41.1	-0.6
BHPR	**Bishop**	**1.34 338**			Pg		06 24 41.4	-0.4
TPNV	**Topopah Spring**	**1.57 55**			Pn		06 24 44.7	-0.5
TPNV					IAML		06 25 12.5	
	comp=E,177nm,1.0s							
OSI	**Osito Audit: C**	**1.60 207**			Pn		06 24 45.0	-0.4
OSI					IAML		06 25 17.6	
	comp=E,122nm,0.7s							
OSI					IAML		06 25 17.8	
	comp=N,79nm,1.0s							
MZP	**Montezuma Peak**	**1.69 13**			Pn		06 24 46.8	0.0
BFSC	**Mount Baldy Ra**	**1.82 175**			Pn		06 24 48.6	+0.2
BFSC					IAML		06 25 15.9	
	comp=E,88nm,0.5s							
BFSC					IAML		06 25 19.1	
	comp=N,68nm,0.6s							
MWC	**Mount Wilson**	**1.83 185**			Pn		06 24 49.3	+0.6
MWC					IAML		06 25 19.2	
	comp=E,104nm,0.5s							
PASC	**Pasadena Art C**	**1.90 188**	Pn		Pn		06 24 49.8	+0.4
PASC			IAML				06 25 19.7	
	comp=E,51nm,0.5s							
TPH	**Tonopah**	**2.08 14**			Pn		06 24 52.3	+0.1
GMRC	**Granite Mounta**	**2.19 125**			Pn		06 24 52.0	-1.7
SHPR	**Sheep Range**	**2.23 77**			Pn		06 24 54.5	+0.3
NVAR	**Mina Array Bea**	**2.40 352**			Pn		06 24 56.8	+0.2
ELS	**Elsinore Mount**	**2.42 172**			Pn		06 24 56.1	-0.7
RYN	**Ryan**	**2.63 349**	Pn		Pn		06 25 00.1	+0.4
PRN	**Pahroc Range**	**2.63 58**	Pn		Pn		06 24 59.9	+0.2
PRN			IAML				06 25 46.6	
	comp=N,54nm,0.8s							
PRN			IAML				06 26 01.6	
	comp=E,58nm,0.8s							
PFO	**Pinyon Flats O**	**2.69 154**	Pn		Pn		06 24 59.8	-0.7
FRD	**Ford Ranch, An**	**2.75 158**			Pn		06 25 00.5	-0.8

*IDC **10** 06:24:53.0±0.8, 31°.09S×177°.20W, h0km, mb4.2/7, mbtmp4.2/7, MS3.3/2, Error ellipse: s-maj=28.4km s-min=18.6km az=74.0*
*NEIC **10** 06:24:55.3±2.5, 31°.09S±0°.05×177°.3W±0°.2, h10km±1km, mb4.6/15, Error ellipse: s-maj=23.7km s-min=8.1km az=79.0*

ISC 10 06:24:57.3±0.6, 31°.18S±0°.06×177°.4W±0°.1, h27km, n43, σ1§43/43, mb4.5/17, 4C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.96 348**			**Pn**	**06 25 27.2**	**-1.6**
RAO	**Raoul Island**	**1.96 348**		Pn	**Pn**	**06 25 28.0**	**-0.9**
	680nm,0.3s,baz=101,slow=1.8,SNR=15						
RAO				Sn	**Sn**	**06 25 51.3**	**-1.3**
	2µm,0.3s,baz=100,slow=22,SNR=18						
MXZ	**Matakaoa Point**	**7.27 208**		Pn	**Pn**	**06 26 40.0**	**-1.8**
URZ	**Urewera**	**8.37 211**		Pn	**Pn**	**06 26 54.1**	**-2.6**
	1.9nm,0.3s,baz=260,slow=4.1,SNR=26						
URZ				Sn	**Sn**	**06 28 28.8**	**-1.6**
	12nm,0.3s,baz=282,slow=22,SNR=12						
RTZ	**Ruatahuna**	**8.72 210**			**Pn**	**06 27 01.3**	**-0.4**
BKZ	**Black Stump Fm**	**9.39 210**			**Pn**	**06 27 08.8**	**-2.1**
BFZ	**Birch Farm**	**10.77 207**		Pn	**Pn**	**06 27 26.3**	**-3.5**
MSWZ	**Moikau Station**	**11.79 208**		Pn	**Pn**	**06 27 42.4**	**-1.3**
INZ	**Inchbonnie**	**14.54 214**		Pn	**Pn**	**06 28 19.0**	**-2.2**
RPZ	**Rata Peaks**	**15.47 213**		Pn	**Pn**	**06 28 29.9**	**-3.8**
	6.8nm,0.3s,baz=29,slow=2.2,SNR=15						
DZM	**Mont Dzumac**	**17.01 298**		LR	LR	06 33 02.2	
	comp=Z,89nm,20.4s,baz=248,slow=28						
CTAO	**Charters Tower**	**34.40 280**		P	**P**	**06 31 43.5**	**+0.9**
STKA	**Stephens Creek**	**34.78 258**		P	**P**	**06 31 45.5**	**-0.2**
STKA	**Stephens Creek**	**34.78 258**		P	**P**	**06 31 47.4**	**+1.8**
	2.4nm,0.6s,baz=105,slow=14,SNR=3.6						
	2.4nm,0.6s						
ASAR	**Alice Springs**	**43.55 267**		P	**P**	**06 32 59.9**	**+0.8**
	1.0nm,0.6s,baz=103,slow=7.5,SNR=12						
	1.0nm,0.6s						
WR0	**Warramunga Arr**	**44.43 273**		P	**P**	**06 33 06.8**	**+0.6**
WR0				IAmb	IAmb	06 33 33.6	
	comp=Z,6.4nm,1.1s						
WR8	**Warramunga Arr**	**44.47 273**		P	**P**	**06 33 07.6**	**+1.2**
WR8				IAmb	IAmb	06 33 24.3	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**44.60 273**		P	**P**	**06 33 08.6**	**+1.0**
WB2				IAmb	IAmb	06 33 21.6	
	comp=Z,5.2nm,0.7s						
WRAB	**Tennant Creek**	**44.61 273**		P	**P**	**06 33 08.2**	**+0.7**
WRAB				IAmb	IAmb	06 33 27.7	
	comp=Z,5.1nm,0.7s						
WRA	**Warramunga Arr**	**44.61 273**		P	**P**	**06 33 08.0**	**+0.4**
WRA	**Warramunga Arr**	**44.61 273**		P	**P**	**06 33 08.8**	**+1.1**
	comp=Z,2.5nm,0.4s,baz=111,slow=8.0,SNR=26						
	comp=Z,2.5nm,0.4s						
WB0	**Warramunga Arr**	**44.64 273**		P	**P**	**06 33 09.1**	**+1.2**
WB0				IAmb	IAmb	06 33 37.0	
	comp=Z,10nm,1.1s						
VNDA	**Vanda**	**47.37 186**		P	**P**	**06 33 29.6**	**+1.0**
FITZ	**Fitzroy Crossi**	**52.84 270**		P	**P**	**06 34 09.7**	**-1.2**
CASY	**Casey**	**54.68 208**		P	**P**	**06 34 24.8**	**+1.2**
CASY				IAmb	IAmb	06 34 25.5	
	comp=Z,9.6nm,1.1s						
GUMO	**Guam**	**57.37 315**		LR	LR	06 55 04.0	
	comp=Z,30nm,21.6s,baz=82,slow=32						
QSPA	**South Pole Qui**	**58.93 180**		P	**P**	**06 34 55.5**	**+1.5**
QSPA	**South Pole Qui**	**58.93 180**		P	**P**	**06 34 55.0**	**+1.0**
	comp=Z,8.0nm,1.1s,baz=326,slow=1.0,SNR=22						
	comp=Z,8.0nm,1.1s						
SMAI	**San Martin Ant**	**68.53 158**		P	**P**	**06 35 56.9**	**-0.1**
SMAI				IAmb	IAmb	06 35 57.5	
	comp=Z,3.7nm,0.9s						
BELA	**Belgrano 2**	**68.95 172**		P	**P**	**06 35 58.7**	**-0.8**
BELA				IAmb	IAmb	06 35 59.6	
	comp=Z,6.7nm,1.1s						
MAW	**Mawson**	**71.75 201**		P	**P**	**06 36 18.5**	**+1.8**
	comp=Z,2.4nm,0.9s,baz=104,slow=8.3,SNR=3.5						
	comp=Z,2.4nm,0.9s						
TROLL	**Troll, Antarti**	**77.10 180**	⇑	P	**P**	**06 36 47.5**	**-0.4**
	comp=Z,212nm,0.7s						
SNAA	**Sanae**	**77.36 178**	⇑	P	**P**	**06 36 48.8**	**-0.6**
	comp=Z,64nm,0.6s						
SNAA	**Sanae**	**77.36 178**		P	**P**	**06 36 49.1**	**-0.3**
SNAA				IAmb	IAmb	06 36 50.2	
	comp=Z,5.9nm,1.0s						
SNAA	**Sanae**	**77.36 178**		P	**P**	**06 36 49.0**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=213,slow=4.5,SNR=20						
	comp=Z,3.3nm,0.8s						
VNA2	**Neumayer--Watz**	**77.94 177**	⇑	P	**P**	**06 36 52.1**	**-0.4**
	comp=Z,11nm,0.7s,baz=170,slow=5.4						
VNA1	**Neumayer--Stat**	**78.16 176**	⇑	P	**P**	**06 36 53.4**	**-0.2**
	comp=Z,11nm,0.9s						
TXAR	**Lajitas Array**	**92.40 57**		P	**P**	**06 38 04.2**	**-1.6**
	comp=Z,0.3nm,0.8s,baz=245,slow=4.9,SNR=2.9						
	comp=Z,0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**121.97 313**		PKP	**PKPdf**	**06 43 48.9**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=109,slow=1.7,SNR=4.2						
ARCES	**ARCESS Array B**	**139.45 348**		PKP	**PKPdf**	**06 44 22.0**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=54,slow=2.1,SNR=4.2						
FINES	**FINESS Array B**	**146.04 340**		PKPbc	**PKPdf**	**06 44 33.2**	**+0.2**
	comp=Z,2.4nm,0.5s,baz=57,slow=3.6,SNR=11						
HFS	**Hagfors**	**150.10 349**		PKPbc	**PKPbc**	**06 44 45.5**	**+0.7**
	comp=Z,2.2nm,0.9s,baz=11,slow=2.9,SNR=2.7						
AKASG	**Malin Array Be**	**152.21 322**		PKPbc	**PKPbc**	**06 44 49.7**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=48,slow=1.6,SNR=4.5						

GCG 10 06:34:30.6±0.4, 13°.78N×90°.57W, h70km±33km, MD3.6, ML2.8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FG16	**Alotenango, Sa**	**0.49**	**7**	*i* P	Pn	06 34 46.4	+2.8
FG16				IAML		06 35 04.1	
	comp=N,530nm,0.3s						
NUBE	**Las Nubes**	**0.78**	**81**	*i* P	Pn	06 34 46.9	+0.3

*IDC **10** 06:39:56.6±1.6, 60°.55N×150°.60W, h44km±17km, mb3.6/8, mbtmp3.7/13, ML3.2/5, MS3.2/6, Error ellipse: s-maj=16.1km s-min=12.6km az=114.0*
*AEIC **10** 06:39:57.9±1.6, 60°.51N±0°.02×150°.17W±0°.06, h43km±7km, ML3.8, mb3.9/7(NEIC), ML4.0/236(NEIC), Mwr3.8/85(NEIC), Error ellipse: s-maj=5.0km s-min=0.9km az=118.0*
*NEIC **10** 06:39:57.6±1.5, 60°.52N±0°.02×150°.19W±0°.03, h36km±5km, Error ellipse: s-maj=3.5km s-min=0.9km az=150.0, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr0.95; Mθθ-3.59; Mφφ2.64; Mrθ2.40; Mθφ-1.17; Mrφ4.28; Fault plane solution: M0 5.98000×10^14^ NP1: φs298.78000°, δ34.67000°, λ170.32000°. NP2: φs36.76000°, δ84.51000°, λ55.71000°. Principal axes: T 6.1945, Plg40.0000°, Azm40.0000°; P -5.7379, Plg31.0000°, Azm154.0000°;*
*NEIC **10** 06:39:58.7, 60°.52N×150°.15W, h41km*

ISC 10 06:39:57.6±0.7, 60°.50N±0°.03×150°.21W±0°.03, h48km±7km, n282, σ0§97/234, mb3.8/11, MS3.0/6, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLKM	**Skilak Lake**	**0.01**	**297**		**Pn**	**06 40 04.2**	**-0.8**
O22K	**Cooper Landing**	**0.24**	**95**		**Pn**	**06 40 05.2**	**-0.8**
O22K	**Cooper Landing**	**0.24**	**95**		**Sn**	**06 40 11.2**	**-0.8**
CAPN	**Captain Cook N**	**0.54**	**300**		**Pn**	**06 40 09.4**	**+0.3**
SEW	**Seward**	**0.55**	**137**		**Pn**	**06 40 08.8**	**-0.5**
SEW	**Seward**	**0.55**	**137**		**Sn**	**06 40 17.4**	**-0.3**
RC01	**Rabbit Creek A**	**0.63**	**21**		**Pn**	**06 40 09.4**	**-1.0**
RC01				IAML		06 40 19.9	
	comp=N,9µm,0.6s						
RC01	**Rabbit Creek A**	**0.63**	**21**		**Sn**	**06 40 18.4**	**-1.2**
FIS	**Fire Island**	**0.64**	**360**		**Pn**	**06 40 10.1**	**-0.4**
FIS				IAML		06 40 21.0	
	comp=E,10µm,0.6s						
FIS				IAML		06 40 21.2	
	comp=N,10µm,0.7s						
FIS	**Fire Island**	**0.64**	**360**		**Sn**	**06 40 20.3**	**+0.5**
BRLK	**Bradley Lake**	**0.82**	**205**		**Pn**	**06 40 13.1**	**+0.2**
BRLK				IAML		06 40 25.2	
	comp=N,7µm,0.5s						
BRLK	**Bradley Lake**	**0.82**	**205**		**Sn**	**06 40 24.9**	**+1.0**
PWL	**Port Wells**	**0.99**	**68**		**Pn**	**06 40 14.7**	**-0.4**
PWL	**Port Wells**	**0.99**	**68**		**Sn**	**06 40 28.5**	**+0.5**
SUA	**Susitna One**	**1.00**	**345**		**Pn**	**06 40 14.3**	**-1.1**
SUA					**Sn**	**06 40 27.8**	**-0.6**
RDT	**Redoubt**	**1.09**	**275**		**Pn**	**06 40 16.0**	**-0.6**
RDT					**Sn**	**06 40 30.5**	**-0.1**
CNPM	**China Poot**	**1.11**	**208**		**Pn**	**06 40 17.2**	**+0.4**
CNPM	**China Poot**	**1.11**	**208**		**Sn**	**06 40 31.8**	**+0.8**
HOM	**Homer**	**1.11**	**221**		**Pn**	**06 40 17.5**	**+0.7**
SPU	**Mount Spurr**	**1.13**	**308**		**Pn**	**06 40 16.5**	**-0.6**
SPU				IAML		06 40 31.7	
	comp=E,3µm,0.4s						
SPU				IAML		06 40 32.2	
	comp=N,3µm,0.5s						
SPU	**Mount Spurr**	**1.13**	**308**		**Sn**	**06 40 31.1**	**-0.4**
SPCR	**Spurr Chakacha**	**1.20**	**306**		**Pn**	**06 40 17.5**	**-0.7**
PMR	**Palmer**	**1.21**	**25**		**Pn**	**06 40 17.5**	**-0.6**
PMR				IAML		06 40 34.7	
	comp=N,2µm,0.5s						
PMR	**Palmer**	**1.21**	**25**		**Sn**	**06 40 33.2**	**-0.1**
PMR	**Palmer**	**1.21**	**25**	P	**Pn**	**06 40 17.7**	**-0.4**
PMR	**Palmer**	**1.21**	**25**	S	**Sn**	**06 40 34.1**	**+0.7**
SPCP	**Crater Peak Br**	**1.22**	**310**		**Pn**	**06 40 18.0**	**-0.5**
DFR	**Drift River**	**1.23**	**275**		**Sn**	**06 40 33.9**	**-0.1**
KNK	**Knik Glacier**	**1.25**	**42**		**Pn**	**06 40 18.4**	**-0.3**
KNK				IAML		06 40 36.6	
	comp=N,4µm,0.7s						
KNK	**Knik Glacier**	**1.25**	**42**		**Sn**	**06 40 34.5**	**+0.1**
M22K	**Willow**	**1.25**	**2**		**Pn**	**06 40 18.1**	**-0.6**
M22K				IAML		06 40 43.5	
	comp=N,3µm,0.5s						
M22K				IAML		06 40 47.6	
	comp=E,3µm,0.5s						
RED	**Redoubt Volcan**	**1.27**	**267**		**Pn**	**06 40 18.6**	**-0.4**
RED	**Redoubt Volcan**	**1.27**	**267**		**Sn**	**06 40 35.4**	**+0.3**
STLK	**Strandline Lak**	**1.27**	**322**		**Pn**	**06 40 18.4**	**-0.6**
STLK				IAML		06 40 36.8	
	comp=E,3µm,0.3s						
STLK				IAML		06 40 36.9	
	comp=N,3µm,0.5s						
RDWB	**Redoubt West**	**1.30**	**270**		**Sn**	**06 40 36.0**	**+0.1**
GHO	**Glory Hole Cre**	**1.42**	**26**		**Pn**	**06 40 20.8**	**-0.2**
GHO				IAML		06 40 43.1	
	comp=N,3µm,0.6s						
IVE	**Iliamna Volcan**	**1.48**	**252**		**Pn**	**06 40 21.4**	**-0.5**
P23K	**Montague Islan**	**1.49**	**109**		**Pn**	**06 40 20.9**	**-1.0**
P23K				IAML		06 40 48.0	
	comp=N,2µm,0.9s						
P23K				IAML		06 40 48.3	
	comp=E,2µm,0.7s						
ILS	**Iliamna Low So**	**1.53**	**250**		**Pn**	**06 40 22.5**	**0.0**
ILSW	**Iliamna Southw**	**1.55**	**252**		**Pn**	**06 40 22.7**	**-0.2**
ILSW				IAML		06 40 49.1	
	comp=N,1µm,0.8s						
GLI	**Glacier Island**	**1.58**	**75**		**Pn**	**06 40 21.7**	**-1.4**
GLI				IAML		06 40 51.0	
	comp=N,2µm,0.5s						
GLI				IAML		06 40 51.0	
	comp=E,2µm,0.5s						
GLI	**Glacier Island**	**1.58**	**75**		**Sn**	**06 40 42.9**	**+0.6**
SKT	**Skwentna**	**1.61**	**337**		**Pn**	**06 40 23.3**	**-0.4**
SKT				IAML		06 40 45.9	
	comp=N,2µm,0.4s						
SKT				IAML		06 40 47.0	
	comp=E,2µm,0.5s						
OPT	**Oil Point**	**1.74**	**242**		**Pn**	**06 40 25.8**	**+0.4**
P19K	**Oil Pt**	**1.74**	**242**		**Pn**	**06 40 25.9**	**+0.5**
HIN	**Hinchinbrook I**	**1.84**	**92**		**Pn**	**06 40 25.2**	**-1.5**
HIN				IAML		06 40 56.6	
	comp=N,2µm,0.5s						
HIN				IAML		06 40 56.9	
	comp=E,1µm,0.6s						
FID	**Port Fidalgo**	**1.85**	**81**		**Pn**	**06 40 25.3**	**-1.6**
FID				IAML		06 40 59.6	
	comp=N,1µm,0.7s						
FID				IAML		06 40 59.8	
	comp=E,1µm,0.6s						
CUT	**Chulitna**	**1.91**	**359**		**Pn**	**06 40 27.8**	**+0.1**
SCM	**Sheep Creek Mo**	**1.93**	**45**		**Pn**	**06 40 27.8**	**-0.3**
SCM	**Sheep Creek Mo**	**1.93**	**45**	IAML		06 40 59.0	
SCM	comp=E,1µm,1.2s					06 41 02.0	
	comp=N,1µm,0.7s			IAML			
AU22	**Augustine Moun**	**1.95**	**236**		**Pn**	**06 40 28.9**	**+0.6**
M20K	**Styx River**	**1.98**	**316**		**Pn**	**06 40 29.0**	**+0.3**
AUCH	**Augustine Cone**	**1.99**	**236**		**Pn**	**06 40 29.6**	**+0.8**
O19K	**Port Alsworth**	**2.07**	**263**		**Pn**	**06 40 29.6**	**-0.2**
N19K	**Bonanza Creek**	**2.13**	**280**		**Pn**	**06 40 30.5**	**-0.2**
N19K				IAML		06 41 01.2	
	comp=N,1µm,0.5s						
N19K				IAML		06 41 01.7	
	comp=E,994nm,0.6s						
SYI	**Shuyak Island**	**2.20**	**211**		**Pn**	**06 40 32.2**	**+0.5**
SYI	**Shuyak Island**	**2.20**	**211**	IAML		06 41 07.3	
	comp=N,543nm,0.7s						
SYI				IAML		06 41 07.7	
	comp=E,865nm,0.8s						
EYAK	**Cordova Ski Ar**	**2.21**	**87**		**Pn**	**06 40 30.4**	**-1.2**
EYAK				IAML		06 41 14.5	
	comp=N,755nm,0.8s						
EYAK	**Cordova Ski Ar**	**2.21**	**87**	P	**Pn**	**06 40 30.1**	**-1.6**
Q23K	**Middleton Isla**	**2.22**	**117**		**Pn**	**06 40 30.9**	**-1.0**
Q23K	**Middleton Isla**	**2.22**	**117**	IAML		06 41 34.0	
	comp=N,550nm,1.1s						
Q23K				IAML		06 41 40.9	
	comp=E,674nm,1.1s						
DIV	**Divide**	**2.26**	**72**	IAML		06 41 07.4	
	comp=N,640nm,0.7s						
KLU	**Klutina**	**2.31**	**63**	IAML		06 41 09.8	
	comp=N,919nm,0.4s						
KLU				IAML		06 41 17.0	
	comp=E,512nm,0.8s						
Q19K	**Cape Douglas,**	**2.35**	**229**		**Pn**	**06 40 35.0**	**+1.2**
WAT6	**Susitna Watana**	**2.40**	**28**		**Pn**	**06 40 34.1**	**-0.4**
WAT7	**Susitna Watana**	**2.42**	**15**		**Pn**	**06 40 34.6**	**-0.3**
M19K	**Big River Lodg**	**2.46**	**307**		**Pn**	**06 40 35.5**	**+0.2**
WAT1	**Susitna Watana**	**2.46**	**18**		**Pn**	**06 40 35.8**	**+0.5**
PPLA	**Purkeypile**	**2.58**	**339**		**Pn**	**06 40 37.1**	**+0.1**
PPLA	**Purkeypile**	**2.58**	**339**	IAML		06 41 15.8	
	comp=E,579nm,0.9s						
PPLA				IAML		06 41 21.3	
	comp=N,450nm,1.0s						
O18K	**Koktuh Hills**	**2.58**	**258**		**Pn**	**06 40 36.5**	**-0.4**
O18K				IAML		06 41 19.4	
	comp=N,591nm,0.7s						
O18K				IAML		06 41 19.7	
	comp=E,404nm,0.6s						
GOAT	**Goat Mountain**	**2.71**	**86**		**Pn**	**06 40 37.3**	**-1.4**
RAGM	**Ragged Mountai**	**2.75**	**90**		**Pn**	**06 40 37.4**	**-1.7**
RAGM	**Ragged Mountai**	**2.75**	**90**	IAML		06 41 46.0	
	comp=E,688nm,0.7s						
P18K	**Big Mountain,**	**2.76**	**248**		**Pn**	**06 40 39.3**	**-0.1**
BMRM	**Bremner River**	**2.79**	**78**	IAML		06 41 28.6	
	comp=N,713nm,0.9s						
L19K	**White Mountain**	**2.80**	**309**		**Pn**	**06 40 40.3**	**+0.3**
L19K				IAML		06 41 33.1	
	comp=E,375nm,1.1s						
N18K	**Kilae Creek**	**2.81**	**276**		**Pn**	**06 40 39.4**	**-0.6**
N18K				IAML		06 41 24.3	
	comp=E,303nm,0.8s						
N18K				IAML		06 41 28.0	
	comp=N,356nm,0.8s						
DHY	**Denali Highway**	**2.91**	**26**		**Pn**	**06 40 41.9**	**+0.4**
DHY	**Denali Highway**	**2.91**	**26**	IAML		06 41 23.2	
	comp=N,387nm,1.2s						
DHY				IAML		06 41 23.6	
	comp=E,394nm,0.8s						
N25K	**Chitina, Valde**	**2.94**	**66**		**Pn**	**06 40 41.7**	**-0.2**
N25K				IAML		06 41 25.8	
	comp=N,369nm,0.7s						
N25K				IAML		06 41 27.1	
	comp=E,335nm,0.6s						
KAIM	**Kayak Island**	**2.95**	**99**		**Pn**	**06 40 40.5**	**-1.3**
HMT	**Hamilton**	**2.95**	**91**		**Pn**	**06 40 40.4**	**-1.6**
TRF	**Thorofare Moun**	**2.96**	**359**		**Pn**	**06 40 42.8**	**+0.7**
TRF	**Thorofare Moun**	**2.96**	**359**	IAML		06 41 26.8	
	comp=E,438nm,0.8s						
TRF				IAML		06 41 40.3	
	comp=N,459nm,0.7s						
RND	**Reindeer**	**2.98**	**12**		**Pn**	**06 40 43.1**	**+0.7**
RND	**Reindeer**	**2.98**	**12**	IAML		06 41 37.6	
	comp=N,282nm,1.0s						
KDAK	**Kodiak Island**	**2.99**	**205**		**Pn**	**06 40 42.2**	**-0.3**
KDAK				IAML		06 41 36.7	
	comp=N,380nm,0.9s						
KDAK				IAML		06 41 38.0	
	comp=N,346nm,0.8s						
KDAK	**Kodiak Island**	**2.99**	**205**	P	**Pn**	**06 40 42.0**	**-0.5**
	comp=N,5.5nm,0.3s,baz=34,slow=3.7,SNR=472						
KDAK				S	**Sn**	**06 41 15.3**	**-1.8**
	comp=N,94nm,0.6s,baz=100,slow=9.2,SNR=5.7						
	comp=N,15nm,0.3s						
KAHG	**Katmai Hook Gl**	**2.99**	**230**		**Pn**	**06 40 43.0**	**+0.4**
CAST	**Castle Rocks**	**3.06**	**344**		**Pn**	**06 40 43.5**	**+0.1**
KAHC	**Katmai Hardscr**	**3.07**	**235**		**Pn**	**06 40 44.0**	**+0.3**
KAHC	**Katmai Hardscr**	**3.07**	**235**		**Pn**	**06 40 44.0**	**+0.3**
KTH	**Kantishna Hill**	**3.08**	**354**		**Pn**	**06 40 44.6**	**+0.8**
KTH	**Kantishna Hill**	**3.08**	**354**	IAML		06 41 28.9	
	comp=E,551nm,0.8s						
HARP	**HAARP**	**3.08**	**50**		**Pn**	**06 40 44.4**	**+0.6**
NICHA	**Nichawak Mount**	**3.11**	**92**		**Pn**	**06 40 42.3**	**-1.8**
BERG	**Berg Lake**	**3.23**	**89**		**Pn**	**06 40 43.7**	**-2.0**
BERG	**Berg Lake**	**3.23**	**89**	IAML		06 41 42.5	
	comp=N,467nm,0.7s						
SUCK	**Suckling Hills**	**3.23**	**95**		**Pn**	**06 40 43.9**	**-1.9**
GLB	**Gilahina Butte**	**3.26**	**70**		**Pn**	**06 40 45.5**	**-0.7**
GLB				IAML		06 41 34.1	
	comp=E,261nm,0.9s						
GLB				IAML		06 41 41.5	
	comp=N,377nm,0.7s						
MCK	**McKinley**	**3.29**	**10**		**Pn**	**06 40 45.6**	**-1.0**
MCK	**McKinley**	**3.29**	**10**	IAML		06 41 43.4	
	comp=N,247nm,0.9s						
PAX	**Paxson**	**3.35**	**40**		**Pn**	**06 40 47.9**	**+0.5**
PAX	**Paxson**	**3.35**	**40**	IAML		06 41 39.5	
	comp=E,356nm,0.7s						
PAX				IAML		06 41 41.0	
	comp=N,369nm,0.8s						
VRDI	**Verde Repeater**	**3.38**	**75**		**Pn**	**06 40 47.0**	**-1.1**
VRDI				IAML		06 41 44.6	
	comp=N,239nm,0.8s						
K20K	**Telida**	**3.40**	**329**		**Pn**	**06 40 47.7**	**-0.4**
K20K	**Telida**	**3.40**	**329**	IAML		06 41 49.0	
	comp=E,243nm,0.9s						
GRIN	**Grindle Hills**	**3.43**	**91**		**Pn**	**06 40 46.6**	**-1.9**
N17K	**Nushagak Hills**	**3.45**	**273**		**Pn**	**06 40 48.3**	**-0.5**
N17K	**Nushagak Hills**	**3.45**	**273**	IAML		06 41 45.4	
	comp=E,216nm,0.7s						
N17K				IAML		06 41 46.3	
	comp=N,284nm,0.6s						
ACHA	**Angle Creek He**	**3.49**	**231**		**Pn**	**06 40 49.2**	**-0.2**
CRQM	**Cirque**	**3.49**	**83**		**Pn**	**06 40 48.0**	**-1.5**
CRQM	**Cirque**	**3.49**	**83**	IAML		06 41 49.6	
	comp=E,324nm,0.7s						
CRQM				IAML		06 41 57.7	
	comp=N,416nm,1.1s						
O17K	**Koliganek Bris**	**3.52**	**261**		**Pn**	**06 40 49.3**	**-0.4**
ANCK	**Angle Creek**	**3.56**	**232**		**Pn**	**06 40 51.0**	**+0.6**
MCARA	**McCarthy VSAT**	**3.61**	**73**		**Pn**	**06 40 50.5**	**-0.6**
MCARA				IAML		06 41 52.2	
	comp=N,424nm,0.6s						
MCARA				IAML		06 41 58.6	
	comp=E,413nm,0.8s						
BPAW	**Bear Paw Mtn.**	**3.63**	**355**		**Pn**	**06 40 52.3**	**+1.1**
BPAW				IAML		06 41 39.5	
	comp=N,166nm,0.8s						
BPAW				IAML		06 41 55.3	
	comp=E,186nm,0.8s						
M17K	**

PLK4 **Peulik 4** 4.29 230 Pn 06 41 00.7 +0.3
PLK4 **Peulik 4** 4.29 230 IAML 06 42 01.4
comp=N,114nm,0.8s
PLK4 IAML 06 42 19.4
comp=E,127nm,0.7s
J19K **Poorman** 4.32 326 IAML 06 42 11.1
comp=N,100nm,0.9s
J19K IAML 06 42 20.2
comp=E,106nm,1.5s
M16K **Timber Creek** 4.32 281 IAML 06 42 11.8
comp=E,126nm,1.4s
M16K IAML 06 42 23.4
comp=N,134nm,1.4s
CTGM **Chitina Glacie** 4.38 80 Pn 06 41 01.4 -0.3
K17K **Iditarod** 4.46 303 IAML 06 42 22.1
comp=N,153nm,1.0s
SII **Sitkinak Islan** 4.47 210 Pn 06 41 01.8 -1.0
SII **Sitkinak Islan** 4.47 210 IAML 06 42 37.2
comp=E,181nm,1.0s
TABL **Table Mountain** 4.49 87 Pn 06 41 01.3 -1.9
TABL **Table Mountain** 4.49 87 IAML 06 42 26.1
comp=N,108nm,0.9s
COLA **College** 4.52 13 Pn 06 41 03.4 +0.1
COLA **College** 4.52 13 P Pn 06 41 03.9 +0.5
SCRK **Sand Creek** 4.54 37 Pn 06 41 03.3 -0.5
SCRK **Sand Creek** 4.54 37 IAML 06 42 14.1
comp=E,108nm,1.1s
SCRK IAML 06 42 23.4
comp=N,120nm,0.9s
LOGN **Logan Glacier** 4.54 82 Pn 06 41 03.0 -0.8
IL31 4.55 18 Pn 06 41 04.1 +0.3
ILAR **Eielson Array** 4.55 18 Pn 06 41 04.9 +1.1
ILAR **Eielson Array** 4.55 18 P Pn 06 41 04.2 +0.4
comp=N,1.8nm,0.3s,baz=197,slow=13,SNR=75
comp=N,3.3nm,0.4s
MLY **Manley** 4.55 357 Pn 06 41 04.7 +0.8
L16K **Owhat River** 4.66 289 Pn 06 41 04.8 -0.5
L16K **Owhat River** 4.66 289 IAML 06 42 28.2
comp=N,142nm,0.9s
L16K IAML 06 42 30.1
comp=E,118nm,0.9s
I23K **Minto, Yukon-K** 4.68 4 Pn 06 41 05.8 +0.2
I23K **Minto, Yukon-K** 4.68 4 IAML 06 42 28.8
comp=N,94nm,0.8s
I23K IAML 06 42 32.9
comp=E,77nm,0.8s
J25K **Salcha River,** 4.69 26 IAML 06 42 20.8
comp=E,103nm,1.1s
J25K IAML 06 42 21.5
comp=N,87nm,0.7s
SAMH **Samovar Hills** 4.70 90 Pn 06 41 06.2 +0.1
YUK2 **White River** 4.72 70 Pn 06 41 06.1 -0.1
L27K **Beaver Creek,** 4.73 54 Pn 06 41 06.5 +0.1
I20K **Naaghedeneel** 4.74 337 Pn 06 41 06.4 0.0
BCAR **Beaver Creek A** 4.75 54 Pn 06 41 07.0 +0.3
YUK3 **Moose Creek** 4.89 71 Pn 06 41 08.6 -0.2
N15K **Kwethluk River** 4.92 270 IAML 06 42 39.4
comp=E,144nm,0.7s
PCA **Pinnacle** 4.97 90 Pn 06 41 08.7 -1.0
O15K **Ungalikthiuk R** 5.03 259 IAML 06 42 41.4
comp=E,77nm,0.8s
O15K IAML 06 42 50.8
comp=N,83nm,1.0s
J26L **Joseph Creek** 5.05 35 Pn 06 41 10.6 -0.3
J26L **Joseph Creek** 5.05 35 IAML 06 42 20.1
comp=E,75nm,0.8s
J26L IAML 06 42 24.2
comp=N,94nm,0.7s
J17K **VABM Dome** 5.09 309 IAML 06 42 42.5
comp=N,67nm,0.8s
J17K IAML 06 42 53.9
comp=E,67nm,1.5s
M15K **Kasigluk River** 5.17 277 Pn 06 41 12.2 -0.1
K27K **Chicken** 5.19 44 IAML 06 42 42.2
comp=N,60nm,1.1s
GCSA **Galena City Sc** 5.25 327 Pn 06 41 12.6 -0.8
H21K **Melozitna Rive** 5.30 348 Pn 06 41 14.5 +0.3
H22K **Ishtalitna Cre** 5.44 355 Pn 06 41 16.1 +0.1
H20K **Anotleneega Mo** 5.44 339 Pn 06 41 16.2 +0.1
H24K **Noodor Dome** 5.46 10 Pn 06 41 16.5 +0.2
PRP **Porcupine Dome** 5.46 21 Pn 06 41 16.6 +0.1
PNL **Peninsula** 5.48 94 Pn 06 41 15.2 -1.3
PNL **Peninsula** 5.48 94 P Pn 06 41 15.3 -1.3
CHIR **Chirikof Islan** 5.50 214 Pn 06 41 15.4 -1.5
L15K **Ungalak Mounta** 5.60 287 Pn 06 41 17.9 -0.3
O14K **Tigyukauivet M** 5.71 262 Pn 06 41 19.7 0.0
IMAR **Indian Mountai** 5.73 345 Pn 06 41 20.4 +0.5
K15K **Wolf Creek Mou** 5.73 293 Pn 06 41 19.7 -0.3
N14K **Kuskokwak Cree** 5.75 269 Pn 06 41 20.3 0.0
M14K **Bethel** 5.79 278 Pn 06 41 20.4 -0.4
I17K **Unalakleet** 5.96 309 Pn 06 41 23.2 0.0
L14K **Kuka Creek** 6.14 283 Pn 06 41 26.0 +0.4
DAWY **Dawson** 6.18 50 Pn 06 41 25.9 -0.3
G21K **Allakaket** 6.21 348 Pn 06 41 27.1 +0.5
G23K **Bananza Creek** 6.23 1 Pn 06 41 26.5 -0.4
L29M **L29M** 6.29 60 Pn 06 41 26.7 -1.1
H17K **Granite Mounta** 6.30 319 Pn 06 41 27.5 -0.2
P29M **Windy Craggy** 6.30 93 Pn 06 41 26.1 -1.8
VNHG **Veniaminof 1** 6.37 232 Pn 06 41 27.9 -1.1
I27K **Kandik River** 6.43 34 Pn 06 41 29.1 -0.6
G19K **Purcell Mounta** 6.45 334 Pn 06 41 29.5 -0.3
M13K **Dall Lake** 6.50 275 Pn 06 41 30.5 -0.1
G25K **Bearman Lake** 6.54 14 Pn 06 41 31.1 -0.1
G18K **Tagagawik** 6.62 328 Pn 06 41 32.5 +0.3
M30M **Minto, Yukon** 6.74 66 Pn 06 41 33.4 -0.5
J14K **Nanvaranak Lak** 6.75 295 Pn 06 41 33.1 -0.8
COLD **Coldfoot** 6.75 0 Pn 06 41 34.0 0.0
I28M **Miner Creek** 6.81 39 Pn 06 41 34.5 -0.5
K29M **Barlow Dome** 6.81 55 Pn 06 41 34.0 -1.0
G17K **Kiwalik Mounta** 6.90 321 Pn 06 41 35.6 -0.4
H16K **Elim** 6.93 312 Pn 06 41 35.8 -0.6
H27K **Steamboat Moun** 6.94 30 Pn 06 41 35.5 -1.1
G26K **Porcupine Rive** 7.07 21 Pn 06 41 37.6 -0.7
F19K **Shaleruckik Mo** 7.18 335 Pn 06 41 39.6 -0.2
BMAR **Burnt Mountain** 7.38 17 Pn 06 41 43.0 +0.4
G27K **Doyon Strip** 7.38 27 Pn 06 41 41.6 -1.0
F25K **Christian Rive** 7.39 14 Pn 06 41 41.8 -1.0
SDPT **Sand Point** 7.52 231 P Pn 06 41 44.4 -0.1
CHNA **Chernabura Isl** 7.59 226 P Pn 06 41 44.8 -0.7
CNBA **Chernabura Isl** 7.60 226 Pn 06 41 45.2 -0.4
J30M **Hart River** 7.60 52 Pn 06 41 44.7 -1.0
S31K **Pelican** 7.61 103 Pn 06 41 43.5 -2.2
E19K **Redstone River** 7.63 339 Pn 06 41 46.0 0.0
F26K **Sheenjek River** 7.69 18 Pn 06 41 45.9 -1.0
E22K **Anaktuvuk Pass** 7.69 356 Pn 06 41 46.2 -0.8
F17K **Baldwin Pennin** 7.73 325 Pn 06 41 47.0 -0.3
G15K **Niukluk** 7.77 311 Pn 06 41 47.7 -0.3
E25K **Arctic Village** 7.91 13 Pn 06 41 48.9 -0.9
S12K **Black Hills** 7.91 238 Pn 06 41 50.7 +0.9
ANM **Nome** 8.10 307 Pn 06 41 52.5 0.0
E20K **Nigu River** 8.20 344 Pn 06 41 53.1 -0.7
E18K **Tukpahlearik C** 8.30 331 Pn 06 41 55.0 -0.1
JIS **Juneau Island** 8.38 99 P Pn 06 41 55.3 -0.9
SIT **Sitka** 8.46 108 P Pn 06 41 56.1 -1.3
S32K **Killisnoo** 8.62 104 Pn 06 41 58.4 -1.2
F14K **Arctic Creek** 8.85 311 Pn 06 42 04.0 +1.2
C21K **Knifeblade Rid** 8.90 349 Pn 06 42 03.0 -0.4
MMPY **Sheldon Lake,** 9.28 69 Pn 06 42 07.2 -1.5
G31M **Satah River** 9.54 41 Pn 06 42 09.8 -2.3
U33K **Whale Pass** 10.00 109 Pn 06 42 16.4 -2.0
F31M **Tsiigehtchic** 10.01 39 Pn 06 42 18.0 -0.5
S34M **Telegraph Cree** 10.11 97 Pn 06 42 19.2 -0.8
WRAK **Wrangell Islan** 10.20 106 Pn 06 42 21.4 +0.2
CRAG **Craig** 10.37 112 P Pn 06 42 22.4 -1.0
DLBC **Dease Lake** 10.46 93 P Pn 06 42 25.1 +0.2
baz=253,slow=12,SNR=3.8
comp=N,0.1nm,0.3s
INK **Inuvik** 10.60 35 Pn 06 42 26.7 +0.1
INK **Inuvik** 10.60 35 P Pn 06 42 25.9 -0.8
comp=N,0.1nm,0.3s,baz=215,slow=14,SNR=8.4
INK S Sn 06 44 29.7 +5.9
comp=N,1.8nm,0.6s,baz=286,slow=13,SNR=4.2
comp=N,2.0nm,0.9s
NIKH **Nikolski High** 12.68 242 P Pn 06 42 55.5 +0.5
A36M **Sachs Harbour** 15.11 30 Pn 06 43 26.7 -0.8
A36M IAmb IAmb 06 43 57.3
comp=Z,9.1nm,0.8s
ADK **Adak** 16.97 251 P P 06 43 52.8 +0.2
YKA **Yellowknife Ar** 16.97 68 P Pn 06 43 50.5 -0.8
comp=Z,0.3nm,0.3s,baz=277,slow=18,SNR=12
comp=Z,1.4nm,0.7s
MXC **Moxie City** 22.33 115 P 06 44 52.7 +1.6
MXC IAmb IAmb 06 44 54.9
comp=Z,6.3nm,1.0s
NEW **Newport** 22.55 108 LR LR 06 52 47.2
comp=Z,57nm,18.3s,baz=288,slow=34
YBH **Yreka Blue Hor** 25.20 126 P P 06 45 20.8 +2.2
PLID **Pearl Lake** 25.41 112 P P 06 45 22.9 +2.2
PLID IAmb IAmb 06 45 24.6
comp=Z,2.6nm,0.8s
SEY **Seymchan** 26.54 300 LR LR 06 56 31.2
comp=Z,28nm,18.6s,baz=197,slow=38
PETK **Petropavlovsk-** 28.77 279 LR LR 06 57 31.6
comp=Z,33nm,19.9s,baz=87,slow=37
ELK **Elko** 29.18 117 P P 06 45 56.7 +2.2
ELK IAmb IAmb 06 45 57.7
comp=Z,2.6nm,1.0s
NVAR **Mina Array Bea** 29.79 123 P P 06 46 01.6 +1.7
comp=Z,0.8nm,0.7s,baz=310,slow=8.3,SNR=6.5
comp=Z,0.8nm,0.7s
PDAR **Pinedale Array** 30.19 107 P P 06 46 04.7 +1.3
comp=Z,0.3nm,0.6s,baz=331,slow=5.7,SNR=4.5
PDAR LR LR 06 58 09.0
comp=Z,15nm,19.4s,baz=288,slow=36
comp=Z,0.3nm,0.6s
TXAR **Lajitas Array** 43.88 114 P P 06 48 00.5 +1.2
comp=Z,0.3nm,0.5s,baz=319,slow=6.3,SNR=9.6
comp=Z,0.3nm,0.5s
TKL **Tuckaleechee C** 48.28 90 LR LR 07 08 34.8
comp=Z,41nm,18.3s,baz=326,slow=35
SONM **Songino Array** 55.61 307 P P 06 49 27.3 -0.8
comp=Z,1.5nm,0.6s,baz=36,slow=7.0,SNR=4.4
comp=Z,1.5nm,0.6s
ZALV **Zalesovo Beam** 57.77 325 P P 06 49 41.7 -1.6
comp=Z,1.5nm,0.6s,baz=22,slow=7.0,SNR=5.1
comp=Z,1.5nm,0.6s
EKA **Eskdalemuir Ar** 61.58 21 P P 06 50 08.5 -0.9
comp=Z,0.2nm,0.3s,baz=321,slow=5.6,SNR=6.2
comp=Z,0.2nm,0.3s
KURBB **Kurchatov Arra** 62.48 327 P P 06 50 13.8 -1.8
comp=Z,1.8nm,0.4s,baz=29,slow=6.7,SNR=10
comp=Z,1.8nm,0.4s
MKAR **Makanchi Array** 64.89 323 P P 06 50 29.0 -2.5
comp=Z,0.6nm,0.5s,baz=27,slow=6.4,SNR=8.6
comp=Z,0.6nm,0.5s
JAY **Jayapura** 82.03 250 LR LR 07 22 12.8
comp=Z,58nm,20.4s,baz=231,slow=31
QSPA **South Pole Qui** 150.31 180 PKPbc PKPbc 06 59 39.9 -1.9
comp=Z,0.7nm,0.7s,baz=109,slow=2.5,SNR=5.3

BJI ***10*** *06:52:54.1, 1.°72N×97.°03E, h47km, mB4.9/7, mb4.7/34, Ms4.2/2, Ms7 4.0/2*
NEIC ***10*** *06:52:59.9±1.0, 2.°20N±0.°06×97.°12E±0.°08, h43km±7km, mb4.8/53, Error ellipse: s-maj=11.2km s-min=8.2km az=91.0*
DJA ***10*** *06:52:59.0±0.3, 2.°N±2.°×9.°7E±.°, h42km±4km, M5.0/18, mB5.6/6, mb5.0/18, MLv4.9/18, Mw(mB)5.1/6*
IDC ***10*** *06:53:00.2±3.1, 2.°23N×97.°21E, h55km±28km, mb4.2/28, mbtmp4.4/29, ML4.6/1, MS3.7/29, Error ellipse: s-maj=18.1km s-min=10.9km az=63.0*
ISC 10 06:52:59.9±0.3, 2.°17N±0.°04×97.°11E±0.°05, h50km, n183, σ1s04/154, mb4.7/73, MS3.7/28, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.98**	**151**		**Pn**	**06 53 17.1**	**-0.3**
GSI	**Gunungsitoli**	**0.98**	**151**	P	**Pn**	**06 53 16.8**	**-0.6**
GSI				S	**Sn**	**06 53 29.9**	**-0.4**
RPSI	**Rantau Prapat**	**1.89**	**74**		**Pn**	**06 53 29.6**	**-0.2**
RPSI	**Rantau Prapat**	**1.89**	**74**		**Pn**	**06 53 29.3**	**-0.5**
RPSI					**Sn**	**06 53 54.5**	**+2.0**
PSI	**Prapat**	**1.92**	**71**	P	**Pn**	**06 53 29.3**	**-1.0**
	278nm,0.5s,baz=262,slow=5.4,SNR=162						
PSI				S	**Sn**	**06 53 54.5**	**+1.1**
	372nm,0.4s,baz=127,slow=23,SNR=5.6						
PSI				LR	LR	06 54 33.2	
	comp=Z,2μm,19.9s,baz=264,slow=52						
TSI	**Tuntungan**	**1.97**	**48**	P	**Pn**	**06 53 30.7**	**-0.1**
MLSI	**Meulaboh, Aceh**	**2.20**	**341**	P	**Pn**	**06 53 32.7**	**-1.3**
MLSI				S	**Sn**	**06 53 59.7**	**-0.3**
PBSI	**Pulau Batu**	**2.50**	**152**	P	**Pn**	**06 53 38.5**	**+0.3**
MNSI	**Mandailing Nat**	**2.83**	**119**	P	**Pn**	**06 53 42.1**	**-0.5**
LHMI	**Lhok Sumawe**	**3.04**	**357**	P	**Pn**	**06 53 45.7**	**+0.1**
LHMI				S	**Sn**	**06 54 21.1**	**+0.3**
SISI	**Saibi**	**4.00**	**150**	P	**Pn**	**06 53 57.8**	**-0.9**
BKNI	**Bangkinang**	**4.34**	**115**	P	**Pn**	**06 54 03.2**	**-0.2**
IPM	**Ipoh**	**4.54**	**60**		**Pn**	**06 54 05.8**	**-0.3**
KULM	**Kulim**	**4.70**	**49**		**Pn**	**06 54 07.5**	**-0.9**
PPSI	**Pulau Pagai**	**5.70**	**149**	P	**Pn**	**06 54 22.8**	**+0.8**
	1.6nm360nm,1.2s						
MYKOM	**Kota Tinggi**	**6.75**	**93**		**Pn**	**06 54 36.3**	**-0.2**
SRIT	**Nakonsritamara**	**6.85**	**21**		**Pn**	**06 54 36.2**	**-1.6**
KSI	**Kapahiang**	**7.97**	**136**	P	**Pn**	**06 54 54.0**	**+0.7**
	152nm,0.6s						
MNAI	**Manna**	**8.73**	**138**	Pn	**Pn**	**06 55 03.3**	**-0.3**
MNAI	**Manna**	**8.73**	**138**	P	**Pn**	**06 55 02.3**	**-1.4**
LHSI	**Lahat**	**8.75**	**133**	P	**Pn**	**06 55 04.1**	**+0.1**
MDSI	**Maura Dua**	**9.68**	**133**	P	**Pn**	**06 55 15.9**	**-0.7**
	118nm,0.7s						
KLI	**Kotabumi**	**10.43**	**132**	P	**Pn**	**06 55 26.3**	**-0.6**
KASI	**Kota Agung**	**10.63**	**136**	P	**Pn**	**06 55 27.8**	**-1.8**
TPI	**Tanjungpandan**	**11.62**	**115**	P	**Pn**	**06 55 43.6**	**+0.3**
	37nm,1.2s						
STKI	**Sintang**	**14.52**	**98**	P	**Pn**	**06 56 23.1**	**+0.5**
SBUM	**Sibu**	**15.11**	**89**		**Pn**	**06 56 30.2**	**0.0**
CM31	**Chiang Mai Arr**	**16.29**	**6**	Pn	**Pn**	**06 56 44.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**16.29**	**6**	P	**Pn**	**06 56 44.2**	**-1.1**
	0.8nm,0.3s,baz=198,slow=11,SNR=17						
CMAR				LR	LR	07 03 37.9	
	comp=Z,235nm,18.2s,baz=185,slow=39						
	5.1nm,0.7s						
PALK	**Pallekele**	**17.11**	**288**	LR	LR	07 02 49.7	
	comp=Z,265nm,19.0s,baz=114,slow=34						
KKM	**Kota Kinabalu**	**19.44**	**78**		**P**	**06 57 22.3**	**-0.3**
KKM				IAmb	IAmb	06 57 24.4	
	comp=Z,35nm,0.8s						
SLVN	**Son La**	**20.17**	**19**		**P**	**06 57 29.6**	**-0.8**
QIZ	**Qiongzhong**	**20.89**	**36**	P	**P**	**06 57 39.4**	**+1.3**
QIZ				S	**S**	**07 01 31.7**	**+3.3**
QIZ				LR	LR		
	comp=Z,210nm,8.6s						
QIZ				LR	LR		
	comp=Z,170nm,9.6s						
QIZ				LR	LR		
	comp=Z,450nm,13.5s						
MPSI	**Mapaga**	**22.86**	**94**	P	**P**	**06 57 58.6**	**-0.7**
	comp=Z,24nm,0.8s						
TOLI2	**Tolitoli**	**23.69**	**92**	P	**P**	**06 58 06.3**	**-1.1**
TOLI2				IAmb	IAmb	06 58 08.1	
	comp=Z,35nm,1.0s						
KAPI	**Kappang**	**23.72**	**108**	P	**P**	**06 58 06.9**	**-0.8**
KAPI				IAmb	IAmb	06 58 31.1	
	comp=Z,33nm,1.2s						
KAPI	**Kappang**	**23.72**	**108**	P	**P**	**06 58 06.5**	**-1.2**
	comp=Z,4.1nm,0.3s,baz=271,slow=17,SNR=4.0						
KAPI				LR	LR	07 07 37.0	
	comp=Z,197nm,21.4s,baz=248,slow=37						
	comp=Z,4.1nm,0.3s						
PZH	**PanZhiHua**	**24.60**	**10**	P	**P**	**06 58 17.7**	**+2.0**
APSI	**Ampana**	**24.73**	**97**	P	**P**	**06 58 17.1**	**+0.2**
	comp=Z,73nm,1.0s						
GYA	**Guiyang**	**25.84**	**20**	P	**P**	**06 58 26.9**	**0.0**
GYA				pmax	pmax		
	comp=Z,17nm,0.9s						
H08S2	**Diego Garcia H**	**26.42**	**248**	T	T	07 25 56.9	
	baz=69,slow=76,SNR=3291						
H08S3	**Diego Garcia H**	**26.42**	**248**	T	T	07 25 57.1	
	baz=69,slow=76,SNR=3014						
H08S1	**Diego Carcia H**	**26.44**	**248**	T	T	07 25 58.3	
	baz=69,slow=76,SNR=3249						
DAV	**Davao City (W)**	**28.79**	**79**	LR	LR	07 12 20.4	
	comp=Z,107nm,18.5s,baz=174,slow=40						
FITZ	**Fitzroy Crossi**	**34.57**	**127**	P	**P**	**06 59 41.8**	**-2.3**
	comp=Z,3.6nm,0.8s,baz=352,slow=5.5,SNR=5.6						
	comp=Z,3.6nm,0.8s						
LYN	**LuoYang**	**35.26**	**22**	P	**P**	**06 59 49.5**	**-0.4**
LYN				pmax	pmax		
	comp=Z,18nm,0.5s						
MORW	**Morawa**	**35.97**	**151**	P	**P**	**06 59 56.2**	**+0.1**
NJ2	**Nanjing**	**36.10**	**32**	*eP*	**P**	**06 59 59.3**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
MTN	**Manton Dam**	**36.92**	**115**	P	**P**	**07 00 03.2**	**-1.2**
GTA	**Gaotai**	**37.15**	**3**	*eP*	**P**	**07 00 05.4**	**-0.7**
GTA				sP	sP	07 00 23.2	-1.7
GTA				PcP	**PcP**	**07 02 26.4**	**+0.8**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TIA	**Tai'an**	**38.61**	**26**	P	**P**	**07 00 17.2**	**-1.1**
TIA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
JOW	**Kunigami**	**38.66**	**48**	P	**P**	**07 00 18.1**	**-0.8**
JOW	**Kunigami**	**38.66**	**48**	P	**P**	**07 00 16.7**	**-2.2**
	comp=Z,24nm,0.5s,baz=199,slow=6.7,SNR=5.3						
	comp=Z,24nm,0.5s						
NWAO	**Narrogin (SRO)**	**39.76**	**153**	LR	LR	07 16 20.6	
	comp=Z,56nm,20.4s,baz=108,slow=35						
H01W3	**Cape Leeuwin H**	**40.17**	**158**	T	T	07 43 33.0	
	baz=334,slow=76,SNR=11						
H01W2	**Cape Leeuwin H**	**40.19**	**158**	T	T	07 43 34.0	
	baz=334,slow=76,SNR=15						
H01W1	**Cape Leeuwin H**	**40.19**	**158**	T	T	07 43 34.1	
	baz=334,slow=76,SNR=14						
HHC	**Hu-ho-hao-te**	**40.66**	**17**	*eP*	**P**	**07 00 38.3**	**+2.8**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,48nm,3.7s						
BJI	**Beijing**	**41.48**	**22**	P	**P**	**07 00 42.1**	**+0.1**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WMQ	**Urumqi**	**42.31**	**350**	*eP*	**P**	**07 00 50.2**	**+1.3**
WMQ				pP	pP	07 01 01.1	-0.8
WMQ				PcP	**PcP**	**07 02 44.5**	**+2.7**
WMQ				pmax	pmax		
	comp=Z,14nm,0.9s						
WB0	**Warramunga Arr**	**42.60**	**123**		**P**	**07 00 51.0**	**-0.6**
WB0				IAmb	IAmb	07 00 57.1	
	comp=Z,10nm,0.6s						
WRA	**Warramunga Arr**	**42.63**	**123**	P	**P**	**07 00 51.6**	**-0.2**
WRA	**Warramunga Arr**	**42.63**	**123**	P	**P**	**07 00 51.0**	**-0.8**
	comp=Z,3.5nm,0.4s,baz=302,slow=9.1,SNR=117						
	comp=Z,3.5nm,0.4s						
WRAB	**Tennant Creek**	**42.64**	**123**	P	**P**	**07 00 51.4**	**-0.4**
WRAB				IAmb	IAmb	07 00 57.7	
	comp=Z,15nm,0.6s						
WR8	**Warramunga Arr**	**42.77**	**123**		**P**	**07 00 52.5**	**-0.4**
TARG	**Taragay, Kyrgy**	**43.04**	**339**	P	**P**	**07 00 56.0**	**+0.7**
ASAR	**Alice Springs**	**44.06**	**128**	P	**P**	**07 01 02.9**	**-0.4**
	comp=Z,2.3nm,0.5s,baz=296,slow=8.0,SNR=27						
ASAR				LR	LR	07 22 33.0	
	comp=Z,87nm,19.7s,baz=311,slow=40						
	comp=Z,2.3nm,0.5s						
GAR	**Garm**	**44.06**	**330**	IAmb	IAmb	07 01 05.7	
	comp=Z,11nm,0.9s						
FORT	**Forrest**	**44.08**	**140**	P	**P**	**07 01 02.5**	**-0.7**
FORT				IAmb	IAmb	07 01 08.9	
	comp=Z,17nm,0.8s						
JNU	**Nakatsue**	**44.15**	**42**	LR	LR	07 19 49.7	
	comp=Z,77nm,20.8s,baz=244,slow=37						
BOOM	**Boomskoye usch**	**44.39**	**338**	P	**P**	**07 01 06.3**	**+0.5**
SIMJ	**Simiganj**	**44.47**	**328**	P	**P**	**07 01 06.3**	**-0.2**
ARSB	**Arslanbob**	**44.63**	**334**	P	**P**	**07 01 07.2**	**-0.6**
ARSB				IAmb	IAmb	07 01 23.7	
	comp=Z,14nm,1.1s						
KSAR	**Wonju Array Be**	**45.08**	**35**	P	**P**	**07 01 09.3**	**-1.9**
KSRS	**Korea Array**	**45.11**	**35**	P	**P**	**07 01 08.7**	**-2.7**
	comp=Z,5.9nm,0.8s,baz=225,slow=9.8,SNR=14						
	comp=Z,5.9nm,0.8s						
SONM	**Songino Array**	**46.19**	**9**	P	**P**	**07 01 19.4**	**-0.6**
SONM				IAmb	IAmb	07 01 20.4	
	comp=Z,20nm,1.9s						
SONM	**Songino Array**	**46.19**	**9**	P	**P**	**07 01 19.4**	**-0.6**
	comp=Z,3.0nm,0.4s,baz=191,slow=9.5,SNR=15						
SONM				PcP	**PcP**	**07 02 55.3**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=194,slow=4.0,SNR=4.4						
	comp=Z,3.0nm,0.4s						
MKAR	**Makanchi Array**	**46.28**	**346**	P	**P**	**07 01 20.3**	**-0.2**
	comp=Z,5.9nm,0.7s,baz=160,slow=7.9,SNR=55						
MKAR				LR	LR	07 23 46.1	
	comp=Z,64nm,20.9s,baz=159,slow=40						
	comp=Z,5.9nm,0.7s						
MAKZ	**Makanchi**	**46.37**	**346**		**P**	**07 01 21.2**	**-0.1**
MAKZ				IAmb	IAmb	07 01 21.6	
	comp=Z,6.8nm,0.6s						
MAKZ	**Makanchi**	**46.37**	**346**	P	**P**	**07 01 21.3**	**+0.1**
JMN	**Monobe**	**46.54**	**43**	P	**P**	**07 01 22.0**	**-0.8**
KK31	**Karatay Array**	**47.15**	**333**		**P**	**07 01 27.3**	**-0.1**
KKAR	**Karatay Array**	**47.15**	**333**	P	**P**	**07 01 27.5**	**+0.1**
KKAR	**Karatay Array**	**47.15**	**333**	IAmb	IAmb	07 01 31.9	
	comp=Z,2.9nm,0.7s						
JGF	**Kuroka**	**49.96**	**43**	P	**P**	**07 01 47.8**	**-1.4**
KURBB	**Kurchatov Arra**	**50.78**	**345**	P	**P**	**07 01 54.5**	**-0.5**
	comp=Z,3.2nm,0.7s,baz=164,slow=7.1,SNR=33						
	comp=Z,3.2nm,0.7s						
KURK	**Kurchatov**	**50.84**	**345**		**P**	**07 01 55.6**	**+0.2**
KURK				IAmb	IAmb	07 02 04.8	
	comp=Z,5.5nm,0.8s						
KURK	**Kurchatov**	**50.84**	**345**	P	**P**	**07 01 55.6**	**+0.2**
BNX	**BinXian**	**50.87**	**27**	⇑P	**P**	**07 01 54.1**	**-1.7**
BNX				pmax	pmax		
	comp=Z,11nm,0.8s						
MJAR	**Matsushiro Arr**	**51.05**	**43**	P	**P**	**07 01 56.0**	**-1.3**
	comp=Z,2.6nm,0.7s,baz=208,slow=6.1,SNR=4.6						
	comp=Z,2.6nm,0.7s						
USRK	**Ussuriysk Ar.**	**52.00**	**31**		**P**	**07 02 02.2**	**-2.0**
USRK	**Ussuriysk Ar.**	**52.00**	**31**	P	**P**	**07 02 03.5**	**-0.8**
	comp=Z,7.1nm,0.8s,baz=248,slow=5.1,SNR=10						
USRK				LR	LR	07 26 36.5	
	comp=Z,142nm,19.2s,baz=209,slow=39						
	comp=Z,7.1nm,0.8s						
ZAA0	**Zalesovo Array**	**52.59**	**351**	IAmb	IAmb	07 02 17.6	
	comp=Z,18nm,1.2s						
ZALV	**Zalesovo Beam**	**52.59**	**351**	P	**P**	**07 02 08.4**	**0.0**
	comp=Z,4.5nm,0.4s,baz=175,slow=5.5,SNR=14						
ZALV				LR	LR	07 28 08.3	
	comp=Z,30nm,19.5s,baz=78,slow=40						
	comp=Z,4.5nm,0.4s						
STKA	**Stephens Creek**	**54.08**	**133**	P	**P**	**07 02 19.9**	**+0.1**
	comp=Z,4.8nm,0.8s,baz=274,slow=4.4,SNR=4.3						
STKA				LR	LR	07 29 27.2	
	comp=Z,64nm,18.1s,baz=7.2,slow=40						
	comp=Z,4.8nm,0.8s						
RAYN	**Ar Rayn**	**54.22**	**298**		**P**	**07 02 21.2**	**+0.1**
RAYN				IAmb	IAmb	07 02 22.3	
	comp=Z,7.4nm,0.8s						
RAYN	**Ar Rayn**	**54.22**	**298**	P	**P**	**07 02 21.8**	**+0.7**
BVAR	**Borovoye Array**	**55.31**	**341**	P	**P**	**07 02 27.9**	**-0.4**
	comp=Z,3.1nm,0.6s						
	comp=Z,3.1nm,0.6s						
KLR	**Kul'dur**	**55.44**	**27**	LR	LR	07 29 22.1	
	comp=Z,149nm,18.2s,baz=220,slow=39						
AB31	**Akbulak array**	**56.62**	**332**	IAmb	IAmb	07 02 38.7	
	comp=Z,7.1nm,1.0s						
ABKAR	**Akbulak array**	**56.62**	**332**	P	**P**	**07 02 37.5**	**-0.2**
ABKAR	**Akbulak array**	**56.62**	**332**	IAmb	IAmb	07 02 38.7	
	comp=Z,7.2nm,1.0s						
ASAJ	**Asahikawa**	**57.95**	**37**	LR	LR	07 27 58.6	
	comp=Z,39nm,20.1s,baz=228,slow=36						
EIDS	**Eidsvold**	**58.96**	**121**	P	**P**	**07 02 55.6**	**+1.0**
EIDS				IAmb	IAmb	07 03 10.3	
	comp=Z,5.3nm,0.8s						
YSS	**Yuzhno-Sakhali**	**59.61**	**35**		**P**	**07 02 58.7**	**0.0**
ARTI	**Arti**	**62.30**	**337**	P	**P**	**07 03 16.2**	**-

	comp=Z,39nm,20.1s,baz=158,slow=38						
KIRV	**Kirov**	**67.39**	**335**	LR	LR	07 37 10.3	
	comp=Z,52nm,18.3s,baz=143,slow=39						
BR104	**Keskin Array S**	**68.39**	**312**	P	**P**	**07 03 55.6**	**-1.1**
	comp=Z,3.3nm,0.8s						
BR131	**Keskin Array S**	**68.39**	**312**	P	**P**	**07 03 55.7**	**-1.1**
BRTR	**Keskin Array B**	**68.39**	**312**	P	**P**	**07 03 56.1**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=131,slow=7.5,SNR=9.7 comp=Z,2.2nm,0.8s						
BR106	**Keskin Array S**	**68.41**	**312**	P	**P**	**07 03 56.5**	**-0.4**
	comp=Z,4.2nm,0.8s						
MA2	**Magadan**	**70.51**	**26**	LR	LR	07 39 22.5	
	comp=Z,66nm,18.2s,baz=214,slow=40						
MATP	**Matopo**	**70.80**	**248**	LR	LR	07 30 26.9	
	comp=Z,35nm,21.6s,baz=64,slow=32						
PETK	**Petropavlovsk-**	**70.99**	**34**	P	**P**	**07 04 12.1**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=215,slow=5.5,SNR=4.3 comp=Z,2.3nm,0.7s						
PET	**Petropavlovsk**	**71.48**	**34**	P	**P**	**07 04 14.6**	**-0.7**
	comp=Z,25nm,0.9s						
TIXI	**Tiksi**	**72.25**	**10**	LR	LR	07 38 23.2	
	comp=Z,62nm,19.1s,baz=194,slow=38						
KARP	**Karpathos**	**72.47**	**307**	P	**P**	**07 04 21.3**	**-0.3**
	comp=Z,36nm,0.9s						
SEY	**Seymchan**	**72.91**	**23**	LR	LR	07 38 50.4	
	comp=Z,58nm,18.7s,baz=200,slow=38						
MAW	**Mawson**	**73.63**	**193**	P	**P**	**07 04 28.7**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=50,slow=7.0,SNR=4.5 comp=Z,1.6nm,0.6s						
LPHEP	**Lephephe**	**73.71**	**245**	P	**P**	**07 04 30.4**	**+1.1**
LPHEP				IAmb	IAmb	07 04 31.6	
	comp=Z,12nm,0.9s						
LBTB	**Lobatse**	**74.23**	**243**	P	**P**	**07 04 33.1**	**+0.8**
LBTB				IAmb	IAmb	07 04 34.5	
	comp=Z,10nm,0.9s						
LBTB	**Lobatse**	**74.23**	**243**	LR	LR	07 31 14.1	
	comp=Z,126nm,20.5s,baz=70,slow=31						
IDI	**Anoyia**	**74.26**	**306**	P	**P**	**07 04 31.8**	**-0.4**
AK09	**Malin Array Si**	**74.38**	**322**	P	**P**	**07 04 31.5**	**-0.9**
AK10	**Malin Array Si**	**74.39**	**322**	P	**P**	**07 04 31.6**	**-0.9**
AK08	**Malin Array Si**	**74.40**	**322**	P	**P**	**07 04 31.7**	**-0.9**
AKASG	**Malin Array Be**	**74.44**	**322**	P	**P**	**07 04 31.9**	**-0.9**
	comp=Z,2.5nm,0.6s,baz=91,slow=5.0,SNR=17 comp=Z,2.5nm,0.6s						
AKBB	**Malin Array Si**	**74.44**	**322**		**P**	**07 04 31.8**	**-1.0**
AKBB				IAmb	IAmb	07 04 32.6	
	comp=Z,7.1nm,0.8s						
AKBB	**Malin Array Si**	**74.44**	**322**	P	**P**	**07 04 31.8**	**-1.0**
KIEV	**Kiev**	**74.44**	**322**		**P**	**07 04 31.7**	**-1.1**
KIEV				IAmb	IAmb	07 04 32.6	
	comp=Z,6.2nm,0.8s						
KIEV	**Kiev**	**74.44**	**322**	P	**P**	**07 04 31.8**	**-1.1**
	comp=Z,35nm,0.9s						
AK13	**Malin Array Si**	**74.51**	**322**	P	**P**	**07 04 32.1**	**-1.1**
KDWAN	**Kaudwane**	**74.80**	**245**	IAmb	IAmb	07 04 37.9	
	comp=Z,15nm,0.9s						
VRI	**Vrincioaia**	**74.85**	**317**	P	**P**	**07 04 35.2**	**-0.1**
	comp=Z,12nm,1.0s						
TESR	**Tescani**	**75.04**	**318**	P	**P**	**07 04 36.1**	**-0.3**
	comp=Z,714nmcomp=Z,13nm,0.7s						
NDNU	**Novodnistrovsk**	**75.06**	**320**	P	**P**	**07 04 35.5**	**-0.9**
LUBAR	**Lubar, Ukraine**	**75.14**	**321**	P	**P**	**07 04 35.8**	**-1.1**
BOSA	**Boshof**	**75.18**	**240**	P	**P**	**07 04 37.5**	**-0.2**
	comp=Z,3.6nm,0.6s,baz=130,slow=4.1,SNR=6.5						
BOSA				LR	LR	07 34 02.9	
	comp=Z,66nm,19.7s,baz=30,slow=33 comp=Z,3.6nm,0.6s						
MI29	**MI29, Kamyanyy**	**75.21**	**322**	P	**P**	**07 04 36.3**	**-1.0**
	comp=Z,83nm,0.8s						
KMPD	**K-Podol'skiy**	**75.63**	**320**	P	**P**	**07 04 38.8**	**-0.9**
VOIR		**75.91**	**316**	P	**P**	**07 04 40.7**	**-0.8**
	comp=Z,1.6nm,0.7s						
BURAR	**Bucovina Array**	**76.24**	**319**		**P**	**07 04 43.8**	**+0.4**
BUR08	**Bucovina Ar. S**	**76.26**	**319**	IAmb	IAmb	07 05 04.9	
	comp=Z,5.5nm,0.9s						
RNPP5	**Staryi Chortor**	**76.61**	**322**	P	**P**	**07 04 44.8**	**-0.4**
STNU	**Staruniа**	**76.93**	**320**	P	**P**	**07 04 46.8**	**-0.3**
KGCAE	**Kacgae**	**76.96**	**246**	P	**P**	**07 04 49.8**	**+1.8**
KOLS	**Kolonicke sedl**	**78.42**	**319**	*e*P	**P**	**07 04 58.0**	**+2.5**
FINES	**FINESS Array B**	**79.10**	**332**	P	**P**	**07 04 58.5**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=88,slow=5.8,SNR=16 comp=Z,2.4nm,0.5s						
RPZ	**Rata Peaks**	**79.95**	**135**	LR	LR	07 41 31.0	
	comp=Z,92nm,18.8s,baz=166,slow=36						
MORH	**Mrgy, Hungar**	**80.45**	**316**	P	**P**	**07 05 06.4**	**-0.1**
	comp=Z,5.6nm,0.8s						
SYO	**Syowa Base**	**80.89**	**198**	*e*P	**P**	**07 05 10.6**	**+2.3**
ARCES	**ARCESS Array B**	**81.60**	**340**	P	**P**	**07 05 12.4**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=101,slow=5.1,SNR=12 comp=Z,1.4nm,0.7s						
PRED	**Cave del Predi**	**83.98**	**316**	IAmb	IAmb	07 05 25.8	
	comp=Z,7.0nm,0.8s						
GERES	**GERESS Array B**	**84.03**	**319**	P	**P**	**07 05 25.7**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=106,slow=7.1,SNR=8.9 comp=Z,1.4nm,0.7s						
SPITS	**Spitsbergen Ar**	**85.99**	**348**	P	**P**	**07 05 35.1**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=99,slow=11,SNR=4.5 comp=Z,1.1nm,0.5s						
NB2	**NORSAR Subarra**	**86.12**	**331**	P	**P**	**07 05 34.9**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=94,slow=5.1						
NOA	**NORSAR Array B**	**86.12**	**331**	P	**P**	**07 05 35.3**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=94,slow=5.0,SNR=9.4						
NOA				LR	LR	07 47 07.9	
	comp=Z,23nm,19.1s,baz=115,slow=38 comp=Z,1.7nm,0.8s						
QSPA	**South Pole Qui**	**92.11**	**180**	P	**P**	**07 06 04.6**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=286,slow=0.8,SNR=13 comp=Z,0.9nm,0.5s						
D20K	**Etivluk River**	**93.86**	**21**	P	**P**	**07 06 12.2**	**+0.6**
D20K				IAmb	IAmb	07 06 33.7	
	comp=Z,6.1nm,1.1s						
EKA	**Eskdalemuir Ar**	**94.06**	**326**	P	**P**	**07 06 12.6**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=112,slow=6.5,SNR=4.1 comp=Z,0.5nm,0.6s						
F20K	**Avaraart Lake**	**94.65**	**22**	P	**P**	**07 06 15.6**	**+0.4**
F20K				IAmb	IAmb	07 06 29.7	
	comp=Z,3.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**94.78**	**283**	P	**P**	**07 06 17.9**	**+1.0**
TORD				IAmb	IAmb	07 08 10.1	
	comp=Z,10nm,1.9s						
H19K	**Roundabout Mou**	**94.80**	**24**	P	**P**	**07 06 17.0**	**+1.0**
H19K				IAmb	IAmb	07 06 37.9	
	comp=Z,6.9nm,1.2s						
G21K	**Allakaket**	**95.65**	**22**	P	**P**	**07 06 20.6**	**+0.7**
ILAR	**Eielson Array**	**98.85**	**23**	LR	LR	07 57 43.5	
	comp=Z,65nm,18.1s,baz=211,slow=39						
BORG	**Borgarnes**	**99.80**	**337**	LR	LR	07 54 20.7	
	comp=Z,28nm,20.6s,baz=28,slow=37						
PDAR	**Pinedale Array**	**129.21**	**25**	PKP	**PKPdf**	**07 12 02.4**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=80,slow=1.7,SNR=4.1						
TXAR	**Lajitas Array**	**142.89**	**31**	PKP	**PKPdf**	**07 12 25.5**	**-3.4**
	comp=Z,0.3nm,0.5s,baz=49,slow=1.1,SNR=12						
CPUP	**Villa Florida**	**145.85**	**223**	PKPbc	**PKPdf**	**07 12 32.4**	**-1.2**
	comp=Z,4.9nm,0.7s,baz=327,slow=2.1,SNR=49						
LPAZ	**La Paz**	**159.80**	**225**	PKP	**PKPdf**	**07 12 54.9**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=324,slow=3.2,SNR=4.6						
LPAZ				PKPab	**PKPab**	**07 13 34.4**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=125,slow=4.0,SNR=5.7						

GCG 10 06:58:48.8±0.5, 14°21N×91°23W, h72km±11km, MD3.7, ML2.6, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**0.24**	**332**	*i* P	Pn	06 59 03.6	+3.5
STG0				*i* S	Sn	06 59 14.9	+6.6
STG0				IAML		06 59 18.2	
	comp=E,228nm,0.2s						
STG2	**El Palmar, Qui**	**0.27**	**327**	*i* P	Pn	06 59 04.0	+3.8
STG8	**El Palmar, Qui**	**0.27**	**333**	*i* P	Pn	06 59 04.0	+3.6
STG8				*i* S	Sn	06 59 15.7	+6.9
STG8				IAML		06 59 16.3	
	comp=N,218nm,0.1s						
FG16	**Alotenango, Sa**	**0.70**	**85**	*i* P	Pn	06 59 01.9	-2.2
FG16				IAML		06 59 18.8	
	comp=N,378nm,0.4s						

ASRS ***10*** *06:59:19.0±1.0, 54°13N×87°16E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 10 06:59:20.0±3.1, 54°16N×87°29E, h0km, mbtmp3.6/2, ML3.0/2, Error ellipse: s-maj=29.5km s-min=17.4km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**263**	I	I	07 08 45.0	
	baz=79,slow=309,SNR=8.2						
ZALV	**Zalesovo Beam**	**1.47**	**263**	Pg	Pn	06 59 46.6	-1.2
	3.2nm,0.3s,baz=82,slow=17,SNR=15						
ZALV				Lg	Lg	07 00 06.7	
	3.0nm,0.3s,baz=82,slow=30,SNR=12						
KURBB	**Kurchatov Arra**	**6.42**	**240**	Pn	Pn	07 00 56.7	+0.9
	0.1nm,0.3s,baz=52,slow=13,SNR=6.1 0.9nm,0.2s						
MKAR	**Makanchi Array**	**8.03**	**205**	Pn	Pn	07 01 18.9	+1.0
	0.8nm,0.3s,baz=31,slow=13,SNR=26 4.1nm,1.0s						

NEIC ***10*** *07:05:25.6±1.0, 36°059N×0°007×117°85W±0°02, h1km±2km, Error ellipse: s-maj=2.3km s-min=1.0km az=85.0*

PAS ***10*** *07:05:26.2±1.0, 36°06N×0°02×117°85W±0°02, h2km±2km, Mwr3.7/6, ML3.4/136(NEIC), Error ellipse: s-maj=2.3km s-min=2.2km az=130.0*

IDC ***10*** *07:05:27.8±0.8, 36°12N×117°63W, h0km, mb3.1/1, mbtmp3.0/6, ML3.1/5, MS2.9/5, Error ellipse: s-maj=19.2km s-min=5.7km az=76.0*

ISC 10 07:05:27.6±0.8, 36°05N×0°02×117°84W±0°03, h10km, n76, σ1833/68, MS3.2/3, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRVM	**Rose V. Centra**	**0.06**	**229**		**Pg**	**07 05 27.6**	**-2.2**
WCSM	**Coso Springs S**	**0.06**	**108**		**Pg**	**07 05 27.9**	**-2.0**
JRC2	**Joshua Ridge**	**0.07**	**160**		**Pg**	**07 05 28.1**	**-1.9**
MFS	**McCloud Flat S**	**0.07**	**349**		**Pg**	**07 05 27.7**	**-2.4**
WVPM	**Volcano Peak E**	**0.10**	**170**		**Pg**	**07 05 28.6**	**-1.7**
WNMM	**Nine Mile Cany**	**0.21**	**195**		**Pg**	**07 05 30.6**	**-1.4**
WNMM					**Sg**	**07 05 34.0**	**-0.9**
TOW	**Tower One**	**0.24**	**166**		**Pg**	**07 05 31.9**	**-0.8**
TOW					**Sg**	**07 05 35.5**	**-0.4**
MPMC	**Manual Prospec**	**0.28**	**87**		**Pg**	**07 05 32.0**	**-1.4**
MPMC				IAML		07 05 37.9	
	comp=E,7μm,0.7s						
MPMC				IAML		07 05 38.1	
	comp=N,4μm,0.8s						
CLC	**China Lake**	**0.30**	**140**		**Pg**	**07 05 32.4**	**-1.3**
SRTC	**Snort**	**0.36**	**168**		**Pg**	**07 05 34.1**	**-0.7**
CWC	**Cottonwood Cre**	**0.44**	**334**		**Pg**	**07 05 34.5**	**-1.9**
CWC				IAML		07 05 40.9	
	comp=E,2μm,0.6s						
LRMC	**Laurel Mtn Rad**	**0.58**	**167**		**Pg**	**07 05 37.6**	**-1.3**
LRMC				IAML		07 05 46.1	
	comp=E,1μm,0.7s						
LRMC				IAML		07 05 46.7	
	comp=N,1μm,0.3s						
ISA	**Isabella, Lake**	**0.64**	**234**		**Pg**	**07 05 38.5**	**-1.6**
ISA				IAML		07 05 47.8	
	comp=N,2μm,0.2s						
ISA				IAML		07 05 48.1	
	comp=E,1μm,0.3s						
CCCA	**Chr Cany lake**	**0.65**	**143**		**Pg**	**07 05 39.3**	**-0.8**
SPG2	**Springville 2**	**0.77**	**282**		**Pg**	**07 05 40.4**	**-2.1**
QSM	**Queen of Sheba**	**0.79**	**96**		**Pg**	**07 05 41.5**	**-1.4**
QSM				IAML		07 05 45.0	
	comp=E,1μm,0.3s						
QSM				IAML		07 05 56.5	
	comp=N,1μm,0.6s						
GWY	**Greenwater Val**	**0.96**	**81**		**Pg**	**07 05 44.7**	**-1.4**
GWY				IAML		07 06 01.3	
	comp=N,2μm,0.8s						
GRAC	**Grapevine Rang**	**1.02**	**22**		**Pg**	**07 05 45.4**	**-1.9**
GRAC				IAML		07 06 09.3	
	comp=N,2μm,0.9s						
GSC	**Goldstone, Bar**	**1.12**	**131**		**Pg**	**07 05 47.4**	**-1.8**
GSC				IAML		07 06 08.0	
	comp=E,1μm,1.1s						
GSC				IAML		07 06 09.3	
	comp=N,846nm,0.8s						
TPO	**Tropico Hills**	**1.21**	**195**		**Pn**	**07 05 48.8**	**-1.8**
TPO				IAML		07 06 10.0	
	comp=N,794nm,0.9s						
TPO				IAML		07 06 12.5	
	comp=E,859nm,0.9s						
WCT	**Wildcat Mounta**	**1.23**	**52**		**Pb**	**07 05 49.4**	**-1.7**
WCT				IAML		07 06 09.4	
	comp=N,564nm,0.7s						
WCT				IAML		07 06 12.1	
	comp=E,1μm,0.8s						
VOG	**Valley Oaks Go**	**1.28**	**283**		**Pn**	**07 05 50.0**	**-1.6**
DSP	**Deep Springs**	**1.33**	**355**		**Pn**	**07 05 50.3**	**-1.9**
DSP				IAML		07 06 14.0	
	comp=E,416nm,0.7s						
GMN	**Gold Mountain**	**1.34**	**20**		**Pn**	**07 05 51.2**	**-1.4**
GMN				IAML		07 06 17.0	
	comp=N,524nm,0.7s						
TPNV	**Topopah Spring**	**1.56**	**54**		**Pn**	**07 05 54.8**	**-0.9**
OSI	**Osito Audit: C**	**1.60**	**207**		**Pn**	**07 05 55.3**	**-0.8**
OSI				IAML		07 06 26.7	
	comp=E,527nm,1.1s						
OSI				IAML		07 06 32.7	
	comp=N,319nm,0.8s						
MZP	**Montezuma Peak**	**1.69**	**12**		**Pn**	**07 05 56.9**	**-0.6**
CRGC	**Crocker Grade**	**1.73**	**243**		**Pn**	**07 05 58.2**	**+0.3**
KCC	**Kaiser Creek**	**1.75**	**317**		**Pn**	**07 05 58.0**	**-0.1**
BENR	**Benton**	**1.77**	**341**		**Pn**	**07 05 58.4**	**-0.2**
MLAC	**Mammoth, Mammo**	**1.77**	**333**		**Pn**	**07 05 59.1**	**+0.5**
BFSC	**Mount Baldy Ra**	**1.81**	**175**		**Pn**	**07 05 58.8**	**-0.1**
BFSC				IAML		07 06 26.8	
	comp=E,261nm,0.8s						
MWC	**Mount Wilson**	**1.83**	**186**		**Pn**	**07 05 59.4**	**+0.1**
MWC				IAML		07 06 27.3	
	comp=E,401nm,0.9s						
MWC				IAML		07 06 29.4	
	comp=N,441nm,0.6s						
MTPC	**Mountain Pass**	**1.94**	**106**		**Pn**	**07 05 59.8**	**-1.0**
MTPC				IAML		07 06 31.5	
	comp=E,179nm,0.6s						
MTPC				IAML		07 06 32.1	
	comp=N,215nm,1.1s						
TPH	**Tonopah**	**2.08**	**13**		**Pn**	**07 06 02.3**	**-0.6**
PKD	**Bear Valley Ra**	**2.19**	**268**		**Pn**	**07 06 04.3**	**+0.1**
SHPR	**Sheep Range**	**2.21**	**77**		**Pn**	**07 06 04.9**	**+0.4**
LHV	**Little Huntoon**	**2.27**	**347**		**Pn**	**07 06 05.3**	**+0.2**
LHV				IAML		07 06 44.0	
	comp=E,294nm,1.4s						
LHV				IAML		07 06 49.9	
	comp=N,232nm,1.9s						
S11A	**Rachel**	**2.31**	**46**		**Pb**	**07 06 07.2**	**-2.4**
NV11	**Mina Array Sit**	**2.40**	**354**		**Pn**	**07 06 06.6**	**-0.5**
PMPB	**Monarch Peak**	**2.41**	**275**		**Pn**	**07 06 07.8**	**+0.7**
NVAR	**Mina Array Bea**	**2.41**	**351**	Pn	**Pn**	**07 06 07.0**	**-0.4**
	comp=N,2.4nm,0.3s,baz=176,slow=15,SNR=79						
NVAR				Pg	**Pg**	**07 06 12.5**	**-1.4**
	comp=N,25nm,0.3s,baz=171,slow=17,SNR=46						
NVAR				Lg	Lg	07 06 43.2	
	comp=N,17nm,0.3s,baz=164,slow=32,SNR=3.4						
NVAR				LR	LR	07 06 49.2	
	comp=N,36nm,21.5s,baz=222,slow=35 comp=N,15nm,0.6s						
ELS	**Elsinore Mount**	**2.42**	**172**		**Pn**	**07 06 06.6**	**-0.6**
V12A	**Nelson**	**2.45**	**97**		**Pn**	**07 06 06.9**	**-0.8**
V12A				IAML		07 06 53.2	
	comp=N,153nm,1.4s						
PRN	**Pahroc Range**	**2.62**	**58**		**Pn**	**07 06 09.8**	**-0.3**
RYN	**Ryan**	**2.64**	**348**		**Pn**	**07 06 10.1**	**-0.3**
RYN				IAML		07 07 08.1	
	comp=E,106nm,1.3s						
BBGB	**Big Mountain B**	**2.64**	**283**		**Pn**	**07 06 11.4**	**+1.0**
PMD	**Palm Desert**	**2.68**	**153**		**Pn**	**07 06 10.5**	**-0.3**
PMD				IAML		07 06 57.4	
	comp=E,93nm,1.3s						
PFO	**Pinyon Flats O**	**2.68**	**155**		**Pn**	**07 06 10.4**	**-0.6**
PFO	**Pinyon Flats O**	**2.68**	**155**	Pn	**Pn**	**07 06 10.9**	**0.0**
	comp=E,0.7nm,0.3s,baz=344,slow=14,SNR=18						
PFO				Pg	**Pg**	**07 06 17.0**	**-2.0**
	comp=E,5.2nm,0.3s,baz=339,slow=16,SNR=64						
PFO				Lg	Lg	07 06 55.0	
	comp=E,7.1nm,0.3s,baz=229,slow=20,SNR=9.3 comp=E,5.2nm,0.7s						
SBI	**Santa Barbara**	**2.74**	**201**		**Pn**	**07 06 10.2**	**-1.4**
WAKR	**Walker**	**2.77**	**333**	IAML		07 06 56.2	
	comp=N,146nm,0.6s						
WAKR				IAML		07 06 59.5	
	comp=E,146nm,0.5s						
Q09A	**Carvers**	**2.83**	**10**		**Pn**	**07 06 13.6**	**+0.5**
CMB	**Columbia Colle**	**2.85**	**315**		**Pn**	**07 06 14.5**	**+1.3**
CMB				IAML		07 06 56.9	
	comp=E,230nm,0.7s						
R11B	**Troy Canyon, C**	**2.92**	**37**		**Pn**	**07 06 13.4**	**-0.9**
R11B				IAML		07 07 03.7	
	comp=E,103nm,1.5s						
NEE2	**Needles Airpor**	**2.92**	**115**		**Pn**	**07 06 13.3**	**-0.9**
NEE2				IAML		07 07 05.0	
	comp=N,178nm,0.8s						
NEE2				IAML		07 07 06.9	
	comp=E,181nm,0.8s						
SAO	**San Andreas Ge**	**3.00**	**285**		**Pn**	**07 06 15.8**	**+0.6**
BORC	**Borrego Spring**	**3.01**	**157**	IAML		07 07 11.6	
	comp=E,127nm,1.0s						
W13A	**Hualapai Mount**	**3.36**	**105**	IAML		07 07 31.6	
	comp=N,69nm,1.1s						
BLYC	**Blythe**	**3.56**	**129**	IAML		07 07 23.2	
	comp=N,51nm,1.1s						
CBX	**Cerro Bola**	**3.85**	**165**		**Pn**	**07 06 28.0**	**+1.0**
SPR3	**Spring Creek 3**	**4.06**	**42**	IAML		07 07 42.8	
	comp=E,83nm,0.9s						
SPR3				IAML		07 07 42.8	
	comp=N,74nm,0.8s						
SZCU	**Shurtz Canyon**	**4.11**	**66**	IAML		07 07 45.6	
	comp=N,28nm,1.0s						
KNB	**Kanab**	**4.15**	**75**	IAML		07 07 40.7	
	comp=N,46nm,1.3s						
KNB				IAML		07 07 54.3	
	comp=E,39nm,1.4s						
BEKR	**Beckworth**	**4.30**	**333**	IAML		07 07 52.8	
	comp=N,63nm,0.8s						
Y14A	**Wickenburg**	**4.49**	**117**	IAML		07 08 00.2	
	comp=N,50nm,1.3s						
Y14A				IAML		07 08 07.1	
	comp=E,32nm,1.9s						
ELK	**Elko**	**5.12**	**23**		**Pn**	**07 06 44.5**	**-0.1**
ELK				IAML		07 08 13.3	
	comp=E,19nm,0.9s						
ELK	**Elko**	**5.12**	**23**	Pn	**Pn**	**07 06 44.9**	**+0.4**
	comp=E,1.1nm,0.3s,baz=203,slow=8.8,SNR=26						
ELK				Pg	**Pb**	**07 07 00.1**	**+2.7**
	comp=E,3.0nm,0.3s,baz=224,slow=13,SNR=19						
ELK				Lg	Lg	07 08 07.4	
	comp=E,1.8nm,0.3s,baz=291,slow=20,SNR=6.5 comp=E,2.8nm,0.4s						
WUAZ	**Wupatki**	**5.28**	**94**		**Pn**	**07 06 48.4**	**+1.7**
WUAZ				IAML		07 08 25.5	
	comp=E,35nm,2.1s						
WUAZ				IAML		07 08 30.0	
	comp=E,35nm,1.6s						
PDAR	**Pinedale Array**	**9.28**	**41**	Pn	**Pn**	**07 07 41.4**	**-0.3**
	baz=210,slow=7.9,SNR=3.9 comp=E,0.2nm,0.6s						
ANMO	**Albuquerque**	**9.35**	**93**	LR	LR	07 10 36.4	
	comp=E,60nm,19.6s,baz=30,slow=34						
TXAR	**Lajitas Array**	**13.67**	**115**	Pn	**Pn**	**07 08 44.1**	**+2.4**
	baz=287,slow=10,SNR=7.9 comp=E,0.9nm,1.2s						
TKL	**Tuckaleechee C**	**27.53**	**81**	LR	LR	07 23 00.8	
	comp=E,69nm,18.3s,baz=312,slow=38						
SADO	**Sadowa**	**30.49**	**61**	LR	LR	07 24 16.9	
	comp=E,47nm,21.1s,baz=310,slow=37						
ILAR	**Eielson Array**	**33.60**	**338**	P	**P**	**07 12 10.1**	**+2.3**
	comp=E,0.2nm,0.7s,baz=155,slow=7.1,SNR=5.5 comp=E,0.2nm,0.7s						
FRB	**Frobisher Bay**	**40.55**	**31**	LR	LR	07 30 38.2	
	comp=E,36nm,18.4s,baz=68,slow=37						

CATAC 10 07:14:52.6±0.3, 13°N±1°×87°W±°, h5km±1km, M2.5/13, MLv2.5/13, 5C-1D, Error ellipse: s-maj=2.9km s-min=2.4km az=22.2, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLN	**Al Sur del Vol**	**0.04**	**149**	↑P	Pg	07 14 54.4	+0.7
POLN				S	Sg	07 14 55.8	+1.2
PLRN	**Geotermica Pol**	**0.12**	**147**	↓P	Pg	07 14 54.9	-0.1
PLRN				S	Sg	07 14 56.8	+0.2
PKGN	**Cerro Pekin**	**0.14**	**264**	↑P	Pg	07 14 55.8	+0.4
PKGN				S	Sg	07 14 58.0	+0.7
CRIN	**San Cristobal**	**0.21**	**274**	↑P	Pg	07 14 57.0	+0.3
CRIN	**San Cristobal**	**0.21**	**274**	S	Sg	07 15 00.6	+1.1
CNGN	**Cerro Negro**	**0.23**	**144**	S	Sg	07 15 01.6	+1.6
CNGN	**Cerro Negro**	**0.23**	**144**	↑P	Pg	07 14 58.0	+1.0
ALEN	**Leon**	**0.23**	**189**	S	Sg	07 15 01.5	+1.5
ALEN	**Leon**	**0.23**	**189**	P	Pg	07 14 56.8	-0.2
CNGA	**Al SSO del Vol**	**0.23**	**146**	↑P	Pg	07 14 57.9	+0.9
CNGA				S	Sg	07 15 01.8	+1.7
AESN	**El Sauce Leon**	**0.35**	**55**	S	Sg	07 15 05.6	+1.6
MOM2	**El Cardon**	**0.42**	**126**	P	Pg	07 15 00.4	-0.3
COPN	**Copaltepe**	**0.55**	**155**	P	Pg	07 15 03.6	+0.3
APQ2	**Apoyeque**	**0.69**	**134**	P	Pb	07 15 07.5	+0.3
CHOHN	**Orocuina**	**0.85**	**338**	P	Pg	07 15 09.0	+0.1
MATN	**Matagalpa**	**0.92**	**74**	S	Sg	07 15 22.6	+0.4
MATN	**Matagalpa**	**0.92**	**74**	P	Pg	07 15 09.4	-0.8
OCON	**Estacion meteo**	**1.00**	**20**	P	Pg	07 15 11.6	-0.2
OCON				S	Sb	07 15 25.9	-0.2
RCVN	**Varillal2**	**1.09**	**35**	P	Pg	07 15 13.5	0.0
RCVN	**Varillal2**	**1.09**	**35**	S	Sb	07 15 28.2	-0.4
RCPN	**Sur Rio San Ju**	**1.10**	**41**	P	Pg	07 15 12.8	-1.0
RCPN	**Sur Rio San Ju**	**1.10**	**41**	S	Sg	07 15 27.6	-0.5
YUSH	**Yuscaran**	**1.26**	**360**	P	Pg	07 15 16.8	0.0
TGUH	**Tegucigalpa,Un**	**1.43**	**343**	P	P

GSC				IAML		07 23 17.3		
	comp=E,557nm,0.8s							
GRAC	**Grapevine Rang**	**1.09**	**15**		**Pg**	07 23 03.5	-0.4	
GRAC				IAML		07 23 25.6		
	comp=E,364nm,0.5s							
VES	**Vestal, Richgr**	**1.11**	**265**		**Pg**	07 23 04.0	-0.3	
TPO	**Tropico Hills**	**1.14**	**201**		**Pg**	07 23 04.0	-0.8	
TPO				IAML		07 23 24.8		
	comp=E,337nm,0.7s							
TPO				IAML		07 23 25.8		
	comp=N,482nm,0.7s							
WCT	**Wildcat Mounta**	**1.23**	**46**		**Pg**	07 23 05.9	-0.6	
WCT				IAML		07 23 24.9		
	comp=E,318nm,0.4s							
WCT				IAML		07 23 25.7		
	comp=N,182nm,0.4s							
VOG	**Valley Oaks Go**	**1.40**	**286**		Pn	07 23 08.9	-0.5	
GMN	**Gold Mountain**	**1.41**	**15**		Pn	07 23 09.3	-0.6	
TPNV	**Topopah Spring**	**1.56**	**49**		Pn	07 23 11.2	-0.6	
TPNV				IAML		07 23 36.2		
	comp=N,161nm,0.9s							
TPNV				IAML		07 23 37.0		
	comp=N,180nm,0.5s							
OSI	**Osito Audit: C**	**1.56**	**212**	IAML		07 23 35.4		
	comp=E,111nm,0.6s							
OSI				IAML		07 23 39.5		
	comp=N,114nm,0.7s							
BFSC	**Mount Baldy Ra**	**1.70**	**178**		Pn	07 23 13.8	0.0	
BFSC				IAML		07 23 38.5		
	comp=E,79nm,0.6s							
BFSC				IAML		07 23 39.2		
	comp=N,67nm,0.5s							
MWC	**Mount Wilson**	**1.74**	**189**		Pn	07 23 14.1	-0.2	
MWC				IAML		07 23 40.3		
	comp=N,224nm,0.5s							
MWC				IAML		07 23 41.5		
	comp=E,165nm,0.5s							
MZP	**Montezuma Peak**	**1.78**	**9**		Pn	07 23 14.9	-0.1	
PASC	**Pasadena Art C**	**1.81**	**192**		Pn	07 23 15.5	+0.4	
MTPC	**Mountain Pass**	**1.82**	**104**		Pn	07 23 14.1	-1.4	
MTPC				IAML		07 23 41.8		
	comp=N,114nm,0.5s							
MTPC				IAML		07 23 43.8		
	comp=E,96nm,0.4s							
GMRC	**Granite Mounta**	**2.04**	**124**		Pn	07 23 16.5	-2.0	
BBSC	**Beaumont Base**	**2.11**	**163**		Pb	07 23 20.8	-1.1	
SHPR	**Sheep Range**	**2.15**	**74**		Pn	07 23 19.6	-0.3	
TPH	**Tonopah**	**2.17**	**11**	Pn	Pn	07 23 20.4	+0.1	
TPH				IAML		07 23 58.6		
	comp=E,46nm,1.0s							
TPC	**Twentynine Pal**	**2.29**	**143**		Pn	07 23 21.1	-0.7	
ELS	**Elsinore Mount**	**2.30**	**174**		Pn	07 23 21.4	-0.6	
ELS				IAML		07 23 58.2		
	comp=E,36nm,0.4s							
S11A	**Rachel**	**2.32**	**42**	Pn	Pn	07 23 23.2	+0.9	
S11A				IAML		07 24 05.0		
	comp=N,124nm,0.6s							
POB	**Polly Butte**	**2.34**	**163**		Pn	07 23 22.1	-0.4	
V12A	**Nelson**	**2.34**	**94**	Pn	Pn	07 23 21.6	-1.0	
V12A				IAML		07 24 02.4		
	comp=N,30nm,0.5s							
PMPB	**Monarch Peak**	**2.51**	**277**		Pn	07 23 25.8	+1.0	
PMPB				IAML		07 24 09.3		
	comp=N,66nm,0.7s							
PMPB				IAML		07 24 13.7		
	comp=E,74nm,0.9s							
NV11	**Mina Array Sit**	**2.51**	**352**	Pn	Pn	07 23 25.1	+0.1	
BBGB	**Big Mountain B**	**2.75**	**284**		Pn	07 23 29.8	+1.6	
NEE2	**Needles Airpor**	**2.79**	**114**		Pn	07 23 28.4	-0.3	
NEE2				IAML		07 24 15.8		
	comp=E,60nm,0.7s							
NEE2				IAML		07 24 24.4		
	comp=N,61nm,0.6s							
SAO	**San Andreas Ge**	**3.12**	**286**		Pn	07 23 34.4	+1.3	
W13A	**Hualapai Mount**	**3.24**	**104**	IAML		07 24 29.7		
	comp=N,14nm,0.6s							
KNB	**Kanab**	**4.09**	**73**	IAML		07 25 05.6		
	comp=N,11nm,1.1s							
KNB				IAML		07 25 14.0		
	comp=E,7.6nm,1.1s							

CATAC 10 07:42:05.5±0.6,12°N±4°×8°8W±°,h36km±4km,M2.5/7, MLv2.5/7,Error ellipse: s-maj=10.3km s-min=3.8km az=34.8,confirmed.Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POTN	**Potosi Cosigui**	**0.55**	**18**	P	Pn	07 42 17.3	+0.4
POTN				S	Sn	07 42 27.7	+2.9
CRIN	**San Cristobal**	**0.65**	**70**	P	Pn	07 42 19.8	+1.4
CRIN	**San Cristobal**	**0.65**	**70**	S	Sn	07 42 30.5	+3.0
PKGN	**Cerro Pekin**	**0.71**	**74**	P	Pn	07 42 19.6	+0.6
PKGN				S	Sn	07 42 31.1	+2.3
CNCH	**Conchagua**	**0.81**	**349**	P	Pn	07 42 20.5	0.0
CNCH	**Conchagua**	**0.81**	**349**	S	Sn	07 42 32.5	+1.1
POLN	**Al Sur del Vol**	**0.86**	**78**	P	Pn	07 42 20.3	-0.8
POLN				S	Sn	07 42 32.4	-0.2
PLRN	**Geotermica Pol**	**0.90**	**83**	P	Pn	07 42 22.6	+1.0
PLRN				S	Sn	07 42 34.0	+0.6
CNGA	**Al SSO del Vol**	**0.95**	**89**	P	Pn	07 42 23.5	+1.1
CNGA				S	Sn	07 42 35.8	+1.0
CNGN	**Cerro Negro**	**0.96**	**88**	P	Pn	07 42 23.6	+1.2
COPN	**Copaltepe**	**1.10**	**105**	P	Pn	07 42 25.9	+1.5
COPN				S	Sn	07 42 37.8	-0.6
MOMN	**Momotombo**	**1.11**	**93**	S	Sn	07 42 39.1	+0.4
CHOHN	**Orocuina**	**1.12**	**27**	P	Pn	07 42 24.7	0.0
CHOHN	**Orocuina**	**1.12**	**27**	S	Sn	07 42 40.2	+1.2
MOM2	**El Cardon**	**1.17**	**92**	S	Sn	07 42 41.2	+1.2
ALJI	**Alcalda de J**	**1.21**	**314**	S	Sn	07 42 41.9	+0.8
SAPS	**Ciudad Sandino**	**1.28**	**104**	S	Sn	07 42 44.0	+1.2

*IDC **10** 07:44:13.0±2.2,34°.79N×16°.31E,h0km,mb3.7/5, mbtmp3.8/15,ML3.4/8,MS3.1/10,Error ellipse: s-maj=38.5km s-min=18.2km az=20.0*

*PDG **10** 07:44:14.5±0.1,35°.14N×16°.38E,h10km±5km,ML4.3/12, Error ellipse: s-maj=5.5km s-min=1.9km az=90.0*

*MED_RC **10** 07:44:17.0±0.5,35°.12N×16°.09E,h32km±1km,MW4.1/12, Moment Tensor Solution.Mantle waves: s12,c12; Duration: 1s0 Moment tensor: Scale 10¹⁵Nm; Mrr-0.47±.51; Mθθ1.95±.31; Mϕϕ-1.48±.44; Mrθ-0.87±.12; Mθϕ-0.42±.30; Mϕr-0.40±.23; Best double couple: M□2.01000×10¹⁵ NP1:φ322.00000°,δ60.00000°, λ-5.00000°. NP2:φ55.00000°,δ85.00000°,λ-150.00000°. Principal axes: T 2.2500, Plg17.0000°, Azm185.0000°; N -0.4900, Plg60.0000°, Azm63.0000°; P -1.7600, Plg24.0000°, Azm283.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*BEO **10** 07:44:20.5±0.7,35°.47N×16°.63E,h0km,ML4.5/12*

*NAO **10** 07:44:23.1,35°.12N×16°.09E,h10km,mb3.8*

ISC 10 07:44:17.3±1.9,35°.40N±0°.06×16°.37E±0°.04,h8km±12km, n193,σ2°.22/207,mb3.7/6,MS3.6/5,1C-8D,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WDD	**Wied Dalam**	**1.57**	**287**	P	**Pn**	**07 44 43.3**	**-2.2**
WDD				S	**Sn**	**07 45 04.2**	**-1.8**
HPAC	**Pachino**	**1.65**	**322**	P	**Pb**	**07 44 48.3**	**+0.4**
HPAC				S	**Sg**	**07 45 12.9**	**+2.6**
HPAC				AML	AML		
	comp=E,11210μm,0.8s						
HPAC				AML	AML		
	comp=N,16700μm,0.3s						
HPAC				AML	AML		
	comp=N,16700μm,0.3s						
HPAC				AML	AML		
	comp=E,11210μm,1.2s						
ISPIC	**ISPICA**	**1.82**	**320**	P	**Pn**	**07 44 49.8**	**+0.9**
ISPIC				S	**Sb**	**07 45 14.9**	**+1.1**
ISPIC				AML	AML		
	comp=N,4375μm,0.7s						
ISPIC				AML	AML		
	comp=E,5480μm,0.4s						
ISPIC				AML	AML		
	comp=N,4345μm,0.7s						
ISPIC				AML	AML		
	comp=N,4375μm,1.3s						
ISPIC				AML	AML		
	comp=E,5700μm,0.4s						
ISPIC				AML	AML		
	comp=N,4345μm,1.3s						
ISPIC	**ISPICA**	**1.82**	**320**	S	**Sb**	**07 45 14.9**	**+1.1**
SSY	**Sortino**	**2.04**	**329**	P	**Pn**	**07 44 53.4**	**+1.4**
SSY				S	**Sg**	**07 45 22.5**	**-0.4**
SSY				AML	AML		
	comp=E,15450μm,0.3s						
SSY				AML	AML		
	comp=N,39950μm,1.0s						
SSY	**Sortino**	**2.04**	**329**	S	**Sg**	**07 45 22.8**	**-0.1**
CROCE	**Santa Croce Ca**	**2.06**	**314**	P	**Pn**	**07 44 52.5**	**+0.2**
CROCE				AML	AML		
	comp=E,5395μm,0.7s						
CROCE				AML	AML		
	comp=E,4410μm,0.7s						
CROCE				AML	AML		
	comp=N,3180μm,0.8s						
CROCE				AML	AML		
	comp=N,4100μm,0.8s						
AGST	**Augusta-Monte**	**2.07**	**334**	P	**Pn**	**07 44 54.1**	**+1.8**
AGST				S	**Sb**	**07 45 22.1**	**+1.1**
AGST				AML	AML		
	comp=E,7415μm,1.1s						
AGST				AML	AML		
	comp=N,11200μm,1.4s						
AGST	**Augusta-Monte**	**2.07**	**334**	S	**Sb**	**07 45 22.1**	**+1.1**
HAGA	**Augusta**	**2.12**	**333**	P	**Pn**	**07 44 54.5**	**+1.4**
HAGA				S	**Sb**	**07 45 23.1**	**+0.6**
HAGA				AML	AML		
	comp=N,3600μm,1.0s						
HAGA				AML	AML		
	comp=N,3600μm,1.0s						
HAGA				AML	AML		
	comp=E,3865μm,0.4s						
HAGA	**Augusta**	**2.12**	**333**	S	**Sb**	**07 45 23.7**	**+1.2**
HVZN	**Vizzini**	**2.22**	**323**	P	**Pn**	**07 44 56.0**	**+1.5**
HLNI	**Lentini**	**2.29**	**328**	||P	**Pn**	**07 44 56.9**	**+1.5**
HLNI	**Lentini**	**2.29**	**328**	||P	**Pn**	**07 44 56.9**	**+1.5**
HLNI				S	**Sb**	**07 45 26.8**	**-0.5**
HLNI				AML	AML		
	comp=N,3240μm,1.1s						
HLNI				AML	AML		
	comp=N,3240μm,0.9s						
HLNI				AML	AML		
	comp=E,3540μm,0.9s						
HLNI	**Lentini**	**2.29**	**328**	||P	**Pn**	**07 44 56.9**	**+1.5**
RAFF	**Raffo Rosso**	**2.44**	**319**	S	**Sb**	**07 45 31.1**	**-0.5**
ESML	**S. M. di Licod**	**2.52**	**332**	P	**Pb**	**07 45 01.5**	**-1.3**
ESML				AML	AML		
	comp=E,1280μm,1.0s						
ESML				AML	AML		
	comp=N,1058μm,0.5s						
ESML				AML	AML		
	comp=E,1280μm,1.0s						
ESLN	**Serra La Nave**	**2.55**	**334**	P	**Pb**	**07 45 02.8**	**-0.7**
ESLN				AML	AML		
	comp=E,1795μm,1.0s						
ESLN				AML	AML		
	comp=N,1585μm,1.0s						
ESLN				AML	AML		
	comp=N,1585μm,1.0s						
ESLN				AML	AML		
	comp=E,1795μm,1.0s						
VAE	**Valguarnera**	**2.61**	**323**	Pn	**Pb**	**07 45 04.3**	**0.0**
	comp=E,34nm,0.3s,baz=7.6,slow=8.2,SNR=16						
VAE				Sn	**Sg**	**07 45 43.2**	**+2.2**
	comp=E,58nm,0.3s,baz=236,slow=14,SNR=5.7						
	comp=E,61nm,0.3s						
CLTA	**Licata**	**2.62**	**313**	P	**Pn**	**07 45 00.8**	**+0.8**
CLTA				AML	AML		
	comp=E,1185μm,1.6s						
CLTA				AML	AML		
	comp=N,907μm,0.4s						
MTTG	**Motta San Giov**	**2.65**	**348**	P	**Pn**	**07 45 03.2**	**+2.8**
MTTG				AML	AML		
	comp=E,915μm,1.5s						
MTTG				AML	AML		
	comp=E,915μm,0.5s						
MTTG				AML	AML		
	comp=N,894μm,0.7s						
EMSG	**Monte Spagnolo**	**2.67**	**335**	P	**Pb**	**07 45 04.6**	**-0.9**
EMSG				AML	AML		
	comp=E,2155μm,0.4s						
EMSG				AML	AML		
	comp=N,1550μm,0.6s						
SOI	**Samo**	**2.68**	**355**	P	**Pn**	**07 45 03.6**	**+2.9**
SOI				AML	AML		
	comp=N,634μm,1.0s						
SOI				AML	AML		
	comp=E,692μm,0.6s						
SOI				AML	AML		
	comp=N,634μm,1.0s						
CPTP	**Pietraperzia**	**2.68**	**319**	P	**Pn**	**07 45 03.6**	**+2.7**
CPTP				AML	AML		
	comp=E,2890μm,1.0s						
CPTP				AML	AML		
	comp=N,3740μm,0.9s						
CPTP				AML	AML		
	comp=N,3740μm,1.1s						
CPTP				AML	AML		
	comp=E,2890μm,1.0s						
EPZF	**Pizzo Felice**	**2.71**	**334**	P	**Pb**	**07 45 04.5**	**-1.6**
EPZF				AML	AML		
	comp=E,1680μm,0.5s						
EPZF				AML	AML		
	comp=N,2000μm,0.3s						
EPZF				AML	AML		
	comp=E,1680μm,1.5s						
EPZF	**Pizzo Felice**	**2.71**	**334**	P	**Pb**	**07 45 04.5**	**-1.6**
AIO	**Antillo**	**2.72**	**341**	P	**Pn**	**07 45 03.7**	**+2.2**
AIO				AML	AML		
	comp=N,1340μm,0.5s						
AIO				AML	AML		
	comp=E,800μm,1.4s						
GALF	**Gagliano Caste**	**2.73**	**328**	P	**Pn**	**07 45 04.0**	**+2.5**
GALF				AML	AML		
	comp=E,3350μm,1.0s						
GALF				AML	AML		
	comp=N,3480μm,0.9s						
GALF				AML	AML		
	comp=E,3350μm,1.0s						
GALF				AML	AML		
	comp=N,502μm,0.9s						
GALF				AML	AML		
	comp=E,445μm,0.5s						
MPNC	**Port Mandanici**	**2.86**	**344**	P	**Pn**	**07 45 06.5**	**+3.2**
MPNC				AML	AML		
	comp=E,2055μm,0.5s						
MPNC				AML	AML		
	comp=N,2160μm,0.6s						
MPNC				AML	AML		
	comp=N,2160μm,1.4s						
FAVR	**Favara**	**2.87**	**311**	P	**Pn**	**07 45 04.4**	**+1.0**
FAVR				AML	AML		
	comp=E,1135μm,0.5s						
FAVR				AML	AML		
	comp=N,1410μm,0.9s						
FAVR				AML	AML		
	comp=N,1335μm,0.8s						
FAVR				AML	AML		
	comp=E,574μm,0.5s						
CEL	**Celeste**	**2.88**	**352**	||P	**Pb**	**07 45 07.0**	**-2.0**
CEL	**Celeste**	**2.88**	**352**	||P	**Pb**	**07 45 07.0**	**-2.0**
CEL				AML	AML		
	comp=E,1335μm,1.1s						
CEL				AML	AML		
	comp=E,1340μm,1.1s						
CEL				AML	AML		
	comp=N,808μm,0.3s						
CEL				AML	AML		
	comp=N,800μm,0.4s						
CEL				AML	AML		
	comp=E,1335μm,0.9s						
CEL				AML	AML		
	comp=E,1340μm,0.9s						
CEL	**Celeste**	**2.88**	**352**	||P	**Pb**	**07 45 07.0**	**-2.0**
LINA	**Linosa Island**	**2.90**	**280**	P	**Pn**	**07 45 00.8**	**-3.0**
SICLA	**Scilla**	**2.90**	**350**	P	**Pn**	**07 45 06.7**	**+3.0**
SICLA				AML	AML		
	comp=N,1112μm,0.5s						
SICLA				AML	AML		
	comp=E,1270μm,0.5s						
MUCR	**Ucria**	**2.90**	**336**	P	**Pn**	**07 45 06.3**	**+2.4**
MUCR				AML	AML		
	comp=E,881μm,0.4s						
MUCR				AML	AML		
	comp=N,1100μm,0.3s						
CMDO	**Montedoro**	**2.91**	**316**	P	**Pn**	**07 45 06.6**	**+2.6**
CMDO	**Montedoro**	**2.91**	**316**	P	**Pn**	**07 45 06.6**	**+2.6**
CMDO				AML	AML		
	comp=N,736μm,1.1s						
CMDO				AML	AML		
	comp=E,504μm,0.8s						
CMDO				AML	AML		
	comp=N,736μm,0.9s						
MSRU	**Castanea**	**2.94**	**347**	P	**Pn**	**07 45 07.0**	**+2.6**
MSRU				AML	AML		
	comp=E,2265μm,1.3s						
MSRU				AML	AML		
	comp=N,1480μm,1.2s						
MSRU				AML	AML		
	comp=E,2265μm,0.7s						
MSRU				AML	AML		
	comp=N,1480μm,0.8s						
MSFR	**San Fratello**	**2.99**	**332**	P	**Pn**	**07 45 07.8**	**+2.6**
MSFR				AML	AML		
	comp=E,398μm,1.1s						
MSFR				AML	AML		
	comp=N,340μm,1.0s						
MSFR				AML	AML		
	comp=N,340μm,1.0s						
MSFR				AML	AML		
	comp=E,398μm,0.9s						
MILZ	**Milazzo**	**3.01**	**343**	P	**Pn**	**07 45 08.2**	**+2.9**
MILZ				AML	AML		
	comp=E,5665μm,0.5s						
MILZ				AML	AML		
	comp=N,2790μm,0.3s						
PLAC	**Placanica**	**3.04**	**1**	P	**Pn**	**07 45 09.3**	**+3.5**
PLAC				AML	AML		
	comp=E,668μm,0.6s						
PLAC				AML	AML		
	comp=E,1022μm,0.5s						
PLAC				AML	AML		
	comp=N,730μm,0.7s						
PLAC				AML	AML		
	comp=N,1002μm,0.5s						
LPDG	**Lampedusa Capo**	**3.06**	**273**	P	Pn	07 45 02.3	-3.7
CSLB	**Castelbuono**	**3.14**	**324**	P	**Pn**	**07 45 10.0**	**+2.9**
CSLB	**Castelbuono**	**3.14**	**324**	P	**Pn**	**07 45 10.0**	**+2.9**
CSLB				AML	AML		
	comp=N,462μm,1.3s						
CSLB				AML	AML		
	comp=N,462μm,0.7s						
CSLB				AML	AML		
	comp=E,438μm,0.8s						
VPL	**Vulcano Piano**	**3.17**	**340**	P	**Pn**	**07 45 10.7**	**+3.1**
VPL				AML	AML		
	comp=E,2270μm,0.4s						
VPL				AML	AML		
	comp=N,2180μm,0.5s						
VPL				AML	AML		
	comp=E,2270μm,1.6s						
VPL				AML	AML		
	comp=N,2180μm,1.5s						
VPL	**Vulcano Piano**	**3.17**	**340**	P	**Pn**	**07 45 10.7**	**+3.1**
VPL	**Vulcano Piano**	**3.17**	**340**	P	**Pn**	**07 45 10.7**	**+3.1**
GRI	**Girifalco**	**3.41**	**1**	P	**Pn**	**07 45 14.8**	**+3.9**
GRI				AML	AML		
	comp=E,871μm,0.8s						
GRI				AML	AML		
	comp=N,875μm,1.2s						
GRI				AML	AML		
	comp=N,875μm,0.8s						
GRI				AML	AML		
	comp=E,871μm,1.2s						
IACL	**Alicudi**	**3.52**	**333**	P	**Pn**	**07 45 14.7**	**+2.3**
IACL				AML	AML		
	comp=E,544μm,0.4s						
IACL				AML	AML		
	comp=N,580μm,0.4s						
IACL	**Alicudi**	**3.52**	**333**	P	**Pn**	**07 45 14.7**	**+2.3**
CRJA	**Costa Raja**	**3.62**	**312**	P	**Pn**	**07 45 13.6**	**-0.1**
CRJA				AML	AML		
	comp=E,900μm,0.7s						
CRJA				AML	AML		
	comp=N,548μm,0.5s						
CRJA				AML	AML		
	comp=E,900μm,1.3s						
MBFT	**Monte Bonifato**	**3.74**	**314**	P	**Pn**	**07 45 14.8**	**-0.6**
MBFT				AML	AML		
	comp=N,196μm,1.4s						
MBFT				AML	AML		
	comp=E,258μm,1.0s						
TIP	**Timpagrande**	**3.78**	**5**	P	**Pn**	**07 45 19.3**	**+3.3**
TIP				AML	AML		
	comp=E,300μm,0.4s						
TIP				AML	AML		
	comp=E,280μm,0.4s						
TIP				AML	AML		
	comp=N,336μm,0.6s						
TIP				AML	AML		
	comp=E,280μm,1.6s						
TIP				AML	AML		
	comp=E,300μm,1.6s						
TIP				AML	AML		
	comp=N,355μm,0.6s						
CAR1	**CAROLEI**	**3.85**	**358**	P	**Pn**	**07 45 20.2**	**+3.4**
CAR1				AML	AML		
	comp=N,1755μm,1.5s						
CAR1				AML	AML		
	comp=E,1670μm,1.0s						
CAR1				AML	AML		
	comp=N,1680μm,1.0s						
CAR1				AML	AML		
	comp=N,1680μm,1.0s						
CAR1				AML	AML		
	comp=E,1190μm,0.5s						
SPS2	**Spezzano della**	**3.88**	**360**	P	**Pn**	**07 45 22.1**	**+4.7**
SPS2				AML	AML		
	comp=E,367μm,1.3s						
SPS2				AML	AML		
	comp=E,367μm,0.7s						
SPS2				AML	AML		
	comp=N,416μm,0.3s						
CELI	**Celico**	**3.99**	**1**	P	**Pn**	**07 45 22.6**	**+3.7**
CELI				AML	AML		
	comp=E,738μm,0.7s						
CELI				AML	AML		
	comp=E,738μm,1.3s						
CELI				AML	AML		
	comp=N,1180μm,0.5s						
PIPA	**Pietrapaola**	**4.09**	**5**	P	**Pn**	**07 45 23.4**	**+3.2**
PIPA				AML	AML		
	comp=N,498μm,0.5s						
PIPA				AML	AML		
	comp=E,588μm,1.4s						
PIPA				AML	AML		
	comp=N,468μm,0.5s						
PIPA				AML	AML		
	comp=E,584μm,0.3s						
PIPA				AML	AML		
	comp=E,588μm,0.6s						
CET2	**Cetraro**	**4.13**	**355**	P	**Pn**	**07 45 23.4**	**+2.6**
CET2				AML	AML		
	comp=N,1940μm,1.6s						
CET2				AML	AML		
	comp=E,916μm,0.4s						
CET2				AML	AML		
	comp=N,1940μm,0.4s						
LTHK	**Lithakia**	**4.27**	**56**	P	**Pn**	**07 45 24.4**	**+1.9**
DMLN	**Damoulianata-K**	**4.28**	**47**	P	**Pn**	**07 45 24.4**	**+1.6**
PSDA	**Pessada-Kefalo**	**4.33**	**50**	P	**Pn**	**07 45 25.4**	**+2.0**
VLS	**Valsamata**	**4.37**	**49**	P	**Pn**	**07 45 25.5**	**+1.5**
RTZL	**Ratzakli, Kefa**	**4.43**	**52**	P	**Pn**	**07 45 26.7**	**+1.9**
MMN	**Mormanno**	**4.49**	**356**	P	**Pn**	**07 45 28.4**	**+2.7**
MMN				AML	AML		
	comp=N,1073μm,0.3s						
MMN				AML	AML		
	comp=E,618μm,0.3s						
FSK	**Fiskardo**	**4.53**	**46**	P	**Pn**	**07 45 28.3**	**+2.0**
CUC	**Castrocucco**	**4.60**	**355**	P	**Pn**	**07 45 30.1**	**+2.9**
CUC				AML	AML		
	comp=E,416μm,0.3s						
CUC				AML	AML		
	comp=N,296μm,0.5s						

CUC				AML	AML		
	comp=E,412μm,0.3s						
CUC				AML	AML		
	comp=N,312μm,0.5s						
EVGI	**Lefkada island**	**4.70**	**46**	P	**Pn**	**07 45 31.8 +3.3**	
BULG	**Bulgheria - Ca**	**4.73**	**351**	P	**Pn**	**07 45 31.7 +2.6**	
BULG				AML	AML		
	comp=E,466μm,0.4s						
BULG				AML	AML		
	comp=N,739μm,1.1s						
BULG				AML	AML		
	comp=E,442μm,0.4s						
BULG				AML	AML		
	comp=N,712μm,1.1s						
MGR	**Morigerati**	**4.77**	**352**	P	**Pn**	**07 45 32.2 +2.7**	
MGR				AML	AML		
	comp=E,370μm,1.0s						
MGR				AML	AML		
	comp=N,330μm,0.3s						
MGR				AML	AML		
	comp=E,370μm,1.0s						
NYDR	**Nydri-Lefkada**	**4.78**	**45**	P	**Pn**	**07 45 32.3 +2.6**	
SIRI	**Monte Sirino -**	**4.79**	**355**	P	**Pn**	**07 45 32.5 +2.6**	
SIRI				AML	AML		
	comp=E,369μm,1.5s						
SIRI				AML	AML		
	comp=N,314μm,1.0s						
SIRI				AML	AML		
	comp=E,378μm,1.5s						
SIRI				AML	AML		
	comp=N,315μm,1.0s						
SIRI				AML	AML		
	comp=N,315μm,1.0s						
SIRI				AML	AML		
	comp=N,314μm,1.0s						
SIRI				AML	AML		
	comp=E,378μm,0.5s						
SIRI				AML	AML		
	comp=E,369μm,0.5s						
LKD2	**Lefkada island**	**4.81**	**44**	P	**Pn**	**07 45 32.3 +2.2**	
ITM	**Ithomi**	**4.82**	**67**	P	**Pn**	**07 45 31.4 +1.1**	
TSLK	**Tsoukalades, L**	**4.83**	**44**	P	**Pn**	**07 45 32.8 +2.4**	
RLS	**Riolos of Patr**	**4.87**	**56**	P	**Pn**	**07 45 34.6 +3.7**	
AXS	**Araxos**	**4.89**	**54**	P	**Pn**	**07 45 33.6 +2.5**	
DRO	**Drossia**	**4.99**	**58**	P	**Pn**	**07 45 36.9 +4.4**	
LFKM	**Lefkimmi**	**4.99**	**35**	P	**Pn**	**07 45 36.3 +3.8**	
KEK	**Kerkira**	**5.09**	**31**	P	**Pn**	**07 45 37.5 +3.6**	
IGT	**Igoumenitsa**	**5.19**	**36**	P	**Pn**	**07 45 37.1 +1.9**	
IGT	**Igoumenitsa**	**5.19**	**36**	*e*Pn	**Pn**	**07 45 36.9 +1.6**	
IGT				*e*Sn	**Sn**	**07 46 32.9 -2.4**	
AMPL	**Ampelaki**	**5.22**	**46**	P	**Pn**	**07 45 38.1 +2.4**	
PVO	**Paravola**	**5.22**	**51**	P	**Pn**	**07 45 39.2 +3.4**	
VLX	**Vlachokerasia**	**5.23**	**66**	P	**Pn**	**07 45 38.5 +2.6**	
KLV	**Kalavryta, Ach**	**5.34**	**59**	P	**Pn**	**07 45 40.8 +3.5**	
EFP	**Efpalio**	**5.36**	**54**	P	**Pn**	**07 45 41.2 +3.5**	
GUR	**Goura**	**5.42**	**60**	P	**Pn**	**07 45 42.7 +4.1**	
ANX	**Ano Chora**	**5.46**	**53**	P	**Pn**	**07 45 43.2 +4.0**	
VLI	**Veliai**	**5.48**	**74**	P	**Pn**	**07 45 40.8 +1.6**	
KALE	**Kalithea**	**5.50**	**55**	P	Pn	07 45 45.1 +5.5	
TETR	**Tetrakomo, Epi**	**5.54**	**43**	P	**Pn**	**07 45 43.0 +2.8**	
EVR	**Evrytania**	**5.58**	**49**	P	Pn	07 45 46.2 +5.4	
KEST	**Kesra**	**5.74**	**275**	Pn	**Pn**	**07 45 40.1 -2.8**	
	comp=E,1.0nm,0.3s,baz=153,slow=6.4,SNR=16						
KEST				Sn	Sn	07 46 41.0 -8.0	
	comp=E,4.9nm,0.3s,baz=292,slow=24,SNR=10						
	comp=E,3.7nm,0.5s						
MAKR	**Makrakomi, Fth**	**5.84**	**50**	P	Pn	07 45 49.2 +4.9	
LTK	**Loutraki**	**5.91**	**62**	P	**Pn**	**07 45 47.6 +2.5**	
AGG	**Agios Georgios**	**5.97**	**51**	P	**Pn**	**07 45 49.8 +3.8**	
KPRO	**Kipourio**	**6.03**	**40**	P	**Pn**	**07 45 50.0 +3.2**	
AXAR	**Agios Charalam**	**6.04**	**54**	P	**Pn**	**07 45 50.4 +3.4**	
PENT	**Pentalofos**	**6.09**	**37**	P	**Pn**	**07 45 51.3 +3.5**	
THL	**Klokotos Trika**	**6.11**	**46**	P	**Pn**	**07 45 51.1 +3.2**	
LKR	**Lokris**	**6.21**	**57**	P	**Pn**	**07 45 52.6 +3.3**	
VILL	**Villia**	**6.21**	**62**	P	**Pn**	**07 45 51.4 +2.0**	
NEST	**Nestorio**	**6.22**	**35**	P	**Pn**	**07 45 53.6 +4.1**	
TYRN	**Tyrnavos**	**6.33**	**46**	P	**Pn**	**07 45 53.8 +2.8**	
VLY	**Voula,Athens**	**6.45**	**66**	P	Pn	07 45 44.8 -7.7	
KZN	**Kozani**	**6.50**	**39**	P	**Pn**	**07 45 56.6 +3.3**	
TIR	**Tirane**	**6.54**	**24**	*e*Pn	**Pn**	**07 45 55.5 +1.7**	
DION	**Dionisos Attik**	**6.63**	**64**	P	**Pn**	**07 45 56.5 +1.4**	
FNA	**Florina**	**6.66**	**35**	P	**Pn**	**07 45 57.7 +2.1**	
FNA	**Florina**	**6.66**	**35**	*e*Pn	**Pn**	**07 45 57.6 +2.0**	
FNA				*e*Sn	**Sn**	**07 47 07.3 -4.4**	
OHR	**Ohrid**	**6.68**	**30**	*i* Pn	**Pn**	**07 45 59.8 +4.0**	
OHR				*i* Sn	**Sn**	**07 47 11.1 -1.0**	
NEO	**Neokhori**	**6.70**	**52**	P	**Pn**	**07 45 59.3 +3.2**	
ULC	**Ulcinj**	**6.92**	**18**	*e*Pn	**Pn**	**07 45 59.8 +0.7**	
ULC				*i* Sn	**Sn**	**07 47 17.3 -0.8**	
IDI	**Anoyia**	**6.96**	**88**	Pn	**Pn**	**07 45 58.8 -0.9**	
	comp=E,5.4nm,0.3s,baz=250,slow=7.9,SNR=43						
IDI				Sn	**Sn**	**07 47 15.8 -3.3**	
	comp=E,6.8nm,0.3s,baz=46,slow=19,SNR=7.3						
	comp=E,14nm,0.2s						
KYMI	**Kymi, Euboea I**	**6.97**	**60**	P	**Pn**	**07 46 02.7 +3.0**	
AOS	**Alonnisos**	**7.07**	**56**	P	**Pn**	**07 46 03.0 +1.9**	
DRME	**Dracevica, Mon**	**7.12**	**17**	*e*Pn	**Pn**	**07 46 02.5 +0.7**	
DRME				*i* Sn	**Sn**	**07 47 22.0 -0.9**	
BUM	**Brajici-Budva**	**7.16**	**15**	*e*Pn	**Pn**	**07 46 02.9 +0.5**	
BUM				*i* Sn	**Sn**	**07 47 23.0 -1.0**	
HCY	**Herceg Novi**	**7.22**	**13**	*e*Pn	**Pn**	**07 46 03.8 +0.6**	
HCY	**Herceg Novi**	**7.22**	**13**	*e*Pn	**Pn**	**07 46 04.2 +1.0**	
HCY				*i* Sn	**Sn**	**07 47 24.7 -0.8**	
PAIG	**Paliouri**	**7.34**	**50**	P	**Pn**	**07 46 07.0 +2.1**	
PDG	**Podgorica**	**7.37**	**17**	*e*Pn	**Pn**	**07 46 06.2 +1.0**	
PDG	**Podgorica**	**7.37**	**17**	*e*Pn	**Pn**	**07 46 05.6 +0.4**	
PDG				*e*Sn	**Sn**	**07 47 27.4 -1.5**	
PDG	**Podgorica**	**7.37**	**17**	*e*Pn	**Pn**	**07 46 05.6 +0.4**	
PDG				*i* Sn	**Sn**	**07 47 27.9 -1.0**	
CEME	**Cevo**	**7.40**	**15**	⇓*i* Pn	**Pn**	**07 46 06.0 +0.3**	
CEME				*i* Sn	**Sn**	**07 47 28.9 -1.0**	
HORT	**Hortiatis**	**7.42**	**44**	P	**Pn**	**07 46 07.3 +1.3**	
TREB	**Trebinje**	**7.46**	**11**	*e*Pn	**Pn**	**07 46 06.4 -0.1**	
TREB	**Trebinje**	**7.46**	**11**	*e*Pn	**Pn**	**07 46 06.7 +0.2**	
TREB				*e*Sn	**Sn**	**07 47 30.0 -1.3**	
STON	**Ston**	**7.53**	**7**	*e*Pn	**Pn**	**07 46 08.5 +1.1**	
STON	**Ston**	**7.53**	**7**	*e*Pn	**Pn**	**07 46 08.4 +1.1**	
NKME	**Niksic**	**7.62**	**14**	*e*Pn	**Pn**	**07 46 09.5 +0.8**	
NKME				*i* Sn	**Sn**	**07 47 34.2 -1.1**	
BRY	**Bratogost**	**7.67**	**12**	*e*Pn	**Pn**	**07 46 09.7 +0.2**	
BRY	**Bratogost**	**7.67**	**12**	⇑*i* Pn	**Pn**	**07 46 09.6 +0.1**	
BRY				*i* Sn	**Sn**	**07 47 35.6 -1.1**	
OUR	**Ouranopolis**	**7.77**	**48**	P	**Pn**	**07 46 13.5 +2.7**	
KOME	**Kolasin**	**7.83**	**17**	*e*Pn	**Pn**	**07 46 12.4 +0.8**	
KOME				*i* Sn	**Sn**	**07 47 39.2 -1.2**	
IVA	**Berane**	**7.94**	**19**	*e*Pn	**Pn**	**07 46 13.9 +0.7**	
IVA				*i* Sn	**Sn**	**07 47 42.0 -1.3**	
UPM	**Unac-Piva**	**8.03**	**13**	*e*Pn	**Pn**	**07 46 15.8 +1.3**	
UPM	**Unac-Piva**	**8.03**	**13**	*e*Pn	**Pn**	**07 46 15.1 +0.6**	
UPM				*i* Sn	**Sn**	**07 47 44.2 -1.4**	
SRS	**Serrai**	**8.05**	**43**	*e*Pn	**Pn**	**07 46 15.7 +1.2**	
PLE	**Pljevlja**	**8.25**	**16**	*e*Pn	**Pn**	**07 46 18.3 +0.9**	
PLE				*i* Sn	**Sn**	**07 47 49.4 -1.5**	
SJES	**Sjenica**	**8.33**	**18**	*e*Pn	**Pn**	**07 46 20.1 +1.6**	
SJES	**Sjenica**	**8.33**	**18**	*e*Pn	**Pn**	**07 46 20.3 +1.8**	
BARS	**Barje**	**8.52**	**28**	*e*Pn	**Pn**	**07 46 21.5 +0.4**	
RUDO	**Rudo**	**8.52**	**15**	*e*Pn	**Pn**	**07 46 22.5 +1.4**	
BOSS	**Bosilegrad**	**8.53**	**32**	*e*Pn	**Pn**	**07 46 22.3 +1.2**	
SELS	**Selova**	**8.63**	**24**	*e*Pn	**Pn**	**07 46 24.4 +1.9**	
SELS				*e*Sn	**Sn**	**07 47 56.7 -3.3**	
IVAS	**Ivanjica**	**8.67**	**19**	*e*Pn	**Pn**	**07 46 24.2 +1.1**	
BBLS	**Lazi&#263i**	**8.77**	**15**	*e*Pn	**Pn**	**07 46 25.1 +0.6**	
BBLS	**Lazi&#263i**	**8.77**	**15**	*e*Pn	**Pn**	**07 46 25.3 +0.8**	
GOCS	**Kraljevo Serbi**	**8.86**	**22**	*e*Pn	**Pn**	**07 46 27.2 +1.5**	
VTS	**Vitosha**	**8.96**	**34**	*e*Pn	**Pn**	**07 46 27.6 +0.4**	
A050A	**Klekovaca**	**9.07**	**1**	*e*Pn	**Pn**	**07 46 32.1 +3.5**	
GRUS	**Gruza**	**9.11**	**20**	*e*Pn	**Pn**	**07 46 30.1 +1.0**	
TRUS	**Trudelj**	**9.34**	**18**	*e*Pn	**Pn**	**07 46 33.6 +1.4**	
BLY	**Banja Luka**	**9.36**	**4**	*e*Pn	**Pn**	**07 46 35.0 +2.6**	
TEKS	**Tekeris**	**9.45**	**14**	*e*Pn	**Pn**	**07 46 34.1 +0.3**	
TEKS	**Tekeris**	**9.45**	**14**	*e*Pn	**Pn**	**07 46 33.9 +0.1**	
ZAGS	**Zajecar**	**9.54**	**26**	*e*Pn	**Pn**	**07 46 35.7 +0.8**	
A051A	**Mrakovica**	**9.61**	**2**	*e*Pn	**Pn**	**07 46 37.7 +1.7**	
BORS2	**Bor- Borsko je**	**9.70**	**25**	*e*Pn	**Pn**	**07 46 36.2 -1.0**	
AVAS	**Avala Beograd**	**9.81**	**18**	*e*Pn	**Pn**	**07 46 38.6 -0.1**	
KUBS	**Kucevo**	**9.87**	**23**	*e*Pn	**Pn**	**07 46 39.0 -0.6**	
FRGS	**Fruska Gora**	**10.09**	**14**	*e*Pn	**Pn**	**07 46 42.6 +0.1**	
BOJS	**Bojanci**	**10.13**	**356**	*e*Pn	**Pn**	**07 46 47.0 +4.0**	
BOJS	**Bojanci**	**10.13**	**356**	*e*Pn	**Pn**	**07 46 45.4 +2.4**	
MDVR	**Moldovita**	**10.22**	**22**	*e*Pn	**Pn**	**07 46 44.6 +0.3**	
CEY	**Cerknica**	**10.43**	**352**	*e*Pn	Pn	07 46 53.2 +6.0	
CRES	**Cresnjevec Ost**	**10.44**	**356**	*e*Pn	**Pn**	**07 46 50.2 +3.0**	
BZS	**Buzias**	**10.95**	**20**	*e*Pn	**Pn**	**07 46 54.4 +0.1**	
GZR	**Gura Zlata**	**11.10**	**24**	*e*Pn	**Pn**	**07 46 56.3 -0.2**	
OBKA	**Obir**	**11.18**	**353**	*e*Pn	**Pn**	**07 47 00.4 +2.9**	
DAVOX	**Davos/Dischmat**	**12.37**	**339**	LR	LR	07 52 35.7	
	comp=E,26nm,21.6s,baz=86,slow=39						
MLR	**Muntele Rosu**	**12.43**	**33**	Pn	Pn	07 47 20.5 +5.9	
	comp=E,2.7nm,0.5s,baz=222,slow=14,SNR=5.5						
MLR				LR	LR	07 53 48.8	
	comp=E,62nm,19.2s,baz=232,slow=44						
BRTR	**Keskin Array B**	**14.36**	**67**	Pn	**Pn**	**07 47 43.8 +2.8**	
	comp=E,0.1nm,0.3s,baz=256,slow=13,SNR=11						
BRTR				LR	LR	07 53 39.9	
	comp=E,59nm,20.4s,baz=314,slow=39						
	comp=E,2.5nm,0.8s						
MMAI	**Mount Meron Ar**	**15.92**	**93**	Pn	**Pn**	**07 47 58.3 -3.5**	
	comp=E,2.2nm,0.4s,baz=275,slow=12,SNR=5.4						
EIL	**Elat**	**16.67**	**105**	Pn	**Pn**	**07 48 06.7 -4.6**	
	comp=E,0.4nm,0.3s,baz=340,slow=5.6,SNR=7.6						
	comp=E,1.9nm,0.5s						
ESDC	**Sonseca Array**	**16.68**	**291**	Pn	**Pn**	**07 48 11.3 -0.1**	
	baz=95,slow=14,SNR=4.8						
	comp=E,0.2nm,0.3s						
ASF	**Jabal al Asfar**	**17.36**	**95**	Pn	**Pn**	**07 48 17.0 -3.1**	
	comp=E,0.6nm,0.3s,baz=153,slow=24,SNR=3.5						
	comp=E,2.0nm,0.4s						
MDT	**Midelt**	**17.57**	**268**	LR	LR	07 55 59.5	
	comp=E,91nm,18.9s,baz=88,slow=40						
AKASG	**Malin Array Be**	**17.90**	**27**	P	**P**	**07 48 28.6 +1.4**	
	comp=E,0.4nm,0.3s,baz=222,slow=11,SNR=5.4						
AKASG				LR	LR	07 56 48.7	
	comp=E,32nm,20.6s,baz=72,slow=41						
	comp=E,1.3nm,0.6s						
NACGM	**Naroch**	**20.79**	**17**	*e*P	Pn	07 49 02.4 +1.2	
	comp=Z,11nm,0.8s,baz=206						
HFS	**Hagfors**	**24.81**	**357**	P	**P**	**07 49 41.2 +1.5**	
	comp=Z,1.8nm,0.6s,baz=152,slow=9.9,SNR=5.5						
HFS				LR	LR	08 01 41.9	
	comp=Z,39nm,18.9s,baz=192,slow=41						
	comp=Z,1.8nm,0.6s						
NB2	**NORSAR Subarra**	**25.87**	**354**	P	P	07 49 56.8 +7.5	
	comp=Z,1.7nm,1.0s,baz=171,slow=9.3						
NOA	**NORSAR Array B**	**25.87**	**354**	P	**P**	**07 49 50.7 +1.4**	
	comp=Z,0.3nm,0.6s,baz=171,slow=7.7,SNR=4.2						
NOA				LR	LR	08 01 02.7	
	comp=Z,15nm,19.4s,baz=110,slow=38						
	comp=Z,0.3nm,0.6s						
FINES	**FINESS Array B**	**26.78**	**10**	P	**P**	**07 49 59.7 +2.2**	
	comp=Z,1.2nm,0.7s,baz=203,slow=12,SNR=3.3						
	comp=Z,1.2nm,0.7s						
ARCES	**ARCESS Array B**	**34.56**	**6**	P	**P**	**07 51 08.6 +2.6**	
	comp=Z,0.8nm,0.8s,baz=180,slow=8.4,SNR=4.9						
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**49.60**	**55**	P	**P**	**07 53 08.6 -0.5**	
	comp=Z,0.4nm,0.5s,baz=273,slow=8.4,SNR=4.5						
	comp=Z,0.4nm,0.5s						
LBTB	**Lobatse**	**60.72**	**170**	LR	LR	08 23 14.1	
	comp=Z,45nm,19.9s,baz=86,slow=39						
BOSA	**Boshof**	**64.22**	**171**	LR	LR	08 24 40.0	
	comp=Z,61nm,18.6s,baz=28,slow=38						
YAK	**Yakutsk**	**69.13**	**28**	LR	LR	08 29 32.1	
	comp=Z,42nm,18.4s,baz=239,slow=39						
BNX	**BinXian**	**78.09**	**42**	⇓P	**P**	**07 56 16.7 0.0**	
BNX				pmax	pmax		
	comp=Z,7.0nm,1.8s						

ATH 10 07:44:41.1,38.05N×21.96E,h24km±3km,ML1.1/5, Manual Solution by A.Fokaefs First location: 2019/07/10 09:40:16, This location: 2019/07/10 11:40:10 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLV	**Kalavryta, Ach**	**0.15**	**93**	P	Pb	07 44 46.2	+0.1
KLV				S	Sb	07 44 48.9	-0.7
DRO	**Drossia**	**0.22**	**244**	P	Pb	07 44 47.1	+0.1
GUR	**Goura**	**0.32**	**111**	P	Pb	07 44 48.6	+0.2
GUR				S	Sb	07 44 53.8	+0.4
EFP	**Efpalio**	**0.38**	**353**	P	Pb	07 44 49.6	+0.3
EFP				S	Sb	07 44 54.8	0.0
AXS	**Araxos**	**0.48**	**287**	P	Pn	07 44 52.7	+0.1
ANX	**Ano Chora**	**0.54**	**357**	P	Pb	07 44 52.2	+0.1
ANX				S	Sb	07 44 59.9	+0.4

*ASRS **10** 08:00:14.0±0.8,55.64N×86.20E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 10 08:00:19.4±6.9,55.63N×86.10E,h0km,mbtmp2.6/2, ML2.3/2,Error ellipse: s-maj=70.5km s-min=28.3km az=26.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.84**	**204**	I	I	08 12 10.0	
	baz=23,slow=321,SNR=15						
ZALV	**Zalesovo Beam**	**1.84**	**204**	Pn	Pn	08 00 50.5	-1.7
	2.8nm,0.3s,baz=26,slow=16,SNR=27						
ZALV				Sn	Sb	08 01 17.4	-0.1
	1.8nm,0.3s,baz=20,slow=26,SNR=7.1						
KURBB	**Kurchatov Array**	**6.77**	**225**	Pn	Pn	08 02 00.4	+0.5
	baz=46,slow=15,SNR=2.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**9.16**	**197**	Pn	Pn	08 02 33.0	+0.2
	0.1nm,0.3s,baz=18,slow=14,SNR=1.4						
	0.1nm,0.3s						

*JMA **10** 08:22:24.9±0.1,38.06N±0.2×139.4E±0.3,h11km±1km, MV3.5/40,OFF N NIIGATA PREF*
JMA Felt II J1 at OFF N NIIGATA PREF .
*NIED **10** 08:22:24.9,38.63N×139.43E,h11km,MW3.3,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.36; $M_{\theta\theta}$0.54; $M_{\phi\phi}$-0.90; $M_{r\theta}$0.37; $M_{\theta\phi}$0.41; $M_{r\theta}$0.58; Fault plane solution: $M_0$1.12000×10^{14} NP1: ϕ_s125.00000°,δ48.00000°,λ18.00000°. NP2:ϕ_s23.00000°, δ77.00000°,λ136.00000°.*
*IDC **10** 08:22:26.0±1.9,38.53N×139.20E,h0km,mb3.2/1, mbtmp3.3/3,ML2.7/2 Error ellipse: s-maj=36.4km s-min=17.2km az=114.0*

ISC 10 08:22:24.6±1.0,38.64N±0.04×139.45E±0.04,h14km±7km, n12,σ0°87/17,6D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYA	**Atsumi**	**0.22**	**103**	⇓P	**Pg**	**08 22 29.6**	**+0.1**
JYA				⇓S	**Sg**	**08 22 33.3**	**+0.5**
JAW	**Awa shima**	**0.24**	**219**	⇓P	**Pg**	**08 22 29.4**	**-0.5**
JAW				⇓S	**Sg**	**08 22 33.1**	**-0.4**
JYYZ	**Yamagatayuza**	**0.53**	**45**	⇓P	**Pn**	**08 22 36.4**	**-1.3**
JTB	**Tobi-shima**	**0.56**	**9**	P	**Pb**	**08 22 35.9**	**-0.3**
JTB				S	**Sb**	**08 22 43.7**	**-0.3**
JYS	**Shirataka**	**0.65**	**131**	*i* P	**Pg**	**08 22 37.0**	**-0.3**
JYS				S	**Sg**	**08 22 45.9**	**+0.1**
JYK	**Kaneyama**	**0.77**	**69**	⇓*i* P	**Pb**	**08 22 39.5**	**-0.2**
JNS	**Sasagawa**	**0.83**	**187**	P	**Pb**	**08 22 40.2**	**-0.6**
JNS				S	**Sb**	**08 22 50.9**	**-0.9**
JOU	**Okura**	**1.00**	**106**	*i* P	**Pb**	**08 22 43.5**	**-0.1**
JOU				S	**Sb**	**08 22 56.8**	**+0.2**
JSD	**Sado**	**1.11**	**237**	S	**Sn**	**08 22 59.8**	**-1.0**
MJAR	**Matsushiro Arr**	**2.32**	**205**	Pn	**Pn**	**08 23 02.8**	**+0.5**
	0.8nm,0.3s,baz=20,slow=15,SNR=23						
MJAR				Lg	Lg	08 23 33.7	
	0.5nm,0.3s,baz=17,slow=28,SNR=6.1						
	6.9nm,0.3s						
KSRS	**Korea Array**	**9.17**	**266**	Pn	**Pn**	**08 24 38.5**	**+2.2**
	0.3nm,0.3s,baz=77,slow=14,SNR=3.0						
	1.8nm,0.7s						
ILAR	**Eielson Array**	**48.98**	**33**	P	P	08 31 15.1	+4.9
	0.2nm,0.6s,baz=273,slow=5.0,SNR=4.9						
	0.2nm,0.6s						

*AEIC **10** 08:30:01.2±2.7,52.73N±0.04×168.18W±0.07,h26km±7km, Error ellipse: s-maj=7.3km s-min=5.5km az=134.0*

NEIC 10 08:30:03.0±2.0,52.79N±0.05×168.27W±0.07, h31km±11km,ML3.3/14,ML2.7(AEIC),Error ellipse: s-maj=7.2km s-min=6.2km az=153.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.40**	**297**		Pb	08 30 10.9	-1.1
NIKH	**Nikolski High**	**0.40**	**297**		**Sb**	08 30 17.9	-0.2
OKSP	**Okmok Steeple**	**0.46**	**358**		Pb	08 30 12.4	-0.6
OKCE	**Okmok Cone E**	**0.64**	**6**		Pb	08 30 15.1	-0.8
OKCE					Sn	08 30 25.2	+0.1
OKCE					Sb	08 30 25.4	+0.8
OKNC	**Okmok New Cone**	**0.67**	**7**		Pb	08 30 15.8	-0.6
OKNC					Sn	08 30 26.0	+0.1
OKNC					Sb	08 30 26.4	+0.9
MAPS	**Pakushin South**	**1.29**	**37**		Pn	08 30 23.3	-1.7
MAPS					Sn	08 30 40.9	-0.3
MGOD	**Makushin Gods**	**1.31**	**39**		Pn	08 30 23.2	-2.0
MGOD					Sn	08 30 42.0	+0.3
MREP	**Makushin Rep't**	**1.37**	**41**		Pn	08 30 24.2	-1.8
MREP					Sn	08 30 42.6	-0.6
UNV	**Unalaska Valle**	**1.50**	**44**		Pn	08 30 25.9	-1.8
UNV	**Unalaska Valle**	**1.50**	**44**	IAML		08 30 51.8	
	comp=E,240nm,0.4s						
UNV				IAML		08 31 20.9	
	comp=N,220nm,0.6s						
MTBL	**Makushin Table**	**1.52**	**38**		Pn	08 30 26.9	-1.2
MTBL					Sn	08 30 47.5	+0.6
AKMO	**Akutan Morgan**	**1.88**	**45**		Pn	08 30 32.3	-0.7
AKRB	**Akutan Reef Bi**	**1.88**	**44**		Pn	08 30 32.4	-0.6
AKRB					Pb	08 30 33.3	-3.4
LVA	**Lava Point**	**1.92**	**43**		Pn	08 30 33.6	+0.1
AKGG	**Akutan Green G**	**1.96**	**43**		Pn	08 30 34.2	+0.1
AKUT	**Akutan**	**2.01**	**47**		Pn	08 30 34.8	0.0
AKUT				IAML		08 31 50.9	
	comp=E,238nm,0.6s						
AKUT				IAML		08 31 52.9	
	comp=N,279nm,0.8s						
WECS	**Westdahl Cape**	**2.71**	**49**		Pn	08 30 44.8	+0.3
WEBT	**Westdahl Beart**	**2.76**	**48**		Pn	08 30 44.2	-0.9
WEBT					Pb	08 30 45.7	-5.9
WESE	**West Dahl East**	**2.77**	**51**		Pn	08 30 45.7	+0.5
ISLZ	**Isanotski Laza**	**3.33**	**53**		Pn	08 30 52.9	-0.1
ISNN	**Isanotski Nort**	**3.36**	**51**		Pn	08 30 53.5	+0.1
ATKA	**Atka Island**	**3.67**	**263**		Pn	08 30 57.5	-0.1
P08K	**Saint George I**	**3.89**	**350**	Pn	Pn	08 31 02.2	+1.7
P08K				IAML		08 32 56.2	
	comp=E,58nm,1.0s						
S12K	**Black Hills**	**4.67**	**49**	Pn	Pn	08 31 11.6	+0.3
KIWB	**Kanaga Island**	**5.53**	**264**	Pn	Pn	08 31 22.4	-0.8
CNBA	**Chernabura Isl**	**5.53**	**65**	Pn	Pn	08 31 22.5	-0.6
CHGN	**Chignik**	**6.72**	**55**	Pn	Pn	08 31 40.0	+0.5
O14K	**Tigyukauivet M**	**7.57**	**28**	Pn	Pn	08 31 52.4	+1.3
AMKA	**Amchitka**	**7.79**	**264**	Pn	Pn	08 31 53.1	-1.0
O15K	**Ungalikthiuk R**	**7.96**	**33**	Pn	Pn	08 31 57.9	+1.5
CHIR	**Chirikof Islan**	**8.00**	**63**	Pn	Pn	08 31 56.8	-0.1
M14K	**Bethel**	**8.70**	**21**	Pn	Pn	08 32 08.2	+1.7
O16K	**Kokwok River B**	**8.86**	**36**	Pn	Pn	08 32 10.9	+2.1
OHAK	**Old Harbor**	**9.68**	**57**	Pn	Pn	08 32 18.6	-1.4
KDAK	**Kodiak Island**	**10.24**	**55**	Pn	Pn	08 32 26.1	-1.5
SYI	**Shuyak Island**	**10.68**	**51**	Pn	Pn	08 32 33.7	+0.1

*IDC **10** 08:30:44.9±1.0,52.78N×168.55W,h0km,mb3.6/8, mbtmp3.6/9,ML3.3/1,MS3.2/5,Error ellipse: s-maj=28.9km s-min=18.7km az=147.0*
*AEIC **10** 08:30:51.4±3.0,52.78N±0.05×168.19W±0.08,h22km±7km, Error ellipse: s-maj=7.8km s-min=6.5km az=149.0*
*NEIC **10** 08:30:52.3±2.8,52.76N±0.05×168.20W±0.08, h26km±10km,mb3.8/66,ML4.0/22,ML3.8(AEIC),Error ellipse: s-maj=8.3km s-min=6.2km az=138.0*

ISC 10 08:30:51.4±1.3,52.73N±0.09×168.24W±0.06, h43km±13km,n132,σ1°74/99,mb3.8/8,MS3.1/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.45**	**303**		**Pn**	**08 31 00.1**	**-1.5**
NIKH					**Sn**	**08 31 07.7**	**-1.0**
NIKH	**Nikolski High**	**0.45**	**303**	IAML		08 31 09.2	
	comp=E,4μm,0.5s						

K13K	**Kusilvak Mount**	**9.42**	**10**			**Pn**	**08 33 06.4**	**+2.0**
M16K	**Timber Creek**	**9.73**	**28**			**Pn**	**08 33 11.9**	**+3.4**
N17K	**Nushagak Hills**	**9.89**	**33**			**Pn**	**08 33 13.3**	**+2.5**
O18K	**Koktuh Hills**	**10.15**	**40**			**Pn**	**08 33 17.3**	**+2.9**
L16K	**Owhat River**	**10.16**	**24**			**Pn**	**08 33 17.2**	**+2.6**
KDAK	**Kodiak Island**	**10.26**	**54**	Pn		**Pn**	**08 33 15.9**	**+0.2**
KDAK	**Kodiak Island**	**10.26**	**54**	Pn		**Pn**	**08 33 15.8**	**0.0**
	comp=E,0.9nm,0.3s,baz=246,slow=6.5,SNR=13							
J14K	**Nanvaranak Lak**	**10.35**	**12**			**Pn**	**08 33 19.2**	**+2.2**
N18K	**Kilae Creek**	**10.45**	**35**			**Pn**	**08 33 19.0**	**+0.6**
M17K	**Holitna River**	**10.47**	**30**			**Pn**	**08 33 20.8**	**+2.0**
N19K	**Bonanza Creek**	**11.04**	**37**			**Pn**	**08 33 29.5**	**+2.9**
K17K	**Iditarod**	**11.31**	**24**			**Pn**	**08 33 32.0**	**+1.8**
J16K	**Anvik River**	**11.32**	**18**			**Pn**	**08 33 31.9**	**+1.6**
L18K	**Granite Mounta**	**11.34**	**28**			**Pn**	**08 33 33.0**	**+2.5**
M19K	**Big River Lodg**	**11.82**	**34**			**Pn**	**08 33 38.4**	**+1.2**
L19K	**White Mountain**	**11.87**	**32**			**Pn**	**08 33 39.6**	**+1.8**
CAST	**Castle Rocks**	**13.65**	**32**			**Pn**	**08 34 03.6**	**+1.5**
SCM	**Sheep Creek Mo**	**14.46**	**43**			**Pn**	**08 34 12.7**	**-0.4**
BPAW	**Bear Paw Mtn.**	**14.47**	**31**			**Pn**	**08 34 15.5**	**+2.2**
F19K	**Shaleruckik Mo**	**15.05**	**16**	IAmb		IAmb	08 34 26.5	
	comp=Z,5.9nm,1.2s							
DHY	**Denali Highway**	**15.09**	**39**	IAmb		IAmb	08 34 33.3	
	comp=Z,2.9nm,0.8s							
H21K	**Melozitna Rive**	**15.11**	**25**	IAmb		IAmb	08 34 30.1	
	comp=Z,3.4nm,0.8s							
HMT	**Hamilton**	**15.19**	**50**			**Pn**	**08 34 24.5**	**+1.7**
NEA2	**Nenana**	**15.42**	**32**	IAmb		IAmb	08 34 43.3	
	comp=Z,6.6nm,1.4s							
F20K	**Avaraart Lake**	**15.62**	**18**	IAmb		IAmb	08 34 42.6	
	comp=Z,5.8nm,1.3s							
I23K	**Minto, Yukon-K**	**15.71**	**30**	IAmb		IAmb	08 34 36.5	
	comp=Z,6.7nm,0.9s							
E19K	**Redstone River**	**15.71**	**16**	IAmb		IAmb	08 34 39.4	
	comp=Z,4.4nm,0.9s							
PAX	**Paxson**	**15.77**	**41**			**Pn**	**08 34 31.9**	**+1.6**
H23K	**Yukon River**	**16.13**	**28**	IAmb		IAmb	08 34 41.5	
	comp=Z,8.0nm,1.1s							
F21K	**Alatna River**	**16.22**	**21**	IAmb		IAmb	08 34 41.8	
	comp=Z,4.8nm,1.0s							
ILAR	**Eielson Array**	**16.26**	**34**	Pn		**Pn**	**08 34 34.5**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=229,slow=11,SNR=9.2							
ILAR				Sn		**Sn**	**08 37 28.8**	**-6.8**
	comp=Z,0.1nm,0.3s,baz=237,slow=28,SNR=3.9							
ILAR				LR		LR	08 41 32.4	
	comp=Z,82nm,18.4s,baz=218,slow=40							
	comp=Z,0.5nm,0.6s							
M26K	**Nabesna, AK**	**16.53**	**44**	IAmb		IAmb	08 34 51.2	
	comp=Z,6.5nm,1.1s							
H24K	**Noodor Dome**	**16.63**	**30**	IAmb		IAmb	08 34 46.1	
	comp=Z,3.4nm,0.7s							
L26K	**Log Cabin Wild**	**16.65**	**42**	IAmb		IAmb	08 34 47.5	
	comp=Z,6.3nm,0.6s							
J25K	**Salcha River,**	**16.69**	**36**	IAmb		IAmb	08 34 45.9	
	comp=Z,7.8nm,0.8s							
CTGM	**Chitina Glacie**	**16.76**	**50**	IAmb		IAmb	08 34 49.3	
	comp=Z,8.8nm,0.7s							
LOGN	**Logan Glacier**	**16.87**	**51**	IAmb		IAmb	08 34 49.4	
	comp=Z,8.6nm,0.9s							
M27K	**Edge Creek, AK**	**16.99**	**45**	IAmb		IAmb	08 34 52.0	
	comp=Z,9.5nm,1.1s							
O28M	**Mount Upton**	**17.24**	**51**	IAmb		IAmb	08 34 56.8	
	comp=Z,6.8nm,0.7s							
J26L	**Joseph Creek**	**17.29**	**37**	IAmb		IAmb	08 34 55.0	
	comp=Z,7.6nm,0.7s							
G24K	**Hadweenzic Riv**	**17.34**	**28**	IAmb		IAmb	08 34 56.7	
	comp=Z,8.0nm,1.2s							
O29M	**Mount Kennedy**	**17.91**	**53**	IAmb		IAmb	08 35 05.3	
	comp=Z,6.7nm,0.8s							
F25K	**Christian Rive**	**18.48**	**28**	IAmb		IAmb	08 35 09.3	
	comp=Z,4.2nm,0.8s							
M29M	**Somme Creek**	**18.51**	**47**	IAmb		IAmb	08 35 12.5	
	comp=Z,7.0nm,0.8s							
E25K	**Arctic Village**	**18.86**	**27**	IAmb		IAmb	08 35 13.3	
	comp=Z,3.6nm,0.8s							
N30M	**Aishikik Lake**	**18.87**	**50**	IAmb		IAmb	08 35 17.7	
	comp=Z,5.2nm,0.7s							
L29M	**L29M**	**18.87**	**45**	IAmb		IAmb	08 35 21.1	
	comp=Z,5.1nm,0.9s							
I28M	**Miner Creek**	**19.10**	**37**	IAmb		IAmb	08 35 16.8	
	comp=Z,5.0nm,0.9s							
M30M	**Minto, Yukon**	**19.29**	**47**	IAmb		IAmb	08 35 18.2	
	comp=Z,3.9nm,1.0s							
K29M	**Barlow Dome**	**19.38**	**43**	IAmb		IAmb	08 35 26.3	
	comp=Z,4.2nm,0.8s							
S32K	**Killisnoo**	**19.70**	**63**	IAmb		IAmb	08 35 23.7	
J30M	**Hart River**	**20.13**	**42**			**P**	**08 35 22.3**	**+0.8**
F28M	**Old Crow**	**20.24**	**32**			**P**	**08 35 23.9**	**+1.3**
F28M				IAmb		IAmb	08 35 27.7	
	comp=Z,3.0nm,0.8s							
M31M	**Drury Creek, Y**	**20.28**	**49**	IAmb		IAmb	08 35 32.2	
	comp=Z,4.8nm,0.8s							
I30M	**Mount Dempster**	**20.35**	**40**			**P**	**08 35 23.0**	**-0.9**
I30M				IAmb		IAmb	08 35 30.8	
	comp=Z,2.5nm,0.8s							
PETK	**Petropavlovsk-**	**20.43**	**285**	P		**P**	**08 35 23.0**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=68,slow=12,SNR=2.0							
PETK				LR		LR	08 42 08.5	
	comp=Z,41nm,21.3s,baz=82,slow=34							
	comp=Z,1.1nm,0.6s							
P33M	**Teslin, Yukon**	**20.73**	**55**			Pn	08 35 30.4	-0.3
P33M				IAmb		IAmb	08 35 39.4	
	comp=Z,5.6nm,0.8s							
E29M	**Blow River**	**21.28**	**31**	P		**P**	**08 35 33.9**	**+0.1**
E29M				IAmb		IAmb	08 35 38.0	
	comp=Z,3.6nm,0.8s							
MMPY	**Sheldon Lake,**	**21.79**	**49**			**P**	**08 35 41.1**	**+1.8**
G31M	**Satah River**	**21.82**	**36**			**P**	**08 35 40.5**	**+1.1**
INK	**Inuvik**	**22.66**	**33**	LR		LR	08 44 30.0	
	comp=Z,47nm,20.8s,baz=258,slow=36							
YKA	**Yellowknife Ar**	**29.48**	**49**	P		**P**	**08 36 51.0**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=275,slow=12,SNR=5.3							
	comp=Z,0.4nm,0.8s							
NVAR	**Mina Array Bea**	**36.98**	**92**	P		**P**	**08 37 58.7**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=332,slow=9.8,SNR=1.9							
	comp=Z,0.2nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**38.17**	**220**	T		T	09 19 03.6	
	baz=24,slow=76,SNR=129							
H11N3	**WAKE ISLAND Hy**	**38.18**	**220**	T		T	09 19 08.4	
	baz=24,slow=76,SNR=173							
H11N1	**WAKE ISLAND Hy**	**38.19**	**220**	T		T	09 19 09.2	
	baz=24,slow=76,SNR=142							
H11S1	**WAKE ISLAND Hy**	**39.36**	**219**	T		T	09 20 13.6	
	baz=23,slow=76,SNR=180							
H11S2	**WAKE ISLAND Hy**	**39.37**	**219**	T		T	09 20 14.7	
	baz=23,slow=76,SNR=176							
H11S3	**WAKE ISLAND Hy**	**39.38**	**219**	T		T	09 20 18.0	
	baz=23,slow=76,SNR=127							
PDAR	**Pinedale Array**	**39.66**	**80**	P		**P**	**08 38 20.3**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=293,slow=6.2,SNR=4.7							
	comp=Z,0.4nm,0.8s							
TXAR	**Lajitas Array**	**52.05**	**90**	P		**P**	**08 39 57.2**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=303,slow=5.9,SNR=17							
	comp=Z,1.0nm,0.6s							
ARCES	**ARCESS Array B**	**57.63**	**354**	LR		LR	09 07 42.1	
	comp=Z,24nm,18.2s,baz=107,slow=38							
HFS	**Hagfors**	**67.47**	**359**	P		**P**	**08 41 40.9**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=25,slow=7.2,SNR=4.2							
	comp=Z,0.4nm,0.3s							
GNI	**Garni**	**83.17**	**335**	LR		LR	09 24 19.7	
	comp=Z,22nm,20.0s,baz=134,slow=39							
WRA	**Warramunga Arr**	**87.77**	**233**	P		**P**	**08 43 34.5**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=26,slow=4.7,SNR=1.5							
	comp=Z,0.2nm,0.3s							
ASAR	**Alice Springs**	**91.16**	**231**	P		**P**	**08 43 50.8**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=22,slow=4.4,SNR=5.5							
	comp=Z,0.5nm,0.8s							

*KRNET **10** 08:37:12.9±0.1, 42.92N×79.63E, h24km, mb2.5*
*SOME **10** 08:37:12.7, 43.12N×79.43E, h10km*
ISC 10 08:37:13.8±1.2, 43.00N±0.06×79.64E±0.05, h25km±9km, n15, σ1.955/27, 8C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.21**	**320**	*eP*			**Pb**	**08 37 19.4**	**-0.2**
	43nm,0.1s								
SHLS				*eS*			**Sb**	**08 37 24.4**	**+0.8**
	126nm,0.1s								
KTMS	**Ketmen**	**0.69**	**49**	*eP*			**Pb**	**08 37 26.1**	**-1.1**
	1.0nm,0.1s								
KTMS				*eS*			**Sb**	**08 37 35.8**	**-0.6**
	11nm,0.2s								
PRZ	**Przheval'sk**	**1.05**	**241**	⇑*eP*			**Pn**	**08 37 31.5**	**-1.6**
PRZ				⇑*eS*			**Sn**	**08 37 45.2**	**-1.9**
ARXS	**Arharly**	**1.79**	**313**	*eP*			**Pn**	**08 37 42.6**	**-0.6**
ARXS				*eS*			**Sn**	**08 38 04.3**	**-1.0**
TARG	**Taragay, Kyrgy**	**1.86**	**228**	⇓*iP*			**Pn**	**08 37 45.7**	**+1.2**
TARG				⇓*iS*			**Sb**	**08 38 09.5**	**-0.8**
KOTS	**Kotyrbulak**	**1.87**	**278**	*eP*			**Pn**	**08 37 44.7**	**+0.3**
	2.1nm,0.2s								
KOTS				*eS*			**Sn**	**08 38 07.5**	**+0.2**
	19nm,0.2s								
TNSS	**Tian-Shan**	**1.98**	**272**	*eP*			**Pn**	**08 37 46.4**	**+0.3**
	0.1nm,0.0s								
TNSS				*eS*			**Sn**	**08 38 11.2**	**+0.9**
	2.3nm,0.3s								
KDJ	**Kajisay**	**2.02**	**245**	⇑*iP*			**Pn**	**08 37 47.9**	**+1.5**
KDJ				⇑*iS*			**Sb**	**08 38 13.4**	**-1.1**
IZV	**Izvestkoviy**	**2.22**	**272**	*eP*			**Pb**	**08 37 52.1**	**-1.3**
	2.0nm,0.1s								
IZV				*eS*			**Sb**	**08 38 20.2**	**-0.3**
	5.3nm,0.1s								
ULHL	**Ulahol**	**2.62**	**255**	⇓*iP*			**Pn**	**08 37 56.7**	**+2.0**
ULHL				⇓*iS*			**Sn**	**08 38 28.5**	**+2.6**
KST	**Kastek**	**2.70**	**272**	*eP*			**Pb**	**08 37 59.6**	**-1.8**
	0.7nm,0.2s								
KST				*eS*			**Sb**	**08 38 33.2**	**-1.0**
	3.2nm,0.3s								
BOOM	**Boomskoye usch**	**2.77**	**261**	⇑*iP*			**Pn**	**08 37 58.9**	**+2.1**
BOOM				⇑*iS*			**Sn**	**08 38 32.2**	**+2.6**
TKM2	**Tokmak 2**	**2.97**	**270**	⇑*iP*			Pn	08 38 01.7	+2.1
TKM2				⇑*iS*			**Sn**	**08 38 37.2**	**+2.7**
MAKZ	**Makanchi**	**4.16**	**23**	Pg			**Pn**	**08 38 17.5**	**+1.8**
	0.7nm,0.6s								
MAKZ				Lg			Lg	08 39 37.7	
	2.5nm,0.8s								
MK31	**Makanchi Array**	**4.24**	**25**	⇓Pg			**Pn**	**08 38 16.7**	**-0.1**
	0.2nm,0.4s,baz=174,slow=16,SNR=4.9								
MK31				⇓Lg			Lg	08 39 40.5	
	3.2nm,0.6s,baz=175,slow=29,SNR=4.9								

*ASRS **10** 08:45:04.0±1.4, 53.62N×87.96E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 10 08:45:06.4±3.5, 53.60N×87.85E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=34.2km s-min=19.2km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**282**	I		I	I	08 56 51.9	
	0.1nm,1.4s,baz=98,slow=321,SNR=16								
ZALV	**Zalesovo Beam**	**1.83**	**282**	Pn			Pn	08 45 39.3	+0.2
	1.2nm,0.3s,baz=100,slow=15,SNR=9.6								
ZALV				Lg			Lg	08 46 04.7	
	1.2nm,0.3s,baz=104,slow=24,SNR=8.0								
KURBB	**Kurchatov Arra**	**6.46**	**246**	Pn			Pn	08 46 42.8	+0.1
	0.1nm,0.3s,baz=62,slow=14,SNR=6.1								
	0.7nm,0.4s								
MKAR	**Makanchi Array**	**7.68**	**210**	Pn			Pn	08 47 01.1	+1.6
	0.1nm,0.3s,baz=28,slow=13,SNR=1.6								
	0.2nm,0.4s								

*ASRS **10** 08:55:13.0±0.7, 54.17N×87.12E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 10 08:55:15.0±3.5, 54.26N×87.38E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=29.4km s-min=20.9km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.54**	**260**	I		I	I	09 04 30.0	
	baz=80,slow=315,SNR=3.8								
ZALV	**Zalesovo Beam**	**1.54**	**259**	Pg			Pn	08 55 41.5	-2.2
	1.8nm,0.3s,baz=79,slow=16,SNR=12								
ZALV				Lg			Lg	08 56 04.8	
	1.6nm,0.3s,baz=79,slow=31,SNR=4.0								
KURBB	**Kurchatov Arra**	**6.52**	**240**	Pn			Pn	08 56 52.3	+0.2
	0.1nm,0.3s,baz=53,slow=13,SNR=4.1								
KURBB				Lg			Lg	08 58 42.4	
	baz=48,slow=30,SNR=4.1								
	0.4nm,0.4s								
MKAR	**Makanchi Array**	**8.14**	**206**	Pn			Pn	08 57 16.4	+2.0
	0.1nm,0.3s,baz=15,slow=12,SNR=2.2								
MKAR				Lg			Lg	08 59 33.4	
	0.1nm,0.3s,baz=28,slow=28,SNR=3.5								
	0.1nm,0.4s								

*ASRS **10** 09:16:08.0±1.3, 53.68N×86.81E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 10 09:16:11.0±2.8, 53.71N×86.88E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=26.9km s-min=15.2km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**282**	I		I	I	09 23 00.0	
	baz=100,slow=320,SNR=2.1								
ZALV	**Zalesovo Beam**	**1.25**	**282**	Pg			Pg	09 16 34.0	-0.8
	1.0nm,0.3s,baz=101,slow=16,SNR=6.8								
ZALV				Lg			Lg	09 16 51.5	
	1.2nm,0.3s,baz=102,slow=32,SNR=8.9								
KURBB	**Kurchatov Arra**	**6.00**	**242**	Pn			Pn	09 17 42.0	+1.1
	0.1nm,0.3s,baz=57,slow=13,SNR=3.8								
	0.3nm,0.3s								
MKAR	**Makanchi Array**	**7.52**	**205**	Pn			Pn	09 18 02.9	+1.1
	0.1nm,0.3s,baz=26,slow=14,SNR=7.1								
	0.2nm,0.3s								

*NEIC **10** 09:21:17.6±1.2, 35.797N±0.005×117.608W±0.009, h6km±3km, Error ellipse: s-maj=1.3km s-min=0.2km az=128.0*
PAS 10 09:21:18.1±1.2, 35.792N±0.008×117.62W±0.01, h7km±4km, ML3.0/18, ML2.6/72(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=54.0, Central California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.03**	**32**			Pg	Pg	09 21 19.6	+0.1
CLC						IAML		09 21 21.1	
	comp=E,10μm,0.2s								
TOW	**Tower One**	**0.12**	**278**				Pg	09 21 21.3	+0.5
SRTC	**Snort**	**0.15**	**227**				Pg	09 21 21.6	+0.4
SRTC							Sg	09 21 23.9	+0.6
WVPM	**Volcano Peak E**	**0.23**	**314**				Pg	09 21 22.7	0.0
WVPM							Sg	09 21 26.4	+0.7
WNMM	**Nine Mile Cany**	**0.24**	**282**				Pg	09 21 22.9	+0.1
JRC2	**Joshua Ridge**	**0.25**	**321**				Pg	09 21 23.1	+0.1
WCSM	**Coso Springs S**	**0.26**	**332**				Pg	09 21 23.1	-0.3
MPMC	**Manual Prospec**	**0.28**	**21**				Pg	09 21 23.6	-0.2
MPMC						IAML		09 21 29.7	
	comp=N,460nm,0.5s								
MPMC						IAML		09 21 30.2	
	comp=E,425nm,0.6s								
WRVM	**Rose V. Centra**	**0.31**	**314**				Pg	09 21 24.1	-0.1
WRVM							Sg	09 21 29.0	+0.6
LRMC	**Laurel Mtn Rad**	**0.32**	**190**				Pg	09 21 24.1	-0.3
LRMC						IAML		09 21 29.6	
	comp=N,1μm,0.2s								
LRMC						IAML		09 21 29.6	
	comp=E,1μm,0.2s								
CCCA	**Chr Cany lake**	**0.34**	**142**				Pg	09 21 24.9	+0.2
CCCA							Sg	09 21 30.1	+0.9
MFS	**McCloud Flat S**	**0.38**	**329**				Pg	09 21 24.7	-0.9
MFS							Sg	09 21 31.0	+0.4
WBSM	**Bird Springs**	**0.50**	**239**				Pg	09 21 27.4	-0.4
WBSM							Sg	09 21 34.2	0.0
DTP	**Desert Tortois**	**0.56**	**200**				Pg	09 21 28.0	-0.8
QSM	**Queen of Sheba**	**0.63**	**74**				Pg	09 21 29.7	-0.6
QSM							Sg	09 21 38.2	-0.3
QSM						IAML		09 21 39.6	
	comp=E,470nm,0.2s								
QSM						IAML		09 21 42.7	
	comp=N,430nm,0.2s								
ISA	**Isabella, Lake**	**0.71**	**260**				Pg	09 21 31.4	-0.4
ISA						IAML		09 21 41.2	
	comp=N,301nm,0.3s								
ISA						IAML		09 21 43.3	
	comp=E,249nm,0.3s								
CCAC	**Calif City Air**	**0.72**	**207**				Pg	09 21 31.4	-0.5
CCAC							Sg	09 21 41.3	+0.1
CWC	**Cottonwood Cre**	**0.75**	**330**				Pg	09 21 32.5	-0.1
CWC						IAML		09 21 45.8	
	comp=E,173nm,0.2s								
CWC						IAML		09 21 46.2	
	comp=N,228nm,0.2s								
CGO	**Cerro Gordo**	**0.77**	**349**				Pg	09 21 32.7	-0.4
GSC	**Goldstone, Bar**	**0.82**	**126**				Pg	09 21 33.2	-0.7
GSC						IAML		09 21 44.6	
	comp=N,278nm,0.5s								
GSC	**Goldstone, Bar**	**0.82**	**126**				Sg	09 21 44.5	-0.1
GWY	**Greenwater Val**	**0.86**	**63**				Pg	09 21 34.3	-0.4
GWY							Sg	09 21 45.5	-0.4
GWY						IAML		09 21 48.4	
	comp=N,362nm,0.4s								
GWY						IAML		09 21 50.0	
	comp=E,400nm,0.4s								
FURC	**Furnace Creek,**	**0.91**	**42**				Sb	09 21 48.0	-0.5
HYS	**Haystack Butte**	**0.93**	**178**				Pg	09 21 34.9	-1.0
EDW2	**Edwards Air Fo**	**0.96**	**199**				Pg	09 21 35.5	-1.0
SPG2	**Springville 2**	**1.02**	**294**				Pg	09 21 36.6	-1.0
SPG2							Sg	09 21 50.5	-0.4
TPO	**Tropico Hills**	**1.04**	**209**				Pg	09 21 37.2	-0.8
TPO						IAML		09 21 54.1	
	comp=E,195nm,0.8s								
TPO						IAML		09 21 57.9	
	comp=N,216nm,0.5s								
RRX	**Edison Barstow**	**1.04**	**151**				Pg	09 21 38.3	+0.1
SHOC	**Shoshone, Teco**	**1.09**	**84**				Pg	09 21 38.2	-0.9
SBB	**Saddle Back Bu**	**1.11**	**189**				Pg	09 21 38.3	-1.2
VES	**Vestal, Richgr**	**1.20**	**273**				Pg	09 21 40.2	-0.8
GRAC	**Grapevine Rang**	**1.22**	**9**				Pg	09 21 40.9	-0.6
GRAC						IAML		09 22 01.4	
	comp=N,102nm,0.3s								
GRAC						IAML		09 22 02.8	
	comp=E,96nm,0.3s								
VTV	**Victorville**	**1.25**	**169**				Pb	09 21 41.4	-0.7
VTV							Sb	09 21 58.8	+0.3
AMDNV	**Amargosa**	**1.27**	**58**				Pn	09 21 40.5	-1.7
AMDNV							Sb	09 21 58.4	-0.4
SGV	**South Grapevin**	**1.28**	**21**				Pn	09 21 41.4	-1.2
WCT	**Wildcat Mounta**	**1.28**	**38**				Pn	09 21 42.1	-0.4
WCT						IAML		09 22 00.6	
	comp=N,93nm,0.6s								
WCT						IAML		09 22 00.8	
	comp=E,117nm,0.4s								
LEOC	**Leona Valley**	**1.29**	**206**				Pn	09 21 41.5	-1.2
LRRC	**Littlerock Res**	**1.31**	**195**				Pn	09 21 42.1	-0.7
LRRC							Sn	09 22 00.4	-0.1
HOLC	**Holcomb Ridge**	**1.34**	**188**				Pn	09 21 41.8	-1.6
JNH	**Juniper Hills**	**1.37**	**192**				Pn	09 21 43.7	-0.1
HEC	**Hector,Ludlow**	**1.42**	**132**				Sb	09 22 03.3	0.0
TUQ	**Turquoise Moun**	**1.42**	**104**				Pn	09 21 43.8	-0.8
LCH	**Last Change Ra**	**1.44**	**359**				Pb	09 21 45.2	-0.2
CHFC	**Chilao Flat St**	**1.49**	**193**				Pn	09 21 45.6	0.0
GMN	**Gold Mountain**	**1.53**	**11**				Pn	09 21 45.5	-0.7
GMN						IAML		09 21 54.6	
	comp=N,48nm,0.5s								
BFSC	**Mount Baldy Ra**	**1.55**	**181**				Pn	09 21 45.0	-1.2
BFSC						IAML		09 22 09.2	
	comp=N,47nm,0.3s								
BFSC						IAML		09 22 10.2	
	comp=E,42nm,0.5s								
SSK	**Sunset Peak**	**1.58**	**182**				Pb	09 21 47.9	+0.1
SIL	**Silver Peak**	**1.58**	**156**				Pb	09 21 47.9	+0.1
TPNV	**Topopah Spring**	**1.60**	**43**				Pn	09 21 46.2	-0.7
TPNV						IAML		09 22 13.0	
	comp=E,102nm,0.6s								
TPNV						IAML		09 22 13.4	
	comp=E,92nm,0.5s								
DSP	**Deep Springs**	**1.60**	**350**				Pn	09 21 46.3	-0.6
BHPR	**Bishop**	**1.66**	**335**				Pb	09 21 49.0	-0.2
PASC	**Pasadena Art C**	**1.68**	**196**				Pn	09 21 47.3	-0.7
PSRC	**Puddingstone R**	**1.70**	**185**				Pb	09 21 50.2	+0.5
GMRC	**Granite Mounta**	**1.89**	**122**				Pn	09 21 48.5	-2.4
SHPR	**Sheep Range**	**2.11**	**70**				Pn	09 21 54.3	+0.2
ELS	**Elsinore Mount**	**2.14**	**176**				Pn	09 21 53.3	-1.1
ELS						IAML		09 22 29.2	
	comp=E,18nm,0.4s								
V12A	**Nelson**	**2.25**	**91**				Pn	09 21 54.8	-1.1
TPH	**Tonopah**	**2.30**	**8**				Pn	09 21 56.3	-0.4
TPH						IAML		09 22 37.4	
	comp=E,39nm,0.5s								
TPH						IAML		09 22 38.2	
	comp=N,43nm,0.4s								
LHV	**Little Huntoon**	**2.56**	**344**				Pn	09 21 57.7	-2.3
PMPB	**Monarch Peak**	**2.62**	**280**				Pn	09 21 59.7	-1.2
PMPB						IAML		09 22 54.0	
	comp=E,23nm,0.7s								
PMPB						IAML		09 22 56.7	
	comp=N,23n

DTP					Sg	09 32 24.3	+0.4	
WBSM	**Bird Springs**	**0.54**	**257**		Pg	09 32 18.5	-0.2	
WBSM					Sg	09 32 25.9	+0.3	
MFS	**McCloud Flat S**	**0.54**	**327**		Pg	09 32 18.6	-0.1	
QSM	**Queen of Sheba**	**0.59**	**59**		Pg	09 32 19.6	-0.1	
QSM				IAML		09 32 28.2		
	comp=N,1μm,0.6s							
WORM	**Onyx Ranch**	**0.61**	**273**		Pg	09 32 19.8	-0.2	
WORM					Sg	09 32 28.2	+0.4	
CCAC	**Calif City Air**	**0.66**	**220**		Pg	09 32 20.8	-0.2	
CCAC					Sg	09 32 30.2	+0.6	
GSC	**Goldstone, Bar**	**0.67**	**122**	Pg	Pg	09 32 21.0	-0.1	
GSC				IAML		09 32 33.6		
	comp=E,494nm,0.5s							
GSC				IAML		09 32 34.3		
	comp=N,478nm,0.4s							
WHFM	**Hanning Flat**	**0.69**	**273**		Pg	09 32 21.3	-0.3	
WHFM					Sg	09 32 30.7	0.0	
ISA	**Isabella, Lake**	**0.80**	**270**		Pg	09 32 23.2	-0.4	
ISA				IAML		09 32 34.4		
	comp=N,334nm,0.3s							
ISA				IAML		09 32 34.6		
	comp=E,483nm,0.4s							
HYS	**Haystack Butte**	**0.80**	**184**		Pg	09 32 23.1	-0.6	
GWY	**Greenwater Val**	**0.85**	**52**	Pg	Pg	09 32 24.3	-0.3	
GWY				IAML		09 32 38.2		
	comp=N,511nm,0.6s							
GWY				IAML		09 32 41.9		
	comp=E,672nm,0.3s							
WASM	**Alta Sierra Ca**	**0.86**	**275**		Pg	09 32 24.5	-0.4	
WASM					Sg	09 32 36.7	+0.5	
EDW2	**Edwards Air Fo**	**0.88**	**208**		Pg	09 32 24.5	-0.7	
CWC	**Cottonwood Cre**	**0.91**	**329**		Pg	09 32 25.3	-0.4	
CGO	**Cerro Gordo**	**0.92**	**345**		Pg	09 32 25.6	-0.3	
SBB	**Saddle Back Bu**	**1.01**	**195**		Pg	09 32 26.8	-0.8	
SHOC	**Shoshone, Teco**	**1.02**	**76**		Sg	09 32 41.8	+0.6	
TEJ	**El Tejon**	**1.06**	**246**		Pg	09 32 27.8	-0.9	
ADO	**Adelanto Recei**	**1.11**	**177**		Pb	09 32 30.2	0.0	
SPG2	**Springville 2**	**1.16**	**298**		Pg	09 32 29.6	-1.0	
SPG2					Sg	09 32 44.9	-0.7	
ARVC	**Arvin**	**1.21**	**244**		Pg	09 32 31.4	-0.1	
ARVC					Sg	09 32 46.7	-0.5	
LRRC	**Littlerock Res**	**1.22**	**201**		Pg	09 32 30.7	-0.9	
LRRC					Sb	09 32 48.1	+0.2	
LEOC	**Leona Valley**	**1.22**	**213**		Pg	09 32 31.8	0.0	
LEOC					Sb	09 32 48.5	+0.2	
HOLC	**Holcomb Ridge**	**1.24**	**193**		Pg	09 32 30.9	-1.0	
HOLC					Sg	09 32 48.2	+0.2	
CJV	**Casa Juvan**	**1.25**	**205**		Sg	09 32 48.3	-0.1	
AMDNV	**Amargosa**	**1.26**	**51**		Pg	09 32 31.1	-1.4	
JNH	**Juniper Hills**	**1.27**	**197**		Pg	09 32 31.5	-1.2	
VES	**Vestal, Richgr**	**1.30**	**278**		Sg	09 32 50.1	-0.1	
TUQ	**Turquoise Moun**	**1.30**	**100**		Pg	09 32 32.4	-0.9	
WCT	**Wildcat Mounta**	**1.33**	**32**		Pg	09 32 32.5	-1.3	
WCT				IAML		09 32 54.8		
	comp=E,139nm,0.6s							
WCT				IAML		09 32 55.9		
	comp=N,142nm,0.6s							
GRAC	**Grapevine Rang**	**1.33**	**5**		Pn	09 32 33.2	-0.7	
GRAC				IAML		09 32 56.5		
	comp=E,384nm,0.7s							
SGV	**South Grapevin**	**1.37**	**16**		Pn	09 32 33.2	-1.2	
CHFC	**Chilao Flat St**	**1.40**	**198**		Pn	09 32 34.9	0.0	
CHFC					Sg	09 32 53.0	-0.1	
SSK	**Sunset Peak**	**1.46**	**186**		Pn	09 32 35.3	-0.3	
BBRC	**Big Bear Solar**	**1.48**	**161**		Pn	09 32 35.9	-0.1	
MWC	**Mount Wilson**	**1.51**	**198**		Pn	09 32 35.7	-0.7	
MWC				IAML		09 32 58.0		
	comp=E,264nm,0.5s							
MWC				IAML		09 32 59.1		
	comp=N,315nm,0.5s							
LCH	**Last Change Ra**	**1.57**	**356**		Pn	09 32 36.3	-0.9	
PASC	**Pasadena Art C**	**1.59**	**201**		Pn	09 32 36.4	-0.9	
PASC				IAML		09 33 02.0		
	comp=E,150nm,0.8s							
PASC				IAML		09 33 02.4		
	comp=N,105nm,0.9s							
TPNV	**Topopah Spring**	**1.63**	**38**		Pn	09 32 37.1	-1.0	
TPNV				IAML		09 33 06.0		
	comp=N,104nm,0.5s							
TPNV				IAML		09 33 06.2		
	comp=N,126nm,0.8s							
GMN	**Gold Mountain**	**1.65**	**7**		Pn	09 32 37.6	-0.7	
GMN				IAML		09 33 05.2		
	comp=N,102nm,0.6s							
BLCC	**Black Canyon**	**1.71**	**215**		Pn	09 32 37.1	-1.9	
GMRC	**Granite Mounta**	**1.74**	**120**		Pn	09 32 37.2	-2.3	
DSP	**Deep Springs**	**1.75**	**348**		Pn	09 32 38.9	-0.6	
DSP				IAML		09 33 06.3		
	comp=E,75nm,0.4s							
BHPR	**Bishop**	**1.82**	**334**		Pb	09 32 42.2	-0.1	
BLAC	**Blackrock camp**	**1.83**	**150**		Pn	09 32 39.7	-1.1	
TPC	**Twentynine Pal**	**1.96**	**142**		Pn	09 32 41.1	-1.3	
HMTC	**Hemet**	**1.99**	**168**		Pn	09 32 42.1	-0.8	
ELS	**Elsinore Mount**	**2.01**	**178**		Pn	09 32 42.3	-0.9	
ELS				IAML		09 33 14.6		
	comp=E,93nm,0.6s							
ELS				IAML		09 33 20.3		
	comp=N,96nm,0.6s							
POB	**Polly Butte**	**2.03**	**166**		Pn	09 32 42.5	-0.9	
MZP	**Montezuma Peak**	**2.04**	**3**		Pn	09 32 43.0	-0.7	
MZP				IAML		09 33 19.2		
	comp=N,56nm,0.6s							
DGR	**Domenigoni Val**	**2.05**	**169**		Pn	09 32 42.9	-0.8	
SHPR	**Sheep Range**	**2.07**	**65**		Pn	09 32 43.4	-0.7	
V12A	**Nelson**	**2.15**	**88**		Pn	09 32 44.0	-1.2	
CRY	**Cary Ranch**	**2.19**	**163**		Pn	09 32 44.7	-0.9	
PMD	**Palm Desert**	**2.21**	**155**		Pn	09 32 44.5	-1.4	
PMD				IAML		09 33 20.7		
	comp=E,54nm,0.6s							
PFO	**Pinyon Flats O**	**2.22**	**157**		Pn	09 32 44.9	-1.2	
PFO				IAML		09 33 19.8		
	comp=E,49nm,0.8s							
BENR	**Benton**	**2.22**	**337**		Pb	09 32 49.3	0.0	
SNDA	**J Saunders Pla**	**2.23**	**161**		Pn	09 32 45.4	-0.8	
PLM	**Palomar**	**2.36**	**167**		Pn	09 32 47.3	-0.8	
TPH	**Tonopah**	**2.42**	**5**		Pn	09 32 48.4	-0.5	
S11A	**Rachel**	**2.43**	**35**		Pn	09 32 48.4	-0.6	
S11A				IAML		09 33 31.0		
	comp=N,70nm,1.0s							
BORC	**Borrego Spring**	**2.55**	**159**		Pn	09 32 49.8	-0.7	
BORC				IAML		09 33 31.8		
	comp=E,60nm,0.7s							
BORC				IAML		09 33 37.4		
	comp=N,36nm,0.9s							
JUEM	**Julian Eagle M**	**2.68**	**164**		Pn	09 32 52.0	-0.4	
DPP	**Dos Picos Cty**	**2.70**	**170**		Pn	09 32 51.6	-1.0	
DPP				IAML		09 33 35.2		
	comp=E,43nm,0.8s							
LHV	**Little Huntoon**	**2.71**	**343**		Pn	09 32 53.3	+0.7	
LHV				IAML		09 33 41.7		
	comp=N,41nm,0.6s							
LHV				IAML		09 33 41.8		
	comp=E,48nm,0.6s							
PMPB	**Monarch Peak**	**2.74**	**283**		Pn	09 32 52.9	-0.2	
PMPB				IAML		09 33 43.3		
	comp=N,66nm,0.8s							
PMPB				IAML		09 33 58.8		
	comp=E,45nm,0.7s							
NV11	**Mina Array Sit**	**2.81**	**349**		Pn	09 32 54.0	-0.3	
NVAR	**Mina Array Bea**	**2.83**	**347**		Pn	09 32 54.4	-0.2	
RYN	**Ryan**	**3.07**	**345**		Pn	09 32 57.8	-0.1	
R11B	**Troy Canyon, C**	**3.09**	**29**		Pn	09 32 56.9	-1.2	
YUH	**Yuha Desert**	**3.28**	**156**	Pn	Pn	09 32 59.7	-0.8	
CBX	**Cerro Bola**	**3.41**	**168**		Pn	09 33 02.1	-0.4	
GLA	**Glamis**	**3.42**	**139**	Pn	Pn	09 33 00.4	-2.1	
LCMT	**Little Creek M**	**3.69**	**67**		Pn	09 33 07.1	+0.8	
CCUT	**Cedar City**	**3.82**	**59**		Pn	09 33 08.5	+0.3	
ESJX	**Sierra Juarez**	**3.87**	**160**		Pn	09 33 08.2	-0.6	
ESJX				IAML		09 34 16.2		
	comp=E,20nm,1.3s							
ESJX				IAML		09 35 40.9		
	comp=N,18nm,0.4s							
KNB	**Kanab**	**4.01**	**69**		Pn	09 33 10.4	-0.3	
KNB				IAML		09 34 18.1		
	comp=N,10.0nm,1.6s							
KNB				IAML		09 34 31.1		
	comp=E,11nm,2.0s							

*IDC **10** 09:44:23.7±3.5,54°.31N×87°.32E,h0km,mbtmp2.8/2, ML2.4/2,Error ellipse: s-maj=29.6km s-min=20.8km az=42.0*

ASRS 10 09:44:23.0±0.6,54°.25N×87°.06E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**258**	I	I	09 53 10.0	
	baz=75,slow=313,SNR=5.4						
ZALV	**Zalesovo Beam**	**1.35**	**258**	Pg	Pb	09 44 50.5	+1.3
	0.7nm,0.3s,baz=71,slow=16,SNR=6.3						
ZALV				Lg	Lg	09 45 12.1	
	1.5nm,0.3s,baz=79,slow=31,SNR=6.8						
KURBB	**Kurchatov Arra**	**6.36**	**239**	Pn	Pn	09 46 01.4	+3.6
	baz=54,slow=14,SNR=4.0						
KURBB				Lg	Lg	09 47 51.6	
	0.1nm,0.3s,baz=49,slow=31,SNR=1.7 0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.06**	**204**	Pn	Pn	09 46 24.9	+3.6
	0.1nm,0.3s,baz=23,slow=12,SNR=2.8 0.2nm,0.5s						

*IDC **10** 09:54:34.2±0.8,30°.37S×177°.81W,h0km,mb4.1/5, mbtmp4.2/6,ML3.8/1,MS3.4/1,Error ellipse: s-maj=24.8km s-min=17.2km az=98.0*

*NEIC **10** 09:54:39.6±1.3,30°.31S±0°.04×177°.6W±0°.2,h35km±2km, mb4.3/17,Error ellipse: s-maj=29.2km s-min=5.5km az=80.0*

ISC 10 09:54:39.1±0.6,30°.56S±0°.05×177°.9W±0°.1,h35km,n66, σ2s20/78,mb4.2/15,3C,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.29**	**360**	P	**Pn**	**09 54 58.4**	**-2.2**
GLKZ				S	**Sn**	09 55 12.4	-4.3
RAO	**Raoul Island**	**1.30**	**360**		**Pn**	**09 54 58.0**	**-2.7**
RAO	**Raoul Island**	**1.30**	**360**	Pn	**Pn**	**09 54 58.8**	**-1.9**
	161nm,0.3s,baz=61,slow=14,SNR=9.4						
RAO				Sn	**Sn**	**09 55 13.9**	**-3.1**
	613nm,0.3s,baz=43,slow=21,SNR=9.4						
RIZ	**Raoul Island**	**1.31**	**359**	P	**Pn**	**09 54 58.6**	**-2.3**
RIZ				S	**Sn**	09 55 13.4	-3.7
MXZ	**Matakaoa Point**	**7.66**	**203**	P	**Pn**	**09 56 26.5**	**-1.5**
MXZ				S	**Sn**	**09 57 54.5**	**+1.0**
WMGZ	**Waiomatatini S**	**7.85**	**202**	P	**Pn**	**09 56 29.5**	**-1.3**
WMGZ				S	**Sn**	**09 57 59.8**	**+1.4**
PKGZ	**Pakihiroa**	**8.01**	**203**	P	**Pn**	**09 56 32.1**	**-0.8**
PKGZ				S	**Sn**	**09 58 04.4**	**+2.2**
HAZ	**Te Kaha**	**8.02**	**205**	P	**Pn**	**09 56 32.9**	**-0.1**
HAZ				S	**Sn**	**09 58 05.6**	**+3.2**
RUGZ	**Raukumara Rang**	**8.24**	**205**	P	**Pn**	**09 56 35.6**	**-0.5**
RUGZ				S	**Sn**	**09 58 10.6**	**+2.6**
TWGZ	**Tauwhareparae**	**8.32**	**203**	P	**Pn**	**09 56 36.9**	**-0.4**
TWGZ				S	**Sn**	**09 58 11.7**	**+1.7**
WCZ	**Waipu Caves**	**8.41**	**228**	P	Pn	09 56 48.4	+10
OUZ	**Omahuta**	**8.52**	**235**	P	Pn	09 56 48.7	+8.8
CNGZ	**Carnagh Statio**	**8.53**	**201**	P	**Pn**	**09 56 39.5**	**-0.5**
CNGZ				S	**Sn**	**09 58 14.8**	**-0.1**
TKGZ	**Te Karaka**	**8.60**	**203**	P	**Pn**	**09 56 41.2**	**+0.2**
TKGZ				S	**Sn**	**09 58 19.2**	**+2.4**
MWZ	**Matawai**	**8.62**	**205**	P	**Pn**	**09 56 42.4**	**+1.1**
MWZ				S	**Sn**	**09 58 18.3**	**+1.0**
URZ	**Urewera**	**8.71**	**207**	Pn	**Pn**	**09 56 41.1**	**-1.4**
	0.7nm,0.3s,baz=267,slow=4.3,SNR=16						
URZ				Sn	**Sn**	**09 58 20.0**	**+0.6**
	3.0nm,0.3s,baz=30,slow=24,SNR=12						
URZ	**Urewera**	**8.71**	**207**	P	**Pn**	**09 56 41.7**	**-0.8**
URZ				S	**Sn**	**09 58 20.2**	**+0.8**
MUGZ	**Murupara**	**9.03**	**208**	P	**Pn**	**09 56 45.4**	**-1.5**
MUGZ				S	**Sn**	**09 58 27.2**	**-0.2**
MRHZ	**Matea Rd**	**9.48**	**208**	S	**Sn**	**09 58 37.1**	**-1.3**
BKZ	**Black Stump Fm**	**9.74**	**207**	P	**Pn**	**09 56 53.9**	**-2.7**
BKZ				S	**Sn**	**09 58 42.4**	**-2.3**
KWHZ	**Kaweka Forest**	**9.99**	**206**	P	**Pn**	**09 56 58.8**	**-1.3**
KWHZ				S	**Sn**	**09 58 47.3**	**-3.6**
KAHZ	**Kahuranaki**	**10.15**	**203**	P	**Pn**	**09 56 58.6**	**-3.7**
KAHZ				S	**Sn**	**09 58 53.2**	**-1.6**
KRHZ	**Kereru**	**10.20**	**206**	P	**Pn**	**09 57 01.1**	**-1.8**
KRHZ				S	**Sn**	**09 58 52.8**	**-3.2**
PXZ	**Pawanui**	**10.37**	**203**	P	**Pn**	**09 57 02.8**	**-2.4**
PXZ				S	**Sn**	**09 58 54.7**	**-5.4**
PNHZ	**Pukenui**	**10.50**	**206**	P	Pn	09 57 02.8	-4.2
PNHZ				S	**Sn**	**09 58 59.4**	**-4.0**
PRHZ	**Porangahau**	**10.65**	**203**	P	**Pn**	**09 57 06.0**	**-3.2**
PRHZ				S	**Sn**	**09 59 01.9**	**-5.2**
TSZ	**Takapari Road**	**10.71**	**206**	P	**Pn**	**09 57 07.9**	**-2.1**
TSZ				S	Sn	09 59 00.2	-8.4
DZM	**Mont Dzumac**	**16.36**	**297**	P	**P**	**09 58 30.2**	**+1.4**
DZM	**Mont Dzumac**	**16.36**	**297**	LR	LR	10 03 35.5	
	comp=Z,122nm,18.5s,baz=158,slow=33						
RAR	**Rarotonga**	**18.77**	**65**	P	**P**	**09 58 54.0**	**-1.2**
	2.8nm,0.3s,baz=274,slow=17,SNR=3.1 11nm,0.4s						
ARMA	**Armidale**	**26.21**	**262**	P	**P**	**10 00 14.4**	**+3.6**
ARMA				IAmb	IAmb	10 00 23.6	
	comp=Z,5.6nm,1.1s						
EIDS	**Eidsvold**	**27.82**	**273**	P	**P**	**10 00 26.5**	**+1.4**
EIDS				IAmb	IAmb	10 00 30.7	
	comp=Z,9.4nm,1.1s						
CAN	**Canberra**	**28.09**	**251**	P	**P**	**10 00 30.3**	**+2.7**
CAN				IAmb	IAmb	10 00 41.9	
	comp=Z,6.7nm,1.1s						
TOO	**Toolangi**	**30.97**	**247**	P	**P**	**10 00 56.3**	**+3.3**
TOO				IAmb	IAmb	10 01 05.2	
	comp=Z,2.8nm,1.0s						
CTAO	**Charters Tower**	**33.90**	**279**	P	**P**	**10 01 19.8**	**+1.0**
STKA	**Stephens Creek**	**34.52**	**257**	P	**P**	**10 01 26.7**	**+2.7**
	comp=Z,4.0nm,0.5s,baz=99,slow=13,SNR=14 comp=Z,4.0nm,0.5s						
ASAR	**Alice Springs**	**43.18**	**267**	P	**P**	**10 02 39.2**	**+2.5**
ASAR	**Alice Springs**	**43.18**	**267**	P	**P**	**10 02 37.5**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=100,slow=7.6,SNR=13 comp=Z,0.4nm,0.3s						
WR8	**Warramunga Arr**	**44.04**	**272**	P	**P**	**10 02 45.2**	**+1.5**
WR8				IAmb	IAmb	10 02 59.2	
	comp=Z,4.3nm,1.1s						
WRAB	**Tennant Creek**	**44.17**	**272**	P	**P**	**10 02 45.9**	**+1.2**
WRAB				IAmb	IAmb	10 02 46.5	
	comp=Z,6.8nm,1.1s						
WRA	**Warramunga Arr**	**44.18**	**272**	P	**P**	**10 02 45.6**	**+0.8**
WRA	**Warramunga Arr**	**44.18**	**272**	P	**P**	**10 02 45.0**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=110,slow=8.1,SNR=53 comp=Z,1.5nm,0.3s						
WB0	**Warramunga Arr**	**44.20**	**273**	P	**P**	**10 02 46.0**	**+1.0**
WB0				IAmb	IAmb	10 02 59.7	
	comp=Z,5.6nm,1.1s						
FORT	**Forrest**	**46.08**	**255**	P	**P**	**10 03 02.3**	**+2.5**
VNDA	**Vanda**	**47.94**	**186**	P	**P**	**10 03 16.1**	**+2.5**
KNRA	**Kununurra**	**50.79**	**274**	P	**P**	**10 03 37.5**	**+1.3**
KNRA				IAmb	IAmb	10 03 48.2	
	comp=Z,5.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.44**	**270**	P	**P**	**10 03 48.2**	**-0.2**
CASY	**Casey**	**55.03**	**208**	P	**P**	**10 04 07.9**	**+1.2**
QSPA	**South Pole Qui**	**59.55**	**180**	P	**P**	**10 04 41.8**	**+2.9**
QSPA	**South Pole Qui**	**59.55**	**180**	P	**P**	**10 04 41.7**	**+2.9**
	comp=Z,2.1nm,1.0s,baz=46,slow=2.9,SNR=5.2 comp=Z,2.1nm,1.0s						
BELA	**Belgrano 2**	**69.62**	**172**	P	**P**	**10 05 45.4**	**+1.2**
BELA				IAmb	IAmb	10 05 46.3	
	comp=Z,5.6nm,1.4s						
TROLL	**Troll, Antarti**	**77.71**	**180**	⇑P	**P**	**10 06 32.9**	**+0.9**
	comp=Z,66nm,0.7s						
SNAA	**Sanae**	**77.99**	**178**	⇑P	**P**	**10 06 34.4**	**+1.0**
	comp=Z,28nm,0.9s						
SNAA	**Sanae**	**77.99**	**178**	P	**P**	**10 06 35.2**	**+1.7**
	comp=Z,0.8nm,1.0s,baz=189,slow=11,SNR=8.9 comp=Z,0.8nm,1.0s						
VNA2	**Neumayer--Watz**	**78.58**	**177**	⇑P	**P**	**10 06 37.8**	**+1.3**
	comp=Z,1.4nm,0.6s,baz=162,slow=3.8						
H03S2	**Juan Fernandez**	**80.31**	**123**	T	T	11 35 59.2	
	baz=238,slow=74,SNR=6.2						
H03S1	**Juan Fernandez**	**80.32**	**124**	T	T	11 35 59.7	
	baz=238,slow=74,SNR=5.7						
H03S3	**Juan Fernandez**	**80.33**	**123**	T	T	11 35 58.5	
	baz=238,slow=74,SNR=5.4						
H03N3	**Juan Fernandez**	**80.51**	**123**	T	T	11 36 09.2	
	baz=238,SNR=3.6						
H03N2	**Juan Fernandez**	**80.51**	**123**	T	T	11 36 11.3	
	baz=238,SNR=4.5						
H03N1	**Juan Fernandez**	**80.52**	**123**	T	T	11 36 09.8	
	baz=238,SNR=4.3						
KURBB	**Kurchatov Arra**	**121.25**	**314**	PKP	**PKPdf**	**10 13 26.8**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=98,slow=2.3,SNR=7.8						
FINES	**FINESS Array B**	**145.32**	**340**	PKPbc	**PKPdf**	**10 14 11.7**	**-0.7**
	comp=Z,2.9nm,0.3s,baz=50,slow=4.3,SNR=34						
NOA	**NORSAR Array B**	**148.92**	**351**	PKPbc	**PKPbc**	**10 14 22.4**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=14,slow=4.3,SNR=3.8						
HFS	**Hagfors**	**149.42**	**349**	PKPbc	**PKPbc**	**10 14 22.6**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=207,slow=1.7,SNR=4.2						
AKASG	**Malin Array Bg**	**151.47**	**323**	PKPbc	**PKPbc**	**10 14 28.6**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=52,slow=2.4,SNR=7.9						

*CATAC **10** 09:59:27.6±0.7,7°.N±2°.×7°.3W±°,h197km±5km,M3.3/7, MLv3.3/7,Error ellipse: s-maj=8.9km s-min=5.1km az=88.6, confirmed*

*RSNC **10** 09:59:28.4±0.0,7°.N±1°.×7°.3W±°,h192km±1km,M2.7,mb3.1, ML2.6*

ISC 10 09:59:25.7±1.5,6°.69N±0°.03×72°.89W±0°.05,h206km±9km, n38,σ1s32/75,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.31**	**252**	P	**Pn**	**09 59 53.6**	**+0.4**
BARC				S	**Sn**	**10 00 11.9**	**-2.5**
RUSC	**La Rusia**	**0.81**	**194**	P	**Pn**	**09 59 56.2**	**+0.7**
RUSC				S	**Sn**	**10 00 17.6**	**-0.8**
RUSC	**La Rusia**	**0.81**	**194**	P	**Pn**	**09 59 56.2**	**+0.7**
RUSC				S	**Sn**	**10 00 17.6**	**-1.1**
BRJC	**Barrancabermej**	**0.90**	**289**	P	**Pn**	**09 59 56.1**	**+0.7**
BRJC				S	**Sn**	**10 00 18.2**	**-0.2**
TAMC	**Tame, Arauca**	**1.12**	**103**	P	**Pn**	**09 59 58.7**	**+1.8**
TAMC				S	**Sn**	**10 00 21.9**	**+0.9**
PTBC	**PUERTO BERRIO,**	**1.56**	**265**	P	**Pn**	**10 00 00.1**	**-0.4**
PTBC				S	**Sn**	**10 00 25.7**	**-1.8**
OCAC	**Ocana**	**1.60**	**345**	P	**Pn**	**10 00 02.0**	**+1.0**
OCAC				S	**Sn**	**10 00 29.5**	**+1.0**
ZARC	**Zaragoza, Cauc**	**2.11**	**292**	P	**Pn**	**10 00 06.2**	**+0.4**
ZARC				S	**Sn**	**10 00 35.5**	**-1.5**
CHIC	**Chingaza**	**2.21**	**202**	P	**Pn**	**10 00 07.8**	**+0.5**
CHIC				S	**Sn**	**10 00 39.0**	**-0.7**
NORC	**Norcasia**	**2.26**	**241**	P	**Pn**	**10 00 07.9**	**+0.4**
NORC				S	**Sn**	**10 00 37.9**	**-2.1**
ROSC	**El Rosal**	**2.32**	**218**	P	**Pn**	**10 00 10.2**	**+1.8**
ROSC				S	**Sn**	**10 00 43.6**	**+1.8**
CVER	**Cruz Verde, Cu**	**2.45**	**209**	P	**Pn**	**10 00 11.3**	**+1.3**
CVER				S	**Sn**	**10 00 44.3**	**-0.2**
HELC	**Santa Helena**	**2.67**	**260**	P	**Pn**	**10 00 13.9**	**+1.6**
HELC				S	**Sn**	**10 00 49.4**	**+1.0**
HELC	**Santa Helena**	**2.67**	**260**	P	**Pn**	**10 00 13.5**	**+1.3**
HELC				S	**Sn**	**10 00 47.4**	**-1.1**
VILC	**Villavicencio,**	**2.68**	**197**	P	**Pn**	**10 00 12.3**	**+0.2**
VILC				S	**Sn**	**10 00 47.9**	**-0.6**
UREC	**San Jos de Ur**	**2.83**	**292**	P	**Pn**	**10 00 13.3**	**-0.4**
UREC				S	**Sn**	**10 00 48.9**	**-2.3**
GUY2C	**Guyana, Caldas**	**2.86**	**240**	P	**Pn**	**10 00 16.6**	**+2.1**
GUY2C				S	**Sn**	**10 00 52.8**	**+0.2**
NIZA	**Niza - Manizal**	**3.04**	**238**	P	**Pn**	**10 00 17.5**	**+1.1**
NIZA				S	**Sn**	**10 00 56.3**	**+0.3**
CBOC	**Ciudad Bolivar**	**3.21**	**255**	P	**Pn**	**10 00 19.6**	**+1.3**
CBOC				S	**Sn**	**10 00 59.3**	**-0.2**
DBBC	**Dabeiba**	**3.31**	**276**	P	**Pn**	**10 00 20.6**	**+1.1**
DBBC				S	**Sn**	**10 01 01.0**	**+0.1**
ANIL	**Santa Ana**	**3.32**	**229**	P	**Pn**	**10 00 21.7**	**+2.0**
ANIL				S	**Sn**	**10 01 01.8**	**-0.2**
ARGC	**Ariguani, Magd**	**3.43**	**337**	P	**Pn**	**10 00 22.8**	**+2.1**
ARGC				S	**Sn**	**10 01 04.5**	**+0.5**
PRAC	**Prado**	**3.56**	**214**	P	**Pn**	**10 00 22.7**	**+0.3**
PRAC				S	**Sn**	**10 01 04.6**	**-2.3**
PRAC	**Prado**	**3.56**	**214**	P	**Pn**	**10 00 23.0**	**+0.6**
PRAC				S	**Sn**	**10 01 05.1**	**-1.8**
ORTC	**Ortega, Tolima**	**3.62**	**221**	P	**Pn**	**10 00 23.8**	**+0.7**
ORTC				S	**Sn**	**10 01 06.5**	**-1.8**
URMC	**La Uribe, Meta**	**3.73**	**204**	P	**Pn**	**10 00 25.6**	**+1.2**
URMC				S	**Sn**	**10 01 09.9**	**-0.7**
PLMC	**San Jos del P**	**3.81**	**243**	P	**Pn**	**10 00 27.0**	**+1.5**
PLMC				S	**Sn**	**10 01 11.6**	**-0.8**
APAC	**Apartado, Choc**	**3.86**	**288**	P	**Pn**	**10 00 26.6**	**+0.7**
APAC				S	**Sn**	**10 01 12.6**	**-0.6**
SJCC	**San Jacinto, C**	**3.91**	**325**	P	**Pn**	**10 00 26.8**	**-0.3**
SJCC				S	**Sn**	**10 01 12.9**	**-1.8**
SJCC	**San Jacinto, C**	**3.91**	**325**	P	**Pn**	**10 00 26.8**	**+0.1**
SJCC				S	**Sn**	**10 01 13.3**	**-1.4**
LCBC	**Los crdobas,**	**4.07**	**302**	P	**Pn**	**10 00 28.8**	**+0.3**
LCBC				S	**Sn**	**10 01 19.1**	**+1.1**
CRJC	**Cerrejon, Guaj**	**4.31**	**0**	P	**Pn**	**10 00 31.6**	**0.0**
CR

GSC				IAML		10 04 45.3		
	comp=N,423nm,0.7s							
GSC				IAML		10 04 59.7		
	comp=E,413nm,0.6s							
TIN	**Tinemaha, Big**	**1.09**	**340**		Pg	10 04 41.4	-0.2	
TEJ	**El Tejon**	**1.10**	**224**		Pg	10 04 41.2	-0.7	
SGV	**South Grapevin**	**1.11**	**32**		Pg	10 04 41.7	-0.4	
SGV					Sg	10 04 56.9	+0.4	
EDW2	**Edwards Air Fo**	**1.17**	**189**		Pg	10 04 42.5	-0.6	
EDW2					Sg	10 04 57.1	-1.1	
HYS	**Haystack Butte**	**1.18**	**172**		Pg	10 04 42.6	-0.8	
WCT	**Wildcat Mounta**	**1.19**	**50**		Pg	10 04 43.1	-0.4	
WCT				IAML		10 05 01.8		
	comp=E,316nm,0.7s							
WCT				IAML		10 05 02.9		
	comp=N,291nm,0.6s							
LCH	**Last Change Ra**	**1.20**	**4**		Pg	10 04 43.0	-0.8	
TPO	**Tropico Hills**	**1.21**	**198**		Pg	10 04 43.3	-0.7	
TPO				IAML		10 05 03.1		
	comp=E,296nm,0.9s							
TPO				IAML		10 05 09.2		
	comp=N,272nm,0.7s							
AMDNV	**Amargosa**	**1.27**	**70**		Pg	10 04 44.1	-0.9	
BAKC	**Calstate**	**1.29**	**238**		Pg	10 04 45.2	-0.3	
RRX	**Edison Barstow**	**1.31**	**151**		Pg	10 04 45.2	-0.7	
THC	**Tehachapi Micr**	**1.34**	**214**		Pg	10 04 46.6	+0.1	
VOG	**Valley Oaks Go**	**1.34**	**283**		Pg	10 04 45.9	-0.6	
SBB	**Saddle Back Bu**	**1.34**	**182**		Pg	10 04 45.3	-1.2	
SBB					Sg	10 05 04.1	+0.2	
DSP	**Deep Springs**	**1.34**	**353**		Pn	10 04 45.6	-0.9	
BHPR	**Bishop**	**1.39**	**335**		Pn	10 04 46.7	-0.7	
LEOC	**Leona Valley**	**1.47**	**198**		Pg	10 04 48.9	0.0	
TPNV	**Topopah Spring**	**1.52**	**53**		Pn	10 04 48.6	-0.6	
TPNV				IAML		10 05 12.3		
	comp=N,351nm,0.8s							
TPNV				IAML		10 05 14.8		
	comp=N,401nm,0.9s							
HOLC	**Holcomb Ridge**	**1.57**	**183**		Sn	10 05 10.7	-0.1	
JNH	**Juniper Hills**	**1.59**	**186**		Pn	10 04 49.0	-1.0	
TUQ	**Turquoise Moun**	**1.61**	**111**		Pn	10 04 48.8	-1.5	
HEC	**Hector,Ludlow**	**1.67**	**135**		Pn	10 04 49.8	-1.4	
BFSC	**Mount Baldy Ra**	**1.79**	**177**		Pn	10 04 52.3	-0.6	
BFSC				IAML		10 05 27.1		
	comp=E,107nm,0.8s							
KCC	**Kaiser Creek**	**1.80**	**316**		Pn	10 04 53.6	+0.7	
BENR	**Benton**	**1.80**	**339**		Pn	10 04 53.5	+0.4	
MLAC	**Mammoth, Mammo**	**1.81**	**332**		Pb	10 04 54.5	-0.3	
MWC	**Mount Wilson**	**1.82**	**188**		Pn	10 04 52.7	-0.6	
MWC				IAML		10 05 21.1		
	comp=N,194nm,0.6s							
MWC				IAML		10 05 21.1		
	comp=E,141nm,0.7s							
MCSM	**Casa Diablo Ho**	**1.86**	**331**		Pb	10 04 55.4	-0.3	
MTPC	**Mountain Pass**	**1.88**	**106**		Pn	10 04 52.6	-1.4	
MTPC				IAML		10 05 23.4		
	comp=N,131nm,0.4s							
MTPC				IAML		10 05 24.4		
	comp=E,156nm,0.5s							
PASC	**Pasadena Art C**	**1.89**	**191**		Pn	10 04 53.9	-0.2	
SMMC	**Simmler**	**1.96**	**249**		Pn	10 04 55.9	+0.9	
TPH	**Tonopah**	**2.08**	**12**		Pn	10 04 57.1	+0.2	
TPH				IAML		10 05 30.4		
	comp=E,234nm,1.3s							
GMRC	**Granite Mounta**	**2.12**	**125**		Pn	10 04 55.3	-2.0	
SHPR	**Sheep Range**	**2.15**	**77**		Pn	10 04 57.7	-0.2	
TSCN	**Private Proper**	**2.16**	**258**		Pb	10 04 59.9	-0.7	
BLAC	**Blackrock camp**	**2.26**	**150**		Pn	10 04 58.6	-0.6	
LHV	**Little Huntoon**	**2.29**	**345**		Pn	10 05 00.6	+1.1	
LHV				IAML		10 05 45.3		
	comp=N,82nm,1.8s							
LHV				IAML		10 05 45.9		
	comp=E,82nm,1.4s							
PSMM	**Smith Mountain**	**2.30**	**272**		Pb	10 05 02.0	-1.0	
TPC	**Twentynine Pal**	**2.38**	**143**		Pn	10 04 59.7	-1.2	
V12A	**Nelson**	**2.38**	**97**		Pn	10 04 59.9	-1.1	
V12A				IAML		10 05 38.9		
	comp=N,61nm,1.0s							
V12A				IAML		10 05 46.9		
	comp=E,65nm,0.6s							
ELS	**Elsinore Mount**	**2.40**	**173**		Pn	10 05 00.7	-0.4	
NV11	**Mina Array Sit**	**2.42**	**353**		Pn	10 05 01.9	+0.5	
NVAR	**Mina Array Bea**	**2.43**	**350**		Pn	10 05 02.1	+0.4	
POB	**Polly Butte**	**2.44**	**163**		Pn	10 05 01.2	-0.6	
PMPB	**Monarch Peak**	**2.47**	**275**		Pn	10 05 02.1	0.0	
PMPB				IAML		10 05 28.4		
	comp=N,174nm,0.7s							
MYLM	**Yosemite Lake**	**2.53**	**303**		Pb	10 05 05.8	-1.0	
RAMR	**Ramage Ranch**	**2.56**	**262**		Pn	10 05 05.2	+2.0	
PRN	**Pahroc Range**	**2.57**	**57**		Pn	10 05 03.3	-0.3	
PRN				IAML		10 05 51.5		
	comp=N,162nm,0.9s							
PMD	**Palm Desert**	**2.64**	**154**		Pn	10 05 03.4	-1.0	
PFO	**Pinyon Flats O**	**2.64**	**156**		Pn	10 05 03.7	-0.8	
PFO				IAML		10 05 50.0		
	comp=N,50nm,0.7s							
RYN	**Ryan**	**2.66**	**347**		Pn	10 05 05.7	+0.9	
BBGB	**Big Mountain B**	**2.70**	**283**		Pn	10 05 06.0	+0.7	
BORC	**Borrego Spring**	**2.97**	**158**		Pn	10 05 08.1	-0.8	
BORC				IAML		10 06 01.9		
	comp=E,54nm,1.1s							
BORC				IAML		10 06 02.9		
	comp=N,46nm,0.7s							
SAO	**San Andreas Ge**	**3.06**	**285**		Pn	10 05 10.3	+0.1	
DPP	**Dos Picos Cty**	**3.10**	**167**		Pn	10 05 10.0	-0.7	
DPP				IAML		10 06 03.7		
	comp=E,30nm,0.7s							
W13A	**Hualapai Mount**	**3.29**	**105**		Pn	10 05 12.2	-1.4	
W13A				IAML		10 06 12.5		
	comp=N,28nm,0.8s							
W13A				IAML		10 06 12.6		
	comp=E,29nm,1.2s							
BLYC	**Blythe**	**3.50**	**130**		Pn	10 05 14.3	-1.9	
BLYC				IAML		10 06 13.9		
	comp=E,28nm,0.7s							
BLYC				IAML		10 06 18.1		
	comp=N,29nm,0.7s							
LCMT	**Little Creek M**	**3.77**	**74**		Pn	10 05 20.2	+0.2	
CBX	**Cerro Bola**	**3.82**	**166**		Pn	10 05 20.7	0.0	
GLA	**Glamis**	**3.84**	**140**	Pn	Pn	10 05 18.6	-2.2	
GLA				IAML		10 06 29.3		
	comp=E,55nm,0.7s							
GLA				IAML		10 06 32.6		
	comp=N,47nm,0.8s							
CCUT	**Cedar City**	**3.84**	**65**		Pn	10 05 21.7	+0.6	
KNB	**Kanab**	**4.10**	**75**		Pn	10 05 25.2	+0.6	
KNB				IAML		10 06 50.5		
	comp=N,16nm,1.2s							
CCX	**Cicese**	**4.25**	**167**	Pn	Pn	10 05 26.4	-0.1	

*IDC **10** 10:09:38.9±0.7, 1°.36N×125°.94E, h0km, mb4.2/13, mbtmp4.2/14, ML4.3/1, MS3.7/10, Error ellipse: s-maj=45.0km s-min=13.6km az=70.0*
*DJA **10** 10:09:42.9±0.2, 1°N±2°×12°.6E±°, h10km, M4.2/16, mB5.0/4, mb4.2/7, MLv4.2/16, Mw(mB)4.4/4*
*NEIC **10** 10:09:44.1±1.5, 1°.38N±0°.06×126°.25E±0°.05, h35km±4km, mb4.6/31, Error ellipse: s-maj=9.3km s-min=7.4km az=147.0*

ISC 10 10:09:45.7±0.4,**1°.38N**±0°.05×**126°.24E**±0°.05,**h54**km,**n267,**
g**092**/259,**mb4.4**/31,**MS3.6**/9,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h m s	Res ISC
				Op				
TNTI	**Ternate**			**1.28**	**118**	**Pn**	**10 10 05.3**	**-2.0**
TNTI	**Ternate**			**1.28**	**118**	**Pn**	**10 10 06.9**	**-0.4**
KMSI	**Cibinong**			**2.40**	**251**	**Pn**	**10 10 21.6**	**-0.9**
KMSI						**Sn**	**10 10 51.4**	**+0.7**
SGSI	**Sangihe**			**2.40**	**343**	**Pn**	**10 10 21.1**	**-1.5**
SGSI						**Sn**	**10 10 50.5**	**-0.4**
SANI	**Sanana**			**3.41**	**184**	**Pn**	**10 10 37.0**	**+0.5**
LUWI	**Luwuk**			**4.22**	**235**	**Pn**	**10 10 45.9**	**-1.6**
LUWI	**Luwuk**			**4.22**	**235**	**Pn**	**10 10 47.7**	**+0.2**
MRSI	**Marisa**			**4.39**	**258**	**Pn**	**10 10 49.0**	**-0.9**
NLAI	**Namlea**			**4.67**	**169**	**Pn**	**10 10 54.8**	**+1.1**
APSI	**Ampana**			**5.12**	**244**	**Pn**	**10 11 00.5**	**+0.6**
TOLI2	**Tolitoli**			**5.46**	**267**	**Pn**	**10 11 02.5**	**-2.1**
KDI	**Kendari**			**6.42**	**214**	**Pn**	**10 11 18.0**	**+0.3**
MPSI	**Mapaga**			**6.42**	**261**	**Pn**	**10 11 17.0**	**-0.8**
	0.1nm397nm17nm,1.3s							
TTSI	**Tana Toraja**			**7.78**	**236**	**Pn**	**10 11 36.2**	**-0.2**
SOEI	**Soe**			**11.23**	**190**	**Pn**	**10 12 20.8**	**-3.0**
MTN	**Manton Dam**			**14.94**	**161**	**Pn**	**10 13 12.7**	**-1.1**

JAY	**Jayapura**	**14.97**	**105**	LR		LR	10 18 47.3	
	comp=Z,221nm,20.9s,baz=252,slow=36							
KSM	**Kuching**	**15.93**	**271**	Pn		**Pn**	**10 13 25.8**	**-0.7**
KNRA	**Kununurra**	**17.13**	**172**			**Pn**	**10 13 41.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**19.36**	**182**			**P**	**10 14 05.3**	**-1.8**
FITZ	**Fitzroy Crossi**	**19.36**	**182**	P		**P**	**10 14 06.2**	**-0.8**
	0.7nm,0.3s,baz=14,slow=7.4,SNR=16							
	5.4nm,0.6s							
WB0	**Warramunga Arr**	**22.48**	**160**			**P**	**10 14 40.5**	**-0.2**
WB0				IAmb		IAmb	10 14 48.5	
	comp=Z,22nm,1.1s							
WRA	**Warramunga Arr**	**22.63**	**160**	P		**P**	**10 14 40.9**	**-1.4**
WRA	**Warramunga Arr**	**22.63**	**160**	P		**P**	**10 14 42.0**	**-0.3**
	comp=Z,14nm,1.1s,baz=339,slow=1,SNR=50							
WRA				S		**S**	**10 18 47.8**	**+1.2**
	comp=Z,3.2nm,1.2s,baz=336,slow=21,SNR=5.6							
	comp=Z,14nm,1.1s							
WB2	**Warramunga Arr**	**22.63**	**160**	P		**P**	**10 14 42.0**	**-0.4**
WB2				IAmb		IAmb	10 14 49.5	
	comp=Z,32nm,1.2s							
COEN	**Coen**	**22.67**	**133**	P		**P**	**10 14 41.4**	**-1.4**
COEN				IAmb		IAmb	10 14 54.9	
	comp=Z,11nm,1.1s							
WR8	**Warramunga Arr**	**22.70**	**159**			**P**	**10 14 42.4**	**-0.6**
WR8				IAmb		IAmb	10 14 50.2	
	comp=Z,17nm,1.0s							
WR0	**Warramunga Arr**	**22.71**	**159**	P		**P**	**10 14 42.9**	**-0.4**
WR0				IAmb		IAmb	10 14 50.4	
	comp=Z,29nm,1.3s							
MBWA	**Marble Bar**	**23.29**	**196**	P		**P**	**10 14 48.4**	**-0.5**
MBWA				IAmb		IAmb	10 15 01.5	
	comp=Z,11nm,1.1s							
AS31	**Alice Springs**	**25.98**	**164**			**P**	**10 15 14.3**	**+0.6**
ASAR	**Alice Springs**	**25.99**	**164**	P		**P**	**10 15 14.1**	**+0.5**
ASAR	**Alice Springs**	**25.99**	**164**	P		**P**	**10 15 14.3**	**+0.7**
	comp=Z,2.3nm,0.4s,baz=346,slow=7.4,SNR=53							
ASAR				PcP		**PcP**	**10 18 42.5**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=346,slow=2.2,SNR=6.6							
	comp=Z,2.3nm,0.4s							
NJ2	**Nanjing**	**31.30**	**348**	*eP*		**P**	**10 16 03.6**	**+2.8**
NJ2				pmax		pmax		
	comp=Z,11nm,0.5s							
CMAR	**Chiang Mai Arr**	**31.70**	**304**	P		**P**	**10 16 03.0**	**-1.6**
	comp=Z,1.1nm,0.3s,baz=115,slow=8.4,SNR=4.6							
CMAR				LR		LR	10 28 41.7	
	comp=Z,65nm,21.2s,baz=120,slow=36							
	comp=Z,1.1nm,0.3s							
FORT	**Forrest**	**32.02**	**177**	P		**P**	**10 16 08.7**	**+1.5**
PZH	**PanZhiHua**	**34.33**	**319**	P		**P**	**10 16 29.6**	**+2.0**
STKA	**Stephens Creek**	**36.14**	**158**	P		**P**	**10 16 44.2**	**+1.3**
	comp=Z,5.2nm,0.9s,baz=328,slow=7.6,SNR=5.5							
	comp=Z,5.2nm,0.9s							
MJAR	**Matsushiro Arr**	**36.70**	**16**	P		**P**	**10 16 48.2**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=175,slow=8.6,SNR=3.1							
	comp=Z,2.2nm,0.9s							
JMM	**Marumori**	**38.70**	**19**	P		**P**	**10 17 04.2**	**-0.3**
HHC	**Hu-ho-hao-te**	**41.48**	**343**	*eP*		**P**	**10 17 29.4**	**+1.8**
HHC				pmax		pmax		
	comp=Z,5.0nm,0.8s							
HHC				pmax		pmax		
	comp=Z,49nm,3.7s							
CAN	**Canberra**	**42.26**	**152**	P		**P**	**10 17 33.1**	**-0.9**
CAN				IAmb		IAmb	10 17 59.6	
	comp=Z,22nm,1.4s							
ASAJ	**Asahikawa**	**44.97**	**17**	LR		LR	10 39 02.6	
	comp=Z,38nm,18.7s,baz=193,slow=39							
PALK	**Pallekele**	**45.76**	**279**	P		**P**	**10 18 01.5**	**-0.8**
PALK	**Pallekele**	**45.76**	**279**	LR		LR	10 38 11.6	
	comp=Z,94nm,20.8s,baz=88,slow=38							
SONM	**Songino Array**	**49.37**	**342**	P		**P**	**10 18 30.0**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=165,slow=7.7,SNR=5.1							
	comp=Z,0.3nm,0.3s							
MKAR	**Makanchi Array**	**59.21**	**326**	P		**P**	**10 19 40.4**	**-1.0**
MKAR	**Makanchi Array**	**59.21**	**326**	P		**P**	**10 19 40.7**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=123,slow=7.2,SNR=15							
	comp=Z,1.6nm,0.5s							
ZALV	**Zalesovo Beam**	**62.46**	**334**	LR		LR	10 48 52.6	
	comp=Z,0.9nm,19.9s,baz=98,slow=38							
KURBB	**Kurchatov Arra**	**63.45**	**328**	P		**P**	**10 20 08.8**	**-1.1**
	comp=Z,2.2nm,0.6s,baz=125,slow=6.2,SNR=21							
	comp=Z,2.2nm,0.6s							
KURK	**Kurchatov**	**63.46**	**328**	P		**P**	**10 20 09.1**	**-0.9**
KURK				IAmb		IAmb	10 20 10.7	
	comp=Z,6.6nm,1.0s							
NIUE	**Niue**	**65.85**	**112**	P		**P**	**10 20 25.0**	**-1.2**
TIXI	**Tiksi**	**70.19**	**1**	LR		LR	10 54 16.3	
	comp=Z,26nm,18.5s,baz=190,slow=38							
NRIK	**Norilsk**	**72.58**	**347**	P		**P**	**10 21 08.6**	**+1.7**
	comp=Z,2.6nm,0.5s,baz=154,slow=5.5,SNR=5.0							
NRIK				LR		LR	10 55 39.5	
	comp=Z,30nm,19.2s,baz=148,slow=38							
	comp=Z,2.6nm,0.5s							
AB31	**Akbulak array**	**73.66**	**321**	P		**P**	**10 21 13.3**	**-0.3**
UNV	**Unalaska Valle**	**75.63**	**34**	P		**P**	**10 21 23.8**	**-1.1**
	baz=252							
S12K	**Black Hills**	**78.62**	**33**	P		**P**	**10 21 41.8**	**+0.1**
	baz=256							
K13K	**Kusilvak Mount**	**79.07**	**27**	P		**P**	**10 21 43.5**	**-0.5**
	baz=252							
M13K	**Dall Lake**	**79.22**	**28**	P		**P**	**10 21 45.2**	**+0.3**
	baz=254							
SDPT	**Sand Point**	**79.41**	**34**	P		**P**	**10 21 45.0**	**-0.9**
	baz=257							
CHNA	**Chernabura Isl**	**79.79**	**34**	P		**P**	**10 21 47.9**	**-0.2**
	baz=258							
L14K	**Kuka Creek**	**79.79**	**28**	P		**P**	**10 21 48.5**	**+0.6**
	baz=254							
N14K	**Kuskokwak Cree**	**79.89**	**29**	P		**P**	**10 21 47.9**	**-0.6**
	baz=255							
O14K	**Tigyukauivet M**	**79.92**	**30**	P		**P**	**10 21 48.7**	**0.0**
	baz=256							
M14K	**Bethel**	**79.97**	**28**	P		**P**	**10 21 49.6**	**+0.7**
	baz=255							
S14K	**Fog Glacier**	**80.12**	**33**	P		**P**	**10 21 50.9**	**+0.9**
	baz=258							
F15K	**North Star Dit**	**80.26**	**23**	P		**P**	**10 21 50.5**	**+0.1**
	baz=251							
CRZF	**Crozet Islands**	**80.27**	**223**	P		**P**	**10 21 50.7**	**-0.2**
G15K	**Niukluk**	**80.28**	**24**	P		**P**	**10 21 50.6**	**+0.1**
	baz=252							
L15K	**Ungalak Mounta**	**80.44**	**27**	P		**P**	**10 21 52.0**	**+0.5**
	baz=255							
M15K	**Kasigluk River**	**80.56**	**28**	P		**P**	**10 21 52.4**	**+0.3**
	baz=256							
K15K	**Wolf Creek Mou**	**80.58**	**27**	P		**P**	**10 21 51.8**	**-0.4**
	baz=255							
O15K	**Ungalikthiuk R**	**80.62**	**30**	P		**P**	**10 21 52.0**	**-0.5**
	baz=257							
N15K	**Kwethluk River**	**80.72**	**29**	P		**P**	**10 21 53.2**	**+0.2**
	baz=256							
H16K	**Elim**	**80.91**	**24**	P		**P**	**10 21 52.9**	**-1.0**
	baz=254							
G16K	**Koyuk River**	**81.07**	**24**	P		**P**	**10 21 55.3**	**+0.6**
	baz=254							
VNDA	**Vanda**	**81.17**	**173**	P		**P**	**10 21 56.0**	**+0.8**
VNDA	**Vanda**	**81.17**	**173**	P		**P**	**10 21 55.9**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=333,slow=4.3,SNR=4.7							
	comp=Z,1.3nm,0.8s							
J16K	**Anvik River**	**81.25**	**26**	P		**P**	**10 21 56.1**	**+0.4**
	baz=256							
I17K	**Unalakleet**	**81.36**	**25**	P		**P**	**10 21 56.7**	**+0.4**
	baz=255							
L16K	**Owhat River**	**81.37**	**28**	P		**P**	**10 21 56.4**	**-0.1**
	baz=258							
N16K	**Nishlik Lake**	**81.43**	**29**	P		**P**	**10 21 56.9**	**+0.1**
	baz=258							
M16K	**Timber Creek**	**81.46**	**28**	P		**P**	**10 21 57.5**	**+0.6**
	baz=257							
D17K	**Noatak River**	**81.47**	**21**	P		**P**	**10 21 57.1**	**+0.3**
	baz=253							
O16K	**Kokwok River B**	**81.58**	**30**	P		**P**	**10 21 58.6**	**+1.1**
	baz=258							
E17K	**Hotham Inlet**	**81.76**	**22**	P		**P**	**10 21 58.5**	**+0.1**
	baz=254							
G17K	**Kiwalik Mounta**	**81.79**	**24**	P		**P**	**10 21 58.8**	**+0.2**
	baz=255							
J17K	**VABM Dome**	**81.94**	**26**	P		**P**	**10 21 59.1**	**-0.3**
	baz=257							
H17K	**Granite Mounta**	**81.95**	**24**	P		**P**	**10 22 00.1**	**+0.6**
	baz=256							
L17K	**Donlin**	**82.01**	**27**	P		**P**	**10 22 00.5**	**+0.7**
	baz=258							
R17L	**Mt. Peulik Vol**	**82.10**	**32**	P		**P**	**10 22 00.5**	**+0.1**
	baz=260							
O17K	**Koliganek Bris**	**82.11**	**30**	P		**P**	**10 22 00.2**	**-0.1**
	baz=259							
Q16K	**King Salmon**	**82.13**	**31**	P		**P**	**10 22 00.9**	**+0.4**
	baz=260							

K17K	**Iditarod**	**82.13**	**27**	P		**P**	**10 22 01.0**	**+0.6**
	baz=258,SNR=6.3							
CHIR	**Chirikof Islan**	**82.20**	**34**	P		**P**	**10 22 01.5**	**+0.6**
	baz=261							
N17K	**Nushagak Hills**	**82.21**	**29**	P		**P**	**10 22 00.8**	**0.0**
	baz=259							
M17K	**Holitna River**	**82.26**	**28**	P		**P**	**10 22 01.6**	**+0.4**
	baz=259							
E18K	**Tukpahlearik C**	**82.31**	**22**	IAmb		IAmb	10 22 05.5	
	comp=Z,6.8nm,1.1s							
E18K	**Tukpahlearik C**	**82.31**	**22**	P		**P**	**10 22 02.5**	**+1.2**
	baz=255							
P17K	**Kvichak River**	**82.33**	**30**	P		**P**	**10 22 02.2**	**+0.7**
	baz=260							
B18K	**Kokolik River**	**82.41**	**20**	P		**P**	**10 22 02.6**	**+0.8**
	baz=254							
Q17K	**Contact Creek**	**82.46**	**31**	P		**P**	**10 22 02.7**	**+0.3**
	baz=260							
F18K	**Selawik**	**82.46**	**23**	P		**P**	**10 22 03.2**	**+1.2**
	baz=256							
H18K	**Honhosa River**	**82.64**	**24**	P		**P**	**10 22 03.9**	**+0.8**
	baz=257							
G18K	**Tagagawik**	**82.69**	**24**	P		**P**	**10 22 04.0**	**+0.7**
	baz=257							
L18K	**Granite Mounta**	**82.77**	**27**			**P**	**10 22 07.1**	**+3.3**
L18K				IAmb		IAmb	10 22 08.0	
	comp=Z,5.2nm,1.1s							
L18K	**Granite Mounta**	**82.77**	**27**	P		**P**	**10 22 04.0**	**+0.2**
	baz=259,SNR=5.5							
N18K	**Kilae Creek**	**82.87**	**29**	P		**P**	**10 22 04.6**	**+0.2**
	baz=260							
A19K	**Wainwright**	**82.89**	**19**	P		**P**	**10 22 05.1**	**+0.9**
	baz=254							
J18K	**Innoko River**	**82.99**	**26**	IAmb		IAmb	10 22 08.5	
	comp=Z,5.6nm,1.1s							
J18K	**Innoko River**	**82.99**	**26**	P		**P**	**10 22 05.4**	**+0.4**
	baz=259,SNR=5.1							
M18K	**Stony River**	**83.04**	**28**	P		**P**	**10 22 05.9**	**+0.8**
	baz=260							
O18K	**Koktuh Hills**	**83.06**	**30**	P		**P**	**10 22 05.6**	**+0.2**
	baz=261							
C19K	**Lookout Ridge**	**83.10**	**20**	P		**P**	**10 22 06.6**	**+1.2**
	baz=256,SNR=5.4							
SII	**Sitkinak Islan**	**83.11**	**33**	P		**P**	**10 22 05.7**	**+0.1**
	baz=262							
GCSA	**Galena City Sc**	**83.17**	**25**	P		**P**	**10 22 06.8**	**+1.1**
	baz=259,SNR=6.4							
F19K	**Shaleruckik Mo**	**83.24**	**23**	P		**P**	**10 22 07.5**	**+1.4**
	baz=258							
G19K	**Purcell Mounta**	**83.36**	**23**	P		**P**	**10 22 07.5**	**+0.7**
	baz=258,SNR=8.0							
D19K	**Kuna River**	**83.48**	**21**	P		**P**	**10 22 07.3**	**-0.1**
D19K				IAmb		IAmb	10 22 11.9	
	comp=Z,8.3nm,1.2s							
D19K	**Kuna River**	**83.48**	**21**	P		**P**	**10 22 08.7**	**+1.4**
	baz=257							
H19K	**Roundabout Mou**	**83.50**	**24**	P		**P**	**10 22 08.5**	**+1.1**
	baz=259,SNR=8.8							
O19K	**Port Alsworth**	**83.56**	**30**	P		**P**	**10 22 07.4**	**-0.4**
	baz=262							
J19K	**Poorman**	**83.57**	**26**			**P**	**10 22 11.5**	**+3.7**
J19K				IAmb		IAmb	10 22 12.4	
	comp=Z,4.8nm,1.0s							
J19K	**Poorman**	**83.57**	**26**	P		**P**	**10 22 08.3**	**+0.4**
	baz=260,SNR=5.5							
N19K	**Bonanza Creek**	**83.57**	**29**	P		**P**	**10 22 09.4**	**+1.4**
	baz=261,SNR=5.3							
E19K	**Redstone River**	**83.58**	**22**	P		**P**	**10 22 08.6**	**+0.7**
	baz=258,SNR=7.4							
L19K	**White Mountain**	**83.61**	**28**	IAmb		IAmb	10 22 12.1	
	comp=Z,4.5nm,1.0s							
L19K	**White Mountain**	**83.61**	**28**	P		**P**	**10 22 07.9**	**-0.2**
	baz=261							
OHAK	**Old Harbor**	**83.68**	**33**	P		**P**	**10 22 08.3**	**-0.2**
	baz=263							
M19K	**Big River Lodg**	**83.78**	**28**	P		**P**	**10 22 09.4**	**+0.4**
	baz=261							
P19K	**Oil Pt**	**84.03**	**30**	P		**P**	**10 22 11.6**	**+1.3**
	baz=262							
D20K	**Etivluk River**	**84.06**	**21**	P		**P**	**10 22 11.3**	**+0.9**
	baz=258							
F20K	**Avaraart Lake**	**84.07**	**23**	IAmb		IAmb	10 22 14.4	
	comp=Z,4.9nm,1.2s							
F20K	**Avaraaart Lake**	**84.07**	**23**	P		**P**	**10 22 11.9**	**+1.5**
	baz=260							
L20K	**Farewell, AK**	**84.10**	**27**	P		**P**	**10 22 12.0**	**+1.4**
	baz=262							
E20K	**Nigu River**	**84.13**	**21**	P		**P**	**10 22 11.9**	**+1.2**
	baz=259							
KDAK	**Kodiak Island**	**84.13**	**32**	P		**P**	**10 22 10.5**	**-0.3**
	baz=263							
H20K	**Anotlleneega Mo**	**84.14**	**24**	P		**P**	**10 22 11.1**	**+0.3**
	baz=260							
B20K	**Meade River**	**84.14**

baz=267
TOLK Toolik Lake Re 86.60 21 P P 10 22 22.6 -0.4
baz=265
D24K Happy Valley 86.91 21 P P 10 22 25.5 +1.0
baz=266
WAT6 Susitna Watana 86.95 28 P P 10 22 25.3 +0.3
baz=267
COLA College 87.02 25 P P 10 22 25.4 +0.4
baz=267
H24K Noodor Dome 87.06 24 P P 10 22 25.3 0.0
baz=267
DHY Denali Highway 87.14 27 P P 10 22 26.2 +0.4
baz=267
F24K Squaw Lake 87.15 23 P P 10 22 25.3 -0.5
baz=267
G24K Hadweenzic Riv 87.27 23 P P 10 22 26.5 +0.2
baz=267
HDA Harding Lake 87.38 26 P P 10 22 26.0 -0.9
baz=268
Q23K Middleton Isla 87.50 31 P P 10 22 27.3 -0.2
baz=268
M24K Tolsona, Glenn 87.66 28 P P 10 22 28.4 +0.1
baz=268
KLU Klutina 87.76 29 P P 10 22 28.9 0.0
baz=269
D25K Kavik River 87.79 21 P P 10 22 29.3 +0.6
baz=268
EYAK Cordova Ski Ar 87.83 30 P P 10 22 27.5 -1.5
baz=269
H25L Birch Creek 87.92 24 P P 10 22 27.9 -1.4
baz=269
PAX Paxson 88.00 27 P P 10 22 28.1 -1.9
baz=269
F25K Christian Rive 88.02 23 P P 10 22 29.0 -0.9
baz=269
PRP Porcupine Dome 88.02 25 P P 10 22 28.9 -1.1
baz=269
E25K Arctic Village 88.05 22 P P 10 22 29.5 -0.5
baz=269
J25K Salcha River, 88.07 26 P P 10 22 29.5 -0.7
baz=269
RIDG Independent Ri 88.29 26 P P 10 22 29.2 -2.1
baz=270
BMRM Bremner River 88.39 29 P P 10 22 30.7 -1.1
baz=270
KAIM Kayak Island 88.49 30 P P 10 22 30.6 -1.6
baz=270
C27K Jago River 88.74 21 P P 10 22 30.9 -2.2
baz=271
I26K Coal Creek Min 89.01 25 P P 10 22 33.4 -1.2
baz=271
BGLC Bering Glacier 89.05 30 P P 10 22 33.6 -1.2
baz=271
M26K Nabesna, AK 89.14 28 P P 10 22 33.9 -1.4
baz=271
MCARA McCarthy VSAT 89.16 29 P P 10 22 33.5 -1.8
baz=271
E27K Coleen River 89.54 22 P P 10 22 35.9 -1.1
baz=272
G27K Doyon Strip 89.58 23 P P 10 22 36.7 -0.5
baz=272
I27K Kandik River 89.65 25 P P 10 22 36.8 -0.8
baz=273
H27K Steamboat Moun 89.65 24 P P 10 22 36.7 -0.9
baz=273
L27K Beaver Creek, 89.66 27 P P 10 22 36.3 -1.4
baz=272
M27K Edge Creek, AK 89.67 28 P P 10 22 36.8 -1.1
baz=272
D27M Malcolm River 89.72 21 P P 10 22 36.9 -1.0
baz=273
MESA MESA 89.72 30 P P 10 22 37.7 -0.5
baz=272
MMAI Mount Meron Ar 89.96 303 P P 10 22 40.0 +0.2
comp=Z,0.9nm,0.4s,baz=85,slow=12,SNR=4.6
comp=Z,0.9nm,0.4s
F28M Old Crow 90.22 22 P P 10 22 39.6 -0.6
baz=274
E28M Babbage River 90.28 21 P P 10 22 39.8 -0.6
baz=274
I28M Miner Creek 90.35 25 P P 10 22 40.6 -0.3
baz=274
YUK3 Moose Creek 90.36 28 P P 10 22 40.3 -0.9
baz=274
PINM Pinnacle 90.57 30 P P 10 22 42.1 +0.1
baz=274
DAWY Dawson 90.69 26 P P 10 22 41.7 -0.8
baz=275
E29M Blow River 90.90 22 P P 10 22 42.9 -0.4
baz=276
G29M Pine Creek 91.00 23 P P 10 22 43.3 -0.6
baz=276
PNL Peninsula 91.03 30 P P 10 22 42.5 -1.6
baz=274
I29M Ogilvie Camp, 91.04 25 P P 10 22 43.3 -0.7
baz=276
BRTR Keskin Array B 91.13 310 P P 10 22 44.7 -0.5
comp=Z,1.0nm,0.8s,baz=116,slow=2.9,SNR=5.2
comp=Z,1.0nm,0.8s
M29M Somme Creek 91.25 28 P P 10 22 44.2 -1.0
baz=275
YUK4 Talbot Arm 91.26 29 P P 10 22 44.1 -1.3
baz=275
L29M L29M 91.34 27 P P 10 22 45.0 -0.5
baz=276
YUK6 Outpost Mounta 91.44 29 P P 10 22 45.2 -1.0
baz=275
K29M Barlow Dome 91.53 26 P P 10 22 46.4 -0.1
baz=276
EPYK Eagle Plains 91.58 24 P P 10 22 46.8 +0.3
baz=277
F30M Barrier River 91.78 22 P P 10 22 47.3 -0.1
baz=278
I30M Mount Dempster 91.86 25 P P 10 22 47.7 -0.3
baz=277
HYT Haines Junctio 91.87 29 P P 10 22 48.3 +0.2
baz=276
P29M Windy Craggy 91.88 30 P P 10 22 47.9 -0.2
baz=276
J30M Hart River 91.96 25 P P 10 22 48.0 -0.5
baz=277
N30M Aishikik Lake 92.00 29 P P 10 22 48.3 -0.3
baz=277
M30M Minto, Yukon 92.00 27 P P 10 22 48.2 -0.4
baz=277
P30M Million Dollar 92.21 30 P P 10 22 49.5 -0.1
baz=277
INK Inuvik 92.52 21 P P 10 22 50.7 -0.1
baz=280
O30N Mendenhall 92.56 29 P P 10 22 50.0 -1.2
baz=277
F31M Tsiigehtchic 92.58 22 P P 10 22 50.5 -0.6
baz=280
H31M Peel River 92.62 24 P P 10 22 51.4 0.0
baz=279
N31M Braeburn, Yuko 92.62 28 P P 10 22 49.8 -1.7
baz=278
S31K Pelican 92.84 32 P P 10 22 51.3 -1.1
baz=277
SKAG Skagway 93.11 30 P P 10 22 52.3 -1.4
baz=278
M31M Drury Creek, Y 93.17 28 P P 10 22 53.2 -0.7
baz=279
WHY Whitehorse 93.17 29 P P 10 22 51.8 -2.3
baz=278
SIT Sitka 93.45 33 P P 10 22 54.5 -0.8
baz=278
FARO Faro, Yukon 93.64 27 P P 10 22 55.8 -0.3
baz=280
FINES FINESS Array B 93.66 332 P P 10 22 56.8 +0.6
comp=Z,1.1nm,0.8s,baz=128,slow=5.3,SNR=3.6
comp=Z,1.1nm,0.8s
R32K Eaglecrest 93.70 32 P P 10 22 56.4 -0.1
baz=279
S32K Killisnoo 93.79 32 P P 10 22 56.8 -0.1
baz=278
P32M Atlin 93.91 30 P P 10 22 57.3 -0.2
baz=279
N32M Quiet Lake 93.95 29 P P 10 22 57.7 +0.1
baz=280
P33M Teslin, Yukon 94.25 29 P P 10 22 59.2 +0.2
baz=280
A36M Sachs Harbour 94.36 17 P P 10 22 58.9 -0.2
baz=288
MMPY Sheldon Lake, 94.52 27 P P 10 23 01.0 +0.8
baz=282
Q32M Nakina River 94.75 31 P P 10 23 01.8 +0.3
baz=281
U33K Whale Pass 94.80 34 P P 10 23 00.7 -0.8
baz=280
WRAK Wrangell Islan 95.17 33 P P 10 23 02.1 -1.1
baz=280
R33M Jennings River 95.32 30 P P 10 23 04.1 0.0
baz=282
S34M Telegraph Cree 95.54 32 P P 10 23 04.0 -0.9
baz=282
V35K Ketchikan 95.77 34 P P 10 23 06.1 +0.2
baz=281
DLBC Dease Lake 96.00 31 P P 10 23 06.4 -0.7
baz=282
T35M Bob Quinn 96.19 32 P P 10 23 08.0 +0.1
baz=282
MLR Muntele Rosu 96.24 316 LR LR 11 11 58.8
comp=Z,49nm,20.3s,baz=96,slow=39
WRGLY Wrigley 97.81 25 P P 10 23 14.8 -0.2
baz=289
KOTAN Kotaneelee Air 98.52 28 P P 10 23 18.0 -0.3
baz=288

*IDC **10** 10:19:21.8±0.6,21°.65S×174°.35W,h0km,mb4.2/15, mbtmp4.2/17,ML4.0/2,MS3.9/3,Error ellipse: s-maj=22.0km s-min=17.0km az=119.0*
*NEIC **10** 10:19:22.5±1.5,22°.2S±0°.1×174°.2W±0°.1,h10km±1km, mb4.6/22,Error ellipse: s-maj=23.1km s-min=19.4km az=20.0*

ISC 10 10:19:24.4±0.6,22°23S±0°.10×174°.3W±0°.1,h10km,n83, σ3.3s16/55,mb4.5/27,4C-2D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	8.48	301		Pn	10 21 25.5	-1.9
FUTU	Fugatoga	8.68	335	Pn	Pn	10 21 21.3	-8.8
RAR	Rarotonga	13.53	88		Pn	10 22 26.4	-10
RAR	Rarotonga	13.53	88	Pn	Pn	10 22 26.5	-10
	6.4nm,0.3s,baz=259,slow=7.4,SNR=21						
RAR				LR	LR	10 28 17.1	
	comp=Z,271nm,18.6s,baz=290,slow=39						
URZ	Urewera	17.60	203	P	P	10 23 34.1	+3.4
	0.7nm,0.3s,baz=107,slow=4.2,SNR=6.1						
URZ				S	Sn	10 26 39.7	-6.1
	2.6nm,0.4s,baz=198,slow=20,SNR=8.7						
	2.1nm,0.3s						
DZM	Mont Dzumac	17.85	267	P	Pn	10 23 32.0	-1.0
DZM	Mont Dzumac	17.85	267	eP	Pn	10 23 28.8	-4.2
	52nm,1.3s						
DZM				eLR	LR	10 27 35.2	
	213nm,21.2s						
DZM	Mont Dzumac	17.85	267	P	Pn	10 23 32.2	-0.8
	0.4nm,0.3s,baz=75,slow=21,SNR=8.8						
	4.8nm,0.9s						
MRZ	Mangatainoka R	20.27	203	P	P	10 23 57.6	-2.5
MRZ				IAmb	IAmb	10 24 18.1	
	comp=Z,39nm,1.2s						
TBI	Tubuai	22.92	98	eS	S	10 28 23.1	-16
	comp=Z,2μm,23.8s						
TBI				eLR	LR	10 29 39.0	
	comp=Z,805nm,21.2s						
TBI				eLR	LR	10 29 53.2	
	comp=Z,842nm,36.0s						
PPT2	Papeete2	23.68	83	eS	S	10 28 42.1	-10
	comp=Z,491nm,25.0s						
PPT2				eLR	LR	10 30 01.0	
	comp=Z,225nm,22.5s						
PPT2				eLR	LR	10 30 11.8	
	comp=Z,234nm,20.8s						
PPT	Papeete	23.69	83	LR	LR	10 32 06.3	
	comp=Z,293nm,19.2s,baz=285,slow=32						
ARMA	Armidale	31.52	248	P	P	10 25 43.8	-3.1
ARMA				IAmb	IAmb	10 26 00.5	
	comp=Z,5.6nm,1.1s						
EIDS	Eidsvold	31.78	257	P	P	10 25 47.1	-2.0
TAOE	Nuku Hiva Isla	35.38	73	eLR	LR	10 35 37.4	
	comp=Z,196nm,25.2s						
CTAO	Charters Tower	36.79	266	P	P	10 26 30.8	-1.8
TOO	Toolangi	37.76	237	P	P	10 26 38.8	-1.9
TOO				IAmb	IAmb	10 26 53.8	
	comp=Z,9.7nm,1.1s						
STKA	Stephens Creek	40.21	247	P	P	10 27 00.3	-0.9
STKA				IAmb	IAmb	10 27 18.3	
	comp=Z,19nm,0.9s						
STKA	Stephens Creek	40.21	247	P	P	10 27 01.4	+0.2
	comp=Z,3.7nm,1.0s,baz=93,slow=13,SNR=4.0						
	comp=Z,3.7nm,1.0s						
AS31	Alice Springs	47.51	258		P	10 27 58.3	-1.8
ASAR	Alice Springs	47.51	258		P	10 27 58.5	-1.6
ASAR	Alice Springs	47.51	258	P	P	10 27 58.8	-1.3
	comp=Z,7.2nm,0.9s,baz=94,slow=8.0,SNR=38						
	comp=Z,7.2nm,0.9s						
WR8	Warramunga Arr	47.65	263	P	P	10 27 59.0	-2.2
WR8				IAmb	IAmb	10 28 13.9	
	comp=Z,9.4nm,1.1s						
WB0	Warramunga Arr	47.79	263	P	P	10 28 00.2	-2.1
WRAB	Tennant Creek	47.79	263	P	P	10 28 00.3	-2.0
WRA	Warramunga Arr	47.80	263	P	P	10 27 59.5	-2.8
	comp=Z,7.4nm,0.9s,baz=90,slow=5.9,SNR=37						
	comp=Z,7.4nm,0.9s						
FORT	Forrest	51.81	248	P	P	10 28 32.7	-0.1
FORT				IAmb	IAmb	10 28 38.9	
	comp=Z,11nm,0.8s						
MTN	Manton Dam	52.63	271	P	P	10 28 37.2	-1.8
MTN				IAmb	IAmb	10 28 56.2	
	comp=Z,9.5nm,1.1s						
KNRA	Kununurra	54.00	266	P	P	10 28 48.0	-1.0
KNRA				IAmb	IAmb	10 28 48.2	
	comp=Z,9.0nm,1.0s						
FITZ	Fitzroy Crossi	56.23	263	P	P	10 29 03.9	-1.3
VNDA	Vanda	56.53	186	P	P	10 29 11.0	+4.5
	comp=Z,0.9nm,0.6s,baz=10,slow=6.0,SNR=5.0						
	comp=Z,0.9nm,0.6s						
MBWA	Marble Bar	60.85	257	P	P	10 29 34.0	-3.4
MORW	Morawa	62.38	248	P	P	10 29 46.5	-1.1
CASY	Casey	63.90	206	P	P	10 29 54.3	-2.8
QSPA	South Pole Qui	67.85	180	P	P	10 30 21.6	-1.1
QSPA				IAmb	IAmb	10 30 46.3	
	comp=Z,7.0nm,1.1s						
QSPA	South Pole Qui	67.85	180	P	P	10 30 26.6	+3.9
	comp=Z,2.7nm,1.0s,baz=241,slow=0.8,SNR=8.4						
	comp=Z,2.7nm,1.0s						
JGF	Kuroka	73.51	321	P	P	10 30 55.1	-2.4
JGF				IAmb	IAmb	10 31 07.8	
	comp=Z,9.2nm,1.1s						
MJAR	Matsushiro Arr	73.67	322		P	10 30 55.7	-2.6
MJAR				IAmb	IAmb	10 31 07.9	
	comp=Z,5.3nm,1.2s						
MJAR	Matsushiro Arr	73.67	322	P	P	10 30 55.2	-3.1
	comp=Z,3.1nm,0.6s,baz=155,slow=6.2,SNR=10						
	comp=Z,3.1nm,0.6s						
PETK	Petropavlovsk-	78.87	343	P	P	10 31 23.5	-4.0
	comp=Z,6.1nm,0.9s,baz=98,slow=8.9,SNR=9.8						
	comp=Z,6.1nm,0.9s						
NVAR	Mina Array Bea	79.97	41	P	P	10 31 30.6	-3.5
	comp=Z,0.4nm,0.6s,baz=216,slow=7.3,SNR=6.2						
	comp=Z,0.4nm,0.6s						
KSRS	Korea Array	80.48	317	P	P	10 31 33.9	-2.7
	comp=Z,3.2nm,1.0s,baz=145,slow=4.9,SNR=6.4						
	comp=Z,3.2nm,1.0s						
PINE	Pine Mountain	81.89	36	P	P	10 31 41.6	-2.6
PINE				IAmb	IAmb	10 31 44.5	
	comp=Z,3.3nm,0.9s						
USRK	Ussuriysk Ar.	82.36	324	P	P	10 31 44.5	-1.9
	comp=Z,1.2nm,0.7s,baz=145,slow=7.0,SNR=6.0						
	comp=Z,1.2nm,0.7s						
NJ2	Nanjing	83.65	308	eP	P	10 31 52.1	-1.3
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TXAR	Lajitas Array	85.12	56	P	P	10 31 59.5	-1.6
	comp=Z,0.5nm,1.0s,baz=252,slow=2.5,SNR=5.6						
	comp=Z,0.5nm,1.0s						
TROLL	Troll, Antarti	85.98	179	⇑P	P	10 32 06.7	+2.0
	comp=Z,78nm,0.8s						
SNAA	Sanae	86.16	177	⇑P	P	10 32 07.2	+1.7
	comp=Z,47nm,1.0s						
SNAA	Sanae	86.16	177	P	P	10 32 06.1	+0.6
	comp=Z,2.3nm,1.0s,baz=120,slow=3.4,SNR=7.6						
	comp=Z,2.3nm,1.0s						
VNA2	Neumayer--Watz	86.64	176	⇑P	P	10 32 10.2	+2.3
	comp=Z,2.2nm,0.9s,baz=178,slow=3.0						
PDAR	Pinedale Array	87.90	42	P	P	10 32 09.9	-4.6
	comp=Z,0.5nm,0.8s,baz=167,slow=2.6,SNR=5.9						
	comp=Z,0.5nm,0.8s						
ILAR	Eielson Array	89.28	11	P	P	10 32 15.5	-4.7
	comp=Z,0.6nm,1.0s,baz=214,slow=4.9,SNR=6.7						
	comp=Z,0.6nm,1.0s						
LYN	LuoYang	89.53	308	P	P	10 32 21.4	-0.7
LYN				pmax	pmax		
	comp=Z,24nm,0.6s						
HHC	Hu-ho-hao-te	93.04	313	eP	P	10 32 38.7	+0.3
HHC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,70nm,4.9s						
CMAR	Chiang Mai Arr	93.94	288		P	10 32 40.4	-2.5
CMAR	Chiang Mai Arr	93.94	288	P	P	10 32 42.6	-0.3
	comp=Z,0.8nm,0.3s,baz=123,slow=2.9,SNR=11						
	comp=Z,0.8nm,0.3s						
PZH	PanZhiHua	94.57	297	P	P	10 32 45.3	-0.5
ULM	Lac du Bonnet	99.73	40	LR	LR	11 13 25.0	
	comp=Z,74nm,18.1s,baz=336,slow=33						
SUW	Suwalki	145.62	342	ePKP	PKPdf	10 39 00.7	-2.0
AKASG	Malin Array Be	146.16	333	PKPbc	PKPdf	10 39 01.5	-2.2
	comp=Z,1.5nm,0.5s,baz=41,slow=3.8,SNR=23						
KIEV	Kiev	146.17	333	PKP	PKPdf	10 39 00.8	-2.9
EKA	Eskdalemuir Ar	146.28	9	PKPbc	PKPdf	10 39 01.9	-1.9
	comp=Z,0.7nm,0.5s,baz=341,slow=2.9,SNR=5.0						
RNPP9	Sopachiv	146.92	337	PKP	PKPdf	10 39 03.4	-1.6
LUBAR	Lubar, Ukraine	147.37	333	PKP	PKPdf	10 39 05.0	-0.8
GKP	Gorka Klasztor	147.78	347	ePKP	PKPdf	10 39 07.1	+0.8
NDNU	Novodnistrovsk	148.54	332	PKP	PKPdf	10 39 07.2	-0.6
KWP	Kalwaria Pacla	149.53	338	ePKP	PKPdf	10 39 11.9	+2.6
OJC	Ojcow	149.95	342	ePKP	PKPdf	10 39 13.3	+3.3
STHS	Stebnicka Huta	150.21	339	ePKP	PKPdf	10 39 13.6	+3.1
KSP	Ksiaz	150.27	346	ePKP	PKPdf	10 39 14.7	+4.2
CLL	Collm	150.43	351	iPKPbc	PKPdf	10 39 13.5	+2.8
	comp=Z,52nm,2.0s						
CLL				iPKPab	sPKPbc	10 39 21.3	+3.8
	comp=Z,5.0nm,0.9s						
CLL				ix	x	10 39 25.7	
CLL				ePP	PP	10 42 53.0	+2.2
NIE	Niedzica	150.51	340	ePKP	PKPdf	10 39 15.1	+4.1
BRTR	Keskin Array B	150.55	313	PKPbc	PKPdf	10 39 14.2	+2.8
	comp=Z,0.6nm,0.4s,baz=104,slow=5.2,SNR=5.9						
BRG	Berggiesshubel	150.69	349	P	PKPab	10 39 26.7	+3.2
BRG				Amp		10 39 27.9	
	comp=Z,8.9nm,1.2s						
MORC	Moravsky Berou	150.97	344	ePKP	PKPdf	10 39 15.0	+3.3
LANS	Liptovska Anna	151.00	341	ePKP	PKPdf	10 39 17.1	+5.4
VRAC	Vranov	151.63	345	ePKP	PKPdf	10 39 17.8	+5.2
VYHS	Vyhne	151.78	341	ePKP	PKPdf	10 39 18.4	+5.5
KRUC	Moravsky	151.91	345	ePKP	PKPdf	10 39 18.5	+5.4
BMRD	Maredsous	151.97	1	dPKPdf	PKPdf	10 39 10.4	-2.7
DOU	Dourbes	152.18	2	dPKPdf	PKPdf	10 39 11.1	-2.3
KHC	Kasperske Hory	152.44	349⇑	ePKP	PKPdf	10 39 18.0	+4.1
GERES	GERESS Array B	152.69	348	PKPbc	PKPdf	10 39 18.4	+4.1
	comp=Z,0.3nm,0.3s,baz=90,slow=1.3,SNR=7.1						

RSNC 10 10:20:09.8±0.0,12°N±6°×7°1W±°,h23km±2km,M2.4,mb3.6, ML2.5,Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URIC	Uribia, Colomb	0.80	227	P	Pb	10 20 23.8	-1.2
URIC				S	Sb	10 20 35.5	+0.2
CRJC	Cerrejon, Guaj	1.90	230	P	Pn	10 20 39.6	-1.3
CRJC				S	Sn	10 21 03.5	-0.7
ARGC	Ariguani, Magd	3.67	230	P	Pn	10 21 05.3	+0.1
ARGC				S	Sn	10 21 46.2	-1.6
SJCC	San Jacinto, C	4.38	238	P	Pn	10 21 16.5	+1.4
SJCC				S	Sn	10 22 05.2	-0.3
OCAC	Ocana	4.41	206	P	Pn	10 21 15.3	-0.2
OCAC				S	Sn	10 22 05.1	-1.2
ZARC	Zaragoza, Cauc	5.83	216	P	Pn	10 21 35.8	+0.9
ZARC				S	Sn	10 22 39.8	-1.2
RUSC	La Rusia	6.53	195	P	Pn	10 21 46.4	+1.4

*IDC **10** 10:35:22.4±2.0,58°.93S×150°.45E,h0km,mb4.2/5, mbtmp4.1/6,ML3.1/1,MS4.0/21,Error ellipse: s-maj=148.3km s-min=17.5km az=80.0*
*NEIC **10** 10:35:25.2±2.0,59°.2S±0°.1×149°.2E±0°.4,h10km±2km, mb4.5/25,Error ellipse: s-maj=31.4km s-min=18.2km az=91.0*
*GCMT **10** 10:35:27.2±0.2,59°.01S±0°.01×149°.17E±0°.03,h12km, MW4.9/93,Moment Tensor Solution. s28,c33; s93,c142; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.23±.09; $M_{\theta\theta}$1.43±.08; $M_{\phi\phi}$-1.20±.10; $M_{r\theta}$-1.40±.23; $M_{\theta\phi}$-2.40±.07; $M_{\phi r}$-0.32±.26; Best double couple: $M_0$3.09200×10^{16} NP1:ϕ_s345.00000°,δ62.00000°,λ-2.00000°. NP2: ϕ_s77.00000°,δ88.00000°,λ-152.00000°. Principal axes: T 3.1870, Plg18.0000°, Azm208.0000°; N -0.1910, Plg62.0000°, Azm80.0000°; P -2.9980, Plg21.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 10:35:25.3±0.6,59°11S±0°.07×149°2E±0°.2,h10km,n70, σ1.8s15/42,mb4.3/17,MS4.1/20,4C,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAU	Tasmania Unive	16.27	355	P	P	10 39 15.9	-0.8
WHZ	Wether Hill Ro	17.38	49	P	P	10 39 27.9	-1.2
WHZ				IAmb	IAmb	10 39 46.9	
	comp=Z,32nm,1.2s						
MLZ	Mavora Lakes	17.89	48	P	P	10 39 36.5	+1.8
MLZ				IAmb	IAmb	10 39 48.3	
	comp=Z,26nm,1.2s						
CASY	Casey	18.85	231	P	Pn	10 39 46.9	+1.3
VNDA	Vanda	18.98	172	P	P	10 39 46.4	0.0
VNDA	Vanda	18.98	172	P	P	10 39 45.4	-1.0
	comp=Z,0.1nm,0.3s,baz=342,slow=12,SNR=8.7						
VNDA				LR	LR	10 46 28.1	
	comp=Z,626nm,18.1s,baz=346,slow=35						
	comp=Z,0.9nm,0.8s						
TOO	Toolangi	21.69	352	P	P	10 40 19.1	+2.9
TOO				IAmb	IAmb	10 40 21.6	
	comp=Z,17nm,1.1s						
CAN	Canberra	23.80	360	P	P	10 40 38.0	-0.1
CAN				IAmb	IAmb	10 40 44.8	
	comp=Z,18nm,1.1s						
URZ	Urewera	27.48	53	LR	LR	10 50 59.8	
	comp=Z,600nm,18.1s,baz=202,slow=35						
STKA	Stephens Creek	27.72	346	P	P	10 41 15.3	+1.6
STKA	Stephens Creek	27.72	346	P	P	10 41 12.7	-1.0
	comp=Z,3.0nm,0.8s,baz=164,slow=5.2,SNR=4.5						
STKA				LR	LR	10 50 28.5	
	comp=Z,79nm,20.6s,baz=181,slow=33						
	comp=Z,3.0nm,0.8s						
LHI	Lord Howe Isla	28.39	18	P	P	10 41 21.3	+1.7
ARMA	Armidale	28.74	4	P	P	10 41 24.5	+1.6
ARMA				IAmb	IAmb	10 41 28.5	
	comp=Z,6.2nm,1.1s						
QSPA	South Pole Qui	30.98	180	P	P	10 41 42.2	-0.3
QSPA	South Pole Qui	30.98	180	P	P	10 41 42.6	0.0
	comp=Z,1.8nm,1.1s,baz=320,slow=1.6,SNR=3.9						
	comp=Z,1.8nm,1.1s						
FORT	Forrest	31.76	324	P	P	10 41 49.5	+0.1
H01W1	Cape Leeuwin H	33.39	301	T	T	11 17 18.3	
	baz=146,slow=75,SNR=44						
H01W2	Cape Leeuwin H	33.40	301	T	T	11 17 22.8	
	baz=146,slow=75,SNR=36						
H01W3	Cape Leeuwin H	33.41	301	T	T	11 17 20.0	
	baz=146,slow=75,SNR=46						
EIDS	Eidsvold	33.75	3	P	P	10 42 07.2	+0.4
MAW	Mawson	36.50	220	LR	LR	10 57 44.8	
	comp=Z,408nm,18.1s,baz=105,slow=36						
ASAR	Alice Springs	37.05	336	P	P	10 42 34.8	-0.5
ASAR	Alice Springs	37.05	336	P	P	10 42 34.4	-0.9
	comp=Z,2.5nm,0.7s,baz=163,slow=9.5,SNR=32						
ASAR				PcP	PcP	10 44 55.2	-0.7
	comp=Z,0.8nm,0.9s,baz=164,slow=3.4,SNR=4.4						
	comp=Z,2.5nm,0.7s						
AS31	Alice Springs	37.05	336	P	P	10 42 34.8	-0.5
RAO	Raoul Island	37.33	51	LR	LR	10 56 06.3	
	comp=Z,327nm,19.8s,baz=106,slow=34						
DZM	Mont Dzumac	39.00	26	LR	LR	10 54 44.0	
	comp=Z,449nm,21.2s,baz=214,slow=30						
CTAO	Charters Tower	39.04	356	P	P	10 42 52.3	+0.3
CTAO				IAmb	IAmb	10 43 10.2	
	comp=Z,6.6nm,0.9s						
WR8	Warramunga Arr	40.54	338	P	P	10 43 03.1	-1.4
WR8				IAmb	IAmb	10 43 10.7	
	comp=Z,12nm,1.1s						
WRA	Warramunga Arr	40.58	338	P	P	10 43 03.4	-1.5
	comp=Z,2.7nm,0.7s,baz=167,slow=7.6,SNR=24						
WRA				PcP	PcP	10 45 05.8	-1.1
	comp=Z,0.6nm,0.9s,baz=161,slow=3.0,SNR=5.2						
WRA				LR	LR	10 57 32.9	

comp=Z,191nm,20.5s,baz=142,slow=33
comp=Z,2.7nm,0.7s

WRAB	**Tennant Creek**	**40.59**	**338**	P	**P**	**10 43 03.9**	**-1.0**
WRAB				IAmb	IAmb	10 43 11.1	
	comp=Z,14nm,0.9s						
WB0	**Warramunga Arr**	**40.74**	**338**	P	**P**	**10 43 04.8**	**-1.4**
WB0				IAmb	IAmb	10 43 12.2	
	comp=Z,6.6nm,0.9s						
BELA	**Belgrano 2**	**43.24**	**179**	P	**P**	**10 43 24.8**	**-1.2**
MBWA	**Marble Bar**	**43.40**	**318**	P	**P**	**10 43 27.1**	**-0.8**
MBWA				IAmb	IAmb	10 43 27.9	
	comp=Z,12nm,1.1s						
FITZ	**Fitzroy Crossi**	**44.42**	**327**	P	**P**	**10 43 35.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**44.42**	**327**	LR	LR	10 59 57.5	
	comp=Z,362nm,19.8s,baz=160,slow=33						
COEN	**Coen**	**45.30**	**352**	P	**P**	**10 43 42.7**	**-0.4**
COEN				IAmb	IAmb	10 43 55.8	
	comp=Z,13nm,1.1s						
KNRA	**Kununurra**	**45.92**	**332**	P	**P**	**10 43 47.9**	**-0.1**
KNRA				IAmb	IAmb	10 43 54.6	
	comp=Z,6.6nm,0.8s						
TROLL	**Troll, Antarti**	**47.13**	**193**	⇑P	**P**	**10 43 58.2**	**+1.1**
	comp=Z,106nm,0.6s						
SNAA	**Sanae**	**48.05**	**191**	⇑P	**P**	**10 44 04.9**	**+0.7**
	comp=Z,44nm,0.7s						
SNAA	**Sanae**	**48.05**	**191**	P	**P**	**10 44 05.0**	**+0.9**
SNAA				IAmb	IAmb	10 44 15.8	
	comp=Z,3.5nm,0.9s						
SNAA	**Sanae**	**48.05**	**191**	P	**P**	**10 44 04.5**	**+0.3**
	comp=Z,5.2nm,1.2s,baz=184,slow=16,SNR=8.9						
	comp=Z,5.2nm,1.2s						
MTN	**Manton Dam**	**48.13**	**336**	P	**P**	**10 44 04.7**	**-0.5**
VNA2	**Neumayer--Watz**	**49.20**	**190**	⇑P	**P**	**10 44 14.1**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=164,slow=5.3						
VNA1	**Neumayer--Stat**	**49.55**	**190**	⇑P	**P**	**10 44 16.5**	**+0.9**
	comp=Z,6.1nm,1.0s						
H04S2	**CROZET ISLANDS**	**54.70**	**237**	T	T	11 44 58.6	
	baz=140,slow=75,SNR=14						
H04S1	**CROZET ISLANDS**	**54.70**	**237**	T	T	11 45 00.5	
	baz=140,slow=75,SNR=15						
H04S3	**CROZET ISLANDS**	**54.71**	**237**	T	T	11 44 57.5	
	baz=140,slow=75,SNR=12						
JAY	**Jayapura**	**56.84**	**350**	LR	LR	11 08 17.6	
	comp=Z,208nm,21.2s,baz=90,slow=35						
KAPI	**Kappang**	**58.55**	**325**	LR	LR	11 09 23.0	
	comp=Z,164nm,18.8s,baz=170,slow=35						
PPT	**Papeete**	**60.39**	**74**	LR	LR	11 05 58.9	
	comp=Z,50nm,19.3s,baz=256,slow=31						
LEM	**Lembang**	**61.04**	**311**	LR	LR	11 08 18.8	
	comp=Z,149nm,21.1s,baz=311,slow=32						
PSI	**Prapat**	**73.29**	**307**	LR	LR	11 14 12.0	
	comp=Z,135nm,20.2s,baz=100,slow=32						
PLCA	**Paso Flores**	**75.20**	**150**	LR	LR	11 14 25.6	
	comp=Z,87nm,18.9s,baz=208,slow=31						
H08S2	**Diego Garcia H**	**76.67**	**277**	T	T	12 11 32.2	
	baz=148,slow=76,SNR=30						
H08S1	**Diego Garcia H**	**76.67**	**277**	T	T	12 11 31.8	
	baz=148,slow=76,SNR=36						
H08S3	**Diego Garcia H**	**76.69**	**277**	T	T	12 11 27.9	
	baz=148,slow=76,SNR=56						
H03S2	**Juan Fernandez**	**79.15**	**141**	T	T	12 15 25.2	
	baz=201,slow=74,SNR=5.9						
H03S1	**Juan Fernandez**	**79.15**	**141**	T	T	12 15 25.7	
	baz=201,slow=74,SNR=6.1						
H03S3	**Juan Fernandez**	**79.16**	**141**	T	T	12 15 28.4	
	baz=201,slow=74,SNR=6.3						
LBTB	**Lobatse**	**84.20**	**229**	LR	LR	11 19 56.4	
	comp=Z,77nm,20.7s,baz=156,slow=32						
PALK	**Pallekele**	**85.43**	**292**	LR	LR	11 18 59.9	
	comp=Z,79nm,20.1s,baz=118,slow=30						
MATP	**Matopo**	**87.13**	**234**	LR	LR	11 25 33.8	
	comp=Z,36nm,18.8s,baz=173,slow=34						
CMAR	**Chiang Mai Arr**	**87.51**	**313**	LR	LR	11 25 51.5	
	comp=Z,65nm,18.9s,baz=160,slow=34						
LSZ	**Lusaka**	**91.85**	**226**	LR	LR	11 24 45.7	
	comp=Z,97nm,19.3s,baz=156,slow=32						
TSUM	**Tsumeb**	**92.51**	**225**	LR	LR	11 28 24.2	
	comp=Z,72nm,18.7s,baz=141,slow=34						
JNU	**Nakatsue**	**93.15**	**345**	LR	LR	11 32 18.8	
	comp=Z,38nm,18.0s,baz=148,slow=37						
AKASG	**Malin Array Be**	**145.60**	**283**	PKPbc	**PKPab**	**10 55 04.4**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=77,slow=34,SNR=2.5						
GERES	**GERESS Array B**	**152.41**	**268**	PKPbc	**PKiKP**	**10 55 22.2**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=172,slow=2.7,SNR=4.3						
FINES	**FINESS Array B**	**152.47**	**299**	PKPbc	**PKPbc**	**10 55 19.2**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=100,slow=5.8,SNR=4.6						
ARCES	**ARCESS Array B**	**154.51**	**317**	PKPab	**PKPab**	**10 55 37.3**	**-1.8**
	comp=Z,2.9nm,1.1s,baz=69,slow=6.6,SNR=5.0						

WEL 10 10:38:28.7±0.7,34°S±4°×17°9E±°,h12km,M4.5/16, ML4.6/19,MLv4.5/16,Error ellipse: s-maj=7.8km s-min=5.6km az=97.4,confirmed,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.58**	**192**	P	Pn	10 39 22.6	-1.5
MXZ				T	T	10 42 49.0	
WMGZ	**Waiomatatini S**	**3.82**	**190**	P	Pn	10 39 27.6	+0.3
WMGZ				S	Sn	10 40 13.8	+1.6
HAZ	**Te Kaha**	**3.88**	**197**	P	Pn	10 39 28.6	+0.4
HAZ				S	Sn	10 40 14.2	+0.6
PKGZ	**Pakihiroa**	**3.92**	**193**	P	Pn	10 39 29.4	+0.6
PUZ	**Puketiti**	**4.09**	**191**	P	Pn	10 39 29.6	-1.5
RUGZ	**Raukumara Rang**	**4.11**	**197**	P	Pn	10 39 31.9	+0.5
RUGZ				S	Sn	10 40 19.2	-0.2
TWGZ	**Tauwhareparae**	**4.24**	**193**	P	Pn	10 39 33.2	+0.1
TWGZ				S	Sn	10 40 24.1	+1.5
OPRZ	**Ohinepanea**	**4.36**	**209**	P	Pn	10 39 33.6	-1.2
TGRZ	**Tauranga**	**4.39**	**212**	P	Pn	10 39 39.6	+4.4
WCZ	**Waipu Caves**	**4.43**	**243**	P	Pn	10 39 35.4	-0.3
WCZ				S	Sn	10 40 27.7	+0.6
MWZ	**Matawai**	**4.49**	**197**	P	Pn	10 39 36.8	+0.2
MWZ				S	Sn	10 40 31.8	+3.0
TKGZ	**Te Karaka**	**4.52**	**194**	P	Pn	10 39 36.1	-0.9
TKGZ				S	Sn	10 40 30.5	+1.0
URZ	**Urewera**	**4.54**	**202**	P	Pn	10 39 36.8	-0.3
URZ				S	Sn	10 40 28.3	-1.5
RAGZ	**Rawiri**	**4.67**	**198**	P	Pn	10 39 41.0	+1.8
TOZ	**Tahuroa Road**	**4.76**	**218**	P	Pn	10 39 44.8	+4.6
OUZ	**Omahuta**	**4.79**	**254**	P	Pn	10 39 41.0	+0.4
OUZ				S	Sn	10 40 36.1	+0.1
RIGZ	**Rimuhau**	**4.80**	**194**	P	Pn	10 39 40.1	-0.7
MUGZ	**Murupara**	**4.84**	**203**	P	Pn	10 39 41.3	-0.2
SNGZ	**Shannon Statio**	**4.96**	**197**	P	Pn	10 39 41.9	-1.2
SNGZ				S	Sn	10 40 41.2	+0.8
PRGZ	**Paritu Road**	**4.98**	**192**	P	Pn	10 39 41.3	-2.1
TLZ	**Tolley Road**	**5.21**	**214**	P	Pn	10 39 49.3	+2.8
GLKZ	**Green Lake**	**5.36**	**28**	P	Pn	10 39 48.3	-0.2
BKZ	**Black Stump Fm**	**5.56**	**202**	P	Pn	10 39 51.4	+0.1
BKZ				S	Sn	10 40 56.3	+1.2
HIZ	**Hauiti**	**5.68**	**217**	P	Pn	10 39 51.1	-1.8

IDC 10 10:49:42.6±5.1,5°93N×126°93E,h92km±40km,mb3.4/4, mbtmp3.7/4,Error ellipse: s-maj=119.8km s-min=17.1km az=63.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.76**	**310**	P	Pn	10 50 10.2	-1.6
	234nm,0.6s,baz=49,slow=3.2,SNR=6.6						
DAV				S	Sn	10 50 34.4	+0.5
	176nm,0.4s,baz=121,slow=24,SNR=9.1						
WRA	**Warramunga Arr**	**26.72**	**164**	P	P	10 55 14.1	+0.5
	0.4nm,0.6s,baz=343,slow=10,SNR=5.9						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**30.19**	**167**	P	P	10 55 44.0	-0.5
	0.2nm,0.4s,baz=348,slow=7.2,SNR=6.1						
ASAR				PcP	PcP	10 58 44.0	+0.4
	0.2nm,0.4s,baz=336,slow=2.3,SNR=5.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**55.89**	**324**	P	P	10 59 10.5	-0.4
	0.7nm,0.6s,baz=132,slow=8.1,SNR=8.2						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**60.02**	**327**	P	P	10 59 39.5	-0.1
	0.9nm,0.4s,baz=123,slow=7.5,SNR=9.1						
	0.9nm,0.4s						

*SJA **10** 10:53:12.7±0.5,34°35S×74°19W,h29km±31km,ML3.7, MW3.7*
*IDC **10** 10:53:14.1±0.8,34°73S×73°86W,h0km,mb4.0/7, mbtmp3.9/9,ML3.7/2,Error ellipse: s-maj=24.3km s-min=18.2km az=72.0*
*NEIC **10** 10:53:15.3±1.7,34°67S±0°03×73°7W±0°1,h10km±2km, mb4.2/8,ML3.9(GUC),Error ellipse: s-maj=15.4km s-min=3.6km az=280.0*
*GUC **10** 10:53:18.4±0.7,34°85S×73°51W,h37km±2km,ML3.9*

ISC 10 10:53:15.5±4.6,34°76S±0°04×73°71W±0°06,h10km±29km, n82,σ1°65/80,mb4.1/8,11C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**1.47**	**80**	⇑*e*P	Pn	10 53 41.0	-0.9
BO03				*e*S	**Sn**	**10 53 58.9**	**-2.3**
BO03				IAML		10 53 59.8	
	comp=N,1μm,0.2s						
GO05	**Hualane**	**1.49**	**100**	*e*P	Pn	10 53 41.2	-1.1
GO05				*e*S	**Sn**	**10 53 58.2**	**-3.5**
GO05				IAML		10 54 01.1	
	comp=N,3μm,0.1s						
BI05	**Punta Hualpn**	**2.03**	**168**		**Pn**	**10 53 49.1**	**-0.6**
BI05				Sn	**Sn**	**10 54 11.0**	**-4.2**
BI05	**Punta Hualpn**	**2.03**	**168**	IAML		10 54 13.9	
	comp=E,536nm,0.3s						
VA05	**Santo Domingo**	**2.06**	**58**		Pn	10 53 48.8	-1.3
VA05	**Santo Domingo**	**2.06**	**58**	⇑*e*P	Pn	10 53 48.8	-1.3
VA05				*e*S	**Sn**	**10 54 12.7**	**-3.1**
VA05				IAML		10 54 14.4	
	comp=E,3μm,0.4s						
ML02	**Panimavida**	**2.13**	**119**	⇑*e*P	**Pn**	**10 53 50.6**	**-0.5**
ML02				*e*S	**Sn**	**10 54 15.2**	**-2.3**
ML02				IAML		10 54 20.6	
	comp=E,2μm,0.3s						
BO01	**Tunca**	**2.20**	**81**		**Pn**	**10 53 52.0**	**-0.1**
BO01	**Tunca**	**2.20**	**81**	⇑*e*P	**Pn**	**10 53 51.8**	**-0.2**
BO01				*e*S	**Sn**	**10 54 17.7**	**-1.6**
BO01				IAML		10 54 19.7	
	comp=N,418nm,0.3s						
MT01	**Popeta**	**2.22**	**67**		Pn	10 53 51.5	-0.9
MT01				Sn	**Sn**	**10 54 17.0**	**-2.9**
MT01	**Popeta**	**2.22**	**67**	⇑*e*P	Pn	10 53 51.2	-1.1
MT01				*e*S	**Sn**	**10 54 16.3**	**-3.6**
MT01				IAML		10 54 17.7	
	comp=N,948nm,0.2s						
BO02	**Sierra Bellavi**	**2.41**	**92**		**Pn**	**10 53 55.6**	**+0.6**
BO02	**Sierra Bellavi**	**2.41**	**92**	⇑*e*P	**Pn**	**10 53 55.0**	**0.0**
BO02				*e*S	**Sn**	**10 54 22.8**	**-1.9**
BO02				IAML		10 54 25.7	
	comp=N,3μm,0.3s						
VA01	**Torpederas**	**2.44**	**45**		Pn	10 53 53.5	-1.7
VA01				Sn	**Sn**	**10 54 21.0**	**-4.1**
MT09	**Talagante**	**2.46**	**67**		**Pn**	**10 53 54.9**	**-0.8**
MT09				Sn	**Sn**	**10 54 23.8**	**-2.1**
MT09	**Talagante**	**2.46**	**67**	IAML		10 54 25.8	
	comp=N,1μm,0.3s						
MT02	**Curacav**	**2.61**	**56**		Pn	10 53 56.3	-1.4
MT02	**Curacav**	**2.61**	**56**	*e*P	Pn	10 53 56.3	-1.4
MT02				*e*S	**Sn**	**10 54 26.2**	**-3.2**
MT02				IAML		10 54 29.6	
	comp=N,349nm,0.3s						
BO04	**La Punta**	**2.68**	**74**		**Pn**	**10 53 58.9**	**+0.2**
BO04	**La Punta**	**2.68**	**74**	⇑*e*P	**Pn**	**10 53 58.8**	**+0.1**
BO04				*e*S	**Sn**	**10 54 30.1**	**-1.1**
BO04				IAML		10 54 31.2	
	comp=E,844nm,0.2s						
BI02	**San Fabin de**	**2.75**	**134**		**Pn**	**10 54 00.6**	**+0.9**
BI02	**San Fabin de**	**2.75**	**134**	*e*P	**Pn**	**10 54 00.1**	**+0.4**
BI02				*e*S	**Sn**	**10 54 30.4**	**-2.6**
BI02				IAML		10 54 43.1	
	comp=N,272nm,0.6s						
MT05	**Renca**	**2.82**	**62**		**Pn**	**10 54 00.1**	**-0.5**
ROC1	**El Roble**	**2.86**	**52**	*i* S	**Sn**	**10 54 36.9**	**+0.9**
MT03	**Universidad Ad**	**2.94**	**66**		**Pn**	**10 54 01.9**	**-0.4**
MT03	**Universidad Ad**	**2.94**	**66**	⇑*e*P	**Pn**	**10 54 01.8**	**-0.5**
MT03				*e*S	**Sn**	**10 54 35.1**	**-2.6**
MT03				IAML		10 54 38.9	
	comp=N,902nm,0.3s						
MT16	**CCHEN**	**2.96**	**64**		**Pn**	**10 54 02.3**	**-0.2**
VA06	**Catapilco**	**2.98**	**43**		Pn	10 54 01.1	-1.6
PEL	**Peldehue**	**2.99**	**58**		**Pn**	**10 54 02.7**	**-0.2**
LMEL	**Las Melosas**	**3.04**	**74**		**Pn**	**10 54 04.4**	**+0.6**
LMEL	**Las Melosas**	**3.04**	**74**	*i* P	**Pn**	**10 54 04.2**	**+0.4**
LMEL				*e*S	**Sn**	**10 54 38.6**	**-1.7**
LMEL				IAML		10 54 44.9	
	comp=E,580nm,0.2s						
FCH	**Farellones**	**3.18**	**64**	IAML		10 54 45.3	
	comp=N,447nm,0.3s						
VA03	**San Esteban**	**3.30**	**54**		**Pn**	**10 54 06.9**	**-0.3**
VA03	**San Esteban**	**3.30**	**54**	*i* P	**Pn**	**10 54 06.8**	**-0.5**
VA03				*i* S	**Sn**	**10 54 47.3**	**+0.7**
VA03				IAML		10 54 47.6	
	comp=Z,317nm,0.6s						
MT08	**Bocatoma Ro**	**3.33**	**68**		**Pn**	**10 54 08.5**	**+0.6**
CO02	**Combarbal**	**4.21**	**33**		**Pn**	**10 54 18.5**	**-1.3**
H03S1	**Juan Fernandez**	**4.39**	**280**	Pn	Pn	10 54 17.2	-4.7
	baz=342,slow=76						
H03S3	**Juan Fernandez**	**4.40**	**281**	Pn	Pn	10 54 17.2	-4.8
	baz=342,slow=76						
AUSP	**Uspallata**	**4.41**	**56**	*i* P	**Pn**	**10 54 23.7**	**+1.0**
AUSP				*i* S	**Sn**	**10 55 16.0**	**+1.7**
H03S2	**Juan Fernandez**	**4.41**	**281**	Pn	Pn	10 54 16.7	-5.5
	baz=342,slow=76						
CO06	**Fray Jorge**	**4.43**	**24**	Pn	Pn	10 54 20.2	-2.5
H03N1	**Juan Fernandez**	**4.51**	**285**	Pn	**Pn**	**10 54 20.6**	**-2.9**
	baz=130,slow=24						
H03N3	**Juan Fernandez**	**4.51**	**285**	Pn	**Pn**	**10 54 21.6**	**-2.1**
	baz=130,slow=24						
H03N2	**Juan Fernandez**	**4.53**	**285**	Pn	Pn	10 54 19.6	-4.2
	baz=130,slow=24						
ASAL	**Salagasta**	**4.60**	**63**	*i* P	**Pn**	**10 54 27.1**	**+1.9**
ASAL				*i* S	**Sn**	**10 55 21.9**	**+3.1**
CO03	**El Pedregal**	**4.66**	**34**		**Pn**	**10 54 25.0**	**-1.0**
RTLS	**Leoncito**	**4.73**	**53**	*i* P	**Pn**	**10 54 27.7**	**+0.6**
RTLS				*i* S	**Sn**	**10 55 23.8**	**+1.6**
RTLS				IAML		10 55 27.2	
	comp=Z,118nm,0.4s						
GO04	**Tololo Observa**	**5.19**	**29**		Pn	10 54 31.5	-1.9
RTLL	**Cerro Villicun**	**5.57**	**54**	*i* P	**Pn**	**10 54 38.8**	**+0.3**
RTLL				*i* S	**Sn**	**10 55 41.8**	**-0.7**
CO01	**Juntas del Tor**	**5.66**	**34**		**Pn**	**10 54 39.4**	**-0.5**
LCO	**Las Campanas**	**6.27**	**25**	Pn	**Pn**	**10 54 46.9**	**-1.4**
PLCA	**Paso Flores**	**6.47**	**158**	Pn	**Pn**	**10 54 53.0**	**+2.2**
PLCA	**Paso Flores**	**6.47**	**158**	Pn	**Pn**	**10 54 52.2**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=347,slow=11,SNR=7.7						
	comp=Z,1.0nm,0.5s						
LL05	**Los Muermos**	**6.64**	**178**	Pn	**Pn**	**10 54 53.6**	**+0.5**
AGUA	**GUANDACOL**	**6.87**	**42**	*i* P	Pn	10 54 54.7	-1.7
AGUA				IAML		10 57 02.0	
	comp=Z,15nm,3.1s						
AC04	**Llanos de Chal**	**6.91**	**20**	Pn	Pn	10 54 54.1	-2.7
ACHE	**Chepes**	**6.92**	**61**	*i* P	**Pn**	**10 54 57.0**	**-0.1**
APLL	**PUNTA DE LOS L**	**7.46**	**56**	*i* P	**Pn**	**10 55 03.4**	**-1.0**
APLL				IAML		10 57 20.7	
	comp=Z,1.3nm,3.8s						
ACLC	**CERRO LA CRUZ**	**7.82**	**49**	*i* P	**Pn**	**10 55 08.3**	**-1.1**
AC02	**Maricunga**	**8.82**	**28**	Pn	Pn	10 55 21.7	-1.8
TRQA	**Tornquist**	**10.01**	**113**	Pn	**Pn**	**10 55 39.0**	**-0.3**
PB14	**IPOC Station P**	**10.50**	**17**	Pn	Pn	10 55 44.0	-2.3
PB11	**IPOC Station P**	**15.36**	**15**		**Pn**	**10 56 50.4**	**-2.1**
PB11				IAmb	IAmb	10 56 59.7	
	comp=Z,9.5nm,1.0s						
LPAZ	**La Paz**	**19.06**	**17**	P	**P**	**10 57 36.9**	**-1.7**
LPAZ	**La Paz**	**19.06**	**17**	P	**Pn**	**10 57 40.1**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=180,slow=3.8,SNR=6.4						
	comp=Z,1.7nm,0.7s						
EFI	**East Falkland**	**20.32**	**151**	P	**P**	**10 57 51.5**	**0.0**
EFI				IAmb	IAmb	10 57 53.5	
	comp=Z,7.2nm,0.9s						
SIV	**San Ignacio**	**21.86**	**34**	P	**P**	**10 58 08.7**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=209,slow=8.7,SNR=11						
	comp=Z,1.9nm,0.6s						
PTLB	**Pontes e Lacer**	**23.27**	**38**	P	**P**	**10 58 22.3**	**-0.9**
VILB	**Vilhena**	**24.92**	**33**	P	**P**	**10 58 38.0**	**-0.9**
BAUV	**El Baul**	**43.79**	**8**	P	**P**	**11 01 21.6**	**+0.1**
VNA2	**Neumayer--Watz**	**49.86**	**157**	⇑P	**P**	**11 02 09.5**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=286,slow=7.8						
SNAA	**Sanae**	**51.41**	**158**	⇑P	**P**	**11 02 21.8**	**+1.6**
	comp=Z,33nm,0.6s						
SNAA	**Sanae**	**51.41**	**158**	P	**P**	**11 02 21.9**	**+1.8**
SNAA				IAmb	IAmb	11 02 22.6	
	comp=Z,3.9nm,1.2s						
SNAA	**Sanae**	**51.41**	**158**	P	**P**	**11 02 20.4**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=302,slow=9.9,SNR=9.7						
	comp=Z,1.6nm,0.8s						
TROLL	**Troll, Antarti**	**53.11**	**158**	⇑P	**P**	**11 02 33.7**	**+0.8**
	comp=Z,49nm,0.5s						
QSPA	**South Pole Qui**	**55.48**	**180**	P	**P**	**11 02 52.0**	**+1.8**
QSPA				IAmb	IAmb	11 02 52.9	
	comp=Z,7.0nm,1.3s						
QSPA	**South Pole Qui**	**55.48**	**180**	P	**P**	**11 02 51.7**	**+1.5**
	comp=Z,2.3nm,0.9s,baz=202,slow=0.6,SNR=11						
	comp=Z,2.3nm,0.9s						
TXAR	**Lajitas Array**	**69.74**	**332**	P	**P**	**11 04 26.6**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=149,slow=8.3,SNR=6.7						
	comp=Z,0.6nm,0.4s						
DBIC	**Dimbokro**	**76.73**	**72**	P	**P**	**11 05 06.7**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=267,slow=4.0,SNR=1.8						
	comp=Z,2.8nm,0.8s						
BOSA	**Boshof**	**80.94**	**118**	P	**P**	**11 05 31.0**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=199,slow=3.7,SNR=4.6						
	comp=Z,3.1nm,0.8s						
PDAR	**Pinedale Array**	**83.83**	**334**	P	**P**	**11 05 45.0**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=113,slow=7.4,SNR=2.3						
	comp=Z,0.1nm,0.4s						
MKAR	**Makanchi Array**	**158.30**	**49**	PKPab	**PKPab**	**11 13 47.4**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=297,slow=5.3,SNR=4.9						

*ISN **10** 10:56:22.7±0.6,37°11N×43°29E,h5km±6km,ML4.0*
*AFAD **10** 10:56:22.2,36°83N×43°39E,h9km±2km,MW4.5*
*IDC **10** 10:56:23.5±0.8,36°93N×43°44E,h0km,mb4.2/15, mbtmp4.2/24,ML3.5/8,MS3.4/13,Error ellipse: s-maj=14.9km s-min=12.9km az=157.0*
*MOS **10** 10:56:24.0±1.0,37°02N×43°31E,h14km,mb4.5/18,Error ellipse: s-maj=8.6km s-min=5.1km az=90.4*
*NEIC **10** 10:56:25.3±2.1,36°98N±0°06×43°34E±0°08,h10km±1km, mb4.3/27,Error ellipse: s-maj=12.2km s-min=7.5km az=231.0*
*ISK **10** 10:56:25.8,37°10N×43°49E,h5km,ML4.3/12*
*GII **10** 10:57:03.2±0.0,36°87N×43°41E,h10km,Md4.4/1, confirmed*

ISC 10 10:56:23.6±1.1,36°94N±0°02×43°35E±0°03,h3km±7km, n182,σ1°76/189,mb4.3/32,MS3.2/7,6C-1D,Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.37**	**33**	Pg	**Pg**	**10 56 28.1**	**-2.7**
CUKT				Sg	**Sg**	**10 56 33.5**	**-2.2**
CUKT	**Cukurca**	**0.37**	**33**	P	**Pg**	**10 56 27.6**	**-3.2**
MSL	**Mosul**	**0.57**	**200**	*e*Pg	**Pb**	**10 56 39.0**	**+2.7**
MSL				*e*Sg	**Sn**	**10 56 49.5**	**+0.9**
HAKT	**HAKKARI**	**0.68**	**24**	P	**Pg**	**10 56 36.5**	**-0.3**
SIRN	**Sirnak**	**0.94**	**307**	P	**Pg**	**10 56 41.9**	**+0.3**
SIRN				S	**Sb**	**10 56 56.0**	**+0.6**
SIRN				*i* IAML		10 57 02.0	
	comp=E,5μm,0.5s						
SIRN				*i* IAML		10 57 02.0	
	comp=N,4μm,0.4s						
PERV	**Siirt/Pervari-**	**1.20**	**328**	P	**Pb**	**10 56 46.9**	**-0.2**
PERV				S	**Sn**	**10 57 05.1**	**+0.8**
PERV				*i* IAML		10 57 10.0	
	comp=E,4μm,0.4s						
PERV				*i* IAML		10 57 13.0	
	comp=N,4μm,0.4s						
GEVA	**Gevas**	**1.39**	**350**		**Pn**	**10 56 50.2**	**0.0**
GEVA	**Gevas**	**1.39**	**350**	P	**Pn**	**10 56 50.1**	**0.0**
GEVA				S	**Sg**	**10 57 12.1**	**+3.6**
GEVA				*i* IAML		10 57 21.0	
	comp=E,1μm,0.6s						
AKDM	**Akdamar-Van**	**1.42**	**348**	Pn	**Pg**	**10 56 51.7**	**+0.8**
AKDM				Sn	**Sg**	**10 57 10.5**	**+1.2**
SRTM	**Siirt_Merkez**	**1.55**	**313**	P	**Pb**	**10 56 53.3**	**+0.3**
SRTM				S	**Sg**	**10 57 16.6**	**+3.2**
SRTM				*i* IAML		10 57 20.0	
	comp=E,4μm,0.4s						
SRTM				*i* IAML		10 57 20.0	
	comp=N,6μm,0.5s						
TVAN	**Van**	**1.59**	**2**	P	**Pb**	**10 56 54.3**	**+0.4**
TVAN				S	**Sg**	**10 57 18.2**	**+3.4**
MIDY	**Mardin/Midyat-**	**1.63**	**287**	P	**Pb**	**10 56 54.6**	**+0.2**
MIDY				S	**Sg**	**10 57 17.0**	**+1.0**
MIDY				*i* IAML		10 57 24.0	
	comp=E,3μm,0.7s						
MIDY				*i* IAML		10 57 25.0	
	comp=N,3μm,0.5s						
VANB	**Van**	**1.66**	**1**	Pn	**Pn**	**10 56 53.7**	**-0.1**
OZAP	**Van, Ozalp-Mer**	**1.80**	**16**	P	**Pn**	**10 56 55.8**	**0.0**
BTMN	**Batman**	**1.91**	**301**	P	**Pb**	**10 57 00.2**	**+1.0**
BTMN				S	**Sb**	**10 57 23.8**	**+0.2**
BTMN				*i* IAML		10 57 35.0	
	comp=N,2μm,1.0s						
BTMN				*i* IAML		10 57 38.0	
	comp=E,3μm,0.6s						
GURO	**Guroymak-BITLI**	**1.92**	**327**	Pn	**Pb**	**

comp=E,188nm,2.1s
KBZ Khabaz 6.79 357 Pn **Pn 10 58 07.9 +3.8**
comp=E,0.1nm,0.3s,baz=158,slow=8.9,SNR=17
comp=E,14nm,1.0s
KBZ Khabaz 6.79 357 *i* P **Pn 10 58 04.3 +0.1**
MAK Makhachkala 6.81 27 *e*P Pn 10 57 59.5 -4.9
MAK *e*S **Sn 10 59 16.3 -6.1**
MAK pmax pmax
comp=Z,38nm,0.3s
MAK MLR MLR
comp=Z,453nm,10.0s
SHA1 Shidzhatmaz 6.81 356 *i* P **Pn 10 58 06.4 +1.7**
KIV Kislovodsk 7.03 356 Pn 10 58 10.1 +2.5
KVAR Kislovodsk Arr 7.03 356 Pn **Pn 10 58 11.4 +3.9**
baz=267,slow=18
comp=Z,4.4nm,0.5s
ASF Jabal al Asfar 7.13 230 Pn **Pn 10 58 10.6 +1.6**
comp=Z,1.3nm,0.3s,baz=332,slow=22,SNR=17
ASF LR LR 11 01 17.8
comp=Z,234nm,19.9s,baz=63,slow=41
comp=Z,20nm,0.9s
SOC Sochi 7.20 338 *e*P **Pn 10 58 07.9 -1.8**
SOC *e* 10 59 30.3
SOC MLR MLR
comp=Z,229nm,18.0s
GEM Giv'at Ha'Em 7.32 242 S **Sg 11 00 14.5 -4.0**
GEM Giv'at Ha'Em 7.32 242 P Pg 10 58 50.7 +7.0
MMA0B Mount Meron ar 7.61 241 P Pg 10 58 54.9 +5.6
MMAI Mount Meron Ar 7.61 241 Pn **Pn 10 58 17.5 +2.0**
comp=Z,4.0nm,0.3s,baz=64,slow=15,SNR=8.3
MMAI LR LR 11 01 34.7
comp=Z,233nm,21.8s,baz=57,slow=41
comp=Z,3.4nm,0.4s
HNTI Hanita 7.73 243 S **Sg 11 00 25.2 -6.6**
HNTI Hanita 7.73 243 P Pg 10 58 56.8 +5.1
BLGI Bet Lehem HaGe 7.91 240 P **Pg 10 58 58.4 +3.3**
LABN Labinsk 7.95 346 *e*P **Pn 10 58 18.9 -1.2**
LABN pmax pmax
comp=Z,39nm,0.5s
LABN MLR MLR
comp=Z,322nm,11.0s
LABN MLR MLR
comp=N,218nm,8.0s
LABN MLR MLR
comp=E,584nm,10.0s
BR131 Keskin Array S 8.12 293 *i* P **Pn 10 58 24.8 +2.2**
DSI Dead Sea 8.49 233 P **Pg 10 59 06.3 0.0**
MSBI Mazada 8.68 232 P **Pg 10 59 08.9 -1.0**
YTIR Yattir 8.80 233 P **Pg 10 59 10.9 -1.2**
ERBR Yeremizino-Bor 9.03 347 *e*P Pn 10 58 40.9 +6.0
ERBR pmax pmax
comp=Z,35nm,1.1s
ANN Anapa 9.04 332 *e*P Pn 10 58 42.6 +7.6
ANN pmax pmax
comp=Z,50nm,1.5s
ANN MLR MLR
comp=Z,106nm,12.0s
ZFRI Zfri 9.31 229 P Pn 10 59 17.7 +39
KZIT Kziot 9.56 234 P Pn 10 59 20.5 +38
PRNI Paran 9.56 229 P Pn 10 59 21.2 +39
HRFI Mount Harif 9.77 228 P Pn 10 59 24.0 +39
KRMI Paran Flat 9.90 229 P Pn 10 59 25.2 +38
MBRI Mt Berech 10.02 227 P Pn 10 59 27.0 +38
EIL Elat 10.09 227 Pn **Pn 10 58 50.6 +1.1**
comp=Z,0.4nm,0.3s,baz=341,slow=7.2,SNR=5.1
EIL LR LR 11 03 20.0
comp=Z,264nm,18.4s,baz=68,slow=41
comp=Z,1.8nm,0.4s
EIL Elat 10.09 227 P Pn 10 59 28.7 +39
RAYN Ar Rayn 13.50 172 Pn **Pn 10 59 33.4 -2.7**
RAYN Ar Rayn 13.50 172 P **Pn 10 59 33.4 -2.7**
VRH Novokhopyorsk 14.31 356 *e*P **Pn 10 59 50.0 +2.9**
VRH pmax pmax
comp=Z,19nm,0.8s
VORR Voronezh 15.02 350 *e*P **Pn 10 59 57.2 +0.4**
VORR pmax pmax
comp=Z,38nm,0.4s
BELG Belogornoye 15.75 10 LR LR 11 07 32.1
comp=Z,160nm,18.2s,baz=208,slow=42
BELG Belogornoye 15.75 10 *i* P **Pn 11 00 06.1 -0.2**
BELG pmax pmax
comp=Z,2.0nm,0.9s
LPSR Galich'ya Gora 15.97 350 *e*P **P 11 00 12.1 -0.7**
LPSR pmax pmax
comp=Z,54nm,1.2s
UOSS Minazif 16.24 134 Pn **Pn 11 00 11.2 -1.7**
UOSS IAmb IAmb 11 00 17.0
comp=Z,19nm,1.0s
AKASG Malin Array Be 17.08 328 P **Pn 11 00 24.0 +0.7**
comp=Z,0.4nm,0.3s,baz=138,slow=12,SNR=17
comp=Z,1.8nm,0.7s
AKBB Malin Array Si 17.08 328 P **Pn 11 00 23.1 -0.2**
AKBB Malin Array Si 17.08 328 *i* P **P 11 00 24.4 -0.8**
AKBB pmax pmax
comp=Z,23nm,1.8s
KIEV Kiev 17.08 328 P **Pn 11 00 22.7 -0.6**
KIEV Kiev 17.08 328 P **Pn 11 00 22.7 -0.6**
KIEV pmax pmax
comp=Z,11nm,1.2s
BURAR Bucovina Array 17.10 314 P **Pn 11 00 22.1 -1.7**
AKTO Aktyubinsk 17.12 33 P **Pn 11 00 23.6 -0.2**
comp=Z,0.4nm,0.3s,baz=228,slow=8.9,SNR=9.8
AKTO LR LR 11 08 12.1
comp=Z,58nm,18.9s,baz=176,slow=42
comp=Z,4.4nm,0.7s
BUR08 Bucovina Ar. S 17.13 314 P **Pn 11 00 24.1 0.0**
AB31 Akbulak array 17.23 39 P **Pn 11 00 25.6 +0.5**
ABKAR Akbulak array 17.23 39 P **Pn 11 00 25.5 +0.3**
OBN Obninsk 18.77 348 P **P 11 00 43.3 -0.4**
OBN Obninsk 18.77 348 P **P 11 00 43.2 -0.4**
comp=Z,15nm,0.3s,baz=314,slow=19,SNR=5.0
OBN Obninsk 18.77 348 *de*P **P 11 00 43.2 -0.4**
OBN *e*S **Sn 11 04 12.5 -1.7**
OBN pmax pmax
comp=Z,19nm,1.2s
OBN MLR MLR
comp=Z,50nm,17.0s
WSAR Wadi Sarin 18.97 132 P **P 11 00 46.0 -0.2**
comp=Z,0.1nm,0.7s,baz=181,slow=24,SNR=4.8
MOS Moscow 19.21 350 *e*P **P 11 00 47.9 -0.6**
PDG Podgorica 19.31 294 P **P 11 00 48.3 -1.5**
PDG IAmb IAmb 11 00 58.9
comp=Z,11nm,1.0s
PSZ Piszkesteto 20.42 310 P **P 11 01 00.9 -1.0**
PSZ IAmb IAmb 11 01 07.8
comp=Z,9.1nm,1.0s
PSZ Piszkesteto 20.42 310 P **P 11 01 00.9 -1.0**
PSZ pmax pmax
comp=Z,9.0nm,1.0s
VYHS Vyhne 21.30 311 *e*P **P 11 01 16.1 +4.7**
VYHS Vyhne 21.30 311 *e*P **P 11 01 16.1 +4.7**
GAR Garm 21.33 76 P **P 11 01 12.4 +0.5**
GAR IAmb IAmb 11 01 19.4
comp=Z,32nm,1.2s
OJC Ojcow 21.50 316 P **P 11 01 13.0 -0.6**
OJC Ojcow 21.50 316 P **P 11 01 13.0 -0.6**
KK31 Karatay Array 21.64 65 **P 11 01 16.5 +1.4**
KK31 IAmb IAmb 11 01 21.4
comp=Z,16nm,1.2s
KK31 Karatay Array 21.64 65 P **P 11 01 16.5 +1.4**
KK31 pmax pmax
comp=Z,15nm,1.2s
KKAR Karatay Array 21.64 65 P **P 11 01 14.9 -0.1**
KKAR Karatay Array 21.64 65 P **P 11 01 15.0 -0.1**
BTK Batken 21.69 73 P **P 11 01 16.3 +0.6**
BTK IAmb IAmb 11 01 19.4
comp=Z,32nm,1.4s
BTK Batken 21.69 73 P **P 11 01 16.3 +0.6**
BTK pmax pmax
comp=Z,32nm,1.5s
ARTI Arti 21.93 23 **P 11 01 17.2 -0.8**
ARTI IAmb IAmb 11 01 22.4
comp=Z,16nm,1.1s
ARTI Arti 21.93 23 P **P 11 01 16.9 -1.2**
comp=Z,4.0nm,0.5s,baz=216,slow=7.7,SNR=6.0
ARTI LR LR 11 12 15.0
comp=Z,195nm,19.0s,baz=186,slow=43
comp=Z,4.0nm,0.5s
ARTI Arti 21.93 23 *c i*P **P 11 01 17.1 -1.0**
ARTI 11 01 38.1
ARTI S **S 11 05 21.7 +1.0**
ARTI pmax pmax
comp=Z,9.0nm,1.0s
ARTI MLR MLR
comp=Z,180nm,17.0s
KIRV Kirov 22.02 8 P **P 11 01 18.1 -0.9**
comp=Z,10nm,0.5s,baz=41,slow=4.0,SNR=6.8
KIRV LR LR 11 11 24.2
comp=Z,87nm,19.9s,baz=197,slow=41
comp=Z,10nm,0.5s
KIRV Kirov 22.02 8 *i* P **P 11 01 18.5 -0.5**
SUW Suwalki 22.04 327 P **P 11 01 19.4 +0.1**
SUW Suwalki 22.04 327 P **P 11 01 19.4 +0.1**
JAVC Velka Javorina 22.15 311 *e*P **P 11 01 23.9 +3.3**
MODS Modra-Piesok 22.21 309 *e*P P 11 01 31.7 +11
DRK Karamyk 22.46 75 P **P 11 01 25.0 +0.8**
DRK Karamyk 22.46 75 P **P 11 01 25.0 +0.8**
DRK pmax pmax
comp=Z,35nm,1.4s
MORC Moravsky Berou 22.60 313 *e*P **P 11 01 27.4 +2.0**
VRAC Vranov 22.98 311 *e*P **P 11 01 31.8 +2.5**
KRUC Moravsky 23.01 310 *e*P **P 11 01 31.8 +2.2**
ARSB Arslanbob 23.34 70 P **P 11 01 34.1 +0.9**
ARSB Arslanbob 23.34 70 P **P 11 01 34.2 +0.9**
ARSB pmax pmax
comp=Z,30nm,1.3s
KLMR Klimovskoe 24.06 355 *e*P **P 11 01 38.6 -1.3**
KLMR pmax pmax
comp=Z,24nm,1.5s
AAK Ala-Archa 24.52 67 P **P 11 01 44.7 +0.2**
AAK IAmb IAmb 11 01 48.8
comp=Z,12nm,1.3s
AAK Ala-Archa 24.52 67 P **P 11 01 44.6 +0.2**
comp=Z,1.2nm,0.3s,baz=259,slow=13,SNR=7.0
comp=Z,1.2nm,0.3s
AAK Ala-Archa 24.52 67 *ce*P **P 11 01 45.1 +0.6**
AAK pmax pmax
comp=Z,11nm,1.7s
GEC2 GERESS Array S 24.61 308 **P 11 01 43.6 -1.6**
GEC2 IAmb IAmb 11 01 50.3
comp=Z,8.4nm,1.1s
GERES GERESS Array B 24.61 308 P **P 11 01 44.0 -1.2**
GERES GERESS Array B 24.61 308 P **P 11 01 45.6 +0.5**
comp=Z,4.4nm,0.9s,baz=108,slow=8.6,SNR=15
comp=Z,4.4nm,0.9s
BRVK Borovoye 24.74 41 **P 11 01 45.1 -1.0**
BRVK IAmb IAmb 11 01 50.0
comp=Z,10nm,1.2s
BRVK Borovoye 24.74 41 *ce*P **P 11 01 46.0 -0.2**
BRVK pmax pmax
comp=Z,10.0nm,1.3s
KHC Kasperske Hory 24.77 309 *e*P **P 11 01 50.0 +3.4**
KHC *ex* x 11 02 10.0
KHC Kasperske Hory 24.77 309 *e*P **P 11 01 50.0 +3.4**
BVAR Borovoye Array 24.78 41 LR LR 11 13 12.6
comp=Z,34nm,18.1s,baz=230,slow=41
BRG Berggiesshubel 25.16 313 *e*P **P 11 01 54.6 +4.6**
BRG Amp 11 01 56.5
comp=Z,6.0nm,1.0s
BOOM Boomskoye usch 25.58 67 **P 11 01 54.8 +0.7**
BOOM Boomskoye usch 25.58 67 P **P 11 01 54.8 +0.7**
BOOM pmax pmax
comp=Z,23nm,1.4s
NRN Naryn 25.61 70 **P 11 01 54.1 -0.5**
NRN IAmb IAmb 11 02 01.1
comp=Z,5.9nm,0.9s
NRN Naryn 25.61 70 P **P 11 01 54.1 -0.5**
NRN pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 25.87 313 *e*P **P 11 01 57.0 +0.6**
CLL pmax pmax
comp=Z,9.0nm,1.3s
CLL Collm 25.87 313 *e*P **P 11 01 57.0 +0.6**
comp=Z,9.0nm,1.3s
FINES FINESS Array B 26.83 342 P **P 11 02 04.6 -0.3**
comp=Z,1.3nm,0.7s,baz=135,slow=14,SNR=2.1
comp=Z,1.3nm,0.7s
KEST Kesra 27.34 278 P **P 11 02 11.3 +1.3**
comp=Z,6.7nm,0.9s,baz=356,slow=3.5,SNR=4.6
comp=Z,6.7nm,0.9s
KURBB Kurchatov Arra 28.55 50 P **P 11 02 20.5 0.0**
comp=Z,1.0nm,0.2s,baz=261,slow=9.6,SNR=13
comp=Z,1.0nm,0.2s
KURK Kurchatov 28.63 50 P **P 11 02 20.5 -0.7**
KURK IAmb IAmb 11 02 24.1
comp=Z,6.4nm,1.4s
KURK Kurchatov 28.63 50 *ce*P **P 11 02 21.9 +0.7**
KURK pmax pmax
comp=Z,5.0nm,1.3s
HFS Hagfors 29.95 330 P **P 11 02 32.7 -0.1**
comp=Z,4.8nm,0.9s,baz=133,slow=8.7,SNR=6.5
comp=Z,4.8nm,0.9s
MK31 Makanchi Array 30.35 59 P **P 11 02 36.4 -0.2**
MK31 IAmb IAmb 11 02 40.2
comp=Z,9.4nm,1.4s
MK31 Makanchi Array 30.35 59 *ce*P **P 11 02 37.1 +0.5**
MKAR Makanchi Array 30.35 59 P **P 11 02 37.3 +0.7**
MKAR Makanchi Array 30.35 59 P **P 11 02 36.4 -0.2**
comp=Z,4.5nm,1.0s,baz=266,slow=5.7,SNR=15
comp=Z,4.5nm,1.0s
MKAR Makanchi Array 30.35 59 P **P 11 02 37.3 +0.7**
NOA NORSAR Array B 31.47 330 LR LR 11 17 03.8
comp=Z,28nm,19.1s,baz=65,slow=39
ZAA0 Zalesovo Array 33.12 46 P **P 11 03 00.2 -0.6**
ARCES ARCESS Array B 34.07 349 P **P 11 03 09.4 +0.6**
comp=Z,1.7nm,0.8s,baz=134,slow=8.7,SNR=5.3
ARCES LR LR 11 19 24.4
comp=Z,32nm,19.0s,baz=113,slow=40
comp=Z,1.7nm,0.8s
WMQ Urumqi 34.15 64 *e*P **P 11 03 12.6 +2.7**
EKA Eskdalemuir Ar 36.28 316 P **P 11 03 28.5 +0.4**
comp=Z,1.5nm,0.6s,baz=101,slow=8.6,SNR=6.2
comp=Z,1.5nm,0.6s
ESDC Sonseca Array 36.90 289 P **P 11 03 34.4 +0.8**
comp=Z,1.7nm,1.0s,baz=63,slow=8.1,SNR=7.6
comp=Z,1.7nm,1.0s
NRIK Noril'sk 40.25 23 P **P 11 04 01.3 0.0**
NRIK IAmb IAmb 11 04 04.7
comp=Z,8.2nm,0.9s
NRIK Noril'sk 40.25 23 *i* P **P 11 04 01.5 +0.2**
NRIK pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 47.05 56 *ce*P **P 11 04 56.5 -0.1**
ULN pmax pmax
comp=Z,15nm,1.7s
CMAR Chiang Mai Arr 51.83 95 P **P 11 05 32.8 -0.4**
comp=Z,1.7nm,0.7s,baz=297,slow=8.4,SNR=9.7
comp=Z,1.7nm,0.7s
HHC Hu-ho-hao-te 52.02 63 *e*P **P 11 05 35.3 +0.8**
HHC pmax pmax
comp=Z,23nm,0.6s
HHC pmax pmax
comp=Z,99nm,4.4s
YAK Yakutsk 56.51 34 *i* P **P 11 06 06.9 +0.2**
YAK pmax pmax
comp=Z,11nm,0.5s
KLR Kul'dur 62.19 48 P **P 11 06 45.9 -0.4**
comp=Z,1.0nm,0.7s,baz=4.8,slow=1.7,SNR=3.7
KLR LR LR 11 34 06.6
comp=Z,56nm,18.7s,baz=208,slow=36
comp=Z,1.0nm,0.7s
KLR Kul'dur 62.19 48 *i* P **P 11 06 44.5 -1.8**
KLR pmax pmax
comp=Z,4.0nm,1.5s
SEY Seymchan 65.64 28 P **P 11 07 08.9 +0.3**
comp=Z,2.8nm,0.8s,baz=293,slow=6.1,SNR=8.5
comp=Z,2.8nm,0.8s
SEY Seymchan 65.64 28 P **P 11 07 09.0 +0.3**
BILL Bilibino 67.01 20 *i* P **P 11 07 17.2 -0.2**
BILL pmax pmax
comp=Z,2.0nm,1.0s
ILAR Eielson Array 78.31 4 LR LR 11 46 32.6
comp=Z,104nm,18.8s,baz=242,slow=38

NEIC ***10*** *10:58:04.3±1.3,35°.866N±0°.008×117°.69W±0°.01, h2km±1km, Error ellipse: s-maj=1.4km s-min=1.2km az=90.0*
PAS 10 10:58:05.0±1.3, 35°.864N±0°.004×117°.69W±0°.01, h3km±2km, ML3.4/20, ML3.3/120(NEIC), Error ellipse: s-maj=1.4km s-min=0.7km az=93.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**230**				Pg	10 58 07.3	+0.6
TOW							Sg	10 58 09.8	+1.9
CLC	**China Lake**	**0.09**	**124**				Pg	10 58 06.7	0.0
JRC2	**Joshua Ridge**	**0.16**	**320**				Pg	10 58 06.7	-1.5
WCSM	**Coso Springs S**	**0.17**	**338**				Pg	10 58 08.5	+0.1
WNMM	**Nine Mile Cany**	**0.18**	**263**				Pg	10 58 08.7	+0.2
MPMC	**Manual Prospec**	**0.25**	**39**				Pg	10 58 10.0	+0.1
MPMC							IAML	10 58 14.0	
	comp=N,4μm,0.5s								
MPMC							IAML	10 58 15.5	
	comp=E,4μm,0.8s								
MFS	**McCloud Flat S**	**0.29**	**331**				Pg	10 58 10.7	+0.1
MFS							Sg	10 58 15.0	+0.6
LRMC	**Laurel Mtn Rad**	**0.38**	**180**				Pg	10 58 12.2	-0.2
LRMC							Sg	10 58 18.0	+0.6
LRMC							IAML	10 58 18.8	
	comp=E,4μm,0.6s								
LRMC							IAML	10 58 19.9	
	comp=N,2μm,0.3s								
CCCA	**Chr Cany lake**	**0.43**	**142**				Pg	10 58 13.8	+0.5
WORM	**Onyx Ranch**	**0.48**	**250**				Pg	10 58 14.2	-0.1
WORM							Sg	10 58 20.7	+0.1
WBSM	**Bird Springs**	**0.49**	**229**				Pg	10 58 14.4	-0.1
WHFM	**Hanning Flat**	**0.56**	**253**				Pg	10 58 15.7	-0.1
DTP	**Desert Tortois**	**0.61**	**192**				Pg	10 58 16.4	-0.3
CWC	**Cottonwood Cre**	**0.66**	**331**				Pg	10 58 17.8	+0.1
CWC							IAML	10 58 28.3	
	comp=E,974nm,0.2s								
CWC							IAML	10 58 31.6	
	comp=N,888nm,0.3s								
CWC	**Cottonwood Cre**	**0.66**	**331**				Sg	10 58 26.9	+0.7
QSM	**Queen of Sheba**	**0.67**	**81**				Pg	10 58 17.4	-0.4
QSM							Sg	10 58 26.8	+0.2
QSM							IAML	10 58 30.7	
	comp=N,2μm,0.5s								
QSM							IAML	10 58 31.2	
	comp=E,2μm,0.6s								
ISA	**Isabella, Lake**	**0.67**	**253**				Pg	10 58 17.6	-0.3
ISA							IAML	10 58 28.9	
	comp=E,2μm,0.3s								
ISA	**Isabella, Lake**	**0.67**	**253**				Sg	10 58 26.8	+0.2
CGO	**Cerro Gordo**	**0.69**	**352**				Pg	10 58 18.3	0.0
CGO							Sg	10 58 28.6	+1.2
WASM	**Alta Sierra Ca**	**0.72**	**260**				Pg	10 58 18.6	-0.2
WASM							Sg	10 58 28.4	+0.2
CCAC	**Calif City Air**	**0.76**	**201**				Pg	10 58 19.3	-0.2
GWY	**Greenwater Val**	**0.88**	**68**				Pg	10 58 21.8	-0.1
GWY							IAML	10 58 37.8	
	comp=E,1μm,0.4s								
GSC	**Goldstone, Bar**	**0.91**	**128**				Pg	10 58 22.1	-0.4
GSC							IAML	10 58 37.3	
	comp=E,1μm,0.8s								
GSC							IAML	10 58 37.5	
	comp=N,805nm,1.1s								
SPG2	**Springville 2**	**0.94**	**291**				Pg	10 58 22.2	-0.8
SPG2							Sg	10 58 34.9	-0.3
HYS	**Haystack Butte**	**1.00**	**175**				Pg	10 58 23.6	-0.6
EDW2	**Edwards Air Fo**	**1.01**	**195**				Pg	10 58 23.6	-0.8
TEJ	**El Tejon**	**1.03**	**233**				Pg	10 58 24.0	-0.9
TPO	**Tropico Hills**	**1.08**	**204**				Pg	10 58 24.7	-0.9
TPO							IAML	10 58 42.8	
	comp=N,708nm,0.9s								
TPO							IAML	10 58 52.5	
	comp=E,595nm,0.7s								
VES	**Vestal, Richgr**	**1.14**	**269**				Pg	10 58 26.3	-0.5
VES							Sg	10 58 41.0	-0.6
SHOC	**Shoshone, Teco**	**1.15**	**88**				Sb	10 58 42.3	-0.5
GRAC	**Grapevine Rang**	**1.16**	**13**				Pg	10 58 26.7	-0.6
GRAC	**Grapevine Rang**	**1.16**	**13**				Sb	10 58 42.9	-0.3
SBB	**Saddle Back Bu**	**1.18**	**186**				Pg	10 58 27.6	0.0
ARVC	**Arvin**	**1.19**	**232**				Pg	10 58 27.1	-0.7
TJR	**Tejon Ranch**	**1.20**	**226**				Pg	10 58 26.9	-1.2
SGV	**South Grapevin**	**1.23**	**25**				Pg	10 58 28.0	-0.6
THC	**Tehachapi Micr**	**1.24**	**220**				Pg	10 58 27.6	-1.2
WCT	**Wildcat Mounta**	**1.26**	**42**				Pg	10 58 28.6	-0.6
TIN	**Tinemaha, Big**	**1.27**	**340**				Pg	10 58 29.3	0.0
TIN							Sb	10 58 46.3	-0.1
AMDNV	**Amargosa**	**1.28**	**62**				Pg	10 58 28.3	-1.2
LEOC	**Leona Valley**	**1.33**	**203**				Pg	10 58 29.3	-1.2
VTV	**Victorville**	**1.33**	**167**				Sb	10 58 48.5	+0.3
LRRC	**Littlerock Res**	**1.36**	**192**				Pn	10 58 29.7	-1.2
LCH	**Last Change Ra**	**1.37**	**1**				Pn	10 58 30.8	-0.4
LCH							Sg	10 58 48.9	-0.1
CJV	**Casa Juvan**	**1.38**	**196**				Pb	10 58 31.7	+0.2
HOLC	**Holcomb Ridge**	**1.41**	**185**				Pn	10 58 30.3	-1.3
HOLC							Sn	10 58 50.7	-0.1
JNH	**Juniper Hills**	**1.43**	**189**				Pn	10 58 30.7	-1.3
VOG	**Valley Oaks Go**	**1.45**	**289**				Pn	10 58 31.7	-0.5
GMN	**Gold Mountain**	**1.47**	**13**				Pn	10 58 32.2	-0.5
GMN							IAML	10 58 57.5	
	comp=N,371nm,0.7s								
TUQ	**Turquoise Moun**	**1.50**	**106**				Pn	10 58 31.3	-1.6
DSP	**Deep Springs**	**1.52**	**351**				Pn	10 58 32.8	-0.3
DSP							Sn	10 58 53.4	0.0
DSP							IAML	10 58 55.1	
	comp=E,370nm,0.6s								
CHFC	**Chilao Flat St**	**1.55**	**190**				Pb	10 58 34.5	0.0
CHFC							Sb	10 58 54.5	-0.1
BHPR	**Bishop**	**1.57**	**336**				Pn	10 58 33.6	-0.5
TPNV	**Topopah Spring**	**1.58**	**46**				Pn	10 58 33.6	-0.6
TPNV							IAML	10 58 57.8	
	comp=E,374nm,0.6s								
TPNV							IAML	10 58 59.0	
	comp=E,341nm,1.0s								
BFSC	**Mount Baldy Ra**	**1.62**	**179**				Pn	10 58 33.7	-1.0
BFSC							IAML	10 58 57.4	
	comp=E,296nm,0.7s								
BFSC							IAML	10 58 59.3	
	comp=N,259nm,0.8s								
SSK	**Sunset Peak**	**1.65**	**180**				Pg	10 58 36.5	-0.2
MWC	**Mount Wilson**	**1.67**	**191**				Pn	10 58 34.4	-0.9
MWC							IAML	10 59 04.3	
	comp=E,299nm,0.6s								
SIL	**Silver Peak**	**1.67**	**155**				Pg	10 58 36.9	-0.1
BBRC	**Big Bear Solar**	**1.72**	**158**				Pb	10 58 37.4	0.0
PASC	**Pasadena Art C**	**1.74**	**194**				Pn	10 58 35.5	-0.6
MTPC	**Mountain Pass**	**1.78**	**102**				Pn	10 58 35.5	-1.3
MTPC							IAML	10 59 04.1	
	comp=E,364nm,0.3s								
MTPC							IAML	10 59 04.8	
	comp=N,237nm,0.6s								
BLCC	**Black Canyon**	**1.81**	**207**				Pn	10 58 36.5	-0.6
GTM	**Goat Mountain**	**1.91**	**145**				Pb	10 58 40.6	+0.1
KCC	**Kaiser Creek**	**1.96**	**318**				Pb	10 58 40.8	-0.6
GMRC	**Granite Mounta**	**1.98**	**122**				Pn	10 58 37.4	-2.1
BENR	**Benton**	**1.98**	**339**				Pb	10 58 41.7	-0.2
MLAC	**Mammoth, Mammo**	**1.99**	**333**				Pb	10 58 42.0	-0.1
MCSM	**Casa Diablo Ho**	**2.04**	**332**				Pb	10 58 42.8	-0.1
SHPR	**Sheep Range**	**2.14**	**72**				Pn	10 58 41.9	+0.1
TPC	**Twentynine Pal**	**2.21**	**142**				Pn	10 58 41.4	-1.3
ELS	**Elsinore Mount**	**2.22**	**174**				Pn	10 58 42.2	-0.7
ELS							IAML	10 59 21.8	
	comp=E,115nm,1.4s								
POB	**Polly Butte**	**2.26**	**164**				Pn	10 58 42.9	-0.5
V12A	**Nelson**	**2.31**	**93**				Pn	10 58 43.0	-1.1
V12A							IAML	10 59 20.5	
	comp=N,254nm,0.7s								
V12A							IAML	10 59 22.2	
	comp=E,141nm,0.6s								
S11A	**Rachel**	**2.36**	**41**				Pn	10 58 44.8	0.0
S11A							IAML	10 59 34.1	
	comp=E,247nm,0.9s								
CRY	**Cary Ranch**	**2.42**	**161**				Pn	10 58 45.3	-0.3
PMD	**Palm Desert**	**2.46**	**154**				Pn	10 58 44.9	-1.1
PMD							IAML	10 59 28.6	
	comp=E,92nm,1.1s								
PFO	**Pinyon Flats O**	**2.46**	**155**				Pn	10 58 46.0	-0.3
PFO							IAML	10 59 28.4	
	comp=E,91nm,1.4s								
LHV	**Little Huntoon**	**2.47**	**345**				Pn	10 58 46.9	+0.7
LHV							IAML	10 59 31.4	
	comp=E,130nm,1.1s								
LHV							IAML	10 59 34.8	
	comp=N,108nm,1.5s								
NVAR	**Mina Array Bea**	**2.61**	**349**				Pn	10 58 48.7	+0.4
PRN	**Pahroc Range**	**2.62**	**53**				Pn	10 58 48.2	-0.2
PRN							IAML	10 59 37.3	
	comp=E,175nm,0.8s								
PRN							IAML	10 59 39.8	
	comp=N,185nm,0.7s								
MYLM	**Yosemite Lake**	**2.67**	**305**				Pb	10 58 52.2	-1.3
NEE2	**Needles Airpor**	**2.73**	**113**				Pn	10 58 48.2	-1.6
PCCM	**Crazy Canyon**	**2.83**	**276**				Pn	10 58 53.1	+2.0
DPP	**Dos Picos Cty**	**2.92**	**168**				Pn	10 58 51.9	-0.6
DPP							IAML	10 59 37.7	
	comp=E,109nm,0.6s								
DPP							IAML	10 59 41.9	
	comp=N,64nm,0.7s								
R11B	**Troy Canyon, C**	**3.00**	**33**				Pn	10 58 54.2	+0.6
SAO	**San Andreas Ge**	**3.17**	**288**				Pn	10 58 55.5	-0.3

W13A	**Hualapai Mount**	**3.19**	**103**			Pn		10 58 55.2	-1.1
BLYC	**Blythe**	**3.35**	**128**			Pn		10 58 55.9	-2.3
BLYC					IAML			10 59 57.4	
	comp=E,51nm,0.6s								
BLYC					IAML			11 00 05.6	
	comp=N,45nm,0.7s								
YUH	**Yuha Desert**	**3.52**	**155**			Pn		10 59 00.2	-0.4
CBX	**Cerro Bola**	**3.64**	**166**			Pn		10 59 02.5	+0.1
LCMT	**Little Creek M**	**3.76**	**71**			Pn		10 59 04.7	+0.6
CCUT	**Cedar City**	**3.86**	**63**			Pn		10 59 05.3	-0.2
PSUT	**Pine Spring**	**4.06**	**48**			Pn		10 59 11.7	+3.5
PSUT					IAML			11 00 25.8	
	comp=E,29nm,1.4s								
PSUT					IAML			11 00 27.6	
	comp=N,32nm,1.3s								
KNB	**Kanab**	**4.09**	**72**			Pn		10 59 09.2	+0.6
KNB					IAML			11 00 21.8	
	comp=E,25nm,0.9s								
KNB					IAML			11 00 22.5	
	comp=N,25nm,1.5s								
ESJX	**Sierra Juarez**	**4.11**	**159**			Pn		10 59 08.8	-0.1
ESJX					IAML			11 00 16.9	
	comp=E,36nm,0.9s								
ESJX					IAML			11 00 20.0	
	comp=N,28nm,0.7s								
SPR3	**Spring Creek 3**	**4.11**	**39**			Pn		10 59 08.1	-1.0
SPR3					IAML			11 00 17.7	
	comp=E,23nm,1.0s								
SPR3					IAML			11 00 17.8	
	comp=N,24nm,0.9s								
Y14A	**Wickenburg**	**4.30**	**115**			Pn		10 59 10.2	-1.2
Y14A					IAML			11 00 24.6	
	comp=E,30nm,0.5s								
Y14A					IAML			11 00 35.1	
	comp=N,38nm,0.8s								
U15A	**North Rim**	**4.40**	**81**			Pn		10 59 13.7	+0.7
U15A					IAML			11 00 28.1	
	comp=N,24nm,1.0s								
U15A					IAML			11 00 29.8	
	comp=E,37nm,0.9s								
ELK	**Elko**	**5.24**	**21**			Pn		10 59 25.0	+0.6
X16A	**Lo Mia Camp, P**	**5.32**	**104**	Pn		Pn		10 59 25.3	-0.2
X16A					IAML			11 01 14.3	
	comp=E,9.7nm,1.3s								
X18A	**Snowflake**	**6.47**	**100**	Pn		Pn		10 59 39.9	-1.4

*MOS **10** 10:58:27.6±0.9,47.°06N×150.°56E,h37km,mb4.0/4, Error ellipse: s-maj=11.2km s-min=7.5km az=62.5*
*SKHL **10** 10:58:28.0±0.6,47.°10N×150.°60E,h47km±9km,mb4.6/5*
*IDC **10** 10:58:30.2±2.4,46.°99N×150.°59E,h45km±23km,mb3.6/12, mbtmp3.8/18,ML3.4/6,MS3.4/7, Error ellipse: s-maj=23.3km s-min=14.1km az=144.0*
*NEIC **10** 10:58:31.5±1.4,47.°15N±0.°07×150.°32E±0.°09, h40km±14km,mb4.1/10, Error ellipse: s-maj=10.7km s-min=7.9km az=215.0*

ISC 10 10:58:29.6±0.5, 47.°06N±0.°06×150.°56E±0.°06, h35km, n87, σ1§20/78, mb3.9/22, MS3.8/5, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**2.61**	**227**	⇓*i* P	N	**Pn**	**10 59 07.9**	**-1.4**
KUR				*i* S	N	**Sn**	**10 59 39.3**	**-0.5**
KUR				pmax	pmax			
	comp=Z,150nm,0.3s							
KUR				pmax	pmax			
	comp=E,80nm,0.5s							
KUR				pmax	pmax			
	comp=N,55nm,0.3s							
KUR				smax	smax			
	comp=N,434nm,0.5s							
KUR				smax	smax			
	comp=E,226nm,0.4s							
KUR	**Kuril'sk**	**2.61**	**227**	*i* P		**Pn**	**10 59 07.9**	**-1.4**
KUR				AMB	AMB		10 59 08.8	
	comp=E,170nm,0.4s							
KUR				*i* S		**Sn**	**10 59 39.4**	**-0.4**
KUR				A	A		10 59 42.0	
	comp=E,430nm,0.5s							
KUR				A	A		10 59 42.0	
	comp=E,390nm,0.5s							
SHO	**Shikotan**	**4.13**	**221**	*e*PN		**Pn**	**10 59 30.8**	**+0.7**
SHO				*i* S		**Sn**	**11 00 19.9**	**+2.8**
SHO				smax	smax			
	comp=N,57nm,0.4s							
SHO				smax	smax			
	comp=E,26nm,0.5s							
SHO	**Shikotan**	**4.13**	**221**	*i* S		**Sn**	**11 00 15.4**	**-1.7**
SHO				*e*P		**Pn**	**10 59 29.4**	**-0.7**
SHO				AMB	AMB		10 59 33.4	
	comp=E,20nm,0.5s							
SHO				A	A		11 00 30.4	
	comp=E,70nm,0.5s							
SHO				A	A		11 00 30.4	
	comp=E,50nm,0.5s							
NMR	**Nemuro--Hokkai**	**5.02**	**225**	*e*P		**Pn**	**10 59 41.5**	**-0.9**
SKR	**Severo-Kuril's**	**5.16**	**43**	*e*PN		**Pn**	**10 59 43.2**	**-1.1**
SKR				pmax	pmax			
	comp=Z,73nm,0.9s							
SKR	**Severo-Kuril's**	**5.16**	**43**	*e*S		**Sn**	**11 00 39.5**	**-3.0**
SKR				*e*P		**Pn**	**10 59 43.2**	**-1.1**
SKR				AMB	AMB		10 59 51.6	
	comp=Z,50nm,0.8s							
SKR				A	A		11 00 44.5	
	comp=Z,60nm,0.6s							
SKR				A	A		11 00 44.5	
	comp=Z,40nm,0.6s							
YSS	**Yuzhno-Sakhali**	**5.34**	**272**			**Pn**	**10 59 47.0**	**+0.1**
YSS	**Yuzhno-Sakhali**	**5.34**	**272**	⇑*e*PN		**Pn**	**10 59 46.5**	**-0.3**
YSS				*e*S		**Sn**	**11 00 49.0**	**+2.0**
YSS				pmax	pmax			
	comp=Z,30nm,0.8s							
YSS				pmax	pmax			
	comp=E,30nm,0.9s							
YSS				smax	smax			
	comp=N,40nm,0.6s							
YSS				smax	smax			
	comp=E,50nm,0.5s							
YSS				MLR	MLR			
	comp=Z,200nm,15.0s							
YSS				MLR	MLR			
	comp=N,300nm,14.0s							
YSS	**Yuzhno-Sakhali**	**5.34**	**272**	*e*S		**Sn**	**11 00 46.6**	**-0.4**
YSS				*e*P		**Pn**	**10 59 46.9**	**+0.1**
AKK	**Akkeshi**	**5.72**	**227**	*e*P		**Pn**	**10 59 52.3**	**+0.3**
UGL	**Uglegorsk**	**6.04**	**293**	*e*PN		Pn	10 59 48.4	-8.0
UGL				pmax	pmax			
	comp=Z,100nm,0.6s							
UGL	**Uglegorsk**	**6.04**	**293**	*e*rx		rx	10 59 48.4	
JKA	**Kamikawa-asahi**	**6.31**	**245**			**Pn**	**11 00 00.7**	**+0.5**
JKA	**Kamikawa-asahi**	**6.31**	**245**	*e*P		**Pn**	**11 00 00.7**	**+0.5**
ASAJ	**Asahikawa**	**6.31**	**245**	P		**Pn**	**10 59 59.9**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=54,slow=8.3,SNR=11							
	comp=Z,4.8nm,0.7s							
ASAJ	**Asahikawa**	**6.31**	**245**	PN		**Pn**	**11 00 00.7**	**+0.5**
TYV	**Tymovskoe**	**6.45**	**309**	*e*PN		**Pn**	**11 00 01.3**	**-0.7**
TYV				pmax	pmax			
	comp=Z,9.0nm,0.7s							
TYV	**Tymovskoe**	**6.45**	**309**	*e*P		**Pn**	**11 00 01.6**	**-0.4**
TYV				AMB	AMB		11 00 01.8	
	comp=Z,90nm,0.7s							
TYV				*e*S		**Sn**	**11 01 12.1**	**-2.2**
TYV				A	A		11 01 13.9	
	comp=Z,150nm,1.6s							
TYV				A	A		11 01 13.9	
	comp=Z,260nm,1.6s							
ERM	**Erimo**	**7.30**	**229**			**Pn**	**11 00 14.8**	**+1.0**
ERM	**Erimo**	**7.30**	**229**	*i* PN		**Pn**	**11 00 15.6**	**+1.9**
PEA0B	**Petropavlovsk-**	**7.60**	**35**	Pn		**Pn**	**11 00 19.5**	**+1.7**
PEA0B	**Petropavlovsk-**	**7.60**	**35**	PN		**Pn**	**11 00 18.7**	**+0.9**
PETK	**Petropavlovsk-**	**7.60**	**35**	Pn		**Pn**	**11 00 18.8**	**+1.0**
PETK	**Petropavlovsk-**	**7.60**	**35**	P		**Pn**	**11 00 17.8**	**0.0**
	comp=Z,0.4nm,0.3s,baz=190,slow=8.8,SNR=8.9							
	comp=Z,5.3nm,0.7s							
PET	**Petropavlovsk**	**7.92**	**38**	Pn		**Pn**	**11 00 24.1**	**+2.0**
PET	**Petropavlovsk**	**7.92**	**38**	*i* PN		**Pn**	**11 00 23.6**	**+1.4**
PET				pmax	pmax			
	comp=Z,2.0nm,0.4s							
PET	**Petropavlovsk**	**7.92**	**38**	*e*P		Pn	11 00 17.7	-4.5
JTM	**Tenmabayashi**	**9.28**	**231**	Pn		**Pn**	**11 00 40.3**	**-0.5**
MA2	**Magadan**	**12.54**	**0**	LR		LR	11 07 08.6	
	comp=Z,115nm,19.0s,baz=188,slow=41							
KLR	**Kul'dur**	**12.75**	**287**	P		**Pn**	**11 01 29.9**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=103,slow=15,SNR=3.1							
	comp=Z,0.6nm,0.4s							
KLR	**Kul'dur**	**12.75**	**287**	*e*P		**Pn**	**11 01 27.2**	**-1.1**
USRK	**Ussuriysk Ar.**	**13.31**	**264**	P		**Pn**	**11 01 36.6**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=62,slow=15,SNR=6.0							
	comp=Z,2.0nm,0.7s							
SEY	**Seymchan**	**15.95**	**3**	P		**Pn**	**11 02 11.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=176,slow=9.6,SNR=5.4							
SEY				LR		LR	11 08 42.0	
	comp=Z,58nm,19.5s,baz=156,slow=38							
	comp=Z,0.7nm,0.7s							
YAK	**Yakutsk**	**19.14**	**329**	LR		LR	11 10 13.4	
	comp=Z,70nm,18.5s,baz=109,slow=37							
KSRS	**Korea Array**	**19.25**	**248**	P		**Pn**	**11 02 51.8**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=54,slow=12,SNR=12							
	comp=Z,8.0nm,0.9s							
KSAR	**Wonju Array Be**	**19.28**	**248**	P		**P**	**11 02 50.3**	**-0.9**
KSAR	**Wonju Array Be**	**19.28**	**248**	P		**P**	**11 02 50.3**	**-0.9**
JNU	**Nakatsue**	**20.43**	**234**	P		Pn	11 03 05.0	-1.0
J14K	**Nanvaranak Lak**	**29.90**	**42**	P		**P**	**11 04 35.3**	**+1.7**
J14K						IAmb	IAmb	11 04 42.0
	comp=Z,5.8nm,1.2s							
H11N2	**WAKE ISLAND Hy**	**30.35**	**148**	T		T	11 36 31.8	
	baz=338,slow=76,SNR=637							
H11N1	**WAKE ISLAND Hy**	**30.36**	**148**	T		T	11 36 32.9	
	baz=338,slow=76,SNR=423							
H11N3	**WAKE ISLAND Hy**	**30.36**	**148**	T		T	11 36 33.8	
	baz=338,slow=76,SNR=440							
M14K	**Bethel**	**30.39**	**46**	P		**P**	**11 04 39.8**	**+1.8**
M14K						IAmb	IAmb	11 05 08.2
	comp=Z,8.9nm,1.3s							
H11S1	**WAKE ISLAND Hy**	**31.41**	**150**	T		T	11 37 53.6	
	baz=339,slow=76,SNR=540							
H11S3	**WAKE ISLAND Hy**	**31.41**	**150**	T		T	11 37 52.8	
	baz=339,slow=76,SNR=503							
H11S2	**WAKE ISLAND Hy**	**31.43**	**150**	T		T	11 37 54.9	
	baz=339,slow=76,SNR=353							
M16K	**Timber Creek**	**31.87**	**45**	P		**P**	**11 04 52.7**	**+1.7**
H19K	**Roundabout Mou**	**33.40**	**37**	P		**P**	**11 05 04.1**	**-0.3**
H19K						IAmb	IAmb	11 05 06.6
	comp=Z,2.3nm,0.7s							
KDAK	**Kodiak Island**	**35.27**	**51**	LR		LR	11 19 45.5	
	comp=Z,58nm,20.2s,baz=219,slow=36							
ILAR	**Eielson Array**	**37.40**	**39**	P		**P**	**11 05 39.5**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=257,slow=9.6,SNR=9.7							
	comp=Z,0.4nm,0.7s							
NRIK	**Noril'sk**	**37.59**	**329**	*i* P		**P**	**11 05 39.7**	**-0.6**
NRIK				pmax		pmax		
	comp=Z,1.0nm,1.0s							
SCRK	**Sand Creek**	**38.72**	**40**	P		**P**	**11 05 50.9**	**+0.8**
ZALV	**Zalesovo Beam**	**41.01**	**305**	P		**P**	**11 06 10.3**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=99,slow=8.9,SNR=1.9							
	comp=Z,0.6nm,0.4s							
H31M	**Peel River**	**42.49**	**36**	P		**P**	**11 06 23.2**	**+2.2**
H31M						IAmb	IAmb	11 06 59.0
	comp=Z,4.1nm,1.3s							
MK31	**Makanchi Array**	**45.24**	**296**	P		**P**	**11 06 41.8**	**-1.5**
MK31	**Makanchi Array**	**45.24**	**296**	P		**P**	**11 06 41.8**	**-1.5**
MK31				pmax		pmax		
	comp=Z,1.0nm,1.1s							
MKAR	**Makanchi Array**	**45.24**	**296**	P		**P**	**11 06 43.0**	**-0.3**
MKAR	**Makanchi Array**	**45.24**	**296**	P		**P**	**11 06 42.8**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=60,slow=7.2,SNR=4.7							
	comp=Z,0.5nm,0.7s							
MAKZ	**Makanchi**	**45.43**	**296**	P		**P**	**11 06 43.7**	**-1.1**
MAKZ						IAmb	IAmb	11 07 20.8
	comp=Z,2.3nm,1.1s							
MAKZ	**Makanchi**	**45.43**	**296**	P		**P**	**11 06 43.7**	**-1.1**
MAKZ				pmax		pmax		
	comp=Z,2.0nm,1.2s							
KURK	**Kurchatov**	**45.73**	**302**	P		**P**	**11 06 47.5**	**+0.4**
KURK	**Kurchatov**	**45.73**	**302**	*e*P		**P**	**11 06 47.5**	**+0.4**
KURBB	**Kurchatov Arra**	**45.82**	**302**	P		**P**	**11 06 47.5**	**-0.3**
	comp=Z,1.6nm,0.2s,baz=73,slow=9.5,SNR=2.5							
	comp=Z,1.6nm,0.2s							
BVAR	**Borovoye Array**	**49.30**	**308**	LR		LR	11 29 34.6	
	comp=Z,59nm,18.9s,baz=106,slow=38							
CMAR	**Chiang Mai Arr**	**50.76**	**254**	P		**P**	**11 07 25.5**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=40,slow=7.6,SNR=6.2							
	comp=Z,0.6nm,0.3s							
CMAR	**Chiang Mai Arr**	**50.76**	**254**	*e*P		**P**	**11 07 26.7**	**+0.5**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**51.72**	**36**	P		**P**	**11 07 32.7**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=297,slow=6.6,SNR=4.9							
	comp=Z,0.8nm,0.8s							
ARTI	**Arti**	**53.70**	**316**	P		**P**	**11 07 47.3**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=96,slow=6.8,SNR=4.3							
	comp=Z,2.0nm,0.5s							
ARTI	**Arti**	**53.70**	**316**	*c i* P		**P**	**11 07 47.5**	**-0.1**
ARTI							11 08 52.2	
ARTI							11 09 45.7	
ARTI						S	**S**	**11 15 21.3**	**+2.4**
ARTI						SS	**SKiKP**	**11 19 00.8**	**+2.1**
ARTI				pmax		pmax		
	comp=Z,5.0nm,0.9s							
AB31	**Akbulak array**	**56.88**	**309**	P		**P**	**11 08 10.1**	**-0.5**
AB31						IAmb	IAmb	11 08 31.6
	comp=Z,3.7nm,1.5s							
AKTO	**Aktyubinsk**	**57.21**	**311**	LR		LR	11 34 58.4	
	comp=Z,92nm,18.6s,baz=52,slow=38							
FINES	**FINESS Array B**	**63.00**	**334**	P		**P**	**11 08 50.5**	**-1.9**
	comp=Z,0.8nm,0.8s,baz=19,slow=12,SNR=3.9							
	comp=Z,0.8nm,0.8s							
FINES	**FINESS Array B**	**63.00**	**334**	*i* P		**P**	**11 08 51.0**	**-1.4**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.8s							
OBN	**Obninsk**	**64.05**	**324**	*i* P		**P**	**11 09 00.5**	**+1.1**
OBN				*e*			11 11 20.1	
OBN				pmax		pmax		
	comp=Z,4.0nm,0.9s							
OBN				MLR		MLR		
	comp=Z,48nm,17.0s							
OBN	**Obninsk**	**64.05**	**324**	*e*P		**P**	**11 09 00.5**	**+1.1**
PDAR	**Pinedale Array**	**65.97**	**53**	P		**P**	**11 09 11.8**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=183,slow=0.7,SNR=7.5							
	comp=Z,0.4nm,0.6s							
WRA	**Warramunga Array**	**68.27**	**196**	P		**P**	**11 09 25.8**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=8.5,slow=7.4,SNR=1.7							
	comp=Z,0.4nm,0.8s							
KBZ	**Khabaz**	**69.38**	**312**	*i* P		**P**	**11 09 33.6**	**+0.1**
KBZ				pmax		pmax		
	comp=Z,1.0nm,1.0s							
KBZ	**Khabaz**	**69.38**	**312**	*e*P		**P**	**11 09 33.6**	**+0.1**
ASAR	**Alice Springs**	**71.98**	**196**	P		**P**	**11 09 48.4**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=15,slow=6.2,SNR=6.5							
	comp=Z,0.8nm,0.8s							
BRTR	**Keskin Array B**	**76.95**	**315**	LR		LR	11 49 56.8	
	comp=Z,45nm,19.0s,baz=134,slow=40							
TXAR	**Lajitas Array**	**78.85**	**59**	P		**P**	**11 10 28.9**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=300,slow=5.7,SNR=10							
	comp=Z,0.6nm,0.6s							
TXAR	**Lajitas Array**	**78.85**	**59**	P		**P**	**11 10 29.0**	**-0.3**
H03N2	**Juan Fernandez**	**140.50**	**88**	T		T	13 54 28.6	
	baz=307,slow=77,SNR=3.5							
H03N1	**Juan Fernandez**	**140.51**	**88**	T		T	13 54 32.2	
	baz=307,slow=77,SNR=4.5							
H03N3	**Juan Fernandez**	**140.51**	**88**	T		T	13 54 35.7	
	baz=307,slow=77,SNR=4.6							

IDC 10 11:01:01.7±2.2, 0.°60N×126.°68E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=180.0km s-min=28.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.75**	**160**	P		P	11 05 54.3	-0.8
	0.2nm,0.5s,baz=339,slow=10,SNR=5.4							
	0.2nm,0.5s							
ASAR	**Alice Springs**	**25.12**	**164**	P		P	11 06 29.1	+0.6
	0.3nm,0.5s,baz=342,slow=10,SNR=7.8							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**60.10**	**326**	P		P	11 11 10.8	-0.1
	0.2nm,0.4s,baz=112,slow=8.6,SNR=2.0							
	0.2nm,0.4s							

*IDC **10** 11:19:11.3±0.8, 15.°86S×167.°73E, h0km, mb4.2/12, mbtmp4.3/13, ML4.2/1, MS3.6/5, Error ellipse: s-maj=28.3km s-min=18.2km az=107.0*
*NOU **10** 11:19:17.7, 15.°99S×167.°63E, h17km, MLv5.0/12, Vanuatu Islands*
*NEIC **10** 11:19:19.9±1.7, 16.°24S±0.°09×167.°39E±0.°06, h35km±2km, mb4.4/17, Error ellipse: s-maj=17.0km s-min=6.0km az=32.0*

ISC 10 11:19:18.1±0.5, 16.°02S±0.°06×167.°57E±0.°08, h39km, n49, σ1§51/47, mb4.3/20, MS3.7/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VLAKA	**Lakatoro**	**0.17**	**238**	P		**Pn**	**11 19 24.6**	**-1.8**
KOUNC	**Koumac, New Ca**	**5.48**	**214**	P		**Pn**	**11 20 38.6**	**+1.4**
LUES	**Luesalemba Tem**	**5.56**	**343**	P		**Pn**	**11 20 41.1**	**+2.8**
DZM	**Mont Dzumac**	**6.12**	**190**			**Pn**	**11 20 44.6**	**-1.4**
DZM	**Mont Dzumac**	**6.12**	**190**	Pn		**Pn**	**11 20 46.4**	**+0.4**
	5.3nm,0.3s,baz=37,slow=8.6,SNR=86							
DZM				Sn		**Sn**	**11 21 53.7**	**-1.1**
	7.9nm,0.3s,baz=300,slow=22,SNR=6.2							
	32nm,0.5s							
DZM	**Mont Dzumac**	**6.12**	**190**	P		**Pn**	**11 20 46.5**	**+0.4**
OUENC	**Ouen Island, N**	**6.41**	**186**	P		**Pn**	**11 20 51.9**	**+2.0**
HURO	**Huro Makira**	**7.80**	**314**	P		**Pn**	**11 21 10.4**	**+1.3**
ALEG	**Aligegeo Malai**	**9.86**	**316**	P		**Pn**	**11 21 39.7**	**+2.4**
MSVF	**Nonsavu**	**10.18**	**101**			**Pn**	**11 21 45.2**	**+3.5**
SAVO	**Savo Central**	**10.19**	**311**	P		**Pn**	**11 21 44.3**	**+2.4**
EIDS	**Eidsvold**	**18.00**	**236**	P		**Pn**	**11 23 25.0**	**-0.4**
ARMA	**Armidale**	**20.46**	**223**	P		**P**	**11 23 50.8**	**-1.7**
CTAO	**Charters Tower**	**20.66**	**256**	Pn		**P**	**11 23 55.7**	**+1.0**
CAN	**Canberra**	**25.41**	**217**	P		**P**	**11 24 40.6**	**-1.4**
CAN						IAmb	IAmb	11 24 51.8
	comp=Z,5.8nm,1.1s							
STKA	**Stephens Creek**	**28.41**	**232**	P		**P**	**11 25 11.2**	**+2.3**
	comp=Z,2.5nm,0.7s,baz=46,slow=6.8,SNR=4.2							
	comp=Z,2.5nm,0.7s							
WR8	**Warramunga Arr**	**31.67**	**258**	P		**P**	**11 25 37.0**	**-1.0**
WR8						IAmb	IAmb	11 25 57.7
	comp=Z,5.6nm,1.1s							
WB0	**Warramunga Arr**	**31.76**	**258**	P		**P**	**11 25 37.6**	**-1.3**
WB0						IAmb	IAmb	11 26 06.3
	comp=Z,3.5nm,0.9s							
WRA	**Warramunga Arr**	**31.82**	**258**	P		**P**	**11 25 38.4**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=87,slow=9.0,SNR=7.6							
	comp=Z,0.9nm,0.8s							
AS31	**Alice Springs**	**32.51**	**251**	P		**P**	**11 25 45.1**	**-0.3**
AS31						IAmb	IAmb	11 26 01.6
	comp=Z,3.5nm,0.7s							
ASAR	**Alice Springs**	**32.51**	**251**	P		**P**	**11 25 44.2**	**-1.2**
ASAR	**Alice Springs**	**32.51**	**251**	P		**P**	**11 25 45.1**	**-0.3**
	comp=Z,5.7nm,0.8s,baz=77,slow=8.8,SNR=53							
ASAR				PcP		**PcP**	**11 28 32.6**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=85,slow=2.7,SNR=5.8							
	comp=Z,5.7nm,0.8s							
GUMO	**Guam**	**37.00**	**321**	LR		LR	11 43 36.9	
	comp=Z,20nm,18.3s,baz=114,slow=40							
KNRA	**Kununurra**	**37.30**	**265**	P		**P**	**11 26 27.4**	**+0.7**
KNRA						IAmb	IAmb	11 26 32.3
	comp=Z,7.8nm,1.1s							
FORT	**Forrest**	**38.91**	**241**	P		**P**	**11 26 40.4**	**+0.3**
FORT						IAmb	IAmb	11 26 48.7
	comp=Z,10nm,0.9s							
FITZ	**Fitzroy Crossi**	**40.08**	**261**	P		**P**	**11 26 50.0**	**0.0**
FITZ	**Fitzroy Crossi**	**40.08**	**261**	P		**P**	**11 26 49.4**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=77,slow=10,SNR=7.0							
FITZ				LR		LR	11 42 31.3	
	comp=Z,134nm,19.5s,baz=62,slow=35							
	comp=Z,1.9nm,0.6s							
MBWA	**Marble Bar**	**45.50**	**256**	P		**P**	**11 27 34.4**	**+0.4**
MBWA						IAmb	IAmb	11 27 36.6
	comp=Z,5.6nm,1.0s							
KAPI	**Kappang**	**48.16**	**278**	LR		LR	11 47 31.2	
	comp=Z,79nm,18.3s,baz=150,slow=35							
NWAO	**Narrogin (SRO)**	**48.35**	**240**	P		**P**	**11 27 56.2**	**+0.1**
NWAO	**Narrogin (SRO)**	**48.35**	**240**	LR		LR	11 48 38.6	
	comp=Z,112nm,18.2s,baz=63,slow=36							
MORW	**Morawa**	**48.98**	**245**	P		**P**	**11 28 00.4**	**-0.7**
MJAR	**Matsushiro Arr**	**59.17**	**333**	P		**P**	**11 29 11.8**	**-3.3**
	comp=Z,1.9nm,0.7s,baz=225,slow=1.6,SNR=4.7							
	comp=Z,1.9nm,0.7s							
CASY	**Casey**	**62.45**	**203**	P		**P**	**11 29 37.1**	**+0.1**
JKA	**Kamikawa-asahi**	**64.04**	**340**	P		**P**	**11 29 48.7**	**+1.0**
USRK	**Ussuriysk Ar.**	**68.16**	**333**	P		**P**	**11 30 17.4**	**+3.2**
USRK	**Ussuriysk Ar.**	**68.16**	**333**	P		**P**	**11 30 14.4**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=131,slow=8.4,SNR=5.5							
	comp=Z,2.9nm,0.6s							
PETK	**Petropavlovsk-**	**69.36**	**354**	P		**P**	**11 30 20.4**	**-1.1**
	comp=Z,5.1nm,0.8s,baz=152,slow=7.8,SNR=6.7							
	comp=Z,5.1nm,0.8s							
QSPA	**South Pole Qui**	**74.02**	**180**	P		**P**	**11 30 49.8**	**+0.2**
QSPA						IAmb	IAmb	11 30 54.1
	comp=Z,5.6nm,1.1s							
QSPA	**South Pole Qui**	**74.02**	**180**	P		**P**	**11 30 49.9**	**+0.2**
	comp=Z,3.4nm,1.0s,baz=48,slow=0.9,SNR=12							
	comp=Z,3.4nm,1.0s							
CMAR	**Chiang Mai Arr**	**75.74**	**294**	P		**P**	**11 31 00.8**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=121,slow=4.2,SNR=5.2							
	comp=Z,0.6nm,0.3s							
MA2	**Magadan**	**76.56**	**351**	LR		LR	12 02 36.0	
	comp=Z,18nm,18.2s,baz=172,slow=34							
SONM	**Songino Array**	**83.70**	**324**	P		**P**	**11 31 42.4**	**-0.5**
	comp=Z,3

MT01					IAML		11 20 30.1	
	comp=E,686nm,0.3s							
MT01	**Popeta**	**1.59**	**1**	*eP*		**Pn**	**11 20 07.9**	**-0.5**
MT01				*eS*		**Sn**	**11 20 28.9**	**+0.1**
MT01					IAML		11 20 31.5	
	comp=Z,394nm,0.3s							
MT09	**Talagante**	**1.69**	**8**	⇓*iP*		**Pn**	**11 20 10.1**	**+0.2**
MT09				*eS*		**Sn**	**11 20 31.1**	**-0.3**
MT09					IAML		11 20 35.0	
	comp=N,546nm,0.2s							
VA05	**Santo Domingo**	**1.82**	**351**	*eP*		**Pn**	**11 20 11.2**	**-0.2**
VA05					IAML		11 20 37.8	
	comp=E,938nm,0.3s							
LMEL	**Las Melosas**	**1.83**	**29**	⇓*iP*		**Pn**	**11 20 13.7**	**+1.9**
LMEL					IAML		11 20 39.6	
	comp=E,416nm,0.4s							
LMEL	**Las Melosas**	**1.83**	**29**	*eP*		**Pn**	**11 20 13.9**	**+2.1**
LMEL				*eS*		**Sn**	**11 20 33.2**	**-1.4**
MT15	**Las Vizcachas**	**1.96**	**19**	*eP*		**Pn**	**11 20 14.1**	**+0.8**
MT15					IAML		11 20 43.5	
	comp=N,614nm,0.3s							
BI05	**Punta Hualpn**	**2.02**	**230**		IAML		11 20 45.2	
	comp=N,440nm,0.5s							
MT03	**Universidad Ad**	**2.06**	**18**	*eP*		**Pn**	**11 20 15.4**	**+0.8**
MT03	**Universidad Ad**	**2.06**	**18**	*eP*		**Pn**	**11 20 15.7**	**+1.1**
MT03				*eS*		**Sn**	**11 20 42.0**	**+2.1**
MT03					IAML		11 20 44.9	
	comp=Z,205nm,0.2s							
MT05	**Renca**	**2.11**	**12**	*eP*		**Pn**	**11 20 15.9**	**+0.6**
MT05					IAML		11 20 47.2	
	comp=E,541nm,0.3s							
MT05	**Renca**	**2.11**	**12**	*eP*		**Pn**	**11 20 15.6**	**+0.3**
MT05				*eS*		**Sn**	**11 20 43.1**	**+2.2**
MT05					IAML		11 20 43.1	
	comp=Z,199nm,0.2s							
MT16	**CCHEN**	**2.12**	**17**	*eP*		**Pn**	**11 20 16.2**	**+0.9**
MT16					IAML		11 20 59.1	
	comp=N,118nm,0.4s							
MT14	**Cerro Cal¡n**	**2.15**	**17**	*eP*		**Pn**	**11 20 16.3**	**+0.5**
MT14					IAML		11 20 43.5	
	comp=E,609nm,0.4s							
MT02	**Curacav**	**2.20**	**3**	*iP*		**Pn**	**11 20 16.6**	**+0.2**
MT02					IAML		11 20 43.6	
	comp=N,315nm,0.1s							
MT02	**Curacav**	**2.20**	**3**	*eP*		**Pn**	**11 20 16.7**	**+0.4**
MT02				*eS*		**Sn**	**11 20 40.4**	**-2.6**
MT02					IAML		11 20 46.2	
	comp=Z,148nm,0.5s							
MT04	**Ro Olivares**	**2.25**	**25**	*eP*		**Pn**	**11 20 18.8**	**+1.5**
MT04					IAML		11 20 48.8	
	comp=N,300nm,0.3s							
MT04	**Ro Olivares**	**2.25**	**25**	*eP*		**Pn**	**11 20 19.0**	**+1.7**
MT04				*eS*		**Sn**	**11 20 47.6**	**+3.0**
MT04					IAML		11 20 48.6	
	comp=Z,108nm,0.2s							
MT08	**Bocatoma Ro**	**2.26**	**28**	*eP*		**Pn**	**11 20 19.3**	**+1.8**
MT08					IAML		11 20 53.2	
	comp=E,98nm,0.3s							
MT08	**Bocatoma Ro**	**2.26**	**28**	*eP*		**Pn**	**11 20 14.6**	**-2.8**
MT08				*eS*		**Sn**	**11 20 44.8**	**0.0**
MT10	**Hacienda Santa**	**2.27**	**16**	*eP*		**Pn**	**11 20 18.1**	**+0.7**
MT10					IAML		11 20 51.6	
	comp=E,651nm,0.3s							
FCH	**Farellones**	**2.28**	**21**	*iP*		**Pn**	**11 20 18.8**	**+1.1**
FCH					IAML		11 20 49.5	
	comp=N,359nm,0.2s							
PEL	**Peldehue**	**2.36**	**12**	⇓*iP*		**Pn**	**11 20 19.3**	**+0.7**
PEL					IAML		11 20 50.1	
	comp=N,308nm,0.3s							
PEL	**Peldehue**	**2.36**	**12**	*eP*		**Pn**	**11 20 19.6**	**+1.0**
PEL				*eS*		Sn	11 20 36.0	-11
RFA	**San Rafael**	**2.40**	**74**	*eP*		**Pn**	**11 20 15.6**	**-3.5**
RFA				*eS*		**Sn**	**11 20 45.6**	**-2.3**
CANA	**Caviahue**	**2.43**	**176**	*eP*		**Pn**	**11 20 21.5**	**+1.9**
VA01	**Torpederas**	**2.45**	**353**	*eP*		**Pn**	**11 20 17.8**	**-1.9**
VA01					IAML		11 20 52.9	
	comp=Z,88nm,0.4s							
ROC1	**El Roble**	**2.49**	**5**	*eP*		**Pn**	**11 20 20.9**	**+0.4**
ROC1				*eS*		**Sn**	**11 20 50.8**	**+0.6**
ROCH	**El Roble**	**2.49**	**5**	*eP*		**Pn**	**11 20 20.9**	**+0.4**
ROCH					IAML		11 20 52.2	
	comp=N,654nm,0.4s							
VA03	**San Esteban**	**2.75**	**13**	*eP*		**Pn**	**11 20 24.3**	**+0.4**
VA03					IAML		11 21 00.0	
	comp=E,364nm,0.3s							
VA03	**San Esteban**	**2.75**	**13**	*eP*		**Pn**	**11 20 24.7**	**+0.8**
VA03				*eS*		**Sn**	**11 20 57.9**	**+1.5**
VA03					IAML		11 20 59.9	
	comp=Z,138nm,0.3s							
LC01	**Cunco**	**3.46**	**188**	*eP*		**Pn**	**11 20 33.6**	**+0.3**
LC01					IAML		11 21 15.9	
	comp=E,193nm,0.1s							
ASAL	**Salagasta**	**3.51**	**36**	*eP*		**Pn**	**11 20 33.5**	**-0.5**
RTLS	**Leoncito**	**4.01**	**25**	*eP*		**Pn**	**11 20 43.1**	**+2.1**
RTLS					IAML		11 22 05.1	
	comp=Z,50nm,0.6s							
CO02	**Combarbal**	**4.25**	**3**	*eP*		**Pn**	**11 20 44.1**	**0.0**
CO02				*eS*		**Sn**	**11 21 32.0**	**-0.6**
CO02					IAML		11 21 36.1	
	comp=Z,62nm,0.2s							
CO03	**El Pedregal**	**4.63**	**6**	*eP*		**Pn**	**11 20 49.7**	**+0.4**
CO03				*eS*		**Sn**	**11 21 40.7**	**-1.3**
CO03					IAML		11 21 42.0	
	comp=Z,80nm,0.7s							
GO04	**Tololo Observa**	**5.29**	**4**	*eP*		**Pn**	**11 20 57.8**	**-0.6**
GO04				*eS*		**Sn**	**11 21 56.0**	**-2.1**
PLCA	**Paso Flores**	**5.30**	**174**	*eP*		**Pn**	**11 20 59.7**	**+1.5**

*IDC **10** 11:27:13.4±2.7,6˚.38S×130˚.42E,h100km±26km,mb3.7/7, mbtmp4.2/11,Error ellipse: s-maj=27.2km s-min=17.2km az=78.0*
*NEIC **10** 11:27:16.3±1.1,6˚.40S±0˚.07×130˚.17E±0˚.10,h112km±8km, mb4.1/15,Error ellipse: s-maj=14.2km s-min=10.6km az=75.0*
*DJA **10** 11:27:16.7±0.3,6˚S±3˚×13˚0E±˚,h134km±9km,M4.8/15, mB5.2/6,mb4.8/7,MLv4.8/15,Mw(mB)4.6/6*

ISC 10 11:27:14.9±0.5,**6˚54S**±0˚.04×**130˚23E**±0˚.05,**h100**km,**n75,** σ2^{9}**29**/**78**,**mb4.0**/12,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.79**	**144**		**Pn**	**11 27 49.0**	**+4.3**
BNDI	**Bandanaira**	**2.03**	**351**	P	**Pn**	**11 27 50.8**	**+3.0**
BNDI	**Bandanaira**	**2.03**	**351**	P	**Pn**	**11 27 50.9**	**+3.1**
BNDI				S	**Sn**	**11 28 17.1**	**+4.1**
MSAI	**Masohi**	**3.43**	**338**	P	**Pn**	**11 28 08.9**	**+2.5**
AAI	**Ambon**	**3.48**	**324**	P	**Pn**	**11 28 09.3**	**+2.2**
FAKI	**Fak Fak**	**4.12**	**29**		**Pn**	**11 28 16.0**	**+0.3**
FAKI	**Fak Fak**	**4.12**	**29**	P	**Pn**	**11 28 15.9**	**+0.3**
FAKI	**Fak Fak**	**4.12**	**29**	P	**Pn**	**11 28 16.0**	**+0.3**
KMPI	**Kaimana, Papua**	**4.49**	**51**	P	**Pn**	**11 28 23.0**	**+2.3**
NLAI	**Namlea**	**4.52**	**316**	P	**Pn**	**11 28 24.4**	**+3.2**
SWI	**Sorong**	**5.73**	**10**	P	**Pn**	**11 28 37.2**	**-0.3**
DRS	**Darwin Rock St**	**5.89**	**174**	P	**Pn**	**11 28 41.7**	**+2.0**
DRS	**Darwin Rock St**	**5.89**	**174**	S	**Sn**	**11 29 47.8**	**+1.9**
SANI	**Sanana**	**6.15**	**316**	P	**Pn**	**11 28 46.1**	**+2.9**
MTN	**Manton Dam**	**6.33**	**172**		**Pn**	**11 28 48.2**	**+2.5**
MTN	**Manton Dam**	**6.33**	**172**	P	**Pn**	**11 28 47.4**	**+1.7**
MTN	**Manton Dam**	**6.33**	**172**	S	**Sn**	**11 29 57.6**	**+1.0**
RKPI	**Ransiki, Papua**	**6.36**	**38**	P	**Pn**	**11 28 47.2**	**+1.1**
KDU	**Kakadu**	**6.50**	**160**	P	**Pn**	**11 28 49.8**	**+1.8**
KDU	**Kakadu**	**6.50**	**160**	S	**Sn**	**11 30 01.1**	**+0.4**
SOEI	**Soe**	**6.71**	**241**		**Pn**	**11 28 52.2**	**+1.2**
SOEI	**Soe**	**6.71**	**241**	P	**Pn**	**11 28 53.6**	**+2.6**
SOEI	**Soe**	**6.71**	**241**	S	**Pn**	**11 30 08.8**	**+2.7**
SOEI	**Soe**	**6.71**	**241**	P	**Pn**	**11 28 53.8**	**+2.8**
	0.4nm146nm,0.8s						
BATI	**Baumata**	**7.45**	**240**	P	**Pn**	**11 29 02.1**	**+1.2**
	65nm,0.3s,baz=166,slow=2.2,SNR=18						
BATI				S	**Sn**	**11 30 22.1**	**-1.8**
	56nm,0.3s,baz=66,slow=15,SNR=6.9						
BATI	**Baumata**	**7.45**	**240**	P	**Pn**	**11 29 03.1**	**+2.2**
	0.4nm2µm75nm,0.5s						
TNTI	**Ternate**	**7.80**	**338**		**Pn**	**11 29 04.5**	**-1.2**
BAKI	**Biak**	**7.91**	**48**	P	**Pn**	**11 29 09.1**	**+1.9**
EDFI	**Ende, Flores**	**8.74**	**255**	P	**Pn**	**11 29 22.6**	**+3.9**
KNRA	**Kununurra**	**9.20**	**189**		**Pn**	**11 29 24.5**	**-0.1**
JAY	**Jayapura**	**11.18**	**70**	P	**Pn**	**11 29 47.2**	**-4.5**
	4.2nm,0.8s,baz=206,slow=11,SNR=5.8						
FITZ	**Fitzroy Crossi**	**12.33**	**201**		**Pn**	**11 30 04.7**	**-2.3**
FITZ	**Fitzroy Crossi**	**12.33**	**201**	P	**Pn**	**11 30 04.5**	**-2.5**
	20nm,0.3s,baz=20,slow=8.3,SNR=180						
FITZ				S	**Sn**	**11 32 15.1**	**-7.6**
	26nm,0.3s,baz=92,slow=22,SNR=7.5						
PLAI	**Plampang**	**12.55**	**259**	P	**Pn**	**11 30 12.1**	**+2.2**
WB0	**Warramunga Arr**	**13.76**	**163**		**Pn**	**11 30 23.7**	**-2.0**
WRAB	**Tennant Creek**	**13.90**	**164**		**Pn**	**11 30 25.6**	**-2.0**
WRA	**Warramunga Arr**	**13.91**	**164**		**Pn**	**11 30 24.9**	**-2.9**
WRA	**Warramunga Arr**	**13.91**	**164**	P	**Pn**	**11 30 26.2**	**-1.5**
	9.8nm,0.4s,baz=333,slow=14,SNR=86						
WRA				S	Sn	11 32 51.9	-9.0
	24nm,0.7s,baz=343,slow=24,SNR=11						
WR8	**Warramunga Arr**	**13.97**	**163**		**Pn**	**11 30 27.1**	**-1.4**
COEN	**Coen**	**14.71**	**121**		**Pn**	**11 30 36.2**	**-1.9**
COEN	**Coen**	**14.71**	**121**	P	**P**	**11 30 40.1**	**-1.4**
QIS	**Mount Isa**	**16.64**	**148**	P	**P**	**11 31 04.3**	**+1.4**
AS31	**Alice Springs**	**17.39**	**169**		**P**	**11 31 10.1**	**-1.1**
AS31				IAmb	IAmb	11 31 16.4	
	comp=Z,7.0nm,0.6s						
ASAR	**Alice Springs**	**17.39**	**169**		**Pn**	**11 31 12.0**	**+0.7**
ASAR	**Alice Springs**	**17.39**	**169**	P	**Pn**	**11 31 11.8**	**+0.5**
	comp=Z,5.4nm,0.4s,baz=341,slow=11,SNR=120						
ASAR				S	**Sn**	**11 34 19.1**	**-6.0**
	comp=Z,5.9nm,0.6s,baz=352,slow=24,SNR=9.6						
AS01	**Alice Springs**	**17.40**	**169**	P	**Pn**	**11 31 12.0**	**+0.5**
MBWA	**Marble Bar**	**17.74**	**214**		**P**	**11 31 15.8**	**+0.9**
MBWA				IAmb	IAmb	11 31 21.0	
	comp=Z,10nm,0.7s						
MBWA	**Marble Bar**	**17.74**	**214**	P	**Pn**	**11 31 17.7**	**+2.2**
MTSU	**Mount Surprise**	**17.93**	**131**	S	**S**	**11 34 40.1**	**+2.1**
MTSU	**Mount Surprise**	**17.93**	**131**	P	**Pn**	**11 31 19.9**	**+2.0**
KKM	**Kota Kinabalu**	**18.76**	**311**	P	**P**	**11 31 25.3**	**-1.0**
KKM				IAmb	IAmb	11 31 26.9	
	comp=Z,7.7nm,0.9s						
CTAO	**Charters Tower**	**20.57**	**132**		**P**	**11 31 46.7**	**+0.8**
CTAO				IAmb	IAmb	11 31 49.8	
	comp=Z,12nm,0.9s						
CTAO	**Charters Tower**	**20.57**	**132**	P	Pn	11 31 49.0	0.0
QLP	**Quilpie**	**23.99**	**148**	P	**P**	**11 32 23.6**	**+3.3**
FORT	**Forrest**	**24.20**	**185**	P	**P**	**11 32 22.9**	**+0.8**
MORW	**Morawa**	**26.11**	**209**	P	**P**	**11 32 41.0**	**+1.5**
MORW				IAmb	IAmb	11 32 42.4	
	comp=Z,4.4nm,0.9s						
STKA	**Stephens Creek**	**27.36**	**159**	P	**P**	**11 32 51.7**	**+1.1**
STKA	**Stephens Creek**	**27.36**	**159**	P	**P**	**11 32 51.0**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=344,slow=9.3,SNR=8.4						
	comp=Z,1.5nm,0.4s						
STKA	**Stephens Creek**	**27.36**	**159**	P	**P**	**11 32 51.3**	**+0.6**
CMSA	**Cobar Meteorol**	**28.77**	**152**	P	**P**	**11 33 04.9**	**+1.6**
CAN	**Canberra**	**33.45**	**151**	P	**P**	**11 33 44.8**	**+0.4**
CAN				IAmb	IAmb	11 34 02.5	
	comp=Z,6.6nm,1.0s						
CAN	**Canberra**	**33.45**	**151**	P	**P**	**11 33 46.9**	**+2.5**
SONM	**Songino Array**	**58.08**	**341**	P	**P**	**11 36 56.1**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=167,slow=8.8,SNR=3.9						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**67.97**	**327**	P	**P**	**11 38 02.1**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=115,slow=6.9,SNR=9.4						
	comp=Z,0.9nm,0.4s						
MAKZ	**Makanchi**	**68.15**	**326**	P	**P**	**11 38 03.2**	**-1.1**
KURBB	**Kurchatov Arra**	**72.24**	**328**	P	**P**	**11 38 27.5**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=119,slow=5.3,SNR=5.0						
	comp=Z,0.7nm,0.3s						
VNDA	**Vanda**	**72.88**	**173**	P	**P**	**11 38 33.3**	**+0.8**
MAW	**Mawson**	**75.46**	**201**	P	**P**	**11 38 47.5**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=52,slow=5.3,SNR=4.7						
	comp=Z,1.4nm,0.7s						
QSPA	**South Pole Qui**	**83.44**	**180**	P	**P**	**11 39 30.7**	**-0.4**
QSPA	**South Pole Qui**	**83.44**	**180**	P	**P**	**11 39 29.8**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=205,slow=2.2,SNR=8.3						
	comp=Z,0.4nm,0.4s						
SDPT	**Sand Point**	**83.81**	**33**	P	**P**	**11 39 32.0**	**-1.0**
K15K	**Wolf Creek Mou**	**85.86**	**26**	P	**P**	**11 39 43.4**	**+0.3**
K15K				IAmb	IAmb	11 39 47.6	
	comp=Z,2.5nm,0.9s						
M16K	**Timber Creek**	**86.55**	**27**	P	**P**	**11 39 46.7**	**+0.1**
M16K				IAmb	IAmb	11 39 47.3	
	comp=Z,4.4nm,1.1s						
J17K	**VABM Dome**	**87.31**	**25**	P	**P**	**11 39 50.7**	**+0.5**
J17K				IAmb	IAmb	11 39 51.3	
	comp=Z,1.4nm,0.8s						
ILAR	**Eielson Array**	**92.83**	**25**	P	**P**	**11 40 11.9**	**-4.1**
	comp=Z,0.3nm,0.7s,baz=282,slow=4.4,SNR=4.5						
	comp=Z,0.3nm,0.7s						

*JMA **10** 11:33:03.2±0.0,35˚.5N±0˚.1×136˚.7E±0˚.1,h9km,MV3.6/20, SW GIFU PREF*
JMA Felt II J1 at SW GIFU PREF .
*NIED **10** 11:33:03.2,35˚.47N×136˚.74E,h9km,MW3.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.06; $M_{\theta\theta}$0.25; $M_{\phi\phi}$-0.19; $M_{r\theta}$0.66; $M_{r\phi}$-1.28; $M_{\theta\phi}$0.42; Fault plane solution: $M_0$1.51000×10^{14} NP1: ϕ_s172.00000°,δ64.00000°,λ-11.00000°. NP2: ϕ_s267.00000°,δ80.00000°,λ-153.00000°.*

ISC 10 11:33:03.5±1.0,**35˚.47N**±0˚.03×**136˚.74E**±0˚.04,**h8**km±9km, **n15,** σ0^{9}**44**/**19**,**4D**,**Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYTA	**Yamagatataniai**	**0.12**	**358**	⇓*iP*	**Pg**	**11 33 06.2**	**0.0**
JYTA				⇓S	**Sg**	**11 33 08.1**	**0.0**
JICN	**Ichinomiyachia**	**0.19**	**154**	*iP*	**Pg**	**11 33 07.5**	**+0.1**
JICN				S	**Sg**	**11 33 10.4**	**+0.4**
INU	**Inuyama**	**0.26**	**119**	P	**Pg**	**11 33 08.4**	**-0.2**
INU	**Inuyama**	**0.26**	**119**	S	**Sg**	**11 33 12.0**	**-0.1**
JGF	**Kuroka**	**0.52**	**76**	P	**Pg**	**11 33 13.2**	**-0.4**
JGF	**Kuroka**	**0.52**	**76**	S	**Sg**	**11 33 20.1**	**-0.3**
TSUJ	**Tsu 2**	**0.81**	**199**	*iP*	**Pg**	**11 33 18.6**	**-0.5**
TSUJ				S	**Sg**	**11 33 29.0**	**-0.6**
JKG	**Kaga**	**0.87**	**338**	⇓*iP*	**Pg**	**11 33 20.0**	**-0.3**
JKG				⇓S	**Sg**	**11 33 31.2**	**-0.3**
JSG	**Sagara**	**1.43**	**124**	P	**Pg**	**11 33 30.1**	**-0.4**
JSG	**Sagara**	**1.43**	**124**	S	**Sg**	**11 33 50.1**	**+0.6**
MAJO	**Matsushiro**	**1.60**	**48**	P	**Pn**	**11 33 32.3**	**+0.1**
MAJO	**Matsushiro**	**1.60**	**48**	S	**Sb**	**11 33 54.0**	**+0.3**
JSD	**Sado**	**2.83**	**25**	P	**Pn**	**11 33 49.4**	**+0.2**
JMN	**Monobe**	**2.93**	**234**	P	**Pn**	**11 33 50.5**	**-0.1**
JNU	**Nakatsue**	**5.39**	**246**	P	**Pn**	**11 34 25.4**	**+1.1**

*TEH **10** 11:53:43.1,31˚.84N×49˚.44E,h12km±31km*
*ISN **10** 11:53:43.1±0.3,31˚.84N×49˚.48E,h10km±124km,ML2.9*

ISC 10 11:53:45.7±1.0,**31˚.84N**±0˚.05×**49˚.48E**±0˚.04,**h10**km,**n30,** σ0^{9}**82**/34,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHBN	**Jahan bin**	**1.08**	**69**	Pg	**Pg**	**11 54 05.1**	**-1.5**
ZNGN	**Zangian**	**1.20**	**76**	Pg	**Pb**	**11 54 07.8**	**-1.0**
ABEH	**Behbahan**	**1.41**	**151**	Pg	**Pn**	**11 54 11.0**	**-0.4**
ABEH				Sg	**Sb**	**11 54 31.2**	**+1.2**
IPIR	**Pirpir**	**1.47**	**55**	Pg	**Pn**	**11 54 13.2**	**+0.7**
IBRJ	**Brojen**	**1.52**	**87**	Pg	**Pn**	**11 54 13.8**	**+0.5**
KLNJ	**Kolanjah**	**1.99**	**114**	Pn	**Pn**	**11 54 20.1**	**+0.3**
IKFM	**Kafar-mosalman**	**2.17**	**321**	Pn	**Pn**	**11 54 22.0**	**+0.1**
IGAR	**Gharneh**	**2.25**	**75**	Pn	**Pn**	**11 54 23.4**	**+0.2**
IKLH	**Kolahrood**	**2.31**	**50**	Pn	**Pn**	**11 54 25.3**	**+1.2**
IRAM	**Rameshеh**	**2.47**	**90**	Pn	**Pn**	**11 54 26.8**	**+0.5**
IZEF	**Zefreh**	**2.63**	**66**	Pn	**Pn**	**11 54 29.2**	**+0.7**
RAFI	**Al-Rafai**	**2.87**	**269**	*e*Pn	**Pn**	**11 54 32.0**	**+0.6**
RAFI				*e*Sn	**Sn**	**11 55 08.0**	**+2.0**
IBDR	**Badra**	**3.25**	**294**	*e*Pn	**Pn**	**11 54 37.5**	**+0.7**
IBDR				*e*Sn	**Sn**	**11 55 17.0**	**+1.5**
IQOM	**Qom**	**3.28**	**24**	Pn	**Pn**	**11 54 38.2**	**+0.8**
ILBA	**Ilam Banvizeh**	**3.28**	**304**	Pn	**Pn**	**11 54 36.7**	**-0.6**
ISFB	**Sefidab**	**3.41**	**42**	Pn	**Pn**	**11 54 39.9**	**+0.8**
IGHG	**Ghaleghazi**	**3.48**	**316**	Pn	**Pn**	**11 54 40.1**	**-0.1**
IVRN	**Varamin**	**3.67**	**30**	Pn	**Pn**	**11 54 43.1**	**+0.6**
HGHA	**Hamedan- Ghaye**	**3.67**	**352**	Pn	**Pn**	**11 54 42.2**	**-0.6**
ILIN	**Lien**	**3.72**	**326**	Pn	**Pn**	**11 54 43.6**	**+0.2**
IDHR	**Dehrash**	**3.85**	**319**	Pn	**Pn**	**11 54 44.4**	**-0.8**
QABG	**Abgarm-Qazvin**	**3.86**	**1**	Pn	**Pn**	**11 54 45.4**	**+0.1**
ICHK	**Chekchek**	**4.21**	**83**	Pn	**Pn**	**11 54 50.6**	**+0.5**
IDMV	**Damavand**	**4.29**	**29**	Pn	**Pn**	**11 54 52.0**	**+0.6**
BHD	**Baghdad**	**4.53**	**290**	*e*Pn	**Pn**	**11 54 55.0**	**+0.6**
BHD				*e*Sn	**Sn**	**11 55 47.5**	**+0.4**
BHD				AML	AML	11 56 04.3	
	comp=E,22nm,0.7s						
ILAS	**Lasjerd**	**4.57**	**39**	Pn	**Pn**	**11 54 55.6**	**+0.4**
MZPU	**Pul - Mazandar**	**4.90**	**20**	Pn	**Pn**	**11 55 00.4**	**+0.7**
IALA	**Alasht**	**5.06**	**32**	Pn	**Pn**	**11 55 02.4**	**+0.5**
TPRV	**Parvadeh(Tabas**	**6.21**	**77**	Pn	**Pn**	**11 55 18.3**	**+0.8**
TNSJ	**Nastanj**	**6.36**	**69**	Pn	**Pn**	**11 55 20.2**	**+0.5**

*IDC **10** 11:58:11.8±2.2,30˚.15S×177˚.71W,h0km,mb3.8/3, mbtmp3.8/3,Error ellipse: s-maj=49.5km s-min=21.6km az=104.0*
*NEIC **10** 11:58:14.8±1.5,29˚.8S±0˚.1×177˚.54W±0˚.07,h35km±2km, mb4.4/14,Error ellipse: s-maj=21.0km s-min=6.7km az=21.0*

ISC 10 11:58:14.6±0.9,**30˚.09S**±0˚.09×**177˚.5W**±0˚.1,**h35**km,**n23,** σ2^{9}**03**/**23**,**mb4.3**/11,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.92**	**335**		**Pn**	**11 58 27.5**	**-3.6**
RAO	**Raoul Island**	**0.92**	**335**	Pn	**Pn**	**11 58 30.0**	**-1.0**
	120nm,0.3s,baz=17,slow=18,SNR=5.2						
RAO				Sn	**Sn**	**11 58 48.5**	**+5.5**
	425nm,0.3s,baz=61,slow=21,SNR=5.9						
URZ	**Urewera**	**9.29**	**207**	Pn	Pn	12 00 20.5	-5.6
	0.4nm,0.3s,baz=258,slow=5.6,SNR=6.4						
URZ				Sn	Sn	12 01 59.4	-10
	1.4nm,0.3s,baz=198,slow=20,SNR=10						
RAR	**Rarotonga**	**18.23**	**65**		**P**	**12 02 23.6**	**-1.3**
ARMA	**Armidale**	**26.65**	**261**	P	**P**	**12 03 48.9**	**-1.3**
CAN	**Canberra**	**28.60**	**251**	P	**P**	**12 04 07.8**	**+0.1**
CAN				IAmb	IAmb	12 04 20.1	
	comp=Z,12nm,1.1s						
CTAO	**Charters Tower**	**34.19**	**278**	P	**P**	**12 04 56.0**	**-0.9**
CTAO				IAmb	IAmb	12 05 04.9	
	comp=Z,4.8nm,1.0s						
STKA	**Stephens Creek**	**34.98**	**256**	P	**P**	**12 05 03.9**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=108,slow=15,SNR=4.5						
	comp=Z,2.1nm,0.8s						
ASAR	**Alice Springs**	**43.57**	**266**	P	**P**	**12 06 15.9**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=101,slow=7.5,SNR=5.4						
	comp=Z,0.5nm,0.6s						
WR8	**Warramunga Arr**	**44.39**	**272**	P	**P**	**12 06 21.0**	**-1.1**
WR8				IAmb	IAmb	12 06 33.2	
	comp=Z,3.4nm,1.1s						
BOXOZ	**Borroloola**	**44.46**	**278**	P	**P**	**12 06 21.2**	**-1.4**
WB2	**Warramunga Arr**	**44.52**	**272**	P	**P**	**12 06 21.8**	**-1.3**
WRAB	**Tennant Creek**	**44.53**	**272**	P	**P**	**12 06 20.7**	**-2.5**
WRA	**Warramunga Arr**	**44.53**	**272**	P	**P**	**12 06 22.4**	**-0.8**
WRA	**Warramunga Arr**	**44.53**	**272**	P	**P**	**12 06 24.2**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=111,slow=8.0,SNR=20						
	comp=Z,0.8nm,0.4s						
WB0	**Warramunga Arr**	**44.56**	**272**	P	**P**	**12 06 22.3**	**-1.1**
WB0				IAmb	IAmb	12 06 32.3	
	comp=Z,5.7nm,1.1s						
KNRA	**Kununurra**	**51.13**	**274**	P	**P**	**12 07 12.4**	**-1.9**
KNRA				IAmb	IAmb	12 07 12.6	
	comp=Z,6.5nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.81**	**269**	P	**P**	**12 07 26.4**	**-0.4**
CASY	**Casey**	**55.62**	**208**	IAmb	IAmb	12 07 46.6	
	comp=Z,5.9nm,1.1s						
CASY				P	**P**	**12 07 46.7**	**+0.1**
QSPA	**South Pole Qui**	**60.02**	**180**	P	**P**	**12 08 20.6**	**+2.9**
QSPA				IAmb	IAmb	12 08 27.9	
	comp=Z,4.3nm,1.1s						
SNAA	**Sanae**	**78.45**	**178**	P	**P**	**12 10 11.8**	**+0.3**
SNAA				IAmb	IAmb	12 10 18.4	
	comp=Z,4.1nm,1.5s						
KURBB	**Kurchatov Arra**	**121.20**	**314**	PKP	**PKiKP**	**12 17 05.8**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=122,slow=3.1,SNR=4.1						
FINES	**FINESS Array B**	**145.

TIN	Tinemaha, Big	1.26	340			Pg	12 00 28.7	-0.8
WCT	Wildcat Mounta	1.27	43			Pg	12 00 28.4	-1.3
WCT					IAML		12 00 48.5	
	comp=E,1µm,0.4s							
AMDNV	Amargosa	1.29	63			Pg	12 00 28.3	-1.8
LEOC	Leona Valley	1.33	202			Pn	12 00 29.2	-1.3
LCH	Last Change Ra	1.36	2			Pn	12 00 29.7	-1.3
LRRC	Littlerock Res	1.37	191			Pn	12 00 29.7	-1.2
CJV	Casa Juvan	1.38	195			Pn	12 00 29.9	-1.4
HOLC	Holcomb Ridge	1.41	185			Pn	12 00 30.3	-1.4
JNH	Juniper Hills	1.43	188			Pn	12 00 30.7	-1.3
VOG	Valley Oaks Go	1.44	289			Pn	12 01 31.3	-0.6
VOG						Sb	12 00 50.4	-0.6
GMN	Gold Mountain	1.47	14			Pn	12 00 31.6	-1.0
TUQ	Turquoise Moun	1.51	106			Pn	12 00 31.4	-1.6
DSP	Deep Springs	1.51	352			Pn	12 00 32.2	-0.7
HEC	Hector,Ludlow	1.52	133			Pn	12 00 31.8	-1.4
CHFC	Chilao Flat St	1.56	190			Pn	12 00 32.3	-1.3
BHPR	Bishop	1.56	336			Pn	12 00 33.2	-0.6
POCCA	Poleta Canyon	1.56	343			Pn	12 00 34.1	+0.3
TPNV	Topopah Spring	1.59	47			Pn	12 00 33.4	-0.8
TPNV					IAML		12 00 58.9	
	comp=E,1µm,0.9s							
TPNV					IAML		12 00 59.1	
	comp=E,934nm,1.0s							
BFSC	Mount Baldy Ra	1.63	179			Pn	12 00 33.6	-1.0
BFSC					IAML		12 00 57.7	
	comp=E,663nm,0.7s							
BFSC					IAML		12 00 58.0	
	comp=N,685nm,0.4s							
SSK	Sunset Peak	1.65	180			Pn	12 00 34.1	-0.9
MWC	Mount Wilson	1.67	190			Pn	12 00 34.7	-0.5
MWC					IAML		12 01 01.2	
	comp=N,979nm,0.5s							
MWC					IAML		12 01 01.3	
	comp=E,1µm,0.4s							
BCW	Bitter Crk WRg	1.68	237			Pn	12 00 34.3	-1.0
OAT	Oat Mountain	1.70	206			Pg	12 00 37.4	-0.5
BBRC	Big Bear Solar	1.73	158			Pb	12 00 37.2	-0.4
PASC	Pasadena Art C	1.74	193			Pn	12 00 35.4	-0.6
CRGC	Crocker Grade	1.77	250			Pn	12 00 37.1	+0.6
PSRC	Puddingstone R	1.77	183			Pn	12 00 36.0	-0.5
MTPC	Mountain Pass	1.79	102			Pn	12 00 35.6	-1.3
MTPC					IAML		12 01 02.7	
	comp=N,723nm,0.6s							
MTPC					IAML		12 01 03.5	
	comp=E,543nm,0.5s							
BLCC	Black Canyon	1.81	206			Pn	12 00 36.5	-0.6
CARC	Carrizo Plain	1.84	253			Pb	12 00 38.5	-0.9
MZP	Montezuma Peak	1.85	8			Pn	12 00 37.6	-0.1
DJJ	Donna J Jenkin	1.86	200			Pn	12 00 36.8	-0.9
GTM	Goat Mountain	1.92	145			Pb	12 00 40.0	-0.7
SMMC	Simmler	1.95	254			Pn	12 00 39.8	+0.8
BENR	Benton	1.97	339			Pn	12 00 39.4	-0.2
MLAC	Mammoth, Mammo	1.98	333			Pb	12 00 41.6	-0.3
MLAC						Sg	12 01 08.2	-0.9
PKM	Mcpherson Peak	1.98	241			Pb	12 00 41.0	-1.0
GMRC	Granite Mounta	1.99	122			Pn	12 00 37.5	-2.1
SHPR	Sheep Range	2.15	72			Pn	12 00 41.5	-0.4
ELS	Elsinore Mount	2.23	174			Pn	12 00 42.1	-0.7
ELS					IAML		12 01 18.8	
	comp=E,395nm,0.6s							
HMTC	Hemet	2.23	165			Pn	12 00 41.9	-0.9
TPH	Tonopah	2.23	10			Pn	12 00 42.7	-0.3
TPH					IAML		12 01 21.2	
	comp=E,834nm,1.1s							
POB	Polly Butte	2.27	163			Pn	12 00 42.6	-0.8
DGR	Domenigoni Val	2.29	165			Pn	12 00 42.7	-0.9
V12A	Nelson	2.32	93			Pn	12 00 42.9	-1.3
V12A					IAML		12 01 22.2	
	comp=E,280nm,0.5s							
V12A					IAML		12 01 28.4	
	comp=N,296nm,0.9s							
S11A	Rachel	2.37	41			Pn	12 00 44.3	-0.5
S11A					IAML		12 01 38.6	
	comp=N,780nm,1.1s							
LHV	Little Huntoon	2.46	345			Pn	12 00 46.5	+0.5
LHV					IAML		12 01 29.9	
	comp=E,250nm,1.1s							
LHV					IAML		12 01 33.7	
	comp=N,314nm,1.6s							
PMD	Palm Desert	2.47	153			Pn	12 00 44.8	-1.3
PMD					IAML		12 01 28.9	
	comp=E,325nm,1.2s							
PMD					IAML		12 01 29.2	
	comp=N,243nm,0.7s							
PFO	Pinyon Flats O	2.47	155			Pn	12 00 45.4	-0.8
PFO					IAML		12 01 30.8	
	comp=N,399nm,1.0s							
PFO					IAML		12 01 30.9	
	comp=N,326nm,0.9s							
PFO	Pinyon Flats O	2.47	155	Pn		Pn	12 00 44.8	-1.5
	comp=N,3.1nm,0.3s,baz=338,slow=10.0,SNR=30							
PFO					Pg	Pb	12 00 51.1	+0.8
	comp=N,28nm,0.3s,baz=333,slow=12,SNR=42							
PFO					LR	LR	12 01 04.0	
	comp=N,32nm,21.8s,baz=228,slow=24							
PFO					Lg	Lg	12 01 23.0	
	comp=N,106nm,0.3s,baz=248,slow=19,SNR=19							
	comp=N,7.5nm,0.3s							
PMPB	Monarch Peak	2.54	279			Pn	12 00 47.8	+0.7
NV11	Mina Array Sit	2.58	352			Pn	12 00 48.2	+0.4
NVAR	Mina Array Bea	2.60	349	Pn		Pn	12 00 48.2	+0.1
	comp=N,3.6nm,0.3s,baz=172,slow=14,SNR=49							
NVAR					Pg	Pg	12 00 53.8	-1.5
	comp=N,33nm,0.3s,baz=168,slow=18,SNR=72							
NVAR					Lg	Lg	12 01 27.6	
	comp=N,24nm,0.3s,baz=161,slow=33,SNR=7.0							
	comp=N,6.3nm,0.5s							
PRN	Pahroc Range	2.63	53			Pn	12 00 48.2	-0.2
PRN					IAML		12 01 37.1	
	comp=E,378nm,0.8s							
PRN					IAML		12 01 40.0	
	comp=N,373nm,0.8s							
NEE2	Needles Airpor	2.75	113			Pn	12 00 48.2	-1.7
NEE2					IAML		12 01 47.5	
	comp=E,497nm,0.6s							
BORC	Borrego Spring	2.80	157			Pn	12 00 50.1	-0.6
BORC					IAML		12 01 39.0	
	comp=E,510nm,1.0s							
BORC					IAML		12 01 46.9	
	comp=N,234nm,0.7s							
RYN	Ryan	2.83	347			Pn	12 00 51.6	+0.3
DPP	Dos Picos Cty	2.93	167			Pn	12 00 51.7	-0.8
DPP					IAML		12 01 37.9	
	comp=E,280nm,1.0s							
R11B	Troy Canyon, C	3.00	34			Pn	12 00 54.2	+0.7
R11B					IAML		12 01 41.9	
	comp=E,178nm,1.1s							
W13A	Hualapai Mount	3.21	103			Pn	12 00 55.2	-1.2
BLYC	Blythe	3.36	128			Pn	12 00 56.5	-1.8
BLYC					IAML		12 01 52.3	
	comp=N,200nm,0.6s							
BLYC					IAML		12 01 55.8	
	comp=E,192nm,1.0s							
TKX	Tecate	3.41	164	Pn		Pn	12 00 58.6	-0.5
TKX					IAML		12 01 52.1	
	comp=E,212nm,0.7s							
TKX					IAML		12 02 02.1	
	comp=N,121nm,0.6s							
YUH	Yuha Desert	3.53	155			Pn	12 01 01.6	+0.9
YUH					IAML		12 02 05.9	
	comp=E,97nm,1.1s							
CBX	Cerro Bola	3.65	166			Pn	12 01 02.3	-0.2
GLA	Glamis	3.68	139			Pn	12 01 01.1	-1.7
LCMT	Little Creek M	3.77	71			Pn	12 01 04.6	+0.5
CCUT	Cedar City	3.87	63			Pn	12 01 05.4	-0.1
PSUT	Pine Spring	4.06	48			Pn	12 01 09.3	+1.1
PSUT					IAML		12 02 20.2	
	comp=E,89nm,1.0s							
PSUT					IAML		12 02 21.6	
	comp=N,93nm,1.1s							
CCX	Cicese	4.08	168			Pn	12 01 08.5	+0.2
CCX					IAML		12 02 16.3	
	comp=E,151nm,0.9s							
CCX					IAML		12 02 24.5	
	comp=N,108nm,1.0s							
KNB	Kanab	4.10	72			Pn	12 01 09.3	+0.6
ESJX	Sierra Juarez	4.12	159			Pn	12 01 08.5	-0.5
ESJX					IAML		12 02 20.0	
	comp=N,64nm,0.7s							
ESJX					IAML		12 02 23.2	
	comp=E,84nm,1.3s							
Y14A	Wickenburg	4.31	115			Pn	12 01 09.8	-1.7
Y14A					IAML		12 02 36.8	
	comp=N,104nm,0.8s							
Y14A					IAML		12 02 40.1	
	comp=E,84nm,0.8s							
U15A	North Rim	4.41	81			Pn	12 01 13.9	+0.8
U15A					IAML		12 02 30.3	
	comp=N,79nm,1.0s							
U15A					IAML		12 02 36.5	
	comp=E,74nm,0.9s							
ELK	Elko	5.24	21	Pn		Pn	12 01 24.9	+0.5
	comp=E,1.4nm,0.3s,baz=209,slow=10.0,SNR=24							
ELK					Pg	Pg	12 01 42.6	-3.2
	comp=E,1.7nm,0.3s,baz=230,slow=13,SNR=14							
ELK					Lg	Lg	12 02 49.0	
	comp=E,2.9nm,0.3s,baz=110,slow=20,SNR=13							
	comp=E,3.3nm,0.4s							
X16A	Lo Mia Camp, P	5.33	104			Pn	12 01 25.5	-0.1
YBH	Yreka Blue Hor	7.04	328	Pn		Pn	12 01 51.5	+2.5
	baz=205,slow=6.9,SNR=7.1							
YBH					Lg	Lg	12 03 48.2	
	baz=60,slow=8.1,SNR=4.3							
ANMO	Albuquerque	9.22	92	Pg		Pn	12 02 54.3	+35
	comp=E,0.1nm,0.3s,baz=11,slow=13,SNR=8.4							
ANMO					Lg	Lg	12 04 53.1	
	comp=E,0.1nm,0.3s,baz=284,slow=19,SNR=7.0							
PDAR	Pinedale Array	9.34	40	Pn		Pn	12 02 24.4	+3.8
	comp=E,0.1nm,0.3s,baz=241,slow=12,SNR=5.0							
PDAR					Lg	Lg	12 04 56.9	
	comp=E,0.1nm,0.3s,baz=217,slow=37,SNR=1.6							
	comp=E,0.4nm,0.5s							
NEW	Newport	12.39	2	LR		LR	12 08 54.0	
	comp=E,83nm,18.0s,baz=249,slow=43							
TXAR	Lajitas Array	13.50	115	Pn		Pn	12 03 19.7	+2.3
	baz=297,slow=11,SNR=3.9							
TXAR					Lg	Lg	12 07 12.0	
	comp=E,0.1nm,0.3s,baz=294,slow=31,SNR=3.1							
	comp=E,0.1nm,0.3s							
YKA	Yellowknife Ar	26.72	3	P		P	12 05 45.6	+0.5
	comp=E,0.3nm,0.7s,baz=188,slow=8.1,SNR=3.6							
	comp=E,0.3nm,0.7s							
ILAR	Eielson Array	33.80	338	P		P	12 06 49.3	+1.6
	comp=E,0.3nm,0.8s,baz=146,slow=8.3,SNR=3.7							
	comp=E,0.3nm,0.8s							

NEIC ***10*** *12:16:08.8±1.3,56°.14N±0°.07×149°.36W±0°.09, h24km±9km, ML3.8/70, ML3.6(AEIC), Error ellipse: s-maj=10.8km s-min=7.2km az=166.0*

IDC ***10*** *12:16:09.2±1.1,56°.23N×149°.35W, h0km, mb3.4/6, mbtmp3.3/11, ML3.0/5, MS2.8/3, Error ellipse: s-maj=22.4km s-min=16.6km az=35.0*

AEIC ***10*** *12:16:12.2±1.4,56°.18N±0°.06×149°.37W±0°.09, h10km±7km, Error ellipse: s-maj=10.3km s-min=6.0km az=149.0*

ISC 10 12:16:08.8±0.7, 56°.27N±0°.07×149°.44W±0°.05, h10km, n231, σ1§24/227, mb3.3/6, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.29	313			Pn	12 16 46.4	-0.3
KDAK	Kodiak Island	2.29	313			Sn	12 17 12.9	-2.0
KDAK	Kodiak Island	2.29	313	Pn		Pn	12 16 46.2	-0.5
	4.1nm,0.3s,baz=58,slow=1.5,SNR=113							
KDAK				Sn		Sn	12 17 13.1	-1.8
	11nm,0.3s,baz=162,slow=20,SNR=8.4							
KDAK				LR		LR	12 17 38.1	
	comp=Z,69nm,18.5s,baz=134,slow=38							
	9.0nm,0.3s							
OHAK	Old Harbor	2.33	296			Pn	12 16 46.1	-1.1
OHAK	Old Harbor	2.33	296			Sn	12 17 12.7	-3.0
OHAK	Old Harbor	2.33	296	P		Pn	12 16 46.0	-1.1
SII	Sitkinak Islan	2.65	278			Pn	12 16 50.4	-1.3
SII						Pb	12 16 50.7	-5.8
SII						Sn	12 17 21.0	-2.9
SII	Sitkinak Islan	2.65	278	IAML			12 17 24.8	
	comp=E,266nm,0.8s							
SII				IAML			12 17 31.4	
	comp=N,209nm,0.6s							
SYI	Shuyak Island	2.84	327			Pn	12 16 53.9	-0.2
SYI	Shuyak Island	2.84	327			Sn	12 17 27.8	-0.5
R18K	Karluk	3.04	297			Pn	12 16 57.0	0.0
R18K						Sn	12 17 30.8	-2.5
R18K	Karluk	3.04	297	IAML			12 17 32.1	
	comp=E,218nm,0.4s							
CNPM	China Poot	3.40	344			Pn	12 17 01.3	-0.6
CNPM				IAML			12 17 43.4	
	comp=E,122nm,0.3s							
CNPM	China Poot	3.40	344			Sn	12 17 40.8	-1.5
Q19K	Cape Douglas,	3.50	321			Pn	12 17 04.0	+0.7
Q19K	Cape Douglas,	3.50	321			Sn	12 17 43.2	-1.5
CHIR	Chirikof Islan	3.50	265			Pn	12 17 01.9	-1.3
CHIR	Chirikof Islan	3.50	265			Sn	12 17 40.3	-4.3
KAPH	Katmai Pasha	3.53	313			Pn	12 17 03.9	+0.1
KAPH						Pb	12 17 04.5	-6.9
KAPH						Sn	12 17 44.7	-0.9
KAHG	Katmai Hook Gl	3.55	311			Pn	12 17 04.2	+0.2
KAHG						Pb	12 17 04.8	-6.9
KAHG						Sn	12 17 43.8	-2.3
Q23K	Middleton Isla	3.57	26	Pn		Pn	12 17 03.1	-1.1
Q23K				IAML			12 17 43.5	
	comp=N,125nm,0.7s							
Q23K				IAML			12 17 50.3	
	comp=E,103nm,0.7s							
Q23K	Middleton Isla	3.57	26			Sn	12 17 43.2	-3.1
BRLK	Bradley Lake	3.59	348			Pn	12 17 04.0	-0.5
BRLK				IAML			12 17 48.4	
	comp=N,96nm,0.3s							
BRLK				IAML			12 17 50.6	
	comp=E,106nm,0.4s							
HOM	Homer	3.59	342	Pn		Pn	12 17 05.2	+0.7
HOM				IAML			12 17 49.3	
	comp=E,201nm,0.7s							
HOM				IAML			12 18 00.9	
	comp=N,271nm,1.1s							
HOM	Homer	3.59	342			Sn	12 17 45.6	-1.3
CAHL	Cahill	3.66	302			Pn	12 17 05.5	0.0
ACHA	Angle Creek He	3.75	304			Pn	12 17 08.0	+1.3
KJL	Kejulik	3.79	301			Pn	12 17 07.2	-0.1
ANCK	Angle Creek	3.82	303			Pn	12 17 07.8	+0.1
KAHC	Katmai Hardscr	3.84	311			Pn	12 17 08.0	0.0
KAHC	Katmai Hardscr	3.84	311			Pn	12 17 08.3	+0.3
KAHC						Pb	12 17 08.6	-8.1
SEW	Seward	3.84	360			Pn	12 17 07.0	-0.9
P23K	Montague Islan	3.89	15			Pn	12 17 08.1	-0.5
P23K				IAML			12 17 55.2	
	comp=E,170nm,0.3s							
P23K				IAML			12 17 57.3	
	comp=N,122nm,0.5s							
P19K	Oil Pt	3.95	331			Pn	12 17 09.8	+0.4
PLK3	Peulik 3	4.00	294			Pn	12 17 10.4	+0.3
PLK4	Peulik 4	4.03	293			Pn	12 17 10.8	+0.2
PLK4				IAML			12 18 01.6	
	comp=N,134nm,0.5s							
PLK4				IAML			12 18 01.6	
	comp=E,143nm,0.6s							
CNTC	Contact Creek	4.03	302			Pn	12 17 10.6	0.0
O20K	Slope Mountain	4.18	337			Pn	12 17 12.4	-0.2
ILSW	Iliamna Southw	4.21	334			Pn	12 17 13.2	+0.1
ILSW				IAML			12 18 03.5	
	comp=N,66nm,0.7s							
ILSW				IAML			12 18 07.5	
	comp=E,77nm,0.6s							
PLK1	Peulik 1	4.21	294			Pn	12 17 12.4	-0.5
PLK1						Pb	12 17 12.9	-10
O22K	Cooper Landing	4.22	358			Pn	12 17 13.6	+0.4
SLKM	Skilak Lake	4.27	355			Pn	12 17 13.6	-0.3
SLKM				IAML			12 18 02.8	
	comp=E,128nm,0.3s							
SLKM				IAML			12 18 02.9	
	comp=N,129nm,0.3s							
PLBL	Peulik Blue Cr	4.29	293			Pn	12 17 13.7	-0.4
PLBL						Pb	12 17 14.2	-10
P18K	Big Mountain,	4.40	318	Pn		Pn	12 17 16.0	+0.3
HIN	Hinchinbrook I	4.42	19			Pn	12 17 15.4	-0.4
HIN				IAML			12 18 06.9	
	comp=N,116nm,0.5s							
HIN				IAML			12 18 18.3	
	comp=E,94nm,0.8s							
RED	Redoubt Volcan	4.51	338	Pn		Pn	12 17 17.0	-0.2
RED				IAML			12 18 10.6	
	comp=N,60nm,0.6s							
RED				IAML			12 18 16.8	
	comp=E,78nm,0.6s							
KAIM	Kayak Island	4.53	34			Pn	12 17 17.1	-0.3
RDSO	Redoubt South	4.54	339			Pn	12 17 16.6	-1.1
Q16K	King Salmon	4.58	305			Pn	12 17 17.9	-0.2
RDWB	Redoubt West	4.59	338			Pn	12 17 17.6	-0.8
PWL	Port Wells	4.64	7			Pn	12 17 18.6	-0.3
PWL					IAML		12 18 17.6	
	comp=E,69nm,0.5s							
PWL					IAML		12 18 17.6	
	comp=N,64nm,0.5s							
O19K	Port Alsworth	4.71	329			Pn	12 17 19.4	-0.4
EYAK	Cordova Ski Ar	4.71	23			Pn	12 17 19.4	-0.4
EYAK					IAML		12 18 19.3	
	comp=N,80nm,0.8s							
EYAK					IAML		12 18 21.2	
	comp=E,60nm,0.6s							
O18K	Koktuh Hills	4.72	322			Pn	12 17 20.0	0.0
O18K					IAML		12 18 14.3	
	comp=N,56nm,0.8s							
FID	Port Fidalgo	4.75	18			Pn	12 17 20.2	-0.3
FID					IAML		12 18 13.4	
	comp=E,68nm,0.3s							
FID					IAML		12 18 13.7	
	comp=N,56nm,0.3s							
P17K	Kvichak River	4.76	311			Pn	12 17 20.6	+0.1
P17K						Pb	12 17 21.0	-11
GLI	Glacier Island	4.78	14			Pn	12 17 20.6	-0.2
GLI					IAML		12 18 22.8	
	comp=E,52nm,0.9s							
GLI					IAML		12 18 28.8	
	comp=N,44nm,1.0s							
RAGM	Ragged Mountai	4.83	29			Pn	12 17 21.5	0.0
RC01	Rabbit Creek A	4.83	358	Pn		Pn	12 17 21.4	-0.1
RC01					IAML		12 18 17.0	
	comp=E,89nm,0.4s							
RC01					IAML		12 18 18.2	
	comp=N,63nm,0.5s							
SUCK	Suckling Hills	4.85	36			Pn	12 17 21.2	-0.5
SUCK	Suckling Hills	4.85	36	IAML			12 18 16.3	
	comp=E,68nm,1.1s							
SUCK					IAML		12 18 27.7	
	comp=N,99nm,1.1s							
AZAC	Aniakchak	4.90	281			Pn	12 17 22.8	+0.2
HMT	Hamilton	4.90	32			Pn	12 17 22.3	-0.3
NICHA	Nichawak Mount	4.91	34			Pn	12 17 22.4	-0.3
ANPB	Aniakchak Plen	4.92	280			Pn	12 17 22.7	-0.2
GOAT	Goat Mountain	4.98	28			Pn	12 17 23.5	-0.1
BGLC	Bering Glacier	5.05	38			Pn	12 17 24.5	+0.1
BERG	Berg Lake	5.12	34			Pn	12 17 25.1	-0.4
GRIN	Grindle Hills	5.15	36			Pn	12 17 25.8	-0.2
CKL	Chakachamna La	5.17	344			Pn	12 17 25.7	-0.5
DIV	Divide	5.23	20			Pn	12 17 27.3	+0.2
DIV					IAML		12 18 37.2	
	comp=N,30nm,0.7s							
N19K	Bonanza Creek	5.26	332			Pn	12 17 27.2	-0.4
KHIT	Khitrov Hills	5.30	35			Pn	12 17 27.4	-0.6
PMR	Palmer	5.34	2			Pn	12 17 28.5	0.0
PMR	Palmer	5.34	2	P		Pn	12 17 28.5	0.0
BMRM	Bremner River	5.34	26			Pn	12 17 28.5	-0.1
P16K	Nushagak River	5.36	305			Pn	12 17 29.8	+1.0
O17K	Koliganek Bris	5.37	314			Pn	12 17 29.1	+0.1
VNHG	Veniaminof 1	5.43	274			Pn	12 17 29.1	-0.7
VNHG						Pb	12 17 29.8	-14
GHO	Glory Hole Cre	5.52	3			Pn	12 17 31.7	+0.6
BARK	Barkley Ridge	5.53	39			Pn	12 17 30.7	-0.4
KLU	Klutina	5.54	18			Pn	12 17 31.5	+0.1
MESA	MESA	5.56	42			Pn	12 17 31.1	-0.6
N18K	Kilae Creek	5.57	325			Pn	12 17 31.0	-0.7
CRQM	Cirque	5.58	34			Pn	12 17 31.5	-0.4
M23K	Glacier View	5.61	8			Pn	12 17 32.5	+0.3
VNFG	Fog Glacier, M	5.64	274			Pn	12 17 31.6	-1.1
TGL	Tana Glacier	5.67	35			Pn	12 17 32.9	-0.3
SCM	Sheep Creek Mo	5.68	10			Pn	12 17 34.2	+1.0
O16K	Kokwok River B	5.69	309			Pn	12 17 33.8	+0.6
YAH	Yahtse	5.76	41			Pn	12 17 34.8	+0.3
CHX	Chaix Hills	5.81	46			Pn	12 17 34.1	-1.0
CHX						Pb	12 17 34.7	-16
SKT	Skwentna	5.83	350			Pn	12 17 35.1	-0.1
VRDI	Verde Repeater	5.86	30			Pn	12 17 35.6	-0.3
RKAV	Rock Avalanche	5.87	43			Pn	12 17 35.5	-0.5
N17K	Nushagak Hills	5.90	320			Pn	12 17 36.1	0.0
N25K	Chitina, Valde	5.91	23			Pn	12 17 36.3	-0.1
M20K	Styx River	5.94	343			Pn	12 17 36.2	-0.6
CNBA	Chernabura Isl	5.95	260			Pn	12 17 35.4	-1.4
GLB	Gilahina Butte	5.95	27			Pn	12 17 36.8	-0.1
KIAG	Kiagna River	5.95	35			Pn	12 17 36.8	-0.3
SAMH	Samovar Hills	5.99	46			Pn	12 17 37.3	-0.3
SAMH						Pb	12 17 37.8	-15
GRNC	Granite Creek	6.01	39			Pn	12 17 37.8	-0.1
BALM	Baldy	6.04	35			Pn	12 17 37.9	-0.4
M24K	Tolsona, Glenn	6.09	15			Pn	12 17 39.8	+1.0
MCARA	McCarthy VSAT	6.11	30			Pn	12 17 40.2	+1.1
PTPK	Patty Peak	6.12	33			Pn	12 17 39.3	-0.1
PCA	Pinnacle	6.18	48			Pn	12 17 41.0	+0.8
M18K	Stony River	6.19	330			Pn	12 17 39.4	-0.8
O15K	Ungalikthiuk R	6.28	302			Pn	12 17 42.1	+0.7
BARN	Barnard Glacie	6.28	37			Pn	12 17 41.8	+0.2
SDPT	Sand Point	6.29	266			Pn	12 17 41.0	-0.6
SDPT	Sand Point	6.29	266	P		Pn	12 17 41.0	-0.6
WACK	Wrangell Chich	6.30	23			Pn	12 17 40.9	-1.0
CTGM	Chitina Glacie	6.33	39	Pn		Pn	12 17 40.9	-1.3
PNL	Peninsula	6.33	53			Pn	12 17 41.5	-0.7
LOGN	Logan Glacier	6.35	41			Pn	12 17 43.4	+1.0
BCPM	Bancas Point	6.37	51			Pn	12 17 43.3	+0.7
N16K	Nishlik Lake	6.47	314			Pn	12 17 44.1	+0.1
HARP	HAARP	6.52	18			Pn	12 17 44.7	0.0
L19K	White Mountain	6.54	337			Pn	12 17 44.0	-1.1
M17K	Holitna River	6.61	324			Pn	12 17 45.9	0.0
O28M	Mount Upton	6.62	43			Pn	12 17 45.8	-0.5
N15K	Kwethluk River	6.85	309			Pn	12 17 50.4	+1.2
M16K	Timber Creek

COLA	College	8.67	4			Pn		12 18 14.2	+0.2
COLA	College	8.67	4	P		Pn		12 18 14.4	+0.3
J26L	Joseph Creek	8.75	17			Pn		12 18 15.2	-0.1
WHY	Whitehorse	8.80	54			Pn		12 18 16.1	+0.1
MLY	Manley	8.81	356			Pn		12 18 16.0	-0.2
I23K	Minto, Yukon-K	8.91	0			Pn		12 18 17.3	-0.1
L29M	L29M	8.91	35	Pn		Pn		12 18 17.3	-0.2
P32M	Atlin	9.00	62			Pn		12 18 18.5	-0.2
J16K	Anvik River	9.00	326	Pn		Pn		12 18 19.3	+0.6
U33K	Whale Pass	9.10	84			Pn		12 18 16.1	-3.9
CRAG	Craig	9.21	88	Pn		Pn		12 18 17.0	-4.5
CRAG	Craig	9.21	88	P		Pn		12 18 17.4	-4.1
DAWY	Dawson	9.27	28			Pn		12 18 23.0	+0.6
PRP	Porcupine Dome	9.47	10			Pn		12 18 24.9	-0.3
WRAK	Wrangell Islan	9.49	82	Pn		Pn		12 18 23.3	-2.1
H21K	Melozitna Rive	9.56	352			Pn		12 18 25.0	-1.3
I26K	Coal Creek Min	9.56	16	Pn		Pn		12 18 26.0	-0.4
AKUT	Akutan	9.58	264	Pn		Pn		12 18 24.9	-1.8
AKUT	Akutan	9.58	264	P		Pn		12 18 25.7	-0.9
P33M	Teslin, Yukon	9.60	59			Pn		12 18 26.5	-0.5
H24K	Noodor Dome	9.63	4			Pn		12 18 27.3	-0.1
H18K	Honhosa River	9.91	338	Pn		Pn		12 18 32.3	+1.1
V35K	Ketchikan	10.08	88	Pn		Pn		12 18 30.2	-3.2
UNV	Unalaska Valle	10.09	263	Pn		Pn		12 18 31.8	-1.8
UNV	Unalaska Valle	10.09	263	P		Pn		12 18 32.0	-1.6
R33M	Jennings River	10.32	65			Pn		12 18 36.4	-0.6
G23K	Bananza Creek	10.48	359			Pn		12 18 39.0	0.0
G24K	Hadweenzic Riv	10.51	4			Pn		12 18 39.4	+0.1
FYU	Fort Yukon	10.52	9	Pn		Pn		12 18 40.1	+0.7
MOBC	Moresby Island	10.58	100	Pn		Pn		12 18 37.7	-2.6
H27K	Steamboat Moun	10.68	18			Pn		12 18 42.5	+0.8
DLBC	Dease Lake	10.70	70	Pn		Pn		12 18 41.9	-0.2
	baz=238,slow=6.2,SNR=9.9								
DLBC					Sn	Sn		12 20 38.8	-3.0
	baz=182,slow=26,SNR=1.4								
	comp=N,0.1nm,0.4s								
COLD	Coldfoot	11.00	358	Pn		Pn		12 18 45.6	-0.5
G26K	Porcupine Rive	11.04	12	Pn		Pn		12 18 45.5	-1.1
BMAR	Burnt Mountain	11.42	9	Pn		Pn		12 18 52.0	+0.2
SPIA	Saint Paul Isl	11.46	283	P		Pn		12 18 52.6	+0.2
E24K	Your Creek	11.86	2	Pn		Pn		12 18 57.4	-0.4
E21K	Killik River	12.39	352	Pn		Pn		12 19 05.6	+0.6
D23K	Nanushuk River	12.76	358			Pn		12 19 12.4	+2.4
D25K	Kavik River	13.17	5	Pn		Pn		12 19 17.5	+1.8
INK	Inuvik	14.09	25	Pn		Pn		12 19 31.2	+3.1
	comp=N,0.3nm,0.3s,baz=220,slow=10,SNR=6.9								
	comp=N,1.3nm,0.9s								
YKA	Yellowknife Ar	18.62	56	P		Pn		12 20 27.5	+1.2
	baz=273,slow=12,SNR=4.6								
	comp=N,0.5nm,1.0s								
NVAR	Mina Array Bea	27.28	118	P		P		12 21 55.8	+2.3
	comp=N,0.2nm,0.4s,baz=306,slow=8.8,SNR=4.2								
	comp=N,0.2nm,0.4s								
PDAR	Pinedale Array	28.75	101	P		P		12 22 08.1	+1.6
	comp=N,0.2nm,0.5s,baz=308,slow=7.9,SNR=0.7								
	comp=N,0.2nm,0.5s								
MA2	Magadan	30.99	301	LR		LR		12 35 37.5	
	comp=N,24nm,19.4s,baz=88,slow=38								
TXAR	Lajitas Array	41.90	110	P		P		12 24 00.6	+1.3
	comp=N,0.2nm,0.7s,baz=329,slow=7.8,SNR=3.2								
	comp=N,0.2nm,0.7s								
ASAJ	Asahikawa	43.41	284	LR		LR		12 42 27.4	
	comp=N,22nm,19.4s,baz=147,slow=36								
H11N2	WAKE ISLAND Hy	48.80	240	T		T		13 18 09.1	
	baz=30,slow=76,SNR=5.4								
H11N3	WAKE ISLAND Hy	48.81	240	T		T		13 18 08.8	
	baz=30,slow=76,SNR=9.6								
H11N1	WAKE ISLAND Hy	48.82	240	T		T		13 18 13.4	
	baz=30,slow=76,SNR=4.8								
H11S1	WAKE ISLAND Hy	49.95	239	T		T		13 19 53.1	
	baz=29,slow=76,SNR=7.3								
H11S2	WAKE ISLAND Hy	49.96	239	T		T		13 19 37.9	
	baz=29,slow=76,SNR=2.8								
H11S3	WAKE ISLAND Hy	49.96	239	T		T		13 19 39.3	
	baz=29,slow=76,SNR=4.9								
SONM	Songino Array	58.58	310	P		P		12 26 07.3	+1.8
	comp=N,0.5nm,0.6s,baz=56,slow=5.9,SNR=3.1								
	comp=N,0.5nm,0.6s								
KURBB	Kurchatov Arra	66.30	329	P		P		12 26 59.4	+2.5
	comp=N,0.1nm,0.4s,baz=33,slow=9.8,SNR=2.8								
	comp=N,0.1nm,0.4s								
MKAR	Makanchi Array	68.55	325	P		P		12 27 13.9	+2.6
	comp=N,0.2nm,0.4s,baz=21,slow=7.8,SNR=3.6								
	comp=N,0.2nm,0.4s								
QSPA	South Pole Qui	146.06	180	PKPbc		PKPab		12 35 48.2	+0.1
	comp=N,0.7nm,0.8s,baz=122,slow=3.1,SNR=5.2								

IDC ***10*** *12:18:03.2±2.1,52˚90S×21˚32E,h0km,mb3.7/4, mbtmp3.7/4, MS3.2/5, Error ellipse: s-maj=49.0km s-min=45.9km az=104.0*

ISC 10 12:18:05.2±2.2, 52˚8S±0˚3×21˚7E±0˚3, h10km, n15, σ1s 72/8, mb3.8/6, MS3.0/5, 3C, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	CROZET ISLANDS	20.27	85	T	T	12 44 15.6	
	baz=241,slow=74,SNR=19						
H04S3	CROZET ISLANDS	20.27	85	T	T	12 44 18.0	
	baz=241,slow=74,SNR=17						
H04S1	CROZET ISLANDS	20.29	85	T	T	12 44 24.5	
	baz=241,slow=74,SNR=19						
SNAA	Sanae	21.77	201	⇑P	P	12 22 58.9	+2.2
	comp=Z,98nm,0.8s						
SNAA	Sanae	21.77	201	P	P	12 22 54.6	-2.1
	comp=Z,3.2nm,0.9s,baz=37,slow=12,SNR=5.2						
SNAA				LR	LR	12 28 38.7	
	comp=Z,64nm,21.9s,baz=116,slow=29						
	comp=Z,3.2nm,0.9s						
VNA2	Neumayer--Watz	22.33	205	⇑P	P	12 23 03.1	+0.4
	comp=Z,2.9nm,0.7s,baz=42,slow=12						
VNA1	Neumayer--Stat	22.39	206	⇑P	P	12 23 05.0	+1.8
	comp=Z,4.3nm,0.9s						
BOSA	Boshof	24.33	8	LR	LR	12 31 10.2	
	comp=Z,39nm,20.2s,baz=192,slow=32						
MAW	Mawson	24.60	143	P	P	12 23 25.3	+0.2
	comp=Z,1.5nm,0.9s,baz=301,slow=9.3,SNR=2.3						
	comp=Z,1.5nm,0.9s						
LBTB	Lobatse	27.93	8	LR	LR	12 33 17.6	
	comp=Z,45nm,18.8s,baz=160,slow=33						
MATP	Matopo	32.77	12	LR	LR	12 36 08.8	
	comp=Z,34nm,21.7s,baz=204,slow=33						
QSPA	South Pole Qui	37.40	180	P	P	12 25 16.8	-1.2
	comp=Z,1.3nm,0.8s,baz=236,slow=10,SNR=13						
	comp=Z,1.3nm,0.8s						
VNDA	Vanda	47.59	169	LR	LR	12 45 11.0	
	comp=Z,43nm,20.1s,baz=274,slow=34						
ASAR	Alice Springs	83.85	121	P	P	12 30 35.7	+0.6
	comp=Z,0.4nm,0.7s,baz=212,slow=4.1,SNR=4.5						
	comp=Z,0.4nm,0.7s						
PDAR	Pinedale Array	146.35	273	PKPbc	PKPdf	12 37 43.9	-0.6
	comp=Z,0.3nm,0.5s,baz=115,slow=5.8,SNR=4.1						

PAS ***10*** *12:28:57.0±1.1,36˚050N±0˚008×117˚86W±0˚01, h2km±1km, Mwr4.1/6, mb4.1/15(NEIC), ML4.0/134(NEIC), Error ellipse: s-maj=1.2km s-min=1.2km az=96.0*

NEIC ***10*** *12:28:56.7±1.2,36˚058N±0˚008×117˚85W±0˚01, h5km, Error ellipse: s-maj=1.4km s-min=1.4km az=117.0*

IDC ***10*** *12:28:57.8±0.7,36˚05N×117˚80W, h0km, mb3.8/3, mbtmp3.6/9, ML3.5/5, MS3.3/14, Error ellipse: s-maj=13.4km s-min=5.3km az=72.0*

ISC 10 12:28:57.2±0.8, 36˚04N±0˚01×117˚85W±0˚02, h4km±5km, n172, σ0s90/195, mb4.1/12, MS3.4/11, 1C, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRVM	Rose V. Centra	0.05	219		Pg	12 28 58.2	-0.3
WRVM					Sg	12 28 59.2	-0.2
JRC2	Joshua Ridge	0.07	149		Pg	12 28 58.7	-0.2
JRC2					Sg	12 29 00.1	0.0
MFS	McCloud Flat S	0.07	360		Pg	12 28 58.5	-0.4
MFS					Sg	12 28 59.8	-0.4
WCSM	Coso Springs S	0.07	104		Pg	12 28 58.7	-0.2
WCSM					Sg	12 29 00.1	0.0
WVPM	Volcano Peak E	0.10	162		Pg	12 28 59.2	-0.1
WVPM					Sg	12 29 01.1	+0.4
WNMM	Nine Mile Cany	0.20	192		Pg	12 29 01.1	-0.1
WNMM					Sg	12 29 04.4	+0.5
TOW	Tower One	0.25	163		Pg	12 29 02.5	+0.5
MPMC	Manual Prospec	0.30	87		Pg	12 29 02.8	-0.2
MPMC					Sg	12 29 07.1	+0.1
MPMC				IAML		12 29 08.6	
	comp=N,21μm,1.0s						
MPMC				IAML		12 29 09.2	
	comp=E,29μm,0.7s						
CLC	China Lake	0.31	137		Pg	12 29 03.2	0.0
SRTC	Snort	0.36	166		Pg	12 29 04.7	+0.4
SRTC					Sb	12 29 11.0	-1.3
CWC	Cottonwood Cre	0.43	335		Pg	12 29 05.4	-0.2
CWC					Sg	12 29 11.3	-0.1
CWC				IAML		12 29 15.8	
	comp=E,13μm,0.3s						
CWC				IAML		12 29 15.9	
	comp=N,12μm,0.2s						
WORM	Onyx Ranch	0.47	222		Pg	12 29 05.9	-0.3
WORM					Sg	12 29 12.5	+0.2
CGO	Cerro Gordo	0.51	5		Pg	12 29 06.6	-0.4
CGO					Sg	12 29 13.7	+0.1
WHFM	Hanning Flat	0.53	229		Pg	12 29 07.2	-0.3
WHFM					Sg	12 29 14.6	+0.3
WBSM	Bird Springs	0.56	205		Pg	12 29 07.8	-0.2
WBSM					Sg	12 29 15.8	+0.6
LRMC	Laurel Mtn Rad	0.58	166		Pg	12 29 08.1	-0.3
LRMC					Sg	12 29 16.3	+0.4
LRMC				IAML		12 29 17.2	
	comp=E,7μm,0.7s						
LRMC				IAML		12 29 18.7	
	comp=N,9μm,0.7s						
ISA	Isabella, Lake	0.63	233		Pg	12 29 09.1	-0.2
ISA	Isabella, Lake	0.63	233		Sg	12 29 17.9	+0.4
ISA	Isabella, Lake	0.63	233	IAML		12 29 18.5	
	comp=N,6μm,0.3s						
ISA				IAML		12 29 18.6	
	comp=E,6μm,0.4s						
WASM	Alta Sierra Ca	0.65	242		Pg	12 29 09.4	-0.3
WASM					Sg	12 29 18.1	0.0
CCCA	Chr Cany lake	0.65	142		Pg	12 29 10.1	+0.3
SPG2	Springville 2	0.76	282		Pg	12 29 11.0	-0.7
DTP	Desert Tortois	0.78	179		Pg	12 29 11.7	-0.4
DTP					Sg	12 29 22.4	+0.2
QSM	Queen of Sheba	0.80	95		Pg	12 29 12.1	-0.5
QSM				IAML		12 29 15.8	
	comp=N,9μm,0.5s						
QSM				IAML		12 29 17.1	
	comp=E,6μm,0.4s						
CCAC	Calif City Air	0.90	188		Pg	12 29 13.9	-0.5
CCAC					Sg	12 29 26.4	+0.2
FURC	Furnace Creek,	0.91	62		Pg	12 29 14.6	0.0
FURC					Sg	12 29 26.6	+0.2
GWY	Greenwater Val	0.97	81		Pg	12 29 15.4	-0.4
VES	Vestal, Richgr	1.02	259		Pg	12 29 16.3	-0.5
VES					Sg	12 29 30.2	+0.2
GRAC	Grapevine Rang	1.03	22		Pg	12 29 16.2	-0.8
TIN	Tinemaha, Big	1.05	343		Pg	12 29 16.7	-0.7
TIN					Sg	12 29 31.5	+0.4
TEJ	El Tejon	1.06	220		Pg	12 29 16.6	-0.9
TEJ					Sg	12 29 30.6	-0.7
GSC	Goldstone, Bar	1.13	131		Pg	12 29 17.9	-1.0
GSC				IAML		12 29 37.6	
	comp=E,5μm,1.4s						
GSC				IAML		12 29 38.0	
	comp=N,2μm,0.8s						
SGV	South Grapevin	1.15	35		Pg	12 29 18.4	-0.8
SGV					Sb	12 29 34.6	-0.4
EDW2	Edwards Air Fo	1.17	186		Pg	12 29 18.5	-1.1
EDW2					Sg	12 29 34.2	-0.5
LCH	Last Change Ra	1.20	8		Pg	12 29 18.9	-1.3
LCH					Sg	12 29 34.7	-1.1
HYS	Haystack Butte	1.20	169		Pg	12 29 19.3	-0.9
HYS					Sg	12 29 35.6	-0.2
TPO	Tropico Hills	1.20	195		Pg	12 29 19.6	-0.7
TPO					Sg	12 29 35.8	-0.1
TPO				IAML		12 29 39.0	
	comp=E,4μm,0.8s						
TPO				IAML		12 29 41.0	
	comp=N,4μm,1.0s						
ARVC	Arvin	1.21	221		Pg	12 29 19.9	-0.5
BAKC	Calstate	1.23	236		Pg	12 29 20.8	-0.1
BAKC					Sn	12 29 38.0	-0.2
WCT	Wildcat Mounta	1.24	53		Pg	12 29 20.4	-0.7
WCT					Sg	12 29 36.5	-0.7
WCT				IAML		12 29 43.0	
	comp=E,4μm,0.8s						
WCT				IAML		12 29 47.6	
	comp=N,2μm,0.7s						
TJR	Tejon Ranch	1.25	216		Pg	12 29 20.2	-0.9
VOG	Valley Oaks Go	1.27	283		Pg	12 29 20.6	-0.9
SHOC	Shoshone, Teco	1.29	96		Pb	12 29 21.9	-0.2
THC	Tehachapi Micr	1.31	210		Pn	12 29 21.3	-1.1
DSP	Deep Springs	1.33	356		Pn	12 29 21.4	-1.1
DSP					Sb	12 29 39.3	-0.7
DSP				IAML		12 29 41.0	
	comp=E,2μm,0.6s						
AMDNV	Amargosa	1.34	72		Pn	12 29 21.6	-1.0
GMN	Gold Mountain	1.34	21		Pn	12 29 21.8	-1.2
GMN				IAML		12 29 48.8	
	comp=N,2μm,1.1s						
BHPR	Bishop	1.35	338		Pn	12 29 22.4	-0.8
SBB	Saddle Back Bu	1.35	179		Pn	12 29 22.7	-0.2
SBB					Sb	12 29 40.6	-0.2
POCCA	Poleta Canyon	1.36	346		Pn	12 29 22.6	-0.5
RRX	Edison Barstow	1.36	149		Pn	12 29 22.5	-0.5
ALPC	Antelope	1.40	195		Pn	12 29 23.8	-0.2
ALPC					Sb	12 29 41.7	-0.6
LEOC	Leona Valley	1.46	195		Pn	12 29 24.0	-0.4
LRRC	Littlerock Res	1.52	185		Pn	12 29 25.3	+0.1
CJV	Casa Juvan	1.53	189		Pn	12 29 25.1	-0.3
VTV	Victorville	1.54	164		Sg	12 29 46.7	-0.1
TPNV	Topopah Spring	1.58	55		Pn	12 29 25.6	-0.5
HOLC	Holcomb Ridge	1.58	180		Pn	12 29 25.4	-0.7
OSI	Osito Audit: C	1.59	207		Pb	12 29 26.8	-0.4
OSI				IAML		12 29 54.3	
	comp=E,2μm,0.8s						
OSI				IAML		12 29 57.6	
	comp=N,2μm,0.8s						
JNH	Juniper Hills	1.59	183		Pn	12 29 25.7	-0.6
BCW	Bitter Crk WRg	1.68	230		Pn	12 29 27.8	+0.3
TUQ	Turquoise Moun	1.68	111		Pn	12 29 26.4	-1.1
MZP	Montezuma Peak	1.70	13		Pn	12 29 27.6	-0.3
CHC	Chilao Flat St	1.71	185		Pn	12 29 27.7	-0.2
CRGC	Crocker Grade	1.72	243		Pb	12 29 28.9	-0.6
HEC	Hector,Ludlow	1.73	134		Pn	12 29 27.2	-0.9
KCC	Kaiser Creek	1.74	318		Pn	12 29 28.8	+0.6
BENR	Benton	1.77	341		Pn	12 29 29.1	+0.3
FRI	Friant	1.77	303		Pn	12 29 29.1	+0.5
MLAC	Mammoth, Mammo	1.77	334		Pb	12 29 29.9	-0.4
BFSC	Mount Baldy Ra	1.81	175		Pn	12 29 28.7	-0.5
BFSC				IAML		12 29 57.4	
	comp=E,1μm,0.8s						
BFSC				IAML		12 29 59.9	
	comp=N,1μm,0.8s						
MCSM	Casa Diablo Ho	1.82	333		Pb	12 29 30.3	-0.9
MWC	Mount Wilson	1.82	185		Pn	12 29 30.0	+0.4
MWC				IAML		12 29 58.0	
	comp=E,1μm,0.9s						
MWC				IAML		12 29 58.3	
	comp=N,2μm,0.6s						
SSK	Sunset Peak	1.83	176		Pn	12 29 30.2	+0.6
PASC	Pasadena Art C	1.89	188		Pn	12 29 30.5	+0.3
BLCC	Black Canyon	1.92	201		Pn	12 29 31.1	+0.4
BBRC	Big Bear Solar	1.94	156		Pb	12 29 33.3	+0.2
MTPC	Mountain Pass	1.95	106		Pn	12 29 30.7	-0.6
DJJ	Donna J Jenkin	2.00	194		Pn	12 29 32.3	+0.6
TSCN	Private Proper	2.09	257		Pn	12 29 34.0	+1.0
TPH	Tonopah	2.09	14		Pn	12 29 33.4	+0.2
GTM	Goat Mountain	2.13	144		Pb	12 29 36.2	-0.2
PKD	Bear Valley Ra	2.18	268		Pn	12 29 35.0	+0.7
GMRC	Granite Mounta	2.19	124		Pn	12 29 32.9	-1.6
PSMM	Smith Mountain	2.22	271		Pn	12 29 36.0	+1.1
SHPR	Sheep Range	2.23	77		Pn	12 29 35.5	+0.5
LHV	Little Huntoon	2.26	347		Pn	12 29 36.5	+1.1
LHV				IAML		12 30 13.2	
	comp=E,1μm,1.2s						
LHV				IAML		12 30 19.2	
	comp=N,1μm,1.7s						
BLAC	Blackrock camp	2.31	148		Pn	12 29 35.6	-0.5
S11A	Rachel	2.33	46		Pn	12 29 36.4	0.0
PMPB	Monarch Peak	2.39	275		Pn	12 29 38.5	+1.3
NV11	Mina Array Sit	2.40	354		Pn	12 29 37.9	+0.5
NVAR	Mina Array Bea	2.41	352		Pn	12 29 38.6	+1.0
NVAR	Mina Array Bea	2.41	352	Pn	Pn	12 29 37.8	+0.2
	comp=N,12nm,0.3s,baz=176,slow=15,SNR=289						
NVAR				Pg	Pg	12 29 43.7	+0.3
	comp=N,54nm,0.3s,baz=171,slow=19,SNR=55						
NVAR				Lg	Lg	12 30 13.5	
	comp=N,123nm,0.3s,baz=171,slow=29,SNR=6.0						
	comp=N,28nm,0.5s						
EW2	E Wide Canyon	2.41	150		Pn	12 29 37.0	-0.5
ELS	Elsinore Mount	2.42	172		Pn	12 29 37.4	-0.2
ELS				IAML		12 30 18.3	
	comp=E,518nm,0.8s						
TPC	Twentynine Pal	2.44	142		Pn	12 29 37.0	-0.8
MYLM	Yosemite Lake	2.46	304		Pb	12 29 40.7	-1.3
V12A	Nelson	2.46	97		Pn	12 29 37.9	-0.3
V12A				IAML		12 30 25.1	
	comp=N,557nm,2.3s						
POB	Polly Butte	2.47	162		Pn	12 29 38.1	-0.2
RAMR	Ramage Ranch	2.48	261		Pn	12 29 39.4	+1.0
DGR	Domenigoni Val	2.49	164		Pn	12 29 38.3	-0.3
BBGB	Big Mountain B	2.63	283		Pn	12 29 42.4	+1.9
PRN	Pahroc Range	2.63	58		Pn	12 29 40.9	+0.3
RYN	Ryan	2.63	349		Pn	12 29 41.5	+0.9
RYN				IAML		12 30 28.2	
	comp=E,489nm,1.7s						
CRY	Cary Ranch	2.64	159		Pn	12 29 40.7	0.0
PCCM	Crazy Canyon	2.68	272		Pn	12 29 42.7	+1.5
PMD	Palm Desert	2.68	153		Pn	12 29 40.6	-0.5
PFO	Pinyon Flats O	2.68	154		Pn	12 29 40.8	-0.5
PFO	Pinyon Flats O	2.68	154	Pn	Pn	12 29 40.7	-0.6
	comp=E,2.6nm,0.3s,baz=341,slow=9.1,SNR=51						
PFO				Pg	Pg	12 29 47.3	-1.4
	comp=E,24nm,0.3s,baz=337,slow=14,SNR=49						
PFO				Lg	Lg	12 30 22.4	
	comp=E,22nm,0.3s,baz=238,slow=13,SNR=9.7						
	comp=E,27nm,0.8s						
XPFO	Pinon Flat	2.69	154		Pn	12 29 40.9	-0.5
SNDA	J Saunders Pla	2.69	157		Pn	12 29 41.2	-0.2
BSGM	Shirttail Gulc	2.77	279		Pn	12 29 43.8	+1.4
PLM	Palomar	2.81	163		Pn	12 29 43.0	0.0
CTW	Cottonwood Mou	2.87	145		Pn	12 29 43.0	-0.8
SAO	San Andreas Ge	2.99	285		Pn	12 29 46.3	+0.9
BORC	Borrego Spring	3.01	156		Pn	12 29 45.3	-0.4
BORC				IAML		12 30 36.1	
	comp=N,405nm,0.9s						
BORC				IAML		12 30 36.9	
	comp=E,612nm,0.8s						
DPP	Dos Picos Cty	3.13	166		Pn	12 29 47.5	+0.1
W13A	Hualapai Mount	3.37	105		Pn	12 29 50.3	-0.5
W13A				IAML		12 30 49.6	
	comp=N,212nm,1.4s						
BLYC	Blythe	3.57	129		Pn	12 29 52.2	-1.1
YUH	Yuha Desert	3.75	154		Pn	12 29 55.2	-0.5
CBX	Cerro Bola	3.85	165		Pn	12 29 58.0	+0.7
PAHR	Pah Rah Range	3.85	342		Pn	12 29 58.5	+1.1
PAHR				IAML		12 31 11.1	
	comp=N,160nm,2.5s						
PAHR				IAML		12 31 11.4	
	comp=E,199nm,1.6s						
GLA	Glamis	3.89	139		Pn	12 29 56.5	-1.4
GLA				IAML		12 31 19.4	
	comp=N,214nm,1.1s						
SZCU	Shurtz Canyon	4.13	67	Pn	Pn	12 30 01.9	+0.6
SZCU				IAML		12 31 16.5	
	comp=N,134nm,1.0s						
SZCU				IAML		12 31 36.5	
	comp=E,113nm,2.2s						
KNB	Kanab	4.17	75	Pn	Pn	12 30 02.9	+1.1
KNB				IAML		12 31 18.2	
	comp=N,160nm,1.4s						
KNB				IAML		12 31 24.5	
	comp=E,156nm,2.0s						
CCX	Cicese	4.28	166		Pn	12 30 03.8	+0.7
CCX				IAML		12 31 18.7	
	comp=N,137nm,1.1s						
CCX				IAML		12 31 21.0	
	comp=E,199nm,1.1s						
ESJX	Sierra Juarez	4.33	158		Pn	12 30 04.5	+0.5
ESJX				IAML		12 31 20.8	
	comp=E,110nm,1.4s						
Y14A	Wickenburg	4.50	116		Pn	12 30 05.4	-0.8
Y14A				IAML		12 31 31.0	
	comp=N,152nm,1.3s						
Y14A				IAML		12 31 37.1	
	comp=E,139nm,1.6s						
113A	Mohawk Valley,	4.70	133		Pn	12 30 07.1	-1.8
113A				IAML		12 31 44.3	
	comp=E,74nm,1.7s						
ELK	Elko	5.12	23		Pn	12 30 16.1	+1.1
ELK				IAML		12 31 44.7	
	comp=E,69nm,0.6s						
ELK	Elko	5.12	23	Pn	Pn	12 30 15.7	+0.8
	comp=E,6.6nm,0.3s,baz=211,slow=9.3,SNR=118						
ELK				Pg	Pb	12 30 30.9	+3.4
	comp=E,11nm,0.3s,baz=222,slow=14,SNR=23						
ELK				Lg	Lg	12 31 38.9	
	comp=E,11nm,0.3s,baz=284,slow=17,SNR=7.8						
ELK				LR	LR	12 31 41.6	
	comp=E,58nm,21.8s,baz=197,slow=32						
	comp=E,13nm,0.4s						
WUAZ	Wupatki	5.29	94		Pn	12 30 19.0	+1.8
X16A	Lo Mia Camp, P	5.49	105	Pn	Pn	12 30 20.9	+0.9
214A	Organ Pipe Nat	5.84	133	Pn	Pn	12 30 23.1	-1.6
YBH	Yreka Blue Hor	5.83	328	Pn	Pn	12 30 41.3	+3.1
	baz=164,slow=20,SNR=2.1						
YBH				Pg	Pb	12 30 53.5	-2.9
	baz=155,slow=7.5,SNR=4.8						
YBH				Sn	Sn	12 31 57.4	+1.0

comp=Z,1.0nm,0.8s,baz=156,slow=8.2,SNR=16
comp=Z,1.0nm,0.8s

G26K	**Porcupine Rive**	**34.36**	**342**	P	**P**	**12 35 45.0**	**+0.2**
K20K	**Telida**	**35.15**	**332**		**P**	**12 35 51.9**	**+0.3**
J20K	**Nowinta River**	**35.64**	**334**		**P**	**12 35 56.0**	**+0.2**
J20K				IAmb	IAmb	12 35 58.8	

comp=Z,2.3nm,0.8s

H21K	**Melozitna Rive**	**36.05**	**336**	P	**P**	**12 35 59.6**	**+0.2**
H21K				IAmb	IAmb	12 36 06.0	

comp=Z,3.8nm,1.1s

J18K	**Innoko River**	**36.21**	**332**	P	**P**	**12 36 01.2**	**+0.4**
A36M	**Sachs Harbour**	**36.22**	**356**		**P**	**12 36 00.6**	**-0.1**
L16K	**Owhat River**	**36.52**	**328**		**P**	**12 36 03.0**	**-0.3**
L16K				IAmb	IAmb	12 36 09.9	

comp=Z,3.0nm,1.0s

IMAR	**Indian Mountai**	**36.56**	**336**	P	**P**	**12 36 04.0**	**+0.2**
JTS	**Las Juntas de**	**39.32**	**122**	LR	LR	12 54 11.6	

comp=Z,46nm,19.3s,baz=311,slow=38

MA2	**Magadan**	**60.37**	**324**	LR	LR	13 05 01.9	

comp=Z,34nm,18.6s,baz=108,slow=36

MDP	**Montagnes des**	**67.03**	**101**	LR	LR	13 13 46.3	

comp=Z,25nm,18.2s,baz=293,slow=40

NOA	**NORSAR Array B**	**74.74**	**23**	LR	LR	13 14 37.3	

comp=Z,17nm,18.7s,baz=260,slow=37

BNX	**BinXian**	**79.59**	**320**	⇑P	**P**	**12 41 03.4**	**-2.0**
BNX				pmax	pmax		

comp=Z,5.0nm,1.2s

ARTI	**Arti**	**87.87**	**2**	LR	LR	13 23 47.6	

comp=Z,25nm,20.4s,baz=326,slow=37

MAW	**Mawson**	**148.39**	**181**	PKPbc	**PKPbc**	**12 48 44.4**	**+0.5**

comp=Z,1.1nm,0.8s,baz=259,slow=5.2,SNR=4.3

*NEIC **10** 12:49:26.4±0.9, 36°.055N×0°.009×117°.85W±0°.01, h2km±1km, Error ellipse: s-maj=1.4km s-min=1.3km az=80.0*

PAS 10 12:49:26.8±0.9, 36°.056N×0°.004×117°.85W±0°.01, h2km±1km, ML3.1/23, ML2.9/76(NEIC), Error ellipse: s-maj=1.4km s-min=0.2km az=117.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRVM	**Rose V. Centra**	**0.06**	**213**		Pg	12 49 28.1	+0.2
MFS	**McCloud Flat S**	**0.06**	**358**		Pg	12 49 28.3	+0.2
WCSM	**Coso Springs S**	**0.07**	**113**		Pg	12 49 28.5	+0.2
JRC2	**Joshua Ridge**	**0.08**	**154**		Pg	12 49 28.6	+0.2
WVPM	**Volcano Peak E**	**0.11**	**165**		Pg	12 49 29.1	+0.2
WNMM	**Nine Mile Cany**	**0.22**	**191**		Pg	12 49 31.1	+0.1
TOW	**Tower One**	**0.26**	**164**		Pg	12 49 32.3	+0.6
MPMC	**Manual Prospec**	**0.29**	**89**		Pg	12 49 32.6	+0.2
MPMC				IAML		12 49 37.2	

comp=E,2μm,0.5s

MPMC				IAML		12 49 38.2	

comp=N,1μm,0.4s

CLC	**China Lake**	**0.32**	**139**		Pg	12 49 32.9	0.0
CLC					Sg	12 49 37.4	+0.5
CLC				IAML		12 49 37.7	

comp=N,915nm,0.5s

SRTC	**Snort**	**0.37**	**167**		Sb	12 49 40.7	-1.8
CWC	**Cottonwood Cre**	**0.43**	**334**		Pg	12 49 35.2	+0.2
CWC					Sg	12 49 41.2	+0.7
CWC				IAML		12 49 41.4	

comp=E,2μm,0.2s

CWC				IAML		12 49 45.3	

comp=N,2μm,0.2s

WORM	**Onyx Ranch**	**0.48**	**222**		Pn	12 49 42.6	+1.8
CGO	**Cerro Gordo**	**0.49**	**5**		Pg	12 49 36.3	0.0
WHFM	**Hanning Flat**	**0.54**	**229**		Pg	12 49 37.1	0.0
WHFM					Sg	12 49 44.8	+0.6
WBSM	**Bird Springs**	**0.57**	**204**		Pg	12 49 37.6	0.0
WBSM					Sg	12 49 46.0	+0.9
LRMC	**Laurel Mtn Rad**	**0.59**	**166**		Pg	12 49 38.2	0.0
LRMC				IAML		12 49 47.3	

comp=N,601nm,0.2s

LRMC				IAML		12 49 47.6	

comp=E,960nm,0.3s

ISA	**Isabella, Lake**	**0.64**	**232**		Pg	12 49 39.0	0.0
ISA				IAML		12 49 48.0	

comp=E,914nm,0.4s

WASM	**Alta Sierra Ca**	**0.65**	**241**		Pg	12 49 39.4	0.0
WASM					Sg	12 49 48.5	+0.6
CCCA	**Chr Cany lake**	**0.66**	**143**		Pg	12 49 39.9	+0.4
CCCA					Sb	12 49 49.5	-1.3
SPG2	**Springville 2**	**0.75**	**281**		Pg	12 49 40.9	-0.3
DTP	**Desert Tortois**	**0.79**	**180**		Pg	12 49 41.6	-0.3
QSM	**Queen of Sheba**	**0.80**	**96**		Pg	12 49 42.2	0.0
QSM				IAML		12 49 53.2	

comp=E,704nm,0.2s

QSM				IAML		12 49 53.3	

comp=N,615nm,0.2s

FURC	**Furnace Creek,**	**0.90**	**63**		Pn	12 49 56.7	+10
CCAC	**Calif City Air**	**0.91**	**188**		Pg	12 49 43.9	-0.3
CCAC					Sg	12 49 56.5	+0.4
GWY	**Greenwater Val**	**0.97**	**82**		Pg	12 49 45.3	-0.1
GWY					Sg	12 49 58.3	+0.4
GWY				IAML		12 50 01.9	

comp=N,507nm,0.4s

GWY				IAML		12 50 02.2	

comp=E,458nm,0.4s

GRAC	**Grapevine Rang**	**1.02**	**22**		Pg	12 49 46.1	-0.2
GRAC				IAML		12 50 05.1	

comp=E,384nm,0.4s

GRAC				IAML		12 50 05.6	

comp=N,486nm,0.9s

VES	**Vestal, Richgr**	**1.02**	**258**		Pg	12 49 46.3	-0.1
VES					Sg	12 50 00.4	+0.8
TEJ	**El Tejon**	**1.07**	**220**		Pg	12 49 46.6	-0.7
SGV	**South Grapevin**	**1.14**	**35**		Pg	12 49 48.1	-0.4
SGV					Sb	12 50 04.1	-0.5
GSC	**Goldstone, Bar**	**1.14**	**131**		Pg	12 49 48.2	-0.4
GSC				IAML		12 50 07.1	

comp=N,207nm,0.6s

GSC	**Goldstone, Bar**	**1.14**	**131**		Sg	12 50 03.6	+0.3
EDW2	**Edwards Air Fo**	**1.18**	**186**		Pg	12 49 48.5	-0.9
LCH	**Last Change Ra**	**1.19**	**8**		Pg	12 49 48.7	-0.9
LCH					Sg	12 50 05.1	+0.1
HYS	**Haystack Butte**	**1.21**	**169**		Pg	12 49 49.2	-0.8
HYS					Sb	12 50 06.3	-0.3
TPO	**Tropico Hills**	**1.21**	**195**		Pg	12 49 49.4	-0.6
TPO				IAML		12 50 10.6	

comp=E,410nm,0.8s

TPO				IAML		12 50 10.7	

comp=N,323nm,0.9s

WCT	**Wildcat Mounta**	**1.23**	**53**		Pg	12 49 49.9	-0.5
WCT				IAML		12 50 07.7	

comp=E,154nm,0.6s

TJR	**Tejon Ranch**	**1.26**	**216**		Pg	12 49 50.0	-0.9
SHOC	**Shoshone, Teco**	**1.29**	**96**		Pg	12 49 51.4	-0.1
DSP	**Deep Springs**	**1.31**	**356**		Pg	12 49 51.2	-0.8
THC	**Tehachapi Micr**	**1.32**	**210**		Pg	12 49 51.0	-1.1
AMDNV	**Amargosa**	**1.33**	**72**		Pg	12 49 51.5	-0.8
AMDNV					Sg	12 50 09.4	-0.1
GMN	**Gold Mountain**	**1.33**	**21**		Pg	12 49 51.8	-0.5
GMN				IAML		12 50 16.1	

comp=N,129nm,0.6s

BHPR	**Bishop**	**1.34**	**338**		Pg	12 49 52.2	-0.3
SBB	**Saddle Back Bu**	**1.36**	**179**		Pg	12 49 52.5	-0.4
SBB					Sb	12 50 10.9	-0.2
RRX	**Edison Barstow**	**1.37**	**149**		Pb	12 49 53.3	+0.1
LEOC	**Leona Valley**	**1.47**	**195**		Pn	12 49 53.8	-0.6
LRRC	**Littlerock Res**	**1.53**	**185**		Pg	12 49 56.2	+0.1
CJV	**Casa Juvan**	**1.54**	**189**		Pb	12 49 56.1	-0.1
TPNV	**Topopah Spring**	**1.57**	**55**		Pn	12 49 55.3	-0.6
TPNV				IAML		12 50 21.5	

comp=N,141nm,0.7s

TPNV				IAML		12 50 21.9	

comp=N,171nm,0.9s

HOLC	**Holcomb Ridge**	**1.59**	**180**		Pn	12 49 56.4	+0.2
JNH	**Juniper Hills**	**1.61**	**183**		Pn	12 49 55.5	-0.9
TUQ	**Turquoise Moun**	**1.69**	**111**		Pn	12 49 56.6	-0.9
CHFC	**Chilao Flat St**	**1.72**	**185**		Pb	12 49 59.4	0.0
KCC	**Kaiser Creek**	**1.73**	**317**		Pn	12 49 58.6	+0.6
BENR	**Benton**	**1.75**	**341**		Pn	12 49 59.0	+0.5
MLAC	**Mammoth, Mammo**	**1.76**	**334**		Pb	12 49 59.8	-0.2
MCSM	**Casa Diablo Ho**	**1.81**	**332**		Pb	12 50 00.6	-0.3
MWC	**Mount Wilson**	**1.83**	**185**		Pn	12 49 59.1	-0.5
MWC				IAML		12 50 26.6	

comp=N,88nm,0.4s

MWC				IAML		12 50 27.4	

comp=E,95nm,0.6s

SSK	**Sunset Peak**	**1.84**	**176**		Pb	12 50 01.7	+0.3
SMMC	**Simmler**	**1.90**	**248**		Pn	12 50 01.1	+0.8
PASC	**Pasadena Art C**	**1.90**	**188**		Pn	12 49 59.7	-0.6
MTPC	**Mountain Pass**	**1.95**	**106**		Pn	12 50 00.1	-1.1
MTPC				IAML		12 50 32.1	

comp=E,60nm,0.3s

MTPC				IAML		12 50 32.6	

comp=N,55nm,0.9s

PSRC	**Puddingstone R**	**1.96**	**179**		Pn	12 49 58.3	-2.8
TSCN	**Private Proper**	**2.09**	**257**		Pb	12 50 04.7	-0.8
GMRC	**Granite Mounta**	**2.19**	**125**		Pn	12 50 02.8	-1.7
SHPR	**Sheep Range**	**2.22**	**78**		Pn	12 50 05.4	+0.5
PSMM	**Smith Mountain**	**2.22**	**271**		Pb	12 50 06.4	-1.4
LHV	**Little Huntoon**	**2.25**	**347**		Pn	12 50 06.5	+1.3
LHV				IAML		12 50 44.2	

comp=N,51nm,0.7s

LHV				IAML		12 50 44.6	

comp=E,63nm,0.9s

ELS	**Elsinore Mount**	**2.43**	**172**		Pn	12 50 07.4	-0.3
TPC	**Twentynine Pal**	**2.44**	**142**		Pn	12 50 07.1	-0.7
MYLM	**Yosemite Lake**	**2.45**	**303**		Pb	12 50 10.7	-1.0
V12A	**Nelson**	**2.46**	**97**	Pn	Pn	12 50 07.0	-1.1
RYN	**Ryan**	**2.62**	**348**	Pn	Pn	12 50 11.0	+0.6
PCCM	**Crazy Canyon**	**2.68**	**272**		Pn	12 50 12.8	+1.7
PMD	**Palm Desert**	**2.69**	**153**		Pn	12 50 10.2	-1.0
PFO	**Pinyon Flats O**	**2.69**	**154**		Pn	12 50 10.7	-0.7
DPP	**Dos Picos Cty**	**3.14**	**166**	Pn	Pn	12 50 17.1	-0.3
CBX	**Cerro Bola**	**3.86**	**165**	Pn	Pn	12 50 27.4	0.0
GLA	**Glamis**	**3.90**	**139**	Pn	Pn	12 50 27.6	-0.2
GLA				IAML		12 51 34.3	

comp=E,29nm,0.6s

GLA				IAML		12 51 35.4	

comp=N,21nm,0.5s

ESJX	**Sierra Juarez**	**4.34**	**158**	Pn	Pn	12 50 33.8	-0.2

*NEIC **10** 13:02:18.2±1.8, 35°.725N×0°.008×117°.52W±0°.01, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=281.0*

PAS 10 13:02:18.7±1.9, 35°.725N×0°.005×117°.53W±0°.01, h9km±7km, ML3.2/15, ML3.0/78(NEIC), Error ellipse: s-maj=1.8km s-min=0.5km az=67.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.11**	**329**		Pg	13 02 21.2	-0.2
CLC				IAML		13 02 21.4	

comp=E,3μm,0.2s

CLC				IAML		13 02 23.6	

comp=N,5μm,0.1s

SRTC	**Snort**	**0.18**	**260**		Pg	13 02 22.8	+0.3
TOW	**Tower One**	**0.21**	**294**		Pg	13 02 23.4	+0.4
CCCA	**Chr Cany lake**	**0.24**	**146**		Pg	13 02 23.9	+0.3
LRMC	**Laurel Mtn Rad**	**0.27**	**207**		Pg	13 02 24.0	-0.2
LRMC				IAML		13 02 28.2	

comp=N,5μm,0.2s

LRMC				IAML		13 02 28.9	

comp=E,4μm,0.1s

WVPM	**Volcano Peak E**	**0.32**	**314**		Pg	13 02 25.0	-0.2
WVPM					Sg	13 02 30.0	+0.5
WNMM	**Nine Mile Cany**	**0.33**	**291**		Pg	13 02 25.1	-0.1
WNMM					Sg	13 02 30.1	+0.6
MPMC	**Manual Prospec**	**0.33**	**6**		Pg	13 02 25.1	-0.3
MPMC				IAML		13 02 30.4	

comp=E,3μm,0.6s

MPMC				IAML		13 02 30.5	

comp=N,3μm,0.4s

WCSM	**Coso Springs S**	**0.36**	**328**		Pg	13 02 25.5	-0.3
MFS	**McCloud Flat S**	**0.47**	**326**		Pg	13 02 27.4	-0.5
MFS					Sg	13 02 34.3	+0.1
DTP	**Desert Tortois**	**0.52**	**209**		Pg	13 02 28.3	-0.6
DTP					Sg	13 02 35.8	+0.1
WORM	**Onyx Ranch**	**0.58**	**267**		Pg	13 02 29.4	-0.6
QSM	**Queen of Sheba**	**0.59**	**66**		Pg	13 02 29.7	-0.4
QSM				IAML		13 02 39.6	

comp=E,729nm,0.3s

QSM				IAML		13 02 41.5	

comp=N,792nm,0.6s

WHFM	**Hanning Flat**	**0.67**	**268**		Pg	13 02 31.0	-0.6
CCAC	**Calif City Air**	**0.69**	**215**		Pg	13 02 31.6	-0.5
CCAC					Sg	13 02 41.2	0.0
GSC	**Goldstone, Bar**	**0.73**	**125**		Pg	13 02 32.3	-0.4
GSC				IAML		13 02 44.7	

comp=N,728nm,0.4s

GSC				IAML		13 02 45.5	

comp=E,604nm,0.4s

ISA	**Isabella, Lake**	**0.77**	**266**		Pg	13 02 32.9	-0.7
ISA				IAML		13 02 43.5	

comp=N,521nm,0.5s

ISA				IAML		13 02 43.6	

comp=E,972nm,0.2s

WASM	**Alta Sierra Ca**	**0.84**	**271**		Pg	13 02 34.2	-0.6
GWY	**Greenwater Val**	**0.84**	**56**		Pg	13 02 34.3	-0.6
GWY				IAML		13 02 49.3	

comp=E,739nm,0.4s

GWY				IAML		13 02 50.2	

comp=N,562nm,0.5s

CWC	**Cottonwood Cre**	**0.84**	**328**		Pg	13 02 34.7	-0.2
CWC				IAML		13 02 46.2	

comp=E,430nm,0.2s

CWC				IAML		13 02 47.0	

comp=N,433nm,0.2s

CGO	**Cerro Gordo**	**0.85**	**345**		Pg	13 02 34.7	-0.5
CGO					Sb	13 02 47.4	-0.2
HYS	**Haystack Butte**	**0.86**	**182**		Pg	13 02 34.5	-0.8
HYS					Sg	13 02 46.3	-0.2
EDW2	**Edwards Air Fo**	**0.92**	**204**		Pg	13 02 35.5	-1.0
RRX	**Edison Barstow**	**0.95**	**153**		Pb	13 02 37.4	-0.1
TPO	**Tropico Hills**	**1.02**	**214**		Pg	13 02 37.5	-0.8
TPO					Sg	13 02 51.5	0.0
TPO				IAML		13 02 54.1	

comp=E,516nm,0.5s

TPO				IAML		13 02 54.2	

comp=N,708nm,0.9s

SBB	**Saddle Back Bu**	**1.06**	**193**		Pg	13 02 38.3	-0.8
TEJ	**El Tejon**	**1.07**	**243**		Pg	13 02 37.8	-1.4
SPG2	**Springville 2**	**1.11**	**296**		Pg	13 02 38.8	-1.2
VTV	**Victorville**	**1.17**	**172**		Sn	13 02 57.2	-0.3
ALPC	**Antelope**	**1.21**	**212**		Sg	13 02 58.0	+0.3
THC	**Tehachapi Micr**	**1.23**	**229**		Pb	13 02 41.1	-1.2
AMDNV	**Amargosa**	**1.25**	**54**		Pn	13 02 40.7	-1.6
AMDNV					Sg	13 02 58.9	+0.1
LEOC	**Leona Valley**	**1.26**	**210**		Pg	13 02 43.4	+0.5
LRRC	**Littlerock Res**	**1.26**	**199**		Pn	13 02 42.4	-0.2
VES	**Vestal, Richgr**	**1.27**	**276**		Sb	13 02 58.9	-0.4
HOLC	**Holcomb Ridge**	**1.29**	**192**		Pn	13 02 41.6	-1.5
HOLC					Sn	13 03 00.6	+0.1
CJV	**Casa Juvan**	**1.29**	**203**		Pn	13 02 43.1	0.0
CJV					Sn	13 03 00.6	-0.1
WCT	**Wildcat Mounta**	**1.29**	**34**		Pn	13 02 41.8	-1.3
SGV	**South Grapevin**	**1.32**	**18**		Pn	13 02 42.4	-1.1
JNH	**Juniper Hills**	**1.32**	**195**		Pn	13 02 42.1	-1.4
JNH					Sn	13 03 01.5	+0.2
HEC	**Hector,Ludlow**	**1.32**	**132**		Pn	13 02 41.9	-1.7
TUQ	**Turquoise Moun**	**1.34**	**102**		Pn	13 02 42.3	-1.5
CHFC	**Chilao Flat St**	**1.45**	**196**		Pn	13 02 45.5	+0.2
CHFC					Sb	13 03 04.8	+0.3
OSI	**Osito Audit: C**	**1.48**	**222**		Pn	13 02 45.8	+0.2
OSI				IAML		13 03 06.6	

comp=N,104nm,0.6s

OSI				IAML		13 03 08.3	

comp=E,137nm,0.8s

BFSC	**Mount Baldy Ra**	**1.49**	**184**		Pn	13 02 44.7	-1.1
BFSC				IAML		13 03 06.7	

comp=N,202nm,0.4s

BFSC				IAML		13 03 06.9	

comp=E,244nm,0.3s

BFSC	**Mount Baldy Ra**	**1.49**	**184**		Sb	13 03 05.8	+0.1
SIL	**Silver Peak**	**1.49**	**157**		Pb	13 02 46.9	+0.2
LCH	**Last Change Ra**	**1.51**	**357**		Pn	13 02 45.3	-0.8
LCH					Sb	13 03 06.4	+0.1
SSK	**Sunset Peak**	**1.52**	**185**		Pn	13 02 45.6	-0.6
MWC	**Mount Wilson**	**1.56**	**196**		Sg	13 03 08.3	-0.5
MWC	**Mount Wilson**	**1.56**	**196**		Pn	13 02 46.1	-0.8
MWC				IAML		13 03 08.9	

comp=E,403nm,0.5s

GMN	**Gold Mountain**	**1.59**	**8**		Pn	13 02 46.5	-0.8
TPNV	**Topopah Spring**	**1.60**	**40**		Pn	13 02 46.4	-1.0
TPNV				IAML		13 03 13.2	

comp=E,98nm,0.7s

MTPC	**Mountain Pass**	**1.63**	**98**		Pn	13 02 46.0	-1.8
MTPC				IAML		13 03 12.4	

comp=E,96nm,0.3s

MTPC				IAML		13 03 12.5	

comp=N,95nm,0.3s

PSRC	**Puddingstone R**	**1.65**	**188**		Pg	13 02 49.9	-0.3
SVD	**Seven Oaks Dam**	**1.65**	**167**		Sb	13 03 10.8	+0.4
DSP	**Deep Springs**	**1.68**	**348**		Pn	13 02 47.6	-0.7
GTM	**Goat Mountain**	**1.72**	**146**		Pb	13 02 50.5	-0.1
BLCC	**Black Canyon**	**1.75**	**213**		Pb	13 02 50.7	-0.3
BHPR	**Bishop**	**1.75**	**334**		Pb	13 02 51.3	+0.1
BLAC	**Blackrock camp**	**1.90**	**150**		Pb	13 02 54.1	+0.4
TPC	**Twentynine Pal**	**2.02**	**143**		Pn	13 02 51.6	-1.4
HMTC	**Hemet**	**2.06**	**168**		Pn	13 02 52.6	-1.0
ELS	**Elsinore Mount**	**2.07**	**178**		Pn	13 02 52.7	-1.1
ELS				IAML		13 03 27.4	

comp=N,54nm,0.6s

ELS				IAML		13 03 31.5	

comp=E,57nm,0.8s

POB	**Polly Butte**	**2.09**	**166**		Pn	13 02 53.3	-0.8
DGR	**Domenigoni Val**	**2.11**	**168**		Pn	13 02 53.6	-0.7
BACC	**Bachelor Mtn.**	**2.15**	**169**		Pn	13 02 53.9	-0.9
BENR	**Benton**	**2.16**	**337**		Pb	13 02 58.6	+0.4
V12A	**Nelson**	**2.18**	**89**		Pn	13 02 53.7	-1.6
CRY	**Cary Ranch**	**2.25**	**163**		Pn	13 02 55.5	-0.8
PMD	**Palm Desert**	**2.28**	**155**		Pn	13 02 55.2	-1.4
PFO	**Pinyon Flats O**	**2.29**	**157**		Pn	13 02 55.4	-1.3
SNDA	**J Saunders Pla**	**2.30**	**161**		Pn	13 02 56.1	-0.9
TPH	**Tonopah**	**2.36**	**6**		Pn	13 02 57.3	-0.6
TPH				IAML		13 03 38.1	

comp=E,156nm,0.7s

NJQ	**Nojoqui County**	**2.47**	**242**		Pb	13 03 03.4	+0.1
PRN	**Pahroc Range**	**2.61**	**49**		Pn	13 03 00.8	-0.4
PRN				IAML		13 03 51.8	

comp=E,39nm,0.6s

PRN				IAML		13 03 53.9	

comp=N,43nm,0.7s

BORC	**Borrego Spring**	**2.62**	**159**	Pn	Pn	13 02 59.9	-1.4
BORC				IAML		13 03 42.3	

comp=E,51nm,0.7s

BORC				IAML		13 03 46.9	

comp=N,34nm,0.7s

LHV	**Little Huntoon**	**2.64**	**343**		Pn	13 03 01.1	-0.4
NVAR	**Mina Array Bea**	**2.77**	**347**		Pn	13 03 03.1	-0.5
CBX	**Cerro Bola**	**3.48**	**168**		Pn	13 03 13.2	0.0
LCMT	**Little Creek M**	**3.69**	**68**	Pn	Pn	13 03 16.9	+0.8
CCUT	**Cedar City**	**3.81**	**60**	Pn	Pn	13 03 17.8	-0.1
ESJX	**Sierra Juarez**	**3.94**	**160**	Pn	Pn	13 03 18.6	-1.0
KNB	**Kanab**	**4.01**	**70**	Pn	Pn	13 03 20.1	-0.4
PSUT	**Pine Spring**	**4.06**	**45**	Pn	Pn	13 03 21.9	+0.6

*IDC **10** 13:13:13.9±1.5, 0°.40N×126°.42E, h0km, mb3.4/4, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=111.6km s-min=20.8km az=68.0*
*DJA **10** 13:13:17.7±1.5, 0°N±5°×12°6E±°, h11km±13km, M3.6/7, mb3.6/1, MLv3.6/7*

ISC 10 13:13:20.0±1.1, 0°.4N±0°.1×126°.38E±0°.08, h47km, n8, ₀0888/8, mb3.4/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.06**	**69**	P	**Pn**	**13 13 38.0**	**-0.5**
KMSI	**Cibinong**	**2.40**	**274**	P	**Pn**	**13 13 55.7**	**-1.1**
APSI	**Ampana**	**4.90**	**255**	P	**Pn**	**13 14 31.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.38**	**182**	P	**P**	**13 17 31.2**	**+0.1**

baz=8.7,slow=13,SNR=1.6
1.5nm,0.8s

WRA	**Warramunga Arr**	**21.66**	**159**	P	**P**	**13 18 05.5**	**-1.2**

1.1nm,0.6s,baz=338,slow=11,SNR=14
1.1nm,0.6s

ASAR	**Alice Springs**	**25.00**	**163**	P	**P**	**13 18 40.0**	**+0.4**

0.8nm,0.7s,baz=350,slow=16,SNR=9.3
0.8nm,0.7s

MKAR	**Mak

WCSM Sg 13 23 24.3 +0.6
DTP Desert Tortois 0.48 218 Pg 13 23 18.1 -0.2
DTP Sg 13 23 24.8 +0.2
WRVM Rose V. Centra 0.49 318 Pg 13 23 18.6 0.0
WRVM Sg 13 23 25.6 +0.5
WBSM Bird Springs 0.55 259 Pg 13 23 19.5 -0.2
WBSM Sg 13 23 27.1 +0.3
MFS McCloud Flat S 0.56 328 Pg 13 23 19.9 -0.1
MFS Sg 13 23 27.9 +0.6
QSM Queen of Sheba 0.59 57 Pg 13 23 20.3 -0.3
WORM Onyx Ranch 0.62 275 Sg 13 23 29.2 +0.1
GSC Goldstone, Bar 0.65 121 Sg 13 23 30.5 +0.4
GSC Goldstone, Bar 0.65 121 Pg 13 23 21.3 -0.3
GSC IAML 13 23 30.8
comp=N,2μm,0.3s
GSC IAML 13 23 31.1
comp=E,2μm,0.6s
CCAC Calif City Air 0.66 222 Pg 13 23 21.5 -0.2
CCAC Sg 13 23 31.0 +0.7
WHFM Hanning Flat 0.71 275 Pg 13 23 22.4 -0.3
HYS Haystack Butte 0.78 185 Pg 13 23 23.6 -0.5
HYS Sg 13 23 34.1 -0.1
ISA Isabella, Lake 0.81 272 Sg 13 23 35.3 +0.1
ISA Isabella, Lake 0.81 272 Pg 13 23 24.1 -0.5
ISA IAML 13 23 35.5
comp=E,755nm,0.5s
GWY Greenwater Val 0.85 50 Pg 13 23 25.0 -0.6
GWY IAML 13 23 41.9
comp=N,1μm,0.7s
RRX Edison Barstow 0.86 152 Pb 13 23 26.7 -0.1
RRX Sg 13 23 37.2 +0.3
EDW2 Edwards Air Fo 0.87 209 Pg 13 23 25.1 -0.7
WASM Alta Sierra Ca 0.88 277 Pg 13 23 25.6 -0.4
WASM Sg 13 23 37.5 +0.1
CWC Cottonwood Cre 0.93 329 Pg 13 23 26.5 -0.5
CGO Cerro Gordo 0.94 344 Pg 13 23 26.6 -0.7
TPO Tropico Hills 0.98 219 Pg 13 23 27.0 -0.9
SBB Saddle Back Bu 0.99 196 Pg 13 23 27.5 -0.7
SHOC Shoshone, Teco 1.01 75 Pg 13 23 28.4 -0.2
SHOC Sb 13 23 43.1 0.0
TEJ El Tejon 1.07 248 Pg 13 23 28.6 -1.0
ALPC Antelope 1.16 215 Pg 13 23 31.6 +0.1
SPG2 Springville 2 1.18 299 Pg 13 23 30.9 -1.0
SPG2 Sg 13 23 46.4 -0.7
LRRC Littlerock Res 1.20 202 Pg 13 23 31.3 -0.9
LRRC Sb 13 23 48.6 +0.2
THC Tehachapi Micr 1.21 233 Pg 13 23 31.7 -0.7
LEOC Leona Valley 1.21 214 Pg 13 23 31.7 -0.7
LEOC Sb 13 23 49.1 +0.2
ARVC Arvin 1.22 245 Sg 13 23 47.9 -0.3
HOLC Holcomb Ridge 1.22 194 Pg 13 23 31.6 -0.9
HOLC Sb 13 23 49.1 0.0
DSCC Desert Studies 1.23 113 Sg 13 23 49.1 +0.3
CJV Casa Juvan 1.23 206 Pg 13 23 32.6 -0.2
HEC Hector,Ludlow 1.24 130 Pg 13 23 31.8 -1.1
JNH Juniper Hills 1.25 198 Pg 13 23 32.3 -0.9
JNH Sb 13 23 50.3 +0.2
AMDNV Amargosa 1.27 50 Pg 13 23 32.1 -1.3
TUQ Turquoise Moun 1.29 99 Pg 13 23 32.3 -1.6
VES Vestal, Richgr 1.32 279 Sg 13 23 51.6 0.0
WCT Wildcat Mounta 1.34 31 Pn 13 23 33.6 -1.5
WCT IAML 13 23 54.7
comp=E,253nm,0.5s
WCT IAML 13 23 55.6
comp=N,292nm,0.6s
GRAC Grapevine Rang 1.35 4 Pn 13 23 34.5 -0.6
CHFC Chilao Flat St 1.38 199 Pn 13 23 34.4 -1.0
CHFC Sg 13 23 53.5 0.0
SGV South Grapevin 1.38 15 Pn 13 23 34.4 -1.2
SIL Silver Peak 1.40 157 Pn 13 23 35.6 -0.1
SSK Sunset Peak 1.44 187 Pn 13 23 35.7 -0.6
OSI Osito Audit: C 1.44 225 Pn 13 23 36.1 -0.1
OSI IAML 13 23 59.7
comp=E,374nm,0.7s
OSI IAML 13 24 00.3
comp=N,443nm,0.6s
MWC Mount Wilson 1.49 199 Pn 13 23 36.3 -0.7
MWC IAML 13 23 59.8
comp=E,319nm,0.5s
MWC IAML 13 24 02.8
comp=N,395nm,0.6s
DECC Green Verdugo 1.55 207 Pb 13 23 38.5 -0.1
SVD Seven Oaks Dam 1.56 168 Pb 13 23 38.5 -0.2
SVD Sg 13 23 59.3 -0.2
PSRC Puddingstone R 1.57 190 Pn 13 23 38.3 +0.4
PASC Pasadena Art C 1.58 202 Pn 13 23 37.6 -0.4
PASC IAML 13 24 02.0
comp=E,163nm,1.0s
PASC IAML 13 24 04.0
comp=N,143nm,0.4s
MTPC Mountain Pass 1.58 95 Pn 13 23 36.4 -1.9
MTPC IAML 13 24 00.6
comp=N,275nm,0.2s
MTPC IAML 13 24 00.8
comp=E,277nm,0.3s
LCH Last Change Ra 1.59 355 Pn 13 23 37.5 -0.9
GTM Goat Mountain 1.63 145 Pn 13 23 39.4 +0.5
TPNV Topopah Spring 1.64 37 Pn 13 23 37.8 -1.3
TPNV IAML 13 24 06.5
comp=E,277nm,0.5s
TPNV IAML 13 24 08.0
comp=E,239nm,0.5s
GMN Gold Mountain 1.66 6 Pn 13 23 38.6 -0.9
GVRC Garvey Reservo 1.67 198 Pg 13 23 41.1 -0.1
GMRC Granite Mounta 1.72 119 Pn 13 23 37.8 -2.3
GMRC Sb 13 24 03.6 0.0
DSP Deep Springs 1.77 347 Pn 13 23 39.8 -0.9
BLAC Blackrock camp 1.81 150 Pn 13 23 40.6 -0.7
BHPR Bishop 1.84 334 Pb 13 23 43.5 -0.2
MTUM Tungsten Hills 1.92 333 Pb 13 23 44.8 -0.1
TPC Twentynine Pal 1.93 142 Pn 13 23 41.5 -1.5
HMTC Hemet 1.97 168 Pn 13 23 42.7 -0.7
ELS Elsinore Mount 1.99 179 Pn 13 23 43.0 -0.7
ELS IAML 13 24 14.9
comp=E,161nm,0.6s
ELS IAML 13 24 20.7
comp=N,205nm,0.5s
DANC Danby, Needles 1.99 120 Pn 13 23 41.9 -1.9
POB Polly Butte 2.00 167 Pn 13 23 43.2 -0.8
MZP Montezuma Peak 2.06 2 Pn 13 23 44.2 -0.6
BACC Bachelor Mtn. 2.06 170 Pn 13 23 44.1 -0.5
SHPR Sheep Range 2.07 65 Pn 13 23 44.0 -1.0
V12A Nelson 2.14 87 Pn 13 23 44.3 -1.7
V12A IAML 13 24 19.4
comp=N,78nm,0.5s
V12A IAML 13 24 21.9
comp=E,84nm,0.5s
CRY Cary Ranch 2.16 163 Pn 13 23 45.7 -0.5
PMD Palm Desert 2.19 155 Pn 13 23 44.7 -1.7
PMD IAML 13 24 19.7
comp=E,87nm,0.4s
PMD IAML 13 24 20.4
comp=N,85nm,0.6s
PFO Pinyon Flats O 2.19 157 Pn 13 23 45.5 -1.1
PFO IAML 13 24 21.7
comp=N,68nm,0.8s
PFO IAML 13 24 27.8
comp=N,81nm,0.8s
XPFO Pinon Flat 2.20 157 Pn 13 23 46.1 -0.6
BENR Benton 2.25 337 Pb 13 23 50.6 +0.1
FRD Ford Ranch, An 2.26 161 Pn 13 23 46.8 -0.8
FRD Ford Ranch, An 2.26 161 Pn 13 23 46.7 -0.8
IRM Iron Mountain 2.43 127 Pn 13 23 47.5 -2.2
S11A Rachel 2.44 34 Pn 13 23 49.5 -0.5
S11A IAML 13 24 34.5
comp=N,143nm,1.1s
S11A IAML 13 24 37.7
comp=E,131nm,0.9s
TPH Tonopah 2.44 5 Pn 13 23 49.4 -0.7
BORC Borrego Spring 2.53 159 Pn 13 23 50.8 -0.3
BORC IAML 13 24 32.0
comp=E,126nm,0.8s
BORC IAML 13 24 33.7
comp=N,66nm,0.7s
PRN Pahroc Range 2.63 47 Pn 13 23 52.1 -0.6
PRN IAML 13 24 39.3
comp=N,124nm,0.6s
PRN IAML 13 24 45.5
comp=E,122nm,0.6s
DPP Dos Picos Cty 2.67 170 Pn 13 23 52.4 -0.8
DPP IAML 13 24 33.1
comp=E,119nm,0.4s
LHV Little Huntoon 2.73 343 Pn 13 23 54.0 +0.2
LHV IAML 13 24 42.8
comp=N,47nm,0.6s
LHV IAML 13 24 45.8
comp=E,65nm,0.7s
PMPB Monarch Peak 2.75 283 Pn 13 23 54.1 -0.2
PMPB IAML 13 24 37.6
comp=E,67nm,1.0s
PMPB IAML 13 24 39.6
comp=N,85nm,0.8s
NV11 Mina Array Sit 2.84 349 Pn 13 23 55.2 -0.3
NVAR Mina Array Bea 2.86 347 Pn 13 23 55.5 -0.3
W13A Hualapai Mount 2.99 99 Pn 13 23 56.4 -1.3
W13A IAML 13 24 52.0
comp=E,39nm,0.8s
W13A IAML 13 24 52.1
comp=N,38nm,0.8s
BLYC Blythe 3.08 127 Pn 13 23 56.4 -2.3
BLYC IAML 13 24 48.4
comp=N,76nm,0.5s
BLYC IAML 13 24 53.2
comp=E,59nm,0.7s
RYN Ryan 3.09 345 Pn 13 23 58.9 -0.1
R11B Troy Canyon, C 3.10 29 Pn 13 23 58.2 -0.9
YUH Yuha Desert 3.25 156 Pn Pn 13 23 59.7 -1.4
CBX Cerro Bola 3.39 168 Pn 13 24 02.8 -0.2
GLA Glamis 3.39 139 Pn 13 24 00.8 -2.2
LCMT Little Creek M 3.69 67 Pn 13 24 07.2 0.0
CCUT Cedar City 3.82 59 Pn 13 24 09.5 +0.3
ESJX Sierra Juarez 3.85 160 Pn 13 24 08.8 -0.6
ESJX IAML 13 25 12.3
comp=E,21nm,0.4s
ESJX IAML 13 25 15.1
comp=N,21nm,1.1s
KNB Kanab 4.00 69 Pn 13 24 10.9 -0.7
KNB IAML 13 25 19.4
comp=N,15nm,1.5s
KNB IAML 13 25 19.9
comp=E,18nm,0.8s
Y14A Wickenburg 4.06 113 Pn 13 24 10.4 -1.8
Y14A IAML 13 25 17.8
comp=E,25nm,0.8s
Y14A IAML 13 25 21.9
comp=N,37nm,0.9s
PSUT Pine Spring 4.09 44 Pn 13 24 11.5 -1.3
PSUT IAML 13 25 23.3
comp=E,17nm,0.7s
PSUT IAML 13 25 36.0
comp=N,17nm,1.1s
MPK Martis Peak 4.17 332 Pn 13 24 12.6 -1.3
MPK IAML 13 25 38.1
comp=N,27nm,0.9s
MPK IAML 13 25 51.7
comp=E,18nm,0.9s
SPR3 Spring Creek 3 4.19 36 Pn 13 24 13.8 -0.4
SPR3 IAML 13 25 27.6
comp=E,14nm,1.0s
SPR3 IAML 13 25 31.4
comp=N,13nm,0.8s
113A Mohawk Valley, 4.21 132 Pn 13 24 13.4 -0.8
113A IAML 13 25 24.2
comp=N,15nm,0.6s
U15A North Rim 4.28 78 Pn 13 24 14.9 -0.5
U15A IAML 13 25 35.4
comp=E,18nm,0.8s
U15A IAML 13 25 39.0
comp=N,15nm,0.7s
X16A Lo Mia Camp, P 5.11 102 Pn 13 24 26.3 -0.4
ELK Elko 5.39 18 Pn 13 24 30.1 -0.6

*HEL **10** 13:27:54.6±0.2,68°.12N×33°.00E, h0km, ML1.7, Explosion Hypocentre not reviewed by the ISC*
*KOLA **10** 13:27:55.5,68°.10N×33°.03E, h0km, ML2.3, Error ellipse: s-maj=2.7km s-min=1.4km az=90.0, Olenegorsk City, Mines*
*IDC **10** 13:27:57.5±2.7,68°.03N×32°.31E, h0km, mbtmp2.6/2, ML1.7/2, Error ellipse: s-maj=29.8km s-min=12.0km az=68.0*

ISC 10 13:27:53.3±0.9, 68°.08N±0°.04×32°.98E±0°.05, h0km, n11, σ1°.24/17, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.47**	**179**	P	**Pb**	**13 28 03.6**	**-0.8**
APA0				S	**Sb**	**13 28 11.2**	**-0.7**
APA	**Apatity**	**0.53**	**162**	P	**Pb**	**13 28 04.8**	**-0.7**
APA				S	**Sb**	**13 28 12.3**	**-1.4**
LVZ	**Lovozero**	**0.66**	**105**	P	**Pb**	**13 28 07.0**	**-0.6**
LVZ	**Lovozero**	**0.66**	**105**	PB		13 28 07.5	
LVZ				SG		13 28 14.8	
VRF	**Varrio**	**1.32**	**257**	PG		13 28 18.6	
VRF				MSG		13 28 34.8	
	comp=Z,8.1nm,0.2s						
VRF				SG		13 28 38.5	
TERR	**Teriberka**	**1.38**	**34**	P	**Pg**	**13 28 19.1**	**-0.5**
TERR				S	**Sb**	**13 28 37.7**	**-0.2**
KVDA	**Kovda**	**1.39**	**182**	P	**Pb**	**13 28 20.2**	**+0.2**
KVDA				S	**Sn**	**13 28 40.4**	**+1.5**
RAJF	**Raja-Jooseppi**	**1.78**	**285**	PG		13 28 26.3	
RAJF				SG		13 28 48.7	
OLKF	**Oulanka, Finla**	**2.25**	**220**	PG		13 28 34.4	
OLKF				MSG		13 29 02.2	
	comp=Z,2.5nm,0.2s						
OLKF				SG		13 29 05.4	
KU6	**Riekki**	**2.39**	**212**	PG		13 28 37.3	
KU6				MSG		13 29 06.4	
	comp=Z,1.7nm,0.2s						
KU6				SG		13 29 11.6	
VADS	**Vadso**	**2.43**	**329**	P	**Pn**	**13 28 35.6**	**+1.4**
VADS				S	**Sb**	**13 29 07.2**	**-1.1**
MSF	**Maaselka**	**2.67**	**217**	PG		13 28 41.7	
MSF				SG		13 29 18.4	
KEV	**Kevo**	**2.74**	**311**	PB		13 28 40.7	
KEV				MSG		13 29 14.7	
	comp=Z,3.8nm,0.2s						
KEV				SB		13 29 16.7	
KU1	**Kurvinen**	**2.86**	**210**	PB		13 28 43.6	
KU2	**Taivalkoski**	**3.02**	**220**	PG		13 28 47.7	
RNF	**Rovaniemi**	**3.07**	**245**	PN		13 28 44.6	
	baz=58						
RNF				SN		13 29 23.3	
ARA0	**ARCESS Array S**	**3.09**	**302**	PN		13 28 44.8	
ARA0				SG		13 29 31.2	
ARCES	**ARCESS Array B**	**3.09**	**302**	Pn	**Pn**	**13 28 44.3**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=117,slow=15,SNR=19						
ARCES				Sn	**Sn**	**13 29 21.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=122,slow=22,SNR=2.2						
ARCES				Lg	Lg	13 29 28.9	
	comp=Z,0.5nm,0.3s,baz=117,slow=36,SNR=4.6						
	comp=Z,0.5nm,0.5s						
ARCES	**ARCESS Array B**	**3.09**	**302**	P	**Pn**	**13 28 44.6**	**+1.4**
ARCES				S	**Sn**	**13 29 21.2**	**+0.5**
RANF	**Ranua**	**3.19**	**232**	PN		13 28 46.2	
RANF				SG		13 29 33.4	
HEF	**Hetta**	**3.49**	**280**	PN		13 28 49.5	
	baz=93						
HEF				SB		13 29 41.9	
KLF	**Kolari**	**3.55**	**260**	PN		13 28 51.1	
KTK1	**Kautokeino**	**3.70**	**289**	PN		13 28 53.0	
KTK1				SB		13 29 46.8	
PAJU	**Pajala**	**3.93**	**259**	PN		13 28 56.0	
RMF	**Romuvaara**	**4.07**	**199**	PN		13 28 58.1	
OBF4	**Vikkela, Lumij**	**4.55**	**228**	PN		13 29 04.8	
KIF	**Kilpisjarvi**	**4.57**	**287**	SG		13 30 18.0	
I37NO	**I37NO**	**5.36**	**287**	I	I	13 58 20.0	
	baz=94,slow=315,SNR=3.7						
FAUS	**Fauske**	**6.76**	**272**	S	**Sn**	**13 30 48.5**	**-2.5**
FINES	**FINESS Array B**	**7.28**	**207**	Pn	**Pn**	**13 29 42.0**	**+1.4**
	baz=31,slow=16,SNR=1.2						
FINES				Lg	Lg	13 31 38.6	
	comp=Z,0.1nm,0.3s,baz=32,slow=29,SNR=2.8						
	comp=Z,1.3nm,0.9s						

*KRSC **10** 13:38:20.9±1.9, 48°.69N×156°.99E, h30km±24km, Ml3.8*
*IDC **10** 13:38:30.4±3.2, 49°.34N×155°.27E, h134km±24km, mb3.4/4, mbtmp3.8/6, Error ellipse: s-maj=39.7km s-min=21.0km az=145.0*

ISC 10 13:38:16.1±1.5, 48°.4N±0°.1×155°.6E±0°.2, h35km, n25, σ2s63/28, mb3.7/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.30**	**8**	eP	**Pn**	**13 38 54.2**	**+2.6**
SKR				eS	**Sn**	**13 39 18.5**	**-0.1**
PAU	**Pauzhetka**	**3.16**	**14**	eP	**Pn**	**13 39 06.6**	**+3.2**
PAU				eS	**Sn**	**13 39 39.7**	**-0.1**
ASAK	**Asacha**	**4.24**	**19**	eP	**Pn**	**13 39 21.3**	**+3.0**
MTVR	**Mutnovka**	**4.40**	**21**	eP	**Pn**	**13 39 23.0**	**+2.5**
MTVR				eS	**Sn**	**13 40 09.0**	**-1.6**
GRL	**Gorelyy**	**4.44**	**20**	eP	**Pn**	**13 39 23.8**	**+2.8**
GRL				eS	**Sn**	**13 40 10.6**	**-1.0**
RUS	**Russkaya**	**4.44**	**24**	eP	**Pn**	**13 39 22.4**	**+1.5**
RUS				eS	**Sn**	**13 40 07.8**	**-3.5**
KRMR	**Karymshinskiy**	**4.71**	**19**	eS	**Sn**	**13 40 16.5**	**-1.5**
PETK	**Petropavlovsk-**	**4.89**	**15**	P	**Pn**	**13 39 30.8**	**+3.6**
	3.2nm,0.4s,baz=182,slow=12,SNR=10						
PETK				S	**Sn**	**13 40 18.7**	**-3.8**
	2.0nm,0.8s,baz=198,slow=41,SNR=1.4						
PET	**Petropavlovsk**	**5.01**	**22**	eS	**Sn**	**13 40 24.1**	**-1.3**
DALK	**Dalny**	**5.04**	**22**	eP	**Pn**	**13 39 31.5**	**+2.3**
DALK				eS	**Sn**	**13 40 23.7**	**-2.5**
UGLR	**Uglovaya**	**5.22**	**22**	eP	**Pn**	**13 39 34.3**	**+2.5**
KOK	**Koryaka**	**5.26**	**20**	eP	**Pn**	**13 39 36.4**	**+4.2**
SDLR	**Sedlovina**	**5.30**	**22**	eP	**Pn**	**13 39 35.7**	**+2.8**
KRX	**Arik**	**5.32**	**20**	eP	**Pn**	**13 39 36.3**	**+3.2**
SPN	**Mys Shipunski**	**5.47**	**29**	eP	**Pn**	**13 39 35.0**	**0.0**
GNL	**Ganaly**	**5.50**	**15**	eP	**Pn**	**13 39 39.5**	**+4.0**
MKZ	**Mys Kozlova**	**7.25**	**30**	eP	**Pn**	**13 40 00.8**	**+1.4**
ASAJ	**Asahikawa**	**9.97**	**249**	P	Pn	13 40 53.4	+17
	5.1nm,0.9s,baz=70,slow=12,SNR=2.4						
H11S1	**WAKE ISLAND Hy 31.16**	**159**		T	T	14 17 47.8	
	baz=345,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy 31.17**	**159**		T	T	14 17 52.4	
	baz=345,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy 31.18**	**159**		T	T	14 17 49.7	
	baz=345,slow=76,SNR=12						
MKAR	**Makanchi Array**	**47.68**	**297**	P	**P**	**13 46 47.4**	**-1.5**
	0.2nm,0.5s,baz=56,slow=9.0,SNR=3.5						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**47.95**	**303**	P	**P**	**13 46 48.7**	**-2.1**
	2.7nm,0.2s,baz=65,slow=8.6,SNR=1.8						
	2.7nm,0.2s						
FINES	**FINESS Array B**	**63.24**	**335**	P	**P**	**13 48 39.0**	**-1.5**
	1.1nm,0.9s,baz=26,slow=7.8,SNR=1.4						
	1.1nm,0.9s						
TXAR	**Lajitas Array**	**75.22**	**63**	P	**P**	**13 49 57.2**	**+1.9**
	0.3nm,0.6s,baz=289,slow=3.8,SNR=3.6						
	0.3nm,0.6s						

*NEIC **10** 13:38:56.9±2.0, 35°.764N±0°.006×117°.55W±0°.01, h10km±1km, Error ellipse: s-maj=3.0km s-min=1.7km az=236.0*

PAS 10 13:38:57.4±2.0, 35°.766N±0°.005×117°.56W±0°.01, h8km±8km, ML3.3/16, ML3.0/114(NEIC), Error ellipse: s-maj=1.5km s-min=0.9km az=89.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.06**	**327**		Pg	13 38 59.5	+0.1
CLC	**China Lake**	**0.06**	**327**	IAML		13 39 01.3	
	comp=N,40μm,0.1s						
CLC				IAML		13 39 01.3	
	comp=E,34μm,0.1s						
SRTC	**Snort**	**0.17**	**245**		Pg	13 39 01.4	+0.4
TOW	**Tower One**	**0.17**	**285**		Pg	13 39 01.5	+0.4
WVPM	**Volcano Peak E**	**0.28**	**311**		Sg	13 39 07.2	+0.4
CCCA	**Chr Cany lake**	**0.29**	**147**	Pg	Pg	13 39 03.3	+0.1
WNMM	**Nine Mile Cany**	**0.29**	**285**		Pg	13 39 03.1	-0.1
JRC2	**Joshua Ridge**	**0.30**	**317**		Pg	13 39 03.2	-0.2
MPMC	**Manual Prospec**	**0.30**	**11**	Pg	Pg	13 39 03.2	-0.2
MPMC				IAML		13 39 07.8	
	comp=N,2μm,0.4s						
MPMC				IAML		13 39 10.5	
	comp=E,2μm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.30**	**200**		Sg	13 39 07.9	+0.4
LRMC	**Laurel Mtn Rad**	**0.30**	**200**	Pg	Pg	13 39 03.1	-0.3
LRMC				IAML		13 39 08.3	
	comp=N,5μm,0.3s						
LRMC				IAML		13 39 08.8	
	comp=E,6μm,0.3s						
WCSM	**Coso Springs S**	**0.31**	**327**		Pg	13 39 03.3	-0.3
WRVM	**Rose V. Centra**	**0.36**	**312**		Pg	13 39 04.3	-0.3
MFS	**McCloud Flat S**	**0.43**	**326**		Pg	13 39 05.5	-0.3
MFS					Sg	13 39 11.6	+0.2
DTP	**Desert Tortois**	**0.55**	**205**		Pg	13 39 07.5	-0.6
DTP					Sg	13 39 15.4	+0.1
WORM	**Onyx Ranch**	**0.56**	**263**		Pg	13 39 07.7	-0.6
WORM					Sg	13 39 15.5	-0.1
QSM	**Queen of Sheba**	**0.59**	**70**		Pg	13 39 08.5	-0.4
QSM					Sg	13 39 16.7	0.0
QSM	**Queen of Sheba**	**0.59**	**70**	IAML		13 39 17.6	
	comp=E,1μm,0.2s						
QSM				IAML		13 39 17.8	
	comp=N,2μm,0.2s						
WHFM	**Hanning Flat**	**0.65**	**264**		Pg	13 39 09.3	-0.6
WHFM					Sg	13 39 18.2	-0.2
CCAC	**Calif City Air**	**0.72**	**212**		Pg	13 39 10.7	-0.5
CCAC					Sg	13 39 20.7	+0.1
ISA	**Isabella, Lake**	**0.75**	**262**		Sg	13 39 21.9	+0.1
ISA	**Isabella, Lake**	**0.75**	**262**	Pg	Pg	13 39 11.1	-0.8
ISA				IAML		13 39 22.9	
	comp=E,594nm,0.2s						
ISA				IAML		13 39 25.1	
	comp=N,566nm,0.4s						
GSC	**Goldstone, Bar**	**0.77**	**127**		Sg	13 39 22.0	-0.2
GSC	**Goldstone, Bar**	**0.77**	**127**	Pg	Pg	13 39 11.6	-0.6
GSC				IAML		13 39 23.6	
	comp=E,916nm,0.5s						
GSC				IAML		13 39 24.5	
	comp=N,940nm,0.3s						
CWC	**Cottonwood Cre**	**0.80**	**328**		Sg	13 39 23.1	0.0
CWC	**Cottonwood Cre**	**0.80**	**328**		Pg	13 39 11.9	-0.8
CWC				IAML		13 39 23.3	
	comp=E,480nm,0.2s						
CWC				IAML		13 39 23.6	
	comp=N,492nm,0.2s						
CGO	**Cerro Gordo**	**0.81**	**346**		Pg	13 39 12.3	-0.8
WASM	**Alta Sierra Ca**	**0.81**	**268**		Pg	13 39 12.4	-0.7
GWY	**Greenwater Val**	**0.83**	**60**		Pg	13 39 12.9	-0.6
GWY					Sg	13 39 24.2	-0.2
GWY	**Greenwater Val**	**0.83**	**60**	IAML		13 39 30.8	
	comp=N,727nm,0.5s						
GWY				IAML		13 39 31.7	
	comp=E,718nm,0.4s						
FURC	**Furnace Creek,**	**0.90**	**39**		Sb	13 39 26.9	-0.4
HYS	**Haystack Butte**	**0.90**	**181**		Pg	13 39 13.8	-0.9
EDW2	**Edwards Air Fo**	**0.95**	**202**		Pg	13 39 14.8	-0.9
RRX	**Edison Barstow**	**1.00**	**153**		Pg	13 39 15.9	-0.7
TPO	**Tropico Hills**	**1.04**	**212**		Pg	13 39 16.6	-0.8
TPO				IAML		13 39 34.3	
	comp=N,568nm,0.7s						
TEJ	**El Tejon**	**1.07**	**240**		Pg	13 39 17.3	-0.6
SPG2	**Springville 2**	**1.07**	**294**		Pg	13 39 17.0	-1.0
SPG2					Sg	13 39 31.3	-0.6
SBB	**Saddle Back Bu**	**1.10**	**192**		Pg	13 39 17.3	-1.2
SBB					Sb	13 39 33.0	-0.1
TJR	**Tejon Ranch**	**1.22**	**233**		Pb	13 39 20.2	-0.5
ADO	**Adelanto Recei**	**1.22**	**175**		Pb	13 39 20.3	-0.4
VTV	**Victorville**	**1.22**	**171**		Pb	13 39 20.2	-0.5
ARVC	**Arvin**	**1.22**	**239**		Sb	13 39 36.2	-0.3
GRAC	**Grapevine Rang**	**1.24**	**7**		Pn	13 39 20.2	-0.8
GRAC				IAML		13 39 43.9	
	comp=N,457nm,0.7s						
GRAC				IAML		13 39 44.0	
	comp=E,458nm,0.5s						
AMDNV	**Amargosa**	**1.24**	**56**		Pn	13 39 19.3	-1.7
AMDNV					Sb	13 39 36.9	-0.3
VES	**Vestal, Richgr**	**1.24**	**274**		Pn	13 39 20.2	-0.9
VES					Sb	13 39 36.8	-0.5
THC	**Tehachapi Micr**	**1.24**	**227**		Pb	13 39 20.8	-0.4
WCT	**Wildcat Mounta**	**1.27**	**36**		Pn	13 39 20.0	-1.5
WCT				IAML		13 39 39.3	
	comp=N,200nm,0.6s						
WCT				IAML		13 39 40.3	
	comp=E,241nm,0.3s						
WCT	**Wildcat Mounta**	**1.27**	**36**		Sb	13 39 38.0	-0.3
SGV	**South Grapevin**	**1.28**	**19**		Pn	13 39 20.5	-1.3
SGV					Sb	13 39 38.6	-0.1
LEOC	**Leona Valley**	**1.29**	**209**		Pn	13 39 20.2	-1.5
LRRC	**Littlerock Res**	**1.29**	**197**		Pn	13 39 21.2	-0.5
CJV	**Casa Juvan**	**1.32**	**201**		Pn	13 39 21.8	-0.5
CJV					Sb	13 39 39.8	+0.1
HOLC	**Holcomb Ridge**	**1.32**	**190**		Pn	13 39 20.7	-1.6
HOLC					Sn	13 39 40.2	0.0

DSCC	**Desert Studies**	**1.34**	**117**			Sb	13 39 39.9	-0.2
JNH	**Juniper Hills**	**1.35**	**194**			Pn	13 39 21.2	-1.5
HEC	**Hector,Ludlow**	**1.37**	**133**			Pn	13 39 21.0	-1.8
HEC						Sb	13 39 41.1	+0.1
TUQ	**Turquoise Moun**	**1.37**	**103**			Pn	13 39 21.4	-1.6
TUQ						Sb	13 39 41.1	0.0
LCH	**Last Change Ra**	**1.47**	**357**			Pn	13 39 23.3	-1.0
CHFC	**Chilao Flat St**	**1.48**	**195**			Pn	13 39 24.2	-0.3
OSI	**Osito Audit: C**	**1.49**	**220**			Pn	13 39 24.1	-0.4
OSI					IAML		13 39 47.4	
	comp=N,171nm,0.9s							
OSI					IAML		13 39 50.0	
	comp=E,198nm,0.8s							
BFSC	**Mount Baldy Ra**	**1.52**	**183**			Pn	13 39 23.8	-1.3
BFSC					IAML		13 39 46.7	
	comp=E,158nm,0.2s							
BFSC					IAML		13 39 47.6	
	comp=N,178nm,0.6s							
SIL	**Silver Peak**	**1.54**	**157**			Pn	13 39 25.5	+0.3
GMN	**Gold Mountain**	**1.55**	**9**			Pn	13 39 24.5	-1.0
GMN					IAML		13 39 48.1	
	comp=N,144nm,0.5s							
GMN					IAML		13 39 48.6	
	comp=E,119nm,0.4s							
SSK	**Sunset Peak**	**1.56**	**184**			Pb	13 39 26.9	+0.3
TPNV	**Topopah Spring**	**1.58**	**41**	Pn		Pn	13 39 24.6	-1.4
TPNV					IAML		13 39 49.4	
	comp=E,132nm,0.6s							
TPNV					IAML		13 39 50.8	
	comp=E,145nm,0.6s							
BBRC	**Big Bear Solar**	**1.59**	**161**			Pn	13 39 26.2	+0.2
MWC	**Mount Wilson**	**1.59**	**195**			Pn	13 39 25.0	-1.0
MWC					IAML		13 39 49.5	
	comp=N,309nm,0.5s							
MWC					IAML		13 39 50.9	
	comp=E,273nm,0.5s							
DSP	**Deep Springs**	**1.64**	**348**			Pn	13 39 25.6	-0.8
DSP					IAML		13 39 50.4	
	comp=E,101nm,0.6s							
DECC	**Green Verdugo**	**1.64**	**203**			Pg	13 39 28.5	-0.3
PASC	**Pasadena Art C**	**1.67**	**198**			Pn	13 39 25.9	-1.0
PASC					IAML		13 39 53.4	
	comp=E,153nm,0.4s							
PASC					IAML		13 39 56.3	
	comp=N,109nm,0.7s							
PSRC	**Puddingstone R**	**1.68**	**187**			Pg	13 39 29.1	-0.5
POCCA	**Poleta Canyon**	**1.70**	**340**			Pb	13 39 28.5	-0.4
SVD	**Seven Oaks Dam**	**1.70**	**167**			Pb	13 39 29.0	+0.1
BHPR	**Bishop**	**1.70**	**334**			Pb	13 39 28.9	-0.2
GTM	**Goat Mountain**	**1.77**	**146**			Pb	13 39 30.1	0.0
MTUM	**Tungsten Hills**	**1.78**	**333**			Pb	13 39 30.1	-0.3
BLAC	**Blackrock camp**	**1.95**	**150**			Pn	13 39 29.7	-1.2
EW2	**E Wide Canyon**	**2.05**	**152**			Pn	13 39 30.9	-1.3
TPC	**Twentynine Pal**	**2.07**	**143**			Pn	13 39 30.8	-1.6
SHPR	**Sheep Range**	**2.08**	**68**			Pn	13 39 32.5	-0.2
HMTC	**Hemet**	**2.10**	**167**			Pn	13 39 32.0	-0.9
BENR	**Benton**	**2.11**	**338**			Pb	13 39 36.0	-0.1
ELS	**Elsinore Mount**	**2.12**	**177**			Pn	13 39 31.9	-1.2
ELS					IAML		13 40 05.6	
	comp=E,90nm,0.2s							
ELS					IAML		13 40 07.5	
	comp=N,63nm,0.5s							
MLAC	**Mammoth, Mammo**	**2.13**	**331**			Pb	13 39 36.7	+0.4
POB	**Polly Butte**	**2.14**	**166**			Pn	13 39 32.5	-1.0
MCSM	**Casa Diablo Ho**	**2.17**	**331**			Pb	13 39 37.5	+0.4
V12A	**Nelson**	**2.20**	**90**			Pn	13 39 33.4	-0.9
V12A					IAML		13 40 09.3	
	comp=E,71nm,0.4s							
V12A					IAML		13 40 09.0	
	comp=N,79nm,0.6s							
TSCN	**Private Proper**	**2.28**	**265**			Pn	13 39 34.6	-0.7
PMD	**Palm Desert**	**2.33**	**155**			Pn	13 39 34.1	-1.8
PMD					IAML		13 40 20.8	
	comp=E,49nm,0.8s							
PFO	**Pinyon Flats O**	**2.33**	**157**			Pn	13 39 34.4	-1.8
PFO					IAML		13 40 14.2	
	comp=E,50nm,0.7s							
XPFO	**Pinon Flat**	**2.33**	**157**			Pn	13 39 34.7	-1.5
SNDA	**J Saunders Pla**	**2.34**	**160**			Pn	13 39 35.3	-1.0
BZNA	**Buzz No.'s Pla**	**2.38**	**162**			Pn	13 39 36.0	-0.9
NJQ	**Nojoqui County**	**2.47**	**241**			Pn	13 39 37.4	-0.5
PLM	**Palomar**	**2.47**	**166**			Pn	13 39 37.3	-0.9
LHV	**Little Huntoon**	**2.59**	**343**			Pn	13 39 39.4	-0.3
LHV					IAML		13 40 30.4	
	comp=E,38nm,0.8s							
PRN	**Pahroc Range**	**2.60**	**50**			Pn	13 39 39.2	-0.7
PRN					IAML		13 40 24.1	
	comp=N,45nm,0.4s							
PRN					IAML		13 40 30.1	
	comp=E,52nm,0.7s							
BORC	**Borrego Spring**	**2.66**	**159**			Pn	13 39 39.5	-1.1
BORC					IAML		13 40 22.8	
	comp=E,76nm,0.6s							
BORC					IAML		13 40 24.8	
	comp=N,43nm,0.9s							
PMPB	**Monarch Peak**	**2.67**	**281**			Pn	13 39 40.2	-0.5
NV11	**Mina Array Sit**	**2.70**	**350**			Pn	13 39 40.6	-0.7
NVAR	**Mina Array Bea**	**2.73**	**348**			Pn	13 39 41.1	-0.5
DPP	**Dos Picos Cty**	**2.81**	**169**			Pn	13 39 41.6	-1.0
DPP					IAML		13 40 29.7	
	comp=E,36nm,0.5s							
RYN	**Ryan**	**2.96**	**345**			Pn	13 39 44.4	-0.5
W13A	**Hualapai Mount**	**3.07**	**101**			Pn	13 39 44.8	-1.6
Q09A	**Carvers**	**3.08**	**5**			Pn	13 39 45.8	-0.7
Q09A					IAML		13 40 39.1	
	comp=E,65nm,0.6s							
WAKR	**Walker**	**3.12**	**332**			Pn	13 39 46.7	-0.3
CMB	**Columbia Colle**	**3.20**	**316**			Pn	13 39 47.8	-0.3
CMB					IAML		13 40 42.3	
	comp=N,28nm,0.7s							
CMB					IAML		13 40 43.6	
	comp=E,41nm,1.1s							
SAO	**San Andreas Ge**	**3.30**	**289**			Pn	13 39 48.8	-0.5
YUH	**Yuha Desert**	**3.39**	**156**			Pn	13 39 49.5	-1.1
CBX	**Cerro Bola**	**3.52**	**168**			Pn	13 39 52.1	-0.4
CCUT	**Cedar City**	**3.81**	**61**			Pn	13 39 56.6	-0.1
ESJX	**Sierra Juarez**	**3.98**	**160**			Pn	13 39 57.9	-1.0
ESJX					IAML		13 41 03.6	
	comp=E,18nm,0.6s							
ESJX					IAML		13 41 07.7	
	comp=N,12nm,2.2s							
KNB	**Kanab**	**4.02**	**71**			Pn	13 39 59.7	+0.3
MPK	**Martis Peak**	**4.04**	**332**			Pn	13 40 00.7	+1.0
MPK					IAML		13 41 21.8	
	comp=E,23nm,0.7s							
MPK					IAML		13 41 22.9	
	comp=N,33nm,0.8s							
PSUT	**Pine Spring**	**4.05**	**46**			Pn	13 39 59.8	0.0
Y14A	**Wickenburg**	**4.16**	**115**			Pn	13 39 59.6	-1.7
Y14A					IAML		13 41 12.3	
	comp=E,21nm,0.3s							
Y14A					IAML		13 41 15.7	
	comp=N,29nm,1.2s							
U15A	**North Rim**	**4.32**	**80**	Pn		Pn	13 40 02.6	-0.9
U15A					IAML		13 41 14.4	
	comp=E,11nm,0.9s							
U15A					IAML		13 41 17.2	
	comp=N,11nm,0.8s							

IDC 10 13:52:35.2±4.9,1°88S×138°79E,h0km,mb3.1/2, mbtmp3.2/3,ML3.4/1,Error ellipse: s-maj=199.9km s-min=31.8km az=86.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.47**	**193**	P	Pn	13 56 53.8	+1.0
	0.1nm,0.3s,baz=15,slow=12,SNR=2.5 0.5nm,0.6s						
ASAR	**Alice Springs**	**22.17**	**192**	P	P	13 57 32.7	-0.3
	0.3nm,0.6s,baz=30,slow=9.0,SNR=5.3 0.3nm,0.6s						
MKAR	**Makanchi Array**	**69.19**	**322**	P	P	14 03 43.5	-0.2
	0.1nm,0.5s,baz=134,slow=6.2,SNR=1.5 0.1nm,0.5s						

IDC 10 13:56:07.7±8.5,32°17S×177°63W,h170km±67km, mb3.1/3,mbtmp3.6/4,Error ellipse: s-maj=65.7km s-min=33.7km az=45.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.45**	**214**	P	Pn	13 57 53.4	-0.2
	4.9nm,0.9s,baz=45,slow=1.4,SNR=1.4						
URZ				S	Sn	13 59 18.5	+1.3
	3.2nm,0.7s,baz=315,slow=19,SNR=1.1						
ASAR	**Alice Springs**	**43.36**	**269**	P	P	14 03 53.5	+0.3
	0.3nm,0.5s,baz=105,slow=7.4,SNR=11 0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.51**	**274**	P	P	14 04 01.8	-0.6
	0.5nm,0.3s,baz=111,slow=8.1,SNR=23 0.5nm,0.3s						
VNDA	**Vanda**	**46.37**	**186**	P	P	14 04 15.6	-0.7
	1.0nm,0.9s,baz=16,slow=8.6,SNR=2.8 1.0nm,0.9s						
FINES	**FINESS Array B**	**146.91**	**339**	PKPbc	PKPbc	14 15 29.2	0.0
	0.8nm,0.4s,baz=62,slow=4.8,SNR=3.7						

*NEIC **10** 14:00:58.2±1.3,8°.6S±0°.1×158°.97E±0°.06,h118km±8km, mb4.3/32,Error ellipse: s-maj=16.1km s-min=8.4km az=190.0*

*IDC **10** 14:01:00.5±6.6,8°.60S×158°.90E,h140km±60km,mb3.6/11, mbtmp4.1/13,Error ellipse: s-maj=25.6km s-min=19.8km az=86.0*

ISC 10 14:00:57.1±0.5,8°58S±0°08×158°97E±0°09,h111km,n47, σ0s64/47,mb4.2/25,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**8.04**	**302**	Pn	Pn	**14 02 52.2**	**+1.0**
DZM	**Mont Dzumac**	**15.22**	**153**	Pn	Pn	**14 04 25.7**	**-0.5**
DZM				IAmb	IAmb	14 04 57.6	
	comp=Z,24nm,1.4s						
DZM	**Mont Dzumac**	**15.22**	**153**	P	P	**14 04 29.1**	**+0.5**
	comp=Z,6.3nm,0.9s,baz=275,slow=19,SNR=1.8						
COEN	**Coen**	**16.38**	**250**		Pn	**14 04 41.0**	**+0.3**
COEN				IAmb	IAmb	14 05 16.6	
	comp=Z,20nm,1.2s						
CTAO	**Charters Tower**	**16.80**	**226**	P	Pn	**14 04 45.6**	**0.0**
EIDS	**Eidsvold**	**18.31**	**203**	P	Pn	**14 05 03.6**	**-0.3**
JAY	**Jayapura**	**19.14**	**287**	P	P	**14 05 12.2**	**+0.4**
	comp=Z,14nm,0.8s,baz=30,slow=6.0,SNR=8.3						
ARMA	**Armidale**	**22.79**	**197**	P	P	**14 05 50.9**	**+0.4**
ARMA				IAmb	IAmb	14 06 16.1	
	comp=Z,21nm,1.5s						
WR8	**Warramunga Arr**	**26.23**	**242**	P	P	**14 06 20.9**	**-1.0**
WR8				IAmb	IAmb	14 06 27.1	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**26.36**	**242**	P	P	**14 06 22.6**	**-0.5**
WRA	**Warramunga Arr**	**26.36**	**242**	P	P	**14 06 23.6**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=66,slow=9.2,SNR=9.5 comp=Z,1.0nm,0.6s						
STKA	**Stephens Creek**	**28.25**	**212**	P	P	**14 06 39.9**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=49,slow=16,SNR=4.0 comp=Z,1.3nm,0.4s						
AS31	**Alice Springs**	**28.29**	**235**	P	P	**14 06 39.9**	**-0.4**
ASAR	**Alice Springs**	**28.29**	**235**	P	P	**14 06 39.8**	**-0.6**
ASAR	**Alice Springs**	**28.29**	**235**	P	P	**14 06 40.0**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=64,slow=10.0,SNR=34 comp=Z,0.5nm,0.4s						
KNRA	**Kununurra**	**30.33**	**254**	P	P	**14 06 57.6**	**-0.8**
TOZ	**Tahuroa Road**	**32.65**	**155**	P	P	**14 07 19.5**	**+1.0**
BKZ	**Black Stump Fm**	**34.27**	**155**	P	P	**14 07 32.9**	**+0.3**
KULM	**Kulim**	**59.76**	**281**	P	P	**14 10 51.5**	**+0.6**
UNV	**Unalaska Valle**	**68.69**	**21**	P	P	**14 11 48.1**	**-0.3**
VNDA	**Vanda**	**68.93**	**179**	P	P	**14 11 49.9**	**+0.2**
VNDA	**Vanda**	**68.93**	**179**	P	P	**14 11 50.2**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=338,slow=3.9,SNR=5.3 comp=Z,1.8nm,0.9s						
S12K	**Black Hills**	**71.76**	**22**	P	P	**14 12 06.5**	**-0.6**
SONM	**Songino Array**	**72.82**	**326**	P	P	**14 12 13.6**	**-0.2**
SONM	**Songino Array**	**72.82**	**326**	P	P	**14 12 14.9**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=146,slow=5.8,SNR=5.2 comp=Z,1.2nm,0.6s						
O14K	**Tigyukauivet M**	**74.73**	**20**	P	P	**14 12 24.3**	**-0.1**
PLK4	**Peulik 4**	**75.32**	**23**	P	P	**14 12 28.9**	**+0.8**
PLK4				IAmb	IAmb	14 12 32.5	
	comp=Z,8.7nm,1.4s						
M14K	**Bethel**	**75.64**	**19**	P	P	**14 12 30.5**	**+0.8**
M14K				IAmb	IAmb	14 12 31.4	
	comp=Z,6.4nm,1.2s						
OHAK	**Old Harbor**	**76.27**	**24**	P	P	**14 12 33.4**	**+0.1**
OHAK				IAmb	IAmb	14 12 36.4	
	comp=Z,7.5nm,1.2s						
M16K	**Timber Creek**	**76.82**	**20**	P	P	**14 12 37.1**	**+0.8**
M16K				IAmb	IAmb	14 12 40.7	
	comp=Z,5.8nm,1.3s						
KDAK	**Kodiak Island**	**76.92**	**24**	P	P	**14 12 36.6**	**-0.4**
KDAK				IAmb	IAmb	14 13 03.9	
	comp=Z,5.0nm,1.1s						
K15K	**Wolf Creek Mou**	**76.96**	**18**	P	P	**14 12 37.9**	**+0.8**
K15K				IAmb	IAmb	14 13 17.5	
	comp=Z,4.8nm,1.1s						
L16K	**Owhat River**	**77.16**	**19**	P	P	**14 12 38.4**	**+0.1**
CAST	**Castle Rocks**	**80.80**	**20**	P	P	**14 12 57.7**	**-0.5**
QSPA	**South Pole Qui**	**81.41**	**180**	P	P	**14 13 01.2**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=26,slow=2.6,SNR=5.1 comp=Z,0.9nm,0.7s						
E19K	**Redstone River**	**82.04**	**16**	P	P	**14 13 05.0**	**+0.5**
E19K				IAmb	IAmb	14 13 06.7	
	comp=Z,4.4nm,0.9s						
H23K	**Yukon River**	**83.19**	**19**	P	P	**14 13 11.1**	**+0.5**
H23K				IAmb	IAmb	14 13 12.3	
	comp=Z,3.2nm,0.9s						
ILAR	**Eielson Array**	**83.44**	**20**	P	P	**14 13 11.4**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=249,slow=5.2,SNR=14 comp=Z,0.7nm,0.6s						
J25K	**Salcha River,**	**83.87**	**21**		P	**14 13 14.3**	**+0.1**
J25K				IAmb	IAmb	14 13 15.6	
	comp=Z,7.3nm,1.4s						
M27K	**Edge Creek, AK**	**83.95**	**24**	P	P	**14 13 15.0**	**+0.3**
M27K				IAmb	IAmb	14 13 16.8	
	comp=Z,6.3nm,1.2s						
L29M	**L29M**	**85.82**	**24**	P	P	**14 13 22.8**	**-1.1**
L29M				IAmb	IAmb	14 13 26.4	
	comp=Z,4.9nm,1.4s						
M30M	**Minto, Yukon**	**86.12**	**25**	P	P	**14 13 25.2**	**-0.2**
M30M				IAmb	IAmb	14 13 27.5	
	comp=Z,5.1nm,1.4s						
MKAR	**Makanchi Array**	**87.20**	**318**	P	P	**14 13 30.6**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=93,slow=6.1,SNR=5.5 comp=Z,0.4nm,0.6s						
NVAR	**Mina Array Bea**	**89.62**	**51**	P	P	**14 13 44.2**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=243,slow=6.5,SNR=3.7 comp=Z,1.2nm,0.8s						
SIMJ	**Simiganj**	**95.26**	**308**	P	P	**14 14 07.1**	**-1.7**
YKA	**Yellowknife Ar**	**95.89**	**28**	P	P	**14 14 10.5**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=272,slow=4.9,SNR=4.2 comp=Z,0.3nm,0.6s						
PDAR	**Pinedale Array**	**96.84**	**48**	P	P	**14 14 15.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=270,slow=3.0,SNR=4.0 comp=Z,0.2nm,0.3s						

*NEIC **10** 14:06:30.3±0.7,19°.23N±0°.02×155°.41W±0°.02,h40km±1km, Error ellipse: s-maj=3.4km s-min=2.2km az=145.0*

HVO 10 14:06:32.0±0.8,19°22N±0°04×155°39W±0°04,h32km±7km, ML2.4/30,ML2.5/42(NEIC),Error ellipse: s-maj=7.2km s-min=4.8km az=134.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.02**	**344**		Pb	14 06 37.1	-0.2
HLP	**Hilina Pali**	**0.11**	**47**		Pn	14 06 37.4	-0.2
HLP					Sb	14 06 41.6	-0.1
HLP	**Hilina Pali**	**0.11**	**47**	IAML		14 06 44.3	
	comp=E,839nm,0.3s						
HLP				IAML		14 06 48.3	
	comp=N,775nm,0.5s						
AIN	**Ainahou**	**0.16**	**338**		Pb	14 06 37.9	-0.4
AIN					Sn	14 06 42.2	-0.3
AIN	**Ainahou**	**0.16**	**338**	IAML		14 06 42.7	
	comp=E,2μm,0.3s						
AIN				IAML		14 06 43.0	
	comp=N,3μm,0.4s						
SDHHI	**Sand Hill**	**0.19**	**29**		Pb	14 06 37.8	-0.7
SDHHI					Sb	14 06 42.0	-1.0
HPO	**Honuapo**	**0.20**	**229**		Pb	14 06 37.7	-0.8
HPO					Sb	14 06 42.1	-0.7
WRMHI	**West Rim**	**0.20**	**25**		Pb	14 06 37.9	-0.8
WRMHI					Sb	14 06 42.2	-0.9
RIM	**Rim**	**0.21**	**33**		Pb	14 06 37.9	-0.8
RIM					Sb	14 06 42.1	-1.1
KHU	**Kahuku**	**0.21**	**277**		Pb	14 06 37.9	-0.9
KHU					Sb	14 06 42.3	-1.2
KHU	**Kahuku**	**0.21**	**277**	IAML		14 06 42.6	
	comp=E,1μm,0.3s						
KHU				IAML		14 06 42.6	
	comp=N,1μm,0.1s						
KKO	**Keanakako'i**	**0.21**	**34**		Pb	14 06 38.0	-0.8
KKO					Sb	14 06 42.4	-0.9
UWE	**Uwekahuna**	**0.22**	**25**		Pb	14 06 38.0	-0.8
UWE					Sb	14 06 42.5	-1.0
UWE	**Uwekahuna**	**0.22**	**25**	IAML		14 06 43.6	
	comp=N,598nm,0.2s						
UWE				IAML		14 06 47.2	
	comp=E,607nm,0.4s						
OBL	**Observatory Le**	**0.22**	**28**		Pb	14 06 38.0	-0.9
OBL					Sb	14 06 42.3	-1.1
PUH	**Pauahi**	**0.23**	**48**		Pb	14 06 38.0	-0.9
PUH					Sb	14 06 42.5	-1.0
PUH	**Pauahi**	**0.23**	**48**	IAML		14 06 42.8	
	comp=E,510nm,0.2s						
PUH				IAML		14 06 42.8	
	comp=N,432nm,0.5s						
BYL	**Byron's Ledge**	**0.23**	**33**		Pb	14 06 38.0	-0.9
BYL					Sb	14 06 42.6	-1.0
BYL	**Byron's Ledge**	**0.23**	**33**	IAML		14 06 42.9	
	comp=N,418nm,0.5s						
BYL				IAML		14 06 45.7	
	comp=E,273nm,0.3s						
UWB	**Uwekahuna Bluf**	**0.23**	**28**		Pb	14 06 38.0	-1.0
UWB					Sb	14 06 42.4	-1.2
HATHI	**Halema'uma'u T**	**0.24**	**32**		Pb	14 06 38.1	-0.9
HATHI					Sb	14 06 42.5	-1.2
HATHI	**Halema'uma'u T**	**0.24**	**32**	IAML		14 06 43.6	
	comp=E,344nm,0.2s						
HATHI				IAML		14 06 49.9	
	comp=N,270nm,0.6s						
SBLHI	**Steaming Bluff**	**0.24**	**30**		Pb	14 06 38.0	-1.0
SBLHI					Sb	14 06 42.5	-1.2
KNHH	**Kane Nui o Ham**	**0.26**	**53**		Pb	14 06 38.5	-0.8
RSD	**Rainshed**	**0.26**	**24**		Pb	14 06 38.3	-1.0
RSD					Sb	14 06 43.0	-1.4
MLH	**Mauna Loa**	**0.27**	**1**		Pb	14 06 38.8	-0.8
MLH					Sb	14 06 43.7	-0.9
MLH	**Mauna Loa**	**0.27**	**1**	IAML		14 06 49.6	
	comp=N,411nm,0.6s						
MLH				IAML		14 06 49.7	
	comp=E,454nm,0.4s						
STCH	**Steam Cracks**	**0.30**	**57**		Pb	14 06 38.8	-1.0
STCH					Sb	14 06 43.8	-1.2
STCH	**Steam Cracks**	**0.30**	**57**	IAML		14 06 44.3	
	comp=E,414nm,0.1s						
STCH				IAML		14 06 44.6	
	comp=N,364nm,0.5s						
NPOC	**North of Pu'u**	**0.32**	**57**		Pb	14 06 39.0	-1.0
NPOC					Sb	14 06 44.2	-1.1
JCUZ	**Jacuzzi**	**0.32**	**59**		Pb	14 06 39.0	-1.0
JCUZ					Sb	14 06 44.3	-1.1
MWH	**Mokuaweoweo**	**0.33**	**324**		Pb	14 06 39.2	-1.2
MWH					Sb	14 06 44.4	-1.8
MWH	**Mokuaweoweo**	**0.33**	**324**	IAML		14 06 45.1	
	comp=E,685nm,0.4s						
MWH				IAML		14 06 46.2	
	comp=N,403nm,0.4s						
HMH	**Humu'ula Sheep**	**0.39**	**347**		Pb	14 06 40.3	-0.8
HMH					Sb	14 06 46.0	-1.3
HMH	**Humu'ula Sheep**	**0.39**	**347**	IAML		14 06 46.7	
	comp=N,259nm,0.3s						
HMH				IAML		14 06 54.8	
	comp=E,153nm,1.3s						
ALEP	**Alea Permanent**	**0.40**	**323**		Pb	14 06 39.8	-1.5
ALEP					Sb	14 06 45.8	-1.9
JOKA	**Jonika Flow**	**0.42**	**60**		Pb	14 06 40.1	-1.3
JOKA					Sb	14 06 46.1	-1.7
JOKA	**Jonika Flow**	**0.42**	**60**	IAML		14 06 48.0	
	comp=N,268nm,0.7s						
JOKA				IAML		14 06 52.1	
	comp=E,197nm,1.2s						
POHA	**Pohakuloa**	**0.55**	**346**		Pb	14 06 41.7	-1.8
POHA					Sb	14 06 48.9	-2.5
CPH	**Captain Cook**	**0.56**	**298**		Pb	14 06 41.5	-2.0
HUH	**Hualalai**	**0.62**	**318**		Pb	14 06 43.0	-1.7
HUH					Sb	14 06 51.1	-2.3
HUH	**Hualalai**	**0.62**	**318**	IAML		14 06 55.2	
	comp=E,232nm,0.4s						
HUH				IAML		14 07 00.3	
	comp=N,261nm,0.2s						
KKH	**Kailua Kona**	**0.73**	**306**		Pn	14 06 43.8	-2.3
KKH					Sb	14 06 52.7	-3.4
MHA	**Mahukona**	**1.07**	**334**		Pn	14 06 48.9	-2.0
MHA					Sn	14 07 01.0	-3.7
KHLH	**Kahului Airpor**	**1.93**	**330**		Pn	14 07 00.8	-1.8
KHLH					Sn	14 07 21.8	-4.0

*IDC **10** 14:11:39.8±7.3,3°.74S×103°.45E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=399.8km s-min=30.1km az=52.0*

*DJA **10** 14:11:45.5±0.5,5°S±4°×10°3E±°,h32km±5km,M3.4/6, MLv3.4/6*

ISC 10 14:11:42.2±1.5,4°66S±0°10×102°4E±0°1,h35km,n9, σ1s35/11,mb3.3/3,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.59**	**60**	P	Pn	**14 11 55.6**	**+1.4**
MNAI				S	Sn	**14 12 03.1**	**+0.4**
KSI	**Kapahiang**	**1.01**	**9**	P	Pn	**14 12 02.2**	**+2.1**
LHSI	**Lahat**	**1.36**	**53**	P	Pn	**14 12 04.8**	**0.0**
LWLI	**Liwa**	**1.65**	**102**	S	Sn	**14 12 28.6**	**-0.4**
MDSI	**Maura Dua**	**1.74**	**84**	P	Pn	**14 12 10.8**	**+0.8**
MDSI				S	Sn	**14 12 30.6**	**-0.4**
KASI	**Kota Agung**	**2.22**	**113**	P	Pn	**14 12 18.7**	**+2.1**
WRA	**Warramunga Arr**	**34.57**	**119**	P	P	**14 18 27.2**	**-0.7**
	0.2nm,0.7s,baz=302,slow=7.9,SNR=1.2 0.2nm,0.7s						
ASAR	**Alice Springs**	**35.73**	**125**	P	P	**14 18 37.9**	**-0.1**
	0.3nm,0.7s,baz=300,slow=8.2,SNR=4.7 0.3nm,0.7s						
MKAR	**Makanchi Array**	**54.25**	**343**	P	P	**14 21 03.2**	**-1.4**
	0.4nm,0.7s,baz=148,slow=8.5,SNR=4.5 0.4nm,0.7s						

*BJI **10** 14:13:56.8,44°.52N×149°.24E,h34km,mB5.0/16,mb5.0/51, Ms4.1/17,Ms7 4.0/19*

*MOS **10** 14:14:00.8±0.9,44°.59N×148°.97E,h55km,mb5.0/44, MS3.9/13,Error ellipse: s-maj=5.8km s-min=4.8km az=97.9*

MOS Felt (II-III) at Kuril'sk, Reydovo.

*JMA **10** 14:14:02.0±0.6,45

KUR Kuril'sk 1.03 312 d iPN Pn 14 14 19.9 -0.2
KUR i S Sn 14 14 33.9 +0.4
KUR Kuril'sk 1.03 312 i P Pn 14 14 20.5 +0.4
KUR AMB AMB 14 14 20.9
23µm,0.4s
KUR i S Sn 14 14 34.6 +1.1
KUR A A 14 14 35.3
34µm,0.4s
KUR A A 14 14 35.3
15µm,0.4s
SHO Shikotan 1.67 247 d iPN Pn 14 14 29.6 +0.8
SHO i S Sn 14 14 48.6 -0.5
SHO pmax pmax
comp=N,926nm,0.4s
SHO pmax pmax
comp=E,1µm,0.4s
SHO pmax pmax
comp=Z,3µm,0.4s
SHO smax smax
comp=E,7µm,0.5s
SHO smax smax
comp=N,6µm,0.4s
SHO Shikotan 1.67 247 i P Pn 14 14 29.0 +0.2
SHO AMB AMB 14 14 30.3
comp=N,2µm,0.4s
SHO i S Sn 14 14 48.9 -0.2
SHO A A 14 14 49.0
comp=N,7µm,0.4s
SHO A A 14 14 49.0
comp=N,7µm,0.4s
YUK Yuzh-Kuril'sk 2.28 258 d iPN Pn 14 14 37.5 +0.4
YUK i S Sn 14 15 02.5 -1.5
YUK pmax pmax
comp=N,2µm,0.2s
YUK pmax pmax
comp=E,2µm,0.2s
YUK pmax pmax
comp=Z,5µm,0.2s
YUK smax smax
comp=E,6µm,0.7s
YUK smax smax
comp=N,14µm,0.6s
YUK Yuzh-Kuril'sk 2.28 258 i P Pn 14 14 37.5 +0.4
YUK AMB AMB 14 14 39.5
comp=N,5µm,0.2s
YUK i S Sn 14 15 03.1 -0.9
YUK A A 14 15 07.0
comp=N,18µm,0.6s
YUK A A 14 15 07.0
comp=N,18µm,0.6s
GLVR Golovnino 2.60 253 ⇓ iPN Pn 14 14 41.9 +0.3
GLVR i S Sn 14 15 13.2 +1.3
GLVR pmax pmax
comp=Z,3µm,0.4s
GLVR pmax pmax
comp=N,229nm,0.1s
GLVR pmax pmax
comp=E,393nm,0.3s
GLVR smax smax
comp=N,12µm,0.4s
GLVR smax smax
comp=E,5µm,0.4s
GLVR Golovnino 2.60 253 i P Pn 14 14 41.9 +0.3
GLVR AMB AMB 14 14 43.4
comp=E,3µm,0.3s
GLVR i S Sn 14 15 13.2 +1.3
GLVR A A 14 15 14.4
comp=E,12µm,0.4s
GLVR A A 14 15 14.4
comp=E,5µm,0.4s
NEM2 Nemuro 2 2.60 244 P Pn 14 14 40.9 -0.7
NEM2 S Sn 14 15 10.1 -1.9
NEM2 Nemuro 2 2.60 244 A A 14 14 40.9
comp=N,4.0nm,2.7s,comp=E,5.0nm,3.3s
NMR Nemuro--Hokkai 2.61 244 ⇓ iPN Pn 14 14 40.9 -0.8
NMR i S Sn 14 15 10.5 -1.7
NMR Nemuro--Hokkai 2.61 244 i P Pn 14 14 41.1 -0.6
NMR i S Sn 14 15 10.8 -1.4
RUSJ Misakicho 2.70 262 ⇓ iPN Pn 14 14 44.2 +1.3
RUSJ i S Sn 14 15 17.0 +2.7
JRA Rausu 2.82 259 P Pn 14 14 45.8 +1.3
JRA eS Sn 14 15 17.9 +0.7
JRA Rausu 2.82 259 A A 14 14 45.8
comp=N,12nm,2.0s,comp=E,7.0nm,3.0s
JNK Nakash 3.20 254 P Pn 14 14 50.5 +0.7
JNK eS Sn 14 15 26.7 0.0
AKK Akkeshi 3.35 244 eP Pn 14 14 51.5 -0.3
JAK Akkeshi 3.45 245 P Pn 14 14 52.9 -0.4
JAK S Sn 14 15 31.2 -1.7
JAK Akkeshi 3.45 245 A A 14 14 52.9
comp=N,6.0nm,1.6s,comp=E,5.0nm,0.7s
JTKR Abashiri--Toko 3.67 263 P Pn 14 14 57.7 +1.5
JAR Ashorobuto 3.95 253 P Pn 14 15 01.4 +1.3
JOB Onbets 4.06 248 P Pn 14 15 02.0 +0.5
JOB eS Sn 14 15 48.0 +0.2
JCH Churui 4.50 246 eP Pn 14 15 07.6 0.0
JCH S Sn 14 15 57.9 -0.7
JCH Churui 4.50 246 A A 14 15 07.6
comp=N,4.0nm,3.2s,comp=E,3.0nm,1.1s
JKK2 Kamakawa 2 4.51 263 eP Pn 14 15 09.9 +2.2
JKA Kamikawa-asahi 4.58 267 Pn 14 15 10.5 +1.8
JKA Kamikawa-asahi 4.58 267 eP Pn 14 15 10.8 +2.1
ASAJ Asahikawa 4.58 267 P Pn 14 15 10.8 +2.1
comp=E,133nm,0.5s,baz=75,slow=20,SNR=125
ASAJ S Sn 14 16 07.6 +7.0
comp=E,67nm,0.4s,baz=116,slow=22,SNR=0.9
ASAJ LR LR 14 17 09.4
comp=E,2µm,20.6s,baz=134,slow=40
JEM Erimo 4.93 241 P Pn 14 15 15.0 +1.5
ERM Erimo 4.93 241 Pn 14 15 14.4 +0.9
ERM Erimo 4.93 241 P Pn 14 15 14.9 +1.4
ERM Erimo 4.93 241 ce PN Pn 14 15 15.0 +1.4
ERM pmax pmax
comp=Z,373nm,0.6s
YSS Yuzhno-Sakhali 4.96 301 Pn 14 15 15.5 +1.7
YSS Yuzhno-Sakhali 4.96 301 P Pn 14 15 15.7 +1.9
YSS Yuzhno-Sakhali 4.96 301 κ iPN Pn 14 15 15.7 +1.9
YSS eS Sn 14 16 09.2 -0.6
YSS pmax pmax
comp=Z,350nm,1.2s
YSS pmax pmax
comp=N,200nm,1.4s
YSS pmax pmax
comp=E,290nm,1.3s
YSS pmax pmax
comp=Z,400nm,3.0s
YSS pmax pmax
comp=N,200nm,2.3s
YSS pmax pmax
comp=E,300nm,2.4s
YSS smax smax
comp=N,500nm,3.2s
YSS smax smax
comp=N,240nm,0.8s
YSS smax smax
comp=E,270nm,0.8s
YSS MLR MLR
comp=Z,1µm,19.0s
YSS MLR MLR
comp=N,700nm,17.0s
YSS MLR MLR
comp=E,900nm,18.0s
YSS Yuzhno-Sakhali 4.96 301 i P Pn 14 15 15.7 +1.9
YSS AMB AMB 14 15 17.0
comp=E,600nm,0.4s
YSS AMB AMB 14 15 17.7
comp=E,400nm,3.0s
YSS eS Sn 14 16 08.5 -1.3
JAB Ashibetsu 4.96 260 P Pn 14 15 17.0 +3.0
JNBK Urakawa-nobuka 5.06 245 P Pn 14 15 15.2 0.0
JNBK Urakawa-nobuka 5.06 245 A A 14 15 15.2
comp=N,4.0nm,1.5s,comp=E,9.0nm,1.7s
JWK2 Keihoku 5.07 281 P Pn 14 15 18.9 +3.5
JRBN Rebuntou 5.66 282 P Pn 14 15 26.1 +2.6
UGL Uglegorsk 6.54 316 ⇓ ePN Pn 14 15 29.6 -5.9
UGL pmax pmax
comp=Z,207nm,0.7s
UGL Uglegorsk 6.54 316 eP Pn 14 15 29.6 -5.9
UGL AMB AMB 14 15 31.0
comp=Z,200nm,0.7s
JANG Nango 6.91 235 P Pn 14 15 38.8 -1.8
JANG eS Sn 14 16 49.7 -8.1
JTM Tenmabayashi 6.92 240 Pn 14 15 40.1 -0.7
JTM Tenmabayashi 6.92 240 P Pn 14 15 39.8 -1.0
JTH Tanohata 6.99 231 P Pn 14 15 39.6 -2.2
JTH S Sn 14 16 51.2 -8.7
TYV Tymovskoe 7.61 328 ePN Pn 14 15 53.0 +2.9
TYV eS Sn 14 17 18.9 +4.1
TYV pmax pmax
comp=Z,33nm,1.0s
TYV pmax pmax
comp=Z,100nm,3.0s
TYV smax smax
comp=N,300nm,4.8s
TYV smax smax
comp=E,400nm,4.8s
TYV smax smax
comp=N,22nm,1.2s
TYV smax smax
comp=E,34nm,1.2s
TYV Tymovskoe 7.61 328 eP Pn 14 15 52.7 +2.6
TYV AMB AMB 14 15 57.4
comp=E,100nm,3.0s
TYV eS Sn 14 17 14.8 0.0
SKR Severo-Kuril's 7.81 36 ePN Pn 14 15 52.7 -0.2
SKR pmax pmax
comp=Z,504nm,0.8s
SKR MLR MLR
comp=Z,900nm,16.0s
SKR Severo-Kuril's 7.81 36 eP Pn 14 15 53.7 +0.8
SKR AMB AMB 14 15 56.7
comp=Z,200nm,0.6s
SKR eS Sn 14 17 17.7 -2.1
PAU Pauzhetka 8.69 34 eP Pn 14 16 06.3 +1.4
PAU eS Sn 14 17 39.2 -2.2
TEY Ternei 8.80 277 ⇑ ePN Pn 14 15 59.9 -6.5
TEY pmax pmax
comp=E,20nm,0.9s
TEY pmax pmax
comp=Z,20nm,0.9s
JMM Marumori 9.08 225 P Pn 14 16 08.2 -2.1
OKH Okha 9.83 338 eP Pn 14 16 18.9 -1.6
OKH AMB AMB 14 16 19.8
comp=Z,160nm,0.9s
NKL Nikolayevsk 10.18 331 eP Pn 14 16 28.4 +3.2
NKL AMB AMB 14 16 30.2
comp=Z,130nm,0.6s
PEA0B Petropavlovsk- 10.31 31 Pn 14 16 27.6 +0.5
PEA0B Petropavlovsk- 10.31 31 i PN Pn 14 16 27.4 +0.3
PETK Petropavlovsk- 10.31 31 Pn 14 16 27.1 0.0
PETK Petropavlovsk- 10.31 31 P Pn 14 16 27.3 +0.2
comp=Z,10nm,0.5s,baz=220,slow=14,SNR=78
PETK LR LR 14 20 21.4
comp=Z,388nm,20.6s,baz=211,slow=37
JSD Sado 10.34 235 P Pn 14 16 26.8 -0.8
GRNR Gornyy 10.48 311 ⇓ iPN Pn 14 16 33.6 +4.1
GRNR pmax pmax
comp=Z,30nm,0.7s
GRNR MLR MLR
comp=E,270nm,21.0s
GRNR MLR MLR
comp=N,120nm,15.0s
GRNR MLR MLR
comp=Z,260nm,17.0s
GRNR Gornyy 10.48 311 eP Pn 14 16 33.6 +4.1
PET Petropavlovsk 10.61 34 Pn 14 16 29.7 -1.5
PET Petropavlovsk 10.61 34 P Pn 14 16 30.0 -1.2
PET Petropavlovsk 10.61 34 ePN Pn 14 16 29.9 -1.2
PET pmax pmax
comp=Z,8.0nm,0.5s
PET MLR MLR
comp=Z,300nm,17.0s
PET MLR MLR
comp=Z,300nm,18.0s
PET Petropavlovsk 10.61 34 eP Pn 14 16 31.1 -0.1
PET Petropavlovsk 10.61 34 P Pn 14 16 28.7 -2.5
comp=Z,16nm,0.7s
MAJO Matsushiro 11.43 229 Pn 14 16 41.3 -1.3
MAJO Matsushiro 11.43 229 P Pn 14 16 42.0 -0.5
MAJO Matsushiro 11.43 229 i PN Pn 14 16 40.8 -1.7
MJAR Matsushiro Arr 11.43 229 Pn 14 16 42.2 -0.3
MJAR Matsushiro Arr 11.43 229 P Pn 14 16 41.0 -1.5
comp=Z,10.0nm,0.6s,baz=30,slow=14,SNR=19
MJAR S Sn 14 18 49.7 +1.0
comp=Z,3.1nm,0.5s,baz=76,slow=14,SNR=1.3
MJAR Matsushiro Arr 11.43 229 PN Pn 14 16 42.2 -0.3
USA0B Ussuriysk Arra 12.15 274 Pn Pn 14 16 52.6 +0.4
USA0B Ussuriysk Arra 12.15 274 i PN Pn 14 16 52.9 +0.7
USRK Ussuriysk Ar. 12.15 274 P Pn 14 16 53.7 +1.4
comp=Z,18nm,0.6s,baz=80,slow=14,SNR=22
USRK LR LR 14 21 42.9
comp=Z,393nm,18.9s,baz=105,slow=38
JGF Kuroka 12.59 229 Pn 14 16 58.1 -0.3
JGF Kuroka 12.59 229 P Pn 14 16 58.3 -0.1
KLR Kul'dur 12.66 298 P Pn 14 17 01.6 +2.4
comp=Z,8.9nm,0.8s,baz=113,slow=17,SNR=61
KLR LR LR 14 22 12.3
comp=Z,452nm,18.7s,baz=108,slow=39
KLR PcP PcP 14 22 33.9 +0.7
comp=Z,1.9nm,0.5s,baz=178,slow=1.7,SNR=5.4
KLR Kul'dur 12.66 298 i PN Pn 14 17 00.3 +1.2
KLR pmax pmax
comp=Z,26nm,0.9s
KLR MLR MLR
comp=Z,450nm,19.0s
KLR Kul'dur 12.66 298 eP Pn 14 17 00.3 +1.2
INU Inuyama 12.96 229 Pn 14 17 03.5 +0.1
INU Inuyama 12.96 229 P Pn 14 17 04.1 +0.7
MSHR Mys Shultsa 13.06 268 i PN Pn 14 17 04.5 -0.2
MSHR pmax pmax
comp=Z,21nm,1.0s
PSTR Posyet 13.29 268 i PN Pn 14 17 07.9 0.0
PSTR Posyet 13.29 268 eP Pn 14 17 07.9 0.0
MDJ Mudanjiang 13.80 277 Pn 14 17 15.2 +0.4
MA2 Magadan 15.09 4 Pn 14 17 32.0 +0.3
MA2 Magadan 15.09 4 P Pn 14 17 32.1 +0.5
comp=Z,12nm,0.5s,baz=176,slow=11,SNR=13
MA2 LR LR 14 22 51.1
comp=Z,179nm,21.7s,baz=180,slow=35
MA2 Magadan 15.09 4 P Pn 14 17 32.5 +0.9
MA2 Magadan 15.09 4 P Pn 14 17 29.8 -1.8
comp=Z,22nm,0.6s
BNX BinXian 15.25 282 ⇑ P Pn 14 17 32.4 -1.5
BNX S Sn 14 20 20.7 -0.8
BNX pmax pmax
comp=Z,11nm,0.6s
BNX pmax pmax
comp=Z,350nm,3.9s
BNX LR LR
comp=Z,420nm,19.5s
BNX LR LR
comp=Z,360nm,22.2s
BNX LR LR
comp=Z,430nm,21.4s
HEH HeiHe 15.63 299 eP Pn 14 17 39.6 +0.8
HEH pmax pmax
comp=Z,22nm,0.8s
HEH LR LR
comp=Z,180nm,14.4s
HEH LR LR
comp=Z,450nm,16.7s
HEH LR LR
comp=Z,550nm,16.8s
ZEA Zeya 16.85 311 eP P 14 17 56.9 +1.3
ZEA e 14 21 05.6
ZEA pmax pmax
comp=E,10.0nm,1.5s
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA MLR MLR
comp=E,100nm,18.0s
ZEA MLR MLR
comp=Z,200nm,12.0s
ZEA Zeya 16.85 311 eP Pn 14 17 53.0 -1.1
CN2 Changchun 16.87 276 eP Pn 14 17 54.1 -0.3
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KSRS Korea Array 17.36 253 P Pn 14 17 58.9 -1.7
comp=Z,11nm,0.7s,baz=62,slow=11,SNR=18
KSAR Wonju Array Be 17.39 253 P Pn 14 17 59.3 -1.6
KSAR Wonju Array Be 17.39 253 P Pn 14 17 59.3 -1.6
JNU Nakatsue 18.08 237 P Pn 14 18 10.2 +0.7
comp=Z,20nm,0.7s,baz=78,slow=8.0,SNR=9.9
JNU LR LR 14 26 01.8
comp=Z,174nm,18.8s,baz=28,slow=40
JNU Nakatsue 18.08 237 P Pn 14 18 10.2 +0.7
INCN Inchon 18.23 255 P P 14 18 10.3 -0.6
INCN Inchon 18.23 255 P P 14 18 10.3 -0.6
INCN pmax pmax
comp=Z,37nm,1.1s
TJN Taejon 18.31 251 Pn 14 18 12.3 +0.2
TJN IAmb IAmb 14 18 14.3
comp=Z,118nm,0.8s
TJN Taejon 18.31 251 i P Pn 14 18 12.5 +0.4
SEY Seymchan 18.52 5 P P 14 18 12.7 -1.2
comp=Z,13nm,0.6s,baz=184,slow=9.9,SNR=35
SEY LR LR 14 25 58.6
comp=Z,163nm,18.9s,baz=194,slow=39
SEY Seymchan 18.52 5 i P P 14 18 13.1 -0.8
SEY pmax pmax
comp=Z,31nm,1.1s
YAK Yakutsk 20.81 334 P 14 18 37.2 -1.5
YAK IAmb IAmb 14 18 45.3
comp=Z,44nm,0.8s
YAK Yakutsk 20.81 334 P P 14 18 37.3 -1.5
comp=Z,23nm,0.6s,baz=106,slow=4.1,SNR=6.0
YAK S S 14 22 20.3 -7.5
comp=Z,6.4nm,0.5s,baz=136,slow=20,SNR=6.7
YAK LR LR 14 27 06.5
comp=Z,277nm,18.9s,baz=133,slow=38
comp=Z,23nm,0.6s
YAK Yakutsk 20.81 334 eP P 14 18 36.0 -2.7
YAK e 14 18 52.0
YAK eS S 14 22 22.3 -5.5
YAK eSS Sn 14 22 39.8 +4.4
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK smax smax
comp=N,81nm,2.0s
YAK smax smax
comp=E,29nm,1.9s
YAK MLR MLR
comp=N,243nm,19.0s
YAK MLR MLR
comp=E,87nm,16.0s
DL2 Dalian 21.11 264 P P 14 18 41.2 -1.0
DL2 S S 14 22 32.7 -1.4
DL2 pmax pmax
comp=E,50nm,0.7s
DL2 pmax pmax
comp=E,200nm,7.9s
DL2 LR LR
comp=E,350nm,15.4s
DL2 LR LR
comp=E,460nm,15.7s
DL2 LR LR
comp=E,220nm,10.0s
XLT XiLinHaoTe 23.48 280 eP P 14 19 05.6 -1.5
XLT S S 14 23 16.8 -0.1
XLT pmax pmax
comp=E,23nm,0.6s
XLT LR LR
comp=E,21nm,14.1s
XLT LR LR
comp=E,180nm,10.6s
XLT LR LR
comp=E,220nm,20.1s
BJT Baijiatuan 24.58 271 P P 14 19 16.6 -0.4
BJT Baijiatuan 24.58 271 P P 14 19 16.6 -0.4
BJT pmax pmax
comp=Z,18nm,0.8s
BILL Bilibino 25.23 15 ce P P 14 19 22.5 -0.2
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL MLR MLR
comp=Z,200nm,18.0s
BILL Bilibino 25.23 15 eP P 14 19 22.5 -0.2
ATKA Atka Island 25.42 59 P P 14 19 24.1 -0.4
ATKA IAmb IAmb 14 19 28.2
comp=Z,43nm,1.1s
ATKA Atka Island 25.42 59 P P 14 19 24.6 0.0
TIA Tai'an 25.51 262 P P 14 19 26.9 +1.3
TIA pmax pmax
comp=Z,65nm,0.6s
BTO Baotou 28.75 276 eP P 14 19 54.0 -0.7
BTO pP pP 14 20 03.3 -4.5
BTO sP sP 14 20 10.2 -3.6
BTO PP PnPn 14 20 47.6 +0.3
BTO S S 14 24 42.1 +1.6
BTO pmax pmax
comp=Z,31nm,0.5s
BTO pmax pmax
comp=Z,230nm,4.7s
BTO LR LR
comp=Z,400nm,8.0s
BTO LR LR
comp=Z,480nm,10.6s
BTO LR LR
comp=Z,520nm,18.5s
TIXI Tiksi 28.85 347 LR LR 14 32 09.8
comp=Z,93nm,18.2s,baz=181,slow=38
H11N2 WAKE ISLAND Hy 28.91 143 T T 14 50 44.5
baz=333,slow=76,SNR=6277
H11N1 WAKE ISLAND Hy 28.93 143 T T 14 50 42.2
baz=333,slow=76,SNR=2815
ULN Ulaanbaatar 28.93 292 P 14 19 56.2 0.0
ULN Ulaanbaatar 28.93 292 ce P 14 19 56.4 +0.1
ULN pmax pmax
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 28.93 292 eP P 14 19 56.3 0.0
H11N3 WAKE ISLAND Hy 28.93 143 T T 14 50 50.3
baz=333,slow=76,SNR=4105
SONM Songino Array 29.37 292 P P 14 20 00.1 0.0
SONM Songino Array 29.37 292 P P 14 20 00.9 +0.7
comp=Z,5.8nm,0.6s,baz=83,slow=8.8,SNR=22
SONM PcP PcP 14 23 05.0 -0.1
comp=Z,2.2nm,0.7s,baz=98,slow=2.9,SNR=4.9
SONM LR LR 14 32 45.0
comp=Z,272nm,19.0s,baz=82,slow=38
comp=Z,5.8nm,0.6s
LYN LuoYang 29.64 263 P P 14 20 05.6 +3.1
LYN pmax pmax
comp=Z,29nm,0.8s
H11S1 WAKE ISLAND Hy 29.92 145 T T 14 52 01.8
baz=334,slow=76,SNR=3677
H11S3 WAKE ISLAND Hy 29.92 145 T T 14 51 58.8
baz=334,slow=76,SNR=2012
H11S2 WAKE ISLAND Hy 29.93 145 T T 14 51 58.9
baz=334,slow=76,SNR=2471
YULB Yu-li 30.92 236 P P 14 20 14.9 +1.0
YULB IAmb IAmb 14 20 46.7
comp=Z,54nm,1.5s
YULB Yu-li 30.92 236 P P 14 20 15.4 +1.4
GUMO Guam 31.06 188 LR LR 14 30 16.3
comp=Z,78nm,21.7s,baz=358,slow=31
TPUB Ta-pu 31.39 237 P P 14 20 18.6 +0.6
TNA Tin City 31.47 33 P P 14 20 18.0 -0.3
baz=249
K13K Kusilvak Mount 31.87 40 P P 14 20 22.2 +0.4
K13K Kusilvak Mount 31.87 40 P P 14 20 22.1 +0.2
baz=259
F14K Arctic Creek 32.07 34 P P 14 20 23.5 -0.1
baz=251
ANM Nome 32.18 35 P P 14 20 24.0 -0.6
baz=254
M13K Dall Lake 32.24 43 P P 14 20 25.3 +0.2
baz=262
J14K Nanvaranak Lak 32.53 39 P P 14 20 27.8 +0.1
baz=259
L14K Kuka Creek 32.69 42 P P 14 20 29.3 +0.3
L14K IAmb IAmb 14 20 30.9
comp=Z,10nm,0.8s
L14K Kuka Creek 32.69 42 P P 14 20 29.8 +0.7
baz=262
F15K North Star Dit 32.80 34 P P 14 20 30.5 +0.4
baz=253
G15K Niukluk 32.85 35 P P 14 20 30.6 +0.1
baz=255
M14K Bethel 32.96 43 P 14 20 31.8 +0.4
M14K IAmb IAmb 14 20 33.1
comp=Z,15nm,0.7s
M14K Bethel 32.96 43 P P 14 20 31.9 +0.4
baz=263,SNR=7.7
N14K Kuskokwak Cree 33.01 45 P P 14 20 32.3 +0.4
baz=265
O14K Tigyukauivet M 33.17 46 P P 14 20 33.8 +0.5
baz=266
L15K Ungalak Mounta 33.31 41 P P 14 20 34.5 0.0
baz=262,SNR=5.3
K15K Wolf Creek Mou 33.38 40 P P 14 20 35.0 -0.1
baz=261

C16K	**Lisburne Hills**	33.40	29	P		P	14 20 34.6	-0.6
	baz=248							
H16K	**Elim**	33.51	36	P		P	14 20 35.6	-0.5
	baz=257							
M15K	**Kasigluk River**	33.58	43	P		P	14 20 37.1	+0.3
	baz=264,SNR=11							
G16K	**Koyuk River**	33.64	35	P		P	14 20 37.1	-0.2
	baz=256							
N15K	**Kwethluk River**	33.83	44			P	14 20 39.8	+0.8
N15K					IAmb	IAmb	14 20 41.3	
	comp=Z,14nm,0.9s							
N15K	**Kwethluk River**	33.83	44	P		P	14 20 38.9	-0.1
	baz=266,SNR=7.2							
O15K	**Ungalikthiuk R**	33.91	46	P		P	14 20 40.0	+0.3
	baz=268							
J16K	**Anvik River**	33.95	39	P		P	14 20 40.7	+0.6
	baz=261							
D17K	**Noatak River**	34.01	30	P		P	14 20 40.6	+0.1
	baz=252,SNR=10							
S14K	**Fog Glacier**	34.05	51	P		P	14 20 40.3	-0.8
	baz=272							
CHNA	**Chernabura Isl**	34.10	54	P		P	14 20 40.1	-1.3
	baz=274							
C17K	**DeLong Mountai**	34.23	29	P		P	14 20 42.3	-0.1
	baz=250,SNR=8.2							
L16K	**Owhat River**	34.27	42	P		P	14 20 43.1	+0.3
	baz=264,SNR=15							
E17K	**Hotham Inlet**	34.29	32	P		P	14 20 43.0	+0.1
	baz=254							
F17K	**Baldwin Pennin**	34.34	33	P		P	14 20 43.9	+0.6
	baz=256							
G17K	**Kiwalik Mounta**	34.36	35	P		P	14 20 44.0	+0.5
	baz=258,SNR=9.7							
M16K	**Timber Creek**	34.45	43			P	14 20 44.6	+0.2
M16K					IAmb	IAmb	14 20 46.0	
	comp=Z,16nm,0.9s							
M16K	**Timber Creek**	34.45	43	P		P	14 20 45.0	+0.6
	baz=266,SNR=12							
N16K	**Nishlik Lake**	34.51	44	P		P	14 20 45.6	+0.7
	baz=267,SNR=15							
H17K	**Granite Mounta**	34.55	36	P		P	14 20 45.7	+0.5
	baz=259							
J17K	**VABM Dome**	34.65	39			P	14 20 46.8	+0.7
J17K					IAmb	IAmb	14 20 48.0	
	comp=Z,17nm,1.2s							
J17K	**VABM Dome**	34.65	39	P		P	14 20 46.9	+0.8
	baz=262,SNR=12							
O16K	**Kokwok River B**	34.81	45			P	14 20 47.9	+0.4
O16K	**Kokwok River B**	34.81	45	P		P	14 20 47.8	+0.4
	baz=268							
E18K	**Tukpahlearik C**	34.84	31	P		P	14 20 48.4	+0.8
	baz=255							
P16K	**Nushagak River**	34.85	46	P		P	14 20 48.5	+0.6
	baz=269							
L17K	**Donlin**	34.86	41	P		P	14 20 48.9	+1.0
	baz=265,SNR=13							
K17K	**Iditarod**	34.92	40	P		P	14 20 49.2	+0.8
K17K					IAmb	IAmb	14 20 50.3	
	comp=Z,16nm,0.9s							
K17K	**Iditarod**	34.92	40	P		P	14 20 49.3	+0.9
	baz=264							
C18K	**Utukok River**	34.97	29	P		P	14 20 48.4	-0.5
C18K					IAmb	IAmb	14 20 50.5	
	comp=Z,14nm,0.7s							
C18K	**Utukok River**	34.97	29	P		P	14 20 48.5	-0.4
	baz=252,SNR=9.8							
B18K	**Kokolik River**	34.99	28	P		P	14 20 48.3	-0.6
	baz=251							
F18K	**Selawik**	35.00	33	P		P	14 20 49.3	+0.3
	baz=257							
LZH	**Lanzhou**	35.04	272	*e*P		P	14 20 51.1	+1.1
LZH				pP		pP	14 21 00.4	-2.8
LZH				sP		sP	14 21 04.6	-4.6
LZH				pmax		pmax		
	comp=Z,81nm,1.3s							
M17K	**Holitna River**	35.21	42	P		P	14 20 51.8	+0.9
	baz=266,SNR=23							
H18K	**Honhosa River**	35.23	36	P		P	14 20 51.5	+0.4
	baz=260							
G18K	**Tagagawik**	35.25	34	P		P	14 20 51.7	+0.5
	baz=259,SNR=21							
N17K	**Nushagak Hills**	35.29	44	P		P	14 20 52.4	+0.8
	baz=268,SNR=6.7							
O17K	**Koliganek Bris**	35.32	45	P		P	14 20 52.7	+0.8
	baz=269,SNR=7.7							
A19K	**Wainwright**	35.51	27	P		P	14 20 53.6	+0.2
	baz=250							
L18K	**Granite Mounta**	35.62	41	P		P	14 20 55.6	+1.2
	baz=266,SNR=15							
P17K	**Kvichak River**	35.65	46	P		P	14 20 55.0	+0.3
	baz=270							
C19K	**Lookout Ridge**	35.66	29	P		P	14 20 54.7	-0.1
	baz=254,SNR=11							
J18K	**Innoko River**	35.72	39	P		P	14 20 55.6	+0.3
	baz=264,SNR=14							
R17L	**Mt. Peulik Vol**	35.74	49	P		P	14 20 55.9	+0.4
	baz=273							
F19K	**Shaleruckik Mo**	35.78	33	P		P	14 20 55.5	-0.2
	baz=259,SNR=14							
GCSA	**Galena City Sc**	35.79	36	P		P	14 20 55.6	-0.2
	baz=262,SNR=6.7							
G19K	**Purcell Mounta**	35.92	34	P		P	14 20 57.0	0.0
	baz=260,SNR=8.9							
N18K	**Kilae Creek**	35.94	43	P		P	14 20 58.2	+1.0
	baz=269,SNR=12							
Q17K	**Contact Creek**	35.96	48	P		P	14 20 56.9	-0.6
	baz=272							
M18K	**Stony River**	35.99	42	P		P	14 20 58.5	+0.9
	baz=268,SNR=8.2							
D19K	**Kuna River**	36.02	30	P		P	14 20 57.5	-0.4
D19K	**Kuna River**	36.02	30	P		P	14 20 57.8	0.0
	baz=256							
H19K	**Roundabout Mou**	36.08	35			P	14 20 58.9	+0.6
H19K	**Roundabout Mou**	36.08	35	P		P	14 20 58.9	+0.6
	baz=262,SNR=56							
E19K	**Redstone River**	36.11	32	P		P	14 20 59.0	+0.4
	baz=258							
J19K	**Poorman**	36.25	38			P	14 20 59.9	+0.2
J19K					IAmb	IAmb	14 21 01.1	
	comp=Z,15nm,0.8s							
J19K	**Poorman**	36.25	38	P		P	14 21 00.0	+0.2
	baz=265,SNR=20							
P18K	**Big Mountain,**	36.27	46	P		P	14 21 00.1	+0.1
	baz=271							
O18K	**Koktuh Hills**	36.27	45	P		P	14 21 00.5	+0.4
	baz=271							
CHIR	**Chirikof Islan**	36.28	52	P		P	14 21 00.1	0.0
CHIR	**Chirikof Islan**	36.28	52	P		P	14 20 59.6	-0.5
	baz=276							
Q18K	**Katmai Hardscr**	36.41	47	P		P	14 21 01.2	-0.2
	baz=272							
GTA	**Gaotai**	36.44	279	P		P	14 21 03.0	+1.1
GTA				sP		sP	14 21 19.4	-1.7
GTA				PcP		PcP	14 23 26.0	+1.0
GTA				S		S	14 26 41.6	+1.6
GTA				pmax		pmax		
	comp=Z,55nm,0.7s							
GTA				LR		LR		
	comp=Z,120nm,14.5s							
GTA				LR		LR		
	comp=Z,130nm,16.0s							
GTA				LR		LR		
	comp=Z,130nm,13.5s							
L19K	**White Mountain**	36.48	41	P		P	14 21 02.5	+0.7
	baz=268,SNR=5.4							
D20K	**Etivluk River**	36.61	30	P		P	14 21 03.0	+0.2
	baz=257							
F20K	**Avaraart Lake**	36.61	33	P		P	14 21 03.0	+0.2
	baz=260,SNR=6.4							
N19K	**Bonanza Creek**	36.63	43	P		P	14 21 03.9	+0.7
	baz=270,SNR=7.1							
E20K	**Nigu River**	36.66	31	P		P	14 21 03.5	+0.2
	baz=258							
M19K	**Big River Lodg**	36.69	41	P		P	14 21 03.9	+0.4
M19K	**Big River Lodg**	36.69	41	P		P	14 21 04.3	+0.8
	baz=269,SNR=5.9							
O19K	**Port Alsworth**	36.71	44	P		P	14 21 04.4	+0.6
	baz=271							
H20K	**Anotleneega Mo**	36.73	35	P		P	14 21 04.3	+0.5
	baz=263,SNR=26							
B20K	**Meade River**	36.73	28	P		P	14 21 04.3	+0.5
	baz=255							
R18K	**Karluk**	36.77	49	P		P	14 21 03.7	-0.5
	baz=274							
I20K	**Naaghedeneel**	36.82	37	P		P	14 21 04.3	-0.3
	baz=265							
K20K	**Telida**	36.89	39	P		P	14 21 06.0	+0.7
	baz=267							
J20K	**Nowinta River**	36.91	38			P	14 21 05.6	+0.1
J20K					IAmb	IAmb	14 21 07.0	
	comp=Z,16nm,0.8s							
J20K	**Nowinta River**	36.91	38	P		P	14 21 06.1	+0.7
	baz=266,SNR=23							
L20K	**Farewell, AK**	36.94	40	P		P	14 21 06.4	+0.6
	baz=268,SNR=8.5							
SII	**Sitkinak Islan**	37.00	50	P		P	14 21 06.7	+0.4
SII	**Sitkinak Islan**	37.00	50	P		P	14 21 06.8	+0.4
	baz=276							
Q19K	**Cape Douglas,**	37.10	46	P		P	14 21 07.5	+0.4
	baz=273							
IMAR	**Indian Mountai**	37.25	35	P		P	14 21 09.0	+0.8
A21K	**Barrow**	37.26	26	P		P	14 21 08.1	-0.2
	baz=254							
P19K	**Oil Pt**	37.28	45	P		P	14 21 09.1	+0.4
	baz=273							
M20K	**Styx River**	37.28	42	P		P	14 21 09.7	+1.0
	baz=270,SNR=12							
C21K	**Knifeblade Rid**	37.35	29	P		P	14 21 09.5	+0.4
	baz=259,SNR=17							
G21K	**Allakaket**	37.41	34	P		P	14 21 09.5	-0.1
G21K					IAmb	IAmb	14 21 30.2	
	comp=Z,16nm,0.8s							
G21K	**Allakaket**	37.41	34	P		P	14 21 10.1	+0.5
	baz=263							
B21K	**Ikpikpuk River**	37.50	29	P		P	14 21 10.4	0.0
	baz=258,SNR=42							
F21K	**Alatna River**	37.50	33	P		P	14 21 10.6	+0.2
	baz=262,SNR=6.9							
E21K	**Killik River**	37.50	31	P		P	14 21 10.6	+0.1
	baz=260							
O20K	**Slope Mountain**	37.56	44	P		P	14 21 11.1	+0.1
	baz=273							
H21K	**Melozitna Rive**	37.60	35	P		P	14 21 11.4	+0.1
H21K					IAmb	IAmb	14 21 12.8	
	comp=Z,14nm,0.9s							
H21K	**Melozitna Rive**	37.60	35	P		P	14 21 11.7	+0.5
	baz=265,SNR=24							
A22K	**Sinclair Lake**	37.69	26	P		P	14 21 12.3	+0.4
	baz=256							
CHUM	**Lake Minchumin**	37.70	38	P		P	14 21 13.1	+1.1
	baz=268							
PPLA	**Purkeypile**	37.73	40	P		P	14 21 12.5	0.0
	baz=269,SNR=5.7							
SPCR	**Spurr Chakacha**	37.73	43	P		P	14 21 13.3	+0.8
	baz=271							
KDAK	**Kodiak Island**	37.75	48			P	14 21 12.0	-0.5
KDAK					IAmb	IAmb	14 21 13.3	
	comp=Z,16nm,0.8s							
KDAK	**Kodiak Island**	37.75	48	*i* P		P	14 21 12.1	-0.5
KDAK				pmax		pmax		
	comp=Z,20nm,0.9s							
KDAK	**Kodiak Island**	37.75	48	P		P	14 21 12.0	-0.5
	baz=276							
KDAK	**Kodiak Island**	37.75	48	P		P	14 21 12.0	-0.5
KDAK				sP		sP	14 21 34.6	+3.5
KDAK				PcP		PcP	14 23 28.7	+0.3
Q20K	**Shuyak Island**	37.77	47	P		P	14 21 12.3	-0.5
	baz=275							
CAST	**Castle Rocks**	37.79	39	P		P	14 21 13.7	+0.8
	baz=269,SNR=26							
SKT	**Skwentna**	38.04	41	P		P	14 21 15.5	+0.5
	baz=271							
F22K	**John River**	38.04	32	P		P	14 21 15.5	+0.6
	baz=263							
D22K	**Ayyak River**	38.04	30	P		P	14 21 15.3	+0.4
	baz=261,SNR=12							
B22K	**Teshekpuk Lake**	38.05	28	P		P	14 21 15.2	+0.2
	baz=258							
H22K	**Ishtalitna Cre**	38.21	35	P		P	14 21 17.0	+0.6
	baz=266,SNR=18							
G22K	**Bettles**	38.24	33	P		P	14 21 16.8	+0.2
	baz=265							
E22K	**Anaktuvuk Pass**	38.25	31	P		P	14 21 17.2	+0.4
	baz=263,SNR=29							
CAPN	**Captain Cook N**	38.26	43	P		P	14 21 17.4	+0.6
	baz=273							
BPAW	**Bear Paw Mtn.**	38.29	38	P		P	14 21 17.5	+0.3
	baz=269,SNR=14							
MLY	**Manley**	38.43	36	P		P	14 21 19.0	+0.7
	baz=268,SNR=15							
SUA	**Susitna One**	38.43	42	P		P	14 21 18.4	0.0
	baz=272							
TRF	**Thorofare Moun**	38.60	39	P		P	14 21 20.1	+0.2
	baz=270,SNR=5.9							
CUT	**Chulitna**	38.62	41	P		P	14 21 20.3	+0.4
	baz=272							
M22K	**Willow**	38.71	42	P		P	14 21 20.9	+0.3
	baz=272							
D23K	**Nanushuk River**	38.77	30	P		P	14 21 21.5	+0.5
	baz=263							
COLD	**Coldfoot**	38.77	33	P		P	14 21 21.3	+0.2
	baz=266,SNR=14							
G23K	**Bananza Creek**	38.81	34	P		P	14 21 21.7	+0.3
	baz=266,SNR=14							
C23K	**Itkillik River**	38.91	29	P		P	14 21 22.3	+0.1
	baz=262,SNR=19							
RC01	**Rabbit Creek A**	38.93	43	P		P	14 21 23.3	+0.8
	baz=274							
H23K	**Yukon River**	38.96	35	P		P	14 21 23.5	+0.8
	baz=268,SNR=27							
O22K	**Cooper Landing**	38.98	44	P		P	14 21 23.4	+0.5
	baz=274							
I23K	**Minto, Yukon-K**	39.02	36	P		P	14 21 23.8	+0.7
	baz=269,SNR=10							
E23K	**Chandalar**	39.06	32	P		P	14 21 24.1	+0.5
	baz=265,SNR=20							
NEA2	**Nenana**	39.13	37	P		P	14 21 24.7	+0.6
	baz=270							
TOLK	**Toolik Lake Re**	39.13	31	P		P	14 21 24.5	+0.3
	baz=264,SNR=13							
SEW	**Seward**	39.15	44	P		P	14 21 24.5	+0.2
	baz=275							
NRIK	**Noril'sk**	39.18	330	LR		LR	14 38 34.7	
	comp=Z,139nm,20.7s,baz=96,slow=38							
NRIK	**Noril'sk**	39.18	330	*i* P		P	14 21 22.9	-1.6
NRIK				pmax		pmax		
	comp=Z,2.0nm,0.9s							
PMR	**Palmer**	39.19	42	P		P	14 21 25.4	+0.8
	baz=274							
MCK	**McKinley**	39.20	38	P		P	14 21 24.9	+0.2
	baz=271,SNR=6.2							
RND	**Reindeer**	39.24	39	P		P	14 21 25.2	0.0
RND	**Reindeer**	39.24	39	P		P	14 21 25.2	0.0
RND				pmax		pmax		
	comp=Z,10.0nm,0.8s							
GHO	**Glory Hole Cre**	39.28	42	P		P	14 21 25.2	-0.3
GHO					IAmb	IAmb	14 21 45.9	
	comp=Z,16nm,0.8s							
WAT1	**Susitna Watana**	39.40	40	P		P	14 21 25.8	-0.6
	baz=272							
D24K	**Happy Valley**	39.45	30	P		P	14 21 26.8	0.0
	baz=264,SNR=17							
E24K	**Your Creek**	39.49	32	P		P	14 21 27.5	+0.4
	baz=266,SNR=32							
KNK	**Knik Glacier**	39.53	42	P		P	14 21 27.4	-0.1
	baz=274							
C24K	**Franklin Bluff**	39.55	29	P		P	14 21 27.7	+0.2
	baz=264,SNR=18							
PWL	**Port Wells**	39.63	43	P		P	14 21 28.0	-0.4
	baz=275,SNR=7.5							
H24K	**Noodor Dome**	39.64	35	P		P	14 21 29.3	+0.9
	baz=270,SNR=10							
COLA	**College**	39.66	37	*i* P		P	14 21 29.1	+0.7
COLA				pmax		pmax		
	comp=Z,17nm,0.8s							
COLA	**College**	39.66	37	P		P	14 21 29.0	+0.7
	baz=271							
COLA	**College**	39.66	37	P		P	14 21 29.1	+0.7
COLA				pP		pP	14 21 41.7	+0.1
F24K	**Squaw Lake**	39.69	33	P		P	14 21 29.1	+0.3
	baz=267,SNR=10							
WAT6	**Susitna Watana**	39.79	40	P		P	14 21 29.5	-0.3
	baz=274							
G24K	**Hadweenzic Riv**	39.82	34	P		P	14 21 31.0	+1.2
	baz=269,SNR=28							
M23K	**Glacier View**	39.85	41	P		P	14 21 31.0	+0.8
	baz=274							
DHY	**Denali Highway**	39.92	39	P		P	14 21 30.8	-0.1
	baz=273,SNR=9.6							
SCM	**Sheep Creek Mo**	40.03	41	P		P	14 21 30.8	-0.9
SCM					IAmb	IAmb	14 21 45.5	
	comp=Z,14nm,0.9s							
SCM	**Sheep Creek Mo**	40.03	41	P		P	14 21 30.8	-0.9
SCM				pmax		pmax		
	comp=Z,14nm,0.9s							
SCM	**Sheep Creek Mo**	40.03	41	P		P	14 21 31.9	+0.2
	baz=275,SNR=7.9							
HDA	**Harding Lake**	40.05	37	P		P	14 21 31.7	-0.1
	baz=272,SNR=12							
ILAR	**Eielson Array**	40.07	37	P		P	14 21 31.9	0.0
	comp=Z,5.0nm,0.7s,baz=267,slow=8.3,SNR=51							
ILAR				PcP		PcP	14 23 34.3	-1.3
	comp=Z,0.7nm,0.6s,baz=278,slow=3.6,SNR=2.0							
ILAR				LR		LR	14 38 40.2	
	comp=Z,55nm,19.2s,baz=223,slow=37							
	comp=Z,5.0nm,0.7s							
P23K	**Montague Islan**	40.18	44	P		P	14 21 33.1	+0.2
	baz=277							
GLI	**Glacier Island**	40.23	43	P		P	14 21 33.1	-0.3
	baz=276							
D25K	**Kavik River**	40.34	30	P		P	14 21 34.2	0.0
	baz=267,SNR=31							
G25K	**Bearman Lake**	40.37	34	P		P	14 21 35.3	+1.0
	baz=270,SNR=11							
H25L	**Birch Creek**	40.48	34	P		P	14 21 36.3	+1.0
	baz=271,SNR=11							
F25K	**Christian Rive**	40.55	32	P		P	14 21 36.8	+0.9
	baz=269,SNR=11							
M24K	**Tolsona, Glenn**	40.55	41	P		P	14 21 36.8	+0.8
	baz=275							
E25K	**Arctic Village**	40.59	32	P		P	14 21 37.0	+0.9
	baz=269,SNR=11							
K24K	**Donnelly Dome**	40.60	38	P		P	14 21 36.1	-0.2
	baz=274,SNR=12							
PRP	**Porcupine Dome**	40.62	36	P		P	14 21 37.3	+0.7
	baz=272,SNR=18							
J25K	**Salcha River,**	40.73	37	P		P	14 21 36.4	-1.0
	baz=273,SNR=10							
KLU	**Klutina**	40.73	42	P		P	14 21 37.9	+0.4
	baz=276,SNR=13							
Q23K	**Middleton Isla**	40.79	45	P		P	14 21 37.7	-0.2
	baz=278							
PAX	**Paxson**	40.80	40	P		P	14 21 38.5	+0.4
	baz=275,SNR=7.1							
C26K	**Camden Bay**	40.88	29	P		P	14 21 38.9	+0.4
	baz=267							
EYAK	**Cordova Ski Ar**	40.93	43	P		P	14 21 39.4	+0.3
	baz=278							
HARP	**HAARP**	41.00	40	P		P	14 21 40.3	+0.7
	baz=276							
RIDG	**Independent Ri**	41.02	38	P		P	14 21 39.8	0.0
	baz=275,SNR=10							
F26K	**Sheenjek River**	41.12	32	P		P	14 21 41.7	+1.1
	baz=271,SNR=14							
G26K	**Porcupine Rive**	41.28	33	P		P	14 21 43.1	+1.3
	baz=272,SNR=20							
C27K	**Jago River**	41.29	29	P		P	14 21 42.6	+0.7
	baz=269,SNR=7.4							
N25K	**Chitina, Valde**	41.35	42	P		P	14 21 43.1	+0.5
	baz=277							
SCRK	**Sand Creek**	41.38	38	P		P	14 21 42.5	-0.4
	baz=275,SNR=27							
GOMU	**GeErMu**	41.42	278	P		P	14 21 44.6	+0.8
GOMU				pmax		pmax		
	comp=Z,26nm,0.9s							
GOMU				LR		LR		
	comp=Z,190nm,18.4s							
GOMU				LR		LR		
	comp=Z,180nm,18.4s							
GOMU				LR		LR		
	comp=Z,230nm,18.2s							
BMRM	**Bremner River**	41.43	43	P		P	14 21 43.9	+0.7
	baz=278,SNR=9.7							
J26L	**Joseph Creek**	41.51	37	P		P	14 21 43.8	-0.1
	baz=275,SNR=12							
ZALV	**Zalesovo Beam**	41.55	307	P		P	14 21 45.1	+0.8
	comp=Z,0.9nm,0.3s,baz=82,slow=6.4,SNR=5.4							
ZALV				PcP		PcP	14 23 40.8	+0.2
	comp=Z,9.4nm,0.6s,baz=73,slow=2.9,SNR=22							
ZALV				LR		LR	14 39 51.4	
	comp=Z,150nm,20.1s,baz=81,slow=37							
	comp=Z,0.9nm,0.3s							
I26K	**Coal Creek Min**	41.62	36	P		P	14 21 45.1	+0.5
	baz=274							
KAIM	**Kayak Island**	41.68	44	P		P	14 21 46.4	+1.2
	baz=279							
L26K	**Log Cabin Wild**	41.76	39	P		P	14 21 46.8	+1.0
	baz=277							
PZH	**PanZhiHua**	41.80	261	P		P	14 21 47.8	+1.1
PZH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,100nm,4.8s							
KMI	**Kunming**	41.95	258	P		P	14 21 48.8	+0.7
KMI				pP		pP	14 22 02.6	+1.3
KMI				pmax		pmax		
	comp=Z,16nm,1.3s							
KMI				LR		LR		
	comp=Z,200nm,17.6s							
M26K	**Nabesna, AK**	42.00	40	P		P	14 21 49.0	+1.2
	baz=278,SNR=24							
E27K	**Coleen River**	42.07	31	P		P	14 21 49.3	+0.9
	baz=272,SNR=5.1							
G27K	**Doyon Strip**	42.12	34	P		P	14 21 49.7	+0.9
	baz=274							
MCARA	**McCarthy VSAT**	42.13	42	P		P	14 21 50.0	+1.2
	baz=279							
CRQE	**Cirque**	42.20	43	P		P	14 21 50.6	+1.0
	baz=279,SNR=10							
K27K	**Chicken**	42.21	38	P		P	14 21 49.9	+0.4
K27K					IAmb	IAmb	14 21 51.2	
	comp=Z,28nm,1.1s							
K27K	**Chicken**	42.21	38	P		P	14 21 50.2	+0.8
	baz=277							
H27K	**Steamboat Moun**	42.22	34	P		P	14 21 50.9	+1.2
	baz=275,SNR=15							
I27K	**Kandik River**	42.24	35	P		P	14 21 50.7	+0.9
	baz=275							
D27M	**Malcolm River**	42.26	30	P		P	14 21 50.6	+0.6
	baz=272							
L27K	**Beaver Creek,**	42.44	39	P		P	14 21 52.7	+1.3
	baz=278,SNR=44							
M27K	**Edge Creek, AK**	42.52	40	P		P	14 21 53.4	+1.2
	baz=279,SNR=19							
DAV	**Davao City (W)**	42.54	216	LR		LR	14 37 12.5	
	comp=Z,12nm,22.0s,baz=30,slow=32							
F28M	**Old Crow**	42.76	32	P		P	14 21 55.1	+1.2
	baz=275							
E28M	**Babbage River**	42.81	31	P		P	14 21 55.1	+0.8
	baz=274							
MESA	**MESA**	42.85	43	P		P	14 21 56.0	+1.0
	baz=281							
I28M	**Miner Creek**	42.95	35	P		P	14 21 56.5	+0.8
	baz=277,SNR=34							
BVCY	**Beaver Creek**	42.98	40	P		P	14 21 56.7	+0.9
	baz=279							
CTG	**Chitna Glacier**	43.00	42	P		P	14 21 57.0	+0.8
	baz=281,SNR=6.8							
YUK3	**Moose Creek**	43.27	41	P		P	14 21 58.9	+0.6
	baz=280,SNR=11							
DAWY	**Dawson**	43.37	37	P		P	14 21 59.7	+0.8
	baz=279,SNR=6.5							
E29M	**Blow River**	43.43	31	P		P	14 22 00.5	+1.2
	baz=276,SNR=8.4							
H29M	**Whitestone**	43.49	34	P		P	14 22 01.1	+1.3
	baz=278,SNR=10							
G29M	**Pine Creek**	43.55	33	P		P	14 22 01.6	+1.3
	baz=277,SNR=13							
O28M	**Mount Upton**	43.59	42	P		P	14 22 01.6	+0.6
	baz=282,SNR=7.8							
I29M	**Ogilvie Camp,**	43.64

YUK6 **Outpost Mounta** 44.43 42 P P 14 22 08.5 +0.8
baz=283
I30M **Mount Dempster** 44.46 35 P P 14 22 08.6 +0.9
baz=280,SNR=52
O29M **Mount Kennedy** 44.47 43 P P 14 22 09.5 +1.6
baz=283
J30M **Hart River** 44.60 36 P P 14 22 09.6 +0.8
baz=281,SNR=14
M30M **Minto, Yukon** 44.80 39 P P 14 22 11.6 +1.2
baz=282,SNR=9.4
HYT **Haines Junctio** 44.87 42 P P 14 22 12.7 +1.6
baz=284,SNR=38
N30M **Aishikik Lake** 44.91 41 P P 14 22 12.2 +0.8
baz=283
G31M **Satah River** 45.01 33 P P 14 22 12.5 +0.6
baz=280,SNR=13
P29M **Windy Craggy** 45.05 43 P P 14 22 14.0 +1.6
baz=285,SNR=19
INK **Inuvik** 45.05 31 P P 14 22 12.7 +0.5
baz=280,SNR=5.8
F31M **Tsiigehtchic** 45.12 32 P P 14 22 13.3 +0.6
baz=280,SNR=8.6
H31M **Peel River** 45.19 34 P P 14 22 14.3 +0.9
baz=281,SNR=19
P30M **Million Dollar** 45.30 43 P P 14 22 16.1 +1.7
baz=285,SNR=24
MK31 **Makanchi Array** 45.36 298 *ce*P P 14 22 15.0 -0.1
MKAR **Makanchi Array** 45.36 298 P P 14 22 14.8 -0.2
comp=Z,4.9nm,0.7s,baz=75,slow=8.6,SNR=48
MKAR PcP **PcP** 14 23 54.0 +0.3
comp=Z,5.0nm,0.6s,baz=82,slow=2.7,SNR=8.3
MKAR LR LR 14 42 29.5
comp=Z,334nm,18.5s,baz=56,slow=38
comp=Z,4.9nm,0.7s
N31M **Braeburn, Yuko** 45.52 41 P P 14 22 17.8 +1.7
baz=284,SNR=13
O30N **Mendenhall** 45.55 42 P P 14 22 17.7 +1.3
baz=285,SNR=5.4
MAKZ **Makanchi** 45.56 298 P P 14 22 16.8 +0.2
MAKZ PcP **PcP** 14 23 54.1 -0.3
PLBC **Pleasant Camp** 45.77 43 P P 14 22 19.6 +1.6
baz=286,SNR=11
M31M **Drury Creek, Y** 45.98 39 P P 14 22 20.7 +1.1
baz=285,SNR=13
WHY **Whitehorse** 46.16 42 P P 14 22 22.4 +1.2
baz=286,SNR=8.0
KURK **Kurchatov** 46.16 304 P 14 22 20.8 -0.4
KURK IAmb IAmb 14 23 57.0
comp=Z,7.6nm,0.6s
KURK **Kurchatov** 46.16 304 *ce*P P 14 22 21.2 0.0
KURK pmax pmax
comp=Z,4.0nm,0.5s
KURK **Kurchatov** 46.16 304 *e*P P 14 22 21.2 0.0
KURBB **Kurchatov Arra** 46.24 304 P P 14 22 21.6 -0.2
comp=Z,2.7nm,0.4s,baz=71,slow=8.8,SNR=8.6
KURBB PcP **PcP** 14 23 56.6 -0.1
comp=Z,5.7nm,0.5s,baz=76,slow=3.4,SNR=13
comp=Z,2.7nm,0.4s
S31K **Pelican** 46.26 45 P P 14 22 23.2 +1.3
baz=287
SKAG **Skagway** 46.27 43 P P 14 22 23.4 +1.4
baz=287
FARO **Faro, Yukon** 46.44 39 P P 14 22 23.9 +0.5
FARO **Faro, Yukon** 46.44 39 P P 14 22 24.3 +1.0
baz=286,SNR=12
N32M **Quiet Lake** 46.86 41 P P 14 22 27.4 +0.8
baz=287
SIT **Sitka** 47.01 46 P P 14 22 29.5 +1.8
baz=289
P32M **Atlin** 47.02 43 P 14 22 28.7 +0.8
P32M **Atlin** 47.02 43 P P 14 22 29.0 +1.1
baz=288
R32K **Eaglecrest** 47.03 45 P P 14 22 29.2 +1.2
R32K **Eaglecrest** 47.03 45 P P 14 22 29.5 +1.6
baz=288,SNR=7.2
A36M **Sachs Harbour** 47.09 25 P P 14 22 29.0 +0.8
baz=283,SNR=23
SMPI **Sarmi** 47.23 194 P P 14 22 30.8 +0.9
comp=Z,2µmcomp=Z,34nm,1.1s
S32K **Killisnoo** 47.26 46 P P 14 22 31.1 +1.4
baz=289
P33M **Teslin, Yukon** 47.27 42 P P 14 22 31.2 +1.4
baz=288,SNR=15
MMPY **Sheldon Lake,** 47.27 38 P P 14 22 31.2 +1.4
baz=287,SNR=11
JAY **Jayapura** 47.44 191 P P 14 22 32.5 +0.9
comp=Z,12nm,0.8s,baz=358,slow=5.9,SNR=8.7
JAY LR LR 14 40 45.9
comp=Z,40nm,21.2s,baz=20,slow=34
comp=Z,12nm,0.8s
JAY **Jayapura** 47.44 191 P P 14 22 32.3 +0.7
comp=Z,19nm,1.1s
Q32M **Nakina River** 47.93 43 P P 14 22 36.7 +1.5
baz=289
R33M **Jennings River** 48.41 42 P P 14 22 40.5 +1.7
baz=290,SNR=13
U33K **Whale Pass** 48.47 47 P P 14 22 40.9 +1.8
baz=291
CRAG **Craig** 48.70 48 P P 14 22 42.7 +1.8
baz=292
CHTO **Chiang Mai** 48.75 255 P P 14 22 42.2 +0.5
CHTO IAmb IAmb 14 22 43.3
comp=Z,14nm,1.1s
CHTO **Chiang Mai** 48.75 255 P P 14 22 42.2 +0.5
CHTO pmax pmax
comp=Z,15nm,1.2s
CHTO **Chiang Mai** 48.75 255 P P 14 22 41.8 0.0
CHTO pP **pP** 14 22 55.2 +0.1
WRAK **Wrangell Islan** 48.77 46 P P 14 22 43.1 +1.7
baz=291
S34M **Telegraph Cree** 48.85 44 P P 14 22 44.0 +2.0
baz=291
TGTN **Hyland Airport** 48.95 39 P P 14 22 44.1 +1.3
baz=290
CMAR **Chiang Mai Arr** 48.99 255 P P 14 22 44.4 +0.8
comp=Z,2.6nm,0.5s,baz=42,slow=7.1,SNR=17
CMAR PcP **PcP** 14 24 07.9 +0.9
comp=Z,0.9nm,0.7s,baz=20,slow=1.5,SNR=5.1
CMAR LR LR 14 45 18.3
comp=Z,124nm,19.2s,baz=50,slow=38
comp=Z,2.6nm,0.5s
DLBC **Dease Lake** 49.20 43 LR LR 14 45 50.9
comp=Z,4.9nm,18.2s,baz=289,slow=39
DLBC **Dease Lake** 49.20 43 P P 14 22 46.5 +1.7
baz=291,SNR=8.0
V35K **Ketchikan** 49.56 48 P P 14 22 49.3 +1.9
baz=293
T35M **Bob Quinn** 49.63 45 P P 14 22 50.0 +1.9
baz=292,SNR=7.1
BVAR **Borovoye Array** 50.00 309 P P 14 22 51.0 +0.2
comp=Z,0.9nm,0.3s,baz=59,slow=8.6,SNR=8.0
BVAR PcP **PcP** 14 24 10.4 +0.3
comp=Z,3.8nm,0.6s,baz=72,slow=4.7,SNR=5.7
BVAR LR LR 14 45 41.9
comp=Z,171nm,18.4s,baz=68,slow=38
comp=Z,0.9nm,0.3s
MRSI **Marisa** 50.01 216 P P 14 22 52.2 +0.9
comp=Z,594nmcomp=Z,53nm,1.2s
BRVK **Borovoye** 50.04 309 P P 14 22 51.1 -0.1
BRVK **Borovoye** 50.04 309 *ce*P P 14 22 50.6 -0.5
BRVK pmax pmax
comp=Z,4.0nm,1.7s
BRVK **Borovoye** 50.04 309 *e*P P 14 22 50.6 -0.5
WRGLY **Wrigley** 50.43 36 P P 14 22 55.5 +1.6
baz=292
SANI **Sanana** 50.73 210 P P 14 22 57.0 +0.3
BOOM **Boomskoye usch** 51.31 295 P P 14 23 01.7 +0.6
BOOM IAmb IAmb 14 23 03.0
comp=Z,26nm,1.2s
BOOM **Boomskoye usch** 51.31 295 P P 14 23 01.7 +0.6
BOOM pmax pmax
comp=Z,26nm,1.2s
TOAD **Toad River Com** 51.36 42 P P 14 23 02.4 +1.4
baz=294,SNR=10
APSI **Ampana** 51.38 216 P P 14 23 02.1 +0.5
comp=Z,49nm,1.2s
KOTAN **Kotaneelee Air** 51.39 40 P P 14 23 02.6 +1.5
baz=294
AAK **Ala-Archa** 52.18 296 LR LR 14 47 17.3
comp=Z,75nm,19.7s,baz=66,slow=38
AAK **Ala-Archa** 52.18 296 *ce*P P 14 23 06.9 -0.6
AAK pmax pmax
comp=Z,4.0nm,0.7s
AAK **Ala-Archa** 52.18 296 *e*P P 14 23 06.9 -0.6
BBB **Bella Bella** 52.76 50 LR LR 14 45 49.2
comp=Z,47nm,19.3s,baz=234,slow=36
KSH **Kashi** 52.77 292 P P 14 23 16.2 +4.3
KSH sP sP 14 23 32.3 +0.7
KSH pmax pmax
comp=Z,10.0nm,0.8s
SBUM **Sibu** 52.98 228 P P 14 23 13.7 +0.2
ARSB **Arslanbob** 53.81 295 P P 14 23 20.3 +0.7
ARSB **Arslanbob** 53.81 295 P P 14 23 20.3 +0.7
ARSB pmax pmax
comp=Z,18nm,0.7s
RES **Resolute Bay** 53.82 17 P 14 23 17.9 -1.0
RES IAmb IAmb 14 23 19.5
comp=Z,22nm,0.9s
RES **Resolute Bay** 53.82 17 LR LR 14 49 48.9
comp=Z,92nm,19.0s,baz=290,slow=40
RES **Resolute Bay** 53.82 17 P P 14 23 17.9 -1.0
RES pmax pmax
comp=Z,21nm,1.0s
SPITS **Spitsbergen Ar** 54.24 349 PcP PcP 14 24 25.7 0.0
comp=Z,0.8nm,0.4s,baz=73,slow=6.3,SNR=4.2
SPITS LR LR 14 46 17.4
comp=Z,38nm,21.5s,baz=38,slow=36
YKA **Yellowknife Ar** 54.41 35 P P 14 23 23.3 0.0
YKA **Yellowknife Ar** 54.41 35 P P 14 23 23.8 +0.4
comp=Z,7.1nm,0.8s,baz=304,slow=7.5,SNR=47
YKA PcP PcP 14 24 26.6 +0.1
comp=Z,0.5nm,0.4s,baz=226,slow=3.8,SNR=4.3
comp=Z,7.1nm,0.8s
YKA **Yellowknife Ar** 54.41 35 *i* P P 14 23 23.7 +0.4
YKA pmax pmax
comp=Z,6.0nm,0.7s
YKAW1 **Yellowknife Wh** 54.46 35 P 14 23 24.1 +0.4
YKAW1 IAmb IAmb 14 23 25.1
comp=Z,7.1nm,0.7s
KKAR **Karatay Array** 54.48 298 P 14 23 24.2 -0.1
KKAR **Karatay Array** 54.48 298 P P 14 23 24.2 -0.1
ARTI **Arti** 54.75 317 P P 14 23 25.5 -0.4
ARTI **Arti** 54.75 317 LR LR 14 49 18.7
comp=Z,191nm,18.1s,baz=40,slow=39
ARTI **Arti** 54.75 317 *c i* P P 14 23 25.7 -0.3
ARTI *PP pP 14 23 39.5 -0.4
ARTI 14 25 25.6
ARTI S S 14 31 04.9 +2.4
ARTI SS SS 14 34 49.6 +4.2
ARTI pmax pmax
comp=Z,3.0nm,0.6s
KSM **Kuching** 54.83 230 P 14 23 27.6 +0.6
KSM IAmb IAmb 14 23 29.2
comp=Z,23nm,1.2s
BTK **Batken** 55.87 295 P P 14 23 34.1 -0.3
BTK IAmb IAmb 14 23 35.6
comp=Z,16nm,1.1s
BTK **Batken** 55.87 295 P P 14 23 34.1 -0.3
BTK pmax pmax
comp=Z,16nm,1.2s
GAR **Garm** 56.77 294 P 14 23 40.9 0.0
LLLB **Lillooet** 56.94 49 P 14 23 42.2 +0.4
LLLB IAmb IAmb 14 23 43.3
comp=Z,20nm,1.3s
KULM **Kulim** 57.48 242 P P 14 23 46.7 +0.8
NEEM **North Greenlan** 57.64 5 *i* P P 14 23 44.6 -2.0
NEEM IAmb IAmb 14 23 47.0
comp=Z,16nm,0.9s
KIRV **Kirov** 57.75 322 LR LR 14 50 20.4
comp=Z,148nm,21.1s,baz=65,slow=38
NIL **Nilore** 57.80 287 P P 14 23 48.0 -0.1
NIL **Nilore** 57.80 287 P P 14 23 48.0 -0.1
NIL pmax pmax
comp=Z,30nm,0.9s
AKTO **Aktyubinsk** 57.99 311 LR LR 14 50 40.0
comp=Z,93nm,19.4s,baz=92,slow=38
COEN **Coen** 58.47 187 P 14 23 53.3 +0.6
ARCES **ARCESS Array B** 58.94 340 P P 14 23 55.3 -0.2
comp=Z,0.6nm,0.4s,baz=47,slow=8.0,SNR=8.5
ARCES PcP **PcP** 14 24 44.1 0.0
comp=Z,1.1nm,0.4s,baz=60,slow=6.3,SNR=8.2
ARCES LR LR 14 53 10.1
comp=Z,45nm,18.4s,baz=76,slow=40
comp=Z,0.6nm,0.4s
TPI **Tanjungpandan** 59.80 230 P P 14 24 02.7 +0.7
comp=Z,29nm,0.9s
KBL **Kabul** 60.13 290 P 14 24 03.6 -0.8
KBL **Kabul** 60.13 290 P P 14 24 03.7 -0.8
KBL pmax pmax
comp=Z,18nm,0.7s
KLMR **Klimovskoe** 60.45 328 *e*P P 14 24 03.3 -2.6
KLMR *e*PP **pP** 14 24 20.2 +0.3
KLMR pmax pmax
comp=Z,7.0nm,1.7s
KLMR MLR MLR 14 27 05.7
comp=Z,146nm,20.0s
PSI **Prapat** 60.48 242 LR LR 14 51 35.1
comp=Z,64nm,18.2s,baz=48,slow=37
SRBI **Singaraja** 60.59 219 P P 14 24 08.2 +0.8
comp=Z,44nm,1.1s
NEW **Newport** 60.82 50 LR LR 14 51 19.2
comp=Z,52nm,18.8s,baz=296,slow=37
SUMG **Summit** 63.06 2 P P 14 24 23.5 -0.3
SUMG IAmb IAmb 14 24 26.1
comp=Z,12nm,0.9s
SUMG **Summit** 63.06 2 P P 14 24 23.5 -0.3
SUMG pmax pmax
comp=Z,13nm,0.9s
SUMG **Summit** 63.06 2 *i* P P 14 24 22.6 -1.1
SUMG IAmb IAmb 14 24 25.8
comp=Z,15nm,1.0s
HYB **Hyderabad** 64.09 269 *e*P P 14 24 30.6 -0.4
FFC **Flin Flon** 64.28 37 P P 14 24 32.1 +0.5
FFC sP **sP** 14 24 54.2 +3.2
FINES **FINESS Array B** 64.74 333 P P 14 24 34.4 -0.1
comp=Z,3.1nm,0.6s,baz=50,slow=4.9,SNR=15
FINES LR LR 14 54 39.2
comp=Z,77nm,21.7s,baz=44,slow=38
comp=Z,3.1nm,0.6s
FINES **FINESS Array B** 64.74 333 *i* P P 14 24 34.2 -0.3
FINES pmax pmax
comp=Z,2.0nm,0.5s
OBN **Obninsk** 65.43 324 *ce*P P 14 24 39.4 +0.4
OBN *i* *PP **pP** 14 24 54.1 +0.9
OBN *i* *SP **sP** 14 25 01.4 +2.4
OBN *i* 14 25 11.2
OBN *i* 14 27 05.7
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN MLR MLR
comp=Z,123nm,18.0s
OBN **Obninsk** 65.43 324 *e*P P 14 24 39.4 +0.4
WRAB **Tennant Creek** 65.55 195 P P 14 24 39.8 -0.4
WRAB IAmb IAmb 14 24 40.8
comp=Z,21nm,0.9s
WRAB **Tennant Creek** 65.55 195 *i* P P 14 24 40.4 +0.2
WRAB pmax pmax
comp=Z,24nm,0.9s
WRA **Warramunga Arr** 65.56 195 P P 14 24 39.2 -1.0
WRA **Warramunga Arr** 65.56 195 P P 14 24 40.2 0.0
comp=Z,19nm,0.9s,baz=15,slow=6.8,SNR=34
comp=Z,19nm,0.9s
ILULI **Ilulissat** 65.58 8 *i* P P 14 24 45.2 +5.4
ILULI IAmb IAmb 14 24 49.1
comp=Z,16nm,0.6s
VRH **Novokhopyorsk** 65.78 319 *e*P P 14 24 39.4 -2.0
VRH pmax pmax
comp=Z,10.0nm,0.9s
RYN **Ryan** 65.79 59 P P 14 24 42.2 +0.3
RYN IAmb IAmb 14 24 43.5
comp=Z,8.9nm,0.9s
FITZ **Fitzroy Crossi** 65.88 204 P P 14 24 42.6 +0.3
FITZ **Fitzroy Crossi** 65.88 204 P P 14 24 42.7 +0.3
comp=Z,16nm,0.9s,baz=56,slow=2.7,SNR=9.7
comp=Z,16nm,0.9s
LHV **Little Hunton** 66.04 59 P P 14 24 44.2 +0.9
NVAR **Mina Array Bea** 66.05 59 P P 14 24 44.4 +0.7
comp=Z,5.5nm,0.5s,baz=296,slow=6.9,SNR=47
comp=Z,5.5nm,0.5s
YHH **Holmes Hill** 66.37 50 P P 14 24 45.8 +0.1
ELK **Elko** 66.44 56 LR LR 14 54 37.1
comp=Z,36nm,18.0s,baz=315,slow=37
VSU **Vasula** 66.77 331 *ce*P P 14 24 47.5 -0.1
VSU pmax pmax
comp=Z,35nm,2.5s
VSR **Storozhevoye** 66.96 320 *e*P P 14 24 47.6 -1.3
VSR pmax pmax
comp=Z,10.0nm,0.9s
FXWY **Fox Creek** 67.01 51 P P 14 24 50.1 +0.3
FXWY IAmb IAmb 14 24 52.0
comp=Z,20nm,1.3s
VORD **Divnogorie** 67.07 320 *e*P P 14 24 48.1 -1.5
VORD pmax pmax
comp=Z,10.0nm,1.0s
SFJD **Kangerlussuaq** 67.78 8 LR LR 14 57 02.7
comp=Z,44nm,18.5s,baz=346,slow=38
DZM **Mont Dzumac** 68.20 163 *e*S S 14 33 39.9 -14
comp=Z,64nm,22.4s
DZM **Mont Dzumac** 68.20 163 *e*LR LR 14 45 23.1
comp=Z,81nm,22.3s
PDAR **Pinedale Array** 68.40 51 P P 14 24 58.8 +0.3
comp=Z,4.5nm,0.6s,baz=300,slow=2.9,SNR=19
PDAR LR LR 14 55 44.1
comp=Z,10nm,20.2s,baz=286,slow=37
comp=Z,4.5nm,0.6s
AKT **Akhty** 69.10 308 *e*P P 14 25 02.1 -0.6
AKT pmax pmax
comp=Z,11nm,0.6s
AKT MLR MLR
comp=Z,120nm,15.0s
NC405 **NORSAR Array S** 69.12 339 P P 14 25 01.6 -0.8
NC405 IAmb IAmb 14 25 03.4
comp=Z,9.4nm,0.7s
AS31 **Alice Springs** 69.27 195 P P 14 25 04.3 +0.7
ASAR **Alice Springs** 69.27 195 P P 14 25 03.6 -0.1
ASAR **Alice Springs** 69.27 195 P P 14 25 03.9 +0.2
comp=Z,14nm,1.0s,baz=11,slow=5.4,SNR=22
comp=Z,14nm,1.0s
NB2 **NORSAR Subarra** 69.31 340 P P 14 25 02.9 -0.7
comp=Z,3.4nm,0.6s,baz=31,slow=6.5
NOA **NORSAR Array B** 69.31 340 P P 14 25 02.6 -1.0
comp=Z,2.0nm,0.5s,baz=32,slow=6.6,SNR=31
NOA LR LR 14 58 51.3
comp=Z,27nm,19.8s,baz=30,slow=39
comp=Z,2.0nm,0.5s
MNK **Minsk** 69.34 328 *i* P P 14 25 02.4 -1.4
MNK *i* *PP **pP** 14 25 17.1 -1.0
MNK *i* 14 27 35.8
MNK *i* PPP PPP 14 29 17.1
MNK *i* S S 14 34 06.1 -0.3
MNK *i* SS SS 14 38 35.7 +2.7
MNK pmax pmax
comp=N,10.0nm,0.7s
MNK MLR MLR
comp=Z,161nm,19.0s
MNK MLR MLR
comp=E,1µm,21.0s
MNK MLR MLR
comp=N,706nm,21.0s
HFS **Hagfors** 69.44 338 P P 14 25 02.7 -1.6
comp=N,5.5nm,0.5s,baz=44,slow=4.7,SNR=34
HFS LR LR 14 57 55.0
comp=N,51nm,21.7s,baz=36,slow=38
comp=N,5.5nm,0.5s
EIDS **Eidsvold** 69.61 178 P P 14 25 06.6 +1.0
EIDS IAmb IAmb 14 25 09.1
comp=Z,10nm,0.9s
CCUT **Cedar City** 69.61 57 P P 14 25 06.5 +0.4
ULM **Lac du Bonnet** 70.07 38 P P 14 25 08.1 -0.3
comp=Z,11nm,0.5s,baz=313,slow=6.6,SNR=18
comp=Z,11nm,0.5s
KVAR **Kislovodsk Arr** 70.18 313 LR LR 15 00 52.8
comp=Z,126nm,18.1s,baz=283,slow=40
KIV **Kislovodsk** 70.19 313 P P 14 25 10.4 +1.1
KBZ **Khabaz** 70.23 312 P P 14 25 10.2 +0.8
comp=Z,9.6nm,0.8s,baz=58,slow=3.8,SNR=18
KBZ LR LR 15 00 43.0
comp=Z,188nm,19.0s,baz=38,slow=40
comp=Z,9.6nm,0.8s
KBZ **Khabaz** 70.23 312 *e*P P 14 25 10.1 +0.7
PFO **Pinyon Flats O** 70.27 62 LR LR 14 52 27.9
comp=Z,32nm,21.0s,baz=274,slow=33
SHA1 **Shidzhatmaz** 70.35 312 *i* P P 14 25 10.9 +0.4
NUUK **Nuuk** 70.39 9 *i* P P 14 25 10.9 +0.9
NUUK IAmb IAmb 14 25 18.9
comp=Z,115nm,1.7s
RSSD **Black Hills** 70.46 47 P P 14 25 11.3 +0.1
MBWA **Marble Bar** 70.64 209 P P 14 25 11.8 -0.3
MBWA IAmb IAmb 14 25 13.1
comp=Z,26nm,1.2s
MBWA **Marble Bar** 70.64 209 P P 14 25 12.3 +0.3
GNI **Garni** 71.67 308 LR LR 15 00 05.2
comp=Z,50nm,18.6s,baz=46,slow=39
AK03 **Malin Array Si** 71.67 324 P P 14 25 17.8 -0.3
AKASG **Malin Array Be** 71.69 324 P P 14 25 17.8 -0.4
AKASG **Malin Array Be** 71.69 324 P P 14 25 17.6 -0.6
comp=Z,1.6nm,0.3s,baz=39,slow=5.9,SNR=34
AKASG LR LR 14 59 40.4
comp=Z,98nm,18.8s,baz=44,slow=38
comp=Z,1.6nm,0.3s
AKASG **Malin Array Be** 71.69 324 *i* P P 14 25 17.8 -0.4
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKBB **Malin Array Si** 71.69 324 P P 14 25 17.7 -0.4
AKBB IAmb IAmb 14 25 19.0
comp=Z,14nm,0.9s
AKBB **Malin Array Si** 71.69 324 *ce*P P 14 25 18.2 0.0
AKBB pmax pmax
comp=Z,14nm,0.9s
AKBB **Malin Array Si** 71.69 324 P P 14 25 18.0 -0.2
AK04 **Malin Array Si** 71.70 324 P P 14 25 17.5 -0.7
KIEV **Kiev** 71.70 324 P P 14 25 17.6 -0.6
KIEV IAmb IAmb 14 25 19.0
comp=Z,12nm,0.9s
KIEV **Kiev** 71.70 324 ⇑P P 14 25 18.2 0.0
KIEV **Kiev** 71.70 324 ⇑P P 14 25 18.2 0.0
KIEV **Kiev** 71.70 324 P P 14 25 17.7 -0.5
comp=Z,62nm,1.0s
AK01 **Malin Array Si** 71.70 324 P P 14 25 17.4 -0.8
AK05 **Malin Array Si** 71.76 324 P P 14 25 18.1 -0.5
MI28 **Mi28,Pidlybu** 72.15 325 P P 14 25 20.8 -0.1
RNPP9 **Sopachiv** 72.49 327 P P 14 25 22.8 -0.2
LUBAR **Lubar, Ukraine** 72.89 325 P P 14 25 24.7 -0.7
S22A **4UR Ranch, Cre** 73.32 53 P P 14 25 29.1 +0.6
IVI **Ivigtut** 73.68 9 *i* P P 14 25 30.2 +0.5
X18A **Snowflake** 73.69 58 P P 14 25 30.8 +0.3
K30B **Basset** 73.77 46 P P 14 25 30.8 +0.1
SDCO **Great Sand Dun** 74.08 53 P P 14 25 32.8 -0.1
SDCO IAmb IAmb 14 25 34.5
comp=Z,20nm,1.9s
NDNU **Novodnistrovsk** 74.08 324 P P 14 25 32.0 -0.4
KMPD **K-Podol'skiy** 74.48 324 P P 14 25 33.2 -1.5
BIGH **Upper Bighouse** 74.88 346 *e*P P 14 25 36.3 -0.5
KWP **Kalwaria Pacla** 75.15 327 *e*P P 14 25 39.1 +0.5
KWP **Kalwaria Pacla** 75.15 327 P P 14 25 39.2 +0.6
comp=Z,34nm,1.1s
STNU **Starunia** 75.17 326 P P 14 25 38.2 -0.5
KSV **Kosov** 75.25 325 P P 14 25 37.9 -1.3
ANMO **Albuquerque** 75.48 55 P P 14 25 41.2 +0.3
ANMO **Albuquerque** 75.48 55 LR LR 15 01 31.9
comp=Z,21nm,18.0s,baz=40,slow=38
ANMO **Albuquerque** 75.48 55 *ce*P P 14 25 40.8 -0.2
ANMO pmax pmax
comp=Z,4.0nm,0.9s
DUN6 **Lazy B Ranch** 75.56 59 P P 14 25 42.0 +0.6
BURAR **Bucovina Array** 75.75 325 ⇓P P 14 25 42.5 +0.3
BURAR **Bucovina Array** 75.75 325 ⇓P P 14 25 42.5 +0.3
OJC **Ojcow** 75.77 329 *e*P P 14 25 42.4 +0.3
OJC **Ojcow** 75.77 329 P P 14 25 41.9 -0.2
comp=Z,18nm,1.0s
I37A **Lemond, Waseca** 75.83 41 P P 14 25 42.1 -0.5
RAKU **Rahkiv** 75.85 325 P P 14 25 41.9 -0.7
KOLS **Kolonicke sedl** 75.88 327 *e*P P 14 25 42.9 +0.1
KOLS pmax pmax
comp=Z,12nm,1.3s
KOLS **Kolonicke sedl** 75.88 327 *e*P P 14 25 42.9 +0.1
STHS **Stebnicka Huta** 75.88 328 *e*P P 14 25 43.0 +0.2
STHS pmax pmax
comp=Z,9.0nm,0.9s
STHS **Stebnicka Huta** 75.88 328 *e*P P 14 25 43.0 +0.2
TESR **Tescani** 76.01 323 ⇑P P 14 25 43.6 +0.1
TESR **Tescani** 76.01 323 P P 14 25 43.0 -0.5
comp=Z,19nm,1.1s
NIE **Niedzica** 76.24 328 *e*P P 14 25 45.6 +0.8
NIE **Niedzica** 76.24 328 P P 14 25 45.1 +0.3
comp=Z,6.9nm,1.1s
ONER **Baraj Valea Uz** 76.26 323 ⇑P P 14 25 45.6 +0.7
KPL **Plockton** 76.28 346 *e*P P 14 25 44.5 -0.3
KPL IAmb IAmb 14 25 45.4
comp=Z,19nm,0.6s
BERU **Beregovo** 76.30 326 P P 14 25 45.2 +0.1
STKA **Stephens Creek** 76.36 186 P P 14 25 46.3 +0.9
comp=Z,9.8nm,0.7s,baz=343,slow=7.3,SNR=13
comp=Z,9.8nm,0.7s
CFR **Carcaliu** 76.39 321 ⇑P P 14 25 45.6 -0.1
CFR **Carcaliu** 76.39 321 ⇑P P 14 25 45.6 -0.1
SCHQ **Schefferville** 76.42 20 P P 14 25 45.7 0.0

comp=Z,5.6nm,0.7s,baz=340,slow=7.6,SNR=5.9
SCHQ LR LR 15 05 00.8
comp=Z,50nm,18.5s,baz=305,slow=40
comp=Z,5.6nm,0.7s
VRI Vrincioaia 76.48 323 ⇑P P 14 25 45.9 -0.3
VRI Vrincioaia 76.48 323 ⇑P P 14 25 45.9 -0.3
VRI Vrincioaia 76.48 323 P **P 14 25 46.1 -0.1**
comp=Z,2μmcomp=Z,6.3nm,0.6s
KSP Ksiaz 76.49 331 *eP* **P 14 25 46.5 +0.3**
KSP Ksiaz 76.49 331 P **P 14 25 46.5 +0.3**
comp=Z,12nm,1.0s
TPGR Topolog 76.52 321 ⇓P P 14 25 46.9 +0.4
STEB Steborice 76.74 330 *eP* **P 14 25 48.1 +0.5**
OSTC Ostas 76.76 331 AMS AMS 15 03 50.0
comp=Z,100nm,18.9s
LANS Liptovska Anna 76.77 329 *eP* **P 14 25 49.0 +1.2**
LANS pmax pmax
comp=Z,9.0nm,1.2s
LANS Liptovska Anna 76.77 329 eP P 14 25 49.0 +1.2
HARR Harsova 76.87 321 ⇑P P 14 25 48.6 +0.2
HARR Harsova 76.87 321 P **P 14 25 48.6 +0.2**
UPC Upice 76.87 331 *eP* **P 14 25 49.1 +0.7**
UPC AMS AMS 15 02 40.0
comp=Z,100nm,22.0s
UPC Upice 76.87 331 eP P 14 25 49.1 +0.7
UPC MLR MLR
comp=Z,100nm,22.0s
ILGA Ilgaz 76.89 315 P **P 14 25 49.9 +1.0**
ILGA IAmb IAmb 14 25 52.1
comp=Z,25nm,1.1s
DPC Dobruska-Polom 76.90 331 eP P 14 25 49.2 +0.6
DPC Dobruska-Polom 76.90 331 eP P 14 25 49.2 +0.6
DPC Dobruska-Polom 76.90 331 P **P 14 25 49.0 +0.4**
comp=Z,10.0nm,1.4s
KECS Kecovo 76.93 328 eP P 14 25 48.8 +0.1
KECS Kecovo 76.93 328 eP P 14 25 48.8 +0.1
MORC Moravsky Berou 76.95 330 eP P 14 25 48.8 -0.1
MORC Moravsky Berou 76.95 330 ⇓P P 14 25 48.6 -0.3
MORC Moravsky Berou 76.95 330 ⇓P P 14 25 48.6 -0.3
KRLC Kraliky 76.97 331 eP P 14 25 48.4 -0.6
KRLC AMS AMS 15 02 10.0
comp=Z,100nm,22.7s
KRLC Kraliky 76.97 331 eP P 14 25 48.4 -0.6
KRLC MLR MLR
comp=Z,100nm,22.7s
MLR Muntele Rosu 77.11 323 LR LR 15 02 46.9
comp=Z,102nm,18.4s,baz=76,slow=38
MLR Muntele Rosu 77.11 323 ⇓P P 14 25 50.9 +0.9
MLR Muntele Rosu 77.11 323 ⇓P P 14 25 50.9 +0.9
MLR Muntele Rosu 77.11 323 P **P 14 25 50.0 0.0**
comp=Z,9.6nm,0.8s
ISR Istrita 77.15 322 ⇓P P 14 25 50.4 +0.3
ISR Istrita 77.15 322 P **P 14 25 50.4 +0.3**
ISR Istrita 77.15 322 P **P 14 25 49.9 -0.2**
comp=Z,29nm,0.7s
CLL Collm 77.19 333 P **P 14 25 49.4 -0.7**
CLL IAmb IAmb 14 25 50.6
comp=Z,14nm,0.6s
CLL Collm 77.19 333 ⇑*iP* **P 14 25 49.8 -0.3**
CLL pmax pmax
comp=Z,14nm,0.6s
CLL Collm 77.19 333 P **P 14 25 49.9 -0.2**
comp=Z,23nm,0.8s
CLL Collm 77.19 333 ⇑*iP* **P 14 25 49.8 -0.3**
comp=Z,14nm,0.6s
I40A Norwalk 77.22 40 P **P 14 25 49.7 -0.7**
I40A IAmb IAmb 14 25 51.3
comp=Z,19nm,1.2s
BRG Berggiesshubel 77.26 333 *eP* **P 14 25 50.6 +0.1**
BRG Amp 14 25 52.0
comp=Z,3.9nm,0.8s
LAWE Loch Awe, Argy 77.26 346 *eP* **P 14 25 50.1 -0.2**
LAWE IAmb IAmb 14 25 50.8
comp=Z,8.2nm,0.7s
MARR Marisel-Cluj 77.36 325 ⇑P P 14 25 52.2 +0.9
VOIR 77.54 323 ⇓P P 14 25 53.2 +0.9
VOIR 77.54 323 ⇓P P 14 25 53.2 +0.9
VOIR 77.54 323 P **P 14 25 52.7 +0.4**
comp=Z,9.8nm,1.1s
VYHS Vyhne 77.55 329 *eP* **P 14 25 52.6 +0.4**
VYHS pmax pmax
comp=Z,7.0nm,0.8s
VYHS Vyhne 77.55 329 eP P 14 25 52.6 +0.4
JAVC Velka Javorina 77.67 329 eP P 14 25 53.8 +0.9
VRAC Vranov 77.68 330 eP P 14 25 53.1 +0.1
VRAC Vranov 77.68 330 LR LR 15 02 39.9
comp=Z,76nm,19.7s,baz=30,slow=38
VRAC Vranov 77.68 330 ⇑P P 14 25 53.0 +0.1
VRAC Vranov 77.68 330 ⇑P P 14 25 53.0 +0.1
EKA Eskdalemuir Ar 77.72 344 P **P 14 25 52.6 -0.3**
comp=Z,3.9nm,0.6s,baz=18,slow=5.4,SNR=20
comp=Z,3.9nm,0.6s
ESK Eskdalemuir 77.74 344 *eP* **P 14 25 52.8 -0.3**
ESK IAmb IAmb 14 25 53.6
comp=Z,10nm,1.1s
GOPC GO Pecny, Ondr 77.80 332 eP P 14 25 54.0 +0.5
GOPC GO Pecny, Ondr 77.80 332 eP P 14 25 54.0 +0.5
PRU Pruhonice 77.81 332 *eP* **P 14 25 53.4 -0.2**
PRU AMS AMS 15 03 30.0
comp=Z,100nm,18.7s
PRU Pruhonice 77.81 332 eP P 14 25 53.4 -0.2
PRU MLR MLR
comp=Z,100nm,18.7s
BR131 Keskin Array S 77.92 315 *iP* **P 14 25 55.0 +0.4**
BRTR Keskin Array B 77.92 315 P **P 14 25 54.2 -0.4**
BRTR Keskin Array B 77.92 315 P **P 14 25 54.9 +0.3**
comp=Z,3.1nm,0.8s,baz=67,slow=3.2,SNR=12
comp=Z,3.1nm,0.8s
BRTR Keskin Array B 77.92 315 *iP* **P 14 25 55.2 +0.6**
BRTR pmax pmax
comp=Z,2.0nm,0.4s
BR106 Keskin Array S 77.92 315 P **P 14 25 54.4 -0.2**
comp=Z,40nmcomp=Z,3.7nm,1.2s
BR104 Keskin Array S 77.93 315 P **P 14 25 54.4 -0.2**
comp=Z,49nmcomp=Z,4.2nm,1.1s
KRUC Moravsky 77.96 330 eP P 14 25 54.4 0.0
SMOL Smolenice 78.05 329 eP P 14 25 55.6 +0.6
KIRS Kirsehir-Merke 78.22 314 ⇑P P 14 25 56.5 +0.3
MODS Modra-Piesok 78.22 329 *eP* **P 14 25 55.4 -0.5**
MODS pmax pmax
comp=Z,37nm,1.3s
MODS Modra-Piesok 78.22 329 eP P 14 25 55.4 -0.5
SIRR Siria 78.28 326 ⇑P P 14 25 57.1 +0.8
SRO Srobarova 78.31 329 eP P 14 25 57.6 +1.2
SRO Srobarova 78.31 329 eP P 14 25 57.6 +1.2
ZVC Zvikov 78.40 332 *eP* **P 14 25 57.5 +0.6**
ZVC AMS AMS 15 04 00.0
comp=Z,100nm,20.8s
SURR Surduc 78.51 325 ⇑P P 14 25 57.4 -0.1
GZR Gura Zlata 78.53 325 ⇑P P 14 25 57.7 -0.1
GZR Gura Zlata 78.53 325 ⇑P P 14 25 57.7 -0.1
HPK Haverah Park 78.69 343 *eP* **P 14 25 58.6 +0.2**
HPK IAmb IAmb 14 25 59.2
comp=Z,23nm,0.7s
IDGL Inch Island, C 78.75 346 *eP* **P 14 25 58.4 -0.3**
BZS Buzias 78.83 325 ⇓P P 14 25 59.7 +0.4
BZS Buzias 78.83 325 P **P 14 25 59.7 +0.4**
KHC Kasperske Hory 78.87 332 *eP* **P 14 26 00.1 +0.5**
KHC *epP* **pP 14 26 14.1 +0.1**
KHC AMS AMS 15 04 20.0
comp=Z,100nm,19.9s
KHC Kasperske Hory 78.87 332 *eP* **P 14 26 00.1 +0.5**
KHC *e* 14 26 14.1
KHC MLR MLR
comp=Z,100nm,19.9s
KHC Kasperske Hory 78.87 332 P **P 14 26 00.0 +0.5**
comp=Z,21nm,0.7s
CKRC Cesky Krumlov 78.89 331 *eP* **P 14 25 59.6 0.0**
CKRC AMS AMS 15 05 20.0
comp=Z,100nm,16.9s
CKRC Cesky Krumlov 78.89 331 *eP* **P 14 25 59.6 0.0**
CKRC MLR MLR
comp=Z,100nm,16.9s
GERES GERESS Array B 79.08 332 P **P 14 26 00.5 -0.2**
comp=Z,2.3nm,0.5s,baz=35,slow=4.9,SNR=18
comp=Z,2.3nm,0.5s
HERR Herculane 79.10 324 ⇑P P 14 26 00.2 -0.5
CONA Conrad Observa 79.11 330 *iP* **P 14 26 01.6 +0.7**
comp=Z,9.4nm,0.9s
RONA Rosalia, Austr 79.14 330 *eP* **P 14 26 01.8 +0.7**
comp=Z,13nm,0.9s
LBWR Ladybower, Pea 79.24 343 *eP* **P 14 26 01.7 +0.4**
LBWR IAmb IAmb 14 26 02.3
comp=Z,19nm,0.9s
MORH Mrgy, Hungar 79.51 327 P **P 14 26 02.7 -0.3**

comp=Z,5.7nm,1.3s
MOA Molln 79.74 331 *eP* **P 14 26 03.4 -0.9**
comp=Z,0.3nm,0.1s
ARSA Arzberg 79.80 330 *eP* **P 14 26 04.7 +0.1**
comp=Z,2.6nm,0.6s
MEM Membach 79.90 337 *dP* **P 14 26 04.4 -0.6**
BIOA Bad Ischl, Aus 80.09 331 *iP* **P 14 26 06.5 +0.3**
comp=Z,16nm,1.3s
BCLA Clavier 80.27 337 *dP* **P 14 26 06.8 -0.2**
BGES Gesves 80.36 337 *dP* **P 14 26 07.4 -0.1**
BOVS Bovan 80.41 324 ⇑P P 14 26 07.5 -0.4
SOKA Soboth 80.47 330 *iP* **P 14 26 08.2 -0.1**
comp=Z,18nm,1.4s
BMRD Maredsous 80.52 338 *dP* **P 14 26 08.4 +0.1**
LESA Schwarzleotal 80.65 332 *iP* **P 14 26 09.5 +0.3**
comp=Z,6.0nm,0.7s
KBA Koelnbreinsper 80.72 331 *iP* **P 14 26 10.7 +1.0**
comp=Z,11nm,0.7s
DOU Dourbes 80.75 338 *dP* **P 14 26 10.2 +0.6**
MYKA Terra Mystica 81.00 331 *iP* **P 14 26 11.3 +0.2**
comp=Z,12nm,1.2s
U38A Gravette 81.09 47 P **P 14 26 10.8 -1.0**
WATA Walderalm 81.10 332 *iP* **P 14 26 11.9 +0.2**
comp=Z,20nm,1.2s
TXAR Lajitas Array 81.12 58 P **P 14 26 11.6 -0.5**
TXAR Lajitas Array 81.12 58 P **P 14 26 12.3 +0.2**
comp=Z,12nm,0.5s,baz=300,slow=4.0,SNR=230
comp=Z,12nm,0.5s
TXAR Lajitas Array 81.12 58 P **P 14 26 11.6 -0.5**
WTTA Wattaberg 81.14 332 *iP* **P 14 26 12.3 +0.3**
comp=Z,5.5nm,0.4s
RETA Reutte 81.23 333 *eP* **P 14 26 12.5 +0.1**
comp=Z,14nm,1.1s
MOTA Moosalm 81.25 333 *iP* **P 14 26 12.5 0.0**
comp=Z,22nm,1.2s
BFO Black Forest 81.26 335 P **P 14 26 12.0 -0.4**
BFO IAmb IAmb 14 26 13.0
comp=Z,19nm,1.5s
BFO Black Forest 81.26 335 P **P 14 26 12.0 -0.4**
BFO pmax pmax
comp=Z,19nm,1.5s
ABTA Abfaltersbach 81.29 331 *eP* **P 14 26 12.1 -0.6**
comp=Z,6.0nm,0.9s
SQTA Sankt Quirin 81.32 332 *eP* **P 14 26 13.0 +0.2**
comp=Z,13nm,1.1s
SADO Sadowa 81.34 32 LR LR 15 04 15.8
comp=Z,24nm,18.9s,baz=339,slow=37
FETA Feichten 81.65 333 P **P 14 26 14.4 -0.3**
comp=Z,10.0nm,1.3s
DAVA Dauels 81.70 333 *iP* **P 14 26 15.8 +0.9**
comp=Z,5.3nm,0.7s
ASF Jabal al Asfar 81.79 307 LR LR 15 06 05.8
comp=Z,76nm,18.1s,baz=64,slow=38
MMAI Mount Meron Ar 82.00 309 P **P 14 26 17.5 +0.9**
comp=Z,5.5nm,0.6s,baz=15,slow=3.5,SNR=8.7
MMAI LR LR 15 08 59.9
comp=Z,69nm,18.4s,baz=17,slow=40
comp=Z,5.5nm,0.6s
DAVOX Davos/Dischmat 82.14 333 LR LR 15 06 06.6
comp=Z,34nm,18.7s,baz=84,slow=38
PDG Podgorica 82.42 325 ⇑P P 14 26 18.3 -0.2
N49A Columbus Grove 82.46 38 P **P 14 26 18.1 -0.7**
N49A IAmb IAmb 14 26 19.4
comp=Z,14nm,0.8s
O48B Farmland 82.57 39 P **P 14 26 19.1 -0.3**
O48B IAmb IAmb 14 26 19.8
comp=Z,25nm,1.1s
WBO Williamsburg 82.57 30 P **P 14 26 18.2 -1.1**
WBO IAmb IAmb 14 26 19.3
comp=Z,13nm,0.9s
JCT Junction City 82.57 54 P **P 14 26 19.2 -0.4**
JCT IAmb IAmb 14 26 20.0
comp=Z,10nm,0.6s
JCT Junction City 82.57 54 P **P 14 26 19.2 -0.4**
JCT pmax pmax
comp=Z,10.0nm,0.6s
FCAR Ozark Folk Cen 82.69 46 P **P 14 26 19.2 -0.8**
FCAR IAmb IAmb 14 26 19.9
comp=Z,12nm,0.6s
SIUC Southern Illin 82.71 43 P **P 14 26 19.9 -0.2**
RAYN Ar Rayn 82.83 296 P **P 14 26 20.8 -0.3**
RAYN Ar Rayn 82.83 296 P **P 14 26 20.8 -0.3**
RAYN pmax pmax
comp=Z,9.0nm,1.2s
TAOE Nuku Hiva Isla 82.86 110 *eLR* LR 14 52 28.7
comp=Z,152nm,25.8s
PPT2 Papeete2 83.36 122 *eLR* LR 14 52 35.8
comp=Z,129nm,26.8s
PPT2 *eLR* LR 14 52 37.7
comp=Z,133nm,28.5s
N53A Lisbon 83.98 36 P **P 14 26 26.5 -0.2**
O52A Adamsville 84.14 37 P **P 14 26 27.1 -0.4**
O52A IAmb IAmb 14 26 28.1
comp=Z,16nm,1.0s
T47A Sharon Grove 84.31 42 P **P 14 26 28.5 +0.1**
LBNH Lisbon 84.40 28 P **P 14 26 29.3 +0.6**
LBNH IAmb IAmb 14 26 29.8
comp=Z,8.6nm,0.7s
LBNH Lisbon 84.40 28 P **P 14 26 29.3 +0.6**
LBNH pmax pmax
comp=Z,9.0nm,0.7s
EIL Elat 84.77 307 LR LR 15 07 59.9
comp=Z,75nm,19.0s,baz=67,slow=38
WVL Waterville 84.86 27 P **P 14 26 30.8 -0.2**
WVL IAmb IAmb 14 26 31.9
comp=Z,21nm,1.1s
J61A Chester 84.97 29 P **P 14 26 31.9 +0.3**
J61A IAmb IAmb 14 26 32.6
comp=Z,13nm,0.7s
I63A Otisfield 85.02 27 P **P 14 26 32.0 +0.2**
M57A Sunshine Farm, 85.03 33 P **P 14 26 31.6 -0.3**
LMN Caledonia Moun 85.14 23 P **P 14 26 32.2 -0.3**
T50A Nancy 85.34 40 P **P 14 26 33.3 -0.3**
TBI Tubuai 87.87 126 *eLR* LR 14 54 45.2
comp=Z,791nm,27.8s
TBI *eLR* LR 14 54 47.2
comp=Z,444nm,25.2s
VAE Valguarnera 88.59 325 LR LR 15 09 34.3
comp=Z,59nm,18.8s,baz=318,slow=38
KEST Kesra 92.09 328 P **P 14 27 05.0 -0.8**
comp=Z,1.9nm,0.5s,baz=5.3,slow=1.1,SNR=4.3
KEST LR LR 15 12 40.8
comp=Z,110nm,18.7s,baz=21,slow=38
comp=Z,1.9nm,0.5s
ESDC Sonseca Array 92.67 339 P **P 14 27 07.7 -0.7**
comp=Z,1.5nm,0.8s,baz=13,slow=4.0,SNR=9.4
ESDC LR LR 15 13 24.8
comp=Z,42nm,20.3s,baz=30,slow=38
comp=Z,1.5nm,0.8s
TORD Torodi Ar. Bea 115.33 324 PKP **PKiKP 14 32 37.0 -1.2**
comp=Z,0.6nm,0.4s,baz=358,slow=1.6,SNR=5.4
VNDA Vanda 122.06 177 PKP **PKPdf 14 32 49.0 -0.3**
comp=Z,2.0nm,0.7s,baz=316,slow=5.5,SNR=15
VNDA Vanda 122.06 177 PKIKP **PKPdf 14 32 49.0 -0.3**
DBIC Dimbokro 123.82 328 PKP **PKPdf 14 32 54.1 -0.5**
comp=Z,4.8nm,0.8s,baz=48,slow=4.0,SNR=5.2
MAW Mawson 128.84 209 PKP **PKPdf 14 33 02.5 +0.2**
comp=Z,1.2nm,0.7s,baz=160,slow=3.4,SNR=4.0
QSPA South Pole Qui 134.29 180 PKP **PKiKP 14 33 13.7 -0.6**
comp=Z,6.1nm,1.0s,baz=288,slow=0.6,SNR=18
LPAZ La Paz 137.96 60 PKP **PKPdf 14 33 21.8 -0.2**
comp=Z,1.7nm,0.8s,baz=8.4,slow=8.9,SNR=5.0
H03N2 Juan Fernandez 141.66 90 T T 17 11 51.3
baz=305,slow=77,SNR=43
H03N3 Juan Fernandez 141.68 90 T T 17 11 46.5
baz=305,slow=77,SNR=50
H03N1 Juan Fernandez 141.68 90 T T 17 11 53.1
baz=305,slow=77,SNR=50
AZAP Zapla 145.72 65 *iP* **PKPbc 14 33 35.6 +0.1**
FSA Cafayete 146.41 69 *iP* **PKPbc 14 33 37.3 -0.2**
ROC1 El Roble 147.07 83 *iP* **PKPdf 14 33 37.3 +0.1**
VA03 San Esteban 147.28 83 *iP* **PKPbc 14 33 39.0 -0.7**
RTLS Leoncito 147.64 80 *iP* **PKPbc 14 33 41.1 +0.1**
BDFB Brasilia 147.80 32 PKPbc **PKPbc 14 33 41.2 -0.3**
comp=Z,7.8nm,0.6s,baz=275,slow=2.2,SNR=12
AUSP Uspallata 147.81 81 *iP* **PKPdf 14 33 39.7 +1.2**
ZON Zonda 147.93 79 *iP* **PKPdf 14 33 39.7 +1.4**
CYA Choya 148.05 72 *iP* **PKPbc 14 33 40.4 -1.4**
TROLL Troll, Antarti 148.18 199 ⇑P PKPbc 14 33 41.1 +0.1
comp=Z,723nm,0.6s
ASAL Salagasta 148.41 81 *iP* **PKPbc 14 33 41.3 -1.4**
ACAN Cantantal 149.39 79 *iP* **PKPbc 14 33 45.1 -0.1**
SNAA Sanae 149.61 197 ⇑P PKPbc 14 33 44.2 -0.3
comp=Z,189nm,0.8s
SNAA Sanae 149.61 197 PKP **PKPdf 14 33 38.7 -1.2**
comp=Z,1.2nm,0.9s,baz=53,slow=1.6,SNR=4.3
SNAA PKPbc **PKPbc 14 33 44.0 -0.5**
comp=Z,8.5nm,0.9s,baz=184,slow=2.8,SNR=45
PLCA Paso Flores 150.89 96 PKPbc **PKPbc 14 33 48.5 -0.1**
comp=Z,15nm,0.8s,baz=272,slow=2.8,SNR=37
VNA2 Neumayer--Watz 151.12 196 ⇑P PKPbc 14 33 47.9 -0.2
comp=Z,40nm,0.6s,baz=119,slow=2.0
VNA1 Neumayer--Stat 151.51 196 ⇑P PKPbc 14 33 49.0 +0.1
comp=Z,25nm,1.1s
CPUP Villa Florida 152.10 58 PKPbc **PKPbc 14 33 50.5 -1.1**
comp=Z,1.3nm,0.9s,baz=34,slow=10,SNR=7.6
CPUP PKPab **PKPab 14 34 00.8 -0.6**
comp=Z,0.9nm,0.6s,baz=31,slow=11,SNR=5.9

DJA 10 14:20:04.8±0.2, 6°S±3°×13°0E±°, h211km±5km, M4.3/12, mb4.1/11, mB5.0/6, MLv4.5/12, Mw(mB)4.3/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
BNDI	**Bandanaira**	**1.51**	**1**	P		Pn	14 20 40.4	+0.8
BNDI				S		S	14 21 07.0	+0.5
SAUI	**Saumlaki**	**2.39**	**144**	P		Pn	14 20 49.0	+0.8
MSAI	**Masohi**	**2.84**	**340**	P		Pn	14 20 52.7	-0.5
FAKI	**Fak Fak**	**3.90**	**37**	P		Pn	14 21 05.5	-0.3
KMPI	**Kaimana, Papua**	**4.48**	**58**	P		Pn	14 21 13.0	0.0
SWI	**Sorong**	**5.32**	**15**	P		Pn	14 21 23.0	-0.6
RKPI	**Ransiki, Papua**	**6.21**	**44**	P		Pn	14 21 35.0	0.0
SOEI	**Soe**	**6.67**	**236**	P		Pn	14 21 41.4	+0.3
	0.3nm15nm,1.3s							
BATI	**Baumata**	**7.42**	**236**	P		Pn	14 21 50.9	+0.3
	0.2nm37nm,1.2s							
GENI	**Genyem**	**10.81**	**72**	P		Pn	14 22 33.9	-0.5

DJA 10 14:26:41.4±1.3, 2°N±3°×12°6E±°, h20km±11km, M3.6/9, mB5.1/1, MLv3.6/9, Mw(mB)4.5/1, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
TNTI	**Ternate**	**1.45**	**130**	P		Pb	14 27 08.1	+0.3
TNTI				S		Sb	14 27 28.4	+2.5
SGSI	**Sangihe**	**2.09**	**340**	P		Pn	14 27 15.4	+0.1
SGSI				S		Sn	14 27 41.1	+0.3
KMSI	**Cibinong**	**2.53**	**244**	P		Pn	14 27 22.3	+0.9
SANI	**Sanana**	**3.74**	**184**	P		Pn	14 27 35.9	-2.2
NLAI	**Namlea**	**4.99**	**170**	P		Pn	14 27 54.3	-0.9

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*JMA **10** 14:29:20.0±0.5, 44°N±2°×14°8E±°, h0km, MV3.9/25, SE OFF ETOROFU*
*SKHL **10** 14:29:20.6±0.6, 44°80N×148°60E, h63km±6km, mb4.5/4*
ISC 10 14:29:18.6±3.4, 44°7N±0°1×148°7E±0°2, h24km±27km, n18, σ1§12/29, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
KUR	**Kuril'sk**	**0.84**	**314**	*iP*		**Pb**	**14 29 34.5**	**-0.1**
KUR					AMB	AMB	14 29 35.0	
	160nm,0.2s							
KUR				*iS*		**Sb**	**14 29 44.9**	**-0.6**
KUR					A	A	14 29 45.5	
	1μm,0.3s							
KUR					A	A	14 29 45.5	
	1μm,0.3s							
SHO	**Shikotan**	**1.57**	**241**	*eP*		**Pn**	**14 29 46.0**	**+1.1**
SHO					AMB	AMB	14 29 47.8	
	20nm,0.3s							
SHO				*iS*		**Sn**	**14 30 04.6**	**+0.3**
SHO					A	A	14 30 09.4	
	170nm,0.1s							
SHO					A	A	14 30 09.4	
	110nm,0.1s							
YUK	**Yuzh-Kuril'sk**	**2.14**	**254**	*iP*		**Pn**	**14 29 53.2**	**+0.4**
YUK					AMB	AMB	14 29 54.1	
	230nm,0.2s							
YUK				*iS*		**Sn**	**14 30 17.6**	**-0.9**
YUK					A	A	14 30 19.6	
	250nm,0.3s							
YUK					A	A	14 30 19.6	
	340nm,0.3s							
GLVR	**Golovnino**	**2.48**	**250**	*eP*		**Pn**	**14 29 58.1**	**+0.7**
GLVR					AMB	AMB	14 30 00.9	
	50nm,0.1s							
GLVR				*eS*		**Sn**	**14 30 26.1**	**-0.7**
GLVR					A	A	14 30 32.5	
	390nm,0.4s							
GLVR					A	A	14 30 32.5	
	220nm,0.4s							
NEM2	**Nemuro 2**	**2.50**	**240**	P		**Pn**	**14 29 57.7**	**-0.1**
NEM2					S	**Sn**	**14 30 25.6**	**-1.8**
NMR	**Nemuro--Hokkai**	**2.51**	**240**	*eP*		**Pn**	**14 29 57.7**	**-0.1**
NMR				*eS*		**Sn**	**14 30 25.4**	**-2.2**
JRA	**Rausu**	**2.68**	**256**	P		**Pn**	**14 30 01.5**	**+1.4**
JRA				*eS*		**Sn**	**14 30 32.0**	**+0.2**
JNSB	**Nemuroshibetsu**	**2.81**	**253**	*eP*		**Pn**	**14 30 03.4**	**+1.4**
JKHN	**Kushirohamanak**	**3.01**	**240**	P		**Pn**	**14 30 05.0**	**+0.3**
JNK	**Nakash**	**3.07**	**251**	P		**Pn**	**14 30 06.6**	**+1.0**
JNK					S	**Sn**	**14 30 40.7**	**-0.8**
AKK	**Akkeshi**	**3.25**	**241**	*eP*		**Pn**	**14 30 08.1**	**+0.1**
JAK	**Akkeshi**	**3.35**	**242**	P		**Pn**	**14 30 09.7**	**+0.3**
JAK					S	**Sn**	**14 30 47.4**	**-0.9**
JTKR	**Abashiri--Toko**	**3.52**	**261**	*eP*		**Pn**	**14 30 12.7**	**+1.0**
JAR	**Ashorobuto**	**3.82**	**251**	P		**Pn**	**14 30 17.9**	**+2.0**
JAR				*eS*		**Sn**	**14 31 00.6**	**+0.6**
JKK2	**Kamakawa 2**	**4.36**	**262**	*eP*		**Pn**	**14 30 25.4**	**+2.1**
JCH	**Churui**	**4.39**	**244**	P		**Pn**	**14 30 24.7**	**+1.0**
JCH				*eS*		**Sn**	**14 31 13.1**	**-0.9**
YSS	**Yuzhno-Sakhali**	**4.77**	**301**	*eP*		**Pn**	**14 30 28.6**	**-0.2**
JNBK	**Urakawa-nobuka**	**4.95**	**243**	P		**Pn**	**14 30 32.4**	**+1.0**

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*DJA **10** 14:43:23.3±0.5, 5°S±4°×10°3E±°, h10km, M3.8/7, mb4.3/1, MLv3.6/7*
*IDC **10** 14:43:23.1±5.6, 5°53S×103°19E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=281.1km s-min=30.9km az=50.0*
ISC 10 14:43:28.6±1.6, 5°3S±0°1×102°9E±0°1, h38km, n22, σ1§45/10, mb3.3/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
MNAI	**Manna**	**0.93**	**5**	P		**Pn**	**14 43 45.4**	**+0.2**
MNAI				S		**Sn**	**14 43 57.7**	**+0.4**
LWLI	**Liwa**	**1.22**	**77**	P		**Pn**	**14 43 49.6**	**+0.4**
MDSI	**Maura Dua**	**1.53**	**58**	P		**Pn**	**14 43 52.7**	**-0.7**
LHSI	**Lahat**	**1.60**	**24**	P		**Pn**	**14 43 53.8**	**-0.5**
KASI	**Kota Agung**	**1.64**	**98**	P		**Pn**	**14 43 55.9**	**+1.1**
KSI	**Kapahiang**	**1.66**	**350**	P		**Pn**	**14 43 54.3**	**-0.8**
CGJI	**Cibinong**	**3.10**	**115**	P		**Pn**	**14 44 14.8**	**-0.1**
H08S2	**Diego Garcia H**	**30.27**	**264**	T		T	15 20 20.9	
	baz=87							
H08S3	**Diego Garcia H**	**30.27**	**264**	T		T	15 20 21.0	
	baz=87,slow=74							
H08S1	**Diego Garcia H**	**30.29**	**264**	T		T	15 20 20.4	
	baz=87,slow=74							
H01W3	**Cape Leeuwin H**	**31.23**	**162**	T		T	15 22 22.4	
	baz=338,slow=76,SNR=4.1							
H01W2	**Cape Leeuwin H**	**31.25**	**162**	T		T	15 22 22.1	
	baz=338,slow=76,SNR=5.1							
H01W1	**Cape Leeuwin H**	**31.25**	**162**	T		T	15 22 21.4	
	baz=338,slow=76,SNR=4.9							
WRA	**Warramunga Arr**	**33.89**	**118**	P		**P**	**14 50 05.7**	**-2.4**
	0.4nm,1.0s,baz=294,slow=9.9,SNR=2.0							
	0.4nm,1.0s							
ASAR	**Alice Springs**	**35.02**	**125**	P		P	14 50 13.4	-4.5
	0.1nm,0.5s,baz=302,slow=8.1,SNR=5.1							
	0.1nm,0.5s							
MKAR	**Makanchi Array**	**54.98**	**343**	P		**P**	**14 52 58.3**	**+2.4**
	0.4nm,0.8s,baz=159,slow=8.9,SNR=3.9							
	0.4nm,0.8s							
H04N2	**CROZET ISLANDS**	**59.94**	**219**	T		T	15 57 55.5	
	baz=64,slow=75,SNR=28							
H04N1	**CROZET ISLANDS**	**59.96**	**219**	T		T	15 57 50.4	
	baz=64,slow=75,SNR=25							
H04N3	**CROZET ISLANDS**	**59.96**	**219**	T		T	15 57 56.9	
	baz=64,slow=75,SNR=22							
H04S1	**CROZET ISLANDS**	**60.18**	**218**	T		T	15 58 01.7	
	baz=62,slow=75,SNR=21							
H04S3	**CROZET ISLANDS**	**60.19**	**218**	T		T	15 58 00.9	
	baz=62,slow=75,SNR=19							
H04S2	**CROZET ISLANDS**	**60.20**	**218**	T		T	15 58 00.6	
	baz=62,slow=75,SNR=22							

IDC 10 14:51:28.5±1.1, 18°21S×176°97W, h0km, mb4.0/5, mbtmp4.0/5, MS3.6/19, Error ellipse: s-maj=36.0km s-min=30.6km az=100.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**11.03**	**184**	LR	LR	14 57 44.9	
	comp=Z,301nm,20.8s,baz=334,slow=34						
DZM	**Mont Dzumac**	**16.04**	**253**	*e*LR	LR	14 59 37.2	
	935nm,24.6s						
PPT2	**Papeete2**	**26.07**	**93**	*e*LR	LR	15 03 16.9	
	321nm,24.2s						
PPT2				*e*LR	LR	15 03 23.0	
	226nm,25.2s						
PPT	**Papeete**	**26.07**	**93**	LR	LR	15 04 30.0	
	comp=Z,112nm,18.2s,baz=300,slow=30						
TBI	**Tubuai**	**26.20**	**106**	*e*LR	LR	15 03 27.1	
	930nm,27.5s						
TAOE	**Nuku Hiva Isla**	**36.92**	**80**	*e*LR	LR	15 08 09.6	
	224nm,26.6s						
STKA	**Stephens Creek**	**39.69**	**242**	LR	LR	15 12 32.3	
	comp=Z,95nm,21.2s,baz=42,slow=32						
JAY	**Jayapura**	**44.30**	**286**	LR	LR	15 17 11.9	
	comp=Z,61nm,20.0s,baz=178,slow=35						
WRA	**Warramunga Arr**	**45.92**	**260**	P	P	14 59 53.0	-0.4
	1.7nm,0.9s,baz=94,slow=6.2,SNR=14						
WRA				LR	LR	15 18 13.1	
	comp=Z,166nm,19.7s,baz=16,slow=35 1.7nm,0.9s						
ASAR	**Alice Springs**	**46.03**	**254**	P	P	14 59 54.4	+0.1
	3.1nm,0.7s,baz=88,slow=8.2,SNR=62						
ASAR				LR	LR	15 17 52.8	
	comp=Z,124nm,19.7s,baz=108,slow=34 3.1nm,0.7s						
VNDA	**Vanda**	**60.27**	**185**	P	P	15 01 38.6	+0.3
	0.5nm,0.6s,baz=67,slow=11,SNR=5.4 0.5nm,0.6s						
NWAO	**Narrogin (SRO)**	**60.28**	**242**	LR	LR	15 27 50.0	
	comp=Z,116nm,18.1s,baz=87,slow=36						
QSPA	**South Pole Qui**	**71.85**	**180**	P	P	15 02 52.9	-0.2
	3.4nm,0.9s,baz=36,slow=3.8,SNR=8.5 3.4nm,0.9s						
ASAJ	**Asahikawa**	**72.20**	**331**	LR	LR	15 28 60.0	
	comp=Z,42nm,21.9s,baz=162,slow=31						
PETK	**Petropavlovsk-**	**74.32**	**344**	LR	LR	15 36 35.6	
	comp=Z,17nm,18.2s,baz=178,slow=36						
PFO	**Pinyon Flats O**	**77.33**	**48**	LR	LR	15 29 12.7	
	comp=Z,56nm,19.3s,baz=234,slow=29						
LPIG	**La Paz**	**77.41**	**59**	LR	LR	15 32 22.5	
	comp=Z,45nm,19.4s,baz=230,slow=32						
KDAK	**Kodiak Island**	**78.37**	**13**	LR	LR	15 34 08.3	
	comp=Z,50nm,19.5s,baz=171,slow=33						
KLR	**Kulʾdur**	**81.07**	**329**	LR	LR	15 36 30.4	
	comp=Z,33nm,18.6s,baz=158,slow=33						
SEY	**Seymchan**	**84.38**	**346**	LR	LR	15 37 17.9	
	comp=Z,20nm,20.3s,baz=176,slow=33						
ANMO	**Albuquerque**	**85.22**	**51**	LR	LR	15 36 51.8	
	comp=Z,52nm,18.1s,baz=334,slow=32						
ILAR	**Eielson Array**	**85.88**	**12**	P	P	15 04 09.7	-0.1
	0.5nm,1.0s,baz=202,slow=5.5,SNR=5.3 0.5nm,1.0s						
PDAR	**Pinedale Array**	**86.63**	**43**	LR	LR	15 36 20.1	
	comp=Z,16nm,19.1s,baz=284,slow=31						
JTS	**Las Juntas de**	**95.05**	**81**	LR	LR	15 40 07.6	
	comp=Z,26nm,19.7s,baz=258,slow=31						
ATAH	**Atahualpa**	**95.88**	**99**	LR	LR	15 39 58.6	
	comp=Z,27nm,18.4s,baz=256,slow=30						
TIXI	**Tiksi**	**96.79**	**345**	LR	LR	15 42 17.8	
	comp=Z,23nm,21.1s,baz=192,slow=32						
BRTR	**Keskin Array B**	**145.96**	**315**	PKPbc	PKPdf	15 11 09.2	-0.7
	1.2nm,0.9s,baz=78,slow=2.1,SNR=4.6						
GERES	**GERESS Array B**	**148.23**	**347**	PKPbc	PKPbc	15 11 16.6	0.0
	0.2nm,0.5s,baz=359,slow=6.6,SNR=4.3						

*NEIC **10** 14:53:05.7±1.0, 36°050N±0°005×117°85W±0°01, h3km±2km, Error ellipse: s-maj=1.3km s-min=0.8km az=86.0*

PAS 10 14:53:06.0±1.0, 36°048N±0°008×117°86W±0°01, h1km±1km, Mwr3.5/6, ML3.3/124(NEIC), Error ellipse: s-maj=1.4km s-min=1.1km az=129.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRVM	**Rose V. Centra**	**0.05**	**210**		Pg	14 53 07.2	+0.2
MFS	**McCloud Flat S**	**0.07**	**5**		Pg	14 53 07.7	+0.2
JRC2	**Joshua Ridge**	**0.08**	**147**		Pg	14 53 07.4	-0.2
WVPM	**Volcano Peak E**	**0.10**	**160**		Pg	14 53 08.3	+0.2
WNMM	**Nine Mile Cany**	**0.21**	**190**		Pg	14 53 10.2	+0.2
WNMM					Sg	14 53 13.4	+0.8
TOW	**Tower One**	**0.25**	**162**		Pg	14 53 11.5	+0.7
TOW					Sb	14 53 16.2	-2.1
MPMC	**Manual Prospec**	**0.30**	**88**		Pg	14 53 11.9	+0.1
MPMC				IAML		14 53 17.8	
	comp=N,3μm,0.5s						
MPMC				IAML		14 53 18.3	
	comp=E,4μm,0.6s						
CLC	**China Lake**	**0.32**	**137**		Pg	14 53 12.2	+0.1
SRTC	**Snort**	**0.37**	**165**		Pg	14 53 13.7	+0.7
SRTC					Sb	14 53 20.1	-1.6
CWC	**Cottonwood Cre**	**0.43**	**336**		Pg	14 53 14.3	0.0
CWC				IAML		14 53 24.4	
	comp=N,2μm,0.3s						
CWC				IAML		14 53 24.5	
	comp=E,3μm,0.2s						
WORM	**Onyx Ranch**	**0.47**	**221**		Pg	14 53 15.0	0.0
WORM					Sg	14 53 21.5	+0.4
CGO	**Cerro Gordo**	**0.50**	**5**		Pg	14 53 15.7	0.0
WHFM	**Hanning Flat**	**0.53**	**229**		Pg	14 53 16.2	0.0
WHFM					Sg	14 53 23.7	+0.7
WBSM	**Bird Springs**	**0.56**	**204**		Pg	14 53 16.8	+0.1
WBSM					Sg	14 53 24.8	+0.9
LRMC	**Laurel Mtn Rad**	**0.59**	**165**		Sg	14 53 25.6	+0.8
LRMC	**Laurel Mtn Rad**	**0.59**	**165**		Pg	14 53 17.1	-0.1
LRMC				IAML		14 53 27.4	
	comp=E,3μm,0.4s						
LRMC				IAML		14 53 27.9	
	comp=N,2μm,0.5s						
ISA	**Isabella, Lake**	**0.63**	**232**		Sg	14 53 26.8	+0.6
ISA	**Isabella, Lake**	**0.63**	**232**		Pg	14 53 18.0	-0.1
ISA				IAML		14 53 27.2	
	comp=E,1μm,0.3s						
ISA				IAML		14 53 27.0	
	comp=N,2μm,0.5s						
WASM	**Alta Sierra Ca**	**0.64**	**241**		Pg	14 53 18.4	+0.1
WASM					Sg	14 53 27.5	+0.8
CCCA	**Chr Cany lake**	**0.66**	**142**		Pg	14 53 18.9	+0.2
SPG2	**Springville 2**	**0.75**	**282**		Pg	14 53 20.0	-0.3
DTP	**Desert Tortois**	**0.78**	**179**		Pg	14 53 20.8	-0.2
DTP					Sg	14 53 31.6	+0.6
QSM	**Queen of Sheba**	**0.81**	**96**		Pg	14 53 21.2	-0.4
QSM				IAML		14 53 25.2	
	comp=N,1μm,0.4s						
QSM				IAML		14 53 27.0	
	comp=E,1μm,0.3s						
CCAC	**Calif City Air**	**0.90**	**188**		Pg	14 53 23.2	-0.1
CCAC					Sg	14 53 35.5	+0.5
FURC	**Furnace Creek,**	**0.91**	**62**		Pn	14 53 36.4	+10
GWY	**Greenwater Val**	**0.98**	**82**		Pg	14 53 24.4	-0.3
GWY				IAML		14 53 41.4	
	comp=N,1μm,0.5s						
GWY				IAML		14 53 42.1	
	comp=E,1μm,0.5s						
VES	**Vestal, Richgr**	**1.01**	**259**		Pg	14 53 25.4	-0.1
VES					Sb	14 53 39.4	-0.8
GRAC	**Grapevine Rang**	**1.03**	**23**		Pg	14 53 25.3	-0.4
GRAC				IAML		14 53 45.2	
	comp=E,1μm,0.7s						
TEJ	**El Tejon**	**1.06**	**220**		Pg	14 53 25.8	-0.5
TEJ					Sg	14 53 40.0	-0.1
GSC	**Goldstone, Bar**	**1.14**	**131**		Pg	14 53 27.1	-0.7
GSC				IAML		14 53 47.0	
	comp=N,592nm,0.8s						
GSC				IAML		14 53 47.2	
	comp=E,1μm,0.5s						
SGV	**South Grapevin**	**1.15**	**35**		Pg	14 53 27.9	-0.1
EDW2	**Edwards Air Fo**	**1.17**	**185**		Sg	14 53 43.2	-0.4
LCH	**Last Change Ra**	**1.20**	**8**		Pg	14 53 28.7	-0.2
TPO	**Tropico Hills**	**1.20**	**194**		Pg	14 53 28.5	-0.6
TPO				IAML		14 53 49.2	
	comp=N,784nm,0.9s						
TPO				IAML		14 53 49.6	
	comp=E,1μm,0.8s						
HYS	**Haystack Butte**	**1.21**	**168**		Pg	14 53 28.4	-0.7
ARVC	**Arvin**	**1.21**	**221**		Pg	14 53 28.9	-0.3
BAKC	**Calstate**	**1.23**	**236**		Pg	14 53 29.7	+0.1
BAKC					Sb	14 53 46.9	+0.5
WCT	**Wildcat Mounta**	**1.24**	**53**		Pg	14 53 29.2	-0.6
WCT				IAML		14 53 49.6	
	comp=N,367nm,0.6s						
WCT				IAML		14 53 50.3	
	comp=E,668nm,0.7s						
TJR	**Tejon Ranch**	**1.25**	**215**		Pg	14 53 29.2	-0.7
SHOC	**Shoshone, Teco**	**1.30**	**96**		Pg	14 53 30.0	-0.9
DSP	**Deep Springs**	**1.32**	**356**		Sg	14 53 48.4	-0.1
DSP	**Deep Springs**	**1.32**	**356**		Pg	14 53 30.5	-0.8
AMDNV	**Amargosa**	**1.34**	**72**		Pg	14 53 31.0	-0.7
AMDNV					Sg	14 53 48.9	-0.2
GMN	**Gold Mountain**	**1.34**	**21**		Pg	14 53 31.4	-0.3
GMN				IAML		14 53 53.4	
	comp=N,261nm,0.7s						
BHPR	**Bishop**	**1.35**	**338**		Pg	14 53 31.5	-0.4
SBB	**Saddle Back Bu**	**1.36**	**179**		Pg	14 53 31.8	-0.2
SBB					Sb	14 53 50.3	+0.1
RRX	**Edison Barstow**	**1.37**	**149**		Pb	14 53 32.5	+0.1
MTUM	**Tungsten Hills**	**1.42**	**337**		Pn	14 53 32.9	-0.3
TPNV	**Topopah Spring**	**1.58**	**55**		Pn	14 53 34.7	-0.7
TPNV				IAML		14 54 02.7	
	comp=N,635nm,1.0s						
HOLC	**Holcomb Ridge**	**1.59**	**179**		Pn	14 53 35.2	-0.1
OSI	**Osito Audit: C**	**1.59**	**206**		Pn	14 53 35.6	+0.2
OSI				IAML		14 54 04.4	
	comp=N,313nm,0.8s						
OSI				IAML		14 54 10.2	
	comp=E,343nm,0.8s						
JNH	**Juniper Hills**	**1.60**	**183**		Sg	14 53 57.5	+0.2
TUQ	**Turquoise Moun**	**1.69**	**111**		Pn	14 53 35.6	-1.2
MZP	**Montezuma Peak**	**1.69**	**13**		Pn	14 53 36.6	-0.4
CHFC	**Chilao Flat St**	**1.72**	**185**		Pb	14 53 38.6	+0.1
CRGC	**Crocker Grade**	**1.72**	**243**		Pb	14 53 37.8	-0.6
HEC	**Hector,Ludlow**	**1.74**	**134**		Pn	14 53 36.3	-1.1
BENR	**Benton**	**1.76**	**341**		Pn	14 53 38.3	+0.4
MLAC	**Mammoth, Mammo**	**1.76**	**334**		Pb	14 53 39.3	0.0
MCSM	**Casa Diablo Ho**	**1.81**	**333**		Pb	14 53 40.0	-0.1
BFSC	**Mount Baldy Ra**	**1.81**	**175**		Pn	14 53 38.1	-0.4
BFSC				IAML		14 54 05.9	
	comp=N,210nm,0.4s						
BFSC				IAML		14 54 09.6	
	comp=E,232nm,0.7s						
MWC	**Mount Wilson**	**1.83**	**185**		Pn	14 53 38.7	-0.1
MWC				IAML		14 54 06.1	
	comp=E,340nm,0.7s						
MWC				IAML		14 54 06.2	
	comp=N,409nm,0.5s						
SMMC	**Simmler**	**1.89**	**248**		Pb	14 53 40.4	-0.9
MTPC	**Mountain Pass**	**1.96**	**106**		Pn	14 53 39.8	-0.8
MTPC				IAML		14 54 12.1	
	comp=E,129nm,0.5s						
CLTC	**Calectric**	**2.00**	**167**		Pb	14 53 43.3	+0.1
TSCN	**Private Proper**	**2.08**	**257**		Pn	14 53 43.2	+1.1
TPH	**Tonopah**	**2.09**	**14**		Pn	14 53 42.2	-0.1
PKD	**Bear Valley Ra**	**2.17**	**268**		Pn	14 53 44.0	+0.6
GMRC	**Granite Mounta**	**2.20**	**124**		Pn	14 53 42.1	-1.7
PSMM	**Smith Mountain**	**2.21**	**271**		Pn	14 53 45.0	+1.0
SHPR	**Sheep Range**	**2.23**	**77**		Pn	14 53 44.1	-0.2
LHV	**Little Huntoon**	**2.26**	**347**		Pn	14 53 45.1	+0.6
LHV				IAML		14 54 24.9	
	comp=E,180nm,0.7s						
LHV				IAML		14 54 27.4	
	comp=N,150nm,0.9s						
PMPB	**Monarch Peak**	**2.38**	**275**		Pn	14 53 47.2	+0.8
NV11	**Mina Array Sit**	**2.39**	**354**		Pn	14 53 46.4	-0.1
NVAR	**Mina Array Bea**	**2.40**	**352**		Pn	14 53 46.7	0.0
ELS	**Elsinore Mount**	**2.42**	**171**		Pn	14 53 46.5	-0.4
ELS				IAML		14 54 29.4	
	comp=E,96nm,1.2s						
ELS				IAML		14 54 30.8	
	comp=N,82nm,0.6s						
TPC	**Twentynine Pal**	**2.44**	**142**		Pn	14 53 46.1	-1.0
MYLM	**Yosemite Lake**	**2.45**	**304**		Pb	14 53 50.6	-0.3
V12A	**Nelson**	**2.47**	**97**		Pn	14 53 46.8	-0.6
RAMR	**Ramage Ranch**	**2.48**	**261**		Pn	14 53 48.7	+1.2
BBGB	**Big Mountain B**	**2.62**	**283**		Pn	14 53 50.7	+1.1
RYN	**Ryan**	**2.63**	**349**		Pn	14 53 50.1	+0.3
PRN	**Pahroc Range**	**2.63**	**58**		Pn	14 53 49.8	0.0
PRN				IAML		14 54 43.6	
	comp=E,204nm,0.9s						
PRN				IAML		14 54 52.2	
	comp=N,166nm,0.8s						
PMD	**Palm Desert**	**2.69**	**153**		Pn	14 53 50.4	0.0
PMD				IAML		14 54 36.5	
	comp=E,66nm,0.9s						
PFO	**Pinyon Flats O**	**2.69**	**154**		Pn	14 53 49.2	-1.4
PFO				IAML		14 54 35.0	
	comp=E,64nm,0.7s						
R11B	**Troy Canyon, C**	**2.93**	**38**		Pn	14 53 53.5	-0.4
R11B				IAML		14 54 41.8	
	comp=N,52nm,0.8s						
R11B				IAML		14 54 41.8	
	comp=E,66nm,0.7s						
NEE2	**Needles Airpor**	**2.94**	**115**		Pn	14 53 52.6	-1.3
NEE2				IAML		14 54 45.2	
	comp=N,110nm,0.6s						
NEE2				IAML		14 54 46.0	
	comp=E,108nm,0.7s						
SAO	**San Andreas Ge**	**2.98**	**285**		Pn	14 53 55.0	+0.6
DPP	**Dos Picos Cty**	**3.14**	**166**		Pn	14 53 55.3	-1.3
DPP				IAML		14 54 47.6	
	comp=E,68nm,0.7s						
W13A	**Hualapai Mount**	**3.38**	**105**		Pn	14 53 59.3	-0.8
YUH	**Yuha Desert**	**3.75**	**154**		Pn	14 54 03.5	-1.6
LCMT	**Little Creek M**	**3.84**	**74**		Pn	14 54 05.5	-0.9
PAHR	**Pah Rah Range**	**3.85**	**342**		Pn	14 54 05.5	-1.0
PAHR				IAML		14 55 35.0	
	comp=E,25nm,1.2s						
CBX	**Cerro Bola**	**3.86**	**165**		Pn	14 54 06.5	-0.1
CCUT	**Cedar City**	**3.91**	**66**		Pn	14 54 07.4	0.0
KNB	**Kanab**	**4.17**	**75**		Pn	14 54 11.8	+0.8
KNB				IAML		14 55 33.0	
	comp=N,23nm,1.3s						
KNB				IAML		14 55 38.1	
	comp=E,21nm,1.6s						
ESJX	**Sierra Juarez**	**4.33**	**158**		Pn	14 54 12.4	-0.8
ESJX				IAML		14 55 19.8	
	comp=N,65nm,0.1s						
Y14A	**Wickenburg**	**4.51**	**116**		Pn	14 54 14.1	-1.4
Y14A				IAML		14 55 37.7	
	comp=N,31nm,1.5s						
Y14A				IAML		14 55 39.0	
	comp=E,20nm,1.8s						
ELK	**Elko**	**5.12**	**23**		Pn	14 54 24.2	+0.1
ELK				IAML		14 55 53.1	
	comp=E,15nm,0.8s						

*NEIC **10** 14:54:00.0±0.8, 36°042N±0°009×117°87W±0°01, h4km±1km, Error ellipse: s-maj=1.4km s-min=1.2km az=209.0*

PAS 10 14:54:00.4±1.0, 36°051N±0°010×117°86W±0°01, h2km±2km, ML3.1/28, ML2.8/46(NEIC), Error ellipse: s-maj=1.7km s-min=1.2km az=131.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRVM	**Rose V. Centra**	**0.05**	**209**		Pg	14 54 01.6	+0.2
MFS	**McCloud Flat S**	**0.07**	**4**		Pg	14 54 01.9	+0.1
JRC2	**Joshua Ridge**	**0.08**	**148**		Pg	14 54 02.2	+0.2
WCSM	**Coso Springs S**	**0.08**	**108**		Pg	14 54 02.2	+0.2
WVPM	**Volcano Peak E**	**0.11**	**160**		Pg	14 54 02.7	+0.2
WNMM	**Nine Mile Cany**	**0.21**	**190**		Pg	14 54 04.6	+0.2
WNMM					Sg	14 54 07.8	+0.6
MPMC	**Manual Prospec**	**0.30**	**88**		Pg	14 54 06.4	+0.2
MPMC					Sg	14 54 11.0	+0.9
CLC	**China Lake**	**0.32**	**138**		Pg	14 54 06.7	+0.2
CLC					Sg	14 54 11.3	+0.7
CLC	**China Lake**	**0.32**	**138**	IAML		14 54 11.6	
	comp=N,565nm,0.4s						
CLC				IAML		14 54 11.6	
	comp=E,544nm,0.5s						
SRTC	**Snort**	**0.37**	**166**		Pg	14 54 08.2	+0.7
SRTC					Sb	14 54 14.3	-1.7
CWC	**Cottonwood Cre**	**0.43**	**336**	Pg	Pg	14 54 08.1	-0.5
CWC				IAML		14 54 17.6	
	comp=E,599nm,0.3s						
WORM	**Onyx Ranch**	**0.47**	**221**		Pg	14 54 09.4	0.0
WORM					Sg	14 54 15.9	+0.3
WHFM	**Hanning Flat**	**0.53**	**228**		Pg	14 54 10.6	0.0
WHFM					Sg	14 54 18.3	+0.8
WBSM	**Bird Springs**	**0.56**	**204**		Pg	14 54 11.3	+0.1
LRMC	**Laurel Mtn Rad**	**0.59**	**166**		Sg	14 54 20.1	+0.9
LRMC	**Laurel Mtn Rad**	**0.59**	**166**		Pg	14 54 11.3	-0.3
LRMC				IAML		14 54 20.7	
	comp=N,895nm,0.2s						
LRMC				IAML		14 54 21.3	
	comp=E,728nm,0.1s						
ISA	**Isabella, Lake**	**0.63**	**232**	Pg	Pg	14 54 12.3	-0.1
ISA				IAML		14 54 21.4	
	comp=N,358nm,0.4s						
WASM	**Alta Sierra Ca**	**0.65**	**241**		Pn	14 54 21.9	+5.1
CCCA	**Chr Cany lake**	**0.66**	**142**		Sb	14 54 23.1	-1.3
CCCA	**Chr Cany lake**	**0.66**	**142**	Pg	Pg	14 54 13.4	+0.4
SPG2	**Springville 2**	**0.75**	**282**		Pn	14 54 24.5	+6.4
DTP	**Desert Tortois**	**0.78**	**179**		Pn	14 54 25.6	+7.1
QSM	**Queen of Sheba**	**0.81**	**96**	Pg	Pg	14 54 15.7	-0.3
QSM				IAML		14 54 19.4	
	comp=N,236nm,0.5s						
GWY	**Greenwater Val**	**0.97**	**82**	Pg	Pg	14 54 18.9	-0.1
GRAC	**Grapevine Rang**	**1.02**	**23**	Pg	Pg	14 54 20.0	-0.1
GRAC				IAML		14 54 39.4	
	comp=E,307nm,0.6s						
GRAC				IAML		14 54 39.8	
	comp=N,390nm,0.8s						
GSC	**Goldstone, Bar**	**1.14**	**131**	Pg	Pg	14 54 21.5	-0.7
GSC				IAML		14 54 41.7	
	comp=N,139nm,0.8s						
GSC				IAML		14 54 42.2	
	comp=E,253nm,0.7s						
EDW2	**Edwards Air Fo**	**1.17**	**185**		Sg	14 54 37.6	-0.4
TPO	**Tropico Hills**	**1.21**	**194**		Sg	14 54 39.2	0.0
TPO	**Tropico Hills**	**1.21**	**194**	Pg	Pg	14 54 22.5	-1.0
TPO				IAML		14 54 44.1	
	comp=N,184nm,1.0s						
HYS	**Haystack Butte**	**1.21**	**169**		Sg	14 54 39.7	+0.5
WCT	**Wildcat Mounta**	**1.24**	**53**	Pg	Pg	14 54 23.6	-0.6
WCT				IAML		14 54 44.9	
	comp=E,183nm,0.6s						
DSP	**Deep Springs**	**1.32**	**356**	Pg	Pg	14 54 24.5	-1.2
GMN	**Gold Mountain**	**1.34**	**21**		Pg	14 54 26.0	-0.1
GMN	**Gold Mountain**	**1.34**	**21**	IAML		14 54 35.5	
	comp=E,70nm,1.1s						
GMN				IAML		14 54 50.5	
	comp=N,102nm,0.6s						
TPNV	**Topopah Spring**	**1.58**	**55**		Pn	14 54 29.8	+0.2
TPNV				IAML		14 54 56.4	
	comp=N,167nm,0.7s						
TPNV				IAML		14 54 57.0	
	comp=N,146nm,1.4s						
CHNC	**Chino**	**2.05**	**176**		Pn	14 54 36.2	+0.3
BBSC	**Beaumont Base**	**2.24**	**161**		Pb	14 54 40.3	-1.4
KNB	**Kanab**	**4.17**	**75**	Pn	Pn	14 55 04.6	-0.7
BEKR	**Beckworth**	**4.29**	**333**	Pn	Pn	14 55 06.5	-0.4
ELK	**Elko**	**5.12**	**23**	Pn	Pn	14 55 19.0	+0.7
ELK				IAML		14 55 57.1	
	comp=N,8.0nm,0.9s						
ELK				IAML		14 55 58.4	
	comp=N,5.8nm,1.1s						
O02D	**Mt. Diablo Mer**	**5.66**	**318**	Pn	Pn	14 55 22.8	-2.9

*SJA **10** 14:58:13.7±0.7, 33°28S×73°16W, h22km±2km, ML3.7, MW3.9*

*IDC **10** 14:58:14.7±0.7, 33°33S×73°28W, h0km, mb4.1/6, mbtmp4.0/9, ML4.2/3, MS3.4/3, Error ellipse: s-maj=37.6km s-min=16.7km az=85.0*

*NEIC **10** 14:58:15.8±1.8, 33°31S±0°04×73°09W±0°10, h10km±1km, mb4.4/15, ML3.8(GUC), Error ellipse: s-maj=14.0km s-min=7.2km az=271.0*

*GUC **10** 14:58:17.2±0.7, 33°42S×72°99W, h27km±2km, ML3.8*

ISC 10 14:58:16.0±4.1, 33°33S±0°03×73°14W±0°05, h13km±26km, n120, σ1ş48/150, mb4.3/14, 25C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**1.29**	**77**		Pn	14 58 37.8	-1.9
VA01	**Torpederas**	**1.29**	**77**	*e*P	Pn	14 58 38.0	-1.7
VA01				*i* S	Sb	14 58 54.5	-2.1
VA01				IAML		14 58 55.3	
	comp=E,2μm,0.3s						
VA01	**Torpederas**	**1.29**	**77**	*e*P	Pn	14 58 38.1	-1.7
VA01				IAML		14 58 55.5	
	comp=Z,738nm,0.4s						
VA01				*e*S	Sb	14 58 56.7	+0.1
VA05	**Santo Domingo**	**1.31**	**105**		Pn	14 58 38.5	-1.7
VA05	**Santo Domingo**	**1.31**	**105**	⇑*i*P	Pn	14 58 38.6	-1.5
VA05				*i* S	Sb	14 58 54.4	-3.0
VA05				IAML		14 58 56.5	
	comp=N,3μm,0.3s						
BO03	**Pichilemu**	**1.52**	**140**	⇑*i*P	Pn	14 58 41.6	-1.3
BO03				*i* S	Sn	14 58 59.0	-3.6
MT01	**Popeta**	**1.66**	**109**		Pn	14 58 43.4	-1.5
MT01	**Popeta**	**1.66**	**109**	⇑*i*P	Pn	14 58 43.4	-1.5
MT01				*i* S	Sn	14 59 02.8	-3.4
MT01				IAML		14 59 03.4	
	comp=N,2μm,0.2s						
MT01	**Popeta**	**1.66**	**109**	*e*P	Pn	14 58 43.5	-1.5
MT01				*e*S	Sn	14 59 03.1	-3.0
MT01				IAML		14 59 04.5	
	comp=Z,719nm,0.3s						
MT02	**Curacav**	**1.68**	**88**		Pn	14 58 43.6	-1.5
MT02	**Curacav**	**1.68**	**88**	⇑*i*P	Pn	14 58 43.8	-1.3
MT02				*i* S	Sn	14 59 03.5	-3.0
MT02	**Curacav**	**1.68**	**88**	*e*P	Pn	14 58 43.7	-1.5
MT02				*e*S	Sn	14 59 06.5	-0.1
MT02				IAML		14 59 09.6	
	comp=Z,537nm,0.6s						
VA06	**Catapilco**	**1.73**	**64**		Pn	14 58 44.4	-1.5
ROC1	**El Roble**	**1.82**	**79**	*e*P	Pn	14 58 46.0	-1.3
ROCH	**El Roble**	**1.82**	**79**	⇑*i*P	Pn	14 58 46.0	-1.3
ROCH				*i* S	Sn	14 59 08.0	-2.5
ROCH				IAML		14 59 11.1	
	comp=N,2μm,0.6s						
MT09	**Talagante**	**1.85**	**104**		Pn	14 58 45.7	-2.0
MT09	**Talagante**	**1.85**	**104**	⇑*i*P	Pn	14 58 46.1	-1.5
MT09				*i* S	Sn	14 59 07.9	-3.1
MT09				IAML		14 59

MT03	**Universidad Ad**	**2.21**	**95**	⇑*i*P		**Pn**	**14 58 52.5**	**0.0**
MT03				*i* S		**Sn**	**14 59 18.6**	**-1.1**
MT03				IAML			14 59 20.5	
	comp=N,2µm,0.3s							
MT03	**Universidad Ad**	**2.21**	**95**	*eP*		**Pn**	**14 58 52.6**	**+0.1**
MT03				*eS*		**Sn**	**14 59 20.1**	**+0.4**
MT03				IAML			14 59 21.9	
	comp=Z,898nm,0.2s							
BO04	**La Punta**	**2.21**	**108**			**Pn**	**14 58 51.2**	**-1.3**
BO04	**La Punta**	**2.21**	**108**	⇑*i*P		**Pn**	**14 58 51.7**	**-0.8**
BO04				*i* S		**Sn**	**14 59 17.3**	**-2.5**
BO04				IAML			14 59 20.8	
	comp=N,1µm,0.4s							
MT15	**Las Vizcachas**	**2.22**	**98**	⇑*i*P		**Pn**	**14 58 52.4**	**-0.3**
MT15				*i* S		**Sn**	**14 59 18.4**	**-1.6**
MT15				IAML			14 59 22.8	
	comp=N,2µm,0.3s							
VA03	**San Esteban**	**2.25**	**76**			**Pn**	**14 58 51.9**	**-1.2**
VA03	**San Esteban**	**2.25**	**76**	⇑*i*P		**Pn**	**14 58 52.3**	**-0.8**
VA03				*i* S		**Sn**	**14 59 19.1**	**-1.7**
VA03				IAML			14 59 21.6	
	comp=N,909nm,0.3s							
VA03	**San Esteban**	**2.25**	**76**	*eP*		**Pn**	**14 58 52.0**	**-1.1**
VA03				IAML			14 59 31.6	
	comp=Z,474nm,1.0s							
BO02	**Sierra Bellavi**	**2.44**	**127**			**Pn**	**14 58 55.1**	**-0.6**
BO02	**Sierra Bellavi**	**2.44**	**127**	⇑*i*P		**Pn**	**14 58 55.3**	**-0.4**
BO02	**Sierra Bellavi**	**2.44**	**127**	*eP*		**Pn**	**14 58 55.4**	**-0.3**
BO02				IAML			14 59 36.1	
	comp=Z,711nm,0.8s							
LMEL	**Las Melosas**	**2.50**	**103**			**Pn**	**14 58 56.0**	**-0.7**
LMEL	**Las Melosas**	**2.50**	**103**	*eP*		**Pn**	**14 58 56.4**	**-0.2**
LMEL				*eS*		**Sn**	**14 59 27.4**	**+0.2**
MT04	**Ro Olivares**	**2.51**	**92**	⇑*i*P		**Pn**	**14 58 56.9**	**+0.1**
MT04				*i* S		**Sn**	**14 59 26.8**	**-0.7**
MT04				IAML			14 59 28.4	
	comp=N,676nm,0.3s							
MT04	**Ro Olivares**	**2.51**	**92**	*eP*		**Pn**	**14 58 57.0**	**+0.1**
MT04				*eS*		**Sn**	**14 59 27.9**	**+0.3**
MT04				IAML			14 59 31.2	
	comp=Z,347nm,0.2s							
MT08	**Bocatoma Ro**	**2.62**	**93**			**Pn**	**14 58 58.4**	**+0.2**
MT08	**Bocatoma Ro**	**2.62**	**93**	⇑*i*P		**Pn**	**14 58 58.6**	**+0.4**
MT08				*i* S		**Sn**	**14 59 28.7**	**-1.4**
MT08				IAML			14 59 36.6	
	comp=N,395nm,0.7s							
MT08	**Bocatoma Ro**	**2.62**	**93**	*eP*		**Pn**	**14 58 58.9**	**+0.6**
MT08				*eS*		**Sn**	**14 59 30.6**	**+0.6**
MT08				IAML			14 59 32.6	
	comp=Z,212nm,0.2s							
CO02	**Combarbal**	**2.79**	**41**			**Pn**	**14 58 59.7**	**-0.9**
CO02	**Combarbal**	**2.79**	**41**	*eP*		**Pn**	**14 58 59.7**	**-0.9**
CO02				IAML			14 59 43.6	
	comp=Z,146nm,0.8s							
ML02	**Panimavida**	**2.81**	**150**			**Pn**	**14 59 00.1**	**-0.6**
ML02	**Panimavida**	**2.81**	**150**	*eP*		**Pn**	**14 59 00.9**	**+0.2**
ML02				*eS*		**Sn**	**14 59 33.8**	**-0.7**
ML02				IAML			14 59 36.1	
	comp=Z,616nm,0.6s							
CO06	**Fray Jorge**	**2.94**	**26**			**Pn**	**14 59 00.6**	**-1.9**
CO03	**El Pedregal**	**3.24**	**41**			**Pn**	**14 59 06.0**	**-0.8**
CO03	**El Pedregal**	**3.24**	**41**	*eP*		**Pn**	**14 59 05.9**	**-0.8**
CO03				*eS*		**Sn**	**14 59 44.6**	**-0.7**
CO03				IAML			14 59 45.5	
	comp=Z,309nm,0.7s							
BI05	**Punta Hualpn**	**3.41**	**181**	*eP*		**Pn**	**14 59 06.5**	**-2.4**
BI05	**Punta Hualpn**	**3.41**	**181**	*eP*		**Pn**	**14 59 06.9**	**-2.0**
BI05				IAML			15 00 13.2	
	comp=Z,114nm,0.6s							
RTLS	**Leoncito**	**3.59**	**66**	*eP*		**Pn**	**14 59 13.6**	**+1.9**
RTLS				*eS*		**Sn**	**14 59 52.6**	**-1.5**
RTLS				IAML			15 00 01.6	
	comp=Z,310nm,1.5s							
BI02	**San Fabin de**	**3.66**	**156**			**Pn**	**14 59 12.0**	**-0.4**
BI02	**San Fabin de**	**3.66**	**156**	*eP*		**Pn**	**14 59 11.9**	**-0.6**
BI02				IAML			15 00 18.4	
	comp=Z,78nm,0.9s							
GO04	**Tololo Observa**	**3.73**	**33**			**Pn**	**14 59 12.1**	**-1.5**
GO04	**Tololo Observa**	**3.73**	**33**	*eP*		**Pn**	**14 59 12.4**	**-1.2**
GO04				*eS*		**Sn**	**14 59 56.1**	**-1.4**
CO05	**La Serena**	**3.77**	**26**			**Pn**	**14 59 12.8**	**-1.1**
ZON	**Zonda**	**4.17**	**66**			**Pn**	**14 59 20.3**	**+0.8**
CO01	**Juntas del Tor**	**4.24**	**39**			**Pn**	**14 59 20.1**	**-0.4**
CO01	**Juntas del Tor**	**4.24**	**39**	*eP*		**Pn**	**14 59 20.4**	**-0.1**
CO01				*eS*		**Sn**	**15 00 09.3**	**-0.7**
CO01				IAML			15 00 11.4	
	comp=Z,200nm,0.5s							
ACCO	**Cerro Coronel**	**4.41**	**53**	*eP*		**Pn**	**14 59 19.8**	**-3.3**
ACCO				*eS*		**Sn**	**15 00 18.3**	**+3.7**
ACDV	**Cuesta del Vie**	**4.65**	**48**	*eP*		**Pn**	**14 59 27.5**	**+1.3**
ACDV				IAML			15 00 58.7	
	comp=Z,33nm,0.9s							
LCO	**Las Campanas**	**4.79**	**27**			**Pn**	**14 59 26.4**	**-1.8**
LCO	**Las Campanas**	**4.79**	**27**	*eP*		Pn	14 59 21.3	-6.9
LCO				*eS*		**Sn**	**15 00 20.4**	**-3.3**
LCO				*eS*		**Sn**	**15 00 20.9**	**-2.8**
LCO				IAML			15 00 26.1	
	comp=Z,124nm,0.5s							
H03N1	**Juan Fernandez**	**4.83**	**267**	T		T	15 03 56.3	
	baz=89,slow=74,SNR=7.6							
H03N3	**Juan Fernandez**	**4.84**	**267**	T		T	15 03 56.1	
	baz=89,slow=74,SNR=13							
H03N2	**Juan Fernandez**	**4.85**	**267**	T		T	15 03 57.9	
	baz=89,slow=74,SNR=9.4							
AC04	**Llanos de Chal**	**5.41**	**20**			**Pn**	**14 59 33.9**	**-2.6**
GO03	**Copiapo**	**6.25**	**24**	Pn		**Pn**	**14 59 48.0**	**-0.1**
LR03	**Panguipulli**	**6.32**	**174**			**Pn**	**14 59 48.1**	**-0.9**
LR05	**Currie**	**6.94**	**173**			**Pn**	**14 59 57.1**	**-0.4**
AC02	**Maricunga**	**7.35**	**29**			**Pn**	**15 00 01.9**	**-1.7**
PLCA	**Paso Flores**	**7.67**	**165**			**Pn**	**15 00 07.5**	**-0.1**
PLCA	**Paso Flores**	**7.67**	**165**	Pn		**Pn**	**15 00 08.0**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=342,slow=11,SNR=44							
PLCA				Sn		**Sn**	**15 01 40.0**	**+5.6**
	comp=Z,0.3nm,0.3s,baz=30,slow=7.0,SNR=1.7							
PLCA				LR		LR	15 03 19.9	
	comp=Z,133nm,21.1s,baz=309,slow=40							
	comp=Z,8.2nm,0.4s							
GO02	**Mina Guanaco**	**8.71**	**22**	Pn		**Pn**	**15 00 21.3**	**-0.8**
TRQA	**Tornquist**	**10.22**	**121**			**Pn**	**15 00 42.0**	**-0.5**
CPUP	**Villa Florida**	**15.38**	**67**	Pn		**Pn**	**15 01 54.8**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=254,slow=18,SNR=1.9							
	comp=Z,0.3nm,0.5s							
LPAZ	**La Paz**	**17.57**	**16**	P		**Pn**	**15 02 21.7**	**+0.4**
LPAZ	**La Paz**	**17.57**	**16**	P		**P**	**15 02 22.0**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=177,slow=8.6,SNR=10							
	comp=Z,3.4nm,0.7s							
ITAB	**Concordia**	**19.12**	**77**	P		**P**	**15 02 39.0**	**+0.2**
SIV	**San Ignacio**	**20.42**	**35**	P		Pn	15 02 54.5	-0.8
	comp=Z,6.5nm,0.9s,baz=220,slow=11,SNR=12							
	comp=Z,6.5nm,0.9s							
EFI	**East Falkland**	**21.36**	**154**	P		**P**	**15 03 03.0**	**+0.1**
EFI				IAmb		IAmb	15 03 04.8	
	comp=Z,11nm,0.7s							
PTLB	**Pontes e Lacer**	**21.86**	**39**			**P**	**15 03 08.1**	**-0.4**
PTLB				IAmb		IAmb	15 03 10.1	
	comp=Z,7.5nm,1.0s							
VILB	**Vilhena**	**23.47**	**33**	P		**P**	**15 03 26.3**	**+0.7**
VILB				IAmb		IAmb	15 03 37.7	
	comp=Z,13nm,1.0s							
CZSB	**Cruzeiro do Su**	**25.48**	**1**	P		**P**	**15 03 43.8**	**-0.3**
BOAV	**Boa Vista**	**37.48**	**21**	P		**P**	**15 05 28.7**	**-0.8**
VNA1	**Neumayer--Stat**	**50.65**	**157**	⇑P		P	15 07 24.3	+10
	comp=Z,3.5nm,1.0s							
VNA2	**Neumayer--Watz**	**50.98**	**157**	⇑P		P	15 07 26.5	+9.4
	comp=Z,4.3nm,0.6s,baz=275,slow=7.8							
SNAA	**Sanae**	**52.55**	**158**	⇑P		**P**	**15 07 30.1**	**+1.2**
	comp=Z,66nm,1.1s							
SNAA	**Sanae**	**52.55**	**158**			**P**	**15 07 29.3**	**+0.5**
SNAA				IAmb		IAmb	15 07 48.6	
	comp=Z,3.5nm,1.0s							
SNAA	**Sanae**	**52.55**	**158**	P		**P**	**15 07 30.0**	**+1.2**
	comp=Z,2.5nm,0.9s,baz=294,slow=12,SNR=9.3							
	comp=Z,2.5nm,0.9s							
TROLL	**Troll, Antarti**	**54.25**	**158**	⇑P		**P**	**15 07 42.0**	**+0.6**
	comp=Z,72nm,0.7s							
TEIG	**Tepich**	**55.19**	**343**	P		**P**	**15 07 48.5**	**0.0**
QSPA	**South Pole Qui**	**56.90**	**180**	P		**P**	**15 08 01.3**	**+0.7**
QSPA				IAmb		IAmb	15 08 03.3	
	comp=Z,7.6nm,1.1s							
QSPA	**South Pole Qui**	**56.90**	**180**	P		**P**	**15 08 01.8**	**+1.2**
	comp=Z,2.7nm,0.9s,baz=151,slow=5.0,SNR=8.9							
	comp=Z,2.7nm,0.9s							
JCT	**Junction City**	**68.29**	**335**	P		**P**	**15 09 17.3**	**+0.4**
SAND	**Sanderson**	**68.66**	**333**	P		**P**	**15 09 19.6**	**+0.4**
SAND				IAmb		IAmb	15 09 21.2	
	comp=Z,5.8nm,1.1s							
TXAR	**Lajitas Array**	**68.71**	**332**	P		**P**	**15 09 20.1**	**+0.5**
TXAR	**Lajitas Array**	**68.71**	**332**	P		**P**	**15 09 20.4**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=151,slow=8.9,SNR=14							
	comp=Z,1.5nm,0.7s							
OZNA	**Ozona**	**69.17**	**334**	P		**P**	**15 09 22.2**	**-0.1**
OZNA				IAmb		IAmb	15 09 23.7	
	comp=Z,4.3nm,1.1s							
VHRN	**Van Horn**	**70.52**	**331**	P		**P**	**15 09 30.8**	**+0.1**
VHRN				IAmb		IAmb	15 09 31.7	
	comp=Z,1.3nm,0.8s							
MAW	**Mawson**	**74.08**	**164**	P		**P**	**15 09 52.0**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=224,slow=8.3,SNR=5.3							
	comp=Z,2.1nm,0.8s							
TSUM	**Tsumeb**	**80.28**	**107**	LR		LR	15 42 00.0	
	comp=Z,38nm,18.5s,baz=168,slow=33							
PDAR	**Pinedale Array**	**82.76**	**334**	P		**P**	**15 10 40.9**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=140,slow=1.2,SNR=1.2							
WRA	**Warramunga Arr**	**120.88**	**210**	PKP		**PKPdf**	**15 17 08.1**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=154,slow=1.5,SNR=6.2							
KURBB	**Kurchatov Arra**	**153.00**	**42**	PKPbc		**PKiKP**	**15 18 13.0**	**0.0**
	comp=Z,1.0nm,0.8s,baz=293,slow=2.7,SNR=9.1							
ZALV	**Zalesovo Beam**	**154.14**	**31**	PKPbc		**PKiKP**	**15 18 16.1**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=330,slow=8.6,SNR=4.6							
SONM	**Songino Array**	**165.51**	**1**	PKPab		**PKPab**	**15 19 19.1**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=354,slow=4.5,SNR=4.5							

*GCG **10** 15:01:07.9±0.7, 15°.86N×94°.32W, h36km±999km, MD4.5, ML3.7*
*MEX **10** 15:01:09.2±0.9, 15°.96N×94°.29W, h94km±9km, MD4.0*
ISC 10 15:01:07.3±1.3, 15°.91N±0°.05×94°.31W±0°.03, h92km±12km, n37, σ2s37/70, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NILT	**Santiago Nilte**	**0.72**	**336**	*eP*		**Pn**	**15 01 24.8**	**+0.5**
NILT				*i* S		**Sn**	**15 01 36.7**	**-0.2**
PCIG		**1.07**	**101**	*eP*		**Pn**	**15 01 28.6**	**+0.7**
PCIG				*eS*		**Sn**	**15 01 43.8**	**+0.4**
CMIG	**Matias Romero**	**1.30**	**335**	*eP*		**Pn**	**15 01 31.3**	**+0.5**
UXUV	**UXUV**	**1.41**	**6**	*eP*		Pn	15 01 26.9	-5.2
UXUV				*i* S		**Sn**	**15 01 50.5**	**-0.3**
TGIG		**1.43**	**52**	*eP*		**Pn**	**15 01 32.3**	**-0.1**
TGIG				*i* S		**Sn**	**15 01 49.8**	**-1.5**
TGIG		**1.43**	**52**	*i* P		**Pn**	**15 01 32.3**	**-0.1**
TGIG				*i* S		**Sn**	**15 01 51.2**	**-0.1**
TGBT	**Tuxtla Gutierr**	**1.45**	**53**	*i* P		**Pn**	**15 01 32.5**	**0.0**
TGBT				*eS*		**Sn**	**15 01 50.2**	**-1.5**
HUIG	**Huatulco**	**1.74**	**266**	*i* P		**Pn**	**15 01 36.4**	**+0.2**
HUIG				*i* S		**Sn**	**15 01 56.7**	**-1.5**
HUIG	**Huatulco**	**1.74**	**266**	*i* P		**Pn**	**15 01 35.9**	**-0.3**
HUIG				*i* S		**Sn**	**15 01 56.5**	**-1.7**
HUIG				IAML			15 01 58.6	
	comp=N,753nm,0.2s							
CCIG	**Comitan**	**2.12**	**80**	*eP*		**Pn**	**15 01 41.9**	**+0.6**
CCIG				*i* S		**Sn**	**15 02 03.4**	**-3.9**
CCIG	**Comitan**	**2.12**	**80**	*i* P		**Pn**	**15 01 42.0**	**+0.6**
CCIG				IAML			15 02 10.2	
	comp=N,530nm,0.6s							
PATR	**El Naranjo**	**2.15**	**111**	*eP*		**Pn**	**15 01 43.2**	**+1.5**
PATR				*i* S		**Sn**	**15 02 08.5**	**+0.5**
PAVE	**Pavencul**	**2.17**	**109**	*eP*		**Pn**	**15 01 43.7**	**+1.7**
PAVE				*i* S		**Sn**	**15 02 07.8**	**-0.8**
THIG		**2.21**	**116**	*i* P		**Pn**	**15 01 41.3**	**-1.0**
THIG				*eS*		**Sn**	**15 02 11.0**	**+2.0**
NEUV	**Arroyo Zacate**	**2.30**	**322**	*eP*		**Pn**	**15 01 44.6**	**+1.1**
NEUV				*i* S		**Sn**	**15 02 10.2**	**-1.0**
OXLC	**Oaxaca**	**2.57**	**297**	*i* P		**Pn**	**15 01 48.8**	**+1.5**
OXLC				*i* S		**Sn**	**15 02 18.9**	**+0.9**
OXBJ	**Oaxaca**	**2.59**	**297**	*i* P		**Pn**	**15 01 49.2**	**+1.6**
OXBJ				*i* S		**Sn**	**15 02 19.9**	**+1.4**
VHLC	**Vista Hermosa**	**2.60**	**297**	*eP*		**Pn**	**15 01 50.5**	**+2.8**
VHO				*i* S		**Sn**	**15 02 20.4**	**+1.7**
PEIG	**Puerto Escondi**	**2.73**	**272**	*eP*		**Pn**	**15 01 49.8**	**+0.5**
PEIG				*i* S		**Sn**	**15 02 19.8**	**-1.9**
YOIG	**Yosondua**	**3.25**	**287**	*eP*		**Pn**	**15 01 59.1**	**+2.6**
YOIG				*i* S		**Sn**	**15 02 30.8**	**-3.6**
TOIG	**Toxpalan**	**3.42**	**310**	*eP*		**Pn**	**15 02 01.4**	**+2.8**
TOIG				*i* S		**Sn**	**15 02 39.4**	**+1.1**
TXIG	**Tlaxiaco**	**3.58**	**292**	*i* P		**Pn**	**15 02 03.8**	**+2.9**
TXIG				*i* S		**Sn**	**15 02 42.3**	**-0.1**
PNIG	**Pinotepa**	**3.70**	**278**	*i* P		**Pn**	**15 02 03.6**	**+1.2**
PNIG				*eS*		**Sn**	**15 02 42.6**	**-2.5**
HLIG	**Huajuapan de L**	**3.86**	**300**	*eP*		**Pn**	**15 02 07.8**	**+3.2**
HLIG				*i* S		**Sn**	**15 02 49.4**	**+0.3**
FTIG	**Fresnillo de T**	**4.17**	**299**	*eP*		**Pn**	**15 02 12.2**	**+3.4**
FTIG				*eS*		**Sn**	**15 02 56.2**	**-0.3**
JAUV	**Jalcomulco**	**4.18**	**326**	*eP*		**Pn**	**15 02 09.1**	**+0.1**
JAUV				*i* S		**Sn**	**15 02 53.2**	**-3.5**
LVIG	**Laguna Verde**	**4.30**	**332**	*eP*		**Pn**	**15 02 11.8**	**+1.4**
LVIG				*i* S		**Sn**	**15 02 52.9**	**-6.4**
PETF	**Flores**	**4.38**	**76**	*i* P		**Pn**	**15 02 12.6**	**+1.1**
PETF				*i* S		**Sn**	**15 02 59.3**	**-2.1**
PETF	**Flores**	**4.38**	**76**	*i* P		**Pn**	**15 02 12.6**	**+1.1**
TLIG	**Tlapa**	**4.40**	**293**	*eP*		**Pn**	**15 02 12.3**	**+0.3**
TLIG				*i* S		**Sn**	**15 02 58.6**	**-3.5**
CRIG	**Cruz Grande**	**4.71**	**281**	*eP*		**Pn**	**15 02 17.3**	**+1.4**
CRIG				*i* S		**Sn**	**15 03 01.8**	**-7.6**
PPM	**Popocatepetl**	**5.18**	**308**	*eP*		**Pn**	**15 02 27.5**	**+4.6**
PPM				*i* S		**Sn**	**15 03 19.6**	**-2.1**
DAIG	**Los Arroyos**	**5.25**	**283**	*eP*		**Pn**	**15 02 25.3**	**+2.0**
DAIG				*eS*		**Sn**	**15 03 18.7**	**-3.9**
CXUV	**Coxquihui**	**5.27**	**324**	*eP*		**Pn**	**15 02 26.1**	**+2.5**
CXUV				*eS*		**Sn**	**15 03 22.0**	**-1.2**
YAIG	**Yautepec**	**5.41**	**304**	*eP*		**Pn**	**15 02 29.9**	**+4.1**
YAIG				*eS*		**Sn**	**15 03 25.2**	**-1.6**
MEIG	**Mezcala**	**5.47**	**292**	*i* P		**Pn**	**15 02 29.5**	**+3.1**
MEIG				*i* S		**Sn**	**15 03 26.1**	**-2.0**
PLIG	**Platanillo**	**5.55**	**297**	*eP*		**Pn**	**15 02 31.4**	**+3.9**
PLIG				*i* S		**Sn**	**15 03 27.6**	**-2.5**

*NEIC **10** 15:02:04.0±1.1, 35°.881N±0°.009×117°.667W±0°.009, h5km±2km, Error ellipse: s-maj=1.3km s-min=1.1km az=163.0*
PAS 10 15:02:04.4±1.3, 35°.872N±0°.006×117°.68W±0°.01, h3km±2km, Mwr3.6/4, ML3.4/94(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=105.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CLC	**China Lake**	**0.09**	**128**			Pg	15 02 06.3	+0.1
CLC					Sg	Sg	15 02 07.8	+0.4
CLC				IAML			15 02 08.1	
	comp=N,22µm,0.5s							
CLC				IAML			15 02 08.2	
	comp=E,17µm,0.3s							
TOW	**Tower One**	**0.09**	**226**			Pg	15 02 06.8	+0.6
TOW						Sg	15 02 09.4	+2.0
WVPM	**Volcano Peak E**	**0.13**	**306**			Pg	15 02 07.3	+0.2
WCSM	**Coso Springs S**	**0.17**	**337**			Pg	15 02 10.2	+2.4
WNMM	**Nine Mile Cany**	**0.18**	**261**			Sg	15 02 11.1	+0.8
SRTC	**Snort**	**0.19**	**196**			Pg	15 02 08.5	+0.5
WRVM	**Rose V. Centra**	**0.22**	**309**			Pg	15 02 08.6	0.0
MPMC	**Manual Prospec**	**0.24**	**40**	Pg		Pg	15 02 08.9	-0.2
MPMC				Sg		Sg	15 02 12.2	-0.1
MPMC				IAML			15 02 12.8	
	comp=E,12µm,0.4s							
LRMC	**Laurel Mtn Rad**	**0.39**	**180**	Pg		Pg	15 02 11.6	-0.4
LRMC				Sg		Sg	15 02 17.5	+0.5
LRMC				IAML			15 02 18.2	
	comp=E,4µm,0.6s							
LRMC				IAML			15 02 18.7	
	comp=N,5µm,0.2s							
CCCA	**Chr Cany lake**	**0.43**	**143**	Pg		Pg	15 02 11.4	-1.3
CCCA				Sg		Sg	15 02 19.2	+0.9
DTP	**Desert Tortois**	**0.62**	**192**			Pg	15 02 16.1	-0.1
DTP						Sg	15 02 24.7	+0.4
CWC	**Cottonwood Cre**	**0.65**	**331**	Pg		Pg	15 02 16.7	-0.2
CWC				Sg		Sg	15 02 25.3	-0.1
CWC				IAML			15 02 26.4	
	comp=N,2µm,0.2s							
CWC				IAML			15 02 30.7	
	comp=E,2µm,0.3s							
QSM	**Queen of Sheba**	**0.67**	**82**	Pg		Pg	15 02 17.3	+0.1
QSM				Sg		Sg	15 02 25.4	-0.5
QSM				IAML			15 02 29.8	
	comp=E,3µm,0.5s							
QSM				IAML			15 02 30.9	
	comp=N,2µm,0.5s							
ISA	**Isabella, Lake**	**0.68**	**252**	Pg		Pg	15 02 16.8	-0.5
ISA				Sg		Sg	15 02 25.7	-0.4
ISA				IAML			15 02 26.3	
	comp=N,3µm,0.4s							
ISA				IAML			15 02 27.3	
	comp=E,3µm,0.3s							
WASM	**Alta Sierra Ca**	**0.72**	**260**			Pg	15 02 17.9	-0.3
CCAC	**Calif City Air**	**0.77**	**201**			Pg	15 02 18.7	-0.4
CCAC						Sg	15 02 29.5	+0.4
SPG2	**Springville 2**	**0.94**	**291**			Pg	15 02 21.5	-0.9
TEJ	**El Tejon**	**1.04**	**232**			Sg	15 02 37.1	-0.7
TPO	**Tropico Hills**	**1.09**	**204**	Pg		Pg	15 02 24.4	-0.8
TPO				Sg		Sg	15 02 38.7	-0.5
TPO				IAML			15 02 44.8	
	comp=E,2µm,0.7s							
VES	**Vestal, Richgr**	**1.14**	**269**			Pg	15 02 25.5	-0.7
VES						Sg	15 02 40.3	-0.7
GRAC	**Grapevine Rang**	**1.15**	**13**	Pg		Pg	15 02 25.6	-0.9
GRAC				IAML			15 02 47.1	
	comp=E,1µm,0.5s							
GRAC				IAML			15 02 49.5	
	comp=N,877nm,0.8s							
TJR	**Tejon Ranch**	**1.21**	**226**			Sg	15 02 42.4	-0.7
SGV	**South Grapevin**	**1.23**	**25**			Pg	15 02 27.4	-0.5
AMDNV	**Amargosa**	**1.27**	**63**			Sg	15 02 44.7	-0.7
LRRC	**Littlerock Res**	**1.37**	**192**			Pb	15 02 30.8	+0.1
HOLC	**Holcomb Ridge**	**1.42**	**185**			Pg	15 02 31.4	-0.2
VOG	**Valley Oaks G**	**1.45**	**289**			Pn	15 02 31.0	-0.5
GMN	**Gold Mountain**	**1.47**	**13**	Pg		Pn	15 02 32.1	+0.1
TUQ	**Turquoise Moun**	**1.50**	**106**			Pn	15 02 31.9	-0.5
DSP	**Deep Springs**	**1.51**	**351**			Pn	15 02 32.5	+0.1
DSP				IAML			15 02 53.8	
	comp=E,503nm,0.5s							
CHFC	**Chilao Flat St**	**1.56**	**190**			Pb	15 02 33.8	-0.2
POCCA	**Poleta Canyon**	**1.56**	**342**			Pn	15 02 33.2	-0.1
TPNV	**Topopah Spring**	**1.58**	**47**			Pn	15 02 33.8	+0.3
TPNV				IAML			15 02 57.3	
	comp=E,514nm,0.8s							
TPNV				IAML			15 03 00.9	
	comp=E,585nm,0.9s							
BFSC	**Mount Baldy Ra**	**1.63**	**179**			Pn	15 02 34.6	+0.5
BFSC				IAML			15 02 56.6	
	comp=E,403nm,0.6s							
BFSC				IAML			15 02 56.7	
	comp=N,330nm,0.2s							
MTUM	**Tungsten Hills**	**1.64**	**335**			Pn	15 02 34.8	+0.5
SSK	**Sunset Peak**	**1.66**	**180**			Pb	15 02 35.8	+0.1
MWC	**Mount Wilson**	**1.67**	**191**			Pn	15 02 34.9	+0.1
BBRC	**Big Bear Solar**	**1.72**	**158**			Pb	15 02 36.9	+0.1
PASC	**Pasadena Art C**	**1.75**	**194**			Pn	15 02 35.8	+0.1
PASC				IAML			15 03 09.7	
	comp=E,278nm,1.0s							
MTPC	**Mountain Pass**	**1.78**	**102**	Pn		Pn	15 02 35.9	-0.3
MTPC				IAML			15 03 01.2	
	comp=E,368nm,0.3s							
MTPC				IAML			15 03 03.0	
	comp=N,413nm,0.8s							
MZP	**Montezuma Peak**	**1.84**	**7**	Pn		Pn	15 02 37.8	+0.6
KCC	**Kaiser Creek**	**1.96**	**318**			Pb	15 02 39.9	-0.9
PFO	**Pinyon Flats O**	**2.47**	**156**	Pn		Pn	15 02 44.5	-1.2
PFO				IAML			15 03 27.6	
	comp=N,143nm,1.4s							
NV11	**Mina Array Sit**	**2.58**	**352**	Pn		Pn	15 02 44.3	-3.0
BORC	**Borrego Spring**	**2.80**	**158**	Pn		Pn	15 02 48.2	-1.9
BORC				IAML			15 03 37.9	
	comp=E,175nm,0.8s							
BORC				IAML

3.9nm,0.3s,baz=230,slow=18,SNR=11
DRS Darwin Rock St 12.08 109 P **Pn 15 06 32.0 -0.8**
MTN Manton Dam 12.42 111 P **Pn 15 06 36.0 -1.2**
MBWA Marble Bar 12.51 178 P **Pn 15 06 41.6 +3.3**
KDU Kakadu 13.62 109 P **Pn 15 06 51.7 -0.9**
FAKI Fak Fak 14.10 67 P **Pn 15 06 58.8 +0.2**
MEEK Meekatharra 17.97 182 P **Pn 15 07 47.0 +1.3**
WRA Warramunga Arr 18.46 129 P **P 15 07 50.2 +0.7**
2.3nm,0.7s,baz=307,slow=13,SNR=49
WRA S **S 15 11 09.3 -2.9**
0.9nm,0.5s,baz=306,slow=22,SNR=9.5
ASAR Alice Springs 20.54 139 P **P 15 08 13.4 +1.5**
1.8nm,0.4s,baz=312,slow=9.9,SNR=59
ASAR S **S 15 12 00.4 +7.0**
1.1nm,0.7s,baz=317,slow=23,SNR=5.6
1.8nm,0.4s
STKA Stephens Creek 31.12 141 P **P 15 09 51.9 +2.4**
5.2nm,1.1s,baz=315,slow=11,SNR=2.4
5.2nm,1.1s
BNX BinXian 54.57 7 ⇑P P 15 13 06.0 +8.5
BNX pmax pmax
comp=Z,10.0nm,3.7s
SONM Songino Array 57.31 350 P **P 15 13 17.1 -0.1**
comp=Z,0.8nm,0.5s,baz=165,slow=10,SNR=5.7
comp=Z,0.8nm,0.5s
MKAR Makanchi Array 64.20 333 P **P 15 14 03.4 -0.3**
comp=Z,2.4nm,0.6s,baz=142,slow=7.7,SNR=27
comp=Z,2.4nm,0.6s
KURBB Kurchatov Arra 68.70 334 P **P 15 14 31.5 -0.6**
comp=Z,0.9nm,0.6s,baz=140,slow=5.5,SNR=16
comp=Z,0.9nm,0.6s
ZALV Zalesovo Beam 68.74 339 P **P 15 14 31.1 -1.1**
comp=Z,2.0nm,0.6s,baz=149,slow=4.2,SNR=7.9
comp=Z,2.0nm,0.6s

*NEIC **10** 15:09:24.2±1.8, 35°.677N±0°.007×117°.50W±0°.01, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.3km az=12.0*
PAS 10 15:09:24.6±1.5, **35°.671N**±0°.008×**117°.51W**±0°.01, **h7**km±2km, **ML3.2**/17, **ML3.0**/94(NEIC), **Error ellipse: s-maj=1.3km s-min=1.2km az=89.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.16**	**335**	Pg	Pg	15 09 28.0	-0.1
CLC				Sg	Sg	15 09 30.5	+0.2
CLC				IAML		15 09 30.9	
	comp=E,5μm,0.4s						
CLC				IAML		15 09 30.9	
	comp=N,3μm,0.4s						
CCCA	**Chr Cany lake**	**0.19**	**140**	Pg	Pg	15 09 28.8	+0.3
CCCA				Sg	Sg	15 09 32.2	+1.1
SRTC	**Snort**	**0.19**	**276**		Pg	15 09 28.9	+0.4
LRMC	**Laurel Mtn Rad**	**0.23**	**216**	Pg	Pg	15 09 29.1	-0.3
LRMC				Sg	Sg	15 09 32.4	-0.1
LRMC				IAML		15 09 33.1	
	comp=E,4μm,0.3s						
TOW	**Tower One**	**0.25**	**304**		Pg	15 09 29.9	+0.3
WNMM	**Nine Mile Cany**	**0.36**	**298**		Pg	15 09 31.6	-0.1
WVPM	**Volcano Peak E**	**0.37**	**318**		Pg	15 09 31.8	-0.2
WVPM					Sg	15 09 37.3	+0.4
MPMC	**Manual Prospec**	**0.39**	**3**	Pg	Pg	15 09 31.8	-0.5
MPMC				Sg	Sg	15 09 37.3	-0.1
MPMC				IAML		15 09 38.0	
	comp=N,1μm,0.5s						
MPMC				IAML		15 09 38.0	
	comp=E,2μm,0.7s						
JRC2	**Joshua Ridge**	**0.39**	**322**		Sg	15 09 38.0	+0.4
WCSM	**Coso Springs S**	**0.41**	**330**		Pg	15 09 32.4	-0.3
WRVM	**Rose V. Centra**	**0.46**	**318**		Pg	15 09 33.2	-0.3
DTP	**Desert Tortois**	**0.48**	**214**		Pg	15 09 33.5	-0.5
DTP					Sg	15 09 40.4	0.0
MFS	**McCloud Flat S**	**0.53**	**328**		Pg	15 09 34.6	-0.3
MFS					Sg	15 09 42.3	+0.5
WORM	**Onyx Ranch**	**0.59**	**273**		Pg	15 09 35.6	-0.5
QSM	**Queen of Sheba**	**0.60**	**61**	Pg	Pg	15 09 35.8	-0.5
QSM				Sg	Sg	15 09 43.7	-0.4
QSM				IAML		15 09 44.6	
	comp=E,1μm,0.2s						
CCAC	**Calif City Air**	**0.66**	**219**		Pg	15 09 37.0	-0.4
CCAC					Sg	15 09 46.2	+0.2
WHFM	**Hanning Flat**	**0.68**	**272**		Sg	15 09 46.2	-0.5
GSC	**Goldstone, Bar**	**0.69**	**122**	Pg	Pg	15 09 37.0	-0.8
GSC				Sg	Sg	15 09 46.6	-0.2
GSC				IAML		15 09 47.0	
	comp=N,661nm,0.4s						
GSC				IAML		15 09 47.3	
	comp=E,839nm,0.5s						
ISA	**Isabella, Lake**	**0.78**	**270**	Pg	Pg	15 09 38.9	-0.8
ISA				Sg	Sg	15 09 49.0	-0.9
ISA				IAML		15 09 49.5	
	comp=N,667nm,0.4s						
ISA				IAML		15 09 51.3	
	comp=E,742nm,0.2s						
HYS	**Haystack Butte**	**0.81**	**183**		Pg	15 09 39.4	-0.8
WASM	**Alta Sierra Ca**	**0.85**	**275**		Pg	15 09 40.4	-0.7
WASM					Sg	15 09 51.9	-0.2
GWY	**Greenwater Val**	**0.86**	**53**	Pg	Pg	15 09 40.5	-0.7
GWY				Sg	Sg	15 09 51.8	-0.5
GWY				IAML		15 09 54.8	
	comp=N,656nm,0.4s						
GWY				IAML		15 09 57.2	
	comp=E,845nm,0.5s						
EDW2	**Edwards Air Fo**	**0.88**	**207**		Pg	15 09 40.6	-1.0
CWC	**Cottonwood Cre**	**0.90**	**329**	Pg	Pg	15 09 41.3	-0.5
CWC				Sg	Sg	15 09 53.1	-0.4
CWC				IAML		15 09 55.4	
	comp=E,273nm,0.2s						
RRX	**Edison Barstow**	**0.90**	**152**		Pg	15 09 41.4	-0.5
RRX					Sb	15 09 54.7	0.0
CGO	**Cerro Gordo**	**0.91**	**345**		Pg	15 09 41.9	-0.3
FURC	**Furnace Creek,**	**0.95**	**33**		Sb	15 09 55.9	-0.3
TPO	**Tropico Hills**	**0.98**	**217**	Pg	Pg	15 09 42.5	-1.0
TPO				Sg	Sg	15 09 56.0	-0.3
TPO				IAML		15 09 59.1	
	comp=N,471nm,0.3s						
TPO				IAML		15 10 00.8	
	comp=E,356nm,0.7s						
SBB	**Saddle Back Bu**	**1.01**	**195**		Pg	15 09 43.5	-0.7
SHOC	**Shoshone, Teco**	**1.03**	**77**		Pg	15 09 43.6	-0.9
SHOC					Sb	15 09 58.3	-0.3
TEJ	**El Tejon**	**1.06**	**246**		Pg	15 09 43.7	-1.2
VTV	**Victorville**	**1.12**	**172**		Sb	15 10 01.4	+0.4
SPG2	**Springville 2**	**1.15**	**298**		Pg	15 09 45.5	-1.2
SPG2					Sg	15 10 00.5	-1.0
ALPC	**Antelope**	**1.17**	**214**		Sn	15 10 03.5	-0.2
ARVC	**Arvin**	**1.21**	**244**		Sg	15 10 02.9	-0.5
LRRC	**Littlerock Res**	**1.22**	**200**		Pb	15 09 47.8	-0.2
LRRC					Sn	15 10 04.8	+0.1
LEOC	**Leona Valley**	**1.22**	**212**		Pg	15 09 47.8	-0.3
LEOC					Sn	15 10 04.7	-0.3
HOLC	**Holcomb Ridge**	**1.24**	**193**		Pb	15 09 47.0	-1.5
CJV	**Casa Juvan**	**1.25**	**205**		Pb	15 09 48.0	-0.6
CJV					Sb	15 10 05.0	+0.1
DSCC	**Desert Studies**	**1.27**	**114**		Sb	15 10 04.9	-0.3
AMDNV	**Amargosa**	**1.27**	**52**		Pn	15 09 47.0	-1.7
JNH	**Juniper Hills**	**1.27**	**197**		Pn	15 09 47.6	-1.3
JNH					Sn	15 10 06.0	-0.3
HEC	**Hector,Ludlow**	**1.28**	**131**		Pn	15 09 48.1	-0.9
VES	**Vestal, Richgr**	**1.29**	**278**		Pn	15 09 48.5	-0.5
TUQ	**Turquoise Moun**	**1.32**	**100**		Pn	15 09 48.2	-1.4
TUQ					Sb	15 10 06.9	0.0
GRAC	**Grapevine Rang**	**1.33**	**5**		Pn	15 09 48.7	-1.0
GRAC				IAML		15 10 10.9	
	comp=N,377nm,0.7s						
GRAC				IAML		15 10 14.8	
	comp=E,324nm,0.6s						
WCT	**Wildcat Mounta**	**1.33**	**32**		Pn	15 09 48.2	-1.5
WCT				IAML		15 10 12.2	
	comp=E,130nm,0.3s						
SGV	**South Grapevin**	**1.36**	**16**		Pn	15 09 49.0	-1.2
CHFC	**Chilao Flat St**	**1.40**	**198**		Pn	15 09 50.4	-0.3
BFSC	**Mount Baldy Ra**	**1.43**	**185**		Pn	15 09 50.6	-0.6
BFSC				IAML		15 10 10.4	
	comp=N,164nm,0.3s						
BFSC				IAML		15 10 11.2	
	comp=E,143nm,0.2s						
SIL	**Silver Peak**	**1.44**	**157**		Pn	15 09 51.3	+0.1
OSI	**Osito Audit: C**	**1.45**	**224**		Sb	15 10 10.8	+0.2
OSI	**Osito Audit: C**	**1.45**	**224**		Pn	15 09 51.2	-0.1
OSI				IAML		15 10 13.3	
	comp=E,205nm,0.4s						
OSI				IAML		15 10 13.7	
	comp=N,219nm,0.7s						
SSK	**Sunset Peak**	**1.46**	**186**		Pb	15 09 52.1	-0.1
PDE	**Pardee, Santa**	**1.51**	**216**		Sn	15 10 11.1	-0.8
MWC	**Mount Wilson**	**1.51**	**197**		Pn	15 09 52.2	-0.1
MWC				IAML		15 10 14.5	
	comp=E,197nm,0.3s						
MWC				IAML		15 10 14.8	
	comp=N,234nm,0.4s						
LCH	**Last Change Ra**	**1.56**	**356**		Pn	15 09 52.1	-0.9
LCH					Sb	15 10 14.1	+0.1
DECC	**Green Verdugo**	**1.57**	**206**		Sg	15 10 14.8	-0.2
PSRC	**Puddingstone R**	**1.59**	**189**		Pg	15 09 54.9	-0.3
PSRC					Sg	15 10 15.8	-0.1
PASC	**Pasadena Art C**	**1.59**	**200**		Sb	15 10 15.0	+0.3
PASC	**Pasadena Art C**	**1.59**	**200**		Pn	15 09 53.2	-0.1
PASC				IAML		15 10 19.5	
	comp=E,123nm,0.4s						
SVD	**Seven Oaks Dam**	**1.60**	**168**		Sb	15 10 14.9	+0.1
OAT	**Oat Mountain**	**1.60**	**215**		Pg	15 09 55.2	-0.1
MTPC	**Mountain Pass**	**1.61**	**96**		Pn	15 09 51.7	-1.8
MTPC				IAML		15 10 15.8	
	comp=E,278nm,0.3s						
MTPC				IAML		15 10 17.5	
	comp=N,220nm,0.3s						
TPNV	**Topopah Spring**	**1.63**	**38**		Pn	15 09 52.4	-1.5
TPNV				IAML		15 10 20.3	
	comp=N,146nm,0.5s						
TPNV				IAML		15 10 25.9	
	comp=N,120nm,0.7s						
GMN	**Gold Mountain**	**1.64**	**7**		Pn	15 09 52.8	-1.3
GTM	**Goat Mountain**	**1.67**	**145**		Pb	15 09 55.4	-0.4
DSP	**Deep Springs**	**1.73**	**348**	Pn	Pn	15 09 54.3	-0.9
DJJ	**Donna J Jenkin**	**1.74**	**207**		Pb	15 09 57.0	0.0
GMRC	**Granite Mounta**	**1.76**	**120**		Pn	15 09 53.2	-2.4
BHPR	**Bishop**	**1.81**	**335**		Pb	15 09 58.3	+0.2
FULC	**Fullerton**	**1.83**	**191**		Sn	15 10 17.3	-2.4
MTUM	**Tungsten Hills**	**1.88**	**334**		Pb	15 09 59.6	+0.1
BREC	**Barre Substati**	**1.90**	**192**		Pn	15 09 56.5	-0.9
TPC	**Twentynine Pal**	**1.97**	**142**		Pn	15 09 57.0	-1.5
ELS	**Elsinore Mount**	**2.02**	**178**	Pn	Pn	15 09 58.5	-0.6
ELS				IAML		15 10 30.4	
	comp=E,72nm,0.3s						
MZP	**Montezuma Peak**	**2.03**	**3**	Pn	Pn	15 09 58.7	-0.8
SHPR	**Sheep Range**	**2.08**	**66**	Pn	Pn	15 09 59.0	-1.0
V12A	**Nelson**	**2.17**	**88**	Pn	Pn	15 10 00.5	-0.7
V12A				IAML		15 10 38.0	
	comp=N,86nm,0.5s						
V12A				IAML		15 10 39.6	
	comp=E,72nm,0.4s						
KCC	**Kaiser Creek**	**2.20**	**319**		Pb	15 10 04.7	-0.1
PMD	**Palm Desert**	**2.22**	**155**	Pn	Pn	15 10 00.8	-1.1
PMD				IAML		15 10 36.9	
	comp=E,58nm,0.5s						
PFO	**Pinyon Flats O**	**2.23**	**157**	Pn	Pn	15 10 00.8	-1.4
MCSM	**Casa Diablo Ho**	**2.27**	**331**		Pb	15 10 06.7	+0.5
TPH	**Tonopah**	**2.41**	**5**	Pn	Pn	15 10 04.1	-0.5
TPH				IAML		15 10 46.1	
	comp=E,129nm,0.9s						
PRN	**Pahroc Range**	**2.63**	**48**	Pn	Pn	15 10 06.6	-1.0
PRN				IAML		15 11 03.5	
	comp=E,58nm,0.6s						
PRN				IAML		15 11 03.6	
	comp=N,62nm,0.6s						
LHV	**Little Huntoon**	**2.69**	**343**	Pn	Pn	15 10 07.6	-0.8
PMPB	**Monarch Peak**	**2.72**	**282**	Pn	Pn	15 10 07.8	-1.0
PMPB				IAML		15 10 53.4	
	comp=E,64nm,0.7s						
PMPB				IAML		15 10 55.9	
	comp=N,79nm,1.0s						
NV11	**Mina Array Sit**	**2.80**	**350**	Pn	Pn	15 10 09.7	-0.4
NVAR	**Mina Array Bea**	**2.83**	**347**	Pn	Pn	15 10 09.6	-0.7
BBGB	**Big Mountain B**	**3.00**	**289**	Pn	Pn	15 10 12.1	-0.5
W13A	**Hualapai Mount**	**3.02**	**100**	Pn	Pn	15 10 11.2	-1.8
RYN	**Ryan**	**3.06**	**345**	Pn	Pn	15 10 13.4	-0.1
R11B	**Troy Canyon, C**	**3.09**	**29**	Pn	Pn	15 10 11.9	-2.0
BLYC	**Blythe**	**3.12**	**127**	Pn	Pn	15 10 13.1	-1.1
BLYC				IAML		15 11 03.9	
	comp=E,21nm,0.5s						
BLYC				IAML		15 11 13.2	
	comp=N,32nm,0.5s						
CBX	**Cerro Bola**	**3.42**	**168**	Pn	Pn	15 10 18.9	+0.4
GLA	**Glamis**	**3.43**	**139**	Pn	Pn	15 10 16.6	-2.0
GLA				IAML		15 11 15.7	
	comp=N,43nm,0.7s						
LCMT	**Little Creek M**	**3.70**	**68**	Pn	Pn	15 10 21.7	-0.6
CCUT	**Cedar City**	**3.83**	**59**	Pn	Pn	15 10 24.2	0.0
ESJX	**Sierra Juarez**	**3.88**	**160**	Pn	Pn	15 10 24.6	-0.2
KNB	**Kanab**	**4.02**	**69**	Pn	Pn	15 10 26.6	-0.1
PSUT	**Pine Spring**	**4.09**	**45**	Pn	Pn	15 10 27.0	-0.8
AFDM	**Forest Hills D**	**4.28**	**321**	Pn	Pn	15 10 30.1	-0.1
U15A	**North Rim**	**4.30**	**78**	Pn	Pn	15 10 30.8	+0.1
ELK	**Elko**	**5.37**	**19**	Pn	Pn	15 10 43.8	-1.6

*IDC **10** 15:18:27.4±2.4, 20°.495×178°.06W, h525km±25km, mb3.4/11, mbtmp4.2/12, Error ellipse: s-maj=23.1km s-min=16.4km az=134.0*
ISC 10 15:18:28.1±0.9, **20°.5S**±0°.1×**178°.1W**±0°.2, **h534**km, **n18**, **s87**/19, **mb3.8**/11, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.23**	**192**	P	**P**	**15 22 07.7**	**-0.9**
	2.7nm,0.5s,baz=333,slow=4.5,SNR=1.4						
JAY	**Jayapura**	**43.97**	**288**	P	**P**	**15 25 48.8**	**+0.4**
	7.5nm,0.6s,baz=109,slow=2.8,SNR=5.0						
	7.5nm,0.6s						
ASAR	**Alice Springs**	**44.47**	**257**	P	**P**	**15 25 52.1**	**0.0**
	3.3nm,0.5s,baz=90,slow=7.8,SNR=141						
ASAR				PcP	**PcP**	**15 27 23.9**	**-0.2**
	0.7nm,0.8s,baz=117,slow=3.9,SNR=5.3						
ASAR				ScP	**ScP**	**15 30 26.9**	**+1.5**
	0.2nm,0.8s,baz=105,slow=4.3,SNR=1.5						
ASAR				S	**S**	**15 31 47.6**	**-0.9**
	1.2nm,1.0s,baz=192,slow=23,SNR=5.0						
	3.3nm,0.5s						
WRA	**Warramunga Arr**	**44.55**	**262**	P	**P**	**15 25 52.2**	**-0.5**
	1.7nm,0.3s,baz=96,slow=7.4,SNR=109						
	1.7nm,0.3s						
FITZ	**Fitzroy Crossi**	**52.98**	**262**	P	**P**	**15 26 55.4**	**+0.2**
	1.6nm,0.6s,baz=124,slow=7.3,SNR=7.6						
	1.6nm,0.6s						
QSPA	**South Pole Qui**	**69.61**	**180**	P	**P**	**15 28 44.4**	**+0.9**
	0.6nm,0.7s,baz=146,slow=10,SNR=2.1						
	0.6nm,0.7s						
MJAR	**Matsushiro Arr**	**70.14**	**324**	P	**P**	**15 28 46.7**	**-0.3**
	1.5nm,0.5s,baz=151,slow=6.0,SNR=7.0						
	1.5nm,0.5s						
PETK	**Petropavlovsk-**	**76.21**	**345**	P	**P**	**15 29 21.1**	**-0.1**
	3.4nm,0.8s,baz=123,slow=11,SNR=4.8						
	3.4nm,0.8s						
KSRS	**Korea Array**	**76.81**	**319**	P	**P**	**15 29 25.9**	**+0.9**
	0.7nm,0.6s,baz=128,slow=6.5,SNR=4.8						
	0.7nm,0.6s						
USRK	**Ussuriysk Ar.**	**78.89**	**326**	P	**P**	**15 29 36.9**	**+0.9**
	2.4nm,0.7s,baz=100,slow=6.4,SNR=3.3						
	2.4nm,0.7s						
ILAR	**Eielson Array**	**88.28**	**13**	P	**P**	**15 30 21.2**	**-0.9**
	0.4nm,0.4s,baz=217,slow=5.2,SNR=5.0						
	0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**90.05**	**290**	P	**P**	**15 30 32.1**	**+0.8**
	0.7nm,0.6s,baz=129,slow=2.7,SNR=7.9						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**113.97**	**317**	PKP	**PKiKP**	**15 36 04.6**	**-1.6**
	0.1nm,0.3s,baz=124,slow=1.3,SNR=2.1						
HFS	**Hagfors**	**139.49**	**351**	PKhKP	PKPpre	15 36 46.8	
	0.9nm,0.6s,baz=60,slow=3.9,SNR=4.4						
AKASG	**Malin Array Be**	**142.95**	**331**	PKhKP	PKPpre	15 36 57.4	
	1.5nm,0.5s,baz=44,slow=4.1,SNR=12						
EKA	**Eskdalemuir Ar**	**144.96**	**5**	PKPbc	**PKPdf**	**15 37 04.6**	**+0.4**
	0.3nm,0.4s,baz=356,slow=2.6,SNR=2.4						
BRTR	**Keskin Array B**	**146.77**	**312**	PKPbc	**PKPbc**	**15 37 09.8**	**-0.8**
	0.6nm,0.6s,baz=52,slow=1.1,SNR=2.9						
MMAI	**Mount Meron Ar**	**147.74**	**300**	PKPbc	**PKPbc**	**15 37 13.7**	**+0.4**
	1.1nm,0.5s,baz=108,slow=4.7,SNR=3.9						

*NOU **10** 15:35:12.8, 42°.48S×173°.68E, h26km, MLv3.7/11, South Island, New Zealand*
*WEL **10** 15:35:13.3±0.4, 42°.5S±5°.5×17°.4E±1°.1, h29km±5km, M3.1/7, ML3.3/7, MLv3.1/7, Error ellipse: s-maj=9.5km s-min=3.4km az=130.8, confirmed*
ISC 10 15:35:13.8±1.0, **42°.38S**±0°.03×**173°.59E**±0°.04, **h33**km±4km,
n29, σ0**°66**/39, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.05**	**227**	P	**Pb**	**15 35 18.9**	**-0.4**
KHZ	**Kahutara**	**0.05**	**227**	P	**Pb**	**15 35 19.3**	**-0.1**
KHZ				S	**Sb**	**15 35 23.3**	**+0.2**
KIKS	**Kaikoura**	**0.08**	**120**	P	**Pb**	**15 35 19.5**	**0.0**
KIKS				S	**Sb**	**15 35 24.3**	**+1.0**
MOLW	**Molesworth Sta**	**0.38**	**321**	P	**Pb**	**15 35 22.3**	**-0.5**
MOLW				S	**Sb**	**15 35 28.6**	**-0.2**
WTMC	**Te Mara Farm W**	**0.46**	**239**	P	**Pn**	**15 35 24.3**	**+0.3**
WTMC				S	**Sn**	**15 35 32.6**	**+1.5**
CECS	**Cheviot Emerge**	**0.49**	**208**	P	**Pn**	**15 35 24.7**	**+0.3**
CECS				S	**Sn**	**15 35 33.0**	**+1.2**
KEKS	**Kekerengu Vall**	**0.52**	**35**	P	**Pb**	**15 35 24.2**	**-0.5**
KEKS				S	**Sn**	**15 35 32.5**	**-0.1**
HSES	**Hanmer Springs**	**0.57**	**256**	P	**Pb**	**15 35 25.4**	**-0.2**
CULC	**Culverden Airl**	**0.69**	**237**	P	**Pb**	**15 35 26.5**	**-0.9**
CULC				S	**Sb**	**15 35 36.4**	**-0.4**
WDFS	**Ward Fire Stat**	**0.69**	**37**	P	**Pn**	**15 35 27.3**	**0.0**
BSWZ	**Blackbirch Sta**	**0.70**	**18**	P	**Pb**	**15 35 27.1**	**-0.6**
GVZ	**Greta Valley S**	**0.71**	**215**	P	**Pn**	**15 35 27.6**	**+0.1**
GVZ				S	**Sn**	**15 35 38.1**	**+0.7**
CMWZ	**Cape Campbell**	**0.79**	**37**	P	**Pn**	**15 35 28.7**	**+0.1**
THZ	**Tophouse**	**0.80**	**321**	P	**Pb**	**15 35 28.4**	**-1.0**
TUWZ	**Tuamarina**	**0.99**	**16**	P	**Pb**	**15 35 31.9**	**-0.6**
TUWZ				S	**Sn**	**15 35 44.8**	**+0.6**
AMCZ	**Amberley**	**1.05**	**221**	P	**Pn**	**15 35 31.8**	**-0.3**
LTZ	**Lake Taylor**	**1.05**	**247**	P	**Pn**	**15 35 32.3**	**0.0**
LTZ				S	**Sn**	**15 35 45.8**	**0.0**
MRNZ	**Matariki Terra**	**1.16**	**328**	P	**Pn**	**15 35 34.1**	**+0.4**
NNZ	**Nelson**	**1.18**	**352**	P	**Pn**	**15 35 33.6**	**-0.3**
SNZO	**South Karori**	**1.36**	**38**	P	**Pn**	**15 35 35.7**	**-0.8**
QRZ	**Quartz Range**	**1.75**	**333**	P	**Pn**	**15 35 42.7**	**+0.9**
RPZ	**Rata Peaks**	**2.28**	**234**	P	**Pn**	**15 35 48.5**	**-0.7**
BFZ	**Birch Farm**	**2.62**	**50**	P	**Pn**	**15 35 53.6**	**-0.3**
KHEZ	**Kahui Hut**	**3.10**	**6**	P	**Pn**	**15 36 01.3**	**+0.8**
ODZ	**Otahua Downs**	**3.41**	**218**	P	**Pn**	**15 36 03.6**	**-1.0**
BKZ	**Black Stump Fm**	**3.90**	**35**	P	**Pn**	**15 36 11.4**	**-0.1**
HIZ	**Hauiti**	**3.99**	**14**	P	**Pn**	**15 36 13.9**	**+1.3**
URZ	**Urewera**	**4.92**	**34**	P	**Pn**	**15 36 25.9**	**+0.5**
SYZ	**Scrubby Hill**	**5.23**	**216**	P	**Pn**	**15 36 29.2**	**-0.4**

TRN 10 15:50:24.1, 16°.83N×60°.90W, h27km**, MD3.5, North-east of Guadeloupe., Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSDZ	**La Diserade, G**	**0.54**	**198**	*e*P	Pn	15 50 36.9	+0.9
DSDZ				*e*S	Sn	15 50 45.8	+1.6
ANBD	**Bethesda, Anti**	**0.86**	**285**	*e*P	Pb	15 50 40.9	+0.4
ANBD				*e*S	Sn	15 50 54.4	+2.3
MAGL	**Barre de l'ile**	**0.95**	**203**	*e*P	Pb	15 50 43.4	+1.3
DHSZ	**Broadband at M**	**1.00**	**237**	*e*P	Pb	15 50 43.2	+0.4
DHSZ				*e*S	Sb	15 50 57.7	+2.1
MMLZ	**Guadeloupe Bro**	**1.08**	**224**	*e*P	Pb	15 50 45.7	+1.6
MMLZ				*e*S	Sb	15 50 59.4	+1.6
ATGZ	**Broadband at L**	**1.08**	**228**	*e*P	Pb	15 50 45.3	+1.2
ATGZ				*e*S	Sb	15 51 00.8	+2.9
ANWB	**Willy Bob**	**1.19**	**315**	*e*P	Pb	15 50 46.0	-0.1
ANWB				*e*S	Sb	15 51 03.0	+1.9
TBG	**Guadaloupe-3**	**1.21**	**217**	*e*P	Pb	15 50 47.7	+1.3
TBG				*e*S	Sb	15 51 04.3	+2.8
MBWH		**1.24**	**266**	*e*P	Pb	15 50 47.3	+0.3
MBWH				*e*S	Sb	15 51 04.4	+1.7
MLYT	**Lee's Yard**	**1.24**	**265**	*e*P	Pb	15 50 47.9	+0.9
MLYT				*e*S	Sb	15 51 04.8	+2.2
MBFL	**Flemmings, Mon**	**1.26**	**267**	*e*P	Pb	15 50 47.5	+0.2
MBFL				*e*S	Sb	15 51 04.4	+1.2
DWS	**Wesley**	**1.31**	**198**	*e*P	Pb	15 50 48.4	+0.2
DWS				*e*S	Sb	15 51 05.7	+1.0
DSLB	**Salisbury**	**1.47**	**200**	*e*P	Pb	15 50 50.8	-0.1
DSLB				*e*S	Sb	15 51 09.4	+0.2
DLDT	**Laudat, Domini**	**1.55**	**196**	*e*P	Pb	15 50 51.2	-1.1
MDN	**Morne-Daniel**	**1.57**	**198**	*e*P	Pb	15 50 52.4	-0.2
MDN				*e*S	Sb	15 51 12.9	+0.8
SKI	**Saint Kitts**	**1.83**	**286**	*e*P	Pb	15 50 55.6	-1.4
SKI				*e*S	Sb	15 51 19.5	-0.1
ILAM	**Ilet Lapin Mar**	**2.04**	**179**	*e*P	Pb	15 50 58.9	-1.7
ILAM				*e*S	Sn	15 51 23.2	+1.8
BIM	**Bigot**	**2.30**	**184**	*e*P	Pn	15 51 02.7	+2.3
BIM				*e*S	Sn	15 51 29.5	+1.6
SLBI	**Saint Lucia, B**	**2.79**	**182**	*e*P	Pn	15 51 08.1	+1.0
SLBI				*e*S	Sn	15 51 41.4	+1.6
SVB	**Belmont**	**3.55**	**186**	*e*P	Pn	15 51 20.1	+2.5

*NEIC **10** 16:01:37.7±1.3, 35°.813N±0°.009×117°.65W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.6km az=53.0*
PAS 10 16:01:38.1±1.6, **35°.823N**±0°.008×**117°.64W**±0°.01, **h3**km±2km, **ML3.4**, **ML3.2**/146(NEIC), **Error ellipse: s-maj=1.3km s-min=1.1km az=59.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
**

GRAC	**Grapevine Rang**	**1.19**	**11**	Pg	Pg	16 02 00.3	-0.7		
GRAC				IAML		16 02 21.2			
	comp=N,740nm,0.6s								
SGV	**South Grapevin**	**1.25**	**23**		Pg	16 02 00.4	-1.8		
SGV					Sg	16 02 18.8	+0.3		
AMDNV	**Amargosa**	**1.27**	**60**		Sg	16 02 18.8	-0.1		
WCT	**Wildcat Mounta**	**1.27**	**40**	Pg	Pg	16 02 01.6	-0.9		
WCT				IAML		16 02 20.3			
	comp=N,330nm,0.8s								
WCT				IAML		16 02 23.7			
	comp=E,327nm,0.3s								
LRRC	**Littlerock Res**	**1.33**	**194**		Sb	16 02 21.3	0.0		
HOLC	**Holcomb Ridge**	**1.37**	**187**		Sn	16 02 22.8	-0.2		
LCH	**Last Change Ra**	**1.41**	**360**		Sg	16 02 23.4	0.0		
OSI	**Osito Audit: C**	**1.50**	**217**	Pg	Pn	16 02 05.5	-0.4		
OSI				IAML		16 02 33.9			
	comp=N,184nm,0.6s								
OSI				IAML		16 02 35.4			
	comp=E,262nm,0.8s								
GMN	**Gold Mountain**	**1.51**	**12**		Pn	16 02 05.9	-0.4		
GMN				IAML		16 02 31.2			
	comp=N,219nm,0.7s								
DSP	**Deep Springs**	**1.57**	**350**		Pn	16 02 07.0	+0.2		
DSP				IAML		16 02 29.3			
	comp=E,322nm,0.4s								
DSP				IAML		16 02 29.4			
	comp=N,168nm,0.5s								
BFSC	**Mount Baldy Ra**	**1.58**	**181**		Pn	16 02 05.9	-1.3		
BFSC				IAML		16 02 29.4			
	comp=E,279nm,0.6s								
BFSC				IAML		16 02 29.8			
	comp=N,483nm,0.4s								
TPNV	**Topopah Spring**	**1.59**	**45**		Pn	16 02 06.4	-1.0		
TPNV				IAML		16 02 30.5			
	comp=N,375nm,0.5s								
TPNV				IAML		16 02 31.5			
	comp=N,377nm,0.8s								
BHPR	**Bishop**	**1.62**	**335**		Pb	16 02 08.7	-0.3		
MTUM	**Tungsten Hills**	**1.70**	**334**		Pb	16 02 09.8	-0.3		
PASC	**Pasadena Art C**	**1.71**	**195**		Pn	16 02 08.1	-0.8		
PASC				IAML		16 02 34.6			
	comp=E,172nm,0.3s								
PASC				IAML		16 02 35.1			
	comp=N,140nm,0.5s								
MTPC	**Mountain Pass**	**1.73**	**101**		Pn	16 02 07.8	-1.5		
MTPC				IAML		16 02 34.3			
	comp=N,213nm,0.4s								
MTPC				IAML		16 02 34.5			
	comp=E,217nm,0.4s								
MZP	**Montezuma Peak**	**1.89**	**6**	Pn	Pn	16 02 11.2	-0.3		
BENR	**Benton**	**2.03**	**339**		Pb	16 02 16.0	+0.1		
MLAC	**Mammoth, Mammo**	**2.04**	**332**		Pb	16 02 16.2	+0.1		
MCSM	**Casa Diablo Ho**	**2.09**	**331**		Pb	16 02 17.0	+0.1		
SHPR	**Sheep Range**	**2.12**	**71**	Pn	Pn	16 02 13.8	-0.9		
ELS	**Elsinore Mount**	**2.18**	**175**	Pn	Pn	16 02 14.4	-0.9		
ELS				IAML		16 02 47.5			
	comp=E,108nm,0.5s								
ELS				IAML		16 02 50.3			
	comp=N,128nm,0.7s								
V12A	**Nelson**	**2.27**	**92**	Pn	Pn	16 02 15.2	-1.4		
V12A				IAML		16 03 00.0			
	comp=N,85nm,0.9s								
TPH	**Tonopah**	**2.27**	**8**	Pn	Pn	16 02 15.8	-1.0		
TPH				IAML		16 02 56.6			
	comp=E,85nm,0.7s								
TPH				IAML		16 02 57.1			
	comp=N,80nm,0.7s								
S11A	**Rachel**	**2.37**	**39**	Pn	Pn	16 02 18.0	-0.1		
PMD	**Palm Desert**	**2.41**	**154**	Pn	Pn	16 02 17.2	-1.2		
PMD				IAML		16 03 01.6			
	comp=E,79nm,0.7s								
PFO	**Pinyon Flats O**	**2.41**	**156**	Pn	Pn	16 02 17.5	-1.1		
PFO				IAML		16 02 59.5			
	comp=E,76nm,0.8s								
LHV	**Little Huntoon**	**2.52**	**344**	Pn	Pn	16 02 20.0	0.0		
LHV				IAML		16 03 06.1			
	comp=E,65nm,1.5s								
PMPB	**Monarch Peak**	**2.59**	**280**	Pn	Pn	16 02 21.2	+0.1		
PMPB				IAML		16 03 05.6			
	comp=N,174nm,0.7s								
PRN	**Pahroc Range**	**2.61**	**52**	Pn	Pn	16 02 20.9	-0.6		
PRN				IAML		16 03 12.3			
	comp=N,145nm,0.9s								
PRN				IAML		16 03 13.4			
	comp=E,127nm,0.8s								
NV11	**Mina Array Sit**	**2.64**	**351**	Pn	Pn	16 02 21.4	-0.4		
NVAR	**Mina Array Bea**	**2.66**	**349**	Pn	Pn	16 02 22.3	+0.3		
NEE2	**Needles Airpor**	**2.69**	**112**	Pn	Pn	16 02 20.5	-1.8		
NEE2				IAML		16 03 08.2			
	comp=E,144nm,0.5s								
NEE2				IAML		16 03 17.8			
	comp=N,143nm,0.7s								
BORC	**Borrego Spring**	**2.74**	**158**	Pn	Pn	16 02 21.9	-1.1		
BORC				IAML		16 03 08.5			
	comp=E,101nm,0.7s								
BORC				IAML		16 03 11.0			
	comp=N,83nm,0.8s								
BBGB	**Big Mountain B**	**2.85**	**286**	Pn	Pn	16 02 24.1	-0.6		
DPP	**Dos Picos Cty**	**2.88**	**168**	Pn	Pn	16 02 25.2	+0.3		
DPP				IAML		16 03 12.7			
	comp=E,64nm,1.0s								
RYN	**Ryan**	**2.89**	**346**	Pn	Pn	16 02 25.4	+0.2		
R11B	**Troy Canyon, C**	**3.01**	**32**	Pn	Pn	16 02 25.8	-1.1		
R11B				IAML		16 03 15.4			
	comp=E,60nm,1.0s								
WAKR	**Walker**	**3.04**	**332**	Pn	Pn	16 02 27.6	+0.3		
CMB	**Columbia Colle**	**3.12**	**316**	Pn	Pn	16 02 28.3	0.0		
CMB				IAML		16 03 22.3			
	comp=N,44nm,0.6s								
W13A	**Hualapai Mount**	**3.15**	**102**	Pn	Pn	16 02 27.3	-1.6		
SAO	**San Andreas Ge**	**3.22**	**288**	Pn	Pn	16 02 29.0	-0.6		
BLYC	**Blythe**	**3.29**	**128**	Pn	Pn	16 02 28.3	-2.4		
BLYC				IAML		16 03 40.3			
	comp=E,34nm,0.8s								
YUH	**Yuha Desert**	**3.47**	**155**	Pn	Pn	16 02 32.5	-0.6		
CBX	**Cerro Bola**	**3.59**	**167**	Pn	Pn	16 02 34.2	-0.7		
GLA	**Glamis**	**3.61**	**139**	Pn	Pn	16 02 32.7	-2.3		
GLA				IAML		16 03 39.9			
	comp=N,56nm,0.8s								
LCMT	**Little Creek M**	**3.74**	**70**	Pn	Pn	16 02 36.7	-0.2		
CCUT	**Cedar City**	**3.84**	**62**	Pn	Pn	16 02 38.4	-0.1		
PSUT	**Pine Spring**	**4.06**	**47**	Pn	Pn	16 02 40.6	-0.8		
PSUT				IAML		16 03 49.7			
	comp=N,29nm,1.0s								
PSUT				IAML		16 03 55.6			
	comp=E,38nm,0.9s								
ESJX	**Sierra Juarez**	**4.06**	**159**	Pn	Pn	16 02 41.0	-0.4		
KNB	**Kanab**	**4.06**	**72**	Pn	Pn	16 02 41.6	+0.2		
AFDM	**Forest Hills D**	**4.10**	**321**	Pn	Pn	16 02 42.2	+0.5		
AFDM				IAML		16 03 53.0			
	comp=E,19nm,0.5s								
AFDM				IAML		16 03 56.3			
	comp=N,17nm,1.1s								
PAHR	**Pah Rah Range**	**4.12**	**341**	Pn	Pn	16 02 42.6	+0.5		
SPR3	**Spring Creek 3**	**4.12**	**39**	Pn	Pn	16 02 42.3	-0.1		
SPR3				IAML		16 03 53.5			
	comp=E,22nm,1.3s								
SPR3				IAML		16 03 53.6			
	comp=N,21nm,1.0s								
U15A	**North Rim**	**4.37**	**80**	Pn	Pn	16 02 46.0	+0.3		
U15A				IAML		16 04 06.2			
	comp=E,25nm,0.9s								
U15A				IAML		16 04 12.3			
	comp=N,16nm,0.8s								
BEKR	**Beckworth**	**4.58**	**333**	Pn	Pn	16 02 49.2	+0.8		
BEKR				IAML		16 04 17.1			
	comp=E,16nm,0.6s								
WUAZ	**Wupatki**	**5.11**	**92**	Pn	Pn	16 02 56.1	+0.4		
WUAZ				IAML		16 04 21.2			
	comp=E,23nm,1.4s								
ELK	**Elko**	**5.26**	**20**	Pn	Pn	16 02 57.5	-0.5		
ELK				IAML		16 04 27.2			
	comp=E,9.4nm,0.6s								

*IDC **10** 16:08:20.7±5.2, 15°.03S×167°.41E, h121km±40km, mb3.6/8, mbtmp3.9/9, Error ellipse: s-maj=37.8km s-min=24.1km az=50.0*

ISC 10 16:08:21.5±1.3, 15°.1S±0°.1×167°.4E±0°.2, h129km, n10, σ0°88/10, mb3.6/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.05**	**187**	P	**Pn**	**16 10 01.6**	**-0.5**
	4.6nm,0.3s,baz=353,slow=20,SNR=14						
DZM				S	**Sn**	**16 11 20.7**	**-0.3**
	8.1nm,0.4s,baz=203,slow=23,SNR=6.6						
STKA	**Stephens Creek**	**28.90**	**230**	P	**P**	**16 14 09.8**	**+1.5**
	2.0nm,0.5s,baz=55,slow=10,SNR=6.2						
	2.0nm,0.5s						
WRA	**Warramunga Arr**	**31.89**	**256**	P	**P**	**16 14 34.0**	**-0.8**
	0.2nm,0.7s,baz=84,slow=7.6,SNR=4.9						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**32.70**	**250**	P	**P**	**16 14 41.2**	**-0.7**
	0.7nm,0.6s,baz=80,slow=9.1,SNR=21						
	0.7nm,0.6s						
VNDA	**Vanda**	**62.55**	**181**	P	**P**	**16 18 32.1**	**+1.0**
	0.3nm,0.3s,baz=320,slow=1.6,SNR=2.2						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**74.98**	**180**	P	**P**	**16 19 48.7**	**+0.2**
	1.7nm,0.7s,baz=318,slow=0.3,SNR=22						
	1.7nm,0.7s						
SONM	**Songino Array**	**82.84**	**324**	P	**P**	**16 20 31.5**	**-0.1**
	0.3nm,0.4s,baz=134,slow=6.2,SNR=2.2						
	0.3nm,0.4s						
SNAA	**Sanae**	**93.24**	**183**	P	**P**	**16 21 20.2**	**-0.9**
	0.6nm,0.6s,baz=206,slow=8.6,SNR=8.5						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**97.54**	**316**	P	Pdif	16 21 42.0	+0.9
	0.3nm,0.6s,baz=99,slow=6.3,SNR=4.9						
	0.3nm,0.6s						
ARCES	**ARCESS Array B**	**120.60**	**345**	PKP	**PKPdf**	**16 26 57.3**	**-0.1**
	1.4nm,0.6s,baz=63,slow=2.0,SNR=12						

MOS 10 16:23:08.5, 44°.43N×39°.66E, h7km, MPVA3.5, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOYR	**Goytkh**	**0.27**	**229**	*i* Pg	Pg	16 23 13.8	0.0
GOYR				*e*Sg	Sg	16 23 18.1	+0.8
MRNR	**Maryino**	**0.50**	**195**	*e*Pg	Pg	16 23 18.9	+0.7
MRNR				*e*Sg	Sb	16 23 27.3	+0.1
GUZR	**Guzeripl'**	**0.54**	**142**	*i* Pg	Pg	16 23 19.1	+0.1
GUZR				*i* Sg	Sb	16 23 27.7	-0.6
LABN	**Labinsk**	**0.79**	**74**	*e*Pg	Pn	16 23 26.1	0.0
LABN				*e*Sg	Sn	16 23 37.6	-0.5
SOC	**Sochi**	**0.84**	**177**	*e*Pg	Pn	16 23 27.3	+0.6
SOC				*e*Sg	Sn	16 23 40.2	+0.9
RPOR	**Krasnaya Polya**	**0.85**	**149**	*e*Pg	Pg	16 23 24.1	-0.7
RPOR				*e*Sg	Sg	16 23 36.4	+0.6
VSLR	**Vesyoloye**	**1.00**	**164**	*e*Pg	Pb	16 23 28.5	+0.3
VSLR				*e*Sg	Sn	16 23 43.6	+0.3
SRGR	**Sergiyevskiy**	**1.05**	**341**	*e*Pg	Pn	16 23 30.4	+0.8
SRGR				*i* Sg	Sn	16 23 44.5	0.0
GRYR	**Gornoye**	**1.08**	**106**	*e*Pg	Pg	16 23 29.0	-0.2
GRYR				*e*Sg	Sb	16 23 44.0	+0.3
SPGR	**Shapsug**	**1.18**	**286**	*e*Pg	Pb	16 23 31.1	0.0
SPGR				*e*Sg	Sn	16 23 49.0	+1.5
GELR	**Gelenjik**	**1.21**	**278**	*e*Pg	Pb	16 23 31.6	0.0
GELR				*e*Sg	Sn	16 23 49.2	+0.9
ERBR	**Yeremizino-Bor**	**1.42**	**24**	*e*Pg	Pg	16 23 35.7	0.0
ERBR				*e*Sg	Sg	16 23 54.5	+0.4
GLDR	**Gladkovskiy**	**1.49**	**293**	*e*Pg	Pg	16 23 36.9	-0.2
GLDR				*e*Sg	Sg	16 23 56.5	+0.2
ANN	**Anapa**	**1.63**	**284**	*e*Pg	Pg	16 23 39.6	-0.2
ANN				*i* Sg	Sg	16 24 02.5	+1.6
SUKR	**Sukko**	**1.63**	**284**	*e*Pg	Pb	16 23 38.9	-0.1
SUKR				*e*Sg	Sg	16 24 00.9	-0.1
KIV	**Kislovodsk**	**2.23**	**101**	*e*Pg	Pb	16 23 47.6	-1.5
KIV				*e*Sg	Sb	16 24 17.2	+0.2
SHA1	**Shidzhatmaz**	**2.27**	**107**	*e*Pn	Pn	16 23 48.2	+1.6
SHA1				*e*Sn	Sb	16 24 16.7	-1.5
BEYR	**Belyy Ugol+**	**2.31**	**99**	*e*Pn	Pb	16 23 49.3	-1.1
BEYR				*e*Sn	Sb	16 24 19.1	-0.1
KBZ	**Khabaz**	**2.44**	**105**	*e*Pn	Pn	16 23 50.0	+1.4
KBZ				*e*Sn	Sb	16 24 21.2	-1.6

*NEIC **10** 16:28:41.1±1.1, 56°.2S±0°.1×27°.5W±0°.2, h115km±6km, mb4.8/41, Error ellipse: s-maj=18.0km s-min=13.3km az=202.0*

*IDC **10** 16:28:43.8±1.3, 56°.07S×27°.49W, h138km±10km, mb4.1/11, mbtmp4.6/13, MS3.5/1, Error ellipse: s-maj=16.0km s-min=12.2km az=66.0*

ISC 10 16:28:42.4±0.9, 56°.14S±0°.07×27°.58W±0°.07, h130km±7km, n105, σ0°91/115, mb4.7/28, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.43**	**286**		**Pn**	**16 30 00.3**	**-0.8**
ESPZ	**Base Esperanza**	**16.37**	**232**		**Pn**	**16 32 24.3**	**0.0**
VNA1	**Neumayer--Stat**	**16.79**	**158**	⇑P	**Pn**	**16 32 29.4**	**+0.1**
	comp=Z,18nm,0.7s						
VNA2	**Neumayer--Watz**	**17.19**	**157**	⇑P	**P**	**16 32 32.7**	**-1.0**
	comp=Z,24nm,0.9s,baz=313,slow=13						
EFI	**East Falkland**	**18.42**	**271**	P	**P**	**16 32 47.1**	**-0.2**
SNAA	**Sanae**	**18.75**	**156**	⇑P	**P**	**16 32 50.9**	**+0.2**
	comp=Z,777nm,0.5s						
SNAA	**Sanae**	**18.75**	**156**	P	**P**	**16 32 50.8**	**0.0**
SNAA	**Sanae**	**18.75**	**156**	P	**P**	**16 32 51.0**	**+0.2**
	comp=Z,25nm,0.5s,baz=305,slow=9.8,SNR=581						
SNAA				S	**S**	**16 36 12.8**	**-4.3**
	comp=Z,2.3nm,0.9s,baz=181,slow=19,SNR=2.3						
SNAA				PcP	**PcP**	**16 37 12.6**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=237,slow=13,SNR=1.4						
SNAA				ScP	**ScP**	**16 40 35.3**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=18,slow=4.8,SNR=11						
PMSA	**Palmer Station**	**19.68**	**229**	P	**P**	**16 33 01.4**	**+0.6**
PMSA	**Palmer Station**	**19.68**	**229**	P	**Pn**	**16 33 03.2**	**-0.3**
	comp=Z,47nm,0.7s,baz=61,slow=6.5,SNR=24						
TROLL	**Troll, Antarti**	**20.26**	**153**	⇑P	**P**	**16 33 07.3**	**0.0**
	comp=Z,2μm,0.6s						
SMAI	**San Martin Ant**	**21.55**	**220**	P	**P**	**16 33 21.7**	**+0.7**
BELA	**Belgrano 2**	**21.97**	**184**	P	**P**	**16 33 24.6**	**-0.6**
MG02	**Cerro Sombrero**	**24.17**	**260**	P	**P**	**16 33 45.9**	**-0.3**
MG05	**Puerto Natales**	**26.47**	**261**	P	**P**	**16 34 06.0**	**-1.0**
MG05				IAmb	IAmb	16 34 52.7	
	comp=Z,24nm,1.2s						
GO09	**Cerro Castillo**	**26.57**	**262**	P	**P**	**16 34 06.2**	**-1.7**
GO09				IAmb	IAmb	16 34 35.8	
	comp=Z,24nm,1.1s						
TRQA	**Tornquist**	**29.16**	**294**	P	**P**	**16 34 30.8**	**-0.3**
PLTB	**Pedras Altas**	**30.40**	**312**	P	**P**	**16 34 42.4**	**+0.3**
SYO	**Syowa Base**	**31.65**	**141**	⇑*e*P	**P**	**16 34 51.4**	**-1.2**
PLCA	**Paso Flores**	**31.80**	**281**	P	**P**	**16 34 53.9**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=102,slow=8.6,SNR=3.1						
PLCA				ScP	**ScP**	**16 41 12.1**	**-1.1**
	comp=Z,2.4nm,1.0s,baz=72,slow=6.4,SNR=3.0						
	comp=Z,1.7nm,0.8s						
QSPA	**South Pole Qui**	**34.11**	**180**	P	**P**	**16 35 15.1**	**+0.8**
QSPA				IAmb	IAmb	16 35 16.9	
	comp=Z,29nm,1.5s						
QSPA	**South Pole Qui**	**34.11**	**180**	P	**P**	**16 35 15.8**	**+1.5**
	comp=Z,4.9nm,0.5s,baz=235,slow=0.5,SNR=80						
QSPA				PcP	**PcP**	**16 37 48.5**	**+0.2**
	comp=Z,2.5nm,0.6s,baz=274,slow=2.1,SNR=3.5						
QSPA				ScP	**ScP**	**16 41 20.1**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=225,slow=1.3,SNR=14						
	comp=Z,4.9nm,0.5s						
QSPA	**South Pole Qui**	**34.11**	**180**	P	**P**	**16 35 16.0**	**+1.8**
QSPA				ScP	**ScP**	**16 41 21.6**	**+0.7**
CPUP	**Villa Florida**	**36.71**	**312**		**P**	**16 35 36.6**	**-0.1**
CPUP	**Villa Florida**	**36.71**	**312**	P	**P**	**16 35 36.8**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=21,slow=7.0,SNR=8.8						
	comp=Z,1.2nm,0.7s						
CPUP	**Villa Florida**	**36.71**	**312**	P	**P**	**16 35 36.9**	**+0.2**
BO04	**La Punta**	**36.77**	**289**	P	**P**	**16 35 37.0**	**-0.2**
MT09	**Talagante**	**37.13**	**289**	P	**P**	**16 35 38.8**	**-1.6**
MT02	**Curacav**	**37.61**	**289**	P	**P**	**16 35 43.3**	**-1.0**
ZON	**Zonda**	**37.67**	**293**	P	**P**	**16 35 43.8**	**-1.1**
ZON				IAmb	IAmb	16 35 44.9	
	comp=Z,7.2nm,0.6s						
CO02	**Combarbal**	**39.15**	**291**	P	**P**	**16 35 56.8**	**-0.5**
CO01	**Juntas del Tor**	**39.65**	**293**	P	**P**	**16 36 02.0**	**+0.4**
MAW	**Mawson**	**40.20**	**144**	P	**P**	**16 36 06.1**	**+0.7**
	comp=Z,5.1nm,0.7s,baz=235,slow=8.3,SNR=19						
MAW				PcP	**PcP**	**16 38 06.8**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=260,slow=6.7,SNR=3.1						
MAW				ScP	**ScP**	**16 41 43.1**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=270,slow=8.1,SNR=7.2						
	comp=Z,5.1nm,0.7s						
GO02	**Mina Guanaco**	**43.34**	**298**	P	**P**	**16 36 31.9**	**+0.1**
PB06	**IPOC Station P**	**45.40**	**300**	P	**P**	**16 36 48.4**	**+0.4**
PB06				IAmb	IAmb	16 36 49.2	
	comp=Z,16nm,0.9s						
PB05	**IPOC Station P**	**45.58**	**299**	P	**P**	**16 36 49.2**	**-0.2**
PB05				IAmb	IAmb	16 36 50.3	
	comp=Z,17nm,0.9s						
PB03	**IPOC Station P**	**46.04**	**300**	P	**P**	**16 36 53.3**	**+0.3**
PB03				IAmb	IAmb	16 36 54.2	
	comp=Z,18nm,0.7s						
BOSA	**Boshof**	**46.20**	**76**	P	**P**	**16 36 53.8**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=195,slow=7.3,SNR=8.0						
BOSA				LR	LR	16 53 42.0	
	comp=Z,45nm,18.2s,baz=195,slow=32						
	comp=Z,2.6nm,0.7s						
VNDA	**Vanda**	**46.47**	**183**	P	**P**	**16 36 56.7**	**+1.2**
	comp=Z,2.6nm,0.6s,baz=185,slow=6.4,SNR=26						
VNDA				ScP	**ScP**	**16 42 08.8**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=185,slow=3.8,SNR=3.4						
	comp=Z,2.6nm,0.6s						
VNDA	**Vanda**	**46.47**	**183**	P	**P**	**16 36 57.1**	**+1.6**
VNDA				ScP	**ScP**	**16 42 08.9**	**+0.1**
PB02	**IPOC Station P**	**46.73**	**300**	P	**P**	**16 36 59.0**	**+0.7**
PB01	**IPOC Station P**	**46.77**	**301**	P	**P**	**16 36 59.5**	**+0.8**
PATCX	**Punta Patache**	**47.28**	**301**	P	**P**	**16 37 03.1**	**+0.5**
PATCX				IAmb	IAmb	16 37 04.0	
	comp=Z,23nm,0.7s						
TA01	**Diego Aracena**	**47.51**	**301**	P	**P**	**16 37 04.0**	**-0.2**
HMBC	**Humberstone**	**47.62**	**301**	P	**P**	**16 37 05.1**	**-0.2**
HMBC				IAmb	IAmb	16 37 06.3	
	comp=Z,17nm,0.6s						
TA02	**Huaiquique**	**47.74**	**301**	P	**P**	**16 37 06.2**	**+0.1**
TA02				IAmb	IAmb	16 37 08.6	
	comp=Z,35nm,1.1s						
GO01	**Chusmiza**	**47.81**	**302**	P	**P**	**16 37 07.4**	**+0.2**
PB11	**IPOC Station P**	**47.95**	**302**	P	**P**	**16 37 07.8**	**-0.1**
PB11				IAmb	IAmb	16 37 10.0	
	comp=Z,20nm,0.8s						
KOOLE	**Kule**	**48.05**	**67**	*i* P	**P**	**16 37 08.3**	**-0.3**
PB16	**IPOC Station P**	**49.11**	**303**	P	**P**	**16 37 17.6**	**+0.3**
KGCAE	**Kacgae**	**49.20**	**69**	P	**P**	**16 37 17.0**	**-0.4**
KGCAE				IAmb	IAmb	16 37 18.2	
	comp=Z,20nm,1.0s						
LBTB	**Lobatse**	**49.24**	**73**	P	**P**	**16 37 16.9**	**-0.7**
LBTB				IAmb	IAmb	16 37 18.3	
	comp=Z,8.9nm,0.8s						
LBTB	**Lobatse**	**49.24**	**73**	P	**P**	**16 37 17.2**	**-0.5**
LBTB				PcP	**PcP**	**16 38 36.9**	**-1.8**
TSUM	**Tsumeb**	**49.91**	**61**	P	**P**	**16 37 22.4**	**-0.4**
GRTLG	**Ghanzi**	**49.92**	**66**	P	**P**	**16 37 22.6**	**-0.3**
GRTLG				IAmb	IAmb	16 37 23.4	
	comp=Z,8.0nm,0.9s						
LPAZ	**La Paz**	**50.25**	**306**	P	**P**	**16 37 26.8**	**+0.9**
LPAZ				IAmb	IAmb	16 37 27.8	
	comp=Z,9.4nm,0.5s						
LPAZ	**La Paz**	**50.25**	**306**	P	**P**	**16 37 27.0**	**+1.0**
	comp=Z,6.0nm,0.3s,baz=126,slow=3.7,SNR=42						
	comp=Z,6.0nm,0.3s						
LPAZ	**La Paz**	**50.25**	**306**	P	**P**	**16 37 26.8**	**+0.9**
LPAZ				pP	**pP**	**16 37 53.9**	**-1.4**
POGA	**Pongola**	**50.73**	**81**	P	**P**	**16 37 28.2**	**-0.6**
POGA				IAmb	IAmb	16 37 29.0	
	comp=Z,9.6nm,0.7s						
QNGWA	**Qangwa**	**51.43**	**65**	P	**P**	**16 37 33.8**	**-0.4**
QNGWA				IAmb	IAmb	16 37 35.2	
	comp=Z,12nm,0.9s						
QNGWA	**Qangwa**	**51.43**	**65**	*i* P	**P**	**16 37 34.4**	**+0.3**
MREMI	**Moremi**	**52.21**	**73**	P	**P**	**16 37 39.8**	**-0.1**
MREMI	**Moremi**	**52.21**	**73**	*i* P	**P**	**16 37 40.0**	**+0.1**
SOOWA	**Sowa**	**53.19**	**71**	*i* P	**P**	**16 37 47.1**	**0.0**
BROLN	**Tlhalogang**	**53.34**	**72**	*i* P	**P**	**16 37 47.6**	**-0.6**
CASY	**Casey**	**53.90**	**160**	P	**P**	**16 37 52.1**	**+0.6**
CASY				IAmb	IAmb	16 37 53.6	
	comp=Z,12nm,1.1s						
KSANE	**Kasane**	**54.92**	**68**	P	**P**	**16 37 59.2**	**-0.5**
KSANE				IAmb	IAmb	16 38 00.5	
	comp=Z,14nm,0.9s						
DRV	**Dumont d'Urvil**	**57.16**	**174**	P	**P**	**16 38 15.2**	**+0.4**
DRV				PcP	**PcP**	**16 39 04.9**	**-2.9**
LSZ	**Lusaka**	**58.61**	**69**	P	**P**	**16 38 25.3**	**-0.5**
LSZ				IAmb	IAmb	16 38 26.6	
	comp=Z,11nm,0.9s						
VOI	**Vohitsoka**	**63.42**	**90**	P	**P**	**16 38 59.4**	**+1.2**
DBIC	**Dimbokro**	**65.34**	**25**	P	**P**	**16 39 10.8**	**+0.3**
	comp=Z,4.9nm,0.6s,baz=219,slow=6.7,SNR=4.8						
	comp=Z,4.9nm,0.6s						
COHC	**Cochancay**	**67.53**	**302**	P	**P**	**16 39 26.3**	**+1.8**
TORD	**Torodi Ar. Bea**	**73.24**	**30**	P	**P**	**16 39 59.7**	**+0.6**
TORD				IAmb	IAmb	16 40 00.5	
	comp=Z,8.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.24**	**30**	P	**P**	**16 39 59.7**	**+0

ESSG	**Sabana Grande**	**0.33**	**74**	*i* P		Pn	16 41 28.5	-0.1
ESSG				*e*S		Sn	16 41 38.1	+0.6
FG8	**Yepocapa, Chim**	**0.58**	**93**	*e*P		Pn	16 41 28.3	-2.4
FG8				*e*S		Sn	16 41 37.9	-3.3
FG16	**Alotenango, Sa**	**0.63**	**92**	*e*P		Pn	16 41 29.4	-2.0
FG16				*e*S		Sn	16 41 38.5	-3.7
FG16				IAML			16 41 41.1	
	comp=E,3μm,0.2s							

IDC 10 16:49:35.8±2.0, 0°56'N×126°34'E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=181.9km s-min=25.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.83**	**159**	P	P	16 54 28.7	-1.2
	0.5nm,0.6s,baz=338,slow=11,SNR=7.2 0.5nm,0.6s						
ASAR	**Alice Springs**	**25.18**	**164**	P	P	16 55 03.9	+0.8
	0.2nm,0.4s,baz=342,slow=10,SNR=15 0.2nm,0.4s						
MKAR	**Makanchi Array**	**59.95**	**326**	P	P	16 59 43.8	-0.1
	0.2nm,0.4s,baz=118,slow=7.4,SNR=6.1 0.2nm,0.4s						

*IDC **10** 17:11:49.4±0.9, 0°.13N×126°.01E, h0km, mb4.0/8, mbtmp4.0/8, MS2.9/1, Error ellipse: s-maj=57.5km s-min=18.3km az=69.0*

ISC 10 17:11:55.4±1.1, 0°.1N±0°.2×126°.1E±0°.4, h44km, n9, σ0.68/8, mb4.1/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**14.86**	**100**	LR	LR	17 22 14.9	
	comp=Z,55nm,21.7s,baz=214,slow=42						
WRA	**Warramunga Arr**	**21.49**	**158**	P	**P**	**17 16 39.6**	**-0.9**
	2.4nm,0.7s,baz=338,slow=10,SNR=31 2.4nm,0.7s						
ASAR	**Alice Springs**	**24.81**	**163**	P	**P**	**17 17 14.6**	**+1.0**
	1.5nm,0.8s,baz=346,slow=12,SNR=53 1.5nm,0.8s						
SONM	**Songino Array**	**50.54**	**343**	P	**P**	**17 20 49.2**	**-0.3**
	0.7nm,0.5s,baz=162,slow=8.3,SNR=5.8 0.7nm,0.5s						
PETK	**Petropavlovsk-**	**59.04**	**22**	P	**P**	**17 21 50.9**	**+0.1**
	2.4nm,0.6s,baz=200,slow=4.1,SNR=6.9 2.4nm,0.6s						
MKAR	**Makanchi Array**	**60.19**	**327**	P	**P**	**17 21 58.4**	**-0.5**
	1.2nm,0.8s,baz=125,slow=8.3,SNR=12 1.2nm,0.8s						
ZALV	**Zalesovo Beam**	**63.53**	**334**	P	**P**	**17 22 21.4**	**+0.3**
	1.2nm,0.8s,baz=120,slow=5.3,SNR=4.5 1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**64.46**	**329**	P	**P**	**17 22 27.2**	**-0.1**
	1.4nm,0.8s,baz=127,slow=6.4,SNR=10 1.4nm,0.8s						
AKTO	**Aktyubinsk**	**76.10**	**322**	P	**P**	**17 23 38.8**	**+0.3**
	2.1nm,0.6s,baz=107,slow=7.8,SNR=9.2 2.1nm,0.6s						

IDC 10 17:19:00.9±2.2, 1°.18N×127°.35E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=214.6km s-min=22.3km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.08**	**162**	P	P	17 23 57.1	-0.7
	0.8nm,0.8s,baz=342,slow=11,SNR=16 0.8nm,0.8s						
ASAR	**Alice Springs**	**25.50**	**166**	P	P	17 24 31.8	+0.5
	0.2nm,0.4s,baz=342,slow=8.7,SNR=10 0.2nm,0.4s						
MKAR	**Makanchi Array**	**60.00**	**326**	P	P	17 29 09.1	-0.4
	0.1nm,0.4s,baz=120,slow=6.7,SNR=4.8 0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**64.21**	**328**	P	P	17 29 37.9	+0.3
	0.2nm,0.6s,baz=127,slow=6.2,SNR=2.2 0.2nm,0.6s						

CATAC 10 17:25:38.0±0.4, 11°N±2°×87°W±°, h36km±5km, M3.2/22, MLv3.2/22, Error ellipse: s-maj=7.2km s-min=2.8km az=50.7, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	**Granada**	**0.49**	**43**	P	Pn	17 25 49.4	+0.8
ARIN	**Rivas**	**0.53**	**82**	P	Pn	17 25 49.9	+0.7
NANN	**Nandasmo**	**0.61**	**24**	P	Pn	17 25 51.0	+0.7
NANN	**Nandasmo**	**0.61**	**24**	S	Sn	17 26 00.9	+2.1
SABN	**Sabanita**	**0.61**	**20**	P	Pn	17 25 51.1	+0.8
JAPN	**Al SSO del Vol**	**0.70**	**78**	P	Pn	17 25 52.4	+1.0
MORN	**Al O del Volca**	**0.73**	**77**	P	Pn	17 25 52.8	+0.9
MORN				S	Sn	17 26 03.8	+1.9
SAPS	**Ciudad Sandino**	**0.78**	**358**	S	Sn	17 26 04.5	+1.5
WILN	**Americas 2**	**0.79**	**13**	P	Pn	17 25 53.6	+0.9
WILN				S	Sn	17 26 04.8	+1.4
COPN	**Copaltepe**	**0.82**	**345**	P	Pn	17 25 53.1	0.0
CARN	**Rivas**	**0.86**	**103**	P	Pn	17 25 54.4	+0.8
CARN				S	Sn	17 26 06.2	+1.2
APQ3	**Volcan Apoyequ**	**0.88**	**0**	P	Pn	17 25 54.5	+0.6
APQ3				S	Sn	17 26 06.0	+0.4
MOMN	**Momotombo**	**1.03**	**351**	P	Pn	17 25 56.2	+0.2
MOM2	**El Cardon**	**1.05**	**354**	P	Pn	17 25 56.6	+0.3
MOM2				S	Sn	17 26 10.4	+0.7
CNGN	**Cerro Negro**	**1.15**	**344**	P	Pn	17 25 58.3	+0.6
POLN	**Al Sur del Vol**	**1.33**	**341**	P	Pn	17 26 00.1	-0.1
PKGN	**Cerro Pekin**	**1.41**	**335**	P	Pn	17 26 01.8	+0.6
CRIN	**San Cristobal**	**1.47**	**333**	P	Pn	17 26 02.0	-0.1
CRIN	**San Cristobal**	**1.47**	**333**	S	Sn	17 26 20.2	+0.1
INDI	**Punta indio, G**	**1.73**	**150**	S	Sn	17 26 26.7	+0.2
INDI	**Punta indio, G**	**1.73**	**150**	P	Pn	17 26 05.8	+0.2
JTS	**Las Juntas de**	**1.77**	**128**	P	Pn	17 26 06.6	+0.4
JTS				S	Sn	17 26 28.2	+0.7
POTN	**Potosi Cosigui**	**1.95**	**326**	P	Pn	17 26 08.8	+0.2
SOCE	**Pocosol**	**1.99**	**120**	P	Pn	17 26 09.5	+0.3
RCPN	**Sur Rio San Ju**	**2.15**	**7**	P	Pn	17 26 12.0	+0.5
CHOHN	**Orocuina**	**2.22**	**340**	P	Pn	17 26 12.6	+0.2
CNCH	**Conchagua**	**2.36**	**323**	P	Pn	17 26 14.3	-0.1
TCS1	**Tacares**	**2.44**	**123**	P	Pn	17 26 15.2	-0.2
YUSH	**Yuscaran**	**2.59**	**350**	P	Pn	17 26 17.7	0.0
BLUN	**Bluefields**	**2.62**	**76**	P	Pn	17 26 18.4	+0.5
BLUN				S	Sn	17 26 49.2	+0.7
PACA	**Pacayal**	**2.81**	**318**	S	Sn	17 26 54.0	+0.6
PACA	**Pacayal**	**2.81**	**318**	P	Pn	17 26 20.8	+0.1
LCR2	**La Lucha 2**	**2.84**	**125**	P	Pn	17 26 21.2	+0.1

*NEIC **10** 17:43:21.3±0.8, 35°.974N±0°.008×117°.773W±0°.004, h6km±1km, Error ellipse: s-maj=1.2km s-min=0.4km az=195.0*

PAS 10 17:43:21.5±1.0, 35°.985N±0°.009×117°.78W±0°.01, h7km±1km, ML3.2/4, ML2.6/92(NEIC), Error ellipse: s-maj=1.9km s-min=1.5km az=104.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRC2	**Joshua Ridge**	**0.02**	**265**		Pg	17 43 23.0	-0.1
JRC2					Sg	17 43 24.1	-0.2
WCSM	**Coso Springs S**	**0.04**	**15**		Pg	17 43 23.2	-0.1
WCSM					Sg	17 43 24.3	-0.2
WVPM	**Volcano Peak E**	**0.05**	**220**		Pg	17 43 23.2	-0.1
WVPM					Sg	17 43 24.2	-0.3
WRVM	**Rose V. Centra**	**0.09**	**285**		Pg	17 43 23.9	+0.1
MFS	**McCloud Flat S**	**0.14**	**336**		Pg	17 43 24.8	+0.1
MFS					Sg	17 43 27.1	+0.2
WNMM	**Nine Mile Cany**	**0.17**	**215**		Pg	17 43 25.1	0.0
WNMM					Sg	17 43 27.7	+0.2
TOW	**Tower One**	**0.18**	**176**		Pg	17 43 25.6	+0.4
CLC	**China Lake**	**0.23**	**139**		Sg	17 43 29.2	+0.1
CLC	**China Lake**	**0.23**	**139**		Pg	17 43 26.0	-0.1
CLC				IAML		17 43 29.5	
	comp=N,1μm,0.2s						
CLC				IAML		17 43 29.6	
	comp=E,810nm,0.2s						
MPMC	**Manual Prospec**	**0.25**	**73**		Pg	17 43 26.6	+0.1
MPMC				Sg	Sg	17 43 30.0	+0.1
MPMC				IAML		17 43 30.3	
	comp=E,757nm,0.2s						
MPMC				IAML		17 43 30.4	
	comp=N,901nm,0.5s						
SRTC	**Snort**	**0.29**	**175**		Pg	17 43 27.7	+0.4
SRTC					Sg	17 43 32.6	+1.4
LRMC	**Laurel Mtn Rad**	**0.51**	**171**		Pg	17 43 31.2	-0.3
LRMC					Sg	17 43 38.2	+0.1
LRMC				IAML		17 43 39.0	
	comp=E,426nm,0.4s						
LRMC				IAML		17 43 39.1	
	comp=N,493nm,0.1s						
CWC	**Cottonwood Cre**	**0.52**	**332**		Pg	17 43 31.4	-0.1
CWC				Sg	Sg	17 43 38.6	+0.3
CWC				IAML		17 43 40.0	
	comp=E,255nm,0.2s						
CWC				IAML		17 43 41.9	
	comp=N,308nm,0.1s						
CCCA	**Chr Cany lake**	**0.57**	**143**		Pg	17 43 32.8	+0.3
CCCA					Sg	17 43 40.7	+0.7
ISA	**Isabella, Lake**	**0.65**	**241**		Pg	17 43 33.8	-0.2
ISA				Sg	Sg	17 43 42.4	-0.1
QSM	**Queen of Sheba**	**0.74**	**91**		Pg	17 43 35.4	-0.3
QSM				IAML		17 43 49.1	
	comp=N,251nm,0.6s						
QSM				IAML		17 43 49.4	
	comp=E,180nm,0.6s						
SPG2	**Springville 2**	**0.83**	**285**		Pg	17 43 36.9	-0.5
GWY	**Greenwater Val**	**0.92**	**77**		Pg	17 43 39.1	-0.1
GWY					Sg	17 43 51.2	-0.1
GWY				IAML		17 43 53.6	
	comp=N,138nm,0.2s						
GWY				IAML		17 43 55.3	
	comp=E,132nm,0.7s						
GSC	**Goldstone, Bar**	**1.05**	**130**		Pg	17 43 40.8	-0.8
GSC				Sg	Sg	17 43 54.5	-0.7
GSC				IAML		17 43 57.4	
	comp=N,109nm,0.6s						
GSC				IAML		17 43 59.5	
	comp=E,173nm,0.4s						
GRAC	**Grapevine Rang**	**1.06**	**18**		Pg	17 43 41.6	-0.4
GRAC				Sg	Sb	17 43 56.2	-0.2
GRAC				IAML		17 43 57.7	
	comp=N,150nm,0.5s						
GRAC				IAML		17 44 00.2	
	comp=E,153nm,0.3s						
SGV	**South Grapevin**	**1.16**	**31**		Pb	17 43 44.0	0.0
TPO	**Tropico Hills**	**1.16**	**198**		Pg	17 43 42.9	-1.0
TPO					Sg	17 43 57.9	-1.1
TPO				IAML		17 43 59.0	
	comp=E,172nm,0.3s						
TPO				IAML		17 44 04.9	
	comp=N,87nm,0.7s						
WCT	**Wildcat Mounta**	**1.23**	**49**		Pb	17 43 44.6	-0.6
WCT					Sg	17 44 00.2	-1.0
WCT				IAML		17 44 01.5	
	comp=E,103nm,0.5s						
WCT				IAML		17 44 04.4	
	comp=N,75nm,0.5s						
VOG	**Valley Oaks Go**	**1.34**	**285**		Pn	17 43 46.5	-0.1
GMN	**Gold Mountain**	**1.38**	**18**	Pg	Pb	17 43 47.8	0.0
DSP	**Deep Springs**	**1.39**	**354**		Pn	17 43 47.3	0.0
BHPR	**Bishop**	**1.43**	**337**		Pb	17 43 48.6	0.0
TPNV	**Topopah Spring**	**1.56**	**52**		Pn	17 43 49.7	-0.2
TPNV				IAML		17 44 13.8	
	comp=N,87nm,0.4s						
TPNV				IAML		17 44 15.3	
	comp=N,118nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.75**	**177**		Pn	17 43 51.9	-0.4
MWC	**Mount Wilson**	**1.77**	**187**		Pn	17 43 52.3	-0.5
MWC				IAML		17 44 19.6	
	comp=N,68nm,0.5s						
MWC				IAML		17 44 21.0	
	comp=E,56nm,0.5s						
PASC	**Pasadena Art C**	**1.84**	**191**	Pn	Pn	17 43 52.4	-1.1
MTPC	**Mountain Pass**	**1.88**	**105**		Pn	17 43 53.1	-1.0
MTPC				IAML		17 44 22.1	
	comp=N,33nm,0.2s						
MTPC				IAML		17 44 26.1	
	comp=E,45nm,0.2s						
TPH	**Tonopah**	**2.13**	**12**		Pn	17 43 57.5	-0.2
TPH				IAML		17 44 38.3	
	comp=N,72nm,0.7s						
SHPR	**Sheep Range**	**2.18**	**75**		Pn	17 43 58.5	+0.2
S11A	**Rachel**	**2.33**	**44**	Pn	Pn	17 43 59.1	-1.1
S11A				IAML		17 44 37.4	
	comp=N,37nm,0.6s						
S11A				IAML		17 44 38.1	
	comp=E,47nm,0.7s						
LHV	**Little Huntoon**	**2.33**	**346**		Pn	17 44 00.5	+0.2
ELS	**Elsinore Mount**	**2.35**	**173**	Pn	Pn	17 44 00.8	+0.3
V12A	**Nelson**	**2.39**	**95**		Pn	17 44 00.7	-0.5
PMPB	**Monarch Peak**	**2.46**	**276**		Pn	17 44 00.5	-1.6
PMPB				IAML		17 44 46.7	
	comp=N,38nm,1.0s						
PMPB				IAML		17 44 46.8	
	comp=E,36nm,0.8s						
NV11	**Mina Array Sit**	**2.46**	**353**		Pn	17 44 02.2	+0.1
NVAR	**Mina Array Bea**	**2.48**	**350**		Pn	17 44 02.2	-0.2
RAMR	**Ramage Ranch**	**2.54**	**263**	IAML		17 44 54.0	
	comp=N,50nm,0.5s						
PMD	**Palm Desert**	**2.60**	**153**		Pn	17 44 03.0	-0.9
PFO	**Pinyon Flats O**	**2.60**	**155**		Pn	17 44 03.3	-0.9
PRN	**Pahroc Range**	**2.61**	**56**		Pn	17 44 03.7	-0.5
PRN				IAML		17 44 47.1	
	comp=N,24nm,0.5s						
PRN				IAML		17 44 57.1	
	comp=E,20nm,0.7s						
BBGB	**Big Mountain B**	**2.70**	**284**		Pn	17 44 04.6	-0.8
RYN	**Ryan**	**2.70**	**348**	Pn	Pn	17 44 03.9	-1.7
WAKR	**Walker**	**2.84**	**333**		Pn	17 44 06.1	-1.3
CMB	**Columbia Colle**	**2.92**	**315**		Pn	17 44 06.4	-2.0
CMB				IAML		17 44 54.8	
	comp=E,12nm,0.4s						
CMB				IAML		17 44 58.1	
	comp=N,11nm,0.4s						
BORC	**Borrego Spring**	**2.93**	**157**		Pn	17 44 07.3	-1.3
R11B	**Troy Canyon, C**	**2.94**	**36**		Pn	17 44 08.2	-0.6
W13A	**Hualapai Mount**	**3.30**	**104**		Pn	17 44 12.0	-1.7
TKX	**Tecate**	**3.54**	**164**		Pn	17 44 16.2	-0.7
LCMT	**Little Creek M**	**3.80**	**73**		Pn	17 44 19.7	-0.8
GLA	**Glamis**	**3.81**	**139**		Pn	17 44 19.2	-1.4
GLA				IAML		17 45 26.7	
	comp=N,8.5nm,0.7s						
GLA				IAML		17 45 27.6	
	comp=E,16nm,0.7s						
AFDM	**Forest Hills D**	**3.90**	**320**		Pn	17 44 21.1	-0.7
PSUT	**Pine Spring**	**4.04**	**50**		Pn	17 44 24.8	+0.9
KNB	**Kanab**	**4.13**	**74**		Pn	17 44 25.8	+0.7
U15A	**North Rim**	**4.46**	**83**		Pn	17 44 29.0	-0.8
ELK	**Elko**	**5.16**	**22**	Pn	Pn	17 44 38.8	-0.5
ELK				IAML		17 45 22.0	
	comp=E,1.7nm,4.1s						

*IDC **10** 17:56:29.4±1.6, 56°.99S×141°.81W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=54.9km s-min=29.4km az=42.0*

*GCMT **10** 17:56:31.0±0.3, 57°.00S±0°.02×141°.12W±0°.03, h23km±2km, MW5.0/97, Moment Tensor Solution. s28,c32; s97,c125; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.06±.18; Mθθ2.15±.19; Mφφ-2.09±.15; Mrθ0.07±.23; Mθφ2.64±.12; Mφr0.23±.21; Best double couple: M03.39400×10^16 NP1:φs109.00000°, δ86.00000°, λ0.00000°. NP2: φs199.00000°, δ90.00000°, λ-176.00000°. Principal axes: T 3.4240, Plg3.0000°, Azm334.0000°; N -0.0550, Plg86.0000°, Azm202.0000°; P -3.3650, Plg3.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 10 17:56:29.1±1.9, 56.7S±0.3×141.2W±0.4, h10km, n26, σ1.9/10, mb4.4/6, 4C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**33.41**	**180**	P	**P**	**18 03 08.9**	**+1.3**
	4.1nm,1.0s,baz=73,slow=2.8,SNR=9.6 4.1nm,1.0s						
TBI	**Tubuai**	**33.90**	**346**	*e*LR	LR	18 11 54.4	
	900nm,31.8s						
TBI				*e*LR	LR	18 11 57.4	
	3μm,29.2s						
PPT2	**Papeete2**	**39.60**	**347**	*e*S	S	18 09 43.8	-20
	126nm,25.8s						
PPT2				*e*LR	LR	18 14 33.1	
	609nm,26.0s						
PPT2				*e*LR	LR	18 14 40.6	
	430nm,29.5s						
H03S2	**Juan Fernandez**	**47.46**	**89**	T	T	18 56 01.5	
	baz=219,slow=74,SNR=11						
H03S1	**Juan Fernandez**	**47.47**	**89**	T	T	18 56 11.0	
	baz=219,slow=74,SNR=11						
H03S3	**Juan Fernandez**	**47.48**	**89**	T	T	18 56 07.7	
	baz=219,slow=74,SNR=12						
H03N3	**Juan Fernandez**	**47.75**	**88**	T	T	18 56 30.1	
	baz=222,slow=72,SNR=76						
H03N2	**Juan Fernandez**	**47.76**	**88**	T	T	18 56 28.8	
	baz=222,slow=72,SNR=104						
H03N1	**Juan Fernandez**	**47.77**	**88**	T	T	18 56 32.8	
	baz=222,slow=72,SNR=78						
TAOE	**Nuku Hiva Isla**	**47.78**	**1**	*e*LR	LR	18 18 30.6	
	375nm,28.0s						
VNA2	**Neumayer--Watz**	**48.49**	**162**	⇑P	**P**	**18 05 10.1**	**-1.2**
	comp=Z,7.9nm,0.7s,baz=206,slow=8.0						
VNA1	**Neumayer--Stat**	**48.57**	**161**	⇑P	**P**	**18 05 10.7**	**-1.1**
	comp=Z,7.9nm,0.8s						
SNAA	**Sanae**	**48.59**	**164**	⇑P	**P**	**18 05 10.9**	**-1.2**
	comp=Z,51nm,0.5s						
SNAA	**Sanae**	**48.59**	**164**	P	**P**	**18 05 11.2**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=211,slow=8.6,SNR=28 comp=Z,2.4nm,0.6s						
TROLL	**Troll, Antarti**	**49.06**	**166**	⇑P	**P**	**18 05 15.3**	**-0.6**
	comp=Z,103nm,0.6s						
DZM	**Mont Dzumac**	**51.41**	**290**	*e*LR	LR	18 19 52.5	
	comp=Z,124nm,24.8s						
ASAR	**Alice Springs**	**67.80**	**261**	P	**P**	**18 07 26.7**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=142,slow=7.0,SNR=8.7 comp=Z,0.7nm,0.8s						
H01W1	**Cape Leeuwin H**	**68.87**	**238**	T	T	19 23 20.1	
	baz=144,slow=76,SNR=91						
H01W2	**Cape Leeuwin H**	**68.87**	**238**	T	T	19 23 20.2	
	baz=144,slow=76,SNR=90						
H01W3	**Cape Leeuwin H**	**68.88**	**238**	T	T	19 23 17.7	
	baz=144,slow=76,SNR=87						
WRA	**Warramunga Arr**	**70.56**	**263**	P	**P**	**18 07 44.0**	**-0.3**
	comp=Z,0.9nm,1.1s,baz=144,slow=6.1,SNR=6.4 comp=Z,0.9nm,1.1s						
H10N3	**ASCENSION HYDR**	**2.30**	**126**	T	T	20 05 07.0	
	baz=206,slow=75,SNR=5.5						
H10N1	**ASCENSION HYDR**	**2.30**	**126**	T	T	20 05 15.4	
	baz=206,slow=75,SNR=4.8						
H10N2	**ASCENSION HYDR**	**2.31**	**126**	T	T	20 05 16.7	
	baz=206,slow=75,SNR=5.1						
ESDC	**Sonseca Array**	**147.43**	**103**	PKPbc	**PKiKP**	**18 16 15.6**	**+0.9**
	comp=Z,0.6nm,1.0s,baz=213,slow=2.7,SNR=6.8						
MKAR	**Makanchi Array**	**151.78**	**268**	PKPbc	**PKPbc**	**18 16 23.2**	**+0.2**
	comp=Z,1.1nm,1.0s,baz=117,slow=2.5,SNR=5.7						

*IDC **10** 17:58:34.9±0.8, 6°.76S×11°.24W, h0km, mb3.9/12, mbtmp3.9/13, ML3.2/1, MS3.8/42, Error ellipse: s-maj=41.1km s-min=18.1km az=109.0*

*NEIC **10** 17:58:34.5±1.9, 6°.9S±0°.1×11°.93W±0°.10, h10km±1km, mb4.5/9, Error ellipse: s-maj=21.0km s-min=15.2km az=155.0*

*GCMT **10** 17:58:39.5±0.3, 6°.76S±0°.02×11°.75W±0°.02, h22km±1km, MW4.9/98, Moment Tensor Solution. s23,c26; s98,c120; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.23±.15; Mθθ-2.27±.13; Mφφ2.50±.15; Mrθ-0.00±.19; Mθφ2.05±.10; Mφr0.33±.22; Best double couple: M03.16100×10^16 NP1:φs245.00000°, δ85.00000°, λ2.00000°. NP2: φs155.00000°, δ88.00000°, λ175.00000°. Principal axes: T 3.2870, Plg5.0000°, Azm110.0000°; N -0.2530, Plg84.0000°, Azm315.0000°; P -3.0340, Plg2.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 17:58:34.7±0.6, 6.77S±0.09×11.9W±0.1, h10km, n70, σ2.9/03/24, mb4.2/18, MS3.8/41, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**2.72**	**245**	Pn	**Pn**	**17 59 16.2**	**-2.4**
H10N1	**ASCENSION HYDR**	**2.80**	**247**	T	T	18 02 18.8	
	baz=69,slow=75,SNR=1026						
H10N2	**ASCENSION HYDR**	**2.80**	**248**	T	T	18 02 19.4	
	baz=69,slow=75,SNR=749						
H10N3	**ASCENSION HYDR**	**2.81**	**248**	T	T	18 02 20.5	
	baz=69,slow=75,SNR=473						
H10S2	**ASCENSION HYDR**	**3.50**	**231**	T	T	18 03 16.0	
	baz=166,slow=74,SNR=181						
H10S3	**ASCENSION HYDR**	**3.51**	**232**	T	T	18 03 21.7	
	baz=54,slow=74,SNR=137						
SHEL	**Horse Pasture**	**10.93**	**147**		**Pn**	**18 01 08.9**	**-2.4**
DBIC	**Dimbokro**	**15.08**	**28**	Pn	**Pn**	**18 02 02.3**	**-5.6**
DBIC				IAmb	IAmb	18 02 19.3	
	comp=Z,36nm,1.5s						
DBIC	**Dimbokro**	**15.08**	**28**	Pn	**Pn**	**18 02 03.5**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=213,slow=11,SNR=3.1						
DBIC				LR	LR	18 06 41.4	
	comp=Z,326nm,20.0s,baz=201,slow=33 comp=Z,8.0nm,1.1s						
ACRG	**Accra**	**16.96**	**44**	Pn	**Pn**	**18 02 31.6**	**-0.7**
ACRG				IAmb	IAmb	18 02 40.8	
	comp=Z,35nm,1.1s						
BBTS	**Babate**	**21.79**	**348**	LR	LR	18 10 27.1	
	comp=Z,222nm,21.0s,baz=24,slow=32						
RCBR	**Riachuelo**	**23.90**	**271**	LR	LR	18 12 37.9	
	comp=Z,29nm,18.7s,baz=84,slow=34						
TORD	**Torodi Ar. Bea**	**23.94**	**34**	P	**P**	**18 03 48.3**	**-1.0**
TORD				IAmb	IAmb	18 03 57.9	
	comp=Z,7.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**23.94**	**34**	P	**P**	**18 03 47.8**	**-1.5**
	comp=Z,2.0nm,0.3s,baz=230,slow=8.8,SNR=5.3						
TORD				LR	LR	18 11 49.3	
	comp=Z,315nm,21.7s,baz=176,slow=34 comp=Z,2.0nm,0.3s						
TSUM	**Tsumeb**	**31.19**	**116**	LR	LR	18 15 35.3	
	comp=Z,396nm,18.9s,baz=310,slow=33						
BDFB	**Brasilia**	**36.48**	**253**	P	P	18 05 48.0	+7.5
	comp=Z,2.1nm,0.4s,baz=156,slow=8.0,SNR=3.2 comp=Z,2.1nm,0.4s						
MDT	**Midelt**	**39.97**	**10**	LR	LR	18 22 06.2	
	comp=Z,255nm,18.8s,baz=222,slow=35						
LBTB	**Lobatse**	**40.15**	**121**	LR	LR	18 21 09.8	
	comp=Z,204nm,18.7s,baz=284,slow=34						
LSZ	**Lusaka**	**40.16**	**106**	LR	LR	18 20 08.7	
	comp=Z,206nm,21.2s,baz=308,slow=33						
BOSA	**Boshof**	**41.24**	**126**	LR	LR	18 21 29.9	
	comp=Z,158nm,18.4s,baz=281,slow=34						
MATP	**Matopo**	**41.39**	**113**	LR	LR	18 21 12.1	
	comp=Z,130nm,20.5s,baz=276,slow=33						
MDP	**Montagnes des**	**42.37**	**285**	LR	LR	18 22 14.5	
	comp=Z,68nm,19.4s,baz=90,slow=33						
KEST	**Kesra**	**46.75**	**24**	P	**P**	**18 07 05.0**	**+0.6**
KEST	**Kesra**	**46.75**	**24**	LR	LR	18 27 01.5	
	comp=Z,225nm,19.8s,baz=322,slow=37						
ESDC	**Sonseca Array**	**46.79**	**8**	P	**P**	**18 07 04.7**	**+0.2**
ESDC

ASF	**Jabal al Asfar**	**60.46**	**47**	LR	LR	18 34 19.5		
	comp=Z,66nm,19.2s,baz=257,slow=36							
SDV	**Santo Domingo**	**60.59**	**284**	LR	LR	18 31 17.8		
	comp=Z,51nm,21.7s,baz=225,slow=32							
VRAC	**Vranov**	**61.13**	**21**	LR	LR	18 36 05.9		
	comp=Z,97nm,19.1s,baz=208,slow=37							
MLR	**Muntele Rosu**	**62.06**	**29**	LR	LR	18 36 42.7		
	comp=Z,79nm,19.6s,baz=252,slow=37							
EKA	**Eskdalemuir Ar**	**62.30**	**6**	P	**P**	**18 08 58.7**	**+1.8**	
	comp=Z,0.4nm,0.6s,baz=174,slow=6.9,SNR=3.4							
	comp=Z,0.4nm,0.6s							
BRTR	**Keskin Array B**	**62.47**	**38**		**P**	**18 09 00.1**	**+1.5**	
BRTR	**Keskin Array B**	**62.47**	**38**	P	**P**	**18 08 59.1**	**+0.5**	
	comp=Z,1.0nm,0.9s,baz=242,slow=5.2,SNR=6.9							
	comp=Z,1.0nm,0.9s							
BNN	**Bunyan**	**63.35**	**40**	P	**P**	**18 09 06.1**	**+1.6**	
ROSC	**El Rosal**	**63.39**	**279**	LR	LR	18 35 13.6		
	comp=Z,119nm,19.2s,baz=210,slow=34							
SNAA	**Sanae**	**65.08**	**177**	P	**P**	**18 09 16.4**	**+1.2**	
	comp=Z,1.5nm,1.1s,baz=341,slow=9.0,SNR=2.1							
	comp=Z,1.5nm,1.1s							
KIEV	**Kiev**	**67.31**	**27**		**P**	**18 09 30.1**	**+0.4**	
AKASG	**Malin Array Be**	**67.32**	**27**	P	**P**	**18 09 29.6**	**-0.2**	
	comp=Z,0.5nm,0.5s,baz=227,slow=7.2,SNR=11							
AKASG				LR	LR	18 40 46.1		
	comp=Z,46nm,19.3s,baz=220,slow=38							
	comp=Z,0.5nm,0.5s							
AKBB	**Malin Array Si**	**67.32**	**27**		**P**	**18 09 30.0**	**+0.3**	
HFS	**Hagfors**	**69.70**	**13**	P	**P**	**18 09 44.5**	**0.0**	
	comp=Z,0.7nm,0.7s,baz=206,slow=9.6,SNR=1.5							
HFS				LR	LR	18 43 15.7		
	comp=Z,49nm,18.6s,baz=197,slow=39							
	comp=Z,0.7nm,0.7s							
GNI	**Garni**	**69.90**	**43**	LR	LR	18 44 24.2		
	comp=Z,23nm,18.3s,baz=252,slow=40							
NOA	**NORSAR Array B**	**69.98**	**12**	LR	LR	18 40 21.2		
	comp=Z,35nm,21.2s,baz=205,slow=36							
BORG	**Borgarnes**	**71.67**	**356**	LR	LR	18 37 43.5		
	comp=Z,63nm,18.6s,baz=170,slow=33							
OBN	**Obninsk**	**73.58**	**27**	LR	LR	18 45 08.1		
	comp=Z,59nm,18.2s,baz=97,slow=38							
FINES	**FINESS Array B**	**74.12**	**18**	P	**P**	**18 10 11.1**	**+0.2**	
	comp=Z,0.6nm,0.7s,baz=226,slow=10,SNR=3.4							
FINES				LR	LR	18 42 37.7		
	comp=Z,51nm,21.4s,baz=207,slow=36							
	comp=Z,0.6nm,0.7s							
BELG	**Belogornoye**	**77.50**	**33**	LR	LR	18 48 25.4		
	comp=Z,32nm,18.2s,baz=190,slow=39							
MAW	**Mawson**	**77.98**	**158**	P	**P**	**18 10 33.9**	**+1.0**	
	comp=Z,1.8nm,0.9s,baz=357,slow=5.8,SNR=3.3							
	comp=Z,1.8nm,0.9s							
SADO	**Sadowa**	**78.98**	**318**	LR	LR	18 42 48.6		
	comp=Z,84nm,18.1s,baz=142,slow=33							
TKL	**Tuckaleechee C**	**79.44**	**308**	LR	LR	18 38 52.8		
	comp=Z,87nm,20.2s,baz=106,slow=30							
ARCES	**ARCESS Array B**	**80.33**	**13**	LR	LR	18 46 47.8		
	comp=Z,40nm,18.9s,baz=231,slow=36							
KIRV	**Kirov**	**81.37**	**28**	LR	LR	18 50 00.2		
	comp=Z,71nm,19.4s,baz=269,slow=38							
AKTO	**Aktyubinsk**	**82.63**	**37**	LR	LR	18 51 23.3		
	comp=Z,26nm,18.8s,baz=136,slow=38							
QSPA	**South Pole Qui**	**83.34**	**180**	P	**P**	**18 11 03.2**	**+1.3**	
	comp=Z,1.6nm,1.1s,baz=262,slow=2.0,SNR=3.6							
	comp=Z,1.6nm,1.1s							
ARTI	**Arti**	**84.88**	**32**	LR	LR	18 50 50.1		
	comp=Z,32nm,18.5s,baz=296,slow=37							
BVAR	**Borovoye Array**	**90.72**	**37**	LR	LR	18 56 40.3		
	comp=Z,40nm,19.1s,baz=284,slow=39							
ZALV	**Zalesovo Beam**	**99.37**	**37**	LR	LR	19 01 58.6		
	comp=Z,30nm,19.1s,baz=71,slow=38							

IDC 10 18:05:57.1±2.0, 1°.14N×127°.39E, h0km, mb3.2/4, mbtmp3.3/4, Error ellipse: s-maj=195.0km s-min=21.9km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.03**	**162**	P	P	18 10 52.9	-0.5
	0.4nm,0.5s,baz=342,slow=11,SNR=8.8						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**25.46**	**166**	P	P	18 11 27.4	+0.4
	0.2nm,0.4s,baz=343,slow=10,SNR=9.7						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**60.05**	**326**	P	P	18 16 06.0	+0.1
	0.2nm,0.4s,baz=119,slow=8.6,SNR=4.9						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.26**	**328**	P	P	18 16 34.0	-0.1
	0.2nm,0.5s,baz=132,slow=6.5,SNR=5.6						
	0.2nm,0.5s						

*IDC **10** 18:07:38.5±0.9, 56°.75S×140°.96W, h0km, mb4.2/6, mbtmp4.2/6, MS4.0/25, Error ellipse: s-maj=30.3km s-min=24.8km az=32.0*
*GCMT **10** 18:07:41.4±0.2, 57°.00S±0°.01×141°.07W±0°.02, h22km±1km, MW5.1/109, Moment Tensor Solution. s54,c64; s109,c158; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.46±.16; Mθθ 3.75±.18; Mφφ -3.30±.14; Mrθ -0.14±.24; Mθφ 3.85±.12; Mφr 0.56±.22; Best double couple: M≈5.25600×10^16 NP1:φs 111.00000°, δ 84.00000°, λ -4.00000°. NP2:φs 201.00000°, δ 86.00000°, λ -174.00000°. Principal axes: T 5.4460, Plg 1.0000°, Azm 336.0000°; N -0.3890, Plg 83.0000°, Azm 239.0000°; P -5.0650, Plg 7.0000°, Azm 66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **10** 18:07:41.5±2.7, 57°.1S±0°.2×141°.1W±0°.2, h10km±1km, mb4.7/9 Error ellipse: s-maj=29.8km s-min=20.7km az=15.0*

ISC 10 18:07:40.0±0.7, 56°.8S±0°.1×141°.0W±0°.1, h10km, n74, σ1s24/35, mb4.6/10, MS4.1/25, 5C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**28.34**	**203**	LR	LR	18 21 19.8	
	comp=Z,264nm,20.4s,baz=78,slow=29						
RPZ	**Rata Peaks**	**32.64**	**273**	P	**P**	**18 14 12.6**	**+0.9**
RPZ	**Rata Peaks**	**32.64**	**273**	LR	LR	18 23 54.1	
	comp=Z,526nm,21.9s,baz=128,slow=30						
URZ	**Urewera**	**33.17**	**286**	LR	LR	18 24 29.3	
	comp=Z,344nm,20.2s,baz=97,slow=30						
QSPA	**South Pole Qui**	**33.33**	**180**	P	**P**	**18 14 16.2**	**-1.5**
QSPA				IAmb	IAmb	18 14 21.9	
	comp=Z,7.8nm,1.1s						
QSPA	**South Pole Qui**	**33.33**	**180**	P	**P**	**18 14 19.5**	**+1.8**
	comp=Z,5.4nm,0.9s,baz=77,slow=2.8,SNR=13						
QSPA				LR	LR	18 25 11.2	
	comp=Z,541nm,21.1s,baz=69,slow=32						
	comp=Z,5.4nm,0.9s						
DSZ	**Denniston Nort**	**33.55**	**276**	P	**P**	**18 14 19.1**	**-0.7**
TBI	**Tubuai**	**34.01**	**346**	*e*S	S	18 19 23.9	-25
	comp=Z,673nm,30.5s						
TBI				*e*LR	LR	18 23 07.2	
	comp=Z,5μm,29.2s						
TBI				*e*LR	LR	18 23 11.3	
	comp=Z,2μm,27.2s						
PMSA	**Palmer Station**	**36.09**	**135**	LR	LR	18 26 03.0	
	comp=Z,255nm,18.1s,baz=257,slow=31						
RAO	**Raoul Island**	**37.82**	**301**	LR	LR	18 30 43.6	
	comp=Z,105nm,18.1s,baz=124,slow=37						
RAR	**Rarotonga**	**38.18**	**331**	LR	LR	18 27 14.7	
	comp=Z,576nm,18.7s,baz=106,slow=31						
BELA	**Belgrano 2**	**38.39**	**161**	P	**P**	**18 15 00.8**	**0.0**
PPT2	**Papeete2**	**39.70**	**347**	*e*S	S	18 20 51.1	-25
	comp=Z,197nm,25.2s						
PPT2				*e*LR	LR	18 25 42.5	
	comp=Z,1μm,28.0s						
PPT2				*e*LR	LR	18 25 49.8	
	comp=Z,794nm,28.8s						
PPT	**Papeete**	**39.73**	**347**	LR	LR	18 28 11.2	
	comp=Z,271nm,18.2s,baz=144,slow=31						
EFI	**East Falkland**	**45.90**	**121**	P	**P**	**18 16 01.8**	**-0.3**
CASY	**Casey**	**46.10**	**212**	P	**P**	**18 16 04.3**	**+0.7**
PLCA	**Paso Flores**	**46.92**	**101**		**P**	**18 16 12.7**	**+2.3**
PLCA				IAmb	IAmb	18 16 14.0	
	comp=Z,13nm,1.5s						
H03S2	**Juan Fernandez**	**47.35**	**88**	T	T	19 07 24.9	
	baz=219,slow=74,SNR=26						
H03S1	**Juan Fernandez**	**47.35**	**88**	T	T	19 07 27.9	
	baz=219,slow=74,SNR=23						
H03S3	**Juan Fernandez**	**47.36**	**88**	T	T	19 07 25.0	
	baz=219,slow=74,SNR=23						
H03N3	**Juan Fernandez**	**47.63**	**88**	T	T	19 07 49.7	
	baz=222,slow=72,SNR=75						
H03N2	**Juan Fernandez**	**47.64**	**88**	T	T	19 07 57.3	
	baz=222,slow=72,SNR=137						
H03N1	**Juan Fernandez**	**47.65**	**88**	T	T	19 07 41.2	
	baz=222,slow=72,SNR=102						
TAOE	**Nuku Hiva Isla**	**47.86**	**1**	*e*LR	LR	18 29 40.2	
	comp=Z,600nm,28.9s						
VNA2	**Neumayer--Watz**	**48.37**	**161**	⇑P	**P**	**18 16 20.8**	**-0.4**
	comp=Z,11nm,0.7s,baz=204,slow=8.1						
VNA1	**Neumayer--Stat**	**48.45**	**161**	⇑P	**P**	**18 16 21.1**	**-0.7**
	comp=Z,12nm,0.8s						
SNAA	**Sanae**	**48.48**	**164**	⇑P	**P**	**18 16 20.7**	**-1.4**
	comp=Z,69nm,0.5s						
SNAA	**Sanae**	**48.48**	**164**	P	**P**	**18 16 20.3**	**-1.8**
SNAA				IAmb	IAmb	18 16 22.7	
	comp=Z,8.9nm,1.2s						
SNAA	**Sanae**	**48.48**	**164**	P	**P**	**18 16 21.6**	**-0.5**
	comp=Z,3.3nm,0.6s,baz=210,slow=8.7,SNR=34						
SNAA				LR	LR	18 35 54.1	
	comp=Z,172nm,18.1s,baz=266,slow=35						
	comp=Z,3.3nm,0.6s						
TROLL	**Troll, Antarti**	**48.95**	**166**	⇑P	**P**	**18 16 25.9**	**+0.1**
	comp=Z,146nm,0.6s						
DZM	**Mont Dzumac**	**51.55**	**290**	*e*LR	LR	18 31 03.1	
	comp=Z,217nm,24.4s						
SYO	**Syowa Base**	**54.47**	**180**	⇑*e*P	**P**	**18 17 06.5**	**-0.4**
MAW	**Mawson**	**54.63**	**191**	P	**P**	**18 17 08.4**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=143,slow=8.1,SNR=4.4						
	comp=Z,1.8nm,0.8s						
STKA	**Stephens Creek**	**57.27**	**261**	LR	LR	18 39 10.8	
	comp=Z,131nm,18.2s,baz=165,slow=33						
CTAO	**Charters Tower**	**64.02**	**273**	P	**P**	**18 18 14.7**	**+1.0**
CTAO				IAmb	IAmb	18 18 22.8	
	comp=Z,9.9nm,1.1s						
CPUP	**Villa Florida**	**64.96**	**100**	LR	LR	18 42 31.3	
	comp=Z,31nm,18.5s,baz=72,slow=32						
NNA	**Nana**	**65.97**	**75**	LR	LR	18 37 59.6	
	comp=Z,47nm,20.9s,baz=200,slow=28						
LPAZ	**La Paz**	**67.13**	**85**	P	**P**	**18 18 34.6**	**+0.1**
LPAZ				IAmb	IAmb	18 18 36.7	
	comp=Z,6.2nm,1.4s						
LPAZ	**La Paz**	**67.13**	**85**	P	**P**	**18 18 35.1**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=225,slow=6.7,SNR=4.8						
	comp=Z,1.1nm,0.6s						
ASAR	**Alice Springs**	**67.90**	**260**	P	**P**	**18 18 39.9**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=144,slow=6.4,SNR=8.8						
	comp=Z,1.3nm,0.7s						
H01W1	**Cape Leeuwin H**	**68.92**	**238**	T	T	19 34 20.3	
	baz=144,slow=75,SNR=216						
H01W2	**Cape Leeuwin H**	**68.93**	**238**	T	T	19 34 17.3	
	baz=144,slow=75,SNR=236						
H01W3	**Cape Leeuwin H**	**68.94**	**238**	T	T	19 34 18.1	
	baz=144,slow=75,SNR=201						
NWAO	**Narrogin (SRO)**	**69.06**	**242**	LR	LR	18 40 42.1	
	comp=Z,214nm,20.6s,baz=133,slow=29						
ATAH	**Atahualpa**	**69.24**	**70**	LR	LR	18 43 01.8	
	comp=Z,50nm,19.9s,baz=219,slow=31						
WRA	**Warramunga Arr**	**70.67**	**263**	P	**P**	**18 18 56.8**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=146,slow=5.9,SNR=5.4						
	comp=Z,1.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**76.89**	**257**	LR	LR	18 48 47.8	
	comp=Z,161nm,21.9s,baz=127,slow=32						
JTS	**Las Juntas de**	**81.13**	**56**	LR	LR	18 48 03.1	
	comp=Z,173nm,20.2s,baz=201,slow=30						
JAY	**Jayapura**	**81.52**	**278**	LR	LR	18 52 26.1	
	comp=Z,66nm,20.8s,baz=224,slow=33						
BATI	**Baumata**	**84.47**	**260**	LR	LR	18 55 41.0	
	comp=Z,330nm,18.0s,baz=212,slow=34						
KAPI	**Kappang**	**90.91**	**260**	LR	LR	18 57 56.3	
	comp=Z,163nm,21.1s,baz=196,slow=33						
PCRV	**Puerto La Cruz**	**91.07**	**73**	LR	LR	18 55 48.7	
	comp=Z,84nm,21.1s,slow=32						
RCBR	**Riachuelo**	**93.32**	**106**	LR	LR	18 59 35.2	
	comp=Z,40nm,19.7s,baz=236,slow=33						
BOSA	**Boshof**	**94.10**	**168**	LR	LR	19 01 34.4	
	comp=Z,104nm,18.1s,baz=222,slow=34						
NVAR	**Mina Array Bea**	**96.81**	**18**	LR	LR	18 55 00.4	
	comp=Z,97nm,21.6s,baz=221,slow=29						
LBTB	**Lobatse**	**97.69**	**168**	LR	LR	19 01 55.1	
	comp=Z,68nm,19.1s,baz=184,slow=33						
YBH	**Yarra Blue Hor**	**99.39**	**14**	LR	LR	18 57 54.7	
	comp=Z,9.3nm,18.9s,baz=130,slow=30						
H10S3	**ASCENSION HYDR**	**101.09**	**126**	T	T	20 15 07.4	
	baz=13,slow=74,SNR=9.1						
H10S2	**ASCENSION HYDR**	**101.09**	**126**	T	T	20 15 00.1	
	baz=207,slow=74,SNR=9.0						
H10N3	**ASCENSION HYDR**	**102.15**	**125**	T	T	20 16 17.7	
	baz=206,slow=75,SNR=8.1						
H10N1	**ASCENSION HYDR**	**102.16**	**125**	T	T	20 16 24.8	
	baz=206,slow=75,SNR=8.9						
H10N2	**ASCENSION HYDR**	**102.17**	**125**	T	T	20 16 20.4	
	baz=206,slow=75,SNR=11						
ILAR	**Eielson Array**	**121.36**	**357**	PKP	**PKiKP**	**18 26 31.5**	**-0.3**
	comp=Z,1.0nm,1.0s,baz=166,slow=1.8,SNR=4.7						
ANGG	**Ammassalik, Gr**	**144.34**	**44**	PKPdf	**PKiKP**	**18 27 16.6**	**-1.5**
RAYN	**Ar Rayn**	**146.40**	**191**	PKPdf	**PKPab**	**18 27 20.4**	**-1.3**
ESDC	**Sonseca Array**	**147.29**	**103**	PKPbc	**PKPab**	**18 27 23.7**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=244,slow=3.0,SNR=6.6						
TARG	**Taragay, Kyrgy**	**151.02**	**255**	PKPdf	**PKPdf**	**18 27 28.2**	**+1.3**
PRZ	**Przheval'sk**	**151.22**	**257**	PKPbc	**PKiKP**	**18 27 34.8**	**+1.4**
NRN	**Naryn**	**151.76**	**253**	PKPdf	**PKPdf**	**18 27 27.9**	**0.0**
MKAR	**Makanchi Array**	**151.89**	**268**	PKPdf	**PKPdf**	**18 27 28.1**	**+0.5**
MKAR	**Makanchi Array**	**151.89**	**268**	PKPbc	**PKPbc**	**18 27 32.5**	**-1.6**
	comp=Z,2.5nm,0.9s,baz=132,slow=3.8,SNR=16						
MKAR				PKPab	**PKPab**	**18 27 42.2**	**-1.2**
	comp=Z,2.5nm,0.9s,baz=104,slow=3.9,SNR=11						
MAKZ	**Makanchi**	**152.07**	**267**	PKPdf	**PKPdf**	**18 27 27.2**	**-0.6**
MAKZ				PKPbc	**PKiKP**	**18 27 34.6**	**-0.2**
ZALV	**Zalesovo Beam**	**154.21**	**283**	PKPab	**PKPab**	**18 27 52.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=102,slow=6.1,SNR=4.1						
KURBB	**Kurchatov Arra**	**156.09**	**272**	PKPab	**PKPab**	**18 27 57.4**	**-3.6**
	comp=Z,0.5nm,0.9s,baz=106,slow=2.5,SNR=4.1						

*IDC **10** 18:09:40.7±1.0, 2°.72S×138°.32E, h0km, mb3.5/5, mbtmp3.7/9, ML3.7/4, Error ellipse: s-maj=23.9km s-min=21.9km az=114.0*
*DJA **10** 18:09:43.7±0.3, 3°.5±4°.4×13°.8E±°, h10km, M3.9/6, mb4.1/1, MLv3.8/6*

ISC 10 18:09:41.5±0.7, 2°.85S±0°.07×138°.41E±0°.05, h10km, n15, σ2s25/18, mb3.6/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.90**	**19**	P	**Pg**	**18 09 56.0**	**-2.9**
GENI	**Genyem**	**1.77**	**82**	P	**Pb**	**18 10 14.0**	**-0.1**
JAY	**Jayapura**	**2.31**	**82**	Pn	**Pn**	**18 10 21.2**	**+1.5**
	7.9nm,0.3s,baz=217,slow=11,SNR=30						
JAY				Sn	**Sb**	**18 10 52.5**	**+0.5**
	7.7nm,0.3s,baz=154,slow=15,SNR=5.7						
	27nm,0.3s						
JAY	**Jayapura**	**2.31**	**82**	P	**Pn**	**18 10 21.2**	**+1.5**
SRPI	**Serui, Papua**	**2.38**	**294**	P	**Pn**	**18 10 21.4**	**+0.8**
BAKI	**Biak**	**2.83**	**306**	P	**Pn**	**18 10 28.8**	**+2.0**
RKPI	**Ransiki, Papua**	**4.44**	**287**	P	**Pn**	**18 10 50.9**	**+2.0**
BATI	**Baumata**	**16.37**	**243**	Pn	**Pn**	**18 13 31.4**	**-0.2**
	1.1nm,0.3s,baz=279,slow=16,SNR=1.4						
	9.6nm,0.5s						
WRA	**Warramunga Arr**	**17.45**	**193**	P	**Pn**	**18 13 46.4**	**+1.2**
	0.4nm,0.3s,baz=16,slow=13,SNR=22						
WRA				S	**Sn**	**18 16 53.9**	**-5.7**
	1.1nm,0.9s,baz=7.3,slow=22,SNR=3.7						
	2.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.66**	**219**	P	**P**	**18 14 11.9**	**+1.2**
	0.1nm,0.3s,baz=40,slow=7.9,SNR=1.8						
FITZ				S	**S**	**18 17 49.1**	**-3.6**
	1.4nm,0.7s,baz=90,slow=17,SNR=1.6						
	2.2nm,0.9s						
ASAR	**Alice Springs**	**21.15**	**192**	P	**P**	**18 14 28.8**	**+1.9**
	1.5nm,0.5s,baz=17,slow=9.1,SNR=24						
	1.5nm,0.5s						
MKAR	**Makanchi Array**	**69.72**	**323**	P	**P**	**18 20 51.1**	**-0.6**
	0.3nm,0.7s,baz=110,slow=6.8,SNR=4.1						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**73.67**	**325**	P	**P**	**18 21 15.2**	**-0.1**
	0.2nm,0.6s,baz=106,slow=6.7,SNR=2.0						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**79.26**	**325**	P	**P**	**18 21 47.6**	**+0.6**
	0.2nm,0.4s						
	0.2nm,0.4s						
QSPA	**South Pole Qui**	**87.10**	**180**	P	**P**	**18 22 29.0**	**+1.5**
	0.3nm,0.4s,baz=339,slow=2.2,SNR=2.4						
	0.3nm,0.4s						

IDC 10 18:21:42.1±1.5, 0°.38N×125°.67E, h0km, mb3.4/4, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=126.0km s-min=20.2km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.36**	**180**	P	Pn	18 25 58.3	-0.1
	0.1nm,0.3s,baz=7.1,slow=8.1,SNR=2.3						
	2.8nm,0.9s						
WRA	**Warramunga Arr**	**21.91**	**158**	P	P	18 26 35.9	-1.2
	0.8nm,0.5s,baz=336,slow=11,SNR=17						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**25.20**	**162**	P	P	18 27 10.5	+0.8
	0.5nm,0.4s,baz=346,slow=8.5,SNR=22						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**59.73**	**327**	P	P	18 31 48.8	0.0
	0.2nm,0.4s,baz=128,slow=7.7,SNR=5.6						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.00**	**329**	P	P	18 32 17.2	-0.2
	0.2nm,0.5s,baz=130,slow=5.8,SNR=5.0						
	0.2nm,0.5s						

*IDC **10** 18:28:28.4±0.6, 13°.82N×120°.91E, h209km±5km, mb3.1/8, mbtmp3.6/8, Error ellipse: s-maj=34.1km s-min=13.0km az=61.0*

ISC 10 18:28:28.1±0.9, 13°.7N±0°.2×120°.7E±0°.2, h200km, n9, σ1s37/10, mb3.2/8, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.49**	**35**	P	**Pn**	**18 28 56.5**	**+1.2**
	326nm,0.3s,baz=251,slow=3.1,SNR=8.6						
TGY				S	**Sn**	**18 29 18.6**	**+2.3**
	306nm,0.4s,baz=0.2,slow=23,SNR=6.0						
CMAR	**Chiang Mai Arr**	**21.38**	**286**	P	**P**	**18 33 01.9**	**+1.6**
	2.1nm,0.9s,baz=100,slow=7.7,SNR=14						
	2.1nm,0.9s						
WRA	**Warramunga Arr**	**36.04**	**158**	P	**P**	**18 35 09.7**	**-0.8**
	0.5nm,0.9s,baz=331,slow=10.0,SNR=4.7						
	0.5nm,0.9s						
SONM	**Songino Array**	**36.05**	**344**	P	**P**	**18 35 09.4**	**-1.0**
	0.6nm,0.7s,baz=162,slow=10,SNR=2.6						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**39.33**	**161**	P	**P**	**18 35 37.8**	**-0.3**
	0.2nm,0.4s,baz=336,slow=7.4,SNR=12						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**46.01**	**324**	P	**P**	**18 36 31.5**	**0.0**
	0.6nm,0.7s,baz=114,slow=7.4,SNR=7.5						
	0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**49.04**	**333**	P	**P**	**18 36 53.6**	**-1.0**
	0.5nm,0.3s,baz=122,slow=5.7,SNR=4.5						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**50.17**	**326**	P	**P**	**18 37 02.9**	**-0.3**
	0.2nm,0.3s,baz=126,slow=7.9,SNR=8.3						
	0.2nm,0.3s						
ARCES	**ARCESS Array B**	**79.07**	**339**	P	**P**	**18 40 08.7**	**-1.1**
	0.6nm,0.6s,baz=86,slow=6.6,SNR=6.2						
	0.6nm,0.6s						

*GCG **10** 18:30:40.2±3.2, 17°.55N×95°.05W, h50km±749km, MD4.4, ML3.4*
*MEX **10** 18:30:42.9±1.1, 17°.08N×94°.95W, h129km±13km, MD4.0*

ISC 10 18:30:41.2±1.6, 17°.19N±0°.07×94°.94W±0°.04, h129km±11km, n14, σ1s40/23, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.12**	**151**	*i* P	**Pn**	**18 30 59.4**	**+0.6**
CMIG				*i* S	**Sn**	**18 31 11.7**	**-0.4**
UXUV	**UXUV**	**0.77**	**81**	*i* P	**Pn**	**18 31 02.8**	**+0.7**
UXUV				*i* S	**Sn**	**18 31 17.2**	**-0.6**
NEUV	**Arroyo Zacate**	**0.97**	**302**	*e*P	**Pn**	**18 31 03.9**	**+0.2**
NEUV				*i* S	**Sn**	**18 31 20.0**	**-0.8**
VHO	**Vista Hermosa**	**1.72**	**266**	*e*P	**Pn**	**18 31 13.4**	**+1.5**
VHO				*i* S	**Sn**	**18 31 36.9**	**+1.6**
TGIG		**1.79**	**103**	*e*P	**Pn**	**18 31 13.6**	**+0.9**
TGIG		**1.79**	**103**	*i* P	**Pn**	**18 31 13.5**	**+0.9**
TGIG				*e*S	**Sn**	**18 31 35.6**	**-1.1**
TGIG				IAML		18 31 38.4	
	comp=N,339nm,0.3s						
HUIG	**Huatulco**	**1.80**	**218**	*i* P	**Pn**	**18 31 12.2**	**-0.7**
HUIG				*i* S	**Sn**	**18 31 36.6**	**-0.3**
HUIG	**Huatulco**	**1.80**	**218**	*e*P	**Pn**	**18 31 11.6**	**-1.2**
HUIG				*e*S	**Sn**	**18 31 36.7**	**-0.3**
HUIG				IAML		18 31 38.1	
	comp=N,279nm,0.2s						
TOIG	**Toxpalan**	**2.21**	**294**	*e*P	**Pn**	**18 31 19.1**	**+1.2**
TOIG				*i* S	**Sn**	**18 31 45.7**	**-0.3**
PEIG	**Puerto Escondi**	**2.42**	**241**	*e*P	**Pn**	**18 31 19.3**	**-1.2**
PEIG				*i* S	**Sn**	**18 31 49.8**	**-0.8**
CCIG	**Comitan**	**2.84**	**108**	*e*P	**Pn**	**18 31 27.0**	**+1.1**
CCIG				IAML		18 32 08.2	
	comp=N,106nm,0.3s						
PAVE	**Pavencul**	**3.32**	**126**	*e*P	**Pn**	**18 31 34.2**	**+2.0**
PAVE				*i* S	Sn	18 32 02.3	-9.3
PATR	**El Naranjo**	**3.32**	**128**	*e*P	**Pn**	**18 31 34.1**	**+1.8**
PATR				*i* S	Sn	18 32 02.9	-8.8
SCIG	**Sabancuy**	**3.99**	**63**	*e*S	**Sn**	**18 32 23.3**	**-3.7**

**IDC 10 18:34:20.3±1.9, 0°.

SDDR	**Presa de Saban**	**1.10**	**305**	⇑*e*	Sg	**Sb**	**18 39 60.0 -1.7**
SDDR					IAML		18 40 44.6
	comp=N,25nm,2.0s						
SDDR	**Presa de Saban**	**1.10**	**305**	*e*	S	**Sb**	**18 39 60.0 -1.7**
SDDR					IAML		18 40 06.9
	comp=Z,12nm,0.6s						
LOVI	**El Cajuil, Ovi**	**1.12**	**241**	*i*	P	**Pb**	**18 39 47.4 -0.4**
LOVI				*e*	S	**Sn**	**18 40 02.8 0.0**
LOVI					IAML		18 40 03.2
	comp=Z,46nm,0.9s						
REDR	**Restauracion**	**1.29**	**310**	⇑*e*	Pg	**Pg**	**18 39 53.6 +1.9**
REDR					IAML		18 40 12.8
	comp=N,34nm,2.4s						
REDR				⇑*e*	Sg	**Sg**	**18 40 13.3 +4.7**
MIDR	**Miches**	**1.38**	**62**	⇑*e*	Sg	**Sn**	**18 40 09.0 -0.2**
MIDR					IAML		18 40 46.4
	comp=N,21nm,1.3s						

SDD 10 18:40:02.4±2.4, 18°53N×70°30W, h6km±36km, MD2.4, ML1.9, MW2.9, 8C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANI	**BANI**	**0.15**	**202**	⇑*e*	Pg	18 40 05.0	-0.5
BANI				⇑*e*	Sg	18 40 08.2	+0.6
BANI					IAML	18 40 08.7	
	comp=N,2μm,0.1s						
SDD	**Santo Domingo**	**0.37**	**101**	⇑*e*	Sg	18 40 12.3	-2.3
SDD					IAML	18 40 38.3	
	comp=N,35nm,1.6s						
ABDR	**Alto Bandera**	**0.42**	**312**	⇑*e*	Pg	18 40 10.5	-0.1
ABDR				⇑*e*	Sg	18 40 15.2	-1.0
PODR	**Polo**	**1.00**	**249**	⇑*e*	Sg	18 40 33.8	-0.8
PODR					IAML	18 41 04.8	
	comp=N,39nm,1.7s						
SDDR	**Presa de Saban**	**1.04**	**296**	⇑*e*	Sg	18 40 34.6	-1.2
MIDR	**Miches**	**1.27**	**69**	⇑*e*	Sn	18 40 43.7	-0.3

*PAS **10** 18:49:01.4±0.7, 36°162N±0°007×117°88W±0°01, h-0km±1km, Mwr4.1/4, mb4.1/16(NEIC), ML4.0/172(NEIC), Error ellipse: s-maj=1.6km s-min=0.6km az=59.0*

*NEIC **10** 18:49:01.1±0.9, 36°155N±0°004×117°89W±0°01, h3km±2km, Error ellipse: s-maj=1.6km s-min=0.7km az=90.0*

*IDC **10** 18:49:02.3±0.9, 36°14N×117°76W, h0km, mb3.7/1, mbtmp3.5/6, ML3.7/4, MS3.1/3, Error ellipse: s-maj=14.7km s-min=6.7km az=71.0*

ISC 10 18:49:01.4±0.8, 36°17N±0°02×117°88W±0°02, h8km±6km, n130, σ1°17/134, mb4.2/9, 1C, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.06**	**157**		**Pg**	**18 49 02.8**	**-0.6**
WRVM	**Rose V. Centra**	**0.16**	**182**		**Pg**	**18 49 04.8**	**-0.1**
WCSM	**Coso Springs S**	**0.17**	**147**		**Sg**	**18 49 07.9**	**+0.4**
JRC2	**Joshua Ridge**	**0.20**	**162**		**Pg**	**18 49 05.4**	**0.0**
JRC2					**Sg**	**18 49 08.6**	**+0.4**
WVPM	**Volcano Peak E**	**0.23**	**166**		**Pg**	**18 49 06.0**	**-0.1**
CWC	**Cottonwood Cre**	**0.31**	**329**		**Pg**	**18 49 07.8**	**0.0**
CWC				Sg	**Sg**	**18 49 11.9**	**0.0**
WNMM	**Nine Mile Cany**	**0.33**	**183**		**Pg**	**18 49 07.7**	**-0.1**
WNMM					**Sg**	**18 49 12.9**	**+0.8**
MPMC	**Manual Prospec**	**0.34**	**109**		**Pg**	**18 49 08.0**	**-0.1**
MPMC				Sg	**Sg**	**18 49 13.0**	**+0.4**
MPMC					IAML	18 49 18.5	
	comp=E,13μm,0.8s						
MPMC					IAML	18 49 19.1	
	comp=N,14μm,1.0s						
TOW	**Tower One**	**0.37**	**165**		**Pg**	**18 49 09.1**	**+0.4**
CGO	**Cerro Gordo**	**0.39**	**9**		**Pg**	**18 49 09.1**	**0.0**
CGO					**Sg**	**18 49 15.6**	**+1.3**
CLC	**China Lake**	**0.42**	**147**		**Pg**	**18 49 09.6**	**-0.1**
CLC				Sg	**Sg**	**18 49 14.6**	**-0.6**
SRTC	**Snort**	**0.49**	**167**		**Pg**	**18 49 11.3**	**+0.5**
ISA	**Isabella, Lake**	**0.70**	**224**		**Pg**	**18 49 14.6**	**-0.2**
ISA				Sg	**Sg**	**18 49 22.8**	**-1.2**
ISA				IAML		18 49 25.0	
	comp=N,5μm,0.5s						
ISA				IAML		18 49 26.1	
	comp=E,5μm,0.5s						
LRMC	**Laurel Mtn Rad**	**0.71**	**167**		**Pg**	**18 49 14.9**	**-0.1**
LRMC					**Sg**	**18 49 23.6**	**-0.7**
LRMC				IAML		18 49 25.2	
	comp=E,7μm,0.3s						
LRMC				IAML		18 49 29.6	
	comp=N,7μm,0.6s						
SPG2	**Springville 2**	**0.72**	**273**		**Pg**	**18 49 15.1**	**-0.2**
SPG2					**Sg**	**18 49 24.9**	**+0.3**
CCCA	**Chr Cany lake**	**0.77**	**147**		**Pg**	**18 49 16.4**	**+0.2**
CCCA				Sg	**Sb**	**18 49 27.2**	**-0.5**
QSM	**Queen of Sheba**	**0.85**	**104**		**Pg**	**18 49 17.5**	**-0.2**
QSM					**Sg**	**18 49 28.9**	**+0.2**
QSM				IAML		18 49 34.1	
	comp=N,7μm,0.7s						
GRAC	**Grapevine Rang**	**0.92**	**27**		**Pg**	**18 49 19.0**	**-0.2**
GRAC				IAML		18 49 34.6	
	comp=N,5μm,0.9s						
GRAC				IAML		18 49 35.7	
	comp=E,4μm,1.0s						
GWY	**Greenwater Val**	**0.98**	**89**		**Pg**	**18 49 20.1**	**-0.2**
GWY				IAML		18 49 40.3	
	comp=N,4μm,0.5s						
GWY				IAML		18 49 49.2	
	comp=E,5μm,0.9s						
VES	**Vestal, Richgr**	**1.03**	**252**		**Pg**	**18 49 21.3**	**+0.1**
WCT	**Wildcat Mounta**	**1.19**	**58**		**Pg**	**18 49 23.6**	**-0.6**
WCT				IAML		18 49 42.9	
	comp=E,3μm,1.5s						
DSP	**Deep Springs**	**1.20**	**357**		**Pg**	**18 49 23.8**	**-0.7**
GSC	**Goldstone, Bar**	**1.23**	**134**		**Pg**	**18 49 24.3**	**-0.8**
GSC				IAML		18 49 45.2	
	comp=N,5μm,0.9s						
GMN	**Gold Mountain**	**1.23**	**24**		**Pg**	**18 49 24.9**	**-0.3**
TPO	**Tropico Hills**	**1.32**	**192**		**Pg**	**18 49 25.8**	**-0.9**
TPO				IAML		18 49 55.4	
	comp=N,3μm,1.0s						
TPNV	**Topopah Spring**	**1.53**	**59**		**Pn**	**18 49 29.4**	**+0.2**
TPNV				IAML		18 49 55.4	
	comp=N,2μm,0.9s						
TPNV				IAML		18 49 56.1	
	comp=N,2μm,1.0s						
MZP	**Montezuma Peak**	**1.58**	**14**		**Pn**	**18 49 31.3**	**+1.3**
KCC	**Kaiser Creek**	**1.63**	**315**		**Pn**	**18 49 31.5**	**+1.0**
MLAC	**Mammoth, Mammo**	**1.65**	**333**		**Pb**	**18 49 32.4**	**+0.2**
MCSM	**Casa Diablo Ho**	**1.69**	**331**		**Pb**	**18 49 33.3**	**+0.2**
OSI	**Osito Audit: C**	**1.70**	**204**		**Pn**	**18 49 31.8**	**+0.4**
OSI				IAML		18 49 58.8	
	comp=N,3μm,0.6s						
CRGC	**Crocker Grade**	**1.76**	**239**		**Pn**	**18 49 33.5**	**+1.1**
BFSC	**Mount Baldy Ra**	**1.93**	**175**		**Pn**	**18 49 34.9**	**+0.2**
BFSC				IAML		18 50 04.7	
	comp=E,1μm,0.7s						
BFSC				IAML		18 50 04.7	
	comp=N,905nm,0.9s						
MWC	**Mount Wilson**	**1.95**	**184**		**Pn**	**18 49 35.4**	**+0.4**
MWC				IAML		18 50 05.1	
	comp=E,2μm,1.0s						
MWC				IAML		18 50 08.9	
	comp=N,2μm,1.0s						
TPH	**Tonopah**	**1.97**	**15**		**Pn**	**18 49 36.8**	**+1.4**
TPH				IAML		18 50 09.3	
	comp=E,2μm,1.1s						
PASC	**Pasadena Art C**	**2.01**	**187**		**Pn**	**18 49 36.1**	**+0.4**
PASC				IAML		18 50 06.8	
	comp=E,1μm,0.9s						
MTPC	**Mountain Pass**	**2.01**	**109**		**Pn**	**18 49 35.4**	**-0.4**
MTPC				IAML		18 50 10.9	
	comp=E,1μm,0.7s						
MTPC				IAML		18 50 15.2	
	comp=N,1μm,1.3s						
LHV	**Little Huntoon**	**2.14**	**347**		**Pn**	**18 49 38.3**	**+0.9**
LHV				IAML		18 50 27.8	
	comp=N,748nm,1.3s						
LHV				IAML		18 50 30.0	
	comp=E,889nm,1.1s						
SHPR	**Sheep Range**	**2.22**	**81**		**Pn**	**18 49 39.4**	**+0.6**
NV11	**Mina Array Sit**	**2.27**	**355**		**Pn**	**18 49 40.2**	**+0.8**
NVAR	**Mina Array Bea**	**2.28**	**352**	Pn	**Pn**	**18 49 40.4**	**+0.8**
NVAR	**Mina Array Bea**	**2.28**	**352**	Pn	**Pn**	**18 49 41.3**	**+1.7**
	comp=E,17nm,0.3s,baz=168,slow=14,SNR=25						
NVAR					**Pg**	**18 49 45.2**	**0.0**
	comp=E,18nm,0.3s,baz=169,slow=19,SNR=16						
NVAR					Lg	18 50 15.4	
	comp=E,15nm,0.3s,baz=170,slow=32,SNR=6.5						
	comp=E,16nm,0.6s						
V12A	**Nelson**	**2.50**	**99**		**Pn**	**18 49 42.7**	**+0.2**
V12A					IAML	18 50 25.3	
	comp=N,627nm,1.5s						
V12A					IAML	18 50 31.2	
	comp=E,533nm,1.1s						
RYN	**Ryan**	**2.51**	**348**		**Pn**	**18 49 43.1**	**+0.4**
ELS	**Elsinore Mount**	**2.54**	**171**		**Pn**	**18 49 43.6**	**+0.5**
ELS					IAML	18 50 28.1	
	comp=E,558nm,1.6s						
BBGB	**Big Mountain B**	**2.58**	**280**		**Pn**	**18 49 44.7**	**+1.1**
PRN	**Pahroc Range**	**2.59**	**61**		**Pn**	**18 49 44.0**	**+0.2**
PRN					IAML	18 50 32.6	
	comp=N,1μm,0.9s						
PRN					IAML	18 50 32.7	
	comp=E,1μm,0.9s						
WAKR	**Walker**	**2.64**	**332**		**Pb**	**18 49 50.5**	**+1.4**
WAKR					IAML	18 50 41.0	
	comp=E,425nm,1.3s						
WAKR					IAML	18 50 42.2	
	comp=N,466nm,1.1s						
Q09A	**Carvers**	**2.72**	**12**	Pn	**Pn**	**18 49 46.2**	**+0.7**
Q09A					IAML	18 50 34.5	
	comp=N,965nm,0.9s						
Q09A					IAML	18 50 48.2	
	comp=E,734nm,1.1s						
CMB	**Columbia Colle**	**2.73**	**314**		**Pn**	**18 49 46.4**	**+0.8**
CMB					IAML	18 50 29.1	
	comp=E,801nm,0.9s						
CMB					IAML	18 50 30.5	
	comp=N,487nm,0.7s						
PMD	**Palm Desert**	**2.80**	**153**		**Pn**	**18 49 46.8**	**+0.2**
PFO	**Pinyon Flats O**	**2.81**	**155**		**Pn**	**18 49 47.3**	**+0.6**
PFO					IAML	18 50 39.4	
	comp=N,401nm,1.7s						
PFO	**Pinyon Flats O**	**2.81**	**155**	Pn	**Pn**	**18 49 47.0**	**+0.3**
	comp=N,14nm,0.5s,baz=334,slow=12,SNR=10						
PFO					Pg	**18 49 53.5**	**+1.6**
	comp=N,29nm,0.3s,baz=333,slow=14,SNR=52						
PFO					Lg	18 50 30.4	
	comp=N,48nm,0.3s,baz=66,slow=23,SNR=9.5						
R11B	**Troy Canyon, C**	**2.84**	**39**		**Pn**	**18 49 48.7**	**+1.3**
SAO	**San Andreas Ge**	**2.94**	**283**		**Pn**	**18 49 49.4**	**+1.0**
NEE2	**Needles Airpor**	**3.01**	**117**		**Pn**	**18 49 49.4**	**0.0**
NEE2					IAML	18 50 51.3	
	comp=E,783nm,0.8s						
BORC	**Borrego Spring**	**3.13**	**157**	Pn	**Pn**	**18 49 52.4**	**+1.3**
BORC					IAML	18 50 48.2	
	comp=E,458nm,1.4s						
BORC					IAML	18 50 49.8	
	comp=N,330nm,0.8s						
DPP	**Dos Picos Cty**	**3.26**	**166**		**Pn**	**18 49 53.3**	**+0.5**
DPP					IAML	18 50 48.4	
	comp=E,282nm,1.0s						
SALN	**Salton City**	**3.28**	**151**		**Pn**	**18 49 52.1**	**-1.0**
W13A	**Hualapai Mount**	**3.43**	**107**		**Pn**	**18 49 54.6**	**-0.8**
W13A					IAML	18 51 03.0	
	comp=E,302nm,1.2s						
W13A					IAML	18 51 04.5	
	comp=N,332nm,1.2s						
MPK	**Martis Peak**	**3.56**	**332**		**Pn**	**18 49 56.3**	**-0.9**
BLYC	**Blythe**	**3.66**	**130**		**Pn**	**18 49 57.8**	**-0.6**
BLYC					IAML	18 51 00.5	
	comp=N,212nm,1.1s						
BLYC					IAML	18 51 13.1	
	comp=E,244nm,0.9s						
AFDM	**Forest Hills D**	**3.70**	**319**		IAML	18 50 59.6	
	comp=N,396nm,0.9s						
AFDM					IAML	18 51 12.9	
	comp=E,353nm,0.9s						
PAHR	**Pah Rah Range**	**3.73**	**342**		**Pn**	**18 50 00.5**	**+1.1**
TKX	**Tecate**	**3.74**	**163**		**Pn**	**18 49 59.4**	**-0.1**
TKX					IAML	18 52 28.0	
	comp=E,205nm,0.1s						
LCMT	**Little Creek M**	**3.83**	**76**		**Pn**	**18 50 01.1**	**+0.3**
YUH	**Yuha Desert**	**3.87**	**155**		**Pn**	**18 50 01.8**	**+0.6**
CCUT	**Cedar City**	**3.88**	**68**		**Pn**	**18 50 03.1**	**+1.5**
CBX	**Cerro Bola**	**3.98**	**165**		**Pn**	**18 50 04.2**	**+1.4**
PSUT	**Pine Spring**	**3.98**	**52**	IAML		18 51 23.6	
	comp=E,275nm,1.3s						
PSUT				IAML		18 51 25.6	
	comp=N,291nm,1.2s						
SPR3	**Spring Creek 3**	**3.99**	**44**	IAML		18 51 11.5	
	comp=N,183nm,0.7s						
SPR3				IAML		18 51 12.1	
	comp=E,216nm,1.1s						
GLA	**Glamis**	**4.00**	**140**	Pn	**Pn**	**18 50 02.8**	**-0.3**
GLA				IAML		18 51 16.3	
	comp=N,285nm,1.0s						
SZCU	**Shurtz Canyon**	**4.10**	**68**		**Pn**	**18 50 04.9**	**+0.3**
KNB	**Kanab**	**4.16**	**77**		**Pn**	**18 50 06.3**	**+1.0**
KNB					IAML	18 51 15.1	
	comp=N,188nm,1.1s						
KNB					IAML	18 51 18.8	
	comp=E,279nm,1.5s						
BEKR	**Beckworth**	**4.18**	**333**		**Pn**	**18 50 07.0**	**+1.4**
BEKR					IAML	18 51 22.7	
	comp=E,273nm,1.0s						
BEKR					IAML	18 51 41.0	
	comp=N,116nm,1.2s						
CCX	**Cicese**	**4.41**	**166**		**Pn**	**18 50 10.4**	**+1.7**
CCX					IAML	18 51 26.2	
	comp=E,183nm,1.5s						
CCX					IAML	18 51 39.8	
	comp=N,149nm,1.2s						
ORV	**Oroville**	**4.43**	**321**		**Pn**	**18 50 09.3**	**+0.3**
ORV					IAML	18 51 23.8	
	comp=E,192nm,1.0s						
ORV					IAML	18 51 28.2	
	comp=N,134nm,1.0s						
ESJX	**Sierra Juarez**	**4.45**	**158**		**Pn**	**18 50 10.9**	**+1.4**
ESJX					IAML	18 51 33.0	
	comp=E,132nm,1.5s						
MCCM	**Marconi Confer**	**4.45**	**298**		**Pn**	**18 50 10.0**	**+0.8**
MCCM					IAML	18 51 20.4	
	comp=N,197nm,1.3s						
MCCM					IAML	18 51 35.2	
	comp=E,193nm,1.2s						
U15A	**North Rim**	**4.52**	**85**		**Pn**	**18 50 12.1**	**+1.6**
U15A					IAML	18 51 35.5	
	comp=E,149nm,1.2s						
U15A					IAML	18 51 37.1	
	comp=N,174nm,1.5s						
Y14A	**Wickenburg**	**4.58**	**118**		**Pn**	**18 50 12.4**	**+1.4**
Y14A					IAML	18 51 37.8	
	comp=E,148nm,1.0s						
Y14A					IAML	18 51 37.9	
	comp=N,221nm,1.0s						
GDXM	**Geysers**	**4.71**	**305**		**Pn**	**18 50 13.9**	**+1.0**
GDXM					IAML	18 51 25.7	
	comp=E,78nm,1.0s						
113A	**Mohawk Valley,**	**4.80**	**134**	IAML		18 51 57.6	
	comp=E,90nm,1.2s						
ELK	**Elko**	**5.02**	**24**		**Pn**	**18 50 18.1**	**+0.8**
ELK	**Elko**	**5.02**	**24**	Pn	**Pn**	**18 50 19.2**	**+1.9**
	comp=E,1.7nm,0.3s,baz=203,slow=14,SNR=15						
ELK					Pg	**18 50 36.2**	**-1.4**
	comp=E,2.3nm,0.3s,baz=214,slow=14,SNR=21						
ELK					Lg	18 51 39.5	
	comp=E,3.0nm,0.3s,baz=90,slow=20,SNR=9.1						
	comp=E,4.9nm,0.3s						
WUAZ	**Wupatki**	**5.33**	**95**		**Pn**	**18 50 22.4**	**+0.9**
WUAZ					IAML	18 52 21.6	
	comp=E,138nm,1.4s						
X16A	**Lo Mia Camp, P**	**5.55**	**106**		**Pn**	**18 50 25.5**	**+1.0**
KCPM	**Cahto Peak**	**5.71**	**310**	Pn	**Pn**	**18 50 25.7**	**-1.0**
HMU	**Henry Mountain**	**5.98**	**71**		**Pn**	**18 50 30.3**	**-0.2**
Q16A	**Castle Valley**	**6.00**	**61**	Pn	**Pn**	**18 50 29.5**	**-1.2**
BGU	**Big Grassy Mou**	**6.08**	**37**	Pn	**Pn**	**18 50 30.6**	**-1.2**
TMUT	**Trail Mountain**	**6.14**	**57**		**Pn**	**18 50 31.8**	**-0.9**
SRU	**San Rafael Swe**	**6.54**	**61**		**Pn**	**18 50 36.4**	**-1.7**
X18A	**Snowflake**	**6.69**	**102**	Pn	**Pn**	**18 50 39.3**	**-0.8**
YBH	**Yreka Blue Hor**	**6.71**	**327**	Pn	Pn	18 50 46.3	+6.0
	baz=145,slow=5.0,SNR=5.8						
YBH					Lg	18 52 29.2	
	baz=189,slow=3.9,SNR=4.4						
HVU	**Hansel Valley**	**6.87**	**34**		**Pn**	**18 50 41.5**	**-1.1**
P18A	**Preston Nutter**	**6.96**	**58**	Pn	**Pn**	**18 50 43.0**	**-0.9**
PV18	**Skein Mesa, Pa**	**7.46**	**71**		**Pn**	**18 50 52.3**	**+1.6**
319A	**Douglas**	**8.61**	**121**		**Pn**	**18 51 07.4**	**+0.9**
PDAR	**Pinedale Array**	**9.21**	**42**	Pn	Pn	18 51 19.7	+5.0
	comp=E,0.1nm,0.3s,baz=224,slow=14,SNR=5.5						
PDAR					Lg	18 53 50.5	
	comp=E,0.2nm,0.3s,baz=226,slow=32,SNR=3.7						
	comp=E,0.3nm,0.6s						
ANMO	**Albuquerque**	**9.39**	**94**	Pg	Pn	18 51 52.6	+35
	comp=E,0.2nm,0.3s,baz=9.6,slow=13,SNR=9.6						
ANMO					Lg	18 53 57.1	
	comp=E,0.1nm,0.3s,baz=237,slow=16,SNR=7.0						
MNTX	**Cornudas Mount**	**11.30**	**110**		**Pn**	**18 51 43.9**	**+0.7**
MSTX	**Muleshoe**	**12.57**	**96**	Pn	**Pn**	**18 51 57.3**	**-3.5**
LPIG	**La Paz**	**13.69**	**149**	LR	LR	18 57 20.5	
	comp=E,108nm,18.7s,baz=24,slow=37						
TXAR	**Lajitas Array**	**13.76**	**116**		**Pn**	**18 52 14.8**	**-2.2**
TXAR	**Lajitas Array**	**13.76**	**116**	Pn	**Pn**	**18 52 20.1**	**+3.1**
	comp=E,0.1nm,0.3s,baz=289,slow=12,SNR=21						
	comp=E,5.5nm,1.2s						
POST	**Post**	**13.84**	**98**	Pn	**Pn**	**18 52 15.8**	**-2.2**
SN07	**Snyder 07**	**14.32**	**97**	Pn	**Pn**	**18 52 22.5**	**-2.1**
SN05	**Snyder 5**	**14.39**	**98**		**Pn**	**18 52 22.1**	**-3.5**
KAN09	**Caldwell North**	**16.29**	**81**	P	**Pn**	**18 52 49.0**	**-1.3**
BRDY	**Brady**	**16.44**	**102**		**Pn**	**18 52 53.8**	**+1.2**
PLPT	**Palo Pinto**	**16.47**	**96**		**Pn**	**18 52 54.8**	**+1.8**
PLPT				IAmb	IAmb	18 53 01.7	
	comp=Z,23nm,1.3s						
FW07	**Weatherford**	**16.93**	**96**	P	**Pn**	**18 52 57.9**	**-0.8**
FW07				IAmb	IAmb	18 53 05.5	
	comp=Z,21nm,1.1s						
MIAR	**Mount Ida**	**19.88**	**88**	P	**P**	**18 53 32.2**	**-1.0**
AGMN	**Agassiz Nation**	**20.23**	**46**	P	**P**	**18 53 36.4**	**-0.5**
FFC	**Flin Flon**	**21.56**	**26**		**P**	**18 53 49.9**	**-1.2**
FFC				IAmb	IAmb	18 53 58.0	
	comp=Z,13nm,1.4s						
DLBC	**Dease Lake**	**23.68**	**344**	LR	LR	19 03 27.3	
	comp=Z,19nm,19.7s,baz=134,slow=36						
CMIG	**Matias Romero**	**27.87**	**127**	LR	LR	19 07 50.4	
	comp=Z,66nm,18.2s,baz=219,slow=41						
ILAR	**Eielson Array**	**33.47**	**338**	P	**P**	**18 55 44.5**	**+3.8**
	comp=Z,0.9nm,0.8s,baz=154,slow=6.7,SNR=10.0						
	comp=Z,0.9nm,0.8s						
K20K	**Telida**	**35.02**	**332**		**P**	**18 55 55.2**	**+1.0**
J20K	**Nowinta River**	**35.51**	**334**	P	**P**	**18 55 59.5**	**+1.1**
H21K	**Melozitna Rive**	**35.93**	**336**	P	**P**	**18 56 04.0**	**+2.0**
H21K				IAmb	IAmb	18 56 06.6	
	comp=Z,2.8nm,0.9s						
J19K	**Poorman**	**35.95**	**333**	P	**P**	**18 56 04.8**	**+2.6**
J19K				IAmb	IAmb	18 56 06.5	
	comp=Z,2.2nm,0.8s						
K17K	**Iditarod**	**36.35**	**330**	P	**P**	**18 56 04.6**	**-1.0**
K17K				IAmb	IAmb	18 56 09.8	
	comp=Z,3.9nm,0.9s						
L16K	**Owhat River**	**36.40**	**328**		**P**	**18 56 05.1**	**-0.9**
L16K				IAmb	IAmb	18 56 11.3	
	comp=Z,3.4nm,0.9s						
IMAR	**Indian Mountai**	**36.44**	**336**	P	**P**	**18 56 06.0**	**-0.3**
D23K	**Nanushuk River**	**37.48**	**341**	P	**P**	**18 56 17.9**	**+2.7**
D23K				IAmb	IAmb	18 56 37.7	
	comp=Z,7.7nm,1.4s						
E18K	**Tukpahlearik C**	**39.51**	**336**	P	**P**	**18 56 34.3**	**+2.2**
BNX	**BinXian**	**79.48**	**320**	⇑P	**P**	**19 01 07.9**	**-0.6**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.7s						
HHC	**Hu-ho-hao-te**	**90.93**	**325**	*e*P	**P**	**19 02 06.1**	**0.0**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,47nm,5.7s						

*NEIC **10** 18:51:35.0±0.7, 36°161N±0°009×117°86W±0°01, h5km, Error ellipse: s-maj=1.6km s-min=1.3km az=106.0*

*PAS **10** 18:51:35.3±0.7, 36°168N±0°010×117°88W±0°01, h2km±1km, Mwr3.7/4, ML3.7/136(NEIC), Error ellipse: s-maj=1.8km s-min=1.3km az=121.0*

*IDC **10** 18:51:36.1±1.2, 36°18N×117°82W, h0km, mb3.4/1, mbtmp3.4/4, ML3.2/3, MS2.9/2, Error ellipse: s-maj=25.7km s-min=6.8km az=76.0*

ISC 10 18:51:35.1±0.9, 36°16N±0°02×117°86W±0°03, h11km±6km, n78, σ1°03/80, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.04**	**173**		**Pg**	**18 51 36.7**	**-0.8**
WRVM	**Rose V. Centra**	**0.15**	**189**		**Pg**	**18 51 38.6**	**-0.1**
JRC2	**Joshua Ridge**	**0.18**	**166**		**Pg**	**18 51 39.2**	**0.0**
JRC2					**Sg**	**18 51 42.3**	**+0.2**
WVPM	**Volcano Peak E**	**0.21**	**170**		**Pg**	**18 51 39.8**	**0.0**
WVPM					**Sg**	**18 51 43.4**	**+0.6**
WNMM	**Nine Mile Cany**	**0.32**	**186**		**Pg**	**18 51 41.5**	**0.0**
WNMM					**Sb**	**18 51 46.5**	**-1.4**
TOW	**Tower One**	**0.36**	**167**		**Pb**	**18 51 43.0**	**-0.5**
CLC	**China Lake**	**0.40**	**148**		**Pg**	**18 51 43.0**	**-0.1**
SRTC	**Snort**	**0.47**	**169**		**Pb**	**18 51 45.2**	**-0.3**
WHFM	**Hanning Flat**	**0.61**	**221**		**Pg**	**18 51 46.8**	**-0.2**
LRMC	**Laurel Mtn Rad**	**0.69**	**168**		**Pb**	**18 51 48.6**	**-0.7**
LRMC				IAML		18 52 01.4	
	comp=N,2μm,0.2s						
LRMC				IAML		18 52 03.1	
	comp=E,4μm,0.8s						
ISA	**Isabella, Lake**	**0.70**	**225**	Pg	**Pg**	**18 51 48.4**	**-0.3**
ISA				IAML		18 51 58.7	
	comp=N,3μm,0.5s						
ISA				IAML		18 51 59.7	
	comp=E,3μm,0.5s						
CCCA	**Chr Cany lake**	**0.75**	**147**		**Sb**	**18 52 01.4**	**+1.0**
CCCA	**Chr Cany lake**	**0.75**	**147**		**Pb**	**18 51 49.9**	**-0.3**
QSM	**Queen of Sheba**	**0.83**	**103**		**Pb**	**18 51 51.1**	**-0.4**
QSM				IAML		18 52 07.5	
	comp=E,4μm,1.1s						
QSM				IAML		18 52 09.8	
	comp=N,3μm,0.8s						
FURC	**Furnace Creek,**	**0.86**	**69**		**Sb**	**18 52 04.2**	**+0.6**
DTP	**Desert Tortois**	**0.89**	**179**		**Pb**	**18 51 52.1**	**-0.5**
GRAC	**Grapevine Rang**	**0.93**	**25**		**Pg**	**18 51 52.5**	**-0.5**
GRAC				IAML		18 52 07.9	
	comp=N,3μm,0.7s						
GRAC				IAML		18 52 10.8	
	comp=E,3μm,0.5s						
GWY	**Greenwater Val**	**0.96**	**88**		**Pb**	**18 51 53.6**	**-0.3**
GWY				IAML		18 52

TPH	**Tonopah**	**1.98**	**15**	Pn	**Pn**	**18 52 09.4**	**+0.7**
MTPC	**Mountain Pass**	**1.99**	**109**		**Pn**	**18 52 09.0**	**+0.2**
MTPC				IAML		18 52 42.3	
	comp=E,437nm,0.5s						
MTPC				IAML		18 52 48.5	
	comp=N,430nm,1.2s						
PASC	**Pasadena Art C**	**2.00**	**188**		**Pn**	**18 52 09.3**	**+0.5**
PASC				IAML		18 52 42.1	
	comp=E,405nm,0.9s						
LHV	**Little Huntoon**	**2.15**	**346**	Pn	**Pn**	**18 52 11.8**	**+0.9**
LHV				IAML		18 52 52.2	
	comp=N,328nm,0.9s						
LHV				IAML		18 52 56.4	
	comp=E,447nm,0.9s						
S11A	**Rachel**	**2.25**	**48**	Pn	**Pn**	**18 52 13.7**	**+1.2**
NV11	**Mina Array Sit**	**2.28**	**354**	Pn	**Pn**	**18 52 13.9**	**+1.1**
NVAR	**Mina Array Bea**	**2.29**	**351**	Pn	**Pn**	**18 52 14.3**	**+1.2**
NVAR	**Mina Array Bea**	**2.29**	**351**	Pg	**Pg**	**18 52 17.9**	**-1.2**
	comp=E,22nm,0.3s,baz=169,slow=19,SNR=8.9						
NVAR				Lg	Lg	18 52 48.5	
	comp=E,40nm,0.3s,baz=169,slow=33,SNR=4.4						
V12A	**Nelson**	**2.48**	**99**	Pn	**Pn**	**18 52 16.5**	**+1.0**
V12A				IAML		18 52 58.9	
	comp=N,265nm,1.3s						
RYN	**Ryan**	**2.52**	**348**	Pn	**Pn**	**18 52 16.6**	**+0.4**
ELS	**Elsinore Mount**	**2.53**	**172**	Pn	**Pn**	**18 52 17.0**	**+0.8**
PRN	**Pahroc Range**	**2.58**	**60**	Pn	**Pn**	**18 52 17.4**	**+0.5**
PRN				IAML		18 53 04.2	
	comp=E,485nm,0.7s						
PRN				IAML		18 53 06.0	
	comp=N,604nm,0.8s						
BBGB	**Big Mountain B**	**2.60**	**280**	Pn	**Pn**	**18 52 17.7**	**+0.5**
WAKR	**Walker**	**2.66**	**332**	Pn	**Pn**	**18 52 18.7**	**+0.6**
WAKR				IAML		18 53 15.6	
	comp=N,207nm,1.3s						
WAKR				IAML		18 53 24.5	
	comp=E,196nm,1.0s						
Q09A	**Carvers**	**2.73**	**11**	Pn	**Pn**	**18 52 19.5**	**+0.6**
Q09A				IAML		18 53 12.4	
	comp=N,563nm,1.3s						
CMB	**Columbia Colle**	**2.75**	**314**		**Pn**	**18 52 19.5**	**+0.2**
CMB				IAML		18 53 03.0	
	comp=E,506nm,0.8s						
PMD	**Palm Desert**	**2.79**	**154**	Pn	**Pn**	**18 52 20.4**	**+0.8**
PFO	**Pinyon Flats O**	**2.79**	**155**	Pn	**Pn**	**18 52 20.4**	**+0.7**
PFO	**Pinyon Flats O**	**2.79**	**155**	Pn	**Pn**	**18 52 21.0**	**+1.2**
	comp=E,0.5nm,0.3s,baz=336,slow=16,SNR=0.7						
PFO				Pg	**Pg**	**18 52 26.6**	**-2.0**
	comp=E,13nm,0.3s,baz=340,slow=16,SNR=4.3						
PFO				Lg	Lg	18 53 04.7	
	comp=E,19nm,0.3s,baz=73,slow=6.5,SNR=4.9						
	comp=E,8.8nm,0.5s						
R11B	**Troy Canyon, C**	**2.84**	**39**	Pn	**Pn**	**18 52 21.2**	**+0.6**
R11B				IAML		18 53 08.9	
	comp=E,194nm,0.7s						
SAO	**San Andreas Ge**	**2.95**	**283**	Pn	**Pn**	**18 52 22.5**	**+0.6**
NEE2	**Needles Airpor**	**2.99**	**117**		**Pn**	**18 52 23.3**	**+0.9**
NEE2				IAML		18 52 43.4	
	comp=E,379nm,0.8s						
NEE2				IAML		18 53 15.5	
	comp=N,325nm,0.8s						
BORC	**Borrego Spring**	**3.12**	**157**	Pn	**Pn**	**18 52 25.3**	**+1.1**
BORC				IAML		18 53 26.1	
	comp=E,158nm,1.4s						
DPP	**Dos Picos Cty**	**3.24**	**166**		**Pn**	**18 52 25.9**	**-0.1**
DPP				IAML		18 53 22.0	
	comp=E,111nm,0.9s						
SALN	**Salton City**	**3.26**	**151**	Pn	**Pn**	**18 52 26.7**	**+0.6**
W13A	**Hualapai Mount**	**3.41**	**107**	Pn	**Pn**	**18 52 28.3**	**0.0**
W13A				IAML		18 53 28.2	
	comp=E,98nm,1.0s						
W13A				IAML		18 53 37.9	
	comp=N,117nm,1.1s						
MPK	**Martis Peak**	**3.57**	**332**	Pn	**Pn**	**18 52 29.7**	**-1.0**
BLYC	**Blythe**	**3.65**	**130**	Pn	**Pn**	**18 52 31.2**	**-0.2**
BLYC				IAML		18 53 37.2	
	comp=E,90nm,0.6s						
BLYC				IAML		18 53 44.2	
	comp=N,85nm,0.9s						
AFDM	**Forest Hills D**	**3.72**	**319**	Pn	**Pn**	**18 52 32.2**	**-0.3**
TKX	**Tecate**	**3.73**	**163**	Pn	**Pn**	**18 52 33.0**	**+0.3**
TKX				IAML		18 54 33.5	
	comp=N,100nm,0.1s						
TKX				IAML		18 54 33.6	
	comp=E,210nm,0.1s						
PAHR	**Pah Rah Range**	**3.74**	**342**	Pn	**Pn**	**18 52 32.5**	**-0.4**
LCMT	**Little Creek M**	**3.81**	**76**	Pn	**Pn**	**18 52 35.1**	**+1.2**
YUH	**Yuha Desert**	**3.85**	**155**	Pn	**Pn**	**18 52 35.2**	**+0.9**
CCUT	**Cedar City**	**3.87**	**68**	Pn	**Pn**	**18 52 35.5**	**+0.8**
CBX	**Cerro Bola**	**3.96**	**165**	Pn	**Pn**	**18 52 36.4**	**+0.5**
PSUT	**Pine Spring**	**3.98**	**52**	Pn	**Pn**	**18 52 37.0**	**+0.9**
PSUT				IAML		18 53 46.0	
	comp=E,138nm,1.0s						
PSUT				IAML		18 53 47.5	
	comp=N,137nm,0.9s						
ELK	**Elko**	**5.02**	**23**	Pn	**Pn**	**18 52 52.8**	**+2.3**
	comp=N,1.2nm,0.3s,baz=184,slow=18,SNR=0.7						
ELK				Pg	**Pg**	**18 53 09.0**	**-2.3**
	comp=N,2.6nm,0.3s,baz=221,slow=14,SNR=2.6						
ELK				Lg	Lg	18 54 13.0	
	comp=N,10nm,0.3s,baz=305,slow=9.7,SNR=10						
	comp=N,4.8nm,0.3s						
YBH	**Yreka Blue Hor**	**6.73**	**327**	Lg	Lg	18 55 03.1	
	baz=21,slow=7.9,SNR=4.3						
O20A	**White River Ci**	**8.55**	**59**		**Pn**	**18 53 41.5**	**+2.5**
PDAR	**Pinedale Array**	**9.20**	**42**	Lg	Lg	18 56 25.1	
	comp=N,0.2nm,0.3s,baz=235,slow=49,SNR=3.0						
PDAR				LR	LR	18 56 45.8	
	comp=N,24nm,20.6s,baz=210,slow=34						
ANMO	**Albuquerque**	**9.37**	**94**	Lg	Lg	18 56 33.7	
	comp=N,0.1nm,0.3s,baz=284,slow=22,SNR=2.8						
NEW	**Newport**	**12.11**	**2**	LR	LR	18 59 17.3	
	comp=N,149nm,18.6s,baz=181,slow=38						
TXAR	**Lajitas Array**	**13.74**	**116**	Pn	**P**	**18 54 55.2**	**-3.4**
	comp=N,0.1nm,0.3s,baz=299,slow=21,SNR=4.4						
	comp=N,1.4nm,1.1s						
ILAR	**Eielson Array**	**33.48**	**338**	P	**P**	**18 58 17.9**	**+3.8**
	comp=N,0.2nm,0.4s,baz=153,slow=8.1,SNR=4.6						
	comp=N,0.2nm,0.4s						

IDC 10 18:56:21.2±3.3, 22°55N×12°01W, h0km, mbtmp4.1/2, ML4.0/2, Error ellipse: s-maj=149.5km s-min=56.9km az=64.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.04**	**123**	Pn	Pn	19 00 07.4	-0.8
	0.8nm,0.3s,baz=315,slow=13,SNR=2.4						
TORD				Sn	Sn	19 03 00.6	-6.3
	0.5nm,0.3s,baz=310,slow=22,SNR=1.8						
	1.8nm,0.3s						
DBIC	**Dimbokro**	**17.23**	**155**	P	Pn	19 00 24.0	+0.7
	0.4nm,0.3s,baz=5.5,slow=11,SNR=5.0						
	1.6nm,0.4s						
I42PT	**GRACIOSA ISLAN**	**21.37**	**324**	I	I	21 04 40.0	
	baz=141,slow=323,SNR=1.2						
WRA	**Warramunga Arr**	**148.57**	**92**	PKPbc	PKPbc	19 16 10.1	-0.8
	0.3nm,0.7s,baz=288,slow=2.8,SNR=1.9						
ASAR	**Alice Springs**	**148.67**	**99**	PKPbc	PKPbc	19 16 10.6	-0.4
	0.3nm,0.7s,baz=285,slow=1.8,SNR=2.3						

*IDC **10** 18:58:41.9±1.1, 36°42N×29°17E, h0km, mb3.4/3, mbtmp3.6/10, ML3.4/5, MS3.4/4, Error ellipse: s-maj=20.0km s-min=13.8km az=164.0*
*HLW **10** 18:58:43.5, 36°42N×29°10E, h15km±23km, Ml3.5*
*ISK **10** 18:58:45.9, 36°47N×29°10E, h19km, ML3.6/43*
*ATH **10** 18:58:46.1±0.3, 36°40N×29°13E, h21km±4km, ML3.5/8, Manual Solution by A.Agalos First location: 2019/07/10 19:00:21, This location: 2019/07/10 19:17:16 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
*NIC **10** 18:58:46.4, 36°42N×29°18E, h29km±1km, Ml3.4/14*
*THE **10** 18:58:46.8, 36°N±2°×2°9E±°, h16km±4km, M3.5/13, MLh3.5/13*
*AFAD **10** 18:58:47.8, 36°52N×29°10E, h15km±1km, MW3.7*
*GII **10** 18:58:47.2±0.0, 36°132N±0°003×29°396E±0°001, h10km, Mws3.5, confirmed*

ISC 10 18:58:45.3±0.8, 36°39N±0°03×29°15E±0°02, h29km±5km, n185, σ1°68/231, mb3.1/3, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZZE	**Mula-Seydike**	**0.08**	**55**	P	**Pb**	**18 58 50.9**	**+0.5**
IZZE				S	**Sb**	**18 58 54.3**	**+0.4**
FETY	**Fethiye**	**0.25**	**348**	Pg	**Pb**	**18 58 51.3**	**-0.7**
FETY	**Fethiye**	**0.25**	**348**	P	**Pb**	**18 58 51.3**	**-0.7**
FETY				S	**Sb**	**18 58 55.4**	**-1.2**
AKAS	**Kas**	**0.40**	**113**	Pg	**Pn**	**18 58 56.1**	**+0.7**
AKAS				Sg	**Sn**	**18 59 03.5**	**+1.5**
AKAS	**Kas**	**0.40**	**113**	P	**Pn**	**18 58 56.1**	**+0.7**
AKAS				S	**Sn**	**18 59 02.6**	**+0.5**
KSL	**Kastellorizon**	**0.43**	**124**	P	**Pn**	**18 58 56.3**	**+0.8**
KSL				S	**Sn**	**18 59 04.7**	**+2.3**
KSL	**Kastellorizon**	**0.43**	**124**	P	**Pn**	**18 58 56.4**	**+0.8**
KSL				S	**Sn**	**18 59 03.5**	**+1.1**
KSL	**Kastellorizon**	**0.43**	**124**	P	**Pn**	**18 58 56.4**	**+0.8**
KSL				S	**Sn**	**18 59 03.0**	**+0.6**
KSL				AML	AML	18 59 05.9	
	12nm,0.4s						
KSL				AML	AML	18 59 08.3	
	8.3nm,0.4s						
SABU	**Mula-Dalaman**	**0.45**	**342**	P	**Pb**	**18 58 54.0**	**-1.0**
SABU				S	**Sb**	**18 58 59.0**	**-2.6**
CAME	**Cameli-Denizli**	**0.56**	**13**	Pg	**Pb**	**18 58 56.1**	**-0.8**
CAME				Sg	**Sb**	**18 59 04.2**	**-0.5**
KNIK	**Mula-Seydike**	**0.57**	**37**	P	**Pb**	**18 58 56.8**	**-0.1**
KNIK				S	**Sb**	**18 59 03.9**	**-0.9**
DALY	**Dalyan (Mula)**	**0.58**	**317**	Pg	**Pb**	**18 58 56.2**	**-0.8**
DALY				Sg	**Sb**	**18 59 04.4**	**-0.6**
DEMR	**Demre-Antalya**	**0.63**	**104**	Pg	**Pn**	**18 59 00.1**	**+1.7**
ELL	**Elmali**	**0.71**	**60**	Pg	**Pn**	**18 58 59.5**	**0.0**
ELL	**Elmali**	**0.71**	**60**	P	**Pn**	**18 58 59.6**	**0.0**
ELL				S	**Sn**	**18 59 12.8**	**+3.2**
ELL				AML	AML	18 59 18.2	
	14nm,0.4s						
ELL				AML	AML	18 59 24.3	
	13nm,1.1s						
CAEL	**Denizli, Camel**	**0.74**	**11**	P	**Pb**	**18 58 59.3**	**-0.5**
CAEL				S	**Sb**	**18 59 07.8**	**-1.9**
RODB	**Rodos**	**0.75**	**274**	P	**Pn**	**18 59 00.7**	**+0.7**
RODB				S	**Sn**	**18 59 11.7**	**+1.3**
TURN	**Turunc**	**0.82**	**298**	Pg	**Pb**	**18 59 00.9**	**-0.2**
TURN	**Turunc**	**0.82**	**298**	P	**Pb**	**18 59 00.8**	**-0.2**
TURN				S	**Sb**	**18 59 11.2**	**-0.6**
ARG	**Arkhangelos**	**0.84**	**258**	Pg	**Pn**	**18 59 02.4**	**+1.1**
ARG	**Arkhangelos**	**0.84**	**258**	P	**Pn**	**18 59 02.0**	**+0.8**
ARG				S	**Sn**	**18 59 14.5**	**+1.9**
ARG	**Arkhangelos**	**0.84**	**258**	P	**Pn**	**18 59 02.0**	**+0.8**
ARG				S	**Sn**	**18 59 14.0**	**+1.3**
ARG	**Arkhangelos**	**0.84**	**258**	↑*i*P	**Pb**	**18 59 01.9**	**+0.5**
ARG				S	**Sn**	**18 59 14.5**	**+1.9**
ARG				AML	AML	18 59 17.1	
	4.1nm,0.4s						
ARG				AML	AML	18 59 20.1	
	3.6nm,0.5s						
DNZT	**Denizli-Tavas-**	**0.89**	**354**	P	**Pb**	**18 59 01.4**	**-0.8**
DNZT				S	**Sb**	**18 59 10.3**	**-3.6**
GOLH	**Golhisar**	**0.91**	**21**	P	**Pb**	**18 59 02.4**	**-0.2**
GOLH				S	**Sb**	**18 59 12.3**	**-2.0**
AKUM	**Antalya-Kumluc**	**0.97**	**94**	P	**Pn**	**18 59 04.7**	**+1.8**
AKUM				S	**Sn**	**18 59 20.2**	**+4.5**
APMY	**Acipayam-Deniz**	**1.08**	**7**	Pg	**Pn**	**18 59 05.1**	**+0.4**
MULA	**Mugla, Merkez-**	**1.09**	**323**	P	**Pn**	**18 59 05.3**	**+0.6**
MULA				S	**Sb**	**18 59 16.9**	**-2.6**
TAVA	**DENIZLI_Tavas**	**1.09**	**350**	P	**Pn**	**18 59 05.0**	**+0.2**
KORT	**Korkueli**	**1.14**	**58**	Pn	**Pb**	**18 59 07.8**	**+1.3**
KORT	**Korkueli**	**1.14**	**58**	P	**Pb**	**18 59 08.6**	**+2.0**
KORT				S	**Sn**	**18 59 23.2**	**+2.9**
KEMT	**Kemer-ANTALYA**	**1.15**	**79**	Pn	**Pb**	**18 59 07.6**	**+1.0**
DNIZ	**Denizli-Tavas-**	**1.23**	**356**	P	**Pn**	**18 59 07.6**	**+0.9**
DAT	**Datca**	**1.31**	**285**	Pn	**Pn**	**18 59 09.2**	**+1.4**
DAT	**Datca**	**1.31**	**285**	P	**Pb**	**18 59 09.4**	**+0.1**
DAT				S	**Sb**	**18 59 26.4**	**+0.6**
DAT	**Datca**	**1.31**	**285**	P	**Pb**	**18 59 09.8**	**+0.5**
ANTB	**Antalya**	**1.31**	**67**	Pn	**Pb**	**18 59 10.6**	**+1.3**
INCE	**Denizli-Bozkur**	**1.36**	**14**	P	**Pb**	**18 59 09.9**	**-0.2**
INCE				S	**Sn**	**18 59 25.9**	**+0.3**
YAZI	**Mula-Dat§a-**	**1.40**	**282**	P	**Pn**	**18 59 09.8**	**+1.0**
YAZI				S	**Sn**	**18 59 25.5**	**-0.8**
MLSB	**Milas**	**1.42**	**310**	Pn	**Pn**	**18 59 10.9**	**+1.6**
BUCA	**Burdur, Bucak-**	**1.47**	**50**	P	**Pb**	**18 59 12.4**	**+0.4**
BRDR	**BURDUR-Merkez**	**1.49**	**29**	P	**Pb**	**18 59 12.6**	**+0.1**
BDRM	**Kayabasi**	**1.52**	**297**	P	**Pn**	**18 59 12.3**	**+1.6**
ESEN	**Aydn-Nazilli**	**1.54**	**336**	P	**Pn**	**18 59 11.6**	**+0.8**
BCK	**Bucak**	**1.57**	**47**	Pn	**Pb**	**18 59 13.1**	**-0.7**
BODT	**Bodrum**	**1.62**	**295**	Pn	**Pn**	**18 59 13.5**	**+1.5**
BODT	**Bodrum**	**1.62**	**295**	P	**Pn**	**18 59 13.5**	**+1.5**
BODT				S	**Sn**	**18 59 34.3**	**+2.4**
NISR	**Nisiros**	**1.64**	**278**	P	**Pn**	**18 59 14.2**	**+2.0**
YKAV	**Yalikavak-Bodr**	**1.67**	**297**	Pn	**Pn**	**18 59 13.9**	**+1.3**
BASM	**Basmaki-Afyon**	**1.69**	**25**	Pn	**Pn**	**18 59 13.9**	**+1.0**
NAZL	**Nazilli-Aydin**	**1.71**	**337**	Pn	**Pn**	**18 59 14.8**	**+1.6**
ISP	**Isparta**	**1.80**	**37**	Pn	**Pn**	**18 59 16.4**	**+1.8**
ISP	**Isparta**	**1.80**	**37**	P	**Pb**	**18 59 18.3**	**+0.6**
DIDI	**Didim-Aydin**	**1.82**	**303**	Pn	**Pn**	**18 59 16.0**	**+1.3**
KARP	**Karpathos**	**1.82**	**243**	Pn	**Pn**	**18 59 16.9**	**+2.1**
KARP				Sn	**Sb**	**18 59 39.9**	**-0.4**
KARP	**Karpathos**	**1.82**	**243**	P	**Pn**	**18 59 16.9**	**+2.1**
KARP				S	**Sb**	**18 59 39.5**	**-0.9**
KARP	**Karpathos**	**1.82**	**243**	P	**Pn**	**18 59 16.7**	**+1.9**
KARP				S	**Sn**	**18 59 38.8**	**+2.0**
KARP	**Karpathos**	**1.82**	**243**	↑*i*P	**Pn**	**18 59 16.8**	**+2.1**
KARP				AML	AML	18 59 40.7	
	2.6nm,0.6s						
KARP				AML	AML	18 59 41.6	
	2.1nm,0.5s						
KLNA	**Kalymnos**	**1.84**	**288**	P	**Pn**	**18 59 16.2**	**+1.3**
KLNA				S	**Sn**	**18 59 38.9**	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**1.85**	**327**	Pn	**Pn**	**18 59 16.3**	**+1.1**
DDIM	**Aydin, Didim**	**1.86**	**305**	P	**Pn**	**18 59 17.1**	**+1.9**
MNVG	**Manavgat-Antal**	**1.87**	**77**	Pn	**Pb**	**18 59 18.1**	**-0.7**
KIRA	**zmir-Kiraz**	**1.90**	**342**	P	**Pn**	**18 59 16.2**	**+0.4**
PASA	**Karahalli, USA**	**1.97**	**8**	P	**Pn**	**18 59 17.8**	**+1.0**
IZMR	**zmir-demi**	**1.98**	**332**	P	**Pn**	**18 59 17.4**	**+0.4**
GCAM	**G?zelcami?**	**2.01**	**311**	Pn	**Pn**	**18 59 18.7**	**+1.4**
GCAM	**G?zelcami?**	**2.01**	**311**	P	**Pn**	**18 59 19.2**	**+1.9**
KZIL	**AFYON_Kizioren**	**2.02**	**23**	P	**Pn**	**18 59 19.5**	**+1.9**
BAGO	**Egridir - ISPA**	**2.06**	**39**	P	**Pb**	**18 59 20.7**	**-1.5**
ODEM	**Odemis-Izmir**	**2.06**	**336**	Pn	**Pn**	**18 59 19.5**	**+1.4**
MANT	**Manisa**	**2.15**	**348**	P	**Pn**	**18 59 19.5**	**+0.1**
KULA	**Kula-Manisa**	**2.15**	**350**	Pn	**Pn**	**18 59 20.6**	**+1.2**
AFYN	**Afyon-Dinar-K**	**2.16**	**30**	P	**Pn**	**18 59 22.1**	**+2.6**
SMG	**Samos**	**2.27**	**306**	P	**Pn**	**18 59 22.0**	**+1.1**
SMG				S	**Sn**	**18 59 49.1**	**+1.3**
SMG	**Samos**	**2.27**	**306**	P	**Pn**	**18 59 21.9**	**+1.1**
SMG				S	**Sn**	**18 59 49.1**	**+1.3**
USAK	**Uak-Merkez**	**2.32**	**358**	P	**Pn**	**18 59 22.4**	**+0.8**
ALAN	**Alanya-ANTALYA**	**2.33**	**85**	Pn	**Pb**	**18 59 24.9**	**-1.8**
SEDI	**Konya, Seydise**	**2.34**	**62**	P	**Pb**	**18 59 25.7**	**-1.2**
BNAZ	**Uak-Banaz**	**2.35**	**14**	P	**Pn**	**18 59 22.6**	**+0.4**
SEYD	**Seydisehir-KON**	**2.38**	**64**	Pn	**Pb**	**18 59 25.3**	**-2.3**
SHUT	**Suhut-Afyon**	**2.43**	**27**	Pn	**Pn**	**18 59 25.1**	**+1.9**
GMLD	**Gumuldur**	**2.45**	**314**	Pn	**Pn**	**18 59 25.3**	**+2.0**
GAZI	**Gazipasa**	**2.56**	**93**	Pn	**Pn**	**18 59 26.4**	**+1.4**
BLCB	**Balcova**	**2.60**	**320**	Pn	**Pn**	**18 59 26.9**	**+1.5**
BLCB	**Balcova**	**2.60**	**320**	P	**Pn**	**18 59 27.6**	**+2.1**
GORD	**Gordes-Manisa**	**2.63**	**343**	Pn	**Pn**	**18 59 26.6**	**+0.7**
GEDZ	**Gediz**	**2.66**	**4**	Pn	**Pn**	**18 59 28.4**	**+2.1**
SIMA	**Simav-Kutahya**	**2.69**	**357**	Pn	**Pn**	**18 59 28.4**	**+1.7**
ZKR	**Zakros**	**2.70**	**243**	Pn	**Pn**	**18 59 29.4**	**+2.5**
ZKR	**Zakros**	**2.70**	**243**	P	**Pn**	**18 59 29.4**	**+2.0**
ZKR	**Zakros**	**2.70**	**243**	P	**Pn**	**18 59 28.9**	**+2.0**
ZKR				S	**Sn**	**19 00 00.6**	**+2.0**
ZKR	**Zakros**	**2.70**	**243**	P	**Pn**	**18 59 29.2**	**+2.4**
ZKR				AML	AML	19 00 03.1	
	0.4nm,0.4s						
ZKR				AML	AML	19 00 07.9	
	0.6nm,0.7s						
HDMB	**Hadim**	**2.74**	**77**	Pn	**Pn**	**18 59 30.6**	**+3.0**
URLA	**Izmir**	**2.83**	**315**	Pn	**Pn**	**18 59 30.3**	**+1.7**
BLVD	**Bolvadin-AFYON**	**2.85**	**32**	Pn	**Pn**	**18 59 31.1**	**+2.1**
AKMS	**Akamas**	**2.94**	**117**	P	**Pn**	**18 59 31.1**	**+1.1**
AKMS				S	**Sn**	**19 00 04.8**	**+0.5**
AKMS				AML	AML	19 00 07.6	
	1.1nm,0.7s						
AKMS				AML	AML	19 00 07.8	
	1.1nm,0.9s						
THERA	**Ancient Thera,**	**2.96**	**271**	P	**Pn**	**18 59 31.3**	**+0.9**
KONT	**Konya--Tatoy**	**3.00**	**58**	Pn	**Pn**	**18 59 33.9**	**+3.0**
ALFC	**Alefka**	**3.07**	**113**	P	**Pn**	**18 59 32.6**	**+0.7**
ALFC				S	**Sn**	**19 00 09.6**	**+2.0**
ALFC				AML	AML	19 00 12.5	
	0.6nm,0.3s						
ALFC				AML	AML	19 00 19.1	
	0.3nm,0.4s						
LADK	**Ladik-KONYA**	**3.14**	**54**	Pn	**Pn**	**18 59 35.6**	**+2.7**
CHOS	**Chios island**	**3.17**	**310**	Pn	**Pn**	**18 59 34.5**	**+1.3**
CHOS	**Chios island**	**3.17**	**310**	P	**Pn**	**18 59 34.6**	**+1.3**
CHOS				S	**Sn**	**19 00 10.9**	**+0.8**
CHOS	**Chios island**	**3.17**	**310**	P	**Pn**	**18 59 34.6**	**+1.3**
NATA	**Nata**	**3.22**	**119**	P	**Pn**	**18 59 35.4**	**+1.4**
NATA				S	**Sn**	**19 00 12.4**	**+1.0**
NATA				AML	AML	19 00 18.1	
	1.2nm,0.6s						
NATA				AML	AML	19 00 18.5	
	1.8nm,0.6s						
CIFT	**Cifteler, Eski**	**3.33**	**27**	Pn	**Pn**	**18 59 37.4**	**+1.9**
TROD	**Troodos**	**3.35**	**114**	P	**Pn**	**18 59 36.7**	**+0.8**
TROD				S	**Sn**	**19 00 16.7**	**+1.7**
TROD				AML	AML	19 00 22.7	
	0.3nm,0.6s						
TROD				AML	AML	19 00 25.2	
	0.3nm,0.7s						
XYLS	**Xyliatos**	**3.46**	**112**	P	**Pn**	**18 59 38.0**	**+0.7**
XYLS				S	**Sn**	**19 00 19.3**	**+1.9**
XYLS				AML	AML	19 00 26.9	
	0.3nm,0.3s						
XYLS				AML	AML	19 00 27.9	
	0.3nm,0.3s						
IDI	**Anoyia**	**3.63**	**254**	P	**Pn**	**18 59 40.9**	**+1.3**
IDI	**Anoyia**	**3.63**	**254**	Pn	**Pn**	**18 59 40.8**	**+1.1**
	17nm,0.3s,baz=70,slow=5.5,SNR=89						
IDI				Sn	**Sn**	**19 00 21.0**	**-0.6**
	12nm,0.3s,baz=284,slow=16,SNR=10						
IDI				Lg	Lg	19 00 37.1	
	7.9nm,0.3s,baz=281,slow=17,SNR=3.3						
IDI	**Anoyia**	**3.63**	**254**	P	**Pn**	**18 59 40.5**	**+0.8**
CSS	**Mathiatis**	**3.69**	**112**	P	**Pn**	**18 59 40.6**	**+0.2**
CSS	**Mathiatis**	**3.69**	**112**	P	**Pn**	**18 59 41.6**	**+1.1**
CSS				S	**Sn**	**19 00 25.4**	**+2.3**
CSS				AML	AML	19 00 32.2	
	0.2nm,0.5s						
CSS				AML	AML	19 00 33.7	
	0.2nm,0.4s						
ASGA	**Asgata**	**3.71**	**114**	P	**Pn**	**18 59 41.9**	**+1.3**
ASGA				S	**Sn**	**19 00 24.3**	**+0.9**
ASGA				AML	AML	19 00 35.5	
	0.3nm,0.4s						
ASGA				AML	AML	19 00 35.7	
	0.5nm,0.4s						
SIGR	**SIGRI**	**3.84**	**318**	P	**Pn**	**18 59 43.5**	**+1.1**
MVOU	**Mavrovouni**	**3.90**	**109**	P	**Pn**	**18 59 44.5**	**+1.2**
MVOU				S	**Sn**	**19 00 30.8**	**+2.7**
MVOU				AML	AML	19 00 40.6	
	0.2nm,0.6s						
MVOU				AML	AML	19 00 41.6	
	0.2nm,0.4s						
KARY	**Karystos**	**4.10**	**295**	P	**Pn**	**18 59 48.7**	**+2.6**
KARY	**Karystos**	**4.10**	**295**	P	**Pn**	**18 59 47.9**	**+1.9**
PARAL	**Paralimni**	**4.22**	**108**	S	**Sn**	**19 00 38.8**	**+2.8**
PARAL				AML	AML	19 00 43.0	
	0.1nm,0.7s						
PARAL				AML	AML	19 00 48.2	
	0.2nm,0.9s						
DION	**Dionisos Attik**	**4.49**	**294**	P	**Pn**	**18 59 53.8**	**+2.4**
DION	**Dionisos Attik**	**4.49**	**294**	P	**Pn**	**18 59 53.0**	**+1.6**
ATHU	**Athens Univers**	**4.56**	**292**	P	**Pn**	**18 59 54.0**	**+1.6**
KYMI	**Kymi, Euboea I**	**4.59**	**301**	P	**Pn**	**18 59 54.0**	**+1.1**
LIA	**Limnos Island**	**4.69**	**319**	P	**Pn**	**18 59 55.9**	**+1.8**
BRTR	**Keskin Array B**	**4.86**	**45**	Pn	**Pn**	**18 59 58.8**	**+2.2**
	0.4nm,0.3s,baz=224,slow=16,SNR=23						
BRTR				Sn	**Sn**	**19 00 54.6**	**+2.6**
	1.5nm,0.3s,baz=217,slow=26,SNR=11						
BRTR				Lg	Lg	19 01 14.1	
	0.4nm,0.3s,baz=217,slow=26,SNR=3.7						
	3.3nm,0.6s						
HWQ	**Hawqa**	**5.94**	**109**	eP	**Pn**	**19 00 12.6**	**+1.1**
HNTI	**Hanita**	**5.96**	**122**	S	**Sn**	**19 01 16.5**	**-2.4**
HNTI	**Hanita**	**5.96**	**122**	P	**Pn**	**19 00 11.7**	**+0.1**
BEIL	**Beino**	**6.03**

IDC ***10*** *19:00:50.6±0.5,56˙64S×141˙86W,h0km,mb4.5/11, mbtmp4.5/11,MS4.6/38,Error ellipse: s-maj=23.3km s-min=16.4km az=179.0*

NEIC ***10*** *19:00:52.7,56˙78S×141˙52W,h26km, Moment Tensor Solution. Duration: 2s6 Moment tenso: Scale 10¹⁷Nm; Mrr=0.31; Mθθ1.87; Mφφ-1.56; Mrθ-0.21; Mθφ1.06; Mφr0.62; Fault plane solution: M₀2.14000×10¹⁷ NP1: φs210.98000°,δ75.37000°,λ-166.07000°. NP2: φs117.40000°,δ76.53000°,λ-15.05000°. Principal axes: T 2.1718, Plg1.0000°, Azm164.0000°; N -0.0681, Plg70.0000°, Azm257.0000°; P -2.1037, Plg20.0000°, Azm74.0000°;*

NEIC ***10*** *19:00:52.8±1.7,56˙8S±0˙1×141˙5W±0˙2,h10km±1km, mb5.1/60,Ms_20 5.0/233,Mww5.5/15 Error ellipse: s-maj=25.2km s-min=17.5km az=357.0*

NEIC ***10*** *19:00:52.7,56˙78S×141˙52W,h26km*

MOS ***10*** *19:00:52.0±1.1,56˙92S×141˙35W,h10km,mb5.0/13, Error ellipse: s-maj=23.1km s-min=16.6km az=83.6*

BJI ***10*** *19:00:53.0,56˙90S×141˙80W,h10km,mB5.1/2,Ms5.4/2, Ms7 5.0/6*

GCMT ***10*** *19:00:54.8±0.1,56˙86S±0˙01×141˙74W±0˙01,h14km, MW5.5/151,Moment Tensor Solution. s136,c234; s151,c276; Duration: 1s3 Moment tensor: Scale 10¹⁷ Nm; Mrr=0.16±.02; Mθθ1.53±.02; Mφφ-1.37±.02; Mrθ0.01±.04; Mθφ1.18±.02; Mφr-0.21±.04; Best double couple: M₀1.88200×10¹⁷ NP1:φs295.00000°,δ84.00000°, λ-4.00000°. NP2:φs26.00000°,δ86.00000°,λ-174.00000°. Principal axes: T 1.9510, Plg2.0000°, Azm160.0000°; N -0.1360, Plg83.0000°, Azm58.0000°; P -1.8140, Plg7.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 19:00:52.4±0.3,56˙69S±0˙06×141˙57W±0˙06,h10km, n320,σ1§57/168,mb5.0/45,MS5.0/157,9C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**27.43**	**201**	P	**P**	**19 06 37.8**	**+0.1**
SBA	**Scott Base**	**27.43**	**201**	P	**P**	**19 06 37.8**	**+0.1**
SBA				pmax	pmax		
	comp=Z,34nm,1.5s						
SBA				MLR	MLR		
	comp=Z,2μm,21.0s						
VNDA	**Vanda**	**28.34**	**202**	P	**P**	**19 06 45.7**	**-0.1**
VNDA	**Vanda**	**28.34**	**202**	P	**P**	**19 06 48.2**	**+2.4**
	comp=Z,0.9nm,0.8s,baz=107,slow=5.5,SNR=5.0						
VNDA				LR	LR	19 14 35.1	
	comp=Z,1μm,21.0s,baz=78,slow=29						
VNDA	**Vanda**	**28.34**	**202**	P	**P**	**19 06 45.7**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,14nm,1.6s						
BFZ	**Birch Farm**	**31.52**	**282**	IAMs_20	IAMs_20	19 16 23.3	
	comp=Z,3μm,18.0s						
ODZ	**Otahua Downs**	**31.68**	**271**	P	**P**	**19 07 18.9**	**+3.2**
RPZ	**Rata Peaks**	**32.30**	**273**	LR	LR	19 17 10.9	
	comp=Z,2μm,20.7s,baz=128,slow=30						
RTZ	**Ruatahuna**	**32.62**	**286**	IAMs_20	IAMs_20	19 17 41.4	
	comp=Z,3μm,18.0s						
URZ	**Urewera**	**32.81**	**286**	LR	LR	19 17 25.7	
	comp=Z,2μm,21.8s,baz=126,slow=30						
QSPA	**South Pole Qui**	**33.46**	**180**		**P**	**19 07 30.6**	**-0.7**
QSPA				IAmb	IAmb	19 07 36.0	
	comp=Z,30nm,1.1s						
QSPA	**South Pole Qui**	**33.46**	**180**	P	**P**	**19 07 32.6**	**+1.3**
	comp=Z,17nm,1.0s,baz=70,slow=4.4,SNR=29						
QSPA				PcP	**PcP**	**19 10 12.3**	**+0.4**
	comp=Z,3.9nm,1.0s,baz=42,slow=3.6,SNR=3.7						
QSPA				LR	LR	19 18 29.8	
	comp=Z,2μm,21.0s,baz=69,slow=32						
	comp=Z,17nm,1.0s						
TBI	**Tubuai**	**33.81**	**347**	*e*P	**P**	**19 07 30.9**	**-3.5**
	comp=Z,831nm,31.5s						
TBI				*e*S	**S**	**19 12 57.6**	**-0.5**
	comp=Z,3μm,40.5s						
TBI				*e*LR	LR	19 16 23.9	
	comp=Z,3μm,24.0s						
TBI				*e*LR	LR	19 16 29.2	
	comp=Z,15μm,26.2s						
PMSA	**Palmer Station**	**36.42**	**135**	P	**P**	**19 07 55.0**	**-1.5**
PMSA	**Palmer Station**	**36.42**	**135**	LR	LR	19 18 47.1	
	comp=Z,911nm,19.5s,baz=248,slow=29						
RAO	**Raoul Island**	**37.46**	**302**	LR	LR	19 19 32.0	
	comp=Z,374nm,20.4s,baz=124,slow=30						
RAR	**Rarotonga**	**37.91**	**332**	LR	LR	19 19 34.8	
	comp=Z,981nm,18.6s,baz=118,slow=30						
BELA	**Belgrano 2**	**38.63**	**161**		**P**	**19 08 14.3**	**-0.9**
BELA				IAmb	IAmb	19 08 17.8	
	comp=Z,34nm,0.9s						
GO10	**Punta Arenas**	**39.04**	**116**	P	**P**	**19 08 18.5**	**-0.4**
MG05	**Puerto Natales**	**39.16**	**113**	P	**P**	**19 08 19.6**	**-0.2**
MG05				IAmb	IAmb	19 08 25.7	
	comp=Z,28nm,1.1s						
USHA	**Ushuaia**	**39.38**	**119**	LR	LR	19 20 03.3	
	comp=Z,756nm,20.9s,baz=246,slow=29						
PPT2	**Papeete2**	**39.50**	**348**	*e*P	**P**	**19 08 21.6**	**-1.5**
	comp=Z,116nm,31.2s						
PPT2				*e*S	**S**	**19 14 22.8**	**-2.4**
	comp=Z,702nm,28.2s						
PPT2				*e*SS	**SS**	**19 17 17.8**	**-1.9**
	comp=Z,452nm,21.8s						
PPT2				*e*LR	LR	19 19 04.4	
	comp=Z,3μm,29.0s						
PPT2				*e*LR	LR	19 19 11.0	
	comp=Z,2μm,22.2s						
PPT	**Papeete**	**39.52**	**348**	LR	LR	19 20 12.6	
	comp=Z,989nm,18.2s,baz=157,slow=30						
MG01	**Puerto William**	**39.71**	**120**	P	**P**	**19 08 22.6**	**-1.9**
MG01				IAmb	IAmb	19 08 34.0	
	comp=Z,41nm,0.9s						
ESPZ	**Base Esperanza**	**39.80**	**136**	P	**P**	**19 08 24.2**	**-0.8**
AY03	**Cochrane**	**41.80**	**107**	P	**P**	**19 08 42.1**	**+0.4**
COYC	**Coyhaique**	**43.16**	**106**	P	**P**	**19 08 53.3**	**+0.5**
COYC				IAmb	IAmb	19 08 57.2	
	comp=Z,40nm,1.3s						
LL02	**Futaleuf**	**44.87**	**104**	P	**P**	**19 09 07.0**	**+0.4**
LL02				IAmb	IAmb	19 09 13.9	
	comp=Z,39nm,1.6s						
CASY	**Casey**	**46.04**	**212**		**P**	**19 09 17.2**	**+1.7**
CASY	**Casey**	**46.04**	**212**	IAMs_20	IAMs_20	19 25 26.5	
	comp=Z,2μm,18.0s						
EFI	**East Falkland**	**46.25**	**121**		**P**	**19 09 17.1**	**-0.3**
EFI	**East Falkland**	**46.25**	**121**	*i* P	**P**	**19 09 17.3**	**-0.1**
EFI				pmax	pmax		
	comp=Z,33nm,1.1s						
PLCA	**Paso Flores**	**47.27**	**102**		**P**	**19 09 25.6**	**0.0**
PLCA	**Paso Flores**	**47.27**	**102**	P	**P**	**19 09 27.5**	**+1.9**
	comp=Z,7.6nm,0.9s,baz=211,slow=8.3,SNR=9.9						
	comp=Z,7.6nm,0.9s						
H03S2	**Juan Fernandez**	**47.68**	**89**	T	T	20 00 48.6	
	baz=219,slow=74,SNR=427						
H03S1	**Juan Fernandez**	**47.68**	**89**	T	T	20 00 49.9	
	baz=219,slow=74,SNR=501						
H03S3	**Juan Fernandez**	**47.69**	**89**	T	T	20 00 49.1	
	baz=219,slow=74,SNR=404						
TAOE	**Nuku Hiva Isla**	**47.73**	**2**	*e*S	**S**	**19 16 23.3**	**-2.3**
	comp=Z,625nm,25.2s						
TAOE				*e*SS	**SS**	**19 19 59.3**	**+5.3**
	comp=Z,446nm,27.3s						
TAOE				*e*LR	LR	19 22 55.9	
	comp=Z,2μm,25.5s						
H03N3	**Juan Fernandez**	**47.96**	**89**	T	T	20 01 06.9	
	baz=222,slow=72,SNR=1073						
H03N2	**Juan Fernandez**	**47.97**	**89**	T	T	20 01 06.0	
	baz=222,slow=72,SNR=1398						
H03N1	**Juan Fernandez**	**47.98**	**89**	T	T	20 01 06.5	
	baz=222,slow=72,SNR=1056						
VNA2	**Neumayer--Watz**	**48.60**	**162**	⇑P	**P**	**19 09 35.2**	**-0.2**
	comp=Z,51nm,0.6s,baz=205,slow=8.0						
VNA1	**Neumayer--Stat**	**48.68**	**161**	⇑P	**P**	**19 09 35.7**	**-0.3**
	comp=Z,50nm,0.7s						
SNAA	**Sanae**	**48.70**	**164**	⇑P	**P**	**19 09 35.9**	**-0.3**
	comp=Z,446nm,0.5s						
SNAA	**Sanae**	**48.70**	**164**		**P**	**19 09 35.4**	**-0.9**
SNAA	**Sanae**	**48.70**	**164**	P	**P**	**19 09 35.8**	**-0.5**
	comp=Z,18nm,0.6s,baz=216,slow=6.9,SNR=137						
	comp=Z,18nm,0.6s						
SNAA	**Sanae**	**48.70**	**164**	*i* P	**P**	**19 09 35.8**	**-0.5**
SNAA				pmax	pmax		
	comp=Z,16nm,0.8s						
TROLL	**Troll, Antarti**	**49.16**	**166**	⇑P	**P**	**19 09 39.8**	**-0.1**
	comp=Z,755nm,0.6s						
BI02	**San Fabin de**	**49.80**	**98**		**P**	**19 09 44.8**	**-0.3**
BI02				IAmb	IAmb	19 09 50.6	
	comp=Z,16nm,0.9s						
ML02	**Panimavida**	**50.38**	**97**	P	**P**	**19 09 49.6**	**+0.2**
DZM	**Mont Dzumac**	**51.19**	**290**	*e*S	**S**	**19 17 17.6**	**+3.6**
	comp=Z,424nm,26.9s						
DZM				*e*SS	**SS**	**19 20 47.5**	**-1.7**
	comp=Z,374nm,22.6s						
DZM				*e*LQ	LQ	19 22 26.1	
	comp=Z,2μm,25.9s						
DZM				*e*LR	LR	19 24 39.0	
	comp=Z,1μm,25.6s						
BO02	**Sierra Bellavi**	**51.45**	**96**		**P**	**19 09 57.7**	**+0.1**
BO02				IAmb	IAmb	19 10 07.6	
	comp=Z,13nm,0.8s						
BO01	**Tunca**	**51.58**	**96**		**P**	**19 09 58.8**	**+0.3**
MT09	**Talagante**	**52.09**	**95**	P	**P**	**19 10 02.3**	**-0.2**
MT09				IAmb	IAmb	19 10 11.7	
	comp=Z,25nm,1.1s						
BO04	**La Punta**	**52.14**	**96**	P	**P**	**19 10 02.7**	**-0.1**
MT02	**Curacav**	**52.40**	**95**	P	**P**	**19 10 05.3**	**+0.7**
MT02				IAmb	IAmb	19 10 08.8	
	comp=Z,57nm,1.6s						
LMEL	**Las Melosas**	**52.47**	**96**	P	**P**	**19 10 05.7**	**+0.3**
LMEL				IAmb	IAmb	19 10 12.4	
	comp=Z,17nm,1.1s						
MT05	**Renca**	**52.52**	**95**	P	**P**	**19 10 06.3**	**+0.7**
PEL	**Peldehue**	**52.74**	**95**		**P**	**19 10 06.9**	**-0.3**
PEL				IAmb	IAmb	19 10 11.9	
	comp=Z,27nm,0.9s						
PEL	**Peldehue**	**52.74**	**95**	P	**P**	**19 10 06.9**	**-0.3**
PEL				pmax	pmax		
	comp=Z,27nm,0.9s						
VA06	**Catapilco**	**52.84**	**94**	P	**P**	**19 10 07.1**	**-0.8**
VA06				IAmb	IAmb	19 10 28.8	
	comp=Z,22nm,0.9s						
MT08	**Bocatoma Ro**	**52.88**	**96**	P	**P**	**19 10 08.0**	**-0.5**
VA03	**San Esteban**	**53.10**	**95**	P	**P**	**19 10 10.0**	**+0.1**
VA03				IAmb	IAmb	19 10 14.5	
	comp=Z,28nm,1.1s						
TRQA	**Tornquist**	**53.79**	**106**		**P**	**19 10 15.1**	**+0.3**
TRQA				IAmb	IAmb	19 10 20.0	
	comp=Z,30nm,1.1s						
TRQA	**Tornquist**	**53.79**	**106**	P	**P**	**19 10 15.1**	**+0.3**
TRQA				pmax	pmax		
	comp=Z,30nm,1.1s						
CO03	**El Pedregal**	**54.49**	**93**	P	**P**	**19 10 21.4**	**+1.3**
CO03				IAmb	IAmb	19 10 24.8	
	comp=Z,13nm,1.0s						
SYO	**Syowa Base**	**54.60**	**181⇑**	*e*P	**P**	**19 10 17.8**	**-2.4**
SYO	**Syowa Base**	**54.60**	**181⇑**	*i*pP	**P**	**19 10 20.0**	**-0.2**
SYO	**Syowa Base**	**54.60**	**181⇑**	*e*sP	sP	19 10 22.8	-0.3
MAW	**Mawson**	**54.70**	**191**	P	**P**	**19 10 21.4**	**+0.5**
	comp=Z,12nm,0.9s,baz=165,slow=8.3,SNR=24						
MAW				LR	LR	19 30 38.7	
	comp=Z,939nm,20.9s,baz=158,slow=33						
	comp=Z,12nm,0.9s						
ZON	**Zonda**	**55.05**	**95**	P	**P**	**19 10 24.6**	**+0.5**
ZON	**Zonda**	**55.05**	**95**	P	**P**	**19 10 24.6**	**+0.5**
ZON				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CO01	**Juntas del Tor**	**55.48**	**93**	P	**P**	**19 10 27.2**	**-0.2**
CO01				IAmb	IAmb	19 11 10.7	
	comp=Z,39nm,2.0s						
EIDS	**Eidsvold**	**56.80**	**274**	P	**P**	**19 10 37.5**	**+0.9**
EIDS				IAmb	IAmb	19 10 49.4	
	comp=Z,50nm,2.0s						
STKA	**Stephens Creek**	**56.96**	**261**	P	**P**	**19 10 37.2**	**-0.6**
	comp=Z,4.3nm,0.9s,baz=160,slow=12,SNR=3.5						
STKA				LR	LR	19 30 07.5	
	comp=Z,827nm,21.9s,baz=129,slow=31						
	comp=Z,4.3nm,0.9s						
STKA	**Stephens Creek**	**56.96**	**261**	*ce*P	**P**	**19 10 38.3**	**+0.6**
STKA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AC02	**Maricunga**	**58.45**	**92**	P	**P**	**19 10 48.2**	**-0.6**
AC02				IAmb	IAmb	19 10 54.3	
	comp=Z,11nm,0.9s						
PB01	**IPOC Station P**	**62.85**	**87**	P	**P**	**19 11 19.4**	**+1.0**
PB01				IAmb	IAmb	19 11 23.1	
	comp=Z,9.1nm,0.9s						
PLTB	**Pedras Altas**	**63.02**	**107**	P	**P**	**19 11 18.7**	**-0.7**
PLTB				IAmb	IAmb	19 11 23.4	
	comp=Z,19nm,1.0s						
PB08	**IPOC Station P**	**63.76**	**87**	P	**P**	**19 11 25.0**	**+0.2**
PB16	**IPOC Station P**	**65.03**	**85**	P	**P**	**19 11 32.7**	**-0.7**
PB16				IAmb	IAmb	19 11 42.5	
	comp=Z,32nm,1.7s						
CPUP	**Villa Florida**	**65.31**	**101**	P	**P**	**19 11 34.2**	**-0.2**
CPUP	**Villa Florida**	**65.31**	**101**	P	**P**	**19 11 33.8**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=89,slow=5.8,SNR=12						
CPUP				LR	LR	19 35 02.7	
	comp=Z,88nm,18.6s,baz=76,slow=31						
	comp=Z,2.6nm,0.9s						
CPUP	**Villa Florida**	**65.31**	**101**	P	**P**	**19 11 34.2**	**-0.2**
CPUP				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NNA	**Nana**	**66.26**	**75**	*i* P	**P**	**19 11 42.1**	**+1.4**
NNA				pmax	pmax		
	comp=Z,11nm,0.9s						
ITAB	**Concordia**	**67.39**	**105**	P	**P**	**19 11 48.2**	**+0.5**
LPAZ	**La Paz**	**67.45**	**85**	P	**P**	**19 11 48.6**	**-0.3**
LPAZ				IAmb	IAmb	19 11 58.8	
	comp=Z,18nm,1.1s						
LPAZ	**La Paz**	**67.45**	**85**	P	**P**	**19 11 49.4**	**+0.5**
	comp=Z,7.4nm,1.0s,baz=195,slow=2.5,SNR=15						
	comp=Z,7.4nm,1.0s						
LPAZ	**La Paz**	**67.45**	**85**	*e*P	**P**	**19 11 49.6**	**+0.7**
AS31	**Alice Springs**	**67.60**	**261**		**P**	**19 11 46.2**	**-2.9**
ASAR	**Alice Springs**	**67.60**	**261**		**P**	**19 11 46.2**	**-2.9**
ASAR	**Alice Springs**	**67.60**	**261**	P	**P**	**19 11 46.9**	**-2.2**
	comp=Z,2.8nm,0.8s,baz=139,slow=6.3,SNR=16						
ASAR				LR	LR	19 36 49.4	
	comp=Z,467nm,21.7s,baz=146,slow=32						
	comp=Z,2.8nm,0.8s						
H01W1	**Cape Leeuwin H**	**68.71**	**239**	T	T	20 27 25.0	
	baz=144,slow=76,SNR=1590						
H01W2	**Cape Leeuwin H**	**68.72**	**239**	T	T	20 27 39.6	
	baz=144,slow=76,SNR=1459						
H01W3	**Cape Leeuwin H**	**68.73**	**239**	T	T	20 27 26.2	
	baz=144,slow=76,SNR=1245						
NWAO	**Narrogin (SRO)**	**68.83**	**242**	LR	LR	19 34 17.3	
	comp=Z,604nm,21.9s,baz=113,slow=29						
ATAH	**Atahualpa**	**69.51**	**71**	LR	LR	19 35 26.1	
	comp=Z,482nm,18.8s,baz=229,slow=30						
WR8	**Warramunga Arr**	**70.26**	**264**	P	**P**	**19 12 03.0**	**-2.6**
WR8				IAmb	IAmb	19 14 37.7	
	comp=Z,33nm,1.8s						
WRA	**Warramunga Arr**	**70.36**	**264**	P	**P**	**19 12 04.0**	**-2.2**
	comp=Z,3.3nm,1.0s,baz=150,slow=5.4,SNR=12						
WRA				LR	LR	19 38 44.0	
	comp=Z,636nm,21.0s,baz=138,slow=32						
	comp=Z,3.3nm,1.0s						
WRAB	**Tennant Creek**	**70.36**	**264**	P	**P**	**19 12 03.6**	**-2.7**
WRAB				IAmb	IAmb	19 12 15.7	
	comp=Z,20nm,1.6s						
WRAB	**Tennant Creek**	**70.36**	**264**	*i* P	**P**	**19 12 06.0**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.2s						
WB0	**Warramunga Arr**	**70.47**	**264**	P	**P**	**19 12 05.0**	**-2.0**
WB0				IAmb	IAmb	19 12 17.6	
	comp=Z,11nm,1.1s						
SIV	**San Ignacio**	**71.58**	**91**	LR	LR	19 40 14.1	
	comp=Z,112nm,18.4s,baz=240,slow=33						
MORW	**Morawa**	**72.57**	**244**	P	**P**	**19 12 17.5**	**-2.1**
COHC	**Cochancay**	**73.04**	**68**	P	**P**	**19 12 22.4**	**0.0**
PTLB	**Pontes e Lacer**	**73.09**	**92**	P	**P**	**19 12 22.0**	**-0.7**
VILB	**Vilhena**	**74.54**	**90**	P	**P**	**19 12 30.5**	**-0.8**
VILB				IAmb	IAmb	19 12 44.0	
	comp=Z,20nm,1.0s						
OTAV	**Otavalo**	**75.76**	**67**	P	**P**	**19 12 37.8**	**-1.0**
OTAV				IAmb	IAmb	19 12 49.2	
	comp=Z,26nm,1.4s						
OTAV	**Otavalo**	**75.76**	**67**	P	**P**	**19 12 37.8**	**-1.0**
OTAV				pmax	pmax		
	comp=Z,26nm,1.4s						
FITZ	**Fitzroy Crossi**	**76.59**	**258**	P	**P**	**19 12 40.8**	**-2.1**
FITZ	**Fitzroy Crossi**	**76.59**	**258**	LR	LR	19 41 56.2	
	comp=Z,920nm,21.8s,baz=139,slow=32						
MBWA	**Marble Bar**	**77.21**	**251**	P	**P**	**19 12 44.6**	**-1.9**
BDFB	**Brasilia**	**79.02**	**102**	P	**P**	**19 12 57.3**	**+0.7**
	comp=Z,1.9nm,0.5s,baz=218,slow=11,SNR=4.1						
BDFB				LR	LR	19 44 25.2	
	comp=Z,523nm,18.4s,baz=207,slow=33						
	comp=Z,1.9nm,0.5s						
H06S1	**SOCORRO T**	**79.41**	**29**	T	T	20 40 38.8	
	SNR=24						
JAY	**Jayapura**	**81.17**	**279**	LR	LR	19 45 22.2	
	comp=Z,289nm,20.8s,baz=154,slow=33						
JTS	**Las Juntas de**	**81.33**	**56**	P	**P**	**19 13 09.1**	**+0.2**
JTS	**Las Juntas de**	**81.33**	**56**	LR	LR	19 41 21.3	
	comp=Z,679nm,20.7s,baz=204,slow=30						
JTS	**Las Juntas de**	**81.33**	**56**	P	**P**	**19 13 09.1**	**+0.2**
JTS				pmax	pmax		
	comp=Z,54nm,1.7s						
HDC	**Heredia**	**81.46**	**57**	IAMs_20	IAMs_20	19 41 06.3	
	comp=Z,744nm,20.0s						
ROSC	**El Rosal**	**81.79**	**68**	LR	LR	19 42 39.9	
	comp=Z,351nm,21.3s,baz=236,slow=31						
MACA	**Manacapuru-AM**	**82.36**	**84**	P	**P**	**19 13 12.0**	**-2.4**
CMIG	**Matias Romero**	**83.20**	**44**	LR	LR	19 42 17.1	
	comp=Z,199nm,18.7s,baz=201,slow=30						
BATI	**Baumata**	**84.17**	**260**	LR	LR	19 47 38.0	
	comp=Z,907nm,19.8s,baz=174,slow=33						
LPIG	**La Paz**	**84.70**	**28**	LR	LR	19 40 51.3	
	comp=Z,247nm,21.6s,baz=220,slow=28						
FAKI	**Fak Fak**	**85.48**	**272**	IAMs_20	IAMs_20	19 49 34.9	
	comp=Z,569nm,20.0s						
MAL2	**Monte Alegre,**	**86.89**	**89**	P	**P**	**19 13 37.2**	**-0.1**
MAL2				IAmb	IAmb	19 13 49.0	
	comp=Z,14nm,1.0s						
BOAV	**Boa Vista**	**87.06**	**81**	P	**P**	**19 13 37.7**	**-0.4**
BOAV				IAmb	IAmb	19 13 44.1	
	comp=Z,18nm,1.5s						
SDV	**Santo Domingo**	**87.13**	**69**	LR	LR	19 46 40.2	
	comp=Z,272nm,19.7s,baz=119,slow=32						
KAPI	**Kappang**	**90.61**	**260**	IAMs_20	IAMs_20	19 50 40.8	
	comp=Z,673nm,21.0s						
PCRV	**Puerto La Cruz**	**91.35**	**74**	LR	LR	19 49 30.9	
	comp=Z,598nm,20.5s,slow=32						
TXAR	**Lajitas Array**	**91.51**	**32**	P	**P**	**19 14 00.1**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=193,slow=6.0,SNR=2.7						
	comp=Z,0.2nm,0.6s						
KVTX	**Kingsville**	**91.68**	**38**	IAMs_20	IAMs_20	19 54 14.0	
	comp=Z,519nm,18.0s						
TUC	**Tucson**	**92.42**	**26**	P	**P**	**19 14 04.1**	**+1.2**
PFO	**Pinyon Flats O**	**92.44**	**21**	LR	LR	19 45 36.5	
	comp=Z,444nm,20.9s,baz=174,slow=29						
GUMO	**Guam**	**92.46**	**291**	LR	LR	19 48 14.6	
	comp=Z,48nm,21.4s,baz=147,slow=31						
RCBR	**Riachuelo**	**93.67**	**106**	LR	LR	19 52 57.2	
	comp=Z,129nm,19.6s,baz=215,slow=33						
HULI	**Fort Hunter Li**	**93.95**	**16**	IAMs_20	IAMs_20	19 45 31.8	
	comp=Z,615nm,20.0s						
BOSA	**Boshof**	**94.30**	**168**	LR	LR	19 53 41.2	
	comp=Z,529nm,18.8s,baz=186,slow=34						
LEM	**Lembang**	**95.52**	**249**	LR	LR	19 51 25.0	
	comp=Z,148nm,22.0s,baz=168,slow=32						
BUCR	**Buckhorn Ranch**	**95.74**	**17**	IAMs_20	IAMs_20	19 46 44.6	
	comp=Z,556nm,21.0s						
ANMO	**Albuquerque**	**96.02**	**28**	LR	LR	19 47 48.9	
	comp=Z,494nm,21.5s,baz=300,slow=29						
WELL	**Weller Preserv**	**96.40**	**16**	IAMs_20	IAMs_20	19 47 00.1	
	comp=Z,487nm,22.0s						
545A	**Edgard**	**96.60**	**43**	IAMs_20	IAMs_20	19 52 53.0	
	comp=Z,508nm,21.0s						
NVAR	**Mina Array Bea**	**96.79**	**18**	LR	LR	19 48 11.8	
	comp=Z,460nm,20.8s,baz=189,slow=29						
SJG	**San Juan**	**97.21**	**68**	LR	LR	19 52 31.2	
	comp=Z,98nm,20.5s,baz=204,slow=32						
DAV	**Davao City (W)**	**97.43**	**272**	LR	LR	19 56 33.2	
	comp=Z,110nm,19.4s,baz=138,slow=34						
LBTB	**Lobatse**	**97.89**	**168**	LR	LR	19 55 07.8	
	comp=Z,302nm,20.1s,baz=178,slow=33						
N02D	**Trinity Center**	**98.60**	**14**	IAMs_20	IAMs_20	19 48 25.8	
	comp=Z,605nm,20.0s						
SDCO	**Great Sand Dun**	**98.91**	**28**	IAMs_20	IAMs_20	19 49 33.8	
	comp=Z,498nm,22.0s						
M02C	**Callahan**	**98.99**	**14**	IAMs_20	IAMs_20	19 48 50.1	
	comp=Z,641nm,20.0s						
YBH	**Yreka Blue Hor**	**99.34**	**14**	LR	LR	19 49 00.9	
	comp=Z,36nm,21.6s,baz=168,slow=29						
WVOR	**Wild Horse Val**	**100.64**	**17**	IAMs_20	IAMs_20	19 49 58.7	
	comp=Z,468nm,20.0s						
H10S3	**ASCENSION HYDR**	**101.44**	**126**	T	T	21 08 34.4	
	baz=13,slow=74,SNR=110						
H10S2	**ASCENSION HYDR**	**101.44**	**126**	T	T	21 08 22.9	
	baz=207,slow=74,SNR=90						
CBKS	**Cedar Bluff**	**101.51**	**32**	IAMs_20	IAMs_20	19 52 18.4	
	comp=Z,440nm,20.0s						
MFID	**Camas Ranch**	**102.07**	**19**	IAMs_20	IAMs_20	19 50 36.6	
	comp=Z,592nm,20.0s						
H10N3	**ASCENSION HYDR**	**102.50**	**126**	T	T	21 09 52.5	
	baz=206,slow=75,SNR=87						
H10N1	**ASCENSION HYDR**	**102.50**	**126**	T	T	21 09 59.1	
	baz=206,slow=75,SNR=72						
H10N2	**ASCENSION HYDR**	**102.52**	**126**	T	T	21 09 42.4	
	baz=206,slow=75,SNR=81						
BW06	**Boulder Array**	**102.70**	**24**	IAMs_20	IAMs_20	19 52 20.1	
	comp=Z,425nm,19.0s						
OGNE	**Ogallala**	**102.84**	**30**	IAMs_20	IAMs_20	19 51 39.6	
	comp=Z,509nm,22.0s						
BMO	**Blue Mountains**	**103.21**	**17**	IAMs_20	IAMs_20	19 52 27.8	
	comp=Z,407nm,20.0s						
ECSD	**EROS Data Cent**	**106.95**	**32**	IAMs_20	IAMs_20	19 54 48.4	
	comp=Z,538nm,20.0s						
LAO	**LASA Array**	**107.17**	**25**	IAMs_20	IAMs_20	19 55 03.4	
	comp=Z,476nm,20.0s						
LSZ	**Lusaka**	**107.79**	**170**	IAMs_20

comp=Z,378nm,19.0s
CUT Chulitna 118.96 355 IAMs_20 IAMs_20 20 00 06.8
comp=Z,377nm,21.0s
PAX Paxson 119.37 358 IAMs_20 IAMs_20 20 01 08.7
comp=Z,284nm,19.0s
L26K Log Cabin Wild 119.39 359 IAMs_20 IAMs_20 20 01 30.3
comp=Z,297nm,19.0s
L27K Beaver Creek, 119.42 360 IAMs_20 IAMs_20 20 06 49.1
comp=Z,308nm,18.0s
DHY Denali Highway 119.52 357 IAMs_20 IAMs_20 19 58 57.7
comp=Z,399nm,22.0s
K13K Kusilvak Mount 119.66 348 IAMs_20 IAMs_20 20 00 00.5
comp=Z,365nm,21.0s
PET Petropavlovsk 119.80 323 IAMs_20 IAMs_20 19 59 12.6
comp=Z,462nm,21.0s
RND Reindeer 119.90 356 IAMs_20 IAMs_20 20 01 13.8
comp=Z,326nm,20.0s
TRF Thorofare Moun 120.00 355 IAMs_20 IAMs_20 20 00 06.5
comp=Z,406nm,22.0s
RIDG Independent Ri 120.13 358 IAMs_20 IAMs_20 19 59 29.8
comp=Z,394nm,20.0s
PETK Petropavlovsk- 120.19 323 PKP **PKiKP** **19 19 43.1 +0.8**
comp=Z,2.4nm,0.9s,baz=141,slow=4.5,SNR=6.0
MCK McKinley 120.23 356 IAMs_20 IAMs_20 20 02 44.5
comp=Z,340nm,20.0s
K27K Chicken 120.39 360 IAMs_20 IAMs_20 20 01 42.7
comp=Z,310nm,20.0s
J18K Innoko River 120.40 352 IAMs_20 IAMs_20 19 59 35.0
comp=Z,414nm,20.0s
J17K VABM Dome 120.52 351 IAMs_20 IAMs_20 20 08 29.3
comp=Z,356nm,19.0s
BPAW Bear Paw Mtn. 120.68 355 IAMs_20 IAMs_20 19 59 00.4
comp=Z,444nm,22.0s
BWN Browne 120.69 356 IAMs_20 IAMs_20 19 59 52.5
comp=Z,327nm,21.0s
YKA Yellowknife Ar 120.69 14 PKP **PKPdf** **19 19 42.2 -0.6**
comp=Z,0.1nm,0.4s,baz=222,slow=1.9,SNR=4.0
HDA Harding Lake 120.85 357 IAMs_20 IAMs_20 19 59 03.7
comp=Z,423nm,22.0s
YSS Yuzhno-Sakhali 120.94 309 *i* PKIKP **PKiKP** **19 19 45.6 +1.6**
WRH Wood River Hil 120.94 357 IAMs_20 IAMs_20 20 01 59.3
comp=Z,394nm,20.0s
J30M Hart River 121.01 3 IAMs_20 IAMs_20 20 01 34.9
comp=Z,360nm,20.0s
J25K Salcha River, 121.02 358 IAMs_20 IAMs_20 20 08 15.5
comp=Z,330nm,18.0s
CCB Clear Creek Bu 121.11 357 **PKiKP** **19 19 44.0 +0.3**
CCB IAMs_20 IAMs_20 20 02 02.6
comp=Z,327nm,20.0s
ILAR Eielson Array 121.21 357 PKP **PKiKP** **19 19 44.0 +0.1**
comp=Z,1.6nm,0.7s,baz=242,slow=1.9,SNR=12
NJ2 Nanjing 121.23 282 *e*PKP **PKiKP** **19 19 47.7 +2.7**
COLA College 121.34 357 IAMs_20 IAMs_20 20 03 19.7
comp=Z,345nm,20.0s
CMAR Chiang Mai Arr 121.35 255 *e*PKIKP **PKiKP** **19 19 45.9 +0.2**
comp=Z,1.2nm,0.8s,baz=187,slow=2.0,SNR=8.4
CMAR Chiang Mai Arr 121.35 255 *e*PKIKP **PKiKP** **19 19 47.1 +1.4**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
I30M Mount Dempster 121.66 3 IAMs_20 IAMs_20 20 07 37.0
comp=Z,388nm,18.0s
I28M Miner Creek 121.83 1 IAMs_20 IAMs_20 20 05 06.5
comp=Z,359nm,19.0s
PRP Porcupine Dome 121.93 358 IAMs_20 IAMs_20 20 09 17.2
comp=Z,280nm,18.0s
H17K Granite Mounta 122.11 351 IAMs_20 IAMs_20 20 04 39.3
comp=Z,405nm,19.0s
ANM Nome 122.30 348 IAMs_20 IAMs_20 20 00 37.2
comp=Z,393nm,21.0s
H31M Peel River 122.30 4 **PKiKP** **19 19 48.1 +1.9**
H31M IAMs_20 IAMs_20 20 02 49.0
comp=Z,432nm,22.0s
H24K Noodor Dome 122.30 357 IAMs_20 IAMs_20 20 03 51.2
comp=Z,355nm,20.0s
H19K Roundabout Mou 122.42 353 IAMs_20 IAMs_20 20 03 29.4
comp=Z,396nm,20.0s
IMAR Indian Mountai 122.70 354 **PKiKP** **19 19 47.6 +0.8**
EPYK Eagle Plains 122.80 2 IAMs_20 IAMs_20 20 01 25.2
comp=Z,368nm,22.0s
MSHR Mys Shultsa 122.88 299 *i* PKIKP **PKiKP** **19 19 47.7 -0.2**
MSHR pmax pmax
comp=Z,19nm,1.1s
G18K Tagagawik 122.95 352 IAMs_20 IAMs_20 20 05 06.4
comp=Z,421nm,20.0s
FYU Fort Yukon 122.97 358 IAMs_20 IAMs_20 20 01 51.9
comp=Z,334nm,21.0s
G19K Purcell Mounta 123.08 353 IAMs_20 IAMs_20 20 03 49.7
comp=Z,375nm,20.0s
G24K Hadweenzic Riv 123.16 357 IAMs_20 IAMs_20 20 05 04.8
comp=Z,270nm,19.0s
G23K Bananza Creek 123.25 356 **PKiKP** **19 19 48.3 +0.3**
G29M Pine Creek 123.32 2 IAMs_20 IAMs_20 20 08 05.0
comp=Z,308nm,19.0s
G26K Porcupine Rive 123.34 359 IAMs_20 IAMs_20 19 59 59.6
comp=Z,335nm,21.0s
G30M tAoh Zraii Nji 123.42 3 **PKiKP** **19 19 48.8 +0.5**
TNA Tin City 123.56 347 IAMs_20 IAMs_20 20 03 34.6
comp=Z,375nm,20.0s
F17K Baldwin Pennin 123.71 351 IAMs_20 IAMs_20 20 05 54.4
comp=Z,281nm,20.0s
F19K Shaleruckik Mo 123.81 352 IAMs_20 IAMs_20 20 05 32.1
comp=Z,442nm,20.0s
F24K Squaw Lake 123.99 357 **PKiKP** **19 19 50.5 +1.1**
F24K IAMs_20 IAMs_20 20 02 10.8
comp=Z,332nm,21.0s
F25K Christian Rive 124.01 358 IAMs_20 IAMs_20 20 08 19.4
comp=Z,347nm,18.0s
F30M Barrier River 124.07 3 IAMs_20 IAMs_20 20 03 13.7
comp=Z,301nm,19.0s
F26K Sheenjek River 124.09 359 IAMs_20 IAMs_20 20 01 36.5
comp=Z,310nm,20.0s
E19K Redstone River 124.39 353 IAMs_20 IAMs_20 20 04 23.3
comp=Z,442nm,20.0s
E25K Arctic Village 124.54 358 IAMs_20 IAMs_20 20 01 32.3
comp=Z,343nm,22.0s
E24K Your Creek 124.56 357 IAMs_20 IAMs_20 20 03 33.0
comp=Z,366nm,20.0s
E18K Tukpahlearik C 124.61 351 IAMs_20 IAMs_20 20 06 45.3
comp=Z,431nm,20.0s
E22K Anaktuvuk Pass 124.75 355 IAMs_20 IAMs_20 20 02 28.9
comp=Z,455nm,22.0s
RDOG Red Dog Mine 125.43 350 IAMs_20 IAMs_20 20 12 48.1
comp=Z,260nm,19.0s
D19K Kuna River 125.47 353 IAMs_20 IAMs_20 20 05 38.0
comp=Z,365nm,21.0s
BLKN Baker Lake 125.62 23 **PKiKP** **19 19 53.9 +1.3**
D25K Kavik River 125.76 358 IAMs_20 IAMs_20 20 03 09.6
comp=Z,343nm,22.0s
C16K Lisburne Hills 125.88 349 IAMs_20 IAMs_20 20 03 19.0
comp=Z,316nm,22.0s
C27K Jago River 126.03 359 IAMs_20 IAMs_20 20 09 10.6
comp=Z,380nm,19.0s
C24K Franklin Bluff 126.22 357 IAMs_20 IAMs_20 20 06 38.7
comp=Z,316nm,19.0s
PZH PanZhiHua 126.32 264 PKP **PKiKP** **19 19 56.6 +1.1**
C23K Itkillik River 126.40 356 IAMs_20 IAMs_20 20 07 29.5
comp=Z,330nm,20.0s
CN2 Changchun 126.59 296 *e*PKP **PKPdf** **19 19 52.0 -2.8**
LODK Lodwar 126.83 176 IAMs_20 IAMs_20 20 10 46.5
comp=Z,364nm,20.0s
KLR Kul'dur 127.51 304 *i* PKIKP **PKiKP** **19 20 00.1 +3.2**
KLR pmax pmax
comp=Z,3.0nm,1.1s
MA2 Magadan 127.68 324 IAMs_20 IAMs_20 20 07 18.0
comp=Z,304nm,20.0s
HHC Hu-ho-hao-te 131.67 284 *e*PKP **PKPdf** **19 20 03.3 -1.5**
BTO Baotou 132.33 282 *e*PKP **PKPdf** **19 20 02.9 -3.1**
BTO LR LR
comp=Z,230nm,5.0s
BTO LR LR
comp=Z,95nm,4.5s
ZEA Zeya 132.66 306 *i* PKIKP **PKiKP** **19 20 06.5 -0.6**
ATD Arta Tunnel 134.81 186 IAMs_20 IAMs_20 20 15 41.3
comp=Z,315nm,20.0s
YAK Yakutsk 136.88 316 *i* PKIKP **PKiKP** **19 20 16.2 +0.8**
YAK pmax pmax
comp=Z,2.0nm,0.7s
ULN Ulaanbaatar 138.77 288 *i* PKIKP **PKiKP** **19 20 18.8 -1.2**
SONM Songino Array 139.10 287 PKhKP PKPpre 19 20 11.8
comp=Z,0.4nm,0.7s,baz=122,slow=1.9,SNR=2.4
TULEG Thule 140.58 21 IAMs_20 IAMs_20 20 19 23.7
comp=Z,300nm,21.0s
MOY Mondy 144.18 289 *e*PKIKP **PKiKP** **19 20 30.0 -0.9**
MOY pmax pmax
comp=Z,22nm,2.7s
PBAR Barrancos 144.91 102 *e*PKP **PKiKP** **19 20 31.7 -1.0**
PMTG Montargil 144.91 100 *e*PKP **PKiKP** **19 20 31.9 -0.8**
PSBE So Bento 144.92 99 *e*PKP **PKiKP** **19 20 33.6 +0.9**
PESTR Estremoz 145.11 101 *e*PKP **PKiKP** **19 20 32.4 -0.7**
PSARD Sardoal 145.33 99 *e*PKP **PKiKP** **19 20 33.0 -0.5**
COI Coimbra 145.62 98 PKIKP **PKiKP** **19 20 34.9 +0.8**
PMRV Marv??o 145.62 100 *e*PKP **PKiKP** **19 20 33.8 -0.4**
PCBR Castelo Branco 145.87 100 *e*PKP **PKiKP** **19 20 35.5 +0.9**
MTE Manteigas 146.23 99 *e*PKP **PKiKP** **19 20 40.0 +4.6**
PVIS Viseu 146.25 98 *e*PKP **PKiKP** **19 20 38.9 +3.4**
SUMG Summit 146.41 32 **PKPdf** **19 20 30.9 0.0**
SUMG IAMs_20 IAMs_20 20 16 50.6
comp=Z,282nm,21.0s
SUMG Summit 146.41 32 PKIKP **PKPdf** **19 20 30.9 0.0**
SUMG MLR MLR
comp=Z,300nm,21.0s
RAYN Ar Rayn 146.46 192 **PKPdf** **19 20 31.2 -0.9**
RAYN Ar Rayn 146.46 192 PKIKP **PKPdf** **19 20 31.2 -0.9**
WMQ Urumqi 146.73 269 *e*PKPbc **PKPab** **19 20 34.7 -0.2**
WMQ LR LR
comp=Z,170nm,23.8s
PVRL Vila Real 146.74 98 *e*PKP **PKiKP** **19 20 38.6 +2.1**
POLO Lamas de Olo 146.76 97 *e*PKP **PKiKP** **19 20 38.5 +2.0**
PGAV Gavieira, Arco 146.91 96 *e*PKP **PKiKP** **19 20 42.0 +5.2**
NIL Nilore 146.91 241 PKP2 **PKiKP** **19 20 36.1 -0.9**
MVO Moncorvo 147.04 98 *e*PKP **PKiKP** **19 20 37.8 +0.7**
PAB San Pablo 147.35 103 PKP2 **PKiKP** **19 20 38.8 +1.0**
PBRG Braganca 147.63 98 *e*PKP **PKPab** **19 20 40.0 +1.5**
ESDC Sonseca Array 147.65 103 PKPbc **PKPbc** **19 20 35.8 -0.5**
comp=Z,6.8nm,1.0s,baz=242,slow=3.0,SNR=15
KSH Kashi 150.11 251 PKPbc **PKiKP** **19 20 45.0 +1.5**
KEST Kesra 151.30 125 PKPbc **PKiKP** **19 20 45.9 -0.2**
comp=Z,6.2nm,0.9s,baz=338,slow=7.3,SNR=3.9
MKAR Makanchi Array 151.56 269 **PKPbc** **19 20 44.1 -1.6**
MKAR Makanchi Array 151.56 269 PKPbc **PKPbc** **19 20 44.5 -1.2**
comp=Z,4.3nm,0.8s,baz=152,slow=5.5,SNR=17
MKAR Makanchi Array 151.56 269 PKIKP **PKPbc** **19 20 44.1 -1.6**
ZALV Zalesovo Beam 153.86 284 PKPbc **PKiKP** **19 20 50.8 +0.2**
comp=Z,1.4nm,0.7s,baz=116,slow=6.9,SNR=5.7
KURBB Kurchatov Arra 155.75 273 PKPbc PKPdf 19 20 55.5 +10
comp=Z,2.0nm,1.0s,baz=112,slow=1.6,SNR=7.1
KBS Kingsbay 156.03 12 IAMs_20 IAMs_20 20 27 23.3
comp=Z,199nm,18.0s
CSS Mathiatis 157.99 169 IAMs_20 IAMs_20 20 27 46.1
comp=Z,238nm,20.0s
BRTR Keskin Array B 162.73 167 PKP **PKPdf** **19 20 52.5 -1.4**
comp=Z,0.7nm,0.8s,baz=301,slow=3.0,SNR=4.2
BRTR PKPab **PKPab** **19 21 42.9 +0.2**
comp=Z,2.2nm,1.1s,baz=167,slow=6.0,SNR=3.8
GERES GERESS Array B 163.17 107 PKP **PKPdf** **19 20 54.7 +0.6**
comp=Z,0.5nm,0.8s,baz=245,slow=5.3,SNR=4.2
GERES PKPab **PKPab** **19 21 44.6 +0.1**
comp=Z,0.4nm,0.7s,baz=197,slow=5.7,SNR=3.7
CLL Collm 164.16 99 *i* PKP2 **PKPab** **19 21 52.5 +3.9**
CLL pmax pmax
comp=Z,4.0nm,1.1s
BRG Berggiesshubel 164.44 102 *e*PKP **PKPdf** **19 21 02.0 +7.0**
BRG Amp 19 21 04.2
comp=Z,1.7nm,0.8s
MODS Modra-Piesok 164.72 114 *e*PKIKP **PKPdf** **19 20 55.8 +0.4**
MODS Modra-Piesok 164.72 114 *e*PKP **PKPdf** **19 20 55.8 +0.4**
AB31 Akbulak array 165.10 249 PKPdf **PKPdf** **19 20 55.9 +0.3**
AB31 **PKPab** **19 21 52.9 +0.1**
ABKAR Akbulak array 165.10 249 PKPdf **PKPdf** **19 20 56.0 +0.4**
ABKAR **pPKPab** **19 21 53.7 -1.2**
AKASG Malin Array Be 171.89 134 PKP **PKPdf** **19 21 00.1 0.0**
comp=Z,1.0nm,0.8s,baz=282,slow=0.9,SNR=4.1

NEIC ***10*** *19:15:02.1±0.6,36.°120N±0.°008×117.°82W±0.°01, h6km±1km, Error ellipse: s-maj=1.4km s-min=1.1km az=76.0*

PAS 10 19:15:02.5±0.7, 36.°121N±0.°008×117.°83W±0.°01, h2km±2km, ML3.3/21, ML3.2/154(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=107.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WCSM	**Coso Springs S**	**0.11**	**153**			Pg	19 15 04.9	+0.3
WCSM						Sg	19 15 06.9	+1.0
WRVM	**Rose V. Centra**	**0.12**	**205**			Pg	19 15 05.1	+0.2
JRC2	**Joshua Ridge**	**0.14**	**174**			Pg	19 15 05.5	+0.2
WVPM	**Volcano Peak E**	**0.17**	**178**			Pg	19 15 06.0	+0.2
WVPM						Sg	19 15 08.9	+0.8
MPMC	**Manual Prospec**	**0.28**	**103**			Pg	19 15 07.9	0.0
MPMC				Sg	Sg	Sg	19 15 11.7	+0.1
MPMC				IAML			19 15 14.0	
comp=E,3μm,0.4s								
WNMM	**Nine Mile Cany**	**0.28**	**193**			Pg	19 15 08.0	+0.1
WNMM						Sg	19 15 12.6	+1.0
TOW	**Tower One**	**0.32**	**171**			Pg	19 15 09.3	+0.8
CLC	**China Lake**	**0.36**	**149**	Pg		Pg	19 15 08.5	-0.9
CLC				Sg		Sg	19 15 14.4	+0.5
CWC	**Cottonwood Cre**	**0.38**	**327**			Pg	19 15 09.8	-0.1
CWC				Sg		Sg	19 15 15.2	+0.4
CWC				IAML			19 15 16.0	
comp=E,3μm,0.2s								
CWC				IAML			19 15 16.7	
comp=N,2μm,0.2s								
CGO	**Cerro Gordo**	**0.43**	**2**			Pg	19 15 10.6	-0.1
CGO						Sg	19 15 16.9	+0.5
WORM	**Onyx Ranch**	**0.54**	**219**			Pg	19 15 12.7	-0.2
WORM						Sg	19 15 20.2	+0.3
LRMC	**Laurel Mtn Rad**	**0.65**	**170**			Pg	19 15 14.6	-0.3
LRMC				Sg		Sg	19 15 19.6	-3.8
LRMC				IAML			19 15 23.8	
comp=E,2μm,0.4s								
ISA	**Isabella, Lake**	**0.70**	**229**			Pg	19 15 15.4	-0.4
ISA				IAML			19 15 25.4	
comp=N,1μm,0.5s								
ISA				IAML			19 15 33.8	
comp=E,1μm,0.5s								
CCCA	**Chr Cany lake**	**0.70**	**148**			Pg	19 15 15.9	-0.1
CCCA				IAML			19 15 33.5	
comp=E,2μm,0.4s								
CCCA				IAML			19 15 35.8	
comp=N,2μm,0.8s								
SPG2	**Springville 2**	**0.77**	**276**			Pg	19 15 16.8	-0.4
QSM	**Queen of Sheba**	**0.79**	**101**			Pg	19 15 17.3	-0.4
QSM				IAML			19 15 32.8	
comp=E,1μm,0.8s								
QSM				IAML			19 15 34.0	
comp=N,721nm,0.7s								
GWY	**Greenwater Val**	**0.94**	**86**			Pg	19 15 20.2	-0.3
GWY				IAML			19 15 36.5	
comp=N,870nm,0.6s								
GWY				IAML			19 15 38.3	
comp=E,766nm,0.5s								
GRAC	**Grapevine Rang**	**0.95**	**23**			Pg	19 15 20.3	-0.4
GRAC				IAML			19 15 34.1	
comp=N,606nm,0.5s								
GRAC				IAML			19 15 39.1	
comp=E,618nm,0.6s								
GSC	**Goldstone, Bar**	**1.17**	**134**			Pg	19 15 23.9	-0.9
WCT	**Wildcat Mounta**	**1.18**	**55**			Pg	19 15 24.4	-0.7
WCT				IAML			19 15 45.4	
comp=E,380nm,0.8s								
DSP	**Deep Springs**	**1.25**	**355**			Pg	19 15 25.4	-1.1
DSP				IAML			19 15 43.3	
comp=E,345nm,0.4s								
DSP				IAML			19 15 43.9	
comp=N,260nm,0.4s								
GMN	**Gold Mountain**	**1.26**	**21**			Pg	19 15 25.6	-1.1
TPO	**Tropico Hills**	**1.28**	**195**			Pg	19 15 25.0	-2.1
BHPR	**Bishop**	**1.29**	**336**			Pg	19 15 26.6	-0.6
TPNV	**Topopah Spring**	**1.52**	**56**			Pn	19 15 30.1	-0.6
TPNV				IAML			19 15 57.4	
comp=N,261nm,0.7s								
TPNV				IAML			19 15 57.6	
comp=N,306nm,0.6s								
MZP	**Montezuma Peak**	**1.62**	**13**			Pn	19 15 31.8	-0.5
OSI	**Osito Audit: C**	**1.67**	**206**			Pn	19 15 32.5	-0.3
KCC	**Kaiser Creek**	**1.70**	**315**			Pn	19 15 33.4	+0.3
CRGC	**Crocker Grade**	**1.78**	**241**			Pb	19 15 35.3	-0.6
BFSC	**Mount Baldy Ra**	**1.88**	**176**			Pn	19 15 35.1	-0.7
BFSC				IAML			19 15 53.1	
comp=E,195nm,0.3s								
BFSC				IAML			19 15 54.5	
comp=N,230nm,0.4s								
MWC	**Mount Wilson**	**1.90**	**186**			Pn	19 15 35.7	-0.4
MWC				IAML			19 15 59.4	
comp=E,330nm,0.6s								
MTPC	**Mountain Pass**	**1.95**	**108**			Pn	19 15 35.8	-1.0
MTPC				IAML			19 16 16.8	
comp=N,132nm,0.3s								
MTPC				IAML			19 16 17.4	
comp=E,136nm,0.4s								
PASC	**Pasadena Art C**	**1.97**	**189**			Pn	19 15 36.6	-0.2
PASC				IAML			19 15 56.6	
comp=E,190nm,0.4s								
PASC				IAML			19 15 57.1	
comp=N,220nm,0.4s								
TPH	**Tonopah**	**2.01**	**14**			Pn	19 15 37.0	-0.6
SHPR	**Sheep Range**	**2.19**	**79**			Pn	19 15 39.6	-0.4
LHV	**Little Huntoon**	**2.19**	**346**			Pn	19 15 40.3	+0.3
LHV				IAML			19 16 17.7	
comp=E,107nm,1.2s								
LHV				IAML			19 16 19.6	
comp=N,78nm,1.1s								
S11A	**Rachel**	**2.26**	**47**			Pn	19 15 40.5	-0.4
S11A				IAML			19 16 18.8	
comp=E,190nm,0.8s								
S11A				IAML			19 16 24.0	
comp=N,160nm,0.7s								
NV11	**Mina Array Sit**	**2.32**	**354**			Pn	19 15 41.7	-0.2
NVAR	**Mina Array Bea**	**2.34**	**351**			Pn	19 15 41.7	-0.4
V12A	**Nelson**	**2.45**	**98**			Pn	19 15 42.9	-0.7
V12A				IAML			19 16 40.9	
comp=N,78nm,0.8s								
V12A				IAML			19 16 42.4	
comp=E,60nm,0.4s								
ELS	**Elsinore Mount**	**2.49**	**172**			Pn	19 15 43.7	-0.3
ELS				IAML			19 16 11.0	
comp=E,66nm,0.5s								
ELS				IAML			19 16 12.3	
comp=N,78nm,0.6s								
RYN	**Ryan**	**2.56**	**348**			Pn	19 15 45.0	-0.2
PRN	**Pahroc Range**	**2.57**	**59**			Pn	19 15 44.9	-0.3
PRN				IAML			19 16 30.3	
comp=N,123nm,0.6s								
PRN				IAML			19 16 36.4	
comp=E,102nm,0.6s								
BBGB	**Big Mountain B**	**2.63**	**281**			Pn	19 15 45.7	-0.4
WAKR	**Walker**	**2.70**	**332**			Pn	19 15 46.6	-0.5
PMD	**Palm Desert**	**2.74**	**154**			Pn	19 15 46.8	-0.6
PMD				IAML			19 16 24.4	
comp=E,50nm,0.7s								
PFO	**Pinyon Flats O**	**2.74**	**155**			Pn	19 15 47.3	-0.3
CMB	**Columbia Colle**	**2.80**	**314**			Pn	19 15 48.1	-0.3
CMB				IAML			19 16 31.0	
comp=N,49nm,0.5s								
CMB				IAML			19 16 35.6	
comp=E,52nm,0.9s								
R11B	**Troy Canyon, C**	**2.85**	**38**			Pn	19 15 48.9	-0.3
NEE2	**Needles Airpor**	**2.95**	**116**			Pn	19 15 50.3	0.0
SAO	**San Andreas Ge**	**2.99**	**283**			Pn	19 15 50.6	-0.2
BORC	**Borrego Spring**	**3.07**	**157**			Pn	19 15 51.7	-0.3
BORC				IAML			19 16 45.2	
comp=E,45nm,0.9s								
BORC				IAML			19 16 53.6	
comp=N,35nm,1.0s								
DPP	**Dos Picos Cty**	**3.20**	**167**			Pn	19 15 53.4	-0.3
DPP				IAML			19 16 34.5	
comp=E,43nm,0.6s								
W13A	**Hualapai Mount**	**3.37**	**106**			Pn	19 15 54.2	-2.1
W13A				IAML			19 17 02.0	
comp=E,27nm,1.1s								
W13A				IAML			19 17 02.5	
comp=N,40nm,1.0s								
BLYC	**Blythe**	**3.60**	**130**			Pn	19 15 57.5	-1.7
BLYC				IAML			19 17 00.7	
comp=N,48nm,0.6s								
BLYC				IAML			19 17 01.9	
comp=E,57nm,0.6s								
MPK	**Martis Peak**	**3.62**	**332**			Pn	19 15 58.2	-1.6
MPK				IAML			19 17 43.0	
comp=N,71nm,0.8s								
MPK				IAML			19 17 52.8	
comp=E,65nm,0.9s								
AFDM	**Forest Hills D**	**3.77**	**319**			Pn	19 16 00.1	-1.6
AFDM				IAML			19 17 02.0	
comp=E,53nm,0.4s								
AFDM				IAML			19 17 03.9	
comp=N,32nm,0.5s								
PAHR	**Pah Rah Range**	**3.79**	**341**			Pn	19 16 00.2	-1.7
LCMT	**Little Creek M**	**3.79**	**75**			Pn	19 16 00.1	-1.9
YUH	**Yuha Desert**	**3.81**	**155**			Pn	19 15 59.8	-2.3
CCUT	**Cedar City**	**3.85**	**67**			Pn	19 16 01.1	-1.9
CBX	**Cerro Bola**	**3.92**	**165**			Pn	19 16 02.1	-1.7
GLA	**Glamis**	**3.94**	**140**			Pn	19 16 01.8	-2.2
PSUT	**Pine Spring**	**3.98**	**52**			Pn	19 16 02.4	-2.3
PSUT				IAML			19 17 12.0	
comp=E,23nm,0.6s								
PSUT				IAML			19 17 16.1	
comp=N,23nm,1.0s								
SPR3	**Spring Creek 3**	**4.00**	**43**			Pn	19 16 03.5	-1.5
SPR3				IAML			19 17 18.6	
comp=E,20nm,0.9s								
KNB	**Kanab**	**4.13**	**76**			Pn	19 16 04.8	-1.9
KNB				IAML			19 17 17.3	
comp=E,14nm,1.2s								
KNB				IAML			19 17 17.4	
comp=N,17nm,1.6s								
BEKR	**Beckworth**	**4.24**	**333**			Pn	19 16 07.1	-1.1
BEKR				IAML			19 17 30.3	
comp=N,17nm,0.6s								
BEKR				IAML			19 18 00.9	
comp=E,44nm,0.7s								
ESJX	**Sierra Juarez**	**4.39**	**159**			Pn	19 16 09.0	-1.3
U15A	**North Rim**	**4.48**	**84**			Pn	19 16 10.1	-1.5
U15A				IAML			19 17 50.5	
comp=N,15nm,1.0s								
U15A				IAML			19 17 51.5	
comp=E,18nm,1.0s								
ORV	**Oroville**	**4.50**	**321**	Pn	Pn	Pn	19 16 08.8	-2.8
ORV				IAML			19 17 55.5	
comp=E,13nm,0.8s								
Y14A	**Wickenburg**	**4.51**	**117**			Pn	19 16 10.5	-1.4
Y14A				IAML			19 17 40.0	
comp=N,37nm,0.6s								
Y14A				IAML			19 17 42.1	
comp=E,24nm,0.8s								
113A	**Mohawk Valley,**	**4.74**	**134**			Pn	19 16 13.0	-1.9
113A				IAML			19 17 37.0	
comp=N,12nm,0.8s								
113A				IAML			19 17 38.8	
comp=E,9.8nm,0.8s								
ELK	**Elko**	**5.04**	**23**			Pn	19 16 17.5	-1.9
WUAZ	**Wupatki**	**5.28**	**95**			Pn	19 16 22.7	+0.2
WUAZ				IAML			19 18 00.2	
comp=E,22nm,1.6s								
WUAZ				IAML			19 18 16.1	
comp=E,18nm,0.5s								
X16A	**Lo Mia Camp, P**	**5.49**	**106**			Pn	19 16 22.9	-2.5
X18A	**Snowflake**	**6.63**	**102**			Pn	19 16 38.1	-3.0
W18A	**Petrified Fore**	**6.67**	**96**			Pn	19 16 40.0	-1.6
PV19	**Morning Glory**	**7.39**	**70**			Pn	19 16 49.0	-2.6
PV23	**Carpenter Ridg**	**7.40**	**69**			Pn	19 16 51.0	-0.8
PV04	**Paradox Valley**	**7.47**	**70**	Pn		Pn	19 16 49.7	-2.9

MOS ***10*** *19:26:00.6,43.°21N×46.°29E,h11km, MPVA4.0*
NORS ***10*** *19:26:01.1,43.°18N×46.°30E,h10km, MPVA4.1*
TIF ***10*** *19:26:02.1,43.°17N×46.°24E,h12km*
DRS ***10*** *19:26:02.0,43.°21N×46.°24E,h24km, FELT I=II MSK at Oyskhara*

ISC 10 19:26:02.0±1.0, 43.°24N±0.°03×46.°32E±0.°02, h13km±8km, n76, σ0.°98/139, 4C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.28**	**126**	*e*Pg		**Pg**	**Pg**	**19 26 08.0**	**+0.1**
DLMR				*e*Sg		**Sg**	**Sb**	**19 26 13.3**	**-0.4**
DLMR	**Dylym**	**0.28**	**126**	*e*PG		**Pg**	**Pg**	**19 26 08.0**	**+0.1**
DLMR				*e*S		**Sb**	**Sb**	**19 26 13.2**	**-0.4**
DLMR				pmax	pmax				
comp=Z,235nm,0.1s									
DVE	**Vedeno**	**0.32**	**207**	‖ *i* PG		**Pg**	**Pg**	**19 26 07.9**	**-0.6**
GROC	**Groznyy**	**0.38**	**265**	*e*Pg		**Pg**	**Pg**	**19 26 09.6**	**-0.1**
GROC				*e*Sg		**Sg**	**Sb**	**19 26 15.9**	**-0.6**
GROC	**Groznyy**	**0.38**	**265**	*e*PG		**Pg**	**Pg**	**19 26 09.6**	**-0.1**
GROC				*e*S		**Sb

KRNR					*e*Sg	**Sg**	**19 26 21.6**	**0.0**			
KRNR	**Karanay**	**0.60**	**133**		*e*PG	**Pg**	**19 26 13.1**	**-0.6**			
KRNR					*e*S	**Sg**	**19 26 21.6**	**0.0**			
UNCR	**Uncukul**	**0.63**	**146**		*e*Pg	**Pg**	**19 26 13.9**	**-0.4**			
UNCR					*e*Sg	**Sb**	**19 26 23.2**	**-0.5**			
UNCR	**Uncukul**	**0.63**	**146**		*e*PG	**Pg**	**19 26 13.9**	**-0.4**			
UNCR					*e*S	**Sb**	**19 26 23.2**	**-0.5**			
UNCR					pmax	pmax					
	comp=Z,86nm,0.3s										
BUJR	**Buynaksk**	**0.71**	**125**		*e*Pg	**Pb**	**19 26 17.0**	**+0.7**			
BUJR					*e*Sg	**Sn**	**19 26 28.1**	**-0.6**			
BUJR	**Buynaksk**	**0.71**	**125**		*e*PG	**Pb**	**19 26 17.0**	**+0.7**			
BUJR					*e*S	**Sn**	**19 26 28.1**	**-0.6**			
HNZR	**Khunzah**	**0.74**	**157**		*e*PG	**Pb**	**19 26 16.5**	**-0.4**			
HNZR					*e*S	**Sb**	**19 26 27.3**	**+0.3**			
XNZR	**Khunzakh**	**0.75**	**158**		*e*Pg	**Pg**	**19 26 16.4**	**-0.3**			
XNZR					*e*Sg	**Sb**	**19 26 27.7**	**+0.4**			
ARKR	**Arakani**	**0.81**	**142**		*e*Pg	**Pg**	**19 26 17.3**	**-0.4**			
ARKR					*e*Sg	**Sb**	**19 26 28.8**	**0.0**			
ARKR	**Arakani**	**0.81**	**142**		*e*PG	**Pg**	**19 26 17.3**	**-0.4**			
ARKR					*e*S	**Sb**	**19 26 28.8**	**0.0**			
ARKR					pmax	pmax					
	comp=Z,59nm,0.2s										
KANR	**Karaman**	**0.86**	**92**		*e*PG	**Pn**	**19 26 20.0**	**+0.2**			
KANR					*e*S	**Sn**	**19 26 33.7**	**+1.5**			
MAK	**Makhachkala**	**0.91**	**107**		*e*Pg	**Pn**	**19 26 20.6**	**+0.1**			
MAK					*e*Sg	**Sn**	**19 26 34.8**	**+1.2**			
MAK	**Makhachkala**	**0.91**	**107**	⇓	*i*PG	**Pn**	**19 26 21.0**	**+0.5**			
MAK					*e*S	**Sn**	**19 26 34.8**	**+1.2**			
MAK					pmax	pmax					
	comp=Z,93nm,0.3s										
MAK					smax	smax					
	comp=E,347nm,0.4s										
MAK					smax	smax					
	comp=E,423nm,0.5s										
GNBR	**Gunib**	**0.97**	**151**		*e*Pg	**Pb**	**19 26 20.8**	**0.0**			
GNBR					*e*Sg	**Sn**	**19 26 35.2**	**0.0**			
GNBR	**Gunib**	**0.97**	**151**		*e*PG	**Pb**	**19 26 20.8**	**0.0**			
GNBR					*e*S	**Sn**	**19 26 35.3**	**+0.1**			
KMGR	**Komgaron**	**1.08**	**261**		*e*Pg	**Pn**	**19 26 23.0**	**+0.1**			
KMGR					*e*Sg	**Sn**	**19 26 39.7**	**+1.9**			
KMGR	**Komgaron**	**1.08**	**261**		*e*PG	**Pn**	**19 26 23.0**	**+0.1**			
KMGR					*e*S	**Sn**	**19 26 39.9**	**+2.1**			
TLTR	**Tlyarata**	**1.13**	**179**		*e*PG	**Pb**	**19 26 23.0**	**-0.5**			
TLTR					*e*S	**Sn**	**19 26 38.7**	**-0.5**			
TLTR					pmax	pmax					
	comp=Z,1.0nm,0.2s										
VLKR	**Vladikavkaz**	**1.22**	**261**		*e*Pg	**Pg**	**19 26 25.2**	**-0.2**			
VLKR					*e*Sg	**Sn**	**19 26 43.5**	**+2.4**			
VLKR	**Vladikavkaz**	**1.22**	**261**	⇓	*i*PG	**Pg**	**19 26 25.4**	**0.0**			
VLKR					*e*S	**Sn**	**19 26 43.8**	**+2.6**			
KMKR	**Kumukh**	**1.25**	**152**		*e*Pg	**Pg**	**19 26 25.8**	**-0.3**			
KMKR					*e*Sg	**Sn**	**19 26 43.5**	**+1.4**			
KMKR	**Kumukh**	**1.25**	**152**		*e*PG	**Pg**	**19 26 25.7**	**-0.3**			
KMKR					*e*S	**Sn**	**19 26 43.5**	**+1.4**			
KMKR					pmax	pmax					
	comp=Z,135nm,0.2s										
TRKR	**Terskaya**	**1.25**	**293**		*e*Pg	**Pg**	**19 26 25.8**	**-0.3**			
TRKR					*e*Sg	**Sg**	**19 26 43.8**	**+1.4**			
TRKR	**Terskaya**	**1.25**	**293**		*e*PG	**Pg**	**19 26 25.8**	**-0.3**			
TRKR					*e*S	**Sg**	**19 26 43.8**	**+1.4**			
BTKR	**Batakoyurt**	**1.30**	**276**		*e*Pg	**Pg**	**19 26 27.2**	**+0.1**			
BTKR					*e*Sg	**Sg**	**19 26 45.8**	**+1.7**			
BTKR	**Batakoyurt**	**1.30**	**276**		*e*PG	**Pg**	**19 26 27.2**	**+0.1**			
BTKR					*e*S	**Sg**	**19 26 46.2**	**+2.2**			
LGD	**Lagodekhi**	**1.40**	**182**		P	**Pg**	**19 26 30.4**	**+1.3**			
LGD					S	**Sg**	**19 26 49.3**	**+2.1**			
LGD	**Lagodekhi**	**1.40**	**182**		*e*PG	**Pg**	**19 26 30.3**	**+1.3**			
LGD					*e*S	**Sg**	**19 26 49.3**	**+2.1**			
URKR	**Urkarakh**	**1.45**	**137**		*e*Pg	**Pb**	**19 26 28.8**	**-0.1**			
URKR					*e*Sg	**Sg**	**19 26 49.5**	**+0.8**			
URKR	**Urkarakh**	**1.45**	**137**		*e*PG	**Pb**	**19 26 28.8**	**-0.1**			
URKR					*e*S	**Sg**	**19 26 49.4**	**+0.8**			
URKR					pmax	pmax					
	comp=Z,49nm,0.3s										
ARNR	**Ardon**	**1.49**	**268**		*e*Pg	**Pb**	**19 26 29.5**	**0.0**			
ARNR					*e*Sg	**Sg**	**19 26 50.5**	**+0.6**			
ARNR	**Ardon**	**1.49**	**268**		*e*PG	**Pb**	**19 26 29.5**	**0.0**			
ARNR					*e*S	**Sg**	**19 26 51.0**	**+1.1**			
LACR	**Lac**	**1.54**	**255**		*e*PG	**Pn**	**19 26 28.7**	**-0.6**			
PRTR	**Priterechnaya**	**1.57**	**290**		*e*PG	**Pb**	**19 26 31.0**	**+0.1**			
PRTR					*e*S	**Sg**	**19 26 53.4**	**+0.9**			
STDR	**Stavd-Durt**	**1.65**	**275**		*e*Pg	**Pb**	**19 26 32.2**	**-0.1**			
STDR					*e*Sg	**Sg**	**19 26 55.4**	**+0.3**			
STDR	**Stavd-Durt**	**1.65**	**275**		*e*PN	**Pb**	**19 26 32.5**	**+0.2**			
STDR					*e*S	**Sg**	**19 26 56.0**	**+0.9**			
KORR	**Kora**	**1.65**	**265**		*e*Pg	**Pb**	**19 26 31.9**	**-0.5**			
KORR					*e*Sg	**Sg**	**19 26 54.7**	**+0.5**			
KORR	**Kora**	**1.65**	**265**		*e*PN	**Pb**	**19 26 31.9**	**-0.5**			
KORR					*e*S	**Sg**	**19 26 54.7**	**-0.5**			
LSNR	**Lesken**	**1.82**	**272**		*e*Pg	**Pb**	**19 26 34.9**	**-0.3**			
LSNR					*e*Sg	**Sg**	**19 27 00.1**	**-0.5**			
LSNR	**Lesken**	**1.82**	**272**		*e*PN	**Pb**	**19 26 34.9**	**-0.3**			
LSNR					*e*S	**Sg**	**19 27 00.1**	**-0.5**			
DRN	**Derbent**	**1.91**	**128**		*e*Pg	**Pb**	**19 26 36.6**	**-0.1**			
DRN					*e*Sg	**Sg**	**19 27 03.5**	**-0.1**			
DRN	**Derbent**	**1.91**	**128**		*e*PN	**Pb**	**19 26 37.5**	**+0.7**			
DRN					*e*S	**Sg**	**19 27 03.7**	**+0.2**			
DGRG	**David-gareji**	**1.92**	**202**		P	**Pb**	**19 26 36.8**	**-0.2**			
DGRG					S	**Sg**	**19 27 04.5**	**+0.7**			
DGRG	**David-gareji**	**1.92**	**202**		*e*PN	**Pb**	**19 26 36.7**	**-0.2**			
DGRG					*e*S	**Sg**	**19 27 04.4**	**+0.7**			
NCK	**Nalchik**	**2.00**	**278**		*e*Pg	**Pn**	**19 26 36.1**	**+0.5**			
NCK					*e*Sg	**Sn**	**19 27 00.9**	**+0.4**			
NCK	**Nalchik**	**2.00**	**278**		*e*PN	**Pn**	**19 26 36.1**	**+0.5**			
AKT	**Akhty**	**2.04**	**149**		*e*Pg	**Pb**	**19 26 38.7**	**-0.4**			
AKT					*e*Sg	**Sb**	**19 27 04.9**	**+0.4**			
AKT	**Akhty**	**2.04**	**149**		*e*PN	**Pb**	**19 26 38.7**	**-0.4**			
AKT					*e*S	**Sg**	**19 27 06.9**	**-0.9**			
AKT					pmax	pmax					
	comp=Z,27nm,0.3s										
KSMR	**Kasumkent**	**2.11**	**140**		*e*Pg	**Pb**	**19 26 39.5**	**-0.7**			
KSMR					*e*Sg	**Sb**	**19 27 06.3**	**-0.1**			
KSMR	**Kasumkent**	**2.11**	**140**		*e*PN	**Pb**	**19 26 39.5**	**-0.7**			
KSMR					*e*S	**Sb**	**19 27 06.3**	**-0.1**			
SEKA	**Sheki**	**2.13**	**162**		PN	**Pb**	**19 26 39.5**	**-1.0**			
KBTC	**Kuba-Taba**	**2.19**	**286**		*e*Pg	**Pn**	**19 26 37.2**	**-1.0**			
KBTC					*e*Sg	**Sn**	**19 27 05.5**	**+0.2**			
KBTC	**Kuba-Taba**	**2.19**	**286**		*e*PN	**Pn**	**19 26 37.2**	**-1.0**			
KBTC					*e*S	**Sn**	**19 27 05.5**	**+0.2**			
TRLG	**Trialeti**	**2.36**	**225**		PN	**Pn**	**19 26 41.2**	**+1.1**			
KBZ	**Khabaz**	**2.54**	**282**		*e*PN	**Pn**	**19 26 42.2**	**+1.7**			
KBZ					*e*S	**Sn**	**19 27 15.7**	**+2.1**			
GANJ	**Ganja**	**2.59**	**180**		PN	**Pn**	**19 26 44.6**	**+0.9**			
BEYR	**Belyy Ugol+**	**2.66**	**288**		*e*Pn	**Pb**	**19 26 47.7**	**-1.8**			
BEYR					*i* Sn	**Sb**	**19 27 20.4**	**-1.6**			
BEYR	**Belyy Ugol+**	**2.66**	**288**		*e*PN	**Pb**	**19 26 47.7**	**-1.8**			
BEYR					*i* S	**Sb**	**19 27 20.4**	**-1.6**			
SHA1	**Shidzhatmaz**	**2.71**	**282**		*e*Pn	**Pn**	**19 26 43.7**	**-1.8**			
SHA1					*e*Sn	**Sn**	**19 27 17.5**	**-0.7**			
SHA1	**Shidzhatmaz**	**2.71**	**282**		*i* PN	**Pn**	**19 26 43.9**	**-1.6**			
KIV	**Kislovodsk**	**2.73**	**286**		*e*Pn	**Pn**	**19 26 45.0**	**-0.7**			
KIV					*e*Sn	**Sn**	**19 27 18.1**	**-0.6**			
KIV	**Kislovodsk**	**2.73**	**286**		*e*PN	**Pn**	**19 26 45.0**	**-0.7**			
KIV					*e*S	**Sn**	**19 27 18.1**	**-0.6**			
GOF	**Gofitskoye**	**2.98**	**309**		*ce*PN	**Pn**	**19 26 51.7**	**+2.7**			
GOF					*e*S	**Sb**	**19 27 34.5**	**+3.3**			
GNI	**Garni**	**3.31**	**201**		*i* PN	**Pn**	**19 26 53.6**	**0.0**			
GNI					pmax	pmax					
	comp=Z,7.0nm,1.5s										
AKTO	**Aktyubinsk**	**10.76**	**44**	⇑	Pn	**Pn**	**19 28 34.1**	**-1.7**			
	comp=Z,0.6nm,0.7s										
AKTO				⇓	Sn	Sn	19 30 24.3	-12			
	comp=Z,0.8nm,0.8s										
AKTO	**Aktyubinsk**	**10.76**	**44**		P	**Pn**	**19 28 34.6**	**-1.2**			
AB31	**Akbulak array**	**11.18**	**53**		Pn	**Pn**	**19 28 40.6**	**-0.9**			
	comp=Z,0.2nm,0.3s,baz=249,slow=13,SNR=15										
AB31				⇑	Sn	Sn	19 30 37.8	-8.5			
	comp=Z,0.4nm,0.3s,baz=256,slow=21,SNR=4.3										
AB31	**Akbulak array**	**11.18**	**53**		P	**Pn**	**19 28 40.6**	**-0.9**			
BRVK	**Borovoye**	**18.68**	**50**	*i*	P	**P**	**19 30 20.2**	**+0.5**			
BRVK					pmax	pmax					
	comp=Z,1.0nm,0.9s										

IDC 10 19:28:27.4±5.0, 26°28N×141°87E, h0km, mb3.7/3, mbtmp3.7/3, MS4.3/8, Error ellipse: s-maj=346.4km s-min=32.0km az=85.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**17.81**	**2**	LR	LR	19 42 42.2	
	comp=Z,14nm,19.4s,baz=156,slow=48						
WRA	**Warramunga Arr**	**46.52**	**190**	P	P	19 36 56.8	0.0
	1.5nm,0.7s,baz=9.9,slow=8.1,SNR=18						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**50.24**	**190**	P	P	19 37 25.0	-0.4
	0.2nm,0.7s,baz=22,slow=11,SNR=1.0						
	0.2nm,0.7s						
KDAK	**Kodiak Island**	**55.19**	**36**	LR	LR	19 56 54.5	
	comp=Z,707nm,21.6s,baz=150,slow=31						
ILAR	**Eielson Array**	**58.56**	**28**	LR	LR	20 01 18.5	
	comp=Z,282nm,21.2s,baz=185,slow=34						
INK	**Inuvik**	**63.89**	**24**	LR	LR	20 05 36.7	
	comp=Z,159nm,20.7s,baz=234,slow=35						
RES	**Resolute Bay**	**72.92**	**13**	LR	LR	20 11 42.2	
	comp=Z,192nm,20.2s,baz=212,slow=36						
FINES	**FINESS Array B**	**78.55**	**334**	P	P	19 40 30.5	+0.1
	1.1nm,0.8s,baz=69,slow=5.2,SNR=5.1						
	1.1nm,0.8s						
SFJD	**Kangerlussuaq**	**86.54**	**5**	LR	LR	20 20 46.0	
	comp=Z,38nm,20.9s,baz=246,slow=36						
ASF	**Jabal al Asfar**	**87.90**	**305**	LR	LR	20 26 12.8	
	comp=Z,198nm,20.2s,baz=228,slow=39						
BORG	**Borgarnes**	**88.33**	**353**	LR	LR	20 20 52.4	
	comp=Z,143nm,21.6s,baz=274,slow=36						
MMAI	**Mount Meron Ar**	**88.57**	**306**	LR	LR	20 24 46.4	
	comp=Z,287nm,21.9s,baz=190,slow=38						

*CATAC **10** 19:29:01.9±0.4, 13°N±3°×9°0W±°, h32km±3km, M3.4/22, MLv3.4/22, Error ellipse: s-maj=6.8km s-min=3.1km az=19.9, confirmed*
*GCG **10** 19:29:02.6±0.7, 13°.15N×89°.65W, h33km±8km, MD3.6*
*SNET **10** 19:29:02.0±1.0, 13°.11N×89°.50W, h42km±13km, ML3.4*

ISC 10 19:29:01.2±1.5, 13°.05N±0°.06×89°.53W±0°.04, h31km±11km, n75, σ0°.945/86, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.48**	**25**	*e*P	**Pn**	**19 29 12.2**	**+0.2**
LALI				*e*S	**Sn**	**19 29 19.1**	**-0.2**
LALI	**Alcalda de L**	**0.48**	**25**	*e*P	**Pn**	**19 29 12.4**	**+0.4**
LALI				*e*S	**Sn**	**19 29 20.4**	**+1.1**
LALI	**Alcalda de L**	**0.48**	**25**	P	**Pn**	**19 29 12.3**	**+0.4**
PANCS	**Alcalda de**	**0.65**	**31**	P	**Pb**	**19 29 14.7**	**+0.5**
PMON	**Piamonte**	**0.69**	**18**	P	**Pb**	**19 29 15.1**	**+0.3**
PMON	**Piamonte**	**0.69**	**18**	S	**Sn**	**19 29 25.2**	**+0.5**
UEES	**Universidad Ev**	**0.72**	**23**	*e*P	**Pb**	**19 29 15.3**	**-0.1**
UEES	**Universidad Ev**	**0.72**	**23**	P	**Pb**	**19 29 15.5**	**+0.2**
UTEC	**Universidad Te**	**0.72**	**26**	P	**Pb**	**19 29 15.6**	**+0.2**
UTEC	**Universidad Te**	**0.72**	**26**	S	**Sn**	**19 29 25.9**	**+0.5**
BOQS	**Boqueron**	**0.72**	**20**	*e*P	**Pb**	**19 29 15.4**	**0.0**
BOQS				*e*S	**Sn**	**19 29 26.6**	**+1.0**
LFRS	**El Faro**	**0.73**	**39**	*e*P	**Pb**	**19 29 15.4**	**-0.1**
LFRS				*e*S	**Sn**	**19 29 25.8**	**+0.2**
PIC2	**El Picacho**	**0.74**	**21**	*e*P	**Pb**	**19 29 16.1**	**+0.3**
UDBS	**Universidad Do**	**0.75**	**29**	S	**Sb**	**19 29 26.7**	**+0.8**
UDBS	**Universidad Do**	**0.75**	**29**	P	**Pb**	**19 29 16.0**	**+0.1**
CEVE	**Cerro Verde**	**0.78**	**353**	*e*P	**Pb**	**19 29 16.4**	**+0.1**
CEVE				*e*S	**Sb**	**19 29 27.8**	**+1.1**
CEVE				IAML		19 29 29.3	
	comp=Z,1μm,0.3s						
CEVE	**Cerro Verde**	**0.78**	**353**	P	**Pb**	**19 29 16.5**	**+0.1**
SBLS	**San Blas**	**0.79**	**353**	*e*P	**Pb**	**19 29 16.6**	**0.0**
LFU	**La Fuente**	**0.80**	**30**	*e*P	**Pb**	**19 29 16.7**	**0.0**
SNJE	**San Jose**	**0.81**	**355**	*e*P	**Pb**	**19 29 16.9**	**-0.1**
LBRS	**Las Brisas**	**0.83**	**35**	*e*P	**Pb**	**19 29 17.3**	**+0.1**
COEG	**Centro de Oper**	**0.85**	**48**	*e*P	**Pn**	**19 29 16.7**	**-0.3**
COEG				*e*S	**Sb**	**19 29 28.1**	**-0.5**
COEG				IAML		19 29 30.6	
	comp=Z,1μm,0.2s						
COEG	**Centro de Oper**	**0.85**	**48**	P	**Pn**	**19 29 16.8**	**-0.3**
RTR	**El Retiro**	**0.85**	**352**	*e*P	**Pb**	**19 29 17.6**	**0.0**
PAVA	**Las Pavas**	**0.87**	**41**	*e*P	**Pb**	**19 29 17.6**	**-0.3**
PAVA	**Las Pavas**	**0.87**	**41**	P	**Pb**	**19 29 17.6**	**-0.3**
PAVA	**Las Pavas**	**0.87**	**41**	S	**Sb**	**19 29 29.3**	**0.0**
TECO	**Alcaldia de Te**	**0.87**	**56**	*e*P	**Pn**	**19 29 16.6**	**-0.8**
TECO	**Alcaldia de Te**	**0.87**	**56**	P	**Pn**	**19 29 17.5**	**+0.1**
NUBE	**Las Nubes**	**0.88**	**344**	*e*P	**Pn**	**19 29 17.5**	**-0.2**
NUBE				*e*S	**Sn**	**19 29 28.8**	**-0.7**
NUBE	**Las Nubes**	**0.88**	**344**	*e*P	**Pn**	**19 29 17.5**	**-0.2**
NUBE				*e*S	**Sn**	**19 29 28.5**	**-1.0**
NUBE	**Las Nubes**	**0.88**	**344**	S	**Sb**	**19 29 29.6**	**0.0**
NUBE	**Las Nubes**	**0.88**	**344**	P	**Pn**	**19 29 17.5**	**-0.2**
FAME	**Alcaldia de Sa**	**0.92**	**329**	S	**Sb**	**19 29 30.3**	**-0.2**
FAME	**Alcaldia de Sa**	**0.92**	**329**	P	**Pn**	**19 29 18.3**	**+0.2**
UNIC	**Universidad Ca**	**0.92**	**359**	P	**Pb**	**19 29 18.6**	**-0.2**
UESV	**Universidad de**	**0.93**	**51**	*e*P	**Pn**	**19 29 18.0**	**-0.2**
UESV	**Universidad de**	**0.93**	**51**	S	**Sb**	**19 29 30.3**	**-0.5**
UESV	**Universidad de**	**0.93**	**51**	P	**Pn**	**19 29 18.2**	**+0.1**
LOAL	**Lomas de Alarc**	**0.97**	**345**	*e*P	**Pb**	**19 29 19.3**	**-0.3**
LOAL	**Lomas de Alarc**	**0.97**	**345**	P	**Pn**	**19 29 19.1**	**+0.3**
ALJI	**Alcalda de J**	**0.97**	**74**	P	**Pn**	**19 29 19.0**	**+0.2**
SLOZ	**Alcaldia de Sa**	**1.00**	**346**	*e*P	**Pb**	**19 29 19.8**	**-0.2**
SLOZ	**Alcaldia de Sa**	**1.00**	**346**	P	**Pn**	**19 29 19.2**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.00**	**346**	S	**Sb**	**19 29 32.2**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.01**	**50**	P	**Pb**	**19 29 19.7**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.01**	**50**	S	**Sb**	**19 29 32.4**	**-0.8**
TECA	**Tecapa**	**1.09**	**66**	*e*P	**Pn**	**19 29 20.2**	**-0.3**
TECA				*e*P	**Pb**	**19 29 20.6**	**-1.1**
TECA				*e*S	**Sb**	**19 29 36.1**	**+0.4**
PQSS	**Presa 15 de Se**	**1.10**	**59**	*e*P	**Pn**	**19 29 19.9**	**-0.6**
PQSS	**Presa 15 de Se**	**1.10**	**59**	P	**Pn**	**19 29 20.5**	**0.0**
PQSS	**Presa 15 de Se**	**1.10**	**59**	S	**Sn**	**19 29 34.4**	**-0.3**
PACA	**Pacayal**	**1.24**	**70**	*e*P	**Pn**	**19 29 23.2**	**+0.5**
PACA	**Pacayal**	**1.24**	**70**	P	**Pn**	**19 29 23.1**	**+0.5**
PACA	**Pacayal**	**1.24**	**70**	S	**Sn**	**19 29 38.5**	**+0.1**
LCY	**Lacayo**	**1.26**	**73**	*e*P	**Pn**	**19 29 22.9**	**+0.1**
BLLM	**Bellamira**	**1.31**	**73**	*e*P	**Pn**	**19 29 23.7**	**+0.2**
CAHU	**Cacacuatique**	**1.47**	**61**	*e*P	**Pn**	**19 29 25.4**	**-0.3**
ESQI	**Esquipulas**	**1.51**	**7**	*e*P	**Pn**	**19 29 26.6**	**+0.4**
ESQI	**Esquipulas**	**1.51**	**7**	P	**Pn**	**19 29 26.7**	**+0.4**
CNCH	**Conchagua**	**1.67**	**82**	*e*P	**Pn**	**19 29 28.6**	**+0.2**
CNCH	**Conchagua**	**1.67**	**82**	P	**Pn**	**19 29 28.4**	**0.0**
CNCH	**Conchagua**	**1.67**	**82**	S	**Sn**	**19 29 49.0**	**+0.2**
MARCA	**Marcala la Paz**	**1.82**	**53**	P	**Pn**	**19 29 30.4**	**-0.2**
MARCA	**Marcala la Paz**	**1.82**	**53**	S	**Sn**	**19 29 52.4**	**-0.3**
ESSG	**Sabana Grande**	**1.83**	**316**	*e*S	**Sn**	**19 29 52.1**	**-0.8**
POTN	**Potosi Cosigui**	**1.97**	**91**	P	**Pn**	**19 29 32.7**	**+0.1**
POTN				S	**Sn**	**19 29 56.5**	**+0.2**
CHOHN	**Orocuina**	**2.35**	**79**	P	**Pn**	**19 29 37.7**	**0.0**
COMHN	**El Horno**	**2.36**	**54**	P	**Pn**	**19 29 37.7**	**-0.4**
TGUH	**Tegucigalpa,Un**	**2.41**	**65**	P	**Pn**	**19 29 38.5**	**-0.1**
CRIN	**San Cristobal**	**2.44**	**98**	P	**Pn**	**19 29 39.8**	**+0.7**
CRIN	**San Cristobal**	**2.44**	**98**	S	**Sn**	**19 30 09.3**	**+1.3**
RTAL	**Retalhuleu**	**2.56**	**305**	P	**Pn**	**19 29 41.0**	**+0.4**
YUSH	**Yuscaran**	**2.76**	**71**	P	**Pn**	**19 29 43.5**	**0.0**
CNGN	**Cerro Negro**	**2.81**	**101**	S	**Sn**	**19 30 17.4**	**+0.2**
CNGN	**Cerro Negro**	**2.81**	**101**	P	**Pn**	**19 29 44.1**	**-0.1**

IDC 10 19:43:21.9±2.1, 0°.28N×125°.77E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=187.4km s-min=28.8km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.78**	**158**	P	P	19 48 14.2	-1.2
	0.3nm,0.4s,baz=336,slow=10,SNR=6.2						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**25.07**	**162**	P	P	19 48 49.3	+1.0
	0.3nm,0.8s,baz=346,slow=13,SNR=5.1						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**59.87**	**327**	P	P	19 53 29.3	-0.2
	0.1nm,0.3s,baz=120,slow=8.2,SNR=1.6						
	0.1nm,0.3s						

*IDC **10** 19:45:51.4±4.3, 30°.25S×177°.91W, h33km±32km, mb4.0/9, mbtmp4.2/9, MS4.0/1, Error ellipse: s-maj=23.5km s-min=16.0km az=103.0*
*NEIC **10** 19:45:52.2±1.6, 30°.3S±0°.1×177°.9W±0°.2, h35km±6km, mb4.6/14, Error ellipse: s-maj=26.4km s-min=14.8km az=84.0*

ISC 10 19:45:52.6±0.6, 30°.35S±0°.06×178°.0W±0°.1, h46km, n64, σ2°.06/69, mb4.3/17, 4C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.09**	**5**	P	**Pn**	**19 46 10.3**	**-1.2**
GLKZ				S	**Sn**	**19 46 22.5**	**-2.9**
RAO	**Raoul Island**	**1.10**	**5**	Pn	**Pn**	**19 46 10.5**	**-1.2**
	195nm,0.3s,baz=288,slow=19,SNR=16						
RAO				LR	LR	19 46 16.2	
	comp=Z,115nm,18.7s,baz=293,slow=25						
RAO				Sn	**Sn**	**19 46 22.5**	**-3.2**
	2μm,0.3s,baz=155,slow=21,SNR=20						
RAO	**Raoul Island**	**1.10**	**5**	P	**Pn**	**19 46 10.7**	**-0.9**
RIZ	**Raoul Island**	**1.11**	**4**	P	**Pn**	**19 46 10.7**	**-1.0**
RIZ				S	**Sn**	**19 46 22.9**	**-3.0**
MXZ	**Matakaoa Point**	**7.81**	**202**	P	**Pn**	**19 47 40.1**	**-3.6**
WMGZ	**Waiomatatini S**	**8.01**	**201**	P	**Pn**	**19 47 41.9**	**-4.4**
WMGZ				S	**Sn**	**19 49 15.6**	**0.0**
PKGZ	**Pakihiroa**	**8.16**	**202**	P	**Pn**	**19 47 44.7**	**-3.8**
PKGZ				S	**Sn**	**19 49 16.1**	**-3.2**
HAZ	**Te Kaha**	**8.16**	**204**	P	**Pn**	**19 47 45.6**	**-2.9**
HAZ				S	**Sn**	**19 49 21.7**	**+2.4**
PUZ	**Puketiti**	**8.29**	**201**	P	**Pn**	**19 47 47.0**	**-3.3**
PUZ				S	**Sn**	**19 49 18.7**	**-3.9**
RUGZ	**Raukumara Rang**	**8.38**	**204**	P	**Pn**	**19 47 48.4**	**-3.3**
RUGZ				S	**Sn**	**19 49 24.1**	**-0.9**
TWGZ	**Tauwhareparae**	**8.47**	**202**	S	**Sn**	**19 49 23.7**	**-3.4**
WCZ	**Waipu Caves**	**8.48**	**227**	P	Pn	19 48 00.0	+7.2
OUZ	**Omahuta**	**8.56**	**233**	P	Pn	19 48 01.1	+7.2
TKGZ	**Te Karaka**	**8.76**	**202**	S	**Sn**	**19 49 31.7**	**-2.2**
URZ	**Urewera**	**8.85**	**206**	Pn	**Pn**	**19 47 54.0**	**-3.9**
	0.3nm,0.3s,baz=105,slow=21,SNR=1.7						
URZ				Sn	**Sn**	**19 49 33.0**	**-3.2**
	0.9nm,0.3s,baz=209,slow=23,SNR=7.9						
URZ	**Urewera**	**8.85**	**206**	P	**Pn**	**19 47 54.4**	**-3.5**
URZ				S	**Sn**	**19 49 32.0**	**-4.3**
CTAO	**Charters Tower**	**33.77**	**279**	P	**P**	**19 52 32.8**	**+2.6**
STKA	**Stephens Creek**	**34.47**	**257**		**P**	**19 52 38.7**	**+2.5**
STKA	**Stephens Creek**	**34.47**	**257**	P	**P**	**19 52 38.6**	**+2.5**
	13nm,0.8s,baz=101,slow=13,SNR=19

2.1nm,0.5s
MKAR Makanchi Array 59.94 327 P P 20 08 16.6 0.0
0.3nm,0.4s,baz=125,slow=8.8,SNR=11
0.3nm,0.4s
KURBB Kurchatov Arra 64.20 328 P P 20 08 45.0 -0.2
1.3nm,0.2s,baz=132,slow=6.9,SNR=5.0
1.3nm,0.2s

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*IDC **10** 19:58:54.1±1.6,5.°93S×143.°13E, h0km,mb3.8/4, mbtmp3.9/6, ML3.9/2, Error ellipse: s-maj=40.8km s-min=25.6km az=96.0*
ISC 10 19:58:57.8±1.4,6.°37S±0.°08×142.°8E±0.°2, h35km, n8, σ1§19/10, mb3.9/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**4.35**	**332**	Pn	**Pn**	**20 00 00.9**	**-0.6**
	3.5nm,0.3s,baz=170,slow=13,SNR=18						
JAY				Sn	**Sn**	**20 00 50.0**	**-1.1**
	6.0nm,0.3s,baz=306,slow=19,SNR=4.3						
	7.3nm,0.3s						
WRA	**Warramunga Arr**	**15.79**	**210**	Pn	**P**	**20 02 41.6**	**+0.4**
	0.3nm,0.3s,baz=30,slow=13,SNR=21						
WRA				Sn	**Sn**	**20 05 31.1**	**-0.6**
	0.9nm,0.3s,baz=30,slow=21,SNR=7.8						
ASAR	**Alice Springs**	**19.20**	**205**	P	Pn	20 03 26.9	+6.9
	0.6nm,0.3s,baz=33,slow=9.7,SNR=60						
ASAR				S	**S**	**20 06 53.5**	**-1.2**
	1.6nm,0.6s,baz=22,slow=28,SNR=8.3						
	5.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.38**	**234**	P	Pn	20 03 37.4	+3.4
	3.3nm,0.7s,baz=56,slow=13,SNR=8.9						
FITZ				S	**S**	**20 07 18.1**	**-0.2**
	1.6nm,0.8s,baz=260,slow=23,SNR=1.5						
	3.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**49.77**	**301**	P	**P**	**20 07 49.2**	**+1.9**
	0.7nm,0.6s,baz=119,slow=6.3,SNR=7.1						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**75.14**	**322**	P	**P**	**20 10 37.5**	**+0.9**
	0.8nm,0.8s,baz=103,slow=6.5,SNR=6.5						
	0.8nm,0.8s						
ILAR	**Eielson Array**	**87.49**	**24**	P	**P**	**20 11 40.3**	**-1.3**
	0.6nm,0.7s,baz=259,slow=4.6,SNR=6.6						
	0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**141.09**	**283**	PKP	**PKiKP**	**20 18 28.8**	**+0.4**
	1.9nm,0.4s,baz=62,slow=3.6,SNR=1.7						

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*NEIC **10** 20:06:43.2±1.4,43.°83N±0.°06×105.°30W±0.°08, h0km±1km, ML3.5/54, Error ellipse: s-maj=10.1km s-min=9.0km az=53.0*
*IDC **10** 20:06:44.7±1.9,43.°99N×105.°63W, h0km, mb3.8/2, mbtmp3.6/3, ML4.5/1, Error ellipse: s-maj=49.7km s-min=12.7km az=147.0*
ISC 10 20:06:44.5±0.8,43.°82N±0.°06×105.°31W±0.°06, h0km, n64, σ0§92/63, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.97**	**71**		**Pg**	**20 07 04.2**	**+1.1**
K22A	**Casper**	**1.47**	**218**		**Pn**	**20 07 10.1**	**-2.3**
LAO	**LASA Array**	**2.94**	**348**		**Pn**	**20 07 33.1**	**+0.5**
LAO				IAML		20 08 21.6	
	199nm,0.8s						
LAO				IAML		20 08 32.7	
	176nm,0.7s						
RLMT	**Red Lodge**	**3.12**	**296**		**Pn**	**20 07 35.6**	**+0.5**
RLMT				IAML		20 08 31.5	
	73nm,1.2s						
BW06	**Boulder Array**	**3.28**	**253**		**Pn**	**20 07 38.2**	**+0.9**
PD31	**Pinedale Array**	**3.28**	**253**		**Pn**	**20 07 38.2**	**+0.9**
PDAR	**Pinedale Array**	**3.28**	**253**		**Pn**	**20 07 37.5**	**+0.1**
PDAR	**Pinedale Array**	**3.28**	**253**	Pn	**Pn**	**20 07 38.5**	**+1.1**
	7.5nm,0.3s,baz=70,slow=18,SNR=25						
PDAR				Pg	**Pb**	**20 07 44.4**	**+0.7**
	7.6nm,0.3s,baz=71,slow=18,SNR=35						
PDAR				Lg	Lg	20 08 22.2	
	11nm,0.3s,baz=70,slow=31,SNR=2.8						
	2.8nm,0.4s						
YNE	**Yellowstone No**	**3.57**	**291**		**Pn**	**20 07 41.8**	**+0.4**
YNE				IAML		20 08 45.4	
	comp=E,57nm,1.0s						
YNE				IAML		20 08 45.8	
	comp=N,58nm,0.9s						
YMP	**Mirror Lake Pl**	**3.60**	**286**		**Pn**	**20 07 42.2**	**+0.3**
YMP				IAML		20 08 45.2	
	comp=E,93nm,0.9s						
YMP				IAML		20 08 49.4	
	comp=N,99nm,0.7s						
GCMT	**Greycliff**	**3.68**	**304**		**Pn**	**20 07 43.3**	**+0.6**
OGNE	**Ogallala**	**3.76**	**139**		**Pn**	**20 07 44.5**	**+0.6**
LOHW	**Long Hollow**	**3.84**	**269**		**Pn**	**20 07 45.4**	**+0.3**
SNOW	**Snow King Moun**	**3.97**	**267**		**Pn**	**20 07 46.6**	**-0.2**
SNOW				IAML		20 09 05.5	
	comp=N,62nm,1.1s						
SNOW				IAML		20 09 09.3	
	comp=N,54nm,1.1s						
ISCO	**Idaho Springs**	**4.02**	**183**		**Pn**	**20 07 49.0**	**+1.3**
YHH	**Holmes Hill**	**4.09**	**286**		**Pn**	**20 07 49.8**	**+1.2**
TPAW	**Teton Pass**	**4.11**	**267**		**Pn**	**20 07 48.8**	**+0.1**
TPAW				IAML		20 09 09.9	
	comp=N,56nm,1.1s						
TPAW				IAML		20 09 13.3	
	comp=N,33nm,1.1s						
FXWY	**Fox Creek**	**4.15**	**269**		**Pn**	**20 07 48.9**	**-0.4**
E28A	**Huff**	**4.27**	**48**		**Pn**	**20 07 50.4**	**-0.4**
O20A	**White River Ci**	**4.28**	**212**		**Pn**	**20 07 50.5**	**-0.6**
O20A				IAML		20 09 02.6	
	comp=N,55nm,1.0s						
O20A				IAML		20 09 04.1	
	comp=N,53nm,1.1s						
K30B	**Basset**	**4.31**	**103**		**Pn**	**20 07 51.3**	**-0.1**
AHID	**Auburn Hatcher**	**4.36**	**258**		**Pn**	**20 07 52.0**	**-0.1**
AHID				IAML		20 09 16.5	
	comp=N,47nm,1.0s						
AHID				IAML		20 09 16.7	
	comp=N,32nm,1.0s						
DGMT	**Dagmar**	**4.72**	**9**		**Pn**	**20 07 57.5**	**+0.6**
HWUT	**Hardware Ranch**	**5.11**	**247**		**Pn**	**20 08 03.6**	**+1.1**
HWUT				IAML		20 09 32.6	
	comp=N,43nm,1.1s						
HWUT				IAML		20 09 32.9	
	comp=N,31nm,1.0s						
KSCO	**Kaye Shedlock'**	**5.21**	**156**		**Pn**	**20 08 03.3**	**-0.4**
EGMT	**Eagleton**	**5.23**	**325**		**Pn**	**20 08 04.5**	**+0.5**
EGMT				IAML		20 09 52.6	
	comp=N,57nm,1.1s						
EGMT				IAML		20 09 57.0	
	comp=N,53nm,1.2s						
TCUT	**Toone Canyon**	**5.26**	**241**		**Pn**	**20 08 06.2**	**+1.7**
DLMT	**Dillon**	**5.43**	**289**		**Pn**	**20 08 06.3**	**-0.5**
LRM	**Limekiln Ridge**	**5.46**	**294**		**Pn**	**20 08 07.2**	**-0.2**
MCMT	**McKenzie Canyo**	**5.50**	**283**		**Pn**	**20 08 08.3**	**+0.4**
P18A	**Preston Nutter**	**5.58**	**223**		**Pn**	**20 08 09.1**	**0.0**
MDND	**Maddock**	**5.67**	**43**		**Pn**	**20 08 11.4**	**+1.5**
LYMT	**Lyon Mountain**	**5.84**	**305**		**Pn**	**20 08 13.4**	**+0.9**
PV22	**Blue Mesa, Par**	**5.89**	**208**		**Pn**	**20 08 13.8**	**+0.6**
PV21	**Cone Mtn., Par**	**5.94**	**209**		**Pn**	**20 08 15.0**	**+1.1**
PV07	**Paradox Valley**	**5.94**	**206**		**Pn**	**20 08 13.6**	**-0.2**
PV15	**Paradox Valley**	**5.97**	**205**		**Pn**	**20 08 15.5**	**+1.1**
PV23	**Carpenter Ridg**	**6.05**	**209**		**Pn**	**20 08 16.2**	**+0.8**
MPU	**Maple Canyon**	**6.06**	**233**		**Pn**	**20 08 16.4**	**+0.9**
PV12	**Saucer Basin,**	**6.10**	**207**	Pn	**Pn**	**20 08 16.0**	**0.0**
SRU	**San Rafael Swe**	**6.12**	**222**		**Pn**	**20 08 16.7**	**+0.4**
PV10	**Paradox Valley**	**6.12**	**209**		**Pn**	**20 08 17.9**	**+1.5**
PV20	**West Nyswonger**	**6.13**	**208**		**Pn**	**20 08 17.3**	**+0.8**
PV11	**David Mesa, Pa**	**6.14**	**207**		**Pn**	**20 08 17.2**	**+0.6**
PV16	**Nyswonger Mesa**	**6.14**	**208**		**Pn**	**20 08 15.7**	**-1.0**
PV03	**Paradox Valley**	**6.17**	**207**		**Pn**	**20 08 18.3**	**+1.3**
S22A	**4UR Ranch, Cre**	**6.17**	**191**		**Pn**	**20 08 17.9**	**+0.7**
PV02	**Paradox Valley**	**6.18**	**206**		**Pn**	**20 08 18.4**	**+1.3**
PV18	**Skein Mesa, Pa**	**6.20**	**207**		**Pn**	**20 08 17.9**	**+0.5**
PV13	**Radium Mtn., P**	**6.25**	**206**		**Pn**	**20 08 18.8**	**+0.7**
ECSD	**EROS Data Cent**	**6.29**	**88**		**Pn**	**20 08 19.7**	**+1.2**
OVMT	**Ovando**	**6.31**	**304**		**Pn**	**20 08 20.3**	**+1.4**
TMUT	**Trail Mountain**	**6.32**	**206**		**Pn**	**20 08 20.2**	**+1.0**
PV05	**Paradox Valley**	**6.41**	**208**		**Pn**	**20 08 20.1**	**-0.3**
Q16A	**Castle Valley**	**6.59**	**224**	Pn	**Pn**	**20 08 23.9**	**+1.1**
DUG	**Dugway, Tooele**	**6.66**	**240**		**Pn**	**20 08 25.0**	**+1.3**
T25A	**Trinidad**	**6.71**	**174**	Pn	**Pn**	**20 08 25.8**	**+1.3**
MVCO	**Mesa Verde**	**7.03**	**201**		**Pn**	**20 08 28.5**	**-0.4**
HMU	**Henry Mountain**	**7.17**	**217**		**Pn**	**20 08 30.4**	**-0.4**
ULM	**Lac du Bonnet**	**9.10**	**42**	Lg	Lg	20 11 22.4	
	comp=N,0.5nm,0.3s,baz=228,slow=19,SNR=1.2						
I56US	**NEWPORT INFRAS**	**9.34**	**303**	I	I	21 01 30.0	
	baz=117,slow=310,SNR=2.6						
FFC	**Flin Flon**	**11.13**	**10**		**Pn**	**20 09 22.6**	**-2.1**
ARCES	**ARCESS Array B**	**61.35**	**18**	P	**P**	**20 17 00.9**	**-0.6**
	comp=N,1.0nm,0.7s,baz=333,slow=7.2,SNR=3.7						
	comp=N,1.0nm,0.7s						
MKAR	**Makanchi Array**	**89.52**	**355**	P	**P**	**20 19 43.3**	**-0.2**
	comp=N,0.3nm,0.7s,baz=19,slow=5.8,SNR=3.6						
	comp=N,0.3nm,0.7s						

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*NEIC **10** 20:09:51.4±1.2,35.°662N±0.°004×117.°51W±0.°01, h11km±4km, Error ellipse: s-maj=1.8km s-min=0.5km az=80.0*
*PAS **10** 20:09:52.0±1.2,35.°67N±0.°01×117.°52W±0.°02, h9km±5km, Mwr4.2/4, mb4.3/18(NEIC), ML4.4/172(NEIC), Error ellipse: s-maj=1.9km s-min=1.5km az=68.0*
*IDC **10** 20:09:51.7±0.6,35.°69N×117.°33W, h0km, mb4.0/7, mbtmp3.9/12, ML4.0/4, MS3.1/8, Error ellipse: s-maj=14.8km s-min=5.4km az=73.0*
ISC 10 20:09:51.8±0.9,35.°66N±0.°02×117.°51W±0.°02, h9km±6km, n144, σ1§23/132, mb4.2/17, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.17**	**335**	Pg	**Pg**	**20 09 55.4**	**-0.2**
CLC					**Sg**	**20 09 58.2**	**0.0**
CLC				IAML		20 09 58.5	
	comp=N,116μm,0.5s						
CLC				IAML		20 09 58.5	
	comp=E,125μm,0.4s						
CCCA	**Chr Cany lake**	**0.18**	**139**	Pg	**Pg**	**20 09 56.2**	**+0.7**
SRTC	**Snort**	**0.20**	**280**		**Pg**	**20 09 56.2**	**+0.2**
LRMC	**Laurel Mtn Rad**	**0.23**	**219**		**Pg**	**20 09 56.5**	**-0.1**
LRMC					**Sg**	**20 10 00.1**	**+0.4**
LRMC	**Laurel Mtn Rad**	**0.23**	**219**	IAML		20 10 00.4	
	comp=E,73μm,0.5s						
LRMC				IAML		20 10 01.4	
	comp=N,62μm,0.4s						
TOW	**Tower One**	**0.26**	**306**		**Pg**	**20 09 57.2**	**+0.1**
WNMM	**Nine Mile Cany**	**0.37**	**300**		**Pg**	**20 09 58.9**	**-0.3**
WVPM	**Volcano Peak E**	**0.39**	**319**		**Pg**	**20 09 59.0**	**-0.5**
WVPM					**Sg**	**20 10 04.5**	**-0.1**
MPMC	**Manual Prospec**	**0.40**	**2**		**Pg**	**20 09 59.4**	**-0.4**
MPMC				IAML		20 10 05.5	
	comp=N,68μm,0.5s						
MPMC	**Manual Prospec**	**0.40**	**2**		**Sg**	**20 10 05.1**	**+0.1**
JRC2	**Joshua Ridge**	**0.41**	**323**		**Sg**	**20 10 05.2**	**-0.1**
WCSM	**Coso Springs S**	**0.42**	**330**		**Pg**	**20 09 59.7**	**-0.5**
WCSM					**Sg**	**20 10 05.5**	**-0.3**
WRVM	**Rose V. Centra**	**0.47**	**318**		**Pg**	**20 10 00.5**	**-0.6**
WRVM					**Sg**	**20 10 07.0**	**-0.2**
DTP	**Desert Tortois**	**0.48**	**216**		**Sg**	**20 10 07.3**	**-0.2**
WBSM	**Bird Springs**	**0.53**	**257**		**Pg**	**20 10 01.8**	**-0.4**
MFS	**McCloud Flat S**	**0.54**	**328**		**Sg**	**20 10 09.6**	**+0.1**
QSM	**Queen of Sheba**	**0.60**	**59**		**Pg**	**20 10 03.4**	**-0.2**
QSM					**Sb**	**20 10 11.7**	**-1.5**
QSM	**Queen of Sheba**	**0.60**	**59**	IAML		20 10 15.5	
	comp=E,35μm,0.7s						
CCAC	**Calif City Air**	**0.66**	**220**		**Sg**	**20 10 13.3**	**+0.2**
GSC	**Goldstone, Bar**	**0.67**	**122**		**Sb**	**20 10 14.2**	**-1.0**
GSC	**Goldstone, Bar**	**0.67**	**122**	IAML		20 10 17.1	
	comp=N,14μm,0.3s						
GSC				IAML		20 10 17.5	
	comp=E,27μm,0.5s						
WHFM	**Hanning Flat**	**0.69**	**273**		**Pg**	**20 10 04.4**	**-0.7**
ISA	**Isabella, Lake**	**0.79**	**271**		**Sg**	**20 10 16.1**	**-1.3**
ISA	**Isabella, Lake**	**0.79**	**271**		**Pg**	**20 10 06.1**	**-0.9**
ISA				IAML		20 10 16.6	
	comp=N,13μm,0.6s						
ISA				IAML		20 10 17.0	
	comp=E,9μm,0.2s						
WASM	**Alta Sierra Ca**	**0.86**	**276**		**Pg**	**20 10 07.5**	**-0.9**
GWY	**Greenwater Val**	**0.86**	**52**		**Pg**	**20 10 08.0**	**-0.5**
GWY					**Sg**	**20 10 19.4**	**-0.3**
RRX	**Edison Barstow**	**0.89**	**152**		**Sb**	**20 10 20.6**	**-0.7**
CWC	**Cottonwood Cre**	**0.91**	**329**		**Pg**	**20 10 08.3**	**-1.0**
CGO	**Cerro Gordo**	**0.92**	**345**		**Sg**	**20 10 20.8**	**-0.9**
FURC	**Furnace Creek,**	**0.96**	**33**		**Pg**	**20 10 09.9**	**-0.4**
FURC					**Sb**	**20 10 23.1**	**-0.4**
TPO	**Tropico Hills**	**0.98**	**217**		**Sb**	**20 10 24.0**	**0.0**
TPO	**Tropico Hills**	**0.98**	**217**	IAML		20 10 25.8	
	comp=N,13μm,0.7s						
TPO				IAML		20 10 30.2	
	comp=E,13μm,0.7s						
SHOC	**Shoshone, Teco**	**1.03**	**76**		**Pg**	**20 10 11.0**	**-0.6**
SHOC					**Sn**	**20 10 25.4**	**-1.6**
TEJ	**El Tejon**	**1.06**	**246**		**Sg**	**20 10 24.4**	**-1.5**
VTV	**Victorville**	**1.10**	**172**		**Pb**	**20 10 12.4**	**-0.8**
ADO	**Adelanto Recei**	**1.11**	**177**		**Pb**	**20 10 12.7**	**-0.5**
ARVC	**Arvin**	**1.21**	**244**		**Pn**	**20 10 14.0**	**-0.9**
AMDNV	**Amargosa**	**1.27**	**51**		**Pn**	**20 10 14.3**	**-1.4**
TUQ	**Turquoise Moun**	**1.31**	**99**		**Pn**	**20 10 14.9**	**-1.5**
WCT	**Wildcat Mounta**	**1.34**	**32**		**Pn**	**20 10 15.6**	**-1.2**
WCT	**Wildcat Mounta**	**1.34**	**32**	IAML		20 10 35.8	
	comp=E,4μm,0.7s						
GRAC	**Grapevine Rang**	**1.34**	**5**		**Pn**	**20 10 15.8**	**-1.1**
BFSC	**Mount Baldy Ra**	**1.42**	**185**		**Pn**	**20 10 16.8**	**-1.2**
BFSC				IAML		20 10 37.8	
	comp=E,4μm,0.6s						
BFSC				IAML		20 10 38.4	
	comp=N,5μm,0.8s						
OSI	**Osito Audit: C**	**1.44**	**224**		**Pn**	**20 10 17.0**	**-1.2**
OSI				IAML		20 10 40.9	
	comp=N,5μm,0.8s						
OSI				IAML		20 10 42.1	
	comp=E,4μm,0.8s						
MWC	**Mount Wilson**	**1.50**	**198**		**Pn**	**20 10 17.7**	**-1.5**
MWC				IAML		20 10 40.6	
	comp=E,6μm,0.6s						
MWC				IAML		20 10 41.5	
	comp=N,8μm,0.7s						
LCH	**Last Change Ra**	**1.58**	**356**		**Pn**	**20 10 19.4**	**-0.8**
PASC	**Pasadena Art C**	**1.58**	**201**		**Pn**	**20 10 19.1**	**-1.0**
PASC				IAML		20 10 46.9	
	comp=N,3μm,0.7s						
PASC				IAML		20 10 48.7	
	comp=E,3μm,0.5s						
MTPC	**Mountain Pass**	**1.60**	**96**		**Pn**	**20 10 18.9**	**-1.6**
MTPC				IAML		20 10 45.1	
	comp=N,4μm,0.7s						
MTPC				IAML		20 10 45.9	
	comp=E,5μm,0.4s						
GMN	**Gold Mountain**	**1.65**	**7**	IAML		20 10 48.9	
	comp=N,3μm,0.4s						
GMRC	**Granite Mounta**	**1.74**	**119**		**Pn**	**20 10 20.4**	**-2.0**
ELS	**Elsinore Mount**	**2.01**	**178**		**Pn**	**20 10 25.1**	**-0.9**
ELS				IAML		20 11 02.0	
	comp=E,2μm,0.7s						
MZP	**Montezuma Peak**	**2.04**	**3**		**Pn**	**20 10 25.6**	**-1.0**
SHPR	**Sheep Range**	**2.08**	**65**		**Pn**	**20 10 25.8**	**-1.3**
V12A	**Nelson**	**2.16**	**87**		**Pn**	**20 10 26.7**	**-1.4**
V12A				IAML		20 11 01.7	
	comp=N,2μm,0.8s						
V12A				IAML		20 11 07.1	
	comp=E,2μm,0.5s						
PMD	**Palm Desert**	**2.21**	**155**		**Pn**	**20 10 27.3**	**-1.4**
PMD				IAML		20 11 02.8	
	comp=E,2μm,0.6s						
PFO	**Pinyon Flats O**	**2.22**	**157**		**Pn**	**20 10 27.6**	**-1.4**
PFO				IAML		20 11 07.5	
	comp=E,2μm,1.6s						
PFO	**Pinyon Flats O**	**2.22**	**157**	Pn	**Pn**	**20 10 27.8**	**-1.1**
	comp=E,20nm,0.3s,baz=332,slow=11,SNR=117						
PFO				Pg	**Pb**	**20 10 32.9**	**+0.7**
	comp=E,218nm,0.3s,baz=337,slow=15,SNR=105						
PFO				LR	LR	20 10 54.2	
	comp=E,115nm,20.5s,baz=12,slow=28						
PFO				Lg	Lg	20 11 01.4	
	comp=E,225nm,0.3s,baz=251,slow=18,SNR=9.9						
	comp=E,67nm,0.3s						
TPH	**Tonopah**	**2.42**	**5**		**Pn**	**20 10 31.2**	**-0.7**
S11A	**Rachel**	**2.44**	**35**		**Pn**	**20 10 31.2**	**-0.8**
S11A				IAML		20 11 13.8	
	comp=E,3μm,0.8s						
S11A				IAML		20 11 16.1	
	comp=N,2μm,1.2s						
NEE2	**Needles Airpor**	**2.52**	**110**	Pn	**Pn**	**20 10 31.2**	**-1.9**
NEE2				IAML		20 11 25.3	
	comp=E,3μm,0.7s						
BORC	**Borrego Spring**	**2.55**	**159**		**Pn**	**20 10 32.1**	**-1.2**
BORC				IAML		20 11 13.9	
	comp=E,2μm,0.8s						
BORC				IAML		20 11 17.2	
	comp=N,1μm,0.7s						
PRN	**Pahroc Range**	**2.64**	**48**		**Pn**	**20 10 33.9**	**-0.9**
PRN				IAML		20 11 24.4	
	comp=E,2μm,0.7s						
PRN				IAML		20 11 24.6	
	comp=N,2μm,0.5s						
SALN	**Salton City**	**2.68**	**152**		**Pn**	**20 10 33.9**	**-1.3**
DPP	**Dos Picos Cty**	**2.69**	**170**		**Pn**	**20 10 34.5**	**-0.9**
DPP				IAML		20 11 16.9	
	comp=E,2μm,0.7s						
NV11	**Mina Array Sit**	**2.82**	**350**		**Pn**	**20 10 36.7**	**-0.6**
NVAR	**Mina Array Bea**	**2.84**	**347**	Pn	**Pn**	**20 10 37.4**	**-0.2**
	comp=E,9.0nm,0.3s,baz=171,slow=16,SNR=61						
NVAR				Pg	**Pg**	**20 10 44.6**	**-1.7**
	comp=E,70nm,0.3s,baz=171,slow=13,SNR=26						
NVAR				Lg	Lg	20 11 20.2	
	comp=E,88nm,0.3s,baz=172,slow=31,SNR=6.2						
NVAR				LR	LR	20 11 59.7	
	comp=E,662nm,18.1s,baz=87,slow=46						
	comp=E,25nm,0.5s						
BBGB	**Big Mountain B**	**3.00**	**289**		**Pn**	**20 10 38.7**	**-1.1**
W13A	**Hualapai Mount**	**3.01**	**100**		**Pn**	**20 10 38.8**	**-1.1**
W13A				IAML		20 11 30.6	
	comp=E,1μm,0.7s						
W13A				IAML		20 11 31.1	
	comp=N,971nm,1.2s						
RYN	**Ryan**	**3.07**	**345**		**Pn**	**20 10 40.1**	**-0.6**
R11B	**Troy Canyon, C**	**3.09**	**29**		**Pn**	**20 10 40.1**	**-1.0**
BLYC	**Blythe**	**3.11**	**127**		**Pn**	**20 10 39.2**	**-1.8**
BLYC				IAML		20 11 34.6	
	comp=N,600nm,0.6s						
BLYC				IAML		20 11 47.2	
	comp=E,789nm,0.8s						
TJX	**Tijuana**	**3.16**	**173**		**Pn**	**20 10 39.7**	**-2.1**
TKX	**Tecate**	**3.17**	**166**		**Pn**	**20 10 40.6**	**-1.4**
TKX				IAML		20 11 31.6	
	comp=E,1μm,0.7s						
TKX				IAML		20 11 33.1	
	comp=N,635nm,0.5s						
Q09A	**Carvers**	**3.18**	**5**		**Pn**	**20 10 41.4**	**-0.8**
WAKR	**Walker**	**3.23**	**332**		**Pn**	**20 10 40.6**	**-2.3**
YUH	**Yuha Desert**	**3.28**	**156**		**Pn**	**20 10 41.7**	**-1.7**
CMB	**Columbia Colle**	**3.31**	**317**		**Pn**	**20 10 42.0**	**-1.9**
CMB				IAML		20 11 38.8	
	comp=E,871nm,0.8s						
CMB				IAML		20 11 39.2	
	comp=N,641nm,0.8s						
SAO	**San Andreas Ge**	**3.37**	**290**		**Pn**	**20 10 44.0**	**-0.7**
CBX	**Cerro Bola**	**3.41**	**168**		**Pn**	**20 10 44.8**	**-0.5**
LCMT	**Little Creek M**	**3.70**	**67**		**Pn**	**20 10 49.0**	**-0.3**
CPBX	**Cerro Prieto**	**3.71**	**150**		**Pn**	**20 10 49.2**	**-0.1**
CPBX				IAML		20 12 08.3	
	comp=E,1μm,0.7s						
CCUT	**Cedar City**	**3.83**	**59**		**Pn**	**20 10 51.2**	**0.0**
CCX	**Cicese**	**3.84**	**169**	Pn	**Pn**	**20 10 50.3**	**-0.9**
ESJX	**Sierra Juarez**	**3.87**	**160**		**Pn**	**20 10 51.2**	**-0.5**
ESJX				IAML		20 11 54.4	
	comp=N,398nm,1.3s						
ESJX				IAML		20 11 59.0	
	comp=E,551nm,1.3s						
KNB	**Kanab**	**4.02**	**69**		**Pn**	**20 10 53.6**	**-0.1**
KNB				IAML		20 12 01.1	
	comp=N,345nm,1.7s						
KNB				IAML		20 12 03.0	
	comp=E,338nm,0.9s						
Y14A	**Wickenburg**	**4.08**	**114**		**Pn**	**20 10 53.2**	**-1.4**
Y14A				IAML		20 12 09.8	
	comp=N,652nm,1.0s						
Y14A				IAML		20 12 11.9	
	comp=E,481nm,0.6s						
PSUT	**Pine Spring**	**4.09**	**44**		**Pn**	**20 10 54.0**	**-0.8**
PSUT				IAML		20 12 13.4	
	comp=E,500nm,1.2s						
PSUT				IAML		20 12 15.9	
	comp=N,358nm,1.2s						
MPK	**Martis Peak**	**4.15**	**332**		**Pn**	**20 10 54.0**	**-1.6**
MPK				IAML		20 12 29.9	
	comp=E,601nm,1.4s						
MPK				IAML		20 12 36.2	
	comp=N,566nm,0.9s						
SPR3	**Spring Creek 3**	**4.19**	**36**		**Pn**	**20 10 54.3**	**-1.8**
SPR3				IAML		20 12 04.0	
	comp=E,343nm,1.2s						
SPR3				IAML		20 12 11.9	
	comp=N,291nm,1.0s						
113A	**Mohawk Valley,**	**4.23**	**132**		**Pn**	**20 10 54.3**	**-2.2**
AFDM	**Forest Hills D**	**4.29**	**321**	IAML		20 12 12.7	
	comp=E,343nm,0.7s						
AFDM				IAML		20 12 15.3	
	comp=N,306nm,0.7s						
U15A	**North Rim**	**4.29**	**78**	IAML		20 12 06.9	
	comp=E,590nm,1.0s						
U15A				IAML		20 12 08.5	
	comp=N,580nm,1.1s						
PAHR	**Pah Rah Range**	**4.31**	**340**		**Pn**	**20 10 57.0**	**-0.7**
VTX	**Valle De La Tr**	**4.49**	**161**	IAML		20 12 13.1	
	comp=E,526nm,0.8s						
VTX				IAML		20 12 16.1	
	comp=N,277nm,0.7s						
MCCM	**Marconi Confer**	**4.97**	**302**	IAML		20 12 26.3	
	comp=E,152nm,1.3s						
WUAZ	**Wupatki**	**5.00**	**90**		**Pn**	**20 11 05.5**	**-1.8**
SFX	**San Felipe**	**5.12**	**154**		**Pn**	**20 11 06.7**	**-2.0**
SFX				IAML		20 12 37.5	
	comp=N,194nm,0.8s						
SFX				IAML		20 12 42.2	
	comp=E,251nm,1.1s						
X16A	**Lo Mia Camp, P**	**5.13**	**102**	Pn	**Pn**	**20 11 07.2**	**-1.8**
X16A				IAML		20 12 43.8

DLBC	**Dease Lake**	**24.25**	**344**	P		**P**		**20 15 10.8**	**+1.7**
	comp=Z,0.3nm,1.0s,baz=72,slow=5.2,SNR=6.1								
DLBC				LR		LR		20 25 26.0	
	comp=Z,10nm,19.4s,baz=64,slow=38								
YKAW1	**Yellowknife Wh**	**26.91**	**3**			**P**		**20 15 36.3**	**+3.3**
YKAW1				IAmb		IAmb		20 15 36.8	
	comp=Z,5.5nm,0.9s								
YKA	**Yellowknife Ar**	**26.92**	**3**	P		**P**		**20 15 34.0**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=187,slow=9.1,SNR=16								
	comp=Z,1.8nm,0.8s								
P29M	**Windy Craggy**	**27.36**	**338**	IAmb		IAmb		20 15 44.7	
	comp=Z,4.8nm,0.7s								
HYT	**Haines Junctio**	**28.25**	**339**	IAmb		IAmb		20 15 54.0	
	comp=Z,5.3nm,0.7s								
BLA	**Blacksburg**	**29.76**	**76**			P		20 15 50.2	-8.6
SADO	**Sadowa**	**30.44**	**61**	LR		LR		20 29 06.0	
	comp=Z,74nm,20.8s,baz=304,slow=38								
I28M	**Miner Creek**	**32.67**	**343**	IAmb		IAmb		20 16 34.2	
	comp=Z,4.0nm,0.8s								
ILAR	**Eielson Array**	**34.06**	**338**	P		**P**		**20 16 37.9**	**+1.7**
	comp=Z,1.0nm,0.8s,baz=156,slow=7.9,SNR=11								
	comp=Z,1.0nm,0.8s								
G26K	**Porcupine Rive**	**34.81**	**342**	P		**P**		**20 16 44.6**	**+2.0**
BPAW	**Bear Paw Mtn.**	**34.95**	**335**	IAmb		IAmb		20 16 50.8	
	comp=Z,3.5nm,0.9s								
L18K	**Granite Mounta**	**36.05**	**330**	IAmb		IAmb		20 17 00.4	
	comp=Z,4.4nm,1.1s								
J20K	**Nowinta River**	**36.11**	**334**			**P**		**20 16 54.5**	**+0.8**
J20K				IAmb		IAmb		20 17 00.8	
	comp=Z,3.1nm,0.8s								
J19K	**Poorman**	**36.55**	**333**	IAmb		IAmb		20 16 59.8	
	comp=Z,4.1nm,0.7s								
J18K	**Innoko River**	**36.68**	**332**	P		**P**		**20 16 59.2**	**+0.5**
L16K	**Owhat River**	**36.99**	**328**			**P**		**20 17 03.5**	**+2.2**
L16K				IAmb		IAmb		20 17 08.9	
	comp=Z,7.2nm,1.0s								
NB2	**NORSAR Subarra**	**74.98**	**23**	P		**P**		**20 21 33.8**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=314,slow=5.6								
NOA	**NORSAR Array B**	**74.98**	**23**	P		**P**		**20 21 33.7**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=318,slow=5.7,SNR=4.3								
	comp=Z,0.6nm,0.7s								
SONM	**Songino Array**	**88.08**	**332**	P		**P**		**20 22 43.1**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=5.7,slow=2.9,SNR=6.0								
	comp=Z,0.7nm,0.7s								
ZALV	**Zalesovo Beam**	**88.69**	**347**	P		**P**		**20 22 45.3**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=20,slow=4.7,SNR=4.3								
	comp=Z,1.1nm,0.5s								
MKAR	**Makanchi Array**	**96.01**	**346**	P		**P**		**20 23 19.5**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=1.4,slow=5.8,SNR=2.5								
	comp=Z,0.2nm,0.7s								

IDC ***10*** *20:15:26.8±1.1, 0.˚41N×126.˚06E, h0km, mb4.0/7, mbtmp4.0/8, ML3.2/1, Error ellipse: s-maj=100.4km s-min=16.5km az=68.0*

DJA ***10*** *20:15:30.6±1.5, 0.˚N±3.˚×12.˚6E±.˚, h10km±13km, M4.0/13, mb4.0/5, MLv3.9/13*

NEIC ***10*** *20:15:31.6±2.4, 0.˚6N±0.˚1×126.˚37E±0.˚06, h35km±2km, mb4.0/12, Error ellipse: s-maj=17.5km s-min=10.1km az=178.0*

ISC 10 20:15:32.6±0.7, 0.˚54N±0.˚06×126.˚36E±0.˚05, h47km, n37, σ1$31/37, mb4.0/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.03**	**77**			**Pn**	**20 15 50.1**	**-0.6**
TNTI	**Ternate**	**1.03**	**77**	P		**Pn**	**20 15 51.5**	**+0.8**
KMSI	**Cibinong**	**2.38**	**271**	P		**Pn**	**20 16 08.2**	**-0.9**
SANI	**Sanana**	**2.60**	**188**	P		**Pn**	**20 16 11.6**	**-0.6**
SGSI	**Sangihe**	**3.23**	**345**	P		**Pn**	**20 16 22.6**	**+1.7**
NLAI	**Namlea**	**3.83**	**169**	P		**Pn**	**20 16 29.9**	**+0.9**
LUWI	**Luwuk**	**3.92**	**246**	Pn		**Pn**	**20 16 31.6**	**+1.3**
LUWI	**Luwuk**	**3.92**	**246**	P		**Pn**	**20 16 33.5**	**+3.2**
APSI	**Ampana**	**4.93**	**253**	P		**Pn**	**20 16 44.9**	**+0.8**
SWI	**Sorong**	**5.09**	**106**	P		**Pn**	**20 16 47.2**	**+0.8**
	0.1nm14nm,1.3s							
TOLI2	**Tolitoli**	**5.61**	**276**	Pn		**Pn**	**20 16 53.5**	**+0.1**
FAKI	**Fak Fak**	**6.82**	**120**	Pn		**Pn**	**20 17 09.6**	**-0.5**
TTSI	**Tana Toraja**	**7.45**	**241**	P		**Pn**	**20 17 18.7**	**0.0**
BNSI	**Bone**	**7.95**	**232**	P		**Pn**	**20 17 26.0**	**+0.4**
	19nm,1.6s							
SPSI	**Sidrap Palu**	**7.96**	**236**	P		**Pn**	**20 17 25.8**	**0.0**
KSM	**Kuching**	**16.07**	**273**	P		**P**	**20 19 18.1**	**-0.2**
KSM				IAmb		IAmb	20 19 19.5	
	comp=Z,8.4nm,0.6s							
KNRA	**Kununurra**	**16.29**	**172**	Pn		**Pn**	**20 19 17.4**	**-0.8**
KNRA				IAmb		IAmb	20 19 32.5	
	comp=Z,12nm,1.2s							
FITZ	**Fitzroy Crossi**	**18.54**	**182**	P		**P**	**20 19 44.5**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=4.8,slow=12,SNR=2.7							
	comp=Z,3.1nm,0.9s							
WB0	**Warramunga Arr**	**21.66**	**159**			**P**	**20 20 18.4**	**-1.0**
WB0				IAmb		IAmb	20 20 31.0	
	comp=Z,6.6nm,0.9s							
WRAB	**Tennant Creek**	**21.80**	**159**	P		**P**	**20 20 18.0**	**-2.9**
WRAB				IAmb		IAmb	20 20 20.4	
	comp=Z,7.9nm,1.1s							
WRA	**Warramunga Arr**	**21.81**	**159**	P		**P**	**20 20 17.6**	**-3.3**
WRA	**Warramunga Arr**	**21.81**	**159**	P		**P**	**20 20 19.8**	**-1.1**
	comp=Z,3.8nm,0.8s,baz=335,slow=11,SNR=25							
	comp=Z,3.8nm,0.8s							
WR8	**Warramunga Arr**	**21.88**	**159**	P		**P**	**20 20 20.4**	**-1.2**
WR8				IAmb		IAmb	20 20 26.1	
	comp=Z,5.2nm,0.7s							
COEN	**Coen**	**22.02**	**131**	P		**P**	**20 20 23.6**	**+0.3**
AS31	**Alice Springs**	**25.15**	**164**	P		**P**	**20 20 54.4**	**+0.8**
ASAR	**Alice Springs**	**25.15**	**164**	P		**P**	**20 20 54.5**	**+0.9**
ASAR	**Alice Springs**	**25.15**	**164**	P		**P**	**20 20 54.1**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=342,slow=11,SNR=22							
	comp=Z,2.2nm,0.6s							
STKA	**Stephens Creek**	**35.32**	**157**	P		**P**	**20 22 23.1**	**-0.3**
STKA	**Stephens Creek**	**35.32**	**157**	P		**P**	**20 22 22.8**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=330,slow=8.1,SNR=6.0							
	comp=Z,0.7nm,0.3s							
SONM	**Songino Array**	**50.20**	**343**	P		**P**	**20 24 22.8**	**-1.0**
SONM	**Songino Array**	**50.20**	**343**	P		**P**	**20 24 25.5**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=151,slow=6.8,SNR=4.0							
	comp=Z,0.5nm,0.6s							
MKAR	**Makanchi Array**	**59.97**	**326**	P		**P**	**20 25 34.5**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=122,slow=7.9,SNR=29							
	comp=Z,0.8nm,0.3s							
MAKZ	**Makanchi**	**60.15**	**326**	P		**P**	**20 25 34.9**	**-0.6**
KURBB	**Kurchatov Arra**	**64.23**	**328**	P		**P**	**20 26 02.5**	**-0.1**
	comp=Z,3.1nm,0.2s,baz=128,slow=6.0,SNR=5.3							
	comp=Z,3.1nm,0.2s							
AB31	**Akbulak array**	**74.38**	**321**	P		**P**	**20 27 03.9**	**-1.6**
AB31				IAmb		IAmb	20 27 16.8	
	comp=Z,2.2nm,1.3s							
ABKAR	**Akbulak array**	**74.38**	**321**	P		**P**	**20 27 05.1**	**-0.4**
QSPA	**South Pole Qui**	**90.47**	**180**	P		**P**	**20 28 31.3**	**+2.1**
	comp=Z,0.5nm,0.8s,baz=328,slow=4.0,SNR=1.3							
	comp=Z,0.5nm,0.8s							

MOS ***10*** *20:19:14.2±0.9, 38.˚94N×142.˚10E, h51km, mb4.6/16, Error ellipse: s-maj=8.5km s-min=5.3km az=93.0*

NIED ***10*** *20:19:15.6, 38.˚89N×142.˚08E, h45km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.94; $M_{\theta\theta}$-0.11; $M_{\phi\phi}$-0.84; $M_{r\theta}$0.38; $M_{\theta\phi}$-0.43; $M_{\phi r}$0.95; Fault plane solution: $M_0$1.43000×10^{15} NP1: ϕ_s208.00000°, δ22.00000°, λ95.00000°. NP2:ϕ_s23.00000°, δ68.00000°, λ88.00000°.*

JMA ***10*** *20:19:15.6±0.1, 38.˚9N±0.˚3×142.˚1E±0.˚7, h45km±1km, MD4.1/40, MV4.1/40, KINKAZAN REGION*

JMA Felt II J1 at KINKAZAN REGION .

NEIC ***10*** *20:19:15.3±2.1, 38.˚85N±0.˚05×142.˚1E±0.˚1, h40km±6km, mb4.5/33, Error ellipse: s-maj=12.4km s-min=6.1km az=117.0*

IDC ***10*** *20:19:17.8±0.9, 38.˚89N×142.˚03E, h64km±6km, mb3.8/18, mbtmp4.1/23, MS3.0/3, Error ellipse: s-maj=16.1km s-min=12.1km az=97.0*

ISC 10 20:19:14.9±0.6, 38.˚85N±0.˚05×142.˚19E±0.˚05, h44km±4km, n165, σ1$35/166, mb4.3/47, 7C-16D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.47**	**300**	⇓*i*	P	**Pn**	**20 19 25.3**	**-0.1**
OFUJ				⇓	S	**Sn**	**20 19 31.8**	**-1.0**
OFUJ	**Ofunato**	**0.47**	**300**	A		A	20 19 25.3	
	comp=N,8.0nm,1.2s,comp=E,28nm,0.9s							
JKMT	**Kesennumamotoy**	**0.56**	**266**	⇓*i*	P	**Pn**	**20 19 26.3**	**-0.3**
JKMT				⇓	S	**Sn**	**20 19 33.6**	**-1.3**
JKMT	**Kesennumamotoy**	**0.56**	**266**	A		A	20 19 26.3	
	comp=N,7.0nm,0.9s,comp=E,14nm,1.7s							
JMK	**Ichinoseki**	**0.76**	**278**	⇓*i*	P	**Pn**	**20 19 28.9**	**-0.4**
JMK				⇓	S	**Sn**	**20 19 38.4**	**-1.3**
JMK	**Ichinoseki**	**0.76**	**278**	A		A	20 19 28.9	
	comp=N,5.0nm,0.5s,comp=E,10.0nm,0.7s							
JIO	**Ouri**	**0.77**	**239**	⇓*i*	P	**Pn**	**20 19 29.2**	**-0.1**
JIO				⇓	S	**Sn**	**20 19 38.4**	**-1.4**
JIO	**Ouri**	**0.77**	**239**	A		A	20 19 29.2	
	comp=N,13nm,1.3s,comp=E,15nm,0.6s							
MIYJ	**Miyakonagasawa**	**0.78**	**338**	A		A	20 19 29.5	
	comp=N,14nm,1.1s,comp=E,15nm,0.6s							
JOM	**Ohasama**	**0.94**	**312**	⇓*i*	P	**Pn**	**20 19 31.4**	**-0.2**
JOM				⇓	S	**Sn**	**20 19 42.7**	**-1.2**
JOM	**Ohasama**	**0.94**	**312**	A		A	20 19 31.4	
	comp=N,21nm,0.4s,comp=E,19nm,0.4s							
JOFO	**Osakifurukawao**	**1.03**	**257**	A		A	20 19 32.9	
	comp=N,24nm,1.1s,comp=E,27nm,0.5s							
JTH	**Tanohata**	**1.12**	**347**	⇓	P	**Pn**	**20 19 33.9**	**-0.2**
JOU	**Okura**	**1.29**	**248**	⇓*i*	P	**Pn**	**20 19 36.4**	**-0.1**
JOU	**Okura**	**1.29**	**248**	A		A	20 19 36.4	
	comp=N,4.0nm,1.2s,comp=E,5.0nm,2.3s							
JSZI	**Iwateshizukuis**	**1.31**	**313**	A		A	20 19 36.7	
	comp=N,8.0nm,2.4s,comp=E,8.0nm,2.3s							
JRG	**Rokugo**	**1.33**	**295**	⇓*i*	P	**Pn**	**20 19 36.8**	**-0.2**
JRG	**Rokugo**	**1.33**	**295**	A		A	20 19 36.8	
	comp=N,5.0nm,2.9s,comp=E,5.0nm,0.5s							
JKEN	**Kujiedanarisaw**	**1.40**	**345**	A		A	20 19 38.5	
	comp=N,7.0nm,0.6s,comp=E,7.0nm,3.9s							
JYK	**Kaneyama**	**1.43**	**273**	⇓*i*	P	**Pn**	**20 19 38.2**	**-0.2**
JMM	**Marumori**	**1.47**	**229**			**Pn**	**20 19 38.6**	**-0.4**
JMM					Sn	**Sn**	**20 19 56.5**	**-0.6**
JMM	**Marumori**	**1.47**	**229**	P		**Pn**	**20 19 39.1**	**+0.1**
JMM	**Marumori**	**1.47**	**229**	⇓*i*	P	**Pn**	**20 19 38.8**	**-0.2**
JANG	**Nango**	**1.61**	**341**	*i*	P	**Pn**	**20 19 40.9**	**+0.1**
JANG					S	**Sn**	**20 20 00.2**	**-0.1**
JYW	**Yuwa**	**1.69**	**295**	A		A	20 19 42.1	
	comp=N,6.0nm,0.6s,comp=E,8.0nm,1.0s							
JYS	**Shirataka**	**1.78**	**250**	A		A	20 19 43.8	
	comp=N,2.0nm,1.3s							
JYAR	**Yonezawaarcadi**	**1.86**	**240**	A		A	20 19 45.1	
	comp=N,5.0nm,1.2s,comp=E,4.0nm,3.5s							
JNTW	**Noshirotokiwa**	**2.12**	**313**	A		A	20 19 48.3	
	comp=N,7.0nm,3.5s,comp=E,7.0nm,4.1s							
JTM	**Tenmabayashi**	**2.12**	**336**			**Pn**	**20 19 47.6**	**-0.2**
JTM					Sn	**Sn**	**20 20 13.7**	**+0.8**
JTM	**Tenmabayashi**	**2.12**	**336**	P		**Pn**	**20 19 48.9**	**+1.1**
JSI2	**Shiura 2**	**2.59**	**329**	A		A	20 19 55.3	
	comp=N,2.0nm,3.1s,comp=E,3.0nm,2.9s							
JSD	**Sado**	**3.19**	**256**	P		**Pn**	**20 20 02.4**	**-0.1**
ERM	**Erimo**	**3.25**	**13**			**Pn**	**20 20 04.2**	**+0.9**
ERM					Sn	**Sn**	**20 20 40.8**	**+0.1**
ERM	**Erimo**	**3.25**	**13**	P		**Pn**	**20 20 04.7**	**+1.4**
ERM	**Erimo**	**3.25**	**13**	*ce*	P	**Pn**	**20 20 04.3**	**+1.0**
ERM					pmax	pmax		
	comp=Z,34nm,1.0s							
JEM	**Erimo**	**3.25**	**13**	P		**Pn**	**20 20 04.9**	**+1.6**
MJAR	**Matsushiro Arr**	**3.91**	**235**			**Pn**	**20 20 13.3**	**+0.8**
MJAR	**Matsushiro Arr**	**3.91**	**235**	P		**Pn**	**20 20 14.8**	**+2.3**
	comp=Z,22nm,0.6s,baz=45,slow=11,SNR=54							
MAJO	**Matsushiro**	**3.91**	**235**			**Pn**	**20 20 13.0**	**+0.6**
MAJO	**Matsushiro**	**3.91**	**235**	P		**Pn**	**20 20 14.4**	**+1.9**
MAJO	**Matsushiro**	**3.91**	**235**	*i*	P	**Pn**	**20 20 13.8**	**+1.3**
JGF	**Kuroka**	**5.04**	**231**			**Pn**	**20 20 30.0**	**+2.1**
JGF	**Kuroka**	**5.04**	**231**	P		**Pn**	**20 20 31.1**	**+3.1**
NMR	**Nemuro--Hokkai**	**5.25**	**29**	*e*	P	**Pn**	**20 20 30.1**	**-0.6**
NMR				*e*	S	**Sn**	**20 21 25.4**	**-4.5**
JKA	**Kamikawa-asahi**	**5.27**	**3**	Pn		**Pn**	**20 20 31.9**	**+0.9**
ASAJ	**Asahikawa**	**5.27**	**3**	P		**Pn**	**20 20 32.2**	**+1.1**
	comp=Z,4.6nm,0.4s,baz=220,slow=12,SNR=15							
ASAJ					S	**Sn**	**20 21 31.9**	**+1.4**
	comp=Z,30nm,0.9s,baz=168,slow=30,SNR=3.9							
ASAJ					LR	LR	20 23 00.7	
	comp=Z,139nm,20.3s,baz=194,slow=43							
INU	**Inuyama**	**5.41**	**231**			**Pn**	**20 20 33.7**	**+0.6**
INU	**Inuyama**	**5.41**	**231**	P		**Pn**	**20 20 36.7**	**+3.6**
GLVR	**Golovnino**	**5.49**	**26**	*e*	P	**Pn**	**20 20 34.0**	**-0.1**
GLVR				*e*	S	**Sn**	**20 21 33.7**	**-2.1**
GLVR					pmax	pmax		
	comp=Z,23nm,0.2s							
GLVR					pmax	pmax		
	comp=E,18nm,0.1s							
GLVR					smax	smax		
	comp=E,279nm,0.3s							
GLVR					smax	smax		
	comp=N,254nm,0.4s							
RUSJ	**Misakicho**	**5.73**	**23**	*e*	P	**Pn**	**20 20 38.3**	**+1.0**
RUSJ				*e*	S	**Sn**	**20 21 41.3**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**5.87**	**27**	*e*	P	**Pn**	**20 20 39.0**	**-0.2**
YUK				*e*	S	**Sn**	**20 21 40.8**	**-4.4**
YUK					pmax	pmax		
	comp=Z,64nm,0.4s							
YUK					pmax	pmax		
	comp=E,25nm,0.3s							
YUK					pmax	pmax		
	comp=N,16nm,0.2s							
YUK					smax	smax		
	comp=N,148nm,0.4s							
YUK					smax	smax		
	comp=E,173nm,0.4s							
JHJ2	**Mitsune**	**6.04**	**199**	Pn		**Pn**	**20 20 43.5**	**+1.9**
SHO	**Shikotan**	**6.11**	**33**	*e*	P	**Pn**	**20 20 42.9**	**+0.3**
SHO				*e*	S	**Sn**	**20 21 47.0**	**-4.1**
SHO					pmax	pmax		
	comp=Z,10.0nm,0.5s							
SHO					pmax	pmax		
	comp=N,2.0nm,0.2s							
SHO					pmax	pmax		
	comp=E,6.0nm,0.3s							
SHO					smax	smax		
	comp=N,94nm,0.4s							
SHO					smax	smax		
	comp=E,64nm,0.4s							
TEY	**Ternei**	**7.45**	**328**	*e*	P	Pn	20 20 54.6	-6.4
KUR	**Kuril'sk**	**7.65**	**32**	*e*	P	**Pn**	**20 21 04.9**	**+1.2**
KUR				*e*	S	**Sn**	**20 22 26.5**	**-2.4**
YSS	**Yuzhno-Sakhali**	**8.11**	**3**	*e*	P	**Pn**	**20 21 10.7**	**+0.7**
YSS					pmax	pmax		
	comp=Z,10.0nm,0.7s							
YSS					MLR	MLR		
	comp=Z,100nm,18.0s							
JMN	**Monobe**	**8.43**	**235**	Pn		**Pn**	**20 21 14.9**	**+0.4**
VLA	**Vladivostok**	**8.88**	**302**	*i*	P	**Pn**	**20 21 20.0**	**-0.6**
USA0B	**Ussuriysk Arra**	**9.33**	**308**			**Pn**	**20 21 26.9**	**+0.1**
USA0B	**Ussuriysk Arra**	**9.33**	**308**	*i*	P	**Pn**	**20 21 26.2**	**-0.5**
USRK	**Ussuriysk Ar.**	**9.33**	**308**			**Pn**	**20 21 28.4**	**+1.7**
USRK	**Ussuriysk Ar.**	**9.33**	**308**	P		**Pn**	**20 21 27.8**	**+1.1**
	comp=Z,6.5nm,0.6s,baz=99,slow=12,SNR=15							
USRK					LR	LR	20 24 51.9	
	comp=Z,136nm,19.7s,baz=144,slow=36							
USRK	**Ussuriysk Ar.**	**9.33**	**308**	P		**Pn**	**20 21 28.4**	**+1.7**
JNU	**Nakatsue**	**10.80**	**241**	LR		LR	20 26 15.1	
	comp=Z,78nm,21.2s,baz=15,slow=39							
MDJ	**Mudanjiang**	**11.03**	**306**			**Pn**	**20 21 49.8**	**-0.2**
MDJ	**Mudanjiang**	**11.03**	**306**	P		**Pn**	**20 21 54.4**	**+4.4**
MDJ					pmax	pmax		
	comp=Z,16nm,1.0s							
KSRS	**Korea Array**	**11.32**	**267**	P		**Pn**	**20 21 56.2**	**+2.3**
	comp=Z,2.7nm,0.8s,baz=73,slow=14,SNR=5.9							
TYV	**Tymovskoe**	**12.02**	**1**	*e*	P	Pn	20 21 53.2	-10
TYV					pmax	pmax		
	comp=Z,100nm,3.8s							
TYV					pmax	pmax		
	comp=Z,5.0nm,1.2s							
KLR	**Kul'dur**	**12.79**	**328**	P		**Pn**	**20 22 14.3**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=138,slow=13,SNR=4.7							
KLR	**Kul'dur**	**12.79**	**328**	*i*	P	**Pn**	**20 22 13.1**	**-1.0**
KLR					pmax	pmax		
	comp=Z,2.0nm,0.9s							
BNX	**BinXian**	**12.92**	**307**	⇑	P	**Pn**	**20 22 13.9**	**-1.9**
BNX					pmax	pmax		
	comp=Z,6.0nm,0.5s							
ZEA	**Zeya**	**18.06**	**330**	*e*	P	**Pn**	**20 23 20.9**	**-1.4**
ZEA					pmax	pmax		
	comp=N,10.0nm,0.9s							
ZEA					pmax	pmax		
	comp=Z,10.0nm,0.9s							
TIA	**Tai'an**	**20.04**	**270**		P	**P**	**20 23 42.9**	**-1.3**
TIA					pmax	pmax		
	comp=Z,10.0nm,0.8s							
NJ2	**Nanjing**	**20.16**	**257**	*e*	P	**P**	**20 23 45.6**	**+0.2**
NJ2					pmax	pmax		
	comp=Z,9.0nm,0.6s							
MA2	**Magadan**	**21.45**	**12**	P		**P**	**20 23 59.6**	**+0.4**
	comp=Z,6.5nm,0.7s,baz=158,slow=9.2,SNR=3.6							
	comp=Z,6.5nm,0.7s							
HHC	**Hu-ho-hao-te**	**23.54**	**285**	*e*	P	**P**	**20 24 21.7**	**+0.4**
HHC					pmax	pmax		
	comp=Z,10.0nm,0.6s							
HHC					pmax	pmax		
	comp=Z,140nm,4.6s							
YAK	**Yakutsk**	**24.45**	**346**			**P**	**20 24 27.6**	**-1.6**
YAK					IAmb	IAmb	20 24 30.3	
	comp=Z,15nm,0.8s							
YAK	**Yakutsk**	**24.45**	**346**	*e*	P	**P**	**20 24 27.6**	**-1.6**
YAK					pmax	pmax		
	comp=Z,18nm,1.1s							
YAK					pmax	pmax		
	comp=N,2.0nm,0.7s							
YAK					pmax	pmax		
	comp=E,2.0nm,1.7s							
SEY	**Seymchan**	**24.89**	**11**	*i*	P	**P**	**20 24 33.9**	**+0.6**
SEY					pmax	pmax		
	comp=Z,4.0nm,0.9s							
ULN	**Ulaanbaatar**	**26.89**	**301**	*i*	P	**P**	**20 24 51.6**	**-0.2**
ULN					pmax	pmax		
	comp=Z,1.0nm,1.2s							
SONM	**Songino Array**	**27.33**	**301**	P		**P**	**20 24 55.3**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=104,slow=7.3,SNR=5.6							
	comp=Z,1.0nm,0.8s							
ENH	**Enshi**	**28.14**	**262**			**P**		**20 25 01.5**	**-1.5**
ENH					IAmb	IAmb	20 25 07.7	
	comp=Z,12nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**28.61**	**125**	T		T	20 55 29.4	
	baz=317,slow=75,SNR=966							
H11N1	**WAKE ISLAND Hy**	**28.62**	**125**	T		T	20 55 30.0	
	baz=317,slow=75,SNR=747							
H11N3	**WAKE ISLAND Hy**	**28.63**	**125**	T		T	20 55 31.5	
	baz=317,slow=75,SNR=558							
H11S1	**WAKE ISLAND Hy**	**29.39**	**127**	T		T	20 56 31.3	
	baz=318,slow=76,SNR=45							
H11S3	**WAKE ISLAND Hy**	**29.39**	**127**	T		T	20 56 32.1	
	baz=318,slow=76,SNR=61							
H11S2	**WAKE ISLAND Hy**	**29.41**	**127**	T		T	20 56 31.3	
	baz=318,slow=76,SNR=28							
ZAK	**Zakamensk**	**29.67**	**306**	*e*	P	**P**	**20 25 15.5**	**-0.9**
ZAK					pmax	pmax		
	comp=Z,3.0nm,1.1s							
BILL	**Bilibino**	**32.11**	**17**	*i*	P	**P**	**20 25 38.1**	**+0.5**
BILL					pmax	pmax		
	comp=Z,2.0nm,1.2s							
GYA	**Guiyang**	**32.16**	**258**	P		**P**	**20 25 37.5**	**-1.1**
GYA					pmax	pmax		
	comp=Z,9.0nm,1.0s							
GTA	**Gaotai**	**32.66**	**285**	*e*	P	**P**	**20 25 43.7**	**+0.8**
GTA					pmax	pmax		
	comp=Z,5.0nm,1.0s							
WMQ	**Urumqi**	**40.60**	**295**	*e*	P	**P**	**20 26 51.7**	**+1.4**
WMQ					LR	LR		
	comp=Z,100nm,24.1s							
ZAA0	**Zalesovo Array**	**41.17**	**311**	P		**P**	**20 26 53.9**	**-0.9**
ZAA0					IAmb	IAmb	20 26 55.3	
	comp=Z,4.6nm,0.8s							
ZAA0					PcP	**PcP**	**20 28 52.4**	**-0.8**
ZALV	**Zalesovo Beam**	**41.17**	**311**	P		**P**	**20 26 54.2**	**-0.6**
ZALV					PcP	**PcP**	**20 28 53.4**	**+0.1**
ZALV	**Zalesovo Beam**	**41.17**	**311**	P		**P**	**20 26 54.7**	**-0.1**
	comp=Z,3.0nm,0.5s,baz=79,slow=7.7,SNR=14							
ZALV					pP	**sP**	**20 27 11.1**	**-0.8**
	comp=Z,3.0nm,0.5s,baz=88,slow=8.1,SNR=7.1							
ZALV					PcP	**PcP**	**20 28 53.1**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=94,slow=4.3,SNR=3.0							
	comp=Z,3.0nm,0.5s							
G16K	**Koyuk River**	**41.17**	**32**	P		**P**	**20 26 54.0**	**-0.6**
O15K	**Ungalikthiuk R**	**41.52**	**41**	P		**P**	**20 26 56.7**	**-0.9**
O15K				IAmb		IAmb	20 27 30.2	
	comp=Z,4.3nm,1.1s							
NRIK	**Noril'sk**	**41.89**	**334**	*i*	P	**P**	**20 26 59.3**	**-1.1**
NRIK					pmax	pmax		
	comp=Z,2.0nm,0.9s							
CHTO	**Chiang Mai**	**42.35**	**254**	P		**P**	**20 27 03.5**	**-1.3**
CHTO	**Chiang Mai**	**42.35**	**254**	P		**P**	**20 27 03

WR0	**Warramunga Arr**	**58.94**	**188**	P	**P**	**20 29 09.8**	**+0.1**
WRA	**Warramunga Arr**	**58.94**	**189**	P	**P**	**20 29 09.4**	**-0.3**
WRA	**Warramunga Arr**	**58.94**	**189**	P	**P**	**20 29 09.8**	**0.0**
	comp=Z,1.6nm,0.5s,baz=6.3,slow=7.0,SNR=25						
	comp=Z,1.6nm,0.5s						
ARCES	**ARCESS Array B**	**62.52**	**339**	P	**P**	**20 29 33.0**	**-0.5**
ARCES				IAmb	IAmb	20 29 34.5	
	comp=Z,8.0nm,1.4s						
ARCES	**ARCESS Array B**	**62.52**	**339**	P	**P**	**20 29 33.2**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=57,slow=8.8,SNR=6.7						
	comp=Z,0.6nm,0.5s						
ASAR	**Alice Springs**	**62.67**	**189**	P	**P**	**20 29 34.8**	**-0.3**
ASAR	**Alice Springs**	**62.67**	**189**	P	**P**	**20 29 35.1**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=10,slow=8.5,SNR=10						
	comp=Z,1.1nm,0.7s						
OBN	**Obninsk**	**67.01**	**323**	*eP*	**P**	**20 30 03.0**	**+0.1**
OBN				*e*		20 32 32.9	
OBN				*e*S	**PnS**	**20 39 22.8**	**+3.8**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,38nm,16.0s						
FIA1	**FINESS Array S**	**67.50**	**332**	P	**P**	**20 30 05.2**	**-0.7**
FINES	**FINESS Array B**	**67.50**	**332**	P	**P**	**20 30 05.7**	**-0.2**
FINES	**FINESS Array B**	**67.50**	**332**	P	**P**	**20 30 05.6**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=34,slow=10,SNR=12						
	comp=Z,3.1nm,0.7s						
KIV	**Kislovodsk**	**70.19**	**311**	P	**P**	**20 30 23.3**	**+0.2**
KBZ	**Khabaz**	**70.19**	**310**	P	**P**	**20 30 23.6**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=105,slow=3.9,SNR=5.9						
	comp=Z,2.3nm,0.7s						
HFS	**Hagfors**	**72.69**	**336**	P	**P**	**20 30 38.0**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=23,slow=8.0,SNR=5.2						
	comp=Z,1.5nm,0.7s						
NB2	**NORSAR Subarra**	**72.75**	**337**	P	**P**	**20 30 37.8**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**72.75**	**337**	P	**P**	**20 30 38.0**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=38,slow=5.9,SNR=6.8						
	comp=Z,1.3nm,0.9s						
NOA	**NORSAR Array B**	**72.75**	**337**	P	**P**	**20 30 38.0**	**-0.2**
AKASG	**Malin Array Be**	**73.24**	**322**	P	**P**	**20 30 40.8**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=46,slow=6.4,SNR=8.8						
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**73.24**	**322**	*i* P	**P**	**20 30 41.0**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARPR	**Arapgir-MALATY**	**75.71**	**309**	P	**P**	**20 30 56.0**	**0.0**
ARPR				IAmb	IAmb	20 30 58.6	
	comp=Z,9.8nm,1.1s						
PDAR	**Pinedale Array**	**75.96**	**46**	P	**P**	**20 30 59.8**	**+2.4**
	comp=Z,0.3nm,0.4s,baz=310,slow=9.1,SNR=1.7						
PDAR				pP	**sP**	**20 31 15.8**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=309,slow=3.8,SNR=3.5						
	comp=Z,0.3nm,0.4s						
BRTR	**Keskin Array B**	**78.11**	**312**	P	**P**	**20 31 09.6**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=95,slow=3.2,SNR=7.0						
	comp=Z,0.7nm,0.4s						
CLL	**Collm**	**79.83**	**330**	*i* P	**P**	**20 31 18.4**	**0.0**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CLL	**Collm**	**79.83**	**330**	*i* P	**P**	**20 31 18.4**	**0.0**
	comp=Z,3.0nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**84.66**	**329**	P	**P**	**20 31 44.4**	**+0.2**
FUORN				IAmb	IAmb	20 31 45.5	
	comp=Z,4.5nm,0.8s						
TXAR	**Lajitas Array**	**88.53**	**53**	P	**P**	**20 32 04.7**	**+1.5**
	comp=Z,0.2nm,0.8s,baz=325,slow=5.9,SNR=1.5						
	comp=Z,0.2nm,0.8s						
QSPA	**South Pole Qui**	**128.59**	**180**	PKP	**PKiKP**	**20 38 16.7**	**0.0**
	comp=Z,0.9nm,1.1s,baz=89,slow=1.6,SNR=1.5						

IDC ***10*** *20:29:55.9±0.7,0.°28N×125.°97E,h0km,mb4.2/13, mbtmp4.2/14,ML3.6/1,MS3.1/2,Error ellipse: s-maj=46.9km s-min=13.6km az=74.0*

DJA ***10*** *20:29:59.9±0.2,0.°1N±3.°3×12.°6E±.°,h10km,M4.2/21,mb4.4/8, MLv4.0/21*

NEIC ***10*** *20:30:00.9±1.7,0.°37N±0.°07×126.°32E±0.°06,h35km±2km, mb4.4/24,Error ellipse: s-maj=11.5km s-min=9.3km az=158.0*

ISC 10 20:30:01.9±0.4,**0.°35N**±0.°05×**126.°32E**±0.°06,**h47**km,**n73,** σ1**s23**/72,**mb4.3/24,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.12**	**68**		**Pn**	**20 30 19.3**	**-2.0**
TNTI	**Ternate**	**1.12**	**68**	P	**Pn**	**20 30 19.4**	**-1.9**
KMSI	**Cibinong**	**2.35**	**275**	P	**Pn**	**20 30 38.2**	**+0.1**
SANI	**Sanana**	**2.41**	**188**	P	**Pn**	**20 30 38.3**	**-0.6**
SGSI	**Sangihe**	**3.40**	**347**	P	**Pn**	**20 30 51.8**	**-0.8**
NLAI	**Namlea**	**3.65**	**168**	P	**Pn**	**20 30 57.6**	**+1.6**
LUWI	**Luwuk**	**3.81**	**249**		**Pn**	**20 30 57.1**	**-1.0**
LUWI	**Luwuk**	**3.81**	**249**	P	**Pn**	**20 31 00.4**	**+2.2**
MRSI	**Marisa**	**4.38**	**272**	P	**Pn**	**20 31 07.5**	**+1.5**
MSAI	**Masohi**	**4.50**	**145**	P	**Pn**	**20 31 09.4**	**+1.7**
APSI	**Ampana**	**4.84**	**255**	P	**Pn**	**20 31 13.5**	**+1.2**
SWI	**Sorong**	**5.08**	**104**	P	**Pn**	**20 31 16.7**	**+1.1**
	0.1nm23nm,0.8s						
TOLI2	**Toliloli**	**5.59**	**278**		**Pn**	**20 31 21.2**	**-1.5**
KDI	**Kendari**	**5.66**	**221**	P	**Pn**	**20 31 23.8**	**+0.2**
MPSI	**Mapaga**	**6.42**	**270**	P	**Pn**	**20 31 35.3**	**+1.2**
	0.1nm8.3nm,1.1s						
PCI	**Palu**	**6.61**	**259**	P	**Pn**	**20 31 38.2**	**+1.6**
	0.1nm38nm,1.0s						
FAKI	**Fak Fak**	**6.76**	**119**	Pn	**Pn**	**20 31 36.5**	**-2.2**
BBSI	**Bau Bau**	**6.91**	**213**	P	**Pn**	**20 31 43.4**	**+2.7**
	0.1nm51nm,0.9s						
TTSI	**Tana Toraja**	**7.33**	**243**	P	**Pn**	**20 31 47.8**	**+1.4**
	37nm,0.6s						
BNSI	**Bone**	**7.80**	**233**	P	**Pn**	**20 31 54.6**	**+1.6**
SPSI	**Sidrap Palu**	**7.83**	**237**	P	**Pn**	**20 31 55.2**	**+1.9**
KAPI	**Kappang**	**8.46**	**231**		**Pn**	**20 32 00.3**	**-1.7**
KKM	**Kota Kinabalu**	**11.56**	**299**	Pn	**Pn**	**20 32 43.7**	**-0.9**
MTN	**Manton Dam**	**13.95**	**160**	Pn	**Pn**	**20 33 16.6**	**-0.5**
SBUM	**Sibu**	**14.25**	**279**		**P**	**20 33 26.4**	**-0.9**
JAGI	**Jajag, Banyuwa**	**14.96**	**234**	Pn	**Pn**	**20 33 29.1**	**-1.5**
KSM	**Kuching**	**16.05**	**274**		**P**	**20 33 46.5**	**-0.8**
KNRA	**Kununurra**	**16.11**	**172**	Pn	**Pn**	**20 33 44.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**18.35**	**182**	P	**P**	**20 34 11.0**	**-1.7**
FITZ	**Fitzroy Crossi**	**18.35**	**182**	P	**P**	**20 34 11.8**	**-0.9**
	0.1nm,0.3s,baz=22,slow=10,SNR=1.4						
	1.2nm,0.7s						
WB0	**Warramunga Arr**	**21.50**	**159**		**P**	**20 34 46.7**	**-0.4**
WB0				IAmb	IAmb	20 34 56.0	
	comp=Z,13nm,1.1s						
WRAB	**Tennant Creek**	**21.64**	**159**	P	**P**	**20 34 47.5**	**-1.0**
WRAB				IAmb	IAmb	20 34 53.9	
	comp=Z,21nm,1.4s						
WRA	**Warramunga Arr**	**21.65**	**159**	P	**P**	**20 34 48.7**	**+0.1**
	comp=Z,6.0nm,0.5s,baz=337,slow=11,SNR=93						
	comp=Z,6.0nm,0.5s						
WR8	**Warramunga Arr**	**21.72**	**159**		**P**	**20 34 48.2**	**-1.1**
WR8				IAmb	IAmb	20 34 51.1	
	comp=Z,9.6nm,0.6s						
COEN	**Coen**	**21.93**	**131**	P	**P**	**20 34 50.0**	**-1.6**
MBWA	**Marble Bar**	**22.33**	**196**	P	**P**	**20 34 54.5**	**-1.4**
MBWA				IAmb	IAmb	20 35 10.9	
	comp=Z,13nm,1.1s						
GUMO	**Guam**	**22.59**	**54**	LR	LR	20 43 15.8	
	comp=Z,34nm,20.5s,baz=288,slow=35						
AS31	**Alice Springs**	**24.99**	**163**		**P**	**20 35 21.8**	**+0.3**
ASAR	**Alice Springs**	**24.99**	**163**		**P**	**20 35 21.8**	**+0.3**
ASAR	**Alice Springs**	**24.99**	**163**	P	**P**	**20 35 22.2**	**+0.7**
	comp=Z,5.5nm,0.6s,baz=352,slow=17,SNR=62						
ASAR				PcP	**PcP**	**20 38 55.4**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=347,slow=2.4,SNR=1.5						
ASAR				LR	LR	20 45 13.4	
	comp=Z,69nm,18.1s,baz=294,slow=37						
	comp=Z,5.5nm,0.6s						
FORT	**Forrest**	**31.00**	**177**	P	**P**	**20 36 14.8**	**-0.3**
PZH	**PanZhiHua**	**35.16**	**320**	P	**P**	**20 36 54.3**	**+2.7**
STKA	**Stephens Creek**	**35.17**	**157**	P	**P**	**20 36 52.5**	**+1.0**
STKA	**Stephens Creek**	**35.17**	**157**	P	**P**	**20 36 52.3**	**+0.9**
	comp=Z,8.6nm,0.9s,baz=330,slow=9.8,SNR=5.8						
	comp=Z,8.6nm,0.9s						
HHC	**Hu-ho-hao-te**	**42.48**	**343**	*e*P	P	20 37 57.7	+5.0
HHC				pmax	pmax		
	comp=Z,34nm,0.5s						
HHC				pmax	pmax		
	comp=Z,86nm,4.6s						
SONM	**Songino Array**	**50.36**	**343**	P	**P**	**20 38 55.2**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=160,slow=7.4,SNR=4.2						
	comp=Z,0.7nm,0.7s						
PEA0B	**Petropavlovsk-**	**58.69**	**22**	P	**P**	**20 39 55.7**	**+1.0**
PETK	**Petropavlovsk-**	**58.69**	**22**	P	**P**	**20 39 55.7**	**+1.1**
PETK	**Petropavlovsk-**	**58.69**	**22**	P	**P**	**20 39 56.1**	**+1.5**
	comp=Z,2.1nm,0.5s,baz=193,slow=5.7,SNR=8.1						
	comp=Z,2.1nm,0.5s						
MKAR	**Makanchi Array**	**60.10**	**327**		**P**	**20 40 02.9**	**-1.6**
MKAR	**Makanchi Array**	**60.10**	**327**	P	**P**	**20 40 04.1**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=122,slow=8.1,SNR=26						
	comp=Z,1.1nm,0.5s						
ARSB	**Arslanbob**	**63.02**	**317**	P	**P**	**20 40 23.3**	**-1.2**
ZALV	**Zalesovo Beam**	**63.41**	**334**	P	**P**	**20 40 26.4**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=120,slow=8.5,SNR=2.5						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**64.36**	**328**	P	**P**	**20 40 32.7**	**-0.2**
	comp=Z,0.8nm,0.2s,baz=126,slow=6.2,SNR=4.8						
	comp=Z,0.8nm,0.2s						
KURK	**Kurchatov**	**64.37**	**329**	P	**P**	**20 40 31.8**	**-1.2**
KURK				IAmb	IAmb	20 40 39.1	
	comp=Z,3.1nm,0.7s						
KK31	**Karatay Array**	**65.44**	**318**	P	**P**	**20 40 39.6**	**-0.5**
KK31				IAmb	IAmb	20 40 43.1	
	comp=Z,2.5nm,1.0s						
KKAR	**Karatay Array**	**65.44**	**318**	P	**P**	**20 40 39.3**	**-0.8**
NRIK	**Noril'sk**	**73.59**	**347**	P	**P**	**20 41 29.7**	**-0.2**
NRIK				IAmb	IAmb	20 41 32.9	
	comp=Z,2.9nm,0.7s						
NRIK	**Noril'sk**	**73.59**	**347**	P	**P**	**20 41 32.0**	**+2.1**
	comp=Z,2.4nm,0.4s,baz=111,slow=4.9,SNR=2.3						
	comp=Z,2.4nm,0.4s						
AB31	**Akbulak array**	**74.51**	**321**		**P**	**20 41 35.2**	**-0.4**
ABKAR	**Akbulak array**	**74.51**	**321**	P	**P**	**20 41 35.4**	**-0.2**
AKTO	**Aktyubinsk**	**76.05**	**322**	P	**P**	**20 41 44.3**	**-0.1**
	comp=Z,3.6nm,1.0s,baz=110,slow=5.5,SNR=7.9						
	comp=Z,3.6nm,1.0s						
VNDA	**Vanda**	**80.15**	**173**	P	**P**	**20 42 08.0**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=310,slow=5.2,SNR=5.3						
	comp=Z,1.2nm,0.9s						
SDPT	**Sand Point**	**80.21**	**34**	P	**P**	**20 42 08.3**	**+0.9**
MAW	**Mawson**	**80.47**	**200**	P	**P**	**20 42 07.8**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=54,slow=7.6,SNR=5.1						
	comp=Z,1.9nm,0.8s						
CNBA	**Chernabura Isl**	**80.58**	**34**	P	**P**	**20 42 10.1**	**+0.7**
M14K	**Bethel**	**80.83**	**28**	P	**P**	**20 42 10.2**	**-0.3**
M14K				IAmb	IAmb	20 42 13.3	
	comp=Z,3.5nm,0.9s						
RAYN	**Ar Rayn**	**81.44**	**294**	P	**P**	**20 42 14.3**	**-0.4**
RAYN				IAmb	IAmb	20 42 59.0	
	comp=Z,5.2nm,1.1s						
K15K	**Wolf Creek Mou**	**81.45**	**27**	P	**P**	**20 42 14.3**	**+0.4**
H17K	**Granite Mounta**	**82.84**	**24**	P	**P**	**20 42 22.5**	**+1.3**
H17K				IAmb	IAmb	20 42 27.0	
	comp=Z,2.6nm,0.8s						
D19K	**Kuna River**	**84.40**	**21**	P	**P**	**20 42 30.0**	**+0.9**
D19K				IAmb	IAmb	20 42 51.6	
	comp=Z,4.0nm,1.1s						
IMAR	**Indian Mountai**	**85.57**	**24**	P	**P**	**20 42 36.0**	**+1.0**
QSPA	**South Pole Qui**	**90.28**	**180**	P	**P**	**20 42 58.0**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=277,slow=3.4,SNR=4.0						
	comp=Z,1.4nm,0.9s						

SDD 10 20:33:28.4±1.0,**18.°44N×70.°06W,h22**km±12km,**MD1.9, ML1.9,MW2.3,2C-4D,Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDD	**Santo Domingo**	**0.14**	**81**	*i* P	Pb	20 33 32.6	-0.5
SDD	**Santo Domingo**	**0.14**	**81**	*e*Pg	Pb	20 33 40.2	+7.1
SDD				IAML		20 34 00.8	
	comp=N,45nm,2.0s						
BANI	**BANI**	**0.29**	**261**	*i* P	Pb	20 33 34.4	-0.7
BANI				*i* P	Pn	20 33 34.4	-2.9
BANI				⇓*e*Sg	Sb	20 33 39.4	-0.4
BANI				⇑*e*Sg	Sn	20 33 39.5	-3.6
BANI	**BANI**	**0.29**	**261**	*e*P	Pn	20 33 37.3	-0.1
BANI				⇓*e*	P	20 33 37.3	+2.2
BANI				⇓*e*P	P	20 33 37.3	+2.2
BANI				*e*S	Sb	20 33 40.4	+0.7
BANI				*e*S	Sn	20 33 40.6	-2.5
BANI				IAML		20 33 40.7	
	comp=E,171nm,0.7s						
BANI				IAML		20 33 41.1	
	comp=N,454nm,0.1s						
BANI				IAML		20 33 41.2	
	comp=N,44nm,0.1s						
BAN1	**Bani Escuela**	**0.30**	**239**	*i* P	Pb	20 33 34.3	-0.9
ABDR	**Alto Bandera**	**0.66**	**305**	*i* P	Pb	20 33 41.2	-0.2
ABDR	**Alto Bandera**	**0.66**	**305**	⇑*e*Pg	Pb	20 33 41.9	+0.5
ABDR				*e*Sg	Sb	20 33 48.6	-1.7
ABDR				IAML		20 33 49.0	
	comp=E,30nm,0.3s						
ABDR				IAML		20 33 55.1	
	comp=N,34nm,1.2s						
SDDR	**Presa de Saban**	**1.28**	**295**	*e*Pg	Pb	20 33 53.5	+1.6
SDDR				⇓*e*Sg	Sb	20 34 10.1	+2.0
SDDR				IAML		20 34 27.6	
	comp=N,15nm,2.5s						
REDR	**Restauracion**	**1.46**	**300**	*e*Pg	Pb	20 34 01.6	+6.7
REDR				*e*Sg	Sb	20 34 22.1	+9.1

IDC ***10*** *20:33:49.0±28.0,24.°44S×179.°45W,h314km±249km, mb3.4/6,mbtmp4.1/6,Error ellipse: s-maj=139.5km s-min=29.0km az=50.0*

ISC 10 20:34:09.2±1.3,**25.°0S**±0.°3×**179.°9E**±0.°2,**h501**km,**n11,** σ0**s96**/11,**mb3.7/6,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.24**	**250**	P	**P**	**20 40 12.5**	**-0.1**
	1.1nm,0.4s,baz=104,slow=14,SNR=4.8						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**41.76**	**262**	P	**P**	**20 41 14.0**	**-0.3**
	1.3nm,0.5s,baz=92,slow=7.3,SNR=40						
ASAR				PcP	**PcP**	**20 42 59.3**	**+0.2**
	0.4nm,0.8s,baz=83,slow=3.4,SNR=2.0						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**42.23**	**267**	P	**P**	**20 41 17.3**	**-0.7**
	3.6nm,0.5s,baz=100,slow=6.9,SNR=70						
	3.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**50.64**	**267**	P	**P**	**20 42 21.7**	**-0.1**
	3.4nm,0.7s,baz=115,slow=7.5,SNR=12						
	3.4nm,0.7s						
QSPA	**South Pole Qui**	**65.13**	**180**	P	**P**	**20 44 00.1**	**+0.3**
	0.8nm,0.7s,baz=38,slow=4.9,SNR=6.6						
	0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.78**	**290**	P	**P**	**20 46 16.3**	**+2.0**
	0.4nm,0.5s,baz=121,slow=3.9,SNR=2.8						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**112.78**	**312**	PKiKP	**PKiKP**	**20 51 48.5**	**0.0**
	0.1nm,0.5s,baz=113,slow=1.1,SNR=1.7						
ARCES	**ARCESS Array B**	**132.89**	**348**	PKP	**PKPdf**	**20 52 24.8**	**-1.4**
	1.8nm,1.0s,baz=60,slow=2.2,SNR=4.1						
HFS	**Hagfors**	**143.55**	**348**	PKP	PKPbc	20 52 43.8	-0.7
	2.2nm,0.6s,baz=72,slow=4.8,SNR=11						
MMAI	**Mount Meron Ar**	**148.02**	**293**	PKPbc	**PKiKP**	**20 52 59.0**	**-0.7**
	0.9nm,0.4s,baz=75,slow=6.4,SNR=5.6						
BRTR	**Keskin Array B**	**148.11**	**306**	PKPbc	**PKPbc**	**20 52 58.1**	**-0.3**
	2.2nm,0.8s,baz=127,slow=3.9,SNR=10.0						

ISN ***10*** *20:40:24.6±0.3,31.°74N×49.°37E,h12km±102km,ML3.2*

IDC ***10*** *20:40:25.5±1.3,31.°84N×49.°50E,h0km,mb3.7/9, mbtmp3.8/11,ML3.6/2,Error ellipse: s-maj=27.4km s-min=20.8km az=14.0*

NEIC ***10*** *20:40:27.3±0.9,31.°76N±0.°09×49.°19E±0.°09,h10km±2km, mb4.2/8,Error ellipse: s-maj=15.0km s-min=12.4km az=195.0*

TEH ***10*** *20:40:27.2,31.°83N×49.°54E,h9km±26km*

ISC 10 20:40:27.8±1.3,**31.°82N**±0.°04×**49.°48E**±0.°03,**h14**km±10km, **n60,**σ1**s81**/67,**mb3.8/8,Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.87**	**236**	Pg	**Pn**	**20 40 45.9**	**+0.4**
AHWZ				Sg	**Sb**	**20 40 57.9**	**+1.9**
JHBN	**Jahan bin**	**1.09**	**68**	Pg	**Pn**	**20 40 48.1**	**-0.8**
JHBN				Sg	**Sn**	**20 41 03.9**	**0.0**
ZNGN	**Zangian**	**1.21**	**76**	Pg	**Pn**	**20 40 50.0**	**-0.5**
ZNGN				Sg	**Sn**	**20 41 07.1**	**+0.3**
ABEH	**Behbahan**	**1.39**	**151**	Pg	**Pg**	**20 40 54.6**	**+0.1**
ABEH				Sg	**Sg**	**20 41 14.8**	**+2.2**
IPIR	**Pirpir**	**1.47**	**54**	Pg	**Pg**	**20 40 55.9**	**-0.2**
IBRJ	**Brojen**	**1.52**	**86**	Pg	**Pg**	**20 40 56.0**	**-1.0**
KLNJ	**Kolanjah**	**1.98**	**114**	Pn	**Pb**	**20 41 03.1**	**-0.7**
IKFM	**Kafar-mosalman**	**2.19**	**321**	Pn	**Pb**	**20 41 06.8**	**-0.3**
IDOB	**Doab**	**2.25**	**331**	Pn	**Pb**	**20 41 07.7**	**-0.6**
IGAR	**Gharneh**	**2.25**	**74**	Pn	**Pb**	**20 41 07.1**	**-1.2**
IKLH	**Kolahrood**	**2.32**	**49**	Pn	**Pb**	**20 41 08.3**	**-1.2**
IRAM	**Ramesheh**	**2.47**	**90**	Pn	**Pb**	**20 41 09.5**	**-2.6**
IZEF	**Zefreh**	**2.64**	**65**	Pn	**Pb**	**20 41 12.7**	**-2.3**
RAFI	**Al-Rafai**	**2.87**	**269**	*e*Pn	**Pn**	**20 41 12.5**	**-0.6**
RAFI				*e*Sn	**Sn**	**20 41 47.3**	**-0.1**
RAFI				AML	AML	20 42 06.1	
	comp=N,150nm,0.5s						
RAFI				AML	AML	20 42 12.8	
	comp=E,189nm,0.7s						
IBZA	**Bozab**	**2.97**	**333**	Pn	**Pn**	**20 41 17.6**	**+2.8**
HAGD	**Aghdareh**	**3.00**	**355**	Pn	**Pb**	**20 41 18.5**	**-2.8**
IBDR	**Badra**	**3.26**	**294**	*e*Pn	**Pn**	**20 41 18.5**	**0.0**
IBDR				*e*Sn	**Sn**	**20 41 57.7**	**+0.5**
IBDR				AML	AML	20 42 20.1	
	comp=E,102nm,0.5s						
IBDR				AML	AML	20 42 36.0	
	comp=N,93nm,0.8s						
IQOM	**Qom**	**3.29**	**23**	Pn	**Pb**	**20 41 22.2**	**-4.0**
ISFB	**Sefidab**	**3.42**	**42**	Pn	**Pn**	**20 41 23.6**	**+2.7**
ISAD	**Sadrabad**	**3.58**	**87**	Pn	**Pn**	**20 41 25.5**	**+2.3**
IVRN	**Varamin**	**3.68**	**30**	Pn	**Pn**	**20 41 27.2**	**+2.9**
DSBU	**Dashti - Bushe**	**3.78**	**155**	Pn	**Pn**	**20 41 27.8**	**+2.1**
ANAR	**Anarak**	**3.84**	**68**	Pn	**Pn**	**20 41 29.3**	**+2.7**
IDHR	**Dehrash**	**3.87**	**319**	Pn	**Pn**	**20 41 29.9**	**+2.9**
QABG	**Abgarm-Qazvin**	**3.88**	**1**	Pn	**Pn**	**20 41 30.2**	**+3.0**
ICHK	**Chekchek**	**4.21**	**83**	Pn	**Pn**	**20 41 33.6**	**+1.9**
KGS1	**Ghasr-e-Shirin**	**4.22**	**310**	Pn	**Pn**	**20 41 35.4**	**+3.7**
IDMV	**Damavand**	**4.31**	**29**	Pn	**Pn**	**20 41 35.9**	**+2.7**
IMEH	**Mehriz**	**4.40**	**94**	Pn	**Pn**	**20 41 36.1**	**+1.7**
BHD	**Baghdad**	**4.54**	**290**	*e*Pn	**Pn**	**20 41 35.8**	**-0.3**
BHD				*e*Sn	**Sn**	**20 42 28.0**	**-0.7**
KLST	**Kelardasht - M**	**4.86**	**15**	Pn	**Pn**	**20 41 43.3**	**+2.5**
MZPU	**Pul - Mazandar**	**4.92**	**20**	Pn	**Pn**	**20 41 44.6**	**+3.1**
IPRN	**Peran**	**5.01**	**28**	Pn	**Pn**	**20 41 45.6**	**+3.0**
IKIA	**Kiasar**	**5.59**	**37**	Pn	**Pn**	**20 41 53.3**	**+2.5**
GEVA	**Gevas**	**8.34**	**323**	Pn	**Pn**	**20 42 28.0**	**-0.4**
RAYN	**Ar Rayn**	**8.99**	**204**	Pn	**Pn**	**20 42 34.8**	**-2.5**
GURO	**Guroymak-BITLI**	**9.06**	**320**	Pn	**Pn**	**20 42 35.8**	**-2.5**
ASF	**Jabal al Asfar**	**10.69**	**275**	Pn	**Pn**	**20 42 59.6**	**-1.0**
	comp=N,0.4nm,0.3s,baz=141,slow=6.4,SNR=2.4						
ASF				Sn	Sn	20 44 49.5	-11
	comp=N,0.2nm,0.3s,baz=215,slow=16,SNR=1.4						
	comp=N,0.9nm,0.3s						
WSAR	**Wadi Sarin**	**11.79**	**134**	Pn	**Pn**	**20 43 15.6**	**+0.1**
	baz=343,slow=19,SNR=1.1						
WSAR				Sn	Sn	20 45 17.5	-9.4
	baz=169,slow=24,SNR=1.9						
GAR	**Garm**	**18.41**	**61**	P	**P**	**20 44 45.2**	**+2.6**
GAR				IAmb	IAmb	20 44 46.5	
	comp=Z,8.6nm,0.9s						
AB31	**Akbulak array**	**19.11**	**21**	P	**Pn**	**20 44 52.0**	**+1.0**
ABKAR	**Akbulak array**	**19.11**	**21**	P	**Pn**	**20 44 51.5**	**+0.6**
AKTO	**Aktyubinsk**	**19.65**	**16**	P	**P**	**20 44 55.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=230,slow=6.5,SNR=6.0						
	comp=Z,0.8nm,0.4s						
KKAR	**Karatay Array**	**20.08**	**50**	P	**P**	**20 45 00.9**	**+0.1**
BELG	**Belogornoye**	**20.60**	**357**	P	**P**	**20 45 06.6**	**+0.3**
	comp=Z,8.5nm,0.8s,baz=260,slow=7.6,SNR=3.8						
	comp=Z,8.5nm,0.8s						
IDI	**Anoyia**	**20.77**	**286**	P	**P**	**20 45 06.3**	**-2.1**
IDI				IAmb	IAmb	20 45 11.4	
	comp=Z,10nm,1.3s						
IDI	**Anoyia**	**20.77**	**286**	P	**P**	**20 45 09.9**	**+1.5**
	comp=Z,2.8nm,0.7s,baz=58,slow=15,SNR=2.8						
	comp=Z,2.8nm,0.7s						
ARSB	**Arslanbob**	**21.07**	**57**	P	**P**	**20 45 12.1**	**+0.4**
MKAR	**Makanchi Array**	**29.21**	**50**	P	**P**	**20 46 29.9**	**+0.9**
MKAR	**Makanchi Array**	**29.21**	**50**	P	**P**	**20 46 29.5**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=239,slow=8.3,SNR=4.6						
	comp=Z,0.3nm,0.6s						
FIA1	**FINESS Array S**	**33.32**	**340**	P	**P**	**20 47 04.4**	**-0.5**
FINES	**FINESS Array B**	**33.32**	**340**	P	**P**	**20 47 04.6**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=147,slow=9.5,SNR=18						
	comp=Z,0.7nm,0.4s						
HFS	**Hagfors**	**36.88**	**331**	P	**P

IDC 10 21:00:11.0±2.1,3°55N×127°57E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=152.2km s-min=25.8km az=67.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.28**	**164**	P	P	21 05 30.1	0.0
	0.5nm,0.8s,baz=344,slow=10,SNR=8.7						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**27.75**	**167**	P	P	21 06 01.6	0.0
	0.2nm,0.6s,baz=353,slow=9.0,SNR=1.5						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**58.18**	**325**	P	P	21 10 06.8	-0.1
	0.3nm,0.5s,baz=114,slow=8.4,SNR=8.7						
	0.3nm,0.5s						

*AEIC **10** 21:07:04.3±1.4,54°.35N±0°.06×164°.63W±0°.05, h100km±4km,Error ellipse: s-maj=9.3km s-min=4.3km az=177.0*

NEIC 10 21:07:04.7±1.4,54°.38N±0°.09×164°.64W±0°.10, h108km±4km,ML3.2/20,ML3.1(AEIC),Error ellipse: s-maj=14.1km s-min=5.7km az=151.0,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.09**	**20**		Pn	21 07 19.1	-0.6
WESE					Sn	21 07 30.3	-0.6
WECS	**Westdahl Cape**	**0.17**	**331**		Pn	21 07 19.2	-0.5
WECS					Sn	21 07 31.2	0.0
WEBT	**Westdahl Beart**	**0.22**	**342**		Pn	21 07 18.9	-1.0
WEBT					Sn	21 07 31.0	-0.3
SSBA	**Shishaldin**	**0.49**	**37**		Pn	21 07 20.6	-0.7
SSBA					Sn	21 07 33.3	-0.5
SSLS	**Shishaldin Sou**	**0.50**	**48**		Pn	21 07 21.0	-0.4
SSLS					Sn	21 07 34.1	+0.2
SSLN	**Shishaldin Nor**	**0.57**	**41**		Pn	21 07 21.8	0.0
SSLN					Sn	21 07 35.5	+0.8
ISLZ	**Isanotski Laza**	**0.64**	**57**		Pn	21 07 22.0	-0.4
ISLZ					Sn	21 07 35.2	-0.5
ISNN	**Isanotski Nort**	**0.67**	**48**		Pn	21 07 22.7	+0.1
ISNN					Sn	21 07 37.2	+1.1
AKUT	**Akutan**	**0.71**	**250**		Pn	21 07 22.3	-0.5
AKUT				Sn	Sn	21 07 35.9	-0.7
AHB	**Akutan Harbor**	**0.74**	**249**		Pn	21 07 22.7	-0.4
AHB					Sn	21 07 36.9	-0.2
AKGG	**Akutan Green G**	**0.81**	**257**		Sn	21 07 37.5	-0.7
LVA	**Lava Point**	**0.85**	**255**		Pn	21 07 23.8	-0.4
LVA				Sn	Sn	21 07 37.9	-1.0
LVA				IAML		21 07 39.4	
	comp=E,764nm,0.6s						
UNV	**Unalaska Valle**	**1.22**	**245**		Pn	21 07 27.6	-0.5
UNV				Sn	Sn	21 07 44.6	-1.2
UNV				IAML		21 07 45.1	
	comp=E,604nm,0.3s						
UNV				IAML		21 07 46.1	
	comp=N,554nm,0.7s						
MTBL	**Makushin Table**	**1.27**	**252**		Sn	21 07 46.5	-0.3
MGOD	**Makushin Gods**	**1.44**	**247**		Sn	21 07 50.7	+0.3
MAPS	**Pakushin South**	**1.47**	**248**		Sn	21 07 50.9	-0.1
PS4A	**Pavlof South-4**	**1.88**	**58**		Pn	21 07 36.6	+0.6
PS1A	**Pavlof South-1**	**1.97**	**57**		Pn	21 07 37.5	+0.4
S12K	**Black Hills**	**1.99**	**47**		Pn	21 07 37.2	-0.1
S12K				Sn	Sn	21 08 00.9	-1.4
OKTU	**Okmok Mt. Tuli**	**2.25**	**245**		Pn	21 07 41.3	+0.5
OKNC	**Okmok New Cone**	**2.26**	**247**		Pn	21 07 41.3	+0.4
OKCE	**Okmok Cone E**	**2.29**	**247**		Pn	21 07 40.9	-0.4
SDPT	**Sand Point**	**2.59**	**66**	Pn	Pn	21 07 45.9	+0.7
SDPT				Sn	Sn	21 08 14.7	-1.6
SDPT				IAML		21 08 35.8	
	comp=N,72nm,0.6s						
SDPT				IAML		21 08 40.0	
	comp=E,62nm,0.7s						
NIKH	**Nikolski High**	**2.88**	**242**	Pn	Pn	21 07 49.4	+0.5
NIKH				Sn	Sn	21 08 22.0	-1.0
NIKH				IAML		21 08 41.5	
	comp=E,52nm,0.6s						
NIKH				IAML		21 08 43.3	
	comp=N,63nm,1.5s						
CNBA	**Chernabura Isl**	**2.97**	**80**	Pn	Pn	21 07 49.7	-0.5
P08K	**Saint George I**	**3.57**	**311**	Pn	Pn	21 07 58.1	+0.1
P08K				IAML		21 08 41.0	
	comp=E,28nm,1.3s						
P08K				IAML		21 08 48.2	
	comp=N,48nm,1.3s						
SPIA	**Saint Paul Isl**	**4.22**	**314**	Pn	Pn	21 08 06.2	-0.7
O14K	**Tigyukauivet M**	**5.22**	**19**	Pn	Pn	21 08 20.2	-0.1
O14K				IAML		21 09 55.8	
	comp=N,12nm,1.3s						
O15K	**Ungalikthiuk R**	**5.49**	**27**		Pn	21 08 23.0	-0.9
PLK4	**Peulik 4**	**5.67**	**52**	Pn	Pn	21 08 28.2	+1.7
N14K	**Kuskokwak Cree**	**5.78**	**15**		Pn	21 08 28.5	+0.7
P16K	**Nushagak River**	**5.92**	**35**	Pn	Pn	21 08 30.7	+0.9
M11K	**Mekoryuk**	**6.08**	**353**		Pn	21 08 31.7	-0.1
M13K	**Dall Lake**	**6.09**	**6**		Pn	21 08 32.4	+0.5
N15K	**Kwethluk River**	**6.30**	**21**		Pn	21 08 35.4	+0.4
O16K	**Kokwok River B**	**6.33**	**32**		Pn	21 08 36.3	+1.0
SII	**Sitkinak Islan**	**6.33**	**66**	Pn	Pn	21 08 35.8	+0.4
M14K	**Bethel**	**6.54**	**12**		Pn	21 08 38.2	0.0
L14K	**Kuka Creek**	**7.05**	**8**		Pn	21 08 45.3	+0.2
P18K	**Big Mountain,**	**7.19**	**42**		Pn	21 08 48.3	+1.2
M16K	**Timber Creek**	**7.32**	**22**	Pn	Pn	21 08 48.8	+0.1
O18K	**Koktuh Hills**	**7.51**	**39**		Pn	21 08 52.0	+0.7
K13K	**Kusilvak Mount**	**7.57**	**360**		Pn	21 08 52.1	0.0
L16K	**Owhat River**	**7.84**	**18**		Pn	21 08 56.1	+0.4
SYI	**Shuyak Island**	**7.99**	**53**	Pn	Pn	21 08 57.6	-0.2
M17K	**Holitna River**	**8.01**	**26**	Pn	Pn	21 08 58.4	+0.3
K15K	**Wolf Creek Mou**	**8.10**	**10**		Pn	21 08 59.7	+0.4
N19K	**Bonanza Creek**	**8.44**	**36**	Pn	Pn	21 09 04.9	+1.0
J17K	**VABM Dome**	**9.48**	**15**	Pn	Pn	21 09 18.4	+0.4

*JMA **10** 21:22:36.0±0.3,25°.N±3°.×122°.9E±0°.8, h130km±2km, MV2.2/12,NW OFF ISHIGAKIJIMA IS*
*TAP **10** 21:22:35.1,24°.74N×122°.87E,h138km,ML3.1,D*

ISC 10 21:22:35.2±1.8,24°.76N±0°.05×122°.90E±0°.03, h134km±10km,n74,σ0s82/136,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.31**	**171**	P	**Pn**	**21 22 54.1**	**+0.3**
JYNG				*eS*	**Sn**	**21 23 07.4**	**-0.5**
YOJ	**Yonaguni jima**	**0.32**	**160**	P	**Pn**	**21 22 54.0**	**+0.2**
YOJ	**Yonaguni jima**	**0.32**	**160**	*i* P	**Pn**	**21 22 54.1**	**+0.2**
YOJ				*i* S	**Sn**	**21 23 08.2**	**+0.3**
EOS2	**EOS2**	**0.69**	**241**	P	**Pn**	**21 22 55.8**	**0.0**
EOS2				S	**Sn**	**21 23 11.8**	**+0.5**
EOS3	**EOS3**	**0.71**	**228**	P	**Pn**	**21 22 56.5**	**+0.7**
EOS3				*eS*	**Sn**	**21 23 12.9**	**+1.5**
EOS4	**EOS4**	**0.82**	**220**	P	**Pn**	**21 22 56.8**	**+0.3**
EOS4				S	**Sn**	**21 23 13.1**	**+0.4**
IRIF	**Iriomote-Funau**	**0.87**	**119**	P	**Pn**	**21 22 57.6**	**+0.3**
IRIF				*eS*	**Sn**	**21 23 13.7**	**-0.3**
EGS		**0.88**	**276**	P	**Pn**	**21 22 58.1**	**+0.8**
EGS				*eS*	**Sn**	**21 23 15.2**	**+1.1**
TWC	**Suao**	**0.96**	**261**	P	**Pn**	**21 22 58.0**	**-0.1**
TWC				*eS*	**Sn**	**21 23 13.7**	**-1.7**
ESAO	**Su ao**	**0.97**	**259**	*i* P	**Pn**	**21 22 58.5**	**+0.3**
ESAO				S	**Sn**	**21 23 15.3**	**-0.3**
SXI1	**Grass Mountain**	**0.98**	**290**	P	**Pn**	**21 22 58.7**	**+0.4**
SXI1				*eS*	**Sn**	**21 23 15.2**	**-0.8**
TIPB	**Shuangxi**	**0.99**	**283**	P	**Pn**	**21 22 58.9**	**+0.4**
TIPB				S	**Sn**	**21 23 16.2**	**+0.2**
EWUT	**Wuta**	**1.06**	**253**	*eP*	**Pn**	**21 23 00.3**	**+1.3**
EWUT				S	**Sn**	**21 23 17.0**	**0.0**
HATJ	**Hateruma jima**	**1.08**	**130**	*eS*	**Sn**	**21 23 17.5**	**0.0**
ENA	**Nanau**	**1.10**	**253**	P	**Pn**	**21 22 59.2**	**-0.2**
ENA				*i* S	**Sn**	**21 23 17.5**	**-0.3**
TWE	**Neicheng**	**1.12**	**268**	P	**Pn**	**21 22 59.4**	**-0.1**
TWE				S	**Sn**	**21 23 17.4**	**-0.6**
EAHA	**Aohua**	**1.14**	**248**	*i* P	**Pn**	**21 22 59.9**	**+0.1**
EAHA				*i* S	**Sn**	**21 23 18.2**	**-0.1**
JKRS	**Kuro-shima**	**1.14**	**117**	*eP*	**Pn**	**21 23 00.7**	**+0.9**
JKRS				*eS*	**Sn**	**21 23 18.5**	**+0.1**
PCYT	**Pengchaiyu**	**1.14**	**319**	*i* P	**Pn**	**21 23 00.2**	**+0.5**
PCYT				*eS*	**Sn**	**21 23 16.9**	**-1.6**
FUSB	**Fushanzhiwuyua**	**1.19**	**270**	P	**Pn**	**21 23 00.3**	**0.0**
FUSB				*eS*	**Sn**	**21 23 18.2**	**-1.2**
JIJ	**Ishigaki jima**	**1.20**	**109**	P	**Pn**	**21 23 00.7**	**+0.3**
JIJ				*eS*	**Sn**	**21 23 18.4**	**-1.2**
ENTT	**Nioudou**	**1.21**	**265**	P	**Pn**	**21 23 01.4**	**+0.9**
ENTT				S	**Sn**	**21 23 18.8**	**-0.9**
YM08	**YM08**	**1.26**	**290**	*i* P	**Pn**	**21 23 01.3**	**+0.3**
YM08				S	**Sn**	**21 23 20.2**	**-0.4**
YM01	**YM01**	**1.26**	**288**	*i* P	**Pn**	**21 23 01.3**	**+0.3**
YM01				S	**Sn**	**21 23 20.4**	**-0.4**
LATG	**Datong**	**1.27**	**260**	P	**Pn**	**21 23 01.9**	**+0.8**
LATG				S	**Sn**	**21 23 20.7**	**-0.2**
NWLT	**Wulai**	**1.27**	**271**	P	**Pn**	**21 23 01.5**	**+0.5**
NWLT				*i* S	**Sn**	**21 23 20.6**	**-0.2**
ZUZH	**Zhuzihu**	**1.29**	**288**	P	**Pn**	**21 23 01.4**	**+0.1**
ZUZH				*i* S	**Sn**	**21 23 21.1**	**-0.1**
JISG	**Ishigakijimahi**	**1.30**	**97**	*eP*	**Pn**	**21 23 01.7**	**+0.3**
JISG				S	**Sn**	**21 23 20.3**	**-1.0**
ETL	**Fush Village**	**1.30**	**243**	P	**Pn**	**21 23 02.1**	**+0.6**
ETL				S	**Sn**	**21 23 20.7**	**-0.8**
NACB	**Ninganchiao**	**1.32**	**244**	P	**Pn**	**21 23 01.3**	**-0.3**
NACB				*eS*	**Sn**	**21 23 20.9**	**-0.8**
TWD	**Chiawan**	**1.36**	**241**	P	**Pn**	**21 23 02.0**	**0.0**
TWD				S	**Sn**	**21 23 21.6**	**-0.9**
YHNB	**Yeheng**	**1.38**	**267**	P	**Pn**	**21 23 03.2**	**+0.8**
YHNB				*i* S	**Sn**	**21 23 22.6**	**-0.4**
ETLH	**Xiulin Townshi**	**1.40**	**247**	*i* P	**Pn**	**21 23 02.5**	**0.0**
ETLH				*i* S	**Sn**	**21 23 22.8**	**-0.6**
NSK	**Sanguang**	**1.40**	**267**	*i* P	**Pn**	**21 23 02.7**	**+0.2**
NSK				*i* S	**Sn**	**21 23 22.7**	**-0.6**
NNSB	**Datong**	**1.42**	**257**	P	**Pn**	**21 23 03.1**	**+0.3**
NNSB				S	**Sn**	**21 23 23.5**	**-0.2**
NNS	**Nan Shan**	**1.42**	**257**	P	**Pn**	**21 23 02.4**	**-0.4**
NNS				S	**Sn**	**21 23 23.4**	**-0.4**
TEYL	**Yanliau Villag**	**1.48**	**233**	*i* P	**Pn**	**21 23 03.2**	**-0.1**
TEYL				S	**Sn**	**21 23 24.1**	**-0.6**
ETM	**Tongmen**	**1.50**	**239**	P	**Pn**	**21 23 03.4**	**-0.2**
ETM				*i* S	**Sn**	**21 23 24.7**	**-0.5**
LXIB	**Xiulin Townshi**	**1.54**	**242**	P	**Pn**	**21 23 03.8**	**-0.4**
LXIB				*eS*	**Sn**	**21 23 24.9**	**-1.3**
SHUL	**Shoufeng**	**1.55**	**232**	*i* P	**Pn**	**21 23 04.3**	**+0.2**
SHUL				S	**Sn**	**21 23 26.1**	**-0.1**
KSHI	**Guanxi Townshi**	**1.56**	**271**	P	**Pn**	**21 23 04.1**	**-0.2**
KSHI				S	**Sn**	**21 23 25.7**	**-0.7**
FUSS	**Fushou**	**1.59**	**252**	P	**Pn**	**21 23 05.4**	**+0.6**
FUSS				S	**Sn**	**21 23 26.1**	**-1.2**
WHF	**Hehuan Shan**	**1.61**	**248**	P	**Pn**	**21 23 05.5**	**+0.3**
WHF				S	**Sn**	**21 23 27.1**	**-1.0**
TEGC	**Jichi Village**	**1.62**	**230**	*eP*	**Pn**	**21 23 04.3**	**-0.6**
TEGC				S	**Sn**	**21 23 26.7**	**-0.9**
NFF	**Wufeng Townshi**	**1.62**	**266**	*eP*	**Pn**	**21 23 02.6**	**-2.4**
NFF				*i* S	**Sn**	**21 23 27.1**	**-0.6**
ESL	**Shilin**	**1.63**	**235**	*i* P	**Pn**	**21 23 05.1**	**0.0**
ESL				*eS*	**Sn**	**21 23 26.2**	**-1.7**
TWT	**Tachien**	**1.65**	**253**	*i* P	**Pn**	**21 23 05.5**	**+0.2**
TWT				*eS*	**Sn**	**21 23 28.5**	**+0.1**
JTJ	**Tarama**	**1.65**	**94**	*eS*	**Sn**	**21 23 27.4**	**-0.7**
LIOB	**Emei**	**1.71**	**267**	P	**Pn**	**21 23 06.5**	**+0.5**
LIOB				*i* S	**Sn**	**21 23 29.0**	**-0.5**
EGFH	**Guangfu**	**1.72**	**231**	*i* P	**Pn**	**21 23 06.2**	**+0.1**
EGFH				S	**Sn**	**21 23 29.3**	**-0.4**
WARBT	**Fenglin Townsh**	**1.72**	**233**	*eP*	**Pn**	**21 23 05.6**	**-0.5**
WARBT				*eS*	**Sn**	**21 23 28.3**	**-1.4**
NSTT	**Nanjuang**	**1.73**	**266**	*eP*	**Pn**	**21 23 05.8**	**-0.3**
NSTT				S	**Sn**	**21 23 29.0**	**-0.8**
OWD	**Renai**	**1.76**	**243**	P	**Pn**	**21 23 07.1**	**+0.4**
OWD				*i* S	**Sn**	**21 23 29.9**	**-0.8**
WHP	**Taichung City**	**1.84**	**255**	*eP*	**Pn**	**21 23 08.8**	**+1.3**
WHP				*eS*	**Sn**	**21 23 32.9**	**+0.6**
HGSD	**Ruisui**	**1.84**	**227**	P	**Pn**	**21 23 07.9**	**+0.4**
HGSD				*i* S	**Sn**	**21 23 31.6**	**-0.6**
VWDT	**VWDT**	**1.89**	**238**	*eP*	**Pn**	**21 23 08.8**	**+0.8**
VWDT				*eS*	**Sn**	**21 23 33.2**	**+0.1**
EHYH	**Wanrong**	**1.90**	**229**	P	**Pn**	**21 23 08.1**	**0.0**
EHYH				S	**Sn**	**21 23 32.4**	**-1.0**
EHY	**Hungye**	**1.90**	**229**	P	**Pn**	**21 23 08.0**	**-0.2**
EHY				S	**Sn**	**21 23 32.4**	**-1.1**
WCS	**Beigang Elemen**	**1.94**	**249**	*eP*	**Pn**	**21 23 09.7**	**+1.1**
WCS				*eS*	**Sn**	**21 23 35.2**	**+1.0**
ECBN	**Changbin**	**1.95**	**223**	P	**Pn**	**21 23 08.7**	**-0.1**
ECBN				S	**Sn**	**21 23 34.0**	**-0.5**
YULB	**Yu-li**	**2.00**	**227**	P	**Pn**	**21 23 09.3**	**-0.1**
YULB				S	**Sn**	**21 23 34.5**	**-1.0**
SMLT	**Sun Moon Lake**	**2.02**	**245**	*eP*	**Pn**	**21 23 11.3**	**+1.6**
SSLB	**Suanglung**	**2.02**	**242**	*eP*	**Pn**	**21 23 11.0**	**+1.3**
TWF1	**Yuli**	**2.02**	**227**	P	**Pn**	**21 23 09.4**	**-0.3**
TWF1				S	**Sn**	**21 23 35.0**	**-1.1**
TYC	**Yuchr**	**2.04**	**246**	*eP*	**Pn**	**21 23 11.5**	**+1.6**
FULB	**Fuli**	**2.13**	**224**	P	**Pn**	**21 23 11.3**	**+0.2**
WHYT	**Xinyi Township**	**2.14**	**241**	*eP*	**Pn**	**21 23 12.7**	**+1.5**
EHD	**Haiduan**	**2.23**	**224**	P	**Pn**	**21 23 12.0**	**-0.2**
EHD				S	**Sn**	**21 23 40.0**	**-0.5**
ALS	**Alishan**	**2.28**	**237**	*eP*	**Pn**	**21 23 14.7**	**+1.6**
EDH	**Donghe**	**2.30**	**220**	P	**Pn**	**21 23 13.0**	**0.0**
EDH				S	**Sn**	**21 23 40.9**	**-1.3**
ELDTW	**Lidau**	**2.32**	**228**	*i* P	**Pn**	**21 23 13.5**	**+0.1**
ELDTW				*i* S	**Sn**	**21 23 41.6**	**-1.2**
CHN5	**Tsauling**	**2.33**	**241**	*eP*	**Pn**	**21 23 15.6**	**+2.0**
TPUB	**Ta-pu**	**2.53**	**235**	*eP*	**Pn**	**21 23 18.8**	**+2.8**
WTP	**Ta-pu**	**2.57**	**235**	*eP*	**Pn**	**21 23 18.6**	**+2.0**

*SJA **10** 21:27:44.6±0.6,21°.08S×68°.70W, h133km±3km, ML3.8, MW3.7*
*IDC **10** 21:27:46.9±9.1,21°.16S×68°.25W,h108km±63km, mbtmp4.1/3,Error ellipse: s-maj=102.3km s-min=37.4km az=8.0*
*GUC **10** 21:27:47.1±0.7,21°.09S×68°.70W,h119km±4km,ML3.6*

ISC 10 21:27:45.7±0.9,21°.12S±0°.03×68°.73W±0°.05,h127km±7km, n42,σ1s71/71,5C-3D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.71**	**276**	*i*P	**Pn**	**21 28 05.8**	**-0.1**
PB01				*eS*	**Sn**	**21 28 21.3**	**+0.1**
PB01				IAML		21 28 23.6	
	comp=E,2μm,0.3s						
PB01	**IPOC Station P**	**0.71**	**276**	*eP*	**Pn**	**21 28 05.8**	**-0.1**
PB01				*eS*	**Sn**	**21 28 22.3**	**+1.1**
PB01				IAML		21 28 23.6	
	comp=Z,1μm,0.2s						
PB09	**IPOC Station P**	**0.82**	**215**	*eP*	**Pn**	**21 28 07.7**	**+0.7**
PB09				*eS*	**Sn**	**21 28 23.7**	**+0.7**
PB09				IAML		21 28 26.3	
	comp=E,1μm,0.4s						
PB09	**IPOC Station P**	**0.82**	**215**	*eP*	**Pn**	**21 28 07.5**	**+0.5**
PB09				*eS*	**Sn**	**21 28 24.1**	**+1.1**
PB09				IAML		21 28 27.7	
	comp=Z,1μm,0.5s						
PB08	**IPOC Station P**	**1.05**	**338**	*i* P	**Pn**	**21 28 09.5**	**+0.2**
PB08				*eS*	**Sn**	**21 28 26.6**	**-0.6**
PB08				IAML		21 28 29.1	
	comp=N,1μm,0.4s						
PB08	**IPOC Station P**	**1.05**	**338**	*eP*	**Pn**	**21 28 09.2**	**-0.1**
PB08				*eS*	**Sn**	**21 28 27.1**	**0.0**
PB08				IAML		21 28 29.5	
	comp=Z,706nm,0.5s						
PB02	**IPOC Station P**	**1.11**	**260**	⇑*i*P	**Pn**	**21 28 10.0**	**+0.5**
PB02				*eS*	**Sn**	**21 28 27.9**	**+0.4**
PB02				IAML		21 28 31.0	
PB02	**IPOC Station P**	**1.11**	**260**	*eP*	**Pn**	**21 28 10.0**	**+0.5**
PB02				*eS*	**Sn**	**21 28 29.5**	**+2.0**
PB02				IAML		21 28 31.2	
	comp=Z,1μm,0.1s						
PB03	**IPOC Station P**	**1.33**	**226**	*eP*	**Pn**	**21 28 12.5**	**+0.6**
PB03				*eS*	**Sn**	**21 28 31.9**	**+0.2**
PB03				IAML		21 28 32.6	
	comp=E,1μm,0.2s						
PB03	**IPOC Station P**	**1.33**	**226**	*eP*	**Pn**	**21 28 12.4**	**+0.6**
PB03				IAML		21 28 34.8	
	comp=Z,2μm,0.5s						
PATCX	**Punta Patache**	**1.36**	**282**	⇑*i*P	**Pn**	**21 28 12.7**	**+0.5**
PATCX				*eS*	**Sn**	**21 28 32.6**	**+0.3**
PATCX	**Punta Patache**	**1.36**	**282**	*eP*	**Pn**	**21 28 12.8**	**+0.6**
PATCX				*eS*	**Sn**	**21 28 33.5**	**+1.3**
PATCX				IAML		21 28 34.0	
	comp=Z,1μm,0.6s						
HMBC	**Humberstone**	**1.37**	**308**	⇑*i*P	**Pn**	**21 28 12.4**	**+0.1**
HMBC				*eS*	**Sn**	**21 28 32.0**	**-0.4**
HMBC	**Humberstone**	**1.37**	**308**	*eP*	**Pn**	**21 28 12.1**	**-0.2**
HMBC				*eS*	**Sn**	**21 28 32.3**	**-0.2**
HMBC				IAML		21 28 35.4	
	comp=Z,3μm,0.3s						
TA01	**Diego Aracena**	**1.47**	**292**	⇑*i*P	**Pn**	**21 28 13.4**	**+0.2**
TA01				*eS*	**Sn**	**21 28 33.7**	**-0.4**
TA01	**Diego Aracena**	**1.47**	**292**	*eP*	**Pn**	**21 28 13.3**	**+0.2**
TA01				*eS*	**Sn**	**21 28 34.2**	**+0.2**
TA01				IAML		21 28 34.6	
	comp=Z,634nm,0.2s						
GO01	**Chusmiza**	**1.51**	**343**	*eP*	**Pn**	**21 28 14.6**	**+0.3**
GO01				*eS*	**Sn**	**21 28 36.3**	**+0.4**
GO01	**Chusmiza**	**1.51**	**343**	*eS*	**Sn**	**21 28 36.0**	**+0.1**
TA02	**Huaiquique**	**1.56**	**303**	*eP*	**Pn**	**21 28 14.9**	**+0.6**
TA02	**Huaiquique**	**1.56**	**303**	*eP*	**Pn**	**21 28 14.5**	**+0.2**
TA02				*eS*	**Sn**	**21 28 36.0**	**-0.1**
TA02				IAML		21 28 37.1	
	comp=Z,1μm,0.1s						
PB11	**IPOC Station P**	**1.61**	**327**	⇓*i*P	**Pn**	**21 28 14.9**	**-0.1**
PB11				*eS*	**Sn**	**21 28 36.4**	**-0.9**
PB11	**IPOC Station P**	**1.61**	**327**	*eP*	**Pn**	**21 28 14.7**	**-0.3**
PB11				*eS*	**Sn**	**21 28 37.2**	**-0.1**
PB11				IAML		21 28 37.8	
	comp=Z,674nm,0.2s						
PB06	**IPOC Station P**	**1.76**	**206**	⇓*i*P	**Pn**	**21 28 17.7**	**+0.9**
PB06				*eS*	**Sn**	**21 28 41.5**	**+1.0**
PB06	**IPOC Station P**	**1.76**	**206**	*eP*	**Pn**	**21 28 17.7**	**+0.9**
PB06				*eS*	**Sn**	**21 28 41.7**	**+1.2**
PB06				IAML		21 28 44.5	
	comp=Z,769nm,0.2s						
AF01	**San Pedro de A**	**1.89**	**164**	*eP*	**Pn**	**21 28 20.4**	**+1.9**
AF01	**San Pedro de A**	**1.89**	**164**	*eP*	**Pn**	**21 28 19.0**	**+0.4**
AF01				*eS*	**Sn**	**21 28 47.8**	**+4.2**
AF01				IAML		21 28 56.4	
	comp=Z,251nm,0.4s						
PB05	**IPOC Station P**	**2.20**	**218**	*eP*	**Pn**	**21 28 22.9**	**+0.8**
PB05				*eS*	**Sn**	**21 28 50.0**	**0.0**
PB05				IAML		21 28 58.2	
	comp=N,276nm,0.3s						
PB05	**IPOC Station P**	**2.20**	**218**	*eP*	**Pn**	**21 28 22.9**	**+0.8**
PB05				*eS*	**Sn**	**21 28 49.3**	**-0.7**
PB05				IAML		21 28 56.4	
	comp=Z,183nm,0.3s						
PB16	**IPOC Station P**	**2.87**	**345**	⇓*eP*	**Pn**	**21 28 31.9**	**+0.8**
PB16	**IPOC Station P**	**2.87**	**345**	*eP*	**Pn**	**21 28 31.6**	**+0.6**
PB10	**IPOC Station P**	**2.92**	**215**	*eP*	**Pn**	**21 28 31.9**	**+0.7**
PB10				*eS*	**Sn**	**21 29 03.3**	**-3.0**
PB10				IAML		21 29 20.1	
	comp=Z,104nm,0.5s						
AP01	**Chacalluta**	**3.13**	**331**	*eS*	**Sn**	**21 29 18.1**	**+7.0**
YJA	**Yavi**	**3.17**	**110**	*eP*	**Pn**	**21 28 37.1**	**+2.2**
YJA				*eS*	**Sn**	**21 29 11.1**	**-1.6**
PB14	**IPOC Station P**	**3.81**	**204**	*eP*	**Pn**	**21 28 43.7**	**+0.5**
PB14				*eS*	**Sn**	**21 29 27.2**	**-0.5**
PB14				IAML		21 29 41.4	
	comp=Z,68nm,0.3s						
AZAP	**Zapla**	**4.58**	**133**	*eP*	**Pn**	**21 28 54.9**	**+1.6**
LPAZ	**La Paz**	**4.84**	**7**	P	**Pn**	**21 28 58.4**	**+1.2**
	comp=Z,16nm,0.4s,baz=205,slow=7.7,SNR=68						
LPAZ	**La Paz**	**4.84**	**7**	*eP*	**Pn**	**21 28 58.8**	**+1.5**
AC01	**Pan de Azucar**	**5.29**	**199**	*eP*	**Pn**	**21 29 01.5**	**-1.1**
AC01				*eS*	**Sn**	**21 29 59.4**	**-3.2**
AC01				IAML		21 30 42.2	
	comp=Z,39nm,0.9s						
SIV	**San Ignacio**	**8.87**	**56**	P	**Pn**	**21 29 47.7**	**-3.4**
	comp=Z,6.4nm,0.3s,baz=241,slow=12,SNR=38						
SIV				S	**Sn**	**21 31 22.1**	**-7.4**
	comp=Z,0.5nm,0.3s,baz=142,slow=19,SNR=1.5						
BDFB	**Brasilia**	**20.39**	**78**	P	**P**	**21 32 11.8**	**-1.0**
	comp=Z,1.4nm,0.4s,baz=241,slow=13,SNR=3.3						
TORD	**Torodi Ar. Bea**	**77.07**	**70**	P	**P**	**21 39 25.8**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=259,slow=4.6,SNR=2.1						
MKAR	**Makanchi Array**	**145.23**	**36**	PKPbc	**PKPab**	**21 47 10.4**	**+1.9**
	comp=Z,1.1nm,1.0s,baz=326,slow=2.6,SNR=5.8						

*NAO **10** 21:29:17.5,32°.97N×46°.77E,h33km,mb3.3*
*IDC **10** 21:29:27.2±0.9,34°.32N×45°.66E,h0km,mb3.7/13, mbtmp3.7/18,ML3.6/5,MS2.7/3,Error ellipse: s-maj=18.5km s-min=14.7km az=155.0*
*TEH **10** 21:29:29.4,34°.33N×45°.61E,h9km±29km*
*ISN **10** 21:29:30.1±0.5,34°.40N×45°.63E,h25km±3km

ASF				Sn	**Sn**	**21 32 45.9**	**+0.3**		
	comp=Z,0.4nm,0.3s,baz=68,slow=19,SNR=1.7								
ASF				Lg	Lg	21 33 29.6			
	comp=Z,1.1nm,0.3s,baz=298,slow=19,SNR=8.1								
ASF				LR	LR	21 35 18.8			
	comp=Z,50nm,20.0s,baz=164,slow=46								
	comp=Z,1.0nm,0.2s								
MMAI	**Mount Meron Ar**	**8.60**	**264**	Pn	**Pn**	**21 31 35.6**	**+1.9**		
	comp=Z,2.0nm,0.3s,baz=70,slow=12,SNR=1.5								
MMAI				Lg	Lg	21 33 59.3			
	comp=Z,2.0nm,0.3s,baz=84,slow=31,SNR=5.9								
MMAI				LR	LR	21 34 46.5			
	comp=Z,55nm,19.7s,baz=51,slow=37								
	comp=Z,0.3nm,0.3s								
EIL	**Elat**	**10.15**	**246**	Pn	**Pn**	**21 31 54.3**	**-0.7**		
	comp=Z,0.2nm,0.3s,baz=16,slow=18,SNR=1.3								
EIL				Lg	Lg	21 34 50.8			
	comp=Z,0.2nm,0.3s,baz=344,slow=19,SNR=4.1								
	comp=Z,0.8nm,0.4s								
WSAR	**Wadi Sarin**	**15.85**	**131**	Pn	**Pn**	**21 33 10.5**	**-1.8**		
	baz=332,slow=24,SNR=5.6								
WSAR				Sn	Sn	21 35 58.0	-10		
	baz=77,slow=24,SNR=1.7								
IDI	**Anoyia**	**17.05**	**279**	P	**P**	**21 33 29.9**	**+0.6**		
	comp=Z,3.2nm,0.6s,baz=39,slow=10,SNR=7.3								
BELG	**Belogornoye**	**18.16**	**4**	P	**Pn**	**21 33 39.2**	**-1.9**		
	comp=Z,0.3nm,0.3s,baz=202,slow=5.7,SNR=3.0								
	comp=Z,9.3nm,0.8s								
AKTO	**Aktyubinsk**	**18.52**	**26**	P	**P**	**21 33 45.2**	**-0.2**		
	comp=Z,0.1nm,0.3s,baz=206,slow=9.8,SNR=12								
	comp=Z,2.8nm,0.7s								
AKASG	**Malin Array Be**	**20.30**	**329**	P	**P**	**21 34 04.0**	**-0.8**		
	comp=Z,0.3nm,0.3s,baz=143,slow=9.8,SNR=6.1								
	comp=Z,0.3nm,0.3s								
AAK	**Ala-Archa**	**24.02**	**61**	LR	LR	21 46 57.9			
	comp=Z,24nm,20.3s,baz=168,slow=44								
KURBB	**Kurchatov Arra**	**28.96**	**46**	P	**P**	**21 35 29.3**	**+1.0**		
	comp=Z,0.3nm,0.5s,baz=252,slow=9.2,SNR=2.8								
	comp=Z,0.3nm,0.5s								
FINES	**FINESS Array B**	**29.92**	**341**	P	**P**	**21 35 35.9**	**-0.8**		
	comp=Z,1.3nm,0.6s,baz=144,slow=10,SNR=8.1								
	comp=Z,1.3nm,0.6s								
MKAR	**Makanchi Array**	**30.27**	**55**	P	**P**	**21 35 39.1**	**-0.9**		
	comp=Z,0.2nm,0.7s,baz=256,slow=11,SNR=3.8								
	comp=Z,0.2nm,0.7s								
HFS	**Hagfors**	**33.15**	**331**	P	**P**	**21 36 04.5**	**-0.6**		
	comp=Z,2.8nm,0.6s,baz=127,slow=11,SNR=13								
	comp=Z,2.8nm,0.6s								
NB2	**NORSAR Subarra**	**34.67**	**331**	P	**P**	**21 36 17.5**	**-0.9**		
	comp=Z,3nm,0.6s,baz=124,slow=8.6								
NOA	**NORSAR Array B**	**34.67**	**331**	P	**P**	**21 36 17.6**	**-0.8**		
	comp=Z,0.3nm,0.6s,baz=125,slow=8.6,SNR=4.6								
	comp=Z,0.3nm,0.6s								
ARCES	**ARCESS Array B**	**37.02**	**348**	P	**P**	**21 36 37.9**	**-0.5**		
	comp=Z,2.7nm,0.9s,baz=162,slow=8.1,SNR=21								
	comp=Z,2.7nm,0.9s								
EKA	**Eskdalemuir Ar**	**39.46**	**317**	P	**P**	**21 36 58.2**	**-0.9**		
	comp=Z,0.2nm,0.3s,baz=100,slow=9.4,SNR=5.2								
	comp=Z,0.2nm,0.3s								
ESDC	**Sonseca Array**	**39.55**	**293**	P	**P**	**21 37 00.4**	**+0.2**		
	comp=Z,0.7nm,1.0s,baz=76,slow=10.0,SNR=3.6								
	comp=Z,0.7nm,1.0s								
SPITS	**Spitsbergen Ar**	**45.76**	**352**	P	**P**	**21 37 50.2**	**+0.3**		
	comp=Z,1.2nm,0.5s,baz=140,slow=11,SNR=5.7								
	comp=Z,1.2nm,0.5s								
CMAR	**Chiang Mai Arr**	**49.78**	**94**	P	**P**	**21 38 20.1**	**-1.9**		
	comp=Z,0.4nm,0.8s,baz=296,slow=6.1,SNR=4.5								
	comp=Z,0.4nm,0.8s								
BOSA	**Boshof**	**65.45**	**200**	P	**P**	**21 40 13.4**	**+1.3**		
	comp=Z,3.7nm,1.1s,baz=16,slow=7.4,SNR=2.7								
	comp=Z,3.7nm,1.1s								
ILAR	**Eielson Array**	**80.78**	**5**	P	**P**	**21 41 42.8**	**+0.6**		
	comp=Z,0.4nm,0.8s,baz=341,slow=7.6,SNR=2.7								
	comp=Z,0.4nm,0.8s								

*NEIC **10** 21:31:53.6±0.9, 36°.75N±0°.01×98°.041W±0°.008, h5km±1km, mb_Lg2.0/12, ML2.5/42, ML2.3/37, Error ellipse: s-maj=2.3km s-min=2.0km az=139.0*

NEIC 10 21:31:53.7±0.8, 36°.76N±0°.01×98°.05W±0°.01, h8km±1km, Error ellipse: s-maj=2.0km s-min=1.2km az=132.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.18**	**58**		Pg	21 31 57.8	+0.4
GC02				Sg	Sg	21 32 00.5	+0.6
KAN14	**Manchester OK**	**0.21**	**19**		Pg	21 31 58.3	+0.4
KAN14				Sg	Sg	21 32 01.6	+0.8
KAN14				IAML		21 32 01.9	
	comp=N,975nm,0.1s						
CROK	**Carrier**	**0.26**	**168**		Pg	21 31 59.0	+0.2
CROK				Sg	Sg	21 32 02.8	+0.5
CROK				IAML		21 32 05.3	
	comp=N,751nm,0.2s						
KAN10	**Anthony SW Sta**	**0.37**	**354**		Pg	21 32 01.3	+0.4
KAN10					Sg	21 32 06.7	+0.9
KAN17	**Caldwell West**	**0.37**	**39**		Pg	21 32 01.2	+0.3
KAN17				Sg	Sg	21 32 06.2	+0.5
KAN17				IAML		21 32 06.7	
	comp=E,408nm,0.2s						
KAN17				IAML		21 32 08.8	
	comp=N,384nm,0.2s						
KAN01	**Argonia South**	**0.46**	**30**		Pg	21 32 02.9	+0.3
KAN01				Sg	Sg	21 32 09.1	+0.5
KAN01				IAML		21 32 09.7	
	comp=N,229nm,0.2s						
KAN08	**Anthony NE Sta**	**0.47**	**8**	Pg	Pg	21 32 03.2	+0.3
KAN08				Sg	Sg	21 32 09.8	+0.8
KAN08				IAML		21 32 10.4	
	comp=E,212nm,0.1s						
KAN08				IAML		21 32 10.5	
	comp=N,217nm,0.1s						
KAN09	**Caldwell North**	**0.51**	**42**		Pg	21 32 03.8	+0.2
KAN09				Sg	Sg	21 32 10.4	+0.1
KAN09				IAML		21 32 12.1	
	comp=E,272nm,0.2s						
KAN09				IAML		21 32 13.9	
	comp=N,273nm,0.2s						
KAN13	**South Haven SW**	**0.53**	**61**		Pg	21 32 03.9	+0.1
KAN13				Sg	Sg	21 32 11.0	+0.3
OK038	**West end E0370**	**0.62**	**244**		Pg	21 32 05.8	+0.1
OK038				Sg	Sg	21 32 14.3	+0.6
OK038				IAML		21 32 14.7	
	comp=N,349nm,0.2s						
OK038				IAML		21 32 24.7	
	comp=N,303nm,0.3s						
BLOK	**Blackwell**	**0.67**	**89**		Pg	21 32 06.5	-0.1
OK048	**Pawnee Station**	**0.95**	**111**		Pg	21 32 11.6	-0.4
OK051	**E0350 and S346**	**1.01**	**104**		Pg	21 32 12.7	-0.3
OK029	**Liberty Lake**	**1.07**	**153**		Pg	21 32 13.6	-0.6
OK029					Sb	21 32 28.5	-0.1
BCOK	**Bluff Creek, N**	**1.16**	**162**		Pg	21 32 15.1	-0.7
BCOK					Sg	21 32 30.7	-0.1
QUOK	**Quay**	**1.23**	**118**		Pb	21 32 16.5	-0.7
QUOK					Sb	21 32 32.8	-0.4
T35A	**Sooner Cattle**	**1.25**	**82**		Pn	21 32 16.9	-0.5
T35A					Sb	21 32 32.7	-1.0
T35A				IAML		21 32 34.6	
	comp=N,97nm,0.1s						
OK052	**Battle Ridge R**	**1.26**	**127**		Pn	21 32 17.1	-0.6
OK052					Sb	21 32 33.8	-0.4
OK052				IAML		21 32 36.3	
	comp=N,110nm,0.3s						
ELIS	**Ellis County**	**1.30**	**238**		Pn	21 32 17.7	-0.5
ELIS				IAML		21 32 40.8	
	comp=N,95nm,0.3s						
ELIS				IAML		21 32 42.7	
	comp=E,84nm,0.3s						
DEOK	**Depew**	**1.55**	**126**		Pn	21 32 21.4	-0.3
DEOK					Sb	21 32 42.6	+0.2
FNO	**Franklin**	**1.59**	**160**		Pn	21 32 22.1	0.0
TUL3	**Leonard**	**2.01**	**114**	Pn	Pn	21 32 28.9	+0.9
WMOK	**Wichita Mounta**	**2.10**	**197**		Pn	21 32 30.0	+0.8
X34A	**Smith Ranch, M**	**2.16**	**175**	IAmb_Lg		21 33 02.7	
	comp=Z,6.5nm,0.8s						
SMWD	**Samnorwood**	**2.43**	**228**		Pn	21 32 34.6	+0.9
SMWD				IAmb_Lg		21 33 10.0	
	comp=Z,5.3nm,0.8s						
RLO	**Rose Lookout**	**2.51**	**103**		Pn	21 32 34.4	-0.4
U38A	**Gravette**	**2.97**	**95**	IAmb_Lg		21 33 35.1	
	comp=Z,5.4nm,1.0s						
WTFS	**Witchita Falls**	**3.00**	**187**	Pn	Pn	21 32 42.1	+0.5
AMTX	**Amarillo**	**3.49**	**239**		Pn	21 32 49.1	+0.7
AMTX				IAmb_Lg		21 33 49.7	
	comp=Z,4.4nm,0.8s						
DKNS	**Dickens**	**3.88**	**218**	IAmb_Lg		21 34 05.9	
	comp=Z,3.8nm,0.9s						
P38A	**Dawn**	**4.57**	**50**	IAmb_Lg		21 34 27.9	
	comp=Z,3.8nm,0.8s						

*TEH **10** 21:33:43.9, 34°.39N×45°.51E, h10km±164km*
*ISN **10** 21:33:44.5±0.3, 34°.42N×45°.50E, h25km±2km, ML2.6*

ISC 10 21:33:44.8±1.5, 34°.40N±0°.07×45°.51E±0°.07, h18km, n7, σ1§18/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.44**	**131**	Pg	**Pg**	**21 33 52.4**	**-1.3**
IDHR	**Dehrash**	**0.78**	**67**	Pg	**Pb**	**21 33 59.3**	**-0.7**
IDHR				Sg	**Sg**	**21 34 11.1**	**+0.5**
IGHG	**Ghaleghazi**	**0.88**	**94**	Pg	**Pg**	**21 34 01.8**	**-0.2**
IBDR	**Badra**	**1.33**	**165**	*e*Pg	**Pb**	**21 34 09.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**21 34 27.0**	**-0.9**
IBDR				AML	AML	21 34 32.8	
	comp=N,83nm,0.4s						
IBDR				AML	AML	21 34 33.1	
	comp=E,71nm,0.3s						
BHD	**Baghdad**	**1.47**	**220**	*e*Pn	**Pb**	**21 34 11.5**	**0.0**
BHD				*e*Sn	**Sg**	**21 34 31.0**	**-1.2**
BHD				AML	AML	21 34 43.2	
	comp=E,205nm,0.6s						
IBZA	**Bozab**	**1.94**	**87**	Pn	**Pg**	**21 34 20.9**	**-1.2**
RAFI	**Al-Rafai**	**2.72**	**169**	*e*Pn	**Pn**	**21 34 29.0**	**+1.5**
RAFI				*e*Sn	**Sn**	**21 35 01.5**	**+1.6**

*NEIC **10** 21:40:57.6±1.5, 35°.57N±0°.01×117°.515W±0°.008, h15km±3km, Error ellipse: s-maj=1.8km s-min=0.8km az=168.0*

PAS 10 21:40:58.5±1.3, 35°.57N±0°.01×117°.52W±0°.01, h10km±4km, ML3.0/22, ML2.8/110(NEIC), Error ellipse: s-maj=1.7km s-min=1.4km az=198.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.14**	**109**		Pg	21 41 01.8	+0.2
CCCA				Sg	Sg	21 41 04.4	+0.6
LRMC	**Laurel Mtn Rad**	**0.16**	**236**		Pg	21 41 01.9	-0.1
LRMC				Sg	Sg	21 41 04.5	0.0
SRTC	**Snort**	**0.22**	**303**		Pg	21 41 03.4	+0.3
SRTC					Sg	21 41 06.6	+0.4
CLC	**China Lake**	**0.25**	**346**		Pg	21 41 03.4	-0.3
CLC				IAML		21 41 07.5	
	comp=E,1μm,0.4s						
TOW	**Tower One**	**0.31**	**321**		Pg	21 41 04.8	+0.1
TOW					Sg	21 41 10.1	+1.2
DTP	**Desert Tortois**	**0.40**	**221**		Pg	21 41 06.0	-0.4
DTP					Sg	21 41 11.7	0.0
WNMM	**Nine Mile Cany**	**0.41**	**311**		Pg	21 41 06.4	-0.2
MPMC	**Manual Prospec**	**0.49**	**3**		Pg	21 41 07.5	-0.6
CCAC	**Calif City Air**	**0.58**	**224**		Pg	21 41 09.4	-0.3
CCAC					Sg	21 41 17.6	+0.2
GSC	**Goldstone, Bar**	**0.64**	**114**		Pg	21 41 10.4	-0.5
GSC				IAML		21 41 20.1	
	comp=E,643nm,0.5s						
GSC				IAML		21 41 22.6	
	comp=N,1μm,0.3s						
GSC	**Goldstone, Bar**	**0.64**	**114**		Sg	21 41 18.9	-0.5
QSM	**Queen of Sheba**	**0.66**	**53**		Pg	21 41 10.8	-0.5
QSM					Sg	21 41 19.6	-0.4
QSM				IAML		21 41 21.4	
	comp=E,1μm,0.3s						
ISA	**Isabella, Lake**	**0.78**	**277**		Pg	21 41 12.8	-0.8
ISA				IAML		21 41 23.2	
	comp=N,323nm,0.4s						
ISA				IAML		21 41 23.7	
	comp=E,275nm,0.4s						
TPO	**Tropico Hills**	**0.90**	**220**		Pg	21 41 15.0	-0.8
TPO				IAML		21 41 29.8	
	comp=E,619nm,0.6s						
TPO				IAML		21 41 31.0	
	comp=N,642nm,0.5s						
GWY	**Greenwater Val**	**0.93**	**48**		Pg	21 41 15.6	-0.8
GWY					Sg	21 41 27.6	-0.8
GWY				IAML		21 41 30.5	
	comp=N,484nm,0.4s						
CWC	**Cottonwood Cre**	**0.98**	**333**		Pg	21 41 16.7	-0.7
CWC				IAML		21 41 32.1	
	comp=E,192nm,0.2s						
CWC				IAML		21 41 32.7	
	comp=N,231nm,0.1s						
SHOC	**Shoshone, Teco**	**1.07**	**72**		Pg	21 41 18.4	-0.6
BFSC	**Mount Baldy Ra**	**1.33**	**185**		Pn	21 41 22.3	-1.0
BFSC				IAML		21 41 41.2	
	comp=N,117nm,0.3s						
BFSC				IAML		21 41 41.5	
	comp=E,86nm,0.4s						
OSI	**Osito Audit: C**	**1.37**	**226**		Pn	21 41 23.5	-0.3
OSI				IAML		21 41 44.6	
	comp=E,226nm,0.8s						
OSI				IAML		21 41 45.0	
	comp=N,266nm,0.6s						
MWC	**Mount Wilson**	**1.41**	**198**		Pn	21 41 23.6	-0.9
MWC				IAML		21 41 45.2	
	comp=N,252nm,0.7s						
MWC				IAML		21 41 45.2	
	comp=E,221nm,0.7s						
WCT	**Wildcat Mounta**	**1.42**	**30**		Pn	21 41 23.4	-1.1
WCT					Sn	21 41 42.6	-0.7
WCT				IAML		21 41 44.4	
	comp=E,97nm,0.7s						
WCT				IAML		21 41 49.3	
	comp=N,97nm,0.6s						
GRAC	**Grapevine Rang**	**1.43**	**5**		Pn	21 41 23.6	-0.9
GRAC				IAML		21 41 49.3	
	comp=E,151nm,0.8s						
GRAC				IAML		21 41 50.2	
	comp=N,159nm,0.9s						
PASC	**Pasadena Art C**	**1.50**	**202**		Pn	21 41 24.4	-1.1
PASC				IAML		21 41 50.0	
	comp=E,117nm,0.5s						
PASC				IAML		21 41 51.5	
	comp=N,105nm,0.3s						
MTPC	**Mountain Pass**	**1.61**	**92**		Pn	21 41 25.6	-1.5
MTPC				IAML		21 41 52.3	
	comp=N,75nm,0.3s						
MTPC				IAML		21 41 52.3	
	comp=E,86nm,0.2s						
TPNV	**Topopah Spring**	**1.72**	**36**		Pn	21 41 27.7	-0.9
TPNV				IAML		21 41 55.1	
	comp=E,122nm,0.6s						
TPNV				IAML		21 41 55.3	
	comp=E,104nm,0.6s						
GMN	**Gold Mountain**	**1.74**	**7**		Pn	21 41 28.2	-0.8
GMN				IAML		21 42 03.8	
	comp=N,47nm,0.7s						
DSP	**Deep Springs**	**1.83**	**349**		Pn	21 41 29.6	-0.5
ELS	**Elsinore Mount**	**1.92**	**178**		Pn	21 41 30.3	-1.0
ELS				IAML		21 42 01.9	
	comp=N,45nm,0.4s						
CRY	**Cary Ranch**	**2.10**	**162**		Pn	21 41 33.4	-0.4
SHPR	**Sheep Range**	**2.13**	**63**		Pn	21 41 33.3	-1.0
PMD	**Palm Desert**	**2.14**	**153**		Pn	21 41 32.6	-1.6
PMD				IAML		21 42 06.3	
	comp=E,45nm,0.5s						
PMD				IAML		21 42 07.8	
	comp=N,33nm,0.3s						
PFO	**Pinyon Flats O**	**2.14**	**156**		Pn	21 41 33.0	-1.4
PFO				IAML		21 42 06.5	
	comp=N,44nm,0.4s						
V12A	**Nelson**	**2.18**	**85**		Pn	21 41 33.4	-1.6
FRD	**Ford Ranch, An**	**2.20**	**160**		Pb	21 41 38.9	+0.4
PLM	**Palomar**	**2.28**	**166**		Pn	21 41 35.6	-0.7
TSCN	**Private Proper**	**2.31**	**270**		Pb	21 41 39.5	-0.7
NEE2	**Needles Airpor**	**2.51**	**108**		Pn	21 41 39.6	+0.3
PRN	**Pahroc Range**	**2.71**	**47**		Pn	21 41 43.0	+0.8
PMPB	**Monarch Peak**	**2.74**	**285**		Pn	21 41 43.1	+0.5
PMPB				IAML		21 42 26.9	
	comp=N,47nm,1.0s						
PMPB				IAML		21 42 32.2	
	comp=E,48nm,0.7s						
LHV	**Little Huntoon**	**2.79**	**344**		Pn	21 41 42.6	-0.6
NV11	**Mina Array Sit**	**2.90**	**350**		Pn	21 41 44.1	-0.8
NVAR	**Mina Array Bea**	**2.92**	**348**		Pn	21 41 44.7	-0.6
W13A	**Hualapai Mount**	**3.01**	**98**		Pn	21 41 45.0	-1.5
W13A				IAML		21 42 36.1	
	comp=N,15nm,0.6s						
W13A				IAML		21 42 40.5	
	comp=E,16nm,0.7s						
RYN	**Ryan**	**3.16**	**346**		Pn	21 41 48.2	-0.2
YUH	**Yuha Desert**	**3.20**	**155**		Pn	21 41 48.1	-0.8
WAKR	**Walker**	**3.31**	**333**		Pn	21 41 49.0	-1.5
WAKR				IAML		21 42 49.1	
	comp=N,12nm,0.6s						
WAKR				IAML		21 42 57.5	
	comp=E,14nm,0.5s						
CBX	**Cerro Bola**	**3.33**	**167**		Pn	21 41 50.5	-0.2
CBX				IAML		21 42 44.6	
	comp=E,48nm,0.4s						
CBX				IAML		21 42 53.3	
	comp=N,32nm,0.6s						
GLA	**Glamis**	**3.36**	**138**		Pn	21 41 50.2	-0.9
GLA				IAML		21 42 50.2	
	comp=E,46nm,0.8s						
SAO	**San Andreas Ge**	**3.39**	**292**	Pn	Pn	21 41 51.4	-0.1
LCMT	**Little Creek M**	**3.74**	**66**		Pn	21 41 56.0	-0.5
ESJX	**Sierra Juarez**	**3.79**	**159**		Pn	21 41 56.2	-0.9
CCUT	**Cedar City**	**3.89**	**58**		Pn	21 41 58.7	+0.1
Y14A	**Wickenburg**	**4.06**	**112**		Pn	21 42 01.1	+0.4
Y14A				IAML		21 43 10.7	
	comp=E,14nm,0.4s						
Y14A				IAML		21 43 10.9	
	comp=N,21nm,0.5s						
KNB	**Kanab**	**4.06**	**68**		Pn	21 41 59.8	-1.1
U15A	**North Rim**	**4.33**	**77**		Pn	21 42 03.9	-0.7
U15A				IAML		21 43 28.9	
	comp=E,5.7nm,2.3s						

*MOS **10** 21:43:46.4±1.0, 0°.06N×16°.90W, h10km, mb5.4/80, MS4.5/22, Error ellipse: s-maj=7.6km s-min=3.9km az=58.5*
*IDC **10** 21:43:46.7±0.4, 0°.02S×16°.91W, h0km, mb4.8/36, mbtmp4.8/37, ML5.1/1, MS4.3/75, Error ellipse: s-maj=15.6km s-min=9.5km az=133.0*
*BJI **10** 21:43:47.2, 0°.49N×17°.42W, h16km, mb5.2/6, Ms4.8/4, Ms7 4.5/6*
*NEIC **10** 21:43:48.9, 0°.32N×16°.96W, h12km, Moment Tensor Solution. Duration: 1§9 Moment tensor: Scale 10¹⁶Nm; Mrr=5.05; Mθθ3.33; Mϕϕ 1.72; Mrθ4.80; Mθϕ-2.55; Mϕr0.06; Fault plane solution: M₀7.03000×10¹⁶ NP1: ϕs144.08000°, δ29.16000°, λ-53.23000°. NP2: ϕs283.52000°, δ67.03000°, λ-108.47000°. Principal axes: T 6.6129, Plg20.0000°, Azm27.0000°; N 0.7670, Plg17.0000°, Azm291.0000°; P -7.3799, Plg63.0000°, Azm164.0000°;*
*BGR **10** 21:43:49.0, 0°.70S×15°.65W, h33km, mb5.0, Ms4.4*
*GCMT **10** 21:43:48.9±0.2, 0°.08N±0°.01×16°.88W±0°.01, h12km, MW5.2/138, Moment Tensor Solution. s71,c97; s138,c239; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=6.15±.11; Mθθ5.14±.10; Mϕϕ 1.01±.11; Mrθ1.60±.29; Mθϕ-2.80±.09; Mϕr-1.69±.31; Best double couple: M₀6.76900×10¹⁶ NP1:ϕs109.00000°, δ36.00000°, λ-102.00000°. NP2:ϕs304.00000°, δ55.00000°, λ-82.00000°. Principal axes: T 6.9230, Plg10.0000°, Azm28.0000°; N -0.3090, Plg7.0000°, Azm119.0000°; P -6.6140, Plg78.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **10** 21:43:48.9±1.3, 0°.01N±0°.07×16°.96W±0°.08, h10km±1km, mb5.3/281, Mww5.2/18 Error ellipse: s-maj=13.7km s-min=12.0km az=267.0*
*NEIC **10** 21:43:48.9, 0°.02N×16°.96W, h12km*

ISC 10 21:43:47.9±0.5, 0°.02S±0°.04×16°.93W±0°.05, h9km±2km, h9km:pP-P, n848, σ1§07/851, mb5.2/308, MS4.5/96, 71C-59D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.13**	**163**	Pn	**Pn**	**21 45 45.6**	**-0.4**
	baz=341,slow=12						
H10N2				T	T	21 53 57.7	
	baz=342,slow=73,SNR=462						
H10N3	**ASCENSION HYDR**	**8.14**	**163**	Pn	**Pn**	**21 45 45.7**	**-0.4**
	baz=341,slow=12						
H10N3				T	T	21 53 52.8	
	baz=342,slow=73,SNR=373						
H10N1	**ASCENSION HYDR**	**8.15**	**163**	Pn	**Pn**	**21 45 45.8**	**-0.5**
	baz=341,slow=12						
H10N1				T	T	21 53 59.9	
	baz=342,slow=73,SNR=582						
ASCN	**Ascension**	**8.27**	**162**		**Pn**	**21 45 47.2**	**-0.9**
H10S3	**ASCENSION HYDR**	**9.15**	**166**	Pn	**Pn**	**21 45 59.5**	**-0.6**
	baz=211,slow=74						
H10S3				T	T	21 55 00.1	
	baz=345,slow=74,SNR=653						
H10S2	**ASCENSION HYDR**	**9.16**	**166**	Pn	**Pn**	**21 45 59.6**	**-0.6**
	baz=9.2,slow=74						
H10S2				T	T	21 55 12.2	
	baz=235,slow=74,SNR=748						
DBIC	**Dimbokro**	**13.76**	**61**		**Pn**	**21 47 00.8**	**-2.5**
DBIC	**Dimbokro**	**13.76**	**61**	Pn	**Pn**	**21 47 00.6**	**-2.8**
	1.8nm,0.3s,baz=279,slow=12,SNR=12						
DBIC				Sn	Sn	21 49 22.4	-14
	1.4nm,0.3s,baz=153,slow=18,SNR=7.8						
DBIC				LR	LR	21 51 17.0	
	comp=Z,2μm,20.8s,baz=258,slow=33						
DBIC	**Dimbokro**	**13.76**	**61**	P	**Pn**	**21 47 00.8**	**-2.5**
BBTS	**Babate**	**14.59**	**2**	Pn	**Pn**	**21 47 10.8**	**-4.0**
	2.4nm,0.3s,baz=351,slow=0.7,SNR=9.2						
BBTS				Sn	Sn	21 49 39.0	-18
	3.8nm,0.3s,baz=240,slow=22,SNR=9.9						
BBTS				LR	LR	21 52 38.9	
	comp=Z,3μm,18.4s,baz=67,slow=36						
SACV	**Santiago Islan**	**16.29**	**336**	Pn	**Pn**	**21 47 35.3**	**-1.9**
ACRG	**Accra**	**17.62**	**71**	Pn	**Pn**	**21 47 53.2**	**-0.6**
RCBR	**Riachuelo**	**19.80**	**253**	P	**P**	**21 48 18.7**	**-0.2**
RCBR	**Riachuelo**	**19.80**	**253**	P	**Pn**	**21 48 20.8**	**+0.3**
	5.4nm,0.3s,baz=90,slow=19,SNR=93						
RCBR				S	S	21 51 44.9	-17
	1.3nm,0.5s,baz=84,slow=21,SNR=1.6						
RCBR				LR	LR	21 53 43.7	
	comp=Z,371nm,21.9s,baz=74,slow=30						
	12nm,0.3s						
RCBR	**Riachuelo**	**19.80**	**253**	*e*P	**Pn**	**21 48 20.6**	**+0.1**
NBCL	**Cascavel-CE**	**21.75**	**259**	*e*P	**P**	**21 48 40.7**	**+0.7**
TORD	**Torodi Ar. Bea**	**22.63**	**54**	P	**P**	**21 48 47.8**	**-1.6**
	32nm,0.9s,baz=243,slow=9.8,SNR=7.4						
TORD				LR	LR	21 56 35.4	
	comp=Z,2μm,20.8s,baz=237,slow=34						
	32nm,0.9s						

SPB Sao Paulo 37.76 230 *e*P **P** **21 51 05.2 +0.6**
ARAG Araguaiana, MT 37.80 244 *e*P **P** **21 51 05.7 +0.6**
PBDV Barranco-do-Ve 38.00 12 *e*P **P** **21 51 08.0 +1.5**
PBDV *i* IAmb IAmb 21 51 09.7
comp=Z,46nm,1.4s
PTEO Sao Teotonio 38.14 11 *e*P **P** **21 51 09.0 +1.4**
PTEO *i* IAmb IAmb 21 51 12.8
comp=Z,92nm,1.7s
ITRB Iturama 38.15 237 *e*P **P** **21 51 09.2 +1.2**
PVAQ Vaqueiros 38.20 12 P **P** **21 51 08.2 +0.1**
PVAQ IAmb IAmb 21 51 12.5
comp=Z,122nm,1.7s
PVAQ Vaqueiros 38.20 12 *e*P **P** **21 51 09.4 +1.3**
PVAQ *i* IAmb IAmb 21 51 10.6
comp=Z,39nm,1.6s
PVAQ *e*PP **PP** **21 52 41.4 +5.9**
PVAQ *e*S **S** **21 57 06.3 +4.5**
PVAQ *e*LR LR 22 01 48.7
PVAQ *i* IAMs_20 IAMs_20 22 06 10.4
comp=Z,343nm,22.0s
BART Pico Bartolome 38.37 349 *e*T T 22 31 13.1
CMLA Cha da Macela 38.43 349 SS SS 21 59 52.0 -2.5
CMLA *e*LR LR 22 01 00.8
CMLA *e*T T 22 31 12.1
MESJ Messejana 38.52 11 *e*P **P** **21 51 11.4 +0.6**
MESJ IAmb IAmb 21 51 12.8
comp=Z,65nm,1.8s
MESJ *e*PP **PP** **21 52 39.3 +0.2**
MESJ *e*S **S** **21 57 08.0 +1.4**
MESJ Messejana 38.52 11 *e*P **P** **21 51 11.4 +0.6**
MESJ *e* 21 52 39.3
MESJ *e*S **S** **21 57 08.0 +1.4**
PSET Sete Cidades 38.52 349 *e*LR LR 22 01 05.0
PBEJ Beja 38.77 11 *e*P **P** **21 51 14.1 +1.2**
PBEJ *i* IAmb IAmb 21 51 16.0
comp=Z,27nm,1.5s
TSUM Tsumeb 38.84 121 **P** **21 51 13.0 -0.9**
NPGB Novo Progresso 38.96 259 *e*P **P** **21 51 14.1 -0.7**
ITTB Itaituba 39.01 263 *e*P **P** **21 51 15.1 -0.2**
PBAR Barrancos 39.09 12 *e*P **P** **21 51 17.4 +1.8**
PBAR *i* IAmb IAmb 21 51 19.3
comp=Z,24nm,1.4s
EVO Evora 39.23 11 *e*P **P** **21 51 18.4 +1.7**
EVO *i* IAmb IAmb 21 51 20.0
comp=Z,40nm,1.5s
PESTR Estremoz 39.64 11 P **P** **21 51 20.1 0.0**
PESTR Estremoz 39.64 11 *e*P **P** **21 51 20.8 +0.6**
PESTR *i* IAmb IAmb 21 51 49.0
comp=Z,21nm,1.4s
PPNO Prainha do Nor 39.70 346 *e*T T 22 32 50.4
PMTG Montargil 39.71 11 *e*P **P** **21 51 22.0 +1.3**
PMTG *i* IAmb IAmb 21 51 23.4
comp=Z,28nm,1.3s
PAGU Agualva, Azore 39.73 347 SS SS 22 00 25.1 +4.3
PAGU *e*LR LR 22 01 46.6
PCAN Candelaria 39.75 346 *e*T T 22 32 53.7
PICO Pico 39.77 346 *e*LR LR 22 02 10.6
PICO *e*T T 22 32 48.8
PCMB Pacaembu 39.77 235 *e*P **P** **21 51 22.8 +1.2**
PMAN Manadas 39.81 346 *e*T T 22 32 51.0
ROSA Rosais 39.93 346 SS SS 22 00 26.8 +2.2
ROSA *e*LR LR 22 02 08.6
WIN Windhoek 39.99 126 P **P** **21 51 22.9 -0.6**
WIN Windhoek 39.99 126 P **P** **21 51 22.9 -0.6**
WIN pmax pmax
comp=Z,34nm,1.2s
CLDB Colider 40.10 253 *e*P **P** **21 51 24.6 +0.2**
PMRV Marv??o 40.22 11 *e*P **P** **21 51 27.1 +2.1**
PMRV *i* IAmb IAmb 21 51 48.2
comp=Z,24nm,1.4s
PMRV *e*PP **PP** **21 52 59.3 +1.7**
PMRV *e*LR LR 22 02 17.6
PMRV *i* IAMs_20 IAMs_20 22 06 00.7
comp=Z,340nm,24.0s
PSARD Sardoal 40.24 11 *e*P **P** **21 51 26.6 +1.4**
PSARD *i* IAmb IAmb 21 51 29.2
comp=Z,42nm,1.2s
PCBR Castelo Branco 40.60 11 *e*P **P** **21 51 29.2 +1.2**
PCBR *i* IAmb IAmb 21 52 09.2
comp=Z,22nm,1.6s
PCAS Casmilo, Conde 40.62 10 *e*P **P** **21 51 29.9 +1.6**
PCAS *i* IAmb IAmb 21 51 31.5
comp=Z,60nm,1.4s
PAB San Pablo 41.03 15 P **P** **21 51 32.0 +0.3**
PAB San Pablo 41.03 15 P **P** **21 51 32.0 +0.3**
PAB pmax pmax
comp=Z,29nm,1.3s
MTE Manteigas 41.13 11 **P** **21 51 32.8 +0.3**
MTE Manteigas 41.13 11 *e*P **P** **21 51 33.9 +1.4**
MTE *i* IAmb IAmb 21 51 35.4
comp=Z,37nm,1.3s
MTE *e*PP **PP** **21 53 08.4 +0.9**
MTE *e*S **S** **21 57 54.0 +8.2**
MTE *e*LR LR 22 03 23.9
MTE *i* IAMs_20 IAMs_20 22 07 34.2
comp=Z,504nm,22.0s
PDRB Porto dos Gac 41.16 252 *e*P **P** **21 51 33.4 +0.2**
ESDC Sonseca Array 41.25 15 P **P** **21 51 33.7 +0.2**
ESDC Sonseca Array 41.25 15 P **P** **21 51 34.3 +0.8**
comp=Z,7.1nm,1.1s,baz=205,slow=7.9,SNR=23
ESDC PcP **PcP** **21 53 33.8 +1.4**
comp=Z,4.4nm,1.0s,baz=206,slow=2.1,SNR=10.0
ESDC LR LR 22 09 17.5
comp=Z,922nm,18.9s,baz=194,slow=37
comp=Z,7.1nm,1.1s
ESBB Sonseca Array 41.25 15 P **P** **21 51 34.0 +0.5**
RPRD Ribas do Rio P 41.31 238 *e*P **P** **21 51 35.5 +1.2**
PVIS Viseu 41.37 10 *e*P **P** **21 51 36.9 +2.4**
SALV Santo Antonio 41.38 246 *e*P **P** **21 51 35.4 +0.5**
TRCB Terra Rica 41.45 234 P **P** **21 51 35.2 -0.3**
TRCB Terra Rica 41.45 234 *e*P **P** **21 51 36.6 +1.2**
PTGB Pitanga 41.94 232 *e*P **P** **21 51 40.4 +1.0**
PVRL Vila Real 41.95 10 *e*P **P** **21 51 40.3 +1.1**
PVRL *i* IAmb IAmb 21 51 45.7
comp=Z,30nm,1.7s
MVO Moncorvo 41.97 11 *e*P **P** **21 51 40.4 +1.0**
MVO *i* IAmb IAmb 21 51 42.6
comp=Z,38nm,1.3s
MVO *e*S **S** **21 58 06.3 +8.1**
MVO *e*LR LR 22 03 39.9
MVO *i* IAMs_20 IAMs_20 22 10 29.6
comp=Z,367nm,18.0s
POLO Lamas de Olo 42.03 10 *e*P **P** **21 51 40.9 +1.0**
POLO *i* IAmb IAmb 21 51 47.0
comp=Z,14nm,1.4s
QNGWA Qangwa 42.07 120 P **P** **21 51 40.8 +0.1**
QNGWA Qangwa 42.07 120 *i* P **P** **21 51 41.7 +1.1**
PGAV Gavieira, Arco 42.52 10 *e*P **P** **21 51 44.4 +0.5**
PGAV *e*PP **PcP** **21 53 32.5 -4.0**
PGAV *e*S **S** **21 58 14.4 +8.0**
PGAV *e*LR LR 22 03 49.5
PGAV *i* IAMs_20 IAMs_20 22 07 59.2
comp=Z,644nm,20.0s
PBRG Braganca 42.64 11 *e*P **P** **21 51 46.0 +1.2**
PBRG *i* IAmb IAmb 21 52 06.0
comp=Z,18nm,1.7s
KOOLE Kule 42.70 125 P **P** **21 51 46.3 +0.5**
KOOLE IAmb IAmb 21 51 47.8
comp=Z,68nm,0.8s
KOOLE Kule 42.70 125 *i* P **P** **21 51 47.0 +1.2**
GRTLG Ghanzi 42.84 122 P **P** **21 51 47.5 +0.5**
GRTLG IAmb IAmb 21 51 49.0
comp=Z,50nm,0.9s
GRTLG Ghanzi 42.84 122 *i* P **P** **21 51 47.8 +0.9**
GMARE Gumare 42.88 119 P **P** **21 51 47.4 +0.2**
GMARE IAmb IAmb 21 51 49.6
comp=Z,50nm,1.1s
AQDB Aquidauana 43.02 239 **P** **21 51 47.8 -0.4**
KEST Kesra 43.17 32 P **P** **21 51 49.7 +0.4**
KEST Kesra 43.17 32 P **P** **21 51 50.6 +1.3**
comp=Z,6.6nm,0.8s,baz=214,slow=3.5,SNR=8.0
KEST LR LR 22 10 49.2
comp=Z,2µm,20.7s,baz=234,slow=38
comp=Z,6.6nm,0.8s
ITAB Concordia 43.30 228 **P** **21 51 50.9 +0.4**
ITAB Concordia 43.30 228 *e*P **P** **21 51 51.9 +1.5**
BOAV Boa Vista 43.65 273 **P** **21 51 53.0 -0.4**
BOAV Boa Vista 43.65 273 *e*P **P** **21 51 53.5 +0.1**
MACA Manacapuru-AM 43.84 265 P **P** **21 51 54.9 -0.1**
MACA Manacapuru-AM 43.84 265 *e*P **P** **21 51 55.7 +0.7**
BDQN Bodoquena, MS 43.92 240 *e*P **P** **21 51 56.0 +0.6**
KGCAE Kacgae 44.30 124 P **P** **21 51 59.1 +0.5**
KGCAE IAmb IAmb 21 52 00.5
comp=Z,53nm,1.0s
KGCAE Kacgae 44.30 124 *i* P **P** **21 51 59.5 +0.9**
PTLB Pontes e Lacer 44.41 248 **P** **21 52 00.1 +0.7**
PTLB Pontes e Lacer 44.41 248 *e*P **P** **21 52 00.5 +1.1**
VILB Vilhena 44.77 252 P **P** **21 52 03.1 +0.6**
KSANE Kasane 45.00 115 P **P** **21 52 04.4 +0.2**
KSANE IAmb IAmb 21 52 06.0
comp=Z,43nm,1.1s
KSANE Kasane 45.00 115 *i* P **P** **21 52 05.1 +0.8**
PHDHD Phuduhudu 45.25 119 P **P** **21 52 06.7 +0.4**
PHDHD IAmb IAmb 21 52 08.2
comp=Z,36nm,0.9s
PHDHD Phuduhudu 45.25 119 *i* P **P** **21 52 07.2 +1.0**
SJPY San Joaquin 45.28 234 *e*P **P** **21 52 06.9 +0.5**
CEST Esterri de Car 45.47 19 **P** **21 52 08.4 +0.7**
PHPEN Phepeng 45.99 126 P **P** **21 52 11.8 -0.2**
PHPEN IAmb IAmb 21 52 13.5
comp=Z,60nm,1.1s
PHPEN Phepeng 45.99 126 *i* P **P** **21 52 12.6 +0.6**
CPSB Cacapava Do Su 46.01 226 *e*P **P** **21 52 13.3 +1.3**
SIV San Ignacio 46.35 248 P **P** **21 52 16.2 +1.3**
comp=Z,9.8nm,0.9s,baz=86,slow=9.6,SNR=34
SIV PcP **PcP** **21 53 49.9 -0.3**
comp=Z,6.0nm,0.9s,baz=85,slow=5.5,SNR=6.2
SIV LR LR 22 10 00.3
comp=Z,806nm,21.1s,baz=98,slow=34
comp=Z,9.8nm,0.9s
SKOMA Sekoma 46.44 125 *i* P **P** **21 52 16.1 +0.5**
GDSD La Dsirade Is 46.45 293 P **P** **21 52 15.9 +0.2**
KDWAN Kaudwane 46.58 123 P **P** **21 52 16.9 +0.2**
KDWAN Kaudwane 46.58 123 *i* P **P** **21 52 17.2 +0.5**
SOOWA Sowa 46.86 119 *i* P **P** **21 52 19.5 +0.6**
CPUP Villa Florida 46.88 233 P **P** **21 52 18.8 -0.1**
CPUP Villa Florida 46.88 233 P **P** **21 52 19.3 +0.4**
comp=Z,3.3nm,1.1s,baz=303,slow=1.0,SNR=15
CPUP PcP **PcP** **21 53 51.3 -0.4**
comp=Z,1.6nm,0.9s,baz=94,slow=2.6,SNR=5.0
CPUP LR LR 22 10 38.9
comp=Z,172nm,18.9s,baz=288,slow=34
comp=Z,3.3nm,1.1s
PLTB Pedras Altas 46.89 224 **P** **21 52 19.7 +0.8**
PLTB IAmb IAmb 21 52 22.9
comp=Z,22nm,1.2s
PLTB Pedras Altas 46.89 224 *e*P **P** **21 52 20.4 +1.5**
LSZ Lusaka 47.07 111 **P** **21 52 21.3 +0.6**
LSZ IAmb IAmb 21 52 22.8
comp=Z,22nm,0.9s
LSZ Lusaka 47.07 111 LR LR 22 10 08.0
comp=Z,180nm,18.9s,baz=299,slow=34
LSZ Lusaka 47.07 111 P **P** **21 52 21.3 +0.6**
LSZ pmax pmax
comp=Z,22nm,1.0s
VAE Valguarnera 47.22 34 LR LR 22 14 08.9
comp=Z,2µm,18.2s,baz=162,slow=39
LPHEP Lephephe 47.58 122 P **P** **21 52 24.5 0.0**
LPHEP Lephephe 47.58 122 *i* P **P** **21 52 25.1 +0.6**
MBAR Mbarara 47.67 91 P **P** **21 52 26.6 +1.1**
MBAR IAmb IAmb 21 52 28.8
comp=Z,55nm,1.5s
MBAR Mbarara 47.67 91 *d* iP **P** **21 52 27.2 +1.7**
MAKGR Makgori 47.71 126 P **P** **21 52 25.3 -0.3**
MAKGR Makgori 47.71 126 *i* P **P** **21 52 26.1 +0.6**
TEFE Tefe 47.80 265 *e*P **P** **21 52 26.7 +0.4**
ITQB Itaqui 47.95 228 P **P** **21 52 27.7 +0.6**
ITQB IAmb IAmb 21 52 29.3
comp=Z,36nm,1.0s
SUR Sutherland 47.98 136 P **P** **21 52 28.4 +0.8**
SUR IAmb IAmb 21 52 29.6
comp=Z,35nm,1.0s
LBTB Lobatse 48.02 124 **P** **21 52 27.6 -0.3**
LBTB IAmb IAmb 21 52 29.4
comp=Z,37nm,1.0s
LBTB Lobatse 48.02 124 LR LR 22 10 02.1
comp=Z,167nm,19.7s,baz=301,slow=33
LBTB Lobatse 48.02 124 P **P** **21 52 27.7 -0.3**
LBTB pmax pmax
comp=Z,37nm,1.0s
PCRV Puerto La Cruz 48.52 284 LR LR 22 12 25.3
comp=Z,55nm,19.2s,slow=35
CEL Celeste 48.60 35 P **P** **21 52 32.6 +0.5**
comp=Z,61nm,1.0s
MREMI Moremi 48.64 121 P **P** **21 52 31.8 -0.9**
MREMI IAmb IAmb 21 52 33.8
comp=Z,19nm,0.8s
MREMI Moremi 48.64 121 *i* P **P** **21 52 32.9 +0.2**
MATP Matopo 48.83 117 LR LR 22 10 42.3
comp=Z,126nm,19.0s,baz=285,slow=33
SSB Saint Sauveur 48.95 20 **P** **21 52 34.2 -0.4**
SSB Saint Sauveur 48.95 20 P **P** **21 52 34.2 -0.4**
SSB pmax pmax
comp=Z,11nm,1.0s
BOSA Boshof 49.33 129 **P** **21 52 37.8 -0.2**
BOSA IAmb IAmb 21 52 39.0
comp=Z,32nm,0.9s
BOSA Boshof 49.33 129 P **P** **21 52 37.7 -0.3**
comp=Z,31nm,1.0s,baz=303,slow=7.1,SNR=41
BOSA ScP **ScP** **21 57 57.2 +0.7**
comp=Z,2.9nm,0.9s,baz=298,slow=4.1,SNR=4.5
BOSA LR LR 22 10 07.2
comp=Z,151nm,19.7s,baz=292,slow=32
comp=Z,31nm,1.0s
BNI Bardonecchia 49.51 22 P **P** **21 52 39.9 +0.8**
BNI Bardonecchia 49.51 22 P **P** **21 52 39.9 +0.8**
BNI pmax pmax
comp=Z,23nm,1.1s
TIP Timpagrande 49.72 34 P **P** **21 52 40.5 -0.2**
TIP IAmb IAmb 21 52 42.2
comp=Z,28nm,1.0s
TIP Timpagrande 49.72 34 P **P** **21 52 41.3 +0.6**
comp=Z,27nm,1.2s
CESX Cesi 50.04 28 **P** **21 52 42.8 -0.2**
CESX IAmb IAmb 21 52 44.9
comp=Z,45nm,1.3s
AQU L'Aquila 50.24 29 P **P** **21 52 45.2 +0.6**
comp=Z,44nm,1.1s
FDMO Fiordimonte 50.61 28 P **P** **21 52 47.1 -0.3**
FDMO IAmb IAmb 21 52 50.1
comp=Z,37nm,1.0s
CLF Chambon-Foret 50.68 17 **P** **21 52 48.2 +0.6**
CLF IAmb IAmb 21 52 50.0
comp=Z,50nm,1.0s
SENIN Lac Senin/Sane 50.86 21 **P** **21 52 49.5 +0.1**
HUMP Col San Antoni 51.34 293 P **P** **21 52 53.4 +0.2**
HUMP IAmb IAmb 21 52 54.8
comp=Z,33nm,0.8s
PDPR Patillas Dam, 51.47 293 P **P** **21 52 54.4 +0.3**
PDPR IAmb IAmb 21 52 55.6
comp=Z,74nm,1.3s
ITM Ithomi 51.56 40 P **P** **21 52 54.7 +0.2**
ITM IAmb IAmb 21 52 56.1
comp=Z,24nm,0.8s
SJG San Juan 51.61 293 LR LR 22 11 04.0
comp=Z,64nm,19.6s,baz=50,slow=32
BAUV El Baul 51.67 281 **P** **21 52 55.6 -0.2**
TUE Stuetta 51.72 23 **P** **21 52 55.3 -0.5**
TUE Stuetta 51.72 23 P **P** **21 52 55.5 -0.4**
comp=Z,1µmcomp=Z,48nm,1.0s
DAVOX Davos/Dischmat 52.19 23 LR LR 22 14 56.0
comp=Z,515nm,20.1s,baz=227,slow=36
FUORN Ofenpass-Fuorn 52.21 23 **P** **21 52 59.4 -0.1**
CTI Castel Tesino 52.31 25 P **P** **21 53 00.2 0.0**
CTI Castel Tesino 52.31 25 P **P** **21 53 00.2 0.0**
CTI pmax pmax
comp=Z,15nm,0.8s
LODK Lodwar 52.37 86 **P** **21 53 01.4 +0.4**
ECH Echery 52.39 20 P **P** **21 53 00.6 +0.1**
ECH Echery 52.39 20 P **P** **21 53 00.6 +0.1**
ECH pmax pmax
comp=Z,21nm,1.2s
GRHM Grahamstown, E 52.42 134 P **P** **21 53 00.9 -0.2**
GRHM IAmb IAmb 21 53 02.4
comp=Z,42nm,0.9s
IDI Anoyia 52.45 43 **P** **21 53 02.0 +0.7**
IDI IAmb IAmb 21 53 03.9
comp=Z,24nm,0.9s
IDI Anoyia 52.45 43 LR LR 22 18 20.1
comp=Z,318nm,18.3s,baz=236,slow=40
DAVA Damuels 52.60 23 *i* P **P** **21 53 02.0 -0.3**
comp=Z,68nm,1.0s,SNR=18
FETA Feichten 52.72 24 *i* P **P** **21 53 02.9 -0.3**
comp=Z,35nm,1.1s,SNR=10
BFO Black Forest 52.90 21 P **P** **21 53 04.3 0.0**
BFO IAmb IAmb 21 53 05.7
comp=Z,23nm,0.8s
BFO Black Forest 52.90 21 P **P** **21 53 04.3 0.0**
BFO pmax pmax
comp=Z,23nm,0.8s
BFO Black Forest 52.90 21 *e*P **P** **21 53 04.8 +0.5**
comp=Z,18nm,0.9s,baz=213,slow=7.2
LPAZ La Paz 53.00 250 **P** **21 53 05.2 -1.1**
LPAZ La Paz 53.00 250 P **P** **21 53 05.8 -0.5**
comp=Z,6.2nm,0.7s,baz=78,slow=4.4,SNR=32
LPAZ PcP **PcP** **21 54 14.4 -0.7**
comp=Z,7.0nm,0.8s,baz=28,slow=2.6,SNR=6.8
LPAZ LR LR 22 14 08.6
comp=Z,344nm,21.6s,baz=88,slow=34
comp=Z,6.2nm,0.7s
LPAZ La Paz 53.00 250 *e*P **P** **21 53 06.0 -0.3**
SQTA Sankt Quirin 53.07 24 *i* P **P** **21 53 05.4 -0.4**
comp=Z,47nm,1.0s,SNR=18
RETA Reutte 53.11 23 *i* P **P** **21 53 05.4 -0.5**
comp=Z,40nm,1.6s,SNR=5.7
MOTA Moosalm 53.13 24 *e*P **P** **21 53 05.7 -0.5**
comp=Z,42nm,1.4s,SNR=7.5
DOU Dourbes 53.21 17 *d*P **P** **21 53 06.8 +0.3**
comp=Z,15nm,1.0s
DOU *d*PcP **PcP** **21 54 14.0 -0.4**
ABTA Abfaltersbach 53.23 25 *e*P **P** **21 53 07.5 +0.6**
comp=Z,56nm,1.6s,SNR=5.9
WTTA Wattenberg 53.28 24 *i* P **P** **21 53 07.1 -0.2**
comp=Z,56nm,1.1s,SNR=9.8
WLF Walferdange 53.31 19 P **P** **21 53 07.5 +0.3**
WLF Walferdange 53.31 19 P **P** **21 53 07.5 +0.3**
WLF pmax pmax
comp=Z,20nm,1.3s
WLF Walferdange 53.31 19 *d*P **P** **21 53 07.6 +0.3**
comp=Z,6.2nm,0.0s
WATA Walderalm 53.31 24 *i* P **P** **21 53 07.0 -0.6**
comp=Z,40nm,1.1s,SNR=7.9
GBAS Gorenja Brezov 53.44 27 *i* P **P** **21 53 09.1 +0.7**
PRED Cave del Predi 53.45 26 **P** **21 53 08.7 +0.2**
PRED IAmb IAmb 21 53 10.4
comp=Z,25nm,1.0s
BMRD Maredsous 53.45 17 *d*P **P** **21 53 08.2 0.0**
comp=Z,7.3nm,1.1s
BMRD *d*PcP **PcP** **21 54 16.3 +1.0**
LJU Ljubljana 53.57 27 *e*P **P** **21 53 10.2 +0.9**
STU Stuttgart 53.58 21 P **P** **21 53 09.0 -0.3**
STU IAmb IAmb 21 53 10.4
comp=Z,19nm,0.7s
STU Stuttgart 53.58 21 P **P** **21 53 09.0 -0.3**
STU pmax pmax
comp=Z,19nm,0.7s
BGES Gesves 53.62 17 *d*P **P** **21 53 09.8 +0.3**
comp=Z,12nm,1.0s
BGES *d*PcP **PcP** **21 54 17.2 +1.3**
MYKA Terra Mystica 53.62 26 P **P** **21 53 10.4 +0.6**
comp=Z,22nm,1.1s
BCLA Clavier 53.71 17 *d*P **P** **21 53 10.0 -0.2**
comp=Z,11nm,1.0s
UCC Uccle 53.77 17 P **P** **21 53 10.2 -0.4**
UCC Uccle 53.77 17 P **P** **21 53 10.2 -0.4**
UCC pmax pmax
comp=Z,10.0nm,1.0s
UCC Uccle 53.77 17 *d*P **P** **21 53 11.2 +0.6**
UCC *d*PcP **PcP** **21 54 17.9 +1.3**
LESA Schwarzleotal 53.84 25 *i* P **P** **21 53 11.3 0.0**
comp=Z,39nm,0.9s,SNR=15
KBA Koelnbreinsper 53.84 25 *i* P **P** **21 53 11.8 +0.3**
comp=Z,58nm,1.9s
BHOU Houvegnez 53.87 18 *d*P **P** **21 53 12.1 +0.7**
BHOU *d*PcP **PcP** **21 54 18.8 +1.8**
BSTI Sart Tilman 53.94 18 *d*P **P** **21 53 12.5 +0.7**
POGA Pongola 53.98 124 P **P** **21 53 11.9 -0.8**
POGA IAmb IAmb 21 53 13.7
comp=Z,44nm,1.2s
MEM Membach 54.09 18 *d*P **P** **21 53 13.3 +0.4**
RJOB Jochberg 54.13 24 *e*P **P** **21 53 13.2 -0.2**
comp=Z,13nm,0.7s,baz=213,slow=7.2
BEBN Eben Emael 54.16 18 *d*P **P** **21 53 14.3 +0.8**
KARP Karpathos 54.16 44 **P** **21 53 13.9 0.0**
KARP Karpathos 54.16 44 P **P** **21 53 14.6 +0.7**
comp=Z,67nm,0.9s
KMBO Kilima Mbogo 54.19 91 P **P** **21 53 15.9 +1.2**
KMBO IAmb IAmb 21 53 18.6
comp=Z,33nm,1.2s
KMBO Kilima Mbogo 54.19 91 P **P** **21 53 15.9 +1.2**
KMBO pmax pmax
comp=Z,33nm,1.2s
SDV Santo Domingo 54.21 281 LR LR 22 15 51.8
comp=Z,63nm,18.5s,baz=93,slow=36
SOKA Soboth 54.27 27 *i* P **P** **21 53 15.1 +0.6**
comp=Z,36nm,1.2s,SNR=6.3
PERS Pernice 54.28 27 *e*P **P** **21 53 15.0 +0.4**
BIOA Bad Ischl, Aus 54.45 25 *e*P **P** **21 53 14.9 -0.8**
comp=Z,12nm,1.1s
TNS Taunus Mts 54.54 20 *e*P **P** **21 53 17.1 +0.7**
comp=Z,25nm,0.8s,baz=213,slow=7.2
PB16 IPOC Station P 54.74 248 P **P** **21 53 18.2 -0.8**
GO01 Chusmiza 54.77 246 P **P** **21 53 17.8 -1.3**
MOA Molln 54.84 25 *i* P **P** **21 53 18.0 -0.5**
comp=Z,44nm,1.5s,SNR=8.7
PB08 IPOC Station P 54.85 245 P **P** **21 53 18.4 -1.1**
BEHE Becsehely 54.92 28 P **P** **21 53 19.8 +0.7**
ARSA Arzberg 54.93 27 *i* P **P** **21 53 19.4 +0.2**
comp=Z,95nm,3.0s
GRFO Grafenberg 55.09 22 P **P** **21 53 20.3 0.0**
GRFO Grafenberg 55.09 22 P **P** **21 53 20.3 0.0**
GRFO pmax pmax
comp=Z,15nm,0.9s
GRA1 Grafenberg Arr 55.09 22 P **P** **21 53 20.0 -0.3**
GRF Grafenberg Arr 55.09 22 P **P** **21 53 20.0 -0.3**
GRF pmax pmax
comp=Z,17nm,0.9s
GRF Grafenberg Arr 55.09 22 *e*P **P** **21 53 20.4 +0.1**
comp=Z,14nm,0.8s,baz=213,slow=7.2
GRF *e*L L 22 17 19.2
comp=Z,335nm,20.2s
BDRM Kayabasi 55.14 43 ⇓P **P** **21 53 20.8 -0.2**
BUG Bochum-Univer 55.21 18 *e*P **P** **21 53 22.7 +1.6**
comp=Z,11nm,0.7s,baz=213,slow=7.2
PB11 IPOC Station P 55.22 246 P **P** **21 53 20.5 -1.4**
PB11 IAmb IAmb 21 54 23.8
comp=Z,20nm,1.0s
WET Wettzell 55.28 23 *e*P **P** **21 53 22.1 +0.3**
comp=Z,28nm,0.9s,baz=213,slow=7.2
KASTN Kahler Asten 55.37 19 *e*P **P** **21 53 23.1 +0.8**
comp=Z,5.1nm,0.7s,baz=213,slow=7.2
PB09 IPOC Station P 55.37 243 P **P** **21 53 22.5 -0.6**
PB09 IAmb IAmb 21 53 32.4
comp=Z,58nm,1.2s
GEC2 GERESS Array S 55.38 24 P **P** **21 53 22.5 0.0**
GEC2 GERESS Array S 55.38 24 *e*P **P** **21 53 22.8 +0.3**
comp=Z,12nm,0.8s,baz=213,slow=7.2
GERES GERESS Array B 55.38 24 P **P** **21 53 22.2 -0.3**
GERES GERESS Array B 55.38 24 P **P** **21 53 22.4 0.0**
comp=Z,9.6nm,0.8s,baz=216,slow=6.6,SNR=81
GERES PP **PP** **21 55 24.8 -1.6**
comp=Z,1.8nm,0.7s,baz=210,slow=10.0,SNR=4.7
GERES LR LR 22 17 10.9
comp=Z,384nm,20.6s,baz=240,slow=36
comp=Z,9.6nm,0.8s
BOVS Bovan 55.47 33 ⇑P **P** **21 53 24.0 +0.9**
ROTZ Rotzenmuhle 55.52 23 *e*P **P** **21 53 23.4 0.0**
comp=Z,2.0nm,1.0s,baz=213,slow=7.2
KHC Kasperske Hory 55.55 24 *e*P **P** **21 53 22.7 -1.0**
KHC *e*S **S** **22 01 08.5 -0.9**
KHC AMS AMS 22 16 50.0
comp=Z,500nm,18.6s
KHC Kasperske Hory 55.55 24 *e*P **P** **21 53 22.7 -1.0**
KHC *e*S **S** **22 01 08.5 -0.9**
KHC MLR MLR
comp=Z,500nm,18.6s
KHC Kasperske Hory 55.55 24 P **P** **21 53 23.4 -0.3**
comp=Z,10nm,1.4s
BANI BANI 55.55 292 P **P** **21 53 24.4 +0.1**
HMBC Humberstone 55.55 245 P **P** **21 53 22.9 -1.5**
HMBC IAmb IAmb 21 53 24.2
comp=Z,42nm,1.0s
CONA Conrad Observa 55.59 26 *e*P **P** **21 53 24.2 +0.2**
comp=Z,35nm,1.4s,SNR=11
CKRC Cesky Krumlov 55.61 25 *e*P **P** **21 53 24.3 +0.2**
CKRC *e*S **S** **22 01 06.8 -3.3**
CKRC AMS AMS 22 17 10.0
comp=Z,400nm,17.8s
CKRC Cesky Krumlov 55.61 25 *e*P **P** **21 53 24.3 +0.2**
CKRC *e*S **S** **22 01 06.8 -3.3**
CKRC MLR MLR
comp=Z,400nm,17.8s
RONA Rosalia, Austr 55.61 27 *i* P **P** **21 53 24.7 +0.6**
comp=Z,49nm,1.2s,SNR=13

MORH Mrgy, Hungar 55.63 29 ⇑P **P 21 53 24.2 0.0**
MORH Mrgy, Hungar 55.63 29 P **P 21 53 24.6 +0.4**
comp=Z,9,9nm,1.2s
MORH pP **sP 21 53 28.1 +1.7**
comp=Z,9,9nm,1.2s
MANZ Manzenberg 55.66 22 *e*P **P 21 53 24.7 +0.3**
comp=Z,5.0nm,0.9s,baz=213,slow=7.2
TA02 Huaiquique 55.77 245 P **P 21 53 24.6 -1.1**
TA02 lAmb lAmb 21 53 25.9
comp=Z,55nm,1.1s
MPLH Magyarpolny 55.79 28 P **P 21 53 25.9 +0.5**
comp=Z,48nm,1.2s
GDLE Glaisdale, N Y 55.87 11 *e*P **P 21 53 26.2 +0.5**
PB03 IPOC Station P 55.89 243 P **P 21 53 25.8 -1.0**
PB03 lAmb lAmb 21 53 27.8
comp=Z,24nm,1.0s
EZN Ezine 55.90 40 ⇑P **P 21 53 27.0 +0.8**
EZN Ezine 55.90 40 ⇑P **P 21 53 27.0 +0.8**
EZN Ezine 55.90 40 P **P 21 53 27.1 +0.8**
comp=Z,µmcomp=Z,21nm,2.0s
PB06 IPOC Station P 55.91 242 P **P 21 53 26.5 -0.4**
PB06 lAmb lAmb 21 53 36.7
comp=Z,30nm,1.0s
PATCX Punta Patache 55.93 245 P **P 21 53 26.0 -1.0**
NKC Novy Kostel 55.99 22 *e*P **P 21 53 27.4 +0.6**
NKC *e*S **S 22 01 17.3 +2.2**
NKC AMS AMS 22 17 40.0
comp=Z,400nm,21.4s
NKC Novy Kostel 55.99 22 *e*P **P 21 53 27.4 +0.6**
NKC *e*S **S 22 01 17.3 +2.2**
NKC MLR MLR
comp=Z,400nm,21.4s
MOX Moxa 56.01 22 *e*P **P 21 53 27.3 +0.4**
comp=Z,12nm,0.8s,baz=213,slow=7.2
MOX *e*L L 22 17 46.4
comp=Z,357nm,19.7s
EDMD Edmundbyers 56.04 10 *e*P **P 21 53 26.9 -0.1**
EDMD lAmb lAmb 21 53 28.7
comp=Z,14nm,1.0s
ZVC Zvikov 56.04 24 *e*P **P 21 53 27.1 -0.1**
ZVC AMS AMS 22 17 00.0
comp=Z,500nm,20.2s
FURI Furi 56.08 79 P **P 21 53 29.4 +1.0**
TRQA Tornquist 56.09 222 P **P 21 53 27.5 -0.2**
TRQA Tornquist 56.09 222 P **P 21 53 27.5 -0.2**
TRQA pmax pmax
comp=Z,10.0nm,1.2s
CZSB Cruzeiro do Su 56.12 261 P **P 21 53 27.4 -1.0**
CZSB lAmb lAmb 21 53 28.7
comp=Z,75nm,1.7s
SC01 Santiago de lo 56.13 293 P **P 21 53 28.6 +0.2**
TANN Tannenbergstha 56.14 22 *e*P **P 21 53 28.2 +0.3**
comp=Z,21nm,1.0s,baz=213,slow=7.2
RDO Rodhopi 56.16 38 P **P 21 53 28.3 +0.2**
RDO lAmb lAmb 21 53 29.8
comp=Z,26nm,1.1s
MDVR Moldovita 56.22 32 ⇑P **P 21 53 29.9 +1.4**
ESK Eskdalemuir 56.29 9 P **P 21 53 28.4 -0.3**
ESK Eskdalemuir 56.29 9 *e*P **P 21 53 28.9 +0.1**
ESK lAmb lAmb 21 53 29.8
comp=Z,5.9nm,0.8s
ESK Eskdalemuir 56.29 9 P **P 21 53 28.5 -0.3**
ESK pmax pmax
comp=Z,15nm,1.1s
EKA Eskdalemuir Ar 56.31 9 P **P 21 53 29.0 0.0**
comp=Z,4.8nm,0.8s,baz=196,slow=7.3,SNR=17
EKA PcP **PcP 21 54 27.2 +1.0**
comp=Z,4.6nm,1.0s,baz=180,slow=3.9,SNR=4.2
comp=Z,4.8nm,0.8s
TAVA DENIZLI_Tavas 56.35 43 ⇓P **P 21 53 28.9 -0.8**
RUSC La Rusia 56.36 277 P **P 21 53 30.0 -0.6**
RUSC lAmb lAmb 21 53 32.9
comp=Z,40nm,1.3s
TREC Trest 56.47 25 *e*P **P 21 53 30.2 0.0**
TREC Trest 56.47 25 *e*P **P 21 53 30.2 0.0**
SDDR Presa de Saban 56.55 293 P **P 21 53 31.3 -0.1**
MODS Modra-Piesok 56.55 27 *e*P **P 21 53 29.9 -0.9**
MODS pmax pmax
comp=Z,44nm,1.1s
MODS Modra-Piesok 56.55 27 *e*P **P 21 53 29.8 -1.0**
DJES Djerdap 56.58 33 ⇓P **P 21 53 32.5 +1.4**
PRU Pruhonice 56.62 24 *e*P **P 21 53 32.7 +1.5**
PRU *e*S **S 22 01 19.5 -3.9**
PRU AMS AMS 22 17 40.0
comp=Z,600nm,21.1s
PRU Pruhonice 56.62 24 *e*P **P 21 53 32.7 +1.5**
PRU *e*S **S 22 01 19.5 -3.9**
PRU MLR MLR
comp=Z,600nm,21.1s
SRO Srobarova 56.62 28 *e*P **P 21 53 32.6 +1.3**
SRO pmax pmax
comp=Z,20nm,1.0s
SRO Srobarova 56.62 28 *e*P **P 21 53 32.6 +1.3**
PRA Prague 56.64 24 AMS AMS 22 17 30.0
comp=Z,600nm,19.0s
MANT Manisa 56.64 42 P **P 21 53 32.0 +0.1**
MANT lAmb lAmb 21 53 33.6
comp=Z,28nm,1.3s
GO02 Mina Guanaco 56.65 240 P **P 21 53 32.4 +0.1**
GOPC GO Pecny, Ondr 56.66 24 *e*P **P 21 53 31.8 +0.2**
GOPC AMS AMS 22 17 40.0
comp=Z,500nm,19.4s
GOPC GO Pecny, Ondr 56.66 24 *e*P **P 21 53 31.8 +0.2**
GOPC MLR MLR
comp=Z,500nm,19.4s
HERR Herculane 56.66 33 ⇑P **P 21 53 33.1 +1.5**
KRUC Moravsky 56.68 26 *e*P **P 21 53 30.8 -0.9**
ELL Elmali 56.69 45 P **P 21 53 32.4 +0.2**
ELL Elmali 56.69 45 P **P 21 53 32.4 +0.2**
ELL pmax pmax
comp=Z,52nm,0.8s
BZS Buzias 56.72 32 ⇑P **P 21 53 33.2 +1.1**
BZS Buzias 56.72 32 ⇑P **P 21 53 33.2 +1.1**
AC02 Maricunga 56.78 238 P **P 21 53 33.2 -0.3**
AC02 lAmb lAmb 21 53 36.0
comp=Z,43nm,1.1s
LAWE Loch Awe, Argy 56.88 8 *e*P **P 21 53 32.3 -0.6**
VRAC Vranov 56.95 26 *e*P **P 21 53 33.0 -0.6**
VRAC Vranov 56.95 26 LR LR 22 20 31.3
comp=Z,411nm,18.2s,baz=226,slow=39
VRAC Vranov 56.95 26 ⇓P **P 21 53 33.1 -0.6**
VRAC Vranov 56.95 26 ⇓P **P 21 53 33.1 -0.6**
SRE Strehaia 56.95 33 ⇑P **P 21 53 34.9 +1.2**
SRE Strehaia 56.95 33 ⇑P **P 21 53 34.9 +1.2**
ESY Stoneypath 56.96 10 *e*P **P 21 53 33.8 +0.2**
RETH Rethem/Aller, 56.98 19 *e*P **P 21 53 35.2 +1.5**
baz=213,slow=7.2
PVCC Panska Ves 57.05 23 *e*P **P 21 53 34.6 +0.3**
PVCC Panska Ves 57.05 23 *e*P **P 21 53 34.6 +0.3**
CLL Collm 57.06 22 P **P 21 53 34.2 -0.2**
CLL Collm 57.06 22 P **P 21 53 34.2 -0.2**
CLL pmax pmax
comp=Z,16nm,1.1s
CLL Collm 57.06 22 P **P 21 53 34.4 0.0**
comp=Z,179nmcomp=Z,14nm,1.1s
CLL Collm 57.06 22⇓*i*P **P 21 53 34.2 -0.2**
comp=Z,18nm,1.1s
CLL *e*PP **PP 21 55 44.0 +2.8**
CLL *e*S **S 22 01 28.0 -1.2**
CLL AMS AMS 22 18 00.0
comp=Z,300nm,20.1s
CLL Collm 57.06 22 *e*P **P 21 53 35.6 +1.2**
comp=Z,11nm,0.9s,baz=213,slow=7.2
BRG Berggiesshubel 57.08 23 *e*P **P 21 53 34.8 +0.4**
comp=Z,9.2nm,0.9s,baz=213,slow=7.2
BRG Berggiesshubel 57.08 23 *i*P **P 21 53 34.7 +0.2**
BRG Amp 21 53 35.7
comp=Z,14nm,0.9s
BRG Berggiesshubel 57.08 23 P P 21 53 44.2 +10
BRG Amp 21 53 45.0
comp=Z,6.9nm,0.9s
BRG PP **PP 21 55 39.0 -2.4**
BRG Amp 21 55 40.9
comp=Z,8.6nm,1.3s
BRG Berggiesshubel 57.08 23 S **S 22 01 30.0 +0.6**
SURR Surduc 57.08 32 ⇓P **P 21 53 35.4 +0.7**
JAVC Velka Javorina 57.09 27 *e*P **P 21 53 35.0 +0.3**
SIRR Siria 57.18 31 ⇓P **P 21 53 36.3 +0.9**
BSZH Besenyszg 57.19 29 ⇑P **P 21 53 36.2 +0.9**
GZR Gura Zlata 57.19 32 ⇑P **P 21 53 36.6 +1.1**
GZR Gura Zlata 57.19 32 ⇑P **P 21 53 36.6 +1.1**
PB14 IPOC Station P 57.19 240 P **P 21 53 36.0 -0.2**
BAND Balkesir-Ban 57.33 40 ⇑P **P 21 53 33.9 -2.5**
VYHS Vyhne 57.35 27 *e*P **P 21 53 36.8 +0.3**
VYHS pmax pmax
comp=Z,30nm,1.1s
VYHS Vyhne 57.35 27 *e*P **P 21 53 36.8 +0.3**
PSZ Piszkesteto 57.44 29 P **P 21 53 37.4 +0.3**
PSZ lAmb lAmb 21 53 38.9
comp=Z,35nm,1.2s
PSZ Piszkesteto 57.44 29 ⇑P **P 21 53 37.5 +0.3**
PSZ Piszkesteto 57.44 29 ⇑P **P 21 53 37.5 +0.3**
EIL Elat 57.52 54 LR LR 22 20 00.3
comp=Z,263nm,18.0s,baz=257,slow=38
ROSC El Rosal 57.52 276 P **P 21 53 40.0 +1.3**
comp=Z,16nm,0.5s,baz=103,slow=5.4,SNR=9.1
ROSC LR LR 22 15 17.1
comp=Z,176nm,21.8s,baz=75,slow=33
comp=Z,16nm,0.5s
DEV Deva 57.58 32 ⇑P **P 21 53 38.7 +0.6**
DEV Deva 57.58 32 ⇑P **P 21 53 38.7 +0.6**
KRLC Kraliky 57.61 25 *e*P P 21 53 43.9 +5.6
KRLC AMS AMS 22 20 00.0
comp=Z,400nm,18.1s
KRLC Kraliky 57.61 25 *e*P P 21 53 43.9 +5.6
KRLC MLR MLR
comp=Z,400nm,18.1s
UPC Upice 57.62 24 *e*P **P 21 53 38.5 +0.2**
UPC *e*S **S 22 01 38.3 +1.7**
UPC AMS AMS 22 17 50.0
comp=Z,400nm,17.8s
UPC Upice 57.62 24 *e*P **P 21 53 38.5 +0.2**
UPC *e*S **S 22 01 38.3 +1.7**
UPC MLR MLR
comp=Z,400nm,17.8s
DPC Dobruska-Polom 57.62 25 *e*P **P 21 53 38.3 -0.1**
DPC *epP* **pwP 21 53 45.5 +0.2**
DPC *e*S **S 22 01 38.0 +1.2**
DPC AMS AMS 22 18 10.0
comp=Z,400nm,20.3s
DPC Dobruska-Polom 57.62 25 *e*P **P 21 53 38.3 -0.1**
DPC *e* 21 53 45.5
DPC *e*S **S 22 01 38.0 +1.2**
DPC Dobruska-Polom 57.62 25 P **P 21 53 38.4 0.0**
comp=Z,19nm,1.1s
CHVC Chvalec 57.70 24 *e*P **P 21 53 38.9 0.0**
CHVC *e*S **S 22 01 39.1 +1.4**
CHVC AMS AMS 22 17 50.0
comp=Z,400nm,18.3s
CHVC Chvalec 57.70 24 *e*P **P 21 53 38.9 0.0**
CHVC *e*S **S 22 01 39.1 +1.4**
CHVC MLR MLR
comp=Z,400nm,18.3s
MORC Moravsky Berou 57.71 26 **P 21 53 39.0 -0.1**
MORC lAmb lAmb 21 53 40.5
comp=Z,23nm,1.1s
MORC Moravsky Berou 57.71 26 *e*P **P 21 53 38.7 -0.3**
MORC Moravsky Berou 57.71 26 ⇓P **P 21 53 39.0 -0.1**
MORC Moravsky Berou 57.71 26 ⇓P **P 21 53 39.0 -0.1**
OSTC Ostas 57.74 24 *e*P **P 21 53 39.3 +0.1**
OSTC *e*S **S 22 01 38.6 +0.4**
OSTC AMS AMS 22 17 50.0
comp=Z,400nm,19.8s
OSTC Ostas 57.74 24 *e*P **P 21 53 39.3 +0.1**
OSTC *e*S **S 22 01 38.6 +0.4**
OSTC MLR MLR
comp=Z,400nm,19.8s
LOT Lotru 57.76 33 ⇓P **P 21 53 40.2 +0.7**
HUMR Humele 57.86 34 ⇑P **P 21 53 41.2 +1.1**
KPL Plockton 57.90 7 *e*P **P 21 53 39.8 -0.3**
STEB Steborice 57.93 26 *e*P **P 21 53 40.5 0.0**
DRUM Mains of Drumt 57.94 9 *e*P **P 21 53 40.1 -0.3**
DRUM lAmb lAmb 21 53 41.6
comp=Z,16nm,1.1s
GO03 Copiapo 57.96 237 P **P 21 53 41.6 +0.4**
GO03 lAmb lAmb 21 53 42.7
comp=Z,29nm,0.9s
AC06 Mina Casimiro 57.99 237 P **P 21 53 41.3 -0.1**
AC06 lAmb lAmb 21 53 42.6
comp=Z,26nm,1.0s
KSP Ksiaz 57.99 24 *e*P **P 21 53 41.1 +0.2**
KSP *e*PcP **PcP 21 54 34.4 +1.5**
KSP *e*PP PP 21 55 58.8 +9.3
KSP Ksiaz 57.99 24 P **P 21 53 40.9 0.0**
comp=Z,332nmcomp=Z,15nm,1.1s
OKC Ostrava-Krasne 58.02 26 *e*P **P 21 53 41.4 +0.3**
OKC AMS AMS 22 19 30.0
comp=Z,300nm,18.6s
OKC Ostrava-Krasne 58.02 26 *e*P **P 21 53 41.4 +0.3**
OKC MLR MLR
comp=Z,300nm,18.6s
CTYL Yalikoy Yolu 58.06 39 P **P 21 53 41.4 -0.1**
comp=Z,35nm,0.9s
DRGR 58.07 31 ⇑P **P 21 53 42.0 +0.3**
DRGR 58.07 31 ⇑P **P 21 53 42.0 +0.3**
ZON Zonda 58.08 232 P **P 21 53 42.2 +0.2**
ZON Zonda 58.08 232 P **P 21 53 42.2 +0.2**
ZON pmax pmax
comp=Z,33nm,1.8s
LOZB Loznitsa 58.09 36 ⇑P P 21 53 31.2 -11
LANS Liptovska Anna 58.11 27 *e*P **P 21 53 42.9 +1.0**
LANS pmax pmax
comp=Z,4.0nm,1.0s
LANS Liptovska Anna 58.11 27 *e*P **P 21 53 42.9 +1.0**
RAZG Razgrad 58.16 36 ⇑P **P 21 53 42.8 +0.6**
TNR Turnu Rosu 58.16 33 ⇑P **P 21 53 42.6 +0.3**
TNR Turnu Rosu 58.16 33 ⇑P **P 21 53 42.6 +0.3**
ARR Arges 58.18 33 ⇓P **P 21 53 43.1 +0.6**
MARR Marisel-Cluj 58.21 31 ⇑P **P 21 53 42.7 0.0**
BSEG Bad Segeberg 58.31 19 *e*P **P 21 53 43.6 +0.6**
comp=Z,32nm,0.9s,baz=213,slow=7.2
CSS Mathiatis 58.34 48 P **P 21 53 43.6 -0.1**
comp=Z,10nm,0.9s
KLYT Kilyos 58.41 40 P **P 21 53 43.4 -0.6**
comp=Z,35nm,1.2s
VOIR 58.46 34 ⇓P **P 21 53 44.8 +0.4**
VOIR 58.46 34 ⇓P **P 21 53 44.8 +0.4**
VOIR 58.46 34 P **P 21 53 44.0 -0.4**
comp=Z,29nm,1.0s
VOIR pP **sP 21 53 47.5 +0.5**
comp=Z,29nm,1.0s
MCD Coleburn Disti 58.46 9 *e*P **P 21 53 43.7 -0.4**
MCD lAmb lAmb 21 53 45.1
comp=Z,7.9nm,0.9s
CJR Cluj-Napoca 58.48 32 ⇓P **P 21 53 45.9 +1.4**
CJR Cluj-Napoca 58.48 32 ⇓P **P 21 53 45.9 +1.4**
CO01 Juntas del Tor 58.64 234 P **P 21 53 46.0 -0.2**
CO01 lAmb lAmb 21 53 59.0
comp=Z,20nm,1.1s
NIE Niedzica 58.69 28 *e*P **P 21 53 46.8 +0.9**
NIE *e*PcP **PcP 21 54 37.1 +1.3**
NIE Niedzica 58.69 28 P **P 21 53 46.2 +0.3**
comp=Z,135nmcomp=Z,8.4nm,1.1s
FLOC Florencia 58.74 272 **P 21 53 46.6 -0.3**
FLOC lAmb lAmb 21 53 53.2
comp=Z,32nm,1.3s
LINV Loch Inver, As 58.74 7 *e*P **P 21 53 45.7 -0.3**
LCO Las Campanas 58.81 236 P **P 21 53 47.0 -0.4**
LCO lAmb lAmb 21 53 48.0
comp=Z,75nm,1.9s
LCO Las Campanas 58.81 236 P **P 21 53 47.0 -0.4**
LCO pmax pmax
comp=Z,75nm,1.9s
DOPR Dopca 58.97 33 ⇑P **P 21 53 48.5 +0.6**
MLR Muntele Rosu 58.99 34 **P 21 53 48.1 -0.1**
MLR Muntele Rosu 58.99 34 LR LR 22 21 30.0
comp=Z,842nm,19.5s,baz=236,slow=38
MLR Muntele Rosu 58.99 34 ⇑P **P 21 53 48.6 +0.5**
MLR Muntele Rosu 58.99 34 ⇑P **P 21 53 48.6 +0.5**
MLR Muntele Rosu 58.99 34 P **P 21 53 48.1 -0.1**
comp=Z,390nmcomp=Z,43nm,1.2s
BERU Beregovo 59.00 30 P **P 21 53 48.4 +0.4**
OJC Ojcow 59.03 27 *e*P **P 21 53 48.1 -0.1**
OJC *e*PP PP 21 56 19.6 +21
OJC Ojcow 59.03 27 P **P 21 53 48.1 -0.1**
OJC Ojcow 59.03 27 P **P 21 53 48.2 -0.1**
comp=Z,23nm,1.0s
BMR Baia Mare 59.05 31 ⇑P **P 21 53 49.1 +0.7**
BMR Baia Mare 59.05 31 ⇑P **P 21 53 49.1 +0.7**
TRSU Trosnyk 59.06 30 P **P 21 53 48.1 -0.3**
HOLU Holmets 59.07 29 P **P 21 53 48.5 +0.1**
UZHM Uzhgorod 59.09 29 P **P 21 53 49.0 +0.4**
ISR Istrita 59.10 35 ⇑P **P 21 53 49.0 +0.2**
ISR Istrita 59.10 35 ⇑P **P 21 53 49.0 +0.2**
ISR Istrita 59.10 35 P **P 21 53 49.1 +0.2**
comp=Z,51nm,1.1s
ARCR ARCALIA 59.12 32 ⇑P **P 21 53 49.7 +0.8**
MMAI Mount Meron Ar 59.12 51 P **P 21 53 49.9 +0.6**
comp=Z,2.6nm,0.8s,baz=236,slow=13,SNR=5.6
MMAI LR LR 22 21 10.3
comp=Z,370nm,19.6s,baz=256,slow=38
comp=Z,2.6nm,0.8s
MUKU Mukachevo 59.17 30 P **P 21 53 49.7 +0.6**
BOSR Bodos 59.19 33 ⇑P **P 21 53 50.4 +1.0**
KORU Korolevo 59.19 30 P **P 21 53 49.3 0.0**
ICOR Ion Corvin 59.24 36 ⇑P **P 21 53 49.2 -0.6**
BIGH Upper Bighouse 59.25 8 *e*P **P 21 53 49.0 -0.5**
BIGH lAmb lAmb 21 53 50.9
comp=Z,17nm,0.8s
BRIU Brid 59.25 30 P **P 21 53 49.4 -0.4**
OZUR 59.27 33 ⇓P **P 21 53 50.6 +0.6**
GO04 Tololo Observa 59.28 234 P **P 21 53 50.1 -0.6**
KOLS Kolonicke sedl 59.29 29 *e*P **P 21 53 50.7 +0.7**
KOLS pmax pmax
comp=Z,15nm,1.1s
KOLS Kolonicke sedl 59.29 29 *e*P **P 21 53 50.7 +0.7**
TURR Turia 59.37 33 ⇑P **P 21 53 51.5 +0.8**
SAHE Sakarya_HENDEK 59.37 41 ⇓P **P 21 53 50.1 -0.7**
SHAB Shabla 59.39 37 ⇓P P 21 53 56.4 +5.6
MDUB Mudurnu 59.40 41 **P 21 53 51.8 +0.7**
SSRD Sdr. Stenderup 59.41 17 *i*P **P 21 53 51.1 +0.5**
SSRD lAmb lAmb 21 53 52.1
comp=Z,85nm,1.0s
PLOR Plostina 59.60 34 ⇑P **P 21 53 51.9 -0.4**
PLOR Plostina 59.60 34 ⇑P **P 21 53 51.9 -0.4**
PLOR5 Plostina Array 59.60 34 P **P 21 53 51.6 -0.7**
comp=Z,398nmcomp=Z,17nm,1.0s
MEZ Mezhgor'ye 59.62 30 P **P 21 53 52.9 +0.6**
RAKU Rahkiv 59.63 31 P **P 21 53 52.5 +0.1**
VRI Vrincioaia 59.65 34 ⇑P **P 21 53 52.4 -0.2**
VRI Vrincioaia 59.65 34 ⇑P **P 21 53 52.4 -0.2**
VRI Vrincioaia 59.65 34 P **P 21 53 52.2 -0.4**
comp=Z,354nmcomp=Z,27nm,1.8s
ONER Baraj Valea Uz 59.75 33 ⇑P **P 21 53 54.0 +0.8**
ODBI Odobesti 59.77 34 P **P 21 53 54.0 +0.6**
comp=Z,30nm,0.9s
MT08 Bocatoma Ro 59.84 231 P **P 21 53 54.4 -0.1**
PANC Panciu 59.89 34 ⇓P **P 21 53 54.6 +0.4**
BURAR Bucovina Array 59.91 32 **P 21 53 54.9 +0.5**
BURAR lAmb lAmb 21 53 56.7
comp=Z,19nm,1.1s
BURAR Bucovina Array 59.91 32 ⇑P **P 21 53 55.0 +0.5**
BURAR Bucovina Array 59.91 32 ⇑P **P 21 53 55.0 +0.5**
BUR08 Bucovina Ar. S 59.92 32 **P 21 53 55.0 +0.5**
BUR08 lAmb lAmb 21 53 56.5
comp=Z,20nm,1.1s
KWP Kalwaria Pacla 59.97 29 *e*P **P 21 53 55.2 +0.5**
KWP Kalwaria Pacla 59.97 29 P **P 21 53 55.4 +0.7**
comp=Z,28nm,1.1s
ASF Jabal al Asfar 59.98 52 LR LR 22 23 14.2
comp=Z,254nm,18.3s,baz=276,slow=40
TPGR Topolog 60.03 36 ⇓P **P 21 53 55.2 0.0**
CFR Carcaliu 60.05 35 ⇓P **P 21 53 54.7 -0.6**
CFR Carcaliu 60.05 35 ⇓P **P 21 53 54.7 -0.6**
MUD Monsted U'grnd 60.12 16 *i*P **P 21 53 56.2 +0.7**
MUD lAmb lAmb 21 53 56.9
comp=Z,42nm,1.0s
GHRR 60.15 34 ⇓P **P 21 53 55.8 -0.2**
GHRR 60.15 34 P **P 21 53 55.5 -0.5**
ANTO Ankara 60.18 43 P **P 21 53 56.5 +0.1**
ANTO lAmb lAmb 21 53 58.3
comp=Z,22nm,0.9s
ANTO Ankara 60.18 43 ⇓P **P 21 53 57.1 +0.7**
ANTO Ankara 60.18 43 ⇓P **P 21 53 57.1 +0.7**
ANTO Ankara 60.18 43 P **P 21 53 56.7 +0.3**
comp=Z,14nm,1.1s
GKP Gorka Klasztor 60.22 23 *e*P **P 21 53 57.2 +0.9**
STNU Starunia 60.24 30 P **P 21 53 56.8 +0.2**
PEL Peldehue 60.25 231 P **P 21 53 56.8 -0.2**
PEL Peldehue 60.25 231 P **P 21 53 56.8 -0.2**
PEL pmax pmax
comp=Z,108nm,1.9s
SCTR Scanteiesti 60.25 35 ⇓P **P 21 53 56.1 -0.6**
KSV Kosov 60.27 31 P **P 21 53 57.1 +0.3**
NMDO Nuevo Mundo 60.28 294 P **P 21 53 57.4 0.0**
NMDO lAmb lAmb 21 53 59.2
comp=Z,39nm,1.1s
PRAR RASCA 60.29 32 ⇑P **P 21 53 57.3 +0.4**
KIRS Kirsehir-Merke 60.60 44 ⇑P **P 21 53 59.9 +0.6**
NNA Nana 60.62 256 LR LR 22 19 15.8
comp=Z,332nm,18.2s,baz=76,slow=35
BR105 Keskin Array S 60.67 43 P **P 21 54 00.5 +0.6**
comp=Z,195nmcomp=Z,23nm,0.9s
BR106 Keskin Array S 60.67 43 P **P 21 54 00.3 +0.4**
comp=Z,154nmcomp=Z,18nm,1.0s
BR104 Keskin Array S 60.68 43 P **P 21 54 00.3 +0.4**
comp=Z,182nmcomp=Z,24nm,1.0s
HAL Halifax 60.68 323 P **P 21 53 59.9 +0.3**
HAL Halifax 60.68 323 P **P 21 53 59.9 +0.3**
HAL pmax pmax
comp=Z,58nm,1.3s
BR131 Keskin Array S 60.68 43 **P 21 54 00.2 +0.3**
BR131 lAmb lAmb 21 54 01.6
comp=Z,23nm,0.9s
BR131 Keskin Array S 60.68 43 P **P 21 54 00.3 +0.3**
BR131 pmax pmax
comp=Z,23nm,1.0s
BRTR Keskin Array B 60.68 43 **P 21 54 00.2 +0.3**
BRTR Keskin Array B 60.68 43 P **P 21 54 00.5 +0.5**
comp=Z,13nm,0.8s,baz=233,slow=6.0,SNR=72
BRTR PcP **PcP 21 54 45.1 +1.0**
comp=Z,3.2nm,0.9s,baz=215,slow=4.4,SNR=4.4
BRTR LR LR 22 22 41.5
comp=Z,163nm,19.8s,baz=216,slow=38
comp=Z,13nm,0.8s
CHRU Chernivtsi 60.71 31 P **P 21 54 00.7 +0.9**
comp=Z,1µmcomp=Z,27nm,0.7s
BO02 Sierra Bellavi 60.94 229 P **P 21 54 01.7 0.0**
BO02 lAmb lAmb 21 54 02.9
comp=Z,20nm,1.2s
KMPD K-Podol'skiy 61.15 31 P **P 21 54 01.8 -1.0**
ILGA Ilgaz 61.36 42 **P 21 54 04.1 -0.5**
ILGA lAmb lAmb 21 54 05.9
comp=Z,24nm,1.1s
MILM Milestii Mici 61.44 34⇓*i*P **P 21 54 03.0 -1.7**
comp=Z,100nm,1.7s
MILM *i*S **S 22 02 25.0 -1.0**
comp=Z,70nm,3.3s
MILM *e*L L 22 14 28.0
MILM LRM MLR 22 22 35.0
comp=Z,500nm,18.0s
MILM Milestii Mici 61.44 34 ⇑P **P 21 54 03.1 -1.6**
MILM Milestii Mici 61.44 34*d*P **P 21 54 03.0 -1.7**
MILM *i*S **S 22 02 25.0 -1.0**
MILM pmax pmax
comp=Z,100nm,1.7s
MILM smax smax
comp=E,70nm,3.3s
MILM MLR MLR
comp=Z,500nm,18.0s
KIS Kishinev 61.48 34⇓*e*P **P 21 54 03.0 -2.1**
comp=Z,20nm,0.6s
KIS *e*L L 22 15 43.0
KIS LRM MLR 22 22 53.0
comp=Z,200nm,19.0s
KIS Kishinev 61.48 34*de*P **P 21 54 03.0 -2.1**
KIS pmax pmax
comp=Z,20nm,0.6s
KIS MLR MLR
comp=Z,200nm,19.0s
OTAV Otavalo 61.52 270 P **P 21 54 05.8 -0.7**
OTAV Otavalo 61.52 270 P **P 21 54 05.8 -0.7**
OTAV pmax pmax
comp=Z,8.0nm,1.3s
ATAH Atahualpa 61.70 262 P **P 21 54 08.2 +0.6**
comp=Z,11nm,0.7s,baz=100,slow=5.2,SNR=6.6
ATAH LR LR 22 19 20.2
comp=Z,356nm,21.1s,baz=96,slow=35
comp=Z,11nm,0.7s
PURM Purcari 61.81 35 ⇓P **P 21 54 06.9 -0.3**
PURM Purcari 61.81 35 P **P 21 54 06.8 -0.5**
comp=Z,53nm,0.9s
BNN Bunyan 61.83 45 **P 21 54 07.7 -0.1**
SORM Soroca 61.90 33 ⇓P **P 21 54 06.1 -1.7**
SORM Soroca 61.90 33 ⇓P **P 21 54 06.1 -1.7**
EFI East Falkland 62.01 208 P **P 21 54 09.0 +0.5**
EFI lAmb lAmb 21 55 35.5
comp=Z,53nm,1.7s
EFI East Falkland 62.01 208 P **P 21 54 09.0 +0.5**
EFI pmax pmax
comp=Z,53nm,1.7s
LMN Caledonia Moun 62.06 324 **P 21 54 09.0 0.0**

GAZ **Gaziantep** 62.11 47 P P 21 54 10.1 +0.4
GAZ IAmb IAmb 21 54 11.9
comp=Z,23nm,0.9s
COHC **Cochancay** 62.35 267 P 21 54 11.2 -0.4
RNPP5 **Staryi Chortor** 62.55 29 P P 21 54 11.1 -1.0
LUBAR **Lubar, Ukraine** 62.66 31 P P 21 54 11.4 -1.5
RNPP9 **Sopachiv** 62.67 29 P P 21 54 12.2 -0.7
GGN **Saint George** 62.89 323 P P 21 54 14.1 -0.4
GGN IAmb IAmb 21 54 16.0
comp=Z,41nm,1.2s
TOKA **Tokat** 62.90 44 P P 21 54 14.4 -0.4
KONO **Kongsberg** 63.00 15 P P 21 54 14.9 -0.1
KONO IAmb IAmb 21 54 16.2
comp=Z,19nm,1.1s
KONO **Kongsberg** 63.00 15 *ce*P P 21 54 14.0 -0.9
KONO pmax pmax
comp=Z,18nm,1.3s
EMMW **East Machias** 63.06 322 P P 21 54 15.5 -0.2
EMMW IAmb IAmb 21 54 17.1
comp=Z,25nm,1.1s
SUW **Suwalki** 63.19 25 *e*P P 21 54 16.1 -0.2
SUW **Suwalki** 63.19 25 P P 21 54 15.6 -0.7
SUW **Suwalki** 63.19 25 P P 21 54 15.6 -0.7
PLCA **Paso Flores** 63.20 223 P P 21 54 17.1 +0.3
comp=Z,0.9nm,0.7s,baz=345,slow=5.1,SNR=3.4
PLCA LR LR 22 17 35.0
comp=Z,372nm,21.9s,baz=68,slow=32
comp=Z,0.9nm,0.7s
MI28 **Mi28,Pidlybu** 63.24 30 P P 21 54 15.8 -0.9
G65A **Princeton** 63.37 322 P 21 54 17.3 -0.4
G65A IAmb IAmb 21 54 19.3
comp=Z,34nm,1.2s
BATG **Bathurst New B** 63.56 325 P 21 54 19.1 +0.1
ARPR **Arapgir-MALATY** 63.69 46 P P 21 54 20.1 -0.1
AK17 **Malin Array Si** 63.79 31 P P 21 54 19.2 -1.1
AK20 **Malin Array Si** 63.80 31 P P 21 54 19.3 -1.1
AK23 **Malin Array Si** 63.87 31 P P 21 54 19.6 -1.3
KIEV **Kiev** 63.87 31 P 21 54 20.2 -0.7
KIEV **Kiev** 63.87 31 ⇓P P 21 54 20.2 -0.7
KIEV **Kiev** 63.87 31 ⇓P P 21 54 20.2 -0.7
KIEV **Kiev** 63.87 31 P P 21 54 19.6 -1.3
comp=Z,2µmcomp=Z,185nm,1.0s
AKASG **Malin Array Be** 63.88 31 P P 21 54 20.2 -0.8
AKASG IAmb IAmb 21 54 21.0
comp=Z,21nm,1.1s
AKASG **Malin Array Be** 63.88 31 P P 21 54 19.9 -1.1
comp=Z,14nm,0.8s,baz=235,slow=6.7,SNR=57
AKASG LR LR 22 24 34.7
comp=Z,466nm,18.2s,baz=226,slow=38
comp=Z,14nm,0.8s
AKASG **Malin Array Be** 63.88 31 *i* P P 21 54 19.8 -1.2
AKASG pmax pmax
comp=Z,14nm,0.8s
AKBB **Malin Array Si** 63.88 31 *ce*P P 21 54 18.9 -2.1
AKBB pmax pmax
comp=Z,40nm,1.0s
AKBB **Malin Array Si** 63.88 31 P P 21 54 19.5 -1.5
NAO01 **NORSAR Array S** 64.36 15 P P 21 54 23.6 -0.3
NAO01 IAmb IAmb 21 54 25.1
comp=Z,35nm,1.4s
HFS **Hagfors** 64.51 16 P P 21 54 24.7 -0.2
comp=Z,19nm,0.8s,baz=197,slow=4.6,SNR=42
comp=Z,19nm,0.8s
PABE **Paberze** 64.55 24 P P 21 54 24.9 -0.3
NB2 **NORSAR Subarra** 64.61 15 P P 21 54 25.5 -0.1
comp=Z,24nm,0.9s,baz=209,slow=6.9
NB2 **NORSAR Subarra** 64.61 15 P P 21 54 25.5 -0.1
baz=209,slow=6.9
NOA **NORSAR Array B** 64.61 15 P P 21 54 25.8 +0.1
comp=Z,9.6nm,0.8s,baz=209,slow=6.6,SNR=58
NOA LR LR 22 24 28.1
comp=Z,428nm,19.8s,baz=200,slow=38
comp=Z,9.6nm,0.8s
HRV **Adam Dziewonsk** 64.67 318 P P 21 54 26.6 +0.3
HRV IAmb IAmb 21 54 28.2
comp=Z,28nm,1.2s
HRV **Adam Dziewonsk** 64.67 318 ⇓P P 21 54 26.4 +0.1
BORG **Borgarnes** 64.70 358 P P 21 54 27.5 +1.4
BORG **Borgarnes** 64.70 358 LR LR 22 16 58.3
comp=Z,224nm,21.6s,baz=168,slow=31
BORG **Borgarnes** 64.70 358 P P 21 54 27.5 +1.4
NRS **Narsarsuaq** 64.80 345 P P 21 54 27.5 +0.8
NRS **Narsarsuaq** 64.80 345 P P 21 54 27.5 +0.8
NRS pmax pmax
comp=Z,114nm,1.6s
NRS **Narsarsuaq** 64.80 345 *i* P P 21 54 26.4 -0.3
NRS IAmb IAmb 21 54 28.6
comp=Z,145nm,1.7s
RAYN **Ar Rayn** 64.87 64 P 21 54 28.4 +0.3
RAYN **Ar Rayn** 64.87 64 ⇓P P 21 54 29.2 +1.1
LL02 **Futaleuf** 65.13 221 P 21 54 29.9 +0.5
LL02 IAmb IAmb 21 54 30.9
comp=Z,26nm,1.2s
PRVC **Isla de Provid** 65.17 285 P P 21 54 29.3 -0.8
ICQ **Pointe Anglais** 65.44 327 P 21 54 31.4 +0.2
ICQ IAmb IAmb 21 54 32.8
comp=Z,32nm,1.0s
ANN **Anapa** 65.51 39 *e*P P 21 54 29.3 -2.4
ANN *e**PP **pP** 21 54 32.7 -0.9
ANN *e* 21 56 51.7
ANN *e*PPP PPP 21 58 26.5
ANN *e*S **S** 22 03 14.4 -2.5
ANN pmax pmax
comp=Z,38nm,0.9s
ANN MLR MLR
comp=Z,161nm,20.0s
IVI **Ivigtut** 65.57 344 P 21 54 32.1 +0.3
IVI IAmb IAmb 21 54 33.9
comp=Z,32nm,1.0s
IVI **Ivigtut** 65.57 344 *i* P P 21 54 32.8 +1.0
IVI IAmb IAmb 21 54 33.6
comp=Z,32nm,1.0s
MNK **Minsk** 65.58 27 *i* P P 21 54 29.8 -2.2
MNK *i* 21 56 52.4
MNK *i* S **S** 22 03 14.9 -2.5
MNK *i* SS **SS** 22 07 30.9 -0.4
MNK pmax pmax
comp=Z,41nm,0.8s
MNK pmax pmax
comp=E,11nm,0.9s
MNK pmax pmax
comp=N,10.0nm,1.0s
MNK MLR MLR
comp=Z,327nm,20.0s
MNK MLR MLR
comp=E,335nm,24.0s
MNK MLR MLR
comp=N,135nm,17.0s
KOPT **Kop Dagi** 65.59 45 P 21 54 32.9 +0.2
KOPT IAmb IAmb 21 54 34.8
comp=Z,29nm,1.0s
ABPO **Ambohimpanom** 65.64 111 P P 21 54 33.4 +0.1
ABPO IAmb IAmb 21 54 36.5
comp=Z,20nm,1.0s
ABPO **Ambohimpanom** 65.64 111 P P 21 54 33.4 +0.1
ABPO pmax pmax
comp=Z,19nm,1.0s
LBNH **Lisbon** 65.67 320 P 21 54 33.0 +0.2
LBNH IAmb IAmb 21 54 35.0
comp=Z,30nm,1.1s
LBNH **Lisbon** 65.67 320 P P 21 54 33.0 +0.2
LBNH pmax pmax
comp=Z,30nm,1.1s
VOI **Vohitsoka** 65.71 114 P P 21 54 34.5 +0.9
VOI IAmb IAmb 21 54 36.5
comp=Z,50nm,1.6s
GURO **Guroymak-BITLI** 66.17 47 P P 21 54 36.4 0.0
LMQ **La Malbaie** 66.19 324 P 21 54 35.9 -0.2
FOMA **Nahampoana Res** 66.46 117 P P 21 54 38.3 0.0
SOC **Sochi** 66.47 41 *e*P P 21 54 35.6 -2.3
SOC *e* 21 57 01.1
SOC *e*PPP PPP 21 58 36.9
SOC *e*S **S** 22 03 26.8 -1.8
SOC *e*SS **SS** 22 07 47.8 +2.2
SOC pmax pmax
comp=Z,10.0nm,0.7s
SOC MLR MLR
comp=Z,113nm,19.0s
HOMI **Horasan** 66.61 46 ⇓P P 21 54 40.1 +0.8
VSLR **Vesyoloye** 66.62 42 *i* P P 21 54 38.4 -0.6
GEVA **Gevas** 66.84 48 P 21 54 40.8 +0.1
GEVA IAmb IAmb 21 54 42.6
comp=Z,17nm,0.9s
LDAQ **Lac Daran** 66.94 324 P 21 54 40.7 -0.3
SDMD **Soldier's Deli** 67.16 313 P P 21 54 43.2 +0.8

LCR2 **La Lucha 2** 67.43 280 P 21 54 44.6 -0.3
BINY **Binghamton** 67.55 316 P 21 54 45.0 +0.1
BINY IAmb IAmb 21 54 47.3
comp=Z,37nm,1.2s
LABN **Labinsk** 67.56 41 *e*P P 21 54 44.5 -0.4
LABN *e**PP **sP** 21 54 48.5 +1.0
LABN *e*S **S** 22 03 44.2 +2.4
LABN pmax pmax
comp=Z,49nm,0.9s
LABN MLR MLR
comp=Z,160nm,21.0s
OZAP **Van, Ozalp-Mer** 67.65 48 ⇓P P 21 54 47.0 +1.2
DWPF **Disney Wildern** 67.66 300 P P 21 54 46.1 +0.2
VSU **Vasula** 67.67 23 *ce*P P 21 54 43.2 -2.0
VSU pmax pmax
comp=Z,22nm,0.8s
ERBR **Yeremizino-Bor** 67.85 40 *e*P P 21 54 45.4 -1.3
ERBR *e**PP **pP** 21 54 48.7 +0.2
ERBR *e* 21 57 12.1
ERBR *e*S **S** 22 03 46.8 +1.6
ERBR pmax pmax
comp=Z,40nm,1.2s
ERBR MLR MLR
comp=Z,193nm,17.0s
ESPN **Las Esperanzas** 67.91 283 P P 21 54 46.9 -0.8
ESPN IAmb IAmb 21 54 48.6
comp=Z,26nm,0.8s
SCHQ **Schefferville** 68.14 332 P P 21 54 48.5 +0.1
comp=Z,30nm,0.9s,baz=122,slow=5.6,SNR=26
SCHQ LR LR 22 21 13.1
comp=Z,283nm,18.5s,baz=126,slow=33
comp=Z,30nm,0.9s
MG02 **Cerro Sombrero** 68.17 211 P P 21 54 49.1 +0.5
SSPA **Standing Stone** 68.33 314 P P 21 54 50.0 +0.1
JTS **Las Juntas de** 68.39 281 LR LR 22 26 17.4
comp=Z,28nm,18.0s,baz=120,slow=37
KIV **Kislovodsk** 68.59 42 P 21 54 51.3 -0.2
KIV IAmb IAmb 21 54 52.8
comp=Z,40nm,1.3s
KIV **Kislovodsk** 68.59 42 ⇓P P 21 54 51.9 +0.4
KIV **Kislovodsk** 68.59 42 P P 21 54 51.9 +0.4
KIV **Kislovodsk** 68.59 42 P P 21 54 51.5 0.0
comp=Z,252nmcomp=Z,20nm,1.3s
KVAR **Kislovodsk Arr** 68.59 42 LR LR 22 28 36.0
comp=Z,93nm,20.1s,baz=87,slow=39
KBZ **Khabaz** 68.65 42 P P 21 54 51.8 +0.1
comp=Z,18nm,0.8s,baz=234,slow=5.8,SNR=36
KBZ LR LR 22 27 13.6
comp=Z,132nm,20.0s,baz=260,slow=38
comp=Z,18nm,0.8s
KBZ **Khabaz** 68.65 42 *c i* P P 21 54 51.1 -0.6
KBZ pmax pmax
comp=Z,21nm,0.9s
GNI **Garni** 68.68 46 P 21 54 52.3 0.0
GNI IAmb IAmb 21 54 53.8
comp=Z,30nm,1.1s
GNI **Garni** 68.68 46 LR LR 22 28 45.8
comp=Z,104nm,18.7s,baz=278,slow=39
GNI **Garni** 68.68 46 *ce*P P 21 54 51.3 -1.0
GNI pmax pmax
comp=Z,33nm,1.3s
GNI **Garni** 68.68 46 P P 21 54 52.7 +0.4
comp=Z,23nm,1.3s
ACON **Acoyapa** 68.74 283 P P 21 54 52.4 -0.5
USHA **Ushuaia** 68.87 209 LR LR 22 20 32.0
comp=Z,365nm,19.7s,baz=54,slow=32
PECO **Prince Edward** 68.88 318 P P 21 54 53.0 -0.2
NUUK **Nuuk** 68.94 344 *i* P P 21 54 54.4 +1.3
NUUK IAmb IAmb 21 54 55.7
comp=Z,30nm,1.1s
GOF **Gofitskoye** 69.24 41 *ce*P P 21 54 55.6 +0.2
VORD **Divnogorie** 69.43 34 *e*P P 21 54 53.7 -2.7
VORD pmax pmax
comp=Z,20nm,1.0s
FINES **FINESS Array B** 69.45 20 P 21 54 56.3 0.0
FINES **FINESS Array B** 69.45 20 P P 21 54 56.6 +0.3
comp=Z,30nm,0.7s,baz=213,slow=5.0,SNR=130
FINES LR LR 22 25 41.9
comp=Z,476nm,20.8s,baz=234,slow=36
comp=Z,30nm,0.7s
FIA1 **FINESS Array S** 69.45 20 P 21 54 56.6 +0.3
VSR **Storozhevoye** 69.48 34 *e*P P 21 54 53.5 -3.2
VSR pmax pmax
comp=Z,30nm,1.0s
DELO **Deloro Mine** 69.52 318 P 21 54 57.0 -0.1
VORR **Voronezh** 69.71 33 *e*P P 21 54 55.4 -2.8
VORR pmax pmax
comp=Z,30nm,0.9s
LPSR **Galich'ya Gora** 70.00 32 *e*P P 21 54 58.2 -1.7
LPSR pmax pmax
comp=Z,45nm,1.0s
OBN **Obninsk** 70.03 29 P P 21 54 59.2 -0.8
OBN **Obninsk** 70.03 29 LR LR 22 28 38.6
comp=Z,444nm,18.5s,baz=196,slow=38
OBN **Obninsk** 70.03 29 ⇑ *e*P P 21 54 57.8 -2.2
OBN *e* 21 55 25.3
OBN *e* 21 57 36.6
OBN *e*S **S** 22 04 12.6 +1.9
OBN pmax pmax
comp=Z,19nm,1.0s
OBN MLR MLR
comp=Z,448nm,17.0s
CNGN **Cerro Negro** 70.27 283 P P 21 55 02.1 -0.2
ERPA **Erie** 70.32 315 P P 21 55 02.2 +0.1
ERPA IAmb IAmb 21 55 03.8
comp=Z,58nm,1.8s
SADO **Sadowa** 70.62 318 P P 21 55 03.0 -0.8
SADO IAmb IAmb 21 55 05.3
comp=Z,42nm,1.3s
CRIN **San Cristobal** 70.63 283 P P 21 55 02.2 -2.4
KUQ **Kuujjuuaa** 70.71 334 P 21 55 04.0 -0.1
VNA1 **Neumayer--Stat** 70.74 177 ⇑P P 21 55 04.0 0.0
comp=Z,5.5nm,0.9s
VLDQ **Val d'Or** 70.76 322 P 21 55 05.8 +1.1
VLDQ IAmb IAmb 21 55 07.3
comp=Z,28nm,1.0s
MOS **Moscow** 70.87 29 *e*P P 21 55 04.0 -1.1
MOS *e*S **S** 22 04 17.9 -2.6
MOS pmax pmax
comp=Z,100nm,1.2s
MOS pmax pmax
comp=Z,98nm,1.1s
MOS MLR MLR
comp=Z,500nm,19.0s
SFJD **Kangerlussuaq** 70.93 347 LR LR 22 20 46.2
comp=Z,134nm,19.2s,baz=153,slow=31
TGUH **Tegucigalpa,Un** 70.95 285 P P 21 55 04.7 -2.0
BUKO **Buck Lake** 71.03 319 P P 21 55 05.7 -0.7
VNA2 **Neumayer--Watz** 71.06 177 ⇑P P 21 55 06.6 +0.6
comp=Z,13nm,0.6s,baz=340,slow=6.2
JMIC **Jan Mayen** 71.10 3 LR LR 22 21 24.8
comp=Z,142nm,21.9s,baz=192,slow=32
AKT **Akhty** 71.25 46 *e*P P 21 55 06.9 -1.1
AKT pmax pmax
comp=Z,14nm,1.2s
TKL **Tuckaleechee C** 71.34 308 P P 21 55 07.9 -0.6
TKL IAmb IAmb 21 55 10.1
comp=Z,19nm,1.1s
TKL **Tuckaleechee C** 71.34 308 LR LR 22 20 52.3
comp=Z,52nm,20.5s,baz=56,slow=31
TKL **Tuckaleechee C** 71.34 308 P P 21 55 07.9 -0.6
TKL pmax pmax
comp=Z,19nm,1.1s
MAK **Makhachkala** 71.55 44 *e*P P 21 55 03.2 -6.3
MAK *e*S S 22 04 19.2 -10
MAK pmax pmax
comp=Z,69nm,1.5s
MAK MLR MLR
comp=Z,291nm,20.0s
CPCT **Cooper Cave** 71.88 307 P 21 55 11.4 -0.4
CPCT IAmb IAmb 21 55 13.7
comp=Z,23nm,1.2s
ACSO **Alum Creek Sta** 71.91 313 P P 21 55 11.9 0.0
ACSO IAmb IAmb 21 55 13.7
comp=Z,38nm,1.1s
SNAA **Sanae** 72.11 175 ⇑P P 21 55 12.7 +0.3
comp=Z,49nm,0.7s
SNAA **Sanae** 72.11 175 P 21 55 12.0 -0.4
SNAA **Sanae** 72.11 175 P P 21 55 12.3 -0.1
comp=Z,2.3nm,0.7s,baz=338,slow=4.4,SNR=14
SNAA LR LR 22 18 48.6
comp=Z,316nm,20.9s,baz=310,slow=29
comp=Z,2.3nm,0.7s
SNAA **Sanae** 72.11 175 *ce*P P 21 55 13.2 +0.8
SNAA pmax pmax

comp=Z,13nm,2.5s
TEIG **Tepich** 72.53 291 P 21 55 13.3 -2.6
ILULI **Ilulissat** 72.84 348 *i* P P 21 55 17.0 +0.3
ILULI IAmb IAmb 21 55 17.7
comp=Z,12nm,0.8s
TROLL **Troll, Antarti** 72.94 174 ⇑P P 21 55 17.8 +0.3
comp=Z,74nm,0.5s
MTO3 **Montecristo** 73.00 285 P P 21 55 17.2 -1.8
PMSA **Palmer Station** 73.03 199 P P 21 55 18.2 +0.4
PMSA IAmb IAmb 21 55 26.6
comp=Z,67nm,1.6s
PMSA **Palmer Station** 73.03 199 LR LR 22 21 32.8
comp=Z,273nm,19.4s,baz=45,slow=31
LRAL **Lakeview Retre** 73.37 304 P P 21 55 20.1 -0.6
LRAL IAmb IAmb 21 55 22.1
comp=Z,22nm,0.9s
PETF **Flores** 73.69 288 P P 21 55 21.6 -1.2
PETF IAmb IAmb 21 55 23.3
comp=Z,43nm,0.9s
SUMG **Summit** 73.75 353 P 21 55 22.5 -0.1
SUMG **Summit** 73.75 353 P P 21 55 22.5 -0.1
SUMG pmax pmax
comp=Z,98nm,2.0s
SUMG **Summit** 73.75 353 *i* P P P 21 55 23.5 +1.0
SUMG IAmb IAmb 21 55 25.4
comp=Z,16nm,0.9s
WCI **Wyandotte Cave** 73.90 310 P 21 55 23.2 -0.5
WCI IAmb IAmb 21 55 24.7
comp=Z,20nm,0.9s
WCI **Wyandotte Cave** 73.90 310 P P 21 55 23.2 -0.5
WCI pmax pmax
comp=Z,19nm,0.9s
FRB **Frobisher Bay** 73.99 339 LR LR 22 21 30.4
comp=Z,144nm,20.1s,baz=104,slow=31
DBG **Daneborg** 74.25 359 *i* P P 21 55 26.2 +1.2
DBG IAmb IAmb 21 55 27.6
comp=Z,14nm,1.1s
KLMR **Klimovskoe** 74.32 25 *e*P P 21 55 23.2 -2.4
KLMR *e* 21 55 37.2
KLMR *e* 21 58 09.1
KLMR pmax pmax
comp=Z,63nm,1.5s
KLMR MLR MLR
comp=Z,432nm,18.0s
WVT **Waverly** 74.65 308 P 21 55 26.9 -1.2
WVT IAmb IAmb 21 55 28.9
comp=Z,26nm,1.0s
WVT **Waverly** 74.65 308 P P 21 55 26.9 -1.2
WVT pmax pmax
comp=Z,26nm,1.0s
UOSS **Minazif** 74.74 64 P 21 55 28.0 -0.8
UOSS IAmb IAmb 21 55 29.7
comp=Z,33nm,0.9s
BELG **Belogornoye** 74.75 35 LR LR 22 29 46.1
comp=Z,400nm,21.9s,baz=248,slow=37
BELG **Belogornoye** 74.75 35 *i* P P P 21 55 26.9 -1.3
BELG pmax pmax
comp=Z,7.0nm,1.0s
ARCES **ARCESS Array B** 74.97 14 P P 21 55 28.9 -0.3
ARCES IAmb IAmb 21 55 30.5
comp=Z,30nm,1.1s
ARCES **ARCESS Array B** 74.97 14 P P 21 55 29.3 0.0
comp=Z,16nm,0.7s,baz=219,slow=4.6,SNR=74
ARCES LR LR 22 30 09.9
comp=Z,297nm,20.9s,baz=235,slow=37
comp=Z,16nm,0.7s
KEV **Kevo** 75.50 14 P 21 55 31.9 -0.3
KEV **Kevo** 75.50 14 P P 21 55 31.9 -0.3
KEV pmax pmax
comp=Z,56nm,1.1s
CCIG **Comitan** 75.81 287 P P 21 55 34.0 -1.3
APA **Apatity** 75.84 18 ⇓ *i* P P 21 55 32.8 -1.4
APA *i* 21 55 45.6
APA *i* 21 58 19.5
APA *i* S **S** 22 05 13.3 -3.1
APA *i* 22 05 47.7
APA *i* SS **SS** 22 10 10.0 +1.5
APA pmax pmax
comp=Z,3.0nm,1.0s
SIUC **Southern Illin** 76.05 309 P P 21 55 35.0 -1.1
SIUC IAmb IAmb 21 55 36.7
comp=Z,31nm,1.1s
SMAI **San Martin Ant** 76.10 197 P P 21 55 35.5 -0.2
LVZ **Lovozero** 76.42 18 P 21 55 37.6 0.0
LVZ **Lovozero** 76.42 18 *ce*P P 21 55 37.5 -0.1
LVZ pmax pmax
comp=Z,132nm,1.3s
LVZ **Lovozero** 76.42 18 P P 21 55 38.3 +0.7
comp=Z,107nm,1.0s
HDIL **Hopedale** 76.67 312 P P 21 55 38.5 -1.0
DAG **Danmarks Havn** 76.71 360 *i* P P 21 55 39.0 0.0
DAG IAmb IAmb 21 55 40.2
comp=Z,13nm,0.8s
LCAR **Lake Charles** 77.29 307 P 21 55 42.0 -1.1
LCAR IAmb IAmb 21 55 43.8
comp=Z,75nm,2.0s
CCM **Cathedral Cave** 77.69 309 P P 21 55 44.3 -1.1
CCM IAmb IAmb 21 55 45.4
comp=Z,24nm,0.7s
CCM **Cathedral Cave** 77.69 309 P P 21 55 44.3 -1.1
CCM pmax pmax
comp=Z,24nm,0.7s
KIRV **Kirov** 77.89 29 LR LR 22 32 05.4
comp=Z,122nm,19.6s,baz=258,slow=37
KIRV **Kirov** 77.89 29 *i* P P 21 55 44.3 -1.6
BELA **Belgrano 2** 78.36 184 P 21 55 48.6 +0.3
TBO **Thunder Bay** 78.50 320 P P 21 55 49.0 -0.7
TBO IAmb IAmb 21 55 50.4
comp=Z,19nm,1.0s
SYO **Syowa Base** 78.52 162 ⇓ *i* P P 21 55 51.0 +1.8
SYO **Syowa Base** 78.52 162 ⇑ *es*P sP 21 55 54.2 +2.9
HSPB **Hornsund (broa** 79.01 7 *e*P P 21 55 53.4 +1.5
MIAR **Mount Ida** 79.02 305 P 21 55 52.2 -0.6
MIAR IAmb IAmb 21 55 55.7
comp=Z,53nm,1.9s
MIAR **Mount Ida** 79.02 305 P P 21 55 52.2 -0.6
MIAR pmax pmax
comp=Z,53nm,1.9s
NATX **Nacogdoches** 79.58 302 P P 21 55 55.6 -0.3
NEEM **North Greenlan** 79.59 353 *i* P P 21 55 57.0 +1.6
NEEM IAmb IAmb 21 55 58.0
comp=Z,82nm,1.1s
SPB2 **Spitsbergen Ar** 80.09 7 P P 21 55 58.4 +0.6
SPB2 IAmb IAmb 21 55 59.9
comp=Z,38nm,0.9s
SPITS **Spitsbergen Ar** 80.10 7 P P 21 55 58.6 +0.8
comp=Z,26nm,0.8s,baz=146,slow=9.1,SNR=22
SPITS LR LR 22 26 53.8
comp=Z,161nm,21.1s,baz=212,slow=32
comp=Z,28nm,0.8s
SPITS **Spitsbergen Ar** 80.10 7 P P 21 55 57.8 0.0
SPITS pmax pmax
comp=Z,47nm,1.0s
KBS **Kingsbay** 80.27 5 P P 21 55 59.5 +0.8
KBS IAmb IAmb 21 56 01.6
comp=Z,32nm,0.9s
KBS **Kingsbay** 80.27 5 *ce*P P 21 56 00.5 +1.8
KBS pmax pmax
comp=Z,26nm,0.7s
KBS **Kingsbay** 80.27 5 *i* P P 21 55 59.8 +1.1
RLO **Rose Lookout** 80.40 307 P 21 55 58.7 -1.5
RLO IAmb IAmb 21 56 01.1
comp=Z,59nm,1.6s
AKTO **Aktyubinsk** 80.45 39 LR LR 22 34 49.8
comp=Z,216nm,21.9s,baz=244,slow=38
AB31 **Akbulak array** 81.46 40 P 21 56 05.0 -0.5
ABKAR **Akbulak array** 81.46 40 P 21 56 05.0 -0.6
EPLO **Experimental L** 81.48 320 P 21 56 05.0 -0.8
EPLO IAmb IAmb 21 56 06.6
comp=Z,33nm,1.0s
NOR **Nord** 81.56 0 *i* P P 21 56 06.1 +0.5
NOR IAmb IAmb 21 56 08.4
comp=Z,24nm,1.2s
ARTI **Arti** 81.91 33 P 21 56 07.0 -0.8
ARTI IAmb IAmb 21 56 08.9
comp=Z,18nm,0.9s
ARTI **Arti** 81.91 33 LR LR 22 35 02.6
comp=Z,251nm,19.8s,baz=240,slow=38
ARTI **Arti** 81.91 33 *c i* P P 21 56 07.3 -0.5
ARTI S S 22 06 21.6 -0.1
ARTI pmax pmax
comp=Z,22nm,1.0s
ARTI MLR MLR
comp=Z,302nm,23.0s
FW13 **Cleburne** 81.98 303 P P 21 56 08.2 -0.6

FW13					IAmb	IAmb	21 56 09.8		
	comp=Z,19nm,0.8s								
TLIG	**Tlapa**	**82.03**	**288**		P	**P**	**21 56 09.0**	**-0.5**	
TLIG					IAmb	IAmb	21 56 12.3		
	comp=Z,41nm,1.2s								
ECSD	**EROS Data Cent**	**82.56**	**314**			**P**	**21 56 10.4**	**-1.1**	
AGMN	**Agassiz Nation**	**82.65**	**319**			**P**	**21 56 11.5**	**-0.4**	
PLPT	**Palo Pinto**	**82.77**	**303**			**P**	**21 56 12.4**	**-0.5**	
PLPT					IAmb	IAmb	21 56 14.0		
	comp=Z,39nm,1.1s								
ULM	**Lac du Bonnet**	**82.95**	**321**			**P**	**21 56 12.1**	**-1.2**	
ULM					IAmb	IAmb	21 56 14.0		
	comp=Z,25nm,0.9s								
ULM	**Lac du Bonnet**	**82.95**	**321**		P	**P**	**21 56 12.8**	**-0.6**	
	comp=Z,17nm,0.7s,baz=95,slow=5.9,SNR=18								
ULM					LR	LR	22 27 48.0		
	comp=Z,118nm,18.8s,baz=121,slow=32								
	comp=Z,17nm,0.7s								
SVE	**Sverdlovsk**	**83.22**	**33**	*eP*		**P**	**21 56 14.6**	**0.0**	
SVE					pmax	pmax			
	comp=Z,25nm,1.1s								
WMOK	**Wichita Mounta**	**83.31**	**305**		P	**P**	**21 56 14.9**	**-0.8**	
WMOK					IAmb	IAmb	21 56 16.8		
	comp=Z,37nm,1.2s								
WMOK	**Wichita Mounta**	**83.31**	**305**		P	**P**	**21 56 14.9**	**-0.8**	
WMOK					pmax	pmax			
	comp=Z,37nm,1.2s								
JCT	**Junction City**	**83.86**	**301**			**P**	**21 56 18.4**	**-0.2**	
JCT	**Junction City**	**83.86**	**301**		P	**P**	**21 56 18.4**	**-0.2**	
JCT					pmax	pmax			
	comp=Z,58nm,1.3s								
JRQG	**Juriquilla Cam**	**83.94**	**291**		P	**P**	**21 56 19.8**	**+0.4**	
CBKS	**Cedar Bluff**	**84.40**	**309**			**P**	**21 56 21.2**	**0.0**	
CBKS	**Cedar Bluff**	**84.40**	**309**		P	**P**	**21 56 21.2**	**0.0**	
CBKS					pmax	pmax			
	comp=Z,184nm,1.8s								
BLKN	**Baker Lake**	**85.28**	**335**			**P**	**21 56 24.9**	**0.0**	
AMTX	**Amarillo**	**85.70**	**305**		P	**P**	**21 56 27.3**	**-0.5**	
AMTX					IAmb	IAmb	21 56 29.3		
	comp=Z,32nm,1.4s								
ZAIG	**Zacatecas**	**85.98**	**293**		P	**P**	**21 56 30.2**	**+0.5**	
ZAIG					IAmb	IAmb	21 56 32.4		
	comp=Z,31nm,1.1s								
MAW	**Mawson**	**86.09**	**158**		P	**P**	**21 56 30.1**	**+1.2**	
	comp=Z,6.0nm,1.0s,baz=274,slow=5.5,SNR=10								
MAW					LR	LR	22 27 02.6		
	comp=Z,188nm,20.6s,baz=294,slow=30								
	comp=Z,6.0nm,1.0s								
OGNE	**Ogallala**	**86.31**	**311**			**P**	**21 56 30.6**	**-0.1**	
KBL	**Kabul**	**86.69**	**56**		P	**P**	**21 56 32.5**	**-0.4**	
KBL	**Kabul**	**86.69**	**56**		P	**P**	**21 56 32.5**	**-0.4**	
KBL					pmax	pmax			
	comp=Z,6.0nm,1.0s								
SIMJ	**Simiganj**	**86.83**	**51**		P	**P**	**21 56 33.2**	**-0.2**	
SIMJ					IAmb	IAmb	21 56 35.0		
	comp=Z,13nm,0.9s								
RES	**Resolute Bay**	**86.85**	**345**		LR	LR	22 27 30.9		
	comp=Z,89nm,21.6s,baz=54,slow=30								
FFC	**Flin Flon**	**87.15**	**325**			**P**	**21 56 33.8**	**-0.6**	
FFC					IAmb	IAmb	21 56 35.2		
	comp=Z,28nm,1.4s								
FFC	**Flin Flon**	**87.15**	**325**		P	**P**	**21 56 33.8**	**-0.6**	
FFC					pmax	pmax			
	comp=Z,28nm,1.5s								
TXAR	**Lajitas Array**	**87.16**	**299**			**P**	**21 56 35.4**	**+0.2**	
TXAR	**Lajitas Array**	**87.16**	**299**		P	**P**	**21 56 35.6**	**+0.4**	
	comp=Z,15nm,1.0s,baz=114,slow=6.3,SNR=104								
	comp=Z,15nm,1.0s								
TXAR	**Lajitas Array**	**87.16**	**299**		P	**P**	**21 56 35.4**	**+0.2**	
GAR	**Garm**	**87.87**	**51**			**P**	**21 56 39.0**	**+0.7**	
RSSD	**Black Hills**	**87.93**	**314**			**P**	**21 56 38.5**	**-0.2**	
RSSD	**Black Hills**	**87.93**	**314**		P	**P**	**21 56 38.5**	**-0.2**	
RSSD					pmax	pmax			
	comp=Z,10.0nm,1.1s								
T25A	**Trinidad**	**88.00**	**307**		P	**P**	**21 56 39.1**	**-0.1**	
T25A					IAmb	IAmb	21 56 41.5		
	comp=Z,28nm,1.5s								
KK31	**Karatay Array**	**88.14**	**47**			**P**	**21 56 38.9**	**-0.6**	
KK31	**Karatay Array**	**88.14**	**47**		P	**P**	**21 56 38.9**	**-0.6**	
KK31					pmax	pmax			
	comp=Z,7.0nm,1.0s								
KKAR	**Karatay Array**	**88.14**	**47**			**P**	**21 56 38.9**	**-0.6**	
KKAR	**Karatay Array**	**88.14**	**47**		P	**P**	**21 56 38.9**	**-0.6**	
DGMT	**Dagmar**	**88.20**	**318**			**P**	**21 56 39.9**	**+0.2**	
BTK	**Batken**	**88.28**	**50**			**P**	**21 56 40.0**	**-0.3**	
BTK					IAmb	IAmb	21 56 42.0		
	comp=Z,24nm,1.2s								
BTK	**Batken**	**88.28**	**50**		P	**P**	**21 56 40.0**	**-0.3**	
BTK					pmax	pmax			
	comp=Z,24nm,1.2s								
BRVK	**Borovoye**	**88.33**	**37**			**P**	**21 56 39.8**	**-0.3**	
BRVK	**Borovoye**	**88.33**	**37**	*ceP*		**P**	**21 56 39.9**	**-0.2**	
BRVK					pmax	pmax			
	comp=Z,14nm,1.7s								
BVAR	**Borovoye Array**	**88.40**	**37**		LR	LR	22 39 35.6		
	comp=Z,171nm,18.4s,baz=277,slow=38								
MNTX	**Cornudas Mount**	**88.69**	**302**			**P**	**21 56 41.0**	**-1.3**	
HPIG		**88.88**	**297**			**P**	**21 56 43.4**	**-0.1**	
HPIG					IAmb	IAmb	21 56 45.4		
	comp=Z,28nm,1.2s								
SDCO	**Great Sand Dun**	**88.88**	**308**		P	**P**	**21 56 43.8**	**+0.3**	
ISCO	**Idaho Springs**	**89.00**	**310**			**P**	**21 56 44.4**	**+0.4**	
ISCO					IAmb	IAmb	21 56 46.6		
	comp=Z,40nm,1.4s								
ISCO	**Idaho Springs**	**89.00**	**310**		P	**P**	**21 56 44.4**	**+0.4**	
ISCO					pmax	pmax			
	comp=Z,40nm,1.5s								
DRK	**Karamyk**	**89.03**	**51**		P	**P**	**21 56 44.8**	**+0.7**	
DRK	**Karamyk**	**89.03**	**51**		P	**P**	**21 56 44.8**	**+0.7**	
DRK					pmax	pmax			
	comp=Z,28nm,0.2s								
LAO	**LASA Array**	**89.53**	**316**		P	**P**	**21 56 45.9**	**-0.1**	
ANMO	**Albuquerque**	**89.62**	**305**		P	**P**	**21 56 46.9**	**+0.1**	
ANMO	**Albuquerque**	**89.62**	**305**		LR	LR	22 31 47.0		
	comp=Z,80nm,20.9s,baz=162,slow=32								
ANMO	**Albuquerque**	**89.62**	**305**	*ceP*		**P**	**21 56 45.4**	**-1.5**	
ANMO					pmax	pmax			
	comp=Z,10.0nm,1.3s								
ARSB	**Arslanbob**	**89.95**	**49**		P	**P**	**21 56 48.2**	**0.0**	
ARSB					IAmb	IAmb	21 56 50.4		
	comp=Z,40nm,1.3s								
ARSB	**Arslanbob**	**89.95**	**49**		P	**P**	**21 56 48.2**	**0.0**	
ARSB					pmax	pmax			
	comp=Z,40nm,1.3s								
QSPA	**South Pole Qui**	**90.05**	**180**		P	**P**	**21 56 48.6**	**+0.6**	
QSPA					IAmb	IAmb	21 56 49.8		
	comp=Z,14nm,0.7s								
QSPA	**South Pole Qui**	**90.05**	**180**		P	**P**	**21 56 49.1**	**+1.1**	
	comp=Z,11nm,0.7s,baz=230,slow=1.4,SNR=62								
QSPA					LR	LR	22 30 34.7		
	comp=Z,189nm,20.5s,baz=194,slow=31								
	comp=Z,11nm,0.7s								
NIL	**Nilore**	**90.16**	**57**			**P**	**21 56 48.6**	**-0.6**	
NIL					IAmb	IAmb	21 56 50.6		
	comp=Z,15nm,1.0s								
NIL	**Nilore**	**90.16**	**57**		P	**P**	**21 56 48.6**	**-0.6**	
NIL					pmax	pmax			
	comp=Z,15nm,1.0s								
AAK	**Ala-Archa**	**91.06**	**48**			**P**	**21 56 52.0**	**-1.3**	
AAK					IAmb	IAmb	21 56 55.3		
	comp=Z,27nm,1.4s								
AAK	**Ala-Archa**	**91.06**	**48**		LR	LR	22 45 09.3		
	comp=Z,188nm,18.2s,baz=282,slow=40								
AAK	**Ala-Archa**	**91.06**	**48**	*ceP*		**P**	**21 56 53.3**	**-0.1**	
AAK					pmax	pmax			
	comp=Z,10.0nm,1.1s								
MVCO	**Mesa Verde**	**91.27**	**307**			**P**	**21 56 54.6**	**+0.1**	
EGMT	**Eagleton**	**91.91**	**318**			**P**	**21 56 56.4**	**-0.6**	
EGMT					IAmb	IAmb	21 56 58.3		
	comp=Z,37nm,1.7s								
PD31	**Pinedale Array**	**91.95**	**313**		P	**P**	**21 56 56.1**	**-1.4**	
PDAR	**Pinedale Array**	**91.95**	**313**			**P**	**21 56 55.9**	**-1.7**	
PDAR	**Pinedale Array**	**91.95**	**313**		P	**P**	**21 56 56.8**	**-0.8**	
	comp=Z,2.2nm,0.9s,baz=101,slow=6.2,SNR=16								
PDAR					PKKP	**PKKPbc**	**22 14 15.3**	**-0.9**	
	comp=Z,0.5nm,0.6s,baz=191,slow=1.5,SNR=6.7								
PDAR					LR	LR	22 35 54.3		
	comp=Z,58nm,18.5s,baz=77,slow=34								
	comp=Z,2.2nm,0.9s								
NRN	**Naryn**	**92.22**	**49**			**P**	**21 56 58.9**	**0.0**	
NRN					IAmb	IAmb	21 57 00.4		
	comp=Z,14nm,0.8s								
NRN	**Naryn**	**92.22**	**49**		P	**P**	**21 56 58.9**	**0.0**	
NRN					pmax	pmax			
	comp=Z,14nm,0.8s								
KSH	**Kashi**	**92.26**	**51**		P	**P**	**21 56 58.3**	**-0.6**	
KSH					sP	pwP	21 57 06.0	+0.9	
KSH					pmax	pmax			
	comp=Z,21nm,0.9s								
X18A	**Snowflake**	**92.51**	**304**		P	**P**	**21 56 59.5**	**-0.8**	
X18A					IAmb	IAmb	21 57 02.2		
	comp=Z,13nm,1.1s								
LOHW	**Long Hollow**	**92.68**	**313**		P	**P**	**21 56 59.9**	**-1.0**	
LOHW					IAmb	IAmb	21 57 02.0		
	comp=Z,15nm,1.4s								
AHID	**Auburn Hatcher**	**93.09**	**313**		P	**P**	**21 57 02.2**	**-0.6**	
AHID					IAmb	IAmb	21 57 03.6		
	comp=Z,9.2nm,0.9s								
TUC	**Tucson**	**93.28**	**302**		P	**P**	**21 57 03.8**	**+0.1**	
TUC	**Tucson**	**93.28**	**302**		P	**P**	**21 57 03.8**	**+0.1**	
TUC					pmax	pmax			
	comp=Z,3.0nm,0.8s								
HWUT	**Hardware Ranch**	**93.49**	**312**			**P**	**21 57 04.0**	**-0.6**	
HWUT					IAmb	IAmb	21 57 06.7		
	comp=Z,11nm,1.3s								
KURBB	**Kurchatov Arra**	**93.49**	**39**		P	**P**	**21 57 04.1**	**0.0**	
	comp=Z,1.8nm,0.9s,baz=273,slow=5.3,SNR=12								
KURBB					PP	**PP**	**22 00 45.5**	**-2.9**	
	comp=Z,2.4nm,1.2s,baz=279,slow=8.6,SNR=5.0								
KURBB					LR	LR	22 41 12.5		
	comp=Z,119nm,21.9s,baz=177,slow=37								
	comp=Z,1.8nm,0.9s								
HSIG		**93.53**	**299**			**P**	**21 57 04.4**	**-0.5**	
HSIG					IAmb	IAmb	21 57 06.4		
	comp=Z,21nm,1.2s								
KURK	**Kurchatov**	**93.54**	**39**		P	**P**	**21 57 04.1**	**-0.3**	
KURK	**Kurchatov**	**93.54**	**39**	*ceP*		**P**	**21 57 03.2**	**-1.2**	
KURK					pmax	pmax			
	comp=Z,5.0nm,1.7s								
TARG	**Taragay, Kyrgy**	**93.56**	**48**		P	**P**	**21 57 05.1**	**-0.1**	
TARG					IAmb	IAmb	21 57 06.9		
	comp=Z,12nm,0.9s								
TARG	**Taragay, Kyrgy**	**93.56**	**48**		P	**P**	**21 57 05.1**	**-0.1**	
TARG					pmax	pmax			
	comp=Z,12nm,0.9s								
YKA	**Yellowknife Ar**	**93.58**	**333**		P	**P**	**21 57 04.6**	**+0.3**	
	comp=Z,9.4nm,0.8s,baz=77,slow=5.1,SNR=54								
YKA					LR	LR	22 34 49.5		
	comp=Z,167nm,20.0s,baz=65,slow=33								
	comp=Z,9.4nm,0.8s								
YKA	**Yellowknife Ar**	**93.58**	**333**	*i*	P	**P**	**21 57 04.5**	**+0.3**	
YKA					pmax	pmax			
	comp=Z,10.0nm,0.8s								
OVMT	**Ovando**	**94.16**	**317**		P	**P**	**21 57 06.5**	**-1.0**	
DUG	**Dugway, Tooele**	**94.52**	**310**		P	**P**	**21 57 08.7**	**-0.6**	
DUG	**Dugway, Tooele**	**94.52**	**310**		P	**P**	**21 57 08.7**	**-0.6**	
DUG					pmax	pmax			
	comp=Z,15nm,0.5s								
MSO	**Missoula**	**94.82**	**317**			**P**	**21 57 09.5**	**-1.0**	
MSO					IAmb	IAmb	21 57 11.2		
	comp=Z,12nm,1.3s								
NRIK	**Noril'sk**	**95.11**	**20**		P	**P**	**21 57 11.4**	**+0.2**	
NRIK	**Noril'sk**	**95.11**	**20**		P	**P**	**21 57 12.7**	**+1.5**	
	comp=Z,1.2nm,0.4s,baz=285,slow=4.1,SNR=4.7								
NRIK					LR	LR	22 42 54.1		
	comp=Z,304nm,20.9s,baz=301,slow=37								
	comp=Z,1.2nm,0.4s								
NRIK	**Noril'sk**	**95.11**	**20**	*i*	P	**P**	**21 57 10.2**	**-1.0**	
NRIK					pmax	pmax			
	comp=Z,3.0nm,1.0s								
HLID	**Hailey**	**95.45**	**314**			**P**	**21 57 13.3**	**-0.3**	
HLID					IAmb	IAmb	21 57 15.1		
	comp=Z,13nm,1.6s								
A36M	**Sachs Harbour**	**95.63**	**343**		P	**P**	**21 57 13.8**	**+0.3**	
A36M					IAmb	IAmb	21 57 15.5		
	comp=Z,11nm,0.8s								
ELK	**Elko**	**96.32**	**311**			**P**	**21 57 16.9**	**-0.7**	
ELK	**Elko**	**96.32**	**311**		P	**P**	**21 57 17.9**	**+0.2**	
	comp=Z,2.0nm,0.9s,baz=55,slow=4.5,SNR=6.1								
ELK					LR	LR	22 35 18.9		
	comp=Z,105nm,20.6s,baz=85,slow=32								
	comp=Z,2.0nm,0.9s								
MK31	**Makanchi Array**	**96.33**	**43**		P	**P**	**21 57 15.9**	**-1.5**	
MK31	**Makanchi Array**	**96.33**	**43**	*ceP*		**P**	**21 57 16.4**	**-0.9**	
MKAR	**Makanchi Array**	**96.33**	**43**		P	**P**	**21 57 16.6**	**-0.7**	
MKAR	**Makanchi Array**	**96.33**	**43**		P	**P**	**21 57 17.0**	**-0.4**	
	comp=Z,1.9nm,0.9s,baz=291,slow=3.4,SNR=10								
MKAR					PP	**PP**	**22 01 09.4**	**-1.3**	
	comp=Z,0.6nm,0.8s,baz=306,slow=8.9,SNR=4.4								
MKAR					LR	LR	22 45 55.1		
	comp=Z,113nm,18.8s,baz=282,slow=39								
	comp=Z,1.9nm,0.9s								
MKAR	**Makanchi Array**	**96.33**	**43**	*i*	P	**P**	**21 57 17.2**	**-0.1**	
MKAR					pmax	pmax			
	comp=Z,2.0nm,0.9s								
NEW	**Newport**	**96.81**	**319**		LR	LR	22 36 31.1		
	comp=Z,139nm,19.9s,baz=68,slow=33								
ZALV	**Zalesovo Beam**	**96.93**	**36**		LR	LR	22 45 47.6		
	comp=Z,240nm,18.7s,baz=284,slow=38								
PFO	**Pinyon Flats O**	**97.95**	**304**		P	Pdif	21 57 25.6	+0.5	
	comp=Z,1.9nm,0.8s,baz=30,slow=8.1,SNR=2.2								
PFO					LR	LR	22 41 28.0		
	comp=Z,46nm,18.9s,baz=108,slow=35								
	comp=Z,1.9nm,0.8s								
NVAR	**Mina Array Bea**	**98.92**	**309**			**P**	**21 57 28.1**	**-1.3**	
NVAR	**Mina Array Bea**	**98.92**	**309**		P	**P**	**21 57 28.9**	**-0.5**	
	comp=Z,0.9nm,0.9s,baz=96,slow=4.9,SNR=4.2								
NVAR					LR	LR	22 39 12.6		
	comp=Z,58nm,18.2s,baz=48,slow=34								
	comp=Z,0.9nm,0.9s								
PAHR	**Pah Rah Range**	**99.59**	**310**			**Pdif**	**21 57 31.7**	**-0.6**	
PAHR					IAmb	IAmb	21 57 33.9		
	comp=Z,7.7nm,1.2s								
INK	**Inuvik**	**99.60**	**340**		LR	LR	22 37 06.9		
	comp=Z,284nm,19.7s,baz=72,slow=32								
WMQ	**Urumqi**	**100.54**	**45**	*eP*		**Pdif**	**21 57 36.7**	**+0.4**	
WMQ					pmax	pmax			
	comp=Z,13nm,1.1s								
WMQ					LR	LR			
	comp=Z,140nm,24.0s								
ILAR	**Eielson Array**	**106.00**	**340**		Pdiff	**Pdif**	**21 58 01.0**	**+1.0**	
	comp=Z,0.3nm,0.4s,baz=46,slow=2.6,SNR=4.6								
SONM	**Songino Array**	**111.74**	**37**		PKiKP	**PKiKP**	**22 02 24.1**	**+0.5**	
	comp=Z,0.5nm,0.6s,baz=336,slow=3.2,SNR=4.2								
SONM					PP	**PP**	**22 03 06.0**	**+0.6**	
	comp=Z,0.3nm,0.3s,baz=278,slow=5.7,SNR=4.4								
BILL	**Bilibino**	**112.08**	**359**	*i*	PKiKP	**PKiKP**	**22 02 22.8**	**-0.7**	
BILL					pmax	pmax			
	comp=Z,1.0nm,1.1s								
CMAR	**Chiang Mai Arr**	**114.47**	**70**		PKP	PKPdf	22 02 29.4	0.0	
	comp=Z,1.0nm,0.4s,baz=271,slow=3.2,SNR=11								
PZH	**PanZhiHua**	**115.47**	**61**		PKP	**PKiKP**	**22 02 31.4**	**+0.1**	
GYA	**Guiyang**	**119.75**	**59**		⇑PKP	**PKiKP**	**22 02 39.6**	**0.0**	
HEH	**HeiHe**	**121.46**	**26**	*e*	PKP	**PKPdf**	**22 02 41.7**	**-0.3**	
KLR	**Kul'dur**	**124.08**	**24**	*i*	PKiKP	**PKPdf**	**22 02 45.4**	**-1.6**	
TIA	**Tai'an**	**124.23**	**45**		PKP	**PKiKP**	**22 02 48.1**	**+0.1**	
BNX	**Binxian**	**124.70**	**30**		⇑PKP	**PKPdf**	**22 02 47.2**	**-1.1**	
CN2	**Changchun**	**125.01**	**33**	*e*	PKP	**PKiKP**	**22 02 51.6**	**+2.3**	
PETK	**Petropavlovsk-**	**126.91**	**4**		PKP	**PKPdf**	**22 02 51.0**	**-1.3**	
	comp=Z,2.7nm,0.8s,baz=68,slow=4.0,SNR=4.0								
PET	**Petropavlovsk**	**127.05**		*3c i*	PKiKP	**PKiKP**	**22 02 53.1**	**0.0**	
PET					pmax	pmax			
	comp=Z,18nm,1.0s								
NJ2	**Nanjing**	**127.50**	**48**	*e*	PKP	**PKPdf**	**22 02 53.6**	**-0.5**	
USRK	**Ussuriysk Ar.**	**128.04**	**28**		PKP	**PKPdf**	**22 02 54.5**	**-0.3**	
	comp=Z,2.2nm,0.8s,baz=222,slow=1.9,SNR=4.3								
TBI	**Tubuai**	**128.40**	**240**	*e*	LR	LR	22 43 26.1		
	comp=Z,1μm,24.2s								
PPT2	**Papeete2**	**130.25**	**247**	*e*	LR	LR	22 44 07.5		
	comp=Z,119nm,24.2s								
PPT2				*e*	LR	LR	22 44 14.1		
	comp=Z,124nm,24.2s								
MJAR	**Matsushiro Arr**	**136.96**	**30**		PKP	**PKPdf**	**22 03 10.8**	**-1.1**	
	comp=Z,3.1nm,0.9s,baz=339,slow=1.6,SNR=7.7								
STKA	**Stephens Creek**	**142.33**	**149**		PKhKP	PKPpre	22 03 17.1		
	comp=Z,7.1nm,1.0s,baz=257,slow=1.5,SNR=4.8								
ASAR	**Alice Springs**	**143.18**	**132**		PKhKP	PKPpre	22 03 19.2		
	comp=Z,10nm,0.8s,baz=226,slow=3.0,SNR=64								
TNTI	**Ternate**	**144.29**	**89**		PKPdf	PKPbc	22 03 24.4	+0.4	
WRA	**Warramunga Arr**	**145.57**	**127**			**PKPdf**	**22 03 26.3**	**-1.5**	
WRA	**Warramunga Arr**	**145.57**	**127**		PKPbc	**PKPdf**	**22 03 27.4**	**-0.4**	
	comp=Z,27nm,0.8s,baz=243,slow=2.7,SNR=117								
WRA	**Warramunga Arr**	**145.57**	**127**		PKIKP	**PKPdf**	**22 03 26.3**	**-1.5**	
WB2	**Warramunga Arr**	**145.58**	**127**		PKPdf	**PKPdf**	**22 03 27.2**	**-0.5**	
WRAB	**Tennant Creek**	**145.58**	**127**			**PKPdf**	**22 03 26.8**	**-1.0**	
WRAB	**Tennant Creek**	**145.58**	**127**		PKIKP	**PKPdf**	**22 03 26.8**	**-1.0**	
WR8	**Warramunga Arr**	**145.69**	**127**			**PKPdf**	**22 03 27.2**	**-0.8**	
WB0	**Warramunga Arr**	**145.70**	**127**			**PKPdf**	**22 03 26.6**	**-1.4**	
MIDW	**Midway**	**146.28**	**328**		PKPdf	**PKPdf**	**22 03 28.4**	**-0.2**	
ARMA	**Armidale**	**147.83**	**161**			**PKPbc**	**22 03 34.2**	**0.0**	
DZM	**Mont Dzumac**	**157.80**	**188**	*e*	LR	LR	22 56 45.4		
	comp=Z,227nm,24.6s								

NEIC ***10*** *21:52:25.0±0.8,35°.903N±0°.009×117°.70W±0°.01, h4km±2km, Error ellipse: s-maj=1.5km s-min=1.3km az=70.0*

PAS 10 21:52:25.4±0.8, 35°.910N±0°.008×117°.71W±0°.01, h2km±2km, ML3.0/20, ML2.7/76(NEIC), **Error ellipse: s-maj=1.4km s-min=1.1km az=71.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.10**	**294**		Pg	21 52 27.7	+0.3
JRC2	**Joshua Ridge**	**0.11**	**311**		Pg	21 52 27.9	+0.2
TOW	**Tower One**	**0.11**	**204**		Pg	21 52 28.2	+0.6
WCSM	**Coso Springs S**	**0.13**	**338**		Pg	21 52 28.0	+0.1
WCSM					Sg	21 52 30.2	+0.6
CLC	**China Lake**	**0.13**	**136**		Pg	21 52 28.1	+0.2
CLC				Sg	Sg	21 52 30.1	+0.4
CLC				IAML		21 52 30.5	
	comp=N,3μm,0.2s						
WNMM	**Nine Mile Cany**	**0.17**	**247**		Pg	21 52 29.1	+0.3
WNMM					Sg	21 52 32.1	+1.1
WRVM	**Rose V. Centra**	**0.18**	**304**		Pg	21 52 29.1	+0.2
SRTC	**Snort**	**0.22**	**189**		Sg	21 52 34.6	+2.1
MFS	**McCloud Flat S**	**0.24**	**330**		Pg	21 52 30.2	+0.1
MFS					Sg	21 52 34.0	+0.8
LRMC	**Laurel Mtn Rad**	**0.43**	**177**		Pg	21 52 33.7	0.0
LRMC					Sg	21 52 39.9	+0.6
LRMC				IAML		21 52 40.4	
	comp=N,1μm,0.2s						
CCCA	**Chr Cany lake**	**0.47**	**144**		Pg	21 52 35.0	+0.5
CCCA				Sg	Sg	21 52 42.0	+1.3
CWC	**Cottonwood Cre**	**0.61**	**330**		Pg	21 52 37.1	0.0
CWC				IAML		21 52 46.4	
	comp=N,318nm,0.2s						
CWC				IAML		21 52 49.3	
	comp=E,453nm,0.2s						
ISA	**Isabella, Lake**	**0.67**	**249**		Pg	21 52 38.1	-0.1
ISA				Sg	Sg	21 52 47.1	+0.1
ISA				IAML		21 52 47.7	
	comp=N,475nm,0.3s						
ISA				IAML		21 52 48.3	
	comp=E,447nm,0.3s						
QSM	**Queen of Sheba**	**0.68**	**85**		Pg	21 52 38.3	-0.2
QSM				IAML		21 52 51.9	
	comp=E,532nm,0.5s						
QSM				IAML		21 52 53.5	
	comp=N,396nm,0.7s						
GWY	**Greenwater Val**	**0.89**	**72**		Pg	21 52 42.3	-0.1
GWY				IAML		21 53 00.7	
	comp=E,410nm,0.4s						
GWY				IAML		21 53 03.6	
	comp=N,276nm,0.6s						
SPG2	**Springville 2**	**0.91**	**289**		Pg	21 52 42.3	-0.5
GSC	**Goldstone, Bar**	**0.95**	**129**		Pg	21 52 43.6	-0.1
GSC				IAML		21 52 59.6	
	comp=E,422nm,0.6s						
GSC				IAML		21 52 59.8	
	comp=N,201nm,0.7s						
TPO	**Tropico Hills**	**1.11**	**203**		Pg	21 52 46.1	-0.7
TPO					Sg	21 53 01.1	-0.1
TPO				IAML		21 53 08.0	
	comp=N,234nm,0.7s						
TPO				IAML		21 53 08.2	
	comp=E,228nm,0.8s						
GRAC	**Grapevine Rang**	**1.12**	**14**		Pg	21 52 46.4	-0.5
GRAC				IAML		21 53 09.4	
	comp=N,216nm,0.8s						
GRAC				IAML		21 53 12.8	
	comp=E,214nm,0.7s						
WCT	**Wildcat Mounta**	**1.24**	**44**		Pg	21 52 48.8	-0.5
WCT				IAML		21 53 09.9	
	comp=E,130nm,0.7s						
VOG	**Valley Oaks Go**	**1.42**	**287**		Pn	21 52 51.7	-0.5
GMN	**Gold Mountain**	**1.43**	**14**		Pn	21 52 52.1	-0.6
GMN				IAML		21 52 57.6	
	comp=N,73nm,0.4s						
DSP	**Deep Spring

az=72.0
NEIC ***10*** *22:08:23.5±2.6,3.74N±0.04×128.5E±0.1,h35km±1km, mb4.2/12,Error ellipse: s-maj=21.3km s-min=6.4km az=88.0*

ISC 10 22:08:22.9±0.7,3.76N±0.08×128.6E±0.1,h35km,n30, σ1°61°/27,mb4.1/14,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.20**	**202**	Pn	**Pn**	**22 05 10.8**	**0.0**
TOLI2	**Tolitoli**	**8.21**	**251**		**Pn**	**22 10 20.8**	**+1.1**
SAUI	**Saumlaki**	**11.98**	**167**	Pn	**Pn**	**22 11 09.2**	**-2.1**
SBUM	**Sibu**	**16.38**	**266**	Pn	**Pn**	**22 12 09.6**	**-0.7**
KNRA	**Kununurra**	**19.32**	**179**	P	**P**	**22 12 42.6**	**-2.6**
KNRA	comp=Z,24nm,1.4s			IAmb	IAmb	22 12 55.4	
FITZ	**Fitzroy Crossi**	**21.91**	**187**	P	**P**	**22 13 11.6**	**-1.7**
FITZ	**Fitzroy Crossi** comp=Z,1.6nm,0.8s,baz=4.4,slow=13,SNR=1.4	**21.91**	**187**	P	**P**	**22 13 17.0**	**+3.7**
WB0	comp=Z,1.6nm,0.8s			IAmb	IAmb	22 13 56.2	
WRA	**Warramunga Arr**	**24.23**	**167**	P	**P**	**22 13 36.6**	**-0.1**
WRA	**Warramunga Arr** comp=Z,1.3nm,0.7s,baz=344,slow=10,SNR=26	**24.23**	**167**	P	**P**	**22 13 39.3**	**+2.6**
ASAR	**Alice Springs** comp=Z,1.3nm,0.7s	**27.75**	**169**	P	**P**	**22 14 11.1**	**+2.5**
CMAR	**Chiang Mai Arr** comp=Z,0.2nm,0.5s,baz=349,slow=9.9,SNR=4.5 comp=Z,0.2nm,0.5s	**32.45**	**299**	P	**P**	**22 14 50.5**	**+0.3**
CMAR	**Chiang Mai Arr** comp=Z,2.9nm,0.3s,baz=112,slow=8.8,SNR=4.1 comp=Z,2.9nm,0.3s	**32.45**	**299**	P	**P**	**22 14 50.5**	**+0.3**
H11S3	**WAKE ISLAND Hy** baz=253,slow=74	**40.04**	**66**	T	T	22 59 06.1	
H11S2	**WAKE ISLAND Hy** baz=253,slow=74	**40.06**	**66**	T	T	22 59 09.9	
H11S1	**WAKE ISLAND Hy** baz=253	**40.06**	**66**	T	T	22 59 10.0	
ULN	**Ulaanbaatar** comp=Z,2.0nm,0.8s	**47.68**	**340**	P	**P**	**22 16 55.4**	**-0.8**
ULN	comp=Z,3.6nm,1.3s			IAmb	IAmb	22 16 56.9	
SONM	**Songino Array** comp=Z,0.7nm,0.5s,baz=164,slow=8.0,SNR=2.1 comp=Z,0.7nm,0.5s	**47.87**	**340**	P	**P**	**22 16 57.3**	**-0.3**
MKAR	**Makanchi Array**	**58.59**	**324**	P	**P**	**22 18 15.5**	**-0.8**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.4s,baz=111,slow=8.0,SNR=16 comp=Z,0.6nm,0.4s	**58.59**	**324**	P	**P**	**22 18 16.0**	**-0.3**
MAKZ	**Makanchi**	**58.77**	**324**	P	**P**	**22 18 17.6**	**-0.1**
MAKZ	comp=Z,3.6nm,1.3s			IAmb	IAmb	22 18 22.9	
ZALV	**Zalesovo Beam** comp=Z,0.4nm,0.4s,baz=115,slow=8.2,SNR=2.4 comp=Z,0.4nm,0.4s	**61.40**	**332**	P	**P**	**22 18 34.7**	**-0.8**
KURK	**Kurchatov**	**62.71**	**327**	P	**P**	**22 18 43.4**	**-0.9**
KURBB	**Kurchatov Arra** comp=Z,1.4nm,0.7s,baz=124,slow=6.0,SNR=10 comp=Z,1.4nm,0.7s	**62.71**	**327**	P	**P**	**22 18 43.9**	**-0.4**
KKAR	**Karatay Array**	**64.47**	**316**	P	**P**	**22 18 55.5**	**-0.6**
ABKAR	**Akbulak array**	**73.29**	**320**	P	**P**	**22 19 50.0**	**-0.8**
C19K	**Lookout Ridge**	**80.07**	**20**	P	**P**	**22 20 30.0**	**+1.1**
G21K	**Allakaket**	**81.76**	**23**	P	**P**	**22 20 39.4**	**+1.6**
G21K	comp=Z,3.6nm,1.2s			IAmb	IAmb	22 20 47.8	
E22K	**Anaktuvuk Pass**	**82.66**	**22**	P	**P**	**22 20 44.2**	**+1.6**
E22K	comp=Z,1.4nm,0.9s			IAmb	IAmb	22 21 03.0	
ARCES	**ARCESS Array B** comp=Z,2.0nm,0.9s,baz=77,slow=4.9,SNR=3.7 comp=Z,2.0nm,0.9s	**91.05**	**340**	P	**P**	**22 21 21.8**	**-1.6**
QSPA	**South Pole Qui**	**93.67**	**180**	P	**P**	**22 21 38.2**	**+2.5**

NEIC ***10*** *22:15:38.7±0.9,35.697N±0.010×117.452W±0.009, h4km±1km,Error ellipse: s-maj=1.5km s-min=0.9km az=210.0*

PAS 10 22:15:39.0±0.6,35.671N±0.010×117.46W±0.01, h5km±1km,ML3.1,ML2.6/28(NEIC),Error ellipse: s-maj=1.5km s-min=1.2km az=203.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.16**	**153**	Pg	Pg	22 15 42.7	+0.4
CCCA	comp=N,522nm,0.5s			IAML		22 15 46.0	
CLC	**China Lake**	**0.18**	**321**		Pg	22 15 42.7	0.0
CLC	**China Lake** comp=E,95nm,0.2s	**0.18**	**321**	IAML		22 15 45.7	
CLC	comp=N,81nm,0.3s			IAML		22 15 45.7	
SRTC	**Snort**	**0.24**	**275**	Pg		22 15 44.0	+0.3
SRTC				Sg		22 15 48.2	+1.3
MPMC	**Manual Prospec**	**0.39**	**356**	Pg		22 15 46.4	-0.2
MPMC	comp=E,3μm,0.5s			IAML		22 16 00.3	
MPMC	comp=N,3μm,0.6s			IAML		22 16 00.3	
JRC2	**Joshua Ridge**	**0.42**	**317**		Pg	22 15 47.5	+0.2
WRVM	**Rose V. Centra**	**0.49**	**314**		Pg	22 15 48.3	-0.1
QSM	**Queen of Sheba**	**0.56**	**58**		Pg	22 15 50.0	+0.1
QSM					Sg	22 15 57.4	+0.2
QSM	comp=E,1μm,0.3s			IAML		22 16 08.0	
QSM	comp=N,1μm,0.4s			IAML		22 16 09.7	
GSC	**Goldstone, Bar**	**0.65**	**125**	Pg	Pg	22 15 51.4	-0.1
GSC	comp=N,444nm,0.3s			IAML		22 16 13.7	
GSC	comp=E,494nm,0.7s			IAML		22 16 14.1	
HYS	**Haystack Butte**	**0.81**	**187**		Pg	22 15 54.0	-0.6
GWY	**Greenwater Val**	**0.82**	**51**		Pg	22 15 54.2	-0.6
TPO	**Tropico Hills**	**1.01**	**219**	Pg	Pg	22 15 58.4	-0.1
TPO	comp=N,782nm,0.7s			IAML		22 16 34.1	
LRRC	**Littlerock Res**	**1.23**	**202**		Sg	22 16 17.8	-1.0
TPNV	**Topopah Spring**	**1.60**	**37**		Pn	22 16 08.3	+0.1
PKD	**Bear Valley Ra**	**2.52**	**277**		Pg	22 16 26.7	-0.7
PSMM	**Smith Mountain**	**2.58**	**280**		Pb	22 16 27.1	+1.2
RAMR	**Ramage Ranch**	**2.78**	**270**		Pg	22 16 31.2	-1.1

NEIC ***10*** *22:15:47.9±0.8,36.173N±0.005×117.88W±0.02, h4km±2km,Error ellipse: s-maj=2.0km s-min=0.6km az=79.0*
PAS ***10*** *22:15:48.3±0.9,36.173N±0.010×117.884W±0.008, h1km±2km,Mwr3.9/4,ML3.7/146(NEIC),Error ellipse: s-maj=1.5km s-min=0.9km az=167.0*
IDC ***10*** *22:15:48.7±0.9,36.20N×117.88W,h0km,mbtmp3.2/5, ML3.5/5,Error ellipse: s-maj=18.3km s-min=5.7km az=77.0*

ISC 10 22:15:48.5±1.1,36.18N±0.02×117.89W±0.02,h2km±11km, n90,σ0°78/99,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.06**	**155**		**Pg**	**22 15 49.7**	**-0.1**
MFS					**Sg**	**22 15 50.9**	**+0.2**
WCSM	**Coso Springs S**	**0.18**	**146**		**Pg**	**22 15 52.0**	**+0.1**
JRC2	**Joshua Ridge**	**0.20**	**161**		**Pg**	**22 15 52.4**	**0.0**
JRC2					**Sg**	**22 15 55.6**	**+0.5**
CWC	**Cottonwood Cre**	**0.31**	**330**		**Pg**	**22 15 54.5**	**+0.1**
CWC				Sg	**Sg**	**22 15 59.0**	**+0.6**
CWC	comp=N,7μm,0.2s			IAML		22 16 00.2	
CWC	comp=E,7μm,0.2s			IAML		22 16 01.8	
MPMC	**Manual Prospec**	**0.34**	**110**		**Pg**	**22 15 54.9**	**-0.2**
TOW	**Tower One**	**0.38**	**164**		**Pg**	**22 15 56.1**	**+0.4**
TOW					**Sb**	**22 16 02.5**	**-1.8**
CGO	**Cerro Gordo**	**0.38**	**10**		**Pg**	**22 15 55.7**	**-0.1**
CGO					**Sg**	**22 16 01.2**	**+0.3**
CLC	**China Lake**	**0.43**	**147**		**Pg**	**22 15 56.5**	**-0.2**
CLC					**Sg**	**22 16 02.3**	**0.0**
SRTC	**Snort**	**0.49**	**167**		**Pg**	**22 15 58.3**	**+0.4**
WORM	**Onyx Ranch**	**0.56**	**211**		**Sg**	**22 16 06.6**	**+0.2**
WHFM	**Hanning Flat**	**0.61**	**218**		**Sg**	**22 16 08.3**	**+0.4**
WBSM	**Bird Springs**	**0.67**	**198**		**Sg**	**22 16 10.0**	**+0.1**
WASM	**Alta Sierra Ca**	**0.70**	**231**		**Sg**	**22 16 11.3**	**+0.4**
ISA	**Isabella, Lake**	**0.70**	**223**		**Pg**	**22 16 01.6**	**-0.3**
ISA	comp=N,2μm,0.5s			IAML		22 16 11.5	
ISA				IAML		22 16 11.9	
	comp=E,3μm,0.3s						
ISA	**Isabella, Lake**	**0.70**	**223**		**Sg**	**22 16 11.0**	**+0.2**
LRMC	**Laurel Mtn Rad**	**0.71**	**166**		**Pg**	**22 16 01.9**	**-0.3**
LRMC					**Sg**	**22 16 11.6**	**+0.2**
LRMC	comp=E,3μm,0.7s			IAML		22 16 16.7	
LRMC	comp=N,3μm,0.6s			IAML		22 16 18.3	
CCCA	**Chr Cany lake**	**0.78**	**147**		**Pg**	**22 16 03.3**	**0.0**
QSM	**Queen of Sheba**	**0.85**	**104**		**Pg**	**22 16 04.6**	**-0.2**
QSM	comp=E,3μm,0.8s			IAML		22 16 19.8	
QSM	comp=N,3μm,0.6s			IAML		22 16 20.2	
FURC	**Furnace Creek,**	**0.88**	**70**		**Pg**	**22 16 05.3**	**0.0**
FURC					**Sb**	**22 16 17.5**	**-1.1**
DTP	**Desert Tortois**	**0.91**	**178**		**Sg**	**22 16 17.7**	**+0.1**
TIN	**Tinemaha, Big**	**0.92**	**343**		**Pg**	**22 16 06.0**	**-0.1**
GRAC	**Grapevine Rang**	**0.92**	**27**		**Pg**	**22 16 05.8**	**-0.3**
GRAC	comp=N,4μm,0.8s			IAML		22 16 25.7	
GRAC	comp=E,2μm,0.6s			IAML		22 16 26.7	
GWY	**Greenwater Val**	**0.99**	**89**		**Pg**	**22 16 07.0**	**-0.4**
GWY	comp=E,3μm,0.6s			IAML		22 16 25.8	
GWY	comp=N,3μm,0.6s			IAML		22 16 26.2	
WCT	**Wildcat Mounta**	**1.19**	**58**		**Pg**	**22 16 10.3**	**-0.9**
WCT	comp=E,2μm,1.0s			IAML		22 16 29.4	
WCT	comp=N,1μm,0.7s			IAML		22 16 37.7	
DSP	**Deep Springs**	**1.19**	**357**		**Pg**	**22 16 10.4**	**-1.0**
DSP					**Sg**	**22 16 26.4**	**-0.5**
DSP	comp=N,1μm,0.6s			IAML		22 16 33.1	
BHPR	**Bishop**	**1.22**	**337**		**Pg**	**22 16 11.3**	**-0.6**
POCCA	**Poleta Canyon**	**1.23**	**345**		**Pg**	**22 16 11.3**	**-0.7**
GMN	**Gold Mountain**	**1.23**	**24**		**Pg**	**22 16 11.3**	**-0.8**
GMN	comp=N,919nm,0.6s			IAML		22 16 31.0	
GSC	**Goldstone, Bar**	**1.24**	**134**	Pg	**Pg**	**22 16 11.3**	**-0.9**
GSC	comp=E,2μm,0.6s			IAML		22 16 31.6	
GSC	comp=N,2μm,0.8s			IAML		22 16 36.0	
BAKC	**Calstate**	**1.29**	**230**		**Pg**	**22 16 12.8**	**-0.3**
TPO	**Tropico Hills**	**1.32**	**192**		**Pg**	**22 16 12.8**	**-1.0**
TPO	comp=E,1μm,1.1s			IAML		22 16 38.5	
TPO	comp=N,1μm,0.9s			IAML		22 16 41.0	
TPNV	**Topopah Spring**	**1.53**	**59**		**Pn**	**22 16 16.4**	**-0.6**
TPNV	comp=N,1μm,0.8s			IAML		22 16 39.3	
TPNV	comp=N,919nm,0.7s			IAML		22 16 48.2	
MZP	**Montezuma Peak**	**1.58**	**15**		**Pn**	**22 16 17.4**	**-0.3**
LEOC	**Leona Valley**	**1.58**	**193**		**Pn**	**22 16 16.8**	**-0.7**
KCC	**Kaiser Creek**	**1.62**	**315**		**Pn**	**22 16 18.2**	**+0.1**
OSI	**Osito Audit: C**	**1.70**	**204**		**Pn**	**22 16 19.1**	**-0.1**
OSI	comp=E,952nm,0.6s			IAML		22 16 52.4	
OSI	comp=N,796nm,0.7s			IAML		22 16 55.6	
BFSC	**Mount Baldy Ra**	**1.94**	**174**		**Pn**	**22 16 22.0**	**-0.6**
BFSC	comp=E,468nm,1.0s			IAML		22 16 56.9	
MWC	**Mount Wilson**	**1.95**	**184**		**Pn**	**22 16 22.6**	**-0.2**
MWC	comp=E,456nm,0.6s			IAML		22 16 57.1	
MWC	comp=N,750nm,0.8s			IAML		22 17 00.7	
TPH	**Tonopah**	**1.97**	**15**		**Pn**	**22 16 23.0**	**0.0**
PASC	**Pasadena Art C**	**2.01**	**187**		**Pn**	**22 16 23.1**	**-0.3**
PASC	comp=E,362nm,0.9s			IAML		22 16 53.7	
MTPC	**Mountain Pass**	**2.02**	**109**		**Pn**	**22 16 22.5**	**-1.2**
MTPC	comp=E,451nm,1.0s			IAML		22 17 02.2	
MTPC	comp=N,436nm,1.1s			IAML		22 17 05.4	
LHV	**Little Huntoon**	**2.13**	**347**	Pn	**Pn**	**22 16 25.3**	**+0.3**
LHV	comp=N,452nm,1.4s			IAML		22 17 06.0	
LHV	comp=E,375nm,1.5s			IAML		22 17 06.6	
SHPR	**Sheep Range**	**2.23**	**81**	Pn	**Pn**	**22 16 26.5**	**-0.1**
FIGC	**Figueroa Mtn.**	**2.24**	**231**		**Pb**	**22 16 28.6**	**-1.1**
S11A	**Rachel**	**2.26**	**49**		**Pn**	**22 16 27.3**	**+0.3**
NV11	**Mina Array Sit**	**2.26**	**355**		**Pn**	**22 16 27.0**	**-0.1**
NVAR	**Mina Array Bea**	**2.27**	**352**		**Pn**	**22 16 27.6**	**+0.3**
NVAR	**Mina Array Bea** comp=E,25nm,0.3s,baz=176,slow=12,SNR=91	**2.27**	**352**	Pn	**Pn**	**22 16 27.2**	**-0.1**
NVAR	comp=E,25nm,0.3s,baz=176,slow=16,SNR=50			Pg	**Pg**	**22 16 31.2**	**-0.9**
NVAR	comp=E,19nm,0.3s,baz=184,slow=31,SNR=4.9 comp=E,10nm,0.4s			Lg	Lg	22 16 59.9	
PMPB	**Monarch Peak**	**2.36**	**272**		**Pn**	**22 16 29.0**	**+0.8**
MYLM	**Yosemite Lake**	**2.36**	**301**		**Pb**	**22 16 30.6**	**-1.2**
RYN	**Ryan**	**2.50**	**349**		**Pn**	**22 16 30.5**	**+0.2**
V12A	**Nelson**	**2.50**	**99**		**Pn**	**22 16 29.2**	**-1.1**
V12A	comp=N,319nm,1.3s			IAML		22 17 17.5	
V12A	comp=E,221nm,0.6s			IAML		22 17 18.0	
ELS	**Elsinore Mount**	**2.55**	**171**		**Pn**	**22 16 30.3**	**-0.6**
BBGB	**Big Mountain B**	**2.57**	**280**		**Pn**	**22 16 32.3**	**+1.1**
PRN	**Pahroc Range**	**2.59**	**61**		**Pn**	**22 16 31.2**	**-0.3**
WAKR	**Walker**	**2.63**	**333**		**Pn**	**22 16 33.4**	**+1.2**
WAKR	comp=N,226nm,1.3s			IAML		22 17 25.3	
WAKR	comp=E,246nm,1.0s			IAML		22 17 34.8	
Q09A	**Carvers**	**2.71**	**12**	Pn	**Pn**	**22 16 33.8**	**+0.6**
CMB	**Columbia Colle**	**2.73**	**314**		**Pn**	**22 16 34.9**	**+1.5**
CMB	comp=E,389nm,0.9s			IAML		22 17 15.5	
PMD	**Palm Desert**	**2.81**	**153**		**Pn**	**22 16 33.9**	**-0.5**
PFO	**Pinyon Flats O**	**2.81**	**155**		**Pn**	**22 16 33.9**	**-0.7**
PFO	comp=E,158nm,1.3s			IAML		22 17 35.0	
PFO	**Pinyon Flats O** comp=E,1.0nm,0.3s,baz=329,slow=7.8,SNR=14	**2.81**	**155**	Pn	**Pn**	**22 16 34.0**	**-0.6**
PFO	comp=E,6.6nm,0.3s,baz=336,slow=14,SNR=30			Pg	**Pb**	**22 16 40.7**	**+1.2**
PFO	comp=E,9.4nm,0.3s,baz=51,slow=23,SNR=4.2 comp=E,5.6nm,0.3s			Lg	Lg	22 17 16.7	
R11B	**Troy Canyon, C**	**2.84**	**40**		**Pn**	**22 16 34.6**	**-0.4**
R11B	comp=E,234nm,0.7s			IAML		22 17 22.6	
SAO	**San Andreas Ge**	**2.93**	**283**		**Pn**	**22 16 35.6**	**-0.4**
NEE2	**Needles Airpor**	**3.02**	**117**		**Pn**	**22 16 35.9**	**-1.3**
NEE2	comp=N,397nm,0.6s			IAML		22 17 36.8	
BORC	**Borrego Spring**	**3.14**	**157**		**Pn**	**22 16 39.0**	**0.0**
BORC	comp=E,188nm,0.9s			IAML		22 17 35.8	
BORC	comp=N,140nm,1.0s			IAML		22 17 40.5	
DPP	**Dos Picos Cty**	**3.26**	**166**		**Pn**	**22 16 40.0**	**-0.7**
W13A	**Hualapai Mount**	**3.43**	**107**	Pn	**Pn**	**22 16 42.2**	**-1.0**
W13A	comp=N,104nm,1.3s			IAML		22 17 47.9	
W13A	comp=E,122nm,1.1s			IAML		22 17 50.9	
BLYC	**Blythe**	**3.67**	**130**		**Pn**	**22 16 44.8**	**-1.5**
BLYC	comp=E,107nm,0.8s			IAML		22 18 04.8	
BLYC	comp=N,86nm,0.8s			IAML		22 18 11.0	
PAHR	**Pah Rah Range**	**3.72**	**342**		**Pn**	**22 16 46.7**	**-0.4**
LCMT	**Little Creek M**	**3.83**	**76**		**Pn**	**22 16 48.8**	**+0.2**
YUH	**Yuha Desert**	**3.88**	**155**		**Pn**	**22 16 48.1**	**-0.9**
CCUT	**Cedar City**	**3.88**	**68**		**Pn**	**22 16 49.5**	**+0.1**
CBX	**Cerro Bola**	**3.98**	**165**		**Pn**	**22 16 50.8**	**+0.1**
PSUT	**Pine Spring**	**3.98**	**53**		**Pn**	**22 16 50.7**	**-0.1**
PSUT	comp=E,174nm,0.8s			IAML		22 18 04.3	
PSUT	comp=N,160nm,1.0s			IAML		22 18 12.2	
SPR3	**Spring Creek 3**	**3.99**	**44**		**Pn**	**22 16 49.6**	**-1.4**
SPR3	comp=N,80nm,0.5s			IAML		22 17 55.6	
SPR3	comp=E,127nm,1.0s			IAML		22 17 58.7	
GLA	**Glamis**	**4.01**	**140**	Pn	**Pn**	**22 16 49.4**	**-1.6**
GLA	comp=N,132nm,1.0s			IAML		22 18 03.8	
GLA	comp=E,169nm,0.8s			IAML		22 18 08.8	
KNB	**Kanab**	**4.16**	**77**	Pn	**Pn**	**22 16 53.7**	**+0.5**
KNB	comp=E,81nm,1.4s			IAML		22 18 09.4	
KNB	comp=N,73nm,1.5s			IAML		22 18 21.3	
ESJX	**Sierra Juarez**	**4.46**	**158**		**Pn**	**22 16 56.8**	**-0.4**
ESJX	comp=E,55nm,1.4s			IAML		22 18 19.9	
Y14A	**Wickenburg**	**4.59**	**118**		**Pn**	**22 16 57.9**	**-1.0**
Y14A	comp=N,76nm,1.1s			IAML		22 18 18.8	
Y14A	comp=E,65nm,0.9s			IAML		22 18 30.3	
113A	**Mohawk Valley,**	**4.81**	**134**		**Pn**	**22 17 01.8**	**-0.1**
113A	comp=E,39nm,1.7s			IAML		22 18 37.5	
ELK	**Elko**	**5.01**	**24**		**Pn**	**22 17 05.6**	**+0.6**
ELK	**Elko** comp=E,1.7nm,0.3s,baz=215,slow=13,SNR=21	**5.01**	**24**	Pn	**Pn**	**22 17 05.6**	**+0.6**
ELK	comp=E,8.3nm,0.3s,baz=123,slow=20,SNR=10 comp=E,4.5nm,0.4s			Lg	Lg	22 18 26.0	
X16A	**Lo Mia Camp, P**	**5.56**	**107**	Pn	**Pn**	**22 17 13.1**	**+0.7**
HMU	**Henry Mountain**	**5.98**	**71**	Pn	**Pn**	**22 17 19.0**	**+0.8**
TMUT	**Trail Mountain**	**6.14**	**58**	Pn	**Pn**	**22 17 20.4**	**-0.1**
YBH	**Yreka Blue Hor** baz=270,slow=19,SNR=2.2	**6.70**	**327**	Lg	Lg	22 19 15.9	
TUC	**Tucson**	**7.03**	**121**	Pn	**Pn**	**22 17 32.1**	**-0.4**
PDAR	**Pinedale Array** comp=E,0.1nm,0.3s,baz=210,slow=8.6,SNR=6.7	**9.21**	**42**	Pn	**Pn**	**22 18 04.9**	**+2.4**
PDAR	comp=E,0.1nm,0.3s,baz=230,slow=34,SNR=2.0 comp=E,0.4nm,0.6s			Lg	Lg	22 20 35.6	
ANMO	**Albuquerque** comp=E,0.2nm,0.3s,baz=2.6,slow=14,SNR=5.6	**9.39**	**94**	Pg	Pn	22 18 40.4	+35
ANMO	comp=E,0.1nm,0.3s,baz=186,slow=19,SNR=3.9			Lg	Lg	22 20 42.8	
TXAR	**Lajitas Array** baz=293,slow=15,SNR=5.0 comp=E,0.3nm,0.5s	**13.77**	**116**	Pn	**Pn**	**22 19 07.7**	**+2.9**

ISN ***10*** *22:17:40.8±0.3,34.41N×45.56E,h25km±4km,ML2.8*
TEH ***10*** *22:17:41.1,34.35N×45.59E,h12km±908km*

ISC 10 22:17:41.2±1.2,34.36N±0.05×45.56E±0.05,h10km±14km, n10,σ0°83/13,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.15**	**8**	Pg	**Pg**	**22 17 44.7**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.38**	**130**	Pg	**Pg**	**22 17 48.4**	**-0.3**
IDHR	**Dehrash**	**0.76**	**63**	Pg	**Pb**	**22 17 55.1**	**-1.6**
IDHR				Sg	**Sg**	**22 18 06.5**	**+0.6**
IGHG	**Ghaleghazi**	**0.83**	**92**	Pg	**Pg**	**22 17 57.1**	**-0.1**
ILBA	**Ilam Banvizeh**	**0.91**	**144**	Pg	**Pb**	**22 17 57.8**	**-1.2**
KCHF	**Cheshme Sefid,**	**1.23**	**93**	Pg	**Pg**	**22 18 05.5**	**+0.8**
IBDR	**Badra**	**1.28**	**166**	*e*Pg	**Pb**	**22 18 05.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**22 18 22.5**	**+0.1**
IBDR	comp=E,165nm,0.3s			AML	AML	22 18 27.0	
IBDR	comp=N,169nm,0.3s			AML	AML	22 18 37.1	
BHD	**Baghdad**	**1.47**	**223**	*e*Pn	**Pb**	**22 18 08.0**	**-0.5**
BHD				*e*Sn	**Sg**	**22 18 28.0**	**-0.3**
IBZA	**Bozab**	**1.90**	**86**	Pn	**Pb**	**22 18 16.0**	**-0.2**
RAFI	**Al-Rafai**	**2.67**	**170**	*e*Pn	**Pn**	**22 18 25.0**	**+0.8**

GRAL ***10*** *22:25:39.7±0.4,34.14N×36.93E,h7km±5km,MD3.2*
GII ***10*** *22:25:40.4±0.0,34.027N±0.005×36.777E±0.002, h1km,Mws2.5,confirmed*

ISC 10 22:25:39.4±2.0,34.11N±0.06×36.87E±0.09,h11km,n23, σ0°45/26,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.40**	**289**	*e*P	**Pg**	**22 25 47.8**	**+0.3**
FKH				*e*S	**Sg**	**22 25 53.7**	**+0.8**
BEIL	**Beino**	**0.71**	**307**	*e*P	**Pg**	**22 25 53.2**	**0.0**
HWQ	**Hawqa**	**0.78**	**283**	*e*P	**Pb**	**22 25 54.7**	**-0.5**
HWQ				*e*S	**Sb**	**22 26 05.8**	**0.0**
ZAHL	**Zahle**	**0.86**	**253**	*e*P	**Pb**	**22 25 56.4**	**0.0**
BHL	**Bhannes**	**1.03**	**259**	*e*P	**Pg**	**22 25 58.9**	**-0.4**
RCY	**Rachaya**	**1.06**	**235**	*e*P	**Pb**	**22 25 59.3**	**-0.5**
RCY				*e*S	**Sb**	**22 26 14.2**	**+0.5**
QRWL	**Qaraoun**	**1.14**	**241**	*e*P	**Pb**	**22 26 00.8**	**-0.3**
DQRL	**Deir Qamar**	**1.15**	**250**	*e*P	**Pb**	**22 26 01.1**	**-0.3**
SHBL	**Chebaa**	**1.21**	**231**	*e*P	**Pn**	**22 26 01.9**	**-0.5**
NATI	**Neve Ativ**	**1.27**	**228**	P	**Pn**	**22 26 02.8**	**-0.3**
NATI	**Neve Ativ**	**1.27**	**228**	S	**Sn**	**22 26 20.0**	**0.0**
NATI	**Neve Ativ**	**1.27**	**228**	P	**Pn**	**22 26 02.8**	**-0.3**
GEM	**Giv'at Ha'Em**	**1.35**	**229**	S	**Sb**	**22 26 22.0**	**0.0**
GEM	**Giv'at Ha'Em**	**1.35**	**229**	P	**Pn**	**22 26 04.1**	**-0.1**
KSHT	**Keshet**	**1.43**	**218**	S	**Sb**	**22 26 24.9**	**+0.5**
KSHT	**Keshet**	**1.43**	**218**	P	**Pn**	**22 26 05.6**	**+0.2**
MMA0B	**Mount Meron ar**	**1.64**	**229**	P	**Pb**	**22 26 09.2**	**-0.5**
MMC7	**Mount Meron ar**	**1.64**	**229**	P	**Pb**	**22 26 09.2**	**-0.6**
HNTI	**Hanita**	**1.75**	**235**	P	**Pb**	**22 26 11.3**	**-0.2**
ASF	**Jabal al Asfar**	**1.93**	**179**	P	**Pb**	**22 26 14.5**	**-0.2**
HMDT	**Nahal Hemdat** 19nm,0.9s	**2.17**	**212**	P	**Pb**	**22 26 17.8**	**-0.9**
DSI	**Dead Sea** 25nm,1.8s	**2.83**	**207**	P	**Pb**	**22 26 30.7**	**+0.8**
GHAJ	**Ghor Haditha**	**3.01**	**202**	P	**Pg**	**22 26 37.0**	**0.0**

VAO ***10*** *22:29:46.9±1.2,24.03S×66.94W,h185km±7km,mb5.1*
MOS ***10*** *22:29:47.9±1.2,24.08S×66.76W,h192km,mb4.7/24, Error ellipse: s-maj=11.8km s-min=6.8km az=99.1*
SJA ***10*** *22:29:48.5±0.6,24.04S×66.83W,h217km±3km,ML5.3, MW4.8*
GUC ***10*** *22:29:49.5±0.7,24.05S×66.94W,h196km±5km,ML5.2*
NEIC ***10*** *22:29:49.2,24.05S×66.93W,h190km,Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^16Nm; Mrr-2.41.60000°,δ48.86000°,λ-29.86000°. NP2: φs352.29000°,δ67.98000°,λ-134.80000°. Principal axes: T 2.9124, Plg12.0000°, Azm113.0000°; N 0.3997, Plg41.0000°, Azm13.0000°; P -3.3120, Plg47.0000°, Azm215.0000°;*
NEIC ***10*** *22:29:49.3±1.8,24.06S±0.06×66.72W±0.08,h187km±4km, mb4.7/114,Mww4.9/30,Mwr5.2(GUC) Error ellipse: s-maj=10.1km s-min=8.1km az=91.0*
NEIC ***10*** *22:29:49.2,24.05S×66.71W,h190km*
IDC ***10*** *22:29:51.0±0.7,23.97S×66.58W,h201km±6km,mb4.1/14, mbtmp4.8/20,MS3.6/3,Error ellipse: s-maj=12.8km s-min=8.4km az=67.0*
GCMT ***10*** *22:29:54.2±0.3,24.10S±0.02×66.80W±0.02,h216km±2km, MW5.0/105,Moment Tensor Solution. s35,c43; s105,c137; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.45±.14; Mθθ-0.50±.16; Mφφ2.95±.20; Mrθ1.72±.09; Mθφ2.32±.16; Mφr-2.55±.13; Best double couple: M0 4.71100×10^16 NP1:φs239.00000°,δ

SLA *i* S **Sn** **22 30 49.7 +1.5**
SLA San Lorenzo 1.42 121 *e*P **Pn** **22 30 23.7 +1.1**
SLA *e*S **Sn** **22 30 49.7 +1.5**
HJA Humahuaca 1.54 59 *e*P **Pn** **22 30 25.4 +1.4**
AF01 San Pedro de A 1.61 310 **Pn** **22 30 26.7 +2.2**
AF01 Sn **Sn** **22 30 54.8 +3.3**
AF01 San Pedro de A 1.61 310 ⇑*i*P **Pn** **22 30 26.9 +2.4**
AF01 *i* S **Sn** **22 30 55.3 +3.8**
AF01 IAML 22 31 15.3
comp=N,8μm,0.7s
AF01 San Pedro de A 1.61 310 *e*P **Pn** **22 30 27.0 +2.4**
AZAP Zapla 1.64 98 *e*P **Pn** **22 30 25.5 +0.7**
AZAP *e*S **Sn** **22 30 53.3 +1.4**
YJA Yavi 2.19 34 *e*P **Pn** **22 30 32.0 +1.4**
YJA *e*S **Sn** **22 31 04.3 +1.9**
FSA Cafayete 2.24 160 *e*P **Pn** **22 30 31.1 +0.4**
FSA *e*S **Sn** **22 31 02.4 -0.5**
ALOL LOMAS DE OLMED 2.63 86 *e*P **Pn** **22 30 35.4 +0.4**
GO02 Mina Guanaco 2.75 245 **Pn** **22 30 37.4 +0.8**
GO02 Sn **Sn** **22 31 13.6 +0.5**
GO02 Mina Guanaco 2.75 245 ⇑*i*P **Pn** **22 30 37.4 +0.8**
GO02 *i* S **Sn** **22 31 13.1 0.0**
GO02 Mina Guanaco 2.75 245 *e*P **Pn** **22 30 37.4 +0.8**
GO02 *e*S **Sn** **22 31 13.2 0.0**
PB06 IPOC Station P 2.82 297 **Pn** **22 30 38.4 +1.2**
PB06 IPOC Station P 2.82 297 ⇑*i*P **Pn** **22 30 38.5 +1.2**
PB06 *i* S **Sn** **22 31 14.5 +0.2**
PB06 IAML 22 31 16.1
comp=N,10μm,0.3s
PB06 IPOC Station P 2.82 297 *e*P **Pn** **22 30 38.4 +1.2**
PB06 *e*S **Sn** **22 31 14.6 +0.4**
PB06 IAML 22 31 17.1
comp=Z,5μm,0.6s
PB09 IPOC Station P 3.11 314 **Pn** **22 30 42.3 +1.6**
PB09 IPOC Station P 3.11 314 ⇑*i*P **Pn** **22 30 42.4 +1.6**
PB09 *i* S **Sn** **22 31 22.1 +1.4**
PB09 IPOC Station P 3.11 314 *e*P **Pn** **22 30 42.4 +1.6**
PB09 *e*S **Sn** **22 31 21.3 +0.7**
PB09 IAML 22 31 22.6
comp=Z,5μm,0.7s
PB05 IPOC Station P 3.29 290 **Pn** **22 30 43.3 +0.5**
PB05 IPOC Station P 3.29 290 ⇑*i*P **Pn** **22 30 43.3 +0.5**
PB05 IPOC Station P 3.29 290 *e*P **Pn** **22 30 43.5 +0.7**
PB05 IAML 22 31 30.0
comp=Z,3μm,0.4s
PB14 IPOC Station P 3.30 258 **Pn** **22 30 43.3 +0.1**
PB14 IPOC Station P 3.30 258 ⇑*i*P **Pn** **22 30 43.4 +0.3**
PB14 IPOC Station P 3.30 258 *e*P **Pn** **22 30 43.5 +0.3**
PB14 *e*S **Sn** **22 31 24.2 -0.7**
PB14 IAML 22 31 26.1
comp=Z,5μm,0.3s
PB03 IPOC Station P 3.31 305 **Pn** **22 30 43.8 +0.7**
PB03 IPOC Station P 3.31 305 ⇑*i*P **Pn** **22 30 43.8 +0.7**
PB03 *i* S **Sn** **22 31 23.2 -1.6**
PB03 IPOC Station P 3.31 305 *e*P **Pn** **22 30 43.8 +0.7**
PB03 *e*S **Sn** **22 31 24.8 0.0**
PB03 IAML 22 31 26.5
comp=Z,8μm,0.3s
PB10 IPOC Station P 3.43 277 **Pn** **22 30 44.9 +0.5**
PB10 IPOC Station P 3.43 277 ⇑*i*P **Pn** **22 30 45.1 +0.7**
PB10 *e*S **Sn** **22 31 26.5 -0.6**
PB10 IPOC Station P 3.43 277 *e*P **Pn** **22 30 45.1 +0.7**
PB10 *e*S **Sn** **22 31 28.1 +1.0**
PB10 IAML 22 31 29.6
comp=Z,4μm,0.3s
AC02 Maricunga 3.49 216 **Pn** **22 30 46.4 +0.8**
AC02 Maricunga 3.49 216 *e*P **Pn** **22 30 46.4 +0.8**
AC02 *e*S **Sn** **22 31 30.5 +1.1**
AC02 Maricunga 3.49 216 *e*P **Pn** **22 30 45.8 +0.2**
AC02 *e*S **Sn** **22 31 28.5 -0.9**
PB01 IPOC Station P 3.82 320 **Pn** **22 30 49.7 +0.3**
PB01 IPOC Station P 3.82 320 ⇑*i*P **Pn** **22 30 49.7 +0.3**
PB01 *i* S **Sn** **22 31 34.5 -1.6**
PB02 IPOC Station P 3.88 313 **Pn** **22 30 50.2 +0.1**
PB02 IPOC Station P 3.88 313 ⇑*i*P **Pn** **22 30 50.1 +0.1**
PB02 *i* S **Sn** **22 31 34.5 -2.8**
AC01 Pan de Azucar 4.01 237 **Pn** **22 30 50.9 -0.8**
AC01 Pan de Azucar 4.01 237 *e*P **Pn** **22 30 50.8 -0.8**
AC01 Pan de Azucar 4.01 237 *e*P **Pn** **22 30 50.8 -0.8**
AC01 *e*S **Sn** **22 31 37.5 -2.8**
AC01 IAML 22 31 41.6
comp=Z,2μm,0.5s
PB08 IPOC Station P 4.40 330 **Pn** **22 30 57.7 +0.9**
PB08 IPOC Station P 4.40 330 ⇑*i*P **Pn** **22 30 57.8 +0.9**
PB08 IPOC Station P 4.40 330 *e*P **Pn** **22 30 57.6 +0.7**
PB08 *e*S **Sn** **22 31 50.8 +1.3**
PB08 IAML 22 31 54.3
comp=Z,3μm,0.6s
PATCX Punta Patache 4.40 315 **Pn** **22 30 56.2 -0.4**
PATCX Punta Patache 4.40 315 *e*P **Pn** **22 30 56.0 -0.5**
PATCX Punta Patache 4.40 315 *e*P **Pn** **22 30 56.1 -0.5**
PATCX *e*S **Sn** **22 31 49.3 +0.2**
PATCX IAML 22 31 55.6
comp=Z,3μm,0.5s
CYA Choya 4.52 168 *e*P **Pn** **22 30 58.3 +0.3**
CYA *e*S **Sn** **22 31 51.7 0.0**
AC06 Mina Casimiro 4.60 223 **Pn** **22 30 58.0 -1.0**
TA01 Diego Aracena 4.61 317 **Pn** **22 30 58.4 -0.7**
TA01 Diego Aracena 4.61 317 *e*P **Pn** **22 30 57.9 -1.2**
TA01 *e*S **Sn** **22 31 51.4 -2.2**
TA01 IAML 22 31 54.9
comp=Z,2μm,0.6s
HMBC Humberstone 4.66 322 **Pn** **22 30 58.8 -1.1**
HMBC Humberstone 4.66 322 ⇑*i*P **Pn** **22 30 58.7 -1.1**
HMBC Humberstone 4.66 322 *e*P **Pn** **22 30 58.8 -1.1**
HMBC *e*S **Sn** **22 31 52.5 -2.5**
GO03 Copiapo 4.70 220 **Pn** **22 30 59.3 -1.0**
GO03 Copiapo 4.70 220 *e*P **Pn** **22 30 59.5 -0.8**
GO03 *e*S **Sn** **22 31 52.0 -3.8**
TA02 Huaiquique 4.80 320 **Pn** **22 31 00.6 -1.0**
TA02 Huaiquique 4.80 320 *e*P **Pn** **22 31 01.5 0.0**
TA02 *e*S **Sn** **22 31 55.5 -2.6**
TA02 IAML 22 32 03.8
comp=Z,2μm,0.6s
GO01 Chusmiza 4.83 333 **Pn** **22 31 02.6 +0.1**
GO01 Chusmiza 4.83 333 *e*P **Pn** **22 31 03.1 +0.7**
GO01 *e*S **Sn** **22 32 00.2 +0.6**
VCA Vinchina 4.87 194 *e*P **Pn** **22 31 03.6 +1.0**
VCA *e*S **Sn** **22 32 02.5 +2.5**
PB11 IPOC Station P 4.96 328 **Pn** **22 31 03.2 -0.6**
PB11 IPOC Station P 4.96 328 *e*P **Pn** **22 31 03.2 -0.6**
ACLC CERRO LA CRUZ 5.40 181 *e*P **Pn** **22 31 08.7 -0.6**
ACLC *e*S **Sn** **22 32 11.3 -1.0**
AC04 Llanos de Chal 5.65 221 **Pn** **22 31 10.9 -1.5**
LCO Las Campanas 6.06 214 **Pn** **22 31 16.1 -1.9**
LCO Las Campanas 6.06 214 P **Pn** **22 31 16.1 -1.9**
PB16 IPOC Station P 6.16 336 **Pn** **22 31 19.6 -0.1**
AP01 Chacalluta 6.48 329 **Pn** **22 31 22.6 -0.7**
CO01 Juntas del Tor 6.62 205 **Pn** **22 31 24.5 -0.7**
PB18 Visviri 6.84 338 **Pn** **22 31 29.6 +1.1**
CO05 La Serena 7.07 213 **Pn** **22 31 27.9 -2.9**
GO04 Tololo Observa 7.08 209 **Pn** **22 31 28.6 -2.6**
CO03 El Pedregal 7.62 206 **Pn** **22 31 35.4 -2.6**
ZON Zonda 7.69 192 **Pn** **22 31 36.6 -2.3**
ZON Zonda 7.69 192 P **Pn** **22 31 36.6 -2.3**
LPAZ La Paz 7.77 351 Pn **Pn** **22 31 41.1 +0.5**
LPAZ La Paz 7.77 351 P **Pn** **22 31 41.4 +0.7**
comp=Z,144nm,0.5s,baz=155,slow=5.8,SNR=165
LPAZ S **Sn** **22 33 06.3 -2.4**
comp=Z,130nm,0.6s,baz=68,slow=25,SNR=7.8
LPAZ La Paz 7.77 351 P **Pn** **22 31 41.1 +0.5**
CO06 Fray Jorge 7.89 212 **Pn** **22 31 38.4 -3.1**
CO02 Combarbal 8.06 206 **Pn** **22 31 41.3 -2.5**
CPUP Villa Florida 8.93 107 **Pn** **22 31 53.1 -2.0**
CPUP Villa Florida 8.93 107 P **Pn** **22 31 53.0 -2.1**
comp=Z,27nm,0.8s,baz=185,slow=14,SNR=175
VA03 San Esteban 9.32 200 **Pn** **22 31 58.8 -1.4**
VA06 Catapilco 9.38 204 **Pn** **22 31 57.4 -3.6**
SIV San Ignacio 9.64 35 P **Pn** **22 32 03.2 -1.4**
comp=Z,140nm,0.6s,baz=214,slow=12,SNR=841
SIV S Sn 22 33 37.8 -15
comp=Z,15nm,0.6s,baz=234,slow=18,SNR=3.1
PEL Peldehue 9.71 199 **Pn** **22 32 03.1 -2.2**
PEL Peldehue 9.71 199 P **Pn** **22 32 03.1 -2.2**
MT08 Bocatoma Ro 9.81 196 **Pn** **22 32 06.6 -0.1**
SJPY San Joaquin 9.84 98 *e*P **Pn** **22 32 04.6 -2.3**
MT16 CCHEN 9.93 198 **Pn** **22 32 05.5 -2.6**
MT05 Renca 9.96 199 **Pn** **22 32 06.5 -1.9**
MT02 Curacav 9.96 201 **Pn** **22 32 05.0 -3.4**
MT03 Universidad Ad 9.99 198 **Pn** **22 32 07.2 -1.7**
BDQN Bodoquena, MS 10.00 71 *e*P **Pn** **22 32 07.1 -2.0**

LMEL Las Melosas 10.24 196 **Pn** **22 32 11.3 -0.9**
MT09 Talagante 10.39 199 **Pn** **22 32 10.7 -3.4**
BO04 La Punta 10.48 197 **Pn** **22 32 13.1 -2.1**
VA05 Santo Domingo 10.48 202 **Pn** **22 32 10.6 -4.6**
MT01 Popeta 10.55 200 **Pn** **22 32 12.9 -3.2**
ITQB Itaqui 10.73 124 Pn **Pn** **22 32 15.8 -2.6**
AQDB Aquidauana 10.91 73 Pn **Pn** **22 32 17.5 -3.2**
BO01 Tunca 10.99 199 **Pn** **22 32 18.8 -2.9**
PTLB Pontes e Lacer 11.18 42 **Pn** **22 32 22.7 -1.6**
PTLB Pontes e Lacer 11.18 42 *e*P **Pn** **22 32 22.8 -1.6**
BO02 Sierra Bellavi 11.28 197 **Pn** **22 32 23.5 -2.1**
ML02 Panimavida 12.37 198 **Pn** **22 32 36.2 -3.1**
VILB Vilhena 12.67 31 **Pn** **22 32 41.8 -1.5**
VILB Vilhena 12.67 31 *e*P **Pn** **22 32 42.5 -0.8**
RPRD Ribas do Rio P 12.67 76 *e*P **Pn** **22 32 42.1 -1.1**
TRCB Terra Rica 13.11 88 **Pn** **22 32 46.6 -2.2**
BI02 San Fabin de 13.18 196 **Pn** **22 32 47.7 -1.9**
SALV Santo Antonio 13.22 54 *e*P **Pn** **22 32 49.0 -1.2**
PTGB Pitanga 13.50 96 *e*P **Pn** **22 32 52.7 -1.0**
CPSB Cacapava Do Su 13.52 121 *e*P **Pn** **22 32 51.8 -2.1**
ITAB Concordia 13.66 107 **Pn** **22 32 53.5 -2.1**
ITAB Concordia 13.66 107 *e*P **Pn** **22 32 54.0 -1.6**
BI05 Punta Hualpn 13.82 202 **Pn** **22 32 55.1 -2.4**
PLTB Pedras Altas 14.03 126 **Pn** **22 32 57.5 -2.6**
PLTB Pedras Altas 14.03 126 *e*P **Pn** **22 32 57.5 -2.6**
C2SB Chapadao do Su 14.05 71 *e*P **Pn** **22 33 00.9 +0.4**
VA04 Juan Fernndez 14.22 225 **Pn** **22 33 02.1 -0.3**
PCMB Pacaembu 14.57 84 *e*P **Pn** **22 33 05.4 -1.6**
TRQA Tornquist 14.61 165 **Pn** **22 33 04.6 -2.7**
TRQA Tornquist 14.61 165 P **Pn** **22 33 04.6 -2.7**
CNLB Canela 15.24 114 *e*P **Pn** **22 33 13.2 -2.0**
NNA Nana 15.26 320 **P** **22 33 16.0 +0.2**
NNA Nana 15.26 320 P **P** **22 33 17.2 +1.4**
comp=Z,60nm,0.7s,baz=181,slow=14,SNR=27
NNA S **S** **22 36 01.0 -4.1**
comp=Z,5.8nm,0.3s,baz=270,slow=20,SNR=1.6
NNA Nana 15.26 320 *ce*P **P** **22 33 16.5 +0.7**
NNA pmax pmax
comp=Z,397nm,1.7s
PDRB Porto dos Gac 15.63 40 *e*P **Pn** **22 33 16.1 -3.8**
ITRB Iturama 15.89 78 *e*P **P** **22 33 21.9 -0.9**
LR03 Panguipulli 16.26 195 **P** **22 33 24.5 -2.1**
ARAG Araguaiana, MT 16.37 62 *e*P **P** **22 33 27.4 -0.6**
MAJ01 Sao Joao Batis 16.43 106 *e*P **P** **22 33 27.4 -1.2**
LR05 Currie 16.75 194 P **P** **22 33 31.1 -0.9**
CLDB Colider 16.77 41 *e*P **P** **22 33 31.6 -0.8**
PLCA Paso Flores 16.97 190 P **P** **22 33 33.9 -0.6**
PLCA Paso Flores 16.97 190 P **P** **22 33 34.4 -0.1**
comp=Z,38nm,0.6s,baz=11,slow=13,SNR=92
PLCA Paso Flores 16.97 190 P **P** **22 33 33.9 -0.6**
CZSB Cruzeiro do Su 17.13 340 P **P** **22 33 35.3 -1.1**
BB19B Bebedouro 17.18 84 *e*P **P** **22 33 36.3 -0.6**
SPB Sao Paulo 17.78 93 P **P** **22 33 42.1 -1.3**
SPB Sao Paulo 17.78 93 *e*P **P** **22 33 42.1 -1.3**
PET01 Itanhaem-SP 17.87 95 *e*P **P** **22 33 43.5 -0.9**
LL05 Los Muermos 18.22 196 P **P** **22 33 47.2 -0.8**
VAO Valinhos 18.27 91 **P** **22 33 47.4 -1.4**
VAO Valinhos 18.27 91 *e*P **P** **22 33 47.6 -1.2**
IPMB Ipameri, GO 18.40 75 *e*P **P** **22 33 49.6 -0.6**
LL01 San Ignacio de 18.90 193 P **P** **22 33 54.0 -0.4**
SNDB Sen Nova Dou 19.00 54 *e*P **P** **22 33 56.0 -0.8**
PARB Paraibuna 19.46 92 *e*P **P** **22 34 00.6 -1.0**
BDFB Brasilia 19.56 68 **P** **22 34 01.7 -1.2**
BDFB Brasilia 19.56 68 P **P** **22 34 02.1 -0.7**
comp=Z,258nm,0.7s,baz=241,slow=11,SNR=3.2
BDFB Brasilia 19.56 68 P **P** **22 34 01.7 -1.2**
LL07 Hotel Espejo d 19.57 195 P **P** **22 34 02.1 -0.4**
LL02 Futaleuf 19.58 191 **P** **22 34 02.5 -0.2**
PMNB Patos De Minas 19.78 78 *e*P **P** **22 34 03.8 -1.4**
GO07 Milladeo Hill, 19.88 195 P **P** **22 34 05.0 -0.9**
SLP01 Ubatuba-SP 19.88 92 *e*P **P** **22 34 05.6 -0.7**
TBTG Tabatinga, AM 19.92 351 P **P** **22 34 07.2 +0.6**
ATAH Atahualpa 20.10 325 P Pn 22 34 11.9 -1.6
comp=Z,8.3nm,0.8s,baz=156,slow=7.4,SNR=10
comp=Z,8.3nm,0.8s
NPGB Novo Progresso 20.15 35 *e*P **P** **22 34 05.9 -3.2**
TEFE Tefe 20.49 6 *e*P **P** **22 34 12.5 -0.2**
BSCB Bom Sucesso 20.61 86 *e*P **P** **22 34 12.8 -1.2**
MAN01 Angra dos Reis 21.03 92 *e*P **P** **22 34 16.8 -1.6**
MACA Manacapuru-AM 21.56 17 **P** **22 34 22.2 -1.7**
MACA Manacapuru-AM 21.56 17 *e*P **P** **22 34 21.9 -2.0**
VAS01 Vassouras-RJ 21.59 90 *e*P **P** **22 34 23.2 -1.1**
COYC Coyhaique 21.93 190 **P** **22 34 26.4 -1.0**
ITTB Itaituba 22.27 30 *e*P **P** **22 34 29.3 -1.6**
DIAM Diamantina, MG 22.34 80 *e*P **P** **22 34 30.5 -1.1**
DUB01 Friburgo-RJ 22.60 90 *e*P **P** **22 34 33.0 -0.9**
JANB Januaria 23.00 71 *e*P **P** **22 34 36.2 -1.4**
CAM01 Campos-RJ 23.30 90 *e*P **P** **22 34 38.9 -1.3**
AY03 Cochrane 23.65 190 P **P** **22 34 42.9 -0.2**
AY03 IAmb IAmb 22 34 59.5
comp=Z,28nm,0.8s
SMTB Santa Maria do 23.78 54 *e*P **P** **22 34 43.2 -1.4**
SDBA SAO DESIDERIO 23.79 65 *e*P **P** **22 34 43.0 -1.7**
PRPB Parauapebas 24.13 45 *e*P **P** **22 34 45.8 -2.0**
COHC Cochancay 24.54 329 **P** **22 34 53.2 +1.7**
COHC IAmb IAmb 22 35 17.8
comp=Z,8.5nm,0.6s
RIB01 Linhares ES 25.01 84 *e*P **P** **22 34 54.4 -1.3**
MAL2 Monte Alegre, 25.06 31 **P** **22 34 54.9 -1.3**
GUA01 Guaratinga, BA 26.39 79 *e*P **P** **22 35 06.8 -1.3**
OTAV Otavalo 26.60 333 P **P** **22 35 10.7 +0.2**
OTAV Otavalo 26.60 333 P **P** **22 35 10.7 +0.2**
OTAV pmax pmax
comp=Z,8.0nm,1.0s
FLOC Florencia 26.83 340 **P** **22 35 11.8 -0.4**
FLOC IAmb IAmb 22 35 27.9
comp=Z,15nm,0.8s
BOAV Boa Vista 26.95 14 **P** **22 35 12.6 -0.6**
BOAV IAmb IAmb 22 36 06.3
comp=Z,15nm,1.1s
BOAV Boa Vista 26.95 14 *e*P **P** **22 35 12.7 -0.4**
CMC01 Camacan, BA 27.09 77 *e*P **P** **22 35 12.9 -1.5**
GO09 Cerro Castillo 27.55 187 P **P** **22 35 17.7 -0.4**
MG05 Puerto Natales 27.97 188 P **P** **22 35 21.9 +0.1**
EFI East Falkland 28.44 168 P **P** **22 35 25.9 0.0**
EFI IAmb IAmb 22 35 27.3
comp=Z,36nm,1.1s
EFI East Falkland 28.44 168 *ce*P **P** **22 35 25.1 -0.9**
EFI pmax pmax
comp=Z,35nm,1.3s
MG02 Cerro Sombrero 28.79 183 P **P** **22 35 29.5 +0.5**
MG04 Isla Riesco 29.03 186 P **P** **22 35 31.5 +0.3**
GO10 Punta Arenas 29.28 185 P **P** **22 35 34.5 +1.1**
ROSC El Rosal 29.58 345 LR LR 22 49 32.4
comp=Z,129nm,18.4s,baz=209,slow=40
MG03 Isla Dawson 29.93 184 P **P** **22 35 39.0 -0.1**
RUSC La Rusia 30.33 348 P **P** **22 35 42.9 -0.7**
MG01 Puerto William 30.90 181 P **P** **22 35 47.0 -0.5**
NBPB Pedra Branca-C 32.01 59 *e*P **P** **22 35 56.5 -1.3**
NBAN Anadia - AL 32.45 69 *e*P **P** **22 35 59.4 -2.3**
BAUV El Baul 32.77 358 P **P** **22 36 04.0 -0.3**
BAUV IAmb IAmb 22 36 14.6
comp=Z,16nm,0.9s
NBCL Cascavel-CE 33.83 59 *e*P **P** **22 36 12.9 -0.7**
PCRV Puerto La Cruz 34.04 4 LR LR 22 52 45.5
comp=Z,75nm,18.6s,slow=40
RCBR Riachuelo 34.80 64 P **P** **22 36 20.7 -1.3**
RCBR Riachuelo 34.80 64 P **P** **22 36 20.7 -1.3**
RCBR pmax pmax
comp=Z,48nm,1.1s
RCBR Riachuelo 34.80 64 *e*P **P** **22 36 21.1 -0.9**
LCR2 La Lucha 2 37.49 331 **P** **22 36 46.0 +1.0**
LCR2 IAmb IAmb 22 36 53.5
comp=Z,12nm,1.0s
JTS Las Juntas de 38.40 331 P **P** **22 36 54.1 +1.8**
comp=Z,2.4nm,0.4s,baz=193,slow=14,SNR=1.8
comp=Z,2.4nm,0.4s
FDF Fort de France 38.90 9 P **P** **22 36 55.1 -1.4**
FDF Fort de France 38.90 9 P **P** **22 36 55.1 -1.4**
FDF pmax pmax
comp=Z,71nm,1.1s
ESPZ Base Esperanza 39.93 173 P **P** **22 37 04.5 +0.2**
PMSA Palmer Station 40.81 178 P **P** **22 37 11.8 +0.3**
PMSA IAmb IAmb 22 37 13.7
comp=Z,28nm,0.8s
CELP Cerrillos 41.82 0 P **P** **22 37 18.5 -1.8**
CELP IAmb IAmb 22 38 26.2
comp=Z,72nm,1.6s
MTO3 Montecristo 44.05 328 P **P** **22 37 39.4 +0.8**
SMAI San Martin Ant 44.14 180 P **P** **22 37 38.9 +0.6**
SMAI IAmb IAmb 22 37 40.4
comp=Z,38nm,0.9s

TEIG Tepich 48.67 333 P **P** **22 38 14.8 +0.7**
TEIG IAmb IAmb 22 39 00.0
comp=Z,31nm,1.5s
CAMR Camarioca 48.86 342 P **P** **22 38 16.2 +0.6**
CAMR IAmb IAmb 22 38 48.4
comp=Z,75nm,1.1s
CMIG Matias Romero 49.17 324 P **P** **22 38 19.7 +1.7**
comp=Z,2.1nm,0.8s,baz=108,slow=6.7,SNR=2.4
comp=Z,2.1nm,0.8s
BELA Belgrano 2 56.02 172 P **P** **22 39 07.8 +0.4**
553A Crawfordville 56.47 342 P **P** **22 39 11.8 +0.7**
VNA1 Neumayer--Stat 57.30 160 ⇑P **P** **22 39 16.6 +0.1**
comp=Z,27nm,1.4s
VNA2 Neumayer--Watz 57.67 160 ⇑P **P** **22 39 19.3 +0.2**
comp=Z,19nm,0.6s,baz=276,slow=7.6
ZAIG Zacatecas 58.02 321 P **P** **22 39 24.2 +1.7**
SNAA Sanae 59.30 161 ⇑P **P** **22 39 30.8 +0.4**
comp=Z,264nm,0.7s
SNAA Sanae 59.30 161 **P** **22 39 30.6 +0.1**
SNAA IAmb IAmb 22 39 32.1
comp=Z,23nm,1.0s
SNAA Sanae 59.30 161 P **P** **22 39 30.5 +0.1**
comp=Z,10nm,0.7s,baz=275,slow=8.3,SNR=44
SNAA pP **pP** **22 40 17.0 0.0**
comp=Z,6.1nm,0.7s,baz=216,slow=4.2,SNR=2.9
comp=Z,10nm,0.7s
SNAA Sanae 59.30 161 *ce*P **P** **22 39 29.2 -1.2**
SNAA pmax pmax
comp=Z,33nm,1.3s
LRAL Lakeview Retre 59.89 340 P **P** **22 39 34.4 -0.3**
LRAL IAmb IAmb 22 39 36.6
comp=Z,13nm,1.3s
HKT Hockley 60.44 331 *i* P **P** **22 39 38.9 +0.4**
HKT pmax pmax
comp=Z,5.0nm,0.9s
Y49A Blount Mountai 60.48 341 P **P** **22 39 38.7 -0.1**
Y49A IAmb IAmb 22 39 39.7
comp=Z,9.6nm,1.0s
X51A Calhoun 60.71 343 P **P** **22 39 40.6 +0.3**
X51A IAmb IAmb 22 39 41.7
comp=Z,18nm,0.9s
833A Chaparral WMA, 60.74 327 **P** **22 39 41.5 +0.8**
FPAL Fort Paine 60.89 342 P **P** **22 39 41.6 0.0**
TROLL Troll, Antarti 61.02 161 ⇑P **P** **22 39 42.9 +0.7**
comp=Z,812nm,0.7s
X48A Hartselle 61.22 341 **P** **22 39 44.0 +0.2**
X48A IAmb IAmb 22 39 45.0
comp=Z,16nm,0.9s
CPCT Cooper Cave 61.45 344 P **P** **22 39 45.5 +0.1**
CPCT IAmb IAmb 22 40 53.6
comp=Z,28nm,1.8s
TKL Tuckaleechee C 61.46 344 P **P** **22 39 45.1 -0.3**
TKL IAmb IAmb 22 40 44.9
comp=Z,7.7nm,0.9s
TKL Tuckaleechee C 61.46 344 P **P** **22 39 45.1 -0.3**
TKL pmax pmax
comp=Z,8.0nm,1.0s
SWET Sewanee 61.61 342 P **P** **22 39 46.2 -0.3**
SWET IAmb IAmb 22 39 47.5
comp=Z,10nm,0.7s
HNDO Hondo 61.68 328 P **P** **22 39 47.7 +0.7**
HNDO IAmb IAmb 22 39 49.1
comp=Z,11nm,0.6s
PLAL Pickwick Lake 62.02 340 P **P** **22 39 48.7 -0.4**
PLAL IAmb IAmb 22 40 46.8
comp=Z,12nm,1.1s
WLAR White Oak Lake 62.58 335 **P** **22 39 54.0 +1.1**
HPIG 63.01 321 P **P** **22 39 57.5 +1.4**
WVT Waverly 63.01 341 **P** **22 39 55.0 -0.7**
WVT IAmb IAmb 22 39 56.3
comp=Z,18nm,0.8s
WVT Waverly 63.01 341 P **P** **22 39 55.0 -0.7**
WVT pmax pmax
comp=Z,18nm,0.8s
WVT Waverly 63.01 341 P **P** **22 39 55.3 -0.3**
MIAR Mount Ida 63.52 335 **P** **22 39 59.4 +0.4**
MIAR IAmb IAmb 22 40 00.7
comp=Z,5.8nm,0.8s
MIAR Mount Ida 63.52 335 P **P** **22 39 59.4 +0.4**
MIAR pmax pmax
comp=Z,6.0nm,0.8s
TXAR Lajitas Array 63.76 324 P **P** **22 40 02.1 +1.2**
TXAR Lajitas Array 63.76 324 P **P** **22 40 01.6 +0.8**
comp=Z,1.5nm,0.6s,baz=151,slow=8.5,SNR=23
comp=Z,1.5nm,0.6s
TXAR Lajitas Array 63.76 324 P **P** **22 40 02.1 +1.2**
NVL N'lazarevskaya 63.82 159 *e*P P 22 40 18.6 +18
NVL pmax pmax
comp=Z,10.0nm,0.8s
WMOK Wichita Mounta 65.81 331 P **P** **22 40 14.4 +0.5**
WMOK Wichita Mounta 65.81 331 P **P** **22 40 14.4 +0.5**
WMOK pmax pmax
comp=Z,4.0nm,1.1s
CCM Cathedral Cave 65.85 339 **P** **22 40 14.0 0.0**
CCM IAmb IAmb 22 40 15.1
comp=Z,18nm,0.8s
CCM Cathedral Cave 65.85 339 P **P** **22 40 14.0 0.0**
CCM pmax pmax
comp=Z,18nm,0.8s
CCM Cathedral Cave 65.85 339 P **P** **22 40 14.1 0.0**
CCM PcP **PcP** **22 40 44.2 +0.8**
QSPA South Pole Qui 66.20 180 P **P** **22 40 17.1 +0.9**
QSPA South Pole Qui 66.20 180 P **P** **22 40 17.2 +1.0**
comp=Z,64nm,0.5s,baz=169,slow=0.6,SNR=939
QSPA South Pole Qui 66.20 180 P **P** **22 40 17.6 +1.4**
MNTX Cornudas Mount 66.53 325 **P** **22 40 19.2 +0.7**
HSIG 67.67 319 P **P** **22 40 26.8 +1.1**
HSIG IAmb IAmb 22 40 28.9
comp=Z,14nm,1.1s
DBIC Dimbokro 67.67 71 **P** **22 40 24.7 -1.4**
DBIC IAmb IAmb 22 40 25.4
comp=Z,13nm,0.7s
DBIC Dimbokro 67.67 71 P **P** **22 40 24.7 -1.4**
comp=Z,12nm,0.6s,baz=254,slow=6.8,SNR=21
DBIC pP **pP** **22 41 13.2 -0.2**
comp=Z,7.8nm,1.0s,baz=260,slow=5.9,SNR=2.6
comp=Z,12nm,0.6s
DBIC Dimbokro 67.67 71 P **P** **22 40 24.7 -1.4**
DBIC pmax pmax
comp=Z,13nm,0.7s
DBIC Dimbokro 67.67 71 P **P** **22 40 25.1 -1.0**
DBIC PcP **PcP** **22 40 51.3 -0.3**
319A Douglas 68.42 322 **P** **22 40 32.5 +2.0**
319A IAmb IAmb 22 40 33.7
comp=Z,11nm,0.6s
GGN Saint George 68.79 0 P **P** **22 40 33.4 +1.1**
GGN IAmb IAmb 22 40 57.9
comp=Z,21nm,1.5s
LMN Caledonia Moun 69.55 2 P **P** **22 40 36.9 0.0**
LMN IAmb IAmb 22 41 29.0
comp=Z,33nm,1.6s
ANMO Albuquerque 69.63 326 **P** **22 40 39.1 +1.1**
ANMO Albuquerque 69.63 326 *ce*P **P** **22 40 37.3 -0.7**
ANMO pmax pmax
comp=Z,8.0nm,1.0s
CBKS Cedar Bluff 69.67 333 P **P** **22 40 39.4 +1.5**
CBKS IAmb IAmb 22 40 40.4
comp=Z,16nm,0.9s
CBKS Cedar Bluff 69.67 333 P **P** **22 40 39.4 +1.5**
CBKS pmax pmax
comp=Z,16nm,0.9s
TUC Tucson 69.97 321 **P** **22 40 41.5 +1.5**
TUC Tucson 69.97 321 P **P** **22 40 41.5 +1.5**
TUC pmax pmax
comp=Z,6.0nm,1.2s
JFWS Jewell Farm 69.99 342 **P** **22 40 40.0 +0.3**
JFWS IAmb IAmb 22 40 40.9
comp=Z,17nm,0.6s
JFWS Jewell Farm 69.99 342 P **P** **22 40 40.0 +0.3**
JFWS pmax pmax
comp=Z,17nm,0.6s
T25A Trinidad 70.36 329 P **P** **22 40 43.4 +1.0**
BATG Bathurst New B 70.95 1 P **P** **22 40 45.8 +0.4**
BATG IAmb IAmb 22 41 17.7
comp=Z,34nm,1.7s
SDCO Great Sand Dun 71.36 328 P **P** **22 40 49.9 +1.4**
113A Mohawk Valley, 72.04 320 P **P** **22 40 53.9 +1.6**
ECSD EROS Data Cent 72.73 338 **P** **22 40 56.7 +0.6**
ECSD IAmb IAmb 22 40 57.7
comp=Z,21nm,1.2s
ISCO Idaho Springs 73.06 330 **P** **22 40 59.6 +1.1**
ISCO Idaho Springs 73.06 330 P **P** **22 40 59.6 +1.1**
ISCO pmax pmax
comp=Z,5.0nm,1.0s
BLYC Blythe 73.18 320 **P** **22 41 00.4 +1.4**

BLYC IAmb IAmb 22 41 02.6
comp=Z,12nm,1.1s
DRLN Deer Lake 73.40 6 P **P** **22 41 00.1 +0.1**
SYO Syowa Base 73.50 159↓*e*P **P** **22 41 01.0 +0.7**
SYO Syowa Base 73.50 159↑*e*PcP **PcP** **22 41 13.8 -1.5**
SBA Scott Base 73.72 190 P **P** **22 41 01.5 0.0**
SBA Scott Base 73.72 190 P **P** **22 41 01.5 0.0**
SBA pmax pmax
comp=Z,70nm,1.6s
HMU Henry Mountain 74.13 325 P **P** **22 41 05.8 +1.0**
KNB Kanab 74.56 323 **P** **22 41 09.2 +2.0**
KNB IAmb IAmb 22 41 11.1
comp=Z,16nm,1.0s
KNB Kanab 74.56 323 P **P** **22 41 09.2 +2.0**
KNB pmax pmax
comp=Z,17nm,1.0s
VNDA Vanda 74.72 190 **P** **22 41 08.7 +1.4**
VNDA IAmb IAmb 22 41 10.5
comp=Z,18nm,1.1s
VNDA Vanda 74.72 190 P **P** **22 41 09.5 +2.2**
comp=Z,8.9nm,0.9s,baz=123,slow=4.7,SNR=32
comp=Z,8.9nm,0.9s
VNDA Vanda 74.72 190 P **P** **22 41 08.7 +1.4**
VNDA pmax pmax
comp=Z,18nm,1.2s
SHPR Sheep Range 75.50 322 **P** **22 41 14.4 +1.9**
SUR Sutherland 75.69 119 P **P** **22 41 13.9 0.0**
RSSD Black Hills 75.87 333 **P** **22 41 15.8 +1.2**
RSSD Black Hills 75.87 333 P **P** **22 41 15.8 +1.2**
RSSD pmax pmax
comp=Z,7.0nm,0.9s
TORD Torodi Ar. Bea 76.44 69 P **P** **22 41 17.3 -0.8**
comp=Z,µm,0.3s,baz=260,slow=5.1,SNR=6.3
AGMN Agassiz Nation 76.53 341 **P** **22 41 18.4 +0.6**
EPLO Experimental L 77.15 342 P **P** **22 41 21.6 +0.3**
EPLO IAmb IAmb 22 41 22.6
comp=Z,8.3nm,0.8s
PD31 Pinedale Array 77.22 329 P **P** **22 41 22.2 +0.1**
PDAR Pinedale Array 77.22 329 **P** **22 41 22.9 +0.7**
PDAR Pinedale Array 77.22 329 P **P** **22 41 23.5 +1.3**
comp=Z,1.5nm,0.5s,baz=129,slow=8.1,SNR=20
comp=Z,1.5nm,0.5s
TSUM Tsumeb 77.52 106 **P** **22 41 23.4 -0.9**
TSUM IAmb IAmb 22 41 24.6
comp=Z,13nm,0.7s
TPH Tonopah 77.77 322 P **P** **22 41 26.9 +1.7**
TPH IAmb IAmb 22 41 28.5
comp=Z,13nm,1.4s
TPH Tonopah 77.77 322 P **P** **22 41 26.9 +1.7**
TPH pmax pmax
comp=Z,13nm,1.4s
AHID Auburn Hatcher 77.95 328 P **P** **22 41 27.7 +1.5**
AHID IAmb IAmb 22 41 28.9
comp=Z,15nm,1.1s
LOHW Long Hollow 78.36 329 P **P** **22 41 30.1 +1.7**
KOOLE Kule 78.43 110 P **P** **22 41 28.5 -0.8**
SCHQ Schefferville 78.51 0 P **P** **22 41 28.9 +0.2**
comp=Z,3.9nm,0.6s,baz=201,slow=5.9,SNR=9.8
comp=Z,3.9nm,0.6s
ELK Elko 78.56 325 **P** **22 41 31.1 +1.6**
ELK Elko 78.56 325 P **P** **22 41 31.2 +1.6**
ELK pmax pmax
comp=Z,4.0nm,0.9s
NVAR Mina Array Bea 78.63 321 P **P** **22 41 31.6 +1.6**
NVAR Mina Array Bea 78.63 321 P **P** **22 41 32.0 +2.0**
comp=Z,1.2nm,0.5s,baz=150,slow=6.2,SNR=8.7
NVAR pP **pP** **22 42 19.3 +0.3**
comp=Z,0.5nm,0.7s,baz=177,slow=8.8,SNR=1.5
comp=Z,1.2nm,0.5s
YHH Holmes Hill 79.37 330 P **P** **22 41 34.8 +0.8**
DGMT Dagmar 79.52 336 **P** **22 41 35.3 +0.9**
DGMT IAmb IAmb 22 41 37.2
comp=Z,23nm,0.8s
GRHM Grahamstown, E 79.76 122 P **P** **22 41 36.1 -0.1**
PHPEN Phepeng 79.79 113 P **P** **22 41 36.2 -0.4**
PHPEN IAmb IAmb 22 42 50.8
comp=Z,42nm,1.9s
GRTLG Ghanzi 79.91 109 P **P** **22 41 36.4 -0.9**
HLID Hailey 80.17 327 **P** **22 41 39.9 +1.8**
HLID IAmb IAmb 22 41 41.6
comp=Z,13nm,0.8s
MCMT McKenzie Canyo 80.34 329 **P** **22 41 41.1 +2.0**
QNGWA Qangwa 80.55 107 P **P** **22 41 40.4 -0.3**
BOSA Boshof 80.61 117 P **P** **22 41 39.9 -1.0**
BOSA IAmb IAmb 22 44 12.2
comp=Z,33nm,1.9s
BOSA Boshof 80.61 117 P **P** **22 41 40.1 -0.8**
comp=Z,2.9nm,0.5s,baz=275,slow=3.5,SNR=21
comp=Z,2.9nm,0.5s
BOSA Boshof 80.61 117 P **P** **22 41 39.9 -1.0**
BOSA pmax pmax
comp=Z,33nm,1.9s
MFID Camas Ranch 80.77 326 **P** **22 41 42.6 +1.3**
ORV Oroville 81.23 320 P **P** **22 41 44.7 +1.0**
ORV IAmb IAmb 22 41 46.7
comp=Z,9.2nm,0.9s
ORV Oroville 81.23 320 P **P** **22 41 44.7 +1.0**
ORV pmax pmax
comp=Z,9.0nm,1.0s
EGMT Eagleton 81.38 332 **P** **22 41 45.2 +0.9**
EGMT IAmb IAmb 22 41 46.4
comp=Z,11nm,0.8s
MAW Mawson 81.39 163 P **P** **22 41 44.2 +0.1**
comp=Z,7.3nm,1.2s
MAW Mawson 81.39 163 P **P** **22 41 45.0 +0.9**
comp=Z,27nm,0.8s,baz=206,slow=5.9,SNR=83
comp=Z,27nm,0.8s
KDWAN Kaudwane 82.10 112 P **P** **22 41 47.6 -1.3**
KDWAN IAmb IAmb 22 41 49.4
comp=Z,18nm,1.2s
J08A Circle Bar Ran 82.10 325 **P** **22 41 49.9 +1.6**
J08A IAmb IAmb 22 41 51.2
comp=Z,15nm,1.1s
LBTB Lobatse 82.26 114 **P** **22 41 48.5 -1.1**
LBTB IAmb IAmb 22 41 52.7
comp=Z,6.2nm,0.7s
LBTB Lobatse 82.26 114 P **P** **22 41 48.5 -1.1**
LBTB pmax pmax
comp=Z,6.0nm,0.7s
BMO Blue Mountains 82.54 326 P **P** **22 41 51.8 +1.3**
BMO IAmb IAmb 22 41 53.0
comp=Z,21nm,1.8s
BMO Blue Mountains 82.54 326 P **P** **22 41 51.8 +1.3**
BMO pmax pmax
comp=Z,21nm,1.8s
PHDHD Phuduhudu 83.22 109 P **P** **22 41 54.1 -0.6**
PHDHD IAmb IAmb 22 41 57.4
comp=Z,8.7nm,0.6s
J05D Fort Rock, OR 83.54 323 P **P** **22 41 57.0 +1.3**
FFC Flin Flon 84.01 340 P **P** **22 41 58.3 +0.7**
FFC Flin Flon 84.01 340 P **P** **22 41 58.3 +0.7**
FFC pmax pmax
comp=Z,7.0nm,1.4s
TAM Tamanrasset 84.27 62 P **P** **22 42 00.3 +0.4**
TAM Tamanrasset 84.27 62 P **P** **22 42 00.3 +0.4**
TAM pmax pmax
comp=Z,25nm,0.6s
KSANE Kasane 84.70 107 P **P** **22 42 01.4 -0.8**
KSANE IAmb IAmb 22 42 03.3
comp=Z,12nm,0.8s
HAWA Hanford 84.73 326 P **P** **22 42 02.8 +1.4**
MREMI Moremi 84.78 112 P **P** **22 42 01.8 -0.6**
MREMI IAmb IAmb 22 42 04.2
comp=Z,12nm,0.8s
PAB San Pablo 85.99 43 P **P** **22 42 08.9 +1.0**
PAB San Pablo 85.99 43 P **P** **22 42 08.9 +1.0**
PAB pmax pmax
comp=Z,8.0nm,1.2s
ESDC Sonseca Array 86.30 44 **P** **22 42 10.5 +1.0**
ESDC Sonseca Array 86.30 44 P **P** **22 42 10.4 +1.0**
comp=Z,2.9nm,1.0s,baz=244,slow=4.4,SNR=14
ESDC LR LR 23 18 45.6
comp=Z,38nm,20.7s,baz=190,slow=34
comp=Z,2.9nm,1.0s
POGA Pongola 86.34 118 P **P** **22 42 10.3 +0.3**
LSZ Lusaka 88.37 106 **P** **22 42 18.9 -1.1**
LSZ IAmb IAmb 22 42 22.8
comp=Z,9.5nm,1.1s
LSZ Lusaka 88.37 106 P **P** **22 42 18.9 -1.1**
LSZ pmax pmax
comp=Z,9.0nm,1.1s
CASY Casey 89.98 179 **P** **22 42 27.1 +0.8**
YKA Yellowknife Ar 94.17 340 P **P** **22 42 46.4 +0.8**
comp=Z,4.4nm,0.8s,baz=160,slow=10,SNR=20
comp=Z,4.4nm,0.8s

NNZ Nelson 94.42 221 **P** **22 42 48.9 +1.5**
MODS Modra-Piesok 103.83 43 *e*P **Pdif** **22 43 30.7 +1.4**
MODS Modra-Piesok 103.83 43 *e*PDIFF **Pdif** **22 43 30.7 +1.4**
STHS Stebnicka Huta 106.65 43 *e*P **Pdif** **22 43 40.8 -0.9**
STHS Stebnicka Huta 106.65 43 *e*PDIFF **Pdif** **22 43 40.8 -0.9**
FINES FINESS Array B 112.16 31 PKKPbc PKKPbc 22 58 53.4 -1.4
comp=Z,1.9nm,1.0s,baz=64,slow=4.4,SNR=5.4
BRTR Keskin Array B 112.70 55 PKKPab PKKPab 22 59 01.4 +2.1
comp=Z,0.6nm,0.7s,baz=99,slow=7.5,SNR=4.9
ARCES ARCESS Array B 113.07 22 PKKPbc PKKPbc 22 58 50.4 -1.6
comp=Z,0.4nm,0.5s,baz=85,slow=3.0,SNR=8.3
ARCES PKKPab **PKKPab** **22 58 58.0 +1.8**
comp=Z,1.3nm,0.6s,baz=94,slow=5.0,SNR=6.6
OBN Obninsk 116.94 39↑*e*PKIKP **PKPdf** **22 48 09.8 -0.7**
OBN *i* 22 48 59.1
OBN *e* 22 49 21.6
OBN pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 120.17 52 PKP **PKiKP** **22 48 17.6 +0.4**
comp=Z,1.2nm,0.7s,baz=255,slow=2.6,SNR=3.6
BILL Bilibino 125.54 338 *i* PKIKP **PKiKP** **22 48 26.9 -0.2**
BILL pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 128.51 205 PKP **PKPdf** **22 48 34.1 +0.2**
comp=Z,9.3nm,0.7s,baz=146,slow=2.1,SNR=58
ASAR SKPbc SKPbc 22 51 35.0
comp=Z,0.5nm,0.6s,baz=140,slow=3.4,SNR=4.2
AS31 Alice Springs 128.51 205 PKPdf **PKPdf** **22 48 33.9 +0.1**
ARTI Arti 129.02 36 PKP **PKiKP** **22 48 35.0 +0.6**
comp=Z,3.1nm,0.7s,baz=13,slow=1.1,SNR=7.3
ARTI SKPbc SKPbc 22 51 35.9 0.0
comp=Z,4.5nm,0.9s,baz=284,slow=2.1,SNR=9.0
ARTI Arti 129.02 36 *i* PKIKP **PKiKP** **22 48 34.4 0.0**
ARTI 22 50 45.7
ARTI SS SS 23 07 49.2 +1.8
AKTO Aktyubinsk 130.19 43 PKP **PKiKP** **22 48 36.9 0.0**
comp=Z,2.1nm,0.7s,baz=268,slow=3.0,SNR=5.5
WR0 Warramunga Arr 131.59 207 PKPdf **PKPdf** **22 48 40.2 +0.4**
AB31 Akbulak array 131.64 45 PKPdf **PKiKP** **22 48 40.2 +0.3**
ABKAR Akbulak array 131.64 45 PKPdf **PKiKP** **22 48 40.1 +0.2**
WRA Warramunga Arr 131.69 207 PKhKP PKPpre 22 48 27.8
comp=Z,0.4nm,0.4s,baz=126,slow=2.6,SNR=9.2
WRA PKP **PKPdf** **22 48 40.3 +0.4**
comp=Z,4.8nm,0.5s,baz=161,slow=1.7,SNR=84
WRA SKPbc **SKPbc** **22 51 47.0 -0.1**
comp=Z,3.5nm,0.7s,baz=156,slow=3.6,SNR=24
NRIK Noril'sk 132.14 12 *i* PKIKP **PKiKP** **22 48 39.9 -0.4**
NRIK pmax pmax
comp=Z,2.0nm,1.0s
SEY Seymchan 133.14 337 *i* PKIKP **PKiKP** **22 48 42.1 -0.4**
PETK Petropavlovsk- 135.70 323 PKPdf **PKiKP** **22 48 47.4 -0.6**
PETK Petropavlovsk- 135.70 323 PKP **PKiKP** **22 48 48.0 +0.1**
comp=Z,3.3nm,0.7s,baz=72,slow=2.2,SNR=5.7
PETK Petropavlovsk- 135.70 323 PKIKP **PKiKP** **22 48 47.4 -0.6**
BRVK Borovoye 136.64 37 *c i* PKIKP **PKPdf** **22 48 48.2 +0.1**
BRVK pmax pmax
comp=Z,7.0nm,2.5s
KURBB Kurchatov Arra 142.30 36 PKhKP PKPpre 22 48 55.5
comp=Z,2.7nm,0.9s,baz=305,slow=2.9,SNR=12
KURBB PKP **PKPdf** **22 48 59.6 +1.2**
comp=Z,0.6nm,0.6s,baz=300,slow=2.3,SNR=5.0
KURBB SKPbc **SKPbc** **22 52 16.1 -1.5**
comp=Z,2.0nm,0.9s,baz=303,slow=3.3,SNR=6.7
KURK Kurchatov 142.30 36↑*e*PKIKP **PKiKP** **22 49 00.0 -1.5**
KURK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 143.13 50 *c i* PKIKP **PKPdf** **22 49 01.1 +0.7**
AAK pmax pmax
comp=Z,6.0nm,1.3s
ZALV Zalesovo Beam 143.33 28 PKP PKPbc 22 48 58.5 +0.6
comp=Z,10nm,0.7s,baz=309,slow=4.7,SNR=36
ZALV SKPbc **SKPbc** **22 52 18.1 -1.8**
comp=Z,3.8nm,0.8s,baz=298,slow=3.2,SNR=6.6
SMPI Sarmi 144.11 227 PKP **PKPdf** **22 49 03.5 +0.6**
BATI Baumata 144.48 198 PKP **PKPdf** **22 49 04.5 +1.0**
SOEI Soe 144.73 199 PKP **PKPdf** **22 49 05.2 +1.2**
SOEI PKP **PKPdf** **22 49 05.2 +1.2**
KSH Kashi 145.09 55 PKP **PKPab** **22 49 04.1 +0.1**
EDFI Ende, Flores 146.40 195 PKP **PKPbc** **22 49 08.5 +0.1**
EDFI PKP **PKPbc** **22 49 08.6 +0.1**
MKAR Makanchi Array 146.44 40 PKPbc **PKPbc** **22 49 06.7 -0.8**
comp=Z,11nm,0.6s,baz=330,slow=2.0,SNR=91
BAKI Biak 146.47 225 PKP **PKiKP** **22 49 11.2 -0.1**
BAKI PKP **PKPab** **22 49 11.7 +1.9**
PLAI Plampang 147.06 188 PKP **PKPab** **22 49 11.6 -0.4**
PLAI PKP **PKiKP** **22 49 12.9 +0.4**
WOJI Wonogiri, Jawa 148.28 176 PKP **PKPbc** **22 49 12.8 -0.6**
ZEA Zeya 148.47 344 *e*PKP2 **PKiKP** **22 49 13.7 -0.4**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ERM Erimo 149.31 313 *c i* PKHKP PKPpre 22 49 13.9
ERM pmax pmax
comp=Z,37nm,1.7s
KASI Kota Agung 149.46 163 PKP **PKiKP** **22 49 17.4 0.0**
KASI PKP **PKPbc** **22 49 17.9 +1.5**
SWI Sorong 149.66 218 PKP **PKiKP** **22 49 17.5 -0.4**
SWI PKP **PKPbc** **22 49 18.4 +1.5**
MDSI Maura Dua 150.36 162 PKP **PKPbc** **22 49 17.6 -1.0**
MDSI PKP **PKiKP** **22 49 18.9 -0.4**
BNSI Bone 150.97 194 PKP **PKiKP** **22 49 21.1 +0.6**
BNSI PKP **PKPbc** **22 49 21.8 +1.8**
SPSI Sidrap Palu 151.46 194 PKP **PKPab** **22 49 32.2 +2.2**
HEH HeiHe 151.54 341 PKPbc **PKiKP** **22 49 20.7 +0.1**
USRK Uusuriysk Ar. 154.63 327 PKPbc **PKiKP** **22 49 27.8 +0.6**
comp=Z,1.9nm,0.6s,baz=336,slow=3.2,SNR=4.6
MJAR Matsushiro Arr 155.09 306 PKPbc PKPdf 22 49 28.9 +9.5
comp=Z,1.4nm,0.4s,baz=102,slow=1.6,SNR=4.6
MJAR PKPab **PKPab** **22 49 45.8 +0.8**
comp=Z,4.3nm,0.9s,baz=58,slow=3.2,SNR=7.3
SONM Songino Array 155.62 11 PKP **PKPdf** **22 49 21.3 +1.4**
comp=Z,1.6nm,0.8s,baz=352,slow=0.6,SNR=9.3
SONM PKPab **PKPab** **22 49 47.7 +0.7**
comp=Z,1.9nm,0.7s,baz=325,slow=4.6,SNR=6.3
GTA Gaotai 160.94 33 *e*PKP **PKPdf** **22 49 28.0 +1.4**
GTA pPKP PKPab 22 50 11.2 +0.9
HHC Hu-ho-hao-te 163.15 4 *e*P **PKPdf** **22 49 30.3 +1.5**
CMAR Chiang Mai Arr 165.65 110 PKP **PKPdf** **22 49 31.9 +0.5**
comp=Z,0.7nm,0.3s,baz=264,slow=2.2,SNR=11
CMAR PKPab **PKPab** **22 50 31.3 -0.2**
comp=Z,3.4nm,0.8s,baz=255,slow=5.3,SNR=14
PZH PanZhiHua 169.38 74 PKP **PKPdf** **22 49 32.6 -1.5**
NJ2 Nanjing 170.53 329 *e*P **PKPdf** **22 49 35.7 +1.3**
NJ2 pmax pmax
comp=Z,14nm,0.5s

GAR Garm 1.01 255↑*i*P **Pg** **22 36 51.6 -0.1**
GAR ↑*i*S **Sg** **22 37 05.6 +0.7**
OHH Osh 1.56 36↑*i*P **Pn** **22 37 01.4 0.0**
OHH ↑*i*S **Sn** **22 37 22.6 +0.2**
SFK Sufi-Kurgan 1.67 63↓*i*P **Pn** **22 37 03.4 +0.5**
SFK ↓*i*S **Sg** **22 37 25.9 +0.1**
TRKS Terek-Say 2.29 352↓*i*P **Pn** **22 37 11.8 +0.4**
TRKS ↓*i*S **Sn** **22 37 40.5 +0.1**
ARSB Arslanbob 2.32 27↑*i*P **Pn** **22 37 13.4 +1.5**
ARSB ↑*i*S **Sn** **22 37 42.8 +1.6**
SALK Salom-Alik 2.36 46↑*i*P **Pn** **22 37 13.8 +1.3**
SALK ↑*i*S **Sb** **22 37 44.1 -1.5**
ARK Arkit 2.55 7↓*i*P **Pn** **22 37 16.5 +1.5**
ARK ↓*i*S **Sn** **22 37 48.6 +1.9**
MNAS Manas 3.30 12↓*i*P **Pn** **22 37 26.9 +1.6**
MNAS ↓*i*S **Sn** **22 38 06.5 +1.3**
MRKS Merke 3.69 19 *e*P **Pb** **22 37 35.3 -3.2**
18nm,0.2s
MRKS *e*S **Sn** **22 38 17.7 +2.7**
26nm,0.3s
UCH Uchtor 3.71 36 P **Pb** **22 37 35.5 -3.4**
SNR=53
UCH Uchtor 3.71 36↓*i*P **Pn** **22 37 32.9 +1.7**
UCH ↓*i*S **Sn** **22 38 16.9 +1.1**
EKS2 Erkin-Say 3.78 25 P **Pb** **22 37 36.5 -3.4**
SNR=35
EKS2 Erkin-Say 3.78 25↑*i*P **Pn** **22 37 33.6 +1.7**
EKS2 ↑*i*S **Sn** **22 38 18.2 +1.0**
KK31 Karatay Array 3.92 349 ↓Pn **Pn** **22 37 37.5 +3.8**
11nm,0.3s,baz=170,slow=12,SNR=362
KK31 ↓Lg Lg 22 38 38.4
50nm,0.7s,baz=161,slow=29,SNR=6.5
BRLS Borolday 3.98 341 *e*P **Pb** **22 37 39.7 -3.7**
16nm,0.1s
BRLS *e*S **Sn** **22 38 25.1 +3.1**
21nm,0.2s
NRN Naryn 4.01 56↑*i*P **Pn** **22 37 36.4 +1.1**
NRN ↑*i*S **Sn** **22 38 23.4 +0.2**
AAK Ala-Archa 4.03 32 P **Pb** **22 37 40.4 -3.8**
SNR=15
AAK Ala-Archa 4.03 32 ↓Pn **Pb** **22 37 40.7 -3.5**
4.2nm,0.4s
AAK ↑Lg Lg 22 38 44.1
9.5nm,0.6s
AAK Ala-Archa 4.03 32 Pn **Pb** **22 37 40.4 -3.8**
11nm,0.3s,baz=213,slow=7.1,SNR=27
AAK Sn **Sb** **22 38 31.4 -2.1**
2.0nm,0.3s,baz=327,slow=23,SNR=3.8
24nm,0.4s
AAK Ala-Archa 4.03 32↑*i*P **Pn** **22 37 37.1 +1.7**
AAK ↑*i*S **Sn** **22 38 24.0 +0.7**
FRU1 Bishkek 4.23 32↑*i*P **Pn** **22 37 40.0 +2.0**
FRU1 ↑*i*S **Sn** **22 38 29.0 +0.9**
KBK Karagaybulak 4.24 36 P **Pb** **22 37 43.5 -4.3**
SNR=15
KBK Karagaybulak 4.24 36↑*i*P **Pn** **22 37 40.2 +1.9**
KBK ↑*i*S **Sn** **22 38 29.3 +0.7**
CHMS Chumysh 4.43 32 P **Pn** 22 37 45.9 +5.1
SNR=56
CHMS Chumysh 4.43 32↓*i*P **Pn** **22 37 42.6 +1.8**
CHMS ↓*i*S **Sn** **22 38 33.6 +0.5**
USP Ospenovka 4.57 28 P **Pn** **22 37 47.0 +4.4**
SNR=18
USP Ospenovka 4.57 28↓*i*P **Pn** **22 37 44.4 +1.8**
USP ↓*i*S **Sn** **22 38 36.7 +0.3**
BOOM Boomskoye usch 4.62 44↓*i*P **Pn** **22 37 45.4 +1.9**
BOOM ↓*i*S **Sn** **22 38 38.2 +0.3**
ULHL Ulahol 4.63 48 P **Pn** **22 37 47.7 +4.1**
SNR=12
ULHL Ulahol 4.63 48↓*i*P **Pn** **22 37 45.3 +1.6**
ULHL ↓*i*S **Sn** **22 38 38.4 +0.2**
TKM2 Tokmak 2 4.75 38 P **Pn** **22 37 49.7 +4.3**
SNR=12
KST Kastek 5.02 40 *e*P **Pb** **22 37 59.9 -1.2**
4.5nm,0.2s
KST *e*S **Sb** **22 38 59.5 -2.6**
10.0nm,0.4s
KDJ Kajisay 5.13 54↑*i*P **Pn** **22 37 52.5 +2.0**
KDJ ↑*i*S **Sn** **22 38 50.8 +0.2**
MTBS Maitube 5.32 42 *e*P **Pb** **22 38 05.5 -0.6**
3.2nm,0.2s
MTBS *e*S **Sb** **22 39 09.1 -1.5**
3.1nm,0.2s
KUU Kurty 5.84 36 *e*P **Pb** **22 38 16.3 +1.3**
1.7nm,0.1s
KUU *e*S **Sb** **22 39 28.0 +2.4**
3.2nm,0.2s
MKAR Makanchi Array 10.86 43 Pn **Pn** **22 39 12.3 +3.4**
0.1nm,0.3s,baz=237,slow=13,SNR=5.7
0.7nm,0.7s
KURBB Kurchatov Arra 12.37 21 Pn **Pn** **22 39 29.4 -0.1**
baz=215,slow=13,SNR=4.1
0.3nm,0.6s
AB31 Akbulak array 12.99 324↑Pn **Pn** **22 39 38.1 +0.1**
0.9nm,0.5s,baz=130,slow=13,SNR=32
AB31 ↓Sn **Sn** **22 42 00.4 -2.9**
1.3nm,0.5s,baz=132,slow=26,SNR=6.1
BVAR Borovoye Array 13.79 357 Pn **Pn** **22 39 49.3 +0.4**
0.6nm,0.5s
AKTO Aktyubinsk 14.71 324 ↓Pn **Pn** **22 40 02.8 +1.3**
2.1nm,0.5s
AKTO ↑Sn **Sn** **22 42 43.1 -2.1**
1.3nm,0.7s
AKTO Aktyubinsk 14.71 324 Pn **Pn** **22 40 01.5 0.0**
1.2nm,0.3s,baz=111,slow=14,SNR=9.6
AKTO Sn **Sn** **22 42 42.5 -2.7**
0.3nm,0.3s,baz=177,slow=20,SNR=7.5
0.8nm,0.3s
ZALV Zalesovo Beam 17.23 27 P **P** **22 40 36.9 +1.1**
0.6nm,0.3s,baz=211,slow=11,SNR=11
2.0nm,0.5s
FINES FINESS Array B 35.48 324 P **P** **22 43 30.9 +0.7**
1.1nm,0.8s,baz=105,slow=8.1,SNR=3.7
1.1nm,0.8s
ARCES ARCESS Array B 38.78 336 P **P** **22 43 58.9 +0.8**
1.0nm,0.7s,baz=106,slow=6.9,SNR=4.1
1.0nm,0.7s
HFS Hagfors 41.21 320 P **P** **22 44 18.9 +0.5**
1.2nm,0.8s,baz=91,slow=12,SNR=7.8
1.2nm,0.8s
ESDC Sonseca Array 56.60 296 P **P** **22 46 16.6 -0.3**
0.2nm,0.4s,baz=63,slow=6.5,SNR=2.1
0.2nm,0.4s
TORD Torodi Ar. Bea 66.26 268 P **P** **22 47 21.7 -0.8**
2.1nm,0.4s,baz=47,slow=6.3,SNR=1.7

IDC 10 22:30:17.0±20.0, 17°35N×85°65W, h0km, mb3.3/3, mbtmp3.3/3, MS3.4/2, Error ellipse: s-maj=492.8km s-min=107.7km az=9.0, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**20.36**	**309**	P	P		22 34 55.6	+0.2
	0.2nm,0.6s,baz=128,slow=12,SNR=2.7							
	0.2nm,0.6s							
LPIG	**La Paz**	**24.00**	**290**	LR	LR		22 47 07.9	
	comp=Z,47nm,19.1s,baz=22,slow=42							
PDAR	**Pinedale Array**	**32.49**	**326**	P	P		22 36 49.5	-0.2
	0.2nm,0.5s,baz=131,slow=11,SNR=2.7							
	0.2nm,0.5s							
MDP	**Montagnes des**	**34.52**	**107**	LR	LR		22 51 02.3	
	comp=Z,112nm,21.2s,baz=198,slow=36							
ILAR	**Eielson Array**	**62.30**	**335**	P	P		22 40 40.8	0.0
	0.7nm,0.5s,baz=103,slow=6.6,SNR=5.9							
	0.7nm,0.5s							

*IDC **10** 22:36:30.8±1.8, 38°98N×71°71E, h0km, mb3.7/4, mbtmp3.7/10, ML3.4/5, Error ellipse: s-maj=27.1km s-min=14.0km az=151.0*
*KRNET **10** 22:36:32.6±0.1, 39°27N×71°57E, h14km, mb3.7*
*SOME **10** 22:36:36.8, 39°77N×71°83E, h5km*
*NNC **10** 22:36:42.2±7.6, 39°55N×71°34E, h24km±38km, mb4.0, mpv3.6, Error ellipse: s-maj=43.4km s-min=17.7km az=20.0*

ISC 10 22:36:32.3±1.3, 39°26N±0°05×71°58E±0°03, h0km±9km, n49, σ2°05/78, mb3.6/4, 25C-25D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.28**	**39**	↑*i*P	**Pg**		**22 36 38.3**	**+0.7**
DRK				↑*i*S	**Sg**		**22 36 42.1**	**+0.9**
BTK	**Batken**	**0.98**	**324**	↓*i*P	**Pg**		**22 36 51.3**	**+0.1**
BTK				↓*i*S	**Sg**		**22 37 04.7**	**+0.7**

*HLW **10** 22:57:11.7, 35°17N×24°51E, h20km±11km, Md4.1, Ml4.2*
*PDG **10** 22:57:11.7±0.1, 35°02N×24°53E, h45km±11km, ML4.6/9, Error ellipse: s-maj=0.8km s-min=1.1km az=0.0*
*NEIC **10** 22:57:13.4±1.8, 34°93N±0°07×24°36E±0°06, h27km±5km, mb4.7/96, Error ellipse: s-maj=10.6km s-min=7.5km az=179.0*
*MCSM **10** 22:57:14.0±0.4, 35°N±3°×2°4E±°, h40km±3km, mb4.5, mB4.6, MLv4.7, Mw(mB)3.8*
*IDC **10** 22:57:14.4±1.2, 35°08N×24°38E, h35km±8km, mb4.3/30, mbtmp4.5/38, ML4.1/7, MS3.4/27, Error ellipse: s-maj=14.3km s-min=11.6km az=179.0*
*NAO **10** 22:57:14.0, 35°08N×24°47E, h33km, mb3.9*
*MOS **10** 22:57:14.2±1.3, 35°00N×24°39E, h52km, mb4.7/39, Error ellipse: s-maj=5.5km s-min=3.2km az=82.0*
*ISK **10** 22:57:14.9, 35°10N×24°32E, h27km, ML4.2/18*
*MED_RC **10** 22:57:14.0±0.5, 34°86N×24°32E, h58km±6km, MW4.4/15, Moment Tensor Solution. Mantle waves: s15,c21; Duration: 1ᵗ0 Moment tensor: Scale 10¹⁵Nm; Mrr3.62±.42; Mθθ-4.01±.31; Mϕϕ0.40±.49; Mrθ-0.56±.26; Mθϕ2.48±.48; Mϕr-0.48±.22; Best double couple: M₀4.48000×10¹⁵ NP1:ϕ₈130.00000°, δ45.00000°, λ113.00000°. NP2:ϕ₈279.00000°, δ49.00000°, λ69.00000°. Principal axes: T 3.8200, Plg74.0000°, Azm121.0000°; N 1.3200, Plg16.0000°, Azm293.0000°; P -5.1400, Plg2.0000°, Azm24.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*AFAD **10** 22:57:15.0, 34°95N×24°27E, h35km, MW4.4*
*ATH **10** 22:57:15.6, 34°96N×24°41E, h32km±3km, ML4.2/21, Manual Solution by M.Papanikolaou First location: 2019/07/10 22:58:23, This location: 2019/07/10 23:05:00 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km*

*THE **10** 22:57:16.2,35°N±2"×2"4E±", h17km±1km, M4.1/55, MLh4.1/55*
*GII **10** 22:57:18.6±0.0,34°893N±0"002×24"899E±0"001, h40km, Mws4.6, confirmed*
*BEO **10** 22:57:37.5±0.7,36°49N×23"61E, h37km±6km, ML3.6/6*
ISC 10 22:57:11.5±0.3,**34°95N**±0"03×**24"41E**±0"02,**h17km**,**n965**, **σ2s04**/1015,**mb4.7**/103,**MS3.5**/21,**53C-31D**,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.29**	**247**	Pg	**Pn**	**22 57 22.6**	**+1.7**
GVD				Sg	**Sn**	**22 57 28.6**	**+1.7**
GVD	**Gavdhos**	**0.29**	**247**	P	**Pn**	**22 57 22.3**	**+1.3**
GVD				S	**Sn**	**22 57 28.4**	**+1.5**
GVD	**Gavdhos**	**0.29**	**247**	P	**Pn**	**22 57 22.6**	**+1.7**
GVD				S	**Sn**	**22 57 28.5**	**+1.7**
TMBK	**Timbaki Herakl**	**0.32**	**67**	P	**Pn**	**22 57 22.4**	**+1.1**
PRNS	**Prines Rethymn**	**0.42**	**10**	P	**Pn**	**22 57 23.1**	**+0.4**
IDI	**Anoyia**	**0.52**	**49**	Pg	**Pn**	**22 57 25.9**	**+1.7**
IDI				Sg	**Sn**	**22 57 34.0**	**+1.4**
IDI	**Anoyia**	**0.52**	**49**		**Pn**	**22 57 25.4**	**+1.2**
IDI				Sg	**Sn**	**22 57 33.7**	**+1.0**
IDI	**Anoyia**	**0.52**	**49**	P	**Pn**	**22 57 25.1**	**+1.0**
IDI				S	**Sn**	**22 57 33.2**	**+0.5**
IDI	**Anoyia**	**0.52**	**49**	Pg	**Pn**	**22 57 25.5**	**+1.4**
	1μm,0.3s,baz=235,slow=15,SNR=102?						
IDI				Lg	Lg	22 57 33.0	
	1μm,0.3s,baz=345,slow=20,SNR=5.2						
IDI	**Anoyia**	**0.52**	**49**	P	**Pn**	**22 57 25.9**	**+1.7**
IDI				S	**Sn**	**22 57 33.5**	**+0.8**
CHNB	**Souda**	**0.60**	**332**	P	**Pn**	**22 57 27.7**	**+2.4**
CHNB				S	**Sn**	**22 57 36.2**	**+1.6**
CHAN	**Chania**	**0.64**	**332**	P	**Pn**	**22 57 27.5**	**+1.7**
CHAN				S	**Sn**	**22 57 36.3**	**+0.7**
IACM	**Heraklion**	**0.65**	**57**	P	**Pn**	**22 57 28.2**	**+2.3**
IACM	**Heraklion**	**0.65**	**57**	P	**Pn**	**22 57 28.4**	**+2.5**
IACM				S	**Sn**	**22 57 37.7**	**+2.0**
ANKY	**Antikythira Is**	**1.29**	**316**	P	**Pg**	**22 57 38.8**	**+2.5**
ANKY				S	**Sg**	**22 57 55.4**	**+2.3**
ANKY	**Antikythira Is**	**1.29**	**316**	P	**Pg**	**22 57 39.0**	**+2.7**
ZKR	**Zakros**	**1.49**	**83**	Pn	**Pg**	**22 57 41.8**	**+1.6**
ZKR	**Zakros**	**1.49**	**83**	P	**Pg**	**22 57 41.9**	**+1.6**
ZKR				S	**Sb**	**22 57 58.6**	**+1.2**
THR9	**Santorini-Faro**	**1.60**	**29**	P	**Pb**	**22 57 42.0**	**+1.4**
THR6	**Thira Island,**	**1.62**	**30**	P	**Pg**	**22 57 42.6**	**+0.1**
THR5	**Thira Island,**	**1.65**	**27**	P	**Pb**	**22 57 42.8**	**+1.4**
THERA	**Ancient Thera,**	**1.66**	**31**	P	**Pb**	**22 57 42.4**	**+0.8**
THERA				S	**Sb**	**22 58 03.7**	**+1.5**
THERA	**Ancient Thera,**	**1.66**	**31**	P	**Pb**	**22 57 42.6**	**+1.0**
THR3	**Thira Island,**	**1.66**	**29**	P	**Pb**	**22 57 42.9**	**+1.3**
SAP3	**Santorini-Thir**	**1.67**	**27**	P	**Pb**	**22 57 43.0**	**+1.3**
SAP3	**Santorini-Thir**	**1.67**	**27**	P	**Pb**	**22 57 43.2**	**+1.5**
THRA	**Thira**	**1.68**	**29**	P	**Pg**	**22 57 44.1**	**+0.3**
THR8	**Santorini-Mono**	**1.69**	**31**	P	**Pb**	**22 57 43.3**	**+1.1**
KTHA	**Kythira Island**	**1.70**	**320**	Pn	**Pn**	**22 57 41.6**	**+1.2**
KTHA	**Kythira Island**	**1.70**	**320**	P	**Pb**	**22 57 44.1**	**+1.8**
THR2	**Thira island,**	**1.71**	**29**	P	**Pb**	**22 57 43.3**	**+0.9**
CMBO	**Columbo, Santo**	**1.72**	**28**	P	**Pb**	**22 57 44.2**	**+1.6**
CMBO	**Columbo, Santo**	**1.72**	**28**	P	**Pb**	**22 57 44.1**	**+1.6**
MHLO	**Agia Marina, M**	**1.73**	**360**	P	**Pb**	**22 57 43.7**	**+0.8**
MHLO				S	**Sb**	**22 58 05.7**	**+1.3**
MHLO	**Agia Marina, M**	**1.73**	**360**	P	**Pb**	**22 57 43.7**	**+0.8**
MNVA	**Monemvasia**	**2.06**	**328**	P	**Pb**	**22 57 48.7**	**+0.3**
VLI	**Veliai**	**2.13**	**326**	P	**Pn**	**22 57 48.7**	**+2.4**
VLI				S	**Sb**	**22 58 15.6**	**-0.2**
VLI	**Veliai**	**2.13**	**326**	P	**Pb**	**22 57 49.7**	**0.0**
APE	**Apeiranthos**	**2.30**	**23**	Pn	**Pn**	**22 57 50.8**	**+2.1**
APE				Sn	**Sn**	**22 58 17.0**	**+0.4**
APE	**Apeiranthos**	**2.30**	**23**	P	**Pn**	**22 57 50.6**	**+2.0**
APE	**Apeiranthos**	**2.30**	**23**	⇑P	**Pn**	**22 57 51.1**	**+2.4**
APE	**Apeiranthos**	**2.30**	**23**	P	**Pn**	**22 57 51.0**	**+2.4**
APE	**Apeiranthos**	**2.30**	**23**	P	**Pn**	**22 57 51.0**	**+2.4**
KARP	**Karpathos**	**2.33**	**74**	Pn	**Pb**	**22 57 53.5**	**+0.5**
KARP	**Karpathos**	**2.33**	**74**		**Pb**	**22 57 53.3**	**+0.2**
KARP	**Karpathos**	**2.33**	**74**	P	**Pb**	**22 57 52.8**	**-0.3**
KARP	**Karpathos**	**2.33**	**74**	Pn	**Pn**	**22 57 51.9**	**+2.8**
KARP	**Karpathos**	**2.33**	**74**	P	**Pb**	**22 57 54.1**	**+1.0**
TNSA	**Tinos**	**2.65**	**13**	P	**Pn**	**22 57 55.7**	**+2.2**
NISR	**Nisiros**	**2.76**	**52**	P	**Pn**	**22 57 58.2**	**+3.2**
MET6	**Megalochori,Me**	**2.77**	**342**	P	**Pn**	**22 57 57.8**	**+2.7**
MET4	**Agioi Theodoro**	**2.79**	**343**	P	**Pn**	**22 57 57.9**	**+2.6**
MET5	**Makryloggos,Me**	**2.80**	**343**	P	**Pn**	**22 57 58.6**	**+3.1**
VLX	**Vlachokerasia**	**2.92**	**326**	P	**Pb**	**22 58 01.1**	**-2.1**
ITM	**Ithomi**	**3.00**	**319**	Pn	**Pn**	**22 58 00.0**	**+1.7**
ITM	**Ithomi**	**3.00**	**319**		**Pn**	**22 58 00.6**	**+2.3**
ITM	**Ithomi**	**3.00**	**319**	P	**Pn**	**22 58 00.5**	**+2.3**
ITM	**Ithomi**	**3.00**	**319**	P	**Pn**	**22 58 00.5**	**+2.2**
YAZI	**Mula-Dat§a-**	**3.02**	**54**	P	**Pn**	**22 58 00.9**	**+2.4**
YAZI				S	**Sn**	**22 58 31.4**	**-2.8**
ATHU	**Athens Univers**	**3.05**	**351**	P	**Pn**	**22 58 01.4**	**+2.4**
ATHU				S	**Sn**	**22 58 36.8**	**+1.7**
ATHU	**Athens Univers**	**3.05**	**351**	P	**Pn**	**22 58 01.3**	**+2.4**
ATH	**Athens Observa**	**3.07**	**350**	P	**Pn**	**22 58 00.8**	**+1.6**
ATH				S	**Sn**	**22 58 37.0**	**+1.6**
ATH	**Athens Observa**	**3.07**	**350**	P	**Pn**	**22 58 01.0**	**+1.9**
KARY	**Karystos**	**3.08**	**0**	P	**Pn**	**22 58 02.1**	**+2.8**
KARY	**Karystos**	**3.08**	**0**	P	**Pn**	**22 58 01.9**	**+2.7**
PTL	**Penteli**	**3.12**	**352**	P	**Pn**	**22 58 02.8**	**+2.8**
PTL				S	**Sn**	**22 58 38.3**	**+1.4**
PTL	**Penteli**	**3.12**	**352**	P	**Pn**	**22 58 02.5**	**+2.5**
DAT	**Datca**	**3.12**	**55**	Pn	**Pn**	**22 58 03.3**	**+3.2**
DION	**Dionisos Attik**	**3.14**	**353**	P	**Pn**	**22 58 03.2**	**+3.0**
DION				S	**Sn**	**22 58 38.8**	**+1.4**
DION	**Dionisos Attik**	**3.14**	**353**	P	**Pn**	**22 58 02.9**	**+2.7**
BODT	**Bodrum**	**3.16**	**47**	Pn	**Pn**	**22 58 04.1**	**+3.7**
BODT	**Bodrum**	**3.16**	**47**	P	**Pn**	**22 58 03.4**	**+2.9**
BDRM	**Kayabasi**	**3.24**	**49**	P	**Pn**	**22 58 04.5**	**+2.9**
BDRM	**Kayabasi**	**3.24**	**49**	⇑P	**Pn**	**22 58 04.2**	**+2.6**
LOUT	**Loutraki**	**3.24**	**340**	P	**Pn**	**22 58 03.9**	**+2.3**
LTK	**Loutraki**	**3.28**	**340**	P	**Pn**	**22 58 04.4**	**+2.3**
LTK	**Loutraki**	**3.28**	**340**	P	**Pn**	**22 58 04.4**	**+2.3**
ARG	**Arkhangelos**	**3.28**	**66**	Pn	**Pn**	**22 58 05.9**	**+3.8**
ARG	**Arkhangelos**	**3.28**	**66**		**Pn**	**22 58 05.7**	**+3.6**
ARG	**Arkhangelos**	**3.28**	**66**	P	**Pn**	**22 58 05.6**	**+3.6**
ARG	**Arkhangelos**	**3.28**	**66**	P	**Pn**	**22 58 05.7**	**+3.6**
ARG	**Arkhangelos**	**3.28**	**66**	P	**Pn**	**22 58 05.7**	**+3.6**
VILL	**Villia**	**3.33**	**345**	P	**Pn**	**22 58 05.2**	**+2.4**
VILL				S	**Sn**	**22 58 43.6**	**+1.6**
AMT	**Artemida-Makis**	**3.38**	**320**	P	**Pn**	**22 58 05.6**	**+2.1**
SMG	**Samos**	**3.38**	**35**	P	**Pn**	**22 58 03.8**	**+0.3**
SMG	**Samos**	**3.38**	**35**	P	**Pn**	**22 58 05.8**	**+2.4**
VIL2	**Platees**	**3.38**	**345**	P	**Pn**	**22 58 05.0**	**+1.5**
DDIM	**Aydin, Didim**	**3.39**	**42**	P	**Pn**	**22 58 06.7**	**+3.1**
DDIM				S	**Sb**	**22 58 49.2**	**-2.8**
GUR	**Goura**	**3.41**	**331**	P	**Pn**	**22 58 06.6**	**+2.5**
GUR				S	**Sn**	**22 58 46.8**	**+2.6**
GUR	**Goura**	**3.41**	**331**	P	**Pn**	**22 58 06.4**	**+2.4**
SLUM	**Salum**	**3.52**	**169**	P	**Pn**	**22 58 07.9**	**+2.6**
GCAM	**G?zelcaml?**	**3.57**	**39**	Pn	**Pn**	**22 58 09.1**	**+3.1**
GCAM	**G?zelcaml?**	**3.57**	**39**	P	**Pn**	**22 58 08.4**	**+2.4**
KLV	**Kalavryta, Ach**	**3.58**	**330**	P	**Pn**	**22 58 08.9**	**+2.6**
KLV				S	**Sn**	**22 58 52.6**	**+4.3**
KLV	**Kalavryta, Ach**	**3.58**	**330**	P	**Pn**	**22 58 09.0**	**+2.7**
MLSB	**Milas**	**3.59**	**48**	Pn	**Pn**	**22 58 10.1**	**+3.7**
TURN	**Turunc**	**3.61**	**59**	Pn	**Pn**	**22 58 10.5**	**+3.9**
TURN	**Turunc**	**3.61**	**59**	P	**Pn**	**22 58 09.9**	**+3.3**
TURN				S	**Sn**	**22 58 42.7**	**-6.1**
CHOS	**Chios island**	**3.67**	**21**	Pn	**Pn**	**22 58 10.4**	**+2.8**
CHOS	**Chios island**	**3.67**	**21**	P	**Pn**	**22 58 09.9**	**+2.3**
CHOS	**Chios island**	**3.67**	**21**	P	**Pn**	**22 58 09.9**	**+2.3**
DGB	**zmir**	**3.68**	**32**	P	**Pn**	**22 58 11.6**	**+4.0**
KYMI	**Kymi, Euboea I**	**3.68**	**356**	P	**Pn**	**22 58 10.6**	**+3.0**
KYMI	**Kymi, Euboea I**	**3.68**	**356**	P	**Pn**	**22 58 10.2**	**+2.5**
ZEYE	**Izmir, Urla-Ze**	**3.69**	**27**	P	**Pn**	**22 58 09.3**	**+1.6**
ZEYE				S	**Sn**	**22 58 53.2**	**+2.5**
DRO	**Drossia**	**3.70**	**325**	P	**Pn**	**22 58 10.6**	**+2.6**
DRO	**Drossia**	**3.70**	**325**	P	**Pn**	**22 58 10.8**	**+2.9**
URLA	**Izmir**	**3.83**	**27**	Pn	**Pn**	**22 58 12.7**	**+3.0**
URLA	**Izmir**	**3.83**	**27**	P	**Pn**	**22 58 11.4**	**+1.8**
URLA				S	**Sn**	**22 58 55.9**	**+1.6**
LKR	**Lokris**	**3.86**	**343**	P	**Pn**	**22 58 12.3**	**+2.2**
LKR				S	**Sn**	**22 58 56.8**	**+1.8**
LKR	**Lokris**	**3.86**	**343**	P	**Pn**	**22 58 12.2**	**+2.1**
RLS	**Riolos of Patr**	**3.90**	**323**	P	**Pn**	**22 58 13.7**	**+3.1**
MULA	**Mugla, Merkez-**	**3.91**	**53**	P	**Pn**	**22 58 15.1**	**+4.3**
MULA				S	**Sn**	**22 58 49.9**	**-6.5**
DALY	**Dalyan (Mula)**	**3.92**	**60**	Pn	**Pn**	**22 58 15.2**	**+4.4**
EFP	**Efpalio**	**4.01**	**331**	P	**Pn**	**22 58 14.7**	**+2.6**
EFP	**Efpalio**	**4.01**	**331**	P	**Pn**	**22 58 14.7**	**+2.6**
BLCB	**Balcova**	**4.03**	**31**	Pn	**Pn**	**22 58 15.6**	**+3.2**
BLCB	**Balcova**	**4.03**	**31**	P	**Pn**	**22 58 14.5**	**+2.2**
KARB	**zmir-Karabur**	**4.04**	**23**	P	**Pn**	**22 58 15.0**	**+2.5**
AXAR	**Agios Charalam**	**4.06**	**340**	P	**Pn**	**22 58 15.5**	**+2.6**
AYDB	**Zeytinkoy-Aydi**	**4.10**	**42**	Pn	**Pn**	**22 58 17.4**	**+3.9**
SABU	**Mula-Dalaman**	**4.14**	**62**	P	**Pn**	**22 58 17.4**	**+3.4**
SABU				S	**Sn**	**22 58 56.1**	**-6.1**
ANX	**Ano Chora**	**4.15**	**332**	P	**Pn**	**22 58 16.7**	**+2.6**
FETY	**Fethiye**	**4.15**	**65**	P	**Pn**	**22 58 16.5**	**+2.3**
IZZE	**Mula-Seydike**	**4.19**	**68**	P	**Pn**	**22 58 17.1**	**+2.5**
IZZE				S	**Sn**	22 58 51.4	-12
AOS	**Alonnisos**	**4.23**	**354**	P	**Pn**	**22 58 17.6**	**+2.4**
ESEN	**Aydn-Nazilli**	**4.26**	**47**	P	**Pn**	**22 58 19.3**	**+3.7**
IZMR	**zmir-demi**	**4.27**	**41**	P	**Pn**	**22 58 19.3**	**+3.6**
RTZL	**Ratzakli, Kefa**	**4.28**	**318**	P	**Pn**	**22 58 16.7**	**+0.9**
PVO	**Paravola**	**4.33**	**329**	P	**Pn**	**22 58 20.1**	**+3.6**
KSL	**Kastellorizon**	**4.38**	**73**	P	**Pn**	**22 58 19.3**	**+2.0**
AGG	**Agios Georgios**	**4.39**	**338**	P	**Pn**	**22 58 20.6**	**+3.2**
DNZT	**Denizli-Tavas-**	**4.40**	**57**	P	**Pn**	**22 58 21.0**	**+3.4**
DNZT				S	**Sn**	**22 59 07.0**	**-1.4**
SIGR	**SIGRI**	**4.41**	**15**	P	**Pn**	**22 58 19.7**	**+2.2**
AKAS	**Kas**	**4.42**	**72**		**Pn**	**22 58 20.8**	**+2.9**
TAVA	**DENIZLI_Tavas**	**4.42**	**54**	P	**Pn**	**22 58 22.3**	**+4.4**
TAVA				S	**Sn**	**22 59 07.0**	**-2.0**
MAKR	**Makrakomi, Fth**	**4.45**	**336**	P	**Pn**	**22 58 21.1**	**+3.0**
NEO	**Neokhori**	**4.45**	**348**	P	**Pn**	**22 58 20.6**	**+2.4**
VLS	**Valsamata**	**4.45**	**317**	P	**Pn**	**22 58 19.0**	**+0.8**
EVR	**Evrytania**	**4.47**	**333**	P	**Pn**	**22 58 22.0**	**+3.4**
CAEL	**Denizli, Camel**	**4.53**	**60**	P	**Pn**	**22 58 22.6**	**+3.1**
ZEDA	**zmir-Bergama**	**4.54**	**27**	P	**Pn**	**22 58 23.6**	**+4.1**
KIRA	**zmir-Kiraz**	**4.56**	**44**	P	**Pn**	**22 58 23.7**	**+3.9**
DNIZ	**Denizli-Tavas-**	**4.59**	**53**	P	**Pn**	**22 58 24.0**	**+3.8**
DNIZ				S	**Sn**	22 59 04.3	-8.9
KNIK	**Mula-Seydike**	**4.60**	**64**	P	**Pn**	**22 58 23.9**	**+3.5**
KNIK				S	**Sn**	**22 59 08.9**	**-4.5**
AMPL	**Ampelaki**	**4.72**	**328**	P	**Pn**	**22 58 25.4**	**+3.5**
EVGI	**Lefkada island**	**4.74**	**322**	P	**Pn**	**22 58 24.6**	**+2.4**
GOLH	**Golhisar**	**4.75**	**60**	P	**Pn**	**22 58 26.1**	**+3.7**
GOLH				S	**Sn**	**22 59 13.4**	**-3.8**
ELL	**Elmali**	**4.81**	**67**		**Pn**	**22 58 26.1**	**+2.8**
ELL	**Elmali**	**4.81**	**67**	P	**Pn**	**22 58 26.1**	**+2.8**
MANT	**Manisa**	**4.86**	**42**		**Pn**	**22 58 27.3**	**+3.3**
LKD2	**Lefkada island**	**4.87**	**323**	P	**Pn**	**22 58 25.6**	**+1.6**
TSLK	**Tsoukalades, L**	**4.90**	**323**	P	**Pn**	**22 58 26.5**	**+2.2**
LIA	**Limnos Island**	**4.98**	**7**	P	**Pn**	**22 58 27.6**	**+2.2**
INCE	**Denizli-Bozkur**	**5.00**	**55**	P	**Pn**	**22 58 29.4**	**+3.6**
INCE				S	**Sn**	**22 59 20.1**	**-3.0**
PAIG	**Paliouri**	**5.00**	**354**	P	**Pn**	**22 58 28.3**	**+2.6**
AKUM	**Antalya-Kumluc**	**5.02**	**72**	P	**Pn**	**22 58 28.7**	**+2.7**
TETR	**Tetrakomo, Epi**	**5.05**	**331**	P	**Pn**	**22 58 29.0**	**+2.5**
EZN	**Ezine**	**5.10**	**17**	Pn	**Pn**	**22 58 29.4**	**+2.3**
	0.2nm581nm64nm,0.9s						
STEP	**BALIKESIR_Sava**	**5.15**	**30**	P	**Pn**	**22 58 31.0**	**+3.2**
DB3	**El Dabaa**	**5.23**	**137**	P	**Pn**	**22 58 29.2**	**+0.3**
KORT	**Korkueli**	**5.23**	**65**	P	**Pn**	**22 58 33.5**	**+4.5**
USAK	**Uak-Merkez**	**5.27**	**43**	P	**Pn**	22 58 34.2	+4.8
PASA	**Karahalli, USA**	**5.31**	**49**	P	**Pn**	**22 58 33.7**	**+3.7**
BRDR	**BURDUR-Merkez**	**5.32**	**57**	P	**Pn**	**22 58 33.5**	**+3.3**
DEMI	**Demirci**	**5.34**	**39**	P	**Pn**	**22 58 34.7**	**+4.2**
JAN	**Janina**	**5.49**	**330**	P	**Pn**	**22 58 34.7**	**+2.3**
BUCA	**Burdur, Bucak-**	**5.51**	**63**	P	**Pn**	**22 58 35.7**	**+2.8**
IGT	**Igoumenitsa**	**5.61**	**326**	P	**Pn**	**22 58 34.6**	**+0.5**
IGT	**Igoumenitsa**	**5.61**	**326**	*e*Pn	**Pn**	**22 58 36.1**	**+2.0**
IGT				*e*Sn	**Sn**	22 59 20.9	-17
KZIL	**AFYON_Kizioren**	**5.67**	**53**	P	**Pn**	**22 58 38.7**	**+3.6**
ISP	**Isparta**	**5.70**	**58**	Pn	**Pn**	**22 58 38.0**	**+2.5**
ISP	**Isparta**	**5.70**	**58**	P	**Pn**	**22 58 38.0**	**+2.5**
ISP	**Isparta**	**5.70**	**58**	P	**Pn**	**22 58 37.1**	**+1.6**
HORT	**Hortiatis**	**5.73**	**350**	P	**Pn**	**22 58 38.6**	**+2.7**
SWA2		**5.76**	**171**	P	**Pn**	**22 58 39.0**	**+2.8**
KEK	**Kerkira**	**6.01**	**324**	Pn	**Pn**	**22 58 42.4**	**+2.8**
KEK	**Kerkira**	**6.01**	**324**	P	**Pn**	**22 58 41.9**	**+2.4**
ALN	**Alexandroupoli**	**6.08**	**12**	Pn	**Pn**	**22 58 42.9**	**+2.4**
ALN	**Alexandroupoli**	**6.08**	**12**	P	**Pn**	**22 58 42.9**	**+2.4**
SRS	**Serrai**	**6.19**	**354**	*e*Pn	**Pn**	**22 58 44.8**	**+2.7**
SRS				*e*Sn	**Sn**	22 59 34.1	-18
RDO	**Rodhopi**	**6.25**	**8**		**Pn**	**22 58 45.3**	**+2.4**
FNA	**Florina**	**6.30**	**339**		**Pn**	**22 58 44.9**	**+1.3**
FNA	**Florina**	**6.30**	**339**	P	**Pn**	**22 58 44.9**	**+1.3**
FNA	**Florina**	**6.30**	**339**	*e*Pn	**Pn**	**22 58 43.8**	**+0.2**
FNA				*e*Sn	**Sn**	22 59 35.4	-20
MMB	**Musomishta**	**6.61**	**356**	P	**Pn**	**22 58 50.4**	**+2.6**
RZN	**Rozhen**	**6.74**	**2**	P	**Pn**	**22 58 51.9**	**+2.1**
OHR	**Ohrid**	**6.78**	**336**	*i* Pn	**Pn**	**22 58 53.0**	**+2.8**
OHR				*i* Sn	**Sn**	**23 00 05.8**	**-1.2**
KKB	**Krupnik**	**6.95**	**352**	P	**Pn**	**22 58 55.5**	**+2.9**
SCTE	**Santa Cesarea**	**6.96**	**319**	Pn	**Pn**	**22 58 54.1**	**+1.5**
PLD	**Plovdiv**	**7.19**	**2**	P	**Pn**	**22 58 58.2**	**+2.4**
PLD	**Plovdiv**	**7.19**	**2**	*e*Pn	**Pn**	**22 58 57.9**	**+2.1**
CTYL	**Yalikoy Yolu**	**7.19**	**24**	Pn	**Pn**	**22 58 58.2**	**+2.4**
KLYT	**Kilyos**	**7.27**	**29**	⇓P	**Pn**	**22 59 00.3**	**+3.4**
KLYT	**Kilyos**	**7.27**	**29**	Pn	**Pn**	**22 58 59.2**	**+2.3**
TIR	**Tirane**	**7.32**	**332**	Pn	**Pn**	**22 58 59.1**	**+1.6**
TIR	**Tirane**	**7.32**	**332**	⇑P	**Pn**	**22 58 59.5**	**+1.9**
TIR	**Tirane**	**7.32**	**332**	⇑P	**Pn**	**22 58 59.5**	**+1.9**
TIR	**Tirane**	**7.32**	**332**	Pn	**Pn**	**22 58 59.0**	**+1.4**
	0.6nm71nm,1.8s						
CSS	**Mathiatis**	**7.33**	**87**		**Pn**	**22 58 58.4**	**+0.7**
CSS	**Mathiatis**	**7.33**	**87**	Pn	**Pn**	**22 58 59.3**	**+1.6**
	0.2nm385nm24nm,0.7s						
CSS	**Mathiatis**	**7.33**	**87**	S	**Sn**	**23 00 15.7**	**-4.8**
CSS	**Mathiatis**	**7.33**	**87**	P	**Pn**	**22 58 57.8**	**+0.1**
SKO	**Skopje**	**7.39**	**343**	*i* Pn	**Pn**	**22 59 00.9**	**+2.4**
TIP	**Timpagrande**	**7.43**	**307**		**Pn**	**22 58 59.5**	**+0.3**
TIP	**Timpagrande**	**7.43**	**307**	⇑P	**Pn**	**22 59 00.4**	**+1.2**
TIP	**Timpagrande**	**7.43**	**307**	Pn	**Pn**	**22 58 59.7**	**+0.5**
	0.1nm27nm,1.1s						
CEL	**Celeste**	**7.60**	**298**	Pn	**Pn**	**22 59 01.9**	**+0.4**
CEL	**Celeste**	**7.60**	**298**	Pn	**Pn**	**22 59 01.8**	**+0.3**
	0.2nm33nm,1.8s						
BOSS	**Bosilegrad**	**7.68**	**349**	*e*Pn	**Pn**	**22 59 05.7**	**+3.1**
RYAN	**Fayoum**	**7.68**	**138**	P	**Pn**	**22 59 04.0**	**+1.4**
MDUB	**Mudurnu**	**7.70**	**42**		**Pn**	**22 59 06.1**	**+3.2**
VTS	**Vitosha**	**7.71**	**354**	P	**Pn**	**22 59 03.2**	**+0.1**
VTS	**Vitosha**	**7.71**	**354**	*e*Pn	**Pn**	**22 59 05.4**	**+2.3**
ULC	**Ulcinj**	**8.09**	**331**	*e*Pn	**Pn**	**22 59 06.7**	**-1.4**
ULC				*i* Sn	**Sn**	**23 00 31.5**	**-7.7**
BARS	**Barje**	**8.11**	**346**	*e*Pn	**Pn**	**22 59 09.4**	**+1.0**
ANTO	**Ankara**	**8.28**	**51**		**Pn**	**22 59 13.4**	**+2.6**
ANTO	**Ankara**	**8.28**	**51**	⇓P	**Pn**	**22 59 14.5**	**+3.7**
ANTO	**Ankara**	**8.28**	**51**	P	**Pn**	**22 59 13.4**	**+2.6**
ANTO	**Ankara**	**8.28**	**51**	Pn	**Pn**	**22 59 13.2**	**+2.4**
	160nm20nm,0.7s						
DRME	**Dracevica, Mon**	**8.30**	**332**	*e*Pn	**Pn**	**22 59 11.2**	**+0.2**
DRME	**Dracevica, Mon**	**8.30**	**332**	*e*Pn	**Pn**	**22 59 09.8**	**-1.2**
DRME				*i* Sn	**Sn**	**23 00 36.7**	**-7.7**
MPEP	**Malo Peshtene**	**8.41**	**357**	P	**Pn**	**22 59 16.1**	**+3.9**
ZAPS	**Zavoj**	**8.43**	**351**	*e*Pn	**Pn**	**22 59 15.7**	**+2.9**
RAFF	**Raffo Rosso**	**8.44**	**288**	Pn	**Pn**	**22 59 13.1**	**+0.1**
VAE	**Valguarnera**	**8.46**	**290**	Sn	**Sn**	**23 00 43.2**	**-5.4**
	8.5nm,0.3s,baz=108,slow=20,SNR=6.5						
HFRF	**Wahat Farafira**	**8.47**	**156**	P	**Pn**	**22 59 15.2**	**+1.9**
CUC	**Castrocucco**	**8.48**	**309**		**Pn**	**22 59 14.3**	**+0.7**
PDG	**Podgorica**	**8.48**	**333**	Pn	**Pn**	**22 59 12.8**	**-0.7**
PDG	**Podgorica**	**8.48**	**333**	*e*Pn	**Pn**	**22 59 12.2**	**-1.3**
PDG	**Podgorica**	**8.48**	**333**	*e*Pn	**Pn**	**22 59 12.4**	**-1.1**
PDG				*i* Sn	**Sn**	**23 00 40.9**	**-7.9**
BUM	**Brajici-Budva**	**8.51**	**331**	*e*Pn	**Pn**	**22 59 12.9**	**-1.1**
BUM				*i* Sn	**Sn**	**23 00 41.7**	**-8.0**
LOZB	**Loznitsa**	**8.58**	**11**	⇑P	**Pn**	**22 59 17.2**	**+2.4**
SELS	**Selova**	**8.64**	**344**	*e*Pn	**Pn**	**22 59 15.9**	**+0.1**
SELS				*e*Sn	**Sn**	23 00 31.9	-21
IVA	**Berane**	**8.65**	**337**	*e*Pn	**Pn**	**22 59 14.6**	**-1.4**
IVA				*i* Sn	**Sn**	23 00 44.9	-8.3
CEME	**Cevo**	**8.71**	**332**	*e*Pn	**Pn**	**22 59 15.4**	**-1.3**
CEME				*i* Sn	**Sn**	23 00 46.3	-8.3
BR105	**Keskin Array S**	**8.74**	**54**	Pn	**Pn**	**22 59 19.5**	**+2.3**
	105nm13nm,0.7s						
BR106	**Keskin Array S**	**8.75**	**54**	Pn	**Pn**	**22 59 19.6**	**+2.3**
	100nm12nm,0.7s						
BR104	**Keskin Array S**	**8.75**	**54**	Pn	**Pn**	**22 59 19.6**	**+2.3**
	112nm14nm,1.0s						
RAZG	**Razgrad**	**8.76**	**10**	⇓P	**Pn**	**22 59 19.1**	**+1.8**
BR131	**Keskin Array S**	**8.76**	**54**		**Pn**	**22 59 20.4**	**+3.0**
BR131	**Keskin Array S**	**8.76**	**54**	P	**Pn**	**22 59 20.4**	**+3.0**
BRTR	**Keskin Array B**	**8.76**	**54**		**Pn**	**22 59 20.0**	**+2.6**
BRTR	**Keskin Array B**	**8.76**	**54**	Pn	**Pn**	**22 59 20.8**	**+3.4**
	0.7nm,0.3s,baz=226,slow=13,SNR=49						
BRTR				LR	LR	23 03 22.9	
	comp=Z,290nm,19.4s,baz=279,slow=42						
BRTR				ScP	**ScP**	**23 09 12.6**	**-2.6**
	0.6nm,0.7s,baz=333,slow=1.6,SNR=4.4						
	8.3nm,0.8s						
BRTR	**Keskin Array B**	**8.76**	**54**	*i* P	**Pn**	**22 59 21.1**	**+3.7**
BRTR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KOME	**Kolasin**	**8.76**	**336**	*e*Pn	**Pn**	**22 59 15.8**	**-1.6**
KOME				*i* Sn	Sn	23 00 47.4	-8.4
BLKB	**Belogradchik**	**8.76**	**352**	*e*Pn	**Pn**	**22 59 19.3**	**+1.9**
HCY	**Herceg Novi**	**8.80**	**330**	*e*Pn	**Pn**	**22 59 16.5**	**-1.3**
HCY				*i* Sn	**Sn**	**23 00 48.6**	**-7.9**
NKME	**Niksic**	**8.89**

NSLU Nyzhne Selyshc 13.24 0 P Pn 23 00 20.3 +1.8
MPLH Magyarpolny 13.25 339 P Pn 23 00 20.3 +1.5
comp=Z,26nm,1.2s
BERU Beregovo 13.34 355 P Pn 23 00 21.4 +1.5
PSZ Piszkesteto 13.39 347 ⇑P Pn 23 00 23.6 +2.9
PSZ Piszkesteto 13.39 347 ⇑P Pn 23 00 23.6 +2.9
SORM Soroca 13.50 11 ⇑P Pn 23 00 21.5 -0.6
SORM Soroca 13.50 11 ⇑P Pn 23 00 21.5 -0.6
SORM Soroca 13.50 11 P Pn 23 00 23.8 +1.7
comp=Z,14nm,0.7s
MUKU Mukachevo 13.55 355 P Pn 23 00 24.8 +2.0
MEZ Mezhgor'ye 13.57 357 P Pn 23 00 24.2 +1.1
HOLU Holmets 13.65 354 P Pn 23 00 26.1 +2.0
SOKA Soboth 13.69 332 *e*Pn Pn 23 00 23.8 -0.9
comp=Z,1.3nm,0.3s
SOKA *e*Sn Sn 23 02 56.9 +0.5
comp=Z,1.1nm,0.6s
KMPD K-Podol'skiy 13.69 6 P Pn 23 00 26.7 +2.0
KOPT Kop Dagi 13.73 64 Pn 23 00 27.8 +2.1
SABO M.te Sabotino 13.73 327 Pn Pn 23 00 24.0 -1.4
OBKA Obir 13.74 330 *e*P Pn 23 00 29.5 +4.0
comp=Z,5.7nm,0.9s
STNU Starunia 13.75 0 P Pn 23 00 27.4 +1.9
NDNU Novodnistrovsk 13.81 8 P Pn 23 00 28.4 +2.1
ARSA Arzberg 13.98 334 *e*Pn Pn 23 00 29.3 +0.6
comp=Z,1.8nm,0.5s
ARSA *e*P P 23 00 37.8 +1.1
comp=Z,4.5nm,0.5s
ANN Anapa 14.01 42 *e*P P 23 00 34.5 -2.4
ANN pmax pmax
comp=Z,18nm,1.0s
KOLS Kolonicke sedl 14.06 354 *e*P P 23 00 39.0 +1.5
KOLS Kolonicke sedl 14.06 354 *e*PN P 23 00 39.0 +1.5
PRED Cave del Predi 14.11 328 Pn Pn 23 00 29.2 -1.3
RONA Rosalia, Austr 14.11 337 *e*P P 23 00 39.1 +0.9
comp=Z,4.5nm,0.5s,SNR=6.7
VYHS Vyhne 14.15 345 *e*P P 23 00 40.2 +1.6
VYHS Vyhne 14.15 345 *e*PN P 23 00 40.2 +1.6
TEOL Teolo 14.23 321 Pn Pn 23 00 31.6 -0.5
MODS Modra-Piesok 14.42 341 *e*P P 23 00 40.7 -0.9
MODS Modra-Piesok 14.42 341 *e*PN P 23 00 40.7 -0.9
CONA Conrad Observa 14.45 336 *e*Pn Pn 23 00 39.3 +4.0
comp=Z,0.6nm,0.3s
GURO Guroymak-BITLI 14.58 71 Pn 23 00 37.7 +0.6
SOC Sochi 14.64 49 *e*P Pn 23 00 38.3 +0.5
SOC *e* 23 03 20.5
SOC pmax pmax
comp=Z,8.0nm,0.5s
SOC MLR MLR
comp=Z,125nm,17.0s
KBA Koelnbreinsper 14.70 329 *e*P P 23 00 45.7 +0.9
comp=Z,15nm,0.6s
CTI Castel Tesino 14.71 323 Pn 23 00 37.0 -1.9
CTI Castel Tesino 14.71 323 P Pn 23 00 37.0 -1.9
KWP Kalwaria Pacla 14.72 356 P Pn 23 00 40.5 +1.6
comp=Z,11nm,0.9s
NIE Niedzica 14.77 349 *e*P P 23 00 44.9 -0.5
NIE Niedzica 14.77 349 P Pn 23 00 40.9 +1.4
comp=Z,2.7nm,1.3s
HOMI Horasan 14.78 65 ⇑P Pn 23 00 42.8 +2.8
ABTA Abfaltersbach 14.81 326 *e*P P 23 00 47.4 +1.5
comp=Z,6.4nm,0.6s
MOA Molln 14.95 333 *e*Pn Pn 23 00 43.4 +1.5
comp=Z,1.0nm,0.4s
MOA *e*P P 23 00 48.5 +1.1
comp=Z,8.4nm,0.6s
BIOA Bad Ischl, Aus 15.06 331 *e*Pn Pn 23 00 43.4 0.0
comp=Z,4.7nm,0.6s
LUBAR Lubar, Ukraine 15.16 8 P Pn 23 00 46.7 +2.0
MAUC Maruska 15.20 343 *e*P P 23 00 51.1 +0.9
LESA Schwarzleotal 15.25 328 *i* P P 23 00 52.3 +1.5
comp=Z,17nm,0.5s,SNR=7.5
KRUC Moravsky 15.29 340 *e*P P 23 00 51.0 -0.2
GEVA Gevas 15.34 72 Pn 23 00 48.9 +1.5
GEVA IAmb IAmb 23 00 53.1
comp=Z,35nm,1.1s
VRAC Vranov 15.46 340 *e*P P 23 00 53.2 +0.1
VRAC Vranov 15.46 340 Pn P 23 00 52.9 -0.2
comp=Z,0.6nm,0.3s,baz=158,slow=9.7,SNR=16
VRAC LR LR 23 07 28.7
comp=Z,130nm,21.8s,baz=171,slow=40
VRAC Vranov 15.46 340 ⇑P P 23 00 52.9 -0.2
OKC Ostrava-Krasne 15.57 345 *e*P P 23 00 55.4 +1.1
OKC Ostrava-Krasne 15.57 345 *e*P P 23 00 55.4 +1.1
WTTA Wattenberg 15.59 326 *e*Pn Pn 23 00 50.7 +0.1
comp=Z,7.3nm,0.5s
WTTA *e*Sn Sn 23 03 35.0 -8.0
comp=Z,5.7nm,0.6s
OJC Ojcow 15.63 349 *e*P Pn 23 00 51.0 +0.2
MORC Moravsky Berou 15.65 343 Pn 23 00 52.8 +1.7
MORC Moravsky Berou 15.65 343 *e*P P 23 00 55.2 0.0
MORC Moravsky Berou 15.65 343 ⇑P Pn 23 00 52.5 +1.3
MORC Moravsky Berou 15.65 343 ⇑P Pn 23 00 52.5 +1.3
WATA Walderalm 15.67 326 *e*Pn Pn 23 00 51.5 -0.1
comp=Z,8.9nm,0.5s
STEB Steborice 15.74 344 *e*P Pn 23 00 53.6 +1.3
CKRC Cesky Krumlov 15.75 335 *e*P P 23 00 57.2 +0.9
CKRC AMS AMS 23 07 40.0
comp=Z,200nm,11.6s
CKRC Cesky Krumlov 15.75 335 *e*P P 23 00 57.2 +0.9
CKRC MLR MLR
comp=Z,200nm,11.6s
SQTA Sankt Quirin 15.76 325 *e*Pn Pn 23 00 52.6 0.0
comp=Z,2.6nm,0.4s
SQTA *e*Sn Sn 23 03 39.6 -7.4
comp=Z,3.3nm,0.7s
TREC Trest 15.77 338 AMS AMS 23 08 10.0
comp=Z,200nm,14.1s
KARS Kars 15.80 63 P 23 00 56.3 -0.8
KARS IAmb IAmb 23 01 01.9
comp=Z,86nm,1.0s
KARS Kars 15.80 63 P P 23 00 56.3 -0.8
KARS pmax pmax
comp=Z,86nm,1.0s
FUORN Ofenpass-Fuorn 15.80 322 Pn Pn 23 00 54.7 +1.3
FUORN IAmb IAmb 23 01 00.7
comp=Z,29nm,0.8s
LABN Labinsk 15.81 47 *e*P P 23 00 56.9 -0.1
LABN pmax pmax
comp=Z,123nm,0.8s
LABN MLR MLR
comp=Z,79nm,12.0s
FETA Feichten 15.85 324 *i* Pn Pn 23 00 55.8 +1.9
comp=Z,25nm,1.4s,SNR=6.5
MOTA Moosalm 15.90 325 *e*Pn Pn 23 00 53.8 -0.7
comp=Z,6.3nm,0.9s
AK07 Malin Array Si 15.98 11 P Pn 23 00 56.9 +1.6
GEC2 GERESS Array S 15.98 334 Pn 23 00 56.7 +1.1
GERES GERESS Array B 15.98 334 P P 23 00 58.5 -0.5
GERES GERESS Array B 15.98 334 Pn Pn 23 00 56.7 +1.1
comp=Z,0.2nm,0.3s,baz=146,slow=12,SNR=55
GERES LR LR 23 08 49.0
comp=Z,166nm,18.5s,baz=140,slow=44
comp=Z,9.3nm,0.7s
AK06 Malin Array Si 16.01 11 P Pn 23 00 57.4 +1.7
AK13 Malin Array Si 16.01 11 P Pn 23 00 57.4 +1.6
AK10 Malin Array Si 16.03 11 P Pn 23 00 57.6 +1.6
DAVOX Davos/Dischmat 16.11 322 Pn P 23 01 00.8 +0.4
comp=Z,1.1nm,0.3s,baz=87,slow=5.5,SNR=8.9
DAVOX LR LR 23 08 42.4
comp=Z,83nm,20.2s,baz=104,slow=43
KRLC Kraliky 16.11 342 *e*P Pn 23 00 59.3 +2.2
KRLC Kraliky 16.11 342 *e*P Pn 23 00 59.3 +2.2
OZAP Van, Ozalp-Mer 16.11 71 ⇑P P 23 01 00.8 +0.2
KIEV Kiev 16.12 11 Pn 23 00 58.6 +1.5
KIEV IAmb IAmb 23 01 00.1
comp=Z,42nm,1.1s
KIEV Kiev 16.12 11 ⇓P Pn 23 00 59.1 +2.0
KIEV Kiev 16.12 11 ⇓P Pn 23 00 59.1 +2.0
KIEV Kiev 16.12 11 P Pn 23 00 58.8 +1.7
comp=Z,2μmcomp=Z,186nm,0.9s
AK18 Malin Array Si 16.12 11 P Pn 23 00 58.8 +1.6
AKASG Malin Array Be 16.13 11 Pn Pn 23 00 58.7 +1.5
AKASG IAmb IAmb 23 01 00.1
comp=Z,69nm,1.1s
AKASG Malin Array Be 16.13 11 Pn Pn 23 00 55.9 -1.4
comp=Z,2.5nm,0.3s,baz=202,slow=10,SNR=44
AKASG LR LR 23 07 37.4
comp=Z,97nm,18.9s,baz=200,slow=39
AKASG Malin Array Be 16.13 11 *ce*P Pn 23 00 57.0 -0.2
AKASG pmax pmax
comp=Z,25nm,0.4s
AKBB Malin Array Si 16.13 11 *ce*P Pn 23 00 58.8 +1.6
AKBB pmax pmax
comp=Z,19nm,0.9s

AKBB Malin Array Si 16.13 11 P Pn 23 00 58.8 +1.6
RETA Reutte 16.16 325 *e*Pn Pn 23 00 57.3 -0.5
comp=Z,6.8nm,1.6s
TUE Stuetta 16.18 320 Pn 23 00 58.7 +0.5
TUE Stuetta 16.18 320 P Pn 23 00 58.5 +0.3
comp=Z,58nm,1.2s
KHC Kasperske Hory 16.27 334 *e*P P 23 01 02.0 -0.1
KHC AMS AMS 23 08 10.0
comp=Z,200nm,16.6s
KHC Kasperske Hory 16.27 334 *e*P P 23 01 02.0 -0.1
KHC MLR MLR
comp=Z,200nm,16.6s
KHC Kasperske Hory 16.27 334 P Pn 23 01 00.0 +0.9
comp=Z,148nmcomp=Z,21nm,1.1s
ERBR Yeremizino-Bor 16.27 44 *e*P Pn 23 01 01.4 +2.3
ERBR pmax pmax
comp=Z,47nm,0.7s
RNPP5 Staryi Chortor 16.30 3 P Pn 23 01 01.0 +1.5
ZVC Zvikov 16.31 336 *e*P P 23 01 03.1 +0.6
ZVC AMS AMS 23 08 10.0
comp=Z,100nm,13.4s
RNPP8 Varash 16.41 3 P Pn 23 01 02.2 +1.4
DAVA Damuels 16.45 323 *i* P P 23 01 05.5 +1.3
comp=Z,12nm,0.8s,SNR=5.4
DPC Dobruska-Polom 16.48 341 *e*P P 23 01 04.8 +0.3
DPC AMS AMS 23 08 30.0
comp=Z,200nm,12.0s
DPC Dobruska-Polom 16.48 341 *e*P P 23 01 04.8 +0.3
DPC MLR MLR
comp=Z,200nm,12.0s
DPC Dobruska-Polom 16.48 341 P Pn 23 01 02.7 +0.9
comp=Z,8.5nm,0.8s
GOPC GO Pecny, Ondr 16.53 338 *e*P P 23 01 05.1 +0.1
GOPC GO Pecny, Ondr 16.53 338 *e*P P 23 01 05.1 +0.1
PRU Pruhonice 16.67 337 *e*P Pn 23 01 06.2 +2.0
PRU AMS AMS 23 08 40.0
comp=Z,100nm,12.1s
PRU Pruhonice 16.67 337 *e*P Pn 23 01 06.2 +2.0
PRU MLR MLR
comp=Z,100nm,12.1s
KIV Kislovodsk 16.71 52 Pn Pn 23 01 06.4 +1.6
KIV IAmb IAmb 23 01 10.0
comp=Z,44nm,0.6s
KIV Kislovodsk 16.71 52 ⇑P P 23 01 08.1 +1.1
KIV Kislovodsk 16.71 52 ⇑P P 23 01 08.1 +1.1
KIV Kislovodsk 16.71 52 P Pn 23 01 06.4 +1.6
comp=Z,434nmcomp=Z,51nm,1.0s
UPC Upice 16.71 341 *e*P Pn 23 01 06.5 +1.8
UPC AMS AMS 23 08 40.0
comp=Z,200nm,15.9s
UPC Upice 16.71 341 *e*P Pn 23 01 06.5 +1.8
UPC MLR MLR
comp=Z,200nm,15.9s
KVAR Kislovodsk Arr 16.71 52 Pn P 23 01 09.3 +2.2
baz=270,slow=20
comp=Z,8.1nm,0.7s
KBZ Khabaz 16.75 53 Pn P 23 01 07.8 +0.4
comp=Z,1.0nm,0.3s,baz=257,slow=9.7,SNR=48
KBZ LR LR 23 09 02.9
comp=Z,108nm,18.4s,baz=272,slow=42
comp=Z,45nm,1.0s
KBZ Khabaz 16.75 53 *d i*P P 23 01 07.5 +0.2
KBZ pmax pmax
comp=Z,43nm,1.0s
CHVC Chvalec 16.77 341 *e*P P 23 01 09.8 +2.2
CHVC AMS AMS 23 08 40.0
comp=Z,200nm,12.0s
CHVC Chvalec 16.77 341 *e*P P 23 01 09.8 +2.2
CHVC MLR MLR
comp=Z,200nm,12.0s
PRA Prague 16.78 337 *e*P P 23 01 08.2 +0.5
PRA Prague 16.78 337 *e*P P 23 01 08.2 +0.5
GNI Garni 16.93 66 Pn 23 01 08.5 +0.8
GNI Garni 16.93 66 Pn P 23 01 10.7 +1.1
comp=Z,1.3nm,0.3s,baz=258,slow=2.7,SNR=13
GNI LR LR 23 08 58.3
comp=Z,273nm,18.3s,baz=270,slow=42
comp=Z,8.6nm,0.6s
GNI Garni 16.93 66 *ce*P Pn 23 01 08.1 +0.4
GNI pmax pmax
comp=Z,37nm,1.7s
GNI Garni 16.93 66 P Pn 23 01 09.1 +1.4
comp=Z,19nm,1.4s
KSP Ksiaz 16.94 342 *e*P P 23 01 09.7 +0.2
KSP Ksiaz 16.94 342 P Pn 23 01 08.7 +1.1
comp=Z,9.7nm,1.4s
PVCC Panska Ves 17.14 338 *e*P P 23 01 12.3 +0.6
PVCC Panska Ves 17.14 338 *e*P P 23 01 12.3 +0.6
SENIN Lac Senin/Sane 17.24 317 Pn Pn 23 01 11.9 +0.4
GOF Gofitskoye 17.45 49 *ce*P P 23 01 16.0 +0.9
NKC Novy Kostel 17.59 334 *e*P P 23 01 17.7 +1.0
NKC Novy Kostel 17.59 334 *e*P P 23 01 17.7 +1.0
GRFO Grafenberg 17.62 331 P P 23 01 17.6 +0.5
GRFO IAmb IAmb 23 01 25.1
comp=Z,57nm,1.4s
GRFO Grafenberg 17.62 331 P P 23 01 17.6 +0.5
GRFO pmax pmax
comp=Z,57nm,1.4s
BRG Berggiesshubel 17.63 338 *e*P Pn 23 01 17.6 +1.3
BRG Amp 23 01 17.9
comp=Z,3.9nm,0.8s
BRG Berggiesshubel 17.63 338 P P 23 01 18.6 +1.5
BRG Amp 23 01 19.7
comp=Z,3.8nm,0.6s
BFO Black Forest 17.93 323 Pn 23 01 20.1 +0.2
BFO Black Forest 17.93 323 P Pn 23 01 20.1 +0.2
BFO pmax pmax
comp=Z,6.0nm,0.7s
CLL Collm 18.31 337 P Pn 23 01 24.1 -0.4
CLL Collm 18.31 337 *i* P Pn 23 01 24.6 +0.1
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 18.31 337 P Pn 23 01 25.1 +0.6
comp=Z,12nm,1.0s
CLL Collm 18.31 337 *i* P Pn 23 01 25.0 +0.6
comp=Z,9.0nm,0.8s
CLL *i* sP sP 23 01 36.6 +5.6
CLL *e*PPP PPP 23 01 46.0
CLL *e*SSS SSS 23 05 18.0
CLL AMS AMS 01 06 00.0
comp=Z,100nm,19.5s
ECH Echery 18.44 321 P P 23 01 25.7 -0.4
ECH Echery 18.44 321 P P 23 01 25.7 -0.4
ECH pmax pmax
comp=Z,17nm,1.4s
GKP Gorka Klasztor 19.01 347 *e*P Pn 23 01 33.8 +0.8
GKP Gorka Klasztor 19.01 347 *e*P P 23 01 33.4 +1.2
SUW Suwalki 19.08 358 *e*P P 23 01 32.3 -0.6
SUW Suwalki 19.08 358 P P 23 01 31.7 -1.3
SUW Suwalki 19.08 358 P P 23 01 31.7 -1.3
SUW Suwalki 19.08 358 *e*P P 23 01 32.9 -0.1
AKT Akhty 19.42 63 *e*P P 23 01 37.0 0.0
AKT pmax pmax
comp=Z,13nm,1.0s
VSR Storozhevoye 19.44 29 *e*P P 23 01 34.9 -2.1
VSR pmax pmax
comp=Z,10.0nm,0.9s
CEST Esterri de Car 19.56 300 P P 23 01 39.8 +1.2
MAK Makhachkala 19.62 59 *e*P P 23 01 40.4 +1.4
MAK *e*S Sn 23 05 22.5 +2.3
MAK pmax pmax
comp=Z,67nm,0.8s
MAK MLR MLR
comp=Z,56nm,18.0s
MNK Minsk 19.70 6 *i* P P 23 01 36.3 -3.5
comp=E,11nm,0.8s
MNK *i* P P 23 01 36.3 -3.5
comp=N,6.0nm,0.8s
MNK *i* P P 23 01 36.3 -3.5
comp=Z,17nm,0.8s,baz=189
MNK *i* pP sP 23 01 48.2 +1.8
MNK *i* S S 23 05 15.5 -5.7
MNK *i* SS SnSn 23 05 33.3 -3.0
MNK *i* LQ LQ 23 07 19.4
MNK *i* LR LR 23 08 07.7
MNK *i* LRM MLR 23 09 20.4
comp=N,66nm,15.7s
MNK *i* LRM MLR 23 09 24.2
comp=Z,103nm,23.1s
MNK *i* LRM MLR 23 09 30.1
comp=E,93nm,23.2s
MNK Minsk 19.70 6 *i* P P 23 01 36.2 -3.5
MNK *i* S S 23 05 15.4 -5.7
MNK pmax pmax
comp=E,11nm,0.8s

MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=Z,17nm,0.8s
MNK MLR MLR
comp=N,66nm,16.0s
MNK MLR MLR
comp=Z,103nm,23.0s
MNK MLR MLR
comp=E,93nm,23.0s
VORR Voronezh 19.82 28 *e*P P 23 01 38.9 -2.1
VORR pmax pmax
comp=Z,10.0nm,0.8s
WLF Walferdange 19.89 323 P P 23 01 41.8 -0.1
WLF Walferdange 19.89 323 P P 23 01 41.8 -0.1
WLF pmax pmax
comp=Z,18nm,1.1s
WLF Walferdange 19.89 323 *d*P P 23 01 41.7 -0.1
NACGM Naroch 20.02 4 ⇓*i*P P 23 01 42.2 -1.0
comp=Z,78nm,0.9s,baz=186
BHOU Houvegnez 20.41 325 *d*P P 23 01 49.2 +1.6
comp=Z,5.2nm,1.0s
IDID Didziasalis 20.43 4 *e*P P 23 01 45.7 -2.0
LPSR Galich'ya Gora 20.45 26 *e*P P 23 01 47.3 -0.7
LPSR pmax pmax
comp=Z,19nm,0.8s
TAM Tamanrasset 20.46 239 P P 23 01 49.2 +0.7
TAM Tamanrasset 20.46 239 P P 23 01 49.2 +0.7
TAM pmax pmax
comp=Z,8.0nm,0.7s
VRH Novokhopyorsk 20.50 32 *e*P P 23 01 47.1 -1.4
VRH pmax pmax
comp=Z,10.0nm,0.8s
PABE Paberze 20.56 359 P P 23 01 47.1 -1.9
PABE Paberze 20.56 359 *e*P P 23 01 47.6 -1.5
MEM Membach 20.58 325 *d*P P 23 01 50.1 +0.7
comp=Z,17nm,0.0s
ISAL Salakas 20.66 3 *e*P P 23 01 50.9 +0.8
BSTI Sart Tilman 20.77 325 *d*P P 23 01 53.3 +1.8
comp=Z,4.1nm,1.1s
BCLA Clavier 20.79 324 *d*P P 23 01 52.5 +0.9
BCLA *db*P sP 23 02 00.3 +2.1
BCLA *d*PP PnPn 23 02 12.2 +2.2
BGES Gesves 20.88 324 *d*P P 23 01 53.6 +1.1
DOU Dourbes 20.93 322 *d*P P 23 01 54.0 +0.7
comp=Z,19nm,1.0s
BMRD Maredsous 20.98 323 *d*P P 23 01 54.4 +0.7
comp=Z,7.0nm,0.8s
CLF Chambon-Foret 21.02 315 P P 23 01 53.6 -0.6
VSVD Vaisvydziai 21.03 359 *e*P P 23 01 53.0 -1.2
PBUR Paburge 21.14 356 *e*P P 23 01 54.3 -1.1
BSD Bornholm Skovb 21.21 345 *i* P P 23 01 53.9 -2.3
BSD IAmb IAmb 23 01 54.7
comp=Z,28nm,1.3s
UCC Uccle 21.50 324 P P 23 01 58.7 -0.5
UCC IAmb IAmb 23 02 01.1
comp=Z,23nm,1.3s
UCC Uccle 21.50 324 P P 23 01 58.7 -0.5
UCC pmax pmax
comp=Z,23nm,1.3s
UCC Uccle 21.50 324 *d*P P 23 02 00.4 +1.1
RAYN Ar Rayn 21.60 116 P P 23 01 59.1 -1.5
RAYN Ar Rayn 21.60 116 P P 23 01 59.1 -1.5
RAYN pmax pmax
comp=Z,5.0nm,0.8s
OBN Obninsk 21.85 19 P P 23 02 02.1 -0.9
OBN Obninsk 21.85 19 P P 23 02 01.6 -1.4
comp=Z,11nm,0.4s,baz=129,slow=13,SNR=4.5
comp=Z,11nm,0.4s
OBN Obninsk 21.85 19 *de*P P 23 02 01.6 -1.4
OBN *e* 23 02 29.6
OBN *eS* S 23 05 56.8 -6.9
OBN pmax pmax
comp=Z,34nm,1.7s
OBN MLR MLR
comp=Z,102nm,19.0s
LUNU Lund 22.02 343 *i* P P 23 02 03.0 -1.8
BLEU Blekinge 22.15 347 *e*P P 23 02 03.2 -3.0
BJUU Bjuv 22.52 343 *i* P P 23 02 09.2 -1.0
MOS Moscow 22.69 20 *e*P P 23 02 09.0 -3.0
MOS *e* 23 02 31.1
MOS pmax pmax
comp=Z,28nm,0.7s
DEL Delary 22.69 345 *i* P P 23 02 10.4 -1.6
ESBB Sonseca Array 23.01 290 P P 23 02 14.7 -0.9
ESBB IAmb IAmb 23 02 18.3
comp=Z,12nm,0.8s
ESDC Sonseca Array 23.01 290 P P 23 02 14.2 -1.4
ESDC Sonseca Array 23.01 290 P P 23 02 16.2 +0.6
comp=Z,7.7nm,0.8s,baz=82,slow=9.4,SNR=66
comp=Z,7.7nm,0.8s
PAB San Pablo 23.30 290 P P 23 02 18.3 -0.2
PAB San Pablo 23.30 290 P P 23 02 18.3 -0.2
PAB pmax pmax
comp=Z,14nm,1.2s
VSU Vasula 23.57 3 *ce*P P 23 02 17.9 -3.0
VSU pmax pmax
comp=Z,25nm,1.7s
VSU Vasula 23.57 3 *e*P P 23 02 19.0 -1.9
ONAU Onsala 23.98 343 *i* P P 23 02 24.8 0.0
BORU Boras 24.00 345 *i* P P 23 02 23.8 -1.3
BELG Belogornoye 24.04 36 P P 23 02 24.5 -0.9
comp=Z,22nm,0.5s,baz=240,slow=20,SNR=16
BELG LR LR 23 12 58.5
comp=Z,37nm,21.8s,baz=184,slow=39
comp=Z,22nm,0.5s
BELG Belogornoye 24.04 36 *i* P P 23 02 24.8 -0.6
BELG pmax pmax
comp=Z,6.0nm,1.0s
ARBE Arbavere 24.52 2 *e*P P 23 02 27.9 -1.8
PBRG Braganca 25.27 295 *e*P P 23 02 37.5 +0.6
MEF Metsahovi 25.28 360 *e*P P 23 02 35.5 -1.1
PBAR Barrancos 25.40 287 *e*P P 23 02 40.6 +2.6
MVO Moncorvo 25.43 294 *e*P P 23 02 39.6 +1.3
STRU Stroemstad 25.63 344 *i* P P 23 02 38.3 -1.5
PMRV Marv??o 25.65 289 *e*P P 23 02 41.1 +0.8
PCBR Castelo Branco 25.72 290 *e*P P 23 02 43.3 +2.4
PESTR Estremoz 25.81 288 P P 23 02 41.1 -0.7
PESTR IAmb IAmb 23 02 45.0
comp=Z,16nm,1.1s
PESTR Estremoz 25.81 288 *e*P P 23 02 42.4 +0.6
PVAQ Vaqueiros 25.98 285 P P 23 02 43.4 +0.1
PVAQ IAmb IAmb 23 03 01.2
comp=Z,16nm,0.9s
PVAQ Vaqueiros 25.98 285 *e*P P 23 02 46.2 +2.9
PBEJ Beja 26.06 286 *e*P P 23 02 46.5 +2.5
HFS Hagfors 26.14 348 P P 23 02 43.0 -1.5
comp=Z,3.2nm,0.4s,baz=152,slow=9.8,SNR=44
HFS LR LR 23 14 52.6
comp=Z,91nm,19.4s,baz=151,slow=41
comp=Z,3.2nm,0.4s
HFS Hagfors 26.14 348 P P 23 02 43.0 -1.5
PBDV Barranco-do-Ve 26.17 285 *e*P P 23 02 46.3 +1.3
PCVE Castro Verde 26.22 285 *e*P P 23 02 49.0 +3.5
PMTG Montargil 26.30 289 *e*P P 23 02 48.7 +2.5
FINES FINESS Array B 26.53 2 P P 23 02 46.0 -2.0
comp=Z,5.6nm,0.7s,baz=158,slow=11,SNR=49
FINES PcP PcP 23 06 12.2 0.0
comp=Z,0.9nm,0.4s,baz=200,slow=2.5,SNR=6.9
FINES LR LR 23 13 54.5
comp=Z,156nm,21.8s,baz=184,slow=38
comp=Z,5.6nm,0.7s
FINES FINESS Array B 26.53 2 *i* P P 23 02 46.2 -1.8
FINES pmax pmax
comp=Z,6.0nm,0.7s
FIA1 FINESS Array S 26.53 2 P P 23 02 46.2 -1.8
FIA1 IAmb IAmb 23 02 47.1
comp=Z,21nm,0.9s
KONO Kongsberg 26.55 343 *ce*P P 23 02 46.0 -2.1
KONO pmax pmax
comp=Z,29nm,2.5s
PTEO Sao Teotonio 26.77 285 *e*P P 23 02 51.9 +1.4
PFVI Vila Bisbo 26.89 284 *e*P P 23 02 52.8 +1.3
NC602 NORSAR Array S 27.10 346 P P 23 02 51.8 -1.3
NAO01 NORSAR Array S 27.34 346 P P 23 02 54.2 -1.0
NAO01 IAmb IAmb 23 02 55.1
comp=Z,13nm,0.6s
NC405 NORSAR Array S 27.42 347 P P 23 02 54.3 -1.7
NB2 NORSAR Subarra 27.45 346 P P 23 02 55.3 -1.0
comp=Z,0.9nm,0.4s,baz=156,slow=9.3
NOA NORSAR Array B 27.45 346 P P 23 02 55.0 -1.3
comp=Z,2.2nm,0.7s,baz=153,slow=8.4,SNR=38
NOA LR LR 23 16 11.3
comp=Z,57nm,18.2s,baz=165,slow=42
comp=Z,2.2nm,0.7s

KLMR Klimovskoe 27.68 16 *e*P **P 23 02 55.1 -3.2**
KLMR pmax pmax
comp=Z,17nm,0.8s
EKA Eskdalemuir Ar 27.86 326 P **P 23 02 59.5 -0.5**
comp=Z,2.9nm,0.5s,baz=124,slow=8.6,SNR=22
comp=Z,2.9nm,0.5s
ESK Eskdalemuir 27.87 325 P **P 23 02 58.9 -1.2**
ESK lAmb lAmb 23 03 24.0
comp=Z,7.6nm,0.8s
ESK Eskdalemuir 27.87 325 P **P 23 02 58.9 -1.2**
ESK pmax pmax
comp=Z,8.0nm,0.8s
EKB Eskdalemuir 27.88 326 P **P 23 02 59.8 -0.4**
EKB lAmb lAmb 23 03 20.0
comp=Z,16nm,1.4s
AKTO Aktyubinsk 28.84 47 LR LR 23 17 44.0
comp=Z,42nm,18.3s,baz=186,slow=43
UOSS Minazif 29.19 101 P **P 23 03 11.9 -0.3**
UOSS lAmb lAmb 23 03 14.5
comp=Z,36nm,1.4s
AB31 Akbulak array 29.68 50 P **P 23 03 16.2 0.0**
ABKAR Akbulak array 29.68 50 P **P 23 03 15.9 -0.3**
TORD Torodi Ar. Bea 29.89 229 P **P 23 03 19.8 +1.5**
comp=Z,4.5nm,0.5s,baz=35,slow=9.5,SNR=2.9
ARTI Arti 31.48 37 **P 23 03 31.4 -0.6**
ARTI Arti 31.48 37 LR LR 23 17 54.0
comp=Z,63nm,19.2s,baz=50,slow=40
ARTI Arti 31.48 37*c i*P **P 23 03 31.3 -0.8**
ARTI 23 04 36.3
ARTI 23 06 21.4
ARTI S **S 23 08 37.8 -1.4**
ARTI SS **SnSn 23 10 20.6 -3.4**
ARTI pmax pmax
comp=Z,12nm,0.9s
SVE Sverdlovsk 32.79 37 *e*P **P 23 03 43.9 +0.4**
SVE pmax pmax
comp=Z,20nm,0.9s
ARCES ARCESS Array B 34.64 1 P **P 23 03 57.6 -1.9**
ARCES lAmb lAmb 23 04 05.9
comp=Z,13nm,1.5s
ARCES ARCESS Array B 34.64 1 P **P 23 03 57.5 -2.1**
comp=Z,2.5nm,0.5s,baz=174,slow=9.0,SNR=63
ARCES LR LR 23 18 57.4
comp=Z,120nm,22.0s,baz=174,slow=38
comp=Z,2.5nm,0.5s
ARCES ARCESS Array B 34.64 1 P **P 23 03 57.6 -1.9**
ARCES pmax pmax
comp=Z,13nm,1.5s
KEV Kevo 34.89 2 P **P 23 04 00.1 -1.5**
KEV lAmb lAmb 23 04 33.8
comp=Z,6.9nm,1.0s
KEV Kevo 34.89 2 P **P 23 04 00.1 -1.5**
KEV pmax pmax
comp=Z,7.0nm,1.0s
KK31 Karatay Array 36.35 63 **P 23 04 14.0 -0.5**
KK31 Karatay Array 36.35 63 P **P 23 04 14.0 -0.5**
KK31 pmax pmax
comp=Z,9.0nm,0.5s
KKAR Karatay Array 36.35 63 **P 23 04 13.6 -0.9**
KKAR Karatay Array 36.35 63 P **P 23 04 13.6 -0.9**
BRVK Borovoye 36.88 46 **P 23 04 19.1 +0.2**
BRVK Borovoye 36.88 46*ce*P **P 23 04 19.4 +0.5**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 36.94 46 P **P 23 04 18.9 -0.5**
comp=Z,1.9nm,0.6s
BVAR LR LR 23 22 00.6
comp=Z,52nm,19.9s,baz=255,slow=40
comp=Z,1.9nm,0.6s
DBIC Dimbokro 38.96 231 P **P 23 04 37.3 +0.5**
DBIC lAmb lAmb 23 04 46.0
comp=Z,32nm,1.6s
DBIC Dimbokro 38.96 231 P **P 23 04 37.8 +1.0**
comp=Z,5.1nm,0.4s,baz=57,slow=8.7,SNR=19
comp=Z,5.1nm,0.4s
AAK Ala-Archa 39.30 63 LR LR 23 23 12.1
comp=Z,44nm,18.5s,baz=230,slow=40
AAK Ala-Archa 39.30 63*ce*P **P 23 04 39.9 +0.2**
AAK pmax pmax
comp=Z,5.0nm,1.3s
BOOM Boomskoye usch 40.38 63 P **P 23 04 50.1 +1.5**
BOOM Boomskoye usch 40.38 63 P **P 23 04 50.1 +1.5**
BOOM pmax pmax
comp=Z,3.0nm,0.7s
NRN Naryn 40.56 65 **P 23 04 50.6 +0.3**
NRN lAmb lAmb 23 04 52.8
comp=Z,13nm,1.0s
NRN Naryn 40.56 65 P **P 23 04 50.6 +0.3**
NRN pmax pmax
comp=Z,13nm,1.0s
KDJ Kajisay 41.34 64 P **P 23 04 57.2 +0.6**
KDJ lAmb lAmb 23 04 59.1
comp=Z,7.6nm,0.8s
KDJ Kajisay 41.34 64 P **P 23 04 57.2 +0.6**
KDJ pmax pmax
comp=Z,8.0nm,0.8s
KURBB Kurchatov Arra 41.73 51 P **P 23 04 59.4 0.0**
comp=Z,3.0nm,0.5s,baz=273,slow=8.6,SNR=37
KURBB PP **PP 23 06 36.4 +0.6**
comp=Z,1.2nm,0.8s,baz=278,slow=10,SNR=4.0
comp=Z,3.0nm,0.5s
KURK Kurchatov 41.79 51 **P 23 04 59.0 -0.8**
KURK Kurchatov 41.79 51*ce*P **P 23 04 58.5 -1.4**
KURK pmax pmax
comp=Z,10.0nm,1.7s
TARG Taragay, Kyrgy 41.86 64 P **P 23 05 01.6 +0.5**
TARG Taragay, Kyrgy 41.86 64 P **P 23 05 01.6 +0.5**
TARG pmax pmax
comp=Z,7.0nm,1.2s
PRZ Przheval'sk 42.18 63 P **P 23 05 03.8 +0.3**
PRZ lAmb lAmb 23 05 07.4
comp=Z,27nm,1.8s
PRZ Przheval'sk 42.18 63 P **P 23 05 03.8 +0.3**
PRZ pmax pmax
comp=Z,27nm,1.8s
SCO Scoresbysund 43.31 339 *i* P **P 23 05 13.0 +1.0**
SCO lAmb lAmb 23 05 13.9
comp=Z,7.6nm,0.6s
SPITS Spitsbergen Ar 43.47 358 P **P 23 05 12.1 -1.2**
comp=Z,1.4nm,0.4s,baz=150,slow=10,SNR=13
SPITS PcP **PcP 23 07 01.1 +0.1**
comp=Z,0.9nm,0.4s,baz=106,slow=5.3,SNR=4.8
SPITS LR LR 23 26 01.1
comp=Z,61nm,20.1s,baz=149,slow=40
comp=Z,1.4nm,0.4s
MAKZ Makanchi 44.19 56 P **P 23 05 19.9 +0.5**
MAKZ Makanchi 44.19 56 P **P 23 05 19.9 +0.5**
MAKZ pmax pmax
comp=Z,8.0nm,1.4s
KBS Kingsbay 44.39 357 *i* P **P 23 05 20.3 -0.3**
MK31 Makanchi Array 44.40 56*ce*P **P 23 05 20.8 -0.3**
MKAR Makanchi Array 44.40 56 P **P 23 05 21.3 +0.1**
comp=Z,2.6nm,0.4s,baz=270,slow=8.0,SNR=56
MKAR PcP **PP 23 07 05.0 +0.4**
comp=Z,1.0nm,0.6s,baz=272,slow=3.5,SNR=2.0
comp=Z,2.6nm,0.4s
MKAR Makanchi Array 44.40 56 *i* P **P 23 05 21.5 +0.4**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
DBG Daneborg 44.94 344 *i* P **P 23 05 27.0 +2.0**
DBG lAmb lAmb 23 05 29.1
comp=Z,6.2nm,1.1s
ZAA0 Zalesovo Array 45.59 46 **P 23 05 29.7 -0.8**
ZALV Zalesovo Beam 45.59 46 P **P 23 05 29.8 -0.6**
comp=Z,10.0nm,0.4s,baz=272,slow=9.3,SNR=59
ZALV LR LR 23 26 50.6
comp=Z,53nm,20.2s,baz=304,slow=39
comp=Z,10.0nm,0.4s
DAG Danmarks Havn 46.12 347 *i* P **P 23 05 34.2 -0.1**
DAG lAmb lAmb 23 05 34.7
comp=Z,5.1nm,0.7s
NRIK Noril'sk 48.33 25 **P 23 05 51.7 +0.1**
NRIK lAmb lAmb 23 05 53.9
comp=Z,11nm,1.4s
NRIK Noril'sk 48.33 25 P **P 23 05 51.2 -0.4**
comp=Z,2.3nm,0.5s,baz=216,slow=3.9,SNR=4.3
NRIK LR LR 23 27 36.9
comp=Z,66nm,20.7s,baz=258,slow=38
comp=Z,2.3nm,0.5s
WMQ Urumqi 48.64 59 *e*P **P 23 05 57.8 +3.3**
WMQ LR LR
comp=Z,140nm,17.9s
SUMG Summit 48.95 339 P **P 23 05 57.0 +0.2**
SUMG lAmb lAmb 23 05 59.0
comp=Z,7.0nm,1.1s
SUMG Summit 48.95 339 P **P 23 05 57.1 +0.2**
SUMG pmax pmax
comp=Z,7.0nm,1.1s
SUMG Summit 48.95 339 *i* P **P 23 05 57.0 +0.2**
SUMG lAmb lAmb 23 05 58.7
comp=Z,11nm,1.3s
NOR Nord 49.07 353 *i* P **P 23 05 56.7 -0.5**
NOR lAmb lAmb 23 05 57.6
comp=Z,3.4nm,0.5s
EVN Everest 52.95 79 P **P 23 06 28.1 +0.2**
EVN lAmb lAmb 23 06 29.2
comp=Z,5.7nm,0.6s
NEEM North Greenlan 53.02 345 *i* P **P 23 06 26.9 -0.3**
NEEM lAmb lAmb 23 06 28.7
comp=Z,11nm,0.6s
TSUM Tsumeb 54.24 188 LR LR 23 33 54.5
comp=Z,66nm,18.2s,baz=3.5,slow=40
LSA Lhasa 55.71 75 P **P 23 06 47.7 0.0**
LSA lAmb lAmb 23 06 49.6
comp=Z,7.0nm,0.8s
LSA Lhasa 55.71 75 P **P 23 06 47.7 0.0**
LSA pmax pmax
comp=Z,7.0nm,0.8s
ZAK Zakamensk 57.34 48 *e*P **P 23 06 58.4 -0.2**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
LPHEP Lephephe 58.01 178 P **P 23 07 04.0 +0.5**
LPHEP lAmb lAmb 23 07 25.1
comp=Z,9.8nm,1.2s
GTA Gaotai 58.60 61 *e*P **P 23 07 07.7 0.0**
GTA PcP **PcP 23 07 58.9 +1.1**
GTA pmax pmax
comp=Z,7.0nm,0.7s
LBTB Lobatse 59.65 179 LR LR 23 34 48.6
comp=Z,50nm,18.2s,baz=40,slow=38
SONM Songino Array 60.09 50 **P 23 07 18.2 +0.4**
SONM lAmb lAmb 23 07 19.3
comp=Z,6.1nm,1.0s
SONM Songino Array 60.09 50 P **P 23 07 18.0 +0.2**
comp=Z,4.8nm,0.8s,baz=279,slow=8.5,SNR=30
comp=Z,4.8nm,0.8s
SONM Songino Array 60.09 50 P **P 23 07 18.3 +0.4**
SONM pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 60.50 50 **P 23 07 20.7 +0.1**
ULN Ulaanbaatar 60.50 50*ce*P **P 23 07 19.9 -0.7**
ULN pmax pmax
comp=Z,12nm,1.0s
TIXI Tiksi 61.58 20 LR LR 23 37 24.3
comp=Z,58nm,19.2s,baz=348,slow=39
SCHQ Schefferville 62.95 319 P **P 23 07 37.0 +0.1**
comp=Z,6.5nm,0.4s,baz=64,slow=5.8,SNR=22
comp=Z,6.5nm,0.4s
BOSA Boshof 63.23 179 P **P 23 07 39.3 +0.3**
BOSA Boshof 63.23 179 P **P 23 07 39.3 +0.3**
BOSA pmax pmax
comp=Z,31nm,1.8s
TNCH TengChong 63.64 77 P **P 23 07 42.8 +0.7**
TNCH pmax pmax
comp=Z,86nm,2.8s
CD2 Chengdu 65.04 69 P **P 23 07 52.3 +1.3**
CD2 pmax pmax
comp=Z,20nm,0.9s
HAL Halifax 65.18 308 P **P 23 07 52.2 +0.6**
HAL Halifax 65.18 308 P **P 23 07 52.2 +0.6**
HAL pmax pmax
comp=Z,27nm,1.4s
PZH PanZhiHua 65.51 74 P **P 23 07 55.3 +1.1**
BATG Bathurst New B 65.60 312 P **P 23 07 55.4 +1.0**
HHC Hu-ho-hao-te 66.26 56 *e*P **P 23 08 00.0 +1.1**
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,110nm,4.0s
KMI Kunming 66.96 75 P **P 23 08 04.3 +0.6**
KMI pmax pmax
comp=Z,11nm,0.4s
CHTO Chiang Mai 67.03 83 P **P 23 08 03.2 -0.7**
CHTO lAmb lAmb 23 08 05.0
comp=Z,2.7nm,0.8s
CHTO Chiang Mai 67.03 83 P **P 23 08 03.2 -0.7**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 67.21 83 P **P 23 08 04.1 -1.0**
CMAR Chiang Mai Arr 67.21 83 P **P 23 08 05.2 +0.2**
comp=Z,1.5nm,0.7s,baz=301,slow=7.9,SNR=13
comp=Z,1.5nm,0.7s
D62A Allapoint, All 67.51 312 P **P 23 08 07.6 +1.0**
D62A lAmb lAmb 23 08 08.8
comp=Z,8.1nm,1.1s
EMMW East Machias 67.62 310 P **P 23 08 07.4 +0.1**
EMMW lAmb lAmb 23 08 09.2
comp=Z,4.8nm,0.8s
GYA Guiyang 69.39 72 P **P 23 08 19.0 +0.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
A36M Sachs Harbour 71.25 350 P **P 23 08 29.0 -0.2**
baz=26
HEH HeiHe 71.42 41 *e*P **P 23 08 30.8 +0.2**
HEH pmax pmax
comp=Z,22nm,0.7s
BILL Bilibino 73.42 14*ce*P **P 23 08 41.1 -1.1**
BILL pmax pmax
comp=Z,9.0nm,1.3s
BNX BinXian 73.88 45 ⇑P **P 23 08 44.4 -0.9**
BNX pmax pmax
comp=Z,18nm,0.8s
SEY Seymchan 73.98 22 P **P 23 08 45.5 -0.1**
comp=Z,2.1nm,0.4s,baz=330,slow=4.3,SNR=17
comp=Z,2.1nm,0.4s
SEY Seymchan 73.98 22 *i* P **P 23 08 44.9 -0.7**
SEY pmax pmax
comp=Z,5.0nm,0.9s
A21K Barrow 74.02 0 P **P 23 08 45.9 +0.2**
baz=359
KLR Kul'dur 74.33 41 *i* P **P 23 08 46.4 -1.5**
KLR pmax pmax
comp=Z,8.0nm,0.9s
B22K Teshekpuk Lake 75.00 359 P **P 23 08 52.4 +1.0**
baz=1.9
A19K Wainwright 75.07 2 P **P 23 08 53.1 +1.2**
baz=355
C26K Camden Bay 75.14 356 P **P 23 08 52.3 0.0**
baz=9.1
B20K Meade River 75.34 1 **P 23 08 54.4 +1.1**
B20K Meade River 75.34 1 P **P 23 08 54.5 +1.1**
baz=359,SNR=11
C27K Jago River 75.36 356 P **P 23 08 54.0 +0.5**
C27K lAmb lAmb 23 08 55.5
comp=Z,11nm,1.1s
C27K Jago River 75.36 356 P **P 23 08 54.6 +1.0**
baz=10,SNR=8.0
C23K Itkillik River 75.45 358 P **P 23 08 55.3 +1.2**
baz=4.3,SNR=14
C24K Franklin Bluff 75.51 358 P **P 23 08 55.4 +1.1**
C24K lAmb lAmb 23 08 56.3
comp=Z,19nm,1.3s
C24K Franklin Bluff 75.51 358 P **P 23 08 55.5 +1.1**
baz=5.9
D27M Malcolm River 75.55 355 P **P 23 08 55.5 +0.7**
baz=12
NJ2 Nanjing 75.69 61 *e*P **P 23 08 55.9 -0.2**
NJ2 pmax pmax
comp=Z,15nm,0.5s
B21K Ikpikpuk River 75.73 360 P **P 23 08 56.7 +1.1**
baz=0.9,SNR=10
INK Inuvik 75.74 352 P **P 23 08 55.6 -0.1**
comp=Z,2.5nm,0.6s,baz=319,slow=3.9,SNR=3.8
comp=Z,2.5nm,0.6s
INK Inuvik 75.74 352 P **P 23 08 56.7 +1.0**
baz=19
D25K Kavik River 75.81 357 P **P 23 08 57.0 +0.8**
baz=7.9,SNR=10
B18K Kokolik River 75.89 2 P **P 23 08 58.0 +1.4**
baz=355,SNR=7.6
MA2 Magadan 75.93 25 P **P 23 08 57.0 +0.1**
comp=Z,5.7nm,0.4s,baz=332,slow=6.9,SNR=7.1
MA2 LR LR 23 44 08.0
comp=Z,40nm,21.9s,baz=286,slow=37
comp=Z,5.7nm,0.4s
MA2 Magadan 75.93 25*ce*P **P 23 08 56.4 -0.6**
MA2 pmax pmax
comp=Z,18nm,1.7s
MA2 Magadan 75.93 25 P **P 23 08 56.8 -0.2**
comp=Z,17nm,0.8s
E28M Babbage River 76.06 354 P **P 23 08 58.4 +0.8**
baz=14
D24K Happy Valley 76.08 358 P **P 23 08 58.6 +1.0**
baz=5.8,SNR=5.8
E29M Blow River 76.12 353 P **P 23 08 58.6 +0.7**
baz=15,SNR=12
C21K Knifeblade Rid 76.20 360 P **P 23 08 59.6 +1.3**
baz=0.8,SNR=25
C19K Lookout Ridge 76.21 1 P **P 23 08 59.5 +1.1**
C19K Lookout Ridge 76.21 1 P **P 23 08 59.4 +1.0**
baz=357,SNR=11
D23K Nanushuk River 76.33 358 P **P 23 09 00.3 +1.3**
baz=4.2,SNR=17
D22K Ayikyak River 76.46 359 P **P 23 09 00.9 +1.1**
baz=2.5,SNR=12
F31M Tsiigehtchic 76.59 352 P **P 23 09 00.8 +0.3**
baz=18
TOLK Toolik Lake Re 76.62 358 P **P 23 09 01.9 +1.1**
TOLK lAmb lAmb 23 09 02.9
comp=Z,6.2nm,0.8s
TOLK Toolik Lake Re 76.62 358 P **P 23 09 01.7 +0.9**
baz=5.2
C18K Utukok River 76.63 2 P **P 23 09 01.6 +0.7**
C18K Utukok River 76.63 2 P **P 23 09 01.5 +0.7**
baz=355
E27K Coleen River 76.64 355 P **P 23 09 01.6 +0.7**
baz=12,SNR=5.8
D20K Etivluk River 76.64 0 **P 23 09 01.5 +0.6**
D20K Etivluk River 76.64 0 P **P 23 09 01.7 +0.9**
baz=359,SNR=16
F30M Barrier River 76.66 352 P **P 23 09 01.2 +0.2**
baz=17
C17K DeLong Mountai 76.73 3 P **P 23 09 02.2 +0.8**
baz=354,SNR=15
C16K Lisburne Hills 76.83 4 P **P 23 09 02.0 +0.2**
baz=352
D19K Kuna River 76.85 1 P **P 23 09 02.9 +0.8**
baz=358,SNR=20
E25K Arctic Village 76.97 356 P **P 23 09 03.6 +0.9**
baz=8.5,SNR=9.3
E20K Nigu River 77.10 0 P **P 23 09 04.4 +0.9**
baz=360,SNR=16
G31M Satah River 77.15 352 P **P 23 09 03.7 0.0**
baz=18,SNR=6.6
E24K Your Creek 77.15 357 P **P 23 09 04.6 +0.8**
baz=6.0,SNR=10
RDOG Red Dog Mine 77.16 3 P **P 23 09 03.8 0.0**
baz=354
E22K Anaktuvuk Pass 77.19 359 P **P 23 09 04.9 +0.9**
baz=3.2,SNR=16
E23K Chandalar 77.21 358 P **P 23 09 05.3 +1.1**
baz=5.1,SNR=13
F26K Sheenjek River 77.30 356 P **P 23 09 06.1 +1.4**
baz=9.7,SNR=11
G30M tAoh Zraii Nji 77.32 352 P **P 23 09 04.7 -0.1**
baz=16
YKAW3 Yellowknife Wh 77.40 342 **P 23 09 05.2 +0.1**
YKAW3 lAmb lAmb 23 09 06.9
comp=Z,8.3nm,1.2s
USA0B Ussuriysk Arra 77.42 45 **P 23 09 05.4 -0.3**
USA0B Ussuriysk Arra 77.42 45 P **P 23 09 05.4 -0.3**
USA0B pmax pmax
comp=Z,15nm,0.9s
USRK Ussuriysk Ar. 77.42 45 P **P 23 09 05.7 0.0**
comp=Z,15nm,0.7s,baz=285,slow=5.1,SNR=16
comp=Z,15nm,0.7s
YKA Yellowknife Ar 77.46 342 P **P 23 09 05.4 -0.1**
comp=Z,1.0nm,0.5s,baz=119,slow=3.6,SNR=15
comp=Z,1.0nm,0.5s
F25K Christian Rive 77.49 356 P **P 23 09 06.6 +0.8**
F25K lAmb lAmb 23 09 08.1
comp=Z,5.9nm,0.8s
F25K Christian Rive 77.49 356 P **P 23 09 06.8 +1.1**
baz=8.4,SNR=11
D17K Noatak River 77.51 3 P **P 23 09 06.1 +0.4**
baz=354,SNR=14
G29M Pine Creek 77.57 353 P **P 23 09 06.5 +0.3**
baz=15,SNR=9.6
BMAR Burnt Mountain 77.59 356 **P 23 09 07.6 +1.3**
F24K Squaw Lake 77.68 357 P **P 23 09 08.3 +1.5**
baz=6.5,SNR=21
F22K John River 77.83 359 P **P 23 09 09.0 +1.5**
baz=2.9
E18K Tukpahlearik C 77.87 2 P **P 23 09 08.3 +0.5**
baz=356,SNR=14
E19K Redstone River 77.90 1 P **P 23 09 09.0 +1.0**
baz=359,SNR=74
TDBA Terre de Bas, 77.92 281 P **P 23 09 09.2 +0.4**
EPYK Eagle Plains 77.96 352 P **P 23 09 08.6 +0.2**
baz=16,SNR=6.9
G27K Doyon Strip 78.00 354 P **P 23 09 09.5 +0.9**
baz=12,SNR=12
G26K Porcupine Rive 78.02 355 P **P 23 09 10.2 +1.7**
baz=10.0,SNR=8.7
COLD Coldfoot 78.06 358 P **P 23 09 09.7 +0.9**
baz=4.6,SNR=7.4
F21K Alatna River 78.13 359 P **P 23 09 10.4 +1.1**
baz=1.8,SNR=35
E17K Hotham Inlet 78.17 2 P **P 23 09 09.6 +0.1**
baz=355,SNR=7.6
H31M Peel River 78.22 351 P **P 23 09 10.0 +0.2**
baz=18
H29M Whitestone 78.28 353 P **P 23 09 10.4 +0.3**
baz=14,SNR=9.4
F20K Avaraart Lake 78.32 0 P **P 23 09 10.9 +0.7**
baz=360,SNR=16
G25K Bearman Lake 78.34 356 P **P 23 09 12.0 +1.7**
baz=8.0
G22K Bettles 78.40 358 P **P 23 09 11.6 +0.9**
baz=3.5
G24K Hadweenzic Riv 78.48 357 P **P 23 09 12.4 +1.2**
baz=6.9,SNR=11
FYU Fort Yukon 78.49 356 P **P 23 09 12.3 +1.1**
F19K Shaleruckik Mo 78.52 1 P **P 23 09 11.7 +0.3**
baz=358,SNR=24
H27K Steamboat Moun 78.56 354 P **P 23 09 13.0 +1.3**
baz=12,SNR=22
G23K Bananza Creek 78.57 358 P **P 23 09 12.6 +0.9**
baz=4.7,SNR=17
F18K Selawik 78.72 2 P **P 23 09 12.6 +0.2**
baz=357,SNR=10
H25L Birch Creek 78.82 356 P **P 23 09 14.5 +1.5**
baz=8.2,SNR=11
F17K Baldwin Pennin 78.83 2 P **P 23 09 13.3 +0.3**
baz=355,SNR=6.4
G21K Allakaket 78.84 359 P **P 23 09 14.1 +0.9**
baz=1.8,SNR=30
WRGLY Wrigley 78.85 346 P **P 23 09 14.1 +0.9**
baz=26
KSAR Wonju Array Be 78.88 52 P **P 23 09 13.7 -0.2**
KSAR Wonju Array Be 78.88 52 P **P 23 09 13.7 -0.2**
KSRS Korea Array 78.90 52 P **P 23 09 14.2 +0.3**
comp=Z,3.1nm,0.5s,baz=306,slow=4.3,SNR=9.7
comp=Z,3.1nm,0.5s
I30M Mount Dempster 79.03 352 P **P 23 09 14.8 +0.4**
baz=16,SNR=13
I29M Ogilvie Camp, 79.11 353 P **P 23 09 14.9 +0.2**
baz=14,SNR=18
I27K Kandik River 79.18 354 P **P 23 09 16.0 +0.9**
baz=12,SNR=14
I28M Miner Creek 79.19 353 P **P 23 09 15.2 +0.1**
baz=13,SNR=10
G19K Purcell Mounta 79.22 1 P **P 23 09 16.1 +0.8**
baz=359,SNR=7.7
H24K Noodor Dome 79.36 357 P **P 23 09 17.1 +1.1**
baz=6.5,SNR=5.9
IMAR Indian Mountai 79.38 359 P **P 23 09 16.9 +0.9**
F15K North Star Dit 79.42 4 P **P 23 09 16.5 +0.2**
baz=352
H22K Ishtalitna Cre 79.43 358 P **P 23 09 17.8 +1.4**
baz=3.6,SNR=14
H23K Yukon River 79.44 357 P **P 23 09 17.9 +1.4**
baz=5.1,SNR=12
G18K Tagagawik 79.45 1 P **P 23 09 16.9 +0.4**
baz=358,SNR=12
FFC Flin Flon 79.52 332 P **P 23 09 17.4 +0.3**
FFC lAmb lAmb 23 09 18.6
comp=Z,5.0nm,0.8s
FFC Flin Flon 79.52 332 P **P 23 09 17.4 +0.3**
FFC pmax pmax
comp=Z,5.0nm,0.9s
F14K Arctic Creek 79.55 5 P **P 23 09 17.3 +0.3**
baz=351
PRP Porcupine Dome 79.55 356 **P 23 09 17.4 +0.2**
PRP lAmb lAmb 23 09 19.2
comp=Z,8.3nm,1.2s
PRP Porcupine Dome 79.55 356 P **P 23 09 18.0 +0.8**
baz=8.5,SNR=7.9
I26K Coal Creek Min 79.60 355 P **P 23 09 18.2 +0.9**
baz=10

J30M	**Hart River**	**79.65**	**352**	P		**P**	**23 09 18.6**	**+0.9**
	baz=16,SNR=24							
H21K	**Melozitna Rive**	**79.69**	**359**	P		**P**	**23 09 19.5**	**+1.7**
	baz=2.4,SNR=34							
G17K	**Kiwalik Mounta**	**79.80**	**2**	P		**P**	**23 09 18.8**	**+0.4**
	baz=356,SNR=6.6							
G16K	**Koyuk River**	**79.84**	**3**	P		**P**	**23 09 19.1**	**+0.5**
	baz=354							
H19K	**Roundabout Mou**	**79.84**	**0**	P		**P**	**23 09 19.4**	**+0.8**
	baz=359,SNR=15							
H20K	**Anotleneega Mo**	**79.88**	**360**	P		**P**	**23 09 19.7**	**+0.8**
	baz=0.7,SNR=25							
I23K	**Minto, Yukon-K**	**80.11**	**357**	P		**P**	**23 09 21.2**	**+1.2**
	baz=5.3,SNR=5.9							
ULM	**Lac du Bonnet**	**80.14**	**326**	P		**P**	**23 09 19.9**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=30,slow=3.6,SNR=4.9							
	comp=Z,1.4nm,0.4s							
I21K	**Tanana**	**80.16**	**358**	P		**P**	**23 09 21.6**	**+1.3**
	baz=3.1							
G15K	**Niukluk**	**80.16**	**4**	P		**P**	**23 09 20.6**	**+0.3**
	baz=353,SNR=5.8							
H18K	**Honhosa River**	**80.20**	**1**	P		**P**	**23 09 21.4**	**+0.8**
	baz=358,SNR=7.5							
MLY	**Manley**	**80.27**	**358**	P		**P**	**23 09 21.9**	**+0.8**
	baz=4.1,SNR=13							
ILAR	**Eielson Array**	**80.37**	**356**	P		**P**	**23 09 21.8**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=356,slow=4.3,SNR=18							
ILAR				LR		LR	23 49 26.5	
	comp=Z,38nm,18.8s,baz=116,slow=39							
	comp=Z,1.8nm,0.9s							
H17K	**Granite Mounta**	**80.38**	**2**	P		**P**	**23 09 21.8**	**+0.3**
	baz=356							
J26L	**Joseph Creek**	**80.42**	**355**	P		**P**	**23 09 22.3**	**+0.4**
	baz=10,SNR=12							
J25K	**Salcha River,**	**80.44**	**356**	P		**P**	**23 09 22.3**	**+0.3**
	baz=8.6							
DAWY	**Dawson**	**80.48**	**353**	P		**P**	**23 09 22.6**	**+0.4**
DAWY				IAmb		IAmb	23 09 23.4	
	comp=Z,7.0nm,0.6s							
DAWY	**Dawson**	**80.48**	**353**	P		**P**	**23 09 22.7**	**+0.5**
	baz=14,SNR=8.4							
K29M	**Barlow Dome**	**80.50**	**352**	P		**P**	**23 09 23.0**	**+0.6**
	baz=15,SNR=6.6							
ANM	**Nome**	**80.52**	**4**	P		**P**	**23 09 22.5**	**+0.2**
	baz=352							
CCB	**Clear Creek Bu**	**80.54**	**357**			**P**	**23 09 22.5**	**+0.1**
CCB				IAmb		IAmb	23 09 23.7	
	comp=Z,6.6nm,0.9s							
H16K	**Elim**	**80.60**	**3**	P		**P**	**23 09 23.0**	**+0.3**
	baz=354,SNR=7.5							
GCSA	**Galena City Sc**	**80.63**	**1**	P		**P**	**23 09 23.6**	**+0.8**
	baz=359							
NEA2	**Nenana**	**80.65**	**357**	P		**P**	**23 09 23.3**	**+0.3**
	baz=5.5							
WRH	**Wood River Hil**	**80.73**	**357**	P		**P**	**23 09 23.8**	**+0.4**
HDA	**Harding Lake**	**80.73**	**356**	P		**P**	**23 09 23.7**	**+0.2**
	baz=7.2,SNR=8.5							
K27K	**Chicken**	**80.77**	**354**	P		**P**	**23 09 24.9**	**+1.2**
	baz=11							
MMPY	**Sheldon Lake,**	**80.82**	**349**			**P**	**23 09 24.9**	**+0.9**
MMPY				IAmb		IAmb	23 09 27.0	
	comp=Z,13nm,1.3s							
MMPY	**Sheldon Lake,**	**80.82**	**349**	P		**P**	**23 09 25.8**	**+1.8**
	baz=20,SNR=9.3							
SCRK	**Sand Creek**	**80.97**	**355**			**P**	**23 09 25.7**	**+0.8**
SCRK				IAmb		IAmb	23 09 27.0	
	comp=Z,9.4nm,1.2s							
SCRK	**Sand Creek**	**80.97**	**355**	P		**P**	**23 09 25.9**	**+1.0**
	baz=9.7,SNR=13							
J20K	**Nowinta River**	**81.20**	**359**	P		**P**	**23 09 26.9**	**+1.0**
	baz=1.3,SNR=13							
BPAW	**Bear Paw Mtn.**	**81.21**	**358**			**P**	**23 09 26.2**	**+0.1**
BPAW				IAmb		IAmb	23 09 27.1	
	comp=Z,11nm,0.9s							
BPAW	**Bear Paw Mtn.**	**81.21**	**358**	P		**P**	**23 09 26.2**	**+0.1**
	baz=3.9,SNR=17							
K24K	**Donnelly Dome**	**81.27**	**356**	P		**P**	**23 09 26.6**	**+0.3**
	baz=8.2							
RIDG	**Independent Ri**	**81.27**	**355**	P		**P**	**23 09 27.2**	**+0.8**
	baz=9.0,SNR=5.6							
L29M	**L29M**	**81.28**	**352**	P		**P**	**23 09 27.2**	**+0.8**
	baz=14							
TGTN	**Hyland Airport**	**81.33**	**347**	P		**P**	**23 09 28.1**	**+1.3**
	baz=22							
J19K	**Poorman**	**81.39**	**0**	P		**P**	**23 09 28.1**	**+1.2**
	baz=0.0,SNR=21							
I17K	**Unalakleet**	**81.41**	**2**	P		**P**	**23 09 27.6**	**+0.6**
	baz=356							
YSS	**Yuzhno-Sakhali**	**81.47**	**38**	P		**P**	**23 09 27.4**	**-0.3**
YSS	**Yuzhno-Sakhali**	**81.47**	**38**	*eP*		**P**	**23 09 28.1**	**+0.4**
YSS				*eS*		**S**	**23 19 37.4**	**-0.9**
YSS				pmax		pmax		
	comp=Z,100nm,3.7s							
YSS				pmax		pmax		
	comp=Z,20nm,1.0s							
YSS				MLR		MLR		
	comp=Z,100nm,13.0s							
FARO	**Faro, Yukon**	**81.50**	**350**	P		**P**	**23 09 29.2**	**+1.6**
	baz=18							
MCK	**McKinley**	**81.51**	**357**	P		**P**	**23 09 27.8**	**+0.2**
	baz=5.6							
M31M	**Drury Creek, Y**	**81.68**	**350**	P		**P**	**23 09 29.7**	**+1.2**
	baz=18,SNR=6.4							
BCAR	**Beaver Creek A**	**81.69**	**354**			**P**	**23 09 29.6**	**+1.0**
L27K	**Beaver Creek,**	**81.70**	**354**	P		**P**	**23 09 30.0**	**+1.3**
	baz=11,SNR=14							
KOTAN	**Kotaneelee Air**	**81.76**	**345**	P		**P**	**23 09 29.2**	**+0.2**
	baz=26							
TRF	**Thorofare Moun**	**81.84**	**358**			**P**	**23 09 29.8**	**+0.3**
TRF				IAmb		IAmb	23 09 30.7	
	comp=Z,7.4nm,0.9s							
TRF	**Thorofare Moun**	**81.84**	**358**	P		**P**	**23 09 29.8**	**+0.3**
	baz=4.5,SNR=7.9							
L26K	**Log Cabin Wild**	**81.87**	**354**	P		**P**	**23 09 30.4**	**+0.8**
	baz=10							
J18K	**Innoko River**	**81.91**	**1**	P		**P**	**23 09 30.5**	**+0.7**
	baz=359,SNR=7.7							
CAST	**Castle Rocks**	**81.92**	**358**	P		**P**	**23 09 29.9**	**+0.1**
	baz=3.0,SNR=12							
J17K	**VABM Dome**	**81.95**	**2**	P		**P**	**23 09 30.6**	**+0.8**
	baz=357,SNR=5.2							
M29M	**Somme Creek**	**81.97**	**352**	P		**P**	**23 09 31.3**	**+1.2**
	baz=14,SNR=20							
J16K	**Anvik River**	**82.02**	**2**	P		**P**	**23 09 30.8**	**+0.5**
	baz=356							
K20K	**Telida**	**82.02**	**359**	P		**P**	**23 09 31.1**	**+0.8**
	baz=1.3,SNR=14							
PAX	**Paxson**	**82.08**	**355**	P		**P**	**23 09 31.0**	**+0.3**
	baz=8.4							
DHY	**Denali Highway**	**82.09**	**356**			**P**	**23 09 31.4**	**+0.5**
DHY				IAmb		IAmb	23 09 32.2	
	comp=Z,15nm,1.1s							
DHY	**Denali Highway**	**82.09**	**356**	P		**P**	**23 09 31.2**	**+0.4**
	baz=6.9,SNR=15							
BVCY	**Beaver Creek**	**82.25**	**353**	P		**P**	**23 09 32.4**	**+0.8**
	baz=12							
WAT1	**Susitna Watana**	**82.39**	**357**	P		**P**	**23 09 32.4**	**+0.1**
	baz=5.9							
M27K	**Edge Creek, AK**	**82.40**	**354**	P		**P**	**23 09 33.8**	**+1.3**
	baz=11							
J14K	**Nanvaranak Lak**	**82.43**	**4**	P		**P**	**23 09 33.0**	**+0.6**
	baz=354							
PPLA	**Purkeypile**	**82.45**	**358**	P		**P**	**23 09 33.1**	**+0.4**
PPLA	**Purkeypile**	**82.45**	**358**	P		**P**	**23 09 33.2**	**+0.4**
	baz=2.9,SNR=11							
M26K	**Nabesna, AK**	**82.45**	**354**	P		**P**	**23 09 33.3**	**+0.7**
	baz=10							
N32M	**Quiet Lake**	**82.49**	**349**	P		**P**	**23 09 33.6**	**+0.8**
	baz=19							
N31M	**Braeburn, Yuko**	**82.56**	**351**	P		**P**	**23 09 33.3**	**+0.1**
	baz=16							
WAT6	**Susitna Watana**	**82.60**	**356**	P		**P**	**23 09 33.8**	**+0.3**
	baz=6.6,SNR=9.8							
K17K	**Iditarod**	**82.65**	**1**	P		**P**	**23 09 34.4**	**+0.8**
	baz=358,SNR=5.7							
WTLY	**Watson Lake, Y**	**82.74**	**347**	P		**P**	**23 09 35.3**	**+1.2**
	baz=22							
N30M	**Aishikik Lake**	**82.76**	**351**	P		**P**	**23 09 34.9**	**+0.6**
	baz=15,SNR=5.0							
YUK3	**Moose Creek**	**82.83**	**353**	P		**P**	**23 09 35.7**	**+0.8**
	baz=12,SNR=7.1							
L20K	**Farewell, AK**	**82.90**	**359**	P		**P**	**23 09 36.0**	**+1.0**
	baz=1.5							
K15K	**Wolf Creek Mou**	**82.97**	**3**	P		**P**	**23 09 36.0**	**+0.7**
	baz=355							
YUK4	**Talbot Arm**	**83.06**	**352**	P		**P**	**23 09 36.5**	**+0.5**
	baz=14							
L18K	**Granite Mounta**	**83.17**	**1**	P		**P**	**23 09 37.1**	**+0.8**
	baz=359,SNR=7.5							
K13K	**Kusilvak Mount**	**83.18**	**4**	P		**P**	**23 09 36.5**	**+0.2**
	baz=353							
TOAD	**Toad River Com**	**83.18**	**345**	P		**P**	**23 09 37.1**	**+0.6**
	baz=25							
L19K	**White Mountain**	**83.20**	**360**	P		**P**	**23 09 37.3**	**+0.8**
	baz=0.7,SNR=9.3							
WHY	**Whitehorse**	**83.23**	**350**	P		**P**	**23 09 36.7**	**-0.1**
	baz=17							
L17K	**Donlin**	**83.23**	**1**	P		**P**	**23 09 37.4**	**+0.8**
	baz=358,SNR=6.6							
YUK8	**Steele Glacier**	**83.24**	**352**	P		**P**	**23 09 37.4**	**+0.4**
	baz=13							
O30N	**Mendenhall**	**83.29**	**351**	P		**P**	**23 09 37.6**	**+0.6**
	baz=16							
SCM	**Sheep Creek Mo**	**83.32**	**356**	P		**P**	**23 09 38.3**	**+1.1**
	baz=6.9							
P33M	**Teslin, Yukon**	**83.34**	**349**	P		**P**	**23 09 37.8**	**+0.4**
	baz=19							
SKT	**Skwentna**	**83.35**	**358**	P		**P**	**23 09 37.0**	**-0.3**
	baz=3.4							
N25K	**Chitina, Valde**	**83.37**	**355**	P		**P**	**23 09 37.9**	**+0.5**
	baz=9.1							
PETK	**Petropavlovsk-**	**83.37**	**26**	P		**P**	**23 09 36.4**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=280,slow=8.3,SNR=2.1							
	comp=Z,2.3nm,0.7s							
M23K	**Glacier View**	**83.39**	**356**	P		**P**	**23 09 37.9**	**+0.5**
	baz=6.6							
YUK6	**Outpost Mounta**	**83.41**	**352**	P		**P**	**23 09 38.1**	**+0.3**
	baz=14							
HYT	**Haines Junctio**	**83.42**	**351**	P		**P**	**23 09 38.4**	**+0.7**
	baz=15							
MCARA	**McCarthy VSAT**	**83.46**	**354**	P		**P**	**23 09 38.8**	**+1.0**
	baz=10							
M19K	**Big River Lodg**	**83.48**	**359**	P		**P**	**23 09 38.9**	**+1.0**
	baz=1.1							
M20K	**Styx River**	**83.49**	**359**	P		**P**	**23 09 39.1**	**+1.0**
	baz=2.1,SNR=5.8							
M22K	**Willow**	**83.53**	**357**	P		**P**	**23 09 38.7**	**+0.5**
	baz=4.6							
KLU	**Klutina**	**83.58**	**355**	P		**P**	**23 09 38.9**	**+0.4**
	baz=8.0							
L15K	**Ungalak Mounta**	**83.59**	**3**	P		**P**	**23 09 39.2**	**+0.8**
	baz=355,SNR=7.2							
L16K	**Owhat River**	**83.63**	**2**	P		**P**	**23 09 39.3**	**+0.7**
	baz=357							
O28M	**Mount Upton**	**83.79**	**352**	P		**P**	**23 09 40.8**	**+1.0**
	baz=13							
KNK	**Knik Glacier**	**83.80**	**357**	P		**P**	**23 09 40.5**	**+0.9**
	baz=6.0							
R33M	**Jennings River**	**83.81**	**348**	P		**P**	**23 09 41.5**	**+1.7**
	baz=20,SNR=12							
SUA	**Susitna One**	**83.85**	**358**	P		**P**	**23 09 40.2**	**+0.3**
SUA	**Susitna One**	**83.85**	**358**	P		**P**	**23 09 40.4**	**+0.5**
	baz=4.1							
L14K	**Kuka Creek**	**83.88**	**3**	P		**P**	**23 09 41.0**	**+1.1**
	baz=354							
M18K	**Stony River**	**83.90**	**0**	P		**P**	**23 09 41.1**	**+1.1**
	baz=360,SNR=6.8							
M17K	**Holitna River**	**83.98**	**1**	P		**P**	**23 09 42.0**	**+1.6**
	baz=358,SNR=8.5							
BMRM	**Bremner River**	**84.00**	**355**	P		**P**	**23 09 41.2**	**+0.5**
	baz=9.1							
O29M	**Mount Kennedy**	**84.06**	**352**	P		**P**	**23 09 41.6**	**+0.5**
	baz=14							
P32M	**Atlin**	**84.08**	**349**	P		**P**	**23 09 41.2**	**+0.2**
	baz=18							
RC01	**Rabbit Creek A**	**84.18**	**357**	P		**P**	**23 09 42.0**	**+0.5**
RC01	**Rabbit Creek A**	**84.18**	**357**	P		**P**	**23 09 42.0**	**+0.5**
	baz=4.9							
GLI	**Glacier Island**	**84.26**	**356**	P		**P**	**23 09 42.4**	**+0.5**
	baz=7.1							
M16K	**Timber Creek**	**84.33**	**2**	P		**P**	**23 09 43.2**	**+0.9**
	baz=357,SNR=5.7							
PWL	**Port Wells**	**84.35**	**356**	P		**P**	**23 09 42.9**	**+0.6**
	baz=6.0							
Q32M	**Nakina River**	**84.44**	**348**	P		**P**	**23 09 44.4**	**+1.3**
	baz=19							
M14K	**Bethel**	**84.50**	**3**	P		**P**	**23 09 43.5**	**+0.5**
	baz=355							
DLBC	**Dease Lake**	**84.53**	**347**	LR		LR	23 49 01.6	
	comp=Z,8.0nm,18.1s,baz=228,slow=37							
N19K	**Bonanza Creek**	**84.58**	**359**	P		**P**	**23 09 44.4**	**+0.8**
	baz=1.0							
M15K	**Kasigluk River**	**84.61**	**3**	P		**P**	**23 09 44.2**	**+0.6**
	baz=356,SNR=5.1							
M11K	**Mekoryuk**	**84.61**	**5**	P		**P**	**23 09 44.3**	**+0.7**
	baz=351							
P29M	**Windy Craggy**	**84.61**	**351**	P		**P**	**23 09 44.4**	**+0.7**
	baz=15							
N18K	**Kilae Creek**	**84.71**	**0**	P		**P**	**23 09 45.2**	**+1.0**
	baz=360,SNR=6.8							
M13K	**Dall Lake**	**84.77**	**4**	P		**P**	**23 09 45.4**	**+1.0**
	baz=354							
SLKM	**Skilak Lake**	**84.78**	**357**			**P**	**23 09 45.1**	**+0.5**
N17K	**Nushagak Hills**	**84.86**	**1**	P		**P**	**23 09 46.0**	**+1.1**
	baz=359							
N16K	**Nishlik Lake**	**84.88**	**2**	P		**P**	**23 09 46.3**	**+1.2**
	baz=357							
KAIM	**Kayak Island**	**85.02**	**354**	P		**P**	**23 09 46.6**	**+0.9**
	baz=9.2							
ECSD	**EROS Data Cent**	**85.07**	**321**			**P**	**23 09 46.2**	**-0.1**
ECSD				IAmb		IAmb	23 09 47.7	
	comp=Z,3.6nm,0.8s							
N15K	**Kwethluk River**	**85.15**	**2**	P		**P**	**23 09 47.5**	**+1.0**
	baz=356							
P23K	**Montague Islan**	**85.16**	**356**	P		**P**	**23 09 47.4**	**+1.0**
	baz=6.8							
SEW	**Seward**	**85.16**	**357**	P		**P**	**23 09 47.2**	**+0.9**
	baz=5.1							
S34M	**Telegraph Cree**	**85.23**	**347**	P		**P**	**23 09 47.8**	**+1.0**
	baz=20							
O20K	**Slope Mountain**	**85.28**	**359**	P		**P**	**23 09 46.1**	**-1.0**
	baz=2.5							
N14K	**Kuskokwak Cree**	**85.34**	**3**	P		**P**	**23 09 47.3**	**+0.1**
	baz=355							
O18K	**Koktuh Hills**	**85.54**	**360**	P		**P**	**23 09 49.0**	**+0.6**
	baz=0.4							
O17K	**Koliganek Bris**	**85.61**	**1**	P		**P**	**23 09 49.6**	**+0.9**
	baz=359							
MJAR	**Matsushiro Arr**	**85.92**	**48**	P		**P**	**23 09 50.3**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=314,slow=4.4,SNR=6.7							
	comp=Z,3.2nm,0.8s							
CCM	**Cathedral Cave**	**86.03**	**314**	P		**P**	**23 09 51.2**	**0.0**
CCM				IAmb		IAmb	23 09 52.7	
	comp=Z,5.0nm,0.6s							
CCM	**Cathedral Cave**	**86.03**	**314**	P		**P**	**23 09 51.2**	**0.0**
CCM				pmax		pmax		
	comp=Z,5.0nm,0.6s							
SYI	**Shuyak Island**	**86.75**	**358**			**P**	**23 09 54.5**	**+0.2**
Q20K	**Shuyak Island**	**86.75**	**358**	P		**P**	**23 09 54.1**	**-0.3**
	baz=2.7,SNR=5.0							
KDAK	**Kodiak Island**	**87.59**	**358**	P		**P**	**23 09 59.0**	**+0.7**
	comp=Z,2.8nm,0.6s,baz=30,slow=0.8,SNR=10							
	comp=Z,2.8nm,0.6s							
TXAR	**Lajitas Array**	**99.46**	**316**	P		**Pdif**	**23 10 54.5**	**+0.8**
	comp=Z,0.3nm,0.9s,baz=94,slow=3.8,SNR=3.4							
	comp=Z,0.3nm,0.9s							
WRA	**Warramunga Arr**	**117.18**	**96**	PKP		**PKPdf**	**23 15 55.5**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=315,slow=1.8,SNR=18							
ASAR	**Alice Springs**	**118.62**	**100**	PKP		**PKPdf**	**23 15 58.5**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=317,slow=1.4,SNR=12							
QSPA	**South Pole Qui**	**124.81**	**180**	PKP		**PKPdf**	**23 16 09.3**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=207,slow=1.3,SNR=3.1							

AEIC ***10*** *23:19:54.0±1.4,53°.51N±0°.07×163°.70W±0°.10, h37km±10km, Error ellipse: s-maj=10.7km s-min=6.8km az=146.0*

NEIC 10 23:19:50.0±1.1,53°.39N±0°.05×163°.54W±0°.07, h10km±2km, ML2.9/14**, ML2.7**(AEIC)**, Error ellipse: s-maj=8.2km s-min=6.8km az=154.0, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WESE	**West Dahl East**	**1.25**	**331**		Pn	23 20 13.6	0.0
WESE					Sb	23 20 28.6	-1.2
ISLZ	**Isanotski Laza**	**1.34**	**356**		Pn	23 20 14.6	-0.3
ISLZ					Sb	23 20 31.8	-0.7
WECS	**Westdahl Cape**	**1.35**	**328**		Pn	23 20 15.0	0.0
WECS					Sb	23 20 30.9	-2.0
WEBT	**Westdahl Beart**	**1.40**	**330**		Pn	23 20 15.8	+0.3
WEBT					Sn	23 20 33.0	-1.1
ISNN	**Isanotski Nort**	**1.45**	**355**		Pb	23 20 17.1	0.0
ISNN					Sn	23 20 35.0	-0.3
AKUT	**Akutan**	**1.52**	**300**		Pn	23 20 17.1	0.0
AKUT				Sn	Sn	23 20 36.5	-0.5
AKUT				IAML		23 20 40.1	
	comp=E,90nm,0.6s						
AHB	**Akutan Harbor**	**1.53**	**299**		Pn	23 20 17.6	+0.2
AHB					Sn	23 20 36.2	-1.2
AKBBA	**Akutan Broad B**	**1.59**	**297**		Pn	23 20 18.6	+0.5
AKBBA					Sn	23 20 38.5	-0.2
AKGG	**Akutan Green G**	**1.66**	**300**		Pn	23 20 19.8	+0.6
LVA	**Lava Point**	**1.67**	**299**		Pn	23 20 19.2	-0.1
LVA				Sn	Sn	23 20 40.3	-0.4
LVA				IAML		23 20 48.2	
	comp=E,104nm,0.6s						
MTBL	**Makushin Table**	**1.95**	**288**		Pn	23 20 23.8	+0.5
MREP	**Makushin Rep't**	**1.96**	**284**		Pn	23 20 23.8	+0.5
MGOD	**Makushin Gods**	**2.03**	**283**		Pn	23 20 24.9	+0.7
MAPS	**Pakushin South**	**2.07**	**283**		Pn	23 20 25.6	+0.8
S12K	**Black Hills**	**2.47**	**20**		Pn	23 20 30.6	+0.3
S12K				IAML		23 21 11.1	
	comp=N,59nm,0.5s						
S12K				IAML		23 21 16.0	
	comp=E,52nm,0.8s						
SDPT	**Sand Point**	**2.66**	**41**		Pn	23 20 33.1	+0.3
SDPT				IAML		23 21 21.6	
	comp=N,46nm,1.2s						
SDPT				IAML		23 21 36.6	
	comp=E,46nm,1.4s						
CNBA	**Chernabura Isl**	**2.73**	**57**	Pn	Pn	23 20 33.7	-0.2
NIKH	**Nikolski High**	**3.23**	**265**	Pn	Pn	23 20 40.6	-0.1
NIKH					Sn	23 21 17.5	-1.6
NIKH				IAML		23 21 17.8	
	comp=N,30nm,1.1s						
NIKH				IAML		23 21 32.5	
	comp=E,30nm,1.4s						
CHIR	**Chirikof Islan**	**5.21**	**59**	Pn	Pn	23 21 06.3	-1.5

MEX ***10*** *23:22:31.6±0.8, 15°.72N×93°.90W, h77km±15km, MD4.0*
GCG ***10*** *23:22:31.1±3.1, 15°.86N×94°.06W, h50km±842km, MD3.9*
ISC 10 23:22:30.1±1.1, 15°.66N±0°.05×93°.96W±0°.03, h68km±19km, n23, σ2916/40, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.72**	**86**	*eP*	**Pn**	**23 22 44.8**	**-0.3**
PCIG				*eS*	**Sn**	**23 22 55.9**	**-0.3**
NILT	**Santiago Nilte**	**1.10**	**325**	*eP*	**Pn**	**23 22 50.3**	**+0.6**
NILT				*eS*	**Sn**	**23 23 06.0**	**+1.7**
TGIG		**1.38**	**36**	*eP*	**Pn**	**23 22 52.9**	**-0.5**
TGIG				*eS*	**Sn**	**23 23 08.8**	**-2.1**
TGIG		**1.38**	**36**	*eP*	**Pn**	**23 22 52.7**	**-0.7**
TGIG				*eS*	**Sn**	**23 23 09.5**	**-1.4**
UXUV	**UXUV**	**1.66**	**354**	*eP*	**Pn**	**23 22 57.9**	**+0.7**
UXUV				*eS*	**Sn**	**23 23 15.1**	**-2.5**
CMIG	**Matias Romero**	**1.68**	**328**	*eP*	**Pn**	**23 22 57.6**	**+0.2**
CMIG				*eS*	**Sn**	**23 23 17.3**	**-0.7**
PATR	**El Naranjo**	**1.75**	**108**	*eP*	**Pn**	**23 22 58.6**	**-0.1**
PATR				*eS*	**Sn**	**23 23 19.4**	**-0.9**
PAVE	**Pavencul**	**1.79**	**105**	*eP*	**Pn**	**23 22 59.2**	**+0.2**
PAVE				*eS*	**Sn**	**23 23 20.7**	**-0.3**
THIG		**1.80**	**114**	*eP*	**Pn**	**23 23 02.0**	**+2.9**
THIG				*eS*	**Sn**	**23 23 20.1**	**-0.9**
CCIG	**Comitan**	**1.86**	**70**	*eP*	**Pn**	**23 22 58.9**	**-1.2**
CCIG				*eS*	**Sn**	**23 23 22.9**	**+0.2**
CCIG	**Comitan**	**1.86**	**70**	*eP*	**Pn**	**23 23 01.4**	**+1.3**
CCIG				*eS*	**Sn**	**23 23 19.6**	**-3.2**
HUIG	**Huatulco**	**2.07**	**273**	*eP*	**Pn**	**23 23 01.6**	**-1.1**
HUIG				*eS*	**Sn**	**23 23 25.5**	**-1.9**
HUIG	**Huatulco**	**2.07**	**273**	*eP*	**Pn**	**23 23 02.5**	**-0.2**
HUIG				*eS*	**Sn**	**23 23 25.7**	**-1.7**
RTAL	**Retalhuleu**	**2.46**	**117**	*eS*	**Sn**	**23 23 35.4**	**-1.8**
NEUV	**Arroyo Zacate**	**2.70**	**319**	*eP*	Pn	23 23 16.2	+5.0
NEUV				*eS*	**Sn**	**23 23 41.7**	**-1.0**
PEIG	**Puerto Escondi**	**3.08**	**277**	*eP*	**Pn**	**23 23 15.5**	**-1.0**
PEIG				*eS*	**Sn**	**23 23 48.2**	**-4.1**
YOIG	**Yosondua**	**3.64**	**290**	*eP*	Pn	23 23 30.9	+6.6
YOIG				*eS*	**Sn**	**23 24 05.9**	**-0.3**
TOIG	**Toxpalan**	**3.83**	**310**	*eP*	**Pn**	**23 23 30.8**	**+4.1**
TOIG				*eS*	**Sn**	**23 24 11.4**	**+0.8**
TXIG	**Tlaxiaco**	**3.98**	**294**	*eP*	**Pn**	**23 23 31.8**	**+2.9**
TXIG				*eS*	**Sn**	**23 24 13.4**	**-1.2**
PNIG	**Pinotepa**	**4.07**	**281**	*eP*	**Pn**	**23 23 32.3**	**+2.3**
PNIG				*eS*	**Sn**	**23 24 10.6**	**-5.8**
JAUV	**Jalcomulco**	**4.57**	**324**	*eP*	Pn	23 23 46.0	+9.1
JAUV				*eS*	**Sn**	**23 24 24.2**	**-4.6**
FTIG	**Fresnillo de T**	**4.58**	**300**	*eS*	**Sn**	**23 24 26.4**	**-2.6**
MGIG	**Malinaltepec**	**4.75**	**290**	*eS*	**Sn**	**23 24 31.6**	**-1.6**

IDC ***10*** *23:23:46.3±1.4, 38°.85N×26°.05E, h0km, mb3.3/3, mbtmp3.3/6, ML3.6/2, MS2.5/1, Error ellipse: s-maj=21.1km s-min=18.8km az=155.0*
ISK ***10*** *23:23:47.2, 38°.95N×26°.02E, h9km, ML3.5/35*
ATH ***10*** *23:23:48.0, 38°.94N×26°.08E, h19km±4km, ML3.2/12, Manual Solution by F.Xalaris First location: 2019/07/10 23:24:56, This location: 2019/07/11 04:42:54 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertain

SKY	**Skiros Island**	1.16	266	P		**Pb**	23 24 09.8	-0.2
SKY				S		**Sn**	23 24 26.5	+0.8
SOMA	**Soma-Manisa**	1.18	80	Pn		**Pb**	23 24 10.2	-0.1
GOAD	**anakkale-G¶**	1.20	355	P		**Pn**	23 24 10.1	-0.4
GOAD				S		**Sb**	23 24 24.7	-1.3
GADA	**Gvkgeada**	1.23	355	Pn		**Pn**	23 24 10.6	-0.4
GADA	**Gvkgeada**	1.23	355	P		**Pn**	23 24 10.5	-0.4
GADA				S		**Sn**	23 24 27.5	+0.1
CANM	**Can-anakkale**	1.31	37	Pn		**Pn**	23 24 12.1	+0.1
CANM				Sn		**Sg**	23 24 30.5	+0.3
YENI	**Yenice-Canakka**	1.35	43	Pn		**Pg**	23 24 13.7	-0.2
YENI				Sn		**Sg**	23 24 31.5	+0.1
STEP	**BALIKESIR_Sava**	1.37	72	P		**Pn**	23 24 12.5	-0.4
STEP				S		**Sn**	23 24 29.9	-1.0
AKHS	**Akhisar**	1.39	93	P		**Pn**	23 24 13.2	+0.1
SMG	**Samos**	1.40	153	P		**Pb**	23 24 13.8	-0.2
SMG				S		**Sg**	23 24 33.3	+0.2
SMG	**Samos**	1.40	153	P		**Pn**	23 24 12.3	-1.0
SMG				S		**Sn**	23 24 30.0	-1.7
BALY	**Balya**	1.45	57	P		**Pn**	23 24 13.8	-0.2
BALY				S		**Sn**	23 24 31.8	-1.1
GELI	**Tayfur-Gelibol**	1.47	13	Pn		**Pb**	23 24 14.9	-0.4
LPK	**Lapseki**	1.52	21	Pn		**Pn**	23 24 15.1	+0.3
KYMI	**Kymi, Euboea I**	1.55	258	P		**Pn**	23 24 15.0	-0.3
KYMI				S		**Sb**	23 24 36.7	+0.6
KYMI	**Kymi, Euboea I**	1.55	258	P		**Pn**	23 24 15.0	-0.3
SMTH	**Samothraki Isl**	1.56	346	P		**Pn**	23 24 15.4	-0.1
SMTH				S		**Sb**	23 24 36.8	+0.5
SMTH	**Samothraki Isl**	1.56	346	P		**Pn**	23 24 15.0	-0.4
KARY	**Karystos**	1.56	234	P		**Pn**	23 24 15.4	-0.1
KARY				S		**Sg**	23 24 37.7	-0.6
KARY	**Karystos**	1.56	234	P		**Pn**	23 24 14.9	-0.6
KARY				S		**Sn**	23 24 34.5	-1.1
GCAM	**G?zelcaml?**	1.57	143	Pn		**Pn**	23 24 15.9	+0.3
GCAM	**G?zelcaml?**	1.57	143	P		**Pb**	23 24 16.9	0.0
TNSA	**Tinos**	1.58	206	P		**Pn**	23 24 14.9	-0.8
TNSA				S		**Sn**	23 24 34.6	-1.4
BKES	**Balkesir-Mer**	1.66	62	P		**Pn**	23 24 16.8	0.0
BKES				S		**Sn**	23 24 35.5	-2.5
GORD	**Gordes-Manisa**	1.67	91	Pn		**Pn**	23 24 17.3	+0.3
GONE	**Gonen-Balikesi**	1.67	49	Pn		**Pn**	23 24 17.5	+0.5
AOS	**Alonnisos**	1.69	278	P		**Pn**	23 24 17.7	+0.4
IZMR	**zmir-demi**	1.71	118	P		**Pb**	23 24 19.4	+0.1
IZMR				S		**Sb**	23 24 40.8	+0.1
KRBG	**Karabiga-Canak**	1.73	34	Pn		**Pn**	23 24 17.8	0.0
CAVK	**Edirne/Enez-Ca**	1.73	3	P		**Pn**	23 24 18.2	+0.4
ODEM	**Odemis-Izmir**	1.74	113	Pn		**Pn**	23 24 18.3	+0.3
ERIK	**Erikli-Kesan**	1.75	12	Pn		**Pn**	23 24 18.9	+0.9
ERIK				Sn		**Sb**	23 24 41.3	-0.4
BLKS	**Balkesir-Sus**	1.75	58	P		**Pn**	23 24 17.9	-0.2
ENEZ	**Enez**	1.77	3	Pn		**Pn**	23 24 18.6	+0.2
ENEZ	**Enez**	1.77	3	P		**Pn**	23 24 19.1	+0.7
ENEZ				S		**Sn**	23 24 41.7	+0.9
AYDB	**Zeytinkoy-Aydi**	1.77	124	Pn		**Pn**	23 24 18.8	+0.3
DDIM	**Aydin, Didim**	1.78	147	P		**Pb**	23 24 21.1	+0.7
SUSR	**Susurluk-Balik**	1.87	57	Pn		**Pn**	23 24 19.8	0.0
THAS	**Thassos island**	1.93	329	P		**Pn**	23 24 20.1	-0.4
ALN	**Alexandroupoli**	1.93	0	Pn		**Pn**	23 24 20.8	+0.2
APE	**Apeiranthos**	1.93	192	⇑P		**Pg**	23 24 26.6	+1.5
PTL	**Penteli**	1.93	243	P		**Pn**	23 24 20.1	-0.5
RKY	**Sarkoy-Tekirda**	1.93	27	Pn		**Pn**	23 24 21.4	+0.7
EDC	**Edincik**	1.97	45	Pn		**Pn**	23 24 21.5	+0.3
EDC				Sn		**Sn**	23 24 46.8	+1.0
DURS	**Dursunbey**	2.00	71	P		**Pn**	23 24 21.3	-0.2
KIRA	**zmir-Kiraz**	2.00	112	P		**Pn**	23 24 21.4	-0.3
MANT	**Manisa**	2.03	103	P		**Pn**	23 24 22.5	+0.4
ATHU	**Athens Univers**	2.03	241	P		**Pn**	23 24 22	-0.7
NAZL	**Nazilli-Aydin**	2.03	119	Pn		**Pn**	23 24 22.4	+0.4
DEMI	**Demirci**	2.09	87	P		**Pn**	23 24 23.0	+0.2
KULA	**Kula-Manisa**	2.10	101	Pn		**Pn**	23 24 24.3	+1.3
BAND	**Balkesir-Ban**	2.11	48	⇑P		**Pn**	23 24 23.2	+0.1
BODT	**Bodrum**	2.15	152	Pn		**Pn**	23 24 23.1	-0.5
MLSB	**Milas**	2.16	140	Pn		**Pn**	23 24 24.5	+0.8
BDRM	**Kayabasi**	2.20	149	P		**Pn**	23 24 23.7	-0.5
UKOP	**Uzunkopru-Edir**	2.21	12	Pn		**Pn**	23 24 24.9	+0.5
RDO	**Rodhopi**	2.21	350	Pn		**Pn**	23 24 24.9	+0.5
RDO	**Rodhopi**	2.21	350	P		**Pn**	23 24 24.6	+0.2
VIL2	**Platees**	2.30	252	P		**Pn**	23 24 25.3	-0.3
SIMA	**Simav-Kutahya**	2.30	86	Pn		**Pn**	23 24 26.6	+0.9
USAK	**Uak-Merkez**	2.34	95	P		**Pn**	23 24 26.4	+0.1
KAVA	**Kavala**	2.34	331	P		**Pn**	23 24 26.2	-0.1
KVLA	**Kavala**	2.34	328	P		**Pn**	23 24 26.3	+0.1
LKR	**Lokris**	2.39	263	P		**Pn**	23 24 26.8	-0.2
CRLT	**Corlu**	2.53	31	Pn		**Pn**	23 24 29.5	+0.8
MDMY	**Mudanya-Bursa**	2.61	57	Pn		**Pn**	23 24 27.9	+1.1
ARMT	**Armutlu**	2.70	53	Pn		**Pn**	23 24 32.2	+1.0
TAVA	**DENIZLI_Tavas**	2.71	123	⇑P		**Pg**	23 24 39.9	-0.1
RZN	**Rozhen**	2.90	340	S		**Sn**	23 25 06.9	-2.1
RZN				P		**Pn**	23 24 34.5	+0.4
MMB	**Musomishta**	3.12	327	S		**Sn**	23 25 12.0	-2.1
MMB				P		**Pn**	23 24 37.4	+0.5
PLD	**Plovdiv**	3.33	343	P		**Pn**	23 24 40.0	+0.2
KKB	**Krupnik**	3.63	323	P		**Pn**	23 24 45.0	+1.0
IDI	**Anoyia**	3.78	194	Pn		**Pn**	23 24 45.7	-0.3
	2.0nm,0.4s,baz=13,slow=15,SNR=8.8							
IDI				Sn		**Sn**	23 25 28.0	-2.4
	1.3nm,0.3s,baz=262,slow=19,SNR=2.0							
PGB	**Panagyurishte**	3.82	339	P		**Pn**	23 24 46.9	+0.3
PGB				S		**Sg**	23 25 47.3	-3.3
SAHE	**Sakarya_HENDEK**	4.16	61	⇓P		**Pg**	23 25 09.0	+1.4
VTS	**Vitosha**	4.22	331	S		**Sn**	23 25 39.1	-2.4
VTS				P		**Pn**	23 24 53.0	+0.8
SZH	**Strazhitsa**	4.30	359	P		**Pn**	23 24 52.8	-0.3
RAZG	**Razgrad**	4.61	4	⇑P		**Pn**	23 24 57.9	+0.4
TRAN	**Tran**	4.64	328	P		**Pn**	23 24 59.7	+1.8
MPEP	**Malo Peshtene**	4.72	339	P		**Pn**	23 24 59.5	+0.6
COPA	**Copaceanca**	5.20	353	⇓P		**Pn**	23 25 06.6	+1.1
ANTO	**Ankara**	5.31	78	⇑P		**Pg**	23 25 29.9	+0.2
HUMR	**Humele**	5.62	352	⇑P		Pn	23 25 18.2	+7.0
BOVS	**Bovan**	5.69	326	⇑P		**Pn**	23 25 14.0	+1.7
TLBR	**Topalu**	5.78	14	⇓P		**Pn**	23 25 12.0	-1.4
BRTR	**Keskin Array B**	5.94	80	Pn		**Pn**	23 25 17.3	+1.5
	0.3nm,0.3s,baz=258,slow=13,SNR=8.9							
BRTR				Lg		Lg	23 26 57.9	
	baz=258,slow=32							
	1.3nm,0.5s							
CFR	**Carcaliu**	6.40	13	⇓P		Pb	23 25 32.2	-7.0
ARR	**Arges**	6.48	351	⇓P		**Pn**	23 25 25.5	+2.3
HERR	**Herculane**	6.50	337	⇓P		**Pn**	23 25 22.3	-1.0
VOIR		6.51	354	⇓P		**Pn**	23 25 24.3	+0.7
MLR	**Muntele Rosu**	6.52	359	Pn		**Pn**	23 25 25.6	+1.8
	0.9nm,0.3s,baz=186,slow=5.6,SNR=10							
MLR				LR		LR	23 28 23.8	
	comp=Z,45nm,20.6s,baz=270,slow=42							
	3.5nm,0.5s							
MLR	**Muntele Rosu**	6.52	359	⇓P		**Pn**	23 25 25.6	+1.8
MDVR	**Moldovita**	6.65	332	⇑P		**Pn**	23 25 26.2	+0.8
LOT	**Lotru**	6.70	346	⇑P		**Pn**	23 25 26.0	-0.1
GZR	**Gura Zlata**	6.87	340	⇑P		**Pn**	23 25 28.5	+0.1
PLOR	**Plostina**	6.90	4	⇓P		**Pn**	23 25 30.0	+1.2
VRI	**Vrincioaia**	6.92	4	⇓P		**Pn**	23 25 32.8	+3.7
DOPR	**Dopca**	7.02	356	⇑P		**Pn**	23 25 33.7	+3.2
VLDR	**Vladesti**	7.04	12	⇓P		**Pn**	23 25 31.4	+0.6
TURR	**Turia**	7.09	360	⇓P		**Pn**	23 25 34.9	+3.5
BOSR	**Bodos**	7.11	358	⇓P		**Pn**	23 25 34.5	+2.7
OZUR		7.13	359	⇓P		**Pn**	23 25 34.4	+2.3
ONER	**Baraj Valea Uz**	7.37	2	⇓P		**Pn**	23 25 38.4	+3.1
SURR	**Surduc**	7.38	338	⇑P		**Pn**	23 25 36.5	+1.2
BZS	**Buzias**	7.41	335	⇑P		**Pn**	23 25 35.9	0.0
TESR	**Tescani**	7.56	3	⇑P		**Pn**	23 25 39.2	+1.4
SEV	**Sevastopol'**	7.97	43	Pm			23 25 48.5	
	comp=Z,7.0nm,0.7s							
SEV				*e*S		**Sn**	23 27 10.6	-3.0
SEV				Sm			23 27 13.6	
	comp=N,1.0nm,0.4s							
MARR	**Marisel-Cluj**	8.00	345	⇓P		**Pn**	23 25 45.0	+1.0
DRGR		8.20	344	⇑P		Pn	23 25 55.5	+8.9
YAL	**Yalta**	8.20	45	*e*P		**Pn**	23 25 46.7	0.0
YAL				Pm			23 25 51.4	
	comp=Z,3.0nm,0.5s							
YAL				*e*S		**Sn**	23 27 17.5	-1.7
YAL				Sm			23 27 17.8	
	comp=N,2.0nm,0.3s							
YAL				Sm			23 27 17.8	
	comp=E,2.0nm,0.2s							
PRAR	**RASCA**	8.40	1	⇑P		**Pn**	23 25 48.6	-0.7
BURAR	**Bucovina Array**	8.67	356	⇑P		**Pn**	23 25 57.8	+4.7
SUDU	**Sudak**	8.92	46	*e*P		**Pn**	23 25 59.4	+2.8
SUDU				Pm			23 25 59.7	
	comp=Z,5.0nm,0.5s							
MORH	**Mrgy, Hungar**	9.06	325	⇑P		**Pn**	23 25 58.1	-0.4

ESDC	**Sonseca Array**	23.18	281	P		**P**	23 28 55.0	+0.7
	comp=Z,0.8nm,0.9s,baz=84,slow=9.0,SNR=4.8							
	comp=Z,0.8nm,0.9s							
EKA	**Eskdalemuir Ar**	25.47	320	P		**P**	23 29 16.6	+1.0
	comp=Z,0.4nm,0.6s,baz=117,slow=10,SNR=2.6							
	comp=Z,0.4nm,0.6s							
MKAR	**Makanchi Array**	41.18	60	P		**P**	23 31 32.8	+0.6
	comp=Z,0.3nm,0.5s,baz=272,slow=6.5,SNR=4.5							
	comp=Z,0.3nm,0.5s							

IDC 10 23:27:37.6±2.1, 0°58'N×126°47'E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=152.2km s-min=28.6km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	21.80	160	P	P	23 32 30.7	-0.8
	0.7nm,0.4s,baz=338,slow=10,SNR=7.1						
	0.7nm,0.4s						
ASAR	**Alice Springs**	25.16	164	P	P	23 33 05.4	+0.6
	0.6nm,0.5s,baz=350,slow=16,SNR=6.3						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	60.00	326	P	P	23 37 46.0	-0.1
	0.1nm,0.4s,baz=112,slow=7.6,SNR=1.8						
	0.1nm,0.4s						

*NEIC **10** 23:35:43.1±1.1, 35°.961N±0°.009×117°.276W±0°.006, h7km±4km, Error ellipse: s-maj=1.4km s-min=0.7km az=196.0*

PAS 10 23:35:43.6±1.1, 35°.958N±0°.010×117°.29W±0°.01, h5km±4km, ML3.0/24, ML2.9/72(NEIC), Error ellipse: s-maj=1.6km s-min=1.2km az=144.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPMC	**Manual Prospec**	0.19	301		Pg	23 35 47.6	+0.1
MPMC				Sg	Sg	23 35 50.6	+0.6
CLC	**China Lake**	0.29	241	Pg	Pg	23 35 49.2	-0.1
CLC					Sg	23 35 53.4	+0.2
CLC				IAML		23 35 53.6	
	comp=E,2μm,0.4s						
CLC				IAML		23 35 53.6	
	comp=N,2μm,0.4s						
QSM	**Queen of Sheba**	0.34	89		Pg	23 35 49.9	-0.3
QSM					Sg	23 35 54.3	-0.3
QSM				IAML		23 35 54.7	
	comp=N,2μm,0.2s						
QSM				IAML		23 35 54.7	
	comp=E,2μm,0.3s						
WCSM	**Coso Springs S**	0.40	280		Pg	23 35 51.2	-0.1
WCSM					Sg	23 35 57.3	+0.8
TOW	**Tower One**	0.42	249		Pg	23 35 52.0	+0.3
JRC2	**Joshua Ridge**	0.43	274		Pg	23 35 51.8	-0.1
WVPM	**Volcano Peak E**	0.43	269		Pg	23 35 52.0	0.0
CCCA	**Chr Cany lake**	0.44	189		Pg	23 35 52.2	+0.2
CCCA				Sg	Sg	23 35 58.7	+0.9
CCCA				IAML		23 35 59.1	
	comp=E,1μm,0.5s						
SRTC	**Snort**	0.46	235		Pg	23 35 52.7	+0.2
MFS	**McCloud Flat S**	0.49	289		Pg	23 35 53.0	-0.1
GWY	**Greenwater Val**	0.55	65		Pg	23 35 53.9	-0.3
GWY					Sg	23 36 01.4	0.0
GWY				IAML		23 36 01.7	
	comp=N,949nm,0.2s						
GWY				IAML		23 36 07.7	
	comp=E,922nm,0.3s						
LRMC	**Laurel Mtn Rad**	0.58	214		Pg	23 35 54.3	-0.4
LRMC				IAML		23 36 02.6	
	comp=E,1μm,0.4s						
CGO	**Cerro Gordo**	0.72	325		Pg	23 35 57.2	-0.4
GSC	**Goldstone, Bar**	0.76	149	Pg	Pg	23 35 57.7	-0.6
GSC				IAML		23 36 09.2	
	comp=N,421nm,0.3s						
GSC				IAML		23 36 13.7	
	comp=E,551nm,0.3s						
CWC	**Cottonwood Cre**	0.80	307		Pg	23 35 58.6	-0.5
CWC				IAML		23 36 12.2	
	comp=N,341nm,0.2s						
CWC				IAML		23 36 12.6	
	comp=E,247nm,0.2s						
AMDNV	**Amargosa**	0.95	58		Pg	23 36 01.2	-0.7
WCT	**Wildcat Mounta**	0.99	32		Pg	23 36 01.9	-0.7
WCT				IAML		23 36 17.6	
	comp=E,411nm,0.3s						
WCT				IAML		23 36 17.8	
	comp=N,192nm,0.4s						
ISA	**Isabella, Lake**	1.01	253		Pg	23 36 02.4	-0.7
ISA				IAML		23 36 17.8	
	comp=E,164nm,0.2s						
ISA				IAML		23 36 21.9	
	comp=N,158nm,0.7s						
GRAC	**Grapevine Rang**	1.04	356		Pg	23 36 03.1	-0.4
GRAC				IAML		23 36 21.0	
	comp=E,486nm,0.3s						
TPNV	**Topopah Spring**	1.29	40		Pg	23 36 07.2	-1.3
TPNV				IAML		23 36 25.6	
	comp=E,272nm,0.3s						
TPNV				IAML		23 36 26.0	
	comp=E,266nm,0.5s						
LCH	**Last Change Ra**	1.31	347		Pg	23 36 07.5	-1.2
TPO	**Tropico Hills**	1.32	216		Pn	23 36 08.0	-0.9
TPO				IAML		23 36 29.3	
	comp=N,306nm,0.6s						
GMN	**Gold Mountain**	1.34	1		Pn	23 36 07.9	-1.4
GMN					Sg	23 36 25.8	-1.0
GMN				IAML		23 36 28.9	
	comp=N,108nm,0.4s						
GMN				IAML		23 36 33.1	
	comp=E,108nm,0.5s						
DSP	**Deep Springs**	1.51	339		Pn	23 36 10.4	-1.0
DSP					Sn	23 36 31.3	-0.2
BFSC	**Mount Baldy Ra**	1.74	190	Pn	Pn	23 36 13.9	-0.9
BFSC				IAML		23 36 39.5	
	comp=E,65nm,0.3s						
MZP	**Montezuma Peak**	1.74	357		Pn	23 36 13.7	-1.2
GMRC	**Granite Mounta**	1.77	131		Pn	23 36 15.6	+0.4
SHPR	**Sheep Range**	1.80	72	Pn	Pn	23 36 14.4	-1.2
MWC	**Mount Wilson**	1.84	200	Pn	Pn	23 36 15.8	-0.3
MWC				IAML		23 36 46.0	
	comp=N,66nm,0.4s						
MWC				IAML		23 36 47.8	
	comp=E,74nm,0.5s						
V12A	**Nelson**	1.99	96	Pn	Pn	23 36 16.2	-2.0
TPC	**Twentynine Pal**	2.11	151		Pn	23 36 18.2	-1.5
TPH	**Tonopah**	2.11	1		Pn	23 36 18.6	-1.3
PRN	**Pahroc Range**	2.31	50	Pn	Pn	23 36 21.3	-1.2
ELS	**Elsinore Mount**	2.31	183	Pn	Pn	23 36 21.4	-1.0
PMD	**Palm Desert**	2.42	162	Pn	Pn	23 36 21.9	-2.0
PMD				IAML		23 37 00.8	
	comp=E,33nm,0.3s						
PFO	**Pinyon Flats O**	2.44	164		Pn	23 36 24.5	+0.2
PFO	**Pinyon Flats O**	2.44	164	Pn	Pn	23 36 23.0	-1.3
PFO				IAML		23 37 02.9	
	comp=E,14nm,0.8s						
PFO				IAML		23 37 02.9	
	comp=E,22nm,0.9s						
LHV	**Little Huntoon**	2.49	337	Pn	Pn	23 36 24.8	-0.1
NV11	**Mina Array Sit**	2.57	345	Pn	Pn	23 36 25.1	-1.0
NVAR	**Mina Array Bea**	2.60	342	Pn	Pn	23 36 24.7	-1.9
R11B	**Troy Canyon, C**	2.75	29	Pn	Pn	23 36 27.0	-1.6
RYN	**Ryan**	2.84	340	Pn	Pn	23 36 28.9	-1.1
W13A	**Hualapai Mount**	2.90	106	Pn	Pn	23 36 28.9	-1.8
LCMT	**Little Creek M**	3.42	71	Pn	Pn	23 36 37.0	-0.8
CCUT	**Cedar City**	3.53	62	Pn	Pn	23 36 38.7	-0.7
ELK	**Elko**	5.04	18		Pn	23 36 59.1	-1.1

*NEIC **10** 23:48:42.5±1.4, 35°.62N±0°.01×117°.44W±0°.01, h10km±3km, Error ellipse: s-maj=1.7km s-min=1.6km az=154.0*

PAS 10 23:48:43.3±1.4, 35°.62N±0°.01×117°.44W±0°.01, h8km±2km, ML3.3, ML3.0/120(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=157.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCCA	**Chr Cany lake**	0.11	147	Pg	Pg	23 48 46.1	+0.2
CCCA				Sg	Sg	23 48 48.4	+0.8
CLC	**China Lake**	0.24	327	Pg	Pg	23 48 47.8	-0.3
CLC				IAML		23 48 56.0	
	comp=N,2μm,0.2s						
LRMC	**Laurel Mtn Rad**	0.24	236		Pg	23 48 48.0	-0.2
LRMC				Sg	Sg	23 48 51.6	+0.2

SRTC	**Snort**	0.26	287		Pg	23 48 48.8	+0.2
TOW	**Tower One**	0.33	306		Pg	23 48 50.0	+0.2
WNMM	**Nine Mile Cany**	0.44	301		Sg	23 48 58.3	+0.6
MPMC	**Manual Prospec**	0.44	355	Pg	Pg	23 48 51.5	-0.5
MPMC					Sg	23 48 57.9	0.0
MPMC				IAML		23 48 58.5	
	comp=E,790nm,0.2s						
MPMC				IAML		23 49 00.0	
	comp=N,818nm,0.5s						
WVPM	**Volcano Peak E**	0.45	317		Pg	23 48 51.9	-0.3
WVPM					Sg	23 48 58.5	+0.3
DTP	**Desert Tortois**	0.48	224		Pg	23 48 52.2	-0.5
QSM	**Queen of Sheba**	0.58	53		Pg	23 48 54.2	-0.3
QSM				Sg	Sg	23 49 02.0	-0.1
QSM				IAML		23 49 02.8	
	comp=N,953nm,0.2s						
QSM				IAML		23 49 05.1	
	comp=E,849nm,0.2s						
GSC	**Goldstone, Bar**	0.60	121		Pg	23 48 54.6	-0.4
GSC				Sg	Sg	23 49 02.9	-0.1
GSC				IAML		23 49 03.1	
	comp=N,2μm,0.4s						
WORM	**Onyx Ranch**	0.66	277		Pg	23 48 55.5	-0.6
GWY	**Greenwater Val**	0.84	47		Pg	23 48 59.0	-0.6
GWY					Sg	23 49 10.1	-0.5
GWY				IAML		23 49 14.1	
	comp=E,634nm,0.3s						
GWY				IAML		23 49 14.2	
	comp=N,698nm,0.3s						
ISA	**Isabella, Lake**	0.84	273		Pg	23 48 58.8	-0.8
ISA				Sg	Sg	23 49 09.8	-0.8
ISA				IAML		23 49 10.9	
	comp=E,722nm,0.2s						
ISA				IAML		23 49 11.1	
	comp=N,639nm,0.2s						
EDW2	**Edwards Air Fo**	0.86	212		Pb	23 49 00.5	-0.2
CWC	**Cottonwood Cre**	0.97	328		Pg	23 49 01.4	-0.7
CWC				IAML		23 49 18.0	
	comp=E,393nm,0.2s						
CWC				IAML		23 49 18.7	
	comp=N,408nm,0.2s						
TPO	**Tropico Hills**	0.98	222		Pg	23 49 01.3	-0.8
TUQ	**Turquoise Moun**	1.25	98		Pb	23 49 06.3	-1.0
WCT	**Wildcat Mounta**	1.35	29		Pn	23 49 07.5	-1.1
WCT				IAML		23 49 28.0	
	comp=N,179nm,0.4s						
WCT				IAML		23 49 29.1	
	comp=E,217nm,0.5s						
GRAC	**Grapevine Rang**	1.38	2		Pn	23 49 08.5	-0.5
GRAC				IAML		23 49 33.1	
	comp=N,305nm,0.9s						
GRAC				IAML		23 49 34.3	
	comp=E,308nm,0.7s						
BFSC	**Mount Baldy Ra**	1.39	188		Pn	23 49 08.3	-0.8
BFSC				IAML		23 49 28.0	
	comp=E,545nm,0.7s						
BFSC				IAML		23 49 28.5	
	comp=N,545nm,0.6s						
OSI	**Osito Audit: C**	1.45	227		Pn	23 49 09.9	-0.1
OSI				IAML		23 49 31.5	
	comp=N,341nm,0.5s						
OSI				IAML		23 49 32.7	
	comp=E,226nm,0.6s						
MWC	**Mount Wilson**	1.48	200		Pn	23 49 10.2	-0.3
MWC				IAML		23 49 31.9	
	comp=N,470nm,0.4s						
MWC				IAML		23 49 32.6	
	comp=E,448nm,0.4s						
MTPC	**Mountain Pass**	1.54	94		Pn	23 49 09.9	-1.5
MTPC				IAML		23 49 32.6	
	comp=N,363nm,0.3s						
MTPC				IAML		23 49 33.2	
	comp=E,357nm,0.2s						
PASC	**Pasadena Art C**	1.57	203		Pn	23 49 10.7	-0.8
PASC				IAML		23 49 35.9	
	comp=E,149nm,0.7s						
PASC				IAML		23 49 36.5	
	comp=N,176nm,0.3s						
TPNV	**Topopah Spring**	1.64	35		Pn	23 49

comp=N,7.2nm,1.3s

*NOU **10** 23:50:09.1,37°.23S×178°.11E,h125km,mb4.3/8,Off E. Coast of N. Island, N.Z.*
*WEL **10** 23:50:16.4±0.6,37°.S±6°×17°.8E±°,h38km±10km,M3.1/13, ML3.3/13,MLv3.1/13,Error ellipse: s-maj=8.0km s-min=5.4km az=32.7,confirmed*

ISC 10 23:50:14.4±1.9,**37°.30S**±0°.06×**177°.66E**±0°.06,**h88**km±12km, **n47**,σ0**88**/53,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.44**	**238**	P	**Pn**	**23 50 28.0**	**-0.4**
HAZ	**Te Kaha**	**0.47**	**168**	P	**Pn**	**23 50 28.0**	**-0.6**
HAZ				S	**Sn**	**23 50 38.4**	**-0.8**
MXZ	**Matakaoa Point**	**0.58**	**117**	P	**Pn**	**23 50 28.8**	**-0.8**
MXZ	**Matakaoa Point**	**0.58**	**117**	P	**Pn**	**23 50 28.7**	**-0.8**
MXZ				S	**Sn**	**23 50 42.2**	**+1.4**
PKGZ	**Pakihiroa**	**0.66**	**150**	P	**Pn**	**23 50 30.3**	**0.0**
RUGZ	**Raukumara Rang**	**0.67**	**179**	P	**Pn**	**23 50 29.9**	**-0.6**
RUGZ				S	**Sn**	**23 50 41.6**	**-0.9**
WHRZ	**Whale Island**	**0.78**	**224**	P	**Pn**	**23 50 31.8**	**+0.3**
WMGZ	**Waiomatatini S**	**0.79**	**131**	P	**Pn**	**23 50 32.1**	**+0.5**
WMGZ				S	**Sn**	**23 50 46.1**	**+1.5**
PUZ	**Puketiti**	**0.91**	**149**	P	**Pn**	**23 50 33.9**	**+1.1**
TWGZ	**Tauwhareparae**	**0.91**	**164**	P	**Pn**	**23 50 34.3**	**+1.3**
OPRZ	**Ohinepanea**	**1.03**	**238**	P	**Pn**	**23 50 34.3**	**+0.1**
MWZ	**Matawai**	**1.04**	**186**	P	**Pn**	**23 50 34.8**	**+0.4**
MWZ				S	**Sn**	**23 50 49.6**	**+0.1**
URZ	**Urewera**	**1.05**	**204**	P	**Pn**	**23 50 34.7**	**+0.2**
URZ	**Urewera**	**1.05**	**204**	P	**Pn**	**23 50 34.7**	**+0.2**
URZ				S	**Sn**	**23 50 49.7**	**0.0**
EDRZ	**Edgecumbe**	**1.09**	**222**	P	**Pn**	**23 50 35.0**	**0.0**
TKGZ	**Te Karaka**	**1.15**	**173**	P	**Pn**	**23 50 36.7**	**+1.1**
RAGZ	**Rawiri**	**1.21**	**189**	P	**Pn**	**23 50 37.6**	**+1.0**
CNGZ	**Carnagh Statio**	**1.26**	**160**	P	**Pn**	**23 50 38.0**	**+1.0**
TARZ	**Mount Tarawera**	**1.31**	**224**	P	**Pn**	**23 50 38.8**	**+1.1**
MUGZ	**Murupara**	**1.37**	**211**	P	**Pn**	**23 50 38.8**	**+0.4**
RRRZ	**Republican Roa**	**1.38**	**221**	P	**Pn**	**23 50 39.2**	**+0.7**
RIGZ	**Rimuhau**	**1.41**	**177**	P	**Pn**	**23 50 39.2**	**+0.3**
RTZ	**Ruatahuna**	**1.42**	**202**	P	**Pn**	**23 50 39.5**	**+0.4**
KMRZ	**Kaimai**	**1.47**	**248**	P	**Pn**	**23 50 39.9**	**+0.3**
SNGZ	**Shannon Statio**	**1.50**	**190**	P	**Pn**	**23 50 40.8**	**+0.7**
PRRZ	**Plateau Road**	**1.56**	**220**	P	**Pn**	**23 50 41.3**	**+0.4**
PRGZ	**Paritu Road**	**1.63**	**174**	P	**Pn**	**23 50 41.5**	**-0.2**
ALRZ	**Allen Road**	**1.64**	**219**	P	**Pn**	**23 50 42.9**	**+1.1**
KUZ	**Kuaotunu**	**1.65**	**289**	P	**Pn**	**23 50 41.8**	**-0.1**
KUZ	**Kuaotunu**	**1.65**	**289**	P	**Pn**	**23 50 41.8**	**-0.1**
RAHZ	**Arahi**	**1.68**	**195**	P	**Pn**	**23 50 43.1**	**+0.8**
MTHZ	**Maungataniwha**	**1.68**	**202**	P	**Pn**	**23 50 43.0**	**+0.6**
TOZ	**Tahuroa Road**	**1.77**	**255**	P	**Pn**	**23 50 43.9**	**+0.5**
MRHZ	**Matea Rd**	**1.82**	**212**	P	**Pn**	**23 50 44.7**	**+0.5**
MHGZ	**Mahia Peninsul**	**1.86**	**174**	P	**Pn**	**23 50 44.7**	**0.0**
KUTZ	**Kaahu Road**	**1.88**	**230**	P	**Pn**	**23 50 46.1**	**+1.2**
NMHZ	**Naumai**	**1.92**	**200**	P	**Pn**	**23 50 46.6**	**+1.1**
ARHZ	**Aropaoanui**	**2.03**	**195**	P	**Pn**	**23 50 47.3**	**+0.4**
GRZ	**Great Barrier**	**2.05**	**300**	P	**Pn**	**23 50 47.4**	**+0.2**
BKZ	**Black Stump Fm**	**2.08**	**206**	P	**Pn**	**23 50 48.1**	**+0.5**
KWHZ	**Kaweka Forest**	**2.33**	**204**	P	**Pn**	**23 50 51.2**	**+0.2**
CKHZ	**Cape Kidnapper**	**2.40**	**191**	P	**Pn**	**23 50 51.1**	**-0.7**
HIZ	**Hauiti**	**2.53**	**240**	P	**Pn**	**23 50 55.1**	**+1.6**
KRHZ	**Kereru**	**2.55**	**203**	P	**Pn**	**23 50 53.2**	**-0.6**
BFZ	**Birch Farm**	**3.55**	**198**	P	**Pn**	**23 51 04.8**	**-2.5**
SNZO	**South Karori**	**4.62**	**209**	P	**Pn**	**23 51 19.7**	**-2.0**
QRZ	**Quartz Range**	**5.32**	**227**	P	**Pn**	**23 51 30.5**	**-0.8**

*NEIC **10** 23:58:58.3±1.3,35°.666N±0°.009×117°.48W±0°.01, h10km±4km,Error ellipse: s-maj=1.7km s-min=1.3km az=94.0*

PAS 10 23:58:59.1±1.9,**35°.673N**±0°.010×**117°.49W**±0°.01, **h3**km±2km,**Mwr3.6**/4,**ML3.7**/150(NEIC),**Error ellipse: s-maj=1.6km s-min=1.3km az=47.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.17**	**329**		Pg	23 59 02.5	+0.1
CLC				Sg	Sg	23 59 05.2	+0.5
CLC				IAML		23 59 05.4	
	comp=N,33μm,0.3s						
CLC				IAML		23 59 05.4	
	comp=E,39μm,0.6s						
CCCA	**Chr Cany lake**	**0.18**	**145**	Pg	Pg	23 59 03.2	+0.6
CCCA				Sg	Sg	23 59 06.2	+1.2
SRTC	**Snort**	**0.21**	**275**		Sg	23 59 07.9	+1.9
LRMC	**Laurel Mtn Rad**	**0.25**	**219**		Pg	23 59 04.0	+0.1
LRMC				IAML		23 59 04.8	
	comp=E,10μm,0.4s						
LRMC				IAML		23 59 10.2	
	comp=N,18μm,0.3s						
WNMM	**Nine Mile Cany**	**0.38**	**297**		Pg	23 59 06.6	+0.2
WVPM	**Volcano Peak E**	**0.38**	**316**		Pg	23 59 06.7	+0.1
MPMC	**Manual Prospec**	**0.39**	**0**		Pg	23 59 06.5	-0.1
MPMC				IAML		23 59 12.3	
	comp=N,15μm,0.4s						
MPMC				IAML		23 59 12.7	
	comp=E,15μm,0.3s						
JRC2	**Joshua Ridge**	**0.40**	**320**		Pg	23 59 07.1	+0.2
WCSM	**Coso Springs S**	**0.42**	**328**		Pg	23 59 07.2	-0.1
WRVM	**Rose V. Centra**	**0.47**	**316**		Pg	23 59 08.1	0.0
QSM	**Queen of Sheba**	**0.58**	**60**		Pg	23 59 10.3	-0.1
QSM					Sg	23 59 18.1	+0.2
QSM				IAML		23 59 19.4	
	comp=N,9μm,0.3s						
GSC	**Goldstone, Bar**	**0.67**	**123**		Pg	23 59 11.8	-0.2
GSC				IAML		23 59 21.4	
	comp=N,4μm,0.4s						
GSC				IAML		23 59 21.6	
	comp=E,5μm,0.5s						
ISA	**Isabella, Lake**	**0.80**	**270**		Pg	23 59 14.2	-0.4
ISA				IAML		23 59 25.5	
	comp=E,5μm,0.4s						
ISA				IAML		23 59 26.1	
	comp=N,4μm,0.4s						
GWY	**Greenwater Val**	**0.84**	**52**		Pg	23 59 14.8	-0.4
GWY				IAML		23 59 29.7	
	comp=N,3μm,0.5s						
GWY				IAML		23 59 32.3	
	comp=E,3μm,0.4s						
CWC	**Cottonwood Cre**	**0.90**	**328**		Pg	23 59 16.3	-0.2
TPO	**Tropico Hills**	**1.00**	**218**		Pg	23 59 17.6	-0.7
TPO				IAML		23 59 37.9	
	comp=E,4μm,0.7s						
TPO				IAML		23 59 38.0	
	comp=N,3μm,0.5s						
AMDNV	**Amargosa**	**1.25**	**51**		Pg	23 59 21.8	-1.3
TUQ	**Turquoise Moun**	**1.30**	**100**		Pg	23 59 22.4	-1.6
WCT	**Wildcat Mounta**	**1.32**	**32**		Pg	23 59 23.1	-1.3
WCT				IAML		23 59 43.2	
	comp=E,993nm,0.4s						
GRAC	**Grapevine Rang**	**1.32**	**4**		Pg	23 59 23.8	-0.8
BFSC	**Mount Baldy Ra**	**1.44**	**186**		Pn	23 59 24.9	-1.3
BFSC				IAML		23 59 45.7	
	comp=E,2μm,0.7s						
BFSC				IAML		23 59 46.0	
	comp=N,1μm,0.7s						
OSI	**Osito Audit: C**	**1.46**	**224**		Pn	23 59 25.4	-1.1
OSI				IAML		23 59 51.6	
	comp=E,690nm,1.0s						
OSI				IAML		23 59 51.9	
	comp=N,981nm,0.8s						
MWC	**Mount Wilson**	**1.52**	**198**		Pn	23 59 26.4	-1.0
MWC				IAML		23 59 49.3	
	comp=E,1μm,0.4s						
MWC				IAML		23 59 49.9	
	comp=N,2μm,0.7s						
MTPC	**Mountain Pass**	**1.59**	**96**		Pn	23 59 26.7	-1.6
MTPC				IAML		23 59 51.3	
	comp=N,1μm,0.7s						
MTPC				IAML		23 59 52.0	
	comp=E,1μm,0.3s						
PASC	**Pasadena Art C**	**1.60**	**201**		Pn	23 59 27.4	-0.9
TPNV	**Topopah Spring**	**1.62**	**38**		Pn	23 59 27.6	-1.1
TPNV				IAML		23 59 54.5	
	comp=E,958nm,0.6s						
TPNV				IAML		00 00 02.0	
	comp=E,746nm,0.5s						
GMN	**Gold Mountain**	**1.64**	**6**		Pn	23 59 28.1	-1.0
GMN				IAML		23 59 57.6	
	comp=N,733nm,0.9s						
DSP	**Deep Springs**	**1.74**	**347**		Pn	23 59 29.6	-0.6
DSP				IAML		23 59 55.3	
	comp=N,607nm,0.5s						
DSP				IAML		23 59 55.6	
	comp=E,770nm,0.4s						
ELS	**Elsinore Mount**	**2.02**	**179**		Pn	23 59 33.2	-1.0
ELS				IAML		00 00 03.0	
	comp=N,439nm,0.4s						
ELS				IAML		00 00 03.6	
	comp=E,703nm,0.3s						
MZP	**Montezuma Peak**	**2.03**	**2**		Pn	23 59 33.8	-0.7
SHPR	**Sheep Range**	**2.06**	**66**		Pn	23 59 33.9	-1.0
V12A	**Nelson**	**2.15**	**88**		Pn	23 59 34.5	-1.5
V12A				IAML		00 00 11.6	
	comp=N,435nm,0.5s						
V12A				IAML		00 00 16.5	
	comp=E,328nm,0.4s						
PMD	**Palm Desert**	**2.22**	**155**		Pn	23 59 35.3	-1.5
PMD				IAML		00 00 12.2	
	comp=E,391nm,0.6s						
PFO	**Pinyon Flats O**	**2.22**	**157**		Pn	23 59 35.7	-1.3
PFO				IAML		00 00 12.5	
	comp=E,343nm,0.8s						
TPH	**Tonopah**	**2.41**	**5**		Pn	23 59 38.9	-0.7
S11A	**Rachel**	**2.42**	**35**		Pn	23 59 38.6	-1.1
S11A				IAML		00 00 21.0	
	comp=E,559nm,0.8s						
S11A				IAML		00 00 22.1	
	comp=N,350nm,1.4s						
NEE2	**Needles Airpor**	**2.52**	**110**		Pn	23 59 39.0	-1.9
BORC	**Borrego Spring**	**2.56**	**159**		Pn	23 59 40.2	-1.3
BORC				IAML		00 00 22.0	
	comp=E,349nm,0.4s						
BORC				IAML		00 00 22.2	
	comp=N,285nm,0.5s						
PRN	**Pahroc Range**	**2.62**	**48**		Pn	23 59 41.5	-0.9
PRN				IAML		00 00 28.0	
	comp=N,409nm,0.4s						
PRN				IAML		00 00 29.4	
	comp=E,326nm,1.1s						
SALN	**Salton City**	**2.69**	**152**		Pn	23 59 41.7	-1.6
LHV	**Little Huntoon**	**2.70**	**343**		Pn	23 59 43.5	+0.1
LHV				IAML		00 00 31.3	
	comp=N,334nm,1.1s						
LHV				IAML		00 00 34.7	
	comp=E,438nm,0.7s						
DPP	**Dos Picos Cty**	**2.71**	**170**		Pn	23 59 42.3	-1.3
DPP				IAML		00 00 23.9	
	comp=N,227nm,0.2s						
DPP				IAML		00 00 24.7	
	comp=E,449nm,0.7s						
PMPB	**Monarch Peak**	**2.74**	**282**		Pn	23 59 42.8	-1.3
NV11	**Mina Array Sit**	**2.81**	**349**		Pn	23 59 44.2	-0.9
NV11				IAML		00 00 33.4	
	comp=E,229nm,1.4s						
NVAR	**Mina Array Bea**	**2.83**	**347**		Pn	23 59 45.0	-0.5
W13A	**Hualapai Mount**	**3.00**	**100**		Pn	23 59 46.2	-1.6
BBGB	**Big Mountain B**	**3.01**	**288**		Pn	23 59 47.4	-0.5
RYN	**Ryan**	**3.06**	**345**		Pn	23 59 48.4	-0.2
R11B	**Troy Canyon, C**	**3.08**	**29**		Pn	23 59 47.5	-1.3
BLYC	**Blythe**	**3.11**	**127**		Pn	23 59 46.9	-2.2
BLYC				IAML		00 00 39.0	
	comp=N,248nm,0.5s						
BLYC				IAML		00 00 39.9	
	comp=E,238nm,0.5s						
YUH	**Yuha Desert**	**3.29**	**156**		Pn	23 59 49.7	-1.7
CMB	**Columbia Colle**	**3.31**	**316**		Pn	23 59 51.8	-0.1
CMB				IAML		00 00 52.6	
	comp=N,134nm,0.8s						
SAO	**San Andreas Ge**	**3.38**	**290**		Pn	23 59 52.0	-0.8
GLA	**Glamis**	**3.42**	**139**		Pn	23 59 51.0	-2.4
GLA				IAML		00 00 53.1	
	comp=E,322nm,0.6s						
GLA				IAML		00 00 55.8	
	comp=N,251nm,1.0s						
CBX	**Cerro Bola**	**3.42**	**168**		Pn	23 59 52.6	-0.9
CCUT	**Cedar City**	**3.81**	**59**		Pn	23 59 58.4	-0.6
ESJX	**Sierra Juarez**	**3.88**	**160**		Pn	23 59 59.3	-0.5
ESJX				IAML		00 01 04.4	
	comp=N,87nm,0.9s						
ESJX				IAML		00 01 05.6	
	comp=E,94nm,0.8s						
KNB	**Kanab**	**4.00**	**69**		Pn	00 00 01.6	+0.1
KNB				IAML		00 01 11.4	
	comp=E,69nm,0.9s						
KNB				IAML		00 01 29.5	
	comp=N,69nm,1.1s						
SZCU	**Shurtz Canyon**	**4.03**	**60**		Pn	00 00 02.3	+0.4
SZCU				IAML		00 01 06.8	
	comp=E,65nm,0.3s						
PSUT	**Pine Spring**	**4.07**	**44**		Pn	00 00 02.1	-0.4
PSUT				IAML		00 01 19.1	
	comp=E,64nm,0.6s						
Y14A	**Wickenburg**	**4.08**	**114**		Pn	00 00 00.7	-1.8
Y14A				IAML		00 01 13.3	
	comp=N,167nm,0.5s						
Y14A				IAML		00 01 15.8	
	comp=E,134nm,0.7s						
SPR3	**Spring Creek 3**	**4.17**	**36**		Pn	00 00 02.1	-1.8
113A	**Mohawk Valley,**	**4.23**	**132**		Pn	00 00 02.4	-2.1
U15A	**North Rim**	**4.28**	**78**		Pn	00 00 05.6	+0.2
U15A				IAML		00 01 19.9	
	comp=E,76nm,0.7s						
U15A				IAML		00 01 23.0	
	comp=N,60nm,1.3s						
PAHR	**Pah Rah Range**	**4.30**	**340**		Pn	00 00 05.4	-0.2
WUAZ	**Wupatki**	**4.99**	**90**		Pn	00 00 14.3	-0.8
WUAZ				IAML		00 01 37.5	
	comp=N,88nm,0.9s						
WUAZ				IAML		00 01 38.4	
	comp=N,93nm,0.9s						
ELK	**Elko**	**5.37**	**19**		Pn	00 00 19.5	-0.8
HMU	**Henry Mountain**	**5.87**	**65**	Pn	Pn	00 00 27.1	-0.1
X18A	**Snowflake**	**6.29**	**98**		Pn	00 00 33.4	+0.5
BGU	**Big Grassy Mou**	**6.31**	**32**		Pn	00 00 33.0	-0.2
TUC	**Tucson**	**6.50**	**119**	Pn	Pn	00 00 33.9	-1.8
SRU	**San Rafael Swe**	**6.52**	**56**		Pn	00 00 36.6	+0.4
MVCO	**Mesa Verde**	**7.41**	**75**	Pn	Pn	00 00 49.0	+0.7

*NEIC **11** 00:05:40.7±1.2,35°.223N±0°.009×97°.73W±0°.01,h5km±1km, mb_Lg2.2/16,ML2.2/40,ML2.3/13,Error ellipse: s-maj=2.4km s-min=1.8km az=101.0*

NEIC 11 00:05:40.7±1.3,**35°.237N**±0°.005×**97°.74W**±0°.01,**h6**km±2km, **Error ellipse: s-maj=1.5km s-min=0.7km az=107.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.28**	**86**		Pg	00 05 46.7	+0.5
OKCSW	**OKLAHOMA CITY**	**0.30**	**56**		Pg	00 05 46.8	+0.2
OKCSW					Sg	00 05 51.7	+1.2
OKCSW				IAML		00 05 52.0	
	comp=E,284nm,0.5s						
BCOK	**Bluff Creek, N**	**0.43**	**15**		Pg	00 05 49.7	+0.7
BCOK					Sg	00 05 55.7	+1.0
X34A	**Smith Ranch, M**	**0.64**	**187**		Pg	00 05 51.9	-1.1
X34A					Sg	00 06 00.6	-0.7
X34A				IAML		00 06 03.6	
	comp=N,129nm,0.3s						
X34A				IAML		00 06 03.7	
	comp=E,90nm,0.5s						
CSTR	**Hydro, Custer**	**0.87**	**298**	Pg	Pg	00 05 57.6	+0.1
CSTR					Sg	00 06 09.2	+0.4
WMOK	**Wichita Mounta**	**0.99**	**240**		Pg	00 05 58.5	-1.1
WMOK					Sg	00 06 11.8	-0.6
OK052	**Battle Ridge R**	**1.07**	**45**		Pg	00 06 00.7	-0.6
OK052					Sg	00 06 15.5	+0.2
DEOK	**Depew**	**1.18**	**59**		Pg	00 06 02.2	-1.1
DEOK					Sg	00 06 18.8	+0.2
DEOK				IAML		00 06 23.5	
	comp=E,60nm,0.2s						
DEOK				IAML		00 06 24.9	
	comp=N,81nm,0.5s						
QUOK	**Quay**	**1.26**	**42**		Pg	00 06 03.9	-0.8
QUOK					Sg	00 06 20.9	-0.2
CROK	**Carrier**	**1.28**	**351**		Pn	00 06 04.3	-0.9
CROK					Sg	00 06 21.8	-0.1
OK048	**Pawnee Station**	**1.34**	**29**		Pn	00 06 05.2	-0.9
OK051	**E0350 and S346**	**1.46**	**30**		Pn	00 06 06.9	-0.8
OK038	**West end E0370**	**1.48**	**327**		Pn	00 06 07.2	-0.7
WTFS	**Witchita Falls**	**1.58**	**202**		Pn	00 06 08.7	-0.6
GC02	**Grant County #**	**1.61**	**357**		Pn	00 06 09.4	-0.3
GC02					Sb	00 06 31.8	+0.2
TUL3	**Leonard**	**1.73**	**67**		Pn	00 06 11.5	+0.2
KAN13	**South Haven SW**	**1.79**	**7**	IAmb_Lg		00 06 37.7	
	comp=Z,11nm,0.7s						
KAN17	**Caldwell West**	**1.80**	**359**	IAmb_Lg		00 06 41.7	
	comp=Z,14nm,0.9s						
KAN09	**Caldwell North**	**1.90**	**3**		Pn	00 06 14.0	+0.3
KAN09				IAmb_Lg		00 06 44.0	
	comp=Z,16nm,0.9s						
SMWD	**Samnorwood**	**2.05**	**267**		Pn	00 06 16.8	+1.0
PLPT	**Palo Pinto**	**2.46**	**191**		Pn	00 06 21.2	-0.2
PLPT				IAmb_Lg		00 07 02.2	
	comp=Z,5.1nm,0.8s						
BRDY	**Brady**	**4.08**	**195**	IAmb_Lg		00 07 50.6	
	comp=Z,4.2nm,0.7s						
X40A	**Basin Creek Fa**	**4.10**	**99**	IAmb_Lg		00 07 55.0	
	comp=Z,12nm,1.2s						
JCT	**Junction City**	**5.05**	**201**	IAmb_Lg		00 08 33.9	
	comp=Z,5.1nm,0.8s						
P38A	**Dawn**	**5.51**	**36**	IAmb_Lg		00 08 45.6	
	comp=Z,5.1nm,0.8s						

*PAS **11** 00:08:54.5±1.2,36°.174N±0°.010×117°.88W±0°.02, h0km±1km,ML3.1/23,ML2.9/112(NEIC),Error ellipse: s-maj=1.8km s-min=1.5km az=104.0*

NEIC 11 00:08:54.0±1.1,**36°.175N**±0°.010×**117°.88W**±0°.01, **h3**km±2km,**Error ellipse: s-maj=1.7km s-min=1.4km az=77.0,California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.06**	**159**		Pg	00 08 56.0	+0.6
WRVM	**Rose V. Centra**	**0.17**	**182**		Pg	00 08 58.0	+0.7
WCSM	**Coso Springs S**	**0.17**	**148**		Pg	00 08 58.2	+0.8
JRC2	**Joshua Ridge**	**0.20**	**163**		Pg	00 08 58.6	+0.8
WVPM	**Volcano Peak E**	**0.23**	**167**		Pg	00 08 59.2	+0.7
WVPM					Sg	00 09 02.7	+1.2
CWC	**Cottonwood Cre**	**0.31**	**329**	Pg	Pg	00 09 00.6	+0.6
CWC				Sg	Sg	00 09 04.8	+0.7
CWC				IAML		00 09 06.3	
	comp=N,1μm,0.2s						
CWC				IAML		00 09 07.9	
	comp=E,1μm,0.2s						
WNMM	**Nine Mile Cany**	**0.33**	**183**		Pg	00 09 00.9	+0.6
WNMM					Sg	00 09 06.2	+1.6
TOW	**Tower One**	**0.38**	**165**		Pb	00 09 02.3	-1.0
CGO	**Cerro Gordo**	**0.38**	**10**		Pg	00 09 01.9	+0.5
CLC	**China Lake**	**0.43**	**147**		Pg	00 09 02.7	+0.5
CLC				Sg	Sg	00 09 08.6	+0.9
ISA	**Isabella, Lake**	**0.70**	**223**		Pg	00 09 07.8	+0.4
ISA				Sg	Sg	00 09 17.0	+0.5
ISA				IAML		00 09 17.7	
	comp=N,509nm,0.5s						
ISA				IAML		00 09 18.1	
	comp=E,474nm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.71**	**167**		Pg	00 09 08.1	+0.5
LRMC				IAML		00 09 22.8	
	comp=E,701nm,0.7s						
LRMC				IAML		00 09 24.4	
	comp=N,396nm,0.7s						
SPG2	**Springville 2**	**0.72**	**272**		Pg	00 09 08.1	+0.4
QSM	**Queen of Sheba**	**0.85**	**104**		Pg	00 09 10.7	+0.5
QSM				IAML		00 09 26.3	
	comp=N,542nm,0.6s						
GRAC	**Grapevine Rang**	**0.92**	**27**		Pg	00 09 12.0	+0.4
GRAC				IAML		00 09 28.2	
	comp=E,391nm,0.7s						
GRAC				IAML		00 09 31.3	
	comp=N,496nm,0.6s						
GWY	**Greenwater Val**	**0.98**	**89**		Pg	00 09 13.2	+0.4
GWY				IAML		00 09 32.3	
	comp=N,546nm,0.5s						
GWY				IAML		00 09 32.7	
	comp=E,467nm,0.5s						
WCT	**Wildcat Mounta**	**1.19**	**58**		Pg	00 09 16.7	0.0
WCT				IAML		00 09 35.5	
	comp=E,296nm,0.7s						
WCT				IAML		00 09 39.3	
	comp=N,154nm,1.1s						
DSP	**Deep Springs**	**1.20**	**357**		Pg	00 09 16.6	-0.3
DSP				IAML		00 09 38.8	
	comp=E,143nm,1.2s						
VOG	**Valley Oaks Go**	**1.22**	**277**		Pb	00 09 17.6	-0.1
GMN	**Gold Mountain**	**1.23**	**24**		Pg	00 09 17.3	-0.3
GSC	**Goldstone, Bar**	**1.23**	**135**		Pg	00 09 17.6	0.0
GSC				IAML		00 09 38.6	
	comp=N,382nm,0.6s						
MTUM	**Tungsten Hills**	**1.30**	**335**		Pg	00 09 18.9	0.0
TPO	**Tropico Hills**	**1.32**	**192**		Pg	00 09 18.9	-0.4
TPO				IAML		00 09 42.8	
	comp=E,219nm,0.7s						
TPO				IAML		00 09 47.2	
	comp=N,164nm,0.8s						
TPNV	**Topopah Spring**	**1.52**	**59**		Pn	00 09 22.4	+0.1
TPNV				IAML		00 09 45.4	
	comp=N,173nm,0.8s						
TPNV				IAML		00 09 47.7	
	comp=N,153nm,0.9s						
MZP	**Montezuma Peak**	**1.57**	**15**		Pn	00 09 23.0	-0.1
KCC	**Kaiser Creek**	**1.63**	**315**		Pb	00 09 24.4	-0.3
BENR	**Benton**	**1.63**	**340**		Pb	00 09 25.0	+0.1
OSI	**Osito Audit: C**	**1.70**	**204**		Pn	00 09 24.9	+0.3
OSI				IAML		00 09 51.9	
	comp=N,111nm,0.7s						
OSI				IAML		00 10 05.5	
	comp=E,142nm,0.8s						
BFSC	**Mount Baldy Ra**	**1.94**	**175**		Pn	00 09 27.7	-0.3
BFSC				IAML		00 09 57.8	
	comp=E,95nm,0.7s						
BFSC				IAML		00 10 00.5	
	comp=N,57nm,0.9s						
MWC	**Mount Wilson**	**1.95**	**184**		Pn	00 09 28.9	+0.7
MWC				IAML		00 09 59.1	
	comp=E,83nm,0.8s						
MWC				IAML		00 10 02.0	
	comp=N,112nm,0.7s						
TPH	**Tonopah**	**1.97**	**15**		Pn	00 09 29.1	+0.6
MTPC	**Mountain Pass**	**2.01**	**109**		Pn	00 09 28.4	-0.7
MTPC				IAML		00 10 01.4	
	comp=E,90nm,0.6s						
MTPC				IAML		00 10 03.0	
	comp=N,104nm,0.8s						
TSCN	**Private Proper**	**2.10**	**253**		Pb	00 09 32.0	-0.7
LHV	**Little Huntoon**	**2.13**	**347**		Pn	00 09 30.6	+0.2
LHV				IAML		00 10 08.7	
	comp=E,76nm,1.2s						
LHV				IAML		00 10 09.2	
	comp=N,64nm,1.0s						
SHPR	**Sheep Range**	**2.22**	**81**		Pn	00 09 32.4	+0.4
**S11A

W13A	**Hualapai Mount**	**3.43**	**107**			Pn	00 09 48.7	+0.2
W13A					IAML		00 10 47.8	
	comp=E,16nm,0.8s							
W13A					IAML		00 10 48.8	
	comp=N,23nm,1.1s							
LCMT	**Little Creek M**	**3.83**	**76**			Pn	00 09 54.4	+0.5
YUH	**Yuha Desert**	**3.87**	**155**			Pn	00 09 55.0	+0.6
CCUT	**Cedar City**	**3.88**	**68**			Pn	00 09 55.6	+0.9
CBX	**Cerro Bola**	**3.98**	**165**	Pn		Pn	00 09 57.2	+1.1
SPR3	**Spring Creek 3**	**3.99**	**44**			Pn	00 09 57.4	+1.1
SPR3					IAML		00 11 04.2	
	comp=N,15nm,0.7s							
SPR3					IAML		00 11 04.8	
	comp=E,18nm,1.0s							
KNB	**Kanab**	**4.16**	**77**			Pn	00 09 59.7	+1.2
KNB					IAML		00 11 07.8	
	comp=N,14nm,1.2s							
KNB					IAML		00 11 12.1	
	comp=E,19nm,1.2s							
U15A	**North Rim**	**4.52**	**85**			Pn	00 10 05.5	+1.8
U15A					IAML		00 11 21.9	
	comp=N,14nm,1.3s							
U15A					IAML		00 11 28.1	
	comp=E,15nm,1.2s							
ELK	**Elko**	**5.01**	**24**			Pn	00 10 10.5	+0.2
DUG	**Dugway, Tooele**	**5.66**	**43**			Pn	00 10 19.5	+0.3

NEIC ***11*** *00:14:36.8±0.9,36.°176N±0.°010×117.°88W±0.°01, h2km±2km, Error ellipse: s-maj=1.8km s-min=1.4km az=109.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=2.19; Mθθ=1.36; Mϕϕ=3.55; Mrθ=1.20; Mθϕ=3.56; Mϕr=1.59; Fault plane solution: M₀5.12000×10¹⁵ NP1:ϕ=349.73000°, δ=69.62000°, λ=-146.89000°. NP2: ϕ=246.94000°, δ=59.20000°, λ=-23.92000°. Principal axes: T 5.5147, Plg7.0000°, Azm116.0000°; N -0.9084, Plg52.0000°, Azm18.0000°; P -4.6063, Plg37.0000°, Azm211.0000°;*

NEIC ***11*** *00:14:37.3, 36.°18N×117.°88W, h1km*

PAS ***11*** *00:14:37.3±1.0, 36.°177N±0.°008×117.°88W±0.°01, h1km±2km, Mwr4.5/6, mb4.2/30(NEIC), ML4.4/166(NEIC), Mwr4.4/164(NEIC), Error ellipse: s-maj=1.7km s-min=0.9km az=121.0*

IDC ***11*** *00:14:37.8±0.6, 36.°10N×117.°76W, h0km, mb3.9/7, mbtmp3.8/14, ML3.8/7, MS3.5/15, Error ellipse: s-maj=13.5km s-min=5.3km az=70.0*

ISC 11 00:14:37.7±1.0, 36.°16N±0.°02×117.°87W±0.°02, h2km±7km, n166, σ1§16/184, mb4.0/9, MS3.6/10, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.04**	**160**			**Pg**	**00 14 38.9**	**+0.2**
MFS						**Sg**	**00 14 40.1**	**+0.7**
WRVM	**Rose V. Centra**	**0.15**	**185**			**Pg**	**00 14 40.9**	**+0.2**
WRVM						**Sg**	**00 14 43.5**	**+0.8**
WCSM	**Coso Springs S**	**0.16**	**147**			**Pg**	**00 14 41.1**	**+0.3**
WCSM						**Sg**	**00 14 43.9**	**+1.0**
JRC2	**Joshua Ridge**	**0.18**	**163**			**Pg**	**00 14 41.5**	**+0.2**
JRC2						**Sg**	**00 14 44.6**	**+0.9**
WVPM	**Volcano Peak E**	**0.21**	**168**			**Pg**	**00 14 42.1**	**+0.2**
WVPM						**Sg**	**00 14 45.6**	**+1.0**
WNMM	**Nine Mile Cany**	**0.32**	**185**			**Pg**	**00 14 43.8**	**0.0**
WNMM						**Sg**	**00 14 48.8**	**+0.9**
CWC	**Cottonwood Cre**	**0.33**	**329**			**Pg**	**00 14 43.5**	**-0.6**
MPMC	**Manual Prospec**	**0.33**	**108**			**Sg**	**00 14 49.2**	**+0.9**
TOW	**Tower One**	**0.36**	**166**			**Pg**	**00 14 45.2**	**+0.6**
TOW						**Sg**	**00 14 51.4**	**+2.1**
CGO	**Cerro Gordo**	**0.40**	**8**			**Pg**	**00 14 44.7**	**-0.7**
CGO						**Sg**	**00 14 50.3**	**-0.3**
CLC	**China Lake**	**0.41**	**147**			**Pg**	**00 14 45.6**	**0.0**
CLC						**Sg**	**00 14 51.5**	**+0.6**
SRTC	**Snort**	**0.48**	**168**			**Pg**	**00 14 47.4**	**+0.6**
SRTC						**Sb**	**00 14 55.4**	**-1.0**
WORM	**Onyx Ranch**	**0.55**	**213**			**Pg**	**00 14 48.0**	**-0.3**
WORM						**Sg**	**00 14 55.7**	**+0.3**
WHFM	**Hanning Flat**	**0.60**	**220**			**Pg**	**00 14 49.0**	**-0.3**
WHFM						**Sg**	**00 14 57.6**	**+0.5**
WBSM	**Bird Springs**	**0.66**	**199**			**Pg**	**00 14 50.2**	**-0.1**
WBSM						**Sg**	**00 14 59.7**	**+0.8**
ISA	**Isabella, Lake**	**0.69**	**225**			**Pg**	**00 14 50.7**	**-0.4**
ISA					IAML		00 15 00.7	
	comp=N,11μm,0.6s							
ISA					IAML		00 15 02.0	
	comp=E,13μm,0.7s							
ISA	**Isabella, Lake**	**0.69**	**225**			**Sg**	**00 14 60.0**	**-0.1**
LRMC	**Laurel Mtn Rad**	**0.70**	**167**			**Pg**	**00 14 50.9**	**-0.1**
LRMC						**Sg**	**00 15 00.8**	**+0.7**
LRMC					IAML		00 15 01.7	
	comp=E,17μm,0.5s							
LRMC					IAML		00 15 03.4	
	comp=N,13μm,0.3s							
WASM	**Alta Sierra Ca**	**0.70**	**233**			**Pg**	**00 14 50.7**	**-0.4**
WASM						**Sg**	**00 15 00.4**	**+0.3**
SPG2	**Springville 2**	**0.72**	**274**			**Pg**	**00 14 51.0**	**-0.7**
SPG2						**Sg**	**00 15 00.7**	**-0.3**
CCCA	**Chr Cany lake**	**0.76**	**147**			**Pg**	**00 14 52.5**	**+0.2**
QSM	**Queen of Sheba**	**0.84**	**103**			**Pg**	**00 14 53.4**	**-0.3**
QSM					IAML		00 15 09.7	
	comp=E,17μm,1.2s							
QSM					IAML		00 15 11.9	
	comp=N,17μm,0.7s							
FURC	**Furnace Creek,**	**0.87**	**69**			**Pg**	**00 14 54.4**	**-0.1**
FURC						**Sg**	**00 15 06.3**	**+0.5**
DTP	**Desert Tortois**	**0.89**	**179**			**Pg**	**00 14 54.4**	**-0.4**
GRAC	**Grapevine Rang**	**0.93**	**26**			**Pg**	**00 14 54.8**	**-0.8**
GRAC						**Sg**	**00 15 08.0**	**+0.4**
GRAC	**Grapevine Rang**	**0.93**	**26**		IAML		00 15 13.5	
	comp=N,12μm,0.6s							
GRAC					IAML		00 15 18.8	
	comp=E,10μm,1.0s							
TIN	**Tinemaha, Big**	**0.94**	**342**			**Pg**	**00 14 54.7**	**-1.1**
TIN						**Sg**	**00 15 08.0**	**+0.1**
GWY	**Greenwater Val**	**0.97**	**88**			**Pg**	**00 14 56.1**	**-0.4**
GWY					IAML		00 15 15.0	
	comp=N,13μm,1.1s							
GWY					IAML		00 15 15.7	
	comp=E,11μm,0.6s							
CCAC	**Calif City Air**	**1.01**	**187**			**Pg**	**00 14 56.6**	**-0.5**
CCAC						**Sg**	**00 15 10.7**	**+0.5**
VES	**Vestal, Richgr**	**1.03**	**252**			**Pg**	**00 14 57.0**	**-0.5**
VES						**Sg**	**00 15 11.2**	**+0.3**
SGV	**South Grapevin**	**1.06**	**39**			**Pg**	**00 14 57.2**	**-1.0**
LCH	**Last Change Ra**	**1.09**	**10**			**Pg**	**00 14 57.1**	**-1.5**
TEJ	**El Tejon**	**1.14**	**216**			**Pb**	**00 14 58.7**	**-1.6**
TEJ						**Sb**	**00 15 14.4**	**-1.1**
MAGC	**SCE Magundon P**	**1.17**	**227**			**Pb**	**00 14 59.5**	**-1.1**
WCT	**Wildcat Mounta**	**1.19**	**57**			**Pb**	**00 14 59.4**	**-1.7**
WCT					IAML		00 15 18.5	
	comp=E,6μm,1.5s							
DSP	**Deep Springs**	**1.21**	**356**			**Pn**	**00 14 59.2**	**-2.5**
GSC	**Goldstone, Bar**	**1.22**	**134**			**Pn**	**00 15 00.3**	**-1.6**
GSC					IAML		00 15 20.7	
	comp=E,11μm,0.8s							
GSC					IAML		00 15 21.3	
	comp=N,10μm,0.9s							
VOG	**Valley Oaks Go**	**1.23**	**278**			**Pn**	**00 15 00.4**	**-1.6**
BHPR	**Bishop**	**1.24**	**337**			**Pn**	**00 15 00.3**	**-2.0**
GMN	**Gold Mountain**	**1.24**	**23**			**Pn**	**00 15 00.3**	**-2.1**
GMN					IAML		00 15 23.6	
	comp=N,5μm,0.5s							
POCCA	**Poleta Canyon**	**1.25**	**345**			**Pn**	**00 15 00.4**	**-2.0**
EDW2	**Edwards Air Fo**	**1.28**	**184**			**Sb**	**00 15 18.2**	**-1.3**
TPO	**Tropico Hills**	**1.31**	**193**			**Pn**	**00 15 01.8**	**-1.4**
TPO					IAML		00 15 25.9	
	comp=E,8μm,0.7s							
TPO					IAML		00 15 30.3	
	comp=N,5μm,1.1s							
AMDNV	**Amargosa**	**1.32**	**77**			**Pn**	**00 15 01.8**	**-1.4**
SHOC	**Shoshone, Teco**	**1.32**	**101**			**Pn**	**00 15 01.6**	**-1.7**
TPNV	**Topopah Spring**	**1.53**	**58**			**Pn**	**00 15 05.3**	**-1.0**
TPNV					IAML		00 15 28.5	
	comp=N,3μm,0.8s							
TPNV					IAML		00 15 32.9	
	comp=N,4μm,0.8s							
MZP	**Montezuma Peak**	**1.59**	**14**			**Pn**	**00 15 06.3**	**-0.9**
KCC	**Kaiser Creek**	**1.64**	**315**			**Pn**	**00 15 07.2**	**-0.5**
BENR	**Benton**	**1.65**	**340**			**Pn**	**00 15 07.6**	**-0.5**
MLAC	**Mammoth, Mammo**	**1.66**	**333**			**Pn**	**00 15 08.1**	**0.0**
OSI	**Osito Audit: C**	**1.69**	**205**			**Pn**	**00 15 07.9**	**-0.5**
OSI					IAML		00 15 34.5	
	comp=E,4μm,0.8s							
OSI					IAML		00 15 39.7	
	comp=N,6μm,0.9s							
FRI	**Friant**	**1.69**	**300**			**Pn**	**00 15 07.8**	**-0.6**
MCSM	**Casa Diablo Ho**	**1.71**	**331**			**Pn**	**00 15 09.0**	**+0.2**
TUQ	**Turquoise Moun**	**1.74**	**114**			**Pn**	**00 15 07.8**	**-1.3**
BFSC	**Mount Baldy Ra**	**1.92**	**175**			**Pn**	**00 15 10.9**	**-0.7**
BFSC					IAML		00 15 41.1	
	comp=E,3μm,1.1s							
BFSC					IAML		00 15 41.5	
	comp=N,2μm,0.9s							
MWC	**Mount Wilson**	**1.94**	**185**			**Pn**	**00 15 11.5**	**-0.4**
MWC					IAML		00 15 41.7	
	comp=E,4μm,0.9s							
MWC					IAML		00 15 45.1	
	comp=N,4μm,0.8s							
TPH	**Tonopah**	**1.98**	**15**			**Pn**	**00 15 12.1**	**-0.4**
TPH					IAML		00 15 49.8	
	comp=E,5μm,0.9s							
PASC	**Pasadena Art C**	**2.00**	**187**			**Pn**	**00 15 12.3**	**-0.3**
PASC					IAML		00 15 42.9	
	comp=E,3μm,1.0s							
MTPC	**Mountain Pass**	**2.00**	**109**			**Pn**	**00 15 11.4**	**-1.3**
MTPC					IAML		00 15 51.1	
	comp=N,3μm,1.4s							
MTPC					IAML		00 15 52.2	
	comp=E,2μm,1.2s							
PKM	**Mcpherson Peak**	**2.03**	**232**			**Pn**	**00 15 13.7**	**+0.6**
LHV	**Little Huntoon**	**2.15**	**347**			**Pn**	**00 15 13.6**	**-1.0**
LHV					IAML		00 15 51.0	
	comp=E,2μm,1.5s							
LHV					IAML		00 15 55.3	
	comp=N,2μm,1.7s							
SHPR	**Sheep Range**	**2.22**	**80**			**Pn**	**00 15 15.2**	**-0.5**
S11A	**Rachel**	**2.26**	**48**			**Pn**	**00 15 15.4**	**-0.8**
GMRC	**Granite Mounta**	**2.27**	**127**			**Pn**	**00 15 14.6**	**-1.8**
NV11	**Mina Array Sit**	**2.28**	**354**			**Pn**	**00 15 15.9**	**-0.6**
NVAR	**Mina Array Bea**	**2.29**	**352**			**Pn**	**00 15 16.5**	**-0.3**
NVAR	**Mina Array Bea**	**2.29**	**352**	Pn		**Pn**	**00 15 16.3**	**-0.5**
	comp=N,12nm,0.3s,baz=180,slow=14,SNR=64							
NVAR					Pg	**Pg**	**00 15 22.7**	**+1.0**
	comp=N,93nm,0.3s,baz=173,slow=14,SNR=36							
NVAR					Sn	**Sb**	**00 15 49.5**	**+0.7**
	comp=N,110nm,0.3s,baz=170,slow=27,SNR=8.3							
NVAR					LR	LR	00 16 25.0	
	comp=N,776nm,18.2s,baz=314,slow=46 comp=N,32nm,0.4s							
PMPB	**Monarch Peak**	**2.37**	**272**			**Pn**	**00 15 17.7**	**0.0**
V12A	**Nelson**	**2.49**	**99**			**Pn**	**00 15 18.3**	**-1.1**
V12A					IAML		00 16 06.1	
	comp=N,1μm,1.6s							
RYN	**Ryan**	**2.52**	**348**			**Pn**	**00 15 19.4**	**-0.5**
ELS	**Elsinore Mount**	**2.53**	**172**			**Pn**	**00 15 19.6**	**-0.3**
ELS					IAML		00 16 04.3	
	comp=E,2μm,1.6s							
PRN	**Pahroc Range**	**2.59**	**60**			**Pn**	**00 15 20.0**	**-0.7**
BBGB	**Big Mountain B**	**2.59**	**280**			**Pn**	**00 15 21.3**	**+0.6**
WAKR	**Walker**	**2.65**	**332**			**Pn**	**00 15 22.6**	**+0.8**
WAKR					IAML		00 16 15.7	
	comp=E,1μm,2.4s							
Q09A	**Carvers**	**2.73**	**11**			**Pn**	**00 15 23.4**	**+0.6**
PMD	**Palm Desert**	**2.79**	**153**			**Pn**	**00 15 22.5**	**-0.9**
PMD					IAML		00 16 15.1	
	comp=E,841nm,1.4s							
PFO	**Pinyon Flats O**	**2.79**	**155**			**Pn**	**00 15 22.9**	**-0.7**
PFO					IAML		00 16 24.2	
	comp=E,1μm,1.2s							
PFO	**Pinyon Flats O**	**2.79**	**155**	Pn		**Pn**	**00 15 22.8**	**-0.8**
	comp=E,5.3nm,0.3s,baz=336,slow=12,SNR=30							
PFO					Pg	**Pb**	**00 15 25.9**	**-2.6**
	comp=E,8.5nm,0.3s,baz=334,slow=14,SNR=47							
PFO					Sn	**Sn**	**00 15 56.1**	**-1.9**
	comp=E,30nm,0.3s,baz=283,slow=12,SNR=6.1							
PFO					LR	LR	00 16 01.3	
	comp=E,230nm,21.7s,baz=332,slow=31							
PFO					Lg	Lg	00 16 03.2	
	comp=E,36nm,0.3s,baz=106,slow=20,SNR=5.5 comp=E,46nm,0.7s							
R11B	**Troy Canyon, C**	**2.85**	**39**			**Pn**	**00 15 23.4**	**-1.0**
R11B					IAML		00 17 14.2	
	comp=E,898nm,0.7s							
SAO	**San Andreas Ge**	**2.94**	**283**	Pn		**Pn**	**00 15 25.4**	**-0.2**
NEE2	**Needles Airpor**	**3.00**	**117**			**Pn**	**00 15 24.7**	**-1.6**
NEE2					IAML		00 16 15.8	
	comp=N,2μm,1.3s							
NEE2					IAML		00 16 30.8	
	comp=E,1μm,1.0s							
BORC	**Borrego Spring**	**3.12**	**157**			**Pn**	**00 15 27.4**	**-0.6**
BORC					IAML		00 16 27.9	
	comp=E,1μm,1.2s							
BORC					IAML		00 16 30.5	
	comp=N,653nm,1.6s							
DPP	**Dos Picos Cty**	**3.25**	**166**			**Pn**	**00 15 29.3**	**-0.4**
DPP					IAML		00 16 27.6	
	comp=E,707nm,1.3s							
SALN	**Salton City**	**3.27**	**151**			**Pn**	**00 15 29.9**	**0.0**
W13A	**Hualapai Mount**	**3.42**	**107**			**Pn**	**00 15 31.1**	**-1.1**
W13A					IAML		00 16 31.8	
	comp=N,628nm,1.4s							
W13A					IAML		00 16 44.3	
	comp=E,596nm,2.0s							
MPK	**Martis Peak**	**3.57**	**332**			**Pn**	**00 15 33.3**	**-1.1**
MPK					IAML		00 17 52.9	
	comp=E,1μm,1.2s							
BLYC	**Blythe**	**3.65**	**130**			**Pn**	**00 15 33.7**	**-1.6**
BLYC					IAML		00 16 41.9	
	comp=E,570nm,1.0s							
BLYC					IAML		00 16 53.4	
	comp=N,468nm,0.9s							
AFDM	**Forest Hills D**	**3.72**	**319**			**Pn**	**00 15 35.9**	**-0.3**
AFDM					IAML		00 17 37.0	
	comp=E,940nm,0.5s							
TKX	**Tecate**	**3.73**	**163**			**Pn**	**00 15 35.0**	**-1.4**
PAHR	**Pah Rah Range**	**3.74**	**342**			**Pn**	**00 15 36.6**	**-0.1**
LCMT	**Little Creek M**	**3.82**	**76**			**Pn**	**00 15 37.6**	**-0.2**
YUH	**Yuha Desert**	**3.86**	**155**			**Pn**	**00 15 37.2**	**-0.9**
YUH					IAML		00 16 59.5	
	comp=E,366nm,2.0s							
CCUT	**Cedar City**	**3.88**	**68**			**Pn**	**00 15 38.7**	**+0.1**
CCUT					IAML		00 17 57.4	
	comp=E,361nm,4.6s							
CBX	**Cerro Bola**	**3.96**	**165**			**Pn**	**00 15 40.0**	**+0.3**
PSUT	**Pine Spring**	**3.98**	**52**			**Pn**	**00 15 40.2**	**+0.2**
PSUT					IAML		00 17 47.5	
	comp=N,712nm,0.8s							
PSUT					IAML		00 17 48.1	
	comp=E,714nm,1.6s							
GLA	**Glamis**	**3.99**	**140**			**Pn**	**00 15 38.3**	**-1.7**
GLA					IAML		00 16 53.6	
	comp=N,698nm,1.2s							
SPR3	**Spring Creek 3**	**3.99**	**44**			**Pn**	**00 15 39.2**	**-1.1**
SPR3					IAML		00 16 47.7	
	comp=E,606nm,1.0s							
SPR3					IAML		00 17 55.5	
	comp=N,465nm,1.1s							
KNB	**Kanab**	**4.15**	**77**			**Pn**	**00 15 42.3**	**-0.1**
KNB					IAML		00 16 54.5	
	comp=E,698nm,1.3s							
KNB					IAML		00 17 55.3	
	comp=N,530nm,1.9s							
BEKR	**Beckworth**	**4.19**	**333**			**Pn**	**00 15 42.6**	**-0.3**
BEKR					IAML		00 18 06.0	
	comp=N,382nm,0.8s							
CCX	**Cicese**	**4.40**	**166**			**Pn**	**00 15 45.9**	**+0.4**
CCX					IAML		00 17 02.4	
	comp=E,569nm,1.5s							
CCX					IAML		00 17 06.5	
	comp=N,392nm,1.0s							
ESJX	**Sierra Juarez**	**4.44**	**158**			**Pn**	**00 15 46.0**	**-0.3**
ESJX					IAML		00 17 09.1	
	comp=E,414nm,1.5s							
ORV	**Oroville**	**4.44**	**321**			**Pn**	**00 15 47.7**	**+1.6**
ORV					IAML		00 17 58.3	
	comp=E,577nm,0.8s							
ORV					IAML		00 18 06.1	
	comp=N,419nm,0.8s							
U15A	**North Rim**	**4.52**	**85**			**Pn**	**00 15 48.5**	**+1.1**
U15A					IAML		00 17 05.0	
	comp=N,496nm,1.4s							
U15A					IAML		00 17 09.9	
	comp=E,407nm,1.1s							
Y14A	**Wickenburg**	**4.57**	**118**			**Pn**	**00 15 46.7**	**-1.3**
Y14A					IAML		00 17 13.3	
	comp=N,485nm,1.1s							
Y14A					IAML		00 17 20.0	
	comp=E,313nm,2.2s							
GDXM	**Geysers**	**4.72**	**306**			**Pn**	**00 15 50.7**	**+0.6**
113A	**Mohawk Valley,**	**4.79**	**134**			**Pn**	**00 15 50.4**	**-0.5**
113A					IAML		00 17 26.5	
	comp=E,207nm,1.7s							
113A					IAML		00 17 41.8	
	comp=N,188nm,1.7s							
HOPS	**Hopland Field**	**5.00**	**306**	Pn		**Pn**	**00 15 53.2**	**-0.7**
ELK	**Elko**	**5.02**	**24**			**Pn**	**00 15 54.8**	**+0.4**
ELK	**Elko**	**5.02**	**24**	Pn		**Pn**	**00 15 54.9**	**+0.4**
	comp=N,7.0nm,0.3s,baz=215,slow=9.4,SNR=70							
ELK					Pg	**Pb**	**00 16 08.7**	**+2.1**
	comp=N,8.6nm,0.3s,baz=208,slow=14,SNR=26							
ELK					Lg	Lg	00 17 13.8	
	comp=N,21nm,0.3s,baz=23,slow=13,SNR=9.8							
ELK					LR	LR	00 17 38.9	
	comp=N,190nm,21.4s,baz=200,slow=36 comp=N,16nm,0.4s							
WUAZ	**Wupatki**	**5.32**	**95**			**Pn**	**00 15 59.5**	**+1.1**
X16A	**Lo Mia Camp, P**	**5.54**	**106**			**Pn**	**00 16 01.8**	**+0.4**
214A	**Organ Pipe Nat**	**5.93**	**133**			**Pn**	**00 16 04.9**	**-1.8**
HMU	**Henry Mountain**	**5.97**	**71**	Pn		**Pn**	**00 16 08.5**	**+1.0**
X18A	**Snowflake**	**6.68**	**102**	Pn		**Pn**	**00 16 17.8**	**+0.8**
YBH	**Yreka Blue Hor**	**6.72**	**327**	Pn		**Pn**	**00 16 20.5**	**+3.0**
	baz=150,slow=6.1,SNR=12							
YBH					Sn	**Sn**	**00 17 36.8**	**+2.1**
	baz=176,slow=6.4,SNR=5.0							
YBH					Lg	Lg	00 18 07.5	
	comp=N,0.1nm,0.3s,baz=204,slow=5.4,SNR=6.5							
TUC	**Tucson**	**7.01**	**121**			**Pn**	**00 16 20.9**	**-0.7**
DUN6	**Lazy B Ranch**	**8.10**	**114**			**Pn**	**00 16 36.8**	**+0.2**
319A	**Douglas**	**8.60**	**121**			**Pn**	**00 16 43.5**	**+0.2**
PDAR	**Pinedale Array**	**9.21**	**42**	Pn		**Pn**	**00 16 54.1**	**+2.3**
	comp=N,0.2nm,0.3s,baz=232,slow=12,SNR=14							
PDAR					Lg	Lg	00 19 26.7	
	comp=N,0.2nm,0.3s,baz=215,slow=20,SNR=2.9 comp=N,1.1nm,0.6s							
ANMO	**Albuquerque**	**9.38**	**94**	Pn		**Pn**	**00 16 53.8**	**-0.4**
	comp=N,0.2nm,0.3s,baz=6.4,slow=12,SNR=5.7							
ANMO					Pg		00 17 28.2	
	comp=N,0.8nm,0.3s,baz=4.6,slow=12,SNR=14							
ANMO					Sn	**Sn**	**00 18 36.0**	**-4.4**
	comp=N,0.4nm,0.3s,baz=9.6,slow=8.8,SNR=3.1							
ANMO					Lg	Lg	00 19 32.5	
	comp=N,0.1nm,0.3s,baz=249,slow=19,SNR=4.7							
ANMO					LR	LR	00 20 56.0	
	comp=N,869nm,18.5s,baz=11,slow=41 comp=N,1.3nm,0.5s							
NEW	**Newport**	**12.11**	**2**	Pn		**Pn**	**00 17 34.1**	**+2.8**
	comp=N,0.1nm,0.3s,baz=189,slow=14,SNR=3.1							
NEW					Lg	Lg	00 21 01.2	
	comp=N,0.1nm,0.3s,baz=267,slow=19,SNR=3.6							
NEW					LR	LR	00 22 06.9	
	comp=N,264nm,21.5s,baz=184,slow=37 comp=N,0.6nm,0.6s							
TXAR	**Lajitas Array**	**13.75**	**116**	Pn		**Pn**	**00 17 54.0**	**+0.2**
	comp=N,0.2nm,0.3s,baz=286,slow=9.0,SNR=29							
TXAR					Lg	Lg	00 21 48.1	
	baz=359,slow=36,SNR=1.2 comp=N,0.6nm,0.4s							
DKNS	**Dickens**	**14.13**	**95**	Pn		**Pn**	**00 17 56.7**	**-2.3**
SN07	**Snyder 07**	**14.31**	**97**			**Pn**	**00 18 01.6**	**+0.1**
SN05	**Snyder 5**	**14.38**	**98**			**Pn**	**00 18 01.8**	**-0.7**
WMOK	**Wichita Mounta**	**15.63**	**90**			**Pn**	**00 18 17.4**	**-1.7**
DGMT	**Dagmar**	**15.90**	**35**	Pn		**Pn**	**00 18 22.6**	**+0.1**
DGMT					IAmb	IAmb	00 18 33.1	
	comp=Z,34nm,1.4s							
DRIO	**Del Rio**	**15.98**	**110**	Pn		**Pn**	**00 18 23.4**	**-0.2**
WTFS	**Witchita Falls**	**16.09**	**93**	Pn		**Pn**	**00 18 24.5**	**-0.6**
WTFS					IAmb	IAmb	00 18 32.7	
	comp=Z,37nm,1.4s							
KAN01	**Argonia South**	**16.18**	**81**	Pn		**Pn**	**00 18 26.9**	**+0.7**
KAN01					IAmb	IAmb	00 18 33.5	
	comp=Z,12nm,0.7s							
KAN09	**Caldwell North**	**16.29**	**81**	Pn		**Pn**	**00 18 25.6**	**-2.0**
KAN09					IAmb	IAmb	00 18 34.7	
	comp=Z,20nm,1.1s							
KAN13	**South Haven SW**	**16.41**	**81**	Pn		**Pn**	**00 18 28.6**	**-0.6**
KAN13					IAmb	IAmb	00 18 35.8	
	comp=Z,20nm,1.2s							
X34A	**Smith Ranch, M**	**16.42**	**90**			**Pn**	**00 18 29.5**	**+0.1**
X34A					IAmb	IAmb	00 18 39.3	
	comp=Z,20nm,1.1s							
BRDY	**Brady**	**16.43**	**102**			**Pn**	**00 18 28.2**	**-1.4**
PLPT	**Palo Pinto**	**16.47**	**96**	Pn		**Pn**	**00 18 29.6**	**-0.4**
PLPT					IAmb	IAmb	00 18 37.0	
	comp=Z,17nm,0.9s							
E28A	**Huff**	**16.54**	**46**	Pn		**Pn**	**00 18 30.1**	**-0.6**
OKCSW	**OKLAHOMA CITY**	**16.60**	**87**	Pn		**Pn**	**00 18 32.2**	**+0.6**
OKCSW					IAmb	IAmb	00 18 56.1	
	comp=Z,25nm,0.8s							
BBB	**Bella Bella**	**17.59**	**339**	LR		LR	00 26 41.7	
	comp=Z,192nm,20.9s,baz=152,slow=41							
MDND	**Maddock**	**17.86**	**44**	Pn		**Pn**	**00 18 46.3**	**-1.0**
MDND					IAmb	IAmb	00 19 00.6	
	comp=Z,17nm,1.0s							
TUL3	**Leonard**	**17.86**	**84**	Pn		**Pn**	**00 18 45.7**	**-1.7**
TUL3					IAmb	IAmb	00 18 53.3	
	comp=Z,29nm,1.4s							
U38A	**Gravette**	**18.93**	**82**	P		**Pn**	**00 18 59.9**	**-0.6**
N38A	**Joes South For**	**19.81**	**69**	P		**P**	**00 19 09

M_{rr}-0.64; $M_{\theta\theta}$-0.52; $M_{\phi\phi}$1.15; $M_{r\theta}$0.71; $M_{r\phi}$3.17; $M_{\theta r}$-1.00; Fault plane solution: $M_0$3.55000×10^{15} NP1: ϕ-354.91000°,δ77.83000°,λ-159.88000°. NP2: ϕ-260.50000°,δ70.35000°,λ-12.94000°. Principal axes: T 3.6334, Plg5.0000°, Azm127.0000°; N -0.1749, Plg67.0000°, Azm25.0000°; P -3.4585, Plg23.0000°, Azm219.0000°;

*IDC **11** 00:15:39.8±1.0,35°.98N×117°.83W,h0km,mb3.9/5, mbtmp4.0/12,ML4.0/7 Error ellipse: s-maj=24.3km s-min=8.9km az=73.0*

*PAS **11** 00:15:39.2±0.7,36°.153N±0°.007×117°.88W±0°.01, h2km±2km,Mwr4.4/4,mb4.3/23(NEIC),ML4.3/56(NEIC), Mwr4.3/91(NEIC),Error ellipse: s-maj=1.4km s-min=1.0km az=89.0*

*NEIC **11** 00:15:39.3,36°.15N×117°.87W,h1km*

ISC 11 00:15:40.3±0.5,36°.15N±0°.01×117°.88W±0°.02,h10km, n103,σ1s32/131,mb4.1/7,1D,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MFS	**McCloud Flat S**	**0.04**	**142**			**Pg**	**00 15 40.4**	**-2.1**
MFS						**Sg**	**00 15 41.4**	**-2.5**
WRVM	**Rose V. Centra**	**0.14**	**182**			**Pg**	**00 15 42.2**	**-1.3**
WRVM						**Sg**	**00 15 44.7**	**-1.2**
WCSM	**Coso Springs S**	**0.15**	**142**			**Pg**	**00 15 42.5**	**-1.3**
WCSM						**Sg**	**00 15 44.9**	**-1.3**
JRC2	**Joshua Ridge**	**0.17**	**160**			**Pg**	**00 15 42.9**	**-1.3**
JRC2						**Sg**	**00 15 45.7**	**-1.2**
WVPM	**Volcano Peak E**	**0.20**	**165**			**Pg**	**00 15 43.4**	**-1.2**
WVPM						**Sg**	**00 15 46.6**	**-1.0**
WNMM	**Nine Mile Cany**	**0.30**	**183**			**Pg**	**00 15 45.2**	**-1.2**
WNMM						**Sg**	**00 15 49.7**	**-0.8**
MPMC	**Manual Prospec**	**0.33**	**105**			**Pg**	**00 15 45.7**	**-1.3**
MPMC				Sg		**Sg**	**00 15 50.2**	**-1.3**
MPMC				IAML			00 15 54.7	
	comp=E,28μm,0.6s							
CWC	**Cottonwood Cre**	**0.33**	**332**	Pg		**Pg**	**00 15 45.8**	**-1.3**
CWC				Sg		**Sg**	**00 15 50.5**	**-1.1**
TOW	**Tower One**	**0.35**	**164**			**Pg**	**00 15 46.5**	**-0.8**
TOW						**Sg**	**00 15 52.2**	**+0.3**
CLC	**China Lake**	**0.40**	**145**	Pg		**Pg**	**00 15 47.1**	**-1.2**
CLC						**Sg**	**00 15 53.4**	**-0.2**
CGO	**Cerro Gordo**	**0.41**	**9**			**Pg**	**00 15 47.1**	**-1.4**
CGO						**Sg**	**00 15 53.0**	**-1.0**
SRTC	**Snort**	**0.47**	**166**			**Pg**	**00 15 49.0**	**-0.5**
SRTC						**Sg**	**00 15 56.2**	**+0.6**
WORM	**Onyx Ranch**	**0.54**	**213**			**Pg**	**00 15 49.4**	**-1.3**
WORM						**Sg**	**00 15 57.0**	**-0.8**
WHFM	**Hanning Flat**	**0.59**	**220**			**Pg**	**00 15 50.5**	**-1.2**
WHFM						**Sg**	**00 15 58.9**	**-0.6**
WBSM	**Bird Springs**	**0.64**	**199**			**Pg**	**00 15 51.6**	**-1.2**
WBSM						**Sg**	**00 16 00.7**	**-0.6**
ISA	**Isabella, Lake**	**0.68**	**225**	Pg		**Pg**	**00 15 52.3**	**-1.2**
ISA				Sg		**Sg**	**00 16 01.5**	**-0.9**
WASM	**Alta Sierra Ca**	**0.68**	**234**			**Pg**	**00 15 52.4**	**-1.2**
WASM						**Sg**	**00 16 02.1**	**-0.4**
LRMC	**Laurel Mtn Rad**	**0.69**	**166**	Pg		**Pg**	**00 15 52.6**	**-1.0**
LRMC				Sg		**Sg**	**00 16 02.0**	**-0.6**
LRMC				IAML			00 16 02.1	
	comp=E,14μm,0.7s							
LRMC				IAML			00 16 03.4	
	comp=N,9μm,0.2s							
SPG2	**Springville 2**	**0.72**	**275**			**Pg**	**00 15 52.6**	**-1.6**
SPG2						**Sg**	**00 16 02.5**	**-1.1**
CCCA	**Chr Cany lake**	**0.75**	**146**	Pg		**Pg**	**00 15 53.9**	**-0.9**
QSM	**Queen of Sheba**	**0.84**	**102**	Pg		**Pg**	**00 15 55.5**	**-1.1**
DTP	**Desert Tortois**	**0.88**	**178**			**Pg**	**00 15 55.8**	**-1.4**
DTP						**Sg**	**00 16 07.4**	**-1.3**
FURC	**Furnace Creek,**	**0.88**	**68**			**Pg**	**00 15 56.1**	**-1.3**
FURC						**Sg**	**00 16 08.3**	**-0.5**
GRAC	**Grapevine Rang**	**0.94**	**26**	Pg		**Pg**	**00 15 56.9**	**-1.6**
GRAC				IAML			00 16 13.7	
	comp=E,12μm,0.9s							
TIN	**Tinemaha, Big**	**0.95**	**343**			**Pg**	**00 15 57.1**	**-1.5**
TIN						**Sg**	**00 16 10.8**	**-0.2**
GWY	**Greenwater Val**	**0.98**	**87**			**Pg**	**00 15 57.8**	**-1.5**
CCAC	**Calif City Air**	**1.00**	**186**			**Pg**	**00 15 57.9**	**-1.6**
CCAC						**Sg**	**00 16 11.6**	**-0.9**
VES	**Vestal, Richgr**	**1.02**	**253**			**Pg**	**00 15 58.7**	**-1.2**
VES						**Sg**	**00 16 12.8**	**-0.5**
SGV	**South Grapevin**	**1.08**	**39**			**Pg**	**00 16 00.1**	**-1.0**
SGV						**Pb**	**00 16 00.3**	**-0.8**
LCH	**Last Change Ra**	**1.10**	**10**			**Sg**	**00 16 14.0**	**-1.9**
TEJ	**El Tejon**	**1.12**	**216**			**Pb**	**00 16 00.0**	**-1.9**
TEJ						**Pg**	**00 16 00.1**	**-1.8**
TEJ						**Sg**	**00 16 15.1**	**-1.5**
MAGC	**SCE Magundon P**	**1.15**	**228**			**Pb**	**00 16 00.9**	**-1.4**
WCT	**Wildcat Mounta**	**1.20**	**57**			**Pb**	**00 16 01.5**	**-1.7**
WCT							00 16 20.6	
	comp=N,5μm,1.3s							
WCT				IAML			00 16 21.9	
	comp=E,6μm,1.2s							
GSC	**Goldstone, Bar**	**1.22**	**134**			**Pb**	**00 16 01.7**	**-1.8**
GSC	**Goldstone, Bar**	**1.22**	**134**			**Pb**	**00 16 02.0**	**-1.5**
GSC				IAML			00 16 21.8	
	comp=E,5μm,0.6s							
GSC				IAML			00 16 24.4	
	comp=N,4μm,0.9s							
DSP	**Deep Springs**	**1.22**	**357**			**Sb**	**00 16 18.0**	**-1.4**
DSP	**Deep Springs**	**1.22**	**357**	Pg		**Pn**	**00 16 01.8**	**-1.7**
DSP				IAML			00 16 24.5	
	comp=E,6μm,1.3s							
DSP				IAML			00 16 24.8	
	comp=N,5μm,0.8s							
VOG	**Valley Oaks Go**	**1.22**	**279**			**Pn**	**00 16 02.5**	**-1.0**
VOG						**Sb**	**00 16 18.4**	**-1.0**
GMN	**Gold Mountain**	**1.26**	**23**			**Pn**	**00 16 02.6**	**-1.6**
GMN				IAML			00 16 25.7	
	comp=E,4μm,0.8s							
GMN				IAML			00 16 26.2	
	comp=N,5μm,0.9s							
EDW2	**Edwards Air Fo**	**1.27**	**184**			**Pn**	**00 16 02.8**	**-1.3**
EDW2						**Sb**	**00 16 19.4**	**-1.3**
BAKC	**Calstate**	**1.27**	**232**			**Pn**	**00 16 03.1**	**-0.3**
BAKC						**Sg**	**00 16 21.4**	**+0.1**
ARVC	**Arvin**	**1.28**	**217**			**Pn**	**00 16 03.5**	**-0.7**
TPO	**Tropico Hills**	**1.29**	**193**	Pg		**Pn**	**00 16 03.4**	**-1.1**
TPO				IAML			00 16 23.2	
	comp=N,6μm,0.8s							
HYS	**Haystack Butte**	**1.30**	**169**			**Pn**	**00 16 03.6**	**-1.1**
TJR	**Tejon Ranch**	**1.32**	**212**			**Pn**	**00 16 03.7**	**-1.1**
SHOC	**Shoshone, Teco**	**1.33**	**100**			**Pn**	**00 16 04.7**	**-0.2**
SBB	**Saddle Back Bu**	**1.46**	**178**			**Pn**	**00 16 06.3**	**-0.4**
RRX	**Edison Barstow**	**1.46**	**150**			**Pb**	**00 16 07.2**	**-0.4**
TPNV	**Topopah Spring**	**1.54**	**58**			**Pn**	**00 16 07.5**	**-0.5**
TPNV				IAML			00 16 38.5	
	comp=N,4μm,1.1s							
TPNV				IAML			00 16 41.9	
	comp=N,4μm,0.9s							
LEOC	**Leona Valley**	**1.55**	**193**			**Pn**	**00 16 08.2**	**+0.1**
LRRC	**Littlerock Res**	**1.62**	**184**			**Pb**	**00 16 09.8**	**-0.5**
VTV	**Victorville**	**1.65**	**164**			**Sb**	**00 16 32.1**	**+0.5**
KCC	**Kaiser Creek**	**1.65**	**316**			**Pn**	**00 16 09.5**	**+0.1**
BENR	**Benton**	**1.66**	**341**			**Pn**	**00 16 10.1**	**+0.3**
MLAC	**Mammoth, Mammo**	**1.67**	**333**			**Pb**	**00 16 10.5**	**-0.8**
CRGC	**Crocker Grade**	**1.75**	**240**			**Pb**	**00 16 11.9**	**-0.7**
CARC	**Carrizo Plain**	**1.80**	**243**			**Pb**	**00 16 12.9**	**-0.6**
MWC	**Mount Wilson**	**1.92**	**184**	Pn		**Pn**	**00 16 13.3**	**0.0**
MWC				IAML			00 16 42.2	
	comp=E,3μm,0.9s							
MWC				IAML			00 16 46.0	
	comp=N,3μm,0.8s							
MTPC	**Mountain Pass**	**2.00**	**109**	Pn		**Pn**	**00 16 13.7**	**-0.7**
MTPC				IAML			00 16 47.6	
	comp=N,2μm,1.1s							
SHPR	**Sheep Range**	**2.23**	**80**	Pn		**Pn**	**00 16 17.1**	**-0.4**
NVAR	**Mina Array Bea**	**2.30**	**352**	Pn		**Pb**	**00 16 21.8**	**-0.3**
	comp=N,110nm,0.3s,baz=171,slow=15,SNR=5.4							
NVAR				Sn		**Sg**	**00 16 52.4**	**-2.0**
	comp=N,142nm,0.3s,baz=172,slow=31,SNR=3.6							
	comp=N,109nm,0.5s							
ELS	**Elsinore Mount**	**2.52**	**171**	Pn		**Pn**	**00 16 21.2**	**-0.2**
ELS				IAML			00 17 05.2	
	comp=E,952nm,1.8s							
PFO	**Pinyon Flats O**	**2.79**	**155**	Pn		**Pn**	**00 16 22.5**	**-2.6**
	comp=E,22nm,0.3s,baz=217,slow=20,SNR=6.5							
PFO				Lg		Lg	00 17 03.5	
	comp=E,33nm,0.3s,baz=252,slow=19,SNR=1.3							
	comp=E,378nm,0.8s							
ELK	**Elko**	**5.04**	**24**	Pn		**Pn**	**00 16 57.4**	**+1.2**
	comp=E,3.3nm,0.3s,baz=211,slow=15,SNR=0.9							
ELK				Lg		Lg	00 18 17.4	
	comp=E,28nm,0.3s,baz=302,slow=21,SNR=6.0							
	comp=E,28nm,0.5s							
X16A	**Lo Mia Camp, P**	**5.54**	**106**	Pn		**Pn**	**00 17 03.3**	**+0.2**
HMU	**Henry Mountain**	**5.99**	**70**	Pn		**Pn**	**00 17 10.0**	**+0.8**
YBH	**Yreka Blue Hor**	**6.73**	**327**	Lg		Lg	00 19 07.6	
	comp=E,0.1nm,0.3s,baz=194,slow=8.6,SNR=3.5							
TUC	**Tucson**	**7.01**	**121**	Pn		**Pn**	**00 17 22.6**	**-0.6**
PDAR	**Pinedale Array**	**9.22**	**42**	Pn		**Pn**	**00 17 57.9**	**+4.2**
	comp=E,0.2nm,0.3s,baz=233,slow=14,SNR=3.6							
PDAR				Lg		Lg	00 20 27.6	
	comp=E,0.1nm,0.3s,baz=228,slow=31,SNR=1.9							
	comp=E,1.9nm,0.6s							
ANMO	**Albuquerque**	**9.39**	**94**	Lg		Lg	00 20 33.0	
	comp=E,0.1nm,0.3s,baz=240,slow=13,SNR=3.6							
NEW	**Newport**	**12.12**	**2**	Pn		Pn	00 18 38.3	+5.3
	baz=177,slow=16,SNR=3.7							
NEW				Lg		Lg	00 22 05.9	
	comp=E,0.1nm,0.3s,baz=311,slow=11,SNR=1.4							
	comp=E,2.3nm,0.9s							
MSTX	**Muleshoe**	**12.57**	**96**			**Pn**	**00 18 37.1**	**-2.3**
ALPN	**Alpine**	**13.23**	**112**	Pn		**Pn**	**00 18 45.9**	**-2.6**
RSSD	**Black Hills**	**13.24**	**49**	Pn		**Pn**	**00 18 47.0**	**-1.6**
AMTX	**Amarillo**	**13.26**	**91**	Pn		**Pn**	**00 18 47.2**	**-1.5**
LPIG	**La Paz**	**13.67**	**149**	Pn		**Pn**	**00 18 52.2**	**-2.0**
	comp=E,4.1nm,0.3s,baz=21,slow=6.2,SNR=1.5							
	comp=E,11nm,0.3s							
TXAR	**Lajitas Array**	**13.75**	**116**	Pn		**Pn**	**00 18 58.7**	**+3.2**
	comp=E,0.1nm,0.3s,baz=300,slow=13,SNR=7.1							
	comp=E,3.8nm,0.9s							
POST	**Post**	**13.84**	**98**	Pn		**Pn**	**00 18 54.9**	**-1.7**
DKNS	**Dickens**	**14.14**	**95**	Pn		**Pn**	**00 18 59.2**	**-1.5**
SN07	**Snyder 07**	**14.32**	**97**	Pn		**Pn**	**00 19 02.5**	**-0.7**
SN05	**Snyder 5**	**14.39**	**98**			**Pn**	**00 19 01.8**	**-2.4**
OK038	**West end E0370**	**15.44**	**83**	Pn		**Pn**	**00 19 17.4**	**-0.8**
ABTX	**Abilene, Hawle**	**15.46**	**98**	Pn		**Pn**	**00 19 18.1**	**-0.4**
K30B	**Basset**	**15.54**	**60**	Pn		**Pn**	**00 19 18.5**	**-1.0**
DGMT	**Dagmar**	**15.91**	**35**	Pn		**Pn**	**00 19 22.9**	**-1.4**
DGMT						IAmb	00 19 45.2	
	comp=Z,21nm,1.1s							
DRIO	**Del Rio**	**15.98**	**110**	Pn		**Pn**	**00 19 24.2**	**-1.1**
WTFS	**Witchita Falls**	**16.10**	**93**	Pn		**Pn**	**00 19 26.4**	**-0.3**
WTFS						IAmb	00 19 34.7	
	comp=Z,38nm,1.4s							
KAN17	**Caldwell West**	**16.19**	**81**	Pn		**Pn**	**00 19 28.6**	**+0.8**
KAN09	**Caldwell North**	**16.30**	**81**	Pn		**Pn**	**00 19 29.9**	**+0.6**
KAN13	**South Haven SW**	**16.42**	**81**	Pn		**Pn**	**00 19 29.9**	**-0.9**
KAN13						IAmb	00 19 51.4	
	comp=Z,29nm,1.3s							
PLPT	**Palo Pinto**	**16.47**	**96**			**Pn**	**00 19 31.6**	**0.0**
PLPT						IAmb	00 19 37.3	
	comp=E,18nm,1.0s							
OK029	**Liberty Lake**	**16.54**	**85**	Pn		**Pn**	**00 19 32.1**	**-0.3**
OK029						IAmb	00 19 40.3	
	comp=Z,25nm,1.3s							
FW03	**Perrin-Whitt E**	**16.61**	**95**	Pn		**Pn**	**00 19 33.6**	**+0.3**
FW03						IAmb	00 19 41.3	
	comp=Z,31nm,1.0s							
OK052	**Battle Ridge R**	**17.05**	**84**	Pn		**Pn**	**00 19 38.9**	**+0.1**
OK052						IAmb	00 19 47.0	
	comp=Z,32nm,1.4s							
Z35A	**Perchaven, San**	**17.19**	**93**	Pn		**Pn**	**00 19 40.9**	**+0.4**
DEOK	**Depew**	**17.31**	**85**	Pn		**Pn**	**00 19 41.3**	**-0.8**
ULM	**Lac du Bonnet**	**21.25**	**42**	P		**P**	**00 20 27.7**	**+1.3**
	comp=Z,7.3nm,0.9s,baz=240,slow=10,SNR=3.6							
	comp=Z,7.3nm,0.9s							
FFC	**Flin Flon**	**21.58**	**26**			**P**	**00 20 29.5**	**-0.4**
FFC						IAmb	00 20 34.6	
	comp=Z,15nm,1.1s							
ILAR	**Eielson Array**	**33.49**	**338**	P		**P**	**00 22 20.6**	**+1.1**
	comp=Z,1.6nm,0.9s,baz=154,slow=7.4,SNR=9.1							
	comp=Z,1.6nm,0.9s							
NOA	**NORSAR Array B**	**74.66**	**23**	P		**P**	**00 27 22.7**	**+3.0**
	comp=Z,0.5nm,0.8s,baz=319,slow=6.0,SNR=3.3							
	comp=Z,0.5nm,0.8s							
BNX	**BinXian**	**79.50**	**320**	⇓P		**P**	**00 27 45.9**	**-1.2**
BNX				pmax		pmax		
	comp=Z,9.0nm,3.2s							
BNX				pmax		pmax		
	comp=Z,2.0nm,0.4s							
SONM	**Songino Array**	**87.50**	**332**	P		**P**	**00 28 31.1**	**+2.7**
	comp=Z,0.7nm,0.8s,baz=29,slow=3.3,SNR=5.2							
	comp=Z,0.7nm,0.8s							
ZALV	**Zalesovo Beam**	**88.15**	**347**	P		**P**	**00 28 33.6**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=38,slow=2.6,SNR=1.4							
	comp=Z,0.3nm,0.3s							

*PAS **11** 00:20:19.9±0.8,36°.177N±0°.006×117°.89W±0°.01, h-1km±1km,ML3.4,ML3.2/114(NEIC),Error ellipse: s-maj=1.9km s-min=0.5km az=118.0*

NEIC 11 00:20:19.5±0.8,36°.18N±0°.01×117°.88W±0°.02,h2km±1km, Error ellipse: s-maj=1.9km s-min=1.4km az=68.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MFS	**McCloud Flat S**	**0.06**	**165**			Pg	00 20 21.5	+0.6
WRVM	**Rose V. Centra**	**0.17**	**184**			Pg	00 20 23.5	+0.6
WCSM	**Coso Springs S**	**0.18**	**150**			Pg	00 20 23.8	+0.8
JRC2	**Joshua Ridge**	**0.20**	**165**			Pg	00 20 24.2	+0.7
JRC2						Sg	00 20 27.4	+1.2
WVPM	**Volcano Peak E**	**0.23**	**168**			Pg	00 20 24.7	+0.6
WVPM						Sg	00 20 28.5	+1.3
CWC	**Cottonwood Cre**	**0.31**	**328**			Pg	00 20 26.0	+0.5
CWC				Sg		Sg	00 20 30.4	+0.9
CWC				IAML			00 20 31.1	
	comp=E,4μm,0.3s							
CWC				IAML			00 20 31.2	
	comp=N,3μm,0.2s							
MPMC	**Manual Prospec**	**0.34**	**111**			Pg	00 20 26.7	+0.7
CGO	**Cerro Gordo**	**0.38**	**9**			Pg	00 20 27.3	+0.5
TOW	**Tower One**	**0.38**	**166**			Pg	00 20 27.9	+1.1
CLC	**China Lake**	**0.43**	**148**			Pg	00 20 28.3	+0.6
WBSM	**Bird Springs**	**0.68**	**199**			Pg	00 20 32.9	+0.4
WASM	**Alta Sierra Ca**	**0.71**	**232**			Pg	00 20 33.4	+0.3
ISA	**Isabella, Lake**	**0.71**	**223**			Pg	00 20 33.3	+0.2
ISA				IAML			00 20 43.6	
	comp=N,907nm,0.3s							
ISA				IAML			00 20 43.7	
	comp=E,1μm,0.3s							
LRMC	**Laurel Mtn Rad**	**0.72**	**167**			Pg	00 20 33.6	+0.4
LRMC				IAML			00 20 48.3	
	comp=E,1μm,0.6s							
SPG2	**Springville 2**	**0.72**	**272**			Pg	00 20 33.5	+0.2
CCCA	**Chr Cany lake**	**0.77**	**147**			Pg	00 20 34.9	+0.5
QSM	**Queen of Sheba**	**0.84**	**104**			Pg	00 20 36.1	+0.4
QSM				IAML			00 20 51.6	
	comp=E,1μm,0.7s							
QSM				IAML			00 20 56.0	
	comp=N,819nm,0.6s							
GRAC	**Grapevine Rang**	**0.91**	**27**			Pg	00 20 37.4	+0.3
GRAC				IAML			00 20 55.9	
	comp=N,1μm,0.7s							
GRAC				IAML			00 20 58.5	
	comp=E,906nm,0.8s							
GWY	**Greenwater Val**	**0.98**	**89**			Pg	00 20 38.8	+0.5
GWY				IAML			00 20 56.4	
	comp=N,884nm,0.7s							
GWY				IAML			00 20 58.8	
	comp=E,633nm,0.9s							
VES	**Vestal, Richgr**	**1.04**	**251**			Pg	00 20 39.6	+0.2
WCT	**Wildcat Mounta**	**1.18**	**58**			Pg	00 20 42.2	+0.1
WCT				IAML			00 21 01.1	
	comp=E,614nm,0.6s							
DSP	**Deep Springs**	**1.19**	**356**			Pg	00 20 42.0	-0.4
DSP						Sg	00 20 58.1	+0.3
DSP				IAML			00 21 04.6	
	comp=E,319nm,0.8s							
GMN	**Gold Mountain**	**1.22**	**24**			Pg	00 20 43.2	+0.2
VOG	**Valley Oaks Go**	**1.23**	**277**			Pg	00 20 43.0	0.0
GSC	**Goldstone, Bar**	**1.23**	**135**			Pg	00 20 43.0	-0.2
GSC				IAML			00 21 04.1	
	comp=N,704nm,0.9s							
TPO	**Tropico Hills**	**1.33**	**193**			Pg	00 20 44.6	-0.5
TPO				IAML			00 21 08.3	
	comp=N,498nm,0.9s							
TPO				IAML			00 21 09.3	
	comp=E,460nm,0.7s							
TPNV	**Topopah Spring**	**1.52**	**59**			Pn	00 20 48.1	+0.2
TPNV				IAML			00 21 14.0	
	comp=E,420nm,0.6s							
TPNV				IAML			00 21 15.0	
	comp=E,375nm,0.9s							
MZP	**Montezuma Peak**	**1.57**	**14**			Pb	00 20 49.2	-0.3
KCC	**Kaiser Creek**	**1.63**	**315**			Pn	00 20 49.8	+0.5
BENR	**Benton**	**1.63**	**340**			Pb	00 20 50.4	-0.2
OSI	**Osito Audit: C**	**1.71**	**204**			Pn	00 20 50.3	-0.1
OSI				IAML			00 21 17.2	
	comp=E,344nm,0.7s							
OSI				IAML			00 21 25.2	
	comp=N,298nm,0.9s							
BFSC	**Mount Baldy Ra**	**1.94**	**175**			Pn	00 20 53.5	-0.2
BFSC				IAML			00 21 23.8	
	comp=E,130nm,0.9s							
BFSC				IAML			00 21 24.6	
	comp=N,148nm,0.5s							
MWC	**Mount Wilson**	**1.96**	**184**			Pn	00 20 54.2	+0.3
MWC				IAML			00 21 23.2	
	comp=E,159nm,0.6s							
MWC				IAML			00 21 27.8	
	comp=N,228nm,0.9s							
TPH	**Tonopah**	**1.96**	**15**			Pn	00 20 54.9	+0.8
MTPC	**Mountain Pass**	**2.01**	**109**			Pn	00 20 54.0	-0.7
MTPC				IAML			00 21 28.7	
	comp=E,196nm,0.7s							
MTPC				IAML			00 21 35.9	
	comp=N,137nm,1.1s							
PASC	**Pasadena Art C**	**2.02**	**187**			Pn	00 20 54.7	+0.1
PASC				IAML			00 21 30.7	
	comp=E,113nm,0.9s							
LHV	**Little Huntoon**	**2.13**	**347**	Pn		Pn	00 20 57.1	+1.0
LHV				IAML			00 21 37.4	
	comp=N,124nm,1.4s							
LHV				IAML			00 21 46.9	
	comp=E,132nm,1.2s							
SHPR	**Sheep Range**	**2.22**	**81**	Pn		Pn	00 20 58.1	+0.6
PMPB	**Monarch Peak**	**2.37**	**272**			Pn	00 21 00.2	+0.7
MYLM	**Yosemite Lake**	**2.37**	**301**			Pb	00 21 02.2	-0.7
V12A	**Nelson**	**2.50**	**100**	Pn		Pn	00 21 01.1	-0.2
V12A				IAML			00 21 46.5	
	comp=N,91nm,1.4s							
RYN	**Ryan**	**2.50**	**348**	Pn		Pn	00 21 02.0	+0.6
ELS	**Elsinore Mount**	**2.55**	**172**			Pn	00 21 02.3	+0.3
PRN	**Pahroc Range**	**2.58**	**61**	Pn		Pn	00 21 02.6	+0.2
PRN				IAML			00 21 49.1	
	comp=E,151nm,0.7s							
PRN				IAML			00 21 55.5	
	comp=N,172nm,0.6s							
BBGB	**Big Mountain B**	**2.58**	**280**			Pn	00 21 03.8	+1.3
PMD	**Palm Desert**	**2.81**	**154**			Pn	00 21 05.2	-0.3
PFO	**Pinyon Flats O**	**2.81**	**155**			Pn	00 21 05.3	-0.3
PFO				IAML			00 21 56.8	
	comp=N,53nm,2.5s							
R11B	**Troy Canyon, C**	**2.83**	**39**	Pn		Pn	00 21 06.0	0.0
R11B				IAML			00 21 54.2	
	comp=E,74nm,0.9s							
SAO	**San Andreas Ge**	**2.94**	**283**			Pn	00 21 07.4	+0.2
NEE2	**Needles Airpor**	**3.01**	**117**			Pn	00 21 08.2	0.0
NEE2				IAML			00 22 07.8	
	comp=E,112nm,0.9s							
DPP	**Dos Picos Cty**	**3.27**	**166**			Pn	00 21 12.1	+0.3
W13A	**Hualapai Mount**	**3.42**	**107**	Pn		Pn	00 21 13.2	-1.0
W13A				IAML			00 22 15.1	
	comp=E,39nm,0.8s							
W13A				IAML			00 22 16.7	
	comp=N,36nm,1.0s							
BLYC	**Blythe**	**3.67**	**130**	Pn		Pn	00 21 16.3	-1.0
BLYC				IAML			00 21 51.9	
	comp=N,41nm,2.9s							
BLYC				IAML			00 22 31.3	
	comp=E,43nm,1.1s							
YUH	**Yuha Desert**	**3.88**	**155**	Pn		Pn	00 21 21.3	+1.1
YUH				IAML			00 22 42.3	
	comp=E,26nm,4.3s							
CBX	**Cerro Bola**	**3.98**	**165**	Pn		Pn	00 21 22.5	+0.7
GLA	**Glamis**	**4.01**	**140**	Pn		Pn	00 21 21.2	-0.8
GLA				IAML			00 22 23.9	
	comp=N,37nm,2.8s							
ORV	**Oroville**	**4.42**	**321**	Pn		Pn	00 21 28.5	+0.8
ORV				IAML			00 22 41.2	
	comp=N,37nm,0.8s							
ESJX	**Sierra Juarez**	**4.46**	**158**	Pn		Pn	00 21 29.3	+0.9
ESJX				IAML			00 23 39.4	
	comp=N,20nm,0.1s							
ESJX				IAML			00 23 41.3	
	comp=E,35nm,0.1s							
ELK	**Elko**	**5.01**	**24**	Pn		Pn	00 21 37.5	+1.6

*NEIC **11** 00:35:43.7±1.6,35°.876N±0°.010×117°.70W±0°.01, h3km,Error ellipse: s-maj=1.7km s-min=1.3km az=73.0*

PAS 11 00:35:44.4±1.3,35°.885N±0°.009×117°.72W±0°.01, h2km±3km,ML3.0/20,ML2.7/124(NEIC),Error ellipse: s-maj=1.7km s-min=1.3km az=87.0,Central California

| Code | Station Name | Δ° | AZ° | Phase |

OSI	**Osito Audit: C**	**1.51**	**213**			Pn	00 36 12.0	-0.4
OSI				IAML			00 36 35.3	
	comp=E,128nm,0.6s							
OSI				IAML			00 36 41.0	
	comp=N,86nm,0.5s							
TPNV	**Topopah Spring**	**1.59**	**48**			Pn	00 36 12.8	-0.9
TPNV				IAML			00 36 42.6	
	comp=N,76nm,0.8s							
TPNV				IAML			00 36 46.6	
	comp=N,60nm,0.5s							
BFSC	**Mount Baldy Ra**	**1.64**	**178**			Pn	00 36 13.8	-0.6
BFSC				IAML			00 36 38.1	
	comp=E,101nm,0.3s							
BFSC				IAML			00 36 38.5	
	comp=N,92nm,0.3s							
MWC	**Mount Wilson**	**1.68**	**190**			Pn	00 36 14.3	-0.6
MWC				IAML			00 36 40.5	
	comp=E,160nm,0.4s							
PASC	**Pasadena Art C**	**1.75**	**193**			Pn	00 36 15.0	-0.8
MTPC	**Mountain Pass**	**1.81**	**102**			Pn	00 36 15.0	-1.7
MTPC				IAML			00 36 42.9	
	comp=N,100nm,0.4s							
MTPC				IAML			00 36 46.7	
	comp=E,74nm,0.3s							
MZP	**Montezuma Peak**	**1.83**	**8**			Pn	00 36 15.1	-2.0
SHPR	**Sheep Range**	**2.16**	**73**			Pn	00 36 21.3	-0.3
TPH	**Tonopah**	**2.22**	**10**			Pn	00 36 22.0	-0.4
ELS	**Elsinore Mount**	**2.25**	**174**			Pn	00 36 21.3	-1.2
V12A	**Nelson**	**2.34**	**93**			Pn	00 36 22.8	-1.1
V12A				IAML			00 37 01.1	
	comp=N,36nm,0.6s							
V12A				IAML			00 37 05.3	
	comp=E,27nm,0.5s							
S11A	**Rachel**	**2.37**	**41**			Pn	00 36 23.8	-0.6
LHV	**Little Huntoon**	**2.44**	**345**			Pn	00 36 25.0	-0.2
PMD	**Palm Desert**	**2.49**	**153**			Pn	00 36 24.5	-1.4
PFO	**Pinyon Flats O**	**2.50**	**155**			Pn	00 36 24.6	-1.5
PMPB	**Monarch Peak**	**2.52**	**278**			Pn	00 36 25.1	-1.2
PMPB				IAML			00 37 17.2	
	comp=N,53nm,0.7s							
NV11	**Mina Array Sit**	**2.57**	**352**			Pn	00 36 25.9	-1.2
NVAR	**Mina Array Bea**	**2.58**	**350**			Pn	00 36 25.9	-1.4
PRN	**Pahroc Range**	**2.63**	**54**			Pn	00 36 27.1	-0.8
PRN				IAML			00 37 19.2	
	comp=N,37nm,0.8s							
PRN				IAML			00 37 25.0	
	comp=E,28nm,1.1s							
BBGB	**Big Mountain B**	**2.77**	**285**			Pn	00 36 29.1	-0.8
BORC	**Borrego Spring**	**2.82**	**157**			Pn	00 36 29.4	-1.1
DPP	**Dos Picos Cty**	**2.95**	**167**			Pn	00 36 31.4	-0.8
DPP				IAML			00 37 18.4	
	comp=E,15nm,0.5s							
R11B	**Troy Canyon, C**	**2.99**	**34**			Pn	00 36 32.3	-0.7
R11B				IAML			00 37 20.9	
	comp=N,14nm,0.7s							
R11B				IAML			00 37 21.0	
	comp=E,21nm,1.2s							
CMB	**Columbia Colle**	**3.03**	**316**			Pn	00 36 32.7	-0.6
CMB				IAML			00 37 19.4	
	comp=N,22nm,0.4s							
CMB				IAML			00 37 20.8	
	comp=E,21nm,0.6s							
W13A	**Hualapai Mount**	**3.23**	**103**			Pn	00 36 34.7	-1.5
W13A				IAML			00 37 29.6	
	comp=N,13nm,0.9s							
BLYC	**Blythe**	**3.38**	**128**			Pn	00 36 36.0	-2.2
BLYC				IAML			00 37 35.4	
	comp=E,14nm,1.4s							
BLYC				IAML			00 37 42.0	
	comp=N,14nm,0.8s							
YUH	**Yuha Desert**	**3.56**	**155**	Pn		Pn	00 36 39.8	-0.7
CBX	**Cerro Bola**	**3.67**	**166**	Pn		Pn	00 36 41.4	-0.8
CBX				IAML			00 37 42.5	
	comp=N,28nm,1.7s							
CCUT	**Cedar City**	**3.88**	**63**			Pn	00 36 45.4	+0.2
AFDM	**Forest Hills D**	**4.00**	**321**			Pn	00 36 47.0	+0.2
AFDM				IAML			00 37 54.1	
	comp=N,11nm,0.6s							
AFDM				IAML			00 37 58.2	
	comp=E,18nm,0.8s							
KNB	**Kanab**	**4.11**	**73**			Pn	00 36 47.8	-0.5
Y14A	**Wickenburg**	**4.33**	**115**			Pn	00 36 50.9	-0.4
Y14A				IAML			00 38 07.3	
	comp=E,8.0nm,0.8s							
Y14A				IAML			00 38 13.0	
	comp=N,13nm,0.9s							
ELK	**Elko**	**5.23**	**21**	Pn		Pn	00 37 04.8	+1.0
ELK				IAML			00 38 32.2	
	comp=N,2.6nm,0.8s							

NEIC ***11*** *00:42:52.7±1.0,36°.18N±0°.01×117°.88W±0°.02,h6km±4km, Error ellipse: s-maj=2.4km s-min=1.9km az=83.0*

PAS 11 00:42:53.3±1.0,36°.179N±0°.004×117°.88W±0°.01, h3km±5km,ML3.1/72,ML2.8/124(NEIC),Error ellipse: s-maj=1.7km s-min=0.3km az=112.0,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.06**	**164**		Pg	00 42 54.8	+0.1
MFS					Sg	00 42 56.0	+0.3
WCSM	**Coso Springs S**	**0.18**	**150**		Pg	00 42 57.0	+0.2
WCSM					Sg	00 42 59.6	+0.5
JRC2	**Joshua Ridge**	**0.20**	**164**		Pg	00 42 57.4	+0.1
WVPM	**Volcano Peak E**	**0.23**	**168**		Pg	00 42 57.9	0.0
CWC	**Cottonwood Cre**	**0.31**	**328**	Pg	Pg	00 42 59.3	+0.1
CWC					Sg	00 43 03.9	+0.6
CWC				IAML		00 43 04.6	
	comp=N,2μm,0.2s						
MPMC	**Manual Prospec**	**0.34**	**111**	Pg	Pg	00 42 59.8	-0.1
MPMC					Sg	00 43 04.5	+0.2
MPMC				IAML		00 43 06.2	
	comp=E,2μm,0.5s						
MPMC				IAML		00 43 06.5	
	comp=N,981nm,0.5s						
WNMM	**Nine Mile Cany**	**0.34**	**184**		Pg	00 42 59.6	-0.1
CGO	**Cerro Gordo**	**0.38**	**9**		Pg	00 43 00.5	-0.2
CLC	**China Lake**	**0.43**	**148**	Pg	Pg	00 43 01.7	+0.2
SRTC	**Snort**	**0.50**	**168**		Pg	00 43 03.2	+0.4
SRTC					Sb	00 43 11.3	-1.2
WORM	**Onyx Ranch**	**0.57**	**212**		Pg	00 43 03.8	-0.4
WHFM	**Hanning Flat**	**0.62**	**219**		Pg	00 43 04.9	-0.2
WBSM	**Bird Springs**	**0.68**	**198**		Pg	00 43 06.0	-0.2
ISA	**Isabella, Lake**	**0.71**	**223**		Pg	00 43 06.5	-0.4
ISA				IAML		00 43 16.4	
	comp=N,644nm,0.5s						
ISA				IAML		00 43 18.5	
	comp=E,765nm,0.2s						
LRMC	**Laurel Mtn Rad**	**0.72**	**167**		Pg	00 43 06.8	-0.3
LRMC				IAML		00 43 18.0	
	comp=E,804nm,0.1s						
SPG2	**Springville 2**	**0.72**	**272**		Pg	00 43 06.8	-0.3
CCCA	**Chr Cany lake**	**0.77**	**147**		Pg	00 43 08.2	0.0
QSM	**Queen of Sheba**	**0.84**	**104**	Pg	Pg	00 43 09.4	-0.1
QSM				IAML		00 43 24.9	
	comp=E,458nm,0.5s						
QSM				IAML		00 43 25.9	
	comp=N,373nm,0.3s						
GRAC	**Grapevine Rang**	**0.91**	**27**		Pg	00 43 10.5	-0.4
GWY	**Greenwater Val**	**0.98**	**89**	Pg	Pg	00 43 11.8	-0.3
GWY				IAML		00 43 30.6	
	comp=N,324nm,0.7s						
GWY				IAML		00 43 31.3	
	comp=E,289nm,0.7s						
WCT	**Wildcat Mounta**	**1.18**	**58**		Pg	00 43 15.1	-0.8
WCT				IAML		00 43 33.9	
	comp=E,244nm,0.5s						
WCT				IAML		00 43 35.2	
	comp=N,145nm,0.5s						
DSP	**Deep Springs**	**1.19**	**356**		Pg	00 43 15.1	-1.1
DSP				IAML		00 43 35.6	
	comp=N,157nm,0.7s						
GMN	**Gold Mountain**	**1.22**	**24**		Pg	00 43 16.1	-0.7
GMN				IAML		00 43 34.0	
	comp=N,252nm,0.5s						
GMN				IAML		00 43 34.2	
	comp=E,276nm,0.3s						
GSC	**Goldstone, Bar**	**1.23**	**135**		Pg	00 43 16.5	-0.5
GSC				IAML		00 43 35.5	
	comp=E,221nm,0.4s						
GSC				IAML		00 43 35.8	
	comp=N,300nm,0.4s						
TPO	**Tropico Hills**	**1.33**	**193**		Pg	00 43 17.7	-1.1
TPO				IAML		00 43 37.2	
	comp=E,152nm,0.4s						
TPO				IAML		00 43 40.1	
	comp=N,216nm,0.7s						
TPNV	**Topopah Spring**	**1.52**	**59**		Pn	00 43 20.9	-0.7
TPNV				IAML		00 43 44.2	
	comp=N,150nm,0.5s						
TPNV				IAML		00 43 45.5	
	comp=N,190nm,0.3s						
MZP	**Montezuma Peak**	**1.57**	**14**		Pn	00 43 21.9	-0.5
OSI	**Osito Audit: C**	**1.71**	**204**		Pn	00 43 24.1	0.0
OSI				IAML		00 43 51.7	
	comp=E,120nm,0.7s						
OSI				IAML		00 43 55.3	
	comp=N,121nm,0.7s						
BFSC	**Mount Baldy Ra**	**1.94**	**175**		Pn	00 43 26.6	-0.8
BFSC				IAML		00 43 55.8	
	comp=N,55nm,0.2s						
BFSC				IAML		00 43 56.5	
	comp=E,69nm,0.7s						
MWC	**Mount Wilson**	**1.96**	**184**		Pn	00 43 26.8	-0.8
MWC				IAML		00 43 57.8	
	comp=N,87nm,0.3s						
MWC				IAML		00 44 01.4	
	comp=E,70nm,0.5s						
TPH	**Tonopah**	**1.96**	**15**		Pn	00 43 27.7	0.0
MTPC	**Mountain Pass**	**2.01**	**109**		Pn	00 43 27.1	-1.2
MTPC				IAML		00 43 57.9	
	comp=E,70nm,0.4s						
MTPC				IAML		00 43 58.0	
	comp=N,80nm,0.6s						
PASC	**Pasadena Art C**	**2.02**	**187**		Pn	00 43 28.4	+0.1
PASC				IAML		00 44 00.1	
	comp=E,56nm,0.8s						
LHV	**Little Huntoon**	**2.13**	**347**		Pn	00 43 29.6	-0.2
LHV				IAML		00 44 05.7	
	comp=E,42nm,0.7s						
LHV				IAML		00 44 07.9	
	comp=N,42nm,1.2s						
SHPR	**Sheep Range**	**2.22**	**81**		Pn	00 43 30.9	-0.3
S11A	**Rachel**	**2.25**	**49**		Pn	00 43 31.8	+0.2
NV11	**Mina Array Sit**	**2.26**	**354**		Pn	00 43 30.4	-1.4
NVAR	**Mina Array Bea**	**2.27**	**352**		Pn	00 43 31.8	-0.2
V12A	**Nelson**	**2.50**	**100**		Pn	00 43 33.9	-1.1
RYN	**Ryan**	**2.50**	**348**		Pn	00 43 34.1	-0.9
ELS	**Elsinore Mount**	**2.55**	**172**		Pn	00 43 35.1	-0.6
PRN	**Pahroc Range**	**2.58**	**61**		Pn	00 43 36.0	-0.2
PRN				IAML		00 44 22.5	
	comp=N,69nm,0.8s						
BBGB	**Big Mountain B**	**2.58**	**280**		Pn	00 43 36.9	+0.8
CMB	**Columbia Colle**	**2.73**	**313**		Pn	00 43 37.0	-1.2
CMB				IAML		00 44 24.0	
	comp=N,46nm,0.6s						
CMB				IAML		00 44 24.5	
	comp=E,36nm,0.6s						
PMD	**Palm Desert**	**2.81**	**154**		Pn	00 43 38.6	-0.6
PFO	**Pinyon Flats O**	**2.81**	**155**		Pn	00 43 38.5	-0.9
R11B	**Troy Canyon, C**	**2.83**	**39**		Pn	00 43 38.9	-0.8
R11B				IAML		00 44 25.3	
	comp=N,27nm,0.5s						
R11B				IAML		00 44 26.7	
	comp=E,28nm,0.7s						
SAO	**San Andreas Ge**	**2.94**	**283**	Pn	Pn	00 43 40.4	-0.5
BORC	**Borrego Spring**	**3.14**	**157**		Pn	00 43 43.5	-0.3
BORC				IAML		00 44 44.2	
	comp=E,17nm,1.3s						
DPP	**Dos Picos Cty**	**3.27**	**166**		Pn	00 43 44.4	-1.1
W13A	**Hualapai Mount**	**3.42**	**107**		Pn	00 43 46.9	-1.0
W13A				IAML		00 44 43.5	
	comp=N,14nm,0.6s						
LCMT	**Little Creek M**	**3.82**	**76**		Pn	00 43 53.0	-0.2
CCUT	**Cedar City**	**3.87**	**68**		Pn	00 43 53.9	-0.1
PSUT	**Pine Spring**	**3.97**	**53**		Pn	00 43 55.6	+0.2
PSUT				IAML		00 45 02.8	
	comp=N,20nm,1.1s						
PSUT				IAML		00 45 03.8	
	comp=E,21nm,0.8s						
CBX	**Cerro Bola**	**3.98**	**165**	Pn	Pn	00 43 55.0	-0.4
GLA	**Glamis**	**4.01**	**140**		Pn	00 43 54.8	-0.9
GLA				IAML		00 45 10.8	
	comp=E,16nm,0.7s						
GLA				IAML		00 45 12.7	
	comp=N,14nm,0.7s						
KNB	**Kanab**	**4.15**	**77**		Pn	00 43 57.7	-0.1
KNB				IAML		00 45 10.1	
	comp=E,9.4nm,1.2s						
KNB				IAML		00 45 18.1	
	comp=N,7.0nm,1.2s						
U15A	**North Rim**	**4.52**	**85**	Pn	Pn	00 44 04.2	+1.3
U15A				IAML		00 45 20.1	
	comp=E,6.4nm,0.8s						
U15A				IAML		00 45 20.4	
	comp=N,7.9nm,4.8s						
Y14A	**Wickenburg**	**4.58**	**118**		Pn	00 44 02.7	-0.9
Y14A				IAML		00 46 06.7	
	comp=E,11nm,0.1s						
ELK	**Elko**	**5.01**	**24**		Pn	00 44 09.3	-0.3
ELK				IAML		00 45 38.0	
	comp=E,4.6nm,0.7s						

PAS ***11*** *00:46:09.5±0.8,36°.044N±0°.010×117°.72W±0°.01, h0km±2km,ML3.4/21,ML3.0/122(NEIC),Error ellipse: s-maj=1.5km s-min=1.4km az=134.0*

NEIC 11 00:46:09.2±1.0,36°.047N±0°.010×117°.72W±0°.01, h5km±1km,Error ellipse: s-maj=2.6km s-min=1.7km az=231.0,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCSM	**Coso Springs S**	**0.04**	**239**		Pg	00 46 10.6	+0.1
JRC2	**Joshua Ridge**	**0.09**	**227**		Pg	00 46 11.6	+0.3
WVPM	**Volcano Peak E**	**0.12**	**218**		Pg	00 46 12.1	+0.3
WVPM					Sg	00 46 14.6	+1.1
WRVM	**Rose V. Centra**	**0.14**	**254**		Pg	00 46 12.5	+0.5
MPMC	**Manual Prospec**	**0.19**	**87**		Pg	00 46 13.5	+0.5
MPMC				Sg	Sg	00 46 16.2	+0.7
MPMC				IAML		00 46 16.6	
	comp=E,2μm,0.5s						
MPMC				IAML		00 46 17.8	
	comp=N,4μm,0.5s						
WNMM	**Nine Mile Cany**	**0.25**	**216**		Pg	00 46 14.6	+0.5
WNMM					Sg	00 46 18.8	+1.5
CLC	**China Lake**	**0.25**	**156**		Pg	00 46 14.5	+0.4
CLC				Sg	Sg	00 46 18.2	+0.8
CLC				IAML		00 46 18.8	
	comp=E,4μm,0.3s						
CLC				IAML		00 46 18.9	
	comp=N,3μm,0.2s						
SRTC	**Snort**	**0.35**	**183**		Pg	00 46 17.0	+0.9
CWC	**Cottonwood Cre**	**0.49**	**324**		Pg	00 46 19.0	+0.5
CWC					Sg	00 46 26.0	+1.1
CWC				IAML		00 46 26.5	
	comp=E,2μm,0.2s						
CWC				IAML		00 46 26.6	
	comp=N,1μm,0.2s						
LRMC	**Laurel Mtn Rad**	**0.57**	**177**		Pg	00 46 20.5	+0.4
LRMC					Sg	00 46 28.4	+0.9
LRMC				IAML		00 46 29.2	
	comp=N,2μm,0.2s						
LRMC				IAML		00 46 30.1	
	comp=E,2μm,0.2s						
CCCA	**Chr Cany lake**	**0.60**	**151**		Pg	00 46 21.3	+0.7
CCCA					Sg	00 46 29.6	+1.2
QSM	**Queen of Sheba**	**0.70**	**96**		Pg	00 46 22.9	+0.3
QSM					Sg	00 46 32.4	+0.7
QSM				IAML		00 46 37.4	
	comp=E,1μm,0.5s						
QSM				IAML		00 46 38.2	
	comp=N,828nm,0.4s						
ISA	**Isabella, Lake**	**0.72**	**238**		Pg	00 46 23.3	+0.3
ISA				Sg	Sg	00 46 32.7	+0.4
ISA				IAML		00 46 33.2	
	comp=E,1μm,0.4s						
ISA				IAML		00 46 33.2	
	comp=N,1μm,0.4s						
SPG2	**Springville 2**	**0.86**	**281**		Pb	00 46 27.2	+0.6
GWY	**Greenwater Val**	**0.86**	**80**		Pg	00 46 26.2	+0.4
GRAC	**Grapevine Rang**	**0.99**	**17**		Pg	00 46 28.3	+0.2
GRAC				IAML		00 46 48.4	
	comp=N,811nm,0.8s						
GSC	**Goldstone, Bar**	**1.05**	**135**		Pg	00 46 29.3	-0.1
GSC				IAML		00 46 46.9	
	comp=E,685nm,0.5s						
GSC				IAML		00 46 47.0	
	comp=N,384nm,0.6s						
WCT	**Wildcat Mounta**	**1.16**	**50**		Pg	00 46 31.2	-0.2
WCT				IAML		00 46 50.0	
	comp=E,208nm,0.5s						
TPO	**Tropico Hills**	**1.24**	**200**		Pg	00 46 32.4	-0.5
TPO					Sb	00 46 49.2	-0.1
TPO				IAML		00 46 55.9	
	comp=N,210nm,0.6s						
TPO				IAML		00 46 56.0	
	comp=E,199nm,0.5s						
GMN	**Gold Mountain**	**1.30**	**16**		Pg	00 46 33.9	-0.3
GMN				IAML		00 46 55.2	
	comp=N,146nm,0.5s						
DSP	**Deep Springs**	**1.33**	**352**		Pn	00 46 34.0	-0.5
DSP					Sb	00 46 51.4	-0.7
DSP				IAML		00 46 54.6	
	comp=E,129nm,0.4s						
VOG	**Valley Oaks Go**	**1.37**	**282**		Pb	00 46 35.1	-0.1
TPNV	**Topopah Spring**	**1.49**	**52**		Pb	00 46 37.1	-0.3
TPNV				IAML		00 46 59.7	
	comp=E,237nm,0.6s						
TPNV				IAML		00 47 04.6	
	comp=E,267nm,0.6s						
OSI	**Osito Audit: C**	**1.65**	**210**		Pn	00 46 38.8	0.0
OSI				IAML		00 47 08.4	
	comp=N,143nm,0.6s						
OSI				IAML		00 47 08.9	
	comp=E,134nm,0.8s						
MZP	**Montezuma Peak**	**1.67**	**9**		Pb	00 46 40.1	-0.6
BFSC	**Mount Baldy Ra**	**1.81**	**178**		Pn	00 46 41.3	+0.2
BFSC				IAML		00 47 09.9	
	comp=E,91nm,0.2s						
BFSC				IAML		00 47 11.1	
	comp=N,79nm,0.5s						
KCC	**Kaiser Creek**	**1.81**	**315**		Pb	00 46 42.7	-0.1
MWC	**Mount Wilson**	**1.84**	**189**		Pn	00 46 42.0	+0.4
MWC				IAML		00 47 14.2	
	comp=E,78nm,0.5s						
MTPC	**Mountain Pass**	**1.85**	**107**		Pn	00 46 41.5	-0.3
MTPC				IAML		00 47 10.6	
	comp=N,134nm,0.3s						
MTPC				IAML		00 47 11.7	
	comp=E,129nm,0.5s						
MCSM	**Casa Diablo Ho**	**1.86**	**330**		Pg	00 46 44.6	-0.3
PASC	**Pasadena Art C**	**1.91**	**192**		Pn	00 46 42.8	+0.4
TPH	**Tonopah**	**2.06**	**11**		Pb	00 46 46.0	-1.2
SHPR	**Sheep Range**	**2.12**	**77**		Pn	00 46 46.2	+0.7
S11A	**Rachel**	**2.25**	**44**		Pn	00 46 48.3	+1.1
S11A				IAML		00 47 25.1	
	comp=E,186nm,0.7s						
S11A				IAML		00 47 27.8	
	comp=N,168nm,0.7s						
LHV	**Little Huntoon**	**2.29**	**344**		Pn	00 46 49.1	+1.6
LHV				IAML		00 47 29.5	
	comp=N,49nm,1.1s						
LHV				IAML		00 47 33.5	
	comp=E,54nm,0.8s						
V12A	**Nelson**	**2.35**	**97**		Pn	00 46 48.0	-0.6
V12A				IAML		00 47 28.2	
	comp=N,48nm,1.2s						
V12A				IAML		00 47 29.8	
	comp=E,42nm,0.5s						
NV11	**Mina Array Sit**	**2.41**	**352**		Pn	00 46 50.1	+0.8
ELS	**Elsinore Mount**	**2.41**	**174**		Pn	00 46 49.6	+0.4
ELS				IAML		00 47 28.3	
	comp=E,42nm,0.4s						
NVAR	**Mina Array Bea**	**2.42**	**349**		Pn	00 46 50.3	+0.7
PMPB	**Monarch Peak**	**2.50**	**275**		Pn	00 46 50.6	+0.1
PMPB				IAML		00 47 39.1	
	comp=N,104nm,0.7s						
PMPB				IAML		00 47 39.7	
	comp=E,90nm,1.1s						
PRN	**Pahroc Range**	**2.54**	**57**		Pn	00 46 52.0	+0.8
PRN				IAML		00 47 40.7	
	comp=N,70nm,0.8s						
PRN				IAML		00 47 44.5	
	comp=E,86nm,0.6s						
MYLM	**Yosemite Lake**	**2.54**	**302**		Pb	00 46 55.5	+0.2
PMD	**Palm Desert**	**2.64**	**155**		Pn	00 46 52.0	-0.4
PMD				IAML		00 47 37.8	
	comp=E,58nm,0.6s						
PFO	**Pinyon Flats O**	**2.64**	**156**		Pn	00 46 52.4	-0.2
PFO				IAML		00 47 41.9	
	comp=E,46nm,1.3s						
PFO				IAML		00 47 42.4	
	comp=E,33nm,0.8s						
RYN	**Ryan**	**2.65**	**346**		Pn	00 46 53.3	+0.5
BBGB	**Big Mountain B**	**2.73**	**282**		Pn	00 46 54.6	+0.9
BBGB				IAML		00 47 48.3	
	comp=E,120nm,1.1s						
R11B	**Troy Canyon, C**	**2.86**	**36**		Pn	00 46 55.6	0.0
R11B				IAML		00 47 42.1	
	comp=E,58nm,0.8s						
W13A	**Hualapai Mount**	**3.27**	**106**		Pn	00 47 00.7	-0.6
W13A				IAML		00 47 59.2	
	comp=N,22nm,1.2s						
BLYC	**Blythe**	**3.49**	**130**		Pn	00 47 03.8	-0.3
BLYC				IAML		00 48 11.6	
	comp=E,25nm,0.6s						
BLYC				IAML		00 48 12.9	
	comp=N,27nm,0.7s						
TKX	**Tecate**	**3.59**	**165**		Pn	00 47 05.3	-0.3
YUH	**Yuha Desert**	**3.70**	**156**		Pn	00 47 06.8	-0.2
LCMT	**Little Creek M**	**3.73**	**74**		Pn	00 47 07.0	-0.6
CCUT	**Cedar City**	**3.81**	**66**		Pn	00 47 08.2	-0.5
CBX	**Cerro Bola**	**3.83**	**166**	Pn	Pn	00 47 09.7	+0.8
GLA	**Glamis**	**3.83**	**141**		Pn	00 47 08.5	-0.3
GLA				IAML		00 48 18.7	
	comp=N,33nm,0.7s						
KNB	**Kanab**	**4.07**	**75**		Pn	00 47 13.1	+0.9
U15A	**North Rim**	**4.41**	**83**		Pn	00 47 18.7	+1.7
U15A				IAML		00 48 38.4	
	comp=E,12nm,0.7s						
U15A				IAML		00 48 39.5	
	comp=N,9.6nm,1.2s						
ELK	**Elko**	**5.08**	**22**		Pn	00 47 28.0	+1.8
ELK				IAML		00 48 55.5	
	comp=N,5.9nm,0.8s						

MDD ***11*** *00:50:18.4±0.6,36°.25N×7°.81W,h2km±3km,mb_Lg2.2/9, Error ellipse: s-maj=3.6km s-min=3.0km az=67.0*
INMG ***11*** *00:50:19.7±1.3,36°.25N×7°.99W,h1km,ML1.8,Error ellipse: s-maj=4.0km s-min=2.5km az=65.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Golfo de Cadiz*
IGIL ***11*** *00:50:19.7,36°.26N×7°.97W,h1km*
CNRM ***11*** *00:50:19.9,36°.18N×8°.08W,h65km,ML2.1*
SFS ***11*** *00:50:19.3,36°.22N×7°.94W,h10km,ML2.7/12,ML2.8/13, MLv2.6/13*

ISC 11 00:50:18.4±1.2,36°.25N±0°.02×7°.91W±0°.03,h20km±5km, n65,σ1ᵖ35/104,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**1.00**	**359**	*e*P	**Pg**	**00 50 38.3**	**+0.5**
PBDV				*e*S	**Sg**	**00 50 50.9**	**0.0**
PBDV				*i* IAML		00 50 54.3	
PBDV				*i* IAML		00 50 55.3	
PBDV				*i* IAML		00 50 57.1	
PFVI	**Vila Bisbo**	**1.15**	**321**	*e*P	**Pg**	**00 50 39.8**	**-0.9**
PFVI				*e*S	**Sg**	**00 50 55.5**	**-0.3**
PFVI				*i* IAML		00 51 00.9	
PFVI				*i* IAML		00 51 01.7	
PFVI				*i* IAML		00 51 02.4	
PFVI	**Vila Bisbo**	**1.15**	**321**	P	**Pg**	**00 50 40.0**	**-0.7**
PVAQ	**Vaqueiros**	**1.17**	**8**	P	**Pb**	**00 50 40.2**	**+0.3**
PVAQ	**Vaqueiros**	**1.17**	**8**	*e*P	**Pg**	**00 50 40.8**	**-0.2**
PVAQ				*e*S	**Sg**	**00 50 57.1**	**+0.8**
PVAQ				*i* IAML		00 50 58.7	
PVAQ				*i* I

EGRO	**El Granado**	**1.33**	**15**	Pg	**Pb**	**00 50 43.1**	**+0.4**
EGRO				Sg	**Sn**	**00 50 59.5**	**+0.4**
EGRO				*i* lVmb_Lg		00 51 04.3	
PCVE	**Castro Verde**	**1.39**	**356**	P	**Pb**	**00 50 43.5**	**-0.2**
PCVE				S	**Sg**	**00 51 02.7**	**-0.7**
PCVE	**Castro Verde**	**1.39**	**356**	*e*P	**Pb**	**00 50 44.1**	**+0.5**
PCVE				*e*S	**Sg**	**00 51 03.3**	**-0.1**
PCVE				*i* IAML		00 51 05.1	
PCVE				*i* IAML		00 51 05.4	
PCVE				*i* IAML		00 51 06.6	
PTEO	**Sao Teotonio**	**1.45**	**334**	*e*P	**Pb**	**00 50 44.5**	**-0.2**
PTEO				*e*S	**Sg**	**00 51 03.9**	**-1.5**
PTEO				*i* IAML		00 51 09.2	
PTEO				*i* IAML		00 51 09.8	
PTEO				*i* IAML		00 51 15.1	
MESJ	**Messejana**	**1.61**	**351**	*e*P	**Pb**	**00 50 47.0**	**-0.4**
ESPR	**Espera**	**1.77**	**69**	P	**Pn**	**00 50 48.7**	**+0.8**
ESPR				S	**Sn**	**00 51 11.6**	**+1.8**
ESPR	**Espera**	**1.77**	**69**	Pg	**Pb**	**00 50 50.1**	**0.0**
ESPR				Sg	**Sn**	**00 51 11.1**	**+1.3**
ESPR				*i* lVmb_Lg		00 51 13.2	
PBEJ	**Beja**	**1.78**	**1**	*e*Sg	**Sg**	**00 51 16.6**	**+0.9**
PBEJ				*i* IAML		00 51 17.3	
PBEJ				*i* IAML		00 51 18.5	
PBEJ				*i* IAML		00 51 18.7	
EMIN	**Mina Concepcio**	**1.81**	**33**	P	**Pn**	**00 50 49.4**	**+0.9**
EMIN				S	**Sn**	**00 51 12.6**	**+1.6**
EMIN	**Mina Concepcio**	**1.81**	**33**	Sn	**Sn**	**00 51 10.5**	**-0.5**
EMIN				Sg	**Sb**	**00 51 13.8**	**+0.6**
EMIN				*i* lVmb_Lg		00 51 15.4	
PBAR	**Barrancos**	**2.05**	**20**	P	**Pn**	**00 50 53.5**	**+1.8**
PBAR				S	**Sn**	**00 51 18.8**	**+2.1**
PBAR	**Barrancos**	**2.05**	**20**	*e*Pn	**Pn**	**00 50 53.5**	**+1.8**
PBAR				*e*Sn	**Sb**	**00 51 19.7**	**-0.3**
PBAR				*e*Sg	**Sg**	**00 51 25.1**	**+0.8**
PBAR				*i* IAML		00 51 26.2	
PBAR				*i* IAML		00 51 26.7	
PBAR				*i* IAML		00 51 26.9	
ECEU	**Ceuta**	**2.08**	**99**	Sg	**Sb**	**00 51 21.5**	**+0.5**
EVO	**Evora**	**2.28**	**358**	P	**Pn**	**00 50 56.2**	**+1.3**
EVO				S	**Sn**	**00 51 22.6**	**+0.1**
EVO	**Evora**	**2.28**	**358**	*e*Pn	**Pn**	**00 50 56.8**	**+1.8**
EVO				*e*Sg	**Sg**	**00 51 31.4**	**-0.5**
EVO				*i* IAML		00 51 32.8	
EVO				*i* IAML		00 51 35.2	
EVO				*i* IAML		00 51 38.7	
EMIJ	**Mijas**	**2.55**	**82**	S	**Sn**	**00 51 30.9**	**+1.7**
EMIJ	**Mijas**	**2.55**	**82**	Sg	**Sb**	**00 51 33.0**	**-1.5**
EBAD	**Badajoz**	**2.61**	**16**	P	**Pn**	**00 51 00.9**	**+1.5**
EBAD				S	**Sn**	**00 51 34.5**	**+0.7**
EBAD	**Badajoz**	**2.61**	**16**	Pn	**Pn**	**00 50 59.6**	**+0.2**
EBAD				Sn	**Sn**	**00 51 29.3**	**-1.2**
EBAD				*i* lVmb_Lg		00 51 34.7	
EBAD				Sg	**Sg**	**00 51 42.1**	**-0.1**
PESTR	**Estremoz**	**2.63**	**5**	P	**Pn**	**00 51 00.5**	**+0.8**
PESTR				S	**Sn**	**00 51 31.4**	**+0.3**
PESTR	**Estremoz**	**2.63**	**5**	*e*Sn	**Sn**	**00 51 33.0**	**+1.9**
ECAB	**El Cabril**	**2.70**	**47**	P	**Pn**	**00 51 02.2**	**+1.4**
ECAB				S	**Sn**	**00 51 33.9**	**+0.9**
ECAB	**El Cabril**	**2.70**	**47**	Pg	**Pb**	**00 51 04.0**	**-2.1**
ECAB				Sn	**Sn**	**00 51 30.9**	**-2.0**
ECAB				Sg	**Sb**	**00 51 34.0**	**-4.8**
ECAB				*i* lVmb_Lg		00 51 36.5	
PARRA	**Arraiolos**	**2.72**	**341**	*e*Pn	**Pn**	**00 50 60.0**	**-0.9**
PARRA				*e*Sn	**Sn**	**00 51 30.8**	**-2.4**
PARRA				*e*Sg	**Sb**	**00 51 40.3**	**+1.0**
PARRA				*i* IAML		00 51 41.2	
PMTG	**Montargil**	**2.83**	**355**	*e*Pn	**Pn**	**00 51 03.4**	**+0.9**
PMTG				*e*Sn	**Sn**	**00 51 35.5**	**-0.5**
PMTG				*e*Sg	**Sg**	**00 51 48.0**	**-1.4**
PMTG				*i* IAML		00 51 51.5	
PMTG				*i* IAML		00 51 54.9	
PMTG				*i* IAML		00 51 55.9	
PMAFR	**Mafra**	**2.92**	**339**	P	**Pn**	**00 51 04.9**	**+1.2**
PMAFR				S	**Sn**	**00 51 38.8**	**+0.7**
PMAFR	**Mafra**	**2.92**	**339**	*e*Pn	**Pn**	**00 51 05.1**	**+1.5**
PMAFR				*e*Sn	**Sn**	**00 51 39.2**	**+1.0**
AVE	**Averroes**	**2.97**	**172**	S	**Sn**	**00 51 39.5**	**0.0**
ZHG	**ZHG**	**2.98**	**159**	P	**Pn**	**00 51 06.0**	**+1.4**
ZHG	**ZHG**	**2.98**	**159**	S	**Sn**	**00 51 42.0**	**+2.2**
PMRV	**Marv??o**	**3.20**	**7**	*e*Pn	**Pn**	**00 51 08.7**	**+1.1**
PMRV				*e*Sn	**Sn**	**00 51 45.2**	**0.0**
PMRV				*e*Sg	**Sg**	**00 51 58.8**	**-2.6**
PMRV				*i* IAML		00 52 03.5	
PMRV				*i* IAML		00 52 05.7	
PMRV				*i* IAML		00 52 09.3	
EADA	**Adamuz**	**3.28**	**53**	P	**Pn**	**00 51 10.1**	**+1.4**
EADA				S	**Sn**	**00 51 47.2**	**0.0**
EADA	**Adamuz**	**3.28**	**53**	Pn	**Pn**	**00 51 10.3**	**+1.6**
EADA				Sn	**Sn**	**00 51 46.5**	**-0.7**
EADA				*i* lVmb_Lg		00 51 52.2	
PSARD	**Sardoal**	**3.35**	**357**	*e*Pn	**Pn**	**00 51 11.2**	**+1.5**
PSARD				*e*Sn	**Sn**	**00 51 49.2**	**+0.2**
PSARD				*e*Sg	**Sg**	**00 52 06.8**	**+0.6**
PSARD				*i* IAML		00 52 11.4	
PSARD				*i* IAML		00 52 12.9	
PSARD				*i* IAML		00 52 15.3	
ELGU	**Los Guajares,**	**3.51**	**79**	P	**Pn**	**00 51 13.4**	**+1.6**
AKLM	**AKL**	**3.73**	**116**	P	**Pn**	**00 51 14.6**	**-0.4**
AKLM	**AKL**	**3.73**	**116**	S	**Sn**	**00 51 57.7**	**-0.7**
E0803	**Jimena (Jaen)**	**3.89**	**65**	Sn	**Sn**	**00 52 03.7**	**+1.4**
EPLA	**Plasencia**	**4.08**	**20**	Pn	**Pn**	**00 51 21.3**	**+1.7**
EPLA				Sn	**Sn**	**00 52 04.5**	**-2.3**
EPLA				*i* lVmb_Lg		00 52 08.6	
PSIM	**Granatula de C**	**4.18**	**51**	Sn	**Sn**	**00 52 08.0**	**-1.5**
MD31	**MD31**	**4.26**	**141**	P	**Pn**	**00 51 23.3**	**+1.1**
MD31	**MD31**	**4.26**	**141**	S	**Sn**	**00 52 12.2**	**+0.9**
MDT	**Midelt**	**4.38**	**140**	P	**Pn**	**00 51 24.8**	**+1.0**
MDT	**Midelt**	**4.38**	**140**	S	**Sn**	**00 52 15.5**	**+1.2**
ESDC	**Sonseca Array**	**4.63**	**41**	Sn	**Sn**	**00 52 18.6**	**-1.9**
ESDC				*i* lVmb_Lg		00 52 22.1	
ESBB	**Sonseca Array**	**4.63**	**41**	Sn	**Sn**	**00 52 18.6**	**-2.0**
MVO	**Moncorvo**	**4.96**	**8**	*e*Pn	**Pn**	**00 51 33.2**	**+1.4**
TIO	**Tiouine**	**5.33**	**174**	P	**Pn**	**00 51 37.8**	**+0.8**
TIO				S	**Sn**	**00 52 34.5**	**-3.5**
TIO	**Tiouine**	**5.33**	**174**	P	**Pn**	**00 51 37.2**	**+0.1**
TIO	**Tiouine**	**5.33**	**174**	S	**Sn**	**00 52 36.8**	**-1.1**
OUZM	**OUZ**	**5.41**	**169**	P	**Pn**	**00 51 38.7**	**+0.7**
OUZM	**OUZ**	**5.41**	**169**	S	**Sn**	**00 52 41.0**	**+1.2**
UCM	**Universidad Co**	**5.47**	**41**	S	**Sn**	**00 52 38.7**	**-2.5**
TTIG	**Tnine Tigouga,**	**5.70**	**185**	P	**Pn**	**00 51 41.1**	**-1.0**
TTIG	**Tnine Tigouga,**	**5.70**	**185**	S	**Sn**	**00 52 45.3**	**-1.6**

RSNC 11 01:03:18.6±0.0, 4°N±4°×8°3W±°, h11km±5km, M3.5, mB5.5, mb4.0, ML2.9, Mw(mB)4.9, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAPC	**Malpelo**	**1.13**	**80**	P	Pb	01 03 38.2	-1.9
MAPC				S	Sb	01 03 53.7	-1.1
CACAO	**El Cacao, Vera**	**3.97**	**28**	P	Pn	01 04 18.7	-0.8
CACAO				S	Sn	01 05 02.6	-3.4
GR1C	**Gorgona, Isla**	**4.62**	**100**	P	Pn	01 04 27.2	-1.2
AZU	**Azuero**	**4.64**	**31**	P	Pn	01 04 29.2	+0.5
AZU				S	Sn	01 05 20.6	-2.1
PAC1	**Pacto, Paraso**	**5.27**	**132**	P	Pn	01 04 36.0	-1.5
PAC1				S	Sn	01 05 34.8	-3.6
MALC	**Bahia Malaga**	**5.38**	**88**	P	Pn	01 04 39.5	+0.7
MALC				S	Sn	01 05 32.2	-8.6
PPLP	**Puerto Lpez**	**5.66**	**160**	P	Pn	01 04 39.5	-3.3
PPLP				S	Sn	01 05 41.7	-6.2
BBAC	**Balboa, Cauca**	**5.75**	**108**	P	Pn	01 04 42.8	-1.3
BBAC				S	Sn	01 05 47.1	-3.1
BCIP	**Isla Barro Col** 30nm,0.7s	**6.04**	**28**	P	Pn	01 04 50.0	+2.0
BCIP	30nm,0.7s			S	Sn	01 05 56.2	-1.0
JAMC	**Jamundi, Valle** 999nm5.2nm,0.8s	**6.06**	**95**	P	Pn	01 04 50.3	+1.8
YOTC	**Yotoco, Valle** 5.0nm,0.8s	**6.36**	**88**	P	Pn	01 04 55.7	+3.2
YOTC	5.0nm,0.8s			S	Sn	01 06 07.7	+2.4
PLMC	**San Jos del P**	**6.51**	**80**	P	Pn	01 04 57.3	+2.8
PLMC				S	Sn	01 06 11.0	+2.1

*ASRS **11** 01:13:37.6±0.4, 50°N±2°×9°1E±°, h10km, MLh3.2/16, Error ellipse: s-maj=4.0km s-min=2.3km az=148.5, confirmed*

*NNC **11** 01:13:55.6±6.0, 49°20N×93°05E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=46.5km s-min=34.9km az=53.0*

ISC 11 01:13:38.2±1.4, 50°39N±0°04×91°14E±0°04, h7km±16km, n31, σ1s87/55, 5C-2D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEL	**Teeli**	**0.87**	**317**	⇓Pg	**Pg**	**01 13 55.0**	**+0.1**
TEL				Sg	**Sb**	**01 14 08.1**	**+0.6**
CUR	**Chagan-Uzun**	**1.81**	**262**	Pg	**Pg**	**01 14 13.5**	**+0.6**
CUR				Sg	**Sg**	**01 14 37.1**	**+0.7**
ULGR	**Ulagan, Altay**	**2.04**	**278**	Pg	**Pg**	**01 14 19.0**	**+1.7**
ULGR				Sg	**Sg**	**01 14 46.2**	**+2.5**
AKAR	**Aktash**	**2.25**	**270**	Pg	**Pg**	**01 14 20.8**	**-0.5**
AKAR				Sg	**Sg**	**01 14 51.4**	**+0.8**
CHBI	**Chibit, Altay**	**2.33**	**270**	Pg	**Pg**	**01 14 21.5**	**-1.3**
CHBI				Sg	**Sg**	**01 14 54.0**	**+1.1**
DJO	**Djoy, Khakassi**	**2.40**	**1**	Pg	**Pg**	**01 14 23.6**	**-0.5**
DJO				Sg	**Sg**	**01 14 57.2**	**+1.9**
KZLR	**Kyzyl**	**2.48**	**56**	Pg	**Pb**	**01 14 23.6**	**+0.6**
KZLR				Sg	**Sg**	**01 14 56.7**	**-1.0**
CERR	**Cheremushki**	**2.48**	**4**	Pg	**Pg**	**01 14 26.3**	**+0.7**
CERR				Sg	**Sg**	**01 14 59.2**	**+1.5**
DGZ	**Jazzator, Alta**	**2.48**	**255**	Pg	**Pg**	**01 14 24.9**	**-0.9**
DGZ				Sg	**Sg**	**01 14 58.7**	**+0.8**
YALR	**Yailyu, Altay**	**2.62**	**303**	Pg	**Pb**	**01 14 26.2**	**+0.8**
YALR				Sg	**Sg**	**01 15 03.8**	**+1.5**
ARDR	**Aradan**	**2.62**	**32**	Pg	**Pg**	**01 14 27.9**	**-0.5**
ARDR				Sg	**Sg**	**01 15 02.4**	**0.0**
ARTR	**Artybash**	**2.81**	**302**	Pg	**Pb**	**01 14 28.9**	**+0.3**
ARTR				Sg	**Sg**	**01 15 08.7**	**+0.3**
VEH	**Verkhnyaya Baz**	**2.92**	**350**	Pg	**Pg**	**01 14 33.2**	**-0.9**
VEH				Sg	**Sg**	**01 15 12.3**	**+0.5**
TASR	**Tashtagol**	**3.13**	**321**	Pg	**Pg**	**01 14 38.3**	**+0.3**
TASR				Sg	**Sg**	**01 15 19.9**	**+1.4**
ELDR	**Elanda**	**3.31**	**287**	Pn	**Pb**	**01 14 35.1**	**-2.1**
ELDR				Pg	**Pg**	**01 14 40.2**	**-1.3**
ELDR				Sg	**Sg**	**01 15 26.3**	**+1.9**
LUZB	**Luzhba, Kemero**	**3.56**	**338**	Pg	**Pg**	**01 14 45.5**	**-0.8**
LUZB				Sg	**Sg**	**01 15 31.3**	**-1.1**
GALT	**Gorno-Altaysk,**	**3.62**	**298**	Pg	**Pg**	**01 14 47.7**	**+0.1**
GALT				Sg	**Sg**	**01 15 36.1**	**+1.6**
KALT2	**Kaltan 2**	**3.83**	**323**	Sg	**Sg**	**01 15 42.0**	**+0.8**
KALT3	**Kaltan 3**	**3.88**	**325**	Sg	**Sg**	**01 15 43.6**	**+1.0**
TAIL	**Tailep, Kuzbas**	**3.92**	**323**	Sg	**Sg**	**01 15 46.6**	**+2.7**
ELT	**Eltsovka**	**4.18**	**315**	Pn	**Pn**	**01 14 42.7**	**+0.4**
ELT				Pg	**Pg**	**01 14 56.2**	**-2.1**
ELT				Sg	**Sg**	**01 15 50.1**	**-2.3**
ERU	**Erunakovo, Kuz**	**4.41**	**330**	Sg	**Sg**	**01 16 00.9**	**+1.2**
MINR	**Mina**	**4.89**	**21**	Pg	**Pg**	**01 15 11.6**	**-0.2**
MINR				Sg	**Sg**	**01 16 16.9**	**+1.8**
SALR	**Pechorkino, Sa**	**5.23**	**323**	Sg	**Sg**	**01 16 21.8**	**-4.1**
BRCR	**Berchikul'**	**5.53**	**343**	Pg	**Pg**	**01 15 22.0**	**-2.0**
BRCR				Sg	**Sg**	**01 16 33.6**	**-2.0**
SHTK	**Zheleznogorsk-**	**6.14**	**13**	Sg	**Sg**	**01 16 53.0**	**-2.1**
GZLN	**Zheleznogorsk**	**6.21**	**14**	Sg	**Sg**	**01 16 55.0**	**-2.3**
MK31	**Makanchi Array** 1.0nm,0.5s,baz=69,slow=15,SNR=4.0	**6.88**	**242**	⇑P	**Pg**	**01 15 48.5**	**-1.4**
MK31	12nm,1.1s,baz=70,slow=25			⇑S	**Sg**	**01 17 16.5**	**-2.4**
MAKZ	**Makanchi** 1.0nm,0.6s	**7.05**	**243**	⇑P	**Pg**	**01 15 50.0**	**-3.1**
MAKZ	4.9nm,0.8s			⇓S	**Sg**	**01 17 21.1**	**-3.3**
KURK	**Kurchatov** 3.8nm,0.7s	**7.98**	**277**	⇑Sn	**Sg**	**01 17 59.7**	**+5.5**
KURBB	**Kurchatov Arra** 7.7nm,0.6s	**8.04**	**277**	⇑Sn	**Sg**	**01 18 00.2**	**+4.1**

*NEIC **11** 01:21:50.2±1.1, 36°04N±0°01×117°85W±0°01, h5km±3km, Error ellipse: s-maj=1.7km s-min=1.5km az=70.0*

PAS 11 01:21:50.8±1.2, 36°034N±0°010×117°857W±0°009, h2km±1km, ML3.2/20, ML2.8/140(NEIC), Error ellipse: s-maj=1.7km s-min=0.5km az=214.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRVM	**Rose V. Centra**	**0.04**	**226**		Pg	01 21 51.8	+0.3
JRC2	**Joshua Ridge**	**0.07**	**143**		Pg	01 21 52.2	+0.1
WCSM	**Coso Springs S**	**0.07**	**96**		Pg	01 21 52.4	+0.1
MFS	**McCloud Flat S**	**0.08**	**1**		Pg	01 21 52.7	+0.2
WVPM	**Volcano Peak E**	**0.09**	**159**		Pg	01 21 52.7	+0.1
WNMM	**Nine Mile Cany**	**0.20**	**192**		Pg	01 21 54.6	+0.1
WNMM					Sg	01 21 57.7	+0.7
TOW	**Tower One**	**0.24**	**161**		Pg	01 21 55.9	+0.6
MPMC	**Manual Prospec**	**0.30**	**85**		Pg	01 21 56.6	+0.1
MPMC				Sg	Sg	01 22 00.5	0.0
MPMC				IAML		01 22 01.3	
	comp=E,2μm,0.4s						
MPMC				IAML		01 22 02.3	
	comp=N,2μm,0.5s						
SRTC	**Snort**	**0.35**	**166**		Pg	01 21 58.2	+0.6
CWC	**Cottonwood Cre**	**0.44**	**336**		Pg	01 21 59.4	+0.1
CWC				Sg	Sg	01 22 05.3	+0.2
CWC				IAML		01 22 06.2	
	comp=N,1μm,0.2s						
CWC				IAML		01 22 07.3	
	comp=E,1μm,0.2s						
CGO	**Cerro Gordo**	**0.52**	**5**		Pg	01 22 00.6	-0.1
WSHM	**Spangler Hills**	**0.53**	**146**	Pg	Pg	01 22 00.8	0.0
WSHM				Sg	Sg	01 22 08.0	+0.4
WSHM				IAML		01 22 08.6	
	comp=E,891nm,0.3s						
WSHM				IAML		01 22 09.0	
	comp=E,723nm,0.2s						
LRMC	**Laurel Mtn Rad**	**0.57**	**166**		Pg	01 22 01.6	-0.1
LRMC				Sg	Sg	01 22 09.6	+0.4
LRMC				IAML		01 22 10.2	
	comp=E,1μm,0.5s						
LRMC				IAML		01 22 10.2	
	comp=N,995nm,0.2s						
ISA	**Isabella, Lake**	**0.62**	**234**		Pg	01 22 02.7	0.0
ISA				Sg	Sg	01 22 10.8	0.0
CCCA	**Chr Cany lake**	**0.65**	**142**		Pg	01 22 03.4	+0.3
CCCA				Sg	Sg	01 22 11.6	+0.1
SPG2	**Springville 2**	**0.76**	**283**		Pn	01 22 15.2	+6.7
QSM	**Queen of Sheba**	**0.81**	**95**		Pg	01 22 06.0	-0.2
QSM				IAML		01 22 09.6	
	comp=N,331nm,0.5s						
QSM				IAML		01 22 18.5	
	comp=E,246nm,0.4s						
GWY	**Greenwater Val**	**0.97**	**81**		Pg	01 22 09.1	-0.3
GWY				IAML		01 22 25.8	
	comp=N,422nm,0.5s						
GWY				IAML		01 22 27.6	
	comp=E,349nm,0.4s						
GRAC	**Grapevine Rang**	**1.04**	**22**		Pg	01 22 10.3	-0.4
GRAC				IAML		01 22 31.1	
	comp=E,335nm,0.6s						
GRAC				IAML		01 22 31.2	
	comp=N,256nm,0.4s						
GSC	**Goldstone, Bar**	**1.12**	**130**		Pg	01 22 11.5	-0.8
GSC				IAML		01 22 32.2	
	comp=N,146nm,0.7s						
TPO	**Tropico Hills**	**1.19**	**195**		Pg	01 22 12.7	-0.9
TPO				IAML		01 22 29.7	
	comp=N,254nm,0.5s						
WCT	**Wildcat Mounta**	**1.25**	**52**		Pg	01 22 14.0	-0.8
WCT				IAML		01 22 34.9	
	comp=E,138nm,0.8s						
DSP	**Deep Springs**	**1.34**	**356**		Pg	01 22 15.2	-1.2
DSP				IAML		01 22 35.1	
	comp=E,89nm,0.6s						
GMN	**Gold Mountain**	**1.35**	**21**		Pg	01 22 16.0	-0.7
TPNV	**Topopah Spring**	**1.58**	**54**		Pn	01 22 19.6	-0.5
TPNV				IAML		01 22 46.8	
	comp=E,114nm,0.8s						
TPNV				IAML		01 22 47.4	
	comp=E,150nm,0.8s						
MZP	**Montezuma Peak**	**1.71**	**13**		Pn	01 22 21.5	-0.4
KCC	**Kaiser Creek**	**1.74**	**318**		Pb	01 22 22.9	-0.7
BFSC	**Mount Baldy Ra**	**1.80**	**175**		Pn	01 22 22.8	-0.2
BFSC				IAML		01 22 48.3	
	comp=E,79nm,0.7s						
BFSC				IAML		01 22 51.7	
	comp=N,66nm,0.3s						
MWC	**Mount Wilson**	**1.81**	**185**		Pn	01 22 23.1	-0.2
MWC				IAML		01 22 49.8	
	comp=N,121nm,0.5s						
MWC				IAML		01 22 54.3	
	comp=E,111nm,0.4s						
PASC	**Pasadena Art C**	**1.88**	**188**		Pn	01 22 23.3	-0.7
PASC				IAML		01 22 52.5	
	comp=E,47nm,0.5s						
PASC				IAML		01 22 56.9	
	comp=N,52nm,0.5s						
SMMC	**Simmler**	**1.88**	**248**		Pn	01 22 24.7	+0.7
MTPC	**Mountain Pass**	**1.95**	**106**	Pn	Pn	01 22 23.8	-1.4
MTPC				IAML		01 22 55.7	
	comp=E,46nm,0.4s						
MTPC				IAML		01 22 57.8	
	comp=N,41nm,1.0s						
TPH	**Tonopah**	**2.10**	**14**		Pn	01 22 26.1	-1.1
SHPR	**Sheep Range**	**2.23**	**77**		Pn	01 22 28.6	-0.3
LHV	**Little Huntoon**	**2.27**	**347**		Pn	01 22 29.5	+0.2
LHV				IAML		01 23 14.6	
	comp=N,52nm,1.2s						
LHV				IAML		01 23 22.6	
	comp=E,38nm,0.9s						
S11A	**Rachel**	**2.33**	**46**	Pn	Pn	01 22 30.5	+0.1
PMPB	**Monarch Peak**	**2.39**	**275**	Pn	Pn	01 22 30.7	-0.4
PMPB				IAML		01 23 11.2	
	comp=E,78nm,0.6s						
PMPB				IAML		01 23 16.5	
	comp=N,87nm,0.9s						
NV11	**Mina Array Sit**	**2.41**	**354**		Pn	01 22 31.4	0.0
ELS	**Elsinore Mount**	**2.41**	**171**		Pn	01 22 30.5	-0.8
ELS				IAML		01 23 12.3	
	comp=E,26nm,0.6s						
ELS				IAML		01 23 13.1	
	comp=N,30nm,1.3s						
NVAR	**Mina Array Bea**	**2.42**	**352**	Pn	Pn	01 22 31.4	-0.2
V12A	**Nelson**	**2.46**	**96**	Pn	Pn	01 22 31.6	-0.5
V12A				IAML		01 23 14.8	
	comp=N,26nm,1.0s						
BBGB	**Big Mountain B**	**2.63**	**283**	Pn	Pn	01 22 33.9	-0.5
PRN	**Pahroc Range**	**2.64**	**58**	Pn	Pn	01 22 34.4	-0.1
PRN				IAML		01 23 23.2	
	comp=E,54nm,0.7s						
PRN				IAML		01 23 23.6	
	comp=N,51nm,0.9s						
RYN	**Ryan**	**2.64**	**349**	Pn	Pn	01 22 34.8	+0.1
PMD	**Palm Desert**	**2.67**	**153**	Pn	Pn	01 22 34.8	-0.1
PMD				IAML		01 23 17.6	
	comp=E,24nm,0.6s						
PFO	**Pinyon Flats O**	**2.68**	**154**	Pn	Pn	01 22 34.4	-0.7
WAKR	**Walker**	**2.77**	**333**	Pn	Pn	01 22 36.3	-0.1
WAKR				IAML		01 23 21.7	
	comp=E,34nm,0.5s						
WAKR				IAML		01 23 22.0	
	comp=N,30nm,0.5s						
CMB	**Columbia Colle**	**2.84**	**315**	Pn	Pn	01 22 36.8	-0.5
CMB				IAML		01 23 19.6	
	comp=N,36nm,0.3s						
CMB				IAML		01 23 25.4	
	comp=E,46nm,0.6s						
R11B	**Troy Canyon, C**	**2.94**	**37**	Pn	Pn	01 22 38.5	-0.2
R11B				IAML		01 23 27.3	
	comp=E,22nm,1.2s						
SAO	**San Andreas Ge**	**2.99**	**285**		Pn	01 22 39.1	-0.1
BORC	**Borrego Spring**	**3.00**	**156**	IAML		01 23 28.7	
	comp=E,50nm,0.9s						
BORC				IAML		01 23 29.1	
	comp=N,23nm,0.9s						
DPP	**Dos Picos Cty**	**3.12**	**166**	IAML		01 23 28.1	
	comp=E,18nm,0.5s						
GLA	**Glamis**	**3.89**	**139**	IAML		01 23 59.2	
	comp=N,16nm,0.7s						
PSUT	**Pine Spring**	**4.05**	**51**	IAML		01 24 02.6	
	comp=E,18nm,0.9s						
PSUT				IAML		01 24 07.5	
	comp=N,22nm,1.3s						
SPR3	**Spring Creek 3**	**4.08**	**42**	IAML		01 24 04.5	
	comp=E,12nm,1.8s						
SPR3				IAML		01 24 10.5	
	comp=N,12nm,1.6s						
BEKR	**Beckworth**	**4.31**	**333**	IAML		01 24 08.3	
	comp=N,13nm,0.5s						
Y14A	**Wickenburg**	**4.50**	**116**	IAML		01 23 36.1	
	comp=N,14nm,0.1s						
Y14A				IAML		01 23 36.8	
	comp=E,8.4nm,0.1s						
U15A	**North Rim**	**4.52**	**83**	IAML		01 24 20.4	
	comp=E,5.4nm,0.8s						
U15A				IAML		01 24 42.6	
	comp=N,5.4nm,3.7s						
WUAZ	**Wupatki**	**5.30**	**94**	IAML		01 25 22.4	
	comp=N,5.8nm,3.3s						
WUAZ				IAML		01 25 27.8	
	comp=N,5.4nm,2.0s						

*IDC **11** 01:22:50.8±1.5, 11°85N×94°39E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=85.6km s-min=29.4km az=55.0*

ISC 11 01:22:53.6±1.4, 11°9N±0°4×94°4E±0°5, h18km, n7, σ0s50/7, mb3.6/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array** 0.7nm,0.7s,baz=147,slow=7.2,SNR=5.5 0.7nm,0.7s	**36.31**	**346**	P	**P**	**01 29 56.5**	**+0.3**
KURBB	**Kurchatov Arra** 0.8nm,0.6s,baz=160,slow=7.3,SNR=11 0.8nm,0.6s	**40.79**	**345**	P	**P**	**01 30 33.2**	**-0.6**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=311,slow=6.1,SNR=1.5 0.3nm,0.5s	**52.33**	**133**	P	**P**	**01 32 04.7**	**0.0**
BRTR	**Keskin Array B** 0.5nm,0.6s,baz=108,slow=8.0,SNR=3.8 0.5nm,0.6s	**60

comp=Z,6.7nm,0.8s
WR8 Warramunga Arr 38.69 197 P P 01 48 03.8 +0.1
WR8 IAmb IAmb 01 48 05.8
comp=Z,5.2nm,0.7s
WRA Warramunga Arr 38.72 197 P P 01 48 03.5 -0.5
WRA Warramunga Arr 38.72 197 P P 01 48 03.2 -0.7
comp=Z,3.1nm,0.3s,baz=18,slow=8.9,SNR=31
WRA PcP **PcP 01 50 09.2 +0.1**
comp=Z,0.9nm,0.4s,baz=24,slow=3.6,SNR=5.3
comp=Z,3.1nm,0.3s
AS31 Alice Springs 42.38 196 P P 01 48 34.0 +0.2
ASAR Alice Springs 42.38 196 P P 01 48 34.1 +0.3
comp=Z,1.3nm,0.4s,baz=14,slow=10,SNR=16
ASAR PcP **PcP 01 50 21.0 0.0**
comp=Z,0.2nm,0.3s,baz=17,slow=3.2,SNR=4.7
comp=Z,1.3nm,0.4s
SONM Songino Array 44.04 322 P P 01 48 47.2 +0.4
comp=Z,1.1nm,0.6s,baz=140,slow=7.6,SNR=6.5
comp=Z,1.1nm,0.6s
CMAR Chiang Mai Arr 44.23 279 P P 01 48 50.8 +2.2
comp=Z,2.5nm,0.5s,baz=71,slow=6.7,SNR=15
comp=Z,2.5nm,0.5s
S12K Black Hills 54.91 33 P P 01 50 07.4 -0.6
baz=248
SDPT Sand Point 55.62 34 P P 01 50 12.8 -0.2
baz=250
CHNA Chernabura Isl 55.92 35 P P 01 50 15.6 +0.4
baz=251
K13K Kusilvak Mount 56.40 26 P P 01 50 19.3 +0.9
baz=241
N14K Kuskokwak Cree 56.78 29 P P 01 50 21.1 0.0
baz=245
L14K Kuka Creek 56.95 27 P P 01 50 22.7 +0.4
baz=244
M14K Bethel 57.01 28 P P 01 50 23.2 +0.5
baz=245
O15K Ungalikthiuk R 57.35 30 P P 01 50 25.2 +0.1
baz=248
ANM Nome 57.43 23 P P 01 50 25.5 -0.1
baz=239
M15K Kasigluk River 57.55 28 P P 01 50 27.0 +0.4
baz=246
N15K Kwethluk River 57.61 29 P P 01 50 27.1 +0.1
baz=247
K15K Wolf Creek Mou 57.87 26 P P 01 50 29.5 +0.8
baz=244
P16K Nushagak River 58.18 30 P P 01 50 30.9 0.0
baz=250
O16K Kokwok River B 58.33 30 P P 01 50 31.9 0.0
baz=249
N16K Nishlik Lake 58.34 29 P P 01 50 32.5 +0.6
baz=248
M16K Timber Creek 58.46 28 P P 01 50 33.2 +0.4
baz=248
L16K Owhat River 58.50 27 P P 01 50 32.6 -0.4
baz=246
R17L Mt. Peulik Vol 58.53 32 P P 01 50 33.0 -0.4
baz=252
H16K Elim 58.65 23 P P 01 50 33.7 -0.2
baz=242
J16K Anvik River 58.68 25 P P 01 50 34.6 +0.4
baz=244
O17K Koliganek Bris 58.87 30 P P 01 50 35.8 +0.3
baz=250
I17K Unalakleet 58.91 25 P P 01 50 36.3 +0.5
baz=244
ZALV Zalesovo Beam 58.92 323 P P 01 50 36.3 +0.2
comp=Z,0.6nm,0.4s,baz=103,slow=6.4,SNR=2.5
comp=Z,0.6nm,0.4s
Q17K Contact Creek 58.97 32 P P 01 50 35.7 -0.7
baz=252
N17K Nushagak Hills 59.09 29 P P 01 50 37.6 +0.6
baz=250
L17K Donlin 59.18 27 P P 01 50 38.3 +0.6
baz=247
MKAR Makanchi Array 59.23 314 P P 01 50 39.0 +0.6
MKAR Makanchi Array 59.23 314 P P 01 50 38.3 -0.1
comp=Z,0.6nm,0.6s,baz=93,slow=7.4,SNR=5.8
comp=Z,0.6nm,0.6s
M17K Holitna River 59.29 28 P P 01 50 38.1 -0.3
M17K IAmb IAmb 01 50 40.0
comp=Z,6.7nm,1.0s
M17K Holitna River 59.29 28 P P 01 50 39.3 +0.8
baz=249
J17K VABM Dome 59.35 26 P P 01 50 38.0 -0.8
J17K IAmb IAmb 01 50 40.4
comp=Z,3.4nm,0.8s
J17K VABM Dome 59.35 26 P P 01 50 39.4 +0.6
baz=246
SII Sitkinak Islan 59.36 34 P P 01 50 39.6 +0.6
SII Sitkinak Islan 59.36 34 P P 01 50 39.7 +0.7
baz=255
K17K Iditarod 59.41 26 P P 01 50 40.1 +0.9
K17K IAmb IAmb 01 50 41.2
comp=Z,5.4nm,0.9s
K17K Iditarod 59.41 26 P P 01 50 40.2 +0.9
baz=247
C16K Lisburne Hills 59.42 19 P P 01 50 38.6 -0.5
C16K Lisburne Hills 59.42 19 P P 01 50 40.0 +0.9
baz=236
R18K Karluk 59.49 33 P P 01 50 40.4 +0.6
baz=254
Q18K Katmai Hardscr 59.52 32 P P 01 50 39.7 -0.5
baz=253
P18K Big Mountain, 59.64 31 P P 01 50 41.5 +0.5
P18K Big Mountain, 59.64 31 P P 01 50 40.7 -0.2
baz=252
G17K Kiwalik Mounta 59.64 23 P P 01 50 41.2 +0.4
baz=243
H17K Granite Mounta 59.67 24 P P 01 50 41.3 +0.3
H17K IAmb IAmb 01 50 42.1
comp=Z,4.0nm,0.7s
H17K Granite Mounta 59.67 24 P P 01 50 41.5 +0.5
baz=244
N18K Kilae Creek 59.74 29 P P 01 50 42.4 +0.8
N18K Kilae Creek 59.74 29 P P 01 50 41.9 +0.4
baz=251
O18K Koktuh Hills 59.80 30 P P 01 50 42.4 +0.5
O18K Koktuh Hills 59.80 30 P P 01 50 42.3 +0.3
baz=252
D17K Noatak River 59.84 20 P P 01 50 42.5 +0.5
baz=239
F17K Baldwin Pennin 59.86 22 P P 01 50 42.6 +0.4
F17K Baldwin Pennin 59.86 22 P P 01 50 42.7 +0.6
baz=242
L18K Granite Mounta 59.91 27 P P 01 50 43.4 +0.7
L18K Granite Mounta 59.91 27 P P 01 50 43.3 +0.7
baz=249
E17K Hotham Inlet 59.96 21 P P 01 50 43.1 +0.3
baz=241
M18K Stony River 60.04 28 P P 01 50 44.0 +0.5
baz=250
H18K Honhosa River 60.36 24 P P 01 50 45.7 +0.1
baz=246
N19K Bonanza Creek 60.44 29 P P 01 50 47.0 +0.7
N19K IAmb IAmb 01 50 48.0
comp=Z,4.3nm,0.7s
N19K Bonanza Creek 60.44 29 P P 01 50 46.9 +0.6
baz=252
F18K Selawik 60.50 22 P P 01 50 46.4 0.0
baz=243
KDAK Kodiak Island 60.52 33 P P 01 50 46.8 0.0
KDAK IAmb IAmb 01 50 54.2
comp=Z,9.1nm,1.4s
KDAK Kodiak Island 60.52 33 P P 01 50 46.7 0.0
comp=Z,1.3nm,0.3s,baz=239,slow=1.6,SNR=22
comp=Z,1.3nm,0.3s
KDAK Kodiak Island 60.52 33 P P 01 50 46.4 -0.3
baz=256
E18K Tukpahlearik C 60.54 21 P P 01 50 47.3 +0.5
E18K IAmb IAmb 01 50 48.0
comp=Z,3.7nm,0.7s
E18K Tukpahlearik C 60.54 21 P P 01 50 47.1 +0.3
baz=242
G18K Tagagawik 60.56 23 P P 01 50 46.9 -0.1
G18K Tagagawik 60.56 23 P P 01 50 46.9 -0.1
baz=245
P19K Oil Pt 60.69 31 P P 01 50 48.0 0.0
P19K Oil Pt 60.69 31 P P 01 50 47.8 -0.2
baz=254
L19K White Mountain 60.71 28 P P 01 50 47.6 -0.4
L19K White Mountain 60.71 28 P P 01 50 48.2 +0.1
baz=251
M19K Big River Lodg 60.83 28 P P 01 50 49.0 +0.2
baz=251
Q20K Shuyak Island 60.83 32 P P 01 50 48.5 -0.3
baz=255
SYI Shuyak Island 60.83 32 P 01 50 48.5 -0.3
SYI IAmb IAmb 01 50 49.1
comp=Z,4.5nm,0.7s
C18K Utukok River 60.93 20 P P 01 50 49.0 -0.5
C18K IAmb IAmb 01 50 50.0
comp=Z,3.7nm,0.8s
C18K Utukok River 60.93 20 P P 01 50 49.6 +0.2
baz=241
J19K Poorman 61.01 26 P P 01 50 50.6 +0.7
J19K IAmb IAmb 01 50 51.0
comp=Z,3.1nm,0.7s
J19K Poorman 61.01 26 P P 01 50 50.5 +0.5
baz=249
G19K Purcell Mounta 61.24 23 P P 01 50 51.8 +0.3
G19K IAmb IAmb 01 50 52.8
comp=Z,5.7nm,0.8s
G19K Purcell Mounta 61.24 23 P P 01 50 51.8 +0.3
baz=246,SNR=5.0
H19K Roundabout Mou 61.24 24 P P 01 50 52.1 +0.6
H19K IAmb IAmb 01 50 52.8
comp=Z,4.1nm,0.8s
H19K Roundabout Mou 61.24 24 P P 01 50 52.1 +0.6
baz=247
F19K Shaleruckik Mo 61.27 22 P P 01 50 52.0 +0.4
F19K Shaleruckik Mo 61.27 22 P P 01 50 51.8 +0.1
baz=245
M20K Styx River 61.39 28 P P 01 50 52.7 +0.1
M20K Styx River 61.39 28 P P 01 50 53.3 +0.6
baz=253
K20K Telida 61.44 27 P P 01 50 53.2 +0.3
K20K IAmb IAmb 01 50 54.0
comp=Z,3.2nm,0.8s
K20K Telida 61.44 27 P P 01 50 53.6 +0.7
baz=251
CNPM China Poot 61.64 31 P P 01 50 53.9 -0.4
C19K Lookout Ridge 61.66 19 P P 01 50 55.0 +0.7
C19K IAmb IAmb 01 50 55.6
comp=Z,5.7nm,0.8s
C19K Lookout Ridge 61.66 19 P P 01 50 55.5 +1.2
baz=242
J20K Nowinta River 61.68 26 P P 01 50 54.6 +0.2
J20K IAmb IAmb 01 50 56.0
comp=Z,3.5nm,0.8s
J20K Nowinta River 61.68 26 P P 01 50 55.3 +0.9
baz=250,SNR=6.7
E19K Redstone River 61.73 22 P P 01 50 55.1 +0.4
E19K IAmb IAmb 01 50 56.2
comp=Z,3.5nm,0.7s
E19K Redstone River 61.73 22 P P 01 50 55.5 +0.7
baz=245
H20K Anotleneega Mo 61.84 24 P P 01 50 56.2 +0.7
baz=249
D19K Kuna River 61.86 20 P P 01 50 56.0 +0.3
baz=244
F20K Avaraart Lake 62.10 22 P P 01 50 57.9 +0.8
baz=247,SNR=5.1
SKT Skwentna 62.14 28 P P 01 50 57.1 -0.5
baz=254
KURBB Kurchatov Arra 62.16 318 P P 01 50 57.9 +0.1
comp=Z,1.3nm,0.3s,baz=94,slow=7.4,SNR=42
comp=Z,1.3nm,0.3s
CAST Castle Rocks 62.31 27 P 01 50 58.9 +0.2
CAST IAmb IAmb 01 50 59.5
comp=Z,5.2nm,0.6s
CAST Castle Rocks 62.31 27 P P 01 50 58.8 +0.2
baz=253,SNR=9.9
E20K Nigu River 62.41 21 P P 01 50 59.8 +0.5
baz=246,SNR=5.7
D20K Etivluk River 62.46 20 P P 01 50 59.7 +0.2
D20K Etivluk River 62.46 20 P P 01 50 59.9 +0.4
baz=245,SNR=7.8
H21K Melozitna Rive 62.71 24 P P 01 51 01.7 +0.4
baz=251,SNR=6.0
G21K Allakaket 62.73 23 P P 01 51 01.4 +0.1
baz=250
RC01 Rabbit Creek A 62.74 30 P P 01 51 01.3 -0.2
baz=256
B20K Meade River 62.83 19 P P 01 51 02.3 +0.5
baz=244
I21K Tanana 62.88 25 P P 01 51 02.8 +0.5
baz=252
BPAW Bear Paw Mtn. 62.97 26 P 01 51 02.8 -0.2
BPAW IAmb IAmb 01 51 03.7
comp=Z,3.7nm,0.9s
BPAW Bear Paw Mtn. 62.97 26 P P 01 51 02.8 -0.2
baz=254,SNR=5.3
F21K Alatna River 62.98 22 P P 01 51 03.5 +0.5
baz=249
TRF Thorofare Moun 63.09 27 P P 01 51 03.6 -0.4
baz=254
C21K Knifeblade Rid 63.24 20 P P 01 51 05.0 +0.4
baz=247
E21K Killik River 63.24 21 P P 01 51 04.6 -0.1
baz=248
MLY Manley 63.34 25 P 01 51 05.5 +0.1
MLY Manley 63.34 25 P P 01 51 05.3 -0.1
baz=253,SNR=7.1
H22K Ishtalitna Cre 63.34 24 P P 01 51 05.5 +0.1
baz=252
PWL Port Wells 63.35 30 P P 01 51 05.4 -0.1
baz=258
KNK Knik Glacier 63.42 29 P P 01 51 05.8 -0.2
baz=257
G22K Bettles 63.61 23 P P 01 51 06.9 -0.2
baz=252
WAT1 Susitna Watana 63.70 28 P P 01 51 07.4 -0.4
baz=256
D22K Ayikyak River 63.84 21 P P 01 51 09.3 +0.7
baz=249
M23K Glacier View 63.84 29 P P 01 51 08.5 -0.2
baz=258
E22K Anaktuvuk Pass 63.89 22 P P 01 51 09.4 +0.5
E22K Anaktuvuk Pass 63.89 22 P P 01 51 09.3 +0.4
baz=250
NEA2 Nenana 63.91 26 P P 01 51 08.9 -0.1
baz=255
I23K Minto, Yukon-K 63.93 25 P P 01 51 09.6 +0.4
I23K IAmb IAmb 01 51 10.2
comp=Z,2.8nm,0.6s
I23K Minto, Yukon-K 63.93 25 P P 01 51 09.6 +0.4
baz=254,SNR=5.3
GLI Glacier Island 63.95 30 P P 01 51 09.2 -0.3
GLI Glacier Island 63.95 30 P P 01 51 08.9 -0.6
baz=259
WAT6 Susitna Watana 64.01 28 P P 01 51 09.4 -0.5
baz=257
SCM Sheep Creek Mo 64.03 29 P P 01 51 10.2 +0.2
SCM Sheep Creek Mo 64.03 29 P P 01 51 10.0 -0.1
baz=258
H23K Yukon River 64.04 25 P P 01 51 10.4 +0.4
baz=254
G23K Bananza Creek 64.11 24 P P 01 51 10.5 +0.2
baz=253
COLD Coldfoot 64.19 23 P P 01 51 11.2 +0.4
COLD Coldfoot 64.19 23 P P 01 51 11.2 +0.4
baz=253
DHY Denali Highway 64.28 28 P P 01 51 11.6 -0.1
baz=258
WRH Wood River Hil 64.29 26 P P 01 51 10.7 -0.9
WRH IAmb IAmb 01 51 11.3
comp=Z,2.3nm,0.7s
EYAK Cordova Ski Ar 64.54 31 P P 01 51 13.3 +0.1
baz=260
D23K Nanushuk River 64.55 21 P P 01 51 14.2 +1.0
baz=251
KLU Klutina 64.63 30 P P 01 51 14.1 +0.3
baz=260
E23K Chandalar 64.65 22 P P 01 51 14.7 +0.8
baz=253,SNR=7.0
H24K Noodor Dome 64.71 25 P P 01 51 14.4 +0.1
baz=256
TOLK Toolik Lake Re 64.84 22 P P 01 51 15.6 +0.6
baz=252
C23K Itkillik River 64.86 20 P P 01 51 15.6 +0.6
baz=251
ILAR Eielson Array 64.86 26 P P 01 51 13.6 -1.6
comp=Z,1.7nm,0.4s,baz=250,slow=5.9,SNR=18
comp=Z,1.7nm,0.4s
E24K Your Creek 65.06 22 P P 01 51 17.1 +0.6
baz=254,SNR=5.6
G24K Hadweenzic Riv 65.08 24 P P 01 51 16.6 +0.1
baz=256
PAX Paxson 65.11 28 P P 01 51 16.8 -0.1
baz=259,SNR=7.7
K24K Donnelly Dome 65.13 27 P P 01 51 16.8 -0.2
baz=259
F24K Squaw Lake 65.13 23 P P 01 51 17.6 +0.7
baz=255
BMRM Bremner River 65.17 30 P P 01 51 17.9 +0.6
baz=261
D24K Happy Valley 65.25 21 P P 01 51 18.0 +0.4
baz=253
N25K Chitina, Valde 65.27 30 P P 01 51 18.3 +0.3
baz=261
C24K Franklin Bluff 65.45 20 P P 01 51 19.0 +0.2
baz=253
J25K Salcha River, 65.47 26 P P 01 51 18.2 -0.9
baz=259
RIDG Independent Ri 65.53 27 P P 01 51 19.4 -0.2
baz=260
G25K Bearman Lake 65.63 24 P P 01 51 20.2 +0.2
baz=257
H25L Birch Creek 65.63 24 P P 01 51 20.2 +0.1
baz=257
CRQE Cirque 65.87 31 P P 01 51 22.1 +0.2
baz=263
SCRK Sand Creek 65.94 27 P P 01 51 21.8 -0.4
baz=260,SNR=5.7
MCARA McCarthy VSAT 65.98 30 P P 01 51 22.6 +0.1
baz=262
F25K Christian Rive 65.99 23 P P 01 51 23.3 +0.9
baz=257,SNR=7.0
L26K Log Cabin Wild 66.07 28 P P 01 51 23.1 +0.1
baz=261
E25K Arctic Village 66.13 22 P P 01 51 23.8 +0.5
baz=257
D25K Kavik River 66.13 21 P P 01 51 23.9 +0.7
baz=255
M26K Nabesna, AK 66.14 29 P P 01 51 24.0 +0.5
baz=262
J26L Joseph Creek 66.21 27 P P 01 51 23.5 -0.4
baz=260,SNR=7.3
MESA MESA 66.36 31 P P 01 51 25.6 +0.5
baz=264
G26K Porcupine Rive 66.56 24 P P 01 51 26.7 +0.8
baz=259
F26K Sheenjek River 66.57 23 P P 01 51 26.5 +0.5
baz=258,SNR=5.6
M27K Edge Creek, AK 66.65 29 P P 01 51 27.4 +0.6
baz=263
CTG Chitna Glacier 66.75 31 P P 01 51 27.9 +0.5
baz=264
L27K Beaver Creek, 66.76 28 P P 01 51 27.2 -0.1
baz=263
K27K Chicken 66.78 27 P P 01 51 27.8 +0.4
baz=262
C27K Jago River 67.12 21 P P 01 51 30.0 +0.6
baz=258
PINM Pinnacle 67.20 32 P P 01 51 30.1 -0.1
baz=266
I27K Kandik River 67.20 26 P P 01 51 29.9 -0.2
baz=262
YUK3 Moose Creek 67.25 30 P P 01 51 31.2 +0.5
baz=265
O28M Mount Upton 67.29 31 P P 01 51 31.4 +0.5
baz=265
H27K Steamboat Moun 67.33 25 P P 01 51 31.0 +0.2
baz=261,SNR=7.9
BVAR Borovoye Array 67.35 321 P P 01 51 29.9 -1.3
comp=Z,1.8nm,0.4s
comp=Z,1.8nm,0.4s
PNL Peninsula 67.60 32 P P 01 51 32.1 -0.5
baz=266
E27K Coleen River 67.61 23 P P 01 51 32.6 +0.1
baz=260
I28M Miner Creek 67.88 26 P P 01 51 34.2 -0.1
baz=263
DAWY Dawson 67.96 27 P P 01 51 35.1 +0.3
baz=264
D27M Malcolm River 68.00 22 P P 01 51 37.0 +2.0
baz=261
O29M Mount Kennedy 68.05 31 P P 01 51 36.0 +0.5
baz=267
YUK4 Talbot Arm 68.08 30 P P 01 51 37.0 +1.3
baz=266,SNR=11
F28M Old Crow 68.17 23 P P 01 51 36.2 +0.2
baz=262
YUK6 Outpost Mounta 68.19 31 P P 01 51 37.1 +0.6
baz=267
M29M Somme Creek 68.24 29 P P 01 51 37.5 +0.8
baz=266,SNR=9.3
P29M Windy Craggy 68.44 32 P P 01 51 38.8 +1.0
baz=268
L29M L29M 68.44 28 P P 01 51 38.8 +1.0
baz=266,SNR=13
I29M Ogilvie Camp, 68.54 26 P P 01 51 38.4 +0.1
baz=265
H29M Whitestone 68.60 25 P P 01 51 39.2 +0.5
baz=264
HYT Haines Junctio 68.60 31 P P 01 51 39.9 +1.0
baz=268,SNR=15
K29M Barlow Dome 68.76 28 P P 01 51 40.2 +0.3
baz=266,SNR=6.3
G29M Pine Creek 68.80 24 P P 01 51 40.7 +0.8
baz=264
N30M Aishikik Lake 68.83 30 P P 01 51 41.2 +0.9
baz=268,SNR=8.6
P30M Million Dollar 68.85 32 P P 01 51 41.4 +1.0
baz=268
M30M Minto, Yukon 69.02 29 P P 01 51 41.9 +0.5
baz=268
PLBC Pleasant Camp 69.13 32 P P 01 51 43.2 +1.2
baz=269,SNR=5.7
EPYK Eagle Plains 69.28 25 P P 01 51 43.3 +0.4
baz=266
O30N Mendenhall 69.30 31 P P 01 51 43.4 +0.3
baz=269
J30M Hart River 69.33 27 P P 01 51 43.6 +0.3
baz=267
I30M Mount Dempster 69.34 26 P P 01 51 43.4 0.0
baz=267
N31M Braeburn, Yuko 69.46 30 P P 01 51 45.3 +1.2
baz=269
G30M tAoh Zraii Nji 69.51 24 P P 01 51 44.4 +0.1
baz=266
F30M Barrier River 69.72 24 P P 01 51 46.0 +0.5
baz=266
WHY Whitehorse 69.89 31 P P 01 51 47.5 +0.8
baz=270
M31M Drury Creek, Y 70.13 29 P P 01 51 48.5 +0.4
baz=270,SNR=5.1
H31M Peel River 70.21 26 P P 01 51 48.8 +0.3
baz=268
G31M Satah River 70.28 24 P P 01 51 49.2 +0.4
baz=268
P32M Atlin 70.48 32 P P 01 51 50.6 +0.3
baz=271
INK Inuvik 70.61 23 P P 01 51 51.0 +0.2
baz=268
P33M Teslin, Yukon 70.92 32 P P 01 51 53.3 +0.4
baz=272
Q32M Nakina River 71.24 33 P P 01 51 56.0 +1.0
baz=273
MMPY Sheldon Lake, 71.58 29 P P 01 51 58.0 +1.2
baz=272
R33M Jennings River 71.89 32 P P 01 51 59.6 +0.8
baz=274
S34M Telegraph Cree 71.90 34 P P 01 51 59.5 +0.8
baz=274
DLBC Dease Lake 72.45 33 P P 01 52 02.5 +0.5
comp=Z,0.4nm,0.7s,baz=288,slow=3.5,SNR=12
comp=Z,0.4nm,0.7s
DLBC Dease Lake 72.45 33 P P 01 52 03.2 +1.2
baz=275
WTLY Watson Lake, Y 72.93 31 P P 01 52 05.8 +1.0
baz=275,SNR=5.4
TGTN Hyland Airport 73.06 30 P P 01 52 06.4 +0.9
baz=275
AB31 Akbulak array 74.16 317 P P 01 52 11.8 -0.2
ABKAR Akbulak array 74.16 317 P P 01 52 11.8 -0.2
TOAD Toad River Com 74.89 33 P P 01 52 15.9 -0.2
baz=279
WRGLY Wrigley 75.07 28 P P 01 52 17.4 +0.4
baz=279
KOTAN Kotaneelee Air 75.28 31 P P 01 52 19.1 +0.9
baz=279
YKA Yellowknife Ar 79.19 28 P P 01 52 38.7 -1.0
comp=Z,0.7nm,0.8s,baz=293,slow=6.0,SNR=4.5
comp=Z,0.7nm,0.8s
YBH Yreka Blue Hor 79.91 49 P P 01 52 44.3 +0.1
comp=Z,0.2nm,0.7s,baz=328,slow=1.7,SNR=8.8
comp=Z,0.2nm,0.7s
NEW Newport 81.97 42 P P 01 52 54.2 -0.6
comp=Z,1.0nm,0.4s,baz=285,slow=12,SNR=3.1
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 83.65 342 P P 01 53 01.7 -1.2
comp=Z,1.1nm,0.7s,baz=86,slow=8.3,SNR=9.0

comp=Z,1.1nm,0.7s
NVAR Mina Array Bea 84.06 52 P P 01 53 06.3 +0.5
comp=Z,2.5nm,0.7s,baz=266,slow=6.0,SNR=26
comp=Z,2.5nm,0.7s
ELK Elko 85.58 49 P P 01 53 13.4 0.0
comp=Z,2.6nm,0.8s,baz=294,slow=4.9,SNR=10
comp=Z,2.6nm,0.8s
KBZ Khabaz 86.92 315 P P 01 53 18.1 -1.3
comp=Z,1.8nm,0.9s,baz=268,slow=0.5,SNR=4.2
comp=Z,1.8nm,0.9s
YHL Hebgen Lake 86.96 44 P P 01 53 21.0 +0.9
YHL IAmb IAmb 01 53 21.8
comp=Z,1.7nm,0.7s
FINES FINESS Array B 87.97 335 P P 01 53 21.9 -2.2
comp=Z,0.4nm,0.3s,baz=74,slow=4.3,SNR=10
comp=Z,0.4nm,0.3s
PDAR Pinedale Array 88.84 45 P P 01 53 29.2 +0.3
PDAR Pinedale Array 88.84 45 P P 01 53 28.6 -0.3
comp=Z,0.2nm,0.5s,baz=202,slow=1.6,SNR=3.7
comp=Z,0.2nm,0.5s
PV16 Nyswonger Mesa 91.02 49 P P 01 53 39.6 +0.5
PV16 IAmb IAmb 01 53 40.1
comp=Z,2.9nm,0.8s
PV18 Skein Mesa, Pa 91.05 49 P P 01 53 39.5 +0.3
PV18 IAmb IAmb 01 53 40.0
comp=Z,3.3nm,0.8s
PV13 Radium Mtn., P 91.15 49 P P 01 53 39.6 -0.1
PV13 IAmb IAmb 01 53 40.9
comp=Z,1.9nm,0.7s
PV02 Paradox Valley 91.19 49 P P 01 53 39.8 -0.1
PV01 Paradox Valley 91.34 49 P P 01 53 41.1 +0.5
PV01 IAmb IAmb 01 53 41.7
comp=Z,2.3nm,0.8s
HFS Hagfors 93.50 338 P P 01 53 47.2 -2.5
comp=Z,0.6nm,0.6s,baz=48,slow=2.1,SNR=1.7
comp=Z,0.6nm,0.6s
SUSD Miller 94.99 40 P P 01 53 57.4 +0.5
LSZ Lusaka 120.06 262 PKPdf PKiKP 01 59 25.2 +0.9
MT01 Popeta 143.26 124 PKPdf PKPdf 02 00 05.7 -1.4
BO02 Sierra Bellavi 143.34 125 PKPdf PKPbc 02 00 05.0 -0.3
MT09 Talagante 143.50 124 PKPdf PKPbc 02 00 06.0 +0.1
VA03 San Esteban 144.14 122 PKPdf PKPdf 02 00 08.3 -0.4
CO02 Combarbal 144.18 119 PKPdf PKPdf 02 00 08.1 -0.8
CO03 El Pedregal 144.52 119 PKPbc PKPdf 02 00 08.9 -0.5
GO04 Tololo Observa 144.58 118 PKPbc PKPab 02 00 09.0 -0.3
LCO Las Campanas 144.90 116 PKPab 02 00 10.9 +0.3
CO01 Juntas del Tor 145.22 118 PKPdf PKPab 02 00 11.8 +0.1

*JMA **11** 01:53:13.6±0.1,39.7°N±0.3°×142.1°E±0.7,h86km,MV3.6/38, E OFF IWATE PREF*
JMA Felt I J1 at E OFF IWATE PREF .
*IDC **11** 01:53:34.2±2.8,37.5°N×141.13°E,h151km±24km,mb3.3/2, mbtmp3.6/4,Error ellipse: s-maj=35.7km s-min=24.5km az=108.0*
ISC 11 01:53:12.4±1.5,39.64N±0.04°×142.16E±0.10,h92km±8km, n24,σ0947/30,16D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.27**	**258**	P		**Pn**	**01 53 26.4**	**+0.5**
MIYJ				S		**Sn**	**01 53 35.5**	**-0.4**
JTH	**Tanohata**	**0.38**	**323**	P		**Pn**	**01 53 26.9**	**+0.4**
JTH				S		**Sn**	**01 53 36.5**	**-0.5**
JKEN	**Kujiedanarisaw**	**0.67**	**329**	*i* P		**Pn**	**01 53 29.0**	**+0.3**
JKEN				S		**Sn**	**01 53 40.3**	**-0.6**
OFUJ	**Ofunato**	**0.67**	**215**	↓*i* P		**Pn**	**01 53 29.3**	**+0.5**
OFUJ				↓S		**Sn**	**01 53 40.7**	**-0.3**
JOM	**Ohasama**	**0.69**	**257**	↓*i* P		**Pn**	**01 53 29.2**	**+0.3**
JOM				↓S		**Sn**	**01 53 40.9**	**-0.4**
JKZ	**Kuzumaki**	**0.73**	**299**	*i* P		**Pn**	**01 53 29.8**	**+0.5**
JKZ				S		**Sn**	**01 53 41.7**	**-0.4**
JANG	**Nango**	**0.89**	**326**	*i* P		**Pn**	**01 53 31.1**	**+0.1**
JANG				S		**Sn**	**01 53 44.1**	**-0.7**
JMK	**Ichinoseki**	**1.00**	**227**	↓*i* P		**Pn**	**01 53 32.5**	**+0.3**
JMK				↓S		**Sn**	**01 53 46.9**	**-0.1**
JRG	**Rokugo**	**1.21**	**259**	↓*i* P		**Pn**	**01 53 35.0**	**+0.4**
JRG				↓S		**Sn**	**01 53 51.6**	**+0.3**
JAH	**Hinai**	**1.30**	**296**	↓*i* P		**Pn**	**01 53 36.0**	**+0.3**
JAH				↓S		**Sn**	**01 53 53.1**	**-0.1**
JIO	**Ouri**	**1.34**	**208**	↓*i* P		**Pn**	**01 53 36.5**	**+0.2**
JIO				↓S		**Sn**	**01 53 53.1**	**-1.1**
JTM	**Tenmabayashi**	**1.42**	**324**	P		**Pn**	**01 53 37.6**	**+0.3**
JTM				S		**Sn**	**01 53 55.6**	**-0.4**
JYK	**Kaneyama**	**1.57**	**243**	↓*i* P		**Pn**	**01 53 39.6**	**+0.5**
JYK				↓*e*S		**Sn**	**01 53 58.7**	**-0.7**
JOU	**Okura**	**1.72**	**223**	↓*i* P		**Pn**	**01 53 41.5**	**+0.4**
JOU				↓S		**Sn**	**01 54 02.9**	**0.0**
MJAR	**Matsushiro Arr**	**4.39**	**226**	P		**Pn**	**01 54 16.3**	**-0.4**
	2.8nm,0.6s,baz=32,slow=14,SNR=10							
MJAR				S		Sn	01 54 47.8	-19
	6.5nm,0.9s,baz=67,slow=15,SNR=5.9							
PETK	**Petropavlovsk-**	**17.17**	**33**	P		P	01 57 47.9	+41
	1.3nm,0.5s,baz=207,slow=13,SNR=1.9							
H11N2	**WAKE ISLAND Hy**	**29.08**	**126**	T		T	02 29 43.5	
	baz=318,slow=75,SNR=101							
H11N1	**WAKE ISLAND Hy**	**29.09**	**126**	T		T	02 29 44.2	
	baz=318,slow=75,SNR=72							
H11N3	**WAKE ISLAND Hy**	**29.10**	**126**	T		T	02 29 47.3	
	baz=318,slow=75,SNR=61							
H11S1	**WAKE ISLAND Hy**	**29.88**	**128**	T		T	02 30 53.5	
	baz=319,slow=76,SNR=17							
H11S3	**WAKE ISLAND Hy**	**29.88**	**128**	T		T	02 30 43.0	
	baz=319,slow=76,SNR=20							
H11S2	**WAKE ISLAND Hy**	**29.90**	**128**	T		T	02 30 55.2	
	baz=319,slow=76,SNR=22							
KURBB	**Kurchatov Arra**	**44.91**	**306**	P		P	02 01 38.2	+21
	0.6nm,0.5s,baz=78,slow=8.6,SNR=5.6							
	0.6nm,0.5s							
WRA	**Warramunga Arr**	**59.72**	**189**	P		**P**	**02 03 07.7**	**+0.2**
	0.6nm,0.6s,baz=8.1,slow=7.2,SNR=5.2							
	0.6nm,0.6s							

CATAC 11 01:58:00.6±0.7,11°N±3°×88°W±°,h26km±6km,M2.6/9, MLv2.6/9,Error ellipse: s-maj=7.8km s-min=4.4km az=57.2,confirmed,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CARN	**Rivas**	**0.80**	**47**	P		Pb	01 58 15.2	-0.7
CARN				S		Sn	01 58 27.7	+0.5
INDI	**Punta indio, G**	**0.97**	**142**	P		Pb	01 58 18.9	+0.1
INDI	**Punta indio, G**	**0.97**	**142**	S		Sb	01 58 31.2	-0.1
MORN	**Al O del Volca**	**1.01**	**27**	P		Pn	01 58 19.2	-0.1
JTS	**Las Juntas de**	**1.19**	**107**	P		Pn	01 58 22.0	+0.3
JTS				S		Sb	01 58 37.9	+0.3
NANN	**Nandasmo**	**1.29**	**360**	S		Sb	01 58 40.4	-0.2
NANN	**Nandasmo**	**1.29**	**360**	P		Pn	01 58 23.1	0.0
SAPS	**Ciudad Sandino**	**1.55**	**349**	P		Pn	01 58 27.1	+0.5
SAPS	**Ciudad Sandino**	**1.55**	**349**	S		Sb	01 58 47.0	-0.9
COPN	**Copaltepe**	**1.60**	**343**	P		Pn	01 58 27.5	+0.2
ACON	**Acoyapa**	**1.61**	**35**	P		Pn	01 58 27.2	-0.2
ACON	**Acoyapa**	**1.61**	**35**	S		Sn	01 58 48.0	+0.6
MOMN	**Momotombo**	**1.81**	**347**	P		Pn	01 58 30.4	+0.2
MOMN				S		Sn	01 58 52.1	-0.3
MOM2	**El Cardon**	**1.82**	**348**	P		Pn	01 58 30.6	+0.2
MOM2				S		Sn	01 58 52.6	-0.1

IDC 11 02:06:10.3±1.4,51.46N×82.13E,h0km,mbtmp2.1/2, ML1.7/2,Error ellipse: s-maj=19.8km s-min=11.3km az=141.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.42**	**251**	Pg		Pb	02 06 53.9	-0.7
	0.1nm,0.3s,baz=71,slow=18,SNR=7.3							
KURBB				Lg		Lg	02 07 26.9	
	0.1nm,0.3s,baz=72,slow=33,SNR=9.9							
ZALV	**Zalesovo Beam**	**2.98**	**32**	Pn		Pn	02 06 57.9	-0.9
	0.2nm,0.3s,baz=206,slow=9.6,SNR=1.6							
ZALV				Pg		Pb	02 07 05.3	+1.1
	0.4nm,0.3s,baz=209,slow=15,SNR=7.3							
ZALV				Sn		Sn	02 07 32.5	-2.7
	0.3nm,0.3s,baz=212,slow=25,SNR=4.3							
ZALV				Lg		Lg	02 07 44.6	
	0.6nm,0.3s,baz=216,slow=24,SNR=6.0							
	0.6nm,0.5s							
I46RU	**ZALESOVO INFRA**	**2.98**	**32**	I		I	02 27 20.0	
	baz=219,slow=327,SNR=4.8							
MKAR	**Makanchi Array**	**4.67**	**179**	Pn		Pn	02 07 22.8	+0.8
	0.1nm,0.3s,baz=1.7,slow=11,SNR=1.7							
MKAR				Lg		Lg	02 08 34.6	
	0.2nm,0.3s,baz=358,slow=26,SNR=6.1							
	0.2nm,0.3s							
I31KZ	**AKTYUBINSK INF**	**15.21**	**276**	I		I	03 40 40.0	
	baz=78,slow=322,SNR=0.5							

*IDC **11** 02:17:20.4±2.8,27.53S×67.28W,h113km±23km,mb3.7/7, mbtmp3.9/11,Error ellipse: s-maj=23.8km s-min=16.9km az=89.0*
*SJA **11** 02:17:20.0±0.7,27.59S×67.56W,h154km±5km,ML4.1, MW4.0*
*NEIC **11** 02:17:21.0±1.9,27.63S±0.06×67.54W±0.09,h133km±5km, mb4.4/15,Error ellipse: s-maj=11.3km s-min=8.9km az=79.0*
*VAO **11** 02:17:32.8±1.4,27.04S×66.91W,h209km±11km,mb4.3*
ISC 11 02:17:20.6±0.7,27.54S±0.03×67.51W±0.03,h131km±7km, n135,σ1839/156,mb4.3/12,Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**1.34**	**207**	*e*P		Pn	02 17 34.3	-13
VCA				*e*S		**Sn**	**02 18 09.5**	**+2.0**
VCA				IAML			02 18 13.3	
	comp=Z,2μm,0.5s							
AC02	**Maricunga**	**1.60**	**296**			**Pn**	**02 17 52.6**	**+2.1**
AC02				Sn		**Sn**	**02 18 14.5**	**+1.3**
AC02	**Maricunga**	**1.60**	**296**	*e*P		**Pn**	**02 17 52.6**	**+2.1**
AC02				*e*S		**Sn**	**02 18 12.9**	**-0.3**
CYA	**Choya**	**1.76**	**121**	*e*P		**Pn**	**02 17 53.2**	**+1.5**
CYA				*e*S		**Sn**	**02 18 16.4**	**+0.8**
ACLC	**CERRO LA CRUZ**	**1.94**	**165**	*e*P		**Pn**	**02 17 55.1**	**+1.0**
ACLC				*e*S		**Sn**	**02 18 20.9**	**+1.1**
ACLC				IAML			02 18 21.1	
	comp=Z,539nm,0.5s							
FSA	**Cafayete**	**1.97**	**44**	*e*P		**Pn**	**02 17 57.4**	**+2.8**
FSA				*e*S		**Sn**	**02 18 20.2**	**-0.2**
AGUA	**GUANDACOL**	**2.12**	**204**	*e*P		**Pn**	**02 17 57.4**	**+1.2**
AGUA				*e*S		**Sn**	**02 18 24.6**	**+1.0**
AGUA				*e*S			02 18 24.8	
AGUA				IAML			02 18 25.4	
	comp=Z,2μm,0.7s							
GO03	**Copiapo**	**2.42**	**268**			**Pn**	**02 18 00.8**	**+0.9**
GO03				Sn		**Sn**	**02 18 29.8**	**-0.3**
GO03	**Copiapo**	**2.42**	**268**	*e*P		**Pn**	**02 18 00.7**	**+0.8**
GO03				*e*S		**Sn**	**02 18 30.5**	**+0.5**
AC06	**Mina Casimiro**	**2.54**	**273**			**Pn**	**02 18 01.5**	**+0.2**
AC06				Sn		**Sn**	**02 18 31.5**	**-1.1**
APLL	**PUNTA DE LOS L**	**2.97**	**163**	*e*P		**Pn**	**02 18 07.5**	**+0.6**
APLL				*e*S		**Sn**	**02 18 42.4**	**-0.4**
ACDV	**Cuesta del Vie**	**2.98**	**208**	*e*P		**Pn**	**02 18 09.0**	**+1.8**
ACDV				*e*S		Sn	02 18 31.0	-12
ACDV				IAML			02 18 46.1	
	comp=Z,403nm,0.9s							
GO02	**Mina Guanaco**	**3.02**	**321**			**Pn**	**02 18 09.6**	**+1.8**
GO02				Sn		**Sn**	**02 18 45.5**	**+1.4**
GO02	**Mina Guanaco**	**3.02**	**321**	*e*P		**Pn**	**02 18 09.3**	**+1.5**
AC01	**Pan de Azucar**	**3.09**	**296**			**Pn**	**02 18 09.4**	**+1.0**
AC01	**Pan de Azucar**	**3.09**	**296**	*e*P		**Pn**	**02 18 08.9**	**+0.5**
AC01				*e*S		**Sn**	**02 18 47.0**	**+1.7**
AC01				IAML			02 18 48.5	
	comp=Z,250nm,0.2s							
AVFE	**Valle Fertil**	**3.11**	**179**	*e*P		**Pn**	**02 18 09.4**	**+0.7**
AVFE				*e*P			02 18 09.5	
AVFE				*e*S		**Sn**	**02 18 46.1**	**+0.2**
AVFE				IAML			02 18 48.4	
	comp=Z,394nm,0.6s							
AROD	**Rodeo**	**3.13**	**213**	*e*P		**Pn**	**02 18 10.0**	**+0.7**
AROD				*e*S		Sn	02 18 31.4	-15
LCO	**Las Campanas**	**3.17**	**242**			**Pn**	**02 18 09.9**	**+0.2**
LCO	**Las Campanas**	**3.17**	**242**	*e*P		**Pn**	**02 18 10.0**	**+0.2**
LCO				*e*S		**Sn**	**02 18 47.5**	**-0.2**
AC04	**Llanos de Chal**	**3.22**	**257**			**Pn**	**02 18 10.2**	**0.0**
AC04	**Llanos de Chal**	**3.22**	**257**	*e*P		**Pn**	**02 18 10.2**	**0.0**
AC04				*e*S		**Sn**	**02 18 47.9**	**-0.6**
AC04				IAML			02 18 53.1	
	comp=Z,272nm,0.2s							
CO01	**Juntas del Tor**	**3.32**	**222**			**Pn**	**02 18 12.9**	**+1.2**
CO01	**Juntas del Tor**	**3.32**	**222**	*e*P		**Pn**	**02 18 13.2**	**+1.5**
CO01				*e*S		**Sn**	**02 18 48.0**	**-3.2**
CO01				IAML			02 18 54.6	
	comp=Z,273nm,0.5s							
ACCO	**Cerro Coronel**	**3.33**	**204**	*e*P		**Pn**	**02 18 12.7**	**+0.9**
ACCO				*e*S		**Sn**	**02 18 51.8**	**+0.3**
SLA	**San Lorenzo**	**3.34**	**33**	*e*P		Pn	02 17 58.4	-13
SLA				*e*S		**Sn**	**02 18 47.7**	**-3.7**
SLA				IAML			02 18 57.3	
	comp=Z,120nm,1.3s							
ACHE	**Chepes**	**3.68**	**169**	*e*P		**Pn**	**02 18 17.0**	**+0.7**
ACHE				*e*S		**Sn**	**02 18 58.9**	**-0.6**
PB14	**IPOC Station P**	**3.90**	**317**			**Pn**	**02 18 20.8**	**+1.4**
PB14	**IPOC Station P**	**3.90**	**317**	*e*P		**Pn**	**02 18 20.8**	**+1.4**
PB14				*e*S		**Sn**	**02 19 02.3**	**-2.5**
PB14				IAML			02 19 12.3	
	comp=Z,218nm,0.3s							
GO04	**Tololo Observa**	**3.90**	**227**			**Pn**	**02 18 19.2**	**0.0**
GO04	**Tololo Observa**	**3.90**	**227**	*e*P		**Pn**	**02 18 19.0**	**-0.3**
GO04				*e*S		**Sn**	**02 19 03.4**	**-1.4**
AZAP	**Zapla**	**3.97**	**34**	*e*P		**Pn**	**02 18 22.9**	**+2.6**
AZAP				IAML			02 19 34.2	
	comp=Z,74nm,1.0s							
CO05	**La Serena**	**4.04**	**233**			**Pn**	**02 18 19.9**	**-1.1**
ZON	**Zonda**	**4.12**	**194**			**Pn**	**02 18 22.2**	**+0.2**
ZON	**Zonda**	**4.12**	**194**	*e*P		**Pn**	**02 18 22.7**	**+0.7**
ZON				*e*S		**Sn**	**02 19 08.3**	**-1.4**
ZON				IAML			02 19 12.9	
	comp=Z,150nm,0.3s							
CO03	**El Pedregal**	**4.30**	**219**			**Pn**	**02 18 24.0**	**-0.5**
CO03	**El Pedregal**	**4.30**	**219**	*e*P		**Pn**	**02 18 24.8**	**+0.3**
CO03				*e*S		**Sn**	**02 19 13.7**	**-0.4**
CO03				IAML			02 19 16.0	
	comp=Z,482nm,0.3s							
RTLS	**Leoncito**	**4.52**	**200**	*e*S		**Sn**	**02 19 19.3**	**-0.3**
RTLS				IAML			02 19 21.4	
	comp=Z,392nm,0.2s							
AF01	**San Pedro de A**	**4.61**	**352**			**Pn**	**02 18 30.2**	**+1.4**
CO02	**Combarbal**	**4.75**	**219**			**Pn**	**02 18 29.7**	**-0.8**
CO02	**Combarbal**	**4.75**	**219**	*e*P		**Pn**	**02 18 29.7**	**-0.8**
CO02				IAML			02 19 26.5	
	comp=Z,312nm,0.3s							
CO06	**Fray Jorge**	**4.77**	**228**			**Pn**	**02 18 28.4**	**-2.3**
PB10	**IPOC Station P**	**4.86**	**325**			**Pn**	**02 18 32.4**	**+0.5**
ALOL	**LOMAS DE OLMED**	**4.89**	**41**	*e*P		**Pn**	**02 18 29.1**	**-3.2**
ASAL	**Salagasta**	**5.16**	**193**	*e*S		Sn	02 19 16.3	-18
PB06	**IPOC Station P**	**5.16**	**338**			**Pn**	**02 18 37.9**	**+1.8**
PB05	**IPOC Station P**	**5.27**	**332**			**Pn**	**02 18 38.0**	**+0.5**
PB05	**IPOC Station P**	**5.27**	**332**	*e*P		**Pn**	**02 18 38.0**	**+0.5**
PB05				*e*S		**Sn**	**02 19 36.2**	**-1.1**
PB05				IAML			02 19 46.4	
	comp=Z,63nm,0.8s							
VA03	**San Esteban**	**5.83**	**206**			**Pn**	**02 18 44.2**	**-0.8**
PB03	**IPOC Station P**	**5.83**	**339**			**Pn**	**02 18 46.0**	**+0.9**
PB09	**IPOC Station P**	**5.93**	**344**			**Pn**	**02 18 48.0**	**+1.5**
VA06	**Catapilco**	**5.98**	**212**			**Pn**	**02 18 44.7**	**-2.1**
PEL	**Peldehue**	**6.22**	**205**			**Pn**	**02 18 49.1**	**-1.0**
MT08	**Bocatoma Ro**	**6.27**	**200**			**Pn**	**02 18 50.2**	**-0.7**
MT16	**CCHEN**	**6.42**	**203**	Pn		**Pn**	**02 18 51.6**	**-1.2**
MT05	**Renca**	**6.46**	**205**	Pn		**Pn**	**02 18 52.2**	**-1.2**
MT03	**Universidad Ad**	**6.47**	**203**			**Pn**	**02 18 52.5**	**-1.1**
MT02	**Curacav**	**6.50**	**208**			**Pn**	**02 18 51.5**	**-2.4**
PB02	**IPOC Station P**	**6.56**	**340**			**Pn**	**02 18 55.1**	**+0.2**
LMEL	**Las Melosas**	**6.70**	**200**			**Pn**	**02 18 56.4**	**-0.3**
PB01	**IPOC Station P**	**6.71**	**344**			**Pn**	**02 18 57.4**	**+0.5**
MT09	**Talagante**	**6.90**	**205**			**Pn**	**02 18 56.2**	**-3.2**
BO04	**La Punta**	**6.96**	**202**			**Pn**	**02 18 58.9**	**-1.2**
MT01	**Popeta**	**7.08**	**206**			**Pn**	**02 18 58.4**	**-3.2**
PATCX	**Punta Patache**	**7.11**	**340**			**Pn**	**02 19 01.5**	**-0.8**
TA01	**Diego Aracena**	**7.36**	**340**			**Pn**	**02 19 02.1**	**-3.3**
BO01	**Tunca**	**7.49**	**203**			**Pn**	**02 19 04.5**	**-2.6**
PB08	**IPOC Station P**	**7.52**	**348**			**Pn**	**02 19 08.3**	**+0.3**
HMBC	**Humberstone**	**7.55**	**343**			**Pn**	**02 19 07.2**	**-1.0**
TA02	**Huaiquique**	**7.62**	**341**			**Pn**	**02 19 07.5**	**-1.5**
BO02	**Sierra Bellavi**	**7.75**	**200**			**Pn**	**02 19 08.9**	**-1.9**
GO01	**Chusmiza**	**7.99**	**348**			**Pn**	**02 19 14.3**	**-0.1**
PB11	**IPOC Station P**	**7.99**	**345**			**Pn**	**02 19 13.7**	**-0.4**
ML02	**Panimavida**	**8.85**	**201**			**Pn**	**02 19 23.3**	**-2.1**
CPUP	**Villa Florida**	**9.16**	**85**			**Pn**	**02 19 29.0**	**-0.7**
CPUP	**Villa Florida**	**9.16**	**85**	P		**Pn**	**02 19 27.8**	**-2.0**
	comp=Z,0.8nm,0.9s,baz=127,slow=12,SNR=6.1							
LPAZ	**La Paz**	**11.21**	**357**			**Pn**	**02 19 57.7**	**0.0**
LPAZ	**La Paz**	**11.21**	**357**	P		**Pn**	**02 19 58.6**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=193,slow=8.4,SNR=7.8							

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TRQA	**Tornquist**	**11.47**	**158**			**Pn**	**02 19 58.5**	**-2.0**
BDQN	**Bodoquena, MS**	**12.10**	**57**	*e*P		**Pn**	**02 20 10.1**	**+1.3**
CPSB	**Cacapava Do Su**	**12.64**	**106**	*e*P		**P**	**02 20 21.9**	**-0.1**
SIV	**San Ignacio**	**12.95**	**29**	P		**Pn**	**02 20 18.3**	**-1.6**
	comp=Z,1.6nm,0.6s,baz=216,slow=12,SNR=12							
PLCA	**Paso Flores**	**13.40**	**190**	P		**P**	**02 20 27.4**	**-2.9**
	comp=Z,2.6nm,0.8s,baz=352,slow=14,SNR=5.6							
ITAB	**Concordia**	**13.67**	**92**			**P**	**02 20 33.6**	**+0.3**
ITAB	**Concordia**	**13.67**	**92**	*e*P		**P**	**02 20 32.0**	**-1.3**
PTGB	**Pitanga**	**14.16**	**82**	*e*P		**P**	**02 20 36.2**	**-2.7**
TRCB	**Terra Rica**	**14.27**	**74**	P		**P**	**02 20 41.0**	**+0.8**
TRCB	**Terra Rica**	**14.27**	**74**	*e*P		**P**	**02 20 38.4**	**-1.7**
PTLB	**Pontes e Lacer**	**14.33**	**35**			**Pn**	**02 20 37.7**	**+0.2**
PTLB	**Pontes e Lacer**	**14.33**	**35**	*e*P		**Pn**	**02 20 37.2**	**-0.3**
RPRD	**Ribas do Rio P**	**14.44**	**64**	*e*P		**P**	**02 20 39.3**	**-2.7**
LL01	**San Ignacio de**	**15.34**	**194**			**Pn**	**02 20 49.3**	**-0.6**
LL01				IAmb		IAmb	02 20 53.4	
	comp=Z,17nm,0.7s							
SALV	**Santo Antonio**	**15.94**	**46**	*e*P		**P**	**02 20 57.3**	**-1.4**
VILB	**Vilhena**	**16.04**	**27**	Pn		**Pn**	**02 20 57.1**	**-1.9**
GO07	**Milladeo Hill,**	**16.32**	**196**			**Pn**	**02 21 00.8**	**-1.4**
MAJ01	**Sao Joao Batis**	**16.42**	**94**	*e*P		**P**	**02 21 04.0**	**+0.1**
FRTB	**Fartura**	**16.74**	**80**	*e*P		**P**	**02 21 08.2**	**+0.7**
ITRB	**Iturama**	**17.53**	**67**	*e*P		**Pn**	**02 21 17.0**	**-0.1**
COYC	**Coyhaique**	**18.36**	**190**	P		**P**	**02 21 23.6**	**-1.4**
COYC				IAmb		IAmb	02 21 30.1	
	comp=Z,21nm,0.9s							
BB19B	**Bebedouro**	**18.45**	**74**	*e*P		**Pn**	**02 21 26.7**	**-1.3**
ARAG	**Araguaiana, MT**	**18.73**	**54**	*e*P		**P**	**02 21 28.3**	**-1.0**
PDRB	**Porto dos Gac**	**18.80**	**35**	*e*P		**P**	**02 21 28.6**	**-1.5**
VAO	**Valinhos**	**19.12**	**81**	P		**P**	**02 21 32.9**	**-0.7**
VAO	**Valinhos**	**19.12**	**81**	*e*P		**Pn**	**02 21 34.0**	**-1.8**
CLDB	**Colider**	**19.91**	**36**	*e*P		**P**	**02 21 41.2**	**-0.9**
AY03	**Cochrane**	**20.08**	**190**	P		**P**	**02 21 42.3**	**-1.3**
AY03				IAmb		IAmb	02 21 49.8	
	comp=Z,17nm,0.9s							
IPMB	**Ipameri, GO**	**20.16**	**66**	*e*P		**P**	**02 21 43.4**	**-1.4**
CZSB	**Cruzeiro do Su**	**20.31**	**345**	P		**P**	**02 21 46.6**	**+0.2**
CZSB				IAmb		IAmb	02 21 52.1	
	comp=Z,14nm,0.8s							
CZSB	**Cruzeiro do Su**	**20.31**	**345**	*e*P		Pn	02 21 48.9	-0.8
PMNB	**Patos De Minas**	**21.34**	**70**	*e*P		**P**	**02 21 56.6**	**-0.9**
BDFB	**Brasilia**	**21.62**	**61**	P		**P**	**02 21 59.5**	**-1.0**
BDFB	**Brasilia**	**21.62**	**61**	P		**P**	**02 21 59.1**	**-1.5**
	comp=Z,4.0nm,0.6s,baz=246,slow=16,SNR=6.6							
	comp=Z,4.0nm,0.6s							
SNDB	**Serra Nova Dou**	**21.70**	**48**	*e*P		**P**	**02 21 59.3**	**-2.0**
NPGB	**Novo Progresso**	**23.42**	**32**	*e*P		**P**	**02 22 16.8**	**-1.3**
TEFE	**Tefe**	**24.05**	**7**	*e*P		**P**	**02 22 24.8**	**+1.0**
MG05	**Puerto Natales**	**24.40**	**188**	P		**P**	**02 22 26.9**	**+0.3**
MG05				IAmb		IAmb	02 22 42.4	
	comp=Z,16nm,1.1s							
MACA	**Manacapuru-AM**	**25.11**	**16**	P		**P**	**02 22 33.6**	**+0.2**
MACA				IAmb		IAmb	02 22 36.1	
	comp=Z,10nm,0.7s							
EFI	**East Falkland**	**25.14**	**166**	P		**P**	**02 22 33.5**	**+0.3**
EFI				IAmb		IAmb	02 22 35.7	
	comp=Z,8.4nm,0.8s							
ITTB	**Itaituba**	**25.64**	**28**	*e*P		**P**	**02 22 37.3**	**-0.8**
SDBA	**SAO DESIDERIO**	**25.97**	**59**	*e*P		**P**	**02 22 40.0**	**-1.3**
SMTB	**Santa Maria do**	**26.44**	**49**	*e*P		**P**	**02 22 44.1**	**-1.4**
MAL2	**Monte Alegre,**	**28.41**	**29**	P		**P**	**02 23 02.8**	**-0.1**
MAL2				IAmb		IAmb	02 23 05.9	
	comp=Z,16nm,1.2s							
BOAV	**Boa Vista**	**30.51**	**14**	P		**P**	**02 23 22.6**	**+1.0**
BOAV				IAmb		IAmb	02 23 24.4	
	comp=Z,6.6nm,1.1s							
SNAA	**Sanae**	**56.19**	**160**	P		**P**	**02 26 47.3**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=268,slow=11,SNR=6.8

JAY Jayapura 10.31 72 P **Pn** 02 33 12.8 -1.3
44nm,0.7s,baz=223,slow=6.1,SNR=26
JAY S **Sn** 02 35 05.5 -2.4
22nm,0.6s,baz=328,slow=22,SNR=5.6
JAY LR LR 02 37 58.4
comp=Z,111nm,20.4s,baz=289,slow=42
JAY Jayapura 10.31 72 P **Pn** 02 33 13.7 -0.4
54nm,0.8s
BSSI Bau Bau, Buton 10.38 268 P **Pn** 02 33 15.0 0.0
74nm,0.7s
APSI Ampana 10.48 298 P **Pn** 02 33 16.1 -0.2
87nm,0.9s
BNSI Bone 10.87 277 P **Pn** 02 33 21.5 -0.1
50nm,0.7s
SGSI Sangihe 10.90 330 P **Pn** 02 33 20.4 -1.6
MRSI Marisa 10.95 305 P **Pn** 02 33 22.4 -0.3
2µm201nm,1.1s
BASI Baing, Sumba 11.12 246 P **Pn** 02 33 24.0 -0.9
4µm99nm,0.6s
KAPI Kappang 11.15 274 **Pn** 02 33 25.6 +0.3
KAPI Kappang 11.15 274 P **Pn** 02 33 26.5 +1.2
2.5nm,0.4s,baz=147,slow=4.4,SNR=8.5
WSI Waingapu 11.19 250 P **Pn** 02 33 25.4 -0.4
SPSI Sidrap Palu 11.27 279 P **Pn** 02 33 28.3 +1.4
109nm,1.1s
TTSI Tana Toraja 11.41 284 P **Pn** 02 33 31.1 +2.3
2µm97nm,1.2s
WBSI Waikabubak, Su 12.03 251 P **Pn** 02 33 35.5 -1.4
2µm98nm,0.6s
PCI Palu 12.11 294 P **Pn** 02 33 38.3 +0.3
74nm,0.8s
TOLI2 Tolitoli 12.26 304 **Pn** 02 33 39.1 -0.9
MPSI Mapaga 12.61 299 P **Pn** 02 33 44.8 +0.3
61nm,1.0s
FITZ Fitzroy Crossi 13.21 203 P Pn 02 33 48.0 -4.3
FITZ Fitzroy Crossi 13.21 203 P Pn 02 33 47.9 -4.4
76nm,0.4s,baz=34,slow=12,SNR=114
FITZ S Sn 02 36 02.3 -16
224nm,0.5s,baz=256,slow=21,SNR=12
FITZ LR LR 02 40 04.5
comp=Z,151nm,20.5s,baz=46,slow=42
PLAI Plampang 13.37 256 P **Pn** 02 33 54.2 -0.1
PLAI Plampang 13.37 256 P **Pn** 02 33 53.4 -0.9
94nm,0.6s
TWSI Taliwang, Sumb 14.21 258 P **Pn** 02 34 04.6 -0.6
58nm,0.7s
WB0 Warramunga Arr 14.23 167 Pn 02 34 00.7 -4.8
WRA Warramunga Arr 14.39 167 Pn 02 34 02.2 -5.2
WRA Warramunga Arr 14.39 167 P Pn 02 34 02.9 -4.6
6.6nm,0.3s,baz=351,slow=13,SNR=61
WRA S Sn 02 36 34.1 -12
111nm,0.8s,baz=349,slow=22,SNR=13
WRA LR LR 02 40 39.5
comp=Z,209nm,19.5s,baz=11,slow=41
WR8 Warramunga Arr 14.44 166 Pn 02 34 03.4 -4.7
COEN Coen 14.50 125 **Pn** 02 34 07.5 -1.3
COEN Coen 14.50 125 P **Pn** 02 34 08.4 -0.5
comp=Z,143nm,0.6s
COEN Coen 14.50 125 P **Pn** 02 34 07.8 -1.1
SRBI Singaraja 15.75 261 P **Pn** 02 34 24.2 -0.3
comp=Z,108nm,0.9s
MYLDM Lahad Datu 16.55 311 **Pn** 02 34 33.1 -1.3
MYLDM IAmb IAmb 02 34 47.6
comp=Z,98nm,1.0s
ABJI Asem Bagus 16.68 262 P **Pn** 02 34 36.1 +0.2
comp=Z,88nm,0.7s
JAGI Jajag, Banyuwa 16.84 260 **Pn** 02 34 35.7 -2.2
JAGI IAmb IAmb 02 34 40.2
comp=Z,49nm,0.9s
JAGI Jajag, Banyuwa 16.84 260 P **Pn** 02 34 36.8 -1.1
comp=Z,69nm,0.7s
QIS Mount Isa 16.87 151 P **P** 02 34 36.8 -1.4
comp=Z,51nm,0.5s
QIS Mount Isa 16.87 151 P **P** 02 34 37.0 -1.2
KMMI Kalianget 16.89 265 P **Pn** 02 34 38.9 +0.4
GMJI Gumukmas 17.51 261 P **P** 02 34 43.9 -1.4
comp=Z,40nm,0.7s
MTSU Mount Surprise 17.89 134 P **Pn** 02 34 51.5 +0.9
comp=Z,33nm,0.5s
AS15 Alice Springs 17.91 171 P **P** 02 34 49.6 -0.1
comp=Z,38nm,1.1s
AS31 Alice Springs 17.94 171 P **P** 02 34 50.7 +0.7
AS31 Alice Springs 17.94 171 P **P** 02 34 50.4 +0.4
ASAR Alice Springs 17.94 171 P **P** 02 34 50.4 +0.4
ASAR Alice Springs 17.94 171 P **P** 02 34 51.0 +1.0
comp=Z,18nm,0.5s,baz=348,slow=9.2,SNR=243
ASAR S S 02 37 58.3 -12
comp=Z,36nm,0.7s,baz=353,slow=27,SNR=9.3
AS01 Alice Springs 17.94 171 P **P** 02 34 50.0 0.0
MBWA Marble Bar 18.68 214 **P** 02 34 58.5 +0.5
MBWA IAmb IAmb 02 35 03.2
comp=Z,28nm,0.7s
MBWA Marble Bar 18.68 214 P **P** 02 34 58.1 0.0
comp=Z,39nm,1.0s
MBWA Marble Bar 18.68 214 P **P** 02 34 58.7 +0.6
MBWA Marble Bar 18.68 214 P **P** 02 34 58.3 +0.2
KKM Kota Kinabalu 18.85 309 P **P** 02 35 00.1 0.0
KKM Kota Kinabalu 18.85 309 P **P** 02 35 00.2 +0.1
PSAC2 Pilbara Seismi 18.91 213 P **P** 02 35 00.8 +0.2
comp=Z,58nm,0.6s
WRKA Warakurna 19.24 187 P **P** 02 35 04.8 +0.7
comp=Z,15nm,0.7s
PCJI Pacitan 19.73 262 P **P** 02 35 07.8 -1.7
comp=Z,92nm,0.5s
UGM Wanagama 20.35 263 P **P** 02 35 16.1 -0.2
UGM Wanagama 20.35 263 P **P** 02 35 16.7 +0.4
UGM Wanagama 20.35 263 P **P** 02 35 15.8 -0.5
comp=Z,51nm,1.3s
SBUM Sibu 20.42 293 P **P** 02 35 16.4 -0.5
SBUM IAmb IAmb 02 35 20.7
comp=Z,36nm,0.8s
CTAO Charters Tower 20.55 135 P **P** 02 35 19.1 +0.9
CTAO Charters Tower 20.55 135 P **P** 02 35 17.7 -0.6
LEM Lembang 23.18 266 P **P** 02 35 45.0 -0.6
comp=Z,77nm,0.8s
TPI Tanjungpandan 23.40 277 P **P** 02 35 46.0 -1.5
comp=Z,30nm,0.9s
MEEK Meekatharra 23.77 208 P **P** 02 35 50.1 -0.5
comp=Z,32nm,1.3s
MEEK Meekatharra 23.77 208 P **P** 02 35 50.5 -0.2
FORT Forrest 24.94 186 P **P** 02 36 01.8 +0.7
FORT IAmb IAmb 02 36 02.8
comp=Z,45nm,1.7s
FORT Forrest 24.94 186 P **P** 02 36 01.4 +0.2
comp=Z,23nm,0.9s
CGJI Cibinong 25.09 267 P **P** 02 36 01.9 -0.9
KASI Kota Agung 26.30 269 P **P** 02 36 12.4 -1.3
comp=Z,24nm,0.5s
KMBL Kambalda 26.75 197 P **P** 02 36 15.9 -1.7
comp=Z,11nm,1.0s
MORW Morawa 27.04 210 P **P** 02 36 19.9 -0.3
MORW Morawa 27.04 210 P **P** 02 36 19.7 -0.4
comp=Z,12nm,1.2s
MORW Morawa 27.04 210 P **P** 02 36 19.9 -0.3
BLDU Ballidu 28.02 207 P **P** 02 36 28.7 -0.1
comp=Z,19nm,2.8s
BLDU Ballidu 28.02 207 P **P** 02 36 28.8 -0.1
MYKOM Kota Tinggi 28.08 285 P **P** 02 36 29.9 +0.3
MYKOM IAmb IAmb 02 36 31.6
comp=Z,29nm,1.3s
KLBR Kellerberrin 28.42 204 P **P** 02 36 32.5 +0.2
comp=Z,68nm,0.7s
KLBR Kellerberrin 28.42 204 P **P** 02 36 32.6 +0.2
HTT Hallett 28.43 166 P **P** 02 36 32.0 -0.5
TATA Tatamba Isabel 28.77 97 P **P** 02 36 34.9 -0.8
CMSA Cobar Meteorol 29.05 153 P **P** 02 36 38.1 0.0
comp=Z,18nm,1.5s
MUN Mundaring 29.40 206 P **P** 02 36 41.0 -0.1
comp=Z,25nm,1.2s
MUN Mundaring 29.40 206 P **P** 02 36 41.7 +0.5
NWAO Narrogin (SRO) 29.80 204 P **P** 02 36 44.9 +0.2
NWAO Narrogin (SRO) 29.80 204 P **P** 02 36 44.8 +0.2
comp=Z,65nm,2.5s
NWAO Narrogin (SRO) 29.80 204 LR LR 02 50 14.8
comp=Z,78nm,18.6s,baz=97,slow=39
NWAO Narrogin (SRO) 29.80 204 P **P** 02 36 45.0 +0.4
NWAO Narrogin (SRO) 29.80 204 P **P** 02 36 45.0 +0.4
MNSI Mandailing Nat 31.98 281 P **P** 02 37 01.7 -2.4
comp=Z,4µmcomp=Z,42nm,0.8s
UBPT Khong Chiam 32.82 310 **P** 02 37 11.0 -0.3
PSI Prapat 33.09 284 LR LR 02 50 37.4
comp=Z,117nm,21.7s,baz=334,slow=36
SRIT Nakonsritamara 34.37 294 P **P** 02 37 24.0 -0.8
SRIT IAmb IAmb 02 37 25.0
comp=Z,20nm,0.8s
SLVN Son La 37.85 316 **P** 02 37 53.5 -1.0
SLVN IAmb IAmb 02 37 55.5
comp=Z,52nm,1.7s
NJ2 Nanjing 39.41 344 *e*P **P** 02 38 10.6 +3.4
NJ2 pmax pmax
comp=Z,16nm,0.6s
WHN Wuhan 39.52 337 ⇑P **P** 02 38 08.8 +0.6
CM31 Chiang Mai Arr 39.73 308 P **P** 02 38 09.5 -0.6
CM31 IAmb IAmb 02 38 10.9
comp=Z,24nm,0.8s
CM31 Chiang Mai Arr 39.73 308 P **P** 02 38 10.3 +0.2
CMAR Chiang Mai Arr 39.73 308 **P** 02 38 09.1 -1.0
CMAR Chiang Mai Arr 39.73 308 P **P** 02 38 10.2 +0.1
comp=Z,14nm,0.6s,baz=134,slow=7.2,SNR=91
CMAR PcP **PcP** 02 40 15.1 +0.8
comp=Z,1.1nm,0.3s,baz=164,slow=2.5,SNR=4.3
CMAR ScP **ScP** 02 43 52.0 +0.1
comp=Z,2.7nm,0.8s,baz=126,slow=3.9,SNR=12
comp=Z,14nm,0.6s
GYA Guiyang 39.81 325 ⇓P **P** 02 38 10.8 0.0
GYA pmax pmax
comp=Z,28nm,0.7s
CHTO Chiang Mai 39.93 309 **P** 02 38 11.5 -0.3
CHTO Chiang Mai 39.93 309 P **P** 02 38 11.4 -0.3
CHTO Chiang Mai 39.93 309 P **P** 02 38 11.4 -0.3
KMI Kunming 41.23 319 P **P** 02 38 23.3 +0.7
KMI pmax pmax
comp=Z,19nm,0.9s
KMI pmax pmax
comp=Z,160nm,4.0s
ENH Enshi 41.38 331 **P** 02 38 23.1 -0.5
MJAR Matsushiro Arr 42.73 9 P **P** 02 38 33.1 -1.3
comp=Z,1.8nm,0.7s,baz=179,slow=9.6,SNR=2.1
comp=Z,1.8nm,0.7s
PZH PanZhiHua 42.83 320 P **P** 02 38 34.4 -1.1
PZH pmax pmax
comp=Z,30nm,1.1s
PZH pmax pmax
comp=Z,120nm,5.1s
KSRS Korea Array 43.18 357 P **P** 02 38 37.4 -0.5
comp=Z,1.6nm,0.5s,baz=174,slow=8.6,SNR=6.0
comp=Z,1.6nm,0.5s
XAN Xi'an 44.81 334 P **P** 02 38 50.5 -0.6
XAN sP sP 02 39 33.0 +2.3
XAN pmax pmax
comp=Z,37nm,0.8s
CD2 Chengdu 44.85 326 P **P** 02 38 50.7 -0.8
CD2 pmax pmax
comp=Z,30nm,0.8s
BJI Beijing 47.65 345 P **P** 02 39 13.0 -0.1
BJI pmax pmax
comp=Z,7.0nm,0.8s
SHL Shillong 49.12 311 **P** 02 39 23.7 -1.3
SHL Shillong 49.12 311 P **P** 02 39 24.3 -0.6
CN2 Changchun 49.67 355 P **P** 02 39 29.1 +0.5
CN2 pmax pmax
comp=Z,10.0nm,0.5s
USRK Ussuriysk Ar. 49.84 1 P **P** 02 39 29.1 -0.7
comp=Z,2.4nm,0.6s,baz=190,slow=6.4,SNR=5.4
comp=Z,2.4nm,0.6s
BTO Baotou 50.07 339 *e*P **P** 02 39 35.4 +3.7
BTO pP **pwP** 02 40 03.1 -4.2
BTO sP **sP** 02 40 12.7 +1.1
BTO PP **PP** 02 41 34.0 +5.9
BTO S **S** 02 46 40.1 +6.5
BTO SS **SS** 02 50 07.9 -0.7
BTO pmax pmax
comp=Z,15nm,0.6s
BTO pmax pmax
comp=Z,190nm,4.1s
BTO LR LR
comp=Z,160nm,11.9s
MDJ Mudanjiang 50.26 359 P **P** 02 39 33.5 +0.6
MDJ pmax pmax
comp=Z,16nm,1.4s
XLT XiLinHaoTe 51.31 346 *e*P **P** 02 39 41.0 0.0
XLT pmax pmax
comp=Z,11nm,0.6s
PALK Pallekele 51.77 284 P **P** 02 39 43.9 -1.0
LSA Lhasa 52.02 315 **P** 02 39 46.8 -0.2
LSA Lhasa 52.02 315 P **P** 02 39 47.2 +0.2
LSA pmax pmax
comp=Z,32nm,0.7s
LSA Lhasa 52.02 315 P **P** 02 39 47.4 +0.4
GTA Gaotai 53.43 330 P **P** 02 39 57.4 +0.6
GTA PcP **PcP** 02 41 02.6 +0.2
GTA pmax pmax
comp=Z,17nm,0.9s
EVN Everest 54.22 311 **P** 02 40 02.5 -0.8
ULN Ulaanbaatar 57.48 341 **P** 02 40 25.7 +0.1
ULN IAmb IAmb 02 40 27.1
comp=Z,13nm,1.1s
ULN Ulaanbaatar 57.48 341 P **P** 02 40 26.2 +0.6
ULN Ulaanbaatar 57.48 341 P **P** 02 40 26.3 +0.6
ULN PcP **PcP** 02 41 17.9 0.0
SONM Songino Array 57.66 341 **P** 02 40 27.2 +0.4
SONM Songino Array 57.66 341 P **P** 02 40 27.4 +0.5
comp=Z,3.0nm,0.5s,baz=166,slow=7.0,SNR=20
SONM PcP **PcP** 02 41 17.5 -1.1
comp=Z,1.6nm,0.5s,baz=161,slow=5.7,SNR=3.6
comp=Z,3.0nm,0.5s
DRV Dumont d'Urvil 61.03 176 P **P** 02 40 50.5 +1.0
DRV sP **pwP** 02 41 28.3 +3.6
WMQ Urumqi 62.95 326 *e*P **P** 02 41 04.8 +1.9
PETK Petropavlovsk- 62.96 18 P **P** 02 41 03.0 +0.3
comp=Z,4.8nm,0.9s,baz=201,slow=7.7,SNR=3.5
comp=Z,4.8nm,0.9s
NIL Nilore 67.18 310 **P** 02 41 30.2 -0.2
NIL IAmb IAmb 02 41 31.0
comp=Z,20nm,0.7s
NIL Nilore 67.18 310 P **P** 02 41 30.4 0.0
PRZ Przheval'sk 67.69 321 **P** 02 41 34.2 +0.6
PRZ IAmb IAmb 02 41 36.0
comp=Z,29nm,1.0s
MKAR Makanchi Array 67.78 326 **P** 02 41 34.2 +0.3
MKAR Makanchi Array 67.78 326 P **P** 02 41 34.0 +0.1
comp=Z,21nm,0.6s,baz=121,slow=8.0,SNR=187
comp=Z,21nm,0.6s
KSH Kashi 67.81 317 P **P** 02 41 35.4 +1.0
KSH pmax pmax
comp=Z,20nm,0.9s
MAKZ Makanchi 67.97 326 **P** 02 41 35.1 +0.1
MAKZ IAmb IAmb 02 41 36.2
comp=Z,22nm,0.8s
MAKZ Makanchi 67.97 326 P **P** 02 41 35.1 +0.1
KDJ Kajisay 68.29 320 **P** 02 41 37.6 +0.2
KDJ IAmb IAmb 02 41 39.0
comp=Z,17nm,0.8s
NRN Naryn 68.71 319 **P** 02 41 39.7 -0.5
NRN IAmb IAmb 02 41 41.3
comp=Z,12nm,0.8s
ULHL Ulahol 68.95 320 P **P** 02 41 42.4 +0.8
SNR=5.9
BOOM Boomskoye usch 69.27 320 **P** 02 41 43.1 -0.3
BOOM IAmb IAmb 02 41 44.9
comp=Z,15nm,0.9s
CCD Concordia, Ant 69.33 182 P **P** 02 41 44.8 +1.3
CCD sP **sP** 02 42 30.3 +5.5
TKM2 Tokmak 2 69.70 320 P **P** 02 41 46.2 +0.1
SNR=10.0
UCH Uchtor 70.07 319 P **P** 02 41 49.7 +1.0
SNR=25
AAK Ala-Archa 70.27 319 P **P** 02 41 50.7 +1.1
SNR=5.3
AAK Ala-Archa 70.27 319 **P** 02 41 49.5 -0.1
AAK IAmb IAmb 02 41 51.3
comp=Z,11nm,0.8s
SEY Seymchan 70.53 10 P **P** 02 41 51.0 +0.6
comp=Z,2.1nm,0.5s,baz=200,slow=5.9,SNR=7.3
comp=Z,2.1nm,0.5s
USP Ospenovka 70.57 320 P **P** 02 41 52.0 +0.8
SNR=6.3
KBL Kabul 70.74 310 **P** 02 41 52.2 -0.4
KBL IAmb IAmb 02 41 53.4
comp=Z,32nm,1.1s
KBL Kabul 70.74 310 P **P** 02 41 52.5 -0.2
SNR=7.5
EKS2 Erkin-Say 70.75 319 P **P** 02 41 53.2 +0.8
SNR=15
ZAA0 Zalesovo Array 70.97 333 **P** 02 41 52.6 -0.8
ZAA0 IAmb IAmb 02 41 53.4
comp=Z,15nm,1.2s
ZALV Zalesovo Beam 70.97 333 P **P** 02 41 52.8 -0.5
comp=Z,5.0nm,0.5s,baz=119,slow=5.8,SNR=21
comp=Z,5.0nm,0.5s
GAR Garm 71.52 314 **P** 02 41 57.1 -0.1
KURBB Kurchatov Arra 72.03 328 P **P** 02 41 59.7 -0.1
comp=Z,5.6nm,0.5s,baz=129,slow=5.0,SNR=68
comp=Z,5.6nm,0.5s
KURK Kurchatov 72.03 328 **P** 02 41 59.6 -0.1
KURK IAmb IAmb 02 42 00.6
comp=Z,14nm,1.1s
KURK Kurchatov 72.03 328 P **P** 02 41 59.3 -0.4
KK31 Karatay Array 73.09 318 **P** 02 42 06.0 -0.3
KK31 IAmb IAmb 02 42 07.4
comp=Z,12nm,0.9s
KKAR Karatay Array 73.09 318 **P** 02 42 06.3 0.0
VNDA Vanda 73.47 173 **P** 02 42 08.4 +0.6
VNDA Vanda 73.47 173 P **P** 02 42 08.2 +0.4
comp=Z,3.3nm,0.8s,baz=305,slow=6.3,SNR=20
comp=Z,3.3nm,0.8s
JLN Jalan Bani Buh 75.26 295 P **P** 02 42 19.2 -0.1
WSAR Wadi Sarin 76.20 296 P **P** 02 42 24.9 +0.3
MHTO MHTO 76.32 293 P **P** 02 42 25.3 0.0
MAW Mawson 76.34 201 P **P** 02 42 25.3 +0.8
comp=Z,1.4nm,1.4s
MAW Mawson 76.34 201 P **P** 02 42 25.1 +0.7
comp=Z,4.1nm,0.6s,baz=73,slow=6.5,SNR=21
comp=Z,4.1nm,0.6s
JMDO Jabal Madar 76.49 295 P **P** 02 42 28.2 +1.9
SMDO Samad 76.68 295 P **P** 02 42 27.6 +0.1
BIDO Bidbid 76.71 296 P **P** 02 42 27.8 +0.3
SNR=12
BSY Bisya 77.38 295 P **P** 02 42 31.1 -0.2
HOQ Hoqain 77.45 296 P **P** 02 42 31.9 +0.3
BVAR Borovoye Array 77.59 327 P **P** 02 42 31.4 -0.4
comp=Z,3.1nm,0.5s
comp=Z,3.1nm,0.5s
BRVK Borovoye 77.67 327 **P** 02 42 31.6 -0.6
BRVK Borovoye 77.67 327 P **P** 02 42 31.9 -0.2
ARQ Araqi 78.11 295 P **P** 02 42 35.5 +0.2
SOHO SOHO 78.26 296 P **P** 02 42 36.2 +0.1
UOSS Minazif 78.72 297 P **P** 02 42 38.6 0.0
ASHO Ashiyiah 78.80 296 P **P** 02 42 39.0 -0.1
SNR=5.2
MASF Masafi 78.85 297 P **P** 02 42 38.9 -0.4
NAZ Nazwa, Dubai 79.21 297 P **P** 02 42 41.1 -0.2
FAQ Al Faqa, Dubai 79.23 296 P **P** 02 42 41.2 -0.2
ASUD Al Ashush, Dub 79.44 296 P **P** 02 42 42.9 +0.4
NRIK Noril'sk 80.68 346 **P** 02 42 48.5 +0.3
NRIK Noril'sk 80.68 346 P **P** 02 42 48.2 0.0
comp=Z,5.8nm,0.8s,baz=132,slow=7.9,SNR=7.4
comp=Z,5.8nm,0.8s
AB31 Akbulak array 82.19 321 **P** 02 42 56.1 -0.5
ABKAR Akbulak array 82.19 321 **P** 02 42 56.2 -0.3
QSPA South Pole Qui 84.11 180 P **P** 02 43 06.1 -0.3
comp=Z,7.5nm,0.8s,baz=288,slow=0.7,SNR=30
comp=Z,7.5nm,0.8s
SYO Syowa Base 85.05 201 ⇓*e*P **P** 02 43 11.4 +0.6
SYO Syowa Base 85.05 201 ⇓*e*PcP **PcP** 02 43 15.0 +1.2
ARTI Arti 85.31 328 **P** 02 43 11.1 -1.2
ARTI IAmb IAmb 02 43 12.3
comp=Z,8.0nm,0.7s
L16K Owhat River 85.64 27 **P** 02 43 14.1 +0.3
J18K Innoko River 87.43 25 **P** 02 43 23.1 +0.6
KDAK Kodiak Island 87.77 31 LR LR 03 26 37.6
comp=Z,48nm,18.1s,baz=214,slow=38
RAYN Ar Rayn 88.12 294 **P** 02 43 26.2 -0.6
RAYN IAmb IAmb 02 43 27.2
comp=Z,14nm,1.1s
GNI Garni 90.82 310 LR LR 03 32 16.7
comp=Z,18nm,18.4s,baz=124,slow=41
G23K Bananza Creek 91.03 23 **P** 02 43 39.8 +0.4
H24K Noodor Dome 91.70 24 **P** 02 43 42.7 +0.1
ILAR Eielson Array 91.93 25 P **P** 02 43 41.9 -1.7
comp=Z,0.8nm,0.6s,baz=260,slow=4.5,SNR=17
comp=Z,0.8nm,0.6s
BMAR Burnt Mountain 93.25 23 **P** 02 43 50.0 +0.4
KMBO Kilima Mbogo 93.53 269 **P** 02 43 51.6 -0.8
KMBO IAmb IAmb 02 43 54.1
comp=Z,10nm,1.5s
I28M Miner Creek 94.93 25 **P** 02 43 57.7 +0.3
TROLL Troll, Antarti 95.49 194 P **P** 02 44 00.7 +0.7
SNAA Sanae 96.98 193 P **P** 02 44 07.3 +0.6
SNAA Sanae 96.98 193 P **P** 02 44 06.5 -0.2
comp=Z,1.7nm,0.8s,baz=160,slow=2.8,SNR=9.0
SNAA LR LR 03 27 22.9
comp=Z,28nm,20.2s,baz=103,slow=35
comp=Z,1.7nm,0.8s
ARCES ARCESS Array B 100.83 340 P **Pdif** **02 44 22.0 -1.8**
comp=Z,0.9nm,0.7s,baz=90,slow=3.6,SNR=5.3
ARCES PKiKP **PKiKP** **02 48 48.6 -0.2**
comp=Z,1.4nm,0.9s,baz=60,slow=1.3,SNR=7.2
GERES GERESS Array B 112.13 321 PKiKP **PKiKP** **02 49 10.0 -0.5**
comp=Z,0.3nm,0.4s,baz=62,slow=2.7,SNR=6.1
WTTA Wattenberg 113.93 319 *e*PKP **PKiKP** **02 49 13.7 -0.4**
comp=Z,3.0nm,0.3s
WATA Walderalm 113.95 320 *e*PKP **PKiKP** **02 49 13.3 -0.8**
comp=Z,2.3nm,0.5s
SQTA Sankt Quirin 114.22 320 *e*PKiKP PKPdf 02 49 14.4 -0.1
comp=Z,1.8nm,0.7s
MOTA Moosalm 114.25 320 *e*PKP PKPdf 02 49 13.7 -1.0
comp=Z,2.3nm,0.7s
FETA Feichten 114.60 319 *e*PKiKP PKPdf 02 49 15.2 -0.2
comp=Z,2.6nm,1.0s
DAVA Damuels 115.06 320 *e*PKP **PKiKP** **02 49 15.8 -0.4**
comp=Z,2.5nm,0.5s
EKA Eskdalemuir Ar 118.60 332 PKP **PKPdf** **02 49 21.8 -0.7**
comp=Z,0.4nm,0.3s,baz=38,slow=3.4,SNR=13
ULM Lac du Bonnet 121.00 33 PKP **PKPdf** **02 49 26.9 -0.4**
comp=Z,0.9nm,0.6s,baz=289,slow=3.0,SNR=2.0
TXAR Lajitas Array 123.56 59 PKP **PKPdf** **02 49 32.7 -0.3**
comp=Z,0.2nm,0.5s,baz=179,slow=3.1,SNR=5.7
ESDC Sonseca Array 127.32 317 PKP **PKPdf** **02 49 38.6 -1.3**
comp=Z,0.8nm,1.0s,baz=20,slow=4.7,SNR=5.0
ESDC PP **PP** **02 51 40.4 -0.3**
comp=Z,1.5nm,1.0s,baz=64,slow=6.9,SNR=8.4
TORD Torodi Ar. Bea 129.48 282 PKP **PKPdf** **02 49 43.8 -0.8**
comp=Z,2.1nm,0.4s,baz=83,slow=1.2,SNR=1.4
PLCA Paso Flores 129.62 159 PKP **PKPdf** **02 49 44.8 +0.4**
comp=Z,0.7nm,0.7s,baz=259,slow=16,SNR=3.9
PMRV Marv??o 129.76 318 *e*SKP SKPab 02 52 54.3 -0.8
COI Coimbra 130.02 319 *e*SKP SKPab 02 52 55.6 -0.6
PESTR Estremoz 130.18 317 *e*SKP **SKPab** **02 52 54.8 -2.1**
PSARD Sardoal 130.18 319 *e*SKP **SKPab** **02 52 55.9 -1.0**
EVO Evora 130.63 317 *e*SKP **SKPab** **02 52 57.5 -1.4**
PBEJ Beja 130.78 317 *e*SKP **SKPab** **02 52 58.2 -1.3**
PVAQ Vaqueiros 130.99 316 *e*SKP **SKPab** **02 52 59.6 -0.8**
PCVE Castro Verde 131.10 316 *e*SKP **SKPab** **02 52 59.6 -1.2**
PBDV Barranco-do-Ve 131.22 316 *e*SKP **SKPab** **02 53 00.8 -0.6**
DBIC Dimbokro 136.04 274 PKP **PKPdf** **02 49 57.6 +0.6**
comp=Z,1.6nm,0.6s,baz=348,slow=3.8,SNR=4.1
CPUP Villa Florida 147.02 166 PKPbc **PKPdf** **02 50 17.4 +1.1**
comp=Z,1.8nm,0.9s,baz=51,slow=2.7,SNR=13
LPAZ La Paz 151.03 140 PKPbc **PKiKP** **02 50 30.7 +0.6**
comp=Z,2.0nm,0.4s,baz=134,slow=1.4,SNR=16

NEIC ***11*** *02:35:21.7±1.1,35.94N±0.01×117.71W±0.01,h6km±3km, Error ellipse: s-maj=1.7km s-min=1.5km az=123.0*
PAS 11 02:35:22.5±1.6,35.945N±0.009×117.72W±0.01,
h2km±3km,Mwr3.5/6,ML3.5/172(NEIC),**Error ellipse:**
s-maj=1.4km s-min=1.3km az=48.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WVPM	**Volcano Peak E**	**0.08**	**274**		Pg	02 35 24.3	+0.2
JRC2	**Joshua Ridge**	**0.08**	**298**		Pg	02 35 24.4	+0.3
WCSM	**Coso Springs S**	**0.09**	**336**		Pg	02 35 24.4	+0.2
TOW	**Tower One**	**0.14**	**194**		Pg	02 35 25.7	+0.5
WRVM	**Rose V. Centra**	**0.15**	**295**		Pg	02 35 25.6	+0.2
WNMM	**Nine Mile Cany**	**0.18**	**236**		Pg	02 35 26.2	+0.2
WNMM					Sg	02 35 29.2	+0.9
MFS	**McCloud Flat S**	**0.20**	**328**		Pg	02 35 26.6	+0.2
MFS					Sg	02 35 29.9	+0.8
MPMC	**Manual Prospec**	**0.22**	**59**		Pg	02 35 26.9	+0.2
MPMC				Sg	Sg	02 35 29.8	+0.1
MPMC				IAML		02 35 30.4	
	comp=E,9µm,0.6s						
MPMC				IAML		02 35 31.6	
	comp=N,15µm,0.8s						
SRTC	**Snort**	**0.25**	**185**		Pg	02 35 27.8	+0.5
WSHM	**Spangler Hills**	**0.39**	**152**	Pg	Pg	02 35 29.8	-0.1
WSHM				Sg	Sg	02 35 35.5	+0.4
LRMC	**Laurel Mtn Rad**	**0.47**	**176**		Pg	02 35 31.2	-0.1
LRMC				Sg	Sg	02 35 37.5	+0.1
CCCA	**Chr Cany lake**	**0.51**	**145**		Pg	02 35 32.6	+0.4
CCCA				Sg	Sg	02 35 39.0	+0.2
CWC	**Cottonwood Cre**	**0.57**	**330**		Pg	02 35 33.2	-0.3
CWC				Sg	Sg	02 35 40.6	-0.3
ISA	**Isabella, Lake**	**0.67**	**246**		Pg	02 35 35.3	-0.1
ISA				Sg	Sg	02 35 43.9	-0.2

ISA IAML 02 35 44.7
comp=N,4µm,0.3s
QSM Queen of Sheba 0.69 88 Pg 02 35 35.5 -0.2
QSM Sg Sg 02 35 44.4 -0.3
QSM IAML 02 35 48.9
comp=N,2µm,0.5s
QSM IAML 02 35 49.4
comp=E,3µm,0.6s
GWY Greenwater Val 0.89 74 Pg 02 35 39.4 -0.1
GWY IAML 02 35 51.9
comp=E,2µm,0.5s
GWY IAML 02 35 58.5
comp=N,2µm,0.5s
GSC Goldstone, Bar 0.98 130 Pg 02 35 40.6 -0.7
GSC IAML 02 36 01.2
comp=N,918nm,0.7s
GRAC Grapevine Rang 1.09 15 Pg 02 35 42.9 -0.5
GRAC IAML 02 36 01.7
comp=E,1µm,0.3s
TPO Tropico Hills 1.14 201 Pg 02 35 43.5 -0.8
TPO IAML 02 36 03.9
comp=E,1µm,0.6s
WCT Wildcat Mounta 1.22 46 Pg 02 35 45.3 -0.6
WCT IAML 02 36 03.6
comp=E,1µm,0.4s
WCT IAML 02 36 04.9
comp=N,749nm,0.8s
GMN Gold Mountain 1.40 15 Pn 02 35 48.6 -0.6
DSP Deep Springs 1.44 352 Pn 02 35 48.7 -0.8
TPNV Topopah Spring 1.55 49 Pn 02 35 50.5 -0.7
TPNV IAML 02 36 15.7
comp=N,675nm,0.5s
TPNV IAML 02 36 16.6
comp=N,768nm,0.5s
OSI Osito Audit: C 1.56 212 Pn 02 35 50.6 -0.7
OSI IAML 02 36 14.9
comp=E,518nm,0.6s
OSI IAML 02 36 19.0
comp=N,478nm,0.6s
BFSC Mount Baldy Ra 1.70 178 Pn 02 35 52.1 -1.1
BFSC IAML 02 36 18.0
comp=E,417nm,0.5s
BFSC IAML 02 36 18.7
comp=N,362nm,0.4s
MWC Mount Wilson 1.74 189 Pn 02 35 53.0 -0.8
MWC IAML 02 36 19.6
comp=E,783nm,0.5s
MZP Montezuma Peak 1.77 9 Pn 02 35 54.0 -0.4
CRGC Crocker Grade 1.78 247 Pn 02 35 54.9 +0.7
PASC Pasadena Art C 1.81 192 Pn 02 35 54.0 -0.6
PASC IAML 02 36 24.2
comp=N,213nm,0.7s
MTPC Mountain Pass 1.82 104 Pn 02 35 53.4 -1.6
MTPC IAML 02 36 21.8
comp=N,447nm,0.8s
MTPC IAML 02 36 23.3
comp=E,392nm,0.4s
KCC Kaiser Creek 1.88 317 Pb 02 35 57.4 -0.2
PKM Mcpherson Peak 2.01 239 Pn 02 35 54.8 -2.7
SHPR Sheep Range 2.15 74 Pn 02 35 58.6 -0.8
TPH Tonopah 2.16 10 Pn 02 35 59.0 -0.6
TPH IAML 02 36 42.9
comp=N,497nm,0.8s
FIGC Figueroa Mtn. 2.21 237 Pb 02 36 02.5 -0.7
ELS Elsinore Mount 2.30 174 Pn 02 36 00.5 -1.0
ELS IAML 02 36 37.7
comp=E,180nm,0.4s
S11A Rachel 2.32 42 Pn 02 36 01.5 -0.3
V12A Nelson 2.34 94 Pn 02 36 00.8 -1.2
LHV Little Huntoon 2.39 345 Pn 02 36 03.0 +0.5
LHV IAML 02 36 51.1
comp=E,142nm,0.9s
NV11 Mina Array Sit 2.51 352 Pn 02 36 04.0 -0.3
PMPB Monarch Peak 2.51 277 Pn 02 36 05.1 +0.8
PMPB IAML 02 36 44.7
comp=E,322nm,0.9s
PMPB IAML 02 36 49.7
comp=N,277nm,0.8s
NVAR Mina Array Bea 2.52 350 Pn 02 36 04.3 -0.4
PMD Palm Desert 2.54 154 Pn 02 36 03.4 -1.3
PMD IAML 02 36 50.1
comp=E,154nm,0.5s
PFO Pinyon Flats O 2.55 156 Pn 02 36 03.6 -1.2
PFO IAML 02 36 48.3
comp=E,122nm,1.4s
PRN Pahroc Range 2.60 55 Pn 02 36 05.4 -0.1
PRN IAML 02 36 56.3
comp=N,349nm,0.7s
RYN Ryan 2.75 347 Pn 02 36 07.4 -0.4
BBGB Big Mountain B 2.75 284 Pn 02 36 07.8 +0.1
NEE2 Needles Airpor 2.79 114 Pn 02 36 06.3 -1.9
NEE2 IAML 02 36 55.3
comp=E,250nm,0.8s
NEE2 IAML 02 36 59.2
comp=N,297nm,0.8s
BORC Borrego Spring 2.88 158 Pn 02 36 08.2 -1.2
BORC IAML 02 36 57.0
comp=N,102nm,0.8s
BORC IAML 02 36 57.0
comp=E,138nm,0.8s
Q09A Carvers 2.92 8 Pn 02 36 10.2 +0.2
Q09A IAML 02 36 28.1
comp=N,206nm,0.6s
Q09A IAML 02 37 05.0
comp=E,233nm,0.8s
R11B Troy Canyon, C 2.94 35 Pn 02 36 09.7 -0.7
R11B IAML 02 36 58.0
comp=N,70nm,1.1s
R11B IAML 02 36 58.1
comp=E,118nm,1.0s
CMB Columbia Colle 2.98 315 Pn 02 36 11.1 +0.3
CMB IAML 02 36 55.9
comp=E,90nm,0.4s
CMB IAML 02 37 07.6
comp=N,104nm,0.5s
DPP Dos Picos Cty 3.01 167 IAML 02 36 57.2
comp=E,104nm,0.5s
W13A Hualapai Mount 3.24 104 IAML 02 37 10.6
comp=N,64nm,0.6s
BLYC Blythe 3.42 129 IAML 02 37 13.2
comp=N,96nm,0.9s
BLYC IAML 02 37 17.1
comp=E,71nm,0.9s
TKX Tecate 3.49 164 IAML 02 37 13.8
comp=E,89nm,0.3s
TKX IAML 02 38 16.4
comp=N,102nm,0.1s
GLA Glamis 3.75 140 IAML 02 37 24.6
comp=E,113nm,0.8s
GLA IAML 02 37 27.6
comp=N,131nm,0.6s
MPK Martis Peak 3.81 332 IAML 02 37 33.0
comp=N,94nm,0.9s
MPK IAML 02 37 44.2
comp=E,78nm,1.2s
AFDM Forest Hills D 3.96 320 IAML 02 37 36.0
comp=E,81nm,1.0s
AFDM IAML 02 37 36.5
comp=N,71nm,0.9s
PSUT Pine Spring 4.02 49 IAML 02 37 33.7
comp=E,88nm,0.7s
PSUT IAML 02 37 34.0
comp=N,89nm,0.6s
SPR3 Spring Creek 3 4.07 40 IAML 02 37 31.7
comp=E,91nm,0.7s
SPR3 IAML 02 37 32.8
comp=N,88nm,0.5s
KNB Kanab 4.09 73 IAML 02 37 45.1
comp=N,42nm,1.1s
KNB IAML 02 37 53.5
comp=E,29nm,1.1s
ESJX Sierra Juarez 4.20 159 IAML 02 37 35.7
comp=N,27nm,0.7s
ESJX IAML 02 37 35.7
comp=E,40nm,0.6s
Y14A Wickenburg 4.36 116 IAML 02 37 42.6
comp=E,34nm,0.5s
Y14A IAML 02 37 45.1
comp=N,62nm,0.7s
U15A North Rim 4.42 82 IAML 02 37 57.9
comp=E,26nm,1.0s
U15A IAML 02 37 59.3
comp=N,29nm,0.9s
BEKR Beckworth 4.44 333 IAML 02 37 57.0
comp=E,55nm,0.9s
BEKR IAML 02 38 00.3
comp=N,27nm,0.8s
ELK Elko 5.17 21 IAML 02 38 09.1
comp=N,18nm,0.7s
WUAZ Wupatki 5.18 93 IAML 02 38 07.3
comp=N,36nm,1.7s
WUAZ IAML 02 38 10.8
comp=N,29nm,0.8s
X16A Lo Mia Camp, P 5.36 105 IAML 02 38 23.1
comp=E,12nm,1.0s
X16A IAML 02 38 25.8
comp=N,11nm,1.0s

*NNC **11** 02:37:25.8±2.2, 42.°03N×78.°94E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=15.2km s-min=5.7km az=156.0*
*KRNET **11** 02:37:28.6±0.1, 42.°12N×78.°83E, h15km, mb2.2*
*SOME **11** 02:37:28.4, 42.°10N×78.°82E, h10km*
ISC 11 02:37:27.3±2.1, 42.°09N±0.°06×78.°89E±0.°07, h9km±14km, n22, σ1°07/33, 8C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
PRZ	**Przheval'sk**	**0.54**	**318**	⇓*e*P		**Pg**	**02 37 38.4**	**+0.7**
PRZ				⇓*e*S		**Sg**	**02 37 45.1**	**+0.3**
TARG	**Taragay, Kyrgy**	**0.89**	**246**	⇑*i*P		**Pg**	**02 37 44.8**	**+0.4**
TARG				⇑*i*S		**Sb**	**02 37 57.3**	**+0.1**
KDJ	**Kajisay**	**1.27**	**272**	⇑*i*P		**Pn**	**02 37 51.5**	**+0.1**
KDJ				⇑*i*S		**Sg**	**02 38 08.0**	**-0.2**
PDGK	**Podgornoye**	**1.32**	**20**	⇓P		**Pn**	**02 37 50.2**	**-1.8**
	1.9nm,0.8s							
PDGK				⇓S		**Sb**	**02 38 10.1**	**+0.8**
	2.2nm,0.5s							
TNSS	**Tian-Shan**	**1.72**	**304**	*e*P		**Pb**	**02 37 59.5**	**+0.2**
	0.2nm,0.1s							
TNSS				*e*S		**Sb**	**02 38 21.6**	**+0.4**
	0.9nm,0.1s							
IZV	**Izvestkoviy**	**1.93**	**300**	Lg	Lg		02 38 29.2	
	20nm,0.5s							
IZV	**Izvestkoviy**	**1.93**	**300**	*e*P		**Pg**	**02 38 03.9**	**-0.4**
	3.1nm,0.1s							
IZV				*e*S		**Sg**	**02 38 29.2**	**-0.1**
	20nm,0.5s							
ULHL	**Ulahol**	**1.97**	**275**	⇑*i*P		**Pb**	**02 38 04.0**	**+0.5**
ULHL				⇑*i*S		**Sg**	**02 38 30.1**	**-0.6**
BLB	**Baldybastay**	**2.03**	**352**	Pg		**Pb**	**02 38 05.8**	**+1.4**
	18nm,0.2s							
BLB				Lg	Lg		02 38 32.6	
	3.9nm,0.3s							
MTBS	**Maitube**	**2.09**	**301**	Pg		**Pb**	**02 38 06.1**	**+0.6**
MTBS				Lg	Lg		02 38 33.0	
MTBS	**Maitube**	**2.09**	**301**	*e*P		**Pb**	**02 38 06.1**	**+0.6**
MTBS				*e*S		**Sg**	**02 38 33.0**	**-1.5**
BOOM	**Boomskoye usch**	**2.22**	**281**	⇑*i*P		**Pb**	**02 38 07.6**	**-0.2**
BOOM				⇑*i*S		**Sb**	**02 38 36.4**	**+0.9**
CHKK	**Chushkaly**	**2.25**	**322**	Pg		**Pb**	**02 38 09.5**	**+1.4**
	2.4nm,0.2s							
CHKK				Lg	Lg		02 38 38.9	
	12nm,0.4s							
CHKK	**Chushkaly**	**2.25**	**322**	*e*P		**Pb**	**02 38 09.5**	**+1.4**
	2.4nm,0.2s							
CHKK				*e*S		**Sg**	**02 38 38.9**	**-0.6**
	12nm,0.4s							
ARXS	**Arharly**	**2.26**	**340**	Pg		**Pb**	**02 38 09.3**	**+0.9**
	3.3nm,0.8s							
ARXS				Lg	Lg		02 38 38.8	
	4.1nm,0.4s							
ARXS	**Arharly**	**2.26**	**340**	*e*P		**Pb**	**02 38 09.3**	**+0.9**
ARXS				*e*S		**Sg**	**02 38 38.8**	**-1.1**
KTBS	**Karatobe**	**2.29**	**316**	Pg		**Pb**	**02 38 10.4**	**+1.6**
	3.7nm,0.4s							
KTBS				Lg	Lg		02 38 40.8	
	21nm,0.6s							
KST	**Kastek**	**2.36**	**295**	Pg		**Pb**	**02 38 11.0**	**+0.9**
	1.0nm,0.3s							
KST				Lg	Lg		02 38 41.4	
	13nm,0.8s							
KST	**Kastek**	**2.36**	**295**	*e*P		**Pb**	**02 38 11.0**	**+0.9**
	1.0nm,0.3s							
KST				*e*S		**Sg**	**02 38 41.4**	**-1.8**
	13nm,0.8s							
KUU	**Kurty**	**2.60**	**315**	Pg		**Pb**	**02 38 15.0**	**+0.9**
	2.1nm,0.2s							
KUU				Lg	Lg		02 38 48.4	
	4.9nm,0.2s							
KUU	**Kurty**	**2.60**	**315**	*e*P		**Pb**	**02 38 15.2**	**+1.2**
	1.6nm,0.1s							
KUU				*e*S		**Sg**	**02 38 48.6**	**-2.2**
	5.5nm,0.1s							
KRBS	**Karabastau**	**2.85**	**305**	Lg	Lg		02 38 55.6	
	7.2nm,0.5s							

ASRS 11 03:11:45.7±0.3, 51.°N±2.°×99.°E±.°, h5km, MLh3.7/8, Error ellipse: s-maj=4.1km s-min=2.4km az=13.4, confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
KNGR	**Kungurtug, Tuv**	**1.09**	**217**	Pg	Pn		03 12 09.6	+1.8
KNGR				Sg	Sn		03 12 23.0	-0.4
MOY	**Mondy**	**1.54**	**82**	Pg	Pg		03 12 18.6	+3.4
MOY				Sg	Sg		03 12 39.3	+4.1
KZLR	**Kyzyl**	**2.56**	**276**	Pg	Pg		03 12 35.4	+0.7
KZLR				Sg	Sg		03 13 09.8	+2.0
ZAK	**Zakamensk**	**3.20**	**108**	Pg	Pg		03 12 45.2	-1.8
ZAK				Sg	Sg		03 13 27.5	-0.8
ARDR	**Aradan**	**3.34**	**291**	Pg	Pg		03 12 51.6	+1.9
ARDR				Sg	Sg		03 13 36.4	+3.4
IRK	**Irkutsk**	**3.63**	**76**	Sg	Sg		03 13 42.8	+0.5
MINR	**Mina**	**4.30**	**324**	Pg	Pg		03 13 15.2	+7.1
MINR				Sg	Sg		03 14 11.2	+7.4
CERR	**Cheremushki**	**4.59**	**290**	Sg	Sg		03 14 14.6	+1.4
DJO	**Djoy, Khakassi**	**4.69**	**289**	Pg	Pg		03 13 16.1	+0.4
DJO				Sg	Sg		03 14 17.2	+0.9
TEL	**Teeli**	**5.26**	**268**	Pn	Pb		03 13 11.7	-6.4
TEL				Pg	Pg		03 13 23.8	-2.6
TEL				Sg	Sg		03 14 33.0	-1.5
GZLN	**Zheleznogorsk**	**5.65**	**332**	Sg	Sg		03 14 52.4	+5.3
SHTK	**Zheleznogorsk-**	**5.66**	**331**	Sg	Sg		03 14 52.4	+5.0
LUZB	**Luzhba, Kemero**	**6.27**	**294**	Sg	Sg		03 15 08.6	+1.8
TASR	**Tashtagol**	**6.69**	**285**	Sg	Sg		03 15 22.4	+2.1
ULGR	**Ulagan, Altay**	**6.73**	**267**	Sg	Sg		03 15 22.1	+0.5
YALR	**Yailyu, Altay**	**6.81**	**277**	Sg	Sg		03 15 26.3	+2.0
AKAR	**Aktash**	**7.01**	**265**	Sg	Sg		03 15 27.5	-3.0

IDC 11 03:25:28.9±3.0, 18.°25S×177.°01W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=67.4km s-min=22.4km az=85.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
URZ	**Urewera**	**20.59**	**193**	P	P		03 30 07.7	-1.8
	7.9nm,0.5s,baz=32,slow=3.1,SNR=19							
URZ				S	Sn		03 34 02.6	-1.8
	1.4nm,0.4s,baz=68,slow=19,SNR=1.2							
	7.9nm,0.5s							
WRA	**Warramunga Arr**	**45.88**	**260**	P	P		03 33 52.9	-0.6
	0.8nm,0.5s,baz=97,slow=7.1,SNR=23							
	0.8nm,0.5s							
ASAR	**Alice Springs**	**45.98**	**254**	P	P		03 33 54.5	+0.2
	5.6nm,0.5s,baz=87,slow=8.8,SNR=58							
	5.6nm,0.5s							
BRTR	**Keskin Array B**	**145.97**	**315**	PKPbc	PKPbc		03 45 10.8	-0.2
	1.1nm,0.8s,baz=66,slow=4.2,SNR=5.8							

*IDC **11** 03:37:04.8±1.9, 2.°42N×122.°86E, h489km±20km, mb3.4/10, mbtmp4.2/10, Error ellipse: s-maj=37.6km s-min=11.1km az=65.0*
ISC 11 03:37:05.9±0.7, 2.°4N±0.°1×122.°8E±0.°1, h500km, n23, σ0°76/27, mb3.8/9, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
TNTI	**Ternate**	**4.84**	**109**	P	P		**03 38 32.5**	**+1.0**
MYLDM	**Lahad Datu**	**5.11**	**303**	P	P		**03 38 35.2**	**+1.3**
SANI	**Sanana**	**5.44**	**144**	P	P		**03 38 34.5**	**-2.5**
SBUM	**Sibu**	**10.57**	**271**	P	P		**03 39 29.9**	**+0.5**
FAKI	**Fak Fak**	**10.82**	**119**	P	P		**03 39 32.7**	**+0.6**
DRS	**Darwin Rock St**	**16.78**	**152**	P	P		**03 40 35.0**	**+0.3**
MTN	**Manton Dam**	**17.25**	**152**	P	P		**03 40 39.1**	**-0.3**
KDU	**Kakadu**	**17.79**	**148**	P	P		**03 40 44.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**20.55**	**172**	P	P		**03 41 09.7**	**+0.1**
	14nm,1.1s,baz=11,slow=8.8,SNR=25							
	14nm,1.1s							
MBWA	**Marble Bar**	**23.59**	**187**	P	**P**		**03 41 36.4**	**-0.6**
PSI	**Prapat**	**23.85**	**272**	P	**P**		**03 41 39.1**	**-0.5**
	3.8nm,0.5s,baz=120,slow=14,SNR=3.5							
	3.8nm,0.5s							
WRA	**Warramunga Arr**	**24.91**	**153**	P	**P**		**03 41 47.5**	**-1.2**
	3.0nm,0.4s,baz=336,slow=9.6,SNR=68							
WRA				PcP	**PcP**		**03 45 07.5**	**-0.4**
	0.2nm,0.4s,baz=325,slow=1.9,SNR=1.7							
WRA				ScP	**ScP**		**03 47 59.0**	**-0.4**
	0.7nm,0.7s,baz=332,slow=2.9,SNR=3.5							
	3.0nm,0.4s							
ASAR	**Alice Springs**	**28.06**	**158**	P	**P**		**03 42 16.1**	**-0.4**
	1.5nm,0.5s,baz=340,slow=7.2,SNR=18							
ASAR				PcP	**PcP**		**03 45 15.2**	**-0.2**
	0.3nm,0.3s,baz=341,slow=2.6,SNR=2.0							
ASAR				ScP	**ScP**		**03 48 09.0**	**+0.1**
	1.0nm,0.5s,baz=335,slow=3.1,SNR=9.7							
	1.5nm,0.5s							
AS01	**Alice Springs**	**28.08**	**158**	P	**P**		**03 42 16.8**	**+0.1**
QIS	**Mount Isa**	**28.13**	**145**	P	**P**		**03 42 17.6**	**+0.4**
MEEK	**Meekatharra**	**29.13**	**188**	P	**P**		**03 42 25.6**	**-0.2**
MORW	**Morawa**	**31.94**	**191**	P	**P**		**03 42 49.8**	**-0.2**
SONM	**Songino Array**	**47.44**	**345**	P	**P**		**03 44 54.1**	**-0.6**
	0.7nm,0.4s,baz=159,slow=8.0,SNR=4.1							
	0.7nm,0.4s							
MKAR	**Makanchi Array**	**56.50**	**328**	P	**P**		**03 45 59.7**	**-0.2**
	1.4nm,0.3s,baz=128,slow=7.8,SNR=31							
	1.4nm,0.3s							
KURBB	**Kurchatov Arra**	**60.82**	**329**	P	**P**		**03 46 28.4**	**-0.6**
	2.1nm,0.2s,baz=134,slow=6.6,SNR=5.4							
	2.1nm,0.2s							
VNDA	**Vanda**	**82.62**	**172**	P	**P**		**03 48 35.7**	**0.0**
	0.6nm,0.5s,baz=310,slow=5.0,SNR=5.5							
	0.6nm,0.5s							
SPITS	**Spitsbergen Ar**	**91.02**	**349**	P	**P**		**03 49 16.2**	**+0.4**
	0.5nm,0.4s,baz=66,slow=4.7,SNR=4.3							
	0.5nm,0.4s							
QSPA	**South Pole Qui**	**92.30**	**180**	P	**P**		**03 49 22.5**	**+0.5**
	0.6nm,0.7s,baz=337,slow=2.9,SNR=5.3							
	0.6nm,0.7s							

*NOU **11** 03:43:28.7, 30.°37S×174.°41W, h0km, mb4.7/14, Kermadec Islands Region*
*NEIC **11** 03:43:59.4±1.9, 30.°68S±0.°07×178.°0W±0.°1, h35km±1km, mb4.5/17, Error ellipse: s-maj=16.9km s-min=10.9km az=97.0*
*IDC **11** 03:44:03.5±1.5, 30.°31S×178.°12W, h71km±13km, mb3.9/8, mbtmp4.2/8, MS3.4/6, Error ellipse: s-maj=21.0km s-min=18.6km az=118.0*
ISC 11 03:43:59.9±0.5, 30.°61S±0.°05×177.°9W±0.°1, h46km, n157, σ2°40/129, mb4.4/15, MS3.4/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
GLKZ	**Green Lake**	**1.34**	**359**	P	**P**	**Pn**	**03 44 21.5**	**-0.7**
GLKZ				S	**Sn**	**Sn**	**03 44 36.4**	**-2.5**
RAO	**Raoul Island**	**1.35**	**359**		**P**	**Pn**	**03 44 21.9**	**-0.5**
RAO	**Raoul Island**	**1.35**	**359**	P	**P**	**Pn**	**03 44 21.4**	**-1.0**
	9µm,0.3s,baz=234,slow=24,SNR=89							
RAO				S	**Sn**	**Sn**	**03 44 37.8**	**-1.4**
	9µm,0.3s,baz=126,slow=22,SNR=11							
RAO	**Raoul Island**	**1.35**	**359**	P	**P**	**Pn**	**03 44 22.0**	**-0.4**
RIZ	**Raoul Island**	**1.36**	**358**	P	**P**	**Pn**	**03 44 21.7**	**-0.8**
RIZ				S	**Sn**	**Sn**	**03 44 38.1**	**-1.3**
MXZ	**Matakaoa Point**	**7.62**	**203**	Pn	**P**	**Pn**	**03 45 45.8**	**-2.5**
MXZ	**Matakaoa Point**	**7.62**	**203**	P	**P**	**Pn**	**03 45 45.2**	**-3.1**
MXZ	**Matakaoa Point**	**7.62**	**203**	P	**P**	**Pn**	**03 45 45.2**	**-3.1**
WMGZ	**Waiomatatini S**	**7.81**	**202**	P	**P**	**Pn**	**03 45 49.3**	**-1.7**
GRZ	**Great Barrier**	**7.91**	**223**	P	P	Pn	03 46 01.8	+10
PKGZ	**Pakihiroa**	**7.97**	**204**	P	**P**	**Pn**	**03 45 51.7**	**-1.5**
PKGZ	**Pakihiroa**	**7.97**	**204**	S	**S**	**Sn**	**03 47 23.6**	**+1.6**
HAZ	**Te Kaha**	**7.98**	**206**	P	**P**	**Pn**	**03 45 51.7**	**-1.5**
PUZ	**Puketiti**	**8.10**	**202**	P	**P**	**Pn**	**03 45 52.1**	**-2.7**
PUZ	**Puketiti**	**8.10**	**202**	S	**S**	**Sn**	**03 47 24.0**	**-1.0**
KUZ	**Kuaotunu**	**8.11**	**219**	P	**P**	**Pn**	**03 45 57.8**	**+2.8**
KUZ	**Kuaotunu**	**8.11**	**219**	P	**P**	**Pn**	**03 45 57.7**	**+2.6**
RUGZ	**Raukumara Rang**	**8.20**	**205**	P	**P**	**Pn**	**03 45 54.0**	**-2.5**
TWGZ	**Tauwhareparae**	**8.28**	**203**	P	**P**	**Pn**	**03 45 55.3**	**-2.1**
TWGZ	**Tauwhareparae**	**8.28**	**203**	S	**S**	**Sn**	**03 47 29.7**	**0.0**
WHRZ	**Whale Island**	**8.38**	**209**	P	**P**	**Pn**	**03 45 58.5**	**-0.3**
WCZ	**Waipu Caves**	**8.40**	**229**	P	P	Pn	03 46 07.6	+8.7
CNGZ	**Carnagh Statio**	**8.49**	**201**	P	**P**	**Pn**	**03 45 58.2**	**-2.0**
OUZ	**Omahuta**	**8.51**	**235**	P	P	Pn	03 46 09.1	+8.6
OUZ	**Omahuta**	**8.51**	**235**	P	P	Pn	03 46 08.8	+8.3
OPRZ	**Ohinepanea**	**8.56**	**211**	P	**P**	**Pn**	**03 46 00.8**	**-0.4**
TKGZ	**Te Karaka**	**8.56**	**203**	P	**P**	**Pn**	**03 45 58.4**	**-2.9**
TKGZ	**Te Karaka**	**8.56**	**203**	S	**S**	**Sn**	**03 47 36.1**	**-0.3**
MWZ	**Matawai**	**8.58**	**205**	P	**P**	**Pn**	**03 45 58.8**	**-2.8**
MWZ				S	**S**	**Sn**	**03 47 36.8**	**-0.2**
MBAZ	**Motutapu North**	**8.59**	**222**	P	P	Pn	03 46 12.3	+11
URZ	**Urewera**	**8.68**	**207**	P	**P**	**Pn**	**03 46 00.1**	**-2.6**
	26nm,0.3s,baz=269,slow=5.1,SNR=26							
URZ				S	**S**	**Sn**	**03 47 36.4**	**-2.8**
	34nm,0.4s,baz=201,slow=23,SNR=11							
URZ	**Urewera**	**8.68**	**207**	P	**P**	**Pn**	**03 46 00.9**	**-1.9**
URZ	**Urewera**	**8.68**	**207**	P	**P**	**Pn**	**03 45 59.9**	**-2.9**
URZ				S	**S**	**Sn**	**03 47 38.6**	**-0.6**
EDRZ	**Edgecumbe**	**8.70**	**209**	P	**P**	**Pn**	**03 46 02.4**	**-0.7**
RAGZ	**Rawiri**	**8.77**	**205**	P	**P**	**Pn**	**03 46 01.4**	**-2.7**
RIGZ	**Rimuhau**	**8.83**	**203**	P	**P**	**Pn**	**03 46 02.4**	**-2.6**
RIGZ				S	**S**	**Sn**	**03 47 43.0**	**-0.2**
WTAZ	**Waiatarua**	**8.89**	**223**	P	P	Pn	03 46 17.4	+12
PRGZ	**Paritu Road**	**8.99**	**202**	P	**P**	**Pn**	**03 46 04.3**	**-2.9**
PRGZ				S	**S**	**Sn**	**03 47 44.0**	**-3.0**
MUGZ	**Murupara**	**9.00**	**208**	P	**P**	**Pn**	**03 46 04.1**	**-3.1**
RTZ	**Ruatahuna**	**9.03**	**207**			**Pn**	**03 46 05.3**	**-2.5**
KNZ	**Kokohu**	**9.15**	**202**	P	**P**	**Pn**	**03 46 05.0**	**-4.2**
MHGZ	**Mahia Peninsul**	**9.19**	**201**	P	**P**	**Pn**	**03 46 06.0**	**-3.9**
RAHZ	**Arahi**	**9.26**	**205**	P	**P**	**Pn**	**03 46 07.4**	**-3.3**
MTHZ	**Maungataniwha**	**9.29**	**206**	P	**P**	**Pn**	**03 46 08.4**	**-2.9**
WHHZ	**Waihua**	**9.35**	**204**	P	**P**	**Pn**	**03 46 09.4**	**-2.6**
MRHZ	**Matea Rd**	**9.45**	**208**	P	**P**	**Pn**	**03 46 10.1**	**-3.3**
NMHZ	**Naumai**	**9.52**	**206**	P	**P**	**Pn**	**03 46 11.4**	**-3.1**
ARHZ	**Aropaoanui**	**9.60**	**205**	P	**P**	**Pn**	**03 46 12.0**	**-3.4**
BKZ	**Black Stump Fm**	**9.70**	**207**			**Pn**	**03 46 13.5**	**-3.3**
BKZ	**Black Stump Fm**	**9.70**	**207**	P	**P**	**Pn**	**03 46 13.8**	**-3.1**
BKZ	**Black Stump Fm**	**9.70**	**207**	P	**P**	**Pn**	**03 46 13.5**	**-3.3**
MCHZ	**McNeill Hill**	**9.87**	**205**	P	**P**	**Pn**	**03 46 16.0**	**-3.1**
HIZ	**Hauiti**	**9.89**	**215**	P	**P**	**Pn**	**03 46 20.8**	**+1.3**
HIZ	**Hauiti**	**9.89**	**215**	P	**P**	**Pn**	**03 46 24.0**	**+4.5**
CKHZ	**Cape Kidnapper**	**9.92**	**203**	P	**P**	**Pn**	**03 46 15.8**	**-4.0**
KWHZ	**Kaweka Forest**	**9.95**	**206**	P	**P**	**Pn**	**03 46 16.4**	**-4.0**
TMVZ	**Te Maari**	**9.98**	**210**	P	**P**	**Pn**	**03 46 18.1**	**-2.7**
ETVZ	**East Tongariro**	**10.00**	**210**	P	**P**	**Pn**	**03 46 18.8**	**-2.1**
WTVZ	**West Tongariro**	**10.03**	**211**	P	**P**	**Pn**	**03 46 21.9**	**+0.4**
KAHZ	**Kahuranaki**	**10.11**	**204**	P	**P**	**Pn**	**03 46 18.1**	**-4.4**
KRHZ	**Kereru**	**10.16**	**206**	P	**P**	**Pn**	**03 46 18.4**	**-4.7**
FWVZ	**Far West T-bar**	**10.16**	**210**	P	**P**	**Pn**	**03 46 22.4**	**-1.0**
MAVZ	**Matarangi**	**10.17**	**210**	P	**P**	**Pn**	**03 46 22.3**	**-1.2**
WNVZ	**Wahianoa**	**10.20**	**210**	P	**P**	**Pn**	**03 46 21.1**	**-2.8**
MOVZ	**Moawhango**	**10.21**	**209**	P	**P**	**Pn**	**03 46 20.4**	**-3.4**
PXZ	**Pawanui**	**10.33**	**203**	P	P	Pn	03 46 20.5	-4.9
PNHZ	**Pukenui**	**10.46**	**206**	P	P	Pn	03 46 21.3	-6.0
PRHZ	**Porangahau**	**10.62**	**203**	P	P	Pn	03 46 23.4	-6.0
TSZ	**Takapari Road**	**10.68**	**206**	P	P	Pn	03 46 25.0	-5.2
BFZ	**Birch Farm**	**11.12**	**204**	P	P	Pn	03 46 31.3	-4.9
TIWZ	**Tintock**	**11.33**	**205**	P	**P**	**Pn**	**03 46 34.7**	**-4.5**
MRZ	**Mangatainoka R**	**11.35**	**206**	P	P	Pn	03 46 32.7	-6.6
OGWZ	**Otaki Gorge**	**11.64**	**207**	P	P	Pn	03 46 37.2	-6.1
KIW	**Kapiti Island**	**11.78**	**208**	P	P	Pn	03 46 38.2	-7.0
CAW	**Cannon Point**	**11.93**	**207**	P	P	Pn	03 46 40.8	-6.4
MSWZ	**Mo

DSZ	Denniston Nort	13.87 214	P	Pn	03 47 09.2	-4.7
TAVE	Taveuni	13.96 352	P	Pn	03 46 54.6	-21
GVZ	Greta Valley S	14.30 208	Pn	Pn	03 47 15.6	-4.0
GVZ	Greta Valley S	14.30 208	P	Pn	03 47 11.4	-8.3
LTZ	Lake Taylor	14.47 210	P	Pn	03 47 14.7	-7.2
OKCZ	Okains Bay	14.93 206	P	Pn	03 47 19.7	-8.3
OXZ	Oxford	15.01 210		Pn	03 47 25.3	-3.6
OXZ	Oxford	15.01 210	P	Pn	03 47 25.4	-3.6
MQZ	McQueen's Vall	15.07 207	P	Pn	03 47 20.8	-9.0
WVZ	Waitaha Valley	15.40 213	P	Pn	03 47 30.6	-3.4
RPZ	Rata Peaks	15.75 211	P	Pn	03 47 36.4	-2.2
	9.1nm,0.3s,baz=71,slow=6.7,SNR=4.0					
RPZ	Rata Peaks	15.75 211	P	Pn	03 47 36.4	-2.2
FOZ	Fox Glacier	16.18 214	Pn	Pn	03 47 41.9	-2.1
DZM	Mont Dzumac	16.41 298	LR	LR	03 52 47.7	
	comp=Z,86nm,19.9s,baz=120,slow=33					
ODZ	Otahua Downs	16.99 209	P	Pn	03 47 49.1	-5.1
JCZ	Jackson Bay	17.08 214	P	Pn	03 47 53.3	-2.1
MLZ	Mavora Lakes	18.36 213	P	P	03 48 09.2	-1.4
MLZ			IAmb	IAmb	03 48 09.7	
	comp=Z,36nm,1.5s					
WHZ	Wether Hill Ro	18.84 212	P	P	03 48 15.2	-0.6
CTAO	Charters Tower	33.93 279	P	P	03 50 38.6	-0.2
CTAO			IAmb	IAmb	03 50 41.1	
	comp=Z,6.2nm,0.5s					
COEN	Coen	39.42 286	P	P	03 51 26.5	+0.9
COEN			IAmb	IAmb	03 51 40.8	
	comp=Z,20nm,1.4s					
AS31	Alice Springs	43.20 267	P	P	03 51 56.9	+0.3
ASAR	Alice Springs	43.20 267	P	P	03 51 56.1	-0.5
	comp=Z,1.4nm,0.5s,baz=105,slow=7.1,SNR=13					
	comp=Z,1.4nm,0.5s					
WR8	Warramunga Arr	44.06 272	P	P	03 52 02.8	-0.8
WR8			IAmb	IAmb	03 52 06.8	
	comp=Z,8.5nm,1.3s					
WRA	Warramunga Arr	44.20 272		P	03 52 03.8	-1.0
WRA	Warramunga Arr	44.20 272	P	P	03 52 03.8	-1.0
	comp=Z,2.2nm,0.3s,baz=110,slow=8.1,SNR=48					
	comp=Z,2.2nm,0.3s					
WB0	Warramunga Arr	44.23 273		P	03 52 04.4	-0.5
WB0			IAmb	IAmb	03 52 22.0	
	comp=Z,11nm,1.2s					
FORT	Forrest	46.09 255	P	P	03 52 20.1	+0.5
VNDA	Vanda	47.90 186	LR	LR	04 10 35.1	
	comp=Z,32nm,18.7s,baz=354,slow=33					
FITZ	Fitzroy Crossi	52.46 270	P	P	03 53 09.1	+0.8
FITZ	Fitzroy Crossi	52.46 270	P	P	03 53 08.8	+0.5
	comp=Z,1.2nm,0.5s,baz=135,slow=4.3,SNR=2.0					
	comp=Z,1.2nm,0.5s					
CASY	Casey	55.00 208	P	P	03 53 26.9	+0.7
CASY			IAmb	IAmb	03 53 27.6	
	comp=Z,8.0nm,0.8s					
MORW	Morawa	56.57 254	P	P	03 53 37.1	-1.0
QSPA	South Pole Qui	59.50 180	P	P	03 53 60.0	+1.8
QSPA	South Pole Qui	59.50 180	P	P	03 54 01.8	+3.7
	comp=Z,6.3nm,1.0s,baz=51,slow=5.3,SNR=30					
QSPA			LR	LR	04 16 25.1	
	comp=Z,26nm,20.3s,baz=38,slow=32					
	comp=Z,6.3nm,1.0s					
DAV	Davao City (W)	65.80 295	LR	LR	04 21 04.0	
	comp=Z,22nm,20.5s,baz=286,slow=34					
SMAI	San Martin Ant	69.19 158	P	P	03 55 01.7	+0.4
SMAI			IAmb	IAmb	03 55 03.6	
	comp=Z,6.8nm,1.4s					
BELA	Belgrano 2	69.56 172	P	P	03 55 04.3	+0.8
BELA			IAmb	IAmb	03 55 22.7	
	comp=Z,5.7nm,1.5s					
TROLL	Troll, Antarti	77.66 180	P	P	03 55 53.4	+2.1
SNAA	Sanae	77.94 178	P	P	03 55 54.8	+2.1
SNAA	Sanae	77.94 178	P	P	03 55 54.4	+1.6
SNAA			IAmb	IAmb	03 56 01.8	
	comp=Z,4.6nm,1.3s					
SNAA	Sanae	77.94 178	P	P	03 55 54.6	+1.9
	comp=Z,1.1nm,0.6s,baz=202,slow=11,SNR=14					
SNAA			LR	LR	04 27 43.6	
	comp=Z,29nm,19.5s,baz=156,slow=34					
	comp=Z,1.1nm,0.6s					
VNA2	Neumayer--Watz	78.52 177	P	P	03 55 57.7	+1.9
	baz=171,slow=5.4					
H03S2	Juan Fernandez	80.27 123	T	T	05 25 20.2	
	baz=238,slow=74					
H03S1	Juan Fernandez	80.28 123	T	T	05 25 22.9	
	baz=238,slow=74					
H03S3	Juan Fernandez	80.28 123	T	T	05 25 18.4	
	baz=238,slow=74					
H03N3	Juan Fernandez	80.46 123	T	T	05 25 32.0	
	baz=234,slow=71					
H03N2	Juan Fernandez	80.46 123	T	T	05 25 28.7	
	baz=234,slow=74					
H03N1	Juan Fernandez	80.47 123	T	T	05 25 24.3	
	baz=234,slow=74					
PLCA	Paso Flores	82.29 133	P	P	03 56 19.6	+2.9
	comp=Z,2.7nm,0.9s,baz=246,slow=8.3,SNR=5.9					
	comp=Z,2.7nm,0.9s					
ASAJ	Asashikawa	82.67 332	LR	LR	04 32 08.4	
	comp=Z,22nm,18.1s,baz=188,slow=35					
NVAR	Mina Array Bea	88.33 43	P	P	03 56 47.3	+0.4
	comp=Z,1.6nm,0.8s,baz=221,slow=8.5,SNR=11					
	comp=Z,1.6nm,0.8s					
TXAR	Lajitas Array	92.42 57	P	P	03 57 07.0	+1.0
	comp=Z,0.3nm,0.9s,baz=237,slow=4.7,SNR=4.3					
	comp=Z,0.3nm,0.8s					
MKAR	Makanchi Array	117.98 310	PKP	PKPdf	04 02 40.9	-0.4
	comp=Z,0.5nm,0.8s,baz=108,slow=4.7,SNR=3.0					
KURBB	Kurchatov Arra	121.30 314	PKP	PKPdf	04 02 45.7	-1.8
	comp=Z,0.5nm,0.5s,baz=105,slow=2.2,SNR=4.8					
SPITS	Spitsbergen Ar	131.92 356	PKP	PKPdf	04 03 06.8	-0.2
	comp=Z,0.2nm,0.3s,baz=22,slow=4.7,SNR=4.1					
ARCES	ARCESS Array B	138.82 348	PKP	PKPdf	04 03 20.6	+0.5
	comp=Z,0.5nm,0.6s,baz=49,slow=3.0,SNR=6.0					
FINES	FINESS Array B	145.38 340	PKPbc	PKPbc	04 03 30.9	-1.1
	comp=Z,5.6nm,0.3s,baz=46,slow=4.3,SNR=129					
NB2	NORSAR Subarra	148.97 351	PKP	PKPbc	04 03 41.7	-0.4
	comp=Z,1.3nm,0.5s,baz=14,slow=2.6					
NOA	NORSAR Array B	148.97 351	PKPbc	PKPbc	04 03 41.5	-0.6
	comp=Z,2.8nm,0.6s,baz=14,slow=4.1,SNR=18					
HFS	Hagfors	149.47 349	PKPbc	PKPbc	04 03 42.3	-1.1
	comp=Z,3.6nm,0.6s,baz=80,slow=4.3,SNR=22					
AKASG	Malin Array Be	151.53 323	PKPbc	PKPbc	04 03 47.7	-0.8
	comp=Z,1.2nm,0.3s,baz=47,slow=3.4,SNR=14					
MMAI	Mount Meron Ar	151.68 284	PKPbc	PKPbc	04 03 49.7	+0.2
	comp=Z,0.6nm,0.3s,baz=79,slow=7.5,SNR=2.1					
BRTR	Keskin Array B	152.79 298	PKPbc	PKPbc	04 03 50.9	-1.1
	comp=Z,0.4nm,0.4s,baz=123,slow=5.3,SNR=3.3					

WEL 11 03:45:21.7±1.8, 39°S±3°×17°6E±°, h7km±8km, M1.2/6, ML1.5/6, MLv1.2/6, Error ellipse: s-maj=7.3km s-min=4.0km az=81.4, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RATZ	Rangitukua	0.05	337	P	Pg	03 45 23.5	+0.3
RATZ				S	Sg	03 45 25.1	+0.9
RITZ	Rihia Road	0.08	144	P	Pg	03 45 24.1	+0.4
RITZ				S	Sg	03 45 26.4	+1.3
NTVZ	North Tongarir	0.21	206	P	Pg	03 45 26.7	+0.7
TMVZ	Te Maari	0.22	199	P	Pg	03 45 26.7	+0.6
TMVZ				S	Sg	03 45 30.2	+1.2
ETVZ	East Tongariro	0.23	196	P	Pg	03 45 27.0	+0.6
ETVZ				S	Sg	03 45 30.9	+1.3
WTVZ	West Tongariro	0.26	218	P	Pg	03 45 27.8	+1.0
WTVZ				S	Sg	03 45 31.8	+1.4

IDC ***11*** *03:56:10.8±1.1, 5°.96S×151°.65E, h0km, mb4.1/5, mbtmp4.2/5, Error ellipse: s-maj=51.8km s-min=25.4km az=118.0*

NEIC ***11*** *03:56:13.3±0.8, 6°.2S±0°.1×151°.9E±0°.2, h10km±1km, mb4.5/28, Error ellipse: s-maj=42.2km s-min=13.1km az=114.0*

ISC 11 03:56:16.6±0.8, 6°.1S±0°.1×151°.7E±0°.2, h35km, n37, σ0.58/38, mb4.4/19, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	1.94	14	Pn	Pn	03 56 46.8	-0.4
COEN	Coen	11.47	226	Pn	Pn	03 58 58.4	+0.4
WB0	Warramunga Arr	21.63	229	P	P	04 01 03.6	-0.4
WR8	Warramunga Arr	21.66	229	P	P	04 01 03.8	-0.6
WRA	Warramunga Arr	21.78	229	P	P	04 01 05.2	-0.4
WRA	Warramunga Arr	21.78	229	P	P	04 01 04.5	-1.0
	3.1nm,0.5s,baz=54,slow=10,SNR=23						
WRA				PcP	PcP	04 05 05.5	+0.2
	0.5nm,0.9s,baz=44,slow=3.0,SNR=2.0						
	3.1nm,0.5s						
KNRA	Kununurra	24.43	245	P	P	04 01 33.2	+1.0
KNRA				IAmb	IAmb	04 02 04.7	
	comp=Z,15nm,1.1s						
AS31	Alice Springs	24.46	223	P	P	04 01 32.9	+0.3
ASAR	Alice Springs	24.47	223	P	P	04 01 32.9	+0.3
ASAR	Alice Springs	24.47	223	P	P	04 01 32.3	-0.3
	comp=Z,10.0nm,0.7s,baz=53,slow=9.3,SNR=86						
	comp=Z,10.0nm,0.7s						
FITZ	Fitzroy Crossi	28.09	243	P	P	04 02 04.3	-0.9
FORT	Forrest	33.10	219	P	P	04 02 48.9	-0.5
FORT				IAmb	IAmb	04 02 55.9	
	comp=Z,14nm,1.1s						
MBWA	Marble Bar	34.39	241	P	P	04 03 00.3	-0.4
CASY	Casey	66.47	197	P	P	04 07 02.2	0.0
CASY				IAmb	IAmb	04 07 02.3	
	comp=Z,2.0nm,0.8s						
S12K	Black Hills	72.39	25	P	P	04 07 38.9	-0.1
S12K				IAmb	IAmb	04 07 56.8	
	comp=Z,8.6nm,1.1s						
O14K	Tigyukauivet M	75.06	23	P	P	04 07 54.9	+0.4
O14K				IAmb	IAmb	04 08 23.3	
	comp=Z,4.7nm,1.0s						
M14K	Bethel	75.80	21	P	P	04 07 59.0	+0.3
M14K				IAmb	IAmb	04 08 10.8	
	comp=Z,4.2nm,1.1s						
PLK4	Peulik 4	76.06	26	P	P	04 08 00.6	+0.1
PLK4				IAmb	IAmb	04 08 43.5	
	comp=Z,5.0nm,1.0s						
N15K	Kwethluk River	76.11	23	P	P	04 08 01.1	+0.5
N15K				IAmb	IAmb	04 08 14.7	
	comp=Z,4.9nm,1.2s						
SII	Sitkinak Islan	76.41	27	P	P	04 08 02.1	-0.3
K15K	Wolf Creek Mou	76.99	20	P	P	04 08 05.8	+0.3
K15K				IAmb	IAmb	04 08 22.8	
	comp=Z,10.0nm,1.5s						
M16K	Timber Creek	77.09	22	P	P	04 08 06.8	+0.8
M16K				IAmb	IAmb	04 08 23.5	
	comp=Z,3.2nm,1.1s						
N17K	Nushagak Hills	77.46	23	P	P	04 08 08.3	+0.2
N17K				IAmb	IAmb	04 08 15.5	
	comp=Z,3.8nm,1.2s						
Q19K	Cape Douglas,	77.98	26	P	P	04 08 11.0	-0.2
SYI	Shuyak Island	78.35	26	P	P	04 08 13.3	+0.2
SYI				IAmb	IAmb	04 08 29.5	
	comp=Z,6.2nm,1.0s						
P19K	Oil Pt	78.56	25	P	P	04 08 14.2	-0.1
J17K	VABM Dome	78.56	20	P	P	04 08 14.6	+0.4
J17K				IAmb	IAmb	04 08 20.1	
	comp=Z,7.5nm,1.4s						
CNPM	China Poot	79.34	26	P	P	04 08 18.9	+0.3
L19K	White Mountain	79.35	23	P	P	04 08 19.3	+0.7
SLKM	Skilak Lake	80.29	25	P	P	04 08 24.0	+0.3
G18K	Tagagawik	80.31	19	P	P	04 08 23.9	+0.1
G18K				IAmb	IAmb	04 08 47.8	
	comp=Z,5.3nm,1.5s						
MKAR	Makanchi Array	80.58	319	P	P	04 08 26.3	+0.6
	comp=Z,0.3nm,0.7s,baz=116,slow=6.6,SNR=2.4						
	comp=Z,0.3nm,0.7s						
ILAR	Eielson Array	83.76	22	P	P	04 08 40.4	-1.5
	comp=Z,0.7nm,0.6s,baz=244,slow=5.2,SNR=16						
	comp=Z,0.7nm,0.6s						
QSPA	South Pole Qui	83.88	180	P	P	04 08 43.0	+0.3
QSPA	South Pole Qui	83.88	180	P	P	04 08 43.0	+0.3
	comp=Z,4.7nm,0.8s,baz=344,slow=0.8,SNR=31						
	comp=Z,4.7nm,0.8s						
H24K	Noodor Dome	83.92	21	P	P	04 08 43.0	+0.3
TORD	Torodi Ar. Bea	149.63	286	PKPbc	PKPbc	04 16 02.2	-1.4
	comp=Z,1.3nm,0.3s,baz=82,slow=2.6,SNR=1.7						

CATAC ***11*** *04:03:31.9±0.6, 14°N±3°×9°2W±°, h26km±3km, M3.3/13, MLv3.3/13, Error ellipse: s-maj=7.1km s-min=3.0km az=34.3, confirmed*

GCG ***11*** *04:03:34.6±1.1, 14°.27N×92°.08W, h42km±19km, MD3.9*

ISC 11 04:03:26.5±2.4, 13°.90N±0°.09×92°.3W±0°.1, h20km±8km, n23, σ1.9/66/30, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTAL	Retalhuleu	0.83	42	P	Pn	04 03 45.7	+2.6
RTAL				S	Sn	04 03 55.0	+0.2
STG2	El Palmar, Qui	1.02	58	*e*P	Pn	04 03 47.2	+1.5
STG2				*e*S	Sb	04 03 58.0	-0.5
STG0	El Palmar, Qui	1.04	60	*e*P	Pn	04 03 47.6	+1.5
STG8	El Palmar, Qui	1.05	58	*e*P	Pn	04 03 47.8	+1.6
STG8				*e*S	Sb	04 03 58.8	-0.6
SOKI	Kika Raxquin	1.24	43	*i* P	Pb	04 03 51.0	+1.5
SOKI				*e*S	Sn	04 04 05.2	-0.1
ESSG	Sabana Grande	1.48	71	*e*P	Pb	04 03 55.3	+2.0
ESSG				*e*S	Sb	04 04 11.8	+0.1
HUEH	Huehuetenango	1.59	28	P	Pb	04 03 55.1	-0.2
HUEH	Huehuetenango	1.59	28	S	Sn	04 04 12.4	-1.4
FG16	Alotenango, Sa	1.75	78	*e*P	Pn	04 03 55.7	-0.2
FG16				*e*S	Sn	04 04 12.3	-5.3
FAME	Alcaldia de Sa	2.19	91	P	Pb	04 04 07.6	+2.2
FAME	Alcaldia de Sa	2.19	91	S	Sb	04 04 34.2	+2.0
CCIG	Comitan	2.37	3	*e*P	Pb	04 04 07.6	-1.0
CCIG				*e*S	Sn	04 04 31.7	-1.3
CCIG	Comitan	2.37	3	P	Pn	04 04 05.3	+0.9
SLOZ	Alcaldia de Sa	2.42	87	S	Sb	04 04 38.3	-0.4
SLOZ	Alcaldia de Sa	2.42	87	P	Pb	04 04 10.1	+0.7
NUBE	Las Nubes	2.42	90	S	Sb	04 04 39.8	+0.9
NUBE	Las Nubes	2.42	90	P	Pb	04 04 09.9	+0.5
JAYA	Jayaque - finc	2.75	95	P	Pb	04 04 15.0	-0.2
JAYA	Jayaque - finc	2.75	95	S	Sb	04 04 47.8	-0.7
MTO3	Montecristo	2.87	80	P	Pb	04 04 15.8	-1.3
MTO3	Montecristo	2.87	80	S	Sb	04 04 50.2	-1.7
PMON	Piamonte	2.88	93	S	Sb	04 04 51.3	-0.8
PMON	Piamonte	2.88	93	P	Pb	04 04 16.5	-0.8

NEIC ***11*** *04:10:00.9±0.8, 36°.061N±0°.004×117°.85W±0°.01, h6km±1km, Error ellipse: s-maj=1.4km s-min=0.5km az=108.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr=1.24; Mθθ=1.82; Mϕϕ=3.06; Mrθ=0.59; Mθϕ=0.76; Mϕr=0.06; Fault plane solution: Mo=2.84000×10^15 NP1: ϕs=49.58000°, δ=69.69000°, λ=-22.42000°. NP2: ϕs=147.73000°, δ=69.05000°, λ=-158.18000°. Principal axes: T 3.1754, Plg=0.0000°, Azm=99.0000°; N -0.8979, Plg=60.0000°, Azm=189.0000°; P -2.2775, Plg=30.0000°, Azm=9.0000°;*

NEIC ***11*** *04:10:01.4, 36°.06N×117°.85W, h2km*

PAS ***11*** *04:10:01.4±1.1, 36°.056N±0°.009×117°.85W±0°.01, h2km±3km, Mwr4.3/6, mb4.2/37(NEIC), ML4.2/142(NEIC), Mwr4.2/175(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=63.0*

IDC ***11*** *04:10:02.0±0.7, 36°.11N×117°.73W, h0km, mb3.8/3, mbtmp3.7/10, ML3.7/7, MS3.5/24, Error ellipse: s-maj=13.2km s-min=5.3km az=71.0*

ISC 11 04:10:01.5±0.8, 36°.06N±0°.02×117°.84W±0°.02, h4km±5km, n200, σ0.85/174, mb4.2/15, MS3.5/22, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MFS	McCloud Flat S	0.06	348		Pg	04 10 02.8	-0.2
MFS					Sg	04 10 04.1	0.0
WRVM	Rose V. Centra	0.07	220		Pg	04 10 02.8	-0.2
WRVM					Sg	04 10 04.1	0.0
WCSM	Coso Springs S	0.07	118		Pg	04 10 03.0	0.0
WCSM					Sg	04 10 04.3	+0.2
JRC2	Joshua Ridge	0.08	162		Pg	04 10 03.2	-0.1
JRC2					Sg	04 10 04.7	+0.2
WVPM	Volcano Peak E	0.11	171		Pg	04 10 03.7	-0.1
WVPM					Sg	04 10 05.5	+0.2
WNMM	Nine Mile Cany	0.22	194		Pg	04 10 05.7	-0.1
TOW	Tower One	0.26	166		Pg	04 10 07.0	+0.5
TOW					Sg	04 10 10.6	+0.8
MPMC	Manual Prospec	0.28	90		Pg	04 10 07.0	0.0
MPMC				Sg	Sg	04 10 10.7	-0.1
MPMC				IAML		04 10 13.0	
	comp=E,37μm,0.7s						
SRTC	Snort	0.37	169		Pg	04 10 09.2	+0.5
SRTC					Sg	04 10 15.2	+1.6
CWC	Cottonwood Cre	0.43	333		Pg	04 10 09.5	-0.3
CWC				Sg	Sg	04 10 15.3	-0.1
CWC				IAML		04 10 16.1	
	comp=E,17μm,0.2s						
WORM	Onyx Ranch	0.49	222		Pg	04 10 10.5	-0.4
WORM					Sg	04 10 17.1	-0.1
CGO	Cerro Gordo	0.49	3		Pg	04 10 10.8	-0.2
WHFM	Hanning Flat	0.55	229		Pg	04 10 11.8	-0.3
WHFM					Sg	04 10 19.4	+0.3
WBSM	Bird Springs	0.57	205		Pg	04 10 12.2	-0.3
WBSM					Sg	04 10 19.9	-0.1
LRMC	Laurel Mtn Rad	0.59	167		Pg	04 10 12.7	-0.2
LRMC				IAML		04 10 23.7	
	comp=N,8μm,0.6s						
LRMC	Laurel Mtn Rad	0.59	167		Sg	04 10 20.9	+0.4
ISA	Isabella, Lake	0.65	233		Pg	04 10 13.6	-0.3
ISA	Isabella, Lake	0.65	233	IAML		04 10 23.0	
	comp=N,8μm,0.4s						
ISA				IAML		04 10 23.0	
	comp=E,7μm,0.7s						
CCCA	Chr Cany lake	0.66	144		Pg	04 10 14.4	+0.3
WASM	Alta Sierra Ca	0.66	242		Pg	04 10 13.9	-0.3
SPG2	Springville 2	0.76	281		Pg	04 10 15.5	-0.7
DTP	Desert Tortois	0.79	180		Pg	04 10 16.1	-0.4
QSM	Queen of Sheba	0.79	96		Pg	04 10 16.5	-0.2
QSM	Queen of Sheba	0.79	96	IAML		04 10 21.5	
	comp=N,10μm,0.5s						
QSM				IAML		04 10 21.7	
	comp=E,9μm,0.4s						
FURC	Furnace Creek,	0.89	62		Pg	04 10 18.9	+0.4
CCAC	Calif City Air	0.92	189		Pg	04 10 18.5	-0.5
CCAC					Sg	04 10 31.4	+0.6
GWY	Greenwater Val	0.96	82	Pg	Pg	04 10 19.6	-0.2
GRAC	Grapevine Rang	1.01	22		Pg	04 10 20.5	-0.4
GRAC	Grapevine Rang	1.01	22	IAML		04 10 43.5	
	comp=E,11μm,0.8s						
GRAC				IAML		04 10 44.5	
	comp=N,10μm,0.9s						
VES	Vestal, Richgr	1.03	258		Pg	04 10 20.8	-0.5
TIN	Tinemaha, Big	1.04	343		Pg	04 10 21.2	-0.3
TEJ	El Tejon	1.08	220		Pg	04 10 21.2	-0.9
MAGC	SCE Magundon P	1.12	232		Pg	04 10 21.8	-1.2
SGV	South Grapevin	1.13	35		Pg	04 10 22.6	-0.5
GSC	Goldstone, Bar	1.13	132		Pg	04 10 22.4	-0.7
GSC	Goldstone, Bar	1.13	132	IAML		04 10 43.2	
	comp=E,8μm,1.1s						
GSC				IAML		04 10 44.4	
	comp=N,4μm,0.8s						
EDW2	Edwards Air Fo	1.18	186		Pg	04 10 23.0	-1.1
LCH	Last Change Ra	1.18	8		Pg	04 10 23.1	-1.1
HYS	Haystack Butte	1.21	169		Pg	04 10 23.8	-0.9
HYS					Sg	04 10 40.7	+0.3
TPO	Tropico Hills	1.22	195		Pg	04 10 23.9	-0.9
TPO					Sg	04 10 40.4	-0.2
TPO	Tropico Hills	1.22	195	IAML		04 10 47.8	
	comp=E,5μm,1.0s						
TPO				IAML		04 10 53.2	
	comp=N,3μm,0.9s						
WCT	Wildcat Mounta	1.22	53		Pg	04 10 24.3	-0.6
WCT	Wildcat Mounta	1.22	53	IAML		04 10 44.5	
	comp=N,4μm,0.7s						
WCT				IAML		04 10 47.2	
	comp=E,6μm,0.7s						
ARVC	Arvin	1.23	221		Pg	04 10 24.4	-0.7
BAKC	Calstate	1.25	236		Pg	04 10 25.3	-0.2
TJR	Tejon Ranch	1.27	216		Pg	04 10 24.6	-1.1
VOLC	Valley Oaks Go	1.28	282		Pg	04 10 25.0	-0.9
SHOC	Shoshone, Teco	1.28	97		Pg	04 10 25.2	-0.8
DSP	Deep Springs	1.31	355		Pg	04 10 25.4	-1.3
DSP	Deep Springs	1.31	355	IAML		04 10 45.2	
	comp=E,2μm,0.8s						
AMDNV	Amargosa	1.32	72		Pg	04 10 25.8	-1.0
GMN	Gold Mountain	1.32	20		Pg	04 10 26.1	-0.8
GMN	Gold Mountain	1.32	20	IAML		04 10 51.0	
	comp=E,3μm,0.7s						
GMN				IAML		04 10 51.1	
	comp=N,3μm,0.6s						
THC	Tehachapi Micr	1.33	211		Pg	04 10 25.6	-1.3
BHPR	Bishop	1.34	337		Pg	04 10 26.5	-0.8
RRX	Edison Barstow	1.37	150		Pn	04 10 26.8	-0.5
SBB	Saddle Back Bu	1.37	180		Pn	04 10 26.3	-1.0
MTUM	Tungsten Hills	1.42	336		Pn	04 10 27.8	-0.4
ALPC	Antelope	1.42	196		Pn	04 10 27.4	-0.6
LEOC	Leona Valley	1.47	195		Pn	04 10 28.2	-0.7
BTPC	Burnt Peak	1.50	204		Pn	04 10 29.0	-0.3
LRRC	Littlerock Res	1.54	186		Pn	04 10 28.9	-0.6
ADO	Adelanto Recei	1.54	167		Pb	04 10 30.4	-0.2
CJV	Casa Juvan	1.54	189		Pn	04 10 29.1	-0.7
VTV	Victorville	1.55	164		Pn	04 10 30.2	+0.3
TPNV	Topopah Spring	1.56	55		Pn	04 10 29.9	-0.2
HOLC	Holcomb Ridge	1.60	180		Pn	04 10 29.8	-0.8
JNH	Juniper Hills	1.61	183		Pn	04 10 30.1	-0.7
OSI	Osito Audit: C	1.61	207		Pn	04 10 30.3	-0.4
OSI	Osito Audit: C	1.61	207	IAML		04 11 02.0	
	comp=E,3μm,0.9s						
OSI				IAML		04 11 02.5	
	comp=N,2μm,0.6s						
MPI	Mount Pinos, F	1.64	221		Pn	04 10 31.1	-0.2
TUQ	Turquoise Moun	1.68	111		Pn	04 10 30.8	-0.9
MZP	Montezuma Peak	1.68	12		Pn	04 10 31.8	-0.1
DSCC	Desert Studies	1.68	122		Pn	04 10 30.8	-0.8
BCW	Bitter Crk WRg	1.70	229		Pn	04 10 32.1	+0.2
PDE	Pardee, Santa	1.72	201		Pn	04 10 33.1	+0.9
CHFC	Chilao Flat St	1.73	185		Pn	04 10 31.7	-0.7
HEC	Hector,Ludlow	1.73	135		Pn	04 10 31.5	-0.9
KCC	Kaiser Creek	1.73	317		Pn	04 10 33.1	+0.6
CRGC	Crocker Grade	1.74	243		Pn	04 10 33.2	+0.7
BENR	Benton	1.76	341		Pn	04 10 33.4	+0.5
MLAC	Mammoth, Mammo	1.76	333		Pb	04 10

comp=E,823nm,1.3s
WAKR IAML 04 11 41.4
comp=N,689nm,1.5s
Q09A Carvers 2.82 10 Pn 04 10 46.9 -0.6
CMB Columbia Colle 2.84 315 Pn 04 10 47.6 0.0
CMB IAML 04 11 32.2
comp=E,1μm,0.7s
R11B Troy Canyon, C 2.91 38 Pn 04 10 48.2 -0.5
R11B IAML 04 11 35.8
comp=E,806nm,1.3s
R11B IAML 04 11 36.6
comp=N,469nm,0.9s
NEE2 Needles Airpor 2.93 115 Pn 04 10 47.6 -1.1
NEE2 IAML 04 11 40.2
comp=N,1μm,0.8s
NEE2 IAML 04 11 52.3
comp=E,999nm,0.8s
SAO San Andreas Ge 2.99 285 Pn 04 10 49.9 +0.2
W13A Hualapai Mount 3.36 105 IAML 04 12 06.8
comp=N,374nm,1.2s
BLYC Blythe 3.57 129 IAML 04 11 58.4
comp=N,366nm,1.1s
BLYC IAML 04 11 58.4
comp=E,265nm,1.1s
PAHR Pah Rah Range 3.84 342 IAML 04 12 15.7
comp=E,263nm,1.5s
CCUT Cedar City 3.89 66 IAML 04 12 14.5
comp=N,222nm,1.9s
SPR3 Spring Creek 3 4.05 42 IAML 04 12 13.2
comp=E,526nm,0.9s
KNB Kanab 4.15 75 IAML 04 12 22.4
comp=N,297nm,1.5s
KNB IAML 04 12 23.9
comp=E,234nm,1.2s
Y14A Wickenburg 4.50 117 IAML 04 12 36.1
comp=N,349nm,1.2s
Y14A IAML 04 12 42.3
comp=E,205nm,1.9s
113A Mohawk Valley, 4.70 133 IAML 04 13 04.9
comp=E,117nm,2.9s
ELK Elko 5.11 23 IAML 04 12 49.5
comp=E,117nm,0.8s
ELK Elko 5.11 23 Pn **Pn 04 11 20.0 +1.1**
comp=E,6.0nm,0.3s,baz=212,slow=9.3,SNR=82
ELK Pg **Pb 04 11 32.6 +1.2**
comp=E,11nm,0.3s,baz=222,slow=13,SNR=26
ELK Lg Lg 04 12 41.6
comp=E,14nm,0.3s,baz=300,slow=22,SNR=8.6
comp=E,14nm,0.3s
WUAZ Wupatki 5.28 94 IAML 04 12 03.1
comp=E,208nm,1.1s
WUAZ IAML 04 13 05.0
comp=E,205nm,1.5s
YBH Yreka Blue Hor 6.82 328 Pn **Pn 04 11 44.9 +2.6**
baz=156,slow=7.0,SNR=9.5
YBH Pg **Pb 04 11 58.7 -1.9**
baz=172,slow=9.5,SNR=6.0
YBH Sn **Sn 04 13 02.8 +2.4**
baz=181,slow=13,SNR=4.4
YBH Lg Lg 04 13 32.7
baz=20,slow=4.3,SNR=3.2
HWUT Hardware Ranch 7.39 40 Pn **Pn 04 11 50.6 +0.3**
PV18 Skein Mesa, Pa 7.46 70 Pn **Pn 04 11 51.0 -0.2**
PV22 Blue Mesa, Par 7.63 68 Pn **Pn 04 11 53.2 -0.3**
DUN6 Lazy B Ranch 8.04 113 Pn **Pn 04 11 58.5 -0.6**
TPAW Teton Pass 9.12 33 Pn **Pn 04 12 13.6 -0.5**
PDAR Pinedale Array 9.27 41 Pn **Pn 04 12 16.2 +0.1**
PDAR Pinedale Array 9.27 41 Pn **Pn 04 12 17.2 +1.2**
comp=E,0.1nm,0.3s,baz=224,slow=13,SNR=10
PDAR Pg 04 12 41.4
comp=E,0.1nm,0.3s,baz=234,slow=10,SNR=5.4
PDAR Lg Lg 04 14 51.3
comp=E,0.1nm,0.3s,baz=207,slow=16,SNR=2.0
PDAR LR LR 04 15 25.7
comp=E,73nm,18.4s,baz=230,slow=35
comp=E,1.5nm,0.9s
ANMO Albuquerque 9.35 93 Pn **Pn 04 12 19.2 +2.1**
ANMO Albuquerque 9.35 93 Pn **Pn 04 12 18.0 +0.9**
comp=E,0.2nm,0.3s,baz=25,slow=5.1,SNR=4.4
ANMO Pg 04 12 50.4
comp=E,0.3nm,0.3s,baz=3.7,slow=12,SNR=10.0
comp=E,0.7nm,0.3s
MCMT McKenzie Canyo 9.55 22 Pn **Pn 04 12 19.9 0.0**
BPMT Black Pine Rid 10.88 16 Pn **Pn 04 12 38.8 +0.6**
K22A Casper 10.95 50 Pn **Pn 04 12 38.6 -0.5**
MNTX Cornudas Mount 11.23 109 Pn **Pn 04 12 42.4 -0.4**
RTBA Rita Blanca 12.20 84 Pn **Pn 04 12 57.7 +1.6**
NEW Newport 12.21 2 Pn **Pn 04 12 58.0 +1.9**
comp=E,0.1nm,0.3s,baz=167,slow=5.5,SNR=4.0
NEW Lg Lg 04 16 22.9
comp=E,0.1nm,0.3s,baz=232,slow=19,SNR=2.0
comp=E,0.7nm,0.4s
ALPN Alpine 13.17 111 Pn **Pn 04 13 09.4 0.0**
RSSD Black Hills 13.27 48 Pn **Pn 04 13 09.0 -1.8**
LPIG La Paz 13.57 149 LR LR 04 18 18.3
comp=E,140nm,19.0s,baz=346,slow=37
TXAR Lajitas Array 13.68 115 Pn **Pn 04 13 18.0 +1.7**
TXAR Lajitas Array 13.68 115 Pn **Pn 04 13 18.5 +2.2**
comp=E,0.1nm,0.3s,baz=292,slow=11,SNR=21
TXAR Lg Lg 04 17 13.6
baz=285,slow=30,SNR=5.2
comp=E,0.7nm,0.7s
SN05 Snyder 5 14.34 98 Pn **Pn 04 13 24.6 -0.8**
SMWD Samnorwood 14.36 89 Pn **Pn 04 13 24.3 -1.2**
OZNA Ozona 14.85 105 Pn **Pn 04 13 30.3 -1.9**
WTFS Witchita Falls 16.06 93 Pn **Pn 04 13 47.7 -0.4**
X34A Smith Ranch, M 16.39 89 Pn **Pn 04 13 52.5 +0.1**
X34A IAmb IAmb 04 14 01.2
comp=Z,33nm,1.2s
PLPT Palo Pinto 16.43 96 Pn **Pn 04 13 53.1 +0.3**
PLPT IAmb IAmb 04 14 01.4
comp=Z,37nm,1.3s
WHTX Lake Whitney, 17.37 98 Pn **Pn 04 14 04.7 -0.1**
WHTX IAmb IAmb 04 14 11.7
comp=Z,24nm,1.2s
833A Chaparral WMA, 17.40 111 Pn **Pn 04 14 04.4 -0.7**
833A IAmb IAmb 04 14 12.5
comp=Z,20nm,1.0s
TUL3 Leonard 17.84 84 Pn **Pn 04 14 10.0 -0.6**
TUL3 IAmb IAmb 04 14 17.1
comp=Z,24nm,1.2s
U38A Gravette 18.92 82 P **P 04 14 22.6 -0.5**
Z38A Mt. Pleasant 19.00 92 P **P 04 14 23.1 -0.9**
Z38A IAmb IAmb 04 14 28.6
comp=Z,28nm,1.1s
MIAR Mount Ida 19.85 87 P **P 04 14 33.7 +0.3**
AGMN Agassiz Nation 20.29 46 P 04 14 36.1 -1.9
WLAR White Oak Lake 20.41 89 P **P 04 14 38.8 -0.7**
WHAR Wooly Hollow 20.76 85 P 04 14 41.9 -1.3
WHAR IAmb IAmb 04 14 47.0
comp=Z,13nm,1.1s
SPMN Marine on St. 21.02 56 P **P 04 14 45.3 -0.7**
SPMN IAmb IAmb 04 14 52.5
comp=Z,9.3nm,0.9s
ULM Lac du Bonnet 21.29 41 P **P 04 14 49.1 +0.3**
comp=Z,4.4nm,0.9s,baz=226,slow=9.4,SNR=8.2
comp=Z,4.4nm,0.9s
LCAR Lake Charles 21.55 82 P 04 14 50.2 -1.6
FFC Flin Flon 21.64 25 P 04 14 51.0 -1.6
FFC IAmb IAmb 04 14 59.0
comp=Z,8.9nm,0.8s
PBMO Poplar Bluff 22.05 80 IAmb IAmb 04 15 01.0
comp=Z,14nm,1.2s
DLBC Dease Lake 23.79 344 P **P 04 15 15.7 +0.7**
comp=Z,0.2nm,1.0s,baz=115,slow=15,SNR=3.6
DLBC LR LR 04 25 31.4
comp=Z,33nm,18.1s,baz=140,slow=39
PLAL Pickwick Lake 24.21 84 P 04 15 17.9 -1.2
SFIN Lafayette 24.47 71 P 04 15 21.3 -0.1
R33M Jennings River 24.87 344 IAmb IAmb 04 15 30.1
comp=Z,5.4nm,1.4s
YKAW1 Yellowknife Wh 26.53 3 P 04 15 40.3 +0.4
YKAW1 IAmb IAmb 04 15 43.6
comp=Z,7.0nm,1.1s
YKA Yellowknife Ar 26.54 3 P **P 04 15 40.2 +0.3**
comp=Z,1.9nm,0.8s,baz=185,slow=9.0,SNR=7.8
YKA LR LR 04 27 58.4
comp=Z,85nm,19.6s,baz=198,slow=41
comp=Z,1.9nm,0.8s
CMIG Matias Romero 27.78 127 LR LR 04 27 39.5
comp=Z,84nm,19.5s,baz=237,slow=38
SADO Sadowa 30.48 61 LR LR 04 29 11.5
comp=Z,199nm,21.1s,baz=278,slow=38
SCRK Sand Creek 32.14 339 IAmb IAmb 04 16 37.8
comp=Z,3.3nm,1.0s
I28M Miner Creek 32.21 343 P 04 16 29.6 -0.8
I28M IAmb IAmb 04 16 37.7
comp=Z,2.6nm,0.8s
INK Inuvik 33.48 350 LR LR 04 32 03.2
comp=Z,121nm,20.6s,baz=118,slow=40
ILAR Eielson Array 33.59 338 P **P 04 16 45.0 +2.7**
comp=Z,1.0nm,0.8s,baz=151,slow=7.3,SNR=12
ILAR LR LR 04 30 18.8
comp=Z,75nm,21.0s,baz=190,slow=36
comp=Z,1.0nm,0.8s
BPAW Bear Paw Mtn. 34.47 335 IAmb IAmb 04 16 57.3
comp=Z,3.1nm,1.0s
K20K Telida 35.14 332 P 04 16 57.1 +1.3
K20K IAmb IAmb 04 17 02.1
comp=Z,4.0nm,0.8s
L18K Granite Mounta 35.57 330 IAmb IAmb 04 17 05.7
comp=Z,3.7nm,1.1s
J20K Nowinta River 35.63 334 P 04 16 59.6 -0.4
J20K IAmb IAmb 04 17 05.7
comp=Z,2.7nm,0.9s
J19K Poorman 36.07 333 P 04 17 03.6 -0.2
L16K Owhat River 36.51 328 P 04 17 07.6 +0.1
RES Resolute Bay 40.25 9 LR LR 04 36 09.7
comp=Z,64nm,21.6s,baz=190,slow=39
FRB Frobisher Bay 40.54 31 LR LR 04 32 56.2
comp=Z,38nm,21.4s,baz=272,slow=34
SJG San Juan 48.79 97 LR LR 04 42 44.0
comp=Z,31nm,18.1s,baz=334,slow=40
SHEM Shemya Is, Ala 49.51 312 LR LR 04 37 59.0
comp=Z,40nm,18.2s,baz=120,slow=34
ROSC El Rosal 50.61 117 LR LR 04 43 28.9
comp=Z,52nm,18.8s,baz=236,slow=40
SDV Santo Domingo 50.66 110 LR LR 04 42 16.3
comp=Z,68nm,21.5s,baz=286,slow=38
PCRV Puerto La Cruz 54.50 104 LR LR 04 46 01.8
comp=Z,39nm,18.0s,slow=40
ATAH Atahualpa 56.73 131 LR LR 04 40 44.6
comp=Z,46nm,21.3s,baz=186,slow=32
SEY Seynchan 58.50 328 LR LR 04 42 23.5
comp=Z,48nm,19.2s,baz=194,slow=33
TIXI Tiksi 62.98 341 LR LR 04 49 23.8
comp=Z,41nm,19.3s,baz=67,slow=38
MDP Montagnes des 67.02 101 LR LR 04 52 39.1
comp=Z,32nm,20.5s,baz=309,slow=38
YAK Yakutsk 68.24 332 LR LR 04 50 52.6
comp=Z,41nm,18.3s,baz=50,slow=36
NRIK Norilʹsk 73.26 351 LR LR 04 56 19.7
comp=Z,24nm,20.3s,baz=74,slow=38
NOA NORSAR Array B 74.72 23 LR LR 04 55 41.0
comp=Z,23nm,18.2s,baz=290,slow=37
KLR Kulʹdur 75.09 321 LR LR 04 53 09.9
comp=Z,30nm,19.6s,baz=217,slow=34
HFS Hagfors 76.21 23 LR LR 04 57 41.2
comp=Z,29nm,18.6s,baz=308,slow=38

NEIC ***11*** *04:18:48.9±0.8,36.06N±0.01×117.85W±0.01,h5km±4km, Error ellipse: s-maj=1.8km s-min=1.4km az=171.0*

PAS 11 04:18:49.3±1.2,36.062N±0.010×117.851W±0.003, h1km±1km,Mwr3.5/4,ML3.1/162(NEIC),**Error ellipse: s-maj=1.5km s-min=0.4km az=177.0,California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.06**	**357**		Pg	04 18 50.8	+0.4
WRVM	**Rose V. Centra**	**0.06**	**210**		Pg	04 18 50.9	+0.3
JRC2	**Joshua Ridge**	**0.09**	**157**		Pg	04 18 51.2	+0.2
WVPM	**Volcano Peak E**	**0.12**	**166**		Pg	04 18 51.8	+0.2
WNMM	**Nine Mile Cany**	**0.22**	**191**		Pg	04 18 53.8	+0.2
WNMM					Sg	04 18 57.3	+0.8
MPMC	**Manual Prospec**	**0.29**	**91**	Pg	Pg	04 18 55.1	+0.1
MPMC				Sg	Sg	04 18 59.2	+0.5
CWC	**Cottonwood Cre**	**0.42**	**334**		Pg	04 18 57.4	0.0
CWC					IAML	04 19 03.7	
	comp=N,1μm,0.2s						
CWC					IAML	04 19 03.8	
	comp=E,1μm,0.3s						
CWC	**Cottonwood Cre**	**0.42**	**334**		Sg	04 19 03.7	+0.8
WORM	**Onyx Ranch**	**0.48**	**221**		Pg	04 18 58.6	0.0
CGO	**Cerro Gordo**	**0.49**	**5**		Pg	04 18 58.8	0.0
WSHM	**Spangler Hills**	**0.55**	**148**	Pg	Pg	04 18 59.8	0.0
WSHM				Sg	Sg	04 19 07.2	+0.4
WSHM					IAML	04 19 08.1	
	comp=E,2μm,0.3s						
WBSM	**Bird Springs**	**0.57**	**204**		Pg	04 19 00.4	+0.1
LRMC	**Laurel Mtn Rad**	**0.60**	**167**		Pg	04 19 00.9	+0.2
LRMC				Sg	Sg	04 19 09.0	+0.5
LRMC					IAML	04 19 09.6	
	comp=E,2μm,0.4s						
LRMC					IAML	04 19 11.0	
	comp=N,2μm,0.2s						
ISA	**Isabella, Lake**	**0.64**	**232**		Pg	04 19 01.8	+0.1
ISA				Sg	Sg	04 19 10.0	0.0
CCCA	**Chr Cany lake**	**0.67**	**143**	Sg	Sg	04 19 11.0	+0.3
SPG2	**Springville 2**	**0.75**	**281**		Pg	04 19 03.5	-0.2
QSM	**Queen of Sheba**	**0.80**	**97**		Pg	04 19 04.6	-0.1
QSM					IAML	04 19 06.8	
	comp=E,856nm,0.4s						
QSM					IAML	04 19 07.0	
	comp=N,824nm,0.5s						
QSM					Sg	04 19 15.0	-0.1
CCAC	**Calif City Air**	**0.92**	**188**		Pg	04 19 06.6	-0.3
GWY	**Greenwater Val**	**0.96**	**82**		Pg	04 19 07.5	-0.3
GWY					IAML	04 19 25.5	
	comp=E,590nm,0.5s						
GWY					IAML	04 19 27.4	
	comp=N,614nm,0.6s						
GRAC	**Grapevine Rang**	**1.01**	**23**		Pg	04 19 08.3	-0.4
GRAC					IAML	04 19 31.1	
	comp=N,847nm,0.7s						
GRAC					IAML	04 19 31.3	
	comp=E,688nm,0.9s						
GSC	**Goldstone, Bar**	**1.14**	**131**		Pg	04 19 10.4	-0.8
GSC					IAML	04 19 29.8	
	comp=E,698nm,0.6s						
GSC					IAML	04 19 32.6	
	comp=N,358nm,0.7s						
TPO	**Tropico Hills**	**1.22**	**195**		Pg	04 19 11.8	-0.9
TPO					IAML	04 19 33.5	
	comp=N,662nm,0.9s						
TPO					IAML	04 19 33.8	
	comp=E,568nm,0.7s						
WCT	**Wildcat Mounta**	**1.23**	**53**		Pg	04 19 12.2	-0.7
WCT					IAML	04 19 32.3	
	comp=E,267nm,1.3s						
VOG	**Valley Oaks Go**	**1.27**	**282**		Pg	04 19 13.1	-0.4
DSP	**Deep Springs**	**1.31**	**356**		Pg	04 19 13.5	-0.9
GMN	**Gold Mountain**	**1.32**	**21**		Pg	04 19 14.0	-0.7
GMN					IAML	04 19 36.0	
	comp=N,272nm,0.5s						
GMN					IAML	04 19 38.9	
	comp=E,189nm,0.7s						
TPNV	**Topopah Spring**	**1.56**	**55**		Pn	04 19 17.8	-0.7
TPNV					IAML	04 19 44.0	
	comp=E,336nm,0.7s						
TPNV					IAML	04 19 45.4	
	comp=E,309nm,1.0s						
OSI	**Osito Audit: C**	**1.61**	**207**		Pn	04 19 18.7	-0.3
OSI					IAML	04 19 47.0	
	comp=E,316nm,0.6s						
OSI					IAML	04 19 48.1	
	comp=N,195nm,0.6s						
MZP	**Montezuma Peak**	**1.68**	**13**		Pn	04 19 19.6	-0.5
KCC	**Kaiser Creek**	**1.73**	**317**		Pn	04 19 21.1	+0.5
CRGC	**Crocker Grade**	**1.73**	**242**		Pb	04 19 21.6	-0.4
MLAC	**Mammoth, Mammo**	**1.75**	**334**		Pb	04 19 22.2	-0.2
BFSC	**Mount Baldy Ra**	**1.83**	**175**		Pn	04 19 21.0	-1.0
BFSC					IAML	04 19 49.2	
	comp=E,152nm,0.7s						
BFSC					IAML	04 19 49.5	
	comp=N,117nm,0.4s						
MWC	**Mount Wilson**	**1.84**	**185**		Pn	04 19 21.4	-0.8
MWC					IAML	04 19 49.9	
	comp=E,177nm,0.7s						
MWC					IAML	04 19 50.1	
	comp=N,239nm,0.5s						
SMMC	**Simmler**	**1.90**	**247**		Pn	04 19 23.7	+0.8
PASC	**Pasadena Art C**	**1.91**	**188**		Pn	04 19 22.2	-0.8
PASC					IAML	04 19 53.2	
	comp=E,127nm,0.6s						
PASC					IAML	04 19 54.2	
	comp=N,107nm,0.5s						
MTPC	**Mountain Pass**	**1.96**	**106**		Pn	04 19 22.5	-1.3
MTPC					IAML	04 19 54.7	
	comp=N,88nm,1.1s						
MTPC					IAML	04 19 54.9	
	comp=E,95nm,0.6s						
TPH	**Tonopah**	**2.07**	**14**		Pn	04 19 25.3	-0.1
SHPR	**Sheep Range**	**2.22**	**78**		Pn	04 19 26.6	-0.9
LHV	**Little Huntoon**	**2.25**	**347**		Pn	04 19 27.5	-0.1
LHV					IAML	04 20 11.5	
	comp=N,91nm,1.6s						
LHV					IAML	04 20 20.0	
	comp=E,100nm,0.8s						
S11A	**Rachel**	**2.31**	**46**		Pn	04 19 28.9	+0.2
S11A					IAML	04 20 05.6	
	comp=N,180nm,0.9s						
NV11	**Mina Array Sit**	**2.38**	**354**		Pn	04 19 29.4	-0.2
NVAR	**Mina Array Bea**	**2.39**	**351**	Pn	Pn	04 19 29.6	-0.3
PMPB	**Monarch Peak**	**2.39**	**275**		Pn	04 19 30.9	+1.2
ELS	**Elsinore Mount**	**2.43**	**172**		Pn	04 19 29.3	-1.0
V12A	**Nelson**	**2.46**	**97**		Pn	04 19 29.7	-1.0
DGR	**Domenigoni Val**	**2.50**	**164**		Pn	04 19 30.7	-0.5
RYN	**Ryan**	**2.62**	**348**	Pn	Pn	04 19 32.8	-0.1
PRN	**Pahroc Range**	**2.62**	**58**		Pn	04 19 32.6	-0.4
PRN					IAML	04 20 21.2	
	comp=N,100nm,0.8s						
PRN					IAML	04 20 22.9	
	comp=E,116nm,0.8s						
BBGB	**Big Mountain B**	**2.63**	**282**	Pn	Pn	04 19 32.6	-0.4
GATR	**Gnd/Air Tx Cnt**	**2.64**	**236**		Pn	04 19 29.7	-3.4
PMD	**Palm Desert**	**2.70**	**153**		Pn	04 19 32.9	-1.0
PFO	**Pinyon Flats O**	**2.70**	**155**		Pn	04 19 32.9	-1.1
WAKR	**Walker**	**2.75**	**333**	Pn	Pn	04 19 35.1	+0.4
WAKR					IAML	04 20 21.7	
	comp=N,44nm,0.7s						
WAKR					IAML	04 20 22.3	
	comp=E,61nm,0.5s						
CMB	**Columbia Colle**	**2.83**	**315**		Pn	04 19 35.5	-0.2
CMB					IAML	04 20 21.2	
	comp=E,77nm,0.6s						
CMB					IAML	04 20 21.5	
	comp=N,108nm,0.8s						
R11B	**Troy Canyon, C**	**2.91**	**38**		Pn	04 19 36.4	-0.6
R11B					IAML	04 20 25.3	
	comp=E,47nm,1.2s						
NEE2	**Needles Airpor**	**2.94**	**115**	Pn	Pn	04 19 37.5	+0.3
NEE2					IAML	04 20 31.8	
	comp=E,100nm,0.6s						
NEE2					IAML	04 20 41.2	
	comp=N,108nm,0.7s						
SAO	**San Andreas Ge**	**2.98**	**285**		Pn	04 19 37.4	-0.4
BORC	**Borrego Spring**	**3.03**	**157**		Pn	04 19 37.6	-0.8
BORC					IAML	04 20 28.5	
	comp=E,82nm,0.8s						
BORC					IAML	04 20 28.5	
	comp=N,52nm,0.7s						
DPP	**Dos Picos Cty**	**3.15**	**166**		IAML	04 20 32.6	
	comp=E,35nm,0.7s						
BLYC	**Blythe**	**3.58**	**129**		IAML	04 20 44.6	
	comp=E,24nm,0.6s						
BLYC					IAML	04 20 45.6	
	comp=N,26nm,1.1s						
MPK	**Martis Peak**	**3.66**	**332**		IAML	04 21 01.3	
	comp=E,57nm,0.5s						
AFDM	**Forest Hills D**	**3.80**	**320**		IAML	04 20 49.9	
	comp=E,54nm,0.5s						
GLA	**Glamis**	**3.91**	**139**		IAML	04 20 57.8	
	comp=N,38nm,0.7s						
GLA					IAML	04 21 10.0	
	comp=E,43nm,0.8s						
PSUT	**Pine Spring**	**4.03**	**51**		IAML	04 21 00.5	
	comp=E,37nm,1.0s						
PSUT					IAML	04 21 02.8	
	comp=N,35nm,1.2s						
SPR3	**Spring Creek 3**	**4.05**	**43**		IAML	04 20 59.7	
	comp=N,27nm,1.1s						
SPR3					IAML	04 20 59.7	
	comp=E,28nm,0.8s						
BEKR	**Beckworth**	**4.28**	**333**		IAML	04 21 17.5	
	comp=E,38nm,0.6s						
BEKR					IAML	04 21 18.3	
	comp=N,25nm,0.6s						
ESJX	**Sierra Juarez**	**4.34**	**158**		IAML	04 21 09.6	
	comp=E,13nm,1.0s						
Y14A	**Wickenburg**	**4.51**	**117**		IAML	04 21 22.7	
	comp=E,16nm,0.4s						
Y14A					IAML	04 21 39.4	
	comp=N,20nm,0.4s						
U15A	**North Rim**	**4.51**	**84**		IAML	04 21 25.5	
	comp=N,13nm,1.1s						
U15A					IAML	04 21 27.5	
	comp=E,20nm,1.2s						
ELK	**Elko**	**5.11**	**23**		IAML	04 21 32.4	
	comp=E,7.2nm,0.8s						
WUAZ	**Wupatki**	**5.29**	**94**		IAML	04 20 54.0	
	comp=E,12nm,1.2s						
WUAZ					IAML	04 21 53.7	
	comp=E,13nm,1.9s						

NEIC ***11*** *04:25:28.9±1.5,7.54S±0.10×126.88E±0.09,h297km±7km, mb4.2/9, Error ellipse: s-maj=14.1km s-min=12.2km az=160.0*

IDC ***11*** *04:25:30.6±3.9,7.80S×127.01E,h275km±52km,mb3.3/1, mbtmp3.9/4, Error ellipse: s-maj=61.2km s-min=23.1km az=66.0*

ISC 11 04:25:28.5±0.7,**7.62S**±0.07×**126.93E**±0.08,**h300**km,**n22,** σ1.556/25,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.12**	**231**	P	**Pn**	**04 26 37.2**	**+1.1**
	421nm,0.4s,baz=90,slow=6.1,SNR=40						
BATI				S	**S**	**04 27 29.2**	**-1.2**
	98nm,0.4s,baz=59,slow=5.9,SNR=7.1						
MTN	**Manton Dam**	**6.64**	**142**	Pn	**Pn**	**04 27 06.7**	**+1.1**
FAKI	**Fak Fak**	**7.06**	**49**	Pn	**Pn**	**04 27 09.3**	**-1.4**
KNRA	**Kununurra**	**8.21**	**168**	Pn	**Pn**	**04 27 22.4**	**-2.3**
FITZ	**Fitzroy Crossi**	**10.49**	**187**	P	**Pn**	**04 27 52.8**	**+0.1**
	3.1nm,0.6s,baz=12,slow=12,SNR=5.8						
FITZ				S	**S**	**04 29 50.9**	**+0.3**
	1.4nm,0.6s,baz=80,slow=17,SNR=1.5						
WB0	**Warramunga Arr**	**14.08**	**150**	P	**P**	**04 28 36.8**	**+1.2**
WRA	**Warramunga Arr**	**14.20**	**150**		**P**	**04 28 37.3**	**+0.4**
WRA	**Warramunga Arr**	**14.20**	**150**	P	**P**	**04 28 37.1**	**+0.2**
	0.6nm,0.3s,baz=326,slow=12,SNR=22						
WRA				S	**S**	**04 31 11.2**	**-2.1**
	2.0nm,0.7s,baz=324,slow=21,SNR=6.2						
WB2	**Warramunga Arr**	**14.21**	**150**	P	**P**	**04 28 37.9**	**+0.9**
WR8	**Warramunga Arr**	**14.29**	**150**		**P**	**04 28 39.2**	**+1.3**
WR0	**Warramunga Arr**	**14.32**	**150**		**P**	**04 28 39.2**	**+1.0**
MBWA	**Marble Bar**	**15.15**	**207**		**P**	**04 28 46.3**	**-1.0**
MBWA					IAmb	04 28 55.5	
	comp=Z,24nm,1.3s						
MYLDM	**Lahad Datu**	**15.24**	**326**	Pn	**Pn**	**04 28 50.3**	**+0.4**
MYLDM					IAmb	04 29 15.8	
	comp=Z,13nm,1.2s						
COEN	**Coen**	**17.15**	**113**	P	**P**	**04 29 10.4**	**+1.2**
COEN					IAmb	04 29 45.5	
	comp=Z,11nm,1.1s						
AS31	**Alice Springs**	**17.30**	**158**	P	**P**	**04 29 11.8**	**+1.0**
AS31					IAmb	04 29 13.0	
	comp=Z,2.7nm,0.3s						
ASAR	**Alice Springs**	**17.31**	**158**	P	**P**	**04 29 12.7**	**+1.8**
	comp=Z,3.1nm,0.3s,baz=333,slow=11,SNR=29						
ASAR				S	**S**	**04 32 17.3**	**+1.9**
	comp=Z,1.1nm,1.0s,baz=349,slow=24,SNR=5.5						
KURK	**Kurchatov**	**71.49**	**330**	P	**P**	**04 36 16.6**	**-0.2**
KURK					IAmb	04 37 00.4	
	comp=Z,2.8nm,0.4s						
VNDA	**Vanda**	**72.22**	**172**	P	**P**	**04 36 23.5**	**+2.7**
SBA	**Scott Base**	**73.14**	**172**	P	**P**	**04 36 27.4**	**+1.2**
QSPA	**South Pole Qui**	**82.36**	**180**	P	**P**	**04 37 13.6**	**-3.5**
SDPT	**Sand Point**	**86.49**	**33**	P	**P**	**04 37 38.5**	**+0.9**
ILAR	**Eielson Array**	**95.20**	**25**	P	P	04 38 23.1	+5.2
	comp=Z,0.2nm,0.8s,baz=268,slow=2.6,SNR=2.3						
	comp=Z,0.2nm,0.8s						

NEIC ***11*** *04:29:53.7±1.3,36.179N±0.004×117.87W±0.01, h2km±3km, Error ellipse: s-maj=1.7km s-min=0.5km az=80.0*

PAS 11 04:29:54.5±1.1,**36.178N**±0.007×**117.88W**±0.01, **h2**km±3km,**ML3.0**/24,**ML2.7**/142(NEIC),**Error ellipse: s-maj=1.7km s-min=0.7km az=62.0,California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC

MFS	**McCloud Flat S**	**0.06**	**163**			Pg	04 29 56.0	+0.2
JRC2	**Joshua Ridge**	**0.20**	**164**			Sg	04 30 01.7	+0.6
WVPM	**Volcano Peak E**	**0.23**	**168**			Pg	04 29 58.6	-0.4
CWC	**Cottonwood Cre**	**0.31**	**328**			Pg	04 30 00.5	0.0
CWC					Sg	Sg	04 30 04.1	-0.4
WNMM	**Nine Mile Cany**	**0.34**	**184**			Pg	04 30 00.8	-0.1
WNMM						Sg	04 30 06.0	+0.8
MPMC	**Manual Prospec**	**0.34**	**111**			Pg	04 30 00.8	-0.2
MPMC					Sg	Sg	04 30 05.7	+0.3
MPMC					IAML		04 30 09.9	
	comp=E,546nm,1.0s							
CGO	**Cerro Gordo**	**0.38**	**9**			Pg	04 30 01.6	-0.2
TOW	**Tower One**	**0.38**	**166**			Pg	04 30 02.2	+0.5
SRTC	**Snort**	**0.50**	**168**			Pg	04 30 04.5	+0.5
SRTC						Sb	04 30 12.3	-1.3
WHFM	**Hanning Flat**	**0.61**	**219**			Pg	04 30 06.0	-0.2
WSHM	**Spangler Hills**	**0.66**	**151**	Pg		Pg	04 30 06.8	-0.3
WSHM				IAML			04 30 13.7	
	comp=E,648nm,0.2s							
WSHM				IAML			04 30 16.1	
	comp=E,563nm,0.1s							
ISA	**Isabella, Lake**	**0.71**	**223**			Pg	04 30 07.7	-0.4
ISA				Sg		Sg	04 30 17.0	-0.2
ISA				IAML			04 30 19.4	
	comp=N,467nm,0.2s							
ISA				IAML			04 30 19.6	
	comp=E,432nm,0.2s							
LRMC	**Laurel Mtn Rad**	**0.71**	**167**			Pg	04 30 07.7	-0.5
LRMC						Sg	04 30 17.7	+0.3
LRMC				IAML			04 30 19.0	
	comp=E,573nm,0.2s							
SPG2	**Springville 2**	**0.72**	**272**			Pg	04 30 08.0	-0.3
CCCA	**Chr Cany lake**	**0.77**	**147**			Pg	04 30 09.3	0.0
QSM	**Queen of Sheba**	**0.84**	**104**			Pg	04 30 10.4	-0.3
QSM				IAML			04 30 29.6	
	comp=N,247nm,0.9s							
QSM				IAML			04 30 29.8	
	comp=E,261nm,0.6s							
GRAC	**Grapevine Rang**	**0.92**	**27**			Pg	04 30 11.5	-0.5
GRAC				IAML			04 30 27.3	
	comp=E,215nm,0.5s							
GRAC				IAML			04 30 28.9	
	comp=N,307nm,0.5s							
GWY	**Greenwater Val**	**0.98**	**89**			Pg	04 30 12.9	-0.4
GWY				IAML			04 30 30.1	
	comp=E,332nm,0.4s							
GWY				IAML			04 30 31.6	
	comp=N,250nm,0.5s							
WCT	**Wildcat Mounta**	**1.18**	**58**			Pg	04 30 16.6	-0.6
WCT				IAML			04 30 35.4	
	comp=E,246nm,0.5s							
WCT				IAML			04 30 35.8	
	comp=N,115nm,0.9s							
DSP	**Deep Springs**	**1.19**	**356**			Pg	04 30 16.2	-1.1
DSP						Sg	04 30 32.3	-0.5
DSP				IAML			04 30 34.0	
	comp=N,101nm,0.4s							
BHPR	**Bishop**	**1.22**	**337**			Pg	04 30 17.2	-0.7
VOG	**Valley Oaks Go**	**1.22**	**277**			Pg	04 30 17.4	-0.5
GMN	**Gold Mountain**	**1.23**	**24**			Pg	04 30 17.1	-0.9
GMN				IAML			04 30 37.3	
	comp=E,88nm,0.5s							
GSC	**Goldstone, Bar**	**1.23**	**135**	IAML			04 30 37.0	
	comp=N,106nm,0.3s							
GSC				IAML			04 30 40.9	
	comp=E,112nm,0.5s							
TPO	**Tropico Hills**	**1.33**	**193**			Pg	04 30 19.0	-1.0
TPO				IAML			04 30 42.1	
	comp=N,97nm,0.5s							
TPO				IAML			04 30 45.8	
	comp=E,95nm,0.8s							
TPNV	**Topopah Spring**	**1.52**	**59**			Pn	04 30 21.9	-1.0
TPNV				IAML			04 30 49.0	
	comp=E,88nm,0.9s							
TPNV				IAML			04 30 51.7	
	comp=E,99nm,0.7s							
MZP	**Montezuma Peak**	**1.57**	**14**			Pn	04 30 23.0	-0.6
BENR	**Benton**	**1.63**	**340**			Pn	04 30 24.8	+0.2
BFSC	**Mount Baldy Ra**	**1.94**	**175**	Pn		Pn	04 30 28.3	-0.3
BFSC				IAML			04 30 58.0	
	comp=E,42nm,0.5s							
BFSC				IAML			04 31 00.9	
	comp=N,37nm,0.6s							
MWC	**Mount Wilson**	**1.96**	**184**			Pn	04 30 28.5	-0.4
MWC				IAML			04 30 57.9	
	comp=E,59nm,0.7s							
MWC				IAML			04 30 58.1	
	comp=N,79nm,0.3s							
TPH	**Tonopah**	**1.96**	**15**			Pn	04 30 28.6	-0.5
TPH				IAML			04 31 10.5	
	comp=E,99nm,0.9s							
PASC	**Pasadena Art C**	**2.02**	**187**	Pn		Pn	04 30 29.5	0.0
LHV	**Little Huntoon**	**2.13**	**347**			Pn	04 30 31.4	+0.4
LHV				IAML			04 31 04.6	
	comp=E,40nm,0.6s							
LHV				IAML			04 31 07.0	
	comp=N,35nm,0.7s							
SHPR	**Sheep Range**	**2.22**	**81**	Pn		Pn	04 30 31.8	-0.7
NV11	**Mina Array Sit**	**2.26**	**354**			Pn	04 30 33.4	+0.3
NVAR	**Mina Array Bea**	**2.27**	**352**			Pn	04 30 32.8	-0.4
PMPB	**Monarch Peak**	**2.37**	**272**	Pn		Pn	04 30 34.2	-0.2
PMPB				IAML			04 31 20.4	
	comp=N,70nm,0.8s							
MYLM	**Yosemite Lake**	**2.37**	**301**			Pb	04 30 36.7	-1.2
NJQ	**Nojoqui County**	**2.49**	**230**			Pn	04 30 37.5	+1.5
V12A	**Nelson**	**2.50**	**99**	Pn		Pn	04 30 35.6	-0.6
RYN	**Ryan**	**2.50**	**348**	Pn		Pn	04 30 35.5	-0.8
ELS	**Elsinore Mount**	**2.55**	**172**			Pn	04 30 36.6	-0.3
PRN	**Pahroc Range**	**2.58**	**61**	Pn		Pn	04 30 37.3	-0.1
PRN				IAML			04 31 24.2	
	comp=N,52nm,0.6s							
PRN				IAML			04 31 27.7	
	comp=E,52nm,1.0s							
BBGB	**Big Mountain B**	**2.58**	**280**	Pn		Pn	04 30 37.1	-0.3
WAKR	**Walker**	**2.63**	**332**	Pn		Pn	04 30 38.6	+0.4
WAKR				IAML			04 31 21.8	
	comp=E,27nm,0.4s							
WAKR				IAML			04 31 24.4	
	comp=N,19nm,0.5s							
Q09A	**Carvers**	**2.71**	**12**	Pn		Pn	04 30 39.3	+0.1
CMB	**Columbia Colle**	**2.73**	**313**			Pn	04 30 39.5	+0.1
CMB				IAML			04 31 20.7	
	comp=E,44nm,0.5s							
PMD	**Palm Desert**	**2.81**	**154**	Pn		Pn	04 30 40.2	-0.2
PFO	**Pinyon Flats O**	**2.81**	**155**	Pn		Pn	04 30 40.2	-0.3
R11B	**Troy Canyon, C**	**2.84**	**39**	Pn		Pn	04 30 40.7	-0.3
R11B				IAML			04 31 26.5	
	comp=E,20nm,0.9s							
PLM	**Palomar**	**2.94**	**163**			Pb	04 30 46.6	-1.1
BORC	**Borrego Spring**	**3.14**	**157**	IAML			04 31 41.6	
	comp=N,11nm,1.0s							
BORC				IAML			04 31 42.0	
	comp=E,12nm,1.7s							
W13A	**Hualapai Mount**	**3.43**	**107**	IAML			04 31 51.2	
	comp=N,9.1nm,0.7s							
BLYC	**Blythe**	**3.67**	**130**	IAML			04 31 56.2	
	comp=N,10nm,0.7s							
BLYC				IAML			04 32 07.4	
	comp=E,10nm,0.8s							
CCUT	**Cedar City**	**3.87**	**68**	IAML			04 32 07.3	
	comp=N,6.6nm,4.6s							
PSUT	**Pine Spring**	**3.98**	**53**	IAML			04 32 05.2	
	comp=N,11nm,0.9s							
PSUT				IAML			04 32 06.3	
	comp=E,12nm,1.0s							
SPR3	**Spring Creek 3**	**3.98**	**44**	IAML			04 32 00.7	
	comp=E,8.4nm,1.2s							
SPR3				IAML			04 32 03.7	
	comp=N,8.7nm,0.7s							
KNB	**Kanab**	**4.15**	**77**	IAML			04 32 06.9	
	comp=N,5.3nm,2.0s							
KNB				IAML			04 32 11.8	
	comp=E,7.8nm,1.4s							
BEKR	**Beckworth**	**4.17**	**333**	IAML			04 32 08.0	
	comp=N,14nm,0.4s							
U15A	**North Rim**	**4.52**	**85**	IAML			04 32 22.8	
U15A	comp=E,7.3nm,1.2s			IAML			04 32 29.7	
	comp=N,6.0nm,2.8s							
Y14A	**Wickenburg**	**4.58**	**118**	IAML			04 32 26.4	
	comp=N,7.3nm,1.1s							
Y14A				IAML			04 32 29.4	
	comp=E,4.9nm,1.1s							
WUAZ	**Wupatki**	**5.32**	**95**	IAML			04 32 46.8	
	comp=E,5.4nm,2.2s							
WUAZ				IAML			04 32 50.1	
	comp=E,5.4nm,1.1s							

NEIC ***11*** *04:45:30.1±2.1,35°.965N±0°.009×117°.28W±0°.02, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.9km az=301.0*

PAS 11 04:45:31.1±1.9,35°.96N±0°.01×117°.28W±0°.02,h5km±4km, Mwr3.6/4,ML3.5/166(NEIC),Error ellipse: s-maj=2.2km s-min=1.5km az=128.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.20**	**301**		Pg	04 45 35.1	+0.1
QSM	**Queen of Sheba**	**0.34**	**89**		Pg	04 45 37.4	-0.3
QSM				Sg	Sg	04 45 41.8	-0.3
QSM				IAML		04 45 44.4	
	comp=E,4μm,0.5s						
QSM				IAML		04 45 48.6	
	comp=N,4μm,0.7s						
TOW	**Tower One**	**0.42**	**249**		Sb	04 45 46.3	-1.4
JRC2	**Joshua Ridge**	**0.43**	**273**		Pg	04 45 39.3	-0.1
WVPM	**Volcano Peak E**	**0.43**	**269**		Pg	04 45 39.5	0.0
CCCA	**Chr Cany lake**	**0.44**	**189**	Pg	Pg	04 45 39.6	0.0
SRTC	**Snort**	**0.46**	**235**		Pg	04 45 40.2	+0.1
MFS	**McCloud Flat S**	**0.49**	**289**		Pg	04 45 38.1	-2.4
MFS					Sg	04 45 40.5	-6.5
GWY	**Greenwater Val**	**0.55**	**65**		Pg	04 45 41.4	-0.3
GWY				IAML		04 45 49.2	
	comp=N,4μm,0.3s						
GWY				IAML		04 45 53.0	
	comp=E,5μm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.58**	**214**		Pg	04 45 41.9	-0.4
LRMC				IAML		04 45 50.1	
	comp=E,6μm,0.4s						
GSC	**Goldstone, Bar**	**0.76**	**149**		Pg	04 45 45.2	-0.5
GSC				IAML		04 45 57.5	
	comp=E,2μm,0.5s						
GSC				IAML		04 46 04.9	
	comp=N,2μm,0.3s						
CWC	**Cottonwood Cre**	**0.80**	**307**		Pg	04 45 46.0	-0.6
CWC				IAML		04 45 59.6	
	comp=N,1μm,0.2s						
CWC				IAML		04 46 00.7	
	comp=E,1μm,0.2s						
WHFM	**Hanning Flat**	**0.91**	**254**		Pg	04 45 44.4	-4.1
AMDNV	**Amargosa**	**0.95**	**58**		Pg	04 45 48.6	-0.7
WCT	**Wildcat Mounta**	**0.99**	**32**		Pg	04 45 49.4	-0.7
WCT				IAML		04 46 05.3	
	comp=N,1μm,0.4s						
ISA	**Isabella, Lake**	**1.01**	**253**		Pg	04 45 49.7	-0.8
ISA				IAML		04 46 05.7	
	comp=E,793nm,0.4s						
ISA				IAML		04 46 05.8	
	comp=N,1μm,0.7s						
GRAC	**Grapevine Rang**	**1.04**	**356**		Pg	04 45 50.4	-0.6
WASM	**Alta Sierra Ca**	**1.06**	**258**		Pg	04 45 51.2	-0.2
TPNV	**Topopah Spring**	**1.29**	**40**		Pg	04 45 54.4	-1.5
TPO	**Tropico Hills**	**1.32**	**216**		Pn	04 45 55.1	-0.8
GMN	**Gold Mountain**	**1.34**	**1**		Pn	04 45 55.5	-1.2
GMN				IAML		04 46 20.4	
	comp=N,627nm,0.4s						
GMN				IAML		04 46 20.6	
	comp=E,557nm,0.5s						
MTPC	**Mountain Pass**	**1.48**	**108**		Pn	04 45 57.1	-1.5
MTPC				IAML		04 46 19.9	
	comp=E,771nm,0.3s						
MTPC				IAML		04 46 20.1	
	comp=N,538nm,0.4s						
DSP	**Deep Springs**	**1.51**	**339**		Pn	04 45 57.7	-1.1
MZP	**Montezuma Peak**	**1.74**	**357**		Pn	04 46 01.1	-1.2
BFSC	**Mount Baldy Ra**	**1.74**	**190**	Pn	Pn	04 46 01.8	-0.4
OSI	**Osito Audit: C**	**1.79**	**222**		Pn	04 46 02.1	-0.6
OSI				IAML		04 46 30.6	
	comp=N,778nm,0.9s						
OSI				IAML		04 46 33.8	
	comp=E,562nm,0.8s						
SHPR	**Sheep Range**	**1.80**	**72**	Pn	Pn	04 46 01.7	-1.3
MWC	**Mount Wilson**	**1.84**	**200**		Pn	04 46 03.0	-0.6
MWC				IAML		04 46 35.2	
	comp=N,481nm,0.6s						
MWC				IAML		04 46 35.3	
	comp=E,570nm,0.6s						
PASC	**Pasadena Art C**	**1.93**	**203**		Pn	04 46 04.7	+0.1
PASC				IAML		04 46 36.9	
	comp=E,273nm,0.8s						
V12A	**Nelson**	**1.99**	**96**	Pn	Pn	04 46 04.0	-1.5
V12A				IAML		04 46 41.5	
	comp=N,252nm,1.3s						
DANC	**Danby, Needles**	**2.04**	**130**		Pb	04 46 07.9	-0.8
S11A	**Rachel**	**2.09**	**36**		Pn	04 46 05.8	-1.1
S11A				IAML		04 46 49.0	
	comp=N,610nm,0.5s						
TPH	**Tonopah**	**2.11**	**1**		Pn	04 46 06.2	-1.1
PRN	**Pahroc Range**	**2.30**	**50**		Pn	04 46 09.0	-0.9
ELS	**Elsinore Mount**	**2.31**	**183**		Pn	04 46 08.8	-1.0
PMD	**Palm Desert**	**2.42**	**162**		Pn	04 46 10.0	-1.4
PFO	**Pinyon Flats O**	**2.44**	**164**		Pn	04 46 10.3	-1.4
NEE2	**Needles Airpor**	**2.48**	**118**		Pn	04 46 12.1	0.0
LHV	**Little Huntoon**	**2.49**	**337**		Pn	04 46 11.7	-0.6
LHV				IAML		04 46 54.4	
	comp=N,207nm,0.5s						
LHV				IAML		04 46 55.2	
	comp=E,293nm,0.8s						
NV11	**Mina Array Sit**	**2.56**	**344**		Pn	04 46 12.4	-1.1
NVAR	**Mina Array Bea**	**2.60**	**342**		Pn	04 46 12.9	-1.1
R11B	**Troy Canyon, C**	**2.74**	**29**		Pn	04 46 14.6	-1.4
R11B				IAML		04 46 58.1	
	comp=N,112nm,0.4s						
R11B				IAML		04 46 59.6	
	comp=E,170nm,0.5s						
BORC	**Borrego Spring**	**2.78**	**165**	IAML		04 47 02.5	
	comp=E,128nm,0.8s						
RYN	**Ryan**	**2.84**	**340**		Pn	04 46 16.6	-0.7
PMPB	**Monarch Peak**	**2.86**	**276**	Pn	Pn	04 46 17.5	0.0
PMPB				IAML		04 47 09.9	
	comp=N,219nm,0.8s						
PMPB				IAML		04 47 12.1	
	comp=E,270nm,0.8s						
Q09A	**Carvers**	**2.87**	**2**	IAML		04 47 14.9	
	comp=E,258nm,1.1s						
MYLM	**Yosemite Lake**	**2.90**	**300**		Pb	04 46 22.7	-0.6
W13A	**Hualapai Mount**	**2.90**	**106**		Pn	04 46 16.9	-1.3
BBGB	**Big Mountain B**	**3.10**	**283**	IAML		04 47 19.6	
	comp=E,256nm,0.9s						
BLYC	**Blythe**	**3.16**	**133**	IAML		04 47 14.7	
	comp=N,109nm,0.9s						
BLYC				IAML		04 47 19.1	
	comp=E,122nm,0.9s						
CMB	**Columbia Colle**	**3.23**	**311**	IAML		04 47 13.8	
	comp=E,133nm,0.7s						
CMB				IAML		04 47 14.4	
	comp=N,149nm,0.7s						
GLA	**Glamis**	**3.54**	**144**	IAML		04 47 29.2	
	comp=N,138nm,0.8s						
CBX	**Cerro Bola**	**3.67**	**172**	IAML		04 47 28.9	
	comp=N,154nm,0.6s						
SZCU	**Shurtz Canyon**	**3.74**	**63**	IAML		04 47 31.8	
	comp=N,49nm,0.6s						
SZCU				IAML		04 47 34.0	
	comp=E,65nm,0.4s						
KNB	**Kanab**	**3.75**	**72**	IAML		04 47 40.6	
	comp=N,60nm,0.8s						
KNB				IAML		04 48 54.9	
	comp=E,75nm,0.2s						
PSUT	**Pine Spring**	**3.75**	**46**	IAML		04 47 33.6	
	comp=N,120nm,0.8s						
PSUT				IAML		04 47 34.3	
	comp=E,111nm,0.8s						
SPR3	**Spring Creek 3**	**3.84**	**37**	IAML		04 47 31.7	
	comp=E,97nm,0.7s						
SPR3				IAML		04 47 34.0	
	comp=N,77nm,0.5s						
MPK	**Martis Peak**	**3.98**	**328**	IAML		04 47 55.5	
	comp=E,79nm,1.0s						
MPK				IAML		04 48 04.7	
	comp=N,99nm,0.8s						
Y14A	**Wickenburg**	**4.05**	**119**	IAML		04 47 41.2	
	comp=E,90nm,0.9s						
U15A	**North Rim**	**4.06**	**82**	IAML		04 47 38.0	
	comp=E,57nm,1.1s						
U15A				IAML		04 47 44.4	
	comp=N,48nm,0.8s						
ESJX	**Sierra Juarez**	**4.10**	**164**	IAML		04 47 46.1	
	comp=E,42nm,0.9s						
AFDM	**Forest Hills D**	**4.19**	**317**	IAML		04 47 45.7	
	comp=N,84nm,0.8s						
BEKR	**Beckworth**	**4.60**	**329**	IAML		04 48 05.5	
	comp=E,54nm,0.7s						
BEKR				IAML		04 48 05.7	
	comp=N,27nm,0.7s						
VTX	**Valle De La Tr**	**4.72**	**164**	IAML		04 48 04.1	
	comp=E,30nm,1.6s						
VTX				IAML		04 48 31.2	
	comp=N,28nm,0.1s						
WUAZ	**Wupatki**	**4.83**	**94**	IAML		04 48 05.0	
	comp=N,51nm,0.7s						
ELK	**Elko**	**5.04**	**18**	IAML		04 48 13.1	
	comp=N,21nm,0.7s						
ELK				IAML		04 48 14.8	
	comp=N,21nm,0.5s						

NEIC ***11*** *05:03:45.8±1.8,35°.960N±0°.009×117°.273W±0°.004, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.6km az=51.0*

PAS 11 05:03:46.2±1.7,35°.961N±0°.009×117°.28W±0°.01, h4km±4km,Mwr3.6/4,ML3.4/102(NEIC),Error ellipse: s-maj=1.4km s-min=1.2km az=122.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.19**	**300**		Pg	05 03 50.2	+0.2
MPMC				Sg	Sg	05 03 53.3	+0.8
QSM	**Queen of Sheba**	**0.34**	**89**		Pg	05 03 52.5	-0.3
QSM				IAML		05 03 57.5	
	comp=E,4μm,0.4s						
QSM				IAML		05 04 04.4	
	comp=N,3μm,0.6s						
TOW	**Tower One**	**0.42**	**249**		Pg	05 03 52.8	-1.5
TOW					Sb	05 04 01.4	-1.5
JRC2	**Joshua Ridge**	**0.43**	**273**		Pg	05 03 54.4	-0.1
WVPM	**Volcano Peak E**	**0.43**	**269**		Pg	05 03 54.5	0.0
CCCA	**Chr Cany lake**	**0.44**	**189**		Pg	05 03 54.8	+0.1
CCCA					Sg	05 04 01.2	+0.8
CCCA				IAML		05 04 01.6	
	comp=E,5μm,0.5s						
SRTC	**Snort**	**0.46**	**235**		Pg	05 03 55.3	+0.2
MFS	**McCloud Flat S**	**0.49**	**289**		Pg	05 03 54.2	-1.4
MFS					Sg	05 04 02.8	+0.8
WRVM	**Rose V. Centra**	**0.49**	**276**		Pg	05 03 55.5	-0.2
WNMM	**Nine Mile Cany**	**0.52**	**257**		Pg	05 03 54.5	-1.7
WNMM					Sg	05 03 56.5	-6.3
GWY	**Greenwater Val**	**0.55**	**66**		Pg	05 03 56.5	-0.2
GWY					Sg	05 04 04.1	+0.2
GWY				IAML		05 04 04.3	
	comp=N,4μm,0.3s						
GWY				IAML		05 04 08.1	
	comp=E,5μm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.58**	**214**		Pg	05 03 56.8	-0.5
FURC	**Furnace Creek,**	**0.61**	**34**		Pg	05 03 58.5	+0.6
CGO	**Cerro Gordo**	**0.72**	**325**		Pg	05 03 59.6	-0.5
CGO					Sg	05 04 09.8	+0.4
GSC	**Goldstone, Bar**	**0.77**	**149**		Pg	05 04 00.3	-0.5
GSC				IAML		05 04 10.9	
	comp=N,1μm,0.4s						
GSC				IAML		05 04 12.5	
	comp=E,2μm,0.5s						
GSC	**Goldstone, Bar**	**0.77**	**149**		Sg	05 04 10.7	-0.1
CWC	**Cottonwood Cre**	**0.80**	**307**		Pg	05 04 01.5	-0.1
CWC					Sg	05 04 12.5	+0.5
CWC				IAML		05 04 13.1	
	comp=N,990nm,0.2s						
CWC				IAML		05 04 16.0	
	comp=E,1μm,0.3s						
WBSM	**Bird Springs**	**0.81**	**239**		Pg	05 04 01.2	-0.6
SHOC	**Shoshone, Teco**	**0.82**	**94**		Pg	05 04 02.0	0.0
SHOC					Sg	05 04 13.1	+0.5
WORM	**Onyx Ranch**	**0.82**	**251**		Pg	05 04 01.3	-0.6
WORM					Sg	05 04 12.2	-0.5
DTP	**Desert Tortois**	**0.83**	**214**		Pg	05 04 02.1	0.0
DTP					Sg	05 04 12.8	-0.1
WHFM	**Hanning Flat**	**0.91**	**253**		Pg	05 04 00.2	-3.4
WHFM					Sg	05 04 15.0	-0.3
AMDNV	**Amargosa**	**0.95**	**59**		Pg	05 04 03.8	-0.6
AMDNV					Sg	05 04 16.4	-0.3
WCT	**Wildcat Mounta**	**0.98**	**32**		Pg	05 04 04.7	-0.4
WCT				IAML		05 04 20.3	
	comp=E,2μm,0.3s						
WCT				IAML		05 04 20.4	
	comp=N,937nm,0.4s						
CCAC	**Calif City Air**	**1.00**	**217**		Pg	05 04 04.6	-0.8
CCAC					Sg	05 04 18.3	-0.2
ISA	**Isabella, Lake**	**1.01**	**253**		Pg	05 04 05.0	-0.6
ISA				IAML		05 04 20.3	
	comp=E,883nm,0.5s						
ISA				IAML		05 04 20.9	
	comp=N,754nm,0.7s						
ISA	**Isabella, Lake**	**1.01**	**253**		Sb	05 04 19.4	-0.6
GRAC	**Grapevine Rang**	**1.03**	**356**		Pg	05 04 05.9	-0.2
SGV	**South Grapevin**	**1.04**	**11**		Pg	05 04 05.7	-0.4
SGV					Sg	05 04 19.4	-0.2
WASM	**Alta Sierra Ca**	**1.06**	**258**		Pg	05 04 05.8	-0.6
WASM					Sg	05 04 20.5	+0.3
RRX	**Edison Barstow**	**1.11**	**168**		Pg	05 04 06.5	-0.9
HYS	**Haystack Butte**	**1.12**	**192**		Pg	05 04 06.5	-1.2
HYS					Sg	05 04 21.4	-0.7
EDW2	**Edwards Air Fo**	**1.22**	**208**		Pg	05 04 09.1	-0.6
SPG2	**Springville 2**	**1.22**	**282**		Pg	05 04 08.6	-1.1
TUQ	**Turquoise Moun**	**1.23**	**115**		Pg	05 04 08.1	-1.5
TUQ					Sb	05 04 26.2	0.0
TPNV	**Topopah Spring**	**1.29**	**40**		Pg	05 04 09.9	-1.1
TPNV				IAML		05 04 28.6	
	comp=N,1μm,0.7s						
LCH	**Last Change Ra**	**1.30**	**347**		Pg	05 04 09.9	-1.3
TPO	**Tropico Hills**	**1.33**	**216**		Pn	05 04 11.3	-0.2
TIN	**Tinemaha, Big**	**1.33**	**325**		Pb	05 04 11.8	+0.1
GMN	**Gold Mountain**	**1.34**	**1**		Pg	05 04 10.8	-1.1
GMN				IAML		05 04 35.5	
	comp=N,470nm,0.4s						
GMN				IAML		05 04 35.8	
	comp=E,400nm,0.5s						
SBB	**Saddle Back Bu**	**1.34**	**199**		Pn	05 04 10.8	-1.0
SBB					Sg	05 04 29.1	-0.3
TEJ	**El Tejon**	**1.36**	**238**		Pn	05 04 10.5	-1.4
TEJ					Sg	05 04 26.1	-3.7
HEC	**Hector,Ludlow**	**1.37**	**145**		Pn	05 04 11.2	-1.0
HEC					Sg	05 04 29.8	-0.4
ADO	**Adelanto Recei**	**1.41**	**185**		Sn	05 04 32.4	+0.5
VES	**Vestal, Richgr**	**1.47**	**266**		Pn	05 04 13.7	+0.3
MTPC	**Mountain Pass**	**1.49**	**108**		Pn	05 04 12.2	-1.7
MTPC					Sb	05 04 33.5	-0.3
MTPC				IAML		05 04 34.9	
	comp=E,652nm,0.3s						
MTPC				IAML		05 04 35.2	
	comp=N,610nm,0.4s						
DSP	**Deep Springs**	**1.51**	**339**		Pn	05 04 13.0	-1.0
ARVC	**Arvin**	**1.51**	**237**		Pb	05 04 14.6	-0.1
ALPC	**Antelope**	**1.52**	**213**		Sg	05 04 35.0	0.0
THC	**Teh

S11A				IAML		05 05 07.3		
	comp=N,490nm,0.8s							
TPC	**Twentynine Pal**	**2.11**	**151**		Pn	05 04 20.6	-1.7	
MCSM	**Casa Diablo Ho**	**2.13**	**323**		Pb	05 04 25.8	+0.3	
POB	**Polly Butte**	**2.29**	**172**		Pn	05 04 24.0	-0.8	
SMMC	**Simmler**	**2.30**	**254**		Pn	05 04 26.0	+1.1	
PRN	**Pahroc Range**	**2.30**	**51**		Pn	05 04 24.1	-1.0	
ELS	**Elsinore Mount**	**2.31**	**183**		Pn	05 04 24.4	-0.7	
TRAY	**Twisselman Ran**	**2.35**	**261**		Pn	05 04 27.1	+1.6	
PMD	**Palm Desert**	**2.43**	**162**		Pn	05 04 25.4	-1.2	
LHV	**Little Huntoon**	**2.48**	**337**		Pn	05 04 27.3	-0.1	
LHV				IAML		05 05 10.4		
	comp=E,204nm,0.7s							
LHV				IAML		05 05 14.6		
	comp=N,134nm,1.0s							
TSCN	**Private Proper**	**2.53**	**261**		Pn	05 04 27.5	-0.5	
NV11	**Mina Array Sit**	**2.56**	**345**		Pn	05 04 27.9	-0.7	
NVAR	**Mina Array Bea**	**2.59**	**342**		Pn	05 04 28.2	-0.9	
R11B	**Troy Canyon, C**	**2.74**	**29**		Pn	05 04 29.9	-1.3	
R11B				IAML		05 05 12.3		
	comp=E,126nm,0.6s							
RYN	**Ryan**	**2.84**	**340**		Pn	05 04 31.7	-0.7	
MYLM	**Yosemite Lake**	**2.89**	**300**		Pb	05 04 37.8	-0.5	
W13A	**Hualapai Mount**	**2.90**	**106**		Pn	05 04 31.6	-1.8	
W13A				IAML		05 05 19.5		
	comp=N,98nm,0.5s							
LCMT	**Little Creek M**	**3.42**	**71**		Pn	05 04 40.1	-0.3	
CCUT	**Cedar City**	**3.53**	**62**		Pn	05 04 41.8	-0.1	
GLA	**Glamis**	**3.54**	**144**	Pn	Pn	05 04 41.4	-0.6	
GLA				IAML		05 05 43.3		
	comp=N,131nm,0.7s							
SZCU	**Shurtz Canyon**	**3.74**	**63**	Pn	Pn	05 04 44.4	-0.5	
SZCU				IAML		05 05 44.3		
	comp=N,41nm,0.5s							
SZCU				IAML		05 05 49.1		
	comp=E,48nm,0.4s							
KNB	**Kanab**	**3.75**	**72**	Pn	Pn	05 04 45.1	+0.2	
KNB				IAML		05 05 44.1		
	comp=N,41nm,1.1s							
KNB				IAML		05 05 45.2		
	comp=E,46nm,0.7s							
PSUT	**Pine Spring**	**3.75**	**46**		Pn	05 04 44.1	-0.9	
PSUT				IAML		05 05 48.5		
	comp=E,72nm,0.8s							
PSUT				IAML		05 05 49.2		
	comp=N,82nm,0.8s							
SPR3	**Spring Creek 3**	**3.83**	**37**		Pn	05 04 44.3	-1.9	
SPR3				IAML		05 05 46.9		
	comp=E,72nm,0.7s							
SPR3				IAML		05 05 50.1		
	comp=N,57nm,0.9s							
PAHR	**Pah Rah Range**	**4.09**	**337**	Pn	Pn	05 04 49.5	-0.1	
ELK	**Elko**	**5.04**	**18**		Pn	05 05 02.4	-0.4	
ELK				IAML		05 06 27.3		
	comp=N,16nm,0.5s							
ELK				IAML		05 06 29.9		
	comp=N,15nm,0.6s							
PV01	**Paradox Valley**	**7.30**	**70**	Pn	Pn	05 05 33.0	-0.8	

*IDC **11** 05:10:31.0±1.0, 18°.56S×176°.17E, h0km, mb4.0/7, mbtmp4.0/7, MS3.6/4, Error ellipse: s-maj=38.2km s-min=27.5km az=147.0*

ISC 11 05:10:35.0±0.9, **18°.5S**±0°.2×**176°.1E**±0°.2, **h26km, n13, σ0§71/9, mb4.0/7, MS3.6/3, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**12.01**	**154**	LR	LR	05 16 59.9	
	comp=Z,183nm,21.5s,baz=26,slow=33						
PPT	**Papeete**	**32.60**	**94**	LR	LR	05 27 28.6	
	comp=Z,110nm,20.0s,baz=184,slow=31						
WRA	**Warramunga Arr**	**39.41**	**261**	P	**P**	**05 18 02.8**	**-0.3**
	1.4nm,0.8s,baz=93,slow=8.8,SNR=8.0						
	1.4nm,0.8s						
ASAR	**Alice Springs**	**39.62**	**255**	P	**P**	**05 18 05.3**	**+0.4**
	2.3nm,0.7s,baz=86,slow=9.2,SNR=24						
	2.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**47.80**	**262**	LR	LR	05 38 49.7	
	comp=Z,115nm,18.3s,baz=37,slow=36						
QSPA	**South Pole Qui**	**71.56**	**180**	P	**P**	**05 21 54.3**	**+0.6**
	1.7nm,1.1s,baz=63,slow=4.5,SNR=2.8						
	1.7nm,1.1s						
MAW	**Mawson**	**81.51**	**201**	P	**P**	**05 22 48.8**	**-1.1**
	1.9nm,0.8s,baz=138,slow=6.6,SNR=5.3						
	1.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**84.23**	**292**	P	**P**	**05 23 05.5**	**+0.7**
	1.2nm,0.3s,baz=118,slow=3.9,SNR=5.7						
	1.2nm,0.3s						
ILAR	**Eielson Array**	**87.71**	**15**	P	**P**	**05 23 20.4**	**-0.6**
	0.3nm,0.8s,baz=209,slow=4.8,SNR=3.4						
	0.3nm,0.8s						
TXAR	**Lajitas Array**	**90.73**	**59**	P	**P**	**05 23 36.8**	**+0.6**
	0.6nm,1.0s,baz=254,slow=4.7,SNR=4.6						
	0.6nm,1.0s						
CMIG	**Matias Romero**	**94.37**	**74**	LR	LR	06 00 35.7	
	comp=Z,19nm,18.0s,baz=200,slow=32						
VRAC	**Vranov**	**145.12**	**336**	PKPbc	**PKPdf**	**05 30 09.9**	**-0.2**
	2.2nm,0.4s,baz=342,slow=6.4,SNR=3.3						
GERES	**GERESS Array B**	**146.55**	**339**	PKPbc	**PKPbc**	**05 30 14.0**	**-0.2**
	1.0nm,0.7s,baz=55,slow=5.4,SNR=6.9						

*IDC **11** 05:22:53.8±0.9, 35°.41N×27°.03E, h0km, mb3.8/15, mbtmp3.8/24, ML3.5/8, MS2.7/4, Error ellipse: s-maj=20.3km s-min=9.9km az=176.0*
*ISK **11** 05:22:54.4, 35°.24N×26°.97E, h10km, ML3.9/24*
*MCSM **11** 05:22:55.5±0.6, 35°.5±°.2×27°.7E±°.1, h9km±3km, mb4.0, mB4.5, MLv3.9, Mw(mB)3.6*
*AFAD **11** 05:22:55.2, 35°.34N×27°.08E, h12km±1km, MW3.9*
*ATH **11** 05:22:56.5, 35°.36N×27°.00E, h12km±1km, ML3.6/8, Manual Solution by F.Xalaris First location: 2019/07/11 05:24:08, This location: 2021/06/05 11:24:10 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **11** 05:22:56.4, 35°.N±4°.×27°.7E±°.1, h11km±8km, M3.6/12, MLh3.6/12*

ISC 11 05:22:54.0±1.3, **35°.23N**±0°.04×**27°.04E**±0°.03, **h6**km±8km, **n138, σ1§59/174, mb3.8/15, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.33**	**17**	Pg	**Pb**	**05 23 01.7**	**-0.7**
KARP				Sg	**Sb**	**05 23 07.3**	**-0.6**
KARP	**Karpathos**	**0.33**	**17**	P	**Pb**	**05 23 01.6**	**-0.7**
KARP				S	**Sb**	**05 23 07.2**	**-0.6**
KARP	**Karpathos**	**0.33**	**17**	P	**Pg**	**05 23 01.1**	**+0.6**
KARP	**Karpathos**	**0.33**	**17**	P	**Pb**	**05 23 01.7**	**-0.7**
KARP				S	**Sg**	**05 23 05.3**	**+0.4**
ZKR	**Zakros**	**0.68**	**261**	Pg	**Pg**	**05 23 06.9**	**-0.2**
ARG	**Arkhangelos**	**1.32**	**42**	Pn	**Pg**	**05 23 19.3**	**0.0**
ARG				Sn	**Sn**	**05 23 38.5**	**+1.6**
ARG	**Arkhangelos**	**1.32**	**42**	P	**Pg**	**05 23 19.1**	**-0.3**
ARG				S	**Sn**	**05 23 38.4**	**+1.6**
ARG	**Arkhangelos**	**1.32**	**42**	P	**Pn**	**05 23 20.1**	**+1.2**
ARG				S	**Sg**	**05 23 36.1**	**-0.4**
NISR	**Nisiros**	**1.38**	**3**	P	**Pg**	**05 23 19.9**	**-0.6**
NISR				S	**Sb**	**05 23 38.1**	**0.0**
ASTA	**Astypalaia**	**1.43**	**337**	P	**Pn**	**05 23 20.7**	**+0.4**
ASTA				S	**Sg**	**05 23 37.6**	**-2.3**
YAZI	**Mula-Dat§a-**	**1.49**	**13**	P	**Pn**	**05 23 21.5**	**+0.3**
YAZI				S	**Sg**	**05 23 40.4**	**-1.4**
DAT	**Datca**	**1.56**	**16**	Pn	**Pn**	**05 23 22.9**	**+0.6**
DAT	**Datca**	**1.56**	**16**	P	**Pn**	**05 23 22.0**	**-0.3**
DAT				S	**Sn**	**05 23 42.4**	**-0.5**
IACM	**Heraklion**	**1.61**	**273**	P	**Pn**	**05 23 23.7**	**+0.8**
THERA	**Ancient Thera,**	**1.71**	**312**	P	**Pn**	**05 23 24.2**	**0.0**
THERA				S	**Sn**	**05 23 46.7**	**+0.4**
THERA	**Ancient Thera,**	**1.71**	**312**	P	**Pn**	**05 23 24.5**	**+0.3**
THERA				S	**Sn**	**05 23 45.0**	**-1.3**
KLNA	**Kalymnos**	**1.73**	**358**	P	**Pn**	**05 23 24.5**	**0.0**
THR8	**Santorini-Mono**	**1.73**	**313**	P	**Pn**	**05 23 24.7**	**+0.2**
THR6	**Thira Island,**	**1.75**	**311**	P	**Pn**	**05 23 25.6**	**+0.9**
IDI	**Anoyia**	**1.76**	**273**	Pn	**Pn**	**05 23 25.0**	**0.0**
IDI	**Anoyia**	**1.76**	**273**	P	**Pn**	**05 23 26.4**	**+1.4**
IDI	**Anoyia**	**1.76**	**273**	Pg	**Pn**	**05 23 26.3**	**+1.4**
	41nm,0.3s,baz=82,slow=17,SNR=144						
IDI				Lg	Lg	05 23 50.3	
	72nm,0.3s,baz=85,slow=13,SNR=5.7						
IDI				LR	LR	05 24 23.2	
	comp=Z,933nm,18.7s,baz=102,slow=51						
IDI	**Anoyia**	**1.76**	**273**	P	**Pn**	**05 23 26.4**	**+1.4**
IDI				S	**Sn**	**05 23 48.6**	**+0.9**
THR3	**Thira Island,**	**1.78**	**312**	P	**Pn**	**05 23 25.4**	**+0.2**
CMBO	**Columbo, Santo**	**1.82**	**313**	P	**Pn**	**05 23 26.0**	**+0.3**
CMBO				S	**Sb**	**05 23 50.1**	**-0.5**
CMBO	**Columbo, Santo**	**1.82**	**313**	P	**Pn**	**05 23 26.0**	**+0.3**
THR5	**Thira Island,**	**1.82**	**311**	P	**Pn**	**05 23 26.4**	**+0.7**
TURN	**Turunc**	**1.83**	**32**	Pn	**Pn**	**05 23 26.9**	**+1.1**
TURN				Sn	**Sb**	**05 23 50.9**	**+0.1**
TURN	**Turunc**	**1.83**	**32**	P	**Pn**	**05 23 27.0**	**+1.2**
TURN				S	**Sn**	**05 23 50.1**	**+0.8**
BODT	**Bodrum**	**1.84**	**7**	Pn	**Pn**	**05 23 26.9**	**+0.8**
BODT	**Bodrum**	**1.84**	**7**	P	**Pn**	**05 23 26.9**	**+0.8**
AMGA	**Amorgos Island**	**1.85**	**330**	P	**Pn**	**05 23 26.2**	**0.0**
BDRM	**Kayabasi**	**1.86**	**10**	P	**Pn**	**05 23 27.0**	**+0.7**
BDRM				S	**Sn**	**05 23 48.0**	**-2.2**
DALY	**Dalyan (Mula)**	**2.06**	**39**	Pn	**Pn**	**05 23 31.1**	**+2.1**
PRNS	**Prines Rethymn**	**2.08**	**274**	P	**Pb**	**05 23 31.4**	**-0.7**
IZZE	**Mula-Seydike**	**2.15**	**55**	P	**Pn**	**05 23 31.5**	**+1.3**
IZZE				S	**Sn**	**05 23 55.4**	**-1.7**
MLSB	**Milas**	**2.15**	**16**	Pn	**Pn**	**05 23 31.1**	**+0.8**
FETY	**Fethiye**	**2.17**	**49**	Pn	**Pn**	**05 23 31.7**	**+1.1**
APE	**Apeiranthos**	**2.21**	**327**	Pn	**Pn**	**05 23 31.7**	**+0.6**
APE	**Apeiranthos**	**2.21**	**327**	P	**Pn**	**05 23 32.2**	**+1.0**
APE	**Apeiranthos**	**2.21**	**327**	P	**Pn**	**05 23 31.9**	**+0.7**
DDIM	**Aydin, Didim**	**2.23**	**4**	P	**Pb**	**05 23 33.7**	**-0.9**
DDIM				S	**Sn**	**05 24 01.0**	**+1.8**
SABU	**Mula-Dalaman**	**2.23**	**44**	P	**Pn**	**05 23 33.5**	**+2.1**
SABU				S	**Sb**	**05 24 03.9**	**+1.4**
KSL	**Kastellorizon**	**2.27**	**65**	P	**Pn**	**05 23 33.5**	**+1.6**
KSL				S	**Sn**	**05 24 01.8**	**+1.8**
KSL	**Kastellorizon**	**2.27**	**65**	P	**Pn**	**05 23 33.5**	**+1.6**
MULA	**Mugla, Merkez-**	**2.27**	**27**	P	**Pn**	**05 23 34.4**	**+2.4**
MULA				S	**Sn**	**05 24 00.1**	**-0.4**
AKAS	**Kas**	**2.31**	**64**	Pn	**Pn**	**05 23 34.4**	**+1.7**
AKAS	**Kas**	**2.31**	**64**	P	**Pn**	**05 23 33.5**	**+0.8**
GVD	**Gavdhos**	**2.46**	**262**	Pn	**Pn**	**05 23 35.3**	**+0.8**
GCAM	**G?zelcaml?**	**2.47**	**4**	Pn	**Pn**	**05 23 35.8**	**+1.1**
GCAM	**G?zelcaml?**	**2.47**	**4**	P	**Pn**	**05 23 36.7**	**+2.0**
SMG	**Samos**	**2.48**	**356**	P	**Pn**	**05 23 35.2**	**+0.3**
SMG	**Samos**	**2.48**	**356**	P	**Pn**	**05 23 35.1**	**+0.3**
CAME	**Cameli-Denizli**	**2.51**	**46**	Pn	**Pn**	**05 23 36.9**	**+1.6**
DNZT	**Denizli-Tavas-**	**2.60**	**38**	P	**Pn**	**05 23 39.0**	**+2.4**
DNZT				S	**Sn**	**05 24 10.5**	**+2.0**
KNIK	**Mula-Seydike**	**2.61**	**51**	P	**Pn**	**05 23 38.5**	**+1.7**
KNIK				S	**Sn**	**05 24 12.2**	**+3.4**
CAEL	**Denizli, Camel**	**2.64**	**44**	P	**Pn**	**05 23 38.9**	**+1.7**
CAEL				S	**Sn**	**05 24 12.6**	**+3.0**
TAVA	**DENIZLI_Tavas**	**2.70**	**34**	P	**Pn**	**05 23 40.0**	**+2.1**
TAVA				S	**Sn**	**05 24 13.0**	**+2.2**
ESEN	**Aydn-Nazilli**	**2.77**	**22**	P	**Pn**	**05 23 40.2**	**+1.4**
ESEN				S	**Sn**	**05 24 08.2**	**-4.4**
ELL	**Elmali**	**2.78**	**56**	Pn	**Pn**	**05 23 40.9**	**+1.9**
AYDB	**Zeytinkoy-Aydi**	**2.80**	**14**	Pn	**Pn**	**05 23 40.5**	**+1.2**
GOLH	**Golhisar**	**2.86**	**45**	P	**Pn**	**05 23 42.6**	**+2.4**
GOLH				S	**Sn**	**05 24 17.6**	**+2.7**
DNIZ	**Denizli-Tavas-**	**2.88**	**33**	P	**Pn**	**05 23 43.8**	**+3.3**
APMY	**Acipayam-Deniz**	**2.89**	**39**	Pn	**Pn**	**05 23 42.4**	**+1.9**
AKUM	**Antalya-Kumluc**	**2.90**	**67**	P	**Pn**	**05 23 42.0**	**+1.5**
AKUM				S	**Sn**	**05 24 11.6**	**-4.1**
NAZL	**Nazilli-Aydin**	**2.91**	**20**	Pn	**Pn**	**05 23 42.6**	**+1.8**
IZMR	**zmir-demi**	**2.99**	**14**	P	**Pn**	**05 23 43.2**	**+1.3**
ANKY	**Antikythira Is**	**3.12**	**283**	P	**Pn**	**05 23 44.7**	**+1.2**
ANKY	**Antikythira Is**	**3.12**	**283**	P	**Pn**	**05 23 44.6**	**+1.1**
URLA	**Izmir**	**3.15**	**354**	Pn	**Pn**	**05 23 44.7**	**+0.7**
BLCB	**Balcova**	**3.15**	**0**	Pn	**Pn**	**05 23 45.4**	**+1.3**
ODEM	**Odemis-Izmir**	**3.15**	**15**	Pn	**Pn**	**05 23 45.7**	**+1.5**
KIRA	**zmir-Kiraz**	**3.16**	**20**	P	**Pn**	**05 23 46.4**	**+2.1**
KIRA				S	**Sn**	**05 24 18.6**	**-3.7**
INCE	**Denizli-Bozkur**	**3.21**	**39**	P	**Pn**	**05 23 46.7**	**+1.7**
KORT	**Korkueli**	**3.21**	**56**	Pn	**Pn**	**05 23 47.1**	**+2.1**
KORT	**Korkueli**	**3.21**	**56**	P	**Pn**	**05 23 48.7**	**+3.7**
KORT				S	**Sn**	**05 24 21.3**	**-2.4**
CHOS	**Chios island**	**3.25**	**346**	Pn	**Pn**	**05 23 46.4**	**+0.9**
CHOS	**Chios island**	**3.25**	**346**	P	**Pn**	**05 23 46.5**	**+0.9**
CHOS	**Chios island**	**3.25**	**346**	P	**Pn**	**05 23 46.4**	**+0.9**
ANTB	**Antalya**	**3.37**	**59**	Pn	**Pn**	**05 23 49.4**	**+2.4**
KTHA	**Kythira Island**	**3.40**	**289**	P	**Pn**	**05 23 48.1**	**+0.7**
BRDR	**BURDUR-Merkez**	**3.46**	**44**	P	**Pb**	**05 23 53.8**	**-1.9**
KARY	**Karystos**	**3.50**	**324**	P	**Pn**	**05 23 49.8**	**+1.0**
BUCA	**Burdur, Bucak-**	**3.53**	**53**	P	**Pn**	**05 23 52.0**	**+2.7**
BUCA				S	**Sn**	**05 24 29.6**	**-1.8**
VLI	**Veliai**	**3.65**	**295**	P	**Pn**	**05 23 51.7**	**+0.9**
VLI	**Veliai**	**3.65**	**295**	P	**Pn**	**05 23 51.7**	**+0.9**
PASA	**Karahalli, USA**	**3.68**	**32**	P	**Pn**	**05 23 52.3**	**+0.9**
KZIL	**AFYON_Kizioren**	**3.92**	**39**	P	**Pn**	**05 23 56.3**	**+1.6**
AFYN	**Afyon-Dinar-K**	**4.12**	**41**	P	**Pn**	**05 23 59.5**	**+2.0**
VLX	**Vlachokerasia**	**4.33**	**301**	P	**Pn**	**05 24 02.4**	**+2.0**
SEDI	**Konya, Seydise**	**4.40**	**58**	P	**Pn**	**05 24 04.8**	**+3.4**
SEDI				S	**Sn**	**05 24 48.9**	**-4.2**
EZN	**Ezine**	**4.62**	**353**	P	**Pn**	**05 24 04.8**	**+0.5**
CSS	**Mathiatis**	**5.16**	**91**	P	**Pn**	**05 24 12.6**	**+0.8**
	0.3nm674nm24nm,0.6s						
BR105	**Keskin Array S**	**6.89**	**47**	P	**Pn**	**05 24 36.0**	**+0.5**
	0.0nm53nm5.8nm,0.7s						
BR104	**Keskin Array S**	**6.89**	**48**	P	**Pn**	**05 24 36.1**	**+0.5**
	0.0nm53nm5.9nm,0.8s						
BRTR	**Keskin Array B**	**6.90**	**48**	Pn	**Pn**	**05 24 36.8**	**+1.0**
	0.3nm,0.3s,baz=217,slow=15,SNR=11						
BRTR				Sn	**Sn**	**05 25 54.7**	**+0.1**
	0.4nm,0.3s,baz=216,slow=23,SNR=5.4						
	2.2nm,0.8s						
MMAI	**Mount Meron Ar**	**7.28**	**105**	Pn	**Pn**	**05 24 41.0**	**+0.2**
	3.8nm,0.3s,baz=299,slow=15,SNR=7.6						
MMAI				Sn	**Sn**	**05 25 58.3**	**-5.5**
	5.0nm,0.3s,baz=297,slow=31,SNR=2.7						
	2.9nm,0.4s						
EIL	**Elat**	**8.68**	**127**	Pn	**Pn**	**05 25 01.1**	**+1.0**
	0.7nm,0.3s,baz=330,slow=3.8,SNR=9.4						
EIL				Sn	**Sn**	**05 26 33.0**	**-5.2**
	1.6nm,0.3s,baz=106,slow=16,SNR=4.9						
	4.0nm,0.6s						
ASF	**Jabal al Asfar**	**8.76**	**108**	Pn	**Pn**	**05 25 04.3**	**+3.1**
	0.3nm,0.3s,baz=113,slow=19,SNR=1.1						
ASF				Sn	**Sn**	**05 26 39.0**	**-1.2**
	0.3nm,0.3s,baz=100,slow=19,SNR=1.6						
	1.0nm,0.4s						
TIP	**Timpagrande**	**9.10**	**299**	P	**Pn**	**05 25 06.2**	**+0.4**
	658nm16nm,2.6s						
MLR	**Muntele Rosu**	**10.29**	**356**	Pn	**Pn**	**05 25 22.0**	**-0.1**
	0.2nm,0.3s,baz=291,slow=19,SNR=3.2						
MLR				LR	LR	05 29 11.7	
	comp=Z,46nm,18.2s,baz=128,slow=37						
	1.0nm,0.3s						
MLR	**Muntele Rosu**	**10.29**	**356**	P	**Pn**	**05 25 22.3**	**+0.2**
	11nm,1.1s						
PLOR5	**Plostina Array**	**10.61**	**359**	P	**Pn**	**05 25 26.9**	**+0.4**
	762nm9.7nm,1.3s						
BERU	**Beregovo**	**13.40**	**347**	P	**Pn**	**05 26 04.7**	**+0.2**
BRIU	**Brid**	**13.44**	**348**	P	**Pn**	**05 26 05.9**	**+0.9**
KEST	**Kesra**	**14.43**	**277**	Pn	**Pn**	**05 26 18.9**	**+0.1**
	0.1nm,0.3s,baz=209,slow=14,SNR=1.5						
	1.5nm,0.6s						
LUBAR	**Lubar, Ukraine**	**14.69**	**2**	P	**Pn**	**05 26 22.5**	**+0.3**
GNI	**Garni**	**14.85**	**65**	LR	LR	05 32 18.4	
	comp=Z,35nm,18.4s,baz=278,slow=38						
KBZ	**Khabaz**	**14.88**	**50**	Pn	**Pn**	**05 26 27.1**	**+2.4**
	0.6nm,0.5s,baz=253,slow=9.5,SNR=5.3						
KBZ				LR	LR	05 32 32.3	
	comp=Z,27nm,19.7s,baz=289,slow=39						
AK07	**Malin Array Si**	**15.39**	**5**	P	**Pn**	**05 26 31.8**	**+0.2**
AK10	**Malin Array Si**	**15.45**	**5**	P	**Pn**	**05 26 32.4**	**+0.2**
AK12	**Malin Array Si**	**15.48**	**5**	P	**Pn**	**05 26 33.2**	**+0.5**
AK16	**Malin Array Si**	**15.51**	**5**	P	**Pn**	**05 26 33.6**	**+0.6**
AK11	**Malin Array Si**	**15.52**	**5**	P	**Pn**	**05 26 33.6**	**+0.4**
AK01	**Malin Array Si**	**15.54**	**5**	P	**Pn**	**05 26 34.1**	**+0.7**
KIEV	**Kiev**	**15.54**	**5**	P	**Pn**	**05 26 34.2**	**+0.8**
	22nm,0.8s						
AKASG	**Malin Array Be**	**15.55**	**5**	Pn	**Pn**	**05 26 31.7**	**-1.8**
	0.6nm,0.3s,baz=197,slow=11,SNR=5.2						
AKASG				LR	LR	05 32 19.8	
	comp=Z,23nm,21.1s,baz=140,slow=37						
	0.1nm,0.3s						
AKBB	**Malin Array Si**	**15.55**	**5**	P	**Pn**	**05 26 34.3**	**+0.8**
AK04	**Malin Array Si**	**15.56**	**5**	P	**Pn**	**05 26 34.1**	**+0.3**
MI28	**Mi28,Pidlybu**	**15.70**	**1**	P	**Pn**	**05 26 36.4**	**+0.8**
GERES	**GERESS Array B**	**16.80**	**328**	Pn	**Pn**	**05 26 48.1**	**-1.6**
	baz=141,slow=13,SNR=9.7						
	1.5nm,0.7s						
DPC	**Dobruska-Polom**	**17.01**	**336**	P	**Pn**	**05 26 52.4**	**+0.1**
	3.4nm,1.0s						
KHC	**Kasperske Hory**	**17.07**	**329**	P	**Pn**	**05 26 53.9**	**+0.8**
	5.4nm,0.8s						
ESDC	**Sonseca Array**	**24.94**	**289**	P	**P**	**05 28 17.3**	**-0.7**
	0.8nm,0.6s,baz=78,slow=9.7,SNR=7.8						
	0.8nm,0.6s						
FINES	**FINESS Array B**	**26.24**	**359**	P	**P**	**05 28 27.4**	**-2.1**
	2.3nm,0.9s,baz=180,slow=7.1,SNR=3.4						
	2.3nm,0.9s						
HFS	**Hagfors**	**26.38**	**345**	P	**P**	**05 28 28.5**	**-2.2**
	1.2nm,0.7s,baz=126,slow=14,SNR=2.4						
	1.2nm,0.7s						
NOA	**NORSAR Array B**	**27.75**	**343**	P	**P**	**05 28 42.1**	**-1.0**
	0.1nm,0.4s,baz=28,slow=17,SNR=1.5						
	0.1nm,0.4s						
EKA	**Eskdalemuir Ar**	**28.89**	**323**	P	**P**	**05 28 53.2**	**0.0**
	0.4nm,0.6s,baz=118,slow=9.0,SNR=3.4						
	0.4nm,0.6s						
ARCES	**ARCESS Array B**	**34.37**	**359**	P	**P**	**05 29 40.8**	**-0.4**
	1.0nm,0.8s,baz=171,slow=8.4,SNR=4.3						
	1.0nm,0.8s						
BVAR	**Borovoye Array**	**35.19**	**46**	P	**P**	**05 29 49.4**	**+0.8**
	0.5nm,0.4s						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**39.88**	**51**	P	**P**	**05 30 28.9**	**+0.6**
	0.6nm,0.4s,baz=276,slow=8.9,SNR=7.4						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**42.45**	**57**	P	**P**	**05 30 49.8**	**+0.2**
	2.9nm,0.5s,baz=278,slow=7.0,SNR=36						
	2.9nm,0.5s						
ZALV	**Zalesovo Beam**	**43.84**	**46**	P	**P**	**05 31 00.6**	**-0.1**
	1.0nm,0.4s,baz=269,slow=12,SNR=1.5						
	1.0nm,0.4s						
NRIK	**Noril'sk**	**47.17**	**25**	P	**P**	**05 31 26.8**	**+0.1**
	1.5nm,0.4s,baz=244,slow=3.5,SNR=2.3						
	1.5nm,0.4s						
SONM	**Songino Array**	**58.25**	**51**	P	**P**	**05 32 49.9**	**+0.6**
	1.1nm,0.5s,baz=293,slow=7.6,SNR=8.8						
	1.1nm,0.5s						
SCHQ	**Schefferville**	**64.13**	**320**	P	**P**	**05 33 28.8**	**0.0**
	1.3nm,0.5s,baz=41,slow=7.8,SNR=3.7						
	1.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**65.03**	**84**	P	**P**	**05 33 35.2**	**-0.1**
	0.8nm,0.3s,baz=190,slow=14,SNR=1.5						
	0.8nm,0.3s						
ILAR	**Eielson Array**	**80.22**	**357**	P	**P**	**05 35 04.5**	**-0.4**
	0.2nm,0.8s,baz=284,slow=3.6,SNR=2.3						
	0.2nm,0.8s						

*IDC **11** 05:29:42.5±3.6, 54°.44N×87°.16E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=33.8km s-min=21.3km az=44.0*

ASRS 11 05:29:42.0±0.9, **54°.35N×86°.92E, h0**km, **M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**253**	I	I	05 37 49.6	
	baz=72,slow=308,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.30**	**253**	Pn	Pn	05 30 09.0	+1.6
	1.2nm,0.3s,baz=68,slow=16,SNR=9.3						
ZALV				Lg	Lg	05 30 29.0	
	0.8nm,0.3s,baz=65,slow=27,SNR=2.0						
KURBB	**Kurchatov Arra**	**6.34**	**237**	Pn	Pn	05 31 20.5	+3.9
	baz=53,slow=14,SNR=4.2						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.12**	**203**	Pn	Pn	05 31 44.5	+3.4
	0.2nm,0.3s,baz=27,slow=14,SNR=6.4						
	0.2nm,0.3s						

*SKHL **11** 05:34:52.0±0.6, 46°.00N×153°.00E, h35km±3km, mb4.4/3*
*IDC **11**

mbtmp4.2/23,MS3.4/16,Error ellipse: s-maj=17.9km s-min=10.2km az=48.0
NEIC 11 05:35:44.2±1.1, 14°55N±0.08×119°43E±0.08, h10km±1km, mb4.6/93,Error ellipse: s-maj=16.3km s-min=7.6km az=137.0
ISC 11 05:35:47.6±0.4,**14°55N**±0.06×**119°47E**±0.07,**h36**km,**n328,** σ0=**93**/312,**mb4.5**/71,**MS3.5**/20,**1D,Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.49**	**107**	Pg	**Pn**	**05 36 11.9**	**+0.1**
	369nm,0.3s,baz=288,slow=4.3,SNR=51						
TGY				Lg	Lg	05 36 30.1	
	518nm,0.3s,baz=263,slow=7.9,SNR=8.0						
TGY				LR	LR	05 36 49.9	
	comp=Z,1μm,18.0s,baz=170,slow=45						
YULB	**Yu-li**	**8.96**	**11**	Pn	**Pn**	**05 37 53.3**	**-1.2**
KKM	**Kota Kinabalu**	**9.04**	**201**	Pn	**Pn**	**05 37 53.9**	**-1.8**
QIZ	**Qiongzhong**	**10.24**	**297**	P	**Pn**	**05 38 11.6**	**-0.5**
QIZ				S	**Sn**	**05 40 06.6**	**+0.9**
QIZ				LR	LR		
	comp=N,320nm,8.7s						
QIZ				LR	LR		
	comp=E,230nm,7.7s						
QIZ				LR	LR		
	comp=Z,600nm,9.1s						
JOW	**Kunigami**	**14.72**	**33**	Pn	**Pn**	**05 39 11.7**	**-1.6**
KSM	**Kuching**	**15.84**	**216**	Pn	**Pn**	**05 39 26.3**	**-1.7**
NJ2	**Nanjing**	**17.43**	**358**	*e*P	**P**	**05 39 48.2**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,17nm,0.7s						
KAPI	**Kappang**	**19.44**	**179**	P	**P**	**05 40 12.6**	**+1.5**
	comp=Z,31nm,0.3s,baz=232,slow=12,SNR=3.7						
CMAR	**Chiang Mai Arr**	**20.06**	**284**	P	**P**	**05 40 17.9**	**0.0**
	comp=Z,1.2nm,0.3s,baz=92,slow=8.8,SNR=8.8						
CMAR				LR	LR	05 47 52.0	
	comp=Z,69nm,20.8s,baz=95,slow=36						
	comp=Z,1.2nm,0.3s						
PZH	**PanZhiHua**	**20.39**	**308**	P	Pn	05 40 23.8	0.0
JNU	**Nakatsue**	**21.20**	**27**	LR	LR	05 49 56.3	
	comp=Z,91nm,18.8s,baz=190,slow=40						
XAN	**Xi'an**	**21.63**	**336**	P	**P**	**05 40 33.6**	**-1.1**
XAN				LR	LR		
	comp=N,330nm,16.5s						
XAN				LR	LR		
	comp=E,450nm,16.5s						
XAN				LR	LR		
	comp=Z,370nm,16.1s						
PSI	**Prapat**	**23.40**	**242**	LR	LR	05 48 56.1	
	comp=Z,74nm,20.9s,baz=51,slow=34						
KSRS	**Korea Array**	**24.02**	**17**	P	**P**	**05 40 57.1**	**-1.9**
	comp=Z,2.2nm,0.8s,baz=199,slow=9.7,SNR=5.7						
	comp=Z,2.2nm,0.8s						
GUMO	**Guam**	**24.65**	**89**	LR	LR	05 51 07.4	
	comp=Z,64nm,18.1s,baz=25,slow=38						
LZH	**Lanzhou**	**25.61**	**330**	*e*P	**P**	**05 41 13.7**	**-0.1**
LZH				pP	pP	05 41 21.4	-1.8
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
BRDH	**Bariadhala**	**27.55**	**291**	LR	LR	05 54 37.9	
	comp=Z,139nm,18.0s,baz=158,slow=41						
BNX	**BinXian**	**31.80**	**11**	||P	**P**	**05 42 09.3**	**+0.7**
BNX				pP	**pP**	**05 42 12.5**	**-5.6**
BNX				S	**S**	**05 47 22.7**	**+6.3**
BNX				pmax	pmax		
	comp=Z,4.0nm,1.3s						
BNX				pmax	pmax		
	comp=Z,82nm,4.1s						
BNX				LR	LR		
	comp=N,2μm,30.9s						
BNX				LR	LR		
	comp=E,2μm,22.6s						
BNX				LR	LR		
	comp=Z,560nm,43.4s						
SONM	**Songino Array**	**34.92**	**345**	P	**P**	**05 42 34.6**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=169,slow=10,SNR=5.3						
	comp=Z,0.8nm,0.7s						
ASAJ	**Asahikawa**	**35.45**	**29**	P	**P**	**05 42 38.6**	**-1.8**
	comp=Z,3.5nm,0.5s,baz=215,slow=12,SNR=1.9						
ASAJ				LR	LR	05 57 15.1	
	comp=Z,38nm,19.5s,baz=94,slow=37						
	comp=Z,3.5nm,0.5s						
KLR	**Kul'dur**	**36.02**	**14**	P	**P**	**05 42 43.2**	**-2.0**
	comp=Z,3.3nm,0.8s,baz=230,slow=7.2,SNR=7.8						
KLR				LR	LR	05 58 31.7	
	comp=Z,84nm,18.8s,baz=196,slow=38						
	comp=Z,3.3nm,0.8s						
HEH	**HeiHe**	**36.19**	**9**	*e*P	**P**	**05 42 45.7**	**-0.9**
HEH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
HEH				LR	LR		
	comp=N,130nm,13.5s						
HEH				LR	LR		
	comp=E,150nm,14.1s						
HEH				LR	LR		
	comp=Z,110nm,16.6s						
WB0	**Warramunga Arr**	**37.13**	**156**		**P**	**05 42 54.1**	**-0.9**
WB0				IAmb	IAmb	05 42 55.5	
	comp=Z,10nm,0.7s						
WRAB	**Tennant Creek**	**37.26**	**156**	P	**P**	**05 42 56.0**	**-0.1**
WRAB				IAmb	IAmb	05 42 56.8	
	comp=Z,9.1nm,0.6s						
WRA	**Warramunga Arr**	**37.27**	**157**		**P**	**05 42 55.3**	**-0.8**
WRA	**Warramunga Arr**	**37.27**	**157**	P	**P**	**05 42 56.2**	**0.0**
	comp=Z,7.4nm,0.6s,baz=335,slow=9.5,SNR=106						
WRA				PcP	**PcP**	**05 45 16.4**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=338,slow=3.6,SNR=3.3						
	comp=Z,7.4nm,0.6s						
WB2	**Warramunga Arr**	**37.27**	**156**	P	**P**	**05 42 56.0**	**-0.2**
WR8	**Warramunga Arr**	**37.34**	**156**		**P**	**05 42 56.0**	**-0.8**
WR8				IAmb	IAmb	05 42 57.9	
	comp=Z,26nm,1.5s						
WR0	**Warramunga Arr**	**37.36**	**156**	P	**P**	**05 42 57.2**	**+0.3**
WR0				IAmb	IAmb	05 42 57.5	
	comp=Z,6.9nm,0.8s						
YSS	**Yuzhno-Sakhali**	**37.70**	**26**	P	**P**	**05 42 59.3**	**-0.2**
YSS				IAmb	IAmb	05 43 00.2	
	comp=Z,10nm,0.6s						
WMQ	**Urumqi**	**39.82**	**323**	*e*P	**P**	**05 43 21.2**	**+3.8**
WMQ				pmax	pmax		
	comp=Z,28nm,0.7s						
WMQ				LR	LR		
	comp=N,330nm,13.5s						
WMQ				LR	LR		
	comp=Z,170nm,19.3s						
AS31	**Alice Springs**	**40.52**	**159**		**P**	**05 43 23.0**	**-0.4**
ASAR	**Alice Springs**	**40.52**	**159**	P	**P**	**05 43 23.8**	**+0.4**
ASAR	**Alice Springs**	**40.52**	**159**	P	**P**	**05 43 24.2**	**+0.8**
	comp=Z,9.4nm,0.6s,baz=338,slow=6.7,SNR=110						
ASAR				PcP	**PcP**	**05 45 27.0**	**+1.5**
	comp=Z,1.3nm,0.9s,baz=339,slow=3.1,SNR=4.1						
	comp=Z,9.4nm,0.6s						
CTAO	**Charters Tower**	**43.34**	**142**	P	**P**	**05 43 46.5**	**0.0**
MK31	**Makanchi Array**	**44.65**	**324**	P	**P**	**05 43 56.2**	**-0.4**
MKAR	**Makanchi Array**	**44.65**	**324**	P	**P**	**05 43 55.4**	**-1.2**
MKAR	**Makanchi Array**	**44.65**	**324**	P	**P**	**05 43 56.5**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=132,slow=8.8,SNR=5.7						
MKAR				PcP	**PcP**	**05 45 39.8**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=122,slow=4.0,SNR=2.2						
MKAR				LR	LR	06 01 23.1	
	comp=Z,49nm,18.4s,baz=98,slow=35						
	comp=Z,0.6nm,0.7s						
AAK	**Ala-Archa**	**47.63**	**315**	P	**P**	**05 44 20.3**	**-0.1**
AAK				IAmb	IAmb	05 44 44.7	
	comp=Z,2.4nm,0.6s						
AAK	**Ala-Archa**	**47.63**	**315**	LR	LR	06 04 59.7	
	comp=Z,42nm,21.4s,baz=128,slow=37						
ZAA0	**Zalesovo Array**	**47.76**	**333**	P	**P**	**05 44 21.0**	**0.0**
ZALV	**Zalesovo Beam**	**47.76**	**333**	P	**P**	**05 44 20.9**	**-0.1**
ZALV	**Zalesovo Beam**	**47.76**	**333**	P	**P**	**05 44 20.2**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=115,slow=6.8,SNR=1.7						
	comp=Z,0.4nm,0.3s						
YAK	**Yakutsk**	**47.97**	**6**	P	**P**	**05 44 22.0**	**-0.4**
KURBB	**Kurchatov Arra**	**48.82**	**326**	P	**P**	**05 44 29.3**	**0.0**
	comp=Z,0.9nm,0.4s,baz=123,slow=8.1,SNR=8.4						
	comp=Z,0.9nm,0.4s						
KURK	**Kurchatov**	**48.83**	**326**		**P**	**05 44 29.9**	**+0.7**
KURK				IAmb	IAmb	05 44 47.1	
	comp=Z,6.4nm,1.1s						
PEA0B	**Petropavlovsk-**	**48.87**	**30**	P	**P**	**05 44 29.6**	**0.0**
PETK	**Petropavlovsk-**	**48.87**	**30**	P	**P**	**05 44 29.3**	**-0.2**
PETK	**Petropavlovsk-**	**48.87**	**30**	P	**P**	**05 44 29.1**	**-0.4**
	comp=Z,4.0nm,0.8s,baz=216,slow=7.3,SNR=4.2						
PETK				LR	LR	06 05 54.4	
	comp=Z,36nm,19.1s,baz=198,slow=37						
	comp=Z,4.0nm,0.8s						
MA2	**Magadan**	**50.50**	**20**	LR	LR	06 09 47.0	
	comp=Z,33nm,18.1s,baz=174,slow=41						
KK31	**Karatay Array**	**50.53**	**314**	P	**P**	**05 44 42.7**	**+0.3**
KKAR	**Karatay Array**	**50.53**	**314**	P	**P**	**05 44 41.5**	**-1.0**
SEY	**Seymchan**	**53.56**	**18**	P	**P**	**05 45 04.6**	**0.0**
	comp=Z,0.6nm,0.3s,baz=27,slow=4.5,SNR=4.2						
	comp=Z,0.6nm,0.3s						
BVAR	**Borovoye Array**	**54.40**	**326**	P	**P**	**05 45 11.6**	**+0.6**
	comp=Z,0.7nm,0.3s						
	comp=Z,0.7nm,0.3s						
BRVK	**Borovoye**	**54.48**	**326**	P	**P**	**05 45 10.9**	**-0.5**
BRVK				IAmb	IAmb	05 45 13.7	
	comp=Z,4.2nm,0.8s						
TIXI	**Tiksi**	**57.35**	**4**	P	**P**	**05 45 31.4**	**-0.3**
TIXI				IAmb	IAmb	05 45 32.2	
	comp=Z,6.0nm,0.9s						
SMY	**Shemya**	**57.38**	**36**	P	**P**	**05 45 32.6**	**+0.5**
NRIK	**Noril'sk**	**58.32**	**347**	P	**P**	**05 45 38.5**	**0.0**
	comp=Z,1.5nm,0.5s,baz=121,slow=6.2,SNR=5.2						
NRIK				LR	LR	06 14 22.9	
	comp=Z,37nm,18.7s,baz=160,slow=40						
	comp=Z,1.5nm,0.5s						
AB31	**Akbulak array**	**59.31**	**319**	P	**P**	**05 45 46.0**	**+0.2**
ABKAR	**Akbulak array**	**59.31**	**319**	P	**P**	**05 45 45.8**	**0.0**
AKTO	**Aktyubinsk**	**60.80**	**320**	LR	LR	06 11 40.6	
	comp=Z,38nm,18.8s,baz=261,slow=36						
ARTI	**Arti**	**62.10**	**327**	P	**P**	**05 46 05.2**	**+0.5**
P08K	**Saint George I**	**67.51**	**34**	P	**P**	**05 46 40.5**	**+0.7**
	baz=262						
UNV	**Unalaska Valle**	**68.96**	**38**	P	**P**	**05 46 49.9**	**+1.0**
	baz=266						
F14K	**Arctic Creek**	**70.31**	**25**	P	**P**	**05 46 58.6**	**+1.5**
	baz=262						
F15K	**North Star Dit**	**71.03**	**25**	P	**P**	**05 47 02.5**	**+0.9**
F15K	**North Star Dit**	**71.03**	**25**	P	**P**	**05 47 02.7**	**+1.1**
	baz=263						
C16K	**Lisburne Hills**	**71.10**	**22**	P	**P**	**05 47 03.0**	**+1.1**
	baz=262						
M13K	**Dall Lake**	**71.13**	**31**	P	**P**	**05 47 02.8**	**+0.6**
	baz=266						
G15K	**Niukluk**	**71.20**	**26**	P	**P**	**05 47 03.6**	**+1.0**
	baz=264						
J14K	**Nanvaranak Lak**	**71.21**	**28**	P	**P**	**05 47 03.5**	**+0.9**
	baz=265						
L14K	**Kuka Creek**	**71.52**	**30**		**P**	**05 47 05.1**	**+0.7**
L14K	**Kuka Creek**	**71.52**	**30**	P	**P**	**05 47 05.2**	**+0.7**
	baz=266						
M14K	**Bethel**	**71.83**	**30**	P	**P**	**05 47 07.3**	**+0.9**
M14K				IAmb	IAmb	05 47 20.6	
	comp=Z,8.7nm,1.3s						
M14K	**Bethel**	**71.83**	**30**	P	**P**	**05 47 07.1**	**+0.7**
	baz=267						
D17K	**Noatak River**	**71.87**	**23**	P	**P**	**05 47 06.9**	**+0.4**
	baz=264						
N14K	**Kuskokwak Cree**	**71.94**	**31**	P	**P**	**05 47 07.4**	**+0.4**
	baz=268						
L15K	**Ungalak Mounta**	**72.11**	**29**	P	**P**	**05 47 08.8**	**+0.7**
	baz=267						
K15K	**Wolf Creek Mou**	**72.11**	**29**	P	**P**	**05 47 08.9**	**+0.8**
	baz=267						
O14K	**Tigyukauivet M**	**72.13**	**32**	P	**P**	**05 47 08.8**	**+0.6**
	baz=268						
E17K	**Hotham Inlet**	**72.30**	**24**	P	**P**	**05 47 09.6**	**+0.5**
	baz=265						
M15K	**Kasigluk River**	**72.46**	**31**	P	**P**	**05 47 10.6**	**+0.5**
	baz=268						
B18K	**Kokolik River**	**72.51**	**21**	P	**P**	**05 47 11.0**	**+0.7**
	baz=265						
SDPT	**Sand Point**	**72.51**	**36**	P	**P**	**05 47 11.1**	**+0.5**
	baz=270						
I17K	**Unalakleet**	**72.57**	**27**	P	**P**	**05 47 11.8**	**+1.0**
	baz=267						
J16K	**Anvik River**	**72.58**	**28**	P	**P**	**05 47 11.7**	**+0.8**
	baz=268						
C18K	**Utukok River**	**72.66**	**22**	P	**P**	**05 47 12.2**	**+0.8**
	baz=266						
G17K	**Kiwalik Mounta**	**72.67**	**25**	P	**P**	**05 47 12.0**	**+0.6**
	baz=267						
N15K	**Kwethluk River**	**72.74**	**31**		**P**	**05 47 11.7**	**-0.2**
N15K	**Kwethluk River**	**72.74**	**31**	P	**P**	**05 47 11.6**	**-0.2**
	baz=269,SNR=7.2						
E18K	**Tukpahlearik C**	**72.80**	**23**	P	**P**	**05 47 12.0**	**-0.1**
	baz=266						
O15K	**Ungalikthiuk R**	**72.87**	**32**	P	**P**	**05 47 12.7**	**+0.1**
	baz=270						
H17K	**Granite Mounta**	**72.95**	**26**	P	**P**	**05 47 13.3**	**+0.3**
	baz=268						
CHNA	**Chernabura Isl**	**73.03**	**37**	P	**P**	**05 47 13.3**	**-0.3**
	baz=271						
L16K	**Owhat River**	**73.06**	**29**	P	**P**	**05 47 14.8**	**+1.0**
L16K	**Owhat River**	**73.06**	**29**	P	**P**	**05 47 13.7**	**-0.1**
	baz=269						
F18K	**Selawik**	**73.13**	**24**	P	**P**	**05 47 14.6**	**+0.6**
	baz=268						
C19K	**Lookout Ridge**	**73.28**	**22**	P	**P**	**05 47 15.9**	**+1.0**
	baz=267						
J17K	**VABM Dome**	**73.28**	**28**	P	**P**	**05 47 15.3**	**+0.4**
J17K				IAmb	IAmb	05 47 17.1	
	comp=Z,8.6nm,1.0s						
J17K	**VABM Dome**	**73.28**	**28**	P	**P**	**05 47 15.9**	**+0.9**
	baz=269						
M16K	**Timber Creek**	**73.31**	**30**		**P**	**05 47 15.8**	**+0.6**
M16K				IAmb	IAmb	05 47 16.8	
	comp=Z,6.3nm,0.9s						
M16K	**Timber Creek**	**73.31**	**30**	P	**P**	**05 47 16.0**	**+0.8**
	baz=270						
N16K	**Nishlik Lake**	**73.40**	**31**	P	**P**	**05 47 17.1**	**+1.3**
	baz=270						
G18K	**Tagagawik**	**73.51**	**25**	P	**P**	**05 47 17.2**	**+0.8**
	baz=269						
H18K	**Honhosa River**	**73.61**	**26**	P	**P**	**05 47 18.4**	**+1.4**
	baz=269						
K17K	**Iditarod**	**73.62**	**28**		**P**	**05 47 17.9**	**+0.9**
K17K	**Iditarod**	**73.62**	**28**	P	**P**	**05 47 18.3**	**+1.3**
	baz=270,SNR=7.7						
L17K	**Donlin**	**73.62**	**29**	P	**P**	**05 47 18.3**	**+1.3**
	baz=270,SNR=5.6						
O16K	**Kokwok River B**	**73.75**	**32**	P	**P**	**05 47 18.6**	**+0.8**
O16K				IAmb	IAmb	05 47 19.2	
	comp=Z,6.0nm,1.0s						
O16K	**Kokwok River B**	**73.75**	**32**	P	**P**	**05 47 18.6**	**+0.8**
	baz=271						
D19K	**Kuna River**	**73.78**	**22**	P	**P**	**05 47 19.6**	**+1.7**
D19K				IAmb	IAmb	05 47 28.8	
	comp=Z,7.5nm,1.1s						
D19K	**Kuna River**	**73.78**	**22**	P	**P**	**05 47 18.9**	**+1.0**
	baz=268						
P16K	**Nushagak River**	**73.81**	**32**	P	**P**	**05 47 18.7**	**+0.6**
	baz=271						
M17K	**Holitna River**	**74.04**	**30**	P	**P**	**05 47 20.3**	**+0.8**
	baz=271,SNR=5.6						
E19K	**Redstone River**	**74.10**	**23**	P	**P**	**05 47 21.4**	**+1.7**
E19K	**Redstone River**	**74.10**	**23**	P	**P**	**05 47 20.7**	**+1.0**
	baz=270						
G19K	**Purcell Mounta**	**74.15**	**25**	P	**P**	**05 47 20.9**	**+0.9**
	baz=270						
B20K	**Meade River**	**74.16**	**21**	P	**P**	**05 47 20.6**	**+0.6**
	baz=269						
N17K	**Nushagak Hills**	**74.18**	**31**		**P**	**05 47 21.8**	**+1.4**
N17K				IAmb	IAmb	05 47 22.4	
	comp=Z,6.1nm,0.9s						
N17K	**Nushagak Hills**	**74.18**	**31**	P	**P**	**05 47 20.8**	**+0.4**
	baz=272						
GCSA	**Galena City Sc**	**74.25**	**26**	P	**P**	**05 47 20.9**	**+0.3**
	baz=271						
O17K	**Koliganek Bris**	**74.25**	**31**	P	**P**	**05 47 21.6**	**+0.9**
	baz=272						
J18K	**Innoko River**	**74.34**	**28**	P	**P**	**05 47 21.9**	**+0.7**
	baz=271						
D20K	**Etivluk River**	**74.34**	**22**	IAmb	IAmb	05 47 23.6	
	comp=Z,6.5nm,1.1s						
D20K	**Etivluk River**	**74.34**	**22**	P	**P**	**05 47 22.1**	**+1.0**
	baz=270						
A21K	**Barrow**	**74.37**	**19**	P	**P**	**05 47 22.3**	**+1.1**
	baz=269						
L18K	**Granite Mounta**	**74.38**	**29**		**P**	**05 47 22.8**	**+1.4**
L18K				IAmb	IAmb	05 47 23.5	
	comp=Z,5.6nm,0.8s						
L18K	**Granite Mounta**	**74.38**	**29**	P	**P**	**05 47 22.6**	**+1.1**
	baz=272,SNR=7.6						
H19K	**Roundabout Mou**	**74.42**	**25**	P	**P**	**05 47 22.7**	**+1.1**
	baz=271						
E20K	**Nigu River**	**74.50**	**23**	P	**P**	**05 47 23.4**	**+1.3**
	baz=270						
Q16K	**King Salmon**	**74.52**	**33**	P	**P**	**05 47 23.0**	**+0.7**
	baz=272						
P17K	**Kvichak River**	**74.61**	**32**	P	**P**	**05 47 23.5**	**+0.7**
	baz=273,SNR=6.1						
F20K	**Avaraart Lake**	**74.69**	**24**	P	**P**	**05 47 23.9**	**+0.8**
	baz=271						
R17L	**Mt. Peulik Vol**	**74.73**	**34**	P	**P**	**05 47 23.6**	**0.0**
	baz=273						
J19K	**Poorman**	**74.81**	**27**	P	**P**	**05 47 24.5**	**+0.6**
	baz=272						
M18K	**Stony River**	**74.81**	**30**	P	**P**	**05 47 24.9**	**+0.9**
	baz=272						
N18K	**Kilae Creek**	**74.82**	**31**	P	**P**	**05 47 25.0**	**+0.9**
	baz=273						
Q17K	**Contact Creek**	**74.94**	**33**	P	**P**	**05 47 24.8**	**-0.1**
	baz=273,SNR=6.0						
C21K	**Knifeblade Rid**	**75.00**	**22**	P	**P**	**05 47 25.5**	**+0.5**
	baz=271						
H20K	**Anotleneega Mo**	**75.07**	**25**	P	**P**	**05 47 26.5**	**+1.0**
	baz=272,SNR=5.3						
Q18K	**Koktuh Hills**	**75.20**	**31**		**P**	**05 47 27.4**	**+1.1**
O18K	**Koktuh Hills**	**75.20**	**31**	P	**P**	**05 47 26.8**	**+0.5**
	baz=273,SNR=10						
L19K	**White Mountain**	**75.24**	**29**		**P**	**05 47 27.8**	**+1.3**
L19K				IAmb	IAmb	05 47 28.9	
	comp=Z,7.2nm,0.9s						
L19K	**White Mountain**	**75.24**	**29**	P	**P**	**05 47 27.3**	**+0.8**
	baz=273,SNR=9.0						
I20K	**Naaghedeneel**	**75.27**	**26**	P	**P**	**05 47 27.4**	**+0.9**
	baz=273						
Q18K	**Katmai Hardscr**	**75.38**	**33**	P	**P**	**05 47 27.1**	**-0.3**
	baz=274						
B22K	**Teshekpuk Lake**	**75.43**	**20**	P	**P**	**05 47 28.2**	**+0.8**
	baz=272						
J20K	**Nowinta River**	**75.45**	**27**		**P**	**05 47 29.1**	**+1.5**
J20K				IAmb	IAmb	05 47 29.7	
	comp=Z,5.3nm,0.9s						
J20K	**Nowinta River**	**75.45**	**27**	P	**P**	**05 47 28.6**	**+1.0**
	baz=273,SNR=6.9						
M19K	**Big River Lodg**	**75.47**	**29**	IAmb	IAmb	05 47 29.9	
	comp=Z,3.4nm,0.8s						
M19K	**Big River Lodg**	**75.47**	**29**	P	**P**	**05 47 28.6**	**+0.7**
	baz=274						
N19K	**Bonanza Creek**	**75.50**	**30**		**P**	**05 47 29.2**	**+1.2**
N19K				IAmb	IAmb	05 47 29.9	
	comp=Z,6.2nm,0.8s						
N19K	**Bonanza Creek**	**75.50**	**30**	P	**P**	**05 47 28.7**	**+0.6**
	baz=274,SNR=5.0						
K20K	**Telida**	**75.53**	**28**	IAmb	IAmb	05 47 30.3	
	comp=Z,5.1nm,0.9s						
K20K	**Telida**	**75.53**	**28**	P	**P**	**05 47 29.0**	**+0.9**
	baz=274,SNR=5.7						
G21K	**Allakaket**	**75.59**	**24**	IAmb	IAmb	05 47 30.8	
	comp=Z,5.7nm,1.0s						
G21K	**Allakaket**	**75.59**	**24**	P	**P**	**05 47 29.2**	**+0.8**
	baz=273,SNR=7.1						
L20K	**Farewell, AK**	**75.67**	**29**	P	**P**	**05 47 30.2**	**+1.2**
	baz=274						
H21K	**Melozitna Rive**	**75.92**	**25**	IAmb	IAmb	05 47 33.1	
	comp=Z,6.5nm,1.2s						
H21K	**Melozitna Rive**	**75.92**	**25**	P	**P**	**05 47 31.6**	**+1.2**
	baz=274,SNR=9.5						
Q19K	**Cape Douglas,**	**76.07**	**32**	P	**P**	**05 47 30.9**	**-0.4**
	baz=275						
M20K	**Styx River**	**76.07**	**29**	P	**P**	**05 47 31.7**	**+0.4**
	baz=275						
E22K	**Anaktuvuk Pass**	**76.13**	**23**	P	**P**	**05 47 32.2**	**+0.7**
	baz=274						
P19K	**Oil Pt**	**76.21**	**31**	P	**P**	**05 47 32.1**	**0.0**
	baz=275						
CHUM	**Lake Minchumin**	**76.27**	**27**	P	**P**	**05 47 33.1**	**+0.8**
	baz=275						
I21K	**Tanana**	**76.31**	**26**	IAmb	IAmb	05 47 49.1	
	comp=Z,5.8nm,1.1s						
I21K	**Tanana**	**76.31**	**26**	P	**P**	**05 47 33.3**	**+0.8**
	baz=275						
G22K	**Bettles**	**76.35**	**24**	P	**P**	**05 47 33.8**	**+1.1**
	baz=275						
OHAK	**Old Harbor**	**76.42**	**34**	P	**P**	**05 47 33.8**	**+0.6**
	baz=276						
CAST	**Castle Rocks**	**76.42**	**28**	P	**P**	**05 47 33.7**	**+0.5**
	baz=275,SNR=20						
PPLA	**Purkeypile**	**76.42**	**28**	P	**P**	**05 47 33.9**	**+0.6**
	baz=275						
C23K	**Itkillik River**	**76.43**	**21**	P	**P**	**05 47 34.0**	**+0.9**
	baz=275						
D23K	**Nanushuk River**	**76.48**	**22**	P	**P**	**05 47 34.3**	**+0.8**
	baz=275						
H22K	**Ishtalitna Cre**	**76.49**	**25**	P	**P**	**05 47 34.6**	**+1.0**
	baz=275						
KDAK	**Kodiak Island**	**76.73**	**33**	P	**P**	**05 47 35.3**	**+0.3**
	baz=276						
Q20K	**Shuyak Island**	**76.75**	**33**	P	**P**	**05 47 35.3**	**+0.3**
	baz=276						
SKT	**Skwentna**	**76.81**	**29**	IAmb	IAmb	05 47 44.1	
	comp=Z,6.4nm,1.1s						
SKT	**Skwentna**	**76.81**	**29**	P	**P**	**05 47 35.3**	**-0.2**
	baz=276						
COLD	**Coldfoot**	**76.83**	**24**	P	**P**	**05 47 36.1**	**+0.7**
	baz=276						
BPAW	**Bear Paw Mtn.**	**76.84**	**27**	P	**P**	**05 47 36.2**	**+0.6**
	baz=276,SNR=5.1						
MLY	**Manley**	**76.84**	**26**	IAmb	IAmb	05 47 37.9	
	comp=Z,4.1nm,0.9s						
MLY	**Manley**	**76.84**	**26**	P	**P**	**05 47 36.2**	**+0.6**
	baz=276,SNR=8.0						
TOLK	**Toolik Lake Re**	**76.91**	**22**	P	**P**	**05 47 36.7**	**+0.8**
	baz=276						
G23K	**Bananza Creek**	**76.95**	**24**	P	**P**	**05 47 37.4**	**+1.2**
	baz=276						
E23K	**Chandalar**	**76.96**	**23**	P	**P**	**05 47 37.0**	**+0.7**
	baz=276,SNR=5.2						
D24K	**Happy Valley**	**77.12**	**22**	P	**P**	**05 47 38.0**	**+1.0**
	baz=277						
TRF	**Thorofare Moun**	**77.22**	**27**	IAmb	IAmb	05 47 53.2	
	comp=Z,7.1nm,1.2s						
TRF	**Thorofare Moun**	**77.22**	**27**	P	**P**	**05 47 38.5**	**+0.7**
	baz=277						
SUA	**Susitna One**	**77.24**	**29**	P	**P**	**05 47 38.3**	**+0.3**
	baz=277						
H23K	**Yukon River**	**77.25**	**25**	IAmb	IAmb	05 48 01.4	
	comp=Z,8.7nm,1.4s						
H23K	**Yukon River**	**77.25**	**25**	P	**P**	**05 47

comp=Z,6.7nm,1.3s
SEW Seward 78.05 31 P **P 05 47 42.6 +0.3**
SEW Seward 78.05 31 P **P 05 47 42.4 +0.1**
baz=278
WAT1 Susitna Watana 78.08 28 P **P 05 47 43.2 +0.7**
baz=278
KNK Knik Glacier 78.34 29 P **P 05 47 44.0 +0.1**
KNK Knik Glacier 78.34 29 P **P 05 47 44.4 +0.4**
baz=279
E25K Arctic Village 78.46 22 P **P 05 47 44.9 +0.4**
baz=280
PWL Port Wells 78.49 30 P **P 05 47 44.7 -0.1**
PWL Port Wells 78.49 30 P **P 05 47 45.1 +0.3**
baz=279
WAT6 Susitna Watana 78.49 28 P **P 05 47 45.0 +0.1**
baz=279
ILAR Eielson Array 78.51 26 P **P 05 47 44.6 -0.2**
comp=Z,1.4nm,1.0s,baz=254,slow=4.9,SNR=8.9
comp=Z,1.4nm,1.0s
SPITS Spitsbergen Ar 78.52 348 P **P 05 47 45.4 +0.8**
comp=Z,1.9nm,0.5s,baz=101,slow=8.6,SNR=5.9
comp=Z,1.9nm,0.5s
F25K Christian Rive 78.52 23 P **P 05 47 45.0 +0.1**
F25K Christian Rive 78.52 23 P **P 05 47 45.1 +0.1**
baz=280
HDA Harding Lake 78.54 26 P **P 05 47 45.5 +0.5**
baz=280
DHY Denali Highway 78.58 28 P **P 05 47 45.4 0.0**
baz=280
M23K Glacier View 78.62 29 P **P 05 47 45.7 +0.1**
baz=279
H25L Birch Creek 78.69 24 P **P 05 47 46.4 +0.7**
baz=280
SCM Sheep Creek Mo 78.81 29 P **P 05 47 47.1 +0.6**
SCM Sheep Creek Mo 78.81 29 P **P 05 47 47.2 +0.6**
baz=280
C27K Jago River 78.83 21 P **P 05 47 47.5 +1.0**
C27K IAmb IAmb 05 47 56.9
comp=Z,4.1nm,0.8s
C27K Jago River 78.83 21 P **P 05 47 47.5 +1.0**
baz=282,SNR=5.9
PRP Porcupine Dome 78.94 25 P **P 05 47 47.5 +0.1**
baz=281
BMAR Burnt Mountain 78.95 23 **P 05 47 48.0 +0.7**
FINES FINESS Array B 78.97 331 P **P 05 47 48.0 +0.7**
comp=Z,2.8nm,1.0s,baz=45,slow=5.7,SNR=4.9
comp=Z,2.8nm,1.0s
F26K Sheenjek River 79.06 23 P **P 05 47 48.2 +0.3**
baz=282
GLI Glacier Island 79.08 30 P **P 05 47 47.6 -0.5**
GLI Glacier Island 79.08 30 P **P 05 47 47.9 -0.1**
baz=280
P23K Montague Islan 79.08 31 P **P 05 47 48.5 +0.5**
baz=280
K24K Donnelly Dome 79.15 27 P **P 05 47 48.9 +0.5**
K24K IAmb IAmb 05 48 00.6
comp=Z,6.1nm,0.9s
K24K Donnelly Dome 79.15 27 P **P 05 47 49.2 +0.8**
baz=281
J25K Salcha River, 79.18 26 P **P 05 47 48.8 +0.2**
baz=281
M24K Tolsona, Glenn 79.29 29 P **P 05 47 49.5 +0.3**
M24K Tolsona, Glenn 79.29 29 P **P 05 47 49.6 +0.3**
baz=281
G26K Porcupine Rive 79.35 23 P **P 05 47 50.2 +0.8**
baz=282
PAX Paxson 79.45 28 **P 05 47 50.2 +0.1**
PAX Paxson 79.45 28 P **P 05 47 50.5 +0.4**
baz=281
KLU Klutina 79.53 29 P **P 05 47 50.7 +0.1**
KLU IAmb IAmb 05 47 51.8
comp=Z,6.5nm,1.2s
KLU Klutina 79.53 29 P **P 05 47 50.9 +0.3**
baz=281
RIDG Independent Ri 79.57 27 **P 05 47 51.2 +0.4**
RIDG IAmb IAmb 05 48 06.6
comp=Z,7.9nm,1.0s
RIDG Independent Ri 79.57 27 P **P 05 47 50.8 +0.1**
baz=282,SNR=6.6
Q23K Middleton Isla 79.71 31 P **P 05 47 52.0 +0.5**
baz=281
SCRK Sand Creek 79.90 26 P **P 05 47 52.8 +0.2**
baz=282
E27K Coleen River 79.90 22 P **P 05 47 52.7 +0.3**
baz=284
I26K Coal Creek Min 79.96 25 P **P 05 47 52.7 0.0**
I26K IAmb IAmb 05 48 02.5
comp=Z,5.0nm,0.8s
I26K Coal Creek Min 79.96 25 P **P 05 47 53.0 +0.3**
baz=283
J26L Joseph Creek 79.96 26 P **P 05 47 53.6 +0.7**
baz=283
N25K Chitina, Valde 80.12 29 P **P 05 47 54.4 +0.6**
baz=282
G27K Doyon Strip 80.20 23 P **P 05 47 54.4 +0.3**
baz=284
BMRM Bremner River 80.26 29 P **P 05 47 54.6 +0.1**
baz=282
H27K Steamboat Moun 80.39 24 P **P 05 47 55.9 +0.8**
baz=284
I27K Kandik River 80.51 25 P **P 05 47 56.4 +0.6**
baz=284
KAIM Kayak Island 80.57 31 P **P 05 47 56.8 +0.6**
baz=283
F28M Old Crow 80.67 22 P **P 05 47 57.0 +0.5**
baz=285
M26K Nabesna, AK 80.69 28 P **P 05 47 57.1 +0.4**
baz=283,SNR=5.7
K27K Chicken 80.70 26 P **P 05 47 57.2 +0.5**
baz=284
CRQE Cirque 81.03 30 P **P 05 47 58.7 0.0**
baz=284
L27K Beaver Creek, 81.05 27 **P 05 47 59.1 +0.5**
L27K Beaver Creek, 81.05 27 P **P 05 47 58.7 0.0**
baz=284,SNR=5.8
BCAR Beaver Creek A 81.07 27 **P 05 47 58.0 -0.8**
BGLC Bering Glacier 81.08 30 P **P 05 47 59.3 +0.5**
baz=284
E29M Blow River 81.17 21 P **P 05 47 59.9 +0.7**
baz=287
M27K Edge Creek, AK 81.20 28 P **P 05 48 00.4 +0.8**
baz=284
I28M Miner Creek 81.23 25 **P 05 47 59.9 +0.3**
I28M Miner Creek 81.23 25 P **P 05 48 00.9 +1.2**
baz=286,SNR=6.5
G29M Pine Creek 81.56 23 **P 05 48 02.2 +0.9**
G29M IAmb IAmb 05 48 11.6
comp=Z,6.1nm,0.9s
G29M Pine Creek 81.56 23 P **P 05 48 02.5 +1.2**
baz=287
H29M Whitestone 81.63 24 P **P 05 48 02.5 +0.8**
H29M IAmb IAmb 05 48 04.5
comp=Z,5.8nm,1.1s
H29M Whitestone 81.63 24 P **P 05 48 03.0 +1.4**
baz=287
CTG Chitna Glacier 81.81 29 P **P 05 48 03.6 +0.8**
baz=285
DAWY Dawson 81.83 26 P **P 05 48 02.9 0.0**
DAWY Dawson 81.83 26 P **P 05 48 03.5 +0.7**
baz=286,SNR=6.8
I29M Ogilvie Camp, 81.91 24 P **P 05 48 03.9 +0.8**
I29M Ogilvie Camp, 81.91 24 P **P 05 48 04.1 +1.0**
baz=287
YUK3 Moose Creek 82.00 28 P **P 05 48 04.5 +0.6**
baz=286
F30M Barrier River 82.17 22 P **P 05 48 05.3 +0.8**
baz=289
G30M tAoh Zrail Nji 82.21 23 P **P 05 48 06.0 +1.2**
baz=289
J29N Klondike Camp 82.21 25 P **P 05 48 06.1 +1.2**
EPYK Eagle Plains 82.22 23 P **P 05 48 05.2 +0.4**
baz=288
BURAR Bucovina Array 82.23 317 P **P 05 48 04.8 -0.5**
L29M L29M 82.66 27 P **P 05 48 07.9 +0.8**
baz=288,SNR=8.0
K29M Barlow Dome 82.69 26 IAmb IAmb 05 48 18.1
comp=Z,3.5nm,0.9s
K29M Barlow Dome 82.69 26 P **P 05 48 08.5 +1.1**
baz=288
M29M Somme Creek 82.71 27 IAmb IAmb 05 48 19.1
comp=Z,4.0nm,1.1s
M29M Somme Creek 82.71 27 P **P 05 48 08.8 +1.3**
baz=287,SNR=5.9
I30M Mount Dempster 82.72 24 IAmb IAmb 05 48 24.6
comp=Z,5.0nm,0.9s
I30M Mount Dempster 82.72 24 P **P 05 48 07.9 +0.4**
baz=289,SNR=7.2

INK Inuvik 82.73 21 P **P 05 48 07.3 0.0**
comp=Z,2.4nm,0.9s,baz=321,slow=6.6,SNR=3.1
comp=Z,2.4nm,0.9s
INK Inuvik 82.73 21 P **P 05 48 08.2 +0.9**
baz=291
J30M Hart River 82.95 25 P **P 05 48 09.0 +0.2**
baz=289
PNL Peninsula 83.09 30 P **P 05 48 09.9 +0.4**
baz=287,SNR=6.2
H31M Peel River 83.32 23 **P 05 48 11.3 +0.8**
H31M IAmb IAmb 05 48 12.9
comp=Z,7.2nm,1.1s
H31M Peel River 83.32 23 P **P 05 48 11.9 +1.4**
baz=291
M30M Minto, Yukon 83.40 27 P **P 05 48 12.6 +1.6**
baz=289,SNR=6.5
N30M Aishikik Lake 83.63 28 P **P 05 48 12.8 +0.6**
baz=289
HYT Haines Junctio 83.64 29 P **P 05 48 13.1 +0.8**
baz=288
P29M Windy Craggy 83.91 30 P **P 05 48 14.0 +0.4**
baz=288
N31M Braeburn, Yuko 84.22 28 P **P 05 48 16.2 +1.0**
baz=290
O30N Mendenhall 84.31 29 P **P 05 48 16.3 +0.6**
baz=290
M31M Drury Creek, Y 84.58 27 P **P 05 48 17.6 +0.5**
baz=291
PLBC Pleasant Camp 84.62 30 P **P 05 48 17.9 +0.7**
baz=290
WHY Whitehorse 84.91 28 P **P 05 48 19.2 +0.4**
baz=291
FARO Faro, Yukon 85.03 27 P **P 05 48 20.0 +0.7**
baz=292
SKAG Skagway 85.12 30 P **P 05 48 20.3 +0.6**
baz=290
HFS Hagfors 85.16 331 P **P 05 48 19.6 -0.3**
comp=Z,1.8nm,0.6s,baz=114,slow=3.6,SNR=8.7
HFS LR LR 06 31 17.7
comp=Z,22nm,18.2s,baz=48,slow=39
comp=Z,1.8nm,0.6s
S31K Pelican 85.19 31 P **P 05 48 20.6 +0.6**
baz=290
N32M Quiet Lake 85.55 28 P **P 05 48 21.8 -0.1**
N32M Quiet Lake 85.55 28 P **P 05 48 22.8 +0.9**
baz=292
MMPY Sheldon Lake, 85.77 26 P **P 05 48 23.0 0.0**
baz=294
NB2 NORSAR Subarra 85.96 332 P **P 05 48 23.3 -0.6**
comp=Z,11nm,1.7s,baz=70,slow=4.8
NOA NORSAR Array B 85.96 332 P **P 05 48 23.6 -0.3**
comp=Z,1.4nm,0.8s,baz=70,slow=5.0,SNR=5.7
NOA LR LR 06 30 21.8
comp=Z,36nm,18.0s,baz=90,slow=38
comp=Z,1.4nm,0.8s
SIT Sitka 85.96 32 P **P 05 48 24.2 +0.3**
baz=290
P33M Teslin, Yukon 86.03 28 P **P 05 48 24.5 +0.2**
baz=292
S34M Telegraph Cree 87.74 30 P **P 05 48 33.1 +0.5**
baz=294
YKA Yellowknife Ar 92.44 22 P **P 05 48 55.3 +0.8**
comp=Z,0.6nm,0.7s,baz=316,slow=4.9,SNR=3.6
comp=Z,0.6nm,0.7s
TXAR Lajitas Array 119.69 43 PKP **PKiKP 05 54 36.1 +1.5**
comp=Z,0.3nm,0.6s,baz=222,slow=1.7,SNR=5.3
PLCA Paso Flores 152.49 163 PKPbc **PKPbc 05 55 40.6 +0.2**
comp=Z,1.3nm,0.8s,baz=210,slow=5.2,SNR=5.2

IDC 11 05:47:50.1±1.5, 4.00N×127.81E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=130.9km s-min=20.3km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.64**	**165**	P	P	05 53 12.9	+0.3
	1.0nm,0.7s,baz=345,slow=11,SNR=13						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**28.13**	**168**	P	P	05 53 43.8	-0.3
	0.2nm,0.3s,baz=350,slow=9.8,SNR=2.1						
	0.2nm,0.3s						
SONM	**Songino Array**	**47.40**	**340**	P	P	05 56 26.4	0.0
	0.6nm,0.5s,baz=156,slow=9.2,SNR=5.1						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**57.95**	**325**	P	P	05 57 44.8	+0.4
	1.5nm,0.7s,baz=121,slow=8.4,SNR=13						
	1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**62.10**	**327**	P	P	05 58 12.2	-0.6
	1.0nm,0.5s,baz=122,slow=6.3,SNR=11						
	1.0nm,0.5s						

IDC 11 06:00:24.6±1.8, 0.60N×126.92E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=166.7km s-min=23.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.68**	**161**	P	P	06 05 16.4	-0.8
	0.6nm,0.6s,baz=339,slow=11,SNR=8.2						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**25.06**	**165**	P	P	06 05 51.5	+0.6
	0.5nm,0.4s,baz=345,slow=10,SNR=8.4						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**60.23**	**326**	P	P	06 10 34.5	-0.2
	0.3nm,0.4s,baz=120,slow=8.7,SNR=2.6						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**64.47**	**328**	P	P	06 11 03.0	+0.1
	0.4nm,0.7s,baz=130,slow=5.2,SNR=2.7						
	0.4nm,0.7s						

IDC 11 06:04:47.6±0.8, 0.38N×126.28E, h0km, mb4.1/13, mbtmp4.1/13, MS3.0/2, Error ellipse: s-maj=46.8km s-min=16.7km az=71.0
DJA 11 06:04:52.5±0.3, 0.7°N±3.1°×12.6°E±0.5°, h10km, M4.1/13, mb4.4/2, MLv3.9/13
ISC 11 06:04:54.3±0.7, 0.34N±0.07×126.31E±0.05, h47km, n22, σ1°12/22, mb4.1/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.14**	**68**	P	**Pn**	**06 05 13.6**	**-0.2**
TNTI				S	**Sn**	**06 05 30.0**	**+1.7**
LBMI	**Labuha**	**1.53**	**129**	P	**Pn**	**06 05 20.0**	**+0.8**
KMSI	**Cibinong**	**2.34**	**276**	P	**Pn**	**06 05 29.9**	**-0.4**
SGSI	**Sangihe**	**3.42**	**347**	P	**Pn**	**06 05 46.2**	**+1.1**
LUWI	**Luwuk**	**3.80**	**249**	P	**Pn**	**06 05 52.0**	**+1.7**
MRSI	**Marisa**	**4.38**	**272**	P	Pn	06 06 18.5	+20
APSI	**Ampana**	**4.83**	**255**	P	**Pn**	**06 06 05.7**	**+1.3**
KDI	**Kendari**	**5.64**	**221**	P	**Pn**	**06 06 14.9**	**-0.7**
WRA	**Warramunga Arr**	**21.63**	**159**	P	**P**	**06 09 39.0**	**-1.8**
	2.9nm,0.4s,baz=337,slow=11,SNR=40						
	2.9nm,0.4s						
ASAR	**Alice Springs**	**24.97**	**163**	P	**P**	**06 10 13.8**	**+0.1**
	5.5nm,1.0s,baz=351,slow=16,SNR=24						
	5.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**32.35**	**305**	LR	LR	06 26 00.8	
	comp=Z,29nm,18.2s,baz=125,slow=39						
MJAR	**Matsushiro Arr**	**37.68**	**16**	P	**P**	**06 12 04.6**	**-0.5**
	0.9nm,0.3s,baz=258,slow=6.1,SNR=2.2						
	0.9nm,0.3s						
SONM	**Songino Array**	**50.38**	**343**	P	**P**	**06 13 45.0**	**-1.9**
	0.8nm,0.6s,baz=158,slow=7.4,SNR=6.6						
SONM				LR	LR	06 40 31.9	
	comp=Z,13nm,18.1s,baz=100,slow=43						
	0.8nm,0.6s						
PETK	**Petropavlovsk-**	**58.71**	**22**	P	**P**	**06 14 47.2**	**+0.1**
	2.3nm,0.8s,baz=190,slow=7.4,SNR=1.6						
	2.3nm,0.8s						
MKAR	**Makanchi Array**	**60.11**	**327**	P	**P**	**06 14 55.5**	**-1.5**
	1.3nm,0.5s,baz=118,slow=9.0,SNR=15						
MKAR				PcP	**PcP**	**06 15 42.2**	**-0.1**
	0.6nm,0.6s,baz=110,slow=4.3,SNR=3.7						
	1.3nm,0.5s						
AAK	**Ala-Archa**	**62.61**	**319**	P	**P**	**06 15 13.8**	**-0.3**
	1.7nm,0.3s,baz=198,slow=6.4,SNR=6.3						
	1.7nm,0.3s						
ZALV	**Zalesovo Beam**	**63.42**	**334**	P	**P**	**06 15 19.1**	**+0.1**
	0.9nm,0.5s,baz=65,slow=9.7,SNR=2.6						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**64.37**	**328**	P	**P**	**06 15 25.4**	**0.0**
	1.8nm,0.6s,baz=126,slow=6.1,SNR=18						
	1.8nm,0.6s						
BVAR	**Borovoye Array**	**69.94**	**328**	P	**P**	**06 16 00.5**	**-0.1**
	0.7nm,0.4s						
	0.7nm,0.4s						

QSPA South Pole Qui 90.27 180 P **P 06 17 51.1 +1.2**
0.6nm,0.9s,baz=345,slow=1.2,SNR=1.4
0.6nm,0.9s
ARCES ARCESS Array B 93.47 340 P **P 06 18 03.9 -0.7**
1.2nm,0.8s,baz=90,slow=4.0,SNR=3.5
1.2nm,0.8s
AKASG Malin Array Be 94.24 321 P **P 06 18 10.1 +1.6**
0.2nm,0.3s,baz=79,slow=0.5,SNR=1.3
0.2nm,0.3s

CATAC 11 06:09:18.8±0.4, 13.2°N±2.3°×8.9W±5.1°, h31km±2km, M3.5/26, MLv3.5/26, Error ellipse: s-maj=5.9km s-min=2.7km az=28.4, confirmed
SNET 11 06:09:19.4±0.9, 13.18N×89.33W, h46km±8km, ML3.3
GCG 11 06:09:19.3±0.8, 13.16N×89.41W, h44km±7km, MD3.6, ML2.9
ISC 11 06:09:19.2±1.5, 13.13N±0.06×89.36W±0.04, h46km±11km, n99, σ0.44/111, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.36**	**6**	*i* P	**Pn**	**06 09 28.4**	**-0.1**
LALI	**Alcalda de L**	**0.36**	**6**	*i* P	**Pn**	**06 09 28.4**	**-0.1**
LALI				*i* S	**Sn**	**06 09 34.7**	**-0.5**
LALI				IAML		06 09 36.4	
	comp=E,677nm,0.2s						
LALI	**Alcalda de L**	**0.36**	**6**	P	**Pn**	**06 09 28.5**	**0.0**
LALI	**Alcalda de L**	**0.36**	**6**	S	**Sn**	**06 09 36.2**	**+1.1**
PANCS	**Alcalda de**	**0.51**	**20**	*eP*	**Pn**	**06 09 30.0**	**-0.3**
PANCS	**Alcalda de**	**0.51**	**20**	P	**Pn**	**06 09 30.1**	**-0.3**
PANCS	**Alcalda de**	**0.51**	**20**	S	**Sn**	**06 09 38.5**	**+0.1**
JAYA	**Jayaque - finc**	**0.53**	**351**	*eP*	**Pn**	**06 09 30.4**	**-0.4**
JAYA				*eS*	**Sn**	**06 09 38.5**	**-0.5**
JAYA				IAML		06 09 40.1	
	comp=Z,4μm,0.1s						
JAYA	**Jayaque - finc**	**0.53**	**351**	*i* P	**Pn**	**06 09 30.3**	**-0.4**
JAYA				*i* S	**Sn**	**06 09 38.7**	**-0.3**
JAYA	**Jayaque - finc**	**0.53**	**351**	S	**Sn**	**06 09 39.1**	**+0.1**
JAYA	**Jayaque - finc**	**0.53**	**351**	P	**Pn**	**06 09 30.4**	**-0.4**
LOMA	**Loma Larga**	**0.55**	**20**	*eP*	**Pn**	**06 09 30.6**	**-0.3**
LOMA				*eS*	**Sn**	**06 09 39.1**	**-0.2**
LOMA				IAML		06 09 41.2	
	comp=Z,5μm,0.2s						
LOMA	**Loma Larga**	**0.55**	**20**	S	**Sn**	**06 09 40.0**	**+0.8**
LOMA	**Loma Larga**	**0.55**	**20**	P	**Pn**	**06 09 30.7**	**-0.3**
LFRS	**El Faro**	**0.57**	**30**	*i* P	**Pn**	**06 09 30.9**	**-0.3**
PMON	**Piamonte**	**0.58**	**4**	*i* P	**Pn**	**06 09 31.0**	**-0.4**
PMON	**Piamonte**	**0.58**	**4**	S	**Sn**	**06 09 40.3**	**+0.2**
PMON	**Piamonte**	**0.58**	**4**	P	**Pn**	**06 09 31.0**	**-0.4**
SEMO	**Seminario San**	**0.59**	**13**	P	**Pn**	**06 09 31.1**	**-0.3**
SEMO	**Seminario San**	**0.59**	**13**	S	**Sn**	**06 09 40.5**	**+0.4**
UTEC	**Universidad Te**	**0.59**	**15**	*eP*	**Pn**	**06 09 31.1**	**-0.3**
UTEC	**Universidad Te**	**0.59**	**15**	S	**Sn**	**06 09 40.8**	**+0.6**
UTEC	**Universidad Te**	**0.59**	**15**	P	**Pn**	**06 09 31.1**	**-0.3**
UEES	**Universidad Ev**	**0.60**	**11**	*eP*	**Pn**	**06 09 31.1**	**-0.4**
UEES	**Universidad Ev**	**0.60**	**11**	S	**Sn**	**06 09 40.8**	**+0.4**
UEES	**Universidad Ev**	**0.60**	**11**	P	**Pn**	**06 09 31.4**	**-0.1**
BOQS	**Boqueron**	**0.61**	**7**	*eP*	**Pn**	**06 09 31.6**	**-0.3**
AEIL	**Aeropuerto Ilo**	**0.61**	**23**	*eP*	**Pn**	**06 09 31.6**	**-0.1**
UDBS	**Universidad Do**	**0.62**	**19**	P	**Pn**	**06 09 31.6**	**-0.1**
UDBS	**Universidad Do**	**0.62**	**19**	S	**Sn**	**06 09 41.2**	**+0.5**
PIC2	**El Picacho**	**0.62**	**9**	*eP*	**Pn**	**06 09 31.9**	**-0.1**
LFU	**La Fuente**	**0.66**	**21**	*eP*	**Pn**	**06 09 32.3**	**0.0**
CEDA	**San Andres**	**0.67**	**357**	*eP*	**Pn**	**06 09 32.2**	**-0.2**
CEDA				IAML		06 09 47.9	
	comp=Z,2μm,0.2s						
COEG	**Centro de Oper**	**0.68**	**44**	*eP*	**Pn**	**06 09 31.8**	**-0.7**
COEG				*eS*	**Sn**	**06 09 41.9**	**-0.3**
COEG	**Centro de Oper**	**0.68**	**44**	S	**Sn**	**06 09 42.2**	**0.0**
COEG	**Centro de Oper**	**0.68**	**44**	P	**Pn**	**06 09 32.0**	**-0.6**
LBRS	**Las Brisas**	**0.68**	**27**	*i* P	**Pn**	**06 09 32.6**	**0.0**
TECO	**Alcaldia de Te**	**0.69**	**54**	*eP*	**Pn**	**06 09 31.8**	**-1.0**
TECO	**Alcaldia de Te**	**0.69**	**54**	P	**Pn**	**06 09 32.0**	**-0.8**
TECO	**Alcaldia de Te**	**0.69**	**54**	S	**Sn**	**06 09 42.4**	**-0.1**
PAVA	**Las Pavas**	**0.71**	**35**	*i* P	**Pn**	**06 09 32.6**	**-0.4**
PAVA	**Las Pavas**	**0.71**	**35**	P	**Pn**	**06 09 32.8**	**-0.2**
PAVA	**Las Pavas**	**0.71**	**35**	S	**Sn**	**06 09 43.6**	**+0.6**
CEVE	**Cerro Verde**	**0.74**	**340**	*eP*	**Pn**	**06 09 33.3**	**-0.2**
CEVE	**Cerro Verde**	**0.74**	**340**	S	**Sn**	**06 09 44.7**	**+0.8**
CEVE	**Cerro Verde**	**0.74**	**340**	P	**Pn**	**06 09 33.4**	**-0.2**
SBLS	**San Blas**	**0.75**	**340**	*eP*	**Pn**	**06 09 33.3**	**-0.4**
UESV	**Universidad de**	**0.75**	**48**	S	**Sn**	**06 09 43.5**	**-0.3**
UESV	**Universidad de**	**0.75**	**48**	P	**Pn**	**06 09 33.0**	**-0.5**
SNJE	**San Jose**	**0.78**	**342**	*eP*	**Pn**	**06 09 33.7**	**-0.2**
SNJE				IAML		06 09 48.3	
	comp=Z,154nm,0.2s						
ALJI	**Alcalda de J**	**0.79**	**75**	*eP*	**Pn**	**06 09 34.4**	**+0.4**
ALJI	**Alcalda de J**	**0.79**	**75**	P	**Pn**	**06 09 34.6**	**+0.6**
ALJI	**Alcalda de J**	**0.79**	**75**	S	**Sn**	**06 09 46.1**	**+1.3**
RTR	**El Retiro**	**0.81**	**340**	*eP*	**Pn**	**06 09 34.4**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.84**	**47**	*eP*	**Pn**	**06 09 34.4**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.84**	**47**	S	**Sn**	**06 09 46.0**	**+0.1**
SCLA	**Alcaldia de Sa**	**0.84**	**47**	P	**Pn**	**06 09 34.3**	**-0.3**
UNIC	**Universidad Ca**	**0.87**	**348**	*eP*	**Pn**	**06 09 35.1**	**-0.1**
UNIC	**Universidad Ca**	**0.87**	**348**	S	**Sn**	**06 09 47.6**	**+0.8**
UNIC	**Universidad Ca**	**0.87**	**348**	P	**Pn**	**06 09 35.0**	**-0.1**
NUBE	**Las Nubes**	**0.87**	**332**	*eP*	**Pn**	**06 09 34.8**	**-0.4**
NUBE	**Las Nubes**	**0.87**	**332**	*i* P	**Pn**	**06 09 34.8**	**-0.4**
NUBE				*i* S	**Sn**	**06 09 46.7**	**-0.2**
NUBE	**Las Nubes**	**0.87**	**332**	S	**Sn**	**06 09 47.0**	**+0.1**
NUBE	**Las Nubes**	**0.87**	**332**	P	**Pn**	**06 09 34.9**	**-0.4**
TECA	**Tecapa**	**0.91**	**66**	*eP*	**Pn**	**06 09 35.2**	**-0.6**
PQSS	**Presa 15 de Se**	**0.92**	**57**	*i* P	**Pn**	**06 09 35.2**	**-0.6**
PQSS	**Presa 15 de Se**	**0.92**	**57**	P	**Pn**	**06 09 35.1**	**-0.6**
PQSS	**Presa 15 de Se**	**0.92**	**57**	S	**Sn**	**06 09 47.6**	**-0.3**
FAME	**Alcaldia de Sa**	**0.95**	**318**	P	**Pn**	**06 09 35.5**	**-0.7**
FAME	**Alcaldia de Sa**	**0.95**	**318**	S	**Sn**	**06 09 48.5**	**-0.3**
LOAL	**Lomas de Alarc**	**0.96**	**335**	P	**Pn**	**06 09 36.3**	**0.0**
LOAL	**Lomas de Alarc**	**0.96**	**335**	S	**Sn**	**06 09 49.8**	**+1.0**
SLOZ	**Alcaldia de Sa**	**0.98**	**335**	*eP*	**Pn**	**06 09 36.6**	**0.0**
SLOZ				*eS*	**Sn**	**06 09 50.5**	**+1.0**
SLOZ	**Alcaldia de Sa**	**0.98**	**335**	P	**Pn**	**06 09 36.7**	**0.0**
PACA	**Pacayal**	**1.06**	**71**	*eP*	**Pn**	**06 09 37.9**	**+0.1**
PACA				*eS*	**Sn**	**06 09 52.1**	**+0.5**
PACA	**Pacayal**	**1.06**	**71**	P	**Pn**	**06 09 38.3**	**+0.5**
LCY	**Lacayo**	**1.08**	**74**	*eP*	**Pn**	**06 09 38.0**	**0.0**
VSM	**San Miguel**	**1.10**	**74**	*eP*	**Pn**	**06 09 38.5**	**+0.1**
BLLM	**Bellamira**	**1.14**	**74**	*eP*	**Pn**	**06 09 38.6**	**-0.1**
CNRM	**Centro Naciona**	**1.21**	**73**	P	**Pn**	**06 09 39.2**	**-0.4**
CNRM	**Centro Naciona**	**1.21**	**73**	S	**Sn**	**06 09 55.4**	**+0.5**
JUAM	**Asuncion Mita**	**1.25**	**344**	*i* P	**Pn**	**06 09 40.0**	**-0.2**
JUAM				*i* S	**Sn**	**06 09 56.4**	**+0.5**
JUAM				IAML		06 09 57.0	
	comp=E,436nm,0.2s						
MTO3	**Montecristo**	**1.26**	**360**	*i* P	**Pn**	**06 09 40.3**	**-0.3**
MTO3	**Montecristo**	**1.26**	**360**	*i* P	**Pn**	**06 09 40.3**	**-0.3**
MTO3	**Montecristo**	**1.26**	**360**	S	**Sn**	**06 09 56.0**	**-0.6**
MTO3	**Montecristo**	**1.26**	**360**	P	**Pn**	**06 09 40.3**	**-0.3**
CAHU	**Cacacuatique**	**1.29**	**60**	IAML		06 09 41.3	
	comp=Z,501nm,0.3s						
ESQI	**Esquipulas**	**1.42**	**1**	*i* P	**Pn**	**06 09 42.7**	**-0.1**
ESQI	**Esquipulas**	**1.42**	**1**	S	**Sn**	**06 10 00.5**	**+0.2**
ESQI	**Esquipulas**	**1.42**	**1**	P	**Pn**	**06 09 42.9**	**+0.2**
CNCH	**Conchagua**	**1.49**	**84**	*eP*	**Pn**	**06 09 43.4**	**-0.2**
CNCH	**Conchagua**	**1.49**	**84**	P	**Pn**	**06 09 43.5**	**-0.2**
CNCH	**Conchagua**	**1.49**	**84**	S	**Sn**	**06 10 01.3**	**-0.7**
SARH	**Santa Rosa de**	**1.74**	**19**	*i* P	**Pn**	**06 09 47.2**	**+0.2**
POTN	**Potosi Cosigui**	**1.81**	**94**	P	**Pn**	**06 09 47.8**	**0.0**
POTN				S	**Sn**	**06 10 09.9**	**+0.2**
PKGN	**Cerro Pekin**	**2.37**	**101**	P	**Pn**	**06 09 55.8**	**+0.3**
PKGN				S	**Sn**	**06 10 23.3**	**-0.1**
POLN	**Al Sur del Vol**	**2.53**	**101**	P	**Pn**	**06 09 56.9**	**-0.9**
POLN				S	**Sn**	**06 10 27.1**	**-0.3**
ILCN	**San Idelfonso**	**2.65**	**102**	P	**Pn**	**06 09 59.8**	**+0.3**
ILCN				S	**Sn**	**06 10 30.3**	**0.0**
COPN	**Copaltepe**	**2.86**	**109**	P	**Pn**	**06 10 02.5**	**+0.2**

SNET 11 06:14:12.6±1.0, 13.10N×88.93W, h57km±13km, ML2.3
CATAC 11 06:14:12.1±0.5, 13.2°N±4.2°×8.9W±5.1°, h36km±4km, M2.7/15, MLv2.7/15, Error ellipse: s-maj=8.9km s-min=4.2km az=19.9, confirmed
GCG 11 06:14:18.3±3.3, 13.54N×88.97W, h37km±999km, MD3.5
ISC 11 06:14:11.5±1.8, 12.99N±0.09×88.98W±0.04, h28km±12km, n50, σ1°31/56, Off coast of central America

| Code | Station Name | Δ° | AZ°

ALJI	**Alcalda de J**	**0.52**	**49**	S		**Sn**	**06 14 33.3**	**+2.3**
ALJI	**Alcalda de J**	**0.52**	**49**	P		**Pn**	**06 14 24.0**	**+0.9**
TECO	**Alcaldia de Te**	**0.58**	**19**	*e*P		**Pb**	**06 14 23.7**	**+0.4**
TECO				*e*S		**Sn**	**06 14 32.5**	**-0.1**
TECO	**Alcaldia de Te**	**0.58**	**19**	P		**Pb**	**06 14 23.7**	**+0.4**
TECO	**Alcaldia de Te**	**0.58**	**19**	S		**Sn**	**06 14 33.3**	**+0.7**
COEG	**Centro de Oper**	**0.64**	**8**	*e*P		**Pb**	**06 14 24.7**	**+0.5**
COEG				*e*S		**Sn**	**06 14 34.4**	**+0.3**
COEG				IAML			06 14 37.6	
	comp=Z,284nm,0.2s							
COEG	**Centro de Oper**	**0.64**	**8**	P		**Pb**	**06 14 24.6**	**+0.3**
UESV	**Universidad de**	**0.67**	**16**	S		**Sn**	**06 14 35.8**	**+0.9**
UESV	**Universidad de**	**0.67**	**16**	P		**Pb**	**06 14 25.1**	**+0.3**
LOMA	**Loma Larga**	**0.68**	**344**	*e*P		**Pn**	**06 14 25.9**	**+0.4**
LOMA				*e*S		**Sn**	**06 14 35.8**	**+0.6**
LOMA	**Loma Larga**	**0.68**	**344**	S		**Sn**	**06 14 36.0**	**+0.8**
LOMA	**Loma Larga**	**0.68**	**344**	P		**Pn**	**06 14 26.1**	**+0.7**
TECA	**Tecapa**	**0.69**	**42**	*e*P		**Pb**	**06 14 25.3**	**+0.2**
PAVA	**Las Pavas**	**0.72**	**3**	*e*P		**Pb**	**06 14 26.1**	**+0.4**
PAVA				*e*S		**Sn**	**06 14 37.1**	**+0.9**
PAVA	**Las Pavas**	**0.72**	**3**	P		**Pb**	**06 14 26.2**	**+0.4**
UDBS	**Universidad Do**	**0.75**	**347**	S		**Sn**	**06 14 37.1**	**+0.4**
UDBS	**Universidad Do**	**0.75**	**347**	P		**Pb**	**06 14 26.5**	**+0.5**
SCLA	**Alcaldia de Sa**	**0.75**	**19**	*e*P		**Pb**	**06 14 26.4**	**+0.2**
SCLA				IAML			06 14 39.2	
	comp=Z,46nm,0.2s							
SCLA	**Alcaldia de Sa**	**0.75**	**19**	P		**Pb**	**06 14 26.3**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.75**	**19**	S		**Sn**	**06 14 37.7**	**+0.8**
PQSS	**Presa 15 de Se**	**0.75**	**32**	*e*P		**Pb**	**06 14 26.3**	**+0.2**
PQSS	**Presa 15 de Se**	**0.75**	**32**	P		**Pb**	**06 14 26.3**	**+0.2**
PQSS	**Presa 15 de Se**	**0.75**	**32**	S		**Sn**	**06 14 37.6**	**+0.8**
UEES	**Universidad Ev**	**0.77**	**341**	S		**Sn**	**06 14 37.8**	**+0.5**
UEES	**Universidad Ev**	**0.77**	**341**	P		**Pb**	**06 14 26.6**	**+0.2**
PMON	**Piamonte**	**0.79**	**336**	P		**Pb**	**06 14 27.1**	**+0.3**
PMON	**Piamonte**	**0.79**	**336**	S		**Sn**	**06 14 38.6**	**+0.6**
PACA	**Pacayal**	**0.80**	**53**	*e*P		**Pb**	**06 14 26.6**	**-0.3**
PACA	**Pacayal**	**0.80**	**53**	P		**Pb**	**06 14 27.4**	**+0.4**
PACA	**Pacayal**	**0.80**	**53**	S		**Sn**	**06 14 38.6**	**+0.5**
JAYA	**Jayaque - finc**	**0.81**	**325**	*e*P		**Pb**	**06 14 27.4**	**+0.3**
JAYA	**Jayaque - finc**	**0.81**	**325**	S		**Sb**	**06 14 38.2**	**+0.4**
JAYA	**Jayaque - finc**	**0.81**	**325**	P		**Pn**	**06 14 28.0**	**+0.7**
UNIC	**Universidad Ca**	**1.14**	**331**	S		**Sb**	**06 14 46.3**	**-0.8**
UNIC	**Universidad Ca**	**1.14**	**331**	P		**Pn**	**06 14 31.5**	**-0.2**
CNCH	**Conchagua**	**1.15**	**75**	P		**Pn**	**06 14 31.2**	**-0.7**
CNCH	**Conchagua**	**1.15**	**75**	S		**Sb**	**06 14 46.0**	**-1.4**
NUBE	**Las Nubes**	**1.20**	**319**	*e*P		**Pn**	**06 14 32.7**	**+0.1**
NUBE				*e*S		**Sn**	**06 14 48.4**	**+0.3**
NUBE	**Las Nubes**	**1.20**	**319**	S		**Sn**	**06 14 47.6**	**-0.5**
NUBE	**Las Nubes**	**1.20**	**319**	P		**Pn**	**06 14 33.0**	**+0.4**
SLOZ	**Alcaldia de Sa**	**1.30**	**323**	P		**Pn**	**06 14 33.6**	**-0.3**
SLOZ	**Alcaldia de Sa**	**1.30**	**323**	S		**Sn**	**06 14 50.4**	**+0.1**
FAME	**Alcaldia de Sa**	**1.32**	**310**	S		**Sn**	**06 14 50.7**	**-0.1**
FAME	**Alcaldia de Sa**	**1.32**	**310**	P		**Pn**	**06 14 34.1**	**0.0**
MTO3	**Montecristo**	**1.45**	**345**	*i* P		**Pn**	**06 14 36.1**	**-0.1**
MTO3	**Montecristo**	**1.45**	**345**	*i* P		**Pn**	**06 14 36.2**	**0.0**
MTO3	**Montecristo**	**1.45**	**345**	P		**Pn**	**06 14 36.2**	**0.0**
MTO3	**Montecristo**	**1.45**	**345**	S		**Sn**	**06 14 53.9**	**-0.6**
SARH	**Santa Rosa de**	**1.79**	**7**	*i* P		**Pn**	**06 14 41.2**	**+0.5**
SARH				*e*S		**Sn**	**06 14 54.3**	**-8.3**

IDC ***11*** *07:28:20.2±1.4,* **6°70′N**×**124°90′E**,**h0**km,**mb3.5**/4,
mbtmp3.5/4,**1D**,*Error ellipse:* **s-maj=26.8km s-min=10.6km az=142.0**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.77**	**62**	Pg	Pg	06 28 35.4	+0.4
	489nm,0.3s,baz=258,slow=9.0,SNR=29						
DAV				Lg	Lg	06 28 45.5	
	307nm,0.3s,baz=292,slow=23,SNR=11						
DAV				LR	LR	06 29 05.6	
	comp=Z,490nm,20.3s,baz=351,slow=59						
DAV	**Davao City (W)**	**0.77**	**62**	↓*i*P	Pg	06 28 34.0	-1.1
FITZ	**Fitzroy Crossi**	**24.65**	**178**	P	P	06 33 43.5	+0.7
	2.7nm,0.9s,baz=345,slow=7.6,SNR=5.6 2.7nm,0.9s						
WRA	**Warramunga Arr**	**28.06**	**161**	P	P	06 34 13.3	-0.3
	0.5nm,0.8s,baz=332,slow=11,SNR=4.5 0.5nm,0.8s						
ASAR	**Alice Springs**	**31.44**	**164**	P	P	06 34 43.1	-0.4
	0.3nm,0.5s,baz=343,slow=7.5,SNR=4.8 0.3nm,0.5s						
MKAR	**Makanchi Array**	**54.09**	**325**	P	P	06 37 46.8	-0.1
	0.2nm,0.6s,baz=117,slow=8.4,SNR=5.2 0.2nm,0.6s						

IDC ***11*** *06:46:19.4±2.8,* **54°25N**×**85°92E**,**h0**km,**mbtmp2.6**/2,
ML2.2/2,*Error ellipse:* **s-maj=18.8km s-min=10.7km az=57.0**,**Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.71**	**245**	I	I	06 50 50.0	
	baz=66,slow=323,SNR=4.9						
ZALV	**Zalesovo Beam**	**0.71**	**245**	Pg	Pg	06 46 32.5	-0.6
	0.6nm,0.3s,baz=61,slow=17,SNR=5.0						
ZALV				Lg	Lg	06 46 43.1	
	4.1nm,0.3s,baz=62,slow=28,SNR=24						
KURBB	**Kurchatov Arra**	**5.80**	**234**	Pn	Pn	06 47 48.2	+1.7
	baz=50,slow=14,SNR=3.0						
KURBB				Lg	Lg	06 49 23.8	
	baz=52,slow=33,SNR=2.8 0.5nm,0.5s						
MKAR	**Makanchi Array**	**7.81**	**199**	Pn	Pn	06 48 14.5	+0.2
	0.1nm,0.3s,baz=21,slow=14,SNR=2.0 0.2nm,0.6s						

OSPL ***11*** *07:03:06.5±0.8,18°87N×70°12W,h105km±13km,ML2.0*
SDD ***11*** *07:03:09.4±1.3,18°95N×70°30W,h86km±8km,MD3.0,*
ML2.3,MW3.0

ISC 11 07:03:09.2±1.8,**18°94N**±0°07×**70°26W**±0°04,**h79**km±13km,
n14,**σ°79**/24,**5C-7D**,**Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR08	**Loma La Naviza**	**0.23**	**84**	↓*e*Pg	**Pn**	**07 03 20.7**	**-0.4**
DR08				↓*e*Sg	**Sn**	**07 03 30.6**	**+0.7**
DR08				IAML		07 03 31.0	
	comp=N,3μm,0.1s						
ABDR	**Alto Bandera**	**0.37**	**250**	↑*e*Pg	**Pn**	**07 03 21.5**	**-0.8**
ABDR				↑*e*Sg	**Sn**	**07 03 31.5**	**-0.4**
ABDR				IAML		07 03 33.5	
	comp=N,92nm,0.8s						
BANI	**BANI**	**0.55**	**190**	↓*e*Pg	**Pn**	**07 03 23.2**	**-0.3**
BANI				↓*e*Sg	**Sn**	**07 03 34.4**	**+0.4**
BANI				IAML		07 03 37.3	
	comp=N,154nm,0.2s						
SC01	**Santiago de lo**	**0.66**	**318**	↓*e*Pg	**Pn**	**07 03 23.8**	**-0.6**
SC01				↓*e*Sg	**Sn**	**07 03 35.3**	**-0.3**
SC01				IAML		07 03 37.9	
	comp=N,52nm,1.1s						
SC01	**Santiago de lo**	**0.66**	**318**	*i* P	**Pn**	**07 03 24.2**	**-0.2**
SC01				*e*S	**Sn**	**07 03 37.6**	**+2.0**
SC01				IAML		07 03 39.3	
	comp=Z,29nm,0.3s						
HATOM	**Hato Mayor del**	**0.84**	**100**	↑*e*Pg	**Pn**	**07 03 26.8**	**+0.3**
HATOM				*e*Sg	**Sn**	**07 03 39.1**	**-0.2**
HATOM				IAML		07 03 51.9	
	comp=N,19nm,2.4s						
SDDR	**Presa de Saban**	**0.97**	**273**	↑*e*Pg	**Pn**	**07 03 27.9**	**-0.1**
SDDR				↓*e*Sg	**Sn**	**07 03 40.5**	**-1.5**
SDDR				IAML		07 03 46.1	
	comp=N,29nm,0.9s						
SDDR	**Presa de Saban**	**0.97**	**273**	*e*	**Pn**	**07 03 28.3**	**+0.4**
SDDR	**Presa de Saban**	**0.97**	**273**	*e*	**Pn**	**07 03 28.3**	**+0.4**
SDDR	**Presa de Saban**	**0.97**	**273**	*e*	**Sn**	**07 03 42.7**	**+0.8**
SDDR	**Presa de Saban**	**0.97**	**273**	*e*	**Sn**	**07 03 42.7**	**+0.8**
SDDR	**Presa de Saban**	**0.97**	**273**	*i* P	**Pn**	**07 03 28.1**	**+0.1**
SDDR				*e*S	**Sn**	**07 03 42.8**	**+0.8**
SDDR				IAML		07 03 47.7	
	comp=Z,16nm,0.3s						
LOPP1	**Punta Rusia, P**	**1.27**	**316**	*i* P	**Pn**	**07 03 30.5**	**-1.1**
LOPP1				*e*S	**Sn**	**07 03 49.0**	**+0.6**
LOPP1				IAML		07 03 56.9	
	comp=Z,37nm,0.6s						
HIDR	**Higuey Centro**	**1.50**	**103**	*e*Pg	**Pn**	**07 03 34.2**	**-0.4**
HIDR				↑*e*Sg	**Sn**	**07 03 53.9**	**+0.2**
HIDR				IAML		07 04 04.9	
	comp=N,20nm,1.4s						

IDC ***11*** *07:03:51.9±0.8,7°35S×120°64E,h522km±10km,mb3.2/4,*
mbtmp4.0/8,Error ellipse: s-maj=63.1km s-min=12.2km az=56.0

ISC 11 07:03:51.3±0.9,**7°8S**±0°2×**120°1E**±0°2,**h500**km,**n8**,
σ°8/**08**/**11**,**mb3.6**/3,**Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.74**	**353**	P	**P**	**07 05 02.6**	**+1.9**
	81nm,0.3s,baz=140,slow=3.2,SNR=73						
KAPI				S	**S**	**07 05 59.2**	**+2.3**
	3.3nm,0.3s,baz=83,slow=21,SNR=1.1						
BATI	**Baumata**	**4.30**	**125**	P	**P**	**07 05 13.7**	**+1.5**
	88nm,0.4s,baz=275,slow=2.8,SNR=5.9						
BATI				S	**S**	**07 06 16.2**	**-1.9**
	38nm,0.4s,baz=5.9,slow=21,SNR=8.6						
FITZ	**Fitzroy Crossi**	**11.62**	**153**	P	**P**	**07 06 28.5**	**+2.7**
	0.8nm,0.3s,baz=344,slow=14,SNR=1.4						
WRA	**Warramunga Arr**	**18.38**	**133**	P	**P**	**07 07 34.7**	**-0.5**
	1.1nm,0.5s,baz=312,slow=10,SNR=20						
ASAR	**Alice Springs**	**20.64**	**142**	P	**P**	**07 07 56.0**	**+0.1**
	1.0nm,0.4s,baz=319,slow=8.5,SNR=22						
ASAR				PcP	**PcP**	**07 11 42.0**	**-2.3**
	0.5nm,1.1s,baz=324,slow=2.0,SNR=4.6 1.0nm,0.4s						
MKAR	**Makanchi Array**	**63.85**	**332**	P	**P**	**07 13 31.6**	**-2.5**
	0.8nm,0.5s,baz=151,slow=7.2,SNR=8.5 0.8nm,0.5s						
QSPA	**South Pole Qui**	**82.23**	**180**	P	**P**	**07 15 19.6**	**+0.1**
	1.1nm,0.9s,baz=353,slow=3.8,SNR=2.9 1.1nm,0.9s						
SNAA	**Sanae**	**92.47**	**195**	P	**P**	**07 16 08.7**	**+0.7**
	1.1nm,1.1s,baz=74,slow=4.6,SNR=2.8 1.1nm,1.1s						

NEIC ***11*** *07:04:05.8±1.0,36°175N±0°008×117°87W±0°01,*
h3km±1km,Error ellipse: s-maj=1.3km s-min=1.2km az=126.0
PAS ***11*** *07:04:06.0±1.0,36°179N±0°008×117°88W±0°01,*
h2km±1km,Mwr4.0/6,mb3.9/8(NEIC),ML4.0/158(NEIC),
Error ellipse: s-maj=1.3km s-min=1.1km az=96.0
IDC ***11*** *07:04:06.7±0.7,36°19N×117°79W,h0km,mb3.6/3,*
mbtmp3.5/9,ML3.5/6,MS3.2/15,Error ellipse:
s-maj=13.0km s-min=5.0km az=74.0

ISC 11 07:04:06.4±1.0,**36°18N**±0°01×**117°88W**±0°02,**h3**km±7km,
n171,**σ°86**/194,**mb3.5**/3,**MS3.4**/9,**California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.06**	**160**		**Pg**	**07 04 07.7**	**-0.1**
MFS					**Sg**	**07 04 09.2**	**+0.6**
WRVM	**Rose V. Centra**	**0.17**	**183**		**Pg**	**07 04 09.5**	**-0.2**
WRVM					**Sg**	**07 04 12.4**	**+0.5**
WCSM	**Coso Springs S**	**0.18**	**148**		**Pg**	**07 04 09.8**	**0.0**
WCSM					**Sg**	**07 04 12.3**	**+0.2**
JRC2	**Joshua Ridge**	**0.20**	**163**		**Pg**	**07 04 10.2**	**-0.1**
JRC2					**Sg**	**07 04 13.6**	**+0.7**
WVPM	**Volcano Peak E**	**0.23**	**167**		**Pg**	**07 04 10.7**	**-0.2**
WVPM					**Sg**	**07 04 14.4**	**+0.4**
CWC	**Cottonwood Cre**	**0.31**	**329**		**Pg**	**07 04 12.0**	**-0.4**
CWC				IAML		07 04 17.3	
	comp=E,14μm,0.3s						
WNMM	**Nine Mile Cany**	**0.33**	**183**		**Pg**	**07 04 12.4**	**-0.4**
WNMM					**Sg**	**07 04 17.8**	**+0.7**
MPMC	**Manual Prospec**	**0.34**	**110**		**Pg**	**07 04 12.6**	**-0.3**
MPMC					**Sg**	**07 04 17.6**	**+0.2**
MPMC	**Manual Prospec**	**0.34**	**110**	IAML		07 04 21.4	
	comp=E,17μm,1.0s						
MPMC				IAML		07 04 24.4	
	comp=N,10μm,0.9s						
TOW	**Tower One**	**0.38**	**165**		**Pg**	**07 04 13.9**	**+0.2**
TOW					**Sg**	**07 04 19.9**	**+1.4**
CGO	**Cerro Gordo**	**0.38**	**10**		**Pg**	**07 04 13.3**	**-0.5**
SRTC	**Snort**	**0.49**	**167**		**Pg**	**07 04 16.1**	**+0.2**
SRTC					**Sb**	**07 04 24.0**	**-1.4**
WORM	**Onyx Ranch**	**0.56**	**212**		**Pg**	**07 04 16.6**	**-0.6**
WORM					**Sg**	**07 04 24.6**	**+0.1**
WHFM	**Hanning Flat**	**0.61**	**219**		**Pg**	**07 04 17.6**	**-0.5**
WHFM					**Sg**	**07 04 26.4**	**+0.4**
WBSM	**Bird Springs**	**0.67**	**198**		**Pg**	**07 04 18.8**	**-0.4**
WBSM					**Sg**	**07 04 28.5**	**+0.5**
WASM	**Alta Sierra Ca**	**0.70**	**232**		**Pg**	**07 04 19.3**	**-0.5**
WASM					**Sg**	**07 04 29.0**	**+0.1**
ISA	**Isabella, Lake**	**0.70**	**223**		**Pg**	**07 04 19.3**	**-0.5**
ISA					**Sg**	**07 04 29.2**	**+0.2**
ISA	**Isabella, Lake**	**0.70**	**223**	IAML		07 04 29.4	
	comp=E,7μm,0.5s						
ISA				IAML		07 04 30.7	
	comp=N,6μm,0.2s						
LRMC	**Laurel Mtn Rad**	**0.71**	**167**		**Pg**	**07 04 19.7**	**-0.4**
LRMC				IAML		07 04 30.2	
	comp=E,9μm,0.5s						
LRMC				IAML		07 04 30.2	
	comp=N,10μm,0.2s						
LRMC	**Laurel Mtn Rad**	**0.71**	**167**		**Sg**	**07 04 29.8**	**+0.5**
SPG2	**Springville 2**	**0.72**	**272**		**Pg**	**07 04 19.5**	**-0.6**
SPG2					**Sg**	**07 04 29.2**	**-0.2**
CCCA	**Chr Cany lake**	**0.77**	**147**		**Pg**	**07 04 21.1**	**-0.1**
QSM	**Queen of Sheba**	**0.85**	**104**		**Pg**	**07 04 22.1**	**-0.5**
QSM				IAML		07 04 38.0	
	comp=E,6μm,0.7s						
QSM				IAML		07 04 38.0	
	comp=N,6μm,0.8s						
FURC	**Furnace Creek,**	**0.87**	**70**		**Pg**	**07 04 22.9**	**-0.2**
FURC					**Sb**	**07 04 35.0**	**-1.2**
DTP	**Desert Tortois**	**0.91**	**178**		**Pg**	**07 04 23.0**	**-0.8**
DTP					**Sg**	**07 04 35.4**	**-0.2**
GRAC	**Grapevine Rang**	**0.92**	**27**		**Pg**	**07 04 23.4**	**-0.6**
GRAC				IAML		07 04 39.2	
	comp=N,6μm,1.1s						
GRAC				IAML		07 04 41.6	
	comp=E,6μm,0.4s						
TIN	**Tinemaha, Big**	**0.92**	**342**		**Pg**	**07 04 23.5**	**-0.6**
TIN					**Sg**	**07 04 36.5**	**+0.5**
GWY	**Greenwater Val**	**0.98**	**89**		**Pg**	**07 04 24.5**	**-0.7**
GWY				IAML		07 04 41.5	
	comp=N,5μm,0.8s						
GWY				IAML		07 04 42.0	
	comp=E,5μm,0.5s						
CCAC	**Calif City Air**	**1.03**	**186**		**Pg**	**07 04 25.3**	**-0.8**
CCAC					**Sg**	**07 04 39.2**	**-0.2**
VES	**Vestal, Richgr**	**1.03**	**251**		**Pg**	**07 04 25.6**	**-0.9**
VES					**Sg**	**07 04 39.7**	**+0.2**
SGV	**South Grapevin**	**1.05**	**40**		**Pg**	**07 04 25.7**	**-0.9**
LCH	**Last Change Ra**	**1.07**	**10**		**Pg**	**07 04 25.6**	**-1.3**
LCH					**Sg**	**07 04 41.1**	**+0.2**
TEJ	**El Tejon**	**1.15**	**215**		**Pg**	**07 04 27.2**	**-1.2**
TEJ					**Sg**	**07 04 42.5**	**-0.8**
MAGC	**SCE Magundon P**	**1.17**	**226**		**Pg**	**07 04 27.6**	**-1.3**
WCT	**Wildcat Mounta**	**1.18**	**58**		**Pg**	**07 04 28.1**	**-1.0**
WCT				IAML		07 04 46.9	
	comp=E,4μm,1.0s						
WCT				IAML		07 04 47.9	
	comp=N,2μm,1.0s						
DSP	**Deep Springs**	**1.19**	**357**		**Sg**	**07 04 44.5**	**-0.3**
DSP	**Deep Springs**	**1.19**	**357**		**Pg**	**07 04 28.1**	**-1.2**
BHPR	**Bishop**	**1.22**	**337**		**Pg**	**07 04 28.9**	**-1.0**
VOG	**Valley Oaks Go**	**1.22**	**277**		**Pg**	**07 04 29.0**	**-0.8**
POCCA	**Poleta Canyon**	**1.23**	**345**		**Pg**	**07 04 29.2**	**-0.8**
GMN	**Gold Mountain**	**1.23**	**24**		**Pg**	**07 04 29.0**	**-0.9**
GSC	**Goldstone, Bar**	**1.23**	**135**		**Pg**	**07 04 29.2**	**-0.8**
GSC				IAML		07 04 49.8	
	comp=E,3μm,0.8s						
GSC				IAML		07 04 51.6	
	comp=N,2μm,1.1s						
EDW2	**Edwards Air Fo**	**1.29**	**184**		**Pg**	**07 04 29.8**	**-1.4**
EDW2					**Sg**	**07 04 47.2**	**-0.8**
BAKC	**Calstate**	**1.30**	**231**		**Pg**	**07 04 30.7**	**-0.5**
BAKC					**Sb**	**07 04 48.8**	**+0.3**
MTUM	**Tungsten Hills**	**1.30**	**335**		**Pg**	**07 04 30.2**	**-1.1**
ARVC	**Arvin**	**1.30**	**217**		**Pg**	**07 04 30.4**	**-0.9**
ARVC					**Sg**	**07 04 48.2**	**0.0**
AMDNV	**Amargosa**	**1.32**	**77**		**Pg**	**07 04 30.3**	**-1.4**
TPO	**Tropico Hills**	**1.32**	**192**		**Sg**	**07 04 48.0**	**-1.0**
TPO	**Tropico Hills**	**1.32**	**192**		**Pg**	**07 04 30.7**	**-1.1**
TPO				IAML		07 04 57.7	
	comp=E,2μm,0.8s						
TPO				IAML		07 04 59.1	
	comp=N,2μm,0.6s						
SHOC	**Shoshone, Teco**	**1.33**	**101**		**Pn**	**07 04 31.5**	**-0.4**
HYS	**Haystack Butte**	**1.33**	**169**		**Pg**	**07 04 30.6**	**-1.3**
HYS					**Sg**	**07 04 48.3**	**-1.0**
TJR	**Tejon Ranch**	**1.34**	**212**		**Pg**	**07 04 31.1**	**-1.0**
THC	**Tehachapi Micr**	**1.42**	**207**		**Pn**	**07 04 32.0**	**-1.2**
RRX	**Edison Barstow**	**1.48**	**151**		**Pg**	**07 04 34.8**	**-0.1**
SBB	**Saddle Back Bu**	**1.48**	**178**		**Pn**	**07 04 33.1**	**-1.0**
SBB					**Sn**	**07 04 54.5**	**+0.4**
TPNV	**Topopah Spring**	**1.52**	**59**		**Pn**	**07 04 33.8**	**-1.0**
TPNV				IAML		07 05 01.0	
	comp=N,2μm,0.9s						
TPNV				IAML		07 05 10.6	
	comp=N,2μm,1.3s						
LEOC	**Leona Valley**	**1.58**	**193**		**Pn**	**07 04 34.7**	**-0.7**
KCC	**Kaiser Creek**	**1.63**	**315**		**Pn**	**07 04 35.8**	**-0.3**
KCC					**Sn**	**07 04 57.0**	**-0.6**
BENR	**Benton**	**1.63**	**340**		**Pn**	**07 04 36.1**	**-0.3**
MLAC	**Mammoth, Mammo**	**1.64**	**332**		**Pn**	**07 04 36.4**	**0.0**
LRRC	**Littlerock Res**	**1.65**	**184**		**Pb**	**07 04 36.7**	**-0.8**
MCSM	**Casa Diablo Ho**	**1.69**	**331**		**Pb**	**07 04 37.6**	**-0.7**
OSI	**Osito Audit: C**	**1.70**	**204**		**Pn**	**07 04 36.6**	**-0.4**
HOLC	**Holcomb Ridge**	**1.71**	**179**		**Pn**	**07 04 36.5**	**-0.8**
JNH	**Juniper Hills**	**1.73**	**182**		**Pn**	**07 04 36.6**	**-0.9**
TUQ	**Turquoise Moun**	**1.75**	**114**		**Pn**	**07 04 36.4**	**-1.5**
BCW	**Bitter Crk WRg**	**1.75**	**226**		**Pn**	**07 04 38.1**	**+0.2**
CHFC	**Chilao Flat St**	**1.84**	**184**		**Pn**	**07 04 39.2**	**+0.1**
HEC	**Hector,Ludlow**	**1.84**	**136**		**Pb**	**07 04 40.1**	**-0.7**
BFSC	**Mount Baldy Ra**	**1.94**	**175**		**Pn**	**07 04 39.6**	**-0.8**
BFSC				IAML		07 05 09.5	
	comp=E,974nm,0.7s						
BFSC				IAML		07 05 12.4	
	comp=N,820nm,0.7s						
MWC	**Mount Wilson**	**1.95**	**184**		**Pn**	**07 04 40.3**	**-0.3**
MWC				IAML		07 05 09.9	
	comp=E,1μm,1.1s						
MWC				IAML		07 05 10.7	
	comp=N,1μm,0.5s						
SSK	**Sunset Peak**	**1.97**	**175**		**Pn**	**07 04 41.0**	**+0.2**
TPH	**Tonopah**	**1.97**	**15**		**Pn**	**07 04 40.2**	**-0.6**
MTPC	**Mountain Pass**	**2.01**	**109**	Pn	**Pn**	**07 04 40.1**	**-1.4**
MTPC				IAML		07 05 20.6	
	comp=E,1μm,1.4s						
MTPC				IAML		07 05 20.7	
	comp=N,1μm,1.3s						
PASC	**Pasadena Art C**	**2.02**	**187**		**Pn**	**07 04 41.1**	**-0.2**
PASC				IAML		07 05 13.1	
	comp=E,738nm,0.9s						
PKM	**Mcpherson Peak**	**2.03**	**231**		**Pn**	**07 04 42.7**	**+1.0**
PSRC	**Puddingstone R**	**2.08**	**178**		**Pb**	**07 04 43.5**	**-1.3**
TSCN	**Private Proper**	**2.10**	**253**		**Pn**	**07 04 43.2**	**+0.7**
DJJ	**Donna J Jenkin**	**2.12**	**193**		**Pn**	**07 04 42.7**	**0.0**
LHV	**Little Huntoon**	**2.13**	**347**		**Pn**	**07 04 43.0**	**+0.1**
LHV				IAML		07 05 23.6	
	comp=N,1μm,1.5s						
LHV				IAML		07 05 36.6	
	comp=E,926nm,1.1s						
PKD	**Bear Valley Ra**	**2.17**	**265**		**Pn**	**07 04 43.9**	**+0.5**
PSMM	**Smith Mountain**	**2.20**	**268**		**Pn**	**07 04 44.8**	**+0.8**
SHPR	**Sheep Range**	**2.22**	**81**		**Pn**	**07 04 43.7**	**-0.6**
S11A	**Rachel**	**2.25**	**49**		**Pn**	**07 04 43.9**	**-0.8**
NV11	**Mina Array Sit**	**2.26**	**355**		**Pn**	**07 04 44.4**	**-0.5**
NVAR	**Mina Array Bea**	**2.27**	**352**	Pn	**Pn**	**07 04 44.8**	**-0.4**
	comp=E,10.0nm,0.3s,baz=175,slow=16,SNR=85						
NVAR				Pg	**Pb**	**07 04 48.7**	**+0.4**
	comp=E,49nm,0.3s,baz=163,slow=15,SNR=101						
NVAR				Lg	Lg	07 05 19.9	
	comp=E,43nm,0.3s,baz=297,slow=29,SNR=7.3						
NVAR				LR	LR	07 05 55.5	
	comp=E,579nm,20.7s,baz=127,slow=48 comp=E,77nm,0.7s						
GMRC	**Granite Mounta**	**2.28**	**127**		**Pn**	**07 04 43.1**	**-2.0**
PMPB	**Monarch Peak**	**2.36**	**272**	Pn	**Pn**	**07 04 46.6**	**+0.4**
MYLM	**Yosemite Lake**	**2.37**	**301**		**Pb**	**07 04 48.4**	**-1.3**
PSAM	**San Ardo**	**2.44**	**267**		**Pn**	**07 04 48.2**	**+1.0**
RAMR	**Ramage Ranch**	**2.48**	**258**		**Pn**	**07 04 48.7**	**+0.9**
V12A	**Nelson**	**2.50**	**99**		**Pn**	**07 04 47.0**	**-1.1**
RYN	**Ryan**	**2.50**	**348**		**Pn**	**07 04 48.4**	**+0.2**
ELS	**Elsinore Mount**	**2.55**	**171**		**Pn**	**07 04 48.2**	**-0.6**
ELS				IAML		07 05 35.4	
	comp=E,434nm,0.9s						
BBGB	**Big Mountain B**	**2.58**	**280**		**Pn**	**07 04 49.6**

Y14A					IAML			07 06 35.2	
	comp=N,178nm,0.8s								
Y14A					IAML			07 06 50.9	
	comp=E,140nm,1.7s								
GDXM	**Geysers**	**4.71**	**305**		Pn	**Pn**		**07 05 18.4**	**0.0**
GDXM					IAML			07 07 00.2	
	comp=E,82nm,1.5s								
ELK	**Elko**	**5.01**	**24**			**Pn**		**07 05 22.1**	**-0.6**
ELK					IAML			07 06 48.5	
	comp=E,61nm,0.9s								
ELK	**Elko**	**5.01**	**24**		Pn	**Pn**		**07 05 23.1**	**+0.4**
	comp=E,6.9nm,0.3s,baz=212,slow=11,SNR=127								
ELK					Pg	**Pb**		**07 05 36.1**	**+1.2**
	comp=E,10.0nm,0.3s,baz=226,slow=14,SNR=32								
ELK					Sn	**Sn**		**07 06 20.7**	**-0.6**
	baz=209,slow=18								
ELK					Lg	Lg		07 06 43.0	
	comp=E,13nm,0.3s,baz=295,slow=11,SNR=9.4								
ELK					LR	LR		07 07 19.0	
	comp=E,34nm,21.8s,baz=206,slow=39								
	comp=E,15nm,0.3s								
VTX	**Valle De La Tr**	**5.08**	**159**			**Pn**		**07 05 24.2**	**+0.7**
VTX					IAML			07 06 53.5	
	comp=N,70nm,1.0s								
VTX					IAML			07 06 57.4	
	comp=E,99nm,1.0s								
WUAZ	**Wupatki**	**5.33**	**95**		Pn	**Pn**		**07 05 26.9**	**-0.1**
WUAZ					IAML			07 06 58.0	
	comp=E,110nm,1.4s								
WUAZ					IAML			07 07 02.4	
	comp=E,107nm,1.0s								
X16A	**Lo Mia Camp, P**	**5.55**	**107**			**Pn**		**07 05 30.7**	**+0.6**
HMU	**Henry Mountain**	**5.97**	**71**		Pn	**Pn**		**07 05 36.2**	**+0.2**
KMRM	**Mail Ridge**	**6.11**	**313**		Pn	**Pn**		**07 05 35.9**	**-1.8**
X18A	**Snowflake**	**6.69**	**102**		Pn	**Pn**		**07 05 45.9**	**+0.1**
YBH	**Yreka Blue Hor**	**6.70**	**327**		Pn	**Pn**		**07 05 46.2**	**+0.4**
YBH	**Yreka Blue Hor**	**6.70**	**327**		Pn	**Pn**		**07 05 48.5**	**+2.7**
	baz=152,slow=6.6,SNR=10								
YBH					Sn	**Sn**		**07 07 04.8**	**+2.0**
	baz=151,slow=5.4,SNR=3.9								
YBH					Lg	Lg		07 07 31.6	
	baz=182,slow=17,SNR=4.4								
YBH					LR	LR		07 07 58.1	
	comp=E,7.6nm,22.0s,baz=146,slow=34								
HVU	**Hansel Valley**	**6.86**	**34**		Pn	**Pn**		**07 05 48.8**	**+0.7**
L04D	**Klamath Falls**	**6.94**	**332**		Pn	**Pn**		**07 05 48.1**	**-1.0**
P18A	**Preston Nutter**	**6.95**	**58**		Pn	**Pn**		**07 05 51.5**	**+2.1**
TUC	**Tucson**	**7.03**	**121**			**Pn**		**07 05 49.2**	**-1.1**
TCUT	**Toone Canyon**	**7.07**	**44**		Pn	**Pn**		**07 05 52.7**	**+1.7**
PV10	**Paradox Valley**	**7.38**	**70**		Pn	**Pn**		**07 05 54.0**	**-1.3**
PV19	**Morning Glory**	**7.41**	**71**		Pn	**Pn**		**07 05 56.6**	**+0.9**
319A	**Douglas**	**8.61**	**121**		Pn	**Pn**		**07 06 13.1**	**+1.0**
PD31	**Pinedale Array**	**9.20**	**42**		Pn	**Pn**		**07 06 21.4**	**+1.2**
PDAR	**Pinedale Array**	**9.20**	**42**		Pn	**Pn**		**07 06 21.6**	**+1.3**
PDAR	**Pinedale Array**	**9.20**	**42**		Pn	**Pn**		**07 06 22.4**	**+2.1**
	comp=E,0.1nm,0.3s,baz=222,slow=11,SNR=8.7								
PDAR					Lg	Lg		07 08 54.0	
	comp=E,0.1nm,0.3s,baz=232,slow=27,SNR=2.6								
PDAR					LR	LR		07 09 57.1	
	comp=E,30nm,21.9s,baz=229,slow=38								
	comp=E,0.7nm,0.7s								
ANMO	**Albuquerque**	**9.39**	**94**		Pn	**Pn**		**07 06 22.8**	**0.0**
	comp=E,0.1nm,0.3s,baz=182,slow=13,SNR=1.5								
ANMO					Pg			07 06 57.1	
	comp=E,0.1nm,0.3s,baz=0.5,slow=13,SNR=7.6								
ANMO					Lg	Lg		07 09 00.2	
	comp=E,0.1nm,0.3s,baz=277,slow=18,SNR=3.7								
ANMO					LR	LR		07 10 13.9	
	comp=E,242nm,19.0s,baz=22,slow=39								
	comp=E,0.5nm,0.6s								
DLMT	**Dillon**	**10.01**	**22**		Pn	**Pn**		**07 06 32.9**	**+1.6**
LPIG	**La Paz**	**13.69**	**149**		LR	LR		07 12 18.5	
	comp=E,88nm,20.3s,baz=338,slow=36								
TXAR	**Lajitas Array**	**13.76**	**116**		Pn	**Pn**		**07 07 24.5**	**+1.9**
	comp=E,0.1nm,0.3s,baz=290,slow=12,SNR=10								
	comp=E,0.2nm,0.4s								
SN07	**Snyder 07**	**14.32**	**97**		Pn	**Pn**		**07 07 31.0**	**+0.8**
SN05	**Snyder 5**	**14.39**	**98**		Pn	**Pn**		**07 07 32.0**	**+0.9**
OZNA	**Ozona**	**14.92**	**106**		Pn	**Pn**		**07 07 39.8**	**+1.5**
JCT	**Junction City**	**16.14**	**105**		P	**P**		**07 07 55.8**	**-1.9**
BRDY	**Brady**	**16.44**	**102**		P	**Pn**		**07 07 58.2**	**0.0**
FW03	**Perrin-Whitt E**	**16.61**	**95**		P	**Pn**		**07 08 00.5**	**+0.2**
FW03					IAmb	IAmb		07 08 12.1	
	comp=Z,4.5nm,0.7s								
FW07	**Weatherford**	**16.93**	**96**		P	**P**		**07 08 05.7**	**-0.7**
FW07					IAmb	IAmb		07 08 11.2	
	comp=Z,8.2nm,0.5s								
MIAR	**Mount Ida**	**19.88**	**88**		P	**Pn**		**07 08 39.6**	**-0.8**
MIAR					IAmb	IAmb		07 08 48.7	
	comp=Z,8.7nm,1.2s								
ULM	**Lac du Bonnet**	**21.23**	**42**		P	**P**		**07 08 53.7**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=220,slow=7.2,SNR=4.9								
	comp=Z,1.6nm,0.9s								
R33M	**Jennings River**	**24.75**	**344**		P	**P**		**07 09 28.8**	**-0.3**
YKA	**Yellowknife Ar**	**26.42**	**3**		P	**P**		**07 09 44.6**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=181,slow=7.9,SNR=5.9								
YKA					LR	LR		07 20 25.5	
	comp=Z,50nm,19.0s,baz=176,slow=37								
	comp=Z,1.0nm,0.9s								
TKL	**Tuckaleechee C**	**27.55**	**81**	LR	LR			07 21 03.5	
	comp=Z,75nm,18.2s,baz=288,slow=37								
CMIG	**Matias Romero**	**27.88**	**127**	LR	LR			07 21 46.7	
	comp=Z,56nm,18.7s,baz=236,slow=38								
SADO	**Sadowa**	**30.46**	**62**	LR	LR			07 23 14.5	
	comp=Z,88nm,20.3s,baz=280,slow=38								
ILAR	**Eielson Array**	**33.46**	**338**	P	**P**			**07 10 47.9**	**+1.5**
	comp=Z,1.1nm,0.8s,baz=156,slow=7.4,SNR=19								
	comp=Z,1.1nm,0.8s								
RES	**Resolute Bay**	**40.14**	**9**	LR	LR			07 30 45.8	
	comp=Z,50nm,19.4s,baz=62,slow=40								
FRB	**Frobisher Bay**	**40.46**	**31**	LR	LR			07 28 45.7	
	comp=Z,46nm,21.3s,baz=295,slow=37								
MDP	**Montagnes des**	**67.08**	**101**	LR	LR			07 48 01.6	
	comp=Z,25nm,18.2s,baz=176,slow=39								
VRAC	**Vranov**	**85.80**	**28**	LR	LR			07 57 42.6	
	comp=Z,17nm,19.0s,baz=328,slow=38								
BBTS	**Babate**	**90.36**	**72**	LR	LR			07 53 43.0	
	comp=Z,34nm,20.2s,baz=78,slow=33								

IDC ***11*** *07:04:23.6±0.5, 38.°55N×139.°33E, h0km, mb4.1/25, mbtmp4.1/28, ML3.6/3, MS3.3/8, Error ellipse: s-maj=15.1km s-min=12.2km az=90.0*

NIED ***11*** *07:04:25.6, 38.°55N×139.°40E, h11km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.16; Mθθ-0.24; Mφφ-0.92; Mrθ-0.14; Mθφ-0.45; Mφr-0.56; Fault plane solution: M0 1.29000×10¹⁵ NP1: φs32.00000°, δ32.00000°, λ,99.00000°. NP2:φs201.00000°, δ58.00000°, λ,84.00000°.*

JMA ***11*** *07:04:25.6±0.1, 38.°6N±0.°2×139.°4E±0.°3, h11km±1km, MD4.3/40, MV4.4/40, OFF N NIIGATA PREF*

JMA Felt III J1 at OFF N NIIGATA PREF .

MOS ***11*** *07:04:25.4±1.3, 38.°61N×139.°28E, h22km, mb4.4/12, Error ellipse: s-maj=9.6km s-min=6.0km az=92.9*

NEIC ***11*** *07:04:26.1±1.4, 38.°59N±0.°04×139.°43E±0.°05, h10km±1km, mb4.4/46, Error ellipse: s-maj=8.4km s-min=5.1km az=222.0*

ISC 11 07:04:25.7±0.8, 38.°54N±0.°04×139.°40E±0.°03, h11km±5km, n375, σ0≈80/363, mb4.3/63, MS3.4/7, 13C-17D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
JAW	**Awa shima**	**0.15**	**233**	*i*	P	**Pg**	**07**	**04**	**29.0**	**-0.1**
JAW					S	**Sg**	**07**	**04**	**31.7**	**+0.2**
JAW	**Awa shima**	**0.15**	**233**		A	A	07	04	29.0	
	comp=N,61nm,1.2s,comp=E,75nm,0.5s									
JYA	**Atsumi**	**0.25**	**79**	⇓	*i*P	**Pg**	**07**	**04**	**30.8**	**-0.2**
JYA				⇓	*e*S	**Sg**	**07**	**04**	**34.6**	**+0.2**
JYA	**Atsumi**	**0.25**	**79**		A	A	07	04	30.8	
	comp=N,257nm,0.3s,comp=E,227nm,0.5s									
JYS	**Shirataka**	**0.62**	**121**	⇓	*i*P	**Pg**	**07**	**04**	**37.3**	**-0.4**
JYS				⇓	S	**Sg**	**07**	**04**	**45.9**	**+0.1**
JYS	**Shirataka**	**0.62**	**121**		A	A	07	04	37.3	
	comp=N,32nm,1.2s,comp=E,33nm,0.8s									
JYYZ	**Yamagatayuza**	**0.63**	**41**		*e*P	**Pb**	**07**	**04**	**38.5**	**-0.2**
JYYZ					eS	**Sb**	**07**	**04**	**47.6**	**+0.1**
JYYZ	**Yamagatayuza**	**0.63**	**41**		A	A	07	04	38.5	
	comp=N,25nm,5.4s,comp=E,20nm,3.2s									
JTB	**Tobi-shima**	**0.66**	**11**		A	A	07	04	38.2	
	comp=N,7.0nm,0.3s,comp=E,15nm,0.3s									
JNS	**Sasagawa**	**0.73**	**185**		*e*P	**Pg**	**07**	**04**	**39.3**	**-0.5**
JNS					S	**Sg**	**07**	**04**	**49.1**	**-0.2**
JNS	**Sasagawa**	**0.73**	**185**		A	A	07	04	39.3	
	comp=N,7.0nm,0.3s,comp=E,14nm,0.4s									
JYK	**Kaneyama**	**0.84**	**63**		*e*P	**Pg**	**07**	**04**	**41.2**	**-0.7**
JYK					S	**Sg**	**07**	**04**	**52.4**	**-0.4**
JYK	**Kaneyama**	**0.84**	**63**		A	A	07	04	41.2	
	comp=N,10.0nm,0.3s,comp=E,8.0nm,0.3s									
JYAR	**Yonezawaarcadi**	**0.86**	**137**		A	A	07	04	42.0	
	comp=N,29nm,0.5s,comp=E,26nm,0.7s									
JOU	**Okura**	**1.01**	**100**	⇓	*i*P	**Pg**	**07**	**04**	**44.2**	**-0.9**
JOU				⇓	*e*S	**Sg**	**07**	**04**	**57.6**	**-0.7**
JOU	**Okura**	**1.01**	**100**		A	A	07	04	44.2	
	comp=N,14nm,0.6s,comp=E,19nm,0.6s									
JSD	**Sado**	**1.03**	**241**	⇓	*i*P	**Pg**	**07**	**04**	**44.0**	**-1.4**
JSD				⇓	*e*S	**Sg**	**07**	**04**	**58.3**	**-0.5**
JSD	**Sado**	**1.03**	**241**		A	A	07	04	44.0	
	comp=N,19nm,0.7s,comp=E,13nm,0.8s									
JIZZ	**Izumozaki**	**1.15**	**208**		A	A	07	04	47.1	
	comp=N,47nm,1.2s,comp=E,18nm,0.9s									
JFY	**Yanaizu**	**1.16**	**168**		A	A	07	04	47.2	
	comp=N,4.0nm,1.5s,comp=E,6.0nm,1.3s									
JYW	**Yuwa**	**1.18**	**32**		A	A	07	04	47.3	
	comp=N,27nm,0.4s,comp=E,12nm,0.3s									
JOFO	**Osakifurukawao**	**1.19**	**87**		A	A	07	04	47.6	
	comp=N,22nm,0.8s,comp=E,31nm,6.3s									
JRG	**Rokugo**	**1.29**	**48**		A	A	07	04	49.1	
	comp=N,11nm,0.6s,comp=E,18nm,0.7s									
JMM	**Marumori**	**1.29**	**121**			**Pn**	**07**	**04**	**49.9**	**+0.3**
JMM	**Marumori**	**1.29**	**121**		A	A	07	04	49.3	
	comp=N,10.0nm,0.8s,comp=E,14nm,0.7s									
JOG3	**Oga3**	**1.40**	**350**		A	A	07	04	51.1	
	comp=N,12nm,1.4s,comp=E,12nm,0.4s									
JSB	**Shiboa**	**1.63**	**165**		A	A	07	04	54.6	
	comp=N,8.0nm,1.7s,comp=E,8.0nm,5.1s									
JFK	**Kawauchi**	**1.66**	**135**		A	A	07	04	55.0	
	comp=N,8.0nm,0.8s,comp=E,8.0nm,0.4s									
JSZI	**Iwateshizukuis**	**1.70**	**45**		A	A	07	04	55.5	
	comp=N,8.0nm,1.7s,comp=E,9.0nm,5.6s									
JJN	**Nakama**	**1.74**	**215**		A	A	07	04	56.3	
	comp=N,6.0nm,1.0s,comp=E,7.0nm,0.9s									
JOM	**Ohasama**	**1.74**	**57**		A	A	07	04	56.2	
	comp=N,4.0nm,0.2s,comp=E,5.0nm,0.4s									
ONAJ	**Iwakimizuishiy**	**1.82**	**142**		A	A	07	04	57.4	
	comp=N,8.0nm,0.4s,comp=E,11nm,0.3s									
MAJO	**Matsushiro**	**2.21**	**206**			**Pn**	**07**	**05**	**02.2**	**0.0**
MAJO	**Matsushiro**	**2.21**	**206**	*de*	P	**Pn**	**07**	**05**	**01.9**	**-0.4**
MJAR	**Matsushiro Arr**	**2.21**	**206**			**Pn**	**07**	**05**	**03.2**	**+0.9**
MJAR	**Matsushiro Arr**	**2.21**	**206**		Pn	**Pn**	**07**	**05**	**02.6**	**+0.4**
	comp=E,11nm,0.3s,baz=22,slow=15,SNR=135									
MJAR					Sn	**Sb**	**07**	**05**	**33.1**	**+0.1**
	comp=E,20nm,0.3s,baz=52,slow=51,SNR=7.9									
	comp=E,119nm,0.4s									
JTM	**Tenmabayashi**	**2.58**	**29**		Pn	**Pn**	**07**	**05**	**07.4**	**0.0**
JGF	**Kuroka**	**3.36**	**210**			**Pn**	**07**	**05**	**19.4**	**+1.3**
INU	**Inuyama**	**3.71**	**212**		Pn	**Pn**	**07**	**05**	**22.4**	**-0.5**
ERM	**Erimo**	**4.50**	**38**			**Pn**	**07**	**05**	**34.5**	**+0.8**
ERM	**Erimo**	**4.50**	**38**	⇓	*e*P	**Pn**	**07**	**05**	**34.6**	**+0.8**
ASAJ	**Asahikawa**	**6.07**	**22**		P	**Pn**	**07**	**05**	**55.4**	**+0.2**
	comp=E,0.9nm,0.3s,baz=219,slow=10,SNR=5.1									
ASAJ					Sn	**Sn**	**07**	**07**	**08.2**	**+3.6**
	comp=E,1.1nm,0.3s,baz=29,slow=31,SNR=9.4									
	comp=E,2.3nm,0.3s									
ASAJ	**Asahikawa**	**6.07**	**22**		P	**Pn**	**07**	**05**	**56.4**	**+1.2**
JKA	**Kamikawa-asahi**	**6.07**	**22**		Pn	**Pn**	**07**	**05**	**56.4**	**+1.1**
JMN	**Monobe**	**6.56**	**225**		Pn	**Pn**	**07**	**06**	**03.3**	**+1.2**
TEY	**Ternei**	**6.81**	**343**		*e*P	**Pn**	**07**	**06**	**02.3**	**-3.2**
MSHR	**Mys Shultsa**	**7.46**	**305**	⇑	*e*P	**Pn**	**07**	**06**	**11.5**	**-2.8**
USA0B	**Ussuriysk Arra**	**7.93**	**318**		Pn	**Pn**	**07**	**06**	**19.5**	**-1.3**
USA0B	**Ussuriysk Arra**	**7.93**	**318**		P	**Pn**	**07**	**06**	**19.5**	**-1.3**
USRK	**Ussuriysk Ar.**	**7.93**	**318**		Pn	**Pn**	**07**	**06**	**19.3**	**-1.6**
USRK	**Ussuriysk Ar.**	**7.93**	**318**		Pn	**Pn**	**07**	**06**	**19.4**	**-1.4**
	comp=E,2.0nm,0.3s,baz=122,slow=14,SNR=14									
USRK					Sn	**Sn**	**07**	**07**	**45.0**	**-5.5**
	comp=E,0.7nm,0.3s,baz=130,slow=25,SNR=5.3									
USRK					LR	LR	07	09	09.6	
	comp=E,127nm,20.5s,baz=189,slow=36									
	comp=E,3.9nm,0.3s									
YSS	**Yuzhno-Sakhali**	**8.76**	**15**	⇑	*e*P	**Pn**	**07**	**06**	**32.1**	**-0.1**
JNU	**Nakatsue**	**8.78**	**235**		LR	LR	07	10	08.5	
	comp=E,108nm,18.8s,baz=14,slow=40									
KSRS	**Korea Array**	**9.12**	**267**		Pn	**Pn**	**07**	**06**	**38.8**	**+1.7**
	comp=E,5.1nm,0.3s,baz=76,slow=14,SNR=53									
KSRS					Sn	**Sn**	**07**	**08**	**21.0**	**+1.2**
	comp=E,1.2nm,0.3s,baz=73,slow=24,SNR=4.8									
KSAR	**Wonju Array Be**	**9.16**	**267**		Pn	**Pn**	**07**	**06**	**37.9**	**+0.3**
KSAR	**Wonju Array Be**	**9.16**	**267**		P	**Pn**	**07**	**06**	**37.9**	**+0.3**
KS19	**Wonju Array Si**	**9.16**	**267**			**Pn**	**07**	**06**	**38.6**	**+0.9**
TJN	**Taejon**	**9.81**	**261**		Pn	**Pn**	**07**	**06**	**48.3**	**+1.7**
TJN	**Taejon**	**9.81**	**261**	⇓	*e*P	**Pn**	**07**	**06**	**47.2**	**+0.6**
TJN					pmax	pmax				
	comp=Z,2.0nm,1.9s									
BNX	**BinXian**	**11.44**	**313**	⇑	P	**Pn**	**07**	**07**	**08.6**	**-0.2**
BNX					S	**Sn**	**07**	**09**	**17.8**	**+1.3**
BNX					pmax	pmax				
	comp=Z,4.0nm,1.0s									
BNX					pmax	pmax				
	comp=Z,52nm,3.3s									
BNX					LR	LR				
	comp=N,1μm,28.2s									
BNX					LR	LR				
	comp=E,3μm,23.5s									
BNX					LR	LR				
	comp=Z,350nm,49.9s									
CN2	**Changchun**	**11.75**	**301**		P	**Pn**	**07**	**07**	**15.4**	**+2.3**
CN2					pmax	pmax				
	comp=Z,10.0nm,0.5s									
CN2					LR	LR				
	comp=N,200nm,10.0s									
CN2					LR	LR				
	comp=E,200nm,10.0s									
CN2					LR	LR				
	comp=Z,200nm,10.0s									
HEH	**HeiHe**	**14.48**	**328**		*e*P	**P**	**07**	**07**	**59.6**	**+2.4**
HEH					LR	LR				
	comp=N,150nm,11.1s									
HEH					LR	LR				
	comp=E,120nm,11.0s									
HEH					LR	LR				
	comp=Z,140nm,11.7s									
ZEA	**Zeya**	**17.33**	**335**		*e*P	**P**	**07**	**08**	**30.4**	**+1.7**
ZEA					pmax	pmax				
	comp=E,10.0nm,0.3s									
ZEA					pmax	pmax				
	comp=Z,10.0nm,0.4s									
XLT	**XiLinHaoTe**	**18.31**	**294**		*e*P	**P**	**07**	**08**	**41.2**	**+1.4**
XLT					pmax	pmax				
	comp=Z,6.0nm,0.8s									
XLT					LR	LR				
	comp=N,15nm,8.3s									
XLT					LR	LR				
	comp=E,130nm,14.4s									
XLT					LR	LR				
	comp=Z,140nm,11.6s									
PET	**Petropavlovsk**	**19.66**	**36**	⇑	*e*P	**P**	**07**	**08**	**53.1**	**-1.2**
HHC	**Hu-ho-hao-te**	**21.51**	**285**		*e*P	**P**	**07**	**09**	**15.0**	**+0.4**
HHC					pmax	pmax				
	comp=Z,15nm,0.6s									
HHC					pmax	pmax				
	comp=Z,73nm,5.7s									
HHC					LR	LR				
	comp=N,72nm,10.9s									
HHC					LR	LR				
	comp=E,140nm,9.5s									
HHC					LR	LR				
	comp=Z,140nm,10.2s									
MA2	**Magadan**	**22.27**	**15**	⇑	*e*P	**P**	**07**	**09**	**20.8**	**-1.6**
MA2					pmax	pmax				
	comp=Z,21nm,1.3s									
YAK	**Yakutsk**	**24.27**	**349**	⇓	*e*P	**P**	**07**	**09**	**44.1**	**+1.6**
YAK					pmax	pmax				
	comp=Z,8.0nm,0.4s									
ULN	**Ulaanbaatar**	**25.19**	**302**	⇑	*e*P	**P**	**07**	**09**	**51.0**	**-0.2**
ULN					pmax	pmax				
	comp=Z,6.0nm,1.7s									
SONM	**Songino Array**	**25.62**	**302**		P	**P**	**07**	**09**	**54.9**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=98,slow=10,SNR=4.5									
	comp=Z,0.7nm,0.3s									
SEY	**Seymchan**	**25.66**	**14**	⇑	*e*P	**P**	**07**	**09**	**55.5**	**+0.4**
SEY					pmax	pmax				
	comp=Z,2.0nm,0.6s									
TIXI	**Tiksi**	**33.61**	**354**		P	**P**	**07**	**11**	**04.6**	**-0.9**
TIXI					IAmb	IAmb	07	11	46.3	
	comp=Z,6.8nm,0.9s									
TIXI	**Tiksi**	**33.61**	**354**		P	**P**	**07**	**11**	**04.6**	**-0.9**
TIXI					pmax	pmax				
	comp=Z,7.0nm,0.9s									
PZH	**PanZhiHua**	**33.72**	**260**		P	**P**	**07**	**11**	**09.7**	**+2.5**
SPIA	**Saint Paul Isl**	**37.54**	**43**		P	**P**	**07**	**11**	**39.0**	**-0.4**
	baz=262									
P08K	**Saint George I**	**37.85**	**45**		P	**P**	**07**	**11**	**42.2**	**+0.1**
	baz=264									
NIKH	**Nikolski High**	**38.02**	**50**		P	**P**	**07**	**11**	**43.6**	**+0.1**
	baz=269									
GAMB	**Gambell**	**38.28**	**33**		P	**P**	**07**	**11**	**45.0**	**-0.6**
	baz=252									
WMQ	**Urumqi**	**38.74**	**295**	*e*	P	**P**	**07**	**11**	**51.0**	**+1.1**
WMQ					pmax	pmax				
	comp=Z,38nm,0.7s									
ZALV	**Zalesovo Beam**	**39.72**	**311**		P	**P**	**07**	**11**	**58.1**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=101,slow=7.5,SNR=1.5									
ZALV					PcP	**PcP**	**07**	**14**	**04.1**	**0.0**
	comp=Z,1.6nm,0.5s,baz=74,slow=3.6,SNR=5.6									
	comp=Z,0.9nm,0.4s									
M11K	**Mekoryuk**	**40.06**	**39**		P	**P**	**07**	**11**	**59.9**	**-0.6**
	baz=262									
TNA	**Tin City**	**40.35**	**31**		P	**P**	**07**	**12**	**02.6**	**-0.2**
	baz=254									
CMAR	**Chiang Mai Arr**	**40.39**	**252**		LR	LR	07	30	11.4	
	comp=Z,20nm,20.9s,baz=190,slow=38									
JAY	**Jayapura**	**40.87**	**178**		P	**P**	**07**	**12**	**07.4**	**-0.3**
	comp=Z,6.5nm,0.8s,baz=180,slow=24,SNR=2.5									
JAY					LR	LR	07	25	35.4	
	comp=Z,49nm,21.6s,baz=344,slow=31									
	comp=Z,6.5nm,0.8s									
K13K	**Kusilvak Mount**	**41.02**	**37**		P	**P**	**07**	**12**	**07.5**	**-1.0**
K13K	**Kusilvak Mount**	**41.02**	**37**		P	**P**	**07**	**12**	**08.2**	**-0.3**
	baz=262									
ANM	**Nome**	**41.16**	**33**		P	**P**	**07**	**12**	**09.5**	**-0.1**
	baz=258									
NRIK	**Noril'sk**	**41.23**	**335**		P	**P**	**07**	**12**	**09.6**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=168,slow=5.2,SNR=1.3									
	comp=Z,0.9nm,0.5s									
NRIK	**Noril'sk**	**41.23**	**335**	⇑	*e*P	**P**	**07**	**12**	**10.7**	**+0.6**
M13K	**Dall Lake**	**41.48**	**39**		P	**P**	**07**	**12**	**11.4**	**-0.8**
	baz=265									
J14K	**Nanvaranak Lak**	**41.65**	**36**		P	**P**	**07**	**12**	**13.9**	**+0.3**
J14K					lAmb	lAmb	07	12	44.5	
	comp=Z,11nm,1.4s									
J14K	**Nanvaranak Lak**	**41.65**	**36**		P	**P**	**07**	**12**	**13.2**	**-0.4**
	baz=262									
F15K	**North Star Dit**	**41.70**	**31**		P	**P**	**07**	**12**	**13.6**	**-0.4**
	baz=258									
FAKI	**Fak Fak**	**41.78**	**191**		P	**P**	**07**	**12**	**14.8**	**-0.3**
G15K	**Niukluk**	**41.81**	**32**		P	**P**	**07**	**12**	**14.7**	**-0.2**
	baz=259									
MKAR	**Makanchi Array**	**41.97**	**300**		P	**P**	**07**	**12**	**16.2**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=87,slow=7.4,SNR=2.0									
S12K	**Black Hills**	**41.99**	**46**		P	**P**	**07**	**12**	**15.1**	**-1.5**
S12K					lAmb	lAmb	07	12	37.9	
	comp=Z,8.6nm,1.1s									
S12K	**Black Hills**	**41.99**	**46**		P	**P**	**07**	**12**	**16.4**	**-0.2**
	baz=271									
M14K	**Bethel**	**42.19**	**39**		P	**P**	**07**	**12**	**18.0**	**0.0**
M14K					lAmb	lAmb	07	12	19.7	
	comp=Z,13nm,1.4s									
M14K	**Bethel**	**42.19**	**39**		P	**P**	**07**	**12**	**17.9**	**0.0**
	baz=266									
N14K	**Kuskokwak Cree**	**42.27**	**40**		P	**P**	**07**	**12**	**18.9**	**+0.2**
	baz=267									
O14K	**Tigy

baz=266
R17L Mt. Peulik Vol 45.05 43 P P 07 12 41.2 0.0
baz=274
N18K Kilae Creek 45.17 39 P P 07 12 40.8 -1.3
baz=271
M18K Stony River 45.19 38 P P 07 12 41.4 -0.8
baz=270
Q17K Contact Creek 45.27 42 P P 07 12 42.5 -0.5
baz=274
B20K Meade River 45.31 26 P P 07 12 42.5 -0.6
baz=261
D20K Etivluk River 45.31 27 P P 07 12 42.3 -0.8
baz=262
J19K Poorman 45.32 34 P P 07 12 42.8 -0.4
J19K IAmb IAmb 07 12 44.5
comp=Z,3.6nm,1.2s
J19K Poorman 45.32 34 P P 07 12 42.6 -0.5
baz=268
E20K Nigu River 45.41 28 P P 07 12 43.3 -0.6
baz=263
O18K Koktuh Hills 45.53 40 P P 07 12 44.4 -0.6
baz=273
P18K Big Mountain, 45.54 41 P P 07 12 44.3 -0.7
baz=273
L19K White Mountain 45.64 37 P P 07 12 45.1 -0.7
baz=271
H20K Anotleneega Mo 45.70 32 P P 07 12 45.8 -0.3
baz=267
Q18K Katmai Hardscr 45.70 42 P P 07 12 46.3 -0.2
baz=274
I20K Naaghedeneel 45.84 33 P P 07 12 46.5 -0.7
baz=268
N19K Bonanza Creek 45.85 39 P P 07 12 47.3 -0.2
baz=272
J20K Nowinta River 45.97 34 P P 07 12 47.7 -0.7
baz=269
K20K Telida 46.00 35 P P 07 12 47.7 -0.9
K20K IAmb IAmb 07 12 51.7
comp=Z,2.7nm,1.0s
K20K Telida 46.00 35 P P 07 12 48.1 -0.5
baz=270
C21K Knifeblade Rid 46.02 27 P P 07 12 47.8 -0.9
baz=264
L20K Farewell, AK 46.09 36 P P 07 12 48.5 -0.8
baz=271
B21K Ikpikpuk River 46.13 26 P P 07 12 48.9 -0.6
baz=264
IMAR Indian Mountai 46.18 31 P P 07 12 50.1 +0.1
E21K Killik River 46.24 28 P P 07 12 49.8 -0.7
baz=265
G21K Allakaket 46.30 31 P P 07 12 51.0 +0.1
G21K IAmb IAmb 07 12 52.7
comp=Z,5.2nm,1.1s
G21K Allakaket 46.30 31 P P 07 12 50.5 -0.4
baz=268
Q19K Cape Douglas, 46.39 41 P P 07 12 50.9 -0.9
baz=275
H21K Melozitna Rive 46.56 32 P P 07 12 53.3 +0.3
H21K Melozitna Rive 46.56 32 P P 07 12 52.5 -0.5
baz=269
OHAK Old Harbor 46.75 44 P P 07 12 54.2 -0.3
baz=277
D22K Ayikyak River 46.75 27 P P 07 12 54.0 -0.4
baz=266
CAST Castle Rocks 46.89 35 P 07 12 55.9 +0.4
CAST IAmb IAmb 07 12 57.9
comp=Z,2.2nm,0.8s
CAST Castle Rocks 46.89 35 P P 07 12 56.0 +0.4
baz=272
I21K Tanana 46.90 33 P P 07 12 56.1 +0.5
baz=270
E22K Anaktuvuk Pass 47.03 29 P 07 12 57.1 +0.5
E22K IAmb IAmb 07 12 58.1
comp=Z,4.9nm,0.8s
E22K Anaktuvuk Pass 47.03 29 P P 07 12 56.8 +0.2
baz=268,SNR=9.2
KDAK Kodiak Island 47.06 43 *e*P P 07 12 56.6 -0.3
KDAK Kodiak Island 47.06 43 P P 07 12 56.7 -0.2
baz=277
G22K Bettles 47.11 30 P P 07 12 57.5 +0.3
baz=269
H22K Ishtalitna Cre 47.15 32 P P 07 12 58.1 +0.4
baz=270
SKT Skwentna 47.21 37 P P 07 12 58.3 +0.2
baz=274
MLY Manley 47.43 33 P P 07 12 59.9 0.0
baz=272
D23K Nanushuk River 47.48 27 P P 07 13 00.8 +0.7
baz=268
CAPN Captain Cook N 47.49 39 P P 07 13 00.9 +0.7
baz=275
C23K Itkillik River 47.54 26 P P 07 13 00.3 -0.2
baz=267
COLD Coldfoot 47.62 30 P P 07 13 00.9 -0.3
baz=270
TRF Thorofare Moun 47.70 35 P P 07 13 02.2 +0.1
baz=273
G23K Bananza Creek 47.70 30 P P 07 13 01.9 +0.1
baz=271,SNR=5.9
E23K Chandalar 47.85 29 P P 07 13 02.8 -0.3
baz=270,SNR=7.1
TOLK Toolik Lake Re 47.87 28 P P 07 13 03.0 -0.2
baz=269
H23K Yukon River 47.91 32 P P 07 13 03.9 +0.4
H23K IAmb IAmb 07 13 05.3
comp=Z,3.8nm,0.6s
H23K Yukon River 47.91 32 P P 07 13 03.0 -0.5
baz=272,SNR=8.1
I23K Minto, Yukon-K 48.01 33 P P 07 13 04.1 -0.1
baz=273
RC01 Rabbit Creek A 48.14 38 P P 07 13 05.5 +0.2
baz=276
D24K Happy Valley 48.15 27 P P 07 13 05.7 +0.5
baz=270
NEA2 Nenana 48.16 33 P P 07 13 05.5 +0.1
baz=273
C24K Franklin Bluff 48.20 26 P P 07 13 05.4 -0.2
baz=269
E24K Your Creek 48.27 29 P P 07 13 06.1 -0.2
baz=271
MCK McKinley 48.28 34 P P 07 13 06.2 -0.2
baz=274
AAK Ala-Archa 48.38 297 LR LR 07 35 43.2
comp=Z,41nm,19.8s,baz=140,slow=39
BVAR Borovoye Array 48.38 311 P P 07 13 06.7 -0.6
comp=Z,1.0nm,0.6s
BVAR PcP PcP 07 14 32.7 -0.9
BVAR LR LR 07 32 08.8
comp=Z,35nm,20.3s,baz=141,slow=34
comp=Z,1.0nm,0.6s
PMR Palmer 48.38 37 P P 07 13 07.2 +0.1
baz=276
SEW Seward 48.40 39 P P 07 13 06.9 -0.4
baz=277
BRVK Borovoye 48.43 311 *e*P P 07 13 08.9 +1.2
BRVK pmax pmax
comp=Z,2.0nm,0.8s
GHO Glory Hole Cre 48.46 37 P P 07 13 07.9 0.0
F24K Squaw Lake 48.52 29 P P 07 13 07.5 -0.6
baz=272
WAT1 Susitna Watana 48.53 36 P P 07 13 08.0 -0.3
baz=275
H24K Noodor Dome 48.59 32 P P 07 13 08.4 -0.4
baz=273
G24K Hadweenzic Riv 48.71 30 P P 07 13 08.9 -0.7
baz=273,SNR=5.4
WAT6 Susitna Watana 48.93 36 P P 07 13 11.3 -0.3
baz=276
D25K Kavik River 49.02 27 P P 07 13 12.1 0.0
baz=272
DHY Denali Highway 49.04 35 P 07 13 12.4 0.0
DHY IAmb IAmb 07 13 13.2
comp=Z,2.2nm,0.7s
DHY Denali Highway 49.04 35 P P 07 13 12.2 -0.3
baz=276
ILAR Eielson Array 49.09 33 P P 07 13 12.2 -0.3
comp=Z,2.1nm,0.8s,baz=271,slow=5.9,SNR=35
comp=Z,2.1nm,0.8s
HDA Harding Lake 49.09 33 P P 07 13 12.9 +0.3
baz=275
SCM Sheep Creek Mo 49.21 37 P P 07 13 13.1 -0.5
baz=277
G25K Bearman Lake 49.25 30 P P 07 13 14.0 +0.2
baz=274
E25K Arctic Village 49.37 28 P P 07 13 14.6 -0.1
baz=273
F25K Christian Rive 49.37 29 P P 07 13 15.2 +0.5
baz=274
H25L Birch Creek 49.40 31 P P 07 13 14.8 -0.1
baz=275,SNR=5.3
C26K Camden Bay 49.51 26 P P 07 13 14.7 -1.0
baz=272
PRP Porcupine Dome 49.59 32 P 07 13 17.1 +0.5
PRP IAmb IAmb 07 13 18.5
comp=Z,3.4nm,0.8s
PRP Porcupine Dome 49.59 32 P P 07 13 16.1 -0.5
baz=276,SNR=6.9
K24K Donnelly Dome 49.67 34 P P 07 13 16.5 -0.6
baz=277
M24K Tolsona, Glenn 49.71 36 P P 07 13 17.3 -0.2
baz=278
J25K Salcha River, 49.75 33 P P 07 13 17.1 -0.6
baz=277
PAX Paxson 49.91 35 P P 07 13 18.3 -0.8
baz=278
KLU Klutina 49.92 37 P P 07 13 18.7 -0.3
baz=279
F26K Sheenjek River 49.94 29 P P 07 13 20.4 +1.4
F26K IAmb IAmb 07 13 21.4
comp=Z,6.3nm,1.1s
F26K Sheenjek River 49.94 29 P P 07 13 18.9 -0.1
baz=275,SNR=12
C27K Jago River 49.94 26 P P 07 13 18.9 -0.1
baz=274
G26K Porcupine Rive 50.15 30 P P 07 13 20.8 +0.2
baz=276
SCRK Sand Creek 50.43 34 P P 07 13 22.8 -0.2
baz=278,SNR=10
N25K Chitina, Valde 50.53 37 P P 07 13 23.5 -0.2
baz=280
J26L Joseph Creek 50.54 33 P P 07 13 23.2 -0.5
baz=278
I26K Coal Creek Min 50.60 32 P P 07 13 24.1 0.0
baz=278
BMRM Brenner River 50.63 38 P P 07 13 24.4 -0.1
baz=280
E27K Coleen River 50.84 28 P P 07 13 25.9 0.0
baz=277
L26K Log Cabin Wild 50.86 35 P P 07 13 26.2 +0.1
baz=280
D27M Malcolm River 50.95 27 P P 07 13 26.9 +0.2
baz=277
G27K Doyon Strip 51.00 30 P P 07 13 27.4 +0.3
baz=278
M26K Nabesna, AK 51.13 36 P P 07 13 28.8 +0.6
M26K Nabesna, AK 51.13 36 P P 07 13 27.5 -0.6
baz=280
H27K Steamboat Moun 51.13 31 P P 07 13 28.3 +0.2
baz=279
I27K Kandik River 51.19 32 P P 07 13 28.4 -0.2
baz=279
K27K Chicken 51.26 34 P P 07 13 29.3 +0.2
baz=280
MCARA McCarthy VSAT 51.31 37 P P 07 13 29.2 -0.2
baz=281
CRQE Cirque 51.40 38 P P 07 13 30.0 -0.3
baz=282
L27K Beaver Creek, 51.54 35 P P 07 13 31.0 -0.2
baz=281,SNR=8.7
E28M Babbage River 51.54 28 P P 07 13 30.8 -0.3
baz=278
F28M Old Crow 51.57 29 P P 07 13 31.4 +0.1
baz=279
M27K Edge Creek, AK 51.65 36 P P 07 13 31.9 -0.3
baz=281,SNR=6.4
D28M Stokes Point 51.72 27 P P 07 13 32.2 -0.1
baz=279
I28M Miner Creek 51.91 32 P P 07 13 33.3 -0.7
baz=281,SNR=7.7
MESA MESA 52.08 38 P P 07 13 34.6 -0.8
baz=283
BVCY Beaver Creek 52.10 35 P P 07 13 35.4 -0.1
baz=282
E29M Blow River 52.17 28 P P 07 13 35.3 -0.5
baz=280
CTG Chitna Glacier 52.20 37 P P 07 13 35.6 -0.6
baz=283
H29M Whitestone 52.40 30 P P 07 13 37.1 -0.3
baz=281
G29M Pine Creek 52.40 30 P P 07 13 37.3 -0.2
baz=281
DAWY Dawson 52.41 33 P P 07 13 36.9 -0.8
baz=282
YUK3 Moose Creek 52.43 36 P P 07 13 38.2 +0.2
baz=283
I29M Ogilvie Camp, 52.59 32 P P 07 13 39.3 +0.3
baz=282
O28M Mount Upton 52.79 37 P P 07 13 41.0 +0.2
baz=284
EPYK Eagle Plains 53.02 30 P P 07 13 42.5 +0.4
baz=283,SNR=7.4
G30M tAoh Zraii Nji 53.08 29 P P 07 13 42.9 +0.3
baz=283,SNR=5.2
F30M Barrier River 53.10 28 P P 07 13 42.9 +0.2
baz=282
L29M L29M 53.17 34 P P 07 13 43.6 +0.3
baz=284
M29M Somme Creek 53.19 35 P P 07 13 43.8 +0.3
baz=284
K29M Barlow Dome 53.26 33 P P 07 13 44.4 +0.3
baz=284,SNR=5.5
YUK4 Talbot Arm 53.37 36 P P 07 13 45.8 +0.8
baz=285
I30M Mount Dempster 53.42 31 P P 07 13 45.6 +0.4
baz=284,SNR=10
J30M Hart River 53.59 32 P P 07 13 47.0 +0.5
baz=284
YUK6 Outpost Mounta 53.61 37 P P 07 13 47.3 +0.5
baz=285
O29M Mount Kennedy 53.68 38 P P 07 13 47.4 +0.3
baz=286
INK Inuvik 53.78 27 P P 07 13 46.4 -1.2
baz=284
G31M Satah River 53.84 29 P P 07 13 47.9 -0.2
baz=284
M30M Minto, Yukon 53.90 35 P P 07 13 49.3 +0.6
baz=285
MAYO Mayo, Yukon 54.03 33 P P 07 13 50.1 +0.5
baz=285
HYT Haines Junctio 54.05 37 P P 07 13 50.3 +0.5
baz=286,SNR=7.6
N30M Aishikik Lake 54.07 36 P P 07 13 50.3 +0.3
baz=286
H31M Peel River 54.09 31 P P 07 13 50.2 +0.2
baz=285,SNR=5.9
P29M Windy Craggy 54.27 38 P P 07 13 51.6 +0.3
baz=287
ARTI Arti 54.28 317 *d*iP P 07 13 54.8 +3.4
ARTI 07 14 55.9
ARTI 07 15 52.6
ARTI S S 07 21 38.5 +10
ARTI pmax pmax
comp=Z,2.0nm,0.4s
P30M Million Dollar 54.50 38 P P 07 13 53.2 +0.1
baz=287
N31M Braeburn, Yuko 54.66 36 P P 07 13 54.7 +0.5
baz=287
O30N Mendenhall 54.73 37 P P 07 13 55.1 +0.3
baz=287
PLBC Pleasant Camp 54.99 38 P P 07 13 57.0 +0.4
baz=288
M31M Drury Creek, Y 55.08 35 P P 07 13 57.6 +0.4
baz=287
WHY Whitehorse 55.33 37 P P 07 13 59.2 0.0
baz=288
FARO Faro, Yukon 55.54 35 P P 07 14 00.4 -0.1
baz=288
R31K City Hall, Gus 55.63 39 P P 07 14 01.3 +0.2
baz=289
AB31 Akbulak array 55.75 309 P 07 14 01.6 -0.6
ABKAR Akbulak array 55.75 309 P P 07 14 00.8 -1.4
N32M Quiet Lake 56.00 36 P P 07 14 03.3 -0.6
baz=289
P32M Atlin 56.23 38 P P 07 14 04.8 -0.7
baz=290
MMPY Sheldon Lake, 56.33 34 P P 07 14 07.0 +0.7
MMPY Sheldon Lake, 56.33 34 P P 07 14 05.9 -0.4
baz=290
P33M Teslin, Yukon 56.44 37 P P 07 14 06.5 -0.6
baz=290
S32K Killisnoo 56.53 40 P P 07 14 07.5 -0.1
baz=290
Q32M Nakina River 57.14 38 P P 07 14 11.6 -0.7
baz=291
R33M Jennings River 57.61 37 P P 07 14 15.2 -0.3
baz=292
U33K Whale Pass 57.77 41 P P 07 14 16.6 +0.2
baz=292
FITZ Fitzroy Crossi 57.80 196 P P 07 14 16.1 -0.9
comp=Z,2.6nm,0.8s,baz=254,slow=12,SNR=3.2
comp=Z,2.6nm,0.8s
CRAG Craig 58.01 42 P P 07 14 18.6 +0.5
S34M Telegraph Cree 58.09 39 P P 07 14 18.3 -0.3
baz=293
WB0 Warramunga Arr 58.19 186 P 07 14 18.4 -1.3
WRAB Tennant Creek 58.36 186 *e*P P 07 14 20.3 -0.6
WRAB pmax pmax
comp=Z,13nm,1.1s
WRA Warramunga Arr 58.37 186 P 07 14 19.9 -1.0
WRA Warramunga Arr 58.37 186 P P 07 14 20.2 -0.7
comp=Z,6.0nm,0.8s,baz=1.4,slow=7.2,SNR=47
WRA PcP PcP 07 15 11.9 +0.1
comp=Z,1.1nm,0.8s,baz=360,slow=4.3,SNR=4.8
comp=Z,6.0nm,0.8s
WR8 Warramunga Arr 58.37 185 P 07 14 20.2 -0.7
DLBC Dease Lake 58.42 38 P P 07 14 21.1 0.0
baz=293
T35M Bob Quinn 58.89 40 P P 07 14 24.6 +0.3
baz=294
LIRD Liard River Hi 59.88 36 P P 07 14 31.5 +0.5
baz=295
TOAD Toad River Com 60.53 36 P P 07 14 36.1 +0.5
baz=296
PALK Pallekele 61.17 255 *e*P P 07 14 39.3 -1.2
PALK pmax pmax
comp=Z,63nm,2.0s
BELG Belogornoye 61.61 316 *e*P P 07 14 42.7 -0.2
BELG pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 62.02 339 P P 07 14 44.7 -0.8
comp=Z,1.4nm,0.9s,baz=58,slow=5.6,SNR=4.8
comp=Z,1.4nm,0.9s
AS31 Alice Springs 62.09 186 P P 07 14 45.9 -0.6
ASAR Alice Springs 62.10 186 P P 07 14 46.2 -0.3
ASAR Alice Springs 62.10 186 P P 07 14 46.0 -0.5
comp=Z,2.5nm,0.7s,baz=3.9,slow=7.6,SNR=15
comp=Z,2.5nm,0.7s
ASAR Alice Springs 62.10 186 P P 07 14 46.2 -0.3
YKA Yellowknife Ar 63.30 30 P P 07 14 54.0 -0.1
comp=Z,0.9nm,0.8s,baz=305,slow=7.2,SNR=4.1
comp=Z,0.9nm,0.8s
YKA Yellowknife Ar 63.30 30 *ce*P P 07 14 55.2 +1.1
YKA pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 66.73 331 P P 07 15 15.5 -0.9
FINES FINESS Array B 66.73 331 P P 07 15 14.3 -2.0
comp=Z,0.9nm,0.6s,baz=83,slow=6.0,SNR=5.1
comp=Z,0.9nm,0.6s
FINES FINESS Array B 66.73 331 P P 07 15 15.5 -0.9
NLWA Neilton Lookou 66.87 47 P P 07 15 17.4 -0.2
WISH Wishkah 67.07 47 P P 07 15 19.9 +1.1
BLKN Baker Lake 68.62 23 P P 07 15 27.7 -0.6
BLKN IAmb IAmb 07 15 28.9
comp=Z,5.1nm,1.1s
KBZ Khabaz 68.71 309 P P 07 15 29.2 +0.1
comp=Z,0.6nm,0.5s,baz=310,slow=1.6,SNR=2.1
comp=Z,0.6nm,0.5s
KBZ Khabaz 68.71 309 *e*P P 07 15 29.9 +0.8
I03D Drain, OR 69.18 50 P P 07 15 33.0 +0.9
I05D Terrebonne, OR 70.02 49 P P 07 15 37.2 -0.2
I05D IAmb IAmb 07 15 54.2
comp=Z,5.2nm,1.2s
NEW Newport 70.15 44 P P 07 15 38.4 +0.3
comp=Z,0.9nm,0.4s,baz=271,slow=11,SNR=3.9
comp=Z,0.9nm,0.4s
PINE Pine Mountain 70.57 49 P P 07 15 41.0 0.0
YBH Yreka Blue Hor 70.67 52 P P 07 15 42.0 +0.5
comp=Z,0.1nm,0.8s,baz=21,slow=4.9,SNR=4.1
O02D Mt. Diablo Mer 71.51 53 P P 07 15 47.0 +0.4
HFS Hagfors 72.05 335 P P 07 15 48.3 -1.0
comp=Z,1.3nm,0.5s,baz=64,slow=6.8,SNR=12
comp=Z,1.3nm,0.5s
AKASG Malin Array Be 72.12 321 P P 07 15 48.9 -1.0
comp=Z,1.2nm,0.4s,baz=49,slow=6.2,SNR=5.7
comp=Z,1.2nm,0.4s
AKASG Malin Array Be 72.12 321 *i*P P 07 15 50.2 +0.3
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 72.12 321 P P 07 15 50.2 +0.3
AKBB IAmb IAmb 07 15 54.2
comp=Z,3.5nm,0.8s
AKBB Malin Array Si 72.12 321 P P 07 15 50.2 +0.3
AKBB pmax pmax
comp=Z,3.0nm,0.8s
KIEV Kiev 72.14 321 P P 07 15 50.6 +0.6
KIEV IAmb IAmb 07 15 54.2
comp=Z,3.3nm,0.8s
KIEV Kiev 72.14 321 P P 07 15 50.6 +0.6
KIEV pmax pmax
comp=Z,3.0nm,0.9s
NB2 NORSAR Subarra 72.17 336 P P 07 15 48.9 -1.2
comp=Z,1.3nm,0.8s,baz=40,slow=5.9
NOA NORSAR Array B 72.17 336 P P 07 15 48.5 -1.6
comp=Z,0.4nm,0.5s,baz=40,slow=6.1,SNR=7.3
comp=Z,0.4nm,0.5s
J08A Circle Bar Ran 72.28 48 P P 07 15 50.9 -0.3
J08A IAmb IAmb 07 15 52.9
comp=Z,5.3nm,1.3s
BPMT Black Pine Rid 73.25 44 P P 07 15 56.2 -0.8
AFDM Forest Hills D 73.37 53 P P 07 15 57.0 -0.6
NVAR Mina Array Bea 75.35 52 P P 07 16 10.4 +1.0
comp=Z,1.5nm,0.5s,baz=290,slow=5.1,SNR=6.1
comp=Z,1.5nm,0.5s
BRTR Keskin Array B 76.66 310 P P 07 16 17.8 +1.0
comp=Z,0.9nm,0.7s,baz=134,slow=7.0,SNR=5.2
comp=Z,0.9nm,0.7s
MLR Muntele Rosu 77.20 319 LR LR 07 52 28.5
comp=Z,32nm,19.2s,baz=78,slow=37
PDAR Pinedale Array 77.73 45 P P 07 16 22.6 -0.3
comp=Z,0.9nm,0.8s,baz=233,slow=2.1,SNR=9.8
comp=Z,0.9nm,0.8s
CLL Collm 78.99 329 *e*Px Px 07 16 27.0
ULM Lac du Bonnet 79.11 33 P P 07 16 28.4 -1.5
comp=Z,1.8nm,0.7s,baz=310,slow=9.2,SNR=4.5
comp=Z,1.8nm,0.7s
GERES GERESS Array B 80.58 327 P P 07 16 38.4 +0.3
comp=Z,0.5nm,0.6s,baz=33,slow=5.1,SNR=4.5
comp=Z,0.5nm,0.6s
ANMO Albuquerque 84.82 49 P P 07 17 02.0 +1.5
comp=Z,1.4nm,0.5s,baz=21,slow=4.9,SNR=5.8
comp=Z,1.4nm,0.5s
ANMO Albuquerque 84.82 49 *e*P P 07 17 02.1 +1.6
VAE Valguarnera 88.95 319 LR LR 08 01 42.6
comp=Z,58nm,18.3s,baz=316,slow=39
TXAR Lajitas Array 90.44 51 P P 07 17 27.6 0.0
comp=Z,0.6nm,0.8s,baz=287,slow=2.8,SNR=8.1
comp=Z,0.6nm,0.8s
QSPA South Pole Qui 128.28 180 PKP PKPdf 07 23 30.0 -1.1
comp=Z,0.4nm,0.6s,baz=353,slow=4.1,SNR=1.8
LPAZ La Paz 147.22 55 PKPbc PKPbc 07 24 09.8 -0.4
comp=Z,1.6nm,0.7s,baz=309,slow=4.6,SNR=7.2

IDC ***11*** *07:10:41.9±1.9,0.7°80S±98.3°31E,h0km,mb3.5/5, mbtmp3.5/6,ML3.0/1,Error ellipse: s-maj=66.7km s-min=21.5km az=65.0*

ISC 11 07:10:43.2±1.5,0.8S±0.1°±98.4E±0.3°,h10km,n16,g0°95/8, mb3.7/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.60**	**9**	Pn		**Pn**	**07 11 37.8**	**-1.4**
	1.3nm,0.3s,baz=113,slow=9.1,SNR=3.7							
PSI				Sn		**Sn**	**07 12 23.1**	**+1.3**
	0.3nm,0.3s,baz=210,slow=13,SNR=1.6							
	4.4nm,0.5s							
H08S2	**Diego Garcia H**	**26.66**	**254**	T		T	07 44 15.0	
	baz=75,slow=75,SNR=24							
H08S3	**Diego Garcia H**	**26.66**	**255**	T		T	07 44 09.9	
	baz=75,slow=75,SNR=64							
H08S1	**Diego Garcia H**	**26.68**	**254**	T		T	07 44 11.6	
	baz=75,slow=75,SNR=23							
WRA	**Warramunga Arr**	**40.03**	**121**	P		**P**	**07 18 18.5**	**-0.3**
	0.3nm,0.5s,baz=299,slow=8.0,SNR=2.0							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**41.30**	**126**	P		**P**	**07 18 29.9**	**+0.6**
	0.2nm,0.5s,baz=303,slow=8.5,SNR=6.0							
	0.2nm,0.5s							
SONM	**Songino Array**	**48.92**	**7**	P		**P**	**07 19 29.9**	**+0.3**
	0.6nm,0.6s,baz=194,slow=7.6,SNR=3.7							
	0.6nm,0.6s							
MKAR	**Makanchi Array**	**49.42**	**346**	P		**P**	**07 19 33.3**	**-0.1**
	0.4nm,0.5s,baz=157,slow=8.9,SNR=5.9							
	0.4nm,0.5s							

KURBB	Kurchatov Arra	53.92	345	P		P	07 20 07.4	+0.5
	0.3nm,0.3s,baz=147,slow=5.6,SNR=1.4							
	0.3nm,0.3s							
H04N2	CROZET ISLANDS	60.81	215	T		T	08 27 15.9	
	baz=55,slow=75,SNR=16							
H04N1	CROZET ISLANDS	60.83	215	T		T	08 27 16.3	
	baz=55,slow=75,SNR=20							
H04N3	CROZET ISLANDS	60.83	215	T		T	08 27 15.3	
	baz=55,slow=75,SNR=16							
H04S1	CROZET ISLANDS	61.13	215	T		T	08 27 32.9	
	baz=55,slow=75,SNR=11							
H04S3	CROZET ISLANDS	61.14	215	T		T	08 27 31.3	
	baz=55,slow=75,SNR=14							
H04S2	CROZET ISLANDS	61.15	215	T		T	08 27 34.3	
	baz=55,slow=75,SNR=4.9							
TXAR	Lajitas Array	144.69	34	PKP		PKPdf	07 30 21.1	-0.1
	0.1nm,0.5s,baz=350,slow=4.9,SNR=1.2							

NEIC ***11*** *07:19:49.9±1.1, 36°.172N×0°.010×117°.87W±0°.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.8km az=172.0*

PAS ***11*** *07:19:50.0±0.8, 36°.179N±0°.010×117°.88W±0°.01, h2km±1km, Mwr3.5/6, ML3.5/139(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=65.0*

IDC ***11*** *07:19:50.4±0.9, 36°.17N×117°.90W, h0km, mb3.1/1, mbtmp3.1/6, ML3.4/5, MS3.0/2, Error ellipse: s-maj=17.7km s-min=5.7km az=78.0*

ISC 11 07:19:50.1±1.0, 36°.18N±0°.02×117°.89W±0°.02, h5km±8km, n118, σ0.96/128, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MFS	McCloud Flat S	0.07	155			Pg	07 19 51.6	-0.1
WRVM	Rose V. Centra	0.17	180			Pg	07 19 53.5	+0.1
JRC2	Joshua Ridge	0.20	161			Pg	07 19 54.2	0.0
JRC2						Sg	07 19 57.4	+0.5
WVPM	Volcano Peak E	0.23	165			Pg	07 19 54.7	0.0
CWC	Cottonwood Cre	0.30	330			Pg	07 19 55.9	-0.2
CWC					IAML		07 20 00.8	
	comp=N,10μm,0.3s							
WNMM	Nine Mile Cany	0.33	182			Sg	07 20 01.4	+0.5
MPMC	Manual Prospec	0.35	110	Pg		Pg	07 19 56.5	-0.4
MPMC					IAML		07 20 03.3	
	comp=N,4μm,0.6s							
CGO	Cerro Gordo	0.38	11			Pg	07 19 57.3	-0.3
TOW	Tower One	0.38	164			Pg	07 19 57.8	+0.4
SRTC	Snort	0.50	167			Pg	07 20 00.1	+0.4
SPG2	Springville 2	0.71	272			Pg	07 20 03.5	-0.2
SPG2						Sg	07 20 13.2	+0.3
LRMC	Laurel Mtn Rad	0.72	166			Sg	07 20 13.5	+0.3
LRMC	Laurel Mtn Rad	0.72	166			Pg	07 20 03.4	-0.4
LRMC					IAML		07 20 13.8	
	comp=N,3μm,0.2s							
LRMC					IAML		07 20 13.9	
	comp=E,3μm,0.5s							
CCCA	Chr Cany lake	0.78	147			Pg	07 20 04.8	-0.2
QSM	Queen of Sheba	0.85	104			Pg	07 20 05.8	-0.7
QSM					IAML		07 20 24.7	
	comp=N,2μm,1.1s							
QSM					IAML		07 20 25.4	
	comp=E,2μm,0.7s							
FURC	Furnace Creek,	0.88	70			Sb	07 20 19.0	-0.9
DTP	Desert Tortois	0.91	178			Pg	07 20 07.0	-0.6
DTP						Sg	07 20 19.1	-0.2
TIN	Tinemaha, Big	0.92	343			Pg	07 20 07.5	-0.2
TIN						Sb	07 20 20.8	-0.4
GRAC	Grapevine Rang	0.92	27			Pg	07 20 07.2	-0.6
GRAC					IAML		07 20 24.9	
	comp=N,2μm,0.7s							
GRAC					IAML		07 20 28.4	
	comp=E,2μm,0.6s							
GWY	Greenwater Val	0.99	89			Pg	07 20 08.5	-0.5
GWY					IAML		07 20 25.6	
	comp=E,2μm,0.5s							
GWY					IAML		07 20 27.2	
	comp=N,2μm,0.5s							
VES	Vestal, Richgr	1.02	251			Pg	07 20 09.6	-0.2
CCAC	Calif City Air	1.03	186			Pg	07 20 09.2	-0.6
CCAC						Sg	07 20 23.2	+0.1
SGV	South Grapevin	1.06	40			Pg	07 20 09.4	-1.0
LCH	Last Change Ra	1.07	11			Pg	07 20 09.7	-1.0
TEJ	El Tejon	1.15	215			Pb	07 20 11.2	-1.2
TEJ						Sb	07 20 26.5	-1.1
WCT	Wildcat Mounta	1.19	59			Pb	07 20 12.0	-1.2
WCT					IAML		07 20 31.1	
	comp=E,1μm,0.5s							
WCT					IAML		07 20 31.5	
	comp=N,717nm,0.9s							
DSP	Deep Springs	1.19	357			Pb	07 20 11.9	-1.3
DSP					IAML		07 20 29.6	
	comp=N,608nm,0.4s							
BHPR	Bishop	1.22	337			Pb	07 20 12.8	-1.0
POCCA	Poleta Canyon	1.22	345			Pb	07 20 13.0	-0.9
GMN	Gold Mountain	1.23	24			Pb	07 20 12.8	-1.2
GMN					IAML		07 20 30.9	
	comp=N,494nm,0.4s							
GSC	Goldstone, Bar	1.24	134			Pn	07 20 13.0	-1.2
GSC					IAML		07 20 32.6	
	comp=N,938nm,0.4s							
GSC					IAML		07 20 34.3	
	comp=E,995nm,1.1s							
BAKC	Calstate	1.29	230			Pg	07 20 14.8	-0.1
MTUM	Tungsten Hills	1.29	335			Pn	07 20 14.2	-0.9
EDW2	Edwards Air Fo	1.30	184			Pn	07 20 13.8	-1.2
EDW2						Sb	07 20 30.9	-1.1
ARVC	Arvin	1.30	216			Pn	07 20 14.3	-0.6
ARVC						Sb	07 20 31.3	-0.7
TPO	Tropico Hills	1.32	192			Sn	07 20 32.6	-0.9
TPO	Tropico Hills	1.32	192			Pn	07 20 14.3	-1.0
TPO					IAML		07 20 35.2	
	comp=N,594nm,1.1s							
TPO					IAML		07 20 37.7	
	comp=E,683nm,0.7s							
AMDNV	Amargosa	1.33	78			Pn	07 20 14.3	-1.0
AMDNV						Sb	07 20 32.0	-0.8
HYS	Haystack Butte	1.34	169			Pn	07 20 14.7	-0.9
SHOC	Shoshone, Teco	1.34	101			Pn	07 20 14.1	-1.4
TJR	Tejon Ranch	1.34	211			Sn	07 20 32.8	-1.0
THC	Tehachapi Micr	1.41	207			Pn	07 20 16.0	-0.7
SBB	Saddle Back Bu	1.49	178			Pb	07 20 17.9	-0.4
RRX	Edison Barstow	1.49	150			Pg	07 20 18.6	-0.1
TPNV	Topopah Spring	1.53	59			Pn	07 20 17.8	-0.4
TPNV					IAML		07 20 45.3	
	comp=E,669nm,0.9s							
TPNV					IAML		07 20 47.5	
	comp=E,610nm,0.7s							
MZP	Montezuma Peak	1.57	15			Pn	07 20 18.6	-0.4
LEOC	Leona Valley	1.58	192			Pg	07 20 20.0	-0.3
KCC	Kaiser Creek	1.62	315			Pb	07 20 19.8	-0.8
KCC						Sb	07 20 40.7	-0.6
BENR	Benton	1.63	341			Pb	07 20 20.1	-0.8
MLAC	Mammoth, Mammo	1.64	333			Pb	07 20 20.6	-0.3
LRRC	Littlerock Res	1.65	184			Pb	07 20 20.8	-0.2
MCSM	Casa Diablo Ho	1.68	331			Pb	07 20 21.5	-0.2
OSI	Osito Audit: C	1.70	204			Pn	07 20 20.2	-0.3
OSI					IAML		07 20 50.1	
	comp=N,631nm,0.9s							
HOLC	Holcomb Ridge	1.72	179			Pn	07 20 20.2	-0.6
JNH	Juniper Hills	1.73	182			Pb	07 20 21.9	-0.5
BCW	Bitter Crk WRg	1.75	226			Pb	07 20 21.9	-0.9
TUQ	Turquoise Moun	1.76	114			Pn	07 20 20.3	-1.1
CHFC	Chilao Flat St	1.84	183			Pb	07 20 23.6	-0.8
BFSC	Mount Baldy Ra	1.94	174			Pn	07 20 24.0	+0.1
BFSC					IAML		07 20 54.4	
	comp=E,257nm,0.7s							
BFSC					IAML		07 20 56.5	
	comp=N,216nm,0.8s							
MWC	Mount Wilson	1.95	184			Pn	07 20 24.1	-0.1
MWC					IAML		07 20 53.5	
	comp=E,292nm,0.5s							
MWC					IAML		07 20 53.7	
	comp=N,388nm,0.3s							
TPH	Tonopah	1.97	16			Pn	07 20 24.1	-0.2
SSK	Sunset Peak	1.97	175			Pn	07 20 24.9	+0.5
PASC	Pasadena Art C	2.02	187			Pn	07 20 25.3	+0.5
PASC					IAML		07 20 58.4	
	comp=E,191nm,0.7s							
MTPC	Mountain Pass	2.02	109	Pn		Pn	07 20 23.9	-1.1
MTPC					IAML		07 21 04.4	
	comp=E,252nm,1.3s							
MTPC					IAML		07 21 04.4	
	comp=N,263nm,1.2s							
BLCC	Black Canyon	2.03	199			Pn	07 20 25.6	+0.5
BBRC	Big Bear Solar	2.07	157			Pb	07 20 28.5	+0.2
PSRC	Puddingstone R	2.08	178			Pn	07 20 26.1	+0.4
TSCN	Private Proper	2.09	253			Pb	07 20 27.1	-1.5
LHV	Little Huntoon	2.13	347			Pn	07 20 26.8	+0.5
LHV					IAML		07 21 00.2	
	comp=E,291nm,0.6s							
LHV					IAML		07 21 05.4	
	comp=N,237nm,0.7s							
CLTC	Calectric	2.13	167			Pn	07 20 24.1	-2.3
PKD	Bear Valley Ra	2.16	265			Pb	07 20 27.8	-1.9
PSMM	Smith Mountain	2.19	268			Pb	07 20 29.1	-1.3
SHPR	Sheep Range	2.23	81			Pn	07 20 27.7	-0.1
NV11	Mina Array Sit	2.26	355			Pn	07 20 27.8	-0.5
NVAR	Mina Array Bea	2.27	352	Pn		Pn	07 20 28.7	+0.2
	comp=N,6.3nm,0.3s,baz=176,slow=12,SNR=47							
NVAR					Pg	Pg	07 20 32.5	-1.1
	comp=N,30nm,0.3s,baz=160,slow=14,SNR=95							
NVAR					Lg	Lg	07 21 03.6	
	comp=N,16nm,0.3s,baz=179,slow=31,SNR=2.7							
NVAR					LR	LR	07 21 38.8	
	comp=N,138nm,19.6s,baz=166,slow=48							
	comp=N,22nm,0.6s							
GMRC	Granite Mounta	2.29	127			Pn	07 20 27.1	-1.6
PMPB	Monarch Peak	2.35	272			Pn	07 20 30.6	+1.1
MYLM	Yosemite Lake	2.36	301			Pb	07 20 32.1	-1.0
PSAM	San Ardo	2.43	267			Pb	07 20 32.3	-2.0
BLAC	Blackrock camp	2.44	149			Pn	07 20 31.0	+0.3
RAMR	Ramage Ranch	2.48	258			Pb	07 20 32.8	-2.3
RYN	Ryan	2.50	349			Pn	07 20 31.9	+0.3
V12A	Nelson	2.51	99			Pn	07 20 30.5	-1.2
ELS	Elsinore Mount	2.55	171			Pn	07 20 31.8	-0.4
ELS					IAML		07 21 17.0	
	comp=E,113nm,0.7s							
BBGB	Big Mountain B	2.57	280			Pn	07 20 34.0	+1.4
PRN	Pahroc Range	2.59	61			Pn	07 20 32.5	-0.3
PRN					IAML		07 21 19.9	
	comp=N,330nm,0.6s							
CMB	Columbia Colle	2.72	314			Pb	07 20 37.1	-2.2
PMD	Palm Desert	2.81	153			Pn	07 20 35.3	-0.5
PFO	Pinyon Flats O	2.82	155			Pn	07 20 35.6	-0.3
PFO	Pinyon Flats O	2.82	155	Pn		Pn	07 20 35.5	-0.3
	comp=N,0.8nm,0.3s,baz=339,slow=14,SNR=18							
PFO					Pg	Pb	07 20 42.2	+1.2
	comp=N,8.0nm,0.3s,baz=335,slow=13,SNR=25							
PFO					Lg	Lg	07 21 19.2	
	comp=N,15nm,0.3s,baz=66,slow=7.7,SNR=10							
	comp=N,2.4nm,0.3s							
R11B	Troy Canyon, C	2.84	40			Pn	07 20 35.9	-0.4
R11B					IAML		07 21 22.2	
	comp=E,152nm,0.9s							
SAO	San Andreas Ge	2.93	283			Pn	07 20 39.1	+1.8
BORC	Borrego Spring	3.15	157			Pn	07 20 40.3	-0.1
BORC					IAML		07 21 37.2	
	comp=N,75nm,1.0s							
BORC					IAML		07 21 39.0	
	comp=E,85nm,1.0s							
DPP	Dos Picos Cty	3.27	166			Pn	07 20 41.7	-0.3
W13A	Hualapai Mount	3.44	107			Pn	07 20 43.8	-0.7
W13A					IAML		07 21 45.1	
	comp=E,59nm,1.0s							
W13A					IAML		07 21 46.9	
	comp=N,65nm,0.7s							
BLYC	Blythe	3.67	130			Pn	07 20 45.9	-1.7
BLYC					IAML		07 21 48.7	
	comp=N,46nm,0.9s							
BLYC					IAML		07 21 51.9	
	comp=E,57nm,0.7s							
PAHR	Pah Rah Range	3.72	342			Pn	07 20 48.9	+0.6
LCMT	Little Creek M	3.83	76			Pn	07 20 49.9	0.0
YUH	Yuha Desert	3.88	155			Pn	07 20 50.8	+0.4
CCUT	Cedar City	3.88	68			Pn	07 20 51.0	+0.3
CBX	Cerro Bola	3.99	165			Pn	07 20 52.1	+0.1
CBX					IAML		07 21 57.0	
	comp=N,87nm,0.9s							
SPR3	Spring Creek 3	3.99	44			Pn	07 20 51.3	-1.0
SPR3					IAML		07 21 56.0	
	comp=E,60nm,0.9s							
SPR3					IAML		07 21 59.5	
	comp=N,61nm,0.7s							
SZCU	Shurtz Canyon	4.10	68			Pn	07 20 53.8	+0.1
KNB	Kanab	4.16	77			Pn	07 20 54.9	+0.4
KNB					IAML		07 22 07.0	
	comp=E,58nm,1.2s							
KNB					IAML		07 22 14.4	
	comp=N,35nm,1.3s							
CCX	Cicese	4.42	166	Pn		Pn	07 20 58.3	+0.5
ESJX	Sierra Juarez	4.46	158	Pn		Pn	07 20 58.8	+0.2
ESJX					IAML		07 22 17.2	
	comp=E,30nm,1.2s							
U15A	North Rim	4.53	85			Pn	07 21 00.3	+0.7
U15A					IAML		07 22 18.5	
	comp=E,51nm,1.1s							
U15A					IAML		07 22 24.6	
	comp=N,38nm,1.4s							
Y14A	Wickenburg	4.59	118			Pn	07 20 59.2	-1.0
Y14A					IAML		07 22 17.6	
	comp=E,33nm,1.0s							
Y14A					IAML		07 22 21.9	
	comp=N,43nm,1.1s							
ELK	Elko	5.01	24			Pn	07 21 06.2	-0.1
ELK					IAML		07 22 32.3	
	comp=N,19nm,0.8s							
ELK	Elko	5.01	24	Pn		Pn	07 21 07.1	+0.9
	comp=N,2.4nm,0.3s,baz=213,slow=11,SNR=51							
ELK					Pg	Pb	07 21 20.1	+1.6
	comp=N,5.0nm,0.3s,baz=216,slow=14,SNR=30							
ELK					Lg	Lg	07 22 27.4	
	comp=N,3.9nm,0.3s,baz=228,slow=18,SNR=8.6							
	comp=N,5.0nm,0.3s							
WUAZ	Wupatki	5.33	95			Pn	07 21 10.2	-0.4
WUAZ					IAML		07 22 41.7	
	comp=N,25nm,1.1s							
WUAZ					IAML		07 22 45.7	
	comp=N,32nm,0.9s							
X16A	Lo Mia Camp, P	5.56	107			Pn	07 21 13.4	-0.3
YBH	Yreka Blue Hor	6.70	327	Lg		Lg	07 23 20.2	
	baz=188,slow=12,SNR=6.2							
PDAR	Pinedale Array	9.21	42	Pn		Pn	07 22 07.4	+3.6
	comp=N,0.1nm,0.3s,baz=231,slow=13,SNR=2.3							
PDAR					Lg	Lg	07 24 40.6	
	baz=222,slow=32,SNR=3.0							
	comp=N,0.3nm,0.6s							
ANMO	Albuquerque	9.40	94	Pg		Pn	07 22 43.1	+37
	comp=N,0.1nm,0.3s,baz=15,slow=12,SNR=5.6							
ANMO					Lg	Lg	07 24 43.9	
	comp=N,0.1nm,0.3s,baz=289,slow=20,SNR=1.9							
TXAR	Lajitas Array	13.77	116	Pn		Pn	07 23 08.5	+2.4
	baz=300,slow=14,SNR=4.5							
	comp=N,0.2nm,0.8s							
ILAR	Eielson Array	33.46	338	P		P	07 26 31.8	+2.0
	comp=N,0.2nm,0.7s,baz=146,slow=8.2,SNR=3.2							
	comp=N,0.2nm,0.7s							
FRB	Frobisher Bay	40.46	31	LR		LR	07 46 45.8	
	comp=N,44nm,18.6s,baz=298,slow=40							

TIR ***11*** *07:30:58.2, 41°.13N×20°.55E, h0km±1km, Ml2.7/6*

PDG ***11*** *07:30:58.8±0.4, 41°.15N×20°.48E, h6km±1km, ML2.9/12, Error ellipse: s-maj=0.9km s-min=1.5km az=0.0*

SKO ***11*** *07:30:58.7, 41°.14N×20°.48E, h14km, ML2.4*

ATH ***11*** *07:30:59.4, 41°.13N×20°.61E, h4km±1km, ML2.7/11, Manual Solution by A.Andreou First location: 2019/07/11 07:32:10, This location: 2020/08/20 08:44:08 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

THE ***11*** *07:30:59.2, 41°.N±1°.×2°.1E±°, h0km±1km, M2.6/8, MLh2.6/8*

BEO ***11*** *07:30:59.8±0.3, 41°.18N×20°.56E, h0km±3km, ML2.5/12*

ISC 11 07:30:59.5±1.0, 41°.15N±0°.02×20°.53E±0°.02, h8km±8km, n82, σ0.99/133, 10C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHR	Ohrid	0.20	100	i	P	Pg	07 31 04.6	+0.9
OHR					i S	Sg	07 31 09.1	+2.6
OHR					eLg	Lg	07 31 09.3	
	comp=N,908nm,0.4s							
OHR					eLg	Lg	07 31 09.9	
	comp=E,1μm,0.5s							
PHP	Peshkopia	0.54	353	e	Pg	Pg	07 31 09.0	-1.1
PHP					Sg	Sb	07 31 18.4	-0.9
PHP					AML	AML	07 31 23.3	
	comp=E,1.0nm,0.6s							
PHP	Peshkopia	0.54	353		P	Pg	07 31 09.7	-0.4
PHP					S	Sb	07 31 18.3	-1.0
TIR	Tirane	0.54	292	e	Pg	Pg	07 31 08.2	-1.8
TIR					Sg	Sb	07 31 18.8	-0.4
TIR					AML	AML	07 31 20.5	
	comp=E,1.7nm,0.6s							
TIR	Tirane	0.54	292	i	Pg	Pg	07 31 08.5	-1.5
TIR				i	Sg	Sg	07 31 17.2	0.0
TIR	Tirane	0.54	292	e	Pg	Pg	07 31 08.3	-1.8
TIR				e	Sg	Sg	07 31 17.0	-0.2
KBN	Korca	0.56	160	e	Pg	Pg	07 31 08.2	-2.1
KBN					Sg	Sg	07 31 16.6	-1.0
KBN					AML	AML	07 31 21.8	
	comp=E,2.5nm,0.4s							
KBN	Korca	0.56	160		P	Pg	07 31 09.9	-0.4
KBN					S	Sb	07 31 18.7	-0.9
FNA	Florina	0.73	119	i	Pn	Pg	07 31 13.2	-0.5
FNA					Sn	Sb	07 31 24.6	-0.1
FNA					AML	AML	07 31 28.6	
	comp=E,1.7nm,0.3s							
FNA	Florina	0.73	119		P	Pg	07 31 12.9	-0.8
FNA					S	Sb	07 31 24.3	-0.4
FNA	Florina	0.73	119	i	Pg	Pg	07 31 12.9	-0.8
FNA				i	Sg	Sb	07 31 25.9	+1.2
FNA	Florina	0.73	119	e	Pg	Pg	07 31 12.8	-0.8
FNA				e	Sg	Sb	07 31 24.5	-0.2
FNA	Florina	0.73	119		P	Pg	07 31 12.9	-0.8
FNA					S	Sg	07 31 22.0	-1.2
NEST	Nestorio	0.83	152	e	Pn	Pg	07 31 14.4	-1.1
NEST					Sn	Sb	07 31 27.3	-0.1
NEST					AML	AML	07 31 30.7	
	comp=E,1.6nm,0.4s							
NEST	Nestorio	0.83	152		P	Pg	07 31 14.8	-0.6
NEST					S	Sg	07 31 26.6	+0.4
NEST	Nestorio	0.83	152		P	Pg	07 31 14.8	-0.6
NEST					S	Sg	07 31 25.4	-0.9
PUK	Puka	1.02	332	e	Pn	Pg	07 31 17.8	-1.3
PUK					Sn	Sn	07 31 34.9	+0.3
PUK					AML	AML	07 31 40.4	
	comp=E,0.8nm,0.4s							
PUK	Puka	1.02	332		P	Pg	07 31 18.1	-1.0
PUK					S	Sn	07 31 34.4	-0.2
PENT	Pentalofos	1.05	154		P	Pb	07 31 19.8	-0.2
PENT					S	Sb	07 31 34.8	+0.8
PENT	Pentalofos	1.05	154		P	Pg	07 31 19.2	-0.6
PENT					S	Sg	07 31 33.1	-0.4
KZN	Kozani	1.26	131		P	Pb	07 31 23.4	-0.1
KZN					S	Sn	07 31 40.5	-0.1
KZN	Kozani	1.26	131		P	Pg	07 31 22.7	-0.9
KZN					S	Sg	07 31 39.2	-0.8
ULC	Ulcinj	1.27	311	i	Pg	Pg	07 31 21.9	-1.9
ULC				i	Sg	Sn	07 31 42.0	+1.3
BCI	Bajram Curri	1.27	344	e	Pn	Pn	07 31 24.0	+0.5
BCI					Sn	Sn	07 31 43.4	+2.7
SRN	Sarande	1.33	198	e	Pn	Pn	07 31 24.5	+0.2
SRN					Sn	Sn	07 31 45.0	+2.9
SRN	Sarande	1.33	198		P	Pn	07 31 24.3	0.0
SRN					S	Sn	07 31 43.5	+1.7
KTI	Kastanea	1.42	122		P	Pn	07 31 25.5	-0.2
DRME	Dracevica, Mon	1.45	316	i	Pg	Pn	07 31 24.9	-1.1
DRME				i	Sg	Sg	07 31 48.4	+2.2
JAN	Janina	1.51	171		P	Pb	07 31 27.5	-0.2
PVY	Plav	1.51	344	e	Pg	Pn	07 31 27.2	+0.2
PVY				i	Sg	Sg	07 31 51.0	+2.9
PDG	Podgorica	1.60	324	e	Sg	Sb	07 31 50.0	+0.4
PDG	Podgorica	1.60	324	i	Pg	Pn	07 31 28.3	+0.3
PDG				i	Sg	Sg	07 31 53.4	+2.4
IGT	Igoumenitsa	1.62	186		Pn	Pg	07 31 30.1	-0.4
IGT					Sn	Sg	07 31 53.5	+1.9
IGT	Igoumenitsa	1.62	186		P	Pb	07 31 29.3	-0.4
IGT					S	Sb	07 31 50.4	+0.2
IGT	Igoumenitsa	1.62	186	e	Pn	Pb	07 31 29.5	-0.1
IGT	Igoumenitsa	1.62	186	e	Pg	Pn	07 31 29.0	+0.7
IGT				e	Sg	Sg	07 31 53.3	+1.8
IGT	Igoumenitsa	1.62	186		P	Pb	07 31 29.2	-0.4
IGT					S	Sn	07 31 50.2	+0.9
BUM	Brajici-Budva	1.69	314	e	Pn	Pn	07 31 29.3	0.0
BUM				i	Sn	Sg	07 31 54.4	+0.7
KNT	Kendrikon	1.79	89		P	Pn	07 31 30.6	0.0
KNT					S	Sn	07 31 53.5	0.0
KNT	Kendrikon	1.79	89	i	Pn	Pn	07 31 30.6	0.0
KNT				i	Sn	Sb	07 31 54.2	-0.8
KNT	Kendrikon	1.79	89		P	Pn	07 31 30.6	0.0
IVA	Berane	1.79	345	i	Pn	Pb	07 31 32.3	-0.3
IVA				i	Sn	Sg	07 31 57.9	+0.8
CEME	Cevo	1.85	320	e	Pn	Pn	07 31 32.1	+0.6
CEME				i	Sn	Sg	07 31 59.0	+0.1
KOME	Kolasin	1.86	336	e	Pn	Pn	07 31 33.0	+1.2
KOME				i	Sn	Sg	07 31 59.5	0.0
TETR	Tetrakomo, Epi	1.89	162		P	Pn	07 31 32.6	+0.5
BARS	Barje	1.92	29	i	Pn	Pn	07 31 33.4	+0.9
BARS	Barje	1.92	29	e	Pn	Pb	07 31 34.1	-0.7
BARS				e	Sn	Sn	07 31 57.3	+0.4
TYRN	Tyrnavos	1.93	137		P	Pn	07 31 32.2	+0.4
THL	Klokotos Trika	1.94	144		P	Pn	07 31 32.6	-0.2
NKME	Niksic	2.00	324	e	Pn	Pn	07 31 34.1	+0.4
NKME				i	Sn	Sb	07 32 02.7	+1.4
HCY	Herceg Novi	2.00	311	e	Pn	Pn	07 31 33.6	0.0
HCY				i	Sn	Sb	07 32 02.5	+1.2
HORT	Hortiatis	2.02	105		P	Pn	07 31 33.6	-0.3
KKB	Krupnik	2.07	70	i	Pn	Pn	07 31 35.1	+0.5
KKB				i	Sn	Sn	07 32 01.6	+1.2
SJES	Sjenica	2.15	349	e	Pn	Pb	07 31 37.6	-1.2
SJES				e	Sn	Sb	07 32 04.8	-0.9
SOH	Sokhos	2.16	98	i	Pn	Pn	07 31 36.6	+0.8
SOH	Sokhos	2.16	98		P	Pn	07 31 35.9	+0.1
TREB	Trebinje	2.26	315	e	Pn	Pn	07 31 37.0	-0.2
BRY	Bratogost	2.30	320	e	Pn	Pn

comp=N,6μm,0.2s
ESSG Sabana Grande 0.60 40 *i* P **Pn 07 39 00.8 -1.0**
ESSG *eS* **Sn 07 39 10.3 -1.8**
ESSG IAML 07 39 10.7
comp=N,2μm,0.1s
FG8 Yepocapa, Chim 0.73 63 *i* P **Pn 07 39 00.6 -2.6**
FG8 *i* S **Sn 07 39 10.6 -4.0**
RTAL Retalhuleu 0.75 323 S **Sn 07 39 12.7 -2.2**
RTAL Retalhuleu 0.75 323 P **Pn 07 39 02.4 -0.9**
FG16 Alotenango, Sa 0.78 63 *i* P **Pn 07 39 01.5 -2.3**
FG16 *i* S **Sn 07 39 12.2 -3.6**
FG16 IAML 07 39 17.7
comp=N,11μm,0.2s
ESSJ San Jos, E 0.79 117 *i* P Pn 07 38 59.7 -4.1
ESSJ *i* S **Sn 07 39 10.2 -5.5**
SOKI Kika Raxquin 0.91 349 *eP* **Pn 07 39 04.9 -0.7**
SOKI *i* S **Sn 07 39 17.7 -1.1**
SOKI IAML 07 39 21.8
comp=N,1μm,0.6s
QUEO Labor Ovalle 0.98 344 *eP* **Pn 07 39 05.6 -0.8**
FAME Alcaldia de Sa 1.18 94 P **Pn 07 39 08.4 -0.2**
FAME Alcaldia de Sa 1.18 94 S **Sn 07 39 24.8 +0.6**
SMCA Catarina 1.24 319 *i* P **Pn 07 39 08.5 -0.9**
SMCA *eS* **Sn 07 39 23.1 -2.5**
SMCA IAML 07 39 25.3
comp=N,445nm,0.2s
THIG 1.40 314 *i* P **Pn 07 39 11.1 -0.4**
THIG *i* S **Sn 07 39 28.0 -1.3**
THIG IAML 07 39 32.2
comp=E,863nm,0.4s
SLOZ Alcaldia de Sa 1.41 86 S **Sn 07 39 31.2 +1.7**
SLOZ Alcaldia de Sa 1.41 86 P **Pn 07 39 12.5 +0.9**
NUBE Las Nubes 1.41 91 *i* P **Pn 07 39 12.1 +0.4**
NUBE *i* S **Sn 07 39 29.5 -0.2**
NUBE Las Nubes 1.41 91 P **Pn 07 39 12.5 +0.8**
UNIC Universidad Ca 1.63 88 P **Pn 07 39 15.5 +0.9**
UNIC Universidad Ca 1.63 88 S **Sn 07 39 37.3 +2.4**
JAYA Jayaque - finc 1.75 99 *i* S **Sn 07 39 38.1 +0.3**
JAYA Jayaque - finc 1.75 99 S **Sn 07 39 38.7 +0.9**
JAYA Jayaque - finc 1.75 99 P **Pn 07 39 17.0 +0.8**
MTO3 Montecristo 1.87 75 *eP* **Pn 07 39 17.9 0.0**
MTO3 Montecristo 1.87 75 P **Pn 07 39 18.1 +0.2**
MTO3 Montecristo 1.87 75 S **Sn 07 39 42.3 +1.5**
COEG Centro de Oper 2.30 97 S **Sn 07 39 52.9 +2.0**
COEG Centro de Oper 2.30 97 P **Pn 07 39 24.8 +1.3**

ASRS ***11*** *07:40:58.0±1.8,53.74N×91.10E,h0km,M3.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC ***11*** *07:41:02.2±3.2,53.78N×90.98E,h0km,mbtmp3.5/3, ML3.1/3,Error ellipse: s-maj=26.5km s-min=22.2km az=47.0*
NNC ***11*** *07:41:04.8±3.2,53.49N×91.26E,h0km,mb3.6,mpv3.4, Error ellipse: s-maj=24.7km s-min=14.9km az=76.0, Suspected Mining explosion.*
ISC 11 07:41:07.7±3.2,53.8N±0.1×90.3E±0.2,h0km,n11, σ2s14/15**,4C-6D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.24**	**274**	I		I	I	08 02 18.5	
	0.4nm,1.1s,baz=91,slow=318,SNR=32								
ZAA0	**Zalesovo Array**	**3.24**	**274**	⇓P	n	**Pb**		**07 42 04.8**	**-1.2**
	2.1nm,0.7s,baz=94,slow=14								
ZAA0				⇓S	n	**Sg**		**07 42 52.0**	**+0.3**
	6.3nm,0.6s,baz=98,slow=28								
ZALV	**Zalesovo Beam**	**3.24**	**274**	P	n	**Pn**		**07 42 00.6**	**+0.8**
	2.6nm,0.3s,baz=91,slow=15,SNR=15								
ZALV				S	n	**Sb**		**07 42 43.9**	**-2.2**
	1.4nm,0.3s,baz=89,slow=24,SNR=4.1								
ZALV				Lg		Lg		07 42 56.6	
	1.9nm,0.3s,baz=92,slow=26,SNR=3.5								
	4.2nm,0.5s								
KURK	**Kurchatov**	**7.81**	**251**	⇑P	n	**Pn**		**07 43 04.8**	**+2.3**
	2.6nm,0.6s								
KURK				⇑S	n	Sn		07 44 41.9	+10
	6.5nm,0.7s								
KURK				⇑Lg		Lg		07 45 27.7	
	49nm,1.3s								
KURBB	**Kurchatov Arra**	**7.91**	**251**	P	n	**Pn**		**07 43 02.8**	**-1.0**
	0.3nm,0.3s,baz=64,slow=14,SNR=6.6								
KURBB				S	n	**Sn**		**07 44 36.5**	**+2.6**
	0.4nm,0.3s,baz=68,slow=26,SNR=13								
KURBB				Lg		Lg		07 45 25.0	
	0.2nm,0.3s,baz=60,slow=31,SNR=5.7								
	2.2nm,0.3s								
MK31	**Makanchi Array**	**8.71**	**219**	Pn		**Pn**		**07 43 13.5**	**-1.4**
	0.7nm,0.5s,baz=31,slow=12,SNR=11								
MK31				⇓S	n	**Sn**		**07 44 56.6**	**+2.9**
	3.3nm,0.7s,baz=39,slow=25								
MK31				⇓Lg		Lg		07 45 47.3	
	27nm,1.4s,baz=39,slow=28								
MKAR	**Makanchi Array**	**8.71**	**219**	Pn		Pn		**07 43 13.0**	**-1.8**
	0.5nm,0.3s,baz=40,slow=14,SNR=15								
MKAR				S	n	**Sn**		**07 44 53.1**	**-0.7**
	0.2nm,0.3s,baz=37,slow=24,SNR=7.7								
MKAR				Lg		Lg		07 45 43.8	
	0.3nm,0.3s,baz=38,slow=29,SNR=6.9								
	1.3nm,0.5s								
MAKZ	**Makanchi**	**8.82**	**220**	⇓Pn	n	**Pn**		**07 43 15.7**	**-0.6**
	1.2nm,0.8s								
MAKZ				⇑S	n	**Sn**		**07 44 58.7**	**+2.3**
	2.2nm,0.6s								
MAKZ				⇓Lg		Lg		07 45 49.7	
	16nm,1.1s								
SONM	**Songino Array**	**11.81**	**114**	Lg		Lg		07 46 56.3	
	0.2nm,0.3s,baz=302,slow=23,SNR=11								
BVAR	**Borovoye Array**	**11.90**	**274**	Pn		**Pn**		**07 44 02.0**	**+3.6**
BVAR				S	n	**Sn**		**07 46 10.4**	**-1.5**
BVAR				Lg		Lg		07 47 34.2	
I31KZ	**AKTYUBINSK INF**	**20.00**	**273**	I		I		09 43 45.0	
	baz=70,slow=315,SNR=3.4								

MCSM ***11*** *07:53:18.2±0.4,46.3×2.7E±,h96km±5km,mb5.2, mB5.5,MLv2.7,Mw(mB)5.0*
BUC ***11*** *07:53:19.1±0.2,45.82N×26.74E,h92km±1km,ml3.5/48, Error ellipse: s-maj=1.3km s-min=1.1km az=18.0*
SOF ***11*** *07:53:20.4,45.76N±0.08×26.67E±0.03,h51km±1km, MD3.2/3*
ISC 11 07:53:17.8±1.3,45.86N±0.03×26.75E±0.03,h103km±6km, n83, σ0s70/123**,53C-38D,Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
VRI	**Vrincioaia**	**0.02**	**302**	⇓P	n	**Pn**		**07 53 32.2**	**0.0**
VRI				⇑S	n	**Sn**		**07 53 41.8**	**-1.0**
VRI	**Vrincioaia**	**0.02**	**302**	P	n	**Pn**		**07 53 32.1**	**0.0**
PLOR5	**Plostina Array**	**0.06**	**259**	P	n	**Pn**		**07 53 32.1**	**-0.1**
PLOR	**Plostina**	**0.07**	**265**	⇑P	n	**Pn**		**07 53 32.2**	**+0.1**
PLOR				⇑S	n	**Sn**		**07 53 42.2**	**-0.8**
ODBI	**Odobesti**	**0.23**	**113**	⇑P	n	**Pn**		**07 53 32.8**	**+0.4**
ODBI				⇓S	n	**Sn**		**07 53 42.9**	**-0.6**
ODBI	**Odobesti**	**0.23**	**113**	P	n	**Pn**		**07 53 33.4**	**+0.9**
PANC	**Panciu**	**0.28**	**87**	⇑P	n	**Pn**		**07 53 33.2**	**+0.5**
PANC				⇓S	n	**Sn**		**07 53 43.8**	**0.0**
BISRR	**Bisoca**	**0.31**	**185**	⇑P	n	**Pn**		**07 53 33.5**	**+0.6**
BISRR				⇓S	n	**Sn**		**07 53 43.5**	**-0.7**
BISRR	**Bisoca**	**0.31**	**185**	P	n	**Pn**		**07 53 33.8**	**+0.9**
COSR	**Cosmesti PH**	**0.40**	**90**	⇓P	n	**Pn**		**07 53 33.6**	**+0.4**
COSR				⇑S	n	**Sn**		**07 53 44.5**	**-0.3**
GHRR		**0.50**	**66**	⇑P	n	**Pn**		**07 53 34.7**	**+0.8**
GHRR				⇑S	n	**Sn**		**07 53 46.5**	**+0.5**
NEHR	**Nehoiu**	**0.53**	**217**	⇓S	n	**Sn**		**07 53 46.5**	**0.0**
ONER	**Baraj Valea Uz**	**0.54**	**333**	⇑P	n	**Pn**		**07 53 34.5**	**+0.2**
ONER				⇑S	n	**Sn**		**07 53 46.2**	**-0.4**
TURR	**Turia**	**0.55**	**291**	⇓P	n	**Pn**		**07 53 34.7**	**+0.3**
TURR				⇑S	n	**Sn**		**07 53 45.7**	**-1.1**
TESR	**Tescani**	**0.66**	**354**	⇓P	n	**Pn**		**07 53 35.2**	**0.0**
TESR	**Tescani**	**0.66**	**354**	P	n	**Pn**		**07 53 35.1**	**0.0**
MLR	**Muntele Rosu**	**0.67**	**237**	⇑P	n	**Pn**		**07 53 35.9**	**+0.5**
MLR				⇑S	n	**Sn**		**07 53 47.8**	**-0.8**
MLR	**Muntele Rosu**	**0.67**	**237**	P	n	**Pn**		**07 53 35.9**	**+0.5**
TUDR		**0.70**	**112**	⇑P	n	**Pn**		**07 53 36.0**	**+0.5**
TUDR				⇑S	n	**Sn**		**07 53 48.4**	**-0.3**
OZUR		**0.71**	**290**	⇑P	n	**Pn**		**07 53 35.6**	**-0.1**
BIR	**Birlad**	**0.74**	**56**	⇓S	n	**Sn**		**07 53 49.3**	**-0.1**
ISR	**Istrita**	**0.75**	**191**	⇑S	n	**Sn**		**07 53 48.9**	**-0.8**
ISR	**Istrita**	**0.75**	**191**	P	n	**Pn**		**07 53 37.0**	**+0.9**
VARL	**Varlezi**	**0.77**	**86**	⇑P	n	**Pn**		**07 53 36.7**	**+0.6**
VARL				⇑S	n	**Sn**		**07 53 50.2**	**+0.3**
IZVR	**Izvoarele**	**0.78**	**113**	⇑P	n	**Pn**		**07 53 36.3**	**+0.1**
IZVR				⇓S	n	**Sn**		**07 53 49.8**	**-0.3**
SCHL	**Schela**	**0.84**	**115**	⇓P	n	**Pn**		**07 53 37.3**	**+0.5**
SCHL				⇓S	n	**Sn**		**07 53 51.1**	**+0.1**
SCHLR	**Schela**	**0.85**	**117**	⇑P	n	**Pn**		**07 53 37.3**	**+0.3**
SCHLR				⇓S	n	**Sn**		**07 53 50.8**	**-0.5**
SCHLR	**Schela**	**0.85**	**117**	⇑P	n	**Pn**		**07 53 37.3**	**+0.3**
SCHLR				⇓S	n	**Sn**		**07 53 50.8**	**-0.5**
NEGRR	**Negrea**	**0.85**	**112**	⇑P	n	**Pn**		**07 53 37.4**	**+0.5**
NEGRR				⇑S	n	**Sn**		**07 53 51.5**	**+0.1**
SCTR	**Scanteiesti**	**0.89**	**101**	⇑P	n	**Pn**		**07 53 38.1**	**+0.8**
SCTR				⇓S	n	**Sn**		**07 53 51.5**	**-0.6**
VLDR	**Vladesti**	**0.93**	**90**	⇓P	n	**Pn**		**07 53 38.6**	**+0.9**
VLDR				⇓S	n	**Sn**		**07 53 52.8**	**+0.1**
TATR	**Tatarca**	**0.95**	**105**	⇓P	n	**Pn**		**07 53 38.8**	**+0.9**
TATR				⇓S	n	**Sn**		**07 53 53.1**	**+0.1**
DOPR	**Dopca**	**0.95**	**277**	⇓P	n	**Pn**		**07 53 38.4**	**+0.4**
DOPR				⇑S	n	**Sn**		**07 53 52.7**	**-0.6**
PGOR	**Pogoanele**	**0.96**	**170**	⇑P	n	**Pn**		**07 53 38.2**	**+0.2**
GISR	**Galati**	**1.01**	**114**	⇓P	n	**Pn**		**07 53 39.4**	**+0.9**
GISR				⇑S	n	**Sn**		**07 53 54.3**	**+0.2**
VASR	**Vaslui**	**1.07**	**42**	⇓P	n	**Pn**		**07 53 40.0**	**+0.8**
VASR				⇓S	n	**Sn**		**07 53 55.4**	**0.0**
PLAR	**PLOIESTI**	**1.07**	**209**	⇑S	n	**Sn**		**07 53 55.4**	**+0.1**
GIUM	**Giurgiulesti**	**1.09**	**109**	⇓P	n	**Pn**		**07 53 40.4**	**+1.0**
GIUM				⇓S	n	**Sn**		**07 53 55.8**	**+0.1**
GIRR	**Girov**	**1.11**	**351**	⇑P	n	**Pn**		**07 53 40.3**	**+0.7**
BIZ	**Bicaz**	**1.17**	**338**	⇑S	n	**Sn**		**07 53 57.5**	**+0.1**
CFR	**Carcaliu**	**1.19**	**124**	⇑P	n	**Pn**		**07 53 40.8**	**+0.3**
CFR				⇑S	n	**Sn**		**07 53 57.1**	**-0.6**
SULR		**1.23**	**197**	⇑P	n	**Pn**		**07 53 41.8**	**+0.8**
SULR				⇑S	n	**Sn**		**07 53 58.2**	**-0.3**
VOIR		**1.26**	**251**	⇑P	n	**Pn**		**07 53 41.8**	**+0.3**
VOIR				⇓S	n	**Sn**		**07 53 58.7**	**-0.7**
VOIR		**1.26**	**251**	P	n	**Pn**		**07 53 41.8**	**+0.3**
AMRR	**Amara**	**1.31**	**161**	⇑P	n	**Pn**		**07 53 42.8**	**+0.8**
AMRR				⇑S	n	**Sn**		**07 54 00.5**	**+0.3**
LEHL	**Lehliu**	**1.38**	**178**	⇓P	n	**Pn**		**07 53 43.7**	**+0.9**
LEHL				⇑S	n	**Sn**		**07 54 01.4**	**-0.3**
HARR	**Harsova**	**1.44**	**144**	⇑P	n	**Pn**		**07 53 43.9**	**+0.5**
CIOR	**Ciorogarla**	**1.54**	**204**	⇓P	n	**Sn**		**07 54 04.8**	**-0.2**
TPGR	**Topolog**	**1.55**	**130**	⇑P	n	**Pn**		**07 53 45.2**	**+0.4**
TPGR				⇓S	n	**Sn**		**07 54 04.5**	**-0.8**
TLCR		**1.60**	**114**	⇓P	n	**Pn**		**07 53 46.2**	**+0.8**
TLCR				⇓S	n	**Sn**		**07 54 06.1**	**-0.3**
TLBR	**Topalu**	**1.60**	**145**	⇓P	n	**Pn**		**07 53 45.9**	**+0.4**
CICN	**Ciocanesti**	**1.67**	**173**	⇓P	n	**Pn**		**07 53 46.9**	**+0.6**
CICN				⇓S	n	**Sn**		**07 54 07.4**	**-0.6**
CVDA	**Cernavoda**	**1.78**	**149**	⇑P	n	**Pn**		**07 53 48.4**	**+0.8**
CVDA				⇑S	n	**Sn**		**07 54 09.8**	**-0.6**
MILM	**Milestii Mici**	**1.78**	**53**	⇑P	n	**Pn**		**07 53 48.3**	**+0.6**
MILM	**Milestii Mici**	**1.78**	**53**	⇓*i* P	n	**Pn**		**07 53 48.2**	**+0.6**
	6.1nm,0.1s								
MILM				*i* S	n	**Sn**		**07 54 09.4**	**-1.0**
	64nm,0.1s								
TIRR	**Tirgusor**	**1.83**	**139**	⇑P	n	**Pn**		**07 53 48.9**	**+0.6**
TIRR	**Tirgusor**	**1.83**	**139**	P	n	**Pn**		**07 53 48.7**	**+0.4**
KIS	**Kishinev**	**1.83**	**51**	*eS*	n	**Sn**		**07 54 11.0**	**-0.6**
	210nm,0.3s								
ICOR	**Ion Corvin**	**1.89**	**156**	⇑P	n	**Pn**		**07 53 50.0**	**+0.9**
ICOR				⇑S	n	**Sn**		**07 54 12.3**	**-0.7**
BURAR	**Bucovina Array**	**2.05**	**330**	⇓P	n	**Pn**		**07 53 53.4**	**+2.2**
MFTR	**Murfatlar**	**2.06**	**144**	⇓P	n	**Pn**		**07 53 51.8**	**+0.6**
LOT	**Lotru**	**2.13**	**260**	⇑P	n	**Pn**		**07 53 53.5**	**+1.2**
LOT				⇑S	n	**Sn**		**07 54 19.2**	**+0.6**
MANR	**Mangalia**	**2.42**	**147**	⇑P	n	**Pn**		**07 53 57.1**	**+1.1**
MANR				⇑S	n	**Sn**		**07 54 24.9**	**-0.4**
PSN	**Preselentsi**	**2.43**	**155**	P	n	**Pn**		**07 53 57.0**	**+0.9**
PSN				S	n	**Sn**		**07 54 24.4**	**-1.0**
SORM	**Soroca**	**2.53**	**25**	P	n	**Pn**		**07 53 57.6**	**+0.3**
NEF	**NEVSHA**	**2.62**	**172**	P	n	**Pn**		**07 53 59.4**	**+0.8**
MARR	**Marisel-Cluj**	**2.65**	**289**	⇑P	n	**Pn**		**07 54 00.2**	**+1.3**
SZH	**Strazhitsa**	**2.65**	**192**	P	n	**Pn**		**07 53 59.2**	**+0.2**
SZH				S	n	**Sn**		**07 54 28.1**	**-2.5**
KMPD	**K-Podol'skiy**	**2.71**	**356**	P	n	**Pn**		**07 53 58.8**	**-0.9**
PRD	**Provadia**	**2.74**	**170**	P	n	**Pn**		**07 54 01.1**	**+1.0**
PRD				S	n	**Sn**		**07 54 31.6**	**-1.0**
NDNU	**Novodnistrovsk**	**2.77**	**9**	P	n	**Pn**		**07 54 00.4**	**-0.1**
AVR	**AVRENI**	**2.81**	**166**	P	n	**Pn**		**07 53 59.2**	**-2.0**
GZR	**Gura Zlata**	**2.82**	**262**	⇓P	n	**Pn**		**07 54 02.6**	**+1.3**
MPEP	**Malo Peshtene**	**3.30**	**222**	P	n	**Pn**		**07 54 08.0**	**+0.4**
AK06	**Malin Array Si**	**5.01**	**18**	P	n	**Pn**		**07 54 30.9**	**+0.4**
AK14	**Malin Array Si**	**5.03**	**17**	P	n	**Pn**		**07 54 30.4**	**-0.4**
AK12	**Malin Array Si**	**5.05**	**18**	P	n	**Pn**		**07 54 30.8**	**-0.3**
AK17	**Malin Array Si**	**5.07**	**17**	P	n	**Pn**		**07 54 30.9**	**-0.5**
AK19	**Malin Array Si**	**5.10**	**16**	P	n	**Pn**		**07 54 31.4**	**-0.3**
AK18	**Malin Array Si**	**5.11**	**17**	P	n	**Pn**		**07 54 31.7**	**-0.2**
AK04	**Malin Array Si**	**5.13**	**17**	P	n	**Pn**		**07 54 32.3**	**+0.1**
AK22	**Malin Array Si**	**5.15**	**17**	P	n	**Pn**		**07 54 32.2**	**-0.2**
AK21	**Malin Array Si**	**5.16**	**16**	P	n	**Pn**		**07 54 32.2**	**-0.3**

NEIC ***11*** *07:55:56.0±1.3,35.661N±0.010×117.45W±0.01, h8km±5km,Error ellipse: s-maj=1.6km s-min=1.4km az=60.0*
PAS 11 07:55:56.4±1.3,35.659N±0.009×117.46W±0.01, h3km,ML3.3/22,ML3.1/104(NEIC)**,Error ellipse: s-maj=1.6km s-min=1.3km az=73.0,Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CCCA	**Chr Cany lake**	**0.16**	**149**				Pg	07 55 59.9	+0.5
SRTC	**Snort**	**0.23**	**278**				Pg	07 56 01.4	+0.5
LRMC	**Laurel Mtn Rad**	**0.25**	**225**				Pg	07 56 01.3	+0.1
WNMM	**Nine Mile Cany**	**0.40**	**297**				Pg	07 56 04.2	+0.1
WVPM	**Volcano Peak E**	**0.41**	**315**				Pg	07 56 04.3	0.0
JRC2	**Joshua Ridge**	**0.43**	**319**				Pg	07 56 04.8	+0.1
JRC2							Sg	07 56 10.9	+0.7
WRVM	**Rose V. Centra**	**0.49**	**315**				Pg	07 56 05.8	-0.1
DTP	**Desert Tortois**	**0.50**	**219**				Pg	07 56 05.7	-0.3
DTP							Sg	07 56 12.9	+0.4
MFS	**McCloud Flat S**	**0.56**	**325**				Pg	07 56 07.0	-0.1
MFS							Sg	07 56 14.8	+0.4
WBSM	**Bird Springs**	**0.56**	**258**				Pg	07 56 07.0	-0.2
WBSM							Sg	07 56 14.8	+0.2
QSM	**Queen of Sheba**	**0.57**	**58**				Pg	07 56 07.3	-0.1
QSM					IAML			07 56 15.3	
	comp=E,2μm,0.6s								
QSM					IAML			07 56 15.3	
	comp=N,2μm,0.6s								
GSC	**Goldstone, Bar**	**0.65**	**123**				Sg	07 56 17.5	+0.4
GSC	**Goldstone, Bar**	**0.65**	**123**				Pg	07 56 08.6	-0.2
GSC					IAML			07 56 17.8	
	comp=N,1μm,0.5s								
GSC					IAML			07 56 18.0	
	comp=E,2μm,0.4s								
CCAC	**Calif City Air**	**0.68**	**222**				Pg	07 56 09.1	-0.3
CCAC							Sg	07 56 18.6	+0.5
HYS	**Haystack Butte**	**0.80**	**186**				Pg	07 56 11.2	-0.5
GWY	**Greenwater Val**	**0.83**	**51**				Pg	07 56 11.9	-0.5
GWY					IAML			07 56 29.0	
	comp=N,955nm,0.6s								
GWY					IAML			07 56 30.6	
	comp=E,916nm,0.4s								
RRX	**Edison Barstow**	**0.87**	**154**				Pb	07 56 14.1	0.0
EDW2	**Edwards Air Fo**	**0.89**	**209**				Pg	07 56 12.7	-0.7
CWC	**Cottonwood Cre**	**0.93**	**328**				Pg	07 56 14.0	-0.2
CWC					IAML			07 56 38.0	
	comp=N,890nm,0.2s								
CWC					IAML			07 56 39.7	
	comp=E,724nm,0.2s								
CGO	**Cerro Gordo**	**0.93**	**343**				Pg	07 56 13.6	-0.7
CGO							Sg	07 56 27.2	+0.8
TPO	**Tropico Hills**	**1.00**	**219**				Pg	07 56 15.0	-0.5
SBB	**Saddle Back Bu**	**1.01**	**197**				Pg	07 56 15.0	-0.8
TEJ	**El Tejon**	**1.09**	**247**				Pg	07 56 16.0	-1.2
SPG2	**Springville 2**	**1.19**	**297**				Pg	07 56 18.1	-1.1
SPG2							Sg	07 56 33.8	-0.8
LRRC	**Littlerock Res**	**1.22**	**202**				Pg	07 56 18.8	-1.0
THC	**Tehachapi Micr**	**1.23**	**233**				Pg	07 56 19.3	-0.8
LEOC	**Leona Valley**	**1.23**	**214**				Pg	07 56 19.0	-1.1
ARVC	**Arvin**	**1.24**	**245**				Sg	07 56 35.5	-0.6
HOLC	**Holcomb Ridge**	**1.24**	**195**				Pg	07 56 19.1	-1.1
HOLC							Sb	07 56 36.6	-0.3
AMDNV	**Amargosa**	**1.24**	**50**				Pg	07 56 19.0	-1.3
CJV	**Casa Juvan**	**1.26**	**207**				Pg	07 56 19.3	-1.2
JNH	**Juniper Hills**	**1.27**	**199**				Pg	07 56 19.6	-1.2
TUQ	**Turquoise Moun**	**1.27**	**100**				Pg	07 56 19.7	-1.2
WCT	**Wildcat Mounta**	**1.32**	**31**				Pg	07 56 20.3	-1.4
WCT					IAML			07 56 43.1	
	comp=E,221nm,0.6s								
VES	**Vestal, Richgr**	**1.33**	**278**				Pn	07 56 21.2	-0.7
VES							Sg	07 56 38.9	-0.3
GRAC	**Grapevine Rang**	**1.34**	**3**				Pn	07 56 20.9	-1.1
GRAC					IAML			07 56 45.6	
	comp=N,383nm,0.6s								
GRAC					IAML			07 56 47.9	
	comp=E,386nm,0.4s								
SGV	**South Grapevin**	**1.36**	**15**				Pn	07 56 21.2	-1.3
CHFC	**Chilao Flat St**	**1.40**	**199**				Pn	07 56 22.4	-0.5
SIL	**Silver Peak**	**1.41**	**158**				Pn	07 56 23.0	-0.1
BFSC	**Mount Baldy Ra**	**1.43**	**186**				Pn	07 56 22.1	-1.2
BFSC					IAML			07 56 43.0	
	comp=E,191nm,0.6s								
BFSC					IAML			07 56 43.1	
	comp=N,188nm,0.6s								
SSK	**Sunset Peak**	**1.46**	**187**				Pn	07 56 22.8	-1.0
OSI	**Osito Audit: C**	**1.47**	**225**				Pn	07 56 23.0	-0.8
OSI					IAML			07 56 45.2	
	comp=E,304nm,0.7s								
OSI					IAML			07 56 48.6	
	comp=N,428nm,0.9s								
MWC	**Mount Wilson**	**1.51**	**199**				Pn	07 56 23.3	-1.2
MWC					IAML			07 56 49.3	
	comp=E,207nm,0.5s								
MWC					IAML			07 56 50.5	
	comp=N,342nm,0.6s								
MTPC	**Mountain Pass**	**1.57**	**96**				Pn	07 56 23.6	-1.7
MTPC					IAML			07 56 47.2	
	comp=E,174nm,0.3s								
MTPC					IAML			07 56 48.0	
	comp=N,137nm,0.3s								
LCH	**Last Change Ra**	**1.58**	**355**				Pn	07 56 24.4	-1.0
PSRC	**Puddingstone R**	**1.59**	**190**				Pn	07 56 24.7	-0.7
PASC	**Pasadena Art C**	**1.60**	**202**				Pn	07 56 24.5	-1.0
PASC					IAML			07 56 51.7	
	comp=E,142nm,0.7s								
TPNV	**Topopah Spring**	**1.62**	**37**				Pn	07 56 24.8	-1.2
TPNV					IAML			07 56 51.6	
	comp=E,206nm,0.4s								
TPNV					IAML			07 56 56.7	
	comp=E,200nm,0.7s								
GTM	**Goat Mountain**	**1.64**	**146**				Sn	07 56 47.9	+0.2
GMN	**Gold Mountain**	**1.65**	**6**				Pn	07 56 25.6	-0.8
GMRC	**Granite Mounta**	**1.71**	**120**				Pn	07 56 24.9	-2.4
DSP	**Deep Springs**	**1.76**	**347**				Pn	07 56 26.7	-1.0
DSP					IAML			07 56 53.2	
	comp=E,127nm,0.4s								
BHPR	**Bishop**	**1.83**	**334**				Pb	07 56 30.9	+0.2
MTUM	**Tungsten Hills**	**1.91**	**333**				Pb	07 56 31.8	-0.2
TPC	**Twentynine Pal**	**1.94**	**143**				Pn	07 56 29.1	-1.1
HMTC	**Hemet**	**1.98**	**169**				Pn	07 56 29.9	-1.0
ELS	**Elsinore Mount**	**2.01**	**179**				Pn	07 56 30.1	-1.1
ELS					IAML			07 57 06.8	
	comp=E,97nm,0.7s								
POB	**Polly Butte**	**2.02**	**167**				Pn	07 56 30.5	-0.9
MZP	**Montezuma Peak**	**2.04**	**2**				Pn	07 56 31.2	-0.6
SHPR	**Sheep Range**	**2.05**	**65**				Pn	07 56 31.2	-0.7
V12A	**Nelson**	**2.13**	**87**				Pn	07 56 31.3	-1.7
V12A					IAML			07 57 05.0	
	comp=N,71nm,0.6s								
PMD	**Palm Desert**	**2.20**	**156**				Pn	07 56 32.4	-1.4
PMD					IAML			07 57 12.6	
	comp=E,89nm,0.6s								
PFO	**Pinyon Flats O**	**2.20**	**158**				Pn	07 56 32.8	-1.2
PFO					IAML			07 57 09.2	
	comp=E,86nm,1.1s								
TRAM	**Private Proper**	**2.29**	**271**				Pn	07 56

WB0	**Warramunga Arr**	**24.11**	**165**		**P**	**08 16 04.7**	**+0.5**
WB0				IAmb	IAmb	08 16 09.0	
	comp=Z,6.0nm,0.8s						
WRA	**Warramunga Arr**	**24.26**	**166**	P	**P**	**08 16 05.4**	**-0.3**
WRA	**Warramunga Arr**	**24.26**	**166**	P	**P**	**08 16 05.8**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=344,slow=10,SNR=16						
	comp=Z,3.1nm,0.8s						
WR8	**Warramunga Arr**	**24.32**	**165**	P	**P**	**08 16 07.1**	**+0.9**
MBWA	**Marble Bar**	**26.00**	**198**	P	**P**	**08 16 24.4**	**+3.0**
AS31	**Alice Springs**	**27.76**	**168**	P	**P**	**08 16 37.3**	**0.0**
ASAR	**Alice Springs**	**27.76**	**168**	P	**P**	**08 16 37.7**	**+0.4**
ASAR	**Alice Springs**	**27.76**	**168**	P	**P**	**08 16 37.8**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=355,slow=7.6,SNR=12						
	comp=Z,0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**32.07**	**299**	P	**P**	**08 17 14.7**	**-0.7**
	comp=Z,0.7nm,0.2s,baz=121,slow=7.1,SNR=4.9						
	comp=Z,0.7nm,0.2s						
PZH	**PanZhiHua**	**33.93**	**315**	P	**P**	**08 17 34.4**	**+2.7**
XAN	**Xi'an**	**35.09**	**332**	*e*P	**P**	**08 17 43.9**	**+2.5**
LZH	**Lanzhou**	**39.25**	**328**	*e*P	**P**	**08 18 17.2**	**+0.5**
LZH				pmax	pmax		
	comp=Z,29nm,1.3s						
HHC	**Hu-ho-hao-te**	**39.89**	**340**	*e*P	**P**	**08 18 24.3**	**+2.4**
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,56nm,4.4s						
H11S3	**WAKE ISLAND Hy**	**40.52**	**66**	T	T	09 01 36.1	
	baz=253,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**40.53**	**66**	T	T	09 01 36.3	
	baz=253,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**40.53**	**66**	T	T	09 01 41.8	
	baz=253,slow=75,SNR=7.6						
ULN	**Ulaanbaatar**	**47.60**	**341**	P	**P**	**08 19 23.0**	**-0.7**
ULN				IAmb	IAmb	08 19 24.0	
	comp=Z,3.7nm,0.8s						
SONM	**Songino Array**	**47.79**	**340**	P	**P**	**08 19 24.5**	**-0.6**
SONM	**Songino Array**	**47.79**	**340**	P	**P**	**08 19 23.9**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=157,slow=10.0,SNR=7.7						
	comp=Z,1.3nm,0.6s						
PETK	**Petropavlovsk-**	**54.98**	**21**	P	**P**	**08 20 17.8**	**-0.7**
MKAR	**Makanchi Array**	**58.38**	**325**	P	**P**	**08 20 43.0**	**+0.3**
MKAR	**Makanchi Array**	**58.38**	**325**	P	**P**	**08 20 43.3**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=122,slow=7.7,SNR=18						
	comp=Z,1.3nm,0.5s						
MAKZ	**Makanchi**	**58.56**	**325**		**P**	**08 20 44.1**	**+0.1**
KDJ	**Kajisay**	**59.29**	**318**	P	**P**	**08 20 50.1**	**+0.8**
BOOM	**Boomskoye usch**	**60.27**	**318**	P	**P**	**08 20 56.4**	**+0.4**
ZALV	**Zalesovo Beam**	**61.25**	**332**	P	**P**	**08 21 01.7**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=116,slow=10,SNR=3.9						
	comp=Z,0.4nm,0.3s						
RTZ	**Ruatahuna**	**61.68**	**138**	P	**P**	**08 21 05.1**	**-0.3**
KURBB	**Kurchatov Arra**	**62.52**	**327**	P	**P**	**08 21 11.2**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=124,slow=6.2,SNR=20						
	comp=Z,2.4nm,0.7s						
KKAR	**Karatay Array**	**64.20**	**317**	P	**P**	**08 21 23.0**	**+1.0**
NIUE	**Niue**	**65.00**	**113**	P	**P**	**08 21 27.5**	**-0.1**
BVAR	**Borovoye Array**	**68.11**	**327**	P	**P**	**08 21 47.4**	**+0.6**
	comp=Z,0.7nm,0.5s						
	comp=Z,0.7nm,0.5s						
AB31	**Akbulak array**	**73.05**	**321**	P	**P**	**08 22 16.8**	**-0.1**
ABKAR	**Akbulak array**	**73.05**	**321**	P	**P**	**08 22 17.1**	**+0.2**
L16K	**Owhat River**	**78.50**	**28**	P	**P**	**08 22 47.3**	**-0.3**
L16K				IAmb	IAmb	08 22 50.2	
	comp=Z,5.3nm,1.4s						
M16K	**Timber Creek**	**78.58**	**28**	P	**P**	**08 22 48.9**	**+0.7**
M16K				IAmb	IAmb	08 22 49.7	
	comp=Z,4.2nm,0.9s						
J17K	**VABM Dome**	**79.08**	**26**	P	**P**	**08 22 51.2**	**+0.4**
J17K				IAmb	IAmb	08 23 03.7	
	comp=Z,6.1nm,1.3s						
M17K	**Holitna River**	**79.38**	**28**	P	**P**	**08 22 53.9**	**+1.4**
M17K				IAmb	IAmb	08 23 32.3	
	comp=Z,3.6nm,1.1s						
L18K	**Granite Mounta**	**79.89**	**27**	P	**P**	**08 22 56.6**	**+1.3**
H19K	**Roundabout Mou**	**80.66**	**24**	P	**P**	**08 23 01.2**	**+1.9**
H19K				IAmb	IAmb	08 23 02.8	
	comp=Z,3.0nm,0.8s						
D19K	**Kuna River**	**80.68**	**21**	P	**P**	**08 23 00.2**	**+0.7**
D20K	**Etivluk River**	**81.27**	**21**	P	**P**	**08 23 03.1**	**+0.6**
D20K				IAmb	IAmb	08 23 04.2	
	comp=Z,2.8nm,0.8s						
J20K	**Nowinta River**	**81.38**	**26**	P	**P**	**08 23 04.5**	**+1.4**
J20K				IAmb	IAmb	08 23 26.8	
	comp=Z,5.7nm,1.5s						
IMAR	**Indian Mountai**	**81.84**	**24**	P	**P**	**08 23 06.4**	**+0.8**
G21K	**Allakaket**	**82.03**	**23**	P	**P**	**08 23 07.4**	**+0.9**
CAST	**Castle Rocks**	**82.17**	**27**		**P**	**08 23 08.9**	**+1.5**
I21K	**Tanana**	**82.45**	**25**	P	**P**	**08 23 09.8**	**+1.0**
I21K				IAmb	IAmb	08 23 13.8	
	comp=Z,6.2nm,1.3s						
E22K	**Anaktuvuk Pass**	**82.92**	**22**		**P**	**08 23 12.5**	**+1.3**
E22K				IAmb	IAmb	08 23 13.5	
	comp=Z,2.4nm,0.6s						
G23K	**Bananza Creek**	**83.43**	**23**	P	**P**	**08 23 14.7**	**+0.9**
G23K				IAmb	IAmb	08 23 19.2	
	comp=Z,4.1nm,1.0s						
H23K	**Yukon River**	**83.53**	**24**	P	**P**	**08 23 15.3**	**+0.9**
H23K				IAmb	IAmb	08 23 16.3	
	comp=Z,3.0nm,0.8s						
I23K	**Minto, Yukon-K**	**83.55**	**25**	P	**P**	**08 23 14.9**	**+0.6**
I23K				IAmb	IAmb	08 23 17.0	
	comp=Z,3.8nm,1.1s						
E23K	**Chandalar**	**83.72**	**22**		**P**	**08 23 16.2**	**+0.8**
TOLK	**Toolik Lake Re**	**83.80**	**21**	P	**P**	**08 23 17.0**	**+1.3**
TOLK				IAmb	IAmb	08 23 17.7	
	comp=Z,3.0nm,0.8s						
F24K	**Squaw Lake**	**84.33**	**23**	P	**P**	**08 23 19.3**	**+0.9**
F24K				IAmb	IAmb	08 23 23.7	
	comp=Z,2.7nm,1.0s						
G24K	**Hadweenzic Riv**	**84.44**	**23**		**P**	**08 23 20.0**	**+1.0**
ILAR	**Eielson Array**	**84.57**	**25**	P	**P**	**08 23 17.8**	**-1.8**
	comp=Z,0.7nm,1.0s,baz=248,slow=4.6,SNR=5.7						
	comp=Z,0.7nm,1.0s						
H27K	**Steamboat Moun**	**86.82**	**24**	P	**P**	**08 23 31.4**	**+0.6**
H27K				IAmb	IAmb	08 23 33.0	
	comp=Z,1.1nm,0.6s						
I28M	**Miner Creek**	**87.51**	**25**		**P**	**08 23 34.1**	**-0.1**
I28M				IAmb	IAmb	08 23 41.6	
	comp=Z,1.7nm,0.8s						
ARCES	**ARCESS Array B**	**90.96**	**340**	P	**P**	**08 23 48.9**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=77,slow=5.3,SNR=4.6						
	comp=Z,1.0nm,0.6s						
QSPA	**South Pole Qui**	**93.58**	**180**	P	**P**	**08 24 03.5**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=70,slow=14,SNR=1.3						
	comp=Z,0.6nm,0.9s						
HFS	**Hagfors**	**98.69**	**333**	P	**P**	**08 24 24.3**	**-1.4**
	comp=Z,2.5nm,1.1s,baz=75,slow=1.6,SNR=1.6						
	comp=Z,2.5nm,1.1s						

*JMA **11** 08:18:43.2±0.3,26°N±1°×12°9E±°, h39km±4km, MV3.1/18, NEAR OKINAWAJIMA ISLAND*
*IDC **11** 08:18:44.0±0.9,26.54N×127.89E, h0km, mb3.8/6, mbtmp3.8/7, ML3.6/1, Error ellipse: s-maj=20.3km s-min=13.1km az=136.0*
ISC 11 08:18:41.9±1.4, 26.05N±0.06×128.64E±0.05, h27km±11km, n21, σ0.88/27, mb3.8/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.72**	**310**	P	**Pb**	**08 18 55.6**	**-0.3**
JNTH				*e*S	**Sb**	**08 19 05.4**	**0.0**
JJT3	**Tamagusuku3**	**0.77**	**277**	P	**Pb**	**08 18 57.2**	**+0.4**
JJT3				*e*S	**Sb**	**08 19 07.5**	**+0.6**
JOW	**Kunigami**	**0.84**	**337**	Pn	**Pn**	**08 18 57.7**	**-0.4**
	241nm,0.3s,baz=131,slow=22,SNR=392						
JOW				Sn	**Sb**	**08 19 07.8**	**-1.1**
	272nm,0.3s,baz=150,slow=20,SNR=8.9						
JOW	**Kunigami**	**0.84**	**337**	*i* P	**Pn**	**08 18 58.0**	**-0.1**
JOW				*e*S	**Sb**	**08 19 08.4**	**-0.5**
JYRO	**Yoronjima**	**0.98**	**350**	*i* P	**Pn**	**08 19 00.2**	**+0.2**
JYRO				S	**Sn**	**08 19 11.9**	**-1.1**
JIH	**Iheya**	**1.15**	**329**	P	**Pn**	**08 19 02.7**	**+0.5**
JOKE	**Okinoerabujima**	**1.30**	**357**	P	**Pn**	**08 19 05.0**	**+0.6**
JOKE				*e*S	**Sn**	**08 19 20.9**	**-0.1**
JAGN	**Aguni-jima**	**1.36**	**293**	P	**Pn**	**08 19 05.7**	**+0.5**
JKE	**Kume jima 2**	**1.69**	**280**	P	**Pn**	**08 19 09.5**	**-0.2**
JTK	**Tokunoshima**	**1.75**	**9**	P	**Pn**	**08 19 11.3**	**+0.7**
JAMN	**Amaminishikomi**	**2.23**	**12**	P	**Pn**	**08 19 17.9**	**+0.7**
JMZ	**Minamidaito 2**	**2.34**	**95**	P	**Pn**	**08 19 18.9**	**+0.3**
JMZ				S	**Sn**	**08 19 45.0**	**-1.6**
JKDJ	**Kitadaitoujima**	**2.40**	**92**	P	**Pn**	**08 19 20.0**	**+0.6**
JKDJ				S	**Sn**	**08 19 46.9**	**-1.0**
JAM	**Amami Oshima**	**2.50**	**20**	P	**Pn**	**08 19 21.3**	**+0.4**
JNU	**Nakatsue**	**7.31**	**15**	Pn	**Pn**	**08 20 29.1**	**+2.2**
	1.0nm,0.3s,baz=196,slow=15,SNR=7.2						
	6.6nm,0.7s						
SONM	**Songino Array**	**27.90**	**327**	P	**P**	**08 24 29.1**	**-0.7**
	0.4nm,0.3s,baz=148,slow=12,SNR=4.2						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**41.92**	**312**	P	**P**	**08 26 29.6**	**-0.6**
	0.4nm,0.6s,baz=99,slow=8.9,SNR=4.4						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**46.05**	**173**	P	P	08 27 13.8	+10
	1.1nm,0.6s,baz=353,slow=8.4,SNR=11						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**49.69**	**174**	P	P	08 27 42.4	+11
	0.5nm,0.6s,baz=4.4,slow=14,SNR=7.9						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**50.65**	**318**	P	**P**	**08 27 38.3**	**-0.4**
	0.5nm,0.3s						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**73.20**	**331**	P	**P**	**08 30 11.8**	**+1.7**
	1.4nm,0.8s,baz=78,slow=5.8,SNR=2.3						
	1.4nm,0.8s						

*NEIC **11** 08:20:21.7±1.7, 20.4S±0.1×177.89W±0.08, h480km±8km, mb4.1/16, Error ellipse: s-maj=18.6km s-min=10.2km az=185.0*
*IDC **11** 08:20:26.2±6.9, 20.26S×178.21W, h533km±74km, mb3.1/4, mbtmp4.0/4, Error ellipse: s-maj=107.5km s-min=28.8km az=156.0*
ISC 11 08:20:27.1±0.6, 20.3S±0.1×178.4W±0.1, h550km, n34, σ1.9/42/32, mb4.0/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.23**	**306**		**P**	**08 21 46.6**	**-4.3**
AFI	**Afiamalu**	**8.92**	**46**	P	P	08 22 22.1	-12
PINNC	**Pines Island,**	**13.42**	**257**	P	**P**	**08 23 20.1**	**-0.2**
DZM	**Mont Dzumac**	**14.29**	**260**	P	**P**	**08 23 29.1**	**-0.4**
QRZ	**Quartz Range**	**21.92**	**199**	P	**P**	**08 24 38.1**	**-2.2**
CTAO	**Charters Tower**	**33.18**	**264**	P	**P**	**08 26 20.6**	**+1.7**
CTAO				IAmb	IAmb	08 26 26.2	
	comp=Z,7.2nm,1.2s						
TOO	**Toolangi**	**35.77**	**233**	P	**P**	**08 26 40.5**	**+0.2**
COEN	**Coen**	**37.23**	**273**	P	**P**	**08 26 55.1**	**+2.5**
COEN				IAmb	IAmb	08 27 14.2	
	comp=Z,11nm,1.2s						
AS31	**Alice Springs**	**44.24**	**257**	P	**P**	**08 27 49.2**	**+0.9**
AS31				IAmb	IAmb	08 28 33.6	
	comp=Z,3.6nm,0.6s						
ASAR	**Alice Springs**	**44.24**	**257**	P	**P**	**08 27 48.9**	**+0.6**
ASAR	**Alice Springs**	**44.24**	**257**	P	**P**	**08 27 49.5**	**+1.1**
	comp=Z,2.5nm,0.6s,baz=94,slow=8.1,SNR=40						
	comp=Z,2.5nm,0.6s						
WRA	**Warramunga Arr**	**44.30**	**262**	P	**P**	**08 27 50.5**	**+1.8**
MBWA	**Marble Bar**	**57.58**	**257**	P	**P**	**08 29 25.9**	**+0.9**
MBWA				IAmb	IAmb	08 29 34.9	
	comp=Z,24nm,1.4s						
SBA	**Scott Base**	**58.08**	**184**	P	**P**	**08 29 28.3**	**+0.8**
QSPA	**South Pole Qui**	**69.80**	**180**	P	**P**	**08 30 41.4**	**-1.0**
O02D	**Mt. Diablo Mer**	**79.31**	**40**	P	**P**	**08 31 36.3**	**+0.3**
N14K	**Kuskokwak Cree**	**81.05**	**8**	P	**P**	**08 31 45.9**	**+1.5**
N14K				IAmb	IAmb	08 32 16.0	
	comp=Z,7.9nm,0.9s						
K05A	**Summer Lake**	**81.99**	**39**	P	**P**	**08 31 51.0**	**+1.0**
K05A				IAmb	IAmb	08 31 51.7	
	comp=Z,3.1nm,0.7s						
M16K	**Timber Creek**	**82.50**	**9**	P	**P**	**08 31 53.4**	**+1.5**
TXAR	**Lajitas Array**	**87.21**	**57**	P	**P**	**08 32 16.6**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=222,slow=6.7,SNR=7.2						
	comp=Z,0.4nm,0.7s						
CCB	**Clear Creek Bu**	**87.86**	**13**	P	**P**	**08 32 17.8**	**+0.1**
ILAR	**Eielson Array**	**88.16**	**13**	P	**P**	**08 32 19.4**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=218,slow=5.6,SNR=14						
	comp=Z,0.7nm,0.5s						
G21K	**Allakaket**	**88.51**	**10**	P	**P**	**08 32 22.1**	**+1.3**
G21K				IAmb	IAmb	08 32 48.4	
	comp=Z,3.1nm,1.4s						
J26L	**Joseph Creek**	**88.66**	**14**	P	**P**	**08 32 23.2**	**+1.6**
J26L				IAmb	IAmb	08 32 24.0	
	comp=Z,2.3nm,0.9s						
PDAR	**Pinedale Array**	**89.02**	**43**	P	**P**	**08 32 23.2**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=242,slow=1.2,SNR=6.3						
	comp=Z,0.5nm,0.7s						
BVAR	**Borovoye Array**	**118.68**	**320**	PKP	**PKiKP**	**08 38 12.2**	**-0.5**
ARCES	**ARCESS Array B**	**128.63**	**350**	PKP	**PKiKP**	**08 38 32.2**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=27,slow=0.3,SNR=8.1						
FINES	**FINESS Array B**	**135.45**	**344**	PKP	**PKiKP**	**08 38 45.0**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=19,slow=5.9,SNR=3.9						
HFS	**Hagfors**	**139.26**	**351**	PKhKP	PKPpre	08 38 44.7	
	comp=Z,0.5nm,0.4s,baz=281,slow=0.8,SNR=4.6						
AKASG	**Malin Array Be**	**142.65**	**331**	PKP	**PKPdf**	**08 38 56.2**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=44,slow=4.1,SNR=11						
EKA	**Eskdalemuir Ar**	**144.80**	**5**	PKP	**PKPab**	**08 39 01.8**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=358,slow=2.5,SNR=4.3						
BRTR	**Keskin Array B**	**146.43**	**312**	PKPbc	**PKiKP**	**08 39 08.4**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=155,slow=4.2,SNR=5.7						
MMAI	**Mount Meron Ar**	**147.41**	**300**	PKPbc	**PKiKP**	**08 39 10.6**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=338,slow=0.9,SNR=3.9						
GERES	**GERESS Array B**	**149.88**	**344**	PKPbc	**PKiKP**	**08 39 16.7**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=288,slow=0.8,SNR=7.5						

*IDC **11** 08:24:14.1±1.3, 6.63S×128.88E, h0km, mb3.7/5, mbtmp3.7/8, ML3.8/3, MS3.1/3, Error ellipse: s-maj=77.8km s-min=21.2km az=77.0*
ISC 11 08:24:19.1±1.1, 6.77S±0.08×129.0E±0.2, h35km, n10, σ1.9/33/10, mb3.7/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**9.31**	**280**	LR	LR	08 30 07.0	
	comp=Z,86nm,18.1s,baz=66,slow=38						
FITZ	**Fitzroy Crossi**	**11.71**	**196**	Pn	**Pn**	**08 27 04.6**	**+0.8**
	0.3nm,0.3s,baz=20,slow=11,SNR=8.2						
FITZ				Sn	**Sn**	**08 29 11.2**	**-2.2**
	0.2nm,0.3s,baz=207,slow=23,SNR=1.7						
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**14.10**	**159**	Pn	**Pn**	**08 27 36.0**	**-0.4**
	0.4nm,0.3s,baz=337,slow=13,SNR=15						
WRA				Sn	Sn	08 30 03.6	-8.2
	0.5nm,0.3s,baz=333,slow=22,SNR=5.7						
WRA				LR	LR	08 33 37.0	
	comp=Z,97nm,18.3s,baz=1.0,slow=40						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**17.46**	**165**	P	**Pn**	**08 28 21.3**	**+1.2**
	0.5nm,0.3s,baz=348,slow=12,SNR=15						
ASAR				S	**Sn**	**08 31 33.0**	**-0.5**
	1.1nm,0.7s,baz=353,slow=29,SNR=4.6						
	1.0nm,0.6s						
ASAJ	**Asahikawa**	**52.13**	**12**	LR	LR	08 57 51.7	
	comp=Z,12nm,18.2s,baz=102,slow=39						
SONM	**Songino Array**	**57.90**	**342**	P	**P**	**08 34 07.3**	**-0.4**
	0.5nm,0.7s,baz=163,slow=7.5,SNR=6.6						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**67.47**	**327**	P	**P**	**08 35 10.9**	**-0.6**
	0.2nm,0.4s,baz=127,slow=7.9,SNR=2.4						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**70.92**	**334**	P	**P**	**08 35 31.8**	**-0.8**
	0.7nm,0.4s,baz=116,slow=6.6,SNR=5.0						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**71.77**	**329**	P	**P**	**08 35 37.2**	**-0.7**
	0.9nm,1.0s,baz=129,slow=5.7,SNR=6.1						
	0.9nm,1.0s						
QSPA	**South Pole Qui**	**83.20**	**180**	P	**P**	**08 36 43.4**	**+1.7**
	0.7nm,0.9s,baz=332,slow=3.7,SNR=1.7						
	0.7nm,0.9s						

*IDC **11** 08:25:24.0±3.3, 53.40N×87.27E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=32.5km s-min=17.1km az=63.0*
ASRS 11 08:25:21.0±0.9, 53.47N×87.20E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**290**	I	I	08 35 00.0	
	baz=109,slow=320,SNR=4.3						
ZALV	**Zalesovo Beam**	**1.49**	**290**	Pg	Pg	08 25 51.8	+2.2
	0.6nm,0.3s,baz=107,slow=13,SNR=4.5						
ZALV				Lg	Lg	08 26 13.2	
	0.8nm,0.3s,baz=114,slow=22,SNR=4.9						
KURBB	**Kurchatov Arra**	**6.06**	**245**	Pn	Pn	08 26 56.0	+4.2
	baz=58,slow=14,SNR=2.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.39**	**207**	Pn	Pn	08 27 13.3	+3.3
	0.1nm,0.3s,baz=25,slow=14,SNR=2.0						
	0.1nm,0.3s						

*ASRS **11** 08:31:03.0±0.6, 54.31N×86.90E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 11 08:31:08.7±3.1, 54.16N×86.70E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=24.8km s-min=15.5km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.13**	**260**	I	I	08 38 40.0	
	baz=75,slow=316,SNR=4.2						
ZALV	**Zalesovo Beam**	**1.13**	**260**	Pg	Pg	08 31 29.5	-0.8
	3.5nm,0.3s,baz=79,slow=14,SNR=29						
ZALV				Lg	Lg	08 31 46.2	
	2.4nm,0.3s,baz=83,slow=33,SNR=8.3						
KURBB	**Kurchatov Arra**	**6.13**	**238**	Pn	Pn	08 32 41.0	+0.6
	0.1nm,0.3s,baz=52,slow=14,SNR=4.3						
KURBB				Lg	Lg	08 34 23.1	
	baz=53,slow=32,SNR=1.6						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**7.89**	**203**	Pn	Pn	08 33 05.9	+1.3
	0.1nm,0.3s,baz=23,slow=12,SNR=4.5						
	0.2nm,0.3s						
CLL	**Collm**	**42.84**	**298**	*i* PKPbc	P	08 39 11.6	+3.6
	comp=Z,7.0nm,0.6s						

*NEIC **11** 08:48:01.9±1.9, 35.898N±0.010×117.71W±0.01, h10km±6km, Error ellipse: s-maj=1.6km s-min=1.2km az=217.0*
PAS 11 08:48:02.4±1.7, 35.898N±0.010×117.71W±0.01, h9km±5km, ML3.5/16, ML3.1/112(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=56.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOW	**Tower One**	**0.10**	**207**		Pg	08 48 05.3	+0.3
WVPM	**Volcano Peak E**	**0.10**	**301**		Pg	08 48 05.0	0.0
WVPM					Sg	08 48 07.1	+0.2
JRC2	**Joshua Ridge**	**0.12**	**316**		Pg	08 48 05.2	-0.1
JRC2					Sg	08 48 07.6	+0.2
WNMM	**Nine Mile Cany**	**0.17**	**251**		Pg	08 48 06.0	0.0
WNMM					Sg	08 48 09.1	+0.6
WRVM	**Rose V. Centra**	**0.18**	**307**		Pg	08 48 06.2	-0.1
SRTC	**Snort**	**0.21**	**189**		Sg	08 48 11.0	+1.3
MPMC	**Manual Prospec**	**0.24**	**48**		Pg	08 48 07.2	-0.2
MPMC				IAML		08 48 11.1	
	comp=E,6μm,0.3s						
MPMC				IAML		08 48 12.0	
	comp=N,4μm,0.7s						
MFS	**McCloud Flat S**	**0.25**	**332**		Pg	08 48 07.4	-0.1
MFS					Sg	08 48 11.2	+0.2
LRMC	**Laurel Mtn Rad**	**0.42**	**177**		Pg	08 48 10.2	-0.4
LRMC	**Laurel Mtn Rad**	**0.42**	**177**		Sg	08 48 16.4	+0.3
CCCA	**Chr Cany lake**	**0.47**	**143**		Pg	08 48 11.6	+0.1
CCCA					Sg	08 48 18.5	+0.9
CCCA	**Chr Cany lake**	**0.47**	**143**	IAML		08 48 18.9	
	comp=N,10μm,0.6s						
CCCA				IAML		08 48 20.1	
	comp=E,5μm,0.3s						
WBSM	**Bird Springs**	**0.50**	**224**		Pg	08 48 11.8	-0.4
WBSM					Sg	08 48 18.8	-0.1
CWC	**Cottonwood Cre**	**0.62**	**331**		Pg	08 48 14.4	-0.1
CWC				IAML		08 48 23.0	
	comp=E,971nm,0.2s						
CWC				IAML		08 48 23.3	
	comp=N,554nm,0.3s						
DTP	**Desert Tortois**	**0.64**	**190**		Pg	08 48 14.1	-0.7
CGO	**Cerro Gordo**	**0.66**	**353**		Pg	08 48 14.4	-0.7
QSM	**Queen of Sheba**	**0.69**	**84**		Sg	08 48 24.4	-0.2
QSM	**Queen of Sheba**	**0.69**	**84**		Pg	08 48 15.4	-0.3
QSM				IAML		08 48 26.3	
	comp=N,2μm,0.4s						
QSM				IAML		08 48 28.9	
	comp=E,1μm,0.4s						
CCAC	**Calif City Air**	**0.79**	**199**		Pg	08 48 16.8	-0.7
CCAC					Sg	08 48 27.5	-0.2
FURC	**Furnace Creek,**	**0.89**	**50**		Sg	08 48 31.2	+0.1
GWY	**Greenwater Val**	**0.89**	**71**		Pg	08 48 19.0	-0.6
GWY				IAML		08 48 37.0	
	comp=N,1μm,0.4s						
SPG2	**Springville 2**	**0.91**	**290**		Pg	08 48 18.8	-1.1
GSC	**Goldstone, Bar**	**0.95**	**129**		Pg	08 48 19.5	-1.1
GSC				IAML		08 48 36.2	
	comp=N,617nm,0.7s						
GSC				IAML		08 48 38.7	
	comp=E,917nm,0.5s						
HYS	**Haystack Butte**	**1.04**	**174**		Pg	08 48 21.4	-1.0
HYS					Sg	08 48 35.4	-0.4

	comp=N,250nm,0.3s						
SIL	**Silver Peak**	**1.71**	**155**		Pb	08 48 34.2	+0.2
DECC	**Green Verdugo**	**1.72**	**198**		Pb	08 48 34.2	0.0
OAT	**Oat Mountain**	**1.72**	**206**		Pb	08 48 34.8	+0.5
BBRC	**Big Bear Solar**	**1.75**	**158**		Pb	08 48 35.5	+0.6
PASC	**Pasadena Art C**	**1.77**	**193**		Pn	08 48 32.3	-0.8
MTPC	**Mountain Pass**	**1.80**	**103**		Pn	08 48 32.1	-1.8
MTPC				IAML		08 49 00.1	
	comp=N,202nm,0.8s						
MTPC				IAML		08 49 01.2	
	comp=E,218nm,0.2s						
BENR	**Benton**	**1.94**	**339**		Pb	08 48 38.1	-0.1
GTM	**Goat Mountain**	**1.95**	**145**		Pb	08 48 38.0	-0.1
MLAC	**Mammoth, Mammo**	**1.95**	**333**		Pb	08 48 38.4	+0.1
MCSM	**Casa Diablo Ho**	**2.00**	**332**		Pb	08 48 39.3	+0.2
GMRC	**Granite Mounta**	**2.01**	**123**		Pn	08 48 34.4	-2.2
BLAC	**Blackrock camp**	**2.12**	**149**		Pn	08 48 37.3	-0.8
SHPR	**Sheep Range**	**2.15**	**73**		Pn	08 48 37.6	-1.0
TPH	**Tonopah**	**2.21**	**10**		Pn	08 48 39.0	-0.4
TPH				IAML		08 49 19.3	
	comp=E,219nm,0.9s						
TPC	**Twentynine Pal**	**2.25**	**142**		Pn	08 48 38.5	-1.4
ELS	**Elsinore Mount**	**2.26**	**174**		Pn	08 48 39.0	-1.0
ELS				IAML		08 49 15.8	
	comp=N,94nm,0.5s						
ELS				IAML		08 49 15.8	
	comp=E,114nm,0.5s						
POB	**Polly Butte**	**2.30**	**163**		Pn	08 48 40.0	-0.6
V12A	**Nelson**	**2.33**	**93**		Pn	08 48 39.3	-1.7
V12A				IAML		08 49 19.6	
	comp=N,66nm,0.8s						
V12A				IAML		08 49 21.9	
	comp=E,67nm,0.6s						
S11A	**Rachel**	**2.35**	**42**		Pn	08 48 40.6	-0.8
S11A				IAML		08 49 18.5	
	comp=N,172nm,0.7s						
S11A				IAML		08 49 19.2	
	comp=E,180nm,0.8s						
LHV	**Little Huntoon**	**2.43**	**345**		Pn	08 48 42.6	+0.3
LHV				IAML		08 49 28.6	
	comp=E,60nm,1.5s						
LHV				IAML		08 49 29.2	
	comp=N,64nm,0.8s						
CRY	**Cary Ranch**	**2.46**	**161**		Pn	08 48 42.4	-0.5
PMD	**Palm Desert**	**2.50**	**154**	Pn	Pn	08 48 41.6	-1.6
PMD				IAML		08 49 22.4	
	comp=E,100nm,0.5s						
PMD				IAML		08 49 25.7	
	comp=N,65nm,0.6s						
PFO	**Pinyon Flats O**	**2.50**	**155**	Pn	Pn	08 48 42.0	-1.4
PFO				IAML		08 49 23.0	
	comp=N,50nm,0.5s						
PFO				IAML		08 49 26.9	
	comp=N,60nm,0.7s						
PMPB	**Monarch Peak**	**2.53**	**278**		Pn	08 48 45.7	+2.1
PMPB				IAML		08 49 31.7	
	comp=N,145nm,0.9s						
NV11	**Mina Array Sit**	**2.56**	**352**	Pn	Pn	08 48 44.7	+0.5
PRN	**Pahroc Range**	**2.62**	**54**		Pn	08 48 44.2	-0.7
PRN				IAML		08 49 29.9	
	comp=N,119nm,0.8s						
PRN				IAML		08 49 35.4	
	comp=E,98nm,0.9s						
NEE2	**Needles Airpor**	**2.77**	**113**		Pn	08 48 45.2	-1.8
NEE2				IAML		08 49 37.2	
	comp=E,110nm,0.7s						
NEE2				IAML		08 49 37.6	
	comp=N,103nm,0.5s						
RYN	**Ryan**	**2.80**	**347**	Pn	Pn	08 48 47.6	0.0
R11B	**Troy Canyon, C**	**2.98**	**34**	Pn	Pn	08 48 49.2	-0.8
SAO	**San Andreas Ge**	**3.14**	**287**		Pn	08 48 50.2	-1.9
W13A	**Hualapai Mount**	**3.22**	**103**		Pn	08 48 51.6	-1.7
GLA	**Glamis**	**3.71**	**139**	Pn	Pn	08 48 57.6	-2.2
LCMT	**Little Creek M**	**3.77**	**72**		Pn	08 49 01.3	+0.5
CCUT	**Cedar City**	**3.86**	**63**		Pn	08 49 02.0	-0.2
PSUT	**Pine Spring**	**4.05**	**48**		Pn	08 49 03.2	-1.5
PSUT				IAML		08 50 13.7	
	comp=N,24nm,0.6s						
PSUT				IAML		08 50 13.9	
	comp=E,21nm,1.1s						
KNB	**Kanab**	**4.09**	**73**		Pn	08 49 05.5	+0.1
KNB				IAML		08 50 24.3	
	comp=N,16nm,1.1s						
KNB				IAML		08 50 25.7	
	comp=E,22nm,0.8s						
SPR3	**Spring Creek 3**	**4.10**	**40**	Pn	Pn	08 49 04.3	-1.3
SPR3				IAML		08 50 14.6	
	comp=E,17nm,0.8s						
SPR3				IAML		08 50 14.7	
	comp=N,17nm,0.9s						
113A	**Mohawk Valley,**	**4.51**	**133**		Pn	08 49 09.4	-1.6
ELK	**Elko**	**5.21**	**21**		Pn	08 49 20.4	-0.4
X16A	**Lo Mia Camp, P**	**5.34**	**104**		Pn	08 49 21.8	-0.7
W18A	**Petrified Fore**	**6.55**	**95**	Pn	Pn	08 49 37.2	-1.9
HLID	**Hailey**	**8.06**	**17**	Pn	Pn	08 49 58.4	-1.5

IDC 11 08:49:01.1±1.8, 0.°08S×127.°18E, h0km, mb3.2/4, mbtmp3.3/4, Error ellipse: s-maj=163.8km s-min=23.8km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.94**	**161**	P	P	08 53 46.4	+0.6
	0.4nm,0.7s,baz=340,slow=11,SNR=8.8 0.4nm,0.7s						
ASAR	**Alice Springs**	**24.33**	**165**	P	P	08 54 20.4	-0.5
	0.2nm,0.4s,baz=345,slow=10,SNR=6.3 0.2nm,0.4s						
MKAR	**Makanchi Array**	**60.94**	**326**	P	P	08 59 16.0	-0.1
	0.3nm,0.5s,baz=132,slow=6.4,SNR=3.8 0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**65.19**	**328**	P	P	08 59 44.3	+0.1
	0.5nm,0.8s,baz=140,slow=6.2,SNR=2.1 0.5nm,0.8s						

IDC 11 08:50:41.2±4.4, 4.°10N×128.°98E, h0km, mb3.5/4, mbtmp3.5/4, MS2.6/1, Error ellipse: s-maj=388.0km s-min=23.9km az=69.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.49**	**311**	LR	LR	08 53 49.3	
	comp=Z,67nm,19.6s,baz=350,slow=42						
WRA	**Warramunga Arr**	**24.46**	**168**	P	P	08 56 02.2	0.0
	0.8nm,0.8s,baz=348,slow=10,SNR=6.0 0.8nm,0.8s						
ASAR	**Alice Springs**	**28.01**	**170**	P	P	08 56 34.2	+0.1
	0.2nm,0.7s,baz=350,slow=8.9,SNR=1.5 0.2nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**39.53**	**66**	T	T	09 40 06.4	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**39.54**	**66**	T	T	09 40 06.4	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**39.54**	**66**	T	T	09 40 00.8	
	baz=253						
MKAR	**Makanchi Array**	**58.56**	**324**	P	P	09 00 39.9	+0.1
	0.3nm,0.4s,baz=111,slow=6.3,SNR=4.4 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**62.66**	**326**	P	P	09 01 07.4	-0.3
	0.5nm,0.5s,baz=123,slow=6.2,SNR=5.0 0.5nm,0.5s						

IDC 11 08:59:17.7±1.6, 3.°65N×127.°69E, h0km, mb3.7/4, mbtmp3.7/4, MS3.3/2, Error ellipse: s-maj=132.9km s-min=22.7km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.34**	**165**	P	P	09 04 37.8	+0.2
	1.5nm,0.8s,baz=344,slow=11,SNR=15 1.5nm,0.8s						
ASAR	**Alice Springs**	**27.82**	**168**	P	P	09 05 08.8	-0.2
	0.4nm,0.7s,baz=354,slow=8.3,SNR=5.2 0.4nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**40.88**	**66**	T	T	09 50 05.1	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**40.90**	**66**	T	T	09 50 05.5	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**40.90**	**66**	T	T	09 50 06.2	
	baz=253						
SONM	**Songino Array**	**47.68**	**341**	P	P	09 07 55.1	-1.0
	0.4nm,0.4s,baz=170,slow=8.8,SNR=3.8 0.4nm,0.4s						
MKAR	**Makanchi Array**	**58.17**	**325**	P	P	09 09 14.2	+0.7
	0.7nm,0.4s,baz=121,slow=7.7,SNR=3.5						
MKAR				LR	LR	09 37 28.8	
	comp=Z,22nm,18.9s,baz=113,slow=39 0.7nm,0.4s						
ILAR	**Eielson Array**	**84.76**	**25**	LR	LR	09 55 27.3	
	comp=Z,18nm,18.1s,baz=158,slow=40						

IDC 11 08:59:59.8±3.0, 54.°38N×86.°09E, h0km, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=26.3km s-min=18.6km az=54.0

ASRS 11 08:59:59.0±1.1, 54.°30N×86.°88E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**255**	I	I	09 08 00.0	
	baz=75,slow=320,SNR=7.2						
ZALV	**Zalesovo Beam**	**1.26**	**255**	Pg	Pn	09 00 24.1	+0.2
	2.1nm,0.3s,baz=70,slow=16,SNR=14						
ZALV				Lg	Lg	09 00 44.0	
	2.5nm,0.3s,baz=72,slow=28,SNR=7.6						
KURBB	**Kurchatov Arra**	**6.29**	**238**	Pn	Pn	09 01 36.6	+3.6
	0.1nm,0.3s,baz=55,slow=15,SNR=11						
KURBB				Lg	Lg	09 03 25.9	
	baz=51,slow=30,SNR=1.1 0.5nm,0.3s						
MKAR	**Makanchi Array**	**8.06**	**203**	Pn	Pn	09 02 01.1	+3.9
	0.2nm,0.3s,baz=24,slow=14,SNR=5.3						
MKAR				Lg	Lg	09 04 22.0	
	0.1nm,0.3s,baz=25,slow=41,SNR=2.7 0.1nm,0.3s						

IDC 11 09:00:18.8±1.5, 3.°83N×128.°08E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=105.8km s-min=19.5km az=73.0

ISC 11 09:00:27.2±1.7, 3.°8N±0.°2×128.°2E±0.°7, h71km, n10, σ0 36/6, mb3.7/6, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.17**	**321**	Lg	Lg	09 02 29.9	
	43nm,0.3s,baz=261,slow=22,SNR=3.5						
FITZ	**Fitzroy Crossi**	**21.92**	**187**	P	**P**	**09 05 14.7**	**-0.1**
	1.4nm,0.6s,baz=15,slow=12,SNR=2.1 1.4nm,0.6s						
WRA	**Warramunga Arr**	**24.36**	**166**	P	**P**	**09 05 39.0**	**+0.2**
	2.1nm,0.8s,baz=344,slow=10.0,SNR=6.5 2.1nm,0.8s						
ASAR	**Alice Springs**	**27.87**	**169**	P	**P**	**09 06 10.4**	**0.0**
	0.5nm,0.7s,baz=354,slow=8.2,SNR=4.9 0.5nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**40.34**	**66**	T	T	09 51 04.5	
	baz=253,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.36**	**66**	T	T	09 51 06.8	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**40.36**	**66**	T	T	09 51 05.8	
	baz=253,slow=74						
SONM	**Songino Array**	**47.71**	**340**	P	**P**	**09 08 56.7**	**-0.3**
	0.7nm,0.5s,baz=162,slow=9.1,SNR=4.2 0.7nm,0.5s						
MKAR	**Makanchi Array**	**58.34**	**325**	P	**P**	**09 10 15.6**	**+0.5**
	0.9nm,0.6s,baz=120,slow=8.6,SNR=4.0 0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**62.48**	**327**	P	**P**	**09 10 43.1**	**-0.1**
	1.4nm,0.8s,baz=124,slow=6.1,SNR=4.1 1.4nm,0.8s						

IDC 11 09:02:15.3±0.8, 20.°67S×113.°63W, h0km, mb3.6/6, mbtmp3.6/6, MS3.6/22, Error ellipse: s-maj=39.4km s-min=22.9km az=83.0

ISC 11 09:02:17.8±0.9, 20.°7S±0.°2×113.°4W±0.°3, h10km, n35, σ1 53/10, mb4.0/5, MS3.7/22, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**33.06**	**120**	T	T	09 44 22.6	
	baz=287,slow=76,SNR=13						
H03N3	**Juan Fernandez**	**33.07**	**120**	T	T	09 44 35.8	
	baz=287,slow=76,SNR=18						
H03N1	**Juan Fernandez**	**33.08**	**120**	T	T	09 44 16.4	
	baz=287,slow=76,SNR=17						
ATAH	**Atahualpa**	**36.43**	**73**	LR	LR	09 21 15.3	
	comp=Z,56nm,19.9s,baz=242,slow=31						
PLCA	**Paso Flores**	**41.42**	**129**	LR	LR	09 23 06.8	
	comp=Z,113nm,18.2s,baz=274,slow=30						
JTS	**Las Juntas de**	**41.57**	**45**	LR	LR	09 22 34.6	
	comp=Z,59nm,21.5s,baz=208,slow=29						
CMIG	**Matias Romero**	**41.68**	**27**	LR	LR	09 21 51.0	
	comp=Z,26nm,20.6s,baz=198,slow=28						
LPAZ	**La Paz**	**43.04**	**92**	P	**P**	**09 10 18.9**	**+0.1**
	0.3nm,0.4s,baz=219,slow=13,SNR=9.0						
LPAZ				LR	LR	09 24 37.5	
	comp=Z,59nm,19.0s,baz=242,slow=31 0.3nm,0.4s						
TXAR	**Lajitas Array**	**50.58**	**11**	P	**P**	**09 11 18.2**	**+1.3**
	baz=209,slow=5.9,SNR=1.5						
CPUP	**Villa Florida**	**51.39**	**108**	LR	LR	09 29 08.6	
	comp=Z,18nm,19.4s,baz=110,slow=31						
PFO	**Pinyon Flats O**	**54.05**	**357**	LR	LR	09 29 24.3	
	comp=Z,76nm,19.6s,baz=226,slow=30						
PMSA	**Palmer Station**	**54.66**	**157**	LR	LR	09 29 23.3	
	comp=Z,96nm,19.1s,baz=272,slow=30						
PCRV	**Puerto La Cruz**	**56.89**	**62**	LR	LR	09 33 00.6	
	comp=Z,59nm,21.8s,slow=32						
NVAR	**Mina Array Bea**	**58.96**	**355**	P	**P**	**09 12 17.5**	**-0.1**
	1.0nm,0.8s,baz=187,slow=10,SNR=6.7						
NVAR				LR	LR	09 31 43.7	
	comp=Z,88nm,21.0s,baz=220,slow=30 1.0nm,0.8s						
SJG	**San Juan**	**60.24**	**54**	LR	LR	09 33 27.1	
	comp=Z,28nm,19.9s,baz=214,slow=31						
ELK	**Elko**	**61.12**	**358**	LR	LR	09 34 00.3	
	comp=Z,64nm,18.4s,baz=202,slow=31						
BDFB	**Brasilia**	**61.97**	**97**	LR	LR	09 36 00.1	
	comp=Z,51nm,19.9s,baz=305,slow=33						
TKL	**Tuckaleechee C**	**62.65**	**27**	LR	LR	09 37 01.7	
	comp=Z,25nm,19.4s,baz=184,slow=33						
YBH	**Yreka Blue Hor**	**62.68**	**352**	LR	LR	09 33 08.3	
	comp=Z,9.5nm,21.9s,baz=186,slow=30						
PDAR	**Pinedale Array**	**63.21**	**3**	P	**P**	**09 12 45.1**	**-1.3**
	0.2nm,0.6s,baz=145,slow=5.4,SNR=4.1 0.2nm,0.6s						
MDP	**Montagnes des**	**64.86**	**74**	LR	LR	09 37 15.3	
	comp=Z,49nm,19.7s,baz=232,slow=32						
NEW	**Newport**	**68.69**	**357**	LR	LR	09 38 18.1	
	comp=Z,66nm,18.7s,baz=198,slow=32						
QSPA	**South Pole Qui**	**69.48**	**180**	P	**P**	**09 13 26.5**	**+0.2**
	4.1nm,1.0s,baz=141,slow=1.7,SNR=7.7						
QSPA				LR	LR	09 38 15.6	
	comp=Z,35nm,21.5s,baz=44,slow=31 4.1nm,1.0s						
SNAA	**Sanae**	**76.77**	**162**	P	**P**	**09 14 09.0**	**-0.2**
	1.6nm,1.0s,baz=215,slow=3.3,SNR=4.4 1.6nm,1.0s						
YKA	**Yellowknife Ar**	**82.88**	**359**	LR	LR	09 47 14.4	
	comp=Z,98nm,18.1s,baz=276,slow=33						
KDAK	**Kodiak Island**	**84.69**	**340**	LR	LR	09 42 47.0	
	comp=Z,78nm,21.7s,baz=174,slow=29						
SCHQ	**Schefferville**	**85.04**	**25**	LR	LR	09 53 41.8	
	comp=Z,49nm,18.2s,baz=124,slow=36						
H11S2	**WAKE ISLAND Hy**	**87.41**	**291**	T	T	10 51 14.2	
	baz=115,slow=75,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**87.42**	**291**	T	T	10 51 07.3	
	baz=115,slow=75,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**87.43**	**291**	T	T	10 51 22.9	
	baz=115,slow=75,SNR=4.9						
FRB	**Frobisher Bay**	**91.08**	**18**	LR	LR	09 54 37.3	
	comp=Z,44nm,18.3s,baz=276,slow=34						
KURBB	**Kurchatov Arra**	**148.66**	**345**	PKPbc	**PKPdf**	**09 22 03.2**	**+1.8**
	0.6nm,0.2s,baz=35,slow=2.8,SNR=4.4						
CMAR	**Chiang Mai Arr**	**149.48**	**272**	PKPbc	**PKPdf**	**09 22 05.0**	**+1.3**
	0.7nm,0.3s,baz=72,slow=1.6,SNR=5.6						
KBZ	**Khabaz**	**149.68**	**35**	PKPbc	**PKPbc**	**09 22 06.7**	**-1.1**
	3.1nm,0.9s,baz=82,slow=1.5,SNR=4.1						
MKAR	**Makanchi Array**	**150.97**	**338**	PKPbc	**PKPbc**	**09 22 08.4**	**-2.6**
	1.3nm,0.7s,baz=33,slow=2.5,SNR=5.3						

IDC 11 09:06:12.7±1.8, 3.°79N×126.°89E, h0km, mb3.6/5, mbtmp3.7/5, Error ellipse: s-maj=124.1km s-min=20.6km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.78**	**183**	P	P	09 11 06.4	+0.1
	0.7nm,0.4s,baz=21,slow=10,SNR=1.4 0.7nm,0.4s						
WRA	**Warramunga Arr**	**24.69**	**163**	P	P	09 11 34.7	-1.0
	1.4nm,0.8s,baz=342,slow=9.0,SNR=10 1.4nm,0.8s						
ASAR	**Alice Springs**	**28.13**	**166**	P	P	09 12 07.6	+0.9
	0.2nm,0.4s,baz=340,slow=9.3,SNR=4.0 0.2nm,0.4s						
MKAR	**Makanchi Array**	**57.60**	**325**	P	P	09 16 04.4	-0.2
	0.5nm,0.4s,baz=122,slow=8.0,SNR=6.7 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**61.78**	**327**	P	P	09 16 33.5	+0.3
	0.6nm,0.5s,baz=132,slow=6.9,SNR=5.5 0.6nm,0.5s						

CATAC 11 09:15:52.3±0.5, 13.°N±4.°×8.°8W±.°, h40km±6km, M2.6/13, MLv2.6/13, Error ellipse: s-maj=9.7km s-min=3.6km az=32.1, confirmed, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.58**	**342**	P	Pn	09 16 05.7	+1.5
ALJI	**Alcalda de J**	**0.58**	**342**	S	Sn	09 16 14.6	+2.1
PACA	**Pacayal**	**0.69**	**5**	S	Sn	09 16 17.2	+1.8
PACA	**Pacayal**	**0.69**	**5**	P	Pn	09 16 06.2	+0.4
CNRM	**Centro Naciona**	**0.73**	**17**	P	Pn	09 16 07.0	+0.8
CNRM	**Centro Naciona**	**0.73**	**17**	S	Sn	09 16 18.1	+2.0
CNCH	**Conchagua**	**0.73**	**47**	S	Sn	09 16 18.5	+2.1
CNCH	**Conchagua**	**0.73**	**47**	P	Pn	09 16 06.6	+0.3
TECO	**Alcaldia de Te**	**0.85**	**333**	S	Sn	09 16 19.5	+0.3
TECO	**Alcaldia de Te**	**0.85**	**333**	P	Pn	09 16 08.9	+1.0
PQSS	**Presa 15 de Se**	**0.86**	**349**	P	Pn	09 16 08.2	+0.1
PQSS	**Presa 15 de Se**	**0.86**	**349**	S	Sn	09 16 20.7	+1.3
POTN	**Potosi Cosigui**	**0.89**	**75**	P	Pn	09 16 08.8	+0.5
POTN				S	Sn	09 16 21.3	+1.3
COEG	**Centro de Oper**	**0.97**	**330**	S	Sn	09 16 22.4	+0.2
COEG	**Centro de Oper**	**0.97**	**330**	P	Pn	09 16 09.8	+0.3
SCLA	**Alcaldia de Sa**	**0.98**	**340**	P	Pn	09 16 09.6	-0.1
SCLA	**Alcaldia de Sa**	**0.98**	**340**	S	Sn	09 16 23.6	+1.2
PKGN	**Cerro Pekin**	**1.38**	**94**	P	Pn	09 16 15.2	+0.1
PKGN				S	Sn	09 16 32.9	+0.8
CHOHN	**Orocuina**	**1.39**	**59**	S	Sn	09 16 32.2	-0.3
CHOHN	**Orocuina**	**1.39**	**59**	P	Pn	09 16 14.7	-0.6
QUEN	**Al S del Volca**	**1.51**	**97**	P	Pn	09 16 16.0	-0.9
TEL3	**Telica 3**	**1.52**	**97**	P	Pn	09 16 16.9	-0.1
HERN	**Volcan Telica**	**1.52**	**96**	P	Pn	09 16 17.1	-0.1
HERN	**Volcan Telica**	**1.52**	**96**	S	Sn	09 16 36.6	+0.7
POLN	**Al Sur del Vol**	**1.54**	**95**	P	Pn	09 16 17.4	0.0
POLN				S	Sn	09 16 35.9	-0.2
ILCN	**San Idelfonso**	**1.66**	**97**	P	Pn	09 16 18.8	-0.1
ILCN				S	Sn	09 16 39.8	+0.8
CNGA	**Al SSO del Vol**	**1.67**	**99**	P	Pn	09 16 19.2	+0.1
CNGA				S	Sn	09 16 40.4	+1.1

STR 11 09:19:20.6±0.7, 46.°N±5.°×±.°, h0km, MLv1.5/7, LOCSAT earthModelID auvergne_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSB	**Saint Sauveur**	**0.45**	**177**	Pg	Pg	09 19 28.5	-0.6
SSB				Sg	Sg	09 19 35.1	+0.1
COLF	**Collangettes**	**0.60**	**250**	Pg	Pg	09 19 31.9	-0.3
COLF				Sg	Sg	09 19 40.5	+0.5
PLDF	**La Plantade**	**0.66**	**292**	Pg	Pg	09 19 32.7	-0.6
PLDF				Sg	Sg	09 19 42.2	+0.3
OGSM	**Saint Maurice**	**0.84**	**98**	Pg	Pg	09 19 36.3	-0.4

STR 11 09:25:53.6±0.5, 45.°N±4.°×±.°, h0km, MLv1.6/9, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORIF	**Oris-en-Rattie**	**0.36**	**153**	Pg	Pg	09 26 00.6	+0.1
ORIF				Sg	Sg	09 26 05.4	+0.4
OGSM	**Saint Maurice**	**0.38**	**5**	Pg	Pg	09 26 01.7	+0.9
SSB	**Saint Sauveur**	**0.79**	**274**	Pg	Pg	09 26 08.8	+0.1
SSB				Sg	Sg	09 26 20.1	+1.3
COLF	**Collangettes**	**1.41**	**282**	Pg	Pn	09 26 20.4	-0.2
COLF				Sg	Sg	09 26 38.8	-0.1
PLDF	**La Plantade**	**1.60**	**298**	Pg	Pb	09 26 23.8	-0.4
PLDF				Sn	Sg	09 26 45.4	+0.3
LBL	**Lubilhac**	**1.70**	**271**	Pn	Pn	09 26 22.8	-1.8
LBL				Pg	Pg	09 26 26.1	0.0
LBL				Sn	Sg	09 26 48.3	+0.1

HEL 11 09:41:54.7±0.3, 67.°63N×20.°82E, h0km, ML1.7, Suspected explosion Hypocentre not reviewed by the ISC

IDC 11 09:41:56.2±2.2, 67.°60N×21.°07E, h0km, mbtmp2.7/2, ML1.9/2, Error ellipse: s-maj=31.7km s-min=10.3km az=96.0, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.57**	**38**	PG		09 42 05.7	
LANU				SG		09 42 14.4	
PAJU	**Pajala**	**0.98**	**125**	PG		09 42 13.9	
	baz=309						
PAJU				SG		09 42 28.0	
ERTU	**Ertsjaerv**	**1.14**	**157**	PG		09 42 16.9	
ERTU				SG		09 42 33.5	
KLF	**Kolari**	**1.18**	**107**	PG		09 42 17.4	
KLF				MSG		09 42 33.3	
	comp=Z,3.9nm,0.2s						
KLF				SG		09 42 34.8	
HEF	**Hetta**	**1.27**	**49**	*e*P	Pg	09 42 18.4	-2.0
HEF	**Hetta**	**1.27**	**49**	PG		09 42 16.4	
HEF				MSG		09 42 34.6	
	comp=Z,4.4nm,0.2s						
HEF				SN		09 42 37.1	
KIF	**Kilpisjarvi**	**1.41**	**356**	*e*P	Pn	09 42 21.8	-1.3
KIF	**Kilpisjarvi**	**1.41**	**356**	PN		09 42 21.3	
KIF				MSG		09 42 37.5	
	comp=Z,14nm,0.2s						
KIF				SN		09 42 41.3	
KTK1	**Kautokeino**	**1.63**	**29**	PG		09 42 24.9	
KTK1				SN		09 42 48.6	
I37NO	**I37NO**	**1.74**	**329**	I	I	09 52 47.7	
	comp=Z,0.1nm,0.4s,baz=149,slow=318,SNR=3.6						
KALU	**Kalix**	**1.97**	**152**	PG		09 42 31.4	
	baz=330						
KALU				SG		09 42 58.3	
TOF	**Tornio**	**2.00**	**138**	PG		09 42 31.8	
TOF				MSG		09 42 56.6	
	comp=Z,5.4nm,0.2s						
TOF				SG		09 42 59.2	
RNF	**Rovaniemi**	**2.18**	**115**	PG		09 42 34.5	
RNF				SG		09 43 03.9	
TRO	**Tromso**	**2.19**	**340**	SG		09 43 03.0	
ARA0	**ARCESS Array S**	**2.53**	**38**	PB		09 42 39.1	
	baz=221						
ARA0				SB		09 43 11.3	
ARCES	**ARCESS Array B**	**2.53**	**38**	Pn

STR 11 09:44:15.7±0.3, 45°N±2°×±°, h5km, MLv1.7/14, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORIF	**Oris-en-Rattie**	**0.14**	**144**	Pg	Pg	09 44 18.8	+0.1
ORIF				Sg	Sg	09 44 20.9	+0.3
RRL	**Rocca Remolon**	**0.74**	**98**	Pg	Pg	09 44 30.4	+0.5
RRL				Sg	Sg	09 44 40.2	+0.6
OGAG	**Argentiere**	**0.80**	**136**	Pg	Pg	09 44 27.1	-4.0
OGAG				Sg	Sg	09 44 35.6	-6.0
OGMY	**Moye**	**0.85**	**6**	Pg	Pg	09 44 31.9	-0.2
OGMY				Sn	Sn	09 44 47.1	-0.2
SSB	**Saint Sauveur**	**0.90**	**286**	Pg	Pg	09 44 33.2	+0.4
SSB				Sg	Sg	09 44 43.8	-0.7
JAUF	**Jausiers**	**0.93**	**130**	Pg	Pg	09 44 33.4	-0.1
JAUF				Sg	Sg	09 44 45.9	+0.3
OG35	**Corcelles**	**1.02**	**353**	Pg	Pg	09 44 35.0	-0.2
BHB	**Bricherasio**	**1.09**	**100**	Sg	Sg	09 44 50.8	+0.2
PZZ	**Stroppo**	**1.10**	**118**	Sg	Sg	09 44 51.4	+0.3

GCG ***11*** *09:48:44.9±2.0, 15°.37N×91°.79W, h174km±14km, MD3.9, ML3.4, MW3.1*
CATAC ***11*** *09:48:46.7±0.6, 15°N±5°×9°2W±°, h168km±4km, M3.0/9, MLv3.0/9, Error ellipse: s-maj=13.1km s-min=4.0km az=39.8, confirmed*

ISC 11 09:48:47.2±2.4, 15°.36N±0°.06×91°.82W±0°.08, h164km±16km, n15, σ1§22/20, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUEH	**Huehuetenango**	**0.31**	**98**	*i* P	**Pn**	**09 49 09.3**	**-0.4**
HUEH				*i* S	**Sn**	**09 49 27.5**	**+0.5**
HUEH				IAML		09 49 30.0	
	comp=N,1μm,0.5s						
SMCA	**Catarina**	**0.56**	**206**	*i* P	**Pn**	**09 49 09.1**	**-1.4**
THIG		**0.62**	**224**	*e*P	**Pn**	**09 49 09.9**	**-0.9**
THIG				*i* S	**Sn**	**09 49 30.5**	**+1.7**
THIG				IAML		09 49 31.5	
	comp=E,533nm,0.4s						
RTAL	**Retalhuleu**	**0.84**	**171**	P	**Pn**	**09 49 11.5**	**-0.7**
RTAL	**Retalhuleu**	**0.84**	**171**	S	**Sn**	**09 49 31.1**	**-0.3**
CCIG	**Comitan**	**0.96**	**342**	*i* P	**Pn**	**09 49 14.0**	**+0.7**
	comp=Z,10nm,1.7s						
CCIG				*i* S	**Sn**	**09 49 34.1**	**+0.6**
CCIG				IAML		09 49 36.5	
	comp=E,324nm,0.6s						
CCIG	**Comitan**	**0.96**	**342**	P	**Pn**	**09 49 13.9**	**+0.7**
CCIG	**Comitan**	**0.96**	**342**	S	**Sn**	**09 49 35.7**	**+2.2**
STG0	**El Palmar, Qui**	**1.04**	**153**	*e*P	Pn	09 49 09.7	-4.2
STG0				*i* S	**Sn**	**09 49 32.5**	**-1.8**
TGIG		**1.88**	**319**	*i* P	**Pn**	**09 49 21.9**	**-0.1**
	comp=Z,8.5nm,2.5s						
TGIG				*i* S	**Sn**	**09 49 47.8**	**-1.1**
TGIG				IAML		09 49 52.7	
	comp=E,58nm,0.6s						
FAME	**Alcaldia de Sa**	**2.31**	**130**	S	**Sn**	**09 49 58.2**	**+0.7**
FAME	**Alcaldia de Sa**	**2.31**	**130**	P	**Pn**	**09 49 27.3**	**+0.5**
PETF	**Flores**	**2.44**	**50**	*i* P	**Pn**	**09 49 27.1**	**-1.2**
PETF				*i* S	**Sn**	**09 49 58.8**	**-1.3**
PETF				IAML		09 49 59.9	
	comp=N,107nm,0.5s						
NUBE	**Las Nubes**	**2.45**	**126**	S	**Sn**	**09 50 02.1**	**+1.4**
NUBE	**Las Nubes**	**2.45**	**126**	P	**Pn**	**09 49 29.5**	**+0.9**

IDC ***11*** *10:06:33.0±0.4, 0°.44N×125°.75E, h0km, mb4.6/24, mbtmp4.6/27, ML4.1/3, MS3.9/20, Error ellipse: s-maj=20.8km s-min=11.1km az=80.0*
BJI ***11*** *10:06:34.1, 0°.03N×125°.99E, h42km, mB5.0/14, mb4.9/52, Ms4.3/24, Ms7 4.2/26*
MOS ***11*** *10:06:37.2±0.9, 0°.47N×125°.70E, h42km, mb5.1/42, Error ellipse: s-maj=9.9km s-min=5.3km az=114.9*
NEIC ***11*** *10:06:38.3±2.0, 0°.48N±0°.07×125°.93E±0°.05, h35km±2km, mb4.9/152, Error ellipse: s-maj=11.4km s-min=8.7km az=171.0*
DJA ***11*** *10:06:39.9±0.2, 0°N±2°×12°6E±°, h47km±3km, M4.7/16, mB5.1/8, mb4.8/15, MLv4.8/16, Mw(mB)4.5/8, MwMwp4.5/3, Mwp4.9/3*

ISC 11 10:06:39.6±0.4, 0°.41N±0°.04×125°.87E±0°.05, h48km±3km, h49km:pP-P, n552, σ1§21/511, mb4.8/156, MS4.1/33, 13C-17D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.54**	**76**		**Pn**	**10 07 03.2**	**-1.4**
TNTI	**Ternate**	**1.54**	**76**	P	**Pn**	**10 07 03.2**	**-1.4**
TNTI	**Ternate**	**1.54**	**76**	P	**Pn**	**10 07 03.3**	**-1.4**
KMSI	**Cibinong**	**1.90**	**275**	P	**Pn**	**10 07 08.2**	**-1.3**
SANI	**Sanana**	**2.44**	**177**	P	**Pn**	**10 07 15.5**	**-1.5**
SGSI	**Sangihe**	**3.27**	**354**	P	**Pn**	**10 07 28.2**	**-0.2**
LUWI	**Luwuk**	**3.42**	**245**		**Pn**	**10 07 32.1**	**+1.8**
LUWI	**Luwuk**	**3.42**	**245**	P	**Pn**	**10 07 32.3**	**+2.0**
LUWI	**Luwuk**	**3.42**	**245**	P	**Pn**	**10 07 31.2**	**+0.9**
NLAI	**Namlea**	**3.82**	**161**	P	Pn	10 07 45.5	+10
MRSI	**Marisa**	**3.93**	**271**	P	**Pn**	**10 07 37.1**	**-0.3**
APSI	**Ampana**	**4.42**	**253**	P	**Pn**	**10 07 46.5**	**+2.4**
AAI	**Ambon**	**4.68**	**150**	P	Pn	10 07 53.2	+5.4
MSAI	**Masohi**	**4.82**	**141**	P	**Pn**	**10 07 52.1**	**+2.4**
TOLI2	**Tolitoli**	**5.13**	**278**		**Pn**	**10 07 53.8**	**-0.1**
TOLI2	**Tolitoli**	**5.13**	**278**	P	**Pn**	**10 07 53.8**	**-0.1**
SWI	**Sorong**	**5.54**	**103**	P	**Pn**	**10 08 00.9**	**+1.4**
	0.3nm2μm78nm,0.9s						
MPSI	**Mapaga**	**5.97**	**269**	P	**Pn**	**10 08 08.1**	**+2.7**
PCI	**Palu**	**6.17**	**258**	P	**Pn**	**10 08 09.3**	**+1.1**
BNDI	**Bandanaira**	**6.34**	**141**	P	**Pn**	**10 08 12.3**	**+1.8**
BBSI	**Bau Bau**	**6.72**	**209**	P	Pn	10 08 19.9	+4.2
TTSI	**Tana Toraja**	**6.95**	**240**	P	**Pn**	**10 08 20.2**	**+1.3**
FAKI	**Fak Fak**	**7.18**	**117**	Pn	**Pn**	**10 08 23.2**	**+1.1**
FAKI	**Fak Fak**	**7.18**	**117**	P	**Pn**	**10 08 23.5**	**+1.4**
	0.4nm108nm,1.1s						
BNSI	**Bone**	**7.48**	**230**	P	**Pn**	**10 08 27.1**	**+1.0**
KAPI	**Kappang**	**8.14**	**229**		**Pn**	**10 08 36.0**	**+0.8**
KAPI	**Kappang**	**8.14**	**229**	Pn	**Pn**	**10 08 33.3**	**-1.9**
	3.2nm,0.3s,baz=137,slow=2.0,SNR=7.4						
KAPI				Sn	**Sn**	**10 10 06.1**	**+0.1**
	0.9nm,0.3s,baz=58,slow=23,SNR=0.7						
	20nm,0.6s						
KAPI	**Kappang**	**8.14**	**229**	P	**Pn**	**10 08 36.8**	**+1.5**
KAPI	**Kappang**	**8.14**	**229**	*e*P	**Pn**	**10 08 34.7**	**-0.6**
RKPI	**Ransiki, Papua**	**8.52**	**103**	P	Pn	10 08 59.6	+19
MYLDM	**Lahad Datu**	**8.75**	**303**		**Pn**	**10 08 45.1**	**+1.4**
EDFI	**Ende, Flores**	**10.00**	**204**	P	**Pn**	**10 09 01.2**	**+0.4**
	52nm,1.0s						
SOEI	**Soe**	**10.22**	**189**		**Pn**	**10 09 05.7**	**+1.8**
SOEI	**Soe**	**10.22**	**189**	P	**Pn**	**10 09 05.1**	**+1.3**
BAKI	**Biak**	**10.36**	**99**	P	**Pn**	**10 09 07.4**	**+1.8**
BATI	**Baumata**	**10.77**	**192**	P	Pn	10 09 19.2	+7.9
KKM	**Kota Kinabalu**	**11.14**	**300**		**Pn**	**10 09 17.7**	**+1.3**
PLAI	**Plampang**	**12.21**	**221**	P	P	10 09 53.9	+12
SMPI	**Sarmi**	**13.06**	**101**	P	**P**	**10 09 48.7**	**-2.9**
SBUM	**Sibu**	**13.79**	**279**		**Pn**	**10 09 51.4**	**-1.2**
MTN	**Manton Dam**	**14.16**	**159**		**Pn**	**10 09 56.8**	**-0.7**
GENI	**Genyem**	**14.60**	**102**	P	P	10 10 23.8	+15
JAGI	**Jajag, Banyuwa**	**14.63**	**233**	Pn	**Pn**	**10 10 03.6**	**-0.2**
JAGI	**Jajag, Banyuwa**	**14.63**	**233**	P	P	10 10 20.7	+12
JAY	**Jayapura**	**15.11**	**101**	Pn	**Pn**	**10 10 11.5**	**+1.4**
	0.7nm,0.3s,baz=281,slow=12,SNR=5.5						
JAY				LR	LR	10 15 42.8	
	comp=Z,617nm,21.9s,baz=212,slow=36						
	5.1nm,0.6s						
JAY	**Jayapura**	**15.11**	**101**	P	**P**	**10 10 20.3**	**+5.8**
KSM	**Kuching**	**15.59**	**274**		**P**	**10 10 19.4**	**-0.4**
KNRA	**Kununurra**	**16.23**	**170**		**Pn**	**10 10 22.2**	**-2.2**
NGJI	**Ngawi**	**16.31**	**241**	P	**P**	**10 10 31.1**	**+3.3**
SMRI	**Semarang**	**17.08**	**244**		**Pn**	**10 10 35.6**	**+0.5**
SMRI				IAmb	IAmb	10 10 39.1	
	comp=Z,72nm,0.6s						
SMRI	**Semarang**	**17.08**	**244**	P	**P**	**10 10 38.4**	**+2.1**
UGM	**Wanagama**	**17.39**	**241**		**P**	**10 10 40.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**18.39**	**181**		**Pn**	**10 10 51.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**18.39**	**181**	P	**P**	**10 10 50.0**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=24,slow=12,SNR=15						
	comp=Z,13nm,0.8s						
WB0	**Warramunga Arr**	**21.72**	**158**	P	**P**	**10 11 26.5**	**-0.3**
WRAB	**Tennant Creek**	**21.86**	**158**	P	**P**	**10 11 27.8**	**-0.5**
WRAB				IAmb	IAmb	10 11 37.3	
	comp=Z,73nm,1.1s						
WRAB	**Tennant Creek**	**21.86**	**158**	*ce*P	**P**	**10 11 26.7**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,24nm,0.9s						
WRA	**Warramunga Arr**	**21.86**	**158**		**P**	**10 11 26.8**	**-1.5**
WRA	**Warramunga Arr**	**21.86**	**158**	P	**P**	**10 11 26.9**	**-1.4**
	comp=Z,15nm,0.6s,baz=339,slow=11,SNR=95						
	comp=Z,15nm,0.6s						
WRA	**Warramunga Arr**	**21.86**	**158**	*i* P	**P**	**10 11 27.3**	**-1.1**
WRA				pmax	pmax		
	comp=Z,52nm,0.8s						
WR8	**Warramunga Arr**	**21.93**	**158**	P	**P**	**10 11 28.3**	**-0.9**
WR8				IAmb	IAmb	10 11 33.7	
	comp=Z,50nm,0.9s						
MDSI	**Maura Dua**	**22.21**	**257**	P	**P**	**10 11 31.4**	**-0.8**
MBWA	**Marble Bar**	**22.26**	**195**		**P**	**10 11 32.3**	**-0.2**
COEN	**Coen**	**22.30**	**130**	P	**P**	**10 11 30.8**	**-2.4**
COEN				IAmb	IAmb	10 11 46.5	
	comp=Z,39nm,0.9s						
GUMO	**Guam**	**22.93**	**54**	LR	LR	10 19 51.8	
	comp=Z,178nm,21.4s,baz=245,slow=35						
YULB	**Yu-li**	**23.28**	**349**	P	**P**	**10 11 40.2**	**-2.9**
TPUB	**Ta-pu**	**23.32**	**348**	P	**P**	**10 11 40.5**	**-3.1**
TPUB				IAmb	IAmb	10 11 47.0	
	comp=Z,44nm,0.9s						
SSLB	**Suanglung**	**23.73**	**349**	P	**P**	**10 11 46.4**	**-1.1**
QIZ	**Qiongzhong**	**24.28**	**321**	P	**P**	**10 11 50.6**	**-2.0**
QIZ				S	**S**	**10 16 12.3**	**+3.9**
QIZ				sS	**sS**	**10 16 30.2**	**+1.9**
QIZ				pmax	pmax		
	comp=Z,36nm,1.3s						
QIZ				LR	LR		
	comp=Z,280nm,13.1s						
QIZ				LR	LR		
	comp=Z,140nm,8.3s						
QIZ				LR	LR		
	comp=Z,850nm,15.1s						
UBPT	**Khong Chiam**	**24.99**	**307**	P	**P**	**10 11 58.2**	**-0.8**
IPM	**Ipoh**	**25.14**	**280**	P	**P**	**10 11 59.9**	**-0.6**
IPM				IAmb	IAmb	10 12 01.2	
	comp=Z,40nm,0.8s						
ASAR	**Alice Springs**	**25.17**	**162**	P	**P**	**10 12 01.1**	**+0.5**
ASAR	**Alice Springs**	**25.17**	**162**	P	**P**	**10 12 00.8**	**+0.2**
	comp=Z,21nm,0.6s,baz=345,slow=11,SNR=156						
ASAR				LR	LR	10 23 51.5	
	comp=Z,207nm,20.4s,baz=336,slow=41						
	comp=Z,21nm,0.6s						
KULM	**Kulim**	**25.64**	**281**	IAmb	IAmb	10 12 05.6	
	comp=Z,23nm,1.0s						
RPSI	**Rantau Prapat**	**27.03**	**275**	P	**P**	**10 12 16.0**	**-1.5**
RPSI				IAmb	IAmb	10 12 18.4	
	comp=Z,24nm,1.0s						
PSI	**Prapat**	**27.04**	**275**	LR	LR	10 24 25.2	
	comp=Z,230nm,18.5s,baz=95,slow=40						
PSI	**Prapat**	**27.04**	**275**	P	**P**	**10 12 16.0**	**-1.7**
PSI				pmax	pmax		
	comp=Z,23nm,1.0s						
CTAO	**Charters Tower**	**28.52**	**137**		**P**	**10 12 31.9**	**+1.1**
CTAO	**Charters Tower**	**28.52**	**137**	P	**P**	**10 12 31.9**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,15nm,1.2s						
MORW	**Morawa**	**30.78**	**197**	P	**P**	**10 12 50.5**	**-0.2**
MORW				IAmb	IAmb	10 12 51.4	
	comp=Z,29nm,0.9s						
FORT	**Forrest**	**31.08**	**176**	P	**P**	**10 12 54.1**	**+0.8**
GYA	**Guiyang**	**31.83**	**326**	⇓P	**P**	**10 13 02.2**	**+2.1**
GYA				pmax	pmax		
	comp=Z,14nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.95**	**306**	P	**P**	**10 12 59.9**	**-1.3**
CMAR	**Chiang Mai Arr**	**31.95**	**306**	P	**P**	**10 13 01.0**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=137,slow=7.9,SNR=29						
CMAR				PcP	**PcP**	**10 15 51.4**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=168,slow=1.8,SNR=8.2						
CMAR				LR	LR	10 28 17.5	
	comp=Z,153nm,18.3s,baz=115,slow=41						
	comp=Z,4.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.95**	**306**	*i* P	**P**	**10 13 01.0**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CHTO	**Chiang Mai**	**32.14**	**306**	P	**P**	**10 13 01.4**	**-1.4**
CHTO				IAmb	IAmb	10 13 03.1	
	comp=Z,13nm,0.8s						
CHTO	**Chiang Mai**	**32.14**	**306**	P	**P**	**10 13 01.4**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,12nm,0.9s						
NJ2	**Nanjing**	**32.17**	**349**	*e*P	**P**	**10 13 04.3**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KMI	**Kunming**	**33.22**	**319**	P	**P**	**10 13 13.0**	**+0.6**
KMI				pmax	pmax		
	comp=Z,15nm,1.2s						
KMI				LR	LR		
	comp=Z,270nm,23.4s						
KMI				LR	LR		
	comp=Z,200nm,17.2s						
KMI				LR	LR		
	comp=Z,360nm,23.1s						
ENH	**Enshi**	**33.54**	**334**	P	**P**	**10 13 13.8**	**-1.1**
ENH				IAmb	IAmb	10 13 16.0	
	comp=Z,15nm,0.8s						
PZH	**PanZhiHua**	**34.82**	**320**	P	**P**	**10 13 25.9**	**-0.3**
PZH				S	**S**	**10 18 54.7**	**+0.8**
PZH				pmax	pmax		
	comp=Z,20nm,1.2s						
PZH				pmax	pmax		
	comp=Z,90nm,4.8s						
PZH				LR	LR		
	comp=Z,220nm,19.2s						
PZH				LR	LR		
	comp=Z,200nm,21.8s						
PZH				LR	LR		
	comp=Z,340nm,22.0s						
EIDS	**Eidsvold**	**35.37**	**138**		**P**	**10 13 30.8**	**+0.1**
EIDS				IAmb	IAmb	10 13 32.3	
	comp=Z,11nm,1.0s						
LYN	**LuoYang**	**36.21**	**341**	P	**P**	**10 13 37.0**	**-0.8**
LYN				pmax	pmax		
	comp=Z,16nm,0.9s						
CD2	**Chengdu**	**36.88**	**327**	P	**P**	**10 13 42.8**	**-0.9**
CD2				pmax	pmax		
	comp=Z,30nm,0.8s						
CD2				LR	LR		
	comp=Z,380nm,14.6s						
CD2				LR	LR		
	comp=Z,400nm,14.6s						
CD2				LR	LR		
	comp=Z,410nm,20.3s						
KSRS	**Korea Array**	**36.91**	**3**	P	**P**	**10 13 44.5**	**+0.8**
	comp=Z,4.2nm,0.8s,baz=177,slow=10,SNR=11						
KSRS				PcP	**PcP**	**10 16 06.0**	**+1.5**
	comp=Z,1.6nm,0.8s,baz=171,slow=2.8,SNR=3.5						
KSRS				LR	LR	10 29 05.5	
	comp=Z,47μm,21.4s,baz=190,slow=37						
	comp=Z,4.2nm,0.8s						
MAJO	**Matsushiro**	**37.73**	**16**	*ce*P	**P**	**10 13 49.9**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MJAR	**Matsushiro Arr**	**37.73**	**16**	P	**P**	**10 13 49.3**	**-1.4**
	comp=Z,1.8nm,0.6s,baz=178,slow=9.1,SNR=7.2						
	comp=Z,1.8nm,0.6s						
HNS	**HongShan**	**38.23**	**346**	⇑P	**P**	**10 13 55.0**	**+0.1**
HNS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
JMM	**Marumori**	**39.73**	**19**	P	**P**	**10 14 08.0**	**+0.5**
JMM				IAmb	IAmb	10 14 17.0	
	comp=Z,24nm,0.8s						
LZH	**Lanzhou**	**40.97**	**332**	*e*P	**P**	**10 14 18.9**	**+0.9**
LZH				pP	pP	10 14 30.7	+0.5
LZH				sP	sP	10 14 36.1	+0.5
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
LZH				pmax	pmax		
	comp=Z,110nm,4.1s						
LZH				LR	LR		
	comp=Z,280nm,15.1s						
LZH				LR	LR		
	comp=Z,340nm,15.5s						
LZH				LR	LR		
	comp=Z,460nm,15.5s						
CAN	**Canberra**	**41.59**	**151**	P	**P**	**10 14 24.5**	**+1.6**
MSHR	**Mys Shultsa**	**42.25**	**6**	⇑*e*P	**P**	**10 14 27.7**	**-0.4**
MSHR				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC	**Hu-ho-hao-te**	**42.30**	**344**	*e*P	**P**	**10 14 30.4**	**+1.7**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,45nm,3.9s						
HHC				LR	LR		
	comp=Z,260nm,16.0s						
HHC				LR	LR		
	comp=Z,150nm,15.3s						
HHC				LR	LR		
	comp=Z,400nm,16.8s						
BTO	**Baotou**	**42.53**	**342**	*e*P	**P**	**10 14 32.2**	**+1.7**
BTO				pP	**pP**	**10 14 43.3**	**+0.5**
BTO				sP	**sP**	**10 14 50.2**	**+2.0**
BTO				PP	**PP**	**10 16 07.5**	**-2.4**
BTO				S	**S**	**10 20 54.0**	**+4.4**
BTO				pmax	pmax		
	comp=Z,21nm,0.6s						
BTO				pmax	pmax		
	comp=Z,130nm,4.7s						
BTO				LR	LR		
	comp=Z,310nm,12.6s						
BTO				LR	LR		
	comp=Z,230nm,8.8s						
BTO				LR	LR		
	comp=Z,550nm,22.9s						
VLA	**Vladivostok**	**42.87**	**6**	⇑*e*P	**P**	**10 14 32.7**	**-0.4**
VLA				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2	**Changchun**	**43.21**	**360**	P	**P**	**10 14 35.4**	**-0.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**43.91**	**63**	T	T	11 02 12.2	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**43.93**	**63**	T	T	11 02 05.2	
	baz=252						
H11S1	**WAKE ISLAND Hy**	**43.93**	**63**	T	T	11 02 11.0	
	baz=252						
USA0B	**Ussuriysk Arra**	**43.94**	**6**		**P**	**10 14 42.4**	**+0.6**
USA0B				IAmb	IAmb	10 14 43.3	
	comp=Z,16nm,0.8s						
USA0B	**Ussuriysk Arra**	**43.94**	**6**	P	**P**	**10 14 42.4**	**+0.6**
USA0B				pmax	pmax		
	comp=Z,15nm,0.9s						
USRK	**Ussuriysk Ar.**	**43.94**	**6**		**P**	**10 14 41.9**	**+0.1**
USRK	**Ussuriysk Ar.**	**43.94**	**6**	P	**P**	**10 14 42.5**	**+0.8**
	comp=Z,11nm,0.7s,baz=188,slow=5.9,SNR=17						
	comp=Z,11nm,0.7s						
USRK	**Ussuriysk Ar.**	**43.94**	**6**	P	**P**	**10 14 41.9**	**+0.1**
MDJ	**Mudanjiang**	**44.14**	**4**	P	**P**	**10 14 44.4**	**+1.0**
MDJ				PcS	**PcS**	**10 20 19.7**	**-1.0**
MDJ				S	**S**	**10 21 17.2**	**+4.3**
MDJ				pmax	pmax		
	comp=Z,25nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,230nm,3.5s						
MDJ				LR	LR		
	comp=Z,150nm,14.7s						
MDJ				LR	LR		
	comp=Z,160nm,13.0s						
MDJ				LR	LR		
	comp=Z,280nm,15.7s						
XLT	**XiLinHaoTe**	**44.18**	**350**	*e*P	**P**	**10 14 43.3**	**-0.5**
XLT				PcP	**PcP**	**10 16 31.8**	**+3.8**
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BNX	**BinXian**	**45.16**	**2**	⇑P	**P**	**10 14 51.2**	**-0.3**
BNX				pmax	pmax		
	comp=Z,9.0nm,0.9s						
DZM	**Mont Dzumac**	**45.42**	**122**	*e*S	**S**	**10 21 26.7**	**-5.6**
	comp=Z,126nm,38.4s						
DZM				*e*LR	LR	10 27 44.3	
	comp=Z,371nm,26.6s						
GTA	**Gaotai**	**45.54**	**332**	P	**P**	**10 14 54.8**	**0.0**
GTA				pP	pP	10 15 03.2	-3.9
GTA				PcP	**PcP**	**10 16 35.2**	**+2.3**
GTA				pmax	pmax		
	comp=Z,12nm,1.2s						
GTA				LR	LR		
	comp=Z,240nm,17.5s						
GTA				LR	LR		
	comp=Z,260nm,20.0s						
GTA				LR	LR		
	comp=Z,460nm,20.4s						
PALK	**Pallekele**	**45.55**	**280**	LR	LR	10 35 24.6	
	comp=Z,252nm,19.6s,baz=106,slow=38						
EVN	**Everest**	**46.35**	**310**	P	**P**	**10 15 00.5**	**-1.5**
YSS	**Yuzhno-Sakhali**	**48.65**	**15**	*de*P	**P**	**10 15 18.6**	**-0.1**
YSS				pmax	pmax		
	comp=Z,5.0nm,0.3s						
HIA	**Hailar**	**48.96**	**355**	IAmb	IAmb	10 15 22.5	
	comp=Z,21nm,1.0s						
HEH	**HeiHe**	**49.68**	**1**	*e*P	**P**	**10 15 26.5**	**0.0**
HEH				pmax	pmax		
	comp=Z,17nm,0.9s						
ULN	**Ulaanbaatar**	**50.02**	**344**		**P**	**10 15 28.2**	**-1.1**
ULN	**Ulaanbaatar**	**50.02**	**344**	*ce*P	**P**	**10 15 29.1**	**-0.2**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SONM	**Songino Array**	**50.18**	**343**		**P**	**10 15 29.8**	**-0.7**
SONM	**Songino Array**	**50.18**	**343**	P	**P**	**10 15 30.0**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=160,slow=8.5,SNR=20						
SONM				PcP	**PcP**	**10 16 50.0**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=160,slow=4.3,SNR=2.4						
SONM				LR	LR	10 40 28.6	
	comp=Z,128nm,18.1s,baz=160,slow=41						
	comp=Z,3.3nm,0.7s						
SONM	**Songino Array**	**50.18**	**343**	P	**P**	**10 15 29.8**	**-0.7**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GRNR	**Gornyy**	**50.97**	**9**	⇓*i*P	**P**	**10 15 37.3**	**+1.0**
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CIT	**Chita**	**52.47**	**350**	*e*P	**P**	**10 15 48.0**	**+0.5**
CIT				*e*		10 16 03.2	
CIT				pmax	pmax		
	comp=Z,72nm,1.3s						
ZEA	**Zeya**	**53.16**	**1**	*e*P	**P**	**10 15 53.1**	**+0.6**
ZEA				*e*		10 16 08.2	
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ZAK	**Zakamensk**	**53.38**	**342**	*e*P	**P**	**10 15 54.9**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
WMQ	**Urumqi**	**54.98**	**327**	*e*P	**P**	**10 16 07.7**	**+1.6**
WMQ				LR	LR		
	comp=Z,210nm,24.9s						
BOD	**Bodaibo**	**58.02**	**353**	*e*P	**P**	**10 16 27.4**	**+0.1**
BOD				pmax	pmax		
	comp=Z,33nm,1.3s						
PETK	**Petropavlovsk-**	**58.81**	**22**	P	**P**	**10 16 34.0**	**+1.1**
	comp=Z,4.1nm,0.7s,baz=175,slow=3.9,SNR=10						
	comp=Z,4.1nm,0.7s						
ZSN	**Zaisan**	**58.84**	**329**	*e*P	**P**	**10 16

KDJ IAmb IAmb 10 16 45.9
comp=Z,14nm,0.8s
KDJ Kajisay 60.28 320 P **P** **10 16 42.6 -0.9**
KDJ pmax pmax
comp=Z,14nm,0.8s
NRN Naryn 60.71 319 IAmb IAmb 10 16 48.4
comp=Z,9.7nm,0.9s
RTZ Ruatahuna 60.83 136 **P** **10 16 46.6 -0.6**
TNSS Tian-Shan 60.89 321 *e*P **P** **10 16 46.3 -1.6**
TNSS Tian-Shan 60.89 321 *e*P **P** **10 16 46.3 -1.6**
AAA Alma-Ata 60.99 321 *e*P **P** **10 16 47.0 -1.2**
AAA Alma-Ata 60.99 321 *e*P **P** **10 16 47.1 -1.2**
TDK Taldyqorghan 61.01 323 *e*P **P** **10 16 47.0 -1.2**
TDK Taldyqorghan 61.01 323 *e*P **P** **10 16 47.1 -1.2**
BOOM Boomskoye usch 61.26 320 IAmb IAmb 10 16 52.5
comp=Z,20nm,1.2s
YAK Yakutsk 61.54 2 P **P** **10 16 51.7 +0.3**
YAK Yakutsk 61.54 2 LR LR 10 44 46.7
comp=Z,68nm,21.1s,baz=190,slow=37
YAK Yakutsk 61.54 2 *e*P **P** **10 16 51.5 +0.1**
YAK *e**PP **pP** **10 17 02.9 -1.3**
YAK *e* 10 17 33.5
YAK *e*S **S** **10 25 10.5 +1.2**
YAK *e**SS **sS** **10 25 30.2 -1.0**
YAK *e* 10 26 40.9
YAK *e*SS **SS** **10 29 12.7 +1.5**
YAK pmax pmax
comp=Z,50nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=N,16nm,1.2s
YAK smax smax
comp=E,44nm,2.5s
KUU Kurty 61.70 321 *e*P **P** **10 16 51.3 -1.6**
KUU Kurty 61.70 321 *e*P **P** **10 16 51.4 -1.6**
MA2 Magadan 62.12 14 *de*P **P** **10 16 56.2 +0.9**
MA2 pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 62.27 319 P **P** **10 16 56.7 -0.2**
AAK IAmb IAmb 10 16 58.9
comp=Z,14nm,1.2s
AAK Ala-Archa 62.27 319 LR LR 10 45 02.1
comp=Z,186nm,21.7s,baz=114,slow=37
AAK Ala-Archa 62.27 319 *ce*P **P** **10 16 58.2 +1.3**
AAK pmax pmax
comp=Z,17nm,1.7s
SGDS Sogindy 62.56 320 *e*P **P** **10 16 57.4 -1.4**
comp=Z,11nm,1.4s
KBL Kabul 62.89 309 **P** **10 16 60.0 -1.3**
KBL Kabul 62.89 309 P **P** **10 17 00.0 -1.3**
KBL pmax pmax
comp=Z,22nm,1.0s
ZAA0 Zalesovo Array 63.16 334 P **P** **10 17 00.8 -1.6**
ZALV Zalesovo Beam 63.16 334 P **P** **10 17 00.7 -1.7**
comp=Z,2.9nm,0.4s,baz=109,slow=3.6,SNR=8.1
ZALV LR LR 10 46 19.5
comp=Z,118nm,19.4s,baz=119,slow=38
comp=Z,2.9nm,0.4s
BTLS Baital 63.69 322 *e*P **P** **10 17 04.4 -1.7**
BTLS Baital 63.69 322 *e*P **P** **10 17 04.5 -1.7**
KURBB Kurchatov Arra 64.08 329 P **P** **10 17 07.4 -1.1**
comp=Z,11nm,0.9s,baz=130,slow=5.8,SNR=22
comp=Z,11nm,0.9s
KURK Kurchatov 64.09 329 **P** **10 17 07.6 -1.0**
KURK Kurchatov 64.09 329 *de*P **P** **10 17 07.4 -1.2**
KURK pmax pmax
comp=Z,45nm,1.3s
SIMJ Simiganj 64.38 313 P **P** **10 17 09.5 -1.5**
SIMJ IAmb IAmb 10 17 12.5
comp=Z,21nm,1.2s
DZA Taraz 64.46 318 *e*P **P** **10 17 10.3 -1.0**
DZA Taraz 64.46 318 *e*P **P** **10 17 10.3 -1.0**
IUG Iuzhnay 65.02 317 *e*P **P** **10 17 13.7 -1.3**
IUG pmax pmax
comp=Z,17nm,1.2s
IUG Iuzhnay 65.02 317 *e*P **P** **10 17 13.8 -1.3**
comp=Z,17nm,1.2s
KK31 Karatay Array 65.09 318 IAmb IAmb 10 17 17.3
comp=Z,15nm,1.1s
KKAR Karatay Array 65.09 318 **P** **10 17 13.5 -1.9**
KKAR Karatay Array 65.09 318 P **P** **10 17 13.5 -1.9**
CHM Chimkent 65.38 317 *e*P **P** **10 17 16.2 -1.0**
CHM Chimkent 65.38 317 *e*P **P** **10 17 16.2 -1.0**
SEY Seymchan 65.44 13 LR LR 10 51 08.5
comp=Z,41nm,18.2s,baz=202,slow=41
SEY Seymchan 65.44 13 *de*P **P** **10 17 18.6 +1.4**
SEY pmax pmax
comp=Z,12nm,1.1s
BRLS Boroldaу 65.51 318 *e*P **P** **10 17 16.7 -1.4**
BRLS pmax pmax
comp=Z,9.0nm,1.3s
BRLS Boroldaу 65.51 318 *e*P **P** **10 17 16.7 -1.4**
comp=Z,9.2nm,1.3s
SHEM Shemya Is, Ala 65.75 30 LR LR 10 42 21.6
comp=Z,85nm,20.2s,baz=287,slow=33
BRZS Berezniki 66.91 326 *e*P **P** **10 17 25.6 -1.2**
BRZS Berezniki 66.91 326 *e*P **P** **10 17 25.7 -1.2**
DRV Dumont d'Urvil 67.68 174 P **P** **10 17 31.8 +0.5**
BVAR Borovoye Array 69.64 328 P **P** **10 17 44.3 +0.4**
comp=Z,9.8nm,0.9s
BVAR LR LR 10 48 55.2
comp=Z,106nm,21.0s,baz=118,slow=37
comp=Z,9.8nm,0.9s
BRVK Borovoye 69.71 328 **P** **10 17 43.2 -1.1**
BRVK IAmb IAmb 10 17 47.0
comp=Z,17nm,1.1s
BRVK Borovoye 69.71 328 *d i*P **P** **10 17 43.3 -1.1**
BRVK pmax pmax
comp=Z,16nm,1.0s
BRVK Borovoye 69.71 328 P **P** **10 17 44.9 +0.5**
BRVK pP **pP** **10 17 54.8 -2.6**
TIXI Tiksi 71.16 1 **P** **10 17 52.0 -0.7**
TIXI Tiksi 71.16 1 *ļļe*P **P** **10 17 52.0 -0.7**
TIXI pmax pmax
comp=Z,20nm,1.3s
BILL Bilibino 72.97 15 *ĩe*P **P** **10 18 04.1 +0.4**
BILL pmax pmax
comp=Z,2.0nm,0.9s
NRIK Noril'sk 73.44 347 IAmb IAmb 10 18 17.4
comp=Z,8.8nm,0.8s
NRIK Noril'sk 73.44 347 P **P** **10 18 06.3 -0.1**
comp=Z,7.6nm,0.7s,baz=141,slow=5.4,SNR=17
NRIK LR LR 10 52 42.9
comp=Z,125nm,21.5s,baz=147,slow=38
comp=Z,7.6nm,0.7s
NRIK Noril'sk 73.44 347 *d i*P **P** **10 18 06.2 -0.2**
NRIK pmax pmax
comp=Z,8.0nm,0.9s
AB31 Akbulak array 74.18 322 IAmb IAmb 10 18 12.1
comp=Z,12nm,0.9s
ABKAR Akbulak array 74.18 322 P **P** **10 18 10.2 -0.9**
NIKH Nikolski High 75.02 35 P **P** **10 18 16.2 +0.2**
baz=250
SPIA Saint Paul Isl 75.78 30 P **P** **10 18 20.9 +0.7**
baz=248
P08K Saint George I 75.92 31 P **P** **10 18 21.5 +0.5**
baz=249
SVE Sverdlovsk 76.34 329 *e*P **P** **10 18 23.1 -0.3**
SVE pmax pmax
comp=Z,59nm,1.1s
UNV Unalaska Valle 76.63 34 P **P** **10 18 25.9 +0.8**
baz=252
ARTI Arti 77.36 328 **P** **10 18 27.9 -1.2**
ARTI Arti 77.36 328 *d i*P **P** **10 18 28.1 -1.1**
ARTI S **S** **10 28 17.3 +1.5**
ARTI SS **SS** **10 33 11.7 -3.4**
ARTI pmax pmax
comp=Z,48nm,1.3s
GAMB Gambell 77.76 24 P **P** **10 18 32.0 +0.7**
baz=245
M11K Mekoryuk 78.89 28 P **P** **10 18 38.7 +1.2**
baz=251
S12K Black Hills 79.63 33 P **P** **10 18 42.6 +0.9**
baz=255
K13K Kusilvak Mount 80.09 27 P **P** **10 18 45.1 +1.0**
baz=252
M13K Dall Lake 80.24 28 P **P** **10 18 45.9 +1.0**
baz=253
VNDA Vanda 80.26 173 P **P** **10 18 44.6 -0.1**
VNDA Vanda 80.26 173 P **P** **10 18 45.2 +0.5**
comp=Z,4.4nm,0.9s,baz=323,slow=7.6,SNR=6.8
comp=Z,4.4nm,0.9s
MAW Mawson 80.36 200 P **P** **10 18 46.5 +1.2**
comp=Z,4.1nm,0.8s,baz=70,slow=10,SNR=11
MAW LR LR 10 52 18.9
comp=Z,83nm,20.2s,baz=61,slow=34
comp=Z,4.1nm,0.8s
SDPT Sand Point 80.41 34 P **P** **10 18 46.3 +0.4**
baz=257
F14K Arctic Creek 80.56 23 P **P** **10 18 47.5 +1.0**
baz=250
ANM Nome 80.63 24 P **P** **10 18 47.8 +0.8**
baz=251
CHNA Chernabura Isl 80.80 34 P **P** **10 18 48.3 +0.3**
baz=258
L14K Kuka Creek 80.82 28 IAmb IAmb 10 18 51.0
comp=Z,9.8nm,1.0s
L14K Kuka Creek 80.82 28 P **P** **10 18 49.1 +1.1**
baz=254
J14K Nanvaranak Lak 80.83 26 P **P** **10 18 49.2 +1.2**
baz=253
AKT Akhty 80.85 312 *e*P **P**
AKT *e**PP **pP** **10 19 00.4 -1.7**
AKT *e**SP **pwP** **10 19 05.1 -0.1**
AKT pmax pmax
comp=Z,17nm,0.9s
N14K Kuskokwak Cree 80.91 29 P **P** **10 18 49.6 +1.1**
baz=255
O14K Tigyukauivet M 80.94 30 P **P** **10 18 50.0 +1.3**
baz=255
M14K Bethel 81.00 28 IAmb IAmb 10 18 52.9
comp=Z,8.9nm,0.8s
M14K Bethel 81.00 28 P **P** **10 18 49.8 +0.9**
baz=254
RAYN Ar Rayn 81.00 294 **P** **10 18 48.7 -1.2**
RAYN IAmb IAmb 10 18 52.5
comp=Z,11nm,0.8s
RAYN Ar Rayn 81.00 294 P **P** **10 18 48.7 -1.2**
RAYN pmax pmax
comp=Z,10.0nm,0.8s
S14K Fog Glacier 81.13 33 P **P** **10 18 50.7 +0.8**
baz=257
F15K North Star Dit 81.29 23 P **P** **10 18 51.7 +1.3**
baz=251
G15K Niukluk 81.31 24 P **P** **10 18 51.6 +1.1**
baz=252
L15K Ungalak Mounta 81.46 27 P **P** **10 18 52.4 +1.0**
baz=255
M15K Kasigluk River 81.59 28 P **P** **10 18 52.7 +0.6**
baz=256
K15K Wolf Creek Mou 81.61 27 IAmb IAmb 10 18 55.3
comp=Z,11nm,1.0s
K15K Wolf Creek Mou 81.61 27 P **P** **10 18 53.2 +1.1**
baz=255
O15K Ungalikthiuk R 81.64 30 P **P** **10 18 53.9 +1.5**
baz=257
N15K Kwethluk River 81.75 29 IAmb IAmb 10 18 55.8
comp=Z,11nm,1.1s
N15K Kwethluk River 81.75 29 P **P** **10 18 54.0 +1.0**
baz=256
CHGN Chignik 81.76 33 P **P** **10 18 53.9 +0.9**
baz=258
H16K Elim 81.94 24 P **P** **10 18 55.0 +1.1**
baz=254
G16K Koyuk River 82.11 24 P **P** **10 18 55.8 +1.0**
baz=254
J16K Anvik River 82.27 26 IAmb IAmb 10 18 59.6
comp=Z,18nm,1.1s
J16K Anvik River 82.27 26 P **P** **10 18 57.1 +1.4**
baz=255,SNR=6.8
I17K Unalakleet 82.39 25 P **P** **10 18 57.6 +1.4**
baz=255
L16K Owhat River 82.40 28 IAmb IAmb 10 18 59.8
comp=Z,9.8nm,1.1s
L16K Owhat River 82.40 28 P **P** **10 18 57.4 +1.1**
baz=257
N16K Nishlik Lake 82.46 29 P **P** **10 18 57.9 +1.2**
baz=257
M16K Timber Creek 82.49 28 IAmb IAmb 10 19 01.1
comp=Z,24nm,1.7s
M16K Timber Creek 82.49 28 P **P** **10 18 58.3 +1.5**
baz=257
D17K Noatak River 82.50 21 P **P** **10 18 58.6 +1.9**
baz=252
BELG Belogornoye 82.51 323 LR LR 10 57 18.4
comp=Z,84nm,20.9s,baz=131,slow=37
BELG Belogornoye 82.51 323 *d i*P **P** **10 18 56.5 -0.5**
BELG pmax pmax
comp=Z,21nm,0.9s
O16K Kokwok River B 82.60 30 P **P** **10 18 58.5 +1.1**
baz=258
KIRV Kirov 82.61 329 *d i*P **P** **10 18 56.9 -0.5**
RDOG Red Dog Mine 82.67 21 P **P** **10 18 56.7 -1.0**
RDOG IAmb IAmb 10 19 01.9
comp=Z,9.4nm,0.7s
RDOG Red Dog Mine 82.67 21 P **P** **10 18 59.0 +1.4**
baz=253
C17K Dalong Mountai 82.70 21 P **P** **10 18 59.1 +1.3**
baz=252
E17K Hotham Inlet 82.79 22 P **P** **10 18 59.6 +1.4**
baz=254
G17K Kiwalik Mounta 82.82 24 P **P** **10 18 59.6 +1.1**
baz=255
F17K Baldwin Pennin 82.83 23 P **P** **10 18 59.9 +1.4**
baz=254
GNI Garni 82.95 310 *de*P **P** **10 19 00.7 +0.8**
GNI pmax pmax
comp=Z,32nm,1.7s
J17K VABM Dome 82.97 26 IAmb IAmb 10 19 02.5
comp=Z,15nm,0.9s
J17K VABM Dome 82.97 26 P **P** **10 19 00.7 +1.4**
baz=257,SNR=8.7
H17K Granite Mounta 82.98 24 IAmb IAmb 10 19 02.5
comp=Z,10nm,0.9s
H17K Granite Mounta 82.98 24 P **P** **10 19 01.0 +1.7**
baz=256,SNR=7.5
L17K Donlin 83.04 27 P **P** **10 19 01.4 +1.7**
baz=258,SNR=8.2
R17L Mt. Peulik Vol 83.11 32 P **P** **10 19 01.3 +1.1**
baz=260
O17K Koliganek Bris 83.13 30 P **P** **10 19 01.8 +1.7**
baz=259
K17K Iditarod 83.16 27 P **P** **10 19 01.8 +1.5**
baz=258,SNR=12
CHIR Chirikof Islan 83.21 34 P **P** **10 19 01.4 +0.8**
baz=261
N17K Nushagak Hills 83.23 29 P **P** **10 19 01.8 +1.1**
baz=259
M17K Holitna River 83.29 28 IAmb IAmb 10 19 04.3
comp=Z,8.7nm,0.9s
M17K Holitna River 83.29 28 P **P** **10 19 02.5 +1.6**
baz=258,SNR=6.9
E18K Tukpahlearik C 83.34 22 P **P** **10 19 00.1 -1.0**
E18K IAmb IAmb 10 19 07.1
comp=Z,14nm,1.1s
E18K Tukpahlearik C 83.34 22 P **P** **10 19 02.3 +1.3**
baz=255
B18K Kokolik River 83.44 20 P **P** **10 19 03.5 +1.9**
baz=254
C18K Utukok River 83.45 21 IAmb IAmb 10 19 09.8
comp=Z,9.8nm,1.1s
C18K Utukok River 83.45 21 P **P** **10 19 03.2 +1.4**
baz=254
Q17K Contact Creek 83.47 31 P **P** **10 19 03.0 +0.9**
baz=260
F18K Selawik 83.49 23 P **P** **10 19 03.4 +1.5**
baz=256
H18K Honhosa River 83.67 24 P **P** **10 19 04.0 +1.2**
baz=257
G18K Tagagawik 83.72 24 IAmb IAmb 10 19 31.5
comp=Z,22nm,1.9s
G18K Tagagawik 83.72 24 P **P** **10 19 04.2 +1.1**
baz=257
L18K Granite Mounta 83.80 27 IAmb IAmb 10 19 06.6
comp=Z,10.0nm,0.9s
L18K Granite Mounta 83.80 27 P **P** **10 19 04.7 +1.1**
baz=259,SNR=13
N18K Kilae Creek 83.89 29 IAmb IAmb 10 19 09.1
comp=Z,7.0nm,1.0s
N18K Kilae Creek 83.89 29 P **P** **10 19 05.4 +1.3**
baz=260,SNR=6.0
Q18K Katmai Hardscr 83.99 31 P **P** **10 19 04.7 0.0**
baz=261
P18K Big Mountain, 84.00 30 P **P** **10 19 05.9 +1.2**
baz=261
J18K Innoko River 84.02 26 IAmb IAmb 10 19 13.9
comp=Z,8.0nm,1.1s
J18K Innoko River 84.02 26 P **P** **10 19 05.6 +0.9**
baz=259
M18K Stony River 84.06 28 P **P** **10 19 06.2 +1.3**
baz=260,SNR=13
O18K Koktuh Hills 84.08 30 P **P** **10 19 05.6 +0.5**
baz=261
SII Sitkinak Islan 84.12 33 P **P** **10 19 05.9 +0.6**
baz=262
R18K Karluk 84.12 32 P **P** **10 19 05.8 +0.6**
baz=262
C19K Lookout Ridge 84.14 20 IAmb IAmb 10 19 10.8
comp=Z,13nm,0.9s
C19K Lookout Ridge 84.14 20 P **P** **10 19 05.8 +0.6**
baz=256
GCSA Galena City Sc 84.20 25 P **P** **10 19 06.8 +1.3**
baz=259
F19K Shaleruckik Mo 84.27 23 P **P** **10 19 07.3 +1.5**
baz=258
G19K Purcell Mounta 84.40 23 IAmb IAmb 10 19 09.3
comp=Z,8.1nm,0.9s
G19K Purcell Mounta 84.40 23 P **P** **10 19 07.8 +1.3**
baz=258,SNR=10
D19K Kuna River 84.51 21 IAmb IAmb 10 19 31.5
comp=Z,9.1nm,1.1s
D19K Kuna River 84.51 21 P **P** **10 19 08.5 +1.4**
baz=257
H19K Roundabout Mou 84.53 24 IAmb IAmb 10 19 39.5
comp=Z,17nm,1.5s
H19K Roundabout Mou 84.53 24 P **P** **10 19 08.3 +1.1**
baz=259
O19K Port Alsworth 84.58 30 P **P** **10 19 08.0 +0.5**
baz=261
N19K Bonanza Creek 84.59 29 P **P** **10 19 08.6 +0.8**
baz=261,SNR=12
J19K Poorman 84.60 26 IAmb IAmb 10 19 37.3
comp=Z,17nm,1.8s
J19K Poorman 84.60 26 P **P** **10 19 08.1 +0.6**
baz=260
E19K Redstone River 84.61 22 IAmb IAmb 10 19 28.4
comp=Z,9.8nm,1.1s
E19K Redstone River 84.61 22 P **P** **10 19 08.3 +0.7**
baz=258
KBZ Khabaz 84.63 314 P **P** **10 19 08.1 -0.1**
comp=Z,9.4nm,1.1s,baz=123,slow=3.3,SNR=13
comp=Z,9.4nm,1.1s
KBZ Khabaz 84.63 314 *d i*P **P** **10 19 07.9 -0.3**
KBZ pmax pmax
comp=Z,11nm,1.1s
L19K White Mountain 84.63 28 IAmb IAmb 10 19 17.4
comp=Z,8.2nm,1.3s
L19K White Mountain 84.63 28 P **P** **10 19 08.7 +0.8**
baz=261
OHAK Old Harbor 84.69 33 P **P** **10 19 06.6 -1.5**
OHAK IAmb IAmb 10 19 11.0
comp=Z,11nm,0.9s
OHAK Old Harbor 84.69 33 P **P** **10 19 09.1 +0.9**
baz=262
Q19K Cape Douglas, 84.74 31 P **P** **10 19 09.2 +0.7**
baz=262
KIV Kislovodsk 84.80 314 *e*P **P** **10 19 09.0 -0.2**
KIV pmax pmax
comp=Z,16nm,1.1s
M19K Big River Lodg 84.81 28 P **P** **10 19 09.6 +0.9**
baz=261
SHA1 Shidzhatmaz 84.81 314 *ļļe*P **P** **10 19 09.0 -0.4**
P19K Oil Pt 85.04 30 P **P** **10 19 10.8 +0.9**
baz=262
D20K Etivluk River 85.10 21 IAmb IAmb 10 19 30.7
comp=Z,7.0nm,1.1s
D20K Etivluk River 85.10 21 P **P** **10 19 10.9 +0.8**
baz=258
F20K Avaraart Lake 85.11 23 P **P** **10 19 10.7 +0.6**
baz=260
L20K Farewell, AK 85.13 27 P **P** **10 19 10.9 +0.6**
baz=262
KDAK Kodiak Island 85.14 32 *de*P **P** **10 19 11.2 +0.8**
KDAK pmax pmax
comp=Z,13nm,1.0s
KDAK Kodiak Island 85.14 32 P **P** **10 19 11.1 +0.7**
baz=263
E20K Nigu River 85.16 21 P **P** **10 19 11.1 +0.7**
baz=259
H20K Anotleneega Mo 85.17 24 P **P** **10 19 11.6 +1.1**
baz=260
B20K Meade River 85.17 20 P **P** **10 19 11.2 +0.9**
baz=258
K20K Telida 85.18 26 P **P** **10 19 11.3 +0.7**
baz=261
I20K Naaghedeneel 85.22 25 P **P** **10 19 10.9 +0.3**
baz=261
TBI Tubuai 85.26 113 *e*LR LR 10 46 08.3
comp=Z,992nm,23.2s
J20K Nowinta River 85.27 26 P **P** **10 19 11.6 +0.7**
baz=261
Q20K Shuyak Island 85.34 31 P **P** **10 19 11.5 +0.1**
baz=263
M20K Styx River 85.39 28 P **P** **10 19 12.0 +0.3**
baz=262
C21K Knifeblade Rid 85.83 21 P **P** **10 19 13.9 +0.3**
baz=260
G21K Allakaket 85.89 23 P **P** **10 19 14.7 +0.7**
baz=262
PPLA Purkeypile 85.96 27 P **P** **10 19 15.4 +0.8**
baz=263
B21K Ikpikpuk River 85.97 20 P **P** **10 19 15.2 +0.9**
baz=260
F21K Alatna River 86.00 23 P **P** **10 19 14.5 0.0**
baz=262
E21K Killik River 86.00 21 P **P** **10 19 15.0 +0.4**
baz=261
VRH Novokhopyorsk 86.01 321 *e*P **P** **10 19 13.7 -1.2**
VRH pmax pmax
comp=Z,70nm,0.9s
CHUM Lake Minchumin 86.03 26 P **P** **10 19 14.5 -0.1**
baz=263
H21K Meloziina Rive 86.05 24 P **P** **10 19 15.6 +0.7**
baz=262
CAST Castle Rocks 86.07 27 **P** **10 19 15.6 +0.6**
CAST IAmb IAmb 10 19 43.6
comp=Z,16nm,1.9s
CAST Castle Rocks 86.07 27 P **P** **10 19 15.6 +0.6**
baz=263
A22K Sinclair Lake 86.09 19 P **P** **10 19 15.9 +1.0**
baz=260
SKT Skwentna 86.16 28 P **P** **10 19 15.5 +0.1**
baz=264
CAPN Captain Cook N 86.21 29 P **P** **10 19 16.1 +0.5**
baz=264
LABN Labinsk 86.25 315 *e*P **P** **10 19 16.0 -0.3**
LABN pmax pmax
comp=Z,44nm,0.6s
I21K Tanana 86.33 25 P **P** **10 19 17.6 +1.5**
baz=263
ERBR Yeremizino-Bor 86.48 316 *e*P **P** **10 19 16.6 -0.8**
ERBR pmax pmax
comp=Z,56nm,0.9s
D22K Ayikyak River 86.53 21 P **P** **10 19 18.4 +1.2**
baz=262
BPAW Bear Paw Mtn. 86.63 26 P **P** **10 19 17.7 0.0**
baz=264
H22K Ishtalitna Cre 86.66 24 P **P** **10 19 18.3 +0.5**
baz=264
VSLR Vesyoloye 86.69 313 *c i*P **P** **10 19 18.6 +0.1**
VSLR pmax pmax
comp=Z,75nm,0.9s
E22K Anaktuvuk Pass 86.75 22 P **P** **10 19 18.9 +0.6**
baz=263
M22K Willow 86.80 28 P **P** **10 19 19.3 +0.8**
baz=265
MLY Manley 86.83 25 P **P** **10 19 19.3 +0.5**
baz=264
TRF Thorofare Moun 86.88 27 P **P** **10 19 18.5 -0.7**
baz=265
O22K Cooper Landing 86.88 30 P **P** **10 19 18.8 -0.1**
baz=265
RC01 Rabbit Creek A 86.93 29 P **P** **10 19 19.7 +0.5**
baz=265
SOC Sochi 86.93 313 *e*P **P** **10 19 16.9 -2.7**
SOC *e* 10 22 39.0
SOC *e*PPP PPP 10 24 37.6
SOC *e*S **SKSac** **10 29 39.7 -3.2**
SOC *e*SS **SS** **10 35 34.5 -3.3**
SOC *e*SSS SSS 10 39 08.4
SOC pmax pmax
comp=Z,24nm,0.8s
SEW Seward 86.99 30 P **P** **10 19 20.6 +1.1**
baz=266
PMR Palmer 87.26 28 P **P** **10 19 21.9 +1.2**
baz=266
D23K Nanushuk River 87.26 21 P **P** **10 19 21.8 +1.1**
baz=264
COLD Coldfoot 87.27 23 IAmb IAmb 10 19 23.9
comp=Z,5.6nm,1.0s

COLD	**Coldfoot**	87.27	23	P		P		10 19 22.3	+1.6
	baz=265,SNR=11								
G23K	**Bananza Creek**	87.29	23	IAmb		IAmb		10 19 24.2	
	comp=Z,6.8nm,1.0s								
G23K	**Bananza Creek**	87.29	23	P		P		10 19 21.4	+0.5
	baz=265								
C23K	**Itkillik River**	87.38	20	IAmb		IAmb		10 19 27.8	
	comp=Z,6.0nm,0.9s								
C23K	**Itkillik River**	87.38	20	P		P		10 19 21.3	+0.2
	baz=264								
H23K	**Yukon River**	87.41	24	IAmb		IAmb		10 19 44.2	
	comp=Z,7.3nm,1.4s								
H23K	**Yukon River**	87.41	24	P		P		10 19 21.9	+0.5
	baz=265								
I23K	**Minto, Yukon-K**	87.43	25	P		P		10 19 21.5	0.0
	baz=265								
MCK	**McKinley**	87.50	26	P		P		10 19 22.0	+0.1
	baz=266								
E23K	**Chandalar**	87.57	22	IAmb		IAmb		10 19 26.0	
	comp=Z,7.0nm,0.9s								
E23K	**Chandalar**	87.57	22	P		P		10 19 22.6	+0.3
	baz=265,SNR=12								
PWL	**Port Wells**	87.59	29	P		P		10 19 22.6	+0.1
	baz=266								
VSR	**Storozhevoye**	87.61	321	*e*P		P		10 19 21.6	-1.1
VSR				pmax		pmax			
	comp=Z,10.0nm,0.8s								
WAT1	**Susitna Watana**	87.61	27	P		P		10 19 22.8	+0.3
	baz=266								
TOLK	**Toolik Lake Re**	87.63	21	P		P		10 19 23.4	+0.8
TOLK	**Toolik Lake Re**	87.63	21	P		P		10 19 23.1	+0.6
	baz=265								
LPSR	**Galich'ya Gora**	87.81	322	*e*P		P		10 19 23.2	-0.4
LPSR				pmax		pmax			
	comp=Z,30nm,0.8s								
KLMR	**Klimovskoe**	87.86	331	*e*P		P		10 19 20.9	-2.8
KLMR				*e*				10 22 43.9	
KLMR				pmax		pmax			
	comp=Z,23nm,1.0s								
KLMR				MLR		MLR			
	comp=Z,144nm,19.0s								
M23K	**Glacier View**	87.94	28	P		P		10 19 24.3	+0.3
	baz=267								
D24K	**Happy Valley**	87.94	21	IAmb		IAmb		10 19 42.6	
	comp=Z,3.3nm,0.7s								
D24K	**Happy Valley**	87.94	21	P		P		10 19 24.0	+0.1
	baz=266								
WAT6	**Susitna Watana**	87.97	28	P		P		10 19 24.0	-0.4
	baz=267								
E24K	**Your Creek**	87.99	22	P		P		10 19 24.1	-0.1
	baz=266								
P23K	**Montague Islan**	88.01	30	P		P		10 19 24.5	+0.2
	baz=267								
C24K	**Franklin Bluff**	88.03	20	P		P		10 19 25.0	+0.7
	baz=266								
H24K	**Noodor Dome**	88.09	24	P		P		10 19 25.2	+0.4
	baz=267								
SCM	**Sheep Creek Mo**	88.13	28	IAmb		IAmb		10 19 28.1	
	comp=Z,7.0nm,1.0s								
SCM	**Sheep Creek Mo**	88.13	28	P		P		10 19 25.9	+0.9
	baz=267								
DHY	**Denali Highway**	88.16	27	P		P		10 19 24.9	-0.4
	baz=267								
F24K	**Squaw Lake**	88.18	23	P		P		10 19 25.1	0.0
	baz=267								
GLI	**Glacier Island**	88.20	29	P		P		10 19 25.4	+0.1
	baz=268								
G24K	**Hadweenzic Riv**	88.30	23	P		P		10 19 26.3	+0.6
	baz=267								
HDA	**Harding Lake**	88.41	26	P		P		10 19 26.3	+0.1
	baz=268								
ILAR	**Eielson Array**	88.45	25	P		P		10 19 25.8	-0.6
	comp=Z,0.5nm,0.7s,baz=243,slow=4.0,SNR=6.0								
	comp=Z,0.5nm,0.7s								
ANN	**Anapa**	88.60	315	*e*P		P		10 19 26.1	-1.4
ANN				pmax		pmax			
	comp=Z,38nm,0.9s								
KMBO	**Kilima Mbogo**	88.62	269	P		P		10 19 29.0	+0.4
KMBO	**Kilima Mbogo**	88.62	269	P		P		10 19 29.0	+0.4
KMBO				pmax		pmax			
	comp=Z,19nm,1.5s								
MOS	**Moscow**	88.67	326	*e*P		P		10 19 25.8	-1.8
MOS				*e*				10 22 56.7	
M24K	**Tolsona, Glenn**	88.68	28	P		P		10 19 27.8	+0.2
	baz=268								
GAZ	**Gaziantep**	88.69	307	P		P		10 19 27.9	-0.4
D25K	**Kavik River**	88.83	21	P		P		10 19 28.6	+0.5
	baz=268								
G25K	**Bearman Lake**	88.85	23	P		P		10 19 28.5	+0.3
	baz=268								
EYAK	**Cordova Ski Ar**	88.85	30	P		P		10 19 28.7	+0.4
	baz=269								
K24K	**Donnelly Dome**	88.91	26	P		P		10 19 28.7	0.0
	baz=269								
H25L	**Birch Creek**	88.95	24	P		P		10 19 29.4	+0.7
	baz=269,SNR=6.0								
PAX	**Paxson**	89.03	27	IAmb		IAmb		10 19 52.3	
	comp=Z,5.3nm,1.2s								
PAX	**Paxson**	89.03	27	P		P		10 19 29.6	+0.3
	baz=269								
SYO	**Syowa Base**	89.04	201⇑	*e*P		P		10 19 30.3	+1.3
F25K	**Christian Rive**	89.05	23	P		P		10 19 29.6	+0.4
	baz=269								
PRP	**Porcupine Dome**	89.05	25	P		P		10 19 29.3	-0.1
	baz=269								
E25K	**Arctic Village**	89.09	22	P		P		10 19 29.8	+0.4
	baz=269								
J25K	**Salcha River,**	89.10	26	P		P		10 19 30.4	+0.8
	baz=269								
HARP	**HAARP**	89.17	28	P		P		10 19 30.2	+0.3
	baz=269								
OBN	**Obninsk**	89.27	325	*e*P		P		10 19 29.6	-0.8
OBN				pmax		pmax			
	comp=Z,42nm,1.3s								
OBN				MLR		MLR			
	comp=Z,96nm,21.0s								
RIDG	**Independent Ri**	89.32	26	P		P		10 19 31.3	+0.7
	baz=270								
C26K	**Camden Bay**	89.35	20	P		P		10 19 31.3	+0.8
	baz=269								
N25K	**Chitina, Valde**	89.42	29	P		P		10 19 31.4	+0.2
	baz=270								
BMAR	**Burnt Mountain**	89.45	23	P		P		10 19 31.7	+0.6
KAIM	**Kayak Island**	89.51	30	P		P		10 19 31.2	-0.2
	baz=270								
F26K	**Sheenjek River**	89.62	22	P		P		10 19 32.0	+0.1
	baz=270								
SCRK	**Sand Creek**	89.70	26	P		P		10 19 33.3	+0.8
	baz=270								
G26K	**Porcupine Rive**	89.77	23	P		P		10 19 32.8	+0.3
	baz=270								
C27K	**Jago River**	89.77	20	IAmb		IAmb		10 19 36.2	
	comp=Z,4.0nm,0.8s								
C27K	**Jago River**	89.77	20	P		P		10 19 32.4	-0.1
	baz=270								
J26L	**Joseph Creek**	89.88	26	P		P		10 19 33.5	+0.2
	baz=271,SNR=5.4								
L26K	**Log Cabin Wild**	90.00	27	P		P		10 19 34.5	+0.8
	baz=271								
I26K	**Coal Creek Min**	90.04	25	P		P		10 19 34.5	+0.6
	baz=271								
BGLC	**Bering Glacier**	90.08	30	P		P		10 19 34.4	+0.4
	baz=271								
M26K	**Nabesna, AK**	90.17	28	P		P		10 19 34.9	+0.3
	baz=271								
MMAI	**Mount Meron Ar**	90.17	303	P		P		10 19 34.5	-0.8
	comp=Z,0.8nm,0.3s,baz=66,slow=12,SNR=6.8								
	comp=Z,0.8nm,0.3s								
MCARA	**McCarthy VSAT**	90.18	29	P		P		10 19 34.6	0.0
	baz=271								
QSPA	**South Pole Qui**	90.33	180	P		P		10 19 35.5	+0.1
QSPA				IAmb		IAmb		10 19 43.3	
	comp=Z,10nm,1.1s								
QSPA	**South Pole Qui**	90.33	180	P		P		10 19 35.8	+0.5
	comp=Z,4.3nm,0.9s,baz=331,slow=4.1,SNR=13								
	comp=Z,4.3nm,0.9s								
K27K	**Chicken**	90.54	26	IAmb		IAmb		10 19 38.8	
	comp=Z,6.3nm,1.1s								
K27K	**Chicken**	90.54	26	P		P		10 19 36.8	+0.6
	baz=272								
E27K	**Coleen River**	90.57	22	IAmb		IAmb		10 19 43.7	
	comp=Z,6.4nm,1.3s								
E27K	**Coleen River**	90.57	22	P		P		10 19 36.4	+0.1
	baz=272								
EIL	**Elat**	90.60	300	LR		LR		11 03 32.2	
	comp=Z,79nm,20.7s,baz=67,slow=38								
G27K	**Doyon Strip**	90.61	23	P		P		10 19 36.8	+0.3
	baz=272								
I27K	**Kandik River**	90.68	25	P		P		10 19 37.1	+0.2
	baz=272,SNR=5.4								
H27K	**Steamboat Moun**	90.69	24	P		P		10 19 37.3	+0.3
	baz=273								
L27K	**Beaver Creek,**	90.69	27	P		P		10 19 37.6	+0.6
	baz=272,SNR=5.4								
M27K	**Edge Creek, AK**	90.69	28	P		P		10 19 37.1	-0.1
	baz=272								
BCAR	**Beaver Creek A**	90.71	27	P		P		10 19 37.3	+0.2
MESA	**MESA**	90.74	30	P		P		10 19 36.9	-0.5
	baz=272								
D27M	**Malcolm River**	90.75	21	P		P		10 19 37.8	+0.6
	baz=273								
CTG	**Chitna Glacier**	91.01	29	P		P		10 19 38.7	+0.1
	baz=273								
BVCY	**Beaver Creek**	91.16	28	P		P		10 19 39.2	0.0
	baz=273								
F28M	**Old Crow**	91.26	22	P		P		10 19 40.0	+0.5
	baz=274								
E28M	**Babbage River**	91.31	21	IAmb		IAmb		10 19 47.6	
	comp=Z,6.6nm,1.3s								
E28M	**Babbage River**	91.31	21	P		P		10 19 40.1	+0.4
	baz=274								
I28M	**Miner Creek**	91.39	25	IAmb		IAmb		10 19 49.0	
	comp=Z,4.2nm,1.1s								
I28M	**Miner Creek**	91.39	25	P		P		10 19 39.9	-0.3
	baz=274								
BRTR	**Keskin Array B**	91.46	310			P		10 19 39.2	-2.1
BRTR	**Keskin Array B**	91.46	310	P		P		10 19 40.1	-1.1
	comp=Z,1.6nm,0.8s,baz=123,slow=4.6,SNR=8.2								
	comp=Z,1.6nm,0.8s								
BRTR	**Keskin Array B**	91.46	310	*i* P		P		10 19 40.4	-0.8
BRTR				pmax		pmax			
	comp=Z,3.0nm,0.8s								
O28M	**Mount Upton**	91.58	29	P		P		10 19 41.3	-0.2
	baz=274								
DAWY	**Dawson**	91.72	26	P		P		10 19 41.9	+0.1
DAWY				IAmb		IAmb		10 19 51.0	
	comp=Z,5.8nm,1.3s								
DAWY	**Dawson**	91.72	26	P		P		10 19 41.8	+0.1
	baz=274								
YUK8	**Steele Glacier**	91.75	29	P		P		10 19 41.8	-0.4
	baz=274								
E29M	**Blow River**	91.93	22	P		P		10 19 43.0	+0.4
	baz=276								
H29M	**Whitestone**	91.96	24	P		P		10 19 43.0	+0.2
	baz=275								
G29M	**Pine Creek**	92.03	23	IAmb		IAmb		10 20 05.9	
	comp=Z,8.1nm,1.1s								
G29M	**Pine Creek**	92.03	23	P		P		10 19 43.8	+0.7
	baz=276								
PNL	**Peninsula**	92.05	30	P		P		10 19 43.9	+0.5
	baz=274								
I29M	**Ogilvie Camp,**	92.07	25	IAmb		IAmb		10 20 06.7	
	comp=Z,4.7nm,1.2s								
I29M	**Ogilvie Camp,**	92.07	25	P		P		10 19 43.9	+0.5
	baz=276								
M29M	**Somme Creek**	92.28	28	P		P		10 19 44.9	+0.5
	baz=275								
YUK4	**Talbot Arm**	92.29	29	P		P		10 19 45.0	+0.4
	baz=275								
L29M	**L29M**	92.36	27	P		P		10 19 45.2	+0.4
	baz=276								
K29M	**Barlow Dome**	92.56	26	IAmb		IAmb		10 20 10.3	
	comp=Z,5.3nm,1.3s								
K29M	**Barlow Dome**	92.56	26	P		P		10 19 46.3	+0.6
	baz=276								
EPYK	**Eagle Plains**	92.61	24	P		P		10 19 46.7	+0.8
	baz=277								
G30M	**tAoh Zraii Nji**	92.73	23	P		P		10 19 46.6	+0.3
	baz=277								
F30M	**Barrier River**	92.81	22	P		P		10 19 47.0	+0.3
	baz=278								
HYT	**Haines Junctio**	92.89	29	P		P		10 19 47.7	+0.4
	baz=276								
I30M	**Mount Dempster**	92.89	25	P		P		10 19 47.4	+0.1
	baz=277								
P29M	**Windy Craggy**	92.89	30	P		P		10 19 47.5	+0.3
	baz=276								
J30M	**Hart River**	92.99	25	P		P		10 19 47.6	-0.1
	baz=277								
N30M	**Aishikik Lake**	93.02	29	P		P		10 19 47.8	-0.1
	baz=276								
M30M	**Minto, Yukon**	93.03	27	IAmb		IAmb		10 20 11.3	
	comp=Z,5.4nm,1.1s								
M30M	**Minto, Yukon**	93.03	27	P		P		10 19 47.9	+0.1
	baz=277								
ARCES	**ARCESS Array B**	93.25	340	P		P		10 19 50.0	+1.4
	comp=Z,2.3nm,0.8s,baz=94,slow=4.3,SNR=5.5								
	comp=Z,2.3nm,0.8s								
MAYO	**Mayo, Yukon**	93.31	26	P		P		10 19 49.8	+0.7
	baz=278								
G31M	**Satah River**	93.50	23	P		P		10 19 49.9	+0.1
	baz=279								
INK	**Inuvik**	93.55	21	P		P		10 19 49.9	-0.1
INK				IAmb		IAmb		10 19 51.8	
	comp=Z,4.3nm,1.1s								
INK	**Inuvik**	93.55	21	P		P		10 19 49.9	-0.1
INK				pmax		pmax			
	comp=Z,4.0nm,1.1s								
INK	**Inuvik**	93.55	21	P		P		10 19 50.6	+0.6
	baz=280								
SPITS	**Spitsbergen Ar**	93.55	349	P		P		10 19 49.7	-0.3
	comp=Z,2.6nm,0.8s,baz=87,slow=7.5,SNR=2.2								
	comp=Z,2.6nm,0.8s								
O30N	**Mendenhall**	93.58	29	P		P		10 19 50.4	0.0
	baz=277								
PLBC	**Pleasant Camp**	93.61	30	P		P		10 19 50.9	+0.4
	baz=277								
F31M	**Tsiigehtchic**	93.62	22	P		P		10 19 50.1	-0.2
	baz=280								
N31M	**Braeburn, Yuko**	93.64	28	P		P		10 19 51.3	+0.6
	baz=278								
H31M	**Peel River**	93.65	24	P		P		10 19 51.3	+0.7
	baz=279								
S31K	**Pelican**	93.86	32	P		P		10 19 52.0	+0.4
	baz=277								
AKASG	**Malin Array Be**	93.91	321	P		P		10 19 49.2	-2.8
	comp=Z,1.0nm,0.6s,baz=74,slow=4.5,SNR=4.6								
AKASG				LR		LR		11 05 50.0	
	comp=Z,55nm,21.1s,baz=78,slow=38								
AKASG	**Malin Array Be**	93.91	321	*i* P		P		10 19 50.7	-1.3
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.6s								
AKBB	**Malin Array Si**	93.91	321⇑	*e*P		P		10 19 50.8	-1.2
TAOE	**Nuku Hiva Isla**	94.00	99	*e*LR		LR		10 50 11.3	
	comp=Z,125nm,23.1s								
SKAG	**Skagway**	94.13	30	IAmb		IAmb		10 19 55.7	
	comp=Z,4.7nm,0.9s								
SKAG	**Skagway**	94.13	30	P		P		10 19 53.3	+0.4
	baz=279								
WHY	**Whitehorse**	94.19	29			P		10 19 53.8	+0.5
WHY	**Whitehorse**	94.19	29	P		P		10 19 54.0	+0.7
	baz=278								
M31M	**Drury Creek, Y**	94.19	28	P		P		10 19 53.3	+0.2
	baz=279								
MNK	**Minsk**	94.32	325	*i* P		P		10 19 51.5	-2.4
	comp=E,30nm,0.9s								
MNK				*i* P		P		10 19 51.5	-2.4
	comp=N,18nm,0.9s								
MNK				*i* P		P		10 19 51.5	-2.4
	comp=Z,21nm,0.8s,baz=83								
MNK				*i* PP		PP		10 23 38.9	-2.3
MNK				*i* PPP		PPP		10 25 40.4	
MNK				*i* SKS				10 30 00.9	
MNK				*i* S		SKSac		10 30 22.9	-2.1
MNK				*i* PS		pS		10 31 20.5	+1.2
MNK				*i* LQ		LQ		10 55 06.3	
MNK				*i* LRM		MLR		11 04 05.0	
	comp=Z,70nm,19.2s								
MNK	**Minsk**	94.32	325	*i* P		P		10 19 51.4	-2.4
MNK				*i*				10 23 38.9	
MNK				*i* PPP		PPP		10 25 40.3	
MNK				*i* S		SKSac		10 30 22.9	-2.1
MNK				pmax		pmax			
	comp=N,18nm,0.9s								
MNK				pmax		pmax			
	comp=E,30nm,0.9s								
MNK				pmax		pmax			
	comp=Z,21nm,0.8s								
MNK				MLR		MLR			
	comp=Z,70nm,19.0s								
FINES	**FINESS Array B**	94.33	332	P		P		10 19 52.8	-0.9
	comp=Z,2.6nm,0.8s,baz=93,slow=7.6,SNR=6.0								
	comp=Z,2.6nm,0.8s								
SIT	**Sitka**	94.46	33	P		P		10 19 54.3	-0.1
	baz=278								
FARO	**Faro, Yukon**	94.67	27	IAmb		IAmb		10 19 57.5	
	comp=E,3.2nm,0.9s								
FARO	**Faro, Yukon**	94.67	27	P		P		10 19 54.9	-0.4
	baz=280								
S32K	**Killisnoo**	94.81	32	P		P		10 19 56.3	+0.4
	baz=278								
P32M	**Atlin**	94.93	30	P		P		10 19 56.7	+0.1
	baz=279								
N32M	**Quiet Lake**	94.98	29	P		P		10 19 56.7	-0.2
	baz=280								
P33M	**Teslin, Yukon**	95.27	29	P		P		10 19 58.4	+0.2
	baz=280								
MMPY	**Sheldon Lake,**	95.55	27	P		P		10 19 59.7	+0.3
	baz=282								
CRAG	**Craig**	95.91	34	P		P		10 20 01.8	+0.7
	baz=279								
WRAK	**Wrangell Islan**	96.18	33	P		P		10 20 03.0	+0.7
	baz=280								
R33M	**Jennings River**	96.34	30	P		P		10 20 03.3	+0.1
	baz=282								
S34M	**Telegraph Cree**	96.55	32	P		P		10 20 04.2	+0.3
	baz=281								
V35K	**Ketchikan**	96.78	34	P		P		10 20 05.3	+0.2
	baz=281								
BURAR	**Bucovina Array**	96.89	318	P		P		10 20 05.1	-0.8
DLBC	**Dease Lake**	97.02	31	P		Pdif		10 20 06.9	+0.6
	baz=282								
WTLY	**Watson Lake, Y**	97.26	29	P		Pdif		10 20 07.5	+0.2
	baz=284								
IDI	**Anoyia**	98.73	306	LR		LR		11 13 17.8	
	comp=E,33nm,19.8s,baz=91,slow=41								
HFS	**Hagfors**	100.53	332	P		Pdif		10 20 21.6	-0.2
	comp=E,3.1nm,1.1s,baz=74,slow=11,SNR=2.6								
NOA	**NORSAR Array B**	101.35	333	P		Pdif		10 20 24.5	-1.0
	comp=E,0.6nm,0.8s,baz=71,slow=4.7,SNR=2.5								
PDAR	**Pinedale Array**	114.40	42	PKKPab		PKKPab		10 36 00.8	-0.3
	comp=E,0.7nm,0.8s,baz=134,slow=4.3,SNR=5.9								
TORD	**Torodi Ar. Bea**	123.06	286	PKP		PKPdf		10 25 32.0	+0.1
	comp=E,1μm,0.3s,baz=80,slow=1.8,SNR=4.2								
TXAR	**Lajitas Array**	124.28	54	PKP		PKiKP		10 25 35.1	+0.9
	comp=E,1.0nm,0.8s,baz=223,slow=1.0,SNR=20								
DBIC	**Dimbokro**	130.33	279	PKP		PKiKP		10 25 46.5	-0.1
	comp=E,8.6nm,1.2s,baz=182,slow=1.7,SNR=2.0								
CPUP	**Villa Florida**	154.04	173	PKP		PKPdf		10 26 27.6	+0.9
	comp=E,0.2nm,0.4s,baz=261,slow=4.0,SNR=2.0								
CPUP				PKPbc		PKiKP		10 26 36.1	+1.3
	comp=E,1.4nm,1.0s,baz=318,slow=1.3,SNR=7.2								
LPAZ	**La Paz**	159.03	140	PKP		PKPdf		10 26 35.6	+1.5
	comp=E,2.5nm,1.0s,baz=11,slow=0.6,SNR=6.2								

*IDC **11** 10:09:15.7±0.7,0.38N×125.66E,h0km,mb4.2/11, mbtmp4.2/12,ML3.5/1,Error ellipse: s-maj=39.0km s-min=15.6km az=74.0*
*NEIC **11** 10:09:21.6±2.1,0.44N±0.08×125.78E±0.06,h35km±2km, mb4.4/14,Error ellipse: s-maj=14.2km s-min=10.4km az=179.0*

ISC 11 10:09:20.9±0.5,0.42N±0.07×125.79E±0.09,h35km,n39, σ0.86/39,mb4.3/18,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	1.61	78	Pn	Pn	10 09 48.2	+1.2
LUWI	**Luwuk**	3.35	244	Pn	Pn	10 10 12.6	+1.8
TOLI2	**Tolitoli**	5.05	278	Pn	Pn	10 10 35.6	+1.3
KAPI	**Kappang**	8.09	228	Pn	Pn	10 11 17.5	+1.4
KAPI	**Kappang**	8.09	228	Pn	Pn	10 11 16.8	+0.7
	1.6nm,0.3s,baz=330,slow=23,SNR=1.1						
KSM	**Kuching**	15.51	274		Pn	10 12 56.7	-0.6
KSM				IAmb	IAmb	10 13 03.9	
	comp=Z,24nm,0.8s						
KNRA	**Kununurra**	16.26	170	Pn	Pn	10 13 07.1	+0.2
KNRA				IAmb	IAmb	10 13 40.1	
	comp=Z,24nm,1.4s						
FITZ	**Fitzroy Crossi**	18.40	180		P	10 13 31.9	-1.3
FITZ	**Fitzroy Crossi**	18.40	180	P	P	10 13 31.4	-1.8
	comp=Z,0.1nm,0.3s,baz=18,slow=7.9,SNR=1.8						
	comp=Z,5.5nm,1.0s						
WB0	**Warramunga Arr**	21.76	158	P	P	10 14 08.8	-1.0
WB0				IAmb	IAmb	10 14 17.2	
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	21.90	158	P	P	10 14 09.7	-1.5
WRAB				IAmb	IAmb	10 14 18.4	
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	21.90	158	P	P	10 14 10.7	-0.5
WRA	**Warramunga Arr**	21.90	158	P	P	10 14 10.3	-0.9
	comp=Z,4.9nm,0.5s,baz=337,slow=11,SNR=7.2						
	comp=Z,4.9nm,0.5s						
WR8	**Warramunga Arr**	21.98	158	P	P	10 14 11.3	-0.8
WR8				IAmb	IAmb	10 14 19.3	
	comp=Z,18nm,1.0s						
COEN	**Coen**	22.37	130	P	P	10 14 17.0	+0.6
COEN				IAmb	IAmb	10 14 22.1	
	comp=Z,19nm,1.0s						
AS31	**Alice Springs**	25.21	162	P	P	10 14 43.9	+0.3
ASAR	**Alice Springs**	25.21	162		P	10 14 44.1	+0.5
ASAR	**Alice Springs**	25.21	162	P	P	10 14 43.7	+0.1
	comp=Z,2.9nm,0.4s,baz=342,slow=8.6,SNR=14						
	comp=Z,2.9nm,0.4s						
CMAR	**Chiang Mai Arr**	31.88	306	P	P	10 15 42.9	-0.3
CMAR	**Chiang Mai Arr**	31.88	306	P	P	10 15 43.1	-0.1
	comp=Z,2.1nm,0.3s,baz=119,slow=8.9,SNR=7.5						
	comp=Z,2.1nm,0.3s						
KSRS	**Korea Array**	36.90	3	P	P	10 16 27.1	+0.7
	comp=Z,9nm,0.6s,baz=171,slow=9.1,SNR=1.9						
	comp=Z,0.9nm,0.6s						
ARMA	**Armidale**	39.31	144	P	P	10 16 46.8	-0.2
CAN	**Canberra**	41.64	151	P	P	10 17 05.2	-0.8
USA0B	**Ussuriysk Arra**	43.94	6	P	P	10 17 23.4	-1.0
USA0B				IAmb	IAmb	10 17 30.8	
	comp=Z,5.8nm,0.8s						
USRK	**Ussuriysk Ar.**	43.94	6	P	P	10 17 23.7	-0.8
USRK	**Ussuriysk Ar.**	43.94	6	P	P	10 17 24.9	+0.5
	comp=Z,2.5nm,0.6s,baz=194,slow=4.9,SNR=4.8						
	comp=Z,2.5nm,0.6s						
SONM	**Songino Array**	50.14	343	P	P	10 18 12.7	-0.3
	comp=Z,1.0nm,0.9s,baz=167,slow=7.2,S

WRA	**Warramunga Arr**	**33.08**	**350**	P	P	10 19 04.0	-0.2	
	3.0nm,1.1s,baz=173,slow=6.9,SNR=5.9							
	3.0nm,1.1s							
H04S1	**CROZET ISLANDS**	**53.77**	**238**	T	T	11 20 23.6		
	baz=131,slow=75,SNR=20							
H04S2	**CROZET ISLANDS**	**53.77**	**238**	T	T	11 20 31.9		
	baz=131,slow=75,SNR=29							
H04S3	**CROZET ISLANDS**	**53.79**	**238**	T	T	11 20 29.5		
	baz=131,slow=75,SNR=20							
H08S2	**Diego Garcia H**	**70.45**	**283**	T	T	11 40 47.0		
	baz=143,slow=76,SNR=5.2							
H08S1	**Diego Garcia H**	**70.47**	**283**	T	T	11 40 49.2		
	baz=143,slow=76,SNR=3.6							
H08S3	**Diego Garcia H**	**70.47**	**284**	T	T	11 40 47.4		
	baz=143,slow=76,SNR=7.5							
GERES	**GERESS Array B**	**146.55**	**285**	PKPbc	PKPdf	10 32 08.6	+0.7	
	0.2nm,0.2s,baz=121,slow=3.8,SNR=2.1							

*IDC **11** 10:16:55.2±0.7, 18°.96S×173°.26W, h0km, mb4.2/10, mbtmp4.2/11, ML4.4/1, MS3.6/4, Error ellipse: s-maj=32.2km s-min=18.5km az=139.0*
*NEIC **11** 10:16:56.4±2.3, 18°.85S±0°.08×173°.15W±0°.08, h10km±1km, mb4.5/15, Error ellipse: s-maj=14.3km s-min=12.2km az=17.0*
ISC 11 10:16:56.2±0.6, **18°.94S**±0°.09×**173°.19W**±0°.08, **h10**km, **n37**, σ1s**92**/33, **mb4.4**/18, **MS3.8**/3, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.09**	**93**		**Pn**	**10 17 40.7**	**-4.4**
AFI	**Afiamalu**	**5.18**	**15**		**Pn**	**10 18 12.7**	**-1.2**
MSVF	**Nonsavu**	**8.40**	**277**	Pn	**Pn**	**10 18 54.3**	**-4.0**
RAO	**Raoul Island**	**11.14**	**202**		**Pn**	**10 19 36.3**	**+0.7**
RAR	**Rarotonga**	**12.81**	**102**	LR	LR	10 24 07.5	
	comp=Z,292nm,21.2s,baz=206,slow=34						
PINNC	**Pines Island,**	**18.47**	**255**	P	**Pn**	**10 21 14.5**	**+2.0**
PINNC				IAmb	IAmb	10 21 17.2	
	comp=Z,104nm,1.4s						
DZM	**Mont Dzumac**	**19.33**	**257**	P	**P**	**10 21 17.6**	**-4.3**
DZM	**Mont Dzumac**	**19.33**	**257**	P	**P**	**10 21 22.6**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=77,slow=19,SNR=12						
	comp=Z,6.3nm,0.7s						
URZ	**Urewera**	**21.03**	**202**	P	**P**	**10 21 39.5**	**-0.7**
	comp=Z,8.7nm,0.6s,baz=142,slow=2.5,SNR=9.5						
	comp=Z,8.7nm,0.6s						
TOZ	**Tahuroa Road**	**21.17**	**205**	P	**P**	**10 21 43.5**	**+1.7**
TOZ				IAmb	IAmb	10 21 45.3	
	comp=Z,7.7nm,0.6s						
BKZ	**Black Stump Fm**	**22.05**	**202**	P	**P**	**10 21 51.7**	**+0.5**
BKZ				IAmb	IAmb	10 22 23.9	
	comp=Z,23nm,1.4s						
RPZ	**Rata Peaks**	**28.03**	**205**	P	**P**	**10 22 51.9**	**+4.3**
	comp=Z,14nm,0.6s,baz=32,slow=8.0,SNR=15						
EIDS	**Eidsvold**	**33.63**	**253**	P	**P**	**10 23 36.3**	**-1.0**
EIDS				IAmb	IAmb	10 23 38.3	
	comp=Z,3.3nm,0.7s						
ARMA	**Armidale**	**33.82**	**243**	P	**P**	**10 23 38.9**	**0.0**
CTAO	**Charters Tower**	**38.18**	**261**	P	**P**	**10 24 16.0**	**-0.3**
CTAO				IAmb	IAmb	10 24 17.4	
	comp=Z,10.0nm,0.6s						
AS31	**Alice Springs**	**49.29**	**255**		**P**	**10 25 45.1**	**-0.7**
ASAR	**Alice Springs**	**49.29**	**255**	P	**P**	**10 25 45.0**	**-0.8**
	comp=Z,4.7nm,0.7s,baz=93,slow=8.1,SNR=53						
	comp=Z,4.7nm,0.7s						
WB2	**Warramunga Ar**	**49.31**	**260**	P	**P**	**10 25 45.5**	**-0.4**
WB2				IAmb	IAmb	10 25 47.9	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**49.32**	**260**	P	**P**	**10 25 44.3**	**-1.7**
WRA	**Warramunga Arr**	**49.32**	**260**	P	**P**	**10 25 44.8**	**-1.2**
	comp=Z,1.8nm,0.5s,baz=97,slow=8.7,SNR=54						
	comp=Z,1.8nm,0.5s						
FORT	**Forrest**	**54.06**	**245**	P	**P**	**10 26 18.6**	**-2.7**
FORT				IAmb	IAmb	10 26 22.3	
	comp=Z,6.7nm,0.8s						
KNRA	**Kununurra**	**55.31**	**264**	P	**P**	**10 26 30.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**57.74**	**260**	P	**P**	**10 26 47.6**	**-0.3**
FITZ				IAmb	IAmb	10 26 51.0	
	comp=Z,3.4nm,1.5s						
MMRI	**Maumere**	**63.26**	**270**	P	**P**	**10 27 26.8**	**+1.2**
QSPA	**South Pole Qui**	**71.13**	**180**	P	**P**	**10 28 16.3**	**+1.5**
QSPA				IAmb	IAmb	10 28 27.5	
	comp=Z,2.4nm,1.1s						
QSPA	**South Pole Qui**	**71.13**	**180**	P	**P**	**10 28 15.9**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=57,slow=1.5,SNR=14						
	comp=Z,1.2nm,0.7s						
BBB	**Bella Bella**	**80.95**	**26**	P	**P**	**10 29 11.1**	**+0.5**
	comp=Z,8.0nm,0.9s,baz=128,slow=15,SNR=3.1						
	comp=Z,8.0nm,0.9s						
TXAR	**Lajitas Array**	**82.42**	**56**	P	**P**	**10 29 20.9**	**+1.7**
	comp=Z,0.7nm,1.1s,baz=224,slow=6.9,SNR=4.3						
	comp=Z,0.7nm,1.1s						
ANMO	**Albuquerque**	**82.92**	**50**	P	**P**	**10 29 21.3**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=166,slow=4.2,SNR=5.4						
	comp=Z,1.9nm,0.9s						
PDAR	**Pinedale Array**	**84.76**	**41**	P	**P**	**10 29 30.8**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=243,slow=4.8,SNR=4.6						
	comp=Z,0.4nm,0.6s						
DLBC	**Dease Lake**	**84.91**	**21**	LR	LR	11 00 44.8	
	comp=Z,6.2nm,20.6s,baz=232,slow=31						
ILAR	**Eielson Array**	**85.86**	**11**	P	**P**	**10 29 37.1**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=223,slow=4.8,SNR=6.8						
	comp=Z,0.5nm,0.7s						
SNAA	**Sanae**	**89.38**	**177**	LR	LR	11 04 43.2	
	comp=Z,119nm,21.8s,baz=146,slow=32						
YKA	**Yellowknife Ar**	**93.25**	**23**	LR	LR	11 06 34.0	
	comp=Z,32nm,19.9s,baz=314,slow=32						
CMAR	**Chiang Mai Arr**	**93.90**	**288**	P	**P**	**10 30 16.1**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=95,slow=4.4,SNR=1.6						
	comp=Z,0.7nm,0.3s						
ARCES	**ARCESS Array B**	**128.12**	**352**	PKP	**PKiKP**	**10 36 03.9**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=352,slow=2.5,SNR=5.1						
BRTR	**Keskin Array B**	**148.96**	**318**	PKPbc	**PKPbc**	**10 36 45.5**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=153,slow=2.6,SNR=4.6						

*UPA **11** 10:22:53.2±1.2, 8°.47N×77°.63W, h24km±46km, MW3.9*
*RSNC **11** 10:22:54.8±0.0, 8°N±2°×7°8W±°, h16km±4km, M3.0, mb3.7, mB5.0, ML2.8, Mw(mB)4.3*
*CATAC **11** 10:22:56.2±1.1, 8°N±3°×7°8W±°, h26km±9km, M3.8/8, mb3.8/2, MLv3.7/8, Error ellipse: s-maj=7.0km s-min=4.8km az=17.6, confirmed*
ISC 11 10:22:54.8±1.6, **8°.43N**±0°.04×**77°.76W**±0°.03, **h23**km±16km, **n29**, σ1s**33**/57, **1C, Panama-Colombia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTAC	**Punta Ardita,**	**1.28**	**182**	P	**Pn**	**10 23 14.1**	**-3.1**
PTAC				S	**Sn**	**10 23 30.6**	**-3.0**
APAC	**Apartado, Choc**	**1.28**	**114**	P	**Pn**	**10 23 16.8**	**-0.5**
APAC				S	**Sb**	**10 23 34.4**	**+0.1**
CNTA3	**Canitas, Panam**	**1.36**	**305**	*eP*	**Pn**	**10 23 16.6**	**-1.8**
CNTA3				*eS*	**Sn**	**10 23 35.2**	**-0.5**
LCBC	**Los crdobas,**	**1.44**	**73**	P	**Pb**	**10 23 20.6**	**-0.3**
LCBC				S	**Sb**	**10 23 39.5**	**+0.6**
CHPO	**Chepo, Panama**	**1.53**	**299**	*eP*	**Pn**	**10 23 20.2**	**-0.4**
CHPO				*eS*	**Sn**	**10 23 39.4**	**-0.3**
TABO3	**Taboga, Panama**	**1.81**	**282**	*eP*	**Pn**	**10 23 24.3**	**-0.2**
TABO3				*eS*	**Sn**	**10 23 47.1**	**+0.4**
UPA	**Univ. de Panam**	**1.83**	**287**	*eP*	**Pn**	**10 23 23.6**	**-1.2**
UPA				*eS*	**Sn**	**10 23 48.0**	**+0.6**
ARRA3	**Arraijan, Pana**	**1.95**	**286**	*eP*	**Pn**	**10 23 25.8**	**-0.7**
ARRA3				*eS*	**Sn**	**10 23 51.7**	**+1.5**
CHOR3	**La Chorrera**	**2.04**	**283**	*eP*	**Pn**	**10 23 27.6**	**0.0**
CHOR3				*eS*	**Sn**	**10 23 53.1**	**+0.8**
DBBC	**Dabeiba**	**2.08**	**132**	P	**Pn**	**10 23 28.3**	**-0.1**
DBBC				S	**Sn**	**10 23 54.7**	**+1.1**
BCIP	**Isla Barro Col**	**2.18**	**290**	P	**Pn**	**10 23 31.0**	**+1.4**
BCIP				S	**Sn**	**10 23 58.9**	**+3.1**
BCIP	**Isla Barro Col**	**2.18**	**290**	P	**Pn**	**10 23 28.5**	**-1.1**
BCIP				S	**Sn**	**10 23 56.4**	**+0.6**
SOLC	**Bahia Solano**	**2.22**	**171**	P	**Pn**	**10 23 31.2**	**+1.0**
SOLC				S	**Sn**	**10 23 59.1**	**+2.2**
UREC	**San Jos de Ur**	**2.31**	**107**	P	**Pn**	**10 23 31.0**	**-0.4**
UREC				S	**Sn**	**10 23 59.2**	**+0.1**
AZU	**Azuero**	**2.57**	**256**	*eP*	**Pn**	**10 23 34.3**	**-0.7**
AZU				*eS*	**Sn**	**10 24 06.5**	**+1.0**
AZU	**Azuero**	**2.57**	**256**	P	**Pn**	**10 23 34.9**	**0.0**
AZU				S	**Sn**	**10 24 03.2**	**-2.3**
SJCC	**San Jacinto, C**	**2.94**	**60**	P	**Pn**	**10 23 40.9**	**+0.9**
SJCC				S	**Sn**	**10 24 14.9**	**+0.3**
SJCC	**San Jacinto, C**	**2.94**	**60**	P	**Pn**	**10 23 42.2**	**+2.1**
SJCC				S	**Sn**	**10 24 14.6**	**-0.1**
ZARC	**Zaragoza, Cauc**	**3.02**	**108**	P	**Pn**	**10 23 41.0**	**-0.2**
ZARC				S	**Sn**	**10 24 15.2**	**-1.6**
CBOC	**Ciudad Bolivar**	**3.09**	**146**	P	**Pn**	**10 23 42.4**	**+0.2**
CBOC				S	**Sn**	**10 24 18.8**	**+0.3**
HELC	**Santa Helena**	**3.14**	**135**	P	**Pn**	**10 23 43.9**	**+0.8**
HELC				S	**Sn**	**10 24 20.3**	**+0.1**
HELC	**Santa Helena**	**3.14**	**135**	P	**Pn**	**10 23 44.6**	**+1.4**
HELC				S	**Sn**	**10 24 21.8**	**+1.7**
GMAL	**Guarumal, Vera**	**3.50**	**259**	*eP*	**Pn**	**10 23 49.0**	**+1.2**
GUY2C	**Guyana, Caldas**	**3.98**	**143**	P	**Pn**	**10 23 56.3**	**+1.5**
GUY2C				S	**Sn**	**10 24 41.3**	**+0.4**
BARC	**Barichara**	**4.89**	**112**	P	**Pn**	**10 24 07.6**	**+0.4**
BARC				S	**Sn**	**10 25 03.6**	**+0.3**
RUSC	**La Rusia**	**5.28**	**118**	P	**Pn**	**10 24 12.9**	**+0.2**
RUSC				S	**Sn**	**10 25 13.6**	**+0.4**
RUSC	**La Rusia**	**5.28**	**118**	P	**Pn**	**10 24 13.4**	**+0.6**
	5.8nm,0.5s						
RUSC				S	**Sn**	**10 25 11.2**	**-2.0**
	5.8nm,0.5s						
CRJC	**Cerrejon, Guaj**	**5.45**	**61**	P	**Pn**	**10 24 14.3**	**-0.5**
CRJC				S	**Sn**	**10 25 13.0**	**-3.9**
URI	**Uribia**	**6.55**	**60**	P	**Pn**	**10 24 30.0**	**+0.3**
URI				S	**Sn**	**10 25 43.7**	**0.0**

*NEIC **11** 10:26:29.6±0.8, 36°.042N±0°.006×117°.72W±0°.01, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.0km az=46.0*
PAS 11 10:26:29.9±0.8, **36°.05N**±0°.01×**117°.723W**±0°.007, **h1**km±2km, **Mwr3.5**/6, **ML3.3**/122(NEIC), **Error ellipse: s-maj=2.0km s-min=0.8km az=184.0, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JRC2	**Joshua Ridge**	**0.10**	**227**		Pg	10 26 32.0	+0.3
WVPM	**Volcano Peak E**	**0.12**	**218**		Pg	10 26 32.5	+0.2
WVPM					Sg	10 26 34.7	+0.8
MFS	**McCloud Flat S**	**0.13**	**303**		Pg	10 26 32.8	+0.4
WRVM	**Rose V. Centra**	**0.14**	**253**		Pg	10 26 32.9	+0.3
MPMC	**Manual Prospec**	**0.19**	**87**		Pg	10 26 33.7	+0.2
MPMC				IAML		10 26 38.0	
	comp=N,8μm,0.5s						
MPMC				IAML		10 26 38.1	
	comp=E,5μm,0.7s						
TOW	**Tower One**	**0.24**	**188**		Pg	10 26 35.2	+0.7
WNMM	**Nine Mile Cany**	**0.25**	**216**		Pg	10 26 35.0	+0.3
WNMM					Sg	10 26 39.1	+1.1
SRTC	**Snort**	**0.36**	**183**		Pg	10 26 37.4	+0.7
SRTC					Sb	10 26 43.8	-1.5
WSHM	**Spangler Hills**	**0.48**	**157**	Pg	Pg	10 26 39.3	+0.1
WSHM				IAML		10 26 47.4	
	comp=E,2μm,0.3s						
CWC	**Cottonwood Cre**	**0.49**	**324**		Pg	10 26 39.4	+0.2
CWC				IAML		10 26 46.8	
	comp=E,2μm,0.4s						
CWC				IAML		10 26 46.9	
	comp=N,2μm,0.2s						
WORM	**Onyx Ranch**	**0.55**	**230**		Pg	10 26 40.4	0.0
WORM					Sg	10 26 47.9	+0.4
LRMC	**Laurel Mtn Rad**	**0.57**	**177**		Pg	10 26 40.7	0.0
LRMC				IAML		10 26 49.7	
	comp=N,2μm,0.2s						
LRMC				IAML		10 26 50.4	
	comp=E,2μm,0.5s						
CCCA	**Chr Cany lake**	**0.60**	**151**		Pg	10 26 41.8	+0.4
WBSM	**Bird Springs**	**0.61**	**214**		Pg	10 26 41.6	0.0
WBSM					Sg	10 26 50.2	+0.6
WHFM	**Hanning Flat**	**0.62**	**236**		Pg	10 26 41.8	0.0
QSM	**Queen of Sheba**	**0.70**	**97**		Pg	10 26 43.2	-0.1
QSM				IAML		10 26 54.5	
	comp=N,1μm,0.6s						
QSM				IAML		10 27 01.3	
	comp=E,1μm,0.6s						
ISA	**Isabella, Lake**	**0.72**	**238**		Pg	10 26 43.8	+0.1
ISA				IAML		10 26 53.7	
	comp=N,2μm,0.5s						
ISA				IAML		10 26 53.8	
	comp=E,2μm,0.5s						
WASM	**Alta Sierra Ca**	**0.74**	**246**		Pg	10 26 44.2	0.0
SPG2	**Springville 2**	**0.86**	**280**		Pg	10 26 46.0	-0.3
GWY	**Greenwater Val**	**0.86**	**81**		Pg	10 26 46.5	0.0
GRAC	**Grapevine Rang**	**0.99**	**17**		Pg	10 26 48.7	-0.1
GRAC				IAML		10 27 08.7	
	comp=N,1μm,0.8s						
GRAC				IAML		10 27 10.8	
	comp=E,2μm,0.8s						
GSC	**Goldstone, Bar**	**1.05**	**135**		Pg	10 26 49.6	-0.5
GSC				IAML		10 27 04.8	
	comp=E,1μm,0.6s						
GSC				IAML		10 27 09.2	
	comp=N,808nm,0.5s						
WCT	**Wildcat Mounta**	**1.16**	**50**		Pg	10 26 51.5	-0.5
WCT				IAML		10 27 10.3	
	comp=E,602nm,0.4s						
TPO	**Tropico Hills**	**1.24**	**200**	IAML		10 27 14.8	
TPO	comp=E,464nm,0.6s			IAML		10 27 18.8	
	comp=N,373nm,0.6s						
GMN	**Gold Mountain**	**1.30**	**16**		Pg	10 26 54.2	-0.7
GMN				IAML		10 27 21.3	
	comp=N,397nm,0.6s						
DSP	**Deep Springs**	**1.33**	**352**		Pg	10 26 54.5	-0.9
VOG	**Valley Oaks Go**	**1.37**	**282**		Pg	10 26 55.5	-0.6
TPNV	**Topopah Spring**	**1.49**	**52**		Pn	10 26 57.5	-0.6
TPNV				IAML		10 27 19.8	
	comp=N,593nm,0.7s						
TPNV				IAML		10 27 20.0	
	comp=N,585nm,0.6s						
OSI	**Osito Audit: C**	**1.65**	**210**		Pn	10 27 00.1	0.0
OSI				IAML		10 27 28.9	
	comp=N,286nm,0.5s						
OSI				IAML		10 27 29.4	
	comp=E,225nm,0.6s						
MZP	**Montezuma Peak**	**1.67**	**9**		Pn	10 27 00.6	-0.1
BFSC	**Mount Baldy Ra**	**1.81**	**178**		Pn	10 27 01.7	-0.6
BFSC				IAML		10 27 32.3	
	comp=E,172nm,0.6s						
MWC	**Mount Wilson**	**1.84**	**189**	IAML		10 27 33.6	
MWC	comp=N,166nm,0.5s			IAML		10 27 39.2	
	comp=E,159nm,0.9s						
MTPC	**Mountain Pass**	**1.85**	**107**		Pn	10 27 01.5	-1.5
MTPC				IAML		10 27 32.0	
	comp=N,187nm,0.7s						
MTPC				IAML		10 27 32.0	
	comp=E,292nm,0.5s						
MCSM	**Casa Diablo Ho**	**1.86**	**330**		Pb	10 27 04.9	0.0
PASC	**Pasadena Art C**	**1.91**	**192**		Pn	10 27 03.2	-0.5
TPH	**Tonopah**	**2.06**	**11**		Pn	10 27 06.3	+0.4
SHPR	**Sheep Range**	**2.12**	**77**		Pn	10 27 06.6	-0.1
LHV	**Little Huntoon**	**2.29**	**344**		Pn	10 27 10.0	+1.3
LHV				IAML		10 27 53.7	
	comp=N,126nm,1.3s						
LHV				IAML		10 27 53.9	
	comp=E,115nm,0.7s						
V12A	**Nelson**	**2.35**	**97**		Pn	10 27 08.9	-0.9
V12A				IAML		10 27 50.1	
	comp=N,114nm,1.3s						
ELS	**Elsinore Mount**	**2.41**	**174**		Pn	10 27 09.9	-0.6
NVAR	**Mina Array Bea**	**2.42**	**349**		Pn	10 27 11.8	+0.9
PMPB	**Monarch Peak**	**2.50**	**275**		Pn	10 27 12.3	+0.5
PMPB				IAML		10 27 59.6	
	comp=N,187nm,0.8s						
PMPB				IAML		10 28 00.2	
	comp=E,204nm,1.1s						
PRN	**Pahroc Range**	**2.54**	**57**		Pn	10 27 12.6	+0.1
PRN				IAML		10 27 54.2	
	comp=N,169nm,0.6s						
PRN				IAML		10 28 04.8	
	comp=E,202nm,0.7s						
PFO	**Pinyon Flats O**	**2.64**	**156**		Pn	10 27 13.5	-0.3
PFO				IAML		10 28 01.6	
	comp=E,98nm,1.8s						
RYN	**Ryan**	**2.65**	**346**		Pn	10 27 14.9	+0.9
BBGB	**Big Mountain B**	**2.73**	**282**		Pn	10 27 16.5	+1.5
NEE2	**Needles Airpor**	**2.84**	**116**		Pn	10 27 16.5	+0.1
NEE2				IAML		10 28 07.9	
	comp=N,170nm,0.7s						
CMB	**Columbia Colle**	**2.91**	**314**		Pn	10 27 17.7	+0.3
CMB				IAML		10 28 04.2	
	comp=N,72nm,0.9s						
CMB				IAML		10 28 08.2	
	comp=E,69nm,0.8s						
SAO	**San Andreas Ge**	**3.09**	**284**		Pn	10 27 20.9	+1.1
DPP	**Dos Picos Cty**	**3.11**	**168**		Pn	10 27 19.9	-0.2
DPP				IAML		10 28 10.5	
	comp=E,55nm,0.9s						
W13A	**Hualapai Mount**	**3.27**	**106**		Pn	10 27 21.3	-1.2
W13A				IAML		10 28 22.3	
	comp=N,43nm,0.8s						
BLYC	**Blythe**	**3.49**	**130**		Pn	10 27 24.1	-1.2
BLYC				IAML		10 28 23.1	
	comp=E,52nm,0.6s						
BLYC				IAML		10 28 33.2	
	comp=N,59nm,0.6s						
CCUT	**Cedar City**	**3.81**	**66**		Pn	10 27 31.0	+1.0
KNB	**Kanab**	**4.06**	**75**	IAML		10 28 44.5	
	comp=N,22nm,1.3s						
U15A	**North Rim**	**4.41**	**83**	IAML		10 28 58.7	
	comp=E,27nm,0.8s						
U15A				IAML		10 28 59.7	
	comp=N,20nm,1.2s						
Y14A	**Wickenburg**	**4.41**	**117**	IAML		10 28 56.8	
	comp=E,30nm,0.5s						
Y14A				IAML		10 28 57.1	
	comp=N,44nm,0.9s						

*PAS **11** 10:27:24.4±0.6, 36°.044N±0°.007×117°.720W±0°.009, h0km±1km, ML3.2/30, ML3.1/34(NEIC), Error ellipse: s-maj=1.1km s-min=0.9km az=120.0*
NEIC 11 10:27:24.1±0.7, **36°.044N**±0°.006×**117°.722W**±0°.009, **h2**km±1km, **Error ellipse: s-maj=1.1km s-min=0.9km az=78.0, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JRC2	**Joshua Ridge**	**0.09**	**229**		Pg	10 27 26.6	+0.7
WVPM	**Volcano Peak E**	**0.12**	**219**		Pg	10 27 27.0	+0.6
WVPM					Sg	10 27 29.2	+1.2
MFS	**McCloud Flat S**	**0.13**	**304**		Pg	10 27 27.3	+0.6
WRVM	**Rose V. Centra**	**0.14**	**255**		Pg	10 27 27.4	+0.6
MPMC	**Manual Prospec**	**0.19**	**86**		Pg	10 27 28.3	+0.6
TOW	**Tower One**	**0.24**	**188**		Pg	10 27 29.8	+1.2
WNMM	**Nine Mile Cany**	**0.25**	**216**		Pg	10 27 29.5	+0.6
SRTC	**Snort**	**0.35**	**184**		Pg	10 27 31.9	+1.1
CWC	**Cottonwood Cre**	**0.49**	**324**	Pg	Pg	10 27 34.1	+0.7
CWC				IAML		10 27 41.2	
	comp=E,821nm,0.3s						
CGO	**Cerro Gordo**	**0.51**	**353**		Pg	10 27 34.7	+0.8
WORM	**Onyx Ranch**	**0.55**	**231**		Pg	10 27 34.9	+0.4
LRMC	**Laurel Mtn Rad**	**0.56**	**177**		Pg	10 27 35.3	+0.5
LRMC	**Laurel Mtn Rad**	**0.56**	**177**	IAML		10 27 44.0	
	comp=N,698nm,0.2s						
LRMC				IAML		10 27 44.7	
	comp=E,597nm,0.3s						
CCCA	**Chr Cany lake**	**0.59**	**151**		Pb	10 27 36.4	-0.8
CCCA	**Chr Cany lake**	**0.59**	**151**	IAML		10 27 45.4	
	comp=N,3μm,0.3s						
CCCA				IAML		10 27 46.6	
	comp=E,2μm,0.4s						
WHFM	**Hanning Flat**	**0.62**	**236**		Sg	10 27 44.7	+0.9
QSM	**Queen of Sheba**	**0.70**	**96**		Pb	10 27 38.7	-0.3
QSM	**Queen of Sheba**	**0.70**	**96**	IAML		10 27 52.5	
	comp=E,644nm,0.6s						
QSM				IAML		10 27 53.7	
	comp=N,556nm,0.4s						
ISA	**Isabella, Lake**	**0.72**	**238**	IAML		10 27 48.2	
	comp=N,724nm,0.5s						
ISA				IAML		10 27 49.0	
	comp=E,539nm,0.5s						
WASM	**Alta Sierra Ca**	**0.74**	**246**		Pg	10 27 38.7	+0.4
SPG2	**Springville 2**	**0.86**	**281**		Pg	10 27 40.6	0.0
GWY	**Greenwater Val**	**0.86**	**80**		Pg	10 27 41.0	+0.4
GWY	**Greenwater Val**	**0.86**	**80**	IAML		10 27 57.1	
	comp=N,731nm,0.4s						
GSC	**Goldstone, Bar**	**1.05**	**135**		Pb	10 27 45.3	+0.3
GSC				IAML		10 27 59.2	
	comp=E,434nm,0.5s						
GSC				IAML		10 28 03.7	
	comp=N,267nm,0.5s						

*GCG **11** 10:29:39.9±1.3, 14°.08N×91°.21W, h67km±6km, MD3.7, ML4.0, MW3.4*
*CATAC **11** 10:29:39.5±0.4, 14°N±2°×9°1W±°, h28km±3km, M3.5/25, MLv3.5/25, Error ellipse: s-maj=6.1km s-min=2.3km az=31.5, confirmed*
*SNET **11** 10:29:41.3±1.4, 14°.04N×91°.07W, h21km±7km, ML3.1*
ISC 11 10:29:40.9±1.5, **13°.93N**±0°.07×**91°.21W**±0°.05, **h52**km±15km, **n71**, σ1s**40**/83, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STG2	**El Palmar, Qui**	**0.53**	**342**	*i* P	**Pn**	**10 29 55.7**	**+2.9**
STG8	**El Palmar, Qui**	**0.54**	**345**	*i* P	**Pn**	**10 29 55.5**	**+2.5**
STG8				*i* S	**Sn**	**10 30 07.7**	**+6.1**
STG8				IAML		10 30 08.3	
	comp=N,9μm,0.2s						
ESSG	**Sabana Grande**	**0.58**	**39**	*i* P	**Pn**	**10 29 52.2**	**-1.1**
ESSG				*i* S	**Sn**	**10 30 01.9**	**-0.4**
FG8	**Yepocapa, Chim**	**0.70**	**62**	*i* P	**Pn**	**10 29 52.4**	**-2.5**
FG8				*i* S	**Sn**	**10 30 02.3**	**-2.8**
FG16	**Alotenango, Sa**	**0.76**	**63**	*i* P	**Pn**	**10 29 53.0**	**-2.6**
FG16				*i* S	**Sn**	**10 30 03.9**	**-2.5**
FG16				IAML		10 30 05.1	
	comp=E,25μm,0.2s						
RTAL	**Retalhuleu**	**0.76**	**321**	S	**Sn**	**10 30 05.0**	**-1.1**
RTAL	**Retalhuleu**	**0.76**	**321**	P	**Pn**	**10 29 53.8**	**-1.7**
ESSJ	**San Jos, E**	**0.78**	**118**	*i* P	Pn	10 29 51.2	-4.4
ESSJ				*i* S	**Sn**	**10 30 01.6**	**-4.8**
**SOKI

PMON	**Piamonte**	**1.85**	**97**	S		**Sn**	**10 30 33.6**	**+1.0**
PMON	**Piamonte**	**1.85**	**97**	P		**Pn**	**10 30 09.8**	**-0.5**
LALI	**Alcalda de L**	**1.88**	**103**	P		**Pn**	**10 30 10.7**	**0.0**
LALI	**Alcalda de L**	**1.88**	**103**	S		**Sn**	**10 30 34.5**	**+1.3**
ESQI	**Esquipulas**	**1.91**	**71**	*e*P		**Pn**	**10 30 10.3**	**-0.8**
ESQI	**Esquipulas**	**1.91**	**71**	P		**Pn**	**10 30 10.8**	**-0.4**
UEES	**Universidad Ev**	**1.92**	**96**	P		**Pn**	**10 30 10.9**	**-0.3**
UEES	**Universidad Ev**	**1.92**	**96**	S		**Sn**	**10 30 35.2**	**+0.8**
LOMA	**Loma Larga**	**2.00**	**98**	S		**Sn**	**10 30 37.5**	**+1.3**
LOMA	**Loma Larga**	**2.00**	**98**	P		**Pn**	**10 30 12.0**	**-0.4**
PAVA	**Las Pavas**	**2.21**	**95**	P		**Pn**	**10 30 15.3**	**+0.1**
PAVA	**Las Pavas**	**2.21**	**95**	S		**Sn**	**10 30 42.7**	**+1.1**
COEG	**Centro de Oper**	**2.28**	**98**	*e*P		**Pn**	**10 30 16.7**	**+0.5**
COEG	**Centro de Oper**	**2.28**	**98**	P		**Pn**	**10 30 16.3**	**+0.1**
COEG	**Centro de Oper**	**2.28**	**98**	S		**Sn**	**10 30 45.3**	**+2.1**
UESV	**Universidad de**	**2.37**	**97**	S		**Sn**	**10 30 46.6**	**+1.4**
UESV	**Universidad de**	**2.37**	**97**	P		**Pn**	**10 30 17.2**	**-0.1**
TECO	**Alcaldia de Te**	**2.39**	**99**	P		**Pn**	**10 30 17.1**	**-0.5**
TECO	**Alcaldia de Te**	**2.39**	**99**	S		**Sn**	**10 30 46.6**	**+0.9**
SCLA	**Alcaldia de Sa**	**2.42**	**95**	S		**Sn**	**10 30 47.6**	**+1.2**
SCLA	**Alcaldia de Sa**	**2.42**	**95**	P		**Pn**	**10 30 18.8**	**+0.8**
SARH	**Santa Rosa de**	**2.51**	**70**	*i* P		**Pn**	**10 30 18.9**	**-0.5**
SARH	**Santa Rosa de**	**2.51**	**70**	P		**Pn**	**10 30 18.9**	**-0.5**
PQSS	**Presa 15 de Se**	**2.59**	**96**	P		**Pn**	**10 30 20.5**	**+0.2**
PQSS	**Presa 15 de Se**	**2.59**	**96**	S		**Sn**	**10 30 52.0**	**+1.4**
ALJI	**Alcalda de J**	**2.63**	**103**	S		**Sn**	**10 30 53.0**	**+1.4**
ALJI	**Alcalda de J**	**2.63**	**103**	P		**Pn**	**10 30 20.8**	**-0.1**
PACA	**Pacayal**	**2.84**	**99**	S		**Sn**	**10 30 58.6**	**+1.7**
PACA	**Pacayal**	**2.84**	**99**	P		**Pn**	**10 30 23.1**	**-0.7**
CNCH	**Conchagua**	**3.34**	**101**	S		**Sn**	**10 31 10.8**	**+1.5**
CNCH	**Conchagua**	**3.34**	**101**	P		**Pn**	**10 30 30.7**	**0.0**

NEIC ***11*** *10:43:34.8±0.9, 36°.036N±0°.006×117°.72W±0°.02, h1*$^{km}_{\pm 2km}$*, Error ellipse: s-maj=2.1km s-min=0.5km az=114.0*

PAS 11 10:43:35.4±0.9,**36°.05N**±0°.01×**117°.73W**±0°.02,**h1**$^{km}_{\pm 2km}$**, Mwr3.6/6, ML3.4**/140(NEIC)**, Error ellipse: s-maj=2.2km s-min=2.0km az=124.0, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRC2	**Joshua Ridge**	**0.09**	**226**		Pg	10 43 37.5	+0.3
WVPM	**Volcano Peak E**	**0.12**	**217**		Pg	10 43 38.0	+0.2
WVPM					Sg	10 43 40.1	+0.8
MFS	**McCloud Flat S**	**0.12**	**304**		Pg	10 43 38.2	+0.4
WRVM	**Rose V. Centra**	**0.14**	**254**		Pg	10 43 38.4	+0.3
MPMC	**Manual Prospec**	**0.19**	**87**		Pg	10 43 39.3	+0.2
MPMC				IAML		10 43 42.4	
	comp=E,6μm,0.5s						
MPMC				IAML		10 43 43.9	
	comp=N,10μm,0.6s						
TOW	**Tower One**	**0.24**	**187**		Pg	10 43 40.7	+0.7
WNMM	**Nine Mile Cany**	**0.25**	**215**		Pg	10 43 40.4	+0.2
WNMM					Sg	10 43 44.4	+1.0
SRTC	**Snort**	**0.35**	**183**		Pg	10 43 42.8	+0.7
SRTC					Sb	10 43 49.1	-1.6
CWC	**Cottonwood Cre**	**0.48**	**324**		Pg	10 43 44.9	+0.1
CWC				IAML		10 43 52.4	
	comp=E,3μm,0.2s						
WSHM	**Spangler Hills**	**0.48**	**157**	Pg	Pg	10 43 44.7	0.0
WSHM				IAML		10 43 52.6	
	comp=E,6μm,0.2s						
CGO	**Cerro Gordo**	**0.51**	**353**		Pg	10 43 45.1	0.0
LRMC	**Laurel Mtn Rad**	**0.57**	**176**		Pg	10 43 46.3	0.0
LRMC				IAML		10 43 54.9	
	comp=N,4μm,0.2s						
LRMC				IAML		10 43 55.9	
	comp=E,4μm,0.5s						
CCCA	**Chr Cany lake**	**0.60**	**150**		Pg	10 43 47.3	+0.5
QSM	**Queen of Sheba**	**0.70**	**96**		Pg	10 43 48.7	-0.1
QSM				IAML		10 44 03.2	
	comp=E,3μm,0.5s						
QSM				IAML		10 44 05.1	
	comp=N,3μm,0.5s						
ISA	**Isabella, Lake**	**0.72**	**238**		Pg	10 43 49.2	+0.1
ISA				IAML		10 43 59.1	
	comp=N,3μm,0.5s						
ISA				IAML		10 43 59.2	
	comp=E,2μm,0.5s						
SPG2	**Springville 2**	**0.85**	**281**		Pg	10 43 51.4	-0.4
GWY	**Greenwater Val**	**0.87**	**80**		Pg	10 43 52.0	-0.1
CCAC	**Calif City Air**	**0.92**	**195**		Pg	10 43 52.8	-0.3
GRAC	**Grapevine Rang**	**0.99**	**17**		Pg	10 43 54.2	-0.2
GRAC				IAML		10 44 14.3	
	comp=N,2μm,0.8s						
GSC	**Goldstone, Bar**	**1.06**	**134**		Pg	10 43 55.1	-0.5
GSC				IAML		10 44 14.7	
	comp=N,1μm,0.6s						
WCT	**Wildcat Mounta**	**1.16**	**50**		Pg	10 43 57.2	-0.5
WCT				IAML		10 44 15.6	
	comp=N,576nm,0.7s						
WCT				IAML		10 44 15.8	
	comp=E,749nm,0.6s						
TPO	**Tropico Hills**	**1.23**	**199**		Pg	10 43 58.3	-0.7
TPO				IAML		10 44 23.0	
	comp=E,514nm,0.7s						
TPO				IAML		10 44 24.3	
	comp=N,540nm,0.6s						
GMN	**Gold Mountain**	**1.31**	**17**		Pg	10 43 59.8	-0.6
GMN				IAML		10 44 26.9	
	comp=N,474nm,0.7s						
DSP	**Deep Springs**	**1.33**	**352**		Pg	10 44 00.1	-0.8
TPNV	**Topopah Spring**	**1.49**	**52**		Pn	10 44 02.9	-0.6
TPNV				IAML		10 44 25.4	
	comp=N,875nm,0.7s						
TPNV				IAML		10 44 25.8	
	comp=N,785nm,0.5s						
OSI	**Osito Audit: C**	**1.65**	**210**		Pn	10 44 05.2	-0.3
OSI				IAML		10 44 34.8	
	comp=E,350nm,0.8s						
OSI				IAML		10 44 39.3	
	comp=N,331nm,0.6s						
MZP	**Montezuma Peak**	**1.67**	**9**		Pn	10 44 06.4	+0.3
BFSC	**Mount Baldy Ra**	**1.81**	**178**		Pn	10 44 06.8	-0.9
BFSC				IAML		10 44 37.8	
	comp=E,235nm,0.7s						
KCC	**Kaiser Creek**	**1.81**	**315**		Pb	10 44 08.6	-0.8
MWC	**Mount Wilson**	**1.84**	**189**	IAML		10 44 44.7	
	comp=E,217nm,0.9s						
MWC				IAML		10 44 49.5	
	comp=N,232nm,0.8s						
MTPC	**Mountain Pass**	**1.85**	**107**		Pn	10 44 07.2	-1.4
MTPC				IAML		10 44 36.4	
	comp=N,347nm,0.3s						
MTPC				IAML		10 44 37.3	
	comp=E,410nm,0.4s						
TPH	**Tonopah**	**2.06**	**11**		Pn	10 44 12.2	+0.8
SHPR	**Sheep Range**	**2.12**	**77**		Pn	10 44 11.8	-0.4
TSCN	**Private Proper**	**2.19**	**258**		Pb	10 44 15.6	-0.3
S11A	**Rachel**	**2.25**	**44**		Pn	10 44 13.9	0.0
S11A				IAML		10 44 52.3	
	comp=N,503nm,0.8s						
LHV	**Little Huntoon**	**2.29**	**344**	IAML		10 44 55.4	
	comp=E,168nm,1.1s						
V12A	**Nelson**	**2.36**	**97**		Pn	10 44 14.4	-1.0
V12A				IAML		10 44 53.3	
	comp=N,137nm,1.1s						
V12A				IAML		10 44 55.4	
	comp=E,126nm,0.4s						
NV11	**Mina Array Sit**	**2.41**	**352**		Pn	10 44 16.7	+0.6
ELS	**Elsinore Mount**	**2.41**	**174**		Pn	10 44 15.5	-0.5
NVAR	**Mina Array Bea**	**2.42**	**349**		Pn	10 44 16.5	+0.1
PMPB	**Monarch Peak**	**2.49**	**275**		Pb	10 44 19.2	-1.9
PMPB				IAML		10 45 05.0	
	comp=N,294nm,0.8s						
PMPB				IAML		10 45 05.6	
	comp=E,320nm,1.1s						
MYLM	**Yosemite Lake**	**2.54**	**302**		Pb	10 44 21.0	-0.8
PRN	**Pahroc Range**	**2.54**	**57**		Pn	10 44 17.8	-0.2
PRN				IAML		10 45 02.2	
	comp=N,216nm,0.7s						
PRN				IAML		10 45 10.4	
	comp=E,278nm,0.7s						
PMD	**Palm Desert**	**2.64**	**155**		Pn	10 44 18.2	-0.9
PMD				IAML		10 45 01.6	
	comp=N,104nm,0.6s						
PMD				IAML		10 45 03.5	
	comp=E,190nm,0.6s						
PFO	**Pinyon Flats O**	**2.64**	**156**		Pn	10 44 18.5	-0.8
PFO				IAML		10 45 07.7	
	comp=E,142nm,1.3s						
PFO				IAML		10 45 07.8	
	comp=E,106nm,1.0s						
RYN	**Ryan**	**2.65**	**346**		Pn	10 44 20.6	+1.1
BBGB	**Big Mountain B**	**2.73**	**282**		Pn	10 44 20.8	+0.4
BBGB				IAML		10 45 16.6	
	comp=N,323nm,0.8s						
Q09A	**Carvers**	**2.82**	**9**		Pn	10 44 18.6	-3.2
Q09A				IAML		10 45 17.3	
	comp=N,259nm,0.7s						
R11B	**Troy Canyon, C**	**2.86**	**36**		Pn	10 44 23.3	+0.8
R11B				IAML		10 45 07.9	
	comp=E,188nm,0.8s						
CMB	**Columbia Colle**	**2.91**	**314**		Pn	10 44 24.6	+1.7
CMB				IAML		10 45 09.2	
	comp=E,100nm,0.7s						
CMB				IAML		10 45 09.2	
	comp=N,127nm,0.9s						
BORC	**Borrego Spring**	**2.98**	**158**	IAML		10 45 15.1	
	comp=N,105nm,0.9s						
BORC				IAML		10 45 16.0	
	comp=E,147nm,0.9s						
SAO	**San Andreas Ge**	**3.08**	**285**		Pn	10 44 26.4	+1.1
DPP	**Dos Picos Cty**	**3.11**	**168**	IAML		10 45 16.0	
	comp=E,108nm,0.9s						
W13A	**Hualapai Mount**	**3.27**	**106**	IAML		10 45 27.9	
	comp=N,71nm,0.8s						
BLYC	**Blythe**	**3.49**	**130**		Pn	10 44 29.3	-1.6
BLYC				IAML		10 45 37.4	
	comp=E,75nm,0.7s						
BLYC				IAML		10 45 38.7	
	comp=N,84nm,0.7s						
CBX	**Cerro Bola**	**3.83**	**166**		Pn	10 44 35.9	+0.2
SPR3	**Spring Creek 3**	**4.00**	**41**	IAML		10 45 45.1	
	comp=N,43nm,0.7s						
SPR3				IAML		10 45 48.8	
	comp=E,60nm,1.2s						
U15A	**North Rim**	**4.41**	**83**	IAML		10 46 04.3	
	comp=E,40nm,0.8s						
U15A				IAML		10 46 05.3	
	comp=N,28nm,1.1s						
Y14A	**Wickenburg**	**4.41**	**117**	IAML		10 46 01.5	
	comp=E,50nm,0.9s						
Y14A				IAML		10 46 03.1	
	comp=N,50nm,1.0s						
113A	**Mohawk Valley,**	**4.63**	**134**	IAML		10 46 13.8	
	comp=E,21nm,1.1s						
ELK	**Elko**	**5.08**	**22**	IAML		10 46 21.4	
	comp=E,20nm,0.8s						

PAS ***11*** *10:59:45.7±1.3, 35°.95N±0°.01×117°.38W±0°.01, h-0km±1km, Mwr3.7/6, ML3.6/116(NEIC), Error ellipse: s-maj=2.2km s-min=1.7km az=174.0*

NEIC 11 10:59:45.2±1.4,**35°.93N**±0°.01×**117°.347W**±0°.008, **h5**$^{km}_{\pm 1km}$**, Error ellipse: s-maj=2.9km s-min=2.3km az=12.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.17**	**318**		Pg	10 59 48.8	+0.1
MPMC				IAML		10 59 51.4	
	comp=N,24μm,0.4s						
TOW	**Tower One**	**0.36**	**251**		Sb	10 59 59.3	-0.8
QSM	**Queen of Sheba**	**0.39**	**85**		Pb	10 59 53.9	-0.8
QSM				IAML		11 00 00.2	
	comp=E,5μm,0.3s						
QSM				IAML		11 00 03.4	
	comp=N,5μm,0.7s						
CCCA	**Chr Cany lake**	**0.40**	**182**		Sb	11 00 01.2	-0.2
CCCA	**Chr Cany lake**	**0.40**	**182**		Pb	10 59 54.1	-0.8
CCCA				IAML		11 00 01.3	
	comp=N,19μm,0.3s						
CCCA				IAML		11 00 01.4	
	comp=E,11μm,0.3s						
SRTC	**Snort**	**0.40**	**234**		Sb	11 00 00.6	-0.8
WRVM	**Rose V. Centra**	**0.45**	**280**		Pg	10 59 54.1	+0.2
MFS	**McCloud Flat S**	**0.45**	**295**		Pg	10 59 54.2	+0.2
LRMC	**Laurel Mtn Rad**	**0.53**	**211**		Pg	10 59 55.9	+0.6
LRMC				IAML		11 00 04.1	
	comp=N,5μm,0.4s						
GWY	**Greenwater Val**	**0.61**	**65**		Pb	10 59 57.8	-0.6
GWY				IAML		11 00 10.8	
	comp=N,3μm,0.4s						
GWY				IAML		11 00 13.2	
	comp=E,3μm,0.5s						
FURC	**Furnace Creek,**	**0.66**	**36**		Pn	11 00 08.6	+7.3
WORM	**Onyx Ranch**	**0.76**	**253**		Pg	10 59 59.9	0.0
GSC	**Goldstone, Bar**	**0.77**	**145**		Sb	11 00 11.2	-0.6
GSC	**Goldstone, Bar**	**0.77**	**145**		Pb	11 00 00.9	-0.2
GSC				IAML		11 00 15.4	
	comp=E,3μm,0.4s						
GSC				IAML		11 00 16.5	
	comp=N,2μm,0.5s						
CWC	**Cottonwood Cre**	**0.78**	**311**		Pg	11 00 00.3	0.0
CWC				IAML		11 00 11.0	
	comp=E,2μm,0.3s						
CWC				IAML		11 00 11.0	
	comp=N,3μm,0.5s						
SHOC	**Shoshone, Teco**	**0.87**	**92**		Pn	11 00 16.7	+13
ISA	**Isabella, Lake**	**0.95**	**254**		Pg	11 00 03.6	0.0
ISA				IAML		11 00 19.6	
	comp=N,1μm,0.9s						
WCT	**Wildcat Mounta**	**1.04**	**34**		Pb	11 00 05.5	-0.3
WCT				IAML		11 00 21.4	
	comp=N,1μm,0.6s						
WCT				IAML		11 00 21.6	
	comp=E,1μm,0.5s						
GRAC	**Grapevine Rang**	**1.06**	**359**		Pg	11 00 05.7	0.0
GRAC				IAML		11 00 23.6	
	comp=E,2μm,0.5s						
GRAC				IAML		11 00 24.2	
	comp=N,3μm,0.9s						
HYS	**Haystack Butte**	**1.08**	**190**		Pg	11 00 06.1	+0.2
HYS					Sb	11 00 20.6	-0.3
RRX	**Edison Barstow**	**1.09**	**165**		Pb	11 00 06.7	+0.1
TPO	**Tropico Hills**	**1.27**	**215**		Pb	11 00 09.7	0.0
TPNV	**Topopah Spring**	**1.35**	**41**		Pb	11 00 11.1	0.0
TPNV				IAML		11 00 35.1	
	comp=N,904nm,0.8s						
TPNV				IAML		11 00 35.1	
	comp=N,876nm,0.9s						
GMN	**Gold Mountain**	**1.37**	**3**		Pn	11 00 11.3	0.0
GMN				IAML		11 00 32.6	
	comp=N,692nm,0.6s						
DSP	**Deep Springs**	**1.52**	**341**		Pn	11 00 13.1	-0.1
MTPC	**Mountain Pass**	**1.53**	**106**		Pn	11 00 13.4	0.0
MTPC				IAML		11 00 36.5	
	comp=N,1μm,0.7s						
MTPC				IAML		11 00 37.5	
	comp=E,1μm,0.3s						
BFSC	**Mount Baldy Ra**	**1.71**	**189**		Pb	11 00 16.8	-0.4
BFSC				IAML		11 00 41.6	
	comp=E,991nm,0.4s						
BFSC				IAML		11 00 42.0	
	comp=N,529nm,0.5s						
MZP	**Montezuma Peak**	**1.77**	**359**		Pn	11 00 17.1	+0.4
SHPR	**Sheep Range**	**1.86**	**71**		Pn	11 00 18.7	+0.8
PASC	**Pasadena Art C**	**1.88**	**202**		Pb	11 00 19.2	-1.0
PASC				IAML		11 00 49.6	
	comp=E,483nm,0.5s						
PASC				IAML		11 00 52.9	
	comp=N,370nm,0.6s						
V12A	**Nelson**	**2.04**	**95**		Pb	11 00 21.7	-1.2
V12A				IAML		11 00 59.4	
	comp=E,375nm,0.6s						
V12A				IAML		11 00 59.6	
	comp=N,529nm,0.8s						
S11A	**Rachel**	**2.14**	**36**		Pn	11 00 22.7	+0.9
S11A				IAML		11 00 57.1	
	comp=N,640nm,0.9s						
TPH	**Tonopah**	**2.14**	**3**		Pn	11 00 22.6	+0.7
ELS	**Elsinore Mount**	**2.28**	**182**		Pn	11 00 24.2	+0.6
PMD	**Palm Desert**	**2.41**	**160**		Pn	11 00 25.4	0.0
PFO	**Pinyon Flats O**	**2.42**	**162**		Pn	11 00 25.9	+0.3
LHV	**Little Huntoon**	**2.50**	**339**		Pn	11 00 27.7	+1.2
LHV				IAML		11 01 09.1	
	comp=N,220nm,0.6s						
LHV				IAML		11 01 18.6	
	comp=E,262nm,1.1s						
NEE2	**Needles Airpor**	**2.51**	**117**		Pn	11 00 26.7	-0.1
NVAR	**Mina Array Bea**	**2.61**	**343**		Pn	11 00 29.2	+0.9
PMPB	**Monarch Peak**	**2.81**	**277**		Pn	11 00 32.1	+1.1
PMPB				IAML		11 01 22.7	
	comp=N,334nm,0.9s						
PMPB				IAML		11 01 33.0	
	comp=E,301nm,1.0s						
RYN	**Ryan**	**2.85**	**341**		Pn	11 00 32.8	+1.2
BBGB	**Big Mountain B**	**3.05**	**283**		Pn	11 00 35.1	+0.8
BLYC	**Blythe**	**3.18**	**132**		Pn	11 00 35.5	-0.4
BLYC				IAML		11 01 35.6	
	comp=N,190nm,0.8s						
BLYC				IAML		11 01 40.3	
	comp=E,136nm,0.8s						
CMB	**Columbia Colle**	**3.21**	**312**		Pn	11 00 38.9	+2.4
CMB				IAML		11 01 31.9	
	comp=N,248nm,0.7s						
CMB				IAML		11 01 32.2	
	comp=E,150nm,0.7s						
SAO	**San Andreas Ge**	**3.41**	**285**		Pn	11 00 40.0	+0.8
GLA	**Glamis**	**3.55**	**143**		Pn	11 00 40.6	-0.4
GLA				IAML		11 01 45.3	
	comp=N,190nm,0.7s						
CCUT	**Cedar City**	**3.59**	**62**		Pn	11 00 42.9	+1.1
CBX	**Cerro Bola**	**3.65**	**171**		Pn	11 00 43.8	+1.3
PSUT	**Pine Spring**	**3.81**	**46**	IAML		11 01 49.9	
	comp=N,96nm,0.7s						
PSUT				IAML		11 01 50.5	
	comp=E,89nm,0.9s						
U15A	**North Rim**	**4.12**	**82**	IAML		11 02 03.4	
	comp=N,70nm,0.9s						
U15A				IAML		11 02 12.6	
	comp=E,79nm,1.2s						
X16A	**Lo Mia Camp, P**	**5.07**	**106**	Pn	Pn	11 01 04.3	+2.3
X16A				IAML		11 02 32.8	
	comp=E,27nm,1.1s						
X16A				IAML		11 02 35.0	
	comp=N,34nm,1.2s						

IDC ***11*** *11:00:26.7±3.8, 24°.28S×67°.22W, h143*$^{km}_{\pm 34km}$*, mb3.1/3, mbtmp3.8/6, Error ellipse: s-maj=30.9km s-min=25.9km az=61.0*

GUC ***11*** *11:00:29.0±0.6, 24°.26S×67°.66W, h226*$^{km}_{\pm 6km}$*, ML3.7*

ISC 11 11:00:28.3±1.0,**24°.23S**±0°.05×**67°.26W**±0°.10, **h162**$^{km}_{\pm 11km}$**, n22,** σ^{1}_{54}**/36, mb3.2/3, 3C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**2.31**	**246**	*e*P	**Pn**	**11 01 09.3**	**+1.2**
GO02				*e*S	**Sn**	**11 01 40.7**	**+1.8**
GO02				IAML		11 01 44.5	
	comp=N,633nm,0.3s						
PB06	**IPOC Station P**	**2.61**	**305**	*e*P	**Pn**	**11 01 13.1**	**+1.5**
PB06				*e*S	**Sn**	**11 01 46.3**	**+1.3**
PB06				IAML		11 01 51.2	
	comp=N,118nm,0.2s						
PB14	**IPOC Station P**	**2.89**	**262**	*e*P	**Pn**	**11 01 16.2**	**+1.1**
PB14				*i* S	**Sn**	**11 01 50.7**	**-0.7**
PB14				IAML		11 01 53.7	
	comp=E,92nm,0.5s						
PB05	**IPOC Station P**	**3.03**	**296**	*e*P	**Pn**	**11 01 17.7**	**+1.0**
PB05				*e*S	**Sn**	**11 01 53.2**	**-0.9**
PB05				IAML		11 01 57.6	
	comp=N,94nm,0.3s						
PB09	**IPOC Station P**	**3.04**	**323**	*e*P	**Pn**	**11 01 19.0**	**+2.2**
PB09				*e*S	**Sn**	**11 01 56.5**	**+2.1**
PB09				IAML		11 02 02.0	
	comp=N,65nm,0.3s						
AC02	**Maricunga**	**3.09**	**213**	*e*P	**Pn**	**11 01 19.3**	**+1.5**
AC02				*i* S	**Sn**	**11 01 57.8**	**+1.6**
PB10	**IPOC Station P**	**3.10**	**283**	*e*P	**Pn**	**11 01 17.9**	**+0.5**
PB10				*e*S	**Sn**	**11 01 54.1**	**-1.4**
PB10				IAML		11 02 00.3	
	comp=E,96nm,0.5s						
PB03	**IPOC Station P**	**3.16**	**313**	*e*P	**Pn**	**11 01 19.8**	**+1.4**
PB03				*e*S	**Sn**	**11 01 57.4**	**+0.3**
PB03				IAML		11 01 58.5	
	comp=E,85nm,0.2s						
AC01	**Pan de Azucar**	**3.58**	**237**	*e*P	**Pn**	**11 01 23.1**	**-0.3**
AC01				*e*S	**Sn**	**11 02 04.1**	**-2.2**
PB01	**IPOC Station P**	**3.78**	**327**	*e*P	**Pn**	**11 01 26.9**	**+0.7**
PB01				*i* S	**Sn**	**11 02 10.6**	**-0.7**
PB02	**IPOC Station P**	**3.78**	**319**	*e*P	**Pn**	**11 01 27.1**	**+0.8**
PB02				*i* S	**Sn**	**11 02 11.2**	**-0.1**
AC06	**Mina Casimiro**	**4.18**	**221**	*e*P	**Pn**	**11 01 30.6**	**-0.6**
AC06				*e*S	**Sn**	**11 02 17.9**	**-2.4**
GO03	**Copiapo**	**4.29**	**218**	*e*P	**Pn**	**11 01 32.0**	**-0.7**
GO03				*i* S	**Sn**	**11 02 21.7**	**-1.2**
LPAZ	**La Paz**	**7.95**	**354**	P	**Pn**	**11 02 22.5**	**+0.9**
	comp=E,4.8nm,0.3s,baz=159,slow=6.7,SNR=73						
LPAZ				S	**Sn**	**11 03 47.1**	**-3.7**
	comp=E,1.4nm,0.7s,baz=34,slow=19,SNR=1.3						
SIV	**San Ignacio**	**10.05**	**36**	P	**Pn**	**11 02 46.5**	**-2.4**
	comp=E,4.5nm,0.3s,baz=212,slow=12,SNR=24						
BDFB	**Brasilia**	**19.99**	**68**	P	**P**	**11 04 46.7**	**-1.8**
	comp=E,2.0nm,0.3s,baz=232,slow=8.9,SNR=4.9						
TXAR	**Lajitas Array**	**63.73**	**325**	P	**P**	**11 10 43.3**	**+0.4**
	comp=E,0.1nm,0.3s,baz=141,slow=4.0,SNR=2.0						
	comp=E,0.1nm,0.3s						
QSPA	**South Pole Qui**	**65.97**	**180**	P	**P**	**11 10 57.3**	**+0.3**
	comp=E,1.4nm,0.9s,baz=217,slow=4.6,SNR=8.6						
	comp=E,1.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**76.87**	**69**	P	**P**	**11 12 05.4**	**+2.4**
	comp=E,1.3nm,0.3s,baz=254,slow=4.1,SNR=1.9						
PDAR	**Pinedale Array**	**77.22**	**329**	P	**P**	**11 12 04.9**	**+0.2**
	comp=E,0.1nm,0.5s,baz=135,slow=8.1,SNR=1.9						
	comp=E,0.1nm,0.5s						
WRA	**Warramunga Arr**	**131.31**	**207**	PKP	**PKPdf**	**11 19 21.6**	**-0.5**
	comp=E,0.3nm,0.8s,baz=146,slow=1.8,SNR=7.3						
MKAR	**Makanchi Array**	**146.85**	**40**	PKPbc	**PKPbc**	**11 19 51.6**	**+0.1**
	comp=E,15nm,0.3s,baz=265,slow=4.0,SNR=1.3						

NEIC ***11*** *11:17:07.8±1.2, 53°.80N±0°.04×164°.62W±0°.06, h28*$^{km}_{\pm 13km}$*, ML2.6/12, ML2.5(AEIC), Error ellipse: s-maj=7.0km s-min=4.5km az=156.0*

AEIC 11 11:17:07.1±0.5,**53°.72N**±0°.06×**164°.55W**±0°.06,**h27**$^{km}_{\pm 8km}$**, Error ellipse: s-maj=8.8km s-min=4.4km az=164.0, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.76**	**359**		Pb	11 17 21.6	0.0
WESE					Sn	11 17 32.6	-0.1
WECS	**Westdahl Cape**	**0.82**	**351**		Pb	11 17 22.7	-0.1
AKUT	**Akutan**	**0.83**	**300**		Pb	11 17 22.6	-0.3
AKUT	**Akutan**	**0.83**	**300**		Sn	11 17 34.1	-0.3
AHB	**Akutan

MV2.8/37, CENTRAL CHIBA PREF
IDC ***11*** *11:17:15.8±3.4, 35°.36N×139°.50E, h75km±28km, mb3.1/3, mbtmp3.4/3, Error ellipse: s-maj=66.8km s-min=27.0km az=67.0*
ISC 11 11:17:13.4±1.0, 35°.58N±0°.05×140°.04E±0°.05, h73km±8km, n22, σ0§68/22, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.25**	**296**	*eS*	**Sn**	**11 17 33.8**	**+1.1**
JSMT	**Sammumatsuo**	**0.34**	**79**	*i* P	**Pn**	**11 17 24.7**	**-0.4**
JOD2	**Odawara 2**	**0.84**	**248**	*i* P	**Pn**	**11 17 29.8**	**-0.3**
JOD2				S	**Sn**	**11 17 41.7**	**-0.7**
BSO3	**Boso 3**	**0.86**	**153**	P	**Pn**	**11 17 29.7**	**-0.3**
BSO3				S	**Sn**	**11 17 43.2**	**+0.8**
JAG	**Ashikaga**	**0.97**	**331**	*i* P	**Pn**	**11 17 30.8**	**-0.8**
JIM2	**Oshima 3**	**0.99**	**210**	*i* P	**Pn**	**11 17 31.2**	**-0.7**
JIM2				S	**Sn**	**11 17 45.2**	**-0.5**
JRY	**Ryogami san**	**1.02**	**296**	*i* P	**Pn**	**11 17 32.4**	**+0.1**
BSO1	**Boso 1**	**1.20**	**140**	*eP*	**Pn**	**11 17 33.3**	**-0.7**
BSO1				S	**Sn**	**11 17 49.4**	**-0.1**
JYN	**Shimob**	**1.22**	**267**	P	**Pn**	**11 17 34.9**	**0.0**
JYN				*eS*	**Sn**	**11 17 50.7**	**-0.3**
JIZS	**Izushimoda**	**1.28**	**228**	*eP*	**Pn**	**11 17 35.5**	**0.0**
JIZS				*eS*	**Sn**	**11 17 51.9**	**-0.2**
JKT	**Katashina**	**1.35**	**332**	P	**Pn**	**11 17 35.9**	**-0.6**
MJAR	**Matsushiro Arr**	**1.77**	**304**	P	**Pn**	**11 17 41.4**	**-0.6**
	5.6nm,0.4s,baz=138,slow=15,SNR=59						
H11N2	**WAKE ISLAND Hy**	**28.42**	**117**	T	T	11 52 42.1	
	baz=309,slow=75,SNR=5.0						
H11N1	**WAKE ISLAND Hy**	**28.43**	**117**	T	T	11 52 40.2	
	baz=309,slow=75,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**28.44**	**117**	T	T	11 52 36.2	
	baz=309,slow=75,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**29.07**	**119**	T	T	11 53 18.2	
	baz=311						
H11S1	**WAKE ISLAND Hy**	**29.07**	**119**	T	T	11 53 17.9	
	baz=311						
H11S2	**WAKE ISLAND Hy**	**29.08**	**119**	T	T	11 53 19.4	
	baz=311						
MKAR	**Makanchi Array**	**43.97**	**303**	P	**P**	**11 25 13.7**	**+0.5**
	23nm,0.4s,baz=94,slow=7.8,SNR=1.6						
KURBB	**Kurchatov Arra**	**46.04**	**309**	P	**P**	**11 25 29.4**	**-0.1**
	0.4nm,0.5s,baz=87,slow=7.4,SNR=4.5						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**55.48**	**187**	P	**P**	**11 26 40.0**	**-0.8**
	0.3nm,0.7s,baz=4.1,slow=7.4,SNR=4.6						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**59.21**	**187**	P	**P**	**11 27 08.4**	**+1.4**
	0.3nm,0.8s,baz=357,slow=8.9,SNR=1.7						
	0.3nm,0.8s						

NEIC ***11*** *11:17:27.6±1.5, 36°.15N±0°.01×117°.85W±0°.02, h3km±4km, Error ellipse: s-maj=2.2km s-min=1.9km az=110.0*
PAS 11 11:17:27.6±0.9, 36°.157N±0°.009×117°.88W±0°.02, h1km±1km, ML3.1/25, ML3.0/58(NEIC), Error ellipse: s-maj=2.5km s-min=0.9km az=117.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.04**	**153**		Pg	11 17 28.8	+0.3
WRVM	**Rose V. Centra**	**0.15**	**183**		Pg	11 17 30.8	+0.3
JRC2	**Joshua Ridge**	**0.18**	**162**		Pg	11 17 31.5	+0.3
WVPM	**Volcano Peak E**	**0.21**	**166**		Pg	11 17 32.0	+0.3
WVPM					Sg	11 17 35.3	+0.8
WNMM	**Nine Mile Cany**	**0.31**	**184**		Pg	11 17 33.8	+0.1
WNMM					Sg	11 17 38.6	+0.9
CWC	**Cottonwood Cre**	**0.33**	**330**		Pg	11 17 34.3	+0.4
CWC	**Cottonwood Cre**	**0.33**	**330**	IAML		11 17 39.0	
	comp=E,1μm,0.2s						
CWC				IAML		11 17 42.1	
	comp=N,857nm,0.2s						
MPMC	**Manual Prospec**	**0.33**	**107**		Pg	11 17 34.2	+0.2
TOW	**Tower One**	**0.36**	**165**		Pg	11 17 35.2	+0.7
TOW					Sb	11 17 41.4	-1.7
CGO	**Cerro Gordo**	**0.40**	**9**		Pg	11 17 35.4	+0.1
SRTC	**Snort**	**0.48**	**167**		Pg	11 17 37.4	+0.7
WORM	**Onyx Ranch**	**0.55**	**213**		Pg	11 17 38.0	-0.1
ISA	**Isabella, Lake**	**0.69**	**225**		Pg	11 17 40.8	0.0
ISA	**Isabella, Lake**	**0.69**	**225**	IAML		11 17 50.4	
	comp=N,476nm,0.5s						
ISA				IAML		11 17 51.8	
	comp=E,749nm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.69**	**167**	IAML		11 17 51.2	
	comp=E,646nm,0.3s						
LRMC				IAML		11 17 51.6	
	comp=N,785nm,0.2s						
QSM	**Queen of Sheba**	**0.84**	**103**	IAML		11 18 01.9	
	comp=N,473nm,0.6s						
GRAC	**Grapevine Rang**	**0.93**	**26**	Pg	Pg	11 17 45.2	-0.3
GRAC				IAML		11 18 01.1	
	comp=N,419nm,0.7s						
GRAC				IAML		11 18 07.0	
	comp=E,401nm,0.8s						
TIN	**Tinemaha, Big**	**0.94**	**343**		Pg	11 17 45.8	+0.2
GWY	**Greenwater Val**	**0.98**	**88**	IAML		11 18 04.4	
	comp=E,404nm,0.4s						
GWY				IAML		11 18 07.0	
	comp=N,405nm,0.5s						
VES	**Vestal, Richgr**	**1.03**	**252**		Pg	11 17 47.2	-0.1
SGV	**South Grapevin**	**1.07**	**39**		Pb	11 17 48.7	-0.3
WCT	**Wildcat Mounta**	**1.19**	**57**		Pg	11 17 50.0	-0.5
WCT	**Wildcat Mounta**	**1.19**	**57**	IAML		11 18 09.0	
	comp=E,249nm,0.7s						
DSP	**Deep Springs**	**1.21**	**357**	IAML		11 18 11.2	
	comp=N,149nm,0.6s						
GSC	**Goldstone, Bar**	**1.22**	**134**		Pg	11 17 51.1	0.0
GSC	**Goldstone, Bar**	**1.22**	**134**	Pg	Pg	11 17 50.5	-0.5
GSC	**Goldstone, Bar**	**1.22**	**134**	IAML		11 18 11.1	
	comp=N,398nm,0.8s						
GMN	**Gold Mountain**	**1.25**	**23**		Pb	11 17 52.2	+0.1
TPO	**Tropico Hills**	**1.31**	**193**	Pg	Pg	11 17 52.1	-0.5
TPO				IAML		11 18 11.6	
	comp=N,186nm,0.5s						
TPO				IAML		11 18 13.0	
	comp=E,377nm,0.6s						
TPNV	**Topopah Spring**	**1.53**	**58**		Pn	11 17 55.7	-0.6
TPNV				IAML		11 18 19.1	
	comp=E,118nm,0.7s						
TPNV				IAML		11 18 21.8	
	comp=E,108nm,0.7s						
MZP	**Montezuma Peak**	**1.59**	**14**		Pn	11 17 57.3	+0.1
KCC	**Kaiser Creek**	**1.64**	**316**		Pn	11 17 57.8	0.0
MLAC	**Mammoth, Mammo**	**1.66**	**333**		Pb	11 17 58.7	-0.4
OSI	**Osito Audit: C**	**1.69**	**204**		Pb	11 17 59.4	-0.1
OSI				IAML		11 18 24.6	
	comp=N,186nm,0.6s						
TUQ	**Turquoise Moun**	**1.75**	**114**		Pn	11 17 58.1	-1.1
PASC	**Pasadena Art C**	**2.00**	**187**	Pn	Pn	11 18 03.6	+1.1
PASC				IAML		11 18 34.3	
	comp=E,92nm,0.8s						
MTPC	**Mountain Pass**	**2.01**	**109**	Pn	Pb	11 18 04.1	-0.9
MTPC				IAML		11 18 37.4	
	comp=N,66nm,0.7s						
MTPC				IAML		11 18 41.3	
	comp=E,70nm,0.6s						
GMRC	**Granite Mounta**	**2.27**	**126**		Pn	11 18 05.2	-1.2
NVAR	**Mina Array Bea**	**2.29**	**352**	Pn	Pn	11 18 07.9	+1.1
PMPB	**Monarch Peak**	**2.37**	**272**		Pn	11 18 07.8	+0.1
MYLM	**Yosemite Lake**	**2.38**	**302**		Pb	11 18 10.9	-0.4
SAO	**San Andreas Ge**	**2.94**	**283**	Pn	Pn	11 18 15.7	+0.1
LCMT	**Little Creek M**	**3.83**	**76**		Pn	11 18 27.3	-0.5

IDC ***11*** *11:17:30.8±1.8, 3°.87N×128°.50E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=80.3km s-min=20.2km az=68.0*
ISC 11 11:17:36.9±2.0, 3°.8N±0°.2×128°.5E±0°.5, h46km, n6, σ0§30/6, mb3.8/6, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.99**	**187**	P	**P**	**11 22 27.3**	**+0.1**
	4.0nm,1.0s,baz=17,slow=14,SNR=2.8						
	4.0nm,1.0s						
WRA	**Warramunga Arr**	**24.32**	**167**	P	**P**	**11 22 50.7**	**+0.3**
	0.8nm,0.7s,baz=345,slow=10,SNR=9.6						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**27.84**	**169**	P	**P**	**11 23 22.1**	**-0.2**
	0.4nm,0.8s,baz=358,slow=7.7,SNR=4.7						
	0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.38**	**299**	P	**P**	**11 24 02.5**	**0.0**
	0.4nm,0.3s,baz=118,slow=9.2,SNR=2.5						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**58.50**	**324**	P	**P**	**11 27 28.8**	**+0.3**
	20nm,0.4s,baz=113,slow=6.4,SNR=1.3						
KURBB	**Kurchatov Arra**	**62.62**	**327**	P	**P**	**11 27 56.3**	**-0.3**
	0.5nm,0.6s,baz=124,slow=6.2,SNR=4.5						
	0.5nm,0.6s						

MEX ***11*** *11:28:11.5±1.1, 14°.56N×92°.11W, h85km±11km, MD4.4*
SNET ***11*** *11:28:11.4±1.0, 14°.66N×92°.07W, h89km±26km, ML4.4*
GCG ***11*** *11:28:11.2±1.4, 14°.55N×92°.12W, h70km±5km, MD4.1, MW3.8*
IDC ***11*** *11:28:11.7±2.0, 15°.19N×91°.55W, h62km±30km, mb3.6/4, mbtmp3.9/7, ML4.0/3, MS3.1/6, Error ellipse: s-maj=81.7km s-min=13.1km az=34.0*
NEIC ***11*** *11:28:13.1±1.8, 14°.66N±0°.08×92°.03W±0°.08, h67km±5km, mb4.0/14, Error ellipse: s-maj=14.2km s-min=8.6km az=45.0*
CATAC ***11*** *11:28:14.4±0.5, 15°.N±5°.×9°.2W±°., h66km±4km, M4.4/10, MLv4.4/10, Error ellipse: s-maj=11.6km s-min=5.4km az=35.5, confirmed*
ISC 11 11:28:11.4±0.7, 14°.55N±0°.05×92°.09W±0°.03, h80km±6km, n143, σ2§08/190, mb4.0/10, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.30**	**3**	*i* P	**Pn**	**11 28 22.5**	**-1.3**
SMCA				*i* S	**Sn**	**11 28 31.7**	**-1.1**
RTAL	**Retalhuleu**	**0.39**	**94**		**Pn**	**11 28 23.2**	**-1.1**
RTAL	**Retalhuleu**	**0.39**	**94**	*eP*	**Pn**	**11 28 24.1**	**-0.2**
RTAL				*eS*	**Sn**	**11 28 33.3**	**-0.4**
RTAL	**Retalhuleu**	**0.39**	**94**	S	**Sn**	**11 28 35.6**	**+1.9**
RTAL	**Retalhuleu**	**0.39**	**94**	P	**Pn**	**11 28 25.7**	**+1.4**
THIG		**0.39**	**335**	*eP*	**Pn**	**11 28 23.5**	**-0.8**
THIG				*eS*	**Sn**	**11 28 33.1**	**-0.7**
THIG		**0.39**	**335**	*i* P	**Pn**	**11 28 23.4**	**-0.9**
THIG				*i* S	**Sn**	**11 28 33.3**	**-0.6**
PATR	**El Naranjo**	**0.58**	**346**	*eP*	**Pn**	**11 28 24.5**	**-1.6**
PATR				*eS*	**Sn**	**11 28 34.7**	**-2.4**
PAVE	**Pavencul**	**0.64**	**353**	*eP*	**Pn**	**11 28 25.6**	**-1.2**
PAVE				*eS*	**Sn**	**11 28 36.6**	**-1.5**
QUEO	**Labor Ovalle**	**0.64**	**60**	*i* P	**Pn**	**11 28 27.4**	**+0.6**
QUEO				*i* S	**Sn**	**11 28 39.3**	**+1.0**
STG2	**El Palmar, Qui**	**0.70**	**99**	*i* P	**Pn**	**11 28 24.4**	**-2.9**
STG2				*i* S	**Sn**	**11 28 34.7**	**-4.3**
SOKI	**Kika Raxquin**	**0.72**	**68**	*i* P	**Pn**	**11 28 28.5**	**+0.8**
STG8	**El Palmar, Qui**	**0.72**	**98**	*i* P	**Pn**	**11 28 25.1**	**-2.5**
STG8				*i* S	**Sn**	**11 28 35.5**	**-4.1**
STG0	**El Palmar, Qui**	**0.74**	**100**	*i* P	**Pn**	**11 28 24.8**	**-2.9**
STG0				*i* S	**Sn**	**11 28 35.4**	**-4.3**
HUEH	**Huehuetenango**	**0.95**	**37**		**Pn**	**11 28 30.0**	**-0.1**
HUEH	**Huehuetenango**	**0.95**	**37**	*eP*	**Pn**	**11 28 30.2**	**+0.1**
HUEH				*eS*	**Sn**	**11 28 44.5**	**+0.4**
HUEH	**Huehuetenango**	**0.95**	**37**	*eP*	**Pn**	**11 28 30.2**	**+0.1**
HUEH				*eS*	**Sn**	**11 28 45.2**	**+1.2**
HUEH	**Huehuetenango**	**0.95**	**37**	*i* P	**Pn**	**11 28 30.5**	**+0.3**
HUEH				*i* S	**Sn**	**11 28 44.9**	**+0.8**
HUEH	**Huehuetenango**	**0.95**	**37**	P	**Pn**	**11 28 30.4**	**+0.3**
ESSG	**Sabana Grande**	**1.23**	**98**	*i* P	**Pn**	**11 28 33.2**	**-0.2**
ESSG				*i* S	**Sn**	**11 28 49.9**	**0.0**
FG8	**Yepocapa, Chim**	**1.51**	**101**	*i* P	**Pn**	**11 28 32.3**	**-4.7**
FG8				*i* S	**Sn**	**11 28 48.4**	**-7.9**
FG16	**Alotenango, Sa**	**1.56**	**100**	*i* P	**Pn**	**11 28 33.6**	**-4.0**
FG16				*i* S	**Sn**	**11 28 50.4**	**-7.1**
PCIG		**1.58**	**317**	*eP*	**Pn**	**11 28 37.1**	**-0.6**
PCIG				*eS*	**Sn**	**11 28 57.1**	**-0.6**
CCIG	**Comitan**	**1.72**	**359**		**Pn**	**11 28 39.8**	**0.0**
CCIG	**Comitan**	**1.72**	**359**	*eP*	**Pn**	**11 28 40.5**	**+0.7**
CCIG				*eS*	**Sn**	**11 29 05.3**	**+4.0**
CCIG	**Comitan**	**1.72**	**359**	*i* P	**Pn**	**11 28 40.6**	**+0.7**
FAME	**Alcaldia de Sa**	**2.13**	**109**	S	**Sn**	**11 29 11.2**	**+0.4**
FAME	**Alcaldia de Sa**	**2.13**	**109**	P	**Pn**	**11 28 46.5**	**+1.4**
SLOZ	**Alcaldia de Sa**	**2.30**	**103**	P	**Pn**	**11 28 48.6**	**+1.3**
SLOZ	**Alcaldia de Sa**	**2.30**	**103**	S	**Sn**	**11 29 15.2**	**+0.4**
LOAL	**Lomas de Alarc**	**2.31**	**104**	*eP*	**Pn**	**11 28 48.5**	**+1.0**
LOAL	**Lomas de Alarc**	**2.31**	**104**	S	**Sn**	**11 29 15.1**	**0.0**
LOAL	**Lomas de Alarc**	**2.31**	**104**	P	**Pn**	**11 28 48.8**	**+1.3**
NUBE	**Las Nubes**	**2.33**	**106**	*eP*	**Pn**	**11 28 48.3**	**+0.4**
NUBE				*eS*	**Sn**	**11 29 16.9**	**+1.1**
NUBE	**Las Nubes**	**2.33**	**106**	*i* P	**Pn**	**11 28 48.5**	**+0.6**
NUBE				*i* S	**Sn**	**11 29 17.2**	**+1.3**
NUBE	**Las Nubes**	**2.33**	**106**	P	**Pn**	**11 28 48.7**	**+0.8**
TGBT	**Tuxtla Gutierr**	**2.41**	**337**	*eP*	**Pn**	**11 28 49.6**	**+0.8**
TGBT				*eS*	**Sn**	**11 29 16.4**	**-1.0**
TGIG		**2.43**	**336**	*eP*	**Pn**	**11 28 47.7**	**-1.4**
TGIG				*eS*	**Sn**	**11 29 17.6**	**-0.3**
TGIG		**2.43**	**336**	*i* P	**Pn**	**11 28 48.5**	**-0.5**
TGIG				*i* S	**Sn**	**11 29 17.5**	**+1.6**
CEVE	**Cerro Verde**	**2.50**	**106**	*eP*	**Pn**	**11 28 51.2**	**+1.0**
CEVE				*eS*	**Sn**	**11 29 23.1**	**+3.1**
CEVE				IAML		11 29 37.6	
	comp=Z,2μm,0.5s						
CEVE	**Cerro Verde**	**2.50**	**106**	S	**Sn**	**11 29 19.9**	**-0.1**
CEVE	**Cerro Verde**	**2.50**	**106**	P	**Pn**	**11 28 51.7**	**+1.5**
MTO3	**Montecristo**	**2.65**	**93**		**Pn**	**11 28 52.4**	**+0.1**
MTO3	**Montecristo**	**2.65**	**93**	*eP*	**Pn**	**11 28 52.7**	**+0.5**
MTO3	**Montecristo**	**2.65**	**93**	*i* P	**Pn**	**11 28 52.8**	**+0.6**
MTO3	**Montecristo**	**2.65**	**93**	S	**Sn**	**11 29 22.7**	**-0.8**
MTO3	**Montecristo**	**2.65**	**93**	P	**Pn**	**11 28 52.9**	**+0.7**
ESQI	**Esquipulas**	**2.66**	**89**		**Pn**	**11 28 53.4**	**+1.1**
ESQI	**Esquipulas**	**2.66**	**89**	S	**Sn**	**11 29 23.5**	**-0.2**
ESQI	**Esquipulas**	**2.66**	**89**	P	**Pn**	**11 28 53.4**	**+1.1**
JAYA	**Jayaque - finc**	**2.71**	**109**	*eP*	**Pn**	**11 28 53.8**	**+0.8**
JAYA				*eS*	**Sn**	**11 29 25.5**	**+1.4**
JAYA	**Jayaque - finc**	**2.71**	**109**	*i* P	**Pn**	**11 28 53.8**	**+0.8**
JAYA				*i* S	**Sn**	**11 29 25.7**	**+0.6**
JAYA	**Jayaque - finc**	**2.71**	**109**	P	**Pn**	**11 28 53.8**	**+0.8**
PMON	**Piamonte**	**2.82**	**107**	S	**Sn**	**11 29 28.1**	**+0.5**
PMON	**Piamonte**	**2.82**	**107**	P	**Pn**	**11 28 56.2**	**+1.8**
BOQS	**Boqueron**	**2.85**	**106**	*eP*	**Pn**	**11 28 55.4**	**+0.5**
LALI	**Alcalda de L**	**2.89**	**111**	*eP*	**Pn**	**11 28 56.5**	**+1.3**
LALI	**Alcalda de L**	**2.89**	**111**	*i* P	**Pn**	**11 28 57.0**	**+1.8**
LALI				*i* S	**Sn**	**11 29 30.7**	**+1.7**
LALI	**Alcalda de L**	**2.89**	**111**	P	**Pn**	**11 28 57.6**	**+2.4**
LOMA	**Loma Larga**	**2.97**	**107**	S	**Sn**	**11 29 31.9**	**+0.6**
LOMA	**Loma Larga**	**2.97**	**107**	P	**Pn**	**11 28 58.3**	**+1.8**
LFRS	**El Faro**	**3.08**	**107**	*eP*	**Pn**	**11 28 59.4**	**+1.4**
NILT	**Santiago Nilte**	**3.15**	**310**	*i* P	**Pn**	**11 28 58.8**	**0.0**
NILT				*i* S	**Sn**	**11 29 34.6**	**-0.8**
PAVA	**Las Pavas**	**3.17**	**105**	*eP*	**Pn**	**11 29 00.6**	**+1.4**
PETF	**Flores**	**3.18**	**42**		**Pn**	**11 28 59.6**	**+0.4**
PETF	**Flores**	**3.18**	**42**	*eP*	**Pn**	**11 28 59.3**	**+0.1**
PETF	**Flores**	**3.18**	**42**	*i* P	**Pn**	**11 28 59.8**	**+0.6**
PETF	**Flores**	**3.18**	**42**	P	**Pn**	**11 29 00.0**	**+0.8**
COEG	**Centro de Oper**	**3.25**	**106**	*eP*	**Pn**	**11 29 02.1**	**+1.9**
COEG				*eS*	**Sn**	**11 29 40.3**	**+2.4**
COEG				IAML		11 29 55.3	
	comp=Z,715nm,0.3s						
COEG	**Centro de Oper**	**3.25**	**106**	P	**Pn**	**11 29 02.5**	**+2.3**
COEG	**Centro de Oper**	**3.25**	**106**	S	**Sn**	**11 29 38.7**	**+0.7**
TECO	**Alcaldia de Te**	**3.37**	**107**	S	**Sn**	**11 29 42.0**	**+1.2**
TECO	**Alcaldia de Te**	**3.37**	**107**	P	**Pn**	**11 29 03.8**	**+2.1**
SCLA	**Alcaldia de Sa**	**3.37**	**104**	S	**Sn**	**11 29 41.6**	**+0.8**
SCLA	**Alcaldia de Sa**	**3.37**	**104**	P	**Pn**	**11 29 02.8**	**+1.0**
PQSS	**Presa 15 de Se**	**3.55**	**105**	S	**Sn**	**11 29 45.7**	**+0.6**
PQSS	**Presa 15 de Se**	**3.55**	**105**	P	**Pn**	**11 29 05.7**	**+1.5**
CMIG	**Matias Romero**	**3.69**	**314**	P	**Pn**	**11 29 06.3**	**+0.2**
	comp=Z,20nm,0.3s,baz=124,slow=11,SNR=182						
CMIG				S	**Sn**	**11 29 49.1**	**+0.7**
	comp=Z,96nm,0.4s,baz=115,slow=12,SNR=6.0						
	comp=Z,44nm,0.3s						
CMIG	**Matias Romero**	**3.69**	**314**	*eP*	**Pn**	**11 29 06.1**	**0.0**
CMIG				*eS*	**Sn**	**11 29 49.1**	**+0.7**
PACA	**Pacayal**	**3.81**	**106**	S	**Sn**	**11 29 52.7**	**+1.0**
PACA	**Pacayal**	**3.81**	**106**	P	**Pn**	**11 29 09.3**	**+1.4**
HUIG	**Huatulco**	**4.06**	**288**	*eP*	**Pn**	**11 29 09.7**	**-1.5**
HUIG				*eS*	**Sn**	**11 29 51.1**	**-6.5**
HUIG	**Huatulco**	**4.06**	**288**	*i* P	**Pn**	**11 29 09.5**	**-1.6**
TUIG	**Tuzandepetl**	**4.12**	**327**	*eP*	**Pn**	**11 29 09.2**	**-2.8**
TUIG				*eS*	**Sn**	**11 29 58.9**	**-0.2**
CNCH	**Conchagua**	**4.33**	**107**	*eP*	**Pn**	**11 29 16.2**	**+1.3**
CNCH	**Conchagua**	**4.33**	**107**	P	**Pn**	**11 29 16.5**	**+1.7**
SCIG	**Sabancuy**	**4.48**	**11**	*eP*	**Pn**	**11 29 16.3**	**-0.5**
SCIG				*eS*	**Sn**	**11 30 05.3**	**-2.3**
SCIG	**Sabancuy**	**4.48**	**11**	*i* P	**Pn**	**11 29 16.0**	**-0.8**
NEUV	**Arroyo Zacate**	**4.75**	**312**	*eP*	**Pn**	**11 29 19.6**	**-1.0**
NEUV				*eS*	**Sn**	**11 30 11.7**	**-2.7**
PMUV	**Sontecomapan**	**4.92**	**324**	*eS*	**Sn**	**11 30 16.4**	**-2.3**
PEIG	**Puerto Escondi**	**5.09**	**287**	*eP*	**Pn**	**11 29 23.7**	**-1.5**
PEIG				*eS*	Sn	11 30 12.9	-10
OXLC	**Oaxaca**	**5.09**	**300**	*eS*	**Sn**	**11 30 27.5**	**+4.4**
VHO	**Vista Hermosa**	**5.12**	**300**	*eP*	**Pn**	**11 29 27.4**	**+1.6**
VHO				*eS*	**Sn**	**11 30 22.0**	**-1.8**
HERN	**Volcan Telica**	**5.47**	**110**		**Pn**	**11 29 31.5**	**+1.1**
CNGN	**Cerro Negro**	**5.63**	**111**		**Pn**	**11 29 35.4**	**+2.8**
YOIG	**Yosondua**	**5.73**	**294**	*eP*	**Pn**	**11 29 37.0**	**+2.8**
YOIG				*eS*	**Sn**	**11 30 36.9**	**-1.9**
TOIG	**Toxpalan**	**5.93**	**307**	*eP*	**Pn**	**11 29 37.1**	**+0.3**
TOIG				*eS*	**Sn**	**11 30 44.0**	**+0.5**
TXIG	**Tlaxiaco**	**6.08**	**297**	*eP*	**Pn**	**11 29 40.4**	**+1.3**
TXIG				*eS*	**Sn**	**11 30 52.7**	**+5.3**
PNIG	**Pinotepa**	**6.10**	**288**	*eP*	**Pn**	**11 29 39.5**	**+0.4**
PNIG				*eS*	**Sn**	**11 30 47.3**	**-0.1**
TPIG	**Tehuac#an**	**6.35**	**308**	*eP*	**Pn**	**11 29 42.9**	**+0.3**
TPIG				*eS*	**Sn**	**11 30 55.7**	**+1.9**
HLIG	**Huajuapan de L**	**6.38**	**301**	*eP*	**Pn**	**11 29 43.9**	**+0.9**
HLIG				*eS*	**Sn**	**11 30 57.6**	**+3.0**
JAUV	**Jalcomulco**	**6.58**	**317**	*eP*	**Pn**	**11 29 42.9**	**-2.6**
JAUV				*eS*	**Sn**	**11 30 55.0**	**-4.1**
BOAB	**BOACO BROADBAN**	**6.59**	**108**		**Pn**	**11 29 47.1**	**+1.4**
LVIG	**Laguna Verde**	**6.60**	**322**	*eP*	**Pn**	**11 29 42.9**	**-2.9**
LVIG				*eS*	**Sn**	**11 30 53.2**	**-6.3**
FTIG	**Fresnillo de T**	**6.69**	**301**	*eP*	**Pn**	**11 29 48.2**	**+1.0**
FTIG				*eS*	**Sn**	**11 31 01.3**	**-0.7**
TEIG	**Tepich**	**6.72**	**32**		**Pn**	**11 29 46.8**	**-0.6**
TLIG	**Tlapa**	**6.91**	**297**		**Pn**	**11 29 51.4**	**+1.2**
TLIG	**Tlapa**	**6.91**	**297**	*eP*	**Pn**	**11 29 51.6**	**+1.5**
TLIG				*eS*	**Sn**	**11 31 08.3**	**+1.0**
CRIG	**Cruz Grande**	**7.12**	**289**	*eP*	**Pn**	**11 29 53.0**	**+0.1**
CRIG				*eS*	**Sn**	**11 31 15.8**	**+3.5**
CXUV	**Coxquihui**	**7.67**	**318**	*eP*	**Pn**	**11 29 58.9**	**-1.5**
CXUV				*eS*	**Sn**	**11 31 26.1**	**+0.3**
DAIG	**Los Arroyos**	**7.68**	**290**	*eP*	**Pn**	**11 30 00.9**	**+0.4**
DAIG				*eS*	**Sn**	**11 31 31.9**	**+5.9**
PPM	**Popocatepetl**	**7.70**	**307**	*eP*	**Pn**	**11 30 04.2**	**+2.9**
PPM				*eS*	**Sn**	**11 31 31.0**	**+3.7**
YAIG	**Yautepec**	**7.94**	**304**	*eP*	**Pn**	**11 30 06.4**	**+2.2**
YAIG				*eS*	**Sn**	**11 31 34.3**	**+1.7**
MEIG	**Mezcala**	**7.97**	**296**	*eP*	**Pn**	**11 30 06.5**	**+1.9**
MEIG				*eS*	**Sn**	**11 31 29.8**	**-3.5**
PLIG	**Platanillo**	**8.07**	**299**	*eP*	**Pn**	**11 30 06.7**	**+0.8**
PLIG				*eS*	**Sn**	**11 31 34.1**	**-1.6**
JTS	**Las Juntas de**	**8.16**	**120**		**Pn**	**11 30 10.5**	**+3.4**
JTS	**Las Juntas de**	**8.16**	**120**	P	**Pn**	**11 30 07.2**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=298,slow=18,SNR=8.3						
JTS				S	**Sn**	**11 31 37.0**	**-0.8**
	comp=Z,10nm,1.0s,baz=285,slow=20,SNR=1.5						
	comp=Z,2.4nm,0.3s						
CAIG	**El Cayaco**	**8.25**	**289**	*eP*	**Pn**	**11 30 08.5**	**+0.1**
CAIG				*eS*	**Sn**	**11 31 37.8**	**-2.2**
ARIG	**Puente Sto Nin**	**8.75**	**296**	*eP*	**Pn**	**11 30 17.4**	**+2.2**
ARIG				*eS*	**Sn**	**11 31 51.9**	**-0.3**
DEIG	**Demacu**	**8.75**	**312**	*eP*	**Pn**	**11 30 17.8**	**+2.3**
DEIG				*eS*	**Sn**	**11 31 48.0**

ARVC	**Arvin**	**1.25**	**247**			Pb	11 36 31.9	-0.1
WCT	**Wildcat Mounta**	**1.34**	**29**			Pn	11 36 32.3	-0.9
WCT					IAML		11 37 02.2	
	comp=E,716nm,0.5s							
SIL	**Silver Peak**	**1.36**	**159**			Pn	11 36 33.1	-0.5
GRAC	**Grapevine Rang**	**1.38**	**2**			Pn	11 36 33.4	-0.3
GRAC					IAML		11 37 05.2	
	comp=E,875nm,0.7s							
BFSC	**Mount Baldy Ra**	**1.39**	**188**			Pn	11 36 33.1	-0.9
BFSC					IAML		11 37 01.9	
	comp=E,852nm,0.6s							
BFSC					IAML		11 37 02.1	
	comp=N,733nm,0.6s							
MWC	**Mount Wilson**	**1.49**	**201**			Pn	11 36 34.8	-0.6
MWC					IAML		11 37 06.7	
	comp=E,998nm,0.7s							
MTPC	**Mountain Pass**	**1.53**	**94**			Pn	11 36 34.6	-1.3
MTPC					IAML		11 37 06.3	
	comp=N,592nm,0.8s							
MTPC					IAML		11 37 08.2	
	comp=E,600nm,0.4s							
PASC	**Pasadena Art C**	**1.57**	**204**			Pn	11 36 35.9	-0.5
PASC					IAML		11 37 10.8	
	comp=E,448nm,0.4s							
PASC					IAML		11 37 12.2	
	comp=N,500nm,0.9s							
TPNV	**Topopah Spring**	**1.63**	**35**			Pn	11 36 36.8	-0.6
TPNV					IAML		11 37 10.0	
	comp=N,620nm,0.5s							
GMRC	**Granite Mounta**	**1.67**	**119**			Pn	11 36 35.6	-2.1
GMN	**Gold Mountain**	**1.68**	**4**		IAML		11 36 50.5	
	comp=N,418nm,0.4s							
DSP	**Deep Springs**	**1.80**	**346**			Pn	11 36 39.5	0.0
ELS	**Elsinore Mount**	**1.96**	**180**			Pn	11 36 41.2	-0.6
SHPR	**Sheep Range**	**2.03**	**64**			Pn	11 36 42.3	-0.6
V12A	**Nelson**	**2.10**	**86**			Pn	11 36 42.3	-1.3
V12A					IAML		11 37 23.8	
	comp=N,202nm,0.6s							
V12A					IAML		11 37 32.4	
	comp=E,200nm,0.6s							
PMD	**Palm Desert**	**2.15**	**156**	Pn		Pn	11 36 43.0	-1.3
PMD					IAML		11 37 35.5	
	comp=E,185nm,0.7s							
PFO	**Pinyon Flats O**	**2.15**	**158**	Pn		Pn	11 36 43.4	-1.0
XPFO	**Pinon Flat**	**2.15**	**158**			Pn	11 36 43.8	-0.7
SNDA	**J Saunders Pla**	**2.17**	**162**			Pn	11 36 43.9	-0.8
BENR	**Benton**	**2.29**	**336**			Pb	11 36 50.4	+0.5
DPP	**Dos Picos Cty**	**2.64**	**171**			Pn	11 36 50.5	-0.7
DPP					IAML		11 37 39.9	
	comp=E,143nm,0.7s							
NV11	**Mina Array Sit**	**2.87**	**348**			Pb	11 36 57.0	-2.6
BAR	**Barrett**	**3.00**	**168**		IAML		11 37 51.4	
	comp=E,124nm,0.4s							
BAR					IAML		11 37 53.6	
	comp=N,106nm,0.8s							
KNB	**Kanab**	**3.97**	**68**			Pn	11 37 12.1	+2.6
KNB					IAML		11 38 31.8	
	comp=N,39nm,1.4s							
KNB					IAML		11 38 36.1	
	comp=E,39nm,0.8s							

NEIC ***11*** *11:37:33.6±0.9, 35°.631N±0°.010×117°.444W±0°.009, h3km±2km, Error ellipse: s-maj=1.6km s-min=0.7km az=150.0*

PAS 11 11:37:33.9±0.8, 35°.617N±0°.010×117°.42W±0°.01, h2km±2km, ML3.0/6, ML2.8/26(NEIC), **Error ellipse: s-maj=1.5km s-min=1.5km az=78.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.06**	**253**	Pg	Pg	11 37 35.4	+0.3
WSHM				IAML		11 37 36.8	
	13μm,0.2s						
WSHM				IAML		11 37 36.9	
	10μm,0.1s						
CCCA	**Chr Cany lake**	**0.10**	**153**		Pg	11 37 36.5	+0.6
CCCA	**Chr Cany lake**	**0.10**	**153**	IAML		11 37 38.9	
	comp=E,8μm,0.7s						
CCCA				IAML		11 37 39.0	
	comp=N,7μm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.25**	**237**		Pg	11 37 38.8	+0.1
LRMC					Sg	11 37 42.6	+0.6
LRMC	**Laurel Mtn Rad**	**0.25**	**237**	IAML		11 37 42.8	
	comp=N,3μm,0.5s						
LRMC				IAML		11 37 42.8	
	comp=E,2μm,0.4s						
TOW	**Tower One**	**0.34**	**305**		Pg	11 37 40.8	+0.4
MPMC	**Manual Prospec**	**0.44**	**353**		Pg	11 37 42.2	-0.2
MPMC				IAML		11 37 50.7	
	comp=N,568nm,0.4s						
WNMM	**Nine Mile Cany**	**0.45**	**300**		Pg	11 37 42.6	0.0
WVPM	**Volcano Peak E**	**0.46**	**316**		Pg	11 37 42.9	+0.1
JRC2	**Joshua Ridge**	**0.48**	**319**		Pg	11 37 43.2	0.0
JRC2					Sg	11 37 50.1	+0.7
DTP	**Desert Tortois**	**0.49**	**225**		Sg	11 37 49.9	+0.2
WRVM	**Rose V. Centra**	**0.55**	**316**		Pg	11 37 44.2	-0.2
WBSM	**Bird Springs**	**0.59**	**262**		Pg	11 37 45.0	-0.2
GSC	**Goldstone, Bar**	**0.59**	**122**	Pg	Pg	11 37 45.2	0.0
GSC				IAML		11 37 53.6	
	comp=N,450nm,0.6s						
GSC				IAML		11 37 58.0	
	comp=E,446nm,0.5s						
MFS	**McCloud Flat S**	**0.61**	**325**		Pg	11 37 45.5	0.0
WHFM	**Hanning Flat**	**0.76**	**276**		Pg	11 37 48.0	-0.4
HYS	**Haystack Butte**	**0.76**	**189**		Pg	11 37 48.2	-0.2
HOLC	**Holcomb Ridge**	**1.21**	**197**		Pg	11 37 56.9	-0.1
JNH	**Juniper Hills**	**1.25**	**201**		Pg	11 37 57.9	+0.2
BFSC	**Mount Baldy Ra**	**1.39**	**188**		Pn	11 38 00.0	-0.3
GATR	**Gnd/Air Tx Cnt**	**2.74**	**248**		Pn	11 38 20.5	+1.6

NOU ***11*** *11:39:23.1, 21°.66S×173°.38W, h21km, mb4.4/9, Tonga Islands*

IDC ***11*** *11:39:32.7±0.8, 22°.18S×176°.38W, h0km, mb4.1/8, mbtmp4.1/9, ML4.7/1, MS3.2/1, Error ellipse: s-maj=30.1km s-min=22.7km az=133.0*

NEIC ***11*** *11:39:43.9±1.3, 22°.29S±0°.03×176°.2W±0°.1, h85km±9km, mb4.7/21, Error ellipse: s-maj=16.5km s-min=4.9km az=91.0*

ISC 11 11:39:45.2±0.5, 22°.24S±0°.09×176°.24W±0°.08, h100km, n54, σ1°31/45, mb4.5/15, **1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.70**	**63**	Pn	**Pn**	**11 41 19.3**	**-1.7**
MSVF	**Nonsavu**	**7.00**	**309**		**Pn**	**11 41 26.3**	**+1.1**
MSVF	**Nonsavu**	**7.00**	**309**	P	Pn	11 41 31.5	+6.3
	33nm,0.8s						
AFI	**Afiamalu**	**9.31**	**28**	Pn	**Pn**	**11 41 54.5**	**-2.1**
PINNC	**Pines Island,**	**15.09**	**265**		**P**	**11 43 14.9**	**-1.1**
PINNC				IAmb	IAmb	11 43 22.9	
	comp=E,45nm,1.0s						
RAR	**Rarotonga**	**15.34**	**89**	Pn	**Pn**	**11 43 15.4**	**-0.8**
	comp=E,4.0nm,0.3s,baz=158,slow=11,SNR=2.2						
RAR				Sn	Sn	11 45 52.6	-13
	comp=E,1.8nm,0.3s,baz=87,slow=14,SNR=1.0						
OUZ	**Omahuta**	**15.69**	**212**	P	P	11 43 28.4	+5.9
	comp=E,11nm,2.2s						
DZM	**Mont Dzumac**	**16.05**	**267**	Pn	**Pn**	**11 43 24.8**	**-0.4**
	comp=E,0.2nm,0.3s,baz=96,slow=17,SNR=4.5						
DZM				LR	LR	11 47 36.0	
	comp=E,74nm,18.5s,baz=5.5,slow=30						
URZ	**Urewera**	**16.96**	**198**	Pn	**Pn**	**11 43 31.6**	**-4.6**
	comp=E,2.7nm,0.3s,baz=294,slow=2.1,SNR=17						
URZ				Sn	Sn	11 46 25.1	-19
	comp=Q,0.7nm,0.3s,baz=356,slow=24,SNR=8.4						
	comp=E,5.5nm,0.3s						
URZ	**Urewera**	**16.96**	**198**	P	**P**	**11 43 37.6**	**+1.1**
HIZ	**Hauiti**	**17.93**	**203**	P	**Pn**	**11 43 46.5**	**-1.5**
HIZ				IAmb	IAmb	11 44 14.8	
	comp=E,78nm,1.2s						
HIZ	**Hauiti**	**17.93**	**203**	P	**Pn**	**11 43 49.6**	**+1.6**
BKZ	**Black Stump Fm**	**17.98**	**199**	P	**Pn**	**11 43 48.8**	**+0.2**
QRZ	**Quartz Range**	**20.82**	**205**	P	**P**	**11 44 17.0**	**-1.6**
QRZ				IAmb	IAmb	11 44 40.9	
	comp=E,75nm,1.4s						
QRZ	**Quartz Range**	**20.82**	**205**	P	Pn	11 44 21.5	-0.5
KHZ	**Kahutara**	**21.86**	**201**	P	**P**	**11 44 30.7**	**+1.1**
RPZ	**Rata Peaks**	**23.86**	**203**	P	**P**	**11 44 50.1**	**+0.8**
JCZ	**Jackson Bay**	**25.05**	**206**	P	**P**	**11 45 02.0**	**+1.9**
ARMA	**Armidale**	**29.85**	**247**	P	**P**	**11 45 43.3**	**0.0**
ARMA				IAmb	IAmb	11 46 08.6	
	comp=Z,27nm,1.5s						
CTAO	**Charters Tower**	**34.99**	**266**	P	**P**	**11 46 28.5**	**+0.3**
COEN	**Coen**	**39.35**	**275**	P	**P**	**11 47 05.8**	**+0.7**
COEN				IAmb	IAmb	11 47 07.3	
	comp=Z,7.0nm,0.9s						
AS31	**Alice Springs**	**45.74**	**258**		**P**	**11 47 56.3**	**-0.5**
ASAR	**Alice Springs**	**45.74**	**258**	P	**P**	**11 47 55.4**	**-1.5**
	comp=Z,5.2nm,0.6s,baz=89,slow=8.9,SNR=85						
	comp=Z,5.2nm,0.6s						
WR0	**Warramunga Arr**	**45.82**	**263**	P	**P**	**11 47 56.4**	**-1.0**
WR0				IAmb	IAmb	11 47 58.3	
	comp=Z,15nm,1.5s						
WR8	**Warramunga Arr**	**45.86**	**263**	P	**P**	**11 47 56.9**	**-0.9**
WR8				IAmb	IAmb	11 47 57.2	
	comp=Z,22nm,1.5s						
WB0	**Warramunga Arr**	**45.99**	**264**	P	**P**	**11 47 58.2**	**-0.7**
WB0				IAmb	IAmb	11 47 59.1	
	comp=Z,6.6nm,0.7s						
WB2	**Warramunga Arr**	**46.00**	**263**	P	**P**	**11 47 57.7**	**-1.1**
WB2				IAmb	IAmb	11 47 59.0	
	comp=Z,7.2nm,0.8s						
WRAB	**Tennant Creek**	**46.00**	**263**	P	**P**	**11 47 58.1**	**-0.8**
WRAB				IAmb	IAmb	11 47 59.4	
	comp=Z,5.7nm,0.9s						
WRA	**Warramunga Arr**	**46.01**	**263**		**P**	**11 47 58.2**	**-0.7**
WRA	**Warramunga Arr**	**46.01**	**263**	P	**P**	**11 47 57.3**	**-1.6**
	comp=Z,4.7nm,0.6s,baz=96,slow=8.0,SNR=74						
	comp=Z,4.7nm,0.6s						
FORT	**Forrest**	**50.14**	**248**	P	**P**	**11 48 29.9**	**-0.7**
KNRA	**Kununurra**	**52.20**	**267**	P	**P**	**11 48 46.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**54.44**	**263**	P	**P**	**11 49 02.5**	**0.0**
MBWA	**Marble Bar**	**59.09**	**258**	P	**P**	**11 49 35.2**	**-0.2**
MORW	**Morawa**	**60.70**	**248**	P	**P**	**11 49 45.6**	**-0.7**
QSPA	**South Pole Qui**	**67.84**	**180**	P	**P**	**11 50 33.6**	**+1.2**
QSPA				IAmb	IAmb	11 50 35.3	
	comp=Z,9.3nm,1.1s						
QSPA	**South Pole Qui**	**67.84**	**180**	P	**P**	**11 50 33.4**	**+0.9**
	comp=Z,4.3nm,0.9s,baz=348,slow=0.8,SNR=13						
	comp=Z,4.3nm,0.9s						
BELA	**Belgrano 2**	**77.62**	**172**	P	**P**	**11 51 30.3**	**+0.3**
O02D	**Mt. Diablo Mer**	**79.58**	**39**	P	**P**	**11 51 43.8**	**+2.4**
MAW	**Mawson**	**80.48**	**199**	P	**P**	**11 51 46.4**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=141,slow=6.3,SNR=18						
	comp=Z,1.1nm,0.7s						
NVAR	**Mina Array Bea**	**81.18**	**42**	P	**P**	**11 51 52.1**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=249,slow=4.0,SNR=2.6						
	comp=Z,0.2nm,0.4s						
H03S2	**Juan Fernandez**	**83.66**	**124**	T	T	13 24 07.6	
	baz=246,slow=74,SNR=11						
H03S1	**Juan Fernandez**	**83.67**	**124**	T	T	13 24 11.5	
	baz=246,slow=74,SNR=10						
H03S3	**Juan Fernandez**	**83.68**	**124**	T	T	13 24 16.0	
	baz=246,slow=74,SNR=12						
H03N2	**Juan Fernandez**	**83.81**	**123**	T	T	13 24 11.1	
	baz=251,slow=71,SNR=10.0						
H03N3	**Juan Fernandez**	**83.81**	**123**	T	T	13 24 20.7	
	baz=251,slow=71,SNR=7.0						
H03N1	**Juan Fernandez**	**83.82**	**123**	T	T	13 24 22.2	
	baz=251,slow=71,SNR=8.1						
SYO	**Syowa Base**	**85.39**	**192**	P	**P**	**11 52 10.4**	**-0.6**
SNAA	**Sanae**	**86.22**	**178**	P	**P**	**11 52 15.3**	**+0.1**
	comp=Z,2.0nm,1.2s,baz=284,slow=4.2,SNR=3.4						
	comp=Z,2.0nm,1.2s						
TXAR	**Lajitas Array**	**86.62**	**57**	P	**P**	**11 52 19.0**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=217,slow=7.5,SNR=5.8						
	comp=Z,0.4nm,0.8s						
PDAR	**Pinedale Array**	**89.11**	**43**	P	**P**	**11 52 30.0**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=205,slow=3.3,SNR=2.4						
	comp=Z,0.3nm,0.7s						
ARCES	**ARCESS Array B**	**130.92**	**350**	PKP	**PKPdf**	**11 58 43.5**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=350,slow=2.7,SNR=4.1						
AKASG	**Malin Array Be**	**145.32**	**331**	PKPbc	**PKPab**	**11 59 10.7**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=41,slow=4.1,SNR=7.9						
TORD	**Torodi Ar. Bea**	**170.74**	**167**	PKPab	**PKPab**	**12 01 01.3**	**+0.8**
	comp=Z,2.1nm,0.4s,baz=182,slow=4.3,SNR=1.6						

SSNC ***11*** *11:45:45.4±1.6, 19°.35N×73°.83W, h20km±12km, MD3.6, ML3.2, MW3.4*

OSPL ***11*** *11:45:45.8±1.1, 19°.45N×73°.82W, h17km±9km, ML3.2*

ISC 11 11:45:43.3±1.5, 19°.47N±0°.05×73°.85W±0°.04, h16km±11km, n26, σ1°03/39, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.79**	**333**	*e*P	**Pn**	**11 45 59.6**	**-0.2**
MASC				*e*S	**Sn**	**11 46 10.7**	**-0.7**
MASC				IAML		11 46 12.9	
	comp=N,713nm,0.2s						
MASC				IAML		11 46 13.0	
	comp=E,1μm,0.4s						
MASC	**Masc**	**0.79**	**333**	*i* P	**Pn**	**11 46 00.2**	**+0.4**
MASC				*e*S	**Sn**	**11 46 10.9**	**-0.5**
MASC				IAML		11 46 13.3	
	comp=Z,505nm,0.3s						
QMBU	**Quimbuelo**	**1.16**	**309**	*e*P	**Pn**	**11 46 04.8**	**-0.2**
QMBU				*e*S	**Sb**	**11 46 18.2**	**-1.8**
QMBU				IAML		11 46 22.1	
	comp=N,632nm,0.2s						
QMBU				IAML		11 46 22.2	
	comp=E,734nm,0.3s						
GTBY	**Guantanamo Bay**	**1.27**	**291**	*e*P	**Pb**	**11 46 07.2**	**+0.3**
GTBY				*e*S	**Sn**	**11 46 23.7**	**+0.5**
GTBY	**Guantanamo Bay**	**1.27**	**291**	*i* P	**Pb**	**11 46 07.4**	**+0.4**
GTBY				*e*S	**Sn**	**11 46 23.8**	**+0.5**
GTBY				IAML		11 46 26.9	
	comp=Z,462nm,0.3s						
NMDO	**Nuevo Mundo**	**1.52**	**316**	*e*P	**Pb**	**11 46 11.3**	**+0.1**
NMDO				*e*Pg	**Pg**	**11 46 12.7**	**+0.1**
NMDO				*e*S	**Sg**	**11 46 31.7**	**-0.8**
NMDO				*e*Sg	**Sb**	**11 46 33.2**	**+3.0**
NMDO				IAML		11 46 34.1	
	comp=N,236nm,0.4s						
NMDO				IAML		11 46 34.1	
	comp=E,244nm,0.4s						
MOAC	**Moa**	**1.58**	**319**	*e*P	**Pg**	**11 46 13.2**	**-0.6**
MOAC				*e*S	**Sg**	**11 46 34.2**	**-0.1**
MOAC				IAML		11 46 37.0	
	comp=N,301nm,0.3s						
MOAC				IAML		11 46 37.2	
	comp=E,378nm,0.3s						
PAPH	**Port-au-Prince**	**1.74**	**122**	*i* P	**Pn**	**11 46 12.9**	**0.0**
PAPH				*e*S	**Sn**	**11 46 33.4**	**-1.5**
RCC	**Rio Carpintero**	**1.82**	**287**	*e*P	**Pn**	**11 46 14.3**	**+0.3**
RCC				*e*S	**Sn**	**11 46 35.7**	**-1.0**
RCC				IAML		11 46 39.0	
	comp=E,90nm,0.1s						
RCC				IAML		11 46 39.2	
	comp=N,137nm,0.3s						
MARVS	**Santiago de Cu**	**2.00**	**286**	*e*P	**Pn**	**11 46 16.9**	**+0.3**
MARVS				*e*S	**Sn**	**11 46 41.8**	**+0.5**
PINC	**Pinares de May**	**2.09**	**299**	*e*P	**Pn**	**11 46 18.1**	**+0.4**
SDDR	**Presa de Saban**	**2.47**	**101**	*e*P	**Pn**	**11 46 22.6**	**-0.4**
SDDR	**Presa de Saban**	**2.47**	**101**	*i* P	**Pn**	**11 46 24.2**	**+1.2**
SDDR				IAML		11 47 04.5	
	comp=Z,103nm,0.8s						
CHIV	**Chivirico**	**2.47**	**282**	*e*P	**Pn**	**11 46 22.7**	**-0.2**
LODU1	**El Espartillar**	**2.51**	**116**	*i* P	**Pn**	**11 46 23.2**	**-0.3**
LODU1				IAML		11 47 11.9	
	comp=Z,200nm,0.5s						
HLGC	**Holguin**	**2.51**	**305**	*e*P	**Pb**	**11 46 28.7**	**+0.6**
LOPP1	**Punta Rusia, P**	**2.53**	**81**	*i* P	**Pn**	**11 46 24.7**	**+1.0**
LOPP1				IAML		11 47 01.0	
	comp=Z,82nm,1.0s						
YAR	**Yar**	**2.53**	**291**	*e*P	**Pn**	**11 46 24.2**	**+0.4**
LOBH	**Bahia de las A**	**2.63**	**127**	*i* P	**Pn**	**11 46 26.0**	**+0.8**
LOBH				IAML		11 47 07.8	
	comp=Z,77nm,1.8s						
LOVI	**El Cajuil, Ovi**	**2.88**	**125**	*i* P	**Pn**	**11 46 28.5**	**-0.1**
LOVI				IAML		11 47 25.9	
	comp=Z,164nm,0.9s						
LMGC	**Las Mercedes**	**3.03**	**282**	*e*P	**Pn**	**11 46 30.1**	**-0.6**
STH	**Stony Hill**	**3.13**	**244**	*e*P	**Pn**	**11 46 32.7**	**+0.6**
GRTK	**Grand Turk**	**3.26**	**51**	*i* P	**Pn**	**11 46 34.5**	**+0.7**
GRTK				IAML		11 47 27.0	
	comp=Z,93nm,1.8s						
PILO	**Pilon**	**3.38**	**278**	*e*P	**Pn**	**11 46 35.0**	**-0.5**
PILO				*e*S	**Sn**	**11 47 12.4**	**-3.0**
MTDJ	**Mount Denham**	**3.70**	**251**	*e*P	**Pn**	**11 46 41.1**	**+1.1**
MTDJ	**Mount Denham**	**3.70**	**251**	*i* P	**Pn**	**11 46 41.7**	**+1.7**

UCR ***11*** *11:48:12.2±0.9, 8°.32N×82°.86W, h26km±2km, MW4.5, Fault plane solution: NP1:φs286.99000°, δ77.76000°, λ8.74000°.*

UPA ***11*** *11:48:13.8±1.3, 8°.41N×82°.79W, h10km±3km, MW4.2*

CATAC ***11*** *11:48:13.6±0.5, 8°.N±3°.×8°.3W±°, h22km±1km, M4.8/19, mb5.0/4, mB5.1/2, MLv4.7/19, Mw(mB)4.5/2, Error ellipse: s-maj=6.0km s-min=4.0km az=6.5, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.53; Mθθ0.62; Mφφ-1.14; Mrθ0.23; Mrφ0.68; Mθr-0.11; Fault plane solution: M₀1.22653×10¹⁵ NP1:φs119.57350°, δ76.51053°, λ22.20012°. NP2:φs24.13561°, δ68.44346°, λ165.47458°. Principal axes: T 0.9337, Plg25.1348°, Azm343.2571°; N 0.4554, Plg64.2012°, Azm149.3257°; P -1.3891, Plg5.4433°, Azm250.6947°; confirmed*

ISC 11 11:48:11.7±1.0, 8°.31N±0°.04×82°.90W±0°.02, h18km±3km, n110, σ0°80/133, 37C-24D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.15**	**48**	*i*P	**Pb**	**11 48 16.0**	**+0.7**
LESP3				*e*S	**Sb**	**11 48 16.8**	**-0.8**
LPPC	**Paso Canoas**	**0.23**	**15**	*e*P	**Pg**	**11 48 18.4**	**+1.2**
LPPC				*e*S	**Sg**	**11 48 23.0**	**+2.1**
CDITO	**Canoas**	**0.27**	**6**	P	**Pg**	**11 48 18.7**	**+1.0**
CDITO	**Canoas**	**0.27**	**6**	S	**Sg**	**11 48 23.9**	**+2.1**
NELY	**Ciudad Neily**	**0.34**	**352**	*e*P	**Pb**	**11 48 19.8**	**+0.3**
NELY				*e*S	**Sb**	**11 48 25.6**	**+1.0**
FITO	**Golfito**	**0.40**	**322**	*e*P	**Pg**	**11 48 20.3**	**+0.2**
FITO				*e*S	**Sb**	**11 48 26.6**	**+0.3**
EDAD	**Golfito**	**0.43**	**323**	*e*P	**Pg**	**11 48 20.7**	**+0.1**
EDAD				*e*S	**Sg**	**11 48 27.1**	**+0.4**
CSTBL	**De las Acacias**	**0.47**	**77**	*e*P	**Pb**	**11 48 21.6**	**+0.2**
CSTBL	**De las Acacias**	**0.47**	**77**	*i*P	**Pb**	**11 48 21.7**	**+0.2**
PRISO	**Paraso**	**0.47**	**41**	*e*P	**Pg**	**11 48 21.5**	**+0.2**
RSRNO	**Rio Sereno**	**0.51**	**4**	*e*P	**Pg**	**11 48 22.6**	**+0.5**
RSRNO	**Rio Sereno**	**0.51**	**4**	*i*P	**Pg**	**11 48 22.6**	**+0.5**
VITO	**San Vito**	**0.51**	**352**	*e*P	**Pb**	**11 48 22.6**	**+0.3**
CLLRA	**Cordillera,**	**0.52**	**33**	*e*P	**Pb**	**11 48 22.2**	**-0.2**
CLLRA	**Cordillera,**	**0.52**	**33**	*i*P	**Pb**	**11 48 22.3**	**-0.2**
LOMA3	**Las Lomas, Chi**	**0.52**	**76**	*i*P	**Pb**	**11 48 22.3**	**0.0**
BRU2	**Volcan**	**0.53**	**23**	*e*P	**Pb**	**11 48 22.3**	**-0.2**
BRU2				*e*S	**Sb**	**11 48 29.7**	**-0.2**
BRU2	**Volcan**	**0.53**	**23**	*i*P	**Pb**	**11 48 22.4**	**-0.2**
BRU2				*i* S	**Sb**	**11 48 29.5**	**-0.4**
BRU2	**Volcan**	**0.53**	**23**	S	**Sb**	**11 48 30.1**	**+0.2**
BRU2	**Volcan**	**0.53**	**23**	P	**Pb**	**11 48 22.5**	**-0.1**
SCLRA	**Santa Clara, W**	**0.54**	**13**	*e*P	**Pb**	**11 48 22.8**	**+0.1**
SCLRA	**Santa Clara, W**	**0.54**	**13**	*i*P	**Pb**	**11 48 22.8**	**+0.1**
TBS2		**0.54**	**26**	*e*P	**Pg**	**11 48 23.4**	**+0.8**
PTAR3	**Potrerillos Ar**	**0.55**	**46**	*i*P	**Pb**	**11 48 22.5**	**-0.5**
PTAR3				*e*S	**Sb**	**11 48 28.7**	**-1.9**
CHIR3	**Chiriqui UPA,**	**0.57**	**81**	*i*P	**Pb**	**11 48 23.1**	**-0.1**
CHIR3				*e*S	**Sb**	**11 48 30.1**	**-0.8**
BC3P	**Paso Ancho**	**0.58**	**30**	*i*P	**Pb**	**11 48 23.0**	**-0.5**
BC3P				*e*S	**Sb**	**11 48 31.6**	**+0.1**
BQTLY	**Boquete Panama**	**0.62**	**44**	*e*P	**Pb**	**11 48 23.6**	**-0.6**
BQTLY	**Boquete Panama**	**0.62**	**44**	*i*P	**Pb**	**11 48 23.6**	**-0.6**
BQTLY				*e*S	**Sb**	**11 48 32.0**	**-0.7**
BQSF3	**Alto Boquete,**	**0.63**	**47**	*i*P	**Pb**	**11 48 23.7**	**-0.6**
BQSF3				*e*S	**Sb**	**11 48 32.4**	**-0.5**
ALCO	**Alturas Coton,**	**0.64**	**6**	*e*P	**Pb**	**11 48 23.9**	**-0.6**
PSOM3	**Paja de Sombre**	**0.69**	**57**	*i*P	**Pb**	**11 48 24.2**	**-0.8**
PSOM3				*e*S	**Sb**	**11 48 33.4**	**-0.9**
EDP2	**Potrero Grande**	**0.76**	**339**	*e*P	**Pb**	**11 48 26.2**	**-0.2**
PANP	**Palmar Norte**	**0.85**	**320**	*e*P	**Pb**	**11 48 27.5**	**-0.5**
PBNVO	**Pueblo Nuevo,**	**0.91**	**50**	*e*P	**Pb**	**11 48 27.4**	**-1.6**
BURE	**Buenos Aires**	**0.96**	**333**	*e*P	**Pb**	**11 48 29.1**	**-0.8**
DRK0	**Durika**	**1.01**	**340**	*e*P	**Pb**	**11 48 29.5**	**-1.3**
DRK0	**Durika**	**1.01**	**340**	*i*P	**Pb**	**11 48 29.6**	**-1.3**
DRK0	**Durika**	**1.01**	**340**	S	**Sb**	**11 48 43.3**	**-0.6**
DRK0	**Durika**	**1.01**	**340**	P	**Pb**	**11 48 30.5**	**-0.4**
RMDIO	**Remedios, Chir**	**1.06**	**94**	*e*P	**Pb**	**11 48 30.6**	**-1.0**
RMDIO	**Remedios, Chir**	**1.06**	**94**	*i*P	**Pb**	**11 48 30.9**	**-0.7**
EDPE	**Pejibaye, P**	**1.08**	**322**	*e*P	**Pb**	**11 48 31.1**	**-0.8**
OCHAL	**Ojochal**	**1.08**	**317**	S	**Sb**	**11 48 46.2**	**+0.5**
OCHAL	**Ojochal**	**1.08**	**317**	P	**Pn**	**11 48 32.1**	**+0.1**
PDCAN	**Manzana , Fuen**	**1.19**	**91**	*e*P	**Pn**	**11 48 31.8**	**-1.7**
PDCAN	**Manzana , Fuen**	**1.19**	**91**	*i*P	**Pn**	**11 48 32.0**	**-1.6**
SAJE	**San Jernim**	**1.20**	**330**	*e*P	**Pn**	**11 48 32.4**	**-1.4**
ISBTO	**Bastimentos Is**	**1.24**	**34**	*e*P	**Pn**	**11 48 34.2**	**0.0**
ISBTO	**Bastimentos Is**	**1.24**	**34**	*i*P	**Pn**	**11 48 34.3**	**+0.1**
BRIBI	**B

ISC 11 12:08:35.0±0.8, 22°.6S±0°.2×170°.87E±0°.09, h42km, n46, σ1§04/31, mb4.1/6, MS3.7/16, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**3.16**	**269**	P	**Pn**	**12 09 21.9**	**-0.4**
PINNC	**Pines Island,**	**3.16**	**269**	S	**Sn**	**12 10 01.1**	**+2.4**
YATNC	**Mamie plateau,**	**3.72**	**277**	P	**Pn**	**12 09 29.3**	**-0.7**
YATNC	**Mamie plateau,**	**3.72**	**277**	S	**Sn**	**12 10 13.0**	**+0.5**
OUENC	**Ouen Island, N**	**3.73**	**272**	P	**Pn**	**12 09 29.6**	**-0.4**
OUENC	**Ouen Island, N**	**3.73**	**272**	S	**Sn**	**12 10 13.5**	**+0.8**
ONTNC	**Ouen Toro**	**4.09**	**273**	P	**Pn**	**12 09 34.2**	**-0.9**
ONTNC	**Ouen Toro**	**4.09**	**273**	S	**Sn**	**12 10 22.3**	**+0.6**
DZM	**Mont Dzumac**	**4.13**	**276**	Pn	**Pn**	**12 09 34.9**	**-0.8**
	7.4nm,0.3s,baz=98,slow=19,SNR=119						
DZM				Sn	**Sn**	**12 10 19.8**	**-2.9**
	8.7nm,0.3s,baz=100,slow=22,SNR=9.9						
DZM				LR	LR	12 11 11.6	
	comp=Z,566nm,18.1s,baz=80,slow=39 22nm,0.4s						
DZM	**Mont Dzumac**	**4.13**	**276**	P	**Pn**	**12 09 34.8**	**-0.8**
DZM	**Mont Dzumac**	**4.13**	**276**	S	**Sn**	**12 10 23.9**	**+1.2**
URZ	**Urewera**	**16.51**	**162**	Pn	**P**	**12 12 25.9**	**+0.2**
	0.1nm,0.3s,baz=301,slow=11,SNR=5.3						
URZ				LR	LR	12 17 31.8	
	comp=Z,233nm,18.9s,baz=343,slow=33						
ASAR	**Alice Springs**	**33.95**	**261**	P	**P**	**12 15 14.6**	**-0.1**
	2.3nm,0.8s,baz=86,slow=8.9,SNR=17 2.3nm,0.8s						
WRA	**Warramunga Arr**	**34.09**	**267**	P	**P**	**12 15 14.2**	**-1.6**
	0.5nm,0.7s,baz=96,slow=8.5,SNR=8.2 0.5nm,0.7s						
JAY	**Jayapura**	**35.42**	**300**	LR	LR	12 29 09.2	
	comp=Z,74nm,18.1s,baz=200,slow=35						
FITZ	**Fitzroy Crossi**	**42.52**	**267**	LR	LR	12 34 31.9	
	comp=Z,89nm,18.7s,baz=216,slow=37						
GUMO	**Guam**	**44.06**	**322**	LR	LR	12 36 11.4	
	comp=Z,43nm,18.1s,baz=93,slow=38						
VNDA	**Vanda**	**55.16**	**182**	LR	LR	12 38 06.7	
	comp=Z,95nm,18.8s,baz=3.5,slow=32						
QSPA	**South Pole Qui**	**67.48**	**180**	P	**P**	**12 19 26.7**	**+0.3**
	1.2nm,0.8s,baz=19,slow=1.1,SNR=5.8 1.2nm,0.8s						
ASAJ	**Asahikawa**	**71.26**	**339**	LR	LR	12 45 30.7	
	comp=Z,40nm,21.9s,baz=160,slow=31						
MAW	**Mawson**	**75.92**	**202**	LR	LR	12 51 44.4	
	comp=Z,39nm,18.0s,baz=114,slow=34						
PETK	**Petropavlovsk-**	**76.24**	**352**	LR	LR	12 51 49.2	
	comp=Z,31nm,19.4s,baz=155,slow=34						
CMAR	**Chiang Mai Arr**	**81.26**	**294**	P	**P**	**12 20 48.6**	**+1.5**
	1.6nm,0.7s,baz=112,slow=5.4,SNR=10 1.6nm,0.7s						
MA2	**Magadan**	**83.51**	**350**	LR	LR	12 52 40.5	
	comp=Z,36nm,20.3s,baz=152,slow=32						
TROLL	**Troll, Antarti**	**85.31**	**184**	P	**P**	**12 21 07.3**	**-0.1**
SNAA	**Sanae**	**85.89**	**182**	P	**P**	**12 21 09.2**	**-0.9**
SNAA	**Sanae**	**85.89**	**182**	P	**P**	**12 21 08.9**	**-1.3**
	2.8nm,1.0s,baz=180,slow=5.4,SNR=8.4 2.8nm,1.0s						
SEY	**Seymchan**	**86.48**	**352**	LR	LR	12 59 09.7	
	comp=Z,19nm,18.5s,baz=140,slow=35						
VNA1	**Neumayer--Stat**	**87.02**	**180**	P	**P**	**12 21 15.3**	**-0.2**
PFO	**Pinyon Flats O**	**88.90**	**53**	LR	LR	12 54 54.9	
	comp=Z,54nm,18.4s,baz=224,slow=31						
LPIG	**La Paz**	**89.51**	**64**	LR	LR	12 55 35.0	
	comp=Z,25nm,18.2s,baz=234,slow=32						
NVAR	**Mina Array Bea**	**89.89**	**48**	LR	LR	12 57 06.0	
	comp=Z,35nm,18.6s,baz=196,slow=32						
YAK	**Yakutsk**	**90.51**	**342**	LR	LR	12 59 10.3	
	comp=Z,27nm,18.9s,baz=170,slow=34						
SONM	**Songino Array**	**90.79**	**323**	P	**P**	**12 21 34.7**	**+0.9**
	2.1nm,1.0s,baz=119,slow=5.6,SNR=10.0 2.1nm,1.0s						
BBB	**Bella Bella**	**91.45**	**33**	LR	LR	12 57 13.5	
	comp=Z,50nm,18.3s,baz=190,slow=32						
NEW	**Newport**	**95.36**	**40**	LR	LR	13 00 41.3	
	comp=Z,46nm,18.1s,baz=244,slow=33						
ANMO	**Albuquerque**	**96.95**	**55**	LR	LR	12 58 14.9	
	comp=Z,28nm,20.1s,baz=316,slow=31						
MORC	**Moravsky Berou**	**145.71**	**329**	*e*PKP	**PKPab**	**12 28 09.7**	**+0.1**
JAVC	**Velka Javorina**	**146.26**	**328**	*e*PKP	**PKiKP**	**12 28 13.3**	**-0.8**
VRAC	**Vranov**	**146.48**	**329**	*e*PKP	**PKiKP**	**12 28 13.5**	**-1.0**
BRG	**Berggiesshubel**	**146.53**	**333**	*e*PKP	**PKPab**	**12 28 12.7**	**0.0**
BRG				Amp		12 28 13.5	
	comp=Z,5.1nm,0.9s						
BRG	**Berggiesshubel**	**146.53**	**333**	P	**PKiKP**	**12 28 15.5**	**+1.0**
BRG				Amp		12 28 16.1	
	comp=Z,3.0nm,0.7s						
CLL	**Collm**	**146.58**	**335**	*i* PKPbc	**PKPab**	**12 28 12.6**	**-0.2**
	comp=Z,7.0nm,0.9s						
KRUC	**Moravsky**	**146.74**	**329**	*e*PKP	**PKPab**	**12 28 13.7**	**+0.2**
EKA	**Eskdalemuir Ar**	**147.00**	**354**	PKPbc	**PKPbc**	**12 28 12.8**	**0.0**
	comp=Z,2.8nm,0.5s,baz=353,slow=2.4,SNR=19						
GERES	**GERESS Array B**	**148.15**	**331**	PKPbc	**PKiKP**	**12 28 17.6**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=40,slow=1.7,SNR=9.4						

*IDC **11** 12:10:12.8±1.2, 34°.29N×25°.44E, h0km, mb3.8/5, mbtmp3.7/10, ML3.4/4, MS2.7/1, Error ellipse: s-maj=22.5km s-min=16.8km az=29.0*
*AFAD **11** 12:10:16.3, 34°.41N×25°.76E, h5km±4km, ML3.2*
*ISK **11** 12:10:16.8, 34°.38N×25°.31E, h8km, ML3.4/11*
*HLW **11** 12:10:17.8, 34°.35N×25°.54E, h31km±25km, Ml3.8*
*GII **11** 12:10:18.9±0.0, 34°.22N±0°.03×25°.85E±0°.01, h20km, Mws3.7, confirmed*
*ATH **11** 12:10:20.4, 34°.50N×25°.30E, h35km±8km, ML3.3/5, Manual Solution by A.Fokaefs First location: 2019/07/11 12:11:53, This location: 2019/07/11 12:29:47 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 1 km*

ISC 11 12:10:17.3±1.0, 34°.19N±0°.05×25°.55E±0°.05, h35km±3km, n111, σ1§97/133, mb3.7/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**1.07**	**30**	Pg	**Pn**	**12 10 37.7**	**+1.8**
ZKR				Sg	**Sn**	**12 10 53.1**	**+3.5**
ZKR	**Zakros**	**1.07**	**30**	P	**Pn**	**12 10 37.5**	**+1.6**
ZKR				S	**Sn**	**12 10 50.1**	**+0.5**
IACM	**Heraklion**	**1.19**	**341**	P	**Pn**	**12 10 35.8**	**-1.6**
IDI	**Anoyia**	**1.23**	**334**	Pg	**Pn**	**12 10 36.8**	**-1.2**
IDI				Sg	**Sn**	**12 10 51.4**	**-2.0**
IDI	**Anoyia**	**1.23**	**334**	Pn	**Pn**	**12 10 36.2**	**-1.8**
	66nm,0.3s,baz=159,slow=14,SNR=206						
IDI				Sn	**Sn**	**12 10 51.5**	**-1.9**
	117nm,0.3s,baz=87,slow=15,SNR=18						
IDI	**Anoyia**	**1.23**	**334**	P	**Pn**	**12 10 36.5**	**-1.5**
IDI				S	**Sn**	**12 10 47.3**	**-6.1**
GVD	**Gavdhos**	**1.38**	**299**	Pn	**Pn**	**12 10 38.5**	**-1.5**
GVD	**Gavdhos**	**1.38**	**299**	P	**Pn**	**12 10 38.5**	**-1.5**
KARP	**Karpathos**	**1.89**	**44**	Pn	**Pn**	**12 10 49.9**	**+2.7**
KARP	**Karpathos**	**1.89**	**44**	P	**Pn**	**12 10 49.9**	**+2.7**
THERA	**Ancient Thera,**	**2.18**	**358**	P	**Pn**	**12 10 50.3**	**-0.7**
ANKY	**Antikythira Is**	**2.50**	**313**	P	**Pn**	**12 10 53.8**	**-1.6**
SLUM	**Salum**	**2.70**	**186**	P	**Pn**	**12 11 01.4**	**+3.1**
KTHA	**Kythira Island**	**2.90**	**316**	Pn	**Pn**	**12 10 58.6**	**-2.4**
ARG	**Arkhangelos**	**2.92**	**45**	Pn	**Pn**	**12 11 03.5**	**+2.2**
ARG	**Arkhangelos**	**2.92**	**45**	P	**Pn**	**12 11 03.6**	**+2.4**
YAZI	**Mula-Dat§a-**	**2.93**	**31**	P	**Pn**	**12 11 01.0**	**-0.4**
DAT	**Datca**	**3.03**	**32**	Pn	**Pn**	**12 11 03.5**	**+0.7**
VLI	**Veliai**	**3.31**	**321**	P	**Pn**	**12 11 03.7**	**-2.9**
TURN	**Turunc**	**3.39**	**40**	Pn	**Pn**	**12 11 08.8**	**+1.1**
TURN	**Turunc**	**3.39**	**40**	P	**Pn**	**12 11 08.7**	**+1.1**
TURN				S	**Sn**	**12 11 45.9**	**-0.7**
TURN				*i* IAML		12 11 53.0	
	comp=N,39nm,0.8s						
TURN				*i* IAML		12 11 54.0	
	comp=E,40nm,0.6s						
DALY	**Dalyan (Mula)**	**3.64**	**43**	Pn	**Pn**	**12 11 12.4**	**+1.2**
IZZE	**Mula-Seydike**	**3.75**	**52**	P	**Pn**	**12 11 14.0**	**+1.4**
IZZE				S	**Sn**	**12 11 54.5**	**-1.0**
IZZE				*i* IAML		12 11 56.0	
	comp=N,189nm,0.4s						
IZZE				*i* IAML		12 11 57.0	
	comp=E,141nm,0.3s						
MULA	**Mugla, Merkez-**	**3.80**	**36**	P	**Pn**	**12 11 15.5**	**+2.1**
MULA				S	**Sn**	**12 11 57.1**	**+0.2**
MULA				*i* IAML		12 11 59.0	
	comp=E,41nm,0.5s						
MULA				*i* IAML		12 12 00.0	
	comp=N,31nm,0.8s						
SABU	**Mula-Dalaman**	**3.83**	**46**	P	**Pn**	**12 11 15.5**	**+1.7**
SABU				S	**Sn**	**12 11 59.2**	**+1.6**
SABU				*i* IAML		12 12 06.0	
	comp=E,32nm,0.7s						
SABU				*i* IAML		12 12 07.0	
	comp=N,40nm,0.4s						
AKAS	**Kas**	**3.89**	**57**	Pn	**Pn**	**12 11 16.7**	**+1.9**
AKAS	**Kas**	**3.89**	**57**	P	**Pn**	**12 11 16.3**	**+1.5**
AKAS				S	**Sn**	**12 12 01.3**	**+2.0**
AKAS				*i* IAML		12 12 05.0	
	comp=E,61nm,0.5s						
AKAS				*i* IAML		12 12 07.0	
	comp=N,159nm,0.3s						
DB3	**El Dabaa**	**4.03**	**140**	P	**Pn**	**12 11 18.6**	**+2.1**
DION	**Dionisos Attik**	**4.10**	**342**	P	**Pn**	**12 11 15.8**	**-1.7**
CAME	**Cameli-Denizli**	**4.11**	**47**	Pn	**Pn**	**12 11 18.9**	**+1.2**
ITM	**Ithomi**	**4.20**	**316**	Pn	**Pn**	**12 11 16.0**	**-2.8**
KNIK	**Mula-Seydike**	**4.22**	**50**	P	**Pn**	**12 11 20.4**	**+1.2**
KNIK				*i* IAML		12 13 21.0	
	comp=N,59nm,0.4s						
KNIK				*i* IAML		12 13 22.0	
	comp=E,103nm,0.6s						
CAEL	**Denizli, Camel**	**4.24**	**45**	P	**Pn**	**12 11 22.9**	**+3.3**
CAEL				S	**Sn**	**12 12 13.6**	**+5.8**
CAEL				*i* IAML		12 12 22.0	
	comp=E,92nm,0.7s						
CAEL				*i* IAML		12 12 28.0	
	comp=N,66nm,0.7s						
ESEN	**Aydn-Nazilli**	**4.26**	**31**	P	**Pn**	**12 11 21.0**	**+1.4**
ESEN				S	**Sn**	**12 12 08.8**	**+0.8**
TAVA	**DENIZLI_Tavas**	**4.26**	**39**	P	Pn	12 11 13.9	-5.8
TAVA				S	**Sn**	**12 12 11.1**	**+2.8**
DNIZ	**Denizli-Tavas-**	**4.45**	**38**	P	**Pn**	**12 11 25.5**	**+3.1**
DNIZ				S	**Sn**	**12 12 15.4**	**+2.5**
DNIZ				*i* IAML		12 12 17.0	
	comp=E,51nm,0.5s						
DNIZ				*i* IAML		12 12 24.0	
	comp=N,55nm,0.6s						
AKUM	**Antalya-Kumluc**	**4.46**	**60**	P	**Pn**	**12 11 23.5**	**+1.1**
AKUM				S	**Sn**	**12 12 13.7**	**+0.7**
AKUM				*i* IAML		12 12 17.0	
	comp=N,42nm,0.5s						
AKUM				*i* IAML		12 12 18.0	
	comp=E,52nm,0.7s						
GOLH	**Golhisar**	**4.46**	**46**	P	**Pn**	**12 11 23.9**	**+1.4**
GOLH				S	**Sn**	**12 12 15.9**	**+2.7**
GOLH				*i* IAML		12 12 18.0	
	comp=N,46nm,0.5s						
GOLH				*i* IAML		12 12 28.0	
	comp=E,35nm,0.7s						
APMY	**Acipayam-Deniz**	**4.47**	**42**	Pn	**Pn**	**12 11 23.5**	**+0.8**
KIRA	**zmir-Kiraz**	**4.62**	**29**	P	**Pn**	**12 11 26.4**	**+1.7**
KIRA				*i* IAML		12 12 19.0	
	comp=E,10nm,0.7s						
KIRA				*i* IAML		12 13 13.0	
	comp=N,14nm,1.8s						
KORT	**Korkueli**	**4.81**	**53**	Pn	**Pn**	**12 11 28.6**	**+1.2**
KORT	**Korkueli**	**4.81**	**53**	P	Pn	12 11 32.7	+5.3
KORT				S	**Sn**	**12 12 25.3**	**+3.3**
SWA2		**4.93**	**181**	P	**Pn**	**12 11 32.2**	**+3.4**
SWA2				S	**Sn**	**12 12 25.8**	**+1.2**
PASA	**Karahalli, USA**	**5.23**	**36**	P	**Pn**	**12 11 33.6**	**+0.5**
PASA				S	**Sn**	**12 12 29.1**	**-3.0**
PASA				*i* IAML		12 12 30.0	
	comp=N,7.2nm,0.5s						
PASA				*i* IAML		12 12 39.0	
	comp=E,7.7nm,0.4s						
GAZI	**Gazipasa**	**5.90**	**68**	Pn	**Pn**	**12 11 43.3**	**+1.1**
GAZI	**Gazipasa**	**5.90**	**68**	P	**Pn**	**12 11 42.2**	**0.0**
GAZI				S	**Sn**	**12 12 46.0**	**-2.6**
GAZI				*i* IAML		12 12 49.0	
	comp=N,52nm,0.5s						
GAZI				*i* IAML		12 12 49.0	
	comp=E,61nm,0.8s						
SEDI	**Konya, Seydise**	**6.00**	**55**	P	**Pn**	**12 11 46.7**	**+3.1**
SEDI				S	**Sn**	**12 12 53.3**	**+2.1**
SEDI				*i* IAML		12 12 56.0	
	comp=N,27nm,0.8s						
SEDI				*i* IAML		12 12 57.0	
	comp=E,32nm,0.6s						
HMYD	**Mayadein**	**6.25**	**133**	P	**Pn**	**12 11 49.9**	**+2.9**
HNAT	**Natroun**	**6.26**	**135**	P	**Pn**	**12 11 49.7**	**+2.6**
CSS	**Mathiatis**	**6.46**	**81**	S	**Sn**	**12 13 00.4**	**-2.1**
CSS	**Mathiatis**	**6.46**	**81**	P	**Pn**	**12 11 49.9**	**-0.1**
RYAN	**Fayoum**	**6.49**	**140**	P	**Pn**	**12 11 53.7**	**+3.4**
NBNS	**Bani Suef**	**7.40**	**137**	P	**Pn**	**12 12 05.9**	**+3.0**
HFRF	**Wahat Farafira**	**7.41**	**161**	P	**Pn**	**12 12 06.0**	**+3.1**
ZAF	**Zafarana**	**7.71**	**127**	⇑P	**Pn**	**12 12 10.3**	**+3.3**
TAMRE	**El Minia**	**7.95**	**143**	P	**Pn**	**12 12 13.4**	**+3.0**
KZIT	**Kziot**	**8.15**	**111**	S	**Sn**	**12 13 43.1**	**-0.9**
KZIT	**Kziot**	**8.15**	**111**	P	**Pn**	**12 12 12.8**	**-0.3**
SLTI	**Sal'it**	**8.18**	**101**	S	**Sn**	**12 13 43.7**	**-1.0**
SLTI	**Sal'it**	**8.18**	**101**	P	**Pn**	**12 12 13.2**	**-0.3**
MMA0B	**Mount Meron ar**	**8.30**	**95**	S	**Sn**	**12 13 46.5**	**-1.3**
MMA0B	**Mount Meron ar**	**8.30**	**95**	P	**Pn**	**12 12 15.1**	**-0.1**
MMAI	**Mount Meron Ar**	**8.30**	**95**	Pn	**Pn**	**12 12 15.8**	**+0.5**
	2.1nm,0.3s,baz=282,slow=7.2,SNR=4.3						
MMAI				Sn	**Sn**	**12 13 47.4**	**-0.3**
	9.6nm,0.3s,baz=280,slow=25,SNR=8.1 0.5nm,0.2s						
AMAZ	**Amatzia**	**8.31**	**106**	S	**Sn**	**12 13 46.2**	**-1.6**
AMAZ	**Amatzia**	**8.31**	**106**	P	**Pn**	**12 12 15.3**	**0.0**
MMLI	**Mount Malkishu**	**8.44**	**99**	S	**Sn**	**12 13 49.6**	**-1.6**
MMLI	**Mount Malkishu**	**8.44**	**99**	P	**Pn**	**12 12 17.0**	**-0.1**
GEM	**Giv'at Ha'Em**	**8.48**	**94**	S	**Sn**	**12 13 50.4**	**-1.7**
GEM	**Giv'at Ha'Em**	**8.48**	**94**	P	**Pn**	**12 12 17.4**	**-0.2**
BRTR	**Keskin Array B**	**8.51**	**47**	Pn	**Pn**	**12 12 19.6**	**+1.5**
	0.1nm,0.3s,baz=236,slow=10,SNR=3.7 0.5nm,0.6s						
ASUT		**8.51**	**141**	P	**Pn**	**12 12 21.1**	**+3.0**
YTIR	**Yattir**	**8.53**	**107**	S	**Sn**	**12 13 52.3**	**-1.1**
YTIR	**Yattir**	**8.53**	**107**	P	**Pn**	**12 12 18.2**	**-0.1**
NATI	**Neve Ativ**	**8.53**	**93**	S	**Sn**	**12 13 52.1**	**-1.2**
NATI	**Neve Ativ**	**8.53**	**93**	P	**Pn**	**12 12 17.8**	**-0.5**
HMDT	**Nahal Hemdat**	**8.57**	**100**	S	**Sn**	**12 13 52.9**	**-1.5**
HMDT	**Nahal Hemdat**	**8.57**	**100**	P	**Pn**	**12 12 19.0**	**+0.1**
UJAP	**Al Uja**	**8.61**	**102**	S	**Sn**	**12 13 53.8**	**-1.5**
UJAP	**Al Uja**	**8.61**	**102**	P	**Pn**	**12 12 19.7**	**+0.3**
DSI	**Dead Sea**	**8.67**	**105**	S	**Sn**	**12 13 55.8**	**-0.8**
DSI	**Dead Sea**	**8.67**	**105**	P	**Pn**	**12 12 20.3**	**+0.2**
MDBI	**Mazsada**	**8.74**	**106**	S	**Sn**	**12 13 56.7**	**-1.7**
MDBI	**Mazsada**	**8.74**	**106**	P	**Pn**	**12 12 21.6**	**+0.4**
MSBI	**Mazada**	**8.74**	**106**	S	**Sn**	**12 13 57.3**	**-1.1**
MSBI	**Mazada**	**8.74**	**106**	P	**Pn**	**12 12 21.0**	**-0.2**
KRMI	**Paran Flat**	**8.77**	**115**	S	**Sn**	**12 13 57.9**	**-1.3**
KRMI	**Paran Flat**	**8.77**	**115**	P	**Pn**	**12 12 22.8**	**+1.2**
PRNI	**Paran**	**8.87**	**113**	S	**Sn**	**12 14 00.8**	**-0.8**
PRNI	**Paran**	**8.87**	**113**	P	**Pn**	**12 12 24.1**	**+1.1**
ZFRI	**Zfri**	**8.91**	**111**	S	**Sn**	**12 14 01.7**	**-0.9**
ZFRI	**Zfri**	**8.91**	**111**	P	**Pn**	**12 12 23.7**	**+0.2**
GHAJ	**Ghor Haditha**	**8.91**	**106**	S	**Sn**	**12 14 01.3**	**-1.3**
GHAJ	**Ghor Haditha**	**8.91**	**106**	P	**Pn**	**12 12 24.3**	**+0.8**
MBRI	**Mt Berech**	**9.07**	**116**	S	**Sn**	**12 14 05.4**	**-1.4**
MBRI	**Mt Berech**	**9.07**	**116**	P	**Pn**	**12 12 27.2**	**+1.4**
EIL	**Elat**	**9.17**	**117**	Pn	**Pn**	**12 12 28.9**	**+1.8**
	0.8nm,0.3s,baz=243,slow=1.7,SNR=19						
EIL				Sn	**Sn**	**12 14 07.2**	**-1.7**
	2.2nm,0.3s,baz=309,slow=20,SNR=5.9 3.0nm,0.4s						
EIL	**Elat**	**9.17**	**117**	S	**Sn**	**12 14 07.9**	**-1.0**
EIL	**Elat**	**9.17**	**117**	P	**Pn**	**12 12 27.0**	**0.0**
HDK1	**Dakhla**	**9.24**	**158**	P	**Pn**	**12 12 31.7**	**+3.6**
AKRG	**Al Kharijah**	**9.66**	**152**	P	**Pn**	**12 12 37.5**	**+3.7**
ASF	**Jabal al Asfar**	**9.72**	**99**	Sn	**Sn**	**12 14 20.6**	**-2.0**
	1.0nm,0.3s,baz=81,slow=14,SNR=3.1						
STHS	**Stebnicka Huta**	**15.55**	**349**	*e*P	**Pn**	**12 13 49.5**	**-4.3**
KBZ	**Khabaz**	**16.49**	**50**	Pn	**Pn**	**12 14 04.3**	**-1.4**
	0.2nm,0.3s,baz=239,slow=7.0,SNR=7.8						
AKASG	**Malin Array Be**	**16.72**	**8**	Pn	**Pn**	**12 14 08.0**	**-0.6**
	0.5nm,0.4s,baz=202,slow=11,SNR=8.6						
AKASG				LR	LR	12 20 37.8	
	comp=Z,24nm,19.4s,baz=172,slow=38						
GERES	**GERESS Array B**	**17.09**	**333**	Pn	**Pn**	**12 14 12.4**	**-1.1**
	baz=137,slow=12,SNR=6.3 0.7nm,0.5s						
ESDC	**Sonseca Array**	**24.16**	**292**	P	**P**	**12 15 28.7**	**-1.5**
	0.4nm,0.5s,baz=80,slow=9.5,SNR=4.4 0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**30.13**	**232**	P	**P**	**12 16 24.8**	**+1.0**
	2.4nm,0.4s,baz=29,slow=8.9,SNR=1.7 2.4nm,0.4s						
KURBB	**Kurchatov Arra**	**41.49**	**50**	P	**P**	**12 18 01.3**	**+0.6**
	0.7nm,0.6s,baz=276,slow=8.8,SNR=5.6 0.7nm,0.6s						
MKAR	**Makanchi Array**	**44.05**	**56**	P	**P**	**12 18 22.4**	**+0.8**
	0.7nm,0.5s,baz=282,slow=6.9,SNR=7.2						
MKAR				PcP	**PcP**	**12 20 07.3**	**+0.7**
	0.1nm,0.4s,baz=253,slow=4.4,SNR=1.4						
ZALV	**Zalesovo Beam**	**45.45**	**45**	P	**P**	**12 18 31.9**	**-0.7**
	1.2nm,0.5s,baz=286,slow=10,SNR=4.4 1.2nm,0.5s						
SONM	**Songino Array**	**59.85**	**50**	P	**P**	**12 20 20.2**	**+0.8**
	0.5nm,0.6s,baz=278,slow=6.6,SNR=2.7 0.5nm,0.6s						

STR 11 12:11:58.1±1.7, 45°N±7°×±°, h0km, MLv1.0/6, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORIF	**Oris-en-Rattie**	**0.42**	**140**	Pg	Pg	12 12 06.1	0.0
ORIF				Sg	Sg	12 12 12.5	+1.0

*NEIC **11** 12:20:04.3±0.8, 36°.078N±0°.010×117°.87W±0°.01, h2km±2km, Error ellipse: s-maj=1.4km s-min=1.3km az=216.0*

PAS 11 12:20:04.6±0.8, 36°.083N±0°.004×117°.88W±0°.02, h1km±2km, ML3.0/25, ML3.1/72(NEIC), Error ellipse: s-maj=1.8km s-min=0.6km az=80.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.04**	**31**		Pg	12 20 06.0	+0.6
WRVM	**Rose V. Centra**	**0.08**	**186**		Pg	12 20 06.3	+0.2
WVPM	**Volcano Peak E**	**0.14**	**159**		Pg	12 20 07.6	+0.2
WNMM	**Nine Mile Cany**	**0.24**	**185**		Pg	12 20 09.4	+0.2
TOW	**Tower One**	**0.29**	**161**		Pg	12 20 10.8	+0.7
MPMC	**Manual Prospec**	**0.32**	**94**		Pg	12 20 10.9	+0.2
CWC	**Cottonwood Cre**	**0.39**	**336**		Pg	12 20 12.3	+0.2
CWC	**Cottonwood Cre**	**0.39**	**336**		Sg	12 20 18.1	+0.9
SRTC	**Snort**	**0.41**	**165**		Pg	12 20 13.0	+0.7
CGO	**Cerro Gordo**	**0.47**	**8**		Pg	12 20 13.7	+0.1
CGO					Sg	12 20 20.9	+1.1
WORM	**Onyx Ranch**	**0.49**	**217**		Pg	12 20 13.9	0.0
WSHM	**Spangler Hills**	**0.58**	**147**	Pg	Pg	12 20 15.7	+0.1
LRMC	**Laurel Mtn Rad**	**0.62**	**165**		Pg	12 20 16.7	+0.1
LRMC	**Laurel Mtn Rad**	**0.62**	**165**		Sg	12 20 25.6	+0.9
ISA	**Isabella, Lake**	**0.64**	**229**		Pg	12 20 16.9	+0.1
ISA				IAML		12 20 25.9	
	comp=N,662nm,0.4s						
ISA				IAML		12 20 26.4	
	comp=E,640nm,0.2s						
CCCA	**Chr Cany lake**	**0.70**	**143**		Pg	12 20 18.0	+0.1
CCCA	**Chr Cany lake**	**0.70**	**143**	IAML		12 20 30.5	
	comp=N,998nm,0.7s						
CCCA				IAML		12 20 33.7	
	comp=E,658nm,0.7s						
QSM	**Queen of Sheba**	**0.83**	**98**		Pg	12 20 20.5	0.0
QSM				IAML		12 20 35.7	
	comp=E,448nm,0.7s						
QSM				IAML		12 20 37.2	
	comp=N,441nm,0.6s						
GWY	**Greenwater Val**	**0.99**	**84**		Pg	12 20 23.5	0.0
GWY				IAML		12 20 56.3	
	comp=N,482nm,0.6s						
GWY				IAML		12 20 56.4	
	comp=E,398nm,0.8s						
GRAC	**Grapevine Rang**	**1.00**	**24**		Pg	12 20 23.8	0.0
GRAC				IAML		12 20 42.0	
	comp=N,512nm,0.6s						
GRAC				IAML		12 20 43.6	
	comp=E,424nm,0.8s						
GSC	**Goldstone, Bar**	**1.17**	**131**		Pg	12 20 26.9	-0.2
TPO	**Tropico Hills**	**1.23**	**193**		Pg	12 20 27.8	-0.4
TPO				IAML		12 21 12.9	
	comp=N,332nm,0.5s						
WCT	**Wildcat Mounta**	**1.23**	**55**		Pg	12 20 27.8	-0.4
WCT				IAML		12 21 09.0	
	comp=E,253nm,0.5s						
DSP	**Deep Springs**	**1.29**	**357**		Pg	12 20 28.6	-0.7
BHPR	**Bishop**	**1.31**	**338**		Pg	12 20 29.4	-0.3
GMN	**Gold Mountain**	**1.31**	**22**	Pg	Pg	12 20 29.8	0.0
GMN				IAML		12 21 10.2	
	comp=N,391nm,0.4s						
GMN				IAML

GWY	Greenwater Val	0.62	67		Pg	12 20 54.4	+0.3	
GWY	Greenwater Val	0.62	67	IAML		12 21 10.2		
	comp=E,2µm,0.3s							
WBSM	Bird Springs	0.74	237		Pg	12 20 56.3	-0.1	
WBSM					Sg	12 21 06.7	+0.8	
WORM	Onyx Ranch	0.74	251		Pg	12 20 56.3	-0.1	
CWC	Cottonwood Cre	0.75	311	Pg	Pg	12 20 56.6	+0.1	
CWC				IAML		12 21 07.4		
	comp=N,3µm,0.5s							
CWC				IAML		12 21 09.1		
	comp=E,3µm,0.3s							
DTP	Desert Tortois	0.78	209		Pg	12 20 56.7	-0.3	
DTP					Sg	12 21 07.6	+0.5	
GSC	Goldstone, Bar	0.80	144	Pg	Pg	12 20 57.2	-0.2	
GSC				IAML		12 21 08.8		
	comp=E,3µm,0.5s							
GSC				IAML		12 21 10.0		
	comp=N,2µm,0.6s							
GSC	Goldstone, Bar	0.80	144		Sg	12 21 08.3	+0.7	
WHFM	Hanning Flat	0.83	253		Pg	12 20 57.9	-0.1	
SHOC	Shoshone, Teco	0.90	93		Pb	12 21 00.0	-0.6	
SHOC					Sb	12 21 12.7	-0.5	
ISA	Isabella, Lake	0.93	253		Pg	12 20 60.0	-0.1	
ISA					Sg	12 21 12.6	+0.5	
ISA	Isabella, Lake	0.93	253	IAML		12 21 15.8		
	comp=N,1µm,0.7s							
AMDNV	Amargosa	1.02	60		Pg	12 21 01.8	0.0	
WCT	Wildcat Mounta	1.04	36		Pg	12 21 02.3	+0.1	
WCT	Wildcat Mounta	1.04	36	IAML		12 21 17.9		
	comp=E,1µm,0.5s							
GRAC	Grapevine Rang	1.05	1		Pg	12 21 02.2	-0.1	
GRAC	Grapevine Rang	1.05	1	IAML		12 21 19.8		
	comp=N,2µm,0.5s							
HYS	Haystack Butte	1.09	188		Pg	12 21 02.5	-0.6	
HYS					Sg	12 21 17.1	-0.1	
SPG2	Springville 2	1.15	283		Pb	12 21 04.6	-0.3	
TPO	Tropico Hills	1.27	213		Pg	12 21 06.6	+0.1	
TPNV	Topopah Spring	1.35	42		Pg	12 21 08.2	+0.1	
TPNV				IAML		12 21 27.8		
	comp=N,779nm,0.7s							
TPNV				IAML		12 21 28.9		
	comp=N,746nm,0.4s							
GMN	Gold Mountain	1.35	4		Pg	12 21 07.7	-0.4	
HEC	Hector,Ludlow	1.40	142		Pg	12 21 08.5	-0.5	
HEC					Sn	12 21 28.1	-0.2	
DSP	Deep Springs	1.50	342		Pb	12 21 10.7	-0.2	
HOLC	Holcomb Ridge	1.53	195		Pn	12 21 10.7	-0.2	
MTPC	Mountain Pass	1.56	107		Pn	12 21 10.8	-0.5	
MTPC				IAML		12 21 34.3		
	comp=E,1µm,0.3s							
MTPC				IAML		12 21 35.2		
	comp=N,856nm,0.4s							
POCCA	Poleta Canyon	1.59	333		Pb	12 21 12.2	-0.4	
BHPR	Bishop	1.62	327		Pn	12 21 12.3	+0.1	
BFSC	Mount Baldy Ra	1.72	188		Pb	12 21 14.5	-0.1	
BFSC	Mount Baldy Ra	1.72	188	IAML		12 21 37.8		
	comp=E,567nm,0.4s							
GTM	Goat Mountain	1.85	153		Pb	12 21 16.3	-0.6	
SHPR	Sheep Range	1.88	72	Pn	Pn	12 21 15.4	-0.3	
BLAC	Blackrock camp	2.04	156		Pn	12 21 16.7	-1.2	
S11A	Rachel	2.14	37	Pn	Pn	12 21 19.6	+0.3	
S11A				IAML		12 21 53.4		
	comp=N,469nm,0.9s							
EW2	E Wide Canyon	2.15	158		Pn	12 21 18.3	-1.1	
CTW	Cottonwood Mou	2.58	151		Pn	12 21 23.7	-1.5	
JUEM	Julian Eagle M	2.93	167		Pn	12 21 29.6	-0.5	
DPP	Dos Picos Cty	2.96	173		Pn	12 21 29.7	-0.7	
BLYC	Blythe	3.21	132		Pn	12 21 32.0	-1.9	
BLYC				IAML		12 22 31.9		
	comp=N,167nm,0.8s							
BLYC				IAML		12 22 36.6		
	comp=E,110nm,0.7s							
BAR	Barrett	3.31	170	IAML		12 22 31.8		
	comp=N,93nm,0.5s							
GLA	Glamis	3.58	143	IAML		12 22 42.0		
	comp=N,144nm,0.8s							
CBX	Cerro Bola	3.67	170		Pn	12 21 40.0	-0.3	
CBX				IAML		12 22 42.1		
	comp=N,169nm,0.7s							

*TAP **11** 12:25:06.5,24.′07N×121.′65E,h9km,ML2.6,C*
ISC 11 12:25:06.6±0.8,24°07′N±0.′01×121°66′E±0.′02,h10km±4km, n94,σ0s76/179,11D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.06	280	⇓iP	Pg	12 25 08.6	0.0
TWD				i S	Sg	12 25 09.9	-0.2
ETL	Fush Village	0.09	340	⇓iP	Pg	12 25 09.2	+0.1
ETL				i S	Sg	12 25 11.1	+0.1
HWA	Hwalien	0.10	208	i P	Pg	12 25 09.5	+0.3
HWA				i S	Sg	12 25 12.2	+1.2
NACB	Ninganchiao	0.12	331	P	Pg	12 25 09.4	0.0
NACB	Ninganchiao	0.12	331	⇓iP	Pg	12 25 09.4	0.0
NACB				i S	Sg	12 25 11.4	0.0
ETM	Tongmen	0.18	236	⇓iP	Pg	12 25 10.4	-0.1
ETM				i S	Sg	12 25 12.9	-0.2
TEYL	Yanliau Villag	0.21	195	i P	Pg	12 25 10.9	0.0
TEYL				eS	Sg	12 25 13.9	+0.1
ETLH	Xiulin Townshi	0.21	310	i P	Pg	12 25 11.2	+0.1
ETLH				i S	Sg	12 25 14.4	+0.4
LXIB	Xiulin Townshi	0.23	258	⇓iP	Pg	12 25 11.2	-0.1
LXIB				i S	Sg	12 25 14.9	+0.3
EAHA	Aohua	0.27	16	i P	Pg	12 25 12.0	0.0
EAHA				S	Sg	12 25 16.2	+0.5
SHUL	Shoufeng	0.29	197	i P	Pb	12 25 13.2	-0.8
SHUL				S	Sb	12 25 18.7	-0.2
ESL	Shilin	0.33	219	⇓iP	Pg	12 25 12.8	-0.3
ESL				i S	Sg	12 25 17.0	-0.5
ENA	Nanau	0.36	12	i P	Pg	12 25 14.0	+0.2
ENA				i S	Sg	12 25 18.8	+0.2
WHF	Hehuan Shan	0.37	282	⇓iP	Pg	12 25 13.9	-0.1
WHF				i S	Sg	12 25 19.1	+0.2
TEGC	Jichi Village	0.38	197	i P	Pb	12 25 14.7	-0.6
TEGC				i S	Sb	12 25 23.4	+2.1
FUSS	Fushou	0.42	295	i P	Pg	12 25 15.2	+0.3
FUSS				i S	Sb	12 25 21.6	-1.2
WARBT	Fenglin Townsh	0.43	215	⇓iP	Pg	12 25 14.6	-0.4
WARBT				S	Sg	12 25 21.1	+0.4
NNSH	Datong	0.44	325	i P	Pg	12 25 15.6	+0.4
NNSH				i S	Sg	12 25 21.4	+0.4
NNSB	Datong	0.44	325	⇓iP	Pg	12 25 15.5	+0.3
NNSB				i S	Sg	12 25 21.4	+0.4
NNS	Nan Shan	0.45	325	⇓iP	Pg	12 25 15.8	+0.3
NNS				i S	Sg	12 25 21.9	+0.5
EGFH	Guangfu	0.45	208	i P	Pg	12 25 15.3	-0.1
EGFH				eS	Sb	12 25 23.3	-0.2
OWD	Renai	0.46	255	i P	Pg	12 25 15.6	+0.1
OWD				i S	Sg	12 25 21.8	+0.2
TWT	Tachien	0.48	293	i P	Pb	12 25 16.4	-0.8
TWT				i S	Sb	12 25 23.4	-0.9
LATG	Datong	0.48	345	i P	Pg	12 25 16.2	+0.3
LATG				S	Sg	12 25 22.0	-0.3
TDCB	Techi	0.49	292	i P	Pb	12 25 16.6	-0.9
TDCB				i S	Sg	12 25 23.1	+0.4
WUSB	Renai	0.50	261	⇓iP	Pg	12 25 16.6	+0.2
WUSB				S	Sg	12 25 23.5	+0.5
ESAO	Su ao	0.53	19	P	Pg	12 25 17.1	+0.2
ESAO				i S	Sg	12 25 23.4	-0.5
NDS	Dongshan	0.56	5	i P	Pg	12 25 16.6	-0.9
NDS				i S	Sg	12 25 24.9	-0.1
TWC	Suao	0.56	18	i P	Pg	12 25 17.7	+0.1
TWC				eS	Sg	12 25 25.6	+0.6
VWDT	VWDT	0.57	236	i P	Pg	12 25 17.7	+0.1
VWDT				S	Sb	12 25 26.1	-0.7
ENTT	Nioudou	0.57	352	i P	Pb	12 25 18.2	-0.5
ENTT				i S	Sg	12 25 25.9	+0.6
HGSD	Ruisui	0.61	201	i P	Pb	12 25 19.1	-0.3
HGSD				eS	Sb	12 25 29.0	+0.9
EOS2	EOS2	0.63	56	eP	Pn	12 25 21.5	0.0
EOS2				eS	Sn	12 25 35.9	+4.4
EHY	Hungye	0.64	209	i P	Pg	12 25 17.1	-1.8
EHY				S	Sb	12 25 29.1	+0.2
EHYH	Wanrong	0.64	207	i P	Pg	12 25 18.9	-0.1
EHYH				S	Sg	12 25 27.9	+0.5
TWE	Neicheng	0.65	1	i P	Pb	12 25 19.6	-0.4
TWE				S	Sb	12 25 28.9	-0.3
YHNB	Yeheng	0.65	337	P	Pb	12 25 19.8	-0.3
YHNB	Yeheng	0.65	337	i P	Pb	12 25 19.9	-0.3
YHNB				S	Sg	12 25 28.1	+0.3
NSK	Sanguang	0.66	336	i P	Pb	12 25 20.0	-0.3
NSK				i S	Sg	12 25 28.5	+0.4
DPDB	Guoxing	0.67	267	i P	Pb	12 25 19.9	-0.5
DPDB				S	Sg	12 25 28.4	0.0
WCS	Beigang Elemen	0.68	269	i P	Pb	12 25 20.1	-0.5
WCS				S	Sg	12 25 28.8	0.0
WHP	Taichung City	0.68	288	i P	Pb	12 25 20.7	+0.1
WHP				i S	Sb	12 25 30.2	0.0
FUSB	Fushanzhiwuyua	0.69	355	i P	Pb	12 25 20.5	-0.3
FUSB				S	Sb	12 25 29.6	-0.8
SSLB	Suanglung	0.70	247	P	Pg	12 25 20.2	0.0
SSLB	Suanglung	0.70	247	S	Sb	12 25 30.0	-0.7
SSLB	Suanglung	0.70	247	i P	Pg	12 25 20.2	0.0
SSLB				S	Sb	12 25 29.8	-1.0
NWLT	Wulai	0.72	349	i P	Pb	12 25 21.1	-0.1
NWLT				i S	Sg	12 25 30.2	+0.3
SMLT	Sun Moon Lake	0.72	255	i P	Pb	12 25 20.8	-0.5
SMLT				i S	Sb	12 25 30.9	-0.4
NFF	Wufeng Townshi	0.75	319	i P	Pb	12 25 21.8	+0.1
NFF				i S	Sb	12 25 31.4	-0.6
YULB	Yu-li	0.75	206	P	Pg	12 25 20.5	-0.6
YULB	Yu-li	0.75	206	i P	Pg	12 25 20.5	-0.6
YULB				S	Sb	12 25 32.0	-0.1
ECBN	Changbin	0.77	194	P	Pb	12 25 21.8	-0.3
ECBN				eS	Sn	12 25 34.9	-0.3
TWF1	Yuli	0.79	205	i P	Pg	12 25 21.1	-0.7
TWF1				eS	Sb	12 25 32.6	-0.5
EGS		0.81	18	i P	Pn	12 25 23.9	-0.2
EGS				eS	Sb	12 25 33.5	-0.4
NSTT	Nanjuang	0.82	313	i P	Pb	12 25 23.4	+0.4
NSTT				i S	Sb	12 25 34.1	+0.1
LIOB	Emei	0.82	314	i P	Pn	12 25 23.5	-0.7
LIOB				i S	Sb	12 25 30.4	+0.2
WHYT	Xinyi Township	0.82	243	i P	Pb	12 25 22.8	-0.3
WHYT				S	Sb	12 25 34.1	-0.1
KSHI	Guanxi Townshi	0.83	328	i P	Pn	12 25 23.8	-0.6
KSHI				i S	Sn	12 25 35.6	-1.1
TWQ1	Liyutan	0.85	289	i P	Pn	12 25 24.6	-0.1
TWQ1				eS	Sn	12 25 36.1	-1.2
WJS	Zhushan	0.89	254	i P	Pn	12 25 24.6	-0.5
WJS				eS	Sn	12 25 37.0	-1.1
TCU	Taichung	0.90	275	P	Pn	12 25 25.9	+0.6
TCU				eS	Sn	12 25 38.9	+0.5
CHKH	Chenggong	0.91	195	i P	Pg	12 25 23.4	-0.7
CHKH				S	Sn	12 25 38.7	+0.1
TWA	Mucha	0.91	356	eP	Pn	12 25 25.0	-0.5
TWA				eS	Sb	12 25 37.1	+0.4
TIPB	Shuangxi	0.91	10	i P	Pb	12 25 24.5	0.0
TIPB				eS	Sg	12 25 35.6	-0.5
WNT	Mingjian	0.91	258	P	Pn	12 25 25.8	+0.3
WNT				S	Sn	12 25 38.0	-0.6
NMLH	Miaoli	0.92	301	i P	Pn	12 25 25.6	0.0
NMLH				eS	Sn	12 25 38.1	-0.7
FULB	Fuli	0.93	201	P	Pb	12 25 24.6	-0.2
FULB				eS	Sn	12 25 38.6	-0.6
ALS	Alishan	0.96	235	i P	Pb	12 25 25.3	-0.2
ALS				i S	Sn	12 25 39.5	-0.8
TWB1	Santiao Chiao	0.98	18	i P	Pn	12 25 26.1	-0.3
TWB1				S	Sg	12 25 37.4	-0.8
CHKT	Chengkung	1.00	196	eP	Pn	12 25 27.4	+0.7
CHKT				i S	Sn	12 25 40.6	-0.3
EHD	Haiduan	1.01	204	i P	Pg	12 25 25.6	-0.4
EHD				S	Sn	12 25 40.7	-0.4
SXI1	Grass Mountain	1.04	11	i P	Pn	12 25 27.6	+0.3
SXI1				eS	Sn	12 25 41.7	-0.3
ELDTW	Lidau	1.06	214	i P	Pg	12 25 26.6	-0.3
ELDTW				i S	Sb	12 25 41.5	+0.5
YM01	YM01	1.07	356	P	Pn	12 25 28.1	+0.7
YM01				eS	Sb	12 25 41.8	+0.3
ZUZH	Zhuzihu	1.09	355	i P	Pn	12 25 28.1	+0.1
ZUZH				eS	Sn	12 25 42.6	-0.7
WDLH	Douliu	1.09	250	eP	Pn	12 25 27.8	-0.2
WDLH				S	Sn	12 25 45.1	+2.0
EDH	Donghe	1.14	197	i P	Pb	12 25 26.7	-1.7
EDH				i S	Sn	12 25 44.8	+0.4
WCKO	Fanlu	1.15	237	i P	Pg	12 25 28.5	-0.2
WCKO				eS	Sn	12 25 45.1	+0.4
STYH	Taoyuan	1.21	222	i P	Pb	12 25 29.2	-0.3
STYH				S	Sn	12 25 45.9	-0.1
CHN4	Tsaushan	1.21	234	i P	Pg	12 25 30.1	+0.3
CHN4				S	Sn	12 25 47.9	+1.8
TPUB	Ta-pu	1.22	231	P	Pg	12 25 30.4	+0.5
TPUB	Ta-pu	1.22	231	S	Sn	12 25 48.2	+2.0
TPUB	Ta-pu	1.22	231	i P	Pg	12 25 29.9	0.0
TPUB				eS	Sn	12 25 46.2	0.0
WTK	Tuku	1.22	252	i P	Pg	12 25 30.5	+0.4
WTK				S	Sn	12 25 49.1	+2.8
LONT	Longtian	1.26	203	P	Pn	12 25 29.9	-0.4
LONT				eS	Sb	12 25 46.4	-0.2
WTP	Ta-pu	1.26	230	i P	Pg	12 25 31.0	+0.2
WTP				eS	Sn	12 25 48.8	+1.4
CHY	Chiayi	1.27	244	P	Pg	12 25 31.7	+0.8
CHY				eS	Sn	12 25 49.6	+2.2
YOJ	Yonaguni jima	1.29	72	P	Pn	12 25 30.6	-0.1
TWK	Hsinying	1.34	234	i P	Pb	12 25 31.8	0.0
TWK				i S	Sg	12 25 52.4	+2.7
TWG	Pinlang	1.35	204	i P	Pn	12 25 31.6	0.0
TWG				eS	Sn	12 25 49.6	-0.1
TWGBT	Beinan	1.35	203	P	Pg	12 25 32.9	+0.3
TWGBT	Beinan	1.35	203	P	Pn	12 25 30.0	-1.6
TWGBT				eS	Sb	12 25 49.1	-0.3
SSD	Sandimen	1.62	216	i P	Pn	12 25 35.5	+0.2
SSD				eS	Sg	12 25 59.3	+0.6
EAST	Anshuo	1.84	204	eP	Pb	12 25 39.6	-0.7
EAST				eS	Sn	12 26 01.8	+0.2

*IDC **11** 12:27:16.2±1.8,30.′97S×177.′76W,h0km,mb3.8/3, mbtmp3.8/3,Error ellipse: s-maj=45.2km s-min=24.1km az=94.0*
ISC 11 12:27:15.3±2.6,31°32S±0.′10×177°3W±0.′4,h35km,n6, σ1s75/6,mb3.9/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.13	345	Pn	Pn	12 27 48.1	-0.3
RAO	87nm,0.3s,baz=121,slow=18,SNR=2.1			Sn	Sn	12 28 12.3	-1.3
URZ	123nm,0.3s,baz=321,slow=22,SNR=4.4 Urewera	8.31	212	Pn	Pn	12 29 12.7	-0.6
URZ	0.1nm,0.3s,baz=310,slow=17,SNR=2.1			Sn	Sn	12 30 44.6	-1.3
ASAR	1.0nm,0.3s,baz=192,slow=19,SNR=10.0 Alice Springs	43.67	268	P	P	12 35 20.1	+3.2
WRA	0.7nm,0.7s,baz=104,slow=7.3,SNR=8.5 Warramunga Arr	44.75	273	P	P	12 35 27.8	+2.3
QSPA	0.6nm,0.4s,baz=112,slow=8.0,SNR=8.5 South Pole Qui	58.79	180	P	P	12 37 19.0	+9.2
FINES	1.0nm,0.8s,baz=74,slow=1.6,SNR=2.4 FINESS Array B	146.22	340	PKPbc	PKiKP	12 46 54.2	-0.1
	1.0nm,0.8s 1.7nm,0.7s,baz=29,slow=3.2,SNR=4.8						

*IDC **11** 12:45:51.1±2.6,39.′77N×74.′93E,h0km,mb3.8/2, mbtmp3.6/6,ML3.1/4,MS2.2/1,Error ellipse: s-maj=36.2km s-min=28.4km az=106.0*
*SOME **11** 12:45:52.3,40.′32N×76.′48E,h10km*
*KRNET **11** 12:45:53.2±0.1,40.′34N×76.′67E,h19km,mb3.9*
ISC 11 12:45:49.5±1.1,40°24N±0.′05×76°46E±0.′03,h10km,n41, σ1s35/66,18C-20D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.25	344	⇓eP	Pg	12 46 16.1	+2.6
NRN				⇓eS	Sn	12 46 32.8	+2.5
TARG	Taragay, Kyrgy	1.81	34	⇓eP	Pg	12 46 23.7	-0.5
TARG				⇓eS	Sb	12 46 46.0	+0.3
KDJ	Kajisay	1.97	16	⇓eP	Pg	12 46 27.1	-0.2
KDJ				⇑eS	Sg	12 46 51.8	-1.0
ULHL	Ulahol	2.02	355	P	Pg	12 46 28.6	+0.4
ULHL	SNR=60 Ulahol	2.02	355	⇓eP	Pg	12 46 28.9	+0.8
ULHL				⇓eS	Sg	12 46 55.1	+0.8
BOOM	Boomskoye usch	2.29	350	⇓eP	Pg	12 46 33.0	-0.3
BOOM				⇑eS	Sg	12 47 02.0	-1.0
UCH	Uchtor	2.48	324	P	Pg	12 46 35.9	-1.1
UCH	SNR=24 Uchtor	2.48	324	⇑eP	Pg	12 46 36.9	0.0
UCH				⇑eS	Sg	12 47 08.9	-0.1
KBK	Karagaybulak	2.67	335	P	Pg	12 46 42.8	+2.1
KBK	SNR=12 Karagaybulak	2.67	335	⇓eP	Pg	12 46 39.0	-1.7
KBK				⇓eS	Sg	12 47 12.5	-2.9
PRZ	Przheval'sk	2.68	32	⇓eP	Pb	12 46 37.2	-0.4
PRZ				⇓eS	Sb	12 47 09.3	-1.3
TKM2	Tokmak 2	2.76	347	P	Pb	12 46 39.6	+0.6
TKM2	SNR=31 Tokmak 2	2.76	347	⇑eP	Pb	12 46 39.8	+0.7
TKM2				⇑eS	Sb	12 47 13.7	+0.7
IZV	Izvestkoviy	2.80	2	eP	Pg	12 46 42.4	-0.7
IZV	87nm,0.6s			eS	Sg	12 47 18.3	-1.1
AAK	50nm,0.4s Ala-Archa	2.82	329	P	Pg	12 46 42.1	-1.4
AAK	SNR=10 Ala-Archa	2.82	329	Pn	Pg	12 46 41.6	-1.9
AAK	8.8nm,0.3s,baz=148,slow=11,SNR=16			Lg	Lg	12 47 21.9	
AAK	10nm,0.3s,baz=118,slow=18,SNR=10			LR	LR	12 48 03.1	
TNSS	comp=Z,44nm,21.5s,baz=153,slow=46 16nm,0.3s Tian-Shan	2.82	7	eP	Pg	12 46 43.0	-0.6
TNSS	13nm,0.2s			eS	Sg	12 47 19.8	-0.4
KST	20nm,0.8s Kastek	2.83	353	eP	Pg	12 46 43.0	-0.7
KST	36nm,0.3s			eS	Sg	12 47 19.3	-1.1
MTBS	55nm,0.5s Maitube	2.89	360	eP	Pg	12 46 44.8	-0.1
MTBS	47nm,0.4s			eS	Sg	12 47 22.5	+0.1
FRU1	55nm,0.3s Bishkek	2.92	332	⇓eP	Pb	12 46 42.7	+1.1
FRU1				⇓eS	Sb	12 47 18.9	+1.5
KOTS	Kotyrbulak	3.04	9	eP	Pg	12 46 47.3	-0.3
KOTS	74nm,0.3s			eS	Sg	12 47 27.1	+0.1
CHMS	131nm,0.6s Chumysh	3.04	336	⇓eP	Pb	12 46 43.9	+0.1
CHMS				⇓eS	Sb	12 47 21.1	+0.1
EKS2	Erkin-Say	3.15	321	P	Pb	12 46 46.4	+0.7
EKS2	SNR=16 Erkin-Say	3.15	321	⇑eP	Pb	12 46 46.2	+0.5
EKS2				⇑eS	Sb	12 47 25.0	+0.7
USP	Ospenovka	3.37	335	⇓eP	Pb	12 46 48.5	-0.8
USP				⇓eS	Sb	12 47 28.8	-1.5
CHKK	Chushkaly	3.64	6	eP	Pg	12 46 57.2	-1.9
CHKK	34nm,0.4s			eS	Sg	12 47 44.1	-2.1
KUU	46nm,0.3s Kurty	3.66	359	eP	Pg	12 46 58.0	-1.5
KUU	22nm,0.5s			eS	Sg	12 47 45.5	-1.4
DRK	58nm,0.7s Karamyk	3.67	260	⇑eP	Pb	12 46 55.7	+1.2
DRK				⇑eS	Sb	12 47 41.3	+2.1
MNAS	Manas	3.73	308	⇓eP	Pb	12 46 54.8	-0.8
MNAS				⇓eS	Sb	12 47 39.8	-1.1
TRKS	Terek-Say	4.24	290	⇑eP	Pb	12 47 01.9	-2.3
TRKS				⇑eS	Sb	12 47 52.3	-3.1
BTK	Batken	4.33	269	⇑eP	Pb	12 47 04.8	-0.9
BTK				⇑eS	Sb	12 47 56.8	-1.2
KTMS	Ketmen	4.33	41	eP	Pg	12 47 10.9	-1.5
KTMS	0.5nm,0.1s			eS	Sg	12 48 07.3	-1.2
BTLS	13nm,0.5s Baital	5.12	340	eP	Pg	12 47 25.4	-2.2
BTLS	8.4nm,0.5s			eS	Sg	12 48 31.9	-2.0
MKAR	13nm,0.6s Makanchi Array	7.80	31	Pn	Pb	12 47 59.7	-5.1
KURBB	0.3nm,0.3s,baz=221,slow=15,SNR=3.2 0.5nm,0.4s Kurchatov Arra	10.49	7	Pn	Pn	12 48 31.5	+12
ZALV	0.1nm,0.3s,baz=200,slow=11,SNR=4.5 0.5nm,0.2s Zalesovo Beam	14.84	20	Pn	P	12 49 35.2	+10
ARCES	0.1nm,0.3s,baz=215,slow=12,SNR=3.8 0.7nm,0.4s ARCESS Array B	39.48	335	P	P	12 53 20.3	+0.7
NB2	2.0nm,0.8s,baz=100,slow=10,SNR=5.7 2.0nm,0.8s NORSAR Subarra	44.11	321	P	P	12 53 58.6	+1.0
NOA	comp=Z,0.5nm,0.5s,baz=88,slow=8.6 NORSAR Array B	44.11	321	P	P	12 53 58.7	+1.1
	comp=Z,0.5nm,0.5s,baz=89,slow=7.9,SNR=3.3 comp=Z,0.5nm,0.5s						

*NOU **11** 12:53:51.0,20.′12S×174.′71W,h121km,mb4.7/8,Tonga Islands*
*IDC **11** 12:53:52.4±11.0,20.′11S×175.′68W,h112km±96km, mb4.0/6,mbtmp4.4/7,ML4.6/1,Error ellipse: s-maj=51.7km s-min=24.8km az=53.0*
*NEIC **11** 12:53:56.8±1.8,20.′0S±0.′2×175.′1W±0.′1,h186km±16km, mb4.5/23,Error ellipse: s-maj=31.6km s-min=8.6km az=200.0*
ISC 11 12:53:57.1±0.7,20°0S±0.′1×175°07W±0.′07,h200km,n44, σ2s36/46,mb4.3/16,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	3.93	295	P	Pn	12 54 54.9	-3.2
NIUE	Niue	4.92	81	Pn	Pn	12 55 10.6	0.0
NIUE				Sn	Sn	12 56 04.7	-3.8
DGTI	Dogotuki	6.13	305	P	Pn	12 55 24.1	-2.0
MSVF	Nonsavu	6.88	288		Pn	12 55 34.5	-1.4
MSVF	Nonsavu	6.88	288	P	Pn	12 55 34.5	-1.4
PINNC	Pines Island,	16.51	258	P	Pn	12 57 37.2	-0.4
OUENC	Ouen Island, N	17.05	259	P	Pn	12 57 44.5	+0.4
DZM	Mont Dzumac	17.39	260	P	P	12 57 46.0	-0.5
DZM	Mont Dzumac	17.39	260	P	Pn	12 57 47.2	-1.1
DZM	45nm,0.7s,baz=78,slow=17,SNR=35 Mont Dzumac	17.39	260	P	Pn	12 57 48.6	+0.4
ONTNC	Ouen Toro	17.40	259	P	Pn	12 57 46.6	-1.6
ONTNC				IAmb	IAmb	12 58 10.0	
KOUNC	comp=Z,59nm,1.3s Koumac, New Ca	19.38	265	P	Pn	12 58 12.1	+0.5
URZ	Urewera	19.47	199	P	P	12 58 06.7	-2.0
URZ	comp=Z,1.8nm,0.3s,baz=256,slow=3.7,SNR=19			S	S	13 01 22.6	-15
URZ	comp=Z,2.5nm,0.5s,baz=250,slow=23,SNR=7.9 comp=Z,4.5nm,0.3s Urewera

WRAB					IAmb	IAmb	13 02 11.9	
	comp=Z,6.2nm,0.8s							
WRA	**Warramunga Arr**	**47.41**	**261**	P	**P**		**13 02 10.7**	**-1.1**
WRA	**Warramunga Arr**	**47.41**	**261**	P	**P**		**13 02 10.4**	**-1.4**
	comp=Z,3.5nm,0.3s,baz=97,slow=7.5,SNR=128							
WRA				PcP	**PcP**		**13 03 42.0**	**+2.9**
	comp=Z,0.3nm,0.3s,baz=93,slow=3.4,SNR=2.5							
	comp=Z,3.5nm,0.3s							
MTN	**Manton Dam**	**51.92**	**269**	P	**P**		**13 02 45.6**	**-0.3**
MTN				IAmb	IAmb		13 02 47.1	
	comp=Z,12nm,0.8s							
FORT	**Forrest**	**52.04**	**246**	P	**P**		**13 02 46.7**	**+0.2**
FORT				IAmb	IAmb		13 03 16.1	
	comp=Z,12nm,1.0s							
KNRA	**Kununurra**	**53.45**	**265**	P	**P**		**13 02 56.7**	**-0.3**
KNRA				IAmb	IAmb		13 02 58.3	
	comp=Z,8.1nm,0.7s							
FITZ	**Fitzroy Crossi**	**55.83**	**261**	P	**P**		**13 03 14.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**55.83**	**261**	P	**P**		**13 03 15.1**	**+0.9**
	comp=Z,2.7nm,0.7s,baz=89,slow=7.4,SNR=8.5							
	comp=Z,2.7nm,0.7s							
SOEI	**Soe**	**59.24**	**270**	P	**P**		**13 03 38.7**	**+0.5**
CASY	**Casey**	**65.64**	**205**	P	**P**		**13 04 20.6**	**+1.1**
CASY				IAmb	IAmb		13 04 22.9	
	comp=Z,5.6nm,0.9s							
QSPA	**South Pole Qui**	**70.12**	**180**	P	P		13 04 52.1	+4.5
QSPA	**South Pole Qui**	**70.12**	**180**	P	**P**		**13 04 51.9**	**+4.3**
	comp=Z,3.3nm,0.8s,baz=38,slow=2.8,SNR=11							
	comp=Z,3.3nm,0.8s							
MJAR	**Matsushiro Arr**	**71.44**	**322**	P	**P**		**13 04 59.7**	**+3.9**
	comp=Z,0.7nm,0.6s,baz=134,slow=7.0,SNR=2.3							
	comp=Z,0.7nm,0.6s							
MAW	**Mawson**	**83.00**	**199**	P	**P**		**13 06 02.6**	**+3.0**
	comp=Z,1.3nm,0.5s,baz=144,slow=3.7,SNR=7.7							
	comp=Z,1.3nm,0.5s							
GERES	**GERESS Array B**	**150.32**	**348**	PKPbc	**PKPab**		**13 13 30.2**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=290,slow=2.8,SNR=8.5							

*MEX **11** 13:02:02.2±1.2, 15.09N×94.47W, h16km±26km, MD4.2*
*GCG **11** 13:02:03.6±3.1, 15.34N×94.57W, h40km±999km, MD4.2*
ISC 11 13:02:00.1±1.6, **15.06N**±0.09×**94.49W**±0.03, **h28**km, **n21,** σ1§**78**/36, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCIG		**1.39**	**62**	*eP*		**Pn**		**13 02 22.8**	**-0.8**
PCIG				*eS*		**Sn**		**13 02 38.2**	**-2.8**
NILT	**Santiago Nilte**	**1.50**	**355**	*eP*		**Pn**		**13 02 24.1**	**-1.2**
NILT				*eS*		**Sn**		**13 02 41.6**	**-2.4**
HUIG	**Huatulco**	**1.71**	**295**	*eP*		**Pn**		**13 02 28.6**	**+0.4**
HUIG				*eS*		**Sn**		**13 02 47.6**	**-1.5**
HUIG	**Huatulco**	**1.71**	**295**	*i* P		**Pn**		**13 02 28.7**	**+0.6**
HUIG				*i* S		**Sn**		**13 02 47.6**	**-1.5**
CMIG	**Matias Romero**	**2.06**	**349**	*eP*		**Pn**		**13 02 33.2**	**+0.3**
CMIG				*eS*		**Sn**		**13 02 56.6**	**-1.0**
TGIG		**2.16**	**37**	*eP*		**Pn**		**13 02 34.8**	**+0.5**
TGIG				*eS*		**Sn**		**13 02 59.8**	**-0.5**
TGIG		**2.16**	**37**	*i* P		**Pn**		**13 02 35.2**	**+0.8**
TGIG				*i* S		**Sn**		**13 02 59.4**	**-0.9**
TGBT	**Tuxtla Gutierr**	**2.18**	**38**	*eS*		**Sn**		**13 03 00.2**	**-0.4**
CCIG	**Comitan**	**2.57**	**61**	*eP*		**Pn**		**13 02 41.0**	**+0.9**
CCIG				*eS*		**Sn**		**13 03 12.9**	**+2.2**
CCIG	**Comitan**	**2.57**	**61**	*eP*		**Pn**		**13 02 42.4**	**+2.2**
PEIG	**Puerto Escondi**	**2.73**	**290**	*eS*		**Sn**		**13 03 11.1**	**-3.1**
NEUV	**Arroyo Zacate**	**2.93**	**335**	*eP*		**Pn**		**13 02 45.4**	**+0.5**
NEUV				*eS*		**Sn**		**13 03 18.4**	**-0.7**
VHO	**Vista Hermosa**	**2.94**	**313**	*eS*		**Sn**		**13 03 21.2**	**+1.4**
YOIG	**Yosondua**	**3.44**	**302**	*eP*		**Pn**		**13 02 54.6**	**+2.5**
YOIG				*eS*		**Sn**		**13 03 32.8**	**+0.6**
PNIG	**Pinotepa**	**3.75**	**291**	*eP*		**Pn**		**13 02 56.2**	**+0.1**
PNIG				*eS*		**Sn**		**13 03 37.0**	**-2.4**
TXIG	**Tlaxiaco**	**3.83**	**305**	*eP*		**Pn**		**13 02 59.6**	**+2.0**
TXIG				*eS*		**Sn**		**13 03 41.3**	**-0.6**
TOIG	**Toxpalan**	**3.90**	**321**	*eP*		**Pn**		**13 03 01.1**	**+2.8**
TOIG				*eS*		**Sn**		**13 03 45.8**	**+2.5**
CRIG	**Cruz Grande**	**4.77**	**291**	*eS*		**Sn**		**13 04 00.5**	**-4.0**
LVIG	**Laguna Verde**	**4.99**	**339**	*eP*		**Pn**		**13 03 14.6**	**+1.4**
LVIG				*eS*		**Sn**		**13 04 07.8**	**-2.3**
SCIG	**Sabancuy**	**5.01**	**39**	*eP*		**Pn**		**13 03 14.0**	**+0.5**
SCIG				*eS*		**Sn**		**13 04 09.0**	**-1.6**
PLIG	**Platanillo**	**5.84**	**305**	*eS*		**Sn**		**13 04 31.8**	**+0.8**

*IDC **11** 13:08:08.0±1.8, 30.49S×177.86W, h0km, mb3.6/3, mbtmp3.6/4, MS4.1/1, Error ellipse: s-maj=45.0km s-min=24.5km az=98.0*
ISC 11 13:08:13.1±1.4, **30.44S**±0.09×**177.9W**±0.3, **h46**km, **n7,** σ1§**84**/8, **mb3.4**/3, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.18**	**1**	Pn		**Pn**		**13 08 32.9**	**-0.3**
	133nm,0.3s,baz=305,slow=6.8,SNR=3.9								
RAO				Sn		**Sn**		**13 08 46.4**	**-1.7**
	148nm,0.3s,baz=40,slow=22,SNR=5.7								
URZ	**Urewera**	**8.81**	**206**	Pn		**Pn**		**13 10 15.7**	**-2.1**
	3.0nm,0.8s,baz=149,slow=21,SNR=1.2								
URZ				Sn		**Sn**		**13 11 54.6**	**-1.0**
	0.3nm,0.3s,baz=56,slow=24,SNR=1.2								
ASAR	**Alice Springs**	**43.16**	**267**	P		**P**		**13 16 11.3**	**+1.8**
	0.4nm,0.8s,baz=106,slow=7.4,SNR=6.6								
	0.4nm,0.8s								
WRA	**Warramunga Arr**	**44.15**	**272**	P		**P**		**13 16 19.1**	**+1.6**
	0.3nm,0.4s,baz=111,slow=8.0,SNR=9.2								
	0.3nm,0.4s								
BATI	**Baumata**	**57.70**	**277**	LR		LR		13 41 21.4	
	comp=Z,159nm,18.2s,baz=188,slow=34								
QSPA	**South Pole Qui**	**59.67**	**180**	P		**P**		**13 18 14.2**	**+1.6**
	1.5nm,1.1s,baz=267,slow=13,SNR=2.3								
	1.5nm,1.1s								
FINES	**FINESS Array B**	**145.20**	**340**	PKPbc		**PKPdf**		**13 27 44.9**	**0.0**
	0.9nm,0.7s,baz=58,slow=5.2,SNR=3.7								

*NEIC **11** 13:13:12.7±2.3, 35.81N±0.01×117.59W±0.02, h5km±2km, Error ellipse: s-maj=3.1km s-min=2.6km az=252.0*
PAS 11 13:13:13.6±1.0, **35.82N**±0.01×**117.64W**±0.02, **h7**km±5km, **ML3.1**/20, **ML2.9**/90(NEIC), **Error ellipse: s-maj=2.4km s-min=1.6km az=71.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.10**	**263**				Pg	13 13 16.2	+0.3
TOW							Sg	13 13 18.8	+1.3
SRTC	**Snort**	**0.16**	**214**				Pg	13 13 17.0	+0.2
SRTC							Sg	13 13 20.2	+1.2
WVPM	**Volcano Peak E**	**0.19**	**312**				Pg	13 13 17.5	0.0
WVPM							Sg	13 13 20.6	+0.4
JRC2	**Joshua Ridge**	**0.21**	**320**				Pg	13 13 17.9	0.0
WNMM	**Nine Mile Cany**	**0.21**	**276**				Pg	13 13 17.8	0.0
WNMM							Sg	13 13 21.3	+0.5
WSHM	**Spangler Hills**	**0.25**	**151**	Pg		Pg		13 13 18.4	-0.2
WSHM				IAML				13 13 22.3	
	3µm,0.3s								
WRVM	**Rose V. Centra**	**0.27**	**313**			Pg		13 13 18.9	-0.1
MFS	**McCloud Flat S**	**0.34**	**330**			Pg		13 13 20.2	-0.2
LRMC	**Laurel Mtn Rad**	**0.34**	**185**			Pg		13 13 20.0	-0.3
CCCA	**Chr Cany lake**	**0.37**	**142**			Pg		13 13 21.0	+0.2
QSM	**Queen of Sheba**	**0.65**	**77**			Pg		13 13 25.2	-0.8
QSM				IAML				13 13 36.2	
	comp=E,426nm,0.2s								
QSM				IAML				13 13 38.2	
	comp=N,637nm,0.4s								
ISA	**Isabella, Lake**	**0.69**	**257**			Pg		13 13 26.4	-0.5
ISA				IAML				13 13 36.6	
	comp=E,566nm,0.2s								
ISA				IAML				13 13 36.6	
	comp=N,615nm,0.3s								
CWC	**Cottonwood Cre**	**0.71**	**330**			Pg		13 13 26.7	-0.6
CWC				IAML				13 13 37.4	
	comp=N,281nm,0.2s								
CWC				IAML				13 13 38.5	
	comp=E,275nm,0.2s								
CGO	**Cerro Gordo**	**0.74**	**350**			Pg		13 13 27.5	-0.4
GSC	**Goldstone, Bar**	**0.86**	**127**			Pg		13 13 29.3	-0.7
GSC				IAML				13 13 43.9	
	comp=N,438nm,0.5s								
GWY	**Greenwater Val**	**0.87**	**65**			Pg		13 13 29.8	-0.5
GWY				IAML				13 13 45.0	
	comp=E,336nm,0.4s								
GWY				IAML				13 13 45.1	
	comp=N,261nm,0.5s								
TPO	**Tropico Hills**	**1.05**	**207**			Pg		13 13 33.0	-0.8
TPO						IAML		13 13 50.0	
	comp=E,494nm,0.6s								
GRAC	**Grapevine Rang**	**1.19**	**11**			Pg		13 13 36.0	-0.5
GRAC						IAML		13 13 53.2	
	comp=E,503nm,0.4s								
GRAC						IAML		13 13 56.0	
	comp=N,471nm,0.4s								
WCT	**Wildcat Mounta**	**1.27**	**40**			Pn		13 13 36.6	-1.2
WCT						IAML		13 13 55.3	
	comp=N,97nm,0.5s								
WCT						IAML		13 13 56.2	
	comp=E,126nm,0.3s								
TUQ	**Turquoise Moun**	**1.45**	**105**			Pn		13 13 40.2	-0.2
GMN	**Gold Mountain**	**1.51**	**12**			Pn		13 13 40.5	-0.7
GMN						IAML		13 14 04.2	
	comp=N,82nm,0.6s								
DSP	**Deep Springs**	**1.57**	**350**			Pn		13 13 41.5	-0.3
DSP						IAML		13 14 04.8	
	comp=E,199nm,0.4s								
DSP						IAML		13 14 04.8	
	comp=N,68nm,0.5s								
BFSC	**Mount Baldy Ra**	**1.58**	**180**			Pn		13 13 41.1	-1.0
BFSC						IAML		13 14 05.1	
	comp=E,175nm,0.3s								
BFSC						IAML		13 14 05.5	
	comp=N,148nm,0.3s								
TPNV	**Topopah Spring**	**1.59**	**45**			Pn		13 13 41.4	-0.9
TPNV						IAML		13 14 08.9	
	comp=N,110nm,1.0s								
TPNV						IAML		13 14 11.6	
	comp=N,86nm,0.7s								
MTPC	**Mountain Pass**	**1.73**	**101**			Pn		13 13 43.0	-1.3
MTPC						IAML		13 14 09.9	
	comp=E,152nm,0.4s								
MTPC						IAML		13 14 11.1	
	comp=N,112nm,0.7s								
MZP	**Montezuma Peak**	**1.89**	**6**			Pn		13 13 46.2	-0.3
BENR	**Benton**	**2.03**	**339**			Pb		13 13 51.2	+0.2
MCSM	**Casa Diablo Ho**	**2.09**	**331**			Pb		13 13 52.4	+0.4
SHPR	**Sheep Range**	**2.12**	**70**			Pn		13 13 49.1	-0.5
ELS	**Elsinore Mount**	**2.18**	**175**			Pn		13 13 49.4	-0.8
ELS						IAML		13 14 25.2	
	comp=E,46nm,0.5s								
TPH	**Tonopah**	**2.27**	**8**			Pg		13 13 56.7	-0.5
S11A	**Rachel**	**2.37**	**39**			Pg		13 13 58.4	-0.7
S11A						IAML		13 14 32.0	
	comp=E,94nm,0.7s								
S11A						IAML		13 14 33.4	
	comp=N,76nm,1.0s								
PMD	**Palm Desert**	**2.41**	**154**			Pb		13 13 58.3	+1.1
PFO	**Pinyon Flats O**	**2.41**	**156**			Pb		13 13 58.3	+0.9
LHV	**Little Huntoon**	**2.52**	**344**			Pg		13 14 00.7	-1.2
PRN	**Pahroc Range**	**2.62**	**52**			Pn		13 13 56.0	-0.5
PRN						IAML		13 14 15.9	
	comp=N,30nm,0.5s								
PRN						IAML		13 14 47.9	
	comp=E,36nm,1.0s								
MATG	**Mataguay Scout**	**2.74**	**162**			Pn		13 13 57.6	-0.5
WAKR	**Walker**	**3.04**	**332**	Pg		Pb		13 14 09.8	+1.7
W13A	**Hualapai Mount**	**3.15**	**102**	Pn		Pn		13 14 02.5	-1.3
YUH	**Yuha Desert**	**3.47**	**155**			Pb		13 14 17.6	+2.3
CBX	**Cerro Bola**	**3.59**	**167**	IAML				13 15 09.4	
	comp=N,38nm,1.3s								
GLA	**Glamis**	**3.61**	**139**	IAML				13 15 10.8	
	comp=N,33nm,0.5s								
GLA				IAML				13 15 12.8	
	comp=E,50nm,0.8s								

IDC 11 13:13:55.2±1.5, **0.11N**×**125.35E, h0**km, **mb4.2**/4, **mbtmp4.2**/4, **MS2.8**/1, **Error ellipse: s-maj=182.2km s-min=20.9km az=64.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.79**	**157**	P		P		13 18 47.8	-1.2
	4.5nm,0.8s,baz=334,slow=11,SNR=21								
	4.5nm,0.8s								
ASAR	**Alice Springs**	**25.05**	**161**	P		P		13 19 22.3	+0.8
	2.3nm,0.5s,baz=346,slow=10,SNR=33								
	2.3nm,0.5s								
CMAR	**Chiang Mai Arr**	**31.70**	**307**	LR		LR		13 33 50.6	
	comp=Z,17nm,19.8s,baz=135,slow=38								
MKAR	**Makanchi Array**	**59.77**	**327**	P		P		13 24 02.6	+0.4
	0.9nm,0.6s,baz=124,slow=8.3,SNR=11								
	0.9nm,0.6s								
KURBB	**Kurchatov Arra**	**64.06**	**329**	P		P		13 24 30.2	-0.7
	2.0nm,0.2s,baz=129,slow=6.1,SNR=4.7								
	2.0nm,0.2s								

*IDC **11** 13:20:24.1±3.0, 17.99S×177.94W, h554km±31km, mb3.4/12, mbtmp4.3/13, Error ellipse: s-maj=21.2km s-min=18.2km az=88.0*
*NEIC **11** 13:20:25.1±2.3, 18.17S±0.09×177.9W±0.2, h565km±12km, mb4.4/24, Error ellipse: s-maj=23.5km s-min=5.8km az=61.0*
ISC 11 13:20:26.9±0.7, **18.16S**±0.10×**178.1W**±0.1, **h590**km, **n46,** σ1§**31**/50, **mb4.3**/23, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.73**	**276**				**P**	**13 21 47.7**	**-2.2**
AFI	**Afiamalu**	**7.38**	**56**	P		P		13 22 13.6	-6.5
PINNC	**Pines Island,**	**14.29**	**250**	P		**P**		**13 23 28.4**	**-0.3**
DZM	**Mont Dzumac**	**15.06**	**252**	P		**P**		**13 23 36.9**	**+0.8**
DZM				IAmb		IAmb		13 23 39.8	
	comp=Z,12nm,0.8s								
DZM	**Mont Dzumac**	**15.06**	**252**	P		**P**		**13 23 37.0**	**+0.9**
	comp=Z,9.0nm,0.6s,baz=123,slow=14,SNR=17								
URZ	**Urewera**	**20.46**	**191**	P		**P**		**13 24 23.3**	**-1.8**
	comp=Z,3.7nm,0.4s,baz=257,slow=3.8,SNR=11								
URZ				S		**S**		**13 27 33.7**	**-3.7**
	comp=Z,2.5nm,0.8s,baz=2.9,slow=19,SNR=1.2								
QRZ	**Quartz Range**	**23.99**	**198**	P		**P**		**13 24 56.1**	**-0.4**
QRZ				IAmb		IAmb		13 25 00.6	
	comp=Z,11nm,1.0s								
NNZ	**Nelson**	**24.12**	**196**	P		**P**		**13 24 56.7**	**-0.9**
THZ	**Tophouse**	**24.76**	**196**	P		**P**		**13 25 03.8**	**+0.4**
GVZ	**Greta Valley S**	**25.85**	**195**	P		**P**		**13 25 12.1**	**-0.9**
GVZ				IAmb		IAmb		13 25 16.4	
	comp=Z,6.8nm,0.7s								
LTZ	**Lake Taylor**	**25.88**	**196**	P		**P**		**13 25 11.9**	**-1.2**
LTZ				IAmb		IAmb		13 25 18.7	
	comp=Z,6.0nm,0.9s								
MLZ	**Mavora Lakes**	**29.47**	**200**	P		**P**		**13 25 44.2**	**-0.2**
EIDS	**Eidsvold**	**29.49**	**250**	P		**P**		**13 25 45.1**	**+0.3**
EIDS				IAmb		IAmb		13 25 46.0	
	comp=Z,6.6nm,0.7s								
WHZ	**Wether Hill Ro**	**29.99**	**200**	P		**P**		**13 25 49.3**	**+0.4**
ARMA	**Armidale**	**30.10**	**240**	P		**P**		**13 25 48.9**	**-1.3**
CAN	**Canberra**	**33.81**	**233**	P		**P**		**13 26 21.2**	**-0.3**
CAN				IAmb		IAmb		13 26 37.4	
	comp=Z,7.9nm,1.1s								
TOO	**Toolangi**	**37.27**	**231**	P		**P**		**13 26 51.4**	**+1.4**
TOO				IAmb		IAmb		13 26 52.4	
	comp=Z,6.5nm,0.7s								
COEN	**Coen**	**37.44**	**271**	P		**P**		**13 26 52.4**	**+0.8**
JAY	**Jayapura**	**43.29**	**286**	P		**P**		**13 27 38.8**	**+0.6**
	comp=Z,11nm,0.7s,baz=161,slow=1.7,SNR=8.5								
	comp=Z,11nm,0.7s								
WR8	**Warramunga Arr**	**44.76**	**260**	P		**P**		**13 27 47.2**	**-2.2**
WB0	**Warramunga Arr**	**44.88**	**260**				**P**	**13 27 49.2**	**-1.1**
WB0				IAmb		IAmb		13 27 50.9	
	comp=Z,9.7nm,0.6s								
WRAB	**Tennant Creek**	**44.90**	**260**	P		**P**		**13 27 49.6**	**-0.9**
WRAB				IAmb		IAmb		13 27 51.0	
	comp=Z,7.2nm,0.6s								
WRA	**Warramunga Arr**	**44.91**	**260**				**P**	**13 27 49.1**	**-1.4**
WRA	**Warramunga Arr**	**44.91**	**260**	P		**P**		**13 27 50.6**	**+0.1**
	comp=Z,6.0nm,0.5s,baz=96,slow=7.4,SNR=185								
WRA				PcP		**PcP**		**13 29 19.6**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=91,slow=2.6,SNR=4.7								
	comp=Z,6.0nm,0.5s								
ASAR	**Alice Springs**	**45.04**	**254**				**P**	**13 27 49.6**	**-1.9**
ASAR	**Alice Springs**	**45.04**	**254**	P		**P**		**13 27 52.0**	**+0.5**
	comp=Z,26nm,0.6s,baz=87,slow=8.7,SNR=520								
ASAR				PcP		**PcP**		**13 29 20.2**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=86,slow=3.3,SNR=7.7								
ASAR				ScP		**ScP**		**13 32 21.0**	**+4.5**
	comp=Z,0.4nm,0.8s,baz=86,slow=4.6,SNR=2.2								
ASAR				S		**S**		**13 33 49.2**	**+0.7**
	comp=Z,0.6nm,1.0s,baz=87,slow=14,SNR=4.8								
	comp=Z,26nm,0.6s								
FORT	**Forrest**	**50.20**	**245**	P		**P**		**13 28 30.2**	**+0.5**
FORT						IAmb	IAmb	13 28 47.6	
	comp=Z,12nm,1.1s								
KNRA	**Kununurra**	**50.79**	**264**	P		**P**		**13 28 34.4**	**+0.1**
KNRA						IAmb	IAmb	13 28 35.1	
	comp=Z,7.9nm,0.7s								
FITZ	**Fitzroy Crossi**	**53.31**	**261**	P		**P**		**13 28 53.1**	**+0.8**
FITZ	**Fitzroy Crossi**	**53.31**	**261**	P		**P**		**13 28 52.5**	**+0.2**
	comp=Z,3.3nm,0.6s,baz=131,slow=4.0,SNR=8.9								
	comp=Z,3.3nm,0.6s								
MBWA	**Marble Bar**	**58.33**	**256**	P		**P**		**13 29 26.4**	**-0.5**
TOLI2	**Tolitoli**	**63.09**	**281**	P		**P**		**13 29 58.2**	**0.0**
TOLI2				IAmb		IAmb		13 30 08.1	
	comp=Z,15nm,1.0s								
MJAR	**Matsushiro Arr**	**68.31**	**323**	P		**P**		**13 30 28.7**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=141,slow=5.7,SNR=2.0								
	comp=Z,0.6nm,0.5s								
UGM	**Wanagama**	**69.97**	**268**	P		**P**		**13 30 40.1**	**-0.6**
QSPA	**South Pole Qui**	**71.89**	**180**	P		**P**		**13 30 52.1**	**+1.0**
QSPA	**South Pole Qui**	**71.89**	**180**	P		**P**		**13 30 52.5**	**+1.4**
	comp=Z,1.8nm,0.5s,baz=36,slow=9.9,SNR=22								
	comp=Z,1.8nm,0.5s								
PETK	**Petropavlovsk-**	**74.01**	**345**	P		**P**		**13 31 02.4**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=158,slow=5.4,SNR=2.5								
	comp=Z,2.9nm,0.8s								
MAW	**Mawson**	**83.73**	**200**	P		**P**		**13 31 55.5**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=79,slow=5.2,SNR=3.8								
	comp=Z,1.3nm,0.6s								
TXAR	**Lajitas Array**	**85.85**	**57**	P		**P**		**13 32 06.1**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=241,slow=4.8,SNR=3.7								
	comp=Z,0.3nm,0.7s								
ILAR	**Eielson Array**	**86.06**	**13**	P		**P**		**13 32 04.0**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=218,slow=5.4,SNR=5.8								
	comp=Z,0.2nm,0.4s								
CMAR	**Chiang Mai Arr**	**89.28**	**290**	P		**P**		**13 32 23.4**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=110,slow=3.3,SNR=6.5								
	comp=Z,1.2nm,0.8s								
SNAA	**Sanae**	**90.33**	**178**	P		**P**		**13 32 25.9**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=317,slow=0.3,SNR=3.5								
	comp=Z,1.1nm,0.7s								
ARCES	**ARCESS Array B**	**126.62**	**350**	PKP			**PKPdf**	**13 38 22.9**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=7.1,slow=4.9,SNR=5.3								
BRTR	**Keskin Array B**	**145.20**	**315**	PKPbc			**PKPbc**	**13 38 59.5**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=131,slow=4.4,SNR=9.1								
MMAI	**Mount Meron Ar**	**146.56**	**303**	PKPbc			**PKPbc**	**13 39 04.3**	**+0.8**
	comp=Z,2.3nm,0.4s,baz=60,slow=3.5,SNR=6.6								
GERES	**GERESS Array B**	**147.94**	**345**	PKPbc			**PKPbc**	**13 39 06.5**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=5.7,slow=1.3,SNR=9.7								

*IDC **11** 13:35:16.1±0.7, 29.88S×71.67W, h0km, mb3.8/7, mbtmp3.8/11, ML3.9/4, MS3.4/9, Error ellipse: s-maj=23.3km s-min=17.3km az=107.0*
*SJA **11** 13:35:16.9±0.8, 29.84S×71.74W, h7km±2km, ML4.6, MW4.4*
*GUC **11** 13:35:19.4±0.8, 29.83S×71.57W, h38km±2km, ML4.4*
*VAO **11** 13:35:28.0±3.3, 29.67S×71.20W, h84km±19km, mb4.1*
ISC 11 13:35:19.0±1.1, **29.78S**±0.02×**71.72W**±0.04, **h19**km±3km, **n85,** σ1§**93**/112, **mb3.8**/7, **MS3.5**/7, **7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.44**	**109**	↓*iP*		**Pb**		**13 35 28.4**	**+0.2**
CO05				*i* S		**Sb**		**13 35 34.3**	**-0.1**
CO05				IAML				13 35 34.6	
	comp=E,16µm,0.2s								
GO04	**Tololo Observa**	**0.89**	**117**	↓*iP*		**Pb**		**13 35 35.3**	**-0.7**
GO04				*i* S		**Sb**		**13 35 45.9**	**-1.6**
GO04				IAML				13 35 48.0	
	comp=N,75µm,0.3s								
GO04	**Tololo Observa**	**0.89**	**117**	*eP*		**Pb**		**13 35 35.6**	**-0.4**
GO04				*eS*		**Sg**		**13 35 47.5**	**-0.8**
CO06	**Fray Jorge**	**0.90**	**176**	↓*iP*		**Pb**		**13 35 35.4**	**-0.6**
CO06				*i* S		**Sb**		**13 35 46.7**	**-0.9**
CO06				IAML				13 35 47.5	
	comp=E,16µm,0.3s								
LCO	**Las Campanas**	**1.17**	**50**	↓*iP*		**Pn**		**13 35 40.6**	**0.0**
LCO				*eS*		**Sg**		**13 35 56.8**	**-0.3**
LCO				IAML				13 36 00.6	
	comp=E,79µm,0.5s								
LCO	**Las Campanas**	**1.17**	**50**	*eP*		**Pn**		**13 35 40.6**	**

	comp=E,1µm,0.5s								
AC02	**Maricunga**	**3.71**	**39**	*e*P		**Pn**	**13 36 18.3**	**+2.5**
AC02				*e*S		**Sb**	**13 37 05.5**	**-3.6**
AC02				IAML			13 37 21.1	
	comp=Z,822nm,0.7s							
ASAL	**Salagasta**	**3.74**	**139**	*e*P		**Pn**	**13 36 19.3**	**+3.5**
ASAL				*e*S		**Sn**	**13 37 02.3**	**+3.0**
MT03	**Universidad Ad**	**3.85**	**165**	*e*P		**Pn**	**13 36 20.2**	**+2.9**
MT03				*e*S		**Sb**	**13 37 07.3**	**-5.2**
MT03				IAML			13 37 22.6	
	comp=Z,1µm,1.1s							
MT04	**Ro Olivares**	**3.86**	**160**	*e*P		**Pn**	**13 36 19.7**	**+2.2**
MT04				*e*S		**Sn**	**13 37 05.3**	**+2.8**
MT04				IAML			13 37 20.1	
	comp=Z,716nm,0.6s							
MT08	**Bocatoma Ro**	**3.93**	**159**	*e*P		**Pn**	**13 36 21.6**	**+3.0**
MT08				*e*S		**Sn**	**13 37 07.3**	**+3.0**
MT08				IAML			13 37 23.6	
	comp=Z,536nm,0.7s							
ACLC	**CERRO LA CRUZ**	**4.16**	**86**	*e*P		**Pn**	**13 36 24.2**	**+2.5**
ACLC				*e*S		**Sb**	**13 37 16.4**	**-5.3**
LMEL	**Las Melosas**	**4.26**	**163**	*e*P		**Pn**	**13 36 25.7**	**+2.7**
LMEL				*e*S		**Sn**	**13 37 15.5**	**+3.3**
APLL	**PUNTA DE LOS L**	**4.54**	**99**	*e*P		**Pn**	**13 36 29.3**	**+2.5**
APLL				*e*S		**Sn**	**13 37 23.6**	**+4.5**
BO01	**Tunca**	**4.63**	**174**	*e*P		**Pn**	**13 36 28.3**	**+0.3**
BO01				*e*S		**Sn**	**13 37 23.7**	**+2.5**
BO01				IAML			13 37 45.6	
	comp=Z,287nm,0.9s							
BO02	**Sierra Bellavi**	**5.06**	**171**	*e*P		**Pn**	**13 36 34.9**	**+0.9**
BO02				*e*S		**Sn**	**13 37 34.7**	**+2.7**
H03N1	**Juan Fernandez** baz=111,slow=18	**7.14**	**237**	Pn		**Pn**	**13 37 00.4**	**-1.7**
H03N1				Sn		Sn	13 38 12.8	-10
H03N1				T		T	13 44 26.7	
	baz=66,slow=71							
H03N2	**Juan Fernandez** baz=111,slow=18	**7.16**	**237**	Pn		**Pn**	**13 37 00.6**	**-1.7**
H03N2				Sn		Sn	13 38 12.8	-10
H03N2				T		T	13 44 27.8	
	baz=66,slow=71,SNR=5730							
H03N3	**Juan Fernandez** baz=111,slow=18	**7.16**	**237**	Pn		**Pn**	**13 37 00.3**	**-2.2**
H03N3				Sn		Sn	13 38 12.6	-10
H03N3				T		T	13 44 24.6	
	baz=66,slow=71,SNR=6396							
H03S3	**Juan Fernandez** baz=203,slow=74	**7.33**	**235**	Pn		**Pn**	**13 37 02.7**	**-2.1**
H03S3				Sn		Sn	13 38 17.8	-10
H03S1	**Juan Fernandez** baz=203,slow=74	**7.34**	**235**	Pn		**Pn**	**13 37 02.4**	**-2.4**
H03S1				Sn		Sn	13 38 17.6	-10
H03S2	**Juan Fernandez** baz=203,slow=74	**7.35**	**235**	Pn		**Pn**	**13 37 02.6**	**-2.4**
H03S2				Sn		Sn	13 38 17.8	-10
PLCA	**Paso Flores**	**10.97**	**175**	Pn		**Pn**	**13 37 54.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=358,slow=17,SNR=4.0							
PLCA				LR		LR	13 42 56.2	
	comp=Z,123nm,18.5s,baz=350,slow=42							
	comp=Z,0.7nm,0.6s							
CPUP	**Villa Florida**	**13.16**	**78**	Pn		**Pn**	**13 38 24.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=126,slow=8.9,SNR=5.3							
CPUP				Sn		**Sn**	**13 40 49.5**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=189,slow=10,SNR=4.5							
CPUP				LR		LR	13 43 43.1	
	comp=Z,59nm,21.6s,baz=125,slow=39							
	comp=Z,1.0nm,0.7s							
LPAZ	**La Paz**	**13.82**	**15**	Pn		**Pn**	**13 38 36.7**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=194,slow=5.7,SNR=16							
	comp=Z,3.6nm,0.6s							
LPAZ	**La Paz**	**13.82**	**15**	*e*P		**Pn**	**13 38 37.8**	**+3.3**
SIV	**San Ignacio**	**16.85**	**38**	Pn		**Pn**	**13 39 14.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=222,slow=13,SNR=11							
	comp=Z,2.3nm,0.5s							
CNLB	**Canela**	**18.16**	**94**	*e*P		**Pn**	**13 39 28.8**	**-1.4**
PTGB	**Pitanga**	**18.18**	**79**	*e*P		**Pn**	**13 39 29.0**	**-1.5**
PTLB	**Pontes e Lacer**	**18.37**	**42**	*e*P		**P**	**13 39 32.7**	**0.0**
PCMB	**Pacaembu**	**20.13**	**71**	*e*P		**P**	**13 39 50.3**	**-1.6**
SALV	**Santo Antonio**	**20.18**	**50**	*e*P		**P**	**13 39 50.6**	**-2.0**
FRTB	**Fartura**	**20.81**	**77**	*e*P		**P**	**13 39 57.9**	**-1.5**
PDRB	**Porto dos Gac**	**22.83**	**41**	*e*P		**P**	**13 40 19.7**	**-1.3**
CLDB	**Colider**	**23.96**	**42**	*e*P		**P**	**13 40 31.7**	**-0.6**
BDFB	**Brasilia**	**25.93**	**62**	P		**P**	**13 40 49.2**	**-1.1**
	comp=Z,2.7nm,0.5s,baz=233,slow=12,SNR=4.6							
BDFB				LR		LR	13 52 04.4	
	comp=Z,148nm,19.2s,baz=200,slow=39							
	comp=Z,2.7nm,0.5s							
SNDB	**Serra Nova Dou**	**25.96**	**51**	*e*P		**P**	**13 40 49.4**	**-1.1**
MDP	**Montagnes des**	**39.21**	**31**	LR		LR	14 00 55.1	
	comp=Z,73nm,21.2s,baz=214,slow=39							
JTS	**Las Juntas de**	**41.83**	**340**	LR		LR	13 56 59.5	
	comp=Z,29nm,19.2s,baz=209,slow=31							
SNAA	**Sanae**	**55.40**	**159**	P		**P**	**13 44 51.6**	**0.0**
	comp=Z,0.9nm,0.6s,baz=284,slow=9.2,SNR=8.0							
SNAA				LR		LR	14 06 52.3	
	comp=Z,28nm,19.8s,baz=94,slow=34							
	comp=Z,0.9nm,0.6s							
QSPA	**South Pole Qui**	**60.45**	**180**	P		**P**	**13 45 27.3**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=171,slow=1.5,SNR=11							
	comp=Z,1.2nm,0.7s							
H06E1	**SOCORRO T-PHAS**	**61.31**	**317**	T		T	14 52 26.9	
TXAR	**Lajitas Array**	**66.22**	**330**	P		**P**	**13 46 07.2**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=145,slow=5.8,SNR=3.9							
	comp=Z,0.4nm,0.7s							
DBIC	**Dimbokro**	**73.60**	**72**	LR		LR	14 17 34.5	
	comp=Z,48nm,18.8s,baz=152,slow=34							
MAW	**Mawson**	**77.14**	**164**	P		**P**	**13 47 09.7**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=280,slow=11,SNR=1.3							
	comp=Z,0.5nm,0.5s							
PDAR	**Pinedale Array**	**80.14**	**333**	P		**P**	**13 47 28.6**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=137,slow=7.4,SNR=6.9							
	comp=Z,0.4nm,0.5s							
NVAR	**Mina Array Bea**	**80.59**	**325**	P		**P**	**13 47 31.9**	**+1.5**
	comp=Z,0.1nm,0.4s,baz=156,slow=4.3,SNR=2.4							
	comp=Z,0.1nm,0.4s							
TORD	**Torodi Ar. Bea**	**82.52**	**70**	P		**P**	**13 47 40.5**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=266,slow=4.3,SNR=1.9							
MDT	**Midelt**	**88.95**	**51**	LR		LR	14 27 15.5	
	comp=Z,24nm,19.8s,baz=20,slow=35							
ESDC	**Sonseca Array**	**93.45**	**46**	LR		LR	14 30 19.8	
	comp=Z,40nm,18.5s,baz=229,slow=35							
WRA	**Warramunga Arr**	**124.56**	**210**	PKP		**PKPdf**	**13 54 16.4**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=154,slow=1.6,SNR=5.0							
H11S2	**WAKE ISLAND Hyl**	**126.00**	**272**	T		T	16 13 13.6	
	baz=115,slow=75,SNR=29							
H11S1	**WAKE ISLAND Hyl**	**126.01**	**272**	T		T	16 13 19.0	
	baz=115,slow=75,SNR=34							
H11S3	**WAKE ISLAND Hyl**	**126.02**	**272**	T		T	16 13 12.7	
	baz=115,slow=75,SNR=29							
KURBB	**Kurchatov Arra**	**149.51**	**39**	PKPbc		**PKPbc**	**13 55 06.5**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=317,slow=3.9,SNR=1.2							
ZALV	**Zalesovo Beam**	**150.45**	**29**	PKPbc		**PKPbc**	**13 55 09.5**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=240,slow=2.8,SNR=4.9							
MKAR	**Makanchi Array**	**153.63**	**43**	PKPbc		**PKiKP**	**13 55 17.4**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=315,slow=1.4,SNR=1.7							

*INMG **11** 13:53:23.9±1.3, 36.°84N×4.°22W, h48km±9km, ML1.8, Error ellipse: s-maj=3.1km s-min=3.1km az=168.0, #DIST_RANGE: REGIONAL #IPMA_REGION: NE Malaga (ESP)*
*SFS **11** 13:53:23.7, 36.°83N×4.°21W, h54km, ML2.4/11, ML2.1/14, MLv1.9/14*
*MDD **11** 13:53:23.6±0.6, 36.°81N×4.°19W, h52km±6km, Mb3.0/16, Error ellipse: s-maj=5.5km s-min=2.8km az=162.0*

ISC 11 13:53:22.5±1.5, 36.°83N±0.°06×4.°21W±0.°04, h60km±9km, n40, σ0.°99/68, 10C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMAL	**Malaga-Limoner**	**0.19**	**248**	Pg	**Pn**	**13 53 32.0**	**+0.1**
EMAL				Sg	**Sn**	**13 53 38.1**	**-0.5**
EGOR	**Sierra Gorda,**	**0.29**	**16**	Pg	**Pn**	**13 53 32.8**	**+0.1**
EGOR				Sg	**Sn**	**13 53 40.4**	**+0.4**
EGOR	**Sierra Gorda,**	**0.29**	**16**	Pg	**Pn**	**13 53 33.0**	**+0.3**
EGOR				Sg	**Sn**	**13 53 40.5**	**+0.4**
ELGU	**Los Guajares,**	**0.47**	**86**	Pg	**Pn**	**13 53 33.7**	**-0.4**
ELGU				⇑*i*VmB_VC		13 53 34.7	
	2µm,SNR=36						
ELGU				Sg	**Sn**	**13 53 41.7**	**-0.9**
EMIJ	**Mijas**	**0.53**	**240**	Pg	**Pn**	**13 53 34.8**	**+0.1**
EMIJ				Sg	**Sn**	**13 53 43.2**	**-0.5**
EMIJ	**Mijas**	**0.53**	**240**	Pg	**Pn**	**13 53 34.9**	**+0.1**
EMIJ				⇑*i*VmB_VC		13 53 35.1	
	485nm,SNR=9.3						
EMIJ				Sg	**Sn**	**13 53 43.2**	**-0.5**
EQTA	**Presa de Quent**	**0.72**	**58**	Sn	**Sn**	**13 53 48.0**	**+0.3**
EQTA				Pn	**Pn**	**13 53 37.5**	**+0.5**
EQUE	**Quentar**	**0.72**	**59**	Pg	**Pn**	**13 53 37.4**	**+0.4**
EQUE				⇑*i*VmB_VC		13 53 40.1	
	200nm,SNR=4.2						
EQUE				Sg	**Sn**	**13 53 47.9**	**+0.2**
E0803	**Jimena (Jaen)**	**1.16**	**30**	Pg	**Pn**	**13 53 43.6**	**+1.0**
E0803				Sg	**Sn**	**13 53 58.0**	**+0.3**
EQES	**Quesada**	**1.32**	**43**	Pg	**Pn**	**13 53 45.3**	**+0.3**
EQES				⇑*i*VmB_VC		13 53 46.4	
	162nm,SNR=4.2						
EQES				Sg	**Sn**	**13 54 01.5**	**-0.2**
EADA	**Adamuz**	**1.36**	**348**	Pn	**Pn**	**13 53 45.8**	**+0.5**
EADA				Sn	**Sn**	**13 54 02.1**	**-0.5**
EADA	**Adamuz**	**1.36**	**348**	Pg	**Pn**	**13 53 45.9**	**+0.5**
EADA				⇑*i*VmB_VC		13 53 48.7	
	135nm,SNR=3.0						
EADA				Sg	**Sn**	**13 54 02.0**	**-0.5**
ECAB	**El Cabril**	**1.57**	**322**	Pn	**Pn**	**13 53 48.6**	**+0.4**
ECAB				Sn	**Sn**	**13 54 05.9**	**-1.6**
ECAB	**El Cabril**	**1.57**	**322**	Pn	**Pn**	**13 53 49.6**	**+1.4**
ECAB				⇑*i*VmB_VC		13 53 51.4	
	62nm,SNR=1.7						
ECAB				Sn	**Sn**	**13 54 07.2**	**-0.3**
PSIM	**Granatula de C**	**2.02**	**10**	Pn	**Pn**	**13 53 54.5**	**+0.3**
PSIM				Sn	**Sn**	**13 54 16.7**	**-1.6**
EMIN	**Mina Concepcio**	**2.18**	**296**	Pn	**Pn**	**13 53 56.4**	**+0.1**
EMIN	**Mina Concepcio**	**2.18**	**296**	Pn	**Pn**	**13 53 56.3**	**0.0**
EMIN				⇑*i*VmB_VC		13 53 58.7	
	174nm,SNR=3.2						
EMIN				Sn	**Sn**	**13 54 21.3**	**-0.9**
PBAR	**Barrancos**	**2.62**	**302**	Pn	**Pn**	**13 54 02.9**	**+0.5**
PBAR				Sn	**Sn**	**13 54 30.8**	**-2.2**
PBAR	**Barrancos**	**2.62**	**302**	*e*P	**Pn**	**13 54 02.9**	**+0.5**
PBAR				*e*S	**Sn**	**13 54 32.3**	**-0.8**
PBAR				*i* IAML		13 54 33.4	
PBAR				*i* IAML		13 54 34.0	
PBAR				*i* IAML		13 54 36.1	
EGRO	**El Granado**	**2.71**	**286**	Pn	**Pn**	**13 54 04.9**	**+1.3**
EGRO	**El Granado**	**2.71**	**286**	Pn	**Pn**	**13 54 04.5**	**+1.0**
EGRO				Sn	**Sn**	**13 54 34.5**	**-0.6**
ESBB	**Sonseca Array**	**2.84**	**4**	Pn	**Pn**	**13 54 06.4**	**+0.9**
ESBB				⇑*i*VmB_VC		13 54 07.5	
	90nm,SNR=2.0						
ESBB				Sn	**Sn**	**13 54 37.6**	**-0.9**
PVAQ	**Vaqueiros**	**2.86**	**283**	Pn	**Pn**	**13 54 06.0**	**+0.3**
PVAQ	**Vaqueiros**	**2.86**	**283**	*e*P	**Pn**	**13 54 06.5**	**+0.8**
PVAQ				*e*S	**Sn**	**13 54 38.4**	**-0.6**
PVAQ				*i* IAML		13 54 38.9	
PVAQ				*i* IAML		13 54 39.2	
PVAQ				*i* IAML		13 54 39.5	
EBAD	**Badajoz**	**2.94**	**312**	Pn	**Pn**	**13 54 08.0**	**+1.3**
EBAD				Sn	**Sn**	**13 54 39.4**	**-1.4**
EBAD	**Badajoz**	**2.94**	**312**	Pn	**Pn**	**13 54 08.2**	**+1.5**
EBAD				⇑*i*VmB_VC		13 54 08.8	
	114nm,SNR=1.8						
EBAD				Sn	**Sn**	**13 54 39.4**	**-1.4**
PBDV	**Barranco-do-Ve**	**3.01**	**279**	*e*S	**Sn**	**13 54 42.7**	**+0.1**
PCVE	**Castro Verde**	**3.16**	**286**	Pn	**Pn**	**13 54 10.4**	**+0.6**
PCVE				Sn	**Sn**	**13 54 45.7**	**-0.6**
PCVE	**Castro Verde**	**3.16**	**286**	*e*P	**Pn**	**13 54 10.4**	**+0.6**
PCVE				*e*S	**Sn**	**13 54 45.1**	**-1.1**
PCVE				*i* IAML		13 54 47.1	
PCVE				*i* IAML		13 54 47.2	
PCVE				*i* IAML		13 54 48.1	
PESTR	**Estremoz**	**3.36**	**308**	Pn	**Pn**	**13 54 13.8**	**+1.2**
PESTR	**Estremoz**	**3.36**	**308**	*e*S	**Sn**	**13 54 50.6**	**-0.6**
MORF	**Marmelete**	**3.59**	**279**	*e*P	**Pn**	**13 54 17.2**	**+1.6**
PMRV	**Marv??o**	**3.61**	**317**	*e*P	**Pn**	**13 54 17.5**	**+1.5**
PMRV				*e*S	**Sn**	**13 54 56.4**	**-0.9**
PMRV				*i* IAML		13 54 57.4	
PMRV				*i* IAML		13 54 58.2	
PTEO	**Sao Teotonio**	**3.68**	**283**	*e*S	**Sn**	**13 54 58.6**	**-0.3**
PTEO				*i* IAML		13 54 59.8	
PFVI	**Vila Bisbo**	**3.71**	**276**	*e*P	**Pn**	**13 54 18.7**	**+1.4**
PFVI				*e*S	**Sn**	**13 54 59.0**	**-0.7**
PFVI				*i* IAML		13 55 01.1	
PFVI				*i* IAML		13 55 01.8	
PMTG	**Montargil**	**3.88**	**306**	*e*P	**Pn**	**13 54 20.9**	**+1.2**
PMTG				*e*S	**Sn**	**13 55 02.5**	**-1.5**
PCBR	**Castelo Branco**	**3.95**	**320**	*e*P	**Pn**	**13 54 22.2**	**+1.6**
PSARD	**Sardoal**	**4.16**	**313**	*e*S	**Sn**	**13 55 09.2**	**-1.6**
PARRA	**Arraiolos**	**4.31**	**299**	*e*P	Pn	13 54 17.1	-8.4
PARRA				*e*S	Sn	13 54 55.1	-19
PARRA				*i* IAML		13 54 56.6	
PARRA				*i* IAML		13 54 56.9	
PARRA				*i* IAML		13 54 58.0	
ETOR	**Torete**	**4.32**	**22**	Pn	**Pn**	**13 54 26.3**	**+0.6**
ETOR				⇑*i*VmB_VC		13 54 26.7	
	59nm,SNR=1.3						
ETOR				Sn	**Sn**	**13 55 12.1**	**-2.7**

GCG 11 13:53:43.4±1.2, 14.°18N×91.°16W, h76km±9km, MD3.6, ML3.8, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STG0	**El Palmar, Qui**	**0.30**	**325**	*i* P	Pn	13 53 58.8	+3.2
STG0				*i* S	Sn	13 54 10.1	+5.6
STG0				IAML		13 54 12.0	
	comp=E,3µm,0.2s						
STG8	**El Palmar, Qui**	**0.33**	**326**	*i* P	Pn	13 53 59.4	+3.6
STG8				*i* S	Sn	13 54 11.6	+6.7
STG8				IAML		13 54 12.2	
	comp=N,4µm,0.2s						
STG2	**El Palmar, Qui**	**0.33**	**321**	*i* P	Pn	13 53 59.6	+3.9
ESSG	**Sabana Grande**	**0.38**	**57**	*e*P	Pn	13 53 56.3	+0.3
ESSG				*e*S	Sn	13 54 05.7	+0.5
ESSG				IAML		13 54 06.3	
	comp=N,3µm,0.1s						
FG8	**Yepocapa, Chim**	**0.59**	**82**	*i* P	Pn	13 53 56.3	-1.5
FG8				*i* S	Sn	13 54 05.6	-2.8
FG16	**Alotenango, Sa**	**0.64**	**81**	*i* P	Pn	13 53 57.2	-1.1
FG16				*i* S	Sn	13 54 08.0	-1.5
FG16				IAML		13 54 13.4	
	comp=N,9µm,0.2s						
SOKI	**Kika Raxquin**	**0.68**	**340**	*e*P	Pn	13 54 00.4	+1.3
SOKI				*e*S	Sn	13 54 12.9	+2.3
SOKI				IAML		13 54 17.4	
	comp=N,956nm,0.6s						
ESSJ	**San Jos, E**	**0.89**	**134**	*i* S	Sn	13 54 05.8	-8.1
NUBE	**Las Nubes**	**1.37**	**101**	*i* S	Sn	13 54 25.0	+0.3

*AFAD **11** 14:07:47.8, 36.°29N×30.°57E, h79km, ML2.2*
*ISK **11** 14:07:47.2, 36.°23N×30.°73E, h18km, ML2.6/15*
*GII **11** 14:07:49.6±0.0, 36.°124N±0.°003×30.°807E±0.°001, h40km, Mws2.5, confirmed*

ISC 11 14:07:47.3±1.3, 36.°22N±0.°04×30.°66E±0.°03, h79km±10km, n45, σ1.°00/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKUM	**Antalya-Kumluc**	**0.27**	**293**	P	**Pn**	**14 07 59.9**	**+0.5**
AKUM				S	**Sn**	**14 08 09.4**	**+1.1**
AKUM				*i* IAML		14 08 10.0	
	comp=E,118nm,0.5s						
AKUM				*i* IAML		14 08 13.0	
	comp=N,143nm,0.3s						
ANTB	**Antalya**	**0.68**	**360**	Pg	**Pn**	**14 08 00.9**	**-1.9**
ELL	**Elmali**	**0.80**	**312**	Pg	**Pn**	**14 08 04.0**	**-0.2**
KORT	**Korkueli**	**0.82**	**343**	Pg	**Pn**	**14 08 03.9**	**-0.5**
AKAS	**Kas**	**0.85**	**271**	Pg	**Pn**	**14 08 05.5**	**+0.8**
AKAS				Sg	**Sn**	**14 08 18.5**	**+0.8**
AKAS	**Kas**	**0.85**	**271**	P	**Pn**	**14 08 05.3**	**+0.5**
AKAS				S	**Sn**	**14 08 17.9**	**+0.2**
AKAS				*i* IAML		14 08 23.0	
	comp=E,90nm,0.8s						
AKAS				*i* IAML		14 08 24.0	
	comp=N,101nm,0.5s						
KNIK	**Mula-Seydike**	**1.07**	**306**	P	**Pn**	**14 08 08.0**	**+0.6**
KNIK				S	**Sn**	**14 08 19.0**	**-3.4**
KNIK				*i* IAML		14 08 23.0	
	comp=N,56nm,1.4s						
KNIK				*i* IAML		14 08 23.0	
	comp=E,29nm,0.8s						
BUCA	**Burdur, Bucak-**	**1.11**	**356**	P	**Pn**	**14 08 08.0**	**+0.2**
BUCA				S	**Sn**	**14 08 23.1**	**0.0**
BUCA				*i* IAML		14 08 25.0	
	comp=E,49nm,0.8s						
BUCA				*i* IAML		14 08 28.0	
	comp=N,23nm,0.4s						
ALAN	**Alanya-ANTALYA**	**1.16**	**73**	Pn	**Pn**	**14 08 08.3**	**0.0**
ALAN				Sn	**Sn**	**14 08 23.8**	**-0.3**
IZZE	**Mula-Seydike**	**1.18**	**281**	P	**Pn**	**14 08 09.8**	**+1.3**
IZZE				S	**Sn**	**14 08 25.1**	**+0.7**
IZZE				*i* IAML		14 08 26.0	
	comp=E,95nm,0.3s						
IZZE				*i* IAML		14 08 31.0	
	comp=N,100nm,0.4s						
BCK	**Bucak**	**1.24**	**358**	Pn	**Pn**	**14 08 10.1**	**+0.7**
GAZI	**Gazipasa**	**1.34**	**89**	Pn	**Pn**	**14 08 10.9**	**+0.3**
GAZI				Sn	**Sn**	**14 08 27.9**	**-0.2**
GOLH	**Golhisar**	**1.35**	**320**	P	**Pn**	**14 08 11.8**	**+1.1**
GOLH				S	**Sn**	**14 08 28.9**	**+0.5**
GOLH				*i* IAML		14 08 33.0	
	comp=N,28nm,0.3s						
GOLH				*i* IAML		14 08 44.0	
	comp=E,28nm,0.9s						
SABU	**Mula-Dalaman**	**1.49**	**295**	P	**Pn**	**14 08 13.0**	**+0.5**
SABU				S	**Sn**	**14 08 30.9**	**-0.6**
SABU				*i* IAML		14 08 33.0	
	comp=N,33nm,0.2s						
SABU				*i* IAML		14 08 33.0	
	comp=E,32nm,0.5s						
SEYD	**Seydisehir-KON**	**1.52**	**38**	Pn	**Pn**	**14 08 13.5**	**+0.5**
ISP	**Isparta**	**1.61**	**356**	Pn	**Pn**	**14 08 15.4**	**+1.3**
ISP	**Isparta**	**1.61**	**356**	P	**Pn**	**14 08 15.4**	**+1.3**
HDMB	**Hadim**	**1.65**	**63**	Pn	**Pn**	**14 08 16.1**	**+1.3**
DNZT	**Denizli-Tavas-**	**1.69**	**309**	P	**Pn**	**14 08 15.6**	**+0.5**
DNZT				S	**Sn**	**14 08 34.6**	**-1.6**
TAVA	**DENIZLI_Tavas**	**1.87**	**312**	P	**Pn**	**14 08 17.7**	**0.0**
TAVA				S	**Sn**	**14 08 39.6**	**-1.0**
TAVA				*i* IAML		14 08 40.0	
	comp=E,13nm,0.6s						
DNIZ	**Denizli-Tavas-**	**1.91**	**318**	P	**Pn**	**14 08 18.1**	**0.0**
DNIZ				*i* IAML		14 08 46.0	
	comp=N,48nm,0.6s						
DNIZ				*i* IAML		14 08 49.0	
	comp=E,51nm,0.3s						
TEKE	**Tekeli-Mersin**	**1.99**	**91**	Pn	**Pn**	**14 08 20.1**	**+1.0**
BERE	**Bereket-Mersin**	**2.08**	**86**	Pn	**Pn**	**14 08 21.4**	**+1.0**
ESEN	**Aydn-Nazilli**	**2.43**	**311**	P	**Pn**	**14 08 24.5**	**-0.5**
IKL	**Isikli**	**2.45**	**89**	Pn	**Pn**	**14 08 26.7**	**+1.5**
IKL				Sn	**Sn**	**14 08 54.9**	**+0.6**
KEBE	**Keben-Mersin**	**2.48**	**84**	Pn	**Pn**	**14 08 27.1**	**+1.4**
LFK	**Lefkose**	**2.52**	**111**	Pn	**Pn**	**14 08 27.8**	**+1.6**
MMA0B	**Mount Meron ar**	**5.05**	**128**	S	**Sn**	**14 09 56.8**	**-0.9**
MMA0B	**Mount Meron ar**	**5.05**	**128**	P	**Pn**	**14 09 01.1**	**+0.4**
GEM	**Giv'at Ha'Em**	**5.10**	**125**	S	**Sn**	**14 09 57.3**	**-1.4**
GEM	**Giv'at Ha'Em**	**5.10**	**125**	P	**Pn**	**14 09 01.5**	**+0.3**
BLGI	**Bet Lehem HaGe**	**5.11**	**132**	S	**Sn**	**14 09 58.1**	**-0.9**
BLGI	**Bet Lehem HaGe**	**5.11**	**132**	P	**Pn**	**14 09 01.5**	**+0.2**
NATI	**Neve Ativ**	**5.12**	**124**	S	**Sn**	**14 09 57.6**	**-1.6**
NATI	**Neve Ativ**	**5.12**	**124**	P	**Pn**	**14 09 02.0**	**+0.5**
MMLI	**Mount Malkishu**	**5.45**	**132**	S	**Sn**	**14 10 06.3**	**-1.2**
MMLI	**Mount Malkishu**	**5.45**	**132**	P	**Pn**	**14 09 06.5**	**+0.4**
DSI	**Dead Sea**	**6.07**	**138**	S	**Sn**	**14 10 21.4**	**-1.3**
DSI	**Dead Sea**	**6.07**	**138**	P	**Pn**	**14 09 14.9**	**+0.3**
PRNI	**Paran**	**6.89**	**147**	S	**Sn**	**14 10 41.6**	**-1.0**
PRNI	**Paran**	**6.89**	**147**	P	**Pn**	**14 09 25.9**	**+0.2**
KRMI	**Paran Flat**	**6.97**	**150**	S	**Sn**	**14 10 44.1**	**-0.6**
KRMI	**Paran Flat**	**6.97**	**150**	P	**Pn**	**14 09 27.0**	**+0.2**
MBRI	**Mt Berech**	**7.33**	**150**	S	**Sn**	**14 10 53.1**	**-0.5**
MBRI	**Mt Berech**	**7.33**	**150**	P	**Pn**	**14 09 32.5**	**+0.6**

*IDC **11** 14:07:49.5±1.3, 0.°41N×126.°05E, h0km, mb3.6/5, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=107.4km s-min=18.8km az=70.0*
*DJA **11** 14:07:52.5±0.3, 1.°N±3.°×12.°6E±.°, h10km, M3.5/8, MLv3.5/8*

ISC 11 14:07:55.4±0.9, 0.°46N±0.°09×126.°23E±0.°06, h44km, n10, σ1.°27/11, mb3.7/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.17**	**75**	P	**Pn**	**14 08 13.7**	**-1.7**
TNTI				S	**Sn**	**14 08 32.0**	**+1.8**
KMSI	**Cibinong**	**2.25**	**273**

ISC 11 14:33:38.5±1.1, 20°.3S±0°.2×178°.1W±0°.2, h534km, n9, σ0^{s}77/10, mb3.4/5, Fiji Islands region

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
JAY	**Jayapura**	**43.90 288**	P	**P**	**14 40 58.6**	**+0.4**
	5.4nm,0.5s,baz=127,slow=5.1,SNR=12					
	5.4nm,0.5s					
ASAR	**Alice Springs**	**44.47 257**	P	**P**	**14 41 02.4**	**-0.2**
	1.0nm,0.8s,baz=88,slow=8.5,SNR=19					
ASAR			PcP	**PcP**	**14 42 35.4**	**+0.8**
	0.7nm,0.7s,baz=104,slow=3.6,SNR=9.2					
	1.0nm,0.8s					
WRA	**Warramunga Arr**	**44.53 262**	P	**P**	**14 41 01.8**	**-1.2**
	0.5nm,0.7s,baz=96,slow=7.6,SNR=11					
	0.5nm,0.7s					
QSPA	**South Pole Qui**	**69.75 180**	P	**P**	**14 43 54.6**	**-0.1**
	1.1nm,0.7s,baz=51,slow=6.5,SNR=9.6					
	1.1nm,0.7s					
ILAR	**Eielson Array**	**88.16 13**	P	**P**	**14 45 31.2**	**-0.8**
	0.1nm,0.5s,baz=209,slow=5.0,SNR=1.7					
	0.1nm,0.5s					
BVAR	**Borovoye Array**	**118.88 320**	PKP	**PKiKP**	**14 51 26.3**	**+0.2**
BRTR	**Keskin Array B**	**146.65 312**	PKPbc	**PKPbc**	**14 52 21.9**	**+1.1**
	0.5nm,0.6s,baz=64,slow=3.4,SNR=2.9					
MMAI	**Mount Meron Ar**	**147.65 300**	PKPbc	**PKiKP**	**14 52 25.0**	**+0.1**
	1.4nm,0.5s,baz=67,slow=3.7,SNR=2.3					
GERES	**GERESS Array B**	**150.00 344**	PKPbc	**PKiKP**	**14 52 29.4**	**0.0**
	0.2nm,0.3s,baz=36,slow=2.1,SNR=5.0					

*IDC **11** 14:37:58.8±0.4, 0°.64S×127°.60E, h0km, mb4.5/26, mbtmp4.5/31, ML4.7/4, MS3.9/43, Error ellipse: s-maj=19.0km s-min=9.0km az=80.0*

*MOS **11** 14:37:59.4±1.2, 0°.61S×127°.68E, h16km, mb5.0/34, Error ellipse: s-maj=11.6km s-min=6.0km az=110.9*

*NEIC **11** 14:38:00.6±1.9, 0°.56S±0°.05×127°.70E±0°.08, h10km±1km, mb5.0/93, Error ellipse: s-maj=13.3km s-min=8.4km az=249.0*

*GCMT **11** 14:38:03.6±0.2, 0°.58S±0°.02×127°.67E±0°.02, h13km, MW4.9/100, Moment Tensor Solution. s49,c66; s100,c150; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.77±.13; $M_{\theta\theta}$0.49±.08; $M_{\phi\phi}$2.28±.09; $M_{r\theta}$0.26±.23; $M_{\theta\phi}$1.82±.06; $M_{r\phi}$0.51±.21; Best double couple: M_o3.14400×10^{16} NP1:ϕ_s33.00000°, δ40.00000°, λ-88.00000°. NP2:ϕ_s211.00000°, δ50.00000°, λ-92.00000°. Principal axes: T 3.4650, Plg5.0000°, Azm302.0000°; N -0.6410, Plg1.0000°, Azm212.0000°; P -2.8230, Plg85.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **11** 14:38:04.6±0.6, 0°.5S±2°×12°.8E±°, h18km±5km, M5.0/73, mb5.1/73, mB5.5/36, MLv5.1/25, Mw(mB)5.0/36, MwMwp4.7/6, Mwp5.1/6*

ISC 11 14:38:01.0±0.3, 0°.60S±0°.03×127°.68E±0°.04, h10km, n564, σ1^{s}65/531, mb4.9/126, MS4.0/56, 10C-15D, Halmahera

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.40 347**		**Pg**	**14 38 26.6**	**-1.2**
TNTI			Sn	**Sb**	**14 38 43.6**	**-1.6**
TNTI	**Ternate**	**1.40 347**	P	**Pg**	**14 38 27.2**	**-0.7**
TNTI	**Ternate**	**1.40 347**	P	**Pg**	**14 38 27.4**	**-0.5**
SANI	**Sanana**	**2.23 230**	P	**Pb**	**14 38 40.1**	**-1.3**
SANI	**Sanana**	**2.23 230**	P	**Pb**	**14 38 40.0**	**-1.3**
NLAI	**Namlea**	**2.69 193**	P	**Pb**	**14 38 47.5**	**-1.7**
MSAI	**Masohi**	**3.00 156**	P	**Pb**	**14 38 53.3**	**-1.2**
AAI	**Ambon**	**3.11 171**	P	**Pb**	**14 38 55.2**	**-1.2**
SWI	**Sorong**	**3.58 94**	P	**Pn**	**14 38 59.3**	**+2.6**
KMSI	**Cibinong**	**3.88 287**	P	**Pn**	**14 39 04.2**	**+3.4**
BNDI	**Bandanaira**	**4.48 150**	P	**Pn**	**14 39 11.1**	**+2.1**
BNDI	**Bandanaira**	**4.48 150**	P	**Pn**	**14 39 12.2**	**+3.2**
SGSI	**Sangihe**	**4.77 333**	P	**Pn**	**14 39 15.7**	**+2.7**
LUWI	**Luwuk**	**4.93 265**		**Pn**	**14 39 17.7**	**+2.5**
LUWI	**Luwuk**	**4.93 265**	P	**Pn**	**14 39 17.8**	**+2.6**
LUWI	**Luwuk**	**4.93 265**	P	**Pn**	**14 39 18.4**	**+3.2**
FAKI	**Fak Fak**	**5.11 117**		**Pn**	**14 39 18.4**	**+0.7**
FAKI	**Fak Fak**	**5.11 117**	P	**Pn**	**14 39 19.4**	**+1.7**
FAKI	**Fak Fak**	**5.11 117**	P	**Pn**	**14 39 19.7**	**+2.0**
	0.8nm3μm215nm,1.1s					
MRSI	**Marisa**	**5.84 281**	P	**Pn**	**14 39 29.6**	**+1.9**
	1.1nm3μm192nm,0.8s					
APSI	**Ampana**	**6.04 267**	P	**Pn**	**14 39 33.6**	**+3.1**
	6μm445nm,0.8s					
RKPI	**Ransiki, Papua**	**6.55 98**	P	Pn	14 39 42.7	+5.2
	0.8nm5μm134nm,0.8s					
KMPI	**Kaimana, Papua**	**6.74 117**	P	**Pn**	**14 39 42.2**	**+2.1**
	1.3nm4μm373nm,0.8s					
BBSI	**Bau Bau**	**7.04 226**	P	Pn	14 39 50.0	+5.7
	0.7nm2μm180nm,0.9s					
TOLI2	**Tolitoli**	**7.11 284**		**Pn**	**14 39 47.3**	**+2.1**
TOLI2	**Tolitoli**	**7.11 284**	P	**Pn**	**14 39 48.4**	**+3.3**
MPSI	**Mapaga**	**7.84 277**	P	**Pn**	**14 39 58.9**	**+3.7**
	0.6nm2μm2μm105nm,1.3s					
PCI	**Palu**	**7.85 268**	P	**Pn**	**14 39 59.6**	**+4.2**
	3μm2μm230nm,0.8s					
DAV	**Davao City (W)**	**7.90 345**	Pn	**Pn**	**14 39 56.7**	**+0.6**
	28nm,0.3s,baz=94,slow=5.4,SNR=5.6					
DAV			Sn	**Sn**	**14 41 27.6**	**+2.0**
	63nm,0.3s,baz=85,slow=9.2,SNR=2.2					
	73nm,0.4s					
DAV	**Davao City (W)**	**7.90 345**	*eP*	Pn	14 40 00.0	+3.9
SAUI	**Saumlaki**	**8.17 154**	P	**Pn**	**14 40 02.5**	**+2.8**
TTSI	**Tana Toraja**	**8.23 253**	P	**Pn**	**14 40 04.2**	**+3.7**
	3μm263nm,0.9s					
BAKI	**Biak**	**8.44 94**	P	**Pn**	**14 40 06.0**	**+2.5**
BNSI	**Bone**	**8.46 243**	P	Pn	14 40 08.9	+5.2
	1μm151nm,0.8s					
SPSI	**Sidrap Palu**	**8.59 247**	P	**Pn**	**14 40 09.8**	**+4.4**
BSSI	**Bau Bau, Buton**	**9.05 232**	P	Pn	14 40 17.8	+6.0
	221nm,0.8s					
KAPI	**Kappang**	**9.05 241**	Pn	**Pn**	**14 40 11.3**	**-0.5**
	13nm,0.3s,baz=64,slow=5.8,SNR=46					
KAPI			Sn	**Sn**	**14 41 52.1**	**-1.9**
	1.1nm,0.3s,baz=160,slow=24,SNR=1.0					
KAPI			LR	LR	14 44 09.1	
	comp=Z,449nm,19.9s,baz=71,slow=41					
	5.1nm,0.3s					
KAPI	**Kappang**	**9.05 241**	P	Pn	14 40 17.4	+5.5
KAPI	**Kappang**	**9.05 241**	*eP*	**Pn**	**14 40 16.5**	**+4.6**
MMRI	**Maumere**	**9.65 214**	P	Pn	14 40 24.9	+4.8
	3μm110nm,1.0s					
SOEI	**Soe**	**9.71 200**	P	Pn	14 40 27.3	+6.3
	2μm159nm,1.1s					
EDFI	**Ende, Flores**	**10.06 216**	P	Pn	14 40 30.9	+5.2
	2μm138nm,1.5s					
BATI	**Baumata**	**10.35 203**	Pn	**Pn**	**14 40 28.2**	**-1.4**
	3.6nm,0.3s,baz=302,slow=23,SNR=2.0					
BATI			LR	LR	14 44 46.1	
	comp=Z,933nm,19.5s,baz=11,slow=40					
	14nm,0.5s					
BATI	**Baumata**	**10.35 203**	P	**Pn**	**14 40 34.3**	**+4.7**
	81nm,1.3s					
SMPI	**Sarmi**	**11.11 97**	P	**Pn**	**14 40 42.3**	**+2.3**
WSI	**Waingapu**	**11.63 219**	P	Pn	14 40 52.4	+5.3
DRS	**Darwin Rock St**	**12.18 165**	P	**Pn**	**14 40 56.2**	**+1.5**
WBSI	**Waikabubak, Su**	**12.20 222**	P	Pn	14 41 01.2	+6.2
	2μm94nm,0.8s					
GENI	**Genyem**	**12.63 99**	P	**Pn**	**14 41 03.9**	**+3.0**
MTN	**Manton Dam**	**12.64 164**		**Pn**	**14 41 00.2**	**-0.7**
MTN	**Manton Dam**	**12.64 164**	P	**Pn**	**14 41 01.8**	**+0.8**
	comp=Z,52nm,1.0s					
MTN	**Manton Dam**	**12.64 164**	P	**Pn**	**14 41 01.9**	**+1.0**
PLAI	**Plampang**	**12.81 230**	P	Pn	14 41 09.3	+6.0
PLAI	**Plampang**	**12.81 230**	P	Pn	14 41 10.2	+6.9
	comp=Z,74nm,0.9s					
KDU	**Kakadu**	**12.91 159**	P	**Pn**	**14 41 03.7**	**-1.0**
KDU	**Kakadu**	**12.91 159**	P	**Pn**	**14 41 04.5**	**-0.2**
JAY	**Jayapura**	**13.15 98**	Pn	**Pn**	**14 41 08.1**	**0.0**
	comp=Z,3.4nm,0.8s,baz=294,slow=11,SNR=3.6					
JAY			LR	LR	14 47 13.2	
	comp=Z,1μm,20.3s,baz=274,slow=42					
JAY	**Jayapura**	**13.15 98**	P	**Pn**	**14 41 09.2**	**+1.1**
KKM	**Kota Kinabalu**	**13.22 300**		**Pn**	**14 41 07.3**	**-1.6**
TWSI	**Taliwang, Sumb**	**13.46 233**	P	**P**	**14 41 17.5**	**-4.1**
	comp=Z,48nm,1.1s					
SRBI	**Singaraja**	**14.48 239**	P	**P**	**14 41 32.0**	**-0.9**
	comp=Z,97nm,1.3s					
KNRA	**Kununurra**	**15.02 176**		**Pn**	**14 41 33.5**	**+0.1**
KNRA			IAmb	IAmb	14 41 53.9	
	comp=Z,48nm,1.1s					
KNRA	**Kununurra**	**15.02 176**	P	**Pn**	**14 41 33.4**	**-0.1**
	comp=Z,50nm,1.7s					
KMMI	**Kalianget**	**15.11 245**	P	**P**	**14 41 39.8**	**-0.1**
	comp=Z,109nm,1.7s					
JAGI	**Jajag, Banyuwa**	**15.58 240**	P	**P**	**14 41 45.6**	**+0.4**
	comp=Z,2μmcomp=Z,131nm,1.0s					
SBUM	**Sibu**	**15.76 281**	Pn	**Pn**	**14 41 40.1**	**-3.0**
GMJI	**Gumukmas**	**16.11 241**	P	**P**	**14 41 53.8**	**+2.8**
	comp=Z,235nm,1.3s					
STKI	**Sintang**	**16.22 272**	P	**P**	**14 41 50.6**	**-1.7**
	comp=Z,47nm,0.9s					
KSM	**Kuching**	**17.50 277**	Pn	**Pn**	**14 42 02.9**	**-2.4**
FITZ	**Fitzroy Crossi**	**17.50 186**		**Pn**	**14 42 03.8**	**-1.5**
FITZ	**Fitzroy Crossi**	**17.50 186**	P	**P**	**14 42 07.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**17.50 186**	P	**Pn**	**14 42 05.3**	**0.0**
	comp=Z,1.0nm,0.3s,baz=20,slow=7.7,SNR=22					
FITZ			LR	LR	14 50 06.1	
	comp=Z,594nm,18.4s,baz=12,slow=42					
	comp=Z,14nm,0.8s					
NGJI	**Ngawi**	**17.52 247**	P	**P**	**14 42 10.7**	**+4.0**
	comp=Z,96nm,1.5s					
PCJI	**Pacitan**	**18.09 245**	P	**P**	**14 42 17.6**	**+4.6**
	comp=Z,178nm,1.6s					
WOJI	**Wonogiri, Jawa**	**18.19 246**	P	**P**	**14 42 19.5**	**+5.4**
	comp=Z,125nm,1.6s					
TPI	**Tanjungpandan**	**20.14 264**	P	Pn	14 42 39.0	+1.7
	comp=Z,53nm,1.1s					
WB0	**Warramunga Arr**	**20.15 161**	P	**P**	**14 42 34.6**	**-1.0**
COEN	**Coen**	**20.28 132**	P	**P**	**14 42 36.0**	**-1.0**
COEN			IAmb	IAmb	14 42 42.7	
	comp=Z,48nm,1.0s					
COEN	**Coen**	**20.28 132**	P	**P**	**14 42 37.6**	**+0.7**
	comp=Z,58nm,1.5s					
COEN	**Coen**	**20.28 132**	P	Pn	14 42 38.7	-0.3
WRAB	**Tennant Creek**	**20.29 162**	P	**P**	**14 42 37.5**	**+0.4**
WRAB	**Tennant Creek**	**20.29 162**	P	**P**	**14 42 37.5**	**+0.4**
WRAB			pmax	pmax		
	comp=Z,46nm,1.3s					
WRA	**Warramunga Arr**	**20.30 162**	P	**P**	**14 42 33.5**	**-3.7**
WRA	**Warramunga Arr**	**20.30 162**	P	**P**	**14 42 37.5**	**+0.3**
	comp=Z,4.7nm,0.6s,baz=346,slow=13,SNR=54					
WRA			S	**S**	**14 46 15.8**	**-9.1**
	comp=Z,1.1nm,0.9s,baz=340,slow=19,SNR=4.6					
WRA			LR	LR	14 51 37.7	
	comp=Z,931nm,18.6s,baz=5.5,slow=40					
	comp=Z,4.7nm,0.6s					
WB2	**Warramunga Arr**	**20.30 162**	P	**P**	**14 42 36.4**	**-0.8**
WR8	**Warramunga Arr**	**20.36 161**	P	**P**	**14 42 35.8**	**-2.1**
CMJI	**Cimerak**	**20.46 249**	P	Pn	14 42 43.0	+1.9
	comp=Z,199nm,1.1s					
LEM	**Lembang**	**20.95 252**	P	Pn	14 42 49.0	+2.0
	comp=Z,108nm,1.0s					
BBJI	**Bungbulang**	**21.10 251**	P	**P**	**14 42 49.6**	**+3.6**
DBJI	**Dramaga**	**21.71 254**	P	**P**	**14 42 57.2**	**+4.7**
	comp=Z,4μmcomp=Z,82nm,1.2s					
MBWA	**Marble Bar**	**21.86 200**	P	**P**	**14 42 55.3**	**+1.3**
	comp=Z,43nm,2.0s					
GUMO	**Guam**	**22.11 50**	LR	LR	14 51 05.6	
	comp=Z,206nm,21.7s,baz=230,slow=35					
PSAC2	**Pilbara Seismi**	**22.18 200**	P	**P**	**14 42 59.0**	**+1.6**
	comp=Z,33nm,1.8s					
SBJI	**Serang**	**22.20 255**	P	**P**	**14 43 01.7**	**+4.0**
	comp=Z,305nm,1.5s					
CGJI	**Cibinong**	**22.74 254**	P	**P**	**14 43 08.3**	**+4.8**
	comp=Z,106nm,1.1s					
QIS	**Mount Isa**	**23.01 150**	P	**P**	**14 43 07.2**	**+0.9**
	comp=Z,66nm,1.1s					
QIS	**Mount Isa**	**23.01 150**	P	**P**	**14 43 07.8**	**+1.5**
KLI	**Kotabumi**	**23.19 259**	P	**P**	**14 43 11.3**	**+3.1**
KASI	**Kota Agung**	**23.66 258**	P	**P**	**14 43 16.6**	**+3.7**
	comp=Z,820nmcomp=Z,94nm,1.1s					
AS31	**Alice Springs**	**23.71 166**	P	**P**	**14 43 12.2**	**-1.1**
ASAR	**Alice Springs**	**23.71 166**	P	**P**	**14 43 10.4**	**-2.9**
ASAR	**Alice Springs**	**23.71 166**	P	**P**	**14 43 12.1**	**-1.2**
	comp=Z,36nm,1.0s,baz=342,slow=8.6,SNR=111					
ASAR			PcP	**PcP**	**14 46 58.3**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=358,slow=3.1,SNR=3.3					
ASAR			S	**S**	**14 47 29.0**	**+0.4**
	comp=Z,13nm,1.1s,baz=348,slow=21,SNR=14					
	comp=Z,36nm,1.0s					
AS01	**Alice Springs**	**23.72 166**	P	**P**	**14 43 14.1**	**+0.7**
MDSI	**Maura Dua**	**23.79 260**	P	**P**	**14 43 16.2**	**+2.0**
	comp=Z,1μmcomp=Z,177nm,1.1s					
MTSU	**Mount Surprise**	**23.89 138**	P	**P**	**14 43 17.2**	**+2.1**
	comp=Z,11nm,0.8s					
MYKOM	**Kota Tinggi**	**23.95 276**	P	**P**	**14 43 13.2**	**-2.5**
MYKOM			IAmb	IAmb	14 43 22.6	
	comp=Z,48nm,1.0s					
LWLI	**Liwa**	**24.00 259**	P	**P**	**14 43 20.1**	**+3.8**
TWG	**Pinlang**	**24.15 345**	P	**P**	**14 43 13.7**	**-3.7**
TWG			IAmb	IAmb	14 43 19.7	
	comp=Z,44nm,0.7s					
WRKA	**Warakurna**	**24.30 179**	P	**P**	**14 43 19.6**	**+0.7**
	comp=Z,40nm,0.9s					
LHSI	**Lahat**	**24.35 262**	P	**P**	**14 43 23.0**	**+3.6**
	comp=Z,100nm,1.0s					
YULB	**Yu-li**	**24.64 346**	P	**P**	**14 43 23.6**	**+1.6**
TPUB	**Ta-pu**	**24.73 344**	P	**P**	**14 43 21.4**	**-1.3**
TPUB	**Ta-pu**	**24.73 344**	P	**P**	**14 43 23.5**	**+0.8**
MNAI	**Manna**	**24.98 261**	P	**P**	**14 43 29.0**	**+3.9**
SSLB	**Suanglung**	**25.11 345**	P	**P**	**14 43 25.3**	**-0.9**
KSI	**Kapahiang**	**25.25 263**	P	**P**	**14 43 30.8**	**+3.1**
	comp=Z,115nm,0.8s					
YHNB	**Yeheng**	**25.85 347**	P	**P**	**14 43 29.4**	**-3.5**
YHNB	**Yeheng**	**25.85 347**	P	**P**	**14 43 33.8**	**+0.8**
QIZ	**Qiongzhong**	**26.22 319**	P	**P**	**14 43 36.3**	**0.0**
QIZ			S	**S**	**14 48 08.2**	**-0.5**
QIZ			pmax	pmax		
	comp=Z,67nm,1.1s					
QIZ			pmax	pmax		
	comp=Z,440nm,3.6s					
QIZ			LR	LR		
	comp=Z,360nm,11.7s					
QIZ			LR	LR		
	comp=Z,270nm,8.9s					
QIZ			LR	LR		
	comp=Z,650nm,15.1s					
CTAO	**Charters Tower**	**26.56 138**	P	**P**	**14 43 37.8**	**-1.6**
CTAO	**Charters Tower**	**26.56 138**	P	**P**	**14 43 37.8**	**-1.6**
CTAO			pmax	pmax		
	comp=Z,20nm,1.1s					
IPM	**Ipoh**	**27.11 281**	P	**P**	**14 43 44.8**	**+0.4**
IPM			IAmb	IAmb	14 43 54.7	
	comp=Z,43nm,1.2s					
JOW	**Kunigami**	**27.28 1**	LR	LR	14 53 51.6	
	comp=Z,475nm,21.8s,baz=248,slow=35					
MEEK	**Meekatharra**	**27.32 198**	P	**P**	**14 43 49.6**	**+3.4**
SISI	**Saibi**	**28.60 268**	P	**P**	**14 44 01.5**	**+3.8**
	comp=Z,58nm,1.4s					
RPSI	**Rantau Prapat**	**28.94 277**	P	**P**	**14 44 00.2**	**-0.6**
PSI	**Prapat**	**28.95 277**	LR	LR	14 57 49.7	
	comp=Z,325nm,18.5s,baz=108,slow=41					
PSI	**Prapat**	**28.95 277**	P	**P**	**14 44 00.2**	**-0.8**
PSI			pmax	pmax		
	comp=Z,54nm,1.2s					
FORT	**Forrest**	**30.02 179**	P	**P**	**14 44 08.0**	**-2.1**
FORT			IAmb	IAmb	14 44 19.1	
	comp=Z,15nm,0.8s					
FORT	**Forrest**	**30.02 179**	P	**P**	**14 44 10.4**	**+0.4**
	comp=Z,23nm,0.8s					
GSI	**Gunungsitoli**	**30.17 274**	P	**P**	**14 44 07.9**	**-3.8**
GSI	**Gunungsitoli**	**30.17 274**	P	**P**	**14 44 12.6**	**+0.9**
GSI	**Gunungsitoli**	**30.17 274**	P	**P**	**14 44 11.5**	**-0.2**
	comp=Z,56nm,1.2s					
QLP	**Quilpie**	**30.35 150**	P	**P**	**14 44 15.0**	**+1.9**
	comp=Z,34nm,1.2s					
QLP	**Quilpie**	**30.35 150**	P	**P**	**14 44 15.4**	**+2.3**
KMBL	**Kambalda**	**31.09 190**	P	**P**	**14 44 20.2**	**+0.6**
	comp=Z,16nm,1.1s					
WHN	**Wuhan**	**33.47 339**	P	**P**	**14 44 43.1**	**+2.7**
WHN			pP	**sP**	**14 44 46.1**	**+1.5**
WHN			pmax	pmax		
	comp=Z,200nm,1.2s					
NJ2	**Nanjing**	**33.53 346**	*eP*	**P**	**14 44 42.7**	**+1.7**
NJ2			pmax	pmax		
	comp=Z,29nm,0.8s					
NWAO	**Narrogin (SRO)**	**33.63 196**	LR	LR	15 00 11.1	
	comp=Z,198nm,19.4s,baz=104,slow=40					
JNU	**Nakatsue**	**33.68 5**	LR	LR	14 57 42.9	
	comp=Z,475nm,20.5s,baz=182,slow=35					
GYA	**Guiyang**	**33.68 325**	P	**P**	**14 44 44.1**	**+1.6**
GYA			S	**S**	**14 50 07.1**	**+1.3**
GYA			pmax	pmax		
	comp=Z,48nm,0.6s					
GYA			pmax	pmax		
	comp=Z,320nm,3.6s					
GYA			LR	LR		
	comp=Z,220nm,11.1s					
GYA			LR	LR		
	comp=Z,210nm,10.4s					
GYA			LR	LR		
	comp=Z,120nm,9.5s					
STKA	**Stephens Creek**	**33.77 158**	P	**P**	**14 44 43.9**	**+0.8**
	comp=Z,128nm,0.9s					
STKA	**Stephens Creek**	**33.77 158**	P	**P**	**14 44 41.3**	**-1.8**
	comp=Z,25nm,1.2s,baz=331,slow=7.2,SNR=13					
STKA			LR	LR	14 59 38.7	
	comp=Z,505nm,19.4s,baz=338,slow=38					
	comp=Z,25nm,1.2s					
STKA	**Stephens Creek**	**33.77 158**	P	**P**	**14 44 45.0**	**+1.9**
CMAR	**Chiang Mai Arr**	**34.01 305**	P	**P**	**14 44 44.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**34.01 305**	P	**P**	**14 44 44.0**	**-1.4**
	comp=Z,4.5nm,1.0s,baz=128,slow=7.4,SNR=23					
CMAR			PcP	**PcP**	**14 47 24.4**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=152,slow=2.3,SNR=5.1					
CMAR			LR	LR	15 00 52.4	
	comp=Z,68nm,18.6s,baz=115,slow=40					
	comp=Z,4.5nm,1.0s					
CMAR	**Chiang Mai Arr**	**34.01 305**	*i* P	**P**	**14 44 46.7**	**+1.3**
CMAR			pmax	pmax		
	comp=Z,4.0nm,1.0s					
CHTO	**Chiang Mai**	**34.19 306**	P	**P**	**14 44 45.0**	**-1.9**
CHTO			IAmb	IAmb	14 44 49.1	
	comp=Z,19nm,1.2s					
CHTO	**Chiang Mai**	**34.19 306**	P	**P**	**14 44 45.0**	**-1.9**
CHTO			pmax	pmax		
	comp=Z,19nm,1.2s					
HTT	**Hallett**	**34.32 163**	P	**P**	**14 44 47.9**	**0.0**
	comp=Z,8.2nm,1.0s					
HTT	**Hallett**	**34.32 163**	P	**P**	**14 44 49.8**	**+1.9**
KMI	**Kunming**	**35.16 318**	P	**P**	**14 44 57.6**	**+2.1**
KMI			S	**S**	**14 50 27.2**	**-1.8**
KMI			pmax	pmax		
	comp=Z,24nm,1.6s					
KMI			LR	LR		
	comp=Z,140nm,9.9s					
KMI			LR	LR		
	comp=Z,220nm,18.6s					
KMI			LR	LR		
	comp=Z,220nm,16.6s					
CMSA	**Cobar Meteorol**	**35.17 153**	P	**P**	**14 44 56.1**	**+0.9**
	comp=Z,36nm,1.8s					
ENH	**Enshi**	**35.26 332**	P	**P**	**14 44 56.3**	**+0.3**
PZH	**PanZhiHua**	**36.76 319**	P	**P**	**14 45 09.8**	**+0.7**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.7s					
PZH			pmax	pmax		
	comp=Z,110nm,4.9s					
TJN	**Taejon**	**36.79 360**	*eP*	**P**	**14 45 09.9**	**+0.9**
INU	**Inuyama**	**36.81 13**	P	**P**	**14 45 09.0**	**-0.2**
INU			IAmb	IAmb	14 45 15.8	
	comp=Z,28nm,1.1s					
ARMA	**Armidale**	**37.38 145**	P	**P**	**14 45 13.5**	**-0.8**
	comp=Z,24nm,1.8s					
LYN	**LuoYang**	**37.76 339**	P	**P**	**14 45 18.9**	**+1.6**
LYN			S	**S**	**14 51 11.0**	**+3.0**
LYN			pmax	pmax		
	comp=Z,33nm,1.1s					
LYN			pmax	pmax		
	comp=Z,130nm,8.2s					
LYN			LR	LR		
	comp=Z,220nm,21.0s					
LYN			LR	LR		
	comp=Z,240nm,17.9s					
LYN			LR	LR		
	comp=Z,480nm,24.7s					
KSRS	**Korea Array**	**37.87 0**	P	**P**	**14 45 16.1**	**-2.0**
	comp=Z,2.3nm,0.8s,baz=178,slow=12,SNR=6.2					
	comp=Z,2.3nm,0.8s					
TIA	**Tai'an**	**37.92 346**	P	**P**	**14 45 19.3**	**+0.7**
TIA			pmax	pmax		
	comp=Z,11nm,0.9s					
MJAR	**Matsushiro Arr**	**38.23 14**	P	**P**	**14 45 19.7**	**-1.5**
MJAR	**Matsushiro Arr**	**38.23 14**	P	**P**	**14 45 19.7**	**-1.5**
	comp=Z,5.4nm,1.0s,baz=181,slow=9.8,SNR=6.3					
	comp=Z,5.4nm,1.0s					
MJAR	**Matsushiro Arr**	**38.23 14**	P	**P**	**14 45 19.7**	**-1.5**
MJAR			pmax	pmax		
	comp=Z,7.0nm,1.1s					
MAJO	**Matsushiro**	**38.23 14**	P	**P**	**14 45 18.2**	**-2.9**
MAJO			IAmb	IAmb	14 45 25.2	
	comp=Z,36nm,1.5s					
MAJO	**Matsushiro**	**38.23 14**	P	**P**	**14 45 18.3**	**-2.9**
MAJO			pmax	pmax		
	comp=Z,36nm,1.5s					
XAN	**Xi'an**	**38.70 335**	P	**P**	**14 45 25.8**	**+0.5**
XAN			pmax	pmax		
	comp=Z,44nm,0.9s					
XAN			LR	LR		
	comp=Z,170nm,19.2s					
XAN			LR	LR		
	comp=Z,210nm,20.8s					
XAN			LR	LR		
	comp=Z,190nm,19.2s					
CD2	**Chengdu**	**38.71 326**	P	**P**	**14 45 26.6**	**+1.1**
CD2			S	**S**	**14 51 20.5**	**-2.1**
CD2			pmax	pmax		
	comp=Z,20nm,0.7s					
CD2			pmax	pmax		
	comp=Z,260nm,4.5s					
CD2			LR	LR		
	comp=Z,290nm,11.4s					
CD2			LR	LR		
	comp=Z,220nm,14.0s					
CD2			LR	LR		
	comp=Z,280nm,14.9s					
HNS	**HongShan**	**39.67 344**	P	**P**	**14 45 34.0**	**+0.7**
HNS			S	**S**	**14 51 35.1**	**-1.6**
HNS			pmax	pmax		
	comp=Z,15nm,0.9s					
HNS			LR	LR		
	comp=Z,97nm,14.3s					
HNS			LR	LR		
	comp=Z,210nm,16.1s					
HNS			LR	LR		
	comp=Z,190nm,18.6s					
CAN	**Canberra**	**39.85 152**	P	**P**	**14 45 37.0**	**+2.1**
JMM	**Marumori**	**40.15 16**	P	**P**	**14 45 34.8**	**-

HHC LR LR
comp=Z,130nm,15.3s
comp=Z,270nm,16.0s
BTO Baotou 44.05 341 *e*P **P** **14 46 12.3 +3.1**
BTO pP **sP** **14 46 17.3 +3.8**
BTO sP **pP** **14 46 19.3 +7.0**
BTO S **S** **14 52 47.2 +5.5**
BTO SS **SS** **14 55 52.0 -7.1**
BTO pmax pmax
comp=Z,13nm,0.7s
BTO pmax pmax
comp=Z,190nm,4.8s
BTO LR LR
comp=Z,240nm,10.3s
BTO LR LR
comp=Z,430nm,17.5s
BTO LR LR
comp=Z,290nm,14.7s
CN2 Changchun 44.25 358 P **P** **14 46 13.3 +2.7**
CN2 S **S** **14 52 45.2 +0.9**
CN2 SS **SS** **14 55 56.1 -6.6**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,18.0s
USRK Ussuriysk Ar. 44.77 4 P **P** **14 46 14.9 +0.1**
comp=Z,3.7nm,0.7s,baz=115,slow=7.6,SNR=5.0
USRK LR LR 15 02 16.9
comp=Z,147nm,21.0s,baz=201,slow=32
comp=Z,3.7nm,0.7s
MDJ Mudanjiang 45.05 2 P **P** **14 46 17.9 +0.9**
MDJ pP sP 14 46 21.4 +0.1
MDJ PcS **PcS** **14 51 54.7 +3.3**
MDJ S **S** **14 52 55.9 0.0**
MDJ pmax pmax
comp=Z,11nm,1.2s
MDJ LR LR
comp=Z,300nm,15.3s
MDJ LR LR
comp=Z,440nm,18.5s
XLT XiLinHaoTe 45.50 348 *e*P **P** **14 46 23.6 +2.9**
XLT pmax pmax
comp=Z,13nm,1.0s
LSA Lhasa 46.06 314 P **P** **14 46 27.7 +1.9**
LSA pmax pmax
comp=Z,25nm,1.0s
BNX BinXian 46.14 360 ⇑P **P** **14 46 28.5 +2.9**
BNX pmax pmax
comp=Z,8.0nm,0.9s
ASAJ Asahikawa 46.47 15 P **P** **14 46 28.9 +0.6**
comp=Z,9.9nm,1.2s,baz=227,slow=8.0,SNR=6.9
ASAJ LR LR 15 05 46.0
comp=Z,287nm,19.3s,baz=214,slow=36
comp=Z,9.9nm,1.2s
ASAJ Asahikawa 46.47 15 P **P** **14 46 26.8 -1.4**
ASAJ pmax pmax
comp=Z,31nm,1.2s
JKA Kamikawa-asahi 46.47 15 P **P** **14 46 26.8 -1.5**
GTA Gaotai 47.29 330 P **P** **14 46 36.5 +1.6**
GTA pP sP 14 46 40.6 +1.1
GTA S **S** **14 53 27.4 -1.2**
GTA pmax pmax
comp=Z,25nm,1.0s
GTA LR LR
comp=Z,220nm,16.7s
GTA LR LR
comp=Z,140nm,18.5s
GTA LR LR
comp=Z,220nm,19.3s
PALK Pallekele 47.51 280 LR LR 15 07 27.9
comp=Z,169nm,19.4s,baz=100,slow=37
PALK Pallekele 47.51 280⇑ *e*P **P** **14 46 37.5 +0.6**
PALK pmax pmax
comp=Z,12nm,1.0s
EVN Everest 48.39 309 P **P** **14 46 43.2 -1.0**
YSS Yuzhno-Sakhali 49.17 14 *de*P **P** **14 46 49.8 +0.7**
YSS pmax pmax
comp=Z,6.0nm,1.0s
KLR Kul'dur 49.76 3 LR LR 15 08 14.8
comp=Z,76nm,20.0s,baz=188,slow=36
HEH HeiHe 50.66 360 *e*P **P** **14 47 00.6 +0.2**
HEH pmax pmax
comp=Z,13nm,1.2s
HEH LR LR
comp=Z,280nm,20.8s
HEH LR LR
comp=Z,140nm,19.4s
HEH LR LR
comp=Z,420nm,20.7s
ULN Ulaanbaatar 51.51 342 P **P** **14 47 04.3 -2.7**
ULN lAmb lAmb 14 47 15.0
comp=Z,9.2nm,0.8s
ULN Ulaanbaatar 51.51 342⇓ *e*P **P** **14 47 07.8 +0.8**
ULN pmax pmax
comp=Z,9.0nm,1.0s
HYB Hyderabad 51.57 293 *e*P **P** **14 47 06.0 -1.8**
SONM Songino Array 51.68 342 P **P** **14 47 07.2 -1.1**
SONM Songino Array 51.68 342 P **P** **14 47 07.6 -0.7**
comp=Z,3.3nm,0.6s,baz=157,slow=8.2,SNR=25
SONM LR LR 15 10 27.5
comp=Z,97nm,19.6s,baz=155,slow=38
comp=Z,3.3nm,0.6s
SONM Songino Array 51.68 342 P **P** **14 47 07.2 -1.1**
SONM pmax pmax
comp=Z,16nm,1.4s
TYV Tymovskoe 52.83 12 *e*P **P** **14 47 20.3 +3.7**
TYV pmax pmax
comp=Z,100nm,4.1s
TYV pmax pmax
comp=Z,6.0nm,2.5s
ZEA Zeya 54.15 360 *e*P **P** **14 47 23.8 -2.4**
ZEA pmax pmax
comp=Z,10.0nm,1.9s
ZAK Zakamensk 54.90 341 *e*P **P** **14 47 31.6 -0.3**
ZAK pmax pmax
comp=Z,5.0nm,2.1s
IRK Irkutsk 56.22 343 *e*P **P** **14 47 40.2 -1.0**
IRK pmax pmax
comp=Z,28nm,2.2s
WMQ Urumqi 56.81 326 *e*P **P** **14 47 47.0 +1.3**
WMQ pmax pmax
comp=Z,35nm,0.9s
WMQ pmax pmax
comp=Z,110nm,3.7s
WMQ LR LR
comp=Z,120nm,21.7s
RPZ Rata Peaks 57.71 144 LR LR 15 12 37.0
comp=Z,170nm,21.3s,baz=320,slow=36
URZ Urewera 58.77 136 LR LR 15 14 25.5
comp=Z,124nm,18.5s,baz=306,slow=37
RAO Raoul Island 59.09 124 LR LR 15 11 18.9
comp=Z,72nm,20.9s,baz=79,slow=34
PEA0B Petropavlovsk- 59.09 21⇓ *e*P **P** **14 48 01.9 +0.5**
PETK Petropavlovsk- 59.09 21 P **P** **14 47 60.0 -1.5**
PETK Petropavlovsk- 59.09 21 P **P** **14 48 01.5 +0.1**
comp=Z,6.5nm,0.8s,baz=196,slow=4.7,SNR=11
PETK LR LR 15 11 15.2
comp=Z,64nm,21.2s,baz=223,slow=34
comp=Z,6.5nm,0.8s
BOD Bodaibo 59.26 352 *e*P **P** **14 48 02.3 -0.2**
PET Petropavlovsk 59.36 21 P **P** **14 48 01.7 -1.5**
NIL Nilore 61.35 309 P **P** **14 48 15.8 -1.6**
NIL lAmb lAmb 14 48 34.6
comp=Z,11nm,0.8s
NIL Nilore 61.35 309 P **P** **14 48 15.8 -1.6**
NIL pmax pmax
comp=Z,11nm,0.8s
MK31 Makanchi Array 61.65 326 *de*P **P** **14 48 19.5 +0.4**
MKAR Makanchi Array 61.65 326 P **P** **14 48 18.3 -0.8**
MKAR Makanchi Array 61.65 326 P **P** **14 48 19.1 0.0**
comp=Z,5.2nm,0.6s,baz=116,slow=8.2,SNR=53
MKAR LR LR 15 16 44.0
comp=Z,104nm,19.5s,baz=105,slow=38
comp=Z,5.2nm,0.6s
KSH Kashi 61.79 316 P **P** **14 48 22.1 +1.8**
KSH pP sP 14 48 27.3 +2.3
KSH pmax pmax
comp=Z,13nm,1.0s
MAKZ Makanchi 61.83 326 **P** **14 48 20.1 -0.2**
MAKZ lAmb lAmb 14 48 32.1
comp=Z,12nm,0.8s
MAKZ Makanchi 61.83 326 P **P** **14 48 20.1 -0.2**
MAKZ pmax pmax
comp=Z,12nm,0.8s
YAK Yakutsk 62.49 1 P **P** **14 48 22.8 -1.5**
YAK Yakutsk 62.49 1 P **P** **14 48 24.6 +0.3**
comp=Z,21nm,0.7s,baz=154,slow=8.5,SNR=12
YAK LR LR 15 14 32.4
comp=Z,118nm,22.0s,baz=180,slow=35
comp=Z,21nm,0.7s
YAK Yakutsk 62.49 1 *e*P **P** **14 48 24.8 +0.5**
YAK *e**PP **sP** **14 48 28.9 +0.2**
YAK *e* 14 49 04.2
YAK *e* 14 50 42.1
YAK *e*S **S** **14 56 51.7 +0.2**
YAK *e* 14 58 17.1
YAK *e*SS **SS** **15 00 55.1 -0.5**
YAK *e*SSS SSS 15 03 44.7
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=Z,51nm,3.2s
YAK pmax pmax
comp=E,15nm,3.0s
YAK pmax pmax
comp=N,32nm,3.0s
YAK smax smax
comp=E,24nm,2.8s
YAK smax smax
comp=N,10.0nm,1.5s
YAK MLR MLR
comp=Z,118nm,19.0s
YAK MLR MLR
comp=N,74nm,19.0s
MA2 Magadan 62.66 13 P **P** **14 48 25.3 -0.3**
MA2 Magadan 62.66 13 LR LR 15 13 01.2
comp=N,114nm,21.4s,baz=206,slow=34
MA2 Magadan 62.66 13 P **P** **14 48 25.3 -0.3**
MA2 pmax pmax
comp=Z,30nm,1.0s
AAK Ala-Archa 64.21 319 P **P** **14 48 34.1 -2.3**
comp=Z,1.7nm,0.3s,baz=108,slow=9.2,SNR=6.2
AAK LR LR 15 19 58.5
comp=Z,67nm,21.3s,baz=101,slow=39
comp=Z,1.7nm,0.3s
AAK Ala-Archa 64.21 319⇑ *e*P **P** **14 48 37.9 +1.5**
AAK pmax pmax
comp=Z,17nm,2.0s
ZAA0 Zalesovo Array 64.86 334 **P** **14 48 38.8 -1.4**
ZAA0 lAmb lAmb 14 48 46.5
comp=Z,12nm,1.1s
ZALV Zalesovo Beam 64.86 334 **P** **14 48 39.1 -1.0**
ZALV Zalesovo Beam 64.86 334 P **P** **14 48 38.9 -1.3**
comp=Z,3.7nm,0.9s,baz=105,slow=5.1,SNR=10
ZALV PP **PP** **14 51 04.5 +1.6**
comp=Z,0.4nm,0.4s,baz=125,slow=7.6,SNR=2.2
comp=Z,3.7nm,0.9s
ZALV Zalesovo Beam 64.86 334 *i* P **P** **14 48 39.5 -0.7**
ZALV pmax pmax
comp=Z,8.0nm,1.0s
KBL Kabul 64.93 309 P **P** **14 48 40.4 -1.0**
KBL lAmb lAmb 14 48 54.1
comp=Z,12nm,0.9s
KBL Kabul 64.93 309 P **P** **14 48 40.4 -1.0**
KBL pmax pmax
comp=Z,12nm,0.9s
GAR Garm 65.57 314 P **P** **14 48 44.5 -0.7**
SHEM Shemya Is, Ala 65.73 29 LR LR 15 13 52.6
comp=Z,62nm,21.4s,baz=264,slow=33
KURBB Kurchatov Arra 65.89 328 P **P** **14 48 46.0 -1.0**
comp=Z,9.6nm,0.8s,baz=125,slow=5.8,SNR=57
KURBB PP **PP** **14 51 12.4 +0.4**
comp=Z,1.3nm,1.0s,baz=123,slow=10,SNR=5.2
comp=Z,9.6nm,0.8s
KURK Kurchatov 65.89 328 P **P** **14 48 46.7 -0.3**
KURK Kurchatov 65.89 328 *de*P **P** **14 48 47.0 +0.1**
KURK pmax pmax
comp=Z,19nm,1.0s
SEY Seymchan 66.03 12 P **P** **14 48 47.4 -0.2**
comp=Z,4.8nm,0.9s,baz=216,slow=6.8,SNR=14
SEY LR LR 15 17 06.1
comp=Z,64nm,20.2s,baz=200,slow=36
comp=Z,4.8nm,0.9s
SEY Seymchan 66.03 12⇓ *e*P **P** **14 48 49.6 +2.0**
SEY pmax pmax
comp=Z,17nm,1.2s
CASY Casey 66.67 187 P **P** **14 48 50.9 -0.7**
CASY lAmb lAmb 14 48 54.0
comp=Z,11nm,1.2s
KK31 Karatay Array 67.05 318 P **P** **14 48 52.2 -2.3**
KK31 lAmb lAmb 14 49 00.2
comp=Z,9.8nm,1.0s
KK31 Karatay Array 67.05 318 P **P** **14 48 52.3 -2.3**
KK31 pmax pmax
comp=Z,10.0nm,1.0s
KKAR Karatay Array 67.05 318 P **P** **14 48 53.3 -1.3**
KKAR Karatay Array 67.05 318 P **P** **14 48 53.3 -1.3**
BVAR Borovoye Array 71.45 328 P **P** **14 49 20.8 -0.8**
comp=Z,3.6nm,0.8s
BVAR LR LR 15 21 07.2
comp=Z,48nm,21.6s,baz=119,slow=36
comp=Z,3.6nm,0.8s
BRVK Borovoye 71.53 328 P **P** **14 49 20.5 -1.5**
BRVK lAmb lAmb 14 49 41.7
comp=Z,7.5nm,0.8s
BRVK Borovoye 71.53 328 *de*P **P** **14 49 22.0 -0.1**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
TIXI Tiksi 72.13 0 P **P** **14 49 25.0 -0.3**
TIXI lAmb lAmb 14 49 32.5
comp=Z,12nm,0.8s
TIXI Tiksi 72.13 0 P **P** **14 49 24.5 -0.8**
comp=Z,4.7nm,0.6s,baz=202,slow=2.7,SNR=17
TIXI LR LR 15 21 57.1
comp=Z,92nm,21.9s,baz=189,slow=37
comp=Z,4.7nm,0.6s
TIXI Tiksi 72.13 0⇓ *e*P **P** **14 49 25.1 -0.2**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
NIKH Nikolski High 74.82 34 P **P** **14 49 41.6 +0.1**
baz=248
NRIK Noril'sk 74.83 346 P **P** **14 49 40.8 -0.5**
NRIK lAmb lAmb 14 49 48.4
comp=Z,12nm,0.8s
NRIK Noril'sk 74.83 346 P **P** **14 49 41.0 -0.3**
comp=Z,8.4nm,0.6s,baz=146,slow=6.5,SNR=9.4
NRIK LR LR 15 25 31.2
comp=Z,92nm,19.2s,baz=144,slow=38
comp=Z,8.4nm,0.6s
NRIK Noril'sk 74.83 346 P **P** **14 49 40.8 -0.5**
NRIK pmax pmax
comp=Z,12nm,0.8s
SPIA Saint Paul Isl 75.74 30 P **P** **14 49 46.7 0.0**
baz=246
P08K Saint George I 75.85 30 P **P** **14 49 47.6 +0.2**
baz=246
AB31 Akbulak array 76.09 321 P **P** **14 49 48.4 -0.5**
AB31 lAmb lAmb 14 49 54.1
comp=Z,8.2nm,1.1s
UNV Unalaska Valle 76.44 34 P **P** **14 49 50.9 +0.1**
baz=250
AKTO Aktyubinsk 77.63 322 P **P** **14 49 56.6 -1.0**
comp=Z,5.1nm,0.6s,baz=55,slow=4.0,SNR=14
comp=Z,5.1nm,0.6s
GAMB Gambell 77.95 23 P **P** **14 49 59.5 +0.4**
baz=243
SVE Sverdlovsk 78.13 329 *e*P **P** **14 50 00.1 -0.1**
SVE pmax pmax
comp=Z,17nm,1.4s
M11K Mekoryuk 78.93 28 P **P** **14 50 04.6 +0.1**
baz=249
VNDA Vanda 79.04 173 **P** **14 50 04.3 -0.5**
VNDA Vanda 79.04 173 LR LR 15 24 56.3
comp=Z,127nm,19.7s,baz=348,slow=36
VNDA Vanda 79.04 173 P **P** **14 50 04.4 -0.5**
VNDA pmax pmax
comp=Z,5.0nm,1.0s
ARTI Arti 79.17 328 *c* *i*P **P** **14 50 04.9 -1.1**
ARTI 14 53 03.0
ARTI S **S** **15 00 03.8 -1.9**
ARTI pmax pmax
comp=Z,5.0nm,0.9s
S12K Black Hills 79.47 33 P **P** **14 50 07.9 +0.3**
baz=253
MAW Mawson 80.06 201 P **P** **14 50 08.0 -2.5**
comp=Z,2.0nm,0.8s,baz=30,slow=4.2,SNR=5.2
MAW LR LR 15 23 24.1
comp=Z,72nm,19.1s,baz=64,slow=34
comp=Z,2.0nm,0.8s
K13K Kusilvak Mount 80.18 26 P **P** **14 50 11.5 +0.2**
baz=250
TNA Tin City 80.19 22 P **P** **14 50 11.8 +0.5**
baz=246
SDPT Sand Point 80.24 33 P **P** **14 50 11.7 -0.1**
baz=255
M13K Dall Lake 80.27 28 P **P** **14 50 12.1 +0.3**
baz=251
CHNA Chernabura Isl 80.60 34 P **P** **14 50 13.9 +0.1**
baz=255
F14K Arctic Creek 80.77 23 P **P** **14 50 15.1 +0.6**
baz=248
ANM Nome 80.81 24 P **P** **14 50 15.2 +0.5**
baz=249
L14K Kuka Creek 80.87 27 P **P** **14 50 15.0 0.0**
baz=252
N14K Kuskokwak Cree 80.91 29 P **P** **14 50 14.4 -0.8**
baz=253
O14K Tigyukauivet M 80.92 29 P **P** **14 50 15.6 +0.2**
baz=253
S14K Fog Glacier 80.99 33 P **P** **14 50 15.4 -0.6**
baz=255
M14K Bethel 81.02 28 P **P** **14 50 15.8 0.0**
baz=252
G15K Niukluk 81.50 24 P **P** **14 50 18.0 -0.3**
baz=250
F15K North Star Dit 81.50 23 P **P** **14 50 17.9 -0.4**
baz=249
L15K Ungalak Mounta 81.52 27 P **P** **14 50 18.3 -0.2**
baz=253
M15K Kasigluk River 81.61 28 P **P** **14 50 18.5 -0.4**
baz=254
O15K Ungalikthiuk R 81.61 30 P **P** **14 50 18.6 -0.4**
baz=254
CHGN Chignik 81.61 33 P **P** **14 50 19.1 +0.1**
baz=256
K15K Wolf Creek Mou 81.69 26 P **P** **14 50 19.3 -0.1**
baz=253
N15K Kwethluk River 81.74 29 P **P** **14 50 19.5 -0.3**
baz=254
H16K Elim 82.10 24 P **P** **14 50 21.4 -0.1**
baz=252
C16K Lisburne Hills 82.19 20 P **P** **14 50 22.0 +0.1**
baz=248
G16K Koyuk River 82.30 23 P **P** **14 50 22.8 +0.3**
baz=251
J16K Anvik River 82.38 26 P **P** **14 50 23.3 +0.3**
baz=253
L16K Owhat River 82.45 27 lAmb lAmb 14 50 33.0
comp=Z,27nm,1.5s
L16K Owhat River 82.45 27 P **P** **14 50 23.6 +0.3**
baz=254
N16K Nishlik Lake 82.46 29 P **P** **14 50 22.9 -0.6**
baz=255
P16K Nushagak River 82.48 30 P **P** **14 50 23.1 -0.5**
baz=256
M16K Timber Creek 82.51 28 P **P** **14 50 23.7 0.0**
baz=255
I17K Unalakleet 82.52 25 P **P** **14 50 23.8 +0.1**
baz=253
O16K Kokwok River B 82.57 30 lAmb lAmb 14 50 32.5
comp=Z,13nm,1.1s
O16K Kokwok River B 82.57 30 P **P** **14 50 24.4 +0.3**
baz=256
D17K Noatak River 82.78 21 P **P** **14 50 25.4 +0.4**
baz=250,SNR=6.2
AKT Akhty 82.87 312 *e*P **P** **14 50 24.9 -1.3**
AKT *e* 14 50 30.2
AKT pmax pmax
comp=Z,8.0nm,0.8s
PPT2 Papeete2 82.90 108 *e*LR LR 15 16 29.7
comp=Z,179nm,25.5s
RDOG Red Dog Mine 82.96 21 P **P** **14 50 26.1 +0.1**
baz=250
R17L Mt. Peulik Vol 83.01 32 P **P** **14 50 26.5 +0.1**
baz=258
C17K DeLong Mountai 83.01 20 P **P** **14 50 27.1 +0.9**
baz=250
G17K Kiwalik Mounta 83.01 24 P **P** **14 50 27.0 +0.8**
baz=253,SNR=5.8
CHIR Chirikof Islan 83.03 34 P **P** **14 50 25.8 -0.7**
baz=259
E17K Hotham Inlet 83.04 22 P **P** **14 50 26.3 -0.1**
baz=252
F17K Baldwin Pennin 83.06 23 P **P** **14 50 26.1 -0.3**
baz=252
J17K VABM Dome 83.08 26 P **P** **14 50 26.8 +0.1**
baz=255,SNR=15
L17K Donlin 83.10 27 P **P** **14 50 26.7 -0.1**
baz=256,SNR=5.3
O17K Koliganek Bris 83.10 30 P **P** **14 50 27.1 +0.3**
baz=257
H17K Granite Mounta 83.14 24 P **P** **14 50 27.6 +0.6**
baz=254,SNR=6.7
TBI Tubuai 83.20 113 *e*LR LR 15 16 32.4
comp=Z,739nm,26.8s
N17K Nushagak Hills 83.23 29 P **P** **14 50 27.8 +0.3**
baz=257
K17K Iditarod 83.24 26 P **P** **14 50 28.0 +0.5**
baz=255
P17K Kvichak River 83.30 30 P **P** **14 50 27.9 +0.1**
baz=258
M17K Holitna River 83.32 28 P **P** **14 50 28.0 +0.1**
baz=256,SNR=6.3
Q17K Contact Creek 83.39 31 P **P** **14 50 28.4 0.0**
baz=258
E18K Tukpahlearik C 83.59 22 P **P** **14 50 29.9 +0.7**
baz=253
F18K Selawik 83.72 23 P **P** **14 50 30.4 +0.6**
baz=254
C18K Utukok River 83.75 20 P **P** **14 50 30.6 +0.5**
baz=252
H18K Honhosa River 83.84 24 P **P** **14 50 30.8 +0.3**
baz=255
L18K Granite Mounta 83.85 27 P **P** **14 50 31.2 +0.5**
baz=257,SNR=27
N18K Kilae Creek 83.89 29 P **P** **14 50 30.9 0.0**
baz=258,SNR=7.2
G18K Tagagawik 83.91 23 P **P** **14 50 30.3 -0.6**
baz=255
Q18K Katmai Hardscr 83.92 31 P **P** **14 50 31.0 -0.2**
baz=259
P18K Big Mountain, 83.95 30 P **P** **14 50 31.2 0.0**
baz=258
SII Sitkinak Islan 83.96 33 P **P** **14 50 31.3 -0.1**
baz=260
O18K Koktuh Hills 84.05 30 P **P** **14 50 31.6 -0.1**
baz=258
M18K Stony River 84.09 28 P **P** **14 50 32.3 +0.4**
baz=258,SNR=18
J18K Innoko River 84.12 26 P **P** **14 50 32.7 +0.7**
baz=257
GCSA Galena City Sc 84.35 25 P **P** **14 50 33.6 +0.5**
baz=256
KIRV Kirov 84.40 329⇓ *e*P **P** **14 50 33.6 +0.2**
BELG Belogornoye 84.40 323⇓ *e*P **P** **14 50 33.4 -0.2**
BELG pmax pmax
comp=Z,5.0nm,1.1s
C19K Lookout Ridge 84.44 20 lAmb lAmb 14 50 43.2
comp=Z,12nm,0.8s
C19K Lookout Ridge 84.44 20 P **P** **14 50 33.9 +0.3**
baz=254
F19K Shaleruckik Mo 84.50 23 P **P** **14 50 34.1 +0.3**
baz=256
OHAK Old Harbor 84.56 32 P **P** **14 50 34.4 +0.1**
baz=260
N19K Bonanza Creek 84.59 29 P **P** **14 50 34.0 -0.6**
baz=259,SNR=19
G19K Purcell Mounta 84.59 23 P **P** **14 50 34.4 0.0**
baz=256,SNR=8.5
Q19K Cape Douglas, 84.66 31 P **P** **14 50 34.6 -0.3**
baz=260
L19K White Mountain 84.68 27 P **P** **14 50 34.6 -0.3**
baz=259
H19K Roundabout Mou 84.71 24 lAmb lAmb 14 50 45.4
comp=Z,19nm,1.5s
H19K Roundabout Mou 84.71 24 P **P** **14 50 34.7 -0.2**
baz=257
J19K Poorman 84.71 26 P **P** **14 50 35.0 0.0**
baz=258
D19K Kuna River 84.80 21 P **P** **14 50 35.4 0.0**
baz=255
M19K Big River Lodg 84.84 28 P **P** **14 50 35.9 +0.1**
baz=259

E19K	Redstone River	84.86	22	P	P	14 50 35.7	+0.1
	baz=256						
P19K	Oil Pt	85.00	30	P	P	14 50 36.0	-0.5
	baz=260						
KDAK	Kodiak Island	85.03	32	LR	LR	15 23 26.6	
	comp=Z,63nm,21.2s,baz=238,slow=32						
KDAK	Kodiak Island	85.03	32	P	P	14 50 36.1	-0.6
	baz=261						
L20K	Farewell, AK	85.19	27	P	P	14 50 37.0	-0.5
	baz=259						
Q20K	Shuyak Island	85.25	31	P	P	14 50 37.3	-0.5
	baz=261						
K20K	Telida	85.26	26	P	P	14 50 37.7	-0.1
	baz=259						
H20K	Anotleneega Mo	85.34	24	P	P	14 50 38.1	0.0
	baz=258						
I20K	Naaghedeneel	85.36	25	P	P	14 50 37.9	-0.3
	baz=259						
O20K	Slope Mountain	85.37	30	P	P	14 50 38.6	+0.1
	baz=261						
D20K	Etivluk River	85.38	21	P	P	14 50 38.6	+0.3
	baz=256						
J20K	Nowinta River	85.39	25	P	P	14 50 38.6	+0.2
	baz=259						
M20K	Styx River	85.43	28	IAmb	IAmb	14 50 50.2	
	comp=Z,18nm,1.4s						
M20K	Styx River	85.43	28	P	P	14 50 38.8	0.0
	baz=260						
E20K	Nigu River	85.43	21	P	P	14 50 38.8	+0.2
	baz=257						
B20K	Meade River	85.51	19	P	P	14 50 38.9	0.0
	baz=256						
HOM	Homer	85.80	30	P	P	14 50 40.4	0.0
	baz=262						
A21K	Barrow	86.00	18	P	P	14 50 41.4	+0.2
	baz=256						
PPLA	Purkeypile	86.03	27	P	P	14 50 41.4	-0.4
	baz=261						
G21K	Allakaket	86.09	23	P	P	14 50 41.4	-0.5
	baz=259						
C21K	Knifeblade Rid	86.13	21	P	P	14 50 42.0	+0.1
	baz=258						
CHUM	Lake Minchumin	86.13	26	P	P	14 50 42.3	+0.3
	baz=261						
GEVA	Gevas	86.14	308		P	14 50 40.6	-2.4
GEVA				IAmb	IAmb	14 50 49.8	
	comp=Z,18nm,1.2s						
CAST	Castle Rocks	86.16	26	P	P	14 50 42.2	0.0
	baz=261						
SKT	Skwentna	86.19	28	IAmb	IAmb	14 50 49.9	
	comp=Z,7.2nm,1.0s						
SKT	Skwentna	86.19	28	P	P	14 50 42.5	+0.1
	baz=262						
CAPN	Captain Cook N	86.20	29	P	P	14 50 42.3	-0.1
	baz=262						
H21K	Melozitna Rive	86.22	24	P	P	14 50 42.9	+0.4
	baz=260						
F21K	Alatna River	86.23	23	P	P	14 50 42.6	+0.1
	baz=259						
E21K	Killik River	86.27	21	P	P	14 50 42.3	-0.5
	baz=259						
B21K	Ikpikpuk River	86.28	20	P	P	14 50 42.9	+0.2
	baz=258						
A22K	Sinclair Lake	86.45	19	P	P	14 50 43.8	+0.4
	baz=258						
SUA	Susitna One	86.49	28	P	P	14 50 44.3	+0.3
	baz=262						
KBZ	Khabaz	86.64	314	P	P	14 50 44.6	-0.4
	comp=Z,1.7nm,0.8s,baz=149,slow=7.4,SNR=4.6						
KBZ				LR	LR	15 35 10.9	
	comp=Z,22nm,18.2s,baz=64,slow=40 comp=Z,1.7nm,0.8s						
KBZ	Khabaz	86.64	314	eP	P	14 50 45.6	+0.6
BPAW	Bear Paw Mtn.	86.74	26	P	P	14 50 44.8	-0.3
	baz=262						
F22K	John River	86.77	22	P	P	14 50 45.0	-0.1
	baz=261						
KIV	Kislovodsk	86.80	314	eP	P	14 50 47.2	+1.3
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,24nm,20.0s						
D22K	Ayikyak River	86.82	21	P	P	14 50 45.4	0.0
	baz=260						
M22K	Willow	86.82	28	P	P	14 50 45.5	0.0
	baz=263						
B22K	Teshekpuk Lake	86.83	19	P	P	14 50 45.5	+0.2
	baz=259						
CUT	Chulitna	86.83	28	P	P	14 50 46.0	+0.5
	baz=263						
H22K	Ishtalitna Cre	86.84	24	P	P	14 50 45.6	0.0
	baz=263						
O22K	Cooper Landing	86.86	29	P	P	14 50 45.9	+0.2
	baz=263						
RC01	Rabbit Creek A	86.92	29	P	P	14 50 46.1	+0.1
	baz=263						
G22K	Bettles	86.94	23	P	P	14 50 46.2	+0.2
	baz=261						
SEW	Seward	86.95	30	P	P	14 50 46.2	+0.1
	baz=264						
TRF	Thorofare Moun	86.96	26	P	P	14 50 46.3	-0.1
	baz=263						
MLY	Manley	86.98	25	P	P	14 50 46.4	+0.1
	baz=262						
E22K	Anaktuvuk Pass	87.01	22	IAmb	IAmb	14 50 54.7	
	comp=Z,8.5nm,1.1s						
E22K	Anaktuvuk Pass	87.01	22	P	P	14 50 46.7	+0.3
	baz=261						
PMR	Palmer	87.27	28	IAmb	IAmb	14 50 55.7	
	comp=Z,8.9nm,1.0s						
PMR	Palmer	87.27	28	P	P	14 50 47.9	+0.2
	baz=264						
COLD	Coldfoot	87.49	23	P	P	14 50 48.6	0.0
	baz=262,SNR=7.2						
G23K	Bananza Creek	87.49	23	IAmb	IAmb	14 50 57.0	
	comp=Z,6.8nm,0.9s						
G23K	Bananza Creek	87.49	23	P	P	14 50 49.0	+0.2
	baz=263,SNR=7.0						
D23K	Nanushuk River	87.55	21	IAmb	IAmb	14 50 57.5	
	comp=Z,7.5nm,1.1s						
D23K	Nanushuk River	87.55	21	P	P	14 50 49.6	+0.7
	baz=262,SNR=5.1						
I23K	Minto, Yukon-K	87.57	25	P	P	14 50 49.7	+0.6
	baz=263,SNR=8.2						
KNK	Knik Glacier	87.57	29	P	P	14 50 49.5	+0.3
	baz=264						
H23K	Yukon River	87.57	24	P	P	14 50 49.1	0.0
	baz=263,SNR=6.3						
PWL	Port Wells	87.58	29	P	P	14 50 49.1	-0.1
	baz=264						
MCK	McKinley	87.59	26	P	P	14 50 49.0	-0.2
	baz=264						
RND	Reindeer	87.60	27	IAmb	IAmb	14 50 56.1	
	comp=Z,8.1nm,0.9s						
NEA2	Nenana	87.63	25	P	P	14 50 49.7	+0.3
	baz=264						
WAT1	Susitna Watana	87.67	27	P	P	14 50 49.4	-0.3
	baz=264						
C23K	Itkillik River	87.69	20	IAmb	IAmb	14 50 56.9	
	comp=Z,5.3nm,0.9s						
C23K	Itkillik River	87.69	20	P	P	14 50 49.9	+0.3
	baz=262						
E23K	Chandalar	87.81	22	IAmb	IAmb	14 51 04.0	
	comp=Z,9.2nm,0.9s						
E23K	Chandalar	87.81	22	P	P	14 50 49.9	-0.4
	baz=263,SNR=7.4						
TOLK	Toolik Lake Re	87.90	21	IAmb	IAmb	14 50 58.7	
	comp=Z,5.2nm,0.9s						
TOLK	Toolik Lake Re	87.90	21	P	P	14 50 51.2	+0.5
	baz=263						
M23K	Glacier View	87.96	28	P	P	14 50 50.7	-0.3
	baz=265						
P23K	Montague Islan	87.96	30	P	P	14 50 50.5	-0.5
	baz=265						
WAT6	Susitna Watana	88.02	27	P	P	14 50 51.2	-0.3
	baz=265						
SCM	Sheep Creek Mo	88.15	28	P	P	14 50 51.3	-0.7
	baz=265						
CCB	Clear Creek Bu	88.18	25	IAmb	IAmb	14 50 58.5	
	comp=Z,9.0nm,1.1s						
GLI	Glacier Island	88.18	29	P	P	14 50 52.3	+0.2
	baz=266						
DHY	Denali Highway	88.23	27	P	P	14 50 53.2	+0.8
	baz=265						
D24K	Happy Valley	88.23	21	P	P	14 50 53.4	+1.2
	baz=264						
E24K	Your Creek	88.24	22	P	P	14 50 53.4	+1.1
	baz=264						
H24K	Noodor Dome	88.26	24	IAmb	IAmb	14 51 00.6	
	comp=Z,7.1nm,0.9s						
H24K	Noodor Dome	88.26	24	P	P	14 50 52.8	+0.4
	baz=265,SNR=6.5						
F24K	Squaw Lake	88.41	23	P	P	14 50 53.1	0.0
	baz=265						
Q23K	Middleton Isla	88.45	31	P	P	14 50 53.1	-0.2
	baz=266						
G24K	Hadweenzic Riv	88.50	23	P	P	14 50 53.8	+0.3
	baz=265,SNR=5.1						
HDA	Harding Lake	88.53	26	P	P	14 50 53.3	-0.4
	baz=266						
ILAR	Eielson Array	88.58	25	P	P	14 50 52.6	-1.3
	comp=Z,0.7nm,1.0s,baz=246,slow=4.3,SNR=6.5 comp=Z,0.7nm,1.0s						
M24K	Tolsona, Glenn	88.71	28	P	P	14 50 54.3	-0.4
	baz=266						
SYO	Syowa Base	88.76	201⇑	ePcP	PcP	14 50 55.7	-0.5
SYO	Syowa Base	88.76	201⇑	epP	pP	14 50 58.4	+0.5
KLU	Klutina	88.79	29	P	P	14 50 54.2	-0.9
	baz=266						
EYAK	Cordova Ski Ar	88.82	30	P	P	14 50 55.0	-0.1
	baz=267						
K24K	Donnelly Dome	89.00	26	P	P	14 50 55.3	-0.6
	baz=267						
G25K	Bearman Lake	89.05	23	P	P	14 50 55.7	-0.3
	baz=266						
PAX	Paxson	89.09	27	IAmb	IAmb	14 51 04.3	
	comp=Z,8.1nm,1.2s						
PAX	Paxson	89.09	27	P	P	14 50 56.4	0.0
	baz=267						
D25K	Kavik River	89.12	21	P	P	14 50 56.2	-0.2
	baz=266						
H25L	Birch Creek	89.13	24	P	P	14 50 57.1	+0.7
	baz=266,SNR=5.6						
HARP	HAARP	89.20	28	P	P	14 50 56.9	0.0
	baz=267						
PRP	Porcupine Dome	89.20	25	P	P	14 50 56.6	-0.4
	baz=267						
J25K	Salcha River,	89.22	26	P	P	14 50 56.5	-0.5
	baz=267						
F25K	Christian Rive	89.28	23	P	P	14 50 56.9	-0.2
	baz=267						
E25K	Arctic Village	89.33	22	P	P	14 50 57.4	0.0
	baz=267						
QSPA	South Pole Qui	89.33	180	P	P	14 50 57.4	-0.2
	comp=Z,4.4nm,1.0s,baz=348,slow=3.3,SNR=12						
QSPA				LR	LR	15 31 42.1	
	comp=Z,112nm,19.5s,baz=358,slow=36 comp=Z,4.4nm,1.0s						
BMRM	Bremner River	89.40	29	P	P	14 50 57.5	-0.4
	baz=268						
RIDG	Independent Ri	89.41	26	IAmb	IAmb	14 51 05.2	
	comp=Z,9.6nm,1.0s						
RIDG	Independent Ri	89.41	26	P	P	14 50 57.2	-0.7
	baz=267						
N25K	Chitina, Valde	89.43	29	P	P	14 50 57.1	-0.9
	baz=268						
KAIM	Kayak Island	89.46	30	P	P	14 50 58.1	0.0
	baz=268						
C26K	Camden Bay	89.66	20	P	P	14 50 58.9	+0.1
	baz=267						
SCRK	Sand Creek	89.80	26	P	P	14 50 59.7	-0.1
	baz=268						
F26K	Sheenjek River	89.85	22	P	P	14 50 59.8	-0.1
	baz=268						
G26K	Porcupine Rive	89.97	23	P	P	14 51 00.8	+0.5
	baz=268						
J26L	Joseph Creek	90.00	26	IAmb	IAmb	14 51 08.1	
	comp=Z,6.8nm,0.8s						
J26L	Joseph Creek	90.00	26	P	P	14 51 01.0	+0.4
	baz=269,SNR=6.8						
L26K	Log Cabin Wild	90.06	27	P	P	14 51 01.1	+0.2
	baz=269						
C27K	Jago River	90.07	20	P	P	14 51 01.3	+0.5
	baz=268						
CRQE	Cirque	90.14	29	P	P	14 51 01.9	+0.5
	baz=269						
MCARA	McCarthy VSAT	90.18	29	P	P	14 51 02.0	+0.5
	baz=269						
I26K	Coal Creek Min	90.19	25	P	P	14 51 02.2	+0.8
	baz=269,SNR=5.1						
M26K	Nabesna, AK	90.21	28	P	P	14 51 02.3	+0.6
	baz=269						
K27K	Chicken	90.64	26	P	P	14 51 03.5	-0.1
	baz=270						
M27K	Edge Creek, AK	90.73	28	P	P	14 51 04.9	+0.7
	baz=270						
L27K	Beaver Creek,	90.75	27	IAmb	IAmb	14 51 12.0	
	comp=Z,5.4nm,0.9s						
L27K	Beaver Creek,	90.75	27	P	P	14 51 04.7	+0.5
	baz=270,SNR=6.1						
BCAR	Beaver Creek A	90.77	27		P	14 51 05.3	+1.1
G27K	Doyon Strip	90.81	23	P	P	14 51 05.2	+0.9
	baz=270						
E27K	Coleen River	90.82	22	P	P	14 51 04.1	-0.2
	baz=270						
I27K	Kandik River	90.83	25	P	P	14 51 04.5	0.0
	baz=270,SNR=7.2						
H27K	Steamboat Moun	90.86	24	P	P	14 51 04.8	+0.2
	baz=270						
ASF	Jabal al Asfar	90.98	302	LR	LR	15 35 08.8	
	comp=Z,20nm,22.0s,baz=145,slow=38						
CTG	Chitna Glacier	91.00	29	P	P	14 51 05.9	+0.5
	baz=270						
D27M	Malcolm River	91.04	21	P	P	14 51 06.3	+0.9
	baz=271						
BVCY	Beaver Creek	91.20	28	P	P	14 51 06.2	-0.1
	baz=271						
YUK3	Moose Creek	91.41	28	P	P	14 51 07.8	+0.3
	baz=271						
F28M	Old Crow	91.49	23	P	P	14 51 07.0	-0.4
	baz=272						
I28M	Miner Creek	91.54	25	IAmb	IAmb	14 51 15.6	
	comp=Z,8.1nm,0.9s						
I28M	Miner Creek	91.54	25	P	P	14 51 08.2	+0.4
	baz=272,SNR=6.1						
PINM	Pinnacle	91.55	30	P	P	14 51 08.1	+0.2
	baz=272						
O28M	Mount Upton	91.56	29	P	P	14 51 08.2	-0.1
	baz=272						
E28M	Babbage River	91.57	22	P	P	14 51 07.9	+0.1
	baz=272						
YUK8	Steele Glacier	91.75	29	P	P	14 51 09.4	+0.3
	baz=272						
DAWY	Dawson	91.82	26	P	P	14 51 10.0	+0.9
	baz=272,SNR=7.1						
D28M	Stokes Point	91.83	21	P	P	14 51 10.3	+1.4
	baz=273						
PNL	Peninsula	91.99	30	P	P	14 51 09.5	-0.5
	baz=272						
TAOE	Nuku Hiva Isla	92.05	99	eLR	LR	15 20 36.1	
	comp=Z,177nm,24.2s						
H29M	Whitestone	92.14	24	P	P	14 51 11.6	+1.1
	baz=273						
I29M	Ogilvie Camp,	92.22	25	P	P	14 51 11.1	+0.2
	baz=273,SNR=5.0						
G29M	Pine Creek	92.24	23	IAmb	IAmb	14 51 18.3	
	comp=Z,9.7nm,1.1s						
G29M	Pine Creek	92.24	23	P	P	14 51 11.6	+0.7
	baz=274						
MMAI	Mount Meron Ar	92.24	303	LR	LR	15 39 45.1	
	comp=Z,26nm,19.4s,baz=82,slow=40						
YUK4	Talbot Arm	92.29	29	P	P	14 51 11.1	-0.5
	baz=273						
M29M	Somme Creek	92.32	28	P	P	14 51 11.5	0.0
	baz=273,SNR=5.9						
O29M	Mount Kennedy	92.38	30	P	P	14 51 11.3	-0.6
	baz=273						
L29M	L29M	92.43	27	P	P	14 51 11.9	-0.1
	baz=273,SNR=9.0						
YUK6	Outpost Mounta	92.45	29	P	P	14 51 11.8	-0.6
	baz=273						
K29M	Barlow Dome	92.66	26	IAmb	IAmb	14 51 21.6	
	comp=Z,3nm,1.4s						
K29M	Barlow Dome	92.66	26	P	P	14 51 13.2	+0.1
	baz=274,SNR=6.7						
EIL	Elat	92.67	300	LR	LR	15 40 44.9	
	comp=Z,30nm,18.1s,baz=69,slow=41						
EPYK	Eagle Plains	92.80	24	P	P	14 51 13.4	-0.2
	baz=275						
P29M	Windy Craggy	92.84	30	P	P	14 51 14.2	+0.3
	baz=274,SNR=5.9						
HYT	Haines Junctio	92.88	29	P	P	14 51 14.4	+0.2
	baz=274,SNR=6.9						
G30M	tAoh Zraii Nji	92.94	23	P	P	14 51 14.5	+0.3
	baz=275						
N30M	Aishikik Lake	93.03	29	P	P	14 51 15.1	+0.3
	baz=274,SNR=5.1						
I30M	Mount Dempster	93.04	25	P	P	14 51 15.1	+0.2
	baz=275						
F30M	Barrier River	93.05	22	P	P	14 51 15.4	+0.8
	baz=276						
M30M	Minto, Yukon	93.08	27	P	P	14 51 15.8	+0.9
	baz=275,SNR=5.4						
J30M	Hart River	93.12	25	P	P	14 51 16.2	+1.0
	baz=275						
P30M	Million Dollar	93.19	30	P	P	14 51 16.0	+0.4
	baz=274						
MAYO	Mayo, Yukon	93.40	26	P	P	14 51 17.6	+1.3
	baz=276						
BRTR	Keskin Array B	93.50	310	P	P	14 51 16.7	-0.8
	comp=Z,0.4nm,0.5s,baz=100,slow=3.8,SNR=4.6 comp=Z,0.4nm,0.5s						
PLBC	Pleasant Camp	93.55	31	P	P	14 51 18.3	+1.2
	baz=275						
O30N	Mendenhall	93.57	29	P	P	14 51 18.2	+1.0
	baz=275,SNR=5.7						
N31M	Braeburn, Yuko	93.66	29	P	P	14 51 18.7	+1.1
	baz=275						
G31M	Satah River	93.71	23	P	P	14 51 18.0	+0.4
	baz=277						
S31K	Pelican	93.74	32	P	P	14 51 17.7	-0.3
	baz=275						
INK	Inuvik	93.81	22	P	P	14 51 19.2	+1.1
	baz=278						
H31M	Peel River	93.82	24	P	P	14 51 18.5	+0.3
	baz=277						
F31M	Tsiigehtchic	93.85	22	P	P	14 51 19.0	+0.7
	baz=278						
R31K	City Hall, Gus	93.96	32	P	P	14 51 19.5	+0.6
	baz=275						
SKAG	Skagway	94.08	31	P	P	14 51 19.7	+0.2
	baz=276						
WHY	Whitehorse	94.17	29	P	P	14 51 20.3	+0.2
	baz=276,SNR=5.9						
M31M	Drury Creek, Y	94.23	28	P	P	14 51 19.9	-0.3
	baz=277						
SIT	Sitka	94.31	33	P	P	14 51 19.9	-0.7
	baz=276						
S32K	Killisnoo	94.67	32	P	P	14 51 22.1	-0.2
	baz=276						
FARO	Faro, Yukon	94.72	28	P	P	14 51 22.6	+0.1
	baz=278						
ARCES	ARCESS Array B	94.81	340	P	P	14 51 23.8	+1.1
	comp=Z,3.9nm,1.0s,baz=72,slow=7.9,SNR=4.5						
ARCES				LR	LR	15 41 16.2	
	comp=Z,81nm,18.9s,baz=94,slow=40 comp=Z,3.9nm,1.0s						
P32M	Atlin	94.88	30	P	P	14 51 23.2	-0.1
	baz=277						
SPITS	Spitsbergen Ar	94.88	349	LR	LR	15 37 25.8	
	comp=Z,69nm,21.0s,baz=41,slow=38						
N32M	Quiet Lake	94.99	29	P	P	14 51 23.8	+0.1
	baz=278						
P33M	Teslin, Yukon	95.24	30	P	P	14 51 24.7	-0.3
	baz=278						
MMPY	Sheldon Lake,	95.62	27	P	P	14 51 27.0	+0.4
	baz=280,SNR=7.4						
U33K	Whale Pass	95.63	34	P	P	14 51 26.9	+0.3
	baz=277						
Q32M	Nakina River	95.70	31	P	P	14 51 26.9	-0.3
	baz=278						
CRAG	Craig	95.71	34	P	P	14 51 26.9	-0.2
	baz=277						
FINES	FINESS Array B	96.07	332	LR	LR	15 40 33.5	
	comp=Z,58nm,18.6s,baz=64,slow=39						
R33M	Jennings River	96.29	30	P	P	14 51 29.4	-0.4
	baz=280						
S34M	Telegraph Cree	96.45	32	P	P	14 51 30.2	-0.2
	baz=279						
MLR	Muntele Rosu	98.66	316	LR	LR	15 42 54.3	
	comp=Z,26nm,20.0s,baz=72,slow=40						
LSZ	Lusaka	99.00	255	LR	LR	15 32 36.4	
	comp=Z,91nm,21.3s,baz=145,slow=33						
VYHS	Vyhne	102.86	320	eP	Pdif	14 51 56.3	-3.0
VYHS	Vyhne	102.86	320	ePDIFF	Pdif	14 51 56.3	-3.0
CLL	Collm	105.68	324	eSKSac	SKSac	15 02 50.0	-2.1
CLL				e(Sdif)		15 04 18.0	
CLL				ePS	PS	15 06 00.0	+9.4
CLL				ePPS	PPS	15 06 50.0	
CLL				eSSS	SSS	15 15 18.0	
CLL				ex	x	15 18 17.0	
CLL				eSSSS		15 19 06.0	
CLL				AMS	AMS	15 47 00.0	
	comp=Z,100nm,19.8s						
PFO	Pinyon Flats O	111.69	54	i PKIKP	PKiKP	14 56 36.7	-0.1
TXAR	Lajitas Array	123.39	55	PKP	PKiKP	14 57 00.9	+1.3
	comp=Z,0.3nm,0.7s,baz=302,slow=7.2,SNR=3.7						
BOAB	BOACO BROADBAND	190.90	69	PKPdf	PKPdf	14 57 40.1	+0.6
PLTB	Pedras Altas	147.79	178	PKPbc	PKPbc	14 57 47.1	+0.3
CPUP	Villa Florida	152.79	170	PKPbc	PKiKP	14 58 00.4	+1.1
	comp=Z,1.3nm,0.8s,baz=225,slow=1.4,SNR=7.4						

IDC ***11*** *14:47:07.9±1.2,30.67S×176.63W,h0km,mb3.9/6, mbtmp3.9/6,Error ellipse: s-maj=34.0km s-min=27.6km az=40.0*

ISC 11 14:47:13.4±1.1,30.80S±0.08×176.9W±0.2,h35km,n9, σ1.9**97**/12**,mb4.0/6,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	1.78	330	Pn	Pn	14 47 41.4	-0.2
	59nm,0.3s,baz=109,slow=22,SNR=1.5						
RAO				Sn	Sn	14 48 00.4	-2.5
	340nm,0.3s,baz=107,slow=19,SNR=5.7						
URZ	Urewera	8.93	212	Pn	Pn	14 49 17.4	-2.4
	0.3nm,0.3s,baz=68,slow=19,SNR=8.2						
URZ				Sn	Sn	14 50 57.3	-1.8
	1.1nm,0.3s,baz=78,slow=20,SNR=8.2						
STKA	Stephens Creek	35.31	257	P	P	14 54 07.9	+2.7
	2.7nm,0.7s,baz=106,slow=13,SNR=4.1 2.7nm,0.7s						
ASAR	Alice Springs	44.03	267	P	P	14 55 18.8	+0.8
	0.7nm,0.7s,baz=107,slow=7.4,SNR=19						
ASAR				PcP	PcP	14 57 03.5	+0.4
	0.8nm,1.0s,baz=104,slow=3.8,SNR=3.3 0.7nm,0.7s						
WRA	Warramunga Arr	45.06	272	P	P	14 55 26.4	+0.2
	1.5nm,0.6s,baz=112,slow=7.9,SNR=18 1.5nm,0.6s						
QSPA	South Pole Qui	59.31	180	P	P	14 57 12.8	+1.3
	1.1nm,0.7s,baz=6.2,slow=0.9,SNR=8.1 1.1nm,0.7s						
TXAR	Lajitas Array	91.81	57	P	P	15 00 15.5	-2.4
	0.1nm,0.4s,baz=286,slow=7.1,SNR=2.0 0.1nm,0.4s						
CMAR	Chiang Mai Arr	94.42	289	P	P	15 00 32.1	+2.0
	0.5nm,0.9s,baz=130,slow=6.4,SNR=2.3 0.5nm,0.9s						
FINES	FINESS Array B	145.84	340	PKPbc	PKPdf	15 06 48.1	+0.6
	3.9nm,1.1s,baz=318,slow=2.6,SNR=5.0						

MDD ***11*** *14:52:34.8±0.4,39.99N×8.67W,h11km,mb_Lg2.2/10, Error ellipse: s-maj=4.3km s-min=2.0km az=92.0 SFS* ***11*** *14:52:35.7,39.98N×8.73W,h6km,ML2.6/6,ML2.4/8, MLv2.3/8*

ISC 11 14:52:34.0±1.4,40.01N±0.02×8.60W±0.04,h14km±11km, **n18,**σ0.**96**/45**,Portugal**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMAFR	Mafra	1.18	207	Pn	Pn	14 52 56.7	+0.6
PMAFR				Sn	Sb	14 53 11.3	0.0
PESTR	Estremoz	1.38	145	Pn	Pb	14 53 00.2	+0.5
PESTR				Sn	Sb	14 53 17.7	+0.5
EVO	Evora	1.54	163	Pn	Pb	14 53 02.8	+0.4
EVO				Sn	Sb	14 53 23.4	+1.6
EBAD	Badajoz	1.76	135	Pn	Pb	14 53 06.5	+0.5
EBAD				Sn	Sb	14 53 28.9	+0.9
EBAD	Badajoz	1.76	135	Pn	Pn	14 53 04.3	+0.3
EBAD				Pg	Pb	14 53 06.2	+0.2
EBAD				Sn	Sn	14 53 26.1	-0.1
EBAD				Sg	Sg	14 53 30.3	-0.3
EBAD				i lVmb_Lg		14 53 33.4	
ELOB	Lobios	1.90	12	Pn	Pn	14 53 05.1	-1.0
ELOB				Pg	Pb	14 53 09.5	+0.9
ELOB				Sn	Sn	14 53 29.3	-0.7
ELOB				Sg	Sg	14 53 35.1	-0.1
ELOB				i lVmb_Lg		14 53 43.0	
EPLA	Plasencia	1.94	88	Pn	Pn	14 53 07.3	+0.7
EPLA				Pg	Pg

EPLA				Sg	Sg	14 53 36.3	0.0		
EPLA				*i* IVmb_Lg		14 53 38.4			
PBAR	**Barrancos**	**2.20**	**146**	Sn	Sb	**14 53 39.9**	**-0.8**		
ECAL	**Calabor**	**2.39**	**36**	Pn	Pn	**14 53 13.1**	**+0.2**		
ECAL				Pg	Pb	**14 53 17.5**	**+0.6**		
ECAL				Sg	Sg	**14 53 53.1**	**+2.2**		
ECAL				*i* IVmb_Lg		14 54 00.9			
PCVE	**Castro Verde**	**2.41**	**169**	Pn	Pn	**14 53 13.2**	**+0.1**		
EGRO	**El Granado**	**2.62**	**160**	Pn	Pn	**14 53 14.9**	**-1.1**		
EGRO				Pg	Pb	**14 53 21.7**	**+0.9**		
EGRO				Sg	Sg	**14 53 58.1**	**-0.2**		
EGRO				*i* IVmb_Lg		14 53 59.5			
PVAQ	**Vaqueiros**	**2.69**	**165**	Pn	Pn	**14 53 17.9**	**+0.9**		
EMIN	**Mina Concepcio**	**2.70**	**145**	Pn	Pn	**14 53 17.3**	**+0.3**		
EMIN				Sn	Sn	**14 53 47.4**	**-2.1**		
EMIN				Sg	Sg	**14 54 00.9**	**+0.2**		
EMIN				*i* IVmb_Lg		14 54 06.9			
EAGO	**Agolada(Pontev**	**2.82**	**8**	Pn	Pn	**14 53 18.7**	**0.0**		
EAGO				Sn	Sn	**14 53 51.5**	**-0.9**		
EAGO				Sg	Sg	**14 54 04.7**	**+0.2**		
EAGO				*i* IVmb_Lg		14 54 08.0			
PFVI	**Vila Bisbo**	**2.88**	**184**	Pn	Pn	**14 53 20.8**	**+1.3**		
ECAB	**El Cabril**	**3.14**	**127**	Pn	Pn	**14 53 23.5**	**+0.3**		
ECAB				Pg	Pb	**14 53 31.7**	**+2.0**		
ECAB				Sg	Sg	**14 54 15.2**	**+0.3**		
ECAB				*i* IVmb_Lg		14 54 18.7			
GUD	**Guadarrama**	**3.46**	**78**	Pn	Pn	**14 53 27.8**	**+0.2**		
GUD				Pg	Pg	**14 53 37.9**	**-2.4**		
GUD				Sn	Sn	**14 54 08.6**	**+0.1**		
GUD				*i* IVmb_Lg		14 54 24.3			
GUD				Sg	Sg	**14 54 26.3**	**+1.2**		
EADA	**Adamuz**	**3.63**	**119**	Pn	Pn	**14 53 30.2**	**+0.3**		
EADA				Sn	Sn	**14 54 11.3**	**-1.3**		
EADA				Sg	Sg	**14 54 29.4**	**-1.2**		
EADA				*i* IVmb_Lg		14 54 39.5			

JMA ***11*** *15:00:41.9±0.6,45°N±3°×14°9E±°, h30km, MV3.5/13, SE OFF ETOROFU*
SKHL ***11*** *15:00:43.8±0.3,44.˚40N×148.˚90E, h53km±2km, mb4.4/3*
ISC 11 15:00:39.1±3.8**,44°24N**±0°.09×**149°.2E**±0°.2**, h35km**, **n16,** σ2ˢ**19**/29**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.37**	**317**	*i*	P	**Pn**		**15 01 02.0**	**+0.3**
KUR				*i*	S	**Sn**		**15 01 15.9**	**-2.7**
KUR					A	A		15 01 18.7	
	100nm,0.2s								
KUR					A	A		15 01 18.7	
	170nm,0.2s								
SHO	**Shikotan**	**1.74**	**259**	*i*	P	**Pn**		**15 01 09.0**	**+2.2**
SHO					AMB	AMB		15 01 11.5	
	20nm,0.2s								
SHO				*i*	S	**Sn**		**15 01 27.1**	**-0.7**
SHO					A	A		15 01 32.0	
	70nm,0.2s								
SHO					A	A		15 01 32.0	
	70nm,0.2s								
YUK	**Yuzh-Kuril'sk**	**2.41**	**266**	*e*P		**Pn**		**15 01 17.6**	**+1.7**
YUK					AMB	AMB		15 01 19.0	
	60nm,0.2s								
YUK				*i*	S	**Sn**		**15 01 42.9**	**-1.2**
YUK					A	A		15 01 48.0	
	80nm,0.3s								
YUK					A	A		15 01 48.0	
	140nm,0.3s								
NEM2	**Nemuro 2**	**2.65**	**252**	*e*P		**Pn**		**15 01 20.1**	**+0.9**
NEM2				*e*S		**Sn**		**15 01 49.0**	**-1.1**
NMR	**Nemuro--Hokkai**	**2.65**	**252**	*e*P		**Pn**		**15 01 20.4**	**+1.1**
NMR				*i*	S	**Sn**		**15 01 47.7**	**-2.6**
GLVR	**Golovnino**	**2.70**	**261**	*e*P		**Pn**		**15 01 21.9**	**+2.0**
GLVR					AMB	AMB		15 01 23.4	
	60nm,0.2s								
GLVR				*i*	S	**Sn**		**15 01 50.6**	**-0.7**
GLVR					A	A		15 01 54.1	
	80nm,0.2s								
GLVR					A	A		15 01 54.1	
	100nm,0.2s								
JRA	**Rausu**	**2.95**	**266**	*e*P		**Pn**		**15 01 25.8**	**+2.4**
JRA				*e*S		**Sn**		**15 01 58.1**	**+0.6**
JNK	**Nakash**	**3.30**	**260**	*e*P		**Pn**		**15 01 30.0**	**+1.8**
JNK				*e*S		**Sn**		**15 02 05.3**	**-0.8**
AKK	**Akkeshi**	**3.39**	**250**	*e*P		**Pn**		**15 01 31.8**	**+2.4**
JAK	**Akkeshi**	**3.49**	**251**	*e*P		**Pn**		**15 01 32.2**	**+1.4**
JAK				*e*S		**Sn**		**15 02 08.8**	**-2.2**
JTKR	**Abashiri--Toko**	**3.81**	**268**	*e*P		**Pn**		**15 01 37.4**	**+2.1**
JAR	**Ashorobuto**	**4.04**	**258**	*e*P		**Pn**		**15 01 40.9**	**+2.5**
JAR				*e*S		**Sn**		**15 02 24.0**	**-0.4**
JOB	**Onbets**	**4.12**	**253**	*e*P		**Pn**		**15 01 41.2**	**+1.8**
JOB				*e*S		**Sn**		**15 02 25.0**	**-1.3**
JCH	**Churui**	**4.55**	**251**	*e*P		**Pn**		**15 01 47.4**	**+2.0**
JCH				*e*S		**Sn**		**15 02 34.9**	**-2.0**
JNBK	**Urakawa-nobuka**	**5.09**	**250**	*e*P		**Pn**		**15 01 54.5**	**+1.6**
JNBK				*e*S		**Sn**		**15 02 48.4**	**-2.1**
JANG	**Nango**	**6.88**	**238**	*e*S		**Sn**		**15 03 28.0**	**-6.4**

CATAC ***11*** *15:22:29.8±0.2, 11°N±2°×8°5W±°, h8km±2km, M3.5/12, MLv3.5/12, Error ellipse: s-maj=4.2km s-min=3.4km az=72.6, confirmed*
UCR ***11*** *15:22:29.3±0.8, 10°.62N×85°.28W, h5km±1km, MW4.2, Fault plane solution: NP1:φs63.54000°, δ77.76000°, λ-8.74000°.*
ISC 11 15:22:30.0±0.8**,10°.60N**±0°.02×**85°.25W**±0°.02**, h11**km±5km**, n110,** σ0ˢ**51**/120**, 29C-20D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COLC	**Colonia**	**0.08**	**33**	⇓	*i*P		**Pg**	**15 22 32.4**	**-0.2**
COLC					*e*S		**Sg**	**15 22 34.2**	**-0.3**
CUI	**Cuipilapa**	**0.10**	**54**	⇑	*e*P		**Pg**	**15 22 33.0**	**+0.1**
CUI					*e*S		**Sg**	**15 22 35.1**	**+0.2**
HORNC	**Hornillas**	**0.13**	**31**	⇓	*e*P		**Pg**	**15 22 33.3**	**0.0**
HORNC					*e*S		**Sg**	**15 22 35.6**	**-0.1**
MESS	**Mesas**	**0.15**	**20**	⇓	*i*P		**Pg**	**15 22 33.6**	**+0.1**
GPS2	**Hotel Rincn d**	**0.18**	**326**	⇓	*e*P		**Pg**	**15 22 34.0**	**+0.1**
GPS2					*e*S		**Sg**	**15 22 36.9**	**0.0**
MOTZ	**Rio Naranjo**	**0.19**	**63**	⇓	*e*P		**Pg**	**15 22 34.8**	**+0.6**
GPS3	**Bodega del ICE**	**0.19**	**324**		*e*P		**Pb**	**15 22 36.6**	**+1.0**
GPS1	**Guardaparques**	**0.20**	**330**	⇓	*e*P		**Pg**	**15 22 34.3**	**-0.2**
INVE	**Universidad In**	**0.22**	**124**	⇑	*i*P		**Pg**	**15 22 35.2**	**+0.6**
VRLE	**La Escondida,**	**0.22**	**329**	⇓	*e*P		**Pg**	**15 22 34.6**	**-0.1**
CNAS	**Canas**	**0.23**	**137**	⇑	*i*P		**Pb**	**15 22 36.4**	**+0.3**
TIMP	**Tierras Morena**	**0.23**	**94**	⇑	*e*P		**Pg**	**15 22 35.2**	**+0.3**
VORI	**VORI**	**0.24**	**336**	⇓	*e*P		**Pg**	**15 22 35.0**	**-0.2**
LAPC	**Finca la Perla**	**0.25**	**313**	⇑	*i*P		**Pg**	**15 22 35.0**	**-0.2**
VMAR	**Armenia, Volca**	**0.25**	**32**	⇓	*i*P		**Pg**	**15 22 35.6**	**+0.4**
PLVR	**Palo Verde**	**0.27**	**202**	⇓	*i*P		**Pg**	**15 22 35.7**	**+0.1**
PG27	**Guanacaste Pro**	**0.28**	**329**	⇓	*e*P		**Pg**	**15 22 35.5**	**-0.2**
TENO	**El Achiote**	**0.29**	**68**	⇑	*i*P		**Pg**	**15 22 35.5**	**-0.4**
BUAI	**Buenos Aires**	**0.29**	**343**	⇓	*i*P		**Pg**	**15 22 35.8**	**-0.2**
ALIBA	**Liberia Airpor**	**0.29**	**269**	⇑	*i*P		**Pg**	**15 22 36.1**	**+0.1**
PEJA	**Penjamo Buenos**	**0.30**	**348**	⇓	*e*P		**Pg**	**15 22 36.2**	**+0.1**
TILA	**Tilaran**	**0.30**	**115**	⇑	*i*P		**Pg**	**15 22 36.7**	**+0.5**
ELI1	**Hacienda Flor**	**0.30**	**279**	⇑	*i*P		**Pg**	**15 22 36.2**	**0.0**
QUEB	**Quebradon, Cot**	**0.35**	**86**	⇑	*e*P		**Pg**	**15 22 37.5**	**+0.5**
UPAL	**Upala**	**0.38**	**38**	⇓	*e*P		**Pg**	**15 22 37.5**	**0.0**
JTS	**Las Juntas de**	**0.42**	**136**	⇑	*e*P		**Pg**	**15 22 38.4**	**+0.1**
JTS	**Las Juntas de**	**0.42**	**136**	⇑	*i*P		**Pg**	**15 22 38.4**	**+0.1**
JTS					S		**Sg**	**15 22 44.6**	**+0.6**
JUNT	**Juntas**	**0.42**	**138**	⇑	*e*P		**Pg**	**15 22 38.5**	**+0.1**
SACU	**Santa Cruz**	**0.47**	**225**	⇓	*e*P		**Pg**	**15 22 39.2**	**0.0**
TABAC	**Tabacon**	**0.48**	**102**	⇑	*i*P		**Pb**	**15 22 40.2**	**-0.3**
MTEVE	**Monteverde**	**0.50**	**124**	⇑	*i*P		**Pg**	**15 22 40.0**	**+0.2**
NICO	**Nicoya**	**0.50**	**203**		*e*P		**Pg**	**15 22 39.7**	**-0.2**
CASO	**Castillo**	**0.53**	**108**	⇑	*i*P		**Pg**	**15 22 40.9**	**+0.5**
VARE2	**V. Arenal**	**0.54**	**105**	⇑	*i*P		**Pb**	**15 22 41.2**	**-0.3**
CEDE	**Laguna Cedeo**	**0.55**	**102**	⇑	*i*P		**Pb**	**15 22 41.5**	**-0.1**
VACR	**Volcan Arenal**	**0.57**	**102**	⇑	*i*P		**Pb**	**15 22 41.7**	**-0.3**
NYURE	**Nandayure**	**0.60**	**180**	⇓	*e*P		**Pg**	**15 22 41.3**	**-0.4**
CMARA	**Lajas Hojancha**	**0.60**	**197**		*e*P		**Pg**	**15 22 41.4**	**-0.3**
TUNA	**La Fortuna**	**0.61**	**102**		*e*P		**Pg**	**15 22 42.3**	**+0.4**
LCRUZ	**La Cruz**	**0.61**	**322**	⇑	*e*P		**Pg**	**15 22 41.7**	**-0.2**
CARN	**Rivas**	**0.65**	**335**		*e*P		**Pg**	**15 22 42.5**	**-0.1**
CARN	**Rivas**	**0.65**	**335**	⇓	P		**Pg**	**15 22 42.7**	**+0.1**
CARN					S		**Sb**	**15 22 53.4**	**+1.1**
SOCE	**Pocosol**	**0.66**	**109**	⇑	*i*P		**Pg**	**15 22 42.8**	**0.0**
INDI	**Punta indio, G**	**0.77**	**199**	⇓	P		**Pg**	**15 22 44.5**	**-0.3**
INDI	**Punta indio, G**	**0.77**	**199**		S		**Sb**	**15 22 56.3**	**+0.5**
ROBF	**Roble, Puntare**	**0.79**	**141**		*e*P		**Pg**	**15 22 45.0**	**-0.4**
ARZA	**Esparza**	**0.83**	**137**		*e*P		**Pg**	**15 22 46.2**	**+0.1**
COVE	**Coope Vega, Sa**	**0.84**	**82**		P		**Pg**	**15 22 45.7**	**-0.6**
COVE	**Coope Vega, Sa**	**0.84**	**82**		S		**Sb**	**15 22 57.8**	**-0.1**
VPL2	**V. Platanar**	**0.90**	**109**		*e*P		**Pg**	**15 22 47.4**	**0.0**
SRA1	**San Ramn**	**0.91**	**124**		*e*P		**Pg**	**15 22 47.0**	**-0.7**
RAMO	**San Ramon**	**0.92**	**123**		*e*P		**Pb**	**15 22 47.5**	**-0.5**
PALD	**Palmares**	**0.96**	**124**		*e*P		**Pb**	**15 22 48.1**	**-0.7**
ITAL	**Pital**	**0.97**	**99**		*e*P		**Pb**	**15 22 48.1**	**-0.7**
CBL1	**Cabuya**	**1.01**	**171**		*e*P		**Pb**	**15 22 48.9**	**-0.7**
JAPN	**AI SSO del Vol**	**1.01**	**335**	⇑	P		**Pb**	**15 22 49.6**	**+0.1**
JAPN	**AI SSO del Vol**	**1.01**	**335**	⇑	P		**Pb**	**15 22 49.7**	**+0.1**
MORN	**AI O del Volca**	**1.02**	**337**	⇓	P		**Pb**	**15 22 49.2**	**-0.6**
MORN					S		**Sn**	**15 23 04.6**	**-0.1**
ARIN	**Rivas**	**1.03**	**326**		*e*P		**Pb**	**15 22 49.0**	**-0.8**
ATEO	**Atenas**	**1.05**	**126**		*e*P		**Pb**	**15 22 49.6**	**-0.7**
TCS1	**Tacares**	**1.08**	**121**		*e*P		**Pn**	**15 22 50.6**	**-0.3**
BELE	**Belen**	**1.21**	**121**		*e*P		**Pn**	**15 22 52.4**	**-0.6**
SARA	**Sarapiqu**	**1.22**	**97**		*e*P		**Pn**	**15 22 52.1**	**-0.8**
VBV1	**V. Barva**	**1.23**	**113**		*e*P		**Pn**	**15 22 52.6**	**-0.8**
SANTA	**Santa Ana**	**1.24**	**122**		*e*P		**Pn**	**15 22 52.6**	**-0.7**
HEME	**Heredia, Merce**	**1.25**	**119**		*e*P		**Pn**	**15 22 52.8**	**-0.7**
HDC	**Heredia**	**1.26**	**118**		*e*P		**Pn**	**15 22 53.0**	**-0.7**
ACOS	**Acosta**	**1.33**	**127**	⇑	*e*P		**Pn**	**15 22 54.2**	**-0.5**
LUJA	**Lujan**	**1.34**	**120**		*e*P		**Pn**	**15 22 54.3**	**-0.4**
AMPA	**Desamparados**	**1.36**	**121**		*e*P		**Pn**	**15 22 54.5**	**-0.5**
ACON	**Acoyapa**	**1.36**	**3**	⇓	*i*P		**Pn**	**15 22 54.0**	**-0.9**
ACON	**Acoyapa**	**1.36**	**3**	⇓	P		**Pn**	**15 22 54.1**	**-0.9**
ACON	**Acoyapa**	**1.36**	**3**		S		**Sb**	**15 23 12.7**	**-0.3**
PAR1A	**Puntarenas Pro**	**1.40**	**135**		*e*P		**Pn**	**15 22 55.2**	**-0.2**
CVIMO	**Finca Echandi**	**1.41**	**114**		*e*P		**Pn**	**15 22 56.1**	**-0.3**
PICV	**PH. Pirrs**	**1.42**	**133**		*e*P		**Pn**	**15 22 55.0**	**-0.7**
PISJ	**San Jernim**	**1.47**	**131**		*e*P		**Pn**	**15 22 56.3**	**-0.2**
ABE2	**San Pablo**	**1.47**	**127**		*e*P		**Pn**	**15 22 56.7**	**0.0**
TRT2	**Tortugero**	**1.49**	**91**	⇑	*e*P		**Pn**	**15 22 56.1**	**-0.6**
LCR2	**La Lucha 2**	**1.49**	**125**	⇑	*i*P		**Pn**	**15 22 56.6**	**-0.2**
CARI	**Cariari**	**1.50**	**99**		*e*P		**Pn**	**15 22 57.2**	**+0.3**
VICA	**Volcano Irazu**	**1.51**	**114**		*e*P		**Pn**	**15 22 57.4**	**+0.1**
RAZU	**San Marcos de**	**1.52**	**128**		*e*P		**Pn**	**15 22 56.6**	**-0.7**
VTLA	**Turrialba Volc**	**1.56**	**112**		*e*P		**Pn**	**15 22 58.1**	**+0.1**
PCAYA	**Pacaya**	**1.57**	**115**		*e*P		**Pb**	**15 22 58.6**	**-0.5**
CVTQ	**Turrialba Volc**	**1.57**	**112**		*e*P		**Pb**	**15 22 58.6**	**-0.7**
CVTR	**Volcan Turrial**	**1.57**	**111**	⇑	*e*P		**Pn**	**15 22 58.6**	**+0.4**
VTR0	**Volcan Turrial**	**1.57**	**111**		*e*P		**Pn**	**15 22 58.6**	**+0.4**
NANN	**Nandasmo**	**1.58**	**327**		P		**Pb**	**15 22 58.7**	**-0.6**
NANN	**Nandasmo**	**1.58**	**327**		S		**Sb**	**15 23 20.1**	**+0.7**
CVTV	**Tajo**	**1.59**	**112**	⇑	*e*P		**Pn**	**15 22 58.8**	**+0.4**
PIEC	**Cerro El Cedra**	**1.60**	**127**		*e*P		**Pn**	**15 22 58.2**	**-0.2**
VTCV	**VTCV, Calle Va**	**1.62**	**112**		*e*P		**Pn**	**15 22 58.7**	**+0.1**
RESJ	**San Isidro (Tu**	**1.68**	**110**		*e*P		**Pb**	**15 23 00.1**	**-0.8**
RVLA	**Villa Bonita**	**1.70**	**106**		*e*P		**Pb**	**15 23 00.6**	**-0.7**
LCOCO	**El Coco**	**1.74**	**107**		*e*P		**Pn**	**15 23 00.7**	**+0.5**
ESPN	**Las Esperanzas**	**1.84**	**30**		*e*P		**Pn**	**15 23 01.1**	**-0.4**
ESPN	**Las Esperanzas**	**1.84**	**30**		S		**Sb**	**15 23 26.6**	**-0.1**
BLUN	**Bluefields**	**2.01**	**46**		*e*P		**Pn**	**15 23 04.7**	**+0.8**
COPN	**Copaltepe**	**2.05**	**320**	⇑	*e*P		**Pn**	**15 23 04.2**	**-0.3**
COPN	**Copaltepe**	**2.05**	**320**	⇑	P		**Pn**	**15 23 04.3**	**-0.2**
SAJE	**San Jernim**	**2.12**	**126**		*e*P		**Pn**	**15 23 06.8**	**+1.3**
VERH	**Veragua Rainfo**	**2.13**	**108**		*e*P		**Pn**	**15 23 06.0**	**+0.5**
OCHAL	**Ojochal**	**2.17**	**133**		P		**Pn**	**15 23 06.7**	**+0.6**
MOM2	**El Cardon**	**2.19**	**327**		P		**Pn**	**15 23 06.6**	**+0.2**
MOM2					S		**Sb**	**15 23 35.6**	**-1.3**
MOMN	**Momotombo**	**2.20**	**325**		P		**Pn**	**15 23 06.8**	**+0.3**
MOMN					S		**Sn**	**15 23 34.9**	**+1.1**
CNGN	**Cerro Negro**	**2.37**	**323**		*e*P		**Pn**	**15 23 09.1**	**+0.3**
DRK0	**Durika**	**2.38**	**124**		*e*P		**Pn**	**15 23 10.8**	**+1.7**
POLN	**Al Sur del Vol**	**2.55**	**323**		P		**Pn**	**15 23 11.8**	**+0.5**
POLN					S		**Sn**	**15 23 42.7**	**+0.3**
CRIN	**San Cristobal**	**2.73**	**320**		*e*P		**Pn**	**15 23 13.9**	**0.0**

IDC ***11*** *15:31:24.6±0.5, 17°.91S×168°.06E, h0km, mb4.6/15, mbtmp4.6/16, MS4.2/44, Error ellipse: s-maj=22.5km s-min=15.2km az=103.0*
MOS ***11*** *15:31:25.7±1.0, 17°.86S×167°.77E, h11km, mb5.2/31, Error ellipse: s-maj=11.5km s-min=9.0km az=101.6*
NEIC ***11*** *15:31:27.8±2.1, 17°.89S±0°.08×167°.71E±0°.09, h10km±1km, mb5.0/121, Error ellipse: s-maj=15.4km s-min=12.9km az=132.0*
GCMT ***11*** *15:31:32.8±0.2, 17°.79S±0°.02×167°.73E±0°.02, h24km, MW5.0/80, Moment Tensor Solution. s55,c64; s80,c104; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.01±.16; Mθθ-0.75±.10; Mφφ-2.26±.11; Mrθ1.62±.17; Mrφ1.29±.07; Mθφ-1.92±.14; Best double couple: Mw3.91700×10¹⁶ NP1:φs336.00000°, δ26.00000°, λ102.00000°. NP2: φs144.00000°, δ65.00000°, λ84.00000°. Principal axes: T 3.9410, Plg70.0000°, Azm42.0000°; N -0.0510, Plg5.0000°, Azm146.0000°; P -3.8920, Plg20.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 15:31:30.5±0.3**,17°.94S**±0°.04×**167°.82E**±0°.05**, h32km**, **n347,** σ1ˢ**87**/295**, mb5.0**/103**, MS4.4**/59**, 9C-18D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.31**	**197**				**Pn**	**15 32 33.6**	**-0.5**
DZM	**Mont Dzumac**	**4.31**	**197**	*e*	Pn		**Pn**	**15 32 35.1**	**+1.1**
	244nm,0.8s								
DZM				*e*	Sn		**Sn**	**15 33 24.4**	**+1.1**
DZM				*e*	LR		LR	15 33 33.3	
	6µm,23.9s								
DZM	**Mont Dzumac**	**4.31**	**197**		Pn		**Pn**	**15 32 33.9**	**-0.2**
	115nm,0.7s								
DZM					Sn		**Sn**	**15 33 23.3**	**0.0**
	29nm,0.3s,baz=9.2,slow=20,SNR=4.7								
DZM					LR		LR	15 34 03.7	
	comp=Z,2µm,20.6s,baz=68,slow=36								
ONTNC	**Ouen Toro**	**4.54**	**196**				**Pn**	**15 32 37.2**	**+0.2**
PINNC	**Pines Island,**	**4.67**	**184**				**Pn**	**15 32 38.2**	**-0.6**
MSVF	**Nonsavu**	**9.74**	**90**				**Pn**	**15 33 50.7**	**+2.1**
MSVF	**Nonsavu**	**9.74**	**90**	⇑	*e*P		**Pn**	**15 33 53.2**	**+4.6**
FUNA	**Funafuti**	**14.48**	**51**		Pn		**Pn**	**15 34 54.7**	**+1.3**
LHI	**Lord Howe Isla**	**15.68**	**209**		Pn		**Pn**	**15 35 08.0**	**-1.2**
LHI					IAmb		IAmb	15 35 12.7	
	comp=Z,89nm,1.1s								
EIDS	**Eidsvold**	**17.22**	**242**				**Pn**	**15 35 28.2**	**-0.6**
RAO	**Raoul Island**	**17.23**	**133**		S		**Sn**	**15 38 30.6**	**-9.1**
	comp=Z,280nm,0.4s,baz=250,slow=22,SNR=1.9								
OUZ	**Omahuta**	**17.96**	**165**		P		**P**	**15 35 42.8**	**+4.6**
ARMA	**Armidale**	**19.28**	**227**				**P**	**15 35 51.5**	**-1.3**
ARMA					IAmb		IAmb	15 36 00.2	
	comp=Z,82nm,1.1s								
KUZ	**Kuaotunu**	**19.99**	**161**		P		**Pn**	**15 36 04.0**	**+1.8**
CTAO	**Charters Tower**	**20.50**	**261**				**P**	**15 36 05.1**	**-1.0**
CTAO	**Charters Tower**	**20.50**	**261**		P		**P**	**15 36 05.1**	**-1.0**
CTAO					pmax		pmax		
	comp=Z,40nm,1.0s								
TOZ	**Tahuroa Road**	**20.84**	**163**				**P**	**15 36 10.7**	**+1.1**
NIUE	**Niue**	**21.13**	**97**		P		**P**	**15 36 14.2**	**+1.4**
HIZ	**Hauiti**	**21.40**	**165**		P		**P**	**15 36 17.1**	**+1.5**
HIZ					IAmb		IAmb	15 36 28.7	
	comp=Z,110nm,1.1s								
HIZ	**Hauiti**	**21.40**	**165**		P		**P**	**15 36 20.0**	**+4.4**
HAZ	**Te Kaha**	**21.59**	**158**		P		**P**	**15 36 19.0**	**+1.4**
PKGZ	**Pakihiroa**	**21.80**	**158**		P		**P**	**15 36 24.3**	**+4.4**
URZ	**Urewera**	**21.82**	**160**		LR		LR	15 44 01.0	
	comp=Z,1µm,18.6s,baz=340,slow=35								
MWZ	**Matawai**	**22.02**	**159**		P		**P**	**15 36 28.8**	**+6.4**
TWGZ	**Tauwhareparae**	**22.04**	**158**		P		**P**	**15 36 26.7**	**+4.2**
PUZ	**Puketiti**	**22.04**	**158**		P		**P**	**15 36 26.8**	**+4.2**
RTZ	**Ruatahuna**	**22.10**	**161**				**P**	**15 36 23.8**	**+0.6**
RTZ					IAmb		IAmb	15 36 41.8	
	comp=Z,91nm,1.1s								
MRHZ	**Matea Rd**	**22.13**	**162**		P		**P**	**15 36 30.1**	**+6.7**
BKZ	**Black Stump Fm**	**22.46**	**162**				**P**	**15 36 28.2**	**+1.2**
BKZ	**Black Stump Fm**	**22.46**	**162**		P		**P**	**15 36 30.0**	**+3.0**
TSZ	**Takapari Road**	**23.14**	**164**		P		**P**	**15 36 37.4**	**+3.2**
QRZ	**Quartz Range**	**23.17**	**171**		P		**P**	**15 36 36.0**	**+1.7**
QRZ					IAmb		IAmb	15 36 53.0	
	comp=Z,75nm,1.4s								
MRZ	**Mangatainoka R**	**23.61**	**165**		P		**P**	**15 36 40.1**	**+1.4**
MRZ	**Mangatainoka R**	**23.61**	**165**		P		**P**	**15 36 40.9**	**+2.2**
NNZ	**Nelson**	**23.69**	**170**		P		**P**	**15 36 40.7**	**+1.3**
NNZ					IAmb		IAmb	15 36 58.5	
	comp=Z,37nm,1.1s								
MRNZ	**Matariki Terra**	**23.77**	**171**		P		**P**	**15 36 41.2**	**+1.1**
BFZ	**Birch Farm**	**23.80**	**164**		P		**P**	**15 36 40.5**	**0.0**
BFZ	**Birch Farm**	**23.80**	**164**		P		**P**	**15 36 41.9**	**+1.5**
TCW	**Tory Channel**	**23.85**	**168**		P		**P**	**15 36 42.3**	**+1.4**
TUWZ	**Tuamarina**	**24.00**	**169**		P		**P**	**15 36 42.8**	**+0.5**
COEN	**Coen**	**24.02**	**276**		P		**P**	**15 36 41.4**	**-1.4**
COEN					IAmb		IAmb	15 36 55.6	
	comp=Z,44nm,1.5s								
CAN	**Canberra**	**24.07**	**220**				**P**	**15 36 43.1**	**0.0**
CAN					IAmb		IAmb	15 36 47.9	
	comp=Z,56nm,1.0s								
CAN	**Canberra**	**24.07**	**220**		P		**P**	**15 36 43.1**	**0.0**
CAN					pmax		pmax		
	comp=Z,56nm,1.0s								
THZ	**Tophouse**	**24.14**	**171**		P		**P**	**15 36 44.7**	**+1.0**
THZ					IAmb		IAmb	15 36 54.8	
	comp=Z,40nm,1.0s								
THZ	**Tophouse**	**24.14**	**171**		P		**P**	**15 36 47.6**	**+3.9**
BHW	**Baring Head**	**24.16**	**167**		P		**P**	**15 36 44.9**	**+1.1**
MSWZ	**Moikau Station**	**24.25**	**166**		P		**P**	**15 36 45.0**	**+0.3**
BSWZ	**Blackbirch Sta**	**24.26**	**169**		P		**P**	**15 36 45.7**	**+0.9**
PLWZ	**Palliser**	**24.40**	**166**		P		**P**	**15 36 46.9**	**+0.8**
KHZ	**Kahutara**	**24.88**	**170**		P		**P**	**15 36 51.8**	**+1.5**
KHZ					IAmb		IAmb	15 37 04.5	
	comp=Z,18nm,0.8s								
INZ	**Inchbonnie**	**24.90**	**174**				**P**	**15 36 51.5**	**+1.0**
INZ	**Inchbonnie**	**24.90**	**174**		P		**P**	**15 36 54.7**	**+4.2**
LTZ	**Lake Taylor**	**25.05**	**172**		P		**P**	**15 36 53.8**	**+1.8**
LTZ					IAmb		IAmb	15 37 05.1	
	comp=Z,76nm,1.4s								
LTZ	**Lake Taylor**	**25.05**	**172**		P		**P**	**15 36 56.4**	**+4.4**
GVZ	**Greta Valley S**	**25.34**	**171**		P		**P**	**15 36 55.6**	**+1.1**
GVZ					IAmb		IAmb	15 37 28.0	
	comp=Z,58n

MJAR Matsushiro Arr 60.98 333 P P 15 41 39.5 -1.4
comp=Z,14nm,1.0s,baz=157,slow=7.3,SNR=16
comp=Z,14nm,1.0s
MAJO Matsushiro 60.98 333 P 15 41 39.5 -1.3
MAJO IAmb IAmb 15 41 50.6
comp=Z,17nm,1.0s
MAJO Matsushiro 60.98 333⇓ eP P 15 41 39.1 -1.7
MAJO pmax pmax
comp=Z,9.0nm,0.8s
JMM Marumori 61.05 336 P P 15 41 42.0 +0.8
TWG Pinlang 61.07 310 P P 15 41 41.9 +0.3
JTM Tenmabayashi 63.49 338 P P 15 41 57.7 +0.2
ERM Erimo 63.86 340 P P 15 42 00.5 +0.6
ERM IAmb IAmb 15 43 26.5
comp=Z,15nm,1.0s
ERM Erimo 63.86 340 P P 15 42 00.5 +0.6
ERM pmax pmax
comp=Z,15nm,1.0s
JKA Kamikawa-asahi 65.92 340 P 15 42 13.3 0.0
ASAJ Asahikawa 65.92 340 LR LR 16 08 00.4
comp=Z,204nm,20.0s,baz=180,slow=33
ASAJ Asahikawa 65.92 340 P P 15 42 13.3 0.0
ASAJ pmax pmax
comp=Z,19nm,0.7s
NJ2 Nanjing 68.34 316 *eP* P **15 42 31.6 +2.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
YSS Yuzhno-Sakhali 68.42 342 P 15 42 28.7 -0.3
YSS Yuzhno-Sakhali 68.42 342 *ce*P P **15 42 29.1 0.0**
YSS pmax pmax
comp=Z,29nm,1.1s
VLA Vladivostok 69.15 333⇑ *eP* P **15 42 31.8 -1.9**
VLA pmax pmax
comp=Z,14nm,1.0s
PSTR Posyet 69.26 332⇓ *eP* P **15 42 34.9 +0.5**
USA0B Ussuriysk Arra 69.97 333 P P 15 42 38.6 -0.1
USA0B Ussuriysk Arra 69.97 333 P P 15 42 38.6 -0.1
USA0B pmax pmax
comp=Z,70nm,2.0s
USRK Ussuriysk Ar. 69.97 333 P P 15 42 39.0 +0.2
comp=Z,6.5nm,1.0s,baz=99,slow=4.2,SNR=7.7
comp=Z,6.5nm,1.0s
USRK Ussuriysk Ar. 69.97 333 P P 15 42 39.0 +0.2
PBSI Pulau Batu 70.55 276 P P 15 42 39.6 -3.4
SHEM Shemya Is, Ala 70.58 4 LR LR 16 08 33.1
comp=Z,149nm,19.9s,baz=292,slow=32
KIWB Kanaga Island 70.72 10 P P 15 42 44.1 +0.9
RPSI Rantau Prapat 70.85 279 P P 15 42 44.5 -0.3
RPSI IAmb IAmb 15 42 52.1
comp=Z,20nm,1.3s
PSI Prapat 70.88 280 LR LR 16 16 42.6
comp=Z,204nm,18.3s,baz=123,slow=38
PSI Prapat 70.88 280 P P 15 42 44.5 -0.7
PSI pmax pmax
comp=Z,20nm,1.3s
PET Petropavlovsk 71.11 354 P P 15 42 44.5 -1.0
comp=Z,21nm,2.2s
GSTR Great Sitkin T 71.14 10 P P 15 42 45.4 -0.3
PEA0B Petropavlovsk- 71.29 354 P P 15 42 45.9 -0.7
PEA0B Petropavlovsk- 71.29 354 P P 15 42 45.9 -0.7
PEA0B pmax pmax
comp=Z,40nm,1.3s
PETK Petropavlovsk- 71.29 354 P P 15 42 46.0 -0.6
PETK Petropavlovsk- 71.29 354 P P 15 42 45.9 -0.7
comp=Z,6.8nm,0.9s,baz=108,slow=9.5,SNR=5.4
PETK LR LR 16 10 10.4
comp=Z,190nm,20.0s,baz=162,slow=33
comp=Z,6.8nm,0.9s
PETK Petropavlovsk- 71.29 354 P P 15 42 46.0 -0.6
MDJ Mudanjiang 71.35 332 P P 15 42 46.3 -0.8
MDJ IAmb IAmb 15 42 48.7
comp=Z,24nm,1.2s
MDJ Mudanjiang 71.35 332 P P 15 42 47.9 +0.8
MDJ pmax pmax
comp=Z,20nm,0.9s
GSI Gunungsitoli 71.66 278 P P 15 42 47.9 -1.9
TYV Tymovskoe 71.98 344 *eP* P **15 42 50.0 -0.8**
TYV pmax pmax
comp=Z,200nm,4.3s
TYV pmax pmax
comp=Z,11nm,1.0s
QSPA South Pole Qui 72.11 180 P P 15 42 53.2 +1.5
QSPA South Pole Qui 72.11 180 P P 15 42 51.4 -0.3
comp=Z,22nm,1.0s,baz=14,slow=2.0,SNR=48
QSPA LR LR 16 11 04.6
comp=Z,164nm,20.1s,baz=29,slow=33
comp=Z,22nm,1.0s
CN2 Changchun 72.66 329 P P 15 42 54.9 -0.1
CN2 pmax pmax
comp=Z,10.0nm,0.6s
BNX BinXian 73.20 332 ⇓P P 15 42 58.1 -0.1
BNX pmax pmax
comp=Z,15nm,0.8s
GRNR Gornyy 73.77 340⇑ *iP* P **15 43 02.1 +0.7**
GRNR pmax pmax
comp=Z,9.0nm,1.0s
LYN LuoYang 74.10 315 P P 15 43 11.6 +7.9
LYN pmax pmax
comp=Z,21nm,1.0s
BJI Beijing 75.09 321 P P 15 43 11.6 +2.3
BJI pP **PcP 15 43 23.5 +0.7**
BJI sP **pwP 15 43 29.4 +7.2**
BJI pmax pmax
comp=Z,5.0nm,1.4s
XAN Xi'an 76.25 313 *eP* P **15 43 18.7 +2.5**
XAN pP pP 15 43 26.3 +1.3
HEH HeiHe 76.67 335 *eP* P **15 43 17.6 -0.5**
HEH pmax pmax
comp=Z,9.0nm,1.1s
CM31 Chiang Mai Arr 76.75 295 P P 15 43 18.5 -0.8
CM31 IAmb IAmb 15 43 35.2
comp=Z,11nm,1.1s
CMAR Chiang Mai Arr 76.75 295 P 15 43 18.3 -1.0
CMAR Chiang Mai Arr 76.75 295 P P 15 43 20.4 +1.2
comp=Z,2.5nm,0.9s,baz=130,slow=4.5,SNR=11
CMAR LR LR 16 16 01.8
comp=Z,32nm,21.6s,baz=80,slow=35
comp=Z,2.5nm,0.9s
CHTO Chiang Mai 76.89 295 P P 15 43 19.8 -0.3
CHTO IAmb IAmb 15 43 32.4
comp=Z,19nm,1.4s
CHTO Chiang Mai 76.89 295 P P 15 43 19.8 -0.3
CHTO pmax pmax
comp=Z,19nm,1.5s
XLT XiLinHaoTe 77.61 324 *eP* P **15 43 25.1 +1.4**
XLT pmax pmax
comp=Z,13nm,1.3s
PZH PanZhiHua 77.88 303 P P 15 43 27.5 +1.9
HHC Hu-ho-hao-te 78.36 320 *eP* P **15 43 30.6 +2.6**
HHC pmax pmax
comp=Z,25nm,0.6s
HHC pmax pmax
comp=Z,64nm,4.1s
HHC LR LR
comp=Z,110nm,13.0s
HHC LR LR
comp=Z,100nm,13.0s
HHC LR LR
comp=Z,130nm,13.8s
MA2 Magadan 78.48 351 P P 15 43 28.1 +0.1
MA2 IAmb IAmb 15 43 33.6
comp=Z,13nm,0.9s
MA2 Magadan 78.48 351 LR LR 16 12 33.1
comp=Z,200nm,21.9s,baz=172,slow=32
MA2 Magadan 78.48 351 P P 15 43 28.1 +0.1
MA2 pmax pmax
comp=Z,13nm,0.9s
MAW Mawson 79.13 202 P P 15 43 30.3 -1.4
comp=Z,4.3nm,0.9s,baz=148,slow=6.7,SNR=8.0
MAW LR LR 16 14 20.2
comp=Z,191nm,20.0s,baz=101,slow=32
comp=Z,4.3nm,0.9s
BTO Baotou 79.18 319 *eP* P **15 43 32.4 0.0**
BTO pP **pP 15 43 42.6 +1.0**
BTO sP **pwP 15 43 50.8 +5.4**
BTO S **S 15 53 28.8 -1.4**
BTO pmax pmax
comp=Z,14nm,0.5s
BTO pmax pmax
comp=Z,230nm,4.1s
BTO LR LR
comp=Z,130nm,9.6s
ZEA Zeya 79.43 337 *eP* P **15 43 34.2 +0.8**
ZEA *e* 15 53 45.1
ZEA pmax pmax
comp=N,10.0nm,1.3s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
TNCH TengChong 79.84 300 *eP* P **15 43 38.5 +2.0**
TNCH pmax pmax
comp=Z,16nm,0.8s
LZH Lanzhou 80.86 313 *eP* P **15 43 44.5 +2.8**
LZH sP pwP 15 44 01.4 +6.8
LZH S **S 15 53 50.6 +2.3**
LZH sS sS 15 54 04.5 +1.4
LZH pmax pmax
comp=Z,18nm,1.2s
LZH LR LR
comp=Z,190nm,16.2s
LZH LR LR
comp=Z,170nm,16.5s
LZH LR LR
comp=Z,140nm,16.5s
SEY Seymchan 81.51 353 LR LR 16 14 34.1
comp=Z,240nm,21.8s,slow=32
SEY Seymchan 81.51 353 *de*P P **15 43 44.1 -0.2**
SEY pmax pmax
comp=Z,18nm,1.0s
N15K Kwethluk River 82.06 16 P P 15 43 46.8 -0.5
O16K Kokwok River B 82.09 17 P P 15 43 48.0 +0.5
KDAK Kodiak Island 82.27 20 LR LR 16 14 16.7
comp=Z,102nm,19.0s,baz=211,slow=31
KDAK Kodiak Island 82.27 20⇑ *eP* P **15 43 48.6 +0.2**
KDAK pmax pmax
comp=Z,6.0nm,1.0s
M16K Timber Creek 83.08 16 P P 15 43 52.5 -0.1
BELA Belgrano 2 83.50 175 P P 15 43 54.2 -0.5
BELA IAmb IAmb 15 44 06.0
comp=Z,13nm,1.0s
L16K Owhat River 83.54 15 P P 15 43 53.9 -1.0
L16K IAmb IAmb 15 44 15.7
comp=Z,23nm,1.9s
K15K Wolf Creek Mou 83.56 14 P P 15 43 54.5 -0.5
K15K IAmb IAmb 15 43 58.5
comp=Z,15nm,1.4s
ILSW Iliamna Southw 83.84 19 P P 15 43 54.8 -1.9
CNPM China Poot 84.08 20 P P 15 43 56.2 -1.6
CNPM IAmb IAmb 15 44 07.6
comp=Z,16nm,1.1s
CIT Chita 84.09 330 *eP* P **15 43 58.4 +0.3**
CIT *e* 15 44 04.8
CIT pmax pmax
comp=Z,76nm,1.4s
RED Redoubt Volcan 84.31 18 P P 15 43 57.6 -1.4
BRLK Bradley Lake 84.38 20 P P 15 43 58.2 -1.1
BRLK IAmb IAmb 15 44 06.7
comp=Z,16nm,1.2s
L18K Granite Mounta 84.68 16 P P 15 43 59.7 -1.0
L18K IAmb IAmb 15 44 12.9
comp=Z,13nm,1.2s
ULN Ulaanbaatar 85.02 324 P 15 44 02.8 -0.3
ULN Ulaanbaatar 85.02 324 *ce*P P **15 44 03.4 +0.4**
ULN pmax pmax
comp=Z,25nm,1.0s
J17K VABM Dome 85.08 14 P P 15 44 02.6 -0.1
J17K IAmb IAmb 15 44 05.2
comp=Z,6.6nm,1.0s
SPU Mount Spurr 85.13 18 P P 15 44 03.0 0.0
L19K White Mountain 85.13 17 P P 15 44 01.3 -1.8
L19K IAmb IAmb 15 44 13.5
comp=Z,14nm,1.2s
YAK Yakutsk 85.23 343 P 15 44 02.1 -1.3
YAK Yakutsk 85.23 343 *eP* P **15 44 03.0 -0.5**
YAK *e* 15 44 06.0
YAK *e* 15 47 20.7
YAK *eS* **SKSac 15 54 23.2 -2.4**
YAK *eSS* **SS 16 00 02.2 -4.1**
YAK pmax pmax
comp=Z,56nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.5s
YAK pmax pmax
comp=N,11nm,1.4s
YAK pmax pmax
comp=Z,54nm,4.1s
YAK pmax pmax
comp=E,15nm,4.2s
YAK pmax pmax
comp=N,34nm,4.4s
YAK smax smax
comp=E,28nm,3.2s
YAK smax smax
comp=N,12nm,2.3s
GTA Gaotai 85.26 314 *eP* P **15 44 06.5 +2.1**
GTA pP pP 15 44 12.7 -1.0
GTA pmax pmax
comp=N,5.0nm,0.9s
GTA LR LR
comp=N,110nm,16.0s
GTA LR LR
comp=N,120nm,19.3s
SONM Songino Array 85.38 324 P P 15 44 04.0 -0.7
SONM Songino Array 85.38 324 P P 15 44 04.3 -0.5
comp=N,10.0nm,0.9s,baz=147,slow=4.0,SNR=50
SONM LR LR 16 23 35.0
comp=N,45nm,18.1s,baz=120,slow=37
comp=N,10.0nm,0.9s
SONM Songino Array 85.38 324 P P 15 44 04.0 -0.7
SONM pmax pmax
comp=Z,24nm,1.1s
SMAI San Martin Ant 85.48 162 P P 15 44 05.3 +0.5
J18K Innoko River 85.71 15 P P 15 44 04.5 -1.4
BILL Bilibino 85.74 359 *de*P P **15 44 05.3 -0.6**
BILL pmax pmax
comp=Z,29nm,1.8s
KCPM Cahto Peak 85.79 46 P P 15 44 06.6 -0.4
KCPM IAmb IAmb 15 44 07.7
comp=Z,15nm,0.9s
SYO Syowa Base 85.80 196⇓ *e*PcP **PcP 15 44 08.4 -0.8**
SYO Syowa Base 85.80 196⇓ *es*P P 15 44 12.2 +5.8
KMRM Mail Ridge 85.95 46 P 15 44 07.7 0.0
KMRM IAmb IAmb 15 44 09.0
comp=Z,12nm,0.9s
KHMM Horse Mountain 86.23 45 P 15 44 08.6 -0.6
KHMM IAmb IAmb 15 44 10.5
comp=Z,8.3nm,0.9s
O02D Mt. Diablo Mer 86.56 46 P 15 44 10.1 -0.6
O02D IAmb IAmb 15 44 11.8
comp=Z,9.1nm,0.8s
J20K Nowinta River 86.95 16 IAmb IAmb 15 44 21.8
comp=Z,16nm,1.9s
AFDM Forest Hills D 87.28 48 P P 15 44 13.9 -0.3
AFDM IAmb IAmb 15 44 14.5
comp=Z,6.2nm,0.9s
CMB Columbia Colle 87.30 49 P 15 44 12.9 -1.4
CMB IAmb IAmb 15 44 14.6
comp=Z,5.9nm,0.8s
CMB Columbia Colle 87.30 49 P P 15 44 12.9 -1.4
CMB pmax pmax
comp=Z,6.0nm,0.9s
YBH Yreka Blue Hor 87.31 45 P 15 44 13.6 -0.7
YBH Yreka Blue Hor 87.31 45 LR LR 16 16 10.4
comp=Z,18nm,19.9s,baz=268,slow=31
YBH Yreka Blue Hor 87.31 45 P P 15 44 13.6 -0.7
YBH pmax pmax
comp=Z,3.0nm,0.9s
BOD Bodaibo 87.58 334 *eP* P **15 44 14.6 -0.5**
BOD pmax pmax
comp=Z,25nm,1.4s
HATC Hat Creek Radi 87.75 46 IAmb IAmb 15 44 17.2
comp=Z,8.1nm,0.8s
L04D Klamath Falls 87.80 44 P 15 44 15.6 -1.1
L04D IAmb IAmb 15 44 17.9
comp=Z,5.2nm,0.9s
BEKR Beckworth 88.10 47 P P 15 44 16.8 -1.4
WAKR Walker 88.17 49 P 15 44 18.0 -0.7
WAKR IAmb IAmb 15 44 19.6
comp=Z,6.3nm,1.0s
PFO Pinyon Flats O 88.43 54 LR LR 16 15 28.0
comp=Z,299nm,20.5s,baz=233,slow=30
ZAK Zakamensk 88.46 325 *eP* P **15 44 19.4 -0.3**
ZAK pmax pmax
comp=Z,7.0nm,1.6s
LHV Little Huntoon 88.74 49 P P 15 44 20.2 -0.8
NVAR Mina Array Bea 88.96 49 P P 15 44 21.3 -1.2
NVAR Mina Array Bea 88.96 49 P P 15 44 20.1 -2.3
comp=Z,2.2nm,0.8s,baz=230,slow=8.0,SNR=10
NVAR LR LR 16 20 03.7
comp=Z,141nm,18.2s,baz=212,slow=33
comp=Z,2.2nm,0.8s
K05A Summer Lake 88.96 44 IAmb IAmb 15 44 23.1
comp=Z,5.7nm,0.9s
J05D Fort Rock, OR 88.97 44 IAmb IAmb 15 44 23.1
comp=Z,6.1nm,0.9s
CCB Clear Creek Bu 89.04 18 P P 15 44 20.7 -1.2
BBB Bella Bella 89.13 34 LR LR 16 16 48.9
comp=Z,148nm,20.1s,baz=228,slow=31
IL31 89.40 18 P P 15 44 22.3 -1.3
ILAR Eielson Array 89.40 18 P P 15 44 20.6 -3.0
comp=Z,1.8nm,0.7s,baz=242,slow=4.8,SNR=13
ILAR LR LR 16 22 19.7
comp=Z,169nm,18.4s,baz=240,slow=34
comp=Z,1.8nm,0.7s
PALK Pallekele 89.49 278 LR LR 16 27 03.5
comp=Z,93nm,19.5s,baz=116,slow=37
TROLL Troll, Antarti 89.73 185 P P 15 44 26.9 +1.5
TPNV Topopah Spring 89.87 51 IAmb IAmb 15 46 51.6
comp=Z,6.4nm,0.6s
LPIG La Paz 90.07 65 LR LR 16 17 14.4
comp=Z,359nm,19.2s,baz=241,slow=31
SNAA Sanae 90.39 183 P P 15 44 29.5 +1.1
SNAA Sanae 90.39 183 P 15 44 28.8 +0.4
SNAA IAmb IAmb 15 44 40.2
comp=Z,7.5nm,0.8s
SNAA Sanae 90.39 183 P P 15 44 26.0 -2.5
comp=Z,4.4nm,1.0s,baz=196,slow=4.3,SNR=12
SNAA LR LR 16 21 49.5
comp=Z,119nm,21.9s,baz=142,slow=34
comp=Z,4.4nm,1.0s
SNAA Sanae 90.39 183⇓ *eP* P **15 44 29.9 +1.5**
SNAA pmax pmax
comp=Z,7.0nm,1.2s
I07A Izee 90.45 43 IAmb IAmb 15 44 29.7
comp=Z,5.9nm,0.9s
J08A Circle Bar Ran 90.83 44 IAmb IAmb 15 44 32.7
comp=Z,6.3nm,0.9s
PRN Pahroc Range 90.93 51 P P 15 44 30.7 -0.9
PRN IAmb IAmb 15 44 32.5
comp=Z,6.4nm,0.9s
G08A Pilot Rock 91.30 43 IAmb IAmb 15 44 33.9
comp=Z,5.1nm,0.8s
VNA2 Neumayer--Watz 91.31 182 P P 15 44 34.4 +1.8
baz=167,slow=5.5
DLBC Dease Lake 91.51 28 LR LR 16 22 36.9
comp=Z,15nm,18.2s,baz=223,slow=34
VNA1 Neumayer--Stat 91.61 181 P P 15 44 34.9 +0.9
ESPZ Base Esperanza 91.76 161 P P 15 44 35.0 +0.2
ESPZ IAmb IAmb 15 44 36.7
comp=Z,7.7nm,0.8s
TIXI Tiksi 93.20 348 P P 15 44 39.4 -1.6
TIXI IAmb IAmb 15 44 42.5
comp=Z,4.1nm,0.8s
TIXI Tiksi 93.20 348 LR LR 16 25 22.8
comp=Z,111nm,19.3s,baz=170,slow=35
TIXI Tiksi 93.20 348⇓ *eP* P **15 44 40.0 -1.1**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 93.65 40 LR LR 16 19 37.9
comp=Z,82nm,20.4s,baz=220,slow=31
BSUT Blindstream Ca 95.16 49 IAmb IAmb 15 46 25.1
comp=Z,10nm,1.4s
WMQ Urumqi 95.34 314 *eP* P **15 44 52.6 +0.9**
INK Inuvik 95.74 19 LR LR 16 21 25.8
comp=Z,150nm,22.0s,baz=242,slow=31
ANMO Albuquerque 96.67 56 LR LR 16 24 11.5
comp=Z,121nm,18.1s,baz=349,slow=33
PDAR Pinedale Array 96.72 47 P P 15 44 58.5 +0.3
PDAR Pinedale Array 96.72 47 LR LR 16 22 16.6
comp=Z,69nm,20.1s,baz=232,slow=32
TXAR Lajitas Array 97.33 62 P P 15 44 59.0 -2.1
comp=Z,0.3nm,0.7s,baz=210,slow=7.2,SNR=4.7
TXAR LR LR 16 22 58.6
comp=Z,87nm,18.2s,baz=232,slow=32
comp=Z,0.3nm,0.7s
TXAR Lajitas Array 97.33 62 P P 15 44 59.0 -2.1
MKAR Makanchi Array 99.87 316 P Pdif 15 45 12.4 +0.5
comp=Z,0.6nm,0.7s,baz=94,slow=6.5,SNR=5.5
MKAR Makanchi Array 99.87 316 *i* P **Pdif 15 45 13.0 +1.0**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 100.27 323 P Pdif 15 45 13.8 +0.3
comp=Z,1.3nm,0.7s,baz=101,slow=4.3,SNR=5.1
KURBB Kurchatov Arra 103.21 319 PKiKP **PKiKP 15 49 47.5 +1.5**
comp=Z,0.4nm,0.7s,baz=97,slow=2.3,SNR=4.4
NRIK Noril'sk 103.24 339 Pdiff **Pdif 15 45 25.4 -1.0**
comp=Z,3.0nm,0.8s,baz=195,slow=1.1,SNR=5.8
ARTI Arti 115.50 324 *i* PKIKP **PKPdf 15 50 09.0 +0.1**
ARTI 15 51 16.2
ARTI 15 57 17.7
ARTI SS SS 16 07 11.3 +3.3
SPITS Spitsbergen Ar 118.16 354 PKP **PKPdf 15 50 13.1 -0.5**
comp=Z,3.2nm,0.7s,baz=130,slow=16,SNR=4.3
ARCES ARCESS Array B 123.47 345 PKP **PKPdf 15 50 23.2 -0.8**
comp=Z,4.2nm,0.7s,baz=64,slow=2.8,SNR=18
KLMR Klimovskoe 123.76 332 *e*PKIKP **PKPdf 15 50 22.1 -2.6**
KLMR pmax pmax
comp=Z,21nm,1.5s
KIV Kislovodsk 127.40 312 *i* PKIKP **PKPdf 15 50 31.8 -0.5**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,24nm,23.0s
OBN Obninsk 127.67 327 *i* PKIKP **PKPdf 15 50 32.5 +0.2**
OBN *i* 15 50 39.7
OBN pmax pmax
comp=Z,8.0nm,1.2s
OBN MLR MLR
comp=Z,67nm,19.0s
OBN Obninsk 127.67 327 PKP **PKPdf 15 50 32.2 -0.1**
FINES FINESS Array B 128.88 338 PKP **PKPdf 15 50 34.1 -0.3**
comp=Z,3.0nm,0.8s,baz=70,slow=1.6,SNR=8.2
KHAM Kharkiv 129.90 321 PKP **PKPdf 15 50 36.9 +0.1**
PLTM Poltava 131.07 321 PKP **PKPdf 15 50 38.6 -0.4**
AKASG Malin Array Be 133.66 324 PKP **PKPdf 15 50 42.7 -1.1**
comp=Z,0.2nm,0.2s,baz=63,slow=2.2,SNR=6.7
AKBB Malin Array Si 133.66 324 PKP **PKPdf 15 50 43.2 -0.6**
AK09 Malin Array Si 133.66 324 PKP **PKPdf 15 50 43.0 -0.8**
AK01 Malin Array Si 133.67 324 PKP **PKPdf 15 50 43.8 0.0**
AK08 Malin Array Si 133.67 324 PKP **PKPdf 15 50 42.9 -0.9**
AK18 Malin Array Si 133.73 325 PKP **PKPdf 15 50 43.9 -0.1**
AK17 Malin Array Si 133.76 325 PKP **PKPdf 15 50 43.9 -0.1**
AK19 Malin Array Si 133.76 325 PKP **PKPdf 15 50 43.9 -0.1**
NB2 NORSAR Subarra 133.84 344 PKPdf **PKPdf 15 50 44.1 +0.2**
comp=Z,3.2nm,1.1s,baz=31,slow=1.9
NOA NORSAR Array B 133.84 344 PKP **PKPdf 15 50 43.7 -0.2**
comp=Z,1.4nm,0.7s,baz=31,slow=2.0,SNR=6.7
HFS Hagfors 133.92 342 PKP **PKPdf 15 50 42.6 -1.5**
comp=Z,1.9nm,0.8s,baz=2.9,slow=5.8,SNR=4.0
MI28 Mi28,Pidlybu 134.39 325 PKP **PKPdf 15 50 44.9 -0.3**
BAL3X Bal3x, Balta 134.74 321 PKP **PKPdf 15 50 44.9 -1.1**
SUW Suwalki 134.85 331 *e*PKP **PKPdf 15 50 40.1 -5.8**
LUBAR Lubar, Ukraine 134.86 324 PKP **PKPdf 15 50 46.0 -0.1**
BRTR Keskin Array B 134.96 309 PKP **PKPdf 15 50 46.2 -0.6**
comp=Z,1.6nm,1.0s,baz=141,slow=2.4,SNR=5.1
RNPP8 Varash 135.13 327 PKP **PKPdf 15 50 45.9 -0.7**
RNPP1 Kostyukhnivka 135.17 327 PKP **PKPdf 15 50 46.4 -0.2**
KWP Kalwaria Pacla 137.76 326 *e*PKP **PKiKP 15 50 52.6 -0.9**
STHS Stebnicka Huta 138.65 327 *e*P **Pdif 15 48 04.7 +0.3**
STHS Stebnicka Huta 138.65 327 *e*PDIFF **Pdif 15 48 04.7 +0.3**
OJC Ojcow 138.88 329 *e*PKP **PKPdf 15 50 54.2 +0.6**
NIE Niedzica 139.14 328 *e*PKP **PKPdf 15 50 53.8 -0.3**
STEB Steborice 140.05 330 *e*PKP **PKPdf 15 50 56.3 +0.6**
KSP Ksiaz 140.11 332 *e*PKP **PKPdf 15 50 51.7 -4.1**
OSTC Ostas 140.35 332 AMS AMS 16 53 50.0
comp=Z,200nm,24.2s
CHVC Chvalec 140.40 332 AMS AMS 16 54 10.0
comp=Z,200nm,25.0s
KRLC Kraliky 140.42 331 AMS AMS 16 52 40.0
comp=Z,200nm,23.2s
DPC Dobruska-Polom 140.44 331 AMS AMS 16 53 10.0
comp=Z,100nm,23.7s
UPC Upice 140.47 332 AMS AMS 16 54 00.0
comp=Z,200nm,22.8s
BRG Berggiesshubel 141.11 334 *e*PKP **PKPdf 15 50 52.4 -5.2**
BRG Amp 15 50 53.0
comp=Z,1.7nm,0.5s
BRG Berggiesshubel 141.11 334 P **PKPdf 15 50 58.1 +0.5**
BRG Amp 15 51 00.0
comp=Z,2.4nm,0.8s
CLL Collm 141.17 335 *i* PKIKP **PKiKP 15 51 00.9 +0.5**
CLL Collm 141.17 335 *i* PKiKP **PKiKP 15 51 00.9 +0.5**
CLL *e*PP **PP 15 53 55.0 -4.1**
CLL AMS AMS 16 55 00.0
comp=Z,100nm,19.7s
MODS Modra-Piesok 141.34 328 *e*PKIKP **PKPdf 15 50 58.0 -0.1**
MODS Modra-Piesok 141.34 328 *e*PKP **PKPdf 15 50 58.0 -0.1**
MODS *e*PP **PP 15 53 53.5 -6.9**

GOPC	GO Pecny, Ondr	141.45	332	AMS	AMS	17 01 40.0	
	comp=Z,100nm,20.4s						
PRU	Pruhonice	141.50	332	AMS	AMS	16 58 30.0	
	comp=Z,100nm,23.0s						
TREC	Trest	141.57	331	AMS	AMS	16 53 50.0	
	comp=Z,100nm,23.7s						
EKA	Eskdalemuir Ar	142.04	352	PKhKP	PKPpre	15 50 53.6	
	comp=Z,0.6nm,0.6s,baz=11,slow=1.4,SNR=4.5						
ZVC	Zvikov	142.06	332	*e*PKP	**PKPdf**	**15 50 56.5**	**-2.9**
CONA	Conrad Observa	142.34	329	*e*PKP	**PKPdf**	**15 50 57.4**	**-2.6**
	comp=Z,5.6nm,1.3s						
CKRC	Cesky Krumlov	142.45	331	*e*PKP	**PKPdf**	**15 50 56.3**	**-3.8**
CKRC				AMS	AMS	16 56 10.0	
	comp=Z,100nm,20.7s						
CKRC	Cesky Krumlov	142.45	331	*e*PKIKP	**PKPdf**	**15 50 56.3**	**-3.8**
CKRC				MLR	MLR		
	comp=Z,100nm,20.7s						
KHC	Kasperske Hory	142.56	332	*e*PKP	**PKPdf**	**15 50 58.5**	**-1.8**
KHC				AMS	AMS	16 58 50.0	
	comp=Z,200nm,20.7s						
KHC	Kasperske Hory	142.56	332	*e*PKIKP	**PKPdf**	**15 50 58.5**	**-1.8**
KHC				MLR	MLR		
	comp=Z,200nm,20.7s						
GERES	GERESS Array B	142.71	332	PKhKP	PKPpre	15 50 56.5	
	comp=Z,1.7nm,0.8s,baz=336,slow=2.9,SNR=13						
MOA	Molln	143.17	330	*e*PKP	PKPbc	15 50 58.9	+0.6
	comp=Z,6.5nm,0.8s						
SOKA	Soboth	143.60	328	*i* PKP	PKPbc	15 50 59.9	+0.2
	comp=Z,8.3nm,0.9s,SNR=6.0						
OBKA	Obir	143.96	328	*e*PKP	PKPbc	15 51 00.9	+0.1
	comp=Z,9.3nm,1.0s						
KBA	Koelnbreinsper	144.15	330	*i* PKP	PKPbc	15 51 01.3	-0.2
	comp=Z,18nm,1.1s						
LESA	Schwarzleotal	144.22	331	*i* PKP	PKPbc	15 51 02.0	+0.5
	comp=Z,17nm,0.8s,SNR=14						
BOJS	Bojanci	144.28	326	*i* PKPdf	PKPbc	15 51 02.0	+0.4
BTNL	Ternell	144.29	340	*d*PKPdf	PKPbc	15 51 01.9	+0.3
LJU	Ljubljana	144.29	328	*e*PKPdf	PKPbc	15 51 02.1	+0.4
MEM	Membach	144.31	340	*d*PKPdf	PKPbc	15 51 01.9	+0.4
MYKA	Terra Mystica	144.33	329	*i* PKP	**PKPab**	**15 51 01.5**	**-0.1**
	comp=Z,266nm,12.2s,SNR=9.1						
BSTI	Sart Tilman	144.47	340	*d*PKPdf	PKPbc	15 51 02.3	+0.2
BHOU	Houvegnez	144.53	340	*d*PKPdf	**PKPdf**	**15 51 03.1**	**-0.6**
BCLA	Clavier	144.70	341	*d*PKPdf	PKPbc	15 51 03.1	+0.3
KNDS	Knezji Dol	144.72	327	*i* PKPdf	**PKPab**	**15 51 03.0**	**-0.1**
ABTA	Abfaltersbach	144.79	330	*i* PKP	**PKPab**	**15 51 02.7**	**-0.6**
	comp=Z,31nm,0.9s,SNR=13						
WATA	Walderalm	144.79	332	*i* PKP	PKPbc	15 51 03.5	+0.1
	comp=Z,43nm,1.4s,SNR=6.1						
BGES	Gesves	144.80	341	*d*PKPdf	PKPbc	15 51 03.2	+0.1
WTTA	Wattenberg	144.82	331	*i* PKP	PKPbc	15 51 03.9	+0.3
	comp=Z,62nm,1.5s,SNR=9.0						
BMRD	Maredsous	144.97	341	*d*PKPdf	**PKPdf**	**15 51 04.1**	**-0.3**
MOTA	Moosalm	145.00	332	*i* PKP	PKPbc	15 51 04.0	-0.1
	comp=Z,64nm,1.0s,SNR=25						
RETA	Reutte	145.04	333	*i* PKP	**PKPdf**	**15 51 04.5**	**-0.3**
	comp=Z,48nm,1.1s,SNR=11						
SQTA	Sankt Quirin	145.04	332	*i* PKP	**PKPab**	**15 51 04.4**	**+0.1**
	comp=Z,63nm,1.0s,SNR=22						
WLF	Walferdange	145.07	339	*d*PKPdf	**PKPdf**	**15 51 04.8**	**+0.2**
DOU	Dourbes	145.21	341	*d*PKPdf	**PKPbc**	**15 51 04.4**	**0.0**
FETA	Feichten	145.41	332	*i* PKP	**PKPab**	**15 51 05.8**	**+0.1**
	comp=Z,75nm,0.9s,SNR=41						
DAVA	Damuels	145.58	333	*i* PKP	**PKPab**	**15 51 06.2**	**0.0**
	comp=Z,95nm,1.0s,SNR=28						
ESDC	Sonseca Array	157.20	343	PKPab	**PKPab**	**15 51 54.0**	**-0.2**
	comp=Z,3.5nm,1.1s,baz=19,slow=4.4,SNR=11						
TORD	Torodi Ar. Bea	165.81	252	PKP	**PKPdf**	**15 51 32.7**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=74,slow=2.1,SNR=7.0						

NEIC ***11*** *15:32:44.5±1.0, 35.706N±0.009×117.50W±0.01, h4km±3km, Error ellipse: s-maj=1.5km s-min=1.0km az=223.0*

PAS 11 15:32:44.9±0.7, 35.69N±0.02×117.52W±0.02, h7km±1km, ML3.8, ML3.3/42(NEIC), Error ellipse: s-maj=2.7km s-min=2.1km az=125.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	Spangler Hills	0.09	168	Pg	Pg	15 32 47.1	0.0
SRTC	Snort	0.19	271		Pg	15 32 49.1	+0.3
CCCA	Chr Cany lake	0.20	143		Pg	15 32 49.1	+0.1
TOW	Tower One	0.23	301		Pg	15 32 50.0	+0.3
LRMC	Laurel Mtn Rad	0.25	213		Pg	15 32 49.7	-0.2
WNMM	Nine Mile Cany	0.35	296		Pg	15 32 51.8	0.0
WVPM	Volcano Peak E	0.36	317		Pg	15 32 52.2	+0.2
MPMC	Manual Prospec	0.37	3		Pg	15 32 51.8	-0.4
JRC2	Joshua Ridge	0.38	52		Pg	15 32 52.4	0.0
QSM	Queen of Sheba	0.59	62		Pg	15 32 56.0	-0.4
QSM				IAML		15 33 10.8	
	comp=E,2μm,0.3s						
QSM				IAML		15 33 12.8	
	comp=N,2μm,0.6s						
GSC	Goldstone, Bar	0.70	124	Pg	Pg	15 32 57.7	-0.6
GSC				IAML		15 33 20.3	
	comp=E,1μm,0.5s						
GSC				IAML		15 33 20.9	
	comp=N,909nm,0.8s						
GWY	Greenwater Val	0.85	54		Pg	15 33 00.8	-0.5
TPO	Tropico Hills	1.00	216		Pb	15 33 04.4	-0.1
WCT	Wildcat Mounta	1.31	33		Pn	15 33 09.3	-0.5
BFSC	Mount Baldy Ra	1.45	185		Pb	15 33 12.2	-0.1
TPNV	Topopah Spring	1.62	39		Pn	15 33 13.1	-0.9
ELS	Elsinore Mount	2.04	178	Pn	Pn	15 33 19.8	+0.1
SHPR	Sheep Range	2.07	66	Pn	Pn	15 33 20.4	0.0
PLM	Palomar	2.39	167		Pb	15 33 28.2	-0.2
BLYC	Blythe	3.13	127	Pn	Pn	15 33 34.3	-0.4

NEIC ***11*** *15:32:51.6±1.3, 36.154N±0.009×117.87W±0.01, h3km±3km, Error ellipse: s-maj=1.6km s-min=1.4km az=80.0*

PAS ***11*** *15:32:52.1±1.5, 36.153N±0.004×117.88W±0.01, h0km±2km, Mwr3.9/6, ML3.8/176(NEIC), Error ellipse: s-maj=1.7km s-min=0.5km az=94.0*

IDC ***11*** *15:32:54.0±2.0, 36.21N×117.68W, h0km, mb3.6/1, mbtmp3.4/4, ML3.7/2, MS3.3/4, Error ellipse: s-maj=34.8km s-min=11.2km az=59.0*

ISC 11 15:32:51.9±0.9, 36.16N±0.02×117.87W±0.02, h7km±8km, n114, σ0.79/121, MS4.0/3, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	McCloud Flat S	0.05	163		Pg	15 32 53.5	-0.1
WRVM	Rose V. Centra	0.15	185		Pg	15 32 55.3	+0.2
JRC2	Joshua Ridge	0.19	164		Pg	15 32 55.9	+0.2
WVPM	Volcano Peak E	0.22	168		Pg	15 32 56.5	+0.2
WVPM					Sg	15 32 59.8	+0.6
WNMM	Nine Mile Cany	0.32	185		Pg	15 32 58.6	+0.4
CWC	Cottonwood Cre	0.32	329		Pg	15 32 58.6	+0.3
CWC				Sg	Sg	15 33 03.0	+0.3
CWC				IAML		15 33 04.0	
	comp=E,9μm,0.3s						
MPMC	Manual Prospec	0.33	108		Pg	15 32 58.4	0.0
MPMC					Sg	15 33 03.2	+0.5
MPMC				IAML		15 33 05.2	
	comp=N,14μm,0.6s						
MPMC				IAML		15 33 05.2	
	comp=E,13μm,0.4s						
TOW	Tower One	0.36	166		Pg	15 32 59.6	+0.6
CGO	Cerro Gordo	0.39	8		Pg	15 32 60.0	+0.3
CGO					Sb	15 33 06.7	-1.1
SRTC	Snort	0.48	168		Pg	15 33 01.8	+0.6
WORM	Onyx Ranch	0.55	213		Pg	15 33 02.5	-0.1
ISA	Isabella, Lake	0.70	225		Pg	15 33 05.2	-0.2
ISA				Sg	Sg	15 33 13.5	-0.9
ISA				IAML		15 33 15.8	
	comp=E,3μm,0.2s						
ISA				IAML		15 33 16.8	
	comp=N,3μm,0.3s						
LRMC	Laurel Mtn Rad	0.70	167	Pg	Pg	15 33 05.4	0.0
LRMC				Sg	Sg	15 33 14.8	+0.3
LRMC				IAML		15 33 15.1	
	comp=E,7μm,0.6s						
LRMC				IAML		15 33 15.9	
	comp=N,6μm,0.2s						
CCCA	Chr Cany lake	0.76	147	Sg	Sb	15 33 17.9	-0.2
QSM	Queen of Sheba	0.84	103		Pg	15 33 07.8	-0.2
QSM					Sg	15 33 18.9	+0.1
QSM				IAML		15 33 25.6	
	comp=N,5μm,0.8s						
DTP	Desert Tortois	0.89	179		Pg	15 33 08.9	-0.1
DTP					Sg	15 33 20.6	-0.1
GRAC	Grapevine Rang	0.93	26		Pg	15 33 09.8	0.0
GRAC				Sg	Sg	15 33 21.6	-0.2
GRAC				IAML		15 33 28.3	
	comp=E,2μm,1.2s						
GRAC				IAML		15 33 33.8	
	comp=N,2μm,0.7s						
TIN	Tinemaha, Big	0.94	342		Pb	15 33 10.5	-0.1
GWY	Greenwater Val	0.97	88	Pg	Pg	15 33 10.8	+0.2
GWY				Sg	Sg	15 33 23.1	-0.2
GWY				IAML		15 33 28.3	
	comp=N,5μm,0.5s						
WCT	Wildcat Mounta	1.19	58		Pb	15 33 13.9	-0.9
WCT				IAML		15 33 34.8	
	comp=N,967nm,0.8s						
WCT				IAML		15 33 34.9	
	comp=E,1μm,0.9s						
DSP	Deep Springs	1.21	356		Pn	15 33 14.5	-0.7
GSC	Goldstone, Bar	1.22	134	Pg	Pn	15 33 14.7	-0.8
GSC				IAML		15 33 36.0	
	comp=N,2μm,0.9s						
GSC				IAML		15 33 37.5	
	comp=E,2μm,0.7s						
VOG	Valley Oaks Go	1.23	278		Pb	15 33 15.4	-0.1
GMN	Gold Mountain	1.24	23		Pn	15 33 15.4	-0.5
TPO	Tropico Hills	1.31	193	Pg	Pn	15 33 16.1	-0.7
TPO					Pb	15 33 16.4	-0.5
TPO				IAML		15 33 36.3	
	comp=N,3μm,0.8s						
AMDNV	Amargosa	1.32	77		Pn	15 33 16.6	-0.1
SHOC	Shoshone, Teco	1.32	101		Pg	15 33 18.0	+0.8
TPNV	Topopah Spring	1.52	59		Pb	15 33 20.3	-0.3
TPNV				IAML		15 33 49.1	
	comp=N,1μm,1.2s						
TPNV				IAML		15 33 51.4	
	comp=N,1μm,0.8s						
MZP	Montezuma Peak	1.58	14		Pb	15 33 21.6	-0.1
KCC	Kaiser Creek	1.64	315		Pb	15 33 22.4	-0.2
BENR	Benton	1.65	340		Pb	15 33 23.0	+0.1
OSI	Osito Audit: C	1.69	204		Pb	15 33 22.6	-0.8
OSI				IAML		15 33 52.8	
	comp=N,2μm,0.6s						
SMMC	Simmler	1.92	245		Pb	15 33 26.8	-0.6
BFSC	Mount Baldy Ra	1.93	175		Pn	15 33 25.6	+0.3
BFSC				IAML		15 33 53.6	
	comp=E,962nm,0.6s						
BFSC				IAML		15 33 54.0	
	comp=N,955nm,0.3s						
MWC	Mount Wilson	1.94	185		Pn	15 33 26.2	+0.7
MWC				IAML		15 33 54.4	
	comp=E,1μm,0.6s						
TPH	Tonopah	1.98	15		Pn	15 33 27.0	+0.9
MTPC	Mountain Pass	2.00	109		Pn	15 33 25.9	-0.4
MTPC				IAML		15 33 58.6	
	comp=E,615nm,0.6s						
MTPC				IAML		15 34 04.1	
	comp=N,660nm,0.9s						
PASC	Pasadena Art C	2.00	187		Pn	15 33 26.8	+0.6
PASC				IAML		15 33 57.3	
	comp=E,678nm,0.8s						
PASC				IAML		15 34 00.2	
	comp=N,539nm,0.5s						
TSCN	Private Proper	2.10	254		Pn	15 33 28.8	+1.2
LHV	Little Huntoon	2.15	347		Pn	15 33 29.2	+1.1
LHV				IAML		15 34 13.3	
	comp=E,454nm,0.9s						
SHPR	Sheep Range	2.22	80		Pn	15 33 30.0	+0.7
SHPR				IAML		15 34 10.1	
	comp=N,214nm,1.2s						
SHPR				IAML		15 34 11.8	
	comp=E,164nm,0.9s						
FIGC	Figueroa Mtn.	2.24	231		Pb	15 33 32.2	-0.6
S11A	Rachel	2.26	48		Pn	15 33 30.4	+0.5
NV11	Mina Array Sit	2.28	354		Pn	15 33 30.9	+0.7
NVAR	Mina Array Bea	2.29	351		Pn	15 33 30.8	+0.4
NVAR	Mina Array Bea	2.29	351	Pn	Pb	15 33 32.4	-1.3
	comp=E,17nm,0.3s,baz=173,slow=15,SNR=57						
NVAR				Lg	Lg	15 34 04.8	
	comp=E,13nm,0.3s,baz=169,slow=29,SNR=5.4						
	comp=E,26nm,0.5s						
PMPB	Monarch Peak	2.37	272		Pn	15 33 32.1	+0.8
MYLM	Yosemite Lake	2.38	302		Pb	15 33 35.1	0.0
V12A	Nelson	2.49	99		Pn	15 33 32.9	-0.1
V12A				IAML		15 34 24.4	
	comp=N,451nm,0.9s						
RYN	Ryan	2.52	348		Pn	15 33 33.6	+0.2
ELS	Elsinore Mount	2.54	172		Pn	15 33 33.8	+0.2
ELS				IAML		15 34 13.8	
	comp=N,261nm,0.5s						
ELS				IAML		15 34 18.2	
	comp=E,330nm,1.6s						
PRN	Pahroc Range	2.58	60		Pn	15 33 35.1	+0.8
PRN				IAML		15 34 22.0	
	comp=N,657nm,0.8s						
BBGB	Big Mountain B	2.59	280		Pn	15 33 35.3	+0.9
WAKR	Walker	2.65	332		Pn	15 33 36.0	+0.7
Q09A	Carvers	2.72	11		Pn	15 33 37.7	+1.4
Q09A				IAML		15 34 24.9	
	comp=E,538nm,0.7s						
Q09A				IAML		15 34 28.8	
	comp=N,615nm,0.9s						
CMB	Columbia Colle	2.74	314	Pn	Pn	15 33 36.5	+0.1
CMB				IAML		15 34 19.4	
	comp=E,371nm,0.8s						
CMB				IAML		15 34 22.0	
	comp=N,564nm,0.6s						
PMD	Palm Desert	2.79	153		Pn	15 33 36.9	-0.2
PFO	Pinyon Flats O	2.80	155		Pn	15 33 37.1	-0.1
R11B	Troy Canyon, C	2.84	39		Pn	15 33 38.7	+0.8
R11B				IAML		15 34 27.2	
	comp=E,181nm,0.8s						
SAO	San Andreas Ge	2.94	283		Pn	15 33 38.9	-0.3
NEE2	Needles Airpor	3.00	117		Pn	15 33 39.6	-0.2
NEE2				IAML		15 34 33.9	
	comp=E,502nm,0.6s						
NEE2				IAML		15 34 40.9	
	comp=N,352nm,0.7s						
BORC	Borrego Spring	3.13	157		Pn	15 33 41.5	-0.1
BORC				IAML		15 34 39.9	
	comp=E,196nm,1.2s						
BORC				IAML		15 34 40.0	
	comp=N,192nm,0.8s						
DPP	Dos Picos Cty	3.25	166		Pn	15 33 43.4	0.0
DPP				IAML		15 34 39.2	
	comp=E,149nm,1.4s						
SALN	Salton City	3.27	151		Pn	15 33 43.6	+0.1
W13A	Hualapai Mount	3.42	107		Pn	15 33 45.5	-0.3
W13A				IAML		15 34 50.7	
	comp=E,116nm,1.2s						
W13A				IAML		15 34 50.9	
	comp=N,119nm,1.8s						
MPK	Martis Peak	3.56	332		Pn	15 33 47.0	-1.0
BLYC	Blythe	3.65	130		Pn	15 33 48.1	-0.8
BLYC				IAML		15 34 56.7	
	comp=N,113nm,0.6s						
BLYC				IAML		15 34 56.8	
	comp=E,140nm,0.6s						
AFDM	Forest Hills D	3.71	319		Pn	15 33 50.0	+0.2
AFDM				IAML		15 34 50.3	
	comp=E,265nm,0.5s						
AFDM				IAML		15 34 58.0	
	comp=N,246nm,0.8s						
PAHR	Pah Rah Range	3.73	342		Pn	15 33 48.4	-1.7
TKX	Tecate	3.73	163		Pn	15 33 48.9	-1.1
TKX				IAML		15 34 40.1	
	comp=N,143nm,0.1s						
LCMT	Little Creek M	3.82	76		Pn	15 33 50.9	-0.4
YUH	Yuha Desert	3.86	155		Pn	15 33 51.0	-0.7
CCUT	Cedar City	3.87	68		Pn	15 33 51.8	-0.4
CBX	Cerro Bola	3.97	165		Pn	15 33 52.7	-0.6
PSUT	Pine Spring	3.98	52		Pn	15 33 53.1	-0.5
PSUT				IAML		15 35 02.5	
	comp=N,156nm,0.8s						
PSUT				IAML		15 35 06.0	
	comp=E,150nm,1.0s						
SPR3	Spring Creek 3	3.99	44		Pn	15 33 53.6	-0.2
SPR3				IAML		15 35 13.2	
	comp=E,76nm,1.1s						
GLA	Glamis	3.99	140		Pn	15 33 52.4	-1.2
GLA				IAML		15 35 03.1	
	comp=N,150nm,0.6s						
GLA				IAML		15 35 10.2	
	comp=E,147nm,0.9s						
SZCU	Shurtz Canyon	4.09	68		Pn	15 33 54.8	-0.4
KNB	Kanab	4.15	77		Pn	15 33 56.0	0.0
KNB				IAML		15 35 09.2	
	comp=E,129nm,1.5s						
KNB				IAML		15 35 21.8	
	comp=N,115nm,1.5s						
BEKR	Beckworth	4.19	333		Pn	15 33 56.8	+0.4
BEKR				IAML		15 35 10.6	
	comp=N,102nm,0.8s						
CPBX	Cerro Prieto	4.30	150	Pn	Pn	15 33 58.1	+0.4
CCX	Cicese	4.40	166		Pn	15 33 59.7	+0.6
CCX				IAML		15 35 19.0	
	comp=E,122nm,1.0s						
CCX				IAML		15 35 47.2	
	comp=N,119nm,0.1s						
ORV	Oroville	4.44	321		Pn	15 33 59.5	-0.2
ORV				IAML		15 35 13.0	
	comp=E,131nm,0.7s						
ORV				IAML		15 35 19.1	
	comp=N,119nm,0.7s						
ESJX	Sierra Juarez	4.44	158		Pn	15 34 00.0	+0.1
ESJX				IAML		15 35 18.2	
	comp=E,72nm,1.1s						
MCCM	Marconi Confer	4.46	298	Pn	Pn	15 34 01.1	+1.1
MCCM				IAML		15 35 19.4	
	comp=E,93nm,0.8s						
MCCM				IAML		15 35 27.1	
	comp=N,76nm,1.1s						
U15A	North Rim	4.52	85		Pn	15 34 00.5	-0.6
U15A				IAML		15 35 15.3	
	comp=E,75nm,0.7s						
U15A				IAML		15 35 25.5	
	comp=N,93nm,1.5s						
Y14A	Wickenburg	4.57	118		Pn	15 34 01.1	-0.4
Y14A				IAML		15 35 20.9	
	comp=E,107nm,0.8s						
Y14A				IAML		15 35 25.5	
	comp=N,73nm,0.8s						
GDXM	Geysers	4.72	305		Pn	15 34 03.9	+0.3
ELK	Elko	5.02	24		Pn	15 34 08.9	+1.0
WUAZ	Wupatki	5.32	95		Pn	15 34 13.5	+1.6
WUAZ				IAML		15 35 52.3	
	comp=N,88nm,1.8s						
X16A	Lo Mia Camp, P	5.54	106		Pn	15 34 14.7	-0.3
Q16A	Castle Valley	5.99	61		Pn	15 34 21.5	+0.3
TMUT	Trail Mountain	6.14	57		Pn	15 34 23.8	+0.4
X18A	Snowflake	6.68	102		Pn	15 34 31.5	+0.9
YBH	Yreka Blue Hor	6.72	327		Pn	15 34 31.5	+0.4
HVU	Hansel Valley	6.87	34		Pn	15 34 33.7	+0.5
TUC	Tucson	7.01	121		Pn	15 34 34.7	-0.5
HWUT	Hardware Ranch	7.33	40		Pn	15 34 39.6	+0.1
PV14	Lion Creek, Pa	7.39	70		Pn	15 34 41.0	+0.5
PV18	Skein Mesa, Pa	7.45	71		Pn	15 34 40.9	-0.4
PV21	Cone Mtn., Par	7.48	69		Pn	15 34 42.4	+0.7
MVCO	Mesa Verde	7.60	79		Pn	15 34 43.3	-0.1
PV01	Paradox Valley	7.69	72		Pn	15 34 43.9	-0.6
PV07	Paradox Valley	7.70	70		Pn	15 34 43.2	-1.4
I07A	Izee	8.01	352		Pn	15 34 48.5	-0.4
319A	Douglas	8.60	121		Pn	15 34 55.7	-1.2
TPAW	Teton Pass	9.05	34	Pn	Pn	15 35 03.3	+0.1
PDAR	Pinedale Array	9.21	42	Pn	Pn	15 35 09.4	+4.1
	comp=N,0.2nm,0.5s,baz=220,slow=14,SNR=0.8						
PDAR				LR	LR	15 38 55.2	
	comp=N,54nm,20.3s,baz=261,slow=40						
TXAR	Lajitas Array	13.75	116		Pn	15 36 07.8	+0.3
TXAR	Lajitas Array	13.75	116	Pn	Pn	15 36 11.0	+3.6
	comp=N,0.1nm,0.3s,baz=289,slow=12,SNR=15						
	comp=N,1.2nm,0.8s						
DLBC	Dease Lake	23.69	344	LR	LR	15 47 54.3	
	comp=N,12nm,18.1s,baz=139,slow=38						
ILAR	Eielson Array	33.48	338	P	P	15 39 36.2	+4.7
	comp=N,0.4nm,0.4s,baz=132,slow=7.4,SNR=5.1						
	comp=N,0.4nm,0.4s						
KLR	Kul'dur	74.99	320	LR	LR	16 18 38.0	
	comp=N,69nm,18.0s,baz=196,slow=37						
ZALV	Zalesovo Beam	88.13	347	LR	LR	16 30 46.5	
	comp=N,72nm,18.9s,baz=128,slow=39						

NOU 11 15:44:53.9, 13.10S×167.14E, h105km, mb4.4/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	3.00	175	P	Pn	15 45 38.4	-1.4
DVP	Devils Point	4.71	168	P	Pn	15 46 03.4	+0.7
INH	Isangel	6.73	163	P	Pn	15 46 28.5	-1.7
KOUNC	Koumac, New Ca	7.90	200	P	Pn	15 46 45.5	-0.5
YATNC	Mamie plateau,	8.91	181	P	Pn	15 47 00.0	+0.2
DZM	Mont Dzumac	8.95	184	P	Pn	15 47 00.2	-0.2
ONTNC	Ouen Toro	9.18	184	P	Pn	15 47 04.0	+0.6
OUENC	Ouen Island, N	9.27	182	P	Pn	15 47 05.2	+0.5
PINNC	Pines Island,	9.47	178	P	Pn	15 47 07.4	+0.1

PAS ***11*** *15:51:06.3±1.1, 36.183N±0.009×117.88W±0.02, h-0km±2km, ML3.3/22, ML3.1/156(NEIC), Error ellipse: s-maj=2.3km s-min=1.3km az=83.0*

NEIC 11 15:51:05.8±1.3, 36.193N±0.008×117.85W±0.01, h2km±3km, Error ellipse: s-maj=1.9km s-min=0.9km az=63.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	McCloud Flat S	0.08	184		Pg	15 51 08.0	+0.6
WRVM	Rose V. Centra	0.19	190		Pg	15 51 10.0	+0.5
JRC2	Joshua Ridge	0.21	171		Pg	15 51 10.7	+0.7
JRC2					Sg	15 51 13.9	+1.1
WVPM	Volcano Peak E	0.24	174		Pg	15 51 11.5	+0.9
WVPM					Sg	15 51 14.9	+1.1
CWC	Cottonwood Cre	0.31	323		Pg	15 51 12.2	+0.3
CWC				Sg	Sg	15 51 16.6	+0.7
CWC				IAML		15 51 18.1	
	comp=N,5μm,0.2s						
CWC				IAML		15 51 18.9	
	comp=E,4μm,0.2s						
MPMC	Manual Prospec	0.32	115	Pg	Pg	15 51 12.8	+0.8
MPMC				IAML		15 51 22.7	
	comp=N,1μm,0.9s						
CGO	Cerro Gordo	0.36	6		Pg	15 51 13.6	+0.8
CGO					Sg	15 51 19.1	+1.6
SRTC	Snort	0.51	171		Pb	15 51 16.7	-0.8
WORM	Onyx Ranch	0.59	213		Pg	15 51 18.0	+0.8
WSHM	Spangler Hills	0.66	154	Pg	Pg	15 51 18.8	+0.3
WSHM				Sg	Sg	15 51 28.1	+1.1
WSHM				IAML		15 51 29.5	
	comp=N,1μm,0.3s						
WSHM				IAML		15 51 30.0	
	comp=N,852nm,0.3s						
LRMC	Laurel Mtn Rad	0.72	169		Pg	15 51 19.9	+0.2
LRMC				IAML	

GSC	**Goldstone, Bar**	**1.23**	**136**	Pg	Pg	15 51 29.4	0.0
GSC				IAML		15 51 49.8	
	comp=E,534nm,0.5s						
GSC				IAML		15 51 50.5	
	comp=N,445nm,0.8s						
MTUM	**Tungsten Hills**	**1.29**	**334**		Pg	15 51 30.6	-0.1
TPO	**Tropico Hills**	**1.35**	**193**		Pg	15 51 30.7	-1.0
TPO				IAML		15 51 52.5	
	comp=E,369nm,0.8s						
TPO				IAML		15 51 59.3	
	comp=N,327nm,0.7s						
TPNV	**Topopah Spring**	**1.49**	**59**		Pn	15 51 33.8	0.0
TPNV				IAML		15 52 02.3	
	comp=N,197nm,0.9s						
TPNV				IAML		15 52 02.0	
	comp=N,178nm,0.8s						
MZP	**Montezuma Peak**	**1.55**	**14**		Pg	15 51 35.6	+0.1
KCC	**Kaiser Creek**	**1.63**	**314**		Pn	15 51 36.1	+0.5
MLAC	**Mammoth, Mammo**	**1.64**	**331**		Pb	15 51 37.0	+0.1
OSI	**Osito Audit: C**	**1.73**	**205**		Pn	15 51 37.3	+0.3
OSI				IAML		15 52 03.6	
	comp=E,291nm,0.7s						
OSI				IAML		15 52 11.6	
	comp=N,279nm,0.9s						
CRGC	**Crocker Grade**	**1.80**	**239**		Pb	15 51 39.1	-0.4
HEC	**Hector,Ludlow**	**1.84**	**137**		Pb	15 51 40.4	+0.2
TPH	**Tonopah**	**1.94**	**15**		Pb	15 51 41.6	-0.5
BFSC	**Mount Baldy Ra**	**1.96**	**175**		Pn	15 51 40.7	+0.6
BFSC				IAML		15 52 10.3	
	comp=E,108nm,0.8s						
BFSC				IAML		15 52 12.7	
	comp=N,100nm,0.8s						
MWC	**Mount Wilson**	**1.97**	**185**		Pn	15 51 41.0	+0.5
MWC				IAML		15 52 09.8	
	comp=E,144nm,0.7s						
MWC				IAML		15 52 14.2	
	comp=N,212nm,0.7s						
MTPC	**Mountain Pass**	**1.99**	**110**		Pn	15 51 41.2	+0.5
MTPC				IAML		15 52 13.1	
	comp=E,113nm,0.6s						
MTPC				IAML		15 52 18.6	
	comp=N,110nm,1.1s						
PASC	**Pasadena Art C**	**2.04**	**188**		Pn	15 51 41.5	+0.3
PASC				IAML		15 52 12.0	
	comp=E,100nm,1.0s						
LHV	**Little Huntoon**	**2.12**	**346**		Pn	15 51 43.4	+1.2
LHV				IAML		15 52 20.6	
	comp=E,121nm,0.6s						
LHV				IAML		15 52 24.6	
	comp=N,122nm,1.6s						
TSCN	**Private Proper**	**2.13**	**253**		Pb	15 51 44.0	-1.2
SHPR	**Sheep Range**	**2.19**	**81**		Pn	15 51 44.4	+0.9
S11A	**Rachel**	**2.22**	**49**		Pn	15 51 44.3	+0.5
NV11	**Mina Array Sit**	**2.25**	**354**		Pn	15 51 45.9	-1.4
NVAR	**Mina Array Bea**	**2.26**	**351**		Pn	15 51 44.6	+0.1
PMPB	**Monarch Peak**	**2.39**	**271**		Pn	15 51 46.0	-0.1
V12A	**Nelson**	**2.48**	**100**		Pn	15 51 47.4	+0.1
V12A				IAML		15 52 32.3	
	comp=N,59nm,1.4s						
RYN	**Ryan**	**2.49**	**348**		Pn	15 51 48.1	+0.6
PRN	**Pahroc Range**	**2.55**	**61**		Pn	15 51 49.0	+0.7
PRN				IAML		15 52 43.3	
	comp=N,146nm,0.8s						
PRN				IAML		15 52 46.3	
	comp=E,158nm,0.8s						
ELS	**Elsinore Mount**	**2.56**	**172**		Pn	15 51 48.5	+0.1
BBGB	**Big Mountain B**	**2.60**	**279**		Pn	15 51 49.0	0.0
WAKR	**Walker**	**2.63**	**332**		Pn	15 51 50.8	+1.3
WAKR				IAML		15 52 33.3	
	comp=E,57nm,0.8s						
WAKR				IAML		15 52 43.1	
	comp=N,60nm,1.3s						
Q09A	**Carvers**	**2.69**	**11**		Pn	15 51 50.6	+0.3
Q09A				IAML		15 52 50.4	
	comp=E,133nm,0.8s						
CMB	**Columbia Colle**	**2.74**	**313**		Pb	15 51 53.8	-1.7
CMB				IAML		15 52 33.4	
	comp=E,123nm,0.9s						
R11B	**Troy Canyon, C**	**2.81**	**39**		Pn	15 51 53.4	+1.4
R11B				IAML		15 52 40.4	
	comp=E,60nm,0.8s						
PMD	**Palm Desert**	**2.81**	**154**		Pn	15 51 52.2	+0.4
PFO	**Pinyon Flats O**	**2.82**	**156**		Pn	15 51 53.0	+1.1
SAO	**San Andreas Ge**	**2.96**	**282**		Pn	15 51 55.0	+1.2
NEE2	**Needles Airpor**	**3.00**	**117**		Pn	15 51 55.4	+1.0
NEE2				IAML		15 52 47.2	
	comp=N,97nm,0.9s						
NEE2				IAML		15 52 53.9	
	comp=E,104nm,0.6s						
BORC	**Borrego Spring**	**3.15**	**158**		Pn	15 51 57.9	+1.5
BORC				IAML		15 52 53.5	
	comp=N,34nm,0.9s						
DPP	**Dos Picos Cty**	**3.27**	**167**		Pn	15 51 59.0	+0.8
DPP				IAML		15 52 56.7	
	comp=E,30nm,0.9s						
W13A	**Hualapai Mount**	**3.41**	**108**		Pn	15 52 01.5	+1.3
W13A				IAML		15 53 00.8	
	comp=N,34nm,1.3s						
MPK	**Martis Peak**	**3.55**	**331**		Pn	15 52 02.1	0.0
BLYC	**Blythe**	**3.66**	**131**		Pn	15 52 03.0	-0.5
BLYC				IAML		15 53 15.5	
	comp=E,28nm,0.8s						
BLYC				IAML		15 53 15.8	
	comp=N,31nm,0.9s						
AFDM	**Forest Hills D**	**3.70**	**319**		Pn	15 52 04.8	+0.7
PAHR	**Pah Rah Range**	**3.71**	**341**		Pn	15 52 05.0	+0.7
LCMT	**Little Creek M**	**3.79**	**76**		Pn	15 52 07.2	+1.7
CCUT	**Cedar City**	**3.84**	**68**		Pn	15 52 06.4	+0.2
YUH	**Yuha Desert**	**3.88**	**155**		Pn	15 52 07.3	+0.8
PSUT	**Pine Spring**	**3.95**	**53**	IAML		15 53 17.0	
	comp=E,29nm,0.9s						
PSUT				IAML		15 53 24.3	
	comp=N,34nm,1.1s						
SPR3	**Spring Creek 3**	**3.96**	**44**	IAML		15 53 16.5	
	comp=E,29nm,0.9s						
SPR3				IAML		15 53 19.7	
	comp=N,19nm,0.9s						
GLA	**Glamis**	**4.00**	**141**	IAML		15 53 26.2	
	comp=N,44nm,0.7s						
GLA				IAML		15 53 30.0	
	comp=E,46nm,0.9s						
KNB	**Kanab**	**4.13**	**77**		Pn	15 52 11.8	+1.7
KNB				IAML		15 53 22.8	
	comp=N,18nm,1.1s						
KNB				IAML		15 53 23.3	
	comp=E,24nm,1.3s						
ESJX	**Sierra Juarez**	**4.46**	**159**		Pn	15 52 14.6	-0.1
ESJX				IAML		15 54 38.9	
	comp=N,13nm,0.1s						
ESJX				IAML		15 54 38.9	
	comp=E,16nm,0.1s						
U15A	**North Rim**	**4.49**	**85**		Pn	15 52 16.1	+0.9
U15A				IAML		15 53 33.0	
	comp=N,19nm,1.2s						
U15A				IAML		15 53 39.3	
	comp=E,23nm,1.2s						
Y14A	**Wickenburg**	**4.56**	**118**		Pn	15 52 16.2	+0.3
Y14A				IAML		15 53 38.7	
	comp=N,29nm,0.7s						
Y14A				IAML		15 53 43.6	
	comp=E,17nm,0.8s						
ELK	**Elko**	**4.98**	**23**		Pn	15 52 23.1	+1.2
WUAZ	**Wupatki**	**5.30**	**95**	IAML		15 53 59.2	
	comp=E,18nm,1.6s						
X16A	**Lo Mia Camp, P**	**5.53**	**107**		Pn	15 52 28.1	-1.2
HMU	**Henry Mountain**	**5.94**	**71**		Pn	15 52 34.0	-1.1
TMUT	**Trail Mountain**	**6.11**	**58**		Pn	15 52 37.5	+0.2
W18A	**Petrified Fore**	**6.69**	**97**		Pn	15 52 44.6	-0.7

IDC 11 15:56:43.2±2.2,0.30N×126.48E,h0km,mb3.2/3, mbtmp3.3/3,Error ellipse: s-maj=179.1km s-min=28.6km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.55**	**159**	P	P	16 01 34.0	-0.3
	0.5nm,0.5s,baz=338,slow=11,SNR=6.4 0.5nm,0.5s						
ASAR	**Alice Springs**	**24.89**	**164**	P	P	16 02 08.2	+0.2
	0.5nm,0.6s,baz=344,slow=9.1,SNR=8.2 0.5nm,0.6s						
MKAR	**Makanchi Array**	**60.23**	**327**	P	P	16 06 53.3	-0.1
	0.1nm,0.5s,baz=111,slow=7.1,SNR=2.2 0.1nm,0.5s						

IDC 11 15:57:32.0±1.2,0.10N×125.20E,h0km,mb3.7/4, mbtmp3.7/5,ML3.6/1,Error ellipse: s-maj=70.0km s-min=21.4km az=61.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**15.71**	**100**	Pn	Pn	16 01 16.6	+1.6
	0.3nm,0.3s,baz=270,slow=19,SNR=1.8 1.6nm,0.5s						
WRA	**Warramunga Arr**	**21.84**	**156**	P	P	16 02 24.8	-1.5
	2.1nm,0.6s,baz=336,slow=11,SNR=18 2.1nm,0.6s						
ASAR	**Alice Springs**	**25.09**	**161**	P	P	16 02 59.4	+0.8
	1.7nm,0.9s,baz=345,slow=12,SNR=16 1.7nm,0.9s						
MKAR	**Makanchi Array**	**59.70**	**327**	P	P	16 07 38.9	+0.4
	0.4nm,0.5s,baz=116,slow=7.6,SNR=6.5 0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**64.00**	**329**	P	P	16 08 06.5	-0.8
	0.3nm,0.5s,baz=123,slow=6.4,SNR=2.6 0.3nm,0.5s						

IDC 11 16:04:20.5±2.8,37.11N×138.77E,h0km,mb3.3/2, mbtmp3.3/2,MS3.8/2,Error ellipse: s-maj=31.9km s-min=24.2km az=5.0,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**0.72**	**219**	Pg	Pg	16 04 34.2	-0.2
	0.4nm,0.3s,baz=33,slow=17,SNR=52						
WRA	**Warramunga Arr**	**56.90**	**185**	P	P	16 14 05.6	-1.7
	0.2nm,0.5s,baz=15,slow=8.2,SNR=4.7 0.2nm,0.5s						
KIRV	**Kirov**	**58.91**	**322**	LR	LR	16 41 22.1	
	comp=Z,90nm,21.4s,baz=54,slow=38						
ASAR	**Alice Springs**	**60.62**	**185**	P	P	16 14 34.8	+1.6
	0.4nm,0.9s,baz=11,slow=7.4,SNR=4.3 0.4nm,0.9s						
BELG	**Belogornoye**	**62.30**	**316**	LR	LR	16 44 47.3	
	comp=Z,66nm,19.1s,baz=69,slow=39						

*IDC **11** 16:04:28.1±0.8,11.16S×12.69W,h0km,mb4.0/8, mbtmp4.0/8,MS3.4/10,Error ellipse: s-maj=49.7km s-min=17.9km az=106.0*

ISC 11 16:04:29.7±0.8,11.2S±0.2×12.7W±0.3,h10km,n20, σ0.64/9,mb4.1/8,MS3.5/9,Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**2.91**	**319**	T	T	16 07 58.2	
	baz=141,slow=74,SNR=907						
H10S3	**ASCENSION HYDR**	**2.92**	**319**	T	T	16 08 01.5	
	baz=79,slow=74,SNR=591						
DBIC	**Dimbokro**	**19.36**	**24**	LR	LR	16 14 42.1	
	comp=Z,117nm,20.4s,baz=215,slow=32						
RCBR	**Riachuelo**	**23.53**	**281**	LR	LR	16 16 42.5	
	comp=Z,49nm,20.2s,baz=70,slow=31						
TORD	**Torodi Ar. Bea**	**28.07**	**31**	P	**P**	**16 10 21.4**	**-0.2**
	1.1nm,0.5s,baz=223,slow=9.5,SNR=6.8						
TSUM	**Tsumeb**	**30.27**	**109**	LR	LR	16 21 02.9	
	comp=Z,57nm,20.3s,baz=325,slow=33						
BDFB	**Brasilia**	**34.60**	**259**	LR	LR	16 22 36.9	
	comp=Z,88nm,19.6s,baz=280,slow=31						
MDT	**Midelt**	**44.41**	**10**	LR	LR	16 30 08.7	
	comp=Z,96nm,19.1s,baz=226,slow=35						
CPUP	**Villa Florida**	**44.63**	**244**	P	**P**	**16 12 42.5**	**-0.2**
	0.2nm,0.5s,baz=347,slow=5.7,SNR=2.3						
CPUP				LR	LR	16 28 00.0	
	comp=Z,24nm,21.9s,baz=316,slow=32 0.2nm,0.5s						
KEST	**Kesra**	**51.09**	**23**	P	**P**	**16 13 33.6**	**+1.0**
	5.3nm,0.9s,baz=344,slow=2.8,SNR=4.4 5.3nm,0.9s						
ESDC	**Sonseca Array**	**51.23**	**9**	LR	LR	16 35 29.0	
	comp=Z,54nm,18.5s,baz=161,slow=36						
PLCA	**Paso Flores**	**58.53**	**229**	LR	LR	16 35 43.9	
	comp=Z,43nm,20.9s,baz=55,slow=32						
SNAA	**Sanae**	**60.77**	**176**	P	**P**	**16 14 41.8**	**+0.4**
	3.2nm,0.9s,baz=342,slow=7.1,SNR=11 3.2nm,0.9s						
NNA	**Nana**	**62.70**	**262**	LR	LR	16 40 22.9	
	comp=Z,69nm,20.3s,baz=160,slow=34						
GERES	**GERESS Array B**	**64.14**	**19**	P	**P**	**16 15 04.3**	**0.0**
	0.2nm,0.4s,baz=178,slow=6.1,SNR=5.7 0.2nm,0.4s						
AKASG	**Malin Array Be**	**71.59**	**27**	P	**P**	**16 15 50.2**	**-0.9**
	0.9nm,0.6s,baz=233,slow=6.5,SNR=6.6 0.9nm,0.6s						
MAW	**Mawson**	**74.25**	**157**	P	**P**	**16 16 06.1**	**-0.5**
	1.8nm,0.9s,baz=290,slow=10,SNR=4.5 1.8nm,0.9s						
NOA	**NORSAR Array B**	**74.42**	**12**	LR	LR	16 52 06.1	
	comp=Z,18nm,18.4s,baz=30,slow=38						
FINES	**FINESS Array B**	**78.53**	**18**	P	**P**	**16 16 30.9**	**0.0**
	1.5nm,0.9s,baz=258,slow=9.5,SNR=1.8 1.5nm,0.9s						
QSPA	**South Pole Qui**	**78.97**	**180**	P	**P**	**16 16 33.9**	**+0.3**
	2.9nm,1.0s,baz=234,slow=2.9,SNR=7.9 2.9nm,1.0s						

JMA 11 16:04:32.3±0.4,36.6N±0.4×138.4E±0.6,h0km±4km, MV0.5/11,NEAR MATSUSHIRO,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**0.15**	**236**	*i* P	Pg	16 04 35.4	+0.3
MAT				S	Sg	16 04 37.4	+0.4
JGK	**Kuni**	**0.24**	**106**	*eS*	Sg	16 04 41.2	+1.3
JNG	**Nsakai**	**0.30**	**224**	*i* P	Pg	16 04 38.2	+0.2

*PAS **11** 16:19:08.7±1.2,36.181N±0.009×117.88W±0.01, h-1km±1km,Mwr3.7/4,ML3.5/172(NEIC),Error ellipse: s-maj=1.6km s-min=1.3km az=72.0*

NEIC 11 16:19:08.3±1.1,36.177N±0.009×117.88W±0.01, h4km±2km,Error ellipse: s-maj=1.3km s-min=1.2km az=203.0,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.06**	**160**		Pg	16 19 10.4	+0.6
WRVM	**Rose V. Centra**	**0.17**	**182**		Pg	16 19 12.4	+0.8
JRC2	**Joshua Ridge**	**0.20**	**163**		Pg	16 19 13.1	+0.8
WVPM	**Volcano Peak E**	**0.23**	**167**		Pg	16 19 13.6	+0.8
WVPM					Sg	16 19 17.4	+1.5
CWC	**Cottonwood Cre**	**0.31**	**329**		Pg	16 19 14.8	+0.5
CWC				Sg	Sg	16 19 19.4	+1.1
WNMM	**Nine Mile Cany**	**0.33**	**183**		Pg	16 19 15.3	+0.6
MPMC	**Manual Prospec**	**0.34**	**110**		Pg	16 19 15.5	+0.6
MPMC				Sg	Sg	16 19 19.9	+0.6
CGO	**Cerro Gordo**	**0.38**	**10**		Pg	16 19 16.1	+0.4
CGO					Sg	16 19 21.7	+1.0
TOW	**Tower One**	**0.38**	**165**		Pb	16 19 16.8	-0.9
SRTC	**Snort**	**0.50**	**167**		Pb	16 19 19.1	-0.6
WORM	**Onyx Ranch**	**0.56**	**211**		Pg	16 19 19.6	+0.5
WSHM	**Spangler Hills**	**0.66**	**151**	Pg	Pg	16 19 21.4	+0.5
WSHM				Sg	Sg	16 19 30.6	+1.1
WSHM				IAML		16 19 31.9	
	3µm,0.3s						
WSHM				IAML		16 19 33.8	
	2µm,0.6s						
ISA	**Isabella, Lake**	**0.70**	**223**		Pg	16 19 22.2	+0.4
ISA				Sg	Sg	16 19 31.1	+0.2
ISA				IAML		16 19 32.6	
	comp=N,1µm,0.6s						
ISA				IAML		16 19 33.6	
	comp=E,1µm,0.8s						
LRMC	**Laurel Mtn Rad**	**0.71**	**167**		Pg	16 19 22.5	+0.5
LRMC					Sg	16 19 32.1	+0.9
LRMC				IAML		16 19 37.1	
	comp=N,2µm,0.6s						
LRMC				IAML		16 19 37.3	
	comp=E,3µm,0.8s						
SPG2	**Springville 2**	**0.72**	**272**		Pg	16 19 22.4	+0.4
CCCA	**Chr Cany lake**	**0.78**	**147**		Pb	16 19 23.8	-0.6
CCCA				Sg	Sb	16 19 34.4	-0.9
QSM	**Queen of Sheba**	**0.85**	**104**		Pg	16 19 24.9	+0.3
QSM				IAML		16 19 40.3	
	comp=E,3µm,0.8s						
QSM				IAML		16 19 42.0	
	comp=N,2µm,1.1s						
GRAC	**Grapevine Rang**	**0.92**	**27**		Pg	16 19 26.2	+0.3
GRAC					Sg	16 19 38.5	+0.7
GRAC				IAML		16 19 41.8	
	comp=N,2µm,0.9s						
GRAC				IAML		16 19 50.2	
	comp=E,2µm,1.1s						
TIN	**Tinemaha, Big**	**0.92**	**342**		Pb	16 19 26.7	-0.3
GWY	**Greenwater Val**	**0.98**	**89**		Pg	16 19 27.5	+0.4
GWY				IAML		16 19 46.2	
	comp=N,2µm,0.8s						
GWY				IAML		16 19 49.9	
	comp=E,1µm,0.6s						
WCT	**Wildcat Mounta**	**1.18**	**58**		Pg	16 19 30.8	-0.2
WCT				IAML		16 19 49.8	
	comp=E,1µm,1.0s						
WCT				IAML		16 19 53.2	
	comp=N,606nm,0.8s						
DSP	**Deep Springs**	**1.19**	**357**		Pg	16 19 30.5	-0.7
DSP					Sg	16 19 45.9	-0.8
VOG	**Valley Oaks Go**	**1.22**	**277**		Pb	16 19 32.1	+0.1
GMN	**Gold Mountain**	**1.23**	**24**		Pg	16 19 31.7	-0.1
GMN				IAML		16 19 55.0	
	comp=N,691nm,0.6s						
GSC	**Goldstone, Bar**	**1.24**	**135**		Pg	16 19 31.9	-0.2
GSC				IAML		16 19 52.7	
	comp=E,2µm,0.8s						
GSC				IAML		16 19 53.1	
	comp=N,1µm,0.5s						
TPO	**Tropico Hills**	**1.33**	**192**		Pg	16 19 33.2	-0.5
TPO				IAML		16 19 54.9	
	comp=E,992nm,0.7s						
TPO				IAML		16 19 56.0	
	comp=N,669nm,1.0s						
TPNV	**Topopah Spring**	**1.52**	**59**		Pn	16 19 36.8	+0.2
TPNV				IAML		16 19 59.7	
	comp=N,655nm,0.9s						
TPNV				IAML		16 20 06.0	
	comp=N,570nm,1.1s						
MZP	**Montezuma Peak**	**1.57**	**15**		Pn	16 19 37.5	+0.2
KCC	**Kaiser Creek**	**1.62**	**315**		Pb	16 19 38.6	-0.3
OSI	**Osito Audit: C**	**1.70**	**204**		Pn	16 19 39.3	+0.4
OSI				IAML		16 20 06.1	
	comp=E,602nm,0.7s						
OSI				IAML		16 20 14.2	
	comp=N,504nm,0.8s						
BFSC	**Mount Baldy Ra**	**1.94**	**175**		Pn	16 19 42.5	+0.3
BFSC				IAML		16 20 12.3	
	comp=E,231nm,0.8s						
MWC	**Mount Wilson**	**1.95**	**184**		Pn	16 19 43.0	+0.5
MWC				IAML		16 20 13.3	
	comp=E,326nm,0.9s						
MWC				IAML		16 20 16.6	
	comp=N,511nm,0.7s						
TPH	**Tonopah**	**1.97**	**15**		Pn	16 19 42.8	+0.1
MTPC	**Mountain Pass**	**2.01**	**109**		Pn	16 19 43.0	-0.3
MTPC				IAML		16 20 17.5	
	comp=N,276nm,1.2s						
MTPC				IAML		16 20 23.5	
	comp=E,246nm,1.1s						
PASC	**Pasadena Art C**	**2.02**	**187**		Pn	16 19 43.4	+0.2
PASC				IAML		16 20 16.1	
	comp=E,242nm,0.9s						
PKM	**Mcpherson Peak**	**2.03**	**231**		Pb	16 19 45.4	-0.5
TSCN	**Private Proper**	**2.10**	**253**		Pb	16 19 46.5	-0.5
LHV	**Little Huntoon**	**2.13**	**347**		Pn	16 19 45.1	+0.4
LHV				IAML		16 20 22.9	
	comp=E,258nm,1.2s						
LHV				IAML		16 20 27.2	
	comp=N,218nm,1.5s						
SHPR	**Sheep Range**	**2.22**	**81**		Pn	16 19 46.4	+0.2
S11A	**Rachel**	**2.25**	**49**		Pn	16 19 46.7	+0.2
NV11	**Mina Array Sit**	**2.26**	**355**		Pn	16 19 46.8	+0.1
NVAR	**Mina Array Bea**	**2.27**	**352**		Pn	16 19 47.0	0.0
MYLM	**Yosemite Lake**	**2.37**	**301**		Pb	16 19 51.0	-0.5
RYN	**Ryan**	**2.50**	**348**		Pn	16 19 49.9	-0.1
V12A	**Nelson**	**2.50**	**99**		Pn	16 19 50.0	+0.1
V12A				IAML		16 20 32.5	
	comp=N,156nm,1.4s						
ELS	**Elsinore Mount**	**2.55**	**171**		Pn	16 19 50.9	+0.3
BBGB	**Big Mountain B**	**2.58**	**280**		Pn	16 19 51.6	+0.6
PRN	**Pahroc Range**	**2.58**	**61**		Pn	16 19 51.5	+0.4
WAKR	**Walker**	**2.63**	**332**		Pn	16 19 52.4	+0.6
Q09A	**Carvers**	**2.71**	**12**		Pn	16 19 52.7	-0.2
CMB	**Columbia Colle**	**2.73**	**314**		Pn	16 19 53.3	+0.3
CMB				IAML		16 20 35.9	
	comp=E,267nm,0.8s						
CMB				IAML		16 20 40.0	
	comp=N,234nm,0.7s						
PMD	**Palm Desert**	**2.81**	**153**		Pn	16 19 54.2	+0.1
PFO	**Pinyon Flats O**	**2.81**	**155**		Pn	16 19 54.5	+0.3
PFO				IAML		16 20 45.4	
	comp=N,105nm,1.6s						
R11B	**Troy Canyon, C**	**2.84**	**40**		Pn	16 19 54.8	+0.2
R11B				IAML		16 20 43.0	
	comp=E,166nm,0.8s						
SAO	**San Andreas Ge**	**2.93**	**283**		Pn	16 19 56.7	+0.9
NEE2	**Needles Airpor**	**3.01**	**117**		Pn	16 19 57.9	+1.1
NEE2				IAML		16 21 04.0	
	comp=E,255nm,0.7s						
BORC	**Borrego Spring**	**3.14**	**157**		Pn	16 19 59.3	+0.7
BORC				IAML		16 20 55.9	
	comp=E,128nm,1.4s						
BORC				IAML		16 20 56.0	
	comp=N,77nm,0.9s						
DPP	**Dos Picos Cty**	**3.27**	**166**		Pn	16 20 00.3	-0.1
DPP				IAML		16 20 56.1	
	comp=E,83nm,0.9s						
W13A	**Hualapai Mount**	**3.43**	**107**		Pn	16 20 02.1	-0.7
W13A				IAML		16 21 03.2	
	comp=N,89nm,1.2s						
W13A				IAML		16 21 10.3	
	comp=E,64nm,1.3s						
MPK	**Martis Peak**	**3.55**	**332**		Pn	16 20 04.7	+0.2
MPK				IAML		16 21 16.2	
	comp=E,165nm,0.7s						
BLYC	**Blythe**	**3.67**	**130**		Pn	16 20 05.1	-0.8
BLYC				IAML		16 21 13.4	
	comp=E,68nm,1.0s						
BLYC				IAML		16 21 18.3	
	comp=N,75nm,1.1s						
AFDM	**Forest Hills D**	**3.70**	**319**		Pn	16 20 05.4	-0.9
AFDM				IAML		16 21 06.5	
	comp=N,127nm,0.7s						
AFDM				IAML		16 21 12.4	
	comp=E,154nm,0.8s						
PAHR	**Pah Rah Range**	**3.72**	**342**		Pn	16 20 06.2	-0.5
TKX	**Tecate**	**3.75**	**163**	Pn	Pn	16 20 07.5	+0.5
LCMT	**Little Creek M**	**3.82**	**76**		Pn	16 20 08.5	+0.3
CCUT	**Cedar City**	**3.87**	**68**		Pn	16 20 09.5	+0.6
YUH	**Yuha Desert**	**3.88**	**155**		Pn	16 20 09.6	+0.9
PSUT	**Pine Spring**	**3.98**	**53**		Pn	16 20 10.7	+0.4
PSUT				IAML		16 21 24.6	
	comp=E,93nm,0.8s						
PSUT				IAML		16 21 26.8	
	comp=N,94nm,1.1s						
CBX	**Cerro Bola**	**3.98**	**165**		Pn	16 20 11.2	+0.9
CBX				IAML		16 21 20.8	
	comp=N,123nm,0.7s						
SPR3	**Spring Creek 3**	**3.98**	**44**		Pn	16 20 11.0	+0.5
SPR3				IAML		16 21 19.0	
	comp=E,93nm,1.0s						
SPR3				IAML		16 21 24.4	
	comp=N,58nm,0.9s						
GLA	**Glamis**	**4.01**	**140**		Pn	16 20 10.7	+0.1
GLA				IAML		16 21 28.6	
	comp=N,118nm,0.7s						
SZCU	**Shurtz Canyon**	**4.10**	**68**		Pn	16 20 12.4	+0.5
KNB	**Kanab**	**4.16**	**77**		Pn	16 20 13.7	+0.9
KNB				IAML		16 21 22.2	
	comp=N,53nm,1.3s				

Y14A				IAML		16 21 41.1		
	comp=N,65nm,0.8s							
Y14A				IAML		16 21 46.1		
	comp=E,40nm,0.9s							
113A	**Mohawk Valley,**	**4.81**	**134**	IAML		16 21 52.1		
	comp=N,22nm,1.0s							
ELK	**Elko**	**5.01**	**24**		Pn	16 20 24.7	+0.2	
VTX	**Valle De La Tr**	**5.08**	**159**	IAML		16 21 55.3		
	comp=E,23nm,1.3s							
VTX				IAML		16 21 55.8		
	comp=N,24nm,1.0s							
WUAZ	**Wupatki**	**5.33**	**95**		Pn	16 20 27.4	-1.5	
WUAZ				IAML		16 22 01.0		
	comp=N,38nm,1.5s							
TMUT	**Trail Mountain**	**6.14**	**58**		Pn	16 20 39.2	-0.9	
SRU	**San Rafael Swe**	**6.53**	**61**		Pn	16 20 44.8	-0.6	
W18A	**Petrified Fore**	**6.72**	**97**	Pn	Pn	16 20 46.8	-1.1	
BSUT	**Blindstream Ca**	**7.09**	**50**		Pn	16 20 53.4	+0.2	
PV20	**West Nyswonger**	**7.43**	**70**		Pn	16 20 56.7	-1.0	
PV04	**Paradox Valley**	**7.49**	**70**		Pn	16 20 57.3	-1.2	
PV12	**Saucer Basin,**	**7.55**	**71**		Pn	16 20 58.6	-0.8	
PV07	**Paradox Valley**	**7.70**	**70**		Pn	16 20 59.7	-1.7	

IDC ***11*** *16:25:48.2±0.8,5°.29S×134°.22E, h0km, mb4.0/11, mbtmp4.0/16, ML4.1/5, MS3.2/1, Error ellipse: s-maj=26.8km s-min=16.2km az=86.0*
NEIC ***11*** *16:25:53.3±2.2,5°.14S±0°.06×134°.23E±0°.04, h31km±5km, mb4.6/27, Error ellipse: s-maj=8.3km s-min=4.6km az=162.0*
DJA ***11*** *16:25:53.9±0.4,5°.S±4°×13°.4E±°, h10km, M4.7/15, mB5.1/4, mb4.8/6, MLv4.7/15, Mw(mB)4.5/4*
ISC 11 16:25:51.9±0.4,5°.23S±0°.05×134°.20E±0°.05, h28km, n69, σ2s30/76, mb4.3/23, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.64**	**342**	P	**Pn**	**16 26 18.3**	**-0.6**
KMPI				S	**Sn**	**16 26 31.5**	**-7.5**
FAKI	**Fak Fak**	**3.01**	**320**		**Pn**	**16 26 38.4**	**+0.6**
FAKI				Sn	**Sn**	**16 27 10.9**	**-2.1**
FAKI	**Fak Fak**	**3.01**	**320**	P	**Pn**	**16 26 38.2**	**+0.4**
RKPI	**Ransiki, Papua**	**3.69**	**360**	P	**Pn**	**16 26 46.6**	**-0.6**
SRPI	**Serui, Papua**	**3.91**	**31**	P	**Pn**	**16 26 51.0**	**+0.8**
SAUI	**Saumlaki**	**3.97**	**226**	Pn	**Pn**	**16 26 53.2**	**+2.1**
BNDI	**Bandanaira**	**4.34**	**279**	P	**Pn**	**16 26 56.8**	**+0.7**
BAKI	**Biak**	**4.44**	**25**	P	**Pn**	**16 26 57.9**	**+0.4**
SWI	**Sorong**	**5.24**	**326**	P	**Pn**	**16 27 08.4**	**-0.1**
SMPI	**Sarmi**	**5.53**	**55**	P	**Pn**	**16 27 15.0**	**+2.5**
	0.4nm21nm,0.6s						
MSAI	**Masohi**	**5.58**	**289**	P	**Pn**	**16 27 12.2**	**-1.0**
	0.8nm1μm105nm,0.6s						
AAI	**Ambon**	**6.18**	**284**	P	**Pn**	**16 27 22.5**	**+1.1**
	0.4nm65nm,0.8s						
GENI	**Genyem**	**6.50**	**66**	P	**Pn**	**16 27 27.4**	**+1.6**
	0.4nm45nm,0.7s						
JAY	**Jayapura**	**7.03**	**68**	Pn	**Pn**	**16 27 34.2**	**+1.1**
	2.7nm,0.3s,baz=202,slow=12,SNR=22						
JAY				Sn	**Sn**	**16 28 47.4**	**-4.7**
	1.7nm,0.3s,baz=155,slow=18,SNR=2.2						
JAY				LR	LR	16 31 03.6	
	comp=Z,189nm,20.4s,baz=247,slow=45 5.9nm,0.3s						
JAY	**Jayapura**	**7.03**	**68**	P	**Pn**	**16 27 35.6**	**+2.6**
MTN	**Manton Dam**	**8.15**	**202**		**Pn**	**16 27 51.7**	**+3.3**
MTN				Sn	**Sn**	**16 29 22.4**	**+2.7**
SOEI	**Soe**	**10.83**	**245**		**Pn**	**16 28 26.2**	**+0.9**
SOEI					**Sn**	**16 30 30.3**	**+4.7**
BATI	**Baumata**	**11.55**	**244**	Pn	**Pn**	**16 28 36.1**	**+1.0**
	5.2nm,0.3s,baz=121,slow=4.0,SNR=7.6						
BATI				Sn	**Sn**	**16 30 40.7**	**-2.7**
	5.8nm,0.3s,baz=90,slow=21,SNR=4.7 18nm,0.4s						
KNRA	**Kununurra**	**11.68**	**207**		**Pn**	**16 28 38.2**	**+1.5**
COEN	**Coen**	**12.38**	**135**	Pn	**Pn**	**16 28 45.8**	**-0.6**
WB0	**Warramunga Arr**	**14.45**	**179**		**Pn**	**16 29 13.0**	**-1.7**
WRA	**Warramunga Arr**	**14.62**	**179**		**Pn**	**16 29 13.9**	**-3.2**
WRA	**Warramunga Arr**	**14.62**	**179**	Pn	**Pn**	**16 29 14.4**	**-2.7**
	0.4nm,0.3s,baz=2.4,slow=13,SNR=16						
WRA				Lg	Lg	16 33 31.6	
	0.3nm,0.3s,baz=1.9,slow=24,SNR=1.8 0.7nm,0.4s						
WR8	**Warramunga Arr**	**14.64**	**179**		**Pn**	**16 29 15.1**	**-2.2**
FITZ	**Fitzroy Crossi**	**15.28**	**212**		**Pn**	**16 29 24.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**15.28**	**212**	Pn	**Pn**	**16 29 24.2**	**-1.7**
	1.3nm,0.3s,baz=31,slow=11,SNR=32						
FITZ				Sn	**Sn**	**16 32 06.5**	**-7.9**
	2.9nm,0.3s,baz=352,slow=19,SNR=9.8 2.9nm,0.3s						
AS31	**Alice Springs**	**18.33**	**181**		**P**	**16 30 04.5**	**+0.3**
ASAR	**Alice Springs**	**18.33**	**181**		**P**	**16 30 03.8**	**-0.5**
ASAR	**Alice Springs**	**18.33**	**181**	P	**P**	**16 30 02.8**	**-1.4**
	0.5nm,0.3s,baz=6.3,slow=11,SNR=48						
ASAR				S	**Sn**	**16 33 19.5**	**-8.9**
	1.6nm,0.8s,baz=353,slow=14,SNR=2.5 0.7nm,0.5s						
CTAO	**Charters Tower**	**18.86**	**143**	P	**P**	**16 30 10.9**	**+0.9**
MBWA	**Marble Bar**	**21.16**	**220**	P	**P**	**16 30 36.5**	**+1.4**
KKM	**Kota Kinabalu**	**21.16**	**302**	P	**P**	**16 30 34.6**	**-0.7**
KKM				IAmb	IAmb	16 30 57.9	
	comp=Z,17nm,1.2s						
FORT	**Forrest**	**26.06**	**192**	P	**P**	**16 31 26.0**	**+2.9**
FORT				IAmb	IAmb	16 31 47.7	
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**27.40**	**166**	P	**P**	**16 31 35.7**	**+0.5**
STKA	**Stephens Creek**	**27.40**	**166**	P	**P**	**16 31 35.2**	**+0.1**
	comp=Z,3.0nm,1.0s,baz=337,slow=11,SNR=2.9 comp=Z,3.0nm,1.0s						
ARMA	**Armidale**	**29.95**	**149**	P	**P**	**16 31 59.6**	**+1.6**
ARMA				IAmb	IAmb	16 32 29.4	
	comp=Z,20nm,1.4s						
KULM	**Kulim**	**35.10**	**287**	P	**P**	**16 32 43.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**41.98**	**305**	P	**P**	**16 33 42.0**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=120,slow=6.5,SNR=4.6 comp=Z,0.5nm,0.6s						
USA0B	**Ussuriysk Arra**	**49.24**	**358**	P	**P**	**16 34 36.5**	**-1.5**
USRK	**Ussuriysk Ar.**	**49.24**	**358**	P	**P**	**16 34 38.0**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=167,slow=8.4,SNR=6.9 comp=Z,1.0nm,0.4s						
JKA	**Kamikawa-asahi**	**49.70**	**8**	P	**P**	**16 34 40.0**	**-1.4**
JKA				IAmb	IAmb	16 34 51.8	
	comp=Z,9.4nm,1.2s						
WHZ	**Wether Hill Ro**	**49.97**	**150**	P	**P**	**16 34 44.0**	**+0.5**
LBZ	**Lake Benmore**	**50.14**	**147**	P	**P**	**16 34 44.3**	**-0.6**
SONM	**Songino Array**	**58.23**	**338**	P	**P**	**16 35 45.6**	**+1.7**
	comp=Z,0.8nm,0.7s,baz=154,slow=8.6,SNR=5.2 comp=Z,0.8nm,0.7s						
PETK	**Petropavlovsk-**	**61.42**	**16**	P	**P**	**16 36 06.1**	**+0.6**
	comp=Z,3.6nm,1.1s,baz=212,slow=7.5,SNR=1.5 comp=Z,3.6nm,1.1s						
YAK	**Yakutsk**	**67.16**	**358**	P	**P**	**16 36 42.0**	**-1.0**
MKAR	**Makanchi Array**	**69.13**	**325**		**P**	**16 36 56.0**	**+0.3**
MKAR	**Makanchi Array**	**69.13**	**325**	P	**P**	**16 36 57.2**	**+1.5**
	comp=Z,1.6nm,0.7s,baz=118,slow=8.0,SNR=22 comp=Z,1.6nm,0.7s						
MAKZ	**Makanchi**	**69.32**	**325**		**P**	**16 36 57.5**	**+0.6**
MAKZ				IAmb	IAmb	16 36 59.9	
	comp=Z,2.7nm,0.8s						
KDJ	**Kajisay**	**69.96**	**318**	P	**P**	**16 37 00.8**	**-0.4**
KDJ				IAmb	IAmb	16 37 04.6	
	comp=Z,2.9nm,1.0s						
ZAA0	**Zalesovo Array**	**71.93**	**332**	P	**P**	**16 37 13.1**	**+0.5**
ZALV	**Zalesovo Beam**	**71.93**	**332**	P	**P**	**16 37 12.5**	**-0.1**
ZALV	**Zalesovo Beam**	**71.93**	**332**	P	**P**	**16 37 13.7**	**+1.1**
	comp=Z,1.9nm,0.7s,baz=131,slow=6.5,SNR=7.1 comp=Z,1.9nm,0.7s						
KURBB	**Kurchatov Arra**	**73.27**	**327**	P	**P**	**16 37 21.4**	**+0.8**
	comp=Z,1.6nm,1.0s,baz=125,slow=4.7,SNR=7.9 comp=Z,1.6nm,1.0s						
BVAR	**Borovoye Array**	**78.86**	**326**	P	**P**	**16 37 53.2**	**+0.8**
	comp=Z,1.3nm,0.8s comp=Z,1.3nm,0.8s						
BRVK	**Borovoye**	**78.93**	**326**	P	**P**	**16 37 52.9**	**+0.1**
CNBA	**Chernabura Isl**	**80.87**	**32**	P	**P**	**16 38 05.4**	**+2.2**
O14K	**Tigyukauivet M**	**81.82**	**28**	P	**P**	**16 38 08.6**	**+0.5**
O14K				IAmb	IAmb	16 38 28.0	
	comp=Z,11nm,1.2s						
K15K	**Wolf Creek Mou**	**82.99**	**25**	P	**P**	**16 38 16.1**	**+1.8**
K15K				IAmb	IAmb	16 38 26.6	
	comp=Z,4.2nm,1.0s						
M16K	**Timber Creek**	**83.59**	**27**	P	**P**	**16 38 18.9**	**+1.5**
M16K				IAmb	IAmb	16 38 29.1	
	comp=Z,4.3nm,1.0s						
ABKAR	**Akbulak array**	**83.77**	**321**	P	**P**	**16 38 18.8**	**+0.3**
QSPA	**South Pole Qui**	**84.73**	**180**	P	**P**	**16 38 24.5**	**+1.2**
QSPA				IAmb	IAmb	16 38 35.5	
	comp=Z,4.9nm,1.5s						
QSPA	**South Pole Qui**	**84.73**	**180**	P	**P**	**16 38 24.0**	**+0.7**
	comp=Z,0.9nm,1.0s,baz=284,slow=4.2,SNR=1.7 comp=Z,0.9nm,1.0s						
KDAK	**Kodiak Island**	**85.55**	**31**	P	**P**	**16 38 26.4**	**-1.0**
H19K	**Roundabout Mou**	**86.33**	**23**	P	**P**	**16 38 32.4**	**+1.4**
H19K				IAmb	IAmb	16 38 41.8	
	comp=Z,3.2nm,0.7s						
J20K	**Nowinta River**	**86.80**	**25**	IAmb	IAmb	16 38 44.0	
	comp=Z,2.9nm,0.7s						
IMAR	**Indian Mountai**	**87.53**	**23**	P	**P**	**16 38 38.6**	**+1.7**
MLY	**Manley**	**88.45**	**24**	P	**P**	**16 38 42.6**	**+1.2**
MLY				IAmb	IAmb	16 38 52.1	
	comp=Z,2.8nm,0.8s						
ILAR	**Eielson Array**	**89.98**	**25**	P	**P**	**16 38 49.7**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=252,slow=4.8,SNR=4.3 comp=Z,0.3nm,0.5s						

IDC ***11*** *16:26:59.1±1.1,0°.58N×126°.18E, h0km, mb4.1/5, mbtmp4.2/6, ML4.0/1, MS3.6/1, Error ellipse: s-maj=41.8km s-min=20.6km az=76.0*
NEIC ***11*** *16:27:00.5±0.9,0°.2N±0°.1×126°.43E±0°.07, h18km±6km, mb4.7/11, Error ellipse: s-maj=17.0km s-min=7.9km az=156.0*
ISC 11 16:27:02.9±0.7,0°.33N±0°.09×126°.38E±0°.07, h35km, n23, σ1s85/23, mb4.4/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.08**	**66**		**Pn**	**16 27 20.8**	**-0.8**
TNTI				Sn	**Sn**	**16 27 35.6**	**+0.2**
LUWI	**Luwuk**	**3.85**	**249**	Pn	**Pn**	**16 28 00.3**	**+0.5**
TOLI2	**Tolitoli**	**5.65**	**278**	Pn	**Pn**	**16 28 24.1**	**-0.3**
KAPI	**Kappang**	**8.48**	**231**	Pn	**Pn**	**16 29 05.6**	**+2.3**
	1.8nm,0.3s,baz=35,slow=12,SNR=2.4 7.4nm,0.4s						
KNRA	**Kununurra**	**16.07**	**172**	Pn	**Pn**	**16 30 44.4**	**-2.0**
KNRA				IAmb	IAmb	16 30 48.0	
	comp=Z,32nm,0.6s						
LEM	**Lembang**	**20.02**	**249**	LR	LR	16 40 33.8	
	comp=Z,150nm,18.9s,baz=314,slow=41						
WB0	**Warramunga Arr**	**21.46**	**159**	P	**P**	**16 31 45.7**	**-2.8**
WB0				IAmb	IAmb	16 32 04.2	
	comp=Z,18nm,1.0s						
WRA	**Warramunga Arr**	**21.60**	**159**	P	**P**	**16 31 47.5**	**-2.5**
WRA	**Warramunga Arr**	**21.60**	**159**	P	**P**	**16 31 53.6**	**+3.7**
	comp=Z,6.0nm,0.7s,baz=337,slow=12,SNR=5.8 comp=Z,6.0nm,0.7s						
AS31	**Alice Springs**	**24.94**	**163**	P	**P**	**16 32 20.8**	**-2.3**
ASAR	**Alice Springs**	**24.94**	**163**	P	**P**	**16 32 21.0**	**-2.2**
ASAR	**Alice Springs**	**24.94**	**163**	P	**P**	**16 32 27.0**	**+3.8**
	comp=Z,5.9nm,0.8s,baz=346,slow=12,SNR=6.7 comp=Z,5.9nm,0.8s						
JGF	**Kuroka**	**36.56**	**15**	P	**P**	**16 34 06.0**	**+0.5**
PETK	**Petropavlovsk-**	**58.70**	**22**	P	**P**	**16 36 56.8**	**-0.1**
PETK	**Petropavlovsk-**	**58.70**	**22**	P	**P**	**16 36 58.2**	**+1.3**
	comp=Z,1.7nm,0.7s,baz=214,slow=6.8,SNR=5.9 comp=Z,1.7nm,0.7s						
MKAR	**Makanchi Array**	**60.16**	**327**	P	**P**	**16 37 06.5**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=123,slow=7.8,SNR=5.4 comp=Z,0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**64.42**	**328**	P	**P**	**16 37 34.3**	**-1.3**
	comp=Z,2.3nm,0.9s,baz=126,slow=5.9,SNR=11 comp=Z,2.3nm,0.9s						
KURK	**Kurchatov**	**64.42**	**329**	P	**P**	**16 37 34.5**	**-1.0**
KURK				IAmb	IAmb	16 37 38.7	
	comp=Z,4.6nm,0.9s						
K15K	**Wolf Creek Mou**	**81.45**	**27**	P	**P**	**16 39 16.5**	**+0.3**
K15K				IAmb	IAmb	16 39 24.2	
	comp=Z,13nm,1.5s						
J17K	**VABM Dome**	**82.82**	**26**	P	**P**	**16 39 24.0**	**+0.6**
J17K				IAmb	IAmb	16 39 34.8	
	comp=Z,5.1nm,0.9s						
K17K	**Iditarod**	**83.00**	**27**	P	**P**	**16 39 24.4**	**0.0**
L18K	**Granite Mounta**	**83.63**	**27**	P	**P**	**16 39 27.8**	**+0.2**
L18K				IAmb	IAmb	16 39 33.8	
	comp=Z,6.8nm,1.2s						
D19K	**Kuna River**	**84.40**	**21**	P	**P**	**16 39 32.4**	**+0.9**
D19K				IAmb	IAmb	16 39 47.6	
	comp=Z,7.5nm,1.4s						

IDC ***11*** *16:31:17.4±0.7,0°.30S×124°.39E, h0km, mb3.9/12, mbtmp4.0/13, ML4.3/1, MS3.1/1, Error ellipse: s-maj=30.5km s-min=15.2km az=79.0*
DJA ***11*** *16:31:22.9±0.2,0°.S±2°×12°.4E±°, h10km, M4.5/19, mB5.0/3, mb4.8/5, MLv4.4/19, Mw(mB)4.3/3*
NEIC ***11*** *16:31:25.7±2.0,0°.29S±0°.06×124°.28E±0°.06, h59km±4km, mb4.5/18, Error ellipse: s-maj=9.2km s-min=7.7km az=153.0*
ISC 11 16:31:25.1±0.5,0°.35S±0°.05×124°.40E±0°.04, h60km, n73, σ1s39/79, mb4.3/23, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.01**	**335**	P	**Pn**	**16 31 40.8**	**-2.5**
LUWI	**Luwuk**	**1.77**	**247**		**Pn**	**16 31 52.7**	**-0.8**
LUWI				Sn	**Sn**	**16 32 16.9**	**+1.9**
LUWI	**Luwuk**	**1.77**	**247**	P	**Pn**	**16 31 53.0**	**-0.5**
LUWI	**Luwuk**	**1.77**	**247**	S	**Sn**	**16 32 16.7**	**+1.7**
LUWI	**Luwuk**	**1.77**	**247**	P	**Pn**	**16 31 53.3**	**-0.2**
SANI	**Sanana**	**2.32**	**137**	P	**Pn**	**16 31 58.5**	**-2.4**
SANI	**Sanana**	**2.32**	**137**	S	**Sn**	**16 32 25.8**	**-2.6**
SANI	**Sanana**	**2.32**	**137**	P	**Pn**	**16 31 58.6**	**-2.4**
MRSI	**Marisa**	**2.59**	**288**	P	**Pn**	**16 32 03.2**	**-2.4**
APSI	**Ampana**	**2.81**	**258**	P	**Pn**	**16 32 08.4**	**+0.7**
TNTI	**Ternate**	**3.17**	**69**	Pn	**Pn**	**16 32 13.6**	**+1.1**
TNTI				Sn	**Sn**	**16 32 51.3**	**+2.2**
TNTI	**Ternate**	**3.17**	**69**	P	**Pn**	**16 32 12.4**	**-0.1**
TOLI2	**Tolitoli**	**3.90**	**292**		**Pn**	**16 32 20.5**	**-2.1**
TOLI2				Sn	**Sn**	**16 33 03.1**	**-4.1**
TOLI2	**Tolitoli**	**3.90**	**292**	P	**Pn**	**16 32 23.4**	**+0.8**
NLAI	**Namlea**	**3.94**	**137**	P	**Pn**	**16 32 22.1**	**-1.0**
KDI	**Kendari**	**4.00**	**206**	P	**Pn**	**16 32 23.6**	**-0.4**
SGSI	**Sangihe**	**4.16**	**16**	P	**Pn**	**16 32 27.5**	**+1.3**
MPSI	**Mapaga**	**4.55**	**279**	P	**Pn**	**16 32 30.2**	**-1.4**
PCI	**Palu**	**4.60**	**263**	P	**Pn**	**16 32 31.8**	**-0.4**
AAI	**Ambon**	**5.04**	**131**	P	**Pn**	**16 32 38.6**	**+0.4**
TTSI	**Tana Toraja**	**5.31**	**240**	P	**Pn**	**16 32 42.2**	**+0.3**
MSAI	**Masohi**	**5.42**	**123**	P	**Pn**	**16 32 45.3**	**+1.9**
BBSI	**Bau Bau**	**5.42**	**200**	P	**Pn**	**16 32 43.0**	**-0.5**
	0.3nm44nm,0.7s						
SPSI	**Sidrap Palu**	**5.86**	**232**	P	**Pn**	**16 32 49.9**	**+0.4**
	2um84nm,0.7s						
BNSI	**Bone**	**5.88**	**227**	P	**Pn**	**16 32 49.8**	**0.0**
	0.3nm71nm,0.6s						
BKSI	**Bulukumba**	**6.53**	**221**	P	**Pn**	**16 32 58.7**	**0.0**
KAPI	**Kappang**	**6.56**	**225**		**Pn**	**16 32 57.3**	**-1.8**
KAPI				Sn	**Sn**	**16 34 10.7**	**-1.9**
KAPI	**Kappang**	**6.56**	**225**	Pn	**Pn**	**16 32 57.8**	**-1.3**
	5.8nm,0.3s,baz=77,slow=6.9,SNR=6.8						
KAPI				Sn	**Sn**	**16 34 11.5**	**-1.1**
	2.8nm,0.3s,baz=12,slow=22,SNR=1.5 12nm,0.3s						
KAPI	**Kappang**	**6.56**	**225**	P	**Pn**	**16 32 59.3**	**+0.2**
FAKI	**Fak Fak**	**8.25**	**108**	Pn	**Pn**	**16 33 20.2**	**-2.0**
FAKI	**Fak Fak**	**8.25**	**108**	P	**Pn**	**16 33 20.8**	**-1.4**
MMRI	**Maumere**	**8.51**	**195**	Pn	**Pn**	**16 33 24.3**	**-1.5**
SOEI	**Soe**	**9.35**	**181**	Pn	**Pn**	**16 33 37.5**	**+0.1**
KKM	**Kota Kinabalu**	**10.35**	**308**		**Pn**	**16 33 51.8**	**+0.8**
KKM	**Kota Kinabalu**	**10.35**	**308**	P	**Pn**	**16 33 51.9**	**+0.9**
BBJI	**Bungbulang**	**18.14**	**247**	P	**Pn**	**16 35 34.1**	**+1.0**
MBWA	**Marble Bar**	**21.18**	**192**	P	**P**	**16 36 06.3**	**+0.6**
MBWA				IAmb	IAmb	16 36 18.7	
	comp=Z,25nm,1.4s						
MBWA	**Marble Bar**	**21.18**	**192**	P	**P**	**16 36 07.9**	**+2.2**
WB0	**Warramunga Arr**	**21.64**	**154**	P	**P**	**16 36 08.5**	**-2.1**
WB0				IAmb	IAmb	16 36 15.0	
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	**21.77**	**154**	P	**P**	**16 36 10.3**	**-1.8**
	comp=Z,1.7nm,0.5s,baz=330,slow=12,SNR=4.7						
WRA				PcP	**PcP**	**16 40 11.1**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=316,slow=3.1,SNR=8.9 comp=Z,1.7nm,0.5s						
MNAI	**Manna**	**21.79**	**259**	P	**P**	**16 36 10.7**	**-1.6**
WR8	**Warramunga Arr**	**21.85**	**154**	P	**P**	**16 36 11.1**	**-1.8**
COEN	**Coen**	**22.98**	**127**	P	**P**	**16 36 24.7**	**-0.3**
COEN				IAmb	IAmb	16 36 42.3	
	comp=Z,27nm,1.5s						
GUMO	**Guam**	**24.55**	**55**	LR	LR	16 46 26.0	
	comp=Z,42nm,18.3s,baz=82,slow=37						

AS31	**Alice Springs**	**24.95**	**159**	P	**P**	**16 36 41.9**	**-1.2**	
ASAR	**Alice Springs**	**24.95**	**159**	P	**P**	**16 36 43.0**	**-0.1**	
	comp=Z,1.6nm,0.7s,baz=348,slow=15,SNR=5.0							
ASAR				PcP	**PcP**	**16 40 18.8**	**+1.3**	
	comp=Z,0.7nm,0.6s,baz=352,slow=2.2,SNR=5.2 comp=Z,1.6nm,0.7s							
QIS	**Mount Isa**	**24.99**	**144**	P	**P**	**16 36 45.8**	**+2.3**	
CMAR	**Chiang Mai Arr**	**31.23**	**308**	P	**P**	**16 37 38.0**	**-1.3**	
	comp=Z,0.4nm,0.3s,baz=117,slow=9.2,SNR=1.8 comp=Z,0.4nm,0.3s							
JMN	**Monobe**	**35.05**	**14**	P	**P**	**16 38 12.8**	**+0.4**	
INU	**Inuyama**	**37.41**	**17**	P	**P**	**16 38 32.9**	**+0.4**	
INU				IAmb	IAmb	16 38 34.4		
	comp=Z,14nm,1.0s							
JGF	**Kuroka**	**37.75**	**17**	P	**P**	**16 38 35.5**	**+0.1**	
MAJO	**Matsushiro**	**38.88**	**18**	P	**P**	**16 38 44.6**	**-0.2**	
MAJO				IAmb	IAmb	16 38 49.4		
	comp=Z,7.4nm,0.9s							
MJAR	**Matsushiro Arr**	**38.88**	**18**	P	**P**	**16 38 44.1**	**-0.7**	
	comp=Z,4.4nm,0.7s,baz=189,slow=8.9,SNR=11 comp=Z,4.4nm,0.7s							
USA0B	**Ussuriysk Arra**	**44.87**	**8**	P	**P**	**16 39 34.3**	**+0.7**	
USA0B				IAmb	IAmb	16 39 35.6		
	comp=Z,6.0nm,0.9s							
USRK	**Ussuriysk Ar.**	**44.87**	**8**	P	**P**	**16 39 34.3**	**+0.8**	
USRK	**Ussuriysk Ar.**	**44.87**	**8**	P	**P**	**16 39 33.9**	**+0.4**	
	comp=Z,3.7nm,0.7s,baz=186,slow=7.0,SNR=12 comp=Z,3.7nm,0.7s							
JKA	**Kamikawa-asahi**	**47.15**	**18**	P	**P**	**16 39 53.1**	**+1.6**	
JKA				IAmb	IAmb	16 39 59.3		
	comp=Z,13nm,1.4s							
HEH	**HeiHe**	**50.47**	**3**	*eP*	**P**	**16 40 16.1**	**-0.8**	
HEH				pmax	pmax			
	comp=Z,5.0nm,0.9s							
SONM	**Songino Array**	**50.48**	**344**	P	**P**	**16 40 16.1**	**-1.1**	
	comp=Z,0.3nm,0.4s,baz=152,slow=9.5,SNR=2.9 comp=Z,0.3nm,0.4s							
MKAR	**Makanchi Array**	**59.65**	**328**	P	**P**	**16 41 21.4**	**-1.8**	
MKAR	**Makanchi Array**	**59.65**	**328**	P	**P**	**16 41 22.0**	**-1.2**	
	comp=Z,0.5nm,0.4s,baz=120,slow=8.0,SNR=8.5 comp=Z,0.5nm,0.4s							
MAKZ	**Makanchi**	**59.82**	**328**	P	**P**	**16 41 23.4**	**-1.0**	
MAKZ				IAmb	IAmb	16 41 31.0		
	comp=Z,3.7nm,1.5s							
PETK	**Petropavlovsk-**	**60.06**	**22**	P	**P**	**16 41 26.4**	**+0.5**	
	comp=Z,1.9nm,0.7s,baz=182,slow=2.5,SNR=5.0 comp=Z,1.9nm,0.7s							
BKZ	**Black Stump Fm**	**61.22**	**136**	P	**P**	**16 41 35.0**	**+0.9**	
KURBB	**Kurchatov Arra**	**63.97**	**329**	P	**P**	**16 41 51.9**	**-0.2**	
	comp=Z,0.5nm,0.4s,baz=136,slow=5.8,SNR=7.2 comp=Z,0.5nm,0.4s							
KURK	**Kurchatov**	**63.98**	**330**	P	**P**	**16 41 50.3**	**-1.9**	
CASY	**Casey**	**66.53**	**186**	P	**P**	**16 42 09.0**	**+0.6**	
CASY				IAmb	IAmb	16 42 10.1		
	comp=Z,6.1nm,1.2s							
BVAR	**Borovoye Array**	**69.50**	**329**	P	**P**	**16 42 28.3**	**+1.0**	
	comp=Z,0.4nm,0.5s comp=Z,0.4nm,0.5s							
ABKAR	**Akbulak array**	**73.86**	**322**	P	**P**	**16 42 53.5**	**-0.1**	
ABPO	**Ambohimpanom**	**77.76**	**251**	P	**P**	**16 43 16.6**	**0.0**	
ABPO				IAmb	IAmb	16 43 55.9		
	comp=Z,12nm,1.4s							
VNDA	**Vanda**	**79.71**	**172**	P	**P**	**16 43 27.3**	**+1.3**	
VNDA	**Vanda**	**79.71**	**172**	P	**P**	**16 43 27.0**	**+1.0**	
	comp=Z,0.3nm,0.6s,baz=324,slow=5.0,SNR=1.6 comp=Z,0.3nm,0.6s							
QSPA	**South Pole Qui**	**89.59**	**180**	P	**P**	**16 44 17.4**	**+1.3**	
	comp=Z,0.7nm,0.6s,baz=244,slow=1.2,SNR=7.7 comp=Z,0.7nm,0.6s							

NEIC ***11*** *16:41:07.8±1.2,35°.702N±0°.009×117°.50W±0°.01, h6km±2km, Error ellipse: s-maj=1.3km s-min=1.3km az=195.0*
PAS 11 16:41:08.4±1.5,35°.702N±0°.008×117°.51W±0°.01, h1km±1km, Mwr3.5/4, ML3.5/162(NEIC), Error ellipse: s-maj=1.2km s-min=1.1km az=71.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.10**	**172**	Pg	Pg	**16 41 10.7**	**

MTPC				IAML		16 42 02.5		
	comp=N,949nm,0.3s							
MTPC				IAML		16 42 03.0		
	comp=E,981nm,0.3s							
PASC	**Pasadena Art C**	**1.62**	**200**		Pn	16 41 36.8	-1.4	
PASC				IAML		16 42 05.2		
	comp=E,345nm,0.7s							
DSP	**Deep Springs**	**1.71**	**348**		Pn	16 41 38.5	-0.7	
DSP				IAML		16 42 07.4		
	comp=E,405nm,0.8s							
MZP	**Montezuma Peak**	**2.00**	**3**		Pn	16 41 42.5	-1.1	
ELS	**Elsinore Mount**	**2.05**	**178**		Pn	16 41 42.9	-1.2	
ELS				IAML		16 42 20.6		
	comp=E,257nm,0.6s							
SHPR	**Sheep Range**	**2.06**	**66**		Pn	16 41 43.0	-1.4	
V12A	**Nelson**	**2.16**	**89**		Pn	16 41 44.4	-1.3	
V12A				IAML		16 42 19.1		
	comp=N,270nm,1.1s							
V12A				IAML		16 42 19.2		
	comp=E,211nm,0.3s							
PMD	**Palm Desert**	**2.25**	**155**		Pn	16 41 45.4	-1.4	
PMD				IAML		16 42 23.2		
	comp=E,204nm,0.6s							
PFO	**Pinyon Flats O**	**2.26**	**157**		Pn	16 41 45.7	-1.3	
PFO				IAML		16 42 27.9		
	comp=E,213nm,1.0s							
TPH	**Tonopah**	**2.38**	**5**		Pn	16 41 47.9	-0.8	
S11A	**Rachel**	**2.40**	**36**		Pn	16 41 48.1	-0.9	
S11A				IAML		16 42 28.9		
	comp=N,269nm,0.5s							
S11A				IAML		16 42 35.9		
	comp=E,308nm,1.0s							
NEE2	**Needles Airpor**	**2.54**	**111**		Pn	16 41 48.9	-1.9	
BORC	**Borrego Spring**	**2.59**	**159**		Pn	16 41 50.5	-1.0	
BORC				IAML		16 42 38.1		
	comp=N,186nm,0.8s							
BORC				IAML		16 42 40.3		
	comp=E,155nm,0.9s							
PRN	**Pahroc Range**	**2.61**	**49**		Pn	16 41 51.0	-0.8	
PRN				IAML		16 42 41.9		
	comp=E,268nm,1.0s							
PRN				IAML		16 42 47.1		
	comp=N,233nm,0.7s							
LHV	**Little Huntoon**	**2.67**	**343**		Pn	16 41 51.8	-0.7	
LHV				IAML		16 42 39.8		
	comp=N,190nm,1.0s							
LHV				IAML		16 42 41.5		
	comp=E,278nm,0.7s							
DPP	**Dos Picos Cty**	**2.74**	**170**		Pn	16 41 52.8	-0.7	
DPP				IAML		16 42 37.4		
	comp=E,260nm,0.8s							
NV11	**Mina Array Sit**	**2.77**	**349**		Pn	16 41 52.6	-1.5	
NV11				IAML		16 42 41.1		
	comp=E,116nm,1.6s							
NVAR	**Mina Array Bea**	**2.79**	**347**		Pn	16 41 53.8	-0.7	
BBGB	**Big Mountain B**	**2.99**	**288**		Pn	16 41 56.2	-0.9	
W13A	**Hualapai Mount**	**3.02**	**100**		Pn	16 41 56.0	-1.6	
W13A				IAML		16 42 46.6		
	comp=N,93nm,0.5s							
RYN	**Ryan**	**3.03**	**345**		Pn	16 41 57.3	-0.3	
R11B	**Troy Canyon, C**	**3.06**	**30**		Pn	16 41 56.4	-1.7	
BLYC	**Blythe**	**3.14**	**128**		Pn	16 41 56.7	-2.3	
BLYC				IAML		16 42 49.2		
	comp=E,112nm,0.6s							
BLYC				IAML		16 42 49.5		
	comp=N,170nm,0.5s							
Q09A	**Carvers**	**3.14**	**5**		Pn	16 41 57.7	-1.5	
WAKR	**Walker**	**3.19**	**332**		Pn	16 41 59.3	-0.7	
TKX	**Tecate**	**3.21**	**166**		Pn	16 42 00.0	0.0	
TKX				IAML		16 43 29.9		
	comp=E,167nm,0.1s							
TKX				IAML		16 43 53.3		
	comp=N,140nm,0.1s							
CMB	**Columbia Colle**	**3.28**	**316**		Pn	16 42 00.3	-0.7	
CMB				IAML		16 42 59.9		
	comp=E,79nm,0.7s							
YUH	**Yuha Desert**	**3.32**	**156**		Pn	16 42 00.2	-1.2	
SAO	**San Andreas Ge**	**3.35**	**290**		Pn	16 42 00.8	-1.2	
GLA	**Glamis**	**3.45**	**139**		Pn	16 42 01.0	-2.3	
CBX	**Cerro Bola**	**3.45**	**168**		Pn	16 42 03.1	-0.3	
ESJX	**Sierra Juarez**	**3.91**	**160**		Pn	16 42 09.2	-0.6	
ESJX				IAML		16 43 15.3		
	comp=N,48nm,0.6s							
ESJX				IAML		16 43 15.6		
	comp=E,54nm,1.1s							
KNB	**Kanab**	**4.00**	**70**		Pn	16 42 10.7	-0.4	
KNB				IAML		16 43 27.1		
	comp=E,43nm,1.0s							
KNB				IAML		16 43 27.8		
	comp=N,42nm,1.3s							
SZCU	**Shurtz Canyon**	**4.03**	**61**		Pn	16 42 11.4	0.0	
PSUT	**Pine Spring**	**4.06**	**45**		Pn	16 42 10.0	-1.9	
PSUT				IAML		16 43 21.7		
	comp=E,45nm,0.6s							
PSUT				IAML		16 43 21.9		
	comp=N,43nm,0.6s							
Y14A	**Wickenburg**	**4.10**	**114**		Pn	16 42 10.2	-2.1	
Y14A				IAML		16 43 21.7		
	comp=E,79nm,0.4s							
MPK	**Martis Peak**	**4.11**	**332**		Pn	16 42 10.3	-2.3	
MPK				IAML		16 43 43.3		
	comp=E,67nm,0.9s							
MPK				IAML		16 43 47.3		
	comp=N,65nm,0.8s							
SPR3	**Spring Creek 3**	**4.15**	**37**		Pn	16 42 10.8	-2.4	
AFDM	**Forest Hills D**	**4.26**	**321**		Pn	16 42 11.8	-2.6	
AFDM				IAML		16 43 27.5		
	comp=E,44nm,1.1s							
AFDM				IAML		16 43 31.7		
	comp=N,34nm,0.8s							
PAHR	**Pah Rah Range**	**4.26**	**340**		Pn	16 42 12.0	-2.6	
U15A	**North Rim**	**4.29**	**79**		Pn	16 42 12.3	-2.7	
U15A				IAML		16 43 24.7		
	comp=N,45nm,1.2s							
U15A				IAML		16 43 27.0		
	comp=E,71nm,0.8s							
VTX	**Valle De La Tr**	**4.53**	**161**		Pn	16 42 15.6	-2.7	
VTX				IAML		16 43 18.5		
	comp=N,55nm,0.1s							
VTX				IAML		16 43 44.5		
	comp=E,43nm,1.8s							
BEKR	**Beckworth**	**4.73**	**332**		Pn	16 42 18.4	-2.7	
BEKR				IAML		16 43 52.0		
	comp=E,37nm,0.9s							
WUAZ	**Wupatki**	**5.00**	**90**		Pn	16 42 22.6	-2.1	
X16A	**Lo Mia Camp, P**	**5.14**	**103**		Pn	16 42 24.0	-2.7	
X16A				IAML		16 43 58.1		
	comp=E,18nm,0.9s							
HMU	**Henry Mountain**	**5.87**	**66**		Pn	16 42 33.6	-3.2	
HATC	**Hat Creek Radi**	**5.98**	**330**		Pn	16 42 35.2	-2.9	
X18A	**Snowflake**	**6.30**	**99**	Pn	Pn	16 42 40.1	-2.5	
W18A	**Petrified Fore**	**6.38**	**93**		Pn	16 42 40.7	-3.0	
SRU	**San Rafael Swe**	**6.52**	**56**		Pn	16 42 42.4	-3.2	
PV05	**Paradox Valley**	**7.14**	**68**	Pn	Pn	16 42 53.4	-0.8	
PV19	**Morning Glory**	**7.30**	**67**		Pn	16 42 53.6	-2.8	
PV23	**Carpenter Ridg**	**7.33**	**65**	Pn	Pn	16 42 55.1	-1.6	
PV18	**Skein Mesa, Pa**	**7.34**	**67**	Pn	Pn	16 42 55.5	-1.4	
PV16	**Nyswonger Mesa**	**7.35**	**67**	Pn	Pn	16 42 56.7	-0.4	
PV11	**David Mesa, Pa**	**7.38**	**67**	Pn	Pn	16 42 57.1	-0.4	
PV04	**Paradox Valley**	**7.39**	**66**	Pn	Pn	16 42 55.4	-2.2	
PV12	**Saucer Basin,**	**7.44**	**67**	Pn	Pn	16 42 56.2	-2.1	
PV01	**Paradox Valley**	**7.56**	**69**		Pn	16 42 57.8	-2.2	

IDC 11 16:45:52.2±1.9, 0°.64N×126°.72E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=209.9km s-min=21.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.77**	**160**	P	P	16 50 43.9	-1.9
	0.7nm,0.6s,baz=338,slow=10,SNR=15 0.7nm,0.6s						
ASAR	**Alice Springs**	**25.15**	**164**	P	P	16 51 20.7	+1.4
	0.4nm,0.4s,baz=345,slow=12,SNR=16 0.4nm,0.4s						
MKAR	**Makanchi Array**	**60.09**	**326**	P	P	16 56 02.0	+0.6
	0.3nm,0.4s,baz=116,slow=8.1,SNR=6.8 0.3nm,0.4s						
BVAR	**Borovoye Array**	**69.90**	**328**	P	P	16 57 04.4	-0.7
	0.2nm,0.3s 0.2nm,0.3s						

IDC 11 16:54:56.5±2.7, 30°.00N×140°.76E, h64km±27km, mb3.2/8, mbtmp3.5/10, ML2.6/1, MS3.0/1, Error ellipse: s-maj=34.0km s-min=16.6km az=77.0

ISC 11 16:54:57.1±0.8, 30°.00N±0°.1×140°.9E±0°.2, h78km, n11, σ1s68/11, mb3.5/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.09**	**158**	P	**Pn**	**16 55 44.5**	**+0.8**
	24nm,0.3s						
JCJ				S	**Sn**	**16 56 16.4**	**-3.0**
MJAR	**Matsushiro Arr**	**6.92**	**342**	P	**Pn**	**16 56 33.6**	**-2.2**
	0.1nm,0.3s,baz=159,slow=14,SNR=3.2 0.9nm,0.7s						
JOW	**Kunigami**	**11.54**	**257**	LR	LR	17 01 36.2	
	comp=Z,72nm,18.3s,baz=285,slow=35						
SONM	**Songino Array**	**31.88**	**314**	P	**P**	**17 01 13.3**	**-1.6**
	0.2nm,0.3s,baz=102,slow=8.1,SNR=2.4 0.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**39.74**	**263**	P	**P**	**17 02 22.4**	**+0.1**
	0.4nm,0.6s,baz=54,slow=7.0,SNR=5.5 0.4nm,0.6s						
MKAR	**Makanchi Array**	**47.80**	**308**	P	**P**	**17 03 27.2**	**+0.6**
	0.2nm,0.6s,baz=92,slow=4.3,SNR=2.7 0.2nm,0.6s						
WRA	**Warramunga Arr**	**50.03**	**188**	P	**P**	**17 03 44.4**	**+0.5**
	0.3nm,0.3s,baz=5.8,slow=7.7,SNR=17 0.3nm,0.3s						
ASAR	**Alice Springs**	**53.76**	**188**	P	**P**	**17 04 12.0**	**+0.5**
	0.3nm,0.7s,baz=358,slow=4.3,SNR=12 0.3nm,0.7s						
ILAR	**Eielson Array**	**55.76**	**30**	P	**P**	**17 04 26.6**	**+1.0**
	0.2nm,0.4s,baz=278,slow=8.2,SNR=1.6 0.2nm,0.4s						
FINES	**FINESS Array B**	**74.87**	**333**	P	**P**	**17 06 29.6**	**+0.6**
	1.0nm,0.8s,baz=59,slow=5.4,SNR=5.8 1.0nm,0.8s						
BRTR	**Keskin Array B**	**83.22**	**312**	P	**P**	**17 07 16.9**	**+1.6**
	0.7nm,0.7s,baz=76,slow=5.2,SNR=4.1 0.7nm,0.7s						

HEL 11 17:01:23.6±0.4, 67°.04N×20°.74E, h0km, ML2.2, Explosion Hypocentre not reviewed by the ISC
IDC 11 17:01:24.5±0.8, 67°.07N×21°.19E, h0km, mbtmp2.7/4, ML2.2/4, Error ellipse: s-maj=14.6km s-min=6.3km az=114.0
UPP 11 17:01:24.0±0.1, 67°.06N×20°.92E, h0km, ML2.3, Unknown

ISC 11 17:01:23.8±1.2, 67°.06N±0°.03×20°.91E±0°.04, h5km±11km, n18, σ0s67/25, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.58**	**46**	P	**Pg**	**17 01 35.1**	**+0.1**
MASU				S	**Sg**	**17 01 42.9**	**+0.4**
ERTU	**Ertsjaerv**	**0.72**	**134**	P	**Pg**	**17 01 37.4**	**-0.2**
ERTU				S	**Sg**	**17 01 47.0**	**+0.1**
ERTU	**Ertsjaerv**	**0.72**	**134**	PG		17 01 37.2	
	baz=312						
ERTU				SG		17 01 47.0	
PAJU	**Pajala**	**0.87**	**91**	P	**Pg**	**17 01 40.0**	**-0.4**
PAJU				S	**Sb**	**17 01 51.9**	**-1.3**
HARU	**Harads**	**0.90**	**178**	P	**Pg**	**17 01 40.9**	**-0.1**
RATU	**Laukkuluspa**	**0.92**	**327**	P	**Pg**	**17 01 41.2**	**-0.2**
RATU				S	**Sg**	**17 01 53.4**	**+0.1**
KUA	**Kurravaara**	**0.92**	**347**	P	**Pg**	**17 01 41.1**	**-0.4**
SALU	**Saltoluokta**	**0.99**	**290**	P	**Pg**	**17 01 42.7**	**0.0**
LANU	**Lannavaara**	**1.08**	**22**	P	**Pg**	**17 01 43.7**	**-0.7**
LANU	**Lannavaara**	**1.08**	**22**	PG		17 01 43.6	
LANU				SB		17 02 00.2	
KOVU	**Salmi**	**1.20**	**347**	P	**Pg**	**17 01 46.3**	**-0.5**
KLF	**Kolari**	**1.21**	**80**	PG		17 01 46.1	
	baz=260						
KLF				MSG		17 02 02.2	
	comp=Z,16nm,0.2s						
KALU	**Kalix**	**1.56**	**140**	P	**Pn**	**17 01 52.4**	**+0.3**
KALU	**Kalix**	**1.56**	**140**	PG		17 01 52.1	
KALU				SN		17 02 13.7	
SJUU	**Sjulsmark**	**1.58**	**169**	P	**Pn**	**17 01 53.0**	**+0.5**
TOF	**Tornio**	**1.69**	**124**	PG		17 01 54.7	
	baz=310						
TOF				MSG		17 02 15.2	
	comp=Z,16nm,0.2s						
TOF				SN		17 02 17.5	
HEF	**Hetta**	**1.71**	**37**	*e*P	**Pn**	**17 01 54.6**	**+0.4**
HEF	**Hetta**	**1.71**	**37**	PG		17 01 54.6	
	baz=223						
HEF				MSG		17 02 16.2	
	comp=Z,20nm,0.2s						
HEF				SN		17 02 20.0	
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*P	**Pb**	**17 01 59.6**	**-0.1**
KIF	**Kilpisjarvi**	**1.95**	**359**	PG		17 01 59.7	
KIF				MSG		17 02 23.5	
	comp=Z,36nm,0.2s						
KIF				SG		17 02 27.1	
RNF	**Rovaniemi**	**2.07**	**100**	PG		17 02 00.6	
RNF				SG		17 02 28.8	
KTK1	**Kautokeino**	**2.15**	**23**	PG		17 02 02.1	
KTK1				SG		17 02 31.4	
I37NO	**I37NO**	**2.20**	**338**	I	I	17 15 17.1	
	comp=Z,0.1nm,0.8s,baz=158,slow=324,SNR=9.8						
RANF	**Ranua**	**2.58**	**111**	PN		17 02 07.3	
	baz=299						
RANF				SG		17 02 43.2	
TRO	**Tromso**	**2.69**	**345**	PG		17 02 10.7	
TRO				SG		17 02 48.2	
OBF4	**Vikkela, Lumij**	**2.84**	**141**	PN		17 02 11.1	
	baz=324						
OBF4				MSG		17 02 47.8	
	comp=Z,4.7nm,0.2s						
OUL	**Oulu**	**2.84**	**132**	PB		17 02 11.6	
	baz=312						
OUL				SG		17 02 53.8	
OBF0	**Syolatti, Pyha**	**2.92**	**150**	PB		17 02 12.8	
OBF0				MSG		17 02 49.9	
	comp=Z,5.2nm,0.2s						
OBF8	**Ulkokalla**	**2.94**	**158**	PB		17 02 13.0	
	baz=338						
OBF8				MSG		17 02 50.1	
	comp=Z,8.0nm,0.2s						
ARCES	**ARCESS Array B**	**3.02**	**32**	Pn	**Pn**	**17 02 13.3**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=216,slow=14,SNR=53						
ARCES				Sn	**Sn**	**17 02 49.3**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=215,slow=23,SNR=5.9						
ARCES				Lg	Lg	17 02 55.7	
	comp=Z,0.7nm,0.3s,baz=216,slow=28,SNR=11 comp=Z,1.1nm,0.3s						
ARA0	**ARCESS Array S**	**3.02**	**32**	PN		17 02 13.2	
	baz=214						
OUF	**Merijarvi**	**3.13**	**148**	PB		17 02 15.7	
	baz=330						
RAJF	**Raja-Jooseppi**	**3.15**	**60**	PN		17 02 14.6	
RAJF				SG		17 03 02.2	
UMAU	**Umeaa**	**3.19**	**182**	PB		17 02 16.2	
UMAU				SB		17 02 56.5	
KU2	**Taivalkoski**	**3.25**	**111**	PN		17 02 16.7	
VRF	**Varrio**	**3.43**	**74**	PN		17 02 19.2	
	baz=260						
OLKF	**Oulanka, Finla**	**3.46**	**98**	PN		17 02 19.7	
MSF	**Maaselka**	**3.46**	**106**	PN		17 02 19.5	
	baz=290						
KEV	**Kevo**	**3.52**	**37**	PN		17 02 19.8	
KU1	**Kurvinen**	**3.80**	**109**	PN		17 02 24.6	
HUSU	**Husum**	**3.80**	**192**	PN		17 02 24.7	
NIF	**Nilsia**	**4.69**	**139**	PN		17 02 36.9	
	baz=329						
RMF	**Romuvaara**	**4.70**	**123**	PN		17 02 37.9	
	baz=313						
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**17 02 55.7**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=345,slow=13,SNR=12						
FINES				Sn	**Sn**	**17 04 03.9**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=340,slow=24,SNR=7.4						
FINES				Lg	Lg	17 04 33.1	
	comp=Z,0.2nm,0.3s,baz=340,slow=28,SNR=3.0 comp=Z,0.6nm,0.3s						
NOA	**NORSAR Array B**	**7.38**	**220**	Pn	**Pn**	**17 03 12.2**	**+0.1**
	baz=34,slow=12,SNR=4.1						
NOA				Sn	**Sn**	**17 04 35.4**	**-0.7**
	baz=38,slow=23,SNR=2.2						
NOA				Lg	Lg	17 05 13.5	
	baz=36,slow=20,SNR=1.6 comp=Z,0.2nm,0.5s						
HFS	**Hagfors**	**7.65**	**208**	Pn	**Pn**	**17 03 16.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=25,slow=13,SNR=6.1						
HFS				Sn	**Sn**	**17 04 41.8**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=27,slow=28,SNR=2.1						
HFS				Lg	Lg	17 05 20.5	
	comp=Z,0.2nm,0.3s,baz=28,slow=28,SNR=2.2 comp=Z,0.3nm,0.3s						

OSUNB 11 17:08:37.0±0.9, 4°.66S×155°.26E, h491km±9km, mb5.1/6, Error ellipse: s-maj=4.5km s-min=3.9km az=0.0
NEIC 11 17:08:38.0±1.4, 4°.64S±0°.09×155°.22E±0°.02, h495km±3km, mb5.5/587, Mwb6.0/57, Mww6.0/48, Error ellipse: s-maj=12.5km s-min=1.1km az=170.0, Moment Tensor Solution. Moment tensor: Scale 10^18 Nm; Mrr=1.00; Mθθ=1.11; Mϕϕ=-0.11; Mrθ=0.29; Mθϕ=0.30; Mϕr=-0.26; Fault plane solution: M0=1.17000×10^18 NP1:ϕs=59.14000°, δ=42.16000°, λ=-117.67000°. NP2:ϕs=274.41000°, δ=53.53000°, λ=-67.20000°. Principal axes: T 1.2029, Plg6.0000°, Azm348.0000°; N -0.0745, Plg18.0000°, Azm80.0000°; P -1.1284, Plg71.0000°, Azm241.0000°;
NEIC 11 17:08:37.9, 4°.65S×155°.24E, h496km
BJI 11 17:08:38.3, 4°.30S×155°.41E, h508km, mB5.3/53, mb5.3/99
IPGP 11 17:08:38.0, 4°.66S×155°.25E, h503km, Mw6.0, Fault plane solution: NP1:ϕs=69.00000°, δ=39.00000°, λ=-111.00000°. NP2:ϕs=275.00000°, δ=53.00000°, λ=-74.00000°.
NEIC 11 17:08:38, 4°.65S×155°.14E, h500km, Moment Tensor Solution. Duration: 4s1.0 Moment tensor: Scale 10^18 Nm; Mrr=0.96; Mθθ=1.02; Mϕϕ=-0.06; Mrθ=0.30; Mθϕ=0.28; Mϕr=0.28; Fault plane solution: M0=1.11000×10^18 NP1: ϕs=58.12000°, δ=41.89000°, λ=-118.90000°. NP2: ϕs=274.68000°, δ=54.23000°, λ=-66.57000°. Principal axes: T 1.1166, Plg6.0000°, Azm348.0000°; N -0.0131, Plg19.0000°, Azm80.0000°; P -1.1035, Plg70.0000°, Azm240.0000°;
IDC 11 17:08:38.3±0.3, 4°.67S×155°.23E, h504km±2km, mb5.1/33, mbtmp5.9/34 Error ellipse: s-maj=8.3km s-min=6.9km az=85.0.
NEIC 11 17:08:38, 4°.65S×155°.24E, h500km
MOS 11 17:08:38.3±1.0, 4°.56S×155°.12E, h509km, mb5.5/51, MS5.1/4, Error ellipse: s-maj=8.6km s-min=5.2km az=110.1
GCMT 11 17:08:38.0±0.1, 4°.66S±0°.01×155°.19E±0°.01, h493km, MW6.0/164, Moment Tensor Solution. s164,c378; s136,c184; Duration: 2s4 Moment tensor: Scale 10^18 Nm; Mrr=1.11±.01; Mθθ 1.16±.01; Mϕϕ-0.05±.01; Mrθ 0.39±.01; Mθϕ 0.30±.01; Mϕr-0.21±.01; Best double couple: M0=1.25400×10^18 NP1:ϕs=62.00000°, δ=39.00000°, λ=-113.00000°. NP2:ϕs=271.00000°, δ=55.00000°, λ=-72.00000°. Principal axes: T 1.2780, Plg8.0000°, Azm348.0000°; N -0.0510, Plg14.0000°, Azm80.0000°; P -1.2310, Plg73.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function
DJA 11 17:08:39.2±0.5, 5°.5±3°×15°.5E±°, h504km±5km, M5.4/107, mB5.8/93, mb5.5/107, Mw(mB)5.4/93, MwMwp5.4/38, Mwp5.6/38

ISC 11 17:08:38.0±0.2, 4°.69S±0°.03×155°.25E±0°.03, h506km±1km, h508km:pP-P, n1730, σ1s36/2042, mb5.5/456, 44C-90D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.12**	**279**	P	**P**	**17 09 49.4**	**-0.9**
TATA	**Tatamba Isabel**	**5.83**	**129**	P	**P**	**17 10 12.9**	**-0.1**
SAVO	**Savo Central**	**6.34**	**135**	P	**P**	**17 10 17.8**	**-0.1**
ALEG	**Aligegeo Malai**	**6.75**	**127**	P	**P**	**17 10 21.7**	**-0.2**
MANU	**Manus Island**	**8.29**	**288**		**P**	**17 10 37.6**	**0.0**
HURO	**Huro Makira**	**8.74**	**131**	P	**P**	**17 10 40.4**	**-1.9**
PATS	**Pohnpei**	**11.85**	**15**		**P**	**17 11 15.1**	**+0.1**
PATS	**Pohnpei**	**11.85**	**15**	P	**P**	**17 11 14.7**	**-0.4**
PATS	**Pohnpei**	**11.85**	**15**	P	**P**	**17 11 14.6**	**-0.4**
LUES	**Luesalemba Tem**	**12.12**	**120**	P	**P**	**17 11 17.9**	**0.0**
JAY	**Jayapura**	**14.67**	**278**	P	**P**	**17 11 44.0**	**-0.8**
	59nm,0.5s,baz=120,slow=6.0,SNR=70						
JAY				S	**S**	**17 14 18.3**	**-0.6**
	32nm,0.8s,baz=101,slow=16,SNR=6.7						
JAY	**Jayapura**	**14.67**	**278**	P	**P**	**17 11 44.1**	**-0.8**
	220nm,0.8s						
COEN	**Coen**	**15.05**	**231**		**P**	**17 11 48.7**	**0.0**
COEN	**Coen**	**15.05**	**231**	P	**P**	**17 11 49.2**	**+0.5**
	comp=Z,720nm,0.8s						
COEN	**Coen**	**15.05**	**231**	P	**P**	**17 11 49.3**	**+0.5**
GENI	**Genyem**	**15.19**	**277**	P	**P**	**17 11 50.8**	**+0.6**
	comp=Z,7μmcomp=Z,669nm,0.7s						
VLAKA	**Lakatoro**	**16.48**	**134**	P	**P**	**17 12 02.8**	**-0.8**
SMPI	**Sarmi**	**16.73**	**279**	P	**P**	**17 12 06.7**	**+0.6**
MTSU	**Mount Surprise**	**17.11**	**218**	P	**P**	**17 12 10.6**	**+0.6**
	comp=Z,785nm,0.9s						
MTSU	**Mount Surprise**	**17.11**	**218**	P	**P**	**17 12 10.3**	**+0.3**
CTAO	**Charters Tower**	**17.64**	**209**		**P**	**17 12 15.1**	**+0.3**
CTAO	**Charters Tower**	**17.64**	**209**	P	**P**	**17 12 14.9**	**+0.1**
CTAO	**Charters Tower**	**17.64**	**209**	P	**P**	**17 12 15.1**	**+0.3**
DVP	**Devils Point**	**18.12**	**137**	P	**P**	**17 12 19.5**	**+0.3**
SRPI	**Serui, Papua**	**19.18**	**278**	P	**P**	**17 12 30.2**	**+1.2**
	comp=Z,4μmcomp=Z,207nm,0.8s						
BAKI	**Biak**	**19.43**	**280**	P	**P**	**17 12 33.5**	**+2.2**
	comp=Z,5μmcomp=Z,9μmcomp=Z,547nm,1.2s						
INH	**Isangel**	**20.13**	**138**	P	**P**	**17 12 37.6**	**+0.1**
DZM	**Mont Dzumac**	**20.40**	**149**		**P**	**17 12 40.6**	**+0.4**
DZM	**Mont Dzumac**	**20.40**	**149**	*e*P	**P**	**17 12 38.1**	**-2.0**
	comp=Z,3μm,1.4s						
DZM				*e*S	**S**	**17 15 57.3**	**+0.5**
	comp=Z,12μm,26.4s						
DZM				*e*LR	LR	17 18 03.2	
	comp=Z,4μm,25.4s						
DZM	**Mont Dzumac**	**20.40**	**149**	P	**P**	**17 12 40.7**	**+0.6**
	comp=Z,388nm,0.6s,baz=319,slow=12,SNR=595						
DZM				S	**S**	**17 15 57.2**	**+0.5**
	comp=Z,66nm,1.2s,baz=292,slow=19,SNR=2.5 comp=Z,388nm,0.6s						
DZM	**Mont Dzumac**	**20.40**	**149**	P	**P**	**17 12 40.5**	**+0.4**
ONTNC	**Ouen Toro**	**20.60**	**149**	P	**P**	**17 12 41.4**	**-0.4**
ONTNC	**Ouen Toro**	**20.60**	**149**	P	**P**	**17 12 42.1**	**+0.3**
YATNC	**Mamie plateau,**	**20.63**	**148**	P	**P**	**17 12 42.4**	**+0.3**
MARNC	**Mare, Loyalty**	**20.80**	**145**	P	**P**	**17 12 44.4**	**+0.8**
GUMO	**Guam**	**20.88**	**331**		**P**	**17 12 44.4**	**+0.1**
GUMO	**Guam**	**20.88**	**331**	P	**P**	**17 12 44.9**	**+0.5**
	comp=Z,601nm,0.5s,baz=156,slow=3.6,SNR=52						
GUMO				S	**S**	**17 16 02.9**	**-1.3**
	comp=Z,82nm,1.1s,baz=90,slow=20,SNR=1.6 comp=Z,601nm,0.5s						
GUMO	**Guam**	**20.88**	**331**	P	**P**	**17 12 44.5**	**+0.1**
OUENC	**Ouen Island, N**	**20.90**	**149**	P	**P**	**17 12 44.9**	**+0.4**
EIDS	**Eidsvold**	**20.95**	**191**		**P**	**17 12 45.3**	**+0.4**
EIDS	**Eidsvold**	**20.95**	**191**	P	**P**	**17 12 45.0**	**0.0**
	comp=Z,314nm,1.0s						
EIDS	**Eidsvold**	**20.95**	**191**	P	**P**	**17 12 45.5

comp=Z,411nm,0.9s
WRA Warramunga Arr 25.39 232 P **P** **17 13 25.1 +0.3**
comp=Z,441nm,0.7s,baz=55,slow=9.0,SNR=1246
WRA PcP **PcP** **17 16 41.3 +0.9**
comp=Z,36nm,0.8s,baz=57,slow=2.7,SNR=14
WRA S **S** **17 17 14.2 -1.1**
comp=Z,73nm,1.0s,baz=50,slow=14,SNR=18
WRA ScP **ScP** **17 19 34.2 +2.4**
comp=Z,57nm,1.0s,baz=56,slow=3.3,SNR=13
WRA PKiKP **PKiKP** **17 24 19.6 -0.8**
comp=Z,3.8nm,0.8s,baz=317,slow=1.2,SNR=14
comp=Z,441nm,0.7s
WRA Warramunga Arr 25.39 232 *i* P **P** **17 13 25.1 +0.3**
WRA pmax pmax
comp=Z,430nm,0.7s
H11S3 WAKE ISLAND Hy 25.65 26 P **P** **17 13 26.8 0.0**
baz=233,slow=8.1,SNR=5.2
H11S2 WAKE ISLAND Hy 25.65 26 P **P** **17 13 26.9 +0.1**
baz=233,slow=8.1,SNR=6.8
H11S1 WAKE ISLAND Hy 25.66 26 P **P** **17 13 27.0 0.0**
baz=233,slow=8.1,SNR=9.0
MSVF Nonsavu 25.81 122 P **P** **17 13 29.0 +0.5**
MSVF Nonsavu 25.81 122 P **P** **17 13 30.0 +1.5**
MSVF Nonsavu 25.81 122 *d* iP **P** **17 13 29.8 +1.3**
MSVF pmax pmax
comp=Z,144nm,1.4s
ARMA Armidale 25.82 187 P **P** **17 13 29.2 +0.7**
ARMA Armidale 25.82 187 P **P** **17 13 29.2 +0.7**
comp=Z,338nm,1.1s
ARMA Armidale 25.82 187 P **P** **17 13 29.9 +1.4**
MSAI Masohi 26.29 272 P **P** **17 13 35.5 +2.7**
comp=Z,3μmcomp=Z,3μmcomp=Z,223nm,0.8s
DGTI Dogotuki 26.66 117 P **P** **17 13 36.5 +0.5**
H11N1 WAKE ISLAND Hy 26.82 25 P **P** **17 13 37.1 0.0**
baz=223,slow=12,SNR=13
H11N3 WAKE ISLAND Hy 26.83 25 P **P** **17 13 37.0 -0.1**
baz=223,slow=12,SNR=11
H11N2 WAKE ISLAND Hy 26.83 25 P **P** **17 13 37.4 +0.2**
baz=223,slow=12,SNR=11
LHI Lord Howe Isla 26.93 173 P **P** **17 13 37.5 -0.6**
LHI Lord Howe Isla 26.93 173 P **P** **17 13 37.6 -0.6**
comp=Z,186nm,1.4s
AAI Ambon 27.00 271 P **P** **17 13 39.7 +0.7**
comp=Z,3μmcomp=Z,5μmcomp=Z,199nm,0.8s
AS01 Alice Springs 27.89 225 P **P** **17 13 46.5 -0.3**
AS31 Alice Springs 27.92 225 P **P** **17 13 46.6 -0.5**
AS31 Alice Springs 27.92 225 P **P** **17 13 46.3 -0.7**
comp=Z,96nm,0.8s
ASAR Alice Springs 27.92 225 P **P** **17 13 46.7 -0.3**
ASAR Alice Springs 27.92 225 P **P** **17 13 46.4 -0.7**
comp=Z,187nm,0.7s,baz=51,slow=8.7,SNR=2647
ASAR PcP **PcP** **17 16 47.3 +0.8**
comp=Z,18nm,0.6s,baz=54,slow=2.4,SNR=5.3
ASAR S **S** **17 17 53.2 -1.8**
comp=Z,12nm,0.5s,baz=53,slow=15,SNR=5.6
ASAR ScP **ScP** **17 19 41.6 +2.1**
comp=Z,19nm,0.8s,baz=51,slow=2.1,SNR=7.8
ASAR PKiKP **PKiKP** **17 24 20.7 -1.2**
comp=Z,1.5nm,0.8s,baz=57,slow=1.1,SNR=3.2
ASAR P3KPbc 17 45 53.1
comp=Z,0.4nm,0.8s,baz=215,slow=3.9,SNR=6.5
ASAR P3KP 17 46 56.1
comp=Z,1.1nm,1.0s,baz=242,slow=2.0,SNR=2.9
comp=Z,187nm,0.7s
NLAI Namlea 28.12 272 P **P** **17 13 50.8 +2.0**
comp=Z,5μmcomp=Z,6μmcomp=Z,295nm,1.0s
CMSA Cobar Meteorol 28.18 197 P **P** **17 13 49.0 -0.1**
comp=Z,319nm,1.0s
CMSA Cobar Meteorol 28.18 197 P **P** **17 13 49.4 +0.3**
KNRA Kununurra 28.22 245 P **P** **17 13 49.3 -0.4**
KNRA Kununurra 28.22 245 P **P** **17 13 48.9 -0.8**
comp=Z,93nm,0.5s
NTLH Newcastle Hard 28.26 186 P **P** **17 13 51.7 +1.9**
TNTI Ternate 28.38 280 P **P** **17 13 51.0 -0.1**
TNTI Ternate 28.38 280 P **P** **17 13 52.3 +1.2**
comp=Z,88nm,0.9s
MGCD Mangrove Creek 28.64 187 P **P** **17 13 54.1 +1.0**
comp=Z,272nm,1.2s
MGCD Mangrove Creek 28.64 187 P **P** **17 13 54.8 +1.7**
SYDH Sydney Hard Ro 29.23 188 P **P** **17 13 59.9 +1.7**
RIV Riverview 29.25 187 P **P** **17 13 59.7 +1.3**
comp=Z,632nm,1.0s
RIV Riverview 29.25 187 P **P** **17 14 00.2 +1.8**
SANI Sanana 29.32 274 P **P** **17 13 58.3 -1.1**
SANI Sanana 29.32 274 P **P** **17 13 59.8 +0.4**
SANI Sanana 29.32 274 P **P** **17 14 00.2 +0.8**
comp=Z,3μmcomp=Z,306nm,0.9s
STKA Stephens Creek 29.93 204 P **P** **17 14 04.6 +0.2**
comp=Z,49nm,1.2s
STKA Stephens Creek 29.93 204 P **P** **17 14 04.4 0.0**
comp=Z,81nm,0.4s,baz=30,slow=11,SNR=272
STKA pP **pwP** **17 15 31.1 -0.9**
comp=Z,38nm,0.8s,baz=34,slow=11,SNR=2.3
STKA PcP **PcP** **17 16 52.4 +0.9**
comp=Z,26nm,0.8s,baz=11,slow=6.6,SNR=3.7
STKA S **S** **17 18 24.7 -1.2**
comp=Z,51nm,1.2s,baz=97,slow=19,SNR=6.5
STKA ScP **ScP** **17 19 48.4 +2.8**
comp=Z,79nm,0.9s,baz=37,slow=3.5,SNR=14
comp=Z,81nm,0.4s
STKA Stephens Creek 29.93 204 P **P** **17 14 04.7 +0.3**
SGSI Sangihe 30.84 285 P **P** **17 14 13.6 +1.1**
CNB Canberra Magne 30.96 189 P **P** **17 14 14.5 +1.2**
comp=Z,274nm,1.1s
CNB Canberra Magne 30.96 189 P **P** **17 14 15.0 +1.7**
CAN Canberra 31.03 190 P **P** **17 14 14.6 +0.7**
comp=Z,316nm,1.1s
CAN Canberra 31.03 190 P **P** **17 14 15.3 +1.4**
CAN Canberra 31.03 190 P **P** **17 14 15.2 +1.4**
SOEI Soe 31.13 259 P **P** **17 14 15.2 +0.1**
SOEI Soe 31.13 259 P **P** **17 14 16.2 +1.1**
SOEI Soe 31.13 259 P **P** **17 14 16.4 +1.3**
comp=Z,5μmcomp=Z,5μmcomp=Z,360nm,0.8s
KMSI Cibinong 31.67 279 P **P** **17 14 20.6 +1.0**
BATI Baumata 31.78 258 P **P** **17 14 21.7 +1.1**
comp=Z,259nm,0.6s,baz=115,slow=1.0,SNR=32
BATI S **S** **17 18 56.7 +1.9**
comp=Z,43nm,0.7s,baz=73,slow=20,SNR=3.6
comp=Z,259nm,0.6s
BATI Baumata 31.78 258 P **P** **17 14 22.6 +2.0**
comp=Z,4μmcomp=Z,7μmcomp=Z,299nm,0.6s
FITZ Fitzroy Crossi 31.87 243 P **P** **17 14 20.7 -0.6**
comp=Z,358nm,0.6s,baz=66,slow=14,SNR=1470
FITZ PcP **PcP** **17 16 57.8 +0.8**
comp=Z,33nm,0.8s,baz=114,slow=3.8,SNR=5.7
FITZ S **S** **17 18 53.7 -2.3**
comp=Z,18nm,1.0s,baz=90,slow=20,SNR=15
comp=Z,358nm,0.6s
HTT Hallett 32.39 206 P **P** **17 14 26.4 +0.8**
PTPS Port Pirie 32.59 208 P **P** **17 14 28.2 +1.0**
LUWI Luwuk 32.63 275 P **P** 17 14 23.0 -4.8
LUWI Luwuk 32.63 275 P **P** **17 14 28.8 +0.9**
LUWI Luwuk 32.63 275 P **P** **17 14 28.7 +0.9**
comp=Z,4μmcomp=Z,8μmcomp=Z,504nm,1.4s
WHYH Whyalla 32.67 208 P **P** **17 14 28.8 +0.9**
MMRI Maumere 33.01 261 P **P** **17 14 30.9 -0.2**
MMRI Maumere 33.01 261 P **P** **17 14 30.7 -0.4**
EDFI Ende, Flores 33.56 261 P **P** **17 14 34.6 -1.2**
comp=Z,5μmcomp=Z,503nm,0.8s
MRSI Marisa 33.67 278 P **P** **17 14 36.7 +0.1**
comp=Z,98nm,0.8s
APSI Ampana 33.76 275 P **P** **17 14 38.7 +1.3**
comp=Z,3μmcomp=Z,280nm,1.5s
AFI Afiamalu 33.76 108 P **P** **17 14 36.9 -0.6**
AFI IAmb IAmb 17 14 58.7
comp=Z,93nm,0.8s
AFI Afiamalu 33.76 108 P **P** **17 14 36.9 -0.6**
AFI pmax pmax
comp=Z,93nm,0.8s
TOO Toolangi 33.92 194 IAmb IAmb 17 14 41.7
comp=Z,200nm,1.8s
CBIJ Chichi jima 34.03 339 P **P** **17 14 37.6 -1.8**
JCJ Chichijima 34.03 339 P **P** **17 14 37.6 -1.8**
JCJ Chichijima 34.03 339 P **P** **17 14 37.9 -1.5**
BSSI Bau Bau, Buton 34.63 266 P **P** **17 14 45.9 +1.2**
comp=Z,4μmcomp=Z,5μmcomp=Z,403nm,0.8s
BASI Baing, Sumba 34.80 259 P **P** **17 14 47.2 +1.1**
comp=Z,4μmcomp=Z,684nm,1.0s
OUZ Omahuta 34.80 153 P **P** **17 14 47.7 +1.9**
OUZ Omahuta 34.80 153 P **P** **17 14 47.7 +1.9**
OUZ PcP **PcP** **17 17 06.8 +1.7**
TOLI2 Tolitoli 34.91 279 IAmb IAmb 17 14 48.7
comp=Z,123nm,1.0s
TOLI2 Tolitoli 34.91 279 P **P** **17 14 46.4 -0.7**
WSI Waingapu 35.01 260 P **P** **17 14 47.9 0.0**
BNSI Bone 35.03 269 P **P** **17 14 49.0 +0.9**
comp=Z,3μmcomp=Z,5μmcomp=Z,365nm,1.0s
KAPI Kappang 35.37 268 P **P** **17 14 50.8 -0.1**
KAPI IAmb IAmb 17 14 53.4
comp=Z,123nm,0.8s
KAPI Kappang 35.37 268 P **P** **17 14 50.9 0.0**
comp=Z,170nm,0.8s,baz=94,slow=3.1,SNR=51
KAPI S **S** **17 19 49.5 +0.2**
comp=Z,2.9nm,0.3s,baz=112,slow=19,SNR=1.7
comp=Z,170nm,0.8s
KAPI Kappang 35.37 268 P **P** **17 14 50.8 -0.1**
KAPI S **S** **17 19 47.6 -1.6**
KAPI Kappang 35.37 268 P **P** **17 14 51.5 +0.6**
KAPI Kappang 35.37 268 *d* iP **P** **17 14 51.0 +0.1**
KAPI pmax pmax
comp=Z,136nm,0.9s
KAPI Kappang 35.37 268 P **P** **17 14 51.1 +0.1**
KAPI S **S** **17 19 48.7 -0.6**
SPSI Sidrap Palu 35.38 270 P **P** **17 14 50.9 -0.1**
comp=Z,2μmcomp=Z,174nm,0.9s
TTSI Tana Toraja 35.38 271 P **P** **17 14 52.0 +1.0**
comp=Z,2μmcomp=Z,84nm,0.9s
PCI Palu 35.56 275 P **P** **17 14 53.9 +1.4**
comp=Z,7μmcomp=Z,686nm,1.0s
MPSI Mapaga 35.66 277 P **P** **17 14 52.5 -0.8**
comp=Z,4μmcomp=Z,275nm,0.8s
WCZ Waipu Caves 35.73 153 P **P** **17 14 55.5 +1.9**
WCZ PcP **PcP** **17 17 09.4 +1.6**
WBSI Waikabubak, Su 35.90 260 P **P** **17 14 54.9 -0.5**
ABAZ Army Bay 36.50 153 P **P** **17 15 02.4 +2.5**
ABAZ PcP **PcP** **17 17 12.0 +1.8**
GRZ Great Barrier 36.50 152 P **P** **17 15 01.9 +2.0**
WTAZ Waiatarua 36.66 154 P **P** **17 15 03.9 +2.6**
WTAZ PcP **PcP** **17 17 12.3 +1.6**
MBAZ Motutapu North 36.67 153 P **P** **17 15 03.1 +1.8**
WIAZ Waiheke Island 36.80 153 P **P** **17 15 04.5 +2.1**
WIAZ PcP **PcP** **17 17 12.7 +1.6**
AWAZ Awhitu Peninsu 36.80 154 P **P** **17 15 04.7 +2.3**
AWAZ PcP **PcP** **17 17 12.7 +1.6**
KUZ Kuaotunu 37.03 152 P **P** **17 15 05.7 +1.4**
KUZ Kuaotunu 37.03 152 P **P** **17 15 05.6 +1.4**
KUZ PcP **PcP** **17 17 12.9 +1.1**
PLAI Plampang 37.42 262 P **P** **17 15 06.1 -1.8**
PLAI Plampang 37.42 262 P **P** **17 15 06.2 -1.7**
comp=Z,5μmcomp=Z,468nm,0.9s
TOZ Tahuroa Road 37.73 153 P **P** **17 15 12.1 +2.1**
HIZ Hauiti 38.10 155 IAmb IAmb 17 15 16.4
comp=Z,209nm,1.1s
HIZ Hauiti 38.10 155 P **P** **17 15 15.2 +2.1**
HIZ Hauiti 38.10 155 P **P** **17 15 15.6 +2.6**
HIZ PcP **PcP** **17 17 16.2 +1.0**
MBWA Marble Bar 38.16 241 P **P** **17 15 13.0 -0.8**
MBWA Marble Bar 38.16 241 P **P** **17 15 12.6 -1.1**
comp=Z,403nm,1.4s
MBWA Marble Bar 38.16 241 P **P** **17 15 11.5 -2.2**
MBWA S **S** **17 20 26.9 -3.7**
MBWA Marble Bar 38.16 241 P **P** **17 15 13.1 -0.7**
MBWA Marble Bar 38.16 241 P **P** **17 15 13.2 -0.5**
MBWA Marble Bar 38.16 241 P **P** **17 15 13.1 -0.7**
SMKI Samarinda 38.23 275 P **P** **17 15 17.8 +3.3**
JMZ Minamidaito 2 38.25 324 P **P** **17 15 14.6 +0.2**
MOO Moorlands 38.27 190 P **P** **17 15 16.2 +1.8**
comp=Z,395nm,1.1s
MOO Moorlands 38.27 190 P **P** **17 15 16.7 +2.3**
MOO Moorlands 38.27 190 P **P** **17 15 16.9 +2.5**
KARZ Kaharoa 38.31 153 P **P** **17 15 16.8 +2.1**
OPRZ Ohinepanea 38.31 152 P **P** **17 15 16.5 +1.8**
BKB Balikpapan 38.45 274 IAmb IAmb 17 15 19.3
comp=Z,209nm,1.1s
BKB Balikpapan 38.45 274 P **P** **17 15 19.1 +2.9**
comp=Z,6μmcomp=Z,267nm,1.8s
TAU Tasmania Unive 38.71 189 P **P** **17 15 19.5 +1.6**
TAU Tasmania Unive 38.71 189 P **P** **17 15 20.0 +2.1**
TAU Tasmania Unive 38.71 189 P **P** **17 15 19.5 +1.6**
TAU pmax pmax
comp=Z,495nm,1.2s
HAZ Te Kaha 38.82 151 P **P** **17 15 20.2 +1.4**
TGY Tagaytay City 38.82 299 P **P** **17 15 19.8 +0.5**
comp=Z,214nm,0.3s,baz=114,slow=12,SNR=5.4
comp=Z,214nm,0.3s
URZ Urewera 38.90 152 P **P** **17 15 20.6 +1.1**
URZ Urewera 38.90 152 P **P** **17 15 20.6 +1.1**
MXZ Matakaoa Point 38.92 150 P **P** **17 15 20.8 +1.1**
MXZ Matakaoa Point 38.92 150 P **P** **17 15 20.9 +1.1**
NGZ Ngauruhoe 38.98 155 P **P** **17 15 22.6 +2.2**
RTZ Ruatahuna 39.13 153 IAmb IAmb 17 15 24.9
comp=Z,178nm,0.9s
RTZ Ruatahuna 39.13 153 P **P** **17 15 22.6 +1.1**
MWZ Matawai 39.15 152 P **P** **17 15 23.0 +1.4**
MWZ PcP **PcP** **17 17 18.1 -0.5**
QRZ Quartz Range 39.19 159 IAmb IAmb 17 15 24.7
comp=Z,143nm,1.1s
QRZ Quartz Range 39.19 159 P **P** **17 15 22.4 +0.6**
QRZ Quartz Range 39.19 159 P **P** **17 15 24.2 +2.4**
QRZ PcP **PcP** **17 17 18.5 -0.1**
PUZ Puketiti 39.29 151 P **P** **17 15 23.4 +0.7**
BKZ Black Stump Fm 39.35 154 P **P** **17 15 23.9 +0.6**
DSZ Denniston Nort 39.76 161 IAmb IAmb 17 15 29.2
comp=Z,161nm,1.1s
NNZ Nelson 39.84 159 P **P** **17 15 28.8 +1.7**
TSZ Takapari Road 39.86 155 P **P** **17 15 28.3 +0.9**
SRBI Singaraja 39.92 263 P **P** **17 15 28.5 +0.4**
comp=Z,3μmcomp=Z,181nm,1.1s
THZ Tophouse 40.15 159 IAmb IAmb 17 15 31.0
comp=Z,124nm,0.8s
TCW Tory Channel 40.17 158 P **P** **17 15 30.4 +0.7**
MRZ Mangatainoka R 40.21 156 P **P** **17 15 30.1 0.0**
MRZ IAmb IAmb 17 15 33.1
comp=Z,133nm,1.1s
JHJ2 Mitsune 40.34 340 P **P** **17 15 31.3 +0.1**
KKM Kota Kinabalu 40.41 285 P **P** **17 15 32.8 +0.6**
SNZO South Karori 40.42 157 P **P** **17 15 32.2 +0.5**
BFZ Birch Farm 40.50 155 IAmb IAmb 17 15 33.6
comp=Z,162nm,1.0s
BFZ Birch Farm 40.50 155 P **P** **17 15 32.7 +0.3**
INZ Inchbonnie 40.52 162 IAmb IAmb 17 15 35.5
comp=Z,106nm,0.9s
INZ Inchbonnie 40.52 162 P **P** **17 15 33.2 +0.7**
BHW Baring Head 40.56 157 IAmb IAmb 17 15 34.5
comp=Z,143nm,1.2s
FOZ Fox Glacier 40.77 164 IAmb IAmb 17 15 37.3
comp=Z,160nm,1.0s
FOZ Fox Glacier 40.77 164 P **P** **17 15 35.7 +1.2**
FOZ PcP **PcP** **17 17 23.9 +0.2**
JOW Kunigami 40.78 322 P **P** **17 15 36.9 +2.0**
JOW Kunigami 40.78 322 P **P** **17 15 36.8 +2.0**
LTZ Lake Taylor 40.84 161 P **P** **17 15 35.3 +0.2**
LTZ IAmb IAmb 17 15 38.4
comp=Z,172nm,0.9s
KHZ Kahutara 40.95 159 P **P** **17 15 35.4 -0.5**
KHZ IAmb IAmb 17 15 36.6
comp=Z,135nm,1.0s
KHZ Kahutara 40.95 159 P **P** **17 15 35.7 -0.2**
JAGI Jajag, Banyuwa 40.98 263 P **P** **17 15 34.6 -2.1**
JAGI Jajag, Banyuwa 40.98 263 P **P** **17 15 35.0 -1.6**
JAGI Jajag, Banyuwa 40.98 263 P **P** **17 15 35.1 -1.6**
comp=Z,4μmcomp=Z,272nm,0.9s
JCZ Jackson Bay 41.00 165 P **P** **17 15 37.7 +1.2**
JAM Amami Oshima 41.14 325 P **P** **17 15 39.4 +1.7**
MEEK Meekatharra 41.23 234 P **P** **17 15 37.6 -1.0**
comp=Z,662nm,1.2s
MEEK Meekatharra 41.23 234 P **P** **17 15 38.4 -0.1**
OXZ Oxford 41.25 161 IAmb IAmb 17 15 39.3
comp=Z,172nm,1.0s
OXZ Oxford 41.25 161 P **P** **17 15 38.6 +0.2**
GVZ Greta Valley S 41.26 160 IAmb IAmb 17 15 39.6
comp=Z,94nm,0.8s
GVZ Greta Valley S 41.26 160 P **P** **17 15 38.7 +0.3**
RPZ Rata Peaks 41.30 163 P **P** **17 15 39.0 +0.3**
RPZ Rata Peaks 41.30 163 P **P** **17 15 39.8 +1.1**
LBZ Lake Benmore 41.66 164 P **P** **17 15 41.2 -0.4**
LBZ IAmb IAmb 17 15 43.7
comp=Z,101nm,0.8s
GMJI Gumukmas 41.67 263 P **P** **17 15 42.6 +0.4**
WKZ Wanaka 41.76 165 IAmb IAmb 17 15 44.0
comp=Z,113nm,1.1s
MQZ McQueen's Vall 41.79 161 IAmb IAmb 17 15 44.7
comp=Z,355nm,1.7s
MQZ McQueen's Vall 41.79 161 P **P** **17 15 43.7 +1.1**
DCZ Deep Cove 41.93 167 IAmb IAmb 17 15 45.7
comp=Z,170nm,1.1s
DCZ Deep Cove 41.93 167 P **P** **17 15 44.6 +0.9**
MIDW Midway 42.02 37 P **P** **17 15 44.6 0.0**
MIDW Midway 42.02 37 P **P** **17 15 44.9 +0.2**
ODZ Otahua Downs 42.40 164 IAmb IAmb 17 17 31.6
comp=Z,278nm,1.5s
ODZ Otahua Downs 42.40 164 P **P** **17 15 48.3 +0.9**
WHZ Wether Hill Ro 42.51 167 IAmb IAmb 17 15 49.1
comp=Z,101nm,1.0s
JOD2 Odawara 2 42.54 340 P **P** **17 15 48.8 +0.1**
YOJ Yonaguni jima 42.71 314 P **P** **17 15 51.5 +1.4**
JYT Yasato 43.07 342 P **P** **17 15 53.8 +1.0**
TWGBT Beinan 43.15 311 P **P** **17 15 54.1 +0.5**
JMN Monobe 43.22 334 P **P** **17 15 55.4 +1.3**
JMN Monobe 43.22 334 P **P** **17 15 55.3 +1.3**
JRY Ryogami san 43.29 341 P **P** **17 15 55.0 +0.4**
YULB Yu-li 43.32 312 P **P** **17 15 55.1 +0.2**
YULB Yu-li 43.32 312 P **P** **17 15 55.5 +0.6**
INU Inuyama 43.35 338 P **P** **17 15 55.1 +0.1**
INU Inuyama 43.35 338 P **P** **17 15 55.7 +0.7**
INU Inuyama 43.35 338 P **P** **17 15 55.9 +0.9**
SYZ Scrubby Hill 43.39 166 P **P** **17 15 56.0 +0.9**
SYZ Scrubby Hill 43.39 166 P **P** **17 15 56.0 +0.9**
JGF Kuroka 43.45 339 P **P** **17 15 56.3 +0.5**
JGF Kuroka 43.45 339 P **P** **17 15 56.4 +0.5**
JGF Kuroka 43.45 339 P **P** **17 15 56.5 +0.6**
NACB Ninganchiao 43.56 313 P **P** **17 15 58.0 +1.2**
SBUM Sibu 43.57 278 IAmb IAmb 17 16 00.5
comp=Z,104nm,1.0s
NGJI Ngawi 43.61 264 P **P** **17 16 01.6 +4.2**
comp=Z,105nm,0.9s
TPUB Ta-pu 43.76 311 P **P** **17 15 59.0 +0.6**
SSLB Suanglung 43.80 312 IAmb IAmb 17 16 00.9
comp=Z,102nm,0.9s
SSLB Suanglung 43.80 312 P **P** **17 16 00.2 +1.4**
PCJI Pacitan 43.91 263 P **P** **17 15 59.6 -0.1**
comp=Z,7μmcomp=Z,485nm,1.2s
JWT Wachi 43.92 336 P **P** **17 16 00.3 +0.9**
STKI Sintang 43.98 275 P **P** **17 16 01.6 +1.3**
comp=Z,145nm,1.0s
MJAR Matsushiro Arr 44.00 340 P **P** **17 15 59.7 -0.3**
MJAR IAmb IAmb 17 16 01.2
comp=Z,145nm,1.0s
MJAR Matsushiro Arr 44.00 340 P **P** **17 15 59.8 -0.3**
comp=Z,122nm,0.8s,baz=162,slow=8.2,SNR=187
MJAR PcP **PcP** **17 17 34.3 -0.5**
comp=Z,21nm,0.8s,baz=156,slow=3.9,SNR=4.3
MJAR ScP **ScP** **17 20 39.2 +0.9**
comp=Z,3.6nm,0.7s,baz=162,slow=5.3,SNR=2.0
MJAR S **S** **17 21 58.0 +3.1**
comp=Z,2.5nm,0.8s,baz=134,slow=15,SNR=4.4
comp=Z,122nm,0.8s
MAJO Matsushiro 44.00 340 P **P** **17 15 59.9 -0.1**
MAJO Matsushiro 44.00 340 P **P** **17 16 00.1 0.0**
MAJO Matsushiro 44.00 340 *c* iP **P** **17 16 00.0 -0.1**
MAJO pmax pmax
comp=Z,161nm,0.9s
MAJO Matsushiro 44.00 340 P **P** **17 16 00.1 0.0**
MAJO PcP **PcP** **17 17 35.7 +0.9**
MAJO Matsushiro 44.00 340 P **P** **17 15 60.0 -0.1**
MAJO S **S** **17 21 51.6 -3.4**
MAT Matsushiro 44.00 340 P **P** **17 16 00.0 0.0**
YHNB Yeheng 44.01 313 P **P** **17 16 02.2 +1.8**
JGN Nukaw 44.02 339 P **P** **17 16 00.7 +0.4**
TATO Taipei 44.11 314 P **P** **17 16 01.6 +0.5**
TATO Taipei 44.11 314 P **P** **17 16 02.8 +1.7**
TATO Taipei 44.11 314 P **P** **17 16 02.3 +1.2**
JNU Nakatsue 44.13 330 P **P** **17 16 01.9 +0.7**
JNU Nakatsue 44.13 330 P **P** **17 16 02.1 +0.9**
WOJI Wonogiri, Jawa 44.16 264 P **P** **17 16 02.1 +0.5**
comp=Z,4μmcomp=Z,8μmcomp=Z,326nm,1.7s
KLBR Kellerberrin 44.18 228 P **P** **17 16 00.4 -1.1**
comp=Z,746nm,0.6s
KLBR Kellerberrin 44.18 228 P **P** **17 16 00.6 -1.0**
MORW Morawa 44.33 232 P **P** **17 16 02.1 -0.8**
MORW Morawa 44.33 232 P **P** **17 16 02.0 -0.8**
comp=Z,310nm,0.9s
MORW Morawa 44.33 232 P **P** **17 16 02.0 -0.8**
JMM Marumori 44.42 344 IAmb IAmb 17 16 08.4
comp=Z,107nm,0.9s
JMM Marumori 44.42 344 P **P** **17 16 04.1 +0.9**
JMM Marumori 44.42 344 P **P** **17 16 03.9 +0.6**
BLDU Ballidu 44.50 230 P **P** **17 16 03.2 -0.9**
comp=Z,272nm,1.8s
BLDU Ballidu 44.50 230 P **P** **17 16 03.5 -0.6**
UGM Wanagama 44.55 264 P **P** **17 16 04.5 -0.3**
UGM Wanagama 44.55 264 P **P** **17 16 04.8 0.0**
UGM Wanagama 44.55 264 P **P** **17 16 05.3 +0.5**
comp=Z,6μmcomp=Z,355nm,0.9s
SMRI Semarang 44.62 265 P **P** **17 16 06.4 +1.1**
comp=Z,2μmcomp=Z,234nm,0.9s
NWAO Narrogin (SRO) 45.23 227 P **P** **17 16 09.1 -0.5**
NWAO Narrogin (SRO) 45.23 227 P **P** **17 16 09.2 -0.4**
comp=Z,529nm,1.8s
NWAO Narrogin (SRO) 45.23 227 P **P** **17 16 09.2 -0.4**
comp=Z,47nm,0.6s,baz=65,slow=8.0,SNR=57
NWAO PP **PP** **17 18 05.0 +1.0**
comp=Z,32nm,0.8s,baz=67,slow=8.8,SNR=4.6
NWAO S **S** **17 22 12.2 -0.1**
comp=Z,8.2nm,0.8s,baz=159,slow=17,SNR=1.5
comp=Z,47nm,0.6s
NWAO Narrogin (SRO) 45.23 227 P **P** **17 16 08.3 -1.3**
NWAO S **S** **17 22 09.8 -2.5**
NWAO Narrogin (SRO) 45.23 227 P **P** **17 16 09.6 -0.1**
NWAO Narrogin (SRO) 45.23 227 P **P** **17 16 09.5 -0.1**
NWAO Narrogin (SRO) 45.23 227 P **P** **17 16 09.4 -0.2**
KSM Kuching 45.31 277 IAmb IAmb 17 16 13.2
comp=Z,157nm,0.9s
JSD Sado 45.34 341 P **P** **17 16 11.0 +0.6**
JSD Sado 45.34 341 P **P** **17 16 11.0 +0.6**
JYA Atsumi 45.41 343 P **P** **17 16 11.9 +1.1**
JTU Tsushima 45.99 330 P **P** **17 16 12.2 +0.9**
KNMB Chin-men Tao 46.11 311 IAmb IAmb 17 16 19.3
comp=Z,94nm,0.9s
CTZ Chatham Island 46.13 152 IAmb IAmb 17 16 18.9
comp=Z,188nm,1.0s
CTZ Chatham Island 46.13 152 P **P** **17 16 17.7 +1.4**
QZH Quanzhou 46.23 311 P **P** **17 16 18.8 +1.5**
QZH sP **sP** **17 18 47.2 +0.2**
QZH S **S** **17 22 28.5 +2.0**
QZH sS **sS** **17 25 16.8 +0.2**
QZH SS **SS** **17 25 56.3 -4.2**
QZH pmax pmax
comp=Z,320nm,0.9s
RAR Rarotonga 46.60 115 P **P** **17 16 21.0 +0.7**
RAR IAmb IAmb 17 16 22.8
comp=Z,168nm,1.0s
RAR Rarotonga 46.60 115 P **P** **17 16 21.0 +0.7**
RAR pmax pmax
comp=Z,168nm,1.0s
RAR Rarotonga 46.60 115 P **P** **17 16 21.8 +1.5**
JTM Tenmabayashi 47.08 345 P **P** **17 16 24.3 +0.8**
JTM Tenmabayashi 47.08 345 P **P** **17 16 24.1 +0.5**
BBJI Bungbulang 47.39 264 P **P** **17 16 25.3 -1.2**
TPI Tanjungpandan 47.53 271 P **P** **17 16 28.3 +0.9**
comp=Z,3μmcomp=Z,3μmcomp=Z,222nm,1.1s
JOT Ohata 47.65 346 P **P** **17 16 28.2 +0.4**
XMAS Kiritimati 47.74 83 P **P** **17 16 29.0 +0.1**
XMAS Kiritimati 47.74 83 P **P** **17 16 29.6 +0.6**
XMAS Kiritimati 47.74 83 P **P** **17 16 29.7 +0.8**
XMAS PcP **PcP** **17 17 49.8 +1.3**
ERM Erimo 47.77 348 P **P** **17 16 29.4 +0.7**
ERM Erimo 47.77 348 P **P** **17 16 29.5 +0.9**
ERM Erimo 47.77 348 *c* iP **P** **17 16 29.8 +1.2**
ERM pmax pmax
comp=Z,62nm,0.7s
ERM Erimo 47.77 348 P **P** **17 16 29.6 +0.9**
ERM Erimo 47.77 348 P **P** **17 16 29.8 +1.2**
ERM S **S** **17 22 51.1 +3.8**
JEM Erimo 47.77 348 P **P** **17 16 29.1 +1.0**
CNJI Cibinong 47.91 264 P **P** **17 16 29.6 -0.7**
comp=Z,2μmcomp=Z,3μmcomp=Z,371nm,0.9s
DBJI Dramaga 48.29 265 P **P** **17 16 36.7 +3.6**
comp=Z,3μmcomp=Z,104nm,0.9s
H01W1 Cape Leeuwin H 48.42 226 P **P** **17 16 35.0 +1.5**
baz=65,slow=5.6,SNR=4.6
H01W3 Cape Leeuwin H 48.43 226 P **P** **17 16 34.9 +1.3**
baz=65,slow=5.6,SNR=3.6
H01W2 Cape Leeuwin H 48.44 226 P **P** **17 16 35.4 +1.8**
baz=65,slow=5.6,SNR=3.1
TJN Taejon 48.47 330 P **P** **17 16 35.4 +1.4**
TJN Taejon 48.47 330 *ce* P **P** **17 16 35.1 +1.1**
SKJI Sukabumi 48.48 265 P **P** **17 16 35.0 +0.5**
comp=Z,7μmcomp=Z,467nm,0.9s
KSRS Korea Array 49.04 331 P **P** **17 16 39.0 +0.8**
comp=Z,105nm,0.8s,baz=143,slow=6.9,SNR=214
KSRS PcP **PcP** **17 17 54.1 +1.3**
comp=Z,8.8nm,0.8s,baz=146,slow=5.0,SNR=4.5

KSRS ScP **ScP** **17 20 58.9 -0.5**
comp=Z,5.4nm,1.0s,baz=151,slow=4.8,SNR=4.6
KSRS S **S** **17 23 06.4 +1.4**
comp=Z,3.0nm,1.1s,baz=153,slow=14,SNR=3.1
comp=Z,105nm,0.8s
KSAR Wonju Array Be **49.05 331** P **P** **17 16 38.8 +0.5**
KSAR Wonju Array Be **49.05 331** P **P** **17 16 38.8 +0.5**
JSH Shimam **49.09 345** P **P** **17 16 39.5 +1.1**
KS19 Wonju Array Si **49.11 331** IAmb IAmb 17 16 40.7
comp=Z,167nm,0.9s
YUK Yuzh-Kuril'sk **49.23 351** *e*P **P** **17 16 38.9 -0.6**
YUK *i* S **S** **17 22 59.3 -8.1**
YUK *e**SS **sS** **17 25 56.5 -3.4**
YUK pmax pmax
comp=Z,407nm,3.2s
YUK pmax pmax
comp=Z,369nm,1.1s
YUK pmax pmax
comp=N,230nm,1.2s
YUK pmax pmax
comp=E,454nm,1.1s
CGJI Cibinong **49.34 265** P **P** **17 16 39.6 -1.3**
comp=E,3µmcomp=E,251nm,0.9s
GZH Guangzhou **49.35 306** P **P** **17 16 41.5 +0.7**
GZH sP **sP** **17 19 15.6 +3.1**
GZH S **S** **17 23 15.1 +5.4**
GZH pmax pmax
comp=E,110nm,1.1s
JMP Maruseppu **49.64 349** P **P** **17 16 43.8 +1.2**
INCN Inchon **49.70 330** P **P** **17 16 44.0 +0.8**
INCN Inchon **49.70 330** P **P** **17 16 44.2 +1.1**
INCN Inchon **49.70 330** P **P** **17 16 44.0 +0.8**
INCN pmax pmax
comp=Z,335nm,1.0s
INCN Inchon **49.70 330** P **P** **17 16 44.5 +1.3**
JKA Kamikawa-asahi **49.90 348** IAmb IAmb 17 16 46.8
comp=Z,129nm,0.8s
ASAJ Asahikawa **49.90 348** P **P** **17 16 46.0 +1.6**
KUR Kuril'sk **50.13 353** *e*P **P** **17 16 46.0 -0.1**
KUR *e* 17 18 45.1
KUR *e*S **S** **17 23 19.4 -0.2**
KUR *e* 17 25 45.8
KUR pmax pmax
comp=Z,321nm,1.1s
KUR pmax pmax
comp=Z,1µm,5.4s
NJ2 Nanjing **50.33 319**⇑ *i*P **P** **17 16 49.6 +1.8**
NJ2 pP **pwP** **17 18 30.9 +1.0**
NJ2 PP **PP** **17 18 54.3 +4.1**
NJ2 sP **sP** **17 19 21.4 +3.0**
NJ2 PcS **PcS** **17 21 56.9 +1.1**
NJ2 S **S** **17 23 21.6 -1.2**
NJ2 ScS **ScS** **17 25 45.5 +0.7**
NJ2 sS **sS** **17 26 15.5 -0.6**
NJ2 SS **SS** **17 27 08.4 +3.2**
NJ2 pmax pmax
comp=Z,96nm,0.9s
NJ2 pmax pmax
comp=Z,340nm,4.0s
QIZ Qiongzhong **50.53 299** P **P** **17 16 51.4 +1.8**
QIZ PcP **PcP** **17 17 58.2 -0.5**
QIZ pP **pP** **17 18 26.8 +0.4**
QIZ sP **sP** **17 19 21.0 -1.0**
QIZ S **S** **17 23 26.2 +0.3**
QIZ ScS **ScS** **17 25 47.0 +0.2**
QIZ pmax pmax
comp=Z,280nm,0.8s
QIZ Qiongzhong **50.53 299** P **P** **17 16 51.7 +2.1**
QIZ Qiongzhong **50.53 299** P **P** **17 16 51.7 +2.1**
KASI Kota Agung **50.55 267** P **P** **17 16 48.4 -1.4**
MDSI Maura Dua **50.90 268** P **P** **17 16 50.8 -1.6**
LWLI Liwa **51.00 267** P **P** **17 16 54.5 +1.3**
comp=Z,3µmcomp=Z,204nm,0.9s
LHSI Lahat **51.58 269** P **P** **17 16 56.9 -0.4**
MYKOM Kota Tinggi **51.76 276** P **P** **17 16 59.3 +0.7**
MSHR Mys Shultsa **51.88 337***c* *i*P **P** **17 16 59.2 +0.3**
MSHR pmax pmax
comp=Z,250nm,1.3s
VLA Vladivostok **52.07 338***c* *i*P **P** **17 17 01.2 +0.9**
VLA pmax pmax
comp=Z,254nm,1.0s
PSTR Posyet **52.08 337***c* *i*P **P** **17 17 01.7 +1.4**
CNSH ChangSha **52.23 311** P **P** **17 17 03.2 +1.4**
CNSH sP **sP** **17 19 37.3 +3.7**
CNSH S **S** **17 23 47.5 -1.1**
CNSH pmax pmax
comp=Z,150nm,1.0s
WHN Wuhan **52.49 315**⇓ *i*P **P** **17 17 04.5 +0.9**
WHN PP **PP** **17 19 08.5 -1.0**
WHN sP **sP** **17 19 37.5 +2.2**
WHN S **S** **17 23 51.4 -0.5**
WHN sS **sS** **17 26 45.3 -1.6**
WHN pmax pmax
comp=Z,190nm,0.9s
YSS Yuzhno-Sakhali **52.59 349** P **P** **17 17 04.5 +0.5**
YSS IAmb IAmb 17 17 06.3
comp=Z,212nm,0.9s
YSS Yuzhno-Sakhali **52.59 349** P **P** **17 17 04.8 +0.8**
YSS Yuzhno-Sakhali **52.59 349***c* *i*P **P** **17 17 05.0 +1.1**
YSS pmax pmax
comp=Z,260nm,1.0s
YSS Yuzhno-Sakhali **52.59 349** P **P** **17 17 05.0 +1.1**
YSS PcP **PcP** **17 18 07.8 +1.9**
KIP Kipapa **52.63 59** P **P** **17 17 05.5 +0.7**
KIP IAmb IAmb 17 17 07.7
comp=Z,497nm,1.6s
KIP Kipapa **52.63 59***c* *e*P **P** **17 17 06.1 +1.4**
KIP pmax pmax
comp=Z,270nm,1.3s
GULI GuiLin **52.78 307** P **P** **17 17 06.7 +0.9**
GULI PcP **PcP** **17 18 04.1 -3.0**
GULI sP **sP** **17 19 40.0 +1.7**
GULI S **S** **17 24 00.2 +4.2**
GULI pmax pmax
comp=Z,140nm,1.0s
USA0B Ussuriysk Arra **52.97 339** IAmb IAmb 17 17 09.5
comp=Z,204nm,1.1s
USA0B Ussuriysk Arra **52.97 339***d* *i*P **P** **17 17 07.6 +0.9**
USRK Ussuriysk Ar. **52.97 339** P **P** **17 17 07.3 +0.5**
USRK Ussuriysk Ar. **52.97 339** P **P** **17 17 07.5 +0.8**
comp=Z,92nm,0.9s,baz=152,slow=7.5,SNR=114
USRK ScP **ScP** **17 21 17.3 +1.0**
comp=Z,1.8nm,0.6s,baz=147,slow=3.4,SNR=1.3
USRK S **S** **17 23 57.7 -0.1**
comp=Z,5.0nm,0.9s,baz=134,slow=8.3,SNR=5.2
comp=Z,92nm,0.9s
UBPT Khong Chiam **53.14 293** P **P** **17 17 09.0 +0.5**
UBPT Khong Chiam **53.14 293** P **P** **17 17 09.9 +1.4**
DL2 Dalian **53.36 327** P **P** **17 17 10.4 +0.8**
DL2 PcP **PcP** **17 18 10.6 +1.6**
DL2 pP **pwP** **17 18 53.2 +2.2**
DL2 S **S** **17 24 04.4 +1.3**
DL2 ScS **ScS** **17 26 03.6 -2.3**
DL2 sS **sS** **17 27 00.3 +1.4**
DL2 pmax pmax
comp=Z,360nm,0.8s
DL2 pmax pmax
comp=Z,450nm,3.6s
KHLH Kahului Airpor **53.78 60** IAmb IAmb 17 17 16.4
comp=Z,401nm,1.2s
HUH Hualalai **53.84 62** IAmb IAmb 17 18 56.7
comp=Z,528nm,1.7s
HLK Haleakala **53.88 60** IAmb IAmb 17 17 16.3
comp=Z,420nm,1.4s
MWH Mokuaweoweo **53.98 62** IAmb IAmb 17 17 17.5
comp=Z,322nm,1.4s
AIN Ainahou **54.06 62** IAmb IAmb 17 18 58.3
comp=Z,299nm,1.2s
TIA Tai'an **54.10 322** P **P** **17 17 15.1 +0.1**
TIA PcP **PcP** **17 18 12.8 +0.8**
TIA pP **pP** **17 18 53.7 +0.2**
TIA PcS **PcS** **17 22 11.6 -0.6**
TIA S **S** **17 24 08.5 -4.6**
TIA ScS **ScS** **17 26 13.6 +2.2**
TIA pmax pmax
comp=Z,87nm,0.9s
TIA pmax pmax
comp=Z,140nm,3.6s
HMH Humu'ula Sheep **54.12 62** P **P** **17 17 16.3 +0.6**
MDJ Mudanjiang **54.21 338** IAmb IAmb 17 17 18.2
comp=Z,185nm,1.1s
MDJ Mudanjiang **54.21 338** P **P** **17 17 16.6 +1.1**
MDJ S **S** **17 24 15.8 +1.6**
MDJ sS sS 17 27 07.9 -2.7
MDJ pmax pmax
comp=Z,170nm,1.1s
MDJ pmax pmax
comp=Z,730nm,3.7s
MDJ Mudanjiang **54.21 338** P **P** **17 17 16.7 +1.1**
MDJ Mudanjiang **54.21 338** P **P** **17 17 16.7 +1.1**
BKNI Bangkinang **54.38 274** P **P** **17 17 14.6 -2.7**
BKNI Bangkinang **54.38 274** P **P** **17 17 17.2 -0.2**
BKNI IAmb IAmb 17 17 20.2
comp=Z,255nm,0.9s
BKNI Bangkinang **54.38 274** P **P** **17 17 18.5 +1.2**
comp=Z,3µmcomp=Z,4µmcomp=Z,339nm,1.0s
SNY Shenyang **54.55 331**⇓ P **P** **17 17 18.3 +0.4**
SNY pP **pwP** **17 19 00.7 -0.2**
SNY S **S** **17 24 16.3 -2.4**
SNY pmax pmax
comp=Z,51nm,1.0s
SNY pmax pmax
comp=Z,180nm,3.5s
UGL Uglegorsk **54.76 349** *e*P P 17 17 10.8 -8.5
UGL *e* 17 26 09.7
UGL pmax pmax
comp=Z,130nm,1.1s
IPM Ipoh **54.92 279** IAmb IAmb 17 17 23.4
comp=Z,143nm,0.9s
IPM Ipoh **54.92 279** P **P** **17 17 21.3 +0.1**
SKR Severo-Kuril's **55.16 1** *e*P **P** **17 17 20.0 -2.0**
SKR *e* 17 18 13.4
SKR *e**PP **sP** **17 19 51.4 -4.0**
SKR *i* S **S** **17 24 28.5 +2.2**
SKR pmax pmax
comp=Z,1µm,4.9s
SKR pmax pmax
comp=Z,214nm,0.9s
SKR MLR MLR
comp=Z,700nm,17.0s
CN2 Changchun **55.23 334** P **P** **17 17 23.8 +1.1**
CN2 PcP **PcP** **17 18 16.1 -0.1**
CN2 pP pwP 17 19 05.9 0.0
CN2 sP sP 17 19 56.8 +1.2
CN2 ScP **ScP** **17 21 27.7 +1.5**
CN2 S **S** **17 24 29.1 +1.5**
CN2 pmax pmax
comp=Z,50nm,0.9s
CN2 pmax pmax
comp=Z,300nm,3.0s
KULM Kulim **55.42 280** P **P** **17 17 24.6 0.0**
PPT Papeete **55.44 108** P **P** **17 17 26.5 +1.8**
comp=Z,135nm,0.7s,baz=264,slow=3.2,SNR=9.2
comp=Z,135nm,0.7s
PPT2 Papeete2 **55.44 108** *e*P **P** **17 17 24.8 0.0**
PPT2 comp=Z,258nm,1.2s
PPT2 *e*S **S** **17 24 27.1 -4.2**
PPT2 comp=Z,2µm,26.2s
PPT2 *e*sS **sS** **17 27 21.4 -7.2**
PPT2 comp=Z,2µm,26.0s
PPT2 *e*LQ LQ 17 31 51.7
PPT2 comp=Z,1µm,22.0s
PPT2 *e*LR LR 17 34 13.3
PPT2 comp=Z,844nm,25.5s
PPT2 *e*LR LR 17 34 14.6
PPT2 comp=Z,669nm,29.0s
PAE Paea **55.44 108** *e*P **P** **17 17 23.7 -1.0**
comp=Z,64nm,1.2s
PPTF Pamatai, Papee **55.45 108** P **P** **17 17 25.6 +0.8**
PPTF IAmb IAmb 17 17 29.9
comp=Z,201nm,0.9s
TVO Taravao **55.77 108** *e*P **P** **17 17 28.2 +1.1**
comp=Z,158nm,1.1s
MNSI Mandailing Nat **55.88 274** P **P** **17 17 27.1 -0.7**
comp=Z,2µmcomp=Z,55nm,0.7s
ENH Enshi **55.89 312** IAmb IAmb 17 17 30.2
comp=Z,227nm,0.9s
ENH Enshi **55.89 312** P **P** **17 17 28.1 +0.5**
ENH Enshi **55.89 312** P **P** **17 17 27.9 +0.3**
ENH PcP **PcP** **17 18 20.1 +1.0**
BNX BinXian **55.99 337**⇓ P **P** **17 17 28.3 +0.3**
BNX pP **pwP** **17 19 09.8 -1.8**
BNX PP **PP** **17 19 40.9 +0.6**
BNX sP **sP** **17 20 05.6 +4.5**
BNX S **S** **17 24 38.2 +0.8**
BNX pmax pmax
comp=Z,300nm,1.1s
LYN LuoYang **56.08 318**⇓ P **P** **17 17 29.2 +0.3**
LYN PcP **PcP** **17 18 20.5 +0.8**
LYN PP **PP** **17 19 38.5 -2.8**
LYN sP sP 17 20 01.2 -0.6
LYN S **S** **17 24 38.2 -0.8**
LYN ScS **ScS** **17 26 27.7 +1.9**
LYN sS sS 17 27 35.6 -1.2
LYN pmax pmax
comp=Z,230nm,0.9s
LYN pmax pmax
comp=Z,250nm,4.1s
SISI Saibi **56.17 272** P **P** **17 17 30.7 +0.9**
comp=Z,3µmcomp=Z,191nm,1.6s
GYA Guiyang **56.28 306**⇓ P **P** **17 17 31.9 +1.3**
GYA PcP **PcP** **17 18 22.8 +1.9**
GYA pP pwP 17 19 12.5 -0.2
GYA S **S** **17 24 43.3 +1.2**
GYA SS **SS** **17 28 42.0 +2.6**
GYA pmax pmax
comp=Z,97nm,1.0s
GYA pmax pmax
comp=Z,560nm,3.1s
HNS HongShan **56.35 322**⇓ P **P** **17 17 31.3 +0.7**
HNS PcP **PcP** **17 18 21.8 +1.1**
HNS pP **pwP** **17 19 15.0 +1.0**
HNS sP **sP** **17 20 03.4 -0.5**
HNS ScP **ScP** **17 21 34.1 +2.8**
HNS PcS **PcS** **17 22 23.5 +1.5**
HNS S **S** **17 24 38.0 -4.3**
HNS ScS **ScS** **17 26 29.9 +2.3**
HNS pmax pmax
comp=Z,140nm,1.1s
TYV Tymovskoe **56.38 350** *e*P **P** **17 17 31.8 +1.2**
TYV *e*S **S** **17 24 40.8 -1.4**
TYV pmax pmax
comp=Z,500nm,3.4s
TYV pmax pmax
comp=Z,87nm,1.0s
TYV smax smax
comp=N,54nm,2.4s
TYV smax smax
comp=E,18nm,2.4s
TYV smax smax
comp=N,3µm,4.7s
TYV smax smax
comp=E,900nm,4.7s
TBI Tubuai **56.39 115** *e*P **P** **17 17 30.9 -0.3**
comp=E,337nm,1.0s
TBI *e*S **S** **17 24 44.0 +0.7**
comp=E,6µm,29.0s
TBI *e*sS **SKiKP** **17 27 35.2 +2.8**
comp=E,8µm,32.8s
TBI *e*LQ LQ 17 32 10.7
comp=E,6µm,26.2s
TBI *e*LR LR 17 34 38.3
comp=E,2µm,27.0s
PSI Prapat **56.77 276** P **P** **17 17 35.0 +0.9**
PMOR Pomariorio Ree **56.81 105** *e*P **P** **17 17 34.9 +0.7**
comp=E,1µm,1.2s
VAH Vaihoa **57.08 105** *e*P **P** **17 17 36.7 +0.6**
comp=E,431nm,1.2s
BJI Beijing **57.18 325** P **P** **17 17 36.7 +0.4**
BJI S **S** **17 24 51.3 -1.6**
BJI pmax pmax
comp=E,14nm,0.9s
TSI Tuntungan **57.21 277** P **P** **17 17 36.8 -0.2**
comp=E,3µmcomp=E,170nm,1.0s
GRNR Gornyy **57.56 346**⇓ *i*P **P** **17 17 39.7 +1.0**
GRNR pmax pmax
comp=Z,90nm,0.8s
PET Petropavlovsk **57.57 2** P **P** **17 17 39.0 +0.3**
PET IAmb IAmb 17 17 39.9
comp=Z,105nm,0.6s
PET Petropavlovsk **57.57 2** P **P** **17 17 39.1 +0.5**
PET Petropavlovsk **57.57 2** *e*P **P** **17 17 38.7 +0.1**
PET *e* 17 18 25.1
PET *e*S **S** **17 24 59.5 +2.2**
PET *e*SS **SS** **17 29 02.0 +3.7**
PET pmax pmax
comp=Z,167nm,0.6s
PET pmax pmax
comp=Z,500nm,5.7s
PET pmax pmax
comp=Z,200nm,7.5s
PET Petropavlovsk **57.57 2** P **P** **17 17 39.1 +0.5**
PET PcP **PcP** **17 18 25.2 +0.1**
PEA0B Petropavlovsk- **57.62 2** IAmb IAmb 17 17 40.8
comp=Z,224nm,1.0s
PEA0B Petropavlovsk- **57.62 2***c* *i*P **P** **17 17 40.0 +1.0**
PETK Petropavlovsk- **57.62 2** P **P** **17 17 38.9 -0.1**
PETK Petropavlovsk- **57.62 2** P **P** **17 17 39.0 0.0**
comp=Z,120nm,0.7s,baz=183,slow=6.7,SNR=161
PETK PcP **PcP** **17 18 25.0 -0.4**
comp=Z,20nm,0.8s,baz=157,slow=5.9,SNR=1.4
PETK pP **pwP** **17 19 21.1 -0.7**
comp=Z,28nm,0.9s,baz=186,slow=7.4,SNR=3.0
PETK ScP **ScP** **17 21 38.7 +2.2**
comp=Z,6.5nm,0.8s,baz=173,slow=6.2,SNR=2.6
comp=Z,120nm,0.7s
GSI Gunungsitoli **57.93 274** P **P** **17 17 41.1 -0.8**
GSI Gunungsitoli **57.93 274** P **P** **17 17 40.9 -1.0**
TIY Taiyuan **57.97 321** P **P** **17 17 42.9 +1.1**
TIY PcP **PcP** **17 18 27.7 +0.5**
TIY pP **pP** **17 19 19.1 -2.3**
TIY sP **sP** **17 20 18.0 +2.6**
TIY S **S** **17 25 03.7 +0.4**
TIY sS **sS** **17 28 00.2 -2.3**
TIY pmax pmax
comp=Z,46nm,0.6s
XAN Xi'an **58.24 315**⇓ P **P** **17 17 44.4 +0.7**
XAN PcP **PcP** **17 18 28.6 +0.2**
XAN PP **PP** **17 19 57.9 -2.6**
XAN sP sP 17 20 19.9 +1.8
XAN S **S** **17 25 08.1 +1.2**
XAN ScS **ScS** **17 26 44.6 +2.7**
XAN sS sS 17 28 05.3 -1.0
XAN SS **SS** **17 29 05.5 -4.2**
XAN pmax pmax
comp=Z,100nm,0.9s
XAN pmax pmax
comp=Z,450nm,5.2s
XAN Xi'an **58.24 315** P **P** **17 17 44.1 +0.4**
KMI Kunming **58.96 303**⇓ P **P** **17 17 50.8 +1.8**
KMI PcP **PcP** **17 18 33.5 +1.8**
KMI pP pP 17 19 30.2 +0.6
KMI sP sP 17 20 27.5 +3.6
KMI ScP **ScP** **17 21 46.0 +2.5**
KMI S **S** **17 25 12.4 -4.2**
KMI ScS **ScS** **17 26 48.1 +0.1**
KMI sS sS 17 28 13.7 -2.8
KMI pmax pmax
comp=Z,130nm,0.9s
KMI pmax pmax
comp=Z,790nm,7.3s
KMI Kunming **58.96 303** P **P** **17 17 51.2 +2.3**
KMI PcP **PcP** **17 18 33.0 +1.3**
LHMI Lhok Sumawe **59.05 279** P **P** **17 17 50.7 +1.2**
comp=Z,4µmcomp=Z,416nm,0.9s
MLSI Meulaboh, Aceh **59.45 278** P **P** **17 17 51.3 -0.9**
comp=Z,3µmcomp=Z,333nm,0.9s
AMKA Amchitka **59.52 17** P **P** **17 17 51.9 0.0**
HEH HeiHe **59.77 340**⇓ *i*P **P** **17 17 54.0 +0.5**
HEH pP **pP** **17 19 33.6 -0.5**
HEH S **S** **17 25 18.0 -7.3**
HEH ScS **ScS** **17 26 49.8 -2.6**
HEH pmax pmax
comp=Z,150nm,0.9s
XLT XiLinHaoTe **59.83 328** *e*P **P** **17 17 55.2 +0.9**
XLT pP pP 17 19 34.4 -1.4
XLT S **S** **17 25 19.0 -7.7**
XLT ScS **ScS** **17 26 50.5 -3.0**
XLT sS sS 17 28 27.1 -0.2
XLT pmax pmax
comp=Z,400nm,0.8s
CM31 Chiang Mai Arr **60.05 294** IAmb IAmb 17 17 59.8
comp=Z,214nm,0.9s
CM31 Chiang Mai Arr **60.05 294** P **P** **17 17 57.8 +1.7**
CM31 S **S** **17 25 32.2 +2.2**
CMAR Chiang Mai Arr **60.05 294** P **P** **17 17 57.4 +1.3**
comp=Z,135nm,0.9s,baz=107,slow=6.4,SNR=484
CMAR S **S** **17 25 30.7 +0.7**
comp=Z,0.8nm,0.9s,baz=109,slow=9.4,SNR=1.9
CMAR PKPPKP **P'P'df** **17 47 09.8 -4.5**
comp=Z,4.5nm,1.1s,baz=296,slow=1.8,SNR=9.3
CMAR PKP2bc 17 47 23.5
comp=Z,1.7nm,0.4s,baz=290,slow=2.0,SNR=5.6
comp=Z,135nm,0.9s
CMAR Chiang Mai Arr **60.05 294** *i*P **P** **17 17 57.5 +1.4**
CMAR pmax pmax
comp=Z,142nm,0.9s
CHTO Chiang Mai **60.15 295** P **P** **17 17 56.2 -0.6**
CHTO Chiang Mai **60.15 295** P **P** **17 17 56.3 -0.5**
CHTO S **S** **17 25 32.7 +1.4**
CHTO Chiang Mai **60.15 295** P **P** **17 17 57.7 +1.0**
CHTO Chiang Mai **60.15 295** P **P** **17 17 56.2 -0.6**
CHTO pmax pmax
comp=Z,90nm,1.0s
CHTO Chiang Mai **60.15 295** P **P** **17 17 57.9 +1.1**
CHTO Chiang Mai **60.15 295** P **P** **17 17 57.8 +1.0**
CHTO S **S** **17 25 35.7 +4.4**
PZH PanZhiHua **60.32 304** P **P** **17 17 58.7 +0.8**
PZH pP **pP** **17 19 38.7 -0.7**
PZH PP **PP** **17 20 22.9 +3.9**
PZH S **S** **17 25 35.0 +1.6**
PZH sS **sS** **17 28 36.9 +2.5**
PZH pmax pmax
comp=Z,330nm,1.5s
PZH pmax pmax
comp=Z,660nm,4.4s
HHC Hu-ho-hao-te **60.40 323** *e*P **P** **17 17 59.3 +1.1**
HHC pP pP 17 19 38.5 -1.2
HHC sP sP 17 20 30.5 -2.6
HHC S **S** **17 25 35.7 +1.8**
HHC ScS **ScS** **17 26 58.5 +0.5**
HHC SS **SS** **17 29 44.6 +1.3**
HHC pmax pmax
comp=Z,52nm,0.7s
HHC pmax pmax
comp=Z,170nm,4.6s
CD2 Chengdu **60.53 309** P **P** **17 17 59.7 +0.5**
CD2 pP pP 17 19 41.1 +0.5
CD2 sP sP 17 20 34.2 -0.5
CD2 ScP **ScP** **17 21 50.6 +0.5**
CD2 S **S** **17 25 36.2 +0.4**
CD2 ScS **ScS** **17 27 01.9 +2.7**
CD2 sS sS 17 28 36.9 0.0
CD2 SS **SS** **17 29 41.1 -4.5**
CD2 pmax pmax
comp=Z,210nm,0.8s
CD2 pmax pmax
comp=Z,1µm,6.7s
KIWB Kanaga Island **61.04 19** P **P** **17 18 02.4 +0.5**
KIWB IAmb IAmb 17 18 03.5
comp=Z,93nm,0.6s
BTO Baotou **61.20 322** *e*P **P** **17 18 05.7 +2.3**
BTO pP **pwP** **17 19 47.0 -0.5**
BTO S **S** **17 25 45.4 +1.6**
BTO SS **SS** **17 29 56.6 +0.9**
BTO pmax pmax
comp=Z,66nm,0.9s
BTO pmax pmax
comp=Z,2µm,5.5s
ADK Adak **61.22 19** P **P** **17 18 03.2 +0.1**
ADK IAmb IAmb 17 19 50.2
comp=Z,193nm,1.2s
ADK Adak **61.22 19** P **P** **17 18 03.4 +0.3**
ADK Adak **61.22 19** P **P** **17 18 03.2 +0.1**
ADK pmax pmax
comp=Z,193nm,1.2s
ADK Adak **61.22 19** P **P** **17 18 03.5 +0.3**
GSTR Great Sitkin T **61.61 20** IAmb IAmb 17 19 53.8
comp=Z,174nm,1.2s
HIA Hailar **61.95 334** IAmb IAmb 17 18 10.9
comp=Z,120nm,0.9s
HIA Hailar **61.95 334** P **P** **17 18 09.3 +1.3**
ATKA Atka Island **62.34 21** P **P** **17 18 10.2 -0.2**
TNCH TengChong **62.49 301**⇓ *i*P **P** **17 18 13.1 +0.8**
TNCH PcP **PcP** **17 18 47.2 +1.2**
TNCH pP pP 17 19 53.1 -1.9
TNCH sP sP 17 20 48.1 -0.8
TNCH S **S** **17 25 57.7 -2.8**
TNCH ScS **ScS** **17 27 17.3 +2.7**
TNCH sS sS 17 29 00.2 -2.8
TNCH SS **SS** **17 30 12.1 -4.4**
TNCH pmax pmax

comp=Z,160nm,1.1s
TNCH pmax pmax
comp=Z,830nm,3.1s
DRV Dumont d'Urvil 62.77 187 P P 17 18 13.9 +0.9
ZEA Zeya 62.77 342 *e*P **P 17 18 14.3 +1.1**
ZEA *e* 17 18 46.8
ZEA *e**PP **pP 17 19 54.9 -0.2**
ZEA *e* 17 20 48.4
ZEA *e*S **S 17 26 04.7 +2.2**
ZEA *e* 17 27 16.5
ZEA pmax pmax
comp=N,100nm,1.1s
ZEA pmax pmax
comp=Z,200nm,1.1s
ZEA pmax pmax
comp=N,80nm,0.9s
ZEA pmax pmax
comp=E,30nm,0.9s
ZEA pmax pmax
comp=Z,140nm,0.9s
ZEA pmax pmax
comp=N,100nm,5.8s
ZEA pmax pmax
comp=Z,200nm,5.8s
ZEA smax smax
comp=E,1μm,11.1s
ZEA smax smax
comp=N,1μm,10.8s
LZH Lanzhou 62.87 315 ⇓P **P 17 18 16.0 +1.5**
LZH pP pwP 17 20 01.4 +1.3
LZH sP sP 17 20 51.3 +0.8
LZH S **S 17 26 07.0 +2.3**
LZH ScS **ScS 17 27 19.7 +2.6**
LZH sS sS 17 29 05.0 -2.5
LZH pmax pmax
comp=N,160nm,1.3s
LZH pmax pmax
comp=N,690nm,4.1s
MA2 Magadan 64.16 357 P **P 17 18 21.7 -0.3**
MA2 IAmb IAmb 17 18 23.6
comp=Z,125nm,0.8s
MA2 Magadan 64.16 357 P **P 17 18 22.1 0.0**
MA2 Magadan 64.16 357 *d*/P **P 17 18 22.1 0.0**
MA2 *i**PP **pP 17 20 03.9 -1.0**
MA2 pmax pmax
comp=Z,123nm,0.9s
MA2 Magadan 64.16 357 P **P 17 18 22.0 0.0**
MA2 pP **pP 17 20 06.1 +1.2**
TAOE Nuku Hiva Isla 64.22 98 P **P 17 18 23.7 +0.2**
TAOE Nuku Hiva Isla 64.22 98 *e*P **P 17 18 21.9 -1.6**
comp=Z,784nm,1.3s
TAOE *e*S S 17 26 12.7 -9.0
comp=Z,327nm,26.6s
TAOE *e*LQ LQ 17 35 44.9
comp=Z,2μm,40.5s
TAOE *e*LR LR 17 38 27.1
comp=Z,508nm,24.1s
DGPR DIGLIPUR 64.37 287 *e*P **P 17 18 25.7 +1.5**
DGPR IAmb IAmb 17 18 26.6
comp=Z,202nm,1.4s
NIKH Nikolski High 64.93 23 IAmb IAmb 17 18 28.9
comp=Z,159nm,1.0s
NIKH Nikolski High 64.93 23 P **P 17 18 27.1 +0.1**
NIKH Nikolski High 64.93 23 P **P 17 18 26.9 -0.1**
baz=220,SNR=15
NIKH S **S 17 26 28.1 -0.5**
baz=220
IMP Imphal 66.36 300 *e*P **P 17 18 37.9 +1.2**
IMP IAmb IAmb 17 18 39.1
comp=Z,201nm,1.1s
IMP *e*S **S 17 26 42.1 -4.7**
UNV Unalaska Valle 66.52 24 IAmb IAmb 17 18 40.6
comp=Z,90nm,1.0s
UNV Unalaska Valle 66.52 24 P **P 17 18 36.5 -0.5**
baz=222,SNR=13
UNV S **S 17 26 45.2 -2.1**
baz=222
CIT Chita 66.67 333 *e*P **P 17 18 39.2 +1.2**
CIT *e* 17 19 02.4
CIT *e* 17 20 23.0
CIT *e* 17 21 16.4
CIT *e* 17 22 58.4
CIT *e*S **S 17 26 47.4 -2.0**
CIT *e* 17 27 22.8
CIT *e* 17 27 42.8
CIT pmax pmax
comp=Z,201nm,1.9s
AKUT Akutan 67.03 24 P **P 17 18 39.6 -0.5**
AZL Aizawl 67.14 298 *e*P **P 17 18 42.1 +0.5**
AZL *e*S **S 17 27 01.0 +4.9**
ULN Ulaanbaatar 67.21 327 P **P 17 18 42.4 +0.8**
ULN Ulaanbaatar 67.21 327 P **P 17 18 43.4 +1.8**
ULN S **S 17 26 55.8 -0.4**
ULN Ulaanbaatar 67.21 327 *d*/P **P 17 18 43.0 +1.4**
ULN pmax pmax
comp=Z,158nm,0.9s
ULN Ulaanbaatar 67.21 327 P **P 17 18 43.4 +1.8**
GTA Gaotai 67.25 316 P **P 17 18 44.0 +2.0**
GTA PcP **PcP 17 19 08.3 +2.9**
GTA pP pP 17 20 26.7 +0.7
GTA PP **PP 17 21 14.7 -4.2**
GTA S **S 17 26 59.8 +2.9**
GTA ScS **ScS 17 27 51.2 +0.4**
GTA sS sS 17 30 04.5 +1.8
GTA pmax pmax
comp=Z,170nm,1.0s
GTA pmax pmax
comp=Z,860nm,6.9s
ZIRO ZIRO 67.27 302 *e*P **P 17 18 43.5 +1.1**
ZIRO IAmb IAmb 17 18 45.0
comp=Z,181nm,0.9s
ZIRO *e*S **S 17 26 52.6 -5.1**
SEY Seymchan 67.47 359 *d*/P **P 17 18 42.9 +0.3**
SEY pmax pmax
comp=Z,75nm,0.9s
P08K Saint George I 67.49 20 P **P 17 18 43.3 +0.4**
baz=218,SNR=12
P08K S **S 17 26 59.1 +0.3**
baz=218
SONM Songino Array 67.55 327 P **P 17 18 44.8 +1.1**
SONM Songino Array 67.55 327 P **P 17 18 45.0 +1.4**
comp=Z,208nm,0.9s,baz=135,slow=6.0,SNR=613
SONM pP **pP 17 20 29.1 +1.6**
comp=Z,21nm,0.8s,baz=134,slow=6.2,SNR=5.1
SONM S **S 17 26 58.9 -1.2**
comp=Z,0.5nm,0.7s,baz=147,slow=3.4,SNR=1.0
SONM PKPPKP **P'P'df 17 46 57.3 -2.8**
comp=Z,3.9nm,1.2s,baz=244,slow=2.8,SNR=9.0
comp=Z,208nm,0.9s
SPIA Saint Paul Isl 67.71 19 P **P 17 18 44.6 +0.4**
baz=218,SNR=22
SPIA S **S 17 27 01.0 -0.3**
baz=218
TEZP TEZPUR 67.88 301 *e*P **P 17 18 47.1 +1.2**
TEZP IAmb IAmb 17 18 48.9
comp=Z,314nm,0.9s
SHL Shillong 68.36 300 P **P 17 18 49.3 +0.2**
SHL Shillong 68.36 300 P **P 17 18 50.2 +1.1**
SHL Shillong 68.36 300 *e*P **P 17 18 49.5 +0.4**
SHL IAmb IAmb 17 18 52.4
comp=Z,311nm,1.1s
SHL Shillong 68.36 300 P **P 17 18 49.3 +0.2**
SHL pmax pmax
comp=Z,319nm,1.0s
AGT Agartala 68.45 298 *e*P **P 17 18 50.7 +1.3**
AGT ⇑*e*S **S 17 27 06.5 -4.7**
GUWA GUWAHATI 68.71 300 *e*P **P 17 18 52.2 +1.2**
GUWA IAmb IAmb 17 18 53.8
comp=Z,209nm,1.0s
GUWA *e*S **S 17 27 09.3 -4.8**
CASY Casey 68.85 198 P **P 17 18 52.0 +0.9**
TAWA Tawang 68.97 302 *e*P **P 17 18 53.7 +0.7**
TAWA IAmb IAmb 17 18 57.5
comp=Z,131nm,0.8s
TAWA *e*S **S 17 27 12.2 -5.6**
YAK Yakutsk 69.37 347 P **P 17 18 54.5 +0.3**
YAK Yakutsk 69.37 347 P **P 17 18 54.8 +0.6**
comp=Z,159nm,0.7s,baz=141,slow=4.0,SNR=90
YAK pP **pP 17 20 40.0 +0.9**
comp=Z,58nm,0.9s,baz=156,slow=3.8,SNR=1.8
YAK S **S 17 27 18.6 -1.7**
comp=Z,2.5nm,0.3s,baz=151,slow=17,SNR=5.5
comp=Z,159nm,0.7s
YAK Yakutsk 69.37 347 *d*/P **P 17 18 54.7 +0.6**
YAK *e* 17 19 15.5
YAK *e**PP **pP 17 20 38.9 -0.2**
YAK *e* 17 21 36.9
YAK *e*S **S 17 27 21.8 +1.5**
YAK *e* 17 28 03.4
YAK pmax pmax
comp=Z,154nm,0.9s
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,9.0nm,0.8s
YAK pmax pmax
comp=Z,273nm,2.9s
YAK pmax pmax
comp=E,94nm,2.5s
YAK pmax pmax
comp=N,183nm,3.2s
YAK smax smax
comp=N,2μm,2.6s
YAK smax smax
comp=E,1μm,2.8s
YAK Yakutsk 69.37 347 P **P 17 18 54.7 +0.6**
GOMU GeErMu 69.51 311 P **P 17 18 57.6 +1.5**
GOMU S S 17 27 14.0 -10
GOMU pmax pmax
comp=E,45nm,0.9s
S12K Black Hills 69.65 24 P **P 17 18 55.8 -0.2**
baz=226,SNR=51
S12K S **S 17 27 22.0 -1.8**
baz=226
SDPT Sand Point 70.06 25 IAmb IAmb 17 19 00.0
comp=Z,161nm,0.9s
SDPT Sand Point 70.06 25 P **P 17 18 58.0 -0.5**
SDPT Sand Point 70.06 25 P **P 17 18 57.8 -0.6**
baz=228,SNR=23
SDPT S **S 17 27 26.4 -2.1**
baz=228
CNBA Chernabura Isl 70.09 26 IAmb IAmb 17 19 00.6
comp=Z,273nm,1.4s
CHNA Chernabura Isl 70.10 26 P **P 17 18 58.4 -0.3**
CHNA Chernabura Isl 70.10 26 P **P 17 18 58.3 -0.3**
baz=229,SNR=20
CHNA S **S 17 27 26.6 -2.3**
baz=229
LSA Lhasa 70.20 304 IAmb IAmb 17 19 04.2
comp=Z,130nm,1.3s
LSA Lhasa 70.20 304 P **P 17 19 01.5 +1.1**
LSA S **S 17 27 27.3 -4.7**
LSA pmax pmax
comp=Z,47nm,1.1s
LSA Lhasa 70.20 304 P **P 17 19 01.9 +1.5**
BOD Bodaibo 70.58 338 *e*P **P 17 19 01.6 +0.1**
BOD pmax pmax
comp=Z,109nm,1.5s
ZAK Zakamensk 70.68 328 *e*P **P 17 19 02.9 +0.5**
ZAK pmax pmax
comp=Z,91nm,1.1s
S14K Fog Glacier 71.08 25 P **P 17 19 04.5 -0.1**
baz=228,SNR=7.3
S14K S **S 17 27 38.8 -1.4**
baz=228
IRK Irkutsk 71.22 330 *e*P **P 17 19 04.3 -1.2**
IRK *e* 17 20 51.4
IRK *e*S **S 17 27 43.3 +1.4**
IRK pmax pmax
comp=Z,141nm,1.5s
M11K Mekoryuk 71.54 19 IAmb IAmb 17 19 09.8
comp=Z,73nm,0.8s
M11K Mekoryuk 71.54 19 P **P 17 19 08.1 +1.0**
baz=221,SNR=8.2
M11K S **S 17 27 47.5 +2.6**
baz=221
CHGN Chignik 71.57 25 IAmb IAmb 17 19 08.9
comp=Z,108nm,1.0s
CHGN Chignik 71.57 25 P **P 17 19 06.8 -0.5**
baz=229,SNR=32
CHGN S **S 17 27 42.8 -2.6**
baz=229
GTK Tadong 71.67 301 *e*P **P 17 19 09.7 +0.9**
GTK IAmb IAmb 17 19 12.8
comp=Z,282nm,1.3s
GTK *e*S **S 17 27 42.7 -5.5**
O14K Tigyukauivet M 72.43 22 P **P 17 19 12.9 +0.6**
baz=226,SNR=43
O14K S **S 17 27 55.4 +0.4**
baz=226
CHIR Chirikof Islan 72.48 27 IAmb IAmb 17 19 14.2
comp=Z,130nm,1.0s
CHIR Chirikof Islan 72.48 27 P **P 17 19 12.6 0.0**
CHIR Chirikof Islan 72.48 27 P **P 17 19 12.7 0.0**
baz=232,SNR=12
CHIR S **SKiKP 17 27 52.9 -0.6**
baz=232
M13K Dall Lake 72.51 20 IAmb IAmb 17 19 16.2
comp=Z,204nm,1.0s
M13K Dall Lake 72.51 20 P **P 17 19 13.8 +1.1**
baz=224,SNR=27
M13K S **S 17 27 59.0 +3.2**
baz=224
MOY Mondy 72.59 328 *e*P **P 17 19 14.1 +0.5**
MOY pmax pmax
comp=Z,130nm,1.4s
GAMB Gambell 72.64 15 P **P 17 19 14.0 +0.7**
baz=215,SNR=8.5
GAMB S **S 17 27 58.4 +1.3**
baz=215
N14K Kuskokwak Cree 72.74 21 IAmb IAmb 17 19 16.9
comp=Z,242nm,1.4s
N14K Kuskokwak Cree 72.74 21 P **P 17 19 14.7 +0.6**
baz=225,SNR=14
N14K S **S 17 27 59.6 +1.1**
baz=225
VNDA Vanda 72.87 178 P **P 17 19 15.4 +0.8**
VNDA Vanda 72.87 178 P **P 17 19 15.7 +1.1**
comp=Z,129nm,1.1s,baz=343,slow=8.4,SNR=350
VNDA S **S 17 28 00.2 +0.8**
comp=Z,0.5nm,0.8s,baz=315,slow=4.3,SNR=1.3
VNDA PKPPKP **P'P'df 17 46 50.8 +0.6**
comp=Z,0.9nm,1.1s,baz=153,slow=2.8,SNR=4.3
comp=Z,129nm,1.1s
VNDA Vanda 72.87 178 P **P 17 19 15.4 +0.8**
VNDA pmax pmax
comp=Z,411nm,1.4s
O15K Ungalikthiuk R 72.91 22 IAmb IAmb 17 19 17.9
comp=Z,168nm,1.2s
O15K Ungalikthiuk R 72.91 22 P **P 17 19 15.5 +0.4**
baz=227,SNR=30
O15K S **S 17 28 00.1 -0.3**
baz=227
BILL Bilibino 72.97 4 *d*/P **P 17 19 15.8 +0.5**
BILL pmax pmax
comp=Z,199nm,1.3s
K13K Kusilvak Mount 73.20 19 P **P 17 19 17.7 +1.1**
baz=222,SNR=42
K13K S **S 17 28 04.7 +1.3**
baz=222
M14K Bethel 73.23 20 P **P 17 19 17.7 +0.9**
baz=225,SNR=69
M14K S **S 17 28 05.7 +1.9**
baz=225
R17L Mt. Peulik Vol 73.28 25 P **P 17 19 17.5 +0.2**
baz=231,SNR=90
R17L S **S 17 28 03.4 -1.2**
baz=231
SBA Scott Base 73.37 177 P **P 17 19 19.0 +1.6**
SBA Scott Base 73.37 177 P **P 17 19 19.0 +1.6**
SBA pmax pmax
comp=Z,600nm,1.3s
L14K Kuka Creek 73.41 20 IAmb IAmb 17 19 20.5
comp=Z,120nm,0.8s
L14K Kuka Creek 73.41 20 P **P 17 19 18.9 +1.0**
baz=224,SNR=97
L14K S **S 17 28 07.7 +1.9**
baz=224
N15K Kwethluk River 73.49 22 IAmb IAmb 17 19 21.5
comp=Z,138nm,0.9s
N15K Kwethluk River 73.49 22 P **P 17 19 19.3 +0.9**
baz=227,SNR=57
N15K S **S 17 28 08.9 +2.1**
baz=227
P16K Nushagak River 73.52 23 IAmb IAmb 17 19 20.4
comp=Z,132nm,0.9s
P16K Nushagak River 73.52 23 P **P 17 19 18.1 -0.5**
baz=229,SNR=8.2
P16K S **S 17 28 06.3 -0.8**
baz=229
KNTI KHUNTI 73.57 296 *e*P **P 17 19 21.0 +1.3**
SII Sitkinak Islan 73.57 26 P **P 17 19 19.0 +0.1**
SII Sitkinak Islan 73.57 26 P **P 17 19 19.2 +0.3**
baz=233,SNR=22
SII S **S 17 28 06.4 -1.4**
baz=233
M15K Kasigluk River 73.64 21 P **P 17 19 19.8 +0.6**
baz=226,SNR=73
M15K S **S 17 28 09.0 +0.6**
baz=226
Q16K King Salmon 73.83 24 P **P 17 19 19.7 -0.6**
baz=230,SNR=5.1
Q16K S **S 17 28 09.0 -1.4**
baz=230
O16K Kokwok River B 73.85 23 P **P 17 19 20.5 +0.1**
baz=229,SNR=26
O16K S **S 17 28 09.6 -1.2**
baz=229
Q17K Contact Creek 73.88 24 P **P 17 19 20.5 -0.3**
baz=231,SNR=100
Q17K S **S 17 28 09.9 -1.4**
baz=231
L15K Ungalak Mounta 74.05 20 P **P 17 19 22.0 +0.5**
baz=225,SNR=38
L15K S **S 17 28 13.8 +1.0**
baz=225
R18K Karluk 74.05 26 P **P 17 19 21.5 -0.1**
baz=233,SNR=21
R18K S **S 17 28 10.7 -2.3**
baz=233
J14K Nanvaranak Lak 74.15 18 IAmb IAmb 17 19 25.6
comp=Z,203nm,1.1s
J14K Nanvaranak Lak 74.15 18 P **P 17 19 23.2 +1.2**
baz=223,SNR=39
J14K S **S 17 28 16.9 +3.1**
baz=223
N16K Nishlik Lake 74.18 22 P **P 17 19 23.5 +1.1**
baz=228,SNR=71
N16K S **S 17 28 17.5 +3.1**
baz=228
P17K Kvichak River 74.24 24 P **P 17 19 21.6 -1.0**
baz=231,SNR=12
P17K S **S 17 28 11.6 -3.4**
baz=231
VIS Vishakhapatnam 74.32 290 *e*P **P 17 19 24.8 +0.8**
O17K Koliganek Bris 74.36 23 P **P 17 19 23.4 +0.1**
baz=230,SNR=36
O17K S **S 17 28 15.3 -0.9**
baz=230
OHAK Old Harbor 74.36 26 IAmb IAmb 17 19 25.2
comp=Z,110nm,0.9s
OHAK Old Harbor 74.36 26 P **P 17 19 23.5 +0.2**
OHAK Old Harbor 74.36 26 P **P 17 19 23.6 +0.2**
baz=234,SNR=36
OHAK S **S 17 28 14.3 -2.0**
baz=234
K15K Wolf Creek Mou 74.47 19 IAmb IAmb 17 19 26.7
comp=Z,232nm,1.2s
K15K Wolf Creek Mou 74.47 19 P **P 17 19 25.1 +1.2**
baz=225,SNR=81
K15K S **S 17 28 19.7 +2.3**
baz=225
Q18K Katmai Hardscr 74.48 24 P **P 17 19 23.9 -0.3**
baz=232,SNR=168
Q18K S **S 17 28 16.2 -1.7**
baz=232
M16K Timber Creek 74.48 21 P **P 17 19 25.2 +1.2**
baz=228,SNR=157
M16K S **S 17 28 19.8 +2.1**
baz=228
L16K Owhat River 74.77 21 IAmb IAmb 17 19 27.9
comp=Z,115nm,1.1s
L16K Owhat River 74.77 21 P **P 17 19 26.3 +0.7**
baz=227,SNR=66
L16K S **S 17 28 21.0 +0.3**
baz=227
N17K Nushagak Hills 74.81 22 IAmb IAmb 17 19 29.5
comp=Z,204nm,1.4s
N17K Nushagak Hills 74.81 22 P **P 17 19 27.1 +1.2**
baz=230,SNR=50
N17K S **S 17 28 23.1 +2.0**
baz=230
P18K Big Mountain, 74.85 24 P **P 17 19 25.2 -0.9**
baz=232,SNR=28
P18K S **S 17 28 18.3 -3.5**
baz=232
ANM Nome 74.96 16 IAmb IAmb 17 19 29.9
comp=Z,352nm,1.7s
ANM Nome 74.96 16 P **P 17 19 27.0 +0.4**
baz=221,SNR=5.5
ANM S **S 17 28 25.4 +2.7**
baz=221
KDAK Kodiak Island 74.99 26 P **P 17 19 26.7 -0.2**
KDAK IAmb IAmb 17 19 28.8
comp=Z,106nm,0.9s
KDAK Kodiak Island 74.99 26 P **P 17 19 26.7 -0.2**
KDAK pmax pmax
comp=Z,106nm,1.0s
KDAK Kodiak Island 74.99 26 P **P 17 19 27.2 +0.3**
baz=235
KDAK S **S 17 28 21.6 -1.6**
baz=235
TNA Tin City 75.04 15 P **P 17 19 27.3 +0.3**
baz=218
TNA S **S 17 28 24.1 +0.6**
baz=218
O18K Koktuh Hills 75.15 23 P **P 17 19 27.4 -0.4**
baz=232,SNR=16
O18K S **S 17 28 23.8 -1.1**
baz=232
Q19K Cape Douglas, 75.22 25 P **P 17 19 28.1 -0.1**
baz=233,SNR=20
Q19K S **S 17 28 24.8 -0.9**
baz=233
M17K Holitna River 75.29 21 IAmb IAmb 17 19 31.6
comp=Z,120nm,0.9s
M17K Holitna River 75.29 21 P **P 17 19 29.9 +1.4**
baz=229,SNR=49
M17K S **S 17 28 30.1 +3.8**
baz=229
PALK Pallekele 75.33 279 P **P 17 19 30.1 +0.2**
PALK IAmb IAmb 17 19 33.8
comp=Z,108nm,0.9s
PALK Pallekele 75.33 279 S **S 17 28 28.7 0.0**
comp=Z,9.2nm,1.1s,baz=72,slow=20,SNR=1.9
PALK Pallekele 75.33 279 P **P 17 19 31.4 +1.6**
PALK Pallekele 75.33 279 *de*P **P 17 19 28.8 -1.0**
PALK pmax pmax
comp=Z,528nm,2.6s
PALK Pallekele 75.33 279 P **P 17 19 30.4 +0.6**
PALK S **S 17 28 30.4 +1.7**
F14K Arctic Creek 75.39 16 P **P 17 19 29.9 +0.9**
baz=220,SNR=9.9
F14K S **S 17 28 29.2 +1.9**
baz=220
N18K Kilae Creek 75.40 23 P **P 17 19 30.3 +1.1**
baz=231,SNR=108
N18K S **S 17 28 29.2 +1.5**
baz=231
L17K Donlin 75.46 21 P **P 17 19 30.9 +1.4**
baz=228,SNR=76
L17K S **S 17 28 30.9 +2.7**
baz=228
J16K Anvik River 75.47 19 P **P 17 19 31.0 +1.5**
baz=226,SNR=47
J16K S **S 17 28 32.3 +4.0**
baz=226
Q20K Shuyak Island 75.56 25 P **P 17 19 30.5 +0.5**
baz=235,SNR=14
Q20K S **S 17 28 27.7 -1.6**
baz=235
SYI Shuyak Island 75.56 25 IAmb IAmb 17 19 32.7
comp=Z,213nm,1.1s
MALK Mahakanadarawa 75.62 280 P **P 17 19 31.5 +0.1**
G15K Niukluk 75.66 17 P **P 17 19 31.0 +0.5**
baz=222,SNR=10
G15K S **S 17 28 31.2 +1.0**
baz=222
O19K Port Alsworth 75.71 23 P **P 17 19 30.3 -0.6**
baz=232
O19K S **S 17 28 29.3 -1.5**
baz=232
P19K Oil Pt 75.82 24 P **P 17 19 31.6 +0.1**
baz=234,SNR=40
P19K S **S 17 28 30.5 -1.7**
baz=234
K17K Iditarod 75.85 20 IAmb IAmb 17 19 35.1
comp=Z,188nm,1.1s
K17K Iditarod 75.85 20 P **P 17 19 32.8 +1.2**
baz=228,SNR=95

K17K S **S** 17 28 35.0 +2.6
baz=228
I17K **Unalakleet** **75.86** **19** IAmb IAmb 17 19 35.5
comp=Z,210nm,1.2s
I17K **Unalakleet** **75.86** **19** P **P** **17 19 33.2 +1.6**
baz=226,SNR=15
I17K S **S** **17 28 35.8 +3.4**
baz=226
H16K **Elim** **75.93** **17** P **P** **17 19 32.7 +0.7**
baz=224,SNR=5.6
H16K S **S** **17 28 34.8 +1.8**
baz=224
M18K **Stony River** **75.94** **22** P **P** **17 19 33.5 +1.3**
baz=231,SNR=70
M18K S **S** **17 28 35.8 +2.5**
baz=231
N19K **Bonanza Creek** **76.02** **23** P **P** **17 19 32.8 +0.1**
baz=232,SNR=39
N19K S **S** **17 28 34.2 -0.3**
baz=232
F15K **North Star Dit** **76.03** **16** IAmb IAmb 17 19 35.8
comp=Z,153nm,1.2s
F15K **North Star Dit** **76.03** **16** P **P** **17 19 33.5 +0.9**
baz=221,SNR=21
F15K S **S** **17 28 35.8 +1.6**
baz=221
J17K **VABM Dome** **76.05** **19** IAmb IAmb 17 19 35.8
comp=Z,162nm,0.9s
J17K **VABM Dome** **76.05** **19** P **P** **17 19 34.1 +1.4**
baz=227,SNR=88
J17K S **S** **17 28 37.1 +2.6**
baz=227
ILSW **Iliamna Southw** **76.05** **24** IAmb IAmb 17 19 34.6
comp=Z,246nm,1.3s
L18K **Granite Mounta** **76.09** **21** IAmb IAmb 17 19 36.6
comp=Z,220nm,1.1s
L18K **Granite Mounta** **76.09** **21** P **P** **17 19 34.4 +1.4**
baz=230,SNR=173
L18K S **S** **17 28 37.7 +2.7**
baz=230
BLSP **Bilaspur** **76.23** **294** *e*P **P** **17 19 35.1 +0.5**
O20K **Slope Mountain** **76.32** **24** P **P** **17 19 34.1 -0.3**
baz=234,SNR=12
O20K S **S** **17 28 35.0 -2.6**
baz=234
G16K **Koyuk River** **76.44** **17** IAmb IAmb 17 19 37.5
comp=Z,144nm,0.9s
G16K **Koyuk River** **76.44** **17** P **P** **17 19 35.9 +1.1**
baz=224,SNR=36
G16K S **S** **17 28 40.4 +1.9**
baz=224
RED **Redoubt Volcan** **76.46** **24** IAmb IAmb 17 19 37.6
comp=Z,137nm,1.1s
HOM **Homer** **76.48** **25** P **P** **17 19 35.8 +0.7**
baz=235,SNR=8.0
HOM S **S** **17 28 39.3 +0.2**
baz=235
MDRS **Chennai** **76.52** **285** *e*P **P** **17 19 37.2 +0.9**
VJD **Vijayawada** **76.64** **288** *e*P **P** **17 19 37.7 +0.7**
M19K **Big River Lodg** **76.73** **22** IAmb IAmb 17 19 40.1
comp=Z,248nm,1.2s
M19K **Big River Lodg** **76.73** **22** P **P** **17 19 37.8 +1.3**
baz=232,SNR=90
M19K S **S** **17 28 44.1 +2.2**
baz=232
L19K **White Mountain** **76.73** **22** IAmb IAmb 17 19 39.2
comp=Z,159nm,0.7s
L19K **White Mountain** **76.73** **22** P **P** **17 19 37.6 +1.1**
baz=232,SNR=225
L19K S **S** **17 28 44.1 +2.2**
baz=232
H17K **Granite Mounta** **76.84** **18** P **P** **17 19 38.2 +1.1**
baz=226,SNR=44
H17K S **S** **17 28 44.9 +2.0**
baz=226
BRLK **Bradley Lake** **76.85** **25** IAmb IAmb 17 19 39.0
comp=Z,149nm,0.9s
J18K **Innoko River** **76.89** **20** P **P** **17 19 38.0 +0.6**
baz=230,SNR=96
J18K S **S** **17 28 45.0 +1.5**
baz=230
G17K **Kiwalik Mounta** **77.02** **17** P **P** **17 19 39.1 +1.1**
baz=225,SNR=43
G17K S **S** **17 28 46.6 +1.9**
baz=225
ALBI **Allahabad** **77.14** **297** *e*P **P** **17 19 40.2 +0.7**
SPCR **Spurr Chakacha** **77.14** **23** P **P** **17 19 38.1 -0.8**
baz=234
SPCR S **S** **17 28 44.0 -2.4**
baz=234
M20K **Styx River** **77.19** **22** P **P** **17 19 39.7 +0.5**
baz=233,SNR=83
M20K S **S** **17 28 47.9 +1.0**
baz=233
L20K **Farewell, AK** **77.27** **22** P **P** **17 19 40.4 +0.9**
baz=232,SNR=93
L20K S **S** **17 28 50.1 +2.5**
baz=232
CAPN **Captain Cook N** **77.31** **24** P **P** **17 19 40.7 +1.1**
baz=235
CAPN S **S** **17 28 48.6 +0.7**
baz=235
WMQ **Urumqi** **77.32** **317** P **P** **17 19 41.8 +1.6**
WMQ pP pwP 17 21 29.9 -1.8
WMQ sP sP 17 22 21.8 +1.8
WMQ S **S** **17 28 50.3 +1.3**
WMQ pmax pmax
comp=Z,110nm,1.3s
WMQ pmax pmax
comp=Z,1μm,4.5s
H18K **Honhosa River** **77.47** **18** P **P** **17 19 40.5 0.0**
baz=228
H18K S **S** **17 28 49.8 +0.2**
baz=228
F17K **Baldwin Pennin** **77.51** **16** P **P** **17 19 41.7 +1.1**
baz=225,SNR=19
F17K S **S** **17 28 51.8 +2.0**
baz=225
J19K **Poorman** **77.60** **20** P **P** **17 19 42.2 +1.0**
baz=230,SNR=71
J19K S **S** **17 28 53.1 +2.1**
baz=230
SEW **Seward** **77.64** **25** IAmb IAmb 17 19 43.4
comp=Z,141nm,0.9s
SEW **Seward** **77.64** **25** P **P** **17 19 41.8 +0.4**
baz=237,SNR=46
SEW S **S** **17 28 51.3 -0.1**
baz=237
GCSA **Galena City Sc** **77.67** **19** P **P** **17 19 42.3 +0.8**
baz=229,SNR=22
GCSA S **S** **17 28 53.5 +1.9**
baz=229
O22K **Cooper Landing** **77.74** **25** P **P** **17 19 42.5 +0.6**
baz=237,SNR=13
O22K S **S** **17 28 52.8 +0.4**
baz=237
K20K **Telida** **77.74** **21** P **P** **17 19 43.0 +1.0**
baz=232,SNR=109
K20K S **S** **17 28 54.6 +2.1**
baz=232
C16K **Lisburne Hills** **77.80** **14** IAmb IAmb 17 19 45.3
comp=Z,187nm,1.4s
C16K **Lisburne Hills** **77.80** **14** P **P** **17 19 42.7 +0.5**
baz=220,SNR=6.7
C16K S **S** **17 28 54.0 +1.2**
baz=220
E17K **Hotham Inlet** **77.81** **16** P **P** **17 19 43.4 +1.2**
baz=224,SNR=70
E17K S **S** **17 28 55.2 +2.2**
baz=224
SKT **Skwentna** **77.86** **23** P **P** **17 19 41.4 -1.3**
baz=235,SNR=34
SKT S **S** **17 28 51.2 -2.7**
baz=235
SUA **Susitna One** **77.87** **23** P **P** **17 19 42.2 -0.7**
baz=236
SUA S **S** **17 28 50.4 -3.7**
baz=236
G18K **Tagagawik** **77.89** **18** P **P** **17 19 43.2 +0.4**
baz=227,SNR=63
G18K S **S** **17 28 54.2 +0.3**
baz=227
D17K **Noatak River** **77.93** **15** P **P** **17 19 43.9 +1.0**
baz=223,SNR=22
D17K S **S** **17 28 56.4 +2.2**
baz=223
RC01 **Rabbit Creek A** **78.07** **24** IAmb IAmb 17 19 45.5
comp=Z,140nm,0.6s

RC01 **Rabbit Creek A** **78.07** **24** P **P** **17 19 43.9 +0.1**
baz=237,SNR=68
RC01 S **S** **17 28 55.0 -1.0**
baz=237
F18K **Selawik** **78.08** **17** P **P** **17 19 44.2 +0.6**
baz=226,SNR=28
F18K S **S** **17 28 56.8 +1.1**
baz=226
TIXI **Tiksi** **78.12** **352** P **P** **17 19 43.5 -0.3**
TIXI **Tiksi** **78.12** **352** P **P** **17 19 43.5 -0.3**
TIXI pmax pmax
comp=Z,54nm,1.0s
PPLA **Purkeypile** **78.15** **22** IAmb IAmb 17 19 47.4
comp=Z,196nm,1.5s
PPLA **Purkeypile** **78.15** **22** P **P** **17 19 44.1 -0.3**
baz=234,SNR=37
PPLA S **S** **17 28 54.7 -2.4**
baz=234
J20K **Nowinta River** **78.22** **20** IAmb IAmb 17 19 47.2
comp=Z,127nm,0.9s
J20K **Nowinta River** **78.22** **20** P **P** **17 19 45.6 +1.1**
baz=232,SNR=128
J20K S **S** **17 28 59.5 +2.1**
baz=232
RDOG **Red Dog Mine** **78.23** **15** IAmb IAmb 17 19 47.2
comp=Z,109nm,0.8s
RDOG **Red Dog Mine** **78.23** **15** P **P** **17 19 45.6 +1.0**
baz=223,SNR=15
RDOG S **S** **17 28 58.8 +1.4**
baz=223
M22K **Willow** **78.28** **23** P **P** **17 19 44.5 -0.4**
baz=236,SNR=14
M22K S **S** **17 28 55.6 -2.5**
baz=236
SALM **Salem** **78.31** **283** *e*P **P** **17 19 46.9 +0.8**
SALM IAmb IAmb 17 19 50.0
comp=Z,129nm,0.9s
H19K **Roundabout Mou** **78.32** **19** IAmb IAmb 17 19 48.1
comp=Z,208nm,1.0s
H19K **Roundabout Mou** **78.32** **19** P **P** **17 19 45.9 +0.9**
baz=229,SNR=201
H19K S **S** **17 29 00.5 +2.1**
baz=229
E18K **Tukpahlearik C** **78.39** **16** P **P** **17 19 46.2 +0.9**
baz=225,SNR=26
E18K S **S** **17 28 59.9 +0.8**
baz=225
P23K **Montague Islan** **78.46** **26** IAmb IAmb 17 19 48.6
comp=Z,194nm,1.2s
P23K **Montague Islan** **78.46** **26** P **P** **17 19 46.4 +0.5**
baz=239,SNR=23
P23K S **S** **17 29 00.2 +0.1**
baz=239
C17K **DeLong Mountai** **78.48** **14** P **P** **17 19 46.8 +0.9**
baz=222,SNR=24
C17K S **S** **17 29 01.5 +1.5**
baz=222
CAST **Castle Rocks** **78.50** **21** IAmb IAmb 17 19 47.4
comp=Z,136nm,0.9s
CAST **Castle Rocks** **78.50** **21** P **P** **17 19 45.8 -0.3**
baz=234,SNR=147
CAST S **S** **17 28 57.7 -2.7**
baz=234
I20K **Naaghedeneel** **78.50** **20** P **P** **17 19 47.1 +1.1**
baz=231,SNR=38
I20K S **S** **17 29 02.4 +2.1**
baz=231
PWL **Port Wells** **78.52** **25** P **P** **17 19 46.7 +0.5**
baz=238,SNR=126
PWL S **S** **17 28 59.7 -1.0**
baz=238
G19K **Purcell Mounta** **78.53** **18** IAmb IAmb 17 19 49.4
comp=Z,250nm,1.2s
G19K **Purcell Mounta** **78.53** **18** P **P** **17 19 46.9 +0.7**
baz=229,SNR=116
G19K S **S** **17 29 02.2 +1.5**
baz=229
PMR **Palmer** **78.59** **24** IAmb IAmb 17 19 48.1
comp=Z,135nm,0.9s
PMR **Palmer** **78.59** **24** P **P** **17 19 46.5 0.0**
baz=237,SNR=21
PMR S **S** **17 29 00.7 -0.6**
baz=237
CUT **Chulitna** **78.59** **23** IAmb IAmb 17 19 48.1
comp=Z,148nm,0.8s
CUT **Chulitna** **78.59** **23** P **P** **17 19 46.3 -0.2**
baz=236
CUT S **S** **17 28 58.6 -2.7**
baz=236
Q23K **Middleton Isla** **78.63** **26** IAmb IAmb 17 19 49.2
comp=Z,166nm,1.0s
Q23K **Middleton Isla** **78.63** **26** P **P** **17 19 47.6 +0.8**
baz=240,SNR=6.4
Q23K S **S** **17 29 02.7 +0.9**
baz=240
Q23K S **S** **17 29 02.7 +0.9**
baz=240
CHUM **Lake Minchumin** **78.69** **21** P **P** **17 19 47.6 +0.5**
baz=234
CHUM S **S** **17 29 02.0 -0.3**
baz=234
KNK **Knik Glacier** **78.76** **24** IAmb IAmb 17 19 50.3
comp=Z,193nm,1.2s
KNK **Knik Glacier** **78.76** **24** P **P** **17 19 48.0 +0.5**
baz=238,SNR=23
KNK S **S** **17 29 02.8 -0.5**
baz=238
HYB **Hyderabad** **78.77** **289** *e*P **P** **17 19 48.6 +0.1**
HYB IVmB_BB 17 19 49.2
comp=Z,2μm,2.6s
HYB *e*PcP **PcP** **17 19 55.1 -0.1**
HYB *e*pP **pP** **17 21 35.6 -1.4**
HYB *e*sP **sP** **17 22 26.7 -3.2**
HYB *e*PP **PP** **17 22 54.7 -1.3**
HYB *e*S **S** **17 29 03.6 -1.4**
HYB *e*ScS **ScS** **17 29 23.6 -0.3**
HYB *e*sS **sS** **17 32 16.6 -1.8**
GHO **Glory Hole Cre** **78.77** **24** IAmb IAmb 17 19 49.4
comp=Z,154nm,1.0s
F19K **Shaleruckik Mo** **78.78** **17** P **P** **17 19 47.9 +0.4**
baz=228,SNR=79
F19K S **S** **17 29 03.3 +0.1**
baz=228
H20K **Anotleneega Mo** **78.80** **19** P **P** **17 19 48.5 +0.8**
baz=231,SNR=108
H20K S **S** **17 29 04.4 +0.9**
baz=231
KOD **Kodaikanal** **78.86** **281** *e*P **P** **17 19 50.4 +1.1**
KOD IAmb IAmb 17 19 52.9
comp=Z,157nm,1.1s
GLI **Glacier Island** **79.04** **25** IAmb IAmb 17 19 50.9
comp=Z,183nm,0.9s
GLI **Glacier Island** **79.04** **25** P **P** **17 19 49.3 +0.3**
baz=239,SNR=38
GLI S **S** **17 29 05.8 -0.3**
baz=239
HIN **Hinchinbrook I** **79.05** **25** IAmb IAmb 17 19 51.1
comp=Z,191nm,1.0s
C18K **Utukok River** **79.11** **15** IAmb IAmb 17 19 52.3
comp=Z,180nm,1.4s
C18K **Utukok River** **79.11** **15** P **P** **17 19 49.8 +0.5**
baz=224,SNR=26
C18K S **S** **17 29 06.2 -0.5**
baz=224
TRD **Trivandrum** **79.16** **280** *e*P **P** **17 19 51.1 +0.5**
TRD IAmb IAmb 17 19 54.2
comp=Z,87nm,0.8s
TRF **Thorofare Moun** **79.17** **22** P **P** **17 19 49.0 -0.8**
baz=236,SNR=74
TRF S **S** **17 29 04.0 -3.8**
baz=236
FID **Port Fidalgo** **79.24** **25** IAmb IAmb 17 19 51.9
comp=Z,149nm,0.9s
M23K **Glacier View** **79.26** **24** P **P** **17 19 50.2 0.0**
baz=238,SNR=22
M23K S **S** **17 29 07.9 -0.5**
baz=238
BPAW **Bear Paw Mtn.** **79.29** **21** P **P** **17 19 49.5 -0.7**
baz=235,SNR=39
BPAW S **S** **17 29 05.2 -3.5**
baz=235
LGTI **Lohaghat** **79.32** **301** *e*P **P** **17 19 52.6 +1.4**
LGTI IAmb IAmb 17 19 54.6
comp=Z,246nm,0.9s
E19K **Redstone River** **79.36** **17** P **P** **17 19 51.5 +0.9**
baz=228
E19K S **S** **17 29 09.8 +0.6**
baz=228

PTH **Pithoragarh** **79.37** **301** *e*P **P** **17 19 52.2 +0.5**
SCM **Sheep Creek Mo** **79.44** **24** IAmb IAmb 17 19 54.0
comp=Z,279nm,1.2s
SCM **Sheep Creek Mo** **79.44** **24** P **P** **17 19 51.6 +0.4**
baz=239,SNR=82
SCM S **S** **17 29 10.5 0.0**
baz=239
EYAK **Cordova Ski Ar** **79.45** **26** P **P** **17 19 52.2 +1.1**
EYAK **Cordova Ski Ar** **79.45** **26** P **P** **17 19 51.7 +0.6**
baz=240,SNR=20
EYAK S **S** **17 29 09.7 -0.6**
baz=240
B18K **Kokolik River** **79.47** **14** P **P** **17 19 51.7 +0.6**
baz=224
B18K S **S** **17 29 10.1 -0.1**
baz=224
IMAR **Indian Mountai** **79.47** **19** P **P** **17 19 51.5 +0.3**
WAT1 **Susitna Watana** **79.49** **23** P **P** **17 19 51.2 -0.1**
baz=237
WAT1 S **S** **17 29 09.3 -1.4**
baz=237
FRKB **FARRUKHABAD** **79.51** **299** *e*P **P** **17 19 52.8 +0.6**
F20K **Avaraart Lake** **79.53** **18** P **P** **17 19 52.5 +1.0**
baz=230,SNR=81
F20K S **S** **17 29 11.7 +0.8**
baz=230
I21K **Tanana** **79.57** **20** P **P** **17 19 52.2 +0.5**
baz=234
I21K S **S** **17 29 11.2 -0.3**
baz=234
H21K **Melozitna Rive** **79.58** **19** P **P** **17 19 52.3 +0.5**
baz=233,SNR=100
H21K S **S** **17 29 11.8 +0.2**
baz=233
WAT6 **Susitna Watana** **79.67** **23** P **P** **17 19 52.5 0.0**
baz=238,SNR=96
WAT6 S **S** **17 29 11.7 -1.3**
baz=238
RND **Reindeer** **79.69** **22** IAmb IAmb 17 19 53.6
comp=Z,141nm,0.9s
KAIM **Kayak Island** **79.73** **26** IAmb IAmb 17 19 55.3
comp=Z,135nm,0.9s
KAIM **Kayak Island** **79.73** **26** P **P** **17 19 53.4 +0.8**
baz=242,SNR=15
KAIM S **S** **17 29 13.7 +0.5**
baz=242
DIV **Divide** **79.73** **25** IAmb IAmb 17 19 54.9
comp=Z,146nm,1.0s
D19K **Kuna River** **79.81** **16** P **P** **17 19 53.5 +0.5**
baz=227
D19K S **S** **17 29 13.9 +0.1**
baz=227
MCK **McKinley** **79.83** **22** IAmb IAmb 17 19 54.8
comp=Z,244nm,1.0s
MCK **McKinley** **79.83** **22** P **P** **17 19 52.7 -0.5**
baz=237,SNR=93
MCK S **S** **17 29 10.8 -3.5**
baz=237
RAGM **Ragged Mountai** **79.83** **26** IAmb IAmb 17 19 56.3
comp=Z,305nm,1.4s
C19K **Lookout Ridge** **79.84** **15** IAmb IAmb 17 19 55.9
comp=Z,162nm,1.1s
C19K **Lookout Ridge** **79.84** **15** P **P** **17 19 54.1 +0.9**
baz=226
C19K S **S** **17 29 14.5 +0.3**
baz=226
KLU **Klutina** **79.85** **25** IAmb IAmb 17 19 56.4
comp=Z,257nm,1.2s
KLU **Klutina** **79.85** **25** P **P** **17 19 54.1 +0.7**
baz=240,SNR=128
KLU S **S** **17 29 14.5 -0.1**
baz=240
BWN **Browne** **79.88** **21** IAmb IAmb 17 19 55.5
comp=Z,253nm,1.2s
G21K **Allakaket** **79.88** **19** P **P** **17 19 53.8 +0.4**
baz=232
G21K S **S** **17 29 14.8 +0.2**
baz=232
MLY **Manley** **79.92** **20** P **P** **17 19 53.6 +0.1**
baz=235,SNR=119
MLY S **S** **17 29 13.5 -1.6**
baz=235
HMT **Hamilton** **79.99** **26** IAmb IAmb 17 19 56.4
comp=Z,128nm,1.0s
M24K **Tolsona, Glenn** **80.05** **24** P **P** **17 19 55.3 +0.9**
baz=240,SNR=60
M24K S **S** **17 29 17.7 +1.1**
baz=240
JHNI **Jhansi** **80.07** **297** *e*P **P** **17 19 55.4 +0.1**
JHNI IAmb IAmb 17 19 57.9
comp=Z,32nm,0.7s
DHY **Denali Highway** **80.08** **23** P **P** **17 19 54.8 +0.2**
baz=238,SNR=142
DHY S **S** **17 29 15.7 -1.3**
baz=238
SUCK **Suckling Hills** **80.08** **26** IAmb IAmb 17 19 57.2
comp=Z,159nm,1.3s
JOSI **Joshimath** **80.13** **302** *e*P **P** **17 19 56.0 +0.3**
BMRM **Bremner River** **80.14** **25** P **P** **17 19 55.3 +0.4**
baz=241,SNR=50
BMRM S **S** **17 29 18.2 +0.6**
baz=241
E20K **Nigu River** **80.19** **16** P **P** **17 19 55.9 +1.0**
baz=229
E20K S **S** **17 29 17.0 -0.8**
baz=229
H22K **Ishtalitna Cre** **80.20** **20** P **P** **17 19 55.5 +0.5**
baz=234,SNR=64
H22K S **S** **17 29 18.5 +0.6**
baz=234
A19K **Wainwright** **80.25** **14** P **P** **17 19 56.0 +0.9**
baz=224
A19K S **S** **17 29 18.8 +0.6**
baz=224
NEA2 **Nenana** **80.26** **21** P **P** **17 19 54.7 -0.7**
baz=237,SNR=66
NEA2 S **S** **17 29 14.5 -4.0**
baz=237
BERG **Berg Lake** **80.26** **26** IAmb IAmb 17 19 58.5
comp=Z,248nm,1.0s
BGLC **Bering Glacier** **80.32** **27** P **P** **17 19 56.6 +0.9**
baz=243
BGLC S **S** **17 29 20.5 +1.3**
baz=243
F21K **Alatna River** **80.33** **18** P **P** **17 19 56.1 +0.4**
baz=232,SNR=60
F21K S **S** **17 29 19.4 +0.2**
baz=232
ZSN **Zaisan** **80.36** **320** *e*P **P** **17 19 56.5 +0.3**
ZSN **Zaisan** **80.36** **320** *e*P **P** **17 19 56.6 +0.3**
D20K **Etiviluk River** **80.37** **16** P **P** **17 19 56.3 +0.4**
baz=229
D20K S **S** **17 29 18.8 -0.8**
baz=229
N25K **Chitina, Valde** **80.45** **25** IAmb IAmb 17 19 59.0
comp=Z,119nm,1.1s
N25K **Chitina, Valde** **80.45** **25** P **P** **17 19 57.2 +0.7**
baz=241,SNR=94
N25K S **S** **17 29 20.6 -0.2**
baz=241
I23K **Minto, Yukon-K** **80.46** **21** P **P** **17 19 56.0 -0.3**
baz=236,SNR=37
I23K S **S** **17 29 17.5 -3.0**
baz=236
WRH **Wood River Hil** **80.55** **22** IAmb IAmb 17 19 58.5
comp=Z,145nm,1.3s
HARP **HAARP** **80.61** **24** P **P** **17 19 57.8 +0.6**
baz=241,SNR=16
HARP S **S** **17 29 21.6 -0.6**
baz=241
WAX **Waxell Ridge** **80.66** **26** IAmb IAmb 17 20 00.1
comp=Z,187nm,1.0s
CRQM **Cirque** **80.68** **26** IAmb IAmb 17 20 00.7
comp=Z,180nm,1.0s
CRQE **Cirque** **80.70** **26** P **P** **17 19 58.3 +0.4**
baz=243,SNR=13
CRQE S **S** **17 29 24.0 +0.6**
baz=243
BHPL **Bhopal** **80.70** **294** *e*P **P** **17 19 58.4 -0.2**
VRDI **Verde Repeater** **80.76** **25** IAmb IAmb 17 20 00.4
comp=Z,112nm,0.9s
G22K **Bettles** **80.76** **19** P **P** **17 19 58.3 +0.4**
baz=234
G22K S **S** **17 29 23.4 -0.1**
baz=234
PAX **Paxson** **80.77** **23** P **P** **17 19 58.2 +0.1**
baz=240,SNR=46
PAX S **S** **17 29 22.0 -2.0**

baz=240
H23K Yukon River 80.78 20 IAmb IAmb 17 20 00.2
comp=Z,97nm,0.9s
H23K Yukon River 80.78 20 P **P** **17 19 58.5 +0.5**
baz=236,SNR=88
H23K S **S** **17 29 22.9 -1.0**
baz=236
TGL Tana Glacier 80.81 26 IAmb IAmb 17 20 01.3
comp=Z,140nm,1.1s
COLA College 80.85 21 P **P** **17 19 57.8 -0.6**
COLA IAmb IAmb 17 19 59.2
comp=Z,130nm,0.8s
COLA College 80.85 21 P **P** **17 19 57.7 -0.6**
COLA College 80.85 21 *d* P **P** **17 19 57.4 -1.0**
COLA pmax pmax
comp=Z,104nm,0.9s
COLA College 80.85 21 P **P** **17 19 57.4 -1.0**
baz=238
COLA S **S** **17 29 19.5 -4.9**
baz=238
COLA College 80.85 21 P **P** **17 19 57.4 -1.0**
NRDN NARMADA NAGAR 80.86 294 *e*P **P** **17 19 59.8 +0.4**
F22K John River 80.90 18 P **P** **17 19 59.4 +0.8**
baz=233,SNR=58
F22K S **S** **17 29 24.9 -0.1**
baz=233
HDA Harding Lake 80.94 22 IAmb IAmb 17 20 00.8
comp=Z,147nm,1.3s
HDA Harding Lake 80.94 22 P **P** **17 19 58.2 -0.7**
baz=239,SNR=66
HDA S **S** **17 29 21.9 -3.5**
baz=239
E21K Killik River 80.94 17 IAmb IAmb 17 20 01.2
comp=Z,90nm,0.9s
E21K Killik River 80.94 17 P **P** **17 19 59.5 +0.7**
baz=231,SNR=71
E21K S **S** **17 29 25.7 +0.3**
baz=231
MESA MESA 80.94 27 IAmb IAmb 17 20 01.8
comp=Z,142nm,1.0s
MESA MESA 80.94 27 P **P** **17 20 00.2 +0.9**
baz=244,SNR=16
MESA S **S** **17 29 25.6 -0.4**
baz=244
ISLE Juniper Island 80.96 26 IAmb IAmb 17 20 01.4
comp=Z,125nm,1.0s
GUNA GUNA 81.01 296 *e*P **P** **17 20 00.6 +0.4**
MCARA McCarthy VSAT 81.02 25 IAmb IAmb 17 20 02.3
comp=Z,147nm,1.0s
MCARA McCarthy VSAT 81.02 25 P **P** **17 19 59.9 +0.5**
baz=243,SNR=34
MCARA S **S** **17 29 26.0 -0.3**
baz=243
K24K Donnelly Dome 81.07 23 IAmb IAmb 17 20 01.5
comp=Z,88nm,0.8s
K24K Donnelly Dome 81.07 23 P **P** **17 19 59.8 +0.2**
baz=240,SNR=59
K24K S **S** **17 29 24.9 -1.9**
baz=240
B20K Meade River 81.08 15 IAmb IAmb 17 20 01.8
comp=Z,94nm,0.9s
B20K Meade River 81.08 15 P **P** **17 20 00.1 +0.6**
baz=228,SNR=28
B20K S **S** **17 29 26.0 -0.6**
baz=228
YAH Yahtse 81.12 27 IAmb IAmb 17 20 02.6
comp=Z,97nm,1.0s
G23K Bananza Creek 81.12 19 P **P** **17 20 00.5 +0.7**
baz=235,SNR=98
G23K S **S** **17 29 27.7 +0.5**
baz=235
UGON Onchagaon 81.12 299 *e*P **P** **17 20 01.2 +0.6**
ILAR Eielson Array 81.15 22 P **P** **17 19 58.5 -1.5**
ILAR Eielson Array 81.15 22 P **P** **17 19 58.7 -1.2**
comp=Z,37nm,0.7s,baz=238,slow=5.6,SNR=191
ILAR pP **pP** **17 21 50.4 +1.0**
comp=Z,8.8nm,0.9s,baz=238,slow=4.6,SNR=4.8
ILAR S **S** **17 29 23.6 -3.9**
comp=Z,2.9nm,1.1s,baz=235,slow=12,SNR=11
ILAR PKPPKP **P'P'df** **17 46 30.3 -5.0**
comp=Z,0.8nm,0.8s,baz=29,slow=2.1,SNR=4.5
comp=Z,37nm,0.7s
C21K Knifeblade Rid 81.16 16 P **P** **17 20 01.0 +1.1**
baz=231,SNR=93
C21K S **S** **17 29 28.0 +0.4**
baz=231
COLD Coldfoot 81.36 19 P **P** **17 20 01.7 +0.8**
baz=235,SNR=21
COLD S **S** **17 29 29.7 +0.2**
baz=235
DDI Dehra Dun 81.36 301 *e*P **P** **17 20 02.3 +0.5**
DDI IAmb IAmb 17 20 06.2
comp=Z,76nm,0.8s
H24K Noodor Dome 81.36 20 P **P** **17 20 00.3 -0.8**
baz=238,SNR=54
H24K S **S** **17 29 27.4 -2.4**
baz=238
E22K Anaktuvuk Pass 81.39 18 P **P** **17 20 01.9 +0.7**
baz=234,SNR=56
E22K S **S** **17 29 29.7 -0.3**
baz=234
RIDG Independent Ri 81.39 23 P **P** **17 20 01.4 +0.1**
baz=241,SNR=103
RIDG S **S** **17 29 29.1 -1.1**
baz=241
KLP Kalpa 81.42 303 *e*P **P** **17 20 02.6 +0.1**
TABL Table Mountain 81.42 27 IAmb IAmb 17 20 04.0
comp=Z,177nm,0.9s
MENT Mentasta 81.45 24 P **P** **17 20 02.5 +0.9**
BARN Barnard Glacie 81.46 26 IAmb IAmb 17 20 04.4
comp=Z,138nm,1.0s
M26K Nabesna, AK 81.50 25 **S** **17 29 31.7 +0.4**
M26K Nabesna, AK 81.50 25 P **P** **17 20 02.3 +0.4**
baz=243,SNR=44
M26K S **S** **17 29 31.2 -0.1**
baz=243
B21K Ikpikpuk River 81.50 16 P **P** **17 20 02.3 +0.6**
baz=231,SNR=24
B21K S **S** **17 29 30.9 0.0**
baz=231
CTG Chitna Glacier 81.56 26 P **P** **17 20 03.2 +0.9**
baz=244,SNR=63
CTG S **S** **17 29 32.5 +0.3**
baz=244
CTGM Chitina Glacie 81.56 26 IAmb IAmb 17 20 04.8
comp=Z,158nm,0.9s
D22K Ayikyak River 81.58 17 IAmb IAmb 17 20 05.0
comp=Z,138nm,0.9s
D22K Ayikyak River 81.58 17 P **P** **17 20 03.2 +1.1**
baz=233,SNR=124
D22K S **SKSac** **17 29 32.8 -0.1**
baz=233
J25K Salcha River, 81.63 22 IAmb IAmb 17 20 04.2
comp=Z,111nm,0.8s
J25K Salcha River, 81.63 22 P **P** **17 20 02.5 0.0**
baz=240,SNR=239
J25K S **S** **17 29 30.5 -2.0**
baz=240
L26K Log Cabin Wild 81.64 24 P **P** **17 20 03.2 +0.7**
baz=242,SNR=63
L26K S **S** **17 29 32.7 +0.1**
baz=242
LOGN Logan Glacier 81.65 26 IAmb IAmb 17 20 05.2
comp=Z,93nm,0.8s
DOT Dot Lake 81.66 23 IAmb IAmb 17 20 04.6
comp=Z,117nm,0.9s
PCA Pinnacle 81.67 27 IAmb IAmb 17 20 05.2
comp=Z,191nm,1.1s
PINM Pinnacle 81.68 27 P **P** **17 20 03.6 +0.8**
baz=245,SNR=33
PINM S **S** **17 29 33.7 +0.5**
baz=245
NDI New Delhi 81.79 300 *e*P **P** **17 20 04.7 +0.6**
NPLP NPLP New Delhi 81.82 300 *e*P **P** **17 20 04.7 +0.4**
SONA Sohna 81.83 299 *e*P **P** **17 20 04.8 +0.6**
SONA IAmb IAmb 17 20 06.0
comp=Z,153nm,0.9s
AYAN Aya Nagar 81.83 300 *e*P **P** **17 20 04.8 +0.6**
SCRK Sand Creek 81.84 23 P **P** **17 20 03.9 +0.2**
baz=242,SNR=67
SCRK S **S** **17 29 34.3 -0.5**
baz=242
MK31 Makanchi Array 81.85 318 *i* P **P** **17 20 04.5 +0.5**
MKAR Makanchi Array 81.85 318 P **P** **17 20 04.6 +0.5**
comp=Z,150nm,0.8s,baz=105,slow=5.3,SNR=601
MKAR pP **pwP** **17 21 56.0 -1.0**
comp=Z,27nm,0.9s,baz=97,slow=6.4,SNR=6.4
MKAR PKiKP **PKiKP** **17 25 22.2 -0.3**
comp=Z,2.4nm,0.9s,baz=81,slow=4.5,SNR=2.5
MKAR S **S** **17 29 30.3 -5.1**
comp=Z,1.8nm,1.0s,baz=96,slow=7.4,SNR=7.7
MKAR PKKPbc **PKKPbc** **17 38 31.3 -1.6**
comp=Z,1.6nm,0.6s,baz=287,slow=1.9,SNR=14
MKAR PKPPKP **P'P'df** **17 46 37.0 +1.7**
comp=Z,5.8nm,1.1s,baz=304,slow=2.8,SNR=16
comp=Z,150nm,0.8s
PNL Peninsula 81.89 28 P **P** **17 20 04.5 +0.6**
PNL Peninsula 81.89 28 P **P** **17 20 04.5 +0.6**
baz=246,SNR=60
PNL S **S** **17 29 35.5 +0.2**
baz=246
BCPM Bancas Point 81.90 27 IAmb IAmb 17 20 06.4
comp=Z,153nm,0.8s
M27K Edge Creek, AK 81.94 25 IAmb IAmb 17 20 07.0
comp=Z,188nm,0.9s
M27K Edge Creek, AK 81.94 25 P **P** **17 20 05.4 +1.1**
baz=244,SNR=250
M27K S **SKSac** **17 29 36.8 +1.0**
baz=244
G24K Hadweenzic Riv 81.96 20 P **P** **17 20 04.7 +0.6**
baz=238,SNR=82
G24K S **S** **17 29 35.9 +0.2**
baz=238
O28M Mount Upton 81.99 27 IAmb IAmb 17 20 07.2
comp=Z,120nm,0.8s
O28M Mount Upton 81.99 27 P **P** **17 20 05.4 +0.7**
baz=245,SNR=95
O28M S **S** **17 29 37.2 +0.4**
baz=245
E23K Chandalar 82.02 18 IAmb IAmb 17 20 07.7
comp=Z,154nm,1.2s
E23K Chandalar 82.02 18 P **P** **17 20 05.2 +0.7**
baz=236,SNR=116
E23K S **S** **17 29 37.4 +1.0**
baz=236
PRP Porcupine Dome 82.03 21 P **P** **17 20 03.1 -1.5**
baz=240
PRP S **SKSac** **17 29 32.4 -3.9**
baz=240
MAKZ Makanchi 82.06 318 P **P** **17 20 05.4 +0.3**
MAKZ IAmb IAmb 17 20 07.8
comp=Z,189nm,0.9s
MAKZ Makanchi 82.06 318 P **P** **17 20 05.4 +0.3**
MAKZ pmax pmax
comp=Z,189nm,1.0s
A21K Barrow 82.10 14 P **P** **17 20 05.1 +0.5**
baz=228
A21K S **SKSac** **17 29 36.6 +0.5**
baz=228
D23K Nanushuk River 82.22 17 P **P** **17 20 06.8 +1.4**
baz=234,SNR=242
D23K S **S** **17 29 39.6 +1.4**
baz=234
J26L Joseph Creek 82.25 23 P **P** **17 20 06.2 +0.4**
baz=242,SNR=80
J26L S **SKSac** **17 29 38.6 +0.9**
baz=242
SMLA Simla 82.25 302 *e*P **P** **17 20 06.8 +0.5**
F24K Squaw Lake 82.26 19 IAmb IAmb 17 20 08.4
comp=Z,134nm,1.0s
F24K Squaw Lake 82.26 19 P **P** **17 20 06.6 +0.9**
baz=237,SNR=146
F24K S **S** **17 29 39.0 +0.2**
baz=237
B22K Teshekpuk Lake 82.28 15 P **P** **17 20 06.0 +0.4**
baz=232,SNR=8.9
B22K S **S** **17 29 38.5 -0.1**
baz=232
L27K Beaver Creek, 82.28 24 P **P** **17 20 06.6 +0.8**
baz=244,SNR=110
L27K S **S** **17 29 39.5 +0.4**
baz=244
YUK3 Moose Creek 82.29 26 P **P** **17 20 06.9 +0.7**
baz=245,SNR=59
YUK3 S **S** **17 29 39.7 +0.1**
baz=245
A22K Sinclair Lake 82.29 15 P **P** **17 20 06.1 +0.4**
baz=230,SNR=6.9
A22K S **S** **17 29 38.4 -0.4**
baz=230
BCAR Beaver Creek A 82.30 24 P **P** **17 20 06.4 +0.4**
H25L Birch Creek 82.30 20 P **P** **17 20 06.4 +0.6**
baz=240,SNR=14
H25L S **SKSac** **17 29 38.0 +0.4**
baz=240
KAAM Kaadhehdhoo 82.32 271 P **P** **17 20 09.3 +2.2**
KUDL Kundal 82.33 299 *e*P **P** **17 20 07.2 +0.5**
KUDL IAmb IAmb 17 20 08.6
comp=Z,131nm,1.1s
TOLK Toolik Lake Re 82.36 18 IAmb IAmb 17 20 08.5
comp=Z,81nm,0.8s
TOLK Toolik Lake Re 82.36 18 P **P** **17 20 06.8 +0.6**
baz=236,SNR=86
TOLK S **S** **17 29 39.5 -0.2**
baz=236
E24K Your Creek 82.38 18 P **P** **17 20 06.7 +0.4**
baz=237,SNR=40
E24K S **S** **17 29 40.6 +0.7**
baz=237
YUK8 Steele Glacier 82.39 26 P **P** **17 20 07.7 +1.0**
baz=246,SNR=98
BVCY Beaver Creek 82.39 25 P **P** **17 20 07.4 +0.9**
baz=244,SNR=49
BVCY S **S** **17 29 42.2 +1.9**
baz=244
ZAA0 Zalesovo Array 82.42 326 IAmb IAmb 17 20 08.3
comp=Z,92nm,0.8s
ZALV Zalesovo Beam 82.42 326 P **P** **17 20 06.3 -0.4**
comp=Z,58nm,0.5s,baz=106,slow=5.2,SNR=244
ZALV pP **pwP** **17 21 58.6 -2.3**
comp=Z,18nm,0.8s,baz=97,slow=5.1,SNR=6.8
ZALV PKiKP **PKiKP** **17 25 24.2 +1.0**
comp=Z,1.7nm,0.7s,baz=126,slow=2.0,SNR=2.8
ZALV S **SKSac** **17 29 35.1 -3.9**
comp=Z,1.7nm,0.8s,baz=122,slow=5.2,SNR=3.8
ZALV PKKPbc **PKKPbc** **17 38 30.4 -1.5**
comp=Z,1.2nm,0.4s,baz=287,slow=2.4,SNR=9.8
ZALV PKPPKP **P'P'df** **17 46 35.3 +1.6**
comp=Z,3.8nm,0.9s,baz=306,slow=3.4,SNR=8.5
comp=Z,58nm,0.5s
G25K Bearman Lake 82.46 20 P **P** **17 20 07.3 +0.7**
baz=239,SNR=42
G25K S **S** **17 29 41.9 +1.4**
baz=239
O29M Mount Kennedy 82.53 27 IAmb IAmb 17 20 10.0
comp=Z,82nm,0.8s
O29M Mount Kennedy 82.53 27 P **P** **17 20 08.2 +0.9**
baz=247,SNR=21
O29M S **S** **17 29 44.2 +2.4**
baz=247
K27K Chicken 82.61 23 IAmb IAmb 17 20 11.1
comp=Z,115nm,1.1s
K27K Chicken 82.61 23 P **P** **17 20 08.6 +1.2**
baz=243,SNR=54
P29M Windy Craggy 82.65 28 P **P** **17 20 08.7 +0.9**
baz=248,SNR=38
P29M S **S** **17 29 44.4 +1.5**
baz=248
FYU Fort Yukon 82.66 20 IAmb IAmb 17 20 10.7
comp=Z,341nm,2.0s
HMDM Hanimaadhoo 82.70 277 P **P** **17 20 10.7 +1.8**
C23K Itkillik River 82.74 16 P **P** **17 20 09.0 +1.0**
baz=234,SNR=94
S31K Pelican 82.77 30 P **P** **17 20 09.1 +0.8**
baz=249,SNR=16
I26K Coal Creek Min 82.79 22 P **P** **17 20 08.5 +0.1**
baz=242
D24K Happy Valley 82.87 17 IAmb IAmb 17 20 11.3
comp=Z,92nm,0.9s
D24K Happy Valley 82.87 17 P **P** **17 20 09.7 +1.1**
baz=236,SNR=56
YUK6 Outpost Mounta 82.87 27 P **P** **17 20 09.9 +0.8**
baz=247,SNR=56
KAD Karad 82.88 288 *e*P **P** **17 20 10.1 +0.2**
KAD IAmb IAmb 17 20 12.0
comp=Z,334nm,0.9s
YUK4 Talbot Arm 82.91 26 P **P** **17 20 10.8 +1.6**
baz=247,SNR=106
PDGK Podgornoye 82.91 315 P **P** **17 20 09.3 -0.3**
SIT Sitka 82.91 31 P **P** **17 20 09.7 +0.6**
baz=250,SNR=10
BHK Bhakra 82.94 302 *e*P **P** **17 20 08.0 -1.8**
F25K Christian Rive 83.04 19 P **P** **17 20 10.7 +1.1**
baz=240,SNR=82
R31K City Hall, Gus 83.17 30 P **P** **17 20 11.1 +0.8**
baz=250
P30M Million Dollar 83.20 28 P **P** **17 20 11.6 +1.0**
baz=248
HYT Haines Junctio 83.22 27 P **P** **17 20 11.7 +1.0**
baz=248,SNR=220
C24K Franklin Bluff 83.22 17 P **P** **17 20 11.4 +1.0**
baz=236
PAF Port-aux-Franc 83.23 221 P **P** **17 20 11.6 +0.7**
PAF Port-aux-Franc 83.23 221 P **P** **17 20 11.6 +0.7**
PAF pmax pmax
comp=Z,549nm,1.4s
PLBC Pleasant Camp 83.24 29 P **P** **17 20 11.2 +0.5**
baz=249,SNR=46
H02S1 DAWSON INLET T 83.24 35 P **P** **17 20 11.7 +1.0**
SNR=20
BMAR Burnt Mountain 83.31 20 P **P** **17 20 11.8 +0.8**
E25K Arctic Village 83.33 19 P **P** **17 20 11.9 +0.9**
baz=240,SNR=48
G26K Porcupine Rive 83.35 20 P **P** **17 20 12.2 +1.1**
baz=241,SNR=112
POO Poona 83.35 289 *e*P **P** **17 20 12.4 +0.2**
M29M Somme Creek 83.42 25 P **P** **17 20 12.5 +0.8**
baz=247,SNR=72
S32K Killisnoo 83.43 31 P **P** **17 20 12.7 +1.1**
baz=251,SNR=7.2
I27K Kandik River 83.50 22 P **P** **17 20 12.8 +0.8**
baz=244,SNR=85
MOBC Moresby Island 83.52 35 IAmb IAmb 17 20 14.7
comp=Z,99nm,1.1s
CRAG Craig 83.56 33 P **P** **17 20 13.2 +0.9**
baz=252,SNR=17
F26K Sheenjek River 83.58 20 IAmb IAmb 17 20 15.2
comp=Z,116nm,1.3s
F26K Sheenjek River 83.58 20 P **P** **17 20 13.5 +1.2**
baz=241,SNR=74
N30M Aishikik Lake 83.64 27 IAmb IAmb 17 20 15.4
comp=Z,134nm,1.5s
N30M Aishikik Lake 83.64 27 P **P** **17 20 13.6 +0.9**
baz=248,SNR=49
DAWY Dawson 83.69 24 IAmb IAmb 17 20 15.6
comp=Z,102nm,1.2s
DAWY Dawson 83.69 24 P **P** **17 20 14.0 +1.0**
baz=246,SNR=48
D25K Kavik River 83.70 18 P **P** **17 20 12.9 0.0**
baz=239,SNR=70
R32K Eaglecrest 83.73 30 P **P** **17 20 14.1 +0.9**
baz=251
SKAG Skagway 83.74 29 IAmb IAmb 17 20 16.6
comp=Z,144nm,1.4s
SKAG Skagway 83.74 29 P **P** **17 20 13.9 +0.7**
baz=250,SNR=9.1
U33K Whale Pass 83.76 32 IAmb IAmb 17 20 15.9
comp=Z,102nm,1.1s
U33K Whale Pass 83.76 32 P **P** **17 20 14.3 +1.0**
baz=252,SNR=18
H27K Steamboat Moun 83.81 21 IAmb IAmb 17 20 16.2
comp=Z,110nm,0.9s
H27K Steamboat Moun 83.81 21 P **P** **17 20 14.5 +1.0**
baz=244,SNR=152
L29M L29M 83.83 25 P **P** **17 20 14.8 +1.2**
baz=247,SNR=89
L29M S **S** **17 29 55.2 +0.8**
baz=247
O30N Mendenhall 83.84 27 IAmb IAmb 17 20 16.2
comp=Z,99nm,1.1s
O30N Mendenhall 83.84 27 P **P** **17 20 14.6 +0.8**
baz=249,SNR=69
O30N S **S** **17 29 55.2 +0.6**
baz=249
G27K Doyon Strip 84.03 21 P **P** **17 20 15.5 +1.0**
baz=243,SNR=70
G27K S **S** **17 29 57.1 +1.0**
baz=243
TDK Taldyqorghan 84.04 316 *e*P **P** **17 20 15.2 +0.2**
TDK pmax pmax
comp=Z,229nm,1.5s
TDK Taldyqorghan 84.04 316 *e*P **P** **17 20 15.3 +0.2**
comp=Z,230nm,1.5s
I28M Miner Creek 84.06 22 P **P** **17 20 15.3 +0.5**
baz=245,SNR=63
T33K Petersburg 84.06 32 P **P** **17 20 15.6 +0.8**
baz=252
M30M Minto, Yukon 84.19 26 IAmb IAmb 17 20 18.1
comp=Z,109nm,1.2s
M30M Minto, Yukon 84.19 26 P **P** **17 20 16.3 +0.9**
baz=248,SNR=107
M30M S **S** **17 29 59.1 +1.1**
baz=248
N31M Braeburn, Yuko 84.24 27 IAmb IAmb 17 20 18.5
comp=Z,153nm,0.9s
N31M Braeburn, Yuko 84.24 27 P **P** **17 20 16.8 +1.1**
baz=249,SNR=51
N31M S **S** **17 30 00.1 +1.6**
baz=249
WRAK Wrangell Islan 84.26 32 P **P** **17 20 16.8 +1.0**
baz=253,SNR=22
ARXS Arharly 84.28 315 *e*P **P** **17 20 14.3 -2.0**
KDJ Kajisay 84.32 313 IAmb IAmb 17 20 19.7
comp=Z,95nm,0.8s
J29N Klondike Camp 84.32 24 IAmb IAmb 17 20 20.0
comp=Z,97nm,0.8s
J29N Klondike Camp 84.32 24 P **P** **17 20 17.5 +1.4**
baz=247,SNR=17
J29N S **S** **17 30 00.1 +0.9**
baz=247
V35K Ketchikan 84.34 33 P **P** **17 20 16.9 +0.7**
baz=253,SNR=25
WHY Whitehorse 84.36 28 IAmb IAmb 17 20 18.8
comp=Z,126nm,1.0s
WHY Whitehorse 84.36 28 P **P** **17 20 17.1 +0.7**
baz=250,SNR=52
WHY S **S** **17 30 01.1 +1.3**
baz=250
K29M Barlow Dome 84.36 24 IAmb IAmb 17 20 19.9
comp=Z,169nm,1.1s
K29M Barlow Dome 84.36 24 P **P** **17 20 17.5 +1.2**
baz=247,SNR=153
K29M S **S** **17 30 00.7 +1.0**
baz=247
JMU Jammu 84.42 303 *e*P **P** **17 20 17.9 +0.7**
C26K Camden Bay 84.44 17 P **P** **17 20 18.1 +1.6**
baz=240,SNR=64
C26K S **S** **17 30 01.1 +1.1**
baz=240
P32M Atlin 84.56 29 P **P** **17 20 18.1 +0.9**
baz=251,SNR=26
P32M S **S** **17 30 02.6 +1.0**
baz=251
I29M Ogilvie Camp, 84.65 23 IAmb IAmb 17 20 19.8
comp=Z,87nm,0.7s
I29M Ogilvie Camp, 84.65 23 P **P** **17 20 18.0 +0.4**
baz=247,SNR=105
I29M S **S** **17 30 01.9 -0.3**
baz=247
C27K Jago River 84.66 18 IAmb IAmb 17 20 20.4
comp=Z,109nm,0.9s
C27K Jago River 84.66 18 P **P** **17 20 18.5 +1.0**
baz=241,SNR=88
C27K S **S** **17 30 02.6 +0.4**
baz=241
TNSS Tian-Shan 84.67 314 *e*P **P** **17 20 18.2 -0.4**
TNSS Tian-Shan 84.67 314 *e*P **P** **17 20 18.3 -0.4**
E27K Coleen River 84.67 20 IAmb IAmb 17 20 20.5
comp=Z,127nm,0.8s
E27K Coleen River 84.67 20 P **P** **17 20 18.8 +1.2**
baz=243,SNR=146
E27K S **S** **17 30 03.4 +1.0**
baz=243
KSH Kashi 84.72 310 P **P** **17 20 21.0 +2.3**
KSH pP pwP 17 22 12.7 +0.1
KSH SKS **SKSac** **17 29 55.1 +0.5**
KSH S **ScS** **17 30 10.3 -2.0**
KSH pmax pmax
comp=Z,55nm,2.2s
KSH pmax pmax
comp=Z,1μm,3.3s
CHKK Chushkaly 84.80 315 *e*P **P** **17 20 18.8 0.0**
CHKK Chushkaly 84.80 315 *e*P **P** **17 20 18.8 0.0**
MAYO Mayo, Yukon 84.94 25 P **P** **17 20 20.3 +1.3**
baz=249
MAYO S **S** **17 30 05.5 +0.3**
baz=249
H29M Whitestone 84.97 22 IAmb IAmb 17 20 21.5
comp=Z,180nm,1.8s
H29M Whitestone 84.97 22 P **P** **17 20 19.7 +0.6**
baz=246,SNR=24
H29M S **S** **17 30 05.4 +0.1**
baz=246
F28M Old Crow 85.00 20 IAmb IAmb 17 20 21.9

comp=Z,92nm,0.9s
F28M Old Crow 85.00 20 P **P 17 20 20.3 +1.0**
baz=245,SNR=22
F28M S **S 17 30 06.8 +1.2**
baz=245
ULHL Ulahol 85.02 313 P **P 17 20 21.0 +0.8**
SNR=66
Q32M Nakina River 85.06 30 IAmb IAmb 17 20 22.8
comp=Z,116nm,1.4s
Q32M Nakina River 85.06 30 P **P 17 20 21.1 +1.1**
baz=253,SNR=38
Q32M S **S 17 30 08.6 +1.7**
baz=253
M31M Drury Creek, Y 85.10 26 IAmb IAmb 17 20 22.0
comp=Z,70nm,0.8s
M31M Drury Creek, Y 85.10 26 P **P 17 20 20.3 +0.4**
baz=250,SNR=82
M31M S **S 17 30 07.0 +0.3**
baz=250
J30M Hart River 85.12 24 IAmb IAmb 17 20 23.5
comp=Z,144nm,0.9s
J30M Hart River 85.12 24 P **P 17 20 21.0 +1.0**
baz=248,SNR=216
J30M S **S 17 30 08.1 +1.0**
baz=248
HOLB Holberg 85.17 38 IAmb IAmb 17 22 17.1
comp=Z,131nm,1.3s
P33M Teslin, Yukon 85.18 28 P **P 17 20 20.8 +0.4**
baz=252,SNR=33
P33M S **S 17 30 08.4 +0.7**
baz=252
KURK Kurchatov 85.19 322 P **P 17 20 20.1 -0.4**
KURK IAmb IAmb 17 20 23.1
comp=Z,112nm,1.2s
KURK Kurchatov 85.19 322 P **P 17 20 20.3 -0.2**
KURK Kurchatov 85.19 322 P **P 17 20 20.1 -0.4**
KURK pmax pmax
comp=Z,112nm,1.3s
KURBB Kurchatov Arra 85.22 322 P **P 17 20 20.3 -0.4**
comp=Z,23nm,0.8s,baz=104,slow=4.3,SNR=108
KURBB pP **pP 17 22 13.1 +2.5**
comp=Z,7.7nm,0.8s,baz=106,slow=3.8,SNR=4.9
KURBB S **SKSac 17 29 53.4 -3.5**
comp=Z,0.7nm,0.3s,baz=121,slow=5.9,SNR=2.0
KURBB PKKPbc **PKKPbc 17 38 24.1 -1.0**
comp=Z,3.4nm,0.6s,baz=286,slow=3.3,SNR=26
KURBB PKPPKP **P'P'df 17 46 28.7 -0.1**
comp=Z,8.2nm,1.2s,baz=293,slow=2.4,SNR=9.6
comp=Z,23nm,0.8s
KURBB Kurchatov Arra 85.22 322 P **P 17 20 19.5 -1.1**
QSPA South Pole Qui 85.27 180 **P 17 20 21.6 +0.8**
QSPA South Pole Qui 85.27 180 P **P 17 20 21.5 +0.8**
comp=Z,307nm,1.0s,baz=4.2,slow=2.0,SNR=361
QSPA S **SKSac 17 29 56.7 -0.3**
QSPA PKKPbc **PKKPbc 17 38 22.4 -4.0**
comp=Z,3.9nm,1.0s,baz=90,slow=20,SNR=19
comp=Z,4.7nm,0.8s,baz=190,slow=2.0,SNR=18
comp=Z,307nm,1.0s
BOOM Boomskoye usch 85.29 313 IAmb IAmb 17 20 25.1
comp=Z,225nm,1.6s
S34M Telegraph Cree 85.33 31 IAmb IAmb 17 20 24.0
comp=Z,114nm,0.9s
S34M Telegraph Cree 85.33 31 P **P 17 20 22.3 +1.3**
baz=254,SNR=59
I30M Mount Dempster 85.34 23 IAmb IAmb 17 20 23.4
comp=Z,103nm,0.9s
I30M Mount Dempster 85.34 23 P **P 17 20 21.8 +0.7**
baz=248,SNR=94
I30M S **S 17 30 09.7 +0.6**
baz=248
D27M Malcolm River 85.35 19 IAmb IAmb 17 20 23.9
comp=Z,109nm,0.9s
D27M Malcolm River 85.35 19 P **P 17 20 22.2 +1.3**
baz=244,SNR=25
D27M S **S 17 30 09.8 +0.8**
baz=244
N32M Quiet Lake 85.35 28 P **P 17 20 22.0 +0.9**
baz=252
U35K Hyder 85.37 33 P **P 17 20 22.0 +0.8**
baz=255
G29M Pine Creek 85.37 21 P **P 17 20 21.8 +0.7**
baz=247,SNR=112
G29M S **S 17 30 09.9 +0.7**
baz=247
T35M Bob Quinn 85.53 32 IAmb IAmb 17 20 24.9
comp=Z,89nm,1.1s
T35M Bob Quinn 85.53 32 P **P 17 20 23.1 +1.0**
baz=254,SNR=46
E28M Babbage River 85.54 20 IAmb IAmb 17 20 24.6
comp=Z,141nm,1.2s
E28M Babbage River 85.54 20 P **P 17 20 22.9 +1.1**
baz=245,SNR=60
E28M S **S 17 30 10.1 -0.6**
baz=245
FARO Faro, Yukon 85.57 26 P **P 17 20 22.6 +0.4**
baz=251,SNR=63
FARO S **S 17 30 11.2 -0.1**
baz=251
TKM2 Tokmak 2 85.62 314 P **P 17 20 23.4 +0.4**
SNR=98
EPYK Eagle Plains 85.64 22 P **P 17 20 23.1 +0.8**
baz=248,SNR=139
EPYK S **S 17 30 12.0 +0.2**
baz=248
R33M Jennings River 85.83 30 IAmb IAmb 17 20 26.4
comp=Z,92nm,1.1s
R33M Jennings River 85.83 30 P **P 17 20 24.6 +1.0**
baz=254,SNR=75
R33M S **S 17 30 15.2 +1.1**
baz=254
KMPM Mount Pierce 85.90 49 IAmb IAmb 17 22 21.9
comp=Z,93nm,1.1s
NIL Nilore 85.93 304 P **P 17 20 24.4 -0.1**
NIL IAmb IAmb 17 20 27.8
comp=Z,83nm,1.2s
NIL Nilore 85.93 304 P **P 17 20 26.0 +1.5**
NIL Nilore 85.93 304 P **P 17 20 24.4 -0.1**
NIL pmax pmax
comp=Z,83nm,1.2s
E29M Blow River 86.00 20 P **P 17 20 24.4 +0.4**
baz=247,SNR=29
E29M S **S 17 30 15.2 +0.2**
baz=247
DLBC Dease Lake 86.04 31 P **P 17 20 25.6 +1.1**
baz=254,SNR=52
DLBC S **S 17 30 18.1 +2.1**
baz=254
KBK Karagaybulak 86.04 313 P **P 17 20 25.5 +0.5**
SNR=21
G30M tAoh Zraii Nji 86.05 22 IAmb IAmb 17 20 27.1
comp=Z,151nm,1.2s
G30M tAoh Zraii Nji 86.05 22 P **P 17 20 24.6 +0.2**
baz=248,SNR=63
G30M S **S 17 30 15.3 -0.4**
baz=248
KRPM Rodgers 86.10 48 IAmb IAmb 17 22 23.1
comp=Z,75nm,1.2s
D28M Stokes Point 86.10 19 P **P 17 20 25.4 +0.9**
baz=246
D28M S **S 17 30 16.1 +0.2**
baz=246
KBO Bosley Butte 86.13 47 IAmb IAmb 17 22 23.0
comp=Z,171nm,1.3s
KEBM Edson Butte 86.16 47 IAmb IAmb 17 22 22.9
comp=Z,77nm,1.2s
KMRM Mail Ridge 86.18 49 IAmb IAmb 17 22 23.3
comp=Z,120nm,1.3s
CHMS Chumysh 86.24 314 P **P 17 20 26.2 +0.4**
SNR=37
KHMM Horse Mountain 86.27 49 IAmb IAmb 17 22 25.4
comp=Z,78nm,1.2s
UCH Uchtor 86.28 313 P **P 17 20 27.2 +0.7**
SNR=45
FRU1 Bishkek 86.30 313 IAmb IAmb 17 20 28.7
comp=Z,73nm,0.9s
H31M Peel River 86.34 23 IAmb IAmb 17 20 27.9
comp=Z,108nm,0.9s
H31M Peel River 86.34 23 P **P 17 20 26.3 +0.6**
baz=250,SNR=62
H31M S **S 17 30 18.8 +0.3**
baz=250
AAK Ala-Archa 86.37 313 P **P 17 20 27.2 +0.6**
SNR=21
AAK Ala-Archa 86.37 313 P **P 17 20 26.8 +0.2**
AAK Ala-Archa 86.37 313 P **P 17 20 27.2 +0.6**
comp=Z,44nm,0.9s,baz=101,slow=5.6,SNR=33
AAK pP **pP 17 22 18.9 +1.5**
comp=Z,23nm,0.9s,baz=97,slow=3.3,SNR=2.0
AAK S **SKSac 17 30 03.4 -1.2**
comp=Z,1.8nm,0.3s,baz=60,slow=20,SNR=2.0
comp=Z,44nm,0.9s
AAK Ala-Archa 86.37 313 P **P 17 20 27.5 +0.9**
AAK Ala-Archa 86.37 313 *d* P **P 17 20 27.0 +0.4**
AAK pmax pmax
comp=Z,54nm,0.8s
AAK Ala-Archa 86.37 313 P **P 17 20 26.8 +0.2**
SGDS Scgindy 86.41 314 *e*P **P 17 20 26.6 -0.1**
F30M Barrier River 86.44 21 P **P 17 20 26.7 +0.6**
baz=249,SNR=66
F30M S **S 17 30 19.8 +0.5**
baz=249
USP Ospenovka 86.47 314 P **P 17 20 27.2 +0.3**
SNR=16
J01E Myrtle Point 86.50 46 IAmb IAmb 17 22 24.3
comp=Z,148nm,1.4s
MAW Mawson 86.61 203 P **P 17 20 27.6 +0.6**
comp=Z,44nm,0.9s,baz=90,slow=7.2,SNR=93
MAW S **SKSac 17 30 05.6 +0.8**
comp=Z,1.0nm,0.8s,baz=102,slow=19,SNR=1.6
comp=Z,44nm,0.9s
MMPY Sheldon Lake, 86.62 26 IAmb IAmb 17 20 29.8
comp=Z,85nm,1.1s
MMPY Sheldon Lake, 86.62 26 P **P 17 20 28.2 +1.0**
baz=253,SNR=60
MMPY S **S 17 30 22.0 +0.7**
baz=253
NRIK Noril'sk 86.65 341 P **P 17 20 26.6 -0.5**
comp=Z,54nm,0.9s,baz=110,slow=6.3,SNR=42
NRIK pP **pP 17 22 18.8 +0.8**
comp=Z,106nm,0.9s,baz=110,slow=5.8,SNR=13
NRIK S **SKSac 17 30 04.9 0.0**
comp=Z,1.0nm,0.4s,baz=166,slow=12,SNR=11
NRIK PKPPKP **P'P'df 17 46 26.6 +1.6**
comp=Z,1.2nm,0.4s,baz=314,slow=3.2,SNR=5.3
comp=Z,54nm,0.9s
NRIK Noril'sk 86.65 341 *d* P **P 17 20 26.2 -0.9**
NRIK pmax pmax
comp=Z,58nm,1.0s
I02E Swisshome, OR 86.72 45 IAmb IAmb 17 22 26.4
comp=Z,214nm,1.8s
G31M Satah River 86.75 22 P **P 17 20 28.1 +0.6**
baz=250,SNR=66
G31M S **S 17 30 21.9 -0.3**
baz=250
CBB Campbell River 86.77 39 IAmb IAmb 17 22 25.2
comp=Z,114nm,1.2s
EKS2 Erkin-Say 86.89 313 P **P 17 20 29.6 +0.7**
SNR=38
WTLY Watson Lake, Y 87.08 29 IAmb IAmb 17 20 32.1
comp=Z,97nm,1.1s
WTLY Watson Lake, Y 87.08 29 P **P 17 20 30.2 +0.8**
baz=256,SNR=24
WTLY S **S 17 30 26.7 +1.0**
baz=256
BTLS Baital 87.09 315 *d* P **P 17 20 29.6 -0.1**
BTLS pmax pmax
comp=Z,74nm,1.6s
BTLS Baital 87.09 315 ‖ *i* P **P 17 20 29.6 -0.1**
comp=Z,74nm,1.6s
F31M Tsiigehtchic 87.12 21 IAmb IAmb 17 20 32.0
comp=Z,129nm,1.3s
F31M Tsiigehtchic 87.12 21 P **P 17 20 29.5 +0.2**
baz=251,SNR=12
F31M S **S 17 30 24.4 -1.2**
baz=251
F03A Seaside 87.23 44 IAmb IAmb 17 22 27.8
comp=Z,114nm,1.2s
NLWA Neilton Lookou 87.26 42 IAmb IAmb 17 22 28.7
comp=Z,72nm,1.2s
E03A Lebam 87.33 43 IAmb IAmb 17 22 28.8
comp=Z,117nm,1.0s
CLRS Cowichan Lake 87.34 41 IAmb IAmb 17 22 27.9
comp=Z,81nm,1.3s
BUCK Buck Mountain 87.35 45 IAmb IAmb 17 22 29.5
comp=Z,175nm,1.5s
INK Inuvik 87.48 21 IAmb IAmb 17 20 32.7
comp=Z,89nm,1.2s
INK Inuvik 87.48 21 P **P 17 20 31.0 0.0**
baz=251,SNR=21
INK S **S 17 30 26.8 -2.1**
baz=251
L04D Klamath Falls 87.54 47 IAmb IAmb 17 22 31.2
comp=Z,103nm,1.5s
H04D Lebanon 87.57 45 IAmb IAmb 17 22 29.6
comp=Z,163nm,1.7s
TGTN Hyland Airport 87.68 28 P **P 17 20 33.1 +0.9**
baz=256,SNR=14
TGTN S **S 17 30 32.4 +1.2**
baz=256
BBGB Big Mountain B 87.72 53 IAmb IAmb 17 22 30.4
comp=Z,77nm,1.1s
ORV Oroville 87.76 50 IAmb IAmb 17 20 34.8
comp=Z,135nm,2.0s
DRK Karamyk 87.90 310 IAmb IAmb 17 20 37.7
comp=Z,93nm,1.4s
HATC Hat Creek Radi 87.96 49 IAmb IAmb 17 22 33.3
comp=Z,65nm,1.2s
GNW Green Mountain 87.99 42 IAmb IAmb 17 22 30.4
comp=Z,122nm,1.8s
AFDM Forest Hills D 88.09 51 IAmb IAmb 17 20 36.7
comp=Z,73nm,1.4s
LIRD Liard River Hi 88.25 30 P **P 17 20 35.5 +0.7**
baz=258,SNR=16
LIRD S **S 17 30 37.0 +0.5**
baz=258
A04D Lummi Island 88.25 41 IAmb IAmb 17 22 33.9
comp=Z,90nm,1.2s
HOOD Mount Hood Mea 88.45 44 IAmb IAmb 17 20 38.6
comp=Z,87nm,1.3s
J05D Fort Rock, OR 88.47 47 IAmb IAmb 17 20 38.5
comp=Z,70nm,1.2s
TOAD Toad River Com 88.57 31 P **P 17 20 36.8 +0.5**
baz=259,SNR=13
TOAD S **S 17 30 38.9 -0.7**
baz=259
K05A Summer Lake 88.64 47 IAmb IAmb 17 20 39.4
comp=Z,66nm,1.2s
G05A Wamic 88.68 45 IAmb IAmb 17 20 53.6
comp=Z,107nm,1.4s
DZA Taraz 88.71 313 *e*P **P 17 20 37.2 -0.1**
DZA Taraz 88.71 313 *e*P **P 17 20 37.3 -0.1**
MPK Martis Peak 88.86 51 IAmb IAmb 17 20 41.7
comp=Z,110nm,1.1s
GAR Garm 88.98 309 IAmb IAmb 17 20 41.8
comp=Z,92nm,1.1s
WAKR Walker 89.22 51 IAmb IAmb 17 20 42.7
comp=Z,86nm,1.4s
KK31 Karatay Array 89.33 313 *i* P **P 17 20 39.7 -0.5**
KKAR Karatay Array 89.33 313 P **P 17 20 39.5 -0.7**
KKAR Karatay Array 89.33 313 P **P 17 20 39.5 -0.7**
OSI Osito Audit: C 89.37 55 IAmb IAmb 17 24 20.0
comp=Z,36nm,0.6s
LTY Liberty 89.39 43 IAmb IAmb 17 20 41.8
comp=Z,72nm,1.5s
PAHR Pah Rah Range 89.40 50 IAmb IAmb 17 20 43.0
comp=Z,69nm,1.4s
KOTAN Kotaneelee Air 89.41 30 P **P 17 20 40.7 +0.5**
baz=260,SNR=12
KOTAN S **S 17 30 48.0 +1.0**
baz=260
KBL Kabul 89.50 305 P **P 17 20 40.5 -1.0**
KBL Kabul 89.50 305 P **P 17 20 41.7 +0.3**
SNR=9.1
KBL Kabul 89.50 305 P **P 17 20 40.5 -1.0**
KBL pmax pmax
comp=Z,25nm,1.0s
IUG luzhnay 89.57 312 *e*P **P 17 20 41.1 -0.3**
IUG pmax pmax
comp=Z,61nm,1.8s
IUG luzhnay 89.57 312 *e*P **P 17 20 41.2 -0.3**
comp=Z,62nm,1.8s
ISA Isabella, Lake 89.68 54 IAmb IAmb 17 23 53.6
comp=Z,74nm,1.0s
F07A Phinny Hill Vi 89.73 44 IAmb IAmb 17 20 43.9
comp=Z,53nm,1.2s
BRLS Borolday 89.81 313 *e*P **P 17 20 42.7 +0.2**
BRLS Borolday 89.81 313 *e*P **P 17 20 42.7 +0.2**
I07A Izee 89.81 46 IAmb IAmb 17 20 44.5
comp=Z,60nm,1.3s
E07A Sunnyside 89.86 43 IAmb IAmb 17 20 44.4
comp=Z,63nm,1.2s
CHM Chimkent 89.90 312 *e*P **P 17 20 42.9 0.0**
CHM Chimkent 89.90 312 *e*P **P 17 20 42.9 0.0**
RYN Ryan 89.95 51 IAmb IAmb 17 20 46.4
comp=Z,81nm,1.2s
HAWA Hanford 90.06 44 IAmb IAmb 17 20 45.4
comp=Z,57nm,1.2s
NVAR Mina Array Bea 90.10 52 P **P 17 20 44.4 +0.3**
NVAR Mina Array Bea 90.10 52 P **P 17 20 44.7 +0.5**
comp=Z,40nm,1.0s,baz=267,slow=5.3,SNR=86
NVAR pP **pwP 17 22 37.8 -0.8**
comp=Z,6.0nm,0.8s,baz=260,slow=5.2,SNR=4.3
NVAR PP **PP 17 24 27.3 +0.7**
comp=Z,1.5nm,0.5s,baz=283,slow=5.2,SNR=4.1
NVAR S **SKSac 17 30 29.2 +2.3**
comp=Z,0.2nm,0.4s,baz=301,slow=3.8,SNR=1.3
NVAR PKPPKP **P'P'df 17 46 23.5 +2.5**
comp=Z,0.9nm,0.7s,baz=74,slow=2.8,SNR=4.9
comp=Z,40nm,1.0s
WRGLY Wrigley 90.23 27 P **P 17 20 44.5 +0.6**
baz=260
WRGLY S **S 17 30 55.1 +0.8**
baz=260
G08A Pilot Rock 90.34 45 IAmb IAmb 17 20 46.6
comp=Z,81nm,1.4s
ELS Elsinore Mount 90.34 56 IAmb IAmb 17 20 48.0
comp=Z,133nm,1.6s
E08A Dider Farm, El 90.40 44 IAmb IAmb 17 20 46.9
comp=Z,55nm,1.1s
YPT Yellepit 90.42 44 IAmb IAmb 17 20 47.0
comp=Z,69nm,1.2s
D08A Wollman Farm, 90.56 43 IAmb IAmb 17 20 47.5
comp=Z,89nm,1.5s
BVA0 Borovoye Array 90.62 323 P **P 17 20 44.8 -1.1**
BVAR Borovoye Array 90.62 323 P **P 17 20 45.0 -0.9**
comp=Z,77nm,0.8s,baz=104,slow=6.1,SNR=177
BVAR PKiKP **PKiKP 17 25 35.1 -1.6**
comp=Z,2.1nm,0.7s,baz=116,slow=6.6,SNR=2.2
BVAR S **SKSac 17 30 26.2 -2.5**
comp=Z,2.8nm,1.0s,baz=112,slow=1.6,SNR=4.0
comp=Z,77nm,0.8s
BRVK Borovoye 90.68 323 P **P 17 20 45.3 -0.9**
BRVK IAmb IAmb 17 20 47.5
comp=Z,73nm,0.8s
BRVK Borovoye 90.68 323 P **P 17 20 45.9 -0.3**
BRVK Borovoye 90.68 323 *d* P **P 17 20 45.4 -0.9**
BRVK pmax pmax
comp=Z,69nm,0.9s
GRAC Grapevine Rang 90.70 53 IAmb IAmb 17 24 06.1
comp=Z,50nm,0.7s
E09A Wood Farm, Sta 91.03 44 IAmb IAmb 17 20 50.4
comp=Z,94nm,1.3s
PFO Pinyon Flats O 91.14 57 P **P 17 20 49.3 +0.3**
PFO IAmb IAmb 17 20 51.7
comp=Z,82nm,1.3s
PFO Pinyon Flats O 91.14 57 *d* P **P 17 20 50.1 +1.1**
PFO pmax pmax
comp=Z,69nm,1.3s
A36M Sachs Harbour 91.18 18 P **P 17 20 48.0 0.0**
baz=259
A36M S **S 17 31 00.4 -2.0**
baz=259
WCT Wildcat Mounta 91.27 53 IAmb IAmb 17 20 52.6
comp=Z,102nm,1.4s
BMO Blue Mountains 91.46 45 IAmb IAmb 17 20 51.6
comp=Z,87nm,1.5s
NEW Newport 91.88 42 IAmb IAmb 17 20 53.3
comp=Z,44nm,1.2s
S11A Rachel 92.04 53 IAmb IAmb 17 20 55.4
comp=Z,40nm,1.0s
R11B Troy Canyon, C 92.22 52 IAmb IAmb 17 20 57.0
comp=Z,66nm,1.3s
PLID Pearl Lake 92.40 45 IAmb IAmb 17 20 55.5
comp=Z,69nm,1.9s
SHPR Sheep Range 92.43 54 IAmb IAmb 17 20 57.8
comp=Z,51nm,1.4s
PRN Pahroc Range 92.58 53 IAmb IAmb 17 20 58.9
comp=Z,74nm,1.2s
NEE2 Needles Airpor 92.75 56 IAmb IAmb 17 20 59.0
comp=Z,39nm,1.0s
BLYC Blythe 92.76 57 IAmb IAmb 17 21 00.3
comp=Z,74nm,1.2s
SPR3 Spring Creek 3 93.24 51 IAmb IAmb 17 21 01.2
comp=Z,76nm,1.2s
113A Mohawk Valley, 93.33 58 IAmb IAmb 17 21 02.0
comp=Z,84nm,1.6s
W13A Hualapai Mount 93.37 55 IAmb IAmb 17 21 02.1
comp=Z,54nm,1.4s
HLID Hailey 93.44 47 IAmb IAmb 17 22 58.9
comp=Z,79nm,2.0s
PSUT Pine Spring 93.59 52 IAmb IAmb 17 21 02.6
comp=Z,40nm,1.2s
CCUT Cedar City 93.92 53 IAmb IAmb 17 21 04.8
comp=Z,53nm,1.3s
LCMT Little Creek M 93.99 53 IAmb IAmb 17 21 04.8
comp=Z,72nm,1.5s
SZCU Shurtz Canyon 94.15 53 IAmb IAmb 17 21 05.5
comp=Z,46nm,1.3s
YKA Yellowknife Ar 94.19 28 P **P 17 21 02.1 0.0**
comp=Z,22nm,0.9s,baz=272,slow=4.7,SNR=75
YKA pP **pP 17 22 55.0 +0.6**
comp=Z,14nm,1.2s,baz=269,slow=4.5,SNR=4.0
YKA PKiKP **PKiKP 17 25 42.0 -0.5**
comp=Z,0.3nm,0.4s,baz=279,slow=7.7,SNR=4.8
YKA S **SKSac 17 30 49.1 +1.2**
comp=Z,0.6nm,1.0s,baz=276,slow=4.1,SNR=1.9
YKA PKKP **PKKPdf 17 38 00.7 -0.9**
comp=Z,0.9nm,0.6s,baz=87,slow=2.3,SNR=9.8
comp=Z,22nm,0.9s
YKA Yellowknife Ar 94.19 28 *i* P **P 17 21 02.2 +0.1**
YKA pmax pmax
comp=Z,24nm,0.9s
YKAW3 Yellowknife Wh 94.19 28 IAmb IAmb 17 21 04.1
comp=Z,46nm,0.9s
YKAW1 Yellowknife Wh 94.25 28 IAmb IAmb 17 21 04.3
comp=Z,50nm,1.0s
SYO Syowa Base 94.58 199 ‖ *i* P **P 17 21 03.6 -0.1**
SYO Syowa Base 94.58 199 ‖ *i* PcP **PcP 17 21 05.6 +1.7**
SYO Syowa Base 94.58 199 ‖ *e*pP pP 17 22 56.3 +0.5
U15A North Rim 94.73 54 IAmb IAmb 17 21 08.6
comp=Z,78nm,1.6s
DLMT Dillon 94.82 45 IAmb IAmb 17 23 04.7
comp=Z,53nm,1.7s
BOZ Bozeman (W) 95.50 45 IAmb IAmb 17 23 06.1
comp=Z,56nm,1.9s
TMUT Trail Mountain 95.68 51 IAmb IAmb 17 21 12.7
comp=Z,21nm,0.9s
SVE Sverdlovsk 96.42 327 *e*P **P 17 21 10.9 -1.4**
SVE *e*S **SKSac 17 30 59.0 -0.8**
SVE pmax pmax
comp=Z,31nm,1.9s
X18A Snowflake 96.58 56 IAmb IAmb 17 23 12.9
comp=Z,19nm,1.1s
W18A Petrified Fore 96.77 55 IAmb IAmb 17 23 13.6
comp=Z,34nm,1.1s
EGMT Eagleton 96.80 42 IAmb IAmb 17 21 15.7
comp=Z,19nm,1.0s
PDAR Pinedale Array 96.97 48 P **P 17 21 14.2 -1.3**
PDAR Pinedale Array 96.97 48 P **P 17 21 14.5 -1.0**
comp=Z,4.3nm,0.8s,baz=272,slow=3.2,SNR=35
PDAR pP **pP 17 23 08.5 +0.4**
comp=Z,2.1nm,0.8s,baz=283,slow=4.2,SNR=4.1
PDAR PP **PP 17 25 19.6 +0.2**
comp=Z,2.9nm,1.0s,baz=274,slow=8.7,SNR=2.8
PDAR PKiKP **PKiKP 17 25 47.1 -1.2**
comp=Z,1.6nm,1.0s,baz=280,slow=3.3,SNR=1.6
PDAR S **SKSac 17 31 03.8 0.0**
comp=Z,0.2nm,0.6s,baz=305,slow=7.4,SNR=1.6
PDAR PKKP **PKKPbc 17 37 53.5 -2.0**
comp=Z,0.5nm,0.6s,baz=96,slow=1.4,SNR=4.7
PDAR PKPPKP **P'P'df 17 46 03.9 -3.9**
comp=Z,0.2nm,0.5s,baz=42,slow=3.2,SNR=3.9
comp=Z,4.3nm,0.8s
AB31 Akbulak array 96.99 319 IAmb IAmb 17 21 15.2
comp=Z,18nm,0.8s
AB31 Akbulak array 96.99 319 *i* P **P 17 21 13.3 -1.7**
ABKAR Akbulak array 96.99 319 P **P 17 21 12.9 -2.1**
PV10 Paradox Valley 97.36 52 IAmb IAmb 17 21 19.5
comp=Z,29nm,0.9s
BELA Belgrano 2 97.37 178 P Pdif 17 21 15.7 -0.5
PV21 Cone Mtn., Par 97.41 52 IAmb IAmb 17 21 20.1
comp=Z,14nm,0.8s
PV17 East Wray Mesa 97.42 52 IAmb IAmb 17 21 19.6
comp=Z,19nm,1.0s
PV16 Nyswonger Mesa 97.46 52 IAmb IAmb 17 21 19.8
comp=Z,30nm,1.4s
PV18 Skein Mesa, Pa 97.47 52 IAmb IAmb 17 21 19.8
comp=Z,24nm,1.0s
PV04 Paradox Valley 97.47 52 IAmb IAmb 17 21 20.5
comp=Z,19nm,0.9s
PV11 David Mesa, Pa 97.49 52 IAmb IAmb 17 21 19.9
comp=Z,33nm,1.3s
ARTI Arti 97.68 326 P Pdif 17 21 15.8 -2.1
ARTI Arti 97.68 326 P Pdif 17 21 16.2 -1.8

comp=E,2,9.7nm,0.8s,baz=84,slow=3.7,SNR=11
ARTI pP pP 17 23 11.2 +0.6
comp=E,3,3.3nm,0.8s,baz=118,slow=2.9,SNR=2.9
ARTI PP **PP** **17 25 23.8 -0.3**
comp=Z,3.5nm,0.8s,baz=84,slow=5.8,SNR=3.2
ARTI PKiKP **PKiKP** **17 25 47.4 -1.4**
comp=Z,1.7nm,0.5s,baz=137,slow=1.3,SNR=3.4
ARTI S **SKSac** **17 31 05.3 -0.9**
comp=Z,1.8nm,0.6s,baz=90,slow=20,SNR=24
comp=Z,9.7nm,0.8s
ARTI Arti 97.68 326 *d* iP Pdif 17 21 16.2 -1.8
ARTI *PP pP 17 23 07.7 -2.9
ARTI 17 25 21.1
ARTI S **SKSac** **17 31 04.6 -1.6**
ARTI SP **SP** **17 33 24.4 -2.0**
ARTI PS PS 17 34 08.5 -24
ARTI pmax pmax
comp=Z,17nm,1.0s
AKTO Aktyubinsk 98.20 320 P Pdif 17 21 19.1 -1.4
comp=Z,14nm,0.8s,baz=87,slow=2.9,SNR=27
AKTO pP pP 17 23 12.8 0.0
comp=Z,3.5nm,0.5s,baz=81,slow=6.7,SNR=2.8
AKTO PP **PP** **17 25 27.6 -0.5**
comp=Z,3.1nm,0.8s,baz=87,slow=11,SNR=2.5
AKTO S **SKSac** **17 31 09.4 +0.3**
comp=Z,1.3nm,0.8s,baz=66,slow=20,SNR=8.6
comp=Z,14nm,0.8s
ANMO Albuquerque 99.46 55 *de* P **Pdif** **17 21 28.2 +1.5**
ANMO pmax pmax
comp=Z,5.0nm,1.0s
TROLL Troll, Antarti 101.43 188 P **Pdif** **17 21 35.1 +0.5**
TROLL Troll, Antarti 101.43 188 PKiKP **PKiKP** **17 25 51.0 -4.4**
TXAR Lajitas Array 101.94 61 P **Pdif** **17 21 36.8 -0.9**
comp=Z,1.0nm,0.8s,baz=279,slow=3.2,SNR=11
TXAR pP pP 17 23 31.1 +0.4
comp=Z,0.3nm,0.6s,baz=284,slow=2.3,SNR=1.5
TXAR PKiKP **PP** **17 25 54.8 -2.0**
comp=Z,2.0nm,0.9s,baz=276,slow=5.6,SNR=6.1
TXAR S **SKSac** **17 31 26.5 -1.8**
comp=Z,0.1nm,0.3s,baz=329,slow=7.8,SNR=1.3
TXAR PKKPbc **PKKPbc** **17 37 37.4 -3.5**
comp=Z,1.3nm,0.8s,baz=64,slow=2.7,SNR=6.6
TXAR PKPPKP **P'P'df** **17 45 58.7 -0.5**
comp=Z,0.2nm,0.3s,baz=110,slow=1.5,SNR=4.1
KIRV Kirov 102.21 329 *de* P **Pdif** **17 21 36.9 -1.1**
SNAA Sanae 102.45 187 P **Pdif** **17 21 39.3 +0.3**
SNAA Sanae 102.45 187 PKiKP **PKiKP** **17 25 56.9 -0.3**
SNAA Sanae 102.45 187 P **Pdif** **17 21 39.1 +0.1**
comp=Z,4.6nm,1.1s,baz=153,slow=9.0,SNR=14
SNAA PKiKP **PKiKP** **17 25 57.3 +0.1**
comp=Z,4.5nm,0.9s,baz=204,slow=3.7,SNR=9.1
SNAA PKKPbc **PKKPbc** **17 37 37.0 -4.1**
comp=Z,2.4nm,0.9s,baz=335,slow=3.1,SNR=6.7
SNAA Sanae 102.45 187 *de* P **Pdif** **17 21 39.0 0.0**
SNAA pmax pmax
comp=Z,10.0nm,1.5s
SPITS Spitsbergen Ar 103.55 352 PKiKP **PKiKP** **17 25 59.2 +0.3**
comp=Z,3.6nm,0.9s,baz=94,slow=5.9,SNR=3.5
SPITS PKKPbc **PKKPbc** **17 37 34.8 -2.9**
comp=Z,2.7nm,0.7s,baz=197,slow=4.5,SNR=5.4
VNA2 Neumayer--Watz 103.66 186 P **Pdif** **17 21 44.9 +0.6**
baz=340,slow=5.7
VNA2 Neumayer--Watz 103.66 186 PKiKP **PKiKP** **17 26 00.3 +1.0**
baz=158,slow=4.1
VNA1 Neumayer--Stat 104.01 186 P **Pdif** **17 21 46.0 +0.1**
VNA1 Neumayer--Stat 104.01 186 PKiKP **PKiKP** **17 25 59.9 0.0**
MAK Makhachkala 106.15 313 *i* P **Pdif** **17 21 46.7 -9.2**
MAK *e* 17 26 24.7
MAK *e* PPP 17 28 46.8
MAK *e* 17 31 41.4
MAK *e* 17 32 32.7
MAK *e* SP SP 17 34 56.5 +0.9
MAK *e* PS **PS** **17 35 51.3 -5.9**
MAK *e* SS **SS** **17 40 56.5 +6.3**
MAK *e* SSS SSS 17 45 00.5
MAK pmax pmax
comp=Z,213nm,1.6s
AKT Akhty 106.20 312 *e* P **Pdif** **17 21 56.1 -0.3**
AKT *e* 17 26 26.3
AKT *e* 17 28 56.4
AKT *e* 17 31 43.6
AKT *e* SP SP 17 34 56.7 +0.3
AKT *e* PS **PS** **17 35 53.6 -4.4**
AKT *e* SS **SS** **17 40 50.7 -0.6**
AKT pmax pmax
comp=Z,19nm,1.6s
KLMR Klimovskoe 106.42 333 *e* P **Pdif** **17 21 54.0 -2.7**
KLMR *e* 17 26 26.1
KLMR PPP PPP 17 28 44.8
KLMR pmax pmax
comp=Z,24nm,1.4s
ARCES ARCESS Array B 107.46 344 Pdiff **Pdif** **17 22 00.4 -0.8**
comp=Z,3.2nm,1.0s,baz=64,slow=14,SNR=3.9
ARCES PKiKP **PKiKP** **17 26 06.5 +0.1**
comp=Z,1.1nm,0.4s,baz=60,slow=2.2,SNR=12
ARCES PKKPbc **PKKPbc** **17 37 22.5 -3.3**
comp=Z,4.3nm,0.8s,baz=246,slow=1.8,SNR=7.9
KBZ Khabaz 109.31 315 Pdiff **Pdif** **17 22 13.2 +3.3**
comp=Z,0.6nm,0.3s,baz=59,slow=2.9,SNR=3.8
KBZ PKiKP **PKiKP** **17 26 11.9 +1.4**
comp=Z,2.3nm,0.7s,baz=109,slow=4.2,SNR=4.3
KBZ PKKPbc **PKKPbc** **17 37 18.4 -0.7**
comp=Z,0.5nm,0.4s,baz=225,slow=1.4,SNR=3.8
KBZ PKKP **PKKPdf** **17 37 33.5 +0.2**
comp=Z,4.1nm,0.9s,baz=293,slow=4.9,SNR=5.9
RAYN Ar Rayn 109.95 293 P **PKiKP** **17 26 13.4 +1.0**
SOC Sochi 111.59 315 *i* PKiKP **PKiKP** **17 26 13.9 -1.0**
SOC *e* 17 27 04.1
SOC *e* PPP PPP 17 29 33.6
SOC *e* PS **PS** **17 36 47.5 +0.5**
SOC *e* SS SS 17 42 03.3 +0.9
SOC *e* SSS SSS 17 46 19.2
FINES FINESS Array B 111.94 336 Pdiff **Pdif** **17 22 19.3 -2.0**
comp=Z,0.7nm,0.4s,baz=58,slow=5.2,SNR=8.5
FINES PKiKP **PKiKP** **17 26 15.0 0.0**
comp=Z,6.9nm,0.7s,baz=104,slow=3.7,SNR=18
FINES PP **PP** **17 27 07.2 -0.5**
comp=Z,5.2nm,0.9s,baz=57,slow=5.1,SNR=5.0
FINES PKKPbc **PKKPbc** **17 37 08.6 -2.6**
comp=Z,1.4nm,0.3s,baz=222,slow=2.6,SNR=19
FINES PKKPab **PKKPab** **17 37 19.4 -0.9**
comp=Z,1.4nm,0.7s,baz=242,slow=3.0,SNR=4.5
ANN Anapa 112.84 317 *i* PKiKP **PKiKP** **17 26 17.6 +0.4**
ANN *e* 17 27 14.4
ANN *e* 17 28 16.6
ANN *e* 17 29 02.0
ANN *e* 17 32 14.2
ANN *e* SP SP 17 35 59.5 +1.0
ANN *e* SS **SS** **17 42 16.8 -1.8**
ANN pmax pmax
comp=Z,42nm,1.4s
MNK Minsk 114.75 329 *i* PKiKP **PKiKP** **17 26 22.1 +1.5**
MNK *i* 17 27 29.3
MNK *i* 17 28 20.5
MNK *i* 17 29 05.2
MNK *i* PPP PPP 17 30 07.4
MNK *i* 17 32 14.7
MNK *i* 17 37 10.3
MNK *i* SS SS 17 42 58.4 +16
MNK pmax pmax
comp=N,9.0nm,0.7s
MNK pmax pmax
comp=Z,20nm,0.7s
MNK pmax pmax
comp=E,12nm,1.0s
AKASG Malin Array Be 115.81 325 PKP **PKPdf** **17 26 22.6 -0.2**
comp=E,11nm,0.7s,baz=61,slow=2.6,SNR=38
AKASG PP **PP** **17 27 34.2 -0.8**
comp=E,3.5nm,0.9s,baz=62,slow=6.7,SNR=4.5
AKASG PKKPbc **PKKPbc** **17 36 56.0 -1.9**
comp=E,0.7nm,0.3s,baz=257,slow=3.7,SNR=17
AKASG PKKPab **PKKPab** **17 37 03.4 +0.3**
comp=E,1.7nm,0.5s,baz=253,slow=4.4,SNR=14
AKBB Malin Array Si 115.81 325 *d* iPKiKP **PKPdf** **17 26 22.3 -0.4**
KIEV Kiev 115.82 325 ⇑P **PKiKP** **17 26 22.9 +0.1**
KIEV Kiev 115.82 325 ⇑PKiKP **PKiKP** **17 26 22.9 +0.1**
KIBK Kibwezi 116.87 265 P **PKiKP** **17 26 27.1 +1.0**
KIRS Kirsehir-Merke 117.01 312 ⇓P **PKiKP** **17 26 25.8 +0.2**
BR131 Keskin Array S 117.04 312 P **PKiKP** **17 26 25.8 +0.2**
BR131 Keskin Array S 117.04 312 *d* iPKiKP **PKPdf** **17 26 25.2 -0.5**
BRTR Keskin Array B 117.04 312 PKP **PKPdf** **17 26 25.3 -0.3**
comp=E,7.6nm,0.9s,baz=90,slow=1.4,SNR=19
BRTR PP **PP** **17 27 45.3 +1.2**
comp=E,5.6nm,1.0s,baz=90,slow=5.0,SNR=6.4
BRTR PKKPbc **PKKPbc** **17 36 53.8 +0.2**
comp=E,4.9nm,1.0s,baz=232,slow=1.6,SNR=9.7
BRTR PKKPab **PKKPab** **17 36 57.7 -0.3**
comp=E,3.0nm,1.0s,baz=224,slow=4.0,SNR=6.8
BRTR PKKP **PKKPdf** **17 37 18.5 -0.4**
comp=E,0.8nm,0.8s,baz=270,slow=5.8,SNR=1.7
SUW Suwalki 117.36 330 *e* PKP **PKiKP** **17 26 26.2 +0.6**
SUW *e* SKS **SKSac** **17 32 31.6 +0.8**
MMAI Mount Meron Ar 117.44 305 PKP **PKiKP** **17 26 27.1 +0.6**
comp=E,3.3nm,0.5s,baz=81,slow=3.8,SNR=13
MMAI sP **sPKPdf** **17 29 15.6 +0.7**
comp=E,4.0nm,0.8s,baz=53,slow=5.6,SNR=3.8
MMAI PKKPbc **PKKPbc** **17 36 52.0 +0.2**
comp=E,11nm,1.2s,baz=270,slow=2.3,SNR=4.2
MMAI PKKPab **PKKPab** **17 36 57.8 +1.6**
comp=E,8.4nm,1.1s,baz=284,slow=2.4,SNR=6.5
HFS Hagfors 117.45 339 PKP **PKPdf** **17 26 24.2 -1.4**
comp=E,3.7nm,0.7s,baz=50,slow=2.3,SNR=14
HFS sP **sPKPdf** **17 29 14.0 +0.2**
comp=E,4.8nm,0.9s,baz=116,slow=5.1,SNR=3.2
HFS PKKPbc **PKKPbc** **17 36 50.1 -2.5**
comp=E,3.9nm,1.0s,baz=198,slow=9.1,SNR=5.2
HFS PKKPab **PKKPab** **17 36 55.5 -0.3**
comp=E,4.0nm,0.9s,baz=204,slow=3.2,SNR=8.3
SORM Soroca 117.46 323 ⇑P **PKPdf** **17 26 25.9 -0.1**
SORM Soroca 117.46 323 ⇑PKiKP **PKPdf** **17 26 25.9 -0.1**
ANTO Ankara 117.61 313 P **PKiKP** **17 26 27.7 +1.0**
ANTO Ankara 117.61 313 ⇑P **PKiKP** **17 26 27.1 +0.4**
ANTO Ankara 117.61 313 ⇑PKiKP **PKiKP** **17 26 27.1 +0.4**
NB2 NORSAR Subarra 117.61 341 PKPdf **PKPdf** **17 26 25.1 -0.9**
comp=Z,3.1nm,0.8s,baz=39,slow=1.9
NB2 PP **PP** **17 27 44.6 -2.3**
comp=Z,24nm,1.4s,baz=42,slow=6.9
NB2 PKKP **PKKPbc** **17 36 49.7 -2.4**
comp=Z,27nm,1.4s,baz=224,slow=4.6
NOA NORSAR Array B 117.61 341 PKP **PKPdf** **17 26 25.3 -0.7**
comp=Z,4.4nm,0.7s,baz=41,slow=1.9,SNR=36
NOA PP **PP** **17 27 45.6 -1.4**
comp=Z,3.5nm,1.0s,baz=44,slow=7.3,SNR=6.0
NOA PKKPbc **PKKPbc** **17 36 50.4 -1.7**
comp=Z,4.0nm,1.0s,baz=223,slow=4.4,SNR=9.6
NOA PKKPab **PKKPab** **17 36 55.1 -0.1**
comp=Z,6.3nm,1.0s,baz=222,slow=4.5,SNR=21
NOA SKKPbc SKKPbc 17 39 49.2 -1.2
comp=Z,0.8nm,1.0s,baz=242,slow=5.7,SNR=3.9
MILM Milestii Mici 117.70 321 ⇓P **PKPdf** **17 26 25.9 -0.6**
KMBO Kilima Mbogo 117.79 266 P **PKiKP** **17 26 28.9 +0.9**
PLCA Paso Flores 118.38 142 PKP **PKiKP** **17 26 28.9 +0.7**
comp=Z,13nm,0.8s,baz=235,slow=3.4,SNR=38
PLCA sP **sPKPdf** **17 29 18.2 +1.9**
comp=Z,2.5nm,0.5s,baz=239,slow=2.9,SNR=3.7
PLCA PKKPbc **PKKPbc** **17 36 48.8 -0.2**
comp=Z,7.2nm,0.8s,baz=55,slow=3.2,SNR=9.5
PLCA PKKPab **PKKPab** **17 36 52.4 -0.5**
comp=Z,8.6nm,0.9s,baz=53,slow=4.7,SNR=11
TLCR 118.42 320 ⇑P **PKiKP** **17 26 28.3 +0.3**
TLCR 118.42 320 ⇑PKiKP **PKiKP** **17 26 28.3 +0.3**
VASR Vaslui 118.45 322 ⇓P **PKiKP** **17 26 28.8 +0.8**
SCTR Scanteiesti 118.74 320 ⇑P **PKiKP** **17 26 29.3 +0.7**
CFR Carcaliu 118.86 320 ⇓P **PKPdf** **17 26 28.8 0.0**
GHRR 118.95 321 ⇑P **PKiKP** **17 26 30.2 +1.2**
TIRR Tirgusor 118.98 319 ⇓P **PKiKP** **17 26 29.3 +0.2**
TIRR Tirgusor 118.98 319 ⇓PKiKP **PKiKP** **17 26 29.3 +0.2**
MFTR Murfatlar 119.09 319 ⇑P **PKiKP** **17 26 29.8 +0.5**
STRU Stroemstad 119.13 340 *i* P **PKPdf** **17 26 28.6 -0.2**
TLBR Topalu 119.19 319 ⇑P **PKPdf** **17 26 29.3 -0.1**
HARR Harsova 119.20 319 ⇑P **PKiKP** **17 26 29.8 +0.3**
TESR Tescani 119.22 322 ⇓P **PKPdf** **17 26 29.5 0.0**
BLEU Blekinge 119.30 335 *i* P **PKPdf** **17 26 28.8 -0.5**
BIZ Bicaz 119.36 322 ⇓P **PKPdf** **17 26 29.5 -0.2**
BOAB BOACO BROADBAN 119.38 78 PKP **PKPdf** **17 26 30.4 -0.2**
ONER Baraj Valea Uz 119.46 322 ⇑P **PKiKP** **17 26 31.2 +1.2**
VRI Vrincioaia 119.46 321 ⇑P **PKiKP** **17 26 30.2 +0.1**
VRI Vrincioaia 119.46 321 ⇑PKiKP **PKiKP** **17 26 30.2 +0.1**
BORU Boraas 119.58 338 *i* P **PKPdf** **17 26 28.8 -0.9**
SCHQ Schefferville 119.62 26 PKP **PKPdf** **17 26 29.7 -0.3**
comp=Z,7.0nm,0.7s,baz=329,slow=5.9,SNR=6.2
SCHQ PKKPab **PKKPbc** **17 36 45.1 +0.3**
comp=Z,6.2nm,0.9s,baz=165,slow=4.8,SNR=3.8
BEL Belsk 119.79 329 *e* PKP **PKiKP** **17 26 31.0 +0.6**
COVR Voineasa-Covas 119.80 321 ⇓P **PKPdf** **17 26 30.2 -0.5**
NEHR Nehoiu 119.93 321 ⇓P **PKPdf** **17 26 30.3 -0.6**
DEL Delary 119.98 336 *i* P **PKPdf** **17 26 30.4 -0.2**
KWP Kalwaria Pacla 119.99 326 *e* PKP **PKiKP** **17 26 31.2 +0.3**
KWP *e* SKS **SKSac** **17 32 42.4 +2.1**
LODK Lodwar 120.04 271 P **PKiKP** **17 26 33.6 +1.4**
FABU Falkenberg 120.05 337 *i* P **PKPdf** **17 26 30.2 -0.5**
ONAU Onsala 120.07 338 *i* P **PKPdf** **17 26 30.4 -0.3**
MLR Muntele Rosu 120.12 321 ⇑P **PKPdf** **17 26 31.0 -0.4**
MLR Muntele Rosu 120.12 321 ⇑PKiKP **PKPdf** **17 26 31.0 -0.4**
NEF NEVSHA 120.23 318 P **PKiKP** **17 26 32.5 +0.9**
DOPR Dopca 120.25 322 ⇓P **PKiKP** **17 26 31.8 +0.3**
BSD Bornholm Skovb 120.48 335 *i* P **PKiKP** **17 26 31.8 +0.1**
BJUU Bjuv 120.59 336 *i* P **PKiKP** **17 26 32.0 +0.1**
KOLS Kolonicke sedl 120.60 326 *e* PKiKP **PKiKP** **17 26 33.3 +1.1**
KOLS Kolonicke sedl 120.60 326 *e* PKP **PKiKP** **17 26 33.3 +1.1**
HOMB Homborsund 120.62 340 *i* P **PKiKP** **17 26 32.4 +0.5**
GKP Gorka Klasztor 120.65 332 *e* PKP **PKiKP** **17 26 32.5 +0.4**
GKP *e* SKS **SKSac** **17 32 46.1 +3.8**
VOIR 120.70 321 ⇑P **PKiKP** **17 26 33.5 +0.9**
VOIR 120.70 321 ⇑PKiKP **PKiKP** **17 26 33.5 +0.9**
BAND Balkesir-Ban 120.82 315 ⇓P **PKPdf** **17 26 32.7 0.0**
STHS Stebnicka Huta 120.91 327 *e* PDIFF **Pdif** **17 22 53.8 -7.7**
STHS Stebnicka Huta 120.91 327 *e* PKP **PKiKP** **17 26 33.7 +0.9**
ARR Arges 120.99 321 ⇓P **PKiKP** **17 26 34.4 +1.2**
SNART Snartemo 121.00 341 *i* P **PKPdf** **17 26 32.5 +0.1**
SZH Strazhitsa 121.08 319 P **PKPdf** **17 26 32.4 -0.7**
COP Copenhagen 121.10 336 *i* P **PKPdf** **17 26 32.8 0.0**
OJC Ojcow 121.23 328 *e* PKP **PKiKP** **17 26 33.7 +0.3**
TAVA DENIZLI Tavas 121.27 311 ⇓P **PKiKP** **17 26 34.2 +0.2**
MARR Marisel-Cluj 121.28 323 ⇑P **PKiKP** **17 26 33.9 +0.2**
ELND Elena 121.30 318 ⇑P **PKiKP** **17 26 34.0 +0.3**
NIE Niedzica 121.42 327 *e* PKP **PKiKP** **17 26 34.8 +1.0**
NIE *e* SKS **SKSac** **17 32 49.5 +4.4**
DRGR 121.46 324 ⇓P **PKPdf** **17 26 33.9 0.0**
BOSA Boshof 121.64 232 PKP **PKiKP** **17 26 35.1 +0.1**
comp=Z,22nm,0.7s,baz=111,slow=1.5,SNR=58
BOSA PKKPbc **PKKPbc** **17 36 36.5 -0.3**
comp=Z,3.1nm,0.8s,baz=315,slow=2.9,SNR=4.7
BOSA Boshof 121.64 232 PKP **PKPdf** **17 26 34.8 -0.1**
MUD Monsted U'grnd 121.78 339 *i* P **PKPdf** **17 26 33.2 -0.8**
DEV Deva 121.81 323 ⇓P **PKiKP** **17 26 34.9 +0.3**
DEV Deva 121.81 323 ⇓PKiKP **PKiKP** **17 26 34.9 +0.3**
LRW Lerwick 121.83 346 *e* P **PKiKP** **17 26 34.7 0.0**
DIM Dimitrovgrad 121.88 318 P **PKPdf** **17 26 34.7 0.0**
LANS Liptovska Anna 122.02 327 *e* PKiKP **PKiKP** **17 26 36.4 +1.4**
LANS Liptovska Anna 122.02 327 *e* PKP **PKiKP** **17 26 36.4 +1.4**
MREMI Moremi 122.26 240 *i* P **PKiKP** **17 26 37.0 +0.7**
EZN Ezine 122.28 315 ⇓P **PKPdf** **17 26 34.7 -0.8**
EZN Ezine 122.28 315 ⇓PKiKP **PKPdf** **17 26 34.7 -0.8**
SURR Surduc 122.34 323 ⇑P **PKPdf** **17 26 35.2 -0.2**
SSRD Sdr. Stenderup 122.34 338 *i* P **PKiKP** **17 26 35.8 +0.4**
SIRR Siria 122.36 324 ⇓P **PKiKP** **17 26 36.2 +0.5**
STEB Steborice 122.45 329 *e* PKPDF **PKiKP** **17 26 36.3 +0.5**
PSZ Piszkesteto 122.48 326 ⇑P **PKiKP** **17 26 36.1 +0.1**
PSZ Piszkesteto 122.48 326 ⇑PKiKP **PKiKP** **17 26 36.1 +0.1**
MPEP Malo Peshtene 122.50 320 P **PKPdf** **17 26 35.5 -0.4**
BDRM Kayabasi 122.51 311 ⇑P **PKiKP** **17 26 37.1 +0.7**
VALD Valchedram 122.54 320 P **PKPdf** **17 26 35.9 0.0**
HERR Herculane 122.60 322 ⇓P **PKPdf** **17 26 36.1 +0.1**
PGB Panagyurishte 122.61 319 P **PKPdf** **17 26 35.5 -0.6**
KSP Ksiaz 122.64 330 *e* PKP **PKiKP** **17 26 36.7 +0.6**
KSP *e* SKS **SKSac** **17 32 48.7 -0.3**
MORC Moravsky Berou 122.67 329 *e* PKP **PKiKP** **17 26 36.4 +0.1**
MORC *e* 17 29 26.0
MORC *e* SKS **SKSac** **17 32 51.1 +1.8**
MORC *e* PKKP **PKKPab** **17 36 32.4 -0.7**
MORC Moravsky Berou 122.67 329 ⇓P **PKPdf** **17 26 36.1 0.0**
BZS Buzias 122.72 323 ⇑P **PKPdf** **17 26 35.4 -0.8**
BZS Buzias 122.72 323 ⇑PKiKP **PKPdf** **17 26 35.4 -0.8**
VYHS Vyhne 122.74 327 *e* PKiKP **PKiKP** **17 26 36.5 +0.1**
VYHS Vyhne 122.74 327 *e* PKP **PKiKP** **17 26 36.5 +0.1**
VYHS *e* 17 36 32.2
MAUC Maruska 122.77 328 *e* PKPDF **PKiKP** **17 26 37.6 +1.1**
MAUC *e* SKS **SKSac** **17 32 49.8 +0.2**
OSTC Ostas 122.86 330 *e* PKPDF **PKiKP** **17 26 38.1 +1.5**
OSTC Ostas 122.86 330 *e* PKiKP **PKiKP** **17 26 38.1 +1.5**
KRLC Kraliky 122.87 329 *e* PKPDF **PKiKP** **17 26 37.2 +0.5**
KRLC Kraliky 122.87 329 *e* PKiKP **PKiKP** **17 26 37.2 +0.5**
BROLN Tlhalogang 122.88 241 *i* P **PKiKP** **17 26 37.9 +0.3**
CHVC Chvalec 122.92 330 *e* PKPDF **PKiKP** **17 26 37.7 +1.0**
CHVC Chvalec 122.92 330 *e* PKiKP **PKiKP** **17 26 37.7 +1.0**
DPC Dobruska-Polom 122.93 330 *e* PKPDF **PKiKP** **17 26 37.2 +0.4**
DPC *e* PKKP **PKKPab** **17 36 31.6 -0.4**
DPC Dobruska-Polom 122.93 330 *e* PKiKP **PKiKP** **17 26 37.2 +0.4**
UPC Upice 122.99 330 *e* PKPDF **PKiKP** **17 26 37.8 +1.0**
UPC Upice 122.99 330 *e* PKiKP **PKiKP** **17 26 37.8 +1.0**
MDVR Moldovita 123.09 322 ⇑P **PKPdf** **17 26 37.1 +0.1**
JAVC Velka Javorina 123.15 328 *e* PKP **PKiKP** **17 26 38.2 +0.9**
JAVC *e* 17 29 27.7
JAVC *e* SKS **SKSac** **17 32 54.8 +3.8**
JAVC *e* PKKP **PKKPab** **17 36 31.0 0.0**
VTS Vitosha 123.17 319 *i* P **PKPdf** **17 26 36.3 -1.1**
SUR Sutherland 123.17 226 P **PKiKP** **17 26 39.4 +1.4**
MAKGR Makgori 123.21 235 *i* P **PKiKP** **17 26 38.4 +0.2**
BSEG Bad Segeberg 123.22 336 *e* PKPdf **PKiKP** **17 26 37.6 +0.5**
baz=47,slow=1.9
LPHEP Lephephe 123.31 238 *i* P **PKiKP** **17 26 38.9 +0.5**
MMB Musomishta 123.32 318 P **PKPdf** **17 26 36.8 -0.7**
VRAC Vranov 123.44 329 *e* PKP **PKiKP** **17 26 37.9 +0.1**
VRAC *e* 17 29 27.6
VRAC *e* SKS **SKSac** **17 32 54.4 +2.6**
VRAC *e* PKKP **PKKPab** **17 36 28.7 -1.0**
VRAC Vranov 123.44 329 ⇓P **PKiKP** **17 26 37.8 0.0**
VRAC Vranov 123.44 329 ⇓PKiKP **PKiKP** **17 26 37.8 0.0**
GORT1 Trebel 123.49 335 *e* PKPdf **PKiKP** **17 26 38.3 +0.7**
baz=47,slow=1.9
KKB Krupnik 123.60 318 *i* P **PKPdf** **17 26 37.2 -0.8**
MODS Modra-Piesok 123.65 328 *e* PKiKP **PKPdf** **17 26 37.7 -0.2**
MODS *e* 17 28 31.3
MODS Modra-Piesok 123.65 328 *e* PKP **PKPdf** **17 26 37.7 -0.2**
MODS *e* PP **PP** **17 28 31.3 +3.3**
MODS *e* 17 36 27.5
BOVS Bovan 123.67 321 ⇑P **PKiKP** **17 26 38.6 +0.2**
PVCC Panska Ves 123.68 331 *e* PKPDF **PKiKP** **17 26 38.7 +0.5**
PVCC Panska Ves 123.68 331 *e* PKiKP **PKiKP** **17 26 38.7 +0.5**
KRUC Moravsky 123.70 329 *e* PKP **PKiKP** **17 26 38.3 0.0**
KRUC *e* 17 29 28.2
KRUC *e* SKS **SKSac** **17 32 54.2 +1.6**
KRUC *e* PKKP **PKKPab** **17 36 27.9 -0.7**
BRG Berggiesshubel 123.76 332 *e* PKPdf **PKiKP** **17 26 38.6 +0.3**
baz=47,slow=1.9
BRG Berggiesshubel 123.76 332 ⇓*i* PKP **PKiKP** **17 26 38.6 +0.3**
BRG Amp 17 26 40.9
comp=Z,29nm,0.9s
BRG pPKP **pPKPdf** **17 28 41.5 +4.5**
BRG Amp 17 28 43.3
comp=Z,9.9nm,1.0s
BRG Berggiesshubel 123.76 332 SKS **SKSdf** **17 32 59.0 -2.7**
BRG Berggiesshubel 123.76 332 SP SP 17 37 30.0 -5.4
BRG Berggiesshubel 123.76 332 SS SS 17 44 30.0 -7.2
GMAL Guarumal, Vera 123.80 84 PKP **PKiKP** **17 26 39.8 +0.3**
RICC Richard 123.90 331 *e* PKPDF **PKiKP** **17 26 39.8 +1.2**
CLL Collm 123.91 332 ⇓*i* PKiKP **PKiKP** **17 26 38.6 0.0**
CLL *i* 17 28 40.6
CLL *e* 17 32 54.0
CLL pmax pmax
comp=Z,40nm,0.9s
CLL pmax pmax
comp=Z,27nm,1.5s
CLL Collm 123.91 332 *e* PKPdf **PKiKP** **17 26 38.6 0.0**
baz=47,slow=1.9
BIGH Upper Bighouse 123.93 347 *e* P **PKiKP** **17 26 38.6 +0.2**
LSZ Lusaka 123.95 248 P **PKiKP** **17 26 40.8 +0.9**
GOPC GO Pecny, Ondr 123.97 330 *e* PKPDF **PKiKP** **17 26 39.7 +0.9**
GOPC GO Pecny, Ondr 123.97 330 *e* PKiKP **PKiKP** **17 26 39.7 +0.9**
FLTG Flechtingen 123.99 334 *e* PKPdf **PKiKP** **17 26 38.6 -0.1**
baz=47,slow=1.9
HRV Adam Dziewonsk 123.99 41 ⇑PKiKP **PKPdf** **17 26 38.8 +0.1**
TREC Trest 124.02 329 *e* PKPDF **PKiKP** **17 26 39.6 +0.7**
TREC Trest 124.02 329 *e* PKiKP **PKiKP** **17 26 39.6 +0.7**
FRGS Fruska Gora 124.04 323 ⇓P **PKPdf** **17 26 38.9 +0.1**
SOOWA Sowa 124.04 241 *i* P **PKiKP** **17 26 40.4 +0.5**
PRU Pruhonice 124.05 330 *e* PKPDF **PKiKP** **17 26 39.7 +0.8**
PRU AMS AMS 18 17 10.0
comp=Z,500nm,19.0s
PRU Pruhonice 124.05 330 *e* PKiKP **PKiKP** **17 26 39.7 +0.8**
PRU MLR MLR
comp=Z,500nm,19.0s
MCRA Macar, Loja 124.13 98 PKP **PKPdf** **17 26 39.5 -0.4**
MORH Mrgy, Hungar 124.15 325 ⇑P **PKiKP** **17 26 39.5 +0.2**
MBAR Mbarara 124.32 266 P **PKiKP** **17 26 41.6 +0.8**
KDWAN Kaudwane 124.32 238 *i* P **PKiKP** **17 26 40.8 +0.4**
NRDL Niedersach Rie 124.35 335 *e* PKPdf **PKiKP** **17 26 39.9 +0.6**
baz=47,slow=1.9
ASSE Asse, Remlinge 124.37 334 *e* PKPdf **PKiKP** **17 26 39.8 +0.4**
baz=47,slow=1.9
SKOMA Sekoma 124.47 236 *i* P **PKiKP** **17 26 40.8 +0.2**
RETH Rethem/Aller, 124.48 336 *e* PKPdf **PKiKP** **17 26 40.0 +0.3**
baz=47,slow=1.9
NEUB Neuenburg 124.53 333 *e* PKPdf **PKiKP** **17 26 40.0 +0.1**
baz=47,slow=1.9
TEKS Tekeris 124.54 323 ⇓*i* P **PKPdf** **17 26 39.6 -0.2**
ZVC Zvikov 124.58 330 *e* PKPDF **PKiKP** **17 26 40.5 +0.5**
RONA Rosalia, Austr 124.58 327 *e* PKP **PKPdf** **17 26 39.9 +0.1**
comp=Z,181nm,2.2s,SNR=22
RONA *i* PKKP **PKKPab** **17 36 24.8 -0.1**
comp=Z,28nm,1.4s,SNR=5.0
MCD Coleburn Disti 124.60 346 *e* P **PKPdf** **17 26 38.8 -0.7**
SKO Skopje 124.65 319 *i* P **PKPdf** **17 26 40.2 +0.2**
CONA Conrad Observa 124.67 328 *i* PKP **PKiKP** **17 26 40.4 0.0**
comp=Z,217nm,2.3s,SNR=31
CONA *i* PKKP **PKKPab** **17 36 24.5 0.0**
comp=Z,47nm,2.1s,SNR=5.5
CLZ Clausthal 124.71 334 *e* PKPdf **PKiKP** **17 26 40.7 +0.5**
baz=47,slow=1.9
AZU Azuero 124.75 84 PKP **PKPdf** **17 26 40.5 -0.5**
TANN Tannenbergstha 124.76 332 *e* PKPdf **PKiKP** **17 26 40.4 -0.1**
baz=47,slow=1.9
NKC Novy Kostel 124.89 332 *e* PKPDF **PKiKP** **17 26 41.4 +0.7**
NKC Novy Kostel 124.89 332 *e* PKiKP **PKiKP** **17 26 41.4 +0.7**
CKRC Cesky Krumlov 124.92 329 *e* PKPDF **PKiKP** **17 26 41.2 +0.5**
CKRC *e* SKKS 17 34 39.5
CKRC AMS AMS 18 16 30.0
comp=Z,500nm,17.0s
CKRC Cesky Krumlov 124.92 329 *e* PKiKP **PKiKP** **17 26 41.2 +0.5**
CKRC MLR MLR
comp=Z,500nm,17.0s
SJES Sjenica 124.94 321 ⇓*i* P **PKPdf** **17 26 40.7 0.0**
BBLS Lazi&#263i 124.98 322 ⇓*i* P **PKiKP** **17 26 41.0 -0.1**
MOX Moxa 125.00 333 *e* PKPdf **PKiKP** **17 26 40.7 -0.1**
baz=47,slow=1.9
IDI Anoyia 125.08 310 PKP **PKPdf** **17 26 40.6 -0.5**
COHC Cochancay 125.08 96 PKP **PKiKP** **17 26 41.9 -0.1**
KHC Kasperske Hory 125.08 330 *e* PKPDF **PKiKP** **17 26 41.5 +0.4**
KHC *e* PP **PP** **17 28 39.3 +1.9**
KHC *e* SKS **SKSac** **17 32 56.9 -0.1**
KHC *e* SKKS **SKKSac** **17 34 42.4 -1.3**
KHC *e* PKKP **PKKPab** **17 36 22.8 +0.1**
KHC *e* SP **SP** **17 37 42.4 -4.7**
KHC *ex* x 17 39 39.5
KHC *ex* x 17 46 20.5
KHC AMS AMS 18 16 30.0
comp=Z,600nm,21.5s
KHC Kasperske Hory 125.08 330 *e* PKiKP **PKiKP** **17 26 41.5 +0.4**
KHC *e* 17 28 39.3
KHC *e* 17 32 56.9
KHC *e* SP SP 17 37 42.4 -4.7
KHC *e* 17 40 20.5
KHC MLR MLR
comp=Z,600nm,21.5s
GTTG Gottingen 125.10 334 *e* PKPdf **PKiKP** **17 26 41.4 +0.4**
baz=47,slow=1.9
BCIP Isla Barro Col 125.18 82 PKP **PKPdf** **17 26 40.9 -0.9**
**GEC2 GERESS Array S 125.

IBBN Ibbenburen 125.46 336 *e*PKPdf **PKiKP** 17 26 41.8 +0.2
baz=47,slow=1.9
OHR Ohrid 125.49 319 *i* P **PKiKP** 17 26 42.2 +0.1
MOA Molln 125.56 329 *i* PKP **PKPdf** 17 26 41.8 +0.1
comp=Z,118nm,2.2s,SNR=8.5
MOA *i* PKKP **PKKPab** 17 36 20.9 +0.2
comp=Z,46nm,1.8s,SNR=6.0
UBBA Unterbreizbach 125.61 334 *e*PKPdf **PKiKP** 17 26 41.8 -0.1
baz=47,slow=1.9
BLY Banja Luka 125.82 324 ||*i*P **PKPdf** 17 26 42.4 +0.2
PDG Podgorica 125.83 321 ||*i*P **PKPdf** 17 26 41.9 -0.3
A051A Mrakovica 125.83 324 ||*i*P **PKPdf** 17 26 42.0 -0.3
GRF Grafenberg Arr 125.84 332 *e*PKPdf **PKiKP** 17 26 42.6 +0.1
baz=47,slow=1.9
GRF *ep*PKPdf **PP** 17 28 44.4 +2.1
SOKA Soboth 125.89 327 *i* PKP **PKPdf** 17 26 42.1 -0.2
comp=Z,186nm,2.2s,SNR=20
SOKA *i* PKKP **PKKPab** 17 36 20.0 +0.6
comp=Z,36nm,1.6s,SNR=6.3
KSANE Kasane 125.93 244 *i* P **PKiKP** 17 26 45.0 +1.2
BIOA Bad Ischl, Aus 125.99 329 *i* PKP **PKPdf** 17 26 42.3 -0.1
comp=Z,139nm,2.1s,SNR=16
DRME Dracevica, Mon 126.00 320 ||*i*P **PKPdf** 17 26 42.3 -0.3
KASTN Kahler Asten 126.01 335 *e*PKPdf **PKiKP** 17 26 43.0 +0.2
baz=47,slow=1.9
BRY Bratogost 126.03 321 *e*P **PKPdf** 17 26 41.2 -1.6
CRES Cresnjevec Ost 126.18 326 ||*i*P **PKPdf** 17 26 42.8 0.0
OTAV Otavalo 126.19 93 ||PKIKP **PKiKP** 17 26 45.0 +0.2
OTAV Otavalo 126.19 93 *e*P **PKPdf** 17 26 44.6 +0.2
OTAV Otavalo 126.19 93 PKP **PKiKP** 17 26 45.0 +0.2
OTAV Otavalo 126.19 93 PKP **PKPdf** 17 26 44.2 -0.1
PIAT Ana Tenorio 126.24 95 PKP **PKiKP** 17 26 45.4 +0.5
OBKA Obir 126.26 327 ||*i*P **PKPdf** 17 26 42.4 -0.7
OBKA Obir 126.26 327 *i* PKP **PKPdf** 17 26 42.8 -0.2
comp=Z,117nm,2.2s,SNR=7.7
OBKA *i* PKKP **PKKPab** 17 36 18.6 +0.8
comp=Z,90nm,2.3s,SNR=5.0
LAWE Loch Awe, Argy 126.31 347 *e*P **PKPdf** 17 26 41.4 -1.3
BUG Bochum--Univer 126.31 336 *e*PKPdf **PKiKP** 17 26 43.4 0.0
baz=47,slow=1.9
A050A Klekovaca 126.36 324 ||*i*P **PKPdf** 17 26 42.9 -0.4
RJOB Jochberg 126.39 329 *e*PKPdf **PKPdf** 17 26 43.3 0.0
baz=47,slow=1.9
RJOB *ep*PKPdf **PP** 17 28 45.2 -0.8
BOJS Bojanci 126.49 326 ||*i*P **PKPdf** 17 26 43.4 0.0
PGBU Glenifferbraes 126.50 346 *e*P **PKPdf** 17 26 42.6 -0.5
KBA Koelnbreinsper 126.54 328 *i* PKP **PKPdf** 17 26 43.2 -0.5
comp=Z,116nm,2.3s
LJU Ljubljana 126.56 327 *i* PKPdf **PKiKP** 17 26 43.9 -0.2
LJU *i* 17 29 13.8
LJU *i* 17 29 32.8
LJU *i* SKSac **SKSac** 17 33 02.3 +0.7
LJU *i* 17 33 03.1
LJU *i* 17 34 49.6
STON Ston 126.56 322 ||*i*P **PKPdf** 17 26 42.9 -0.7
EKA Eskdalemuir Ar 126.59 345 PKP **PKPdf** 17 26 43.1 -0.2
comp=Z,3.2nm,0.4s,baz=24,slow=2.5,SNR=30
EKA PKKPbc **PKKPab** 17 36 15.7 -0.5
comp=Z,2.4nm,0.6s,baz=213,slow=4.3,SNR=11
EKA SKKPbc SKKPbc 17 39 20.1 -0.7
comp=Z,1.4nm,0.8s,baz=208,slow=1.4,SNR=3.8
KGCAE Kacgae 126.60 237 *i* P **PKiKP** 17 26 45.7 +0.7
ESK Eskdalemuir 126.62 345 *e*P **PKPdf** 17 26 42.3 -1.0
LESA Schwarzleotal 126.66 329 *i* PKP **PKPdf** 17 26 43.5 -0.3
comp=Z,50nm,1.0s,SNR=14
LESA *ep*PKiKP **pPKPdf** 17 28 42.8 +0.1
comp=Z,4.5nm,0.8s
LESA *i* PKKP **PKKPab** 17 36 16.6 +0.6
SNR=5.3
LESA *e*SKKP 17 39 38.4
comp=Z,120nm,3.7s
MYKA Terra Mystica 126.67 328 *i* PKP **PKPdf** 17 26 43.4 -0.5
comp=Z,129nm,2.3s,SNR=7.8
GR1C Gorgona, Isla 126.69 90 PKP **PKiKP** 17 26 45.1 -0.1
EDMD Edmundbyers 126.72 344 *e*P **PKPdf** 17 26 42.4 -1.2
TNS Taunus Mts 126.72 334 *e*PKPdf **PKiKP** 17 26 44.4 0.0
baz=47,slow=1.9
MTDJ Mount Denham 126.74 71 PKP **PKPdf** 17 26 43.0 -1.8
CEY Cerknica 126.80 326 ||*i*P **PKPdf** 17 26 43.1 -1.0
CEY Cerknica 126.80 326 *i* PKPdf **PKPdf** 17 26 44.1 +0.1
CEY *i* pPKPdf **pPKPdf** 17 28 45.4 +2.4
CEY *i* 17 29 14.1
CEY *e* 17 31 24.8
CEY *e* 17 34 02.1
CEY *i* PKKPbc **PKKPab** 17 36 16.1 +0.8
CEY *e* 17 38 05.8
CEY *e* 17 39 39.7
CEY *e* 17 43 45.0
CEY *e* 17 47 45.4
FUR Furstenfeldbru 126.86 331 *e*PKPdf **PKiKP** 17 26 44.5 -0.2
baz=47,slow=1.9
NEWG New Galloway 127.06 345 *e*P **PKPdf** 17 26 44.3 +0.1
BONI La Bonita 127.12 93 PKP **PKiKP** 17 26 46.8 +0.3
SKDS Skadanscina 127.15 326 ||*i*P **PKPdf** 17 26 43.5 -1.2
ABTA Abfaltersbach 127.19 328 *i* PKP **PKPdf** 17 26 44.4 -0.4
comp=Z,192nm,2.2s,SNR=13
ABTA *e*SKKP 17 39 45.2
comp=Z,102nm,2.5s
PTAC Punta Ardita, 127.19 85 PKP **PKiKP** 17 26 46.1 -0.1
WATA Walderalm 127.28 330 *i* PKP **PKPdf** 17 26 44.9 -0.2
comp=Z,261nm,2.3s,SNR=18
WATA *e*SKKP 17 39 44.3
comp=Z,102nm,2.6s
WTTA Wattenberg 127.29 329 *i* PKP **PKPdf** 17 26 45.3 +0.1
comp=Z,356nm,2.2s,SNR=27
WTTA *e*SKKP 17 39 45.1
comp=Z,148nm,2.9s
HPK Haverah Park 127.38 343 *e*P **PKPdf** 17 26 43.5 -1.4
GAL1 Galloway 127.41 346 *e*P **PKPdf** 17 26 43.9 -0.9
BTNL Ternell 127.43 336 *d*PKP **PKPdf** 17 26 45.2 +0.1
STU Stuttgart 127.44 332 *e*PKPdf **PKiKP** 17 26 45.8 +0.1
baz=47,slow=1.9
BEBN Eben Emael 127.45 336 *d*PKP **PKiKP** 17 26 45.5 -0.1
MEM Membach 127.46 336 *d*PKP **PKPdf** 17 26 45.2 0.0
MOTA Moosalm 127.51 330 *i* PKP **PKPdf** 17 26 45.3 -0.2
comp=Z,263nm,2.3s,SNR=19
BBAC Balboa, Cauca 127.54 91 PKP **PKiKP** 17 26 47.2 0.0
SQTA Sankt Quirin 127.54 330 *i* PKP **PKPdf** 17 26 45.5 0.0
comp=Z,277nm,2.3s,SNR=17
MALC Bahia Malaga 127.57 89 PKP **PKiKP** 17 26 46.9 -0.1
SOLC Bahia Solano 127.58 86 PKP **PKPdf** 17 26 45.5 -0.9
RETA Reutte 127.58 330 *e*PKP **PKPdf** 17 26 45.5 0.0
comp=Z,200nm,2.1s,SNR=12
BHOU Houvegnez 127.66 336 *d*PKP **PKiKP** 17 26 46.3 +0.1
BSTI Sart Tilman 127.66 336 *d*PKP **PKiKP** 17 26 46.0 -0.1
CRUC La Cruz 127.80 92 PKP **PKiKP** 17 26 49.1 +1.2
BCLA Clavier 127.90 336 *d*PKP **PKiKP** 17 26 46.6 0.0
LBWR Ladybower, Pea 127.94 343 *e*P **PKPdf** 17 26 45.1 -0.8
FETA Feichten 127.92 330 *i* PKP **PKPdf** 17 26 46.5 +0.1
comp=Z,258nm,2.4s,SNR=19
FETA *ep*PKiKP **pPKiKP** 17 28 46.3 +0.5
comp=Z,12nm,1.0s
UCC Uccle 127.98 337 *d*PKP **PKiKP** 17 26 46.5 -0.2
BGES Gesves 128.01 336 *d*PKP **PKPdf** 17 26 46.3 +0.1
WLF Walferdange 128.13 335 PKP **PKiKP** 17 26 47.4 +0.4
WLF Walferdange 128.13 335 *d*PKP **PKiKP** 17 26 47.2 +0.1
WLF Walferdange 128.13 335 *e*PKPdf **PKiKP** 17 26 47.5 +0.4
baz=47,slow=1.9
BFO Black Forest 128.15 332 *e*PKPdf **PKPdf** 17 26 46.5 -0.1
baz=47,slow=1.9
DAVA Damuels 128.15 331 *i* PKP **PKPdf** 17 26 46.8 0.0
comp=Z,243nm,2.2s,SNR=9.9
DAVA *ep*PKiKP **pPKiKP** 17 28 47.4 +1.1
comp=Z,8.5nm,1.0s
ELMS Elmsett, Ipswi 128.15 340 *e*P **PKPdf** 17 26 46.0 -0.4
JAMC Jamundi, Valle 128.19 90 PKP **PKiKP** 17 26 49.0 +0.5
BMRD Maredsous 128.20 336 *d*PKP **PKPdf** 17 26 46.6 +0.1
KOOLE Kule 128.21 236 *i* P **PKiKP** 17 26 48.6 +0.4
CWF Charnwood Fore 128.35 342 *e*P **PKPdf** 17 26 45.8 -0.9
APAC Apartado, Choc 128.41 84 PKP **PKiKP** 17 26 49.8 +1.1
DOU Dourbes 128.44 336 *d*PKP **PKiKP** 17 26 47.4 -0.3
YOTC Yotoco, Valle 128.56 89 PKP **PKiKP** 17 26 47.8 -0.6
YOTC *i* PKP **PKiKP** 17 26 48.9 -0.3
ILTH Belurgan, Co L 128.57 346 *e*P **PKPdf** 17 26 46.3 -0.8
WME Myndd Eilian 128.63 344 *e*P **PKiKP** 17 26 47.7 -0.3
PLMC San Jos del P 128.66 87 PKP **PKPdf** 17 26 48.3 -0.3
FOEL Foel Wylfa 128.78 343 *e*P **PKPdf** 17 26 47.4 -0.2
DBBC Dabeiba 128.78 85 PKP **PKiKP** 17 26 50.3 +0.8
QNGWA Qangwa 128.82 240 *i* P **PKPdf** 17 26 48.5 -0.3
ELSH Elham, Standar 128.89 339 *e*P **PKPdf** 17 26 47.2 -0.6
CBOC Ciudad Bolivar 128.96 86 PKP **PKiKP** 17 26 50.0 0.0
HLM1 Long Mynd 129.01 343 *e*P **PKPdf** 17 26 47.6 -0.4
FLOC Florencia 129.09 92 PKP **PKiKP** 17 26 50.4 +0.3
DSB Dublin 129.29 346 PKP **PKPdf** 17 26 46.9 -1.7

GARC Garzon, Huila 129.30 91 PKP **PKiKP** 17 26 51.0 +0.2
HELC Santa Helena 129.44 86 PKP **PKiKP** 17 26 51.3 +0.1
AQU L'Aquila 129.45 324 PKP **PKPdf** 17 26 48.6 -0.7
MCH1 Michaelchurch 129.50 343 *e*P **PKPdf** 17 26 48.4 -0.5
GUY2C Guyana, Caldas 129.58 87 PKP **PKPdf** 17 26 49.9 -0.9
GUY2C PKP **PKiKP** 17 26 51.9 +0.3
ORTC Ortega, Tolima 129.65 89 PKP **PKiKP** 17 26 51.1 -0.1
SJCC San Jacinto, C 129.75 81 PKP **PKiKP** 17 26 52.2 +0.8
PTLC Puerto Leguiza 129.81 94 PKP **PKiKP** 17 26 51.3 -0.3
PB08 IPOC Station P 129.89 121 PKP **PKiKP** 17 26 50.8 -0.3
PRAC Prado 130.00 89 PKP **PKiKP** 17 26 52.0 0.0
VLC Villacollemand 130.01 327 PKP **PKiKP** 17 26 48.0 -2.2
NORC Norcasia 130.09 87 PKP **PKiKP** 17 26 49.9 -1.3
ZARC Zaragoza, Cauc 130.12 84 PKP **PKiKP** 17 26 51.2 0.0
URMC La Uribe, Meta 130.48 90 PKP **PKiKP** 17 26 52.1 +0.1
PTBC PUERTO BERRIO 130.51 85 PKP **PKiKP** 17 26 51.1 -0.9
CZSB Cruzeiro do Su 130.59 104 *e*P **PKPdf** 17 26 52.4 +0.2
CZSB Cruzeiro do Su 130.59 104 PKP **PKiKP** 17 26 53.1 0.0
CZSB Cruzeiro do Su 130.59 104 PKP **PKPdf** 17 26 52.4 +0.2
ROSC El Rosal 130.61 88 PKP **PKiKP** 17 26 53.2 -0.4
comp=Z,28nm,0.5s,baz=292,slow=1.3,SNR=27
ROSC SKPab **SKPab** 17 29 31.3 +1.6
comp=Z,26nm,0.6s,baz=326,slow=3.0,SNR=9.8
ROSC El Rosal 130.61 88 PKP **PKiKP** 17 26 54.8 +1.2
SMRC Santa Marta, M 130.63 79 PKP **PKPdf** 17 26 51.0 -1.2
CVER Cruz Verde, Cu 130.84 88 PKP **PKPdf** 17 26 52.6 -0.6
MACC Macarena, Meta 130.94 91 PKP **PKPdf** 17 26 51.2 -1.6
MACC PKP **PKiKP** 17 26 53.4 -0.4
DYA Yadsworthy 131.16 342 *e*P **PKPdf** 17 26 51.9 -0.3
CHIC Chingaza 131.19 88 PKP **PKPdf** 17 26 53.7 -0.1
CHIC PKP **PKiKP** 17 26 55.1 +0.3
OCAC Ocana 131.63 83 PKP **PKiKP** 17 26 55.2 -0.2
CCA1 Carnmenellis 131.76 343 *e*P **PKPdf** 17 26 53.1 -0.2
BARC Barichara 131.78 85 PKP **PKiKP** 17 26 55.8 0.0
RUSC La Rusia 131.87 86 PKP **PKiKP** 17 26 56.5 +0.2
CRJC Cerrejon, Guaj 131.95 79 PKP **PKiKP** 17 26 55.9 0.0
PAMC Pamplona, Colo 132.26 84 PKP **PKPdf** 17 26 52.5 -3.4
LPAZ La Paz 132.31 117 PKhKP PKPpre 17 26 44.5
comp=Z,1.4nm,0.4s,baz=299,slow=2.4,SNR=3.5
LPAZ PKP **PKiKP** 17 26 56.8 -0.4
comp=Z,15nm,0.6s,baz=240,slow=1.1,SNR=3.8
LPAZ SKPab **SKPab** 17 29 38.2 +1.0
comp=Z,26nm,0.7s,baz=248,slow=2.8,SNR=19
LPAZ La Paz 132.31 117 PKP **PKPdf** 17 26 56.5 +0.4
LPAZ La Paz 132.31 117 PKP **PKPdf** 17 26 52.6 -3.4
PTGC Puerto Gaitan, 132.76 89 PKP **PKPdf** 17 26 56.7 +0.5
URIC Uribia, Colomb 132.78 78 PKP **PKiKP** 17 26 58.1 +0.7
TAMC Tame, Arauca 133.16 86 PKP **PKiKP** 17 26 59.5 +1.2
TBTG Tabatinga, AM 134.03 100 *e*P **PKPdf** 17 26 58.6 0.0
TBTG Tabatinga, AM 134.03 100 PKP **PKPdf** 17 26 58.8 +0.2
TBTG Tabatinga, AM 134.03 100 PKP **PKPdf** 17 26 58.5 -0.1
SDV Santo Domingo 134.27 82 PKhKP PKPpre 17 26 47.7
comp=Z,12nm,0.3s,baz=307,slow=4.8,SNR=5.9
SDV PKP **PKPdf** 17 26 59.9 +0.6
comp=Z,98nm,0.7s,baz=276,slow=3.9,SNR=35
SDV SKPbc **SKPbc** 17 29 42.9 +1.4
comp=Z,16nm,0.3s,baz=267,slow=3.0,SNR=10.0
SDV Santo Domingo 134.27 82 *e*P **PKPdf** 17 26 59.8 +0.4
SDV Santo Domingo 134.27 82 PKP **PKPdf** 17 26 59.7 +0.4
SDV Santo Domingo 134.27 82 PKP **PKPdf** 17 26 59.7 +0.4
PLTB Pedras Altas 134.51 145 *e*P **PKiKP** 17 26 59.9 -0.7
EJON La Jonquera 135.08 331 PKP **PKPdf** 17 26 58.2 -1.6
CPSB Cacapava Do Su 135.60 144 *e*P **PKiKP** 17 27 02.0 -0.8
CPSB Cacapava Do Su 135.60 144 PKP **PKPdf** 17 27 01.5 +0.3
CPUP Villa Florida 135.88 136 PKhKP PKPpre 17 26 49.0
comp=Z,1.4nm,1.0s,baz=239,slow=2.1,SNR=4.6
CPUP PKP **PKPdf** 17 27 02.0 +0.3
comp=Z,3.8nm,0.7s,baz=188,slow=0.8,SNR=13
CPUP SKP 17 29 48.0
comp=Z,3.6nm,0.8s,baz=200,slow=3.5,SNR=5.5
CPUP Villa Florida 135.88 136 *e*P **PKPdf** 17 27 02.2 +0.5
KEST Kesra 135.95 319 PKP **PKiKP** 17 27 02.9 -0.6
comp=Z,5.6nm,0.6s,baz=25,slow=4.4,SNR=9.5
KEST pPKP **pPKPdf** 17 29 01.9 +1.3
comp=Z,6.4nm,0.9s,baz=8.7,slow=5.3,SNR=1.5
KEST SKP 17 29 48.6
comp=Z,18nm,1.0s,baz=50,slow=1.9,SNR=7.3
KEST Kesra 135.95 319 P **PKPdf** 17 27 02.6 +0.9
MAHO Mahon 136.25 327 PKP **PKPdf** 17 27 02.2 +0.2
ETOS Mallorca 137.11 328 PKP **PKPdf** 17 27 03.3 -0.3
SJG San Juan 137.40 68 PKhKP PKPpre 17 26 56.5
comp=Z,12nm,0.3s,baz=243,slow=1.3,SNR=3.7
SJG PKP **PKPdf** 17 27 05.0 +0.3
comp=Z,18nm,0.6s,baz=256,slow=1.2,SNR=9.2
SJG SKP 17 29 52.3
comp=Z,12nm,0.3s,baz=290,slow=4.8,SNR=13
SGC2 Sao Gabriel da 137.55 95 PKP **PKPdf** 17 27 04.6 -0.5
SJPY San Joaquin 137.58 136 *e*P **PKPdf** 17 27 05.7 +0.7
CNLB Canela 137.91 145 *e*P **PKPdf** 17 27 05.4 +0.8
CNLB Canela 137.91 145 PKP **PKPdf** 17 27 06.8 -0.9
EIBI Ibiza 138.43 329 PKP **PKPdf** 17 27 05.6 -0.5
SIV San Ignacio 138.60 121 PKhKP PKPpre 17 26 57.1
comp=Z,4.0nm,0.5s,baz=243,slow=4.7,SNR=10
SIV PKP **PKPdf** 17 27 07.0 0.0
comp=Z,31nm,0.8s,baz=244,slow=2.7,SNR=32
SIV SKP 17 29 56.1
comp=Z,49nm,0.5s,baz=241,slow=4.6,SNR=55
SIV SKKPbc SKKPbc 17 38 38.4 +2.7
comp=Z,1.9nm,0.7s,baz=51,slow=6.5,SNR=7.7
ECHE Chera 139.14 332 PKP **PKPdf** 17 27 07.3 -0.1
TEFE Tefe 139.33 101 PKP **PKPdf** 17 27 08.4 0.0
ECAL Calabor 139.57 339 PKP **PKPdf** 17 27 07.8 -0.3
UCM Universidad Co 139.59 334 PKP **PKPdf** 17 27 06.2 -2.0
PBRG Braganca 139.69 339 *e*PKPdf **PKPdf** 17 27 08.0 -0.3
PBRG *ep*PKP **pPKPdf** 17 29 06.7 -0.7
PBRG *e*SKP 17 29 58.0
PGAV Gavieira, Arco 140.07 341 *e*PKPdf **PKPdf** 17 27 09.3 +0.2
PGAV *ep*PKP **pPKPdf** 17 29 08.7 +0.5
PGAV *e*SKP 17 29 59.3
PCRV Puerto La Cruz 140.10 80 PKhKP PKPpre 17 27 00.3
PCRV SKP 17 29 56.2
comp=Z,24nm,1.1s,baz=268,slow=5.6,SNR=3.2
PCAB Cabril 140.22 340 *e*PKPdf **PKiKP** 17 27 10.7 -1.3
PCAB *e*SKP 17 29 59.6
MVO Moncorvo 140.36 339 *e*PKPdf **PKPdf** 17 27 10.4 +0.8
MVO *ep*PKP **pPKPdf** 17 29 08.4 -0.3
MVO *e*SKP 17 30 00.5
ESDC Sonseca Array 140.42 335 PKhKP PKPpre 17 27 02.3
comp=Z,3.4nm,0.9s,baz=16,slow=2.6,SNR=17
ESDC PKP **PKPdf** 17 27 10.4 +0.7
comp=Z,4.7nm,0.8s,baz=24,slow=2.1,SNR=12
ESDC SKPbc **SKPbc** 17 29 57.9 -0.4
comp=Z,3.8nm,0.9s,baz=31,slow=2.7,SNR=7.4
ESDC SKPab **SKPab** 17 30 11.9 +0.3
comp=Z,3.6nm,0.9s,baz=31,slow=4.8,SNR=5.4
ESDC SKKPbc **SKKPbc** 17 38 28.6 -1.2
comp=Z,2.6nm,1.0s,baz=233,slow=3.0,SNR=5.9
POLO Lamas de Olo 140.44 340 *e*PKPdf **PKPdf** 17 27 10.4 +0.6
POLO *ep*PKP **pPKPdf** 17 29 09.3 +0.3
POLO *e*SKP 17 30 00.3
PVRL Vila Real 140.50 340 *e*PKPdf **PKPdf** 17 27 10.8 +1.0
PVRL *e*SKP 17 30 01.0
PTLB Pontes e Lacer 140.51 121 PKP PKPpre 17 27 05.4
VILB Vilhena 140.67 117 PKP PKPpre 17 27 05.3
PVIS Viseu 141.06 339 *e*PKPdf PKPpre 17 27 05.1
PVIS *ep*PKP pPKPdf 17 29 10.0 0.0
PVIS *e*SKP 17 30 02.1
MTE Manteigas 141.21 339 *e*PKPdf PKPpre 17 27 06.1
MTE *e*SKP 17 30 02.8
TRCB Terra Rica 141.42 136 PKP PKPpre 17 27 07.7
PCBR Castelo Branco 141.68 338 *e*PKPdf PKPpre 17 27 08.0
PCBR *ep*PKP pPKPdf 17 29 14.0 +3.0
PCBR *e*SKP 17 30 03.4
PCAS Casmilo, Conde 141.86 340 *e*PKPdf PKPpre 17 27 08.3
PCAS *ep*PKP pPKPdf 17 29 13.3 +1.8
PCAS *e*SKP 17 30 03.9
PMRV Marv??o 142.01 338 *e*PKPdf PKPpre 17 27 08.3
PMRV *ep*PKP pPKPdf 17 29 10.4 -1.2
PMRV *e*SKP 17 30 04.4
PSARD Sardoal 142.14 339 *e*PKPdf PKPpre 17 27 08.8
PSARD *ep*PKP pPKPdf 17 29 11.8 -0.2
PSARD *e*SKP 17 30 04.9
PSBE So Bento 142.44 340 *e*PKPdf PKPpre 17 27 10.3
PSBE *e*SKP 17 30 05.8
H05N1 Guadeloupe/Mar 142.55 69 PKP **PKPdf** 17 27 12.7 -1.3
SNR=12
PESTR Estremoz 142.58 338 *e*PKPdf PKPpre 17 27 10.3
PESTR *ep*PKP pPKPdf 17 29 12.6 -0.1
PESTR *e*SKP 17 30 05.8
PMTG Montargil 142.63 339 *e*PKPdf PKPpre 17 27 10.4
PMTG *e*SKP 17 30 05.8

PBAR Barrancos 142.96 337 *e*PKPdf PKPpre 17 27 12.2
PBAR *e*SKP 17 30 06.5
EMAL Malaga-Limoner 143.03 332 PKP PKPpre 17 27 10.8
EVO Evora 143.03 338 PKP PKPbc 17 27 12.4 +0.2
EVO Evora 143.03 338 *e*PKPdf PKPpre 17 27 12.4
EVO *e*SKP 17 30 06.7
FRTB Fartura 143.09 140 *e*P PKPbc 17 27 12.7 -0.1
FRTB Fartura 143.09 140 PKP PKPab 17 27 12.5 +0.2
PARRA Arraiolos 143.15 339 *e*PKPdf PKPab 17 27 11.2 -0.9
PARRA *e*SKP 17 30 06.0
PCMB Pacaembu 143.16 136 *e*P PKPbc 17 27 13.1 0.0
PCMB Pacaembu 143.16 136 PKP PKPbc 17 27 13.0 -0.1
SALV Santo Antonio 143.17 124 *e*P PKPbc 17 27 13.1 -0.1
SALV Santo Antonio 143.17 124 PKP PKPab 17 27 12.5 -0.3
SALV PKP PKPbc 17 27 13.2 0.0
H05S1 Guadeloupe/Mar 143.18 72 PKP PKPbc 17 27 13.6 +0.4
SNR=5.5
MACA Manacapuru-AM 143.26 102 *e*P PKPab 17 27 13.2 0.0
MACA Manacapuru-AM 143.26 102 PKP PKPab 17 27 13.3 0.0
LIS Lisbon 143.28 339 *e*PKPbc PKPbc 17 27 13.4 +0.5
LIS Lisbon 143.28 339 *e*PKPdf PKPbc 17 27 13.7 +0.8
PBEJ Beja 143.42 337 *e*PKPdf PKPbc 17 27 13.8 +0.4
PBEJ *e*SKP 17 30 08.6
WMELI Melilla 143.47 329 PKP PKPab 17 27 13.1 -0.2
MAS01 UHE Manso 143.58 123 PKP PKPbc 17 27 14.6 +0.1
MESJ Messejana 143.71 338 *e*PKP PKPbc 17 27 14.9 +0.6
PET01 Itanhaem-SP 143.80 144 *e*P PKPab 17 27 14.9 0.0
PET01 Itanhaem-SP 143.80 144 PKP PKPab 17 27 14.9 -0.1
C2SB Chapadao do Su 143.82 131 PKP **PKPdf** 17 27 16.2 0.0
PCVE Castro Verde 143.83 337 *e*PKPdf PKPbc 17 27 15.1 +0.4
PCVE *e*SKP 17 30 08.9
PVAQ Vaqueiros 143.90 337 *e*PKPdf **PKPdf** 17 27 15.6 -0.3
PVAQ *e*SKP 17 30 09.5
SFS San Fernando 144.07 334 PKP **PKPdf** 17 27 16.7 +0.5
CNIL Conil 144.09 334 PKP **PKPdf** 17 27 16.4 +0.2
PBDV Barranco-do-Ve 144.12 337 *e*PKPdf **PKPdf** 17 27 16.6 +0.3
PBDV *ep*PKP **pPKPdf** 17 29 14.3 -1.3
PBDV *e*SKP 17 30 11.7
PTEO Sao Teotonio 144.16 338 *e*PKPdf **PKPab** 17 27 16.0 +0.1
PTEO *ep*PKP **pPKPdf** 17 29 14.1 -1.4
PTEO *e*SKP 17 30 10.3
BOAV Boa Vista 144.23 92 *e*P PKPbc 17 27 15.4 -1.3
BOAV Boa Vista 144.23 92 PKP PKPbc 17 27 16.7 0.0
BOAV Boa Vista 144.23 92 PKP PKPbc 17 27 16.5 -0.1
SPB Sao Paulo 144.23 143 *e*P PKPbc 17 27 15.8 -0.6
PDRB Porto dos Gac 144.31 117 *e*P PKPbc 17 27 15.9 -1.0
PDRB Porto dos Gac 144.31 117 PKP PKPbc 17 27 16.6 -0.2
MORF Marmelete 144.35 338 *e*PKP **PKPdf** 17 27 17.1 +0.4
MORF Marmelete 144.35 338 *e*PKPdf **PKPdf** 17 27 17.1 +0.4
MORF *e*SKP 17 30 10.5
PFVI Vila Bisbo 144.56 338 *e*PKPdf **PKPab** 17 27 17.7 +0.3
PFVI *ep*PKP **pPKPdf** 17 29 15.3 -0.9
PFVI *e*SKP 17 30 10.7
BBGH Gun Hill 144.64 74 PKP **PKPdf** 17 27 15.7 -2.0
VABB Valinhos 144.95 143 PKP **PKPab** 17 27 19.2 -0.2
VAO Valinhos 144.95 143 *e*P PKPbc 17 27 18.8 +0.1
H07S1 FLORES T-PHASE 144.97 9 PKP **PKPab** 17 27 19.6 +0.7
SNR=14
ITRB Iturama 145.05 135 *e*P **PKPbc** 17 27 18.9 -0.1
ITRB Iturama 145.05 135 PKP **PKPbc** 17 27 19.4 +0.4
BB19B Bebedouro 145.37 138 *e*P **PKPbc** 17 27 19.5 -0.5
BB19B Bebedouro 145.37 138 PKP **PKPbc** 17 27 20.3 +0.3
CLDB Colider 145.45 117 *e*P **PKPbc** 17 27 19.6 +0.6
CLDB Colider 145.45 117 PKP **PKPbc** 17 27 19.9 -0.5
PARB Paraibuna 145.49 145 *e*P **PKPbc** 17 27 19.9 -0.4
PARB Paraibuna 145.49 145 PKP **PKPbc** 17 27 20.4 +0.1
SRBC Serra Branca 145.68 5 *e*PKP **PKPbc** 17 27 20.9 +0.5
SRBC *ep*PKP pPKPbc 17 29 17.5 0.0
PGRA Graciosa 145.69 4 *e*PKP PKiKP 17 27 34.0 +11
PGRA *ep*PKP pPKPdf 17 29 32.2 +14
SLP01 Ubatuba-SP 145.77 145 *e*P **PKPdf** 17 27 19.9 +0.2
SLP01 Ubatuba-SP 145.77 145 PKP **PKPdf** 17 27 20.3 +0.6
ROSA Rosais 145.97 5 *e*PKP **PKPbc** 17 27 21.6 +0.4
PCED Cedros 146.02 6 *e*PKP **PKPdf** 17 27 20.0 +0.5
PCED *ep*PKP **pPKPdf** 17 29 19.7 +0.8
CALA Caldeira 146.07 6 *e*PKP **PKPab** 17 27 22.7 -0.6
CALA *ep*PKP pPKPab 17 29 17.8 -0.5
PMAN Manadas 146.07 5 *e*PKP **PKPbc** 17 27 21.5 +0.1
PMAN *ep*PKP pPKPab 17 29 18.1 0.0
PSCM Serra do Cume 146.07 3 *e*PKP **PKPbc** 17 27 21.4 0.0
PSCM *ep*PKP pPKPab 17 29 18.3 0.0
ADH Angra Heroismo 146.11 3 *e*PKP **PKPab** 17 27 23.3 -0.1
PICO Pico 146.18 5 *e*PKP **PKPbc** 17 27 22.0 +0.2
PICO *ep*PKP **pPKPdf** 17 29 19.3 +0.1
PCAN Candelaria 146.21 5 *e*PKP **PKPab** 17 27 23.6 -0.2
PPNO Prainha do Nor 146.22 5 *e*PKP **PKPbc** 17 27 21.4 -0.5
PPNO *ep*PKP **pPKPdf** 17 29 20.3 +1.0
PID Ribeirinha 146.26 5 *e*PKP **PKPbc** 17 27 22.8 +0.7
ARAG Araguaiana, MT 146.41 128 *e*P **PKPdf** 17 27 21.3 +0.6
MAN01 Angra dos Reis 146.80 146 *e*P **PKPdf** 17 27 22.1 +0.7
MAN01 Angra dos Reis 146.80 146 PKP **PKPdf** 17 27 22.2 +0.9
PSET Sete Cidades 147.01 1 *e*PKP **PKPdf** 17 27 22.6 +1.4
PSET *ep*PKP **pPKPdf** 17 29 20.7 +0.1
BART Pico Bartolome 147.06 1 *e*PKP **PKPdf** 17 27 22.3 +0.9
BART *ep*PKP **pPKPdf** 17 29 19.6 -1.2
PGRON Lagoa das Cont 147.07 1 *e*PKP **PKiKP** 17 27 25.6 -0.5
PGRON *ep*PKP **pPKPab** 17 29 22.6 +0.7
CMLA Cha da Macela 147.07 1 *e*PKP **PKPdf** 17 27 22.6 +1.3
CMLA *ep*PKP **pPKPdf** 17 29 19.9 -1.1
ITU3 Corumbazu 147.08 134 PKP **PKPdf** 17 27 22.6 +0.8
AVE Averroes 147.26 333 PKP **PKPdf** 17 27 22.1 +0.3
NPGB Novo Progresso 147.31 111 *e*P **PKPdf** 17 27 22.6 +0.3
NPGB Novo Progresso 147.31 111 PKP **PKPdf** 17 27 22.3 -0.1
CANS Sao Roque de M 147.32 140 PKP **PKPdf** 17 27 23.5 +1.2
VAS01 Vassouras-RJ 147.55 146 *e*P **PKPdf** 17 27 23.2 +0.7
VAS01 Vassouras-RJ 147.55 146 PKP **PKPdf** 17 27 23.2 +0.7
IPMB Ipameri, GO 147.70 135 *e*P **PKPdf** 17 27 23.3 +0.4
IPMB Ipameri, GO 147.70 135 PKP **PKPdf** 17 27 23.5 +0.5
ITTB Itaituba 147.77 106 *e*P **PKPdf** 17 27 23.5 +0.4
ITTB Itaituba 147.77 106 PKP **PKPdf** 17 27 23.2 +0.1
BSCB Bom Sucesso 147.79 143 *e*P **PKPdf** 17 27 23.5 +0.5
BSCB Bom Sucesso 147.79 143 PKP **PKPdf** 17 27 24.1 +1.1
PSMN Pico do Norte, 147.84 0 *e*PKP **PKPdf** 17 27 23.6 +1.1
PSMN *ep*PKP **pPKPbc** 17 29 23.7 -0.2
PSMA Santa Maria 147.84 1 *e*PKP **PKPdf** 17 27 23.3 +0.8
PSMA *ep*PKP **pPKPab** 17 29 24.6 -0.2
SFA1 Serra Facao 148.07 135 PKP **PKPdf** 17 27 24.5 +0.9
SIM2 UHE Simplicio 148.19 147 PKP **PKPdf** 17 27 24.5 +0.9
DUB01 Friburgo-RJ 148.29 148 *e*P **PKPdf** 17 27 24.4 +0.6
DUB01 Friburgo-RJ 148.29 148 PKP **PKPdf** 17 27 24.7 +0.9
PMNB Patos De Minas 148.54 138 *e*

comp=Z,61nm,0.9s,baz=258,slow=5.6,SNR=12
MDP pPKPbc **pPKPbc** 17 29 35.5 -0.4
comp=Z,55nm,0.9s,baz=244,slow=3.0,SNR=7.9
LAJE UHE Lajeado 152.37 122 PKP **PKPdf** 17 27 30.7 +0.5
JANB Januaria 152.42 136 *eP* **PKPdf** 17 27 30.6 +0.3
JANB Januaria 152.42 136 PKP **PKPdf** 17 27 30.5 +0.2
TORD Torodi Ar. Bea 152.58 290 PKP **PKPdf** 17 27 29.7 -0.7
comp=Z,9.8nm,1.0s,baz=111,slow=2.8,SNR=10
TORD PKPbc **PKPbc** 17 27 38.0 +0.1
comp=Z,41nm,0.6s,baz=81,slow=2.0,SNR=31
TORD PKPab **PKPab** 17 27 50.7 -0.2
comp=Z,38nm,0.9s,baz=70,slow=4.3,SNR=9.4
TORD pPKPbc **pPKPbc** 17 29 37.2 +0.6
comp=Z,17nm,0.9s,baz=61,slow=2.0,SNR=7.3
TORD SKP 17 30 15.6
comp=Z,2µm,0.3s,baz=77,slow=2.8,SNR=5.0
TORD PP **PP** 17 31 25.3 -1.1
comp=Z,4µm,0.8s,baz=48,slow=2.1,SNR=4.6
PRPB Parauapebas 152.75 113 *eP* **PKPdf** 17 27 31.4 +0.6
PRPB Parauapebas 152.75 113 PKP **PKPdf** 17 27 31.1 +0.3
CAR01 Carai MG 152.87 143 PKP **PKPdf** 17 27 31.2 +0.3
CN01 Coaracy Nunes 153.27 97 PKP **PKPdf** 17 27 29.0 -2.5
SMTB Santa Maria do 153.55 121 *eP* **PKPdf** 17 27 32.4 +0.5
SMTB Santa Maria do 153.55 121 PKP **PKPdf** 17 27 32.7 +0.8
SDBA SAO DESIDERIO 153.74 130 *eP* **PKPdf** 17 27 32.7 +0.4
SDBA SAO DESIDERIO 153.74 130 PKP **PKPdf** 17 27 32.6 +0.4
GUA01 Guaratinga, BA 154.15 145 *eP* **PKPdf** 17 27 33.2 +0.5
GUA01 Guaratinga, BA 154.15 145 PKP **PKPdf** 17 27 33.2 +0.5
PAL01 Palmeiras do T 154.60 116 PKP **PKPdf** 17 27 34.3 +0.9
PAL2 UHE Estreito - 154.76 117 PKP **PKPdf** 17 27 34.5 +0.9
ANA01 Lindo Horizont 155.18 141 PKP **PKPdf** 17 27 34.2 +0.1
CMC01 Camacan, BA 155.29 144 *eP* **PKPdf** 17 27 34.7 +0.5
CMC01 Camacan, BA 155.29 144 PKP **PKPdf** 17 27 34.1 -0.1
TMAB Tom-Au,PA,Br 155.64 106 *eP* **PKPdf** 17 27 34.5 -0.2
TMAB Tom-Au,PA,Br 155.64 106 PKP **PKPdf** 17 27 35.8 +1.0
GDU01 Guandu, BA 156.53 141 *eP* **PKPdf** 17 27 36.3 +0.4
NBBC Barra do Corda 157.12 116 PKP **PKPdf** 17 27 37.3 +0.7
NBLA Lagarto - SE 159.73 140 PKP **PKPdf** 17 27 39.9 +0.2
DBIC Dimbokro 160.10 277 PKP **PKPdf** 17 27 39.9 -0.2
comp=Z,13nm,0.8s,baz=84,slow=2.7,SNR=9.9
DBIC PKPab **PKPab** 17 28 23.1 -0.4
comp=Z,30nm,0.8s,baz=109,slow=6.5,SNR=13
DBIC Dimbokro 160.10 277 PKP **PKPdf** 17 27 39.8 -0.4
NBPS Pedro II - PI 161.04 118 PKP **PKPdf** 17 27 40.9 -0.4
NBMA Muriti-CE 161.59 130 PKP **PKPdf** 17 27 41.6 -0.2
NBAN Anadia - AL 161.69 141 *eP* **PKPdf** 17 27 42.4 +0.5
NBAN Anadia - AL 161.69 141 PKP **PKPdf** 17 27 41.6 -0.2
NBPB Pedra_Branca-C 162.04 124 *eP* **PKPdf** 17 27 42.7 +0.5
NBPB Pedra_Branca-C 162.04 124 PKP **PKPdf** 17 27 42.0 -0.2
SBBR Sobral 162.38 118 PKP **PKPdf** 17 27 42.2 -0.4
NBMO Morrinhos-CE 162.78 117 PKP **PKPdf** 17 27 43.0 +0.1
NBCL Cascavel-CE 163.84 123 *eP* **PKPdf** 17 27 44.4 +0.5
NBCL Cascavel-CE 163.84 123 PKP **PKPdf** 17 27 44.2 +0.4
NBPA Parau_RN 163.88 130 PKP **PKPdf** 17 27 44.2 +0.3
RCBR Riachuelo 164.73 133 PKP **PKPdf** 17 27 45.5 +0.8
comp=Z,11nm,0.9s,baz=168,slow=6.8,SNR=5.7
RCBR PKPab **PKPab** 17 28 44.3 +0.6
comp=Z,12nm,1.1s,baz=204,slow=12,SNR=4.9
RCBR Riachuelo 164.73 133 *eP* **PKPdf** 17 27 43.7 -1.0
RCBR Riachuelo 164.73 133 PKP **PKPdf** 17 27 44.1 -0.6
NBPV Pedro Velho 164.76 136 PKP **PKPdf** 17 27 44.5 -0.2

JMA 11 17:15:19.5±0.1, 36°8.8N±0.3 × 138°6.6E±0.3, h0km, MV0.5/14,
NORTHERN NAGANO PREF, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**0.42**	**229**	*eP*	Pg	17 15 27.9	+0.4
MAT				*eS*	Sg	17 15 33.4	+0.5
JNG	**Nsakai**	**0.57**	**224**	*eS*	Sg	17 15 38.4	+0.6

*IDC **11** 17:17:28.9±0.5, 15°.65N × 49°.90W, h0km, mb4.4/23, mbtmp4.5/25, ML4.6/2, Error ellipse: s-maj=16.2km s-min=12.1km az=133.0*
*NEIC **11** 17:17:30.6±2.2, 15°.60N±0°.09 × 49°.96W±0°.09, h10km±1km, mb5.1/119, Error ellipse: s-maj=14.7km s-min=14.0km az=144.0*
*RSNC **11** 17:17:31.9±1.5, 16°.1N±11°.5 × 0°.1W±1°.6, h0km, M4.7, mB5.3, mb5.0, Mw(mB)4.7, MwMwp4.5, Mwp4.9*
ISC 11 17:17:30.2±0.4, 15°.67N±0°.06 × 50.12W±0°.05, h10km, n179,
σ1§87/143, mb5.0/84, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBGH	**Gun Hill**	**9.48**	**256**	Pn	**Pn**	**17 19 49.9**	**+2.9**
BBGH	**Gun Hill**	**9.48**	**256**	P	**Pn**	**17 19 49.9**	**+2.9**
	457nm,0.7s						
ILAM	**Ilet Lapin Mar**	**10.42**	**267**	Pn	**Pn**	**17 20 02.0**	**+2.2**
H05S1	**Guadeloupe/Mar**	**10.43**	**265**	Pn	**Pn**	**17 20 01.4**	**+1.5**
H05S1				Sn	**Sn**	**17 21 53.0**	**-3.8**
H05S1				T	T	17 31 07.8	
	SNR=3.8						
H05N1	**Guadeloupe/Mar**	**10.54**	**275**	Pn	**Pn**	**17 19 59.6**	**-1.8**
H05N1				Sn	**Sn**	**17 21 53.5**	**-6.1**
H05N1				T	T	17 30 04.6	
	SNR=8.6						
GDSD	**La Dsirade Is**	**10.54**	**275**	Pn	**Pn**	**17 20 02.0**	**+0.5**
BIM	**Bigot**	**10.64**	**265**		**Pn**	**17 20 04.1**	**+1.3**
FDF	**Fort de France**	**10.69**	**266**		**Pn**	**17 20 05.5**	**+2.0**
MAGL	**Barre de l'ile**	**10.75**	**273**	Pn	**Pn**	**17 20 06.5**	**+2.2**
MDP	**Montagnes des**	**10.79**	**194**	Pn	**Pn**	**17 20 02.4**	**-2.6**
	4.4nm,0.3s,baz=358,slow=17,SNR=29						
MDP				Sn	Sn	17 21 49.8	-16
	10nm,0.3s,baz=78,slow=20,SNR=14						
ABD	**La Joyeuse, An**	**10.96**	**276**	Pn	**Pn**	**17 20 07.5**	**+0.4**
CBE	**Ff, Capester**	**11.06**	**274**		**Pn**	**17 20 10.5**	**+1.9**
TDBA	**Terre de Bas,**	**11.09**	**272**		**Pn**	**17 20 11.1**	**+2.2**
GDHS	**Morne Mazeau,**	**11.21**	**275**	Pn	**Pn**	**17 20 10.4**	**-0.3**
GDHS					**Sn**	**17 22 12.7**	**-3.6**
ANWB	**Willy Bob**	**11.35**	**282**	P	**Pn**	**17 20 10.6**	**-2.0**
	103nm,0.6s						
GRGR	**Grenville**	**11.74**	**254**	Pn	**Pn**	**17 20 18.4**	**+0.5**
GRGR	**Grenville**	**11.74**	**254**	P	**Pn**	**17 20 16.1**	**-1.8**
	3µm182nm,0.6s						
PCRV	**Puerto La Cruz**	**15.16**	**251**	Pn	**Pn**	**17 21 05.7**	**+1.1**
	1.7nm,0.3s,baz=60,slow=3.1,SNR=16						
PCRV				Sn	**Sn**	**17 23 43.9**	**-8.9**
	0.5nm,0.3s,baz=139,slow=20,SNR=1.4						
	18nm,0.6s						
HUMP	**Col San Antoni**	**15.25**	**281**	Pn	**Pn**	**17 21 06.0**	**+0.3**
PDPR	**Patillas Dam,**	**15.40**	**281**	Pn	**Pn**	**17 21 07.3**	**-0.4**
SJG	**San Juan**	**15.53**	**281**	Pn	**P**	**17 21 14.3**	**+0.5**
	3.3nm,0.3s,baz=82,slow=9.4,SNR=14						
SJG				Sn	**Sn**	**17 23 54.4**	**-7.3**
	3.2nm,0.3s,baz=105,slow=20,SNR=4.7						
	35nm,0.7s						
CELP	**Cerrillos**	**15.93**	**281**	P	**P**	**17 21 19.9**	**+1.6**
OBIP	**Obispado Ponce**	**15.95**	**281**	P	**P**	**17 21 21.1**	**+2.5**
AOPR	**Arecibo Observ**	**16.13**	**282**	P	**P**	**17 21 22.6**	**+2.1**
CRPR	**Cabo Rojo, PR**	**16.43**	**281**	P	**P**	**17 21 24.9**	**+1.1**
BOAV	**Boa Vista**	**16.71**	**219**	Pn	**Pn**	**17 21 23.9**	**-0.7**
BOAV	**Boa Vista**	**16.71**	**219**	*eP*	**Pn**	**17 21 23.9**	**-0.7**
BOAV	**Boa Vista**	**16.71**	**219**	P	**Pn**	**17 21 24.0**	**-0.7**
	587nm37nm,0.7s						
MAL2	**Monte Alegre,**	**18.03**	**193**		**Pn**	**17 21 40.0**	**-1.1**
TMAB	**Tom-Au,PA,Br**	**18.04**	**173**	*eP*	**P**	**17 21 41.3**	**-0.3**
BAUV	**El Baul**	**18.73**	**251**		**Pn**	**17 21 51.1**	**+1.4**
BAUV				IAmb	IAmb	17 21 53.5	
	comp=Z,155nm,0.8s						
SDDR	**Presa de Saban**	**20.47**	**282**		**P**	**17 22 09.9**	**+1.5**
SDDR				IAmb	IAmb	17 22 27.7	
	comp=Z,127nm,1.9s						
SDDR	**Presa de Saban**	**20.47**	**282**	P	**P**	**17 22 09.8**	**+1.5**
	comp=Z,30nm,1.4s						
ITTB	**Itaituba**	**20.67**	**196**	*eP*	**P**	**17 22 11.1**	**+0.6**
SDV	**Santo Domingo**	**21.14**	**254**		**P**	**17 22 16.7**	**+1.0**
SDV				IAmb	IAmb	17 22 22.3	
	comp=Z,68nm,0.8s						
SDV	**Santo Domingo**	**21.14**	**254**	P	**P**	**17 22 16.6**	**+0.8**
	comp=Z,18nm,0.4s,baz=67,slow=9.6,SNR=11						
	comp=Z,18nm,0.4s						
SDV	**Santo Domingo**	**21.14**	**254**	*eP*	**P**	**17 22 19.6**	**+3.9**
SDV	**Santo Domingo**	**21.14**	**254**	P	**P**	**17 22 19.8**	**+4.1**
	comp=Z,90nm,0.9s						
MACA	**Manacapuru-AM**	**21.43**	**210**		**P**	**17 22 17.6**	**-1.1**
MACA				IAmb	IAmb	17 22 31.3	
	comp=Z,45nm,0.6s						
PRPB	**Parauapebas**	**21.71**	**179**	*eP*	**P**	**17 22 21.4**	**-0.3**
NBCL	**Cascavel-CE**	**22.98**	**148**	*eP*	**P**	**17 22 34.5**	**-0.7**
NPGB	**Novo Progresso**	**23.16**	**193**	*eP*	**P**	**17 22 36.9**	**-0.2**
NBPB	**Pedra_Branca-C**	**23.52**	**153**	*eP*	**P**	**17 22 40.6**	**-0.1**
PAMC	**Pamplona, Colo**	**23.60**	**252**	P	**P**	**17 22 43.9**	**+1.8**
OCAC	**Ocana**	**23.85**	**255**	P	**P**	**17 22 46.4**	**+2.3**
	comp=Z,3µmcomp=Z,189nm,1.3s						
TEFE	**Tefe**	**23.86**	**218**	*eP*	**P**	**17 22 45.2**	**+1.1**
BARC	**Barichara**	**24.34**	**251**	P	**P**	**17 22 50.2**	**+1.4**
SMTB	**Santa Maria do**	**24.51**	**174**	*eP*	**P**	**17 22 51.3**	**+1.3**
RUSC	**La Rusia**	**24.53**	**249**		**P**	**17 22 52.8**	**+1.9**
RUSC	**La Rusia**	**24.53**	**249**	P	**P**	**17 22 53.1**	**+2.3**
	comp=Z,862nmcomp=Z,73nm,0.9s						
SJCC	**San Jacinto, C**	**25.09**	**260**	P	**P**	**17 22 55.8**	**+0.4**
	comp=Z,24nm,0.9s						
PTBC	**PUERTO BERRIO,**	**25.52**	**252**	P	**P**	**17 22 58.2**	**-1.0**
	comp=Z,542nmcomp=Z,8.9nm,0.9s						
ZARC	**Zaragoza, Cauc**	**25.54**	**254**	P	**P**	**17 23 00.1**	**+0.7**
	comp=Z,501nmcomp=Z,51nm,0.7s						
CHIC	**Chingaza**	**25.67**	**247**	P	**P**	**17 23 01.8**	**+0.8**
	comp=Z,607nmcomp=Z,43nm,1.0s						
UREC	**San Jos de Ur**	**26.07**	**255**	P	**P**	**17 23 06.0**	**+1.7**
	comp=Z,524nmcomp=Z,13nm,1.1s						
ROSC	**El Rosal**	**26.10**	**248**	P	**P**	**17 23 08.5**	**+3.6**
	comp=Z,44nm,0.8s,baz=75,slow=12,SNR=12						
	comp=Z,44nm,0.8s						
NORC	**Norcasia**	**26.28**	**250**	P	**P**	**17 23 06.1**	**-0.1**
	comp=Z,23nm,0.7s						
GUY2C	**Guyana, Caldas**	**26.87**	**250**	P	**P**	**17 23 13.9**	**+1.9**
	comp=Z,29nm,0.7s						
CLDB	**Colider**	**26.97**	**192**	*eP*	**P**	**17 23 12.5**	**+0.3**
APAC	**Apartado, Choc**	**27.00**	**256**	P	**P**	**17 23 17.1**	**+4.4**
	comp=Z,127nm,0.8s						
PRAC	**Prado**	**27.11**	**247**	P	**P**	**17 23 14.3**	**+0.7**
	comp=Z,23nm,1.3s						
CBOC	**Ciudad Bolivar**	**27.20**	**252**	P	**P**	**17 23 14.8**	**+0.1**
	comp=Z,14nm,1.0s						
ORTC	**Ortega, Tolima**	**27.34**	**247**	P	**P**	**17 23 15.3**	**-0.4**
	comp=Z,357nmcomp=Z,14nm,1.1s						
SNDB	**Serra Nova Dou**	**27.49**	**182**	*eP*	**P**	**17 23 16.9**	**-0.1**
PDRB	**Porto dos Gac**	**27.89**	**194**	*eP*	**P**	**17 23 21.8**	**+1.3**
FLOC	**Florencia**	**28.80**	**243**	P	**P**	**17 23 28.8**	**0.0**
FLOC				IAmb	IAmb	17 24 30.3	
	comp=Z,45nm,1.8s						
VILB	**Vilhena**	**30.14**	**200**		**P**	**17 23 38.3**	**-2.2**
VILB				IAmb	IAmb	17 23 42.8	
	comp=Z,18nm,0.7s						
VILB	**Vilhena**	**30.14**	**200**	*eP*	**P**	**17 23 42.0**	**+1.4**
GDU01	**Guandu, BA**	**31.01**	**160**	*eP*	**P**	**17 23 50.0**	**+1.8**
JANB	**Januaria**	**31.07**	**169**	*eP*	**P**	**17 23 48.2**	**-0.6**
BDFB	**Brasilia**	**31.18**	**176**		**P**	**17 23 49.9**	**0.0**
BDFB	**Brasilia**	**31.18**	**176**	P	**P**	**17 23 49.9**	**0.0**
	comp=Z,2.6nm,0.4s,baz=354,slow=12,SNR=5.0						
	comp=Z,2.6nm,0.4s						
ARAG	**Araguaiana, MT**	**31.22**	**183**	*eP*	**P**	**17 23 51.1**	**+1.1**
SALV	**Santo Antonio**	**31.85**	**190**	*eP*	**P**	**17 23 56.5**	**+0.9**
OTAV	**Otavalo**	**31.89**	**244**	P	**P**	**17 23 58.5**	**+1.8**
OTAV	**Otavalo**	**31.89**	**244**	*eP*	**P**	**17 23 58.8**	**+2.2**
PTLB	**Pontes e Lacer**	**32.18**	**196**		**P**	**17 23 59.2**	**+0.8**
PTLB	**Pontes e Lacer**	**32.18**	**196**	*eP*	**P**	**17 23 59.8**	**+1.3**
CZSB	**Cruzeiro do Su**	**32.27**	**225**	*eP*	**P**	**17 24 00.5**	**+1.2**
PIAT	**Ana Tenorio**	**32.37**	**242**	P	**P**	**17 24 03.3**	**+2.6**
M57A	**Sunshine Farm,**	**34.62**	**323**		**P**	**17 24 19.6**	**0.0**
LPAZ	**La Paz**	**36.39**	**210**		**P**	**17 24 36.6**	**+0.9**
LPAZ				IAmb	IAmb	17 24 37.9	
	comp=Z,22nm,1.0s						
LPAZ	**La Paz**	**36.39**	**210**	P	**P**	**17 24 36.8**	**+1.1**
	comp=Z,19nm,0.9s,baz=15,slow=7.4,SNR=53						
	comp=Z,19nm,0.9s						
LPAZ	**La Paz**	**36.39**	**210**	*eP*	**P**	**17 24 36.7**	**+0.9**
PCMB	**Pacaembu**	**37.07**	**182**	*eP*	**P**	**17 24 41.8**	**+1.1**
PB18	**Visviri**	**38.17**	**211**	IAmb	IAmb	17 24 52.4	
	comp=Z,32nm,0.9s						
FRTB	**Fartura**	**38.78**	**179**	*eP*	**P**	**17 24 56.1**	**+0.8**
LDASE	**Londrina, Braz**	**38.84**	**181**	*eP*	**P**	**17 24 56.5**	**+0.8**
PB11	**IPOC Station P**	**40.11**	**209**	P	**P**	**17 25 05.4**	**-1.1**
PB01	**IPOC Station P**	**41.14**	**208**	P	**P**	**17 25 14.6**	**-0.4**
PB01				IAmb	IAmb	17 25 16.0	
	comp=Z,35nm,0.8s						
SCHQ	**Schefferville**	**41.17**	**345**	P	**P**	**17 25 15.4**	**+0.7**
	comp=Z,3.9nm,0.9s,baz=131,slow=11,SNR=3.9						
	comp=Z,3.9nm,0.9s						
PB02	**IPOC Station P**	**41.57**	**208**	P	**P**	**17 25 17.8**	**-0.7**
H10N3	**ASCENSION HYDR**	**42.32**	**121**	T	T	18 10 12.2	
	baz=303,slow=75,SNR=19						
H10N2	**ASCENSION HYDR**	**42.32**	**121**	T	T	18 10 19.0	
	baz=303,slow=75,SNR=20						
CPUP	**Villa Florida**	**42.34**	**190**	P	**P**	**17 25 23.8**	**-0.7**
CPUP	**Villa Florida**	**42.34**	**190**	P	**P**	**17 25 24.4**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=18,slow=6.4,SNR=12						
	comp=Z,1.1nm,0.6s						
H10N1	**ASCENSION HYDR**	**42.34**	**121**	T	T	18 10 18.2	
	baz=303,slow=75,SNR=20						
H10S3	**ASCENSION HYDR**	**42.80**	**122**	T	T	18 10 43.2	
	baz=299,slow=74,SNR=31						
H10S2	**ASCENSION HYDR**	**42.82**	**122**	T	T	18 10 45.0	
	baz=281,slow=74,SNR=24						
DBIC	**Dimbokro**	**45.22**	**96**	P	**P**	**17 25 46.0**	**-2.1**
	comp=Z,5.5nm,0.9s,baz=302,slow=10,SNR=6.2						
	comp=Z,5.5nm,0.9s						
CPSB	**Cacapava Do Su**	**45.92**	**184**	*eP*	**P**	**17 25 53.4**	**+0.2**
FW06	**Azle**	**46.12**	**301**	P	**P**	**17 25 57.5**	**+2.6**
FW06				IAmb	IAmb	17 25 58.7	
	comp=Z,16nm,0.7s						
OK052	**Battle Ridge R**	**46.13**	**305**	P	**P**	**17 25 55.8**	**+0.8**
OK052				IAmb	IAmb	17 26 07.7	
	comp=Z,15nm,0.9s						
OK051	**E0350 and S346**	**46.28**	**306**	P	**P**	**17 25 57.6**	**+1.4**
OK051				IAmb	IAmb	17 25 59.2	
	comp=Z,15nm,0.8s						
OK048	**Pawnee Station**	**46.34**	**306**	P	**P**	**17 25 57.9**	**+1.2**
OK048				IAmb	IAmb	17 25 59.7	
	comp=Z,17nm,0.9s						
ESDC	**Sonseca Array**	**46.71**	**50**	P	**P**	**17 25 58.4**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=250,slow=8.3,SNR=8.6						
	comp=Z,1.1nm,0.8s						
PLPT	**Palo Pinto**	**46.72**	**300**	IAmb	IAmb	17 26 02.9	
	comp=Z,15nm,0.8s						
KAN13	**South Haven SW**	**46.90**	**306**	IAmb	IAmb	17 26 04.2	
	comp=Z,14nm,0.8s						
BRDY	**Brady**	**47.07**	**298**	IAmb	IAmb	17 26 05.2	
	comp=Z,16nm,0.8s						
HNDO	**Hondo**	**47.10**	**296**	IAmb	IAmb	17 26 06.1	
	comp=Z,28nm,1.5s						
CROK	**Carrier**	**47.18**	**305**	IAmb	IAmb	17 26 06.4	
	comp=Z,20nm,0.8s						
WMOK	**Wichita Mounta**	**47.44**	**303**	IAmb	IAmb	17 26 10.5	
	comp=Z,18nm,1.6s						
JCT	**Junction City**	**47.66**	**297**	IAmb	IAmb	17 26 09.8	
	comp=Z,9.2nm,0.8s						
APMT	**Aspermont**	**48.30**	**301**	IAmb	IAmb	17 26 14.7	
	comp=Z,12nm,0.8s						
OZNA	**Ozona**	**48.84**	**297**	IAmb	IAmb	17 27 54.7	
	comp=Z,57nm,1.7s						
POST	**Post**	**49.41**	**300**	IAmb	IAmb	17 26 23.3	
	comp=Z,12nm,0.8s						
TORD	**Torodi Ar. Bea**	**50.15**	**86**	P	**P**	**17 26 25.0**	**-1.4**
	comp=Z,1.1nm,0.4s,baz=290,slow=6.7,SNR=3.1						
MSTX	**Muleshoe**	**50.58**	**301**	IAmb	IAmb	17 26 32.8	
	comp=Z,16nm,0.9s						
TXAR	**Lajitas Array**	**50.90**	**295**	P	**P**	**17 26 34.3**	**+2.3**
	comp=Z,2.1nm,0.9s,baz=95,slow=6.8,SNR=6.8						
	comp=Z,2.1nm,0.9s						
VHRN	**Van Horn**	**52.13**	**297**	IAmb	IAmb	17 27 30.8	
	comp=Z,37nm,1.7s						
PDAR	**Pinedale Array**	**57.16**	**311**	P	**P**	**17 27 19.0**	**+1.3**
	comp=Z,1.9nm,0.7s,baz=99,slow=7.7,SNR=6.3						
	comp=Z,1.9nm,0.7s						
HWUT	**Hardware Ranch**	**58.47**	**309**	IAmb	IAmb	17 27 33.2	
	comp=Z,16nm,1.2s						
LR05	**Currie**	**59.23**	**199**	P	**P**	**17 27 32.7**	**+1.0**
PLCA	**Paso Flores**	**59.24**	**198**	P	**P**	**17 27 32.4**	**+0.6**
PLCA				IAmb	IAmb	17 27 33.7	
	comp=Z,19nm,1.0s						
PLCA	**Paso Flores**	**59.24**	**198**	P	**P**	**17 27 32.5**	**+0.6**
	comp=Z,13nm,0.9s,baz=22,slow=8.4,SNR=11						
	comp=Z,13nm,0.9s						
BGU	**Big Grassy Mou**	**59.49**	**308**	IAmb	IAmb	17 27 37.6	
	comp=Z,14nm,0.8s						
JTMT	**Jette**	**61.22**	**316**	P	**P**	**17 27 47.0**	**+1.4**
TPH	**Tonopah**	**62.57**	**305**	P	**P**	**17 27 57.6**	**+2.6**
NB2	**NORSAR Subarra**	**62.65**	**29**	P	**P**	**17 27 55.8**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=250,slow=7.4						
NOA	**NORSAR Array B**	**62.65**	**29**	P	**P**	**17 27 55.4**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=252,slow=6.9,SNR=7.5						
	comp=Z,1.6nm,0.8s						
NVAR	**Mina Array Bea**	**63.42**	**305**	P	**P**	**17 28 02.9**	**+2.2**
NVAR	**Mina Array Bea**	**63.42**	**305**	P	**P**	**17 28 01.4**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=74,slow=5.6,SNR=4.1						
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**63.57**	**30**	P	**P**	**17 28 00.3**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=274,slow=8.5,SNR=3.5						
	comp=Z,3.6nm,0.8s						
G08A	**Pilot Rock**	**64.17**	**313**	IAmb	IAmb	17 28 07.5	
	comp=Z,7.8nm,0.7s						
WAKR	**Walker**	**64.31**	**305**	IAmb	IAmb	17 28 10.7	
	comp=Z,11nm,1.1s						
YKA	**Yellowknife Ar**	**64.50**	**332**	P	**P**	**17 28 07.6**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=98,slow=6.6,SNR=6.7						
	comp=Z,0.5nm,0.6s						
K05A	**Summer Lake**	**65.46**	**310**	IAmb	IAmb	17 28 17.1	
	comp=Z,12nm,0.9s						
LTY	**Liberty**	**65.48**	**315**	IAmb	IAmb	17 28 15.8	
	comp=Z,11nm,0.8s						
HATC	**Hat Creek Radi**	**65.87**	**308**	IAmb	IAmb	17 28 19.8	
	comp=Z,19nm,1.1s						
LLLB	**Lillooet**	**66.48**	**319**	IAmb	IAmb	17 28 22.4	
	comp=Z,9.9nm,0.9s						
BBOR	**Butler Butte**	**66.78**	**310**		**P**	**17 28 23.4**	**+1.1**
BBOR				IAmb	IAmb	17 28 24.1	
	comp=Z,6.8nm,0.7s						
YBH	**Yreka Blue Hor**	**66.81**	**309**		**P**	**17 28 23.2**	**+0.8**
KSXB	**Camp Six Broad**	**67.68**	**309**	IAmb	IAmb	17 28 31.0	
	comp=Z,13nm,0.9s						
FINES	**FINESS Array B**	**69.77**	**30**	P	**P**	**17 28 40.9**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=268,slow=4.2,SNR=5.8						
	comp=Z,4.0nm,0.8s						
ARCES	**ARCESS Array B**	**70.40**	**21**	P	**P**	**17 28 44.5**	**+0.2**
ARCES				IAmb	IAmb	17 28 50.8	
	comp=Z,25nm,1.4s						
ARCES	**ARCESS Array B**	**70.40**	**21**	P	**P**	**17 28 44.7**	**+0.4**
	comp=Z,5.5nm,0.9s,baz=260,slow=5.1,SNR=5.3						
	comp=Z,5.5nm,0.9s						
AKASG	**Malin Array Be**	**71.31**	**41**	P	**P**	**17 28 49.3**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=270,slow=4.7,SNR=7.2						
	comp=Z,1.4nm,0.6s						
F30M	**Barrier River**	**73.98**	**337**	P	**P**	**17 29 06.3**	**+0.6**
BR131	**Keskin Array S**	**75.42**	**52**	P	**P**	**17 29 13.2**	**-1.5**
BRTR	**Keskin Array B**	**75.42**	**52**	P	**P**	**17 29 13.3**	**-1.5**
BRTR	**Keskin Array B**	**75.42**	**52**	P	**P**	**17 29 14.9**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=265,slow=5.4,SNR=10						
	comp=Z,4.6nm,0.8s						
M29M	**Somme Creek**	**75.48**	**331**	IAmb	IAmb	17 30 08.0	
	comp=Z,52nm,2.0s						
C27K	**Jago River**	**76.68**	**339**	IAmb	IAmb	17 29 24.1	
	comp=Z,12nm,0.9s						
BCAR	**Beaver Creek A**	**76.92**	**332**	P	**P**	**17 29 22.1**	**-0.6**
L27K	**Beaver Creek,**	**76.94**	**332**	IAmb	IAmb	17 29 51.7	
	comp=Z,18nm,1.4s						
M27K	**Edge Creek, AK**	**77.07**	**331**	P	**P**	**17 29 23.9**	**+0.3**
G26K	**Porcupine Rive**	**77.14**	**336**	P	**P**	**17 29 23.6**	**-0.2**
G26K				IAmb	IAmb	17 29 55.7	
	comp=Z,48nm,1.8s						
L26K	**Log Cabin Wild**	**77.63**	**332**	IAmb	IAmb	17 29 58.1	
	comp=Z,52nm,1.9s						
D25K	**Kavik River**	**77.66**	**339**	IAmb	IAmb	17 29 29.6	
	comp=Z,16nm,0.8s						
F24K	**Squaw Lake**	**78.59**	**337**	IAmb	IAmb	17 30 11.7	
	comp=Z,43nm,1.9s						
E24K	**Your Creek**	**78.69**	**338**	IAmb	IAmb	17 29 35.8	
	comp=Z,12nm,0.8s						
ILAR	**Eielson Array**	**78.82**	**334**	P	**P**	**17 29 33.4**	**+0.2**
ILAR	**Eielson Array**	**78.82**	**334**	P	**P**	**17 29 34.1**	**+0.9**
	comp=Z,5.9nm,0.9s,baz=80,slow=6.2,SNR=31						
	comp=Z,5.9nm,0.9s						
TOLK	**Toolik Lake Re**	**78.94**	**338**	P	**P**	**17 29 32.2**	**-1.6**
TOLK

	comp=Z,7.2nm,0.8s							
WRAB	**Tennant Creek**	**44.61**	**272**	P	**P**	**17 38 01.6**	**-0.1**
WRAB				IAmb	IAmb	17 38 02.5	
	comp=Z,4.9nm,0.8s							
WRA	**Warramunga Arr**	**44.61**	**272**		**P**	**17 38 01.5**	**-0.3**
WRA	**Warramunga Arr**	**44.61**	**272**	P	**P**	**17 38 01.0**	**-0.8**
	comp=Z,5.3nm,0.7s,baz=114,slow=8.0,SNR=30							
WRA				PcP	**PcP**	**17 39 43.2**	**-1.1**	
	comp=Z,1.1nm,0.8s,baz=119,slow=3.1,SNR=3.2							
	comp=Z,5.3nm,0.7s							
WB0	**Warramunga Arr**	**44.64**	**272**		**P**	**17 38 01.2**	**-0.8**
WB0				IAmb	IAmb	17 38 03.2		
	comp=Z,11nm,0.9s							
H11N3	**WAKE ISLAND Hy**	**52.32**	**341**	T	T	18 35 24.5		
	baz=159,slow=80,SNR=3.7							
H11N1	**WAKE ISLAND Hy**	**52.32**	**341**	T	T	18 35 24.6		
	baz=159,slow=80,SNR=4.5							
H11N2	**WAKE ISLAND Hy**	**52.34**	**341**	T	T	18 35 25.8		
	baz=159,slow=80,SNR=3.4							
FITZ	**Fitzroy Crossi**	**52.86**	**270**	P	**P**	**17 39 04.6**	**-0.5**
FITZ				IAmb	IAmb	17 39 45.8		
	comp=Z,2.1nm,1.3s							
FITZ	**Fitzroy Crossi**	**52.86**	**270**	P	**P**	**17 39 04.8**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=115,slow=19,SNR=3.7							
	comp=Z,2.7nm,0.8s							
CASY	**Casey**	**55.13**	**208**	P	**P**	**17 39 20.3**	**-0.7**
CASY				IAmb	IAmb	17 39 26.3		
	comp=Z,7.8nm,1.2s							
QSPA	**South Pole Qui**	**59.44**	**180**	P	**P**	**17 39 52.8**	**+1.2**
	comp=Z,2.4nm,0.9s,baz=37,slow=4.9,SNR=2.2							
	comp=Z,2.4nm,0.9s							
SNAA	**Sanae**	**77.87**	**178**	P	**P**	**17 41 46.6**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=124,slow=7.3,SNR=2.9							
	comp=Z,1.1nm,0.9s							
NVAR	**Mina Array Bea**	**88.10**	**42**	P	**P**	**17 42 40.2**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=238,slow=5.3,SNR=2.6							
	comp=Z,0.8nm,0.8s							
MKAR	**Makanchi Array**	**118.34**	**310**	PKP	**PKiKP**	**17 48 36.1**	**0.0**
	comp=Z,0.1nm,0.4s,baz=110,slow=1.2,SNR=1.8							
KURBB	**Kurchatov Arra**	**121.64**	**313**	PKP	**PKPdf**	**17 48 41.0**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=100,slow=1.8,SNR=5.3							
FINES	**FINESS Array B**	**145.58**	**340**	PKPbc	**PKPdf**	**17 49 26.4**	**0.0**
	comp=Z,7.3nm,0.7s,baz=42,slow=3.9,SNR=30							
KBZ	**Khabaz**	**145.68**	**304**	PKPbc	**PKPab**	**17 49 28.6**	**+0.8**
	comp=Z,2.9nm,0.9s,baz=153,slow=2.3,SNR=5.0							
NB2	**NORSAR Subarra**	**149.10**	**352**	PKP	**PKPbc**	**17 49 36.4**	**-0.1**
	comp=Z,2.7nm,1.1s,baz=18,slow=4.4							
NOA	**NORSAR Array B**	**149.10**	**352**	PKPbc	**PKPbc**	**17 49 35.7**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=14,slow=2.7,SNR=7.6							
HFS	**Hagfors**	**149.61**	**349**	PKPbc	**PKPbc**	**17 49 37.7**	**0.0**
	comp=Z,1.8nm,0.7s,baz=33,slow=6.0,SNR=4.3							
AKASG	**Malin Array Be**	**151.82**	**323**	PKPbc	**PKPbc**	**17 49 42.8**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=52,slow=3.1,SNR=9.9							
AKASG				PKPab	**PKPab**	**17 49 51.7**	**-0.7**	
	comp=Z,1.9nm,0.7s,baz=52,slow=3.8,SNR=6.5							
MMAI	**Mount Meron Ar**	**152.09**	**283**	PKPbc	**PKiKP**	**17 49 45.9**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=106,slow=3.1,SNR=2.4							
MMAI				PKPab	**PKPab**	**17 49 54.4**	**+0.2**	
	comp=Z,3.1nm,0.7s,baz=92,slow=4.3,SNR=6.8							
BRTR	**Keskin Array B**	**153.18**	**298**	PKPbc	**PKiKP**	**17 49 48.1**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=121,slow=5.6,SNR=3.7							
TORD	**Torodi Ar. Bea**	**162.54**	**177**	PKPab	**PKPab**	**17 50 39.4**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=189,slow=3.6,SNR=1.6							

*NEIC **11** 17:31:03.7±0.5, 35°.959N×0°.007×117°.48W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.9km az=93.0*

PAS 11 17:31:03.9±0.6, **35°.964N**±0°.008×**117°.48W**±0°.01, **h1km, ML3.1**/23, **ML2.8**/138(NEIC), **Error ellipse: s-maj=1.5km s-min=1.2km az=64.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.09**	**357**		Pg	17 31 06.2	+0.4
JRC2	**Joshua Ridge**	**0.27**	**274**		Pg	17 31 09.4	+0.4
WVPM	**Volcano Peak E**	**0.27**	**267**		Pg	17 31 09.4	+0.2
WRVM	**Rose V. Centra**	**0.33**	**278**		Pg	17 31 10.7	+0.4
MFS	**McCloud Flat S**	**0.34**	**297**		Pg	17 31 11.0	+0.6
SRTC	**Snort**	**0.35**	**219**		Pg	17 31 11.3	+0.8
SRTC					Sb	17 31 17.2	-1.8
WSHM	**Spangler Hills**	**0.36**	**181**	Pg	Pg	17 31 11.0	+0.1
WSHM				IAML		17 31 17.1	
	800nm,0.3s						
WSHM				IAML		17 31 17.3	
	1μm,0.2s						
WNMM	**Nine Mile Cany**	**0.36**	**251**		Pg	17 31 11.1	+0.2
CCCA	**Chr Cany lake**	**0.45**	**168**		Pg	17 31 12.9	+0.5
CCCA				IAML		17 31 21.6	
	comp=N,1μm,0.3s						
CCCA				IAML		17 31 25.6	
	comp=E,960nm,0.7s						
QSM	**Queen of Sheba**	**0.50**	**90**		Pg	17 31 13.4	0.0
QSM				IAML		17 31 21.6	
	comp=N,529nm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.51**	**199**		Pg	17 31 13.8	+0.1
LRMC				IAML		17 31 21.8	
	comp=E,1μm,0.4s						
LRMC				IAML		17 31 22.0	
	comp=N,1μm,0.2s						
CWC	**Cottonwood Cre**	**0.68**	**315**		Pg	17 31 17.0	+0.1
CWC				IAML		17 31 27.1	
	comp=E,395nm,0.3s						
CWC				IAML		17 31 27.7	
	comp=N,488nm,0.3s						
WBSM	**Bird Springs**	**0.68**	**232**		Pg	17 31 17.2	+0.2
WHFM	**Hanning Flat**	**0.75**	**250**		Pg	17 31 18.2	-0.2
GSC	**Goldstone, Bar**	**0.86**	**140**		Pg	17 31 20.1	-0.2
ISA	**Isabella, Lake**	**0.86**	**250**	IAML		17 31 36.1	
	comp=E,326nm,0.5s						
ISA				IAML		17 31 36.3	
	comp=N,362nm,0.3s						
GRAC	**Grapevine Rang**	**1.03**	**5**		Pg	17 31 23.5	-0.3
GRAC				IAML		17 31 41.8	
	comp=N,378nm,1.0s						
GRAC				IAML		17 31 43.5	
	comp=E,461nm,0.5s						
SPG2	**Springville 2**	**1.07**	**283**		Pg	17 31 23.9	-0.5
SGV	**South Grapevin**	**1.08**	**20**		Pg	17 31 24.6	0.0
WCT	**Wildcat Mounta**	**1.08**	**40**	IAML		17 31 41.0	
	comp=N,186nm,0.7s						
WCT				IAML		17 31 41.2	
	comp=E,212nm,0.6s						
AMDNV	**Amargosa**	**1.09**	**63**		Pg	17 31 24.5	-0.3
TPO	**Tropico Hills**	**1.24**	**210**	IAML		17 31 47.2	
	comp=N,290nm,0.5s						
GMN	**Gold Mountain**	**1.35**	**8**	IAML		17 31 52.8	
	comp=N,116nm,0.7s						
GMN				IAML		17 31 52.9	
	comp=E,102nm,0.5s						
TUQ	**Turquoise Moun**	**1.37**	**112**		Pg	17 31 29.0	-1.2
TPNV	**Topopah Spring**	**1.40**	**45**	IAML		17 31 49.9	
	comp=E,185nm,0.4s						
TPNV				IAML		17 31 52.3	
	comp=E,179nm,0.6s						
DSP	**Deep Springs**	**1.46**	**345**		Pn	17 31 30.9	-0.5
BHPR	**Bishop**	**1.56**	**329**		Pn	17 31 33.1	+0.1
MTUM	**Tungsten Hills**	**1.64**	**328**		Pb	17 31 34.9	-0.2
MTPC	**Mountain Pass**	**1.64**	**106**		Sb	17 31 56.4	0.0
OSI	**Osito Audit: C**	**1.69**	**217**		Pn	17 31 34.3	-0.4
OSI				IAML		17 32 01.3	
	comp=N,110nm,0.8s						
OSI				IAML		17 32 04.6	
	comp=E,121nm,0.7s						
BFSC	**Mount Baldy Ra**	**1.73**	**185**		Pn	17 31 34.2	-1.0
BFSC				IAML		17 32 03.1	
	comp=N,65nm,0.4s						
BFSC				IAML		17 32 04.1	
	comp=E,74nm,0.6s						
MZP	**Montezuma Peak**	**1.74**	**3**		Pn	17 31 34.4	-1.1
PASC	**Pasadena Art C**	**1.88**	**198**	Pn	Pn	17 31 36.5	-0.7
PASC				IAML		17 32 05.8	
	comp=N,75nm,0.6s						
PASC				IAML		17 32 07.5	
	comp=E,97nm,0.6s						
V12A	**Nelson**	**2.15**	**96**	IAML		17 32 14.0	
	comp=N,43nm,1.1s						
V12A				IAML		17 32 20.1	
	comp=E,44nm,0.5s						
LHV	**Little Huntoon**	**2.42**	**341**	IAML		17 31 58.9	
	comp=N,40nm,0.9s						
LHV				IAML		17 32 28.9	
	comp=E,40nm,0.5s						
PRN	**Pahroc Range**	**2.43**	**53**	IAML		17 32 26.4	
	comp=N,76nm,0.6s						
PRN				IAML		17 32 28.8	
	comp=E,67nm,0.7s						
R11B	**Troy Canyon, C**	**2.82**	**32**	IAML		17 32 34.8	
	comp=E,24nm,0.6s						
BORC	**Borrego Spring**	**2.83**	**162**	IAML		17 32 35.7	
	comp=E,23nm,0.7s						
BORC				IAML		17 32 41.7	
	comp=N,22nm,0.9s						
BBGB	**Big Mountain B**	**2.94**	**283**	IAML		17 33 02.0	
	comp=N,56nm,1.5s						
DPP	**Dos Picos Cty**	**2.99**	**171**	IAML		17 32 39.6	
	comp=E,19nm,0.5s						
W13A	**Hualapai Mount**	**3.06**	**105**	IAML		17 32 45.1	
	comp=E,23nm,0.5s						
W13A				IAML		17 32 45.5	
	comp=N,24nm,1.1s						
CMB	**Columbia Colle**	**3.11**	**312**	IAML		17 32 42.0	
	comp=N,31nm,0.6s						
CMB				IAML		17 32 45.7	
	comp=E,22nm,0.6s						
CBX	**Cerro Bola**	**3.70**	**169**	IAML		17 33 12.5	
	comp=N,29nm,1.2s						
PSUT	**Pine Spring**	**3.87**	**47**	IAML		17 33 11.9	
	comp=N,16nm,0.9s						
PSUT				IAML		17 33 17.1	
	comp=E,17nm,0.7s						
SPR3	**Spring Creek 3**	**3.93**	**39**	IAML		17 33 09.3	
	comp=E,17nm,0.6s						
SPR3				IAML		17 33 12.1	
	comp=N,11nm,0.7s						
AFDM	**Forest Hills D**	**4.07**	**318**	IAML		17 33 13.2	
	comp=N,16nm,1.0s						
AFDM				IAML		17 33 14.6	
	comp=E,24nm,0.8s						
Y14A	**Wickenburg**	**4.20**	**117**	IAML		17 33 18.1	
	comp=E,17nm,0.4s						
U15A	**North Rim**	**4.22**	**82**	IAML		17 33 31.1	
	comp=E,8.5nm,1.3s						
WUAZ	**Wupatki**	**4.99**	**93**	IAML		17 33 06.9	
	comp=E,13nm,0.5s						
WUAZ				IAML		17 33 09.9	
	comp=E,12nm,0.3s						
ELK	**Elko**	**5.09**	**20**	IAML		17 33 46.9	
	comp=E,4.6nm,0.7s						
ELK				IAML		17 33 47.2	
	comp=E,5.8nm,0.7s						
X16A	**Lo Mia Camp, P**	**5.18**	**106**	IAML		17 34 03.2	
	comp=E,5.2nm,4.1s						
X16A				IAML		17 34 07.4	
	comp=N,3.8nm,1.2s						

*IDC **11** 17:54:46.6±1.3, 23°.50S×170°.15E, h0km, mb3.8/6, mbtmp3.8/7, ML3.9/1, Error ellipse: s-maj=39.7km s-min=26.4km az=48.0*
*NOU **11** 17:54:52.1, 23°.25S×169°.92E, h0km, mb5.0/9, Southeast of Loyalty Islands*

ISC 11 17:54:51.5±1.0, **23°.4S**±0°.1×**170°.2E**±0°.1, **h35km, n18, σ1s32/19, mb3.8/6, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**2.65**	**288**	P	**Pn**	**17 55 33.1**	**+1.5**
MARNC	**Mare, Loyalty**	**2.78**	**314**	P	**Pn**	**17 55 31.8**	**-1.7**
MARNC	**Mare, Loyalty**	**2.78**	**314**	S	**Sn**	**17 56 05.7**	**-0.2**
OUENC	**Ouen Island, N**	**3.24**	**288**	P	**Pn**	**17 55 40.8**	**+1.0**
YATNC	**Mamie plateau,**	**3.33**	**294**	P	**Pn**	**17 55 41.8**	**+0.8**
ONTNC	**Ouen Toro**	**3.61**	**288**	P	**Pn**	**17 55 46.1**	**+1.2**
DZM	**Mont Dzumac**	**3.70**	**291**	Pn	**Pn**	**17 55 46.9**	**+0.7**
	9.2nm,0.3s,baz=100,slow=17,SNR=306						
DZM				Sn	**Sn**	**17 56 29.8**	**+1.0**
	8.9nm,0.3s,baz=86,slow=19,SNR=6.4						
	23nm,0.4s						
DZM	**Mont Dzumac**	**3.70**	**291**	P	**Pn**	**17 55 47.0**	**+0.7**
DVP	**Devils Point**	**5.99**	**342**	P	**Pn**	**17 56 19.6**	**+2.0**
KOUNC	**Koumac, New Ca**	**6.17**	**297**	P	**Pn**	**17 56 17.9**	**-2.3**
ASAR	**Alice Springs**	**33.19**	**262**	P	**P**	**18 01 26.4**	**+1.3**
	2.4nm,0.8s,baz=94,slow=10,SNR=30						
	2.4nm,0.8s						
WRA	**Warramunga Arr**	**33.43**	**269**	P	**P**	**18 01 25.3**	**-1.9**
	0.3nm,0.4s,baz=101,slow=7.9,SNR=6.2						
	0.3nm,0.4s						
VNDA	**Vanda**	**54.28**	**182**	P	**P**	**18 04 12.4**	**-1.2**
	0.3nm,0.5s,baz=37,slow=5.1,SNR=1.9						
	0.3nm,0.5s						
QSPA	**South Pole Qui**	**66.63**	**180**	P	**P**	**18 05 39.3**	**+1.0**
	1.9nm,0.8s,baz=15,slow=1.1,SNR=7.4						
	1.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**81.03**	**295**	P	**P**	**18 07 03.2**	**0.0**
	0.4nm,0.5s,baz=110,slow=6.0,SNR=1.6						
	0.4nm,0.5s						
SONM	**Songino Array**	**91.08**	**323**	P	**P**	**18 07 52.7**	**+0.3**
	0.2nm,0.3s,baz=141,slow=4.8,SNR=2.4						
	0.2nm,0.3s						
EKA	**Eskdalemuir Ar**	**147.77**	**353**	PKPbc	**PKPab**	**18 14 34.5**	**-0.1**
	0.6nm,0.7s,baz=0.8,slow=3.1,SNR=3.7						
GERES	**GERESS Array B**	**148.57**	**330**	PKPbc	**PKPbc**	**18 14 33.8**	**-0.9**
	1.0nm,0.9s,baz=48,slow=1.5,SNR=5.6						

TRN 11 17:57:32.7, 12°.39N×58°.78W, h101km, MD3.9, South-east of Barbados., North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**1.07**	**315**	*e*P	Pn	17 57 55.4	+1.4
BBGH				*e*S	Sn	17 58 11.5	+1.5
SVOC	**Richmond Hill,**	**2.50**	**288**	*e*P	Pn	17 58 12.6	+0.8
SVT	**Saint Vincent**	**2.52**	**288**	*e*P	Pn	17 58 12.8	+0.7
SVT				*e*S	Sn	17 58 42.5	+0.1
SVB	**Belmont**	**2.56**	**290**	*e*P	Pn	17 58 13.6	+0.8
SVB				*e*S	Sn	17 58 45.4	+2.0
SLBI	**Saint Lucia, B**	**2.68**	**308**	*e*P	Pn	17 58 14.7	+0.4
SLBI				*e*S	Sn	17 58 47.4	+1.2
GRSS	**Sisters**	**2.77**	**268**	*e*P	Pn	17 58 16.9	+1.5
GRGR	**Grenville**	**2.82**	**265**	*e*S	Sn	17 58 49.5	0.0
GRW	**Mount Saint Ca**	**2.82**	**266**	*e*P	Pn	17 58 18.6	+2.4
GRW				*e*S	Sn	17 58 50.2	+0.5
BIM	**Bigot**	**3.07**	**314**	*e*P	Pn	17 58 20.6	+1.1
BIM				*e*S	Sn	17 58 54.8	-0.8
TRN	**Trinidad (W)**	**3.10**	**236**	*e*S	Sn	17 58 56.5	+0.4
SVN	**Savane Anatole**	**3.37**	**317**	*e*P	Pn	17 58 24.3	+0.9
SVN				*e*S	Sn	17 59 02.4	-0.2
TBG	**Guadaloupe-3**	**4.42**	**321**	*e*S	Sn	17 59 27.3	-0.8
DSDZ	**La Diserade, G**	**4.49**	**331**	*e*S	Sn	17 59 28.1	-1.5
ATGZ	**Broadband at L**	**4.66**	**323**	*e*S	Sn	17 59 33.2	-0.6
DHSZ	**Broadband at M**	**4.82**	**324**	*e*S	Sn	17 59 36.9	-0.9
ANBD	**Bethesda, Anti**	**5.46**	**328**	*e*P	Pn	17 58 53.7	+2.0
ANBD				*e*S	Sn	17 59 52.1	-1.1
ANWB	**Willy Bob**	**6.00**	**331**	*e*S	Sn	18 00 04.7	-1.6

*IDC **11** 17:58:24.2±0.9, 15°.86N×49°.89W, h0km, mb3.7/6, mbtmp3.8/7, ML4.4/1, Error ellipse: s-maj=27.5km s-min=20.6km az=154.0*
*NEIC **11** 17:58:26.3±2.5, 15°.45N±0°.09×50°.10W±0°.08, h10km±2km, mb4.3/9, Error ellipse: s-maj=18.4km s-min=8.2km az=136.0*

ISC 11 17:58:25.7±0.7, **15°.64N**±0°.09×**50°.19W**±0°.07, **h10km, n58, σ2s40/49, mb3.8/9, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**9.41**	**256**	Pn	**Pn**	**18 00 41.3**	**-0.2**
ILAM	**Ilet Lapin Mar**	**10.35**	**267**	Pn	**Pn**	**18 00 55.0**	**+0.7**
H05S1	**Guadeloupe/Mar**	**10.36**	**265**	Pn	**Pn**	**18 00 56.3**	**+1.9**
H05S1				Sn	**Sn**	**18 02 46.6**	**-4.0**
H05S1				T	T	18 11 58.1	
	SNR=2.7						
H05N1	**Guadeloupe/Mar**	**10.47**	**275**	Pn	**Pn**	**18 00 56.8**	**+0.7**
H05N1				Sn	Sn	18 02 46.0	-7.5
DSDZ	**La Diserade, G**	**10.48**	**275**	*e*P	Sn	18 02 43.8	-10
GDSD	**La Dsirade Is**	**10.48**	**275**	Pn	**Pn**	**18 00 56.9**	**+0.8**
GDSD				Sn	Sn	18 02 44.5	-9.2
SLAC	**Saint Lucia, A**	**10.50**	**262**	*e*P	**Pn**	**18 00 58.0**	**+1.7**
SLBI	**Saint Lucia, B**	**10.55**	**263**	*e*P	**Pn**	**18 00 58.7**	**+1.6**
BIM	**Bigot**	**10.57**	**265**	Pn	**Pn**	**18 00 59.4**	**+2.0**
BIM	**Bigot**	**10.57**	**265**	*e*P	**Pn**	**18 00 58.9**	**+1.6**
BIM	**Bigot**	**10.57**	**265**	*e*P	**Sn**	**18 02 50.2**	**-5.7**
FDF	**Fort de France**	**10.62**	**267**	Pn	**Pn**	**18 01 00.1**	**+2.0**
MAGL	**Barre de l'île**	**10.68**	**273**	Pn	**Pn**	**18 01 01.3**	**+2.4**
MDP	**Montagnes des**	**10.75**	**193**	Pn	**Pn**	**18 00 57.7**	**-2.1**
	1.6nm,0.3s,baz=6.7,slow=17,SNR=9.4						
MDP				Sn	Sn	18 02 46.0	-14
	2.8nm,0.3s,baz=53,slow=20,SNR=7.4						
DSLB	**Salisbury**	**10.83**	**270**	*e*P	**Sn**	**18 03 00.8**	**-1.4**
ABD	**La Joyeuse, An**	**10.89**	**276**	Pn	**Pn**	**18 00 59.4**	**-2.3**
SVB	**Belmont**	**10.97**	**259**	*e*P	**Pn**	**18 01 05.3**	**+2.5**
SVB	**Belmont**	**10.97**	**259**	*e*P	**Sn**	**18 03 02.8**	**-3.0**
CBE	**Ff, Capester**	**11.00**	**274**	Pn	**Pn**	**18 01 04.5**	**+1.4**
TDBA	**Terre de Bas,**	**11.02**	**273**	Pn	**Pn**	**18 01 04.9**	**+1.4**
MMLZ	**Guadeloupe Bro**	**11.05**	**274**	*e*P	**Pn**	**18 01 04.5**	**+0.5**
MMLZ	**Guadeloupe Bro**	**11.05**	**274**	*e*P	**Sn**	**18 03 00.8**	**-7.0**
ATGZ	**Broadband at L**	**11.11**	**274**	*e*P	**Pn**	**18 01 04.8**	**+0.1**
ATGZ	**Broadband at L**	**11.11**	**274**	*e*P	Sn	18 02 59.5	-10
GDHS	**Morne Mazeau,**	**11.15**	**275**	Pn	**Pn**	**18 01 06.0**	**+0.7**
ANBD	**Bethesda, Anti**	**11.20**	**279**	*e*P	**Pn**	**18 01 04.4**	**-1.5**
ANBD	**Bethesda, Anti**	**11.20**	**279**	*e*P	Sn	18 03 00.1	-11
ANWB	**Willy Bob**	**11.29**	**282**	*e*P	Pn	18 01 02.6	-4.7
ANWB	**Willy Bob**	**11.29**	**282**	*e*P	Sn	18 03 06.1	-7.6
GRW	**Mount Saint Ca**	**11.66**	**254**	*e*P	**Pn**	**18 01 14.2**	**+1.8**
GRW	**Mount Saint Ca**	**11.66**	**254**	*e*P	**Sn**	**18 03 20.3**	**-2.5**
GRGR	**Grenville**	**11.66**	**254**	*e*P	**Pn**	**18 01 15.4**	**+3.1**
GRFF	**Grenada Fort F**	**11.77**	**254**	*e*P	**Pn**	**18 01 16.1**	**+2.4**
DMDM	**Guralp CMG5TDE**	**12.10**	**247**	*e*P	**Pn**	**18 01 20.5**	**+2.1**
PCRV	**Puerto La Cruz**	**15.09**	**251**	Pn	**Pn**	**18 02 00.9**	**+1.8**
	1.4nm,0.3s,baz=72,slow=3.2,SNR=7.8						
	5.5nm,0.4s						
CELP	**Cerrillos**	**15.87**	**281**	Pn	**Pn**	**18 02 10.8**	**+1.4**
EMPR	**Esperanza - Ma**	**15.88**	**283**	Pn	**Pn**	**18 02 08.3**	**-1.0**
BOAV	**Boa Vista**	**16.64**	**219**		**Pn**	**18 02 19.1**	**-0.1**
BOAV				IAmb	IAmb	18 02 21.1	
	comp=Z,26nm,1.0s						
MAL2	**Monte Alegre,**	**17.98**	**193**	P	**Pn**	**18 02 34.6**	**-1.3**
MAL2				IAmb	IAmb	18 02 37.7	
	comp=Z,19nm,0.7s						
DR12	**Loma Pena Alta**	**18.60**	**282**	P	**Pn**	**18 02 44.6**	**+1.0**
BAUV	**El Baul**	**18.66**	**251**	P	**Pn**	**18 02 45.9**	**+1.6**
BAUV				IAmb	IAmb	18 02 48.6	
	comp=Z,21nm,0.8s						
ROSC	**El Rosal**	**26.02**	**248**	P	**P**	**18 04 03.0**	**+3.3**
	comp=Z,7.4nm,0.4s,baz=127,slow=20,SNR=2.1						
AQDB	**Aquidauana**	**36.30**	**189**	P	**P**	**18 05 28.7**	**-0.9**
AQDB				IAmb	IAmb	18 05 41.5	
	comp=Z,4.3nm,1.0s						
LPAZ	**La Paz**	**36.33**	**210**	P	**P**	**18 05 28.2**	**-2.5**
LPAZ	**La Paz**	**36.33**	**210**	P	**P**	**18 05 34.5**	**+3.9**
	comp=Z,0.7nm,0.4s,baz=30,slow=7.7,SNR=4.7						
	comp=Z,0.7nm,0.4s						
CGM3	**Cape Girardeau**	**40.99**	**309**	P	**P**	**18 06 11.6**	**+2.6**
H10N3	**ASCENSION HYDR**	**42.35**	**121**	T	T	18 51 16.5	
	baz=303,slow=75,SNR=13						
H10N2	**ASCENSION HYDR**	**42.36**	**121**	T	T	18 51 16.8	
	baz=303,slow=75,SNR=13						
H10N1	**ASCENSION HYDR**	**42.38**	**121**	T	T	18 51 18.0	
	baz=303,slow=75,SNR=11						
H10S3	**ASCENSION HYDR**	**42.84**	**122**	T	T	18 51 55.6	
	baz=279,slow=74,SNR=6.2						
H10S2	**ASCENSION HYDR**	**42.86**	**122**	T	T	18 51 53.8	
	baz=301,slow=74,SNR=6.5						
ESDC	**Sonseca Array**	**46.78**	**50**	P	**P**	**18 06 52.8**	**-2.8**
	comp=Z,0.2nm,0.4s,baz=268,slow=12,SNR=1.6						
	comp=Z,0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**50.22**	**86**	P	**P**	**18 07 19.3**	**-3.0**
	comp=Z,2μm,0.4s,baz=296,slow=5.3,SNR=7.5						
TXAR	**Lajitas Array**	**50.86**	**295**	P	**P**	**18 07 27.9**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=74,slow=4.2,SNR=1.9						
	comp=Z,0.2nm,0.5s						
PDAR	**Pinedale Array**	**57.13**	**311**	P	**P**	**18 08 14.6**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=96,slow=7.0,SNR=5.0						
	comp=Z,0.5nm,0.7s						
PLCA	**Paso Flores**	**59.19**	**198**	P	**P**	**18 08 29.0**	**+2.0**
	comp=Z,2.2nm,1.0s,baz=17,slow=11,SNR=4.0						
	comp=Z,2.2nm,1.0s						
E24K	**Your Creek**	**78.69**	**338**	P	**P**	**18 10 29.5**	**+1.6**
E24K				IAmb	IAmb	18 10 31.1	
	comp=Z,2.4nm,1.0s						
ILAR	**Eielson Array**	**78.82**	**334**	P	**P**	**18 10 28.4**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=75,slow=5.3,SNR=7.3						
	comp=Z,0.9nm,0.8s						

*CATAC **11** 17:59:51.0±0.7, 13°.N±3°.×91°.1W±°., h1km, M3.6/8, MLv3.6/8, Error ellipse: s-maj=8.5km s-min=4.8km az=40.3, confirmed*
*GCG **11** 17:59:52.5±1.1, 13°.45N×91°.11W, h37km±560km, MD3.9, ML3.8, MW3.2*

ISC 11 17:59:56.0±1.8, **13°.49N**±0°.10×**90°.82W**±0°.07, **h29km, n24, σ2s06/25, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG16	**Alotenango, Sa**	**0.83**	**21**	*i* P	**Pn**	**18 00 11.3**	**-0.7**
FG

1.0nm,0.3s,baz=318,slow=23,SNR=2.6
9.2nm,0.5s
FITZ **Fitzroy Crossi** **12.78 197** Pn Pn 18 32 07.7 -1.6
0.4nm,0.3s,baz=21,slow=11,SNR=9.5
FITZ Sn Sn 18 34 10.3 -22
0.1nm,0.3s,baz=6.7,slow=17,SNR=1.1
1.5nm,0.5s
WRA **Warramunga Arr** **14.74 162** Pn Pn 18 32 38.3 +2.1
0.4nm,0.3s,baz=342,slow=11,SNR=14
WRA Sn Sn 18 35 08.5 -12
0.2nm,0.3s,baz=326,slow=19,SNR=4.8
0.6nm,0.3s
ASAR **Alice Springs** **18.19 167** Pn Pn 18 33 19.7 -0.7
0.5nm,0.3s,baz=343,slow=9.9,SNR=50
1.8nm,0.5s
MKAR **Makanchi Array** **67.06 327** P P 18 40 01.5 0.0
0.2nm,0.5s,baz=131,slow=5.9,SNR=2.9
0.2nm,0.5s

IDC 11 18:44:31.4±1.7, 0.73N×126.62E, h0km, mb3.4/5, mbtmp3.5/5, MS3.1/1, Error ellipse: s-maj=201.0km s-min=20.7km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.89**	**160**	P	P	18 49 25.6	-0.7
	0.7nm,0.4s,baz=338,slow=10,SNR=21						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**25.26**	**164**	P	P	18 49 60.0	+0.5
	1.0nm,0.8s,baz=341,slow=8.7,SNR=21						
	1.0nm,0.8s						
JNU	**Nakatsue**	**32.47**	**7**	LR	LR	19 07 01.0	
	comp=Z,33nm,19.7s,baz=252,slow=42						
MKAR	**Makanchi Array**	**59.96**	**326**	P	P	18 54 39.3	-0.4
	0.2nm,0.5s,baz=120,slow=8.7,SNR=2.3						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**63.21**	**334**	P	P	18 55 00.8	-0.6
	0.3nm,0.4s,baz=145,slow=11,SNR=2.1						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**64.21**	**328**	P	P	18 55 08.9	+0.8
	0.1nm,0.4s,baz=119,slow=5.8,SNR=1.5						
	0.1nm,0.4s						

*ASIES **11** 19:09:47.1,23.90N×122.94E, h25km, ML3.5, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr0.98; Mθθ-2.01; Mφφ1.04; Mrθ-0.03; Mθφ0.09; Mφr-1.01; Fault plane solution: M0 2.01891×10^14 NP1: φs236.10000°, δ60.42000°, λ34.36000°. NP2: φs127.45000°, δ60.60000°, λ145.49000°. Principal axes: T Plg44.1170°, Azm91.7030°; N Plg45.8830°, Azm271.9300°; P Plg0.1140°, Azm181.8130°;*
*JMA **11** 19:09:48.0±0.2, 23.9N±0.7×122.9E±0.8, h33km, MV3.2/12, NEAR ISHIGAKIJIMA ISLAND*
*TAP **11** 19:09:47.1, 23.90N×122.94E, h25km, ML3.5, D*

ISC 11 19:09:46.2±1.1, 23.81N±0.03×122.94E±0.02, h20km±8km, n121, σ0s88/174, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.64**	**1**	*i* P	**Pb**	**19 09 58.5**	**-0.2**
JYNG				S	**Sb**	**19 10 05.7**	**-1.5**
EOS4	**EOS4**	**0.65**	**299**	P	**Pg**	**19 09 58.9**	**-0.1**
EOS4				S	**Sg**	**19 10 07.8**	**+0.2**
YOJ	**Yonaguni jima**	**0.65**	**6**	P	**Pb**	**19 09 58.8**	**-0.1**
YOJ	**Yonaguni jima**	**0.65**	**6**	*e*P	**Pb**	**19 09 58.9**	**0.0**
YOJ				*e*S	**Sb**	**19 10 06.3**	**-1.3**
YOJ	**Yonaguni jima**	**0.65**	**6**	*i* P	**Pg**	**19 09 59.1**	**-0.1**
YOJ				*i* S	**Sb**	**19 10 06.6**	**-1.0**
EOS3	**EOS3**	**0.74**	**310**	*i* P	**Pg**	**19 10 00.7**	**-0.1**
HATJ	**Hateruma jima**	**0.83**	**73**	*e*P	**Pn**	**19 10 03.1**	**+0.3**
HATJ				*e*S	**Sg**	**19 10 14.0**	**+0.5**
EOS2	**EOS2**	**0.89**	**313**	*i* P	**Pg**	**19 10 03.3**	**-0.2**
IRIF	**Iriomote-Funau**	**0.89**	**54**	P	**Pg**	**19 10 03.4**	**-0.2**
JKRS	**Kuro-shima**	**1.07**	**66**	*e*P	**Pg**	**19 10 07.0**	**+0.1**
JKRS				*e*S	**Sn**	**19 10 20.4**	**+0.1**
EAHA	**Aohua**	**1.21**	**296**	P	**Pb**	**19 10 08.8**	**+0.4**
EAHA				S	**Sb**	**19 10 23.0**	**-0.7**
TEYL	**Yanliau Villag**	**1.23**	**273**	P	**Pn**	**19 10 08.1**	**-0.1**
TEYL				S	**Sb**	**19 10 24.3**	**+0.2**
JJI	**Ishigaki jima**	**1.23**	**63**	*e*P	**Pb**	**19 10 09.1**	**+0.3**
EWUT	**Wuta**	**1.23**	**301**	P	**Pb**	**19 10 08.9**	**+0.1**
EWUT				S	**Sb**	**19 10 24.0**	**-0.3**
ETL	**Fush Village**	**1.25**	**286**	*e*P	**Pb**	**19 10 09.2**	**+0.1**
ETL				*e*S	**Sn**	**19 10 25.8**	**+0.9**
ENA	**Nanau**	**1.25**	**300**	*i* P	**Pb**	**19 10 09.2**	**0.0**
ENA				*i* S	**Sb**	**19 10 24.2**	**-0.7**
ESAO	**Su ao**	**1.26**	**308**	P	**Pn**	**19 10 08.7**	**+0.1**
ESAO				S	**Sb**	**19 10 23.8**	**-1.2**
TWD	**Chiawan**	**1.26**	**283**	*i* P	**Pn**	**19 10 08.3**	**-0.3**
TWD				*i* S	**Sb**	**19 10 25.0**	**0.0**
SHUL	**Shoufeng**	**1.26**	**269**	*e*P	**Pn**	**19 10 08.9**	**+0.2**
SHUL				S	**Sb**	**19 10 23.6**	**-1.4**
TWC	**Suao**	**1.27**	**309**	*i* P	**Pn**	**19 10 09.1**	**+0.2**
TWC				*i* S	**Sb**	**19 10 23.4**	**-2.1**
NACB	**Ninganchiao**	**1.28**	**287**	P	**Pn**	**19 10 08.6**	**-0.3**
NACB	**Ninganchiao**	**1.28**	**287**	*i* P	**Pn**	**19 10 08.7**	**-0.3**
NACB				S	**Sn**	**19 10 26.6**	**-0.6**
ETM	**Tongmen**	**1.33**	**277**	P	**Sn**	**19 10 09.4**	**-0.3**
ETM				S	**Sn**	**19 10 25.7**	**-1.1**
ESL	**Shilin**	**1.38**	**271**	*i* P	**Pn**	**19 10 10.7**	**+0.4**
ESL				*i* S	**Sn**	**19 10 27.3**	**-0.6**
EGS		**1.38**	**319**	*i* P	**Pg**	**19 10 12.3**	**-0.6**
EGS				*e*S	**Sb**	**19 10 29.0**	**+0.5**
NDS	**Dongshan**	**1.39**	**307**	P	**Pn**	**19 10 10.8**	**+0.4**
NDS				S	**Sn**	**19 10 28.6**	**+0.5**
ETLH	**Xiulin Townshi**	**1.39**	**287**	P	**Pn**	**19 10 10.2**	**-0.3**
ETLH				*e*S	**Sn**	**19 10 27.2**	**-1.1**
EGFH	**Guangfu**	**1.39**	**265**	*e*S	**Sn**	**19 10 28.7**	**+0.4**
LXIB	**Xiulin Townshi**	**1.41**	**279**	P	**Pn**	**19 10 11.1**	**+0.2**
LXIB				S	**Sb**	**19 10 29.7**	**+0.1**
HGSD	**Ruisui**	**1.42**	**258**	P	**Pn**	**19 10 10.2**	**-0.7**
HGSD				S	**Sn**	**19 10 28.4**	**-0.7**
WARBT	**Fenglin Townsh**	**1.42**	**267**	P	**Pn**	**19 10 10.4**	**-0.8**
WARBT				S	**Sn**	**19 10 26.5**	**-2.7**
ECBN	**Changbin**	**1.45**	**251**	*e*P	**Pn**	**19 10 11.4**	**+0.2**
TWE	**Neicheng**	**1.47**	**308**	P	**Pn**	**19 10 12.1**	**+0.5**
TWE				S	**Sn**	**19 10 30.7**	**+0.4**
JISG	**Ishigakijimahi**	**1.47**	**58**	*e*P	**Pn**	**19 10 12.1**	**+0.5**
JISG				*e*S	**Sn**	**19 10 29.5**	**-0.8**
TWB1	**Santiao Chiao**	**1.48**	**324**	P	**Pn**	**19 10 11.7**	**+0.1**
TWB1				S	**Sn**	**19 10 29.9**	**-0.5**
LATG	**Datong**	**1.48**	**300**	*e*P	**Pn**	**19 10 12.1**	**+0.3**
LATG				*e*S	**Sb**	**19 10 32.0**	**+0.5**
EHYH	**Wanrong**	**1.49**	**258**	*e*P	**Pn**	**19 10 12.2**	**+0.3**
ENTT	**Nioudou**	**1.50**	**304**	*i* P	**Pn**	**19 10 12.7**	**+0.6**
ENTT				*i* S	**Sb**	**19 10 32.3**	**+0.3**
EHY	**Hungye**	**1.51**	**259**	*e*P	**Pn**	**19 10 12.2**	**+0.1**
TIPB	**Shuangxi**	**1.54**	**319**	P	**Pn**	**19 10 13.2**	**+0.6**
TIPB				*e*S	**Sn**	**19 10 31.6**	**-0.4**
CHKH	**Chenggong**	**1.54**	**247**	*e*P	**Pn**	**19 10 12.4**	**-0.2**
NNSB	**Datong**	**1.55**	**294**	*e*P	**Pn**	**19 10 13.3**	**+0.5**
EYUL	**Yuli**	**1.55**	**253**	*e*P	**Pn**	**19 10 12.9**	**+0.1**
FUSB	**Fushanzhiwuyua**	**1.55**	**308**	P	**Pb**	**19 10 14.6**	**+0.2**
FUSB				*e*S	**Sb**	**19 10 34.2**	**+0.6**
YULB	**Yu-li**	**1.56**	**255**	P	**Pn**	**19 10 13.1**	**+0.3**
YULB	**Yu-li**	**1.56**	**255**	*e*P	**Pn**	**19 10 13.2**	**+0.4**
NNS	**Nan Shan**	**1.56**	**294**	*e*P	**Pn**	**19 10 13.5**	**+0.6**
WHF	**Hehuan Shan**	**1.57**	**283**	*e*P	**Pn**	**19 10 13.4**	**+0.1**
TWF1	**Yuli**	**1.57**	**254**	P	**Pn**	**19 10 13.1**	**+0.1**
TWF1				*e*S	**Sn**	**19 10 33.0**	**+0.2**
SXI1	**Grass Mountain**	**1.60**	**323**	P	**Pn**	**19 10 14.2**	**+0.7**
SXI1				S	**Sn**	**19 10 33.0**	**-0.7**
CHKT	**Chengkung**	**1.61**	**244**	*e*P	**Pn**	**19 10 13.1**	**-0.3**
FUSS	**Fushou**	**1.61**	**286**	*e*P	**Pb**	**19 10 14.9**	**-0.5**
OWD	**Renai**	**1.62**	**275**	*e*P	**Pn**	**19 10 13.8**	**+0.1**
NWLT	**Wulai**	**1.63**	**307**	*e*P	**Pb**	**19 10 15.1**	**-0.5**
NWLT				S	**Sn**	**19 10 34.2**	**0.0**
FULB	**Fuli**	**1.63**	**248**	*e*P	**Pn**	**19 10 13.7**	**0.0**
FULB				*e*S	**Sn**	**19 10 33.7**	**-0.4**
NWF	**Wu-fen Shan**	**1.64**	**320**	*i* P	**Pn**	**19 10 15.0**	**+1.0**
NWF				*i* S	**Sn**	**19 10 34.7**	**+0.2**
WFSB	**Wu-fen Shan**	**1.64**	**320**	*e*P	**Pb**	**19 10 15.0**	**-0.7**
WFSB				*e*S	**Sn**	**19 10 34.9**	**+0.5**
VWDT	**VWDT**	**1.65**	**268**	*i* P	**Pn**	**19 10 14.6**	**+0.6**
VWDT				*i* S	**Sn**	**19 10 35.7**	**+1.2**
YHNB	**Yeheng**	**1.66**	**301**	P	**Pn**	**19 10 15.0**	**+0.7**
YHNB	**Yeheng**	**1.66**	**301**	*e*P	**Pn**	**19 10 15.3**	**+0.9**
TWT	**Tachien**	**1.67**	**286**	*e*P	**Pn**	**19 10 15.5**	**+1.0**
WUSB	**Renai**	**1.68**	**277**	*e*P	**Pn**	**19 10 15.0**	**+0.4**
WUSB				*e*S	**Sb**	**19 10 37.0**	**-0.2**
NSK	**Sanguang**	**1.68**	**301**	P	**Pn**	**19 10 15.6**	**+1.0**
TDCB	**Techi**	**1.69**	**286**	*e*P	**Pn**	**19 10 15.7**	**+1.1**
TWA	**Mucha**	**1.70**	**314**	P	**Pn**	**19 10 14.5**	**-0.3**
TNOU	**National Taiwa**	**1.71**	**322**	*e*P	**Pn**	**19 10 15.6**	**+0.8**
EDH	**Donghe**	**1.72**	**241**	*i* P	**Pn**	**19 10 14.8**	**-0.1**
EHD	**Haiduan**	**1.72**	**248**	*e*P	**Pn**	**19 10 15.1**	**+0.1**
TATO	**Taipei**	**1.76**	**312**	P	**Pb**	**19 10 17.0**	**-0.8**
LDUT	**Ludao**	**1.76**	**230**	*e*P	**Pn**	**19 10 14.6**	**-1.0**
SSLB	**Suanglung**	**1.82**	**270**	P	**Pn**	**19 10 16.9**	**+0.5**
SSLB	**Suanglung**	**1.82**	**270**	*e*P	**Pb**	**19 10 18.4**	**-0.4**
YM01	**YM01**	**1.82**	**317**	*e*P	**Pn**	**19 10 16.6**	**+0.1**
YM08	**YM08**	**1.84**	**318**	*e*P	**Pb**	**19 10 18.7**	**-0.5**
ZUZH	**Zhuzihu**	**1.85**	**317**	*e*P	**Pb**	**19 10 18.3**	**-1.1**
NFF	**Wufeng Townshi**	**1.85**	**297**	*e*P	**Pb**	**19 10 19.1**	**-0.3**
SMLT	**Sun Moon Lake**	**1.87**	**273**	*e*P	**Pn**	**19 10 18.1**	**+1.0**
SMLT				*i* S	**Sn**	**19 10 40.7**	**+0.5**
ELDTW	**Lidau**	**1.87**	**251**	*i* P	**Pn**	**19 10 17.2**	**+0.1**
ELDTW				*e*S	**Sn**	**19 10 39.2**	**-1.0**
WCS	**Beigang Elemen**	**1.87**	**278**	*e*P	**Pn**	**19 10 18.1**	**+1.1**
KSHI	**Guanxi Townshi**	**1.87**	**301**	*e*P	**Pb**	**19 10 19.4**	**-0.3**
WHP	**Taichung City**	**1.88**	**285**	*e*P	**Pb**	**19 10 20.0**	**+0.1**
LONT	**Longtian**	**1.89**	**242**	*e*P	**Pn**	**19 10 18.3**	**+1.0**
TYC	**Yuchr**	**1.91**	**273**	*e*P	**Pn**	**19 10 18.7**	**+1.1**
WHYT	**Xinyi Township**	**1.91**	**267**	*e*P	**Pn**	**19 10 18.9**	**+1.2**
LIOB	**Emei**	**1.94**	**296**	*e*P	**Pb**	**19 10 20.2**	**-0.7**
NSTT	**Nanjuang**	**1.95**	**295**	*e*P	**Pn**	**19 10 19.1**	**+1.0**
TWGBT	**Beinan**	**1.97**	**240**	P	**Pn**	**19 10 19.6**	**+1.1**
TWGBT	**Beinan**	**1.97**	**240**	*e*P	**Pn**	**19 10 19.5**	**+1.1**
TWGBT				*e*S	**Sn**	**19 10 42.9**	**+0.2**
TWG	**Pinlang**	**1.98**	**241**	*e*P	**Pn**	**19 10 19.4**	**+0.8**
TWG				*e*S	**Sn**	**19 10 43.1**	**+0.4**
ALS	**Alishan**	**1.98**	**262**	*e*P	**Pn**	**19 10 20.2**	**+1.4**
WJS	**Zhushan**	**2.02**	**271**	*e*P	**Pb**	**19 10 22.4**	**+0.1**
TWQ1	**Liyutan**	**2.05**	**286**	*e*P	**Pb**	**19 10 22.0**	**-0.8**
TWQ1				*i* S	**Sb**	**19 10 46.9**	**-1.0**
CHN5	**Tsauling**	**2.08**	**265**	*e*P	**Pb**	**19 10 22.1**	**-1.3**
CHN5				*e*S	**Sb**	**19 10 47.5**	**-1.3**
STYH	**Taoyuan**	**2.08**	**253**	P	**Pn**	**19 10 21.3**	**+1.3**
STYH				*e*S	**Sn**	**19 10 46.5**	**+1.1**
WCKO	**Fanlu**	**2.17**	**261**	*e*P	**Pb**	**19 10 24.7**	**-0.2**
LAY	**Lan-yu**	**2.18**	**216**	*e*P	**Pn**	**19 10 23.0**	**+1.6**
TPUB	**Ta-pu**	**2.18**	**257**	P	**Pb**	**19 10 23.5**	**-1.4**
TPUB	**Ta-pu**	**2.18**	**257**	*e*P	**Pb**	**19 10 23.6**	**-1.3**
TPUB				S	**Sb**	**19 10 50.7**	**-0.8**
WGK	**Gukeng**	**2.18**	**267**	*e*P	**Pb**	**19 10 24.6**	**-0.3**
ECL	**Taimali**	**2.19**	**237**	*e*P	**Pn**	**19 10 21.7**	**+0.3**
ECL				*e*S	**Sn**	**19 10 47.3**	**-0.7**
LYUB	**Lan-yu**	**2.19**	**215**	*e*P	**Pn**	**19 10 22.1**	**+0.6**
WCHH	**Zhanghua**	**2.19**	**278**	*e*P	**Pb**	**19 10 24.9**	**-0.3**
WCHH				S	**Sb**	**19 10 52.2**	**+0.3**
CHN4	**Tsaushan**	**2.20**	**259**	*e*P	**Pb**	**19 10 24.6**	**-0.7**
WDL	**Douliou City**	**2.20**	**268**	*e*P	**Pb**	**19 10 24.7**	**-0.6**
WDLH	**Douliu**	**2.20**	**267**	*e*P	**Pn**	**19 10 23.5**	**+1.9**
WCH1	**Changhua City**	**2.20**	**277**	*e*S	**Sb**	**19 10 52.9**	**+0.6**
WTP	**Ta-pu**	**2.21**	**256**	*e*P	**Pn**	**19 10 23.8**	**+2.1**
TWK	**Hsinying**	**2.31**	**257**	*e*P	**Pb**	**19 10 25.5**	**-1.7**
SNST	**Tainan City**	**2.31**	**256**	*e*P	**Pb**	**19 10 25.5**	**-1.7**
CHY	**Chiayi**	**2.33**	**263**	*e*P	**Pb**	**19 10 27.3**	**-0.1**
WTK	**Tuku**	**2.34**	**268**	*e*P	**Pb**	**19 10 26.6**	**-1.0**
TAW	**Tawu**	**2.37**	**233**	*e*P	**Pn**	**19 10 24.2**	**+0.3**
TAWH	**Dawu Township**	**2.39**	**233**	*e*P	**Pn**	**19 10 23.9**	**-0.3**
EAST	**Anshuo**	**2.39**	**234**	*e*P	**Pn**	**19 10 24.8**	**+0.5**
SCST	**Cishan**	**2.43**	**248**	*e*P	**Pb**	**19 10 27.6**	**-1.6**
WSL	**Shuilin Townsh**	**2.50**	**264**	*e*P	**Pn**	**19 10 28.3**	**+2.6**
WSL				*e*S	**Sb**	**19 11 00.3**	**-0.5**
TWM1	**Shoushan**	**2.51**	**248**	*e*P	**Pb**	**19 10 30.7**	**+0.1**
SCZT	**Fangliau**	**2.57**	**237**	*e*P	**Pn**	**19 10 29.0**	**+2.3**
WDGT	**Dungji**	**3.06**	**260**	*e*P	**Pn**	**19 10 35.6**	**+2.2**
WDGT				*i* S	**Sn**	**19 11 11.0**	**+1.6**
PHUB	**P'eng-hu**	**3.10**	**265**	*e*P	**Pn**	**19 10 36.7**	**+2.7**
PHUB				*e*S	**Sn**	**19 11 11.7**	**+1.3**
PNG	**Penghu**	**3.11**	**266**	*e*P	**Pn**	**19 10 36.1**	**+2.0**
PNG				S	**Sn**	**19 11 11.6**	**+0.9**

*IDC **11** 19:11:48.5±1.9, 0.56N×122.82E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=225.3km s-min=28.7km az=61.0*
*DJA **11** 19:12:08.6±0.6, 0.7N±4.4×12.2E±°, h126km±7km, M2.9/6, MLv2.9/6*

ISC 11 19:12:06.6±1.2, 0.18N±0.09×122.45E±0.07, h150km, n9, σ1s14/11, mb3.2/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.59**	**300**	P	**Pn**	**19 12 28.8**	**+0.4**
MRSI				S	**Sn**	**19 12 44.1**	**-0.9**
LUWI	**Luwuk**	**1.26**	**165**	P	**Pn**	**19 12 34.4**	**+0.7**
LUWI				S	**Sn**	**19 12 54.8**	**+0.3**
APSI	**Ampana**	**1.35**	**217**	P	**Pn**	**19 12 35.8**	**+1.1**
KMSI	**Cibinong**	**1.58**	**76**	P	**Pn**	**19 12 38.0**	**+1.0**
KMSI				S	**Sn**	**19 13 00.4**	**+0.2**
MPSI	**Mapaga**	**2.56**	**273**	P	**Pn**	**19 12 49.8**	**+1.3**
PCI	**Palu**	**2.83**	**248**	P	**Pn**	**19 12 52.4**	**+0.5**
WRA	**Warramunga Arr**	**23.14**	**150**	P	**P**	**19 16 57.8**	**-2.1**
	0.2nm,0.8s,baz=327,slow=10,SNR=5.1						
	0.2nm,0.8s						
ASAR	**Alice Springs**	**26.18**	**156**	P	**P**	**19 17 27.0**	**-0.4**
	0.6nm,0.9s,baz=345,slow=13,SNR=2.6						
	0.6nm,0.9s						
MKAR	**Makanchi Array**	**58.17**	**329**	P	P	19 21 43.7	-1.1
	0.2nm,0.7s,baz=126,slow=7.3,SNR=1.8						
	0.2nm,0.7s						

*SOME **11** 19:13:04.1, 46.45N×84.63E, h0km*
*NNC **11** 19:13:07.3±2.4, 46.62N×84.95E, h0km, mb2.7, mpv2.0, Error ellipse: s-maj=18.9km s-min=14.3km az=92.0*

ISC 11 19:13:04.4±6.3, 46.4N±0.2×85.6E±0.4, h35km, n5, σ0s16/4, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**1.17**	**334**	*e*P	**Pn**	**19 13 24.3**	**0.0**
	3.1nm,0.2s						
ZSN				*e*S	**Sn**	**19 13 39.1**	**0.0**
	11nm,0.4s						
MK31	**Makanchi Array**	**2.33**	**281**	⇑Pn	**Pn**	**19 13 40.2**	**-0.1**
	0.1nm,0.1s,baz=99,slow=16,SNR=97						
MK31				⇑Lg	Lg	19 14 06.3	
	0.9nm,0.2s,baz=93,slow=28						
MAKZ	**Makanchi**	**2.55**	**281**	⇓Pn	**Pn**	**19 13 43.3**	**+0.1**
	1.2nm,0.6s						
MAKZ				⇑Lg	Lg	19 14 12.3	
	2.5nm,0.3s						
KURBB	**Kurchatov Arra**	**6.33**	**314**	⇓Lg	Lg	19 16 12.4	
	4.8nm,0.7s						
KURK	**Kurchatov**	**6.34**	**315**	⇑Lg	Lg	19 16 12.6	
	2.1nm,0.6s						

IDC 11 19:17:12.4±2.2, 18.37N×92.78E, h0km, mb3.4/3, mbtmp3.2/4, ML3.0/1, Error ellipse: s-maj=71.7km s-min=28.0km az=53.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**5.85**	**88**	Pn	Pn	19 18 39.7	-0.8
	0.1nm,0.3s,baz=266,slow=14,SNR=2.9						
CMAR				Sn	Sn	19 19 39.4	-9.0
	0.1nm,0.3s,baz=219,slow=44,SNR=1.4						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**29.64**	**345**	P	P	19 23 19.2	-0.3
	0.1nm,0.4s,baz=165,slow=8.8,SNR=4.5						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**34.13**	**344**	P	P	19 23 58.8	-0.1
	0.2nm,0.4s,baz=155,slow=9.0,SNR=2.4						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**57.94**	**135**	P	P	19 27 07.3	+0.5
	0.6nm,1.1s,baz=308,slow=7.1,SNR=1.6						
	0.6nm,1.1s						

*DJA **11** 19:24:20.5±0.8, 6.2S×13.1E±°, h22km±7km, M4.6/16, mB5.3/5, mb4.6/11, MLv4.6/16, Mw(mB)4.7/5*
*NEIC **11** 19:24:21.2±1.1, 6.02S±0.07×130.8E±0.1, h112km±11km, mb4.1/5, Error ellipse: s-maj=14.8km s-min=10.2km az=96.0*
*IDC **11** 19:24:21.9±3.0, 6.10S×130.64E, h123km±31km, mb3.8/7, mbtmp4.2/10, Error ellipse: s-maj=23.6km s-min=20.9km az=19.0*

ISC 11 19:24:19.9±0.6, 6.00S±0.04×130.78E±0.05, h100km, n60, σ1s85/62, mb4.1/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.71**	**329**	P	**Pn**	**19 24 52.3**	**+3.5**
BNDI	**Bandanaira**	**1.71**	**329**	P	**Pn**	**19 24 52.2**	**+3.5**
BNDI				S	**Sn**	**19 25 14.4**	**+3.7**
SAUI	**Saumlaki**	**2.04**	**165**	Pn	**Pn**	**19 24 55.7**	**+2.6**
SAUI				Sn	**Sn**	**19 25 17.7**	**-0.6**
SAUI	**Saumlaki**	**2.04**	**165**	P	**Pn**	**19 24 55.3**	**+2.3**
SAUI	**Saumlaki**	**2.04**	**165**	S	**Sn**	**19 25 20.1**	**+1.8**
SAUI	**Saumlaki**	**2.04**	**165**	P	**Pn**	**19 24 55.8**	**+2.8**
SAUI				S	**Sn**	**19 25 21.6**	**+3.3**
MSAI	**Masohi**	**3.22**	**325**	P	**Pn**	**19 25 10.8**	**+2.2**
MSAI				S	**Sn**	**19 25 45.1**	**-1.1**
FAKI	**Fak Fak**	**3.39**	**26**	P	**Pn**	**19 25 11.4**	**+0.5**
FAKI				Sn	**Sn**	**19 25 44.9**	**-5.4**
FAKI	**Fak Fak**	**3.39**	**26**	P	**Pn**	**19 25 11.1**	**+0.2**
FAKI	**Fak Fak**	**3.39**	**26**	P	**Pn**	**19 25 11.7**	**+0.8**
AAI	**Ambon**	**3.45**	**312**	P	**Pn**	**19 25 14.2**	**+2.4**
KMPI	**Kaimana, Papua**	**3.72**	**52**	P	**Pn**	**19 25 16.3**	**+0.9**
NLAI	**Namlea**	**4.58**	**307**	P	**Pn**	**19 25 29.4**	**+2.4**
NLAI				S	**Sn**	**19 26 21.8**	**+2.7**
SWI	**Sorong**	**5.12**	**5**	P	**Pn**	**19 25 34.0**	**-0.3**
RKPI	**Ransiki, Papua**	**5.60**	**37**	P	**Pn**	**19 25 41.7**	**+0.9**
	1.7nm2μm123nm,0.9s						
DRS	**Darwin Rock St**	**6.39**	**179**	P	**Pn**	**19 25 51.6**	**0.0**
MTN	**Manton Dam**	**6.81**	**177**		**Pn**	**19 25 57.5**	**+0.3**
MTN	**Manton Dam**	**6.81**	**177**	P	**Pn**	**19 25 57.6**	**+0.3**
SRPI	**Serui, Papua**	**6.81**	**53**	P	**Pn**	**19 25 58.6**	**+1.3**
KDU	**Kakadu**	**6.85**	**166**	P	**Pn**	**19 25 57.3**	**-0.6**
BAKI	**Biak**	**7.14**	**48**	P	**Pn**	**19 26 02.7**	**+0.9**
SOEI	**Soe**	**7.46**	**240**	Pn	**Pn**	**19 26 07.2**	**+1.0**
SOEI	**Soe**	**7.46**	**240**	P	**Pn**	**19 26 08.3**	**+2.1**
SOEI	**Soe**	**7.46**	**240**	P	**Pn**	**19 26 07.2**	**+1.0**
	0.3nm28nm,0.9s						
TNTI	**Ternate**	**7.54**	**333**	P	**Pn**	**19 26 08.2**	**+1.0**
	0.2nm18nm,1.0s						
BATI	**Baumata**	**8.20**	**239**	P	**Pn**	**19 26 17.2**	**+1.0**
	14nm,0.4s,baz=87,slow=4.1,SNR=6.9						
BATI				S	**Sn**	**19 27 43.8**	**-3.4**
	26nm,0.4s,baz=128,slow=20,SNR=10						
BATI	**Baumata**	**8.20**	**239**	P	**Pn**	**19 26 16.6**	**+0.4**
	41nm,1.9s						
SMPI	**Sarmi**	**8.85**	**64**	P	**Pn**	**19 26 25.8**	**+0.7**
EDFI	**Ende, Flores**	**9.42**	**253**	P	**Pn**	**19 26 33.3**	**+0.3**
KNRA	**Kununurra**	**9.82**	**191**		**Pn**	**19 26 36.5**	**-1.8**
JAY	**Jayapura**	**10.48**	**71**	P	**Pn**	**19 26 50.7**	**+3.4**
	1.5nm,0.3s,baz=203,slow=13,SNR=5.2						
JAY				S	**Sn**	**19 28 43.4**	**+0.5**
	1.7nm,0.6s,baz=171,slow=19,SNR=1.5						
TOLI2	**Tolitoli**	**12.23**	**305**	P	**Pn**	**19 27 12.8**	**+2.0**
FITZ	**Fitzroy Crossi**	**13.04**	**202**		**Pn**	**19 27 17.7**	**-3.7**
FITZ	**Fitzroy Crossi**	**13.04**	**202**	P	Pn	19 27 17.6	-3.8
	10nm,0.4s,baz=36,slow=12,SNR=90						
FITZ				S	Sn	19 29 29.7	-15
	7.5nm,0.4s,baz=72,slow=21,SNR=6.4						
PLAI	**Plampang**	**13.20**	**257**	P	**Pn**	**19 27 24.7**	**+1.1**
WB0	**Warramunga Arr**	**14.13**	**166**		Pn	19 27 31.2	-4.5
WRAB	**Tennant Creek**	**14.28**	**166**		Pn	19 27 33.4	-4.1
WRA	**Warramunga Arr**	**14.29**	**166**	P	Pn	19 27 32.5	-5.1
WRA	**Warramunga Arr**	**14.29**	**166**	P	Pn	19 27 33.4	-4.3

MXZ	Matakaoa Point	11.29	185	P		P	20 09 21.7	-2.4
MXZ	Matakaoa Point	11.29	185	P		P	20 09 24.1	0.0
MXZ				S		S	20 11 29.3	+0.9
HAZ	Te Kaha	11.53	187	P		P	20 09 26.4	-0.2
HAZ				S		S	20 11 33.7	+0.6
PINNC	Pines Island,	11.60	286	P		P	20 09 29.6	+2.1
URZ	Urewera	12.11	189	P		P	20 09 31.0	-1.8
	5.4nm,0.3s,baz=286,slow=2.4,SNR=12							
URZ				S		S	20 11 42.6	-1.7
	14nm,0.7s,baz=232,slow=22,SNR=6.2							
URZ	Urewera	12.11	189	P		P	20 09 31.6	-1.2
URZ				S		S	20 11 43.7	-0.7
MWZ	Matawai	12.13	188	P		P	20 09 34.0	+1.0
MWZ				S		S	20 11 46.3	+1.5
DZM	Mont Dzumac	12.66	287			P	20 09 38.9	-0.1
DZM	Mont Dzumac	12.66	287	P		P	20 09 40.2	+1.2
	19nm,0.8s,baz=123,slow=18							
HIZ	Hauiti	12.81	197	P		P	20 09 44.8	+4.6
BKZ	Black Stump Fm	13.10	190	P		P	20 09 42.0	-1.3
BKZ	Black Stump Fm	13.10	190	P		P	20 09 42.5	-0.8
BKZ				S		S	20 12 02.1	-1.4
TMVZ	Te Maari	13.19	193	P		P	20 09 44.4	+0.1
OTVZ	Oturere	13.24	193	P		P	20 09 44.6	-0.4
VRZ	Vera Road	13.41	196	P		P	20 09 49.0	+2.4
WNVZ	Wahianoa	13.42	193	P		P	20 09 45.2	-1.6
WNVZ				S		S	20 12 10.6	+0.6
TSZ	Takapari Road	14.05	191	P		P	20 09 52.4	-1.0
BFZ	Birch Farm	14.62	190	P		P	20 09 56.8	-2.4
BFZ	Birch Farm	14.62	190	P		P	20 09 57.4	-1.8
MRZ	Mangatainoka R	14.71	192	P		P	20 09 56.8	-3.4
MRZ	Mangatainoka R	14.71	192	P		P	20 09 58.0	-2.2
OGWZ	Otaki Gorge	14.94	193	P		P	20 10 00.6	-2.1
MSWZ	Moikau Station	15.50	192	P		P	20 10 04.6	-3.9
TCW	Tory Channel	15.51	195	P		P	20 10 06.0	-2.6
TCW	Tory Channel	15.51	195	P		P	20 10 07.1	-1.5
QRZ	Quartz Range	15.62	200	P		P	20 10 10.0	+0.2
QRZ	Quartz Range	15.62	200	P		P	20 10 09.9	+0.2
PLWZ	Palliser	15.65	192	P		P	20 10 08.3	-1.8
PLWZ	Palliser	15.65	192	P		P	20 10 08.6	-1.5
NNZ	Nelson	15.74	197	P		P	20 10 09.7	-1.3
NNZ	Nelson	15.74	197	P		P	20 10 09.9	-1.1
TUWZ	Tuamarina	15.80	196	P		P	20 10 10.2	-1.4
MRNZ	Matariki Terra	16.08	199	P		P	20 10 13.5	-1.1
THZ	Tophouse	16.38	198	P		P	20 10 16.1	-1.7
THZ	Tophouse	16.38	198	P		P	20 10 15.2	-2.6
DSZ	Denniston Nort	16.68	201	P		P	20 10 22.0	+1.0
KHZ	Kahutara	16.83	195	P		P	20 10 19.0	-3.3
KHZ				IAmb		IAmb	20 10 23.3	
	comp=Z,11nm,0.6s							
KHZ	Kahutara	16.83	195	P		P	20 10 20.2	-2.2
GVZ	Greta Valley S	17.47	196	P		P	20 10 26.7	-2.0
LTZ	Lake Taylor	17.50	198	P		P	20 10 27.5	-1.5
LTZ	Lake Taylor	17.50	198	P		P	20 10 28.3	-0.7
WVZ	Waitaha Valley	18.23	201	P		P	20 10 35.5	-0.2
RPZ	Rata Peaks	18.70	199	P		P	20 10 39.4	-0.7
	comp=Z,8.5nm,0.5s,baz=303,slow=0.4,SNR=6.0							
RPZ	Rata Peaks	18.70	199	P		P	20 10 39.7	-0.4
FOZ	Fox Glacier	18.94	202	P		P	20 10 40.6	+0.5
TMZ	Timaru	19.33	199	P		P	20 10 46.6	+0.8
LBZ	Lake Benmore	19.58	200	P		P	20 10 46.3	-1.7
ODZ	Otahua Downs	20.04	199	P		P	20 10 53.7	+1.4
WKZ	Wanaka	20.35	202	P		P	20 10 56.9	+1.8
EIDS	Eidsvold	25.61	266			P	20 11 42.8	+0.4
EIDS				IAmb		IAmb	20 11 44.0	
	comp=Z,15nm,0.7s							
CAN	Canberra	27.64	244	P		P	20 12 02.6	+2.3
CAN				IAmb		IAmb	20 12 41.2	
	comp=Z,56nm,1.5s							
TOO	Toolangi	30.85	240	P		P	20 12 29.4	+1.2
CTAO	Charters Tower	31.15	274			P	20 12 31.8	+0.8
STKA	Stephens Creek	33.50	251	P		P	20 12 50.9	0.0
STKA	Stephens Creek	33.50	251	P		P	20 12 51.3	+0.4
	comp=Z,5.2nm,0.4s,baz=97,slow=12,SNR=21							
	comp=Z,5.2nm,0.4s							
COEN	Coen	36.15	283			P	20 13 14.0	+0.8
COEN				IAmb		IAmb	20 13 14.3	
	comp=Z,14nm,0.7s							
AS31	Alice Springs	41.28	263			P	20 13 54.6	-0.3
ASAR	Alice Springs	41.29	263			P	20 13 54.1	-0.8
ASAR	Alice Springs	41.29	263	P		P	20 13 54.9	-0.1
	comp=Z,11nm,0.7s,baz=94,slow=7.7,SNR=169							
ASAR				ScP		ScP	20 18 45.6	+0.9
	comp=Z,0.7nm,0.8s,baz=100,slow=3.6,SNR=3.2							
ASAR				S		S	20 19 30.0	-3.0
	comp=Z,1.6nm,0.9s,baz=107,slow=18,SNR=7.3							
	comp=Z,11nm,0.7s							
WR8	Warramunga Arr	41.73	269	P		P	20 13 57.6	-0.9
WR8				IAmb		IAmb	20 13 59.2	
	comp=Z,11nm,0.8s							
WRAB	Tennant Creek	41.88	269	P		P	20 13 59.0	-0.6
WRAB				IAmb		IAmb	20 13 59.8	
	comp=Z,15nm,0.9s							
WRA	Warramunga Arr	41.88	269			P	20 13 58.9	-0.8
WRA	Warramunga Arr	41.88	269	P		P	20 13 59.2	-0.5
	comp=Z,14nm,0.7s,baz=105,slow=7.8,SNR=72							
WRA				PcP		PcP	20 15 42.6	-1.5
	comp=Z,0.9nm,0.8s,baz=92,slow=2.9,SNR=3.4							
WRA				ScP		ScP	20 18 48.9	+1.8
	comp=Z,0.6nm,0.7s,baz=103,slow=3.7,SNR=2.4							
WRA				S		S	20 19 38.4	-3.3
	comp=Z,1.0nm,1.0s,baz=104,slow=12,SNR=4.0							
	comp=Z,14nm,0.7s							
WB0	Warramunga Arr	41.89	269			P	20 13 59.0	-0.8
WB0				IAmb		IAmb	20 13 60.0	
	comp=Z,15nm,0.8s							
KNRA	Kununurra	48.30	272			P	20 14 49.0	0.0
KNRA				IAmb		IAmb	20 14 49.9	
	comp=Z,15nm,0.7s							
FITZ	Fitzroy Crossi	50.27	268	P		P	20 15 03.1	-0.5
FITZ	Fitzroy Crossi	50.27	268	P		P	20 15 03.4	-0.2
	comp=Z,7.4nm,0.8s,baz=121,slow=8.2,SNR=16							
	comp=Z,7.4nm,0.8s							
QSPA	South Pole Qui	63.81	180	P		P	20 16 37.1	+1.1
QSPA	South Pole Qui	63.81	180	P		P	20 16 36.8	+0.8
	comp=Z,2.0nm,0.7s,baz=313,slow=0.9,SNR=17							
	comp=Z,2.0nm,0.7s							
MJAR	Matsushiro Arr	73.63	326	P		P	20 17 35.2	-0.4
	comp=Z,4.8nm,1.1s,baz=166,slow=6.3,SNR=4.7							
	comp=Z,4.8nm,1.1s							
ASAJ	Asahikawa	77.80	334	P		P	20 17 58.9	+0.2
	comp=Z,3.2nm,0.8s,baz=231,slow=10,SNR=4.1							
	comp=Z,3.2nm,0.8s							
KSRS	Korea Array	79.81	321	P		P	20 18 09.5	0.0
	comp=Z,1.6nm,0.7s,baz=141,slow=6.1,SNR=5.0							
	comp=Z,1.6nm,0.7s							
PETK	Petropavlovsk-	81.31	347	P		P	20 18 16.0	-1.0
	comp=Z,2.8nm,0.8s,baz=158,slow=5.4,SNR=2.7							
	comp=Z,2.8nm,0.8s							
SNAA	Sanae	82.30	179	P		P	20 18 21.5	-0.5
SNAA	Sanae	82.30	179	P		P	20 18 20.4	-1.6
	comp=Z,1.1nm,0.9s,baz=194,slow=12,SNR=5.4							
	comp=Z,1.1nm,0.9s							
KULM	Kulim	82.41	280	P		P	20 18 24.2	+0.6
KULM				IAmb		IAmb	20 18 53.5	
	comp=Z,25nm,1.4s							
NV11	Mina Array Sit	86.85	44	P		P	20 18 45.4	+0.5
NV11				IAmb		IAmb	20 18 51.8	
	comp=Z,6.8nm,0.3s							
H04A	Detroit Lake	88.39	37			P	20 18 54.6	+2.8
H04A				IAmb		IAmb	20 19 00.8	
	comp=Z,6.2nm,0.8s							
PINE	Pine Mountain	88.51	39			P	20 18 53.3	+0.7
PINE				IAmb		IAmb	20 18 54.5	
	comp=Z,4.7nm,0.8s							
CMAR	Chiang Mai Arr	89.96	291	P		P	20 19 01.1	+1.4
	comp=Z,0.9nm,0.3s,baz=125,slow=4.5,SNR=2.8							
	comp=Z,0.9nm,0.3s							
FINES	FINESS Array B	140.55	340	PKhKP		PKPpre	20 25 18.4	
	comp=Z,1.2nm,0.8s,baz=45,slow=3.2,SNR=4.5							
FINES				PKP		PKiKP	20 25 26.8	-1.1
	comp=Z,1.4nm,1.0s,baz=90,slow=5.7,SNR=4.0							
KVAR	Kislovodsk Arr	141.04	308	PKP		PKiKP	20 25 27.7	-2.0
	comp=Z,0.8nm,0.4s,baz=349,slow=5.2,SNR=2.1							
NB2	NORSAR Subarra	144.36	350	PKP		PKPdf	20 25 31.1	-0.9
	comp=Z,2.1nm,0.8s,baz=23,slow=3.7							
NOA	NORSAR Array B	144.36	350	PKP		PKPdf	20 25 31.1	-0.9
	comp=Z,1.4nm,0.7s,baz=21,slow=2.6,SNR=10							
HFS	Hagfors	144.79	348	PKP		PKPdf	20 25 32.0	-0.7
	comp=Z,0.8nm,0.5s,baz=57,slow=5.3,SNR=4.8							
AKASG	Malin Array Be	146.71	325	PKPbc		PKPbc	20 25 37.5	-1.3
	comp=Z,2.3nm,0.6s,baz=46,slow=4.6,SNR=13							
ASF	Jabal al Asfar	146.99	289	PKPbc		PKPbc	20 25 40.2	-0.1
	comp=Z,1.5nm,0.5s,baz=63,slow=6.8,SNR=4.3							
MMAI	Mount Meron Ar	148.22	291	PKPbc		PKiKP	20 25 43.9	-0.8
	comp=Z,1.7nm,0.5s,baz=62,slow=5.8,SNR=5.7							
BRTR	Keskin Array B	148.62	304	PKPbc		PKPbc	20 25 43.5	-0.8
	comp=Z,1.5nm,0.7s,baz=117,slow=2.3,SNR=6.3							
TORD	Torodi Ar. Bea	166.77	189	PKPab		PKPab	20 27 08.1	-0.3
	comp=Z,2μm,0.4s,baz=160,slow=5.2,SNR=6.5							

*IDC **11** 20:06:59.3±0.7,55.06N×164.64E,h0km,mb4.0/28, mbtmp4.0/32,ML4.2/4,MS3.3/7,Error ellipse: s-maj=16.4km s-min=11.9km az=157.0*
*KRSC **11** 20:07:01.0±0.9,54.92N×164.57E,h58km±20km,Mc4.1, Ml5.0*
*NEIC **11** 20:07:01.5±2.0,55.06N±0.02×164.4E±0.1,h10km±1km, mb4.4/119,Error ellipse: s-maj=11.6km s-min=3.8km az=77.0*
*MOS **11** 20:07:02.6±0.7,54.93N×164.61E,h40km,mb4.5/13,Error ellipse: s-maj=5.7km s-min=4.8km az=76.4*

ISC 11 20:07:00.1±2.5,54.93N±0.05×164.57E±0.04,h6km±16km, n451,σ1s09/402,mb4.3/94,MS3.9/4,4C-8D,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKI	Bering	0.85	71	PN		Pn	20 07 18.5	0.0
BKI				S		Sb	20 07 29.2	+0.4
BKI	Bering	0.85	71	*i* P		Pn	20 07 18.5	0.0
BKI				*e*S		Sb	20 07 29.3	+0.4
KBTR	Krutoberegovo	1.62	323	PN		Pn	20 07 28.6	-0.6
KBTR	Krutoberegovo	1.62	323	*e*P		Pn	20 07 28.6	-0.6
MKZ	Mys Kozlova	1.69	258	PN		Pn	20 07 30.2	+0.1
MKZ				S		Sn	20 07 49.3	-2.6
MKZ	Mys Kozlova	1.69	258	*e*P		Pn	20 07 30.2	+0.1
MKZ				*e*S		Sn	20 07 49.4	-2.6
KBG	Krutoberegovo	1.70	322	PN		Pn	20 07 29.6	-0.6
KBG				S		Sn	20 07 49.8	-2.4
KBG	Krutoberegovo	1.70	322	*i* P		Pn	20 07 29.7	-0.6
KBG				*e*S		Sn	20 07 49.8	-2.4
ZLN	Zelenaya	2.41	298	PN		Pn	20 07 41.6	+1.6
ZLN	Zelenaya	2.41	298	*i* P		Pn	20 07 41.7	+1.6
SMKR	Semkarok	2.41	315	PN		Pn	20 07 41.3	+1.2
SMKR				S		Sn	20 08 10.0	+0.1
SMKR	Semkarok	2.41	315	*e*P		Pn	20 07 41.4	+1.2
SMKR				*e*S		Sn	20 08 10.1	+0.1
TUMD	Tumrok D	2.42	278	PN		Pn	20 07 40.9	+0.8
TUMD				S		Sn	20 08 08.3	-1.6
TUMD	Tumrok D	2.42	278	*i* P		Pn	20 07 41.0	+0.8
TUMD				*e*S		Sn	20 08 08.3	-1.6
BZGR	Bezymyannyi-Gr	2.43	296	PN		Pn	20 07 41.6	+1.2
BZGR				S		Sn	20 08 10.0	-0.4
BZGR	Bezymyannyi-Gr	2.43	296	*e*P		Pn	20 07 41.6	+1.2
BZGR				*e*S		Sn	20 08 10.0	-0.4
CIRR	Tsirk	2.48	300	PN		Pn	20 07 42.4	+1.4
CIRR	Tsirk	2.48	300	*e*P		Pn	20 07 42.4	+1.4
BZWR	Bezymyannyi-We	2.54	296	PN		Pn	20 07 43.5	+1.5
BZWR	Bezymyannyi-We	2.54	296	*e*P		Pn	20 07 43.5	+1.5
KMNR	Kamenistaya	2.61	290	PN		Pn	20 07 44.4	+1.6
KMNR	Kamenistaya	2.61	290	*e*P		Pn	20 07 44.4	+1.6
KIRR	Kirishev	2.62	295	PN		Pn	20 07 44.5	+1.5
KIRR	Kirishev	2.62	295	*e*P		Pn	20 07 44.6	+1.5
KLY	Klyuchi	2.62	304	PN		Pn	20 07 42.4	-0.4
KLY	Klyuchi	2.62	304	*e*P		Pn	20 07 42.4	-0.4
KPT	Kopyto	2.69	295	PN		Pn	20 07 45.5	+1.6
KPT	Kopyto	2.69	295	*e*P		Pn	20 07 45.5	+1.6
SRDR	Sredinnyy	3.08	299	PN		Pn	20 07 51.1	+1.8
SRDR	Sredinnyy	3.08	299	*e*P		Pn	20 07 51.2	+1.8
KII	Karymskiy	3.12	255	PN		Pn	20 07 51.1	+1.3
KII	Karymskiy	3.12	255	*e*P		Pn	20 07 51.2	+1.3
SPN	Mys Shipunski	3.25	237	PN		Pn	20 07 51.4	-0.1
SPN	Mys Shipunski	3.25	237	*e*P		Pn	20 07 51.5	-0.1
ESO	Esso	3.49	289	PN		Pn	20 07 55.8	+1.0
ESO	Esso	3.49	289	*e*P		Pn	20 07 55.9	+1.0
NLC	Nalytchevo	3.55	242	PN		Pn	20 07 56.0	+0.4
NLC	Nalytchevo	3.55	242	*e*P		Pn	20 07 56.1	+0.4
SDLR	Sedlovina	3.74	246	PN		Pn	20 07 59.6	+1.3
SDLR	Sedlovina	3.74	246	*e*P		Pn	20 07 59.6	+1.3
SMAR	Somma	3.79	246	PN		Pn	20 08 00.7	+1.6
SMAR	Somma	3.79	246	*e*P		Pn	20 08 00.7	+1.6
KRER	Koryakskii	3.79	247	PN		Pn	20 08 01.1	+1.9
KRER	Koryakskii	3.79	247	*e*P		Pn	20 08 01.1	+1.9
UGLR	Uglovaya	3.80	245	PN		Pn	20 08 00.6	+1.4
UGLR	Uglovaya	3.80	245	*e*P		Pn	20 08 00.7	+1.4
AVH	Avacha	3.82	246	PN		Pn	20 08 01.3	+1.9
AVH	Avacha	3.82	246	*e*P		Pn	20 08 01.4	+1.9
AVH				*e*S		Sn	20 08 43.1	-1.5
KRX	Arik	3.82	248	PN		Pn	20 08 01.0	+1.5
KRX	Arik	3.82	248	*e*P		Pn	20 08 01.0	+1.5
KOK	Koryaka	3.86	247	PN		Pn	20 08 01.6	+1.6
KOK	Koryaka	3.86	247	*e*P		Pn	20 08 01.7	+1.6
DALK	Dalny	3.93	243	PN		Pn	20 08 01.9	+1.1
DALK	Dalny	3.93	243	*e*P		Pn	20 08 01.9	+1.1
PET	Petropavlovsk	3.98	244	PN		Pn	20 08 01.9	+0.3
PET	Petropavlovsk	3.98	244	*e*PN		Pn	20 08 03.0	+1.4
PET				pmax		pmax		
	comp=Z,46nm,0.5s							
PET	Petropavlovsk	3.98	244	*e*P		Pn	20 08 03.8	+2.2
INSR	Institute	3.99	245	PN		Pn	20 08 03.0	+1.4
INSR	Institute	3.99	245	*e*P		Pn	20 08 03.1	+1.4
GNL	Ganaly	4.08	255	PN		Pn	20 08 05.0	+2.0
GNL	Ganaly	4.08	255	*e*P		Pn	20 08 05.1	+2.0
KRMR	Karymshinskiy	4.35	244	PN		Pn	20 08 08.2	+1.6
KRMR	Karymshinskiy	4.35	244	*e*P		Pn	20 08 08.3	+1.6
RUS	Russkaya	4.39	238	PN		Pn	20 08 07.7	+0.6
RUS	Russkaya	4.39	238	*e*P		Pn	20 08 07.7	+0.6
OSSR	Ossora	4.41	350	PN		Pn	20 08 08.4	+1.0
OSSR	Ossora	4.41	350	*e*P		Pn	20 08 08.4	+1.0
OSSR				*e*S		Sn	20 08 56.0	-3.0
PEA0B	Petropavlovsk-	4.45	249			Pn	20 08 09.6	+1.6
PEA0B	Petropavlovsk-	4.45	249	PN		Pn	20 08 09.5	+1.6
PETK	Petropavlovsk-	4.45	249			Pn	20 08 08.1	+0.1
PETK	Petropavlovsk-	4.45	249	Pn		Pn	20 08 08.9	+0.9
	comp=Z,16nm,0.3s,baz=72,slow=18,SNR=207							
PETK				Sn		Sn	20 08 58.1	-1.9
	comp=Z,30nm,0.3s,baz=88,slow=22,SNR=3.8							
PETK				LR		LR	20 10 08.0	
	comp=Z,194nm,20.1s,baz=54,slow=42							
	comp=Z,27nm,0.4s							
MTVR	Mutnovka	4.52	240	PN		Pn	20 08 10.1	+1.0
MTVR	Mutnovka	4.52	240	*e*P		Pn	20 08 10.1	+1.0
GRL	Gorelyy	4.54	241	PN		Pn	20 08 11.0	+1.7
GRL	Gorelyy	4.54	241	*e*P		Pn	20 08 11.1	+1.7
ASAK	Asacha	4.72	240	PN		Pn	20 08 13.3	+1.6
ASAK	Asacha	4.72	240	*e*P		Pn	20 08 13.4	+1.6
APC	Apacha	4.82	248	PN		Pn	20 08 15.0	+2.0
APC	Apacha	4.82	248	*e*P		Pn	20 08 15.1	+2.0
PALN	Palana	4.87	331	PN		Pn	20 08 15.7	+2.0
PALN	Palana	4.87	331	*e*P		Pn	20 08 15.8	+2.0
MIPR	Malaya Ipel'ka	5.36	243	PN		Pn	20 08 22.8	+2.3
MIPR	Malaya Ipel'ka	5.36	243	*e*P		Pn	20 08 22.8	+2.3
TILK	Tilichiki	5.59	8	PN		Pn	20 08 26.0	+2.3
TILK	Tilichiki	5.59	8	*i* P		Pn	20 08 26.0	+2.3
PAU	Pauzhetka	5.81	237	PN		Pn	20 08 27.8	+1.1
PAU	Pauzhetka	5.81	237	*e*P		Pn	20 08 27.9	+1.1
SMY	Shemya	6.06	107	Pn		Pn	20 08 32.3	+2.3
SMY	Shemya	6.06	107	PN		Pn	20 08 32.3	+2.3
SKR	Severo-Kuril's	6.66	234	*e*Pn		Pn	20 08 37.0	-1.3
SKR				pmax		pmax		
	comp=Z,70nm,0.4s							
SKR				MLR		MLR		
	comp=Z,100nm,15.0s							
SKR	Severo-Kuril's	6.66	234	*e*P		Pn	20 08 38.5	+0.2
KMSK	Kamenskaya	7.61	6	PN		Pn	20 08 53.5	+2.3
KMSK	Kamenskaya	7.61	6	*e*P		Pn	20 08 53.6	+2.3
MA2	Magadan	8.81	308	Pn		Pn	20 09 08.9	+1.2
	comp=Z,0.3nm,0.3s,baz=110,slow=9.2,SNR=4.1							
MA2				LR		LR	20 13 00.0	
	comp=Z,88nm,19.2s,baz=112,slow=41							
	comp=Z,4.7nm,0.7s							
SEY	Seymchan	10.18	327	Pn		Pn	20 09 29.0	+2.4
	comp=Z,0.1nm,0.3s,baz=73,slow=22,SNR=1.9							
TYV	Tymovskoe	13.82	262	*e*P		P	20 10 26.0	+1.1
TYV				pmax		pmax		
	comp=Z,100nm,2.3s							
TYV				pmax		pmax		
	comp=Z,6.0nm,1.2s							
SPIA	Saint Paul Isl	14.22	71	Pn		Pn	20 10 24.7	+3.0
SPIA	Saint Paul Isl	14.22	71	P		Pn	20 10 22.6	+0.9
	baz=272							
P08K	Saint George I	14.63	73	Pn		Pn	20 10 29.6	+2.3
P08K	Saint George I	14.63	73	P		Pn	20 10 28.1	+0.7
	baz=275							
GAMB	Gambell	14.90	44	Pn		Pn	20 10 33.0	+2.1
GAMB	Gambell	14.90	44	P		Pn	20 10 30.6	-0.4
	baz=245							
NIKH	Nikolski High	15.73	86	P		Pn	20 10 43.5	+1.5
	baz=288							
YSS	Yuzhno-Sakhali	15.85	249	*e*P		Pn	20 10 43.0	-0.6
YSS				pmax		pmax		
	comp=Z,3.0nm,1.0s							
M11K	Mekoryuk	16.47	59	P		Pn	20 10 51.8	+0.4
	baz=264							
UNV	Unalaska Valle	16.83	82			P	20 10 58.9	+0.7
UNV	Unalaska Valle	16.83	82	P		Pn	20 10 56.6	+0.6
	baz=286							
TNA	Tin City	17.14	41	P		Pn	20 10 58.9	-0.9
	baz=245							
AKUT	Akutan	17.17	80			P	20 11 03.2	+1.2
AKUT				IAmb		IAmb	20 11 41.2	
	comp=Z,25nm,1.0s							
K13K	Kusilvak Mount	17.43	54	Pn		P	20 11 04.4	-0.4
K13K	Kusilvak Mount	17.43	54	P		Pn	20 11 03.2	-0.3
	baz=261							
F14K	Arctic Creek	17.71	42	P		Pn	20 11 06.9	-0.1
	baz=248							
ANM	Nome	17.77	45	P		Pn	20 11 07.6	-0.1
	baz=252							
JKA	Kamikawa-asahi	17.82	242			Pn	20 11 08.7	+0.2
ASAJ	Asahikawa	17.82	242	P		Pn	20 11 08.6	0.0
	comp=Z,0.5nm,0.3s,baz=54,slow=8.1,SNR=12							
ASAJ				LR		LR	20 17 11.6	
	comp=Z,51nm,21.1s,baz=22,slow=34							
	comp=Z,7.3nm,0.6s							
ASAJ	Asahikawa	17.82	242	P		Pn	20 11 08.7	+0.2
ASAJ				pmax		pmax		
	comp=Z,10.0nm,0.8s							
M13K	Dall Lake	17.89	59	P		P	20 11 09.6	-0.2
	baz=267							
J14K	Nanvaranak Lak	18.09	52	P		P	20 11 13.4	+1.4
J14K	Nanvaranak Lak	18.09	52	P		Pn	20 11 10.7	-0.8
	baz=260							
L14K	Kuka Creek	18.29	56	P		P	20 11 14.7	+0.5
	baz=265,SNR=9.5							
F15K	North Star Dit	18.45	42	P		Pn	20 11 16.4	+0.4
F15K	North Star Dit	18.45	42	P		P	20 11 15.3	-0.7
	baz=249							
G15K	Niukluk	18.45	44	P		P	20 11 15.4	-0.6
	baz=252							
M14K	Bethel	18.59	58	P		Pn	20 11 19.0	+1.3
	baz=267							
N14K	Kuskokwak Cree	18.70	61	P		Pn	20 11 20.1	+1.0
	baz=270							
L15K	Ungalak Mounta	18.89	55	P		Pn	20 11 22.4	+1.0
	baz=265							
S12K	Black Hills	18.91	74	P		Pn	20 11 21.9	+0.2
	baz=282							
O14K	Tigyukauivet M	18.92	63	P		Pn	20 11 21.9	+0.1
	baz=272							
K15K	Wolf Creek Mou	18.94	53			Pn	20 11 23.4	+1.4
K15K	Wolf Creek Mou	18.94	53	P		Pn	20 11 23.1	+1.0
	baz=263,SNR=5.9							
H16K	Elim	19.08	46	P		P	20 11 22.2	-0.8
	baz=256							
ERM	Erimo	19.10	236	*ce*P		P	20 11 22.0	-1.2
ERM				pmax		pmax		
	comp=Z,7.0nm,0.4s							
M15K	Kasigluk River	19.21	58	P		Pn	20 11 25.7	+0.4
	baz=268							
G16K	Koyuk River	19.25	44	P		P	20 11 25.2	+0.5
	baz=253							
C16K	Lisburne Hills	19.29	34	P		Pn	20 11 25.8	-0.3
C16K				IAmb		IAmb	20 11 37.7	
	comp=Z,17nm,1.1s							
C16K	Lisburne Hills	19.29	34	P		P	20 11 25.5	+0.4
	baz=242							
YAK	Yakutsk	19.38	306			P	20 11 24.3	-1.8
YAK				IAmb

C18K **Utukok River** 20.83 35 P P 20 11 42.6 +0.6
baz=246,SNR=5.6
G18K **Tagagawik** 20.86 44 P 20 11 43.5 +1.2
G18K **Tagagawik** 20.86 44 P P 20 11 42.0 -0.3
baz=256
B18K **Kokolik River** 20.94 33 P P 20 11 43.4 +0.3
baz=244
N17K **Nushagak Hills** 20.94 59 P P 20 11 44.0 +0.9
baz=272
O17K **Koliganek Bris** 21.02 61 P P 20 11 45.1 +1.0
baz=274
L18K **Granite Mounta** 21.19 54 P 20 11 47.4 +1.5
L18K **Granite Mounta** 21.19 54 P P 20 11 47.0 +1.1
baz=268,SNR=5.7
J18K **Innoko River** 21.27 51 P 20 11 47.9 +1.2
J18K IAmb IAmb 20 11 48.9
comp=Z,13nm,0.7s
J18K **Innoko River** 21.27 51 P P 20 11 47.2 +0.5
baz=265,SNR=17
P17K **Kvichak River** 21.40 63 P P 20 11 48.3 +0.1
baz=276
F19K **Shaleruckik Mo** 21.44 41 P P 20 11 49.2 +0.6
baz=255,SNR=7.2
G19K **Purcell Mounta** 21.54 43 P P 20 11 49.0 -0.6
baz=258
C19K **Lookout Ridge** 21.55 35 P P 20 11 49.7 0.0
baz=247,SNR=9.6
A19K **Wainwright** 21.55 32 P P 20 11 49.3 -0.3
baz=243
N18K **Kilae Creek** 21.57 58 P P 20 11 49.9 -0.1
baz=273
M18K **Stony River** 21.59 56 P P 20 11 50.7 +0.5
baz=271
ZEA **Zeya** 21.63 282 *e*P P 20 11 50.2 -0.5
ZEA *e* 20 15 35.7
R17L **Mt. Peulik Vol** 21.65 67 P P 20 11 51.2 +0.3
baz=280
H19K **Roundabout Mou** 21.67 45 P P 20 11 51.5 +0.5
baz=260
Q17K **Contact Creek** 21.80 65 P P 20 11 53.0 +0.5
baz=279
J19K **Poorman** 21.80 49 IAmb IAmb 20 11 55.8
comp=Z,10nm,0.9s
J19K **Poorman** 21.80 49 P P 20 11 52.6 +0.2
baz=264,SNR=14
E19K **Redstone River** 21.82 40 IAmb IAmb 20 11 56.5
comp=Z,15nm,1.1s
E19K **Redstone River** 21.82 40 P P 20 11 52.6 0.0
baz=254,SNR=11
D19K **Kuna River** 21.82 37 IAmb IAmb 20 11 58.8
comp=Z,9.8nm,0.9s
D19K **Kuna River** 21.82 37 P P 20 11 52.7 +0.1
baz=251,SNR=7.6
O18K **Koktuh Hills** 21.96 61 IAmb IAmb 20 11 56.3
comp=Z,12nm,1.2s
O18K **Koktuh Hills** 21.96 61 P P 20 11 54.5 +0.2
baz=275
P18K **Big Mountain,** 22.00 62 P P 20 11 55.3 +0.7
baz=276
L19K **White Mountain** 22.05 54 P P 20 11 54.5 -0.7
baz=270,SNR=7.2
Q18K **Katmai Hardscr** 22.20 64 P P 20 11 56.6 -0.3
baz=278
N19K **Bonanza Creek** 22.26 58 P P 20 11 56.6 -0.9
baz=274
M19K **Big River Lodg** 22.27 55 IAmb IAmb 20 12 18.1
comp=Z,5.6nm,0.6s
M19K **Big River Lodg** 22.27 55 P P 20 11 57.3 -0.2
baz=271
F20K **Avaraart Lake** 22.28 41 P P 20 11 57.5 0.0
baz=257,SNR=7.2
H20K **Anotleneega Mo** 22.31 46 P P 20 11 58.3 +0.4
baz=262,SNR=7.5
I20K **Naaghedeneel** 22.39 47 P P 20 11 58.6 0.0
baz=264
D20K **Etivluk River** 22.41 37 P P 20 11 58.0 -1.0
D20K IAmb IAmb 20 12 00.9
comp=Z,10nm,0.9s
D20K **Etivluk River** 22.41 37 P P 20 11 58.7 -0.3
baz=252,SNR=9.5
CHIR **Chirikof Islan** 22.42 71 P P 20 11 59.2 0.0
baz=285
E20K **Nigu River** 22.42 38 P P 20 11 59.2 +0.1
baz=254,SNR=9.4
K20K **Telida** 22.45 51 IAmb IAmb 20 12 01.8
comp=Z,11nm,1.1s
K20K **Telida** 22.45 51 P P 20 11 59.4 +0.1
baz=268,SNR=9.2
J20K **Nowinta River** 22.47 49 IAmb IAmb 20 12 02.4
comp=Z,12nm,0.8s
J20K **Nowinta River** 22.47 49 P P 20 11 59.5 0.0
baz=266,SNR=16
L20K **Farewell, AK** 22.51 54 P P 20 12 00.2 +0.2
baz=270
TIXI **Tiksi** 22.63 331 P 20 12 00.9 -0.2
TIXI IAmb IAmb 20 12 05.1
comp=Z,6.7nm,0.7s
TIXI **Tiksi** 22.63 331 P P 20 12 00.7 -0.4
comp=Z,7.4nm,0.6s,baz=124,slow=9.9,SNR=24
comp=Z,7.4nm,0.6s
TIXI **Tiksi** 22.63 331 ⇓*e*P P 20 12 01.7 +0.5
TIXI pmax pmax
comp=Z,7.0nm,0.7s
B20K **Meade River** 22.68 34 P 20 12 01.6 -0.2
B20K IAmb IAmb 20 12 03.3
comp=Z,13nm,0.8s
B20K **Meade River** 22.68 34 P P 20 12 01.1 -0.7
baz=248,SNR=6.6
IMAR **Indian Mountai** 22.85 44 P P 20 12 03.2 -0.4
HEH **HeiHe** 22.86 274 *e*P P 20 11 59.5 -4.4
HEH pmax pmax
comp=Z,9.0nm,0.6s
M20K **Styx River** 22.86 55 P P 20 12 04.0 +0.1
baz=272
Q19K **Cape Douglas,** 22.86 63 P P 20 12 03.7 -0.2
baz=279
P19K **Oil Pt** 22.98 61 P P 20 12 05.1 0.0
baz=277
G21K **Allakaket** 23.03 43 P P 20 12 05.0 -0.5
baz=261,SNR=6.0
F21K **Alatna River** 23.17 41 IAmb IAmb 20 12 09.0
comp=Z,7.3nm,0.9s
F21K **Alatna River** 23.17 41 P P 20 12 06.4 -0.5
baz=259,SNR=12
C21K **Knifeblade Rid** 23.18 36 P P 20 12 06.9 -0.1
baz=253,SNR=14
H21K **Melozitna Rive** 23.19 45 IAmb IAmb 20 12 09.7
comp=Z,13nm,1.1s
H21K **Melozitna Rive** 23.19 45 P P 20 12 06.8 -0.3
baz=263,SNR=13
E21K **Killik River** 23.27 38 P P 20 12 07.1 -0.9
baz=256
PPLA **Purkeypile** 23.29 53 IAmb IAmb 20 12 11.1
comp=Z,24nm,1.4s
PPLA **Purkeypile** 23.29 53 P P 20 12 08.4 0.0
baz=270
CAST **Castle Rocks** 23.34 51 IAmb IAmb 20 12 11.1
comp=Z,6.3nm,0.8s
CAST **Castle Rocks** 23.34 51 P P 20 12 08.2 -0.5
baz=269,SNR=8.4
A21K **Barrow** 23.37 31 P P 20 12 08.0 -0.8
baz=246
B21K **Ikpikpuk River** 23.38 35 P P 20 12 08.2 -0.7
baz=252,SNR=6.8
USRK **Ussuriysk Ar.** 23.49 256 P P 20 12 12.3 +2.0
comp=Z,1.4nm,0.6s,baz=47,slow=11,SNR=1.9
comp=Z,1.4nm,0.6s
Q20K **Shuyak Island** 23.56 63 P P 20 12 11.3 +0.4
baz=280
KDAK **Kodiak Island** 23.61 65 P P 20 12 10.4 -0.9
baz=282
SKT **Skwentna** 23.62 55 IAmb IAmb 20 12 13.8
comp=Z,8.0nm,1.0s
SKT **Skwentna** 23.62 55 P P 20 12 11.8 +0.4
baz=273,SNR=5.9
F22K **John River** 23.72 41 P P 20 12 12.4 0.0
baz=260
A22K **Sinclair Lake** 23.73 32 P P 20 12 12.1 -0.4
baz=249
H22K **Ishtalitna Cre** 23.80 45 P P 20 12 13.2 0.0
baz=264,SNR=6.5
D22K **Ayikyak River** 23.83 38 IAmb IAmb 20 12 15.1
comp=Z,16nm,1.4s
D22K **Ayikyak River** 23.83 38 P P 20 12 13.1 -0.3
baz=256
BPAW **Bear Paw Mtn.** 23.84 50 IAmb IAmb 20 12 15.7
comp=Z,17nm,1.2s
BPAW **Bear Paw Mtn.** 23.84 50 P P 20 12 13.7 0.0
baz=269,SNR=11
KTH **Kantishna Hill** 23.86 51 IAmb IAmb 20 12 16.7
comp=Z,12nm,1.0s
G22K **Bettles** 23.88 42 P P 20 12 13.4 -0.5
baz=262
E22K **Anaktuvuk Pass** 23.98 39 IAmb IAmb 20 12 16.6
comp=Z,10.0nm,0.8s
E22K **Anaktuvuk Pass** 23.98 39 P P 20 12 14.6 -0.3
baz=259,SNR=20
B22K **Teshekpuk Lake** 23.99 34 P P 20 12 14.1 -0.9
baz=252,SNR=5.2
MLY **Manley** 23.99 47 IAmb IAmb 20 12 16.5
comp=Z,6.9nm,0.8s
MLY **Manley** 23.99 47 P P 20 12 15.1 0.0
baz=267,SNR=15
SUA **Susitna One** 24.02 56 P P 20 12 15.0 -0.5
baz=275
TRF **Thorofare Moun** 24.15 51 P P 20 12 17.5 +0.8
baz=271,SNR=25
COLD **Coldfoot** 24.43 42 P P 20 12 19.5 +0.4
baz=262,SNR=7.9
G23K **Bananza Creek** 24.43 43 IAmb IAmb 20 12 20.3
comp=Z,5.1nm,0.8s
G23K **Bananza Creek** 24.43 43 P P 20 12 18.5 -0.6
baz=264,SNR=8.0
RC01 **Rabbit Creek A** 24.54 57 P P 20 12 20.5 +0.4
baz=276
H23K **Yukon River** 24.55 45 P P 20 12 20.2 0.0
baz=266,SNR=24
D23K **Nanushuk River** 24.56 38 P P 20 12 19.8 -0.4
baz=258
I23K **Minto, Yukon-K** 24.58 47 P P 20 12 20.2 -0.2
baz=268,SNR=22
NEA2 **Nenana** 24.69 48 P P 20 12 21.0 -0.4
baz=269,SNR=20
MCK **McKinley** 24.75 50 P P 20 12 21.3 -0.6
baz=271
E23K **Chandalar** 24.77 40 P P 20 12 22.2 -0.1
baz=261,SNR=18
C23K **Itkillik River** 24.78 36 IAmb IAmb 20 12 24.3
comp=Z,12nm,1.0s
C23K **Itkillik River** 24.78 36 P P 20 12 21.6 -0.5
baz=256,SNR=9.9
SEW **Seward** 24.81 59 P P 20 12 22.3 -0.2
baz=279
TOLK **Toolik Lake Re** 24.89 39 P P 20 12 22.8 -0.4
baz=260,SNR=12
WAT1 **Susitna Watana** 24.96 53 P P 20 12 23.8 -0.1
baz=274
BNX **BinXian** 25.17 264 ⇑P P 20 12 25.8 -0.1
BNX pmax pmax
comp=Z,9.0nm,0.7s
E24K **Your Creek** 25.20 40 P P 20 12 25.6 -0.4
baz=262,SNR=33
COLA **College** 25.22 48 *de*P P 20 12 25.9 -0.2
COLA pmax pmax
comp=Z,9.0nm,1.1s
H24K **Noodor Dome** 25.23 45 IAmb IAmb 20 12 28.8
comp=Z,5.1nm,0.9s
H24K **Noodor Dome** 25.23 45 P P 20 12 26.1 -0.3
baz=268,SNR=7.0
D24K **Happy Valley** 25.25 38 P P 20 12 25.9 -0.5
baz=260,SNR=11
PWL **Port Wells** 25.25 57 P P 20 12 25.8 -0.8
baz=278
WAT6 **Susitna Watana** 25.35 53 P P 20 12 27.4 -0.1
baz=275
F24K **Squaw Lake** 25.36 41 IAmb IAmb 20 12 43.6
comp=Z,4.3nm,0.8s
F24K **Squaw Lake** 25.36 41 P P 20 12 26.8 -0.6
baz=264,SNR=9.1
C24K **Franklin Bluff** 25.40 36 P P 20 12 28.1 +0.4
baz=255
M23K **Glacier View** 25.43 55 P P 20 12 28.5 +0.4
baz=276
G24K **Hadweenzic Riv** 25.44 43 IAmb IAmb 20 12 29.4
comp=Z,8.5nm,0.8s
G24K **Hadweenzic Riv** 25.44 43 P P 20 12 28.3 +0.1
baz=266,SNR=12
DHY **Denali Highway** 25.48 52 IAmb IAmb 20 12 29.7
comp=Z,18nm,1.4s
DHY **Denali Highway** 25.48 52 P P 20 12 28.1 -0.6
baz=274,SNR=11
HDA **Harding Lake** 25.61 49 IAmb IAmb 20 12 32.5
comp=Z,6.7nm,0.8s
HDA **Harding Lake** 25.61 49 P P 20 12 29.7 0.0
baz=272
SCM **Sheep Creek Mo** 25.61 55 P P 20 12 29.5 -0.4
baz=277,SNR=7.4
IL31 25.63 48 IAmb IAmb 20 12 32.7
comp=Z,9.3nm,0.8s
ILAR **Eielson Array** 25.63 48 P P 20 12 29.2 -0.7
comp=Z,5.4nm,0.7s,baz=261,slow=8.6,SNR=53
comp=Z,5.4nm,0.7s
MAJO **Matsushiro** 25.77 235 P 20 12 32.8 +1.4
MAJO **Matsushiro** 25.77 235 ⇑*e*P P 20 12 31.9 +0.5
MAJO pmax pmax
comp=Z,12nm,1.9s
MJAR **Matsushiro Arr** 25.77 235 P P 20 12 32.7 +1.3
comp=Z,5.1nm,0.7s,baz=42,slow=8.6,SNR=12
comp=Z,5.1nm,0.7s
P23K **Montague Islan** 25.84 59 P P 20 12 31.5 -0.3
baz=280
GLI **Glacier Island** 25.85 57 P P 20 12 31.5 -0.4
baz=279
G25K **Bearman Lake** 25.99 43 P P 20 12 32.5 -0.7
baz=268
M24K **Tolsona, Glenn** 26.12 54 P P 20 12 33.7 -0.8
baz=277
D25K **Kavik River** 26.14 38 IAmb IAmb 20 12 36.4
comp=Z,8.9nm,0.7s
D25K **Kavik River** 26.14 38 P P 20 12 33.9 -0.6
baz=262,SNR=13
K24K **Donnelly Dome** 26.15 50 IAmb IAmb 20 12 50.6
comp=Z,6.9nm,0.7s
K24K **Donnelly Dome** 26.15 50 P P 20 12 34.1 -0.6
baz=274
PRP **Porcupine Dome** 26.20 46 IAmb IAmb 20 12 36.0
comp=Z,10nm,0.9s
PRP **Porcupine Dome** 26.20 46 P P 20 12 35.1 -0.1
baz=271,SNR=11
F25K **Christian Rive** 26.22 41 P P 20 12 35.1 -0.2
baz=266,SNR=7.8
J25K **Salcha River,** 26.29 48 P P 20 12 34.6 -1.4
baz=273,SNR=5.4
E25K **Arctic Village** 26.29 40 IAmb IAmb 20 12 36.9
comp=Z,4.8nm,0.8s
E25K **Arctic Village** 26.29 40 P P 20 12 36.0 +0.1
baz=265,SNR=9.2
KLU **Klutina** 26.32 55 IAmb IAmb 20 12 53.4
comp=Z,5.2nm,1.0s
KLU **Klutina** 26.32 55 P P 20 12 35.9 -0.4
baz=278
FYU **Fort Yukon** 26.33 44 IAmb IAmb 20 12 37.4
comp=Z,8.2nm,0.8s
EYAK **Cordova Ski Ar** 26.55 57 P P 20 12 38.3 0.0
baz=280
HARP **HAARP** 26.56 53 P P 20 12 38.0 -0.3
baz=277
RIDG **Independent Ri** 26.57 50 P P 20 12 37.9 -0.6
baz=275
BMAR **Burnt Mountain** 26.62 42 P 20 12 39.0 +0.1
C26K **Camden Bay** 26.73 36 P P 20 12 38.9 -0.9
baz=262
F26K **Sheenjek River** 26.80 41 P P 20 12 40.3 -0.2
baz=268,SNR=5.2
G26K **Porcupine Rive** 26.91 43 IAmb IAmb 20 12 42.7
comp=Z,5.7nm,0.9s
G26K **Porcupine Rive** 26.91 43 P P 20 12 41.1 -0.3
baz=269
SCRK **Sand Creek** 26.93 50 P 20 12 41.0 -0.8
SCRK IAmb IAmb 20 12 41.4
comp=Z,5.4nm,0.9s
SCRK **Sand Creek** 26.93 50 P P 20 12 40.2 -1.6
baz=275,SNR=10
N25K **Chitina, Valde** 26.93 55 P P 20 12 41.6 -0.2
baz=279
BMRM **Bremner River** 27.03 56 P P 20 12 41.7 -0.9
baz=280
C27K **Jago River** 27.11 37 IAmb IAmb 20 12 44.5
comp=Z,9.4nm,0.9s
C27K **Jago River** 27.11 37 P P 20 12 43.0 -0.2
baz=264,SNR=9.3
I26K **Coal Creek Min** 27.20 47 P P 20 12 44.0 -0.1
baz=273
L26K **Log Cabin Wild** 27.31 52 P P 20 12 46.3 +1.2
baz=277
KAIM **Kayak Island** 27.33 59 P P 20 12 45.5 +0.2
baz=283
KAIM **Kayak Island** 27.33 59 P P 20 12 45.7 +0.4
baz=283
M26K **Nabesna, AK** 27.56 53 P P 20 12 47.8 +0.4
baz=279
G27K **Doyon Strip** 27.75 43 P P 20 12 49.0 -0.1
G27K **Doyon Strip** 27.75 43 P P 20 12 49.5 +0.4
baz=272
K27K **Chicken** 27.76 49 P P 20 12 48.2 -0.9
baz=276
E27K **Coleen River** 27.78 40 P P 20 12 49.8 +0.6
baz=269
I27K **Kandik River** 27.82 46 P P 20 12 50.4 +0.6
baz=274
H27K **Steamboat Moun** 27.82 45 IAmb IAmb 20 12 51.2
comp=Z,8.8nm,1.4s
H27K **Steamboat Moun** 27.82 45 P P 20 12 49.9 +0.1
baz=273,SNR=5.8
L27K **Beaver Creek,** 27.99 51 IAmb IAmb 20 12 52.6
comp=Z,6.5nm,0.9s
L27K **Beaver Creek,** 27.99 51 P P 20 12 51.7 +0.4
baz=279,SNR=9.2
BCAR **Beaver Creek A** 28.01 51 P 20 12 51.7 +0.3
D27M **Malcolm River** 28.05 38 P P 20 12 51.6 -0.1
baz=268
M27K **Edge Creek, AK** 28.08 53 IAmb IAmb 20 13 34.5
comp=Z,5.5nm,1.1s
M27K **Edge Creek, AK** 28.08 53 P P 20 12 52.7 +0.6
baz=280,SNR=5.7
F28M **Old Crow** 28.43 42 P P 20 12 54.9 -0.1
baz=272
I28M **Miner Creek** 28.53 46 P P 20 12 55.8 -0.3
baz=276
E28M **Babbage River** 28.55 39 P P 20 12 55.0 -1.1
baz=270
DAWY **Dawson** 28.93 49 P P 20 12 58.4 -1.1
baz=279
H29M **Whitestone** 29.10 44 P P 20 12 59.5 -1.5
baz=276
E29M **Blow River** 29.15 40 P P 20 13 00.9 -0.5
baz=272
G29M **Pine Creek** 29.18 43 IAmb IAmb 20 13 03.4
comp=Z,7.1nm,0.9s
G29M **Pine Creek** 29.18 43 P P 20 13 02.4 +0.6
baz=275,SNR=6.0
O28M **Mount Upton** 29.19 56 P P 20 13 01.9 -0.3
baz=284
M29M **Somme Creek** 29.63 52 IAmb IAmb 20 13 07.2
comp=Z,3.3nm,0.7s
M29M **Somme Creek** 29.63 52 P P 20 13 06.5 +0.7
baz=282,SNR=7.0
L29M **L29M** 29.64 51 P P 20 13 06.6 +0.7
baz=281,SNR=14
EPYK **Eagle Plains** 29.75 44 P P 20 13 06.1 -0.8
baz=277
K29M **Barlow Dome** 29.78 49 P P 20 13 05.8 -1.4
baz=280
G30M **tAoh Zraii Nji** 29.88 43 P P 20 13 07.1 -0.9
baz=276
F30M **Barrier River** 29.99 41 P P 20 13 07.1 -1.8
baz=275
I30M **Mount Dempster** 30.04 46 IAmb IAmb 20 13 10.0
comp=Z,3.5nm,0.7s
I30M **Mount Dempster** 30.04 46 P P 20 13 09.0 -0.5
baz=279,SNR=6.0
KSRS **Korea Array** 30.34 250 P P 20 13 13.8 +1.6
comp=Z,4.4nm,0.7s,baz=42,slow=9.3,SNR=13
comp=Z,4.4nm,0.7s
M30M **Minto, Yukon** 30.35 51 P P 20 13 11.3 -0.9
baz=283
HYT **Haines Junctio** 30.45 55 P P 20 13 13.2 0.0
baz=286
P29M **Windy Craggy** 30.67 57 P P 20 13 14.7 -0.3
baz=287
H31M **Peel River** 30.79 45 P P 20 13 14.2 -1.8
baz=280
M31M **Drury Creek, Y** 31.53 52 IAmb IAmb 20 13 24.4
comp=Z,4.6nm,0.7s
M31M **Drury Creek, Y** 31.53 52 P P 20 13 23.1 +0.5
baz=285,SNR=6.6
S31K **Pelican** 31.95 60 P P 20 13 25.8 -0.4
baz=291
Q32M **Nakina River** 33.54 57 P P 20 13 39.0 -1.4
baz=292
R33M **Jennings River** 34.01 56 P P 20 13 43.7 -0.6
baz=292
WTLY **Watson Lake, Y** 34.77 54 P P 20 13 49.7 -1.1
baz=292
DLBC **Dease Lake** 34.82 57 P P 20 13 49.1 -2.2
baz=294
H11N2 **WAKE ISLAND Hy** 35.18 176 T T 20 51 59.3
baz=359,slow=76,SNR=139
H11N3 **WAKE ISLAND Hy** 35.20 176 T T 20 52 08.0
baz=359,slow=76,SNR=93
H11N1 **WAKE ISLAND Hy** 35.20 176 T T 20 52 09.5
baz=359,slow=76,SNR=106
T35M **Bob Quinn** 35.31 59 P P 20 13 55.8 +0.2
baz=295
ULN **Ulaanbaatar** 35.66 283 ⇓*e*P P 20 13 59.8 +1.0
ULN pmax pmax
comp=Z,1.0nm,0.9s
NRIK **Noril'sk** 35.95 324 ⇓*e*P P 20 14 01.0 +0.2
SONM **Songino Array** 36.05 283 P P 20 14 03.6 +1.5
comp=Z,1.5nm,0.7s,baz=64,slow=8.5,SNR=14
SONM PcP PcP 20 16 27.8 -0.3
comp=Z,0.4nm,0.7s,baz=72,slow=1.7,SNR=3.0
comp=Z,1.5nm,0.7s
H11S1 **WAKE ISLAND Hy** 36.39 177 T T 20 53 58.1
baz=359,slow=76,SNR=6.4
H11S3 **WAKE ISLAND Hy** 36.41 177 T T 20 53 51.7
baz=359,slow=76,SNR=4.0
H11S2 **WAKE ISLAND Hy** 36.41 177 T T 20 53 57.0
baz=359,slow=76,SNR=5.7
KOTAN **Kotaneelee Air** 36.94 52 P P 20 14 09.7 +0.3
baz=295
HHC **Hu-ho-hao-te** 37.30 270 *e*P P 20 14 11.2 -1.5
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,53nm,4.9s
JOW **Kunigami** 38.53 238 LR LR 20 31 26.3
comp=Z,341nm,18.0s,baz=308,slow=38
EUNU **Eureka** 39.51 15 IAmb IAmb 20 14 32.0
comp=Z,6.2nm,0.8s
YKA **Yellowknife Ar** 40.00 45 P P 20 14 35.0 0.0
comp=Z,1.2nm,0.7s,baz=301,slow=8.1,SNR=7.1
comp=Z,1.2nm,0.7s
ZALV **Zalesovo Beam** 44.00 303 P P 20 15 06.7 -1.1
comp=Z,0.5nm,0.2s,baz=46,slow=6.2,SNR=2.6
comp=Z,0.5nm,0.2s
GTA **Gaotai** 45.01 278 P P 20 15 16.9 +0.7
GTA sP pwP 20 15 30.3 +7.4
GTA pmax pmax
comp=Z,16nm,0.7s
GTA LR LR
comp=N,190nm,13.1s
GTA LR LR
comp=E,110nm,17.1s
GTA LR LR
comp=Z,120nm,15.6s
SPITS **Spitsbergen Ar** 45.74 351 P P 20 15 21.2 -0.2
comp=Z,1.8nm,0.6s,baz=66,slow=9.2,SNR=2.3
comp=Z,1.8nm,0.6s
ENH **Enshi** 45.94 261 P P 20 15 23.5 -0.1
BLKN **Baker Lake** 46.06 37 P P 20 15 23.5 -0.5
KURK **Kurchatov** 48.98 303 P P 20 15 46.2 -0.7
KURK **Kurchatov** 48.98 303 P P 20 15 46.2 -0.7
KURK pmax pmax
comp=Z,12nm,0.8s
KURBB **Kurchatov Arra** 49.09 303 P P 20 15 47.2 -0.5
comp=Z,12nm,0.8s,baz=56,slow=8.0,SNR=62
comp=Z,12nm,0.8s
MKAR **Makanchi Array** 49.71 297 P P 20 15 52.1 -0.6
comp=Z,3.6nm,0.3s,baz=54,slow=6.8,SNR=12
comp=Z,3.6nm,0.3s
MKAR **Makanchi Array** 49.71 297 *i*P P 20 15 52.0 -0.6
MKAR pmax pmax
comp=Z,3.0nm,0.3s
BVAR **Borovoye Array** 51.29 309 P P 20 16 04.2 -0.2
comp=Z,3.1nm,0.6s
comp=Z,3.1nm,0.6s
BRVK **Borovoye** 51.31 310 *de*P P 20 16 04.7 +0.1
BRVK pmax pmax
comp=Z,14nm,2.5s
ARCES **ARCESS Array B** 52.33 343 P P 20 16 12.1 +0.1
comp=Z,1.3nm,0.8s,baz=84,slow=16,SNR=3.7
comp=Z,1.3nm,0.8s
NVAR **Mina Array Bea** 52.66 74 P P 20 16 13.9 -1.2
comp=Z,0.3nm,0.4s,baz=298,slow=5.9,SNR=1.9

	comp=Z,0.3nm,0.4s							
PZH	**PanZhiHua**	**53.23**	**264**	P		**P**	**20 16 20.3**	**+1.0**
ARTI	**Arti**	**53.90**	**319**	LR		LR	20 41 27.5	
	comp=Z,44nm,20.6s,baz=34,slow=38							
ARTI	**Arti**	**53.90**	**319**	*d*	P	**P**	**20 16 23.9**	**+0.2**
ARTI							20 17 25.0	
ARTI							20 18 20.4	
ARTI					S	**S**	**20 24 02.1**	**+3.2**
ARTI					SS	**SS**	**20 27 39.5**	**+0.4**
ARTI					pmax	pmax		
	comp=Z,7.0nm,1.3s							
PDAR	**Pinedale Array**	**54.33**	**65**	P		**P**	**20 16 27.3**	**0.0**
	comp=Z,0.4nm,0.8s,baz=344,slow=3.7,SNR=4.5							
	comp=Z,0.4nm,0.8s							
KDJ	**Kajisay**	**55.58**	**296**	IAmb		IAmb	20 16 37.0	
	comp=Z,5.6nm,1.0s							
BOOM	**Boomskoye usch**	**55.96**	**297**	IAmb		IAmb	20 16 40.0	
	comp=Z,3.5nm,0.9s							
AAK	**Ala-Archa**	**56.59**	**298**	*de*	P	**P**	**20 16 43.5**	**0.0**
AAK					pmax	pmax		
	comp=Z,3.0nm,0.6s							
KSH	**Kashi**	**58.10**	**294**	P		**P**	**20 16 57.5**	**+3.4**
KSH					pmax	pmax		
	comp=Z,4.0nm,1.0s							
KK31	**Karatay Array**	**58.26**	**301**	IAmb		IAmb	20 16 55.0	
	comp=Z,2.6nm,0.8s							
KKAR	**Karatay Array**	**58.26**	**301**	P		**P**	**20 16 54.1**	**-0.9**
KKAR	**Karatay Array**	**58.26**	**301**	P		**P**	**20 16 54.2**	**-0.9**
ARSB	**Arslanbob**	**58.32**	**298**	IAmb		IAmb	20 16 56.6	
	comp=Z,3.3nm,0.9s							
AKTO	**Aktyubinsk**	**58.49**	**314**	LR		LR	20 44 04.6	
	comp=Z,44nm,18.1s,baz=82,slow=38							
AB31	**Akbulak array**	**58.57**	**312**	IAmb		IAmb	20 16 58.3	
	comp=Z,2.4nm,0.6s							
ABKAR	**Akbulak array**	**58.57**	**312**	P		**P**	**20 16 56.8**	**-0.3**
FINES	**FINESS Array B**	**59.44**	**338**	P		**P**	**20 17 02.5**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=25,slow=6.3,SNR=6.6							
	comp=Z,1.1nm,0.6s							
FINES	**FINESS Array B**	**59.44**	**338**	*i*	P	**P**	**20 17 02.7**	**-0.2**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**61.12**	**261**	P		**P**	**20 17 15.8**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=21,slow=7.0,SNR=11							
	comp=Z,1.3nm,0.8s							
NB2	**NORSAR Subarra**	**62.46**	**346**	P		**P**	**20 17 22.4**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=17,slow=6.9							
NOA	**NORSAR Array B**	**62.46**	**346**	P		**P**	**20 17 23.2**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=17,slow=6.8,SNR=6.9							
	comp=Z,0.5nm,0.7s							
HFS	**Hagfors**	**62.96**	**344**	P		**P**	**20 17 25.5**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=45,slow=8.8,SNR=6.0							
	comp=Z,1.0nm,0.6s							
TXAR	**Lajitas Array**	**67.51**	**71**	P		**P**	**20 17 55.7**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=260,slow=3.4,SNR=5.4							
	comp=Z,0.7nm,0.6s							
AKASG	**Malin Array Be**	**68.34**	**331**	P		**P**	**20 18 00.8**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=30,slow=6.6,SNR=2.0							
	comp=Z,0.5nm,0.4s							
EKA	**Eskdalemuir Ar**	**69.64**	**353**	P		**P**	**20 18 10.4**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=15,slow=5.9,SNR=2.3							
	comp=Z,0.6nm,0.7s							
KIV	**Kislovodsk**	**69.84**	**319**	*e*P		**P**	**20 18 11.8**	**+0.5**
KIV					pmax	pmax		
	comp=Z,2.0nm,1.0s							
STHS	**Stebnicka Huta**	**71.57**	**336**	*e*P		**P**	**20 18 18.8**	**-2.8**
STHS					pmax	pmax		
	comp=Z,1.0nm,0.5s							
STHS	**Stebnicka Huta**	**71.57**	**336**	*e*P		**P**	**20 18 18.8**	**-2.8**
VYHS	**Vyhne**	**73.00**	**337**	*e*P		**P**	**20 18 29.4**	**-0.7**
VYHS					pmax	pmax		
	comp=Z,1.0nm,0.3s							
VYHS	**Vyhne**	**73.00**	**337**	*e*P		**P**	**20 18 29.4**	**-0.7**
MODS	**Modra-Piesok**	**73.45**	**338**	*e*P		**P**	**20 18 33.1**	**+0.2**
MODS					pmax	pmax		
	comp=Z,2.0nm,0.4s							
MODS	**Modra-Piesok**	**73.45**	**338**	*e*P		**P**	**20 18 33.0**	**+0.2**
GERES	**GERESS Array B**	**73.74**	**340**	P		**P**	**20 18 34.4**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=45,slow=7.7,SNR=4.6							
	comp=Z,0.5nm,0.7s							
MLR	**Muntele Rosu**	**73.99**	**331**	P		**P**	**20 18 36.0**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=70,slow=1.5,SNR=2.0							
	comp=Z,1.2nm,0.7s							
MLR	**Muntele Rosu**	**73.99**	**331**	P		**P**	**20 18 36.0**	**-0.2**
BRTR	**Keskin Array B**	**76.81**	**323**	P		**P**	**20 18 52.2**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=355,slow=10,SNR=1.5							
	comp=Z,0.5nm,0.7s							
WRA	**Warramunga Arr**	**78.92**	**209**	P		**P**	**20 19 06.7**	**+2.6**
	comp=Z,0.3nm,0.7s,baz=26,slow=5.9,SNR=1.5							
	comp=Z,0.3nm,0.7s							
ASAR	**Alice Springs**	**82.58**	**208**	P		**P**	**20 19 22.9**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=7.2,slow=5.6,SNR=2.1							
	comp=Z,0.3nm,0.8s							
ESDC	**Sonseca Array**	**85.25**	**351**	P		**P**	**20 19 37.3**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=359,slow=5.0,SNR=5.1							
	comp=Z,0.5nm,0.8s							
QSPA	**South Pole Qui**	**144.68**	**180**	PKP		PKPbc	20 26 34.8	-0.2
	comp=Z,0.2nm,0.3s,baz=43,slow=1.5,SNR=1.6							

*SOF **11** 20:18:54.9, 40.57N±0.04×28.75E±0.04, h5km±1km, MD3.3/2*
*ISK **11** 20:18:55.8, 40.63N×28.96E, h6km, ML3.5/44*
*AFAD **11** 20:18:55.8, 40.59N×28.99E, h7km±5km, ML3.3*
*CFUSG **11** 20:18:58.2, 40.56N×29.43E, h10km, mb2.7/3, Western Turkey Magtype MSH 3.1 from 3 stations*
ISC 11 20:18:56.3±0.8, **40.59N**±0.02×**28.97E**±0.01, **h14**km±6km, **n102**, σ1°**27**/138, **22C-8D**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARMT	**Armutlu**	**0.09**	**254**	Pg		**Pg**	**20 18 58.6**	**-0.7**
KURT	**Yalova, Merkez**	**0.18**	**90**	P		**Pg**	**20 19 00.4**	**-0.1**
KURT				S		**Sg**	**20 19 02.9**	**-0.4**
MDNY	**Mudanya-Bursa**	**0.23**	**197**	Pg		**Pg**	**20 19 01.7**	**+0.4**
MDNY				Sg		**Sg**	**20 19 05.6**	**+0.9**
KRSK	**Karsak**	**0.28**	**130**	P		**Pb**	**20 19 02.7**	**-0.6**
YYLC	**Yaylacik**	**0.31**	**203**	P		**Pb**	**20 19 03.1**	**-0.5**
YYLC				*i*	IAML		20 19 05.0	
	comp=N,4μm,0.4s							
YYLC				S		**Sg**	**20 19 07.4**	**+0.3**
YYLC				*i*	IAML		20 19 08.0	
	comp=E,5μm,0.5s							
AVDN	**Avdancik/Bursa**	**0.33**	**154**	P		**Pb**	**20 19 03.6**	**-0.4**
AVDN				S		**Sg**	**20 19 07.3**	**-0.3**
AVDN				*i*	IAML		20 19 08.0	
	comp=E,8μm,0.4s							
IGD	**Bursa**	**0.37**	**152**	P		**Pb**	**20 19 04.2**	**-0.5**
IGD				S		**Sg**	**20 19 08.5**	**-0.3**
IGD				*i*	IAML		20 19 09.0	
	comp=N,2μm,0.3s							
AVCI	**Avcilar-stanb**	**0.45**	**335**	Pg		**Pg**	**20 19 04.7**	**-0.6**
ULDT	**Uludag**	**0.46**	**164**	P		**Pb**	**20 19 06.0**	**-0.4**
ULDT				S		**Sg**	**20 19 12.0**	**+0.2**
ULDT				*i*	IAML		20 19 13.0	
	comp=N,2μm,0.3s							
ULDT				*i*	IAML		20 19 13.0	
	comp=E,2μm,0.5s							
KAVV	**Kandilli-Istan**	**0.48**	**8**	Pg		**Pg**	**20 19 04.7**	**-1.1**
KAVV				Sg		**Sg**	**20 19 11.1**	**-1.1**
ISK	**Istanbul-Kandi**	**0.48**	**8**	Pg		**Pg**	**20 19 04.9**	**-0.9**
ISK				Sg		**Sg**	**20 19 11.6**	**-0.7**
OSMT	**Osmaniye**	**0.55**	**88**	Pg		**Pg**	**20 19 06.7**	**-0.5**
KCTX	**Karacabey (Bur**	**0.57**	**236**	Pg		**Pb**	**20 19 07.7**	**-0.5**
ADVT	**Abdulvahap**	**0.60**	**105**	Pg		**Pb**	**20 19 08.2**	**-0.5**
BGKT	**Bogazkoy**	**0.61**	**346**	Pg		**Pg**	**20 19 07.5**	**-0.8**
SEMS	**Kocaeli-K¶rfe**	**0.65**	**64**	P		**Pg**	**20 19 08.3**	**-0.6**
SEMS				S		**Sg**	**20 19 16.4**	**-1.1**
KLYT	**Kilyos**	**0.67**	**4**	Pg		**Pg**	**20 19 08.6**	**-0.7**
KLYT	**Kilyos**	**0.67**	**4**	⇑P		**Pg**	**20 19 08.8**	**-0.5**
KLYT				⇑S		**Sg**	**20 19 17.4**	**-0.7**
ELBA	**Catalca**	**0.69**	**324**	P		**Pg**	**20 19 08.9**	**-0.9**
ELBA				S		**Sg**	**20 19 16.1**	**-2.9**
ELBA				*i*	IAML		20 19 18.0	
	comp=N,825nm,0.2s							
BAND	**Balkesir-Ban**	**0.71**	**251**	P		**Pg**	**20 19 09.5**	**-0.6**
BAND				S		**Sg**	**20 19 18.5**	**-0.9**
BAND				*i*	IAML		20 19 23.0	
	comp=E,2μm,0.2s							
BAND				*i*	IAML		20 19 23.0	
	comp=N,3μm,0.2s							
BAND	**Balkesir-Ban**	**0.71**	**251**	⇑P		**Pg**	**20 19 09.4**	**-0.7**
BAND				⇓S		**Sg**	**20 19 19.3**	**-0.1**
HISA	**Bilecik-Osmane**	**0.73**	**99**	P		**Pb**	**20 19 10.6**	**-0.3**
HISA				S		**Sg**	**20 19 19.5**	**-0.8**
HISA				*i*	IAML		20 19 21.0	
	comp=E,2μm,0.4s							
HISA				*i*	IAML		20 19 25.0	
	comp=N,1μm,0.5s							
CTKS	**Kestanelik-??a**	**0.74**	**331**	Pg		**Pg**	**20 19 09.8**	**-0.9**
SILT	**Sile**	**0.76**	**42**	Pg		**Pg**	**20 19 10.6**	**-0.5**
SILT	**Sile**	**0.76**	**42**	⇑P		**Pg**	**20 19 10.5**	**-0.6**
SILT				⇓S		**Sg**	**20 19 20.4**	**-0.6**
CAVI	**Cavuskoy**	**0.77**	**120**	Pg		**Pb**	**20 19 11.4**	**-0.1**
BILE	**Bilecik/Merkez**	**0.81**	**122**	P		**Pb**	**20 19 12.3**	**0.0**
BILE				S		**Sb**	**20 19 22.8**	**-0.4**
SLVT	**Silivri**	**0.86**	**318**	Pg		**Pg**	**20 19 12.4**	**-0.6**
EDC	**Edincik**	**0.88**	**254**	Pg		**Pg**	**20 19 12.6**	**-0.8**
SUSR	**Susurluk-Balik**	**0.93**	**228**	Pg		**Pb**	**20 19 14.2**	**0.0**
DOMA	**Ktahya-Doman**	**0.97**	**145**	P		**Pn**	**20 19 16.1**	**+0.3**
DOMA				S		**Sg**	**20 19 26.6**	**-1.3**
GEYV	**SAKARYA_Geyve**	**1.01**	**96**	P		**Pb**	**20 19 15.8**	**+0.1**
GEYV				S		**Sg**	**20 19 27.8**	**-1.3**
GEYV				*i*	IAML		20 19 32.0	
	comp=N,687nm,0.4s							
GEYV				*i*	IAML		20 19 33.0	
	comp=E,527nm,0.5s							
DST	**Dursunbey**	**1.02**	**196**	Pg		**Pb**	**20 19 16.2**	**+0.3**
CTYL	**Yalikoy Yolu**	**1.02**	**330**	Pg		**Pg**	**20 19 14.8**	**-1.3**
CTYL	**Yalikoy Yolu**	**1.02**	**330**	⇑P		**Pg**	**20 19 15.2**	**-1.0**
CTYL				⇑S		**Sg**	**20 19 29.0**	**-0.5**
SAUV	**Serdivan-Sakar**	**1.04**	**81**	Pg		**Pg**	**20 19 15.9**	**-0.3**
MRMT	**Marmara Adasi**	**1.05**	**271**	Pg		**Pg**	**20 19 16.1**	**-0.5**
BLKS	**Balkesir-Sus**	**1.05**	**227**	P		**Pg**	**20 19 15.9**	**-0.7**
BLKS				S		**Sg**	**20 19 28.1**	**-2.2**
BLKS				*i*	IAML		20 19 32.0	
	comp=E,622nm,0.6s							
BLKS				*i*	IAML		20 19 33.0	
	comp=N,583nm,0.3s							
KAND	**Kocaeli-Kandir**	**1.05**	**61**	P		**Pg**	**20 19 15.7**	**-1.0**
KAND				S		**Sg**	**20 19 28.6**	**-1.8**
KAND				*i*	IAML		20 19 32.0	
	comp=N,463nm,0.5s							
DURS	**Dursunbey**	**1.06**	**201**	P		**Pb**	**20 19 16.8**	**+0.2**
DURS				S		**Sb**	**20 19 30.6**	**+0.4**
DURS				*i*	IAML		20 19 36.0	
	comp=N,2μm,0.4s							
GPA	**Golpazari**	**1.06**	**106**	Pn		**Pn**	**20 19 17.2**	**+0.3**
CRLT	**Corlu**	**1.08**	**300**	Pg		**Pg**	**20 19 16.5**	**-0.7**
GONE	**Gonen-Balikesi**	**1.12**	**242**	Pn		**Pg**	**20 19 17.6**	**-0.4**
TKR	**Tekirdag**	**1.16**	**291**	Pn		**Pg**	**20 19 18.0**	**-0.7**
BKES	**Balkesir-Mer**	**1.17**	**223**	P		**Pg**	**20 19 18.4**	**-0.5**
BKES				S		**Sg**	**20 19 32.5**	**-1.7**
BKES				*i*	IAML		20 19 36.0	
	comp=N,859nm,0.3s							
BKES				*i*	IAML		20 19 37.0	
	comp=E,1μm,0.3s							
GULT	**Gulveren**	**1.19**	**97**	Pn		**Pn**	**20 19 19.4**	**+0.8**
TVSB	**Tavsanli**	**1.20**	**162**	Pn		**Pn**	**20 19 19.5**	**+0.7**
EMET	**Ktahya-Emet**	**1.24**	**167**	P		**Pn**	**20 19 20.4**	**+1.0**
EMET				S		**Sg**	**20 19 35.5**	**-0.9**
EMET				*i*	IAML		20 19 42.0	
	comp=E,910nm,0.5s							
EMET				*i*	IAML		20 19 42.0	
	comp=N,528nm,0.7s							
ANDZ	**Kutahya, Merke**	**1.29**	**146**	P		**Pg**	**20 19 22.2**	**+1.0**
ANDZ				S		**Sb**	**20 19 36.7**	**-0.3**
KRBG	**Karabiga-Canak**	**1.29**	**262**	Pn		**Pb**	**20 19 20.5**	**+0.1**
BKY	**Sarkoy-Tekirda**	**1.37**	**275**	Pn		**Pn**	**20 19 21.5**	**+0.4**
SUSU	**Bolu-G¶lynk-**	**1.45**	**99**	P		**Pg**	**20 19 23.9**	**-0.3**
SUSU				S		**Sg**	**20 19 42.4**	**-0.6**
SAHE	**Sakarya_HENDEK**	**1.45**	**79**	P		**Pb**	**20 19 23.1**	**-0.1**
SAHE				S		**Sn**	**20 19 41.3**	**+0.2**
SAHE				*i*	IAML		20 19 45.0	
	comp=N,362nm,0.4s							
SAHE	**Sakarya_HENDEK**	**1.45**	**79**	⇑P		**Pg**	**20 19 23.5**	**-0.8**
SAHE				⇑S		**Sg**	**20 19 43.4**	**+0.2**
SMAA	**Simav-Kutahya**	**1.49**	**180**	Pn		**Pb**	**20 19 24.0**	**+0.2**
SIMA	**Simav-Kutahya**	**1.50**	**180**	Pn		**Pb**	**20 19 24.2**	**+0.1**
PHSR	**Pinarhisar**	**1.51**	**314**	Pn		**Pn**	**20 19 23.2**	**+0.2**
PHSR	**Pinarhisar**	**1.51**	**314**	⇓P		**Pn**	**20 19 22.9**	**-0.1**
PHSR				⇑S		**Sn**	**20 19 43.2**	**+0.7**
SHAP	**Saphane-Kutahy**	**1.58**	**173**	Pn		**Pb**	**20 19 25.1**	**-0.3**
GEDZ	**Gediz**	**1.58**	**168**	Pn		**Pb**	**20 19 25.3**	**-0.1**
MDUB	**Mudurnu**	**1.70**	**93**	Pn		**Pb**	**20 19 26.9**	**-0.6**
LPK	**Lapseki**	**1.70**	**263**	Pn		**Pn**	**20 19 26.5**	**+0.9**
GORD	**Gordes-Manisa**	**1.79**	**200**	Pn		**Pn**	**20 19 28.0**	**+1.1**
SOMA	**Soma-Manisa**	**1.81**	**218**	Pn		**Pn**	**20 19 28.3**	**+1.2**
UKOP	**Uzunkopru-Edir**	**1.85**	**288**	Pn		**Pn**	**20 19 28.1**	**+0.4**
ERIK	**Erikli-Kesan**	**1.87**	**273**	Pn		**Pn**	**20 19 28.7**	**+0.7**
GELI	**Tayfur-Gelibol**	**1.92**	**265**	Pn		**Pn**	**20 19 29.8**	**+1.2**
CIFT	**Cifteler, Eski**	**2.02**	**127**	Pn		**Pb**	**20 19 32.3**	**-0.6**
GOMA	**Golmarmara-Man**	**2.05**	**204**	Pn		**Pb**	**20 19 32.1**	**-1.2**
YUVA	**Yuva-Kibriscik**	**2.08**	**95**	Pn		**Pn**	**20 19 32.3**	**+1.3**
KULA	**Kula-Manisa**	**2.09**	**187**	Pn		**Pb**	**20 19 32.7**	**-1.3**
EDRB	**Edirne**	**2.10**	**307**	Pn		**Pn**	**20 19 30.8**	**-0.3**
CAVK	**Edirne/Enez-Ca**	**2.14**	**274**	⇑P		**Pn**	**20 19 31.3**	**-0.4**
ENEZ	**Enez**	**2.15**	**275**	Pn		**Pn**	**20 19 32.8**	**+1.0**
EZN	**Ezine**	**2.17**	**250**	⇑P		**Pn**	**20 19 31.8**	**-0.2**
ALN	**Alexandroupoli**	**2.25**	**279**	Pn		**Pn**	**20 19 34.1**	**+1.0**
JMB	**Yambol**	**2.64**	**317**	P		**Pn**	**20 19 38.6**	**0.0**
JMB				S		**Sb**	**20 20 17.2**	**+1.5**
DIM	**Dimitrovgrad**	**2.94**	**301**	P		**Pn**	**20 19 42.3**	**-0.4**
DIM				Sg		**Sb**	**20 20 27.0**	**+2.6**
NEF	**NEVSHA**	**2.96**	**335**	P		**Pn**	**20 19 43.2**	**+0.3**
NEF				S		**Sn**	**20 20 17.4**	**-0.9**
ANTO	**Ankara**	**3.01**	**103**	⇑P		**Pg**	**20 19 54.5**	**+0.5**
RZN	**Rozhen**	**3.38**	**290**	P		**Pn**	**20 19 48.8**	**-0.1**
RZN				Sg		**Sb**	**20 20 40.0**	**+2.7**
RAZG	**Razgrad**	**3.50**	**329**	⇑P		**Pn**	**20 19 59.9**	**+1.9**
RAZG				⇑S		**Sb**	**20 20 40.2**	**-0.2**
ICOR	**Ion Corvin**	**3.63**	**347**	⇑P		**Pb**	**20 20 01.0**	**+0.7**
TIRR	**Tirgusor**	**3.89**	**354**	⇓P		**Pn**	**20 19 56.9**	**+1.2**
TLBR	**Topalu**	**4.01**	**350**	⇑P		**Pn**	**20 20 01.2**	**+3.8**
MMB	**Musomishta**	**4.06**	**285**	P		**Pn**	**20 19 56.0**	**-2.2**
TPGR	**Topolog**	**4.28**	**355**	⇓P		**Pn**	**20 20 01.3**	**+0.1**
TLCR		**4.60**	**359**	⇑P		**Pn**	**20 20 09.8**	**+4.4**
CFR	**Carcaliu**	**4.63**	**353**	⇓P		**Pn**	**20 20 06.4**	**+0.5**
MPEP	**Malo Peshtene**	**4.78**	**307**	P		**Pn**	**20 20 08.2**	**+0.2**
NEHR	**Nehoiu**	**5.22**	**339**	⇓P		**Pn**	**20 20 18.4**	**+4.4**
SEV	**Sevastopol'**	**5.26**	**40**	*e*P		**Pn**	**20 20 15.8**	**+1.3**
SEV				Pm			20 20 18.0	
	comp=Z,2.0nm,0.2s							
SEV				*e*S		**Sn**	**20 21 12.9**	**-2.0**
SEV				Sm			20 21 15.1	
	comp=N,2.0nm,0.3s							
SEV				Sm			20 21 15.1	
	comp=E,4.0nm,0.3s							
MLR	**Muntele Rosu**	**5.38**	**337**	⇓P		Pn	20 20 22.6	+6.3
TARU	**Tarkhankut**	**5.45**	**27**	*e*P		**Pn**	**20 20 18.2**	**+1.1**
TARU				Pm			20 20 21.1	
	comp=Z,9.0nm,0.4s							
TARU				*e*S		**Sn**	**20 21 20.4**	**+0.8**
TARU				Sm			20 21 24.4	
	comp=E,10.0nm,0.5s							
TARU				Sm			20 21 24.5	
	comp=N,16nm,0.4s							
YAL	**Yalta**	**5.46**	**43**	*e*S		**Sn**	**20 21 16.5**	**-3.4**
YAL				Sm			20 21 20.7	
	comp=N,4.0nm,0.3s							
YAL				Sm			20 21 20.7	
	comp=E,4.0nm,0.4s							
VRI	**Vrincioaia**	**5.52**	**343**	⇑P		**Pn**	**20 20 21.4**	**+3.2**
PLOR	**Plostina**	**5.53**	**343**	⇑P		**Pn**	**20 20 22.7**	**+4.5**
VOIR		**5.63**	**331**	⇑P		**Pn**	**20 20 19.6**	**-0.2**
DNZ2	**Donuzlav2**	**5.70**	**32**	*e*S		**Sn**	**20 21 24.3**	**-1.6**
DNZ2				Sm			20 21 28.3	
	comp=N,6.0nm,0.3s							
DNZ2				Sm			20 21 28.3	
	comp=E,2.0nm,0.3s							
TURR	**Turia**	**5.87**	**339**	⇑P		**Pn**	**20 20 23.9**	**+0.9**
OZUR		**5.97**	**338**	⇑P		**Pn**	**20 20 28.1**	**+3.7**
SUDU	**Sudak**	**6.18**	**44**	*e*P		**Pn**	**20 20 28.2**	**+1.1**
SUDU				Pm			20 20 30.9	
	comp=Z,4.0nm,0.3s							
SUDU				*e*S		**Sn**	**20 21 37.1**	**-0.4**
SUDU				Sm			20 21 37.8	
	comp=N,10.0nm,0.5s							
SUDU				Sm			20 21 37.8	
	comp=E,2.0nm,0.3s							

*IDC **11** 20:26:18.5±0.9, 23.52N×123.74E, h0km, mb3.5/13, mbtmp3.5/16, ML3.3/3, MS3.1/1, Error ellipse: s-maj=22.8km s-min=19.3km az=84.0*
*NIED **11** 20:26:21.5, 23.39N×123.66E, h44km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr-0.26; Mθθ0.98; Mφφ-0.72; Mrθ-0.07; Mθφ-1.12; Mφr-0.17; Fault plane solution: M₀1.42000×10¹⁵ NP1: φ=72.00000°, δ83.00000°, λ-173.00000°. NP2: φ=341.00000°, δ83.00000°, λ-7.00000°.*
*JMA **11** 20:26:21.5±0.3, 23°N±1°×123.7°E±0.7, h44km±3km, MD4.0/15, MV3.5/15, NEAR ISHIGAKIJIMA ISLAND*
ISC 11 20:26:21.2±0.7, **23.44N**±0.06×**123.69E**±0.04, **h21**km±4km, **n45**, σ1°**27**/49, **mb3.5**/13, **Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HATJ	**Hateruma jima**	**0.62**	**10**	P		**Pn**	**20 26 34.8**	**-0.1**
HATJ				S		**Sn**	**20 26 44.0**	**-0.2**
HATJ	**Hateruma jima**	**0.62**	**10**	A		A	20 26 34.8	
	comp=N,14nm,1.6s,comp=E,21nm,2.0s							
JKRS	**Kuro-shima**	**0.84**	**20**	P		**Pn**	**20 26 38.4**	**+0.5**
JKRS				S		**Sn**	**20 26 50.4**	**+0.8**
JKRS	**Kuro-shima**	**0.84**	**20**	A		A	20 26 38.4	
	comp=N,13nm,2.2s,comp=E,12nm,3.2s							
IRIF	**Iriomote-Funau**	**0.89**	**2**	P		**Pn**	**20 26 38.7**	**+0.1**
IRIF				S		**Sn**	**20 26 51.1**	**+0.3**
IRIF	**Iriomote-Funau**	**0.89**	**2**	A		A	20 26 38.7	
	comp=N,8.0nm,1.4s,comp=E,8.0nm,2.1s							
JIJ	**Ishigaki jima**	**1.01**	**24**	P		**Pb**	**20 26 40.1**	**+0.2**
JIJ				S		**Sb**	**20 26 53.2**	**+0.5**
JIJ	**Ishigaki jima**	**1.01**	**24**	A		A	20 26 40.1	
	comp=N,4.0nm,2.0s,comp=E,3.0nm,0.9s							
YOJ	**Yonaguni jima**	**1.19**	**329**	P		**Pb**	**20 26 44.1**	**+1.0**
YOJ	**Yonaguni jima**	**1.19**	**329**	*e*P		**Pn**	**20 26 42.8**	**+0.2**
YOJ	**Yonaguni jima**	**1.19**	**329**	A		A	20 26 42.8	
	comp=N,5.0nm,4.6s,comp=E,4.0nm,5.2s							
JYNG	**Yonagunijimaku**	**1.22**	**326**	P		**Pn**	**20 26 43.0**	**0.0**
JYNG				S		**Sn**	**20 26 58.5**	**-0.3**
JISG	**Ishigakijimahi**	**1.27**	**26**	*i*	P	**Pn**	**20 26 43.8**	**0.0**
JISG				S		**Sn**	**20 27 00.4**	**+0.2**
JTJ	**Tarama**	**1.51**	**38**	P		**Pn**	**20 26 47.8**	**+0.8**
JTJ				S		**Sb**	**20 27 07.3**	**+0.1**
JTJ	**Tarama**	**1.51**	**38**	A		A	20 26 47.8	
	comp=N,6.0nm,1.9s,comp=E,4.0nm,2.7s							
JIRB	**Irabujima**	**1.93**	**44**	P		**Pn**	**20 26 53.4**	**+0.5**
JIRB				S		**Sn**	**20 27 17.2**	**+0.6**
JMJ2	**Miyako jima3**	**1.98**	**49**	P		**Pn**	**20 26 54.2**	**+0.7**
JMJ	**Miyako jima 2**	**2.00**	**47**	P		**Pn**	**20 26 54.4**	**+0.6**
JOGS	**Gusukube**	**2.04**	**50**	P		**Pn**	**20 26 55.2**	**+0.8**
JIKM	**Ikemajima**	**2.05**	**44**	P		**Pn**	**20 26 55.1**	**+0.6**
JIKM				S		**Sn**	**20 27 20.8**	**+1.4**
NACB	**Ninganchiao**	**2.05**	**291**	P		**Pn**	**20 26 54.0**	**-0.5**
YULB	**Yu-li**	**2.20**	**269**	P		**Pn**	**20 26 55.3**	**-1.3**
YHNB	**Yeheng**	**2.44**	**300**	P		**Pn**	**20 27 00.5**	**+0.5**
TWGBT	**Beinan**	**2.48**	**256**	P		**Pn**	**20 26 59.5**	**-1.0**
TWGBT	**Beinan**	**2.48**	**256**	S		**Sn**	**20 27 29.5**	**-0.7**
TATO	**Taipei**	**2.53**	**308**	P		**Pn**	**20 27 02.9**	**+1.9**
SSLB	**Suanglung**	**2.53**	**278**	P		**Pn**	**20 27 00.6**	**-0.6**
TPUB	**Ta-pu**	**2.82**	**268**	P		**Pn**	**20 27 05.7**	**+0.6**
JOW	**Kunigami**	**5.35**	**50**	Pn		**Pn**	**20

PSCM *i* IAML 20 35 49.9
PSCM *i* IAML 20 35 50.5
ADH Angra Heroismo 4.96 169 *e*P **Pn** **20 34 48.9 -1.5**
ADH *i* IAML 20 35 50.3
ADH *i* IAML 20 35 51.9
ADH *i* IAML 20 35 52.2
PSET Sete Cidades 6.07 160 *e*P **Pn** **20 35 06.3 +0.8**
PSET *e*S **Sn** **20 36 13.9 -0.6**
PSET *i* IAML 20 36 19.4
PSET *i* IAML 20 36 19.4
PSET *i* IAML 20 36 21.1
CMLA Cha da Macela 6.17 158 *e*P **Pn** **20 35 08.2 +1.1**
CMLA Cha da Macela 6.17 158 *e*P **Pn** **20 35 07.4 +0.4**
CMLA *e*S **Sn** **20 36 16.1 -1.0**
CMLA *i* IAML 20 36 18.1
CMLA *i* IAML 20 36 19.4
CMLA *i* IAML 20 36 19.8
PGRON Lagoa das Cont 6.21 157 *e*P **Pn** **20 35 07.9 +0.3**
BART Pico Bartolome 6.26 156 *e*P **Pn** **20 35 08.6 +0.3**
BART *e*S **Sn** **20 36 18.5 -0.9**
BART *i* IAML 20 36 21.7
BART *i* IAML 20 36 22.6
BART *i* IAML 20 36 22.8
PSMA Santa Maria 7.00 158 *e*P **Pn** **20 35 19.0 +0.6**
PSMA *e*S **Sn** **20 36 35.2 -2.3**
PSMA *i* IAML 20 36 38.7
PSMA *i* IAML 20 36 39.4
PSMA *i* IAML 20 36 39.8
PSMN Pico do Norte, 7.01 158 *e*P **Pn** **20 35 19.1 +0.5**
PSMN *e*S **Sn** **20 36 34.9 -2.9**
PSMN *i* IAML 20 36 36.0
PSMN *i* IAML 20 36 37.7
PSMN *i* IAML 20 36 38.7
PMOZ Porto Moniz, M 13.85 137 Pn **Pn** **20 36 52.3 +0.1**
PMOZ Porto Moniz, M 13.85 137 *e*S S 20 40 01.1 +14
PMOZ IAMs_20 IAMs_20 20 41 09.6
comp=Z,187nm,20.0s
PFVI Vila Bisbo 16.22 107 Pn **P** **20 37 25.5 -1.1**
PVAQ Vaqueiros 16.87 104 Pn **P** **20 37 33.1 -0.8**
PVAQ IAmb IAmb 20 37 34.7
comp=Z,48nm,1.4s
ESDC Sonseca Array 18.65 94 P **P** **20 37 53.3 -0.3**
ESDC Sonseca Array 18.65 94 P **P** **20 37 53.5 -0.1**
comp=Z,0.1nm,0.3s,baz=284,slow=12,SNR=5.2
ESDC LR LR 20 43 36.4
comp=Z,118nm,19.8s,baz=276,slow=32
comp=Z,0.9nm,0.8s
EKA Eskdalemuir Ar 20.08 45 P **P** **20 38 07.6 -1.4**
comp=Z,1.6nm,0.7s,baz=241,slow=10,SNR=7.6
comp=Z,1.6nm,0.7s
MDT Midelt 21.48 112 P **P** **20 38 27.6 +3.1**
comp=Z,1.5nm,0.5s,baz=290,slow=4.9,SNR=4.4
MDT LR LR 20 45 11.5
comp=Z,68nm,21.1s,baz=335,slow=32
comp=Z,1.5nm,0.5s
CART Cartagena 21.59 97 P **P** **20 38 25.8 +0.3**
BORG Borgarnes 21.62 8 LR LR 20 44 21.1
comp=Z,115nm,19.9s,baz=213,slow=30
CEST Esterri de Car 21.63 82 P **P** **20 38 25.8 -0.2**
CEST IAmb IAmb 20 38 35.4
comp=Z,22nm,1.2s
CLF Chambon-Foret 21.76 67 **P** **20 38 26.1 -1.1**
CLF IAmb IAmb 20 38 35.8
comp=Z,22nm,1.2s
SSB Saint Sauveur 23.50 74 P **P** **20 38 46.1 +0.6**
ECH Echery 25.04 67 P **P** **20 39 01.0 +1.3**
SENIN Lac Senin/Sane 25.28 71 P **P** **20 39 03.5 +1.3**
SFJD Kangerlussuaq 26.39 340 LR LR 20 47 16.0
comp=Z,142nm,18.2s,baz=163,slow=31
DAVOX Davos/Dischmat 27.00 70 LR LR 20 48 48.5
comp=Z,117nm,19.4s,baz=264,slow=34
SCHQ Schefferville 27.20 308 P **P** **20 39 18.1 -1.1**
comp=Z,5.4nm,0.9s,baz=75,slow=11,SNR=3.8
SCHQ LR LR 20 48 11.9
comp=Z,146nm,18.7s,baz=112,slow=32
comp=Z,5.4nm,0.9s
NOA NORSAR Array B 29.27 39 P **P** **20 39 38.6 +1.0**
comp=Z,0.4nm,1.0s,baz=254,slow=9.7,SNR=2.0
NOA LR LR 20 49 09.3
comp=Z,29nm,21.5s,baz=255,slow=32
comp=Z,0.4nm,1.0s
GERES GERESS Array B 29.33 65 LR LR 20 50 10.6
comp=Z,95nm,19.6s,baz=267,slow=34
MURB Monte Urbino 29.52 76 **S** **20 44 31.2 -2.5**
KEST Kesra 29.89 92 LR LR 20 51 07.9
comp=Z,93nm,18.2s,baz=257,slow=35
HFS Hagfors 30.18 42 LR LR 20 49 49.8
comp=Z,48nm,21.9s,baz=243,slow=32
FRB Frobisher Bay 30.45 326 LR LR 20 49 09.8
comp=Z,137nm,18.9s,baz=71,slow=31
VRAC Vranov 31.17 63 LR LR 20 51 48.5
comp=Z,104nm,19.4s,baz=278,slow=35
VAE Valguarnera 32.82 86 LR LR 20 52 44.7
comp=Z,169nm,18.3s,baz=312,slow=35
SADO Sadowa 35.95 290 LR LR 20 54 29.8
comp=Z,185nm,19.2s,baz=127,slow=35
FINES FINESS Array B 36.38 41 P **P** **20 40 38.8 -0.7**
comp=Z,1.5nm,1.0s,baz=259,slow=11,SNR=3.5
FINES LR LR 20 55 03.9
comp=Z,35nm,18.5s,baz=243,slow=36
comp=Z,1.5nm,1.0s
SSPA Standing Stone 36.41 283 **P** **20 40 40.5 +0.4**
MLR Muntele Rosu 38.17 68 LR LR 20 56 15.3
comp=Z,82nm,19.9s,baz=320,slow=36
AKASG Malin Array Be 38.97 59 P **P** **20 41 02.7 +1.1**
comp=Z,0.1nm,0.3s,baz=286,slow=8.4,SNR=1.5
AKASG LR LR 20 56 49.7
comp=Z,72nm,19.3s,baz=282,slow=36
comp=Z,0.1nm,0.3s
CBE Ff, Capester 39.31 236 P **P** **20 41 05.8 +1.0**
TORD Torodi Ar. Bea 39.82 130 P **P** **20 41 09.8 +0.8**
comp=Z,2.6nm,0.6s,baz=327,slow=8.8,SNR=1.9
comp=Z,2.6nm,0.6s
SJG San Juan 40.64 243 LR LR 20 57 43.0
comp=Z,22nm,18.0s,baz=150,slow=36
DBIC Dimbokro 42.15 144 LR LR 20 57 40.3
comp=Z,72nm,19.3s,baz=352,slow=34
RES Resolute Bay 42.37 339 LR LR 20 55 20.6
comp=Z,54nm,20.1s,baz=54,slow=31
TKL Tuckaleechee C 42.71 279 LR LR 20 57 40.9
comp=Z,65nm,20.7s,baz=46,slow=34
EYMN Ely 43.17 299 P **P** **20 41 36.0 -0.2**
MDP Montagnes des 43.86 216 LR LR 20 55 27.7
comp=Z,46nm,19.1s,baz=94,slow=30
BZK Bozkurt 44.88 70 P **P** **20 41 51.4 +1.4**
FVM French Village 46.36 285 P **P** **20 42 03.0 +1.3**
FVM IAmb IAmb 20 42 04.2
comp=Z,9.2nm,1.1s
CCM Cathedral Cave 46.90 286 P **P** **20 42 04.8 -1.2**
R40A Maddies Statio 47.50 287 P **P** **20 42 10.4 -0.2**
R40A IAmb IAmb 20 42 12.3
comp=Z,6.2nm,0.9s
ECSD EROS Data Cent 48.05 295 P **P** **20 42 14.4 -0.5**
ECSD IAmb IAmb 20 42 21.7
comp=Z,7.9nm,1.2s
BELG Belogornoye 49.45 52 LR LR 21 03 53.1
comp=Z,40nm,18.9s,baz=252,slow=37
MMAI Mount Meron Ar 50.05 80 LR LR 21 04 45.0
comp=Z,22nm,19.7s,baz=332,slow=37
MIAR Mount Ida 50.25 283 **P** **20 42 31.4 -0.4**
MIAR IAmb IAmb 20 42 33.9
comp=Z,7.9nm,0.9s
ASF Jabal al Asfar 51.57 80 LR LR 21 05 07.1
comp=Z,30nm,18.6s,baz=28,slow=37
GNI Garni 52.94 67 LR LR 21 06 20.1
comp=Z,35nm,21.2s,baz=342,slow=37
WMOK Wichita Mounta 53.81 286 P **P** **20 42 58.1 -0.3**
WMOK IAmb IAmb 20 43 04.3
comp=Z,7.4nm,1.4s
WHTX Lake Whitney, 54.36 282 P **P** **20 43 02.1 -0.3**
INK Inuvik 55.48 334 LR LR 21 03 30.3
comp=Z,57nm,18.9s,baz=84,slow=32
BRDY Brady 55.84 283 **P** **20 43 11.7 -1.4**
BRDY IAmb IAmb 20 43 14.0
comp=Z,4.1nm,0.9s
AKTO Aktyubinsk 56.16 50 LR LR 21 08 17.7
comp=Z,44nm,18.3s,baz=267,slow=37
F30M Barrier River 56.58 334 P **P** **20 43 16.3 -1.5**
F30M IAmb IAmb 20 43 22.9
comp=Z,9.4nm,1.2s
PDAR Pinedale Array 56.86 300 P **P** **20 43 19.7 -0.8**
comp=Z,0.2nm,0.3s,baz=61,slow=7.0,SNR=4.8
PDAR LR LR 21 06 38.8
comp=Z,86nm,18.5s,baz=62,slow=35
comp=Z,0.2nm,0.3s
MSTX Muleshoe 57.01 287 P **P** **20 43 21.4 -0.1**

G29M Pine Creek 57.69 334 P **P** **20 43 24.4 -1.3**
G29M IAmb IAmb 20 43 30.8
comp=Z,6.5nm,1.1s
NEW Newport 58.57 308 LR LR 21 07 53.7
comp=Z,80nm,18.1s,baz=52,slow=35
I29M Ogilvie Camp, 58.71 333 P **P** **20 43 32.2 -0.6**
I29M IAmb IAmb 20 43 38.3
comp=Z,6.7nm,1.2s
SAND Sanderson 58.81 283 **P** **20 43 33.1 -1.1**
G27K Doyon Strip 58.89 335 IAmb IAmb 20 43 39.5
comp=Z,4.8nm,1.2s
JTS Las Juntas de 58.92 254 LR LR 21 05 21.3
comp=Z,51nm,20.1s,baz=48,slow=32
ANMO Albuquerque 59.00 290 LR LR 21 08 39.7
comp=Z,210nm,18.5s,baz=142,slow=36
DLBC Dease Lake 59.55 323 LR LR 21 06 26.6
comp=Z,7.6nm,18.2s,baz=169,slow=33
D23K Nanushuk River 60.00 339 IAmb IAmb 20 43 48.5
comp=Z,4.2nm,1.0s
E24K Your Creek 60.05 338 IAmb IAmb 20 43 47.9
comp=Z,5.2nm,1.2s
TXAR Lajitas Array 60.27 283 **P** **20 43 42.6 -1.6**
TXAR Lajitas Array 60.27 283 P **P** **20 43 43.7 -0.5**
comp=Z,3.0nm,0.9s,baz=69,slow=7.2,SNR=11
TXAR LR LR 21 09 51.0
comp=Z,72nm,18.2s,baz=62,slow=36
comp=Z,3.0nm,0.9s
TX31 Lajitas Ar. Si 60.27 283 IAmb IAmb 20 43 46.2
comp=Z,5.3nm,1.1s
VHRN Van Horn 60.35 286 **P** **20 43 44.6 -0.2**
VHRN IAmb IAmb 20 43 51.7
comp=Z,7.2nm,1.2s
G24K Hadweenzic Riv 60.71 337 **P** **20 43 50.8 +4.2**
BRVK Borovoye 61.24 43 **P** **20 43 50.3 -0.1**
BVAR Borovoye Array 61.31 43 P **P** **20 43 50.4 -0.4**
comp=Z,1.4nm,0.8s
comp=Z,1.4nm,0.8s
CMIG Matias Romero 61.45 267 LR LR 21 06 57.4
comp=Z,366nm,21.9s,baz=1.0,slow=33
ELK Elko 61.53 300 P **P** **20 43 53.0 +0.2**
ELK Elko 61.53 300 LR LR 21 09 33.2
comp=Z,82nm,18.3s,baz=201,slow=35
BDFB Brasilia 61.58 202 LR LR 21 05 50.1
comp=Z,54nm,20.8s,baz=315,slow=31
ILAR Eielson Array 61.86 335 P **P** **20 43 52.8 -1.6**
comp=Z,0.3nm,0.6s,baz=25,slow=6.7,SNR=4.2
ILAR LR LR 21 08 38.4
comp=Z,51nm,18.6s,baz=142,slow=34
comp=Z,0.3nm,0.6s
H23K Yukon River 61.92 336 IAmb IAmb 20 44 00.5
comp=Z,3.8nm,0.9s
F21K Alatna River 61.99 339 IAmb IAmb 20 44 01.7
comp=Z,3.5nm,1.1s
NEA2 Nenana 62.66 335 IAmb IAmb 20 44 05.2
comp=Z,4.0nm,1.1s
WVOR Wild Horse Val 62.66 304 IAmb IAmb 20 44 07.2
comp=Z,6.9nm,1.3s
F20K Avaraart Lake 62.70 339 **P** **20 44 01.1 +1.1**
F20K IAmb IAmb 20 44 06.0
comp=Z,4.0nm,1.2s
IMAR Indian Mountai 62.99 338 P **P** **20 44 00.6 -1.3**
H19K Roundabout Mou 64.06 339 P **P** **20 44 08.2 -0.8**
H19K IAmb IAmb 20 44 14.9
comp=Z,4.4nm,1.1s
YBH Yreka Blue Hor 65.53 305 LR LR 21 11 22.8
comp=Z,5.0nm,19.9s,baz=104,slow=35
KURBB Kurchatov Arra 66.77 42 P **P** **20 44 24.5 -2.2**
comp=Z,0.9nm,0.8s,baz=315,slow=6.6,SNR=7.0
comp=Z,0.9nm,0.8s
ZALV Zalesovo Beam 67.40 36 P **P** **20 44 30.5 -0.1**
comp=Z,0.4nm,0.4s,baz=302,slow=8.4,SNR=1.9
ZALV LR LR 21 13 05.8
comp=Z,32nm,20.7s,baz=194,slow=35
comp=Z,0.4nm,0.4s
LPIG La Paz 68.15 283 LR LR 21 12 38.6
comp=Z,57nm,20.9s,baz=32,slow=34
LPAZ La Paz 69.78 221 **P** **20 44 47.4 +0.8**
LPAZ IAmb IAmb 20 44 52.5
comp=Z,4.1nm,1.1s
LPAZ La Paz 69.78 221 P **P** **20 44 47.1 +0.5**
comp=Z,2.1nm,0.9s,baz=8.7,slow=12,SNR=5.4
comp=Z,2.1nm,0.9s
MKAR Makanchi Array 71.19 43 P **P** **20 44 54.3 -0.1**
comp=Z,0.5nm,0.8s,baz=289,slow=4.9,SNR=3.6
comp=Z,0.5nm,0.9s
CPUP Villa Florida 74.44 207 P **P** **20 45 14.4 +0.8**
comp=Z,0.4nm,0.5s,baz=34,slow=0.6,SNR=3.4
comp=Z,0.4nm,0.5s
WMQ Urumqi 75.98 42 *e*P **P** **20 45 24.5 +1.9**
WMQ pmax pmax
comp=Z,53nm,0.9s
LSZ Lusaka 78.07 125 LR LR 21 19 54.2
comp=Z,90nm,18.5s,baz=342,slow=36
SONM Songino Array 80.67 29 P **P** **20 45 48.3 -0.3**
comp=Z,1.5nm,1.0s,baz=322,slow=6.1,SNR=5.5
comp=Z,1.5nm,1.0s
LBTB Lobatse 84.31 132 LR LR 21 21 18.1
comp=Z,44nm,21.2s,baz=288,slow=34
GTA Gaotai 85.08 38 *e*P **P** **20 46 11.3 -0.3**
GTA pP pP 20 46 17.1 -0.1
GTA pmax pmax
comp=Z,4.0nm,0.9s
HHC Hu-ho-hao-te 88.57 29 *e*P **P** **20 46 27.2 -1.3**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,50nm,4.7s
PZH PanZhiHua 96.62 44 P **P** **20 47 06.1 +0.1**
NJ2 Nanjing 99.02 28 *e*P **Pdif** **20 47 15.9 -0.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
VNDA Vanda 145.66 184 PKPbc **PKPab** **20 53 14.1 +0.9**
comp=Z,0.9nm,1.0s,baz=252,slow=2.7,SNR=4.0
WRA Warramunga Arr 152.37 37 PKPbc **PKPbc** **20 53 30.0 -1.8**
comp=Z,1.1nm,1.0s,baz=304,slow=3.2,SNR=3.6

IDC ***11*** *20:35:28.5±1.9,31°.19S×177°.55W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=45.7km s-min=25.5km az=88.0*

ISC 11 20:35:33.2±1.5, 31°28S±0°.09×177°.8W±0°.3, h35km, n6, σ1°.73/8, mb3.8/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.03**	**356**	Pn	**Pn**	**20 36 03.6**	**-1.3**
	73nm,0.3s,baz=78,slow=20,SNR=2.6						
RAO				Sn	**Sn**	**20 36 28.5**	**-0.5**
	61nm,0.3s,baz=144,slow=21,SNR=1.9						
URZ	**Urewera**	**8.13**	**210**	Pn	**Pn**	**20 37 27.1**	**-1.6**
	0.3nm,0.3s,baz=357,slow=17,SNR=1.7						
URZ				Sn	**Sn**	**20 38 58.0**	**-1.3**
	0.5nm,0.3s,baz=328,slow=15,SNR=2.0						
ASAR	**Alice Springs**	**43.26**	**268**	P	**P**	**20 43 33.7**	**+2.2**
	0.9nm,0.7s,baz=105,slow=7.6,SNR=12						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**44.33**	**273**	P	**P**	**20 43 41.7**	**+1.6**
	0.9nm,0.6s,baz=111,slow=8.0,SNR=11						
	0.9nm,0.6s						
QSPA	**South Pole Qui**	**58.83**	**180**	P	**P**	**20 45 29.2**	**+1.3**
	1.0nm,1.1s,baz=25,slow=3.4,SNR=1.5						
	1.0nm,1.1s						
FINES	**FINESS Array B**	**146.04**	**340**	PKPbc	**PKPbc**	**20 55 08.5**	**-0.1**
	1.7nm,1.0s,baz=64,slow=4.4,SNR=4.7						

NEIC ***11*** *20:36:16.3±0.7, 35°.615N±0°.009×97°.95W±0°.01, h7km±1km, Error ellipse: s-maj=1.6km s-min=1.4km az=90.0*

NEIC 11 20:36:16.1±0.5, 35°.601N±0°.008×97°.95W±0°.01, h5km±1km, mb_Lg2.5/52, ML2.5/36, ML2.6/44, Error ellipse: s-maj=2.9km s-min=1.8km az=54.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.45**	**64**		Pg	20 36 25.1	+0.4
OK029					Sg	20 36 31.4	+0.9
ADOK	**Arcadia Dam**	**0.47**	**84**		Pg	20 36 25.7	+0.5
FNO	**Franklin**	**0.56**	**127**		Pg	20 36 27.6	+0.7
FNO					Sb	20 36 35.6	-1.2
FNO				IAML		20 36 38.7	
	comp=N,739nm,0.4s						
FNO				IAML		20 36 41.6	
	comp=E,319nm,0.6s						
CSTR	**Hydro, Custer**	**0.60**	**274**		Pg	20 36 27.6	-0.1
CSTR					Sb	20 36 37.0	-1.0
CROK	**Carrier**	**0.90**	**358**		Pg	20 36 33.0	-0.4
CROK					Sg	20 36 45.3	+0.2

X34A Smith Ranch, M 1.00 174 Pb 20 36 35.7 -0.3
X34A Sb 20 36 50.0 +0.6
X34A IAML 20 36 50.9
comp=N,140nm,0.4s
X34A IAML 20 36 59.5
comp=E,119nm,0.3s
OK052 Battle Ridge R 1.01 67 Pg 20 36 35.3 -0.1
OK052 Sg 20 36 48.8 +0.2
OK052 IAML 20 36 51.7
comp=E,195nm,0.2s
OK052 IAML 20 36 54.0
comp=E,167nm,0.3s
OK038 West end E0370 1.08 324 Pg 20 36 36.4 -0.5
OK038 Sg 20 36 50.9 0.0
WMOK Wichita Mounta 1.10 219 Pg 20 36 36.8 -0.4
OK048 Pawnee Station 1.15 45 Pg 20 36 37.7 -0.4
OK048 IAML 20 37 00.3
comp=E,185nm,0.3s
QUOK Quay 1.16 60 Pg 20 36 37.8 -0.5
QUOK Sg 20 36 53.5 +0.2
QUOK IAML 20 36 55.0
comp=E,196nm,0.2s
DEOK Depew 1.21 78 Pg 20 36 38.3 -0.8
DEOK Sg 20 36 54.5 -0.3
DEOK IAML 20 36 57.1
comp=N,114nm,0.2s
DEOK IAML 20 37 01.3
comp=E,137nm,0.1s
GC02 Grant County # 1.25 3 Pg 20 36 38.6 -1.5
GC02 Sg 20 36 56.0 -0.2
OK051 E0350 and S346 1.28 45 Pg 20 36 40.0 -0.5
OK051 Sg 20 36 57.0 -0.1
BLOK Blackwell 1.30 27 Pn 20 36 40.3 -0.6
BLOK Sn 20 36 58.5 -0.2
KAN14 Manchester OK 1.35 360 Pn 20 36 41.0 -0.6
KAN14 Sb 20 36 59.0 -0.5
KAN17 Caldwell West 1.45 6 Pb 20 36 43.3 -0.2
KAN17 Sb 20 37 01.9 -0.3
KAN13 South Haven SW 1.46 15 Pn 20 36 42.9 -0.2
KAN09 Caldwell North 1.56 10 Pn 20 36 44.2 -0.2
KAN09 Sb 20 37 05.5 +0.1
LOOK Love County 1.73 158 Pb 20 36 47.9 -0.3
LOOK Sg 20 37 12.2 +0.7
WTFS Witchita Falls 1.88 193 Pb 20 36 49.9 -1.0
WTFS Sb 20 37 14.8 +0.1
SMWD Samnorwood 1.94 256 Pn 20 36 50.3 +0.6
SMWD Sb 20 37 16.8 +0.4
RLO Rose Lookout 2.44 76 Pn 20 36 58.4 +1.8
RLO Sb 20 37 29.6 -1.3
FW03 Perrin-Whitt E 2.56 182 IAmb_Lg 20 37 40.5
comp=Z,18nm,0.8s
FW06 Azle 2.64 173 IAmb_Lg 20 37 41.8
comp=Z,13nm,0.7s
PLPT Palo Pinto 2.80 186 IAmb_Lg 20 37 44.3
comp=Z,13nm,0.8s
DKNS Dickens 3.12 233 Pn 20 37 08.7 +2.7
DKNS Sn 20 37 46.9 +3.2
CBKS Cedar Bluff 3.51 337 IAmb_Lg 20 38 15.5
comp=Z,16nm,1.0s
WHTX Lake Whitney, 3.62 173 IAmb_Lg 20 38 18.8
comp=Z,13nm,0.8s
SN05 Snyder 5 3.65 223 IAmb_Lg 20 38 15.8
comp=Z,14nm,0.7s
POST Post 3.88 230 IAmb_Lg 20 38 23.8
comp=Z,11nm,0.9s
X40A Basin Creek Fa 4.34 103 IAmb_Lg 20 38 43.4
comp=Z,13nm,1.0s
BRDY Brady 4.39 192 IAmb_Lg 20 38 36.2
comp=Z,7.8nm,0.9s
WHAR Wooly Hollow 4.63 92 IAmb_Lg 20 38 48.4
comp=Z,9.4nm,0.9s
FCAR Ozark Folk Cen 4.75 85 IAmb_Lg 20 38 50.0
comp=Z,8.2nm,0.7s
KSCO Kaye Shedlock' 5.05 314 IAmb_Lg 20 38 55.8
comp=Z,11nm,1.0s
R40A Maddies Statio 5.28 58 IAmb_Lg 20 39 02.1
comp=Z,9.1nm,0.9s
P38A Dawn 5.33 40 IAmb_Lg 20 39 06.3
comp=Z,6.8nm,0.8s
MNHN Monahans 5.85 225 IAmb_Lg 20 39 32.7
comp=Z,8.9nm,1.1s
CCM Cathedral Cave 5.91 64 IAmb_Lg 20 39 25.6
comp=Z,9.4nm,0.9s
P40A Paris 6.11 48 IAmb_Lg 20 39 40.4
comp=Z,6.7nm,0.8s
HNDO Hondo 6.16 191 IAmb_Lg 20 39 45.3
comp=Z,7.6nm,0.8s
PBMO Poplar Bluff 6.19 77 IAmb_Lg 20 39 35.5
comp=Z,8.3nm,0.8s
FVM French Village 6.49 66 IAmb_Lg 20 39 43.3
comp=Z,6.0nm,0.8s
DRIO Del Rio 6.56 201 IAmb_Lg 20 39 49.3
comp=Z,7.7nm,0.8s
SAND Sanderson 6.64 213 IAmb_Lg 20 39 52.0
comp=Z,7.8nm,0.7s
MNTX Cornudas Mount 7.32 240 IAmb_Lg 20 40 25.3
comp=Z,4.9nm,1.1s
ECSD EROS Data Cent 8.19 7 IAmb_Lg 20 40 45.8
comp=Z,5.0nm,1.2s

IDC ***11*** *20:37:44.9±0.7, 16°.40N×145°.68E, h438km±8km, mb3.5/22, mbtmp4.3/23, Error ellipse: s-maj=14.4km s-min=8.0km az=78.0*

NEIC ***11*** *20:37:46.9±1.0, 16°.34N±0°.09×145°.6E±0°.1, h452km±8km, mb4.3/150, Error ellipse: s-maj=18.9km s-min=13.4km az=87.0*

ISC 11 20:37:46.1±0.4, 16°.31N±0°.06×145°.55E±0°.10, h450km, n368, σ0°.51/319, mb4.2/100, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.78**	**194**		**P**	**20 38 51.2**	**-0.4**
GUMO				S	**S**	**20 39 44.0**	**-0.7**
GUMO	**Guam**	**2.78**	**194**	P	**P**	**20 38 51.4**	**-0.3**
	190nm,0.3s,baz=308,slow=6.3,SNR=72						
GUMO				S	**S**	**20 39 43.1**	**-1.6**
	425nm,0.3s,baz=332,slow=22,SNR=18						
PATS	**Pohnpei**	**15.64**	**126**	P	**P**	**20 41 04.9**	**+0.7**
MANU	**Manus Island**	**18.32**	**174**	P	**P**	**20 41 32.0**	**-0.2**
JMN	**Monobe**	**20.29**	**331**	P	**P**	**20 41 49.6**	**-0.5**
INU	**Inuyama**	**20.44**	**340**	P	**P**	**20 41 51.2**	**-0.2**
JGF	**Kuroka**	**20.56**	**341**	P	**P**	**20 41 52.8**	**+0.2**
MJAR	**Matsushiro Arr**	**21.18**	**343**	P	**P**	**20 41 58.3**	**+0.1**
MJAR	**Matsushiro Arr**	**21.18**	**343**	P	**P**	**20 41 56.6**	**-1.6**
	3.0nm,0.6s,baz=169,slow=10.0,SNR=8.9						
	3.0nm,0.6s						
MAJO	**Matsushiro**	**21.18**	**343**	P	**P**	**20 41 58.0**	**-0.2**
MAJO				IAmb	IAmb	20 41 59.6	
	comp=Z,6.9nm,0.8s						
JNU	**Nakatsue**	**21.36**	**324**	P	**P**	**20 41 59.2**	**-0.7**
JNU	**Nakatsue**	**21.36**	**324**	P	**P**	**20 41 59.1**	**-0.7**
	comp=Z,8.6nm,0.8s,baz=84,slow=9.1,SNR=5.6						
	comp=Z,8.6nm,0.8s						
FAKI	**Fak Fak**	**23.19**	**216**	P	**P**	**20 42 16.2**	**-0.4**
JTM	**Tenmabayashi**	**24.70**	**352**	P	**P**	**20 42 30.0**	**+0.3**
ERM	**Erimo**	**25.70**	**356**	P	**P**	**20 42 38.8**	**+0.2**
KSRS	**Korea Array**	**26.20**	**327**	P	**P**	**20 42 42.8**	**-0.2**
	comp=Z,4.1nm,0.8s,baz=143,slow=9.7,SNR=9.5						
	comp=Z,4.1nm,0.8s						
JKA	**Kamikawa-asahi**	**27.83**	**355**	P	**P**	**20 42 58.2**	**+0.8**
JKA				IAmb	IAmb	20 43 00.3	
	comp=Z,6.3nm,0.8s						
BNX	**BinXian**	**33.04**	**336**	⇓P	**P**	**20 43 43.2**	**+0.6**
BNX				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KNRA	**Kununurra**	**35.84**	**208**	P	**P**	**20 44 05.9**	**-0.6**
KNRA				IAmb	IAmb	20 44 12.3	
	comp=Z,22nm,1.4s						
HEH	**HeiHe**	**36.89**	**341**	*e*P	**P**	**20 44 14.1**	**-0.7**
HEH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
WB0	**Warramunga Arr**	**37.49**	**197**	P	**P**	**20 44 20.6**	**+0.4**
WB0				IAmb	IAmb	20 44 21.2	
	comp=Z,12nm,1.4s						
WR8	**Warramunga Arr**	**37.64**	**197**	P	**P**	**20 44 21.6**	**+0.2**
WRAB	**Tennant Creek**	**37.66**	**197**	P	**P**	**20 44 22.1**	**+0.5**
WRAB				IAmb	IAmb	20 44 49.9	
	comp=Z,7.3nm,0.8s						
WRA	**Warramunga Arr**	**37.67**	**197**	P	**P**	**20 44 21.7**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=20,slow=8.2,SNR=21						
	comp=Z,2.2nm,0.8s						
PEA0B	**Petropavlovsk-**	**37.94**	**12**	P	**P**	**20 44 23.3**	**-0.1**
PETK	**Petropavlovsk-**	**37.94**	**12**	P	**P**	**20 44 23.6**	**+0.2**

PETK **Petropavlovsk-** 37.94 12 P P 20 44 22.3 -1.2
comp=Z,2.0nm,0.7s,baz=143,slow=6.4,SNR=6.7
comp=Z,2.0nm,0.7s
HHC **Hu-ho-hao-te** 38.20 317 eP P 20 44 28.0 +2.1
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,88nm,4.7s
FITZ **Fitzroy Crossi** 39.41 211 P P 20 44 36.0 +0.1
FITZ **Fitzroy Crossi** 39.41 211 P P 20 44 36.2 +0.3
comp=Z,1.8nm,0.2s,baz=21,slow=8.1,SNR=89
comp=Z,1.8nm,0.2s
AS31 **Alice Springs** 41.33 196 P P 20 44 51.6 +0.3
ASAR **Alice Springs** 41.33 196 P P 20 44 51.6 +0.4
comp=Z,0.9nm,0.5s,baz=21,slow=8.0,SNR=16
ASAR PcP PP 20 46 39.0 -0.1
comp=Z,0.4nm,0.6s,baz=5.4,slow=3.1,SNR=2.4
comp=Z,0.9nm,0.5s
DZM **Mont Dzumac** 43.29 151 P P 20 45 07.9 +1.1
DZM IAmb IAmb 20 45 09.1
comp=Z,22nm,1.3s
DZM **Mont Dzumac** 43.29 151 P P 20 45 07.6 +0.7
comp=Z,8.7nm,0.5s,baz=345,slow=11,SNR=17
comp=Z,8.7nm,0.5s
AMKA **Amchitka** 44.12 30 P P 20 45 13.5 +0.6
CMAR **Chiang Mai Arr** 44.44 280 P P 20 45 17.1 +1.1
comp=Z,0.7nm,0.5s,baz=77,slow=6.2,SNR=10
comp=Z,0.7nm,0.5s
ULN **Ulaanbaatar** 44.57 323 P 20 45 17.0 +0.3
SONM **Songino Array** 44.94 323 P P 20 45 19.9 +0.5
SONM **Songino Array** 44.94 323 P P 20 45 20.0 +0.5
comp=Z,1.9nm,0.5s,baz=139,slow=7.3,SNR=24
comp=Z,1.9nm,0.5s
MBWA **Marble Bar** 45.03 215 P P 20 45 20.6 +0.2
MBWA IAmb IAmb 20 45 57.0
comp=Z,28nm,1.5s
KIWB **Kanaga Island** 46.16 31 P P 20 45 28.9 +0.3
ADK **Adak** 46.41 32 P P 20 45 30.8 +0.2
ARMA **Armidale** 46.82 173 P P 20 45 34.6 +0.5
ARMA IAmb IAmb 20 45 35.4
comp=Z,11nm,1.2s
STKA **Stephens Creek** 48.06 185 P P 20 45 43.6 +0.3
STKA **Stephens Creek** 48.06 185 P P 20 45 43.8 +0.5
comp=Z,5.8nm,1.0s,baz=339,slow=15,SNR=2.7
comp=Z,5.8nm,1.0s
NIKH **Nikolski High** 51.05 34 P P 20 46 05.6 +0.4
baz=242
SPIA **Saint Paul Isl** 52.48 29 P P 20 46 15.9 +0.3
baz=238
P08K **Saint George I** 52.51 29 P P 20 46 15.3 -0.3
baz=239
UNV **Unalaska Valle** 52.70 34 P P 20 46 16.7 -0.4
baz=244
AKUT **Akutan** 53.22 33 P P 20 46 20.6 -0.2
GAMB **Gambell** 55.72 21 P P 20 46 38.4 0.0
GAMB IAmb IAmb 20 46 42.9
comp=Z,24nm,1.2s
GAMB **Gambell** 55.72 21 P P 20 46 37.9 -0.4
baz=232
S12K **Black Hills** 55.82 33 P P 20 46 38.7 -0.6
S12K **Black Hills** 55.82 33 P P 20 46 39.3 +0.1
baz=247
M11K **Mekoryuk** 55.96 27 P P 20 46 40.2 +0.1
baz=240
SDPT **Sand Point** 56.52 34 P P 20 46 43.7 -0.4
SDPT IAmb IAmb 20 46 44.3
comp=Z,12nm,0.6s
SDPT **Sand Point** 56.52 34 P P 20 46 43.6 -0.5
baz=249
CNBA **Chernabura Isl** 56.81 34 P P 20 46 45.8 -0.3
CNBA IAmb IAmb 20 47 26.2
comp=Z,14nm,1.4s
CHNA **Chernabura Isl** 56.81 34 P P 20 46 45.6 -0.5
baz=250
M13K **Dall Lake** 57.21 27 P P 20 46 48.7 -0.1
baz=243
S14K **Fog Glacier** 57.34 33 P P 20 46 49.4 -0.5
baz=249
K13K **Kusilvak Mount** 57.38 25 P 20 46 50.4 +0.4
K13K IAmb IAmb 20 46 51.2
comp=Z,11nm,0.8s
K13K **Kusilvak Mount** 57.38 25 P P 20 46 49.7 -0.2
baz=241,SNR=6.8
O14K **Tigyukauivet M** 57.65 29 P P 20 46 50.9 -0.9
baz=246
N14K **Kuskokwak Cree** 57.74 28 P P 20 46 51.4 -1.0
baz=245
L14K **Kuka Creek** 57.93 27 P P 20 46 53.1 -0.5
baz=243
CHGN **Chignik** 57.95 33 P P 20 46 54.0 +0.2
baz=250
M14K **Bethel** 57.98 27 20 46 54.5 +0.5
M14K IAmb IAmb 20 46 55.3
comp=Z,9.5nm,0.8s
M14K **Bethel** 57.98 27 P P 20 46 53.7 -0.3
baz=244,SNR=5.3
J14K **Nanvaranak Lak** 58.23 25 P P 20 46 55.7 +0.1
baz=241
O15K **Ungalikthiuk R** 58.30 30 P P 20 46 55.8 -0.5
baz=247
ANM **Nome** 58.44 23 P P 20 46 57.2 +0.1
baz=238
M15K **Kasigluk River** 58.52 28 P P 20 46 56.6 -1.1
baz=245
N15K **Kwethluk River** 58.57 28 P 20 46 58.4 +0.3
N15K IAmb IAmb 20 46 59.2
comp=Z,11nm,0.7s
N15K **Kwethluk River** 58.57 28 P P 20 46 57.9 -0.2
baz=246,SNR=6.9
F14K **Arctic Creek** 58.59 21 P P 20 46 57.4 -0.7
baz=237
L15K **Ungalak Mounta** 58.59 26 P P 20 46 57.7 -0.4
baz=244
K15K **Wolf Creek Mou** 58.85 26 P 20 47 00.2 +0.3
K15K **Wolf Creek Mou** 58.85 26 P P 20 46 59.6 -0.3
baz=244
P16K **Nushagak River** 59.12 30 P P 20 47 01.0 -0.8
baz=249
G15K **Niukluk** 59.16 22 P P 20 47 01.0 -1.0
baz=240
CHIR **Chirikof Islan** 59.28 34 P P 20 47 02.4 -0.5
baz=253
O16K **Kokwok River B** 59.28 30 P P 20 47 02.7 -0.2
baz=248
N16K **Nishlik Lake** 59.30 28 P P 20 47 02.6 -0.4
baz=247,SNR=5.1
F15K **North Star Dit** 59.30 22 P P 20 47 02.4 -0.5
baz=239
M16K **Timber Creek** 59.42 28 P P 20 47 04.1 +0.2
M16K **Timber Creek** 59.42 28 P P 20 47 03.2 -0.6
baz=247
R17L **Mt. Peulik Vol** 59.45 32 P P 20 47 03.6 -0.5
baz=251
L16K **Owhat River** 59.47 27 P P 20 47 03.3 -0.8
baz=246
J16K **Anvik River** 59.67 25 P P 20 47 05.1 -0.3
baz=244
O17K **Koliganek Bris** 59.81 30 P P 20 47 06.1 -0.4
baz=249,SNR=6.3
ZALV **Zalesovo Beam** 59.83 323 P P 20 47 06.3 -0.4
ZALV **Zalesovo Beam** 59.83 323 P P 20 47 06.2 -0.5
comp=Z,1.6nm,0.4s,baz=87,slow=6.1,SNR=10.0
comp=Z,1.6nm,0.4s
Q17K **Contact Creek** 59.89 31 P P 20 47 06.8 -0.4
baz=251
P17K **Kvichak River** 59.93 30 P P 20 47 06.7 -0.5
baz=250
G16K **Koyuk River** 59.97 22 P P 20 47 07.1 -0.3
baz=241
MKAR **Makanchi Array** 60.03 315 P P 20 47 08.0 -0.2
MKAR **Makanchi Array** 60.03 315 P P 20 47 08.7 +0.5
comp=Z,2.3nm,0.4s,baz=90,slow=8.4,SNR=60
comp=Z,2.3nm,0.4s
N17K **Nushagak Hills** 60.04 29 P P 20 47 08.3 +0.3
N17K IAmb IAmb 20 47 09.4
comp=Z,5.9nm,0.7s
N17K **Nushagak Hills** 60.04 29 P P 20 47 08.8 +0.8
baz=249,SNR=5.8
L17K **Donlin** 60.16 27 P P 20 47 09.2 +0.5
baz=247,SNR=5.1
MAKZ **Makanchi** 60.24 315 P 20 47 10.0 +0.4
MAKZ IAmb IAmb 20 47 10.5
comp=Z,4.6nm,0.5s
M17K **Holitna River** 60.25 28 P 20 47 09.9 +0.5
M17K IAmb IAmb 20 47 10.9
comp=Z,11nm,0.8s
M17K **Holitna River** 60.25 28 P P 20 47 09.6 +0.3
baz=248,SNR=5.3
SII **Sitkinak Islan** 60.26 34 P P 20 47 09.6 0.0
baz=254
J17K **VABM Dome** 60.34 25 P P 20 47 10.3 +0.4
baz=245
K17K **Iditarod** 60.38 26 IAmb IAmb 20 47 11.8
comp=Z,12nm,0.8s
K17K **Iditarod** 60.38 26 P P 20 47 10.6 +0.4
baz=247,SNR=7.1
Q18K **Katmai Hardscr** 60.45 31 P P 20 47 11.6 +0.7
baz=252
P18K **Big Mountain,** 60.58 30 P P 20 47 11.9 +0.2
baz=251
G17K **Kiwalik Mounta** 60.65 23 P P 20 47 12.1 +0.2
baz=243,SNR=5.0
H17K **Granite Mounta** 60.67 23 P 20 47 12.4 +0.3
H17K IAmb IAmb 20 47 13.2
comp=Z,5.7nm,0.8s
H17K **Granite Mounta** 60.67 23 P P 20 47 12.3 +0.2
baz=244
N18K **Kilae Creek** 60.70 29 P P 20 47 12.8 +0.4
baz=250
O18K **Koktuh Hills** 60.74 30 P P 20 47 12.9 +0.3
baz=251
D17K **Noatak River** 60.87 20 P P 20 47 13.7 +0.3
baz=239
F17K **Baldwin Pennin** 60.87 22 P P 20 47 13.6 +0.2
baz=242
L18K **Granite Mounta** 60.89 27 P P 20 47 14.2 +0.6
baz=248,SNR=5.8
OHAK **Old Harbor** 60.91 33 P P 20 47 13.9 +0.1
baz=254
E17K **Hotham Inlet** 60.98 21 P P 20 47 14.4 +0.3
baz=241,SNR=5.3
M18K **Stony River** 61.01 28 P P 20 47 14.7 +0.3
baz=250
RDOG **Red Dog Mine** 61.11 20 P P 20 47 15.3 +0.3
baz=239
C17K **DeLong Mountai** 61.24 19 P P 20 47 16.2 +0.3
baz=239
J18K **Innoko River** 61.34 26 P 20 47 16.4 -0.1
J18K **Innoko River** 61.34 26 P P 20 47 16.7 +0.1
baz=248
H18K **Honhosa River** 61.36 24 P P 20 47 16.6 -0.1
baz=245
N19K **Bonanza Creek** 61.39 29 IAmb IAmb 20 47 18.4
comp=Z,7.7nm,0.7s
N19K **Bonanza Creek** 61.39 29 P P 20 47 17.2 +0.2
baz=251,SNR=7.2
KDAK **Kodiak Island** 61.43 33 P P 20 47 17.0 -0.2
baz=255
F18K **Selawik** 61.52 22 P P 20 47 17.5 -0.1
baz=243
E18K **Tukpahlearik C** 61.56 21 IAmb IAmb 20 47 19.1
comp=Z,9.2nm,0.7s
E18K **Tukpahlearik C** 61.56 21 P P 20 47 18.3 +0.4
baz=242,SNR=5.6
G18K **Tagagawik** 61.57 23 IAmb IAmb 20 47 18.7
comp=Z,7.1nm,0.8s
G18K **Tagagawik** 61.57 23 P P 20 47 17.8 -0.2
baz=245,SNR=9.0
P19K **Oil Pt** 61.63 30 P P 20 47 18.0 -0.5
baz=253
L19K **Wile Mountain** 61.68 27 P P 20 47 18.9 0.0
baz=250,SNR=6.0
Q20K **Shuyak Island** 61.75 32 P P 20 47 19.3 0.0
baz=254
M19K **Big River Lodg** 61.79 28 P P 20 47 19.7 +0.1
baz=251
URZ **Urewera** 61.83 152 P P 20 47 19.7 -0.4
comp=Z,6.5nm,0.6s,baz=324,slow=8.7,SNR=7.3
comp=Z,6.5nm,0.6s
C18K **Utukok River** 61.96 19 P P 20 47 20.3 -0.3
baz=241
J19K **Poorman** 61.99 25 IAmb IAmb 20 47 21.8
comp=Z,5.4nm,0.7s
J19K **Poorman** 61.99 25 P P 20 47 20.9 0.0
baz=249,SNR=6.4
O20K **Slope Mountain** 62.05 30 P P 20 47 21.3 0.0
baz=253
RTZ **Ruatahuna** 62.07 152 P 20 47 21.4 -0.4
B18K **Kokolik River** 62.13 19 P P 20 47 21.6 0.0
baz=240
L20K **Farewell, AK** 62.20 27 P P 20 47 22.5 +0.2
baz=251
H19K **Roundabout Mou** 62.25 24 IAmb IAmb 20 47 23.6
comp=Z,5.4nm,0.8s
H19K **Roundabout Mou** 62.25 24 P P 20 47 22.6 +0.2
baz=247,SNR=6.3
G19K **Purcell Mounta** 62.25 23 IAmb IAmb 20 47 23.3
comp=Z,1.1nm,0.7s
G19K **Purcell Mounta** 62.25 23 P P 20 47 22.5 +0.1
baz=246,SNR=12
F19K **Shaleruckik Mo** 62.29 22 P P 20 47 22.4 -0.3
baz=245
M20K **Styx River** 62.35 28 P P 20 47 23.8 +0.5
baz=252
HOM **Homer** 62.41 31 P P 20 47 23.3 -0.3
baz=254
K20K **Telida** 62.41 26 IAmb IAmb 20 47 25.1
comp=Z,8.1nm,0.8s
K20K **Telida** 62.41 26 P P 20 47 24.2 +0.6
baz=250,SNR=9.5
J20K **Nowinta River** 62.66 25 IAmb IAmb 20 47 26.6
comp=Z,6.6nm,0.9s
J20K **Nowinta River** 62.66 25 P P 20 47 25.8 +0.6
baz=250,SNR=9.0
C19K **Lookout Ridge** 62.69 19 P P 20 47 25.9 +0.5
baz=242,SNR=5.2
E19K **Redstone River** 62.74 21 IAmb IAmb 20 47 27.1
comp=Z,6.8nm,0.7s
E19K **Redstone River** 62.74 21 P P 20 47 25.9 +0.2
baz=245,SNR=8.4
A19K **Wainwright** 62.77 18 P P 20 47 26.1 +0.4
baz=240
H20K **Anotleneega Mo** 62.84 24 P P 20 47 26.6 +0.3
baz=249,SNR=5.9
D19K **Kuna River** 62.89 20 IAmb IAmb 20 47 27.4
comp=Z,7.2nm,0.7s
D19K **Kuna River** 62.89 20 P P 20 47 27.0 +0.3
baz=244,SNR=6.4
KURK **Kurchatov** 62.96 319 P 20 47 27.0 -0.4
KURK IAmb IAmb 20 47 28.0
comp=Z,12nm,1.1s
KURBB **Kurchatov Arra** 63.01 319 P P 20 47 27.6 -0.1
comp=Z,13nm,0.7s,baz=98,slow=6.8,SNR=97
comp=Z,13nm,0.7s
PPLA **Purkeypile** 63.08 27 IAmb IAmb 20 47 28.9
comp=Z,7.8nm,0.7s
PPLA **Purkeypile** 63.08 27 P P 20 47 28.1 +0.1
baz=252
SKT **Skwentna** 63.10 28 P 20 47 27.3 -0.8
SKT **Skwentna** 63.10 28 P P 20 47 27.1 -1.0
baz=254,SNR=5.8
F20K **Avaraart Lake** 63.11 22 IAmb IAmb 20 47 29.2
comp=Z,4.4nm,0.7s
F20K **Avaraart Lake** 63.11 22 P P 20 47 28.3 +0.2
baz=247,SNR=7.7
CAST **Castle Rocks** 63.28 26 IAmb IAmb 20 47 30.1
comp=Z,9.5nm,0.7s
CAST **Castle Rocks** 63.28 26 P P 20 47 29.3 0.0
baz=252,SNR=17
SUA **Susitna One** 63.32 29 P P 20 47 29.3 -0.3
baz=254
E20K **Nigu River** 63.44 21 P P 20 47 30.3 +0.1
baz=246,SNR=9.0
D20K **Etivluk River** 63.48 20 P P 20 47 30.6 +0.2
baz=245,SNR=14
SEW **Seward** 63.59 30 P P 20 47 30.9 -0.3
baz=256
M22K **Willow** 63.68 29 P P 20 47 31.4 -0.4
baz=255
RC01 **Rabbit Creek A** 63.69 29 P P 20 47 31.4 -0.4
baz=256,SNR=5.3
H21K **Melozitna Rive** 63.70 24 IAmb IAmb 20 47 33.0
comp=Z,5.2nm,0.8s
H21K **Melozitna Rive** 63.70 24 P P 20 47 32.0 +0.1
baz=250,SNR=8.6
G21K **Allakaket** 63.73 23 P P 20 47 32.0 -0.1
baz=249
PLWZ **Palliser** 63.81 156 P P 20 47 32.6 -0.4
B20K **Meade River** 63.86 19 P P 20 47 33.0 +0.2
baz=244,SNR=6.0
I21K **Tanana** 63.87 25 P P 20 47 33.1 +0.1
baz=252
BPAW **Bear Paw Mtn.** 63.95 26 IAmb IAmb 20 47 34.2
comp=Z,5.7nm,0.8s
BPAW **Bear Paw Mtn.** 63.95 26 P P 20 47 33.3 -0.2
baz=253,SNR=5.6
F21K **Alatna River** 63.99 22 P P 20 47 33.9 +0.2
baz=249
TRF **Thorofare Moun** 64.06 27 IAmb IAmb 20 47 34.4
comp=Z,6.4nm,1.0s
TRF **Thorofare Moun** 64.06 27 P P 20 47 33.6 -0.8
baz=254
PMR **Palmer** 64.10 29 P P 20 47 34.4 -0.1
baz=256
C21K **Knifeblade Rid** 64.27 20 P P 20 47 35.7 +0.2
baz=247
PWL **Port Wells** 64.30 30 P P 20 47 35.4 -0.4
baz=257,SNR=10
MLY **Manley** 64.33 25 20 47 35.9 -0.1
MLY IAmb IAmb 20 47 36.8
comp=Z,6.3nm,0.9s
MLY **Manley** 64.33 25 P P 20 47 35.8 -0.1
baz=253,SNR=11
H22K **Ishtalitna Cre** 64.34 24 P P 20 47 36.1 +0.1
baz=252
KNK **Knik Glacier** 64.37 29 P P 20 47 36.1 -0.2
baz=257
B21K **Ikpikpuk River** 64.51 20 P P 20 47 37.0 +0.1
baz=247
F22K **John River** 64.56 22 P P 20 47 37.8 +0.4
baz=250,SNR=6.4
G22K **Bettles** 64.62 23 P P 20 47 37.7 0.0
baz=251
WAT1 **Susitna Watana** 64.66 28 P P 20 47 37.7 -0.4
baz=256
RND **Reindeer** 64.67 27 IAmb IAmb 20 47 38.6
comp=Z,7.0nm,1.0s
MCK **McKinley** 64.72 27 P P 20 47 38.2 -0.2
baz=255
M23K **Glacier View** 64.80 29 P P 20 47 38.9 -0.1
baz=257
D22K **Ayikyak River** 64.87 21 P P 20 47 39.9 +0.6
baz=249,SNR=6.5
NEA2 **Nenana** 64.89 26 P P 20 47 39.6 +0.1
baz=255
GLI **Glacier Island** 64.90 30 P P 20 47 39.8 +0.2
baz=258
E22K **Anaktuvuk Pass** 64.91 22 P P 20 47 39.9 +0.3
baz=250,SNR=14
I23K **Minto, Yukon-K** 64.92 25 IAmb IAmb 20 47 40.6
comp=Z,5.7nm,0.6s
I23K **Minto, Yukon-K** 64.92 25 P P 20 47 39.6 0.0
baz=254,SNR=7.2
A22K **Sinclair Lake** 64.95 18 P P 20 47 39.9 +0.2
baz=246
WAT6 **Susitna Watana** 64.97 28 P P 20 47 39.6 -0.6
baz=257,SNR=7.1
SCM **Sheep Creek Mo** 64.99 29 P P 20 47 40.2 -0.1
baz=258,SNR=6.9
H23K **Yukon River** 65.04 24 P P 20 47 40.5 +0.1
baz=254
G23K **Bananza Creek** 65.11 23 IAmb IAmb 20 47 42.1
comp=Z,4.9nm,0.8s
G23K **Bananza Creek** 65.11 23 P P 20 47 41.0 +0.1
baz=253,SNR=7.9
B22K **Teshekpuk Lake** 65.17 19 P P 20 47 41.1 0.0
baz=248
COLD **Coldfoot** 65.20 23 IAmb IAmb 20 47 42.6
comp=Z,6.7nm,0.7s
COLD **Coldfoot** 65.20 23 P P 20 47 41.7 +0.3
baz=252,SNR=6.9
DHY **Denali Highway** 65.24 27 P P 20 47 42.2 +0.2
baz=257,SNR=6.4
WRH **Wood River Hil** 65.27 26 IAmb IAmb 20 47 41.6
comp=Z,5.5nm,0.6s
CCB **Clear Creek Bu** 65.43 26 IAmb IAmb 20 47 42.6
comp=Z,7.1nm,1.4s
EYAK **Cordova Ski Ar** 65.48 30 P P 20 47 43.5 +0.3
baz=260
KLU **Klutina** 65.58 29 IAmb IAmb 20 47 44.9
comp=Z,5.5nm,0.6s
KLU **Klutina** 65.58 29 P P 20 47 44.0 0.0
baz=259
D23K **Nanushuk River** 65.58 21 IAmb IAmb 20 47 45.5
comp=Z,9.6nm,0.9s
D23K **Nanushuk River** 65.58 21 P P 20 47 44.5 +0.7
baz=251,SNR=7.8
E23K **Chandalar** 65.67 22 P P 20 47 44.9 +0.4
baz=253,SNR=20
H24K **Noodor Dome** 65.70 24 IAmb IAmb 20 47 45.7
comp=Z,9.0nm,1.4s
H24K **Noodor Dome** 65.70 24 P P 20 47 45.0 +0.3
baz=255
HDA **Harding Lake** 65.73 26 IAmb IAmb 20 47 44.1
comp=Z,4.2nm,0.7s
HDA **Harding Lake** 65.73 26 P P 20 47 44.8 0.0
baz=257
IL31 65.84 26 IAmb IAmb 20 47 44.6
comp=Z,8.1nm,1.1s
ILAR **Eielson Array** 65.84 26 P P 20 47 44.0 -1.5
ILAR **Eielson Array** 65.84 26 P P 20 47 43.8 -1.8
comp=Z,3.6nm,0.5s,baz=250,slow=5.9,SNR=52
comp=Z,3.6nm,0.5s
TOLK **Toolik Lake Re** 65.86 21 P P 20 47 45.8 +0.3
baz=252
C23K **Itkillik River** 65.89 20 P P 20 47 46.2 +0.6
baz=251,SNR=10
KAIM **Kayak Island** 66.03 31 P P 20 47 47.2 +0.5
baz=261
PAX **Paxson** 66.07 28 IAmb IAmb 20 47 47.5
comp=Z,5.7nm,0.6s
PAX **Paxson** 66.07 28 P P 20 47 46.9 -0.2
baz=259,SNR=8.1
E24K **Your Creek** 66.08 22 P P 20 47 47.3 +0.3
baz=254,SNR=13
G24K **Hadweenzic Riv** 66.08 24 IAmb IAmb 20 47 48.0
comp=Z,5.0nm,0.8s
G24K **Hadweenzic Riv** 66.08 24 P P 20 47 47.2 +0.3
baz=255,SNR=7.1
HARP **HAARP** 66.10 28 P P 20 47 47.3 +0.1
baz=259
K24K **Donnelly Dome** 66.10 27 P P 20 47 47.0 -0.2
baz=256
BMRM **Bremner River** 66.11 30 IAmb IAmb 20 47 48.9
comp=Z,7.4nm,0.8s
BMRM **Bremner River** 66.11 30 P P 20 47 47.9 +0.6
baz=260
F24K **Squaw Lake** 66.14 23 IAmb IAmb 20 47 48.9
comp=Z,5.1nm,0.8s
F24K **Squaw Lake** 66.14 23 P P 20 47 47.8 +0.4
baz=254,SNR=8.4
N25K **Chitina, Valde** 66.22 29 P P 20 47 48.4 +0.4
baz=260
D24K **Happy Valley** 66.27 21 P P 20 47 48.8 +0.7
baz=253,SNR=16
J25K **Salcha River,** 66.45 26 P P 20 47 48.0 -1.3
baz=258,SNR=8.0
RIDG **Independent Ri** 66.50 27 IAmb IAmb 20 47 50.1
comp=Z,6.0nm,0.8s
RIDG **Independent Ri** 66.50 27 P P 20 47 49.0 -0.7
baz=259,SNR=5.2
GLB **Gilahina Butte** 66.56 30 IAmb IAmb 20 47 51.7
comp=Z,8.2nm,1.1s
H25L **Birch Creek** 66.62 24 P P 20 47 50.5 +0.2
baz=257,SNR=40
G25K **Bearman Lake** 66.63 24 P P 20 47 50.6 +0.3
baz=256
VRDI **Verde Repeater** 66.70 30 P P 20 47 50.9 -0.2
VRDI IAmb IAmb 20 47 51.8
comp=Z,4.5nm,0.8s
CRQE **Cirque** 66.81 30 P P 20 47 51.8 0.0
baz=262
SCRK **Sand Creek** 66.92 27 IAmb IAmb 20 47 52.6
comp=Z,9.3nm,1.4s
SCRK **Sand Creek** 66.92 27 P P 20 47 52.1 -0.2
baz=260,SNR=6.2
MCARA **McCarthy VSAT** 66.93 30 P P 20 47 52.5 +0.1
baz=262
F25K **Christian Rive** 66.99 23 IAmb IAmb 20 47 54.2
comp=Z,5.8nm,0.9s
F25K **Christian Rive** 66.99 23 P P 20 47 53.4 +0.7
baz=257,SNR=9.8
L26K **Log Cabin Wild** 67.03 28 IAmb IAmb 20 47 53.8
comp=Z,5.6nm,0.6s
L26K **Log Cabin Wild** 67.03 28 P P 20 47 53.5 +0.5
baz=261,SNR=6.9
M26K **Nabesna, AK** 67.09 29 P P 20 47 53.9 +0.5
baz=261
E25K **Arctic Village** 67.14 22 P P 20 47 54.1 +0.5
baz=256
D25K **Kavik River** 67.16 21 P P 20 47 53.9 +0.2
baz=255,SNR=12
J26L **Joseph Creek** 67.19 26 IAmb IAmb 20 47 54.2

comp=Z,5.3nm,0.6s
J26L Joseph Creek 67.19 26 P P 20 47 53.6 -0.5
baz=260,SNR=14
MESA MESA 67.29 31 P P 20 47 54.8 -0.1
baz=263
BMAR Burnt Mountain 67.36 23 P 20 47 55.6 +0.7
I26K Coal Creek Min 67.50 26 P P 20 47 54.9 -0.9
baz=260
G26K Porcupine Rive 67.56 24 P P 20 47 56.5 +0.4
baz=259
F26K Sheenjek River 67.58 23 IAmb IAmb 20 47 57.8
comp=Z,5.8nm,0.8s
F26K Sheenjek River 67.58 23 P P 20 47 56.7 +0.4
baz=258,SNR=10
M27K Edge Creek, AK 67.60 29 P P 20 47 56.6 0.0
baz=262,SNR=5.5
CTG Chitna Glacier 67.68 30 P P 20 47 57.3 +0.1
baz=263
L27K Beaver Creek, 67.72 28 P P 20 47 57.4 +0.1
baz=262,SNR=6.9
BCAR Beaver Creek A 67.74 28 P 20 47 57.8 +0.4
K27K Chicken 67.75 27 P P 20 47 57.5 +0.1
baz=261
C26K Camden Bay 67.80 20 P P 20 47 57.6 +0.1
baz=256
BVCY Beaver Creek 68.08 29 P P 20 47 59.8 +0.3
baz=262
C27K Jago River 68.14 21 IAmb IAmb 20 48 01.0
comp=Z,6.3nm,0.8s
C27K Jago River 68.14 21 P P 20 48 00.2 +0.5
baz=258,SNR=9.1
KK31 Karatay Array 68.19 310 P 20 48 00.5 0.0
YUK3 Moose Creek 68.20 29 P P 20 48 00.7 +0.3
baz=264
O28M Mount Upton 68.22 31 P P 20 48 00.7 0.0
baz=264,SNR=5.1
BVAR Borovoye Array 68.23 321 P P 20 48 00.3 -0.2
comp=Z,3.5nm,0.5s
comp=Z,3.5nm,0.5s
H27K Steamboat Moun 68.32 25 IAmb IAmb 20 48 02.0
comp=Z,7.4nm,0.8s
H27K Steamboat Moun 68.32 25 P P 20 48 01.2 +0.3
baz=261,SNR=14
G27K Doyon Strip 68.36 24 P P 20 48 01.7 +0.6
baz=261
YUK8 Steele Glacier 68.48 30 P P 20 48 02.8 +0.6
baz=265
PNL Peninsula 68.52 32 P P 20 48 02.3 +0.1
baz=266
E27K Coleen River 68.61 23 P P 20 48 03.0 +0.4
baz=260
I28M Miner Creek 68.86 26 IAmb IAmb 20 48 05.0
comp=Z,3.3nm,0.7s
I28M Miner Creek 68.86 26 P P 20 48 04.2 -0.1
baz=263,SNR=8.4
DAWY Dawson 68.93 27 IAmb IAmb 20 48 05.3
comp=Z,4.2nm,0.6s
DAWY Dawson 68.93 27 P P 20 48 04.9 +0.3
baz=264
O29M Mount Kennedy 68.98 31 P P 20 48 05.4 +0.3
baz=266
D27M Malcolm River 69.02 21 P P 20 48 05.6 +0.5
baz=260
YUK4 Talbot Arm 69.02 30 P P 20 48 06.5 +1.1
baz=266,SNR=6.8
YUK6 Outpost Mounta 69.13 30 P P 20 48 06.5 +0.3
baz=266
F28M Old Crow 69.17 23 P P 20 48 06.5 +0.6
baz=262
M29M Somme Creek 69.19 29 P P 20 48 06.8 +0.5
baz=265,SNR=14
P29M Windy Craggy 69.36 32 P P 20 48 07.8 +0.5
baz=267
L29M L29M 69.40 28 P P 20 48 08.2 +0.7
baz=265,SNR=15
E28M Babbage River 69.43 22 P P 20 48 08.1 +0.6
baz=262
HYT Haines Junctio 69.54 31 IAmb IAmb 20 48 10.6
comp=Z,12nm,1.1s
HYT Haines Junctio 69.54 31 P P 20 48 09.3 +0.9
baz=267,SNR=8.5
H29M Whitestone 69.59 25 IAmb IAmb 20 48 09.4
comp=Z,4.2nm,0.7s
H29M Whitestone 69.59 25 P P 20 48 08.7 +0.2
baz=264
K29M Barlow Dome 69.73 27 IAmb IAmb 20 48 10.9
comp=Z,6.2nm,0.8s
K29M Barlow Dome 69.73 27 P P 20 48 10.2 +0.6
baz=266,SNR=8.2
P30M Million Dollar 69.77 31 P P 20 48 10.3 +0.5
baz=265
N30M Aishikik Lake 69.78 30 P P 20 48 10.3 +0.5
baz=267
G29M Pine Creek 69.80 24 IAmb IAmb 20 48 11.6
comp=Z,8.6nm,0.9s
G29M Pine Creek 69.80 24 P P 20 48 10.2 +0.4
baz=264,SNR=6.7
M30M Minto, Yukon 69.98 29 P P 20 48 11.3 +0.4
baz=267,SNR=5.5
E29M Blow River 70.00 23 P P 20 48 11.5 +0.6
baz=264
PLBC Pleasant Camp 70.05 32 P P 20 48 11.7 +0.4
baz=268
S31K Pelican 70.08 34 P P 20 48 11.7 +0.2
baz=269
O30N Mendenhall 70.23 31 P P 20 48 12.9 +0.4
baz=268
EPYK Eagle Plains 70.27 25 IAmb IAmb 20 48 13.5
comp=Z,7.0nm,1.0s
EPYK Eagle Plains 70.27 25 P P 20 48 12.6 0.0
baz=266,SNR=6.0
J30M Hart River 70.30 27 P P 20 48 13.0 0.0
baz=266,SNR=6.7
I30M Mount Dempster 70.32 26 P P 20 48 12.8 -0.2
baz=266
G30M tAoh Zraii Nji 70.51 24 IAmb IAmb 20 48 14.7
comp=Z,7.7nm,1.1s
G30M tAoh Zraii Nji 70.51 24 P P 20 48 13.8 -0.2
baz=266
F30M Barrier River 70.73 23 IAmb IAmb 20 48 16.4
comp=Z,7.7nm,0.7s
F30M Barrier River 70.73 23 P P 20 48 15.6 +0.3
baz=266,SNR=5.6
WHY Whitehorse 70.82 31 IAmb IAmb 20 48 17.6
comp=Z,5.7nm,0.9s
WHY Whitehorse 70.82 31 P P 20 48 16.2 +0.1
baz=269
M31M Drury Creek, Y 71.08 29 P P 20 48 17.7 +0.2
baz=269,SNR=5.3
H31M Peel River 71.20 25 P P 20 48 18.6 +0.5
baz=268
G31M Satah River 71.27 24 P P 20 48 18.4 -0.1
baz=268,SNR=5.8
F31M Tsiigehtchic 71.50 24 P P 20 48 20.4 +0.6
baz=268
FARO Faro, Yukon 71.57 29 P P 20 48 20.8 +0.4
baz=270
INK Inuvik 71.62 23 P P 20 48 20.7 +0.3
baz=268
U33K Whale Pass 71.80 36 P P 20 48 21.9 +0.1
baz=272
CRAG Craig 71.83 36 P P 20 48 21.8 -0.1
baz=272
P33M Teslin, Yukon 71.85 31 P P 20 48 22.2 +0.1
baz=271
Q32M Nakina River 72.16 33 P P 20 48 24.7 +0.6
baz=272
WRAK Wrangell Islan 72.22 35 P P 20 48 25.1 +0.9
baz=273
MMPY Sheldon Lake, 72.53 29 P P 20 48 26.5 +0.5
baz=272
R33M Jennings River 72.81 32 P P 20 48 28.4 +0.6
baz=273
T35M Bob Quinn 73.34 35 P P 20 48 31.5 +0.8
baz=274
DLBC Dease Lake 73.36 33 P P 20 48 31.4 +0.5
baz=274
WTLY Watson Lake, Y 73.86 31 P P 20 48 34.3 +0.6
baz=275
TGTN Hyland Airport 74.00 30 P P 20 48 35.1 +0.6
baz=275
AB31 Akbulak array 74.99 317 P P 20 48 39.5 -0.8
ABKAR Akbulak array 74.99 317 P P 20 48 39.4 -0.9
LIRD Liard River Hi 75.29 32 P P 20 48 42.4 +0.6
baz=277
KOTAN Kotaneelee Air 76.22 31 P P 20 48 47.0 +0.1
baz=279
YKAW3 Yellowknife Wh 80.14 28 P P 20 49 07.5 -0.5

YKAW3 IAmb IAmb 20 49 08.0
comp=Z,3.1nm,0.6s
YKA Yellowknife Ar 80.16 28 P P 20 49 07.8 -0.3
comp=Z,2.1nm,0.6s,baz=294,slow=5.6,SNR=13
comp=Z,2.1nm,0.6s
PINE Pine Mountain 81.38 47 IAmb IAmb 20 49 17.7
comp=Z,4.7nm,0.7s
RES Resolute Bay 81.77 14 P P 20 49 16.1 -0.2
RES IAmb IAmb 20 49 34.5
comp=Z,7.2nm,1.1s
ARCES ARCESS Array B 84.71 342 P P 20 49 30.1 -1.1
comp=Z,0.9nm,0.5s,baz=80,slow=7.3,SNR=11
comp=Z,0.9nm,0.5s
NVAR Mina Array Bea 84.72 52 P P 20 49 32.4 +0.2
comp=Z,0.9nm,0.6s,baz=263,slow=6.2,SNR=5.6
comp=Z,0.9nm,0.6s
MFID Camas Ranch 85.05 46 P 20 49 33.7 +0.1
MFID IAmb IAmb 20 49 35.3
comp=Z,4.9nm,0.9s
HLID Hailey 85.99 46 P 20 49 38.5 +0.3
ELK Elko 86.29 49 P 20 49 39.7 -0.1
FINES FINESS Array B 88.99 335 P P 20 49 49.6 -1.9
comp=Z,0.9nm,0.4s,baz=64,slow=5.0,SNR=16
comp=Z,0.9nm,0.4s
PDAR Pinedale Array 89.59 45 P P 20 49 53.8 -1.4
comp=Z,0.3nm,0.6s,baz=228,slow=3.8,SNR=4.0
comp=Z,0.3nm,0.6s
LPAZ La Paz 147.69 95 PKPbc PKPbc 20 56 40.0 -0.9
comp=Z,0.5nm,0.4s,baz=315,slow=2.9,SNR=2.4

IDC 11 20:41:32.1±2.0, 3.81N×127.92E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=159.3km s-min=23.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.43**	**165**	P	P	20 46 51.5	-1.2
	0.6nm,0.7s,baz=345,slow=11,SNR=4.8						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**27.92**	**168**	P	P	20 47 25.7	+1.5
	0.2nm,0.5s,baz=325,slow=6.7,SNR=4.1						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**58.18**	**325**	P	P	20 51 28.1	+0.1
	0.4nm,0.6s,baz=122,slow=8.3,SNR=5.5						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**62.32**	**327**	P	P	20 51 55.9	-0.4
	2.0nm,0.3s,baz=118,slow=7.5,SNR=1.8						
	2.0nm,0.3s						

IDC 11 20:42:00.8±6.6, 30.89S×177.91W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=264.9km s-min=63.8km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.42**	**208**	Sn	Sn	20 45 30.9	-8.9
	0.3nm,0.3s,baz=86,slow=13,SNR=1.7						
ASAR	**Alice Springs**	**43.16**	**267**	P	P	20 50 03.7	+0.2
	0.3nm,0.6s,baz=113,slow=8.6,SNR=4.6						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**44.20**	**273**	P	P	20 50 11.6	-0.3
	0.2nm,0.3s,baz=114,slow=8.3,SNR=6.8						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**145.63**	**340**	PKPbc	PKPdf	21 01 39.6	-0.8
	2.4nm,1.1s,baz=48,slow=2.8,SNR=1.7						

*BJI **11** 20:45:23.0, 3.60N×128.55E, h45km, mB4.7/4, mb4.6/31, Ms4.2/2*
*DJA **11** 20:45:24.4±0.8, 4.N±6.×12.8E±., h10km, M4.6/12, mB5.1/6, mb4.7/11, MLv4.6/12, Mw(mB)4.5/6*
*NEIC **11** 20:45:26.7±1.0, 3.97N±0.07×128.33E±0.04, h35km±2km, mb4.7/148, Error ellipse: s-maj=13.4km s-min=3.1km az=147.0*
*IDC **11** 20:45:29.2±2.2, 3.89N×128.37E, h70km±20km, mb4.0/24, mbtmp4.3/28, MS3.5/10, Error ellipse: s-maj=22.9km s-min=9.3km az=73.0*

ISC 11 20:45:27.0±0.4, 3.92N±0.05×128.39E±0.07, h46km, n355, σ1°30/343, mb4.7/104, MS3.5/7, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.87**	**265**	P	Pn	20 46 10.2	-0.1
TNTI	**Ternate**	**3.29**	**198**		Pn	20 46 16.2	+0.1
TNTI	**Ternate**	**3.29**	**198**	P	Pn	20 46 17.6	+1.5
DAV	**Davao City (W)**	**4.20**	**318**	P	Pn	20 46 31.9	+3.4
	97nm,0.4s,baz=124,slow=3.6,SNR=4.3						
DAV				S	Sn	20 47 19.7	+3.3
	100nm,0.4s,baz=217,slow=20,SNR=3.5						
DAV				LR	LR	20 48 44.1	
	comp=Z,1μm,19.7s,baz=0.5,slow=46						
KMSI	**Cibinong**	**5.52**	**233**	P	Pn	20 46 48.6	+1.9
SWI	**Sorong**	**5.55**	**149**	P	Pn	20 46 47.9	+0.8
	0.2nm41nm,0.9s						
MRSI	**Marisa**	**7.30**	**242**	P	Pn	20 47 13.5	+2.4
LUWI	**Luwuk**	**7.48**	**229**	Pn	Pn	20 47 12.2	-1.4
LUWI	**Luwuk**	**7.48**	**229**	P	Pn	20 47 14.8	+1.2
	0.4nm2μm57nm,0.7s						
AAI	**Ambon**	**7.56**	**182**	P	Pn	20 47 17.5	+2.7
	0.2nm46nm,1.5s						
FAKI	**Fak Fak**	**7.81**	**150**	P	Pn	20 47 18.8	+0.6
	0.3nm56nm,1.5s						
TOLI2	**Tolitoli**	**8.10**	**250**	Pn	Pn	20 47 21.3	-0.8
APSI	**Ampana**	**8.28**	**235**	P	Pn	20 47 27.2	+2.7
	1μm139nm,1.2s						
MPSI	**Mapaga**	**9.21**	**247**	P	Pn	20 47 38.4	+1.1
TTSI	**Tana Toraja**	**11.02**	**231**	P	Pn	20 48 03.2	+1.1
KKM	**Kota Kinabalu**	**12.31**	**280**	Pn	Pn	20 48 18.0	-2.0
KAPI	**Kappang**	**12.38**	**224**	P	Pn	20 48 21.4	+0.6
	3.5nm,0.4s,baz=33,slow=17,SNR=1.4						
TGY	**Tagaytay City**	**12.51**	**324**	LR	LR	20 54 35.0	
	comp=Z,38nm,18.3s,baz=101,slow=44						
JAY	**Jayapura**	**13.87**	**117**	P	Pn	20 48 42.1	+1.0
	1.7nm,0.5s,baz=292,slow=19,SNR=1.9						
JAY				LR	LR	20 53 10.4	
	comp=Z,166nm,21.8s,baz=312,slow=33						
BATI	**Baumata**	**14.81**	**199**	P	Pn	20 48 55.2	+1.6
	21nm,0.7s,baz=91,slow=20,SNR=2.3						
SBUM	**Sibu**	**16.21**	**265**		Pn	20 49 10.6	-1.2
JAGI	**Jajag, Banyuwa**	**18.80**	**229**	P	P	20 49 42.6	-0.3
JAGI				IAmb	IAmb	20 49 56.9	
	comp=Z,52nm,1.3s						
GUMO	**Guam**	**18.89**	**58**	LR	LR	20 55 29.7	
	comp=Z,84nm,21.4s,baz=260,slow=32						
KNRA	**Kununurra**	**19.48**	**179**	P	P	20 49 50.1	-0.1
TPUB	**Ta-pu**	**20.68**	**339**		P	20 50 02.1	-1.1
TPUB				IAmb	IAmb	20 50 37.4	
	comp=Z,62nm,1.3s						
FITZ	**Fitzroy Crossi**	**22.05**	**187**	P	P	20 50 18.3	+0.3
FITZ	**Fitzroy Crossi**	**22.05**	**187**	P	P	20 50 16.8	-1.2
	comp=Z,1.8nm,0.6s,baz=16,slow=12,SNR=8.1						
	comp=Z,1.8nm,0.6s						
LEM	**Lembang**	**23.33**	**243**	LR	LR	21 01 18.8	
	comp=Z,164nm,20.1s,baz=173,slow=41						
WB0	**Warramunga Arr**	**24.27**	**166**		P	20 50 39.6	-0.5
WB0				IAmb	IAmb	20 50 49.8	
	comp=Z,15nm,0.8s						
WRAB	**Tennant Creek**	**24.42**	**166**	P	P	20 50 42.0	+0.5
WRA	**Warramunga Arr**	**24.43**	**166**	P	P	20 50 41.0	-0.5
	comp=Z,6.8nm,0.8s,baz=344,slow=10,SNR=32						
	comp=Z,6.8nm,0.8s						
WB2	**Warramunga Arr**	**24.43**	**166**	P	P	20 50 41.3	-0.2
WR8	**Warramunga Arr**	**24.48**	**166**		P	20 50 41.9	-0.1
MYKOM	**Kota Tinggi**	**24.60**	**266**	P	P	20 50 43.2	0.0
UBPT	**Khong Chiam**	**25.23**	**298**		P	20 50 48.4	-0.5
UBPT				IAmb	IAmb	20 50 52.5	
	comp=Z,29nm,1.5s						
MNAI	**Manna**	**26.71**	**252**	P	P	20 51 01.1	-1.3
AS31	**Alice Springs**	**27.94**	**169**	P	P	20 51 14.5	+1.2
ASAR	**Alice Springs**	**27.94**	**169**	P	P	20 51 13.7	+0.4
ASAR	**Alice Springs**	**27.94**	**169**	P	P	20 51 13.0	-0.3
	comp=Z,1.9nm,0.7s,baz=354,slow=7.7,SNR=14						
	comp=Z,1.9nm,0.7s						
SRIT	**Nakonsritamara**	**28.98**	**281**	P	P	20 51 22.1	-0.6
JNU	**Nakatsue**	**29.14**	**4**	LR	LR	21 02 15.7	
	comp=Z,56nm,18.9s,baz=188,slow=34						
NJ2	**Nanjing**	**29.38**	**343**	*e*P	P	20 51 27.8	+1.9
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PSI	**Prapat**	**29.44**	**269**	LR	LR	21 06 20.3	
	comp=Z,154nm,18.2s,baz=172,slow=42						
CMAR	**Chiang Mai Arr**	**32.22**	**299**		P	20 51 50.4	-0.8
CMAR	**Chiang Mai Arr**	**32.22**	**299**	P	P	20 51 52.0	+0.8
	comp=Z,2.2nm,0.6s,baz=115,slow=7.0,SNR=15						

CMAR LR LR 21 05 20.5
comp=Z,53nm,19.3s,baz=150,slow=37
comp=Z,2.2nm,0.6s
CHTO Chiang Mai 32.36 300 P 20 51 52.4 0.0
KSAR Wonju Array Be 33.36 359 P P 20 52 00.4 -0.5
KSRS Korea Array 33.37 359 P P 20 52 01.8 +0.9
comp=Z,1.8nm,0.7s,baz=182,slow=9.2,SNR=4.5
comp=Z,1.8nm,0.7s
KS19 Wonju Array Si 33.42 359 P P 20 52 01.2 -0.2
MJAR Matsushiro Ar 33.70 14 P P 20 52 01.7 -2.2
comp=Z,1.3nm,0.7s,baz=182,slow=9.8,SNR=2.1
PZH PanZhiHua 33.98 314 P P 20 52 08.3 +1.7
FORT Forrest 34.51 181 P P 20 52 10.8 -0.1
XAN Xi'an 35.02 331 P P 20 52 15.6 +0.2
XAN sP sP 20 52 29.8 -1.5
XAN pmax pmax
comp=Z,24nm,1.1s
TNCH TengChong 35.57 309 P P 20 52 21.2 +0.8
TNCH sP pP 20 52 34.0 +2.2
TNCH pmax pmax
comp=Z,11nm,1.2s
BJT Baijiatuau 37.59 345 P P 20 52 36.6 -0.6
BJI Beijing 37.61 345 P P 20 52 36.2 -1.1
BJI pmax pmax
comp=Z,3.0nm,0.7s
STKA Stephens Creek 37.75 161 P P 20 52 39.2 +0.6
STKA Stephens Creek 37.75 161 P P 20 52 38.0 -0.6
comp=Z,3.2nm,0.6s,baz=331,slow=9.1,SNR=6.3
comp=Z,3.2nm,0.6s
LZH Lanzhou 39.20 328 *e*P P 20 52 52.4 +1.4
LZH pP pP 20 53 01.9 -0.2
LZH pmax pmax
comp=Z,25nm,1.3s
HHC Hu-ho-hao-te 39.76 340 *e*P P 20 52 55.8 +0.3
HHC pmax pmax
comp=Z,24nm,0.6s
HHC pmax pmax
comp=Z,56nm,4.9s
CN2 Changchun 39.80 357 P P 20 52 47.5 -8.1
CN2 pmax pmax
comp=Z,10.0nm,0.6s
H11S3 WAKE ISLAND Hy 40.14 66 T T 21 36 11.6
baz=253,slow=75,SNR=16
H11S2 WAKE ISLAND Hy 40.15 66 T T 21 36 07.4
baz=253,slow=75,SNR=13
H11S1 WAKE ISLAND Hy 40.15 66 T T 21 36 06.2
baz=253,slow=75,SNR=5.4
USA0B Ussuriysk Arra 40.24 4 P P 20 52 58.1 -1.1
USA0B IAmb IAmb 20 53 28.4
comp=Z,8.7nm,0.7s
USRK Ussuriysk Ar. 40.24 4 P P 20 52 57.4 -1.9
comp=Z,2.0nm,0.7s,baz=100,slow=11,SNR=4.4
comp=Z,2.0nm,0.7s
SHL Shillong 41.11 305 P 20 53 06.0 -1.0
XLT XiLinHaoTe 41.27 346 *e*P P 20 53 09.4 +1.5
XLT sP pwP 20 53 25.4 -0.6
XLT pmax pmax
comp=Z,6.0nm,0.9s
ASAJ Asahikawa 41.95 15 LR LR 21 09 17.7
comp=Z,37nm,20.7s,baz=204,slow=34
LSA Lhasa 43.57 310 P P 20 53 27.1 -0.2
GTA Gaotai 43.80 328 *e*P P 20 53 29.8 +1.2
GTA pP pP 20 53 39.4 -0.4
GTA PcP **PcP** 20 55 16.2 +1.6
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA LR LR
comp=Z,120nm,14.5s
GTA LR LR
comp=Z,63nm,12.7s
ULN Ulaanbaatar 47.47 341 P 20 53 57.2 -0.3
ULN IAmb IAmb 20 53 58.8
comp=Z,10nm,0.8s
PALK Pallekele 47.56 276 LR LR 21 16 39.5
comp=Z,56nm,18.3s,baz=112,slow=39
SONM Songino Array 47.66 340 P P 20 53 59.0 0.0
SONM Songino Array 47.66 340 P P 20 53 59.0 0.0
comp=Z,3.4nm,0.8s,baz=155,slow=8.7,SNR=24
comp=Z,3.4nm,0.8s
PETK Petropavlovsk- 54.64 21 P P 20 54 52.3 +1.3
comp=Z,2.1nm,0.7s,baz=225,slow=7.8,SNR=2.1
comp=Z,2.1nm,0.7s
YAK Yakutsk 57.98 1 P P 20 55 14.7 +0.1
YAK Yakutsk 57.98 1 P P 20 55 14.3 -0.3
comp=Z,7.1nm,0.4s,baz=168,slow=3.9,SNR=8.0
comp=Z,7.1nm,0.4s
MK31 Makanchi Array 58.35 324 P P 20 55 17.5 -0.1
MKAR Makanchi Array 58.35 324 P 20 55 17.2 -0.4
MKAR Makanchi Array 58.35 324 P P 20 55 18.1 +0.5
comp=Z,2.8nm,0.6s,baz=120,slow=8.2,SNR=43
comp=Z,2.8nm,0.6s
MAKZ Makanchi 58.54 324 P 20 55 18.1 -0.9
MAKZ IAmb IAmb 20 55 19.8
comp=Z,4.7nm,0.9s
PRZ Przheval'sk 58.66 318 P 20 55 19.6 -0.4
KSH Kashi 59.09 314 P P 20 55 25.2 +2.2
KSH pmax pmax
comp=Z,7.0nm,1.2s
NIL Nilore 59.13 307 P P 20 55 22.8 -0.5
KDJ Kajisay 59.31 318 P 20 55 23.3 -1.3
KDJ IAmb IAmb 20 55 26.0
comp=Z,6.3nm,0.6s
NRN Naryn 59.83 316 P P 20 55 26.1 -2.3
ZALV Zalesovo Beam 61.18 332 P 20 55 35.8 -1.0
ZALV Zalesovo Beam 61.18 332 P P 20 55 35.7 -1.2
comp=Z,3.1nm,0.8s,baz=104,slow=6.3,SNR=10
comp=Z,3.1nm,0.8s
SEY Seymchan 61.48 12 P P 20 55 40.0 +1.3
comp=Z,2.0nm,0.8s,baz=240,slow=12,SNR=4.5
comp=Z,2.0nm,0.8s
BFZ Birch Farm 62.29 140 P P 20 55 44.5 -0.1
KURK Kurchatov 62.48 327 P 20 55 45.6 -0.1
KURK IAmb IAmb 20 55 46.7
comp=Z,7.5nm,0.8s
KURBB Kurchatov Arra 62.48 327 P P 20 55 45.7 0.0
comp=Z,5.0nm,0.7s,baz=123,slow=6.4,SNR=37
comp=Z,5.0nm,0.7s
KBL Kabul 62.73 307 P P 20 55 46.8 -1.2
KBL IAmb IAmb 20 55 49.1
comp=Z,7.3nm,0.9s
BTK Batken 62.99 313 P 20 55 49.1 -0.3
BTK IAmb IAmb 20 55 51.1
comp=Z,16nm,1.4s
GAR Garm 63.02 312 P 20 55 49.4 -0.3
KK31 Karatay Array 64.23 316 P 20 55 56.7 -0.8
KK31 IAmb IAmb 20 55 58.7
comp=Z,12nm,1.4s
KKAR Karatay Array 64.23 316 P 20 55 56.7 -0.8
TIXI Tiksi 67.64 0 P 20 56 18.2 -0.5
TIXI IAmb IAmb 20 56 19.3
comp=Z,3.8nm,0.8s
TIXI Tiksi 67.64 0 P P 20 56 18.2 -0.5
comp=Z,2.0nm,0.4s,baz=195,slow=2.6,SNR=13
comp=Z,2.0nm,0.4s
BVAR Borovoye Array 68.07 326 P P 20 56 21.8 -0.1
comp=Z,2.6nm,0.8s
comp=Z,2.6nm,0.8s
BRVK Borovoye 68.14 326 P P 20 56 22.1 -0.2
BRVK IAmb IAmb 20 56 22.8
comp=Z,4.6nm,0.9s
NRIK Noril'sk 70.64 346 P P 20 56 37.0 -0.4
comp=Z,4.0nm,0.8s,baz=104,slow=7.2,SNR=2.5
comp=Z,4.0nm,0.8s
CASY Casey 71.22 188 P P 20 56 41.4 +0.5
AB31 Akbulak array 73.06 320 P 20 56 52.1 -0.2
ABKAR Akbulak array 73.06 320 P 20 56 51.9 -0.4
MSEY Mahe Island 73.34 264 P P 20 56 53.9 -0.9
CHNA Chernabura Isl 76.49 34 P P 20 57 14.5 +2.4
baz=258
L14K Kuka Creek 76.56 28 P P 20 57 14.1 +1.8
baz=253
J14K Nanvaranak Lak 76.59 26 P P 20 57 14.4 +2.0
baz=252
O14K Tigyukauivet M 76.66 30 P P 20 57 14.6 +1.8
baz=255
M14K Bethel 76.72 28 P P 20 57 14.1 +0.9
M14K IAmb IAmb 20 57 16.2
comp=Z,8.0nm,0.9s
M14K Bethel 76.72 28 P P 20 57 15.1 +1.9
baz=254
L15K Ungalak Mounta 77.20 27 P P 20 57 18.0 +2.1
baz=254
M15K Kasigluk River 77.31 28 P P 20 57 18.3 +1.8
baz=255
K15K Wolf Creek Mou 77.35 27 P P 20 57 18.2 +1.4
K15K IAmb IAmb 20 57 55.0

comp=Z,14nm,1.4s
K15K **Wolf Creek Mou** 77.35 27 P P 20 57 18.2 +1.4
baz=254
O15K **Ungalikthiuk R** 77.36 30 P P 20 57 17.1 +0.3
O15K IAmb IAmb 20 57 19.5
comp=Z,8.2nm,1.1s
O15K **Ungalikthiuk R** 77.36 30 P P 20 57 17.9 +1.0
baz=256
CHGN **Chignik** 77.45 33 P P 20 57 17.8 +0.4
CHGN **Chignik** 77.45 33 P P 20 57 19.1 +1.7
baz=258
N15K **Kwethluk River** 77.47 29 P P 20 57 18.6 +1.1
N15K IAmb IAmb 20 57 20.5
comp=Z,8.3nm,1.1s
N15K **Kwethluk River** 77.47 29 P P 20 57 19.4 +1.9
baz=256
L16K **Owhat River** 78.14 28 P 20 57 21.8 +0.7
L16K IAmb IAmb 20 57 33.1
comp=Z,14nm,1.5s
L16K **Owhat River** 78.14 28 P P 20 57 22.9 +1.8
baz=256
N16K **Nishlik Lake** 78.18 29 P P 20 57 23.0 +1.6
baz=257
M16K **Timber Creek** 78.21 28 P P 20 57 21.4 -0.2
M16K IAmb IAmb 20 57 24.6
comp=Z,6.6nm,1.0s
M16K **Timber Creek** 78.21 28 P P 20 57 23.1 +1.5
baz=257
O16K **Kokwok River B** 78.31 30 P P 20 57 22.9 +0.7
O16K **Kokwok River B** 78.31 30 P P 20 57 24.0 +1.8
baz=258
D17K **Noatak River** 78.33 21 P P 20 57 23.7 +1.6
baz=252
E17K **Hotham Inlet** 78.61 22 P P 20 57 25.3 +1.7
baz=253
G17K **Kiwalik Mounta** 78.61 24 P P 20 57 25.2 +1.5
baz=254
F17K **Baldwin Pennin** 78.64 23 P P 20 57 25.6 +1.8
baz=254
J17K **VABM Dome** 78.72 26 P P 20 57 24.8 +0.5
J17K **VABM Dome** 78.72 26 P P 20 57 25.9 +1.5
baz=256
H17K **Granite Mounta** 78.76 24 P P 20 57 26.4 +1.9
baz=255
L17K **Donlin** 78.78 27 P P 20 57 26.1 +1.5
baz=257
O17K **Koliganek Bris** 78.85 30 P P 20 57 26.9 +1.8
baz=259
K17K **Iditarod** 78.91 27 P 20 57 26.7 +1.3
K17K IAmb IAmb 20 57 29.3
comp=Z,14nm,1.1s
K17K **Iditarod** 78.91 27 P P 20 57 27.0 +1.6
baz=257,SNR=6.0
N17K **Nushagak Hills** 78.95 29 P P 20 57 26.9 +1.2
N17K IAmb IAmb 20 57 29.1
comp=Z,8.5nm,1.2s
N17K **Nushagak Hills** 78.95 29 P P 20 57 27.4 +1.7
baz=258
M17K **Holitna River** 79.02 28 P P 20 57 26.3 +0.3
M17K IAmb IAmb 20 57 31.9
comp=Z,7.8nm,1.1s
M17K **Holitna River** 79.02 28 P P 20 57 27.7 +1.7
baz=258
P17K **Kvichak River** 79.06 30 P P 20 57 28.0 +1.7
baz=259
E18K **Tukpahlearik C** 79.16 22 P P 20 57 28.0 +1.3
baz=254
Q17K **Contact Creek** 79.18 31 P P 20 57 28.1 +1.1
baz=260
C18K **Utukok River** 79.30 21 P P 20 57 29.1 +1.6
baz=253
B18K **Kokolik River** 79.30 20 P P 20 57 28.9 +1.5
baz=252
G18K **Tagagawik** 79.51 24 P P 20 57 29.9 +1.3
baz=256
L18K **Granite Mounta** 79.53 27 P 20 57 28.8 0.0
L18K **Granite Mounta** 79.53 27 P P 20 57 30.3 +1.5
baz=258
N18K **Kilae Creek** 79.61 29 P P 20 57 29.8 +0.5
N18K IAmb IAmb 20 57 32.5
comp=Z,8.4nm,1.3s
N18K **Kilae Creek** 79.61 29 P P 20 57 30.1 +0.8
baz=260
Q18K **Katmai Hardscr** 79.70 31 P P 20 57 30.6 +0.7
baz=261
P18K **Big Mountain,** 79.71 30 P P 20 57 31.1 +1.3
baz=260
J18K **Innoko River** 79.77 26 P P 20 57 31.3 +1.2
J18K **Innoko River** 79.77 26 P P 20 57 32.0 +1.9
baz=258
M18K **Stony River** 79.79 28 P P 20 57 32.2 +2.0
baz=259
O18K **Koktuh Hills** 79.80 30 P P 20 57 30.7 +0.4
O18K IAmb IAmb 20 57 33.3
comp=Z,9.3nm,1.1s
C19K **Lookout Ridge** 79.98 20 P P 20 57 31.5 +0.3
C19K IAmb IAmb 20 57 34.4
comp=Z,15nm,1.1s
C19K **Lookout Ridge** 79.98 20 P P 20 57 32.7 +1.5
baz=255
F19K **Shaleruckik Mo** 80.08 23 P P 20 57 32.3 +0.7
F19K **Shaleruckik Mo** 80.08 23 P P 20 57 34.2 +2.6
baz=257
G19K **Purcell Mounta** 80.19 23 P 20 57 32.9 +0.6
G19K IAmb IAmb 20 57 36.8
comp=Z,6.3nm,0.9s
G19K **Purcell Mounta** 80.19 23 P P 20 57 34.0 +1.7
baz=257
O19K **Port Alsworth** 80.30 30 P P 20 57 34.0 +1.0
O19K IAmb IAmb 20 57 36.2
comp=Z,18nm,1.4s
H19K **Roundabout Mou** 80.31 24 P 20 57 34.0 +1.1
H19K IAmb IAmb 20 57 37.6
comp=Z,9.4nm,1.1s
H19K **Roundabout Mou** 80.31 24 P P 20 57 34.2 +1.3
baz=258,SNR=6.1
N19K **Bonanza Creek** 80.31 29 P 20 57 33.6 +0.4
N19K IAmb IAmb 20 57 38.5
comp=Z,9.5nm,1.0s
N19K **Bonanza Creek** 80.31 29 P P 20 57 34.8 +1.6
baz=261,SNR=6.3
D19K **Kuna River** 80.34 21 P P 20 57 34.2 +1.0
D19K IAmb IAmb 20 57 35.9
comp=Z,10nm,0.9s
D19K **Kuna River** 80.34 21 P P 20 57 34.4 +1.2
baz=256
J19K **Poorman** 80.36 26 P 20 57 33.7 +0.5
J19K IAmb IAmb 20 57 36.3
comp=Z,7.6nm,1.1s
J19K **Poorman** 80.36 26 P P 20 57 34.7 +1.5
baz=259,SNR=5.2
L19K **White Mountain** 80.37 28 P P 20 57 34.1 +0.7
L19K IAmb IAmb 20 57 37.2
comp=Z,13nm,1.5s
L19K **White Mountain** 80.37 28 P P 20 57 34.9 +1.5
baz=260,SNR=6.8
OHAK **Old Harbor** 80.39 33 P P 20 57 32.3 -1.2
OHAK IAmb IAmb 20 57 36.4
comp=Z,16nm,1.1s
OHAK **Old Harbor** 80.39 33 P P 20 57 34.9 +1.4
baz=262
E19K **Redstone River** 80.43 22 P P 20 57 34.1 +0.6
E19K IAmb IAmb 20 57 36.5
comp=Z,12nm,1.1s
E19K **Redstone River** 80.43 22 P P 20 57 34.9 +1.4
baz=257
M19K **Big River Lodg** 80.54 28 P P 20 57 36.0 +1.7
KDAK **Kodiak Island** 80.84 32 P P 20 57 37.2 +1.3
baz=263
L20K **Farewell, AK** 80.87 27 P P 20 57 38.0 +1.9
baz=261
F20K **Avaraart Lake** 80.91 23 P 20 57 37.9 +1.8
F20K **Avaraart Lake** 80.91 23 P P 20 57 37.7 +1.6
baz=259,SNR=5.4
K20K **Telida** 80.92 26 P 20 57 36.3 0.0
K20K IAmb IAmb 20 57 39.7
comp=Z,7.1nm,1.1s
K20K **Telida** 80.92 26 P P 20 57 37.9 +1.6
baz=261,SNR=6.7
D20K **Etivluk River** 80.93 21 P 20 57 37.3 +1.0
D20K IAmb IAmb 20 57 39.1
comp=Z,12nm,0.9s
D20K **Etivluk River** 80.93 21 P P 20 57 37.7 +1.5
baz=258
H20K **Anotleneega Mo** 80.95 24 P P 20 57 37.9 +1.6
baz=260
E20K **Nigu River** 80.99 21 P P 20 57 37.9 +1.3
baz=258,SNR=14
J20K **Nowinta River** 81.03 26 P 20 57 37.1 +0.3
J20K IAmb IAmb 20 57 40.1
comp=Z,7.1nm,1.0s
J20K **Nowinta River** 81.03 26 P P 20 57 38.6 +1.8
baz=260,SNR=6.8
M20K **Styx River** 81.12 28 P P 20 57 38.4 +0.9
M20K IAmb IAmb 20 57 41.2
comp=Z,6.1nm,0.9s
M20K **Styx River** 81.12 28 P P 20 57 38.5 +1.1
baz=262,SNR=7.3
IMAR **Indian Mountai** 81.50 24 P P 20 57 40.1 +0.8
C21K **Knifeblade Rid** 81.67 21 P P 20 57 41.6 +1.5
baz=259
G21K **Allakaket** 81.68 23 P 20 57 40.8 +0.5
G21K **Allakaket** 81.68 23 P P 20 57 41.9 +1.7
baz=261,SNR=6.8
PPLA **Purkeypile** 81.70 27 P 20 57 41.6 +1.0
PPLA **Purkeypile** 81.70 27 P P 20 57 42.1 +1.6
baz=262
F21K **Alatna River** 81.81 23 P P 20 57 42.5 +1.6
baz=261
CAST **Castle Rocks** 81.82 27 P 20 57 42.1 +1.1
CAST **Castle Rocks** 81.82 27 P P 20 57 42.5 +1.5
baz=262,SNR=6.4
B21K **Ikpikpuk River** 81.82 20 P P 20 57 42.5 +1.6
baz=259
H21K **Melozitna Rive** 81.83 24 P P 20 57 42.2 +1.2
H21K **Melozitna Rive** 81.83 24 P P 20 57 42.6 +1.5
baz=262,SNR=7.8
E21K **Killik River** 81.83 21 P 20 57 42.4 +1.3
E21K IAmb IAmb 20 57 43.7
comp=Z,7.3nm,0.8s
E21K **Killik River** 81.83 21 P P 20 57 42.1 +1.1
baz=260
SKT **Skwentna** 81.89 28 P 20 57 41.1 -0.3
SKT **Skwentna** 81.89 28 P P 20 57 42.5 +1.1
baz=263
RAYN **Ar Rayn** 81.93 293 P P 20 57 41.8 -0.7
A22K **Sinclair Lake** 81.97 19 P P 20 57 43.1 +1.5
baz=259
I21K **Tanana** 82.10 25 P P 20 57 44.1 +1.7
baz=262
SUA **Susitna One** 82.20 29 P P 20 57 44.1 +0.9
baz=264
F22K **John River** 82.35 22 P P 20 57 45.3 +1.5
baz=262
B22K **Teshekpuk Lake** 82.35 20 P P 20 57 45.0 +1.4
baz=260
SLKM **Skilak Lake** 82.36 30 P 20 57 44.7 +0.7
SLKM IAmb IAmb 20 57 46.1
comp=Z,8.8nm,1.0s
BPAW **Bear Paw Mtn.** 82.39 26 P P 20 57 44.7 +0.7
BPAW IAmb IAmb 20 57 46.7
comp=Z,12nm,1.1s
BPAW **Bear Paw Mtn.** 82.39 26 P P 20 57 45.1 +1.1
baz=263,SNR=6.9
H22K **Ishtalitna Cre** 82.44 24 P P 20 57 46.0 +1.7
baz=263,SNR=7.7
G22K **Bettles** 82.53 23 P P 20 57 46.3 +1.7
baz=262
E22K **Anaktuvuk Pass** 82.57 22 P 20 57 46.9 +1.9
E22K IAmb IAmb 20 57 48.9
comp=Z,6.1nm,0.8s
E22K **Anaktuvuk Pass** 82.57 22 P P 20 57 46.5 +1.6
baz=262,SNR=11
MLY **Manley** 82.60 25 P 20 57 45.3 +0.1
MLY IAmb IAmb 20 57 48.5
comp=Z,17nm,1.4s
MLY **Manley** 82.60 25 P P 20 57 46.7 +1.5
baz=263,SNR=15
TRF **Thorofare Moun** 82.62 27 P P 20 57 45.4 0.0
TRF IAmb IAmb 20 57 47.4
comp=Z,8.9nm,1.1s
TRF **Thorofare Moun** 82.62 27 P P 20 57 46.1 +0.7
baz=264
RC01 **Rabbit Creek A** 82.65 29 P P 20 57 45.7 +0.3
baz=265
PMR **Palmer** 82.98 29 P P 20 57 47.9 +0.8
PMR IAmb IAmb 20 57 49.6
comp=Z,11nm,1.1s
COLD **Coldfoot** 83.07 23 IAmb IAmb 20 57 50.8
comp=Z,8.9nm,0.9s
COLD **Coldfoot** 83.07 23 P P 20 57 49.3 +1.9
baz=264,SNR=8.6
G23K **Bananza Creek** 83.08 23 P 20 57 49.1 +1.5
G23K **Bananza Creek** 83.08 23 P P 20 57 49.4 +1.8
baz=264,SNR=17
GHO **Glory Hole Cre** 83.10 28 P P 20 57 48.6 +0.8
GHO IAmb IAmb 20 57 52.8
comp=Z,4.4nm,0.8s
D23K **Nanushuk River** 83.10 21 P 20 57 48.0 +0.4
D23K IAmb IAmb 20 57 51.1
comp=Z,9.1nm,1.1s
D23K **Nanushuk River** 83.10 21 P P 20 57 49.8 +2.2
baz=263,SNR=8.5
H23K **Yukon River** 83.19 24 P P 20 57 49.6 +1.5
baz=264,SNR=11
I23K **Minto, Yukon-K** 83.20 25 P P 20 57 49.5 +1.4
baz=265,SNR=14
C23K **Itkillik River** 83.23 20 P 20 57 49.8 +1.6
C23K **Itkillik River** 83.23 20 P P 20 57 50.0 +1.8
baz=263,SNR=8.4
MCK **McKinley** 83.25 26 P 20 57 49.2 +0.7
MCK **McKinley** 83.25 26 P P 20 57 49.4 +0.9
baz=265,SNR=5.5
RND **Reindeer** 83.26 27 IAmb IAmb 20 57 50.2
comp=Z,10nm,1.0s
NEA2 **Nenana** 83.27 26 P P 20 57 48.9 +0.3
NEA2 IAmb IAmb 20 57 51.7
comp=Z,7.0nm,1.0s
NEA2 **Nenana** 83.27 26 P P 20 57 50.2 +1.6
baz=265,SNR=7.5
KNK **Knik Glacier** 83.29 29 P P 20 57 49.5 +0.7
KNK **Knik Glacier** 83.29 29 P P 20 57 50.6 +1.9
baz=266
PWL **Port Wells** 83.31 29 P P 20 57 49.6 +0.7
PWL **Port Wells** 83.31 29 P P 20 57 50.0 +1.2
baz=266
WAT1 **Susitna Watana** 83.35 27 P P 20 57 50.4 +1.3
baz=266
E23K **Chandalar** 83.38 22 P P 20 57 50.5 +1.3
E23K **Chandalar** 83.38 22 P P 20 57 51.0 +1.9
baz=264,SNR=18
VNDA **Vanda** 83.41 173 P P 20 57 49.5 +0.5
comp=Z,1.1nm,0.9s,baz=300,slow=9.3,SNR=5.0
comp=Z,1.1nm,0.9s
TOLK **Toolik Lake Re** 83.46 21 P 20 57 50.7 +1.2
TOLK IAmb IAmb 20 57 52.7
comp=Z,9.8nm,0.9s
TOLK **Toolik Lake Re** 83.46 21 P P 20 57 51.3 +1.8
baz=264,SNR=6.2
M23K **Glacier View** 83.67 28 P P 20 57 51.9 +1.3
baz=267
WRH **Wood River Hil** 83.68 26 P P 20 57 49.8 -0.8
WRH IAmb IAmb 20 57 52.3
comp=Z,14nm,1.2s
WAT6 **Susitna Watana** 83.71 28 P P 20 57 52.4 +1.4
baz=266,SNR=11
P23K **Montague Islan** 83.72 30 P P 20 57 51.5 +0.6
P23K **Montague Islan** 83.72 30 P P 20 57 52.7 +1.8
baz=267
D24K **Happy Valley** 83.78 21 P P 20 57 52.0 +1.0
D24K **Happy Valley** 83.78 21 P P 20 57 52.9 +1.8
baz=265,SNR=7.9
E24K **Your Creek** 83.81 22 P P 20 57 52.3 +1.0
E24K IAmb IAmb 20 57 54.4
comp=Z,6.5nm,1.2s
E24K **Your Creek** 83.81 22 P P 20 57 53.2 +1.9
baz=265,SNR=5.5
CCB **Clear Creek Bu** 83.82 26 IAmb IAmb 20 57 52.8
comp=Z,5.4nm,1.0s
SCM **Sheep Creek Mo** 83.86 28 P P 20 57 52.8 +1.1
SCM **Sheep Creek Mo** 83.86 28 P P 20 57 53.2 +1.5
baz=267,SNR=9.7
H24K **Noodor Dome** 83.87 24 P P 20 57 52.5 +0.9
H24K **Noodor Dome** 83.87 24 P P 20 57 53.0 +1.4
baz=266,SNR=8.4
C24K **Franklin Bluff** 83.88 20 P P 20 57 53.1 +1.6
baz=265
DHY **Denali Highway** 83.91 27 P 20 57 53.4 +1.4
DHY **Denali Highway** 83.91 27 P P 20 57 53.1 +1.1
baz=267
GLI **Glacier Island** 83.92 29 P P 20 57 53.1 +1.2
GLI IAmb IAmb 20 57 54.3
comp=Z,8.9nm,0.9s
GLI **Glacier Island** 83.92 29 P P 20 57 53.2 +1.2
baz=267
GEVA **Gevas** 83.93 308 P P 20 57 52.4 -0.4
GEVA IAmb IAmb 20 57 55.5
comp=Z,6.1nm,0.9s
F24K **Squaw Lake** 83.99 23 P 20 57 53.6 +1.3
F24K IAmb IAmb 20 57 55.6
comp=Z,9.5nm,1.1s
F24K **Squaw Lake** 83.99 23 P P 20 57 54.3 +2.0
baz=266,SNR=10.0
G24K **Hadweenzic Riv** 84.09 23 P 20 57 52.9 +0.2
G24K **Hadweenzic Riv** 84.09 23 P P 20 57 54.9 +2.1
baz=266,SNR=14
HDA **Harding Lake** 84.17 26 P P 20 57 53.2 0.0
HDA IAmb IAmb 20 57 54.2
comp=Z,4.7nm,0.9s
HDA **Harding Lake** 84.17 26 P P 20 57 53.9 +0.8
baz=267
ILAR **Eielson Array** 84.22 25 P P 20 57 53.0 -0.4
ILAR **Eielson Array** 84.22 25 P P 20 57 53.4 0.0
comp=Z,1.2nm,0.8s,baz=248,slow=5.3,SNR=13
comp=Z,1.2nm,0.8s
Q23K **Middleton Isla** 84.23 31 P P 20 57 54.0 +0.5
M24K **Tolsona, Glenn** 84.41 28 P P 20 57 55.1 +0.6
M24K **Tolsona, Glenn** 84.41 28 P P 20 57 56.2 +1.7
baz=268
KLU **Klutina** 84.51 29 P P 20 57 55.4 +0.3
KLU IAmb IAmb 20 57 57.7
comp=Z,5.9nm,0.8s
KLU **Klutina** 84.51 29 P P 20 57 56.4 +1.4
baz=268
EYAK **Cordova Ski Ar** 84.56 30 P P 20 57 56.0 +0.8
EYAK IAmb IAmb 20 57 59.1
comp=Z,5.2nm,0.8s
EYAK **Cordova Ski Ar** 84.56 30 P P 20 57 56.6 +1.4
baz=268
DIV **Divide** 84.57 29 P P 20 57 56.3 +0.9
G25K **Bearman Lake** 84.64 23 P P 20 57 57.1 +1.7
baz=268
K24K **Donnelly Dome** 84.66 26 P P 20 57 56.8 +1.2
K24K IAmb IAmb 20 58 03.4
comp=Z,4.9nm,0.8s
D25K **Kavik River** 84.66 21 P P 20 57 56.1 +0.5
D25K IAmb IAmb 20 57 58.9
comp=Z,8.4nm,1.4s
D25K **Kavik River** 84.66 21 P P 20 57 57.0 +1.3
baz=267,SNR=5.2
GURO **Guroymak-BITLI** 84.73 308 P P 20 57 56.2 -0.6
H25L **Birch Creek** 84.73 24 P P 20 57 57.7 +1.8
baz=268,SNR=5.9
PAX **Paxson** 84.77 27 P 20 57 57.1 +0.8
PAX IAmb IAmb 20 57 58.9
comp=Z,10.0nm,1.3s
PAX **Paxson** 84.77 27 P P 20 57 57.9 +1.5
baz=268,SNR=6.9
PRP **Porcupine Dome** 84.83 25 P P 20 57 58.2 +1.5
baz=268
F25K **Christian Rive** 84.85 23 P P 20 57 58.4 +1.8
F25K IAmb IAmb 20 58 00.5
comp=Z,5.8nm,1.4s
F25K **Christian Rive** 84.85 23 P P 20 57 58.4 +1.8
baz=268
J25K **Salcha River,** 84.86 26 P P 20 57 57.3 +0.5
J25K **Salcha River,** 84.86 26 P P 20 57 58.2 +1.5
baz=268
E25K **Arctic Village** 84.90 22 P P 20 57 57.3 +0.5
E25K IAmb IAmb 20 58 00.1
comp=Z,4.8nm,0.9s
E25K **Arctic Village** 84.90 22 P P 20 57 58.6 +1.8
baz=268,SNR=7.0
RIDG **Independent Ri** 85.07 26 P P 20 57 58.0 +0.3
RIDG IAmb IAmb 20 57 59.7
comp=Z,7.4nm,1.1s
RIDG **Independent Ri** 85.07 26 P P 20 57 58.9 +1.1
baz=269
RAGM **Ragged Mountai** 85.09 30 P P 20 57 59.1 +1.1
BMRM **Bremner River** 85.14 29 P P 20 57 59.0 +0.8
BMRM **Bremner River** 85.14 29 P P 20 57 59.8 +1.7
baz=269
N25K **Chitina, Valde** 85.15 29 P 20 57 59.0 +0.8
N25K **Chitina, Valde** 85.15 29 P P 20 57 59.8 +1.6
baz=269
KAIM **Kayak Island** 85.22 30 P P 20 57 59.7 +1.2
KAIM **Kayak Island** 85.22 30 P P 20 58 00.7 +2.2
baz=270
BMAR **Burnt Mountain** 85.26 23 P 20 58 00.1 +1.4
HMT **Hamilton** 85.30 30 P P 20 57 59.7 +0.7
HMT IAmb IAmb 20 58 01.8
comp=Z,8.4nm,1.0s
DOT **Dot Lake** 85.42 27 P P 20 57 59.3 -0.2
F26K **Sheenjek River** 85.43 22 P P 20 58 00.7 +1.2
F26K **Sheenjek River** 85.43 22 P P 20 58 01.6 +2.1
baz=269,SNR=5.4
SCRK **Sand Creek** 85.45 26 P P 20 58 01.9 +2.1
baz=270
GLB **Gilahina Butte** 85.52 29 P P 20 58 00.9 +0.8
G26K **Porcupine Rive** 85.56 23 P P 20 58 02.2 +2.1
baz=270
C27K **Jago River** 85.61 21 P P 20 58 01.7 +1.4
C27K IAmb IAmb 20 58 03.4
comp=Z,4.1nm,0.8s
C27K **Jago River** 85.61 21 P P 20 58 02.1 +1.8
baz=270
J26L **Joseph Creek** 85.64 26 P P 20 58 02.5 +1.9
baz=270
VRDI **Verde Repeater** 85.70 29 P 20 58 02.1 +1.0
VRDI IAmb IAmb 20 58 03.7
comp=Z,4.7nm,1.0s
L26K **Log Cabin Wild** 85.74 27 P P 20 58 02.8 +1.7
baz=270
I26K **Coal Creek Min** 85.81 25 P P 20 58 03.2 +1.8
baz=270
CRQM **Cirque** 85.85 29 P P 20 58 02.5 +0.6
CRQE **Cirque** 85.88 29 P P 20 58 03.5 +1.5
baz=271
KOPT **Kop Dagi** 85.89 310 P P 20 58 01.5 -1.2
K27K **Chicken** 86.30 26 P P 20 58 05.5 +1.7
baz=271
E27K **Coleen River** 86.39 22 P P 20 58 05.8 +1.6
baz=272
G27K **Doyon Strip** 86.40 23 P P 20 58 06.1 +1.8
baz=272
L27K **Beaver Creek,** 86.43 27 P 20 58 05.5 +1.0
L27K **Beaver Creek,** 86.43 27 P P 20 58 06.4 +1.9
baz=272
BCAR **Beaver Creek A** 86.45 27 P P 20 58 03.5 -1.1
H27K **Steamboat Moun** 86.47 24 P P 20 58 06.6 +1.9
baz=272
E28M **Babbage River** 87.14 22 P P 20 58 09.4 +1.6
baz=273
I28M **Miner Creek** 87.16 25 P 20 58 08.8 +0.7
I28M IAmb IAmb 20 58 11.1
comp=Z,3.0nm,0.8s
I28M **Miner Creek** 87.16 25 P P 20 58 09.0 +0.9
baz=273
PCA **Pinnacle** 87.30 30 P P 20 58 09.4 +0.5
ARCES **ARCESS Array B** 90.84 340 P P 20 58 23.5 -1.7
comp=Z,2.1nm,0.7s,baz=74,slow=8.9,SNR=8.0
comp=Z,2.1nm,0.7s
MMPY **Sheldon Lake,** 91.29 27 P P 20 58 28.0 +0.4
MMPY IAmb IAmb 20 58 30.1
comp=Z,3.5nm,1.1s
MMPY **Sheldon Lake,** 91.29 27 P P 20 58 28.8 +1.3
baz=281
R33M **Jennings River** 92.06 30 P P 20 58 32.1 +0.8
baz=281
FINES **FINESS Array B** 92.44 332 P P 20 58 31.1 -1.7
comp=Z,1.1nm,0.8s,baz=76,slow=8.0,SNR=6.5
comp=Z,1.1nm,0.8s
AKASG **Malin Array Be** 92.79 321 P P 20 58 32.7 -1.9
comp=Z,0.6nm,0.6s,baz=68,slow=5.0,SNR=4.2
comp=Z,0.6nm,0.6s
QSPA **South Pole Qui** 93.83 180 P P 20 58 39.9 +0.7
comp=Z,1.9nm,0.8s,baz=339,slow=2.6,SNR=6.2
comp=Z,1.9nm,0.8s
HFS **Hagfors** 98.62 333 P P 20 58 59.5 -1.5
comp=Z,0.7nm,0.5s,baz=95,slow=8.7,SNR=2.5
comp=Z,0.7nm,0.5s
TORD **Torodi Ar. Bea** 124.43 289 PKP PKPdf 21 04 21.8 -0.4
comp=Z,0.8nm,0.3s,baz=60,slow=1.7,SNR=1.3

IDC 11 20:50:00.4±3.1, 31.08S×177.68W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=68.3km s-min=28.6km az=113.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC

RAO	**Raoul Island**	**1.84**	**354**	Pn	Pb	20 50 34.4	-0.5
	74nm,0.3s,baz=124,slow=21,SNR=2.6						
RAO				Sn	Sn	20 50 56.7	-0.5
	93nm,0.3s,baz=143,slow=20,SNR=4.3						
URZ	**Urewera**	**8.34**	**209**	Pn	Pn	20 51 57.1	-5.4
	0.3nm,0.3s,baz=334,slow=17,SNR=1.5						
URZ				Sn	Sn	20 53 29.7	-7.8
	1.9nm,0.3s,baz=127,slow=19,SNR=7.7						
ASAR	**Alice Springs**	**43.35**	**268**	P	P	20 58 04.5	0.0
	1.1nm,0.6s,baz=102,slow=7.3,SNR=19						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**44.40**	**273**	P	P	20 58 12.8	-0.2
	1.1nm,0.5s,baz=114,slow=8.1,SNR=28						
	1.1nm,0.5s						
FINES	**FINESS Array B**	**145.88**	**340**	PKPbc	PKPdf	21 09 39.8	-0.6
	1.4nm,0.6s,baz=52,slow=3.2,SNR=11						

OTT 11 20:51:12.6±0.1, 48°.10N×71°.22W, h18km, MN2.2/10, 1D, 23km south from Laterriere, Qc Eastern Background Seismic Zone., Southern Quebec

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LDAQ	**Lac Daran**	**0.14**	**186**		Pg	20 51 16.5	-0.3
LDAQ	**Lac Daran**	**0.14**	**186**	⇓PG	Pg	20 51 16.4	-0.4
LDAQ				SG	Sb	20 51 18.8	+0.6
LDAQ				Trac		20 51 18.9	
	comp=Z,99nm,0.0s						
SANQ	**St-André-du-La**	**0.56**	**293**	PG	Pg	20 51 23.2	-0.6
SANQ				SG	Sg	20 51 30.8	-0.5
LMQ	**La Malbaie**	**0.82**	**132**	PG	Pb	20 51 27.5	-0.8
LMQ				SG	Sb	20 51 39.0	+0.1
LMQ				Trac		20 51 41.0	
	comp=Z,18nm,0.1s						
A54	**Misere**	**0.84**	**139**	PG	Pb	20 51 28.2	-0.5
A54				SG	Sb	20 51 39.7	0.0
A54				Trac		20 51 47.8	
	comp=Z,6.8nm,0.0s						
A61	**Sainte Mathild**	**0.86**	**118**	PG	Pb	20 51 28.2	-0.8
A61				SG	Sb	20 51 39.7	-0.5
A61				Trac		20 51 40.2	
	comp=Z,3.6nm,0.0s						
A64	**Saint Simeon**	**0.94**	**107**	PG	Pb	20 51 29.4	-0.9
A64				SG	Sb	20 51 41.9	-0.4
A64				Trac		20 51 42.8	
	comp=Z,3.4nm,0.0s						
BSCQ	**Baie-Sainte-Ca**	**1.01**	**88**	PG	Pb	20 51 30.6	-0.9
BSCQ				SG	Sb	20 51 44.4	0.0
BSCQ				Trac		20 51 45.0	
	comp=Z,15nm,0.1s						
SFA	**Sept-Chutes**	**1.01**	**165**	PG	Pb	20 51 31.6	0.0
SFA				SG	Sb	20 51 44.6	+0.1
A16	**Riviere Ouelle**	**1.03**	**127**	PG	Pb	20 51 31.6	-0.3
A16				SG	Sb	20 51 45.5	+0.4
A16				Trac		20 51 52.7	
	comp=Z,3.3nm,0.0s						
A11	**Saint Roch-des**	**1.10**	**141**	PG	Pg	20 51 33.5	-0.4
A11				SG	Sn	20 51 47.6	-0.2
A11				Trac		20 51 50.6	
	comp=Z,2.9nm,0.1s						
A21	**Saint Andre**	**1.10**	**111**	PG	Pn	20 51 32.5	-0.7
A21				SG	Sb	20 51 47.3	+0.1
A21				Trac		20 51 52.6	
	comp=Z,6.4nm,0.1s						
CACQ	**Cacouna**	**1.17**	**97**	PG	Pn	20 51 33.3	-0.6
CACQ				SG	Sb	20 51 49.1	+0.2
CACQ				Trac		20 51 50.1	
	comp=Z,3.8nm,0.1s						
SNFQ	**Sainte-Felicit**	**2.69**	**72**	PN	Pn	20 51 55.4	+0.5
SNFQ				SN	Sn	20 52 26.8	-0.2
SNFQ				LG	Lg	20 52 35.1	
SNFQ				Trac		20 52 42.7	
	comp=Z,3.0nm,0.3s						

GCG 11 20:51:22.6±1.5, 16°.33N×93°.83W, h66km±27km, MD4.3, ML3.5
MEX 11 20:51:23.7±1.1, 16°.33N×93°.81W, h81km±10km, MD4.2
ISC 11 20:51:21.5±1.2, 16°.38N±0°.04×93°.75W±0°.03, h95km±9km, n38, σ1°.95/68, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGIG		**0.72**	**57**	*eP*	**Pn**	**20 51 39.3**	**+0.6**
TGIG				*eS*	**Sn**	**20 51 50.8**	**-0.8**
TGIG		**0.72**	**57**	*i P*	**Pn**	**20 51 39.4**	**+0.6**
TGIG				*i S*	**Sn**	**20 51 50.6**	**-1.0**
TGIG				IAML		20 51 51.8	
	comp=E,685nm,0.3s						
TGBT	**Tuxtla Gutierr**	**0.75**	**58**	*eP*	**Pn**	**20 51 39.4**	**+0.6**
TGBT				*eS*	**Sn**	**20 51 51.0**	**-0.8**
PCIG		**0.85**	**143**	*eP*	**Pn**	**20 51 39.8**	**-0.1**
PCIG				*eS*	**Sn**	**20 51 52.3**	**-1.3**
NILT	**Santiago Nilte**	**0.85**	**283**	*eP*	**Pn**	**20 51 40.4**	**+0.5**
NILT				*eS*	**Sn**	**20 51 53.9**	**+0.2**
CMIG	**Matias Romero**	**1.29**	**303**	*eP*	**Pn**	**20 51 46.3**	**+1.4**
CMIG				*eS*	**Sn**	**20 52 03.7**	**+1.0**
CCIG	**Comitan**	**1.56**	**93**	*eP*	**Pn**	**20 51 50.7**	**+2.4**
CCIG				*eS*	**Sn**	**20 52 09.0**	**+0.3**
CCIG	**Comitan**	**1.56**	**93**	*eP*	**Pn**	**20 51 50.7**	**+2.4**
CCIG				IAML		20 52 12.7	
	comp=N,336nm,0.5s						
TUIG	**Tuzandepetl**	**1.76**	**339**	*eS*	**Sn**	**20 52 13.5**	**+0.4**
PAVE	**Pavencul**	**1.92**	**128**	*eP*	**Pn**	**20 51 54.1**	**+1.0**
PAVE				*eS*	**Sn**	**20 52 17.2**	**+0.1**
PATR	**El Naranjo**	**1.93**	**130**	*eP*	**Pn**	**20 51 53.9**	**+0.7**
PATR				*eS*	**Sn**	**20 52 16.8**	**-0.5**
THIG		**2.05**	**135**	*eS*	**Sn**	**20 52 21.0**	**+1.3**
THIG		**2.05**	**135**	*i S*	**Sn**	**20 52 21.0**	**+1.3**
HUIG	**Huatulco**	**2.34**	**255**	*eP*	**Pn**	**20 51 58.2**	**-0.2**
HUIG				*eS*	**Sn**	**20 52 25.1**	**-1.6**
HUIG	**Huatulco**	**2.34**	**255**	*i P*	**Pn**	**20 51 58.1**	**-0.3**
HUIG				*i S*	**Sn**	**20 52 25.1**	**-1.6**
HUIG				IAML		20 52 27.2	
	comp=E,103nm,0.2s						
NEUV	**Arroyo Zacate**	**2.37**	**304**	*eP*	**Pn**	**20 51 59.6**	**+1.0**
NEUV				*eS*	**Sn**	**20 52 26.1**	**-1.0**
PMUV	**Sontecomapan**	**2.52**	**329**	*eP*	**Pn**	**20 52 00.1**	**-0.7**
PMUV				*eS*	**Sn**	**20 52 27.6**	**-3.3**
RTAL	**Retalhuleu**	**2.71**	**133**	*eS*	**Sn**	**20 52 36.3**	**+0.9**
VHO	**Vista Hermosa**	**2.94**	**284**	*eP*	**Pn**	**20 52 08.6**	**+2.2**
VHO				*eS*	**Sn**	**20 52 42.4**	**+1.4**
STG8	**El Palmar, Qui**	**3.01**	**129**	*i S*	**Sn**	**20 52 37.1**	**-5.8**
STG0	**El Palmar, Qui**	**3.03**	**130**	*i S*	**Sn**	**20 52 36.6**	**-6.7**
STG0				IAML		20 52 45.6	
	comp=E,416nm,0.2s						
PEIG	**Puerto Escondi**	**3.28**	**264**	*eP*	**Pn**	**20 52 10.2**	**-0.7**
PEIG				*eS*	**Sn**	**20 52 45.8**	**-3.4**
SCIG	**Sabancuy**	**3.55**	**43**	*eP*	**Pn**	**20 52 15.8**	**+1.3**
SCIG				*eS*	**Sn**	**20 52 53.8**	**-1.8**
TOIG	**Toxpalan**	**3.59**	**299**	*eP*	**Pn**	**20 52 17.0**	**+1.8**
TOIG				*eS*	**Sn**	**20 52 56.8**	**+0.1**
YOIG	**Yosondua**	**3.67**	**278**	*eP*	**Pn**	**20 52 18.8**	**+2.4**
YOIG				*eS*	**Sn**	**20 52 59.2**	**+0.5**
PETF	**Flores**	**3.76**	**81**	*eP*	**Pn**	**20 52 18.7**	**+1.3**
PETF				*eS*	**Sn**	**20 52 58.3**	**-2.4**
PETF	**Flores**	**3.76**	**81**	*i P*	**Pn**	**20 52 18.8**	**+1.3**
PETF				*eS*	**Sn**	**20 52 58.4**	**-2.4**
PETF				IAML		20 53 03.3	
	comp=N,232nm,0.5s						
TXIG	**Tlaxiaco**	**3.94**	**283**	*eP*	**Pn**	**20 52 22.3**	**+2.3**
TXIG				*eS*	**Sn**	**20 53 05.1**	**-0.3**
TPIG	**Tehuac#an**	**4.00**	**301**	*eS*	**Sn**	**20 53 05.3**	**-1.3**
HLIG	**Huajuapan de L**	**4.13**	**291**	*eP*	**Pn**	**20 52 24.3**	**+1.7**
HLIG				*eS*	**Sn**	**20 53 09.2**	**-0.8**
JAUV	**Jalcomulco**	**4.15**	**316**	*eP*	**Pn**	**20 52 22.9**	**+0.2**
JAUV				*eS*	**Sn**	**20 53 07.8**	**-2.4**
LVIG	**Laguna Verde**	**4.18**	**323**	*eP*	**Pn**	**20 52 22.4**	**-0.6**
LVIG				*eS*	**Sn**	**20 53 07.2**	**-3.6**
PNIG	**Pinotepa**	**4.20**	**271**	*eP*	**Pn**	**20 52 24.2**	**+0.9**
PNIG				*eS*	**Sn**	**20 53 09.0**	**-2.3**
POHV	**Veracruz**	**4.29**	**309**	*eP*	**Pn**	**20 52 27.9**	**+2.8**
POHV				*eS*	**Sn**	**20 53 14.4**	**+0.1**
FTIG	**Fresnillo de T**	**4.45**	**291**	*eP*	**Pn**	**20 52 31.5**	**+4.6**
FTIG				*eS*	**Sn**	**20 53 18.5**	**+0.9**
MGIG	**Malinaltepec**	**4.75**	**281**	*eP*	**Pn**	**20 52 30.7**	**-0.2**
MGIG				*eS*	**Sn**	**20 53 24.1**	**-0.9**
CXUV	**Coxquihui**	**5.24**	**317**	*eP*	**Pn**	**20 52 37.7**	**+0.2**
CXUV				*eS*	**Sn**	**20 53 35.6**	**-1.1**
ARIG	**Puente Sto Nin**	**6.57**	**288**	*eP*	**Pn**	**20 52 57.6**	**+2.0**
ARIG				*eS*	**Sn**	**20 54 08.9**	**-0.3**

IDC 11 20:54:27.0±1.8, 3°.58N×127°.57E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=108.9km s-min=22.7km az=74.0
DJA 11 20:54:33.6±1.7, 4°.N±10°.×12°.8E±1°.0, h22km±22km, M3.7/7, mb3.8/1, MLv3.7/7
ISC 11 20:54:31.4±1.8, 3°.7N±0°.2×128°.5E±0°.1, h35km, n6, σ2°.9/39/5, mb3.7/5, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.96**	**270**	P	**Pn**	**20 55 17.1**	**+1.1**
SGSI				S	**Sn**	**20 55 50.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**21.84**	**187**	P	**P**	**20 59 18.7**	**-2.2**
	5.2nm,1.2s,baz=25,slow=14,SNR=2.2						
	5.2nm,1.2s						
WRA	**Warramunga Arr**	**24.18**	**166**	P	**P**	**20 59 46.7**	**+2.1**
	0.6nm,0.7s,baz=344,slow=10,SNR=4.7						
	0.6nm,0.7s						
SONM	**Songino Array**	**47.91**	**340**	P	P	21 03 04.5	-1.9
	0.3nm,0.6s,baz=149,slow=6.2,SNR=2.0						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**58.60**	**324**	P	**P**	**21 04 24.1**	**-0.9**
	0.4nm,0.6s,baz=111,slow=8.3,SNR=6.0						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**62.73**	**327**	P	P	21 04 50.5	-2.4
	0.6nm,0.7s,baz=127,slow=6.1,SNR=4.2						
	0.6nm,0.7s						

KRNET 11 20:54:35.9±0.1, 42°.89N×74°.29E, h19km, mb2.5
KNET 11 20:54:35.8±0.3, 42°.87N×74°.31E, h17km±2km, ml1.3, Error ellipse: s-maj=2.9km s-min=2.0km az=114.0
SOME 11 20:54:36.0, 42°.88N×74°.30E, h10km
ISC 11 20:54:36.4±0.9, 42°.87N±0°.02×74°.29E±0°.02, h12km±8km, n32, σ0°.82/64, 21C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FRU1	**Bishkek**	**0.26**	**103**	⇑*iP*	**Pg**	**20 54 41.8**	**-0.1**
FRU1				⇑*iS*	**Sg**	**20 54 45.7**	**+0.1**
AAK	**Ala-Archa**	**0.28**	**147**	⇓P	**Pg**	**20 54 42.1**	**-0.1**
	9.3nm,0.1s,SNR=13						
AAK				⇓S	**Sg**	**20 54 46.8**	**+0.6**
	45nm,0.1s						
AAK	**Ala-Archa**	**0.28**	**147**	⇑*iP*	**Pg**	**20 54 42.3**	**0.0**
AAK				⇑*iS*	**Sg**	**20 54 46.6**	**+0.4**
CHMS	**Chumysh**	**0.36**	**69**	⇑P	**Pg**	**20 54 43.3**	**-0.5**
	12nm,0.1s,SNR=79						
CHMS				⇑S	**Sg**	**20 54 48.5**	**-0.2**
	23nm,0.1s						
CHMS	**Chumysh**	**0.36**	**69**	⇑*iP*	**Pg**	**20 54 43.2**	**-0.5**
CHMS				⇑*iS*	**Sg**	**20 54 48.5**	**-0.2**
USP	**Ospenovka**	**0.43**	**22**	⇑P	**Pg**	**20 54 44.4**	**-0.5**
	4.9nm,0.1s,SNR=6.2						
USP				⇓S	**Sg**	**20 54 50.3**	**-0.3**
	23nm,0.1s						
USP	**Ospenovka**	**0.43**	**22**	⇑*iP*	**Pg**	**20 54 44.2**	**-0.7**
USP				⇑*iS*	**Sg**	**20 54 50.1**	**-0.5**
EKS2	**Erkin-Say**	**0.43**	**241**	⇑P	**Pg**	**20 54 45.2**	**+0.2**
	11nm,0.1s,SNR=77						
EKS2				⇑S	**Sg**	**20 54 51.5**	**+0.8**
	20nm,0.1s						
KBK	**Karagaybulak**	**0.53**	**113**	⇑P	**Pg**	**20 54 46.7**	**-0.2**
	12nm,0.1s,SNR=39						
KBK				⇓S	**Sg**	**20 54 54.1**	**+0.1**
	32nm,0.2s						
KBK	**Karagaybulak**	**0.53**	**113**	⇑*iP*	**Pg**	**20 54 46.5**	**-0.4**
KBK				⇑*iS*	**Sg**	**20 54 54.1**	**+0.1**
UCH	**Uchtor**	**0.66**	**165**	⇓P	**Pg**	**20 54 49.2**	**-0.2**
	10nm,0.2s,SNR=42						
UCH				⇑S	**Sg**	**20 54 58.5**	**+0.2**
	13nm,0.1s						
UCH	**Uchtor**	**0.66**	**165**	⇓*iP*	**Pg**	**20 54 49.1**	**-0.3**
UCH				⇓*iS*	**Sg**	**20 54 58.3**	**+0.1**
MRKS	**Merke**	**0.79**	**261**	*eP*	**Pg**	**20 54 51.1**	**-0.6**
MRKS				*eS*	**Sg**	**20 55 01.9**	**-0.2**
MRKS	**Merke**	**0.79**	**261**	*eP*	**Pg**	**20 54 51.1**	**-0.6**
	9.5nm,0.1s						
MRKS				*eS*	**Sg**	**20 55 01.9**	**-0.2**
	12nm,0.2s						
TKM2	**Tokmak 2**	**0.96**	**87**	⇓P	**Pb**	**20 54 53.6**	**-1.5**
	2.4nm,0.1s,SNR=25						
TKM2				⇑S	**Sb**	**20 55 06.7**	**-1.2**
	15nm,0.1s						
TKM2	**Tokmak 2**	**0.96**	**87**	⇑*iP*	**Pb**	**20 54 53.4**	**-1.8**
TKM2				⇑*iS*	**Sb**	**20 55 07.1**	**-0.8**
KST	**Kastek**	**1.24**	**81**	*eP*	**Pn**	**20 54 58.9**	**-0.8**
KST				*eS*	**Sb**	**20 55 15.6**	**-0.3**
KST	**Kastek**	**1.24**	**81**	*eP*	**Pn**	**20 54 58.9**	**-0.8**
	4.2nm,0.2s						
KST				*eS*	**Sb**	**20 55 15.6**	**-0.3**
	6.1nm,0.5s						
BOOM	**Boomskoye usch**	**1.28**	**107**	⇓*eP*	**Pn**	**20 54 59.3**	**-0.9**
BOOM				⇓*eS*	**Sb**	**20 55 16.8**	**-0.1**
MNAS	**Manas**	**1.37**	**254**	⇓*eP*	**Pn**	**20 55 00.8**	**-0.6**
MNAS				⇓*eS*	**Sn**	**20 55 19.4**	**-0.1**
ULHL	**Ulahol**	**1.57**	**113**	⇓P	**Pn**	**20 55 04.9**	**+0.6**
	0.7nm,0.1s						
ULHL				⇑S	**Sb**	**20 55 26.0**	**+0.5**
	4.1nm,0.2s						
MTBS	**Maitube**	**1.59**	**80**	*eP*	**Pn**	**20 55 05.5**	**+1.0**
MTBS				*eS*	**Sb**	**20 55 26.6**	**+0.7**
MTBS	**Maitube**	**1.59**	**80**	*eP*	**Pn**	**20 55 05.5**	**+1.0**
	1.6nm,0.1s						
MTBS				*eS*	**Sb**	**20 55 26.6**	**+0.7**
	4.9nm,0.2s						
IZV	**Izvestkoviy**	**1.72**	**84**	*eP*	**Pn**	**20 55 07.4**	**+1.2**
IZV				*eS*	**Sb**	**20 55 30.2**	**+0.7**
IZV	**Izvestkoviy**	**1.72**	**84**	*eP*	**Pn**	**20 55 07.4**	**+1.2**
	4.2nm,0.2s						
IZV				*eS*	**Sb**	**20 55 30.3**	**+0.7**
	8.9nm,0.2s						
KUU	**Kurty**	**1.81**	**55**	*eP*	**Pn**	**20 55 08.8**	**+1.4**
KUU				*eS*	**Sb**	**20 55 32.5**	**+0.3**
KUU	**Kurty**	**1.81**	**55**	*eP*	**Pn**	**20 55 08.8**	**+1.4**
	2.1nm,0.0s						
KUU				*eS*	**Sb**	**20 55 32.4**	**+0.3**
	23nm,0.2s						
TNSS	**Tian-Shan**	**1.96**	**84**	*eP*	**Pb**	**20 55 11.8**	**-0.5**
	1.0nm,0.2s						
TNSS				*eS*	**Sb**	**20 55 37.2**	**+0.4**
	1.9nm,0.4s						
KOTS	**Kotyrbulak**	**2.10**	**79**	*eP*	**Pb**	**20 55 14.9**	**+0.3**
	1.9nm,0.3s						
KOTS				*eS*	**Sb**	**20 55 42.5**	**+1.8**
	6.7nm,0.4s						
BTLS	**Baital**	**2.18**	**356**	*eP*	**Pb**	**20 55 16.7**	**+1.0**
	1.2nm,0.2s						
BTLS				*eS*	**Sg**	**20 55 45.7**	**-0.7**
	2.8nm,0.1s						
CHKK	**Chushkaly**	**2.20**	**63**	*eP*	**Pb**	**20 55 16.4**	**+0.3**
	0.5nm,0.0s						
CHKK				*eS*	**Sb**	**20 55 45.2**	**+1.9**
	9.9nm,0.2s						
KDJ	**Kajisay**	**2.27**	**108**	⇓*eP*	**Pn**	**20 55 15.1**	**+1.3**
KDJ				⇓*eS*	**Sb**	**20 55 43.6**	**-1.7**

IDC 11 21:06:21.4±2.3, 3°.64N×127°.89E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=197.8km s-min=23.4km az=68.0
DJA 11 21:06:26.8±1.2, 4°.N±7°.×12°.9E±°., h48km±70km, M3.9/6, MLv3.9/6
ISC 11 21:06:25.4±1.5, 3°.9N±0°.2×128°.7E±0°.1, h35km, n5, σ1°.55/6, mb3.4/4, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**3.17**	**266**	P	**Pn**	**21 07 13.4**	**+0.5**
SGSI				S	**Sn**	**21 07 49.1**	**-0.4**
WRA	**Warramunga Arr**	**24.33**	**167**	P	**P**	**21 11 40.3**	**+0.2**
	0.4nm,0.8s,baz=345,slow=9.2,SNR=4.7						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**27.86**	**170**	P	**P**	**21 12 11.7**	**-0.3**
	0.5nm,0.9s,baz=346,slow=8.7,SNR=2.2						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**58.55**	**324**	P	**P**	**21 16 16.7**	**-1.9**
	0.3nm,0.5s,baz=109,slow=7.9,SNR=5.0						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**62.67**	**327**	P	**P**	**21 16 48.2**	**+1.7**
	0.5nm,0.6s,baz=125,slow=6.8,SNR=5.1						
	0.5nm,0.6s						

NEIC 11 21:07:07.3±0.7, 35°.241N±0°.009×97°.748W±0°.008, h5km±1km, Error ellipse: s-maj=1.4km s-min=0.9km az=170.0
NEIC 11 21:07:07.1±1.1, 35°.229N±0°.009×97°.78W±0°.01, h5km±1km, mb_Lg2.1/7, ML1.9/28, ML2.0/10, Error ellipse: s-maj=2.1km s-min=1.7km az=318.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FNO	**Franklin**	**0.31**	**85**		Pg	21 07 13.0	-0.1
FNO				IAML		21 07 20.9	
	comp=E,105nm,0.6s						
OK029	**Liberty Lake**	**0.62**	**25**	Pg	Pb	21 07 19.9	-0.6
OK029					Sg	21 07 27.6	+0.4
OK029				IAML		21 07 27.9	
	comp=E,69nm,0.5s						
OK029				IAML		21 07 31.1	
	comp=E,51nm,0.5s						
X34A	**Smith Ranch, M**	**0.63**	**184**		Pb	21 07 20.0	-0.6
X34A					Sg	21 07 27.4	+0.1
X34A				IAML		21 07 30.1	
	comp=N,103nm,0.3s						
X34A				IAML		21 07 30.4	
	comp=E,59nm,0.4s						
CSTR	**Hydro, Custer**	**0.85**	**299**		Pg	21 07 23.8	+0.3
WMOK	**Wichita Mounta**	**0.96**	**240**		Pg	21 07 24.9	-0.6
WMOK					Sg	21 07 38.2	+0.2
WMOK	**Wichita Mounta**	**0.96**	**240**		Pg	21 07 25.2	-0.3
WMOK				IAML		21 07 38.9	
	comp=E,7.3nm,0.5s						
WMOK				IAML		21 07 41.6	
	comp=E,7.4nm,0.2s						
OK052	**Battle Ridge R**	**1.10**	**46**		Sg	21 07 42.4	-0.1
OK038	**West end E0370**	**1.47**	**328**		Pn	21 07 34.5	+0.2
KAN09	**Caldwell North**	**1.91**	**4**	IAmb_Lg		21 08 10.7	
	comp=Z,25nm,0.9s						
FW03	**Perrin-Whitt E**	**2.20**	**186**	IAmb_Lg		21 08 20.5	
	comp=Z,6.4nm,0.7s						
PLPT	**Palo Pinto**	**2.45**	**191**	IAmb_Lg		21 08 29.5	
	comp=Z,4.1nm,0.8s						
HHAR	**Hobbs**	**3.29**	**70**	IAmb_Lg		21 08 55.8	
	comp=Z,2.5nm,0.8s						
Z47A	**Carrollton**	**8.29**	**101**	IAmb_Lg		21 11 34.3	
	comp=Z,9.2nm,0.8s						

JMA 11 21:10:07.0±0.2, 24°.0N±0°.4×121°.7E±0°.9, h5km±2km, MV3.2/13, TAIWAN REGION
ASIES 11 21:10:07.1,24°.07N×121°.65E, h9km, ML4.0, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr0.97; Mθθ-0.38; Mφφ-0.59; Mrθ1.62; Mrφ-0.64; Mθφ2.30; Fault plane solution: M₀3.001760×10¹⁴ NP1: φs227.45000°, δ10.44000°, λ101.88000°. NP2: φs35.38000°, δ79.78000°, λ87.83000°. Principal axes: T Plg55.1640°, Azm302.6870°; N Plg2.1380°, Azm35.7610°; P Plg34.7510°, Azm127.2450°;
TAP 11 21:10:07.1,24°.07N×121°.65E, h9km, ML4.0, C
ISC 11 21:10:06.6±0.9, 24°.03N±0°.01×121°.73E±0°.02, h5km±7km, n151, σ0°.62/247, 2C-31D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.13**	**244**	⇑*iP*	**Pg**	**21 10 10.3**	**+1.1**
HWA				*eS*	**Sg**	**21 10 12.1**	**+1.1**
TWD	**Chiawan**	**0.13**	**291**	⇓*iP*	**Pg**	**21 10 09.3**	**0.0**
TWD				*i S*	**Sg**	**21 10 10.6**	**-0.5**
ETL	**Fush Village**	**0.16**	**322**	⇓*iP*	**Pg**	**21 10 09.9**	**+0.1**
ETL				*i S*	**Sg**	**21 10 11.7**	**-0.3**
NACB	**Ninganchiao**	**0.19**	**318**	P	**Pg**	**21 10 10.0**	**-0.3**
NACB	**Ninganchiao**	**0.19**	**318**	⇓*iP*	**Pg**	**21 10 10.1**	**-0.2**
NACB				*i S*	**Sg**	**21 10 12.2**	**-0.6**
TEYL	**Yanliau Villag**	**0.20**	**217**	⇓P	**Pg**	**21 10 11.7**	**+1.1**
TEYL				*eS*	**Sg**	**21 10 13.3**	**0.0**
ETM	**Tongmen**	**0.23**	**253**	⇓*iP*	**Pg**	**21 10 11.1**	**0.0**
ETM				*i S*	**Sg**	**21 10 13.8**	**-0.3**
EHP	**Heping Village**	**0.28**	**2**	*eP*	**Pg**	**21 10 12.6**	**+0.6**
EHP				*eS*	**Sg**	**21 10 16.5**	**+0.8**
ETLH	**Xiulin Townshi**	**0.29**	**307**	⇓*iP*	**Pg**	**21 10 11.8**	**-0.4**
ETLH				*eS*	**Sg**	**21 10 15.4**	**-0.7**
SHUL	**Shoufeng**	**0.29**	**212**	P	**Pb**	**21 10 14.0**	**-0.2**
SHUL				*eS*	**Sb**	**21 10 18.9**	**-0.3**
LXIB	**Xiulin Townshi**	**0.29**	**268**	⇓*iP*	**Pg**	**21 10 12.0**	**-0.3**
LXIB				S	**Sg**	**21 10 15.4**	**-0.7**
EAHA	**Aohua**	**0.29**	**1**	⇓P	**Pg**	**21 10 12.8**	**+0.4**
EAHA				S	**Sg**	**21 10 16.8**	**+0.5**
ESL	**Shilin**	**0.35**	**231**	⇓*iP*	**Pg**	**21 10 13.5**	**+0.2**
ESL				*eS*	**Sg**	**21 10 17.5**	**-0.5**
TEGC	**Jichi Village**	**0.37**	**209**	*eP*	**Pb**	**21 10 15.8**	**+0.2**
TEGC				*eS*	**Sb**	**21 10 21.7**	**+0.2**
ENA	**Nanau**	**0.39**	**1**	⇓*iP*	**Pg**	**21 10 14.6**	**+0.4**
ENA				S	**Sg**	**21 10 19.6**	**+0.2**
EWUT	**Wuta**	**0.41**	**6**	⇓P	**Pg**	**21 10 15.1**	**+0.5**
EWUT				*i S*	**Sg**	**21 10 20.4**	**+0.4**
WHF	**Hehuan Shan**	**0.44**	**285**	⇓*iP*	**Pg**	**21 10 14.7**	**-0.5**
WHF				*eS*	**Sg**	**21 10 19.9**	**-1.1**
WARBT	**Fenglin Townsh**	**0.45**	**225**	⇓*iP*	**Pg**	**21 10 15.4**	**+0.2**
WARBT				*eS*	**Sg**	**21 10 21.0**	**0.0**
EGFH	**Guangfu**	**0.46**	**218**	P	**Pb**	**21 10 16.2**	**-0.9**
EGFH				*eS*	**Sb**	**21 10 22.5**	**-1.7**
**F

TWF1	**Yuli**	**0.79**	**211**	*eP*	**Pg**	**21**	**10**	**21.7**	**0.0**
TWF1				*eS*	**Sb**	**21**	**10**	**33.8**	**+0.1**
TYC	**Yuchr**	**0.81**	**261**	⇓*iP*	**Pg**	**21**	**10**	**22.0**	**-0.2**
TYC				*i S*	**Sg**	**21**	**10**	**31.6**	**-1.1**
NFF	**Wufeng Townshi**	**0.82**	**317**	⇓*P*	**Pg**	**21**	**10**	**22.4**	**+0.1**
NFF				*eS*	**Sg**	**21**	**10**	**32.3**	**-0.6**
EGS		**0.83**	**13**	*eP*	**Pb**	**21**	**10**	**23.8**	**+0.4**
WHYT	**Xinyi Township**	**0.87**	**248**	P	**Pg**	**21**	**10**	**23.4**	**+0.2**
WHYT				S	**Sg**	**21**	**10**	**34.7**	**+0.1**
CHKH	**Chenggong**	**0.89**	**200**	*eP*	**Pb**	**21**	**10**	**24.5**	**0.0**
LIOB	**Emei**	**0.89**	**313**	⇑*P*	**Pb**	**21**	**10**	**24.2**	**-0.3**
LIOB				*eS*	**Sg**	**21**	**10**	**35.1**	**-0.3**
NSTT	**Nanjuang**	**0.89**	**312**	*eP*	**Pg**	**21**	**10**	**24.0**	**+0.2**
NSTT				*eS*	**Sg**	**21**	**10**	**34.8**	**-0.5**
KSHI	**Guanxi Townshi**	**0.90**	**326**	*eP*	**Pb**	**21**	**10**	**24.7**	**+0.1**
KSHI				*eS*	**Sg**	**21**	**10**	**35.4**	**-0.1**
FULB	**Fuli**	**0.92**	**206**	*eP*	**Pn**	**21**	**10**	**25.3**	**-0.9**
TWQ1	**Liyutan**	**0.93**	**290**	*eP*	**Pb**	**21**	**10**	**25.1**	**-0.1**
TWQ1				*eS*	**Sg**	**21**	**10**	**36.3**	**-0.2**
TIPB	**Shuangxi**	**0.94**	**5**	P	**Pb**	**21**	**10**	**25.1**	**-0.2**
TIPB				S	**Sg**	**21**	**10**	**36.8**	**0.0**
WJS	**Zhushan**	**0.94**	**257**	*i P*	**Pb**	**21**	**10**	**25.5**	**+0.2**
WJS				*eS*	**Sg**	**21**	**10**	**37.6**	**+0.7**
TWA	**Mucha**	**0.95**	**352**	*eP*	**Pb**	**21**	**10**	**25.7**	**+0.1**
TWA				S	**Sg**	**21**	**10**	**36.8**	**-0.5**
NSY	**Sanyi**	**0.96**	**294**	P	**Pb**	**21**	**10**	**25.7**	**0.0**
NSY				*eS*	**Sg**	**21**	**10**	**38.1**	**+0.5**
TATO	**Taipei**	**0.96**	**347**	P	**Pb**	**21**	**10**	**25.6**	**-0.1**
TATO	**Taipei**	**0.96**	**347**	S	**Sg**	**21**	**10**	**37.7**	**+0.1**
WNT	**Mingjian**	**0.97**	**261**	*eP*	**Pb**	**21**	**10**	**26.1**	**+0.3**
WNT				*eS*	**Sb**	**21**	**10**	**38.8**	**-0.1**
TCU	**Taichung**	**0.97**	**277**	*eP*	**Pn**	**21**	**10**	**26.5**	**-0.3**
TCU				*eS*	**Sg**	**21**	**10**	**38.7**	**+0.9**
CHKT	**Chengkung**	**0.99**	**200**	*eP*	**Pb**	**21**	**10**	**25.8**	**-0.4**
CHKT				*eS*	**Sn**	**21**	**10**	**41.7**	**+0.4**
NMLH	**Miaoli**	**0.99**	**301**	*eP*	**Pb**	**21**	**10**	**26.3**	**0.0**
NMLH				*eS*	**Sg**	**21**	**10**	**38.6**	**+0.1**
ALS	**Alishan**	**0.99**	**239**	*eP*	**Pb**	**21**	**10**	**26.1**	**-0.3**
ALS				*eS*	**Sb**	**21**	**10**	**40.0**	**0.0**
TWB1	**Santiao Chiao**	**1.00**	**14**	*eP*	**Pn**	**21**	**10**	**26.5**	**-0.7**
TWB1				S	**Sg**	**21**	**10**	**38.8**	**0.0**
EHD	**Haiduan**	**1.00**	**209**	*eP*	**Pb**	**21**	**10**	**26.2**	**-0.2**
SBCB	**Hsinchu**	**1.02**	**318**	*eP*	**Pn**	**21**	**10**	**27.4**	**0.0**
TAP	**Taipei**	**1.02**	**348**	*eP*	**Pb**	**21**	**10**	**26.9**	**+0.2**
TAP				*i S*	**Sg**	**21**	**10**	**39.9**	**+0.4**
HSN	**Hsinchu**	**1.03**	**318**	*eP*	**Pn**	**21**	**10**	**27.4**	**-0.3**
HSN				*eS*	**Sg**	**21**	**10**	**39.4**	**-0.4**
NWF	**Wu-fen Shan**	**1.03**	**3**	*eP*	**Pn**	**21**	**10**	**27.4**	**-0.4**
NWF				S	**Sg**	**21**	**10**	**40.1**	**+0.2**
WFSB	**Wu-fen Shan**	**1.03**	**3**	*eP*	**Pn**	**21**	**10**	**27.4**	**-0.3**
WFSB				S	**Sb**	**21**	**10**	**40.6**	**-0.2**
WDJ	**Dajia District**	**1.04**	**288**	*eP*	**Pn**	**21**	**10**	**27.6**	**-0.2**
WDJ				*eS*	**Sg**	**21**	**10**	**40.7**	**+0.5**
ECS	**Chishang**	**1.04**	**207**	*eP*	**Pn**	**21**	**10**	**27.6**	**-0.2**
CHN5	**Tsauling**	**1.06**	**246**	*i P*	**Pn**	**21**	**10**	**27.8**	**-0.3**
CHN5				*i S*	**Sn**	**21**	**10**	**42.8**	**-0.4**
ELDTW	**Lidau**	**1.06**	**218**	*eP*	**Pg**	**21**	**10**	**26.4**	**-0.7**
ELDTW				*eS*	**Sb**	**21**	**10**	**41.3**	**-0.5**
SXI1	**Grass Mountain**	**1.06**	**7**	*eP*	**Pn**	**21**	**10**	**27.8**	**-0.4**
WCHH	**Zhanghua**	**1.07**	**273**	*eP*	**Pn**	**21**	**10**	**27.9**	**-0.3**
WCHH				*eS*	**Sb**	**21**	**10**	**42.5**	**+0.6**
WCH1	**Changhua City**	**1.08**	**272**	*eP*	**Pn**	**21**	**10**	**28.6**	**+0.2**
WCH1				*eS*	**Sb**	**21**	**10**	**42.1**	**0.0**
TWS1	**Kuangyinshan**	**1.10**	**345**	*eP*	**Pn**	**21**	**10**	**28.4**	**-0.2**
TWS1				*eS*	**Sg**	**21**	**10**	**42.4**	**+0.3**
TNOU	**National Taiwa**	**1.11**	**2**	*eP*	**Pb**	**21**	**10**	**28.2**	**0.0**
YM01	**YM01**	**1.12**	**353**	*eP*	**Pn**	**21**	**10**	**28.7**	**-0.2**
YM01				*eS*	**Sg**	**21**	**10**	**42.5**	**-0.1**
WGK	**Gukeng**	**1.12**	**252**	*eP*	**Pn**	**21**	**10**	**29.0**	**+0.1**
WGK				S	**Sn**	**21**	**10**	**44.6**	**-0.1**
EDH	**Donghe**	**1.13**	**200**	*eP*	**Pg**	**21**	**10**	**27.7**	**-0.5**
WDL	**Douliou City**	**1.14**	**254**	*eP*	**Pn**	**21**	**10**	**29.6**	**+0.6**
WDL				*eS*	**Sn**	**21**	**10**	**45.4**	**+0.3**
ZUZH	**Zhuzihu**	**1.14**	**351**	*eP*	**Pn**	**21**	**10**	**28.8**	**-0.4**
ZUZH				*eS*	**Sg**	**21**	**10**	**42.6**	**-0.6**
WDLH	**Douliu**	**1.15**	**253**	*eP*	**Pn**	**21**	**10**	**29.4**	**+0.2**
WDLH				*eS*	**Sn**	**21**	**10**	**45.1**	**-0.2**
NTST	**Danshui**	**1.16**	**347**	*eP*	**Pn**	**21**	**10**	**29.6**	**+0.3**
NTST				*eS*	**Sg**	**21**	**10**	**43.6**	**-0.1**
YM08	**YM08**	**1.16**	**354**	P	**Pb**	**21**	**10**	**28.8**	**-0.2**
YM08				*eS*	**Sg**	**21**	**10**	**43.7**	**-0.1**
ANP	**Anpu**	**1.17**	**351**	*eP*	**Pn**	**21**	**10**	**29.5**	**-0.1**
JYNG	**Yonagunijimaku**	**1.18**	**69**	P	**Pn**	**21**	**10**	**30.3**	**+0.6**
WCKO	**Fanlu**	**1.19**	**240**	P	**Pn**	**21**	**10**	**30.3**	**+0.5**
WCKO				*eS*	**Sn**	**21**	**10**	**45.6**	**+0.3**
STYH	**Taoyuan**	**1.23**	**226**	P	**Pn**	**21**	**10**	**30.2**	**+0.1**
STYH				*eS*	**Sg**	**21**	**10**	**45.7**	**-0.3**
YOJ	**Yonaguni jima**	**1.24**	**70**	P	**Pn**	**21**	**10**	**31.0**	**+0.4**
YOJ	**Yonaguni jima**	**1.24**	**70**	*eP*	**Pn**	**21**	**10**	**31.2**	**+0.6**
YOJ				*eS*	**Sn**	**21**	**10**	**49.4**	**+1.8**
YOJ	**Yonaguni jima**	**1.24**	**70**	*eP*	**Pn**	**21**	**10**	**31.1**	**+0.6**
CHN4	**Tsaushan**	**1.25**	**237**	*eP*	**Pn**	**21**	**10**	**31.6**	**+1.0**
CHN4				*eS*	**Sn**	**21**	**10**	**48.4**	**+0.6**
TPUB	**Ta-pu**	**1.25**	**234**	P	**Pn**	**21**	**10**	**30.4**	**-0.2**
TPUB	**Ta-pu**	**1.25**	**234**	*i P*	**Pn**	**21**	**10**	**31.2**	**+0.5**
TPUB				*eS*	**Sn**	**21**	**10**	**47.4**	**-0.3**
LONT	**Longtian**	**1.25**	**206**	*eP*	**Pn**	**21**	**10**	**30.4**	**-0.2**
WTK	**Tuku**	**1.28**	**255**	P	**Pb**	**21**	**10**	**31.6**	**+0.5**
WTK				*eS*	**Sn**	**21**	**10**	**49.1**	**+0.6**
WTP	**Ta-pu**	**1.29**	**233**	*eP*	**Pb**	**21**	**10**	**31.8**	**+0.5**
CHY	**Chiayi**	**1.31**	**246**	P	**Pg**	**21**	**10**	**32.7**	**+1.0**
CHY				S	**Sn**	**21**	**10**	**50.4**	**+1.1**
TWGBT	**Beinan**	**1.35**	**206**	P	**Pn**	**21**	**10**	**31.2**	**-0.8**
TWGBT	**Beinan**	**1.35**	**206**	*eP*	**Pn**	**21**	**10**	**30.0**	**-2.0**
TWG	**Pinlang**	**1.35**	**207**	*eP*	**Pn**	**21**	**10**	**29.9**	**-2.1**
TWK	**Hsinying**	**1.37**	**236**	*eP*	**Pg**	**21**	**10**	**33.4**	**+0.5**
TWK				*eS*	**Sn**	**21**	**10**	**52.7**	**+1.8**
LDUT	**Ludao**	**1.37**	**190**	*eP*	**Pn**	**21**	**10**	**30.4**	**-2.0**
TTN	**Taitung**	**1.38**	**203**	*eP*	**Pg**	**21**	**10**	**32.6**	**-0.5**
TTN				*i S*	**Sn**	**21**	**10**	**51.2**	**+0.1**
CHN1	**Nanshi**	**1.39**	**233**	*eP*	**Pg**	**21**	**10**	**33.7**	**+0.5**
CHN1				*eS*	**Sn**	**21**	**10**	**52.9**	**+1.5**
SNST	**Tainan City**	**1.39**	**235**	*eP*	**Pg**	**21**	**10**	**33.8**	**+0.6**
SNST				*eS*	**Sn**	**21**	**10**	**53.4**	**+2.0**
WSF	**Szhu**	**1.44**	**254**	*eP*	**Pg**	**21**	**10**	**34.2**	**0.0**
WSF				*eS*	**Sg**	**21**	**10**	**53.0**	**+0.3**
WSL	**Shuilin Townsh**	**1.47**	**250**	P	**Pg**	**21**	**10**	**34.9**	**+0.2**
WSL				S	**Sg**	**21**	**10**	**54.7**	**+1.0**
CHN8	**Yiju**	**1.55**	**244**	*eP*	**Pb**	**21**	**10**	**35.8**	**0.0**
CHN8				*eS*	**Sg**	**21**	**10**	**57.6**	**+1.1**
CHN3	**Shinhua**	**1.57**	**233**	*eP*	**Pg**	**21**	**10**	**37.0**	**+0.2**
ECL	**Taimali**	**1.60**	**207**	*eP*	**Pg**	**21**	**10**	**34.4**	**-1.0**
SCST	**Cishan**	**1.61**	**225**	*eP*	**Pg**	**21**	**10**	**38.0**	**+0.5**
PCYT	**Pengchaiyu**	**1.62**	**11**	*eP*	**Pb**	**21**	**10**	**36.8**	**-0.1**
SHHT	**Tainan City**	**1.62**	**232**	*eP*	**Pg**	**21**	**10**	**37.6**	**0.0**
SSD	**Sandimen**	**1.63**	**218**	*eP*	**Pb**	**21**	**10**	**36.3**	**-0.8**
SSD				*eS*	**Sg**	**21**	**10**	**59.7**	**+0.7**
SCLT	**Jiali**	**1.65**	**239**	*eP*	**Pg**	**21**	**10**	**38.7**	**+0.5**
SCLT				*eS*	**Sg**	**21**	**11**	**00.6**	**+1.0**
TSMG	**Majia**	**1.66**	**217**	*eP*	**Pg**	**21**	**10**	**38.0**	**-0.3**
TWM1	**Shoushan**	**1.70**	**225**	*eP*	**Pg**	**21**	**10**	**39.3**	**+0.1**
TSCK	**Chigu Township**	**1.75**	**240**	*eP*	**Pb**	**21**	**10**	**38.8**	**-0.3**
EAST	**Anshuo**	**1.83**	**206**	*eP*	**Pn**	**21**	**10**	**37.8**	**-0.9**
IRIF	**Iriomote-Funau**	**1.85**	**80**	P	**Pb**	**21**	**10**	**39.6**	**-1.2**
HATJ	**Hateruma jima**	**1.90**	**89**	*eP*	**Pb**	**21**	**10**	**40.3**	**-1.3**
SCZT	**Fangliau**	**1.94**	**212**	*eP*	**Pn**	**21**	**10**	**40.7**	**+0.5**
PHUB	**P'eng-hu**	**2.04**	**256**	*eP*	**Pn**	**21**	**10**	**41.3**	**-0.3**
PNG	**Penghu**	**2.05**	**257**	*eP*	**Pn**	**21**	**10**	**41.4**	**-0.2**
WDGT	**Dungji**	**2.05**	**248**	*eP*	**Pn**	**21**	**10**	**42.3**	**+0.7**
JKRS	**Kuro-shima**	**2.09**	**84**	*eP*	**Pb**	**21**	**10**	**43.4**	**-1.5**
JIJ	**Ishigaki jima**	**2.23**	**81**	P	**Pn**	**21**	**10**	**44.5**	**+0.4**
JIJ				*eS*	**Sn**	**21**	**11**	**12.2**	**+0.3**
VCHM	**Qimei**	**2.27**	**249**	*eP*	**Pn**	**21**	**10**	**44.9**	**+0.2**
VWUC	**VWUC**	**2.29**	**295**	*eP*	**Pn**	**21**	**10**	**43.6**	**-1.3**
JISG	**Ishigakijimahi**	**2.42**	**76**	*eP*	**Pn**	**21**	**10**	**47.3**	**+0.6**
JISG				*eS*	**Sn**	**21**	**11**	**17.2**	**+0.5**
PTMZ	**Houxiangcun**	**2.58**	**293**	*eP*	**Pn**	**21**	**10**	**47.4**	**-1.5**
MATB	**Ma-tsu**	**2.66**	**323**	*eP*	**Pn**	**21**	**10**	**49.1**	**-1.0**
JOW	**Kunigami**	**6.54**	**63**	P	**Pn**	**21**	**11**	**43.7**	**+0.3**

ASIES ***11*** *21:10:10.4,24.°08N×121.°62E,h8km,ML3.6,Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.82; $M_{\theta\theta}$-0.34; $M_{\phi\phi}$-0.47; $M_{r\theta}$1.58; $M_{\theta\phi}$-0.51; $M_{\phi r}$2.46; Fault plane solution: $M_0$3.05320×10^{14} NP1: ϕ_s232.14000°,δ8.66000°,λ109.05000°. NP2:ϕ_s32.90000°, δ81.81000°,λ87.15000°. Principal axes: T Plg53.1000°, Azm299.5340°; N Plg2.8170°, Azm33.2920°; P Plg36.7560°, Azm125.3980°;*

TAP 11 21:10:10.4,24.°08N×121.°62E,h8km,ML3.6,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
TWD	**Chiawan**	**0.02**	**260**	*i P*	Pg	21	10	12.3	+0.4
TWD				*i S*	Sg	21	10	13.6	+0.6
ETL	**Fush Village**	**0.07**	**1**	P	Pg	21	10	13.1	+0.6
ETL				S	Sg	21	10	14.9	+0.9
NACB	**Ninganchiao**	**0.09**	**345**	*i P*	Pg	21	10	13.2	+0.5
NACB				*i S*	Sg	21	10	15.5	+1.1
ETM	**Tongmen**	**0.17**	**225**	*eP*	Pg	21	10	14.8	+0.9
ETM				*eS*	Sg	21	10	18.0	+1.7

BJI ***11*** *21:21:53.2,23.°80N×123.°08E,h16km,mB4.9/33,mb4.7/81, ML5.0/8,Ms5.0/94,Ms7 4.9/91*

MOS ***11*** *21:21:54.3±1.1,24.°02N×122.°91E,h11km,mb5.1/78, MS4.8/17,Error ellipse: s-maj=6.6km s-min=4.1km az=113.3*

NEIC ***11*** *21:21:56.7,23.°87N×122.°89E,h14km*

ASIES ***11*** *21:21:56.3,23.°87N×122.°97E,h22km,ML5.2,Mw5.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-2.65; $M_{\theta\theta}$-1.21; $M_{\phi\phi}$3.85; $M_{r\theta}$2.53; $M_{\theta\phi}$0.23; $M_{\phi r}$0.34; Fault plane solution: $M_0$4.26669×10^{16} NP1: ϕ_s332.20000°,δ51.30000°,λ-139.71000°. NP2: ϕ_s214.27000°,δ59.69000°,λ-46.41000°. Principal axes: T Plg4.8910°, Azm274.9750°; N Plg36.5340°, Azm8.6100°; P Plg53.0320°, Azm178.4470°;*

TAP ***11*** *21:21:56.3,23.°87N×122.°97E,h22km,ML5.2,D*

NEIC ***11*** *21:21:57.1,23.°91N×122.°88E,h22km*

NEIC ***11*** *21:21:57.1,23.°71N×122.°88E,h22km,Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.09; $M_{\theta\theta}$-1.26; $M_{\phi\phi}$5.35; $M_{r\theta}$-0.20; $M_{\theta\phi}$-0.12; $M_{\phi r}$1.06; Fault plane solution: $M_0$4.96000×10^{16} NP1:ϕ_s2.70000°, δ38.74000°,λ-84.47000°. NP2:ϕ_s175.63000°,δ51.48000°, λ-94.42000°. Principal axes: T 5.4705, Plg6.0000°, Azm269.0000°; N -1.2503, Plg3.0000°, Azm178.0000°; P -4.2201, Plg83.0000°, Azm60.0000°;*

JMA ***11*** *21:21:57.3±0.2,23.°9N±0.°7×122.°9E±0.°7,h29km,MD5.5/13, MW5.1/13,NEAR ISHIGAKIJIMA ISLAND*

JMA Felt II J1 at NEAR ISHIGAKIJIMA ISLAND.

NEIC ***11*** *21:21:57.5±1.5,23.°91N±0.°04×122.°88E±0.°05,h18km±3km, mb5.2/449,Mwr5.0/22,Mww5.1/32,Error ellipse: s-maj=7.4km s-min=5.3km az=109.0,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-3.06; $M_{\theta\theta}$-1.69; $M_{\phi\phi}$4.75; $M_{r\theta}$1.74; $M_{\theta\phi}$-0.10; $M_{\phi r}$-0.68; Fault plane solution: $M_0$4.57000×10^{16} NP1:ϕ_s330.37000°, δ58.72000°,λ-130.15000°. NP2:ϕ_s208.76000°, δ49.21000°,λ-43.30000°. Principal axes: T 4.8145, Plg5.0000°, Azm88.0000°; N -0.5412, Plg33.0000°, Azm354.0000°; P -4.2733, Plg56.0000°, Azm186.0000°;*

NIED ***11*** *21:21:57.3,23.°90N×122.°90E,h29km,MW5.0,Moment Tensor Solution. s2 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.43; $M_{\theta\theta}$-2.40; $M_{\phi\phi}$3.84; $M_{r\theta}$-1.69; $M_{\theta\phi}$-1.76; $M_{\phi r}$0.13; Fault plane solution: $M_0$4.14000×10^{16} NP1:ϕ_s26.00000°, δ63.00000°,λ-21.00000°. NP2:ϕ_s126.00000°,δ72.00000°, λ-151.00000°.*

IDC ***11*** *21:21:57.2±3.9,24.°05N×122.°94E,h20km±24km,mb4.5/30, mbtmp4.6/34,ML4.1/3,MS4.7/36 Error ellipse: s-maj=13.9km s-min=11.1km az=85.0*

GCMT ***11*** *21:21:59.2±0.2,23.°96N±0.°02×122.°87E±0.°01,h20km, MW5.1/115,Moment Tensor Solution. s71,c104; s115,c182; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.36±.15; $M_{\theta\theta}$-0.90±.10; $M_{\phi\phi}$5.26±.11; $M_{r\theta}$1.79±.24; $M_{\theta\phi}$-0.65±.07; $M_{\phi r}$1.59±.18; Best double couple: $M_0$5.46600×10^{16} NP1:ϕ_s332.00000°,δ42.00000°, λ-126.00000°. NP2:ϕ_s196.00000°,δ57.00000°, λ-62.00000°. Principal axes: T 5.5360, Plg9.0000°, Azm267.0000°; N -0.1420, Plg23.0000°, Azm0.0000°; P -5.3960, Plg65.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***11*** *21:22:01.3,24.°29N×123.°05E,h33km,mb5.1,Ms5.0*

ISC 11 21:21:57.8±0.5,23.°86N±0.°02×122.°92E±0.°02,h26km±3km, h26km:pP-P,n1308,σ1929/1321,mb5.2/374,MS4.8/67, 95C-27D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
JYNG	**Yonagunijimaku**	**0.59**	**3**	*eP*	**Pb**	**21**	**22**	**08.4**	**-1.2**
JYNG				S	**Sb**	**21**	**22**	**15.8**	**-1.8**
JYNG	**Yonagunijimaku**	**0.59**	**3**	A	A	21	22	08.4	
	comp=N,614nm,0.6s,comp=E,157nm,0.5s								
EOS4	**EOS4**	**0.61**	**296**	P	**Pb**	**21**	**22**	**08.8**	**-0.8**
YOJ	**Yonaguni jima**	**0.61**	**8**		**Pb**	**21**	**22**	**08.7**	**-1.1**
YOJ				Sg	**Sb**	**21**	**22**	**16.1**	**-1.9**
YOJ	**Yonaguni jima**	**0.61**	**8**	P	**Pb**	**21**	**22**	**08.0**	**-1.8**
YOJ	**Yonaguni jima**	**0.61**	**8**	P	**Pb**	**21**	**22**	**08.7**	**-1.1**
YOJ						21	22	16.1	
YOJ	**Yonaguni jima**	**0.61**	**8**	*eP*	**Pb**	**21**	**22**	**08.5**	**-1.3**
YOJ				S	**Sb**	**21**	**22**	**16.0**	**-2.0**
YOJ	**Yonaguni jima**	**0.61**	**8**	A	A	21	22	08.5	
	comp=N,297nm,3.1s,comp=E,219nm,0.8s								
YOJ	**Yonaguni jima**	**0.61**	**8**	⇑*iP*	**Pb**	**21**	**22**	**08.6**	**-1.3**
YOJ				S	**Sb**	**21**	**22**	**16.3**	**-1.7**
EOS3	**EOS3**	**0.69**	**308**	*eP*	**Pb**	**21**	**22**	**10.3**	**-0.8**
EOS2	**EOS2**	**0.84**	**312**	*eP*	**Pb**	**21**	**22**	**13.6**	**0.0**
HATJ	**Hateruma jima**	**0.84**	**76**	*eP*	**Pb**	**21**	**22**	**12.7**	**-1.0**
HATJ				*eS*	**Sb**	**21**	**22**	**24.9**	**+0.3**
HATJ	**Hateruma jima**	**0.84**	**76**	A	A	21	22	12.7	
	comp=N,241nm,2.9s,comp=E,288nm,3.1s								
IRIF	**Iriomote-Funau**	**0.88**	**57**	P	**Pb**	**21**	**22**	**13.1**	**-1.4**
IRIF	**Iriomote-Funau**	**0.88**	**57**	A	A	21	22	13.1	
	comp=N,207nm,1.0s,comp=E,200nm,2.2s								
JKRS	**Kuro-shima**	**1.07**	**69**	P	**Pn**	**21**	**22**	**16.7**	**-0.3**
JKRS				*eS*	**Sn**	**21**	**22**	**31.0**	**0.0**
JKRS	**Kuro-shima**	**1.07**	**69**	A	A	21	22	16.7	
	comp=N,250nm,2.1s,comp=E,399nm,2.7s								
EAHA	**Aohua**	**1.17**	**294**	*eP*	**Pn**	**21**	**22**	**18.6**	**+0.1**
EWUT	**Wuta**	**1.19**	**300**	*eP*	**Pn**	**21**	**22**	**18.2**	**-0.5**
HWA	**Hwalien**	**1.21**	**276**	P	**Pn**	**21**	**22**	**18.2**	**-0.7**
HWA				*eS*	**Sn**	**21**	**22**	**34.2**	**-0.2**
TEYL	**Yanliau Villag**	**1.21**	**271**	*eP*	**Pn**	**21**	**22**	**17.8**	**-1.1**
TEYL				*eS*	**Sn**	**21**	**22**	**34.0**	**-0.5**
ESAO	**Su ao**	**1.21**	**306**	⇑*P*	**Pn**	**21**	**22**	**18.8**	**-0.2**
ESAO				*eS*	**Sn**	**21**	**22**	**34.0**	**-0.5**
ENA	**Nanau**	**1.21**	**298**	⇑*iP*	**Pn**	**21**	**22**	**18.7**	**-0.4**
ENA				*eS*	**Sb**	**21**	**22**	**35.1**	**-0.2**
ETL	**Fush Village**	**1.22**	**284**	*eP*	**Pn**	**21**	**22**	**18.4**	**-0.8**
TWC	**Suao**	**1.23**	**308**	⇑*P*	**Pn**	**21**	**22**	**18.4**	**-0.8**
TWC				*eS*	**Sn**	**21**	**22**	**34.3**	**-0.6**
TWD	**Chiawan**	**1.23**	**281**	*eP*	**Pn**	**21**	**22**	**18.2**	**-1.0**
JIJ	**Ishigaki jima**	**1.23**	**66**	P	**Pn**	**21**	**22**	**18.6**	**-0.6**
JIJ				*eS*	**Sb**	**21**	**22**	**35.8**	**0.0**
JIJ	**Ishigaki jima**	**1.23**	**66**	A	A	21	22	18.6	
	comp=N,111nm,2.6s,comp=E,63nm,2.7s								
SHUL	**Shoufeng**	**1.24**	**267**	P	**Pn**	**21**	**22**	**18.4**	**-1.0**
SHUL				*eS*	**Sn**	**21**	**22**	**35.1**	**-0.1**
NACB	**Ninganchiao**	**1.25**	**285**		**Pn**	**21**	**22**	**18.4**	**-1.0**
NACB	**Ninganchiao**	**1.25**	**285**	P	**Pn**	**21**	**22**	**18.1**	**-1.4**
NACB	**Ninganchiao**	**1.25**	**285**	*eP*	**Pn**	**21**	**22**	**18.9**	**-0.6**
TEGC	**Jichi Village**	**1.27**	**264**	P	**Pn**	**21**	**22**	**18.6**	**-1.1**
TEGC				*eS*	**Sn**	**21**	**22**	**35.7**	**-0.2**
ETM	**Tongmen**	**1.31**	**275**	*eP*	**Pn**	**21**	**22**	**19.0**	**-1.3**
ETM				S	**Sn**	**21**	**22**	**36.3**	**-0.6**
EGS		**1.33**	**318**	*eP*	**Pn**	**21**	**22**	**20.8**	**+0.1**
EGS				*eS*	**Sb**	**21**	**22**	**38.6**	**-0.1**
NDS	**Dongshan**	**1.34**	**305**	*eP*	**Pn**	**21**	**22**	**20.3**	**-0.5**
NDS				*i S*	**Sb**	**21**	**22**	**38.9**	**-0.1**
ETLH	**Xiulin Townshi**	**1.36**	**285**	P	**Pn**	**21**	**22**	**20.4**	**-0.7**
ESL	**Shilin**	**1.36**	**268**	*i P*	**Pn**	**21**	**22**	**19.5**	**-1.5**
ESL				*eS*	**Sn**	**21**	**22**	**36.6**	**-1.6**
EGFH	**Guangfu**	**1.38**	**262**	*eP*	**Pn**	**21**	**22**	**20.6**	**-0.7**
EGFH				S	**Sn**	**21**	**22**	**38.1**	**-0.5**
LXIB	**Xiulin Townshi**	**1.38**	**277**	⇑*P*	**Pn**	**21**	**22**	**20.3**	**-1.2**
ILA	**Ilan**	**1.40**	**310**	P	**Pb**	**21**	**22**	**22.9**	**-0.3**
ILA				S	**Sb**	**21**	**22**	**40.2**	**-0.3**
NTC	**Toucheng**	**1.40**	**315**	*eP*	**Pb**	**21**	**22**	**22.9**	**-0.4**
NTC				*eS*	**Sb**	**21**	**22**	**40.7**	**0.0**
WARBT	**Fenglin Townsh**	**1.41**	**265**	*eP*	**Pn**	**21**	**22**	**20.2**	**-1.5**
WARBT				*eS*	**Sn**	**21**	**22**	**38.4**	**-1.0**
HGSD	**Ruisui**	**1.42**	**255**	⇑*iP*	**Pn**	**21**	**22**	**20.2**	**-1.6**
HGSD				*eS*	**Sn**	**21**	**22**	**38.4**	**-1.2**

TWB1	**Santiao Chiao**	**1.42**	**324**	*eP*	**Pn**	**21**	**22**	**21.8**	**-0.1**
TWB1				*eS*	**Sb**	**21**	**22**	**40.8**	**-0.5**
TWE	**Neicheng**	**1.43**	**307**	P	**Pn**	**21**	**22**	**22.3**	**+0.4**
TWE				*eS*	**Sb**	**21**	**22**	**41.7**	**+0.2**
LATG	**Datong**	**1.44**	**298**	⇑*iP*	**Pn**	**21**	**22**	**22.3**	**+0.1**
ECBN	**Changbin**	**1.45**	**248**	P	**Pn**	**21**	**22**	**21.0**	**-1.2**
ECBN				S	**Sn**	**21**	**22**	**39.3**	**-1.1**
ENTT	**Nioudou**	**1.46**	**303**	⇑*iP*	**Pn**	**21**	**22**	**22.7**	**+0.3**
ENTT				*eS*	**Sb**	**21**	**22**	**42.6**	**+0.2**
JISG	**Ishigakijimahi**	**1.47**	**60**	P	**Pn**	**21**	**22**	**21.8**	**-0.7**
JISG				*eS*	**Sb**	**21**	**22**	**42.2**	**-0.4**
JISG	**Ishigakijimahi**	**1.47**	**60**	A	A	21	22	21.8	
	comp=N,165nm,3.6s,comp=E,80nm,0.8s								
EHYH	**Wanrong**	**1.48**	**256**	⇑*iP*	**Pn**	**21**	**22**	**22.1**	**-0.6**
EHYH				*eS*	**Sn**	**21**	**22**	**40.9**	**-0.4**
TIPB	**Shuangxi**	**1.49**	**318**	⇑*iP*	**Pn**	**21**	**22**	**23.0**	**+0.2**
TIPB				S	**Sn**	**21**	**22**	**42.0**	**+0.6**
EHY	**Hungye**	**1.50**	**257**	*i P*	**Pn**	**21**	**22**	**22.0**	**-1.0**
EHY				*eS*	**Sn**	**21**	**22**	**41.0**	**-0.8**
FUSB	**Fushanzhiwuyua**	**1.51**	**307**	*i P*	**P

JIRB	**Irabujima**	**2.27**	**64**	A	A	21 22 34.1			
	comp=N,54nm,4.6s,comp=E,71nm,2.4s								
CHN1	**Nanshi**	**2.29**	**253**	⇑*i*P	**Pn**	**21 22 35.3**	**+1.4**		
CHN1				*e*S	**Sb**	**21 23 04.2**	**-2.2**		
TWK	**Hsinying**	**2.30**	**256**	*e*P	**Pn**	**21 22 35.2**	**+1.1**		
SNST	**Tainan City**	**2.31**	**254**	⇑P	**Pn**	**21 22 35.7**	**+1.6**		
SNST				*e*S	**Sb**	**21 23 05.1**	**-1.8**		
CHY	**Chiayi**	**2.31**	**262**	P	**Pn**	**21 22 35.8**	**+1.7**		
CHY				*i* S	**Sb**	**21 23 04.9**	**-2.0**		
WTK	**Tuku**	**2.32**	**266**	*e*P	**Pn**	**21 22 36.5**	**+2.2**		
WTK				*e*S	**Sb**	**21 23 05.0**	**-2.2**		
JMJ	**Miyako jima 2**	**2.37**	**66**	P	**Pn**	**21 22 36.2**	**+1.3**		
JMJ2	**Miyako jima3**	**2.37**	**68**	A	A	21 22 35.5			
	comp=N,93nm,2.1s,comp=E,110nm,2.0s								
SSD	**Sandimen**	**2.37**	**243**	P	**Pn**	**21 22 35.8**	**+0.8**		
SSD				*e*S	**Sn**	**21 23 04.3**	**+1.0**		
JIKM	**Ikemajima**	**2.38**	**63**	A	A	21 22 35.6			
	comp=N,81nm,2.7s,comp=E,89nm,2.3s								
TSMG	**Majia**	**2.38**	**242**	*e*P	**Pn**	**21 22 36.1**	**+1.0**		
TAW	**Tawu**	**2.39**	**232**	*e*P	**Pn**	**21 22 34.5**	**-0.7**		
TAW				*e*S	**Sn**	**21 23 02.9**	**-0.6**		
TAWH	**Dawu Township**	**2.40**	**231**	*e*P	**Pn**	**21 22 35.0**	**-0.3**		
TAWH				*i* S	**Sn**	**21 23 03.8**	**-0.2**		
EAST	**Anshuo**	**2.41**	**233**	*e*P	**Pn**	**21 22 34.9**	**-0.6**		
WTCT	**Ta-ch'eng**	**2.41**	**271**	*e*P	**Pn**	**21 22 37.2**	**+1.7**		
WTCT				*i* S	**Sb**	**21 23 07.8**	**-1.9**		
SCST	**Cishan**	**2.43**	**247**	*e*P	**Pn**	**21 22 37.7**	**+1.9**		
JOGS	**Gusukube**	**2.44**	**68**	A	A	21 22 36.6			
	comp=N,97nm,2.6s,comp=E,132nm,3.2s								
CHN3	**Shinhua**	**2.47**	**252**	*e*P	**Pb**	**21 22 38.9**	**-2.6**		
CHN3				*e*S	**Sb**	**21 23 10.0**	**-1.4**		
WSF	**Szhu**	**2.48**	**265**	P	**Pn**	**21 22 38.2**	**+1.8**		
WSF				*e*S	**Sn**	**21 23 08.7**	**+2.9**		
WSL	**Shuilin Townsh**	**2.49**	**263**	*e*P	**Pn**	**21 22 37.7**	**+1.1**		
WSL				*e*S	**Sb**	**21 23 09.3**	**-2.6**		
SGLT	**Jiouru**	**2.50**	**244**	*e*P	**Pn**	**21 22 39.2**	**+2.5**		
SHHT	**Tainan City**	**2.50**	**251**	*e*P	**Pb**	**21 22 39.8**	**-2.2**		
TWM1	**Shoushan**	**2.51**	**246**	*i* P	**Pb**	**21 22 39.8**	**-2.4**		
SSHA	**Shanhua**	**2.52**	**254**	*e*P	**Pn**	**21 22 38.7**	**+1.8**		
SSHA				*e*S	**Sn**	**21 23 09.2**	**+2.4**		
CHN8	**Yiju**	**2.53**	**259**	*e*P	**Pn**	**21 22 38.3**	**+1.2**		
CHN8				*i* S	**Sn**	**21 23 10.0**	**+2.8**		
SLIU	**Shizi**	**2.54**	**230**	*e*P	**Pn**	**21 22 36.9**	**-0.5**		
SCZT	**Fangliau**	**2.58**	**235**	*e*P	**Pn**	**21 22 38.2**	**+0.3**		
SCLT	**Jiali**	**2.59**	**255**	*e*P	**Pn**	**21 22 39.5**	**+1.6**		
SCLT				*i* S	**Sb**	**21 23 11.8**	**-3.1**		
SMST	**Manzhou Townsh**	**2.65**	**227**	*e*P	**Pn**	**21 22 38.9**	**+0.2**		
TSCK	**Chigu Township**	**2.69**	**255**	*i* P	**Pn**	**21 22 41.1**	**+1.8**		
TSCK				*e*S	**Sn**	**21 23 13.3**	**+2.2**		
TSEB	**Hengchuen, Pin**	**2.69**	**224**	*e*P	**Pn**	**21 22 41.1**	**+1.8**		
TSEB				*e*S	**Sn**	**21 23 14.1**	**+3.0**		
TWKBT	**Hengchun**	**2.72**	**226**	*e*P	**Pn**	**21 22 39.8**	**+0.1**		
TWKBT				*e*S	**Sn**	**21 23 13.7**	**+1.8**		
TWK1	**Hengchun**	**2.73**	**226**	P	**Pn**	**21 22 40.3**	**+0.5**		
TWK1				*e*S	**Sn**	**21 23 14.2**	**+2.3**		
WSSB	**Gushan**	**2.73**	**244**	*e*P	**Pn**	**21 22 41.1**	**+1.2**		
HEN	**Hengchun**	**2.73**	**228**	*e*P	**Pn**	**21 22 41.0**	**+1.2**		
HEN				S	**Sn**	**21 23 14.1**	**+2.1**		
WLCH	**Liuqiu**	**2.78**	**238**	*e*P	**Pb**	**21 22 44.8**	**-1.9**		
TWP	**Hsiaoliuchiu**	**2.79**	**238**	*e*P	**Pb**	**21 22 44.3**	**-2.6**		
WDGT	**Dungji**	**3.05**	**259**	*i* P	**Pn**	**21 22 45.0**	**+0.8**		
WDGT				*i* S	**Sn**	**21 23 20.1**	**+0.2**		
PHUB	**P'eng-hu**	**3.08**	**264**	*e*P	**Pn**	**21 22 45.5**	**+0.7**		
PNG	**Penghu**	**3.09**	**265**	*e*P	**Pn**	**21 22 45.1**	**+0.2**		
PNG				*i* S	**Sn**	**21 23 22.1**	**+1.1**		
VCHM	**Qimei**	**3.26**	**259**	*e*P	**Pn**	**21 22 48.1**	**+0.8**		
VCHM				*i* S	**Sn**	**21 23 26.6**	**+1.4**		
VWUC	**VWUC**	**3.35**	**290**	*e*P	**Pn**	**21 22 47.9**	**-0.6**		
MATB	**Ma-tsu**	**3.53**	**311**	*e*P	**Pn**	**21 22 50.0**	**-0.9**		
PTMZ	**Houxiangcun**	**3.65**	**290**	*e*P	**Pn**	**21 22 51.9**	**-0.7**		
XPSS	**Dashiqiu**	**3.93**	**322**	*e*P	**Pn**	**21 22 55.4**	**-0.9**		
QZH	**Quanzhou**	**4.09**	**286**	⇑*i*Pn	**Pn**	**21 22 58.0**	**-0.5**		
QZH				Sn	**Sn**	**21 23 43.1**	**-2.4**		
QZH				smax	smax				
	comp=E,2μm,0.7s								
QZH				smax	smax				
	comp=E,1μm,0.8s								
QZH				LR	LR				
	comp=E,12μm,9.9s								
QZH				LR	LR				
	comp=E,17μm,16.3s								
QZH				LR	LR				
	comp=E,17μm,16.4s								
KNM	**Kinmen**	**4.13**	**279**	*e*P	**Pn**	**21 23 00.7**	**+1.5**		
MHZQ	**Yeshan**	**4.17**	**303**	*e*P	**Pn**	**21 22 59.5**	**-0.2**		
KNMB	**Chin-men Tao**	**4.18**	**279**		**Pn**	**21 22 58.7**	**-1.1**		
KNMB	**Chin-men Tao**	**4.18**	**279**	*e*P	**Pn**	**21 22 59.2**	**-0.6**		
JKE	**Kume jima 2**	**4.28**	**54**	A	A	21 23 02.5			
	comp=N,5.0nm,4.3s,comp=E,4.0nm,6.7s								
AXDP	**Jialang**	**4.63**	**284**	*e*P	**Pn**	**21 23 06.1**	**+0.2**		
ZPLA	**Ao Xicun**	**4.73**	**272**	*e*P	**Pn**	**21 23 07.1**	**-0.3**		
JAGN	**Aguni-jima**	**4.77**	**54**	A	A	21 23 09.3			
	comp=N,9.0nm,4.6s,comp=E,8.0nm,4.4s								
JJT3	**Tamagusuku3**	**4.97**	**62**	A	A	21 23 12.2			
	comp=N,23nm,4.5s,comp=E,36nm,3.6s								
DSXP	**Dongshan**	**5.03**	**269**	*e*P	**Pn**	**21 23 11.3**	**-0.2**		
SXFK	**Yanhouchang**	**5.41**	**299**	*e*P	**Pn**	**21 23 15.8**	**-0.9**		
JOW	**Kunigami**	**5.68**	**57**		**Pn**	**21 23 19.0**	**-1.4**		
JOW	**Kunigami**	**5.68**	**57**	Pn	**Pn**	**21 23 19.3**	**-1.2**		
	comp=E,31nm,0.3s,baz=151,slow=15,SNR=50								
JOW				Sn	**Sn**	**21 24 23.8**	**-1.1**		
	baz=226,slow=18 comp=E,102nm,0.5s								
JOW	**Kunigami**	**5.68**	**57**	P	**Pn**	**21 23 19.7**	**-0.8**		
SSE	**Sheshan**	**7.37**	**348**	Pn	**Pn**	**21 23 43.9**	**+0.3**		
SSE				Sn	**Sn**	**21 25 07.3**	**+0.9**		
SSE				smax	smax				
	comp=E,85nm,1.3s								
SSE				smax	smax				
	comp=E,150nm,1.1s								
SSE				LR	LR				
	comp=E,2μm,17.4s								
SSE				LR	LR				
	comp=E,870nm,17.2s								
JMZ	**Minamidaito 2**	**7.79**	**74**	Pn	**Pn**	**21 23 49.3**	**-0.2**		
HKPS	**Hong Kong Po S**	**8.23**	**261**		**Pn**	**21 23 54.4**	**-1.2**		
GZH	**Guangzhou**	**8.82**	**267**	P	**Pn**	**21 23 59.9**	**-3.7**		
GZH				S	**Sn**	**21 25 36.6**	**-5.6**		
GZH				smax	smax				
	comp=E,340nm,0.9s								
GZH				smax	smax				
	comp=E,260nm,1.3s								
NJ2	**Nanjing**	**8.91**	**337**	⇓P	**Pn**	**21 24 04.5**	**-0.3**		
NJ2				S	**Sn**	**21 25 42.3**	**-2.1**		
NJ2				pmax	pmax				
	comp=E,59nm,0.8s								
NJ2				pmax	pmax				
	comp=E,200nm,4.0s								
NJ2				LR	LR				
	comp=E,4μm,16.3s								
NJ2				LR	LR				
	comp=E,6μm,13.3s								
NJ2				LR	LR				
	comp=E,5μm,19.4s								
TGY	**Tagaytay City**	**9.88**	**191**	Pn	**Pn**	**21 24 21.9**	**+3.7**		
	comp=E,79nm,0.3s,baz=100,slow=10,SNR=3.6								
TGY				LR	LR	21 28 22.8			
	comp=E,2μm,19.9s,baz=16,slow=38								
TGY	**Tagaytay City**	**9.88**	**191**	P	**Pn**	**21 24 22.0**	**+3.7**		
CNSH	**ChangSha**	**9.96**	**298**	P	**Pn**	**21 24 21.3**	**+2.1**		
CNSH				S	Sn	21 26 21.3	+11		
CNSH				LR	LR				
	comp=E,6μm,10.4s								
CNSH				LR	LR				
	comp=E,5μm,8.4s								
CNSH				LR	LR				
	comp=E,6μm,13.8s								
WHN	**Wuhan**	**10.12**	**313**	⇑P	**Pn**	**21 24 24.9**	**+3.5**		
WHN				S	**Sn**	**21 26 18.6**	**+4.6**		
WHN				pmax	pmax				
	comp=E,90nm,1.0s								
WHN				LR	LR				
	comp=E,24μm,16.1s								
WHN				LR	LR				
	comp=E,13μm,13.6s								
WHN				LR	LR				
	comp=E,23μm,13.7s								
GULI	**GuiLin**	**11.51**	**280**	P	**Pn**	**21 24 39.3**	**-1.2**		
GULI				pmax	pmax				
	comp=E,11nm,1.3s								
GULI				LR	LR				
	comp=E,5μm,10.8s								
GULI				LR	LR				
	comp=E,7μm,16.3s								
GULI				LR	LR				
	comp=E,9μm,15.5s								
JNU	**Nakatsue**	**11.58**	**35**		**Pn**	**21 24 41.7**	**+0.3**		
JNU	**Nakatsue**	**11.58**	**35**	Pn	**Pn**	**21 24 40.7**	**-0.7**		
	comp=E,0.8nm,0.3s,baz=272,slow=3.3,SNR=6.2								
JNU				LR	LR	21 29 16.6			
	comp=E,3μm,21.4s,baz=208,slow=38 comp=E,2.8nm,0.8s								
JNU	**Nakatsue**	**11.58**	**35**	P	**Pn**	**21 24 41.3**	**-0.1**		
TJN	**Taejon**	**13.05**	**16**	P	**Pn**	**21 25 01.1**	**-0.4**		
QIZ	**Qiongzhong**	**13.08**	**251**		**Pn**	**21 25 02.1**	**+0.1**		
QIZ	**Qiongzhong**	**13.08**	**251**	P	**Pn**	**21 25 02.3**	**+0.3**		
QIZ				PP	**P**	**21 25 11.3**	**-0.7**		
QIZ				S	**Sn**	**21 27 29.8**	**+3.0**		
QIZ				pmax	pmax				
	comp=E,83nm,1.2s								
QIZ				LR	LR				
	comp=E,4μm,15.8s								
QIZ				LR	LR				
	comp=E,3μm,14.4s								
QIZ				LR	LR				
	comp=E,10μm,15.9s								
QIZ	**Qiongzhong**	**13.08**	**251**	P	**Pn**	**21 25 03.9**	**+1.9**		
TIA	**Tai'an**	**13.29**	**339**	P	**Pn**	**21 25 08.5**	**+3.8**		
TIA				pmax	pmax				
	comp=E,19nm,1.5s								
TIA				LR	LR				
	comp=E,3μm,19.3s								
TIA				LR	LR				
	comp=E,4μm,13.0s								
TIA				LR	LR				
	comp=E,4μm,19.8s								
ENH	**Enshi**	**13.56**	**301**		**Pn**	**21 25 08.1**	**-0.4**		
ENH	**Enshi**	**13.56**	**301**	P	**Pn**	**21 25 09.6**	**+1.2**		
INCN	**Inchon**	**13.95**	**12**		**Pn**	**21 25 13.4**	**-0.3**		
INCN	**Inchon**	**13.95**	**12**	P	**Pn**	**21 25 14.4**	**+0.7**		
INCN	**Inchon**	**13.95**	**12**	P	**Pn**	**21 25 13.4**	**-0.3**		
LYN	**LuoYang**	**14.02**	**322**	⇑P	**P**	**21 25 24.4**	**+2.1**		
LYN				S	**S**	**21 28 04.6**	**-5.7**		
LYN				pmax	pmax				
	comp=E,51nm,0.8s								
LYN				pmax	pmax				
	comp=E,350nm,4.8s								
LYN				LR	LR				
	comp=N,10μm,15.8s								
LYN				LR	LR				
	comp=E,4μm,14.4s								
LYN				LR	LR				
	comp=E,13μm,15.5s								
KSAR	**Wonju Array Be**	**14.19**	**16**		**Pn**	**21 25 18.3**	**+1.2**		
KSAR	**Wonju Array Be**	**14.19**	**16**	P	**Pn**	**21 25 18.3**	**+1.2**		
KSRS	**Korea Array**	**14.21**	**16**	Pn	**Pn**	**21 25 19.0**	**+1.7**		
	comp=E,5.1nm,0.3s,baz=198,slow=12,SNR=35								
KS19	**Wonju Array Si**	**14.25**	**16**		**Pn**	**21 25 18.6**	**+0.8**		
GYA	**Guiyang**	**14.94**	**283**	⇓P	**Pn**	**21 25 28.4**	**+1.0**		
GYA				S	**Sn**	**21 28 13.7**	**+1.5**		
GYA				pmax	pmax				
	comp=E,14nm,1.0s								
GYA				pmax	pmax				
	comp=E,91nm,3.1s								
GYA				LR	LR				
	comp=E,3μm,18.7s								
GYA				LR	LR				
	comp=E,8μm,15.5s								
GYA				LR	LR				
	comp=E,10μm,17.0s								
DL2	**Dalian**	**15.04**	**356**	P	**P**	**21 25 34.3**	**+0.7**		
DL2				S	**S**	**21 28 25.6**	**-5.6**		
DL2				pmax	pmax				
	comp=E,59nm,0.7s								
DL2				pmax	pmax				
	comp=E,670nm,4.5s								
DL2				LR	LR				
	comp=N,4μm,16.1s								
DL2				LR	LR				
	comp=E,1μm,11.8s								
DL2				LR	LR				
	comp=E,4μm,16.7s								
HNS	**HongShan**	**15.22**	**334**	⇑P	**P**	**21 25 33.5**	**-2.1**		
HNS				S	**Sn**	**21 28 22.9**	**+4.2**		
HNS				SS	**S**	**21 28 38.9**	**+3.9**		
HNS				pmax	pmax				
	comp=E,32nm,1.3s								
HNS				LR	LR				
	comp=E,2μm,16.7s								
HNS				LR	LR				
	comp=E,4μm,12.7s								
HNS				LR	LR				
	comp=E,4μm,15.5s								
XAN	**Xi'an**	**15.89**	**313**	P	**Pn**	**21 25 40.4**	**+0.8**		
XAN				S	**Sn**	**21 28 39.5**	**+4.5**		
XAN				pmax	pmax				
	comp=Z,29nm,1.3s								
XAN				pmax	pmax				
	comp=Z,390nm,4.4s								
XAN				LR	LR				
	comp=Z,5μm,15.1s								
XAN				LR	LR				
	comp=Z,4μm,15.1s								
XAN				LR	LR				
	comp=Z,6μm,15.5s								
TIY	**Taiyuan**	**16.47**	**329**	*e*P	**P**	**21 25 50.0**	**+0.4**		
TIY				S	**S**	**21 28 56.3**	**-4.3**		
TIY				pmax	pmax				
	comp=Z,36nm,0.7s								
TIY				pmax	pmax				
	comp=Z,380nm,6.8s								
TIY				LR	LR				
	comp=Z,6μm,14.2s								
TIY				LR	LR				
	comp=Z,2μm,11.6s								
TIY				LR	LR				
	comp=Z,4μm,14.5s								
BJT	**Baijiatuau**	**17.09**	**342**	P	**P**	**21 25 56.5**	**+0.2**		
BJT	**Baijiatuau**	**17.09**	**342**	P	**P**	**21 25 57.2**	**+0.9**		
BJT	**Baijiatuau**	**17.09**	**342**	P	**P**	**21 25 56.5**	**+0.2**		
BJT				pmax	pmax				
	comp=Z,20nm,1.0s								
BJI	**Beijing**	**17.11**	**342**	P	**P**	**21 25 59.0**	**+2.5**		
BJI				pmax	pmax				
	comp=Z,7.0nm,1.2s								
BJI				LR	LR				
	comp=Z,580nm,23.8s								
BJI				LR	LR				
	comp=Z,800nm,16.2s								
BJI				LR	LR				
	comp=Z,870nm,23.4s								
JHJ2	**Mitsune**	**17.47**	**54**	Pn	**Pn**	**21 25 56.1**	**-3.4**		
SLVN	**Son La**	**17.73**	**266**		**P**	**21 26 03.3**	**-0.4**		
SLVN	**Son La**	**17.73**	**266**	P	**P**	**21 26 04.0**	**+0.3**		
MJAR	**Matsushiro Arr**	**18.26**	**43**	P	**Pn**	**21 26 08.9**	**-0.4**		
MJAR	**Matsushiro Arr**	**18.26**	**43**	P	**Pn**	**21 26 08.0**	**-1.3**		
	comp=Z,0.1nm,0.3s,baz=224,slow=8.5,SNR=10.0 comp=Z,3.6nm,0.7s								
CD2	**Chengdu**	**18.39**	**297**	P	**Pn**	**21 26 11.6**	**+0.6**		
CD2				S	**S**	**21 29 40.7**	**+1.0**		
CD2				pmax	pmax				
	comp=Z,50nm,0.7s								
CD2				pmax	pmax				
	comp=Z,350nm,4.1s								
CD2				LR	LR				
	comp=Z,5μm,8.0s								
CD2				LR	LR				
	comp=Z,5μm,11.8s								
CD2				LR	LR				
	comp=Z,6μm,11.4s								
KMI	**Kunming**	**18.41**	**278**	⇑P	**Pn**	**21 26 12.6**	**+1.2**		
KMI				S	**S**	**21 29 38.8**	**-1.5**		
KMI				pmax	pmax				
	comp=Z,20nm,0.9s								
KMI				pmax	pmax				
	comp=Z,340nm,5.4s								
KMI				LR	LR				
	comp=Z,2μm,12.3s								
KMI				LR	LR				
	comp=Z,4μm,21.7s								
KMI				LR	LR				
	comp=Z,5μm,15.8s								
UBPT	**Khong Chiam**	**18.51**	**246**		**P**	**21 26 12.0**	**-0.1**		
UBPT	**Khong Chiam**	**18.51**	**246**	P	**Pn**	**21 26 15.1**	**+2.7**		
KKM	**Kota Kinabalu**	**18.85**	**201**		**P**	**21 26 15.7**	**-0.4**		
KKM	**Kota Kinabalu**	**18.85**	**201**	P	**Pn**	**21 26 18.4**	**+1.7**		
PZH	**PanZhiHua**	**19.34**	**282**	⇑P	**Pn**	**21 26 23.5**	**+0.9**		
PZH				S	**S**	**21 29 55.5**	**-3.4**		
PZH				pmax	pmax				
	comp=Z,60nm,1.1s								
PZH				pmax	pmax				
	comp=Z,370nm,6.9s								
PZH				LR	LR				
	comp=Z,3μm,16.5s								
PZH				LR	LR				
	comp=Z,5μm,16.9s								
PZH				LR	LR				
	comp=Z,7μm,17.5s								
HHC	**Hu-ho-hao-te**	**19.44**	**333**	*e*P	**P**	**21 26 22.9**	**+0.6**		
HHC				PP	**Pn**	**21 26 38.5**	**+1.4**		
HHC				S	**Sn**	**21 30 02.3**	**+1.4**		
HHC				sS	sS	21 30 10.7	-0.2		
HHC				SS	**SnSn**	**21 30 23.0**	**+7.6**		
HHC				pmax	pmax				
	comp=Z,26nm,0.8s								
HHC				pmax	pmax				
	comp=Z,150nm,3.7s								
HHC				LR	LR				
	comp=Z,3μm,14.1s								
HHC				LR	LR				
	comp=Z,2μm,13.8s								
HHC				LR	LR				
	comp=Z,3μm,13.2s								
PSTR	**Posyet**	**19.85**	**17**	⇑*e*P	**P**	**21 26 27.3**	**+0.7**		
MSHR	**Mys Shultsa**	**19.88**	**18**	⇓*e*P	**P**	**21 26 27.1**	**+0.1**		
BTO	**Baotou**	**19.91**	**330**	*e*P	**Pn**	**21 26 30.4**	**+1.2**		
BTO				pP	**sP**	**21 26 36.5**	**-0.2**		
BTO				sP	**pwP**	**21 26 43.0**	**+5.5**		
BTO				S	**Sn**	**21 30 17.0**	**+4.7**		
BTO				pmax	pmax				
	comp=Z,41nm,0.9s								
BTO				pmax	pmax				
	comp=Z,200nm,4.1s								
BTO				LR	LR				
	comp=Z,10μm,14.1s								
BTO				LR	LR				
	comp=Z,5μm,16.7s								
BTO				LR	LR				
	comp=Z,11μm,14.0s								
CN2	**Changchun**	**20.00**	**5**	P	**P**	**21 26 27.6**	**-0.7**		
CN2				S	**S**	**21 30 06.6**	**-5.3**		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
CN2				pmax	pmax				
	comp=Z,100nm,3.0s								
CN2				LR	LR				
	comp=Z,4μm,14.0s								
CN2				LR	LR				
	comp=Z,2μm,14.0s								
CN2				LR	LR				
	comp=Z,3μm,14.0s								
LZH	**Lanzhou**	**20.49**	**311**	⇓P	Pn	21 26 35.6	-0.5		
LZH				sP	sP	21 26 42.5	-0.4		
LZH				S	**S**	**21 30 21.2**	**-0.8**		
LZH				pmax	pmax				
	comp=Z,33nm,1.3s								
LZH				LR	LR				
	comp=Z,2μm,13.1s								
LZH				LR	LR				
	comp=Z,5μm,13.7s								
LZH				LR	LR				
	comp=Z,7μm,13.7s								
VLA	**Vladivostok**	**20.59**	**19**	⇑*e*P	**P**	**21 26 34.8**	**+0.1**		
VLA				pmax	pmax				
	comp=Z,16nm,0.9s								
XLT	**XiLinHaoTe**	**20.76**	**346**	*e*P	**P**	**21 26 36.0**	**-0.7**		
XLT				sP	pP	21 26 43.4	0.0		
XLT				PP	**PnPn**	**21 27 02.1**	**+6.9**		
XLT				S	**S**	**21 30 27.7**	**+0.5**		
XLT				SS	**SnSn**	**21 30 57.5**	**+10**		
XLT				pmax	pmax				
	comp=Z,12nm,1.4s								
XLT				LR	LR				
	comp=Z,140nm,14.3s								
XLT				LR	LR				
	comp=Z,1μm,16.1s								
XLT				LR	LR				
	comp=Z,2μm,14.8s								
MDJ	**Mudanjiang**	**21.41**	**13**	P	**P**	**21 26 41.8**	**-1.8**		
MDJ	**Mudanjiang**	**21.41**	**13**	P	**P**	**21 26 42.6**	**-1.0**		
MDJ				pmax	pmax				
	comp=Z,32nm,1.0s								
MDJ				LR	LR				
	comp=Z,3μm,17.2s								
MDJ				LR	LR				
	comp=Z,2μm,14.0s								
MDJ				LR	LR				
	comp=Z,5μm,16.5s								
MDJ	**Mudanjiang**	**21.41**	**13**	P	**P**	**21 26 43.7**	**+0.1**		
USA0B	**Ussuriysk Arra**	**21.61**	**18**		**P**	**21 26 44.4**	**-1.3**		
USA0B	**Ussuriysk Arra**	**21.61**	**18**	P	**P**	**21 26 44.4**	**-1.3**		
USA0B				pmax	pmax				
	comp=Z,25nm,1.0s								
USRK	**Ussuriysk Ar.**	**21.61**	**18**	P	**P**	**21 26 44.9**	**-0.8**		
	comp=Z,23nm,0.8s,baz=203,slow=11,SNR=23								
USRK				LR	LR	21 36 26.6			
	comp=Z,2μm,18.0s,baz=189,slow=41 comp=Z,23nm,0.8s								
BNX	**BinXian**	**22.13**	**8**	⇓P	**P**	**21 26 51.1**	**-0.1**		
BNX				pP	**pP**	**21 26 54.6**	**-3.6**		
BNX				S	**S**	**21 30 56.2**	**+2.5**		
BNX				sS	**pS**	**21 31 01.3**	**-1.4**		
BNX				pmax	pmax				
	comp=Z,59nm,0.8s								
BNX				pmax	pmax				
	comp=Z,140nm,5.4s								
BNX				LR	LR				
	comp=Z,2μm,19.0s								
BNX				LR	LR				
	comp=Z,1μm,13.6s								
BNX				LR	LR				
	comp=Z,4μm,13.0s								
TNCH	**TengChong**	**22.24**	**278**	P	**P**	**21 26 53.1**	**+0.3**		
TNCH				pP	pP	21 26 54.3	-4.7		
TNCH				sP	sP	21 26 59.0	-2.9		
TNCH				PP	**PnPn**	**21 27 18.6**	**+3.0**		
TNCH				S	**S**	**21 30 56.8**	**+0.4**		
TNCH				sS	pS	21 31 02.3	-2.3		
TNCH				SS	**SnSn**	**21 31 33.7**	**+9.5**		
TNCH				PcS	**PcS**	**21 34 23.5**	**-4.2**		
TNCH				pmax	pmax				
	comp=Z,46nm,1.5s								
TNCH				LR	LR				
	comp=Z,2μm,9.4s								
TNCH				LR	LR				
	comp=Z,2μm,12.3s								
TNCH				LR	LR				
	comp=Z,8μm,16.4s								
TOLI2	**Tolitoli**	**22.71**	**186**	P	**P**	**21 26 59.9**	**+2.3**		
CHTO	**Chiang Mai**	**22.87**	**262**		**P**	**21 26 59.6**	**+0.2**		
CHTO				IAmb	IAmb	21 27 04.0			
	comp=Z,66nm,1.0s								
CHTO	**Chiang Mai**	**22.87**	**262**	P	**P**	**21 27 01.1**	**+1.7**		
**

GTA LR LR
comp=Z,3µm,16.0s
KSM Kuching 25.39 211 P P 21 27 23.2 +0.1
KSM IAmb IAmb 21 27 26.5
comp=Z,63nm,1.2s
KSM Kuching 25.39 211 P P 21 27 25.2 +2.1
HIA Hailar 25.48 355 P P 21 27 21.9 -1.8
HIA Hailar 25.48 355 P P 21 27 24.8 +1.1
HIA Hailar 25.48 355 P P 21 27 21.9 -1.8
HIA pmax pmax
comp=Z,13nm,0.9s
ASAJ Asahikawa 25.85 34 LR LR 21 37 24.6
comp=Z,1µm,21.9s,baz=248,slow=36
ASAJ Asahikawa 25.85 34 P P **21 27 25.7 -1.4**
ASAJ pmax pmax
comp=Z,13nm,0.6s
JKA Kamikawa-asahi 25.85 34 P 21 27 25.7 -1.4
HEH HeiHe 26.58 6 *e*P P **21 27 32.0 -1.6**
HEH sP **pP 21 27 38.9 -1.5**
HEH PcP **PcP 21 30 57.4 0.0**
HEH S **S 21 32 07.1 +0.6**
HEH pmax pmax
comp=Z,32nm,0.9s
HEH pmax pmax
comp=Z,130nm,5.3s
HEH LR LR
comp=Z,3µm,14.1s
HEH LR LR
comp=Z,810nm,12.4s
HEH LR LR
comp=Z,4µm,14.7s
SRIT Nakonsritamara 26.98 240 P P **21 27 36.1 -1.4**
SRIT Nakonsritamara 26.98 240 P P **21 27 39.8 +2.3**
ULN Ulaanbaatar 27.08 336 P 21 27 36.4 -2.0
ULN Ulaanbaatar 27.08 336 *de*P P **21 27 36.9 -1.4**
ULN pmax pmax
comp=Z,3.0nm,1.0s
GOMU GeErMu 27.16 303 P P **21 27 40.6 +1.2**
GOMU S S **21 32 14.2 -2.5**
GOMU sS sS 21 32 30.1 +2.4
GOMU pmax pmax
comp=Z,8.0nm,0.9s
GOMU LR LR
comp=Z,950nm,14.3s
GOMU LR LR
comp=Z,810nm,14.1s
GOMU LR LR
comp=Z,1µm,13.9s
SONM Songino Array 27.30 335 P 21 27 38.8 -1.5
SONM Songino Array 27.30 335 P P **21 27 38.9 -1.4**
comp=Z,4.4nm,0.6s,baz=152,slow=9.4,SNR=28
SONM PcP **PcP 21 30 59.6 +0.2**
comp=Z,3.3nm,1.0s,baz=151,slow=3.4,SNR=4.6
SONM ScP **ScP 21 34 38.6 +0.4**
comp=Z,2.1nm,0.8s,baz=160,slow=3.6,SNR=2.1
SONM LR LR 21 40 01.7
comp=Z,2µm,18.4s,baz=148,slow=40
comp=Z,4.4nm,0.6s
SONM Songino Array 27.30 335 P P **21 27 38.8 -1.5**
SONM pmax pmax
comp=Z,22nm,1.1s
YSS Yuzhno-Sakhali 28.00 30 P P **21 27 46.9 +0.6**
YSS IAmb IAmb 21 27 53.1
comp=Z,31nm,0.9s
YSS Yuzhno-Sakhali 28.00 30 P P **21 27 47.6 +1.2**
YSS Yuzhno-Sakhali 28.00 30‖ *e*P P **21 27 47.5 +1.2**
YSS pmax pmax
comp=Z,24nm,1.0s
SHL Shillong 28.21 280 P P **21 27 48.7 0.0**
SHL Shillong 28.21 280 P P **21 27 48.7 0.0**
SHL pmax pmax
comp=Z,30nm,1.0s
KULM Kulim 28.29 233 P P **21 27 48.6 -0.7**
IPM Ipoh 28.58 231 P 21 27 51.7 -0.1
IPM Ipoh 28.58 231 P P **21 27 54.3 +2.4**
MYKOM Kota Tinggi 28.67 223 P 21 27 52.5 -0.2
MYKOM Kota Tinggi 28.67 223 P P **21 27 55.0 +2.4**
LSA Lhasa 28.89 289 P P **21 27 56.9 +1.8**
LSA pmax pmax
comp=Z,29nm,1.0s
LSA LR LR
comp=Z,860nm,17.3s
LSA LR LR
comp=Z,2µm,20.1s
ZEA Zeya 30.02 5 *e*P P **21 28 02.8 -1.4**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZAK Zakamensk 30.57 335 *e*P P **21 28 06.0 -3.3**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
PSI Prapat 31.24 232 P P **21 28 17.7 +2.1**
comp=Z,22nm,1.1s,baz=18,slow=2.9,SNR=10
PSI PcP **PcP 21 31 10.8 +0.9**
comp=Z,4.1nm,0.2s,baz=255,slow=1.7,SNR=4.6
comp=Z,22nm,1.1s
PSI Prapat 31.24 232 P P **21 28 18.2 +2.6**
PSI Prapat 31.24 232 P P **21 28 16.5 +0.9**
PSI 21 31 10.8
PSI pmax pmax
comp=Z,29nm,1.1s
RPSI Rantau Prapat 31.32 231 P 21 28 16.5 +0.4
RPSI IAmb IAmb 21 28 33.0
comp=Z,29nm,1.1s
RPSI Rantau Prapat 31.32 231 PcP 21 31 10.8 +0.8
IRK Irkutsk 31.72 338 *e*P P **21 28 16.7 -2.6**
IRK pmax pmax
comp=Z,15nm,1.6s
MMRI Maumere 32.30 181 P 21 28 24.4 -0.2
MMRI Maumere 32.30 181 P P **21 28 26.3 +1.6**
MOY Mondy 32.47 334 *e*P P **21 28 24.2 -1.8**
MOY pmax pmax
comp=Z,15nm,1.8s
EVN Everest 32.65 285 P 21 28 28.6 +0.1
EVN IAmb IAmb 21 28 31.3
comp=Z,30nm,1.0s
SMRI Semarang 33.05 203 P P 21 28 30.9 -0.3
GSI Gunungsitoli 33.24 231 P P **21 28 32.7 -0.4**
BATI Baumata 33.87 179 P P **21 28 37.6 -0.7**
comp=Z,49nm,0.8s,baz=308,slow=5.4,SNR=4.1
WMQ Urumqi 35.02 313 *e*P P **21 28 50.2 +1.9**
WMQ pmax pmax
comp=Z,20nm,1.3s
WMQ LR LR
comp=Z,860nm,14.1s
WMQ LR LR
comp=Z,2µm,11.7s
WMQ LR LR
comp=Z,610nm,14.7s
YAK Yakutsk 38.43 5 P 21 29 14.6 -2.3
YAK IAmb IAmb 21 29 15.7
comp=Z,38nm,0.7s
YAK PcP **21 31 29.7 -0.1**
YAK Yakutsk 38.43 5 LR LR 21 45 58.4
comp=Z,629nm,21.7s,baz=185,slow=38
YAK Yakutsk 38.43 5*d* iP P **21 29 14.1 -2.8**
YAK *e**PP **pP 21 29 23.1 -0.8**
YAK *e* 21 30 42.1
YAK *e*S **S 21 35 07.0 -3.2**
YAK *e* 21 39 23.5
YAK pmax pmax
comp=Z,47nm,1.0s
YAK pmax pmax
comp=N,20nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,31nm,2.6s
YAK pmax pmax
comp=N,28nm,2.3s
YAK smax smax
comp=E,16nm,1.8s
YAK smax smax
comp=N,10.0nm,1.3s
YAK MLR MLR
comp=Z,1µm,13.0s
YAK MLR MLR
comp=N,826nm,13.0s
YAK MLR MLR
comp=E,633nm,14.0s
PETK Petropavlovsk- 39.26 33 P P **21 29 21.8 -2.3**
comp=E,3.1nm,0.6s,baz=212,slow=5.6,SNR=4.2
PETK LR LR 21 46 39.4
comp=E,912nm,18.7s,baz=226,slow=38
comp=E,3.1nm,0.6s
MK31 Makanchi Array 39.67 316‖ *e*P P **21 29 27.1 -0.5**

MKAR Makanchi Array 39.67 316 P 21 29 26.9 -0.7
MKAR Makanchi Array 39.67 316 P P **21 29 27.2 -0.4**
comp=E,2.8nm,0.6s,baz=102,slow=9.5,SNR=27
MKAR PcP **PcP 21 31 34.3 +0.2**
comp=E,4.9nm,0.8s,baz=91,slow=5.4,SNR=6.0
MKAR LR LR 21 47 41.0
comp=E,1µm,19.0s,baz=103,slow=39
comp=E,2.8nm,0.6s
PET Petropavlovsk 39.70 34‖ *e*P P **21 29 26.5 -1.1**
PET pmax pmax
comp=Z,34nm,1.4s
MAKZ Makanchi 39.88 315 P 21 29 28.4 -0.9
MAKZ Makanchi 39.88 315 P P **21 29 28.4 -0.9**
MAKZ pmax pmax
comp=Z,20nm,1.1s
MA2 Magadan 40.69 21 P P **21 29 34.8 -1.0**
MA2 Magadan 40.69 21 LR LR 21 47 12.2
comp=Z,1µm,19.6s,baz=225,slow=37
MA2 Magadan 40.69 21‖ *e*P P **21 29 35.8 0.0**
MA2 pmax pmax
comp=Z,9.0nm,0.9s
H11N1 WAKE ISLAND Hy 40.92 87 T T 22 12 23.9
baz=286
H11N2 WAKE ISLAND Hy 40.92 87 T T 22 12 28.7
baz=286,slow=74
H11N3 WAKE ISLAND Hy 40.94 87 T T 22 12 33.3
baz=286,slow=74
H11S3 WAKE ISLAND Hy 41.04 89 T T 22 12 46.9
baz=287
H11S1 WAKE ISLAND Hy 41.05 89 T T 22 12 41.4
baz=287
H11S2 WAKE ISLAND Hy 41.06 89 T T 22 12 39.4
baz=287
PRZ Przheval'sk 41.10 308 P 21 29 39.1 -0.6
PRZ Przheval'sk 41.10 308 P P **21 29 39.1 -0.6**
PRZ pmax pmax
comp=Z,19nm,1.1s
ZALV Zalesovo Beam 41.38 327 P 21 29 39.5 -2.1
ZALV Zalesovo Beam 41.38 327 P P **21 29 39.7 -1.8**
comp=Z,3.9nm,0.5s,baz=113,slow=8.0,SNR=12
ZALV PcP **PcP 21 31 38.5 -0.9**
comp=Z,1.9nm,0.5s,baz=107,slow=4.9,SNR=4.4
ZALV LR LR 21 48 53.5
comp=Z,398nm,19.5s,baz=124,slow=39
comp=Z,3.9nm,0.5s
TDK Taldyqorghan 41.70 312 *e*P P **21 29 44.0 -0.3**
TDK pmax pmax
comp=Z,12nm,0.7s
TDK Taldyqorghan 41.70 312 *e*P P **21 29 44.1 -0.3**
comp=Z,12nm,0.7s
FITZ Fitzroy Crossi 41.79 176 P P 21 29 44.6 -0.5
FITZ Fitzroy Crossi 41.79 176 P P **21 29 45.1 0.0**
comp=Z,708nm,1.2s
FITZ Fitzroy Crossi 41.79 176 P P **21 29 45.3 +0.2**
comp=Z,27nm,1.0s,baz=345,slow=11,SNR=6.0
comp=Z,27nm,1.0s
FITZ Fitzroy Crossi 41.79 176 P P **21 29 46.1 +0.9**
KDJ Kajisay 41.91 307 P P 21 29 46.4 +0.1
KDJ Kajisay 41.91 307 P P **21 29 46.4 +0.1**
KDJ pmax pmax
comp=Z,13nm,1.0s
TNSS Tian-Shan 42.26 308 *e*P P **21 29 48.7 -0.7**
TNSS Tian-Shan 42.26 308 *e*P P **21 29 48.7 -0.7**
AAA Alma-Ata 42.32 309 *e*P P **21 29 49.1 -0.3**
AAA Alma-Ata 42.32 309 *e*P P **21 29 49.2 -0.3**
KSH Kashi 42.40 303 P P **21 29 54.5 +4.2**
KSH pP pP 21 29 58.4 +1.2
KSH S **S 21 36 15.6 +5.2**
KSH ScS **ScS 21 39 55.1 +4.5**
KSH pmax pmax
comp=Z,16nm,1.2s
KSH LR LR
comp=Z,760nm,13.4s
KSH LR LR
comp=Z,1µm,16.5s
KSH LR LR
comp=Z,2µm,18.6s
NRN Naryn 42.66 306 P P 21 29 53.8 +1.2
NRN Naryn 42.66 306 P P **21 29 53.8 +1.2**
NRN pmax pmax
comp=Z,24nm,1.0s
BOOM Boomskoye usch 42.88 307 P P 21 29 54.4 +0.2
BOOM Boomskoye usch 42.88 307 P P **21 29 54.4 +0.2**
BOOM pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 43.36 320 P 21 29 56.8 -0.9
KURK Kurchatov 43.36 320 P P **21 29 56.8 -0.9**
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURBB Kurchatov Arra 43.38 320 P P **21 29 56.9 -0.9**
comp=Z,2.0nm,0.6s,baz=111,slow=8.3,SNR=20
KURBB PcP **PcP 21 31 45.4 -0.7**
comp=Z,2.6nm,0.6s,baz=114,slow=3.6,SNR=5.3
KURBB LR LR 21 50 00.9
comp=Z,422nm,20.6s,baz=174,slow=39
comp=Z,2.0nm,0.6s
SEY Seymchan 43.75 19 LR LR 21 49 57.5
comp=Z,691nm,18.9s,baz=216,slow=39
SEY Seymchan 43.75 19‖ *e*P P **21 29 59.7 -1.0**
SEY pmax pmax
comp=Z,10.0nm,0.9s
FRU1 Bishkek 43.89 308 P P 21 30 02.2 0.0
FRU1 Bishkek 43.89 308 P P **21 30 02.2 0.0**
FRU1 pmax pmax
comp=Z,10.0nm,0.6s
AAK Ala-Archa 43.96 307 P P 21 30 03.7 +0.8
AAK Ala-Archa 43.96 307 LR LR 21 51 14.8
comp=Z,1µm,19.3s,baz=90,slow=40
AAK Ala-Archa 43.96 307‖ *e*P P **21 30 04.8 +1.9**
AAK pmax pmax
comp=Z,3.0nm,1.1s
SGDS Sogindy 44.00 309 *e*P P **21 30 02.8 -0.3**
NIL Nilore 44.26 294 P P **21 30 04.3 -0.9**
NIL IAmb IAmb 21 30 08.2
comp=Z,55nm,1.3s
NIL Nilore 44.26 294 P P **21 30 04.4 -0.9**
NIL pmax pmax
comp=Z,55nm,1.3s
BTLS Baital 44.72 311 *e*P P **21 30 08.2 -0.5**
BTLS Baital 44.72 311 *e*P P **21 30 08.2 -0.5**
ARSB Arslanbob 44.89 305 P P 21 30 11.1 +0.8
ARSB Arslanbob 44.89 305 P P **21 30 11.1 +0.8**
ARSB pmax pmax
comp=Z,17nm,1.2s
WRA Warramunga Arr 44.94 165 P P **21 30 12.6 +1.9**
comp=Z,9.0nm,0.7s,baz=344,slow=8.0,SNR=2.7
WRA PcP **PcP 21 31 51.8 0.0**
comp=Z,3.9nm,0.8s,baz=344,slow=3.3,SNR=3.1
comp=Z,9.0nm,0.7s
DRK Karamyk 45.61 303 P P 21 30 17.0 +0.7
DRK IAmb IAmb 21 30 19.1
comp=Z,43nm,1.4s
DRK Karamyk 45.61 303 P P **21 30 17.0 +0.7**
DRK pmax pmax
comp=Z,43nm,1.4s
DZA Taraz 46.30 307 *e*P P **21 30 21.0 -0.3**
DZA Taraz 46.30 307 *e*P P **21 30 21.1 -0.3**
BTK Batken 46.41 303 P P 21 30 23.1 +0.8
BTK Batken 46.41 303 P P **21 30 23.1 +0.8**
BTK pmax pmax
comp=Z,20nm,1.3s
GAR Garm 46.73 302 P 21 30 24.6 -0.2
GAR IAmb IAmb 21 30 27.7
comp=Z,41nm,1.1s
KK31 Karatay Array 46.92 307 P 21 30 26.7 +0.5
KK31 Karatay Array 46.92 307 P P **21 30 26.7 +0.5**
KK31 pmax pmax
comp=Z,12nm,1.3s
KKAR Karatay Array 46.92 307 P 21 30 26.4 +0.2
KKAR Karatay Array 46.92 307 P P **21 30 26.4 +0.2**
IUG luzhnay 47.18 306 *e*P P **21 30 27.9 -0.4**
IUG pmax pmax
comp=Z,9.0nm,1.0s
IUG luzhnay 47.18 306 *e*P P **21 30 27.9 -0.4**
comp=Z,8.6nm,1.0s
BRLS Boroldaу 47.41 307 *e*P P **21 30 30.3 +0.4**
BRLS Boroldaу 47.41 307 *e*P P **21 30 30.4 +0.4**
CHM Chimkent 47.51 306 *e*P P **21 30 30.4 -0.3**
CHM Chimkent 47.51 306 *e*P P **21 30 30.4 -0.3**
KBL Kabul 47.73 296 P 21 30 33.6 +0.8
KBL IAmb IAmb 21 30 36.1
comp=Z,35nm,1.0s
KBL Kabul 47.73 296 P P **21 30 33.7 +0.8**
KBL pmax pmax
comp=Z,35nm,1.0s

TIXI Tiksi 47.94 3 P 21 30 31.3 -2.3
TIXI IAmb IAmb 21 30 32.3
comp=Z,27nm,1.2s
TIXI Tiksi 47.94 3 LR LR 21 53 03.7
comp=Z,2µm,19.0s,baz=196,slow=39
TIXI Tiksi 47.94 3‖ *e*P P **21 30 31.4 -2.2**
TIXI pmax pmax
comp=Z,16nm,1.1s
SHEM Shemya Is, Ala 48.06 40 LR LR 21 49 53.7
comp=Z,394nm,21.5s,baz=284,slow=35
ASAR Alice Springs 48.43 166 P P **21 30 39.9 +1.9**
comp=Z,11nm,0.9s,baz=348,slow=8.7,SNR=1.6
ASAR PcP **PcP 21 32 04.5 +0.4**
comp=Z,3.4nm,0.8s,baz=340,slow=4.2,SNR=2.5
comp=Z,11nm,0.9s
BVAR Borovoye Array 48.93 321 P P **21 30 40.8 -0.7**
comp=Z,1.9nm,0.6s
BVAR PcP **PcP 21 32 05.2 -0.3**
BVAR LR LR 21 53 45.5
comp=Z,421nm,18.6s,baz=98,slow=39
comp=Z,1.9nm,0.6s
BRVK Borovoye 49.00 321 P 21 30 41.4 -0.6
BRVK Borovoye 49.00 321‖ *e*P P **21 30 41.1 -0.9**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
CTAO Charters Tower 49.25 151 P P **21 30 44.2 -0.1**
CTAO IAmb IAmb 21 30 47.4
comp=Z,32nm,1.4s
CTAO Charters Tower 49.25 151 P P **21 30 46.1 +1.8**
CTAO Charters Tower 49.25 151 P P **21 30 44.2 -0.1**
CTAO pmax pmax
comp=Z,32nm,1.4s
NRIK Noril'sk 50.13 344 P 21 30 48.8 -1.6
NRIK Noril'sk 50.13 344 P P **21 30 48.0 -2.4**
comp=Z,2.0nm,0.5s,baz=148,slow=15,SNR=5.3
NRIK LR LR 21 54 25.1
comp=Z,1µm,18.6s,baz=148,slow=39
comp=Z,2.0nm,0.5s
NRIK Noril'sk 50.13 344 P P **21 30 48.8 -1.6**
NRIK pmax pmax
comp=Z,16nm,1.3s
MEEK Meekatharra 50.37 185 P P **21 30 52.5 -0.3**
comp=Z,55nm,1.0s
MEEK Meekatharra 50.37 185 P P **21 30 53.1 +0.3**
AMKA Amchitka 50.87 42 P 21 30 56.2 0.0
BILL Bilibino 51.46 19‖ *e*P P **21 30 59.0 -1.4**
BILL pmax pmax
comp=Z,7.0nm,0.9s
MORW Morawa 53.04 188 P P **21 31 13.1 +0.5**
MORW IAmb IAmb 21 31 13.4
comp=Z,22nm,1.0s
MORW Morawa 53.04 188 P P **21 31 12.6 +0.1**
comp=Z,23nm,1.0s
KIWB Kanaga Island 53.13 42 P P 21 31 12.1 -1.0
FORT Forrest 54.55 175 P P 21 31 24.4 +0.8
AB31 Akbulak array 54.80 314 P P 21 31 24.7 -0.7
ABKAR Akbulak array 54.80 314 P P 21 31 24.7 -0.6
SVE Sverdlovsk 55.24 324 *e*P P **21 31 26.7 -1.7**
SVE pmax pmax
comp=Z,10.0nm,1.1s
KLBR Kellerberrin 55.36 185 P P **21 31 29.8 +0.3**
comp=Z,51nm,0.8s
AKTO Aktyubinsk 56.11 316 LR LR 21 57 36.3
comp=Z,673nm,18.9s,baz=80,slow=38
ARTI Arti 56.41 323 P P **21 31 35.4 -1.4**
ARTI IAmb IAmb 21 31 38.3
comp=Z,10nm,0.5s
ARTI Arti 56.41 323 LR LR 21 57 30.1
comp=Z,494nm,20.6s,baz=100,slow=38
ARTI Arti 56.41 323*c* *i*P P **21 31 35.6 -1.2**
ARTI 21 32 32.4
ARTI 21 33 39.8
ARTI S **S 21 39 25.6 -0.2**
ARTI SS **SS 21 43 13.0 +0.2**
ARTI pmax pmax
comp=Z,6.0nm,0.7s
ARTI MLR MLR
comp=Z,423nm,19.0s
NWAO Narrogin (SRO) 56.73 186 P P 21 31 39.3 +0.1
NWAO Narrogin (SRO) 56.73 186 P P 21 31 37.9 -1.3
NWAO Narrogin (SRO) 56.73 186 P P 21 31 40.9 +1.7
NWAO Narrogin (SRO) 56.73 186 P P 21 31 40.8 +1.6
NWAO Narrogin (SRO) 56.73 186 P P 21 31 39.3 +0.1
NWAO pmax pmax
comp=Z,61nm,1.2s
SPIA Saint Paul Isl 57.76 36 P P 21 31 46.2 0.0
SPIA Saint Paul Isl 57.76 36 P P 21 31 47.4 +1.1
SPIA Saint Paul Isl 57.76 36 P P 21 31 46.0 -0.3
baz=264,SNR=5.4
P08K Saint George I 58.09 37 P P 21 31 48.9 +0.3
P08K Saint George I 58.09 37 P P 21 31 48.4 -0.2
baz=265
STKA Stephens Creek 58.23 161 P P 21 31 50.3 +0.5
STKA Stephens Creek 58.23 161 P P 21 31 51.5 +1.7
comp=Z,19nm,0.8s,baz=355,slow=7.7,SNR=6.3
comp=Z,19nm,0.8s
STKA Stephens Creek 58.23 161 P P 21 31 50.3 +0.5
STKA pmax pmax
comp=Z,125nm,1.0s
NIKH Nikolski High 58.28 41 P P 21 31 49.8 -0.3
NIKH Nikolski High 58.28 41 P P 21 31 49.4 -0.6
baz=268
CMSA Cobar Meteorol 59.24 157 P P 21 31 59.1 +2.2
comp=Z,60nm,1.2s
CMSA Cobar Meteorol 59.24 157 P P 21 31 59.5 +2.6
UNV Unalaska Valle 59.71 40 P P 21 31 59.3 -0.6
baz=270
KOUNC Koumac, New Ca 59.77 134 P P 21 32 02.3 +1.6
TNA Tin City 59.92 27 P P 21 32 00.8 -0.3
baz=262
M11K Mekoryuk 60.13 33 P P 21 32 03.4 +0.8
M11K IAmb IAmb 21 32 04.9
comp=Z,31nm,1.1s
M11K Mekoryuk 60.13 33 P P 21 32 02.5 -0.2
baz=266
F14K Arctic Creek 60.56 27 P P 21 32 05.5 -0.1
baz=263
ANM Nome 60.87 28 P P 21 32 07.7 +0.1
baz=264
K13K Kusilvak Mount 60.98 31 P P 21 32 08.9 +0.5
K13K IAmb IAmb 21 32 10.1
comp=Z,39nm,1.5s
K13K Kusilvak Mount 60.98 31 P P 21 32 08.5 0.0
baz=267
F15K North Star Dit 61.28 27 P P 21 32 10.3 -0.2
baz=264
C16K Lisburne Hills 61.31 24 P P 21 32 10.3 -0.3
baz=262
KIRV Kirov 61.39 325 LR LR 22 01 14.5
comp=Z,1µm,19.3s,baz=95,slow=38
KIRV Kirov 61.39 325‖ *e*P P **21 32 10.1 -1.2**
G15K Niukluk 61.47 28 P P 21 32 11.6 -0.1
baz=265
J14K Nanvaranak Lak 61.54 30 P P 21 32 12.4 +0.2
J14K Nanvaranak Lak 61.54 30 P P 21 32 11.9 -0.3
baz=267
M13K Dall Lake 61.55 33 P P 21 32 13.1 +0.8
M13K IAmb IAmb 21 32 14.3
comp=Z,25nm,0.9s
M13K Dall Lake 61.55 33 P P 21 32 12.9 +0.6
baz=269
L14K Kuka Creek 61.90 32 P P 21 32 15.2 +0.6
baz=269
D17K Noatak River 62.09 25 P P 21 32 15.9 +0.1
baz=265
C17K DeLong Mountai 62.13 24 P P 21 32 16.2 0.0
baz=264
G16K Koyuk River 62.21 27 P P 21 32 18.2 +1.5
G16K Koyuk River 62.21 27 P P 21 32 16.8 0.0
baz=267
H16K Elim 62.22 28 P P 21 32 16.8 0.0
baz=267
M14K Bethel 62.24 32 P P 21 32 16.9 0.0
M14K Bethel 62.24 32 P P 21 32 17.1 +0.1
baz=270,SNR=12
S12K Black Hills 62.26 38 IAmb IAmb 21 32 17.9
comp=Z,16nm,0.7s
S12K Black Hills 62.26 38 P P 21 32 16.7 -0.5
baz=272,SNR=5.7
DZM Mont Dzumac 62.26 134 *e*P P **21 32 16.5 -1.2**
comp=Z,126nm,38.9s
DZM *e*S **S 21 40 37.9 -4.5**
comp=Z,171nm,25.6s
DZM *e*SS **SS 21 44 50.7 +4.3**
comp=Z,242nm,26.1s
DZM *e*LQ LQ 21 48 06.5

comp=Z,601nm,29.9s
DZM eLR LR 21 50 50.0
comp=Z,1µm,24.6s
N14K Kuskokwak Cree 62.37 33 P P 21 32 18.4 +0.5
N14K IAmb IAmb 21 32 19.4
comp=Z,30nm,1.1s
N14K Kuskokwak Cree 62.37 33 P P 21 32 18.1 +0.3
baz=270
ONTNC Ouen Toro 62.43 134 P P 21 32 19.5 +0.7
ONTNC IAmb IAmb 21 32 22.7
comp=Z,39nm,1.3s
K15K Wolf Creek Mou 62.46 31 P P 21 32 18.7 +0.2
K15K IAmb IAmb 21 32 20.4
comp=Z,10nm,0.8s
K15K Wolf Creek Mou 62.46 31 P P 21 32 19.0 +0.5
baz=269,SNR=6.6
L15K Ungalak Mounta 62.48 31 P P 21 32 18.5 0.0
baz=270
E17K Hotham Inlet 62.53 25 P P 21 32 18.5 -0.3
baz=266
BELG Belogornoye 62.59 318 LR LR 21 59 34.9
comp=Z,372nm,19.5s,baz=75,slow=36
BELG Belogornoye 62.59 318⇑ *e*P **P 21 32 19.2 -0.3**
BELG pmax pmax
comp=Z,3.0nm,1.3s
O14K Tigyukauivet M 62.59 34 P P 21 32 20.1 +0.7
O14K IAmb IAmb 21 32 20.7
comp=Z,13nm,0.9s
O14K Tigyukauivet M 62.59 34 P P 21 32 19.0 -0.4
baz=271
B18K Kokolik River 62.71 23 P P 21 32 19.8 -0.2
baz=265
F17K Baldwin Pennin 62.72 26 P P 21 32 20.3 +0.2
F17K Baldwin Pennin 62.72 26 P P 21 32 20.1 +0.1
baz=267
M15K Kasigluk River 62.86 33 P P 21 32 20.5 -0.7
baz=271,SNR=7.6
I17K Unalakleet 62.87 29 P P 21 32 20.7 -0.4
baz=269
C18K Utukok River 62.87 24 P P 21 32 20.7 -0.5
baz=266
J16K Anvik River 62.90 30 P P 21 32 20.9 -0.5
baz=270
G17K Kiwalik Mounta 62.93 27 P P 21 32 21.0 -0.6
baz=268,SNR=13
E18K Tukpahlearik C 63.02 25 IAmb IAmb 21 32 24.4
comp=Z,10.0nm,0.8s
E18K Tukpahlearik C 63.02 25 P P 21 32 21.9 -0.2
baz=267,SNR=6.8
A19K Wainwright 63.03 22 P P 21 32 22.2 +0.1
baz=266
N15K Kwethluk River 63.17 33 P P 21 32 22.8 -0.4
baz=272,SNR=14
SDPT Sand Point 63.17 39 P P 21 32 22.4 -0.9
SDPT Sand Point 63.17 39 P P 21 32 22.2 -1.1
baz=274,SNR=6.2
H17K Granite Mounta 63.22 28 IAmb IAmb 21 32 25.3
comp=Z,27nm,1.2s
H17K Granite Mounta 63.22 28 P P 21 32 23.5 0.0
baz=269,SNR=12
O15K Ungalikthiuk R 63.34 34 P P 21 32 24.3 -0.1
baz=272,SNR=10
F18K Selawik 63.37 26 P P 21 32 24.9 +0.5
baz=269,SNR=17
L16K Owhat River 63.43 31 IAmb IAmb 21 32 26.4
comp=Z,12nm,0.8s
L16K Owhat River 63.43 31 P P 21 32 25.2 +0.2
baz=271,SNR=10
C19K Lookout Ridge 63.48 23 P P 21 32 25.6 +0.4
baz=267,SNR=8.1
J17K VABM Dome 63.59 29 P P 21 32 26.3 +0.3
baz=271,SNR=16
S14K Fog Glacier 63.63 37 P P 21 32 26.5 0.0
baz=274
M16K Timber Creek 63.70 32 IAmb IAmb 21 32 28.3
comp=Z,22nm,0.8s
M16K Timber Creek 63.70 32 P P 21 32 27.1 +0.4
baz=272,SNR=14
CHNA Chernabura Isl 63.72 39 P P 21 32 26.5 -0.4
CHNA Chernabura Isl 63.72 39 P P 21 32 26.3 -0.6
baz=275,SNR=11
MAK Makhachkala 63.74 308 *e*P **P 21 32 24.6 -2.7**
MAK *e* 21 34 45.1
MAK *e*PPP PPP 21 36 16.0
MAK *e*SS **S 21 40 56.6 -3.8**
MAK *e*SS **SS 21 45 08.3 +0.1**
MAK pmax pmax
comp=Z,82nm,1.1s
MAK MLR MLR
comp=Z,592nm,17.0s
G18K Tagagawik 63.76 27 IAmb IAmb 21 32 28.9
comp=Z,16nm,1.1s
G18K Tagagawik 63.76 27 P P 21 32 26.9 -0.2
baz=270,SNR=12
AKT Akhty 63.81 306 *e*P **P 21 32 25.9 -2.1**
AKT pmax pmax
comp=Z,16nm,1.7s
AKT MLR MLR
comp=Z,680nm,14.0s
N16K Nishlik Lake 63.82 33 P P 21 32 28.2 +0.7
baz=272,SNR=21
H18K Honhosa River 63.88 27 IAmb IAmb 21 32 29.9
comp=Z,16nm,1.2s
H18K Honhosa River 63.88 27 P P 21 32 28.2 +0.4
baz=271,SNR=7.1
K17K Iditarod 63.96 30 IAmb IAmb 21 32 30.4
comp=Z,22nm,0.8s
K17K Iditarod 63.96 30 P P 21 32 29.2 +0.8
baz=272,SNR=12
CNB Canberra Magne 63.97 156 P P 21 32 27.2 -1.6
CNB Canberra Magne 63.97 156 P P 21 32 31.1 +2.3
L17K Donlin 63.98 31 P P 21 32 29.4 +0.8
baz=272,SNR=14
D19K Kuna River 63.99 24 IAmb IAmb 21 32 31.2
comp=Z,18nm,0.9s
D19K Kuna River 63.99 24 P P 21 32 28.8 +0.2
baz=269,SNR=12
F19K Shaleruckik Mo 64.11 26 P P 21 32 29.8 +0.4
baz=270,SNR=8.1
O16K Kokwok River B 64.20 34 IAmb IAmb 21 32 31.6
comp=Z,34nm,1.3s
O16K Kokwok River B 64.20 34 P P 21 32 30.6 +0.6
baz=274,SNR=11
CHGN Chignik 64.27 37 P P 21 32 29.8 -0.7
CHGN IAmb IAmb 21 32 32.4
comp=Z,12nm,0.8s
P16K Nushagak River 64.29 34 P P 21 32 31.8 +1.2
P16K Nushagak River 64.29 34 P P 21 32 30.9 +0.3
baz=274
E19K Redstone River 64.32 25 P P 21 32 31.5 +0.8
E19K IAmb IAmb 21 32 32.0
comp=Z,35nm,1.5s
E19K Redstone River 64.32 25 P P 21 32 30.9 +0.2
baz=270,SNR=16
B20K Meade River 64.36 22 P P 21 32 30.7 -0.1
B20K Meade River 64.36 22 P P 21 32 31.0 +0.2
baz=269
G19K Purcell Mounta 64.40 26 IAmb IAmb 21 32 33.2
comp=Z,24nm,1.4s
G19K Purcell Mounta 64.40 26 P P 21 32 31.3 +0.1
baz=271,SNR=11
M17K Holitna River 64.42 32 P P 21 32 31.9 +0.5
M17K IAmb IAmb 21 32 33.6
comp=Z,21nm,0.9s
M17K Holitna River 64.42 32 P P 21 32 32.4 +1.0
baz=273,SNR=11
D20K Etivluk River 64.55 24 P P 21 32 32.4 +0.2
D20K IAmb IAmb 21 32 33.4
comp=Z,13nm,0.6s
D20K Etivluk River 64.55 24 P P 21 32 32.4 +0.2
baz=270,SNR=14
N17K Nushagak Hills 64.59 33 P P 21 32 33.1 +0.5
N17K IAmb IAmb 21 32 34.7
comp=Z,38nm,1.3s
N17K Nushagak Hills 64.59 33 P P 21 32 33.4 +0.8
baz=274,SNR=13
J18K Innoko River 64.65 29 P P 21 32 33.5 +0.6
baz=273,SNR=14
H19K Roundabout Mou 64.68 27 P P 21 32 33.3 +0.3
baz=272,SNR=37
O17K Koliganek Bris 64.69 33 P P 21 32 33.5 +0.3
baz=274,SNR=8.6
E20K Nigu River 64.71 24 P P 21 32 33.7 +0.4
baz=271,SNR=26
L18K Granite Mounta 64.73 31 IAmb IAmb 21 32 35.5
comp=Z,16nm,1.0s
L18K Granite Mounta 64.73 31 P P 21 32 34.2 +0.7
baz=273,SNR=19
F20K Avaraart Lake 64.92 25 P P 21 32 34.6 +0.1
baz=272,SNR=11
P17K Kvichak River 65.07 34 P P 21 32 36.1 +0.4
baz=275,SNR=9.4
A22K Sinclair Lake 65.09 21 P P 21 32 35.8 +0.2
baz=271
J19K Poorman 65.11 29 IAmb IAmb 21 32 37.6
comp=Z,24nm,0.8s
J19K Poorman 65.11 29 P P 21 32 36.0 +0.2
baz=274,SNR=38
M18K Stony River 65.19 31 P P 21 32 37.1 +0.7
baz=274,SNR=16
C21K Knifeblade Rid 65.20 23 P P 21 32 36.7 +0.3
baz=272
N18K Kilae Creek 65.22 32 P P 21 32 36.4 -0.3
N18K IAmb IAmb 21 32 38.6
comp=Z,17nm,1.2s
N18K Kilae Creek 65.22 32 P P 21 32 37.4 +0.7
baz=275,SNR=6.2
B21K Ikpikpuk River 65.24 22 IAmb IAmb 21 32 38.2
comp=Z,18nm,0.8s
B21K Ikpikpuk River 65.24 22 P P 21 32 36.9 +0.2
baz=272,SNR=6.1
R17L Mt. Peulik Vol 65.26 36 P P 21 32 36.2 -0.8
baz=276
H20K Anotlenesega Mo 65.33 27 P P 21 32 37.8 +0.5
baz=274,SNR=17
Q17K Contact Creek 65.45 35 P P 21 32 37.2 -1.1
baz=276,SNR=10
E21K Killik River 65.52 24 IAmb IAmb 21 32 39.7
comp=Z,16nm,0.7s
E21K Killik River 65.52 24 P P 21 32 39.0 +0.4
baz=273,SNR=7.3
I20K Naaghedeneel 65.55 28 P P 21 32 39.6 +0.9
baz=274
L19K White Mountain 65.59 31 IAmb IAmb 21 32 41.0
comp=Z,20nm,1.0s
L19K White Mountain 65.59 31 P P 21 32 39.9 +0.9
baz=275,SNR=17
B22K Teshekpuk Lake 65.63 22 P P 21 32 38.8 -0.3
B22K Teshekpuk Lake 65.63 22 P P 21 32 39.0 -0.1
baz=273
O18K Koktuh Hills 65.64 33 IAmb IAmb 21 32 41.2
comp=Z,26nm,0.8s
O18K Koktuh Hills 65.64 33 P P 21 32 40.2 +0.8
baz=276,SNR=16
P18K Big Mountain, 65.67 34 IAmb IAmb 21 32 40.4
comp=Z,16nm,0.8s
P18K Big Mountain, 65.67 34 P P 21 32 39.8 +0.1
baz=276,SNR=8.1
J20K Nowinta River 65.74 28 P P 21 32 40.5 +0.5
J20K IAmb IAmb 21 32 42.0
comp=Z,25nm,0.9s
J20K Nowinta River 65.74 28 P P 21 32 40.9 +0.9
baz=275,SNR=29
ACHA Angle Creek He 65.75 35 IAmb IAmb 21 32 40.2
comp=Z,12nm,0.6s
IMAR Indian Mountai 65.77 26 P P 21 32 40.7 +0.6
F21K Alatna River 65.78 25 P P 21 32 40.5 +0.3
baz=274,SNR=12
G21K Allakaket 65.82 26 IAmb IAmb 21 32 42.1
comp=Z,18nm,0.8s
G21K Allakaket 65.82 26 P P 21 32 41.0 +0.5
baz=274,SNR=25
M19K Big River Lodg 65.83 31 P P 21 32 41.5 +0.9
baz=276
K20K Telida 65.84 29 IAmb IAmb 21 32 42.8
comp=Z,25nm,0.9s
K20K Telida 65.84 29 P P 21 32 41.5 +0.8
baz=275,SNR=28
Q18K Katmai Hardscr 65.87 35 P P 21 32 39.9 -1.1
baz=276,SNR=15
CHIR Chirikof Islan 65.87 38 P P 21 32 41.1 +0.1
baz=277
N19K Bonanza Creek 65.90 32 IAmb IAmb 21 32 44.1
comp=Z,13nm,0.9s
N19K Bonanza Creek 65.90 32 P P 21 32 41.8 +0.7
baz=276,SNR=10
D22K Ayikyak River 65.97 23 P P 21 32 42.1 +0.7
baz=274,SNR=13
L20K Farewell, AK 66.01 30 P P 21 32 42.4 +0.6
baz=275,SNR=14
Q19K Port Alsworth 66.04 33 P P 21 32 42.9 +0.9
H21K Melozitna Rive 66.18 27 P P 21 32 43.7 +0.9
baz=275,SNR=47
F22K John River 66.26 25 P P 21 32 44.1 +0.8
baz=275,SNR=34
KLMR Klimovskoe 66.28 328 *e*P **P 21 32 40.6 -2.9**
KLMR *e* 21 33 09.7
KLMR *e* 21 35 07.3
KLMR pmax pmax
comp=Z,24nm,1.2s
KLMR MLR MLR
comp=Z,1µm,16.0s
GNI Garni 66.29 305 LR LR 22 05 14.1
comp=Z,312nm,19.7s,baz=92,slow=39
R18K Karluk 66.29 36 P P 21 32 42.2 -1.3
baz=278
E22K Anaktuvuk Pass 66.35 24 IAmb IAmb 21 32 45.5
comp=Z,28nm,0.9s
E22K Anaktuvuk Pass 66.35 24 P P 21 32 44.3 +0.4
baz=275,SNR=27
M20K Styx River 66.43 31 IAmb IAmb 21 32 46.6
comp=Z,14nm,0.9s
M20K Styx River 66.43 31 P P 21 32 45.4 +0.8
baz=277,SNR=16
Q19K Cape Douglas, 66.54 34 IAmb IAmb 21 32 50.6
comp=Z,22nm,0.9s
Q19K Cape Douglas, 66.54 34 P P 21 32 44.5 -0.7
baz=278
CHUM Lake Minchumin 66.57 29 P P 21 32 46.1 +0.8
baz=276,SNR=6.0
I21K Tanana 66.57 27 P P 21 32 46.3 +1.1
baz=276
SII Sitkinak Islan 66.57 37 P P 21 32 45.2 -0.3
baz=278
G22K Bettles 66.58 25 P P 21 32 45.5 +0.2
baz=276,SNR=17
C23K Itkillik River 66.62 22 IAmb IAmb 21 32 47.0
comp=Z,18nm,0.9s
C23K Itkillik River 66.62 22 P P 21 32 45.7 +0.2
baz=276,SNR=14
P19K Oil Pt 66.65 33 P P 21 32 45.6 -0.3
baz=278,SNR=6.8
ILSW Iliamna Southw 66.66 33 IAmb IAmb 21 32 46.6
comp=Z,12nm,0.7s
D23K Nanushuk River 66.68 23 P P 21 32 46.4 +0.5
baz=276,SNR=37
CAST Castle Rocks 66.73 29 IAmb IAmb 21 32 48.1
comp=Z,30nm,1.0s
CAST Castle Rocks 66.73 29 P P 21 32 47.0 +0.6
baz=277,SNR=33
H22K Ishtalitna Cre 66.74 26 P P 21 32 47.7 +1.3
baz=276,SNR=40
PPLA Purkeypile 66.74 30 IAmb IAmb 21 32 48.2
comp=Z,38nm,1.3s
PPLA Purkeypile 66.74 30 P P 21 32 47.2 +0.6
baz=277,SNR=9.1
RED Redoubt Volcan 66.78 32 IAmb IAmb 21 32 48.5
comp=Z,29nm,1.1s
O20K Slope Mountain 66.90 33 P P 21 32 47.8 +0.3
baz=278
KBZ Khabaz 66.92 309 P P 21 32 48.1 +0.3
comp=Z,5.4nm,0.8s,baz=136,slow=1.8,SNR=10.0
KBZ LR LR 22 05 42.0
comp=Z,450nm,18.9s,baz=66,slow=39
comp=Z,5.4nm,0.8s
KBZ Khabaz 66.92 309 *ce*P **P 21 32 48.4 +0.6**
N20K Mount Spurr 66.95 32 P P 21 32 48.3 +0.4
baz=278
SPCR Spurr Chakacha 66.95 32 P P 21 32 48.4 +0.5
baz=278
OHAK Old Harbor 66.96 36 IAmb IAmb 21 32 48.1
comp=Z,12nm,0.6s
OHAK Old Harbor 66.96 36 P P 21 32 48.1 +0.2
OHAK Old Harbor 66.96 36 P P 21 32 47.4 -0.5
baz=279,SNR=5.8
KIV Kislovodsk 67.02 309 P P 21 32 49.3 +0.7
KIV IAmb IAmb 21 33 06.7
comp=Z,30nm,1.2s
KIV Kislovodsk 67.02 309 ⇑P **P 21 32 49.4 +0.8**
KIV Kislovodsk 67.02 309 *e*P **P 21 32 49.0 +0.4**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,406nm,17.0s
SPU Mount Spurr 67.03 32 IAmb IAmb 21 32 49.3
comp=Z,21nm,1.2s
COLD Coldfoot 67.05 25 P P 21 32 49.0 +0.7
baz=277,SNR=9.3
SHA1 Shidzhatmaz 67.08 309⇑ *e*P **P 21 32 49.7 +0.5**
STLK Strandline Lak 67.09 31 IAmb IAmb 21 33 06.0
comp=Z,12nm,0.9s
MLY Manley 67.11 27 IAmb IAmb 21 32 50.6
comp=Z,32nm,1.0s
MLY Manley 67.11 27 P P 21 32 49.5 +0.7
baz=277,SNR=38
TOLK Toolik Lake Re 67.12 23 IAmb IAmb 21 32 50.3
comp=Z,20nm,0.8s
TOLK Toolik Lake Re 67.12 23 P P 21 32 48.7 -0.1
baz=277,SNR=14
BPAW Bear Paw Mtn. 67.12 28 IAmb IAmb 21 32 50.5
comp=Z,32nm,1.1s
BPAW Bear Paw Mtn. 67.12 28 P P 21 32 49.4 +0.5
baz=278,SNR=28
SKT Skwentna 67.17 31 IAmb IAmb 21 32 49.8
comp=Z,23nm,1.2s
SKT Skwentna 67.17 31 P P 21 32 48.5 -0.6
baz=278,SNR=14
E23K Chandalar 67.17 24 IAmb IAmb 21 32 51.0
comp=Z,23nm,0.8s
E23K Chandalar 67.17 24 P P 21 32 49.9 +0.7
baz=277,SNR=26
G23K Bananza Creek 67.19 26 IAmb IAmb 21 32 51.0
comp=Z,19nm,0.8s
G23K Bananza Creek 67.19 26 P P 21 32 49.9 +0.6
baz=277,SNR=25
KTH Kantishna Hill 67.23 29 IAmb IAmb 21 32 51.0
comp=Z,18nm,0.9s
Q20K Shuyak Island 67.23 34 P P 21 32 49.0 -0.5
baz=279,SNR=5.1
KDAK Kodiak Island 67.25 35 P P 21 32 49.7 -0.1
KDAK Kodiak Island 67.25 35 *ce*P **P 21 32 49.8 +0.1**
KDAK pmax pmax
comp=Z,44nm,1.4s
KDAK Kodiak Island 67.25 35 P P 21 32 49.6 -0.2
baz=279
C24K Franklin Bluff 67.30 22 P P 21 32 50.0 +0.3
baz=277
D24K Happy Valley 67.32 23 P P 21 32 50.6 +0.6
baz=277,SNR=20
KARS Kars 67.43 306 P P 21 32 51.7 +0.3
KARS IAmb IAmb 21 33 03.7
comp=Z,28nm,1.5s
KARS Kars 67.43 306 P P 21 32 51.7 +0.3
KARS pmax pmax
comp=Z,28nm,1.5s
H23K Yukon River 67.50 26 P P 21 32 52.4 +1.2
baz=278,SNR=44
CAPN Captain Cook N 67.52 32 P P 21 32 52.1 +0.7
baz=279
TRF Thorofare Moun 67.52 29 P P 21 32 51.6 0.0
baz=278,SNR=12
E24K Your Creek 67.59 24 P P 21 32 52.1 +0.3
baz=278,SNR=48
SUA Susitna One 67.61 31 P P 21 32 51.4 -0.7
baz=279
I23K Minto, Yukon-K 67.67 27 P P 21 32 52.6 +0.4
I23K IAmb IAmb 21 32 55.5
comp=Z,16nm,0.9s
I23K Minto, Yukon-K 67.67 27 P P 21 32 52.8 +0.5
baz=279
CNPM China Poot 67.68 33 IAmb IAmb 21 32 54.4
comp=Z,15nm,0.6s
CUT Chulitna 67.69 30 P P 21 32 51.8 -0.6
BWN Browne 67.78 28 P P 21 32 54.5 +1.5
BRLK Bradley Lake 67.81 33 IAmb IAmb 21 32 55.1
comp=Z,24nm,0.8s
LPSR Galich'ya Gora 67.84 319 *e*P **P 21 32 51.6 -1.9**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 67.84 318 *e*P **P 21 32 52.0 -1.5**
VORR pmax pmax
comp=Z,10.0nm,0.8s
M22K Willow 67.86 31 P P 21 32 53.0 -0.5
baz=279,SNR=5.9
NEA2 Nenana 67.88 28 P P 21 32 53.9 +0.3
baz=279,SNR=44
F24K Squaw Lake 67.90 25 P P 21 32 54.5 +0.7
baz=279,SNR=62
VSR Storozhevoye 67.95 318 *e*P **P 21 32 51.1 -3.1**
VSR pmax pmax
comp=Z,8.0nm,0.8s
GEVA Gevas 67.97 303 P P 21 32 54.9 0.0
SLKM Skilak Lake 68.02 32 IAmb IAmb 21 32 54.8
comp=Z,13nm,0.8s
MOS Moscow 68.02 323 *e*P **P 21 32 52.7 -1.9**
MOS *e* 21 33 17.6
MOS *e* 21 35 24.1
MOS *e*S **S 21 41 52.4 +0.2**
MOS pmax pmax
comp=Z,21nm,1.0s
MOS MLR MLR
comp=Z,500nm,17.0s
MCK McKinley 68.08 29 P P 21 32 54.6 -0.3
baz=280,SNR=15
RC01 Rabbit Creek A 68.15 32 IAmb IAmb 21 32 56.7
comp=Z,13nm,0.7s
RC01 Rabbit Creek A 68.15 32 P P 21 32 55.0 -0.4
baz=280,SNR=5.8
D25K Kavik River 68.16 22 P P 21 32 55.3 -0.1
D25K IAmb IAmb 21 32 56.7
comp=Z,20nm,0.8s
D25K Kavik River 68.16 22 P P 21 32 55.4 0.0
baz=280,SNR=21
H24K Noodor Dome 68.17 26 IAmb IAmb 21 32 57.6
comp=Z,23nm,0.9s
H24K Noodor Dome 68.17 26 P P 21 32 56.5 +1.1
baz=280,SNR=33
G24K Hadweenzic Riv 68.19 25 IAmb IAmb 21 32 57.5
comp=Z,31nm,1.0s
G24K Hadweenzic Riv 68.19 25 P P 21 32 56.4 +0.9
baz=280,SNR=34
ERBR Yeremizino-Bor 68.19 312 *e*P **P 21 32 53.0 -2.9**
ERBR *e* 21 35 22.4
ERBR *e*PPP PPP 21 37 06.1
ERBR *e*S **S 21 41 51.9 -2.7**
ERBR pmax pmax
comp=Z,9.0nm,0.8s
ERBR MLR MLR
comp=Z,546nm,17.0s
LABN Labinsk 68.26 310 *e*P **P 21 32 53.2 -3.1**
LABN *e*S **S 21 41 49.9 -5.5**
LABN pmax pmax
comp=Z,16nm,0.7s
LABN MLR MLR
comp=Z,566nm,17.0s
WRH Wood River Hil 68.32 28 IAmb IAmb 21 32 58.4
comp=Z,19nm,0.7s
COLA College 68.35 27 P P 21 32 56.6 +0.1
COLA College 68.35 27 P P 21 32 58.1 +1.6
COLA College 68.35 27 *ce*P **P 21 32 56.7 +0.2**
COLA pmax pmax
comp=Z,17nm,0.9s
PMR Palmer 68.35 31 IAmb IAmb 21 32 56.6
comp=Z,13nm,0.8s
PMR Palmer 68.35 31 P P 21 32 56.2 -0.4
PMR Palmer 68.35 31 P P 21 32 56.0 -0.6
baz=280
WAT1 Susitna Watana 68.40 30 P P 21 32 56.3 -0.6
baz=280
GHO Glory Hole Cre 68.42 31 IAmb IAmb 21 32 58.0
comp=Z,35nm,1.3s
HOMI Horasan 68.43 305 ⇓P **P 21 32 59.0 +1.2**
SEW Seward 68.47 33 P P 21 32 56.7 -0.6
baz=280,SNR=5.5
C26K Camden Bay 68.56 22 P P 21 32 58.7 +1.0
baz=281
E25K Arctic Village 68.67 24 IAmb IAmb 21 33 00.4
comp=Z,18nm,1.2s
E25K Arctic Village 68.67 24 P P 21 32 59.3 +0.8
baz=281,SNR=18
GURO Guroymak-BITLI 68.69 304 P P 21 32 59.9 +0.5
KNK Knik Glacier 68.70 31 P P 21 32 58.8 0.0
baz=281,SNR=5.7
G25K Bearman Lake 68.72 25 P P 21 32 59.9 +1.2
baz=281,SNR=11
OBN Obninsk 68.73 322 P P 21 32 59.0 -0.1
OBN Obninsk 68.73 322 *e*P **P 21 32 56.3 -2.7**
OBN *i* 21 33 22.6
OBN *i*S **S 21 42 06.9 +6.3**
OBN pmax pmax
comp=Z,17nm,1.2s
OBN MLR MLR

comp=Z,623nm,17.0s
F25K Christian Rive 68.74 24 IAmb IAmb 21 33 01.2
comp=Z,23nm,0.8s
F25K Christian Rive 68.74 24 P **P** **21 32 60.0 +1.0**
baz=281,SNR=54
ILAR Eielson Array 68.77 27 P **P** **21 32 57.9 -1.3**
ILAR Eielson Array 68.77 27 P **P** **21 32 58.0 -1.1**
comp=Z,3.4nm,0.5s,baz=262,slow=5.3,SNR=37
ILAR LR LR 22 05 02.9
comp=Z,364nm,19.3s,baz=291,slow=38
comp=Z,3.4nm,0.5s
ILAR Eielson Array 68.77 27 P **P** **21 32 57.9 -1.3**
WAT6 Susitna Watana 68.81 30 P **P** **21 32 59.4 -0.3**
baz=281,SNR=24
HDA Harding Lake 68.82 28 IAmb IAmb 21 32 59.6
comp=Z,30nm,1.0s
HDA Harding Lake 68.82 28 P **P** **21 32 58.6 -0.9**
baz=281,SNR=18
PWL Port Wells 68.87 32 P **P** **21 32 59.5 -0.4**
baz=281,SNR=12
DHY Denali Highway 68.89 29 IAmb IAmb 21 33 02.5
comp=Z,10nm,0.5s
DHY Denali Highway 68.89 29 P **P** **21 32 59.6 -0.5**
baz=281,SNR=21
H25L Birch Creek 68.92 26 P **P** **21 33 01.4 +1.3**
baz=281,SNR=12
FUTU Fugatoga 68.97 117 P **P** **21 33 01.0 -0.2**
M23K Glacier View 68.97 31 P **P** **21 33 00.2 -0.3**
baz=281,SNR=6.4
VSLR Vesyoloye 69.00 309 *de*P **P** **21 33 02.5 +1.5**
VSLR pmax pmax
comp=Z,11nm,0.9s
C27K Jago River 69.03 22 IAmb IAmb 21 33 02.6
comp=Z,27nm,1.1s
C27K Jago River 69.03 22 P **P** **21 33 01.4 +0.7**
baz=282,SNR=15
FYU Fort Yukon 69.09 25 P **P** **21 33 00.2 -0.9**
FYU IAmb IAmb 21 33 03.2
comp=Z,29nm,1.1s
SCM Sheep Creek Mo 69.15 31 P **P** **21 33 01.9 +0.2**
baz=282,SNR=15
BMAR Burnt Mountain 69.17 24 P **P** **21 33 02.4 +0.7**
PRP Porcupine Dome 69.19 26 IAmb IAmb 21 33 03.3
comp=Z,19nm,1.4s
PRP Porcupine Dome 69.19 26 P **P** **21 33 01.3 -0.6**
baz=282,SNR=12
F26K Sheenjek River 69.28 24 IAmb IAmb 21 33 04.5
comp=Z,38nm,1.2s
F26K Sheenjek River 69.28 24 P **P** **21 33 03.3 +1.0**
baz=282,SNR=30
K24K Donnelly Dome 69.44 28 P **P** **21 33 02.7 -0.7**
baz=282,SNR=16
J25K Salcha River, 69.44 27 P **P** **21 33 02.0 -1.5**
baz=282,SNR=14
GLI Glacier Island 69.46 31 P **P** **21 33 03.3 -0.2**
baz=282,SNR=8.8
KOPT Kop Dagi 69.49 306 P **P** **21 33 05.1 +0.7**
KOPT IAmb IAmb 21 33 23.8
comp=Z,15nm,0.9s
P23K Montague Islan 69.49 32 P **P** **21 33 03.9 +0.2**
baz=282,SNR=6.3
G26K Porcupine Rive 69.58 25 IAmb IAmb 21 33 06.2
comp=Z,23nm,0.8s
G26K Porcupine Rive 69.58 25 P **P** **21 33 05.0 +0.9**
baz=283,SNR=21
M24K Tolsona, Glenn 69.63 30 P **P** **21 33 05.2 +0.6**
baz=282,SNR=13
PAX Paxson 69.76 29 IAmb IAmb 21 33 06.0
comp=Z,13nm,0.9s
PAX Paxson 69.76 29 P **P** **21 33 05.5 +0.1**
baz=283,SNR=21
FID Port Fidalgo 69.78 32 IAmb IAmb 21 33 06.0
comp=Z,21nm,0.7s
HIN Hinchinbrook I 69.85 32 IAmb IAmb 21 33 06.6
comp=Z,21nm,0.7s
RIDG Independent Ri 69.86 28 IAmb IAmb 21 33 06.7
comp=Z,23nm,0.9s
RIDG Independent Ri 69.86 28 P **P** **21 33 05.6 -0.4**
baz=283,SNR=21
KLU Klutina 69.88 31 IAmb IAmb 21 33 07.3
comp=Z,42nm,1.3s
KLU Klutina 69.88 31 P **P** **21 33 06.2 +0.1**
baz=283,SNR=9.9
RAYN Ar Rayn 69.95 288 P **P** **21 33 07.6 +0.3**
RAYN IAmb IAmb 21 33 09.7
comp=Z,32nm,1.4s
RAYN Ar Rayn 69.95 288 P **P** **21 33 07.6 +0.3**
RAYN pmax pmax
comp=Z,31nm,1.5s
HARP HAARP 70.03 30 P **P** **21 33 07.6 +0.6**
baz=283
D27M Malcolm River 70.06 22 IAmb IAmb 21 33 08.9
comp=Z,37nm,1.2s
D27M Malcolm River 70.06 22 P **P** **21 33 07.8 +0.7**
baz=284,SNR=7.8
E27K Coleen River 70.10 23 IAmb IAmb 21 33 09.1
comp=Z,34nm,1.4s
E27K Coleen River 70.10 23 P **P** **21 33 08.0 +0.6**
baz=284,SNR=15
SPB2 Spitsbergen Ar 70.13 348 P **P** **21 33 07.0 -0.4**
SPB2 IAmb IAmb 21 33 08.3
comp=Z,13nm,0.7s
SPITS Spitsbergen Ar 70.13 348 P **P** **21 33 06.7 -0.7**
comp=Z,5.5nm,0.5s,baz=54,slow=4.9,SNR=17
SPITS LR LR 22 07 56.8
comp=Z,597nm,18.7s,baz=61,slow=40
comp=Z,5.5nm,0.5s
SPITS Spitsbergen Ar 70.13 348 P **P** **21 33 06.8 -0.6**
SPITS pmax pmax
comp=Z,8.0nm,0.8s
SCRK Sand Creek 70.17 28 IAmb IAmb 21 33 09.7
comp=Z,41nm,1.3s
SCRK Sand Creek 70.17 28 P **P** **21 33 07.6 -0.4**
baz=284,SNR=31
EYAK Cordova Ski Ar 70.18 32 IAmb IAmb 21 33 10.4
comp=Z,22nm,1.1s
EYAK Cordova Ski Ar 70.18 32 P **P** **21 33 09.1 +1.2**
EYAK Cordova Ski Ar 70.18 32 P **P** **21 33 08.4 +0.6**
baz=283,SNR=7.0
I26K Coal Creek Min 70.20 26 P **P** **21 33 07.8 -0.2**
baz=284
DOT Dot Lake 70.22 28 IAmb IAmb 21 33 08.8
comp=Z,21nm,0.8s
J26L Joseph Creek 70.23 27 IAmb IAmb 21 33 08.8
comp=Z,23nm,0.7s
J26L Joseph Creek 70.23 27 P **P** **21 33 07.9 -0.4**
baz=284,SNR=37
G27K Doyon Strip 70.43 25 IAmb IAmb 21 33 11.3
comp=Z,38nm,1.5s
G27K Doyon Strip 70.43 25 P **P** **21 33 10.0 +0.6**
baz=285,SNR=17
ARCES ARCESS Array B 70.43 338 P **P** **21 33 08.4 -0.9**
comp=Z,2.9nm,0.7s,baz=77,slow=5.4,SNR=11
comp=Z,2.9nm,0.7s
N25K Chitina, Valde 70.47 30 IAmb IAmb 21 33 13.1
comp=Z,14nm,0.7s
N25K Chitina, Valde 70.47 30 P **P** **21 33 10.2 +0.4**
baz=284,SNR=15
ANN Anapa 70.50 311 *e*P **P** **21 33 09.8 -0.4**
ANN *e* 21 35 43.2
ANN *e*S **S** **21 42 21.2 -0.6**
ANN pmax pmax
comp=Z,25nm,1.0s
MENT Mentasta 70.54 29 P **P** **21 33 10.8 +0.6**
MENT IAmb IAmb 21 33 11.8
comp=Z,20nm,0.8s
MENT Mentasta 70.54 29 P **P** **21 33 11.3 +1.1**
BMRM Bremner River 70.62 31 IAmb IAmb 21 33 12.0
comp=Z,36nm,1.1s
BMRM Bremner River 70.62 31 P **P** **21 33 10.8 +0.1**
baz=284,SNR=9.2
H27K Steamboat Moun 70.62 25 P **P** **21 33 11.7 +1.0**
H27K Steamboat Moun 70.62 25 P **P** **21 33 11.5 +0.9**
baz=285,SNR=33
L26K Log Cabin Wild 70.69 29 P **P** **21 33 11.5 +0.4**
baz=285,SNR=25
E28M Babbage River 70.73 23 IAmb IAmb 21 33 12.3
comp=Z,14nm,0.8s
E28M Babbage River 70.73 23 P **P** **21 33 11.7 +0.6**
baz=286,SNR=25
I27K Kandik River 70.75 26 P **P** **21 33 12.4 +0.9**
baz=285,SNR=44
D28M Stokes Point 70.80 22 P **P** **21 33 12.6 +1.1**
baz=286
F28M Old Crow 70.88 24 P **P** **21 33 12.8 +0.7**
F28M Old Crow 70.88 24 P **P** **21 33 12.8 +0.7**
baz=286
HMT Hamilton 70.94 32 IAmb IAmb 21 33 13.5
comp=Z,18nm,0.7s
KAIM Kayak Island 70.97 32 P **P** **21 33 13.2 +0.4**
baz=285,SNR=8.1
K27K Chicken 70.98 28 P **P** **21 33 13.4 +0.7**
baz=285
M26K Nabesna, AK 71.00 29 P **P** **21 33 13.5 +0.5**
baz=285,SNR=65
VRDI Verde Repeater 71.10 31 IAmb IAmb 21 33 14.9
comp=Z,31nm,1.1s
MCARA McCarthy VSAT 71.26 30 P **P** **21 33 15.0 +0.6**
baz=285,SNR=9.5
L27K Beaver Creek, 71.34 29 P **P** **21 33 15.9 +0.8**
baz=286,SNR=43
BCAR Beaver Creek A 71.36 29 P **P** **21 33 15.5 +0.4**
E29M Blow River 71.37 23 IAmb IAmb 21 33 16.5
comp=Z,24nm,1.4s
E29M Blow River 71.37 23 P **P** **21 33 15.3 +0.2**
baz=288,SNR=6.9
CRQE Cirque 71.39 31 P **P** **21 33 15.5 0.0**
baz=286,SNR=8.8
I28M Miner Creek 71.47 26 P **P** **21 33 16.5 +0.7**
baz=287,SNR=28
BGLC Bering Glacier 71.47 32 P **P** **21 33 16.5 +0.8**
baz=286
M27K Edge Creek, AK 71.52 29 IAmb IAmb 21 33 17.6
comp=Z,35nm,1.1s
M27K Edge Creek, AK 71.52 29 P **P** **21 33 16.7 +0.5**
baz=286,SNR=32
TGL Tana Glacier 71.52 31 IAmb IAmb 21 33 17.4
comp=Z,36nm,1.0s
G29M Pine Creek 71.78 24 P **P** **21 33 17.9 +0.4**
baz=288,SNR=26
ISLE Juniper Island 71.79 31 P **P** **21 33 17.9 0.0**
ISLE IAmb IAmb 21 33 19.0
comp=Z,40nm,1.4s
H29M Whitestone 71.86 25 IAmb IAmb 21 33 19.6
comp=Z,32nm,1.1s
H29M Whitestone 71.86 25 P **P** **21 33 18.4 +0.4**
baz=288,SNR=17
BVCY Beaver Creek 71.95 29 P **P** **21 33 19.5 +0.8**
baz=287,SNR=5.9
BARN Barnard Glacie 71.98 31 IAmb IAmb 21 33 20.6
comp=Z,27nm,0.8s
GRNC Granite Creek 72.03 31 IAmb IAmb 21 33 21.7
comp=Z,33nm,1.2s
KIP Kipapa 72.07 74 P **P** **21 33 20.5 +0.4**
KIP Kipapa 72.07 74 P **P** **21 33 20.5 +0.4**
KIP pmax pmax
comp=Z,129nm,1.5s
MESA MESA 72.10 32 P **P** **21 33 20.2 +0.4**
MESA IAmb IAmb 21 33 49.7
comp=Z,19nm,0.8s
MESA MESA 72.10 32 P **P** **21 33 20.2 +0.4**
baz=287
DAWY Dawson 72.10 27 IAmb IAmb 21 33 20.9
comp=Z,6nm,0.7s
DAWY Dawson 72.10 27 P **P** **21 33 19.9 +0.3**
baz=288,SNR=30
YAH Yahtse 72.14 31 IAmb IAmb 21 33 44.7
comp=Z,18nm,1.0s
I29M Ogilvie Camp, 72.15 26 IAmb IAmb 21 33 21.2
comp=Z,35nm,1.2s
I29M Ogilvie Camp, 72.15 26 P **P** **21 33 19.9 +0.1**
baz=288,SNR=28
CTG Chitna Glacier 72.16 31 P **P** **21 33 21.0 +0.9**
baz=287,SNR=22
YUK3 Moose Creek 72.32 30 P **P** **21 33 21.8 +0.6**
baz=287,SNR=20
LOGN Logan Glacier 72.36 31 IAmb IAmb 21 33 23.0
comp=Z,45nm,1.2s
F30M Barrier River 72.37 23 IAmb IAmb 21 33 21.9
comp=Z,21nm,0.8s
F30M Barrier River 72.37 23 P **P** **21 33 21.4 +0.3**
baz=290,SNR=18
TOKA Tokat 72.38 307 P **P** **21 33 22.1 +0.4**
TABL Table Mountain 72.40 31 IAmb IAmb 21 33 23.3
comp=Z,28nm,1.0s
G30M tAoh Zraii Nji 72.42 24 P **P** **21 33 21.1 -0.4**
baz=290,SNR=15
EPYK Eagle Plains 72.44 25 P **P** **21 33 21.4 -0.1**
EPYK IAmb IAmb 21 33 22.3
comp=Z,29nm,0.8s
EPYK Eagle Plains 72.44 25 P **P** **21 33 21.2 -0.4**
baz=289,SNR=12
J29N Klondike Camp 72.47 27 P **P** **21 33 22.9 +1.1**
baz=288,SNR=12
FIA1 FINESS Array S 72.52 330 IAmb IAmb 21 33 22.3
comp=Z,25nm,0.8s
FINES FINESS Array B 72.52 330 P **P** **21 33 21.3 -0.7**
comp=Z,6.9nm,0.7s,baz=64,slow=5.2,SNR=37
FINES LR LR 22 08 44.4
comp=Z,1µm,19.1s,baz=74,slow=39
comp=Z,6.9nm,0.7s
FINES FINESS Array B 72.52 330 *i*P **P** **21 33 21.2 -0.8**
FINES pmax pmax
comp=Z,7.0nm,0.7s
GAZ Gaziantep 72.74 303 P **P** **21 33 24.8 +0.9**
O28M Mount Upton 72.75 31 IAmb IAmb 21 33 25.8
comp=Z,31nm,0.9s
O28M Mount Upton 72.75 31 P **P** **21 33 24.4 +0.6**
baz=288,SNR=16
YUK8 Steele Glacier 72.79 30 P **P** **21 33 25.0 +1.0**
baz=288
NOR Nord 72.82 354 *i*P **P** **21 33 22.6 -1.0**
NOR IAmb IAmb 21 33 27.6
comp=Z,4.7nm,1.0s
INK Inuvik 72.93 22 IAmb IAmb 21 33 24.6
comp=Z,15nm,0.8s
INK Inuvik 72.93 22 LR LR 22 09 28.3
comp=Z,302nm,18.8s,baz=272,slow=39
INK Inuvik 72.93 22 P **P** **21 33 24.2 -0.1**
baz=292,SNR=8.7
PINM Pinnacle 72.93 31 P **P** **21 33 25.5 +0.9**
baz=288,SNR=16
L29M L29M 72.94 28 P **P** **21 33 25.9 +1.3**
baz=289,SNR=49
K29M Barlow Dome 72.95 27 IAmb IAmb 21 33 26.5
comp=Z,20nm,0.8s
K29M Barlow Dome 72.95 27 P **P** **21 33 25.6 +0.9**
baz=289,SNR=30
I30M Mount Dempster 72.96 26 P **P** **21 33 24.9 +0.1**
baz=290,SNR=35
M29M Somme Creek 73.01 29 IAmb IAmb 21 33 27.4
comp=Z,29nm,0.8s
M29M Somme Creek 73.01 29 P **P** **21 33 26.3 +1.2**
baz=289,SNR=49
G31M Satah River 73.17 24 IAmb IAmb 21 33 25.7
comp=Z,13nm,0.8s
G31M Satah River 73.17 24 P **P** **21 33 25.1 -0.6**
baz=291,SNR=8.2
F31M Tsiigehtchic 73.17 23 P **P** **21 33 25.2 -0.6**
baz=292
J30M Hart River 73.20 26 P **P** **21 33 26.5 +0.4**
J30M Hart River 73.20 26 P **P** **21 33 26.6 +0.4**
baz=290,SNR=23
BNN Bunyan 73.27 305 P **P** **21 33 27.8 +0.7**
YUK4 Talbot Arm 73.28 30 P **P** **21 33 27.7 +0.9**
baz=289,SNR=12
PNL Peninsula 73.48 32 P **P** **21 33 29.9 +2.1**
PNL Peninsula 73.48 32 P **P** **21 33 28.6 +0.9**
baz=289,SNR=11
YUK6 Outpost Mounta 73.55 30 P **P** **21 33 29.4 +1.0**
baz=289,SNR=16
H31M Peel River 73.55 25 IAmb IAmb 21 33 28.9
comp=Z,34nm,1.1s
H31M Peel River 73.55 25 P **P** **21 33 27.8 -0.3**
baz=292,SNR=12
O29M Mount Kennedy 73.66 31 P **P** **21 33 30.2 +1.2**
baz=289
M30M Minto, Yukon 73.69 28 P **P** **21 33 30.2 +1.2**
baz=290,SNR=53
MAYO Mayo, Yukon 73.72 27 P **P** **21 33 29.8 +0.7**
baz=291
MNK Minsk 73.75 323 *i*P **P** **21 33 30.8 +1.4**
MNK comp=E,8.0nm,0.9s *i*P **P** **21 33 30.8 +1.4**
MNK comp=N,8.0nm,0.7s *i*P **P** **21 33 30.8 +1.4**
MNK comp=Z,17nm,0.9s,baz=72 *i*PcP **PcP** **21 33 44.8 -0.3**
MNK *i*PP PP 21 36 31.9 +18
MNK *i*PPP PPP 21 38 20.8
MNK *i*S **S** **21 43 03.0 +4.3**
MNK *i*PS **PnS** **21 43 32.1 -1.2**
MNK *i*SS SS 21 48 35.9 +54
MNK *i*SSS SSS 21 50 59.9
MNK *i*LQ LQ 22 00 19.8
MNK *i*LR LR 22 05 29.6
MNK *i*LRM MLR 22 08 13.2
comp=E,208nm,15.3s
MNK *i*LRM MLR 22 09 04.2
comp=N,260nm,13.4s
MNK *i*LRM MLR 22 09 09.1
comp=Z,301nm,15.2s
MNK Minsk 73.75 323 *i*P **P** **21 33 30.8 +1.4**
MNK *i* 21 33 44.7
MNK *i*S **S** **21 43 03.0 +4.3**
MNK *i*PS 21 43 32.1
MNK *i*SSS SSS 21 50 59.8
MNK pmax pmax
comp=Z,17nm,0.9s
MNK pmax pmax
comp=N,8.0nm,0.7s
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK MLR MLR
comp=E,208nm,15.0s
MNK MLR MLR
comp=N,260nm,13.0s
MNK MLR MLR
comp=Z,301nm,15.0s
N30M Aishikik Lake 73.95 29 IAmb IAmb 21 33 32.9
comp=Z,34nm,1.1s
N30M Aishikik Lake 73.95 29 P **P** **21 33 31.8 +1.2**
baz=290,SNR=24
A36M Sachs Harbour 73.96 17 P **P** **21 33 30.5 +0.1**
baz=298
HYT Haines Junctio 73.98 30 P **P** **21 33 32.0 +1.1**
baz=290,SNR=32
AK09 Malin Array Si 74.15 319 P **P** **21 33 32.2 +0.3**
AK03 Malin Array Si 74.16 319 P **P** **21 33 32.0 +0.1**
AKASG Malin Array Be 74.16 319 P **P** **21 33 31.9 +0.1**
AKASG Malin Array Be 74.16 319 P **P** **21 33 31.1 -0.8**
comp=Z,1.9nm,0.4s,baz=60,slow=6.3,SNR=19
comp=Z,1.9nm,0.4s
AKASG Malin Array Be 74.16 319 P **P** **21 33 32.0 +0.1**
AKBB Malin Array Si 74.16 319 P **P** **21 33 32.0 +0.1**
AK08 Malin Array Si 74.16 319 P **P** **21 33 32.0 +0.1**
ILGA Ilgaz 74.17 308 P **P** **21 33 32.2 -0.3**
ILGA IAmb IAmb 21 33 38.0
comp=Z,17nm,0.6s
AK01 Malin Array Si 74.17 319 P **P** **21 33 32.1 +0.1**
KIEV Kiev 74.17 319 P **P** **21 33 31.2 -0.8**
KIEV Kiev 74.17 319 P **P** **21 33 31.2 -0.8**
KIEV pmax pmax
comp=Z,6.0nm,0.8s
KIEV Kiev 74.17 319 P **P** **21 33 31.9 -0.1**
comp=Z,46nm,1.4s
AK02 Malin Array Si 74.19 319 P **P** **21 33 32.2 +0.1**
AK04 Malin Array Si 74.19 319 P **P** **21 33 31.1 -1.0**
AK05 Malin Array Si 74.20 319 P **P** **21 33 32.2 +0.1**
AK11 Malin Array Si 74.20 319 P **P** **21 33 32.2 +0.1**
NACGM Naroch 74.22 323 *e*P **P** **21 33 32.1 -0.1**
comp=Z,12nm,0.8s,baz=71
AK22 Malin Array Si 74.23 319 P **P** **21 33 31.2 -1.1**
P29M Windy Craggy 74.28 31 P **P** **21 33 33.8 +1.3**
baz=290,SNR=18
P30M Million Dollar 74.48 31 P **P** **21 33 34.6 +1.0**
baz=291
N31M Braeburn, Yuko 74.53 29 P **P** **21 33 35.2 +1.3**
baz=291,SNR=24
KIRS Kirsehir-Merke 74.62 306 ⇑P **P** **21 33 36.3 +1.4**
BRTR Keskin Array B 74.64 307 P **P** **21 33 34.9 -0.2**
BRTR Keskin Array B 74.64 307 P **P** **21 33 35.5 +0.3**
comp=Z,12nm,1.1s,baz=80,slow=6.3,SNR=23
comp=Z,12nm,1.1s
BR104 Keskin Array S 74.64 307 P **P** **21 33 35.2 +0.1**
comp=Z,85nmcomp=Z,8.6nm,1.2s
BR106 Keskin Array S 74.65 307 P **P** **21 33 35.3 +0.1**
comp=Z,13nmcomp=Z,13nm,1.1s
O30N Mendenhall 74.65 30 IAmb IAmb 21 33 36.7
comp=Z,26nm,0.8s
O30N Mendenhall 74.65 30 P **P** **21 33 35.6 +1.0**
baz=291,SNR=24
BR105 Keskin Array S 74.65 307 P **P** **21 33 35.4 +0.2**
BAL3X Bal3x, Balta 74.81 316 P **P** **21 33 35.8 +0.1**
M31M Drury Creek, Y 74.87 28 P **P** **21 33 36.4 +0.5**
baz=292,SNR=43
PLBC Pleasant Camp 75.00 31 P **P** **21 33 37.5 +0.9**
baz=291,SNR=17
MI28 MI28,Pidlybu 75.02 319 P **P** **21 33 36.3 -0.6**
ANTO Ankara 75.21 307 P **P** **21 33 38.2 -0.1**
ANTO IAmb IAmb 21 33 56.2
comp=Z,36nm,1.4s
ANTO Ankara 75.21 307 ⇑P **P** **21 33 39.5 +1.2**
ANTO Ankara 75.21 307 P **P** **21 33 38.2 -0.1**
ANTO pmax pmax
comp=Z,36nm,1.4s
WHY Whitehorse 75.24 30 P **P** **21 33 39.1 +0.9**
baz=292,SNR=44
LUBAR Lubar, Ukraine 75.30 318 P **P** **21 33 37.3 -1.3**
FARO Faro, Yukon 75.31 28 P **P** **21 33 39.2 +0.8**
baz=293,SNR=38
MMAI Mount Meron Ar 75.43 300 P **P** **21 33 39.5 -0.2**
comp=Z,3.9nm,0.9s,baz=73,slow=5.9,SNR=4.6
MMAI LR LR 22 13 11.3
comp=Z,334nm,18.1s,baz=40,slow=41
comp=Z,3.9nm,0.9s
SKAG Skagway 75.49 31 P **P** **21 33 39.6 +0.2**
SKAG Skagway 75.49 31 P **P** **21 33 40.5 +1.1**
SKAG Skagway 75.49 31 P **P** **21 33 40.5 +1.1**
baz=292,SNR=6.0
SORM Soroca 75.53 316 ⇑P **P** **21 33 39.8 -0.1**
SORM Soroca 75.53 316 P **P** **21 33 39.7 -0.1**
BALJ Balqa 75.55 299 IAmb IAmb 21 33 58.8
comp=Z,19nm,1.0s
S31K Pelican 75.61 33 P **P** **21 33 41.0 +0.8**
S31K IAmb IAmb 21 33 42.3
comp=Z,27nm,1.0s
S31K Pelican 75.61 33 P **P** **21 33 41.2 +1.0**
baz=292,SNR=9.0
N32M Quiet Lake 75.86 29 P **P** **21 33 42.2 +0.6**
baz=294
RNPP9 Sopachiv 75.91 320 P **P** **21 33 41.6 -0.4**
RNPP8 Varash 75.96 320 P **P** **21 33 41.7 -0.6**
MMPY Sheldon Lake, 76.04 27 P **P** **21 33 43.0 +0.4**
MMPY IAmb IAmb 21 33 44.3
comp=Z,18nm,0.8s
MMPY Sheldon Lake, 76.04 27 P **P** **21 33 43.4 +0.7**
baz=295,SNR=24
MDUB Mudurnu 76.17 308 P **P** **21 33 44.2 +0.3**
MDUB IAmb IAmb 21 33 45.5
comp=Z,34nm,1.3s
P32M Atlin 76.20 31 IAmb IAmb 21 33 45.6
comp=Z,26nm,0.8s
P32M Atlin 76.20 31 P **P** **21 33 44.6 +1.1**
baz=294,SNR=9.1
R32K Eaglecrest 76.34 32 P **P** **21 33 44.5 +0.2**
R32K IAmb IAmb 21 33 46.6
comp=Z,33nm,1.1s
R32K Eaglecrest 76.34 32 P **P** **21 33 45.5 +1.2**
baz=293,SNR=7.9
P33M Teslin, Yukon 76.36 30 IAmb IAmb 21 33 46.4
comp=Z,30nm,0.9s
P33M Teslin, Yukon 76.36 30 P **P** **21 33 45.2 +0.7**
baz=294,SNR=24
JIS Juneau Island 76.40 32 P **P** **21 33 46.2 +1.6**
SIT Sitka 76.41 33 P **P** **21 33 45.9 +1.2**
SIT Sitka 76.41 33 P **P** **21 33 46.2 +1.5**
SIT Sitka 76.41 33 P **P** **21 33 45.9 +1.2**
SIT pmax pmax
comp=Z,48nm,0.9s
SIT Sitka 76.41 33 P **P** **21 33 45.9 +1.2**
baz=293,SNR=13
CSS Mathiatis 76.42 302 P **P** **21 33 45.3 0.0**
CSS IAmb IAmb 21 33 57.6
comp=Z,21nm,0.9s
SUW Suwalki 76.51 323 *e*P **P** **21 33 44.5 -0.8**
KMPD K-Podol'skiy 76.57 317 P **P** **21 33 45.8 0.0**
TPGR Topolog 76.60 313 ⇑P **P** **21 33 46.9 +0.8**
S32K Killisnoo 76.63 33 P **P** **21 33 46.1 +0.2**
S32K IAmb IAmb 21 33 48.0
comp=Z,41nm,1.2s
S32K Killisnoo 76.63 33 P **P** **21 33 46.5 +0.6**
baz=293
CFR Carcaliu 76.68 314 ⇑P **P** **21 33 47.4 +0.9**
CFR Carcaliu 76.68 314 P **P** **21 33 47.3 +0.9**
DAG Danmarks Havn 76.92 352 *i*P **P** **21 33 45.5 -1.7**
DAG IAmb IAmb 21 33 51.6
comp=Z,2.2nm,0.7s
HARR Harsova 76.99 313 ⇑P **P** **21 33 49.2 +1.0**
HARR Harsova 76.99 313 P **P** **21 33 49.2 +1.0**

Q32M Nakina River 77.13 31 IAmb IAmb 21 33 50.8
comp=Z,13nm,0.7s
Q32M Nakina River 77.13 31 P **P** **21 33 50.4 +1.3**
baz=295,SNR=16
TESR Tescani 77.18 315 ⇑P **P** **21 33 50.3 +1.0**
VRI Vrincioaia 77.36 315 ⇑P **P** **21 33 50.8 +0.4**
VRI Vrincioaia 77.36 315 P **P** **21 33 50.8 +0.4**
ONER Baraj Valea Uz 77.41 315 ⇑P **P** **21 33 51.6 +1.0**
PLOR Plostina 77.42 315 ⇑P **P** **21 33 51.1 +0.3**
PLOR Plostina 77.42 315 P **P** **21 33 51.0 +0.3**
R33M Jennings River 77.55 30 IAmb IAmb 21 33 53.2
comp=Z,17nm,0.8s
R33M Jennings River 77.55 30 P **P** **21 33 52.8 +1.5**
baz=296,SNR=23
ISP Isparta 77.56 306 P **P** **21 33 51.9 +0.1**
ISP IAmb IAmb 21 34 08.2
comp=Z,19nm,0.8s
ISP Isparta 77.56 306 P **P** **21 33 51.9 +0.1**
ISP pmax pmax
comp=Z,19nm,0.8s
BURAR Bucovina Array 77.69 317 P **P** **21 33 52.4 +0.1**
BURAR Bucovina Array 77.69 317 ⇑P **P** **21 33 52.1 -0.2**
BURAR Bucovina Array 77.69 317 P **P** **21 33 52.1 -0.2**
TURR Turia 77.76 315 ⇑P **P** **21 33 52.8 +0.2**
TGTN Hyland Airport 77.79 28 P **P** **21 33 53.1 +0.6**
baz=298,SNR=16
NEHR Nehoiu 77.81 314 ⇑P **P** **21 33 53.6 +0.8**
OZUR 77.89 315 ⇑P **P** **21 33 53.7 +0.4**
U33K Whale Pass 77.91 34 IAmb IAmb 21 33 55.2
comp=Z,32nm,0.9s
U33K Whale Pass 77.91 34 P **P** **21 33 54.1 +1.0**
baz=295,SNR=8.9
BOSR Bodos 77.98 315 ⇑P **P** **21 33 54.0 +0.1**
MLR Muntele Rosu 78.01 314 ⇑P **P** **21 33 55.0 +0.8**
MLR Muntele Rosu 78.01 314 P **P** **21 33 54.9 +0.8**
S34M Telegraph Cree 78.12 32 P **P** **21 33 55.5 +1.2**
S34M IAmb IAmb 21 33 56.7
comp=Z,18nm,0.9s
S34M Telegraph Cree 78.12 32 P **P** **21 33 55.5 +1.2**
baz=296
WRAK Wrangell Islan 78.17 33 IAmb IAmb 21 33 56.6
comp=Z,24nm,0.8s
WRAK Wrangell Islan 78.17 33 P **P** **21 33 55.4 +0.9**
baz=295,SNR=5.3
CRAG Craig 78.18 34 P **P** **21 33 55.1 +0.4**
CRAG IAmb IAmb 21 33 56.3
comp=Z,20nm,0.7s
CRAG Craig 78.18 34 P **P** **21 33 56.1 +1.5**
CRAG Craig 78.18 34 P **P** **21 33 55.6 +1.0**
baz=295,SNR=5.3
DOPR Dopca 78.19 315 ⇑P **P** **21 33 55.9 +0.9**
WTLY Watson Lake, Y 78.21 29 P **P** **21 33 55.7 +0.8**
baz=298,SNR=8.0
LOZB Loznitsa 78.36 312 ⇑P **P** **21 33 56.2 +0.2**
DLBC Dease Lake 78.41 31 P **P** **21 33 57.6 +1.5**
baz=297,SNR=19
KWP Kalwaria Pacla 78.46 319 *e*P **P** **21 33 56.7 +0.4**
HFS Hagfors 78.62 331 P **P** **21 33 56.2 -0.8**
comp=Z,6.6nm,0.6s,baz=75,slow=6.3,SNR=39
HFS LR LR 22 12 14.6
comp=Z,2µm,18.8s,baz=65,slow=38
comp=Z,6.6nm,0.6s
BEL Belsk 78.69 322 *e*P **P** **21 33 58.7 +1.1**
RES Resolute Bay 78.72 10 LR LR 22 12 50.0
comp=Z,227nm,19.5s,baz=326,slow=39
NEEM North Greenlan 78.86 359 *i* P **P** **21 33 57.9 -0.5**
NEEM IAmb IAmb 21 34 00.1
comp=Z,32nm,0.7s
T35M Bob Quinn 78.96 32 P **P** **21 33 60.0 +1.0**
T35M Bob Quinn 78.96 32 P **P** **21 34 00.3 +1.2**
baz=297
KOLS Kolonicke sedl 79.00 319 *e*P **P** **21 33 59.9 +0.5**
KOLS pmax pmax
comp=Z,3.0nm,0.7s
KOLS Kolonicke sedl 79.00 319 *e*P **P** **21 33 59.9 +0.5**
NC405 NORSAR Array S 79.00 333 IAmb IAmb 21 33 59.4
comp=Z,51nm,1.4s
ELND Elena 79.02 312 ⇑P **P** **21 34 00.1 +0.6**
V35K Ketchikan 79.02 34 P **P** **21 33 59.5 +0.3**
baz=296
DBG Daneborg 79.18 350 *i* P **P** **21 34 01.9 +2.1**
DBG IAmb IAmb 21 34 05.3
comp=Z,4.6nm,1.0s
NB201 NORSAR Array S 79.21 333 IAmb IAmb 21 34 00.3
comp=Z,32nm,1.4s
NB2 NORSAR Subarra 79.25 333 P **P** **21 33 59.2 -1.3**
comp=Z,3.7nm,0.6s,baz=61,slow=5.3
NOA NORSAR Array B 79.25 333 P **P** **21 33 59.3 -1.3**
comp=Z,3.0nm,0.6s,baz=57,slow=5.4,SNR=37
NOA LR LR 22 12 40.4
comp=Z,1µm,18.6s,baz=75,slow=38
comp=Z,3.0nm,0.6s
NC204 NORSAR Array S 79.31 333 IAmb IAmb 21 34 01.1
comp=Z,26nm,1.4s
MARR Marisel-Cluj 79.37 316 ⇑P **P** **21 34 01.9 +0.4**
BLEU Blekinge 79.40 327 *i* P **P** **21 34 01.4 0.0**
STHS Stebnicka Huta 79.42 319 *e*P P 21 34 08.2 +6.5
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS Stebnicka Huta 79.42 319 *e*P P 21 34 08.2 +6.5
LOT Lotru 79.44 315 ⇑P **P** **21 34 02.8 +0.8**
H02S1 DAWSON INLET T 79.49 36 P **P** **21 34 03.1 +1.2**
SNR=14
DRGR 79.58 317 ⇑P **P** **21 34 02.9 +0.1**
DRGR 79.58 317 P **P** **21 34 02.8 +0.1**
LIRD Liard River Hi 79.75 29 P **P** **21 34 04.0 +0.7**
baz=300,SNR=6.0
OJC Ojcow 79.93 321 *e*P **P** **21 34 04.8 +0.4**
NIE Niedzica 79.98 320 *e*P **P** **21 34 05.0 +0.2**
BORU Boraas 80.24 329 *i* P **P** **21 34 04.4 -1.5**
KOTAN Kotaneelee Air 80.28 28 P **P** **21 34 06.3 +0.2**
baz=301
SURR Surduc 80.38 316 ⇑P **P** **21 34 06.9 +0.1**
BSD Bornholm Skovb 80.41 326 *i* P **P** **21 34 06.1 -0.8**
BSD IAmb IAmb 21 34 09.3
comp=Z,13nm,0.9s
TOAD Toad River Com 80.42 29 P **P** **21 34 07.3 +0.4**
baz=301
SIRR Siria 80.46 316 ⇑P **P** **21 34 07.4 +0.1**
HERR Herculane 80.55 315 ⇑P **P** **21 34 08.0 +0.1**
FABU Falkenberg 80.58 329 *i* P **P** **21 34 06.1 -1.6**
LANS Liptovska Anna 80.58 320 *e*P **P** **21 34 09.5 +1.5**
LANS pmax pmax
comp=Z,13nm,2.1s
LANS Liptovska Anna 80.58 320 *e*P **P** **21 34 09.5 +1.5**
BZS Buzias 80.76 316 ⇓P **P** **21 34 09.1 +0.1**
BZS Buzias 80.76 316 P **P** **21 34 09.0 +0.1**
ONAU Onsala 80.76 329 *i* P **P** **21 34 07.2 -1.5**
PSZ Piszkesteto 80.86 318 IAmb IAmb 21 34 10.9
comp=Z,29nm,1.5s
PSZ Piszkesteto 80.86 318 ⇑P **P** **21 34 09.7 +0.2**
PSZ Piszkesteto 80.86 318 P **P** **21 34 09.7 +0.2**
BJUU Bjuv 80.89 328 *i* P **P** **21 34 09.0 -0.4**
LUNU Lund 80.89 327 *i* P **P** **21 34 09.1 -0.3**
MDVR Moldovita 81.04 315 ⇑P **P** **21 34 11.5 +0.9**
OKC Ostrava-Krasne 81.06 321 AMS AMS 22 13 20.0
comp=Z,300nm,13.9s
STEB Steborice 81.23 321 *e*P **P** **21 34 11.5 +0.1**
VYHS Vyhne 81.25 319 *e*P **P** **21 34 12.2 +0.7**
VYHS Vyhne 81.25 319 *e*P **P** **21 34 12.2 +0.7**
MORC Moravsky Berou 81.44 321 *e*P **P** **21 34 12.7 +0.2**
MORC Moravsky Berou 81.44 321 ⇑P **P** **21 34 13.1 +0.5**
MORC Moravsky Berou 81.44 321 P **P** **21 34 13.0 +0.5**
KSP Ksiaz 81.66 322 *e*P **P** **21 34 14.1 +0.4**
KRLC Kraliky 81.74 321 *e*P **P** **21 34 14.1 0.0**
KRLC AMS AMS 22 13 40.0
comp=Z,400nm,18.0s
KRLC Kraliky 81.74 321 *e*P **P** **21 34 14.1 0.0**
KRLC MLR MLR
comp=Z,400nm,18.0s
JAVC Velka Javorina 81.78 320 *e*P **P** **21 34 15.6 +1.2**
KULLO Kullorsuaq 81.80 0 *i* P **P** **21 34 13.3 -0.6**
KULLO IAmb IAmb 21 34 15.6
comp=Z,14nm,1.1s
OSTC Ostas 81.84 322 *e*P **P** **21 34 16.2 +1.6**
OSTC *e*SKS **S** **21 44 23.2 -3.1**
OSTC AMS AMS 22 14 00.0
comp=Z,500nm,15.8s
OSTC Ostas 81.84 322 *e*P **P** **21 34 16.2 +1.6**
OSTC *e* 21 44 23.2
OSTC MLR MLR
comp=Z,500nm,15.8s
SRO Srobarova 81.86 319 *e*P **P** **21 34 14.8 +0.1**
SRO pmax pmax
comp=Z,5.0nm,0.6s
SRO Srobarova 81.86 319 *e*P **P** **21 34 14.8 +0.1**
DPC Dobruska-Polom 81.87 322 *e*P **P** **21 34 15.4 +0.6**
DPC AMS AMS 22 14 00.0
comp=Z,400nm,17.6s
DPC Dobruska-Polom 81.87 322 *e*P **P** **21 34 15.4 +0.6**
DPC MLR MLR
comp=Z,400nm,17.6s
CHVC Chvalec 81.92 322 *e*P **P** **21 34 15.1 +0.1**
CHVC Chvalec 81.92 322 *e*P **P** **21 34 15.1 +0.1**
UPC Upice 81.98 322 AMS AMS 22 14 00.0
comp=Z,600nm,17.9s
FRGS Fruska Gora 82.11 316 ⇑*i*P **P** **21 34 15.2 -0.9**
VRAC Vranov 82.20 321 *e*P **P** **21 34 16.8 +0.3**
VRAC Vranov 82.20 321 ⇑P **P** **21 34 17.3 +0.8**
VRAC Vranov 82.20 321 P **P** **21 34 17.3 +0.8**
MODS Modra-Piesok 82.23 320 *e*P **P** **21 34 16.2 -0.5**
MODS pmax pmax
comp=Z,108nm,2.1s
MODS Modra-Piesok 82.23 320 *e*P **P** **21 34 16.2 -0.5**
MORH Mrgy, Hungar 82.37 317 ⇑P **P** **21 34 17.2 -0.2**
SNART Snartemo 82.40 331 *i* P **P** **21 34 16.4 -1.0**
KRUC Moravsky 82.43 320 *e*P **P** **21 34 18.1 +0.4**
MUD Monsted U'grnd 82.54 329 *i* P **P** **21 34 17.4 -0.7**
MUD IAmb IAmb 21 34 18.5
comp=Z,4.5nm,0.8s
TEKS Tekeris 82.55 315 ⇑*i*P **P** **21 34 17.9 -0.6**
YKAW3 Yellowknife Wh 82.60 23 IAmb IAmb 21 34 19.4
comp=Z,48nm,0.8s
YKA Yellowknife Ar 82.65 23 P **P** **21 34 18.6 0.0**
comp=Z,23nm,0.8s,baz=317,slow=5.5,SNR=98
comp=Z,23nm,0.8s
YKAW1 Yellowknife Wh 82.70 23 IAmb IAmb 21 34 19.9
comp=Z,43nm,0.9s
SJES Sjenica 82.83 314 *e*P **P** **21 34 19.0 -1.0**
BBLS Lazi&#263i 82.93 315 ⇑*i*P **P** **21 34 19.2 -1.3**
GOPC GO Pecny, Ondr 82.95 322 AMS AMS 22 14 30.0
comp=Z,400nm,17.2s
BRG Berggiesshubel 82.96 323 *e*P **P** **21 34 20.5 +0.1**
BRG Amp 21 34 22.6
comp=Z,8.1nm,1.1s
BRG Berggiesshubel 82.96 323 P P 21 34 36.4 +16
BRG Amp 21 34 37.9
comp=Z,2.9nm,0.8s
SUMG Summit 82.98 354 *i* P **P** **21 34 20.4 -0.2**
SUMG IAmb IAmb 21 34 21.1
comp=Z,27nm,1.3s
PRU Pruhonice 83.05 322 AMS AMS 22 14 50.0
comp=Z,400nm,16.6s
PRA Prague 83.08 322 AMS AMS 22 14 40.0
comp=Z,400nm,15.4s
RONA Rosalia, Austr 83.12 319 *i* P **P** **21 34 21.6 +0.1**
comp=Z,6.6nm,1.2s,SNR=6.3
CLL Collm 83.26 324 *i* P **P** **21 34 21.3 -0.6**
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL MLR MLR
comp=Z,600nm,19.2s
CLL Collm 83.26 324 *i* P **P** **21 34 21.3 -0.6**
comp=Z,10.0nm,0.8s
CLL AMS AMS 22 15 00.0
comp=N,400nm,19.1s
CLL AMS AMS 22 15 00.0
comp=E,500nm,21.4s
CLL AMS AMS 22 15 00.0
comp=Z,600nm,19.2s
CLL Collm 83.26 324 *e*P **P** **21 34 21.8 -0.2**
comp=Z,8.1nm,0.7s,baz=58,slow=5.0
CONA Conrad Observa 83.28 320 *i* P **P** **21 34 22.6 +0.4**
comp=Z,22nm,1.4s,SNR=19
BSEG Bad Segeberg 83.32 327 *e*P **P** **21 34 22.5 +0.3**
comp=Z,13nm,1.0s,baz=58,slow=5.0
BEHE Becsehely 83.41 318 P **P** **21 34 23.0 +0.2**
ZVC Zvikov 83.52 322 *e*P **P** **21 34 23.6 +0.3**
ZVC AMS AMS 22 14 50.0
comp=Z,600nm,21.7s
UPNV Upernavik 83.61 360 *i* P **P** **21 34 22.5 -0.8**
UPNV IAmb IAmb 21 34 23.6
comp=Z,14nm,0.8s
PDG Podgorica 83.67 314 ⇑*i*P **P** **21 34 24.4 +0.2**
FLTG Flechtingen 83.68 325 *e*P **P** **21 34 23.7 -0.4**
comp=Z,11nm,1.4s,baz=58,slow=5.0
TIR Tirane 83.74 312 P **P** **21 34 25.2 +0.6**
TIR Tirane 83.74 312 P **P** **21 34 25.2 +0.6**
TIR pmax pmax
comp=Z,24nm,0.7s
CKRC Cesky Krumlov 83.75 321 *e*P **P** **21 34 24.8 +0.2**
CKRC *e*SKS **S** **21 44 44.4 -1.5**
CKRC AMS AMS 22 14 40.0
comp=Z,400nm,18.3s
CKRC Cesky Krumlov 83.75 321 *e*P **P** **21 34 24.8 +0.2**
CKRC *e* 21 44 44.4
CKRC MLR MLR
comp=Z,400nm,18.3s
ARSA Arzberg 83.80 319 IAmb IAmb 21 34 26.1
comp=Z,17nm,1.4s
ARSA Arzberg 83.80 319 *i* P **P** **21 34 24.8 -0.1**
comp=Z,12nm,1.5s,SNR=6.5
DRME Dracevica, Mon 83.82 313 ⇑*i*P **P** **21 34 26.5 +1.4**
BRY Bratogost 83.93 314 ⇑*i*P **P** **21 34 23.9 -1.9**
BLY Banja Luka 83.95 316 ⇑*i*P **P** **21 34 24.4 -1.3**
BLY Banja Luka 83.95 316 ⇑P **P** **21 34 25.6 -0.1**
NEUB Neuenburg 83.97 324 *e*P **P** **21 34 25.7 +0.1**
comp=Z,9.2nm,0.8s,baz=58,slow=5.0
TANN Tannenbergstha 84.00 323 *e*P **P** **21 34 25.9 0.0**
comp=Z,8.0nm,1.1s,baz=58,slow=5.0
A051A Mrakovica 84.01 317 *e*P **P** **21 34 24.0 -2.0**
KHC Kasperske Hory 84.02 321 *e*P **P** **21 34 26.4 +0.4**
KHC *e*SKS **SKSac** **21 44 45.3 -2.3**
KHC AMS AMS 22 15 10.0
comp=Z,500nm,19.6s
KHC Kasperske Hory 84.02 321 *e*P **P** **21 34 26.4 +0.4**
KHC *e* 21 44 45.3
KHC MLR MLR
comp=Z,500nm,19.6s
GEC2 GERESS Array S 84.09 321 IAmb IAmb 21 34 27.5
comp=Z,12nm,0.9s
GEC2 GERESS Array S 84.09 321 *e*P **P** **21 34 26.6 +0.2**
comp=Z,12nm,0.9s,baz=58,slow=5.0
GERES GERESS Array B 84.09 321 P **P** **21 34 26.1 -0.3**
GERES GERESS Array B 84.09 321 P **P** **21 34 26.5 +0.1**
comp=Z,3.9nm,0.6s,baz=57,slow=4.9,SNR=46
comp=Z,3.9nm,0.6s
NRDL Niedersach Rie 84.19 325 *e*P **P** **21 34 26.9 +0.3**
comp=Z,47nm,1.9s,baz=58,slow=5.0
MOA Molln 84.25 320 *e*P **P** **21 34 26.7 -0.5**
comp=Z,14nm,0.9s,SNR=9.7
PERS Pernice 84.34 319 *i* P **P** **21 34 27.3 -0.4**
MOX Moxa 84.35 323 *e*P **P** **21 34 27.8 +0.3**
comp=Z,3.9nm,0.8s,baz=58,slow=5.0
MOX *e*L L 22 16 32.4
comp=Z,503nm,19.2s
SOKA Soboth 84.37 319 *i* P **P** **21 34 27.5 -0.4**
comp=Z,14nm,1.2s,SNR=16
CLZ Clausthal 84.39 325 *e*P **P** **21 34 28.3 +0.5**
comp=Z,47nm,1.6s,baz=58,slow=5.0
WET Wettzell 84.41 322 *e*P **P** **21 34 28.3 +0.4**
comp=Z,14nm,1.4s,baz=58,slow=5.0
MANZ Manzenberg 84.42 323 *e*P **P** **21 34 28.2 +0.3**
comp=Z,2.3nm,1.2s,baz=58,slow=5.0
RETH Rethem/Aller, 84.44 326 *e*P **P** **21 34 28.1 +0.2**
comp=Z,13nm,1.2s,baz=58,slow=5.0
ROTZ Rotzenmuhle 84.47 322 *e*P **P** **21 34 28.7 +0.5**
comp=Z,2.7nm,1.1s,baz=58,slow=5.0
STON Ston 84.49 315 *e*P **P** **21 34 26.4 -2.0**
A050A Klekovaca 84.49 316 ⇑*i*P **P** **21 34 26.7 -1.8**
CRES Cresnjevec Ost 84.52 318 ⇑*i*P **P** **21 34 26.5 -2.0**
BIOA Bad Ischl, Aus 84.70 320 *i* P **P** **21 34 29.4 0.0**
comp=Z,14nm,1.3s,SNR=8.6
OBKA Obir 84.74 319 ⇑*i*P **P** **21 34 28.1 -1.7**
OBKA Obir 84.74 319 *i* P **P** **21 34 29.4 -0.4**
comp=Z,9.0nm,1.1s
GTTG Gottingen 84.77 325 *e*P **P** **21 34 30.2 +0.6**
comp=Z,13nm,0.8s,baz=58,slow=5.0
BOJS Bojanci 84.80 318 *e*P **P** **21 34 29.1 -0.8**
CBB Campbell River 84.90 37 P **P** **21 34 29.8 -0.6**
CBB IAmb IAmb 21 34 31.7
comp=Z,11nm,1.0s
LJU Ljubljana 84.98 318 *i* P **P** **21 34 30.6 -0.3**
GRA1 Grafenberg Arr 85.06 323 IAmb IAmb 21 34 32.7
comp=Z,37nm,1.5s
GRF Grafenberg Arr 85.06 323 *e*P **P** **21 34 31.7 +0.5**
comp=Z,46nm,1.6s,baz=58,slow=5.0
GRF *e*L L 22 16 16.8
comp=Z,597nm,18.5s
GRFO Grafenberg 85.06 323 P **P** **21 34 31.5 +0.3**
GRFO IAmb IAmb 21 34 33.6
comp=Z,24nm,1.4s
GRFO Grafenberg 85.06 323 P **P** **21 34 31.5 +0.3**
GRFO pmax pmax
comp=Z,24nm,1.4s
UBBA Unterbreizbach 85.13 324 *e*P **P** **21 34 31.5 +0.1**
comp=Z,20nm,1.6s,baz=58,slow=5.0
RJOB Jochberg 85.17 321 *e*P **P** **21 34 32.3 +0.4**
comp=Z,11nm,1.0s,baz=58,slow=5.0
KBA Koelnbreinsper 85.18 320 *i* P **P** **21 34 31.4 -0.7**
comp=Z,5.5nm,0.7s
ABPO Ambohimpanom 85.19 247 P **P** **21 34 32.0 -0.5**
ABPO IAmb IAmb 21 34 34.5
comp=Z,10nm,0.8s
ABPO Ambohimpanom 85.19 247 P **P** **21 34 32.0 -0.5**
ABPO pmax pmax
comp=Z,10.0nm,0.9s
CEY Cerknica 85.19 318 ⇑*i*P **P** **21 34 30.7 -1.3**
PRED Cave del Predi 85.37 319 P **P** **21 34 32.0 -0.9**
CADS Cadrg 85.37 319 *i* P **P** **21 34 31.7 -1.1**
LESA Schwarzleotal 85.40 320 *i* P **P** **21 34 32.6 -0.4**
comp=Z,14nm,1.3s,SNR=11
IBBN Ibbenburen 85.50 326 *e*P **P** **21 34 33.5 +0.2**
comp=Z,26nm,1.0s,baz=58,slow=5.0
SKDS Skadanscina 85.54 318 *e*P **P** **21 34 32.1 -1.6**
SABO M.te Sabotino 85.58 319 IAmb IAmb 21 34 34.2
comp=Z,28nm,1.2s
TRI Trieste 85.61 318 P **P** **21 34 33.2 -0.8**
TRI Trieste 85.61 318 P **P** **21 34 33.2 -0.8**
TRI pmax pmax
comp=Z,9.0nm,0.9s
KASTN Kahler Asten 85.77 325 *e*P **P** **21 34 35.1 +0.4**
comp=Z,19nm,1.3s,baz=58,slow=5.0
ABTA Abfaltersbach 85.84 320 *i* P **P** **21 34 33.9 -1.3**
comp=Z,11nm,0.9s,SNR=6.3
STAL STALIGIAL 85.97 319 IAmb IAmb 21 34 35.7
comp=Z,23nm,1.3s
WATA Walderalm 86.09 321 *i* P **P** **21 34 35.6 -0.9**
comp=Z,13nm,1.4s,SNR=5.7
WTTA Wattenberg 86.09 320 *i* P **P** **21 34 35.9 -0.7**
comp=Z,13nm,1.2s,SNR=8.2
BUG Bochum--Univer 86.23 326 *e*P **P** **21 34 37.2 +0.3**
comp=Z,23nm,1.0s,baz=58,slow=5.0
KIBK Kibwezi 86.25 266 P **P** **21 34 37.2 -0.5**
KIBK IAmb IAmb 21 34 40.0
comp=Z,14nm,1.0s
SOEG Soedalen 86.27 351 *i* P **P** **21 34 35.3 -1.5**
SOEG IAmb IAmb 21 34 37.8
comp=Z,15nm,1.0s
TNS Taunus Mts 86.29 324 *e*P **P** **21 34 37.6 +0.2**
comp=Z,15nm,1.1s,baz=58,slow=5.0
MOTA Moosalm 86.36 321 *i* P **P** **21 34 36.6 -1.2**
comp=Z,12nm,1.5s,SNR=7.7
SQTA Sankt Quirin 86.36 321 *i* P **P** **21 34 36.9 -0.9**
comp=Z,13nm,1.4s,SNR=8.9
LODK Lodwar 86.40 272 P **P** **21 34 39.2 +0.7**
LLLB Lillooet 86.47 35 IAmb IAmb 21 34 40.4
comp=Z,33nm,1.4s
KMBO Kilima Mbogo 86.48 267 P **P** **21 34 40.0 +0.8**
KMBO IAmb IAmb 21 34 42.0
comp=Z,24nm,1.4s
KMBO Kilima Mbogo 86.48 267 P **P** **21 34 40.0 +0.8**
KMBO pmax pmax
comp=Z,24nm,1.5s
FETA Feichten 86.74 321 *i* P **P** **21 34 39.1 -0.6**
comp=Z,14nm,1.7s,SNR=7.1
TIP Timpagrande 86.84 312 IAmb IAmb 21 34 41.7
comp=Z,22nm,1.3s
TIP Timpagrande 86.84 312 ⇑P **P** **21 34 40.8 +0.5**
VOI Vohitsoka 86.86 245 P **P** **21 34 40.7 +0.1**
VOI IAmb IAmb 21 34 49.6
comp=Z,18nm,1.4s
BLKN Baker Lake 87.04 16 IAmb IAmb 21 34 40.8
comp=Z,18nm,1.0s
TEOL Teolo 87.06 319 P **P** **21 34 41.6 +0.5**
TEOL IAmb IAmb 21 34 44.2
comp=Z,29nm,1.5s
A04D Lummi Island 87.07 37 P **P** **21 34 40.4 -0.7**
A04D IAmb IAmb 21 34 43.0
comp=Z,10nm,0.8s
DAVA Damuels 87.09 321 *e*P **P** **21 34 40.8 -0.7**
comp=Z,7.4nm,1.0s
CUC Castrocucco 87.10 313 P **P** **21 34 40.3 -1.2**
CUC IAmb IAmb 21 34 42.4
comp=Z,21nm,1.4s
NLWA Neilton Lookou 87.14 39 P **P** **21 34 43.1 +1.6**
NLWA IAmb IAmb 21 34 43.7
comp=Z,14nm,1.1s
FUORN Ofenpass-Fuorn 87.23 320 IAmb IAmb 21 34 45.6
comp=Z,23nm,1.5s
BTNL Ternell 87.31 325 *d*P **P** **21 34 41.8 -0.5**
comp=Z,5.0nm,1.4s
MEM Membach 87.36 325 *d*P **P** **21 34 42.3 -0.1**
MEM *d*P **P** **21 34 42.4 -0.1**
BFO Black Forest 87.40 323 P **P** **21 34 42.0 -0.7**
BFO Black Forest 87.40 323 P **P** **21 34 42.0 -0.7**
BFO pmax pmax
comp=Z,12nm,1.2s
BFO Black Forest 87.40 323 *e*P **P** **21 34 42.4 -0.3**
comp=Z,12nm,1.2s,baz=58,slow=5.0
CAMP Campotosto 87.42 316 P **P** **21 34 42.6 -0.5**
CAMP IAmb IAmb 21 34 44.4
comp=Z,28nm,1.2s
BORG Borgarnes 87.44 345 LR LR 22 18 13.0
comp=Z,298nm,18.5s,baz=25,slow=39
NRCA Norcia 87.46 316 IAmb IAmb 21 34 45.5
comp=Z,32nm,1.3s
BHOU Houvegnez 87.51 325 *d*P **P** **21 34 43.3 +0.1**
comp=Z,6.0nm,1.3s
BSTI Sart Tilman 87.61 325 *d*P **P** **21 34 43.2 -0.4**
MURB Monte Urbino 87.61 317 P **P** **21 34 44.7 +0.8**
GNW Green Mountain 87.64 38 P **P** **21 34 44.7 +0.9**
GNW IAmb IAmb 21 34 46.5
comp=Z,15nm,1.1s
E03A Lebam 87.77 39 P **P** **21 34 44.4 -0.1**
E03A IAmb IAmb 21 34 47.0
comp=Z,20nm,1.0s
WLF Walferdange 87.83 325 *d*P **P** **21 34 45.0 +0.2**
comp=Z,16nm,1.0s
WLF Walferdange 87.83 325 *e*P **P** **21 34 45.4 +0.7**
comp=Z,30nm,1.0s,baz=58,slow=5.0
BCLA Clavier 87.84 325 *d*P **P** **21 34 44.5 -0.3**
TUE Stuetta 87.84 321 IAmb IAmb 21 34 46.9
comp=Z,16nm,1.1s
CEL Celeste 87.88 311 P **P** **21 34 44.8 -0.5**
CESX Cesi 87.91 316 P **P** **21 34 44.7 -0.6**
BGES Gesves 87.97 325 *d*P **P** **21 34 45.3 -0.1**
comp=Z,4.1nm,0.0s
ZCCA Zocca 88.00 318 P **P** **21 34 46.2 +0.5**
ZCCA IAmb IAmb 21 34 51.1
comp=Z,11nm,0.8s
UCC Uccle 88.10 326 P **P** **21 34 45.0 -1.0**
UCC Uccle 88.10 326 P **P** **21 34 45.0 -1.0**
UCC pmax pmax
comp=Z,5.0nm,0.8s
UCC Uccle 88.10 326 *d*P **P** **21 34 45.8 -0.1**
F03A Seaside 88.11 40 P **P** **21 34 46.8 +0.6**
BMRD Maredsous 88.19 326 *d*P **P** **21 34 45.9 -0.5**
comp=Z,7.4nm,1.0s
D05A Enumclaw 88.32 38 P **P** **21 34 48.0 +0.9**
DOU Dourbes 88.40 325 *d*P **P** **21 34 47.1 -0.3**
comp=Z,5.5nm,1.0s
LON Longmire 88.67 38 P **P** **21 34 49.2 +0.4**
LON IAmb IAmb 21 35 02.1
comp=Z,10nm,1.1s
LON Longmire 88.67 38 P **P** **21 34 49.2 +0.4**
LON pmax pmax
comp=Z,10.0nm,1.1s
EKA Eskdalemuir Ar 88.74 332 P **P** **21 34 48.5 -0.4**
comp=Z,0.7nm,0.5s,baz=46,slow=3.3,SNR=11
comp=Z,0.7nm,0.5s
ESK Eskdalemuir 88.77 332 P **P** **21 34 49.0 0.0**
ESK IAmb IAmb 21 35 15.5
comp=Z,11nm,1.2s
ESK Eskdalemuir 88.77 332 P **P** **21 34 49.0 0.0**
ESK pmax pmax
comp=Z,11nm,1.2s
LTY Liberty 89.02 38 P **P** **21 34 50.8 +0.2**
LTY IAmb IAmb 21 34 52.4
comp=Z,13nm,1.1s
SENIN Lac Senin/Sane 89.08 321 P **P** **21 34 50.5 -0.5**
B08A Colville Reser 89.12 36 P **P** **21 34 51.2 +0.3**
H04D Lebanon 89.36 41 P **P** **21 34 53.2 +1.1**
H04D IAmb IAmb 21 35 02.7
comp=Z,19nm,1.2s
BUCK Buck Mountain 89.39 41 P **P** **21 34 53.1 +0.7**

I03D	**Drain, OR**	**89.45**	**42**	P	**P**	**21 34 53.5**	**+1.0**
I03D				IAmb	IAmb	21 35 03.6		
	comp=Z,12nm,1.0s							
HOOD	**Mount Hood Mea**	**89.56**	**40**	P	**P**	**21 34 53.2**	**0.0**
HOOD				IAmb	IAmb	21 35 04.2		
	comp=Z,18nm,0.9s							
ANGG	**Ammassalik, Gr**	**89.57**	**352**	*i* P	**P**	**21 34 51.4**	**-1.2**
ANGG				IAmb	IAmb	21 34 52.2		
	comp=Z,21nm,0.8s							
H04A	**Detroit Lake**	**89.60**	**40**	P	**P**	**21 34 53.2**	**-0.1**
MXC	**Moxie City**	**89.62**	**38**	P	**P**	**21 34 53.7**	**+0.4**
MXC				IAmb	IAmb	21 34 55.8		
	comp=Z,19nm,0.9s							
ISOG	**Isortoq, Green**	**89.80**	**353**	*i* P	**P**	**21 34 53.2**	**-0.5**
ISOG				IAmb	IAmb	21 34 54.1		
	comp=Z,15nm,0.6s							
G05A	**Wamic**	**89.80**	**40**	P	**P**	**21 34 54.1**	**-0.1**
G05A				IAmb	IAmb	21 35 04.5		
	comp=Z,9.6nm,0.8s							
E07A	**Sunnyside**	**89.88**	**38**	P	**P**	**21 34 55.8**	**+1.3**
E07A				IAmb	IAmb	21 34 57.1		
	comp=Z,19nm,0.8s							
WAH2	**Wahluke Slope**	**89.93**	**38**	P	**P**	**21 34 55.4**	**+0.7**
D08A	**Wollman Farm,**	**90.11**	**37**	P	**P**	**21 34 56.0**	**+0.4**
D08A				IAmb	IAmb	21 34 57.8		
	comp=Z,22nm,1.0s							
L02F	**Cave Junction**	**90.17**	**43**	P	**P**	**21 34 55.4**	**-0.5**
BNI	**Bardonecchia**	**90.18**	**321**	P	**P**	**21 34 55.4**	**-0.7**
BNI	**Bardonecchia**	**90.18**	**321**	P	**P**	**21 34 55.4**	**-0.7**
BNI				pmax	pmax			
	comp=Z,9.0nm,1.0s							
G06A	**Carlson Farm,**	**90.20**	**39**	P	**P**	**21 34 56.1**	**+0.1**
G06A				IAmb	IAmb	21 34 59.7		
	comp=Z,24nm,1.4s							
F07A	**Phinny Hill Vi**	**90.23**	**38**	P	**P**	**21 34 57.1**	**+1.0**
F07A				IAmb	IAmb	21 34 58.7		
	comp=Z,21nm,1.2s							
KRMB	**Red Mountain**	**90.28**	**44**	P	**P**	**21 34 57.0**	**+0.3**
I05D	**Terrebonne, OR**	**90.30**	**40**	P	**P**	**21 34 57.4**	**+0.8**
I05D				IAmb	IAmb	21 35 06.6		
	comp=Z,19nm,1.4s							
BBOR	**Butler Butte**	**90.30**	**42**	P	**P**	**21 34 57.0**	**+0.2**
CASY	**Casey**	**90.35**	**185**	P	**P**	**21 34 56.9**	**+1.0**
NEW	**Newport**	**90.36**	**35**	P	**P**	**21 34 57.9**	**+1.1**
NEW				IAmb	IAmb	21 34 59.0		
	comp=Z,17nm,0.9s							
NEW	**Newport**	**90.36**	**35**	P	**P**	**21 34 57.9**	**+1.1**
NEW				pmax	pmax			
	comp=Z,17nm,0.9s							
E08A	**Dider Farm, El**	**90.37**	**38**	P	**P**	**21 34 57.8**	**+1.0**
E08A				IAmb	IAmb	21 35 06.8		
	comp=Z,9.7nm,0.7s							
J04A	**Umpqua Nationa**	**90.45**	**41**	P	**P**	**21 34 58.3**	**+0.8**
YPT	**Yellepit**	**90.68**	**38**	P	**P**	**21 34 58.2**	**0.0**
YPT				IAmb	IAmb	21 35 00.8		
	comp=Z,17nm,1.0s							
PINE	**Pine Mountain**	**90.85**	**41**	P	**P**	**21 35 01.0**	**+1.7**
E09A	**Wood Farm, Sta**	**90.86**	**37**	P	**P**	**21 34 59.6**	**+0.5**
E09A				IAmb	IAmb	21 35 01.6		
	comp=Z,20nm,1.1s							
CLF	**Chambon-Foret**	**90.87**	**325**	P	**P**	**21 34 58.5**	**-0.6**
CLF				IAmb	IAmb	21 35 01.1		
	comp=Z,18nm,1.3s							
L04D	**Klamath Falls**	**90.90**	**42**	P	**P**	**21 34 59.9**	**+0.4**
YBH	**Yreka Blue Hor**	**90.92**	**43**	P	**P**	**21 35 00.1**	**+0.6**
YBH	**Yreka Blue Hor**	**90.92**	**43**	P	**P**	**21 35 00.2**	**+0.6**
YBH				pmax	pmax			
	comp=Z,12nm,1.3s							
J05D	**Fort Rock, OR**	**90.96**	**41**	P	**P**	**21 35 00.5**	**+0.7**
J05D				IAmb	IAmb	21 35 02.4		
	comp=Z,27nm,1.5s							
LNOR	**Lincton Mounta**	**91.17**	**38**	P	**P**	**21 35 01.4**	**+0.8**
LNOR				IAmb	IAmb	21 35 03.0		
	comp=Z,11nm,1.1s							
SSB	**Saint Sauveur**	**91.28**	**322**	IAmb	IAmb	21 35 01.9		
	comp=Z,14nm,1.0s							
K05A	**Summer Lake**	**91.48**	**41**	P	**P**	**21 35 03.3**	**+1.1**
I07A	**Izee**	**91.53**	**40**	P	**P**	**21 35 03.1**	**+0.8**
O02D	**Mt. Diablo Mer**	**91.73**	**44**	P	**P**	**21 35 04.2**	**+0.9**
JTMT	**Jette**	**92.17**	**35**	P	**P**	**21 35 06.3**	**+1.0**
HATC	**Hat Creek Radi**	**92.21**	**43**	P	**P**	**21 35 06.2**	**+0.6**
HATC				IAmb	IAmb	21 35 08.3		
	comp=Z,17nm,0.9s							
FRB	**Frobisher Bay**	**92.22**	**5**	LR	LR	22 20 07.4		
	comp=Z,232nm,19.6s,baz=328,slow=38							
MBAR	**Mbarara**	**92.23**	**270**	P	**P**	**21 35 05.5**	**-0.7**
MBAR	**Mbarara**	**92.23**	**270**	P	**P**	**21 35 05.5**	**-0.7**
MBAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BMO	**Blue Mountains**	**92.33**	**38**	P	**P**	**21 35 06.2**	**+0.2**
BMO				IAmb	IAmb	21 35 08.1		
	comp=Z,12nm,1.2s							
BMO	**Blue Mountains**	**92.33**	**38**	P	**P**	**21 35 06.2**	**+0.2**
BMO				pmax	pmax			
	comp=Z,12nm,1.2s							
GDXM	**Geysers**	**92.48**	**45**	P	**P**	**21 35 07.6**	**+0.8**
J08A	**Circle Bar Ran**	**92.56**	**40**	P	**P**	**21 35 08.1**	**+1.0**
FFC	**Flin Flon**	**92.79**	**24**	P	**P**	**21 35 07.8**	**0.0**
FFC	**Flin Flon**	**92.79**	**24**	P	**P**	**21 35 07.8**	**0.0**
FFC				pmax	pmax			
	comp=Z,19nm,0.9s							
ORV	**Oroville**	**92.90**	**44**	P	**P**	**21 35 08.3**	**-0.3**
ORV	**Oroville**	**92.90**	**44**	P	**P**	**21 35 08.3**	**-0.3**
ORV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
PLID	**Pearl Lake**	**92.92**	**37**	P	**P**	**21 35 09.2**	**+0.3**
MSO	**Missoula**	**92.94**	**35**	P	**P**	**21 35 09.0**	**+0.2**
MSO				IAmb	IAmb	21 35 18.2		
	comp=Z,9.2nm,1.1s							
WVOR	**Wild Horse Val**	**93.01**	**41**	P	**P**	**21 35 08.9**	**-0.3**
WVOR				IAmb	IAmb	21 35 11.7		
	comp=Z,13nm,1.3s							
WVOR	**Wild Horse Val**	**93.01**	**41**	P	**P**	**21 35 08.9**	**-0.3**
WVOR				pmax	pmax			
	comp=Z,13nm,1.3s							
AFDM	**Forest Hills D**	**93.58**	**45**	P	**P**	**21 35 11.3**	**-0.5**
KEST	**Kesra**	**93.67**	**312**	P	**P**	**21 35 11.4**	**-1.0**
KEST				IAmb	IAmb	21 35 33.0		
	comp=Z,12nm,1.1s							
KEST	**Kesra**	**93.67**	**312**	P	**P**	**21 35 12.1**	**-0.3**
	comp=Z,6.7nm,0.9s,baz=27,slow=7.2,SNR=8.1							
KEST				LR	LR	22 24 37.5		
	comp=Z,258nm,18.9s,baz=14,slow=40							
	comp=Z,6.7nm,0.9s							
LYMT	**Lyon Mountain**	**93.71**	**34**	P	**P**	**21 35 12.1**	**-0.4**
MFID	**Camas Ranch**	**94.06**	**39**	P	**P**	**21 35 13.4**	**-0.6**
MFID				IAmb	IAmb	21 35 16.5		
	comp=Z,11nm,1.1s							
PAHR	**Pah Rah Range**	**94.15**	**43**	P	**P**	**21 35 14.3**	**-0.3**
PAHR				IAmb	IAmb	21 35 16.4		
	comp=Z,13nm,1.3s							
EGMT	**Eagleton**	**94.28**	**32**	P	**P**	**21 35 15.2**	**+0.3**
EGMT				IAmb	IAmb	21 35 18.1		
	comp=Z,12nm,0.9s							
LRM	**Limekiln Ridge**	**94.38**	**35**	P	**P**	**21 35 15.2**	**-0.4**
CMB	**Columbia Colle**	**94.47**	**45**	P	**P**	**21 35 15.7**	**-0.3**
CMB				IAmb	IAmb	21 35 17.6		
	comp=Z,9.6nm,1.1s							
CMB	**Columbia Colle**	**94.47**	**45**	P	**P**	**21 35 15.7**	**-0.3**
CMB				pmax	pmax			
	comp=Z,10.0nm,1.2s							
DLMT	**Dillon**	**94.60**	**36**	P	**P**	**21 35 17.2**	**+0.7**
DLMT				IAmb	IAmb	21 35 18.6		
	comp=Z,20nm,1.3s							
PPT2	**Papeete2**	**94.75**	**107**	*e*S	S	21 46 47.1	+17	
	comp=Z,134nm,22.2s							
PPT2	**Papeete2**	**94.75**	**107**	*e*LR	LR	22 05 49.2		
PPT2	comp=Z,668nm,24.0s							
				*e*LR	LR	22 05 51.8		
	comp=Z,530nm,24.2s							
HLID	**Hailey**	**94.76**	**38**	P	**P**	**21 35 18.4**	**+1.1**
MCMT	**McKenzie Canyo**	**94.81**	**36**	P	**P**	**21 35 17.9**	**+0.3**
WAKR	**Walker**	**94.81**	**44**	P	**P**	**21 35 18.6**	**+0.8**
BOZ	**Bozeman (W)**	**94.96**	**35**	P	**P**	**21 35 18.7**	**+0.6**
BOZ	**Bozeman (W)**	**94.96**	**35**	P	**P**	**21 35 18.7**	**+0.6**
BOZ				pmax	pmax			
	comp=Z,3.0nm,0.9s							
RYN	**Ryan**	**95.32**	**44**	P	**P**	**21 35 21.0**	**+1.0**
LHV	**Little Huntoon**	**95.56**	**44**	P	**P**	**21 35 22.1**	**+1.3**
LHV				IAmb	IAmb	21 35 23.5		
	comp=Z,12nm,1.2s							
NVAR	**Mina Array Bea**	**95.58**	**44**	P	**P**	**21 35 21.4**	**+0.2**
NVAR	**Mina Array Bea**	**95.58**	**44**	P	**P**	**21 35 22.4**	**+1.2**
	comp=Z,3.3nm,0.8s,baz=292,slow=5.2,SNR=20							
	comp=Z,3.3nm,0.8s							

NV11	**Mina Array Sit**	**95.67**	**44**	P	**P**	**21 35 21.6**	**+0.1**
ELK	**Elko**	**96.06**	**40**	P	**P**	**21 35 23.0**	**-0.4**
ELK	**Elko**	**96.06**	**40**	P	**P**	**21 35 23.0**	**-0.4**
ELK				pmax	pmax			
	comp=Z,2.0nm,1.2s							
DSP	**Deep Springs**	**96.42**	**44**	P	**P**	**21 35 25.6**	**+0.9**
DSP				IAmb	IAmb	21 35 27.1		
	comp=Z,11nm,1.5s							
TPH	**Tonopah**	**96.47**	**44**	P	**P**	**21 35 26.1**	**+0.8**
TPH	**Tonopah**	**96.47**	**44**	P	**P**	**21 35 26.1**	**+0.8**
TPH				pmax	pmax			
	comp=Z,44nm,1.2s							
FXWY	**Fox Creek**	**96.58**	**36**	P	**P**	**21 35 25.7**	**0.0**
HVU	**Hansel Valley**	**96.83**	**38**	P	**P**	**21 35 26.0**	**-0.8**
HVU	**Hansel Valley**	**96.83**	**38**	P	**P**	**21 35 26.0**	**-0.8**
HVU				pmax	pmax			
	comp=Z,4.0nm,1.1s							
GMN	**Gold Mountain**	**96.92**	**44**	P	**P**	**21 35 27.7**	**+0.3**
LAO	**LASA Array**	**96.93**	**32**	P	**P**	**21 35 27.2**	**+0.3**
LAO				IAmb	IAmb	21 35 36.4		
	comp=Z,7.9nm,1.1s							
TBI	**Tubuai**	**97.10**	**112**	*e*S	**S**	**21 46 51.4**	**+1.6**
	comp=Z,306nm,21.8s							
TBI				*e*SS	**SS**	**21 53 24.0**	**-3.5**
	comp=Z,707nm,38.2s							
TBI	**Tubuai**	**97.10**	**112**	*e*LR	LR	22 06 51.1		
	comp=Z,1μm,27.5s							
TBI				*e*LR	LR	22 06 59.2		
	comp=Z,1μm,28.2s							
R11B	**Troy Canyon, C**	**97.33**	**43**	P	**P**	**21 35 29.0**	**-0.2**
PDAR	**Pinedale Array**	**97.96**	**36**	P	**P**	**21 35 31.5**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=310,slow=4.6,SNR=4.5							
	comp=Z,0.2nm,0.5s							
TAOE	**Nuku Hiva Isla**	**99.83**	**95**	*e*LR	LR	22 08 10.4		
	comp=Z,336nm,23.2s							
VNDA	**Vanda**	**103.75**	**172**	Pdiff	**Pdif**	**21 35 57.3**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=346,slow=2.1,SNR=4.0							
VNDA				PKiKP	**PKiKP**	**21 40 14.1**	**-0.1**
	comp=Z,2.6nm,1.1s,baz=316,slow=7.0,SNR=3.6							
SYO	**Syowa Base**	**109.69**	**202**	*e*Pdiff	**Pdif**	**21 36 25.6**	**+2.7**
SYO	**Syowa Base**	**109.69**	**202**	*e*pPdiff	pPdif	21 36 31.6	+1.2
DBIC	**Dimbokro**	**120.71**	**294**	PKP	**PKPdf**	**21 40 47.9**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=39,slow=5.8,SNR=3.8							
TROLL	**Troll, Antarti**	**121.75**	**198**	P	**PKiKP**	**21 40 49.3**	**+0.5**
SNAA	**Sanae**	**123.42**	**198**	P	**PKPdf**	**21 40 51.2**	**-0.6**
SNAA	**Sanae**	**123.42**	**198**	PKP	**PKPdf**	**21 40 51.3**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=143,slow=1.7,SNR=13							
BELA	**Belgrano 2**	**124.89**	**186**	PKPdf	**PKiKP**	**21 40 55.0**	**+0.3**
VNA2	**Neumayer--Watz**	**125.07**	**198**	P	**PKiKP**	**21 40 55.5**	**+0.2**
	baz=92,slow=2.3							
VNA1	**Neumayer--Stat**	**125.46**	**198**	P	**PKiKP**	**21 40 56.2**	**+0.2**
ESPZ	**Base Esperanza**	**140.47**	**180**		PKPpre	21 41 17.9		
SDV	**Santo Domingo**	**144.87**	**24**		PKPbc	21 41 32.8	+0.2	
CBOC	**Ciudad Bolivar**	**145.16**	**34**	P	**PKPdf**	**21 41 35.9**	**+1.8**
ROSC	**El Rosal**	**146.89**	**33**	PKPbc	**PKPbc**	**21 41 38.8**	**-0.4**
	comp=Z,7.3nm,0.4s,baz=57,slow=6.6,SNR=10							
URMC	**La Uribe, Meta**	**148.23**	**34**	P	**PKPbc**	**21 41 42.5**	**+0.1**
LPAZ	**La Paz**	**167.18**	**56**	PKP	**PKPdf**	**21 42 02.9**	**0.0**
	comp=Z,3.6nm,1.0s,baz=50,slow=1.6,SNR=9.5							
LPAZ				PKPab	**PKPab**	**21 43 06.8**	**-0.4**	
	comp=Z,4.5nm,1.0s,baz=319,slow=3.9,SNR=5.7							
BDFB	**Brasilia**	**168.18**	**312**	PKP	**PKPdf**	**21 42 03.3**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=24,slow=4.3,SNR=3.7							
BDFB				PKPab	**PKPab**	**21 43 11.4**	**+0.4**	
	comp=Z,2.5nm,0.7s,baz=37,slow=4.5,SNR=4.6							

BJI ***11*** *21:24:17.3,0.˚65S×126.˚54E, h40km, mb4.8/40, Ms4.6/3, Ms7 4.3/3*

IDC ***11*** *21:24:20.2±0.5,0.˚13N×126.˚06E, h0km, mb4.7/23, mbtmp4.7/24, ML3.9/1, Error ellipse: s-maj=29.5km s-min=11.3km az=79.0*

MOS ***11*** *21:24:24.0±0.9,0.˚18N×126.˚21E, h43km, mb5.2/51, Error ellipse: s-maj=10.9km s-min=5.3km az=106.8*

NEIC ***11*** *21:24:26.5±1.7,0.˚25N±0.˚07×126.˚37E±0.˚06, h39km±6km, mb5.0/198, Mww4.8/8, Error ellipse: s-maj=10.9km s-min=7.4km az=146.0*

DJA ***11*** *21:24:26.5±1.0,0.˚N±2˚×12˚6E±˚, h34km±19km, M4.6/22, mB5.0/11, mb4.8/13, MLv4.7/22, Mw(mB)4.4/11, MwMwp4.7/3, Mwp5.0/3*

GCMT ***11*** *21:24:28.0±0.4, 0.˚38N±0.˚02×126.˚49E±0.˚02, h28km±1km, MW5.0/64, Moment Tensor Solution. s25,c28; s64,c85; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.73±.23; Mθθ0.17±.13; Mϕϕ-2.90±.16; Mrθ-1.76±.25; Mϕθ-0.94±.09; Mϕr1.94±.25; Best double couple: M₀3.91100×10¹⁶ NP1:ϕ219.00000°, δ38.00000°, λ137.00000°. NP2: ϕ346.00000°, δ65.00000°, λ60.00000°. Principal axes: T 4.2740, Plg59.0000°, Azm214.0000°; N -0.7220, Plg27.0000°, Azm359.0000°; P -3.5480, Plg15.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 21:24:25.7±0.3, 0.˚23N±0.˚04×126.˚29E±0.˚04, h35km, n649,
σ1§05/666, mb5.0/169, 11C-13D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
TNTI	**Ternate**	**1.21**	**63**		**Pn**	**21**	**24**	**45.0**	**-1.2**
TNTI	**Ternate**	**1.21**	**63**	P	**Pn**	**21**	**24**	**46.5**	**+0.4**
TNTI	**Ternate**	**1.21**	**63**	P	**Pn**	**21**	**24**	**45.8**	**-0.3**
TNTI				S	**Sn**	**21**	**25**	**02.3**	**+1.0**
SANI	**Sanana**	**2.28**	**188**	P	**Pn**	**21**	**24**	**59.5**	**-1.5**
SANI	**Sanana**	**2.28**	**188**	P	**Pn**	**21**	**25**	**00.4**	**-0.6**
KMSI	**Cibinong**	**2.33**	**278**	P	**Pn**	**21**	**25**	**03.0**	**+1.4**
SGSI	**Sangihe**	**3.52**	**348**	P	**Pn**	**21**	**25**	**18.7**	**+0.7**
NLAI	**Namlea**	**3.54**	**167**	P	**Pn**	**21**	**25**	**18.1**	**-0.2**
LUWI	**Luwuk**	**3.73**	**250**		**Pn**	**21**	**25**	**22.2**	**+1.3**
LUWI	**Luwuk**	**3.73**	**250**	P	**Pn**	**21**	**25**	**24.5**	**+3.6**
LUWI	**Luwuk**	**3.73**	**250**	P	**Pn**	**21**	**25**	**22.6**	**+1.7**
AAI	**Ambon**	**4.33**	**154**	P	**Pn**	**21**	**25**	**30.7**	**+1.5**
MRSI	**Marisa**	**4.35**	**273**	P	**Pn**	**21**	**25**	**29.7**	**+0.3**
MSAI	**Masohi**	**4.42**	**143**	P	**Pn**	**21**	**25**	**32.1**	**+1.7**
MSAI				S	**Sn**	**21**	**26**	**23.3**	**+2.5**
APSI	**Ampana**	**4.77**	**256**	P	**Pn**	**21**	**25**	**35.9**	**+0.7**
SWI	**Sorong**	**5.09**	**102**	P	**Pn**	**21**	**25**	**40.2**	**+0.6**
	0.4nm5μm1μm66nm,0.7s								
TOLI2	**Tolitoli**	**5.57**	**279**		**Pn**	**21**	**25**	**46.1**	**-0.1**
TOLI2	**Tolitoli**	**5.57**	**279**	P	**Pn**	**21**	**25**	**48.5**	**+2.3**
MPSI	**Mapaga**	**6.39**	**271**	P	**Pn**	**21**	**25**	**59.2**	**+1.7**
	0.3nm1μm55nm,0.9s								
PCI	**Palu**	**6.55**	**260**	P	**Pn**	**21**	**26**	**03.2**	**+3.6**
	0.5nm1μm89nm,0.9s								
FAKI	**Fak Fak**	**6.73**	**118**	P	**Pn**	**21**	**26**	**01.5**	**-0.7**
	0.4nm3μm84nm,1.3s								
BBSI	**Bau Bau**	**6.78**	**213**	P	**Pn**	**21**	**26**	**02.8**	**-0.1**
	0.5nm1μm95nm,1.0s								
TTSI	**Tana Toraja**	**7.24**	**243**	P	**Pn**	**21**	**26**	**09.6**	**+0.5**
BNSI	**Bone**	**7.70**	**233**	P	**Pn**	**21**	**26**	**17.3**	**+1.9**
	0.3nm1μm65nm,1.7s								
SPSI	**Sidrap Palu**	**7.73**	**237**	P	**Pn**	**21**	**26**	**17.0**	**+1.1**
	1μm97nm,0.8s								
BKSI	**Bulukumba**	**8.26**	**228**	P	**Pn**	**21**	**26**	**24.2**	**+1.0**
	813nm52nm,0.8s								
KAPI	**Kappang**	**8.35**	**231**		**Pn**	**21**	**26**	**25.4**	**+1.1**
KAPI	**Kappang**	**8.35**	**231**	Pn	**Pn**	**21**	**26**	**24.1**	**-0.3**
	2.5nm,0.3s,baz=45,slow=9.5,SNR=11								
KAPI				Sn	**Sn**	**21**	**27**	**57.6**	**+0.1**
	0.9nm,0.3s,baz=57,slow=21,SNR=1.2								
KAPI	**Kappang**	**8.35**	**231**	P	**Pn**	**21**	**26**	**25.9**	**+1.5**
KAPI	**Kappang**	**8.35**	**231**	P	**Pn**	**21**	**26**	**25.5**	**+1.1**
BSSI	**Bau Bau, Buton**	**8.57**	**222**	P	**Pn**	**21**	**26**	**28.6**	**+1.1**
	49nm,1.1s								
BAKI	**Biak**	**9.92**	**98**	P	**Pn**	**21**	**26**	**45.9**	**0.0**
DRS	**Darwin Rock St**	**13.38**	**160**	P	**Pn**	**21**	**27**	**33.4**	**+0.1**
MTN	**Manton Dam**	**13.85**	**160**		**Pn**	**21**	**27**	**37.6**	**-2.0**
MTN	**Manton Dam**	**13.85**	**160**	P	**Pn**	**21**	**27**	**39.9**	**+0.2**
GENI	**Genyem**	**14.16**	**102**	P	**Pn**	**21**	**27**	**47.2**	**+3.3**
KDU	**Kakadu**	**14.22**	**155**	P	**Pn**	**21**	**27**	**43.9**	**-0.9**
JAY	**Jayapura**	**14.57**	**101**	Pn	**P**	**21**	**27**	**55.2**	**-1.5**
	0.2nm,0.3s,baz=280,slow=7.1,SNR=4.7								
JAGI	**Jajag, Banyuwa**	**14.86**	**234**		**Pn**	**21**	**27**	**54.6**	**+1.1**
JAGI	**Jajag, Banyuwa**	**14.86**	**234**	P	**Pn**	**21**	**27**	**56.0**	**+2.5**
KNRA	**Kununurra**	**15.99**	**171**		**Pn**	**21**	**28**	**06.6**	**-1.6**
KSM	**Kuching**	**16.02**	**275**		**Pn**	**21**	**28**	**10.5**	**+1.9**
KSM				IAmb	IAmb	21	28	12.9	
	comp=Z,79nm,0.9s								
KSM	**Kuching**	**16.02**	**275**	P	**P**	**21**	**28**	**12.1**	**+0.4**
SMRI	**Semarang**	**17.38**	**245**		**Pn**	**21**	**28**	**25.9**	**+0.1**
SMRI				IAmb	IAmb	21	28	29.9	
	comp=Z,88nm,0.7s								
FITZ	**Fitzroy Crossi**	**18.22**	**182**		**P**	**21**	**28**	**35.2**	**-0.9**

FITZ	**Fitzroy Crossi**	**18.22**	**182**	P	**P**	**21 28 34.1**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=26,slow=5.5,SNR=12							
	comp=Z,6.5nm,0.7s							
FITZ	**Fitzroy Crossi**	**18.22**	**182**	P	**P**	**21 28 36.9**	**+0.9**
BBJI	**Bungbulang**	**20.09**	**247**	P	**P**	**21 28 56.7**	**0.0**
WB0	**Warramunga Arr**	**21.40**	**159**		**P**	**21 29 09.1**	**-1.6**
WB0				IAmb	IAmb	21 29 15.0		
	comp=Z,43nm,0.8s							
WRAB	**Tennant Creek**	**21.54**	**159**	P	**P**	**21 29 10.8**	**-1.3**
WRAB	**Tennant Creek**	**21.54**	**159**	P	**P**	**21 29 10.8**	**-1.3**
WRAB				pmax	pmax			
	comp=Z,29nm,0.9s							
WRA	**Warramunga Arr**	**21.54**	**159**		**P**	**21 29 10.0**	**-2.2**
WRA	**Warramunga Arr**	**21.54**	**159**	P	**P**	**21 29 10.2**	**-2.0**
	comp=Z,28nm,0.7s,baz=338,slow=11,SNR=12							
WRA				ScP	**ScP**	**21 36 50.9**	**+2.3**	
	comp=Z,1.3nm,1.0s,baz=348,slow=3.1,SNR=4.2							
	comp=Z,28nm,0.7s							
WRA	**Warramunga Arr**	**21.54**	**159**	P	**P**	**21 29 10.0**	**-2.2**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
WR8	**Warramunga Arr**	**21.61**	**159**		**P**	**21 29 11.1**	**-1.9**
COEN	**Coen**	**21.87**	**131**		**P**	**21 29 14.6**	**-1.2**
COEN				IAmb	IAmb	21 29 33.3		
	comp=Z,83nm,1.4s							
COEN	**Coen**	**21.87**	**131**	P	**P**	**21 29 18.0**	**+2.3**
QIS	**Mount Isa**	**24.43**	**149**	P	**P**	**21 29 41.1**	**-0.2**
AS31	**Alice Springs**	**24.88**	**163**		**P**	**21 29 44.5**	**-0.9**
ASAR	**Alice Springs**	**24.88**	**163**	P	**P**	**21 29 44.5**	**-0.9**
	comp=Z,14nm,0.5s,baz=345,slow=12,SNR=121							
ASAR				PcP	**PcP**	**21 33 22.2**	**+1.3**	
	comp=Z,0.7nm,0.6s,baz=343,slow=2.1,SNR=1.7							
	comp=Z,14nm,0.5s							
AS01	**Alice Springs**	**24.89**	**163**	P	**P**	**21 29 46.4**	**+0.9**
UBPT	**Khong Chiam**	**25.43**	**307**		**P**	**21 29 50.0**	**-0.4**
MTSU	**Mount Surprise**	**25.44**	**137**	P	**P**	**21 29 53.9**	**+3.3**
IPM	**Ipoh**	**25.59**	**280**	P	**P**	**21 29 50.8**	**-1.1**
JOW	**Kunigami**	**26.52**	**4**	P	**P**	**21 30 00.3**	**+0.1**
JOW				IAmb	IAmb	21 30 08.5		
	comp=Z,64nm,1.0s							
JOW	**Kunigami**	**26.52**	**4**	P	**P**	**21 30 02.0**	**+1.8**
	comp=Z,53nm,0.9s,baz=167,slow=9.2,SNR=5.2							
	comp=Z,53nm,0.9s							
CMAR	**Chiang Mai Arr**	**32.40**	**306**	PcP	**PcP**	**21 33 40.9**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=215,slow=1.3,SNR=4.5							
CMAR				ScP	**ScP**	**21 37 24.9**	**+3.8**	
	comp=Z,1.4nm,0.9s,baz=159,slow=2.5,SNR=7.9							
CMAR	**Chiang Mai Arr**	**32.40**	**306**	*i* P	P	21 30 48.7	-3.8	
CMAR				pmax	pmax			
	comp=Z,5.0nm,0.7s							
NJ2	**Nanjing**	**32.42**	**348**	*e*P	**P**	**21 30 55.8**	**+3.3**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
CHTO	**Chiang Mai**	**32.58**	**306**	P	**P**	**21 30 51.0**	**-3.1**
CHTO	**Chiang Mai**	**32.58**	**306**		**P**	**21 30 51.3**	**-2.8**
JNU	**Nakatsue**	**33.00**	**7**	P	**P**	**21 30 58.4**	**+0.8**
	comp=Z,11nm,0.9s,baz=140,slow=4.1,SNR=4.6							
	comp=Z,11nm,0.9s							
EIDS	**Eidsvold**	**34.96**	**139**	P	**P**	**21 31 14.1**	**-0.6**
EIDS	**Eidsvold**	**34.96**	**139**	P	**P**	**21 31 15.3**	**+0.6**
STKA	**Stephens Creek**	**35.07**	**157**	P	**P**	**21 31 14.3**	**-1

comp=Z,35nm,2.4s
WMQ Urumqi 55.36 327 *e*P **P 21 33 59.0 +2.6**
WMQ LR LR
comp=Z,320nm,18.1s
WMQ LR LR
comp=Z,170nm,16.7s
MOY Mondy 55.52 341 *e*P **P 21 33 58.5 +1.1**
MOY pmax pmax
comp=Z,21nm,2.1s
BOD Bodaibo 58.25 352 *e*P **P 21 34 16.4 -0.1**
BOD pmax pmax
comp=Z,32nm,1.4s
PEA0B Petropavlovsk- 58.82 22 P 21 34 20.4 -0.2
PEA0B Petropavlovsk- 58.82 22 P **P 21 34 20.4 -0.2**
PEA0B pmax pmax
comp=Z,29nm,1.0s
PETK Petropavlovsk- 58.82 22 P **P 21 34 20.9 +0.3**
PETK Petropavlovsk- 58.82 22 P **P 21 34 22.3 +1.6**
comp=Z,14nm,0.8s,baz=200,slow=6.1,SNR=14
comp=Z,14nm,0.8s
PETK Petropavlovsk- 58.82 22 P **P 21 34 20.9 +0.3**
LBZ Lake Benmore 59.08 145 P **P 21 34 21.8 -0.7**
PET Petropavlovsk 59.11 22 P **P 21 34 22.7 +0.1**
PET Petropavlovsk 59.11 22⇑ *e*P **P 21 34 23.1 +0.5**
PET pmax pmax
comp=Z,36nm,1.7s
ZSN Zaisan 59.21 328 *e*P **P 21 34 22.2 -1.2**
ZSN Zaisan 59.21 328 *e*P **P 21 34 22.3 -1.2**
MK31 Makanchi Array 60.19 327 *d i*P **P 21 34 29.7 -0.5**
MKAR Makanchi Array 60.19 327 P **P 21 34 29.6 -0.6**
comp=Z,9.3nm,0.7s,baz=118,slow=8.2,SNR=37
comp=Z,9.3nm,0.7s
KSH Kashi 60.23 317 P **P 21 34 31.6 +0.8**
KSH pmax pmax
comp=Z,7.0nm,1.0s
MAKZ Makanchi 60.37 326 P **P 21 34 30.8 -0.7**
MAKZ IAmb IAmb 21 34 35.8
comp=Z,19nm,1.2s
MAKZ Makanchi 60.37 326 P **P 21 34 30.8 -0.7**
MAKZ pmax pmax
comp=Z,19nm,1.2s
MAKZ Makanchi 60.37 326 P **P 21 34 31.5 0.0**
TNSS Tian-Shan 61.29 321 *e*P **P 21 34 36.7 -1.5**
TNSS Tian-Shan 61.29 321 *e*P **P 21 34 36.8 -1.5**
AAA Alma-Ata 61.39 321 *e*P **P 21 34 37.1 -1.4**
AAA Alma-Ata 61.39 321 *e*P **P 21 34 37.1 -1.4**
TDK Taldyqorghan 61.41 323 *e*P **P 21 34 37.1 -1.4**
TDK pmax pmax
comp=Z,6.0nm,0.6s
TDK Taldyqorghan 61.41 323 *e*P **P 21 34 37.2 -1.4**
comp=Z,6.4nm,0.6s
CHKK Chushkaly 61.67 321 *e*P **P 21 34 39.3 -1.0**
CHKK Chushkaly 61.67 321 *e*P **P 21 34 39.4 -1.0**
YAK Yakutsk 61.70 2 **P 21 34 40.5 +0.4**
YAK Yakutsk 61.70 2 *e*P **P 21 34 40.0 -0.1**
YAK *e* 21 35 21.1
YAK *e* 21 36 56.0
YAK *e*S **S 21 43 03.4 +3.3**
YAK pmax pmax
comp=Z,25nm,0.8s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=Z,32nm,3.0s
YAK pmax pmax
comp=N,22nm,2.8s
YAK pmax pmax
comp=E,21nm,3.2s
YAK smax smax
comp=N,79nm,4.8s
YAK smax smax
comp=E,74nm,3.8s
KUU Kurty 62.10 321 *e*P **P 21 34 42.2 -1.0**
KUU pmax pmax
comp=Z,11nm,0.8s
KUU Kurty 62.10 321 *e*P **P 21 34 42.2 -1.0**
comp=Z,11nm,0.8s
MA2 Magadan 62.19 14 **P 21 34 43.8 +0.4**
MA2 Magadan 62.19 14 P **P 21 34 45.7 +2.2**
MA2 Magadan 62.19 14 *de*P **P 21 34 45.0 +1.5**
MA2 pmax pmax
comp=Z,23nm,0.7s
MA2 Magadan 62.19 14 P **P 21 34 44.8 +1.3**
comp=Z,46nm,0.9s
AAK Ala-Archa 62.67 319 **P 21 34 46.3 -1.0**
AAK Ala-Archa 62.67 319⇓ *e*P **P 21 34 47.5 +0.2**
AAK pmax pmax
comp=Z,4.0nm,0.8s
SGDS Sogindy 62.97 320 *e*P **P 21 34 48.1 -1.0**
comp=Z,8.1nm,1.4s
ARSB Arslanbob 63.08 317 P **P 21 34 47.7 -2.3**
ARSB Arslanbob 63.08 317 P **P 21 34 47.7 -2.3**
KBL Kabul 63.33 309 P **P 21 34 50.8 -1.1**
KBL Kabul 63.33 309 P **P 21 34 50.8 -1.1**
KBL pmax pmax
comp=Z,7.0nm,0.9s
ZAA0 Zalesovo Array 63.51 334 **P 21 34 51.4 -1.0**
ZAA0 IAmb IAmb 21 34 56.6
comp=Z,11nm,0.9s
ZALV Zalesovo Beam 63.51 334 **P 21 34 51.8 -0.5**
ZALV Zalesovo Beam 63.51 334 P **P 21 34 51.5 -0.8**
comp=Z,14nm,0.9s,baz=141,slow=8.1,SNR=12
comp=Z,14nm,0.9s
ZALV Zalesovo Beam 63.51 334 *i*P **P 21 34 51.9 -0.4**
ZALV pmax pmax
comp=Z,13nm,0.9s
GAR Garm 63.99 314 **P 21 34 54.0 -2.0**
GAR IAmb IAmb 21 34 56.8
comp=Z,26nm,1.0s
BTK Batken 64.05 315 P **P 21 34 54.4 -1.9**
BTK Batken 64.05 315 P **P 21 34 54.4 -1.9**
KURBB Kurchatov Arra 64.45 328 P **P 21 34 58.2 -0.4**
comp=Z,16nm,0.8s,baz=129,slow=6.3,SNR=55
comp=Z,16nm,0.8s
KURK Kurchatov 64.46 329 **P 21 34 57.7 -1.0**
KURK Kurchatov 64.46 329 *ce*P **P 21 34 58.1 -0.6**
KURK pmax pmax
comp=Z,46nm,1.3s
KURK Kurchatov 64.46 329 P **P 21 34 58.1 -0.6**
KURK PcP **PcP 21 35 33.0 +0.3**
SIMJ Simiganj 64.81 313 P **P 21 35 00.8 -0.6**
SIMJ PcP **PcP 21 35 32.3 -2.4**
DZA Taraz 64.87 318 *e*P **P 21 35 00.5 -1.1**
DZA Taraz 64.87 318 *e*P **P 21 35 00.5 -1.1**
IUG Iuzhnay 65.43 317 *e*P **P 21 35 04.0 -1.3**
IUG pmax pmax
comp=Z,9.0nm,0.9s
IUG Iuzhnay 65.43 317 *e*P **P 21 35 04.0 -1.3**
comp=Z,8.9nm,0.9s
KK31 Karatay Array 65.50 318 **P 21 35 04.5 -1.2**
KK31 Karatay Array 65.50 318 P **P 21 35 04.5 -1.2**
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 65.50 318 **P 21 35 04.7 -1.0**
KKAR Karatay Array 65.50 318 P **P 21 35 04.7 -1.0**
SEY Seymchan 65.52 13⇑ *e*P **P 21 35 05.6 +0.3**
SEY pmax pmax
comp=Z,17nm,1.0s
SMY Shemya 65.70 30 P **P 21 35 06.0 -0.7**
SMY Shemya 65.70 30 P **P 21 35 06.0 -0.7**
SMY pmax pmax
comp=Z,195nm,1.5s
BRLS Borolday 65.92 318 *e*P **P 21 35 07.6 -0.8**
BRLS Borolday 65.92 318 *e*P **P 21 35 07.6 -0.8**
BRZS Berezniki 67.29 326 *e*P **P 21 35 15.8 -1.1**
BRZS Berezniki 67.29 326 *e*P **P 21 35 15.9 -1.1**
BVAR Borovoye Array 70.01 328 P **P 21 35 33.6 -0.3**
comp=Z,3.2nm,0.6s
comp=Z,3.2nm,0.6s
BRVK Borovoye 70.08 328 **P 21 35 34.2 -0.1**
BRVK IAmb IAmb 21 35 41.5
comp=Z,14nm,0.8s
BRVK Borovoye 70.08 328 *ce*P **P 21 35 33.7 -0.6**
BRVK pmax pmax
comp=Z,30nm,1.7s
BRVK Borovoye 70.08 328 P **P 21 35 34.0 -0.3**
ADK Adak 70.10 34 P **P 21 35 32.7 -1.6**
ADK Adak 70.10 34 P **P 21 35 32.7 -1.6**
ADK pmax pmax
comp=Z,44nm,1.3s
TIXI Tiksi 71.33 1 **P 21 35 40.2 -1.2**
TIXI Tiksi 71.33 1⇓ *e*P **P 21 35 40.8 -0.6**
TIXI pmax pmax

comp=Z,16nm,1.7s
NRIK Noril'sk 73.71 347 **P 21 35 56.0 +0.3**
NRIK IAmb IAmb 21 35 56.9
comp=Z,16nm,1.1s
NRIK Noril'sk 73.71 347 P **P 21 35 55.5 -0.1**
comp=Z,9.0nm,0.8s,baz=135,slow=5.4,SNR=10
comp=Z,9.0nm,0.8s
NRIK Noril'sk 73.71 347 *ce*P **P 21 35 55.6 -0.1**
NRIK pmax pmax
comp=Z,12nm,1.0s
AB31 Akbulak array 74.58 321 **P 21 36 00.4 -0.8**
AB31 IAmb IAmb 21 36 01.9
comp=Z,16nm,0.8s
ABKAR Akbulak array 74.58 321 **P 21 36 00.7 -0.5**
NIKH Nikolski High 74.92 35 P **P 21 36 03.3 +0.3**
baz=250
SPIA Saint Paul Isl 75.72 30 P **P 21 36 07.8 +0.2**
baz=247
P08K Saint George I 75.86 31 P **P 21 36 09.2 +0.8**
P08K Saint George I 75.86 31 P **P 21 36 09.0 +0.7**
baz=248
UNV Unalaska Valle 76.54 34 **P 21 36 12.4 +0.1**
UNV IAmb IAmb 21 36 20.0
comp=Z,18nm,0.8s
UNV Unalaska Valle 76.54 34 P **P 21 36 13.6 +1.3**
UNV Unalaska Valle 76.54 34 P **P 21 36 12.8 +0.5**
baz=251
KIP Kipapa 76.61 68 P **P 21 36 12.8 -0.6**
KIP Kipapa 76.61 68 P **P 21 36 12.8 -0.6**
KIP pmax pmax
comp=Z,188nm,1.5s
SVE Sverdlovsk 76.70 329 *de*P **P 21 36 12.8 -0.4**
SVE pmax pmax
comp=Z,40nm,1.3s
AKUT Akutan 77.04 34 P **P 21 36 15.0 -0.1**
AKUT Akutan 77.04 34 P **P 21 36 16.5 +1.4**
ARTI Arti 77.73 328 **P 21 36 18.3 -0.7**
ARTI IAmb IAmb 21 36 19.0
comp=Z,14nm,0.8s
ARTI Arti 77.73 328 *d i*P **P 21 36 18.7 -0.3**
ARTI 21 39 08.5
ARTI S **S 21 46 09.4 +0.7**
ARTI SS **SS 21 51 03.1 -6.1**
ARTI pmax pmax
comp=Z,34nm,1.7s
GAMB Gambell 77.76 24 P **P 21 36 19.3 +0.4**
baz=244
KHLU Kahalu`u 78.45 70 P **P 21 36 20.7 -3.1**
M11K Mekoryuk 78.85 28 P **P 21 36 25.0 0.0**
baz=250
S12K Black Hills 79.55 33 P **P 21 36 29.5 +0.5**
baz=255
VNDA Vanda 80.03 173 **P 21 36 31.0 -0.2**
VNDA Vanda 80.03 173 P **P 21 36 30.8 -0.4**
comp=Z,2.2nm,0.8s,baz=309,slow=5.9,SNR=11
comp=Z,2.2nm,0.8s
VNDA Vanda 80.03 173 P **P 21 36 31.0 -0.2**
VNDA pmax pmax
comp=Z,6.0nm,1.3s
K13K Kusilvak Mount 80.06 27 **P 21 36 32.2 +0.5**
K13K IAmb IAmb 21 36 34.3
comp=Z,21nm,0.9s
K13K Kusilvak Mount 80.06 27 P **P 21 36 32.4 +0.8**
baz=251
M13K Dall Lake 80.20 28 P **P 21 36 32.9 +0.5**
M13K IAmb IAmb 21 36 35.2
comp=Z,24nm,0.9s
M13K Dall Lake 80.20 28 P **P 21 36 33.6 +1.2**
baz=253
SDPT Sand Point 80.33 34 **P 21 36 32.6 -0.5**
SDPT Sand Point 80.33 34 P **P 21 36 33.5 +0.4**
baz=256,SNR=20
F14K Arctic Creek 80.55 23 P **P 21 36 35.5 +1.3**
baz=249
ANM Nome 80.62 24 P **P 21 36 35.7 +1.1**
baz=250
CNBA Chernabura Isl 80.70 34 P **P 21 36 34.7 -0.5**
CNBA IAmb IAmb 21 36 37.2
comp=Z,12nm,0.7s
CHNA Chernabura Isl 80.70 34 P **P 21 36 38.3 +3.1**
CHNA Chernabura Isl 80.70 34 P **P 21 36 35.8 +0.6**
baz=257
L14K Kuka Creek 80.78 28 P **P 21 36 36.3 +0.8**
baz=253
J14K Nanvaranak Lak 80.81 26 P **P 21 36 36.1 +0.5**
J14K IAmb IAmb 21 36 38.3
comp=Z,19nm,1.1s
J14K Nanvaranak Lak 80.81 26 P **P 21 36 36.5 +0.9**
baz=252,SNR=5.8
N14K Kuskokwak Cree 80.86 29 **P 21 36 36.4 +0.5**
N14K Kuskokwak Cree 80.86 29 P **P 21 36 36.7 +0.8**
baz=254,SNR=8.0
O14K Tigyukauivet M 80.89 30 **P 21 36 37.4 +1.3**
O14K IAmb IAmb 21 36 38.8
comp=Z,26nm,0.9s
O14K Tigyukauivet M 80.89 30 P **P 21 36 37.0 +0.9**
baz=255,SNR=7.5
SBA Scott Base 80.95 172 P **P 21 36 36.3 +0.2**
SBA Scott Base 80.95 172 P **P 21 36 36.3 +0.2**
SBA pmax pmax
comp=Z,11nm,1.4s
M14K Bethel 80.95 28 **P 21 36 36.8 +0.4**
M14K IAmb IAmb 21 36 39.0
comp=Z,28nm,0.8s
M14K Bethel 80.95 28 P **P 21 36 37.5 +1.1**
baz=254,SNR=14
S14K Fog Glacier 81.05 33 P **P 21 36 37.9 +0.7**
baz=257,SNR=6.5
AKT Akhty 81.28 312 *e*P **P 21 36 37.0 -1.7**
AKT *e*S **S 21 46 43.5 -3.6**
AKT pmax pmax
comp=Z,25nm,1.0s
F15K North Star Dit 81.29 23 P **P 21 36 38.5 +0.3**
F15K IAmb IAmb 21 38 03.5
comp=Z,21nm,1.4s
F15K North Star Dit 81.29 23 P **P 21 36 39.0 +0.8**
baz=251
G15K Niukluk 81.30 24 P **P 21 36 39.0 +0.8**
baz=251
L15K Ungalak Mounta 81.43 27 P **P 21 36 39.5 +0.6**
baz=254,SNR=8.7
RAYN Ar Rayn 81.45 294 **P 21 36 39.5 -0.5**
RAYN IAmb IAmb 21 36 41.0
comp=Z,14nm,0.8s
RAYN Ar Rayn 81.45 294 P **P 21 36 39.5 -0.5**
RAYN pmax pmax
comp=Z,14nm,0.9s
M15K Kasigluk River 81.54 28 P **P 21 36 40.2 +0.7**
baz=255,SNR=11
K15K Wolf Creek Mou 81.57 27 **P 21 36 40.1 +0.4**
K15K IAmb IAmb 21 36 42.6
comp=Z,26nm,0.9s
K15K Wolf Creek Mou 81.57 27 P **P 21 36 40.8 +1.1**
baz=254,SNR=11
O15K Ungalikthiuk R 81.59 30 P **P 21 36 40.6 +0.7**
O15K IAmb IAmb 21 36 42.0
comp=Z,13nm,0.9s
O15K Ungalikthiuk R 81.59 30 P **P 21 36 40.5 +0.6**
baz=256
CHGN Chignik 81.68 33 P **P 21 36 40.2 -0.1**
CHGN IAmb IAmb 21 36 41.5
comp=Z,18nm,0.8s
CHGN Chignik 81.68 33 P **P 21 36 40.9 +0.5**
baz=258
N15K Kwethluk River 81.70 29 **P 21 36 40.3 -0.2**
N15K IAmb IAmb 21 36 43.4
comp=Z,20nm,0.9s
N15K Kwethluk River 81.70 29 P **P 21 36 41.4 +1.0**
baz=256,SNR=13
C16K Lisburne Hills 81.90 20 P **P 21 36 42.6 +1.3**
baz=250
H16K Elim 81.93 24 P **P 21 36 42.3 +0.8**
baz=253
G16K Koyuk River 82.10 24 P **P 21 36 42.9 +0.5**
G16K IAmb IAmb 21 36 45.7
comp=Z,24nm,1.1s
G16K Koyuk River 82.10 24 P **P 21 36 43.2 +0.8**
baz=253,SNR=6.8
J16K Anvik River 82.25 26 **P 21 36 44.2 +1.0**
J16K Anvik River 82.25 26 P **P 21 36 45.0 +1.8**
baz=255,SNR=17
L16K Owhat River 82.36 28 **P 21 36 44.4 +0.5**
L16K Owhat River 82.36 28 P **P 21 36 44.8 +1.0**
baz=256,SNR=18
I17K Unalakleet 82.37 25 **P 21 36 44.1 +0.3**
I17K Unalakleet 82.37 25 P **P 21 36 45.5 +1.6**
baz=255,SNR=5.5
N16K Nishlik Lake 82.41 29 P **P 21 36 45.3 +1.2**
baz=257,SNR=12
M16K Timber Creek 82.44 28 **P 21 36 44.6 +0.3**
M16K IAmb IAmb 21 36 46.9
comp=Z,22nm,0.9s
M16K Timber Creek 82.44 28 P **P 21 36 45.0 +0.7**
baz=257,SNR=11
P16K Nushagak River 82.48 30 P **P 21 36 45.5 +1.0**
baz=258
D17K Noatak River 82.52 21 P **P 21 36 46.0 +1.4**
baz=252,SNR=10
O16K Kokwok River B 82.55 30 **P 21 36 45.0 +0.2**
O16K IAmb IAmb 21 36 47.1
comp=Z,20nm,0.9s
O16K Kokwok River B 82.55 30 P **P 21 36 45.9 +1.1**
baz=258,SNR=11
RDOG Red Dog Mine 82.69 21 P **P 21 36 45.8 +0.4**
RDOG IAmb IAmb 21 37 20.4
comp=Z,30nm,1.3s
RDOG Red Dog Mine 82.69 21 P **P 21 36 47.1 +1.6**
baz=252
C17K DeLong Mountai 82.72 21 P **P 21 36 47.0 +1.4**
baz=252
E17K Hotham Inlet 82.80 22 P **P 21 36 47.4 +1.4**
baz=253,SNR=6.9
G17K Kiwalik Mounta 82.81 24 P **P 21 36 47.5 +1.3**
baz=254,SNR=14
F17K Baldwin Pennin 82.83 23 P **P 21 36 46.6 +0.4**
F17K IAmb IAmb 21 36 49.0
comp=Z,27nm,1.1s
F17K Baldwin Pennin 82.83 23 P **P 21 36 47.6 +1.4**
baz=254,SNR=5.4
BELG Belogornoye 82.90 323 *d i*P **P 21 36 46.5 -0.3**
BELG pmax pmax
comp=Z,8.0nm,0.9s
J17K VABM Dome 82.94 26 **P 21 36 47.7 +0.8**
J17K VABM Dome 82.94 26 P **P 21 36 48.2 +1.4**
baz=256,SNR=16
H17K Granite Mounta 82.97 24 **P 21 36 47.7 +0.7**
H17K Granite Mounta 82.97 24 P **P 21 36 48.5 +1.5**
baz=255,SNR=11
KIRV Kirov 82.97 329 *de*P **P 21 36 46.9 -0.2**
L17K Donlin 83.00 27 P **P 21 36 49.0 +1.8**
baz=257,SNR=15
R17L Mt. Peulik Vol 83.04 32 P **P 21 36 47.6 +0.1**
baz=259,SNR=7.9
PLK4 Peulik 4 83.05 32 **P 21 36 47.4 -0.2**
O17K Koliganek Bris 83.08 30 P **P 21 36 48.6 +1.0**
baz=258,SNR=12
CHIR Chirikof Islan 83.12 34 P **P 21 36 45.8 -2.1**
CHIR Chirikof Islan 83.12 34 P **P 21 36 48.5 +0.6**
baz=260
K17K Iditarod 83.13 27 **P 21 36 49.4 +1.5**
K17K Iditarod 83.13 27 P **P 21 36 49.0 +1.1**
baz=257,SNR=26
N17K Nushagak Hills 83.19 29 P **P 21 36 49.1 +0.9**
N17K IAmb IAmb 21 36 51.1
comp=Z,21nm,1.1s
N17K Nushagak Hills 83.19 29 P **P 21 36 49.7 +1.6**
baz=258,SNR=11
M17K Holitna River 83.24 28 **P 21 36 48.6 +0.2**
M17K Holitna River 83.24 28 P **P 21 36 50.0 +1.6**
baz=258,SNR=13
P17K Kvichak River 83.29 30 P **P 21 36 49.1 +0.4**
baz=259
E18K Tukpahlearik C 83.35 22 **P 21 36 49.1 +0.2**
E18K Tukpahlearik C 83.35 22 P **P 21 36 50.2 +1.4**
baz=254,SNR=11
Q17K Contact Creek 83.41 31 P **P 21 36 49.0 -0.5**
baz=260,SNR=13
B18K Kokolik River 83.47 20 P **P 21 36 51.2 +1.8**
baz=253
C18K Utukok River 83.47 21 P **P 21 36 49.4 -0.1**
C18K IAmb IAmb 21 36 52.0
comp=Z,12nm,1.1s
C18K Utukok River 83.47 21 P **P 21 36 50.7 +1.1**
baz=254
F18K Selawik 83.49 23 P **P 21 36 50.5 +0.9**
baz=255
H18K Honhosa River 83.66 24 P **P 21 36 50.4 -0.2**
H18K IAmb IAmb 21 36 53.5
comp=Z,27nm,1.2s
H18K Honhosa River 83.66 24 P **P 21 36 51.1 +0.6**
baz=257,SNR=8.8
ACHA Angle Creek He 83.69 31 P **P 21 36 50.8 -0.2**
ACHA IAmb IAmb 21 36 51.9
comp=Z,8.8nm,0.9s
G18K Tagagawik 83.71 24 **P 21 36 50.7 -0.1**
G18K IAmb IAmb 21 36 53.0
comp=Z,20nm,1.4s
G18K Tagagawik 83.71 24 P **P 21 36 51.9 +1.1**
baz=256,SNR=7.0
L18K Granite Mounta 83.76 27 **P 21 36 51.7 +0.6**
L18K Granite Mounta 83.76 27 P **P 21 36 52.3 +1.2**
baz=258,SNR=34
N18K Kilae Creek 83.84 29 **P 21 36 51.9 +0.3**
N18K IAmb IAmb 21 36 54.2
comp=Z,22nm,1.1s
N18K Kilae Creek 83.84 29 P **P 21 36 53.0 +1.4**
baz=259,SNR=10.0
Q18K Katmai Hardscr 83.93 31 P **P 21 36 51.9 -0.2**
baz=260
P18K Big Mountain, 83.94 30 **P 21 36 51.2 -0.9**
P18K IAmb IAmb 21 36 53.4
comp=Z,12nm,0.9s
P18K Big Mountain, 83.94 30 P **P 21 36 52.1 0.0**
baz=260,SNR=5.6
J18K Innoko River 84.00 26 **P 21 36 52.8 +0.5**
J18K IAmb IAmb 21 36 55.2
comp=Z,17nm,1.1s
J18K Innoko River 84.00 26 P **P 21 36 53.1 +0.8**
baz=258,SNR=9.9
M18K Stony River 84.02 28 P **P 21 36 53.1 +0.7**
baz=259,SNR=27
O18K Koktuh Hills 84.03 30 **P 21 36 53.1 +0.6**
O18K IAmb IAmb 21 36 54.7
comp=Z,18nm,1.1s
O18K Koktuh Hills 84.03 30 P **P 21 36 53.1 +0.6**
baz=260,SNR=7.2
SII Sitkinak Islan 84.03 33 **P 21 36 52.7 0.0**
SII Sitkinak Islan 84.03 33 P **P 21 36 54.8 +2.2**
SII Sitkinak Islan 84.03 33 P **P 21 36 53.2 +0.6**
baz=261
R18K Karluk 84.04 32 P **P 21 36 53.0 +0.4**
baz=261
C19K Lookout Ridge 84.16 20 P **P 21 36 53.7 +0.6**
C19K Lookout Ridge 84.16 20 P **P 21 36 54.2 +1.1**
baz=255,SNR=9.5
GCSA Galena City Sc 84.19 25 P **P 21 36 54.1 +0.9**
baz=258
F19K Shaleruckik Mo 84.28 23 **P 21 36 54.2 +0.7**
F19K Shaleruckik Mo 84.28 23 P **P 21 36 54.3 +0.7**
baz=257
G19K Purcell Mounta 84.39 23 **P 21 36 53.7 -0.6**
G19K IAmb IAmb 21 36 57.4
comp=Z,18nm,1.1s
G19K Purcell Mounta 84.39 23 P **P 21 36 54.9 +0.7**
baz=258,SNR=9.0
H19K Roundabout Mou 84.52 24 **P 21 36 55.7 +0.8**
H19K IAmb IAmb 21 37 00.1
comp=Z,19nm,1.2s
H19K Roundabout Mou 84.52 24 P **P 21 36 56.0 +1.1**
baz=258,SNR=6.3
D19K Kuna River 84.53 21 P **P 21 36 55.5 +0.6**
D19K IAmb IAmb 21 37 05.3
comp=Z,6.7nm,0.8s
D19K Kuna River 84.53 21 P **P 21 36 55.8 +0.9**
baz=257
GEVA Gevas 84.54 308 **P 21 36 55.7 -0.1**
N19K Bonanza Creek 84.55 29 **P 21 36 55.7 +0.5**
N19K Bonanza Creek 84.55 29 P **P 21 36 56.2 +1.0**
baz=261,SNR=31
J19K Poorman 84.58 26 **P 21 36 55.8 +0.6**
J19K IAmb IAmb 21 36 58.6
comp=Z,18nm,1.3s
J19K Poorman 84.58 26 P **P 21 36 56.1 +0.9**
baz=259,SNR=9.3
L19K White Mountain 84.60 28 P **P 21 36 55.9 +0.5**
L19K IAmb IAmb 21 36 58.5
comp=Z,19nm,1.1s
L19K White Mountain 84.60 28 P **P 21 36 56.1 +0.7**
baz=260,SNR=14
OHAK Old Harbor 84.62 33 **P 21 36 55.9 +0.4**
OHAK Old Harbor 84.62 33 P **P 21 36 59.5 +4.0**
OHAK Old Harbor 84.62 33 P **P 21 36 56.3 +0.8**

baz=262
E19K **Redstone River** 84.62 22 P P 21 36 55.4 +0.1
E19K IAmb IAmb 21 36 57.7
comp=Z,14nm,1.2s
E19K **Redstone River** 84.62 22 P P 21 36 55.9 +0.5
baz=258,SNR=6.7
Q19K **Cape Douglas,** 84.67 31 P P 21 36 54.2 -1.7
Q19K **Cape Douglas,** 84.67 31 P P 21 36 55.7 -0.2
baz=262
KARS **Kars** 84.69 311 P 21 36 55.5 -1.0
KARS **Kars** 84.69 311 P P 21 36 55.5 -1.0
KARS pmax pmax
comp=Z,31nm,1.3s
M19K **Big River Lodg** 84.77 28 P P 21 36 57.1 +0.9
baz=261
P19K **Oil Pt** 84.99 30 P P 21 36 57.6 +0.2
baz=262
GOF **Gofitskoye** 85.06 315 *ce* P P 21 36 57.8 -0.2
KBZ **Khabaz** 85.06 314 P P 21 36 57.8 -0.2
comp=Z,11nm,1.1s,baz=75,slow=2.2,SNR=11
comp=Z,11nm,1.1s
KBZ **Khabaz** 85.06 314 *ce* P P 21 36 57.5 -0.5
KBZ pmax pmax
comp=Z,10.0nm,1.1s
KDAK **Kodiak Island** 85.07 32 P 21 36 57.3 -0.5
KDAK **Kodiak Island** 85.07 32 *ce* P P 21 36 58.2 +0.4
KDAK pmax pmax
comp=Z,33nm,1.0s
KDAK **Kodiak Island** 85.07 32 P P 21 36 58.3 +0.6
baz=262
ILSW **Iliamna Southw** 85.08 30 P P 21 36 56.9 -1.0
ILSW IAmb IAmb 21 36 58.4
comp=Z,10nm,1.0s
L20K **Farewell, AK** 85.09 27 P P 21 36 58.8 +0.9
baz=261
F20K **Avaraart Lake** 85.11 23 P 21 36 57.1 -0.6
F20K **Avaraart Lake** 85.11 23 P P 21 36 58.7 +0.9
baz=259
D20K **Etivluk River** 85.11 21 P 21 36 58.4 +0.5
D20K **Etivluk River** 85.11 21 P P 21 36 57.9 0.0
baz=258
K20K **Telida** 85.15 26 P P 21 36 58.9 +0.8
baz=261
H20K **Anotleneega Mo** 85.16 24 P P 21 36 58.7 +0.6
baz=260
E20K **Nigu River** 85.17 21 P P 21 36 59.2 +0.9
baz=258,SNR=8.4
B20K **Meade River** 85.20 20 P P 21 36 59.0 +0.8
baz=257
KIV **Kislovodsk** 85.22 314 P 21 36 58.4 -0.6
KIV **Kislovodsk** 85.22 314 *e* P P 21 36 59.0 0.0
KIV pmax pmax
comp=Z,9.0nm,1.1s
J20K **Nowinta River** 85.25 26 P 21 36 59.0 +0.4
J20K **Nowinta River** 85.25 26 P P 21 36 59.2 +0.6
baz=261
Q20K **Shuyak Island** 85.27 31 P P 21 36 59.1 +0.3
baz=263
RED **Redoubt Volcan** 85.32 29 P P 21 36 58.0 -1.1
RED IAmb IAmb 21 37 00.4
comp=Z,20nm,1.0s
O20K **Slope Mountain** 85.35 30 P P 21 37 00.1 +0.9
baz=262
M20K **Styx River** 85.35 28 P P 21 36 59.3 0.0
M20K **Styx River** 85.35 28 P P 21 37 00.1 +0.8
baz=262
GURO **Guroymak-BITLI** 85.36 308 P P 21 36 59.7 -0.2
A21K **Barrow** 85.66 18 P P 21 37 01.1 +0.7
baz=258
IMAR **Indian Mountai** 85.70 24 P P 21 37 00.8 -0.1
SPU **Mount Spurr** 85.77 29 P P 21 37 00.5 -0.8
C21K **Knifeblade Rid** 85.85 21 P P 21 37 02.7 +1.3
baz=260
G21K **Allakaket** 85.88 23 P P 21 37 02.3 +0.6
baz=261
PPLA **Purkeypile** 85.93 27 P P 21 37 02.5 +0.3
baz=262
CNPM **China Poot** 85.98 30 P P 21 37 01.7 -0.6
B21K **Ikpikpuk River** 85.99 20 P P 21 37 03.0 +0.9
baz=260
F21K **Alatna River** 86.00 23 P P 21 37 02.9 +0.6
F21K **Alatna River** 86.00 23 P P 21 37 03.1 +0.8
baz=261
E21K **Killik River** 86.01 21 P P 21 37 03.1 +0.7
baz=260
H21K **Melozitna Rive** 86.04 24 P P 21 37 03.0 +0.6
H21K **Melozitna Rive** 86.04 24 P P 21 37 03.1 +0.6
baz=262
CAST **Castle Rocks** 86.04 26 P P 21 37 02.3 -0.2
CAST **Castle Rocks** 86.04 26 P P 21 37 02.8 +0.2
baz=262
SKT **Skwentna** 86.12 28 P 21 37 02.3 -0.7
SKT **Skwentna** 86.12 28 P P 21 37 03.4 +0.4
baz=263
A22K **Sinclair Lake** 86.12 19 P P 21 37 03.2 +0.4
baz=259
CAPN **Captain Cook N** 86.16 29 P P 21 37 02.9 -0.2
baz=264
BRLK **Bradley Lake** 86.18 30 P P 21 37 03.3 -0.1
I21K **Tanana** 86.31 25 P P 21 37 04.2 +0.3
baz=262
SUA **Susitna One** 86.43 29 P P 21 37 04.4 -0.2
baz=264
B22K **Teshekpuk Lake** 86.51 20 P P 21 37 04.9 +0.2
baz=261
F22K **John River** 86.54 22 P P 21 37 05.4 +0.4
baz=262
D22K **Ayikyak River** 86.55 21 P P 21 37 05.1 +0.2
baz=262
SLKM **Skilak Lake** 86.59 30 P 21 37 04.8 -0.6
BPAW **Bear Paw Mtn.** 86.61 26 P P 21 37 05.6 +0.2
baz=263
KOPT **Kop Dagi** 86.62 310 P 21 37 06.8 +0.5
KOPT IAmb IAmb 21 37 09.2
comp=Z,22nm,1.3s
H22K **Ishtalitna Cre** 86.65 24 P P 21 37 05.6 +0.1
baz=263
G22K **Bettles** 86.73 23 P P 21 37 05.9 +0.1
baz=263
E22K **Anaktuvuk Pass** 86.76 22 P 21 37 05.7 -0.4
E22K IAmb IAmb 21 37 07.9
comp=Z,7.1nm,1.0s
E22K **Anaktuvuk Pass** 86.76 22 P P 21 37 06.5 +0.4
baz=262,SNR=6.9
MLY **Manley** 86.82 25 P 21 37 05.7 -0.7
MLY **Manley** 86.82 25 P P 21 37 06.1 -0.3
baz=264
TRF **Thorofare Moun** 86.85 27 P P 21 37 06.2 -0.6
baz=264
RC01 **Rabbit Creek A** 86.88 29 P P 21 37 05.7 -1.0
RC01 IAmb IAmb 21 37 08.0
comp=Z,6.5nm,0.8s
RC01 **Rabbit Creek A** 86.88 29 P P 21 37 06.5 -0.2
baz=265
SEW **Seward** 86.93 30 P P 21 37 06.4 -0.5
SEW IAmb IAmb 21 37 46.7
comp=Z,14nm,1.1s
SEW **Seward** 86.93 30 P P 21 37 06.5 -0.4
baz=265
COLD **Coldfoot** 87.27 23 P P 21 37 08.4 -0.1
COLD IAmb IAmb 21 37 10.7
comp=Z,7.6nm,1.0s
COLD **Coldfoot** 87.27 23 P P 21 37 08.6 +0.1
baz=264,SNR=8.1
D23K **Nanushuk River** 87.28 21 P 21 37 08.9 +0.4
D23K IAmb IAmb 21 37 10.6
comp=Z,7.6nm,1.1s
D23K **Nanushuk River** 87.28 21 P P 21 37 08.8 +0.3
baz=264
G23K **Bananza Creek** 87.29 23 P 21 37 08.8 +0.2
G23K IAmb IAmb 21 37 11.0
comp=Z,9.7nm,1.1s
G23K **Bananza Creek** 87.29 23 P P 21 37 09.0 +0.4
baz=264,SNR=10
H23K **Yukon River** 87.39 24 P P 21 37 08.6 -0.6
H23K **Yukon River** 87.39 24 P P 21 37 09.1 0.0
baz=265
C23K **Itkillik River** 87.40 20 P 21 37 08.9 -0.1
C23K **Itkillik River** 87.40 20 P P 21 37 09.5 +0.4
baz=264
I23K **Minto, Yukon-K** 87.41 25 P P 21 37 08.7 -0.5
I23K IAmb IAmb 21 37 11.1
comp=Z,11nm,1.1s
I23K **Minto, Yukon-K** 87.41 25 P P 21 37 09.3 +0.1
baz=265,SNR=6.5
MCK **McKinley** 87.47 26 P P 21 37 09.4 -0.2
baz=265
RND **Reindeer** 87.49 27 P P 21 37 08.6 -1.1
RND **Reindeer** 87.49 27 P P 21 37 08.6 -1.1
RND pmax pmax
comp=Z,4.0nm,0.8s
NEA2 **Nenana** 87.49 25 P P 21 37 08.2 -1.3
NEA2 **Nenana** 87.49 25 P P 21 37 09.8 +0.2
baz=265
KNK **Knik Glacier** 87.52 29 P P 21 37 09.7 -0.1
KNK IAmb IAmb 21 37 11.9
comp=Z,8.1nm,0.8s
KNK **Knik Glacier** 87.52 29 P P 21 37 10.0 +0.1
baz=266
PWL **Port Wells** 87.54 29 P P 21 37 09.1 -0.9
PWL IAmb IAmb 21 37 11.6
comp=Z,8.1nm,1.0s
PWL **Port Wells** 87.54 29 P P 21 37 10.0 0.0
baz=266
E23K **Chandalar** 87.57 22 P P 21 37 10.0 0.0
E23K IAmb IAmb 21 37 13.4
comp=Z,8.0nm,0.9s
E23K **Chandalar** 87.57 22 P P 21 37 10.1 0.0
baz=264,SNR=9.4
WAT1 **Susitna Watana** 87.58 27 P P 21 37 09.2 -0.9
baz=266
TOLK **Toolik Lake Re** 87.64 21 P 21 37 09.5 -0.9
TOLK **Toolik Lake Re** 87.64 21 P P 21 37 10.5 +0.2
baz=264
M23K **Glacier View** 87.89 28 P P 21 37 11.4 -0.2
baz=262
WRH **Wood River Hil** 87.90 26 P P 21 37 10.9 -0.6
WRH IAmb IAmb 21 37 12.2
comp=Z,9.1nm,1.2s
WAT6 **Susitna Watana** 87.94 28 P P 21 37 11.5 -0.4
baz=266
P23K **Montague Islan** 87.95 30 P 21 37 10.7 -1.1
P23K IAmb IAmb 21 37 12.6
comp=Z,16nm,1.1s
P23K **Montague Islan** 87.95 30 P P 21 37 12.0 +0.1
baz=267
D24K **Happy Valley** 87.96 21 P P 21 37 12.2 +0.4
D24K IAmb IAmb 21 37 13.6
comp=Z,8.3nm,1.1s
D24K **Happy Valley** 87.96 21 P P 21 37 12.2 +0.4
baz=265
E24K **Your Creek** 88.00 22 P P 21 37 11.8 -0.2
baz=266
VORR **Voronezh** 88.00 322 *e* P P 21 37 09.8 -2.5
VORR pmax pmax
comp=Z,10.0nm,0.9s
VSR **Storozhevoye** 88.01 321 *e* P P 21 37 09.0 -3.3
VSR pmax pmax
comp=Z,7.0nm,0.9s
CCB **Clear Creek Bu** 88.03 25 P 21 37 11.2 -1.0
C24K **Franklin Bluff** 88.05 20 P P 21 37 12.3 +0.2
baz=265
H24K **Noodor Dome** 88.08 24 P 21 37 12.3 -0.2
H24K IAmb IAmb 21 37 14.5
comp=Z,7.3nm,1.1s
H24K **Noodor Dome** 88.08 24 P P 21 37 12.1 -0.4
baz=266,SNR=6.0
SCM **Sheep Creek Mo** 88.08 28 P P 21 37 12.1 -0.5
SCM IAmb IAmb 21 37 15.3
comp=Z,9.5nm,1.0s
SCM **Sheep Creek Mo** 88.08 28 P P 21 37 12.1 -0.5
SCM pmax pmax
comp=Z,10.0nm,1.0s
SCM **Sheep Creek Mo** 88.08 28 P P 21 37 12.3 -0.3
baz=267
DHY **Denali Highway** 88.13 27 P P 21 37 11.9 -1.0
DHY **Denali Highway** 88.13 27 P P 21 37 12.3 -0.6
baz=267
GLI **Glacier Island** 88.15 29 P P 21 37 12.7 -0.1
baz=267
F24K **Squaw Lake** 88.19 23 P 21 37 13.6 +0.6
F24K **Squaw Lake** 88.19 23 P P 21 37 13.3 +0.4
baz=266,SNR=5.3
LPSR **Galich'ya Gora** 88.21 322 *e* P P 21 37 11.4 -1.8
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KLMR **Klimovskoe** 88.22 331 *e* P P 21 37 10.2 -2.9
KLMR pmax pmax
comp=Z,15nm,1.4s
G24K **Hadweenzic Riv** 88.30 23 P 21 37 13.3 -0.1
G24K IAmb IAmb 21 37 15.1
comp=Z,6.3nm,1.1s
G24K **Hadweenzic Riv** 88.30 23 P P 21 37 13.5 +0.1
baz=266,SNR=5.6
HDA **Harding Lake** 88.39 26 P P 21 37 12.0 -1.9
HDA IAmb IAmb 21 37 14.4
comp=Z,6.1nm,1.0s
HDA **Harding Lake** 88.39 26 P P 21 37 14.0 +0.1
baz=267
ILAR **Eielson Array** 88.44 25 P P 21 37 13.2 -0.9
comp=Z,1.3nm,0.9s,baz=256,slow=5.7,SNR=6.8
comp=Z,1.3nm,0.9s
Q23K **Middleton Isla** 88.46 31 P P 21 37 14.1 -0.2
baz=268
M24K **Tolsona, Glenn** 88.64 28 P P 21 37 15.1 -0.1
baz=268
KLU **Klutina** 88.74 29 P P 21 37 15.2 -0.5
baz=268
D25K **Kavik River** 88.84 21 P P 21 37 15.6 -0.4
baz=268
G25K **Bearman Lake** 88.84 23 P P 21 37 15.5 -0.4
baz=268
K24K **Donnelly Dome** 88.88 26 P P 21 37 16.3 0.0
baz=268
H25L **Birch Creek** 88.94 24 P P 21 37 16.2 -0.2
baz=268
PAX **Paxson** 89.00 27 P 21 37 16.5 -0.4
PAX IAmb IAmb 21 37 18.0
comp=Z,9.6nm,1.2s
PAX **Paxson** 89.00 27 P P 21 37 16.5 -0.4
PAX pmax pmax
comp=Z,10.0nm,1.2s
PAX **Paxson** 89.00 27 P P 21 37 16.2 -0.7
baz=268,SNR=6.8
PRP **Porcupine Dome** 89.04 25 P P 21 37 17.4 +0.3
PRP **Porcupine Dome** 89.04 25 P P 21 37 17.4 +0.3
baz=268
F25K **Christian Rive** 89.05 23 P P 21 37 16.9 -0.2
F25K **Christian Rive** 89.05 23 P P 21 37 17.6 +0.6
baz=268
MOS **Moscow** 89.06 326 *e* P P 21 37 15.0 -2.2
J25K **Salcha River,** 89.08 26 P P 21 37 17.6 +0.4
baz=268
E25K **Arctic Village** 89.09 22 P P 21 37 17.2 0.0
E25K **Arctic Village** 89.09 22 P P 21 37 17.4 +0.2
baz=268,SNR=5.0
HARP **HAARP** 89.13 28 P P 21 37 17.5 +0.1
baz=269
RIDG **Independent Ri** 89.29 26 P P 21 37 17.4 -0.8
RIDG IAmb IAmb 21 37 19.3
comp=Z,7.8nm,1.0s
RIDG **Independent Ri** 89.29 26 P P 21 37 17.6 -0.6
baz=269,SNR=5.1
RAGM **Ragged Mountai** 89.33 30 P P 21 37 19.7 +1.3
RAGM IAmb IAmb 21 38 44.0
comp=Z,10.0nm,1.0s
BMRM **Bremner River** 89.37 29 P P 21 37 18.4 -0.2
BMRM IAmb IAmb 21 37 23.6
comp=Z,5.9nm,0.9s
BMRM **Bremner River** 89.37 29 P P 21 37 18.7 +0.1
baz=269
C26K **Camden Bay** 89.37 20 P P 21 37 18.3 0.0
baz=269
N25K **Chitina, Valde** 89.38 29 P P 21 37 19.1 +0.4
N25K **Chitina, Valde** 89.38 29 P P 21 37 19.0 +0.3
baz=269
KAIM **Kayak Island** 89.45 30 P P 21 37 18.5 -0.4
KAIM IAmb IAmb 21 37 22.5
comp=Z,11nm,0.8s
KAIM **Kayak Island** 89.45 30 P P 21 37 19.0 +0.1
baz=269
BMAR **Burnt Mountain** 89.45 23 P 21 37 18.9 0.0
F26K **Sheenjek River** 89.62 22 P P 21 37 19.7 +0.1
F26K **Sheenjek River** 89.62 22 P P 21 37 20.1 +0.4
baz=270
DOT **Dot Lake** 89.64 27 P P 21 37 19.0 -0.8
OBN **Obninsk** 89.65 325 *e* P P 21 37 18.8 -1.1
OBN *i* 21 37 27.6
OBN pmax pmax
comp=Z,14nm,1.0s
OBN MLR MLR
comp=Z,237nm,17.0s
OBN **Obninsk** 89.65 325 P P 21 37 18.5 -1.4
comp=Z,17nm,1.1s
SCRK **Sand Creek** 89.68 26 P 21 37 19.9 -0.2
SCRK **Sand Creek** 89.68 26 P P 21 37 19.4 -0.7
baz=270
G26K **Porcupine Rive** 89.76 23 P P 21 37 20.4 +0.2
baz=270
C27K **Jago River** 89.79 20 P P 21 37 20.7 +0.4
C27K IAmb IAmb 21 37 22.1
comp=Z,5.3nm,0.9s
C27K **Jago River** 89.79 20 P P 21 37 20.4 +0.1
baz=270
BERG **Berg Lake** 89.81 30 P P 21 37 19.7 -1.0
BERG IAmb IAmb 21 37 24.6
comp=Z,9.2nm,0.8s
J26L **Joseph Creek** 89.86 26 P 21 37 20.5 -0.4
J26L **Joseph Creek** 89.86 26 P P 21 37 20.4 -0.5
baz=270,SNR=7.1
VRDI **Verde Repeater** 89.93 29 P P 21 37 20.7 -0.7
L26K **Log Cabin Wild** 89.96 27 P P 21 37 21.2 -0.1
baz=270
I26K **Coal Creek Min** 90.03 25 P P 21 37 21.2 -0.3
baz=270
MCARA **McCarthy VSAT** 90.13 29 P P 21 37 22.2 +0.1
baz=271
M26K **Nabesna, AK** 90.13 28 P P 21 37 21.6 -0.6
M26K **Nabesna, AK** 90.13 28 P P 21 37 22.2 0.0
baz=271
QSPA **South Pole Qui** 90.16 180 P 21 37 21.9 -0.3
QSPA IAmb IAmb 21 37 43.6
comp=Z,11nm,1.4s
QSPA **South Pole Qui** 90.16 180 P P 21 37 22.6 +0.3
comp=Z,3.3nm,0.8s,baz=318,slow=3.0,SNR=12
comp=Z,3.3nm,0.8s
K27K **Chicken** 90.52 26 P P 21 37 24.2 +0.3
baz=272
E27K **Coleen River** 90.58 22 P P 21 37 24.4 +0.3
E27K IAmb IAmb 21 37 25.8
comp=Z,11nm,1.4s
E27K **Coleen River** 90.58 22 P P 21 37 23.9 -0.2
baz=272
G27K **Doyon Strip** 90.61 23 P P 21 37 24.2 0.0
G27K **Doyon Strip** 90.61 23 P P 21 37 24.5 +0.2
baz=272
MMAI **Mount Meron Ar** 90.62 303 P P 21 37 24.5 -0.6
comp=Z,1.8nm,0.8s,baz=86,slow=4.6,SNR=4.5
comp=Z,1.8nm,0.8s
M27K **Edge Creek, AK** 90.66 28 P P 21 37 23.7 -1.0
M27K **Edge Creek, AK** 90.66 28 P P 21 37 24.5 -0.2
baz=272
L27K **Beaver Creek,** 90.66 27 P 21 37 23.5 -1.1
L27K IAmb IAmb 21 37 26.3
comp=Z,6.0nm,0.9s
L27K **Beaver Creek,** 90.66 27 P P 21 37 24.5 -0.1
baz=272,SNR=8.1
I27K **Kandik River** 90.66 25 P P 21 37 24.4 -0.2
baz=272
BCAR **Beaver Creek A** 90.67 27 P 21 37 24.9 +0.2
H27K **Steamboat Moun** 90.68 24 P P 21 37 24.3 -0.4
H27K **Steamboat Moun** 90.68 24 P P 21 37 24.3 -0.4
baz=272
MESA **MESA** 90.68 30 P P 21 37 24.0 -0.9
baz=272
GRNC **Granite Creek** 90.77 29 P P 21 37 24.8 -0.6
GRNC IAmb IAmb 21 37 29.8
comp=Z,6.8nm,0.8s
D27M **Malcolm River** 90.77 21 P P 21 37 24.6 -0.4
baz=273
CTG **Chitna Glacier** 90.96 29 P P 21 37 25.7 -0.5
baz=272
E28M **Babbage River** 91.32 21 P P 21 37 27.1 -0.4
E28M IAmb IAmb 21 37 29.1
comp=Z,13nm,1.4s
E28M **Babbage River** 91.32 21 P P 21 37 27.4 -0.1
baz=274
YUK3 **Moose Creek** 91.35 28 P P 21 37 27.8 -0.3
baz=273
I28M **Miner Creek** 91.37 25 P 21 37 26.9 -1.0
I28M IAmb IAmb 21 37 29.6
comp=Z,6.2nm,1.0s
I28M **Miner Creek** 91.37 25 P P 21 37 28.0 +0.1
baz=273,SNR=5.1
O28M **Mount Upton** 91.53 29 P P 21 37 28.5 -0.5
O28M IAmb IAmb 21 37 30.8
comp=Z,5.8nm,0.9s
O28M **Mount Upton** 91.53 29 P P 21 37 29.0 0.0
baz=273
D28M **Stokes Point** 91.55 21 P P 21 37 28.9 +0.4
baz=275
DAWY **Dawson** 91.69 26 P P 21 37 29.6 +0.2
DAWY IAmb IAmb 21 37 31.4
comp=Z,9.8nm,1.2s
DAWY **Dawson** 91.69 26 P P 21 37 29.6 +0.2
baz=274
BRTR **Keskin Array B** 91.90 310 P P 21 37 30.4 -0.6
comp=Z,0.9nm,0.9s,baz=101,slow=6.4,SNR=4.9
comp=Z,0.9nm,0.9s
E29M **Blow River** 91.94 22 P P 21 37 30.1 -0.3
baz=275
H29M **Whitestone** 91.96 24 P P 21 37 30.7 +0.2
baz=275
G29M **Pine Creek** 92.03 23 P 21 37 31.2 +0.4
G29M **Pine Creek** 92.03 23 P P 21 37 30.8 -0.1
baz=275
I29M **Ogilvie Camp,** 92.06 25 P P 21 37 30.6 -0.4
I29M IAmb IAmb 21 37 32.2
comp=Z,7.9nm,1.2s
I29M **Ogilvie Camp,** 92.06 25 P P 21 37 31.2 +0.2
baz=275
M29M **Somme Creek** 92.24 28 P P 21 37 31.5 -0.5
M29M IAmb IAmb 21 37 34.1
comp=Z,6.1nm,1.1s
M29M **Somme Creek** 92.24 28 P P 21 37 32.0 0.0
baz=275,SNR=5.3
YUK4 **Talbot Arm** 92.24 29 P P 21 37 32.6 +0.4
baz=275
L29M **L29M** 92.33 27 P 21 37 32.1 -0.3
L29M **L29M** 92.33 27 P P 21 37 32.5 +0.2
baz=275,SNR=10
O29M **Mount Kennedy** 92.36 30 P P 21 37 32.9 +0.3
baz=274
YUK6 **Outpost Mounta** 92.41 29 P P 21 37 32.9 -0.1
baz=275
K29M **Barlow Dome** 92.54 26 P 21 37 33.2 -0.2
K29M IAmb IAmb 21 37 35.9
comp=Z,8.4nm,1.3s
K29M **Barlow Dome** 92.54 26 P P 21 37 33.5 +0.1
baz=276
EPYK **Eagle Plains** 92.61 24 P P 21 37 33.7 +0.2
EPYK **Eagle Plains** 92.61 24 P P 21 37 33.9 +0.3
baz=276
G30M **tAoh Zraii Nji** 92.73 23 P P 21 37 34.2 +0.1
baz=277
F30M **Barrier River** 92.82 22 P P 21 37 33.6 -0.8
F30M IAmb IAmb 21 37 38.5
comp=Z,11nm,1.4s
F30M **Barrier River** 92.82 22 P P 21 37 34.6 +0.2
baz=277
P29M **Windy Craggy** 92.84 30 P 21 37 35.9 +1.1
P29M **Windy Craggy** 92.84 30 P P 21 37 34.9 +0.2
baz=275
HYT **Haines Junctio** 92.84 29 P P 21 37 33.9 -1.0
HYT IAmb IAmb 21 37 36.5
comp=Z,5.0nm,0.9s
HYT **Haines Junctio** 92.84 29 P P 21 37 34.7 -0.2
baz=275
I30M **Mount Dempster** 92.88 25 P P 21 37 34.6 -0.3
baz=277
J30M **Hart River** 92.97 25 P 21 37 35.9 +0.5
J30M IAmb IAmb 21 37 38.4
comp=Z,7.9nm,1.4s
J30M **Hart River** 92.97 25 P P 21 37 35.8 +0.4
baz=277
N30M **Aishikik Lake** 92.98 29 P P 21 37 35.7 +0.3
N30M IAmb IAmb 21 37 37.3
comp=Z,6.0nm,1.1s
N30M **Aishikik Lake** 92.98 29 P P 21 37 35.6 +0.3
baz=276
M30M **Minto, Yukon** 93.00 27 P 21 37 35.6 +0.1
M30M IAmb IAmb 21 37 38.0
comp=Z,8.4nm,1.1s
M30M **Minto, Yukon** 93.00 27 P P 21 37 36.0 +0.6
baz=276,SNR=8.4
P30M **Million Dollar** 93.18 30 P P 21 37 36.6 +0.2
baz=276
G31M **Satah River** 93.50 23 P P 21 37 37.8 +0.3
baz=279

O30N	**Mendenhall** baz=277	**93.53**	**29**	P		**P**	**21 37 37.7**	**-0.2**
PLBC	**Pleasant Camp** baz=276	**93.55**	**30**	P		**P**	**21 37 38.0**	**+0.1**
ARCES	**ARCESS Array B** comp=Z,3.3nm,0.8s,baz=100,slow=5.0,SNR=7.1 comp=Z,3.3nm,0.8s	**93.56**	**340**	P		**P**	**21 37 37.2**	**-0.6**
INK	**Inuvik** baz=280	**93.56**	**22**	P		**P**	**21 37 38.6**	**+0.8**
N31M	**Braeburn, Yuko**	**93.60**	**28**			**P**	**21 37 38.5**	**+0.3**
N31M	comp=Z,9.6nm,1.0s			IAmb		IAmb	21 37 40.7	
N31M	**Braeburn, Yuko** baz=277	**93.60**	**28**	P		**P**	**21 37 38.5**	**+0.3**
F31M	**Tsiigehtchic**	**93.62**	**22**	P		**P**	**21 37 37.9**	**-0.2**
H31M	**Peel River** baz=279	**93.64**	**24**	P		**P**	**21 37 38.4**	**+0.1**
S31K	**Pelican** baz=276	**93.79**	**32**	P		**P**	**21 37 39.1**	**0.0**
SKAG	**Skagway** baz=277	**94.07**	**30**	P		**P**	**21 37 40.8**	**+0.5**
WHY	**Whitehorse**	**94.14**	**29**			**P**	**21 37 41.4**	**+0.6**
WHY	**Whitehorse** baz=278,SNR=6.0	**94.14**	**29**	P		**P**	**21 37 41.2**	**+0.4**
M31M	**Drury Creek, Y**	**94.15**	**28**	P		**P**	**21 37 39.9**	**-0.8**
M31M	**Drury Creek, Y** baz=278	**94.15**	**28**	P		**P**	**21 37 41.6**	**+0.8**
AKBB	**Malin Array Si**	**94.31**	**321**			**P**	**21 37 39.7**	**-1.9**
AKBB	comp=Z,9.3nm,1.4s			IAmb		IAmb	21 37 41.0	
AKBB	**Malin Array Si**	**94.31**	**321**	P		**P**	**21 37 39.7**	**-1.9**
AKBB	comp=Z,9.0nm,1.4s			pmax		pmax		
AKBB	**Malin Array Si**	**94.31**	**321**	P		**P**	**21 37 39.8**	**-1.8**
AK01	**Malin Array Si**	**94.32**	**321**	P		**P**	**21 37 40.6**	**-1.1**
KIEV	**Kiev**	**94.32**	**321**	P		**P**	**21 37 39.8**	**-1.9**
KIEV	comp=Z,7.7nm,1.4s			IAmb		IAmb	21 37 41.0	
KIEV	**Kiev**	**94.32**	**321**	P		**P**	**21 37 39.8**	**-1.9**
KIEV	comp=Z,8.0nm,1.4s			pmax		pmax		
KIEV	**Kiev**	**94.32**	**321**	P		**P**	**21 37 39.8**	**-1.9**
	comp=Z,22nm,1.6s							
BAL3X	**Bal3x, Balta**	**94.32**	**318**	P		**P**	**21 37 41.3**	**-0.5**
SIT	**Sitka** baz=277	**94.38**	**33**	P		**P**	**21 37 41.9**	**+0.1**
FARO	**Faro, Yukon**	**94.63**	**28**	P		**P**	**21 37 42.9**	**0.0**
FARO	**Faro, Yukon** baz=279	**94.63**	**28**	P		**P**	**21 37 43.7**	**+0.7**
R32K	**Eaglecrest**	**94.65**	**32**	P		**P**	**21 37 42.7**	**-0.4**
R32K	comp=Z,7.4nm,0.9s			IAmb		IAmb	21 39 16.9	
R32K	**Eaglecrest** baz=278	**94.65**	**32**	P		**P**	**21 37 43.4**	**+0.3**
FINES	**FINESS Array B** comp=Z,2.0nm,0.9s,baz=90,slow=4.8,SNR=3.8 comp=Z,2.0nm,0.9s	**94.69**	**332**	P		**P**	**21 37 42.1**	**-1.0**
FINES	**FINESS Array B**	**94.69**	**332**	*i* P		**P**	**21 37 42.9**	**-0.2**
FINES	comp=Z,2.0nm,1.0s			pmax		pmax		
MNK	**Minsk** comp=E,6.0nm,0.8s	**94.70**	**325**	*i* P		**P**	**21 37 42.8**	**-0.6**
MNK	comp=N,8.0nm,1.0s			*i* P		**P**	**21 37 42.8**	**-0.6**
MNK	comp=Z,10.0nm,0.9s,baz=83			*i* P		**P**	**21 37 42.8**	**-0.6**
MNK				*i* pP		**pwP**	**21 37 57.4**	**+0.4**
MNK				*i* sP		sP	21 38 05.4	+8.0
MNK				*i* PP		PP	21 41 45.2	+13
MNK				*i* PPP		PPP	21 43 26.9	
MNK				*i* SKS		SKSac	21 47 55.4	-21
MNK				*i* S		SKKSac	21 48 13.6	-25
MNK				*i* sS		S	21 48 38.1	-16
MNK				*i* PS		PS	21 49 36.2	-38
MNK				*i* SS		SS	21 55 39.6	+22
MNK				*i* SSS		SSS	21 59 02.0	
MNK	**Minsk**	**94.70**	**325**	*i* P		**P**	**21 37 42.7**	**-0.6**
MNK				*i* *PP		**pwP**	**21 37 57.4**	**+0.4**
MNK				*i* S		**SKSac**	**21 48 13.5**	**-2.6**
MNK				*i* SSS		SSS	21 59 01.9	
MNK	comp=Z,10.0nm,0.9s			pmax		pmax		
MNK	comp=E,6.0nm,0.8s			pmax		pmax		
MNK	comp=N,8.0nm,1.0s			pmax		pmax		
S32K	**Killisnoo** baz=278	**94.73**	**32**	P		**P**	**21 37 43.7**	**+0.3**
P32M	**Atlin** baz=279	**94.87**	**30**	P		**P**	**21 37 44.8**	**+0.7**
N32M	**Quiet Lake** baz=279	**94.93**	**29**	P		**P**	**21 37 45.2**	**+0.9**
P33M	**Teslin, Yukon** baz=280	**95.22**	**29**	P		**P**	**21 37 46.6**	**+0.9**
MI28	**MI28,Pidlybu**	**95.26**	**321**	P		**P**	**21 37 45.3**	**-0.7**
LUBAR	**Lubar, Ukraine**	**95.33**	**320**	P		**P**	**21 37 44.9**	**-1.4**
MMPY	**Sheldon Lake,**	**95.52**	**27**			**P**	**21 37 46.8**	**-0.2**
MMPY	comp=Z,8.1nm,1.1s			IAmb		IAmb	21 37 48.9	
MMPY	**Sheldon Lake,** baz=281	**95.52**	**27**	P		**P**	**21 37 47.1**	**+0.1**
Q32M	**Nakina River** baz=280	**95.71**	**31**	P		**P**	**21 37 47.7**	**-0.4**
U33K	**Whale Pass** baz=279	**95.72**	**34**	P		**P**	**21 37 47.7**	**-0.2**
CRAG	**Craig** baz=279	**95.82**	**34**	P		**P**	**21 37 48.0**	**-0.4**
WRAK	**Wrangell Islan** baz=280	**96.10**	**33**	P		**P**	**21 37 49.9**	**+0.2**
R33M	**Jennings River** baz=281	**96.28**	**30**	P		**P**	**21 37 51.1**	**+0.4**
RNPP9	**Sopachiv**	**96.31**	**322**	P		**P**	**21 37 50.3**	**-0.5**
KMPD	**K-Podol'skiy**	**96.34**	**319**	P		**P**	**21 37 50.1**	**-0.9**
RNPP1	**Kostyukhnivka**	**96.40**	**322**	P		**P**	**21 37 51.3**	**+0.1**
TESR	**Tescani**	**96.47**	**317**	P		**P**	**21 37 50.7**	**-1.0**
S34M	**Telegraph Cree** baz=281	**96.48**	**32**	P		**P**	**21 37 51.6**	**+0.2**
V35K	**Ketchikan** baz=280	**96.69**	**34**	P		**P**	**21 37 52.8**	**+0.5**
DLBC	**Dease Lake** baz=282	**96.95**	**31**	P		**P**	**21 37 53.4**	**-0.2**
TGTN	**Hyland Airport** baz=284	**97.13**	**28**	P		**P**	**21 37 54.8**	**+0.5**
T35M	**Bob Quinn** baz=281	**97.13**	**32**	P		**P**	**21 37 54.2**	**-0.2**
WTLY	**Watson Lake, Y** baz=283	**97.21**	**29**	P		**P**	**21 37 55.1**	**+0.4**
BURAR	**Bucovina Array**	**97.30**	**318**			**P**	**21 37 54.7**	**-0.8**
BURAR	comp=Z,3.8nm,0.9s			IAmb		IAmb	21 37 56.3	
BUR08	**Bucovina Ar. S**	**97.30**	**318**			**P**	**21 37 54.5**	**-1.0**
BUR08	comp=Z,4.2nm,0.9s			IAmb		IAmb	21 38 10.3	
NOA	**NORSAR Array B** comp=Z,0.7nm,0.7s,baz=68,slow=4.5,SNR=3.9	**101.70**	**333**	P		**Pdif**	**21 38 13.2**	**-1.5**
TORD	**Torodi Ar. Bea** comp=Z,2.4nm,0.4s,baz=104,slow=2.3,SNR=3.2	**123.51**	**286**	PKP		**PKPdf**	**21 43 20.3**	**-0.3**

PRU 11 21:37:44.0,51.55N×16.09E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	**Chvalec**	**0.96**	**181**	*e*PG	Pg	21 38 00.9	-1.5
CHVC				*e*SG	Sg	21 38 15.1	+0.2
OSTC	**Ostas**	**1.00**	**175**	*e*SG	Sg	21 38 16.2	+0.2
UPC	**Upice** comp=Z,2.1nm,0.3s	**1.04**	**183**	*e*SG	Sg	21 38 16.8	-0.7
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*SG	Sg	21 38 21.5	-1.3
PVCC	**Panska Ves**	**1.40**	**224**	*e*SG	Sg	21 38 28.4	-0.6
KRLC	**Kraliky**	**1.54**	**163**	*e*PG	Pn	21 38 11.9	-0.9
KRLC				*e*SG	Sg	21 38 32.7	-0.7

IDC ***11*** *21:39:43.8±1.9, 0.89N×127.13E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=173.2km s-min=22.4km az=67.0*

DJA ***11*** *21:39:46.1±1.0, 1.5N×12.6E±, h12km±9km, M3.4/6, MLv3.4/6*

ISC 11 21:39:49.9±1.1, 0.7N±0.1×126.30E±0.07, h47km, n7, σ2s19/8, mb3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.07**	**86**	P	**Pn**	**21 40 07.7**	**-0.8**
TNTI				S	**Sn**	**21 40 22.1**	**-0.2**
KMSI	**Cibinong**	**2.32**	**267**	P	**Pn**	**21 40 24.4**	**-1.3**
SGSI	**Sangihe**	**3.06**	**345**	P	**Pn**	**21 40 33.6**	**-2.2**
WRA	**Warramunga Arr** 1.9nm,0.7s,baz=340,slow=11,SNR=11 1.9nm,0.7s	**21.98**	**159**	P	**P**	**21 44 38.1**	**-2.0**
ASAR	**Alice Springs** 2.0nm,0.9s,baz=342,slow=10,SNR=8.9 2.0nm,0.9s	**25.33**	**164**	P	**P**	**21 45 12.6**	**0.0**
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=129,slow=7.7,SNR=4.4 0.5nm,0.7s	**59.80**	**326**	P	**P**	**21 49 52.8**	**+2.3**
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=126,slow=7.2,SNR=4.1 0.2nm,0.4s	**64.06**	**328**	P	**P**	**21 50 21.5**	**+2.6**

BJI ***11*** *21:46:32.4, 0.08N×126.59E, h21km, mB5.3/28, mb4.7/65, Ms4.8/59, Ms7 4.7/58*

IDC ***11*** *21:46:34.4±0.3, 0.45N×126.19E, h0km, mb4.8/34, mbtmp4.7/38, ML4.1/4, MS4.5/30, Error ellipse: s-maj=18.7km s-min=7.2km az=80.0*

MOS ***11*** *21:46:34.4±1.0, 0.52N×126.30E, h11km, mb5.3/61, MS4.7/12, Error ellipse: s-maj=8.2km s-min=4.5km az=112.9*

NEIC ***11*** *21:46:36.4, 0.25N×126.67E, h18km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^{16}Nm; M_{rr}5.12; $M_{\theta\theta}$-1.28; $M_{\phi\phi}$-3.84; $M_{r\theta}$-1.49; $M_{\theta\phi}$-5.08; $M_{\phi r}$6.04; Fault plane solution: $M_0$9.26000×10^{16} NP1: ϕ_s248.24000°, δ38.96000°, λ145.90000°. NP2:ϕ_s6.01000°, δ69.36000°, λ56.20000°. Principal axes: T 9.4848, Plg53.0000°, Azm235.0000°; N -0.4607, Plg31.0000°, Azm19.0000°; P -9.0242, Plg17.0000°, Azm120.0000°;*

NEIC ***11*** *21:46:36.4±1.5, 0.55N±0.06×126.47E±0.04, h10km±1km, mb5.3/289, Mww5.2/22 Error ellipse: s-maj=10.4km s-min=7.0km az=167.0*

NEIC ***11*** *21:46:36.4, 0.55N×126.47E, h18km*

DJA ***11*** *21:46:38.6±0.4, 1.1N±2.2×12.6E±, h15km±3km, M5.0/50, mb5.0/50, mB5.5/27, MLv5.0/24, Mw(mB)5.0/27, MwMwp5.2/13, Mwp5.4/13*

GCMT ***11*** *21:46:42.4±0.1, 0.15N±0.01×126.37E±0.01, h21km, MW5.3/125, Moment Tensor Solution. s122,c206; s125,c207; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.96±.02; $M_{\theta\theta}$-0.50±.01; $M_{\phi\phi}$-0.46±.02; $M_{r\theta}$0.90±.03; $M_{\theta\phi}$-0.50±.01; $M_{\phi r}$0.10±.03; Best double couple: $M_0$1.32100×10^{17} NP1:ϕ_s209.00000°, δ29.00000°, λ53.00000°. NP2:ϕ_s69.00000°, δ67.00000°, λ108.00000°. Principal axes: T 1.4010, Plg63.0000°, Azm9.0000°; N -0.1610, Plg17.0000°, Azm242.0000°; P -1.2410, Plg20.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 21:46:39.1±0.6, 0.49N±0.03×126.39E±0.04, h29km±3km, n883, σ1s15/899, mb5.2/241, MS4.6/60, 16C-12D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.01**	**74**			21 46 53.7	-3.7
TNTI				Sn	**Sn**	**21 47 09.0**	**-1.8**
TNTI	**Ternate**	**1.01**	**74**	P	**Pn**	**21 46 57.7**	**+0.3**
TNTI	**Ternate**	**1.01**	**74**	S	**Sb**	**21 47 12.2**	**+1.1**
TNTI	**Ternate**	**1.01**	**74**	P	**Pn**	**21 46 56.6**	**-0.8**
KMSI	**Cibinong**	**2.41**	**272**	P	**Pn**	**21 47 15.5**	**-1.2**
SANI	**Sanana**	**2.56**	**189**	P	**Pn**	**21 47 18.5**	**-0.2**
SANI	**Sanana**	**2.56**	**189**	P	**Pn**	**21 47 17.9**	**-0.8**
SGSI	**Sangihe**	**3.29**	**345**	P	**Pn**	**21 47 29.3**	**+0.6**
NLAI	**Namlea**	**3.77**	**169**	P	**Pn**	**21 47 35.9**	**+0.4**
LUWI	**Luwuk**	**3.93**	**247**		**Pn**	**21 47 37.4**	**-0.1**
LUWI	**Luwuk**	**3.93**	**247**	P	**Pn**	**21 47 38.8**	**+1.2**
MRSI	**Marisa**	**4.45**	**270**	P	**Pn**	**21 47 45.4**	**+0.7**
AAI	**Ambon**	**4.53**	**157**	P	**Pn**	**21 47 47.0**	**+1.2**
MSAI	**Masohi**	**4.58**	**146**	P	**Pn**	**21 47 48.2**	**+1.7**
APSI	**Ampana**	**4.94**	**254**	P	**Pn**	**21 47 52.7**	**+1.2**
SWI	**Sorong** 21µm3µm183nm,1.2s	**5.05**	**105**	P	**Pn**	**21 47 53.4**	**+0.4**
TOLI2	**Tolitoli**	**5.64**	**276**		**Pn**	**21 48 00.8**	**-0.3**
TOLI2	**Tolitoli**	**5.64**	**276**	P	**Pn**	**21 48 03.1**	**+2.0**
KDI	**Kendari**	**5.81**	**220**	P	**Pn**	**21 48 05.1**	**+1.6**
MPSI	**Mapaga**	**6.50**	**269**	P	**Pn**	**21 48 14.3**	**+1.4**
DAV	**Davao City (W)**	**6.58**	**353**	Pn	**Pn**	**21 48 12.7**	**-1.4**
DAV	**Davao City (W)** 12nm,0.3s,baz=248,slow=22,SNR=1.3	**6.58**	**353**	Pn	**Pn**	**21 48 13.3**	**-0.8**
DAV	24nm,0.3s,baz=45,slow=23,SNR=1.6 64nm,0.3s			Sn	**Sn**	**21 49 29.1**	**+0.9**
PCI	**Palu** 0.8nm7µm126nm,0.9s	**6.70**	**258**	P	**Pn**	**21 48 18.3**	**+2.6**
FAKI	**Fak Fak**	**6.77**	**120**	Pn	**Pn**	**21 48 15.5**	**-1.1**
FAKI	**Fak Fak**	**6.77**	**120**	P	**Pn**	**21 48 17.8**	**+1.2**
FAKI	**Fak Fak** 0.8nm4µm160nm,1.0s	**6.77**	**120**	P	**Pn**	**21 48 17.5**	**+0.9**
BBSI	**Bau Bau** 3µm321nm,1.1s	**7.06**	**213**	P	**Pn**	**21 48 22.6**	**+1.9**
TTSI	**Tana Toraja** 0.5nm7µm2µm144nm,0.7s	**7.45**	**242**	P	**Pn**	**21 48 27.1**	**+1.1**
BNSI	**Bone** 0.6nm6µm2µm165nm,0.9s	**7.94**	**232**	P	**Pn**	**21 48 33.5**	**+0.8**
SPSI	**Sidrap Palu** 0.6nm2µm178nm,0.7s	**7.96**	**236**	P	**Pn**	**21 48 34.8**	**+1.8**
BKSI	**Bulukumba**	**8.52**	**227**	P	**Pn**	**21 48 42.0**	**+1.3**
KAPI	**Kappang**	**8.60**	**230**		**Pn**	**21 48 42.4**	**+0.6**
KAPI	**Kappang** 5.0nm,0.3s,baz=52,slow=6.5,SNR=16	**8.60**	**230**	Pn	**Pn**	**21 48 41.4**	**-0.3**
KAPI	3.7nm,0.3s,baz=317,slow=20,SNR=1.0			Sn	**Sn**	**21 50 17.6**	**-0.2**
KAPI	**Kappang**	**8.60**	**230**	P	**Pn**	**21 48 45.2**	**+3.5**
KAPI	**Kappang**	**8.60**	**230**	P	**Pn**	**21 48 42.4**	**+0.6**
BSSI	**Bau Bau, Buton** 144nm,1.0s	**8.84**	**222**	P	**Pn**	**21 48 46.7**	**+1.6**
BAKI	**Biak**	**9.86**	**100**	P	**Pn**	**21 48 59.9**	**+0.8**
MMRI	**Maumere**	**9.97**	**204**	Pn	**Pn**	**21 49 00.3**	**-0.3**
EDFI	**Ende, Flores** 922nm50nm,1.1s	**10.31**	**207**	P	**Pn**	**21 49 07.6**	**+2.3**
SOEI	**Soe**	**10.40**	**192**	Pn	**Pn**	**21 49 06.8**	**+0.2**
SOEI	**Soe**	**10.40**	**192**	P	**Pn**	**21 49 08.5**	**+1.9**
SOEI	**Soe** 9µm149nm,1.2s	**10.40**	**192**	P	**Pn**	**21 49 08.1**	**+1.5**
BATI	**Baumata** 0.6nm,0.3s,baz=309,slow=23,SNR=1.0 15nm,0.8s	**10.97**	**194**	Pn	**Pn**	**21 49 13.4**	**-0.9**
BATI	**Baumata** 5µm3µm127nm,1.9s	**10.97**	**194**	P	**Pn**	**21 49 17.0**	**+2.7**
KKM	**Kota Kinabalu**	**11.56**	**299**		**Pn**	**21 49 20.6**	**-1.9**
WSI	**Waingapu** 6µm76nm,0.7s	**11.78**	**211**	P	**Pn**	**21 49 26.9**	**+1.6**
WBSI	**Waikabubak, Su** 72nm,1.4s	**12.24**	**215**	P	**Pn**	**21 49 33.6**	**+1.8**
SMPI	**Sarmi** 7µm5µm188nm,1.7s	**12.56**	**101**	P	**Pn**	**21 49 37.5**	**+1.4**
PLAI	**Plampang** 106nm,1.5s	**12.63**	**223**	P	**Pn**	**21 49 38.6**	**+1.6**
MTN	**Manton Dam**	**14.06**	**161**		**Pn**	**21 49 55.2**	**-1.3**
MTN	**Manton Dam** comp=Z,38nm,1.1s	**14.06**	**161**	P	**Pn**	**21 49 56.5**	**0.0**
GENI	**Genyem** comp=Z,6µmcomp=Z,6µmcomp=Z,250nm,1.7s	**14.11**	**103**	P	**Pn**	**21 49 58.8**	**+1.6**
SBUM	**Sibu**	**14.30**	**278**		**Pn**	**21 49 58.7**	**-1.1**
KDU	**Kakadu**	**14.42**	**155**	P	Pn	21 49 56.4	-5.0
KDU	**Kakadu**	**14.42**	**155**	P	**Pn**	**21 50 01.5**	**+0.1**
KMMI	**Kalianget** comp=Z,102nm,1.6s	**14.48**	**239**	P	**Pn**	**21 50 04.4**	**+2.1**
TGY	**Tagaytay City** comp=Z,14nm,0.3s,baz=94,slow=6.1,SNR=4.6	**14.56**	**338**	Pn	**Pn**	**21 50 02.9**	**-0.5**
TGY	comp=Z,2µm,21.3s,baz=158,slow=39			LR	LR	21 56 06.8	
JAY	**Jayapura** comp=Z,0.1nm,0.3s,baz=280,slow=14,SNR=3.8 comp=Z,4.1nm,0.8s	**14.62**	**102**	Pn	**Pn**	**21 50 05.5**	**+1.2**
JAY	**Jayapura** comp=Z,1µmcomp=Z,64nm,2.1s	**14.62**	**102**	P	**Pn**	**21 50 06.3**	**+2.1**
STKI	**Sintang**	**14.92**	**268**	P	**Pn**	**21 50 09.6**	**+1.3**
JAGI	**Jajag, Banyuwa**	**15.10**	**234**		**Pn**	**21 50 09.9**	**-0.8**
JAGI	**Jajag, Banyuwa** comp=Z,2µmcomp=Z,133nm,1.8s	**15.10**	**234**	P	**Pn**	**21 50 13.3**	**+2.6**
GMJI	**Gumukmas** comp=Z,66nm,1.1s	**15.57**	**236**	P	**Pn**	**21 50 18.4**	**+1.6**
KSM	**Kuching**	**16.11**	**274**		**Pn**	**21 50 22.4**	**-1.3**
KSM	comp=Z,383nm,1.5s			IAmb	IAmb	21 50 28.4	
KSM	**Kuching**	**16.11**	**274**	P	**P**	**21 50 27.5**	**+0.7**
KNRA	**Kununurra**	**16.24**	**172**		**Pn**	**21 50 23.1**	**-2.2**
KNRA	**Kununurra** comp=Z,89nm,1.1s	**16.24**	**172**	P	**Pn**	**21 50 23.8**	**-1.5**
NGJI	**Ngawi** comp=Z,149nm,1.0s	**16.82**	**242**	P	**P**	**21 50 34.3**	**-0.3**
PCJI	**Pacitan** comp=Z,105nm,1.0s	**17.45**	**240**	P	**P**	**21 50 43.2**	**+1.6**
WOJI	**Wonogiri, Jawa** comp=Z,102nm,1.6s	**17.50**	**241**	P	**P**	**21 50 42.7**	**+0.5**
SMRI	**Semarang**	**17.59**	**245**		**P**	**21 50 43.6**	**+0.4**
UGM	**Wanagama** comp=Z,86nm,1.3s	**17.89**	**242**	P	**P**	**21 50 48.0**	**+1.4**
FITZ	**Fitzroy Crossi**	**18.49**	**182**		**P**	**21 50 52.3**	**-0.7**
FITZ	**Fitzroy Crossi** comp=Z,825nm,1.1s	**18.49**	**182**	P	**P**	**21 50 52.4**	**-0.7**
FITZ	**Fitzroy Crossi** comp=Z,1.1nm,0.3s,baz=6.2,slow=7.6,SNR=29	**18.49**	**182**	P	**P**	**21 50 53.0**	**-0.1**
FITZ	comp=Z,6.3nm,0.9s,baz=35,slow=5.4,SNR=3.8 comp=Z,15nm,0.8s			S	**Sn**	**21 54 18.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**18.49**	**182**	P	**P**	**21 50 52.6**	**-0.5**
BBJI	**Bungbulang**	**20.29**	**247**	P	**P**	**21 51 12.6**	**-0.4**
CNJI	**Cibinong** comp=Z,58nm,1.3s	**20.72**	**248**	P	Pn	21 51 19.0	-0.9
MANU	**Manus Island**	**21.12**	**97**	P	**P**	**21 51 19.6**	**-2.3**
WB0	**Warramunga Arr**	**21.61**	**159**		**P**	**21 51 25.8**	**-1.3**
WB0	comp=Z,82nm,0.8s			IAmb	IAmb	21 51 36.2	
WRAB	**Tennant Creek**	**21.75**	**159**	P	**P**	**21 51 27.0**	**-1.5**
WRAB	comp=Z,138nm,1.1s			IAmb	IAmb	21 51 34.9	
WRAB	**Tennant Creek**	**21.75**	**159**	P	**P**	**21 51 27.0**	**-1.5**
WRAB	comp=Z,137nm,1.1s			pmax	pmax		
WRA	**Warramunga Arr**	**21.75**	**159**	P	**P**	**21 51 25.3**	**-3.2**
WRA	**Warramunga Arr** comp=Z,35nm,0.6s,baz=338,slow=11,SNR=76	**21.75**	**159**	P	**P**	**21 51 28.1**	**-0.5**
WRA	comp=Z,22nm,1.1s,baz=332,slow=16,SNR=10			S	**S**	**21 55 26.8**	**-1.2**
WRA	comp=Z,1.6nm,1.0s,baz=339,slow=2.7,SNR=4.1 comp=Z,35nm,0.6s			ScP	**ScP**	**21 59 06.4**	**+2.3**
WRA	**Warramunga Arr**	**21.75**	**159**	*i* P	**P**	**21 51 27.2**	**-1.4**
WRA	comp=Z,33nm,0.6s			pmax	pmax		
WR8	**Warramunga Arr**	**21.82**	**159**	P	**P**	**21 51 27.6**	**-1.8**
WR8	comp=Z,90nm,0.9s			IAmb	IAmb	21 51 36.3	
COEN	**Coen**			**21.97**	**131**		**P**	**21 51 29.1**	**-1.8**
COEN	comp=Z,95nm,1.1s			IAmb	IAmb	21 51 44.7	
COEN	**Coen** comp=Z,102nm,1.1s			**21.97**	**131**	P	**P**	**21 51 31.9**	**+1.0**
COEN	**Coen**			**21.97**	**131**	P	**P**	**21 51 32.5**	**+1.6**
MBWA	**Marble Bar**			**22.48**	**196**	P	**P**	**21 51 36.6**	**+0.2**
MBWA	comp=Z,162nm,1.7s			IAmb	IAmb	21 51 56.2	
MBWA	**Marble Bar**			**22.48**	**196**	P	**P**	**21 51 36.0**	**-0.4**
MYKOM	**Kota Tinggi**			**22.57**	**273**	P	**P**	**21 51 36.6**	**-0.9**
MDSI	**Maura Dua**			**22.74**	**257**	P	**P**	**21 51 39.4**	**+0.2**
YULB	**Yu-li**			**23.29**	**348**		**P**	**21 51 42.5**	**-2.3**
YULB	comp=Z,110nm,1.7s			IAmb	IAmb	21 51 59.7	
TPUB	**Ta-pu** comp=Z,66nm,0.9s			**23.35**	**347**	IAmb	IAmb	21 51 53.4	
SSLB	**Suanglung**			**23.75**	**348**	P	**P**	**21 51 47.4**	**-1.8**
NACB	**Ninganchiao**			**23.99**	**349**	P	**P**	**21 51 50.1**	**-1.3**
NACB	comp=Z,138nm,2.0s			IAmb	IAmb	21 52 06.8	
QIZ	**Qiongzhong**			**24.55**	**320**	P	**P**	**21 51 55.2**	**-1.5**
QIZ						S	**S**	**21 56 18.5**	**+2.6**
QIZ	comp=Z,760nm,5.5s					pmax	pmax		
QIZ	comp=Z,1µm,18.6s					LR	LR		
QIZ	comp=Z,460nm,16.5s					LR	LR		
QIZ	comp=Z,4µm,22.0s					LR	LR		
QIS	**Mount Isa** comp=Z,91nm,0.7s			**24.60**	**149**	P	**P**	**21 51 56.7**	**-0.4**
QIS	**Mount Isa**			**24.60**	**149**	P	**P**	**21 51 57.7**	**+0.6**
AS31	**Alice Springs**			**25.10**	**164**	P	**P**	**21 52 00.9**	**-0.7**
AS31	comp=Z,50nm,1.2s			IAmb	IAmb	21 52 07.2	
AS31	**Alice Springs** comp=Z,30nm,0.8s			**25.10**	**164**	P	**P**	**21 52 01.2**	**-0.5**
ASAR	**Alice Springs**			**25.10**	**164**		**P**	**21 52 00.8**	**-0.9**
ASAR	**Alice Springs** comp=Z,108nm,1.0s,baz=344,slow=10,SNR=184			**25.10**	**164**	P	**P**	**21 52 01.3**	**-0.3**
ASAR	comp=Z,0.9nm,0.6s,baz=344,slow=2.7,SNR=2.1			PcP	**PcP**	**21 55 36.2**	**+0.4**
ASAR	comp=Z,17nm,1.1s,baz=344,slow=19,SNR=12			S	**S**	**21 56 28.8**	**+4.1**
ASAR	comp=Z,1.1nm,0.9s,baz=332,slow=3.5,SNR=2.4 comp=Z,108nm,1.0s			ScP	**ScP**	**21 59 16.0**	**+2.9**
AS01	**Alice Springs**			**25.11**	**163**	P	**P**	**21 52 02.5**	**+0.8**
UBPT	**Khong Chiam**			**25.35**	**306**	P	**P**	**21 52 02.9**	**-1.1**
UBPT	comp=Z,58nm,1.4s			IAmb	IAmb	21 52 25.6	
MTSU	**Mount Surprise** comp=Z,15nm,1.4s			**25.56**	**137**	P	**P**	**21 52 06.3**	**+0.4**
IPM	**Ipoh**			**25.64**	**279**		**P**	**21 52 04.7**	**-2.0**
IPM	**Ipoh**			**25.64**	**279**	P	**P**	**21 52 06.1**	**-0.6**
GIRL	**Giralia**			**25.87**	**206**	P	**P**	**21 52 08.5**	**0.0**
KULM	**Kulim**			**26.14**	**281**	P	**P**	**21 52 09.4**	**-1.8**
KULM	**Kulim**			**26.14**	**281**	P	**P**	**21 52 12.4**	**+1.3**
JOW	**Kunigami**			**26.25**	**4**	P	**P**	**21 52 10.1**	**-1.9**
JOW	comp=Z,82nm,1.0s			IAmb	IAmb	21 52 15.8	
JOW	**Kunigami** comp=Z,40nm,0.8s,baz=180,slow=8.8,SNR=5.9 comp=Z,40nm,0.8s			**26.25**	**4**	P	**P**	**21 52 12.2**	**+0.2**
JOW	**Kunigami**			**26.25**	**4**	P	**P**	**21 52 14.3**	**+2.3**
RPSI	**Rantau Prapat**			**27.54**	**275**		**P**	**21 52 21.3**	**-2.5**
PSI	**Prapat**			**27.55**	**275**	P	**P**	**21 52 21.3**	**-2.7**
PSI	comp=Z,36nm,1.4s			pmax	pmax		
SRIT	**Nakonsritamara**			**27.87**	**288**	P	**P**	**21 52 25.4**	**-1.3**
MEEK	**Meekatharra**			**28.00**	**195**	P	**P**	**21 52 29.5**	**+1.8**
CTAO	**Charters Tower**			**28.23**	**138**	P	**P**	**21 52 29.0**	**-0.9**
CTAO	comp=Z,108nm,1.9s			IAmb	IAmb	21 52 47.7	
CTAO	**Charters Tower**			**28.23**	**138**	P	**P**	**21 52 29.0**	**-0.9**

comp=Z,710nm,22.3s
NJ2 LR LR
comp=Z,440nm,23.7s
NJ2 LR LR
comp=Z,1µm,22.7s
BLDU Ballidu 32.28 196 P **P** **21 53 06.6 +1.1**
CM31 Chiang Mai Arr 32.33 305 P **P** **21 53 05.2 -1.0**
CMAR Chiang Mai Arr 32.33 305 **P** **21 53 04.1 -2.0**
CMAR Chiang Mai Arr 32.33 305 P **P** **21 53 04.7 -1.5**
comp=Z,2.6nm,0.9s,baz=134,slow=7.0,SNR=8.7
CMAR PcP **PcP** **21 55 54.5 +0.6**
comp=Z,1.8nm,0.9s,baz=130,slow=3.2,SNR=6.4
CHTO Chiang Mai 32.51 306 **P** **21 53 05.9 -1.8**
CHTO Chiang Mai 32.51 306 P **P** **21 53 05.9 -1.8**
CHTO pmax pmax
comp=Z,14nm,1.4s
JNU Nakatsue 32.73 7 P **P** **21 53 07.6 -1.9**
JNU IAmb IAmb 21 53 10.6
comp=Z,44nm,1.2s
JNU Nakatsue 32.73 7 P **P** **21 53 09.6 +0.1**
comp=Z,19nm,1.1s,baz=204,slow=9.1,SNR=4.9
comp=Z,19nm,1.1s
KLBR Kellerberrin 32.95 194 P **P** **21 53 12.9 +1.5**
KMI Kunming 33.49 319 P **P** **21 53 17.0 +0.5**
KMI pmax pmax
comp=Z,16nm,1.7s
KMI LR LR
comp=Z,730nm,20.3s
KMI LR LR
comp=Z,1µm,23.0s
KMI LR LR
comp=Z,2µm,22.3s
ENH Enshi 33.70 333 IAmb IAmb 21 53 28.4
comp=Z,31nm,1.1s
MUN Mundaring 33.70 196 P **P** **21 53 20.0 +2.0**
JMN Monobe 33.80 11 P **P** **21 53 17.6 -1.3**
JMN Monobe 33.80 11 P **P** **21 53 20.9 +2.1**
NWAO Narrogin (SRO) 34.35 194 LR LR 22 10 41.3
comp=Z,761nm,18.8s,baz=351,slow=42
NWAO Narrogin (SRO) 34.35 194 P **P** **21 53 24.6 +1.1**
TATA Tatamba Isabel 34.45 106 P **P** **21 53 26.1 +1.4**
EIDS Eidsvold 35.09 139 P **P** **21 53 29.4 -0.6**
EIDS Eidsvold 35.09 139 P **P** **21 53 29.4 -0.6**
comp=Z,27nm,1.3s
PZH PanZhiHua 35.09 319 P **P** **21 53 27.8 -2.4**
PZH S **S** **21 59 04.2 +2.8**
PZH pmax pmax
comp=Z,10.0nm,1.9s
PZH pmax pmax
comp=Z,130nm,6.8s
PZH LR LR
comp=Z,680nm,22.4s
PZH LR LR
comp=Z,960nm,17.7s
PZH LR LR
comp=Z,2µm,17.9s
STKA Stephens Creek 35.27 157 P **P** **21 53 30.9 -0.6**
STKA Stephens Creek 35.27 157 P **P** **21 53 31.3 -0.3**
comp=Z,14nm,0.9s
STKA Stephens Creek 35.27 157 P **P** **21 53 31.2 -0.3**
comp=Z,39nm,0.9s,baz=327,slow=10,SNR=22
comp=Z,39nm,0.9s
STKA Stephens Creek 35.27 157 P **P** **21 53 31.4 -0.1**
STKA Stephens Creek 35.27 157 P **P** **21 53 30.9 -0.6**
STKA pmax pmax
comp=Z,264nm,1.0s
HTT Hallett 35.75 162 P **P** **21 53 37.5 +1.8**
INU Inuyama 36.06 15 P **P** **21 53 36.5 -1.8**
INU IAmb IAmb 21 53 52.2
comp=Z,24nm,0.9s
TNCH TengChong 36.34 314 P **P** **21 53 40.2 -0.8**
TNCH pP pP 21 53 45.7 -3.1
TNCH sP pwP 21 53 48.1 -3.9
TNCH PP **PP** **21 55 05.6 +1.6**
TNCH S **S** **21 59 16.8 -3.9**
TNCH pmax pmax
comp=Z,24nm,2.0s
TNCH LR LR
comp=Z,510nm,19.5s
TNCH LR LR
comp=Z,450nm,18.0s
TNCH LR LR
comp=Z,1µm,24.1s
JGF Kuroka 36.39 15 P **P** **21 53 42.3 +1.2**
TIA Tai'an 36.56 347 P **P** **21 53 44.1 +1.5**
TIA pmax pmax
comp=Z,11nm,1.6s
CMSA Cobar Meteorol 36.74 152 P **P** **21 53 44.1 0.0**
comp=Z,34nm,1.7s
CMSA Cobar Meteorol 36.74 152 P **P** **21 53 45.9 +1.8**
KSAR Wonju Array Be 36.79 2 P **P** **21 53 43.6 -0.9**
KSAR Wonju Array Be 36.79 2 P **P** **21 53 43.6 -0.9**
KSRS Korea Array 36.80 2 P **P** **21 53 45.1 +0.6**
comp=Z,4.7nm,0.7s,baz=181,slow=9.9,SNR=15
comp=Z,4.7nm,0.7s
CD2 Chengdu 37.09 327 P **P** **21 53 47.2 0.0**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 LR LR
comp=Z,1µm,20.9s
CD2 LR LR
comp=Z,1µm,20.9s
CD2 LR LR
comp=Z,2µm,21.6s
XAN Xi'an 37.17 336 P **P** **21 53 46.5 -1.3**
XAN S **S** **21 59 32.9 0.0**
XAN pmax pmax
comp=Z,17nm,1.1s
XAN LR LR
comp=Z,760nm,23.3s
XAN LR LR
comp=Z,600nm,22.0s
XAN LR LR
comp=Z,1µm,22.6s
MJAR Matsushiro Arr 37.50 16 P **P** **21 53 48.4 -2.2**
MJAR Matsushiro Arr 37.50 16 P **P** **21 53 49.6 -1.0**
comp=Z,4.3nm,0.6s,baz=184,slow=9.4,SNR=17
comp=Z,4.3nm,0.6s
MJAR Matsushiro Arr 37.50 16 P **P** **21 53 48.4 -2.2**
MJAR pmax pmax
comp=Z,53nm,1.9s
MAJO Matsushiro 37.51 16 P **P** **21 53 48.9 -1.7**
MAJO IAmb IAmb 21 53 50.8
comp=Z,91nm,1.8s
MAJO Matsushiro 37.51 16 P **P** **21 53 48.9 -1.7**
MAJO pmax pmax
comp=Z,91nm,1.8s
HNS HongShan 38.28 345 ⇑P **P** **21 53 58.9 +1.9**
HNS S **S** **21 59 48.9 -0.5**
HNS pmax pmax
comp=Z,10.0nm,1.1s
HNS LR LR
comp=Z,610nm,21.2s
HNS LR LR
comp=Z,440nm,19.0s
HNS LR LR
comp=Z,780nm,23.5s
DL2 Dalian 38.48 354 P **P** **21 53 59.1 +0.4**
DL2 S **S** **21 59 56.0 +3.7**
DL2 pmax pmax
comp=Z,53nm,1.1s
DL2 pmax pmax
comp=Z,380nm,9.5s
DL2 LR LR
comp=Z,580nm,20.0s
DL2 LR LR
comp=Z,1µm,20.8s
DL2 LR LR
comp=Z,1µm,20.3s
ARMA Armidale 39.01 144 P **P** **21 54 02.8 -0.7**
ARMA IAmb IAmb 21 54 08.4
comp=Z,54nm,0.9s
ARMA Armidale 39.01 144 P **P** **21 54 03.8 +0.3**
ARMA Armidale 39.01 144 P **P** **21 54 05.0 +1.5**
JMM Marumori 39.49 18 P **P** **21 54 05.2 -2.0**
JMM IAmb IAmb 21 54 20.6
comp=Z,82nm,1.2s
JMM Marumori 39.49 18 P **P** **21 54 09.3 +2.1**
BJI Beijing 40.45 348 P **P** **21 54 14.2 -0.9**
BJI S **S** **22 00 25.8 +3.9**
BJI pmax pmax
comp=Z,6.0nm,1.1s
BJI LR LR
comp=Z,160nm,21.6s
BJI LR LR
comp=Z,170nm,18.3s
BJI LR LR
comp=Z,280nm,21.7s
LZH Lanzhou 41.14 332 *e*P **P** **21 54 22.9 +1.8**
LZH sP pP 21 54 30.6 +1.6
LZH pmax pmax
comp=Z,15nm,1.2s
LZH LR LR
comp=Z,910nm,14.4s
LZH LR LR
comp=Z,2µm,15.5s
LZH LR LR
comp=Z,2µm,15.5s
CAN Canberra 41.41 152 P **P** **21 54 22.5 -0.8**
CAN IAmb IAmb 21 54 28.5
comp=Z,49nm,1.0s
CAN Canberra 41.41 152 P **P** **21 54 23.2 0.0**
comp=Z,59nm,1.4s
CAN Canberra 41.41 152 P **P** **21 54 22.5 -0.8**
CAN pmax pmax
comp=Z,49nm,1.0s
CNB Canberra Magne 41.58 151 P **P** **21 54 28.7 +4.0**
MSHR Mys Shultsa 42.12 5 *de*P **P** **21 54 29.0 +0.2**
MSHR pmax pmax
comp=Z,58nm,1.7s
PSTR Posyet 42.16 5⇓ *e*P **P** **21 54 29.5 +0.4**
JTM Tenmabayashi 42.26 17 P **P** **21 54 27.4 -2.6**
HHC Hu-ho-hao-te 42.36 343 *e*P **P** **21 54 31.1 +0.1**
HHC sP pP 21 54 39.3 +0.5
HHC PP **PP** **21 56 12.5 +3.0**
HHC S **S** **22 00 53.8 +3.2**
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,240nm,5.0s
HHC LR LR
comp=Z,570nm,16.8s
HHC LR LR
comp=Z,380nm,17.8s
HHC LR LR
comp=Z,980nm,19.1s
VLA Vladivostok 42.72 6⇓ *e*P **P** **21 54 34.1 +0.4**
VLA pmax pmax
comp=Z,55nm,1.7s
CN2 Changchun 43.13 359 P **P** **21 54 36.2 -0.8**
CN2 S **S** **22 01 00.0 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,1.5s
CN2 LR LR
comp=Z,600nm,17.0s
CN2 LR LR
comp=Z,500nm,17.0s
CN2 LR LR
comp=Z,400nm,16.0s
USRK Ussuriysk Ar. 43.80 6 **P** **21 54 42.2 -0.2**
USRK Ussuriysk Ar. 43.80 6 P **P** **21 54 43.0 +0.6**
comp=Z,13nm,0.6s,baz=190,slow=8.5,SNR=18
comp=Z,13nm,0.6s
USA0B Ussuriysk Arra 43.80 6 P **P** **21 54 41.4 -1.0**
USA0B Ussuriysk Arra 43.80 6 P **P** **21 54 41.4 -1.0**
USA0B pmax pmax
comp=Z,26nm,0.9s
MDJ Mudanjiang 44.02 3 IAmb IAmb 21 55 01.7
comp=Z,35nm,1.1s
MDJ Mudanjiang 44.02 3 P **P** **21 54 44.4 +0.2**
MDJ S **S** **22 01 18.9 +4.3**
MDJ ScS **ScS** **22 04 40.2 -0.9**
MDJ pmax pmax
comp=Z,25nm,1.2s
MDJ pmax pmax
comp=Z,200nm,3.5s
MDJ LR LR
comp=Z,800nm,17.3s
MDJ LR LR
comp=Z,340nm,18.1s
MDJ LR LR
comp=Z,940nm,20.6s
XLT XiLinHaoTe 44.19 349 *e*P **P** **21 54 45.8 +0.2**
XLT S **S** **22 01 13.6 -3.6**
XLT pmax pmax
comp=Z,17nm,1.4s
XLT LR LR
comp=Z,49nm,20.2s
XLT LR LR
comp=Z,250nm,18.2s
XLT LR LR
comp=Z,840nm,20.7s
DZM Mont Dzumac 45.02 122 P **P** **21 54 51.3 -1.4**
DZM IAmb IAmb 21 55 05.5
comp=Z,40nm,1.1s
DZM Mont Dzumac 45.02 122 *e*P **P** **21 54 50.9 -1.8**
comp=Z,110nm,1.4s
DZM *e*S **S** **22 01 28.3 -1.7**
comp=Z,872nm,32.9s
DZM *e*SS **SS** **22 04 54.6 +2.0**
comp=Z,671nm,26.6s
DZM *e*LR LR 22 07 29.0
comp=Z,2µm,25.9s
DZM Mont Dzumac 45.02 122 P **P** **21 54 53.3 +0.6**
comp=Z,38nm,1.4s,baz=271,slow=3.4,SNR=6.3
comp=Z,38nm,1.4s
BNX BinXian 45.06 1 ⇑P **P** **21 54 51.7 -0.8**
BNX pmax pmax
comp=Z,12nm,1.2s
GTA Gaotai 45.72 331 *e*P **P** **21 54 58.1 +0.2**
GTA pP pP 21 55 03.1 -2.8
GTA PcP **PcP** **21 56 37.8 +2.2**
GTA ScP **ScP** **22 00 28.5 +1.7**
GTA pmax pmax
comp=Z,6.0nm,1.5s
GTA LR LR
comp=Z,1µm,20.7s
GTA LR LR
comp=Z,820nm,20.7s
GTA LR LR
comp=Z,2µm,21.8s
ASAJ Asahikawa 45.77 16 P **P** **21 54 59.0 +0.9**
comp=Z,5.7nm,0.5s,baz=241,slow=16,SNR=7.8
ASAJ LR LR 22 13 58.0
comp=Z,593nm,22.0s,baz=206,slow=36
comp=Z,5.7nm,0.5s
ASAJ Asahikawa 45.77 16 P **P** **21 54 56.6 -1.5**
ASAJ pmax pmax
comp=Z,36nm,1.1s
JKA Kamikawa-asahi 45.77 16 P **P** **21 54 56.6 -1.5**
JKA IAmb IAmb 21 55 23.1
comp=Z,36nm,1.1s
PALK Pallekele 46.05 280 P **P** **21 54 58.4 -2.5**
PALK IAmb IAmb 21 56 18.2
comp=Z,39nm,1.5s
PALK Pallekele 46.05 280 P **P** **21 54 58.4 -2.5**
PALK pmax pmax
comp=Z,39nm,1.5s
PINNC Pines Island, 46.09 123 P **P** **21 54 59.9 -1.1**
PINNC IAmb IAmb 21 55 13.7
comp=Z,48nm,1.1s
EVN Everest 46.70 309 P **P** **21 55 05.1 -1.4**
YSS Yuzhno-Sakhali 48.43 15 P **P** **21 55 16.8 -2.1**
YSS IAmb IAmb 21 55 20.1
comp=Z,62nm,1.7s
YSS Yuzhno-Sakhali 48.43 15⇓ *e*P **P** **21 55 19.5 +0.7**
YSS pmax pmax
comp=Z,27nm,1.3s
HEH HeiHe 49.58 1 *e*P **P** **21 55 27.1 -0.5**
HEH pP **pP** **21 55 37.0 +1.5**
HEH S **S** **22 02 32.0 -1.8**
HEH pmax pmax
comp=Z,23nm,1.5s
HEH pmax pmax
comp=Z,440nm,10.7s
HEH LR LR
comp=Z,780nm,21.7s
HEH LR LR
comp=Z,460nm,20.6s
HEH LR LR
comp=Z,1µm,20.9s
HYB Hyderabad 49.96 292 *e*P **P** **21 55 30.9 -0.1**
ULN Ulaanbaatar 50.08 343 P **P** **21 55 31.0 -0.7**
ULN IAmb IAmb 21 55 51.1
comp=Z,43nm,1.4s
ULN Ulaanbaatar 50.08 343⇓ *e*P **P** **21 55 31.8 +0.1**
ULN pmax pmax
comp=Z,28nm,1.4s
SONM Songino Array 50.25 343 P **P** **21 55 31.6 -1.3**
SONM Songino Array 50.25 343 P **P** **21 55 33.0 +0.1**
comp=Z,3.9nm,0.5s,baz=164,slow=8.0,SNR=31
SONM ScP **ScP** **22 00 47.9 +2.1**
comp=Z,0.8nm,1.0s,baz=152,slow=6.5,SNR=3.8
comp=Z,3.9nm,0.5s
SONM Songino Array 50.25 343 P **P** **21 55 31.6 -1.3**
SONM pmax pmax
comp=Z,24nm,1.2s
GRNR Gornyy 50.81 8⇓ *i*P **P** **21 55 38.1 +1.2**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR MLR MLR
comp=E,190nm,21.0s
GRNR MLR MLR
comp=N,280nm,21.0s
GRNR MLR MLR
comp=Z,280nm,19.0s
CIT Chita 52.47 350 *e*P **P** **21 55 49.6 +0.3**
CIT *e* 21 56 58.6
CIT pmax pmax
comp=Z,145nm,1.8s
ZEA Zeya 53.07 1 *e*P P 21 56 03.4 +10
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=E,200nm,16.0s
ZEA MLR MLR
comp=N,400nm,22.0s
ZEA MLR MLR
comp=Z,400nm,24.0s
YSA Yasawairara 53.26 111 P **P** **21 55 57.0 +1.3**
ZAK Zakamensk 53.46 342 *e*P **P** **21 55 55.8 -1.0**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
IRK Irkutsk 54.80 344 *e*P P 21 56 00.3 -6.1
IRK pmax pmax
comp=Z,70nm,1.6s
WMQ Urumqi 55.19 327 *e*P **P** **21 56 11.2 +1.7**
WMQ LR LR
comp=Z,820nm,16.1s
WMQ LR LR
comp=Z,1µm,23.3s
WMQ LR LR
comp=Z,1µm,20.1s
MOY Mondy 55.30 341 *e*P **P** **21 56 09.1 -1.0**
MOY pmax pmax
comp=Z,52nm,1.9s
BOD Bodaibo 58.00 352 *e*P **P** **21 56 28.6 -0.4**
BOD pmax pmax
comp=Z,42nm,1.5s
PEA0B Petropavlovsk- 58.54 22 P **P** **21 56 31.0 -2.0**
PEA0B IAmb IAmb 21 56 34.9
comp=Z,53nm,1.3s
PEA0B Petropavlovsk- 58.54 22 P **P** **21 56 31.0 -2.0**
PEA0B pmax pmax
comp=Z,53nm,1.3s
PETK Petropavlovsk- 58.54 22 P **P** **21 56 31.1 -1.8**
PETK Petropavlovsk- 58.54 22 P **P** **21 56 33.6 +0.7**
comp=Z,8.1nm,0.6s,baz=184,slow=5.1,SNR=20
PETK LR LR 22 20 52.8
comp=Z,185nm,21.2s,baz=218,slow=35
comp=Z,8.1nm,0.6s
PET Petropavlovsk 58.83 22 P **P** **21 56 33.4 -1.5**
PET Petropavlovsk 58.83 22 *e*P **P** **21 56 34.6 -0.3**
PET *e*S **S** **22 04 31.8 -6.7**
PET MLR MLR
comp=Z,300nm,18.0s
PET MLR MLR
comp=Z,400nm,17.0s
PET Petropavlovsk 58.83 22 P **P** **21 56 36.0 +1.1**
comp=Z,3µmcomp=Z,37nm,1.0s
ZSN Zaisan 59.04 328 *e*P **P** **21 56 35.4 -1.2**
ZSN pmax pmax
comp=Z,9.0nm,1.2s
ZSN Zaisan 59.04 328 *e*P **P** **21 56 35.5 -1.2**
comp=Z,9.5nm,1.2s
RPZ Rata Peaks 59.35 144 LR LR 22 23 24.7
comp=Z,1µm,20.9s,baz=314,slow=37
PRZ Przheval'sk 59.95 321 P **P** **21 56 42.8 -0.4**
PRZ Przheval'sk 59.95 321 P **P** **21 56 42.8 -0.4**
AMCZ Amberley 60.01 142 P **P** **21 56 43.9 +0.7**
MK31 Makanchi Array 60.03 326 P **P** **21 56 42.3 -1.1**
MK31 Makanchi Array 60.03 326 P **P** **21 56 42.3 -1.1**
MK31 pmax pmax
comp=Z,16nm,1.2s
MKAR Makanchi Array 60.03 326 P **P** **21 56 42.1 -1.3**
comp=Z,9.7nm,0.4s,baz=121,slow=8.2,SNR=149
MKAR LR LR 22 23 24.6
comp=Z,1µm,21.4s,baz=122,slow=37
comp=Z,9.7nm,0.4s
KSH Kashi 60.11 317 P **P** **21 56 43.7 -0.6**
KSH pmax pmax
comp=Z,6.0nm,1.4s
MAKZ Makanchi 60.21 326 **P** **21 56 43.6 -1.1**
MAKZ IAmb IAmb 21 57 12.5
comp=Z,37nm,1.4s
MAKZ Makanchi 60.21 326 P **P** **21 56 43.6 -1.1**
MAKZ pmax pmax
comp=Z,37nm,1.4s
URZ Urewera 60.45 136 LR LR 22 24 04.8
comp=Z,454nm,22.0s,baz=302,slow=37
RAO Raoul Island 60.77 124 LR LR 22 22 25.1
comp=Z,279nm,21.6s,baz=357,slow=35
NRN Naryn 60.99 319 P **P** **21 56 50.7 +0.3**
NRN Naryn 60.99 319 P **P** **21 56 50.7 +0.3**
MXZ Matakaoa Point 60.99 134 P **P** **21 56 48.5 -1.6**
TNSS Tian-Shan 61.15 321 *e*P **P** **21 56 50.1 -1.5**
TNSS Tian-Shan 61.15 321 *e*P **P** **21 56 50.1 -1.5**
AAA Alma-Ata 61.26 321 *e*P **P** **21 56 51.2 -0.7**
AAA pmax pmax
comp=Z,13nm,1.1s
AAA Alma-Ata 61.26 321 *e*P **P** **21 56 51.3 -0.7**
comp=Z,13nm,1.1s
TDK Taldyqorghan 61.26 323 *e*P **P** **21 56 51.1 -0.7**
TDK Taldyqorghan 61.26 323 *e*P **P** **21 56 51.2 -0.7**
YAK Yakutsk 61.43 2 P **P** **21 56 52.1 -0.5**
YAK Yakutsk 61.43 2 *e*P **P** **21 56 52.0 -0.5**
YAK *e**PP **pP** **21 57 01.2 +0.5**
YAK *e* 21 57 34.0
YAK *e* 21 59 05.0
YAK *e*S **S** **22 05 11.4 -0.2**
YAK *e**SS **sS** **22 05 26.4 +1.4**
YAK *e* 22 06 40.4
YAK pmax pmax
comp=Z,30nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.5s
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=Z,30nm,2.0s
YAK pmax pmax
comp=N,19nm,2.2s
YAK pmax pmax
comp=E,8.0nm,2.1s
YAK smax smax
comp=E,36nm,3.3s
YAK smax smax
comp=N,30nm,2.5s
YAK MLR MLR
comp=Z,647nm,21.0s
YAK MLR MLR
comp=E,156nm,26.0s
YAK MLR MLR
comp=N,497nm,23.0s
BOOM Boomskoye usch 61.53 320 P **P** **21 56 53.8 -0.1**
BOOM Boomskoye usch 61.53 320 P **P** **21 56 53.8 -0.1**
CHKK Chushkaly 61.53 321 *e*P **P** **21 56 53.0 -0.7**
CHKK Chushkaly 61.53 321 *e*P **P** **21 56 53.0 -0.7**
MA2 Magadan 61.91 14 P **P** **21 56 55.5 -0.4**
MA2 Magadan 61.91 14 *ce*P **P** **21 56 57.3 +1.4**
MA2 pmax pmax
comp=Z,63nm,1.7s
MA2 Magadan 61.91 14 P **P** **21 56 56.7 +0.8**
comp=Z,574nmcomp=Z,40nm,1.4s
KUU Kurty 61.96 321 *e*P **P** **21 56 55.6 -0.9**
KUU pmax pmax
comp=Z,25nm,1.3s
KUU Kurty 61.96 321 *e*P **P** **21 56 55.7 -0.9**
comp=Z,25nm,1.3s
FRU1 Bishkek 62.53 319 P **P** **21 57 00.9 +0.4**
FRU1 Bishkek 62.53 319 P **P** **21 57 00.9 +0.4**
AAK Ala-Archa 62.54 319 P **P** **21 57 01.1 +0.4**
AAK IAmb IAmb 21 57 05.9
comp=Z,38nm,1.8s
AAK Ala-Archa 62.54 319 *de*P **P** **21 57 02.3 +1.6**
AAK pmax pmax
comp=Z,22nm,1.6s
SGDS Sogindy 62.83 320 *e*P **P** **21 57 01.8 -0.7**

comp=Z,9.3nm,1.4s
ARSB Arslanbob 62.96 317 P **P** **21 57 03.2 -0.3**
ARSB Arslanbob 62.96 317 P **P** **21 57 03.2 -0.3**
DRK Karamyk 63.01 315 P **P** **21 57 04.0 -0.1**
DRK Karamyk 63.01 315 P **P** **21 57 04.0 -0.1**
KBL Kabul 63.24 309 P **P** **21 57 04.7 -0.9**
KBL Kabul 63.24 309 P **P** **21 57 04.7 -0.9**
KBL pmax pmax
comp=Z,9.0nm,0.9s
ZAA0 Zalesovo Array 63.31 334 P **P** **21 57 04.8 -0.6**
ZAA0 IAmb IAmb 21 57 08.3
comp=Z,59nm,1.9s
ZALV Zalesovo Beam 63.31 334 P **P** **21 57 04.3 -1.0**
ZALV Zalesovo Beam 63.31 334 P **P** **21 57 04.0 -1.3**
comp=Z,3.3nm,0.5s,baz=195,slow=16,SNR=18
ZALV LR LR 22 26 46.6
comp=Z,324nm,20.8s,baz=132,slow=38
comp=Z,3.3nm,0.5s
ZALV Zalesovo Beam 63.31 334 P **P** **21 57 04.3 -1.0**
BTK Batken 63.94 315 P **P** **21 57 08.9 -1.0**
BTK Batken 63.94 315 P **P** **21 57 08.9 -1.0**
BTLS Baital 63.95 321 *e*P **P** **21 57 09.1 -0.6**
BTLS pmax pmax
comp=Z,15nm,1.5s
BTLS Baital 63.95 321 *e*P **P** **21 57 09.2 -0.6**
comp=Z,15nm,1.5s
KURBB Kurchatov Arra 64.28 328 P **P** **21 57 10.5 -1.3**
comp=Z,9.6nm,0.5s,baz=127,slow=6.6,SNR=25
comp=Z,9.6nm,0.5s
KURK Kurchatov 64.29 329 **P** **21 57 10.0 -1.8**
KURK Kurchatov 64.29 329 *ce*P **P** **21 57 10.6 -1.2**
KURK pmax pmax
comp=Z,33nm,0.9s
DZA Taraz 64.74 318 *e*P **P** **21 57 14.3 -0.7**
DZA Taraz 64.74 318 *e*P **P** **21 57 14.3 -0.7**
SEY Seymchan 65.24 13 *ce*P **P** **21 57 19.1 +1.3**
SEY pmax pmax
comp=Z,51nm,1.5s
IUG Iuzhnay 65.31 317 *e*P **P** **21 57 17.9 -1.0**
IUG pmax pmax
comp=Z,9.0nm,1.0s
IUG Iuzhnay 65.31 317 *e*P **P** **21 57 17.9 -1.0**
comp=Z,9.0nm,1.0s
KK31 Karatay Array 65.38 318 **P** **21 57 18.2 -1.0**
KK31 Karatay Array 65.38 318 P **P** **21 57 18.2 -1.0**
KK31 pmax pmax
comp=Z,11nm,1.0s
KKAR Karatay Array 65.38 318 **P** **21 57 17.9 -1.2**
KKAR Karatay Array 65.38 318 P **P** **21 57 17.9 -1.2**
SHEM Shemya Is, Ala 65.42 30 LR LR 22 22 57.5
comp=Z,286nm,20.5s,baz=248,slow=33
CHM Chimkent 65.67 317 *e*P **P** **21 57 20.2 -0.8**
CHM Chimkent 65.67 317 *e*P **P** **21 57 20.3 -0.8**
BRLS Borolday 65.80 318 *e*P **P** **21 57 21.2 -0.7**
BRLS Borolday 65.80 318 *e*P **P** **21 57 21.2 -0.7**
BRZS Berezniki 67.13 326 *e*P **P** **21 57 29.6 -0.6**
BRZS Berezniki 67.13 326 *e*P **P** **21 57 29.6 -0.6**
AMKA Amchitka 67.38 33 P **P** **21 57 31.1 -0.7**
CASY Casey 67.58 187 **P** **21 57 33.2 +0.5**
CASY IAmb IAmb 21 57 58.7
comp=Z,22nm,1.3s
BVAR Borovoye Array 69.84 328 P **P** **21 57 46.1 -1.0**
comp=Z,5.1nm,0.7s
BVAR LR LR 22 29 42.4
comp=Z,261nm,21.9s,baz=124,slow=37
comp=Z,5.1nm,0.7s
BRVK Borovoye 69.92 328 **P** **21 57 46.6 -0.9**
BRVK IAmb IAmb 21 57 51.9
comp=Z,33nm,1.2s
BRVK Borovoye 69.92 328 *ce*P **P** **21 57 47.1 -0.5**
BRVK pmax pmax
comp=Z,49nm,1.7s
TIXI Tiksi 71.06 1 **P** **21 57 52.7 -1.4**
TIXI IAmb IAmb 21 57 54.4
comp=Z,32nm,1.5s
TIXI Tiksi 71.06 1 *ce*P **P** **21 57 53.2 -0.9**
TIXI pmax pmax
comp=Z,27nm,1.7s
BILL Bilibino 72.75 15 *ce*P **P** **21 58 05.2 +0.8**
BILL pmax pmax
comp=Z,28nm,2.5s
NRIK Noril'sk 73.47 347 **P** **21 58 08.0 -0.6**
NRIK IAmb IAmb 21 58 09.8
comp=Z,34nm,1.4s
NRIK Noril'sk 73.47 347 P **P** **21 58 08.9 +0.3**
comp=Z,8.7nm,0.7s,baz=136,slow=6.8,SNR=16
NRIK LR LR 22 32 19.2
comp=Z,417nm,21.3s,baz=142,slow=37
comp=Z,8.7nm,0.7s
NRIK Noril'sk 73.47 347 P **P** **21 58 08.0 -0.6**
NRIK pmax pmax
comp=Z,34nm,1.4s
AB31 Akbulak array 74.44 321 IAmb IAmb 21 58 18.2
comp=Z,34nm,1.4s
ABKAR Akbulak array 74.44 321 **P** **21 58 13.5 -1.2**
RAR Rarotonga 75.13 112 LR LR 22 30 11.5
comp=Z,190nm,20.9s,baz=280,slow=35
SPIA Saint Paul Isl 75.44 30 P **P** **21 58 19.5 -0.8**
SPIA Saint Paul Isl 75.44 30 P **P** **21 58 21.1 +0.8**
baz=247
P08K Saint George I 75.58 31 P **P** **21 58 20.9 -0.2**
P08K Saint George I 75.58 31 P **P** **21 58 22.0 +0.9**
baz=248
UNV Unalaska Valle 76.27 34 P **P** **21 58 24.8 -0.2**
UNV Unalaska Valle 76.27 34 P **P** **21 58 25.4 +0.3**
baz=251
SVE Sverdlovsk 76.53 329 *de*P **P** **21 58 25.7 -0.8**
SVE pmax pmax
comp=Z,54nm,1.7s
AKUT Akutan 76.77 34 P **P** **21 58 27.1 -0.8**
GAMB Gambell 77.47 24 P **P** **21 58 31.8 +0.2**
GAMB IAmb IAmb 21 59 34.6
comp=Z,76nm,1.7s
GAMB Gambell 77.47 24 P **P** **21 58 32.6 +1.0**
baz=245
ARTI Arti 77.56 328 P **P** **21 58 30.6 -1.8**
ARTI IAmb IAmb 21 58 33.3
comp=Z,44nm,1.5s
ARTI Arti 77.56 328 P **P** **21 58 30.7 -1.6**
comp=Z,9.9nm,1.1s,baz=92,slow=2.4,SNR=16
ARTI LR LR 22 34 03.8
comp=Z,302nm,20.9s,baz=113,slow=37
comp=Z,9.9nm,1.1s
ARTI Arti 77.56 328 *c i*P **P** **21 58 31.4 -0.9**
ARTI 22 01 28.7
ARTI PPP PPP 22 03 23.6
ARTI S **S** **22 08 23.5 +1.7**
ARTI pmax pmax
comp=Z,38nm,1.7s
ARTI MLR MLR
comp=Z,411nm,22.0s
M11K Mekoryuk 78.57 28 P **P** **21 58 38.5 +0.8**
baz=250
S12K Black Hills 79.27 33 P **P** **21 58 40.5 -1.2**
S12K IAmb IAmb 21 59 02.9
comp=Z,21nm,1.1s
S12K Black Hills 79.27 33 P **P** **21 58 42.1 +0.3**
baz=255
TNA Tin City 79.68 23 P **P** **21 58 44.8 +1.0**
baz=248
K13K Kusilvak Mount 79.78 27 P **P** **21 58 43.5 -0.9**
K13K IAmb IAmb 21 58 58.4
comp=Z,45nm,1.2s
K13K Kusilvak Mount 79.78 27 P **P** **21 58 45.4 +1.0**
baz=251,SNR=7.8
M13K Dall Lake 79.92 28 P **P** **21 58 43.7 -1.5**
M13K IAmb IAmb 21 58 59.2
comp=Z,27nm,1.0s
M13K Dall Lake 79.92 28 P **P** **21 58 46.4 +1.3**
baz=253
SDPT Sand Point 80.05 34 P **P** **21 58 45.5 -0.5**
SDPT Sand Point 80.05 34 P **P** **21 58 46.2 +0.2**
SDPT Sand Point 80.05 34 P **P** **21 58 46.3 +0.2**
baz=256,SNR=13
F14K Arctic Creek 80.27 23 P **P** **21 58 48.1 +1.1**
baz=249
VNDA Vanda 80.28 173 **P** **21 58 47.1 +0.2**
VNDA Vanda 80.28 173 P **P** **21 58 46.6 -0.2**
comp=Z,1.7nm,0.6s,baz=318,slow=6.9,SNR=19
VNDA LR LR 22 36 02.7
comp=Z,279nm,18.9s,baz=350,slow=37
comp=Z,1.7nm,0.6s
VNDA Vanda 80.28 173 P **P** **21 58 47.1 +0.2**
VNDA pmax pmax
comp=Z,19nm,1.5s
ANM Nome 80.34 24 P **P** **21 58 48.0 +0.6**
baz=250
CNBA Chernabura Isl 80.43 34 P **P** **21 58 47.3 -0.7**
CNBA IAmb IAmb 21 59 00.8
comp=Z,21nm,0.9s
CHNA Chernabura Isl 80.43 34 P **P** **21 58 49.0 +1.0**
CHNA Chernabura Isl 80.43 34 P **P** **21 58 48.4 +0.4**
baz=257
L14K Kuka Creek 80.50 28 P **P** **21 58 49.4 +1.1**
baz=253
J14K Nanvaranak Lak 80.53 26 P **P** **21 58 47.5 -0.9**
J14K IAmb IAmb 21 59 03.1
comp=Z,56nm,1.6s
J14K Nanvaranak Lak 80.53 26 P **P** **21 58 49.5 +1.1**
baz=252
N14K Kuskokwak Cree 80.58 29 P **P** **21 58 48.7 0.0**
N14K IAmb IAmb 21 59 02.2
comp=Z,44nm,1.1s
N14K Kuskokwak Cree 80.58 29 P **P** **21 58 49.6 +0.9**
baz=254
O14K Tigyukauivet M 80.61 30 P **P** **21 58 49.1 +0.2**
O14K IAmb IAmb 21 59 02.4
comp=Z,26nm,1.0s
O14K Tigyukauivet M 80.61 30 P **P** **21 58 49.7 +0.8**
baz=255,SNR=5.8
MAW Mawson 80.62 200 P **P** **21 58 48.9 0.0**
comp=Z,3.0nm,0.6s,baz=69,slow=7.2,SNR=9.6
MAW LR LR 22 32 32.5
comp=Z,282nm,20.9s,baz=64,slow=34
comp=Z,3.0nm,0.6s
M14K Bethel 80.67 28 P **P** **21 58 48.6 -0.6**
M14K IAmb IAmb 21 59 03.6
comp=Z,76nm,1.4s
M14K Bethel 80.67 28 P **P** **21 58 50.1 +0.9**
baz=254
S14K Fog Glacier 80.78 33 P **P** **21 58 50.5 +0.5**
baz=257
F15K North Star Dit 81.01 23 P **P** **21 58 51.9 +1.0**
baz=251
G15K Niukluk 81.02 24 P **P** **21 58 51.6 +0.6**
baz=252
L15K Ungalak Mounta 81.15 27 P **P** **21 58 52.6 +0.8**
baz=254,SNR=8.6
AKT Akhty 81.18 312 *e*P **P** **21 58 51.3 -1.2**
AKT *e* 21 58 57.4
AKT *e*S **S** **22 09 06.0 +5.0**
AKT pmax pmax
comp=Z,40nm,2.1s
SBA Scott Base 81.20 172 P **P** **21 58 52.1 +0.4**
SBA Scott Base 81.20 172 P **P** **21 58 52.2 +0.4**
SBA pmax pmax
comp=Z,19nm,1.3s
M15K Kasigluk River 81.26 28 P **P** **21 58 53.3 +0.9**
baz=255,SNR=9.1
K15K Wolf Creek Mou 81.29 27 P **P** **21 58 52.5 0.0**
K15K IAmb IAmb 21 59 06.6
comp=Z,50nm,1.1s
K15K Wolf Creek Mou 81.29 27 P **P** **21 58 54.0 +1.5**
baz=254,SNR=10
O15K Ungalikthiuk R 81.31 30 P **P** **21 58 51.7 -1.0**
O15K Ungalikthiuk R 81.31 30 P **P** **21 58 53.4 +0.7**
baz=256
CHGN Chignik 81.40 33 P **P** **21 58 52.5 -0.7**
CHGN IAmb IAmb 21 59 06.2
comp=Z,30nm,1.0s
CHGN Chignik 81.40 33 P **P** **21 58 53.4 +0.3**
baz=258
N15K Kwethluk River 81.42 29 P **P** **21 58 51.7 -1.6**
N15K IAmb IAmb 21 59 07.6
comp=Z,33nm,1.1s
N15K Kwethluk River 81.42 29 P **P** **21 58 54.1 +0.9**
baz=256,SNR=8.0
RAYN Ar Rayn 81.44 294 P **P** **21 58 52.8 -1.4**
RAYN Ar Rayn 81.44 294 P **P** **21 58 52.8 -1.4**
RAYN pmax pmax
comp=Z,11nm,0.9s
MAK Makhachkala 81.53 313 *c i*P P 21 58 46.8 -7.4
MAK *e* 22 01 57.2
MAK *e*SS SS 22 14 18.9 -2.6
MAK *e*SSS SSS 22 17 45.3
MAK pmax pmax
comp=Z,104nm,1.2s
MAK MLR MLR
comp=Z,508nm,19.0s
C16K Lisburne Hills 81.62 20 P **P** **21 58 55.4 +1.3**
baz=250
H16K Elim 81.64 24 P **P** **21 58 55.1 +0.8**
baz=253
G16K Koyuk River 81.82 24 P **P** **21 58 54.9 -0.4**
G16K IAmb IAmb 21 58 57.8
comp=Z,50nm,1.5s
G16K Koyuk River 81.82 24 P **P** **21 58 55.9 +0.6**
baz=253
J16K Anvik River 81.97 26 P **P** **21 58 55.4 -0.7**
J16K Anvik River 81.97 26 P **P** **21 58 57.2 +1.1**
baz=255,SNR=15
L16K Owhat River 82.08 28 P **P** **21 58 56.7 0.0**
L16K Owhat River 82.08 28 P **P** **21 58 57.7 +1.0**
baz=256,SNR=21
I17K Unalakleet 82.08 25 P **P** **21 58 56.0 -0.7**
I17K Unalakleet 82.08 25 P **P** **21 58 57.9 +1.3**
baz=255
N16K Nishlik Lake 82.13 29 P **P** **21 58 58.5 +1.5**
baz=257,SNR=11
M16K Timber Creek 82.16 28 P **P** **21 58 57.1 -0.1**
M16K IAmb IAmb 21 59 10.9
comp=Z,26nm,1.1s
M16K Timber Creek 82.16 28 P **P** **21 58 58.2 +1.0**
baz=257,SNR=11
P16K Nushagak River 82.20 30 P **P** **21 58 57.3 -0.1**
P16K Nushagak River 82.20 30 P **P** **21 58 58.2 +0.9**
baz=256
D17K Noatak River 82.23 21 P **P** **21 58 58.9 +1.5**
baz=252,SNR=11
O16K Kokwok River B 82.27 30 P **P** **21 58 57.6 -0.1**
O16K IAmb IAmb 21 59 11.2
comp=Z,26nm,1.1s
O16K Kokwok River B 82.27 30 P **P** **21 58 58.6 +0.9**
baz=258,SNR=9.3
RDOG Red Dog Mine 82.41 21 P **P** **21 58 59.4 +1.1**
RDOG Red Dog Mine 82.41 21 P **P** **21 58 59.5 +1.2**
baz=252
C17K DeLong Mountai 82.44 21 P **P** **21 58 59.6 +1.1**
baz=252
E17K Hotham Inlet 82.51 22 P **P** **21 59 00.4 +1.5**
baz=253,SNR=10
G17K Kiwalik Mounta 82.53 24 P **P** **21 59 00.4 +1.4**
baz=255,SNR=15
F17K Baldwin Pennin 82.55 23 P **P** **21 58 59.1 +0.1**
F17K Baldwin Pennin 82.55 23 P **P** **21 59 00.4 +1.4**
baz=254,SNR=6.0
J17K VABM Dome 82.66 26 P **P** **21 59 00.3 +0.6**
J17K VABM Dome 82.66 26 P **P** **21 59 01.1 +1.4**
baz=256,SNR=30
H17K Granite Mounta 82.69 24 P **P** **21 58 59.2 -0.6**
H17K Granite Mounta 82.69 24 P **P** **21 59 01.4 +1.5**
baz=255,SNR=16
L17K Donlin 82.72 27 P **P** **21 59 01.6 +1.6**
baz=257,SNR=27
BELG Belogornoye 82.75 323 P **P** **21 59 00.0 -0.4**
comp=Z,16nm,0.9s,baz=302,slow=4.8,SNR=9.1
BELG LR LR 22 37 32.9
comp=Z,399nm,21.9s,baz=87,slow=37
comp=Z,16nm,0.9s
BELG Belogornoye 82.75 323 *ce*P **P** **21 58 59.2 -1.2**
BELG pmax pmax
comp=Z,8.0nm,0.9s
R17L Mt. Peulik Vol 82.77 32 P **P** **21 59 00.6 +0.2**
baz=259,SNR=5.9
PLK4 Peulik 4 82.77 32 P **P** **21 58 59.5 -1.0**
O17K Koliganek Bris 82.80 30 P **P** **21 59 01.4 +0.9**
baz=258,SNR=9.6
KIRV Kirov 82.80 329 P **P** **21 59 00.3 -0.2**
comp=Z,4.0nm,0.7s,baz=56,slow=1.3,SNR=5.4
comp=Z,4.0nm,0.7s
KIRV Kirov 82.80 329 *ce*P **P** **21 58 59.3 -1.2**
CHIR Chirikof Islan 82.85 34 P **P** **21 59 00.8 0.0**
CHIR Chirikof Islan 82.85 34 P **P** **21 59 01.9 +1.1**
CHIR Chirikof Islan 82.85 34 P **P** **21 59 01.5 +0.6**
baz=260
K17K Iditarod 82.85 27 P **P** **21 59 01.1 +0.4**
K17K Iditarod 82.85 27 P **P** **21 59 01.9 +1.2**
baz=257,SNR=25
N17K Nushagak Hills 82.90 29 P **P** **21 59 01.4 +0.4**
N17K IAmb IAmb 21 59 15.2
comp=Z,38nm,1.3s
N17K Nushagak Hills 82.90 29 P **P** **21 59 02.2 +1.2**
baz=258,SNR=15
M17K Holitna River 82.96 28 P **P** **21 59 02.3 +1.0**
M17K Holitna River 82.96 28 P **P** **21 59 02.9 +1.5**
baz=258,SNR=12
P17K Kvichak River 83.01 30 P **P** **21 59 02.0 +0.4**
baz=259
E18K Tukpahlearik C 83.06 22 P **P** **21 59 02.0 +0.2**
E18K Tukpahlearik C 83.06 22 P **P** **21 59 03.1 +1.4**
baz=254,SNR=16
Q17K Contact Creek 83.13 31 P **P** **21 59 02.0 -0.4**
baz=260,SNR=7.3
B18K Kokolik River 83.18 20 P **P** **21 59 03.8 +1.5**
baz=253
C18K Utukok River 83.19 21 P **P** **21 59 03.2 +0.8**
baz=254
F18K Selawik 83.21 23 P **P** **21 59 03.3 +0.9**
baz=255,SNR=8.1
GNI Garni 83.29 310 P **P** **21 59 03.2 -0.5**
GNI IAmb IAmb 21 59 46.1
comp=Z,28nm,1.1s
GNI Garni 83.29 310 P **P** **21 59 03.2 -0.5**
GNI pmax pmax
comp=Z,28nm,1.1s
H18K Honhosa River 83.38 24 P **P** **21 59 02.8 -0.6**
H18K Honhosa River 83.38 24 P **P** **21 59 04.3 +0.9**
baz=257,SNR=13
ACHA Angle Creek He 83.41 31 P **P** **21 59 03.0 -0.8**
G18K Tagagawik 83.43 24 P **P** **21 59 03.1 -0.6**
G18K Tagagawik 83.43 24 P **P** **21 59 04.4 +0.7**
baz=255,SNR=14
L18K Granite Mounta 83.48 27 P **P** **21 59 04.1 +0.1**
L18K Granite Mounta 83.48 27 P **P** **21 59 05.3 +1.3**
baz=259,SNR=33
N18K Kilae Creek 83.56 29 P **P** **21 59 04.4 -0.1**
N18K Kilae Creek 83.56 29 P **P** **21 59 05.5 +1.0**
baz=260,SNR=16
Q18K Katmai Hardscr 83.65 31 P **P** **21 59 04.5 -0.6**
baz=260,SNR=8.8
P18K Big Mountain, 83.66 30 P **P** **21 59 04.6 -0.4**
P18K IAmb IAmb 21 59 17.5
comp=Z,18nm,1.1s
P18K Big Mountain, 83.66 30 P **P** **21 59 04.9 -0.1**
baz=260,SNR=5.6
A19K Wainwright 83.67 19 P **P** **21 59 06.5 +1.8**
baz=254
J18K Innoko River 83.71 26 P **P** **21 59 05.3 +0.1**
J18K Innoko River 83.71 26 P **P** **21 59 06.0 +0.8**
baz=258,SNR=28
M18K Stony River 83.74 28 P **P** **21 59 06.6 +1.3**
baz=259,SNR=26
O18K Koktuh Hills 83.75 30 P **P** **21 59 05.6 +0.2**
O18K Koktuh Hills 83.75 30 P **P** **21 59 06.1 +0.6**
baz=260,SNR=9.8
SII Sitkinak Islan 83.76 33 P **P** **21 59 04.9 -0.6**
SII Sitkinak Islan 83.76 33 P **P** **21 59 07.9 +2.4**
SII Sitkinak Islan 83.76 33 P **P** **21 59 06.3 +0.8**
baz=261
R18K Karluk 83.77 32 P **P** **21 59 05.5 0.0**
baz=261
C19K Lookout Ridge 83.87 20 P **P** **21 59 05.4 -0.5**
C19K Lookout Ridge 83.87 20 P **P** **21 59 07.3 +1.4**
baz=255,SNR=17
GCSA Galena City Sc 83.90 25 P **P** **21 59 07.1 +1.1**
baz=258,SNR=8.1
F19K Shaleruckik Mo 83.99 23 P **P** **21 59 05.1 -1.3**
F19K IAmb IAmb 21 59 20.6
comp=Z,46nm,1.6s
F19K Shaleruckik Mo 83.99 23 P **P** **21 59 06.9 +0.4**
baz=257,SNR=9.1
G19K Purcell Mounta 84.11 23 P **P** **21 59 07.2 +0.1**
G19K Purcell Mounta 84.11 23 P **P** **21 59 08.4 +1.3**
baz=258,SNR=24
H19K Roundabout Mou 84.24 24 P **P** **21 59 08.6 +0.8**
H19K Roundabout Mou 84.24 24 P **P** **21 59 08.8 +1.1**
baz=258,SNR=28
D19K Kuna River 84.24 21 P **P** **21 59 08.0 +0.2**
D19K Kuna River 84.24 21 P **P** **21 59 08.8 +1.0**
baz=257,SNR=12
O19K Port Alsworth 84.25 30 P **P** **21 59 07.4 -0.5**
O19K Port Alsworth 84.25 30 P **P** **21 59 08.4 +0.5**
baz=261
N19K Bonanza Creek 84.26 29 P **P** **21 59 08.4 +0.3**
N19K Bonanza Creek 84.26 29 P **P** **21 59 09.0 +0.8**
baz=261,SNR=30
J19K Poorman 84.29 26 P **P** **21 59 08.3 +0.2**
J19K Poorman 84.29 26 P **P** **21 59 09.1 +1.0**
baz=259,SNR=23
L19K White Mountain 84.32 28 P **P** **21 59 08.5 +0.2**
L19K White Mountain 84.32 28 P **P** **21 59 09.2 +0.9**
baz=260,SNR=26
E19K Redstone River 84.33 22 P **P** **21 59 07.8 -0.5**
E19K Redstone River 84.33 22 P **P** **21 59 09.3 +1.0**
baz=258,SNR=18
OHAK Old Harbor 84.34 33 P **P** **21 59 07.3 -1.1**
OHAK IAmb IAmb 21 59 22.3
comp=Z,32nm,1.0s
OHAK Old Harbor 84.34 33 P **P** **21 59 09.2 +0.8**
baz=262,SNR=5.4
Q19K Cape Douglas, 84.39 31 P **P** **21 59 08.0 -0.7**
Q19K Cape Douglas, 84.39 31 P **P** **21 59 08.5 -0.2**
baz=262
GEVA Gevas 84.45 308 P **P** **21 59 08.4 -1.3**
GEVA IAmb IAmb 21 59 25.5
comp=Z,22nm,0.8s
PPT Papeete 84.46 108 LR LR 22 33 22.8
comp=Z,284nm,20.9s,baz=301,slow=33
PPT2 Papeete2 84.46 108 *e*LR LR 22 25 35.8
comp=Z,514nm,28.8s
PPT2 *e*LR LR 22 25 43.4
comp=Z,520nm,22.5s
M19K Big River Lodg 84.48 28 P **P** **21 59 10.2 +1.1**
baz=261
KARS Kars 84.59 311 **P** **21 59 11.1 +0.8**
KARS IAmb IAmb 21 59 28.6
comp=Z,22nm,0.9s
KARS Kars 84.59 311 P **P** **21 59 11.1 +0.8**
KARS pmax pmax
comp=Z,22nm,0.9s
P19K Oil Pt 84.71 30 P **P** **21 59 10.6 +0.3**
baz=262
KDAK Kodiak Island 84.79 32 P **P** **21 59 10.6 -0.1**
KDAK Kodiak Island 84.79 32 P **P** **21 59 10.6 -0.1**
KDAK pmax pmax
comp=Z,63nm,1.2s
KDAK Kodiak Island 84.79 32 P **P** **21 59 11.2 +0.5**
baz=263
ILSW Iliamna Southw 84.80 30 P **P** **21 59 10.1 -0.8**
ILSW IAmb IAmb 21 59 16.9
comp=Z,14nm,0.9s
L20K Farewell, AK 84.81 27 P **P** **21 59 11.7 +0.9**
baz=261,SNR=11
TBI Tubuai 84.82 113 *e*LR LR 22 25 49.4
comp=Z,4µm,25.8s
TBI *e*LR LR 22 25 53.9
comp=Z,1µm,35.2s
F20K Avaraart Lake 84.83 23 P **P** **21 59 10.8 +0.1**
F20K IAmb IAmb 21 59 25.3
comp=Z,37nm,1.4s
F20K Avaraart Lake 84.83 23 P **P** **21 59 11.7 +1.0**
baz=259,SNR=11
D20K Etivluk River 84.83 21 P **P** **21 59 11.2 +0.4**
D20K Etivluk River 84.83 21 P **P** **21 59 11.6 +0.9**
baz=258,SNR=9.5
K20K Telida 84.86 26 P **P** **21 59 12.1 +1.1**
baz=261
H20K Anotleneega Mo 84.88 24 P **P** **21 59 11.8 +0.8**
baz=260,SNR=6.0
E20K Nigu River 84.89 21 P **P** **21 59 11.8 +0.7**
baz=258,SNR=11
B20K Meade River 84.92 20 P **P** **21 59 12.2 +1.1**
baz=257
I20K Naagheeneel 84.92 25 P **P** **21 59 12.2 +1.0**
KBZ Khabaz 84.95 314 P **P** **21 59 12.0 +0.2**
comp=Z,2.0nm,0.5s,baz=91,slow=6.0,SNR=13
KBZ LR LR 22 42 07.0
comp=Z,151nm,20.0s,baz=84,slow=39
comp=Z,2.0nm,0.5s
KBZ Khabaz 84.95 314 ‖ *e*P **P** **21 59 12.2 +0.4**
J20K Nowinta River 84.96 26 P **P** **21 59 11.1 -0.4**
J20K IAmb IAmb 21 59 14.9
comp=Z,49nm,1.9s
J20K Nowinta River 84.96 26 P **P** **21 59 12.3 +0.8**
baz=261,SNR=9.8
Q20K Shuyak Island 85.00 31 P **P** **21 59 12.1 +0.4**
baz=263
SYI Shuyak Island 85.00 31 P **P** **21 59 11.8 +0.1**

RED	**Redoubt Volcan**	**85.04**	**29**	P	**P**	**21 59 11.8**	**-0.3**
RED				IAmb	IAmb	21 59 24.6	
	comp=Z,30nm,1.0s						
O20K	**Slope Mountain**	**85.07**	**30**	P	**P**	**21 59 11.4**	**-0.8**
	baz=262						
M20K	**Styx River**	**85.07**	**28**	P	**P**	**21 59 12.5**	**+0.3**
M20K	**Styx River**	**85.07**	**28**	P	**P**	**21 59 12.7**	**+0.5**
	baz=262,SNR=14						
KIV	**Kislovodsk**	**85.12**	**314**	P	**P**	**21 59 12.7**	**-0.2**
KIV				IAmb	IAmb	21 59 29.6	
	comp=Z,21nm,1.1s						
KIV	**Kislovodsk**	**85.12**	**314**	*e*P	**P**	**21 59 12.3**	**-0.5**
KIV				*e*		22 09 36.1	
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIV	**Kislovodsk**	**85.12**	**314**	P	**P**	**21 59 12.9**	**+0.1**
	comp=Z,312nmcomp=Z,11nm,1.2s						
SHA1	**Shidzhatmaz**	**85.12**	**314**	*e*P	**P**	**21 59 13.1**	**+0.1**
GURO	**Guroymak-BITLI**	**85.27**	**308**	P	**P**	**21 59 13.1**	**-0.7**
GURO				IAmb	IAmb	21 59 27.5	
	comp=Z,46nm,1.4s						
A21K	**Barrow**	**85.38**	**18**	P	**P**	**21 59 14.3**	**+0.9**
	baz=258						
N20K	**Mount Spurr**	**85.42**	**29**	P	**P**	**21 59 13.6**	**-0.3**
	baz=263						
SPCR	**Spurr Chakacha**	**85.42**	**29**	P	**P**	**21 59 13.5**	**-0.4**
	baz=263						
IMAR	**Indian Mountai**	**85.42**	**24**	P	**P**	**21 59 13.5**	**-0.3**
SPU	**Mount Spurr**	**85.49**	**29**	P	**P**	**21 59 14.0**	**-0.2**
SPU				IAmb	IAmb	21 59 27.2	
	comp=Z,14nm,1.0s						
HOM	**Homer**	**85.51**	**30**	P	**P**	**21 59 14.9**	**+0.6**
	baz=263						
C21K	**Knifeblade Rid**	**85.56**	**21**	P	**P**	**21 59 15.3**	**+0.9**
	baz=260						
G21K	**Allakaket**	**85.60**	**23**	P	**P**	**21 59 14.9**	**+0.3**
G21K	**Allakaket**	**85.60**	**23**	P	**P**	**21 59 15.2**	**+0.5**
	baz=261						
STLK	**Strandline Lak**	**85.63**	**28**	P	**P**	**21 59 15.2**	**+0.2**
PPLA	**Purkeypile**	**85.64**	**27**	P	**P**	**21 59 14.5**	**-0.6**
PPLA				IAmb	IAmb	21 59 48.2	
	comp=Z,22nm,1.3s						
PPLA	**Purkeypile**	**85.64**	**27**	P	**P**	**21 59 15.3**	**+0.2**
	baz=263						
CNPM	**China Poot**	**85.70**	**30**	P	**P**	**21 59 14.9**	**-0.4**
B21K	**Ikpikpuk River**	**85.71**	**20**	P	**P**	**21 59 15.3**	**+0.2**
B21K				IAmb	IAmb	21 59 30.8	
	comp=Z,36nm,1.6s						
B21K	**Ikpikpuk River**	**85.71**	**20**	P	**P**	**21 59 15.7**	**+0.7**
	baz=260						
CHUM	**Lake Minchumin**	**85.72**	**26**	P	**P**	**21 59 15.7**	**+0.5**
	baz=262						
F21K	**Alatna River**	**85.72**	**23**	P	**P**	**21 59 15.5**	**+0.3**
F21K	**Alatna River**	**85.72**	**23**	P	**P**	**21 59 15.7**	**+0.5**
	baz=261						
H21K	**Melozitna Rive**	**85.75**	**24**	P	**P**	**21 59 15.2**	**-0.2**
H21K	**Melozitna Rive**	**85.75**	**24**	P	**P**	**21 59 15.8**	**+0.4**
	baz=262						
CAST	**Castle Rocks**	**85.76**	**26**	P	**P**	**21 59 15.1**	**-0.4**
CAST				IAmb	IAmb	21 59 28.5	
	comp=Z,30nm,2.0s						
CAST	**Castle Rocks**	**85.76**	**26**	P	**P**	**21 59 15.5**	**0.0**
	baz=263						
SKT	**Skwentna**	**85.83**	**28**	P	**P**	**21 59 14.7**	**-1.2**
SKT	**Skwentna**	**85.83**	**28**	P	**P**	**21 59 16.4**	**+0.5**
	baz=263,SNR=6.8						
A22K	**Sinclair Lake**	**85.83**	**19**	P	**P**	**21 59 16.4**	**+0.8**
	baz=259						
BRLK	**Bradley Lake**	**85.90**	**30**	P	**P**	**21 59 15.6**	**-0.7**
I21K	**Tanana**	**86.03**	**25**	P	**P**	**21 59 17.0**	**+0.3**
	baz=263						
SUA	**Susitna One**	**86.15**	**29**	P	**P**	**21 59 17.4**	**-0.2**
	baz=264						
B22K	**Teshekpuk Lake**	**86.23**	**20**	P	**P**	**21 59 18.4**	**+0.7**
	baz=261						
F22K	**John River**	**86.26**	**22**	P	**P**	**21 59 18.5**	**+0.6**
	baz=262						
D22K	**Ayikyak River**	**86.27**	**21**	P	**P**	**21 59 18.3**	**+0.4**
	baz=262						
KTH	**Kantishna Hill**	**86.29**	**26**	P	**P**	**21 59 17.4**	**-0.8**
SLKM	**Skilak Lake**	**86.31**	**30**	P	**P**	**21 59 17.6**	**-0.6**
BPAW	**Bear Paw Mtn.**	**86.33**	**26**	P	**P**	**21 59 17.8**	**-0.5**
BPAW	**Bear Paw Mtn.**	**86.33**	**26**	P	**P**	**21 59 18.1**	**-0.2**
	baz=264						
H22K	**Ishtalitna Cre**	**86.37**	**24**	P	**P**	**21 59 18.4**	**0.0**
	baz=263						
G22K	**Bettles**	**86.44**	**23**	P	**P**	**21 59 18.8**	**+0.1**
	baz=263						
M22K	**Willow**	**86.47**	**28**	P	**P**	**21 59 19.4**	**+0.4**
E22K	**Anaktuvuk Pass**	**86.48**	**22**	P	**P**	**21 59 19.2**	**+0.3**
E22K				IAmb	IAmb	21 59 34.8	
	comp=Z,15nm,1.1s						
E22K	**Anaktuvuk Pass**	**86.48**	**22**	P	**P**	**21 59 19.3**	**+0.3**
	baz=262						
KOPT	**Kop Dagi**	**86.53**	**310**	P	**P**	**21 59 20.4**	**+0.3**
MLY	**Manley**	**86.53**	**25**	P	**P**	**21 59 18.3**	**-1.0**
MLY	**Manley**	**86.53**	**25**	P	**P**	**21 59 19.2**	**-0.1**
	baz=264						
O22K	**Cooper Landing**	**86.55**	**30**	P	**P**	**21 59 19.4**	**0.0**
TRF	**Thorofare Moun**	**86.56**	**27**	P	**P**	**21 59 18.2**	**-1.5**
TRF	**Thorofare Moun**	**86.56**	**27**	P	**P**	**21 59 18.8**	**-0.8**
	baz=264						
LABN	**Labinsk**	**86.56**	**315**	*e*P	**P**	**21 59 18.4**	**-1.5**
LABN				*e*S	**SKSac**	**22 09 44.2**	**-0.5**
LABN				pmax	pmax		
	comp=Z,25nm,1.4s						
LABN				MLR	MLR		
	comp=Z,403nm,20.0s						
RC01	**Rabbit Creek A**	**86.60**	**29**	P	**P**	**21 59 18.8**	**-0.9**
RC01				IAmb	IAmb	21 59 21.3	
	comp=Z,22nm,1.2s						
RC01	**Rabbit Creek A**	**86.60**	**29**	P	**P**	**21 59 18.7**	**-0.9**
	baz=265						
SEW	**Seward**	**86.65**	**30**	P	**P**	**21 59 20.1**	**+0.2**
SEW				IAmb	IAmb	21 59 37.0	
	comp=Z,22nm,1.1s						
SEW	**Seward**	**86.65**	**30**	P	**P**	**21 59 19.2**	**-0.7**
	baz=265						
ERBR	**Yeremizino-Bor**	**86.78**	**316**	*e*P	**P**	**21 59 19.5**	**-1.4**
ERBR				*e*		22 02 40.5	
ERBR				*e*		22 09 53.5	
ERBR				*e*SSS	SSS	22 19 06.3	
ERBR				pmax	pmax		
	comp=Z,27nm,1.0s						
ERBR				MLR	MLR		
	comp=Z,501nm,23.0s						
PMR	**Palmer**	**86.93**	**28**	P	**P**	**21 59 21.0**	**-0.2**
PMR				IAmb	IAmb	21 59 33.4	
	comp=Z,47nm,1.8s						
PMR	**Palmer**	**86.93**	**28**	P	**P**	**21 59 21.0**	**-0.2**
PMR				pmax	pmax		
	comp=Z,47nm,1.8s						
PMR	**Palmer**	**86.93**	**28**	P	**P**	**21 59 20.5**	**-0.8**
	baz=265						
COLD	**Coldfoot**	**86.99**	**23**	P	**P**	**21 59 21.3**	**-0.2**
COLD				IAmb	IAmb	21 59 34.6	
	comp=Z,12nm,1.0s						
COLD	**Coldfoot**	**86.99**	**23**	P	**P**	**21 59 21.7**	**+0.2**
	baz=264						
D23K	**Nanushuk River**	**86.99**	**21**	P	**P**	**21 59 21.5**	**0.0**
D23K				IAmb	IAmb	21 59 29.2	
	comp=Z,21nm,1.3s						
D23K	**Nanushuk River**	**86.99**	**21**	P	**P**	**21 59 22.0**	**+0.5**
	baz=264						
G23K	**Bananza Creek**	**87.00**	**23**	P	**P**	**21 59 20.8**	**-0.8**
G23K	**Bananza Creek**	**87.00**	**23**	P	**P**	**21 59 21.6**	**+0.1**
	baz=264						
GHO	**Glory Hole Cre**	**87.04**	**28**	P	**P**	**21 59 21.0**	**-1.0**
H23K	**Yukon River**	**87.11**	**24**	P	**P**	**21 59 20.9**	**-1.2**
H23K	**Yukon River**	**87.11**	**24**	P	**P**	**21 59 22.2**	**+0.1**
	baz=265						
C23K	**Itkillik River**	**87.12**	**20**	P	**P**	**21 59 21.3**	**-0.6**
C23K	**Itkillik River**	**87.12**	**20**	P	**P**	**21 59 22.1**	**+0.1**
	baz=264						
I23K	**Minto, Yukon-K**	**87.13**	**25**	P	**P**	**21 59 22.1**	**0.0**
I23K				IAmb	IAmb	21 59 23.4	
	comp=Z,21nm,1.2s						
I23K	**Minto, Yukon-K**	**87.13**	**25**	P	**P**	**21 59 21.7**	**-0.4**
	baz=265						
MCK	**McKinley**	**87.19**	**26**	P	**P**	**21 59 21.7**	**-0.8**
MCK				IAmb	IAmb	21 59 34.2	
	comp=Z,25nm,1.6s						
MCK	**McKinley**	**87.19**	**26**	P	**P**	**21 59 21.7**	**-0.8**
MCK	**McKinley**	**87.19**	**26**	P	**P**	**21 59 21.4**	**-1.1**
	baz=265						
NEA2	**Nenana**	**87.20**	**25**	P	**P**	**21 59 22.9**	**+0.4**
NEA2	**Nenana**	**87.20**	**25**	P	**P**	**21 59 21.5**	**-1.1**
	baz=265						
RND	**Reindeer**	**87.20**	**27**	P	**P**	**21 59 21.0**	**-1.7**
RND	**Reindeer**	**87.20**	**27**	P	**P**	**21 59 21.0**	**-1.7**
RND				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KNK	**Knik Glacier**	**87.24**	**29**	P	**P**	**21 59 22.5**	**-0.3**
KNK				IAmb	IAmb	21 59 36.5	
	comp=Z,23nm,1.2s						
KNK	**Knik Glacier**	**87.24**	**29**	P	**P**	**21 59 22.3**	**-0.5**
	baz=266						
SOC	**Sochi**	**87.25**	**313**	*e*P	**P**	**21 59 20.6**	**-2.6**
SOC				*e*		22 02 45.6	
SOC				*e*PPP	PPP	22 04 37.6	
SOC				*e*S	**SKSac**	**22 09 47.0**	**-1.9**
SOC				*e*SS	**SS**	**22 15 51.7**	**+5.9**
PWL	**Port Wells**	**87.26**	**29**	P	**P**	**21 59 22.9**	**0.0**
PWL				IAmb	IAmb	21 59 36.5	
	comp=Z,32nm,1.2s						
PWL	**Port Wells**	**87.26**	**29**	P	**P**	**21 59 22.3**	**-0.6**
	baz=266						
E23K	**Chandalar**	**87.29**	**22**	P	**P**	**21 59 23.1**	**+0.1**
E23K				IAmb	IAmb	21 59 30.4	
	comp=Z,11nm,0.8s						
E23K	**Chandalar**	**87.29**	**22**	P	**P**	**21 59 22.9**	**-0.1**
	baz=265,SNR=9.2						
WAT1	**Susitna Watana**	**87.30**	**27**	P	**P**	**21 59 22.1**	**-0.9**
	baz=266						
TOLK	**Toolik Lake Re**	**87.36**	**21**	P	**P**	**21 59 23.1**	**-0.2**
TOLK	**Toolik Lake Re**	**87.36**	**21**	P	**P**	**21 59 23.3**	**+0.1**
	baz=265						
M23K	**Glacier View**	**87.61**	**28**	P	**P**	**21 59 23.8**	**-0.8**
	baz=267						
WRH	**Wood River Hil**	**87.62**	**26**	P	**P**	**21 59 23.2**	**-1.3**
WRH				IAmb	IAmb	21 59 30.2	
	comp=Z,13nm,1.2s						
WAT6	**Susitna Watana**	**87.65**	**28**	P	**P**	**21 59 23.7**	**-1.2**
	baz=266						
P23K	**Montague Islan**	**87.67**	**30**	P	**P**	**21 59 24.6**	**-0.3**
P23K				IAmb	IAmb	21 59 38.7	
	comp=Z,23nm,1.0s						
P23K	**Montague Islan**	**87.67**	**30**	P	**P**	**21 59 24.5**	**-0.3**
	baz=267						
D24K	**Happy Valley**	**87.68**	**21**	P	**P**	**21 59 24.8**	**+0.1**
D24K				IAmb	IAmb	21 59 37.9	
	comp=Z,11nm,0.9s						
D24K	**Happy Valley**	**87.68**	**21**	P	**P**	**21 59 24.7**	**-0.1**
	baz=265						
E24K	**Your Creek**	**87.72**	**22**	P	**P**	**21 59 24.8**	**-0.2**
E24K	**Your Creek**	**87.72**	**22**	P	**P**	**21 59 24.8**	**-0.2**
	baz=266						
COLA	**College**	**87.75**	**25**	P	**P**	**21 59 24.8**	**-0.3**
	baz=266						
CCB	**Clear Creek Bu**	**87.75**	**25**		**P**	**21 59 24.1**	**-1.0**
C24K	**Franklin Bluff**	**87.77**	**20**	P	**P**	**21 59 24.9**	**-0.2**
	baz=265						
H24K	**Noodor Dome**	**87.80**	**24**	P	**P**	**21 59 24.2**	**-1.2**
H24K				IAmb	IAmb	21 59 39.0	
	comp=Z,20nm,1.4s						
H24K	**Noodor Dome**	**87.80**	**24**	P	**P**	**21 59 25.4**	**-0.1**
	baz=266						
SCM	**Sheep Creek Mo**	**87.80**	**28**	P	**P**	**21 59 25.1**	**-0.5**
SCM				IAmb	IAmb	21 59 39.6	
	comp=Z,28nm,1.2s						
SCM	**Sheep Creek Mo**	**87.80**	**28**	P	**P**	**21 59 25.1**	**-0.5**
SCM				pmax	pmax		
	comp=Z,28nm,1.2s						
SCM	**Sheep Creek Mo**	**87.80**	**28**	P	**P**	**21 59 25.1**	**-0.5**
	baz=267						
DHY	**Denali Highway**	**87.85**	**27**	P	**P**	**21 59 24.9**	**-1.0**
DHY	**Denali Highway**	**87.85**	**27**	P	**P**	**21 59 25.1**	**-0.7**
	baz=267						
VORR	**Voronezh**	**87.86**	**322**	*e*P	**P**	**21 59 25.1**	**-0.8**
VORR				pmax	pmax		
	comp=Z,20nm,0.6s						
GLI	**Glacier Island**	**87.87**	**29**	P	**P**	**21 59 26.0**	**+0.2**
GLI				IAmb	IAmb	21 59 38.0	
	comp=Z,9.6nm,0.9s						
GLI	**Glacier Island**	**87.87**	**29**	P	**P**	**21 59 25.2**	**-0.6**
	baz=267						
VSR	**Storozhevoye**	**87.87**	**321**	*e*P	**P**	**21 59 27.0**	**+1.0**
VSR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
F24K	**Squaw Lake**	**87.90**	**23**	P	**P**	**21 59 25.4**	**-0.5**
F24K	**Squaw Lake**	**87.90**	**23**	P	**P**	**21 59 25.9**	**0.0**
	baz=266						
G24K	**Hadweenzic Riv**	**88.01**	**23**	P	**P**	**21 59 26.2**	**-0.2**
G24K				IAmb	IAmb	21 59 33.6	
	comp=Z,14nm,1.1s						
G24K	**Hadweenzic Riv**	**88.01**	**23**	P	**P**	**21 59 26.2**	**-0.2**
	baz=267						
KLMR	**Klimovskoe**	**88.04**	**331**	*e*P	**P**	**21 59 25.0**	**-1.6**
KLMR				pmax	pmax		
	comp=Z,38nm,1.7s						
KLMR				MLR	MLR		
	comp=Z,402nm,19.0s						
LPSR	**Galich'ya Gora**	**88.06**	**322**	*e*P	**P**	**21 59 25.9**	**-1.0**
LPSR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HDA	**Harding Lake**	**88.11**	**26**	P	**P**	**21 59 25.8**	**-1.0**
	baz=267						
ILAR	**Eielson Array**	**88.15**	**25**	P	**P**	**21 59 25.6**	**-1.5**
ILAR	**Eielson Array**	**88.15**	**25**	P	**P**	**21 59 26.1**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=259,slow=4.9,SNR=10						
	comp=Z,0.9nm,0.6s						
Q23K	**Middleton Isla**	**88.18**	**31**	P	**P**	**21 59 27.2**	**0.0**
	baz=268						
M24K	**Tolsona, Glenn**	**88.36**	**28**	P	**P**	**21 59 27.8**	**-0.5**
M24K				IAmb	IAmb	21 59 37.1	
	comp=Z,18nm,0.8s						
M24K	**Tolsona, Glenn**	**88.36**	**28**	P	**P**	**21 59 28.2**	**0.0**
	baz=268						
KLU	**Klutina**	**88.46**	**29**	P	**P**	**21 59 28.1**	**-0.6**
KLU				IAmb	IAmb	21 59 41.1	
	comp=Z,14nm,1.4s						
KLU	**Klutina**	**88.46**	**29**	P	**P**	**21 59 28.8**	**+0.1**
	baz=268						
EYAK	**Cordova Ski Ar**	**88.52**	**30**	P	**P**	**21 59 28.8**	**0.0**
	baz=268						
DIV	**Divide**	**88.52**	**29**	P	**P**	**21 59 28.6**	**-0.3**
DIV				IAmb	IAmb	21 59 44.9	
	comp=Z,19nm,1.1s						
D25K	**Kavik River**	**88.56**	**21**	P	**P**	**21 59 28.9**	**-0.1**
D25K	**Kavik River**	**88.56**	**21**	P	**P**	**21 59 29.0**	**0.0**
	baz=268						
G25K	**Bearman Lake**	**88.56**	**23**	P	**P**	**21 59 29.2**	**+0.2**
	baz=268						
K24K	**Donnelly Dome**	**88.60**	**26**	P	**P**	**21 59 28.6**	**-0.7**
K24K	**Donnelly Dome**	**88.60**	**26**	P	**P**	**21 59 29.3**	**+0.1**
	baz=268						
H25L	**Birch Creek**	**88.66**	**24**	P	**P**	**21 59 29.9**	**+0.6**
	baz=268						
PAX	**Paxson**	**88.71**	**27**	P	**P**	**21 59 29.3**	**-0.6**
PAX				IAmb	IAmb	21 59 43.0	
	comp=Z,16nm,1.2s						
PAX	**Paxson**	**88.71**	**27**	P	**P**	**21 59 29.3**	**-0.6**
PAX				pmax	pmax		
	comp=Z,16nm,1.2s						
PAX	**Paxson**	**88.71**	**27**	P	**P**	**21 59 29.8**	**-0.1**
	baz=268						
PRP	**Porcupine Dome**	**88.76**	**25**	P	**P**	**21 59 30.1**	**0.0**
	baz=268						
F25K	**Christian Rive**	**88.77**	**23**	P	**P**	**21 59 30.7**	**+0.7**
F25K	**Christian Rive**	**88.77**	**23**	P	**P**	**21 59 30.2**	**+0.2**
	baz=268						
J25K	**Salcha River,**	**88.80**	**26**	P	**P**	**21 59 29.0**	**-1.3**
J25K	**Salcha River,**	**88.80**	**26**	P	**P**	**21 59 30.2**	**-0.1**
	baz=269						
E25K	**Arctic Village**	**88.81**	**22**	P	**P**	**21 59 30.2**	**0.0**
E25K				IAmb	IAmb	21 59 44.1	
	comp=Z,16nm,1.2s						
E25K	**Arctic Village**	**88.81**	**22**	P	**P**	**21 59 30.4**	**+0.3**
	baz=268,SNR=8.3						
HARP	**HAARP**	**88.84**	**28**	P	**P**	**21 59 30.3**	**-0.1**
	baz=269						
MOS	**Moscow**	**88.90**	**326**	*e*P	**P**	**21 59 28.3**	**-2.4**
FYU	**Fort Yukon**	**88.90**	**24**	P	**P**	**21 59 30.7**	**+0.2**
FYU				IAmb	IAmb	21 59 32.4	
	comp=Z,18nm,1.2s						
ANN	**Anapa**	**88.91**	**315**	*e*P	**P**	**21 59 30.8**	**-0.3**
ANN				*e*		22 10 12.3	
ANN				pmax	pmax		
	comp=Z,17nm,0.8s						
ANN				MLR	MLR		
	comp=Z,424nm,22.0s						
RIDG	**Independent Ri**	**89.01**	**26**	P	**P**	**21 59 30.2**	**-1.0**
RIDG				IAmb	IAmb	21 59 43.1	
	comp=Z,18nm,1.2s						
RIDG	**Independent Ri**	**89.01**	**26**	P	**P**	**21 59 30.8**	**-0.4**
	baz=269						
RAGM	**Ragged Mountai**	**89.05**	**30**	P	**P**	**21 59 30.2**	**-1.2**
RAGM				IAmb	IAmb	21 59 44.9	
	comp=Z,13nm,1.2s						
BMRM	**Bremner River**	**89.09**	**29**	P	**P**	**21 59 30.6**	**-1.0**
BMRM	**Bremner River**	**89.09**	**29**	P	**P**	**21 59 31.5**	**-0.1**
	baz=269						
C26K	**Camden Bay**	**89.09**	**20**	P	**P**	**21 59 31.6**	**+0.3**
	baz=269						
N25K	**Chitina, Valde**	**89.10**	**29**	P	**P**	**21 59 32.2**	**+0.5**
N25K	**Chitina, Valde**	**89.10**	**29**	P	**P**	**21 59 31.2**	**-0.5**
	baz=269						
KMBO	**Kilima Mbogo**	**89.15**	**269**	P	**P**	**21 59 33.3**	**+0.1**
KMBO	**Kilima Mbogo**	**89.15**	**269**	P	**P**	**21 59 33.3**	**+0.1**
KMBO				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KAIM	**Kayak Island**	**89.17**	**30**	P	**P**	**21 59 32.4**	**+0.4**
KAIM				IAmb	IAmb	21 59 46.2	
	comp=Z,20nm,1.0s						
KAIM	**Kayak Island**	**89.17**	**30**	P	**P**	**21 59 32.0**	**+0.1**
	baz=270						
BMAR	**Burnt Mountain**	**89.17**	**23**	P	**P**	**21 59 31.7**	**-0.2**
HMT	**Hamilton**	**89.25**	**30**	P	**P**	**21 59 32.7**	**+0.4**
HMT				IAmb	IAmb	21 59 45.8	
	comp=Z,13nm,1.1s						
SYO	**Syowa Base**	**89.31**	**201**	*i*P	**P**	**21 59 32.3**	**-0.1**
SYO	**Syowa Base**	**89.31**	**201**	*e*PcP	**PcP**	**21 59 33.8**	**0.0**
SYO	**Syowa Base**	**89.31**	**201**	*e*pP	P	21 59 37.6	+5.2
ASF	**Jabal al Asfar**	**89.31**	**302**	P	**P**	**21 59 34.1**	**+0.8**
	comp=Z,2.9nm,0.7s,baz=189,slow=5.3,SNR=4.0						
	comp=Z,2.9nm,0.7s						
F26K	**Sheenjek River**	**89.34**	**22**	P	**P**	**21 59 32.8**	**+0.1**
F26K	**Sheenjek River**	**89.34**	**22**	P	**P**	**21 59 32.7**	**+0.1**
	baz=270						
DOT	**Dot Lake**	**89.36**	**27**	P	**P**	**21 59 31.9**	**-0.9**
SCRK	**Sand Creek**	**89.39**	**26**	P	**P**	**21 59 32.5**	**-0.5**
SCRK				IAmb	IAmb	21 59 45.9	
	comp=Z,18nm,1.6s						
SCRK	**Sand Creek**	**89.39**	**26**	P	**P**	**21 59 32.6**	**-0.5**
	baz=270						
GLB	**Gilahina Butte**	**89.47**	**29**	P	**P**	**21 59 32.8**	**-0.7**
G26K	**Porcupine Rive**	**89.48**	**23**	P	**P**	**21 59 33.1**	**-0.1**
	baz=270						
OBN	**Obninsk**	**89.50**	**325**	P	**P**	**21 59 32.7**	**-0.9**
	comp=Z,17nm,0.4s,baz=43,slow=23,SNR=5.2						
OBN				LR	LR	22 41 16.3	
	comp=Z,328nm,21.6s,baz=30,slow=37						
	comp=Z,17nm,0.4s						
OBN	**Obninsk**	**89.50**	**325**	*i*P	**P**	**21 59 32.1**	**-1.4**
OBN				*i*		21 59 38.0	
OBN				*i*		22 03 02.7	
OBN				pmax	pmax		
	comp=Z,14nm,1.2s						
OBN				MLR	MLR		
	comp=Z,367nm,21.0s						
C27K	**Jago River**	**89.50**	**21**	P	**P**	**21 59 33.7**	**+0.3**
C27K				IAmb	IAmb	21 59 47.2	
	comp=Z,24nm,1.6s						
C27K	**Jago River**	**89.50**	**21**	P	**P**	**21 59 33.7**	**+0.3**
	baz=270						
BERG	**Berg Lake**	**89.53**	**30**	P	**P**	**21 59 33.2**	**-0.5**
BERG				IAmb	IAmb	21 59 35.2	
	comp=Z,25nm,1.4s						
J26L	**Joseph Creek**	**89.58**	**26**	P	**P**	**21 59 33.6**	**-0.3**
J26L	**Joseph Creek**	**89.58**	**26**	P	**P**	**21 59 33.4**	**-0.5**
	baz=270						
L26K	**Log Cabin Wild**	**89.68**	**27**	P	**P**	**21 59 34.1**	**-0.2**
	baz=270						
BGLC	**Bering Glacier**	**89.74**	**30**	P	**P**	**21 59 34.6**	**+0.1**
	baz=270						
I26K	**Coal Creek Min**	**89.75**	**25**	P	**P**	**21 59 34.2**	**-0.4**
	baz=271						
CRQE	**Cirque**	**89.83**	**29**	P	**P**	**21 59 34.9**	**-0.2**
	baz=271						
M26K	**Nabesna, AK**	**89.85**	**28**	P	**P**	**21 59 35.0**	**-0.2**
M26K	**Nabesna, AK**	**89.85**	**28**	P	**P**	**21 59 35.2**	**0.0**
	baz=271						
MCARA	**McCarthy VSAT**	**89.85**	**29**	P	**P**	**21 59 35.2**	**+0.1**
	baz=271						
K27K	**Chicken**	**90.23**	**26**	P	**P**	**21 59 37.4**	**+0.5**
	baz=272						
E27K	**Coleen River**	**90.30**	**22**	P	**P**	**21 59 36.0**	**-1.1**
E27K	**Coleen River**	**90.30**	**22**	P	**P**	**21 59 37.5**	**+0.3**
	baz=272						
G27K	**Doyon Strip**	**90.32**	**23**	P	**P**	**21 59 37.2**	**-0.1**
G27K	**Doyon Strip**	**90.32**	**23**	P	**P**	**21 59 37.8**	**+0.5**
	baz=272						
M27K	**Edge Creek, AK**	**90.37**	**28**	P	**P**	**21 59 36.8**	**-0.9**
M27K	**Edge Creek, AK**	**90.37**	**28**	P	**P**	**21 59 38.1**	**+0.4**
	baz=272						
L27K	**Beaver Creek,**	**90.37**	**27**	P	**P**	**21 59 36.8**	**-0.8**
L27K	**Beaver Creek,**	**90.37**	**27**	P	**P**	**21 59 38.2**	**+0.6**
	baz=272						
I27K	**Kandik River**	**90.38**	**25**	P	**P**	**21 59 37.9**	**+0.3**
	baz=272						
BCAR	**Beaver Creek A**	**90.39**	**27**		**P**	**21 59 36.8**	**-0.9**
H27K	**Steamboat Moun**	**90.39**	**24**	P	**P**	**21 59 35.3**	**-2.3**
H27K				IAmb	IAmb	21 59 55.8	
	comp=Z,17nm,1.5s						
H27K	**Steamboat Moun**	**90.39**	**24**	P	**P**	**21 59 38.0**	**+0.4**
	baz=272						
MESA	**MESA**	**90.40**	**30**	P	**P**	**21 59 38.0**	**0.0**
	baz=272						
QSPA	**South Pole Qui**	**90.42**	**180**	P	**P**	**21 59 37.9**	**+0.1**
QSPA	**South Pole Qui**	**90.42**	**180**	P	**P**	**21 59 36.9**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=316,slow=4.7,SNR=9.6						
	comp=Z,1.2nm,0.5s						
D27M	**Malcolm River**	**90.48**	**21**	P	**P**	**21 59 38.0**	**-0.1**
D27M				IAmb	IAmb	21 59 39.7	
	comp=Z,24nm,1.7s						
D27M	**Malcolm River**	**90.48**	**21**	P	**P**	**21 59 38.2**	**+0.2**
	baz=273						
GRNC	**Granite Creek**	**90.48**	**29**	P	**P**	**21 59

DAWY	Dawson	91.41	26	P		P	21 59 42.4	0.0	
	baz=274								
YUK8	Steele Glacier	91.43	29	P		P	21 59 42.6	-0.3	
	baz=274								
BZK	Bozkurt	91.45	312	P		P	21 59 42.2	-0.8	
	comp=Z,105nm,1.3s								
E29M	Blow River	91.66	22	P		P	21 59 43.4	0.0	
E29M				IAmb		IAmb	21 59 56.6		
	comp=Z,20nm,1.6s								
E29M	Blow River	91.66	22	P		P	21 59 43.3	-0.1	
	baz=276								
H29M	Whitestone	91.67	24	P		P	21 59 43.2	-0.4	
H29M				IAmb		IAmb	21 59 56.9		
	comp=Z,33nm,1.7s								
H29M	Whitestone	91.67	24	P		P	21 59 43.6	+0.1	
	baz=275								
PNL	Peninsula	91.71	30	P		P	21 59 44.2	+0.3	
	baz=274								
G29M	Pine Creek	91.75	23	P		P	21 59 43.7	-0.2	
G29M	Pine Creek	91.75	23	P		P	21 59 44.0	+0.2	
	baz=275								
I29M	Ogilvie Camp,	91.78	25	P		P	21 59 43.8	-0.2	
I29M				IAmb		IAmb	21 59 57.3		
	comp=Z,29nm,1.6s								
I29M	Ogilvie Camp,	91.78	25	P		P	21 59 44.2	+0.1	
	baz=275,SNR=6.7								
BR131	Keskin Array S	91.81	310	P		P	21 59 43.9	-1.0	
BR131	Keskin Array S	91.81	310	P		P	21 59 43.9	-1.0	
BR131				pmax		pmax			
	comp=Z,7.0nm,1.2s								
BRTR	Keskin Array B	91.81	310	P		P	21 59 44.3	-0.6	
BRTR	Keskin Array B	91.81	310	P		P	21 59 44.0	-0.9	
	comp=Z,0.9nm,0.8s,baz=118,slow=5.6,SNR=4.6								
	comp=Z,0.9nm,0.8s								
BRTR	Keskin Array B	91.81	310	*ce*P		P	21 59 50.2	+5.3	
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
BR106	Keskin Array S	91.83	310	P		P	21 59 44.0	-1.0	
	comp=Z,3.2nm,0.9s								
J29N	Klondike Camp	91.89	26	P		P	21 59 44.9	+0.3	
J29N						PP	22 03 24.2	+0.3	
J29N	Klondike Camp	91.89	26	P		P	21 59 45.0	+0.4	
	baz=275								
M29M	Somme Creek	91.96	28	P		P	21 59 45.3	+0.3	
M29M				IAmb		IAmb	21 59 59.1		
	comp=Z,32nm,1.6s								
M29M	Somme Creek	91.96	28	P		P	21 59 45.5	+0.5	
	baz=275,SNR=7.6								
YUK4	Talbot Arm	91.96	29	P		P	21 59 45.6	+0.4	
	baz=275								
L29M	L29M	92.05	27	P		P	21 59 46.2	+0.8	
L29M	L29M	92.05	27	P		P	21 59 45.6	+0.3	
	baz=275,SNR=16								
O29M	Mount Kennedy	92.08	30	P		P	21 59 46.3	+0.7	
O29M				IAmb		IAmb	21 59 58.9		
	comp=Z,12nm,1.2s								
O29M	Mount Kennedy	92.08	30	P		P	21 59 45.6	-0.1	
	baz=275								
YUK6	Outpost Mounta	92.13	29	P		P	21 59 46.3	+0.3	
	baz=275								
CSS	Mathiatis	92.23	305	P		P	21 59 45.6	-1.2	
CSS				IAmb		IAmb	22 00 15.1		
	comp=Z,31nm,1.4s								
CSS	Mathiatis	92.23	305	P		P	21 59 47.0	+0.2	
	comp=Z,15nm,1.3s								
K29M	Barlow Dome	92.25	26	P		P	21 59 45.9	-0.5	
K29M				IAmb		IAmb	22 00 00.2		
	comp=Z,13nm,1.1s								
K29M	Barlow Dome	92.25	26	P		P	21 59 46.3	-0.2	
	baz=276,SNR=6.1								
EPYK	Eagle Plains	92.32	24			P	21 59 45.8	-0.7	
EPYK	Eagle Plains	92.32	24	P		P	21 59 45.2	-1.3	
EPYK				IAmb		IAmb	21 59 59.6		
	comp=Z,34nm,1.4s								
EPYK	Eagle Plains	92.32	24	P		P	21 59 45.9	-0.7	
	baz=276								
G30M	tAoh Zraii Nji	92.45	23	P		P	21 59 46.0	-1.1	
G30M				IAmb		IAmb	21 59 59.8		
	comp=Z,33nm,1.7s								
G30M	tAoh Zraii Nji	92.45	23	P		P	21 59 46.3	-0.8	
	baz=277								
F30M	Barrier River	92.53	22	P		P	21 59 47.7	+0.3	
F30M				IAmb		IAmb	21 59 59.9		
	comp=Z,25nm,1.3s								
F30M	Barrier River	92.53	22	P		P	21 59 46.8	-0.7	
	baz=277								
P29M	Windy Craggy	92.56	30	P		P	21 59 47.4	-0.4	
P29M				IAmb		IAmb	22 00 01.2		
	comp=Z,24nm,1.1s								
P29M	Windy Craggy	92.56	30	P		P	21 59 47.5	-0.2	
	baz=275								
HYT	Haines Junctio	92.56	29	P		P	21 59 48.3	+0.4	
HYT				IAmb		IAmb	22 00 01.0		
	comp=Z,22nm,1.4s								
HYT	Haines Junctio	92.56	29	P		P	21 59 47.8	-0.1	
	baz=276								
I30M	Mount Dempster	92.60	25	P		P	21 59 47.4	-0.6	
I30M	Mount Dempster	92.60	25	P		P	21 59 47.4	-0.6	
	baz=277								
J30M	Hart River	92.69	25	P		P	21 59 48.6	+0.2	
J30M				IAmb		IAmb	22 00 02.2		
	comp=Z,23nm,1.5s								
J30M	Hart River	92.69	25	P		P	21 59 48.3	-0.2	
	baz=277,SNR=6.4								
N30M	Aishikik Lake	92.69	29	P		P	21 59 48.3	-0.1	
N30M				IAmb		IAmb	22 00 01.7		
	comp=Z,16nm,1.2s								
N30M	Aishikik Lake	92.69	29	P		P	21 59 49.0	+0.5	
	baz=276								
M30M	Minto, Yukon	92.71	27	P		P	21 59 48.3	-0.2	
M30M				IAmb		IAmb	22 00 01.8		
	comp=Z,11nm,1.1s								
M30M	Minto, Yukon	92.71	27	P		P	21 59 48.7	+0.2	
	baz=276,SNR=9.9								
P30M	Million Dollar	92.90	30	P		P	21 59 49.5	+0.1	
	baz=276								
G31M	Satah River	93.22	23	P		P	21 59 49.3	-1.3	
G31M	Satah River	93.22	23	P		P	21 59 50.1	-0.5	
	baz=279								
O30N	Mendenhall	93.25	29	P		P	21 59 50.4	-0.6	
O30N				IAmb		IAmb	22 00 04.0		
	comp=Z,12nm,1.2s								
O30N	Mendenhall	93.25	29	P		P	21 59 51.3	+0.3	
	baz=277								
PLBC	Pleasant Camp	93.27	30	P		P	21 59 50.8	-0.2	
	baz=276								
INK	Inuvik	93.28	22	P		P	21 59 49.8	-1.0	
INK				IAmb		IAmb	22 00 04.3		
	comp=Z,19nm,1.4s								
INK	Inuvik	93.28	22	P		P	21 59 49.8	-1.0	
INK				pmax		pmax			
	comp=Z,19nm,1.4s								
INK	Inuvik	93.28	22	P		P	21 59 50.4	-0.4	
	baz=280								
N31M	Braeburn, Yuko	93.32	28	P		P	21 59 51.8	+0.6	
N31M	Braeburn, Yuko	93.32	28	P		P	21 59 50.9	-0.3	
	baz=277								
F31M	Tsiigehtchic	93.34	22	P		P	21 59 51.0	-0.1	
F31M				IAmb		IAmb	22 00 03.8		
	comp=Z,14nm,0.9s								
F31M	Tsiigehtchic	93.34	22	P		P	21 59 50.4	-0.8	
	baz=279								
ARCES	ARCESS Array B	93.35	340	P		P	21 59 50.8	-0.4	
	comp=Z,12nm,1.3s,baz=76,slow=5.4,SNR=9.9								
ARCES				LR		LR	22 47 38.0		
	comp=Z,230nm,20.3s,baz=89,slow=39								
	comp=Z,12nm,1.3s								
H31M	Peel River	93.36	24	P		P	21 59 50.1	-1.3	
H31M				IAmb		IAmb	22 00 04.4		
	comp=Z,22nm,1.4s								
H31M	Peel River	93.36	24	P		P	21 59 51.0	-0.4	
	baz=279								
TAOE	Nuku Hiva Isla	93.50	99	*e*LR		LR	22 29 55.4		
	comp=Z,1μm,23.6s								
S31K	Pelican	93.51	32	P		P	21 59 52.2	+0.1	
S31K				IAmb		IAmb	21 59 53.8		
	comp=Z,35nm,1.9s								
S31K	Pelican	93.51	32	P		P	21 59 52.0	-0.1	
	baz=276								
SPB2	Spitsbergen Ar	93.56	349	P		P	21 59 52.1	0.0	
SPB2				IAmb		IAmb	21 59 57.8		
	comp=Z,15nm,1.1s								
SPITS	Spitsbergen Ar	93.57	349	P		P	21 59 51.4	-0.7	
	comp=Z,12nm,1.1s,baz=94,slow=18,SNR=4.4								
SPITS				LR		LR	22 47 15.2		
	comp=Z,211nm,20.3s,baz=58,slow=39								
	comp=Z,12nm,1.1s								
SPITS	Spitsbergen Ar	93.57	349	P		P	21 59 52.5	+0.4	
SPITS				pmax		pmax			
	comp=Z,20nm,1.2s								
SKAG	Skagway	93.79	30			P	21 59 53.0	-0.4	
SKAG				IAmb		IAmb	22 01 35.0		
	comp=Z,17nm,1.0s								
SKAG	Skagway	93.79	30	P		P	21 59 53.3	-0.1	
	baz=277								
WHY	Whitehorse	93.86	29	P		P	21 59 53.2	-0.6	
WHY	Whitehorse	93.86	29	P		P	21 59 54.3	+0.5	
	baz=278								
M31M	Drury Creek, Y	93.87	28	P		P	21 59 52.7	-1.0	
M31M				IAmb		IAmb	22 00 00.9		
	comp=Z,14nm,1.4s								
SIT	Sitka	94.10	33	P		P	21 59 54.1	-0.8	
SIT				IAmb		IAmb	22 00 08.7		
	comp=Z,14nm,1.1s								
SIT	Sitka	94.10	33	P		P	21 59 54.1	-0.8	
SIT				pmax		pmax			
	comp=Z,14nm,1.1s								
SIT	Sitka	94.10	33	P		P	21 59 55.0	+0.2	
	baz=277								
AKASG	Malin Array Be	94.17	321	P		P	21 59 54.5	-0.8	
	comp=Z,0.2nm,0.2s,baz=73,slow=3.2,SNR=5.3								
AKASG				LR		LR	22 46 10.5		
	comp=Z,240nm,21.5s,baz=78,slow=38								
	comp=Z,0.2nm,0.2s								
AKASG	Malin Array Be	94.17	321	*ce*P		P	21 59 56.2	+0.9	
AK02	Malin Array Si	94.19	321	P		P	21 59 54.6	-0.8	
FARO	Faro, Yukon	94.35	28	P		P	21 59 55.2	-0.8	
FARO						PcP	21 59 56.1	-0.3	
FARO	Faro, Yukon	94.35	28	P		P	21 59 56.3	+0.3	
	baz=279								
R32K	Eaglecrest	94.37	32	P		P	21 59 56.4	+0.3	
	baz=278								
FINES	FINESS Array B	94.50	332	P		P	21 59 55.4	-1.3	
	comp=Z,1.6nm,0.9s,baz=51,slow=6.1,SNR=8.7								
FINES				LR		LR	22 46 09.4		
	comp=Z,257nm,19.9s,baz=82,slow=38								
	comp=Z,1.6nm,0.9s								
MNK	Minsk	94.55	325	*i* P		P	21 59 57.8	+0.8	
MNK				*i*			22 03 45.7		
MNK				*i* PPP		PPP	22 05 47.1		
MNK				*i* S		SKSac	22 10 34.1	+3.8	
MNK				pmax		pmax			
	comp=E,6.0nm,0.8s								
MNK				pmax		pmax			
	comp=N,9.0nm,0.9s								
MNK				pmax		pmax			
	comp=Z,6.0nm,0.8s								
MNK				MLR		MLR			
	comp=E,159nm,18.0s								
MNK				MLR		MLR			
	comp=Z,316nm,19.0s								
MNK				MLR		MLR			
	comp=N,297nm,20.0s								
P32M	Atlin	94.59	30	P		P	21 59 57.7	+0.6	
	baz=279								
N32M	Quiet Lake	94.65	29	P		P	21 59 57.5	+0.1	
	baz=280								
P33M	Teslin, Yukon	94.94	29	P		P	21 59 58.6	-0.1	
P33M				IAmb		IAmb	22 00 11.5		
	comp=Z,9.7nm,1.1s								
P33M	Teslin, Yukon	94.94	29	P		P	21 59 58.9	+0.1	
	baz=280								
A36M	Sachs Harbour	95.16	17	P		P	22 00 00.0	+0.6	
	baz=288								
MMPY	Sheldon Lake,	95.24	27	P		P	21 59 59.5	-0.5	
MMPY	Sheldon Lake,	95.24	27	P		P	21 59 60.0	-0.1	
	baz=281								
Q32M	Nakina River	95.43	31	P		P	22 00 01.3	+0.1	
Q32M				IAmb		IAmb	22 00 19.2		
	comp=Z,25nm,1.7s								
Q32M	Nakina River	95.43	31	P		P	22 00 01.0	-0.1	
	baz=280								
U33K	Whale Pass	95.44	34	P		P	22 00 01.6	+0.6	
	baz=279								
CRAG	Craig	95.54	34	P		P	22 00 02.1	+0.6	
	baz=279								
R33M	Jennings River	96.00	30			P	22 00 03.2	-0.5	
R33M				IAmb		IAmb	22 00 17.0		
	comp=Z,15nm,1.4s								
R33M	Jennings River	96.00	30	P		P	22 00 04.4	+0.7	
	baz=281,SNR=5.7								
RNPP5	Staryi Chortor	96.20	322	P		P	22 00 03.9	-0.7	
S34M	Telegraph Cree	96.20	32	P		P	22 00 05.0	+0.5	
	baz=281								
KMPD	K-Podol'skiy	96.21	319	P		P	22 00 03.4	-1.3	
RNPP1	Kostyukhnivka	96.25	322	P		P	22 00 04.1	-0.7	
DLBC	Dease Lake	96.67	31	LR		LR	22 41 53.8		
	comp=Z,15nm,19.1s,baz=264,slow=34								
DLBC	Dease Lake	96.67	31	P		P	22 00 06.8	0.0	
	baz=282								
TGTN	Hyland Airport	96.85	28	P		P	22 00 07.8	+0.4	
	baz=284								
MLR	Muntele Rosu	96.98	316	P		P	22 00 07.1	-1.3	
	comp=Z,1.7nm,0.7s,baz=138,slow=16,SNR=2.1								
MLR				LR		LR	22 49 06.7		
	comp=Z,457nm,21.9s,baz=65,slow=39								
	comp=Z,1.7nm,0.7s								
BURAR	Bucovina Array	97.17	318			P	22 00 07.5	-1.8	
BURAR				IAmb		IAmb	22 00 21.3		
	comp=Z,4.8nm,0.8s								
BUR08	Bucovina Ar. S	97.18	318	P		P	22 00 08.0	-1.3	
BUR08				IAmb		IAmb	22 00 18.9		
	comp=Z,12nm,1.3s								
SUW	Suwalki	97.35	325	P		P	22 00 09.8	+0.1	
SUW	Suwalki	97.35	325	P		P	22 00 09.8	+0.1	
MATP	Matopo	97.57	250	LR		LR	22 39 52.7		
	comp=Z,156nm,21.9s,baz=90,slow=33								
LSZ	Lusaka	98.04	255	LR		LR	22 41 56.5		
	comp=Z,399nm,21.6s,baz=115,slow=34								
BBB	Bella Bella	99.08	37	LR		LR	22 40 22.4		
	comp=Z,120nm,19.3s,baz=261,slow=32								
LBTB	Lobatse	99.99	245	LR		LR	22 43 02.5		
	comp=Z,73nm,18.5s,baz=96,slow=34								
BOSA	Boshof	100.01	241	LR		LR	22 41 14.3		
	comp=Z,240nm,21.6s,baz=86,slow=33								
HFS	Hagfors	100.70	332	P		Pdif	22 00 24.4	-0.2	
	comp=Z,19nm,0.8s,baz=107,slow=5.0,SNR=4.5								
NOA	NORSAR Array B	101.51	333	P		Pdif	22 00 27.5	-0.8	
	comp=Z,0.5nm,0.8s,baz=68,slow=4.6,SNR=3.4								
YKA	Yellowknife Ar	102.56	25	P		Pdif	22 00 34.0	+1.2	
	comp=Z,0.3nm,0.7s,baz=111,slow=31,SNR=5.4								
YKA	Yellowknife Ar	102.56	25	*i* P		Pdif	22 00 30.2	-2.6	
PDAR	Pinedale Array	113.99	42	PKiKP		PKiKP	22 05 16.5	+0.4	
	comp=Z,0.1nm,0.4s,baz=195,slow=22,SNR=1.8								
ANMO	Albuquerque	119.42	49	PKP		PKPdf	22 05 26.9	+0.1	
	comp=Z,1.1nm,0.6s,baz=45,slow=4.4,SNR=3.1								
K30B	Basset	120.43	38	PKP		PKPdf	22 05 24.6	-3.6	
TORD	Torodi Ar. Bea	123.54	286	PKP		PKPdf	22 05 35.1	+0.2	
	comp=Z,1.1nm,0.3s,baz=13,slow=1.7,SNR=1.9								
TXAR	Lajitas Array	123.81	54	PKP		PKPdf	22 05 35.6	+0.3	
	comp=Z,1.1nm,0.8s,baz=231,slow=0.8,SNR=7.3								
MIAR	Mount Ida	128.89	43			PKiKP	22 05 46.4	+1.1	
MIAR	Mount Ida	128.89	43	PKiKP		PKiKP	22 05 46.4	+1.1	
PLCA	Paso Flores	137.09	161	PKP		PKPdf	22 06 00.1	+0.1	
	comp=Z,0.5nm,0.4s,baz=46,slow=17,SNR=1.4								
TRQA	Tornquist	141.83	169			PKPdf	22 06 05.6	-3.1	
TRQA	Tornquist	141.83	169	PKiKP		PKPdf	22 06 05.6	-3.1	
GO03	Copiapo	148.69	151			PKPab	22 06 33.8	+5.7	
AC06	Mina Casimiro	148.82	150			pPKPab	22 06 37.7	+0.5	
AC02	Maricunga	149.85	152			PKiKP	22 06 30.1	+1.1	
CPUP	Villa Florida	154.06	172	PKPbc		PKPbc	22 06 36.6	-0.4	
	comp=Z,1.5nm,1.0s,baz=357,slow=1.6,SNR=3.3								
LPAZ	La Paz	158.75	138	PKP		PKPdf	22 06 36.0	-0.1	
	comp=Z,1.4nm,0.8s,baz=295,slow=3.8,SNR=5.3								
LPAZ	La Paz	158.75	138	PKiKP		PKPdf	22 06 36.0	-0.1	

UPP ***11*** *21:46:45.1±0.1, 67.˚19N×20.˚68E, h0km, ML2.6, Confirmed Induced event*
HEL ***11*** *21:46:45.7, 67.˚19N×20.˚65E, h0km, ML2.0, Confirmed Induced event Hypocentre not reviewed by the ISC*
IDC ***11*** *21:46:46.1±0.9, 67.˚15N×20.˚83E, h0km, mbtmp2.8/4, ML2.3/4, Error ellipse: s-maj=14.7km s-min=7.4km az=115.0*
HEL ***11*** *21:46:46.0±0.1, 67.˚19N×20.˚69E, h0km, ML2.0, ML2.6(UPP), Confirmed Induced event Hypocentre not reviewed by the ISC*

ISC 11 21:46:44.7±0.8**, 67.˚16N**±0.˚03×**20.˚62E**±0.˚04**, h0km, n14, σ1§17/24, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC

RATU	Laukkuluspa	0.78	330	P		Pg	21 46 59.5	-0.1	
RATU				S		Sg	21 47 09.8	+0.2	
RATU	Laukkuluspa	0.78	330	*i* P			21 46 59.5		
RATU				*i* S			21 47 09.8		
KUA	Kurravaara	0.81	352	P		Pg	21 46 59.8	-0.3	
KUA				S		Sg	21 47 10.8	+0.3	
KUA	Kurravaara	0.81	352	*i* P			21 46 59.8		
KUA				*i* S			21 47 10.8		
SALU	Saltoluokta	0.85	286	P		Pg	21 47 01.5	+0.5	
SALU				S		Sg	21 47 13.2	+1.2	
SALU	Saltoluokta	0.85	286	*i* P			21 47 01.5		
SALU				*i* S			21 47 13.2		
ERTU	Ertsjaerv	0.87	134	P		Pg	21 47 01.5	+0.2	
ERTU				S		Sg	21 47 13.4	+0.8	
ERTU	Ertsjaerv	0.87	134	*e*P			21 47 01.0		
ERTU				*e*SB			21 47 13.6		
PAJU	Pajala	0.99	97	P		Pg	21 47 03.3	-0.2	
PAJU	Pajala	0.99	97	*e*P			21 47 03.2		
PAJU				*e*SB			21 47 16.9		
HARU	Harads	1.01	172	P		Pg	21 47 04.3	+0.3	
HARU				S		Sb	21 47 18.6	-0.3	
HARU	Harads	1.01	172	*e*P			21 47 04.3		
HARU				*e*S			21 47 18.6		
LANU	Lannavaara	1.03	30	P		Pg	21 47 03.9	-0.7	
LANU	Lannavaara	1.04	30	*e*P			21 47 03.8		
LANU				*e*SB			21 47 17.8		
KOVU	Salmi	1.08	351	P		Pg	21 47 04.9	-0.5	
KOVU				S		Sg	21 47 19.3	-0.1	
KOVU	Salmi	1.08	351	*e*P			21 47 04.9		
KOVU				*e*S			21 47 19.3		
KLF	Kolari	1.31	85	*e*P			21 47 08.6		
KLF				MSG			21 47 25.4		
	comp=Z,6.7nm,0.2s								
KLF				*e*SB			21 47 26.1		
HEF	Hetta	1.71	41	*e*P			21 47 15.2		
HEF				MSG			21 47 36.6		
	comp=Z,9.2nm,0.2s								
HEF				*e*SN			21 47 38.4		
KALU	Kalix	1.71	139	P		Pn	21 47 16.3	+0.7	
KALU	Kalix	1.71	139	*e*P			21 47 16.2		
KALU				*e*SN			21 47 40.0		
SJUU	Sjulsmark	1.71	166	P		Pb	21 47 16.6	-0.3	
SJUU	Sjulsmark	1.71	166	*e*P			21 47 16.6		
TOF	Tornio	1.83	125	*e*P			21 47 18.2		
TOF				MSG			21 47 40.7		
	comp=Z,12nm,0.2s								
TOF				*e*SN			21 47 43.3		
KIF	Kilpisjarvi	1.85	2	*e*P			21 47 18.6		
KIF				MSG			21 47 41.2		
	comp=Z,25nm,0.2s								
KIF				*e*SG			21 47 44.0		
KTK1	Kautokeino	2.10	27	*e*PG			21 47 22.6		
KTK1				*e*SG			21 47 50.4		
RNF	Rovaniemi	2.20	102	*e*PB			21 47 23.6		
RNF				*e*SG			21 47 53.5		
TRO	Tromso	2.56	347	*e*PB			21 47 29.7		
TRO				*e*SG			21 48 04.3		
RANF	Ranua	2.72	112	*e*P			21 47 30.5		
RANF				*e*SB			21 48 07.9		
OBF4	Vikkela, Lumij	2.99	140	*e*P			21 47 34.7		
OBF4				MSG			21 48 13.6		
	comp=Z,2.9nm,0.2s								
OUL	Oulu	2.99	132	*e*P			21 47 34.8		
ARA0	ARCESS Array S	3.00	35	*e*P			21 47 34.0		
ARA0				*e*SB			21 48 15.1		
ARCES	ARCESS Array B	3.00	35	Pn		Pn	21 47 34.0	+0.6	
	comp=Z,0.4nm,0.3s,baz=215,slow=14,SNR=84								
ARCES				Sn		Sn	21 48 11.4	+1.5	
	comp=Z,1.0nm,0.3s,baz=216,slow=26,SNR=9.8								
	comp=Z,1.0nm,0.2s								
OBF0	Syolatti, Pyha	3.06	149	*e*P			21 47 36.0		
OBF0				MSG			21 48 15.7		
	comp=Z,3.0nm,0.2s								
OBF8	Ulkokalla	3.07	156	*e*P			21 47 36.8		
OBF8				MSG			21 48 15.9		
	comp=Z,4.8nm,0.2s								
RAJF	Raja-Jooseppi	3.20	62	*e*P			21 47 36.6		
RAJF				*e*SG			21 48 22.1		
OUF	Merijarvi	3.28	147	*e*P			21 47 38.8		
OUF				*e*SG			21 48 27.6		
UMAU	Umeaa	3.29	180	*e*P			21 47 39.0		
UMAU				*e*S			21 48 18.4		
KU2	Taivalkoski	3.39	112	*e*P			21 47 39.5		
KEV	Kevo	3.51	39	*e*P			21 47 41.0		
KEV				*e*S			21 48 22.7		
VRF	Varrio	3.51	76	*e*P			21 47 41.0		
VRF				*e*SG			21 48 32.5		
OLKF	Oulanka, Finla	3.58	100	*e*P			21 47 42.5		
OLKF				*e*SG			21 48 37.1		
MSF	Maaselka	3.59	107	*e*PG			21 47 50.2		
MSF				*e*SG			21 48 36.4		
KU6	Riekki	3.87	103	*e*P			21 47 46.2		
KU6				*e*S			21 48 32.3		
HUSU	Husum	3.88	189	*e*P			21 47 47.3		
FINES	FINESS Array B	6.21	155	Pn		Pn	21 48 19.1	+1.7	
	comp=Z,0.3nm,0.3s,baz=345,slow=14,SNR=15								
FINES				Sn		Sn	21 49 28.1	-1.0	
	comp=Z,0.6nm,0.3s,baz=342,slow=22,SNR=8.4								
FINES				Lg		Lg	21 49 59.8		
	comp=Z,0.7nm,0.3s,baz=342,slow=28,SNR=8.3								
	comp=Z,0.6nm,0.4s								
NOA	NORSAR Array B	7.39	218	Pn		Pn	21 48 34.8	+1.1	
	baz=27,slow=11,SNR=4.8								
NOA				Sn		Sn	21 49 55.6	-2.5	
	baz=34,slow=9.2,SNR=4.6								
NOA				Lg		Lg	21 50 34.8		
	baz=25,slow=14,SNR=4.9								
	comp=Z,0.3nm,0.8s								
HFS	Hagfors	7.69	207	Pn		Pn	21 48 37.9	+0.1	
	comp=Z,0.2nm,0.3s,baz=26,slow=13,SNR=10								
HFS				Sn		Sn	21 50 02.3	-3.3	
	comp=Z,0.2nm,0.

MRLC AML AML
comp=N,4345µm,0.4s
MRLC AML AML
comp=N,10005µm,0.4s
MRLC AML AML
comp=E,3710µm,1.2s
MRLC AML AML
comp=E,3710µm,0.8s
MRLC AML AML
comp=E,7530µm,0.9s
MRLC AML AML
comp=N,4340µm,0.4s
CDRU Civita di Ruta 0.25 255 ⇑P **Pb 21 50 41.7 0.0**
CDRU S **Sb 21 50 46.0 +0.1**
CDRU AML AML
comp=E,14500µm,0.3s
CDRU AML AML
comp=N,5820µm,0.3s
MCEL Monticello 0.27 148 ⇓P **Pb 21 50 42.2 +0.3**
MCEL S **Sb 21 50 47.2 +1.0**
MCEL AML AML
comp=E,6745µm,0.8s
MCEL AML AML
comp=N,6275µm,0.5s
MCEL AML AML
comp=N,6605µm,1.1s
MCEL AML AML
comp=N,6280µm,0.5s
MCEL AML AML
comp=E,6970µm,0.7s
MCEL AML AML
comp=N,6605µm,0.9s
MCEL AML AML
comp=N,6280µm,1.5s
MCEL AML AML
comp=E,6970µm,1.3s
MCEL AML AML
comp=E,6745µm,1.2s
CMPR Campora 0.34 225 ⇑P **Pb 21 50 43.1 +0.3**
CMPR S **Sb 21 50 48.5 +0.8**
CMPR AML AML
comp=E,5315µm,0.9s
CMPR AML AML
comp=E,5315µm,1.1s
CMPR AML AML
comp=N,3420µm,0.3s
ACER Acerenza 0.34 47 ⇓P **Pb 21 50 43.2 +0.4**
ACER S **Sb 21 50 49.1 +1.2**
ACER AML AML
comp=E,23150µm,0.5s
ACER AML AML
comp=E,21800µm,0.5s
ACER AML AML
comp=N,10330µm,0.3s
ACER AML AML
comp=N,9755µm,0.3s
PTRP Pietrapertosa 0.34 96 ⇓P **Pb 21 50 43.8 +0.9**
PTRP AML AML
comp=E,5540µm,1.5s
PTRP AML AML
comp=N,4895µm,0.4s
PTRP AML AML
comp=E,5540µm,0.5s
CLT3 Calitri 0.38 335 AML AML
comp=E,7700µm,0.7s
CLT3 AML AML
comp=N,7475µm,0.8s
CLT3 AML AML
comp=N,7475µm,0.8s
CLT3 AML AML
comp=N,7475µm,1.2s
CLT3 Calitri 0.38 335 AML AML
comp=E,7310µm,0.7s
CLT3 AML AML
comp=E,7315µm,0.7s
CLT3 AML AML
comp=N,7320µm,0.8s
CLT3 AML AML
comp=N,7320µm,0.8s
CLT3 AML AML
comp=N,7320µm,1.2s
VULT Monte Vulture 0.40 360 ⇑P **Pb 21 50 44.0 +0.1**
VULT S **Sb 21 50 50.4 +0.8**
VULT AML AML
comp=N,5205µm,0.4s
VULT AML AML
comp=N,5205µm,0.4s
VULT AML AML
comp=E,3345µm,0.4s
VULT AML AML
comp=N,5415µm,0.4s
VULT AML AML
comp=E,3165µm,0.4s
VULT AML AML
comp=N,5415µm,1.6s
VULT AML AML
comp=E,3165µm,1.6s
VULT AML AML
comp=E,3345µm,1.6s
VULT AML AML
comp=N,5200µm,0.4s
MCRV Calabrutti - M 0.41 304 ⇑P **Pb 21 50 44.2 +0.1**
MCRV AML AML
comp=E,4025µm,0.3s
MCRV AML AML
comp=N,5505µm,1.4s
MCRV AML AML
comp=N,5505µm,0.6s
SIRI Monte Sirino - 0.42 153 P **Pb 21 50 44.5 +0.3**
SIRI S **Sb 21 50 51.6 +1.6**
SIRI AML AML
comp=N,4895µm,0.9s
SIRI AML AML
comp=E,4500µm,0.2s
SIRI AML AML
comp=E,4290µm,0.2s
SIRI AML AML
comp=N,4890µm,0.9s
SIRI AML AML
comp=N,5060µm,0.9s
SIRI AML AML
comp=N,4890µm,1.1s
SIRI AML AML
comp=N,5060µm,1.1s
MGR Morigerati 0.42 187 ⇑P **Pb 21 50 44.5 +0.3**
MGR AML AML
comp=E,2840µm,0.8s
MGR AML AML
comp=N,4770µm,0.3s
MGR AML AML
comp=N,4861µm,0.3s
PALZ Palazzo San Ge 0.47 34 P **Pb 21 50 45.0 -0.1**
PALZ AML AML
comp=E,3510µm,0.3s
PALZ AML AML
comp=N,4690µm,0.4s
SNAL S. Angelo Dei 0.48 320 ⇑P **Pb 21 50 45.6 +0.3**
SNAL S **Sb 21 50 53.7 +1.6**
SNAL AML AML
comp=E,3535µm,0.4s
SNAL AML AML
comp=N,3165µm,0.6s
SNAL AML AML
comp=E,3705µm,0.4s
SNAL AML AML
comp=N,3260µm,0.6s
BULG Bulgheria - Ca 0.51 201 ⇑P **Pb 21 50 46.3 +0.5**
BULG S **Sb 21 50 54.8 +2.0**
BULG AML AML
comp=E,2965µm,0.6s
BULG AML AML
comp=E,3095µm,0.6s
BULG AML AML
comp=E,3095µm,1.4s
BULG AML AML
comp=N,4255µm,0.6s
BULG AML AML
comp=E,2965µm,1.4s
BULG AML AML
comp=N,4005µm,0.7s
CUC Castrocucco 0.58 165 ⇑P **Pb 21 50 47.0 -0.1**
CUC AML AML
comp=E,1850µm,0.5s
CUC AML AML
comp=N,1580µm,0.4s
CUC AML AML
comp=E,1850µm,0.5s

CUC AML AML
comp=E,1850µm,1.5s
CUC AML AML
comp=N,1570µm,0.4s
CUC AML AML
comp=E,1850µm,1.5s
MTMR Montemarano 0.59 308 ⇑P **Pb 21 50 47.1 -0.2**
MTMR AML AML
comp=E,1910µm,1.4s
MTMR AML AML
comp=N,2545µm,0.8s
MTMR AML AML
comp=E,1845µm,0.5s
MTMR AML AML
comp=N,2555µm,0.4s
MTMR AML AML
comp=E,1910µm,1.4s
MTMR AML AML
comp=N,2550µm,0.8s
SGTA Sant Agata di 0.61 342 P **Pb 21 50 47.6 -0.1**
SGTA AML AML
comp=E,2010µm,0.4s
SGTA AML AML
comp=N,1480µm,0.6s
SGTA AML AML
comp=E,2070µm,0.4s
SGTA AML AML
comp=E,2010µm,0.4s
SGTA AML AML
comp=N,1480µm,0.6s
SGTA AML AML
comp=E,2010µm,1.6s
SGTA AML AML
comp=N,1490µm,0.6s
SGTA AML AML
comp=E,2070µm,1.6s
MIGL Miglionico 0.63 85 P **Pb 21 50 47.8 -0.1**
MIGL AML AML
comp=N,7625µm,1.1s
MIGL AML AML
comp=E,8690µm,0.6s
MIGL AML AML
comp=N,7625µm,0.9s
CRAC Craco 0.65 107 ⇑P **Pb 21 50 48.8 +0.5**
CRAC AML AML
comp=N,4125µm,1.1s
CRAC AML AML
comp=N,4125µm,0.9s
CRAC AML AML
comp=E,5110µm,0.5s
MMN Mormanno 0.72 157 P **Pn 21 50 50.6 0.0**
MMN AML AML
comp=N,1990µm,1.6s
MMN AML AML
comp=N,1990µm,0.4s
MMN AML AML
comp=E,1525µm,0.3s
MRB1 Monte Rocchett 0.75 320 P **Pb 21 50 50.1 +0.1**
MRB1 AML AML
comp=E,4525µm,0.6s
MRB1 AML AML
comp=N,3635µm,0.6s
MRB1 AML AML
comp=N,3825µm,0.6s
MRB1 AML AML
comp=E,4530µm,0.6s
MRB1 AML AML
comp=E,4710µm,0.6s
MRB1 AML AML
comp=N,3635µm,0.6s
MRB1 AML AML
comp=E,4530µm,1.4s
MRB1 AML AML
comp=E,4710µm,1.4s
MRB1 AML AML
comp=N,3825µm,1.4s
AMUR Altamura 0.83 65 P **Pb 21 50 51.4 +0.2**
AMUR AML AML
comp=E,2370µm,1.1s
AMUR AML AML
comp=N,3080µm,1.3s
AMUR AML AML
comp=N,3080µm,0.7s
MATE Matera 0.83 83 P **Pb 21 50 51.4 +0.1**
MATE AML AML
comp=E,2470µm,1.2s
MATE AML AML
comp=N,2780µm,0.4s
MATE AML AML
comp=E,2470µm,0.8s
SALB San Lorenzo Be 0.88 140 P **Pb 21 50 51.7 -0.5**
SALB AML AML
comp=N,1255µm,0.6s
SALB AML AML
comp=E,1465µm,0.4s
LTRZ Laterza 0.92 87 P **Pb 21 50 53.1 +0.4**
LTRZ AML AML
comp=N,2420µm,0.3s
LTRZ AML AML
comp=N,2425µm,0.3s
LTRZ AML AML
comp=E,2170µm,0.5s
PAOL Paolisi 0.93 301 P **Pn 21 50 54.0 +0.5**
PAOL AML AML
comp=E,1410µm,1.3s
PAOL AML AML
comp=N,1720µm,0.7s
PAOL AML AML
comp=E,1430µm,1.3s
PAOL AML AML
comp=E,1410µm,0.7s
PAOL AML AML
comp=E,1430µm,0.7s
PAOL AML AML
comp=N,1840µm,0.6s
VCRE Vesuvio Crater 0.94 287 P **Pn 21 50 55.2 +1.5**
VCRE AML AML
comp=E,3840µm,0.5s
VCRE AML AML
comp=N,4225µm,0.4s
VCRE AML AML
comp=E,3840µm,1.5s
VTIR Vesuvio Tirone 0.94 286 P **Pn 21 50 54.2 +0.6**
VTIR AML AML
comp=E,1192µm,0.5s
VTIR AML AML
comp=N,998µm,0.4s
VTIR AML AML
comp=E,1192µm,1.5s
VBKN Vesuvio Bunker 0.94 287 P **Pn 21 50 55.2 +1.5**
VBKN AML AML
comp=E,4575µm,0.9s
VBKN AML AML
comp=N,3095µm,0.4s
VBKN AML AML
comp=E,4575µm,1.1s
VITU Vitulano (BN) 0.98 310 P **Pb 21 50 53.5 -0.3**
VITU AML AML
comp=E,2125µm,0.3s
VITU AML AML
comp=N,1985µm,0.6s
VITU AML AML
comp=N,1885µm,0.5s
VITU AML AML
comp=N,1985µm,1.4s
VITU AML AML
comp=E,789µm,1.2s
TDS Terranova Siba 1.05 148 P **Pn 21 50 56.7 +1.6**
TDS AML AML
comp=E,351µm,0.8s
TDS AML AML
comp=N,598µm,0.6s
CET2 Cetraro 1.06 166 P **Pn 21 50 56.3 +1.0**
CET2 AML AML
comp=E,1025µm,0.6s
CET2 AML AML
comp=N,1480µm,0.4s
SACR S. Croce Del S 1.09 321 P **Pb 21 50 57.5 +1.8**
SACR AML AML
comp=N,1095µm,0.8s
SACR AML AML
comp=E,804µm,0.5s
SACR AML AML
comp=N,1095µm,1.2s
GATE Gambatesa 1.10 331 P **Pb 21 50 58.2 +2.4**
GATE AML AML
comp=E,1046µm,0.7s

GATE AML AML
comp=N,778µm,1.6s
GATE AML AML
comp=E,1008µm,0.7s
GATE AML AML
comp=N,778µm,0.4s
GATE AML AML
comp=N,800µm,0.7s
NOCI Noci 1.12 78 ⇑P **Pb 21 50 56.5 +0.2**
NOCI AML AML
comp=E,1950µm,0.3s
NOCI AML AML
comp=N,2070µm,0.3s
PTRJ Pietraroja 1.15 315 P **Pb 21 50 57.8 +1.0**
PTRJ AML AML
comp=N,1295µm,0.9s
PTRJ AML AML
comp=E,950µm,0.4s
MSAG Monte S. Angel 1.18 11 ⇑P **Pn 21 50 56.6 -0.3**
MSAG AML AML
comp=E,1155µm,1.2s
MSAG AML AML
comp=N,2695µm,0.4s
MSAG AML AML
comp=N,1140µm,0.4s
MSAG AML AML
comp=E,1155µm,0.8s
MSAG AML AML
comp=N,1140µm,1.6s
MSAG AML AML
comp=N,2695µm,1.6s
MSAG AML AML
comp=E,468µm,0.4s
APRC Apricena 1.20 357 P **Pn 21 50 57.3 +0.1**
APRC AML AML
comp=E,1248µm,0.4s
APRC AML AML
comp=N,1355µm,0.2s
SGRT San Giovanni R 1.20 5 ⇑P **Pn 21 50 57.1 -0.1**
SGRT AML AML
comp=E,2065µm,0.4s
SGRT AML AML
comp=N,1175µm,1.6s
SGRT AML AML
comp=N,1175µm,0.4s
SGRT AML AML
comp=E,2065µm,1.6s
MELA Melanico ??? S 1.21 342 P **Pn 21 50 56.9 -0.3**
MELA AML AML
comp=E,1370µm,0.3s
MELA AML AML
comp=E,1460µm,0.4s
MELA AML AML
comp=N,1310µm,1.0s
MELA AML AML
comp=N,1265µm,1.2s
MELA AML AML
comp=N,1310µm,1.0s
MELA AML AML
comp=E,1460µm,1.6s
MELA AML AML
comp=E,1370µm,1.7s
CIGN Sant'Elia a Pi 1.22 334 P **Pb 21 50 58.9 +0.9**
CIGN AML AML
comp=E,341µm,0.5s
CIGN AML AML
comp=N,390µm,0.4s
SGG Gregorio Mates 1.25 312 P **Pb 21 50 59.4 +0.9**
SGG AML AML
comp=E,586µm,0.5s
SGG AML AML
comp=N,800µm,0.6s
SGG AML AML
comp=N,722µm,0.5s
SGG AML AML
comp=N,800µm,1.4s
SGG AML AML
comp=E,677µm,0.8s
SGG AML AML
comp=E,586µm,1.5s
BSSO Busso 1.26 322 P **Pb 21 50 60.0 +1.4**
BSSO AML AML
comp=E,266µm,0.9s
BSSO AML AML
comp=N,221µm,0.4s
BSSO AML AML
comp=E,266µm,1.1s
PIGN Pignataro Magg 1.27 301 P **Pb 21 50 59.4 +0.7**
PIGN AML AML
comp=E,504µm,0.5s
PIGN AML AML
comp=E,488µm,0.5s
PIGN AML AML
comp=N,652µm,0.7s
PIGN AML AML
comp=N,584µm,0.6s
TAR1 Taranto 1.27 91 P **Pb 21 50 58.8 0.0**
TAR1 AML AML
comp=E,1475µm,0.4s
TAR1 AML AML
comp=N,1880µm,0.4s
CELI Celico 1.34 149 P **Pb 21 51 02.1 +2.1**
CELI AML AML
comp=N,488µm,0.7s
CELI AML AML
comp=E,539µm,0.8s
CELI AML AML
comp=N,1055µm,0.7s
CELI AML AML
comp=E,1065µm,0.8s
VAGA Valle Agricola 1.35 310 P **Pb 21 51 00.8 +0.6**
VAGA AML AML
comp=E,576µm,1.0s
VAGA AML AML
comp=N,802µm,0.7s
VAGA AML AML
comp=E,612µm,1.0s
VAGA AML AML
comp=E,576µm,1.0s
VAGA AML AML
comp=N,840µm,0.7s
VAGA AML AML
comp=E,612µm,1.0s
CAR1 CAROLEI 1.38 160 P **Pb 21 51 01.4 +0.7**
CAR1 AML AML
comp=E,1008µm,0.4s
CAR1 AML AML
comp=N,617µm,0.4s
CAR1 AML AML
comp=E,1008µm,1.6s
CAR1 AML AML
comp=N,617µm,1.6s
PIPA Pietrapaola 1.41 139 P **Pb 21 51 03.5 +2.4**
PIPA AML AML
comp=E,539µm,0.4s
PIPA AML AML
comp=N,368µm,0.4s
PIPA AML AML
comp=E,544µm,0.4s
PIPA AML AML
comp=N,434µm,0.4s
MODR Mondragone 1.45 295 P **Pb 21 51 01.9 +0.1**
MODR AML AML
comp=E,354µm,0.6s
MODR AML AML
comp=N,293µm,0.6s
TRIV Trivento 1.45 327 P **Pb 21 51 02.9 +1.0**
TRIV AML AML
comp=E,630µm,0.6s
TRIV AML AML
comp=N,575µm,1.4s
TRIV AML AML
comp=N,604µm,1.3s
TRIV AML AML
comp=N,575µm,0.6s
TRIV AML AML
comp=E,646µm,0.6s
TRIV AML AML
comp=N,604µm,0.7s
RNI2 Rionero Sannit 1.59 316 P **Pb 21 51 04.3 0.0**
RNI2 AML AML
comp=E,436µm,0.7s
RNI2 AML AML
comp=N,404µm,0.5s
RNI2 AML AML
comp=E,452µm,0.9s
RNI2 AML AML

	comp=E,436µm,1.3s							
RNI2					AML	AML		
	comp=N,387µm,0.5s							
CERA	**Filignano**	**1.60**	**311**		P	**Pb**	**21 51 04.3**	**0.0**
CERA					AML	AML		
	comp=E,486µm,0.6s							
CERA					AML	AML		
	comp=N,504µm,0.9s							
CERA					AML	AML		
	comp=E,507µm,0.8s							
CERA					AML	AML		
	comp=N,508µm,0.9s							
CERA					AML	AML		
	comp=E,486µm,1.4s							
CERA					AML	AML		
	comp=N,504µm,1.1s							
CERA					AML	AML		
	comp=N,508µm,1.1s							
CERA					AML	AML		
	comp=E,507µm,1.2s							
TIP	**Timpagrande**	**1.63**	**147**		P	**Pb**	**21 51 06.7**	**+1.8**
VENT	**Ventotene**	**1.69**	**279**		P	**Pn**	**21 51 04.8**	**+0.9**
VENT					AML	AML		
	comp=E,275µm,1.6s							
VENT					AML	AML		
	comp=N,216µm,0.4s							
VENT					AML	AML		
	comp=E,275µm,0.4s							
LPEL	**Lama dei Pelig**	**1.84**	**325**		P	**Pb**	**21 51 08.3**	**-0.2**
LPEL					AML	AML		
	comp=E,256µm,1.4s							
LPEL					AML	AML		
	comp=N,247µm,1.3s							
LPEL					AML	AML		
	comp=N,247µm,0.7s							
LPEL					AML	AML		
	comp=E,256µm,0.6s							
POFI	**Posta Fibreno**	**1.85**	**310**		P	**Pn**	**21 51 07.6**	**+1.4**
POFI					AML	AML		
	comp=E,124µm,0.8s							
POFI					AML	AML		
	comp=N,109µm,0.7s							
POFI					AML	AML		
	comp=N,109µm,1.3s							
LRP	**Arpino**	**1.88**	**306**		P	**Pn**	**21 51 07.8**	**+1.3**
LRP					AML	AML		
	comp=E,138µm,0.4s							
LRP					AML	AML		
	comp=N,186µm,0.4s							
VVLD	**Villa Vallelon**	**2.00**	**312**		P	**Pn**	**21 51 09.6**	**+1.4**
VVLD					AML	AML		
	comp=E,139µm,0.6s							
VVLD					AML	AML		
	comp=N,160µm,0.6s							
GIUL	**Giuliano Di Ro**	**2.05**	**300**		P	**Pn**	**21 51 10.2**	**+1.4**
GIUL					AML	AML		
	comp=N,73µm,0.7s							
GIUL					AML	AML		
	comp=E,63µm,0.8s							
PLAC	**Placanica**	**2.20**	**163**		P	**Pb**	**21 51 13.3**	**-1.3**
PLAC					AML	AML		
	comp=E,186µm,0.6s							
PLAC					AML	AML		
	comp=N,170µm,0.9s							
MSRU	**Castanea**	**2.29**	**182**		P	**Pn**	**21 51 13.8**	**+1.7**
MSRU					AML	AML		
	comp=E,282µm,0.5s							
MSRU					AML	AML		
	comp=N,237µm,0.6s							
MSRU					AML	AML		
	comp=E,282µm,1.5s							
FAGN	**Fagnano**	**2.29**	**319**		P	**Pb**	**21 51 14.9**	**-1.3**
FAGN					AML	AML		
	comp=E,350µm,0.5s							
FAGN					AML	AML		
	comp=N,203µm,0.5s							
FAGN					AML	AML		
	comp=N,203µm,1.5s							
CEL	**Celeste**	**2.30**	**175**		P	**Pn**	**21 51 14.5**	**+2.1**
CEL					AML	AML		
	comp=E,142µm,1.0s							
CEL					AML	AML		
	comp=E,142µm,1.0s							
CEL					AML	AML		
	comp=N,114µm,0.9s							
GMB	**Gambarie**	**2.39**	**176**		AML	AML		
	comp=N,621µm,0.8s							
GMB					AML	AML		
	comp=E,498µm,1.4s							
GMB					AML	AML		
	comp=E,498µm,0.6s							
MPNC	**Port Mandanici**	**2.42**	**185**		P	**Pn**	**21 51 15.3**	**+1.5**
MPNC					AML	AML		
	comp=E,263µm,0.6s							
MPNC					AML	AML		
	comp=E,263µm,1.4s							
MPNC					AML	AML		
	comp=N,356µm,0.4s							
CERT	**Cerreto**	**2.43**	**306**		P	**Pn**	**21 51 15.9**	**+1.8**
CERT					AML	AML		
	comp=E,99µm,0.6s							
CERT					AML	AML		
	comp=N,47µm,0.7s							
VIVA	**Pratoni del Vi**	**2.46**	**300**		AML	AML		
	comp=N,217µm,0.3s							
VIVA					AML	AML		
	comp=E,222µm,0.5s							
VIVA					AML	AML		
	comp=N,217µm,1.7s							
MUCR	**Ucria**	**2.57**	**193**		P	**Pn**	**21 51 18.1**	**+1.9**
MUCR					AML	AML		
	comp=E,78µm,0.6s							
MUCR					AML	AML		
	comp=N,88µm,0.5s							
MUCR					AML	AML		
	comp=E,78µm,1.4s							
STON	**Ston**	**2.79**	**33**	*e*Pn		**Pn**	**21 51 19.2**	**+0.2**
STON	**Ston**	**2.79**	**33**	*e*Pn		**Pn**	**21 51 19.0**	**0.0**
STON				*e*Sn		**Sn**	**21 51 49.7**	**-2.3**
STON	**Ston**	**2.79**	**33**	AML		AML		
	comp=E,120µm,1.5s							
STON					AML	AML		
	comp=E,120µm,0.5s							
STON					AML	AML		
	comp=N,94µm,0.4s							
HCY	**Herceg Novi**	**2.87**	**48**	*e*Pn		**Pn**	**21 51 19.5**	**-0.6**
MF5	**Montefalcone A**	**2.92**	**327**	P		**Pn**	**21 51 23.6**	**+2.8**
MNTT	**Montottone**	**2.92**	**330**	P		**Pn**	**21 51 23.7**	**+2.8**
MNTT					AML	AML		
	comp=N,302µm,1.4s							
MNTT					AML	AML		
	comp=E,260µm,0.7s							
MNTT					AML	AML		
	comp=N,302µm,0.6s							
GALF	**Gagliano Caste**	**2.96**	**196**	P		**Pb**	**21 51 25.4**	**-2.2**
MC2	**Monte Cornacci**	**2.97**	**323**	P		**Pn**	**21 51 24.8**	**+3.1**
TREB	**Trebinje**	**2.98**	**43**	*e*Pn		**Pn**	**21 51 22.3**	**+0.7**
TREB	**Trebinje**	**2.98**	**43**	*e*Pn		**Pn**	**21 51 22.3**	**+0.7**
TREB				*e*Sn		**Sn**	**21 51 54.2**	**-2.4**
TOLF	**Tolfa**	**3.11**	**300**	P		**Pn**	**21 51 24.9**	**+1.5**
DRME	**Dracevica, Mon**	**3.14**	**58**	*e*Pn		**Pn**	**21 51 24.1**	**+0.3**
BRY	**Bratogost**	**3.21**	**42**	*e*Pn		**Pn**	**21 51 24.9**	**+0.1**
VAE	**Valguarnera**	**3.21**	**197**	Pn		**Pb**	**21 51 30.9**	**-1.0**
	comp=N,6.4nm,0.7s,baz=19,slow=18,SNR=3.1							
PDG	**Podgorica**	**3.31**	**54**	*e*Pn		**Pn**	**21 51 25.4**	**-0.8**
PDG	**Podgorica**	**3.31**	**54**	*e*Pn		**Pn**	**21 51 26.1**	**-0.1**
EL6	**Elcito**	**3.35**	**327**	P		**Pn**	**21 51 28.8**	**+2.0**
FOSV	**Fossato di Vic**	**3.47**	**323**	P		**Pn**	**21 51 31.4**	**+3.0**
FOSV					AML	AML		
	comp=N,36µm,1.2s							
FOSV					AML	AML		
	comp=N,36µm,0.8s							
FOSV					AML	AML		
	comp=E,29µm,0.8s							
ARVD	**Arcevia**	**3.55**	**327**	P		**Pn**	**21 51 31.7**	**+2.2**
ARVD					AML	AML		
	comp=N,22µm,0.8s							
ARVD					AML	AML		
	comp=E,28µm,1.0s							
SSFR	**Montelago di S**	**3.57**	**325**	P		**Pn**	**21 51 32.4**	**+2.6**
SSFR					AML	AML		
	comp=E,60µm,0.2s							
SSFR					AML	AML		
	comp=N,62µm,0.7s							
UPM	**Unac-Piva**	**3.61**	**42**	*e*Pn		**Pn**	**21 51 30.8**	**+0.4**
MPAG	**Monte Paganucc**	**3.74**	**326**	P		**Pn**	**21 51 34.2**	**+2.1**
MPAG					AML	AML		
	comp=N,25µm,1.6s							
MPAG					AML	AML		
	comp=E,24µm,0.7s							
MPAG					AML	AML		
	comp=N,25µm,0.4s							
PIEI	**Pieia**	**3.76**	**323**	P		**Pn**	**21 51 34.9**	**+2.5**
PIEI					AML	AML		
	comp=E,56µm,0.6s							
PIEI					AML	AML		
	comp=E,56µm,1.4s							
PIEI					AML	AML		
	comp=N,26µm,0.2s							
IGT	**Igoumenitsa**	**3.76**	**104**	*e*Pn		**Pn**	**21 51 34.7**	**+2.4**
MAON	**Monte Argentar**	**3.85**	**301**	P		**Pn**	**21 51 35.4**	**+1.8**
MAON					AML	AML		
	comp=E,47µm,0.4s							
MAON					AML	AML		
	comp=N,31µm,0.3s							
OHR	**Ohrid**	**3.97**	**80**	*i* Pn		**Pn**	**21 51 39.0**	**+3.7**
A050A	**Klekovaca**	**3.98**	**9**	*e*Pn		**Pn**	**21 51 36.7**	**+1.2**
RUDO	**Rudo**	**4.14**	**41**	*e*Pn		**Pn**	**21 51 36.2**	**-1.4**
RUDO	**Rudo**	**4.14**	**41**	*e*Pn		**Pn**	**21 51 37.0**	**-0.6**
CASP	**Castiglione de**	**4.20**	**304**	AML		AML		
	comp=N,17µm,0.3s							
CASP					AML	AML		
	comp=E,26µm,0.4s							
SJES	**Sjenica**	**4.23**	**49**	*e*Pn		**Pn**	**21 51 40.5**	**+1.6**
SJES	**Sjenica**	**4.23**	**49**	*e*Pn		**Pn**	**21 51 40.7**	**+1.8**
BBLS	**Lazi&#263i**	**4.34**	**39**	*e*Pn		**Pn**	**21 51 42.0**	**+1.6**
BBLS	**Lazi&#263i**	**4.34**	**39**	*e*Pn		**Pn**	**21 51 41.8**	**+1.4**
BBLS				*e*Sn		**Sn**	**21 52 28.4**	**-2.0**
BLY	**Banja Luka**	**4.35**	**15**	*e*Pn		**Pn**	**21 51 41.9**	**+1.5**
BLY	**Banja Luka**	**4.35**	**15**	*e*Pn		**Pn**	**21 51 41.8**	**+1.4**
BLY				*e*Sn		**Sn**	**21 52 29.6**	**-0.8**
FNA	**Florina**	**4.39**	**85**	*e*Pn		**Pn**	**21 51 43.0**	**+2.0**
IVAS	**Ivanjica**	**4.53**	**47**	*e*Pn		**Pn**	**21 51 43.8**	**+0.9**
A051A	**Mrakovica**	**4.55**	**12**	*e*Pn		**P**	**21 51 44.8**	**+1.3**
SELS	**Selova**	**4.89**	**55**	*e*Pn		**Pn**	**21 51 49.2**	**+1.3**
TEKS	**Tekeris**	**4.93**	**35**	*e*Pn		**P**	**21 51 48.3**	**+0.7**
TEKS	**Tekeris**	**4.93**	**35**	*e*Pn		**Pn**	**21 51 48.0**	**-0.4**
GOCS	**Kraljevo Serbi**	**4.93**	**51**	*e*Pn		**Pn**	**21 51 49.3**	**+0.8**
BOJS	**Bojanci**	**4.95**	**357**	*e*Pn		**Pn**	**21 51 49.0**	**+0.3**
GRUS	**Gruza**	**5.04**	**47**	*e*Pn		**Pn**	**21 51 50.7**	**+0.8**
TRUS	**Trudelj**	**5.10**	**42**	*e*Pn		**Pn**	**21 51 51.3**	**+0.6**
SKDS	**Skadanscina**	**5.12**	**347**	*e*Pn		**Pn**	**21 51 51.2**	**+0.1**
BARS	**Barje**	**5.16**	**62**	*e*Pn		**Pn**	**21 51 52.7**	**+1.1**
CEY	**Cerknica**	**5.25**	**351**	*e*Pn		**Pn**	**21 51 53.6**	**+0.7**
CRES	**Cresnjevec Ost**	**5.27**	**359**	*e*Pn		**Pn**	**21 51 53.0**	**-0.1**
BOSS	**Bosilegrad**	**5.50**	**67**	*e*Pn		**Pn**	**21 51 57.6**	**+1.3**
ZAGS	**Zajecar**	**5.89**	**54**	*e*Pn		**Pn**	**21 52 02.7**	**+1.1**
ZAPS	**Zavoj**	**5.90**	**60**	*e*Pn		**Pn**	**21 52 03.4**	**+1.7**
BORS2	**Bor- Borsko je**	**5.91**	**51**	*e*Pn		**Pn**	**21 52 02.4**	**+0.5**
OBKA	**Obir**	**6.00**	**353**	*e*Pn		**Pn**	**21 52 03.2**	**0.0**
OBKA	**Obir**	**6.00**	**353**	*i* Pn		**Pn**	**21 52 04.0**	**+0.8**
	comp=E,1.2nm,0.2s							
OBKA				*e*Sn		**Sn**	**21 53 10.2**	**-1.2**
	comp=E,5.1nm,0.4s							
SRS	**Serrai**	**6.08**	**82**	*e*Pn		**Pn**	**21 52 05.3**	**+1.2**
SOKA	**Soboth**	**6.13**	**356**	*i* Pn		**Pn**	**21 52 05.4**	**+0.4**
	comp=E,0.5nm,0.3s							
SOKA				*e*Sn		**Sn**	**21 53 14.3**	**-0.3**
	comp=E,1.6nm,0.6s							
ARSA	**Arzberg**	**6.69**	**359**	*e*Pn		**Pn**	**21 52 12.7**	**0.0**
	comp=E,0.9nm,0.3s							
ARSA				*e*Sn		**Sn**	**21 53 25.8**	**-2.5**
	comp=E,1.5nm,0.4s							
KEST	**Kesra**	**6.90**	**228**	Pn		Pn	21 52 20.8	+5.2
	comp=E,0.6nm,0.3s,baz=14,slow=4.2,SNR=11							
	comp=E,2.2nm,0.5s							
RONA	**Rosalia, Austr**	**7.16**	**4**	*e*Pn		**Pn**	**21 52 20.3**	**+1.3**
	comp=E,0.5nm,0.2s							
RONA				*e*Sn		**Sn**	**21 53 37.4**	**-2.4**
	comp=E,1.4nm,0.3s							
LESA	**Schwarzleotal**	**7.19**	**344**	*e*Pn		**Pn**	**21 52 20.5**	**+1.1**
	comp=E,0.4nm,0.2s							
MOA	**Molln**	**7.36**	**353**	*e*Pn		**Pn**	**21 52 23.3**	**+1.5**
	comp=E,0.7nm,0.2s							
MOA				*e*Sn		**Sn**	**21 53 43.7**	**-0.9**
	comp=E,3.7nm,0.5s							
CONA	**Conrad Observa**	**7.37**	**1**	*e*Pn		**Pn**	**21 52 22.4**	**+0.4**
	comp=E,0.3nm,0.2s							
CONA				*e*Sn		**Sn**	**21 53 43.0**	**-2.1**
	comp=E,0.9nm,0.3s							
SQTA	**Sankt Quirin**	**7.38**	**336**	*e*Pn		**Pn**	**21 52 26.4**	**+4.3**
	comp=E,0.8nm,0.2s							
DAVOX	**Davos/Dischmat**	**7.48**	**328**	Pn		**Pn**	**21 52 24.3**	**+0.7**
	comp=E,0.3nm,0.3s,baz=156,slow=18,SNR=4.6							
DAVOX				Sn		**Sn**	**21 53 48.9**	**+1.0**
	comp=E,0.4nm,0.3s,baz=131,slow=20,SNR=2.3							
	comp=E,0.8nm,0.2s							
GERES	**GERESS Array B**	**8.40**	**351**	Pn		**Pn**	**21 52 34.2**	**-1.9**
	baz=165,slow=26,SNR=6.8							
GERES				Sn		**Sn**	**21 54 06.3**	**-4.0**
	baz=163,slow=24,SNR=9.2							
	comp=E,0.4nm,0.4s							
IDI	**Amyia**	**9.02**	**123**	Pn		**Pn**	**21 52 44.8**	**+0.2**
	comp=E,3.7nm,0.8s,baz=318,slow=15,SNR=3.1							
IDI				Sn		**Sn**	**21 54 25.8**	**+0.3**
	comp=E,0.4nm,0.3s,baz=282,slow=19,SNR=1.8							
MLR	**Muntele Rosu**	**9.03**	**53**	Pn		**Pn**	**21 52 42.2**	**-2.5**
	comp=E,1.2nm,0.6s,baz=249,slow=14,SNR=11							
FINES	**FINESS Array B**	**21.87**	**14**	P		**P**	**21 55 26.5**	**-0.2**
	comp=E,0.9nm,0.6s,baz=195,slow=12,SNR=5.7							
	comp=E,0.9nm,0.6s							
TORD	**Tordi Ar. Bea**	**29.91**	**208**	LR		LR	22 10 11.9	
	comp=E,84nm,18.5s,baz=137,slow=39							

*TAP **11** 21:52:27.3,23˙87N×122˙94E,h24km,ML2.5,D*
*JMA **11** 21:52:28.1±0.2,23˙9N±0˙6×122˙9E±0˙6,h33km,MV2.2/11,*
NEAR ISHIGAKIJIMA ISLAND
ISC 11 21:52:27.0±1.2,23.85N±0˙03×122.92E±0˙02,h24km±13km,
n56,σ0.94/105,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.60**	**2**	P		**Pb**	**21 52 38.7**	**-0.2**
JYNG				*e*S		**Sb**	**21 52 45.7**	**-1.2**
YOJ	**Yonaguni jima**	**0.61**	**8**	*e*P		**Pb**	**21 52 39.0**	**0.0**
YOJ				*e*S		**Sb**	**21 52 46.5**	**-0.8**
YOJ	**Yonaguni jima**	**0.61**	**8**	P		**Pb**	**21 52 39.1**	**0.0**
YOJ				S		**Sn**	**21 52 47.8**	**-1.4**
EOS4	**EOS4**	**0.61**	**296**	P		**Pb**	**21 52 38.8**	**-0.1**
EOS4				*i* S		**Sn**	**21 52 47.9**	**-0.8**
EOS3	**EOS3**	**0.70**	**308**	*e*P		**Pb**	**21 52 40.7**	**+0.3**
EOS3				*e*S		**Sn**	**21 52 50.4**	**-0.8**
HATJ	**Hateruma jima**	**0.83**	**76**	P		**Pn**	**21 52 43.3**	**+0.1**
HATJ				S		**Sn**	**21 52 55.4**	**+0.7**
EOS2	**EOS2**	**0.84**	**312**	P		**Pb**	**21 52 43.5**	**+0.6**
EOS2				*e*S		**Sn**	**21 52 55.3**	**+0.5**
IRIF	**Iriomote-Funau**	**0.88**	**57**	P		**Pn**	**21 52 43.7**	**-0.1**
JKRS	**Kuro-shima**	**1.06**	**69**	P		**Pb**	**21 52 47.2**	**+0.4**
JKRS				*e*S		**Sb**	**21 53 01.1**	**+0.8**
ENA	**Nanau**	**1.22**	**298**	*i* P		**Pb**	**21 52 49.2**	**-0.2**
ENA				*i* S		**Sb**	**21 53 05.7**	**+1.0**
JIJ	**Ishigaki jima**	**1.23**	**65**	*e*P		**Pb**	**21 52 49.4**	**-0.1**
TWC	**Suao**	**1.23**	**308**	P		**Pb**	**21 52 49.7**	**0.0**
TWC				S		**Sb**	**21 53 04.8**	**-0.4**
SHUL	**Shoufeng**	**1.25**	**267**	P		**Pn**	**21 52 49.5**	**+0.6**
SHUL				S		**Sn**	**21 53 05.5**	**+0.6**
NACB	**Ninganchiao**	**1.25**	**285**	P		**Pn**	**21 52 49.2**	**+0.2**
NACB				S		**Sb**	**21 53 06.0**	**+0.3**
ETLH	**Xiulin Townshi**	**1.36**	**285**	*e*P		**Pn**	**21 52 50.6**	**0.0**
ETLH				*e*S		**Sn**	**21 53 06.7**	**-1.2**
LXIB	**Xiulin Townshi**	**1.39**	**277**	P		**Pn**	**21 52 51.1**	**0.0**
LXIB				*e*S		**Sn**	**21 53 07.8**	**-0.8**
WARBT	**Fenglin Townsh**	**1.41**	**265**	P		**Pn**	**21 52 50.9**	**-0.3**
WARBT				S		**Sn**	**21 53 08.4**	**-0.7**
HGSD	**Ruisui**	**1.42**	**256**	*e*P		**Pn**	**21 52 50.4**	**-0.8**
HGSD				*e*S		**Sn**	**21 53 07.9**	**-1.2**
TWE	**Neicheng**	**1.43**	**307**	*i* P		**Pb**	**21 52 52.6**	**-0.4**
TWE				*e*S		**Sb**	**21 53 12.1**	**+1.2**
LATG	**Datong**	**1.44**	**298**	*e*P		**Pb**	**21 52 54.3**	**+1.0**
LATG				S		**Sb**	**21 53 11.6**	**+0.3**
ENTT	**Nioudou**	**1.46**	**303**	P		**Pb**	**21 52 53.6**	**+0.1**
JISG	**Ishigakijimahi**	**1.46**	**60**	*e*P		**Pn**	**21 52 52.6**	**+0.8**
EHYH	**Wanrong**	**1.49**	**256**	P		**Pn**	**21 52 53.1**	**+0.9**
EHYH				S		**Sn**	**21 53 11.2**	**+0.2**
TIPB	**Shuangxi**	**1.50**	**318**	P		**Pb**	**21 52 53.6**	**-0.5**
TIPB				*e*S		**Sb**	**21 53 12.5**	**-0.3**
EHY	**Hungye**	**1.51**	**257**	P		**Pn**	**21 52 52.1**	**-0.4**
EHY				S		**Sn**	**21 53 10.9**	**-0.5**
FUSB	**Fushanzhiwuyua**	**1.52**	**307**	*e*P		**Pb**	**21 52 55.4**	**+0.9**
FUSB				*e*S		**Sb**	**21 53 13.9**	**+0.6**
NNSB	**Datong**	**1.52**	**292**	P		**Pb**	**21 52 53.9**	**-0.6**
NNSB				S		**Sb**	**21 53 12.6**	**-0.9**
NNS	**Nan Shan**	**1.53**	**293**	*e*P		**Pn**	**21 52 53.1**	**+0.2**
NNS				*e*S		**Sn**	**21 53 12.5**	**+0.3**
WHF	**Hehuan Shan**	**1.54**	**281**	P		**Pn**	**21 52 53.9**	**+0.6**
WHF				S		**Sb**	**21 53 14.3**	**-0.1**
CHKH	**Chenggong**	**1.55**	**245**	P		**Pn**	**21 52 52.5**	**-0.6**
CHKH				*i* S		**Sn**	**21 53 11.1**	**-1.3**
YULB	**Yu-li**	**1.56**	**253**	P		**Pn**	**21 52 53.4**	**+0.2**
YULB				S		**Sn**	**21 53 13.2**	**+0.5**
SXI1	**Grass Mountain**	**1.56**	**323**	P		**Pb**	**21 52 54.6**	**-0.7**
TWF1	**Yuli**	**1.57**	**252**	*i* P		**Pn**	**21 52 53.6**	**+0.2**
TWF1				S		**Sn**	**21 53 13.7**	**+0.7**
OWD	**Renai**	**1.60**	**274**	*e*P		**Pn**	**21 52 54.9**	**+1.0**
OWD				S		**Sn**	**21 53 14.0**	**+0.1**
YHNB	**Yeheng**	**1.63**	**300**	*e*P		**Pb**	**21 52 56.0**	**-0.5**
YHNB				*e*S		**Sn**	**21 53 11.0**	**-3.5**
FULB	**Fuli**	**1.63**	**247**	P		**Pn**	**21 52 53.8**	**-0.4**
FULB				S		**Sn**	**21 53 14.7**	**+0.2**
VWDT	**VWDT**	**1.63**	**267**	P		**Pn**	**21 52 54.4**	**+0.2**
VWDT				S		**Sn**	**21 53 14.7**	**+0.2**
NSK	**Sanguang**	**1.65**	**300**	*e*P		**Pb**	**21 52 58.1**	**+1.4**
WUSB	**Renai**	**1.66**	**275**	P		**Pn**	**21 52 55.6**	**+0.9**
WUSB				*e*S		**Sb**	**21 53 17.3**	**-0.1**
TDCB	**Techi**	**1.66**	**284**	*e*P		**Pb**	**21 52 58.3**	**+1.3**
EHD	**Haiduan**	**1.72**	**246**	P		**Pn**	**21 52 55.8**	**+0.3**
EHD				*i* S		**Sn**	**21 53 16.6**	**-0.1**
EDH	**Donghe**	**1.73**	**240**	P		**Pn**	**21 52 55.1**	**-0.4**
EDH				S		**Sn**	**21 53 15.4**	**-1.3**
LDUT	**Ludao**	**1.78**	**229**	*e*P		**Pn**	**21 52 55.5**	**-0.7**
LDUT				S		**Sn**	**21 53 17.4**	**-0.6**
YM01	**YM01**	**1.78**	**317**	*e*P		**Pb**	**21 53 00.2**	**+1.2**
YM01				*e*S		**Sb**	**21 53 19.6**	**-1.3**
SSLB	**Suanglung**	**1.80**	**268**	*e*P		**Pn**	**21 52 57.8**	**+1.2**
SSLB				*e*S		**Sn**	**21 53 19.7**	**+1.0**
NFF	**Wufeng Townshi**	**1.82**	**296**	P		**Pb**	**21 52 59.0**	**-0.7**
NFF				*e*S		**Sb**	**21 53 20.8**	**-1.2**
YUS	**Yu-Shan**	**1.84**	**259**	*e*P		**Pn**	**21 52 57.7**	**+0.2**
YUS				S		**Sn**	**21 53 20.1**	**-0.2**
WCS	**Beigang Elemen**	**1.85**	**277**	*e*P		**Pb**	**21 53 00.8**	**+0.7**
WCS				*e*S		**Sb**	**21 53 26.1**	**+3.2**
WHP	**Taichung City**	**1.85**	**284**	*e*P		**Pb**	**21 53 00.7**	**+0.4**
WHP				*e*S		**Sb**	**21 53 23.9**	**+0.8**
ELDTW	**Lidau**	**1.87**	**250**	P		**Pn**	**21 52 57.3**	**-0.2**
ELDTW				S		**Sn**	**21 53 19.4**	**-1.1**
TYC	**Yuchr**	**1.89**	**272**	P		**Pn**	**21 52 59.4**	**+1.6**
TYC				*e*S		**Sb**	**21 53 26.6**	**+2.5**
WHYT	**Xinyi Township**	**1.90**	**266**	*e*P		**Pb**	**21 53 00.2**	**-0.9**
WHYT				S		**Sn**	**21 53 22.3**	**+1.2**
TPUB	**Ta-pu**	**2.17**	**256**	P		**Pn**	**21 53 03.8**	**+2.1**
TPUB				*e*S		**Sb**	**21 53 30.8**	**-1.4**
CHN4	**Tsaushan**	**2.19**	**257**	P		**Pb**	**21 53 04.8**	**-1.2**
CHN4				*e*S		**Sb**	**21 53 32.4**	**-0.4**
CHN1	**Nanshi**	**2.29**	**254**	*e*P		**Pb**	**21 53 06.5**	**-1.2**
CHN1				*e*S		**Sb**	**21 53 35.1**	**-0.6**
EAST	**Anshuo**	**2.41**	**233**	P		**Pn**	**21 53 05.5**	**+0.6**
EAST				*e*S		**Sn**	**21 53 34.2**	**+0.6**

*IDC **11** 21:52:40.9±1.0,0˙63N×126˙40E,h0km,mb4.0/6,*
mbtmp4.0/6,MS4.1/6,Error ellipse: s-maj=82.4km
s-min=18.9km az=67.0
*NEIC **11** 21:52:46.5±1.8,0˙4N±0˙1×126˙40E±0˙06,h35km±11km,*
mb4.4/14,Error ellipse: s-maj=15.9km s-min=7.6km
az=170.0
ISC 11 21:52:46.7±0.7,0˙40N±0˙09×126˙42E±0˙09,h47km,n28,
σ1.37/23,mb4.2/14,MS4.2/6,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.01**	**68**	Pn		**Pn**	**21 53 04.4**	**-0.2**
TNTI				Sn		**Sn**	**21 53 17.5**	**-0.3**
KNRA	**Kununurra**	**16.14**	**172**	Pn		**Pn**	**21 56 28.3**	**-2.1**
WB0	**Warramunga Arr**	**21.51**	**159**	P		**P**	**21 57 33.1**	**+1.3**
WB0				IAmb		IAmb	21 57 58.7	
	comp=Z,15nm,1.3s							
WRAB	**Tennant Creek**	**21.65**	**159**	P		**P**	**21 57 32.7**	**-0.6**
WRAB				IAmb		IAmb	21 58 01.4	
	comp=Z,31nm,1.4s							
WRA	**Warramunga Arr**	**21.65**	**159**	P		**P**	**21 57 33.8**	**+0.4**
WRA	**Warramunga Arr**	**21.65**	**159**	P		**P**	**21 57 35.2**	**+1.8**
	comp=Z,3.8nm,0.7s,baz=338,slow=10,SNR=10							
	comp=Z,3.8nm,0.7s							
WR8	**Warramunga Arr**	**21.72**	**159**	P		**P**	**21 57 35.5**	**+1.4**
WR8				IAmb		IAmb	21 57 36.9	
	comp=Z,12nm,1.1s							
COEN	**Coen**	**21.88**	**131**	P		**P**	**21 57 35.8**	**0.0**
COEN				IAmb		IAmb	21 57 53.7	
	comp=Z,19nm,1.2s							
ASAR	**Alice Springs**	**25.00**	**164**	P		**P**	**21 58 09.2**	**+2.9**
ASAR	**Alice Springs**	**25.00**	**164**	P		**P**	**21 58 09.8**	**+3.4**
	comp=Z,4.4nm,0.8s,baz=345,slow=11,SNR=11							
	comp=Z,4.4nm,0.8s							
UBPT	**Khong Chiam**	**25.44**	**307**	P		**P**	**21 58 10.0**	**-0.4**
GIRL	**Giralia**	**25.79**	**207**	P		**P**	**21 58 14.1**	**+0.6**
JCJ	**Chichijima**	**30.

CAME	**Cameli-Denizli**	**0.30**	**90**	Pg		**Pg**	**21 54 35.6**	**-0.1**
CAME				Sg		**Sg**	**21 54 40.3**	**+0.5**
FETY	**Fethiye**	**0.34**	**157**	Pg		**Pg**	**21 54 36.2**	**0.0**
FETY				Sg		**Sb**	**21 54 41.6**	**-1.3**
FETY	**Fethiye**	**0.34**	**157**	P		**Pg**	**21 54 36.0**	**-0.2**
FETY				S		**Sg**	**21 54 41.0**	**+0.3**
FETY	**Fethiye**	**0.34**	**157**	P		**Pb**	**21 54 36.7**	**-0.8**
DNZT	**Denizli-Tavas-**	**0.34**	**14**	P		**Pg**	**21 54 36.5**	**+0.1**
DNZT				S		**Sg**	**21 54 39.8**	**-1.2**
CAEL	**Denizli, Camel**	**0.36**	**61**	P		**Pg**	**21 54 36.8**	**0.0**
CAEL				S		**Sg**	**21 54 41.8**	**+0.2**
CAEL				*i* IAML			21 54 45.0	
	comp=E,4µm,0.4s							
CAEL				*i* IAML			21 54 56.0	
	comp=N,3µm,1.1s							
TAVA	**DENIZLI_Tavas**	**0.52**	**359**	P		**Pg**	**21 54 39.4**	**-0.2**
TAVA				S		**Sg**	**21 54 45.5**	**-1.0**
KNIK	**Mula-Seydike**	**0.53**	**101**	P		**Pg**	**21 54 39.5**	**-0.3**
KNIK				S		**Sg**	**21 54 46.1**	**-0.8**
IZZE	**Mula-Seydike**	**0.56**	**154**	P		**Pg**	**21 54 40.5**	**+0.1**
IZZE				S		**Sb**	**21 54 48.7**	**-0.7**
IZZE				*i* IAML			21 54 51.0	
	comp=N,3µm,0.4s							
TURN	**Turunc**	**0.57**	**253**	Pg		**Pg**	**21 54 40.0**	**-0.6**
TURN				Sg		**Sb**	**21 54 49.2**	**-0.4**
TURN	**Turunc**	**0.57**	**253**	P		**Pg**	**21 54 40.5**	**0.0**
TURN				S		**Sg**	**21 54 48.0**	**-0.2**
TURN				*i* IAML			21 54 53.0	
	comp=N,1µm,0.2s							
MULA	**Mugla, Merkez-**	**0.57**	**303**	P		**Pg**	**21 54 41.0**	**+0.4**
MULA				S		**Sg**	**21 54 47.1**	**-1.1**
GOLH	**Golhisar**	**0.59**	**60**	P		**Pg**	**21 54 40.4**	**-0.5**
GOLH				S		**Sg**	**21 54 49.2**	**+0.5**
GOLH				*i* IAML			21 54 51.0	
	comp=E,1µm,0.5s							
GOLH				*i* IAML			21 54 56.0	
	comp=N,1µm,0.5s							
APMY	**Acipayam-Deniz**	**0.61**	**30**	Pg		**Pg**	**21 54 40.5**	**-0.8**
DNIZ	**Denizli-Tavas-**	**0.69**	**8**	P		**Pg**	**21 54 42.4**	**-0.4**
DNIZ				S		**Sg**	**21 54 50.9**	**-0.9**
DNIZ				*i* IAML			21 55 00.0	
	comp=N,2µm,0.3s							
DNIZ				*i* IAML			21 55 02.0	
	comp=E,3µm,0.3s							
RODB	**Rodos**	**0.75**	**229**	P		**Pb**	**21 54 44.2**	**-0.4**
RODB				S		**Sb**	**21 54 54.5**	**-0.3**
ELL	**Elmali**	**0.81**	**104**	Pg		**Pg**	**21 54 44.9**	**-0.3**
ELL	**Elmali**	**0.81**	**104**	P		**Pg**	**21 54 44.4**	**-0.8**
ELL				S		**Sg**	**21 54 55.2**	**-0.7**
AKAS	**Kas**	**0.90**	**142**	Pg		**Pb**	**21 54 46.9**	**-0.3**
AKAS	**Kas**	**0.90**	**142**	P		**Pb**	**21 54 47.5**	**+0.3**
AKAS				S		**Sn**	**21 55 02.3**	**+1.0**
AKAS				*i* IAML			21 55 07.0	
	comp=E,635nm,0.6s							
AKAS				*i* IAML			21 55 08.0	
	comp=N,1µm,0.7s							
INCE	**Denizli-Bozkur**	**0.92**	**34**	P		**Pg**	**21 54 47.1**	**-0.1**
INCE				S		**Sn**	**21 55 01.7**	**-0.1**
INCE				*i* IAML			21 55 06.0	
	comp=E,1µm,0.4s							
INCE				*i* IAML			21 55 07.0	
	comp=N,1µm,0.4s							
KSL	**Kastellorizon**	**0.96**	**146**	P		**Pb**	**21 54 48.1**	**+0.1**
KSL				S		**Sn**	**21 55 02.6**	**+0.2**
ESEN	**Aydn-Nazilli**	**0.97**	**332**	P		**Pg**	**21 54 47.8**	**-0.3**
ESEN				S		**Sg**	**21 55 00.1**	**-0.6**
ARG	**Arkhangelos**	**0.97**	**222**	P		**Pg**	**21 54 47.6**	**-0.6**
ARG				S		**Sb**	**21 55 01.8**	**+0.7**
ARG	**Arkhangelos**	**0.97**	**222**	P		**Pg**	**21 54 47.7**	**-0.6**
ARG				S		**Sb**	**21 55 01.6**	**+0.5**
MLSB	**Milas**	**0.98**	**291**	Pg		**Pg**	**21 54 47.9**	**-0.5**
DAT	**Datca**	**1.10**	**259**	Pn		**Pb**	**21 54 50.6**	**0.0**
DAT	**Datca**	**1.10**	**259**	S		**Sn**	**21 55 06.6**	**+0.4**
NAZL	**Nazilli-Aydin**	**1.13**	**334**	Pn		**Pg**	**21 54 50.7**	**-0.6**
KORT	**Korkueli**	**1.14**	**87**	Pn		**Pn**	**21 54 52.6**	**+1.0**
KORT	**Korkueli**	**1.14**	**87**	P		**Pn**	**21 54 53.2**	**+1.7**
KORT				S		**Sn**	**21 55 11.0**	**+3.7**
KORT				*i* IAML			21 55 16.0	
	comp=E,428nm,0.5s							
BRDR	**BURDUR-Merkez**	**1.18**	**50**	P		**Pg**	**21 54 51.8**	**-0.3**
BRDR				S		**Sn**	**21 55 09.4**	**+1.3**
BRDR				*i* IAML			21 55 13.0	
	comp=N,339nm,0.8s							
BRDR				*i* IAML			21 55 17.0	
	comp=E,294nm,0.4s							
BDRM	**Kayabasi**	**1.19**	**276**	P		**Pn**	**21 54 52.6**	**+0.5**
YAZI	**Mula-Datşa-**	**1.21**	**258**	P		**Pn**	**21 54 53.2**	**+0.9**
YAZI				S		**Sg**	**21 55 07.2**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**1.29**	**321**	Pn		**Pn**	**21 54 54.0**	**+0.4**
BODT	**Bodrum**	**1.30**	**276**	Pn		**Pn**	**21 54 53.9**	**+0.4**
BODT	**Bodrum**	**1.30**	**276**	P		**Pg**	**21 54 54.1**	**-0.2**
AKUM	**Antalya-Kumluc**	**1.30**	**118**	P		**Pg**	**21 54 56.0**	**+1.5**
AKUM				S		**Sn**	**21 55 14.2**	**+3.3**
KIRA	**zmir-Kiraz**	**1.32**	**342**	P		**Pn**	**21 54 54.4**	**+0.5**
KIRA				S		**Sg**	**21 55 10.6**	**-1.2**
KIRA				*i* IAML			21 55 18.0	
	comp=E,194nm,0.4s							
KIRA				*i* IAML			21 55 21.0	
	comp=N,239nm,1.0s							
BASM	**Basmaki-Afyon**	**1.32**	**42**	Pn		**Pn**	**21 54 54.3**	**+0.3**
YKAV	**Yalikavak-Bodr**	**1.33**	**278**	Pn		**Pb**	**21 54 54.6**	**+0.2**
BUCA	**Burdur, Bucak-**	**1.36**	**73**	P		**Pn**	**21 54 55.1**	**+0.6**
ANTB	**Antalya**	**1.39**	**91**	Pn		**Pb**	**21 54 55.5**	**+0.1**
IZMR	**zmir-demi**	**1.42**	**327**	P		**Pn**	**21 54 55.7**	**+0.5**
BCK	**Bucak**	**1.43**	**68**	Pn		**Pn**	**21 54 56.1**	**+0.7**
DDIM	**Aydin, Didim**	**1.44**	**291**	P		**Pg**	**21 54 57.9**	**+0.9**
DDIM				S		**Sb**	**21 55 13.6**	**-0.9**
DDIM				*i* IAML			21 55 28.0	
	comp=E,253nm,1.1s							
PASA	**Karahalli, USA**	**1.47**	**18**	P		**Pn**	**21 54 56.8**	**+0.8**
PASA				S		**Sn**	**21 55 14.3**	**-1.0**
ODEM	**Odemis-Izmir**	**1.49**	**333**	Pn		**Pn**	**21 54 56.6**	**+0.3**
GCAM	**G?zelcaml?**	**1.54**	**300**	Pn		**Pn**	**21 54 57.3**	**+0.4**
ISP	**Isparta**	**1.54**	**55**	Pn		**Pn**	**21 54 57.5**	**+0.4**
ISP	**Isparta**	**1.54**	**55**	P		**Pb**	**21 54 58.5**	**+0.4**
ISP	**Isparta**	**1.54**	**55**	P		**Pn**	**21 54 57.4**	**+0.4**
KLNA	**Kalymnos**	**1.56**	**271**	P		**Pb**	**21 54 58.4**	**0.0**
KLNA				S		**Sb**	**21 55 18.8**	**+0.6**
MANT	**Manisa**	**1.57**	**349**	P		**Pn**	**21 54 57.8**	**+0.3**
KULA	**Kula-Manisa**	**1.58**	**352**	Pn		**Pn**	**21 54 57.9**	**+0.4**
KARP	**Karpathos**	**2.00**	**226**	P		**Pn**	**21 55 04.4**	**+1.2**
KARP				S		**Sn**	**21 55 29.1**	**+1.0**
BLCB	**Balcova**	**2.07**	**314**	P		**Pn**	**21 55 04.5**	**+0.3**
BLCB				S		**Sn**	**21 55 30.9**	**+0.9**
CHOS	**Chios island**	**2.69**	**303**	P		**Pn**	**21 55 14.1**	**+1.3**
CHOS	**Chios island**	**2.69**	**303**	P		**Pn**	**21 55 14.1**	**+1.3**
APE	**Apeiranthos**	**2.72**	**274**	P		**Pn**	**21 55 14.3**	**+1.2**
APE				S		**Sn**	**21 55 46.5**	**+0.4**
APE	**Apeiranthos**	**2.72**	**274**	P		**Pn**	**21 55 14.0**	**+0.9**
APE	**Apeiranthos**	**2.72**	**274**	P		**Pn**	**21 55 14.4**	**+1.2**
ZKR	**Zakros**	**2.85**	**231**	P		**Pn**	**21 55 15.7**	**+0.7**
SIGR	**SIGRI**	**3.31**	**314**	P		**Pn**	**21 55 22.0**	**+0.8**
SIGR	**SIGRI**	**3.31**	**314**	P		**Pn**	**21 55 22.4**	**+1.1**
AKMS	**Akamas**	**3.37**	**124**	P		**Pn**	**21 55 22.4**	**+0.3**
IDI	**Anoyia**	**3.66**	**244**	P		**Pn**	**21 55 26.9**	**+0.8**
KARY	**Karystos**	**3.73**	**288**	P		**Pn**	**21 55 28.2**	**+1.3**
CSS	**Mathiatis**	**4.09**	**118**	P		**Pn**	**21 55 33.2**	**+1.3**
LIA	**Limnos Island**	**4.16**	**316**	P		**Pn**	**21 55 34.1**	**+1.2**
ENEZ	**Enez**	**4.36**	**331**	P		**Pn**	**21 55 37.3**	**+1.7**
SMTH	**Samothraki Isl**	**4.41**	**324**	P		**Pn**	**21 55 37.3**	**+1.0**
ALIN	**Alexandroupoli**	**4.54**	**331**	P		**Pn**	**21 55 39.0**	**+0.9**
THAS	**Thassos island**	**4.91**	**319**	P		**Pn**	**21 55 44.2**	**+1.0**
RDO	**Rodhopi**	**4.95**	**329**	P		**Pn**	**21 55 45.4**	**+1.6**
MMA0B	**Mount Meron ar**	**6.61**	**125**	S		**Sn**	**21 57 19.8**	**-2.2**
MMA0B	**Mount Meron ar**	**6.61**	**125**	P		**Pn**	**21 56 06.8**	**+0.2**
GEM	**Giv'at Ha'Em**	**6.66**	**122**	P		**Pn**	**21 56 08.5**	**+1.2**
HMDT	**Nahal Hemdat**	**7.18**	**129**	P		**Pn**	**21 56 15.0**	**+0.7**
KZIT	**Kziot**	**7.55**	**141**	S		**Sn**	**21 57 41.2**	**-3.8**
KZIT	**Kziot**	**7.55**	**141**	P		**Pn**	**21 56 19.5**	**0.0**
DSI	**Dead Sea**	**7.57**	**133**	P		**Pn**	**21 56 19.3**	**-0.5**
YTIR	**Yattir**	**7.57**	**136**	P		**Pn**	**21 56 19.9**	**0.0**
MSBI	**Mazada**	**7.75**	**135**	P		**Pn**	**21 56 22.0**	**-0.1**
PRNI	**Paran**	**8.30**	**141**	S		**Sn**	**21 57 59.8**	**-3.8**
PRNI	**Paran**	**8.30**	**141**	P		**Pn**	**21 56 29.1**	**-0.7**
KRMI	**Paran Flat**	**8.35**	**143**	S		**Sn**	**21 58 02.5**	**-2.4**
KRMI	**Paran Flat**	**8.35**	**143**	P		**Pn**	**21 56 29.6**	**-1.0**
HRFI	**Mount Harif**	**8.57**	**142**	P		**Pn**	**21 56 33.3**	**-0.3**
MBRI	**Mt Berech**	**8.71**	**143**	P		**Pn**	**21 56 35.6**	**+0.1**
EIL	**Elat**	**8.84**	**143**	P		**Pn**	**21 56 36.5**	**-0.6**

*IDC **11** 21:55:45.3±1.7,0˚.65N×126˚.52E,h0km,mb3.7/4, mbtmp3.7/4,MS4.3/1,Error ellipse: s-maj=172.7km s-min=21.0km az=66.0*
*DJA **11** 21:55:48.8±0.3,0˚.N±4˚×12˚.6E±˚,h10km,M3.6/6,MLv3.6/6*
ISC 11 21:55:51.7±1.1,0˚.5N±0˚.2×126˚.44E±0˚.06,h47km,n7, σ1ş36/8,mb3.7/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.95**	**76**	P		P	**Pn**	**21 56 07.9**	**-0.9**
TNTI				S		S	**Sn**	**21 56 22.8**	**+1.5**
KMSI	**Cibinong**	**2.46**	**271**	P		P	**Pn**	**21 56 28.4**	**-1.0**
KMSI				S		S	**Sn**	**21 57 00.1**	**+1.8**
WRA	**Warramunga Arr**	**21.77**	**160**	P		P	**P**	**22 00 38.9**	**-0.8**
	1.3nm,0.6s,baz=338,slow=10,SNR=11								
	1.3nm,0.6s								
GUMO	**Guam**	**22.39**	**54**	LR		LR		22 07 39.4	
	comp=Z,726nm,20.5s,baz=228,slow=32								
ASAR	**Alice Springs**	**25.12**	**164**	P		P	**P**	**22 01 13.7**	**+1.1**
	1.1nm,0.4s,baz=343,slow=8.3,SNR=15								
	1.1nm,0.4s								
MKAR	**Makanchi Array**	**60.02**	**326**	P		P	**P**	**22 05 53.6**	**-0.2**
	0.3nm,0.4s,baz=114,slow=8.3,SNR=8.8								
	0.3nm,0.4s								
KURBB	**Kurchatov Arra**	**64.28**	**328**	P		P	**P**	**22 06 21.9**	**-0.3**
	0.4nm,0.5s,baz=125,slow=6.5,SNR=6.2								
	0.4nm,0.5s								

*IDC **11** 22:13:33.9±1.1,2˚.70S×138˚.55E,h0km,mb3.7/5, mbtmp3.7/7,ML3.6/2,Error ellipse: s-maj=25.6km s-min=24.2km az=124.0*
ISC 11 22:13:39.1±1.0,2˚.8S±0˚.1×138˚.6E±0˚.1,h35km,n7,σ1ş06/8, mb3.7/5,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.17**	**84**	Pn		P	**Pn**	**22 14 11.2**	**-1.5**
	6.7nm,0.3s,baz=261,slow=14,SNR=39								
JAY				Sn		S	**Sn**	**22 14 39.8**	**+1.4**
	5.5nm,0.3s,baz=140,slow=19,SNR=5.2								
	22nm,0.3s								
WRA	**Warramunga Arr**	**17.56**	**193**	P		P	**Pn**	**22 17 40.7**	**-0.6**
	0.3nm,0.3s,baz=17,slow=13,SNR=13								
	1.9nm,0.6s								
ASAR	**Alice Springs**	**21.26**	**192**	P		P	**P**	**22 18 23.0**	**+0.5**
	1.2nm,0.7s,baz=20,slow=10,SNR=12								
	1.2nm,0.7s								
MKAR	**Makanchi Array**	**69.73**	**322**	P		P	**P**	**22 24 45.8**	**+0.2**
	0.7nm,0.9s,baz=118,slow=7.2,SNR=4.3								
	0.7nm,0.9s								
KURBB	**Kurchatov Arra**	**73.68**	**325**	P		P	**P**	**22 25 08.8**	**-0.5**
	0.4nm,0.7s,baz=110,slow=4.9,SNR=2.2								
	0.4nm,0.7s								
ILAR	**Eielson Array**	**85.94**	**24**	P		P	**P**	**22 26 15.9**	**+0.5**
	0.2nm,0.4s,baz=252,slow=4.9,SNR=2.9								
	0.2nm,0.4s								
QSPA	**South Pole Qui**	**87.18**	**180**	P		P	**P**	**22 26 22.1**	**+0.5**
	1.7nm,1.0s,baz=320,slow=3.6,SNR=2.9								
	1.7nm,1.0s								

IDC 11 22:28:25.3±1.7,0˚.60N×126˚.34E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=175.3km s-min=21.5km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.86**	**159**	P		P	P	22 33 19.1	-0.7
	0.8nm,0.4s,baz=338,slow=11,SNR=14								
	0.8nm,0.4s								
ASAR	**Alice Springs**	**25.21**	**164**	P		P	P	22 33 53.5	+0.5
	0.4nm,0.4s,baz=344,slow=8.9,SNR=11								
	0.4nm,0.4s								
MKAR	**Makanchi Array**	**59.91**	**326**	P		P	P	22 38 33.4	+0.1
	0.3nm,0.4s,baz=122,slow=8.2,SNR=7.1								
	0.3nm,0.4s								
KURBB	**Kurchatov Arra**	**64.17**	**328**	P		P	P	22 39 01.5	-0.3
	0.4nm,0.6s,baz=128,slow=6.3,SNR=4.6								
	0.4nm,0.6s								

*SKHL **11** 22:38:32.6±0.7,44˚.40N×148˚.50E,h37km±6km,mb3.7/2*
*JMA **11** 22:38:32.6±0.4,44˚.N±3˚×14˚.8E±˚,h6km,MV3.5/12,SE OFF ETOROFU*
ISC 11 22:38:32.2±2.9,44˚.42N±0˚.09×148˚.3E±0˚.2,h10km±14km, n11,σ1ş11/18,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.86**	**341**	*e*P		**Pg**	**Pg**	**22 38 48.5**	**-0.3**
KUR				AMB		AMB	AMB	22 38 49.0	
	70nm,0.4s								
KUR				*e*S		**Sg**	**Sg**	**22 38 59.9**	**-0.1**
KUR				A		A	A	22 39 01.3	
	90nm,0.5s								
KUR				A		A	A	22 39 01.3	
	130nm,0.5s								
SHO	**Shikotan**	**1.17**	**243**	*e*P		**Pb**	**Pb**	**22 38 54.0**	**-0.5**
SHO				AMB		AMB	AMB	22 38 55.2	
	20nm,0.3s								
SHO				*e*S		**Sg**	**Sg**	**22 39 10.6**	**+0.8**
SHO				A		A	A	22 39 14.2	
	70nm,0.4s								
SHO				A		A	A	22 39 14.2	
	80nm,0.4s								
NEM2	**Nemuro 2**	**2.10**	**241**	*e*P		**Pn**	**Pn**	**22 39 07.6**	**+0.1**
NEM2				*e*S		**Sn**	**Sn**	**22 39 32.9**	**-0.8**
NMR	**Nemuro--Hokkai**	**2.11**	**241**	*e*P		**Pn**	**Pn**	**22 39 08.2**	**+0.6**
NMR				*e*S		**Sn**	**Sn**	**22 39 33.5**	**-0.4**
JRA	**Rausu**	**2.31**	**259**	*e*P		**Pn**	**Pn**	**22 39 11.3**	**+1.0**
JRA				*e*S		**Sb**	**Sb**	**22 39 40.9**	**-1.7**
JKHN	**Kushirohamanak**	**2.61**	**240**	*e*S		**Sn**	**Sn**	**22 39 45.3**	**-1.0**
JNK	**Nakash**	**2.69**	**253**	*e*S		**Sn**	**Sn**	**22 39 48.5**	**+0.4**
AKK	**Akkeshi**	**2.85**	**242**	*e*S		**Sn**	**Sn**	**22 39 51.1**	**-1.0**
JAK	**Akkeshi**	**2.95**	**242**	*e*P		**Pn**	**Pn**	**22 39 19.7**	**+0.6**
JAK				*e*S		**Sn**	**Sn**	**22 39 53.9**	**-0.7**
JAR	**Ashorobuto**	**3.44**	**253**	*e*P		**Pn**	**Pn**	**22 39 28.1**	**+2.3**
JAR				*e*S		**Sn**	**Sn**	**22 40 08.2**	**+1.6**
JCH	**Churui**	**3.99**	**245**	*e*S		**Sn**	**Sn**	**22 40 20.8**	**+0.5**

IDC 11 22:59:26.5±1.7,0˚.56N×126˚.35E,h0km,mb4.1/4, mbtmp4.1/4,Error ellipse: s-maj=170.1km s-min=21.1km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.83**	**159**	P		P	P	23 04 19.5	-1.2
	2.5nm,0.7s,baz=338,slow=10,SNR=16								
	2.5nm,0.7s								
ASAR	**Alice Springs**	**25.17**	**164**	P		P	P	23 04 54.6	+0.8
	3.1nm,0.8s,baz=345,slow=12,SNR=21								
	3.1nm,0.8s								
MKAR	**Makanchi Array**	**59.95**	**326**	P		P	P	23 09 34.6	-0.1
	0.4nm,0.5s,baz=118,slow=7.7,SNR=9.7								
	0.4nm,0.5s								
KURBB	**Kurchatov Arra**	**64.20**	**328**	P		P	P	23 10 03.0	-0.1
	3.4nm,0.2s,baz=123,slow=7.3,SNR=4.3								
	3.4nm,0.2s								

*BER **11** 23:01:07.3±3.2,71˚.18N×9˚.83W,h0km±21km,mb(Pn)3.6, ML2.8,Confirmed Earthquake*
*DNK **11** 23:01:11.0±3.2,71˚.35N×11˚.03W,h0km±199km,ML1.8*
ISC 11 23:01:05.9±1.0,71˚.38N±0˚.06×9˚.46W±0˚.08,h10km,n19, σ2ş05/29,4D,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.48**	**136**	*e*P		**Pg**	**Pg**	**23 01 15.7**	**+0.4**
JNW				*e*S		**Sg**	**Sg**	**23 01 21.1**	**-0.7**
JNW				IAML				23 01 23.0	
	comp=Z,960nm,0.3s								
JMIC	**Jan Mayen**	**0.50**	**141**	*e*P		**Pg**	**Pg**	**23 01 15.8**	**+0.1**
JMIC				*e*S		**Sg**	**Sg**	**23 01 21.1**	**-1.2**
JMIC				IAML				23 01 29.8	
	comp=Z,620nm,0.4s								
JMI	**Jan Mayen**	**0.51**	**152**	*e*P		**Pg**	**Pg**	**23 01 16.2**	**+0.4**
JMI				*e*S		**Sg**	**Sg**	**23 01 21.7**	**-0.8**
JMI				IAML				23 01 22.1	
	comp=Z,647nm,0.3s								
JNE	**Jan Mayen East**	**0.54**	**135**	*e*P		**Pg**	**Pg**	**23 01 16.3**	**-0.1**
JNE				*e*S		**Sg**	**Sg**	**23 01 22.1**	**-1.5**
JNE				IAML				23 01 25.4	
	comp=Z,823nm,0.2s								
DBG	**Daneborg**	**4.33**	**318**	*e*P		**Pn**	**Pn**	**23 02 13.4**	**+1.7**
DBG				*e*S		**Sn**	**Sn**	**23 02 60.0**	**-2.2**
DBG	**Daneborg**	**4.33**	**318**	*i* P		**Pn**	**Pn**	**23 02 13.6**	**+1.8**
DBG				*i* S		**Sn**	**Sn**	**23 02 59.9**	**-2.2**
DBG				IAML				23 03 02.9	
	comp=Z,1.8nm,0.2s								
DAG	**Danmarks Havn**	**5.97**	**339**	*e*P		**Pn**	**Pn**	**23 02 36.4**	**+2.3**
DAG				*e*S		**Sn**	**Sn**	**23 03 39.4**	**-3.0**
DAG	**Danmarks Havn**	**5.97**	**339**	*i* P		**Pn**	**Pn**	**23 02 36.5**	**+2.3**
DAG				*i* S		**Sn**	**Sn**	**23 03 39.5**	**-3.0**
DAG				IAML				23 03 44.7	
	comp=Z,6.0nm,0.3s								
HSPB	**Hornsund (broa**	**8.77**	**39**	*e*P		**Pn**	**Pn**	**23 03 14.0**	**+1.5**
HSPB				IAML				23 03 23.8	
	comp=Z,2.3nm,0.9s								
STEI	**Steigen**	**9.23**	**100**	*e*P		**Pn**	**Pn**	**23 03 18.6**	**-0.1**
KBS	**Kingsbay**	**9.27**	**26**	IAML				23 03 21.3	
	comp=Z,3.5nm,0.6s								
KBS				*e*P		**Pn**	**Pn**	**23 03 21.6**	**+2.3**
KBS				*e*S		**Sn**	**Sn**	**23 04 59.9**	**-3.5**
VAGH	**Vaagaholmen**	**9.33**	**109**	*e*P		**Pn**	**Pn**	**23 03 20.7**	**+0.5**
KONS	**Konsvik**	**9.44**	**110**	*e*P		**Pn**	**Pn**	**23 03 20.8**	**-0.8**
KONS				IAML				23 03 34.4	
	comp=Z,1.9nm,1.0s								
SPA0	**Spitsbergen Ar**	**9.51**	**33**	*e*P		**Pn**	**Pn**	**23 03 26.0**	**+3.3**
SPA0				IAML				23 03 27.4	
	comp=Z,4.1nm,0.5s								
LEIR	**Leirfjorden**	**9.70**	**112**	*e*P		**Pn**	**Pn**	**23 03 24.3**	**-0.9**
LEIR				IAML				23 03 31.4	
	comp=Z,1.5nm,0.7s								
NOR	**Nord**	**10.40**	**354**	*e*P		**Pn**	**Pn**	**23 03 37.7**	**+2.9**
NOR				*e*S		**Sn**	**Sn**	**23 05 28.2**	**-3.0**
KIF	**Kilpisjarvi**	**10.47**	**88**	*e*P		**Pn**	**Pn**	**23 03 36.7**	**+0.9**
NSS	**Namsos**	**10.52**	**120**	*e*P		**Pn**	**Pn**	**23 03 35.8**	**-0.7**
HOPEN	**Hopen**	**10.67**	**46**	*e*P		**Pn**	**Pn**	**23 03 41.4**	**+2.8**
HOPEN				IAML				23 03 42.4	
	comp=Z,4.9nm,0.3s								

*NEIC **11** 23:06:39.1±1.1,41˚.11N±0˚.03×116˚.64W±0˚.05,h10km±2km, Error ellipse: s-maj=7.4km s-min=3.1km az=59.0*
REN 11 23:06:40.0±2.6,41˚.15N±0˚.03×116˚.54W±0˚.03,h9km±8km, ML2.8/7,ML2.7/62(NEIC),Error ellipse: s-maj=4.4km s-min=2.2km az=216.0,Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ELK	**Elko**	**1.07**	**112**				Pb	23 07 00.7	-0.1
ELK				Sg			Sb	23 07 15.2	+0.3
ELK				IAML				23 07 17.2	
	192nm,0.2s								
ELK				IAML				23 07 18.0	
	320nm,0.4s								
WVOR	**Wild Horse Val**	**2.02**	**310**	Pn			Pn	23 07 13.9	-0.6
MFID	**Camas Ranch**	**2.32**	**13**				Pn	23 07 19.6	+1.0
MFID							Sb	23 07 52.6	+1.7
Q09A	**Carvers**	**2.37**	**192**	Pn			Pn	23 07 18.6	-0.6
PAHR	**Pah Rah Range**	**2.61**	**237**				Pn	23 07 21.4	-1.1
J08A	**Circle Bar Ran**	**2.63**	**328**				Pn	23 07 23.3	+0.6
J08A				IAML				23 08 06.5	
	comp=N,34nm,0.9s								
J08A				IAML				23 08 07.7	
	comp=E,40nm,1.1s								
BGU	**Big Grassy Mou**	**2.67**	**94**				Pn	23 07 24.0	+0.7
BGU				IAML				23 08 09.3	
	comp=E,24nm,0.6s								
SPR3	**Spring Creek 3**	**2.74**	**141**				Pn	23 07 24.4	0.0
SPR3				IAML				23 08 10.9	
	comp=E,20nm,0.6s								
SPR3				IAML				23 08 13.0	
	comp=N,22nm,0.4s								
HLID	**Hailey**	**2.88**	**33**				Pn	23 07 28.3	+2.1
HLID				IAML				23 08 11.9	
	comp=N,18nm,0.3s								
HLID				IAML				23 08 13.8	
	comp=N,15nm,0.4s								
R11B	**Troy Can

comp=Z,10nm,0.6s
WRA Warramunga Arr 43.72 274 P **P** **23 40 19.8 -1.1**
WRA Warramunga Arr 43.72 274 P **P** **23 40 21.6 +0.8**
comp=Z,7.0nm,0.4s,baz=112,slow=7.9,SNR=115
comp=Z,7.0nm,0.4s
WB0 Warramunga Arr 43.75 274 P **P** **23 40 21.6 +0.6**
QSPA South Pole Qui 58.63 180 P **P** **23 42 13.7 +1.5**
comp=Z,1.6nm,0.7s,baz=320,slow=2.7,SNR=6.0
comp=Z,1.6nm,0.7s
SNAA Sanae 77.08 179 P **P** **23 44 10.0 +2.0**
comp=Z,0.4nm,0.4s,baz=180,slow=16,SNR=1.8
comp=Z,0.4nm,0.4s
H03S2 Juan Fernandez 80.22 124 T T 01 13 16.9
baz=240,SNR=5.5
H03S1 Juan Fernandez 80.23 124 T T 01 13 15.5
baz=240
H03S3 Juan Fernandez 80.24 124 T T 01 13 17.2
baz=240,SNR=5.8
H03N3 Juan Fernandez 80.42 123 T T 01 13 23.8
baz=241,slow=72,SNR=3.1
H03N2 Juan Fernandez 80.42 123 T T 01 13 25.0
baz=241,slow=72,SNR=3.6
H03N1 Juan Fernandez 80.44 123 T T 01 13 19.7
baz=241,slow=72,SNR=7.9
FINES FINESS Array B 146.01 339 PKPbc **PKPdf** **23 51 52.8 -0.5**
comp=Z,2.2nm,0.8s,baz=44,slow=3.5,SNR=16
NB2 NORSAR Subarra149.75 351 PKP **PKPbc** **23 52 03.3 -1.0**
comp=Z,0.3nm,0.5s,baz=13,slow=2.6
NOA NORSAR Array B149.75 351 PKPbc **PKPbc** **23 52 03.2 -1.1**
comp=Z,0.3nm,0.5s,baz=14,slow=4.1,SNR=5.7
HFS Hagfors 150.22 348 PKPbc **PKPdf** **23 52 02.0 +1.8**
comp=Z,0.6nm,0.5s,baz=42,slow=2.4,SNR=5.8

*NEIC **11** 23:37:26.9±1.3, 35°.92N±0°.02×117°.74W±0°.04, h5km±1km, Error ellipse: s-maj=5.4km s-min=2.9km az=288.0*
PAS 11 23:37:27.3±1.6, 35°.942N±0°.010×117°.75W±0°.03, h1km±1km, ML3.0/26, ML2.9/152(NEIC), Error ellipse: s-maj=3.1km s-min=1.4km az=79.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.05**	**278**		Pg	23 37 28.8	+0.4
JRC2	**Joshua Ridge**	**0.06**	**311**		Pg	23 37 29.3	+0.8
WCSM	**Coso Springs S**	**0.09**	**351**		Pg	23 37 29.8	+0.8
WRVM	**Rose V. Centra**	**0.13**	**300**		Pg	23 37 29.5	-0.3
WNMM	**Nine Mile Cany**	**0.16**	**232**		Pg	23 37 30.7	+0.4
MFS	**McCloud Flat S**	**0.19**	**334**		Pg	23 37 30.9	-0.2
MFS					Sg	23 37 35.0	+1.4
MPMC	**Manual Prospec**	**0.24**	**61**		Pg	23 37 32.2	+0.3
SRTC	**Snort**	**0.25**	**180**		Pg	23 37 32.6	+0.5
WSHM	**Spangler Hills**	**0.40**	**148**	Pg	Pg	23 37 35.0	0.0
WSHM				IAML		23 37 44.2	
	1μm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.47**	**173**		Pg	23 37 36.2	0.0
LRMC				IAML		23 37 44.0	
	comp=N,967nm,0.3s						
LRMC				IAML		23 37 46.5	
	comp=E,1μm,0.6s						
ISA	**Isabella, Lake**	**0.65**	**245**		Pg	23 37 39.7	0.0
ISA				IAML		23 37 49.3	
	comp=N,472nm,0.4s						
ISA				IAML		23 37 49.9	
	comp=E,404nm,0.3s						
QSM	**Queen of Sheba**	**0.72**	**88**		Pg	23 37 40.9	-0.1
QSM				IAML		23 37 57.3	
	comp=N,744nm,0.6s						
GWY	**Greenwater Val**	**0.91**	**74**		Pg	23 37 44.7	0.0
GWY				IAML		23 37 58.5	
	comp=E,383nm,0.4s						
GWY				IAML		23 38 02.5	
	comp=N,505nm,0.5s						
GSC	**Goldstone, Bar**	**1.00**	**129**		Pg	23 37 46.1	-0.4
GSC				IAML		23 38 03.0	
	comp=N,286nm,0.4s						
GSC				IAML		23 38 07.2	
	comp=E,619nm,0.6s						
GRAC	**Grapevine Rang**	**1.10**	**16**		Pg	23 37 48.2	-0.1
GRAC				IAML		23 38 11.3	
	comp=E,443nm,0.8s						
TPO	**Tropico Hills**	**1.13**	**200**		Pg	23 37 48.7	-0.2
TPO				IAML		23 38 09.6	
	comp=N,483nm,1.0s						
WCT	**Wildcat Mounta**	**1.24**	**47**		Pg	23 37 51.0	-0.2
WCT				IAML		23 38 13.3	
	comp=E,252nm,1.0s						
WCT				IAML		23 38 13.5	
	comp=N,145nm,1.1s						
VOG	**Valley Oaks Go**	**1.37**	**286**		Pn	23 37 53.3	-0.3
GMN	**Gold Mountain**	**1.41**	**16**		Pn	23 37 53.8	-0.6
GMN				IAML		23 38 18.1	
	comp=E,126nm,0.7s						
GMN				IAML		23 38 18.5	
	comp=N,157nm,0.6s						
DSP	**Deep Springs**	**1.44**	**353**		Pn	23 37 53.9	-0.5
OSI	**Osito Audit: C**	**1.54**	**211**		Pn	23 37 56.0	+0.1
OSI				IAML		23 38 20.9	
	comp=E,168nm,0.8s						
OSI				IAML		23 38 23.0	
	comp=N,145nm,0.6s						
TPNV	**Topopah Spring**	**1.57**	**50**		Pn	23 37 56.1	-0.4
TPNV				IAML		23 38 22.7	
	comp=N,199nm,0.8s						
TPNV				IAML		23 38 25.3	
	comp=N,164nm,1.0s						
BFSC	**Mount Baldy Ra**	**1.70**	**177**		Pn	23 37 57.9	-0.3
BFSC				IAML		23 38 29.3	
	comp=E,141nm,0.7s						
BFSC				IAML		23 38 33.9	
	comp=N,99nm,0.7s						
MWC	**Mount Wilson**	**1.73**	**188**		Pn	23 37 58.4	-0.3
MWC				IAML		23 38 24.5	
	comp=N,210nm,0.5s						
MZP	**Montezuma Peak**	**1.78**	**9**		Pn	23 37 59.5	+0.1
PASC	**Pasadena Art C**	**1.80**	**192**		Pn	23 37 59.0	-0.5
PASC				IAML		23 38 28.5	
	comp=E,90nm,0.6s						
MTPC	**Mountain Pass**	**1.85**	**104**		Pn	23 37 60.0	-0.2
MTPC				IAML		23 38 30.0	
	comp=N,82nm,0.8s						
MTPC				IAML		23 38 31.3	
	comp=E,95nm,0.4s						
SHPR	**Sheep Range**	**2.17**	**74**		Pn	23 38 04.4	-0.3
TPH	**Tonopah**	**2.17**	**11**		Pn	23 38 05.2	+0.5
ELS	**Elsinore Mount**	**2.30**	**173**		Pn	23 38 05.9	-0.5
ELS				IAML		23 38 46.0	
	comp=N,46nm,0.6s						
ELS				IAML		23 38 51.4	
	comp=E,49nm,0.8s						
S11A	**Rachel**	**2.34**	**43**		Pn	23 38 07.1	+0.1
S11A				IAML		23 38 45.9	
	comp=N,126nm,0.6s						
V12A	**Nelson**	**2.37**	**94**		Pn	23 38 06.2	-1.1
V12A				IAML		23 38 47.1	
	comp=N,48nm,0.6s						
LHV	**Little Huntoon**	**2.38**	**346**		Pn	23 38 08.1	+0.7
LHV				IAML		23 38 57.3	
	comp=N,45nm,1.4s						
LHV				IAML		23 38 58.5	
	comp=E,43nm,1.8s						
PMPB	**Monarch Peak**	**2.49**	**277**		Pn	23 38 08.8	-0.1
PMPB				IAML		23 38 56.9	
	comp=E,92nm,0.6s						
PMPB				IAML		23 39 01.7	
	comp=N,102nm,0.8s						
NV11	**Mina Array Sit**	**2.51**	**353**		Pn	23 38 09.3	0.0
NVAR	**Mina Array Bea**	**2.52**	**350**		Pn	23 38 09.6	0.0
PMD	**Palm Desert**	**2.55**	**153**	Pn	Pn	23 38 09.2	-0.6
PMD					Pg	23 38 15.1	-1.1
PMD				IAML		23 38 57.8	
	comp=E,44nm,0.8s						
PFO	**Pinyon Flats O**	**2.56**	**155**	Pn	Pn	23 38 08.8	-1.1
PFO					Pg	23 38 15.4	-0.9
PFO				IAML		23 38 57.3	
	comp=E,34nm,1.0s						
PFO				IAML		23 38 57.9	
	comp=E,43nm,0.9s						
PRN	**Pahroc Range**	**2.62**	**55**		Pn	23 38 11.1	+0.3
PRN				IAML		23 39 04.1	
	comp=E,66nm,1.0s						
PRN				IAML		23 39 07.0	
	comp=N,59nm,0.9s						
GATR	**Gnd/Air Tx Cnt**	**2.64**	**239**		Pn	23 38 10.2	-0.9
SBI	**Santa Barbara**	**2.67**	**204**		Pn	23 38 12.5	+1.1
BBGB	**Big Mountain B**	**2.73**	**284**		Pn	23 38 12.1	-0.3
RYN	**Ryan**	**2.75**	**347**		Pn	23 38 12.5	-0.2
NEE2	**Needles Airpor**	**2.82**	**114**		Pn	23 38 13.2	-0.2
NEE2				IAML		23 39 05.8	
	comp=N,79nm,0.8s						
BORC	**Borrego Spring**	**2.88**	**157**		Pg	23 38 21.1	-1.5
BORC				IAML		23 39 03.9	
	comp=N,49nm,0.8s						
WAKR	**Walker**	**2.89**	**333**		Pg	23 38 21.8	-0.8
Q09A	**Carvers**	**2.92**	**9**		Pn	23 38 15.4	+0.4
Q09A				IAML		23 39 09.5	
	comp=E,72nm,1.0s						
R11B	**Troy Canyon, C**	**2.96**	**35**		Pn	23 38 15.2	-0.4
CMB	**Columbia Colle**	**2.97**	**315**		Pn	23 38 15.3	-0.3
CMB				IAML		23 39 01.2	
	comp=N,31nm,0.8s						
CMB				IAML		23 39 08.9	
	comp=E,38nm,0.7s						
DPP	**Dos Picos Cty**	**3.01**	**167**		Pn	23 38 14.4	-1.7
DPP				IAML		23 39 07.4	
	comp=E,30nm,0.7s						
SAO	**San Andreas Ge**	**3.09**	**286**		Pn	23 38 17.5	+0.3
W13A	**Hualapai Mount**	**3.26**	**104**		Pn	23 38 19.5	-0.3
W13A				IAML		23 39 19.8	
	comp=E,19nm,0.7s						
BLYC	**Blythe**	**3.44**	**129**		Pn	23 38 21.1	-0.8
BLYC				IAML		23 39 34.1	
	comp=N,24nm,0.8s						
BLYC				IAML		23 39 34.7	
	comp=E,28nm,0.8s						
YUH	**Yuha Desert**	**3.62**	**155**	IAML		23 39 38.3	
	comp=E,16nm,2.2s						
CBX	**Cerro Bola**	**3.73**	**166**	Pn	Pn	23 38 26.0	-0.1
LCMT	**Little Creek M**	**3.79**	**72**		Pn	23 38 26.3	-0.6
MPK	**Martis Peak**	**3.81**	**332**	Pn	Pn	23 38 26.5	-0.7
CCUT	**Cedar City**	**3.87**	**64**	Pn	Pn	23 38 28.1	-0.1
CCUT					Pg	23 38 40.8	-0.7
AFDM	**Forest Hills D**	**3.95**	**320**		Pb	23 38 40.0	+2.4
AFDM				IAML		23 39 35.6	
	comp=E,22nm,0.6s						
AFDM				IAML		23 39 38.7	
	comp=N,17nm,0.9s						
PSUT	**Pine Spring**	**4.04**	**49**	IAML		23 39 46.1	
	comp=E,19nm,1.1s						
PSUT				IAML		23 39 59.2	
	comp=N,15nm,1.6s						
SPR3	**Spring Creek 3**	**4.09**	**41**	IAML		23 39 37.5	
	comp=E,17nm,0.8s						
SPR3				IAML		23 39 40.6	
	comp=N,15nm,1.1s						
Y14A	**Wickenburg**	**4.38**	**116**	IAML		23 39 55.9	
	comp=N,15nm,0.9s						
Y14A				IAML		23 39 57.5	
	comp=E,12nm,0.6s						
U15A	**North Rim**	**4.44**	**82**	IAML		23 39 50.7	
	comp=N,8.9nm,0.7s						
U15A				IAML		23 39 53.0	
	comp=E,14nm,1.0s						
WUAZ	**Wupatki**	**5.21**	**93**	IAML		23 40 21.2	
	comp=E,12nm,1.5s						
X16A	**Lo Mia Camp, P**	**5.39**	**105**	IAML		23 41 24.9	
	comp=E,11nm,0.1s						

*CATAC **11** 23:44:31.7±0.8, 13°.7N±6°×9°.7W±°, h29km±5km, M3.3/12, MLv3.3/12, Error ellipse: s-maj=13.0km s-min=6.1km az=16.7, confirmed*
*SNET **11** 23:44:32.4±1.0, 13°.17N×89°.51W, h48km±8km, ML3.1*
*GCG **11** 23:44:33.0±0.7, 13°.25N×89°.51W, h56km±9km, MD3.9, ML3.2*
ISC 11 23:44:32.1±1.7, 13°.13N±0°.07×89°.48W±0°.04, h21km±5km, n62, σ0°68/76, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.39**	**24**	*e*P	**Pn**	**23 44 42.5**	**+0.1**
LALI				*e*S	**Sn**	**23 44 49.3**	**+0.1**
LALI	**Alcalda de L**	**0.39**	**24**	*e*P	**Pn**	**23 44 42.6**	**+0.1**
LALI				IAML		23 44 53.7	
	comp=E,183nm,0.1s						
LALI	**Alcalda de L**	**0.39**	**24**	P	**Pn**	**23 44 42.7**	**+0.3**
LALI	**Alcalda de L**	**0.39**	**24**	S	Sn	23 44 51.1	+2.0
JAYA	**Jayaque - finc**	**0.52**	**3**	*e*P	**Pn**	**23 44 43.8**	**-0.6**
JAYA				*e*S	**Sn**	**23 44 51.7**	**-1.0**
JAYA				IAML		23 44 54.1	
	comp=Z,2μm,0.2s						
JAYA	**Jayaque - finc**	**0.52**	**3**	*e*P	**Pn**	**23 44 43.9**	**-0.6**
JAYA				*e*S	**Sn**	**23 44 52.4**	**-0.3**
JAYA	**Jayaque - finc**	**0.52**	**3**	S	**Sn**	**23 44 53.1**	**+0.4**
JAYA	**Jayaque - finc**	**0.52**	**3**	P	**Pn**	**23 44 44.0**	**-0.4**
LOMA	**Loma Larga**	**0.59**	**31**	*e*P	**Pn**	**23 44 44.9**	**-0.5**
LOMA				*e*S	**Sn**	**23 44 54.5**	**+0.1**
LOMA	**Loma Larga**	**0.59**	**31**	S	**Sn**	**23 44 55.3**	**+0.9**
LOMA	**Loma Larga**	**0.59**	**31**	P	**Pn**	**23 44 45.0**	**-0.4**
PMON	**Piamonte**	**0.60**	**16**	*e*P	**Pb**	**23 44 44.8**	**+0.7**
PMON	**Piamonte**	**0.60**	**16**	P	**Pn**	**23 44 45.0**	**-0.4**
PMON	**Piamonte**	**0.60**	**16**	S	**Sn**	**23 44 57.0**	**+2.4**
UEES	**Universidad Ev**	**0.62**	**22**	*e*P	**Pn**	**23 44 45.3**	**-0.6**
UEES				*e*S	**Sn**	**23 44 55.8**	**+0.6**
UEES	**Universidad Ev**	**0.62**	**22**	P	**Pn**	**23 44 45.6**	**-0.2**
BOQS	**Boqueron**	**0.63**	**18**	*e*P	**Pn**	**23 44 45.4**	**-0.6**
BOQS				*e*S	**Sn**	**23 44 55.8**	**+0.3**
LFRS	**El Faro**	**0.64**	**40**	*e*P	**Pn**	**23 44 45.6**	**-0.4**
LFRS				*e*S	**Sn**	**23 44 55.4**	**-0.1**
UESS	**Universidad de**	**0.64**	**25**	*e*P	**Pn**	**23 44 45.7**	**-0.4**
PIC2	**El Picacho**	**0.65**	**20**	*e*P	**Pn**	**23 44 45.9**	**-0.3**
UDBS	**Universidad Do**	**0.66**	**29**	*e*P	**Pb**	**23 44 45.7**	**+0.7**
CEDA	**San Andres**	**0.67**	**7**	*e*P	**Pb**	**23 44 45.8**	**+0.5**
CEVE	**Cerro Verde**	**0.70**	**349**	*e*P	**Pb**	**23 44 46.3**	**+0.4**
CEVE				IAML		23 44 59.0	
	comp=Z,694nm,0.3s						
CEVE	**Cerro Verde**	**0.70**	**349**	S	**Sn**	**23 44 58.1**	**+0.7**
CEVE	**Cerro Verde**	**0.70**	**349**	P	**Pn**	**23 44 46.6**	**-0.5**
LFU	**La Fuente**	**0.71**	**30**	*e*P	**Pn**	**23 44 46.8**	**-0.2**
SBLS	**San Blas**	**0.71**	**349**	*e*P	**Pb**	**23 44 46.4**	**+0.3**
LBRS	**Las Brisas**	**0.74**	**35**	*e*P	**Pb**	**23 44 46.8**	**+0.5**
LBRS				*e*S	**Sn**	**23 44 57.9**	**-0.1**
SNJE	**San Jose**	**0.74**	**351**	*e*P	**Pb**	**23 44 46.7**	**+0.2**
COEG	**Centro de Oper**	**0.76**	**50**	*e*P	**Pb**	**23 44 47.0**	**+0.3**
COEG				IAML		23 45 00.7	
	comp=Z,654nm,0.4s						
COEG	**Centro de Oper**	**0.76**	**50**	P	**Pb**	**23 44 47.2**	**+0.5**
COEG	**Centro de Oper**	**0.76**	**50**	S	**Sn**	**23 44 58.6**	**+0.1**
RTR	**El Retiro**	**0.78**	**348**	*e*P	**Pb**	**23 44 47.2**	**+0.2**
PAVA	**Las Pavas**	**0.78**	**42**	*e*P	**Pn**	**23 44 47.7**	**-0.3**
PAVA				*e*S	**Sn**	**23 44 59.5**	**+0.4**
PAVA	**Las Pavas**	**0.78**	**42**	P	**Pn**	**23 44 48.0**	**0.0**
TECO	**Alcaldia de Te**	**0.79**	**59**	*e*P	**Pb**	**23 44 46.8**	**-0.4**
TECO	**Alcaldia de Te**	**0.79**	**59**	P	**Pb**	**23 44 47.3**	**+0.1**
NUBE	**Las Nubes**	**0.82**	**339**	*e*P	**Pb**	**23 44 47.1**	**-0.6**
NUBE				*e*S	**Sb**	**23 44 57.9**	**-0.5**
NUBE				IAML		23 45 00.3	
	comp=Z,214nm,0.3s						
NUBE	**Las Nubes**	**0.82**	**339**	*e*P	**Pb**	**23 44 47.4**	**-0.4**
NUBE				*e*S	**Sb**	**23 44 58.9**	**+0.4**
NUBE	**Las Nubes**	**0.82**	**339**	S	**Sb**	**23 44 59.1**	**+0.7**
NUBE	**Las Nubes**	**0.82**	**339**	P	**Pb**	**23 44 47.6**	**-0.1**
UESV	**Universidad de**	**0.84**	**53**	*e*P	**Pb**	**23 44 48.1**	**0.0**
FAME	**Alcaldia de Sa**	**0.88**	**324**	P	**Pb**	**23 44 47.8**	**-0.9**
LOAL	**Lomas de Alarc**	**0.91**	**341**	P	**Pb**	**23 44 49.2**	**0.0**
SCLA	**Alcaldia de Sa**	**0.92**	**52**	*e*P	**Pb**	**23 44 49.4**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.92**	**52**	P	**Pb**	**23 44 49.7**	**+0.2**
SLOZ	**Alcaldia de Sa**	**0.94**	**342**	*e*P	**Pb**	**23 44 48.7**	**-1.0**
SLOZ				*e*S	**Sn**	**23 45 02.6**	**-0.2**
TECA	**Tecapa**	**1.02**	**69**	*e*P	**Pb**	**23 44 50.5**	**-0.7**
TECA				*e*S	**Sn**	**23 45 05.3**	**+0.3**
PACA	**Pacayal**	**1.18**	**73**	*e*P	**Pn**	**23 44 53.8**	**+0.4**
PACA				*e*S	**Sn**	**23 45 09.0**	**+0.2**
PACA	**Pacayal**	**1.18**	**73**	P	**Pb**	**23 44 54.0**	**+0.2**
LCY	**Lacayo**	**1.19**	**76**	*e*P	**Pn**	**23 44 53.4**	**-0.2**
BLLM	**Bellamira**	**1.25**	**76**	*e*P	**Pn**	**23 44 54.3**	**-0.1**
MTO3	**Montecristo**	**1.26**	**5**	*e*P	**Pn**	**23 44 53.6**	**-1.1**
MTO3	**Montecristo**	**1.26**	**5**	*i*P	**Pn**	**23 44 53.8**	**-1.0**
MTO3	**Montecristo**	**1.26**	**5**	P	**Pn**	**23 44 53.8**	**-1.0**
CAHU	**Cacacuatique**	**1.39**	**63**	*e*P	**Pn**	**23 44 56.3**	**-0.1**
FG16	**Alotenango, Sa**	**1.51**	**319**	*i*P	**Pb**	**23 45 03.0**	**+3.4**
FG16				IAML		23 45 29.5	
	comp=N,886nm,0.3s						
LCND	**La Caada**	**1.56**	**83**	*e*P	**Pn**	**23 44 58.5**	**-0.1**
LCND				*e*S	**Sn**	**23 45 18.6**	**+0.4**
LCND				IAML		23 45 21.3	
	comp=Z,353nm,0.3s						
CNCH	**Conchagua**	**1.61**	**85**	*e*P	**Pn**	**23 44 59.1**	**-0.3**
CNCH	**Conchagua**	**1.61**	**85**	S	**Sb**	**23 45 21.1**	**-0.1**
CNCH	**Conchagua**	**1.61**	**85**	P	**Pn**	**23 44 59.1**	**-0.3**
STG0	**El Palmar, Qui**	**2.22**	**306**	*i*P	**Pb**	**23 45 11.5**	**-0.1**
STG0				IAML		23 45 44.3	
	comp=E,188nm,0.2s						

*NEIC **11** 23:45:18.6, 35°.95N×117°.71W, h2km*
*PAS **11** 23:45:18.7±1.6, 35°.95N±0°.02×117°.70W±0°.04, h4km±6km, Mwr4.1/6, ML4.1/178(NEIC), Mwr4.1/122(NEIC), Error ellipse: s-maj=5.3km s-min=2.3km az=115.0*
*NEIC **11** 23:45:18.0±1.4, 35°.934N±0°.007×117°.69W±0°.01, h5km±2km, Error ellipse: s-maj=2.0km s-min=0.5km az=120.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.28; $M_{\theta\theta}$-0.67; $M_{\phi\phi}$0.95; $M_{r\theta}$0.40; $M_{\theta\phi}$1.22; $M_{\phi r}$0.24; Fault plane solution: $M_0$1.56000×10^{15} NP1:ϕ_s252.73000°, δ89.10000°, λ-17.48000°. NP2: ϕ_s343.02000°, δ72.52000°, λ-179.05000°. Principal axes: T 1.6882, Plg12.0000°, Azm299.0000°; N -0.3080, Plg72.0000°, Azm70.0000°; P -1.3803, Plg13.0000°, Azm207.0000°;*
*IDC **11** 23:45:18.4±0.9, 35°.91N×117°.67W, h0km, mb3.2/1, mbtmp3.4/6, ML3.5/5, MS3.2/10 Error ellipse: s-maj=15.4km s-min=6.4km az=70.0*
*NEIC **11** 23:45:19, 35°.95N×117°.71W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.10; $M_{\theta\theta}$-0.90; $M_{\phi\phi}$1.00; $M_{r\theta}$0.62; $M_{\phi\phi}$1.60; $M_{\phi r}$-0.22; Fault plane solution: $M_0$1.97000×10^{15} NP1:ϕ_s253.00000°, δ79.00000°, λ-16.00000°. NP2:ϕ_s346.00000°, δ74.00000°, λ-169.00000°. Principal axes: T 1.9131, Plg3.0000°, Azm300.0000°; N 0.1151, Plg71.0000°, Azm40.0000°; P -2.0282, Plg19.0000°, Azm209.0000°;*
ISC 11 23:45:18.9±0.9, 35°.94N±0°.01×117°.70W±0°.02, h5km±7km, n124, σ0°98/131, MS3.4/5, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.10**	**275**		**Pg**	**23 45 20.8**	**-0.3**
WVPM					**Sg**	**23 45 22.4**	**-0.1**
JRC2	**Joshua Ridge**	**0.10**	**295**		**Pg**	**23 45 20.8**	**-0.3**
WCSM	**Coso Springs S**	**0.10**	**327**		**Pg**	**23 45 20.6**	**-0.5**
WCSM					**Sg**	**23 45 22.2**	**-0.4**
TOW	**Tower One**	**0.14**	**201**		**Pg**	**23 45 22.1**	**+0.3**
TOW					**Sg**	**23 45 25.6**	**+1.8**
WRVM	**Rose V. Centra**	**0.17**	**293**		**Pg**	**23 45 22.0**	**-0.4**
WRVM					**Sg**	**23 45 24.6**	**0.0**
WNMM	**Nine Mile Cany**	**0.19**	**239**		**Pg**	**23 45 22.7**	**-0.1**
WNMM					**Sg**	**23 45 25.7**	**+0.5**
MPMC	**Manual Prospec**	**0.21**	**56**	Pg	**Pg**	**23 45 22.7**	**-0.4**
MFS	**McCloud Flat S**	**0.22**	**324**		**Pg**	**23 45 22.8**	**-0.4**
MFS					**Sg**	**23 45 26.1**	**0.0**
SRTC	**Snort**	**0.25**	**189**		**Pg**	**23 45 24.2**	**+0.3**
SRTC					**Sg**	**23 45 28.3**	**+1.1**
WSHM	**Spangler Hills**	**0.38**	**154**		**Pg**	**23 45 26.0**	**-0.3**
LRMC	**Laurel Mtn Rad**	**0.46**	**178**		**Pg**	**23 45 27.6**	**-0.2**
LRMC				IAML		23 45 35.5	
	comp=N,24μm,0.6s						
LRMC	**Laurel Mtn Rad**	**0.46**	**178**		**Sg**	**23 45 34.4**	**+0.5**
CCCA	**Chr Cany lake**	**0.50**	**147**		**Pg**	**23 45 28.7**	**+0.2**
CCCA				Sg	**Sg**	**23 45 36.1**	**+1.1**
WORM	**Onyx Ranch**	**0.50**	**241**		**Pg**	**23 45 28.2**	**-0.4**
WORM					**Sg**	**23 45 35.1**	**-0.1**
WBSM	**Bird Springs**	**0.54**	**222**		**Pg**	**23 45 29.1**	**-0.3**
WBSM					**Sg**	**23 45 36.7**	**+0.4**
WHFM	**Hanning Flat**	**0.58**	**245**		**Pg**	**23 45 29.8**	**-0.4**
WHFM					**Sg**	**23 45 37.6**	**-0.1**
CWC	**Cottonwood Cre**	**0.58**	**328**		**Pg**	**23 45 29.4**	**-0.8**
CWC	**Cottonwood Cre**	**0.58**	**328**	IAML		23 45 38.8	
	comp=N,4μm,0.2s						
CWC				IAML		23 45 40.6	
	comp=E,4μm,0.3s						
CGO	**Cerro Gordo**	**0.61**	**352**		**Pg**	**23 45 29.9**	**-0.9**
QSM	**Queen of Sheba**	**0.68**	**88**		**Pg**	**23 45 31.4**	**-0.5**
QSM				IAML		23 45 45.1	
	comp=N,10μm,0.7s						
QSM	**Queen of Sheba**	**0.68**	**88**		**Sg**	**23 45 40.4**	**-0.3**
DTP	**Desert Tortois**	**0.68**	**190**		**Pg**	**23 45 31.6**	**-0.5**
DTP					**Sg**	**23 45 41.3**	**+0.4**
ISA	**Isabella, Lake**	**0.69**	**246**		**Pg**	**23 45 31.7**	**-0.4**
ISA	**Isabella, Lake**	**0.69**	**246**	IAML		23 45 41.2	
	comp=E,7μm,0.3s						
ISA				IAML		23 45 41.2	
	comp=N,12μm,0.4s						
WASM	**Alta Sierra Ca**	**0.72**	**254**		**Pg**	**23 45 32.5**	**-0.4**
WASM					**Sg**	**23 45 42.3**	**0.0**
CCAC	**Calif City Air**	**0.83**	**198**		**Pg**	**23 45 34.4**	**-0.5**
CCAC					**Sg**	**23 45 45.4**	**-0.1**
FURC	**Furnace Creek,**	**0.86**	**52**		**Pg**	**23 45 35.2**	**-0.2**
GWY	**Greenwater Val**	**0.87**	**73**		**Pg**	**23 45 35.3**	**-0.4**
GWY					**Sg**	**23 45 47.0**	**+0.1**
GWY	**Greenwater Val**	**0.87**	**73**	IAML		23 45 50.3	
	comp=N,8μm,1.1s						
GWY				IAML		23 45 50.7	
	comp=E,5μm,0.4s						
SPG2	**Springville 2**	**0.90**	**287**		**Pg**	**23 45 35.2**	**-1.1**
GSC	**Goldstone, Bar**	**0.97**	**131**		**Pg**	**23 45 36.8**	**-0.7**
GSC					**Sb**	**23 45 50.7**	**-0.8**
GSC	**Goldstone, Bar**	**0.97**	**131**	IAML		23 45 53.7	
	comp=N,5μm,0.8s						
TEJ	**El Tejon**	**1.07**	**229**		**Pg**	**23 45 38.5**	**-1.1**
TEJ					**Sg**	**23 45 52.6**	**-0.9**
HYS	**Haystack Butte**	**1.08**	**174**		**Pg**	**23 45 38.8**	**-0.9**
HYS					**Sg**	**23 45 53.1**	**-0.5**
EDW2	**Edwards Air Fo**	**1.08**	**193**		**Pg**	**23 45 38.6**	**-1.1**
GRAC	**Grapevine Rang**	**1.09**	**14**		**Pg**	**23 45 38.9**	**-0.9**
GRAC	**Grapevine Rang**	**1.09**	**14**	IAML		23 45 59.2

comp=E,2µm,0.6s
MTPC IAML 23 46 23.8
comp=N,985nm,1.1s
PASC Pasadena Art C 1.81 193 Pn 23 45 50.3 -0.5
PKM Mcpherson Peak 2.02 239 Pb 23 45 55.1 -1.2
SHPR Sheep Range 2.13 74 Pn 23 45 55.2 -0.1
TPH Tonopah 2.16 10 Pn 23 45 55.6 -0.3
TPH IAML 23 46 31.1
comp=N,2µm,1.1s
ELS Elsinore Mount 2.30 174 Pn 23 45 57.0 -0.6
ELS IAML 23 46 38.0
comp=E,814nm,1.4s
S11A Rachel 2.31 42 Pn 23 45 57.9 0.0
S11A IAML 23 46 37.6
comp=N,1µm,0.8s
V12A Nelson 2.33 94 Pn 23 45 57.0 -1.0
V12A IAML 23 46 35.1
comp=N,1µm,1.8s
V12A IAML 23 46 42.2
comp=E,625nm,0.7s
LHV Little Huntoon 2.39 345 Pn 23 45 59.5 +0.7
LHV IAML 23 46 42.7
comp=E,901nm,2.0s
LHV IAML 23 46 45.3
comp=N,670nm,1.6s
NV11 Mina Array Sit 2.51 352 Pn 23 46 00.6 0.0
NV11 IAML 23 46 44.6
comp=E,470nm,1.4s
PMPB Monarch Peak 2.53 277 Pn 23 46 01.2 +0.5
NVAR Mina Array Bea 2.53 349 Pn 23 46 00.2 -0.7
NVAR Mina Array Bea 2.53 349 Pn Pn 23 46 01.2 +0.3
comp=E,4.7nm,0.3s,baz=168,slow=14,SNR=57
NVAR Pg Pb **23 46 05.5 +0.5**
comp=E,41nm,0.3s,baz=172,slow=20,SNR=65
NVAR LR LR 23 46 30.4
comp=E,67nm,21.1s,baz=207,slow=28
NVAR Lg Lg 23 46 39.2
comp=E,57nm,0.3s,baz=167,slow=31,SNR=9.5
comp=E,7.6nm,0.4s
PMD Palm Desert 2.53 154 Pn 23 45 59.9 -0.9
PMD IAML 23 46 42.9
comp=E,723nm,1.3s
PMD IAML 23 46 45.7
comp=N,438nm,1.1s
PFO Pinyon Flats O 2.54 156 Pn 23 46 00.4 -0.6
PFO IAML 23 46 45.4
comp=N,674nm,1.0s
PFO IAML 23 46 45.4
comp=N,1µm,1.3s
PFO Pinyon Flats O 2.54 156 Pn Pn 23 46 00.1 -0.8
comp=N,4.2nm,0.3s,baz=342,slow=15,SNR=31
PFO Pg Pg **23 46 06.5 -1.1**
comp=N,30nm,0.3s,baz=340,slow=15,SNR=49
PFO Lg Lg 23 46 38.7
comp=N,83nm,0.3s,baz=242,slow=19,SNR=16
PFO LR LR 23 47 11.3
comp=N,454nm,18.3s,baz=328,slow=45
comp=N,15nm,0.3s
PRN Pahroc Range 2.58 55 Pn 23 46 01.3 -0.2
PRN IAML 23 46 52.1
comp=E,1µm,0.9s
PRN IAML 23 46 54.0
comp=N,964nm,1.0s
RYN Ryan 2.76 346 Pn 23 46 04.1 +0.1
BBGB Big Mountain B 2.77 284 Pn 23 46 04.6 +0.5
NEE2 Needles Airpor 2.78 114 Pn 23 46 02.6 -1.5
NEE2 IAML 23 46 59.2
comp=E,944nm,0.7s
NEE2 IAML 23 47 02.8
comp=N,1µm,0.9s
BORC Borrego Spring 2.87 158 Pn 23 46 05.1 -0.2
BORC IAML 23 46 53.9
comp=E,1µm,0.9s
BORC IAML 23 46 59.0
comp=N,531nm,1.0s
WAKR Walker 2.91 332 Pb 23 46 12.8 +1.3
Q09A Carvers 2.92 8 Pn 23 46 06.0 -0.2
Q09A IAML 23 47 09.6
comp=N,886nm,1.4s
Q09A IAML 23 47 13.6
comp=E,966nm,1.6s
R11B Troy Canyon, C 2.94 34 Pn 23 46 07.0 +0.5
CMB Columbia Colle 3.00 315 Pn 23 46 08.4 +1.2
DPP Dos Picos Cty 3.00 168 Pn 23 46 06.9 -0.3
DPP IAML 23 46 54.0
comp=E,890nm,0.8s
DPP IAML 23 46 58.2
comp=N,335nm,0.8s
SAO San Andreas Ge 3.13 286 Pn 23 46 09.7 +0.7
W13A Hualapai Mount 3.22 104 Pn 23 46 09.3 -1.1
W13A IAML 23 47 04.4
comp=N,328nm,1.6s
BLYC Blythe 3.41 129 IAML 23 47 15.9
comp=N,300nm,0.9s
BLYC IAML 23 47 15.9
comp=E,293nm,0.7s
TJX Tijuana 3.46 171 Pn **Pn 23 46 13.6 0.0**
TKX Tecate 3.48 165 Pn **Pn 23 46 13.1 -0.7**
TKX **Pb 23 46 22.4 +1.3**
TKX IAML 23 47 08.1
comp=E,446nm,0.8s
TKX IAML 23 47 10.3
comp=N,296nm,0.8s
YUH Yuha Desert 3.60 155 Pn 23 46 14.9 -0.5
YUH Pg **Pg 23 46 26.2 -1.7**
YUH IAML 23 47 14.8
comp=N,191nm,0.8s
YUH IAML 23 47 16.1
comp=E,187nm,1.7s
CBX Cerro Bola 3.72 166 Pn 23 46 17.2 +0.1
GLA Glamis 3.73 140 IAML 23 47 19.5
comp=N,448nm,0.7s
GLA IAML 23 47 32.9
comp=E,501nm,0.9s
LCMT Little Creek M 3.75 72 Pn 23 46 17.1 -0.5
MPK Martis Peak 3.83 332 Pn 23 46 18.0 -0.7
MPK Pg **Pg 23 46 30.2 -2.0**
MPK IAML 23 47 28.1
comp=N,347nm,1.0s
MPK IAML 23 47 47.1
comp=E,328nm,1.1s
CCUT Cedar City 3.84 64 Pn 23 46 18.7 -0.1
AFDM Forest Hills D 3.97 320 Pn **Pn 23 46 20.6 0.0**
AFDM **Pb 23 46 30.9 +1.5**
AFDM IAML 23 47 26.3
comp=N,136nm,1.1s
AFDM IAML 23 47 28.9
comp=E,238nm,1.5s
PAHR Pah Rah Range 3.99 341 Pn 23 46 19.7 -1.1
PAHR Pg **Pg 23 46 34.0 -1.4**
PSUT Pine Spring 4.01 49 IAML 23 47 34.1
comp=N,267nm,1.4s
PSUT IAML 23 47 38.3
comp=E,372nm,1.4s
SZCU Shurtz Canyon 4.05 65 Pn 23 46 22.9 +1.0
SPR3 Spring Creek 3 4.06 40 Pn 23 46 22.7 +0.6
SPR3 IAML 23 47 27.5
comp=E,175nm,0.9s
SPR3 IAML 23 47 33.1
comp=N,160nm,1.7s
KNB Kanab 4.08 73 IAML 23 47 41.0
comp=N,262nm,1.1s
KNB IAML 23 47 51.3
comp=E,162nm,1.6s
CCX Cicese 4.15 168 IAML 23 47 39.6
comp=N,207nm,0.6s
ESJX Sierra Juarez 4.19 159 IAML 23 47 33.2
comp=E,229nm,1.3s
ESJX IAML 23 47 35.9
comp=N,214nm,0.8s
Y14A Wickenburg 4.34 116 IAML 23 47 43.4
comp=N,210nm,1.3s
Y14A IAML 23 47 47.8
comp=E,181nm,1.1s
U15A North Rim 4.40 82 IAML 23 47 36.2
comp=N,185nm,1.1s
U15A IAML 23 47 42.5
comp=E,240nm,0.9s
113A Mohawk Valley, 4.54 133 IAML 23 47 51.4
comp=N,135nm,1.1s
VTX Valle De La Tr 4.81 160 IAML 23 47 53.1
comp=N,233nm,0.9s
VTX IAML 23 48 00.9
comp=E,180nm,1.2s
ELK Elko 5.17 21 Pn **Pn 23 46 37.8 +0.6**
comp=E,1.8nm,0.3s,baz=200,slow=14,SNR=8.2

ELK Pg **Pg 23 46 54.9 -3.1**
comp=E,7.8nm,0.3s,baz=212,slow=13,SNR=23
ELK Lg Lg 23 48 02.3
comp=E,6.5nm,0.3s,baz=277,slow=21,SNR=6.4
ELK LR LR 23 48 58.5
comp=E,319nm,18.4s,baz=192,slow=42
comp=E,4.3nm,0.3s
X16A Lo Mia Camp, P 5.35 105 IAML 23 48 13.9
comp=N,50nm,1.2s
X16A IAML 23 48 19.7
comp=E,64nm,1.3s
YBH Yreka Blue Hor 6.98 327 Pn **Pn 23 47 04.6 +2.7**
baz=144,slow=14,SNR=4.0
YBH Lg Lg 23 48 58.1
baz=60,slow=5.5,SNR=3.8
ANMO Albuquerque 9.23 93 Pg Pn 23 48 06.1 +33
comp=E,0.2nm,0.3s,baz=7.4,slow=13,SNR=7.3
ANMO Lg Lg 23 50 05.4
comp=E,0.1nm,0.3s,baz=286,slow=19,SNR=8.2
PDAR Pinedale Array 9.28 40 Pn **Pn 23 47 36.5 +2.9**
comp=E,0.1nm,0.3s,baz=220,slow=15,SNR=5.3
PDAR Lg Lg 23 50 10.3
baz=114,slow=26
comp=E,1.0nm,0.9s
NEW Newport 12.32 2 LR LR 23 53 51.2
comp=E,87nm,18.9s,baz=168,slow=42
TXAR Lajitas Array 13.53 115 Pn **Pn 23 48 33.6 +1.9**
comp=E,0.1nm,0.3s,baz=300,slow=13,SNR=12
TXAR Lg Lg 23 52 22.4
baz=303,slow=32,SNR=3.9
comp=E,1.4nm,0.9s
BBB Bella Bella 17.85 339 LR LR 23 56 53.2
comp=E,117nm,20.6s,baz=121,slow=39
DLBC Dease Lake 23.94 344 LR LR 00 00 52.1
comp=E,30nm,18.1s,baz=88,slow=39
KDAK Kodiak Island 31.78 324 LR LR 00 03 01.0
comp=E,144nm,18.7s,baz=95,slow=33
INK Inuvik 33.62 349 LR LR 00 08 45.6
comp=E,88nm,19.2s,baz=84,slow=42
ILAR Eielson Array 33.73 338 P **P 23 52 03.2 +2.2**
comp=E,0.2nm,0.6s,baz=135,slow=7.7,SNR=1.6
comp=E,0.2nm,0.6s
JTS Las Juntas de 39.16 123 LR LR 00 10 14.6
comp=E,55nm,18.1s,baz=10,slow=38
SJG San Juan 48.66 97 LR LR 00 18 03.2
comp=E,27nm,18.6s,baz=145,slow=40

*NEIC **11** 23:47:01.0±1.0,35.°552N±0.°009×117.°338W±0.°008, h2km±2km, Error ellipse: s-maj=1.4km s-min=0.9km az=190.0*
PAS 11 23:47:01.5±0.7,35.°552N±0.°010×117.°324W±0.°010, h5km±2km, ML3.0/22, ML2.7/54(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=158.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.04**	**230**	Pg	Pg	23 47 03.0	+0.3
WSHM	**Spangler Hills**	**0.14**	**289**	Pg	Pg	23 47 04.3	-0.1
LRMC	**Laurel Mtn Rad**	**0.30**	**256**		Pg	23 47 07.3	-0.1
LRMC					Sg	23 47 11.6	+0.3
LRMC				IAML		23 47 12.3	
	comp=E,816nm,0.2s						
LRMC				IAML		23 47 12.7	
	comp=N,1µm,0.2s						
GSC	**Goldstone, Bar**	**0.49**	**120**	Pg	Pg	23 47 10.9	-0.1
GSC				Sg	Sg	23 47 17.8	+0.5
GSC				IAML		23 47 18.0	
	comp=N,755nm,0.3s						
GSC				IAML		23 47 18.2	
	comp=E,528nm,0.3s						
DTP	**Desert Tortois**	**0.51**	**236**		Pg	23 47 11.4	0.0
MPMC	**Manual Prospec**	**0.52**	**345**	Pg	Pg	23 47 11.8	+0.2
MPMC				Sg	Sg	23 47 18.7	+0.3
QSM	**Queen of Sheba**	**0.55**	**42**	Pg	Pg	23 47 12.3	+0.1
QSM				Sg	Sg	23 47 19.5	+0.1
HYS	**Haystack Butte**	**0.72**	**196**		Pg	23 47 14.6	-0.6
GWY	**Greenwater Val**	**0.83**	**40**	Pg	Pg	23 47 17.1	-0.2
GWY				IAML		23 47 31.4	
	comp=N,359nm,0.8s						
GWY				IAML		23 47 32.1	
	comp=E,300nm,0.5s						
ISA	**Isabella, Lake**	**0.94**	**277**	Pg	Pg	23 47 17.9	-1.6
TPO	**Tropico Hills**	**1.00**	**228**	Pg	Pg	23 47 20.5	-0.1
TPO					Sg	23 47 33.6	0.0
TPO				IAML		23 47 35.2	
	comp=E,281nm,1.1s						
HOLC	**Holcomb Ridge**	**1.17**	**202**		Pg	23 47 23.8	-0.1
BFSC	**Mount Baldy Ra**	**1.34**	**192**		Pn	23 47 26.1	-0.9
BFSC				IAML		23 47 33.9	
	comp=N,94nm,1.2s						
BFSC				IAML		23 47 35.4	
	comp=E,84nm,1.1s						
WCT	**Wildcat Mounta**	**1.36**	**24**		Pn	23 47 27.1	-0.1
WCT				IAML		23 47 35.9	
	comp=E,93nm,1.5s						
WCT				IAML		23 47 36.8	
	comp=N,94nm,2.0s						
MTPC	**Mountain Pass**	**1.45**	**92**		Pn	23 47 28.4	-0.1
MTPC				IAML		23 47 37.1	
	comp=E,74nm,1.6s						
MTPC				IAML		23 47 44.4	
	comp=N,84nm,2.5s						
OSI	**Osito Audit: C**	**1.48**	**231**		Pn	23 47 28.7	-0.1
OSI				IAML		23 47 39.0	
	comp=N,136nm,1.9s						
OSI				IAML		23 47 42.0	
	comp=E,123nm,1.2s						
TPNV	**Topopah Spring**	**1.64**	**32**	Pg	Pg	23 47 32.8	-0.1
TPNV				IAML		23 48 11.3	
	comp=E,109nm,2.7s						
GMN	**Gold Mountain**	**1.75**	**2**		Pb	23 47 34.5	+0.3
GMN				IAML		23 47 46.3	
	comp=E,52nm,2.7s						
GMN				IAML		23 47 49.3	
	comp=N,80nm,2.1s						
MZP	**Montezuma Peak**	**2.15**	**359**	Pn	Pn	23 47 37.6	-0.6
MZP				IAML		23 47 49.5	
	comp=N,35nm,2.5s						
MZP				IAML		23 47 56.6	
	comp=E,35nm,1.7s						
NEE2	**Needles Airpor**	**2.35**	**109**	Pn	Pn	23 47 40.6	-0.2

*NEIC **11** 23:51:08.1±1.8,35.°52N±0.°01×117.°33W±0.°02, h8km±3km, Error ellipse: s-maj=2.1km s-min=1.8km az=130.0*
PAS 11 23:51:09±2.1,35.°54N±0.°01×117.°39W±0.°01, h4km±2km, ML3.3/22, ML3.2/152(NEIC), Error ellipse: s-maj=2.2km s-min=1.5km az=190.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.02**	**127**	Pg	Pg	23 51 10.3	+0.4
CCCA				Sg	Sg	23 51 11.5	+0.9
WSHM	**Spangler Hills**	**0.11**	**305**		Pg	23 51 11.3	+0.1
WSHM				Sg	Sg	23 51 13.0	+0.3
LRMC	**Laurel Mtn Rad**	**0.25**	**256**		Pg	23 51 14.0	+0.1
LRMC				Sg	Sg	23 51 17.8	+0.6
LRMC				IAML		23 51 18.6	
	comp=N,6µm,0.2s						
LRMC				IAML		23 51 19.1	
	comp=E,6µm,0.3s						
SRTC	**Snort**	**0.33**	**297**		Pg	23 51 14.4	-1.0
TOW	**Tower One**	**0.41**	**311**		Pg	23 51 17.3	+0.4
GSC	**Goldstone, Bar**	**0.53**	**116**		Pg	23 51 19.2	0.0
GSC				Sg	Sg	23 51 26.3	+0.2
QSM	**Queen of Sheba**	**0.60**	**45**		Pg	23 51 20.4	-0.1
QSM				IAML		23 51 32.5	
	comp=N,1µm,0.7s						
QSM				IAML		23 51 33.2	
	comp=E,1µm,0.3s						
GWY	**Greenwater Val**	**0.87**	**42**		Pg	23 51 25.4	-0.4
GWY				IAML		23 51 41.3	
	comp=N,988nm,0.5s						
GWY				IAML		23 51 41.3	
	comp=E,1µm,0.5s						
ISA	**Isabella, Lake**	**0.90**	**278**		Pg	23 51 25.6	-0.6
ISA				IAML		23 51 38.4	
	comp=N,550nm,0.4s						
ISA				IAML		23 51 38.8	
	comp=E,769nm,0.4s						
TPO	**Tropico Hills**	**0.95**	**227**		Pg	23 51 27.0	-0.2
CWC	**Cottonwood Cre**	**1.06**	**328**		Pg	23 51 29.0	-0.4
AMDNV	**Amargosa**	**1.28**	**44**		Pg	23 51 32.0	-1.5
BFSC	**Mount Baldy Ra**	**1.32**	**190**		Pg	23 51 33.1	-1.2

BFSC IAML 23 51 52.9
comp=N,239nm,0.6s
BFSC IAML 23 51 53.5
comp=E,252nm,0.3s
WCT Wildcat Mounta 1.40 26 Pn 23 51 33.9 -1.4
WCT Sg 23 51 53.6 -0.2
WCT IAML 23 51 57.8
comp=E,225nm,0.5s
MWC Mount Wilson 1.42 203 Pn 23 51 34.8 -1.0
MWC IAML 23 51 56.5
comp=N,538nm,0.7s
MWC IAML 23 51 56.9
comp=E,599nm,0.6s
OSI Osito Audit: C 1.43 230 Pn 23 51 35.6 -0.2
GRAC Grapevine Rang 1.46 1 Pn 23 51 35.7 -0.4
GRAC IAML 23 52 01.1
comp=N,480nm,0.6s
GRAC IAML 23 52 05.3
comp=E,332nm,0.6s
MTPC Mountain Pass 1.50 92 Pn 23 51 35.3 -1.5
MTPC IAML 23 51 58.2
comp=N,261nm,0.8s
MTPC IAML 23 52 01.6
comp=E,240nm,0.2s
PASC Pasadena Art C 1.51 206 IAML 23 51 59.3
comp=N,240nm,0.4s
PASC IAML 23 52 00.7
comp=E,354nm,0.5s
TPNV Topopah Spring 1.68 33 IAML 23 52 05.7
comp=E,513nm,0.6s
TPNV IAML 23 52 08.2
comp=E,299nm,0.5s
GMN Gold Mountain 1.76 3 Pn 23 51 40.7 +0.2
ELS Elsinore Mount 1.89 181 Pn 23 51 41.1 -1.0
ELS IAML 23 52 10.2
comp=E,147nm,0.3s
DSP Deep Springs 1.89 346 Pn 23 51 41.2 -0.8
SHPR Sheep Range 2.05 61 Pn 23 51 43.6 -0.8
PMD Palm Desert 2.06 156 Pn 23 51 43.1 -1.3
PMD IAML 23 52 14.7
comp=E,148nm,0.4s
PMD IAML 23 52 15.6
comp=N,126nm,0.3s
PFO Pinyon Flats O 2.07 158 Pn 23 51 43.4 -1.2
PFO IAML 23 52 15.9
comp=N,102nm,0.7s
V12A Nelson 2.07 84 Pn 23 51 43.4 -1.3
MZP Montezuma Peak 2.16 0 Pn 23 51 45.1 -0.9
NEE2 Needles Airpor 2.39 108 Pn 23 51 47.2 -1.8
BORC Borrego Spring 2.40 160 Pn 23 51 48.6 -0.5
BORC IAML 23 52 27.2
comp=N,80nm,0.5s
BORC IAML 23 52 27.4
comp=E,89nm,0.6s
S11A Rachel 2.48 32 Pg 23 51 56.3 -0.3
S11A IAML 23 52 35.0
comp=N,138nm,1.2s
S11A IAML 23 52 40.2
comp=E,159nm,0.9s
TPH Tonopah 2.54 3 Pb 23 51 55.5 +0.3
DPP Dos Picos Cty 2.56 172 Pn 23 51 50.7 -0.6
DPP IAML 23 52 29.5
comp=E,62nm,0.4s
PRN Pahroc Range 2.65 45 Pn 23 51 51.9 -0.8
PRN Pg Pg 23 51 58.9 -0.8
PRN IAML 23 52 36.6
comp=N,172nm,0.5s
PRN IAML 23 52 36.6
comp=E,166nm,0.5s
LHV Little Huntoon 2.85 342 Pn 23 51 56.6 +1.3
LHV IAML 23 53 25.4
comp=E,65nm,0.6s
LHV IAML 23 53 28.1
comp=N,65nm,0.8s
PMPB Monarch Peak 2.85 285 Pn 23 51 55.7 +0.3
PMPB IAML 23 52 45.8
comp=E,116nm,0.6s
PMPB IAML 23 53 40.5
comp=N,138nm,0.7s
W13A Hualapai Mount 2.90 98 IAML 23 52 44.4
comp=N,60nm,0.9s
NV11 Mina Array Sit 2.95 348 Pn 23 51 56.2 -0.6
BLYC Blythe 2.96 126 Pn 23 51 55.1 -1.6
BLYC IAML 23 52 46.6
comp=E,88nm,0.7s
BLYC IAML 23 52 48.6
comp=N,110nm,0.7s
NVAR Mina Array Bea 2.98 346 Pn 23 51 57.3 0.0
YUH Yuha Desert 3.13 157 Pn 23 51 58.8 -0.3
BBGB Big Mountain B 3.14 290 Pg 23 52 07.6 -1.5
R11B Troy Canyon, C 3.15 27 Pg 23 52 08.5 -1.0
RYN Ryan 3.21 344 IAML 23 54 06.1
comp=E,42nm,1.4s
GLA Glamis 3.26 139 IAML 23 52 57.9
comp=E,112nm,0.7s
GLA IAML 23 52 59.2
comp=N,107nm,0.5s
CBX Cerro Bola 3.27 169 Pg Pb 23 52 08.3 +0.6
Q09A Carvers 3.29 3 Pg 23 52 13.4 +1.3
WAKR Walker 3.38 332 Pg 23 52 11.9 -2.0
WAKR IAML 23 54 13.6
comp=E,38nm,1.2s
WAKR IAML 23 54 14.3
comp=N,40nm,1.6s
CMB Columbia Colle 3.46 317 Pn 23 52 04.8 +1.1
CMB IAML 23 54 10.0
comp=N,71nm,0.6s
CMB IAML 23 54 12.2
comp=E,59nm,0.7s
SAO San Andreas Ge 3.51 292 Pn Pn 23 52 05.1 +0.8
LCMT Little Creek M 3.66 65 Pn 23 52 05.8 -0.6
ESJX Sierra Juarez 3.72 161 Pn 23 52 06.0 -1.4
ESJX IAML 23 53 06.4
comp=E,26nm,0.4s
Y14A Wickenburg 3.94 113 Pn 23 52 09.2 -1.1
Y14A IAML 23 53 17.1
comp=N,65nm,0.9s
Y14A IAML 23 53 21.0
comp=E,44nm,0.5s
KNB Kanab 3.97 67 Pn 23 52 10.6 -0.2
KNB IAML 23 54 48.1
comp=N,25nm,1.4s
SZCU Shurtz Canyon 4.02 58 Pn 23 52 11.2 -0.4
U15A North Rim 4.23 76 IAML 23 54 52.2
comp=N,28nm,1.2s
U15A IAML 23 54 56.3
comp=E,40nm,1.0s
SPR3 Spring Creek 3 4.23 34 IAML 23 54 39.9
comp=E,29nm,1.0s
SPR3 IAML 23 54 51.7
comp=N,27nm,1.4s
PAHR Pah Rah Range 4.45 340 IAML 23 54 49.3
comp=N,14nm,2.5s
PAHR IAML 23 54 50.0
comp=E,16nm,2.3s
BEKR Beckworth 4.92 332 IAML 23 53 56.5
comp=N,13nm,0.7s
BEKR IAML 23 55 08.0
comp=E,30nm,0.7s
X16A Lo Mia Camp, P 5.01 101 IAML 23 53 51.9
comp=N,14nm,1.3s

*NEIC **11** 23:52:31.7±1.1,35.°949N±0.°010×117.°69W±0.°01, h7km±4km, Error ellipse: s-maj=1.5km s-min=1.4km az=51.0*
PAS 11 23:52:32.2±1.5,35.°945N±0.°007×117.°70W±0.°01, h3km±5km, Mwr3.6/4, ML3.4/132(NEIC), Error ellipse: s-maj=1.5km s-min=0.5km az=52.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRC2	**Joshua Ridge**	**0.10**	**293**		Pg	23 52 34.4	+0.2
WVPM	**Volcano Peak E**	**0.10**	**273**		Pg	23 52 34.4	+0.2
TOW	**Tower One**	**0.14**	**201**		Pg	23 52 35.6	+0.6
WRVM	**Rose V. Centra**	**0.17**	**292**		Pg	23 52 35.6	+0.1
WNMM	**Nine Mile Cany**	**0.20**	**238**		Pg	23 52 36.2	+0.2
WNMM					Sg	23 52 39.6	+1.0
MPMC	**Manual Prospec**	**0.20**	**57**		Pg	23 52 36.3	+0.1
MFS	**McCloud Flat S**	**0.21**	**324**		Pg	23 52 36.5	0.0
MFS					Sg	23 52 39.9	+0.7
SRTC	**Snort**	**0.26**	**189**		Pg	23 52 37.7	+0.5
SRTC					Sg	23 52 42.3	+1.8
WSHM	**Spangler Hills**	**0.38**	**154**	Pg	Pg	23 52 39.5	-0.1
WSHM					Sg	23 52 45.2	+0.6

WSHM				IAML		23 52 45.7		
	5μm,0.3s							
LRMC	**Laurel Mtn Rad**	**0.47**	**178**		Pg	23 52 41.1	-0.1	
LRMC				Sg	Sg	23 52 47.5	+0.3	
LRMC				IAML		23 52 48.2		
	comp=N,6μm,0.2s							
CCCA	**Chr Cany lake**	**0.50**	**147**		Pg	23 52 42.0	+0.1	
CCCA				Sg	Sg	23 52 49.5	+1.2	
WBSM	**Bird Springs**	**0.54**	**221**		Sg	23 52 50.2	+0.5	
CWC	**Cottonwood Cre**	**0.58**	**328**	Pg	Pg	23 52 43.5	0.0	
CWC				Sg	Sg	23 52 51.4	+0.4	
CGO	**Cerro Gordo**	**0.61**	**352**		Pg	23 52 43.7	-0.3	
QSM	**Queen of Sheba**	**0.68**	**88**	Sg	Sg	23 52 53.6	-0.3	
QSM				IAML		23 52 56.3		
	comp=N,2μm,0.8s							
QSM				IAML		23 52 59.1		
	comp=E,2μm,0.5s							
QSM	**Queen of Sheba**	**0.68**	**88**		Pg	23 52 45.0	-0.2	
DTP	**Desert Tortois**	**0.69**	**190**		Pg	23 52 45.0	-0.4	
ISA	**Isabella, Lake**	**0.69**	**246**	Pg	Pg	23 52 45.2	-0.2	
ISA				Sg	Sg	23 52 54.3	-0.1	
ISA				IAML		23 52 54.7		
	comp=N,3μm,0.4s							
ISA				IAML		23 52 55.5		
	comp=E,2μm,0.6s							
CCAC	**Calif City Air**	**0.83**	**198**		Pg	23 52 47.8	-0.4	
GWY	**Greenwater Val**	**0.87**	**74**		Pg	23 52 48.8	-0.1	
GWY	**Greenwater Val**	**0.87**	**74**	IAML		23 53 01.2		
	comp=E,990nm,0.6s							
GWY				IAML		23 53 05.9		
	comp=N,1μm,0.5s							
SPG2	**Springville 2**	**0.90**	**287**		Pg	23 52 49.0	-0.5	
GSC	**Goldstone, Bar**	**0.97**	**131**	Pg	Pg	23 52 49.9	-1.0	
GSC				IAML		23 53 06.6		
	comp=E,2μm,0.7s							
GSC				IAML		23 53 07.3		
	comp=N,734nm,0.8s							
GRAC	**Grapevine Rang**	**1.08**	**14**	Pg	Pg	23 52 52.4	-0.6	
GRAC				IAML		23 53 11.2		
	comp=E,2μm,1.1s							
GRAC				IAML		23 53 15.1		
	comp=N,1μm,0.7s							
TPO	**Tropico Hills**	**1.15**	**202**		Pg	23 52 53.4	-0.9	
TPO	**Tropico Hills**	**1.15**	**202**	IAML		23 53 15.9		
	comp=N,1μm,0.6s							
TPO				IAML		23 53 17.9		
	comp=E,827nm,0.6s							
WCT	**Wildcat Mounta**	**1.21**	**45**		Pg	23 52 54.8	-0.7	
WCT	**Wildcat Mounta**	**1.21**	**45**	IAML		23 53 15.8		
	comp=E,608nm,1.2s							
WCT				IAML		23 53 16.0		
	comp=N,452nm,0.8s							
AMDNV	**Amargosa**	**1.25**	**66**		Pg	23 52 55.4	-0.9	
GMN	**Gold Mountain**	**1.40**	**15**		Pn	23 52 58.2	-0.7	
GMN	**Gold Mountain**	**1.40**	**15**	IAML		23 53 20.2		
	comp=N,383nm,0.6s							
GMN				IAML		23 53 20.9		
	comp=E,281nm,0.5s							
VOG	**Valley Oaks Go**	**1.41**	**286**		Pn	23 52 58.4	-0.5	
DSP	**Deep Springs**	**1.44**	**351**	IAML		23 53 19.9		
	comp=E,314nm,0.9s							
TUQ	**Turquoise Moun**	**1.53**	**109**		Pn	23 52 59.1	-1.5	
TPNV	**Topopah Spring**	**1.54**	**49**		Pn	23 53 00.3	-0.5	
TPNV				IAML		23 53 23.9		
	comp=E,396nm,0.8s							
TPNV				IAML		23 53 24.6		
	comp=E,574nm,0.9s							
MTUM	**Tungsten Hills**	**1.57**	**334**		Pn	23 53 00.9	-0.3	
OSI	**Osito Audit: C**	**1.57**	**213**		Pn	23 53 00.7	-0.4	
OSI				IAML		23 53 28.4		
	comp=E,332nm,0.8s							
OSI				IAML		23 53 33.4		
	comp=N,272nm,0.6s							
BFSC	**Mount Baldy Ra**	**1.70**	**179**		Pn	23 53 03.0	0.0	
BFSC				IAML		23 53 33.4		
	comp=E,320nm,0.7s							
BFSC				IAML		23 53 33.5		
	comp=N,298nm,0.8s							
MWC	**Mount Wilson**	**1.74**	**190**		Pn	23 53 02.8	-0.8	
MWC				IAML		23 53 32.1		
	comp=E,312nm,0.7s							
MWC				IAML		23 53 38.0		
	comp=N,244nm,1.0s							
MZP	**Montezuma Peak**	**1.77**	**8**	Pn	Pn	23 53 03.5	-0.6	
CRGC	**Crocker Grade**	**1.79**	**248**		Pn	23 53 05.0	+0.8	
MTPC	**Mountain Pass**	**1.81**	**104**		Pn	23 53 04.0	-0.5	
MTPC				IAML		23 53 32.0		
	comp=E,210nm,0.6s							
PASC	**Pasadena Art C**	**1.81**	**193**		Pn	23 53 03.6	-0.8	
KCC	**Kaiser Creek**	**1.89**	**317**		Pb	23 53 06.9	-0.6	
SHPR	**Sheep Range**	**2.13**	**74**	Pn	Pn	23 53 09.0	+0.1	
TPH	**Tonopah**	**2.16**	**10**	Pn	Pn	23 53 09.0	-0.4	
TPH				IAML		23 53 47.8		
	comp=E,530nm,0.9s							
ELS	**Elsinore Mount**	**2.30**	**174**	Pn	Pn	23 53 10.4	-0.8	
ELS				IAML		23 53 47.6		
	comp=N,108nm,1.0s							
ELS				IAML		23 53 51.3		
	comp=E,140nm,1.2s							
S11A	**Rachel**	**2.31**	**42**	Pn	Pn	23 53 11.1	-0.3	
S11A				IAML		23 53 50.0		
	comp=E,406nm,0.8s							
S11A				IAML		23 53 51.0		
	comp=N,266nm,0.8s							
V12A	**Nelson**	**2.33**	**95**	Pn	Pn	23 53 11.1	-0.4	
V12A				IAML		23 53 48.5		
	comp=N,163nm,1.9s							
V12A				IAML		23 53 55.5		
	comp=E,115nm,0.6s							
POB	**Polly Butte**	**2.34**	**164**		Pn	23 53 11.3	-0.4	
LHV	**Little Huntoon**	**2.39**	**345**	Pn	Pn	23 53 12.0	-0.3	
LHV				IAML		23 53 55.2		
	comp=E,158nm,1.6s							
LHV				IAML		23 54 07.5		
	comp=N,130nm,1.2s							
NV11	**Mina Array Sit**	**2.51**	**352**	Pn	Pn	23 53 14.1	0.0	
NV11				IAML		23 53 58.0		
	comp=E,89nm,1.4s							
NVAR	**Mina Array Bea**	**2.53**	**349**	Pn	Pn	23 53 14.2	-0.3	
PMPB	**Monarch Peak**	**2.53**	**277**	Pn	Pn	23 53 14.5	+0.2	
PMD	**Palm Desert**	**2.54**	**154**	Pn	Pn	23 53 14.3	0.0	
PMD				IAML		23 53 54.7		
	comp=E,106nm,0.7s							
PFO	**Pinyon Flats O**	**2.54**	**156**	Pn	Pn	23 53 14.6	0.0	
PFO				IAML		23 53 57.6		
	comp=E,83nm,0.6s							
PFO				IAML		23 53 58.6		
	comp=E,134nm,2.0s							
PRN	**Pahroc Range**	**2.58**	**55**	Pn	Pn	23 53 14.8	-0.3	
PRN				IAML		23 54 03.9		
	comp=N,170nm,0.9s							
PRN				IAML		23 54 05.5		
	comp=E,231nm,0.8s							
MYLM	**Yosemite Lake**	**2.62**	**304**		Pb	23 53 18.6	-1.2	
RYN	**Ryan**	**2.76**	**346**	Pn	Pn	23 53 15.9	-1.7	
BBGB	**Big Mountain B**	**2.77**	**284**	Pn	Pn	23 53 17.0	-0.7	
NEE2	**Needles Airpor**	**2.78**	**114**	Pn	Pn	23 53 17.5	-0.2	
NEE2				IAML		23 54 11.9		
	comp=N,218nm,0.7s							
NEE2				IAML		23 54 14.1		
	comp=E,187nm,0.7s							
WAKR	**Walker**	**2.91**	**332**	Pn	Pn	23 53 20.3	+0.7	
Q09A	**Carvers**	**2.91**	**8**		Pg	23 53 29.2	+1.2	
OPP	**Dos Picos Cty**	**3.01**	**168**		Pb	23 53 29.2	+0.5	
DPP				IAML		23 54 07.2		
	comp=E,161nm,0.7s							
DPP				IAML		23 54 11.5		
	comp=N,66nm,0.8s							
SALN	**Salton City**	**3.01**	**152**	Pn	Pn	23 53 19.8	-1.0	
SAO	**San Andreas Ge**	**3.13**	**286**		Pn	23 53 22.8	+0.3	
W13A	**Hualapai Mount**	**3.22**	**104**	Pn	Pn	23 53 24.1	+0.1	
TKX	**Tecate**	**3.49**	**165**		Pg	23 53 37.1	-1.9	
YUH	**Yuha Desert**	**3.60**	**155**		Pg	23 53 39.8	-1.5	
CBX	**Cerro Bola**	**3.72**	**166**	Pn	Pn	23 53 30.2	-0.6	
GLA	**Glamis**	**3.74**	**140**	Pn	Pn	23 53 30.2	-0.7	
GLA				IAML		23 54 32.8		
	comp=N,73nm,0.7s							
LCMT	**Little Creek M**	**3.75**	**72**	Pn	Pn	23 53 29.8	-1.3	
MPK	**Martis Peak**	**3.82**	**332**	Pn	Pn	23 53 29.7	-2.6	
MPK				IAML		23 54 41.5		
	comp=N,102nm,0.9s							
MPK				IAML		23 55 00.6		
	comp=E,92nm,1.1s							
AFDM	**Forest Hills D**	**3.97**	**320**		Pn	23 53 30.8	-3.3	
AFDM				IAML		23 54 42.2		
	comp=E,38nm,1.5s							
AFDM				IAML		23 54 44.1		
	comp=N,30nm,1.2s							
PAHR	**Pah Rah Range**	**3.98**	**341**	Pn	Pn	23 53 33.7	-0.7	
PAHR					Pg	23 53 47.2	-1.4	
PSUT	**Pine Spring**	**4.01**	**49**	Pg	Pg	23 53 48.7	-0.4	
PSUT				IAML		23 54 47.4		
	comp=N,38nm,1.4s							
PSUT				IAML		23 54 51.7		
	comp=E,65nm,1.4s							

PAS ***12*** *00:08:06.5±1.1,35.°945N±0.°009×117.°38W±0.°01, h-0km±1km,ML3.1/24,ML3.0/150(NEIC),Error ellipse: s-maj=1.4km s-min=1.0km az=202.0*

NEIC 12 00:08:06.2±1.1,35.°945N±0.°009×117.°37W±0.°01, h6km±4km,Error ellipse: s-maj=1.5km s-min=1.4km az=92.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.15**	**319**	Pg	Pg	00 08 09.7	+0.3
WSHM	**Spangler Hills**	**0.36**	**197**		Pg	00 08 13.7	+0.4
WSHM					Sg	00 08 18.7	+0.8
WSHM				IAML		00 08 19.0	
	2μm,0.2s						
JRC2	**Joshua Ridge**	**0.36**	**276**		Pn	00 08 18.9	+0.7
WVPM	**Volcano Peak E**	**0.37**	**271**		Pg	00 08 13.9	+0.5
QSM	**Queen of Sheba**	**0.41**	**87**		Pg	00 08 14.5	+0.4
QSM				Sg	Sg	00 08 19.9	+0.6
QSM				IAML		00 08 20.4	
	comp=N,1μm,0.4s						
QSM				IAML		00 08 21.4	
	comp=E,2μm,0.2s						
CCCA	**Chr Cany lake**	**0.42**	**180**		Pg	00 08 15.2	+0.8
CCCA				Sg	Sb	00 08 21.5	-1.2
CCCA				IAML		00 08 22.4	
	comp=E,2μm,0.6s						
WRVM	**Rose V. Centra**	**0.43**	**279**		Pg	00 08 14.8	+0.3
MFS	**McCloud Flat S**	**0.43**	**294**		Pg	00 08 15.0	+0.3
WNMM	**Nine Mile Cany**	**0.45**	**257**		Pg	00 08 15.4	+0.5
LRMC	**Laurel Mtn Rad**	**0.53**	**209**		Pg	00 08 16.7	+0.2
LRMC					Sg	00 08 24.3	+0.9
LRMC				IAML		00 08 25.0	
	comp=N,1μm,0.2s						
GWY	**Greenwater Val**	**0.61**	**67**		Pg	00 08 18.6	+0.5
GWY					Sg	00 08 26.8	+0.7
GWY				IAML		00 08 31.2	
	comp=E,783nm,0.2s						
GWY				IAML		00 08 31.3	
	comp=N,717nm,0.4s						
CWC	**Cottonwood Cre**	**0.76**	**311**		Pg	00 08 21.0	+0.1
CWC					Sg	00 08 31.0	+0.3
CWC				IAML		00 08 32.1	
	comp=N,653nm,0.2s						
CWC				IAML		00 08 33.4	
	comp=E,743nm,0.4s						
GSC	**Goldstone, Bar**	**0.79**	**144**		Pg	00 08 21.6	+0.3
GSC				Sg	Sg	00 08 32.4	+0.9
GSC				IAML		00 08 34.6	
	comp=N,450nm,0.4s						
GSC				IAML		00 08 36.0	
	comp=E,748nm,0.6s						
ISA	**Isabella, Lake**	**0.94**	**253**		Pg	00 08 24.3	0.0
WCT	**Wildcat Mounta**	**1.04**	**35**		Pg	00 08 26.3	+0.1
WCT					Sg	00 08 39.9	+0.3
WCT				IAML		00 08 41.9	
	comp=N,285nm,0.5s						
WCT				IAML		00 08 42.2	
	comp=E,343nm,0.3s						
GRAC	**Grapevine Rang**	**1.05**	**0**		Pg	00 08 26.4	0.0
GRAC				IAML		00 08 44.0	
	comp=N,436nm,0.6s						
GRAC				IAML		00 08 44.2	
	comp=E,493nm,0.4s						
TPO	**Tropico Hills**	**1.27**	**214**		Pb	00 08 30.9	+0.2
TPNV	**Topopah Spring**	**1.35**	**42**		Pn	00 08 31.6	-0.1
TPNV				IAML		00 08 53.1	
	comp=E,294nm,0.4s						
TPNV				IAML		00 08 58.2	
	comp=E,213nm,0.6s						
GMN	**Gold Mountain**	**1.36**	**4**		Pn	00 08 32.1	+0.1
GMN				IAML		00 08 53.0	
	comp=E,110nm,0.4s						
GMN				IAML		00 08 56.4	
	comp=N,145nm,0.5s						
HEC	**Hector,Ludlow**	**1.40**	**143**		Pb	00 08 32.9	+0.1
DSP	**Deep Springs**	**1.50**	**341**		Pn	00 08 34.1	+0.3
DSP					Sb	00 08 53.8	-0.1
MTPC	**Mountain Pass**	**1.54**	**107**		Pn	00 08 34.8	+0.3
MTPC				IAML		00 08 58.6	
	comp=E,273nm,0.3s						
MTPC				IAML		00 09 00.2	
	comp=N,270nm,0.2s						
BHPR	**Bishop**	**1.62**	**327**		Pb	00 08 36.7	-0.1
BFSC	**Mount Baldy Ra**	**1.72**	**188**		Pb	00 08 37.6	-0.7
BFSC				IAML		00 09 02.3	
	comp=E,164nm,0.4s						
BFSC				IAML		00 09 03.5	
	comp=N,100nm,0.4s						
OSI	**Osito Audit: C**	**1.73**	**220**		Pb	00 08 38.0	-0.4
OSI				IAML		00 09 04.5	
	comp=N,201nm,0.8s						
OSI				IAML		00 09 06.2	
	comp=E,149nm,0.7s						
MZP	**Montezuma Peak**	**1.75**	**360**		Pn	00 08 37.9	+0.4
MWC	**Mount Wilson**	**1.81**	**198**		Pb	00 08 39.6	-0.3
MWC				IAML		00 09 08.1	
	comp=E,169nm,0.6s						
SHPR	**Sheep Range**	**1.87**	**72**		Pn	00 08 38.8	-0.2
PASC	**Pasadena Art C**	**1.89**	**201**		Pn	00 08 39.3	+0.1
PASC				IAML		00 09 08.5	
	comp=N,67nm,0.5s						
PASC				IAML		00 09 10.0	
	comp=E,83nm,0.6s						
BLAC	**Blackrock camp**	**2.04**	**156**		Pg	00 08 44.8	-0.5
V12A	**Nelson**	**2.06**	**95**		Pn	00 08 42.4	+0.9
V12A				IAML		00 09 20.2	
	comp=N,86nm,0.8s						
V12A				IAML		00 09 20.3	
	comp=E,81nm,0.6s						
TPC	**Twentynine Pal**	**2.13**	**149**		Pn	00 08 42.1	-0.3
TPH	**Tonopah**	**2.13**	**3**		Pb	00 08 46.0	+0.6
S11A	**Rachel**	**2.14**	**37**		Pg	00 08 47.2	-0.1
S11A				IAML		00 09 17.6	
	comp=N,134nm,0.9s						
ELS	**Elsinore Mount**	**2.29**	**181**		Pn	00 08 44.8	+0.1
ELS				IAML		00 09 23.2	
	comp=E,45nm,0.3s						
ELS				IAML		00 09 27.5	
	comp=N,40nm,0.6s						
PRN	**Pahroc Range**	**2.37**	**51**		Pn	00 08 46.4	+0.7
PRN				IAML		00 09 29.6	
	comp=E,108nm,0.7s						
PRN				IAML		00 09 31.9	
	comp=N,104nm,0.5s						
PMD	**Palm Desert**	**2.43**	**160**		Pn	00 08 46.3	-0.2
PFO	**Pinyon Flats O**	**2.44**	**162**		Pn	00 08 46.5	-0.3
LHV	**Little Huntoon**	**2.48**	**339**		Pn	00 08 48.6	+1.5
LHV				IAML		00 09 29.7	
	comp=N,57nm,0.5s						
LHV				IAML		00 09 39.1	
	comp=E,46nm,1.1s						
NEE2	**Needles Airpor**	**2.53**	**117**		Pn	00 08 49.4	+1.4
NV11	**Mina Array Sit**	**2.56**	**346**		Pn	00 08 48.9	+0.4
NVAR	**Mina Array Bea**	**2.59**	**343**		Pn	00 08 49.4	+0.5
BORC	**Borrego Spring**	**2.78**	**163**		Pg	00 08 58.2	-1.3
R11B	**Troy Canyon, C**	**2.79**	**30**		Pb	00 08 57.8	+1.2
PMPB	**Monarch Peak**	**2.79**	**277**		Pn	00 08 52.8	+1.2
PMPB				IAML		00 09 40.2	
	comp=E,50nm,0.7s						
PMPB				IAML		00 09 45.8	
	comp=N,55nm,1.0s						
RYN	**Ryan**	**2.83**	**341**		Pn	00 08 52.2	-0.1
DPP	**Dos Picos Cty**	**2.96**	**173**	IAML		00 09 40.9	
	comp=E,40nm,0.4s						
W13A	**Hualapai Mount**	**2.96**	**106**		Pn	00 08 55.0	+1.0
W13A				IAML		00 09 42.0	
	comp=N,33nm,0.6s						
W13A				IAML		00 09 44.6	
	comp=E,41nm,0.8s						
BBGB	**Big Mountain B**	**3.04**	**283**	Pn	Pn	00 08 55.0	+0.1
CMB	**Columbia Colle**	**3.19**	**312**		Pn	00 08 57.8	+0.8
CMB				IAML		00 09 52.5	
	comp=N,54nm,0.6s						
CMB				IAML		00 09 52.8	
	comp=E,29nm,0.7s						
BLYC	**Blythe**	**3.20**	**132**	IAML		00 09 54.3	
	comp=N,41nm,0.5s						
BLYC				IAML		00 09 55.1	
	comp=E,33nm,0.5s						
LCMT	**Little Creek M**	**3.49**	**71**	Pn	Pn	00 09 01.0	-0.2
YUH	**Yuha Desert**	**3.50**	**160**	Pn	Pn	00 09 01.3	+0.1
GLA	**Glamis**	**3.57**	**143**	Pn	Pn	00 09 01.7	-0.5
GLA				IAML		00 10 06.3	
	comp=N,31nm,0.6s						
CCUT	**Cedar City**	**3.59**	**62**	Pn	Pn	00 09 02.7	0.0
CCUT					Pg	00 09 14.7	-0.4
PSUT	**Pine Spring**	**3.81**	**46**	IAML		00 10 10.3	
	comp=E,20nm,0.5s						
PSUT				IAML		00 10 10.4	
	comp=N,22nm,0.6s						
SPR3	**Spring Creek 3**	**3.89**	**37**	IAML		00 10 11.0	
	comp=E,21nm,0.7s						
SPR3				IAML		00 10 11.0	
	comp=N,19nm,0.8s						
Y14A	**Wickenburg**	**4.10**	**118**	IAML		00 10 19.5	
	comp=E,29nm,0.4s						
U15A	**North Rim**	**4.13**	**82**	IAML		00 10 24.0	
	comp=N,12nm,0.9s						
U15A				IAML		00 10 33.1	
	comp=E,12nm,1.2s						
AFDM	**Forest Hills D**	**4.15**	**317**	IAML		00 10 20.9	
	comp=N,22nm,0.5s						
AFDM				IAML		00 10 21.4	
	comp=E,24nm,1.0s						
BEKR	**Beckworth**	**4.58**	**330**	IAML		00 10 50.1	
	comp=N,7.5nm,0.7s						
BEKR				IAML		00 10 54.9	
	comp=E,14nm,0.7s						
WUAZ	**Wupatki**	**4.89**	**93**	IAML		00 10 44.0	
	comp=E,12nm,0.7s						
X16A	**Lo Mia Camp, P**	**5.09**	**106**	IAML		00 10 52.7	
	comp=E,5.0nm,1.2s						
X16A				IAML		00 10 55.6	
	comp=N,6.0nm,1.1s						

IDC 12 00:16:02.1±1.8,0.°86N×126.°69E,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=171.5km s-min=22.1km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.00**	**160**	P	P	00 20 57.1	-1.0
	2.0nm,0.5s,baz=339,slow=11,SNR=15						
	2.0nm,0.5s						
ASAR	**Alice Springs**	**25.37**	**164**	P	P	00 21 32.0	+0.8
	2.1nm,0.8s,baz=342,slow=9.5,SNR=16						
	2.1nm,0.8s						
MKAR	**Makanchi Array**	**59.89**	**326**	P	P	00 26 11.1	+1.3
	0.3nm,0.5s,baz=133,slow=8.4,SNR=4.7						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**64.13**	**328**	P	P	00 26 36.6	-1.7
	0.5nm,0.3s,baz=128,slow=6.3,SNR=2.1						
	0.5nm,0.3s						

NEIC ***12*** *00:16:52.1±1.3,34.°31S±0.°02×179.°7E±0.°1,h10km±1km, mb4.9/37,Error ellipse: s-maj=18.1km s-min=3.0km az=95.0*

WEL ***12*** *00:16:52.0±1.0,34°S±6°×18°0E±1°,h12km,M5.0/23, mB5.5/5,ML5.2/23,MLv5.1/23,Mw(mB)4.9/5,Error ellipse: s-maj=13.9km s-min=8.4km az=95.9,confirmed*

GCMT ***12*** *00:16:54.1±0.3,34.°06S±0.°02×179.°57E±0.°03,h13km±1km, MW4.8/74,Moment Tensor Solution. s32,c39; s74,c102; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~1.24±.14; Mθθ0.73±.10; Mϕϕ0.51±.10; Mrθ0.09±.23; Mϕθ1.85±.07; Mϕr~0.02±.24; Best double couple: M0 1.89400×10^16 NP1:ϕs12.00000°,δ58.00000°,λ-144.00000°. NP2: ϕs261.00000°,δ60.00000°,λ-37.00000°. Principal axes: T 2.4760, Plg1.0000°, Azm317.0000°; N -1.1610, Plg43.0000°, Azm47.0000°; P -1.3120, Plg47.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***12*** *00:16:57.6±2.2,34.°23S×179.°51E,h50km±19km,mb4.3/10, mbtmp4.6/13,ML4.3/3,MS4.0/36 Error ellipse: s-maj=19.8km s-min=14.0km az=83.0*

ISC 12 00:16:52.1±0.4,34.°18S±0.°04×179.°60E±0.°06,h10km,n164, σ1§85/136,mb4.9/30,MS4.1/35,3C-1D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.54**	**197**		**Pn**	**00 17 46.3**	**-0.8**
MXZ	**Matakaoa Point**	**3.54**	**197**	P	**Pn**	**00 17 46.5**	**-0.5**
MXZ				T	T	00 21 07.3	
WMGZ	**Waiomatatini S**	**3.76**	**195**	P	**Pn**	**00 17 52.5**	**+2.4**
WMGZ				S	**Sn**	**00 18 37.0**	**+2.6**
WMGZ				T	T	00 21 19.4	
HAZ	**Te Kaha**	**3.86**	**202**	P	**Pn**	**00 17 55.6**	**+4.0**
HAZ				S	**Sn**	**00 18 42.2**	**+5.3**
HAZ				T	T	00 21 37.2	
WIZ	**White Island**	**3.87**	**210**	P	**Pn**	**00 17 54.6**	**+2.9**
WIZ				S	**Sn**	**00 18 42.8**	**+5.6**
WIZ				T	T	00 21 43.9	
PKGZ	**Pakihiroa**	**3.88**	**198**	P	**Pn**	**00 17 54.1**	**+2.3**
PKGZ				S	**Sn**	**00 18 41.6**	**+4.1**
PKGZ				T	T	00 21 30.7	
GRZ	**Great Barrier**	**3.97**	**238**	P	**Pn**	**00 17 52.8**	**-0.3**
GRZ				T	T	00 21 13.8	
PUZ	**Puketiti**	**4.03**	**195**	P	**Pn**	**00 17 55.7**	**+1.7**
KUZ	**Kuaotunu**	**4.07**	**230**	P	**Pb**	**00 18 01.1**	**-2.8**
RUGZ	**Raukumara Rang**	**4.09**	**202**	P	**Pn**	**00 17 56.6**	**+1.8**
RUGZ				T	T	00 21 33.5	
TWGZ	**Tauwhareparae**	**4.20**	**198**	P	**Pn**	**00 17 58.7**	**+2.4**
WHRZ	**Whale Island**	**4.24**	**209**	P	Pn	00 18 01.8	+5.0
WHRZ				T	T	00 22 17.1	
OPRZ	**Ohinepanea**	**4.41**	**213**	P	**Pn**	**00 18 03.7**	**+4.5**
OPRZ				S	**Sb**	**00 18 59.6**	**-3.4**
TGRZ	**Tauranga**	**4.46**	**216**	P	**Pn**	**00 18 02.0**	**+2.2**
MWZ	**Matawai**	**4.47**	**201**	P	**Pn**	**00 18 01.5**	**+1.5**
MARZ	**Manawahe**	**4.48**	**211**	P	**Pn**	**00 18 04.1**	**+4.1**
MARZ				T	T	00 23 08.3	
TKGZ	**Te Karaka**	**4.48**	**198**	P	**Pn**	**00 18 01.4**	**+1.4**
URZ	**Urewera**	**4.54**	**206**	P	**Pn**	**00 18 01.7**	**+0.8**
	20nm,0.3s,baz=25,slow=6.7,SNR=78						
URZ				S	**Sn**	**00 18 53.7**	**0.0**
	280nm,0.7s,baz=142,slow=16,SNR=6.6						
	230nm,0.6s						
URZ	**Urewera**	**4.54**	**206**	P	**Pn**	**00 18 01.9**	**+1.0**
URZ				S	**Sn**	**00 18 57.0**	**+3.3**
RAGZ	**Rawiri**	**4.65**	**202**	P	**Pn**	**00 18 04.7**	**+2.2**
WCZ	**Waipu Caves**	**4.66**	**246**	P	**Pn**	**00 18 02.2**	**-0.3**
KARZ	**Kaharoa**	**4.70**	**214**	P	**Pn**	**00 18 05.5**	**+2.4**
KMRZ	**Kaimai**	**4.71**	**218**	P	Pn	00 18 08.7	+5.5
RIGZ	**Rimuhau**	**4.75**	**198**	P	**Pn**	**00 18 04.9**	**+1.0**
TARZ	**Mount Tarawera**	**4.76**	**211**	P	**Pn**	**00 18 07.4**	**+3.

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BKZ  Black Stump Fm   5.57 206                Pn      00 18 13.4 -1.6
BKZ  Black Stump Fm   5.57 206          P     Pn      00 18 16.6 +1.6
RATZ Rangitukua       5.60 212          P     Pn      00 18 19.0 +3.5
RITZ Rihia Road       5.66 211          P     Pn      00 18 19.2 +2.9
MCHZ McNeill Hill     5.75 203          P     Pn      00 18 18.7 +1.2
HIZ  Hauiti           5.78 220          Pn    Pn      00 18 17.1 -0.7
HIZ  Hauiti           5.78 220          P     Pn      00 18 20.2 +2.3
TMVZ Te Maari         5.84 211          P     Pn      00 18 21.3 +2.5
OTVZ Oturere          5.89 211          P     Pn      00 18 22.3 +2.7
KAHZ Kahuranaki       6.01 200          P     Pn      00 18 20.8 -0.4
KRHZ Kereru           6.04 204          P     Pn      00 18 21.4 -0.1
BFZ  Birch Farm       7.02 201                Pn      00 18 32.2 -2.7
MRZ  Mangatainoka R   7.22 205                Pn      00 18 36.0 -1.7
MSWZ Moikau Station   8.00 204          Pn    Pn      00 18 46.7 -1.7
SNZO South Karori     8.11 207          Pn    Pn      00 18 48.8 -1.0
MSVF Nonsavu         16.44 355                Pn      00 20 43.5 +0.5
DZM  Mont Dzumac     16.72 313          Pn    Pn      00 20 48.0 +1.4
DZM  Mont Dzumac     16.72 313          ePn   Pn      00 20 47.9 +1.3
     41nm,1.4s
DZM                                     eLR   LR      00 24 40.4
     2µm,24.9s
DZM  Mont Dzumac     16.72 313          P     Pn      00 20 48.1 +1.4
     0.2nm,0.3s,baz=131,slow=20,SNR=4.0
DZM                                     LR    LR      00 26 00.8
     comp=Z,2µm,18.3s,baz=170,slow=32
     9.6nm,1.1s
RAR  Rarotonga       22.31  60          LR    LR      00 30 45.7
     comp=Z,155nm,18.9s,baz=252,slow=37
EIDS Eidsvold        26.20 282                P      00 22 28.2 +1.2
TBI  Tubuai          29.08  76          eS    S       00 27 44.0 -0.6
     2µm,29.5s
TBI                                     eLR   LR      00 30 10.5
     2µm,42.5s
TBI                                     eLR   LR      00 30 12.4
     913nm,28.2s
PPT2 Papeete2        32.11  67          eLR   LR      00 31 37.5
     176nm,22.8s
PPT2                                    eLR   LR      00 31 40.2
     186nm,25.5s
PPT  Papeete         32.12  67          LR    LR      00 36 31.9
     comp=Z,213nm,18.8s,baz=338,slow=36
COEN Coen            38.59 292          P     P       00 24 16.1 +0.6
COEN                                    IAmb  IAmb    00 24 25.3
     comp=Z,22nm,1.1s
AS31 Alice Springs   41.05 272                P      00 24 36.0  0.0
ASAR Alice Springs   41.05 272                P      00 24 35.2 -0.7
ASAR Alice Springs   41.05 272          P     P       00 24 36.1 +0.1
     comp=Z,16nm,0.9s,baz=113,slow=7.6,SNR=60
ASAR                                    LR    LR      00 40 45.5
     comp=Z,190nm,19.9s,baz=124,slow=35
     comp=Z,16nm,0.9s
XMAS Kiritimati      42.00  36          P     P       00 24 44.2 +0.5
XMAS                                    IAmb  IAmb    00 25 14.7
     comp=Z,31nm,1.1s
WR8  Warramunga Arr  42.26 278          P     P       00 24 45.0 -0.9
WR8                                     IAmb  IAmb    00 24 48.3
     comp=Z,26nm,1.1s
WRAB Tennant Creek   42.39 278          P     P       00 24 46.7 -0.2
WRAB                                    IAmb  IAmb    00 24 55.6
     comp=Z,25nm,1.1s
WRA  Warramunga Arr  42.39 278                P      00 24 46.7 -0.2
WRA  Warramunga Arr  42.39 278          P     P       00 24 46.6 -0.4
     comp=Z,14nm,1.0s,baz=119,slow=7.7,SNR=29
WRA                                     LR    LR      00 40 42.7
     comp=Z,155nm,21.6s,baz=287,slow=34
     comp=Z,14nm,1.0s
WB0  Warramunga Arr  42.44 278                P      00 24 47.1 -0.2
WB0                                     IAmb  IAmb    00 24 55.9
     comp=Z,32nm,1.2s
FORT Forrest         43.24 260          P     P       00 24 52.6 -1.1
FORT                                    IAmb  IAmb    00 24 55.6
     comp=Z,48nm,1.4s
SBA  Scott Base      44.13 184          P     P       00 24 58.1 -2.1
VNDA Vanda           44.14 185          P     P       00 24 59.3 -1.1
VNDA Vanda           44.14 185          P     P       00 25 01.4 +1.0
     comp=Z,1.4nm,0.8s,baz=358,slow=8.0,SNR=9.8
VNDA                                    LR    LR      00 40 22.1
     comp=Z,119nm,18.6s,baz=25,slow=32
     comp=Z,1.4nm,0.8s
TAOE Nuku Hiva Isla  44.70  65          eLR   LR      00 37 23.7
     comp=Z,240nm,26.9s
JAY  Jayapura        48.02 302          P     P       00 25 32.8 +1.1
     comp=Z,4.5nm,0.8s,baz=157,slow=9.5,SNR=4.6
JAY                                     LR    LR      00 43 30.0
     comp=Z,98nm,21.4s,baz=194,slow=33
     comp=Z,4.5nm,0.8s
MTN  Manton Dam      48.73 284          P     P       00 25 37.4 +0.2
KNRA Kununurra       49.12 279                P      00 25 40.3 +0.2
FITZ Fitzroy Crossi  50.47 274                P      00 25 50.9 +0.6
FITZ Fitzroy Crossi  50.47 274          P     P       00 25 50.5 +0.2
     comp=Z,26nm,0.9s,baz=142,slow=7.5,SNR=23
FITZ                                    LR    LR      00 46 35.9
     comp=Z,233nm,18.0s,baz=101,slow=35
     comp=Z,26nm,0.9s
MORW Morawa          53.60 257          P     P       00 26 13.9 +0.3
MORW                                    IAmb  IAmb    00 26 20.5
     comp=Z,22nm,1.1s
FAKI Fak Fak         53.90 295          P     P       00 26 14.5 -1.4
MBWA Marble Bar      53.91 267          P     P       00 26 15.2 -0.8
MBWA                                    IAmb  IAmb    00 26 27.7
     comp=Z,34nm,1.3s
QSPA South Pole Qui  55.94 180                P      00 26 29.5 -0.7
QSPA                                    IAmb  IAmb    00 26 42.5
     comp=Z,16nm,0.9s
QSPA South Pole Qui  55.94 180          P     P       00 26 31.8 +1.6
     comp=Z,12nm,0.9s,baz=7.4,slow=0.6,SNR=60
QSPA                                    LR    LR      00 47 44.1
     comp=Z,216nm,18.1s,baz=42,slow=33
     comp=Z,12nm,0.9s
SOEI Soe             56.02 282                P      00 26 31.4  0.0
GUMO Guam            57.87 319          LR    LR      00 49 40.5
     comp=Z,49nm,19.8s,baz=114,slow=34
KAPI Kappang         62.40 284          LR    LR      00 55 29.3
     comp=Z,94nm,18.6s,baz=106,slow=37
DAV  Davao City (W)  65.48 298          LR    LR      00 55 54.4
     comp=Z,72nm,20.0s,baz=124,slow=36
BELA Belgrano 2      66.32 173                P      00 27 39.2 -1.1
BELA                                    IAmb  IAmb    00 27 52.2
     comp=Z,16nm,1.4s
SMAI San Martin Ant  66.69 158          P     P       00 27 42.8 +0.1
SMAI                                    IAmb  IAmb    00 27 54.4
     comp=Z,9.3nm,1.2s
MAW  Mawson          68.06 202          P     P       00 27 50.4 -1.0
     comp=Z,3.3nm,1.0s,baz=140,slow=5.6,SNR=5.8
MAW                                     LR    LR      00 56 47.4
     comp=Z,250nm,19.0s,baz=112,slow=35
     comp=Z,3.3nm,1.0s
PMSA Palmer Station  69.66 156          LR    LR      00 52 07.4
     comp=Z,132nm,20.4s,baz=238,slow=30
LEM  Lembang         71.30 274          LR    LR      01 00 18.5
     comp=Z,97nm,18.1s,baz=147,slow=36
SYO  Syowa Base      72.97 194⇓         eP    P       00 28 20.1 -1.3
SYO  Syowa Base      72.97 194⇓         epP   P       00 28 22.5 +1.1
USHA Ushuaia         73.93 146          LR    LR      00 53 18.1
     comp=Z,237nm,21.4s,baz=221,slow=30
TROLL Troll, Antarti 74.08 181 ⇑        P     P       00 28 28.0 -0.1
     comp=Z,272nm,0.9s
SNAA Sanae           74.43 179          P     P       00 28 28.3 -1.7
SNAA                                    IAmb  IAmb    00 28 36.5
     comp=Z,37nm,1.6s
SNAA Sanae           74.43 179          P     P       00 28 28.2 -1.7
     comp=Z,4.6nm,0.4s,baz=200,slow=4.0,SNR=5.0
     comp=Z,4.6nm,0.4s
VNA2 Neumayer--Watz  75.07 178 ⇑        P     P       00 28 33.9 +0.3
     comp=Z,17nm,0.8s,baz=151,slow=6.0
JOW  Kunigami        77.77 314          LR    LR      00 58 43.6
     comp=Z,97nm,21.3s,baz=200,slow=32
H03S2 Juan Fernandez 80.05 124          T     T       01 57 12.8
     baz=233,slow=74,SNR=54
H03S1 Juan Fernandez 80.06 124          T     T       01 57 14.2
     baz=233,slow=74,SNR=54
H03S3 Juan Fernandez 80.07 124          T     T       01 57 13.0
     baz=233,slow=74,SNR=59
H03N3 Juan Fernandez 80.27 124          T     T       01 57 29.9
     baz=238,slow=72,SNR=296
H03N2 Juan Fernandez 80.27 124          T     T       01 57 24.9
     baz=238,slow=72,SNR=231
H03N1 Juan Fernandez 80.29 124          T     T       01 57 29.0
     baz=238,slow=72,SNR=343
JNU  Nakatsue        81.09 320          LR    LR      00 59 53.4
     comp=Z,35nm,20.8s,baz=143,slow=32
PLCA Paso Flores     81.39 134          P     P       00 29 10.0 +0.7
     comp=Z,1.4nm,0.7s,baz=246,slow=5.2,SNR=4.6
PLCA                                    LR    LR      00 59 38.0
     comp=Z,63nm,18.1s,baz=233,slow=31
     comp=Z,1.4nm,0.7s
PSI  Prapat          83.86 278          LR    LR      01 08 37.3
     comp=Z,113nm,18.0s,baz=134,slow=37
ASAJ Asahikawa       84.90 334          LR    LR      01 01 00.5
     comp=Z,128nm,21.0s,baz=176,slow=31
SHEM Shemya Is, Ala  86.68 357          LR    LR      01 02 27.5
     comp=Z,80nm,21.4s,baz=78,slow=32
NJ2  Nanjing         87.21 312          eP    P       00 29 40.8 +2.2
NJ2                                     pmax  pmax
     comp=Z,5.0nm,0.5s
LPIG La Paz          88.23  59          LR    LR      01 03 05.4
     comp=Z,81nm,18.2s,baz=226,slow=31
SLBS Sierra La Lagu  88.23  60          P     P       00 29 42.7 -1.1
PETK Petropavlovsk-  88.99 347          LR    LR      01 06 10.6
     comp=Z,46nm,18.4s,baz=146,slow=33
USRK Ussuriysk Ar.   89.23 328          LR    LR      01 08 23.7
     comp=Z,34nm,18.2s,baz=135,slow=35
PFO  Pinyon Flats O  90.24  49          LR    LR      01 04 49.6
     comp=Z,83nm,18.7s,baz=234,slow=32
CMB  Columbia Colle  90.91  43          P     P       00 29 56.1 +0.1
CMB                                     IAmb  IAmb    00 30 04.8
     comp=Z,3.7nm,0.9s
O02D Mt. Diablo Mer  91.09  40                P      00 29 57.3 +0.5
O02D                                    IAmb  IAmb    00 30 06.6
     comp=Z,10nm,1.1s
BEKR Beckworth       92.20  42          P     P       00 30 02.3 +0.2
BEKR                                    IAmb  IAmb    00 30 10.0
     comp=Z,3.1nm,0.8s
GMN  Gold Mountain   92.22  45          P     P       00 30 02.6 +0.2
KEBM Edson Butte     92.23  38          P     P       00 30 02.3 +0.2
NVAR Mina Array Bea  92.37  44          P     P       00 30 04.1 +1.1
     comp=Z,1.0nm,0.7s,baz=220,slow=7.1,SNR=5.4
     comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr  92.77 290          PP    PP      00 33 49.0 +1.6
     comp=Z,1.2nm,0.8s,baz=114,slow=7.9,SNR=6.2
NNA  Nana            94.28 107          LR    LR      01 02 32.6
     comp=Z,116nm,21.5s,baz=218,slow=29
KDAK Kodiak Island   94.56  15          LR    LR      01 06 48.9
     comp=Z,69nm,18.8s,baz=185,slow=32
PINE Pine Mountain   94.62  39                P      00 30 12.4 -0.8
PINE                                    IAmb  IAmb    00 30 21.6
     comp=Z,5.5nm,0.9s
PZH  PanZhiHua       95.28 298          P     P       00 30 17.8 +1.2
ELK  Elko            95.68  44          LR    LR      01 06 19.6
     comp=Z,67nm,20.2s,baz=212,slow=31
MA2  Magadan         96.42 346          LR    LR      01 07 54.3
     comp=Z,42nm,21.9s,baz=122,slow=32
BBB  Bella Bella     97.38  29          LR    LR      01 07 11.1
     comp=Z,35nm,19.0s,baz=221,slow=31
HHC  Hu-ho-hao-te    97.42 315          eP    Pdif    00 30 27.5 +1.5
HHC                                     pmax  pmax
     comp=Z,13nm,0.6s
HHC                                     pmax  pmax
     comp=Z,66nm,4.0s
SLKM Skilak Lake     97.55  15                P      00 30 25.9  0.0
P23K Montague Islan  97.70  16          P     P       00 30 26.6  0.0
HVU  Hansel Valley   97.77  44          P     P       00 30 26.9 -0.6
HVU                                     IAmb  IAmb    00 32 38.9
     comp=Z,2.6nm,1.0s
PV12 Saucer Basin,   98.01  49          P     P       00 30 28.1 -0.7
PV01 Paradox Valley  98.05  49          P     P       00 30 28.4 -0.6
PV01                                    IAmb  IAmb    00 32 15.2
     comp=Z,2.2nm,1.1s
PV21 Cone Mtn., Par  98.05  49          P     P       00 30 28.4 -0.6
PV21                                    IAmb  IAmb    00 32 04.7
     comp=Z,4.7nm,1.0s
LPAZ La Paz          98.38 116          LR    LR      01 05 06.1
     comp=Z,48nm,21.2s,baz=207,slow=29
CPUP Villa Florida   99.16 130          LR    LR      01 07 28.4
     comp=Z,42nm,21.6s,baz=78,slow=31
SEY  Seymchan        99.21 348          LR    LR      01 12 48.1
     comp=Z,60nm,19.2s,baz=170,slow=34
NEW  Newport         99.61  37          LR    LR      01 07 46.8
     comp=Z,61nm,20.8s,baz=214,slow=31
PDAR Pinedale Array 100.25  45          P     Pdif    00 30 39.5 +0.8
     comp=Z,0.5nm,0.8s,baz=249,slow=5.1,SNR=4.6
WMQ  Urumqi         113.94 308          ePKP  PKiKP   00 35 31.7 +0.6
WMQ                                     LR    LR
     comp=Z,180nm,23.9s
KURBB Kurchatov Arra 122.18 312         PKP   PKPdf   00 35 44.2 -2.5
     comp=Z,0.3nm,0.7s,baz=116,slow=2.1,SNR=3.4
KBZ  Khabaz          145.35 299         PKPbc PKPab   00 36 30.7 +0.7
     comp=Z,2.2nm,0.8s,baz=141,slow=5.5,SNR=3.8
FINES FINESS Array B 147.89 336         PKPbc PKPdf   00 36 35.0 +1.4
     comp=Z,1.4nm,0.8s,baz=64,slow=4.4,SNR=6.0
MMAI Mount Meron Ar 150.25 278          PKPbc PKPbc   00 36 42.8 -0.9
     comp=Z,1.4nm,0.6s,baz=106,slow=4.7,SNR=2.0
NB2  NORSAR Subarra152.10 348           PKP   PKiKP   00 36 48.4 +1.1
     comp=Z,1.7nm,0.9s,baz=20,slow=4.3
NOA  NORSAR Array B152.10 348           PKPbc PKPbc   00 36 47.1 +0.1
     comp=Z,0.4nm,0.6s,baz=8.5,slow=2.5,SNR=5.0
DBIC Dimbokro        152.31 170         PKPbc PKPbc   00 36 48.4 -0.5
     comp=Z,5.9nm,0.8s,baz=159,slow=5.1,SNR=6.3
BRTR Keskin Array B  152.35 292         PKPbc PKPbc   00 36 46.1 -2.3
     comp=Z,0.3nm,0.6s,baz=116,slow=3.4,SNR=2.2
HFS  Hagfors         152.45 345         PKPbc PKPbc   00 36 45.4 -2.4
     comp=Z,1.3nm,0.9s,baz=11,slow=2.9,SNR=2.6
TORD Torodi Ar. Bea  158.97 186         PKPab PKPab   00 37 25.4 -1.7
     comp=Z,2µm,0.3s,baz=159,slow=4.0,SNR=5.7
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NEIC ***12*** *01:06:11.6±0.5, 19°.315N±0°.007×155°.467W±0°.005, h10km±1km, Error ellipse: s-maj=2.6km s-min=1.2km az=58.0*

HVO 12 01:06:11.5±0.7, 19°.312N±0°.006×155°.465W±0°.006, h8km±3km, ML2.6/38, ML2.6/42(NEIC), Error ellipse: s-maj=1.0km s-min=0.7km az=150.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AIN	**Ainahou**	**0.06**	**6**			Pg		01 06 14.1	+0.5
AIN						Sg		01 06 16.0	+0.9
AIN	**Ainahou**	**0.06**	**6**	IAML				01 06 16.4	
	comp=E,15µm,0.3s								
AIN				IAML				01 06 16.6	
	comp=N,22µm,0.3s								
HTC	**Hot Caves**	**0.10**	**140**			Pg		01 06 14.3	+0.5
HLP	**Hilina Pali**	**0.15**	**96**			Pg		01 06 15.2	+0.5
HLP						Sg		01 06 18.1	+1.1
HLP	**Hilina Pali**	**0.15**	**96**	IAML				01 06 18.2	
	comp=N,1µm,0.4s								
HLP				IAML				01 06 18.4	
	comp=E,1µm,0.7s								
KHU	**Kahuku**	**0.16**	**245**			Pg		01 06 15.2	+0.2
KHU						Sg		01 06 17.8	+0.5
KHU	**Kahuku**	**0.16**	**245**	IAML				01 06 18.0	
	comp=N,2µm,0.1s								
KHU				IAML				01 06 18.1	
	comp=E,3µm,0.2s								
SDHHI	**Sand Hill**	**0.18**	**64**			Pg		01 06 15.5	+0.2
SDHHI						Sg		01 06 18.2	+0.4
WRMHI	**West Rim**	**0.18**	**59**			Pg		01 06 15.5	+0.2
WRMHI						Sg		01 06 18.5	+0.6
UWE	**Uwekahuna**	**0.20**	**56**			Pg		01 06 15.8	+0.2
UWE						Sg		01 06 19.0	+0.6
UWE	**Uwekahuna**	**0.20**	**56**	IAML				01 06 21.4	
	comp=E,2µm,0.3s								
UWE				IAML				01 06 21.8	
	comp=N,913nm,0.3s								
MLH	**Mauna Loa**	**0.20**	**22**			Pg		01 06 15.9	+0.3
MLH						Sg		01 06 19.0	+0.5
MLH	**Mauna Loa**	**0.20**	**22**	IAML				01 06 19.2	
	comp=E,478nm,0.6s								
MLH				IAML				01 06 22.1	
	comp=N,484nm,0.2s								
RIM	**Rim**	**0.20**	**65**			Pg		01 06 15.7	+0.1
OBL	**Observatory Le**	**0.20**	**58**			Pg		01 06 15.8	+0.1
KKO	**Keanakako'i**	**0.21**	**65**			Pg		01 06 15.7	-0.1
KKO						Sg		01 06 19.1	+0.5
UWB	**Uwekahuna Bluf**	**0.21**	**57**			Pg		01 06 15.9	+0.1
MWH	**Mokuaweoweo**	**0.21**	**324**			Pg		01 06 16.0	0.0
MWH	**Mokuaweoweo**	**0.21**	**324**	IAML				01 06 21.6	
	comp=N,663nm,0.4s								
MWH				IAML				01 06 22.7	
	comp=E,814nm,0.7s								
BYL	**Byron's Ledge**	**0.22**	**63**			Pg		01 06 15.6	-0.3
SBLHI	**Steaming Bluff**	**0.22**	**58**			Pg		01 06 15.8	-0.1
SBLHI						Sg		01 06 19.6	+0.6
HATHI	**Halema'uma'u T**	**0.22**	**60**			Pg		01 06 15.8	-0.2
HATHI						Sg		01 06 19.7	+0.6
HATHI	**Halema'uma'u T**	**0.22**	**60**	IAML				01 06 21.0	
	comp=E,712nm,0.5s								
HATHI				IAML				01 06 21.3	
	comp=N,672nm,0.3s								
RSD	**Rainshed**	**0.23**	**49**			Pg		01 06 16.4	+0.2
RSD						Sg		01 06 20.1	+0.6
HPO	**Honuapo**	**0.24**	**201**			Pg		01 06 16.4	+0.2
HPO						Sg		01 06 20.4	+0.9
PUH	**Pauahi**	**0.24**	**75**			Pg		01 06 16.4	-0.1
PUH						Sg		01 06 20.8	+1.0
PUH	**Pauahi**	**0.24**	**75**	IAML				01 06 21.5	
	comp=E,764nm,0.2s								
PUH				IAML				01 06 22.2	
	comp=N,678nm,0.4s								
ALEP	**Alea Permanent**	**0.28**	**323**			Pg		01 06 17.1	-0.2
ALEP						Sg		01 06 21.5	+0.4
KNHH	**Kane Nui o Ham**	**0.29**	**76**			Pg		01 06 17.4	+0.1
HMH	**Humu'ula Sheep**	**0.29**	**357**			Pg		01 06 17.5	+0.1
HMH						Sg		01 06 22.1	+0.7
HMH	**Humu'ula Sheep**	**0.29**	**357**	IAML				01 06 24.0	
	comp=E,743nm,0.3s								
HMH				IAML				01 06 24.4	
	comp=N,1µm,0.2s								
STCH	**Steam Cracks**	**0.33**	**77**			Pg		01 06 18.1	+0.1
STCH						Sg		01 06 23.2	+0.8
STCH	**Steam Cracks**	**0.33**	**77**	IAML				01 06 23.5	
	comp=E,976nm,0.2s								
STCH				IAML				01 06 29.0	
	comp=N,587nm,0.4s								
NPOC	**North of Pu'u**	**0.34**	**76**			Pg		01 06 18.3	0.0
NPOC						Sg		01 06 23.6	+0.8
JCUZ	**Jacuzzi**	**0.35**	**78**			Pg		01 06 18.6	+0.2
JCUZ						Sg		01 06 23.8	+0.8
POHA	**Pohakuloa**	**0.45**	**352**			Pg		01 06 20.1	-0.2
POHA						Sg		01 06 26.6	+0.4
POHA	**Pohakuloa**	**0.45**	**352**	IAML				01 06 27.2	
	comp=N,606nm,0.6s								
POHA				IAML				01 06 27.3	
	comp=N,311nm,1.1s								
JOKA	**Jonika Flow**	**0.45**	**74**			Pg		01 06 19.8	-0.5
JOKA						Sg		01 06 26.7	+0.4
JOKA	**Jonika Flow**	**0.45**	**74**	IAML				01 06 31.3	
	comp=N,341nm,0.5s								
CPH	**Captain Cook**	**0.46**	**292**			Pg		01 06 20.0	-0.5
KHLU	**Kahalu`u**	**0.49**	**305**			Pg		01 06 20.7	-0.4
KHLU						Sg		01 06 27.8	+0.3
KHLU	**Kahalu`u**	**0.49**	**305**	IAML				01 06 28.5	
	comp=N,1µm,0.3s								
KHLU				IAML				01 06 31.3	
	comp=E,923nm,0.2s								
HUH	**Hualalai**	**0.51**	**317**			Pg		01 06 21.5	0.0
HPAH	**Hawaii Prepara**	**0.75**	**343**			Pg		01 06 24.2	-1.8

IDC ***12*** *01:11:46.7±1.2, 39°.48N×20°.61E, h0km, mb3.8/10, mbtmp3.7/19, ML3.3/7, Error ellipse: s-maj=20.9km s-min=14.1km az=26.0*

NAO ***12*** *01:11:47.0, 39°.84N×23°.52E, h10km, mb3.3*

ATH ***12*** *01:11:48.0, 39°.39N×20°.42E, h7km±1km, ML3.6/25, Manual Solution by A.Agalos First location: 2019/07/12 01:12:36, This location: 2019/07/12 03:26:12 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*

NEIC ***12*** *01:11:48.4±2.2, 39°.34N±0°.05×20°.61E±0°.06, h10km±1km, mb4.4/11, Error ellipse: s-maj=8.9km s-min=7.7km az=217.0*

TIR ***12*** *01:11:48.3, 39°.34N×20°.48E, h25km±1km, Md3.8/3, Ml3.8/10*

PDG ***12*** *01:11:49.0±0.4, 39°.39N×20°.46E, h2km±1km, ML3.4/13, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*

THE ***12*** *01:11:49.4, 39°.4N±0°.9×2°.1E±°, h0km±1km, M3.2/59, MLh3.2/59*

BEO ***12*** *01:11:51.1±0.5, 39°.46N×20°.51E, h12km±2km, ML3.2/12*

ISC 12 01:11:49.1±0.8, 39°.39N±0°.01×20°.48E±0°.02, h19km±2km, n275, σ1°.571/370, mb4.2/16, 15C-12D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.19**	**321**	⇓*i*		Pg		**01 11 54.1**	**+0.1**
IGT						Sg		**01 11 57.6**	**+0.3**
IGT						AML	AML	01 12 01.3	
	42nm,0.3s								
IGT						AMd		01 14 05.0	
IGT	**Igoumenitsa**	**0.19**	**321**		P	**Pg**		**01 11 54.0**	**0.0**
IGT					S	**Sg**		**01 11 58.2**	**+1.0**
IGT	**Igoumenitsa**	**0.19**	**321**	*e*	Pg	**Pg**		**01 11 53.9**	**0.0**
IGT				*e*	Sg	**Sg**		**01 11 58.4**	**+1.1**
LFKM	**Lefkimmi**	**0.33**	**281**		P	**Pb**		**01 11 57.5**	**+1.0**
LFKM					S	**Sn**		**01 12 04.0**	**-1.2**
JAN	**Janina**	**0.39**	**46**		P	**Pg**		**01 11 56.5**	**-0.8**
JAN					S	**Sg**		**01 12 02.4**	**-0.4**
JAN	**Janina**	**0.39**	**46**		P	**Pg**		**01 11 56.5**	**-0.8**
ARTB	**Arta**	**0.45**	**121**		P	**Pg**		**01 11 57.2**	**-1.0**
ARTB					S	**Sb**		**01 12 05.2**	**+0.5**
TSLK	**Tsoukalades, L**	**0.58**	**167**		P	**Pb**		**01 12 00.0**	**-0.5**
TSLK					S	**Sg**		**01 12 09.7**	**+1.4**
TSLK	**Tsoukalades, L**	**0.58**	**167**		P	**Pb**		**01 11 59.9**	**-0.6**
TSLK					S	**Sb**		**01 12 07.7**	**-0.5**
LKD2	**Lefkada island**	**0.61**	**167**	⇑*i*	Pg	**Pb**		**01 12 00.4**	**-0.7**
LKD2					Sg	**Sb**		**01 12 08.6**	**-0.7**
LKD2					AML	AML		01 12 19.0	
	13nm,0.5s								
LKD2					AMd			01 14 21.5	
LKD2	**Lefkada island**	**0.61**	**167**		P	**Pb**		**01 12 00.5**	**-0.7**
LKD2					S	**Sg**		**01 12 10.7**	**+1.3**
LKD2	**Lefkada island**	**0.61**	**167**		P	**Pb**		**01 12 00.6**	**-0.5**
TETR	**Tetrakomo, Epi**	**0.61**	**94**		P	**Pb**		**01 12 00.0**	**-1.2**
SRN	**Sarande**	**0.62**	**323**	⇓*i*	Pg	**Pb**		**01 12 01.5**	**+0.2**
SRN					Sg	**Sn**		**01 12 11.9**	**-0.4**
SRN					AML	AML		01 12 15.1	
	6.3nm,0.4s								
SRN					AMd			01 14 19.3	
KEK	**Kerkira**	**0.62**	**302**			**Pn**		**01 12 04.0**	**+1.1**
MSVA	**Metsovo**	**0.66**	**54**		P	**Pb**		**01 12 01.4**	**-0.7**
NYDR	**Nydri-Lefkada**	**0.69**	**166**		P	**Pb**		**01 12 01.6**	**-0.9**
NYDR					S	**Sg**		**01 12 12.8**	**+0.9**
NYDR	**Nydri-Lefkada**	**0.69**	**166**		P	**Pb**		**01 12 01.6**	**-0.9**
NYDR					S	**Sb**		**01 12 11.4**	**-0.2**
DRAG	**Dragano-Lefkad**	**0.70**	**174**		P	**Pb**		**01 12 02.4**	**-0.4**
DRAG	**Dragano-Lefkad**	**0.70**	**174**		P	**Pb**		**01 12 02.1**	**-0.6**
EVGI	**Lefkada island**	**0.78**	**170**		P	**Pb**		**01 12 03.0**	**-1.0**
EVGI					S	**Sn**		**01 12 16.3**	**+0.1**
EVGI	**Lefkada island**	**0.78**	**170**		P	**Pb**		**01 12 02.9**	**-1.0**
FSK	**Fiskardo**	**0.93**	**176**		P	**Pb**		**01 12 06.0**	**-0.6**
FSK					S	**Sn**		**01 12 21.9**	**+2.0**
FSK	**Fiskardo**	**0.93**	**176**		P	**Pb**		**01 12 05.8**	**-0.7**
FSK					S	**Sb**		**01 12 19.0**	**+0.5**
TRKA	**Trikala**	**1.01**	**80**		P	**Pb**		**01 12 08.1**	**+0.2**
NEST	**Nestorio**	**1.12**	**23**	⇑*e*	Pn	**Pn**		**01 12 09.9**	**+0.1**
NEST					Sn	**Sg**		**01 12 26.9**	**+1.5**
NEST					AML	AML		01 12 33.5	
	16nm,0.5s								
NEST	**Nestorio**	**1.12**	**23**		P	**Pn**		**01 12 10.1**	**+0.2**
NEST					S	**Sg**		**01 12 26.8**	**+1.3**
NEST	**Nestorio**	**1.12**	**23**		P	**Pg**		**01 12 10.8**	**+0.1**
NEST					S	**Sg**		**01 12 26.4**	**+1.0**
PVO	**Paravola**	**1.12**	**133**		P	**Pn**		**01 12 09.8**	**+0.1**
PVO					S	**Sg**		**01 12 26.5**	**+1.1**
PVO	**Paravola**	**1.12**	**133**		P	**Pn**		**01 12 09.9**	**+0.2**
PVO					S	**Sg**		**01 12 25.8**	**+0.4**
EVR	**Evrytania**	**1.13**	**114**		P	**Pb**		**01 12 10.7**	**+0.6**
EVR					S	**Sg**		**01 12 27.5**	**+1.6**
EVR	**Evrytania**	**1.13**	**114**		P	**Pb**		**01 12 10.5**	**+0.4**
DMLN	**Damoulianata-K**	**1.15**	**184**		P	**Pn**		**01 12 10.3**	**+0.1**
DMLN	**Damoulianata-K**	**1.15**	**184**		P	**Pn**		**01 12 10.3**	**+0.1**
THL	**Klokotos Trika**	**1.20**	**81**		P	**Pn**		**01 12 10.4**	**-0.5**
THL					S	**Sg**		**01 12 28.7**	**+0.8**
THL	**Klokotos Trika**	**1.20**	**81**		P	**Pn**		**01 12 10.4**	**-0.5**
VLS	**Valsamata**	**1.21**	**176**		P	**Pb**		**01 12 11.9**	**+0.5**
VLS					S	**Sg**		**01 12 30.1**	**+1.8**
VLS	**Valsamata**	**1.21**	**176**		P	**Pn**		**01 12 10.8**	**-0.3**
SOFA	**Sofades**	**1.25**	**92**		P	**Pb**		**01 12 13.0**	**+0.9**
KBN	**Korca**	**1.26**	**11**	⇓*i*	Pn	**Pb**		**01 12 12.7**	**+0.4**
KBN						Sn		**01 12 31.5**	**+1.5**
KBN						AML	AML	01 12 35.6	
	8.9nm,0.8s								
PSDA	**Pessada-Kefalo**	**1.27**	**176**		P	**Pn**		**01 12 12.2**	**+0.4**
PSDA					S	**Sg**		**01 12 32.7**

RTZL S Sg 01 12 33.4 +1.4
MAKR Makrakomi, Fth 1.33 106 P Pn 01 12 13.2 +0.5
MAKR S Sg 01 12 33.7 +1.4
MAKR Makrakomi, Fth 1.33 106 P Pn 01 12 13.5 +0.7
MAKR S Sg 01 12 32.7 +0.4
ANX Ano Chora 1.37 125 P Pn 01 12 14.1 +0.7
ANX S Sg 01 12 35.0 +1.5
ANX Ano Chora 1.37 125 P Pb 01 12 14.3 +0.1
AXS Araxos 1.38 149 P Pn 01 12 13.9 +0.6
AXS S Sg 01 12 35.0 +1.4
AXS Araxos 1.38 149 P Pn 01 12 13.9 +0.6
AXS S Sb 01 12 32.9 +1.5
TYRN Tyrnavos 1.39 76 P Pn 01 12 13.5 0.0
TYRN S Sg 01 12 34.1 0.0
TYRN Tyrnavos 1.39 76 P Pn 01 12 13.4 0.0
TYRN S Sg 01 12 34.4 +0.3
EFP Efpalio 1.47 130 P Pb 01 12 16.0 +0.3
EFP Efpalio 1.47 130 P Pb 01 12 15.6 -0.1
EFP S Sg 01 12 35.7 -0.7
AGG Agios Georgios 1.48 104 P Pn 01 12 15.6 +0.9
AGG S Sg 01 12 37.8 +0.9
AGG Agios Georgios 1.48 104 P Pn 01 12 15.2 +0.4
UPR University Cam 1.50 137 P Pn 01 12 15.1 +0.1
GINA Giannouli 1.50 79 P Pb 01 12 16.3 0.0
LRSO Larissa Observ 1.50 78 P Pn 01 12 16.0 +0.9
LRSO Larissa Observ 1.50 78 P Pn 01 12 15.9 +0.8
RLS Riolos of Patr 1.53 150 P Pn 01 12 16.3 +0.9
FNA Florina 1.56 26 P Pb 01 12 17.3 0.0
FNA Florina 1.56 26⇓ *e*Pn Pb 01 12 18.0 +0.6
FNA Sn Sg 01 12 40.3 +1.0
FNA AML AML 01 12 46.1
3.9nm,0.5s
FNA Florina 1.56 26 P Pb 01 12 17.9 +0.6
FNA Florina 1.56 26 *e*Pg Pb 01 12 17.8 +0.5
FNA *e*Sg Sg 01 12 39.5 +0.1
FNA Florina 1.56 26 P Pb 01 12 17.4 +0.1
CLEM Kyllini,Ilia,G 1.58 161 P Pn 01 12 16.6 +0.6
KTI Kastanea 1.61 51 P Pb 01 12 18.4 +0.1
KALE Kalithea 1.63 127 P Pb 01 12 19.1 +0.5
KALE Kalithea 1.63 127 P Pb 01 12 18.4 -0.2
LTHK Lithakia 1.70 171 P Pn 01 12 18.7 +1.0
LTHK Lithakia 1.70 171 P Pn 01 12 18.2 +0.5
SCTE Santa Cesarea 1.70 294 Pb 01 12 19.4 -0.3
SCTE Santa Cesarea 1.70 294⇑ *e*Pn Pb 01 12 19.5 -0.2
SCTE Sn Sb 01 12 41.9 +1.1
SCTE AML AML 01 12 56.3
3.2nm,0.5s
OHR Ohrid 1.74 8 *i* Pn Pg 01 12 22.6 0.0
OHR *i* Sn Sg 01 12 46.7 +1.5
AXAR Agios Charalam 1.80 109 P Pn 01 12 20.5 +1.3
KLV Kalavryta, Ach 1.87 135 P Pb 01 12 22.4 -0.3
TIR Tirane 2.02 347 Pb 01 12 24.5 -0.7
TIR Tirane 2.02 347⇓ *i* Pn Pb 01 12 25.4 +0.2
TIR Sn Sg 01 12 52.5 -1.5
TIR AML AML 01 13 19.8
1.1nm,0.6s
TIR Tirane 2.02 347 *e*Pn Pb 01 12 25.2 +0.1
TIR *e*Sn Sb 01 12 49.0 -0.9
GUR Goura 2.05 134 P Pb 01 12 25.2 -0.6
GUR Goura 2.05 134 P Pn 01 12 23.6 +0.9
AMT Artemida-Makis 2.08 152 P Pn 01 12 24.1 +1.0
LKR Lokris 2.09 110 P Pb 01 12 25.4 -1.1
LKR Lokris 2.09 110 P Pn 01 12 24.4 +1.2
NEO Neokhori 2.13 91 P Pn 01 12 25.5 +1.9
NEO Neokhori 2.13 91 P Pn 01 12 24.8 +1.1
THE Thessaloniki 2.28 56 P Pn 01 12 27.9 +2.3
THE S Sb 01 12 56.6 -0.7
THE Thessaloniki 2.28 56 P Pn 01 12 27.1 +1.5
PHP Peshkopia 2.30 359 Pn Pb 01 12 29.2 -0.8
PHP Sn Sb 01 12 59.4 +1.4
HORT Hortiatis 2.35 58 P Pn 01 12 28.1 +1.3
HORT Hortiatis 2.35 58 P Pn 01 12 27.9 +1.1
LTK Loutraki 2.37 124 P Pn 01 12 28.7 +1.7
LTK Loutraki 2.37 124 P Pn 01 12 27.7 +0.7
LOUT Loutraki 2.40 125 P Pn 01 12 28.6 +1.2
VIL2 Platees 2.47 117 P Pn 01 12 30.8 +2.4
ITM Ithomi 2.48 152 Pn 01 12 31.0 +2.5
ITM Ithomi 2.48 152 P Pn 01 12 29.6 +1.1
LKR Vlachokerasia 2.50 143 P Pb 01 12 31.6 -1.9
VLX Vlachokerasia 2.50 143 P Pn 01 12 30.6 +1.9
VILL Villia 2.52 118 P Pn 01 12 31.0 +1.9
KNT Kendrikon 2.56 45 P Pn 01 12 31.5 +1.9
KNT Kendrikon 2.56 45 P Pn 01 12 31.1 +1.5
SOH Sokhos 2.63 56 P Pn 01 12 33.0 +2.5
SOH S Sn 01 13 04.7 +2.7
SOH Sokhos 2.63 56 P Pn 01 12 32.3 +1.7
AOS Alonnisos 2.65 94 P Pn 01 12 32.1 +1.4
PYL2 Kinigos 2.66 158 P Pn 01 12 31.8 +0.8
SKO Skopje 2.68 15 *i* Pn Pn 01 12 34.2 +2.9
SKO *i* Sn Sb 01 13 07.8 -1.3
PUK Puka 2.69 351⇑ *e*Pn Pn 01 12 34.2 +2.7
PUK Sn Sb 01 13 09.5 +0.1
PUK AML AML 01 13 24.8
1.1nm,0.4s
ULC Ulcinj 2.74 340 *e*Pn Pn 01 12 33.7 +1.6
ULC *i* Sn Sn 01 13 07.4 +2.6
OUR Ouranopolis 2.85 70 P Pn 01 12 35.7 +2.1
OUR S Sn 01 13 10.0 +2.6
ATH Athens Observa 2.90 118 P Pn 01 12 36.3 +2.0
TIP Timpagrande 2.90 267 Pn 01 12 36.0 +1.6
TIP Timpagrande 2.90 267⇓ P Pn 01 12 35.9 +1.6
KYMI Kymi, Euboea I 2.92 104 P Pn 01 12 36.5 +2.1
SRS Serrai 2.94 53 P Pn 01 12 36.4 +1.8
SRS S Sn 01 13 12.8 +3.1
SRS Serrai 2.94 53 *e*Pn Pn 01 12 36.3 +1.5
SRS *e*Sn Sn 01 13 10.5 +0.8
ATHU Athens Univers 2.95 118 P Pn 01 12 36.7 +1.8
PTL Penteli 2.96 116 P Pn 01 12 36.7 +1.5
DRME Dracevica, Mon 2.97 341 *e*Pn Pn 01 12 37.5 +2.3
DRME Dracevica, Mon 2.97 341 *e*Pn Pn 01 12 37.0 +1.8
DRME *i* Sn Sn 01 13 12.6 +2.3
BCI Bajram Curri 3.00 354 P Pb 01 12 39.2 -2.7
BCI S Sn 01 13 14.2 +3.8
DION Dionisos Attik 3.00 115 P Pn 01 12 37.7 +2.0
BUM Brajici-Budva 3.15 338 *e*Pn Pn 01 12 39.3 +1.5
BUM *i* Sn Sn 01 13 16.7 +1.8
MATE Matera 3.16 295⇑ P Pn 01 12 39.5 +1.6
KKB Krupnik 3.17 39 P Pn 01 12 40.6 +2.5
KKB S Sn 01 13 18.3 +2.9
PDG Podgorica 3.18 343 Pn 01 12 40.4 +2.3
PDG Podgorica 3.18 343 *e*Pn Pn 01 12 39.9 +1.8
PDG Podgorica 3.18 343⇓ P Pn 01 12 39.7 +1.6
PDG Podgorica 3.18 343 *e*Pn Pn 01 12 40.1 +2.0
PDG *e*Sn Sn 01 13 16.8 +1.3
PDG Podgorica 3.18 343 *e*Pn Pn 01 12 39.9 +1.8
PDG *i* Sn Sn 01 13 17.8 +2.3
PVY Plav 3.23 353 *e*Pn Pn 01 12 40.5 +1.6
PVY *i* Sn Sn 01 13 19.0 +2.0
MMB Musomishta 3.30 48 P Pn 01 12 41.8 +2.0
MMB S Sn 01 13 21.2 +2.8
CEME Cevo 3.37 340 *e*Pn Pn 01 12 42.3 +1.5
CEME *i* Sn Sn 01 13 22.2 +1.8
KARY Karystos 3.38 112 P Pn 01 12 42.7 +1.9
HCY Herceg Novi 3.41 334 *e*Pn Pn 01 12 42.8 +1.5
HCY Herceg Novi 3.41 334 *e*Pn Pn 01 12 42.7 +1.5
HCY *i* Sn Sn 01 13 22.0 +0.8
BOSS Bosilegrad 3.46 25 *e*Pn Pn 01 12 44.2 +2.3
BOSS *e*Sn Sn 01 13 22.6 +0.2
THAS Thassos island 3.47 68 P Pn 01 12 43.4 +1.3
KAVA Kavala 3.48 61 P Pn 01 12 44.1 +1.8
IVA Berane 3.51 353 *e*Pn Pn 01 12 44.5 +1.7
IVA *i* Sn Sn 01 13 25.8 +2.0
KOME Kolasin 3.54 348 *e*Pn Pn 01 12 44.8 +1.7
KOME *i* Sn Sn 01 13 26.4 +1.9
NKME Niksic 3.57 342 *e*Pn Pn 01 12 45.2 +1.7
NKME *i* Sn Sn 01 13 27.1 +1.9
BARS Barje 3.57 16 *e*Pn Pn 01 12 45.7 +2.2
BARS *e*Sn Sn 01 13 26.1 +0.9
CUC Castrocucco 3.65 281 Pn 01 12 48.1 +3.4
LIA Limnos Island 3.66 80 P Pn 01 12 46.7 +1.9
TREB Trebinje 3.70 335 *e*Pn Pn 01 12 45.7 +0.5
KTHA Kythira Island 3.73 146 P Pn 01 12 48.2 +2.5
ACER Acerenza 3.75 293 Pn 01 12 48.3 +2.2
CEL Celeste 3.76 254 Pn 01 12 47.1 +1.0
BRY Bratogost 3.81 338 *e*Pn Pn 01 12 47.9 +1.0
BRY Bratogost 3.81 338 *e*Pn Pn 01 12 48.5 +1.6
BRY *i* Sn Sn 01 13 32.5 +1.3
VTS Vitosha 3.84 32 *e*Pn Pn 01 12 49.1 +1.7
VTS *e*Sn Sn 01 13 30.5 -1.6
SELS Selova 3.86 7 *e*Pn Pn 01 12 49.2 +1.7

SJES Sjenica 3.89 354 *e*Pn Pn 01 12 49.5 +1.5
SJES Sjenica 3.89 354 *e*Pn Pn 01 12 50.3 +2.3
UPM Unac-Piva 4.00 343 *e*Pn Pn 01 12 52.0 +2.5
UPM Unac-Piva 4.00 343 *e*Pn Pn 01 12 51.1 +1.6
UPM *i* Sn Sn 01 13 37.3 +1.4
PLE Pljevlja 4.03 349 *e*Pn Pn 01 12 51.6 +1.7
PLE *i* Sn Sn 01 13 38.1 +1.5
SMTH Samothraki Isl 4.03 73 P Pn 01 12 51.7 +1.9
ANKY Antikythira Is 4.16 147 P Pn 01 12 54.2 +2.6
GOCS Kraljevo Serbi 4.18 4 *e*Pn Pn 01 12 54.1 +2.1
GOCS *e*Sn Sn 01 13 39.5 -0.9
IVAS Ivanjica 4.20 357 *e*Pn Pn 01 12 53.0 +0.9
ZAPS Zavoj 4.21 22 *e*Pn Pn 01 12 54.9 +2.6
ZAPS *e*Sn Sn 01 13 41.3 +0.4
RDO Rodhopi 4.25 64 Pn 01 12 54.3 +1.5
RDO Rodhopi 4.25 64 P Pn 01 12 54.3 +1.5
GADA Gvkgeada 4.25 77 P Pn 01 12 54.8 +2.0
PLD Plovdiv 4.25 48 *e*Pn Pn 01 12 54.1 +1.2
RUDO Rudo 4.31 349 *e*Pn Pn 01 12 55.5 +1.8
SGRT San Giovanni R 4.32 305 Pn 01 12 56.1 +2.3
BOVS Bovan 4.34 12⇓ P Pn 01 12 55.9 +1.8
BOVS Bovan 4.34 12 *e*Pn Pn 01 12 55.7 +1.6
BOVS *e*Sn Sn 01 13 43.0 -1.2
GRUS Gruza 4.50 2 *e*Pn Pn 01 12 57.9 +1.6
ALN Alexandroupoli 4.52 69 Pn 01 12 58.1 +1.6
ALN Alexandroupoli 4.52 69 P Pn 01 12 58.3 +1.8
EZN Ezine 4.53 83⇑ P Pn 01 12 59.1 +2.4
BBLS Lazi&#263i 4.55 350 *e*Pn Pn 01 12 58.2 +1.3
BBLS Lazi&#263i 4.55 350 *e*Pn Pn 01 12 58.3 +1.3
ZAGS Zajecar 4.61 16 *e*Pn Pn 01 12 59.5 +1.7
ZAGS *e*Sn Sn 01 13 51.5 +0.6
PAOL Paolisi 4.82 292 Pn 01 13 02.7 +2.0
TRUS Trudelj 4.83 359 *e*Pn Pn 01 13 02.5 +1.6
BORS2 Bor- Borsko je 4.84 13 *e*Pn Pn 01 13 02.7 +1.8
KUBS Kucevo 5.10 10 *e*Pn Pn 01 13 04.6 +0.1
VAE Valguarnera 5.13 250 Pn Pn 01 13 07.8 +2.7
1.7nm,0.6s,baz=82,slow=16,SNR=1.5
VAE Sn Sn 01 14 01.9 -1.9
2.1nm,0.3s,baz=356,slow=4.6,SNR=5.7
TEKS Tekeris 5.21 352 *e*Pn Pn 01 13 06.4 +0.4
TEKS Tekeris 5.21 352 *e*Pn Pn 01 13 06.2 +0.2
RAFF Raffo Rosso 5.28 248 Pn Pn 01 13 06.8 -0.1
AVAS Avala Beograd 5.31 0 *e*Pn Pn 01 13 09.2 +1.9
IDI Anoyia 5.39 138 Pn Pn 01 13 08.0 -0.6
4.1nm,0.3s,baz=0.8,slow=11,SNR=9.8
IDI Sn Sn 01 14 04.8 -5.3
2.7nm,0.3s,baz=321,slow=16,SNR=9.3
ELND Elena 5.39 47⇑ P Pn 01 13 10.8 +2.3
MDVR Moldovita 5.47 9⇑ P Pn 01 13 11.4 +1.8
HERR Herculane 5.68 14⇑ P Pn 01 13 14.4 +2.0
VRSS Vrsac 5.77 6 *e*Pn Pn 01 13 15.0 +1.3
FRGS Fruska Gora 5.79 355 *e*Pn Pn 01 13 13.9 -0.1
FRGS Fruska Gora 5.79 355 *e*Pn Pn 01 13 15.5 +1.5
A050A Klekovaca 5.88 331 *e*Pn Pn 01 13 17.2 +1.9
BLY Banja Luka 5.89 336 *e*Pn Pn 01 13 16.6 +1.2
BLY Banja Luka 5.89 336⇓ P Pn 01 13 16.8 +1.4
LOZB Loznitsa 6.08 47⇓ P Pn 01 13 20.1 +2.2
CAMP Campotosto 6.21 303 Pn 01 13 22.5 +2.6
A051A Mrakovica 6.22 336 *e*Pn Pn 01 13 20.8 +0.9
GZR Gura Zlata 6.24 15⇓ P Pn 01 13 22.1 +2.3
BZS Bozias 6.28 7⇑ P Pn 01 13 23.0 +2.3
NRCA Norcia 6.54 304 Pn 01 13 26.9 +2.5
FDMO Fiordimonte 6.66 306 Pn 01 13 28.2 +2.2
VOIR 6.93 28⇑ P Pn 01 13 32.7 +3.0
SIRR Siria 6.93 7⇑ P Pn 01 13 30.9 +1.2
MORH Mrgy, Hungar 6.96 349⇑ P Pn 01 13 31.2 +1.3
BOJS Bojanci 7.23 329 *e*Pn Pn 01 13 34.9 +1.1
BOJS Bojanci 7.23 329 *i* Pn Pn 01 13 34.9 +1.1
MLR Muntele Rosu 7.32 32 Pn 01 13 36.8 +1.8
MLR Muntele Rosu 7.32 32 Pn Pn 01 13 34.7 -0.3
0.6nm,0.3s,baz=261,slow=13,SNR=10
MLR Sn Sn 01 14 51.9 -5.6
baz=217,slow=12
2.8nm,0.8s
CRES Cresnjevec Ost 7.43 332 *e*Pn Pn 01 13 37.4 +1.0
CRES Cresnjevec Ost 7.43 332 *i* Pn Pn 01 13 37.3 +0.9
VISS Visnje 7.64 329 *e*Pn Pn 01 13 40.7 +1.3
CEY Cerknica 7.76 327 *e*Pn Pn 01 13 42.1 +1.0
SKDS Skadanscina 7.79 324 *e*Pn Pn 01 13 41.1 -0.4
PLOR Plostina 7.90 33⇑ P Pn 01 13 45.6 +2.7
VRI Vrincioaia 7.94 33⇑ P Pn 01 13 46.9 +3.4
SOKA Soboth 8.31 333 *i* Pn Pn 01 13 49.2 +0.6
1.5nm,0.3s,SNR=9.2
SOKA *i* Sn Sn 01 15 16.8 -5.2
4.2nm,0.6s
SABO M.te Sabotino 8.31 325 Pn 01 13 49.2 +0.6
OBKA Obir 8.34 331 *e*Pn Pn 01 13 49.7 +0.6
OBKA Obir 8.34 331 *i* Pn Pn 01 13 50.4 +1.3
1.4nm,0.2s,SNR=7.0
OBKA *i* Sn Sn 01 15 20.7 -2.1
7.6nm,0.3s
ARSA Arzberg 8.65 337 *i* Pn Pn 01 13 57.2 +4.0
1.3nm,0.4s
ARSA *e*Sn Sn 01 15 28.1 -2.2
1.2nm,0.4s
PRED Cave del Predi 8.69 327 Pn 01 13 54.8 +1.0
MYKA Terra Mystica 8.80 328 *e*Pn Pn 01 13 57.5 +2.2
0.9nm,0.4s
MYKA *i* Sn Sn 01 15 32.2 -1.9
1.6nm,0.3s
RONA Rosalia, Austr 8.85 341 *i* Pn Pn 01 13 59.2 +3.2
0.5nm,0.3s
KECS Kecovo 9.10 0 *e*PN Pn 01 14 07.0 +7.7
CONA Conrad Observa 9.17 340 *i* Pn Pn 01 14 03.2 +2.8
0.3nm,0.3s
VYHS Vyhne 9.18 353 *e*PN Pn 01 14 10.3 +10
VYHS *e*PG 01 15 50.2
VYHS *e*SG Sn 01 16 08.7 +25
KBA Koelnbreinsper 9.28 328 *e*Pn Pn **01 14 03.2 +1.1**
1.5nm,0.5s
KBA *i* Sn Sn 01 15 41.8 -4.2
2.0nm,0.4s
ABTA Abfaltersbach 9.38 324 *e*Pn Pn 01 14 05.1 +1.8
0.3nm,0.2s
ABTA *i* Sn Sn 01 15 43.9 -4.4
2.6nm,0.3s
MOA Molln 9.58 334 *i* Pn Pn 01 14 07.0 +1.0
1.9nm,0.3s
MOA *e*Sn Sn 01 15 50.9 -2.3
2.0nm,0.4s
BIOA Bad Ischl, Aus 9.67 331 *i* Pn Pn 01 14 08.7 +1.4
0.5nm,0.2s
BIOA *i* Sn Sn 01 15 52.8 -2.6
4.6nm,0.6s
LESA Schwarzleotal 9.84 327 *i* Pn Pn 01 14 10.8 +1.2
1.6nm,0.4s,SNR=4.3
LESA *e*Sn Sn 01 15 55.8 -3.6
3.1nm,0.3s
BRTR Keskin Array B 10.17 84 Pn Pn 01 14 16.0 +1.9
0.1nm,0.3s,baz=246,slow=11,SNR=2.6
0.4nm,0.5s
WTTA Wattenberg 10.17 324 *i* Pn Pn 01 14 17.1 +2.9
1.0nm,0.3s
WTTA *i* Sn Sn 01 16 04.2 -3.6
6.4nm,0.4s
WATA Walderalm 10.25 324 *i* Pn Pn 01 14 18.1 +2.9
1.1nm,0.3s
WATA *i* Sn Sn 01 16 06.7 -3.0
2.4nm,0.4s
SQTA Sankt Quirin 10.34 322 *i* Pn Pn 01 14 18.2 +1.8
0.7nm,0.3s
SQTA *i* Sn Sn 01 16 08.9 -2.9
7.2nm,0.6s
FUORN Ofenpass-Fuorn 10.40 317 Pn Pn 01 14 19.2 +1.8
FETA Feichten 10.43 320 *i* Pn Pn 01 14 20.8 +3.0
0.8nm,0.5s
FETA *i* Sn Sn 01 16 11.1 -3.1
2.3nm,0.6s
MOTA Moosalm 10.48 322 *i* Pn Pn 01 14 21.0 +2.6
1.8nm,0.4s
MOTA *i* Sn Sn 01 16 14.6 -0.7
3.1nm,0.4s
GERES GERESS Array B 10.63 335 Pn Pn 01 14 21.2 +0.7
baz=162,slow=14,SNR=7.5
GERES Sn Sn 01 16 15.1 -3.9
0.1nm,0.3s,baz=148,slow=25,SNR=8.7
0.5nm,0.5s
DAVOX Davos/Dischmat 10.71 317 Pn Pn 01 14 22.2 +0.6
0.2nm,0.3s,baz=128,slow=18,SNR=1.8
DAVOX Sn Sn 01 16 17.3 -3.6
0.3nm,0.3s,baz=306,slow=21,SNR=3.4
0.6nm,0.4s
RETA Reutte 10.74 322 *e*Pn Pn 01 14 25.3 +3.4
0.1nm,0.2s
RETA *e*Sn Sn 01 16 19.2 -2.4
4.3nm,0.5s
KHC Kasperske Hory 10.92 335 *e*PN Pn 01 14 26.0 +1.6
KHC *e*SN Sn 01 16 19.4 -6.6
DAVA Damuels 11.04 319 *i* Pn Pn 01 14 29.5 +3.5
1.3nm,0.5s
DAVA *e*Sn Sn 01 16 26.5 -2.5
1.8nm,0.4s
MMAI Mount Meron Ar 13.62 113 Pn Pn 01 15 00.2 -1.0
0.4nm,0.3s,baz=311,slow=13,SNR=4.3
0.7nm,0.4s
GHAJ Ghor Haditha 14.70 119 Pn Pn 01 15 14.0 -2.0
EIL Elat 15.35 125 Pn Pn 01 15 24.4 -0.3
0.1nm,0.3s,baz=318,slow=18,SNR=1.8
1.4nm,0.5s
ESDC Sonseca Array 18.85 279 P Pn 01 16 09.2 +0.6
baz=81,slow=11,SNR=4.6
0.3nm,0.6s
HFS Hagfors 21.20 351 P P 01 16 32.7 -0.7
2.2nm,0.7s,baz=165,slow=12,SNR=16
2.2nm,0.7s
KONO Kongsberg 21.42 345 P P 01 16 34.9 -0.8
KONO IAmb IAmb 01 16 43.3
comp=Z,17nm,1.5s
NC602 NORSAR Array S 22.09 348 P P 01 16 42.5 -0.4
FINES FINESS Array B 22.35 7 P P 01 16 45.2 -0.4
FINES FINESS Array B 22.35 7 P P 01 16 44.8 -0.8
comp=Z,1.3nm,0.5s,baz=172,slow=10,SNR=18
comp=Z,1.3nm,0.5s
NC405 NORSAR Array S 22.42 349 P P 01 16 45.4 -1.0
NC405 IAmb IAmb 01 16 47.5
comp=Z,10nm,0.9s
NB2 NORSAR Subarra 22.43 348 P P 01 16 46.2 -0.4
comp=Z,0.6nm,0.4s,baz=155,slow=10
NOA NORSAR Array B 22.43 348 P P 01 16 45.4 -1.2
comp=Z,0.4nm,0.5s,baz=151,slow=10.0,SNR=9.7
comp=Z,0.4nm,0.5s
EKA Eskdalemuir Ar 22.44 323 P P 01 16 46.2 -0.4
comp=Z,2.0nm,0.8s,baz=121,slow=9.8,SNR=8.5
comp=Z,2.0nm,0.8s
ABKAR Akbulak array 29.60 57 P P 01 17 52.4 -0.5
ARTI Arti 30.08 43 P P 01 17 56.1 -0.9
ARCES ARCESS Array B 30.33 3 P P 01 17 58.2 -0.9
ARCES IAmb IAmb 01 18 16.4
comp=Z,13nm,1.4s
ARCES ARCESS Array B 30.33 3 P P 01 17 58.1 -0.9
comp=Z,0.4nm,0.4s,baz=188,slow=8.6,SNR=13
comp=Z,0.4nm,0.4s
BRVK Borovoye 36.31 51 P P 01 18 51.5 +0.1
BRVK IAmb IAmb 01 18 52.7
comp=Z,2.2nm,0.5s
BVAR Borovoye Array 36.37 51 P P 01 18 51.4 -0.5
comp=Z,0.5nm,0.4s
comp=Z,0.5nm,0.4s
KURBB Kurchatov Arra 41.55 55 P P 01 19 34.1 -1.1
comp=Z,1.2nm,0.7s,baz=285,slow=9.6,SNR=7.0
comp=Z,1.2nm,0.7s
MKAR Makanchi Array 44.70 59 P P 01 20 00.2 -0.7
comp=Z,1.4nm,0.5s,baz=276,slow=7.6,SNR=17
comp=Z,1.4nm,0.5s
ZAA0 Zalesovo Array 44.91 49 P P 01 20 01.9 -0.5
ZAA0 IAmb IAmb 01 20 02.3
comp=Z,4.5nm,0.5s
ZALV Zalesovo Beam 44.91 49 P P 01 20 01.6 -0.8
ZALV Zalesovo Beam 44.91 49 P P 01 20 01.7 -0.6
comp=Z,3.7nm,0.4s,baz=281,slow=9.3,SNR=17
comp=Z,3.7nm,0.4s
NRIK Noril'sk 45.73 27 P P 01 20 09.0 +0.4
comp=Z,2.8nm,0.4s,baz=280,slow=4.4,SNR=4.9
comp=Z,2.8nm,0.4s
E29M Blow River 71.33 352 P P 01 23 08.2 +1.2
E29M IAmb IAmb 01 23 19.1
comp=Z,3.9nm,1.1s
C16K Lisburne Hills 72.57 2 P P 01 23 15.7 +1.2
H29M Whitestone 73.47 351 P P 01 23 19.3 -0.6
H29M IAmb IAmb 01 23 52.4
comp=Z,3.4nm,1.1s

IDC 12 01:12:16.9±1.6,3°.61N×127°.47E,h0km,mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=145.5km s-min=21.5km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.36**	**164**	P	P		01 17 36.9	0.0
	1.1nm,0.8s,baz=343,slow=10,SNR=6.8							
	1.1nm,0.8s							
ASAR	**Alice Springs**	**27.83**	**167**	P	P		01 18 08.2	-0.1
	0.3nm,0.8s,baz=345,slow=8.4,SNR=1.4							
	0.8nm,0.8s							
SONM	**Songino Array**	**47.65**	**341**	P	P		01 20 53.8	-1.2
	0.3nm,0.4s,baz=152,slow=6.5,SNR=2.2							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**58.07**	**325**	P	P		01 22 12.8	+0.8
	0.3nm,0.4s,baz=119,slow=7.5,SNR=4.4							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**62.23**	**327**	P	P		01 22 40.4	0.0
	0.8nm,0.7s,baz=124,slow=6.1,SNR=8.5							
	0.8nm,0.7s							

*IDC **12** 01:18:41.8±1.2,4°.60S×153°.84E,h0km,mb4.0/8, mbtmp4.0/8, Error ellipse: s-maj=50.2km s-min=25.4km az=83.0*
*NEIC **12** 01:18:55.3±1.7,4°.6S±0°.2×153°.6E±0°.1,h96km±10km, mb4.3/12, Error ellipse: s-maj=26.3km s-min=14.7km az=200.0*

ISC 12 01:18:53.4±1.1,4°.6S±0°.2×153°.7E±0°.1,h85km,n24, σ1s 01/27,mb4.1/12, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.55**	**285**			**Pn**	**01 19 20.9**	**+1.2**
RABL						**Sn**	**01 19 39.1**	**-0.4**
EIDS	**Eidsvold**	**20.79**	**187**	P	P	P	**01 23 30.2**	**+2.4**
EIDS						IAmb IAmb	01 23 31.2	
	comp=Z,5.1nm,0.8s							
MTN	**Manton Dam**	**23.71**	**248**	P	P	P	**01 23 55.4**	**-2.5**
MTN						IAmb IAmb	01 24 04.9	
	comp=Z,38nm,1.5s							
WB0	**Warramunga Arr**	**24.08**	**230**	P	P	P	**01 24 00.8**	**-0.3**
WB0						IAmb IAmb	01 24 38.9	
	comp=Z,13nm,1.5s							
WR8	**Warramunga Arr**	**24.11**	**229**	P	P	P	**01 24 01.6**	**+0.2**
WRA	**Warramunga Arr**	**24.22**	**229**	P	P	P	**01 24 01.7**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=52,slow=10.0,SNR=6.9							
WRA				PcP		**PcP**	**01 27 41.1**	**0.0**
	comp=Z,0.5nm,0.8s,baz=87,slow=4.7,SNR=2.3							
	comp=Z,0.5nm,0.5s							
ARMA	**Armidale**	**25.75**	**184**	P	P	P	**01 24 16.7**	**+0.4**
ARMA						IAmb IAmb	01 24 40.5	
	comp=Z,18nm,1.4s							
KNRA	**Kununurra**	**26.83**	**244**	P	P	P	**01 24 27.6**	**+1.5**
KNRA						IAmb IAmb	01 24 35.7	
	comp=Z,12nm,1.1s							
ASAR	**Alice Springs**	**26.88**	**223**	P	P	P	**01 24 25.9**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=54,slow=9.5,SNR=2.3							
ASAR				PcP		**PcP**	**01 27 47.5**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=61,slow=2.5,SNR=5.1							
	comp=Z,0.3nm,0.4s							
FITZ	**Fitzroy Crossi**	**30.51**	**242**	P	P	P	**01 24 57.2**	**-1.6**
LTZ	**Lake Taylor**	**41.45**	**159**	P	P	P	**01 26 31.6**	**-0.3**
RPZ	**Rata Peaks**	**41.87**	**161**	P	P	P	**01 26 34.6**	**-0.7**
LBZ	**Lake Benmore**	**42.20**	**162**	P	P	P	**01 26 36.3**	**-1.6**
WHZ	**Wether Hill Ro**	**42.96**	**165**	P	P	P	**01 26 44.3**	**+0.3**
VNDA	**Vanda**	**72.99**	**178**	P	P	P	**01 30 13.8**	**+0.4**
VNDA	**Vanda**	**72.99**	**178**	P	P	P	**01 30 13.2**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=332,slow=7.1,SNR=16							
	comp=Z,1.5nm,0.7s							
MKAR	**Makanchi Array**	**80.75**	**319**	P	P	P	**01 30 57.8**	**+0.2**
MKAR	**Makanchi Array**	**80.75**	**319**	P	P	P	**01 30 58.5**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=94,slow=7.3,SNR=6.3							
	comp=Z,0.3nm,0.4s							
ZALV	**Zalesovo Beam**	**81.47**	**326**	P	P	P	**01 31 01.3**	**0.0**
	comp=Z,0.5nm,0.4s,baz=90,slow=5.8,SNR=1.5							
	comp=Z,0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**84.18**	**322**	P	P	P	**01 31 15.5**	**+0.2**
	comp=Z,0.5nm,0.2s,baz=95,slow=5.1,SNR=1.8							
	comp=Z,0.5nm,0.2s							
QSPA	**South Pole Qui**	**85.35**	**180**	P	P	P	**01 31 21.1**	**0.0**
QSPA						IAmb IAmb	01 31 33.6	
	comp=Z,4.6nm,1.2s							
QSPA	**South Pole Qui**	**85.35**	**180**	P	P	P	**01 31 20.8**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=185,slow=1.6,SNR=42							
	comp=Z,1.9nm,0.5s							
MAW	**Mawson**	**86.08**	**203**	P	P	P	**01 31 24.6**	**+0.1**

comp=Z,1.2nm,0.7s,baz=90,slow=3.0,SNR=2.5
comp=Z,1.2nm,0.7s

TORD Torodi Ar. Bea 151.06 289 PKPbc **PKPbc 01 38 37.2 -0.6**
comp=Z,1μm,0.4s,baz=66,slow=2.8,SNR=3.7

IDC ***12*** *01:34:38.6±0.5, 14˚.53N×94˚.38W, h0km, mb4.6/27, mbtmp4.7/30, ML4.8/3, MS4.5/58, Error ellipse: s-maj=21.7km s-min=10.2km az=53.0*

GCG ***12*** *01:34:40.5±1.7, 14˚.52N×94˚.45W, h35km±999km, MD4.9, ML4.9*

MEX ***12*** *01:34:40.0±1.0, 14˚.51N×94˚.51W, h6km±26km, MD4.9*

MOS ***12*** *01:34:41.4±1.4, 14˚.60N×94˚.36W, h24km, mb5.4/36, MS4.8/9, Error ellipse: s-maj=9.7km s-min=5.9km az=104.8*

GCMT ***12*** *01:34:41.9±0.2, 14˚.66N±0˚.01×94˚.52W±0˚.01, h12km, MW5.3/134, Moment Tensor Solution. s101,c156; s134,c252; Duration: 1s0 Moment tensor: Scale 10¹⁷ Nm; Mrr=0.71±.01; Mθθ 0.17±.01; Mϕϕ 0.54±.01; Mrθ 0.38±.03; Mθϕ -0.58±.01; Mϕr 0.19±.03; Best double couple: M0 0.96600×10¹⁷ NP1:ϕs 171.00000°, δ50.00000°, λ -49.00000°. NP2:ϕs 297.00000°, δ55.00000°, λ -128.00000°. Principal axes: T 0.9680, Plg 3.0000°, Azm 53.0000°; N -0.0040, Plg 30.0000°, Azm 321.0000°; P -0.9630, Plg 59.0000°, Azm 148.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***12*** *01:34:41.9±2.2, 14˚.79N±0˚.07×94˚.26W±0˚.06, h10km, mb5.1/677, Mww5.3/55 Error ellipse: s-maj=12.6km s-min=8.2km az=38.0*

NEIC ***12*** *01:34:41.9, 14˚.78N×94˚.26W, h12km*

NEIC ***12*** *01:34:41.9, 14˚.88N×94˚.26W, h12km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10¹⁷Nm; Mrr=0.76; Mθθ 0.24; Mϕϕ 0.52; Mrθ 0.61; Mθϕ -0.44; Mϕr -0.51; Fault plane solution: M0 1.13000×10¹⁷ NP1: ϕs 155.56000°, δ23.96000°, λ -69.94000°. NP2: ϕs 313.78000°, δ67.58000°, λ -98.67000°. Principal axes: T 1.1517, Plg 22.0000°, Azm 50.0000°; N -0.0533, Plg 8.0000°, Azm 317.0000°; P -1.0984, Plg 66.0000°, Azm 208.0000°;*

CATAC ***12*** *01:34:42.3±0.7, 14˚.4N±4˚.4×94˚.9W±˚, h28km±10km, M5.2/21, mb5.3/5, mB5.7/6, MLv5.2/21, Mw(mB)5.2/6, MwMwp4.9/3, Mwp5.2/3 Error ellipse: s-maj=12.6km s-min=4.5km az=48.5, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=7.34; Mθθ 3.21; Mϕϕ 4.13; Mrθ 1.55; Mθϕ -4.80; Mϕr -1.71; Fault plane solution: M0 8.30696×10¹⁶ NP1: ϕs 137.71527°, δ36.87500°, λ -90.02837°. NP2: ϕs 317.75074°, δ53.12501°, λ -89.97872°. Principal axes: T 8.8216, Plg 8.1250°, Azm 47.7355°; N -1.1488, Plg 0.0170°, Azm 137.7380°; P -7.6728, Plg 81.8750°, Azm 227.8572°; confirmed*

RSNC ***12*** *01:34:43.4±2.8, 15˚.N±6˚×9˚4W±1˚4, h26km±16km, M4.7, mb5.0, mB5.3, mBc6.3, Mjma5.4, ML5.9, Ms(BB)4.8, Mw(mB)4.7, MwMwp5.2, Mwp5.4*

SNET ***12*** *01:34:58.1±0.7, 14˚.58N×93˚.13W, h78km±17km, ML4.4*

ISC 12 01:34:40.3±0.8, 14˚.58N±0˚.04×94˚.45W±0˚.03, h13km±4km, n1202, σ1°86/933, mb5.1/435, MS4.7/77, 8C-32D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.64**	**46**	*eP*	**Pn**	**01 35 06.8**	**-2.0**
PCIG				*eS*	**Sn**	**01 35 27.0**	**-2.7**
NILT	**Santiago Nilte**	**1.98**	**355**	*eP*	**Pn**	**01 35 11.1**	**-2.6**
NILT				*eS*	**Sn**	**01 35 34.8**	**-3.5**
HUIG	**Huatulco**	**1.99**	**307**	*eP*	**Pn**	**01 35 11.0**	**-2.8**
HUIG				*eS*	**Sn**	**01 35 32.2**	**-6.3**
HUIG	**Huatulco**	**1.99**	**307**	*eP*	**Pn**	**01 35 11.1**	**-2.7**
HUIG				IAML		01 35 34.9	
	comp=E,6μm,0.3s						
THIG		**2.14**	**81**	*eP*	**Pn**	**01 35 14.0**	**-1.8**
THIG				*eS*	**Sn**	**01 35 37.8**	**-4.4**
THIG		**2.14**	**81**	*eP*	**Pn**	**01 35 13.9**	**-1.9**
THIG				IAML		01 35 41.2	
	comp=E,6μm,0.5s						
PATR	**El Naranjo**	**2.21**	**76**	*eP*	**Pn**	**01 35 14.6**	**-2.4**
PATR				*eS*	**Sn**	**01 35 40.6**	**-3.6**
PAVE	**Pavencul**	**2.28**	**74**	*eP*	**Pn**	**01 35 15.9**	**-2.1**
PAVE				*eS*	**Sn**	**01 35 41.6**	**-4.5**
SMCA	**Catarina**	**2.31**	**83**	*eP*	**Pn**	**01 35 16.4**	**-1.7**
SMCA				IAML		01 35 47.9	
	comp=E,421nm,0.1s						
CMIG	**Matias Romero**	**2.54**	**351**	Pn	**Pn**	**01 35 20.2**	**-1.0**
	comp=E,440nm,0.3s,baz=166,slow=12,SNR=1014						
CMIG				Sn	**Sn**	**01 35 49.1**	**-2.9**
	comp=E,215nm,0.3s,baz=95,slow=19,SNR=5.9						
	comp=E,1μm,0.4s						
CMIG	**Matias Romero**	**2.54**	**351**	*eP*	**Pn**	**01 35 19.8**	**-1.4**
CMIG				*eS*	**Sn**	**01 35 48.9**	**-3.1**
TGIG		**2.54**	**30**	*eP*	**Pn**	**01 35 20.5**	**-0.7**
TGIG				*eS*	**Sn**	**01 35 52.8**	**+0.7**
TGIG		**2.54**	**30**	*eP*	**Pn**	**01 35 20.6**	**-0.7**
TGIG				IAML		01 35 54.8	
	comp=N,4μm,0.6s						
TGBT	**Tuxtla Gutierr**	**2.55**	**31**	*eP*	**Pn**	**01 35 21.0**	**-0.4**
TGBT				*eS*	**Sn**	**01 35 53.7**	**+1.4**
RTAL	**Retalhuleu**	**2.67**	**91**		**Pn**	**01 35 21.7**	**-1.3**
RTAL	**Retalhuleu**	**2.67**	**91**	*eP*	**Pn**	**01 35 21.4**	**-1.6**
RTAL				*i* S	**Sn**	**01 35 51.0**	**-4.2**
RTAL	**Retalhuleu**	**2.67**	**91**	*eP*	**Pn**	**01 35 21.8**	**-1.2**
RTAL				*eS*	Sn	01 35 40.9	-14
RTAL	**Retalhuleu**	**2.67**	**91**	P	**Pn**	**01 35 21.7**	**-1.3**
RTAL	**Retalhuleu**	**2.67**	**91**	S	**Sn**	**01 35 52.1**	**-3.1**
UXUV	**UXUV**	**2.74**	**6**	*eP*	**Pn**	**01 35 23.4**	**-0.6**
UXUV				*eS*	**Sn**	**01 35 55.4**	**-1.7**
CCIG	**Comitan**	**2.80**	**52**		**Pn**	**01 35 25.2**	**+0.2**
CCIG	**Comitan**	**2.80**	**52**	*eP*	**Pn**	**01 35 24.9**	**-0.1**
CCIG				*eS*	**Sn**	**01 36 01.6**	**+2.8**
CCIG	**Comitan**	**2.80**	**52**	*eP*	**Pn**	**01 35 25.1**	**0.0**
CCIG				IAML		01 35 33.7	
	comp=N,5μm,0.5s						
CCIG	**Comitan**	**2.80**	**52**	P	**Pn**	**01 35 25.2**	**+0.2**
QUEO	**Labor Ovalle**	**2.85**	**84**	*eP*	**Pn**	**01 35 25.0**	**-0.8**
QUEO				*eS*	**Sn**	**01 35 58.2**	**-2.1**
QUEO				IAML		01 35 59.9	
	comp=N,14μm,0.5s						
HUEH	**Huehuetenango**	**2.94**	**75**		**Pn**	**01 35 27.4**	**+0.4**
HUEH	**Huehuetenango**	**2.94**	**75**	*eP*	**Pn**	**01 35 27.0**	**+0.1**
HUEH				*eS*	**Sn**	**01 36 03.9**	**+1.6**
HUEH	**Huehuetenango**	**2.94**	**75**	*eP*	**Pn**	**01 35 27.1**	**+0.1**
HUEH				*eS*	Sn	01 35 50.2	-12
HUEH	**Huehuetenango**	**2.94**	**75**	‖ *iP*	**Pn**	**01 35 27.4**	**+0.4**
HUEH				IAML		01 36 10.5	
	comp=E,15μm,0.8s						
HUEH	**Huehuetenango**	**2.94**	**75**	P	**Pn**	**01 35 27.4**	**+0.4**
HUEH	**Huehuetenango**	**2.94**	**75**	S	**Sn**	**01 36 04.6**	**+2.2**
SOKI	**Kika Raxquin**	**2.96**	**85**	*i* P	**Pn**	**01 35 27.1**	**-0.3**
SOKI				IAML		01 36 33.7	
	comp=N,3μm,0.8s						
PEIG	**Puerto Escondi**	**2.96**	**299**	*eP*	**Pn**	**01 35 24.6**	**-2.5**
PEIG				*eS*	**Sn**	**01 35 55.0**	**-7.5**
STG2	**El Palmar, Qui**	**2.98**	**92**	*i* P	Pn	01 35 22.2	-5.3
STG2				*eS*	Sn	01 35 55.0	-8.1
STG8	**El Palmar, Qui**	**3.00**	**92**	*eP*	Pn	01 35 22.8	-5.1
STG8				IAML		01 35 56.6	
	comp=N,5μm,0.2s						
STG0	**El Palmar, Qui**	**3.01**	**92**	*eP*	Pn	01 35 23.0	-5.0
STG0				IAML		01 36 07.8	
	comp=E,9μm,0.2s						
OXLC	**Oaxaca**	**3.29**	**319**	*eP*	**Pn**	**01 35 31.0**	**-0.8**
OXLC				*eS*	**Sn**	**01 36 07.0**	**-4.0**
OXBJ	**Oaxaca**	**3.31**	**319**	*eP*	**Pn**	**01 35 31.8**	**-0.2**
OXBJ				*eS*	**Sn**	**01 36 08.0**	**-3.3**
VHO	**Vista Hermosa**	**3.32**	**319**	*eP*	**Pn**	**01 35 32.4**	**+0.3**
VHO				*eS*	**Sn**	**01 36 09.4**	**-2.1**
NEUV	**Arroyo Zacate**	**3.38**	**338**	*eP*	**Pn**	**01 35 31.9**	**-0.9**
NEUV				*eS*	**Sn**	**01 36 09.4**	**-3.4**
TUIG	**Tuzandepetl**	**3.44**	**0**	*eP*	**Pn**	**01 35 32.9**	**-0.8**
TUIG				*eS*	**Sn**	**01 36 11.4**	**-2.9**
TUIG	**Tuzandepetl**	**3.44**	**0**	P	**Pn**	**01 35 33.2**	**-0.4**
TUIG	**Tuzandepetl**	**3.44**	**0**	S	**Sn**	**01 36 20.7**	**+6.4**
ESSG	**Sabana Grande**	**3.51**	**93**	*i* P	**Pn**	**01 35 34.1**	**-0.6**
ESSG				IAML		01 36 15.8	
	comp=E,1μm,0.6s						
VHSA	**Villahermosa**	**3.69**	**23**	*eP*	**Pn**	**01 35 38.4**	**+1.4**
VHSA				*eS*	**Sn**	**01 36 23.0**	**+2.6**
YOIG	**Yosondua**	**3.75**	**308**	*eP*	**Pn**	**01 35 37.8**	**-0.3**
YOIG				*eS*	**Sn**	**01 36 18.9**	**-3.4**
FG16	**Alotenango, Sa**	**3.83**	**94**	*eP*	Pn	01 35 33.0	-6.2
FG16				IAML		01 36 15.0	
	comp=N,5μm,0.2s						
PNIG	**Pinotepa**	**3.98**	**297**	*eP*	**Pn**	**01 35 39.6**	**-1.5**
PNIG				*eS*	**Sn**	**01 36 19.9**	**-7.8**
PMUV	**Sontecomapan**	**4.00**	**351**	*eP*	**Pn**	**01 35 39.1**	**-2.3**
PMUV				*eS*	**Sn**	**01 36 24.4**	**-3.8**
TXIG	**Tlaxiaco**	**4.16**	**310**	*eP*	**Pn**	**01 35 43.9**	**+0.1**
TXIG				*eS*	**Sn**	**01 36 28.7**	**-3.7**
TOIG	**Toxpalan**	**4.31**	**325**	*eP*	**Pn**	**01 35 47.8**	**+2.1**
TOIG				*eS*	**Sn**	**01 36 34.6**	**-1.3**
FAME	**Alcaldia de Sa**	**4.36**	**99**	P	**Pn**	**01 35 44.6**	**-1.8**
SLOZ	**Alcaldia de Sa**	**4.56**	**96**	*eP*	**Pn**	**01 35 48.3**	**-0.7**
SLOZ	**Alcaldia de Sa**	**4.56**	**96**	P	**Pn**	**01 35 48.4**	**-0.7**
SLOZ	**Alcaldia de Sa**	**4.56**	**96**	S	**Sn**	**01 36 37.8**	**-4.2**
LOAL	**Lomas de Alarc**	**4.56**	**97**	P	**Pn**	**01 35 49.2**	**+0.1**
LOAL	**Lomas de Alarc**	**4.56**	**97**	S	**Sn**	**01 36 38.8**	**-3.3**
HLIG	**Huajuapan de L**	**4.57**	**316**	*eP*	**Pn**	**01 35 50.8**	**+1.4**
HLIG				*eS*	**Sn**	**01 36 39.9**	**-2.5**
NUBE	**Las Nubes**	**4.58**	**98**	*eP*	**Pn**	**01 35 48.5**	**-0.9**
NUBE				*eS*	Sn	01 36 27.1	-16
NUBE	**Las Nubes**	**4.58**	**98**	*eP*	**Pn**	**01 35 48.9**	**-0.6**
NUBE	**Las Nubes**	**4.58**	**98**	P	**Pn**	**01 35 48.5**	**-0.9**
RTR	**El Retiro**	**4.71**	**98**	*eP*	**Pn**	**01 35 50.5**	**-0.8**
TPIG	**Tehuac#an**	**4.73**	**324**	*eP*	**Pn**	**01 35 52.8**	**+1.2**
TPIG				*eS*	**Sn**	**01 36 44.1**	**-2.4**
SBLS	**San Blas**	**4.74**	**98**	*eP*	**Pn**	**01 35 50.6**	**-1.1**
CEVE	**Cerro Verde**	**4.74**	**98**	*eP*	**Pn**	**01 35 51.1**	**-0.7**
CEVE				IAML		01 36 49.0	
	comp=Z,1μm,0.6s						
CEVE	**Cerro Verde**	**4.74**	**98**	P	**Pn**	**01 35 51.5**	**-0.3**
CEVE	**Cerro Verde**	**4.74**	**98**	S	**Sn**	**01 36 44.1**	**-2.6**
SNJE	**San Jose**	**4.75**	**98**	*eP*	**Pn**	**01 35 51.1**	**-0.7**
MGIG	**Malinaltepec**	**4.82**	**304**	*eP*	**Pn**	**01 35 53.4**	**+0.6**
MGIG				*eS*	**Sn**	**01 36 44.6**	**-3.9**
FTIG	**Fresnillo de T**	**4.85**	**314**	*eP*	**Pn**	**01 35 54.0**	**+0.9**
FTIG				*eS*	**Sn**	**01 36 45.0**	**-4.2**
MTO3	**Montecristo**	**4.93**	**91**		**Pn**	**01 35 53.7**	**-0.7**
MTO3	**Montecristo**	**4.93**	**91**	*i* P	**Pn**	**01 35 53.9**	**-0.5**
MTO3	**Montecristo**	**4.93**	**91**	P	**Pn**	**01 35 54.0**	**-0.4**
JAYA	**Jayaque - finc**	**4.94**	**100**	*eP*	**Pn**	**01 35 53.2**	**-1.1**
JAYA				IAML		01 36 49.5	
	comp=Z,401nm,0.4s						
JAYA	**Jayaque - finc**	**4.94**	**100**	‖ *iP*	**Pn**	**01 35 53.3**	**-1.1**
JAYA	**Jayaque - finc**	**4.94**	**100**	P	**Pn**	**01 35 53.7**	**-0.7**
JAYA	**Jayaque - finc**	**4.94**	**100**	S	**Sn**	**01 36 47.3**	**-4.2**
TLIG	**Tlapa**	**4.95**	**307**		**Pn**	**01 35 55.9**	**+1.4**
TLIG	**Tlapa**	**4.95**	**307**	*eP*	**Pn**	**01 35 55.4**	**+0.9**
TLIG				*eS*	**Sn**	**01 36 48.2**	**-3.5**
TLIG	**Tlapa**	**4.95**	**307**	P	**Pn**	**01 35 56.6**	**+2.1**
PETF	**Flores**	**4.99**	**62**		**Pn**	**01 35 54.5**	**-0.4**
PETF	**Flores**	**4.99**	**62**	*eP*	**Pn**	**01 35 53.9**	**-1.1**
PETF	**Flores**	**4.99**	**62**	*i* P	**Pn**	**01 35 54.5**	**-0.4**
PETF				IAML		01 36 05.3	
	comp=N,3μm,0.5s						
PETF	**Flores**	**4.99**	**62**	P	**Pn**	**01 35 54.5**	**-0.4**
CRIG	**Cruz Grande**	**5.00**	**296**	*eP*	**Pn**	**01 35 53.8**	**-1.3**
CRIG				*eS*	Sn	01 36 43.5	-9.1
PMON	**Piamonte**	**5.05**	**99**	P	**Pn**	**01 35 55.5**	**-0.5**
PMON	**Piamonte**	**5.05**	**99**	S	**Sn**	**01 36 51.8**	**-2.5**
BOQS	**Boqueron**	**5.08**	**99**	*eP*	**Pn**	**01 35 56.2**	**-0.3**
LOMA	**Loma Larga**	**5.20**	**100**	P	**Pn**	**01 35 59.3**	**+1.2**
LOMA	**Loma Larga**	**5.20**	**100**	S	**Sn**	**01 36 54.2**	**-3.9**
POHV	**Veracruz**	**5.23**	**329**	*eP*	**Pn**	**01 35 59.6**	**+0.9**
POHV				*i* S	**Sn**	**01 36 58.9**	**-0.2**
JAUV	**Jalcomulco**	**5.27**	**335**	*eP*	**Pn**	**01 35 56.7**	**-2.2**
JAUV				*eS*	**Sn**	**01 36 52.5**	**-7.0**
SCIG	**Sabancuy**	**5.37**	**35**	*eP*	**Pn**	**01 35 58.8**	**-1.4**
SCIG	**Sabancuy**	**5.37**	**35**	*eP*	**Pn**	**01 35 58.9**	**-1.3**
SCIG				IAML		01 37 07.8	
	comp=E,627nm,0.8s						
SCIG	**Sabancuy**	**5.37**	**35**	P	**Pn**	**01 35 59.3**	**-0.9**
LVIG	**Laguna Verde**	**5.45**	**340**	*eP*	**Pn**	**01 35 59.9**	**-1.4**
LVIG				*eS*	Sn	01 36 56.4	-7.6
COEG	**Centro de Oper**	**5.49**	**99**	P	**Pn**	**01 36 01.2**	**-0.6**
DAIG	**Los Arroyos**	**5.57**	**297**	*eP*	**Pn**	**01 36 02.8**	**-0.1**
DAIG				*eS*	Sn	01 36 58.2	-8.6
SCLA	**Alcaldia de Sa**	**5.62**	**98**	P	**Pn**	**01 36 02.8**	**-0.8**
PBCV	**Popocatepetl**	**5.89**	**319**	*eP*	**Pn**	**01 36 11.3**	**+3.6**
PBCV				*eS*	**Sn**	**01 37 12.1**	**-3.2**
PBXN	**Popocatepetl**	**5.97**	**318**	*eP*	**Pn**	**01 36 11.3**	**+2.3**
PBXN				*eS*	**Sn**	**01 37 14.4**	**-3.1**
MEIG	**Mezcala**	**5.98**	**305**	*eP*	**Pn**	**01 36 10.1**	**+1.5**
MEIG				*eS*	**Sn**	**01 37 12.5**	**-4.6**
PPM	**Popocatepetl**	**6.00**	**319**	*eP*	**Pn**	**01 36 12.3**	**+3.0**
PPM				*eS*	**Sn**	**01 37 14.7**	**-3.4**
YAIG	**Yautepec**	**6.14**	**315**	*eP*	**Pn**	**01 36 13.1**	**+2.1**
YAIG				*eS*	**Sn**	**01 37 16.6**	**-4.6**
PLIG	**Platanillo**	**6.16**	**309**	*eP*	**Pn**	**01 36 12.8**	**+1.7**
PLIG				*eS*	**Sn**	**01 37 17.6**	**-3.8**
CXUV	**Coxquihui**	**6.32**	**332**	*eP*	**Pn**	**01 36 13.9**	**-0.4**
CXUV				*eS*	**Sn**	**01 37 22.2**	**-3.2**
MPVM	**San Francisco**	**6.34**	**317**	*eP*	**Pn**	**01 36 17.5**	**+3.7**
MPVM				*eS*	**Sn**	**01 37 23.0**	**-3.2**
THVM	**De Xico**	**6.40**	**318**	*eP*	**Pn**	**01 36 11.7**	**-2.9**
THVM				*eS*	**Sn**	**01 37 24.3**	**-3.3**
TLVM	**San Miguel Top**	**6.44**	**316**	*eP*	**Pn**	**01 36 18.2**	**+2.9**
TLVM				*eS*	**Sn**	**01 37 25.4**	**-3.5**
MAVM	**Malinalco, Edo**	**6.51**	**313**	*eP*	**Pn**	**01 36 18.8**	**+2.8**
MAVM				*eS*	**Sn**	**01 37 24.7**	**-5.5**
CNCY	**Coyoacan**	**6.53**	**317**	*eS*	**Sn**	**01 37 28.1**	**-2.8**
COVM	**Coyoacan**	**6.54**	**317**	*eS*	**Sn**	**01 37 28.6**	**-2.6**
BJVM	**Benito Juarez**	**6.57**	**317**	*eS*	**Sn**	**01 37 28.4**	**-3.5**
AOVM	**Tlapan**	**6.60**	**316**	*eP*	**Pn**	**01 36 19.8**	**+2.3**
AOVM				*eS*	**Sn**	**01 37 29.9**	**-2.9**
CJVM	**Cuajimalpa**	**6.64**	**316**	*eS*	**Sn**	**01 37 30.4**	**-3.2**
INVM	**La Marquesa**	**6.65**	**315**	*eP*	**Pn**	**01 36 21.1**	**+2.9**
INVM				*eS*	**Sn**	**01 37 30.3**	**-3.8**
APVM	**Azcapotzalco**	**6.68**	**318**	*eS*	**Sn**	**01 37 32.0**	**-2.6**
ARIG	**Puente Sto Nin**	**6.75**	**304**	*eP*	**Pn**	**01 36 21.2**	**+2.0**
ARIG				*eS*	**Sn**	**01 37 32.3**	**-3.8**
TGUH	**Tegucigalpa,Un**	**6.97**	**93**		**Pn**	**01 36 22.0**	**-0.4**
TGUH	**Tegucigalpa,Un**	**6.97**	**93**	*eP*	Pn	01 36 17.4	-4.9
TGUH				*eS*	**Sn**	**01 37 43.3**	**+1.5**
TGUH	**Tegucigalpa,Un**	**6.97**	**93**	P	**Pn**	**01 36 22.1**	**-0.3**
TGUH	**Tegucigalpa,Un**	**6.97**	**93**	P	**Pn**	**01 36 22.0**	**-0.4**
	comp=E,0.7nmcomp=E,2μmcomp=E,140nm,0.8s						
DEIG	**Demacu**	**7.18**	**323**	*eP*	**Pn**	**01 36 25.6**	**+0.3**
DEIG				*eS*	**Sn**	**01 37 41.7**	**-5.2**
ZIIG	**Zihuatanejo**	**7.39**	**295**	*eP*	**Pn**	**01 36 28.7**	**+0.8**
ZIIG				*eS*	Sn	01 37 41.1	-10
HERN	**Volcan Telica**	**7.66**	**104**		**Pn**	**01 36 30.5**	**-1.3**
CTUV	**Llano Grande**	**7.80**	**332**	*eP*	**Pn**	**01 36 35.2**	**+1.6**
CTUV				*eS*	**Sn**	**01 37 56.6**	**-5.2**
CNGN	**Cerro Negro**	**7.81**	**104**		**Pn**	**01 36 33.7**	**-0.1**
CNGN	**Cerro Negro**	**7.81**	**104**	P	**Pn**	**01 36 32.8**	**-1.1**
	comp=E,6.3nmcomp=E,27μmcomp=E,1μm,0.8s						
TEIG	**Tepich**	**8.14**	**45**		**Pn**	**01 36 36.0**	**-2.3**
TEIG	**Tepich**	**8.14**	**45**	*eP*	**Pn**	**01 36 36.1**	**-2.3**
TEIG				*eS*	**Sn**	**01 38 13.2**	**+2.9**
TEIG	**Tepich**	**8.14**	**45**	P	**Pn**	**01 36 35.7**	**-2.6**
	comp=E,5.1nmcomp=E,15μmcomp=E,56μmcomp=E,2μm,0.6s						
MOIG	**Morelia**	**8.20**	**309**		**Pn**	**01 36 42.8**	**+3.5**
MOIG	**Morelia**	**8.20**	**309**	*eP*	**Pn**	**01 36 42.6**	**+3.3**
MOIG				*eS*	**Sn**	**01 38 07.0**	**-5.0**
BOAB	**BOACO BROADBAN**	**8.80**	**103**		**Pn**	**01 36 45.9**	**-1.4**
RPIG	**Rio Verde**	**8.97**	**325**	*eP*	**Pn**	**01 36 53.8**	**+4.1**
RPIG				*eS*	Sn	01 38 46.5	+16
MMIG	**Aquila**	**9.30**	**295**	*eP*	**Pn**	**01 36 55.3**	**+1.1**
MMIG				*eS*	Sn	01 38 29.0	-10
ACON	**Acoyapa**	**9.39**	**105**	P	**Pn**	**01 36 54.4**	**-1.1**
	comp=E,645nmcomp=E,24nm,0.7s						
GTIG	**Gomez Farias**	**9.55**	**333**	*eP*	**Pn**	**01 37 00.1**	**+2.4**
GTIG				*eS*	Sn	01 38 37.2	-7.8
MNGA	**Volcan de Coli**	**10.03**	**300**	*eP*	**Pn**	**01 37 07.9**	**+3.5**
MNGA				*eS*	**Sn**	**01 38 57.5**	**+0.5**
INCO	**Volcan de Coli**	**10.04**	**301**	*eP*	**Pn**	**01 37 08.2**	**+3.5**
INCO				*eS*	**Sn**	**01 39 06.3**	**+8.8**
SOMAC	**Volcano de Col**	**10.06**	**301**	*eP*	**Pn**	**01 37 08.3**	**+3.3**
SOMAC				*eS*	**Sn**	**01 39 00.8**	**+2.8**
CDAR	**Ciudad de Arme**	**10.13**	**297**	*eP*	**Pn**	**01 37 07.0**	**+1.4**
CDAR				*eS*	**Sn**	**01 38 53.3**	**-5.9**
ESPN	**Las Esperanzas**	**10.15**	**102**		**Pn**	**01 37 05.5**	**-0.4**
ESPN	**Las Esperanzas**	**10.15**	**102**	P	**Pn**	**01 37 08.8**	**+2.9**
	comp=E,724nmcomp=E,37nm,1.0s						
CEGR	**Campo Tres**	**10.19**	**299**	*eP*	**Pn**	**01 37 09.9**	**+3.3**
CEGR				*eS*	**Sn**	**01 38 57.7**	**-3.3**
JTS	**Las Juntas de**	**10.21**	**114**		**Pn**	**01 37 08.4**	**+1.7**
JTS	**Las Juntas de**	**10.21**	**114**	Pn	**Pn**	**01 37 08.3**	**+1.7**
	comp=E,3.5nm,0.3s,baz=316,slow=14,SNR=16						
JTS				Sn	**Sn**	**01 38 57.3**	**-3.8**
	comp=E,0.6nm,0.3s,baz=227,slow=16,SNR=1.3						
JTS				LR	LR	01 40 24.7	
	comp=E,1μm,21.0s,baz=299,slow=34						
JTS	**Las Juntas de**	**10.21**	**114**	P	**Pn**	**01 37 08.4**	**+1.7**
JTS	**Las Juntas de**	**10.21**	**114**	P	**Pn**	**01 37 08.3**	**+1.7**
	comp=E,1μmcomp=E,43nm,1.0s						
CIHU	**Emiliano Zapat**	**10.89**	**297**	*eP*	**Pn**	**01 37 18.0**	**+2.0**
CIHU				*eS*	**Sn**	**01 39 14.9**	**-2.9**
ZAIG	**Zacatecas**	**11.20**	**318**		**Pn**	**01 37 23.1**	**+2.5**
CJM	**Chamela**	**11.25**	**297**	*eP*	**Pn**	**01 37 22.9**	**+1.9**
CJM				*eS*	**Sn**	**01 39 20.5**	**-6.1**
LNIG	**Linares**	**11.30**	**336**	*eP*	**Pn**	**01 37 23.0**	**+1.4**
ANIG	**Ahuacatlan**	**11.55**	**305**	*eP*	**Pn**	**01 37 29.1**	**+4.0**
833A	**Chaparral WMA,**	**14.43**	**342**		**Pn**	**01 38 05.3**	**+0.9**
735A	**Kenedy**	**14.55**	**348**		**Pn**	**01 38 06.5**	**+0.5**
GMAL	**Guarumal, Vera**	**14.62**	**116**	P	**P**	**01 38 17.2**	**+3.8**
CAMR	**Camarioca**	**14.98**	**54**		**Pn**	**01 38 11.5**	**-0.3**
CAMR	**Camarioca**	**14.98**	**54**	*eP*	**Pn**	**01 38 10.8**	**-1.0**
MLDN	**Muldoon**	**15.33**	**351**	IAmb	IAmb	01 38 21.2	
	comp=Z,153nm,1.5s						
HKT	**Hockley**	**15.36**	**355**		**Pn**	**01 38 16.5**	**-0.2**
HKT				IAmb	IAmb	01 38 24.0	
	comp=Z,186nm,1.9s						
HKT	**Hockley**	**15.36**	**355**	*de*P	**Pn**	**01 38 16.8**	**+0.1**
HKT				pmax	pmax		
	comp=Z,35nm,1.5s						
AZU	**Azuero**	**15.45**	**114**	P	**P**	**01 38 26.4**	**+3.8**
	comp=Z,1μmcomp=Z,33nm,1.9s						
HNDO	**Hondo**	**15.54**	**344**		**Pn**	**01 38 18.9**	**-0.3**
HNDO				IAmb	IAmb	01 38 21.4	
	comp=Z,69nm,1.1s						
DRIO	**Del Rio**	**15.84**	**340**		**Pn**	**01 38 22.1**	**-1.0**
441A	**DeRidder**	**16.14**	**4**	IAmb	IAmb	01 38 29.3	
	comp=Z,265nm,1.2s						
435B	**Jarrell**	**16.39**	**350**		**Pn**	**01 38 30.5**	**+0.4**
435B				IAmb	IAmb	01 38 36.0	
	comp=Z,140nm,1.2s						
JCT	**Junction City**	**16.58**	**344**		**Pn**	**01 38 32.8**	**+0.2**
JCT				IAmb	IAmb	01 38 39.6	
	comp=Z,117nm,1.1s						
JCT	**Junction City**	**16.58**	**344**	P	**Pn**	**01 38 32.8**	**+0.2**
JCT				pmax	pmax		
	comp=Z,117nm,1.2s						
MTDJ	**Mount Denham**	**16.63**	**75**	P	**Pn**	**01 38 32.5**	**-0.9**
	comp=Z,3μmcomp=Z,73nm,1.4s						
SAND	**Sanderson**	**16.86**	**336**		**Pn**	**01 38 37.3**	**+1.0**
TXAR	**Lajitas Array**	**16.98**	**331**	P	**Pn**	**01 38 39.6**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=150,slow=13,SNR=92						
TXAR				PcP	**PcP**	**01 43 24.6**	**+0.7

HSIG **20.97 316** lAmb lAmb 01 39 38.6
comp=Z,86nm,1.2s
BBAC **Balboa, Cauca** **21.08 125** P **P** **01 39 27.5 +2.7**
comp=Z,810nmcomp=Z,45nm,0.8s
HBAR **Harrisburg** **21.17 9** lAmb lAmb 01 39 30.4
comp=Z,124nm,1.0s
PTBC **PUERTO BERRIO,** **21.20 110** P **P** **01 39 27.9 +2.0**
comp=Z,272nmcomp=Z,28nm,0.9s
DEOK **Depew** **21.26 355** lAmb lAmb 01 39 27.1
comp=Z,120nm,0.9s
OTAV **Otavalo** **21.29 131** P **P** **01 39 28.7 +1.4**
OTAV **Otavalo** **21.29 131** P **P** **01 39 28.7 +1.4**
OTAV pmax pmax
comp=Z,27nm,1.2s
OTAV **Otavalo** **21.29 131** *e*P **P** **01 39 29.2 +1.9**
OTAV **Otavalo** **21.29 131** P **P** **01 39 29.3 +2.0**
comp=Z,581nmcomp=Z,21nm,0.9s
FCAR **Ozark Folk Cen** **21.33 5** lAmb lAmb 01 39 31.4
comp=Z,75nm,1.0s
RLO **Rose Lookout** **21.51 359** lAmb lAmb 01 39 33.2
comp=Z,138nm,1.3s
319A **Douglas** **21.55 323** lAmb lAmb 01 39 51.6
comp=Z,58nm,1.1s
LCAR **Lake Charles** **21.61 7** lAmb lAmb 01 39 32.9
comp=Z,93nm,1.4s
HHAR **Hobbs** **21.62 1** lAmb lAmb 01 39 34.6
comp=Z,77nm,1.0s
GNAR **Gosnell** **21.67 10** lAmb lAmb 01 39 32.1
comp=Z,146nm,1.3s
ORTC **Ortega, Tolima** **21.69 117** P **P** **01 39 34.2 +3.0**
comp=Z,2µmcomp=Z,281nm,0.9s
X51A **Calhoun** **21.71 22** lAmb lAmb 01 39 32.6
comp=Z,35nm,0.5s
U38A **Gravette** **21.77 0** lAmb lAmb 01 39 36.1
comp=Z,88nm,1.0s
PEBM **Pemiscott Bayo** **21.84 10** lAmb lAmb 01 39 36.1
comp=Z,125nm,1.1s
ROSC **El Rosal** **22.05 114** P **P** **01 39 36.2 +0.7**
comp=Z,22nm,0.7s,baz=338,slow=4.8,SNR=15
comp=Z,22nm,0.7s
ROSC **El Rosal** **22.05 114** P **P** **01 39 39.8 +4.3**
comp=Z,2µmcomp=Z,107nm,1.1s
PRAC **Prado** **22.10 117** P **P** **01 39 39.0 +3.4**
comp=Z,1µmcomp=Z,81nm,0.6s
W50A **Signal Mountai** **22.12 20** lAmb lAmb 01 39 49.5
comp=Z,55nm,1.0s
V48A **Smith Brothers** **22.16 17** lAmb lAmb 01 39 37.1
comp=Z,114nm,1.4s
WVT **Waverly** **22.27 14** P **P** **01 39 35.6 -1.6**
WVT **Waverly** **22.27 14** P **P** **01 39 35.6 -1.6**
WVT pmax pmax
comp=Z,38nm,1.1s
PIAT **Ana Tenorio** **22.27 133** P **P** **01 39 40.3 +2.5**
comp=Z,601nmcomp=Z,16nm,1.0s
T35A **Sooner Cattle** **22.33 356** lAmb lAmb 01 39 38.5
comp=Z,99nm,0.8s
BARC **Barichara** **22.34 109** P **P** **01 39 41.3 +2.9**
PARMO **Parma** **22.39 10** lAmb lAmb 01 39 53.6
comp=Z,44nm,0.7s
PBMO **Poplar Bluff** **22.40 8** lAmb lAmb 01 39 40.9
comp=Z,56nm,1.1s
CVER **Cruz Verde, Cu** **22.42 114** P **P** **01 39 43.9 +4.4**
comp=Z,2µmcomp=Z,166nm,0.8s
KAN14 **Manchester OK** **22.51 353** lAmb lAmb 01 39 43.0
comp=Z,145nm,1.2s
PAMC **Pamplona, Colo** **22.52 106** P **P** **01 39 41.6 +1.0**
comp=Z,67nm,0.9s
W52A **Murphy** **22.52 23** lAmb lAmb 01 39 40.8
comp=Z,37nm,0.6s
NHSC **New Hope** **22.55 33** lAmb lAmb 01 39 45.2
comp=Z,104nm,1.1s
SDDR **Presa de Saban** **22.60 76** lAmb lAmb 01 39 43.4
comp=Z,51nm,0.8s
FLOC **Florencia** **22.62 123** P **P** **01 39 42.5 +1.4**
COHC **Cochancay** **22.66 137** P **P** **01 39 43.4 +1.9**
comp=Z,858nmcomp=Z,20nm,1.0s
CHIC **Chingaza** **22.67 114** P **P** **01 39 46.0 +3.9**
comp=Z,2µmcomp=Z,190nm,0.8s
RUSC **La Rusia** **22.71 110** P **P** **01 39 43.1 +0.6**
RUSC lAmb lAmb 01 39 49.2
comp=Z,67nm,0.7s
RUSC **La Rusia** **22.71 110** P **P** **01 39 45.6 +3.0**
comp=Z,1µmcomp=Z,95nm,0.9s
VILC **Villavicencio,** **22.94 115** P **P** **01 39 48.1 +3.4**
comp=Z,690nmcomp=Z,88nm,0.7s
ANMO **Albuquerque** **22.99 334** P **P** **01 39 46.4 +1.3**
ANMO **Albuquerque** **22.99 334** P **P** **01 39 46.1 +1.0**
comp=Z,7.3nm,0.7s,baz=243,slow=11,SNR=28
ANMO S **S** **01 43 51.5 -3.9**
comp=Z,0.8nm,0.4s,baz=283,slow=11,SNR=1.6
ANMO LR LR 01 48 45.7
comp=Z,894nm,19.1s,baz=250,slow=37
comp=Z,7.3nm,0.7s
ANMO **Albuquerque** **22.99 334** *c i*P **P** **01 39 46.3 +1.3**
ANMO pmax pmax
comp=Z,29nm,1.3s
TKL **Tuckaleechee C** **23.08 23** lAmb lAmb 01 39 46.6
comp=Z,118nm,1.2s
TKL **Tuckaleechee C** **23.08 23** S **S** **01 43 51.0 -5.6**
comp=Z,3.1nm,0.8s,baz=276,slow=19,SNR=2.3
TKL LR LR 01 50 39.7
comp=Z,1µm,20.2s,baz=201,slow=42
TUC **Tucson** **23.10 323** P **P** **01 39 48.1 +2.0**
TUC lAmb lAmb 01 39 53.7
comp=Z,117nm,1.5s
TUC **Tucson** **23.10 323** P **P** **01 39 48.1 +2.0**
TUC pmax pmax
comp=Z,117nm,1.5s
U49A **Red Boiling Sp** **23.18 18** lAmb lAmb 01 39 47.0
comp=Z,53nm,0.8s
SC01 **Santiago de lo** **23.18 75** P **P** **01 39 46.2 -0.7**
SC01 lAmb lAmb 01 40 09.4
comp=Z,67nm,0.9s
BANI **BANI** **23.41 77** P **P** **01 39 48.1 -1.2**
V53A **Saluda** **23.46 24** lAmb lAmb 01 39 49.6
comp=Z,44nm,1.1s
S44A **Carbondale** **23.48 10** lAmb lAmb 01 39 50.3
comp=Z,36nm,0.7s
SIUC **Southern Illin** **23.51 10** lAmb lAmb 01 39 50.4
comp=Z,41nm,0.7s
CCM **Cathedral Cave** **23.56 6** P **P** **01 39 48.1 -2.4**
CCM **Cathedral Cave** **23.56 6** P **P** **01 39 48.1 -2.4**
CCM pmax pmax
comp=Z,106nm,1.0s
TAMC **Tame, Arauca** **23.68 108** P **P** **01 39 53.6 +1.6**
comp=Z,3µmcomp=Z,252nm,0.7s
MACC **Macarena, Meta** **23.80 119** P **P** **01 39 55.3 +2.2**
comp=Z,1µmcomp=Z,64nm,0.7s
T50A **Nancy** **23.94 19** lAmb lAmb 01 39 54.0
comp=Z,88nm,1.3s
SDV **Santo Domingo** **23.98 101** P **P** **01 39 53.9 -1.2**
SDV lAmb lAmb 01 39 59.5
comp=Z,32nm,0.8s
SDV **Santo Domingo** **23.98 101** LR LR 01 49 53.3
comp=Z,318nm,18.5s,baz=282,slow=38
SDV **Santo Domingo** **23.98 101** *e*P **P** **01 39 55.1 +0.1**
SDV **Santo Domingo** **23.98 101** P **P** **01 39 54.9 -0.2**
comp=Z,816nmcomp=Z,39nm,0.7s
PTGC **Puerto Gaitan,** **24.28 113** P **P** **01 40 03.4 +5.8**
V55A **Taylorsville** **24.29 27** lAmb lAmb 01 39 57.5
comp=Z,59nm,1.1s
X18A **Snowflake** **24.30 328** lAmb lAmb 01 40 05.6
comp=Z,68nm,1.2s
U54A **Nelsons Funny** **24.60 25** lAmb lAmb 01 40 25.5
comp=Z,36nm,0.8s
GUVC **San Jose del G** **24.63 117** P **P** **01 40 07.2 +6.4**
WCI **Wyandotte Cave** **24.64 16** P **P** **01 39 58.3 -2.3**
WCI **Wyandotte Cave** **24.64 16** P **P** **01 39 58.3 -2.3**
WCI pmax pmax
comp=Z,191nm,1.3s
SFX **San Felipe** **24.87 315** lAmb lAmb 01 40 09.9
comp=Z,58nm,1.3s
S51A **Beattyville** **24.91 21** lAmb lAmb 01 40 03.7
comp=Z,29nm,0.9s
R49A **Shelbyville** **25.01 17** lAmb lAmb 01 40 04.4
comp=Z,59nm,0.9s
X16A **Lo Mia Camp, P** **25.02 325** lAmb lAmb 01 40 21.8
comp=Z,34nm,1.0s
U56A **King** **25.07 28** lAmb lAmb 01 40 05.0
comp=Z,57nm,1.0s
SDCO **Great Sand Dun** **25.08 339** lAmb lAmb 01 40 14.0
comp=Z,41nm,1.1s
113A **Mohawk Valley,** **25.24 319** lAmb lAmb 01 40 13.8
comp=Z,77nm,1.6s
R50A **Paris** **25.26 19** lAmb lAmb 01 40 06.8
comp=Z,42nm,1.0s
P43A **Skaggs, Pawnee** **25.34 9** lAmb lAmb 01 40 08.9
comp=Z,62nm,1.0s
Y14A **Wickenburg** **25.57 322** lAmb lAmb 01 40 17.2
comp=Z,63nm,1.5s
BLA **Blacksburg** **25.77 26** lAmb lAmb 01 40 43.9
comp=Z,56nm,1.5s
MVCO **Mesa Verde** **25.78 334** lAmb lAmb 01 40 40.4
comp=Z,40nm,1.0s
WUAZ **Wupatki** **25.80 327** lAmb lAmb 01 40 20.6
comp=Z,50nm,1.1s
GLA **Glamis** **26.10 318** lAmb lAmb 01 40 28.4
comp=Z,31nm,0.9s
Q51A **Peebles** **26.25 20** lAmb lAmb 01 40 15.1
comp=Z,56nm,0.8s
BAUV **El Baul** **26.44 99** lAmb lAmb 01 40 20.8
comp=Z,31nm,0.9s
SFIN **Lafayette** **26.50 13** lAmb lAmb 01 40 16.9
comp=Z,58nm,0.9s
YUH **Yuha Desert** **26.57 316** lAmb lAmb 01 40 44.2
comp=Z,66nm,1.8s
PV01 **Paradox Valley** **26.59 335** lAmb lAmb 01 40 25.6
comp=Z,69nm,1.2s
PV13 **Radium Mtn., P** **26.72 334** lAmb lAmb 01 40 33.9
comp=Z,77nm,1.4s
PV15 **Paradox Valley** **26.73 335** lAmb lAmb 01 40 27.1
comp=Z,81nm,1.4s
P51A **Williamsport** **26.75 20** lAmb lAmb 01 40 19.6
comp=Z,51nm,0.8s
PV05 **Paradox Valley** **26.77 334** lAmb lAmb 01 40 34.3
comp=Z,69nm,1.6s
PV03 **Paradox Valley** **26.81 334** lAmb lAmb 01 40 27.2
comp=Z,56nm,1.2s
ATAH **Atahualpa** **26.81 143** LR LR 01 48 58.4
comp=Z,1µm,18.3s,baz=309,slow=32
UUPR **Utuado, UPR, P** **26.84 78** lAmb lAmb 01 40 23.0
comp=Z,27nm,0.7s
PV17 **East Wray Mesa** **26.88 334** lAmb lAmb 01 40 38.7
comp=Z,43nm,1.4s
PV07 **Paradox Valley** **26.88 335** lAmb lAmb 01 40 28.2
comp=Z,49nm,1.2s
PV16 **Nyswonger Mesa** **26.89 334** lAmb lAmb 01 40 28.0
comp=Z,42nm,1.2s
PV19 **Morning Glory** **26.91 334** lAmb lAmb 01 40 36.8
comp=Z,39nm,0.9s
PV20 **West Nyswonger** **26.93 334** lAmb lAmb 01 40 33.6
comp=Z,97nm,1.5s
PV04 **Paradox Valley** **26.95 334** lAmb lAmb 01 40 31.8
comp=Z,57nm,1.1s
PV14 **Lion Creek, Pa** **26.98 334** lAmb lAmb 01 40 26.4
comp=Z,52nm,1.5s
PV10 **Paradox Valley** **26.99 334** lAmb lAmb 01 41 02.9
comp=Z,44nm,1.1s
PV22 **Blue Mesa, Par** **27.02 335** lAmb lAmb 01 40 31.3
comp=Z,50nm,1.3s
PV23 **Carpenter Ridg** **27.04 334** lAmb lAmb 01 40 39.1
comp=Z,38nm,0.9s
Q54A **Coxs Mills** **27.11 24** lAmb lAmb 01 40 22.8
comp=Z,43nm,1.3s
P52A **Corning** **27.21 21** lAmb lAmb 01 40 23.8
comp=Z,54nm,1.1s
P53A **Whipple** **27.34 22** lAmb lAmb 01 40 59.1
comp=Z,37nm,1.2s
SJG **San Juan** **27.37 79** P **P** **01 40 24.7 -0.8**
SJG lAmb lAmb 01 40 46.1
comp=Z,33nm,1.2s
SJG **San Juan** **27.37 79** P **P** **01 40 24.7 -0.8**
SJG pmax pmax
comp=Z,33nm,1.3s
HMU **Henry Mountain** **27.39 331** lAmb lAmb 01 40 32.8
comp=Z,56nm,1.4s
ACSO **Alum Creek Sta** **27.46 19** lAmb lAmb 01 40 25.8
comp=Z,36nm,0.7s
PMD **Palm Desert** **27.48 318** P **P** **01 40 28.3 +1.9**
PFO **Pinyon Flats O** **27.51 317** P **P** **01 40 27.7 +0.9**
PFO **Pinyon Flats O** **27.51 317** P **P** **01 40 28.4 +1.5**
comp=Z,3.5nm,0.9s,baz=181,slow=5.1,SNR=4.1
PFO LR LR 01 52 12.9
comp=Z,1µm,18.8s,baz=126,slow=38
comp=Z,3.5nm,0.9s
PFO **Pinyon Flats O** **27.51 317** P **P** **01 40 27.7 +0.9**
PFO pmax pmax
comp=Z,19nm,1.4s
N49A **Columbus Grove** **27.73 17** lAmb lAmb 01 40 28.2
comp=Z,49nm,1.0s
V12A **Nelson** **27.90 323** lAmb lAmb 01 40 36.5
comp=Z,33nm,1.3s
O53A **New Philadelph** **28.08 22** lAmb lAmb 01 40 32.0
comp=Z,31nm,1.1s
O20A **White River Ci** **28.18 337** lAmb lAmb 01 40 48.1
comp=Z,62nm,1.6s
O54A **Avella** **28.33 23** lAmb lAmb 01 40 33.2
comp=Z,30nm,1.3s
Q16A **Castle Valley** **28.38 332** lAmb lAmb 01 40 38.3
comp=Z,38nm,1.6s
N53A **Lisbon** **28.70 22** lAmb lAmb 01 40 38.4
comp=Z,68nm,1.3s
P57A **Homestead Farm** **28.71 27** lAmb lAmb 01 40 37.5
comp=Z,24nm,0.9s
AAM **Ann Arbor** **29.16 17** lAmb lAmb 01 40 41.0
comp=Z,62nm,1.1s
QSM **Queen of Sheba** **29.27 321** lAmb lAmb 01 41 14.3
comp=Z,29nm,0.7s
GWY **Greenwater Val** **29.29 321** lAmb lAmb 01 41 20.4
comp=Z,14nm,0.4s
I37A **Lemond, Waseca** **29.36 2** lAmb lAmb 01 40 44.7
comp=Z,26nm,0.6s
WSHM **Spangler Hills** **29.42 320** P **P** **01 40 44.8 +1.0**
WSHM lAmb lAmb 01 41 06.3
comp=Z,20nm,0.6s
TPO **Tropico Hills** **29.45 318** lAmb lAmb 01 40 50.7
comp=Z,44nm,1.5s
BSUT **Blindstream Cr** **29.53 334** lAmb lAmb 01 40 53.2
comp=Z,38nm,1.3s
SSPA **Standing Stone** **29.71 26** P **P** **01 40 43.9 -2.3**
S11A **Rachel** **29.75 324** lAmb lAmb 01 41 03.3
comp=Z,35nm,1.1s
MVL **Millersville** **29.88 29** lAmb lAmb 01 40 47.5
comp=Z,17nm,0.8s
CTU **Camp Tracy** **30.08 333** lAmb lAmb 01 40 56.3
comp=Z,36nm,1.5s
H43A **Windswept, Lux** **30.33 9** lAmb lAmb 01 40 51.3
comp=Z,38nm,1.0s
RSSD **Black Hills** **30.56 346** P **P** **01 40 55.0 +1.1**
RSSD **Black Hills** **30.56 346** P **P** **01 40 55.0 +1.1**
RSSD pmax pmax
comp=Z,17nm,1.2s
HWUT **Hardware Ranch** **30.75 334** lAmb lAmb 01 41 03.3
comp=Z,31nm,1.4s
G40A **Rib Lake** **30.80 6** lAmb lAmb 01 40 55.7
comp=Z,45nm,1.1s
BGU **Big Grassy Mou** **30.84 332** lAmb lAmb 01 41 03.2
comp=Z,30nm,1.7s
DSP **Deep Springs** **30.86 322** lAmb lAmb 01 41 03.8
comp=Z,24nm,1.3s
SGC2 **Sao Gabriel da** **30.86 116** P **P** **01 40 56.5 -0.1**
CZSB **Cruzeiro do Su** **30.92 134** P **P** **01 40 58.9 +1.8**
CZSB lAmb lAmb 01 41 11.9
comp=Z,15nm,0.7s
CZSB **Cruzeiro do Su** **30.92 134** *e*P **P** **01 40 57.8 +0.7**
PDAR **Pinedale Array** **30.96 338** P **P** **01 40 57.8 +0.3**
PDAR **Pinedale Array** **30.96 338** P **P** **01 40 58.6 +1.1**
comp=Z,3.6nm,0.9s,baz=121,slow=11,SNR=13
PDAR PcP **PcP** **01 43 53.8 +0.1**
comp=Z,0.5nm,0.5s,baz=127,slow=5.0,SNR=3.7
comp=Z,3.6nm,0.9s
HVU **Hansel Valley** **31.41 333** lAmb lAmb 01 41 17.6
comp=Z,30nm,0.9s
MMNY **Mt. Morris Dam** **31.47 24** lAmb lAmb 01 41 01.7
comp=Z,25nm,1.1s
AHID **Auburn Hatcher** **31.54 336** lAmb lAmb 01 41 06.6
comp=Z,77nm,1.8s
NNA **Nana** **31.64 146** LR LR 01 51 16.8
comp=Z,1µm,21.1s,baz=346,slow=32
NNA **Nana** **31.64 146** *e*P **P** **01 41 04.2 +0.8**
NNA pmax pmax
comp=Z,12nm,0.6s
COWI **Conover** **31.74 7** lAmb lAmb 01 41 03.8
comp=Z,48nm,1.1s
ELK **Elko** **31.75 329** P **P** **01 41 06.2 +1.7**
comp=Z,11nm,1.1s,baz=145,slow=6.6,SNR=21
ELK LR LR 01 54 19.0
comp=Z,318nm,19.6s,baz=144,slow=37
comp=Z,11nm,1.1s
LHV **Little Huntoon** **31.76 322** lAmb lAmb 01 41 11.6
comp=Z,63nm,1.6s
NVAR **Mina Array Bea** **31.76 323** P **P** **01 41 07.1 +2.5**
NVAR **Mina Array Bea** **31.76 323** P **P** **01 41 06.5 +2.0**
comp=Z,39nm,1.2s,baz=141,slow=8.8,SNR=46
NVAR PcP **PcP** **01 43 56.7 +0.8**
comp=Z,0.9nm,0.5s,baz=114,slow=3.0,SNR=5.0
NVAR LR LR 01 55 23.5
comp=Z,3µm,18.4s,baz=135,slow=39
comp=Z,39nm,1.2s
BINY **Binghamton** **31.81 27** lAmb lAmb 01 41 04.9
comp=Z,22nm,1.0s
RYN **Ryan** **32.02 323** lAmb lAmb 01 41 13.5
comp=Z,27nm,1.3s
K57A **Scipio Center** **32.03 25** lAmb lAmb 01 41 06.5
comp=Z,31nm,1.1s
LOHW **Long Hollow** **32.07 338** lAmb lAmb 01 41 10.6
comp=Z,47nm,1.4s
L59A **Walton** **32.22 28** lAmb lAmb 01 41 08.1
comp=Z,26nm,0.9s
FXWY **Fox Creek** **32.25 337** lAmb lAmb 01 41 23.9
comp=Z,34nm,1.4s
WAKR **Walker** **32.48 322** lAmb lAmb 01 41 18.6
comp=Z,55nm,1.7s
CMB **Columbia Colle** **32.76 320** lAmb lAmb 01 41 19.8
comp=Z,25nm,1.6s
SADO **Sadowa** **32.78 20** LR LR 01 57 16.1
comp=Z,1µm,18.1s,baz=209,slow=41
J57A **Williamstown** **32.80 25** lAmb lAmb 01 41 13.0
comp=Z,31nm,1.1s
YNE **Yellowstone No** **33.08 340** lAmb lAmb 01 41 22.7
comp=Z,38nm,1.2s
DELO **Deloro Mine** **33.10 22** lAmb lAmb 01 41 27.6
comp=Z,12nm,0.7s
PAHR **Pah Rah Range** **33.24 324** lAmb lAmb 01 41 24.0
comp=Z,37nm,1.5s
BUKO **Buck Lake** **33.29 19** lAmb lAmb 01 41 16.6
comp=Z,39nm,1.0s
YHL **Hebgen Lake** **33.35 338** lAmb lAmb 01 41 22.6
comp=Z,58nm,1.6s
EYMN **Ely** **33.36 4** lAmb lAmb 01 41 18.1
comp=Z,58nm,1.4s
LAO **LASA Array** **33.50 345** lAmb lAmb 01 41 21.9
comp=Z,40nm,1.1s
BEKR **Beckworth** **33.91 323** lAmb lAmb 01 41 29.8
comp=Z,22nm,1.3s
MFID **Camas Ranch** **34.08 332** lAmb lAmb 01 41 30.4
comp=Z,33nm,1.4s
BOZ **Bozeman (W)** **34.15 338** lAmb lAmb 01 41 29.0
comp=Z,48nm,1.8s
LONY **Lake Ozonia** **34.38 25** lAmb lAmb 01 41 26.6
comp=Z,28nm,1.1s
ORV **Oroville** **34.38 321** lAmb lAmb 01 41 34.5
comp=Z,24nm,1.4s
WBO **Williamsburg** **34.41 24** lAmb lAmb 01 41 26.7
comp=Z,21nm,1.0s
TEFE **Tefe** **34.58 119** *e*P **P** **01 41 29.2 0.0**
HATC **Hat Creek Radi** **35.16 323** lAmb lAmb 01 41 49.8
comp=Z,41nm,1.2s
J08A **Circle Bar Ran** **35.30 329** lAmb lAmb 01 41 50.9
comp=Z,36nm,0.9s
PLID **Pearl Lake** **35.47 333** lAmb lAmb 01 41 51.8
comp=Z,36nm,0.9s
MNTQ **Montreal, Queb** **35.49 26** lAmb lAmb 01 41 36.3
comp=Z,29nm,1.0s
BOAV **Boa Vista** **35.60 107** P **P** **01 41 37.0 -1.0**
BOAV **Boa Vista** **35.60 107** *e*P **P** **01 41 35.4 -2.6**
KMRM **Mail Ridge** **36.14 321** lAmb lAmb 01 41 48.7
comp=Z,47nm,1.2s
YBH **Yrekue Hor** **36.47 323** P **P** **01 41 45.1 -0.2**
comp=Z,0.1nm,0.5s,baz=161,slow=5.2,SNR=9.6
YBH LR LR 01 58 21.1
comp=Z,164nm,18.2s,baz=128,slow=39
KHMM **Horse Mountain** **36.54 321** lAmb lAmb 01 41 52.6
comp=Z,50nm,1.4s
L04D **Klamath Falls** **36.55 324** lAmb lAmb 01 41 51.2
comp=Z,41nm,1.3s
G08A **Pilot Rock** **36.96 331** P **P** **01 41 50.1 +0.6**
MACA **Manacapuru-AM** **37.81 115** lAmb lAmb 01 42 08.2
comp=Z,26nm,0.8s
MACA **Manacapuru-AM** **37.81 115** *e*P **P** **01 41 56.6 -0.3**
G05A **Wamic** **38.08 329** lAmb lAmb 01 42 40.1
comp=Z,43nm,1.2s
I03D **Drain, OR** **38.10 325** lAmb lAmb 01 42 14.1
comp=Z,40nm,1.1s
H04A **Detroit Lake** **38.13 327** lAmb lAmb 01 42 13.7
comp=Z,39nm,1.0s
BUCK **Buck Mountain** **38.23 326** lAmb lAmb 01 42 14.8
comp=Z,51nm,1.3s
HOOD **Mount Hood Mea** **38.30 329** lAmb lAmb 01 42 16.6
comp=Z,54nm,1.0s
H04D **Lebanon** **38.31 327** lAmb lAmb 01 42 22.1
comp=Z,31nm,1.0s
NEW **Newport** **38.46 336** P **P** **01 42 02.5 +0.6**
comp=Z,5.1nm,0.9s,baz=154,slow=12,SNR=7.0
NEW PP **PnPn** **01 43 33.7 +1.8**
comp=Z,14nm,1.4s,baz=151,slow=10,SNR=7.4
comp=Z,5.1nm,0.9s
G03D **McMinnville, O** **39.05 327** lAmb lAmb 01 42 22.4
comp=Z,34nm,1.0s
D05A **Enumclaw** **39.79 330** lAmb lAmb 01 42 28.1
comp=Z,29nm,0.9s
E03A **Lebam** **40.11 329** lAmb lAmb 01 42 30.6
comp=Z,36nm,1.0s
LPAZ **La Paz** **40.20 139** P **P** **01 42 17.5 0.0**
comp=Z,5.4nm,0.8s,baz=333,slow=7.6,SNR=26
LPAZ LR LR 01 58 12.0
comp=Z,677nm,18.5s,baz=306,slow=35
comp=Z,5.4nm,0.8s
LPAZ **La Paz** **40.20 139** *e*P **P** **01 42 17.5 0.0**
FFC **Flin Flon** **40.49 353** P **P** **01 42 18.7 0.0**
FFC lAmb lAmb 01 42 20.6
comp=Z,47nm,1.1s
FFC **Flin Flon** **40.49 353** P **P** **01 42 18.7 0.0**
FFC pmax pmax
comp=Z,47nm,1.1s
NLWA **Neilton Lookou** **40.84 329** lAmb lAmb 01 42 36.8
comp=Z,33nm,1.1s
A04D **Lummi Island** **41.22 332** lAmb lAmb 01 42 39.5
comp=Z,60nm,0.9s
GO01 **Chusmiza** **42.14 143** lAmb lAmb 01 42 37.5
comp=Z,54nm,1.9s
MDP **Montagnes des** **42.19 99** LR LR 02 01 32.5
comp=Z,374nm,21.8s,baz=295,slow=38
ITTB **Itaituba** **42.74 113** *e*P **P** **01 42 36.5 -1.3**
VILB **Vilhena** **43.57 127** *e*P **P** **01 42 43.5 -0.9**
NPGB **Novo Progresso** **44.32 116** *e*P **P** **01 42 48.9 -1.6**
SIV **San Ignacio** **44.83 131** LR LR 02 00 58.6
comp=Z,830nm,18.4s,baz=322,slow=35
PDRB **Porto dos Gac** **45.54 123** *e*P **P** **01 42 58.4 -1.8**
SCHQ **Schefferville** **45.55 22** P **P** **01 42 58.5 -1.2**
comp=Z,13nm,0.8s,baz=232,slow=5.8,SNR=14
SCHQ LR LR 02 04 57.1
comp=Z,1µm,18.5s,baz=218,slow=40
comp=Z,13nm,0.8s
CLDB **Colider** **45.90 121** *e*P **P** **01 43 00.1 -3.0**
PTLB **Pontes e Lacer** **45.92 129** lAmb lAmb 01 43 11.8
comp=Z,16nm,0.8s
PTLB **Pontes e Lacer** **45.92 129** *e*P **P** **01 43 01.8 -1.2**
BBB **Bella Bella** **46.12 332** P **P** **01 43 03.5 -0.7**
comp=Z,7.0nm,1.0s,baz=142,slow=8.2,SNR=3.4
comp=Z,7.0nm,1.0s
KUQ **Kuujjuuaa** **47.64 18** P **P** **01 43 14.5 -1.5**
SALV **Santo Antonio** **48.82 127** *e*P **P** **01 43 25.1 -0.6**
TMAB **Tom-Au,PA,Br** **48.90 106** *e*P **P** **01 43 26.5 +0.1**
LCO **Las Campanas** **49.03 152** P **P** **01 43 28.4 +0.9**
LCO **Las Campanas** **49.03 152** P **P** **01 43 28.4 +0.9**
LCO pmax pmax
comp=Z,34nm,0.8s
V35K **Ketchikan** **49.75 333** P **P** **01 43 33.6 +1.4**
baz=130
TOAD **Toad River Com** **49.76 340** P **P** **01 43 33.8 +1.5**
baz=139
YKAW1 **Yellowknife Wh** **49.91 348** lAmb lAmb 01 43 35.5
comp=Z,33nm,1.2s
YKA **Yellowknife Ar** **49.95 348** P **P** **01 43 33.9 +0.2**
YKA **Yellowknife Ar** **49.95 348** P **P** **01 43 33.6 0.0**
comp=Z,6.1nm,0.9s,baz=153,slow=7.1,SNR=26
YKA PP **PP** **01 45 30.2 +1.7**
comp=Z,3.5nm,1.0s,baz=150,slow=9.0,SNR=4.7
comp=Z,6.1nm,0.9s
YKA **Yellowknife Ar** **49.95 348** P **P** **01 43 33.9 +0.2**
GO04 **Tololo Observa** **49.98 153** lAmb lAmb 01 43 46.8
comp=Z,34nm,0.9s
YKAW3 **Yellowknife Wh** **50.01 348** P **P** **01 43 34.5 +0.3**
YKAW3 lAmb lAmb 01 43 36.2
comp=Z,30nm,1.2s
CO01 **Juntas del Tor** **50.13 152** lAmb lAmb 01 43 37.9
comp=Z,14nm,0.8s
SNDB **Serra Nova Dou** **50.24 119** *e*P **P** **01 43 36.1 -0.5**
T35M **Bob Quinn** **50.27 335** P **P** **01 43 37.5 +1.3**
baz=132
KOTAN **Kotaneelee Air** **50.37 341** P **P** **01 43 37.5 +0.6**
baz=141

CRAG Craig 50.51 333 P P 01 43 39.0 +1.0
baz=128
BDQN Bodoquena, MS 50.84 132 eP P 01 43 40.0 -1.0
U33K Whale Pass 50.91 333 P P 01 43 43.3 +2.2
baz=129
TAOE Nuku Hiva Isla 50.95 246 eS S 01 50 54.8 -4.2
comp=Z,351nm,24.3s
TAOE eLR LR 01 57 52.2
comp=Z,1µm,26.9s
MURT Porto Murtinho 51.02 134 eP P 01 43 41.0 -1.4
DLBC Dease Lake 51.18 337 P P 01 43 44.8 +1.6
comp=Z,1.5nm,1.0s,baz=133,slow=4.2,SNR=17
DLBC LR LR 02 05 07.6
comp=Z,57nm,18.6s,baz=96,slow=36
comp=Z,1.5nm,1.0s
DLBC Dease Lake 51.18 337 P P 01 43 45.5 +2.3
baz=134
S34M Telegraph Cree 51.25 336 P P 01 43 45.5 +1.9
baz=132
T33K Petersburg 51.28 334 P P 01 43 45.2 +1.4
baz=129
AQDB Aquidauana 51.61 132 eP P 01 43 46.0 -0.8
ARAG Araguaiana, MT 51.77 124 eP P 01 43 47.3 -0.8
WTLY Watson Lake, Y 51.92 339 P P 01 43 50.2 +1.5
baz=136
SMTB Santa Maria do 51.98 114 eP P 01 43 49.4 -0.3
ZON Zonda 52.10 152 IAmb IAmb 01 43 52.7
comp=Z,20nm,1.0s
R33M Jennings River 52.19 337 IAmb IAmb 01 44 05.4
comp=Z,21nm,1.1s
R33M Jennings River 52.19 337 P P 01 43 53.0 +2.2
baz=133
FRB Frobisher Bay 52.31 14 LR LR 02 08 28.2
comp=Z,994nm,19.2s,baz=212,slow=39
S32K Killisnoo 52.38 334 P P 01 43 54.1 +2.1
baz=128
Q32M Nakina River 52.40 336 IAmb IAmb 01 44 08.7
comp=Z,20nm,1.0s
Q32M Nakina River 52.40 336 P P 01 43 54.7 +2.3
baz=131
SIT Sitka 52.45 333 P P 01 43 54.9 +2.3
baz=127
WRGLY Wrigley 52.67 344 P P 01 43 55.1 +1.0
baz=144
TGTN Hyland Airport 52.77 340 P P 01 43 56.8 +1.8
baz=137
R32K Eaglecrest 52.85 335 P P 01 43 57.0 +1.5
baz=128
MT03 Universidad Ad 52.98 155 IAmb IAmb 01 43 58.6
comp=Z,48nm,1.1s
MT09 Talagante 53.03 155 IAmb IAmb 01 43 58.1
comp=Z,12nm,0.7s
RPRD Ribas do Rio P 53.08 130 eP P 01 43 57.0 -0.7
BO04 La Punta 53.37 155 IAmb IAmb 01 44 01.2
comp=Z,31nm,1.4s
P32M Atlin 53.37 336 P P 01 44 01.4 +2.0
baz=130
S31K Pelican 53.38 334 IAmb IAmb 01 44 14.1
comp=Z,18nm,1.1s
S31K Pelican 53.38 334 P P 01 44 01.4 +2.0
baz=126
LMEL Las Melosas 53.41 155 IAmb IAmb 01 44 02.2
comp=Z,31nm,0.8s
P33M Teslin, Yukon 53.44 337 P P 01 44 01.7 +1.8
baz=131
BO01 Tunca 53.53 156 IAmb IAmb 01 44 01.8
comp=Z,20nm,1.1s
SKAG Skagway 53.92 336 P P 01 44 05.2 +1.8
baz=128
N32M Quiet Lake 54.16 338 IAmb IAmb 01 44 11.0
comp=Z,31nm,1.2s
N32M Quiet Lake 54.16 338 P P 01 44 07.1 +1.9
baz=132
SJPY San Joaquin 54.27 136 eP P 01 44 04.9 -1.5
PLBC Pleasant Camp 54.34 335 P P 01 44 08.5 +2.0
baz=127
CPUP Villa Florida 54.37 138 P P 01 44 05.4 -1.7
CPUP Villa Florida 54.37 138 P P 01 44 06.0 -1.1
comp=Z,1.3nm,1.0s,baz=344,slow=2.2,SNR=8.0
comp=Z,1.3nm,1.0s
CPUP Villa Florida 54.37 138 P P 01 44 06.0 -1.1
CPUP Villa Florida 54.37 138 eP P 01 44 05.9 -1.1
WHY Whitehorse 54.51 337 P P 01 44 08.8 +1.1
baz=129
MMPY Sheldon Lake, 54.54 340 IAmb IAmb 01 44 23.7
comp=Z,23nm,1.1s
MMPY Sheldon Lake, 54.54 340 P P 01 44 10.0 +2.0
baz=134
BDFB Brasilia 54.84 121 IAmb IAmb 01 44 17.5
comp=Z,19nm,0.7s
BDFB Brasilia 54.84 121 P P 01 44 10.7 -0.2
comp=Z,6.5nm,0.8s,baz=284,slow=7.1,SNR=11
comp=Z,6.5nm,0.8s
FARO Faro, Yukon 54.98 339 P P 01 44 12.5 +1.4
baz=132
P30M Million Dollar 54.98 336 P P 01 44 13.4 +2.3
baz=127
P29M Windy Craggy 55.01 335 IAmb IAmb 01 44 25.3
comp=Z,20nm,1.2s
P29M Windy Craggy 55.01 335 P P 01 44 13.3 +2.0
baz=126
O30N Mendenhall 55.04 337 P P 01 44 13.4 +1.8
baz=128
M31M Drury Creek, Y 55.33 339 P P 01 44 15.3 +1.7
baz=131
ILON Igloolik, Nuna 55.34 5 P P 01 44 12.9 -0.6
N31M Braeburn, Yuko 55.37 337 IAmb IAmb 01 44 20.2
comp=Z,20nm,1.2s
N31M Braeburn, Yuko 55.37 337 P P 01 44 15.7 +1.8
baz=129
HYT Haines Junctio 55.62 336 IAmb IAmb 01 44 19.7
comp=Z,20nm,1.6s
HYT Haines Junctio 55.62 336 P P 01 44 17.0 +1.1
baz=127
PNL Peninsula 55.72 334 P P 01 44 18.2 +1.7
baz=124
O29M Mount Kennedy 55.74 335 P P 01 44 18.4 +1.7
baz=125
N30M Aishikik Lake 55.85 337 P P 01 44 19.4 +2.0
baz=127
IPMB Ipameri, GO 55.90 124 eP P 01 44 18.6 +0.3
SDBA SAO DESIDERIO 55.92 116 eP P 01 44 19.5 +0.9
YUK6 Outpost Mounta 56.03 336 P P 01 44 20.4 +1.5
baz=126
PINM Pinnacle 56.31 334 P P 01 44 22.4 +1.7
baz=123
YUK4 Talbot Arm 56.38 336 P P 01 44 22.9 +1.6
baz=126
M30M Minto, Yukon 56.43 338 IAmb IAmb 01 44 27.7
comp=Z,19nm,1.4s
M30M Minto, Yukon 56.43 338 P P 01 44 23.2 +1.7
baz=128,SNR=12
O28M Mount Upton 56.67 335 P P 01 44 24.3 +0.8
baz=124
LDASE Londrina, Braz 56.75 131 eP P 01 44 22.5 -1.8
MAYO Mayo, Yukon 56.76 339 P P 01 44 24.8 +1.0
baz=130
YUK8 Steele Glacier 56.78 336 P P 01 44 24.6 +0.3
baz=124
PTGB Pitanga 56.88 133 eP P 01 44 23.6 -1.7
M29M Somme Creek 56.96 337 IAmb IAmb 01 44 39.5
comp=Z,21nm,1.1s
M29M Somme Creek 56.96 337 P P 01 44 26.3 +0.9
baz=126,SNR=21
MESA MESA 57.08 334 P P 01 44 26.9 +0.6
baz=122
IVI Ivigtut 57.13 25 P P 01 44 26.2 -0.1
IVI IAmb IAmb 01 44 29.9
comp=Z,19nm,1.1s
ITQB Itaqui 57.15 141 eP P 01 44 25.2 -1.8
L29M L29M 57.24 338 IAmb IAmb 01 44 33.3
comp=Z,26nm,1.2s
L29M L29M 57.24 338 P P 01 44 28.3 +1.1
baz=127,SNR=19
CTG Chitna Glacier 57.24 335 P P 01 44 27.9 +0.5
baz=123
GRNC Granite Creek 57.29 335 IAmb IAmb 01 44 34.4
comp=Z,25nm,1.2s
BB19B Bebedouro 57.34 127 eP P 01 44 27.6 -1.0
YUK3 Moose Creek 57.34 336 P P 01 44 29.2 +1.0
baz=124
K29M Barlow Dome 57.48 339 P P 01 44 29.9 +0.9
baz=128
J30M Hart River 57.54 340 P P 01 44 30.7 +1.3
baz=130
NUUK Nuuk 57.57 21 i P P 01 44 28.3 -1.1
NUUK IAmb IAmb 01 44 30.9
comp=Z,103nm,1.2s

BGLC Bering Glacier 57.62 333 P P 01 44 31.4 +1.6
baz=120
PMNB Patos De Minas 57.62 123 eP P 01 44 29.9 -0.8
JANB Januaria 57.66 119 eP P 01 44 30.8 -0.1
H31M Peel River 57.72 342 IAmb IAmb 01 44 53.9
comp=Z,19nm,1.4s
H31M Peel River 57.72 342 P P 01 44 31.1 +0.5
baz=133
BVCY Beaver Creek 57.85 337 P P 01 44 33.0 +1.4
baz=124
CRQE Cirque 57.86 334 P P 01 44 32.0 +0.3
baz=121,SNR=9.1
FRTB Fartura 57.86 130 eP P 01 44 31.0 -1.2
CRQM Cirque 57.88 334 IAmb IAmb 01 44 35.0
comp=Z,16nm,0.6s
NBPB Pedra_Branca-C 57.95 106 eP P 01 44 34.1 +1.1
I30M Mount Dempster 57.97 341 P P 01 44 32.6 +0.2
baz=130
KAIM Kayak Island 58.02 333 P P 01 44 33.3 +0.6
baz=119
J29N Klondike Camp 58.09 339 P P 01 44 33.5 +0.3
baz=128
MCARA McCarthy VSAT 58.16 335 P P 01 44 35.2 +1.5
baz=121
M27K Edge Creek, AK 58.22 336 P P 01 44 35.7 +1.4
baz=123
DAWY Dawson 58.27 339 P P 01 44 36.3 +1.9
baz=126
ITAB Concordia 58.42 135 P P 01 44 34.9 -1.1
ITAB Concordia 58.42 135 eP P 01 44 34.9 -1.1
G31M Satah River 58.47 343 IAmb IAmb 01 44 49.9
comp=Z,14nm,0.9s
G31M Satah River 58.47 343 P P 01 44 36.2 +0.5
baz=133
BCAR Beaver Creek A 58.57 337 P P 01 44 37.5 +0.9
L27K Beaver Creek, 58.58 337 P P 01 44 37.7 +1.0
baz=123,SNR=11
BMRM Bremner River 58.61 334 P P 01 44 38.3 +1.4
baz=115
Q23K Middleton Isla 58.65 332 P P 01 44 38.4 +1.3
baz=117
F31M Tsiigehtchic 58.68 343 P P 01 44 37.2 0.0
baz=134
M26K Nabesna, AK 58.68 336 IAmb IAmb 01 45 01.5
comp=Z,21nm,1.4s
M26K Nabesna, AK 58.68 336 P P 01 44 38.9 +1.5
baz=122
I29M Ogilvie Camp, 58.69 340 P P 01 44 38.1 +0.8
baz=128,SNR=5.5
EPYK Eagle Plains 58.83 342 P P 01 44 38.8 +0.5
baz=130
EYAK Cordova Ski Ar 58.90 333 P P 01 44 40.7 +1.9
baz=118
N25K Chitina, Valde 58.92 335 IAmb IAmb 01 44 54.3
comp=Z,9.7nm,0.8s
N25K Chitina, Valde 58.92 335 P P 01 44 40.9 +1.8
baz=120
G30M tAoh Zraii Nji 59.08 342 P P 01 44 41.3 +1.3
baz=131
L26K Log Cabin Wild 59.15 336 P P 01 44 42.2 +1.7
baz=122
K27K Chicken 59.21 338 P P 01 44 42.6 +1.6
baz=124
INK Inuvik 59.23 344 IAmb IAmb 01 44 45.6
comp=Z,23nm,1.1s
INK Inuvik 59.23 344 LR LR 02 14 35.0
comp=Z,856nm,18.1s,baz=153,slow=40
INK Inuvik 59.23 344 P P 01 44 41.4 +0.5
baz=135,SNR=7.4
H29M Whitestone 59.24 341 IAmb IAmb 01 45 04.6
comp=Z,18nm,1.1s
H29M Whitestone 59.24 341 P P 01 44 42.5 +1.3
baz=128,SNR=7.1
I28M Miner Creek 59.28 340 P P 01 44 43.1 +1.6
baz=126
PLCA Paso Flores 59.33 159 IAmb IAmb 01 44 42.9
comp=Z,9.9nm,0.9s
PLCA Paso Flores 59.33 159 P P 01 44 42.0 -0.1
comp=Z,6.7nm,0.8s,baz=330,slow=7.0,SNR=16
PLCA LR LR 02 05 19.4
comp=Z,395nm,19.0s,baz=342,slow=31
comp=Z,6.7nm,0.8s
PLCA Paso Flores 59.33 159 P P 01 44 42.0 -0.1
PLCA Paso Flores 59.33 159 eP P 01 44 40.7 -1.4
F30M Barrier River 59.37 343 IAmb IAmb 01 45 03.6
comp=Z,16nm,0.9s
F30M Barrier River 59.37 343 P P 01 44 43.0 +1.0
baz=132,SNR=6.8
P23K Montague Islan 59.38 332 P P 01 44 43.6 +1.4
baz=116
KLU Klutina 59.42 334 IAmb IAmb 01 44 57.5
comp=Z,15nm,1.0s
KLU Klutina 59.42 334 P P 01 44 43.8 +1.3
baz=118
HARP HARP 59.54 335 P P 01 44 44.9 +1.6
baz=120
G29M Pine Creek 59.57 342 IAmb IAmb 01 44 56.9
comp=Z,11nm,0.9s
G29M Pine Creek 59.57 342 P P 01 44 44.7 +1.2
baz=129,SNR=9.2
SPB Sao Paulo 59.60 129 eP P 01 44 43.2 -1.1
VAO Valinhos 59.62 128 eP P 01 44 43.9 -0.6
GLI Glacier Island 59.64 333 P P 01 44 45.1 +1.1
baz=117
CPSB Capava Do Su 59.65 139 eP P 01 44 43.5 -1.0
SFJD Kangerlussuaq 59.70 18 P P 01 44 43.9 -0.4
SFJD Kangerlussuaq 59.70 18 LR LR 02 12 55.2
comp=Z,852nm,18.2s,baz=222,slow=38
SFJD Kangerlussuaq 59.70 18 P P 01 44 43.9 -0.4
SFJD pmax pmax
comp=Z,58nm,1.2s
SFJD Kangerlussuaq 59.70 18 i P P 01 44 40.4 -3.9
SFJD IAmb IAmb 01 44 44.9
comp=Z,64nm,1.2s
DOT Dot Lake 59.75 337 IAmb IAmb 01 44 58.4
comp=Z,16nm,1.0s
DIAM Diamantina, MG 59.76 122 eP P 01 44 45.5 -0.1
M24K Tolsona, Glenn 59.82 335 P P 01 44 46.9 +1.6
baz=118
SCRK Sand Creek 59.89 337 IAmb IAmb 01 44 51.2
comp=Z,14nm,1.3s
SCRK Sand Creek 59.89 337 P P 01 44 46.9 +1.1
baz=122,SNR=12
I27K Kandik River 59.94 339 P P 01 44 46.7 +0.7
baz=125,SNR=6.4
PAX Paxson 59.95 336 P P 01 44 46.9 +0.7
baz=119,SNR=5.5
J26L Joseph Creek 60.02 338 IAmb IAmb 01 45 00.5
comp=Z,14nm,1.0s
J26L Joseph Creek 60.02 338 P P 01 44 47.7 +1.1
baz=122,SNR=13
RIDG Independent Ri 60.10 337 IAmb IAmb 01 44 53.1
comp=Z,29nm,1.2s
RIDG Independent Ri 60.10 337 P P 01 44 48.2 +1.0
baz=120,SNR=15
RES Resolute Bay 60.11 360 LR LR 02 13 09.0
comp=Z,308nm,18.7s,baz=182,slow=38
PET01 Itanhaem-SP 60.11 129 eP P 01 44 46.9 -0.9
SCM Sheep Creek Mo 60.17 334 P P 01 44 49.2 +1.5
baz=117
PWL Port Wells 60.17 333 P P 01 44 49.1 +1.4
baz=116
A36M Sachs Harbour 60.24 349 P P 01 44 48.4 +0.5
baz=145
BSCB Bom Sucesso 60.24 125 eP P 01 44 48.5 -0.3
H27K Steamboat Moun 60.27 340 IAmb IAmb 01 45 01.7
comp=Z,32nm,1.4s
H27K Steamboat Moun 60.27 340 P P 01 44 49.4 +1.1
baz=125,SNR=15
I26K Coal Creek Min 60.31 339 IAmb IAmb 01 44 50.5
comp=Z,20nm,1.6s
I26K Coal Creek Min 60.31 339 P P 01 44 49.6 +1.1
baz=123
M23K Glacier View 60.32 334 P P 01 44 49.7 +1.0
baz=116
SEW Seward 60.36 332 P P 01 44 49.7 +0.8
baz=114
KNK Knik Glacier 60.47 333 P P 01 44 50.9 +1.2
baz=116
PLTB Pedras Altas 60.47 140 P P 01 44 48.4 -1.7
PLTB Pedras Altas 60.47 140 eP P 01 44 46.4 -3.7
E29M Blow River 60.48 343 IAmb IAmb 01 44 52.2
comp=Z,17nm,1.2s
E29M Blow River 60.48 343 P P 01 44 50.8 +1.1
baz=130,SNR=8.2
K24K Donnelly Dome 60.49 337 P P 01 44 50.4 +0.6
baz=120

TRQA Tornquist 60.57 151 P P 01 44 50.4 -0.2
TRQA IAmb IAmb 01 44 51.1
comp=Z,10nm,0.8s
TRQA Tornquist 60.57 151 P P 01 44 50.4 -0.2
TRQA pmax pmax
comp=Z,10.0nm,0.8s
F28M Old Crow 60.57 342 P P 01 44 51.4 +1.1
baz=128,SNR=29
G27K Doyon Strip 60.65 341 IAmb IAmb 01 45 05.1
comp=Z,10nm,1.0s
G27K Doyon Strip 60.65 341 P P 01 44 51.2 +0.4
baz=125,SNR=14
WAT6 Susitna Watana 60.69 335 P P 01 44 52.0 +0.7
baz=117,SNR=18
J25K Salcha River, 60.74 337 P P 01 44 52.2 +0.7
baz=120,SNR=6.1
DHY Denali Highway 60.77 335 P P 01 44 52.7 +0.8
baz=118
GHO Glory Hole Cre 60.82 334 IAmb IAmb 01 45 06.3
comp=Z,19nm,0.9s
PMR Palmer 60.84 333 IAmb IAmb 01 44 57.8
comp=Z,27nm,1.5s
PMR Palmer 60.84 333 P P 01 44 53.5 +1.4
baz=115
SLKM Skilak Lake 60.87 332 IAmb IAmb 01 44 57.6
comp=Z,18nm,1.1s
BRLK Bradley Lake 60.88 331 IAmb IAmb 01 45 06.1
comp=Z,13nm,0.9s
RC01 Rabbit Creek A 60.89 333 P P 01 44 53.1 +0.5
baz=114
KDAK Kodiak Island 60.99 329 LR LR 02 11 22.1
comp=Z,484nm,18.4s,baz=105,slow=36
KDAK Kodiak Island 60.99 329 P P 01 44 54.1 +0.9
baz=110
ILULI Ilulissat 60.99 16 i P P 01 44 50.6 -2.5
ILULI IAmb IAmb 01 44 53.9
comp=Z,42nm,1.1s
E28M Babbage River 61.09 343 IAmb IAmb 01 44 55.7
comp=Z,15nm,1.2s
E28M Babbage River 61.09 343 P P 01 44 54.6 +0.8
baz=126,SNR=6.5
WAT1 Susitna Watana 61.13 335 P P 01 44 55.0 +0.8
baz=116
OHAK Old Harbor 61.16 328 P P 01 44 55.6 +1.3
baz=109
Q20K Shuyak Island 61.18 330 P P 01 44 55.4 +0.9
baz=110
HOM Homer 61.20 331 P P 01 44 55.8 +1.2
baz=112
HDA Harding Lake 61.23 337 IAmb IAmb 01 45 07.6
comp=Z,10nm,1.0s
HDA Harding Lake 61.23 337 P P 01 44 55.3 +0.5
baz=119
PRP Porcupine Dome 61.26 338 IAmb IAmb 01 45 00.1
comp=Z,19nm,1.2s
PRP Porcupine Dome 61.26 338 P P 01 44 55.5 +0.3
baz=121,SNR=13
D28M Stokes Point 61.32 344 P P 01 44 55.7 +0.4
baz=129
M22K Willow 61.33 333 P P 01 44 56.7 +1.3
baz=114
IL31 61.39 337 IAmb IAmb 01 45 09.3
comp=Z,13nm,0.8s
ILAR Eielson Array 61.39 337 P P 01 44 56.4 +0.5
comp=Z,7.7nm,1.0s,baz=139,slow=4.3,SNR=24
ILAR PP PP 01 47 14.1 +3.2
comp=Z,1.2nm,0.9s,baz=107,slow=7.3,SNR=4.3
ILAR LR LR 02 14 54.0
comp=Z,550nm,18.2s,baz=120,slow=39
comp=Z,7.7nm,1.0s
SII Sitkinak Islan 61.42 327 P P 01 44 57.4 +1.2
baz=108
G26K Porcupine Rive 61.42 340 IAmb IAmb 01 45 00.8
comp=Z,13nm,1.1s
G26K Porcupine Rive 61.42 340 P P 01 44 56.6 +0.6
baz=123
E27K Coleen River 61.44 342 IAmb IAmb 01 45 00.7
comp=Z,21nm,1.1s
E27K Coleen River 61.44 342 P P 01 44 57.1 +0.9
baz=126,SNR=20
RCBR Riachuelo 61.48 105 P P 01 44 56.4 -1.0
RCBR Riachuelo 61.48 105 LR LR 02 13 26.7
comp=Z,130nm,18.8s,baz=290,slow=38
RCBR Riachuelo 61.48 105 P P 01 44 56.4 -1.0
RCBR pmax pmax
comp=Z,41nm,0.9s
RCBR Riachuelo 61.48 105 eP P 01 44 57.8 +0.4
SUA Susitna One 61.49 333 IAmb IAmb 01 45 10.2
comp=Z,14nm,0.9s
CUT Chulitna 61.67 334 P P 01 44 58.7 +1.0
baz=114
MCK McKinley 61.69 336 IAmb IAmb 01 45 21.2
comp=Z,22nm,1.2s
MCK McKinley 61.69 336 P P 01 44 59.2 +1.3
baz=116,SNR=6.3
UMMG Uummannaq 61.70 15 i P P 01 44 55.6 -2.2
UMMG IAmb IAmb 01 44 59.1
comp=Z,90nm,1.5s
H25L Birch Creek 61.75 339 P P 01 44 59.5 +1.3
baz=121,SNR=12
COLA College 61.80 337 deP P 01 45 01.3 +2.7
COLA pmax pmax
comp=Z,14nm,1.1s
COLA College 61.80 337 P P 01 44 59.8 +1.3
baz=118
O20K Slope Mountain 61.81 331 P P 01 44 59.8 +0.9
baz=111
MAN01 Angra dos Reis 61.86 126 eP P 01 44 59.4 -0.3
R18K Karluk 61.87 328 P P 01 45 00.2 +1.0
baz=108
D27M Malcolm River 61.89 343 IAmb IAmb 01 45 12.5
comp=Z,16nm,1.1s
Q19K Cape Douglas, 61.90 330 P P 01 45 00.8 +1.4
baz=109
CMC01 Camacan, BA 61.91 116 eP P 01 45 00.3 +0.2
BMAR Burnt Mountain 61.95 340 P P 01 45 01.0 +1.4
P19K Oil Pt 61.95 331 P P 01 45 00.8 +1.1
baz=110
F26K Sheenjek River 61.95 341 IAmb IAmb 01 45 05.5
comp=Z,13nm,1.1s
F26K Sheenjek River 61.95 341 P P 01 45 01.1 +1.5
baz=123,SNR=21
VAS01 Vassouras-RJ 61.96 125 eP P 01 45 00.3 -0.1
CHIR Chirikof Islan 61.97 326 P P 01 45 01.0 +1.1
baz=106
SJMB Sao Joao De Ma 62.02 121 eP P 01 45 00.6 -0.2
NUUG Nuugaatsiaq 62.03 14 i P P 01 44 57.6 -2.5
NUUG IAmb IAmb 01 45 01.9
comp=Z,176nm,1.7s
N20K Mount Spurr 62.04 332 P P 01 45 00.6 +0.2
baz=112
SPCR Spurr Chakacha 62.04 332 P P 01 45 01.3 +0.9
baz=112
SKT Skwentna 62.04 333 IAmb IAmb 01 45 13.4
comp=Z,11nm,0.9s
SKT Skwentna 62.04 333 P P 01 45 01.0 +0.7
baz=113
G25K Bearman Lake 62.10 339 P P 01 45 01.7 +1.1
baz=121
TRF Thorofare Moun 62.11 335 P P 01 45 01.5 +0.5
baz=115,SNR=21
NEA2 Nenana 62.13 337 IAmb IAmb 01 45 05.9
comp=Z,11nm,1.3s
NEA2 Nenana 62.13 337 P P 01 45 01.4 +0.5
baz=117
GUA01 Guaratinga, BA 62.20 118 eP P 01 45 01.8 -0.3
H24K Noodor Dome 62.27 338 IAmb IAmb 01 45 15.0
comp=Z,18nm,1.0s
H24K Noodor Dome 62.27 338 P P 01 45 02.1 +0.3
baz=118,SNR=19
F25K Christian Rive 62.38 340 IAmb IAmb 01 45 16.3
comp=Z,12nm,1.0s
F25K Christian Rive 62.38 340 P P 01 45 03.1 +0.5
baz=122,SNR=19
KTH Kantishna Hill 62.41 335 IAmb IAmb 01 45 22.6
comp=Z,17nm,1.1s
Q18K Katmai Hardscr 62.48 329 P P 01 45 04.1 +0.6
baz=108
I23K Minto, Yukon-K 62.49 337 IAmb IAmb 01 45 16.5
comp=Z,18nm,0.9s
I23K Minto, Yukon-K 62.49 337 P P 01 45 04.0 +0.8
baz=116,SNR=18
NBAN Anadia - AL 62.50 109 eP P 01 45 04.7 +0.5
G24K Hadweenzic Riv 62.54 339 IAmb IAmb 01 45 17.0
comp=Z,14nm,1.0s
G24K Hadweenzic Riv 62.54 339 P P 01 45 04.6 +1.0
baz=119,SNR=16
E25K Arctic Village 62.64 341 IAmb IAmb 01 45 17.9

comp=Z,12nm,1.1s
E25K Arctic Village 62.64 341 P P 01 45 05.7 +1.4
baz=122,SNR=12
O19K Port Alsworth 62.65 331 P P 01 45 04.8 +0.4
baz=109
BPAW Bear Paw Mtn. 62.67 336 IAmb IAmb 01 45 08.9
comp=Z,16nm,1.2s
BPAW Bear Paw Mtn. 62.67 336 P P 01 45 04.5 0.0
baz=114,SNR=7.1
PPLA Purkeypile 62.68 334 IAmb IAmb 01 45 10.1
comp=Z,21nm,1.2s
PPLA Purkeypile 62.68 334 P P 01 45 04.9 +0.2
baz=113
M20K Styx River 62.70 333 P P 01 45 05.1 +0.3
baz=111
DUB01 Friburgo-RJ 62.71 125 *e*P P 01 45 05.2 -0.2
Q17K Contact Creek 62.81 329 P P 01 45 06.2 +0.6
baz=107
P18K Big Mountain, 62.83 330 P P 01 45 06.1 +0.5
baz=108
CAST Castle Rocks 62.84 335 IAmb IAmb 01 45 10.4
comp=Z,20nm,1.2s
CAST Castle Rocks 62.84 335 P P 01 45 05.3 -0.3
baz=113,SNR=20
H23K Yukon River 62.87 338 P P 01 45 06.5 +0.7
baz=117
PLK4 Peulik 4 62.87 328 IAmb IAmb 01 45 20.2
comp=Z,15nm,0.9s
R17L Mt. Peulik Vol 62.87 328 P P 01 45 06.2 +0.3
baz=106
C27K Jago River 62.90 343 IAmb IAmb 01 45 19.9
comp=Z,16nm,0.9s
C27K Jago River 62.90 343 P P 01 45 06.6 +0.7
baz=124,SNR=22
N19K Bonanza Creek 62.93 332 IAmb IAmb 01 45 20.1
comp=Z,11nm,0.9s
N19K Bonanza Creek 62.93 332 P P 01 45 06.6 +0.2
baz=110
O18K Koktuh Hills 62.96 330 IAmb IAmb 01 45 19.4
comp=Z,12nm,0.9s
O18K Koktuh Hills 62.96 330 P P 01 45 06.9 +0.4
baz=108
RIB01 Linhares ES 62.97 121 *e*P P 01 45 06.6 -0.5
MLY Manley 62.97 337 IAmb IAmb 01 45 19.9
comp=Z,17nm,0.8s
MLY Manley 62.97 337 P P 01 45 07.0 +0.5
baz=115,SNR=20
PPT Papeete 63.06 241 LR LR 02 05 50.5
comp=Z,231nm,18.7s,baz=94,slow=30
PPT2 Papeete2 63.07 241 *e*P P 01 45 02.6 -5.3
comp=Z,86nm,19.5s
PPT2 *e*S **S** **01 53 42.6 +3.8**
comp=Z,287nm,26.5s
PPT2 *e*LR LR 02 03 31.6
comp=Z,1µm,27.0s
PPT2 *e*LR LR 02 03 39.6
comp=Z,794nm,28.5s
F24K Squaw Lake 63.09 340 P P 01 45 08.1 +0.9
baz=119
CHUM Lake Minchumin 63.12 335 P P 01 45 07.8 +0.4
baz=113
CAM01 Campos-RJ 63.15 124 *e*P P 01 45 08.0 -0.4
COYC Coyhaique 63.20 163 P P 01 45 08.2 +0.1
L20K Farewell, AK 63.24 333 P P 01 45 08.6 +0.2
baz=111
M19K Big River Lodg 63.27 333 IAmb IAmb 01 45 25.3
comp=Z,15nm,1.4s
M19K Big River Lodg 63.27 333 P P 01 45 09.0 +0.5
baz=110
Q16K King Salmon 63.31 329 P P 01 45 09.4 +0.6
baz=106
P17K Kvichak River 63.36 329 P P 01 45 09.7 +0.7
baz=107
C26K Camden Bay 63.41 343 P P 01 45 10.1 +0.9
baz=123
KULLO Kullorsuaq 63.44 10 *i* P P 01 45 05.8 -3.5
KULLO IAmb IAmb 01 45 10.6
comp=Z,62nm,1.1s
G23K Bananza Creek 63.44 338 P P 01 45 09.9 +0.3
baz=117,SNR=5.9
I21K Tanana 63.51 337 IAmb IAmb 01 45 24.1
comp=Z,12nm,0.9s
I21K Tanana 63.51 337 P P 01 45 09.9 -0.1
baz=114
D25K Kavik River 63.52 342 IAmb IAmb 01 45 15.8
comp=Z,28nm,1.2s
D25K Kavik River 63.52 342 P P 01 45 10.9 +0.8
baz=122,SNR=24
N18K Kilae Creek 63.54 331 IAmb IAmb 01 45 41.2
comp=Z,13nm,1.2s
N18K Kilae Creek 63.54 331 P P 01 45 10.7 +0.4
baz=108
E24K Your Creek 63.56 340 P P 01 45 11.2 +0.9
baz=119,SNR=13
L19K White Mountain 63.57 333 P P 01 45 10.9 +0.5
baz=110
H22K Ishtalitna Cre 63.58 337 P P 01 45 10.6 +0.1
baz=115
CHGN Chignik 63.61 326 P P 01 45 11.6 +0.8
baz=104
K20K Telida 63.64 334 IAmb IAmb 01 45 16.1
comp=Z,16nm,1.1s
K20K Telida 63.64 334 P P 01 45 11.0 +0.1
baz=111,SNR=7.3
COLD Coldfoot 63.74 339 IAmb IAmb 01 45 25.4
comp=Z,8.2nm,1.0s
COLD Coldfoot 63.74 339 P P 01 45 12.3 +0.8
baz=117,SNR=13
M18K Stony River 63.77 332 P P 01 45 11.6 -0.2
baz=108
O17K Koliganek Bris 63.84 330 P P 01 45 12.7 +0.4
baz=106,SNR=5.9
E23K Chandalar 63.92 340 P P 01 45 13.9 +1.0
baz=118,SNR=23
CHNA Chernabura Isl 63.93 324 P P 01 45 12.8 -0.2
baz=102
J20K Nowinta River 63.97 335 IAmb IAmb 01 45 17.5
comp=Z,20nm,1.3s
J20K Nowinta River 63.97 335 P P 01 45 12.6 -0.5
baz=111,SNR=7.1
H21K Melozitna Rive 64.02 337 P P 01 45 13.9 +0.5
baz=113,SNR=6.6
G22K Bettles 64.06 338 P P 01 45 14.6 +1.0
baz=115
P16K Nushagak River 64.08 329 P P 01 45 13.8 0.0
baz=105
N17K Nushagak Hills 64.11 331 P P 01 45 14.3 +0.3
baz=107
TOLK Toolik Lake Re 64.18 340 IAmb IAmb 01 45 20.1
comp=Z,22nm,1.3s
TOLK Toolik Lake Re 64.18 340 P P 01 45 14.8 +0.3
baz=118
D24K Happy Valley 64.19 341 IAmb IAmb 01 45 20.1
comp=Z,26nm,1.3s
D24K Happy Valley 64.19 341 P P 01 45 15.3 +0.8
baz=119
S14K Fog Glacier 64.22 326 P P 01 45 14.8 -0.2
baz=103
O16K Kokwok River B 64.28 330 IAmb IAmb 01 45 38.3
comp=Z,8.4nm,0.9s
O16K Kokwok River B 64.28 330 P P 01 45 15.0 -0.2
baz=106
I20K Naaghedeneel 64.34 336 P P 01 45 15.5 +0.1
baz=111
L18K Granite Mounta 64.39 333 IAmb IAmb 01 45 20.4
comp=Z,14nm,1.2s
L18K Granite Mounta 64.39 333 P P 01 45 16.0 +0.2
baz=108,SNR=5.7
C24K Franklin Bluff 64.43 342 P P 01 45 16.8 +0.8
baz=119
M17K Holitna River 64.48 332 IAmb IAmb 01 45 20.5
comp=Z,13nm,1.2s
M17K Holitna River 64.48 332 P P 01 45 16.6 +0.1
baz=107
J19K Poorman 64.52 335 IAmb IAmb 01 45 29.1
comp=Z,12nm,0.8s
J19K Poorman 64.52 335 P P 01 45 16.4 -0.2
baz=110,SNR=16
SDPT Sand Point 64.53 325 P P 01 45 16.9 0.0
baz=101
F22K John River 64.55 339 P P 01 45 17.6 +0.8
baz=115
G21K Allakaket 64.62 338 P P 01 45 17.5 +0.2
baz=113,SNR=7.3
D23K Nanushuk River 64.69 341 IAmb IAmb 01 45 24.1
comp=Z,23nm,1.2s
D23K Nanushuk River 64.69 341 P P 01 45 18.8 +1.0
baz=117,SNR=20

E22K Anaktuvuk Pass 64.69 340 IAmb IAmb 01 45 31.1
comp=Z,18nm,1.1s
E22K Anaktuvuk Pass 64.69 340 P P 01 45 18.6 +0.7
baz=115,SNR=12
H20K Anotleneega Mo 64.75 336 P P 01 45 17.8 -0.3
baz=111,SNR=5.4
J18K Innoko River 64.80 334 IAmb IAmb 01 45 22.8
comp=Z,12nm,1.2s
J18K Innoko River 64.80 334 P P 01 45 17.6 -0.9
baz=108
N16K Nishlik Lake 64.84 330 P P 01 45 18.9 0.0
baz=105
F21K Alatna River 64.89 338 P P 01 45 20.0 +0.9
baz=113,SNR=34
O15K Ungalikthiuk R 65.03 329 P P 01 45 21.9 +1.8
O15K IAmb IAmb 01 45 35.0
comp=Z,14nm,1.0s
O15K Ungalikthiuk R 65.03 329 P P 01 45 21.7 +1.6
baz=104
C23K Itkillik River 65.07 341 P P 01 45 21.3 +1.2
baz=117,SNR=12
M16K Timber Creek 65.08 331 P P 01 45 21.6 +1.2
baz=105
L17K Donlin 65.09 332 P P 01 45 21.7 +1.3
baz=106
K17K Iditarod 65.26 333 IAmb IAmb 01 45 25.6
comp=Z,19nm,1.4s
K17K Iditarod 65.26 333 P P 01 45 22.0 +0.5
baz=107
GCSA Galena City Sc 65.28 335 P P 01 45 22.3 +0.7
baz=109
D22K Ayikyak River 65.30 340 IAmb IAmb 01 45 27.2
comp=Z,27nm,1.2s
D22K Ayikyak River 65.30 340 P P 01 45 22.5 +0.8
baz=115
H19K Roundabout Mou 65.37 336 IAmb IAmb 01 45 34.8
comp=Z,11nm,0.9s
H19K Roundabout Mou 65.37 336 P P 01 45 23.8 +1.6
baz=110,SNR=5.7
N15K Kwethluk River 65.40 330 P P 01 45 22.5 0.0
baz=104
S12K Black Hills 65.49 325 IAmb IAmb 01 45 26.9
comp=Z,28nm,1.3s
S12K Black Hills 65.49 325 P P 01 45 23.0 -0.1
baz=100
L16K Owhat River 65.50 332 IAmb IAmb 01 45 28.0
comp=Z,12nm,1.2s
L16K Owhat River 65.50 332 P P 01 45 24.1 +0.9
baz=105
E21K Killik River 65.55 340 IAmb IAmb 01 45 36.6
comp=Z,14nm,1.1s
E21K Killik River 65.55 340 P P 01 45 23.6 +0.2
baz=113
F20K Avaraart Lake 65.64 338 IAmb IAmb 01 45 37.2
comp=Z,13nm,0.9s
F20K Avaraart Lake 65.64 338 P P 01 45 24.5 +0.6
baz=111,SNR=13
TBI Tubuai 65.69 236 *e*S S 01 54 16.3 +5.4
comp=Z,2µm,30.0s
TBI Tubuai 65.69 236 *e*LR LR 02 04 57.5
comp=Z,3µm,29.5s
TBI *e*LR LR 02 04 57.8
comp=Z,994nm,25.5s
O14K Tigyukauivet M 65.77 329 P P 01 45 25.1 +0.3
baz=102
J17K VABM Dome 65.79 334 P P 01 45 25.7 +0.8
baz=106
M15K Kasigluk River 65.82 330 P P 01 45 25.7 +0.6
baz=104
G19K Purcell Mounta 65.83 337 IAmb IAmb 01 45 38.0
comp=Z,11nm,0.9s
G19K Purcell Mounta 65.83 337 P P 01 45 25.4 +0.2
baz=109
H18K Honhosa River 66.01 335 P P 01 45 26.2 -0.1
baz=108
C21K Knifeblade Rid 66.11 340 P P 01 45 27.5 +0.5
baz=113,SNR=5.3
N14K Kuskokwak Cree 66.12 329 P P 01 45 27.1 -0.1
baz=102
B22K Teshekpuk Lake 66.16 342 P P 01 45 27.3 +0.1
baz=115
B21K Ikpikpuk River 66.24 341 P P 01 45 28.2 +0.5
baz=113
E20K Nigu River 66.24 339 P P 01 45 28.2 +0.4
baz=111,SNR=5.1
F19K Shaleruckik Mo 66.32 337 IAmb IAmb 01 45 41.4
comp=Z,11nm,1.0s
F19K Shaleruckik Mo 66.32 337 P P 01 45 28.3 0.0
baz=109,SNR=5.6
SUMG Summit 66.32 16 *i* P P 01 45 28.0 -0.7
SUMG IAmb IAmb 01 45 31.6
comp=Z,1µm,3.1s
E19K Redstone River 66.33 338 P P 01 45 28.6 +0.2
baz=110
G18K Tagagawik 66.36 336 IAmb IAmb 01 45 33.7
comp=Z,16nm,1.4s
G18K Tagagawik 66.36 336 P P 01 45 29.3 +0.8
baz=108
J16K Anvik River 66.42 333 IAmb IAmb 01 45 43.1
comp=Z,12nm,0.8s
J16K Anvik River 66.42 333 P P 01 45 28.7 -0.3
baz=105
L15K Ungalak Mounta 66.42 331 P P 01 45 29.5 +0.5
baz=103,SNR=5.2
M14K Bethel 66.44 330 IAmb IAmb 01 45 42.4
comp=Z,17nm,0.8s
M14K Bethel 66.44 330 P P 01 45 30.0 +0.8
baz=102
NEEM North Greenlan 66.55 9 *i* P P 01 45 27.4 -2.5
NEEM IAmb IAmb 01 45 31.6
comp=Z,103nm,1.3s
D20K Etivluk River 66.55 339 IAmb IAmb 01 45 43.1
comp=Z,16nm,0.9s
D20K Etivluk River 66.55 339 P P 01 45 30.7 +0.9
baz=111,SNR=6.0
H17K Granite Mounta 66.58 335 IAmb IAmb 01 45 35.3
comp=Z,14nm,1.1s
H17K Granite Mounta 66.58 335 P P 01 45 30.9 +0.9
baz=106
K15K Wolf Creek Mou 66.59 332 IAmb IAmb 01 45 43.9
comp=Z,15nm,0.9s
K15K Wolf Creek Mou 66.59 332 P P 01 45 31.0 +0.9
baz=104
I17K Unalakleet 66.62 334 P P 01 45 31.0 +0.8
baz=105
SOEG Soedalen 66.69 21 *i* P P 01 45 30.6 0.0
SOEG IAmb IAmb 01 45 31.9
comp=Z,146nm,1.6s
A22K Sinclair Lake 66.90 342 P P 01 45 32.3 +0.4
baz=113
L14K Kuka Creek 66.91 331 IAmb IAmb 01 45 45.9
comp=Z,9.2nm,0.8s
L14K Kuka Creek 66.91 331 P P 01 45 32.9 +0.8
baz=102
F18K Selawik 66.95 337 P P 01 45 32.7 +0.4
baz=107
D19K Kuna River 66.99 339 IAmb IAmb 01 45 45.0
comp=Z,13nm,1.2s
D19K Kuna River 66.99 339 P P 01 45 32.9 +0.3
baz=109
G17K Kiwalik Mounta 67.03 336 P P 01 45 33.2 +0.3
baz=106
M13K Dall Lake 67.04 330 P P 01 45 33.3 +0.4
baz=101
B20K Meade River 67.20 341 P P 01 45 34.4 +0.6
baz=111
H16K Elim 67.46 334 P P 01 45 36.0 +0.4
baz=104
A21K Barrow 67.52 342 P P 01 45 36.2 +0.3
baz=112
F17K Baldwin Pennin 67.53 336 P P 01 45 36.2 +0.2
baz=105
E18K Tukpahlearik C 67.55 338 IAmb IAmb 01 45 41.3
comp=Z,17nm,1.4s
E18K Tukpahlearik C 67.55 338 P P 01 45 36.3 +0.2
baz=106
J14K Nanvaranak Lak 67.61 332 IAmb IAmb 01 45 51.0
comp=Z,18nm,0.8s
J14K Nanvaranak Lak 67.61 332 P P 01 45 37.3 +0.8
baz=102
G16K Koyuk River 67.69 335 P P 01 45 37.5 +0.4
baz=104
C19K Lookout Ridge 67.70 339 IAmb IAmb 01 45 43.1
comp=Z,18nm,1.2s
C19K Lookout Ridge 67.70 339 P P 01 45 37.7 +0.6
baz=108,SNR=5.5
UNV Unalaska Valle 67.78 322 P P 01 45 38.3 +0.6
baz=96

E17K Hotham Inlet 67.92 337 P P 01 45 39.0 +0.5
baz=105
K13K Kusilvak Mount 67.95 331 P P 01 45 39.4 +0.7
baz=100
C18K Utukok River 68.12 339 P P 01 45 40.6 +0.9
baz=106
G15K Niukluk 68.29 335 P P 01 45 41.9 +1.1
baz=102
M11K Mekoryuk 68.43 330 P P 01 45 42.9 +1.1
baz=98
A19K Wainwright 68.53 340 P P 01 45 42.5 +0.3
baz=107
B18K Kokolik River 68.53 339 P P 01 45 43.0 +0.8
baz=106
D17K Noatak River 68.55 338 P P 01 45 43.2 +0.9
baz=104
RDOG Red Dog Mine 68.57 338 P P 01 45 43.0 +0.5
baz=104
F15K North Star Dit 68.69 335 IAmb IAmb 01 45 57.8
comp=Z,14nm,0.9s
F15K North Star Dit 68.69 335 P P 01 45 43.6 +0.3
baz=102
ANM Nome 68.76 334 P P 01 45 44.3 +0.5
baz=101
C17K DeLong Mountai 68.77 338 P P 01 45 43.8 0.0
baz=104
NIKH Nikolski High 69.11 321 P P 01 45 46.6 +0.5
baz=93
F14K Arctic Creek 69.33 335 P P 01 45 48.3 +1.0
baz=100
C16K Lisburne Hills 69.51 338 P P 01 45 48.8 +0.5
baz=102
BORG Borgarnes 69.73 26 P P 01 45 50.7 +1.0
BORG Borgarnes 69.73 26 LR LR 02 15 51.0
comp=Z,138nm,18.4s,baz=261,slow=36
BORG Borgarnes 69.73 26 P P 01 45 50.7 +1.0
BORG pmax pmax
comp=Z,61nm,1.2s
P08K Saint George I 69.75 325 P P 01 45 50.4 +0.4
baz=94
TNA Tin City 70.00 335 P P 01 45 51.4 0.0
baz=99
SPIA Saint Paul Isl 70.18 326 P P 01 45 53.7 +1.1
baz=94
SCO Scoresbysund 70.53 20 P P 01 45 54.5 0.0
SCO IAmb IAmb 01 45 58.0
comp=Z,24nm,1.1s
SCO Scoresbysund 70.53 20 P P 01 45 54.5 0.0
SCO pmax pmax
comp=Z,24nm,1.1s
SCO Scoresbysund 70.53 20 *i* P P 01 45 52.2 -2.3
SCO IAmb IAmb 01 45 58.2
comp=Z,389nm,3.1s
GAMB Gambell 71.40 333 P P 01 46 00.4 +0.5
baz=95
PMOZ Porto Moniz, M 71.65 60 *e*LR LR 02 08 26.4
PMOZ *i* IAMs_20 IAMs_20 02 11 42.9
comp=Z,278nm,22.0s
DBG Daneborg 71.81 16 *i* P P 01 46 00.5 -1.7
DBG IAmb IAmb 01 46 04.8
comp=Z,20nm,1.0s
USHA Ushuaia 72.58 165 LR LR 02 11 21.9
comp=Z,407nm,19.0s,baz=255,slow=30
DAG Danmarks Havn 72.66 14 *i* P P 01 46 06.0 -1.3
DAG IAmb IAmb 01 46 09.6
comp=Z,66nm,1.2s
EFI East Falkland 73.16 157⇑ *e*P P 01 46 10.9 +0.4
EFI pmax pmax
comp=Z,30nm,1.0s
RAR Rarotonga 73.31 242 LR LR 02 12 30.5
comp=Z,267nm,18.1s,baz=84,slow=31
NOR Nord 73.89 9 *i* P P 01 46 17.0 +2.5
NOR IAmb IAmb 01 46 17.3
comp=Z,33nm,1.4s
BBTS Babate 74.98 78 LR LR 02 19 00.4
comp=Z,338nm,18.3s,baz=160,slow=36
JMIC Jan Mayen 75.01 20 LR LR 02 20 11.9
comp=Z,642nm,21.1s,baz=266,slow=36
LEWI Lewis, Hebride 76.49 33 *e*P P 01 46 29.8 0.0
LEWI IAmb IAmb 01 46 31.1
comp=Z,38nm,1.2s
KPL Plockton 77.22 34 *e*P P 01 46 34.4 +0.4
KPL IAmb IAmb 01 46 35.3
comp=Z,72nm,1.1s
CLGH Cloghs, Cushen 77.25 36 *e*P P 01 46 34.2 0.0
ILTH Belurgan, Co L 77.25 37 *e*P P 01 46 33.9 -0.3
PARRA Arraiolos 77.49 53 *e*P P 01 46 39.5 +3.6
LAWE Loch Awe, Argy 77.50 35 *e*P P 01 46 36.0 +0.4
LAWE IAmb IAmb 01 46 37.5
comp=Z,318nm,2.5s
PGAV Gavieira, Arco 77.60 50 *e*S S 01 56 28.1 -0.1
PGAV *e*LQ LQ 02 08 11.1
PGAV *e*LR LR 02 11 11.5
PGAV *i* IAMs_20 IAMs_20 02 15 20.3
comp=Z,289nm,20.0s
PCAS Casmilo, Conde 77.72 52 *e*P P 01 46 36.8 -0.4
PCAS *i* IAmb IAmb 01 46 38.9
comp=Z,39nm,1.9s
PSARD Sardoal 78.04 52 *e*P P 01 46 38.0 -1.0
POLO Lamas de Olo 78.04 50 *e*P P 01 46 39.2 +0.2
PGBU Glenifferbraes 78.07 35 *e*P P 01 46 39.0 +0.3
PGBU IAmb IAmb 01 46 40.2
comp=Z,147nm,1.2s
PVIS Viseu 78.07 51 *e*P P 01 46 37.9 -1.3
GAL1 Galloway 78.08 36 *e*P P 01 46 39.1 +0.3
GAL1 IAmb IAmb 01 46 40.2
comp=Z,34nm,0.9s
PMTG Montargil 78.08 53 *e*P P 01 46 38.1 -1.1
PMTG *i* IAmb IAmb 01 46 40.1
comp=Z,25nm,1.5s
PVRL Vila Real 78.12 50 *e*P P 01 46 39.1 -0.3
PVRL *i* IAmb IAmb 01 46 40.8
comp=Z,30nm,1.7s
IOMK Kirk Michael 78.25 37 *e*P P 01 46 40.1 +0.3
IOMK IAmb IAmb 01 46 41.3
comp=Z,44nm,1.3s
MESJ Messejana 78.28 54 *e*P P 01 46 40.6 +0.3
MESJ IAMs_20 IAMs_20 02 14 09.3
comp=Z,314nm,18.1s
MESJ Messejana 78.28 54 *e*P P 01 46 40.6 +0.3
EVO Evora 78.33 53 *e*P P 01 46 39.7 -0.8
MTE Manteigas 78.38 51 P P 01 46 39.2 -1.7
MTE IAmb IAmb 01 46 53.9
comp=Z,14nm,0.9s
MTE Manteigas 78.38 51 *e*P P 01 46 40.1 -0.9
MTE *i* IAmb IAmb 01 47 06.3
comp=Z,32nm,1.4s
MTE *e*S S 01 56 26.8 -10
MTE *e*LQ LQ 02 08 53.8
MTE *e*LR LR 02 11 19.8
MTE *i* IAMs_20 IAMs_20 02 15 48.2
comp=Z,332nm,22.0s
PCVE Castro Verde 78.45 54 *e*P P 01 46 41.8 +0.5
MCD Coleburn Disti 78.47 33 *e*P P 01 46 41.6 +0.6
PBEJ Beja 78.52 54 *e*P P 01 46 41.2 -0.4
PBEJ *i* IAmb IAmb 01 47 04.2
comp=Z,29nm,1.8s
PCBR Castelo Branco 78.53 52 *e*P P 01 46 41.2 -0.4
PCBR *i* IAmb IAmb 01 47 04.1
comp=Z,31nm,2.0s
PESTR Estremoz 78.60 53 *e*P P 01 46 41.3 -0.8
PESTR *i* IAmb IAmb 01 46 43.0
comp=Z,19nm,1.5s
MVO Moncorvo 78.65 50 *e*P P 01 46 41.2 -1.1
MVO *i* IAmb IAmb 01 46 44.2
comp=Z,26nm,1.1s
MVO *e*S S 01 56 28.3 -11
MVO *e*LR LR 02 11 38.8
MVO *i* IAMs_20 IAMs_20 02 20 19.9
comp=Z,325nm,18.0s
PMRV Marv??o 78.66 52 *e*P P 01 46 41.6 -0.8
PMRV *i* IAmb IAmb 01 46 45.6
comp=Z,23nm,1.8s
PMRV *e*LR LR 02 13 12.8
PMRV *i* IAMs_20 IAMs_20 02 19 36.0
comp=Z,428nm,20.0s
PVAQ Vaqueiros 78.74 54 *e*P P 01 46 42.8 0.0
PVAQ *e*S S 01 56 42.7 +2.3
PVAQ *e*LR LR 02 11 33.9
PVAQ *i* IAMs_20 IAMs_20 02 18 10.0
comp=Z,285nm,20.0s
PBRG Braganca 78.75 50 *e*P P 01 46 42.9 0.0
PBRG *i* IAmb IAmb 01 46 46.2
comp=Z,19nm,1.7s
ESK Eskdalemuir 78.86 36 P P 01 46 42.9 -0.3

ESK Eskdalemuir 78.86 36 *eP* **P 01 46 43.3 +0.1**
ESK IAmb IAmb 01 46 44.5
comp=Z,50nm,1.0s

ESK Eskdalemuir 78.86 36 P **P 01 46 42.9 -0.3**
ESK pmax pmax
comp=Z,47nm,1.0s

EKA Eskdalemuir Ar 78.89 36 P **P 01 46 43.2 -0.1**
comp=Z,23nm,0.8s,baz=280,slow=6.0,SNR=47
comp=Z,23nm,0.8s

KBS Kingsbay 78.90 11 *ceP* **P 01 46 44.1 +1.1**
KBS pmax pmax
comp=Z,33nm,1.0s

KBS Kingsbay 78.90 11 *eP* **P 01 46 44.6 +1.7**
KBS IAmb IAmb 01 46 48.2
comp=Z,46nm,1.0s

KBS Kingsbay 78.90 11 *i* P **P 01 46 43.7 +0.8**
DRUM Mains of Drumt 78.99 34 *eP* **P 01 46 44.2 +0.4**
DRUM IAmb IAmb 01 46 45.3
comp=Z,48nm,1.0s

ESY Stoneypath 79.09 35 *eP* **P 01 46 45.0 +0.6**
PBAR Barrancos 79.14 53 *eP* **P 01 46 44.6 -0.5**
SHEM Shemya Is, Ala 79.42 322 LR LR 02 19 45.6
comp=Z,52nm,19.3s,baz=93,slow=34

HLM1 Long Mynd 79.53 38 *eP* **P 01 46 47.1 +0.2**
HLM1 IAmb IAmb 01 46 48.2
comp=Z,35nm,1.1s

EDMD Edmundbyers 79.65 36 *eP* **P 01 46 46.9 -0.6**
EDMD IAmb IAmb 01 46 49.1
comp=Z,89nm,1.1s

MONM Monmouth 79.69 39 *eP* **P 01 46 47.1 -0.6**
OLDB Oldbury-Upon-S 79.88 39 *eP* **P 01 46 48.5 -0.3**
SPA0 Spitsbergen Ar 80.00 11 *eP* **P 01 46 51.8 +2.8**
SPA0 IAmb IAmb 01 46 53.9
comp=Z,34nm,1.3s

SPITS Spitsbergen Ar 80.00 11 P **P 01 46 49.3 +0.3**
comp=Z,8.4nm,0.9s,baz=281,slow=0.7,SNR=6.5
SPITS LR LR 02 26 40.1
comp=Z,544nm,18.3s,baz=294,slow=39
comp=Z,8.4nm,0.9s

SPITS Spitsbergen Ar 80.00 11 P **P 01 46 51.8 +2.8**
SPITS pmax pmax
comp=Z,36nm,1.3s

BILL Bilibino 80.04 338↓ *eP* **P 01 46 50.0 +0.7**
BILL pmax pmax
comp=Z,13nm,1.3s

LBWR Ladybower, Pea 80.05 37 *eP* **P 01 46 49.8 +0.1**
LBWR IAmb IAmb 01 46 51.5
comp=Z,89nm,1.2s

STRD Stroud 80.10 39 *eP* **P 01 46 49.9 -0.1**
GDLE Glaisdale, N Y 80.38 36 *eP* **P 01 46 52.3 +0.8**
GDLE IAmb IAmb 01 46 53.4
comp=Z,88nm,1.2s

CWF Charnwood Fore 80.43 38 *eP* **P 01 46 51.0 -0.7**
CWF IAmb IAmb 01 46 53.1
comp=Z,46nm,1.3s

PAB San Pablo 80.95 52 P **P 01 46 54.0 -0.9**
PAB IAmb IAmb 01 46 56.9
comp=Z,34nm,1.3s

PAB San Pablo 80.95 52 P **P 01 46 54.0 -0.9**
PAB pmax pmax
comp=Z,34nm,1.3s

ESDC Sonseca Array 81.22 51 P **P 01 46 55.4 -1.0**
ESDC IAmb IAmb 01 46 58.2
comp=Z,28nm,1.3s

ESDC Sonseca Array 81.22 51 P **P 01 46 55.8 -0.5**
comp=Z,13nm,1.0s,baz=291,slow=5.3,SNR=62
ESDC LR LR 02 21 39.1
comp=Z,366nm,18.2s,baz=286,slow=35
comp=Z,13nm,1.0s

ESBB Sonseca Array 81.22 51 IAmb IAmb 01 46 58.1
comp=Z,26nm,1.2s

FOO Floro 81.76 28 *eP* **P 01 46 59.4 +0.7**
SUE Sulen 81.77 29 *eP* **P 01 47 00.5 +1.9**
MDT Midelt 82.12 58 LR LR 02 19 07.7
comp=Z,310nm,20.3s,baz=288,slow=32

HYA Hoyanger 82.41 29 *eP* **P 01 47 03.6 +1.5**
PMSA Palmer Station 82.42 167 LR LR 02 16 32.4
comp=Z,212nm,18.4s,baz=321,slow=30

HOPEN Hopen 82.46 12 *eP* **P 01 47 03.0 +1.0**
HOPEN IAmb IAmb 01 47 07.2
comp=Z,254nm,2.0s

AKN Aaknes 82.49 28 *eP* **P 01 47 04.0 +1.5**
AKN IAmb IAmb 01 47 07.8
comp=Z,9.7nm,0.8s

KMY Karmoy 82.50 31 *eP* **P 01 47 04.0 +1.5**
KMY IAmb IAmb 01 47 15.3
comp=Z,80nm,1.8s

MOL Molde 82.62 27 *eP* **P 01 47 04.6 +1.5**
MOL IAmb IAmb 01 47 07.0
comp=Z,133nm,2.4s

ESPZ Base Esperanza 82.95 164 P **P 01 47 02.9 -1.7**
ESPZ IAmb IAmb 01 47 05.4
comp=Z,18nm,0.8s

ODD1 Odda 82.98 30 *eP* **P 01 47 05.8 +0.7**
ODD1 IAmb IAmb 01 47 10.1
comp=Z,126nm,2.3s

BLS5 Blasjo 83.03 30 *eP* **P 01 47 06.4 +1.0**
BLS5 IAmb IAmb 01 47 08.3
comp=Z,15nm,1.0s

LOF Lofoten 83.12 21 *eP* **P 01 47 06.9 +1.3**
LOF IAmb IAmb 01 47 09.8
comp=Z,87nm,1.6s

DOMB Dombas 83.46 27 *eP* **P 01 47 08.7 +1.1**
DOMB IAmb IAmb 01 47 10.9
comp=Z,12nm,0.5s

SKAR Skarslia 83.54 29 *eP* **P 01 47 09.1 +1.1**
SKAR IAmb IAmb 01 47 10.0
comp=Z,168nm,2.7s

VAGH Vaagaholmen 83.55 22 *eP* **P 01 47 09.0 +1.2**
VAGH IAmb IAmb 01 47 23.3
comp=Z,94nm,2.0s

KONS Konsvik 83.58 23 *eP* **P 01 47 09.6 +1.6**
STOK Stokkvaagen 83.60 23 *eP* **P 01 47 10.0 +1.9**
LEIR Leirfjorden 83.72 23 *eP* **P 01 47 10.8 +2.0**
LEIR IAmb IAmb 01 47 13.7
comp=Z,68nm,1.5s

STEI Steigen 83.79 21 *eP* **P 01 47 11.0 +2.0**
STEI IAmb IAmb 01 47 13.8
comp=Z,56nm,1.2s

NSS Namsos 83.85 25 *eP* **P 01 47 11.0 +1.6**
NSS IAmb IAmb 01 47 13.7
comp=Z,23nm,1.4s

FAUS Fauske 84.02 21 *eP* **P 01 47 12.2 +1.9**
FAUS IAmb IAmb 01 47 14.9
comp=Z,54nm,1.5s

MOR8 Moi Rana 84.19 23 *eP* **P 01 47 13.4 +2.2**
MOR8 IAmb IAmb 01 47 16.0
comp=Z,51nm,1.6s

TRO Tromso 84.28 19 IAmb IAmb 01 47 15.9
comp=Z,85nm,1.4s

UCC Uccle 84.31 39 *dP* **P 01 47 11.2 -0.9**
comp=Z,9.1nm,0.0s

UCC *dx* x 01 47 23.0
HOMB Homborsund 84.40 31 *eP* **P 01 47 13.4 +1.1**
HOMB IAmb IAmb 01 47 17.8
comp=Z,54nm,1.8s

KONO Kongsberg 84.49 30 P **P 01 47 13.5 +0.7**
KONO Kongsberg 84.49 30 *ceP* **P 01 47 14.3 +1.5**
KONO pmax pmax
comp=Z,12nm,1.2s

KONO Kongsberg 84.49 30 *eP* **P 01 47 14.1 +1.3**
KONO IAmb IAmb 01 47 18.1
comp=Z,87nm,1.9s

DOU Dourbes 84.65 40 *dP* **P 01 47 14.3 +0.5**
DOU *dx* x 01 47 25.3
BMRD Maredsous 84.70 39 *dP* **P 01 47 14.3 +0.3**
BMRD *dx* x 01 47 25.6
NB2 NORSAR Subarra 84.77 28 P **P 01 47 15.3 +1.1**
comp=Z,97nm,2.0s,baz=292,slow=5.1
NB2 NORSAR Subarra 84.77 28 P **P 01 47 15.3 +1.1**
baz=292,slow=5.1
NOA NORSAR Array B 84.77 28 P **P 01 47 15.9 +1.7**
comp=Z,4.0nm,0.6s,baz=291,slow=5.2,SNR=46
NOA LR LR 02 24 47.2
comp=Z,214nm,19.6s,baz=280,slow=36
comp=Z,4.0nm,0.6s

JETT Jettan, Norway 84.77 19 *eP* **P 01 47 15.1 +1.0**
JETT IAmb IAmb 01 47 18.6
comp=Z,80nm,0.8s

SMAI San Martin Ant 84.81 170 P **P 01 47 14.5 +0.4**
SMAI IAmb IAmb 01 47 16.5
comp=Z,18nm,1.4s

BGES Gesves 84.87 39 *dP* **P 01 47 15.7 +0.8**
comp=Z,12nm,1.1s

OSL Oslo 84.92 29 *eP* **P 01 47 16.3 +1.4**
BCLA Clavier 84.99 39 *dP* **P 01 47 16.4 +0.9**
comp=Z,9.2nm,0.9s
BCLA *dx* x 01 47 27.0
NC602 NORSAR Array S 85.02 28 *eP* **P 01 47 17.2 +1.7**
NC602 IAmb IAmb 01 47 20.2
comp=Z,46nm,1.6s

BSTI Sart Tilman 85.11 39 *dP* **P 01 47 16.7 +0.6**
BSTI *dx* x 01 47 28.1
MUD Monsted U'grnd 85.33 33 *i* P **P 01 47 16.8 -0.3**
MUD IAmb IAmb 01 47 30.8
comp=Z,22nm,1.4s

MEM Membach 85.37 39 *dP* **P 01 47 17.2 -0.2**
MEM *dP* **sP 01 47 18.3 -2.9**
comp=Z,9.3nm,0.9s

MEM *dx* x 01 47 27.8
BHOU Houvegnez 85.44 39 *dP* **P 01 47 19.2 +1.4**
comp=Z,8.4nm,1.1s

BHOU *dx* x 01 47 29.9
BTNL Ternell 85.45 39 *dP* **P 01 47 18.9 +1.1**
comp=Z,5.9nm,1.4s

BTNL *dx* x 01 47 28.3
WLF Walferdange 85.74 40 *dP* **P 01 47 19.2 -0.1**
comp=Z,13nm,1.1s

WLF *dx* x 01 47 31.3
WLF *dx* x 01 47 33.0
WLF Walferdange 85.74 40 *eP* **P 01 47 19.7 +0.5**
comp=Z,120nm,2.0s,baz=291,slow=4.9
BUG Bochum--Univer 85.87 38 *eP* **P 01 47 20.4 +0.5**
comp=Z,171nm,2.6s,baz=291,slow=4.9
IBBN Ibbenburen 85.89 37 *eP* **P 01 47 20.6 +0.6**
comp=Z,55nm,1.4s,baz=291,slow=4.9
SSRD Sdr. Stenderup 85.90 34 *i* P **P 01 47 18.7 -1.2**
SSRD IAmb IAmb 01 47 23.2
comp=Z,980nm,3.7s

KTK1 Kautokeino 85.92 19 *eP* **P 01 47 21.4 +1.6**
KTK1 IAmb IAmb 01 47 23.4
comp=Z,72nm,1.8s

SSB Saint Sauveur 85.97 44 IAmb IAmb 01 47 22.6
comp=Z,34nm,1.7s

HFS Hagfors 86.24 28 P **P 01 47 23.2 +1.7**
comp=Z,5.6nm,0.6s,baz=279,slow=3.9,SNR=28
HFS LR LR 02 25 19.1
comp=Z,438nm,20.0s,baz=276,slow=35
comp=Z,5.6nm,0.6s

ARA0 ARCESS Array S 86.33 18 *eP* **P 01 47 22.9 +1.1**
ARA0 IAmb IAmb 01 47 26.1
comp=Z,58nm,1.7s

ARCES ARCESS Array B 86.33 18 P **P 01 47 24.5 +2.7**
ARCES ARCESS Array B 86.33 18 P **P 01 47 23.9 +2.1**
comp=Z,3.0nm,0.4s,baz=290,slow=4.0,SNR=43
ARCES LR LR 02 25 06.6
comp=Z,395nm,22.0s,baz=296,slow=35
comp=Z,3.0nm,0.4s

ARCES ARCESS Array B 86.33 18 P **P 01 47 24.5 +2.7**
ARCES pmax pmax
comp=Z,48nm,1.8s

KASTN Kahler Asten 86.63 38 *eP* **P 01 47 24.2 +0.5**
comp=Z,37nm,1.4s,baz=291,slow=4.9
RETH Rethem/Aller, 86.67 36 *eP* **P 01 47 25.0 +1.3**
comp=Z,29nm,1.0s,baz=291,slow=4.9
BSEG Bad Segeberg 86.80 35 *eP* **P 01 47 25.4 +1.0**
comp=Z,27nm,0.8s,baz=291,slow=4.9
TNS Taunus Mts 86.97 39 *eP* **P 01 47 26.0 +0.6**
comp=Z,26nm,0.8s,baz=291,slow=4.9
NRDL Niedersach Rie 87.19 36 *eP* **P 01 47 27.2 +1.0**
comp=Z,20nm,1.0s,baz=291,slow=4.9
SEY Seymchan 87.24 335 LR LR 02 29 10.6
comp=Z,180nm,19.6s,baz=55,slow=38
SEY Seymchan 87.24 335↓ *eP* **P 01 47 26.3 -0.1**
SEY pmax pmax
comp=Z,7.0nm,1.2s

COP Copenhagen 87.31 33 *i* P **P 01 47 27.0 +0.1**
GTTG Gottingen 87.43 37 *eP* **P 01 47 28.4 +0.9**
comp=Z,22nm,0.8s,baz=291,slow=4.9
BNI Bardonecchia 87.48 44 IAmb IAmb 01 47 31.6
comp=Z,17nm,1.1s

BFO Black Forest 87.52 41 P **P 01 47 28.9 +0.8**
BFO IAmb IAmb 01 47 29.9
comp=Z,17nm,1.3s

BFO Black Forest 87.52 41 P **P 01 47 28.9 +0.8**
BFO pmax pmax
comp=Z,17nm,1.3s

BFO Black Forest 87.52 41 *eP* **P 01 47 27.7 -0.4**
comp=Z,16nm,1.3s,baz=291,slow=4.9
CLZ Clausthal 87.57 37 *eP* **P 01 47 29.2 +1.0**
comp=Z,94nm,2.0s,baz=291,slow=4.9
ASSE Asse, Remlinge 87.64 37 *eP* **P 01 47 29.5 +1.1**
comp=Z,29nm,1.2s,baz=291,slow=4.9
GORT1 Trebel 87.69 36 *eP* **P 01 47 29.6 +1.0**
comp=Z,27nm,1.4s,baz=291,slow=4.9
UBBA Unterbreizbach 87.70 38 *eP* **P 01 47 29.5 +0.8**
comp=Z,51nm,1.8s,baz=291,slow=4.9
FLTG Flechtingen 87.89 36 *eP* **P 01 47 30.3 +0.6**
comp=Z,41nm,1.5s,baz=291,slow=4.9
DBIC Dimbokro 87.95 84 P **P 01 47 30.5 -0.2**
DBIC IAmb IAmb 01 47 32.6
comp=Z,13nm,0.9s

DBIC Dimbokro 87.95 84 P **P 01 47 31.6 +0.9**
comp=Z,8.8nm,0.8s,baz=309,slow=3.9,SNR=12
DBIC LR LR 02 24 39.6
comp=Z,238nm,20.2s,baz=330,slow=34
comp=Z,8.8nm,0.8s

DBIC Dimbokro 87.95 84 P **P 01 47 30.5 -0.2**
DBIC pmax pmax
comp=Z,13nm,1.0s

PET Petropavlovsk 88.32 325 *eP* **P 01 47 30.2 -1.5**
PET *eS* **S 01 58 13.0 -3.5**
PET *eSS* **SS 02 04 02.1 -3.1**
PET MLR MLR
comp=Z,200nm,19.0s

PET MLR MLR
comp=Z,100nm,19.0s

MOX Moxa 88.72 38 *eP* **P 01 47 34.6 +0.8**
comp=Z,55nm,2.1s,baz=291,slow=4.9
MOX *eL* L 02 27 40.1
comp=Z,320nm,20.7s

TUE Stuetta 88.79 42 IAmb IAmb 01 47 37.2
comp=Z,12nm,0.9s

PETK Petropavlovsk- 88.82 325 LR LR 02 26 32.9
comp=Z,130nm,19.3s,baz=48,slow=35
GRF Grafenberg Arr 88.84 39 *eP* **P 01 47 35.4 +1.1**
comp=Z,32nm,1.3s,baz=291,slow=4.9
GRF *eL* L 02 24 34.3
comp=Z,466nm,21.6s

GRFO Grafenberg 88.84 39 P **P 01 47 35.1 +0.9**
GRFO Grafenberg 88.84 39 P **P 01 47 35.1 +0.9**
GRFO pmax pmax
comp=Z,27nm,1.3s

BSD Bornholm Skovb 88.84 33 *i* P **P 01 47 32.7 -1.4**
DAVA Damuels 88.85 41 *i* PcP **P 01 47 35.7 +1.1**
comp=Z,16nm,0.9s,SNR=11
DAVOX Davos/Dischmat 89.03 42 LR LR 02 23 26.2
comp=Z,354nm,21.7s,baz=279,slow=33
TIXI Tiksi 89.19 347 LR LR 02 34 24.3
comp=Z,180nm,18.4s,baz=38,slow=40
MANZ Manzenberg 89.26 38 *eP* **P 01 47 37.1 +0.8**
comp=Z,12nm,2.3s,baz=291,slow=4.9
CLL Collm 89.29 37 IAmb IAmb 01 47 51.3
comp=Z,30nm,2.0s
CLL Collm 89.29 37↑ *iP* **P 01 47 37.7 +1.4**
CLL *i* 01 47 49.1
CLL *eS* **S 01 58 29.0 +3.3**
CLL pmax pmax
comp=Z,33nm,2.0s

CLL MLR MLR
comp=Z,400nm,19.9s

CLL Collm 89.29 37↑ *iP* **P 01 47 37.7 +1.4**
comp=Z,33nm,2.0s

CLL *i* x 01 47 49.1
CLL *ePP* **PP 01 51 10.0 +3.4**
CLL *ePPPP* 01 54 34.0
CLL *eSKKSac* **SKKSac 01 58 12.0 -6.3**
CLL *eS* **S 01 58 29.0 +3.3**
CLL *ePS* **PnS 01 59 23.0 -7.8**
CLL *eSPP* SPP 01 59 51.0
CLL AMS AMS 02 27 00.0
comp=Z,400nm,19.9s

CLL Collm 89.29 37 *eP* **P 01 47 37.3 +0.9**
comp=Z,4.1nm,0.9s,baz=291,slow=4.9
TANN Tannenbergstha 89.31 38 *eP* **P 01 47 37.4 +0.8**
comp=Z,34nm,1.9s,baz=291,slow=4.9
FUORN Ofenpass-Fuorn 89.33 42 IAmb IAmb 01 47 39.8
comp=Z,12nm,0.8s

RETA Reutte 89.34 41 *i* PcP **P 01 47 37.4 +0.6**
comp=Z,17nm,1.4s,SNR=8.1

ROTZ Rotzenmuhle 89.40 38 *eP* **P 01 47 38.1 +1.2**
comp=Z,1.6nm,1.1s,baz=291,slow=4.9
FETA Feichten 89.49 41 *i* PcP **P 01 47 39.0 +1.5**
comp=Z,5.4nm,0.7s,SNR=6.3
MA2 Magadan 89.50 332 LR LR 02 30 16.5
comp=Z,150nm,19.2s,baz=57,slow=37
MOTA Moosalm 89.61 41 *i* PcP **P 01 47 39.0 +0.8**
comp=Z,7.5nm,0.9s,SNR=5.5
MSSA Maissana 89.64 44 IAmb IAmb 01 47 40.4
comp=Z,21nm,1.1s
SQTA Sankt Quirin 89.72 41 *i* PcP **P 01 47 38.8 +0.2**
comp=Z,4.2nm,1.2s
WATA Walderalm 89.91 41 *i* pP **P 01 47 41.9 +2.4**
comp=Z,9.6nm,1.6s
WTTA Wattenberg 89.98 41 *epP* **P 01 47 43.2 +3.3**
comp=Z,3.9nm,1.2s
BRG Berggiesshubel 90.00 37 *eP* **P 01 47 41.2 +1.5**
BRG Amp 01 47 42.8
comp=Z,4.9nm,0.9s
BRG Berggiesshubel 90.00 37 PP PP 01 51 12.0 -0.3
BRG Berggiesshubel 90.00 37 S **S 01 58 39.0 +6.6**
WET Wettzell 90.04 39 *eP* **P 01 47 41.0 +1.0**
baz=291,slow=4.9
KHC Kasperske Hory 90.47 39 *eP* **P 01 47 43.7 +1.7**
KHC *ex* x 01 47 54.4
KHC *eSKS* **SKSac 01 58 07.6 -5.7**
KHC AMS AMS 02 25 40.0
comp=Z,600nm,21.1s
KHC Kasperske Hory 90.47 39 *deP* **P 01 47 43.0 +1.0**
KHC pmax pmax
comp=Z,5.0nm,0.9s
PVCC Panska Ves 90.51 37 AMS AMS 02 28 10.0
comp=Z,400nm,15.5s
LESA Schwarzleotal 90.58 40 *i* pP **P 01 47 44.3 +1.8**
comp=Z,2.6nm,0.8s
PRA Prague 90.61 38 AMS AMS 02 30 10.0
comp=Z,400nm,18.1s
GERES GERESS Array B 90.66 39 P **P 01 47 43.0 0.0**
GERES GERESS Array B 90.66 39 P **P 01 47 43.8 +0.9**
comp=Z,2.9nm,0.8s,baz=304,slow=3.1,SNR=26
GERES LR LR 02 29 08.9
comp=Z,410nm,19.1s,baz=278,slow=36
comp=Z,2.9nm,0.8s
PRU Pruhonice 90.71 38 *eP* **P 01 47 45.5 +2.5**
PRU AMS AMS 02 30 40.0
comp=Z,500nm,56.0s
PRU Pruhonice 90.71 38 *eP* **P 01 47 45.5 +2.5**
PRU MLR MLR
comp=Z,500nm,56.0s
ZVC Zvikov 90.72 38 *eP* **P 01 47 45.3 +2.2**
ZVC *ex* x 01 47 55.4
ZVC AMS AMS 02 27 30.0
comp=Z,500nm,19.0s
ABTA Abfaltersbach 90.73 41 *i* P **P 01 47 43.1 -0.1**
comp=Z,6.9nm,1.0s
GOPC GO Pecny, Ondr 90.89 38 AMS AMS 02 30 50.0
comp=Z,300nm,17.3s
FINES FINESS Array B 90.97 24 P **P 01 47 45.7 +1.7**
FINES FINESS Array B 90.97 24 P **P 01 47 45.0 +1.1**
comp=Z,3.5nm,0.6s,baz=313,slow=1.6,SNR=40
FINES LR LR 02 28 38.1
comp=Z,272nm,20.5s,baz=300,slow=36
comp=Z,3.5nm,0.6s
FINES FINESS Array B 90.97 24 P **P 01 47 45.7 +1.7**
STAL STALIGIAL 91.04 42 IAmb IAmb 01 47 46.8
comp=Z,10nm,1.0s
CKRC Cesky Krumlov 91.04 39 *eSKS* **SKSac 01 58 14.6 -2.0**
CKRC AMS AMS 02 25 20.0
comp=Z,500nm,21.3s
BIOA Bad Ischl, Aus 91.07 40 *i* pP **P 01 47 46.4 +1.6**
comp=Z,3.7nm,0.9s
KBA Koelnbreinsper 91.13 41 *i* pP **P 01 47 46.9 +1.6**
comp=Z,4.9nm,1.1s
CHVC Chvalec 91.35 37 *eP* **P 01 47 48.6 +2.6**
CHVC AMS AMS 02 28 20.0
comp=Z,500nm,21.1s
CHVC Chvalec 91.35 37 *eP* **P 01 47 48.6 +2.6**
CHVC MLR MLR
comp=Z,500nm,21.1s
UPC Upice 91.36 37 AMS AMS 02 28 20.0
comp=Z,500nm,21.7s
MOA Molln 91.40 40 *i* pP **P 01 47 47.9 +1.6**
comp=Z,3.9nm,0.7s
RAO Raoul Island 91.45 240 LR LR 02 18 21.3
comp=Z,140nm,21.1s,baz=83,slow=29
OSTC Ostas 91.45 37 *eP* **P 01 47 47.3 +0.8**
OSTC *ex* x 01 47 58.7
OSTC *eSKS* **SKSac 01 58 18.9 +0.1**
OSTC AMS AMS 02 28 20.0
comp=Z,500nm,22.3s
OSTC Ostas 91.45 37 *eP* **P 01 47 47.3 +0.8**
OSTC *e* 01 47 58.7
OSTC *e* 01 58 18.9
OSTC MLR MLR
comp=Z,500nm,22.3s
MYKA Terra Mystica 91.49 41 *epP* **P 01 47 48.8 +1.9**
comp=Z,1.6nm,0.5s
PRED Cave del Predi 91.51 41 IAmb IAmb 01 47 49.2
comp=Z,6.4nm,0.8s
TREC Trest 91.55 38 AMS AMS 02 28 10.0
comp=Z,400nm,18.3s
DPC Dobruska-Polom 91.60 37 *eP* **P 01 47 48.3 +1.1**
DPC *ex* x 01 47 59.6
DPC *eSKS* **SKSac 01 58 16.9 -2.9**
DPC AMS AMS 02 30 20.0
comp=Z,300nm,17.3s
DPC Dobruska-Polom 91.60 37 *eP* **P 01 47 48.3 +1.1**
DPC *e* 01 47 59.6
DPC *e* 01 58 16.9
DPC MLR MLR
comp=Z,300nm,17.3s
KRLC Kraliky 91.99 37 *eP* **P 01 47 51.7 +2.7**
KRLC AMS AMS 02 34 10.0
comp=Z,300nm,18.0s
KRLC Kraliky 91.99 37 *eP* **P 01 47 51.7 +2.7**
KRLC MLR MLR
comp=Z,300nm,18.0s
MSVF Nonsavu 92.03 252↓ *eP* **P 01 47 52.0 +2.2**
MSVF pmax pmax
comp=Z,25nm,1.4s
OBKA Obir 92.11 41 *epP* **P 01 47 51.8 +2.1**
comp=Z,6.0nm,1.0s
KRUC Moravsky 92.19 38 *eP* **P 01 47 51.2 +1.3**
VRAC Vranov 92.20 38 *eP* **P 01 47 51.3 +1.3**
VRAC Vranov 92.20 38 LR LR 02 29 28.4
comp=Z,289nm,19.4s,baz=292,slow=36
CESX Cesi 92.33 45 IAmb IAmb 01 47 52.5
comp=Z,12nm,1.0s
CONA Conrad Observa 92.35 39 *eP* **P 01 47 49.9 -0.9**
comp=Z,3.4nm,1.1s
SOKA Soboth 92.35 41 *ePcP* **P 01 47 52.2 +1.4**
comp=Z,2.3nm,0.6s
ARSA Arzberg 92.42 40 *i* PcP **P 01 47 52.3 +1.3**
comp=Z,2.4nm,0.8s
KEST Kesra 92.43 52 IAmb IAmb 01 47 53.8
comp=Z,14nm,1.1s
KEST Kesra 92.43 52 P **P 01 47 51.4 0.0**
comp=Z,7.8nm,0.9s,baz=274,slow=4.6,SNR=12
KEST LR LR 02 28 11.6
comp=Z,187nm,18.2s,baz=334,slow=35
comp=Z,7.8nm,0.9s
FDMO Fiordimonte 92.51 44 IAmb IAmb 01 47 53.5
comp=Z,9.9nm,0.9s
TORD Torodi Ar. Bea 92.55 76 P **P 01 47 52.5 +0.3**
comp=Z,1.4nm,0.6s,baz=291,slow=4.3,SNR=5.1
TORD LR LR 02 26 05.5
comp=Z,239nm,21.7s,baz=286,slow=33
MORC Moravsky Berou 92.56 37 IAmb IAmb 01 47 54.9
comp=Z,8.0nm,1.2s
MORC Moravsky Berou 92.56 37 *eP* **P 01 47 53.2 +1.5**
RONA Rosalia, Austr 92.71 39 *i* PcP **P 01 47 53.4 +1.0**
comp=Z,6.9nm,1.3s
OKC Ostrava-Krasne 92.88 37 AMS AMS 02 31 40.0
comp=Z,300nm,19.7s
MAUC Maruska 92.91 37 *eP* **P 01 47 54.9 +1.6**
MODS Modra-Piesok 93.02 38 *eP* **P 01 47 54.9 +1.1**
MODS Modra-Piesok 93.02 38 *eP* **P 01 47 54.9 +1.1**
JAVC Velka Javorina 93.04 38 *eP* **P 01 47 55.4 +1.5**
VYHS Vyhne 93.89 38 *eP* **P 01 48 00.8 +3.0**
VYHS Vyhne 93.89 38 *eP* **P 01 48 00.8 +3.0**
PSZ Piszkesteto 94.79 38 IAmb IAmb 01 48 17.6
comp=Z,14nm,1.2s
VAE Valguarnera 95.59 49 LR LR 02 31 01.4
comp=Z,538nm,18.0s,baz=325,slow=35
MNK Minsk 95.68 30 *i* P **P 01 48 05.1 -0.7**
MNK *i* PPP PPP 01 53 58.5

MNK					*i* S		**SKSac**	**01 58 40.4**	**-1.3**
MNK					*i* PS		**PS**	**02 00 44.2**	**+2.2**
MNK					*i* SS		**SS**	**02 05 52.3**	**+1.6**
MNK					*i* SSS		SSS	02 09 35.6	
MNK					pmax		pmax		
	comp=Z,10.0nm,0.9s								
MNK					MLR		MLR		
	comp=E,112nm,19.0s								
MNK					MLR		MLR		
	comp=N,226nm,16.0s								
MNK					MLR		MLR		
	comp=Z,486nm,20.0s								
KOLS	**Kolonicke sedl**	**95.69**	**36**	*e*P		**P**	**01 48 09.1**	**+3.1**	
KOLS	**Kolonicke sedl**	**95.69**	**36**	*e*P		**P**	**01 48 09.1**	**+3.1**	
YAK	**Yakutsk**	**96.15**	**341**	LR		LR	02 36 44.2		
	comp=Z,184nm,18.5s,baz=30,slow=39								
NRIK	**Noril'sk**	**96.29**	**359**	LR		LR	02 37 45.2		
	comp=Z,165nm,18.5s,baz=6.5,slow=39								
NRIK	**Noril'sk**	**96.29**	**359**	*e*P		**P**	**01 48 09.2**	**+0.9**	
NRIK					pmax		pmax		
	comp=Z,7.0nm,1.5s								
KLMR	**Klimovskoe**	**96.37**	**21**	*e*P		**P**	**01 48 06.6**	**-2.2**	
KLMR					pmax		pmax		
	comp=Z,17nm,1.7s								
URZ	**Urewera**	**97.67**	**233**	LR		LR	02 21 52.2		
	comp=Z,108nm,19.7s,baz=82,slow=29								
AKASG	**Malin Array Be**	**98.53**	**32**	P		P	**01 48 19.4**	**+0.6**	
	comp=Z,0.6nm,0.5s,baz=281,slow=4.2,SNR=4.3								
AKASG					PP		**PP**	**01 52 16.2**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=308,slow=7.6,SNR=4.4								
AKASG					LR		LR	02 35 12.2	
	comp=Z,204nm,18.5s,baz=300,slow=37								
	comp=Z,0.6nm,0.5s								
AKASG	**Malin Array Be**	**98.53**	**32**	*i* P		**P**	**01 48 19.3**	**+0.5**	
AKASG					pmax		pmax		
	comp=Z,1.0nm,0.6s								
AKBB	**Malin Array Si**	**98.53**	**32**	*e*P		**P**	**01 48 19.7**	**+0.9**	
OBN	**Obninsk**	**99.23**	**26**	LR		LR	02 32 41.4		
	comp=Z,435nm,20.8s,baz=232,slow=35								
OBN	**Obninsk**	**99.23**	**26**	*e*P		**Pdif**	**01 48 23.3**	**+1.6**	
OBN					e			01 52 21.1	
OBN					*e*S		**SKSac**	**01 59 00.4**	**+0.5**
OBN					pmax		pmax		
	comp=Z,4.0nm,0.7s								
OBN					MLR		MLR		
	comp=Z,412nm,20.0s								
MLR	**Muntele Rosu**	**99.60**	**38**	LR		LR	02 33 58.5		
	comp=Z,247nm,19.8s,baz=288,slow=36								
DZM	**Mont Dzumac**	**103.62**	**250**	*e*LR		LR	02 22 43.7		
	comp=Z,467nm,23.2s								
ZALV	**Zalesovo Beam**	**111.75**	**0**	PP		**PP**	**01 53 55.4**	**-0.6**	
	comp=Z,0.5nm,0.3s,baz=335,slow=9.7,SNR=6.8								
KURK	**Kurchatov**	**114.71**	**5**	PKIKP		**PKiKP**	**01 53 20.8**	**+0.2**	
KURBB	**Kurchatov Arra**	**114.79**	**5**	PKP		**PKiKP**	**01 53 20.8**	**+0.1**	
	comp=Z,0.4nm,0.7s,baz=359,slow=2.1,SNR=6.3								
KURBB					PP		**PP**	**01 54 18.2**	**+0.6**
	comp=Z,2.7nm,1.1s,baz=350,slow=6.2,SNR=8.5								
SONM	**Songino Array**	**115.14**	**345**	PP		**PP**	**01 54 20.1**	**-0.3**	
	comp=Z,0.6nm,0.8s,baz=26,slow=6.9,SNR=4.0								
SYO	**Syowa Base**	**118.41**	**163**	*e*PPdiff		pPdif	01 49 51.2	+2.2	
SYO	**Syowa Base**	**118.41**	**163**	*e*PKiKP		**PKiKP**	**01 53 29.8**	**+2.7**	
MKAR	**Makanchi Array**	**118.85**	**3**	PKP		**PKPdf**	**01 53 27.8**	**-1.0**	
	comp=Z,0.3nm,0.6s,baz=25,slow=4.3,SNR=4.7								
MKAR					PP		**PP**	**01 54 43.8**	**-2.2**
	comp=Z,1.3nm,0.9s,baz=16,slow=6.2,SNR=5.0								
HHC	**Hu-ho-hao-te**	**119.81**	**337**	*e*P		**PKPdf**	**01 53 26.8**	**-4.1**	
HHC					LR		LR		
	comp=N,160nm,18.6s								
HHC					LR		LR		
	comp=E,150nm,19.4s								
HHC					LR		LR		
	comp=Z,200nm,19.1s								
WMQ	**Urumqi**	**121.86**	**358**	*e*PKP		**PKPdf**	**01 53 35.6**	**+0.9**	
WMQ					LR		LR		
	comp=Z,270nm,24.0s								
BOSA	**Boshof**	**122.75**	**115**	PKP		**PKPdf**	**01 53 35.6**	**-1.2**	
	comp=Z,2.5nm,0.8s,baz=235,slow=12,SNR=4.3								
TARG	**Taragay, Kyrgy**	**123.53**	**7**			**PKPdf**	**01 53 39.2**	**+0.8**	
TARG	**Taragay, Kyrgy**	**123.53**	**7**	PKIKP		**PKPdf**	**01 53 39.2**	**+0.8**	
NJ2	**Nanjing**	**123.72**	**326**	*e*P		**PKPdf**	**01 53 38.5**	**0.0**	
NJ2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
GTA	**Gaotai**	**124.67**	**347**	PKP		**PKPdf**	**01 53 40.4**	**+0.1**	
GTA				sPKP			01 53 49.7		
MAW	**Mawson**	**124.98**	**170**	PKP		**PKPdf**	**01 53 39.7**	**0.0**	
	comp=Z,0.9nm,0.7s,baz=190,slow=6.1,SNR=4.3								
STKA	**Stephens Creek**	**126.27**	**241**	PKP		**PKPdf**	**01 53 43.2**	**0.0**	
	comp=Z,7.3nm,0.9s,baz=115,slow=2.8,SNR=5.0								
XAN	**Xi'an**	**126.78**	**336**	*e*PKP		**PKPdf**	**01 53 44.9**	**+0.5**	
XAN					LR		LR		
	comp=N,260nm,19.2s								
XAN					LR		LR		
	comp=E,280nm,19.0s								
XAN					LR		LR		
	comp=Z,200nm,23.4s								
WRA	**Warramunga Arr**	**133.23**	**256**	PKP		**PKPdf**	**01 53 56.6**	**-0.2**	
	comp=Z,3.6nm,0.9s,baz=82,slow=2.3,SNR=22								
ASAR	**Alice Springs**	**133.61**	**251**			**PKPdf**	**01 53 57.2**	**-0.4**	
ASAR	**Alice Springs**	**133.61**	**251**	PKP		**PKPdf**	**01 53 57.9**	**+0.4**	
	comp=Z,1.2nm,0.8s,baz=94,slow=2.2,SNR=8.4								
PZH	**PanZhiHua**	**136.24**	**339**	PKP		**PKPdf**	**01 54 02.7**	**+0.2**	
FITZ	**Fitzroy Crossi**	**141.42**	**259**	PKhKP		PKPpre	01 54 07.4		
	comp=Z,4.8nm,1.0s,baz=108,slow=3.2,SNR=2.7								
UBPT	**Khong Chiam**	**144.39**	**326**			**PKPab**	**01 54 16.6**	**+1.2**	
CMAR	**Chiang Mai Arr**	**144.62**	**338**			**PKPab**	**01 54 15.8**	**-0.3**	
CMAR	**Chiang Mai Arr**	**144.62**	**338**	PKP		**PKPab**	**01 54 16.2**	**+0.1**	
	comp=Z,5.6nm,0.8s,baz=345,slow=3.7,SNR=28								
KAPI	**Kappang**	**145.03**	**282**	PKPbc		**PKPab**	**01 54 18.0**	**+0.2**	
	comp=Z,14nm,0.7s,baz=104,slow=4.2,SNR=5.7								
NWAO	**Narrogin (SRO)**	**145.92**	**232**			**PKPdf**	**01 54 20.6**	**+1.1**	
NWAO	**Narrogin (SRO)**	**145.92**	**232**	PKP2		**PKPdf**	**01 54 20.6**	**+1.1**	
MBWA	**Marble Bar**	**146.86**	**254**			**PKPbc**	**01 54 23.2**	**-0.1**	
HYB	**Hyderabad**	**147.47**	**12**	*e*PKPdf		**PKPdf**	**01 54 22.9**	**+0.3**	
KSM	**Kuching**	**150.76**	**301**			**PKPbc**	**01 54 33.9**	**+0.3**	

***IDC* 12 01:45:18.5±2.1, 32°.03S×178°.07W, *h*0km, mb3.5/3, mbtmp3.5/4, ML2.7/1, MS3.9/2, Error ellipse: s-maj=47.6km s-min=34.9km az=89.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.36**	**211**	Pn	Pn	01 47 05.1	-2.0
URZ	0.1nm,0.3s,baz=41,slow=9.3,SNR=2.1			Sn	Sn	01 48 32.8	+1.3
	0.6nm,0.3s,baz=86,slow=18,SNR=6.1						
	5.4nm,1.0s						
ASAR	**Alice Springs**	**42.99**	**269**	P	P	01 53 19.9	+0.2
	0.3nm,0.5s,baz=101,slow=7.9,SNR=1.9						
ASAR				LR	LR	02 11 42.8	
	comp=Z,54nm,18.0s,baz=329,slow=37						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.12**	**274**	P	P	01 53 29.0	+0.1
	0.2nm,0.4s,baz=115,slow=8.1,SNR=4.6						
	0.2nm,0.4s						
QSPA	**South Pole Qui**	**58.08**	**180**	P	P	01 55 13.8	+0.4
	0.8nm,0.9s,baz=59,slow=3.7,SNR=1.4						
	0.8nm,0.9s						
SNAA	**Sanae**	**76.53**	**178**	LR	LR	02 28 29.9	
	comp=Z,149nm,19.4s,baz=278,slow=34						
FINES	**FINESS Array B**	**146.65**	**339**	PKPbc	PKPdf	02 05 00.0	+0.3
	0.4nm,0.5s,baz=40,slow=2.4,SNR=3.7						

NEIC ***12*** *02:18:29.9±0.9, 36°.18N±0°.01×117°.87W±0°.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.7km az=57.0*
PAS ***12*** *02:18:30.1±0.8, 36°.180N±0°.004×117°.89W±0°.02, h1km±2km, Mwr3.7/4, ML3.4/130(NEIC), Error ellipse: s-maj=2.4km s-min=0.5km az=84.0*
IDC ***12*** *02:18:30.9±0.8, 36°.19N×117°.84W, h0km, mb3.8/2, mbtmp3.3/7, ML3.1/4, Error ellipse: s-maj=16.8km s-min=5.9km az=74.0*

ISC 12 02:18:31.6±0.7, 36°.17N±0°.02×117°.87W±0°.03, h10km, n68, σ1s43/63, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MFS	**McCloud Flat S**	**0.05**	**167**		**Pg**	**02 18 31.7**	**-2.1**
WRVM	**Rose V. Centra**	**0.16**	**186**		**Pg**	**02 18 33.7**	**-1.5**
WRVM					**Sg**	**02 18 36.4**	**-1.2**
WCSM	**Coso Springs S**	**0.16**	**150**		**Sg**	**02 18 36.8**	**-0.9**
JRC2	**Joshua Ridge**	**0.19**	**165**		**Pg**	**02 18 34.4**	**-1.4**
WVPM	**Volcano Peak E**	**0.22**	**169**		**Pg**	**02 18 34.9**	**-1.4**
CWC	**Cottonwood Cre**	**0.32**	**328**		**Pg**	**02 18 36.1**	**-2.0**
CWC					IAML	02 18 41.0	
	comp=N,6μm,0.2s						
WNMM	**Nine Mile Cany**	**0.32**	**185**		**Pg**	**02 18 36.6**	**-1.5**
MPMC	**Manual Prospec**	**0.33**	**109**		**Pg**	**02 18 36.8**	**-1.5**
MPMC					IAML	02 18 43.5	
	comp=N,3μm,0.7s						
MPMC					IAML	02 18 45.3	
	comp=E,4μm,1.0s						
TOW	**Tower One**	**0.37**	**167**		**Pg**	**02 18 38.0**	**-0.9**
CGO	**Cerro Gordo**	**0.39**	**8**		**Pg**	**02 18 37.4**	**-2.0**
CGO					**Sg**	**02 18 43.5**	**-1.1**
SRTC	**Snort**	**0.48**	**168**		**Pg**	**02 18 40.3**	**-0.8**
WORM	**Onyx Ranch**	**0.56**	**213**		**Pg**	**02 18 40.8**	**-1.7**
LRMC	**Laurel Mtn Rad**	**0.70**	**167**		**Pg**	**02 18 43.8**	**-1.5**
LRMC					**Sg**	**02 18 53.7**	**-0.7**
LRMC					IAML	02 18 54.1	
	comp=E,2μm,0.6s						
ISA	**Isabella, Lake**	**0.70**	**225**		**Pg**	**02 18 43.5**	**-1.7**
ISA					IAML	02 18 53.4	
	comp=E,2μm,0.3s						
SPG2	**Springville 2**	**0.73**	**273**		**Pg**	**02 18 43.7**	**-2.0**
QSM	**Queen of Sheba**	**0.83**	**104**	IAML		02 19 01.9	
	comp=N,2μm,0.7s						
QSM					IAML	02 19 05.6	
	comp=E,2μm,0.7s						
GRAC	**Grapevine Rang**	**0.92**	**26**		**Pg**	**02 18 47.4**	**-1.9**
GRAC					IAML	02 19 03.1	
	comp=N,2μm,1.0s						
GRAC					IAML	02 19 05.2	
	comp=E,1μm,0.5s						
TIN	**Tinemaha, Big**	**0.93**	**342**		**Pg**	**02 18 47.6**	**-1.9**
GWY	**Greenwater Val**	**0.97**	**89**		**Pg**	**02 18 48.8**	**-1.6**
GWY					IAML	02 19 05.4	
	comp=N,1μm,0.6s						
GWY					IAML	02 19 11.7	
	comp=E,1μm,0.8s						
WCT	**Wildcat Mounta**	**1.18**	**58**		**Pb**	**02 18 52.1**	**-2.0**
WCT					IAML	02 19 11.7	
	comp=N,632nm,0.9s						
GSC	**Goldstone, Bar**	**1.22**	**135**		**Pn**	**02 18 53.2**	**-1.7**
GSC					IAML	02 19 12.6	
	comp=E,798nm,0.5s						
GSC					IAML	02 19 14.0	
	comp=N,590nm,0.4s						
GMN	**Gold Mountain**	**1.23**	**23**		**Pb**	**02 18 52.9**	**-2.2**
GMN					IAML	02 19 13.1	
	comp=E,463nm,0.6s						
GMN					IAML	02 19 16.8	
	comp=N,412nm,0.6s						
TPO	**Tropico Hills**	**1.32**	**193**		**Pn**	**02 18 54.7**	**-1.5**
TPO					IAML	02 19 16.0	
	comp=E,712nm,0.6s						
TPO					IAML	02 19 22.8	
	comp=N,527nm,0.5s						
TPNV	**Topopah Spring**	**1.52**	**59**		**Pn**	**02 18 57.9**	**-1.1**
TPNV					IAML	02 19 24.9	
	comp=N,614nm,1.1s						
TPNV					IAML	02 19 27.6	
	comp=N,522nm,0.7s						
KCC	**Kaiser Creek**	**1.64**	**315**		**Pn**	**02 18 59.9**	**-0.7**
MLAC	**Mammoth, Mammo**	**1.65**	**332**		**Pn**	**02 19 00.8**	**-0.2**
OSI	**Osito Audit: C**	**1.70**	**205**		**Pb**	**02 19 02.0**	**-1.0**
CRGC	**Crocker Grade**	**1.77**	**239**		**Pb**	**02 19 02.8**	**-1.4**
BFSC	**Mount Baldy Ra**	**1.93**	**175**		**Pn**	**02 19 04.9**	**+0.3**
BFSC					IAML	02 19 33.5	
	comp=E,330nm,0.6s						
BFSC					IAML	02 19 36.8	
	comp=N,191nm,0.6s						
MWC	**Mount Wilson**	**1.94**	**185**		**Pn**	**02 19 05.3**	**+0.4**
MWC					IAML	02 19 33.8	
	comp=E,352nm,0.5s						
MWC					IAML	02 19 34.7	
	comp=N,384nm,0.4s						
MTPC	**Mountain Pass**	**2.00**	**109**		**Pn**	**02 19 04.5**	**-1.2**
MTPC					IAML	02 19 37.4	
	comp=N,229nm,0.7s						
MTPC					IAML	02 19 38.7	
	comp=E,237nm,1.0s						
PASC	**Pasadena Art C**	**2.01**	**188**		**Pb**	**02 19 06.4**	**-1.8**
PASC					IAML	02 19 37.6	
	comp=E,199nm,0.6s						
LHV	**Little Huntoon**	**2.14**	**346**	IAML		02 19 44.0	
	comp=E,210nm,1.3s						
LHV					IAML	02 19 52.9	
	comp=N,222nm,0.9s						
SHPR	**Sheep Range**	**2.21**	**80**		**Pn**	**02 19 08.1**	**-0.5**
NV11	**Mina Array Sit**	**2.27**	**354**		**Pn**	**02 19 08.8**	**-0.6**
NVAR	**Mina Array Bea**	**2.29**	**351**	Pn	**Pn**	**02 19 08.9**	**-0.7**
	comp=N,4.7nm,0.3s,baz=176,slow=13,SNR=51						
NVAR				Lg	Lg	02 19 43.1	
	comp=N,9.5nm,0.3s,baz=202,slow=16,SNR=4.7						
	comp=N,20nm,0.6s						
PMPB	**Monarch Peak**	**2.37**	**272**		**Pn**	**02 19 11.2**	**+0.5**
MYLM	**Yosemite Lake**	**2.38**	**301**		**Pb**	**02 19 12.4**	**-2.2**
V12A	**Nelson**	**2.49**	**99**		**Pn**	**02 19 11.0**	**-1.3**
V12A					IAML	02 19 59.4	
	comp=N,114nm,0.8s						
RAMR	**Ramage Ranch**	**2.49**	**259**		**Pn**	**02 19 12.7**	**+0.5**
ELS	**Elsinore Mount**	**2.54**	**172**		**Pn**	**02 19 12.5**	**-0.5**
WAKR	**Walker**	**2.65**	**332**		**Pn**	**02 19 13.8**	**-0.7**
WAKR					IAML	02 20 02.2	
	comp=E,128nm,0.6s						
WAKR					IAML	02 20 10.0	
	comp=N,102nm,1.2s						
PFO	**Pinyon Flats O**	**2.80**	**155**		**Pn**	**02 19 16.0**	**-0.6**
PFO	**Pinyon Flats O**	**2.80**	**155**	Pn	**Pn**	**02 19 16.6**	**+0.1**
	comp=N,0.6nm,0.3s,baz=339,slow=15,SNR=8.1						
PFO				Pg	**Pb**	**02 19 21.9**	**+0.1**
	comp=N,4.7nm,0.3s,baz=337,slow=15,SNR=30						
PFO				Lg	Lg	02 19 59.6	
	comp=N,15nm,0.3s,baz=51,slow=4.9,SNR=9.0						
	comp=N,5.3nm,0.7s						
R11B	**Troy Canyon, C**	**2.84**	**39**		**Pn**	**02 19 16.1**	**-1.1**
R11B					IAML	02 20 02.3	
	comp=E,124nm,1.0s						
SAO	**San Andreas Ge**	**2.95**	**283**		**Pn**	**02 19 19.0**	**+0.5**
DPP	**Dos Picos Cty**	**3.25**	**166**		**Pn**	**02 19 22.3**	**-0.4**
DPP					IAML	02 20 16.9	
	comp=E,59nm,0.7s						
W13A	**Hualapai Mount**	**3.42**	**107**	IAML		02 20 23.1	
	comp=E,52nm,0.8s						
W13A					IAML	02 20 33.6	
	comp=N,55nm,1.0s						
BLYC	**Blythe**	**3.66**	**130**		**Pn**	**02 19 26.5**	**-1.7**
BLYC					IAML	02 20 32.1	
	comp=N,46nm,0.7s						
BLYC					IAML	02 20 34.6	
	comp=E,44nm,0.8s						
PAHR	**Pah Rah Range**	**3.73**	**342**		**Pn**	**02 19 29.4**	**0.0**
LCMT	**Little Creek M**	**3.82**	**76**		**Pn**	**02 19 30.6**	**0.0**
CCUT	**Cedar City**	**3.87**	**68**		**Pn**	**02 19 30.6**	**-0.8**
CBX	**Cerro Bola**	**3.97**	**165**	IAML		02 20 53.7	
	comp=N,69nm,1.7s						
PSUT	**Pine Spring**	**3.98**	**52**	IAML		02 20 41.0	
	comp=N,66nm,1.0s						
SPR3	**Spring Creek 3**	**3.99**	**44**	IAML		02 20 36.6	
	comp=E,48nm,1.2s						
SPR3					IAML	02 20 39.6	
	comp=N,40nm,0.7s						
KNB	**Kanab**	**4.15**	**77**	IAML		02 20 47.6	
	comp=E,36nm,1.6s						
KNB					IAML	02 21 01.7	
	comp=N,26nm,1.6s						
U15A	**North Rim**	**4.51**	**85**	IAML		02 20 58.7	
	comp=E,40nm,1.2s						
U15A					IAML	02 21 05.6	
	comp=N,22nm,1.9s						
Y14A	**Wickenburg**	**4.57**	**118**	IAML		02 20 59.1	
	comp=N,39nm,0.7s						
Y14A					IAML	02 21 07.1	
	comp=E,44nm,0.1s						
113A	**Mohawk Valley,**	**4.79**	**134**	IAML		02 21 23.0	
	comp=E,16nm,1.0s						
ELK	**Elko**	**5.01**	**24**	Pn	**Pn**	**02 19 46.4**	**-0.8**
ELK					IAML	02 21 12.4	
	comp=E,18nm,0.8s						
ELK	**Elko**	**5.01**	**24**	Pn	**Pn**	**02 19 47.0**	**-0.2**
	comp=E,1.8nm,0.3s,baz=210,slow=15,SNR=26						
ELK				Pg	**Pb**	**02 20 01.6**	**+2.0**
	comp=E,2.3nm,0.3s,baz=205,slow=19,SNR=22						
ELK				Lg	Lg	02 21 07.8	
	comp=E,4.1nm,0.3s,baz=262,slow=18,SNR=10						
	comp=E,3.4nm,0.3s						
WUAZ	**Wupatki**	**5.32**	**95**		**Pn**	**02 19 49.4**	**-1.8**
WUAZ					IAML	02 21 22.6	
	comp=E,22nm,2.0s						
WUAZ					IAML	02 21 27.8	
	comp=E,24nm,1.0s						
YBH	**Yreka Blue Hor**	**6.72**	**327**	Pn	**Pn**	**02 20 11.7**	**+1.3**
	baz=146,slow=7.3,SNR=1.3						
YBH				Sn	**Sn**	**02 21 28.5**	**+1.5**
	baz=183,slow=5.6,SNR=2.2						
YBH				Lg	Lg	02 21 56.2	
	baz=216,slow=9.7,SNR=3.5						
PDAR	**Pinedale Array**	**9.20**	**42**	Pn	**Pn**	**02 20 47.6**	**+3.0**
	comp=E,0.2nm,0.5s,baz=237,slow=17,SNR=1.7						
ANMO	**Albuquerque**	**9.38**	**94**	Pg	Pn	02 21 22.5	+35
	comp=E,0.1nm,0.3s,baz=256,slow=16,SNR=2.7						
TXAR	**Lajitas Array**	**13.75**	**116**	Pn	**Pn**	**02 21 49.4**	**+2.7**
	baz=301,slow=13,SNR=3.9						
	comp=E,0.3nm,0.8s						
ILAR	**Eielson Array**	**33.48**	**338**	P	**P**	**02 25 12.5**	**+1.9**
	comp=E,0.3nm,0.6s,baz=151,slow=7.0,SNR=4.2						
	comp=E,0.3nm,0.6s						
BVAR	**Borovoye Array**	**90.89**	**355**	P	**P**	**02 31 37.1**	**+1.8**
	comp=E,0.4nm,0.3s						
	comp=E,0.4nm,0.3s						

MOS ***12*** *02:20:46.2±0.9, 48°.29N×155°.73E, h40km, mb4.4/1, Error ellipse: s-maj=16.4km s-min=6.3km az=76.3*
KRSC ***12*** *02:20:47.7±1.3, 48°.51N×156°.73E, h18km±25km, Ml4.4*
SKHL ***12*** *02:20:47.1±0.2, 48°.30N×155°.80E, h52km±5km, mb4.5/4*
IDC ***12*** *02:20:48.6±2.5, 48°.27N×155°.78E, h46km±22km, mb3.6/17, mbtmp3.9/20, ML3.4/3, Error ellipse: s-maj=19.9km s-min=14.1km az=140.0*

ISC 12 02:20:47.1±0.7, 48°.26N±0°.08×155°.83E±0°.09, h35km, n63, σ1s35/69, mb3.8/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.43**	**4**	*e*PN	**Pn**	**02 21 23.7**	**-0.6**
SKR				*e*S	**Sn**	**02 21 51.0**	**-1.8**
SKR				pmax	pmax		
	comp=Z,117nm,0.5s						
SKR				smax	smax		
	comp=E,769nm,0.5s						
SKR				smax	smax		
	comp=N,741nm,0.5s						
SKR	**Severo-Kuril's**	**2.43**	**4**	*e*P	**Pn**	**02 21 24.0**	**-0.3**
SKR				*e*S	**Sn**	**02 21 52.2**	**-0.6**
SKR	**Severo-Kuril's**	**2.43**	**4**	*e*P	**Pn**	**02 21 23.7**	**-0.6**
SKR				AMB	AMB	02 21 25.7	
	comp=N,110nm,0.5s						
SKR				*e*S	**Sn**	**02 21 51.0**	**-1.8**
SKR				A	A	02 21 53.7	
	comp=N,260nm,0.5s						
SKR				A	A	02 21 53.7	
	comp=N,280nm,0.5s						
PAU	**Pauzhetka**	**3.27**	**11**	*e*P	**Pn**	**02 21 36.2**	**+0.3**
PAU				AMB	AMB	02 21 38.3	
	comp=N,20nm,0.3s						
PAU				*e*S	**Sn**	**02 22 13.1**	**-0.4**
PAU				A	A	02 22 15.9	
	comp=N,230nm,0.5s						
PAU				A	A	02 22 15.9	
	comp=N,320nm,0.5s						
ASAK	**Asacha**	**4.34**	**17**	PN	**Pn**	**02 21 50.9**	**+0.4**
ASAK	**Asacha**	**4.34**	**17**	*e*P	**Pn**	**02 21 50.9**	**+0.4**
ASAK				*e*S	**Sn**	**02 22 39.1**	**-0.8**
MTVR	**Mutnovka**	**4.49**	**19**	PN	**Pn**	**02 21 52.8**	**+0.1**
MTVR	**Mutnovka**	**4.49**	**19**	*e*P	**Pn**	**02 21 52.9**	**+0.1**
MTVR				*e*S	**Sn**	**02 22 42.1**	**-1.6**
RUS	**Russkaya**	**4.52**	**21**	*e*S	**Sn**	**02 22 41.2**	**-3.0**
GRL	**Gorelyy**	**4.53**	**18**	PN	**Pn**	**02 21 53.9**	**+0.7**
GRL	**Gorelyy**	**4.53**	**18**	*e*P	**Pn**	**02 21 54.0**	**+0.7**
GRL				*e*S	**Sn**	**02 22 43.6**	**-1.1**
PETK	**Petropavlovsk-**	**5.00**	**13**	P	**Pn**	**02 21 59.5**	**-0.1**
	comp=N,1.0nm,0.3s,baz=182,slow=11,SNR=4.7						
PETK				S	**Sn**	**02 22 58.2**	**+2.2**
	comp=N,2.1nm,0.4s,baz=324,slow=14,SNR=1.4						
	comp=N,4.1nm,0.6s						
DALK	**Dalny**	**5.13**	**20**	*e*S	**Sn**	**02 22 57.5**	**-1.6**
UGLR	**Uglovaya**	**5.31**	**20**	PN	**Pn**	**02 22 05.0**	**+1.1**
UGLR	**Uglovaya**	**5.31**	**20**	*e*P	**Pn**	**02 22 05.1**	**+1.1**
KOK	**Koryaka**	**5.34**	**18**	PN	**Pn**	**02 22 05.5**	**+1.1**
KOK	**Koryaka**	**5.34**	**18**	*e*P	**Pn**	**02 22 05.6**	**+1.1**
KOK	**Koryaka**	**5.34**	**18**	*e*P	**Pn**	**02 22 05.5**	**+1.1**
SMAR	**Somma**	**5.35**	**20**	PN	**Pn**	**02 22 06.1**	**+1.5**
SMAR	**Somma**	**5.35**	**20**	*e*P	**Pn**	**02 22 06.2**	**+1.5**
KRX	**Arik**	**5.41**	**18**	PN	**Pn**	**02 22 07.2**	**+1.9**
KRX	**Arik**	**5.41**	**18**	*e*P	**Pn**	**02 22 07.2**	**+1.9**
SPN	**Mys Shipunski**	**5.53**	**27**	*e*S	**Sn**	**02 23 05.0**	**-4.1**
GNL	**Ganaly**	**5.60**	**13**	PN	**Pn**	**02 22 09.6**	**+1.6**
GNL	**Ganaly**	**5.60**	**13**	*e*P	**Pn**	**02 22 09.6**	**+1.6**
KUR	**Kuril'sk**	**6.25**	**244**	*e*PN	**Pn**	**02 22 19.1**	**+2.3**
KUR				*i* S	**Sn**	**02 23 28.8**	**+1.9**
KUR				pmax	pmax		
	comp=Z,63nm,0.5s						
KUR				smax	smax		
	comp=N,59nm,0.6s						
KUR				smax	smax		
	comp=E,46nm,0.6s						
KUR	**Kuril'sk**	**6.25**	**244**	*e*P	**Pn**	**02 22 18.5**	**+1

HFS	Hagfors	67.67 341	P	P	02 31 40.4	+0.3	
	comp=Z,2.3nm,0.5s,baz=60,slow=3.9,SNR=26						
	comp=Z,2.3nm,0.5s						
WRA	Warramunga Arr	70.57 201	P	P	02 31 58.1	-0.4	
	comp=Z,0.4nm,0.9s,baz=13,slow=6.1,SNR=3.5						
	comp=Z,0.4nm,0.9s						
KBZ	Khabaz	71.11 315	P	P	02 32 02.8	+1.2	
	comp=Z,3.0nm,0.7s,baz=181,slow=6.8,SNR=5.1						
	comp=Z,3.0nm,0.7s						
AKASG	Malin Array Be	71.29 327	P	P	02 32 01.9	-0.6	
	comp=Z,2.2nm,0.7s,baz=33,slow=6.4,SNR=7.9						
	comp=Z,2.2nm,0.7s						
AKASG	Malin Array Be	71.29 327	P	P	02 32 02.0	-0.6	
ASAR	Alice Springs	74.25 201	P	P	02 32 20.6	+0.2	
	comp=Z,0.7nm,0.8s,baz=0.0,slow=6.3,SNR=4.3						
	comp=Z,0.7nm,0.8s						
TXAR	Lajitas Array	75.15 63	P	P	02 32 26.4	+0.4	
	comp=Z,0.5nm,0.4s,baz=302,slow=5.4,SNR=15						
	comp=Z,0.5nm,0.4s						
EKA	Eskdalemuir Ar	75.28 348	P	P	02 32 26.9	+0.9	
	comp=Z,0.3nm,0.5s,baz=19,slow=6.0,SNR=4.5						
	comp=Z,0.3nm,0.5s						
GERES	GERESS Array B	77.88 335	P	P	02 32 41.5	+0.5	
	comp=Z,0.3nm,0.5s,baz=349,slow=3.4,SNR=4.0						
	comp=Z,0.3nm,0.5s						
BRTR	Keskin Array B	78.52 318	P	P	02 32 44.6	-0.2	
	comp=Z,0.6nm,0.8s,baz=48,slow=1.8,SNR=4.3						
	comp=Z,0.6nm,0.8s						
TORD	Torodi Ar. Bea	114.68 332	PKP	PKiKP	02 39 21.8	-2.2	
	comp=Z,2µm,0.3s,baz=49,slow=0.9,SNR=5.2						
CPUP	Villa Florida	146.12 62	PKPbc	PKPdf	02 40 22.1	-0.2	
	comp=Z,0.2nm,0.6s,baz=270,slow=3.0,SNR=3.2						

IDC 12 02:29:02.4±8.4, 19°.47S×176°.50W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=390.1km s-min=71.5km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.13 256		P	P	02 37 29.0	0.0
	0.4nm,0.6s,baz=104,slow=7.8,SNR=5.2						
	0.4nm,0.6s						
WRA	Warramunga Arr	46.15 261		P	P	02 37 28.8	-0.3
	0.5nm,0.6s,baz=96,slow=8.2,SNR=5.0						
	0.5nm,0.6s						
BRTR	Keskin Array B	147.16 314		PKPbc	PKPbc	02 48 47.2	-0.8
	0.8nm,0.9s,baz=54,slow=2.5,SNR=3.0						

*NEIC **12** 03:09:03.8±0.9, 6°.04N±0°.09×126°.0E±0°.2, h124km±11km, mb4.3/9, Error ellipse: s-maj=28.2km s-min=9.8km az=73.0*

*IDC **12** 03:09:03.2±1.8, 5°.77N×125°.61E, h114km±30km, mb3.5/5, mbtmp3.8/5, Error ellipse: s-maj=99.4km s-min=22.2km az=68.0*

ISC 12 03:09:03.3±0.8, 6°.01N±0°.08×126°.1E±0°.1, h127km, n17, σ0s77/18, mb4.1/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.16 335		P	Pn	03 09 26.7	-0.7
	448nm,0.3s,baz=90,slow=3.4,SNR=8.0						
DAV				S	Sn	03 09 46.8	+0.9
	732nm,0.5s,baz=274,slow=22,SNR=7.1						
TOLI2	Tolitoli	7.18 227			Pn	03 10 44.9	-0.8
MTN	Manton Dam	19.40 165			P	03 13 20.7	+1.1
MTN				IAmb	IAmb	03 13 44.1	
	comp=Z,26nm,1.4s						
KNRA	Kununurra	21.71 173		P	P	03 13 45.0	+0.6
KNRA				IAmb	IAmb	03 14 07.1	
	comp=Z,20nm,1.4s						
FITZ	Fitzroy Crossi	23.96 181		P	P	03 14 06.0	0.0
FITZ	Fitzroy Crossi	23.96 181		P	P	03 14 05.2	-0.8
	comp=Z,1.7nm,0.6s,baz=2.1,slow=9.1,SNR=7.0						
	comp=Z,1.7nm,0.6s						
COEN	Coen	26.11 140		P	P	03 14 26.0	+0.4
COEN				IAmb	IAmb	03 14 51.5	
	comp=Z,14nm,1.4s						
WRA	Warramunga Arr	27.05 163		P	P	03 14 34.0	+0.1
	comp=Z,0.5nm,0.4s,baz=342,slow=10.0,SNR=9.5						
	comp=Z,0.5nm,0.4s						
WR8	Warramunga Arr	27.11 162		P	P	03 14 34.8	+0.4
WR8				IAmb	IAmb	03 14 54.6	
	comp=Z,9.4nm,1.4s						
AS31	Alice Springs	30.47 166		P	P	03 15 04.8	+0.5
ASAR	Alice Springs	30.47 166		P	P	03 15 04.8	+0.5
	comp=Z,1.4nm,0.6s,baz=343,slow=7.1,SNR=18						
	comp=Z,1.4nm,0.6s						
EIDS	Eidsvold	39.55 143		P	P	03 16 21.3	-0.8
EIDS				IAmb	IAmb	03 16 56.6	
	comp=Z,7.5nm,1.2s						
STKA	Stephens Creek	40.48 159		P	P	03 16 30.4	+0.7
STKA	Stephens Creek	40.48 159		P	P	03 16 30.3	+0.7
	comp=Z,2.0nm,0.5s,baz=330,slow=9.1,SNR=4.7						
	comp=Z,2.0nm,0.5s						
MKAR	Makanchi Array	55.32 325		P	P	03 18 23.7	-0.1
MKAR	Makanchi Array	55.32 325		P	P	03 18 24.5	+0.7
	comp=Z,0.3nm,0.7s,baz=139,slow=7.3,SNR=2.4						
	comp=Z,0.3nm,0.7s						
NIUE	Niue	67.76 113		P	P	03 19 46.6	-1.2

*NEIC **12** 03:24:46.9±2.0, 34°.30S±0°.08×179°.4E±0°.1, h128km±7km, mb4.5/15, Error ellipse: s-maj=16.6km s-min=10.7km az=99.0*

*WEL **12** 03:24:49.3±1.2, 35°.S±14°×17°.9E±1°.4, h197km±31km, M4.8/57, ML5.0/19, MLv4.8/57, Error ellipse: s-maj=22.2km s-min=12.0km az=45.3, confirmed*

*IDC **12** 03:24:54.5±2.5, 34°.37S×179°.06E, h202km±22km, mb4.0/9, mbtmp4.4/10, Error ellipse: s-maj=18.8km s-min=13.0km az=33.0*

*NOU **12** 03:24:55.9, 35°.11S×178°.78E, h205km, mb4.2/11, Off E. Coast of N. Island, N.Z.*

ISC 12 03:24:54.6±0.5, 34°.86S±0°.06×179°.02E±0°.07, h200km, n155, σ2s44/154, mb4.3/18, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.76 192		P	Pn	03 25 39.0	-2.3
MXZ	Matakaoa Point	2.76 192		P	Pn	03 25 39.1	-2.3
MXZ	Matakaoa Point	2.76 192		P	Pn	03 25 39.1	-2.2
WMGZ	Waiomatatini S	2.99 189		P	Pn	03 25 42.4	-1.7
HAZ	Te Kaha	3.06 199		P	Pn	03 25 43.3	-1.6
HAZ				S	Sn	03 26 27.3	+3.0
PKGZ	Pakihiroa	3.10 194		P	Pn	03 25 43.8	-1.6
GRZ	Great Barrier	3.22 243		P	Pn	03 25 45.4	-1.4
PUZ	Puketiti	3.26 191		P	Pn	03 25 45.1	-2.3
PUZ				S	Sn	03 26 28.3	-0.5
KUZ	Kuaotunu	3.27 234		P	Pn	03 25 46.6	-0.8
KUZ	Kuaotunu	3.27 234		P	Pn	03 25 46.8	-0.6
RUGZ	Raukumara Rang	3.28 199		P	Pn	03 25 45.7	-1.9
TWGZ	Tauwhareparae	3.42 194		P	Pn	03 25 48.0	-1.2
TWGZ				S	Sn	03 26 34.0	+1.9
OPRZ	Ohinepanea	3.58 213		P	Pn	03 25 50.7	-0.4
MWZ	Matawai	3.67 199		P	Pn	03 25 50.6	-1.6
MWZ				S	Sn	03 26 39.1	+1.4
CNGZ	Carnagh Statio	3.68 190		P	Pn	03 25 50.7	-1.6
TKGZ	Te Karaka	3.69 194		P	Pn	03 25 50.5	-2.0
TKGZ				S	Sn	03 26 38.6	+0.5
URZ	Urewera	3.72 204		P	Pn	03 25 51.2	-1.7
	35nm,0.3s,baz=14,slow=8.3,SNR=86						
URZ				S	Sn	03 26 36.5	-2.3
	158nm,0.5s,baz=60,slow=20,SNR=12						
URZ	Urewera	3.72 204		P	Pn	03 25 51.2	-1.7
URZ	Urewera	3.72 204		P	Pn	03 25 51.1	-1.7
URZ				S	Sn	03 26 40.1	+1.4
RAGZ	Rawiri	3.85 199		P	Pn	03 25 53.3	-1.3
KARZ	Kaharoa	3.87 215		P	Pn	03 25 54.6	-0.1
TARZ	Mount Tarawera	3.93 210		P	Pn	03 25 58.0	+2.5
WCZ	Waipu Caves	3.97 253		P	Pn	03 25 54.6	-1.3
RIGZ	Rimuhau	3.97 194		P	Pn	03 25 53.7	-2.2
RRRZ	Republican Roa	4.01 209		P	Pn	03 25 58.3	+1.7
TOZ	Tahuroa Road	4.03 224			Pn	03 25 55.5	-1.2
TOZ	Tahuroa Road	4.03 224		P	Pn	03 25 58.5	+1.7
MUGZ	Murupara	4.04 206		P	Pn	03 25 55.1	-1.7
RTZ	Ruatahuna	4.09 203			Pn	03 25 55.2	-2.4
RTZ	Ruatahuna	4.09 203		P	Pn	03 25 54.7	-2.8
HSRZ	Hossack Road	4.10 212		P	Pn	03 25 58.4	+0.7
ALRZ	Allen Road	4.28 209		P	Pn	03 25 59.2	-0.5
KNZ	Kokohu	4.29 194		P	Pn	03 25 57.3	-2.6
RAHZ	Arahi	4.33 200		P	Pn	03 25 58.3	-2.2
MTHZ	Maungataniwha	4.35 203		P	Pn	03 25 59.0	-1.8
MHGZ	Mahia Peninsul	4.38 191		P	Pn	03 25 58.5	-2.5
KUTZ	Kaahu Road	4.44 214		P	Pn	03 26 00.6	-1.3
WHHZ	Waihua	4.45 198		P	Pn	03 26 01.2	-0.7
TLZ	Tolley Road	4.45 218		P	Pn	03 26 03.1	+1.1
OUZ	Omahuta	4.46 264		P	Pn	03 26 00.3	-1.8
OUZ	Omahuta	4.46 264		P	Pn	03 26 00.5	-1.7
MRHZ	Matea Rd	4.48 207		P	Pn	03 26 00.6	-1.8
NMHZ	Naumai	4.58 202		P	Pn	03 26 01.6	-2.1
WATZ	Wairara	4.66 213		P	Pn	03 26 05.9	+1.3
ARHZ	Aropaoanui	4.68 200		P	Pn	03 26 02.2	-2.7
BKZ	Black Stump Fm	4.75 204			Pn	03 26 03.6	-2.1
BKZ	Black Stump Fm	4.75 204		P	Pn	03 26 03.7	-2.1
BKZ	Black Stump Fm	4.75 204		P	Pn	03 26 03.7	-2.1
RITZ	Rihia Road	4.83 211		P	Pn	03 26 06.0	-0.8
MCHZ	McNeill Hill	4.94 201		P	Pn	03 26 05.7	-2.5
HIZ	Hauiti	4.95 221		Pn	Pn	03 26 10.0	+1.7
HIZ	Hauiti	4.95 221		P	Pn	03 26 09.9	+1.6
KWHZ	Kaweka Forest	5.00 204		P	Pn	03 26 06.4	-2.7
NTVZ	North Tongariro	5.01 211		P	Pn	03 26 08.0	-1.1
TMVZ	Te Maari	5.01 211		P	Pn	03 26 07.5	-1.7
KRVZ	Karewarewa	5.02 212		P	Pn	03 26 08.4	-0.9
ETVZ	East Tongariro	5.02 211		P	Pn	03 26 08.2	-1.2
CKHZ	Cape Kidnapper	5.03 197		P	Pn	03 26 06.9	-2.5
WTVZ	West Tongariro	5.06 212		P	Pn	03 26 09.5	-0.2
NNVZ	North Ngauruho	5.06 212		P	Pn	03 26 09.1	-0.8
OTVZ	Oturere	5.06 211		P	Pn	03 26 08.2	-1.7
TWVZ	Taurewa	5.09 213		P	Pn	03 26 09.9	-0.2
SNVZ	South Ngauruho	5.09 211		P	Pn	03 26 08.6	-1.7
FWVZ	Far West T-bar	5.19 211		P	Pn	03 26 09.9	-1.7
MAVZ	Matarangi	5.20 211		P	Pn	03 26 10.5	-1.2
WHVZ	Whangaehu Hut	5.20 211		P	Pn	03 26 10.3	-1.4
KAHZ	Kahuranaki	5.21 198		P	Pn	03 26 08.7	-3.0
KRHZ	Kereru	5.22 203		P	Pn	03 26 08.2	-3.6
TRVZ	Turoa	5.23 211		P	Pn	03 26 12.0	-0.1
WNVZ	Wahianoa	5.23 210		P	Pn	03 26 10.0	-2.0
MOVZ	Moawhango	5.24 209		P	Pn	03 26 09.3	-2.7
PXZ	Pawanui	5.44 198		P	Pn	03 26 10.3	-4.2
VRZ	Vera Road	5.45 217		P	Pn	03 26 16.9	+2.2
PNHZ	Pukenui	5.52 203		P	Pn	03 26 11.7	-3.9
WPHZ	Waipukurau	5.58 201		P	Pn	03 26 13.4	-3.1
PRHZ	Porangahau	5.72 199		P	Pn	03 26 14.1	-4.0
TSZ	Takapari Road	5.73 204		P	Pn	03 26 14.6	-3.7
DVHZ	Dannevirke	5.88 202		P	Pn	03 26 16.0	-4.3
POWZ	Post Office Ro	6.09 204		P	Pn	03 26 20.0	-3.0
RAO	Raoul Island	6.17 26		Pn	Pn	03 26 06.6	-17
RAO	Raoul Island	6.17 26		S	Sn	03 27 12.7	-22
	286nm,0.3s,baz=180,slow=20,SNR=4.9						
PRWZ	Pori Road	6.18 202		P	Pn	03 26 21.4	-2.6
BFZ	Birch Farm	6.21 200			Pn	03 26 20.6	-4.0
BFZ	Birch Farm	6.21 200		P	Pn	03 26 20.4	-4.1
BFZ	Birch Farm	6.21 200		P	Pn	03 26 20.3	-4.3
MRZ	Mangatainoka R	6.40 204			Pn	03 26 22.5	-4.5
MRZ	Mangatainoka R	6.40 204		P	Pn	03 26 22.5	-4.5
HOWZ	Holdsworth Sta	6.63 204		P	Pn	03 26 25.6	-4.4
OGWZ	Otaki Gorge	6.68 206		P	Pn	03 26 26.4	-4.1
TMWZ	Te Maipa	6.71 201		P	Pn	03 26 27.3	-3.7
KIW	Kapiti Island	6.81 207		P	Pn	03 26 28.5	-3.9
MTW	Mount Morrison	6.87 203		P	Pn	03 26 28.4	-4.7
CAW	Cannon Point	6.97 205		P	Pn	03 26 29.6	-4.8
DUWZ	D'Urville Isla	7.17 213		P	Pn	03 26 33.4	-3.6
MSWZ	Moikau Station	7.19 203		P	Pn	03 26 32.8	-4.4
BHW	Baring Head	7.31 205		P	Pn	03 26 34.1	-4.6
TCW	Tory Channel	7.36 209		P	Pn	03 26 34.8	-4.6
TUWZ	Tuamarina	7.68 210			Pn	03 26 39.6	-3.9
TUWZ	Tuamarina	7.68 210		P	Pn	03 26 39.9	-3.7
BSWZ	Blackbirch Sta	7.95 200		P	Pn	03 26 43.0	-4.1
KHZ	Kahutara	8.68 208		P	Pn	03 26 53.4	-3.1
CTZ	Chatham Island	9.49 160		P	Pn	03 27 06.5	-0.5
CTZ	Chatham Island	9.49 160		P	Pn	03 27 06.7	-0.4
RPZ	Rata Peaks	10.78 212		P	Pn	03 27 20.1	-3.6
	7.5nm,0.7s,baz=17,slow=3.3,SNR=6.4						
RPZ				S	Sn	03 29 16.4	-7.5
	8.0nm,0.4s,baz=6.7,slow=10,SNR=7.3						
RPZ	Rata Peaks	10.78 212		P	Pn	03 27 20.4	-3.4
ODZ	Otahua Downs	12.02 210		P	Pn	03 27 37.0	-2.6
JCZ	Jackson Bay	12.12 218		P	Pn	03 27 38.3	-2.7
DZM	Mont Dzumac	16.85 316		P	P	03 28 35.6	-2.3
DZM	Mont Dzumac	16.85 316		P	P	03 28 35.8	-2.2
	5.5nm,0.6s,baz=135,slow=18,SNR=9.9						
EIDS	Eidsvold	25.88 284		P	P	03 30 08.9	+0.9
STKA	Stephens Creek	31.28 265		P	P	03 30 56.5	+0.7
	2.7nm,0.7s,baz=96,slow=10,SNR=3.3						
	2.7nm,0.7s						
COEN	Coen	38.41 294		P	P	03 31 56.6	-0.3
AS31	Alice Springs	40.60 274			P	03 32 15.5	+0.5
AS31				IAmb	IAmb	03 32 16.5	
	comp=Z,6.6nm,0.6s						
ASAR	Alice Springs	40.60 274		P	P	03 32 15.0	0.0
ASAR	Alice Springs	40.60 274		P	P	03 32 14.8	-0.3
	comp=Z,14nm,0.6s,baz=116,slow=7.7,SNR=166						
ASAR				PcP	PcP	03 34 12.7	-0.4
	comp=Z,0.6nm,0.8s,baz=107,slow=5.2,SNR=1.4						
ASAR				ScP	ScP	03 37 42.6	-0.8
	comp=Z,0.4nm,0.7s,baz=105,slow=3.9,SNR=2.7						
ASAR				S	S	03 38 10.7	+1.0
	comp=Z,1.1nm,0.9s,baz=116,slow=14,SNR=6.3						
	comp=Z,14nm,0.6s						
WR8	Warramunga Arr	41.87 279		P	P	03 32 25.4	0.0
WR8				IAmb	IAmb	03 32 26.0	
	comp=Z,8.2nm,0.8s						
WRA	Warramunga Arr	42.01 279		P	P	03 32 25.6	-0.9
	comp=Z,10nm,0.7s,baz=120,slow=7.5,SNR=81						
	comp=Z,10nm,0.7s						
WB0	Warramunga Arr	42.05 279			P	03 32 26.4	-0.4
WB0				IAmb	IAmb	03 32 27.4	
	comp=Z,11nm,0.8s						
VNDA	Vanda	43.42 185		P	P	03 32 39.7	+2.7
	comp=Z,0.7nm,0.8s,baz=1.2,slow=9.8,SNR=4.6						
MTN	Manton Dam	48.43 285		P	P	03 33 16.5	-0.4
KNRA	Kununurra	48.76 280		P	P	03 33 19.6	+0.2
KNRA				IAmb	IAmb	03 33 58.6	
	comp=Z,11nm,1.1s						
FITZ	Fitzroy Crossi	50.04 275		P	P	03 33 29.6	+0.5
QSPA	South Pole Qui	55.26 180		P	P	03 34 11.2	+4.4
QSPA	South Pole Qui	55.26 180		P	P	03 34 10.7	+3.9
	comp=Z,9.4nm,0.6s,baz=22,slow=1.2,SNR=87						
	comp=Z,9.4nm,0.6s						
BELA	Belgrano 2	65.71 173		P	P	03 35 19.2	+2.1
SMAI	San Martin Ant	66.25 158		P	P	03 35 23.9	+3.2
SMAI				IAmb	IAmb	03 35 25.0	
	comp=Z,4.5nm,0.8s						
ESPZ	Base Esperanza	72.48 157		P	P	03 36 01.6	+2.8
ESPZ				IAmb	IAmb	03 36 02.3	
	comp=Z,11nm,0.9s						
SNAA	Sanae	73.76 179		P	P	03 36 08.3	+1.9
SNAA				IAmb	IAmb	03 36 09.1	
	comp=Z,4.7nm,1.2s						
SNAA	Sanae	73.76 179		P	P	03 36 08.0	+1.6
	comp=Z,1.8nm,0.8s,baz=158,slow=5.4,SNR=9.6						
	comp=Z,1.8nm,0.8s						
H03S2	Juan Fernandez	80.07 124		T	T	05 05 13.3	
	baz=233						
H03S1	Juan Fernandez	80.08 124		T	T	05 05 21.5	
	baz=233						
H03S3	Juan Fernandez	80.09 124		T	T	05 05 17.3	
	baz=233						
H03N3	Juan Fernandez	80.30 124		T	T	05 05 36.6	
	baz=238,slow=72,SNR=9.6						
H03N2	Juan Fernandez	80.30 124		T	T	05 05 34.2	
	baz=238,slow=72,SNR=11						
H03N1	Juan Fernandez	80.31 124		T	T	05 05 32.1	
	baz=238,slow=72,SNR=12						
PLCA	Paso Flores	81.28 134		P	P	03 36 50.8	+2.2
PLCA				IAmb	IAmb	03 36 53.5	
	comp=Z,10nm,1.4s						
PLCA	Paso Flores	81.28 134		P	P	03 36 50.9	+2.2
	comp=Z,2.8nm,0.8s,baz=225,slow=4.8,SNR=10						
	comp=Z,2.8nm,0.8s						
BO02	Sierra Bellavi	84.87 129		P	P	03 37 08.7	+1.6
BO02				IAmb	IAmb	03 37 09.7	
	comp=Z,10.0nm,0.8s						
PETK	Petropavlovsk-	89.55 347		P	P	03 37 25.5	-3.2
	comp=Z,2.5nm,0.9s,baz=162,slow=5.2,SNR=2.7						
	comp=Z,2.5nm,0.9s						
NVAR	Mina Array Bea	93.20 44		P	P	03 37 44.8	-1.5
	comp=Z,0.7nm,0.7s,baz=219,slow=9.0,SNR=3.7						
	comp=Z,0.7nm,0.7s						
PZH	PanZhiHua	95.18 299		P	P	03 37 57.7	+2.2
TXAR	Lajitas Array	96.87 59		P	P	03 38 02.2	-0.9
	comp=Z,0.2nm,0.9s,baz=201,slow=5.3,SNR=2.4						
	comp=Z,0.2nm,0.9s						
HHC	Hu-ho-hao-te	97.56 315		eP	Pdif	03 38 08.5	+2.6
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,98nm,4.4s						
KURBB	Kurchatov Arra	122.27 312		PKP	PKPdf	03 43 23.4	-1.7
	comp=Z,0.3nm,0.3s,baz=74,slow=3.2,SNR=2.6						
ARCES	ARCESS Array B	142.32 345		PKhKP	PKPpre	03 43 57.0	
	comp=Z,2.0nm,0.9s,baz=48,slow=1.1,SNR=2.2						
FINES	FINESS Array B	148.31 335		PKPdf	PKPdf	03 44 12.8	+0.2
FINES	FINESS Array B	148.31 335		PKPbc	PKPdf	03 44 13.1	+0.5
	comp=Z,1.1nm,0.8s,baz=50,slow=3.0,SNR=6.7						
MMAI	Mount Meron Ar	149.86 277		PKPbc	PKPbc	03 44 20.6	-0.6
	comp=Z,1.0nm,0.5s,baz=102,slow=2.9,SNR=2.6						
BR131	Keskin Array S	152.14 290		PKPbc	PKPbc	03 44 24.4	-1.9
BRTR	Keskin Array B	152.14 290		PKPbc	PKPbc	03 44 24.5	-1.9
BRTR	Keskin Array B	152.14 290		PKPbc	PKPbc	03 44 25.0	-1.3
	comp=Z,0.7nm,0.5s,baz=132,slow=2.7,SNR=8.8						
NB2	NORSAR Subarra	152.65 347		PKPdf	PKPbc	03 44 24.8	-1.8
	comp=Z,0.4nm,0.7s,baz=31,slow=1.9						
NOA	NORSAR Array B	152.65 347		PKPbc	PKPbc	03 44 25.1	-1.6
	comp=Z,0.4nm,0.7s,baz=34,slow=2.1,SNR=3.7						
HFS	Hagfors	152.97 344		PKPbc	PKPbc	03 44 26.3	-1.0
	comp=Z,1.4nm,0.9s,baz=97,slow=3.5,SNR=2.2						
TORD	Torodi Ar. Bea	158.25 187		PKPab	PKPab	03 45 03.9	+0.7
	comp=Z,0.6nm,0.7s,baz=184,slow=3.1,SNR=3.2						

*NEIC **12** 03:26:22.9±1.9, 35°.835N±0°.006×117°.68W±0°.02, h5km±1km, Error ellipse: s-maj=2.6km s-min=2.2km az=282.0*

PAS 12 03:26:23.6±1.1, 35°.868N±0°.009×117°.71W±0°.02, h4km±1km, ML3.1/18, ML3.0/74(NEIC), Error ellipse: s-maj=1.9km s-min=1.3km az=84.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	Tower One	0.08 218			Pg	03 26 25.8	+0.5
TOW					Sg	03 26 28.1	+1.8
WVPM	Volcano Peak E	0.12 312			Pg	03 26 26.2	+0.2
WVPM					Sg	03 26 28.3	+0.6
JRC2	Joshua Ridge	0.14 324			Pg	03 26 26.6	+0.1
WNMM	Nine Mile Cany	0.16 261			Pg	03 26 26.9	+0.2
WNMM					Sg	03 26 29.9	+1.0
WCSM	Coso Springs S	0.17 343			Pg	03 26 26.9	0.0
SRTC	Snort	0.18 191			Pg	03 26 27.6	+0.5
SRTC					Sg	03 26 31.1	+1.7
WRVM	Rose V. Centra	0.20 313			Pg	03 26 27.7	+0.1
MPMC	Manual Prospec	0.26 43			Pg	03 26 28.6	0.0
MPMC				IAML		03 26 32.7	
	comp=N,1µm,0.7s						
MPMC				IAML		03 26 33.1	
	comp=E,2µm,0.5s						
MFS	McCloud Flat S	0.28 334			Pg	03 26 29.0	0.0
MFS					Sg	03 26 33.1	+0.5
WSHM	Spangler Hills	0.32 147			Pg	03 26 29.6	-0.1
WSHM				IAML		03 26 34.5	
	comp=E,3µm,0.3s						
WSHM				IAML		03 26 34.7	
	comp=E,3µm,0.3s						
LRMC	Laurel Mtn Rad	0.39 177			Pg	03 26 30.9	-0.2
LRMC				IAML		03 26 36.9	
	comp=E,2µm,0.4s						
LRMC				IAML		03 26 37.7	
	comp=N,2µm,0.2s						
ISA	Isabella, Lake	0.66 252			Pg	03 26 35.9	-0.3
ISA				IAML		03 26 45.3	
	comp=N,882nm,0.2s						
ISA				IAML		03 26 46.6	
	comp=E,668nm,0.2s						
QSM	Queen of Sheba	0.69 82			Pg	03 26 36.3	-0.4
QSM				IAML		03 26 50.3	
	comp=E,699nm,0.6s						
QSM				IAML		03 26 51.3	
	comp=N,671nm,0.5s						
WASM	Alta Sierra Ca	0.70 260			Pg	03 26 36.8	-0.3
CCAC	Calif City Air	0.76 200			Pg	03 26 37.7	-0.4
CCAC					Sg	03 26 48.1	+0.1
GWY	Greenwater Val	0.90 69			Pg	03 26 40.4	-0.4
GWY				IAML		03 26 57.9	
	comp=N,418nm,0.6s						
GWY				IAML		03 27 00.0	
	comp=E,278nm,0.6s						
GSC	Goldstone, Bar	0.93 127			Pg	03 26 40.7	-0.7
GSC				IAML		03 26 56.4	
	comp=E,909nm,0.7s						
GSC				IAML		03 26 57.5	
	comp=N,419nm,0.7s						
TPO	Tropico Hills	1.07 204			Pg	03 26 43.3	-0.9
TPO				IAML		03 27 00.9	
	comp=N,323nm,0.7s						
TPO				IAML		03 27 01.0	
	comp=E,410nm,0.6s						
GRAC	Grapevine Rang	1.16 14			Pg	03 26 45.2	-0.6
GRAC				IAML		03 27 07.7	
	comp=N,186nm,0.7s						
GRAC				IAML		03 27 09.4	
	comp=E,251nm,0.7s						
WCT	Wildcat Mounta	1.27 43			Pg	03 26 47.1	-0.8
VOG	Valley Oaks Go	1.43 289			Pn	03 26 50.0	-0.3
GMN	Gold Mountain	1.47 14			P

comp=E,11µm,0.2s
WSHM IAML 03 28 06.7
comp=E,13µm,0.2s
JRC2 Joshua Ridge 0.36 278 Pg 03 28 00.7 +0.3
JRC2 **Sg 03 28 05.9 +0.7**
WVPM Volcano Peak E 0.37 273 Pg 03 28 00.9 +0.4
WVPM **Sg 03 28 06.2 +0.8**
SRTC Snort 0.40 233 Pb 03 28 01.7 -1.4
SRTC **Sb 03 28 08.1 -1.5**
QSM Queen of Sheba 0.40 85 Sg 03 28 07.2 +0.8
QSM Queen of Sheba 0.40 85 Pb 03 28 01.7 -1.5
QSM IAML 03 28 10.5
comp=E,9µm,0.6s
QSM IAML 03 28 11.3
comp=N,12µm,0.6s
CCCA Chr Cany lake 0.41 180 Pb 03 28 02.2 -1.1
WRVM Rose V. Centra 0.43 280 Pg 03 28 01.9 +0.1
WRVM **Sg 03 28 08.0 +0.5**
MFS McCloud Flat S 0.44 295 Sg 03 28 08.3 +0.7
LRMC Laurel Mtn Rad 0.52 210 Pg 03 28 03.7 +0.3
LRMC IAML 03 28 11.5
comp=E,9µm,0.4s
LRMC Laurel Mtn Rad 0.52 210 Sg 03 28 11.1 +1.0
GWY Greenwater Val 0.62 66 Pb 03 28 05.8 -1.2
GWY IAML 03 28 15.0
comp=N,6µm,0.5s
GWY IAML 03 28 21.2
comp=E,7µm,0.5s
GWY Greenwater Val 0.62 66 Sg 03 28 13.9 +0.7
FURC Furnace Creek, 0.67 37 Pb 03 28 07.0 -0.8
FURC **Sb 03 28 16.2 -1.3**
CGO Cerro Gordo 0.71 330 Sg 03 28 16.7 +0.4
WBSM Bird Springs 0.74 238 Sg 03 28 17.8 +0.5
WORM Onyx Ranch 0.75 252 Pg 03 28 07.7 -0.1
WORM **Sg 03 28 17.6 0.0**
CWC Cottonwood Cre 0.77 311 Sb 03 28 18.6 -1.9
CWC Cottonwood Cre 0.77 311 Pg 03 28 08.1 0.0
CWC IAML 03 28 19.0
comp=N,4µm,0.5s
CWC IAML 03 28 19.1
comp=E,4µm,0.3s
DTP Desert Tortois 0.77 211 Sg 03 28 18.6 +0.4
GSC Goldstone, Bar 0.78 144 Sb 03 28 19.4 -1.3
GSC Goldstone, Bar 0.78 144 Pb 03 28 08.8 -0.9
GSC IAML 03 28 21.6
comp=N,3µm,0.6s
GSC IAML 03 28 23.3
comp=E,5µm,0.4s
SHOC Shoshone, Teco 0.88 92 Pb 03 28 11.0 -0.5
SHOC **Pn 03 28 11.5 -1.3**
SHOC **Sb 03 28 23.3 -0.4**
ISA Isabella, Lake 0.94 254 Sb 03 28 23.9 -1.5
ISA Isabella, Lake 0.94 254 Pg 03 28 11.3 -0.2
AMDNV Amargosa 1.02 59 Pb 03 28 13.0 -0.7
WCT Wildcat Mounta 1.04 35 Pb 03 28 13.4 -0.9
WCT IAML 03 28 28.3
comp=E,3µm,0.5s
WCT IAML 03 28 29.3
comp=N,3µm,0.6s
GRAC Grapevine Rang 1.06 360 Pb 03 28 13.6 -0.9
SPG2 Springville 2 1.17 284 Pb 03 28 15.2 -1.1
TPO Tropico Hills 1.27 214 Sn 03 28 34.3 -1.4
TPO Tropico Hills 1.27 214 Pg 03 28 17.3 -0.4
TUQ Turquoise Moun 1.27 113 Pb 03 28 17.4 -0.8
TEJ El Tejon 1.29 237 Pn 03 28 17.2 -1.2
TEJ **Sn 03 28 34.5 -1.7**
DSCC Desert Studies 1.29 127 Pn 03 28 17.3 -1.1
GMN Gold Mountain 1.37 3 Pg 03 28 19.2 -0.5
GMN IAML 03 28 40.5
comp=N,2µm,0.6s
GMN IAML 03 28 43.7
comp=E,1µm,0.7s
VTV Victorville 1.37 179 Pb 03 28 19.1 -0.7
ALPC Antelope 1.46 212 Pg 03 28 21.4 0.0
THC Tehachapi Micr 1.47 226 Pb 03 28 20.4 -1.2
LRRC Littlerock Res 1.50 201 Pn 03 28 20.6 -0.7
LEOC Leona Valley 1.51 211 Pn 03 28 20.6 -0.9
MTPC Mountain Pass 1.54 106 Pn 03 28 21.0 -0.9
MTPC IAML 03 28 44.5
comp=N,2µm,0.9s
MTPC IAML 03 28 46.6
comp=E,1µm,0.5s
JNH Juniper Hills 1.56 198 Pn 03 28 21.6 -0.7
VOG Valley Oaks Go 1.68 284 Pb 03 28 23.4 -1.6
BFSC Mount Baldy Ra 1.71 188 Pn 03 28 23.6 -0.6
BFSC Mount Baldy Ra 1.71 188 IAML 03 28 49.4
comp=E,960nm,0.4s
SS2 San Sevaine 1.72 184 Pb 03 28 24.2 -1.6
MZP Montezuma Peak 1.77 359 Pb 03 28 24.9 -1.7
MWC Mount Wilson 1.80 199 Pb 03 28 25.5 -1.7
MWC IAML 03 28 54.3
comp=N,1µm,0.5s
MWC IAML 03 28 54.8
comp=E,937nm,1.1s
GTM Goat Mountain 1.83 153 Pn 03 28 24.9 -1.0
SVD Seven Oaks Dam 1.83 173 Pn 03 28 25.5 -0.5
SHPR Sheep Range 1.87 72 Pb 03 28 26.5 -1.9
PASC Pasadena Art C 1.88 201 IAML 03 28 57.0
comp=E,713nm,1.0s
BLAC Blackrock camp 2.02 156 Pn 03 28 28.1 -0.5
BENR Benton 2.03 332 Pb 03 28 30.2 -0.9
MLAC Mammoth, Mammo 2.07 326 Pg 03 28 32.4 -0.7
TPH Tonopah 2.14 3 Pn 03 28 30.2 -0.1
ELS Elsinore Mount 2.28 181 Pn 03 28 31.9 -0.2
PFO Pinyon Flats O 2.43 162 Pn **Pn 03 28 33.6 -0.6**
comp=E,8.3nm,0.3s,baz=344,slow=12,SNR=12
PFO Pg **Pg 03 28 39.0 -1.0**
comp=E,46nm,0.3s,baz=347,slow=17,SNR=41
PFO Lg Lg 03 29 11.8
comp=E,32nm,0.3s,baz=283,slow=18,SNR=4.9
comp=E,19nm,0.3s
NVAR Mina Array Bea 2.60 344 Pn **Pn 03 28 36.5 -0.2**
comp=E,58nm,0.3s,baz=161,slow=17,SNR=71
NVAR Pg **Pg 03 28 42.1 -1.2**
comp=E,59nm,0.3s,baz=165,slow=17,SNR=58
NVAR LR LR 03 29 03.7
comp=E,104nm,18.6s,baz=242,slow=28
NVAR Lg Lg 03 29 16.3
comp=E,41nm,0.3s,baz=114,slow=10,SNR=8.6
comp=E,23nm,0.7s
PMPB Monarch Peak 2.80 277 Pn 03 28 39.5 +0.3
PMPB IAML 03 29 31.0
comp=N,623nm,1.0s
PMPB IAML 03 29 40.9
comp=E,555nm,1.1s
RYN Ryan 2.84 341 Pn 03 28 39.5 -0.5
Q09A Carvers 2.90 3 Pn 03 28 41.6 +0.9
GATR Gnd/Air Tx Cnt 2.92 243 Pn 03 28 41.0 +0.2
DPP Dos Picos Cty 2.95 173 Pn 03 28 40.9 -0.3
BBGB Big Mountain B 3.04 283 Pn 03 28 42.9 +0.3
SAO San Andreas Ge 3.40 285 Pn 03 28 47.4 0.0
LCMT Little Creek M 3.49 71 Pn 03 28 49.5 +0.7
GLA Glamis 3.56 143 Pn 03 28 48.5 -1.2
SPR3 Spring Creek 3 3.90 37 Pn 03 28 53.7 -0.9
SPR3 IAML 03 29 58.4
comp=E,277nm,0.7s
ESJX Sierra Juarez 4.09 163 Pn **Pn 03 28 57.2 +0.2**
PAHR Pah Rah Range 4.09 338 Pn 03 28 56.2 -0.9
X16A Lo Mia Camp, P 5.08 106 Pn 03 29 11.7 +1.0
X16A IAML 03 30 40.7
comp=E,55nm,1.1s
X16A IAML 03 30 42.9
comp=N,70nm,1.1s
ELK Elko 5.09 19 IAML 03 30 37.7
comp=N,45nm,0.7s
ELK IAML 03 30 38.0
comp=N,53nm,0.7s
ELK Elko 5.09 19 Pn **Pn 03 29 08.1 -2.7**
comp=N,0.4nm,0.3s,baz=112,slow=23,SNR=15
ELK Pg **Pg 03 29 28.7 -2.1**
comp=N,5.8nm,0.3s,baz=215,slow=16,SNR=20
ELK Lg Lg 03 30 29.6
comp=N,14nm,0.3s,baz=110,slow=23,SNR=13
ELK LR LR 03 31 29.7
comp=N,77nm,18.0s,baz=214,slow=44
comp=N,3.8nm,0.6s
TUC Tucson 6.54 122 Pn 03 29 29.8 -0.9
YBH Yreka Blue Hor 7.14 326 Pn **Pn 03 29 39.7 +0.9**
baz=105,slow=1.0,SNR=1.8
YBH Lg Lg 03 31 35.2
baz=46,slow=17,SNR=6.4
YBH LR LR 03 32 53.9
comp=N,5.1nm,19.5s,baz=140,slow=42
ANMO Albuquerque 8.96 93 Pg Pg 03 30 34.4 -10
comp=N,0.1nm,0.3s,baz=14,slow=13,SNR=15
ANMO Lg Lg 03 32 32.7
comp=N,0.2nm,0.3s,baz=219,slow=6.6,SNR=4.1
ANMO LR LR 03 33 08.5
comp=N,93nm,21.0s,baz=3.5,slow=36
PDAR Pinedale Array 9.11 39 Pn **Pn 03 30 07.0 +0.9**
comp=N,0.1nm,0.3s,baz=253,slow=14,SNR=4.0
PDAR Lg Lg 03 32 34.8
comp=N,0.1nm,0.3s,baz=10,slow=33,SNR=2.7
PDAR LR LR 03 33 52.2
comp=N,61nm,19.0s,baz=220,slow=40
comp=N,0.2nm,0.7s
NEW Newport 12.32 1 Pn **Pn 03 30 52.3 +2.5**
comp=N,0.1nm,0.3s,baz=140,slow=4.0,SNR=1.9
NEW LR LR 03 35 41.0
comp=N,72nm,21.4s,baz=190,slow=38
comp=N,0.8nm,0.7s
TXAR Lajitas Array 13.28 116 Pn **Pn 03 31 05.8 +2.8**
comp=N,0.1nm,0.3s,baz=289,slow=12,SNR=11
TXAR Lg Lg 03 34 48.7
baz=292,slow=32,SNR=6.9
comp=N,0.4nm,0.6s
BBB Bella Bella 17.96 338 LR LR 03 39 44.1
comp=N,33nm,21.6s,baz=201,slow=40
DLBC Dease Lake 24.02 344 LR LR 03 43 15.2
comp=N,6.7nm,20.9s,baz=217,slow=38
YKA Yellowknife Ar 26.64 3 Pn **P 03 33 34.5 +1.5**
comp=N,1.3nm,1.0s,baz=184,slow=9.2,SNR=2.3
YKA LR LR 03 44 57.0
comp=N,73nm,19.5s,baz=29,slow=38
comp=N,1.3nm,1.0s
TKL Tuckaleechee C 27.17 81 LR LR 03 44 39.4
comp=N,51nm,19.5s,baz=306,slow=37
SADO Sadowa 30.21 61 LR LR 03 45 55.9
comp=N,44nm,19.0s,baz=305,slow=36
INK Inuvik 33.68 349 LR LR 03 50 36.2
comp=N,59nm,20.4s,baz=150,slow=40
ILAR Eielson Array 33.85 338 P **P 03 34 39.1 +2.3**
comp=N,0.4nm,0.9s,baz=154,slow=6.5,SNR=5.0
ILAR LR LR 03 48 25.1
comp=N,78nm,18.1s,baz=4.0,slow=36
comp=N,0.4nm,0.9s
SFJD Kangerlussuaq 48.46 29 LR LR 03 58 28.1
comp=N,51nm,18.6s,baz=319,slow=38

NEIC ***12*** *03:32:16.9±0.7,35.891°N±0.004°×117.72°W±0.01°, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.8km az=275.0*

PAS 12 03:32:17.4±1.1,35.890°N±0.009°×117.73°W±0.01°, h3km±4km, ML3.3, ML3.1/72(NEIC), **Error ellipse: s-maj=1.6km s-min=1.2km az=74.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.09**	**202**		Pg	Pg	03 32 19.8	+0.6
WVPM	**Volcano Peak E**	**0.10**	**308**		Pg	Pg	03 32 19.6	+0.3
JRC2	**Joshua Ridge**	**0.12**	**324**		Pg	Pg	03 32 20.0	+0.2
WCSM	**Coso Springs S**	**0.14**	**346**		Pg	Pg	03 32 20.3	+0.1
WNMM	**Nine Mile Cany**	**0.15**	**252**		Pg	Pg	03 32 20.7	+0.3
WRVM	**Rose V. Centra**	**0.18**	**311**		Pg	Pg	03 32 21.1	+0.2
SRTC	**Snort**	**0.20**	**186**		Pg	Pg	03 32 21.8	+0.5
MFS	**McCloud Flat S**	**0.25**	**335**		Pg	Pg	03 32 22.4	+0.1
MFS					Sg	Sg	03 32 26.2	+0.6
MPMC	**Manual Prospec**	**0.25**	**49**		Pg	Pg	03 32 22.5	+0.1
MPMC				IAML			03 32 26.4	
	comp=E,3µm,0.5s							
MPMC				IAML			03 32 26.4	
	comp=N,5µm,0.5s							
WSHM	**Spangler Hills**	**0.35**	**147**		Pg	Pg	03 32 24.1	0.0
WSHM				IAML			03 32 29.4	
	comp=N,4µm,0.3s							
WSHM				IAML			03 32 29.4	
	comp=N,4µm,0.4s							
LRMC	**Laurel Mtn Rad**	**0.41**	**175**		Pg	Pg	03 32 25.2	-0.1
LRMC				IAML			03 32 31.6	
	comp=E,3µm,0.5s							
LRMC				IAML			03 32 31.9	
	comp=N,3µm,0.2s							
WORM	**Onyx Ranch**	**0.46**	**245**		Pg	Pg	03 32 26.2	-0.1
CCCA	**Chr Cany lake**	**0.47**	**141**		Pg	Pg	03 32 26.7	+0.4
CWC	**Cottonwood Cre**	**0.62**	**332**		Pg	Pg	03 32 29.6	+0.3
CWC				IAML			03 32 38.7	
	comp=E,886nm,0.2s							
CWC				IAML			03 32 39.4	
	comp=N,687nm,0.2s							
ISA	**Isabella, Lake**	**0.65**	**250**		Pg	Pg	03 32 29.7	-0.2
ISA				IAML			03 32 38.6	
	comp=N,1µm,0.4s							
ISA				IAML			03 32 39.6	
	comp=E,1µm,0.2s							
CGO	**Cerro Gordo**	**0.66**	**355**		Pg	Pg	03 32 29.8	-0.4
QSM	**Queen of Sheba**	**0.70**	**84**		Pg	Pg	03 32 30.4	-0.4
QSM				IAML			03 32 41.7	
	comp=N,829nm,0.4s							
QSM				IAML			03 32 43.8	
	comp=E,879nm,0.6s							
SPG2	**Springville 2**	**0.90**	**290**		Pg	Pg	03 32 34.0	-0.7
GWY	**Greenwater Val**	**0.91**	**71**		Pg	Pg	03 32 34.6	-0.2
GWY				IAML			03 32 50.0	
	comp=N,632nm,0.6s							
GWY				IAML			03 32 52.9	
	comp=E,685nm,0.4s							
GSC	**Goldstone, Bar**	**0.95**	**128**		Pg	Pg	03 32 35.0	-0.7
GSC				IAML			03 32 51.1	
	comp=E,558nm,0.8s							
GSC				IAML			03 32 52.2	
	comp=N,366nm,0.7s							
TPO	**Tropico Hills**	**1.09**	**202**		Pg	Pg	03 32 37.4	-0.9
TPO				IAML			03 32 59.8	
	comp=E,353nm,0.8s							
TPO				IAML			03 32 59.8	
	comp=N,501nm,0.7s							
GRAC	**Grapevine Rang**	**1.14**	**15**		Pg	Pg	03 32 38.8	-0.5
GRAC				IAML			03 32 55.6	
	comp=E,331nm,0.4s							
GRAC				IAML			03 33 02.9	
	comp=N,404nm,0.6s							
WCT	**Wildcat Mounta**	**1.27**	**44**		Pg	Pg	03 32 40.9	-0.8
WCT				IAML			03 33 03.2	
	comp=E,204nm,0.6s							
GMN	**Gold Mountain**	**1.46**	**15**		Pn	Pn	03 32 44.4	-0.5
TPNV	**Topopah Spring**	**1.59**	**48**		Pn	Pn	03 32 45.9	-0.8
TPNV				IAML			03 33 11.6	
	comp=E,176nm,0.6s							
BFSC	**Mount Baldy Ra**	**1.65**	**178**		Pn	Pn	03 32 47.6	+0.2
MWC	**Mount Wilson**	**1.69**	**189**		Pb	Pb	03 32 48.7	-0.4
MWC				IAML			03 33 13.2	
	comp=N,104nm,0.4s							
MTPC	**Mountain Pass**	**1.81**	**102**		Pn	Pn	03 32 48.1	-1.6
MTPC				IAML			03 33 15.4	
	comp=E,111nm,0.3s							
MTPC				IAML			03 33 17.3	
	comp=N,94nm,0.7s							
MCSM	**Casa Diablo Ho**	**2.00**	**332**		Pb	Pb	03 32 54.7	+0.1
ELS	**Elsinore Mount**	**2.25**	**174**		Pn	Pn	03 32 54.8	-0.8
POB	**Polly Butte**	**2.29**	**163**		Pn	Pn	03 32 55.6	-0.7
V12A	**Nelson**	**2.34**	**93**	Pn	Pn	Pn	03 32 55.6	-1.3
PMD	**Palm Desert**	**2.50**	**153**		Pn	Pn	03 32 57.4	-1.6
PMD				IAML			03 33 41.8	
	comp=E,47nm,0.9s							
PFO	**Pinyon Flats O**	**2.50**	**155**		Pn	Pn	03 32 57.7	-1.4
PMPB	**Monarch Peak**	**2.51**	**278**	Pn	Pn	Pn	03 32 59.9	+0.6
PMPB				IAML			03 33 38.4	
	comp=E,78nm,0.9s							
PMPB				IAML			03 33 39.0	
	comp=N,101nm,1.1s							
PRN	**Pahroc Range**	**2.63**	**54**	Pn	Pn	Pn	03 33 00.6	-0.3
PRN				IAML			03 33 45.7	
	comp=E,67nm,0.7s							
PRN				IAML			03 33 52.3	
	comp=N,64nm,0.8s							
MYLM	**Yosemite Lake**	**2.63**	**305**		Pb	Pb	03 33 03.9	-1.3
BSM	**San Miguel Isl**	**2.84**	**230**		Pn	Pn	03 33 00.7	-2.9
W13A	**Hualapai Mount**	**3.23**	**103**		Pn	Pn	03 33 07.9	-1.3

DJA ***12*** *03:35:04.3±1.2,4°N±5°×12°8E±°, h26km±15km, M4.6/9, mB5.3/1, mb4.8/6, MLv4.5/9, Mw(mB)4.7/1*
IDC ***12*** *03:35:09.4±3.9,3°84N×128°30E, h86km±33km, mb3.6/10, mbtmp4.0/12, MS3.2/2, Error ellipse: s-maj=56.0km s-min=13.8km az=71.0*
NEIC ***12*** *03:35:14.2±1.1,3°62N±0°09×128°0E±0°2, h119km±2km, mb4.3/10, Error ellipse: s-maj=23.6km s-min=11.8km az=78.0*

ISC 12 03:35:05.9±0.7,3°88N±0°07×128°45E±0°09, h46km, n40, σ1s50/36, mb4.2/16, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.92**	**266**	P	P	Pn	**03 35 49.2**	**-0.7**
SGSI				S	S	Sn	**03 36 25.1**	**+1.3**
TNTI	**Ternate**	**3.27**	**199**	P	P	Pn	**03 35 55.5**	**+0.8**
DAV	**Davao City (W)**	**4.27**	**318**			Pn	03 36 16.1	+7.7
DAV	**Davao City (W)**	**4.27**	**318**	P	P	Pn	**03 36 11.0**	**+2.6**
	186nm,0.4s,baz=183,slow=6.7,SNR=1.4							
DAV				S	S	Sn	03 37 09.4	+12
	221nm,0.4s,baz=54,slow=16,SNR=1.4							
DAV				LR	LR		03 38 22.5	
	comp=Z,500nm,18.6s,baz=126,slow=46							
SWI	**Sorong**	**5.48**	**149**	P	P	Pn	**03 36 25.6**	**+0.5**
	0.2nm39nm,0.8s							
KMSI	**Cibinong**	**5.54**	**234**	P	P	Pn	**03 36 26.1**	**+0.2**
MRSI	**Marisa**	**7.33**	**243**	P	P	Pn	**03 36 51.8**	**+1.3**
	0.4nm2µm112nm,0.6s							
TOLI2	**Tolitoli**	**8.14**	**250**			Pn	**03 37 00.5**	**-1.1**
APSI	**Ampana**	**8.30**	**235**	P	P	Pn	**03 37 05.1**	**+1.4**
KAPI	**Kappang**	**12.39**	**225**	P	P	Pn	**03 38 01.2**	**+1.4**
	5.5nm,0.4s,baz=47,slow=18,SNR=2.5							
TGY	**Tagaytay City**	**12.57**	**324**	P		Pn	**03 38 04.7**	**+2.3**
	306nm,0.4s,baz=188,slow=10,SNR=3.2							
SBUM	**Sibu**	**16.27**	**265**	P	P	P	**03 38 55.6**	**+1.8**
SBUM				IAmb	IAmb	IAmb	03 38 56.7	
	comp=Z,13nm,0.9s							
JAGI	**Jajag, Banyuwa**	**18.81**	**229**	Pn	P	P	**03 39 20.8**	**-1.0**
GUMO	**Guam**	**18.86**	**58**	LR	LR	LR	03 46 36.7	
	comp=Z,31nm,18.7s,baz=120,slow=36							
KNRA	**Kununurra**	**19.43**	**179**	Pn	Pn	Pn	**03 39 30.3**	**+0.1**
KNRA				IAmb	IAmb	IAmb	03 40 06.5	
	comp=Z,22nm,1.3s							
FITZ	**Fitzroy Crossi**	**22.01**	**187**	P	P	P	**03 39 54.4**	**-2.1**
	comp=Z,2.3nm,0.9s,baz=0.0,slow=7.1,SNR=1.8							
	comp=Z,2.3nm,0.9s							
WB0	**Warramunga Arr**	**24.21**	**166**	P	P	P	**03 40 17.9**	**-0.6**
WRA	**Warramunga Arr**	**24.37**	**166**	P	P	P	**03 40 19.8**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=344,slow=11,SNR=15							
	comp=Z,2.1nm,0.8s							
WR8	**Warramunga Arr**	**24.42**	**166**	P	P	P	**03 40 20.6**	**+0.2**
WR8				IAmb	IAmb	IAmb	03 41 03.8	
	comp=Z,12nm,1.3s							
ASAR	**Alice Springs**	**27.89**	**169**	P	P	P	**03 40 52.4**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=1.6,slow=7.7,SNR=6.3							
	comp=Z,1.1nm,0.8s							
CMAR	**Chiang Mai Arr**	**32.29**	**299**	P	P	P	**03 41 29.7**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=111,slow=8.7,SNR=6.6							
	comp=Z,1.1nm,0.3s							
CN2	**Changchun**	**39.84**	**357**	P	P	P	**03 42 36.2**	**+1.3**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**40.10**	**66**	T	T		04 25 51.9	
	baz=253,slow=75,SNR=8.8							
H11S2	**WAKE ISLAND Hy**	**40.12**	**66**	T	T		04 25 42.5	
	baz=253,slow=75,SNR=8.3							
H11S1	**WAKE ISLAND Hy**	**40.12**	**66**	T	T		04 25 42.2	
	baz=253,slow=75,SNR=4.4							
XLT	**XiLinHaoTe**	**41.33**	**346**	*eP*	P	P	**03 42 49.9**	**+2.6**
XLT				pP	pP		03 42 55.8	-2.5
XLT				pmax	pmax			
	comp=Z,4.0nm,0.6s							
XLT				pmax	pmax			
	comp=Z,75nm,4.2s							
SONM	**Songino Array**	**47.73**	**340**	P	P	P	**03 43 37.3**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=154,slow=7.7,SNR=4.7							
	comp=Z,0.6nm,0.5s							
MK31	**Makanchi Array**	**58.42**	**324**	P	P	P	**03 44 56.3**	**-0.7**
MKAR	**Makanchi Array**	**58.42**	**324**	P	P	P	**03 44 56.0**	**-1.0**
MKAR	**Makanchi Array**	**58.42**	**324**	P	P	P	**03 44 56.6**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=111,slow=8.1,SNR=8.6							
	comp=Z,0.6nm,0.4s							
KDJ	**Kajisay**	**59.39**	**318**	P	P	P	**03 45 03.1**	**-0.9**
KDJ				IAmb	IAmb	IAmb	03 45 19.3	
	comp=Z,2.7nm,0.9s							
ZALV	**Zalesovo Beam**	**61.24**	**332**	P	P	P	**03 45 14.0**	**-2.2**
	comp=Z,1.0nm,0.7s,baz=100,slow=8.1,SNR=1.8							
	comp=Z,1.0nm,0.7s							
KURBB	**Kurchatov Arra**	**62.55**	**327**	P	P	P	**03 45 24.0**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=124,slow=6.1,SNR=14							
	comp=Z,1.3nm,0.7s							
KKAR	**Karatay Array**	**64.30**	**316**	P	P	P	**03 45 36.0**	**-0.8**
BVAR	**Borovoye Array**	**68.14**	**326**	P	P	P	**03 45 59.0**	**-2.2**
	comp=Z,0.8nm,0.5s,baz=99,slow=8.9,SNR=1.9							
	comp=Z,0.8nm,0.5s							
ABKAR	**Akbulak array**	**73.12**	**320**	P	P	P	**03 46 30.1**	**-1.6**
G23K	**Bananza Creek**	**83.10**	**23**		P	P	**03 47 28.4**	**+1.8**
E23K	**Chandalar**	**83.40**	**22**	P	P	P	**03 47 30.5**	**+2.3**
E23K				IAmb	IAmb	IAmb	03 47 31.0	
	comp=Z,4.8nm,1.0s							
G24K	**Hadweenzic Riv**	**84.11**	**23**			P	**03 47 33.6**	**+1.9**
G24K				IAmb	IAmb	IAmb	03 47 36.3	
	comp=Z,4.0nm,1.2s							
HFS	**Hagfors**	**98.68**	**333**	P	P	P	**03 48 38.3**	**-1.9**
	comp=Z,0.7nm,0.8s,baz=76,slow=6.3,SNR=1.6							
	comp=Z,0.7nm,0.8s							

RSNC ***12*** *03:38:39.7±0.0,9°N±15°×7°1W±1°5, h20km±17km, M2.3, Mjma3.5, ML3.1, ML2.1, MLh2.6, MLv2.9, Ms(BB)3.0*
FUNV ***12*** *03:38:41.0,8.99°N×70.84W, h7km, MW2.8*

ISC 12 03:38:38.0±1.0,9.09°N±0.04°×70.81°W±0.04, h28km±10km, n11, σ1s89/19, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.27**	**140**	P	P	Pb	**03 38 44.8**	**-0.2**
SDV				S	S	Sb	**03 38 49.7**	**-0.1**
SOCV	**Socops**	**0.81**	**183**	*eP*	P	Pn	**03 38 54.1**	**+0.5**
SOCV				*eS*	S	Sb	**03 39 03.6**	**-0.4**
TEPV	**Terepaima**	**1.81**	**61**	*eP*	P	Pb	**03 39 12.9**	**+2.3**
TEPV				*eS*	S	Sb	**03 39 37.5**	**+4.7**
CAPV	**Capacho**	**1.93**	**231**	*eP*	P	Pb	**03 39 13.7**	**+1.1**
CAPV				*eS*	S	Sb	**03 39 36.1**	**-0.3**
OCAC	**Ocana**	**2.62**	**251**	P	P	Pb	**03 39 24.1**	**-0.4**
OCAC				S	S	Sb	**03 39 56.1**	**-0.3**
BAUV	**El Baul**	**2.73**	**93**	*eP*	P	Pb	**03 39 24.2**	**-2.1**
BAUV				*eS*	S	Sb	**03 39 57.7**	**-1.7**
CRJC	**Cerrejon, Guaj**	**2.80**	**313**	P	P	Pn	**03 39 21.0**	**-0.1**
CRJC				S	S	Sn	**03 39 53.7**	**-0.3**
URIC	**Uribia, Colomb**	**2.84**	**336**	P	P	Pb	**03 39 26.5**	**-1.6**
BENV	**Beln**	**3.28**	**74**	*eP*	P	Pb	**03 39 32.6**	**-2.9**
RUSC	**La Rusia**	**3.90**	**216**	P	P	Pn	**03 39 38.9**	**+2.4**
RUSC				S	S	Sn	**03 40 20.9**	**-0.8**
PTBC	**PUERTO BERRIO,**	**4.42**	**235**	P	P	Pn	**03 39 43.3**	**0.0**

NEIC ***12*** *03:49:42.1±1.5,3°98N±0°08×128°40E±0°09, h35km±2km, mb4.5/20, Error ellipse: s-maj=15.9km s-min=13.5km az=97.0*
DJA ***12*** *03:49:42.7±1.7,4°N±6°×12°8E±°, h31km±29km, M4.7/13, mB5.4/3, mb4.8/7, MLv4.7/13, Mw(mB)4.8/3*
IDC ***12*** *03:49:43.3±6.7,3°96N×128°46E, h58km±62km, mb3.9/17, mbtmp4.1/17, MS3.5/20, Error ellipse: s-maj=35.8km s-min=12.9km az=73.0*

ISC 12 03:49:42.4±0.5,4°00N±0°07×128°44E±0°09, h46km, n77, σ1s23/58, mb4.4/30, MS3.5/16, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.92**	**264**	P	P	Pn	**03 50 26.2**	**-0.1**
TNTI	**Ternate**	**3.38**	**198**	Pn	Pn	Pn	**03 50 32.8**	**+0.1**
TNTI	**Ternate**	**3.38**	**198**	P	P	Pn	**03 50 33.4**	**+0.7**
DAV	**Davao City (W)**	**4.17**	**317**	S	S	Sn	**03 51 30.4**	**-0.7**
	221nm,0.4s,baz=207,slow=14,SNR=1.5							
DAV				LR	LR		03 52 59.8	
	comp=Z,2µm,19.2s,baz=352,slow=47							
KMSI	**Cibinong**	**5.60**	**233**	P	P	Pn	**03 51 04.4**	**+1.2**
SANI	**Sanana**	**6.49**	**202**	P	P	Pn	**03 51 15.5**	**+0.1**
	0.2nm38nm,1.0s							
MRSI	**Marisa**	**7.37**	**242**	P	P	Pn	**03 51 28.2**	**+0.7**
	0.5nm2µm186nm,0.8s							
LUWI	**Luwuk**	**7.56**	**229**			Pn	**03 51 33.3**	**+3.3**
LUWI	**Luwuk**	**7.56**	**229**	P	P	Pn	**03 51 31.5**	**+1.5**
FAKI	**Fak Fak**	**7.86**	**151**	Pn	Pn	Pn	**03 51 35.4**	**+1.3**

JAY	**Jayapura**	**13.86**	**118**	LR	LR	03 57 59.4		
	comp=Z,211nm,18.1s,baz=342,slow=36							
SBUM	**Sibu**	**16.26**	**265**		**P**	**03 53 32.0**	**+1.8**	
GUMO	**Guam**	**18.81**	**59**	LR	LR	04 01 04.0		
	comp=Z,86nm,18.9s,baz=244,slow=36							
KNRA	**Kununurra**	**19.55**	**179**	P	**P**	**03 54 06.0**	**-0.4**	
FITZ	**Fitzroy Crossi**	**22.13**	**187**	P	**P**	**03 54 32.4**	**-1.8**	
WB0	**Warramunga Arr**	**24.33**	**166**		**P**	**03 54 55.0**	**-1.0**	
WB0				IAmb	IAmb	03 54 58.8		
	comp=Z,12nm,0.8s							
WRA	**Warramunga Arr**	**24.49**	**167**	P	**P**	**03 54 57.1**	**-0.3**	
	comp=Z,3.3nm,0.6s,baz=344,slow=10,SNR=23							
WRA				LR	LR	04 06 08.7		
	comp=Z,94nm,20.3s,baz=12,slow=40							
	comp=Z,3.3nm,0.6s							
WR8	**Warramunga Arr**	**24.54**	**166**	P	**P**	**03 54 57.0**	**-0.9**	
WR8				IAmb	IAmb	03 55 17.2		
	comp=Z,8.2nm,1.0s							
ASAR	**Alice Springs**	**28.01**	**169**	P	**P**	**03 55 28.2**	**-1.0**	
	comp=Z,1.1nm,0.8s,baz=352,slow=7.7,SNR=11							
	comp=Z,1.1nm,0.8s							
CMAR	**Chiang Mai Arr**	**32.22**	**299**	P	**P**	**03 56 06.2**	**-0.3**	
	comp=Z,0.9nm,0.3s,baz=111,slow=7.4,SNR=5.5							
CMAR				LR	LR	04 09 35.8		
	comp=Z,63nm,18.9s,baz=115,slow=37							
	comp=Z,0.9nm,0.3s							
KSRS	**Korea Array**	**33.30**	**359**	P	**P**	**03 56 16.0**	**+0.3**	
	comp=Z,0.5nm,0.3s,baz=181,slow=9.7,SNR=2.3							
	comp=Z,0.5nm,0.3s							
MJAR	**Matsushiro Arr**	**33.61**	**14**	P	**P**	**03 56 18.2**	**-0.3**	
	comp=Z,1.2nm,0.6s,baz=176,slow=11,SNR=4.0							
	comp=Z,1.2nm,0.6s							
PZH	**PanZhiHua**	**33.96**	**314**	P	**P**	**03 56 24.9**	**+3.1**	
XAN	**Xi'an**	**34.98**	**331**	P	**P**	**03 56 30.9**	**+0.5**	
XAN				pP	sP	03 56 46.6	+0.3	
XAN				pmax	pmax			
	comp=Z,14nm,0.8s							
STKA	**Stephens Creek**	**37.81**	**162**	P	**P**	**03 56 54.0**	**-0.5**	
	comp=Z,2.9nm,0.7s,baz=359,slow=7.1,SNR=3.7							
	comp=Z,2.9nm,0.7s							
LZH	**Lanzhou**	**39.16**	**328**	*e*P	**P**	**03 57 06.4**	**+0.4**	
LZH				pP	sP	03 57 22.2	+0.2	
LZH				sP	pwP	03 57 30.0	+7.1	
LZH				pmax	pmax			
	comp=Z,14nm,1.3s							
LZH				LR	LR			
	comp=N,170nm,13.1s							
LZH				LR	LR			
	comp=E,190nm,13.1s							
LZH				LR	LR			
	comp=Z,130nm,13.1s							
HHC	**Hu-ho-hao-te**	**39.71**	**340**	*e*P	**P**	**03 57 12.3**	**+1.9**	
HHC				pmax	pmax			
	comp=Z,10.0nm,0.7s							
HHC				pmax	pmax			
	comp=Z,82nm,4.0s							
H11S3	**WAKE ISLAND Hy**	**40.07**	**66**	T	T	04 40 27.3		
	baz=253,slow=75,SNR=13							
H11S2	**WAKE ISLAND Hy**	**40.08**	**66**	T	T	04 40 22.0		
	baz=253,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**40.08**	**66**	T	T	04 40 32.0		
	baz=253,slow=75,SNR=4.2							
USRK	**Ussuriysk Ar.**	**40.16**	**4**	LR	LR	04 13 31.9		
	comp=Z,31nm,18.2s,baz=68,slow=36							
SHL	**Shillong**	**41.10**	**305**	P	**P**	**03 57 19.6**	**-2.7**	
ASAJ	**Asahikawa**	**41.86**	**15**	LR	LR	04 12 22.7		
	comp=Z,38nm,20.5s,baz=158,slow=32							
YSS	**Yuzhno-Sakhali**	**44.55**	**14**		**P**	**03 57 50.3**	**+0.6**	
ULN	**Ulaanbaatar**	**47.41**	**341**	P	**P**	**03 58 12.7**	**+0.3**	
ULN				IAmb	IAmb	03 58 13.8		
	comp=Z,5.0nm,0.8s							
PALK	**Pallekele**	**47.60**	**276**	LR	LR	04 19 12.0		
	comp=Z,42nm,18.8s,baz=105,slow=37							
SONM	**Songino Array**	**47.61**	**340**		**P**	**03 58 14.2**	**+0.3**	
SONM	**Songino Array**	**47.61**	**340**	P	**P**	**03 58 14.2**	**+0.3**	
	comp=Z,2.1nm,0.8s,baz=158,slow=9.3,SNR=13							
	comp=Z,2.1nm,0.8s							
MA2	**Magadan**	**58.05**	**13**	LR	LR	04 28 25.6		
	comp=Z,20nm,18.1s,baz=194,slow=40							
MKAR	**Makanchi Array**	**58.32**	**324**		**P**	**03 59 32.4**	**-0.4**	
MKAR	**Makanchi Array**	**58.32**	**324**	P	**P**	**03 59 33.2**	**+0.4**	
	comp=Z,1.4nm,0.4s,baz=122,slow=8.1,SNR=25							
MKAR				LR	LR	04 26 34.3		
	comp=Z,62nm,18.1s,baz=144,slow=38							
	comp=Z,1.4nm,0.4s							
MAKZ	**Makanchi**	**58.51**	**324**		P	03 59 28.2	-5.9	
KDJ	**Kajisay**	**59.29**	**318**		**P**	**03 59 39.9**	**+0.1**	
KDJ				IAmb	IAmb	03 59 50.1		
	comp=Z,5.3nm,1.0s							
BOOM	**Boomskoye usch**	**60.28**	**317**	P	**P**	**03 59 46.6**	**0.0**	
BOOM				IAmb	IAmb	03 59 58.1		
	comp=Z,2.2nm,0.8s							
ZALV	**Zalesovo Beam**	**61.13**	**332**	P	**P**	**03 59 51.1**	**-0.8**	
	comp=Z,1.1nm,0.4s,baz=104,slow=6.3,SNR=6.0							
	comp=Z,1.1nm,0.4s							
SEY	**Seymchan**	**61.40**	**12**	LR	LR	04 28 21.7		
	comp=Z,22nm,18.3s,baz=190,slow=38							
KURK	**Kurchatov**	**62.44**	**327**		**P**	**04 00 00.6**	**-0.1**	
KURBB	**Kurchatov Arra**	**62.44**	**327**	P	**P**	**04 00 00.9**	**+0.1**	
	comp=Z,5.7nm,0.7s,baz=120,slow=6.4,SNR=4.2							
	comp=Z,5.7nm,0.7s							
GAR	**Garm**	**63.00**	**312**		**P**	**04 00 04.8**	**-0.1**	
KK31	**Karatay Array**	**64.21**	**316**		**P**	**04 00 12.4**	**-0.3**	
KK31				IAmb	IAmb	04 00 22.8		
	comp=Z,5.1nm,1.1s							
KKAR	**Karatay Array**	**64.21**	**316**		**P**	**04 00 12.7**	**+0.1**	
TIXI	**Tiksi**	**67.56**	**0**	LR	LR	04 32 10.8		
	comp=Z,34nm,18.4s,baz=192,slow=38							
BVAR	**Borovoye Array**	**68.03**	**326**	P	**P**	**04 00 37.4**	**+0.4**	
	comp=Z,1.3nm,0.6s,baz=152,slow=6.5,SNR=5.6							
	comp=Z,1.3nm,0.6s							
BRVK	**Borovoye**	**68.10**	**326**		**P**	**04 00 36.8**	**-0.7**	
BRVK				IAmb	IAmb	04 00 50.6		
	comp=Z,5.0nm,1.1s							
AB31	**Akbulak array**	**73.03**	**320**		**P**	**04 01 07.3**	**-0.1**	
ABKAR	**Akbulak array**	**73.03**	**320**	P	**P**	**04 01 07.2**	**-0.3**	
AKTO	**Aktyubinsk**	**74.51**	**321**	LR	LR	04 37 09.6		
	comp=Z,44nm,18.3s,baz=240,slow=38							
ARTI	**Arti**	**75.71**	**327**	LR	LR	04 36 60.0		
	comp=Z,38nm,19.6s,baz=44,slow=37							
N19K	**Bonanza Creek**	**80.23**	**29**		**P**	**04 01 51.9**	**+3.8**	
N19K				IAmb	IAmb	04 01 56.1		
	comp=Z,3.9nm,0.8s							
D19K	**Kuna River**	**80.26**	**21**	P	**P**	**04 01 49.7**	**+1.7**	
D19K				IAmb	IAmb	04 01 50.8		
	comp=Z,4.8nm,0.9s							
D20K	**Etivluk River**	**80.85**	**21**		**P**	**04 01 53.2**	**+2.0**	
D20K				IAmb	IAmb	04 01 54.0		
	comp=Z,5.6nm,0.9s							
BELG	**Belogornoye**	**81.24**	**322**	LR	LR	04 40 43.8		
	comp=Z,34nm,18.8s,baz=229,slow=38							
IMAR	**Indian Mountai**	**81.41**	**24**	P	**P**	**04 01 55.8**	**+1.6**	
GNI	**Garni**	**82.62**	**310**	LR	LR	04 45 07.0		
	comp=Z,21nm,18.0s,baz=73,slow=40							
VNDA	**Vanda**	**83.48**	**173**	P	**P**	**04 02 04.1**	**-0.6**	
	comp=Z,0.6nm,0.6s,baz=319,slow=7.9,SNR=5.6							
	comp=Z,0.6nm,0.6s							
ILAR	**Eielson Array**	**84.13**	**25**	P	**P**	**04 02 08.0**	**-0.3**	
	comp=Z,0.8nm,0.9s,baz=247,slow=5.1,SNR=8.1							
	comp=Z,0.8nm,0.9s							
MMAI	**Mount Meron Ar**	**90.39**	**303**	LR	LR	04 49 38.8		
	comp=Z,17nm,18.6s,baz=116,slow=40							
ARCES	**ARCESS Array B**	**90.78**	**340**	P	**P**	**04 02 39.0**	**-1.4**	
	comp=Z,2.8nm,0.8s,baz=70,slow=7.0,SNR=4.8							
	comp=Z,2.8nm,0.8s							
AKASG	**Malin Array Be**	**92.76**	**321**	P	**P**	**04 02 48.5**	**-1.4**	
	comp=Z,0.3nm,0.4s,baz=72,slow=5.9,SNR=1.7							
	comp=Z,0.3nm,0.4s							
QSPA	**South Pole Qui**	**93.90**	**180**	P	**P**	**04 02 54.3**	**-0.6**	
	comp=Z,1.3nm,0.9s,baz=45,slow=1.8,SNR=8.4							
	comp=Z,1.3nm,0.9s							
HFS	**Hagfors**	**98.57**	**333**	P	**P**	**04 03 14.8**	**-1.3**	
	comp=Z,1.2nm,0.8s,baz=96,slow=11,SNR=1.8							
HFS				LR	LR	04 52 57.3		
	comp=Z,20nm,18.2s,baz=42,slow=38							
	comp=Z,1.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**124.45**	**289**	PKP	**PKiKP**	**04 08 37.9**	**0.0**	
	comp=Z,0.4nm,0.7s,baz=5.7,slow=2.9,SNR=2.4							

*JMA **12** 03:54:40.8±0.1,24.0°N±0.6×122.9°E±0.6,h38km,MV2.3/10, NEAR ISHIGAKIJIMA ISLAND*
*TAP **12** 03:54:41.1,24.02°N×122.87°E,h35km,ML2.7,D*
ISC 12 03:54:39.4±1.4,23.84N±0.06×122.92E±0.03,h26km±13km, n36,σ0.95/31,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.61**	**2**	*e*P	**Pb**	**03 54 51.4**	**-0.1**
JYNG				*e*S	**Sb**	**03 54 58.5**	**-1.2**
EOS4	**EOS4**	**0.61**	**297**	*e*P	**Pb**	**03 54 51.8**	**+0.4**
EOS4				*e*S	**Sb**	**03 54 60.0**	**+0.5**
YOJ	**Yonaguni jima**	**0.62**	**8**	P	**Pb**	**03 54 51.6**	**-0.2**
YOJ				*e*S	**Sb**	**03 54 59.1**	**-1.1**
YOJ	**Yonaguni jima**	**0.62**	**8**	P	**Pb**	**03 54 51.4**	**-0.3**
YOJ				*e*S	**Sb**	**03 54 58.9**	**-1.2**
EOS3	**EOS3**	**0.70**	**309**	*e*P	**Pb**	**03 54 53.4**	**+0.4**
EOS3				S	**Sb**	**03 55 03.4**	**+1.1**
HATJ	**Hateruma jima**	**0.84**	**75**	P	Pn	03 54 56.1	+0.5
HATJ				*e*S	**Sb**	**03 55 07.5**	**+1.2**
EOS2	**EOS2**	**0.85**	**313**	*e*P	Pn	03 54 56.2	+0.6
EOS2				*e*S	**Sb**	**03 55 08.0**	**+1.5**
IRIF	**Iriomote-Funau**	**0.89**	**56**	P	Pn	03 54 56.4	+0.2
IRIF				*e*S	**Sb**	**03 55 07.6**	**-0.1**
JKRS	**Kuro-shima**	**1.07**	**68**	P	Pn	03 54 59.9	+1.1
JKRS				*e*S	**Sn**	**03 55 13.6**	**+0.8**
ENA	**Nanau**	**1.22**	**299**	*e*P	Pn	03 55 01.9	+1.0
JIJ	**Ishigaki jima**	**1.23**	**65**	P	Pn	03 55 01.9	+0.9
JIJ				*e*S	**Sn**	**03 55 17.2**	**+0.4**
TWC	**Suao**	**1.24**	**308**	*e*P	Pn	03 55 01.4	+0.3
TWC				*e*S	**Sn**	**03 55 16.1**	**-0.8**
NACB	**Ninganchiao**	**1.25**	**286**	*e*P	**Pn**	**03 55 00.5**	**-0.8**
ETLH	**Xiulin Townshi**	**1.36**	**286**	*e*P	Pn	03 55 03.3	+0.4
LXIB	**Xiulin Townshi**	**1.39**	**278**	*e*P	Pn	03 55 03.4	+0.1
WARBT	**Fenglin Townsh**	**1.41**	**265**	*e*P	Pn	03 55 03.1	-0.3
WARBT				*e*S	**Sn**	**03 55 20.5**	**-0.7**
HGSD	**Ruisui**	**1.41**	**256**	*e*P	Pn	03 55 03.0	-0.4
HGSD				*e*S	**Sn**	**03 55 20.8**	**-0.4**
LATG	**Datong**	**1.45**	**299**	*e*P	Pn	03 55 06.2	+2.1
JISG	**Ishigakijimahi**	**1.47**	**59**	*e*P	Pn	03 55 04.9	+0.6
JISG				*e*S	**Sn**	**03 55 24.1**	**+1.4**
EHY	**Hungye**	**1.50**	**257**	*e*P	Pn	03 55 04.8	+0.1
EHY				*e*S	**Sn**	**03 55 23.8**	**+0.3**
TIPB	**Shuangxi**	**1.50**	**319**	*e*P	Pn	03 55 05.7	+0.9
FUSB	**Fushanzhiwuyua**	**1.52**	**307**	*e*P	**Pb**	**03 55 07.8**	**+0.8**
NNSB	**Datong**	**1.52**	**293**	*e*P	Pn	03 55 06.0	+0.9
NNSB				*e*S	**Sn**	**03 55 25.4**	**+1.3**
WHF	**Hehuan Shan**	**1.54**	**282**	*e*P	Pn	03 55 06.1	+0.5
YULB	**Yu-li**	**1.55**	**254**	P	Pn	03 55 05.8	+0.4
YULB				*e*S	**Sn**	**03 55 25.8**	**+1.1**
TWF1	**Yuli**	**1.56**	**252**	*e*P	Pn	03 55 05.3	-0.2
SXI1	**Grass Mountain**	**1.57**	**323**	*e*P	Pn	03 55 06.1	+0.4
FULB	**Fuli**	**1.62**	**247**	*e*P	Pn	03 55 06.3	-0.1
FULB				*e*S	**Sn**	**03 55 25.1**	**-1.3**
VWDT	**VWDT**	**1.63**	**267**	*e*P	Pn	03 55 07.4	+0.9
VWDT				*e*S	**Sn**	**03 55 27.0**	**+0.4**
NSK	**Sanguang**	**1.65**	**301**	*e*P	Pn	03 55 07.8	+1.0
WUSB	**Renai**	**1.65**	**276**	*e*P	Pn	03 55 07.1	+0.2
WUSB				*e*S	**Sn**	**03 55 28.3**	**+0.9**
EHD	**Haiduan**	**1.72**	**247**	*e*P	Pn	03 55 07.7	0.0
EHD				*e*S	**Sn**	**03 55 28.5**	**-0.3**
LDUT	**Ludao**	**1.77**	**229**	*e*P	Pn	03 55 08.0	-0.3
LDUT				*e*S	**Sn**	**03 55 28.3**	**-1.7**
SSLB	**Suanglung**	**1.80**	**269**	*e*P	Pn	03 55 10.6	+1.8
WHP	**Taichung City**	**1.85**	**284**	*e*P	**Pb**	**03 55 12.8**	**+0.1**
TYC	**Yuchr**	**1.89**	**272**	*e*P	**Pb**	**03 55 13.7**	**+0.5**

*IDC **12** 04:06:36.3±0.7,54.09°S×134.13°W,h0km,mb3.9/9, mbtmp3.9/9,Error ellipse: s-maj=26.8km s-min=21.1km az=155.0*
ISC 12 04:06:38.2±0.8,54.1S±0.2×134.1W±0.2,h12km,n27, σ0.78/15,mb4.0/9,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**32.35**	**201**	P	**P**	**04 13 07.3**	**+0.5**
	0.7nm,1.0s,baz=54,slow=2.2,SNR=3.3						
	0.7nm,1.0s						
QSPA	**South Pole Qui**	**36.09**	**180**	P	**P**	**04 13 40.1**	**+0.6**
	2.2nm,1.1s,baz=45,slow=4.1,SNR=3.2						
	2.2nm,1.1s						
H03S2	**Juan Fernandez**	**43.31**	**85**	T	T	05 00 42.1	
	baz=223,slow=74,SNR=17						
H03S1	**Juan Fernandez**	**43.31**	**85**	T	T	05 00 46.7	
	baz=223,slow=74,SNR=19						
H03S3	**Juan Fernandez**	**43.33**	**85**	T	T	05 00 41.7	
	baz=223,slow=74,SNR=14						
H03N3	**Juan Fernandez**	**43.58**	**85**	T	T	05 00 59.1	
	baz=226,slow=72,SNR=89						
H03N2	**Juan Fernandez**	**43.59**	**85**	T	T	05 01 00.3	
	baz=226,slow=72,SNR=138						
H03N1	**Juan Fernandez**	**43.60**	**85**	T	T	05 00 59.3	
	baz=226,slow=72,SNR=85						
SNAA	**Sanae**	**49.95**	**162**	P	**P**	**04 15 31.3**	**0.0**
	1.9nm,1.1s,baz=196,slow=19,SNR=2.0						
	1.9nm,1.1s						
MAW	**Mawson**	**57.97**	**188**	P	**P**	**04 16 29.3**	**-0.4**
	2.1nm,0.9s,baz=182,slow=3.7,SNR=3.8						
	2.1nm,0.9s						
CPUP	**Villa Florida**	**61.50**	**96**	P	**P**	**04 16 54.6**	**-0.1**
	0.5nm,1.0s,baz=135,slow=1.4,SNR=2.8						
	0.5nm,1.0s						
LPAZ	**La Paz**	**62.91**	**80**	P	**P**	**04 17 05.1**	**+0.1**
	2.4nm,1.0s,baz=265,slow=2.4,SNR=5.8						
	2.4nm,1.0s						
ASAR	**Alice Springs**	**72.30**	**254**	P	**P**	**04 18 03.6**	**0.0**
	1.6nm,0.8s,baz=139,slow=6.4,SNR=13						
	1.6nm,0.8s						
H01W1	**Cape Leeuwin H**	**73.68**	**233**	T	T	05 39 51.1	
	baz=144,slow=75,SNR=8.2						
H01W2	**Cape Leeuwin H**	**73.69**	**233**	T	T	05 39 48.3	
	baz=144,slow=75,SNR=8.4						
H01W3	**Cape Leeuwin H**	**73.70**	**233**	T	T	05 39 50.0	
	baz=144,slow=75,SNR=7.9						
WRA	**Warramunga Arr**	**74.98**	**257**	P	**P**	**04 18 19.6**	**+0.2**
	1.2nm,0.7s,baz=143,slow=5.2,SNR=14						
	1.2nm,0.7s						
TXAR	**Lajitas Array**	**87.16**	**26**	P	**P**	**04 19 25.1**	**+1.3**
	0.8nm,1.0s,baz=231,slow=4.4,SNR=6.1						
	0.8nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**88.17**	**305**	T	T	05 57 10.7	
	baz=148,slow=76,SNR=4.9						
H11S3	**WAKE ISLAND Hy**	**88.19**	**305**	T	T	05 57 11.9	
	baz=148,slow=76,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**88.19**	**305**	T	T	05 57 11.1	
	baz=148,slow=76,SNR=4.4						
ILAR	**Eielson Array**	**118.93**	**354**	PKP	**PKiKP**	**04 25 25.2**	**+0.1**
	0.4nm,0.9s,baz=187,slow=2.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**126.46**	**122**	PKP	**PKPdf**	**04 25 39.3**	**-1.8**
	0.4nm,0.9s,baz=224,slow=0.7,SNR=1.9						
KEST	**Kesra**	**148.76**	**111**	PKPbc	**PKPbc**	**04 26 24.3**	**-0.7**
	3.8nm,0.9s,baz=296,slow=6.1,SNR=4.7						
EKA	**Eskdalemuir Ar**	**152.11**	**67**	PKPbc	**PKPbc**	**04 26 32.1**	**-0.1**
	0.9nm,0.6s,baz=289,slow=2.2,SNR=4.1						
MKAR	**Makanchi Array**	**155.90**	**267**	PKPab	**PKPab**	**04 26 58.2**	**-0.2**
	0.9nm,0.8s,baz=123,slow=4.5,SNR=5.7						
ZALV	**Zalesovo Beam**	**157.31**	**286**	PKPab	**PKPab**	**04 27 03.1**	**-1.0**
	0.6nm,0.5s,baz=66,slow=3.7,SNR=3.6						

*NEIC **12** 04:11:59.6±1.3,36.178N±0.010×117.87W±0.02, h5km±1km,Error ellipse: s-maj=2.8km s-min=2.2km az=246.0*
PAS 12 04:11:59.9±1.1,36.182N±0.010×117.88W±0.02, h2km±1km,ML3.3/23,ML3.1/112(NEIC),Error ellipse: s-maj=1.9km s-min=1.4km az=78.0,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MFS	**McCloud Flat S**	**0.07**	**160**		Pg	04 12 01.5	+0.2
WRVM	**Rose V. Centra**	**0.17**	**182**		Pg	04 12 03.4	+0.1
JRC2	**Joshua Ridge**	**0.21**	**163**		Pg	04 12 04.1	+0.2
JRC2					Sg	04 12 07.3	+0.7
WVPM	**Volcano Peak E**	**0.24**	**167**		Pg	04 12 08.5	+4.0
CWC	**Cottonwood Cre**	**0.30**	**328**		Pg	04 12 05.8	0.0
CWC					Sg	04 12 10.3	+0.6
CWC				IAML		04 12 12.0	
	comp=N,4μm,0.2s						
WNMM	**Nine Mile Camy**	**0.34**	**183**		Pg	04 12 06.3	0.0
MPMC	**Manual Prospec**	**0.34**	**111**		Pg	04 12 06.5	0.0
CGO	**Cerro Gordo**	**0.37**	**10**		Pg	04 12 07.0	-0.1
TOW	**Tower One**	**0.38**	**165**		Pg	04 12 08.0	+0.7
SRTC	**Snort**	**0.50**	**167**		Pg	04 12 10.1	+0.6
SRTC					Sb	04 12 17.9	-1.4
WORM	**Onyx Ranch**	**0.56**	**211**		Pg	04 12 10.5	-0.3
WORM					Sg	04 12 18.2	+0.2
WSHM	**Spangler Hills**	**0.66**	**151**		Pg	04 12 12.6	0.0
WSHM				IAML		04 12 22.1	
	comp=N,880nm,0.5s						
WSHM				IAML		04 12 22.1	
	comp=N,908nm,0.4s						
WASM	**Alta Sierra Ca**	**0.70**	**231**		Pg	04 12 13.2	-0.2
ISA	**Isabella, Lake**	**0.70**	**223**		Pg	04 12 13.2	-0.2
ISA				IAML		04 12 23.1	
	comp=E,721nm,0.5s						
ISA				IAML		04 12 24.4	
	comp=N,701nm,0.3s						
SPG2	**Springville 2**	**0.71**	**272**		Pg	04 12 13.3	-0.3
LRMC	**Laurel Mtn Rad**	**0.72**	**167**		Pg	04 12 13.5	-0.2
LRMC				IAML		04 12 23.9	
	comp=N,1μm,0.2s						
LRMC				IAML		04 12 24.0	
	comp=E,1μm,0.5s						
QSM	**Queen of Sheba**	**0.85**	**104**		Pg	04 12 16.0	-0.2
QSM				IAML		04 12 31.5	
	comp=E,765nm,0.6s						
QSM				IAML		04 12 31.7	
	comp=N,586nm,0.6s						
DTP	**Desert Tortois**	**0.91**	**178**		Pg	04 12 16.9	-0.4
GRAC	**Grapevine Rang**	**0.91**	**27**		Pg	04 12 17.1	-0.3
GRAC				IAML		04 12 34.7	
	comp=N,742nm,0.8s						
GRAC				IAML		04 12 37.8	
	comp=E,711nm,0.6s						
TIN	**Tinemaha, Big**	**0.91**	**342**		Pg	04 12 17.3	-0.1
TIN					Sb	04 12 30.4	-0.8
GWY	**Greenwater Val**	**0.98**	**89**		Pg	04 12 18.5	-0.2
GWY				IAML		04 12 37.1	
	comp=N,814nm,0.5s						
SGV	**South Grapevin**	**1.05**	**40**		Pg	04 12 19.5	-0.6
LCH	**Last Change Ra**	**1.07**	**10**		Pg	04 12 19.4	-0.9
WCT	**Wildcat Mounta**	**1.18**	**59**		Pg	04 12 21.9	-0.7
WCT				IAML		04 12 40.9	
	comp=E,619nm,0.5s						
WCT				IAML		04 12 41.3	
	comp=N,296nm,0.6s						
DSP	**Deep Springs**	**1.19**	**357**		Pg	04 12 21.6	-1.1
DSP				IAML		04 12 39.3	
	comp=N,255nm,0.4s						
DSP				IAML		04 12 39.6	
	comp=E,217nm,0.5s						
VOG	**Valley Oaks Go**	**1.22**	**277**		Pg	04 12 22.8	-0.5
GMN	**Gold Mountain**	**1.22**	**24**	IAML		04 12 40.0	
	comp=N,239nm,0.4s						
GSC	**Goldstone, Bar**	**1.24**	**135**	IAML		04 12 42.6	
	comp=E,431nm,0.5s						
GSC				IAML		04 12 42.7	
	comp=N,343nm,0.3s						
TPO	**Tropico Hills**	**1.33**	**192**		Pg	04 12 24.4	-0.9
TPO				IAML		04 12 47.8	
	comp=E,288nm,0.7s						
TPO				IAML		04 12 52.5	
	comp=N,247nm,0.6s						
TPNV	**Topopah Spring**	**1.52**	**59**	IAML		04 12 54.6	
	comp=N,236nm,0.9s						
TPNV				IAML		04 12 57.3	
	comp=N,248nm,0.8s						
KCC	**Kaiser Creek**	**1.62**	**315**		Pn	04 12 29.6	0.0
MLAC	**Mammoth, Mammo**	**1.64**	**332**		Pn	04 12 30.4	+0.5
OSI	**Osito Audit: C**	**1.71**	**204**	IAML		04 12 57.6	
	comp=N,238nm,0.6s						
HOLC	**Holcomb Ridge**	**1.72**	**179**		Pb	04 12 32.5	+0.2
CRGC	**Crocker Grade**	**1.77**	**239**		Pb	04 12 33.0	-0.2
BFSC	**Mount Baldy Ra**	**1.95**	**174**	IAML		04 13 03.2	
	comp=E,94nm,0.7s						
MWC	**Mount Wilson**	**1.96**	**184**	IAML		04 13 03.5	
	comp=E,120nm,0.7s						
MWC				IAML		04 13 03.7	
	comp=N,150nm,0.3s						
TPH	**Tonopah**	**1.96**	**15**		Pn	04 12 34.1	-0.3
TPH				IAML		04 13 06.6	
	comp=E,242nm,0.4s						
MTPC	**Mountain Pass**	**2.02**	**109**		Pn	04 12 34.1	-1.1
MTPC				IAML		04 13 07.2	
	comp=N,150nm,0.7s						
MTPC				IAML		04 13 08.5	
	comp=E,110nm,0.7s						
TSCN	**Private Proper**	**2.10**	**253**		Pb	04 12 38.1	-0.6
LHV	**Little Huntoon**	**2.12**	**347**		Pn	04 12 36.8	+0.4
LHV				IAML		04 13 12.4	
	comp=N,94nm,0.7s						
LHV				IAML		04 13 13.6	
	comp=E,118nm,1.2s						
SHPR	**Sheep Range**	**2.22**	**81**		Pn	04 12 38.0	+0.1
NV11	**Mina Array Sit**	**2.26**	**355**		Pn	04 12 38.3	-0.1
NVAR	**Mina Array Bea**	**2.27**	**352**		Pn	04 12

MUGZ Murupara 8.96 211 P Pn 04 14 29.4 -4.1
MUGZ S **Sn** **04 16 09.6 -4.9**
TOZ Tahuroa Road 9.01 219 P **Pn** **04 14 34.2 +0.1**
TOZ Tahuroa Road 9.01 219 P **Pn** **04 14 34.4 +0.3**
MHGZ Mahia Peninsul 9.09 204 P Pn 04 14 30.8 -4.4
BKZ Black Stump Fm 9.65 210 P Pn 04 14 36.7 -6.2
BKZ S Sn 04 16 23.0 -8.5
HIZ Hauiti 9.93 218 P **Pn** **04 14 51.1 +4.4**
OTVZ Oturere 10.02 213 P **Pn** **04 14 46.5 -1.6**
CTZ Chatham Island 12.81 178 P Pn 04 15 22.8 -3.3
MSVF Nonsavu 13.78 341 **Pn** **04 15 40.7 +1.1**
MSVF Nonsavu 13.78 341 P **Pn** **04 15 40.7 +1.1**
RPZ Rata Peaks 15.73 213 Pn Pn 04 15 58.9 -6.8
1.6nm,0.3s,baz=149,slow=12,SNR=7.7
RPZ Sn Sn 04 18 41.8 -18
2.9nm,0.3s,baz=3.4,slow=20,SNR=5.6
RPZ LR LR 04 22 49.0
comp=Z,2µm,18.1s,baz=32,slow=40
PINNC Pines Island, 15.89 298 P **Pn** **04 16 10.3 +2.5**
ONTNC Ouen Toro 16.82 297 P **P** **04 16 24.8 +3.0**
DZM Mont Dzumac 16.96 297 **P** **04 16 24.9 +1.4**
DZM Mont Dzumac 16.96 297 *e*Pn **Pn** **04 16 23.6 +2.0**
236nm,1.4s
DZM *e*LR LR 04 20 13.1
2µm,23.5s
DZM Mont Dzumac 16.96 297 Pn **P** **04 16 26.2 +2.7**
0.5nm,0.3s,baz=105,slow=14,SNR=18
RAR Rarotonga 18.49 63 P **P** **04 16 40.6 +0.4**
3.1nm,0.3s,baz=243,slow=9.0,SNR=3.9
RAR LR LR 04 25 14.0
comp=Z,252nm,18.2s,baz=262,slow=42
16nm,0.4s
TBI Tubuai 25.89 80 *e*S **S** **04 22 26.2 0.0**
2µm,25.0s
TBI *e*LR LR 04 24 10.6
2µm,22.8s
TBI *e*LR LR 04 24 22.1
826nm,33.8s
ARMA Armidale 26.65 263 **P** **04 18 05.0 +1.8**
EIDS Eidsvold 28.33 273 P **P** **04 18 18.4 +0.3**
PPT2 Papeete2 28.49 69 *e*S **S** **04 23 01.8 -5.7**
73nm,21.5s
PPT2 *e*LR LR 04 25 17.2
314nm,23.0s
PPT2 *e*LR LR 04 25 24.7
284nm,25.5s
PPT Papeete 28.50 69 LR LR 04 29 30.6
comp=Z,394nm,18.0s,baz=222,slow=36
CTAO Charters Tower 34.44 280 P **P** **04 19 12.3 +0.4**
CTAO IAmb IAmb 04 19 31.2
comp=Z,34nm,0.9s
CTAO Charters Tower 34.44 280 P **P** **04 19 12.4 +0.4**
CTAO pmax pmax
comp=Z,34nm,1.0s
STKA Stephens Creek 34.91 258 P **P** **04 19 16.8 +0.9**
STKA Stephens Creek 34.91 258 P **P** **04 19 16.4 +0.4**
comp=Z,27nm,0.9s,baz=91,slow=9.9,SNR=20
STKA LR LR 04 32 49.6
comp=Z,701nm,18.2s,baz=70,slow=35
comp=Z,27nm,0.9s
STKA Stephens Creek 34.91 258⇓ *e*P **P** **04 19 16.0 0.0**
COEN Coen 39.96 286 P **P** **04 19 58.5 -0.3**
AS31 Alice Springs 43.65 267 P **P** **04 20 28.0 -1.0**
ASAR Alice Springs 43.65 267 P **P** **04 20 28.1 -0.9**
ASAR Alice Springs 43.65 267 P **P** **04 20 28.3 -0.7**
comp=Z,6.7nm,0.6s,baz=106,slow=7.2,SNR=62
ASAR PcP **PcP** **04 22 15.8 -0.6**
comp=Z,5.1nm,0.9s,baz=129,slow=4.6,SNR=5.3
ASAR ScP **ScP** **04 26 08.5 +0.5**
comp=Z,1.4nm,0.7s,baz=108,slow=4.3,SNR=4.9
ASAR LR LR 04 38 44.4
comp=Z,957nm,18.0s,baz=113,slow=36
comp=Z,6.7nm,0.6s
WR8 Warramunga Arr 44.54 272 P **P** **04 20 34.4 -1.8**
WR8 IAmb IAmb 04 20 42.3
comp=Z,22nm,0.8s
WRAB Tennant Creek 44.68 272⇓ *e*P **P** **04 20 35.4 -1.9**
WRAB pmax pmax
comp=Z,23nm,0.9s
WRA Warramunga Arr 44.68 272 P **P** **04 20 35.9 -1.4**
WRA Warramunga Arr 44.68 272 P **P** **04 20 35.5 -1.8**
comp=Z,19nm,0.7s,baz=112,slow=8.0,SNR=91
WRA PcP **PcP** **04 22 18.9 -1.0**
comp=Z,6.1nm,1.0s,baz=122,slow=3.2,SNR=3.4
WRA ScP **ScP** **04 26 12.8 +0.6**
comp=Z,2.8nm,1.0s,baz=113,slow=4.5,SNR=4.9
WRA LR LR 04 38 55.6
comp=Z,1µm,18.0s,baz=92,slow=36
comp=Z,19nm,0.7s
WRA Warramunga Arr 44.68 272 P **P** **04 20 35.9 -1.4**
WRA pmax pmax
comp=Z,2.0nm,0.9s
FORT Forrest 46.46 255 P **P** **04 20 49.9 -1.4**
FORT IAmb IAmb 04 21 09.2
comp=Z,18nm,0.8s
SBA Scott Base 47.56 185 P **P** **04 21 02.1 +2.9**
SBA IAmb IAmb 04 21 04.2
comp=Z,29nm,1.1s
SBA Scott Base 47.56 185 P **P** **04 21 02.1 +2.9**
SBA pmax pmax
comp=Z,29nm,1.2s
VNDA Vanda 47.64 186 P **P** **04 21 02.0 +2.2**
VNDA Vanda 47.64 186 P **P** **04 21 02.1 +2.2**
comp=Z,2.9nm,0.7s,baz=22,slow=5.3,SNR=21
comp=Z,2.9nm,0.7s
VNDA Vanda 47.64 186 P **P** **04 21 02.0 +2.2**
VNDA pmax pmax
comp=Z,13nm,1.4s
SMPI Sarmi 50.50 296 P **P** **04 21 24.8 +2.2**
FITZ Fitzroy Crossi 52.92 270 LR LR 04 43 09.7
comp=Z,665nm,20.1s,baz=108,slow=35
NWAO Narrogin (SRO) 54.74 249 LR LR 04 44 17.8
comp=Z,206nm,18.6s,baz=68,slow=35
CASY Casey 54.95 208 P **P** **04 21 54.7 0.0**
CASY IAmb IAmb 04 22 10.8
comp=Z,32nm,0.8s
MORW Morawa 56.92 254 P **P** **04 22 07.4 -2.1**
MORW IAmb IAmb 04 22 22.7
comp=Z,51nm,1.6s
GUMO Guam 57.24 315 LR LR 04 44 52.8
comp=Z,162nm,18.4s,baz=120,slow=34
BATI Baumata 58.28 277 LR LR 04 48 04.0
comp=Z,1µm,18.5s,baz=130,slow=37
QSPA South Pole Qui 59.19 180 P **P** **04 22 27.4 +2.4**
QSPA South Pole Qui 59.19 180 P **P** **04 22 27.3 +2.2**
comp=Z,28nm,1.0s,baz=38,slow=2.2,SNR=71
comp=Z,28nm,1.0s
GIRL Giralia 60.81 260 P **P** **04 22 35.3 -1.4**
KAPI Kappang 64.25 280 LR LR 04 51 00.8
comp=Z,162nm,18.1s,baz=99,slow=36
BELA Belgrano 2 69.20 172 P **P** **04 23 30.3 0.0**
BELA IAmb IAmb 04 23 31.8
comp=Z,17nm,1.0s
PMSA Palmer Station 71.56 155 LR LR 04 48 31.5
comp=Z,117nm,20.4s,baz=254,slow=30
MAW Mawson 72.02 200 P **P** **04 23 47.4 -0.3**
comp=Z,7.4nm,0.8s,baz=99,slow=12,SNR=17
MAW LR LR 04 55 56.8
comp=Z,334nm,18.1s,baz=110,slow=36
comp=Z,7.4nm,0.8s
LEM Lembang 73.70 272 LR LR 04 56 54.7
comp=Z,334nm,18.9s,baz=220,slow=36
MG05 Puerto Natales 74.75 141 IAmb IAmb 04 24 06.0
comp=Z,35nm,0.9s
ESPZ Base Esperanza 74.87 156 P **P** **04 24 05.0 +0.5**
USHA Ushuaia 75.17 146 LR LR 04 48 39.5
comp=Z,126nm,19.4s,baz=224,slow=29
SYO Syowa Base 76.74 193⇓ *e*P **P** **04 24 15.2 +0.1**
SYO Syowa Base 76.74 193⇓ *e*pP **P** **04 24 17.6 +2.5**
AY03 Cochrane 76.98 137 IAmb IAmb 04 24 19.5
comp=Z,21nm,0.8s
TROLL Troll, Antarti 77.36 180 ⇑P **P** **04 24 19.9 +1.2**
comp=Z,1µm,0.8s
JOW Kunigami 77.43 312 LR LR 04 53 56.9
comp=Z,177nm,21.2s,baz=262,slow=32
SNAA Sanae 77.62 178 ⇑P **P** **04 24 20.4 +0.3**
comp=Z,211nm,0.8s
SNAA Sanae 77.62 178 P **P** **04 24 20.3 +0.2**
SNAA IAmb IAmb 04 24 51.4
comp=Z,25nm,1.2s
SNAA Sanae 77.62 178 P **P** **04 24 20.6 +0.5**
comp=Z,8.3nm,0.8s,baz=205,slow=6.4,SNR=35
SNAA LR LR 04 57 10.4
comp=Z,120nm,19.0s,baz=145,slow=35
comp=Z,8.3nm,0.8s
SNAA Sanae 77.62 178 *de*P **P** **04 24 20.4 +0.2**
SNAA pmax pmax
comp=Z,13nm,1.0s
MDSI Maura Dua 77.83 272 P **P** **04 24 20.8 -1.3**
VNA2 Neumayer--Watz 78.19 177 ⇑P **P** **04 24 23.8 +0.6**
comp=Z,32nm,0.8s,baz=172,slow=4.0
VNA1 Neumayer--Stat 78.42 176 ⇑P **P** **04 24 23.9 -0.5**
comp=Z,36nm,0.9s
MJAR Matsushiro Arr 78.99 325 P **P** **04 24 26.2 -1.8**
comp=Z,3.3nm,0.8s,baz=161,slow=6.1,SNR=7.7
comp=Z,3.3nm,0.8s
MAJO Matsushiro 78.99 325⇑ *e*P **P** **04 24 26.0 -2.0**
MAJO pmax pmax
comp=Z,10.0nm,1.2s
LL02 Futaleuf 79.59 134 IAmb IAmb 04 24 33.8
comp=Z,34nm,0.9s
H03S2 Juan Fernandez 79.71 123 T T 05 52 26.3
baz=240
H03S1 Juan Fernandez 79.72 123 T T 05 52 20.7
baz=240
H03S3 Juan Fernandez 79.73 123 T T 05 52 21.9
baz=240
JNU Nakatsue 80.32 318 LR LR 04 54 53.1
comp=Z,73nm,21.9s,baz=126,slow=32
ERM Erimo 81.19 331⇓ *e*P **P** **04 24 38.7 -1.0**
ERM pmax pmax
comp=Z,48nm,1.2s
PLCA Paso Flores 81.74 133 P **P** **04 24 44.5 +1.4**
PLCA IAmb IAmb 04 24 45.6
comp=Z,20nm,1.1s
PLCA Paso Flores 81.74 133 P **P** **04 24 44.5 +1.4**
comp=Z,11nm,0.9s,baz=230,slow=5.5,SNR=23
PLCA LR LR 04 52 41.6
comp=Z,126nm,20.0s,baz=244,slow=30
comp=Z,11nm,0.9s
PLCA Paso Flores 81.74 133 P **P** **04 24 44.5 +1.4**
PLCA pmax pmax
comp=Z,21nm,1.1s
JKA Kamikawa-asahi 83.16 332 P **P** **04 24 49.8 -0.1**
JKA IAmb IAmb 04 24 51.8
comp=Z,27nm,1.2s
ASAJ Asahikawa 83.16 332 LR LR 05 00 52.7
comp=Z,120nm,18.1s,baz=161,slow=35
ASAJ Asahikawa 83.16 332 P **P** **04 24 49.8 -0.2**
ASAJ pmax pmax
comp=Z,27nm,1.2s
BI02 San Fabin de 83.53 129 IAmb IAmb 04 24 54.4
comp=Z,15nm,0.8s
SHEM Shnya Is, Ala 83.63 355 LR LR 04 56 09.4
comp=Z,222nm,20.3s,baz=154,slow=32
NIKH Nikolski High 83.86 5 P **P** **04 24 52.5 -0.9**
SKR Severo-Kuril's 84.57 343⇓ *e*P **P** **04 24 57.3 +0.3**
TJN Taejon 84.66 318⇓ *e*P **P** **04 24 55.7 -2.2**
KSRS Korea Array 85.11 319 P **P** **04 24 59.4 -0.7**
comp=Z,2.2nm,0.8s,baz=139,slow=7.1,SNR=8.3
KSRS LR LR 04 59 03.3
comp=Z,22µm,20.5s,baz=135,slow=33
comp=Z,2.2nm,0.8s
ESJX Sierra Juarez 85.42 48 IAmb IAmb 04 25 04.5
comp=Z,18nm,1.3s
YSS Yuzhno-Sakhali 85.46 334 *e*P **P** **04 25 01.9 +0.3**
YSS *e**SP **PcP** **04 25 06.9 +2.3**
YSS *e*S **SKSac** **04 35 29.1 +2.6**
YSS *e*SS **SS** **04 41 12.3 +3.5**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,200nm,14.0s
ELS Elsinore Mount 85.56 46 IAmb IAmb 04 25 04.7
comp=Z,18nm,1.1s
BFSC Mount Baldy Ra 85.81 46 IAmb IAmb 04 25 05.8
comp=Z,18nm,1.0s
LMEL Las Melosas 85.83 127 IAmb IAmb 04 25 08.4
comp=Z,18nm,1.0s
TPO Tropico Hills 85.89 45 IAmb IAmb 04 25 06.4
comp=Z,28nm,1.0s
BORC Borrego Spring 85.94 47 IAmb IAmb 04 25 06.6
comp=Z,18nm,1.1s
PSI Prapat 86.05 276 LR LR 05 06 28.2
comp=Z,203nm,18.2s,baz=136,slow=38
PFO Pinyon Flats O 86.14 47⇑ *e*P **P** **04 25 06.9 +1.4**
PFO pmax pmax
comp=Z,18nm,1.1s
PET Petropavlovsk 86.17 346 *ce*P P 04 25 02.2 -2.7
PET pmax pmax
comp=Z,27nm,1.1s
MT08 Bocatoma Ro 86.19 127 IAmb IAmb 04 25 09.1
comp=Z,26nm,1.4s
ISA Isla Lajas 86.27 44 IAmb IAmb 04 25 08.3
comp=Z,27nm,1.1s
GSI Gunungsitoli 86.44 274 P **P** **04 25 05.0 -2.3**
GSI Gunungsitoli 86.44 274 P **P** **04 25 07.6 +0.3**
PETK Petropavlovsk- 86.45 345 P **P** **04 25 04.9 -1.5**
PETK Petropavlovsk- 86.45 345 P **P** **04 25 06.0 -0.4**
comp=Z,5.6nm,0.9s,baz=116,slow=7.0,SNR=5.5
PETK LR LR 05 00 42.5
comp=Z,99nm,19.7s,baz=154,slow=34
comp=Z,5.6nm,0.9s
CMB Columbia Colle 86.77 42 IAmb IAmb 04 25 10.1
comp=Z,15nm,1.0s
KHMM Horse Mountain 86.94 38 P **P** **04 25 10.7 +1.3**
KHMM IAmb IAmb 04 25 19.4
comp=Z,26nm,1.4s
O02D Mt. Diablo Mer 86.95 39 P **P** **04 25 09.0 -0.3**
NJ2 Nanjing 87.01 310 *e*P **P** **04 25 09.7 +0.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
GSC Goldstone, Bar 87.04 45 IAmb IAmb 04 25 12.0
comp=Z,22nm,1.1s
AFDM Forest Hills D 87.08 41 P **P** **04 25 09.7 -0.1**
MSHR Mys Shultsa 87.11 325⇑ *e*P **P** **04 25 10.8 +1.0**
MSHR pmax pmax
comp=Z,24nm,1.1s
113A Mohawk Valley, 87.32 49 IAmb IAmb 04 25 13.5
comp=Z,20nm,1.6s
PSTR Posyet 87.33 324⇑ *e*P **P** **04 25 09.7 -1.2**
QSM Queen of Sheba 87.44 45 IAmb IAmb 04 26 39.7
comp=Z,14nm,0.8s
BLYC Blythe 87.46 48 IAmb IAmb 04 25 14.3
comp=Z,18nm,1.4s
WAKR Walker 87.64 42 IAmb IAmb 04 25 14.9
comp=Z,21nm,1.2s
GWY Greenwater Val 87.71 45 IAmb IAmb 04 25 14.9
comp=Z,11nm,0.9s
DSP Deep Springs 87.72 43 IAmb IAmb 04 25 15.1
comp=Z,12nm,1.2s
MPK Martis Peak 87.84 41 IAmb IAmb 04 25 15.6
comp=Z,17nm,1.0s
USA0B Ussuriysk Arra 87.90 326⇓ *e*P **P** **04 25 14.1 +0.5**
USRK Ussuriysk Ar. 87.90 326 P **P** **04 25 13.0 -0.6**
USRK Ussuriysk Ar. 87.90 326 P **P** **04 25 13.4 -0.2**
comp=Z,8.5nm,0.8s,baz=113,slow=4.4,SNR=12
comp=Z,8.5nm,0.8s
YBH Yreka Blue Hor 88.09 38 IAmb IAmb 04 25 16.7
comp=Z,18nm,1.6s
YBH Yreka Blue Hor 88.09 38 LR LR 05 00 12.4
comp=Z,11nm,18.2s,baz=228,slow=33
HATC Hat Creek Radi 88.11 39 IAmb IAmb 04 25 16.6
comp=Z,15nm,1.0s
WCT Wildcat Mounta 88.14 44 IAmb IAmb 04 25 17.2
comp=Z,18nm,1.5s
NVAR Mina Array Bea 88.24 42 P **P** **04 25 16.0 +0.3**
NVAR Mina Array Bea 88.24 42 P **P** **04 25 16.6 +0.9**
comp=Z,6.5nm,0.8s,baz=220,slow=7.9,SNR=34
comp=Z,6.5nm,0.8s
NV11 Mina Array Sit 88.33 42 P **P** **04 25 16.9 +0.9**
NV11 IAmb IAmb 04 25 17.8
comp=Z,18nm,1.2s
V12A Nelson 88.53 46 IAmb IAmb 04 25 19.4
comp=Z,20nm,1.3s
Y14A Wickenburg 88.55 49 IAmb IAmb 04 25 19.4
comp=Z,20nm,1.2s
L04D Klamath Falls 88.65 38 IAmb IAmb 04 25 19.1
comp=Z,31nm,1.5s
TRQA Tornquist 88.67 134 P **P** **04 25 17.9 +0.2**
TRQA Tornquist 88.67 134 P **P** **04 25 18.0 +0.2**
TRQA pmax pmax
comp=Z,6.0nm,1.1s
W13A Hualapai Mount 88.73 47 IAmb IAmb 04 25 20.5
comp=Z,14nm,1.0s
TYV Tymovskoe 88.76 336 *e*P **P** **04 25 17.6 +0.1**
TYV pmax pmax
comp=Z,14nm,1.0s
TYV pmax pmax
comp=Z,100nm,4.0s
TUC Tucson 89.00 51 P **P** **04 25 20.9 +1.7**
TUC IAmb IAmb 04 25 22.1
comp=Z,33nm,1.6s
TUC pmax pmax
comp=Z,33nm,1.6s
S11A Rachel 89.22 44 IAmb IAmb 04 25 22.3
comp=Z,18nm,1.3s
K05A Summer Lake 89.75 38 IAmb IAmb 04 25 24.7
comp=Z,19nm,1.2s
X16A Lo Mia Camp, P 89.86 49 IAmb IAmb 04 25 26.2
comp=Z,17nm,1.0s
LCMT Little Creek M 90.34 46 IAmb IAmb 04 25 27.9
comp=Z,11nm,1.0s
H04A Detroit Lake 90.46 36 IAmb IAmb 04 25 27.0
comp=Z,15nm,1.2s
WUAZ Wupatki 90.59 48 IAmb IAmb 04 25 29.2
comp=Z,18nm,0.9s
KNB Kanab 90.61 46 IAmb IAmb 04 25 29.3
comp=Z,17nm,1.0s
CCUT Cedar City 90.61 46 IAmb IAmb 04 25 29.5
comp=Z,12nm,1.2s
I05D Terrebonne, OR 90.65 37 IAmb IAmb 04 25 28.5
comp=Z,22nm,1.3s
WVOR Wild Horse Val 90.76 39 IAmb IAmb 04 26 07.6
comp=Z,13nm,1.1s
KDAK Kodiak Island 90.78 13 LR LR 05 04 19.7
comp=Z,101nm,18.1s,baz=208,slow=34
CN2 Changchun 90.90 323 P **P** **04 25 27.1 -0.6**
CN2 pmax pmax
comp=Z,20nm,0.9s
X18A Snowflake 90.90 50 IAmb IAmb 04 25 30.8
comp=Z,16nm,1.2s
E03A Lebam 91.12 34 IAmb IAmb 04 25 30.7
comp=Z,17nm,1.1s
BNX BinXian 91.26 325 ⇑P **P** **04 25 28.2 -1.1**
BNX pmax pmax
comp=Z,16nm,0.9s
J08A Circle Bar Ran 91.47 39 IAmb IAmb 04 25 32.2
comp=Z,12nm,1.1s
ELK Elko 91.54 42 P **P** **04 25 31.2 +0.1**
ELK Elko 91.54 42 P **P** **04 25 31.2 +0.1**
ELK pmax pmax
comp=Z,6.0nm,1.1s
G06A Carlson Farm, 91.63 36 IAmb IAmb 04 25 32.8
comp=Z,18nm,1.2s
VHRN Van Horn 92.08 55 IAmb IAmb 04 25 35.6
comp=Z,16nm,1.8s
TXAR Lajitas Array 92.19 57 P **P** **04 25 34.5 +0.3**
TXAR Lajitas Array 92.19 57 P **P** **04 25 35.0 +0.8**
comp=Z,3nm,1.1s,baz=207,slow=5.2,SNR=19
comp=Z,2.3nm,1.1s
O18K Koktuh Hills 92.27 11 IAmb IAmb 04 25 33.9
comp=Z,8.3nm,0.9s
CMIG Matias Romero 92.38 72 LR LR 04 59 56.6
comp=Z,60nm,18.7s,baz=221,slow=31
G08A Pilot Rock 92.53 37 IAmb IAmb 04 25 37.0
comp=Z,13nm,1.1s
NNA Nana 92.74 106 LR LR 04 57 42.3
comp=Z,124nm,21.1s,baz=192,slow=29
ALPN Alpine 92.80 56 IAmb IAmb 04 25 39.2
comp=Z,19nm,1.8s
MFID Camas Ranch 92.95 40 IAmb IAmb 04 25 38.9
comp=Z,8.2nm,1.0s
HAWA Hanford 92.99 36 P **P** **04 25 38.2 +0.8**
HAWA IAmb IAmb 04 25 39.1
comp=Z,8.2nm,1.2s
TMUT Trail Mountain 93.02 45 IAmb IAmb 04 25 40.2
comp=Z,14nm,1.3s
BMO Blue Mountains 93.10 38 P **P** **04 25 37.4 -0.6**
BMO Blue Mountains 93.10 38 P **P** **04 25 37.4 -0.6**
BMO pmax pmax
comp=Z,11nm,1.6s
BBB Bella Bella 93.29 28 LR LR 05 04 25.3
comp=Z,185nm,18.1s,baz=220,slow=34
SRU San Rafael Swe 93.33 46 IAmb IAmb 04 25 40.9
comp=Z,6.9nm,0.9s
ANMO Albuquerque 93.46 51 P **P** **04 25 40.4 +0.3**
ANMO Albuquerque 93.46 51⇑ *e*P **P** **04 25 41.0 +0.9**
ANMO pmax pmax
comp=Z,3.0nm,0.9s
E09A Wood Farm, Sta 93.78 36 IAmb IAmb 04 25 42.9
comp=Z,12nm,1.3s
PV19 Morning Glory 93.80 47 IAmb IAmb 04 25 43.0
comp=Z,9.2nm,1.1s
PV10 Paradox Valley 93.81 47 IAmb IAmb 04 25 42.8
comp=Z,11nm,1.2s
PV20 West Nyswonger 93.83 47 IAmb IAmb 04 25 43.1
comp=Z,12nm,1.2s
PV12 Saucer Basin, 93.92 47 IAmb IAmb 04 27 21.7
comp=Z,9.9nm,1.2s
MA2 Magadan 93.94 344 LR LR 05 03 04.2
comp=Z,173nm,21.0s,baz=163,slow=32
PLID Pearl Lake 93.95 39 IAmb IAmb 04 25 43.3
comp=Z,10nm,1.1s
ATAH Atahualpa 93.99 101 LR LR 04 58 56.3
comp=Z,68nm,21.5s,baz=253,slow=30
CMAR Chiang Mai Arr 94.10 289 P **P** **04 25 42.3 -0.8**
comp=Z,1.1nm,0.3s,baz=148,slow=19,SNR=1.2
comp=Z,1.1nm,0.3s
HBVL Hebbronville 94.64 61 IAmb IAmb 04 25 47.9
comp=Z,23nm,1.6s
NEW Newport 95.46 36 LR LR 05 02 47.3
comp=Z,200nm,19.5s,baz=219,slow=32
J18K Innoko River 95.48 9 IAmb IAmb 04 26 30.7
comp=Z,5.5nm,0.7s
SDCO Great Sand Dun 95.70 49 IAmb IAmb 04 26 02.4
comp=Z,10nm,1.5s
SNOW Snow King Moun 95.84 42 IAmb IAmb 04 25 52.4
comp=Z,6.0nm,0.8s
PZH PanZhiHua 96.05 297 P **P** **04 25 53.1 +1.1**
PDAR Pinedale Array 96.12 43 P **P** **04 25 51.2 -0.9**
PDAR Pinedale Array 96.12 43 P **P** **04 25 51.8 -0.3**
comp=Z,1.1nm,0.9s,baz=209,slow=2.7,SNR=8.8
comp=Z,1.1nm,0.9s
YHL Hebgen Lake 96.45 41 IAmb IAmb 04 25 55.9
comp=Z,10.0nm,1.5s
SEY Seymchan 96.61 347 LR LR 05 05 47.8
comp=Z,122nm,20.1s,baz=175,slow=33
BOZ Bozeman (W) 96.66 40 IAmb IAmb 04 25 56.0
comp=Z,7.1nm,1.2s
RND Reindeer 96.70 12 IAmb IAmb 04 25 59.6
comp=Z,6.4nm,0.8s
ZEA Zeya 96.97 330 *e*P **P** **04 25 54.6 -0.8**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
HHC Hu-ho-hao-te 97.00 314 *e*P **P** **04 25 56.2 +0.2**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC LR LR
comp=Z,98nm,17.1s
HHC LR LR
comp=Z,97nm,17.6s
HHC LR LR
comp=Z,91nm,21.4s
YNE Yellowstone No 97.21 41 IAmb IAmb 04 25 58.9
comp=Z,5.3nm,1.0s
JTS Las Juntas de 97.24 82 LR LR 04 59 31.6
comp=Z,86nm,21.3s,baz=276,slow=29
LPAZ La Paz 97.42 114 P **P** **04 25 59.9 +0.7**
comp=Z,0.7nm,0.7s,baz=182,slow=8.7,SNR=3.9
LPAZ LR LR 05 02 01.9
comp=Z,49nm,20.2s,baz=254,slow=30
comp=Z,0.7nm,0.7s
HKT Hockley 98.27 60⇑ *e*P **P** **04 26 01.2 -0.5**
HKT pmax pmax
comp=Z,2.0nm,0.9s
ILAR Eielson Array 98.31 13 P **P** **04 26 00.2 -0.9**
comp=Z,0.4nm,0.8s,baz=219,slow=5.9,SNR=4.7
comp=Z,0.4nm,0.8s
H23K Yukon River 98.79 11 IAmb IAmb 04 27 21.3
comp=Z,2.9nm,0.7s
CPUP Villa Florida 99.22 128 LR LR 05 02 51.9
comp=Z,26nm,20.9s,baz=109,slow=30
WMQ Urumqi 113.99 308 *e*PKP 04 31 03.3
WMQ LR LR
comp=Z,110nm,22.1s
MK31 Makanchi Array 118.54 310 *c i*PKIKP **PKPdf** **04 31 10.3 -1.5**
MKAR Makanchi Array 118.54 310 PKP **PKPdf** **04 31 10.3 -1.5**
comp=Z,0.9nm,0.6s,baz=206,slow=1.1,SNR=8.5
ZALV Zalesovo Beam 118.79 318 PKP **PKPdf** **04 31 10.7 -1.3**
comp=Z,0.7nm,0.3s,baz=254,slow=2.7,SNR=2.1
KURK Kurchatov 121.81 313 **PKPdf** **04 31 16.9 -1.1**
KURK Kurchatov 121.81 313 *c i*PKIKP **PKPdf** **04 31 16.4 -1.5**
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURBB Kurchatov Arra 121.85 313 PKP **PKPdf** **04 31 16.5 -1.5**
comp=Z,2.7nm,0.7s,baz=107,slow=1.9,SNR=20
AAK Ala-Archa 122.87 303 *c i*PKIKP **PKPdf** **04 31 19.8 -0.7**
AAK pmax pmax
comp=Z,9.0nm,2.5s

KBL	**Kabul**	**124.94**	**293**			**PKPdf**	**04 31 24.2**	**-0.6**
KBL	**Kabul**	**124.94**	**293**		PKIKP	**PKPdf**	**04 31 24.2**	**-0.6**
KKAR	**Karatay Array**	**125.83**	**303**			**PKPdf**	**04 31 24.9**	**-1.0**
KKAR	**Karatay Array**	**125.83**	**303**		PKIKP	**PKPdf**	**04 31 24.9**	**-1.0**
SCHQ	**Schefferville**	**126.25**	**42**		PKP	**PKPdf**	**04 31 25.1**	**-1.2**
	comp=Z,3.1nm,0.8s,baz=296,slow=2.2,SNR=3.7							
BVAR	**Borovoye Array**	**127.17**	**315**		PKP	**PKPdf**	**04 31 27.4**	**-0.7**
BRVK	**Borovoye**	**127.23**	**315**	*c*	PKIKP	**PKPdf**	**04 31 27.1**	**-1.1**
BRVK					pmax	pmax		
	comp=Z,2.0nm,1.0s							
SPITS	**Spitsbergen Ar**	**132.26**	**356**		PKP	**PKPdf**	**04 31 36.0**	**-1.2**
	comp=Z,5.0nm,0.9s,baz=112,slow=14,SNR=4.0							
SPITS	**Spitsbergen Ar**	**132.26**	**356**		PKIKP	**PKPdf**	**04 31 36.0**	**-1.2**
ARTI	**Arti**	**133.95**	**320**	*i*	PKIKP	**PKPdf**	**04 31 40.1**	**-0.8**
ARTI							04 34 08.5	
ARTI					SS	SS	04 51 53.3	-5.9
APA	**Apatity**	**139.08**	**343**	*i*	PKIKP	**PKPdf**	**04 31 51.2**	**+1.1**
APA				*i*			04 34 40.1	
ARCES	**ARCESS Array B**	**139.21**	**348**		PKhKP	PKPpre	04 31 42.7	
	comp=Z,3.0nm,0.7s,baz=52,slow=2.0,SNR=8.5							
KLMR	**Klimovskoe**	**141.48**	**332**	*e*	PKIKP	**PKPdf**	**04 31 52.2**	**-2.4**
KLMR					pmax	pmax		
	comp=Z,10.0nm,0.6s							
VRH	**Novokhopyorsk**	**144.81**	**317**		PKIKP	**PKPab**	**04 31 59.2**	**-0.5**
VRH					pmax	pmax		
	comp=Z,8.0nm,0.7s							
GNI	**Garni**	**144.81**	**297**			**PKPab**	**04 31 59.7**	**-0.7**
GNI	**Garni**	**144.81**	**297**		PKIKP	**PKPab**	**04 31 59.7**	**-0.7**
MOS	**Moscow**	**145.08**	**326**	*i*	PKIKP	**PKPbc**	**04 31 59.3**	**-1.2**
MOS					pmax	pmax		
	comp=Z,55nm,1.0s							
FINES	**FINESS Array B**	**145.82**	**340**			**PKPdf**	**04 32 01.2**	**-1.0**
FINES	**FINESS Array B**	**145.82**	**340**		PKPbc	**PKPdf**	**04 32 01.4**	**-0.8**
	comp=Z,38nm,0.7s,baz=53,slow=4.2,SNR=106							
KBZ	**Khabaz**	**145.87**	**303**		PKPbc	**PKPdf**	**04 32 02.5**	**-0.3**
	comp=Z,12nm,0.9s,baz=180,slow=0.8,SNR=12							
LPSR	**Galich'ya Gora**	**145.87**	**320**	*e*	PKP2	**PKPdf**	**04 32 02.3**	**-0.2**
LPSR					pmax	pmax		
	comp=Z,91nm,0.9s							
OBN	**Obninsk**	**145.92**	**325**			**PKPdf**	**04 32 02.1**	**-0.4**
OBN	**Obninsk**	**145.92**	**325**	ǁ *i*	PKP2	**PKPdf**	**04 32 02.3**	**-0.2**
OBN					pmax	pmax		
	comp=Z,96nm,1.3s							
KIV	**Kislovodsk**	**145.99**	**304**			**PKPdf**	**04 32 03.2**	**0.0**
KIV	**Kislovodsk**	**145.99**	**304**	*i*	PKP2	**PKPdf**	**04 32 03.4**	**+0.2**
KIV					pmax	pmax		
	comp=Z,15nm,1.0s							
VORR	**Voronezh**	**146.09**	**318**	*e*	PKP2	**PKPdf**	**04 32 02.9**	**-0.1**
VORR					pmax	pmax		
	comp=Z,68nm,1.0s							
GEVA	**Gevas**	**146.15**	**294**			**PKPdf**	**04 32 04.2**	**+0.4**
VSR	**Storozhevoye**	**146.30**	**318**	*e*	PKIKP	**PKPdf**	**04 32 00.7**	**-2.6**
VSR					pmax	pmax		
	comp=Z,50nm,0.9s							
GURO	**Guroymak-BITLI**	**146.95**	**294**			**PKPdf**	**04 32 06.7**	**+1.6**
ERBR	**Yeremizino-Bor**	**147.18**	**308**	*i*	PKP2	**PKPdf**	**04 32 06.5**	**+1.5**
ERBR					pmax	pmax		
	comp=Z,59nm,0.9s							
LABN	**Labinsk**	**147.25**	**306**	*i*	PKP2	**PKPbc**	**04 32 08.8**	**+1.3**
LABN					pmax	pmax		
	comp=Z,45nm,0.7s							
SOC	**Sochi**	**148.17**	**304**	*e*	PKIKP	**PKPdf**	**04 32 04.9**	**-1.8**
SOC				*e*			04 35 35.8	
SOC				*e*	PPP	PPP	04 39 02.6	
SOC				*e*	SS	SS	04 54 39.3	-6.5
SOC				*e*	SSS	SSS	05 00 16.8	
NB2	**NORSAR Subarra**	**149.35**	**352**		PKP	**PKPdf**	**04 32 11.1**	**+3.0**
	comp=Z,14nm,0.9s,baz=15,slow=2.8							
NOA	**NORSAR Array B**	**149.35**	**352**		PKPbc	**PKPdf**	**04 32 11.2**	**+3.1**
	comp=Z,6.1nm,0.8s,baz=14,slow=4.3,SNR=37							
ANN	**Anapa**	**149.50**	**307**	*i*	PKP2	**PKPbc**	**04 32 15.1**	**+1.8**
ANN					pmax	pmax		
	comp=Z,75nm,1.1s							
HFS	**Hagfors**	**149.86**	**349**		PKP	**PKPdf**	**04 32 07.9**	**-1.0**
	comp=Z,10.0nm,0.8s,baz=99,slow=4.9,SNR=3.6							
HFS					PKPbc	**pPKPdf**	**04 32 12.4**	**+2.0**
	comp=Z,9.8nm,0.8s,baz=67,slow=3.9,SNR=20							
MNK	**Minsk**	**150.31**	**330**	*i*	PKIKP	**PKPbc**	**04 32 14.7**	**-0.3**
MNK				*i*			04 35 48.6	
MNK				*i*	PPP	PPP	04 39 11.1	
MNK				*i*			04 39 16.1	
MNK					pmax	pmax		
	comp=Z,6.0nm,0.5s							
KONO	**Kongsberg**	**150.89**	**353**			**PKPdf**	**04 32 15.2**	**+4.7**
KONO	**Kongsberg**	**150.89**	**353**		PKIKP	**PKPdf**	**04 32 15.2**	**+4.7**
SIM	**Simferopol'**	**151.71**	**309**	*e*	PKIKP	**PKPdf**	**04 32 16.7**	**+4.4**
SIM					pmax	pmax		
	comp=Z,30nm,1.0s							
AKASG	**Malin Array Be**	**152.05**	**323**			**PKPdf**	**04 32 17.9**	**+5.3**
AKASG	**Malin Array Be**	**152.05**	**323**		PKPbc	**PKPdf**	**04 32 18.0**	**+5.4**
	comp=Z,7.4nm,0.7s,baz=51,slow=2.7,SNR=36							
AKASG	**Malin Array Be**	**152.05**	**323**		PKIKP	**PKPdf**	**04 32 17.9**	**+5.3**
KIEV	**Kiev**	**152.07**	**323**			**PKPdf**	**04 32 17.6**	**+5.0**
KIEV	**Kiev**	**152.07**	**323**		PKIKP	**PKPdf**	**04 32 17.6**	**+5.0**
MMAI	**Mount Meron Ar**	**152.20**	**283**		PKPbc	**PKPbc**	**04 32 20.7**	**+0.5**
	comp=Z,12nm,0.7s,baz=79,slow=4.4,SNR=14							
SUW	**Suwalki**	**152.59**	**333**	*e*	PKPbc	**PKPbc**	**04 32 19.1**	**-1.2**
BRTR	**Keskin Array B**	**153.34**	**298**			**PKPbc**	**04 32 21.4**	**-1.2**
BRTR	**Keskin Array B**	**153.34**	**298**		PKPbc	**PKPbc**	**04 32 21.7**	**-0.9**
	comp=Z,4.1nm,0.9s,baz=103,slow=2.8,SNR=16							
BRTR	**Keskin Array B**	**153.34**	**298**		PKIKP	**PKPbc**	**04 32 21.4**	**-1.2**
ANTO	**Ankara**	**153.96**	**298**			**PKPbc**	**04 32 23.4**	**-0.5**
DBIC	**Dimbokro**	**154.87**	**162**		PKPbc	**PKPbc**	**04 32 27.0**	**+0.6**
	comp=Z,5.5nm,0.9s,baz=203,slow=4.2,SNR=5.2							
EKA	**Eskdalemuir Ar**	**155.25**	**8**		PKPab	**PKPab**	**04 32 41.2**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=317,slow=3.4,SNR=4.9							
KWP	**Kalwaria Pacla**	**155.98**	**327**	*e*	PKPab	**PKPab**	**04 32 44.4**	**-1.0**
BURAR	**Bucovina Array**	**155.99**	**320**			**PKPab**	**04 32 44.9**	**-0.7**
KOLS	**Kolonicke sedl**	**156.66**	**326**	*e*	PKP2	**PKPab**	**04 32 47.8**	**-0.5**
KOLS	**Kolonicke sedl**	**156.66**	**326**	*e*	PKP	**PKPab**	**04 32 47.8**	**-0.5**
STHS	**Stebnicka Huta**	**156.81**	**328**	*e*	PKP2	**PKPab**	**04 32 47.9**	**-1.0**
STHS	**Stebnicka Huta**	**156.81**	**328**	*e*	PKP	**PKPab**	**04 32 47.9**	**-1.0**
KSP	**Ksiaz**	**157.65**	**337**	*e*	PKPab	**PKPab**	**04 32 52.0**	**-0.5**
OSTC	**Ostas**	**157.92**	**337**		AMS	AMS	05 45 40.0	
	comp=Z,200nm,17.6s							
UPC	**Upice**	**158.03**	**337**		AMS	AMS	05 45 40.0	
	comp=Z,200nm,16.3s							
DPC	**Dobruska-Polom**	**158.06**	**336**	*e*	PKPAB	**PKPab**	**04 32 54.2**	**-0.1**
DPC				*ex*		x	04 33 08.2	
DPC					AMS	AMS	05 45 50.0	
	comp=Z,100nm,16.7s							
DPC	**Dobruska-Polom**	**158.06**	**336**	*e*	PKP2	**PKPab**	**04 32 54.2**	**-0.1**
DPC					MLR	MLR		
	comp=Z,100nm,16.7s							
MORC	**Moravsky Berou**	**158.09**	**333**	*e*	PKP	**PKPab**	**04 32 54.4**	**0.0**
KRLC	**Kraliky**	**158.12**	**335**	*e*	PKPAB	**PKPab**	**04 32 52.4**	**-2.2**
KRLC	**Kraliky**	**158.12**	**335**	*e*	PKP2	**PKPab**	**04 32 52.4**	**-2.2**
CLL	**Collm**	**158.23**	**342**	*i*	PKP2	**PKPab**	**04 32 53.5**	**-1.4**
CLL					pmax	pmax		
	comp=Z,5.0nm,0.9s							
CLL	**Collm**	**158.23**	**342**	*i*	PKPab	**PKPab**	**04 32 53.5**	**-1.4**
	comp=Z,5.0nm,0.9s							
CLL				*ex*		x	04 33 03.0	
CLL					AMS	AMS	05 44 00.0	
	comp=Z,100nm,20.9s							
BRG	**Berggiesshubel**	**158.36**	**340**	*e*	PKP	**PKPab**	**04 32 55.7**	**+0.2**
BRG					Amp		04 32 57.2	
	comp=Z,4.5nm,0.9s							
BRG	**Berggiesshubel**	**158.36**	**340**		P	PKPab	04 33 05.1	+10
BRG					Amp		04 33 06.4	
	comp=Z,3.6nm,0.9s							
VYHS	**Vyhne**	**158.56**	**330**	*e*	PKP2	**PKPab**	**04 32 55.8**	**-0.7**
VYHS	**Vyhne**	**158.56**	**330**	*e*	PKP	**PKPab**	**04 32 55.8**	**-0.7**
JAVC	**Velka Javorina**	**158.77**	**332**	*e*	PKP	**PKPab**	**04 32 54.5**	**-2.9**
VRAC	**Vranov**	**158.83**	**334**	*e*	PKP	**PKPab**	**04 32 57.1**	**-0.5**
KRUC	**Moravsky**	**159.10**	**334**	*e*	PKP	**PKPab**	**04 32 58.0**	**-0.8**
ZVC	**Zvikov**	**159.55**	**338**	*e*	PKPAB	**PKPab**	**04 32 59.4**	**-1.3**
KHC	**Kasperske Hory**	**160.02**	**339**	*e*	PKPAB	**PKPab**	**04 33 02.2**	**-0.6**
KHC				*ex*		x	04 33 15.3	
KHC					AMS	AMS	06 02 20.0	
	comp=Z,100nm,20.6s							
KHC	**Kasperske Hory**	**160.02**	**339**	*e*	PKP2	**PKPab**	**04 33 02.2**	**-0.6**
KHC					MLR	MLR		
	comp=Z,100nm,20.6s							
GERES	**GERESS Array B**	**160.23**	**338**			**PKPab**	**04 33 02.5**	**-1.3**
GERES	**GERESS Array B**	**160.23**	**338**		PKPab	**PKPab**	**04 33 03.3**	**-0.5**
	comp=Z,2.1nm,1.0s,baz=29,slow=3.8,SNR=8.0							
GERES	**GERESS Array B**	**160.23**	**338**		PKP2	**PKPab**	**04 33 02.5**	**-1.3**
CONA	**Conrad Observa**	**160.23**	**333**	*i*	PKP	**PKPab**	**04 33 03.0**	**-0.9**
	comp=Z,2.6nm,0.9s							
RONA	**Rosalia, Austr**	**160.25**	**332**	*i*	PKP	**PKPab**	**04 33 03.7**	**-0.2**
	comp=Z,4.2nm,0.8s							
BCLA	**Clavier**	**160.42**	**355**	*d*	PKP	**PKPab**	**04 33 02.9**	**-1.6**
MOA	**Molln**	**160.90**	**336**	*i*	PKP	**PKPab**	**04 33 06.4**	**-0.3**
	comp=Z,3.8nm,1.0s							
WLF	**Walferdange**	**161.09**	**353**	*d*	PKP	**PKPab**	**04 33 06.6**	**-0.8**
BIOA	**Bad Ischl, Aus**	**161.25**	**336**	*i*	PKP	**PKPab**	**04 33 07.7**	**-0.5**
	comp=Z,5.3nm,0.9s							
SOKA	**Soboth**	**161.58**	**332**	*i*	PKP	**PKPab**	**04 33 08.6**	**-1.2**
	comp=Z,2.9nm,1.0s							
LESA	**Schwarzleotal**	**161.81**	**338**	*i*	PKP	**PKPab**	**04 33 10.0**	**-0.8**
	comp=Z,3.4nm,1.0s							
OBKA	**Obir**	**161.91**	**333**	*i*	PKP	**PKPab**	**04 33 09.8**	**-1.4**
	comp=Z,3.7nm,1.0s							
MYKA	**Terra Mystica**	**162.16**	**335**	*e*	PKP	**PKPab**	**04 33 12.8**	**+0.5**
	comp=Z,2.6nm,0.7s							
WATA	**Walderalm**	**162.23**	**340**	*i*	PKP	**PKPab**	**04 33 12.4**	**-0.3**
	comp=Z,4.2nm,0.5s							
WTTA	**Wattenberg**	**162.27**	**340**	*i*	PKP	**PKPab**	**04 33 11.8**	**-1.1**
	comp=Z,4.1nm,0.7s							
TORD	**Torodi Ar. Bea**	**162.29**	**177**		PKP	**PKPdf**	**04 32 25.9**	**-0.7**
	comp=Z,1.3nm,1.0s,baz=208,slow=2.8,SNR=5.7							
TORD					PKPab	**PKPab**	**04 33 13.4**	**0.0**
	comp=Z,6.7nm,0.8s,baz=167,slow=3.5,SNR=16							
RETA	**Reutte**	**162.32**	**342**	*i*	PKP	**PKPab**	**04 33 12.7**	**-0.3**
	comp=Z,4.7nm,1.1s							
MOTA	**Moosalm**	**162.36**	**341**	*i*	PKP	**PKPab**	**04 33 12.4**	**-0.8**
	comp=Z,4.5nm,1.0s							
SQTA	**Sankt Quirin**	**162.44**	**340**	*i*	PKP	**PKPab**	**04 33 13.0**	**-0.6**
	comp=Z,7.3nm,1.3s							
DAVA	**Damuels**	**162.73**	**343**	*i*	PKP	**PKPab**	**04 33 14.3**	**-0.6**
	comp=Z,3.9nm,0.6s							
FETA	**Feichten**	**162.76**	**341**	*i*	PKP	**PKPab**	**04 33 15.3**	**+0.3**
	comp=Z,5.7nm,1.1s							
ESDC	**Sonseca Array**	**169.73**	**30**		PKP	**PKPdf**	**04 32 31.3**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=12,slow=3.9,SNR=2.1							
ESDC					PKPab	**PKPab**	**04 33 44.6**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=328,slow=3.8,SNR=4.9							
KEST	**Kesra**	**172.63**	**312**		PKPab	**PKPab**	**04 33 58.1**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=90,slow=6.1,SNR=3.5							

NEIC ***12*** *04:30:13.5±2.2, 35°.70N±0°.01×117°.51W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=2.0km az=67.0*

PAS 12 04:30:14.6±1.4,**35°.70N**±0°.01×**117°.53W**±0°.01,**h8**km±5km, **ML3.2**/20,**ML2.8**/82(NEIC),**Error ellipse: s-maj=1.9km s-min=1.6km az=221.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.10**	**165**			Pg	04 30 16.9	-0.1
WSHM					IAML		04 30 19.2	
	7μm,0.2s							
WSHM					IAML		04 30 19.5	
	8μm,0.1s							
SRTC	**Snort**	**0.18**	**268**			Pg	04 30 18.7	+0.3
SRTC						Sg	04 30 22.4	+1.5
CCCA	**Chr Cany lake**	**0.22**	**143**			Sg	04 30 23.1	+1.1
CCCA	**Chr Cany lake**	**0.22**	**143**		Pg	Pg	04 30 19.3	+0.3
CCCA					IAML		04 30 23.2	
	comp=N,8μm,0.3s							
CCCA					IAML		04 30 25.2	
	comp=E,7μm,0.3s							
TOW	**Tower One**	**0.22**	**300**			Pg	04 30 19.4	+0.4
TOW						Sg	04 30 23.8	+1.7
LRMC	**Laurel Mtn Rad**	**0.25**	**210**			Pg	04 30 19.5	-0.2
LRMC					IAML		04 30 23.8	
	comp=E,3μm,0.1s							
WNMM	**Nine Mile Cany**	**0.34**	**295**			Pg	04 30 21.2	-0.1
WNMM						Sg	04 30 26.3	+0.5
WVPM	**Volcano Peak E**	**0.34**	**317**			Pg	04 30 20.7	-0.7
DTP	**Desert Tortois**	**0.50**	**211**			Pg	04 30 23.8	-0.5
WBSM	**Bird Springs**	**0.53**	**252**			Pg	04 30 24.4	-0.4
WORM	**Onyx Ranch**	**0.58**	**270**			Pg	04 30 25.3	-0.5
QSM	**Queen of Sheba**	**0.60**	**63**		IAML		04 30 34.8	
	comp=N,542nm,0.2s							
QSM					IAML		04 30 36.8	
	comp=E,383nm,0.2s							
CCAC	**Calif City Air**	**0.68**	**217**			Pg	04 30 27.2	-0.4
CCAC						Sg	04 30 36.6	+0.2
GSC	**Goldstone, Bar**	**0.71**	**124**			Pg	04 30 27.7	-0.5
ISA	**Isabella, Lake**	**0.77**	**268**			Pg	04 30 28.8	-0.7
ISA					IAML		04 30 39.5	
	comp=N,426nm,0.2s							
ISA					IAML		04 30 39.7	
	comp=E,626nm,0.3s							
GWY	**Greenwater Val**	**0.85**	**55**			Pg	04 30 30.2	-0.7
GWY					IAML		04 30 45.2	
	comp=E,266nm,0.4s							
GWY					IAML		04 30 46.8	
	comp=N,235nm,0.7s							
CWC	**Cottonwood Cre**	**0.87**	**329**			Pg	04 30 31.1	-0.2
CWC					IAML		04 30 45.1	
	comp=E,180nm,0.2s							
CWC					IAML		04 30 59.7	
	comp=N,187nm,0.2s							
TPO	**Tropico Hills**	**1.00**	**215**			Pg	04 30 33.0	-0.7
TPO					IAML		04 30 49.6	
	comp=N,226nm,0.4s							
TPO					IAML		04 30 52.9	
	comp=E,298nm,0.8s							
AMDNV	**Amargosa**	**1.26**	**53**			Pn	04 30 36.8	-1.6
GRAC	**Grapevine Rang**	**1.30**	**6**			Pn	04 30 38.4	-0.7
GRAC					IAML		04 30 59.4	
	comp=N,188nm,0.7s							
GRAC					IAML		04 31 01.7	
	comp=E,151nm,0.3s							
WCT	**Wildcat Mounta**	**1.31**	**33**			Pn	04 30 37.9	-1.4
WCT					IAML		04 30 58.6	
	comp=E,100nm,0.3s							
TUQ	**Turquoise Moun**	**1.33**	**101**			Pn	04 30 38.0	-1.5
BAKC	**Calstate**	**1.33**	**255**			Pn	04 30 37.8	-1.7
BFSC	**Mount Baldy Ra**	**1.46**	**184**			Pn	04 30 40.4	-1.0
BFSC					IAML		04 31 04.8	
	comp=E,89nm,0.7s							
MWC	**Mount Wilson**	**1.54**	**197**			Pn	04 30 42.5	+0.1
MWC					IAML		04 31 05.8	
	comp=N,124nm,0.3s							
MWC					IAML		04 31 06.2	
	comp=E,100nm,0.6s							
TPNV	**Topopah Spring**	**1.62**	**39**			Pn	04 30 42.6	-1.0
TPNV					IAML		04 31 10.1	
	comp=E,62nm,0.3s							
TPNV					IAML		04 31 10.9	
	comp=E,65nm,0.8s							
MTPC	**Mountain Pass**	**1.62**	**97**			Pn	04 30 42.0	-1.6
MTPC					IAML		04 31 06.3	
	comp=N,114nm,0.3s							
MTPC					IAML		04 31 06.3	
	comp=E,126nm,0.3s							
DSP	**Deep Springs**	**1.71**	**348**			Pn	04 30 44.1	-0.5
ELS	**Elsinore Mount**	**2.05**	**178**			Pn	04 30 48.5	-0.9
SHPR	**Sheep Range**	**2.08**	**67**			Pn	04 30 49.0	-0.9
V12A	**Nelson**	**2.18**	**88**			Pn	04 30 49.7	-1.5
V12A					IAML		04 31 25.0	
	comp=E,35nm,0.3s							
V12A					IAML		04 31 25.1	
	comp=N,36nm,0.4s							
PMD	**Palm Desert**	**2.25**	**155**			Pn	04 30 50.6	-1.6
PMD					IAML		04 31 28.9	
	comp=E,27nm,0.3s							
PFO	**Pinyon Flats O**	**2.26**	**157**			Pn	04 30 51.1	-1.2
TPH	**Tonopah**	**2.38**	**6**			Pn	04 30 53.9	-0.3
TPH					IAML		04 31 32.6	
	comp=E,75nm,0.9s							
TPH					IAML		04 31 46.3	
	comp=N,90nm,0.7s							
NEE2	**Needles Airpor**	**2.55**	**110**			Pn	04 30 54.4	-1.9
LHV	**Little Huntoon**	**2.67**	**343**			Pn	04 30 58.1	+0.4
NV11	**Mina Array Sit**	**2.77**	**350**			Pn	04 30 59.2	-0.2
NVAR	**Mina Array Bea**	**2.80**	**347**			Pn	04 30 59.8	0.0
W13A	**Hualapai Mount**	**3.03**	**100**			Pn	04 31 01.8	-1.3
W13A					IAML		04 31 52.2	
	comp=N,13nm,0.8s							
BLYC	**Blythe**	**3.15**	**127**			Pn	04 31 02.2	-2.2
BLYC					IAML		04 31 54.8	
	comp=E,34nm,0.5s							
BLYC					IAML		04 31 54.9	
	comp=N,34nm,0.5s							
KNB	**Kanab**	**4.02**	**70**			Pn	04 31 16.6	+0.1
U15A	**North Rim**	**4.30**	**79**			Pn	04 31 20.9	+0.4
U15A					IAML		04 32 33.1	
	comp=E,9.8nm,0.9s							
U15A					IAML		04 32 41.2	
	comp=N,5.3nm,1.2s							

IDC ***12*** *04:32:37.9±2.2, 55°.11N×165°.72E, h0km, mb3.6/2, mbtmp3.8/4, ML3.6/2, MS2.5/2, Error ellipse:*

s-maj=168.6km s-min=25.0km az=147.0

KRSC ***12*** *04:32:39.2±1.8, 56°.22N×164°.39E, h48km±21km, Ml4.1*

MOS ***12*** *04:32:41.6±1.0, 56°.22N×164°.36E, h45km, mb3.7/1, Error ellipse: s-maj=10.8km s-min=5.5km az=48.1*

ISC 12 04:32:38.1±1.5,**56°.22N**±0°.04×**164°.43E**±0°.04,**h3**km±10km, **n81**,σ1**f63**/113,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.90**	**270**		PN	**Pg**	**04 32 55.2**	**-0.1**
KBTR					S	**Sg**	**04 33 05.8**	**-1.1**
KBTR	**Krutoberegovo**	**0.90**	**270**	*e*	P	**Pg**	**04 32 55.3**	**-0.1**
KBTR					*e*S	**Sg**	**04 33 05.9**	**-1.1**
KBG	**Krutoberegovo**	**0.96**	**273**		PN	**Pg**	**04 32 56.3**	**-0.2**
KBG					S	**Sg**	**04 33 08.0**	**-1.0**
KBG	**Krutoberegovo**	**0.96**	**273**	*e*	P	**Pg**	**04 32 56.4**	**-0.2**
KBG					*e*S	**Sg**	**04 33 08.0**	**-1.0**
BKI	**Bering**	**1.34**	**139**		PN	**Pb**	**04 33 04.4**	**+0.5**
BKI					S	**Sb**	**04 33 21.6**	**+0.2**
BKI	**Bering**	**1.34**	**139**	*e*	P	**Pb**	**04 33 04.5**	**+0.5**
BKI					*e*S	**Sb**	**04 33 21.7**	**+0.2**
SMKR	**Semkarok**	**1.68**	**284**		PN	**Pn**	**04 33 08.6**	**+0.1**
SMKR					S	**Sn**	**04 33 28.3**	**-2.2**
SMKR	**Semkarok**	**1.68**	**284**	*e*	P	**Pn**	**04 33 08.6**	**+0.1**
SMKR					*e*S	**Sn**	**04 33 28.3**	**-2.2**
BDR	**Baidarnaya**	**1.82**	**282**		*e*S	**Sn**	**04 33 33.0**	**-1.0**
SRKR	**Sorokina**	**1.86**	**285**		*e*S	**Sn**	**04 33 33.6**	**-1.3**
ZLN	**Zelenaya**	**2.04**	**266**		PN	**Pn**	**04 33 14.2**	**+0.8**
ZLN					S	**Sn**	**04 33 38.8**	**-0.5**
ZLN	**Zelenaya**	**2.04**	**266**	*e*	P	**Pn**	**04 33 14.2**	**+0.8**
ZLN					*e*S	**Sn**	**04 33 38.9**	**-0.5**
CIRR	**Tsirk**	**2.06**	**269**		PN	**Pn**	**04 33 14.3**	**+0.6**
CIRR					S	**Sn**	**04 33 39.5**	**-0.4**
CIRR	**Tsirk**	**2.06**	**269**	*e*	P	**Pn**	**04 33 14.4**	**+0.6**
CIRR					*e*S	**Sn**	**04 33 39.5**	**-0.4**
LGNR	**Loginova**	**2.10**	**268**		PN	**Pn**	**04 33 15.2**	**+0.9**
LGNR					S	**Sn**	**04 33 39.8**	**-1.2**
LGNR	**Loginova**	**2.10**	**268**	*e*	P	**Pn**	**04 33 15.3**	**+0.9**
LGNR					*e*S	**Sn**	**04 33 39.8**	**-1.2**
KLY	**Klyuchi**	**2.11**	**274**		PN	**Pn**	**04 33 13.1**	**-1.1**
KLY					S	**Sn**	**04 33 37.1**	**-3.7**
KLY	**Klyuchi**	**2.11**	**274**	*e*	P	**Pn**	**04 33 13.2**	**-1.1**
KLY					*e*S	**Sn**	**04 33 37.2**	**-3.7**
BZGR	**Bezymyannyi-Gr**	**2.11**	**264**		PN	**Pn**	**04 33 15.0**	**+0.6**
BZGR					S	**Sn**	**04 33 39.8**	**-1.3**
BZGR	**Bezymyannyi-Gr**	**2.11**	**264**	*e*	P	**Pn**	**04 33 15.0**	**+0.6**
BZGR					*e*S	**Sn**	**04 33 39.9**	**-1.3**
BZWR	**Bezymyannyi-We**	**2.22**	**265**		PN	**Pn**	**04 33 16.7**	**+0.8**
BZWR	**Bezymyannyi-We**	**2.22**	**265**	*e*	P	**Pn**	**04 33 16.8**	**+0.8**
BZMR	**Bezymyannaya**	**2.23**	**264**		PN	**Pn**	**04 33 16.6**	**+0.6**
BZMR					S	**Sn**	**04 33 42.6**	**-1.4**
BZMR	**Bezymyannaya**	**2.23**	**264**	*e*	P	**Pn**	**04 33 16.7**	**+0.6**
BZMR					*e*S	**Sn**	**04 33 42.7**	**-1.4**
MKZ	**Mys Kozlova**	**2.27**	**224**		PN	**Pn**	**04 33 16.0**	**-0.4**
MKZ					S	**Sn**	**04 33 40.8**	**-4.1**
MKZ	**Mys Kozlova**	**2.27**	**224**	*e*	P	**Pn**	**04 33 16.1**	**-0.4**
MKZ					*e*S	**Sn**	**04 33 40.8**	**-4.1**
KIRR	**Kirishev**	**

TGIG		**2.08**	**15**	*i* P		**Pb**	**04 45 39.1**	**0.0**
TGIG				*i* S		**Sb**	**04 46 04.0**	**-0.5**
TGIG				IAML			04 46 08.7	
	comp=N,25nm,0.2s							
STG2	**El Palmar, Qui**	**2.24**	**98**	*i* S		**Sn**	**04 46 02.3**	**-2.3**
STG8	**El Palmar, Qui**	**2.26**	**98**	*i* P		**Pn**	**04 45 38.5**	**+0.4**
STG8				IAML			04 46 07.8	
	comp=E,101nm,0.2s							
STG0	**El Palmar, Qui**	**2.27**	**98**	*i* P		**Pn**	**04 45 38.2**	**+0.1**
STG0				IAML			04 46 07.4	
	comp=E,152nm,0.2s							
UXUV	**UXUV**	**2.59**	**350**	*i* P		**Pb**	**04 45 46.3**	**-1.5**
UXUV				*i* S		**Sn**	**04 46 14.7**	**+1.6**
CMIG	**Matias Romero**	**2.60**	**333**	*e*P		**Pn**	**04 45 43.8**	**+1.3**
CMIG				*i* S		**Sn**	**04 46 11.8**	**-1.6**

GCG 12 04:48:48.7±1.9, 16°01'N×91°33'W, h20km±36km, MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUIS	**Sacapulas**	**0.75**	**162**	*i* P	Pg	04 49 03.4	-0.1
QUIS				*i* S	Sb	04 49 12.4	-0.6
CCIG	**Comitan**	**0.82**	**289**	*i* P	Pb	04 49 04.5	0.0
CCIG				*i* S	Sg	04 49 15.6	-0.3
STG8	**El Palmar, Qui**	**1.55**	**181**	*i* P	Pn	04 49 12.4	-3.1
STG2	**El Palmar, Qui**	**1.56**	**182**	*i* S	Sn	04 49 30.2	-5.1
STG0	**El Palmar, Qui**	**1.57**	**180**	*i* P	Pn	04 49 13.5	-2.2
STG0				*i* S	Sn	04 49 30.0	-5.6
PETF	**Flores**	**1.67**	**57**	*i* P	Pn	04 49 17.0	+0.1
PETF				*i* S	Sn	04 49 37.7	0.0

IDC ***12*** *04:54:46.8±0.8, 49°.99S×127°.25E, h0km, mb4.1/7, mbtmp4.2/7, MS3.5/2, Error ellipse: s-maj=48.8km s-min=16.6km az=97.0*

ISC 12 04:54:48.3±0.7, 50°.05S±0°.1×127°.3E±0°.3, h10km, n16, σ0§47/15, mb4.1/9, 3C, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**17.88**	**323**	T	T	05 17 09.6	
	baz=150,slow=74,SNR=30						
H01W2	**Cape Leeuwin H**	**17.88**	**323**	T	T	05 17 11.1	
	baz=150,slow=74,SNR=34						
H01W3	**Cape Leeuwin H**	**17.89**	**323**	T	T	05 17 05.1	
	baz=150,slow=74,SNR=32						
STKA	**Stephens Creek**	**21.03**	**36**	P	**P**	**04 59 32.5**	**+0.5**
	9.6nm,1.0s,baz=239,slow=2.3,SNR=5.3						
STKA				LR	LR	05 06 18.4	
	comp=Z,114nm,20.0s,baz=207,slow=33						
	9.6nm,1.0s						
ASAR	**Alice Springs**	**26.79**	**14**	P	**P**	**05 00 28.4**	**+0.1**
	2.4nm,0.8s,baz=189,slow=9.3,SNR=11						
ASAR				PcP	**PcP**	**05 03 51.0**	**-0.2**
	0.5nm,0.5s,baz=172,slow=0.7,SNR=2.5						
	2.4nm,0.8s						
WRA	**Warramunga Arr**	**30.51**	**13**	P	**P**	**05 01 01.2**	**-0.3**
	1.1nm,1.1s,baz=191,slow=12,SNR=2.4						
	1.1nm,1.1s						
VNDA	**Vanda**	**30.56**	**166**	P	**P**	**05 01 00.8**	**-0.7**
	1.8nm,0.8s,baz=308,slow=7.9,SNR=11						
	1.8nm,0.8s						
QSPA	**South Pole Qui**	**40.13**	**180**	P	**P**	**05 02 24.6**	**+0.6**
	2.4nm,1.0s,baz=332,slow=7.6,SNR=9.7						
QSPA				PcP	**PcP**	**05 04 28.1**	**0.0**
	2.6nm,1.0s,baz=330,slow=2.6,SNR=3.8						
	2.4nm,1.0s						
SNAA	**Sanae**	**53.62**	**197**	⇑P	**P**	**05 04 09.6**	**+0.4**
	comp=Z,203nm,0.8s						
SNAA	**Sanae**	**53.62**	**197**	P	**P**	**05 04 09.4**	**+0.2**
	comp=Z,111nm,0.9s,baz=144,slow=8.2,SNR=37						
SNAA				LR	LR	05 25 08.4	
	comp=Z,57nm,19.8s,baz=78,slow=34						
	comp=Z,111nm,0.9s						
VNA2	**Neumayer--Watz**	**55.09**	**197**	⇑P	**P**	**05 04 20.2**	**+0.4**
	comp=Z,7.5nm,0.6s,baz=152,slow=7.2						
VNA1	**Neumayer--Stat**	**55.48**	**196**	⇑P	**P**	**05 04 22.7**	**+0.2**
	comp=Z,11nm,0.8s						
CMAR	**Chiang Mai Arr**	**72.60**	**332**	P	**P**	**05 06 16.0**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=178,slow=4.3,SNR=5.0						
	comp=Z,0.7nm,0.3s						
ESDC	**Sonseca Array**	**144.48**	**272**	PKP	**PKPab**	**05 14 21.7**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=129,slow=1.9,SNR=5.7						
YKA	**Yellowknife Ar**	**144.87**	**45**	PKP	**PKPdf**	**05 14 24.0**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=275,slow=3.2,SNR=8.6						
EKA	**Eskdalemuir Ar**	**149.99**	**300**	PKPbc	**PKPbc**	**05 14 37.7**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=119,slow=2.9,SNR=5.3						

ASRS ***12*** *04:55:00.0±1.1, 53°.60N×87°.92E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 12 04:55:05.0±3.2, 53°.56N×87°.84E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=28.0km s-min=17.1km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.84**	**283**	I	I	05 05 10.0	
	0.1nm,0.9s,baz=100,slow=318,SNR=8.7						
ZALV	**Zalesovo Beam**	**1.84**	**283**	Pg	Pn	04 55 37.4	-0.4
	0.7nm,0.3s,baz=99,slow=16,SNR=7.7						
ZALV				Lg	Lg	04 56 03.9	
	2.9nm,0.3s,baz=101,slow=26,SNR=16						
KURBB	**Kurchatov Arra**	**6.45**	**247**	Pn	Pn	04 56 41.7	+0.6
	0.1nm,0.3s,baz=63,slow=15,SNR=3.9						
KURBB				Lg	Lg	04 58 29.3	
	baz=62,slow=31,SNR=4.5						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.65**	**210**	Pn	Pn	04 56 59.4	+1.7
	0.1nm,0.3s,baz=31,slow=13,SNR=1.6						
MKAR				Lg	Lg	04 59 05.5	
	baz=31,slow=30,SNR=2.4						
	0.1nm,0.3s						

CATAC ***12*** *05:01:45.6±0.9, 7°N±4°×7°3W±°, h167km±13km, M3.5/8, MLv3.5/8, confirmed*
RSNC ***12*** *05:01:47.9±0.0, 7°N±1°×7°3W±°, h147km±1km, M3.0, mb3.4, ML2.8*

ISC 12 05:01:46.7±1.4, 6°.86N±0°.03×73°.14W±0°.04, h151km±8km, n41, σ1§17/74, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**189**	P	**Pn**	**05 02 07.6**	**+0.1**
BARC				S	**Sn**	**05 02 23.1**	**-0.3**
BRJC	**Barrancabermej**	**0.61**	**281**	P	**Pn**	**05 02 09.2**	**+0.5**
BRJC				S	**Sn**	**05 02 25.6**	**+0.2**
PAMC	**Pamplona, Colo**	**0.65**	**42**	P	**Pn**	**05 02 10.4**	**+0.9**
PAMC				S	**Sn**	**05 02 27.6**	**+0.7**
RUSC	**La Rusia**	**0.96**	**177**	P	**Pn**	**05 02 11.5**	**-0.3**
RUSC	**La Rusia**	**0.96**	**177**	P	**Pn**	**05 02 11.5**	**-0.3**
RUSC				S	**Sn**	**05 02 30.2**	**-0.7**
PTBC	**PUERTO BERRIO,**	**1.35**	**257**	P	**Pn**	**05 02 14.0**	**-0.7**
PTBC				S	**Sn**	**05 02 35.4**	**-0.7**
OCAC	**Ocana**	**1.39**	**353**	P	**Pn**	**05 02 15.8**	**+0.5**
OCAC				S	**Sn**	**05 02 37.7**	**+0.5**
TAMC	**Tame, Arauca**	**1.40**	**107**	P	**Pn**	**05 02 16.1**	**+0.8**
TAMC				S	**Sn**	**05 02 37.6**	**+0.4**
ZARC	**Zaragoza, Cauc**	**1.82**	**290**	P	**Pn**	**05 02 19.8**	**0.0**
ZARC				S	**Sn**	**05 02 45.5**	**+0.3**
NORC	**Norcasia**	**2.15**	**233**	P	**Pn**	**05 02 23.4**	**-0.2**
NORC				S	**Sn**	**05 02 51.9**	**-0.1**
CHIC	**Chingaza**	**2.29**	**195**	P	**Pn**	**05 02 25.9**	**+0.2**
CHIC				S	**Sn**	**05 02 55.5**	**-0.2**
ROSC	**El Rosal**	**2.32**	**210**	P	**Pn**	**05 02 27.5**	**+1.4**
ROSC				S	**Sn**	**05 02 57.1**	**+0.7**
HELC	**Santa Helena**	**2.46**	**255**	P	**Pn**	**05 02 29.3**	**+1.6**
HELC	**Santa Helena**	**2.46**	**255**	P	**Pn**	**05 02 29.1**	**+1.3**
HELC				S	**Sn**	**05 02 59.0**	**-0.3**
CVER	**Cruz Verde, Cu**	**2.50**	**202**	P	**Pn**	**05 02 29.2**	**+0.9**
CVER				S	**Sn**	**05 03 00.2**	**-0.2**
UREC	**San Jos de Ur**	**2.54**	**291**	P	**Pn**	**05 02 27.5**	**-0.8**
UREC				S	**Sn**	**05 02 57.9**	**-2.5**
GUY2C	**Guyana, Caldas**	**2.74**	**234**	P	**Pn**	**05 02 31.6**	**+0.3**
GUY2C				S	**Sn**	**05 03 05.7**	**0.0**
VILC	**Villavicencio,**	**2.78**	**191**	P	**Pn**	**05 02 31.2**	**-0.3**
VILC				S	**Sn**	**05 03 06.5**	**+0.4**
RECRC	**Villamaria, Ca**	**2.90**	**230**	P	**Pn**	**05 02 35.8**	**+2.5**
RECRC				S	**Sn**	**05 03 10.4**	**+1.1**
NIZA	**Niza - Manizal**	**2.93**	**233**	P	**Pn**	**05 02 37.3**	**+3.9**
NIZA				S	**Sn**	**05 03 12.5**	**+3.0**
CBOC	**Ciudad Bolivar**	**3.02**	**251**	P	**Pn**	**05 02 35.8**	**+1.3**
CBOC				S	**Sn**	**05 03 12.0**	**+0.5**
DBBC	**Dabeiba**	**3.05**	**273**	P	**Pn**	**05 02 35.1**	**+0.3**
DBBC				S	**Sn**	**05 03 09.9**	**-2.1**
ARGC	**Ariguani, Magd**	**3.18**	**340**	P	**Pn**	**05 02 37.6**	**+1.3**
ARGC				S	**Sn**	**05 03 16.7**	**+1.9**
ANIL	**Santa Ana**	**3.26**	**224**	P	**Pn**	**05 02 39.3**	**+1.7**
ANIL				S	**Sn**	**05 03 16.9**	**-0.1**
APAC	**Apartado, Choc**	**3.57**	**287**	P	**Pn**	**05 02 41.4**	**+0.1**
APAC				S	**Sn**	**05 03 23.9**	**+0.2**
PRAC	**Prado**	**3.57**	**209**	P	**Pn**	**05 02 41.5**	**0.0**
PRAC	**Prado**	**3.57**	**209**	P	**Pn**	**05 02 41.5**	**0.0**
PRAC				S	**Sn**	**05 03 23.3**	**-0.7**
ORTC	**Ortega, Tolima**	**3.60**	**216**	P	**Pn**	**05 02 41.8**	**0.0**
ORTC				S	**Sn**	**05 03 24.9**	**+0.2**
SJCC	**San Jacinto, C**	**3.63**	**326**	P	**Pn**	**05 02 41.2**	**-1.0**
SJCC	**San Jacinto, C**	**3.63**	**326**	P	**Pn**	**05 02 41.2**	**-1.0**
SJCC				S	**Sn**	**05 03 24.6**	**-0.8**
PLMC	**San Jos del P**	**3.68**	**238**	P	**Pn**	**05 02 43.2**	**+0.3**
PLMC				S	**Sn**	**05 03 26.7**	**+0.2**
URMC	**La Uribe, Meta**	**3.79**	**199**	P	**Pn**	**05 02 44.7**	**+0.3**
URMC				S	**Sn**	**05 03 29.2**	**0.0**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P	**Pn**	**05 02 47.7**	**-1.2**
CRJC				S	**Sn**	**05 03 37.4**	**0.0**
YOTC	**Yotoco, Valle**	**4.28**	**228**	P	**Pn**	**05 02 50.9**	**+0.1**
YOTC				S	**Sn**	**05 03 41.0**	**+0.4**
GUVC	**San Jose del G**	**4.31**	**173**	P	**Pn**	**05 02 49.7**	**-1.4**
GUVC				S	**Sn**	**05 03 38.7**	**-2.6**
MACC	**Macarena, Meta**	**4.73**	**189**	P	**Pn**	**05 02 54.8**	**-1.8**
MACC				S	**Sn**	**05 03 49.1**	**-2.1**
URI	**Uribia**	**4.94**	**13**	P	**Pn**	**05 02 58.3**	**-1.1**
URIC	**Uribia, Colomb**	**4.95**	**13**	P	**Pn**	**05 02 57.9**	**-1.5**
URIC				S	**Sn**	**05 03 56.5**	**+0.3**
GARC	**Garzon, Huila**	**5.20**	**207**	P	**Pn**	**05 03 01.7**	**-1.3**
FLOC	**Florencia**	**5.81**	**206**	P	**Pn**	**05 03 09.7**	**-1.2**
BBAC	**Balboa, Cauca**	**6.31**	**221**	P	**Pn**	**05 03 18.9**	**+1.1**

CATAC ***12*** *05:08:06.1±0.7, 14°N±4°×9°3W±°, h10km, M3.8/7, MLv3.8/7, Error ellipse: s-maj=9.6km s-min=5.1km az=23.2, confirmed*
MEX ***12*** *05:08:09.5±0.7, 14°.17N×93°.23W, h7km±35km, MD4.0*

ISC 12 05:08:06.4±2.5, 14°.22N±0°.08×93°.18W±0°.04, h2km±15km, n19, σ1§21/33, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.12**	**52**	*e*P	**Pb**	**05 08 28.4**	**-0.2**
THIG				*e*S	**Sb**	**05 08 42.9**	**-0.7**
PATR	**El Naranjo**	**1.28**	**46**	*e*P	**Pn**	**05 08 30.8**	**-0.7**
PATR				*e*S	**Sn**	**05 08 48.4**	**-1.1**
PAVE	**Pavencul**	**1.37**	**45**	*e*P	**Pn**	**05 08 32.4**	**-0.4**
PAVE				*e*S	**Sb**	**05 08 50.2**	**-0.8**
RTAL	**Retalhuleu**	**1.47**	**78**	*e*P	**Pn**	**05 08 33.4**	**-0.6**
RTAL				*i* S	**Sg**	**05 08 54.7**	**+1.0**
RTAL	**Retalhuleu**	**1.47**	**78**	P	**Pn**	**05 08 33.2**	**-0.8**
PCIG		**1.48**	**359**	*e*P	**Pn**	**05 08 32.9**	**-1.2**
PCIG				*e*S	**Sn**	**05 08 52.5**	**-1.5**
HUEH	**Huehuetenango**	**1.96**	**56**	*e*P	**Pb**	**05 08 41.8**	**-1.2**
HUEH				*i* S	**Sg**	**05 09 10.0**	**+0.6**
CCIG	**Comitan**	**2.29**	**26**	*e*P	**Pb**	**05 08 48.8**	**+0.3**
CCIG				*e*S	**Sg**	**05 09 19.0**	**-0.9**
CCIG	**Comitan**	**2.29**	**26**	P	**Pb**	**05 08 48.6**	**+0.1**
TGIG		**2.54**	**1**	*e*P	**Pn**	**05 08 50.2**	**+1.4**
TGIG				*e*S	**Sn**	**05 09 21.5**	**+1.0**
NILT	**Santiago Nilte**	**2.71**	**329**	*e*P	**Pn**	**05 08 51.5**	**+0.5**
NILT				*i* S	**Sn**	**05 09 23.8**	**-0.7**
UXUV	**UXUV**	**3.22**	**343**	*e*P	**Pn**	**05 08 59.8**	**+1.8**
CMIG	**Matias Romero**	**3.29**	**330**	*e*P	**Pn**	**05 08 59.2**	**+0.2**
CMIG				*i* S	**Sn**	**05 09 37.9**	**-1.0**
NUBE	**Las Nubes**	**3.32**	**95**	P	**Pn**	**05 08 59.0**	**-0.5**
NUBE	**Las Nubes**	**3.32**	**95**	S	**Sn**	**05 09 40.6**	**+1.0**
PETF	**Flores**	**4.17**	**50**	*i* P	**Pn**	**05 09 13.2**	**+2.1**
PETF				*i* S	**Sn**	**05 10 03.5**	**+3.0**
NEUV	**Arroyo Zacate**	**4.29**	**324**	*e*P	**Pn**	**05 09 13.6**	**+0.8**
NEUV				*i* S	**Sn**	**05 10 01.9**	**-1.6**
TOIG	**Toxpalan**	**5.36**	**316**	*e*P	**Pn**	**05 09 27.5**	**-0.2**
TOIG				*i* S	**Sn**	**05 10 32.3**	**+2.2**
HLIG	**Huajuapan de L**	**5.71**	**310**	*e*P	**Pn**	**05 09 33.1**	**+0.6**
HLIG				*i* S	**Sn**	**05 10 38.7**	**-0.2**

NEIC ***12*** *05:17:06.1±0.9, 18°.6N±0°.2×64°.44W±0°.07, h17km±14km, ML2.7/26, Md3.5/15(RSPR), Error ellipse: s-maj=29.9km s-min=7.4km az=194.0*
RSPR ***12*** *05:17:06.8, 18°.84N×64°.36W, h33km±22km, MD3.5/15*

ISC 12 05:17:06.4±1.7, 18°.9N±0°.1×64°.41W±0°.04, h42km, n60, σ0§98/70, 15C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.54**	**243**		**Pn**	**05 17 30.7**	**-0.6**
HUMP					**Sn**	**05 17 49.6**	**-0.4**
HUMP	**Col San Antoni**	**1.54**	**243**	IAML		05 17 52.1	
	comp=E,59nm,0.2s						
HUMP				IAML		05 17 57.6	
	comp=N,66nm,0.2s						
HUMP	**Col San Antoni**	**1.54**	**243**	⇑*e*P	**Pn**	**05 17 30.7**	**-0.6**
HUMP	**Col San Antoni**	**1.54**	**243**	*e*S	**Sn**	**05 17 49.6**	**-0.4**
SABA	**Saba**	**1.65**	**138**	Pn	**Pn**	**05 17 32.0**	**-1.0**
SABA				IAML		05 18 10.0	
	comp=N,110nm,0.9s						
GCPR	**Guaynabo City**	**1.68**	**252**		**Pn**	**05 17 32.5**	**-0.8**
GCPR					**Sn**	**05 17 53.0**	**-0.5**
GCPR	**Guaynabo City**	**1.68**	**252**	⇑*e*P	**Pn**	**05 17 32.5**	**-0.8**
GCPR	**Guaynabo City**	**1.68**	**252**	*e*S	**Sn**	**05 17 53.0**	**-0.5**
PDPR	**Patillas Dam,**	**1.74**	**242**	Pn	**Pn**	**05 17 33.9**	**-0.2**
PDPR	**Patillas Dam,**	**1.74**	**242**	⇑*e*P	**Pn**	**05 17 33.8**	**-0.3**
PDPR	**Patillas Dam,**	**1.74**	**242**	*e*S	**Sn**	**05 17 55.7**	**+0.6**
SJG	**San Juan**	**1.81**	**246**		**Pn**	**05 17 34.9**	**-0.2**
SJG	**San Juan**	**1.81**	**246**	IAML		05 18 08.4	
	comp=N,52nm,0.2s						
SJG	**San Juan**	**1.81**	**246**	⇑*e*P	**Pn**	**05 17 34.9**	**-0.2**
SJG	**San Juan**	**1.81**	**246**	*e*S	**Sn**	**05 17 56.9**	**+0.2**
SJG	**San Juan**	**1.81**	**246**	*e*P	**Pn**	**05 17 34.6**	**-0.5**
SJG				*e*S	**Sn**	**05 17 55.4**	**-1.3**
IGPR	**InterUniversit**	**1.83**	**242**		**Pn**	**05 17 35.4**	**0.0**
IGPR					**Sn**	**05 17 57.7**	**+0.2**
IGPR	**InterUniversit**	**1.83**	**242**	⇑*e*P	**Pn**	**05 17 35.4**	**0.0**
IGPR	**InterUniversit**	**1.83**	**242**	*e*S	**Sn**	**05 17 57.7**	**+0.2**
ECPR	**Experimental S**	**1.93**	**254**	⇑*e*P	**Pn**	**05 17 36.5**	**-0.2**
ECPR	**Experimental S**	**1.93**	**254**	*e*S	**Sn**	**05 17 59.2**	**-0.5**
EMPR	**Esperanza - Ma**	**2.04**	**260**		**Pn**	**05 17 38.7**	**+0.4**
EMPR					**Sn**	**05 18 03.2**	**+0.7**
EMPR	**Esperanza - Ma**	**2.04**	**260**	⇑*e*P	**Pn**	**05 17 38.7**	**+0.4**
EMPR	**Esperanza - Ma**	**2.04**	**260**	*e*S	**Sn**	**05 18 03.2**	**+0.7**
SKI	**Saint Kitts**	**2.19**	**133**	*e*P	**Pn**	**05 17 40.7**	**+0.3**
SKI				*e*S	**Sn**	**05 18 06.0**	**-0.3**
CELP	**Cerrillos**	**2.20**	**250**		**Pn**	**05 17 40.4**	**0.0**
CELP					**Sn**	**05 18 06.6**	**+0.2**
CELP	**Cerrillos**	**2.20**	**250**	IAML		05 18 06.8	
	comp=E,30nm,0.5s						
CELP	**Cerrillos**	**2.20**	**250**	⇑*e*P	**Pn**	**05 17 40.4**	**0.0**
CELP	**Cerrillos**	**2.20**	**250**	*e*S	**Sn**	**05 18 06.6**	**+0.2**
OBIP	**Obispado Ponce**	**2.23**	**249**		**Sn**	**05 18 07.4**	**+0.1**
OBIP	**Obispado Ponce**	**2.23**	**249**		**Pn**	**05 17 40.7**	**-0.2**
OBIP				IAML		05 18 07.8	
	comp=E,45nm,1.4s						
OBIP				IAML		05 18 07.9	
	comp=N,29nm,0.5s						
OBIP	**Obispado Ponce**	**2.23**	**249**	⇑*e*P	**Pn**	**05 17 41.1**	**+0.3**
OBIP	**Obispado Ponce**	**2.23**	**249**	*e*S	**Sn**	**05 18 07.4**	**+0.1**
UUPR	**Utuado, UPR, P**	**2.27**	**255**		**Pn**	**05 17 41.3**	**-0.1**
UUPR					**Sn**	**05 18 08.3**	**+0.2**
UUPR	**Utuado, UPR, P**	**2.27**	**255**	⇑*e*P	**Pn**	**05 17 41.3**	**-0.1**
UUPR	**Utuado, UPR, P**	**2.27**	**255**	*e*S	**Sn**	**05 18 08.3**	**+0.2**
AOPR	**Arecibo Observ**	**2.28**	**258**		**Pn**	**05 17 42.1**	**+0.5**
AOPR					**Sn**	**05 18 09.2**	**+0.8**
AOPR	**Arecibo Observ**	**2.28**	**258**	IAML		05 18 19.5	
	comp=N,60nm,0.3s						
AOPR				IAML		05 18 29.8	
	comp=E,107nm,0.3s						
AOPR	**Arecibo Observ**	**2.28**	**258**	⇑*e*P	**Pn**	**05 17 42.1**	**+0.5**
AOPR	**Arecibo Observ**	**2.28**	**258**	*e*S	**Sn**	**05 18 09.2**	**+0.8**
AOPR	**Arecibo Observ**	**2.28**	**258**	*e*P	**Pn**	**05 17 42.2**	**+0.6**
AOPR				*e*S	**Sn**	**05 18 02.0**	**-6.4**
AGPR	**Aguadilla, PR**	**2.59**	**262**		**Pn**	**05 17 46.0**	**+0.2**
AGPR				IAML		05 19 24.7	
	comp=N,56nm,2.4s						
AGPR	**Aguadilla, PR**	**2.59**	**262**		**Sn**	**05 18 16.2**	**+0.2**
AGPR	**Aguadilla, PR**	**2.59**	**262**	IAML		05 18 03.6	
	comp=E,64nm,1.9s						
AGPR	**Aguadilla, PR**	**2.59**	**262**	⇑*e*P	**Pn**	**05 17 46.0**	**+0.2**
AGPR	**Aguadilla, PR**	**2.59**	**262**	*e*S	**Sn**	**05 18 16.2**	**+0.2**
LSP	**Las Mesas**	**2.63**	**256**		**Pn**	**05 17 46.8**	**+0.4**
LSP					**Sn**	**05 18 17.3**	**+0.3**
LSP	**Las Mesas**	**2.63**	**256**	⇑*e*P	**Pn**	**05 17 46.8**	**+0.4**
LSP	**Las Mesas**	**2.63**	**256**	*e*S	**Sn**	**05 18 17.3**	**+0.3**
MLPR	**Magueyes Islan**	**2.65**	**251**	⇑*e*P	**Pn**	**05 17 47.0**	**+0.4**
MLPR	**Magueyes Islan**	**2.65**	**251**	*e*S	**Sn**	**05 18 18.5**	**+1.0**
PRSN	**Puerto Rico Se**	**2.67**	**257**	Pn	**Pn**	**05 17 46.6**	**-0.3**
PRSN				IAML		05 18 19.6	
	comp=E,76nm,0.2s						
CRPR	**Cabo Rojo, PR**	**2.70**	**252**		**Pn**	**05 17 47.5**	**+0.2**
CRPR					**Sn**	**05 18 19.5**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.70**	**252**	IAML		05 18 44.5	
	comp=E,33nm,2.5s						
CRPR				IAML		05 19 19.0	
	comp=N,31nm,1.9s						
CRPR	**Cabo Rojo, PR**	**2.70**	**252**	⇑*e*P	**Pn**	**05 17 47.5**	**+0.2**
CRPR	**Cabo Rojo, PR**	**2.70**	**252**	*e*S	**Sn**	**05 18 19.5**	**+0.8**
ANWB	**Willy Bob**	**2.76**	**115**	*e*P	**Pn**	**05 17 47.9**	**-0.2**
ANWB				*e*S	**Sn**	**05 18 20.7**	**+0.5**
MBFL	**Flemmings, Mon**	**2.96**	**135**	*e*P	**Pn**	**05 17 52.1**	**+1.2**
MBFL				*e*S	**Sn**	**05 18 26.2**	**+1.1**
MLYT	**Lee's Yard**	**2.99**	**135**	*e*P	**Pn**	**05 17 51.8**	**+0.5**
MLYT				*e*S	**Sn**	**05 18 26.9**	**+0.9**
ANBD	**Bethesda, Anti**	**3.09**	**125**	*e*P	**Pn**	**05 17 52.0**	**-0.7**
ANBD				*e*S	**Sn**	**05 18 26.3**	**-2.1**

IDC ***12*** *05:20:36.5±1.0, 34°.31S×179°.47E, h0km, mb4.0/7, mbtmp4.0/8, ML3.9/1, MS3.7/15, Error ellipse: s-maj=28.2km s-min=24.0km az=60.0*
NOU ***12*** *05:21:20.7, 37°.28S×178°.82E, h44km, MLv3.5/6, Off E. Coast of N. Island, N.Z.*

ISC 12 05:20:38.0±0.9, 34°.2S±0°.1×179°.3E±0°.1, h10km, n37, σ1§22/20, mb4.0/9, MS3.8/14, 3C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.48**	**193**	P	**Pn**	**05 21 32.9**	**+0.7**
KUZ	**Kuaotunu**	**3.89**	**228**	P	Pg	05 21 59.5	+7.0
URZ	**Urewera**	**4.45**	**203**	Pn	**Pn**	**05 21 46.4**	**+0.9**
	6.9nm,0.3s,baz=63,slow=4.6,SNR=37						
URZ				Sn	**Sn**	**05 22 38.1**	**+0.7**
	4.7nm,0.3s,baz=145,slow=22,SNR=1.3						
	40nm,0.5s						
URZ	**Urewera**	**4.45**	**203**	P	**Pn**	**05 21 46.4**	**+0.9**
BKZ	**Black Stump Fm**	**5.48**	**203**	P	**Pn**	**05 22 01.0**	**+1.3**
BFZ	**Birch Farm**	**6.94**	**200**	P	**Pn**	**05 22 19.0**	**-0.8**
CTZ	**Chatham Island**	**10.07**	**163**	P	**Pn**	**05 23 04.8**	**+2.2**
DZM	**Mont Dzumac**	**16.52**	**313**	LR	LR	05 29 36.4	
	comp=Z,666nm,19.8s,baz=174,slow=32						
RAR	**Rarotonga**	**22.53**	**60**	LR	LR	05 35 51.3	
	comp=Z,84nm,18.1s,baz=158,slow=41						
ASAR	**Alice Springs**	**40.80**	**273**	P	**P**	**05 28 21.1**	**+1.3**
	3.3nm,1.0s,baz=114,slow=7.7,SNR=14						
	3.3nm,1.0s						
WRA	**Warramunga Arr**	**42.14**	**278**	P	**P**	**05 28 31.6**	**+0.8**
	3.6nm,1.1s,baz=117,slow=7.5,SNR=9.4						
	3.6nm,1.1s						
VNDA	**Vanda**	**44.14**	**185**	P	**P**	**05 28 46.7**	**+0.5**
	0.3nm,0.7s,baz=292,slow=8.6,SNR=1.5						
VNDA				LR	LR	05 43 37.3	
	comp=Z,50nm,18.7s,baz=4.5,slow=31						
	0.3nm,0.7s						
JAY	**Jayapura**	**47.79**	**303**	LR	LR	05 47 03.8	
	comp=Z,58nm,21.9s,baz=326,slow=33						
QSPA	**South Pole Qui**	**55.95**	**180**	P	**P**	**05 30 14.1**	**-2.1**
	2.1nm,0.9s,baz=45,slow=5.4,SNR=8.4						
QSPA				LR

JMA ***12*** *05:28:58.3±0.5,25°N±4°×12°3E±°, h143km±4km, MV2.5/13, NW OFF ISHIGAKIJIMA IS*

ISC 12 05:28:58.6±2.0, 24°87N±0°10×122°91E±0°04, h140km±12km, n47, σ0§60/66, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.41**	**167**	*eP*	**Pn**	**05 29 18.5**	**+0.1**
YOJ	**Yonaguni jima**	**0.41**	**167**	*i* P	**Pn**	**05 29 18.6**	**+0.2**
YOJ				*eS*	**Sn**	**05 29 34.0**	**+0.6**
JYNG	**Yonagunijimaku**	**0.42**	**176**	*eP*	**Pn**	**05 29 18.7**	**+0.2**
EOS2	**EOS2**	**0.76**	**234**	P	**Pn**	**05 29 20.6**	**+0.2**
EOS2				*i* S	**Sn**	**05 29 38.0**	**+1.1**
EOS3	**EOS3**	**0.79**	**223**	*eP*	**Pn**	**05 29 21.0**	**+0.5**
IRIF	**Iriomote-Funau**	**0.92**	**125**	*eP*	**Pn**	**05 29 21.8**	**+0.1**
EOS4	**EOS4**	**0.92**	**216**	*i* P	**Pn**	**05 29 21.4**	**+0.1**
EOS4				*eS*	**Sn**	**05 29 39.6**	**+1.0**
TIPB	**Shuangxi**	**0.99**	**276**	*eP*	**Pn**	**05 29 22.5**	**+0.1**
TWC	**Suao**	**1.00**	**255**	*i* P	**Pn**	**05 29 22.1**	**-0.3**
TWC				*eS*	**Sn**	**05 29 39.2**	**-1.3**
EWUT	**Wuta**	**1.11**	**248**	*eP*	**Pn**	**05 29 23.6**	**+0.2**
EWUT				*eS*	**Sn**	**05 29 42.1**	**-0.2**
TWE	**Neicheng**	**1.14**	**263**	*eP*	**Pn**	**05 29 24.1**	**+0.4**
HATJ	**Hateruma jima**	**1.15**	**135**	*eP*	**Pn**	**05 29 24.4**	**+0.6**
ENA	**Nanau**	**1.15**	**248**	*i* P	**Pn**	**05 29 23.9**	**0.0**
JKRS	**Kuro-shima**	**1.18**	**122**	*eP*	**Pn**	**05 29 24.7**	**+0.6**
JKRS				*eS*	**Sn**	**05 29 43.5**	**-0.1**
FUSB	**Fushanzhiwuyua**	**1.21**	**265**	*eP*	**Pn**	**05 29 24.3**	**-0.1**
JIJ	**Ishigaki jima**	**1.23**	**114**	*eP*	**Pn**	**05 29 24.6**	**0.0**
JIJ				*eS*	**Sn**	**05 29 43.1**	**-1.3**
NWLT	**Wulai**	**1.28**	**266**	*eP*	**Pn**	**05 29 25.4**	**+0.2**
NWLT				*eS*	**Sn**	**05 29 45.0**	**-0.4**
LATG	**Datong**	**1.30**	**256**	P	**Pn**	**05 29 25.6**	**+0.1**
LATG				*eS*	**Sn**	**05 29 46.3**	**+0.4**
JISG	**Ishigakijimahi**	**1.30**	**102**	*eP*	**Pn**	**05 29 25.2**	**-0.2**
JISG				*eS*	**Sn**	**05 29 44.9**	**-0.8**
NACB	**Ninganchiao**	**1.38**	**240**	*eP*	**Pn**	**05 29 25.5**	**-0.7**
NACB				*eS*	**Sn**	**05 29 46.3**	**-0.9**
YHNB	**Yeheng**	**1.41**	**262**	P	**Pn**	**05 29 26.5**	**0.0**
YHNB				*i* S	**Sn**	**05 29 47.5**	**-0.3**
NSK	**Sanguang**	**1.42**	**263**	P	**Pn**	**05 29 26.7**	**0.0**
ETLH	**Xiulin Townshi**	**1.46**	**243**	*eP*	**Pn**	**05 29 26.7**	**-0.4**
NNSB	**Datong**	**1.46**	**253**	*eP*	**Pn**	**05 29 27.1**	**0.0**
NNS	**Nan Shan**	**1.46**	**253**	*i* P	**Pn**	**05 29 27.2**	**0.0**
ETM	**Tongmen**	**1.57**	**235**	*eP*	**Pn**	**05 29 27.7**	**-0.5**
LXIB	**Xiulin Townshi**	**1.60**	**239**	*eP*	**Pn**	**05 29 28.0**	**-0.8**
SHUL	**Shoufeng**	**1.63**	**229**	*eP*	**Pn**	**05 29 28.7**	**-0.2**
FUSS	**Fushou**	**1.64**	**248**	*eP*	**Pn**	**05 29 29.4**	**+0.2**
JTJ	**Tarama**	**1.65**	**98**	*eP*	**Pn**	**05 29 29.2**	**+0.2**
WHF	**Hehuan Shan**	**1.66**	**245**	P	**Pn**	**05 29 29.4**	**-0.3**
WHF				*i* S	**Sn**	**05 29 52.6**	**-0.7**
NSTT	**Nanjuang**	**1.75**	**263**	*eP*	**Pn**	**05 29 30.3**	**+0.1**
NSTT				*eS*	**Sn**	**05 29 53.5**	**-0.9**
WARBT	**Fenglin Townsh**	**1.80**	**231**	P	**Pn**	**05 29 29.9**	**-0.9**
OWD	**Renai**	**1.82**	**240**	P	**Pn**	**05 29 31.2**	**-0.1**
OWD				S	**Sn**	**05 29 55.3**	**-0.8**
WUSB	**Renai**	**1.85**	**242**	P	**Pn**	**05 29 31.7**	**+0.2**
WUSB				*eS*	**Sn**	**05 29 56.5**	**-0.2**
WHP	**Taichung City**	**1.88**	**252**	P	**Pn**	**05 29 32.5**	**+0.7**
WHP				S	**Sn**	**05 29 57.1**	**-0.1**
HGSD	**Ruisui**	**1.93**	**225**	P	**Pn**	**05 29 32.2**	**-0.1**
VWDT	**VWDT**	**1.96**	**236**	*eP*	**Pn**	**05 29 32.8**	**+0.2**
VWDT				*eS*	**Sn**	**05 29 58.4**	**-0.3**
WCS	**Beigang Elemen**	**1.99**	**246**	*eP*	**Pn**	**05 29 34.1**	**+1.1**
SMLT	**Sun Moon Lake**	**2.08**	**242**	*eP*	**Pn**	**05 29 35.2**	**+1.0**
YULB	**Yu-li**	**2.08**	**225**	*eP*	**Pn**	**05 29 33.5**	**-0.7**
SSLB	**Suanglung**	**2.08**	**239**	*eP*	**Pn**	**05 29 35.1**	**+0.9**
TYC	**Yuchr**	**2.10**	**243**	*eP*	**Pn**	**05 29 35.4**	**+1.0**
TWF1	**Yuli**	**2.11**	**225**	*eP*	**Pn**	**05 29 34.0**	**-0.5**
JMJ2	**Miyako jima3**	**2.20**	**93**	*eP*	**Pn**	**05 29 36.1**	**+0.6**
WHYT	**Xinyi Township**	**2.21**	**239**	*eP*	**Pn**	**05 29 36.5**	**+0.7**
WHYT				*eS*	**Sn**	**05 30 05.5**	**+1.3**
FULB	**Fuli**	**2.22**	**222**	*eP*	**Pn**	**05 29 35.9**	**0.0**

IDC ***12*** *05:53:16.9±3.5,24°68S×179°83E, h504km±37km, mb3.4/13, mbtmp4.2/15, Error ellipse: s-maj=23.8km s-min=16.5km az=60.0*

NEIC ***12*** *05:53:19.2±1.7,25°0S±0°1×179°9E±0°2, h532km±10km, mb4.3/12, Error ellipse: s-maj=25.6km s-min=15.0km az=99.0*

ISC 12 05:53:16.5±0.7, 24°74S±0°09×179°9E±0°1, h500km, n37, σ1§20/38, mb4.0/17, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.62**	**279**	P	**P**	**05 56 05.6**	**+3.9**
DZM	**Mont Dzumac**	**12.62**	**279**	P	**P**	**05 56 03.2**	**+1.4**
	3.5nm,0.5s,baz=104,slow=16,SNR=2.1						
URZ	**Urewera**	**13.68**	**189**	P	**P**	**05 56 12.5**	**-0.1**
	6.3nm,0.8s,baz=22,slow=2.2,SNR=1.5						
URZ				S	**S**	**05 58 39.9**	**+1.9**
	9.7nm,0.9s,baz=58,slow=13,SNR=3.0						
BKZ	**Black Stump Fm**	**14.67**	**190**	P	**P**	**05 56 22.5**	**-0.5**
QRZ	**Quartz Range**	**17.18**	**199**	P	**P**	**05 56 48.1**	**-0.8**
ARMA	**Armidale**	**25.63**	**251**	P	**P**	**05 58 06.2**	**+0.4**
ARMA				IAmb	IAmb	05 58 13.9	
	comp=Z,10nm,1.1s						
EIDS	**Eidsvold**	**26.08**	**262**	P	**P**	**05 58 09.9**	**+0.4**
EIDS				IAmb	IAmb	05 58 11.0	
	comp=Z,4.3nm,0.8s						
CTAO	**Charters Tower**	**31.38**	**272**	P	**P**	**05 58 55.7**	**-0.2**
STKA	**Stephens Creek**	**34.32**	**249**	P	**P**	**05 59 20.8**	**+0.1**
STKA				IAmb	IAmb	05 59 38.2	
	comp=Z,9.1nm,0.8s						
STKA	**Stephens Creek**	**34.32**	**249**	P	**P**	**05 59 20.8**	**+0.1**
	comp=Z,3.0nm,0.4s,baz=101,slow=10,SNR=6.1						
	comp=Z,3.0nm,0.4s						
COEN	**Coen**	**36.15**	**280**	P	**P**	**05 59 35.0**	**-1.1**
COEN				IAmb	IAmb	06 00 01.9	
	comp=Z,11nm,1.1s						
AS31	**Alice Springs**	**41.80**	**262**	P	**P**	**06 00 21.4**	**-0.5**
ASAR	**Alice Springs**	**41.80**	**262**	P	**P**	**06 00 20.8**	**-1.1**
ASAR	**Alice Springs**	**41.80**	**262**	P	**P**	**06 00 21.8**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=93,slow=7.5,SNR=34						
ASAR				PcP	**PcP**	**06 02 06.4**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=113,slow=3.9,SNR=1.9						
	comp=Z,3.2nm,0.6s						
WR8	**Warramunga Arr**	**42.10**	**267**	P	**P**	**06 00 23.0**	**-1.3**
WR8				IAmb	IAmb	06 00 24.2	
	comp=Z,8.7nm,0.9s						
WRA	**Warramunga Arr**	**42.25**	**267**	P	**P**	**06 00 24.6**	**-0.8**
	comp=Z,9.7nm,0.5s,baz=99,slow=8.0,SNR=115						
WRA				PcP	**PcP**	**06 02 06.8**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=99,slow=2.6,SNR=2.9						
	comp=Z,9.7nm,0.5s						
JAY	**Jayapura**	**43.75**	**294**	P	**P**	**06 00 36.5**	**-0.9**
	comp=Z,6.6nm,0.5s,baz=59,slow=2.9,SNR=5.2						
	comp=Z,6.6nm,0.5s						
VNDA	**Vanda**	**53.54**	**185**	P	**P**	**06 01 49.9**	**+0.7**
	comp=Z,0.6nm,1.0s,baz=338,slow=8.3,SNR=2.2						
	comp=Z,0.6nm,1.0s						
MORW	**Morawa**	**56.49**	**250**	P	**P**	**06 02 08.9**	**-1.8**
MORW				IAmb	IAmb	06 02 13.4	
	comp=Z,10nm,1.1s						
CASY	**Casey**	**59.31**	**206**	P	**P**	**06 02 27.4**	**-1.8**
QSPA	**South Pole Qui**	**65.35**	**180**	P	**P**	**06 03 08.0**	**-0.6**
QSPA	**South Pole Qui**	**65.35**	**180**	P	**P**	**06 03 09.2**	**+0.6**
	σ1.8nm,0.8s,baz=18,slow=1.8,SNR=9.1						
	comp=Z,1.8nm,0.8s						
MAW	**Mawson**	**76.93**	**201**	P	**P**	**06 04 16.6**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=85,slow=10,SNR=3.7						
	comp=Z,1.7nm,0.7s						
KSRS	**Korea Array**	**78.82**	**320**	P	**P**	**06 04 27.1**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=135,slow=5.8,SNR=4.5						
	comp=Z,0.7nm,0.4s						
PET	**Petropavlovsk**	**79.61**	**347**	P	**P**	**06 04 31.6**	**+0.7**
PETK	**Petropavlovsk-**	**79.89**	**347**	P	**P**	**06 04 31.5**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=121,slow=7.1,SNR=3.5						
	comp=Z,2.1nm,0.6s						
NVAR	**Mina Array Bea**	**85.43**	**44**	P	**P**	**06 05 01.5**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=244,slow=16,SNR=2.4						
	comp=Z,0.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.71**	**290**	P	**P**	**06 05 22.3**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=122,slow=2.5,SNR=7.2						
	comp=Z,0.6nm,0.3s						
TXAR	**Lajitas Array**	**90.97**	**58**	P	**P**	**06 05 26.9**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=208,slow=5.6,SNR=6.1						
	comp=Z,0.4nm,0.8s						
SONM	**Songino Array**	**97.66**	**319**	P	Pdif	06 05 58.3	+1.2
	comp=Z,0.1nm,0.3s,baz=116,slow=3.4,SNR=1.4						
	comp=Z,0.1nm,0.3s						
FINES	**FINESS Array B**	**139.20**	**341**	PKP	**PKPdf**	**06 11 46.0**	**+0.5**
	comp=Z,2.4nm,1.1s,baz=40,slow=2.4,SNR=2.1						
HFS	**Hagfors**	**143.34**	**348**	PKhKP	PKPpre	06 11 49.2	
	comp=Z,2.9nm,0.4s,baz=64,slow=3.4,SNR=36						
PABE	**Paberze**	**144.54**	**336**	PKPdf	**PKPdf**	**06 11 53.9**	**-1.2**
AKASG	**Malin Array Be**	**145.61**	**327**	PKPbc	**PKPdf**	**06 11 56.6**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=45,slow=4.2,SNR=6.3						
BNN	**Bunyan**	**146.58**	**304**	PKPbc	**PKPdf**	**06 12 00.1**	**+0.7**
MMAI	**Mount Meron Ar**	**147.94**	**293**	PKPbc	**PKPbc**	**06 12 05.5**	**0.0**
	comp=Z,1.4nm,0.3s,baz=166,slow=0.6,SNR=4.3						
BRTR	**Keskin Array B**	**147.99**	**306**	PKPbc	**PKPdf**	**06 12 04.3**	**+2.7**
	comp=Z,1.0nm,0.7s,baz=124,slow=3.5,SNR=4.0						

IDC ***12*** *06:11:43.9±0.9,8°28S×148°13E, h0km, mb4.1/9, mbtmp4.0/10, ML3.7/1, MS2.7/1, Error ellipse: s-maj=35.3km s-min=20.0km az=98.0*

ISC 12 06:11:57.2±1.0, 8°4S±0°2×147°7E±0°2, h100km, n11, σ0§96/11, mb3.9/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.30**	**227**	P	**P**	**06 15 53.0**	**+0.5**
	0.3nm,0.3s,baz=52,slow=11,SNR=11						
WRA				S	**Sn**	**06 19 03.5**	**-1.7**
	0.4nm,0.9s,baz=40,slow=22,SNR=1.5						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**20.13**	**220**	P	**P**	**06 16 24.4**	**+0.9**
	0.6nm,0.6s,baz=51,slow=9.4,SNR=9.1						
	0.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.53**	**244**	P	**P**	**06 16 59.4**	**+0.8**
	1.5nm,0.3s,baz=63,slow=11,SNR=13						
	1.5nm,0.3s						
STKA	**Stephens Creek**	**24.03**	**193**	P	**P**	**06 17 03.0**	**0.0**
	1.8nm,0.6s,baz=326,slow=18,SNR=1.7						
	1.8nm,0.6s						
ASAJ	**Asahikawa**	**52.49**	**355**	LR	LR	06 43 34.4	
	comp=Z,6.7nm,18.7s,baz=292,slow=36						
VNDA	**Vanda**	**69.47**	**177**	P	**P**	**06 22 54.9**	**+0.5**
	0.8nm,0.8s,baz=331,slow=5.5,SNR=6.7						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**79.81**	**321**	P	**P**	**06 23 55.5**	**+0.9**
	0.8nm,0.5s,baz=99,slow=8.6,SNR=9.4						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**81.43**	**328**	P	**P**	**06 24 03.3**	**+0.3**
	1.6nm,0.3s,baz=107,slow=4.3,SNR=7.4						
	1.6nm,0.3s						
QSPA	**South Pole Qui**	**81.57**	**180**	P	**P**	**06 24 03.5**	**-0.3**
	1.8nm,0.5s,baz=322,slow=1.1,SNR=16						
	1.8nm,0.5s						
KURBB	**Kurchatov Arra**	**83.58**	**323**	P	**P**	**06 24 14.1**	**-0.2**
	1.5nm,0.2s,baz=116,slow=3.8,SNR=8.1						
	1.5nm,0.2s						
ILAR	**Eielson Array**	**87.41**	**23**	P	**P**	**06 24 31.9**	**-1.2**
	0.9nm,0.7s,baz=248,slow=5.4,SNR=9.6						
	0.9nm,0.7s						

GCG ***12*** *06:42:45.5±0.7, 14°99N×92°45W, h79km±7km, MD3.6, ML2.6*

MEX ***12*** *06:42:45.7±0.6, 14°79N×92°59W, h82km±8km, MD3.5*

ISC 12 06:42:40.5±2.6, 14°4N±0°2×92°7W±0°1, h79km±23km, n11, σ2§12/20, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.65**	**41**	*eP*	**Pn**	**06 42 56.6**	**+1.1**
THIG				*eS*	**Sn**	**06 43 05.9**	**-0.7**
SMCA	**Catarina**	**0.75**	**54**	*i* P	**Pn**	**06 42 58.1**	**+1.5**
SMCA				*i* S	**Sn**	**06 43 08.5**	**-0.1**
SMCA				IAML		06 43 09.0	
	comp=N,161nm,0.1s						
PATR	**El Naranjo**	**0.83**	**33**	*eP*	**Pn**	**06 42 58.0**	**+0.3**
PATR				*eS*	**Sn**	**06 43 08.1**	**-2.5**
PAVE	**Pavencul**	**0.93**	**34**	*eP*	**Pn**	**06 42 59.3**	**+0.4**
PAVE				*eS*	**Sn**	**06 43 10.2**	**-2.3**
RTAL	**Retalhuleu**	**0.98**	**84**	*eP*	**Pn**	**06 43 02.7**	**+3.4**
RTAL				*i* S	**Sn**	**06 43 15.8**	**+2.5**
STG2	**El Palmar, Qui**	**1.29**	**89**	*i* P	**Pn**	**06 43 03.2**	**0.0**
STG2				*eS*	**Sn**	**06 43 16.6**	**-3.6**
STG8	**El Palmar, Qui**	**1.31**	**88**	*eP*	**Pn**	**06 43 03.6**	**0.0**
STG8				*i* S	**Sn**	**06 43 17.8**	**-3.1**
STG8				IAML		06 43 18.8	
	comp=E,209nm,0.2s						
STG0	**El Palmar, Qui**	**1.32**	**89**	*i* P	**Pn**	**06 43 04.3**	**+0.6**
STG0				*eS*	**Sn**	**06 43 18.6**	**-2.4**
STG0				IAML		06 43 21.3	
	comp=E,270nm,0.2s						
PCIG		**1.37**	**339**	*eP*	**Pn**	**06 43 04.9**	**+0.8**
PCIG				*eS*	**Sn**	**06 43 19.8**	**-2.1**
HUEH	**Huehuetenango**	**1.47**	**52**	*i* S	**Sn**	**06 43 26.4**	**+1.9**
TGIG		**2.38**	**350**	*eP*	**Pn**	06 43 22.1	+4.6
TGIG				*eS*	**Sn**	**06 43 46.3**	**+0.4**

CATAC ***12*** *07:02:27.9±1.8, 7°N±5°×7°3W±1°, h166km±20km, M3.2/7, MLv3.2/7, confirmed*

RSNC 12 07:02:30.3±0.0, 7°N±1°×7°3W±°, h146km±1km, M2.8, mb3.1, ML2.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**183**	P	Pn	07 02 49.9	-0.6
BARC	**Barichara**	**0.24**	**183**	P	Pn	07 02 49.8	-0.7
BARC				S	Sn	07 03 05.0	-0.9
BRJC	**Barrancabermej**	**0.59**	**284**	P	Pn	07 02 51.4	-0.3
BRJC				S	Sn	07 03 08.1	+0.2
PAMC	**Pamplona, Colo**	**0.69**	**43**	P	Pn	07 02 52.6	-0.3
PAMC				S	Sn	07 03 09.8	-0.2
RUSC	**La Rusia**	**0.94**	**175**	P	Pn	07 02 53.6	-1.1
RUSC	**La Rusia**	**0.94**	**175**	P	Pn	07 02 53.7	-1.0
RUSC				S	Sn	07 03 12.7	-0.6
PTBC	**PUERTO BERRIO,**	**1.31**	**257**	P	Pn	07 02 56.3	-1.3
PTBC	**PUERTO BERRIO,**	**1.31**	**257**	P	Pn	07 02 56.1	-1.5
PTBC				S	Sn	07 03 17.7	-0.8
PTBC	**PUERTO BERRIO,**	**1.31**	**257**	P	Pn	07 02 56.2	-1.4
OCAC	**Ocana**	**1.41**	**354**	P	Pn	07 02 58.1	-0.7
OCAC				S	Sn	07 03 20.2	-0.4
TAMC	**Tame, Arauca**	**1.43**	**106**	P	Pn	07 02 58.2	-0.6
TAMC				S	Sn	07 03 20.1	-0.5
ZARC	**Zaragoza, Cauc**	**1.80**	**292**	P	Pn	07 03 02.3	-0.6
ZARC				P	Pn	07 03 02.3	-0.6
ZARC	**Zaragoza, Cauc**	**1.80**	**292**	P	Pn	07 03 01.9	-1.0
ZARC				S	Sn	07 03 27.7	-0.2
NORC	**Norcasia**	**2.11**	**233**	P	Pn	07 03 06.0	-0.5
NORC				P		07 03 06.4	
NORC	**Norcasia**	**2.11**	**233**	P	Pn	07 03 05.6	-0.9
NORC				S	Sn	07 03 33.6	-0.7
CHIC	**Chingaza**	**2.26**	**194**	P	Pn	07 03 08.3	-0.4
CHIC				P		07 03 08.4	
CHIC				P		07 03 08.5	
CHIC	**Chingaza**	**2.26**	**194**	P	Pn	07 03 08.0	-0.7
CHIC				S	Sn	07 03 37.8	-0.4
ROSC	**El Rosal**	**2.28**	**210**	P	Pn	07 03 09.4	+0.4
ROSC				S	Sn	07 03 39.2	+0.5
HELC	**Santa Helena**	**2.43**	**255**	P	Pn	07 03 11.1	+0.4
HELC	**Santa Helena**	**2.43**	**255**	P	Pn	07 03 10.9	+0.2
HELC	**Santa Helena**	**2.43**	**255**	P	Pn	07 03 10.2	-0.5
HELC				S	Sn	07 03 40.9	-0.8
CVER	**Cruz Verde, Cu**	**2.46**	**201**	P	Pn	07 03 11.2	-0.1
CVER				S	Sn	07 03 43.1	+0.3
UREC	**San Jos de Ur**	**2.52**	**291**	P	Pn	07 03 09.9	-1.6
UREC				P	Pn	07 03 09.9	-1.6
UREC	**San Jos de Ur**	**2.52**	**291**	P	Pn	07 03 09.5	-2.0
UREC				S	Sn	07 03 40.7	-2.5
GUY2C	**Guyana, Caldas**	**2.70**	**234**	P	Pn	07 03 14.3	+0.1
GUY2C				P		07 03 14.8	
GUY2C				P		07 03 14.9	
GUY2C	**Guyana, Caldas**	**2.70**	**234**	P	Pn	07 03 14.1	-0.1
GUY2C				S	Sn	07 03 47.4	-0.7
VILC	**Villavicencio,**	**2.75**	**191**	P	Pn	07 03 13.7	-0.8
VILC				S	Sn	07 03 48.2	-0.4
RECRC	**Villamaria, Ca**	**2.86**	**230**	P	Pn	07 03 17.0	+0.8
RECRC				S	Sn	07 03 52.2	+0.6
NIZA	**Niza - Manizal**	**2.89**	**233**	P	Pn	07 03 18.7	+2.3
NIZA				S	Sn	07 03 54.3	+2.4
CBOC	**Ciudad Bolivar**	**2.98**	**251**	P	Pn	07 03 17.6	+0.1
CBOC				S	Sn	07 03 52.7	-1.2
DBBC	**Dabeiba**	**3.02**	**274**	P	Pn	07 03 18.1	+0.2
DBBC				P		07 03 18.3	
DBBC	**Dabeiba**	**3.02**	**274**	P	Pn	07 03 17.2	-0.7
DBBC				S	Sn	07 03 51.8	-2.9
ARGC	**Ariguani, Magd**	**3.19**	**341**	P	Pn	07 03 19.7	-0.3
ARGC				S	Sn	07 03 58.9	+0.4
ANIL	**Santa Ana**	**3.21**	**224**	P	Pn	07 03 20.7	+0.1
ANIL				S	Sn	07 03 59.7	+0.3
PRAC	**Prado**	**3.54**	**209**	P	Pn	07 03 23.8	-0.7
PRAC	**Prado**	**3.54**	**209**	P	Pn	07 03 23.9	-0.6
PRAC				P	Pn	07 03 23.9	-0.6
PRAC	**Prado**	**3.54**	**209**	P	Pn	07 03 23.5	-1.0
PRAC				S	Sn	07 04 05.7	-0.8
APAC	**Apartado, Choc**	**3.54**	**288**	P	Pn	07 03 23.3	-1.2
APAC				S	Sn	07 04 05.4	-1.2
ORTC	**Ortega, Tolima**	**3.56**	**216**	P	Pn	07 03 24.6	-0.2
ORTC				P		07 03 24.8	
ORTC				P		07 03 25.0	
ORTC	**Ortega, Tolima**	**3.56**	**216**	P	Pn	07 03 24.0	-0.8
ORTC				S	Sn	07 04 07.2	+0.1
SJCC	**San Jacinto, C**	**3.64**	**327**	P	Pn	07 03 23.9	-1.9
SJCC	**San Jacinto, C**	**3.64**	**327**	P	Pn	07 03 23.8	-2.0
SJCC				S	Sn	07 04 05.5	-3.4
PLMC	**San Jos del P**	**3.64**	**238**	P	Pn	07 03 25.6	-0.2
PLMC				P		07 03 25.8	
PLMC	**San Jos del P**	**3.64**	**238**	P	Pn	07 03 25.3	-0.5
PLMC				S	Sn	07 04 08.5	-0.4
LCBC	**Los crdobas,**	**3.75**	**303**	P	Pn	07 03 26.5	-0.8
LCBC				S	Sn	07 04 11.4	0.0
URMC	**La Uribe, Meta**	**3.76**	**199**	P	Pn	07 03 26.9	-0.5
URMC				S	Sn	07 04 10.6	-1.1
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	P	Pn	07 03 31.2	-1.6
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	P	Pn	07 03 30.2	-2.6
CRJC				S	Sn	07 04 17.9	-3.6
YOTC	**Yotoco, Valle**	**4.24**	**228**	P	Pn	07 03 33.4	-0.4
YOTC				S	Sn	07 04 23.1	0.0
SOLC	**Bahia Solano**	**4.25**	**262**	P	Pn	07 03 34.6	+0.8
GUVC	**San Jose del G**	**4.29**	**173**	P	Pn	07 03 32.7	-1.6
GUVC				S	Sn	07 04 21.1	-3.1
SMRC	**Santa Marta, M**	**4.43**	**346**	P	Pn	07 03 35.0	-1.1
SMRC				S	Sn	07 04 23.2	-4.2
MACC	**Macarena, Meta**	**4.70**	**188**	P	Pn	07 03 36.7	-3.1
MACC				S	Sn	07 04 28.4	-5.5
URIC	**Uribia, Colomb**	**4.98**	**13**	P	Pn	07 03 40.3	-3.1
URIC				S	Sn	07 04 37.0	-3.4
JAMC	**Jamundi, Valle**	**5.01**	**224**	P	Pn	07 03 43.0	-1.0
	3.3nm,1.5s						
JAMC				S	Sn	07 04 40.5	-0.9
	3.3nm,1.5s						
FLOC	**Florencia**	**5.77**	**206**	P	Pn	07 03 52.4	-1.6
	5.3nm,1.2s						
FLOC				S	Sn	07 04 58.0	-1.4
	5.3nm,1.2s						
BBAC	**Balboa, Cauca**	**6.27**	**221**	P	Pn	07 03 59.9	-1.0
BBAC				S	Sn	07 05 09.5	-2.1

IDC ***12*** *07:04:35.0±1.1, 0°21S×124°70E, h0km, mb3.7/6, mbtmp3.8/6, MS3.3/1, Error ellipse: s-maj=79.3km s-min=20.0km az=70.0*

DJA ***12*** *07:04:36.8±1.0, 0°N±6°×12°6E±°, h15km±8km, M3.5/6, MLv3.5/6*

ISC 12 07:04:40.0±1.0, 0°29N±0°09×126°49E±0°08, h47km, n9, σ2§03/9, mb3.7/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.00**	**62**	P	**Pn**	**07 04 56.5**	**-1.2**
TNTI				S	**Sn**	**07 05 10.9**	**+0.2**
SANI	**Sanana**	**2.38**	**192**	P	**Pn**	**07 05 14.7**	**-1.9**
KMSI	**Cibinong**	**2.52**	**276**	P	**Pn**	**07 05 18.1**	**-0.4**
WRA	**Warramunga Arr**	**21.53**	**160**	P	**P**	**07 09 27.2**	**+1.8**
	2.4nm,0.8s,baz=338,slow=11,SNR=18						
	2.4nm,0.8s						
ASAR	**Alice Springs**	**24.88**	**164**	P	**P**	**07 10 01.4**	**+2.9**
	1.4nm,0.7s,baz=344,slow=9.7,SNR=16						
ASAR				LR	LR	07 19 50.2	
	comp=Z,62nm,19.1s,baz=29,slow=37						

1.3nm,0.5s
MKAR **Makanchi Array** 7.86 187 Pn Pn 07 12 48.8 +0.4
0.7nm,0.6s,baz=12,slow=12,SNR=1.1
MKAR Sn Sn 07 14 16.6 -1.4
0.1nm,0.3s,baz=12,slow=19,SNR=3.2
BVAR **Borovoye Array** 8.04 264 Pn Pn 07 12 49.8 -1.1
1.1nm,0.4s

IDC 12 07:12:49.6±1.9, 5.40S×148.68E, h0km, mb4.0/5, mbtmp4.1/5, MS4.6/1, Error ellipse: s-maj=76.7km s-min=24.7km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.09**	**223**	P	P			07 17 25.5	+0.5
	3.6nm,0.3s,baz=50,slow=11,SNR=74								
	3.6nm,0.3s								
ASAR	**Alice Springs**	**23.07**	**217**	P	P			07 17 57.5	+0.5
	2.9nm,0.6s,baz=52,slow=8.8,SNR=49								
	2.9nm,0.6s								
FITZ	**Fitzroy Crossi**	**25.80**	**239**	P	P			07 18 21.9	-0.7
	4.7nm,0.6s,baz=61,slow=8.8,SNR=16								
	4.7nm,0.6s								
KAPI	**Kappang**	**28.81**	**269**	LR	LR			07 32 30.4	
	comp=Z,48nm,21.0s,baz=64,slow=41								
URZ	**Urewera**	**41.67**	**146**	LR	LR			07 34 52.0	
	comp=Z,848nm,20.4s,baz=12,slow=32								
ZALV	**Zalesovo Beam**	**79.41**	**327**	P	P			07 24 56.7	-0.8
	0.4nm,0.3s,baz=128,slow=9.5,SNR=1.6								
	0.4nm,0.3s								
ILAR	**Eielson Array**	**84.28**	**23**	P	P			07 25 23.8	+0.7
	0.4nm,0.6s,baz=245,slow=5.4,SNR=5.9								
	0.4nm,0.6s								

NNC 12 07:13:56.3±1.2, 50.08N×78.23E, h0km, mb3.9, mpv3.4, 12C-10D, Error ellipse: s-maj=11.3km s-min=5.3km az=93.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.54**	**20**	⇑P			Pg	07 14 06.3	-0.3
KUR07				⇑S			Sg	07 14 15.0	+1.5
KUR06	**Kurchatov Arra**	**0.56**	**20**	⇑P			Pg	07 14 06.6	-0.3
KUR06				⇓S			Sg	07 14 15.5	+1.3
KUR17	**Kurchatov Arra**	**0.58**	**15**	⇓P			Pg	07 14 07.6	+0.3
KUR17				⇑S			Sb	07 14 17.2	-0.7
KUR16	**Kurchatov Arra**	**0.58**	**17**	⇑P			Pg	07 14 07.4	+0.1
KUR16				⇓S			Sb	07 14 16.9	-1.1
KURBB	**Kurchatov Arra**	**0.58**	**19**	⇓P			Pg	07 14 07.1	-0.2
	24nm,0.5s								
KURBB				⇑S			Sg	07 14 16.1	+1.3
	115nm,0.7s								
KUR15	**Kurchatov Arra**	**0.58**	**21**	⇑P			Pg	07 14 06.8	-0.6
KUR15				⇓S			Sg	07 14 16.1	+1.2
KUR14	**Kurchatov Arra**	**0.59**	**23**	⇑P			Pg	07 14 06.5	-1.0
KUR14				⇑S			Sg	07 14 15.5	+0.4
KUR05	**Kurchatov Arra**	**0.60**	**19**	⇑P			Pg	07 14 07.1	-0.6
KUR05				⇓S			Sg	07 14 16.5	+1.0
KUR04	**Kurchatov Arra**	**0.62**	**19**	⇑P			Pg	07 14 07.9	-0.2
KUR04				⇓S			Sg	07 14 17.6	+1.4
KURK	**Kurchatov**	**0.69**	**21**	⇑P			Pg	07 14 08.6	-0.8
	9.7nm,0.6s								
KURK				⇓S			Sg	07 14 19.2	+0.9
	27nm,0.7s								
SEM	**Semipalatinsk**	**1.34**	**75**	P			Pn	07 14 23.6	+1.1
	4.2nm,0.1s								
SEM				S			Sg	07 14 38.4	-0.9
	40nm,0.5s								
MK31	**Makanchi Array**	**4.25**	**139**	⇓Pg			Pb	07 15 07.9	-4.1
	1.6nm,0.6s,baz=316,slow=15,SNR=9.2								
MK31				⇓Lg			Lg	07 15 59.7	
	6.4nm,0.6s,baz=325,slow=26,SNR=6.1								
ZSN	**Zaisan**	**5.12**	**118**	Pg			Pb	07 15 30.1	+3.5
	5.3nm,0.2s								
ZSN				Lg			Lg	07 16 31.7	
	7.0nm,0.3s								
ARXS	**Arharly**	**5.87**	**183**	Pg			Pg	07 15 45.9	-2.9
	0.6nm,0.3s								
ARXS				Lg			Lg	07 16 59.2	
	8.7nm,0.7s								
CHKK	**Chushkaly**	**6.28**	**188**	Pg			Pg	07 15 53.9	-2.7
	1.6nm,0.2s								
CHKK				Lg			Lg	07 17 13.4	
	3.7nm,0.5s								
KTBS	**Karatobe**	**6.46**	**190**	Pg			Pg	07 15 57.4	-2.5
	1.4nm,0.3s								
KTBS				Lg			Lg	07 17 18.7	
	7.5nm,0.8s								
KST	**Kastek**	**7.21**	**193**	Pg			Pg	07 16 11.9	-2.5
	1.3nm,0.3s								
KST				Lg			Lg	07 17 43.0	
	3.8nm,0.5s								

WEL 12 07:15:41.0±1.2, 32°S±18'×17°8W±3'7, h12km, M4.2/7, mB4.8/2, ML5.0/11, MLv4.2/7, Mw(mB)4.0/2, Error ellipse: s-maj=53.0km s-min=9.3km az=115.2, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.94**	**207**	S			Sn	07 18 15.7	-1.0
WMGZ	**Waiomatatini S**	**6.12**	**205**	P			Pn	07 17 13.6	+2.4
WMGZ				S			Sn	07 18 22.5	+1.3
PKGZ	**Pakihiroa**	**6.29**	**207**	P			Pn	07 17 15.1	+1.6
PKGZ				S			Sn	07 18 28.0	+2.6
HAZ	**Te Kaha**	**6.31**	**209**	P			Pn	07 17 15.2	+1.4
HAZ				S			Sn	07 18 31.0	+5.1
PUZ	**Puketiti**	**6.41**	**205**	P			Pn	07 17 15.5	+0.3
PUZ				S			Sn	07 18 32.0	+3.8
TWGZ	**Tauwhareparae**	**6.60**	**206**	P			Pn	07 17 17.9	0.0
TWGZ				S			Sn	07 18 36.0	+3.0
CNGZ	**Carnagh Statio**	**6.79**	**204**	P			Pn	07 17 21.7	+1.3
CNGZ				S			Sn	07 18 35.7	-2.0
MWZ	**Matawai**	**6.91**	**208**	P			Pn	07 17 22.0	-0.1
MWZ				S			Sn	07 18 40.0	-0.7
URZ	**Urewera**	**7.02**	**211**	P			Pn	07 17 22.8	-0.8
URZ				S			Sn	07 18 40.2	-3.1
RAGZ	**Rawiri**	**7.10**	**208**	P			Pn	07 17 23.0	-1.7
MUGZ	**Murupara**	**7.35**	**212**	P			Pn	07 17 26.5	-1.6
HIZ	**Hauiti**	**8.33**	**220**	P			Pn	07 17 43.5	+1.9
KAHZ	**Kahuranaki**	**8.43**	**206**	P			Pn	07 17 41.2	-1.8
PXZ	**Pawanui**	**8.64**	**205**	P			Pn	07 17 44.3	-1.5
BFZ	**Birch Farm**	**9.44**	**206**	P			Pn	07 17 54.8	-2.0

*NOU **12** 07:17:29.8, 33.36S×179.78W, h167km, MLv5.0/6, South of Kermadec Islands*
*IDC **12** 07:17:37.3±0.5, 33.98S×179.54E, h0km, mb4.3/12, mbtmp4.4/15, ML4.1/3, MS4.2/26, Error ellipse: s-maj=19.6km s-min=16.0km az=112.0*
*NEIC **12** 07:17:41.7±1.1, 34.2S±0.1×179.5E±0.2, h10km±1km, mb4.9/35, Error ellipse: s-maj=22.8km s-min=19.2km az=82.0*
*GCMT **12** 07:17:42.7±0.2, 34.05S±0.01×179.51E±0.01, h12km, MW5.1/120, Moment Tensor Solution. s75,c102; s120,c200; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.12±.12; Mθθ2.44±.11; Mϕϕ0.67±.10; Mrθ3.75±.29; Mθϕ4.75±.08; Mϕr0.31±.29; Best double couple: Mo6.55300×10^16 NP1:ϕs13.00000°, δ43.00000°, λ-152.00000°. NP2:ϕs262.00000°, δ71.00000°, λ-51.00000°. Principal axes: T 7.3370, Plg17.0000°, Azm324.0000°; N -1.5740, Plg37.0000°, Azm67.0000°; P -5.7690, Plg48.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*WEL **12** 07:17:43.0±0.9, 34°S±5'×17°9E±', h12km, M5.0/22, mB5.5/3, ML5.0/22, MLv5.0/22, Mw(mB)4.9/3 Error ellipse: s-maj=10.0km s-min=5.9km az=80.4, confirmed*
ISC 12 07:17:40.0±0.4, 34.03S±0.04×179.56E±0.05, h10km, n187, σ1.9 97/176, mb4.9/33, MS4.3/27, 4C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.67**	**196**				**Pn**	**07 18 33.5**	**-3.4**
MXZ	**Matakaoa Point**	**3.67**	**196**	P			**Pn**	**07 18 36.7**	**-0.1**
MXZ	**Matakaoa Point**	**3.67**	**196**	P			**Pn**	**07 18 37.5**	**+0.7**
MXZ				T			T	07 21 59.3	
WMGZ	**Waiomatatini S**	**3.90**	**193**	P			**Pn**	**07 18 40.8**	**+0.9**
WMGZ				S			**Sn**	**07 19 25.6**	**-0.1**
WIZ	**White Island**	**3.99**	**208**	P			**Pn**	**07 18 43.8**	**+2.7**
WIZ				T			T	07 22 28.6	
HAZ	**Te Kaha**	**3.99**	**201**	P			**Pn**	**07 18 43.3**	**+2.1**
HAZ				T			T	07 22 27.5	
PKGZ	**Pakihiroa**	**4.01**	**197**	P			**Pn**	**07 18 42.4**	**+0.8**
KUZ	**Kuaotunu**	**4.15**	**228**	P			**Pn**	**07 18 42.6**	**-0.7**
KUZ	**Kuaotunu**	**4.15**	**228**	P			**Pn**	**07 18 43.5**	**+0.1**
KUZ				T			T	07 22 01.2	
PUZ	**Puketiti**	**4.17**	**194**	P			**Pn**	**07 18 43.5**	**-0.2**
RUGZ	**Raukumara Rang**	**4.22**	**201**	P			**Pn**	**07 18 46.1**	**+1.7**
TWGZ	**Tauwhareparae**	**4.33**	**197**	P			**Pn**	**07 18 46.2**	**+0.2**
WHRZ	**Whale Island**	**4.36**	**208**	P			**Pb**	**07 18 53.4**	**-3.3**
WHRZ				T			T	07 23 00.8	
OPRZ	**Ohinepanea**	**4.52**	**212**	P			**Pn**	**07 18 50.4**	**+1.9**
OPRZ				T			T	07 23 09.3	
TGRZ	**Tauranga**	**4.56**	**215**	P			**Pn**	**07 18 49.6**	**+0.6**
TGRZ				T			T	07 23 07.0	
CNGZ	**Carnagh Statio**	**4.58**	**193**	P			**Pn**	**07 18 48.8**	**-0.5**
CNGZ				S			**Sn**	**07 19 45.6**	**+3.1**
MARZ	**Manawahe**	**4.59**	**210**	P			**Pn**	**07 18 53.3**	**+3.8**
MWZ	**Matawai**	**4.60**	**200**	P			**Pn**	**07 18 49.9**	**+0.2**
MWZ				S			**Sn**	**07 19 44.2**	**+1.1**
URZ	**Urewera**	**4.67**	**204**	Pn			**Pn**	**07 18 48.7**	**-1.7**
	12nm,0.3s,baz=74,slow=21,SNR=16								
URZ				Sn			**Sn**	**07 19 42.0**	**-2.7**
	37nm,0.3s,baz=114,slow=20,SNR=4.6								
	254nm,0.6s								
URZ	**Urewera**	**4.67**	**204**	P			**Pn**	**07 18 49.4**	**-1.0**
URZ				S			**Sn**	**07 19 41.8**	**-2.8**
EDRZ	**Edgecumbe**	**4.67**	**209**	P			**Pn**	**07 18 53.2**	**+2.6**
WCZ	**Waipu Caves**	**4.69**	**245**	P			**Pn**	**07 18 49.2**	**-1.6**
RAGZ	**Rawiri**	**4.79**	**201**	P			**Pn**	**07 18 52.2**	**0.0**
RAGZ				S			**Sn**	**07 19 48.1**	**+0.4**
KARZ	**Kaharoa**	**4.81**	**213**	P			**Pn**	**07 18 53.3**	**+0.9**
OMRZ	**Omania**	**4.82**	**211**	P			**Pn**	**07 18 55.8**	**+3.1**
RIGZ	**Rimuhau**	**4.89**	**197**	P			**Pn**	**07 18 51.2**	**-2.4**
RIGZ				S			**Sn**	**07 19 50.5**	**+0.3**
HLRZ	**Highlands Stat**	**4.95**	**211**	P			**Pn**	**07 18 57.2**	**+2.7**
TOZ	**Tahuroa Road**	**4.95**	**221**				**Pn**	**07 18 53.5**	**-0.9**
TOZ	**Tahuroa Road**	**4.95**	**221**	P			**Pn**	**07 18 53.5**	**-0.9**
RRRZ	**Republican Roa**	**4.96**	**209**	P			**Pn**	**07 18 56.3**	**+1.7**
MUGZ	**Murupara**	**4.98**	**206**	P			**Pn**	**07 18 55.1**	**+0.3**
MUGZ				S			**Sn**	**07 19 54.9**	**+2.4**
RTZ	**Ruatahuna**	**5.03**	**204**	P			**Pn**	**07 18 57.8**	**+2.3**
HSRZ	**Hossack Road**	**5.05**	**211**	P			**Pn**	**07 18 59.3**	**+3.5**
OUZ	**Omahuta**	**5.06**	**255**	P			**Pn**	**07 18 53.8**	**-2.1**
OUZ	**Omahuta**	**5.06**	**255**	P			**Pn**	**07 18 53.6**	**-2.3**
OUZ				S			**Sn**	**07 19 48.5**	**-5.9**
PRGZ	**Paritu Road**	**5.07**	**195**	P			**Pn**	**07 18 54.2**	**-1.8**
PRGZ				S			**Sn**	**07 19 54.0**	**-0.6**
SNGZ	**Shannon Statio**	**5.07**	**200**	P			**Pn**	**07 18 57.0**	**+0.9**
SNGZ				S			**Sn**	**07 19 55.2**	**+0.4**
GRRZ	**Galatos Road**	**5.14**	**212**	P			**Pn**	**07 18 59.8**	**+2.8**
KNZ	**Kokohu**	**5.21**	**196**	P			**Pn**	**07 18 56.9**	**-1.1**
KNZ				S			**Sn**	**07 19 55.9**	**-2.2**
ALRZ	**Allen Road**	**5.22**	**209**	P			**Pn**	**07 18 59.7**	**+1.6**
RAO	**Raoul Island**	**5.22**	**25**	Pn			**Pn**	**07 19 02.2**	**+4.1**
RAO	**Raoul Island**	**5.22**	**25**	Pn			**Pn**	**07 18 56.0**	**-2.1**
	42nm,0.3s,baz=268,slow=19,SNR=4.5								
RAO				Sn			**Sn**	**07 19 58.9**	**+0.5**
	60nm,0.3s,baz=110,slow=22,SNR=1.9								
RAO				LR			LR	07 20 29.8	
	comp=Z,2μm,18.8s,baz=198,slow=33								
	151nm,0.3s								
RAHZ	**Arahi**	**5.27**	**202**	P			**Pn**	**07 18 58.3**	**-0.5**
MHGZ	**Mahia Peninsul**	**5.29**	**194**	P			**Pn**	**07 18 57.2**	**-1.8**
MHGZ				S			**Sn**	**07 19 57.0**	**-3.0**
MTHZ	**Maungataniwha**	**5.29**	**204**	P			**Pn**	**07 18 59.2**	**+0.1**
MTHZ				S			**Sn**	**07 20 00.2**	**0.0**
WHHZ	**Waihua**	**5.38**	**200**	P			**Pn**	**07 18 59.5**	**+0.2**
WHHZ				S			**Sn**	**07 20 02.6**	**+0.4**
KUTZ	**Kaahu Road**	**5.38**	**213**	P			**Pn**	**07 19 03.1**	**+2.8**
TLZ	**Tolley Road**	**5.39**	**216**	P			**Pn**	**07 19 01.7**	**+1.2**
MRHZ	**Matea Rd**	**5.42**	**207**	P			**Pn**	**07 19 01.3**	**+0.4**
NMHZ	**Naumai**	**5.52**	**203**	P			**Pn**	**07 19 02.1**	**-0.2**
NMHZ				S			**Sn**	**07 20 07.4**	**+1.4**
ARHZ	**Aropaoanui**	**5.62**	**201**	P			**Pn**	**07 19 03.1**	**-0.5**
BKZ	**Black Stump Fm**	**5.69**	**205**	P			**Pn**	**07 19 04.0**	**-0.6**
BKZ	**Black Stump Fm**	**5.69**	**205**	P			**Pn**	**07 19 05.0**	**+0.4**
BKZ				S			**Sn**	**07 20 09.5**	**-0.6**
RATZ	**Rangitukua**	**5.71**	**211**	P			**Pn**	**07 19 06.6**	**+1.6**
RITZ	**Rihia Road**	**5.77**	**210**	P			**Pn**	**07 19 06.5**	**+0.9**
HIZ	**Hauiti**	**5.87**	**219**	P			**Pn**	**07 19 06.9**	**-0.2**
HIZ	**Hauiti**	**5.87**	**219**	P			**Pn**	**07 19 08.4**	**+1.4**
MCHZ	**McNeill Hill**	**5.88**	**202**	P			**Pn**	**07 19 06.1**	**-1.0**
MCHZ				S			**Sn**	**07 20 16.2**	**+1.7**
KWHZ	**Kaweka Forest**	**5.95**	**204**	P			**Pn**	**07 19 07.3**	**-0.9**
TMVZ	**Te Maari**	**5.95**	**210**	P			**Pn**	**07 19 09.1**	**+0.8**
CKHZ	**Cape Kidnapper**	**5.96**	**199**	P			**Pn**	**07 19 07.8**	**-0.5**
ETVZ	**East Tongariro**	**5.97**	**210**	P			**Pn**	**07 19 10.0**	**+1.5**
NNVZ	**North Ngauruho**	**6.00**	**211**	P			Pn	07 19 14.3	+5.3
TWVZ	**Taurewa**	**6.03**	**212**	P			**Pn**	**07 19 11.3**	**+1.9**
NGZ	**Ngauruhoe**	**6.04**	**211**	P			**Pn**	**07 19 10.7**	**+1.1**
FWVZ	**Far West T-bar**	**6.13**	**211**	P			**Pn**	**07 19 11.5**	**+0.6**
MAVZ	**Matarangi**	**6.14**	**210**	P			**Pn**	**07 19 15.7**	**+4.7**
WHVZ	**Whangaehu Hut**	**6.14**	**210**	P			**Pn**	**07 19 12.9**	**+1.9**
KAHZ	**Kahuranaki**	**6.14**	**200**	P			**Pn**	**07 19 09.1**	**-1.8**
KRHZ	**Kereru**	**6.16**	**204**	P			**Pn**	**07 19 09.2**	**-1.8**
TRVZ	**Turoa**	**6.17**	**210**	P			**Pn**	**07 19 13.2**	**+1.8**
WNVZ	**Wahianoa**	**6.17**	**210**	P			**Pn**	**07 19 11.9**	**+0.6**
MOVZ	**Moawhango**	**6.18**	**209**	P			**Pn**	**07 19 10.6**	**-0.8**
PKVZ	**Pokaka**	**6.25**	**212**	P			Pn	07 19 18.9	+6.6
PXZ	**Pawanui**	**6.37**	**199**	P			**Pn**	**07 19 12.5**	**-1.4**
VRZ	**Vera Road**	**6.39**	**216**	P			**Pn**	**07 19 17.2**	**+3.1**
PNHZ	**Pukenui**	**6.46**	**204**	P			**Pn**	**07 19 12.1**	**-3.1**
PRHZ	**Porangahau**	**6.65**	**200**	P			**Pn**	**07 19 15.1**	**-2.7**
TSZ	**Takapari Road**	**6.67**	**205**	P			**Pn**	**07 19 15.7**	**-2.4**
WAZ	**Wanganui**	**6.79**	**211**	P			**Pn**	**07 19 24.5**	**+4.8**
ANWZ	**Angora Road**	**6.88**	**200**	P			**Pn**	**07 19 20.3**	**-0.6**
PRWZ	**Pori Road**	**7.12**	**203**	P			**Pn**	**07 19 24.8**	**+0.7**
BFZ	**Birch Farm**	**7.15**	**201**	P			**Pn**	**07 19 21.8**	**-2.8**
BFZ	**Birch Farm**	**7.15**	**201**	P			**Pn**	**07 19 21.6**	**-3.0**
MRZ	**Mangatainoka R**	**7.34**	**204**	P			**Pn**	**07 19 23.8**	**-3.4**
HOWZ	**Holdsworth Sta**	**7.57**	**204**	P			**Pn**	**07 19 27.0**	**-3.5**
TMWZ	**Te Maipa**	**7.64**	**201**	P			**Pn**	**07 19 27.4**	**-4.0**
RPZ	**Rata Peaks**	**11.72**	**212**	Pn			Pn	07 20 21.7	-5.5
	0.7nm,0.3s,baz=46,slow=4.0,SNR=5.1								
RPZ				Sn			Sn	07 22 28.4	-10
	1.8nm,0.3s,baz=47,slow=14,SNR=2.0								
MSVF	**Nonsavu**	**16.28**	**355**				**P**	**07 21 32.8**	**+0.9**
MSVF						IAmb	IAmb	07 21 37.0	
	comp=Z,76nm,1.2s								
DZM	**Mont Dzumac**	**16.59**	**312**				**P**	**07 21 37.5**	**+2.1**
DZM	**Mont Dzumac**	**16.59**	**312**	*e*Pn			**Pn**	**07 21 30.6**	**-2.2**
	comp=Z,64nm,1.3s								
DZM				*e*LR			LR	07 25 22.3	
	comp=Z,8μm,24.4s								
DZM	**Mont Dzumac**	**16.59**	**312**	Pn			**Pn**	**07 21 28.9**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=151,slow=19,SNR=2.3								
DZM				LR			LR	07 26 48.7	
	comp=Z,5μm,18.2s,baz=122,slow=33								
	comp=Z,7.9nm,1.1s								
RAR	**Rarotonga**	**22.27**	**60**	P			**P**	**07 22 35.8**	**-1.4**
	comp=Z,8.0nm,0.6s,baz=190,slow=11,SNR=3.1								
RAR				LR			LR	07 32 26.2	
	comp=Z,316nm,18.0s,baz=234,slow=40								
	comp=Z,8.0nm,0.6s								
ARMA	**Armidale**	**23.87**	**271**	P			**P**	**07 22 57.6**	**+3.8**
TBI	**Tubuai**	**29.08**	**77**	*e*P			**P**	**07 23 38.3**	**-2.4**
	comp=Z,227nm,29.8s								
TBI				*e*S			**S**	**07 28 31.6**	**-0.8**
	comp=Z,240nm,30.8s								
TBI				*e*LQ			LQ	07 29 36.3	
	comp=Z,6μm,26.2s								
TBI				*e*LR			LR	07 30 53.6	
	comp=Z,697nm,26.0s								
TBI				*e*LR			LR	07 31 06.7	
	comp=Z,1μm,24.8s								
STKA	**Stephens Creek**	**31.81**	**263**	P			**P**	**07 24 04.8**	**0.0**
	comp=Z,3.2nm,0.7s,baz=88,slow=11,SNR=3.1								
	comp=Z,3.2nm,0.7s								
PPT2	**Papeete2**	**32.08**	**67**	*e*S			**S**	**07 29 21.1**	**+1.4**
	comp=Z,91nm,22.5s								
PPT2				*e*LQ			LQ	07 30 59.2	
	comp=Z,596nm,21.5s								
PPT2				*e*LR			LR	07 32 26.5	
	comp=Z,603nm,24.5s								
PPT2				*e*LR			LR	07 32 27.7	
	comp=Z,498nm,25.8s								
PPT	**Papeete**	**32.09**	**67**	LR			LR	07 34 39.6	
	comp=Z,166nm,20.1s,baz=238,slow=32								
CTAO	**Charters Tower**	**32.59**	**287**	P			**P**	**07 24 13.5**	**+1.7**
CTAO				IAmb			IAmb	07 24 22.7	
	comp=Z,14nm,0.9s								
COEN	**Coen**	**38.50**	**292**	P			**P**	**07 25 04.2**	**+1.6**
COEN				IAmb			IAmb	07 25 13.3	
	comp=Z,17nm,0.8s								
AS31	**Alice Springs**	**41.01**	**272**	P			**P**	**07 25 23.5**	**0.0**
ASAR	**Alice Springs**	**41.01**	**272**	P			**P**	**07 25 24.0**	**+0.5**
ASAR	**Alice Springs**	**41.01**	**272**	P			**P**	**07 25 23.0**	**-0.5**
	comp=Z,8.4nm,0.8s,baz=114,slow=7.7,SNR=102								
	comp=Z,8.4nm,0.8s								
WR8	**Warramunga Arr**	**42.20**	**278**				**P**	**07 25 33.4**	**+0.1**
WR8				IAmb			IAmb	07 25 43.1	
	comp=Z,27nm,1.0s								
WRAB	**Tennant Creek**	**42.33**	**277**	P			**P**	**07 25 34.9**	**+0.6**
WRAB				IAmb			IAmb	07 25 44.6	
	comp=Z,30nm,1.1s								
WRA	**Warramunga Arr**	**42.34**	**277**	P			**P**	**07 25 34.5**	**+0.1**
WRA	**Warramunga Arr**	**42.34**	**277**	P			**P**	**07 25 33.2**	**-1.2**
	comp=Z,9.7nm,1.0s,baz=119,slow=7.3,SNR=47								
WRA				LR			LR	07 42 55.7	
	comp=Z,391nm,18.5s,baz=138,slow=36								
	comp=Z,9.7nm,1.0s								
WB0	**Warramunga Arr**	**42.38**	**278**				**P**	**07 25 34.9**	**+0.2**
WB0				IAmb			IAmb	07 25 45.0	
	comp=Z,32nm,1.0s								
SBA	**Scott Base**	**44.28**	**184**	P			**P**	**07 25 50.3**	**+1.0**
VNDA	**Vanda**	**44.29**	**185**	P			**P**	**07 25 50.1**	**+0.7**
VNDA	**Vanda**	**44.29**	**185**	P			**P**	**07 25 48.1**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=342,slow=8.5,SNR=6.6								
	comp=Z,0.8nm,0.8s								
TAOE	**Nuku Hiva Isla**	**44.66**	**65**	*e*S			**S**	**07 32 26.6**	**-3.2**
	comp=Z,173nm,23.8s								
TAOE				*e*LR			LR	07 38 14.2	
	comp=Z,464nm,28.6s								
JAY	**Jayapura**	**47.90**	**302**	LR			LR	07 45 46.8	
	comp=Z,145nm,19.6s,baz=134,slow=35								
MTN	**Manton Dam**	**48.66**	**284**	P			**P**	**07 26 25.1**	**+0.6**
KNRA	**Kununurra**	**49.06**	**279**	P			**P**	**07 26 29.2**	**+1.6**
MBWA	**Marble Bar**	**53.88**	**267**	P			**P**	**07 27 03.4**	**-0.2**
MBWA				IAmb			IAmb	07 27 20.8	
	comp=Z,26nm,1.2s								
SOEI	**Soe**	**55.95**	**282**	P			**P**	**07 27 19.2**	**+0.4**
QSPA	**South Pole Qui**	**56.09**	**180**	P			**P**	**07 27 19.3**	**+0.2**
	comp=Z,4.8nm,0.6s,baz=306,slow=0.6,SNR=50								
	comp=Z,4.8nm,0.6s								
BATI	**Baumata**	**56.19**	**281**	LR			LR	07 50 44.7	
	comp=Z,662nm,21.3s,baz=156,slow=35								
GUMO	**Guam**	**57.73**	**319**	LR			LR	07 48 37.1	
	comp=Z,236nm,21.8s,baz=144,slow=32								
GIRL	**Giralia**	**57.76**	**263**	P			**P**	**07 27 31.4**	**0.0**
BELA	**Belgrano 2**	**66.47**	**173**	P			**P**	**07 28 27.6**	**-1.5**
BELA				IAmb			IAmb	07 28 43.4	
	comp=Z,5.6nm,0.9s								
SMAI	**San Martin Ant**	**66.85**	**158**	P			**P**	**07 28 31.8**	**+0.2**
SMAI				IAmb			IAmb	07 28 48.5	
	comp=Z,17nm,1.5s								
MAW	**Mawson**	**68.19**	**202**	P			**P**	**07 28 38.6**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=76,slow=11,SNR=4.3								
	comp=Z,0.9nm,0.6s								
SBUM	**Sibu**	**72.78**	**285**	P			**P**	**07 29 09.8**	**+0.8**
SBUM				IAmb			IAmb	07 29 17.7	
	comp=Z,5.9nm,0.9s								
ESPZ	**Base Esperanza**	**73.06**	**157**	P			**P**	**07 29 11.6**	**+1.7**
ESPZ				IAmb			IAmb	07 29 20.2	
	comp=Z,11nm,0.8s								
SYO	**Syowa Base**	**73.12**	**194**	⇑*es*P			**P**	**07 29 14.2**	**+4.1**
TGY	**Tagaytay City**	**73.46**	**300**	LR			LR	08 02 00.0	

	comp=Z,15nm,0.6s								
HHC						pmax	pmax		
	comp=Z,74nm,4.0s								
HHC						LR	LR		
	comp=N,140nm,16.7s								
HHC						LR	LR		
	comp=E,120nm,16.7s								
HHC						LR	LR		
	comp=Z,180nm,18.6s								
ANMO	**Albuquerque**	**97.43**	**53**		LR	LR		08 09 53.1	
	comp=Z,219nm,18.3s,baz=306,slow=32								
SEY	**Seymchan**	**99.05**	**348**		LR	LR		08 13 26.6	
	comp=Z,175nm,19.6s,baz=146,slow=34								
CPUP	**Villa Florida**	**99.29**	**130**		LR	LR		08 08 16.6	
	comp=Z,135nm,21.6s,baz=87,slow=31								
NEW	**Newport**	**99.51**	**37**		LR	LR		08 11 23.5	
	comp=Z,141nm,19.4s,baz=217,slow=32								
WMQ	**Urumqi**	**113.82**	**308**	*e*	PKP	**PKiKP**		**07 36 20.3**	**+1.5**
WMQ					LR	LR			
	comp=Z,180nm,23.5s								
MKAR	**Makanchi Array**	**118.49**	**309**		PKP	**PKPdf**		**07 36 26.2**	**-1.4**
	comp=Z,0.1nm,0.5s,baz=106,slow=4.7,SNR=2.4								
KURBB	**Kurchatov Arra**	**122.05**	**312**		PKP	**PKPdf**		**07 36 31.6**	**-2.7**
	comp=Z,0.4nm,0.6s,baz=107,slow=1.9,SNR=5.9								
ARCES	**ARCESS Array B**	**141.63**	**346**		PKP	**PKPdf**		**07 37 07.4**	**-3.2**
	comp=Z,2.0nm,0.8s,baz=347,slow=3.7,SNR=3.9								
FINES	**FINESS Array B**	**147.73**	**336**		PKPbc	**PKPdf**		**07 37 21.4**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=26,slow=4.9,SNR=6.0								
MMAI	**Mount Meron Ar**	**150.19**	**278**		PKPbc	**PKPdf**		**07 37 28.9**	**+2.7**
	comp=Z,0.8nm,0.3s,baz=84,slow=5.9,SNR=4.1								
NB2	**NORSAR Subarra**	**151.94**	**348**		PKP	**PKPbc**		**07 37 32.0**	**-2.5**
	comp=Z,0.1nm,0.4s,baz=21,slow=2.4								
NOA	**NORSAR Array B**	**151.94**	**348**		PKPbc	**PKPbc**		**07 37 33.2**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=21,slow=4.6,SNR=4.4								
BRTR	**Keskin Array B**	**152.26**	**292**		PKPbc	**PKPbc**		**07 37 34.3**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=48,slow=4.3,SNR=2.0								
HFS	**Hagfors**	**152.29**	**345**		PKPbc	**PKPbc**		**07 37 34.5**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=50,slow=2.3,SNR=4.8								
DBIC	**Dimbokro**	**152.47**	**170**		PKPbc	**PKPbc**		**07 37 36.3**	**-0.8**
	comp=Z,5.0nm,0.8s,baz=198,slow=3.1,SNR=4.4								
AKASG	**Malin Array Be**	**152.72**	**317**		PKPbc	**PKPbc**		**07 37 35.0**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=76,slow=1.5,SNR=1.8								

IDC ***12*** *07:24:34.0±0.5,20.74S×70.33W,h0km,mb4.2/13, mbtmp4.2/18,ML4.1/6,MS3.8/13,Error ellipse: s-maj=18.0km s-min=12.9km az=83.0*
VAO ***12*** *07:24:35.0±0.4,20.73S×70.41W,h10km,mb4.7*
NEIC ***12*** *07:24:37.8,20.78S×70.51W,h28km*
NEIC ***12*** *07:24:37.8±1.4,20.77S±0.03×70.51W±0.06,h27km±6km, mb4.8/23,Mwr4.4/32,Mwr4.6(GUC),Error ellipse: s-maj=8.0km s-min=4.5km az=76.0,Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr=3.79; Mθθ=0.38; Mϕϕ=-4.17; Mrθ=0.95; Mϕθ=0.88; Mrϕ=-3.25; Fault plane solution: M=5.31000×10^15 NP1:ϕs=354.28000°, δ=25.31000°,λ=97.97000°. NP2:ϕs=165.47000°,δ=64.96000°, λ=86.25000°. Principal axes: T 5.0321, Plg70.0000°, Azm68.0000°; N 0.5220, Plg3.0000°, Azm167.0000°; P -5.5540, Plg20.0000°, Azm258.0000°:*
GUC ***12*** *07:24:39.7±0.9,20.77S×70.42W,h28km±5km,ML4.7*

ISC 12 07:24:37.6±1.0,20.76S±0.03×70.49W±0.05,h29km±6km, n189,σ1ϟ46/182,mb4.6/22,MS3.9/10,6C-8D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PATCX	**Punta Patache**	**0.32**	**101**			**Pb**	**07 24 45.8**	**+0.5**
PATCX	**Punta Patache**	**0.32**	**101**	*i*	P	**Pb**	**07 24 45.7**	**+0.5**
PATCX				*e*	S	**Sb**	**07 24 50.7**	**+0.2**
PATCX					IAML		07 24 51.7	
	comp=E,126μm,0.5s							
TA01	**Diego Aracena**	**0.34**	**56**			**Pb**	**07 24 46.2**	**+0.7**
TA01	**Diego Aracena**	**0.34**	**56**	↓	*i* P	**Pb**	**07 24 46.2**	**+0.7**
TA01					*i* S	**Sb**	**07 24 51.4**	**+0.4**
TA02	**Huaiquique**	**0.59**	**34**			**Pb**	**07 24 49.6**	**+0.2**
TA02	**Huaiquique**	**0.59**	**34**	↓	*i* P	**Pb**	**07 24 49.8**	**+0.4**
PB02	**IPOC Station P**	**0.78**	**135**			**Pb**	**07 24 52.6**	**-0.1**
PB02	**IPOC Station P**	**0.78**	**135**	↓	*i* P	**Pb**	**07 24 52.7**	**-0.1**
PB02					*e* S	**Sb**	**07 25 03.2**	**+0.1**
PB02					IAML		07 25 04.0	
	comp=E,86μm,0.2s							
PB01	**IPOC Station P**	**0.97**	**107**			**Pn**	**07 24 55.6**	**+0.1**
PB01	**IPOC Station P**	**0.97**	**107**	↓	*i* P	**Pn**	**07 24 55.5**	**+0.1**
PB01					IAML		07 25 08.6	
	comp=E,29μm,0.2s							
PB11	**IPOC Station P**	**1.26**	**38**			**Pn**	**07 25 00.1**	**+0.7**
PB11	**IPOC Station P**	**1.26**	**38**	↓	*i* P	**Pn**	**07 25 00.3**	**+0.9**
PB11					*e* S	**Sn**	**07 25 16.5**	**+0.9**
PB11					IAML		07 25 18.8	
	comp=N,60μm,0.3s							
PB08	**IPOC Station P**	**1.39**	**64**			**Pn**	**07 25 02.1**	**+0.7**
PB08	**IPOC Station P**	**1.39**	**64**	↓	*i* P	**Pn**	**07 25 02.4**	**+0.9**
PB08					IAML		07 25 24.4	
	comp=E,12μm,0.2s							
PB03	**IPOC Station P**	**1.45**	**152**			**Pn**	**07 25 02.4**	**+0.4**
PB03	**IPOC Station P**	**1.45**	**152**	↓	*i* P	**Pn**	**07 25 02.9**	**+0.8**
PB09	**IPOC Station P**	**1.55**	**132**			**Pb**	**07 25 05.6**	**-0.2**
PB09	**IPOC Station P**	**1.55**	**132**	↓	*i* P	**Pb**	**07 25 05.1**	**-0.7**
PB09					IAML		07 25 29.5	
	comp=E,8μm,0.5s							
GO01	**Chusmiza**	**1.63**	**48**			**Pn**	**07 25 06.2**	**+1.4**
GO01	**Chusmiza**	**1.63**	**48**	*e*	P	**Pn**	**07 25 06.2**	**+1.4**
GO01				*e*	S	**Sn**	**07 25 26.9**	**+1.9**
GO01					IAML		07 25 30.6	
	comp=N,17μm,0.4s							
PB05	**IPOC Station P**	**2.10**	**173**			**Pn**	**07 25 11.0**	**0.0**
PB05	**IPOC Station P**	**2.10**	**173**	*e*	P	**Pn**	**07 25 10.9**	**0.0**
PB05					IAML		07 25 50.1	
	comp=N,6μm,0.4s							
PB06	**IPOC Station P**	**2.11**	**156**			**Pn**	**07 25 11.7**	**+0.5**
PB06	**IPOC Station P**	**2.11**	**156**	↑	*i* P	**Pn**	**07 25 11.9**	**+0.8**
PB06					IAML		07 25 47.9	
	comp=E,7μm,0.5s							
AP01	**Chacalluta**	**2.38**	**3**	*e*	P	**Pb**	**07 25 18.3**	**-1.5**
AP01					IAML		07 25 57.6	
	comp=E,14μm,0.7s							
PB10	**IPOC Station P**	**2.74**	**181**			**Pn**	**07 25 18.9**	**-0.7**
PB10	**IPOC Station P**	**2.74**	**181**	*e*	P	**Pn**	**07 25 19.2**	**-0.4**
PB10					IAML		07 26 12.7	
	comp=N,1μm,0.5s							
AF01	**San Pedro de A**	**3.06**	**136**			**Pn**	**07 25 26.8**	**+2.5**
AF01	**San Pedro de A**	**3.06**	**136**	↑	*i* P	**Pn**	**07 25 28.0**	**+3.7**
PB18	**Visviri**	**3.29**	**17**			**Pn**	**07 25 31.4**	**+3.7**
PB18	**Visviri**	**3.29**	**17**	*e*	P	**Pn**	**07 25 31.6**	**+3.9**
PB18					IAML		07 26 30.1	
	comp=N,2μm,0.3s							
PB14	**IPOC Station P**	**3.85**	**179**			**Pn**	**07 25 34.1**	**-1.0**
PB14	**IPOC Station P**	**3.85**	**179**	*e*	P	**Pn**	**07 25 34.2**	**-1.0**
GO02	**Mina Guanaco**	**4.46**	**170**			**Pn**	**07 25 43.0**	**-0.5**
LPAZ	**La Paz**	**4.98**	**27**			**Pn**	**07 25 55.5**	**+4.5**
LPAZ	**La Paz**	**4.98**	**27**	Pn		**Pn**	**07 25 51.0**	**+0.1**
	comp=N,9.6nm,0.3s,baz=185,slow=2.5,SNR=94							
LPAZ				Sn		**Sn**	**07 26 47.2**	**-0.7**
	comp=N,5.1nm,0.3s,baz=207,slow=6.6,SNR=1.5							
LPAZ				Lg		Lg	07 27 11.2	
	baz=314,slow=5.2							
LPAZ				LR		LR	07 27 13.7	
	comp=N,132nm,21.2s,baz=226,slow=33							
LPAZ	**La Paz**	**4.98**	**27**	*e*	P	**Pn**	**07 25 50.0**	**-1.0**
AC01	**Pan de Azucar**	**5.36**	**181**			**Pn**	**07 25 56.0**	**+0.2**
AC02	**Maricunga**	**6.17**	**169**			**Pn**	**07 26 07.7**	**+0.4**
AC06	**Mina Casimiro**	**6.57**	**179**			**Pn**	**07 26 11.2**	**-1.0**
GO03	**Copiapo**	**6.81**	**178**	Pn		**Pn**	**07 26 14.7**	**-0.9**
AC04	**Llanos de Chal**	**7.43**	**184**	Pn		**Pn**	**07 26 21.1**	**-3.0**
AGUA	**GUANDACOL**	**8.87**	**169**	*i*	P	**Pn**	**07 26 47.0**	**+3.0**
AGUA				*i*	S	Sn	07 28 48.8	+26
CO01	**Juntas del Tor**	**9.18**	**178**	Pn		**Pn**	**07 26 47.3**	**-1.1**
ACLC	**CERRO LA CRUZ**	**9.20**	**160**	*i*	P	**Pn**	**07 26 46.3**	**-2.2**
ACLC				*i*	S	Sn	07 28 49.2	+18
ACLC					IAML		07 28 49.6	
	comp=Z,17nm,0.8s							
GO04	**Tololo Observa**	**9.38**	**182**	Pn		**Pn**	**07 26 48.4**	**-2.6**
AROD	**Rodeo**	**9.41**	**175**	*i*	P	Pn	07 26 56.4	+4.8
AROD				*i*	S	Sn	07 29 05.2	+29
ACDV	**Cuesta del Vie**	**9.45**	**173**	*i*	P	**Pn**	**07 26 55.7**	**+3.8**
ACDV				*i*	S	Sn	07 29 04.8	+27
BBSD	**Serra de San D**	**10.00**	**71**	*e*	P	**Pn**	**07 26 58.3**	**-1.0**
SIV	**San Ignacio**	**10.12**	**64**	Pn		**Pn**	**07 27 00.6**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=251,slow=10,SNR=127							
SIV				Sn		**Sn**	**07 28 49.5**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=200,slow=18,SNR=1.4							
SIV				LR		LR	07 31 23.4	
	comp=Z,273nm,21.8s,baz=280,slow=41							
	comp=Z,17nm,0.4s							
AVFE	**Valle Fertil**	**10.23**	**165**	*i*	P	**Pn**	**07 27 00.7**	**-1.8**
AVFE				*i*	S	Sn	07 29 15.1	+19
AVFE					IAML		07 29 35.7	
	comp=Z,24nm,0.9s							
APLL	**PUNTA DE LOS L**	**10.23**	**160**	*i*	P	**Pn**	**07 26 58.8**	**-3.8**
APLL				*i*	S	Sn	07 29 10.6	+14
NNA	**Nana**	**10.64**	**324**	Pn		**Pn**	**07 27 09.5**	**+1.3**
	comp=Z,1.8nm,0.3s,baz=240,slow=19,SNR=2.4							
NNA				Sn		**Sn**	**07 29 00.9**	**-5.6**
	comp=Z,1.3nm,0.3s,baz=203,slow=11,SNR=1.8							
NNA				Lg		Lg	07 29 52.9	
	baz=242,slow=20							
	comp=Z,7.2nm,0.5s							
VBST	**Vila Bela da S**	**11.74**	**60**	*e*	P	**Pn**	**07 27 22.7**	**-0.5**
PTLB	**Pontes e Lacer**	**12.01**	**66**			**Pn**	**07 27 27.2**	**+0.3**
PTLB	**Pontes e Lacer**	**12.01**	**66**	*e*	P	**Pn**	**07 27 26.4**	**-0.5**
MURT	**Porto Murtinho**	**12.04**	**97**	*e*	P	**Pn**	**07 27 25.0**	**-2.3**
CCRS	**Caceres, MT,**	**12.39**	**76**	*e*	P	**Pn**	**07 27 30.5**	**-1.6**
VILB	**Vilhena**	**12.53**	**53**			**Pn**	**07 27 35.6**	**+1.5**
VILB	**Vilhena**	**12.53**	**53**	*e*	P	**Pn**	**07 27 34.2**	**+0.1**
BDQN	**Bodoquena, MS**	**12.87**	**91**	*e*	P	**Pn**	**07 27 36.7**	**-1.9**
CZSB	**Cruzeiro do Su**	**13.13**	**350**	*e*	P	**Pn**	**07 27 41.3**	**-0.9**
CPUP	**Villa Florida**	**13.28**	**117**	Pn		**Pn**	**07 27 44.8**	**+0.6**
CPUP	**Villa Florida**	**13.28**	**117**	Pn		**Pn**	**07 27 43.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=1.2,slow=5.0,SNR=10							
CPUP				Sn		**Sn**	**07 30 07.2**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=296,slow=17,SNR=1.0							
CPUP				LR		LR	07 33 47.2	
	comp=Z,95nm,20.5s,baz=159,slow=42							
	comp=Z,0.6nm,0.6s							
CPUP	**Villa Florida**	**13.28**	**117**	*e*	P	**Pn**	**07 27 42.9**	**-1.2**
AQDB	**Aquidauana**	**13.85**	**91**			**Pn**	**07 27 51.2**	**-0.8**
AQDB	**Aquidauana**	**13.85**	**91**	*e*	P	**Pn**	**07 27 50.7**	**-1.3**
SJPY	**San Joaquin**	**13.91**	**110**	*e*	P	**Pn**	**07 27 51.4**	**-1.4**
H03N1	**Juan Fernandez**	**14.68**	**209**		T	T	07 43 01.7	
	baz=34,slow=72,SNR=2687							
H03N2	**Juan Fernandez**	**14.69**	**209**		T	T	07 43 04.4	
	baz=34,slow=72,SNR=1196							
H03N3	**Juan Fernandez**	**14.70**	**209**		T	T	07 43 08.8	
	baz=34,slow=72,SNR=1291							
SALV	**Santo Antonio**	**14.85**	**73**	*e*	P	**Pn**	**07 28 04.6**	**-1.1**
ML02	**Panimavida**	**14.97**	**183**			**Pn**	**07 28 05.5**	**-1.7**
PP1B	**Ponte de Pedra**	**15.07**	**81**	*e*	P	**Pn**	**07 28 07.2**	**-1.5**
ITQB	**Itaqui**	**15.35**	**128**	*e*	P	**Pn**	**07 28 12.9**	**+0.7**
NBRS	**Nobres**	**15.41**	**68**	*e*	P	**Pn**	**07 28 11.8**	**-1.3**
ATAH	**Atahualpa**	**15.56**	**329**	Pn		**Pn**	**07 28 15.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=127,slow=20,SNR=1.6							
	comp=Z,1.7nm,0.6s							
RPRD	**Ribas do Rio P**	**15.72**	**92**	*e*	P	**Pn**	**07 28 15.9**	**-1.2**
PDRB	**Porto dos Gac**	**16.03**	**58**	*e*	P	**Pn**	**07 28 19.3**	**-1.8**
TBTG	**Tabatinga, AM**	**16.48**	**2**			**Pn**	**07 28 25.6**	**-1.3**
TBTG	**Tabatinga, AM**	**16.48**	**2**	*e*	P	**Pn**	**07 28 26.3**	**-0.5**
TRCB	**Terra Rica**	**16.70**	**100**		P	**Pn**	**07 28 30.7**	**+1.0**
TRCB					IAmb	IAmb	07 28 35.3	
	comp=Z,66nm,0.8s							
TRCB	**Terra Rica**	**16.70**	**100**	*e*	P	**Pn**	**07 28 28.1**	**-1.6**
C2SB	**Chapadao do Su**	**16.73**	**86**	*e*	P	**Pn**	**07 28 28.7**	**-1.2**
TBOT	**Tacuaremb**	**16.97**	**133**	*e*	P	**Pn**	**07 28 32.9**	**0.0**
CLDB	**Colider**	**17.20**	**57**	*e*	P	**Pn**	**07 28 35.2**	**-0.7**
PTGB	**Pitanga**	**17.44**	**106**	*e*	P	**Pn**	**07 28 38.5**	**-0.5**
DVLD	**Doverlandia**	**17.83**	**80**	*e*	P	**Pn**	**07 28 42.6**	**-1.1**
PCMB	**Pacaembu**	**17.95**	**96**	*e*	P	**Pn**	**07 28 44.1**	**-1.1**
ITAB	**Concordia**	**17.96**	**115**	P		**Pn**	**07 28 45.1**	**-0.1**
ITAB					IAmb	IAmb	07 28 45.9	
	comp=Z,19nm,0.5s							
ITAB	**Concordia**	**17.96**	**115**	*e*	P	**Pn**	**07 28 44.2**	**-0.9**
TEFE	**Tefe**	**18.07**	**19**	*e*	P	**Pn**	**07 28 45.7**	**-0.9**
CPSB	**Sacapava Do Su**	**18.11**	**125**	*e*	P	**Pn**	**07 28 43.3**	**-3.8**
LDASE	**Londrina, Braz**	**18.14**	**102**	*e*	P	**Pn**	**07 28 45.7**	**-1.8**
ARAG	**Araguaiana, MT**	**18.43**	**77**	*e*	P	**P**	**07 28 50.0**	**-0.9**
PLTB	**Pedras Altas**	**18.66**	**129**	*e*	P	**P**	**07 28 53.0**	**-0.4**
TRQA	**Tornquist**	**18.74**	**159**	*e*	P	**P**	**07 28 54.5**	**+0.4**
ITRB	**Iturama**	**18.92**	**90**	*e*	P	**P**	**07 28 55.4**	**-0.8**
FRTB	**Fartura**	**19.56**	**101**	*e*	P	**P**	**07 29 01.9**	**-1.3**
PLCA	**Paso Flores**	**19.91**	**180**			**P**	**07 29 06.7**	**-0.2**
PLCA	**Paso Flores**	**19.91**	**180**	P		**Pn**	**07 29 08.2**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=6.5,slow=13,SNR=11							
	comp=Z,7.8nm,0.9s							
PLCA	**Paso Flores**	**19.91**	**180**	*e*	P	**Pn**	**07 29 08.3**	**-0.4**
MACA	**Manacapuru-AM**	**19.93**	**30**	P		**P**	**07 29 06.3**	**-0.9**
MACA					IAmb	IAmb	07 29 20.7	
	comp=Z,36nm,0.9s							
MACA	**Manacapuru-AM**	**19.93**	**30**	*e*	P	**P**	**07 29 05.7**	**-1.6**
NPGB	**Novo Progresso**	**20.01**	**49**	*e*	P	**P**	**07 29 06.4**	**-1.8**
COHC	**Cochancay**	**20.09**	**334**			**P**	**07 29 08.9**	**-0.1**
SNDB	**Serra Nova Dou**	**20.36**	**68**	*e*	P	**P**	**07 29 10.1**	**-1.9**
BB19B	**Bebedouro**	**20.52**	**95**	*e*	P	**P**	**07 29 11.6**	**-2.1**
MAJ01	**Sao Joao Batis**	**20.67**	**113**	*e*	P	**P**	**07 29 13.4**	**-1.9**
IPMB	**Ipameri, GO**	**21.19**	**86**	*e*	P	**P**	**07 29 20.3**	**-0.7**
SPB	**Sao Paulo**	**21.53**	**102**		P	**P**	**07 29 25.2**	**+0.7**
SPB					IAmb	IAmb	07 29 28.4	
	comp=Z,15nm,0.7s							
SPB	**Sao Paulo**	**21.53**	**102**	*e*	P	**P**	**07 29 24.7**	**+0.1**
ITTB	**Itaituba**	**21.71**	**43**	*e*	P	**P**	**07 29 24.4**	**-2.1**
PET01	**Itanhaem-SP**	**21.72**	**104**	*e*	P	**P**	**07 29 25.8**	**-0.8**
VAO	**Valinhos**	**21.94**	**100**	P		**P**	**07 29 27.3**	**-1.7**
VAO	**Valinhos**	**21.94**	**100**	*e*	P	**P**	**07 29 27.6**	**-1.4**
BDFB	**Brasilia**	**21.94**	**80**			**P**	**07 29 29.5**	**+0.4**
BDFB					IAmb	IAmb	07 29 45.6	
	comp=Z,18nm,0.9s							
BDFB	**Brasilia**	**21.94**	**80**	P		**P**	**07 29 26.4**	**-2.7**
	comp=Z,1.2nm,0.5s,baz=258,slow=14,SNR=11							
BDFB					LR	LR	07 39 20.0	
	comp=Z,630nm,18.7s,baz=291,slow=41							
	comp=Z,1.2nm,0.5s							
PMNB	**Patos De Minas**	**22.75**	**89**	*e*	P	**P**	**07 29 36.8**	**-1.0**
FLOC	**Florencia**	**22.77**	**347**		P	**P**	**07 29 37.5**	**-0.4**
FLOC					IAmb	IAmb	07 29 52.2	
	comp=Z,15nm,0.9s							
PARB	**Paraibuna**	**23.18**	**101**	*e*	P	**P**	**07 29 41.8**	**-0.3**
BSCB	**Bom Sucesso**	**24.02**	**95**	*e*	P	**P**	**07 29 48.6**	**-1.6**
MAL2	**Monte Alegre,**	**24.50**	**43**		P	**P**	**07 29 54.0**	**-0.6**
BOAV	**Boa Vista**	**25.00**	**24**		P	**P**	**07 29 59.2**	**+0.1**
BOAV					IAmb	IAmb	07 30 13.9	
	comp=Z,22nm,0.8s							
BOAV	**Boa Vista**	**25.00**	**24**	*e*	P	**P**	**07 29 58.3**	**-0.8**
SMTB	**Santa Maria do**	**25.06**	**65**	*e*	P	**P**	**07 29 59.1**	**-0.5**
DIAM	**Diamantina, MG**	**25.38**	**89**	*e*	P	**P**	**07 30 02.2**	**-0.5**
JANB	**Januaria**	**25.53**	**81**	*e*	P	**P**	**07 30 03.1**	**-0.9**
ROSC	**El Rosal**	**25.72**	**351**		P	**P**	**07 30 07.1**	**+1.1**
	comp=Z,12nm,0.5s,baz=102,slow=8.3,SNR=4.0							
ROSC					LR	LR	07 41 19.8	
	comp=Z,191nm,18.7s,baz=248,slow=39							
	comp=Z,12nm,0.5s							
SDBA	**SAO DESIDERIO**	**25.86**	**75**	*e*	P	**P**	**07 30 05.7**	**-1.3**
RUSC	**La Rusia**	**26.61**	**354**		P	**P**	**07 30 14.6**	**+0.5**
SJMB	**Sao Joao De Ma**	**27.64**	**91**	*e*	P	**P**	**07 30 23.4**	**+0.5**
NBBC	**Barra do Corda**	**28.77**	**62**	*e*	P	**P**	**07 30 32.2**	**-0.8**
GUA01	**Guaratinga, BA**	**29.34**	**87**	*e*	P	**P**	**07 30 38.4**	**+0.3**
SDV	**Santo Domingo**	**29.46**	**360**		LR	LR	07 43 35.4	
	comp=Z,173nm,20.2s,baz=234,slow=39							
BAUV	**El Baul**	**29.62**	**5**		P	**P**	**07 30 40.3**	**-0.2**
MDP	**Montagnes des**	**31.11**	**36**		LR	LR	07 44 06.5	
	comp=Z,407nm,18.1s,baz=240,slow=38							
PCRV	**Puerto La Cruz**	**31.28**	**11**		LR	LR	07 44 28.5	
	comp=Z,290nm,19.3s,slow=38							
RCBR	**Riachuelo**	**36.67**	**71**		P	**P**	**07 31 41.7**	**-0.4**
RCBR					IAmb	IAmb	07 31 43.1	
	comp=Z,20nm,0.8s							
RCBR	**Riachuelo**	**36.67**	**71**		LR	LR	07 48 02.8	
	comp=Z,101nm,18.8s,baz=250,slow=39							
CELP	**Cerrillos**	**38.78**	**6**		P	**P**	**07 31 59.1**	**-0.7**
CELP					IAmb	IAmb	07 32 01.2	
	comp=Z,24nm,1.0s							
PDPR	**Patillas Dam,**	**38.79**	**7**		P	**P**	**07 31 58.6**	**-1.2**
SJG	**San Juan**	**38.87**	**7**		P	**P**	**07 31 59.3**	**-1.1**
SJG					IAmb	IAmb	07 32 01.2	
	comp=Z,20nm,0.8s							
SJG	**San Juan**	**38.87**	**7**		LR	LR	07 49 22.9	
	comp=Z,60nm,18.7s,baz=154,slow=38							
DR12	**Loma Pena Alta**	**39.32**	**2**		P	**P**	**07 32 03.0**	**-1.3**
WVT	**Waverly**	**58.91**	**344**			**P**	**07 34 33.4**	**-0.6**
WVT					IAmb	IAmb	07 34 42.7	
	comp=Z,5.9nm,0.6s							
TXAR	**Lajitas Array**	**59.19**	**326**		P	**P**	**07 34 37.2**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=144,slow=9.5,SNR=4.2							
TXAR					PcP	**PcP**	**07 35 26.5**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=154,slow=4.6,SNR=5.5							
	comp=Z,0.3nm,0.8s							
MIAR	**Mount Ida**	**59.22**	**338**			**P**	**07 34 36.7**	**+0.5**
VHRN	**Van Horn**	**61.04**	**326**	P		**P**	**07 34 50.0**	**+1.1**
VNA1	**Neumayer--Stat**	**61.47**	**160**	↑	P	**P**	**07 34 52.4**	**+1.3**
	comp=Z,6.6nm,1.1s							
VNA2	**Neumayer--Watz**	**61.83**	**161**	↑	P	**P**	**07 34 54.3**	**+0.7**
	comp=Z,4.7nm,1.0s,baz=286,slow=5.5							
SNAA	**Sanae**	**63.45**	**161**	↑	P	**P**	**07 35 05.4**	**+0.9**
	comp=Z,154nm,1.0s							
SNAA	**Sanae**	**63.45**	**161**			**P**	**07 35 05.0**	**+0.5**
SNAA					IAmb	IAmb	07 35 06.7	
	comp=Z,9.8nm,1.0s							
SNAA	**Sanae**	**63.45**	**161**		P	**P**	**07 35 05.4**	**+0.9**
	comp=Z,6.5nm,0.9s,baz=268,slow=4.9,SNR=19							
	comp=Z,6.5nm,0.9s							
BBTS	**Babate**	**63.62**	**61**	LR		LR	08 00 36.0	
	comp=Z,88nm,21.5s,baz=108,slow=34							
TROLL	**Troll, Antarti**	**65.17**	**161**	↑	P	**P**	**07 35 17.2**	**+1.4**
	comp=Z,208nm,0.5s							
QSPA	**South Pole Qui**	**69.42**	**180**		P	**P**	**07 35 44.3**	**+1.5**
	comp=Z,4.9nm,0.5s,baz=187,slow=0.5,SNR=59							
	comp=Z,4.9nm,0.5s							
DBIC	**Dimbokro**	**69.94**	**74**	P		**P**	**07 35 46.2**	**-0.5**
DBIC					IAmb	IAmb	07 35 47.5	
	comp=Z,12nm,1.0s							
DBIC	**Dimbokro**	**69.94**	**74**	P		**P**	**07 35 46.5**	**-0.1**
	comp=Z,9.6nm,0.8s,baz=259,slow=6.9,SNR=11							
	comp=Z,9.6nm,0.8s							
TBI	**Tubuai**	**72.34**	**251**	*e*	LR	LR	07 58 05.6	
	comp=Z,297nm,24.8s							
PDAR	**Pinedale Array**	**72.75**	**331**	P		**P**	**07 36 04.5**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=137,slow=9.0,SNR=6.1							
PDAR					LR	LR	08 12 06.1	
	comp=Z,141nm,18.6s,baz=216,slow=39							
	comp=Z,0.3nm,0.5s							
NVAR	**Mina Array Bea**	**74.01**	**323**	P		**P**	**07 36 13.0**	**+2.2**
	comp=Z,1.0nm,0.8s,baz=156,slow=6.9,SNR=5.8							
	comp=Z,1.0nm,0.8s							
PPT2	**Papeete2**	**74.05**	**257**	*e*	LR	LR	07 58 49.4	
	comp=Z,103nm,25.0s							
VNDA	**Vanda**	**77.32**	**190**	P		**P**	**07 36 30.9**	**+2.0**
	comp=Z,1.0nm,0.9s,baz=160,slow=4.6,SNR=5.9							
	comp=Z,1.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**78.50**	**71**	P		**P**	**07 36 36.4**	**

σ1$53/133, **mb5.0**/39, **MS4.0**/10, **7C-3D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.56**	**193**	Pn	Pn	07 31 27.0	-3.6
MXZ	**Matakaoa Point**	**3.56**	**193**	P	**Pn**	**07 31 29.1**	**-1.5**
MXZ				S	**Sn**	**07 32 15.1**	**+2.4**
WMGZ	**Waiomatatini S**	**3.79**	**191**	P	**Pn**	**07 31 33.3**	**-0.5**
WMGZ				S	**Sn**	**07 32 21.4**	**+3.0**
HAZ	**Te Kaha**	**3.86**	**198**	P	**Pn**	**07 31 34.0**	**-0.8**
PKGZ	**Pakihiroa**	**3.90**	**195**	P	**Pn**	**07 31 34.5**	**-0.8**
PKGZ				S	**Sn**	**07 32 23.2**	**+2.1**
KUZ	**Kuaotunu**	**3.95**	**227**	P	**Pn**	**07 31 35.6**	**-0.5**
PUZ	**Puketiti**	**4.06**	**192**	P	**Pn**	**07 31 36.2**	**-1.3**
PUZ				S	**Sn**	**07 32 26.2**	**+1.0**
RUGZ	**Raukumara Rang**	**4.08**	**199**	P	**Pn**	**07 31 38.1**	**+0.1**
RUGZ				S	**Sn**	**07 32 25.7**	**-0.2**
TWGZ	**Tauwhareparae**	**4.21**	**194**	P	**Pn**	**07 31 39.3**	**-0.4**
TWGZ				S	**Sn**	**07 32 30.6**	**+1.6**
OPRZ	**Ohinepanea**	**4.36**	**210**	P	**Pn**	**07 31 41.9**	**+0.3**
CNGZ	**Carnagh Statio**	**4.47**	**191**	P	**Pn**	**07 31 41.6**	**-1.6**
CNGZ				S	**Sn**	**07 32 35.2**	**0.0**
MWZ	**Matawai**	**4.47**	**198**	P	**Pn**	**07 31 42.6**	**-0.7**
MWZ				S	**Sn**	**07 32 37.7**	**+2.3**
WCZ	**Waipu Caves**	**4.48**	**244**	P	**Pn**	**07 31 42.4**	**-0.9**
TKGZ	**Te Karaka**	**4.50**	**195**	P	**Pn**	**07 31 42.0**	**-1.5**
TKGZ				S	**Sn**	**07 32 35.8**	**-0.1**
URZ	**Urewera**	**4.52**	**203**	P	**Pn**	**07 31 42.2**	**-1.7**
	5.4nm,0.3s,baz=44,slow=2.0,SNR=24						
URZ				S	**Sn**	**07 32 31.9**	**-4.6**
	63nm,0.5s,baz=84,slow=23,SNR=1.2 71nm,0.6s						
URZ	**Urewera**	**4.52**	**203**	P	**Pn**	**07 31 42.3**	**-1.7**
URZ				S	**Sn**	**07 32 34.1**	**-2.4**
RAGZ	**Rawiri**	**4.65**	**199**	P	**Pn**	**07 31 45.8**	**0.0**
RAGZ				S	**Sn**	**07 32 42.8**	**+2.9**
RIGZ	**Rimuhau**	**4.77**	**195**	P	**Pn**	**07 31 46.0**	**-1.3**
RIGZ				S	**Sn**	**07 32 44.0**	**+1.3**
TOZ	**Tahuroa Road**	**4.77**	**219**		**Pn**	**07 31 46.6**	**-0.6**
TOZ	**Tahuroa Road**	**4.77**	**219**	P	**Pn**	**07 31 47.8**	**+0.6**
RRRZ	**Republican Roa**	**4.80**	**207**	P	Pn	07 31 54.2	+6.4
MUGZ	**Murupara**	**4.83**	**204**	P	**Pn**	**07 31 48.5**	**+0.3**
MUGZ				S	**Sn**	**07 32 48.8**	**+4.6**
OUZ	**Omahuta**	**4.85**	**255**	P	Pn	07 31 46.8	-1.6
OUZ				S	**Sn**	**07 32 40.8**	**-3.7**
HSRZ	**Hossack Road**	**4.89**	**210**	P	**Pb**	**07 31 59.7**	**-1.3**
SNGZ	**Shannon Statio**	**4.94**	**198**	P	**Pn**	**07 31 48.6**	**-1.1**
SNGZ				S	**Sn**	**07 32 49.7**	**+2.8**
PRGZ	**Paritu Road**	**4.96**	**193**	P	Pn	07 31 48.0	-1.8
PRGZ				S	**Sn**	**07 32 45.0**	**-2.2**
ALRZ	**Allen Road**	**5.06**	**207**	P	**Pn**	**07 31 53.1**	**+1.8**
RAHZ	**Arahi**	**5.14**	**200**	P	**Pn**	**07 31 51.6**	**-0.7**
MTHZ	**Maungataniwha**	**5.15**	**202**	P	**Pn**	**07 31 53.5**	**+0.9**
MHGZ	**Mahia Peninsul**	**5.17**	**192**	P	Pn	07 31 49.9	-2.9
RAO	**Raoul Island**	**5.37**	**27**	Pn	**Pn**	**07 31 56.0**	**+0.5**
RAO	**Raoul Island**	**5.37**	**27**	P	**Pn**	**07 31 57.5**	**+1.9**
	46nm,0.3s,baz=105,slow=20,SNR=2.0						
RAO				LR	LR	07 34 01.8	
	comp=Z,781nm,19.0s,baz=355,slow=37 111nm,0.3s						
RAO	**Raoul Island**	**5.37**	**27**	P	**Pn**	**07 31 56.1**	**+0.5**
NMHZ	**Naumai**	**5.39**	**201**	P	**Pn**	**07 31 55.8**	**0.0**
ARHZ	**Aropaoanui**	**5.49**	**199**	P	**Pn**	**07 31 56.3**	**-0.8**
RITZ	**Rihia Road**	**5.61**	**209**	P	**Pn**	**07 32 00.1**	**+1.2**
HIZ	**Hauiti**	**5.69**	**218**	P	**Pn**	**07 32 01.1**	**+1.2**
MCHZ	**McNeill Hill**	**5.74**	**201**	P	**Pn**	**07 31 59.1**	**-1.5**
TMVZ	**Te Maari**	**5.79**	**209**	P	Pn	07 32 07.7	+6.3
KAHZ	**Kahuranaki**	**6.01**	**198**	P	Pn	07 32 01.5	-2.9
KRHZ	**Kereru**	**6.02**	**202**	P	Pn	07 32 02.0	-2.5
MOVZ	**Moawhango**	**6.03**	**207**	P	**Pn**	**07 32 04.7**	**+0.1**
PNHZ	**Pukenui**	**6.32**	**202**	P	Pn	07 32 05.5	-3.1
MSVF	**Nonsavu**	**16.33**	**356**		**Pn**	**07 34 25.1**	**+0.2**
MSVF	**Nonsavu**	**16.33**	**356**	P	**Pn**	**07 34 25.1**	**+0.2**
MSVF				pmax	pmax		
	comp=Z,72nm,1.3s						
DZM	**Mont Dzumac**	**16.49**	**313**	*e*Pn	**Pn**	**07 34 27.9**	**+1.0**
	comp=Z,48nm,1.4s						
DZM				eLR	LR	07 38 12.1	
	comp=Z,2μm,25.9s						
DZM	**Mont Dzumac**	**16.49**	**313**	P	**Pn**	**07 34 30.4**	**+3.5**
	comp=Z,0.2nm,0.3s,baz=152,slow=17,SNR=3.4 comp=Z,7.1nm,1.1s						
CAN	**Canberra**	**24.91**	**259**	P	**P**	**07 35 59.5**	**+0.9**
CAN				IAmb	IAmb	07 36 06.3	
	comp=Z,41nm,1.5s						
CAN	**Canberra**	**24.91**	**259**	P	**P**	**07 35 59.5**	**+0.9**
CAN				pmax	pmax		
	comp=Z,41nm,1.5s						
EIDS	**Eidsvold**	**25.95**	**282**	P	**P**	**07 36 09.0**	**+1.0**
TBI	**Tubuai**	**29.29**	**77**	*e*LR	LR	07 43 59.2	
	comp=Z,742nm,28.5s						
STKA	**Stephens Creek**	**31.61**	**263**	LR	LR	07 48 57.0	
	comp=Z,172nm,18.1s,baz=83,slow=35						
STKA	**Stephens Creek**	**31.61**	**263**	⇓*i*P	**P**	**07 36 59.4**	**+1.0**
CTAO	**Charters Tower**	**32.41**	**287**		**P**	**07 37 06.8**	**+1.3**
CTAO	**Charters Tower**	**32.41**	**287**	P	**P**	**07 37 06.9**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,13nm,1.0s						
AS31	**Alice Springs**	**40.81**	**272**		**P**	**07 38 16.9**	**-0.4**
ASAR	**Alice Springs**	**40.81**	**272**		**P**	**07 38 17.0**	**-0.3**
ASAR	**Alice Springs**	**40.81**	**272**	P	**P**	**07 38 16.1**	**-1.1**
	comp=Z,24nm,1.1s,baz=115,slow=7.1,SNR=50						
ASAR				LR	LR	07 54 25.9	
	comp=Z,168nm,19.2s,baz=114,slow=35 comp=Z,24nm,1.1s						
ASAR	**Alice Springs**	**40.81**	**272**	P	**P**	**07 38 17.0**	**-0.3**
WRAB	**Tennant Creek**	**42.14**	**278**	P	P	07 38 26.5	-1.7
WRAB				IAmb	IAmb	07 38 30.2	
	comp=Z,37nm,1.4s						
WRAB	**Tennant Creek**	**42.14**	**278**	*i* P	**P**	**07 38 26.8**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,18nm,1.1s						
WRA	**Warramunga Arr**	**42.15**	**278**		**P**	**07 38 27.3**	**-0.9**
WRA	**Warramunga Arr**	**42.15**	**278**	P	**P**	**07 38 27.1**	**-1.1**
	comp=Z,21nm,1.0s,baz=120,slow=7.6,SNR=29						
WRA				LR	LR	07 56 32.7	
	comp=Z,197nm,20.4s,baz=70,slow=37 comp=Z,21nm,1.0s						
WRA	**Warramunga Arr**	**42.15**	**278**	P	**P**	**07 38 27.3**	**-0.9**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
SBA	**Scott Base**	**44.20**	**184**	P	**P**	**07 38 44.0**	**0.0**
SBA	**Scott Base**	**44.20**	**184**	P	**P**	**07 38 44.0**	**0.0**
SBA				pmax	pmax		
	comp=Z,14nm,1.4s						
VNDA	**Vanda**	**44.21**	**185**	P	**P**	**07 38 44.1**	**0.0**
VNDA	**Vanda**	**44.21**	**185**	P	**P**	**07 38 42.2**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=37,slow=6.6,SNR=3.6						
VNDA				LR	LR	07 53 14.7	
	comp=Z,90nm,20.2s,baz=1.0,slow=31 comp=Z,0.9nm,0.9s						
VNDA	**Vanda**	**44.21**	**185**	P	**P**	**07 38 44.1**	**0.0**
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.5s						
JAY	**Jayapura**	**47.77**	**303**	P	**P**	**07 39 12.8**	**-0.2**
	comp=Z,12nm,0.9s,baz=172,slow=5.3,SNR=4.2 comp=Z,12nm,0.9s						
KNRA	**Kununurra**	**48.88**	**279**	P	**P**	**07 39 21.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**50.22**	**274**	P	**P**	**07 39 31.7**	**0.0**
FITZ	**Fitzroy Crossi**	**50.22**	**274**	P	**P**	**07 39 31.2**	**-0.5**
	comp=Z,28nm,1.1s,baz=136,slow=7.3,SNR=16 comp=Z,28nm,1.1s						
SOEI	**Soe**	**55.77**	**282**		**P**	**07 40 13.1**	**+0.2**
QSPA	**South Pole Qui**	**56.02**	**180**	P	**P**	**07 40 12.5**	**-1.6**
	comp=Z,14nm,1.0s,baz=29,slow=3.9,SNR=21						
QSPA				LR	LR	08 00 47.9	
	comp=Z,156nm,19.1s,baz=54,slow=32 comp=Z,14nm,1.0s						
GIRL	**Giralia**	**57.55**	**263**	P	**P**	**07 40 25.0**	**-0.3**
GUMO	**Guam**	**57.65**	**319**	LR	LR	08 01 07.6	
	comp=Z,64nm,22.0s,baz=168,slow=32						
MMRI	**Maumere**	**58.05**	**282**		**P**	**07 40 28.4**	**-0.5**
KAPI	**Kappang**	**62.15**	**284**	P	**P**	**07 40 56.3**	**-0.7**
	comp=Z,4.8nm,0.4s,baz=93,slow=4.8,SNR=2.2 comp=Z,4.8nm,0.4s						
MAW	**Mawson**	**68.05**	**202**	P	P	07 41 30.9	-3.7
	comp=Z,3.7nm,1.0s,baz=86,slow=5.5,SNR=6.2 comp=Z,3.7nm,1.0s						
PMSA	**Palmer Station**	**69.83**	**156**	LR	LR	08 05 49.1	
	comp=Z,128nm,19.5s,baz=214,slow=30						
SYO	**Syowa Base**	**73.00**	**194**	⇑*e*P	P	07 42 01.0	-3.8
SYO	**Syowa Base**	**73.00**	**194**	⇓*es*P	**P**	**07 42 07.8**	**+3.0**
KSM	**Kuching**	**73.57**	**283**	P	**P**	**07 42 07.3**	**-1.7**
KSM				IAmb	IAmb	07 42 08.2	
	comp=Z,27nm,1.3s						
GO09	**Cerro Castillo**	**74.33**	**142**	P	**P**	**07 42 11.6**	**-1.3**
GO09				IAmb	IAmb	07 42 38.9	
	comp=Z,36nm,1.5s						
SNAA	**Sanae**	**74.52**	**179**	⇑P	P	07 42 10.7	-3.1
	comp=Z,173nm,1.1s						
SNAA	**Sanae**	**74.52**	**179**		P	07 42 10.4	-3.3
SNAA				IAmb	IAmb	07 42 18.1	
	comp=Z,27nm,1.4s						
SNAA	**Sanae**	**74.52**	**179**	P	P	07 42 10.2	-3.6
	comp=Z,9.7nm,1.1s,baz=177,slow=5.3,SNR=16 comp=Z,9.7nm,1.1s						
SNAA	**Sanae**	**74.52**	**179**	*d* iP	P	07 42 10.7	-3.1
SNAA				pmax	pmax		
	comp=Z,16nm,1.2s						
VNA2	**Neumayer--Watz**	**75.17**	**178**	⇑P	P	07 42 14.8	-2.7
	comp=Z,16nm,1.1s,baz=180,slow=4.7						
VNA1	**Neumayer--Stat**	**75.41**	**177**	⇑P	P	07 42 16.3	-2.5
	comp=Z,21nm,1.0s						
MAJO	**Matsushiro**	**80.05**	**327**	*i* P	**P**	**07 42 46.6**	**+1.5**
MAJO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
H03N3	**Juan Fernandez**	**80.52**	**124**	T	T	09 11 08.3	
	baz=238,slow=72,SNR=147						
H03N2	**Juan Fernandez**	**80.52**	**124**	T	T	09 11 07.1	
	baz=238,slow=72,SNR=120						
H03N1	**Juan Fernandez**	**80.53**	**124**	T	T	09 11 03.9	
	baz=238,slow=72,SNR=125						
PLCA	**Paso Flores**	**81.62**	**134**	P	P	07 42 51.5	-2.3
	comp=Z,1.5nm,0.8s,baz=248,slow=9.8,SNR=6.0						
PLCA				LR	LR	08 12 16.1	
	comp=Z,52nm,18.9s,baz=232,slow=31 comp=Z,1.5nm,0.8s						
NJ2	**Nanjing**	**86.98**	**312**	*e*P	**P**	**07 43 22.8**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PSTR	**Posyet**	**88.34**	**326**	*i* P	**P**	**07 43 27.6**	**+0.6**
PETK	**Petropavlovsk-**	**88.86**	**347**	P	P	07 43 26.5	-2.7
	comp=Z,5.0nm,1.0s,baz=128,slow=6.4,SNR=4.7 comp=Z,5.0nm,1.0s						
USA0B	**Ussuriysk Arra**	**89.03**	**328**	⇑*i*P	**P**	**07 43 31.1**	**+0.9**
ESJX	**Sierra Juarez**	**89.62**	**50**	P	**P**	**07 43 32.5**	**-1.0**
ESJX				IAmb	IAmb	07 43 39.7	
	comp=Z,18nm,1.2s						
DPP	**Dos Picos Cty**	**89.65**	**49**	P	**P**	**07 43 33.0**	**-0.5**
ELS	**Elsinore Mount**	**89.78**	**48**	P	**P**	**07 43 33.3**	**-0.8**
ELS				IAmb	IAmb	07 43 39.8	
	comp=Z,11nm,1.1s						
BFSC	**Mount Baldy Ra**	**90.04**	**48**	P	**P**	**07 43 34.8**	**-0.6**
BORC	**Borrego Spring**	**90.16**	**49**	P	**P**	**07 43 35.2**	**-0.6**
BORC				IAmb	IAmb	07 43 42.3	
	comp=Z,18nm,1.1s						
PFO	**Pinyon Flats O**	**90.36**	**49**		**P**	**07 43 36.3**	**-0.7**
PFO				IAmb	IAmb	07 43 43.2	
	comp=Z,7.6nm,1.0s						
PFO	**Pinyon Flats O**	**90.36**	**49**	*c* iP	**P**	**07 43 36.2**	**-0.7**
PFO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PMD	**Palm Desert**	**90.43**	**49**	P	**P**	**07 43 36.4**	**-0.7**
PMD				IAmb	IAmb	07 43 42.7	
	comp=Z,10nm,1.1s						
CMB	**Columbia Colle**	**91.01**	**43**		**P**	**07 43 38.6**	**-1.1**
CMB				IAmb	IAmb	07 43 45.2	
	comp=Z,11nm,1.1s						
CMB	**Columbia Colle**	**91.01**	**43**	P	**P**	**07 43 38.6**	**-1.1**
CMB				pmax	pmax		
	comp=Z,11nm,1.1s						
113A	**Mohawk Valley,**	**91.51**	**51**		**P**	**07 43 41.4**	**-0.7**
113A				IAmb	IAmb	07 43 48.1	
	comp=Z,8.4nm,1.1s						
214A	**Organ Pipe Nat**	**91.61**	**52**		**P**	**07 43 41.4**	**-1.3**
BLYC	**Blythe**	**91.67**	**50**	P	**P**	**07 43 41.5**	**-1.3**
BLYC				IAmb	IAmb	07 43 48.8	
	comp=Z,7.7nm,1.0s						
WAKR	**Walker**	**91.88**	**43**		**P**	**07 43 42.7**	**-1.2**
WAKR				IAmb	IAmb	07 43 43.8	
	comp=Z,6.1nm,1.0s						
GRAC	**Grapevine Rang**	**92.06**	**46**	P	**P**	**07 43 44.0**	**-0.7**
GRAC				IAmb	IAmb	07 43 50.0	
	comp=Z,7.0nm,0.9s						
NVAR	**Mina Array Bea**	**92.48**	**44**	P	**P**	**07 43 45.1**	**-1.6**
	comp=Z,3.0nm,0.9s,baz=219,slow=8.4,SNR=14 comp=Z,3.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**92.52**	**290**	P	P	07 43 43.8	-3.3
	comp=Z,1.1nm,0.3s,baz=115,slow=8.1,SNR=2.5 comp=Z,1.1nm,0.3s						
PAHR	**Pah Rah Range**	**92.73**	**43**		**P**	**07 43 46.5**	**-1.2**
PAHR				IAmb	IAmb	07 43 52.5	
	comp=Z,4.6nm,1.0s						
J05D	**Fort Rock, OR**	**94.19**	**39**		**P**	**07 43 53.6**	**-0.8**
J05D				IAmb	IAmb	07 43 60.0	
	comp=Z,6.9nm,1.1s						
KDAK	**Kodiak Island**	**94.53**	**15**	*e*P	**P**	**07 43 56.6**	**+1.2**
KDAK				pmax	pmax		
	comp=Z,19nm,2.2s						
PZH	**PanZhiHua**	**95.03**	**299**	P	**P**	**07 43 59.0**	**+0.3**
J08A	**Circle Bar Ran**	**95.71**	**40**		**P**	**07 43 60.0**	**-1.4**
J08A				IAmb	IAmb	07 44 06.6	
	comp=Z,5.9nm,1.1s						
TXAR	**Lajitas Array**	**96.27**	**59**	P	**P**	**07 44 03.9**	**-0.3**
	comp=Z,0.3nm,1.1s,baz=213,slow=4.2,SNR=5.4 comp=Z,0.3nm,1.1s						
HHC	**Hu-ho-hao-te**	**97.19**	**315**	*e*P	**P**	**07 44 08.8**	**+0.7**
ZEA	**Zeya**	**98.38**	**332**	*e*P	**P**	**07 44 11.4**	**-1.6**
ZEA				pmax	pmax		
	comp=E,20nm,0.4s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.4s						
PDAR	**Pinedale Array**	**100.36**	**45**	P	**Pdif**	**07 44 19.9**	**-2.5**
	comp=Z,1.0nm,1.0s,baz=174,slow=3.0,SNR=4.2						
GTA	**Gaotai**	**103.63**	**308**	*e*P	**Pdif**	**07 44 35.7**	**-1.2**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WMQ	**Urumqi**	**113.70**	**308**	*e*PKP	**PKiKP**	**07 49 14.3**	**+0.4**
WMQ				LR	LR		
	comp=Z,260nm,20.9s						
MK31	**Makanchi Array**	**118.37**	**309**	⇑*i*PKIKP	**PKPdf**	**07 49 23.7**	**+0.9**
KURK	**Kurchatov**	**121.91**	**313**	*i* PKIKP	**PKPdf**	**07 49 29.9**	**+0.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURBB	**Kurchatov Arra**	**121.94**	**312**	PKP	**PKPdf**	**07 49 24.8**	**-4.6**
	comp=Z,8nm,0.9s,baz=118,slow=2.8,SNR=5.0						
AAK	**Ala-Archa**	**122.22**	**303**	*i* PKIKP	**PKPdf**	**07 49 30.0**	**-0.5**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRVK	**Borovoye**	**127.46**	**314**	*i* PKIKP	**PKPdf**	**07 49 40.4**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BELG	**Belogornoye**	**141.19**	**313**	*i* PKIKP	**PKPdf**	**07 50 04.8**	**-0.7**
BELG				*i*		07 50 09.0	
BELG				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KLMR	**Klimovskoe**	**142.83**	**328**	*e*PKIKP	**PKPdf**	**07 50 05.6**	**-2.6**
KLMR				pmax	pmax		
	comp=Z,18nm,1.8s						
KBZ	**Khabaz**	**145.10**	**299**	*i* PKIKP	**PKPbc**	**07 50 12.7**	**+0.5**
KBZ				*i*		07 50 15.9	
KIV	**Kislovodsk**	**145.25**	**300**	*i* PKIKP	**PKPdf**	**07 50 16.9**	**+3.7**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,70nm,25.0s						
OBN	**Obninsk**	**146.74**	**321**	*e*PKIKP	**PKPdf**	**07 50 12.6**	**-2.6**
OBN				*i*		07 50 19.4	
OBN				*e*		07 53 42.0	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
OBN				pmax	pmax		
	comp=Z,8.0nm,0.3s						
FINES	**FINESS Array B**	**147.71**	**336**	PKPbc	**PKPdf**	**07 50 16.5**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=28,slow=6.5,SNR=6.1						
MNK	**Minsk**	**151.44**	**324**	*i* PKIKP	**PKPdf**	**07 50 25.3**	**+2.5**
MNK				*i*		07 54 06.8	
MNK				*i*		07 57 24.1	
MNK				*i* SS	SS	08 13 32.2	-0.2
MNK				*i* SSS	SSS	08 19 17.0	
MNK				pmax	pmax		
	comp=Z,15nm,0.7s						
DBIC	**Dimbokro**	**152.44**	**171**	PKP	**PKPdf**	**07 50 23.1**	**-2.4**
	comp=Z,1.3nm,0.4s,baz=265,slow=0.9,SNR=3.7						
DBIC				PKPbc	**pPKPdf**	**07 50 29.2**	**+1.3**
	comp=Z,10nm,1.1s,baz=223,slow=2.7,SNR=5.3						
CLL	**Collm**	**160.13**	**334**	*e*PKP2	**PKPab**	**07 51 13.0**	**-1.5**
CLL	**Collm**	**160.13**	**334**	*e*PKPab	**PKPab**	**07 51 13.0**	**-1.5**
CLL				AMS	AMS	08 48 00.0	
	comp=Z,100nm,21.3s						

GCG 12 07:31:42.6±0.5, **16°46N**×**91°94W**, **h70**km±999km, **MD3.5, ML2.4, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.26**	**227**	*i* P	Pn	07 31 54.2	+0.5
CCIG				*i* S	Sn	07 32 03.3	+1.4
CCIG				IAML		07 32 04.4	
	comp=E,86nm,0.3s						
STG8	**El Palmar, Qui**	**2.08**	**164**	*i* P	Pn	07 32 11.4	-4.2
STG8				IAML		07 32 30.9	
	comp=E,31nm,0.3s						
STG0	**El Palmar, Qui**	**2.10**	**164**	*i* P	Pn	07 32 12.2	-3.7
STG0				IAML		07 32 34.3	
	comp=E,85nm,0.3s						

MEX ***12*** *07:38:33.2±0.7, 14°82N×92°76W, h84km±11km, MD3.6*
GCG ***12*** *07:38:33.9±1.5, 14°72N×92°71W, h62km±25km, MD3.6, ML3.0*

ISC 12 07:38:28.8±1.9, **14°54N**±0°09×**92°80W**±0°07, **h89**km±13km, **n17**, **σ2$41/32**, **1D**, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.64**	**54**	*i* P	**Pn**	**07 38 45.6**	**+1.1**
THIG				*es*	**Sn**	**07 38 55.1**	**-1.3**
THIG		**0.64**	**54**	*i* P	**Pn**	**07 38 45.5**	**+0.9**
THIG				IAML		07 38 56.0	
	comp=N,392nm,0.4s						
SMCA	**Catarina**	**0.77**	**65**	*e*P	**Pn**	**07 38 47.5**	**+1.6**
SMCA				*es*	**Sn**	**07 38 58.4**	**-0.4**
SMCA				IAML		07 38 59.3	
	comp=E,452nm,0.1s						
PATR	**El Naranjo**	**0.80**	**43**	*e*P	**Pn**	**07 38 46.9**	**+0.5**
PATR				*es*	**Sn**	**07 38 57.5**	**-2.2**
PAVE	**Pavencul**	**0.89**	**43**	*e*P	**Pn**	**07 38 48.2**	**+0.8**
PAVE				*es*	**Sn**	**07 39 00.1**	**-1.2**
RTAL	**Retalhuleu**	**1.07**	**90**	*e*P	**Pn**	**07 38 52.2**	**+3.0**
RTAL				*es*	**Sn**	**07 39 06.5**	**+1.9**
PCIG		**1.23**	**341**	*e*P	**Pn**	**07 38 51.8**	**+0.6**
PCIG				*es*	**Sn**	**07 39 04.8**	**-3.2**
QUEO	**Labor Ovalle**	**1.29**	**75**	⇓*i* P	**Pn**	**07 38 55.4**	**+3.3**
QUEO				*es*	**Sn**	**07 39 12.8**	**+3.1**
QUEO				IAML		07 39 12.9	
	comp=E,319nm,0.3s						
STG2	**El Palmar, Qui**	**1.38**	**94**	*i* P	**Pn**	**07 38 52.9**	**-0.2**
STG2				*i* S	**Sn**	**07 39 08.0**	**-3.6**
STG8	**El Palmar, Qui**	**1.41**	**93**	*e*P	**Pn**	**07 38 53.4**	**-0.2**
STG8				*i* S	**Sn**	**07 39 08.7**	**-3.6**
STG8				IAML		07 39 13.2	
	comp=E,264nm,0.1s						
STG0	**El Palmar, Qui**	**1.42**	**94**	*e*P	**Pn**	**07 38 53.5**	**-0.1**
STG0				*es*	**Sn**	**07 39 08.6**	**-3.7**
STG0				IAML		07 39 12.2	
	comp=E,928nm,0.2s						
HUEH	**Huehuetenango**	**1.48**	**58**	*i* P	**Pn**	**07 38 51.0**	**-3.4**
HUEH				*i* S	**Sn**	**07 39 16.9**	**+3.1**
CCIG	**Comitan**	**1.85**	**20**	*e*P	**Pn**	**07 39 02.4**	**+3.3**
CCIG				*es*	**Sn**	**07 39 23.5**	**+1.2**
TGIG		**2.25**	**352**	*e*P	**Pn**	**07 39 02.4**	**-1.9**
TGIG				*es*	**Sn**	**07 39 27.7**	**-3.8**
UXUV	**UXUV**	**3.05**	**335**	*e*P	**Pn**	**07 39 17.4**	**+2.4**
UXUV				*es*	**Sn**	**07 39 51.1**	**+0.4**
CMIG	**Matias Romero**	**3.24**	**322**	*e*P	**Pn**	**07 39 19.6**	**+2.1**
CMIG				*es*	**Sn**	**07 39 54.0**	**-1.2**
PETF	**Flores**	**3.68**	**50**	*e*P	Pn	07 39 27.8	+4.3
PETF				*es*	**Sn**	**07 40 04.2**	**-1.8**

NEIC ***12*** *07:56:02.7±1.7, 35°565N±0°010×117°37W±0°01, h8km±5km, Error ellipse: s-maj=1.4km s-min=1.1km az=198.0*

PAS 12 07:56:03.0±1.5, **35°547N**±0°009×**117°377W**±0°008, **h4**km±4km, **ML3.1**/26, **ML3.0**/96(NEIC), **Error ellipse: s-maj=1.3km s-min=0.9km az=165.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.02**	**155**		Pg	07 56 04.2	+0.3
WSHM	**Spangler Hills**	**0.11**	**299**		Pg	07 56 05.3	+0.1
LRMC	**Laurel Mtn Rad**	**0.26**	**255**		Pg	07 56 08.0	0.0
LRMC				IAML		07 56 12.9	
	comp=N,4μm,0.3s						
LRMC				IAML		07 56 13.4	
	comp=E,4μm,0.4s						
SRTC	**Snort**	**0.34**	**296**		Pg	07 56 09.8	+0.3
TOW	**Tower One**	**0.41**	**310**		Pg	07 56 11.2	+0.3
DTP	**Desert Tortois**	**0.47**	**234**		Pg	07 56 11.9	-0.2
DTP					Sg	07 56 19.0	+0.7
MPMC	**Manual Prospec**	**0.52**	**350**		Pg	07 56 12

BFSC	**Mount Baldy Ra**	**1.32**	**190**			Pn	07 56 27.2	-1.2
BFSC	**Mount Baldy Ra**	**1.32**	**190**		IAML		07 56 47.0	
	comp=E,132nm,0.1s							
BBRC	**Big Bear Solar**	**1.33**	**164**			Pg	07 56 28.4	-0.2
SSK	**Sunset Peak**	**1.36**	**191**			Pn	07 56 27.9	-1.0
WCT	**Wildcat Mounta**	**1.38**	**26**			Pn	07 56 27.7	-1.5
WCT					IAML		07 56 51.4	
	comp=E,122nm,0.5s							
VES	**Vestal, Richgr**	**1.42**	**282**			Pn	07 56 29.5	-0.1
VES						Sb	07 56 48.4	-0.1
MWC	**Mount Wilson**	**1.43**	**203**			Pn	07 56 29.7	-0.2
MWC	**Mount Wilson**	**1.43**	**203**			Pn	07 56 29.2	-0.7
MWC	**Mount Wilson**	**1.43**	**203**		IAML		07 56 50.8	
	comp=N,280nm,0.5s							
MWC					IAML		07 56 51.5	
	comp=E,240nm,0.5s							
OSI	**Osito Audit: C**	**1.44**	**230**			Pn	07 56 30.0	0.0
GRAC	**Grapevine Rang**	**1.45**	**0**			Pn	07 56 29.1	-0.9
GRAC					IAML		07 56 56.7	
	comp=E,150nm,0.5s							
GRAC					IAML		07 56 56.8	
	comp=N,213nm,0.5s							
SGV	**South Grapevin**	**1.46**	**11**			Pn	07 56 30.4	+0.2
SGV						Sb	07 56 49.5	-0.2
MTPC	**Mountain Pass**	**1.49**	**92**			Pn	07 56 28.4	-2.3
MTPC					IAML		07 56 51.4	
	comp=N,172nm,0.7s							
MTPC					IAML		07 56 51.8	
	comp=E,178nm,0.2s							
PSRC	**Puddingstone R**	**1.49**	**194**			Pn	07 56 30.2	-0.4
PSRC						Sn	07 56 50.5	0.0
PASC	**Pasadena Art C**	**1.52**	**206**			Pn	07 56 30.1	-1.0
PASC					IAML		07 56 56.4	
	comp=E,146nm,0.4s							
GMRC	**Granite Mounta**	**1.60**	**118**			Sn	07 56 53.2	-0.1
TPNV	**Topopah Spring**	**1.67**	**33**			Pn	07 56 32.1	-1.0
TPNV					IAML		07 56 59.3	
	comp=E,212nm,0.6s							
TPNV					IAML		07 57 03.0	
	comp=E,139nm,0.6s							
LCH	**Last Change Ra**	**1.70**	**353**			Pn	07 56 33.0	-0.6
TPC	**Twentynine Pal**	**1.81**	**142**			Pn	07 56 33.8	-1.1
HMTC	**Hemet**	**1.86**	**170**			Pn	07 56 34.9	-0.8
DANC	**Danby, Needles**	**1.87**	**118**			Pn	07 56 33.9	-1.9
DSP	**Deep Springs**	**1.88**	**345**	Pn		Pn	07 56 35.5	-0.4
POB	**Polly Butte**	**1.89**	**168**			Pn	07 56 35.4	-0.8
ELS	**Elsinore Mount**	**1.90**	**181**			Pn	07 56 35.3	-0.9
ELS					IAML		07 57 04.6	
	comp=E,115nm,0.3s							
DGR	**Domenigoni Val**	**1.92**	**171**			Pn	07 56 35.8	-0.7
SHPR	**Sheep Range**	**2.04**	**61**	Pn		Pn	07 56 37.4	-0.9
V12A	**Nelson**	**2.06**	**84**			Pn	07 56 36.8	-1.7
PMD	**Palm Desert**	**2.07**	**156**			Pn	07 56 36.8	-1.6
PMD					IAML		07 57 09.7	
	comp=N,65nm,0.5s							
PMD					IAML		07 57 09.9	
	comp=E,74nm,0.5s							
TPH	**Tonopah**	**2.53**	**3**	Pn	Pn	Pn	07 56 44.5	-0.5
TPH					IAML		07 57 34.0	
	comp=E,91nm,0.5s							
DPP	**Dos Picos Cty**	**2.57**	**172**			Pn	07 56 44.5	-0.9
DPP					IAML		07 57 24.2	
	comp=E,64nm,0.4s							
W13A	**Hualapai Mount**	**2.89**	**98**			Pn	07 56 48.4	-1.6
W13A					IAML		07 57 38.1	
	comp=N,33nm,1.0s							
W13A					IAML		07 57 38.7	
	comp=E,30nm,0.6s							
BAR	**Barrett**	**2.92**	**168**	IAML			07 57 34.5	
	comp=N,27nm,0.2s							
BAR					IAML		07 57 36.8	
	comp=E,30nm,0.3s							
GLA	**Glamis**	**3.26**	**139**	Pn	Pn	Pn	07 56 52.1	-2.9
GLA					IAML		07 57 49.2	
	comp=N,53nm,0.6s							
GLA					IAML		07 57 49.7	
	comp=E,60nm,0.9s							
CBX	**Cerro Bola**	**3.28**	**169**	Pn	Pn	Pn	07 56 54.4	-0.9
LCMT	**Little Creek M**	**3.65**	**65**	Pn	Pn	Pn	07 56 59.6	-0.8
ESJX	**Sierra Juarez**	**3.73**	**161**	Pn	Pn	Pn	07 57 00.4	-1.1
Y14A	**Wickenburg**	**3.94**	**113**	Pn	Pn	Pn	07 57 02.5	-1.8
Y14A					IAML		07 58 12.2	
	comp=E,25nm,0.4s							
KNB	**Kanab**	**3.96**	**67**	Pn	Pn	Pn	07 57 04.3	-0.4
PSUT	**Pine Spring**	**4.10**	**42**			Pn	07 57 04.9	-1.8
PSUT					IAML		07 58 28.6	
	comp=E,13nm,1.6s							
U15A	**North Rim**	**4.22**	**76**	Pn	Pn	Pn	07 57 07.8	-0.5
U15A					IAML		07 58 25.6	
	comp=E,12nm,1.3s							
HMU	**Henry Mountain**	**5.84**	**64**	Pn	Pn	Pn	07 57 30.6	+0.1
X18A	**Snowflake**	**6.18**	**97**	Pn	Pn	Pn	07 57 35.9	+0.7

ASRS ***12*** *07:59:50.0±0.7,54.°16N×86.°41E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 12 07:59:16.7±1.6, 54.°64N×83.°77E, h0km, mbtmp3.2/3, ML2.5/3, Error ellipse: s-maj=14.3km s-min=9.3km az=9.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.92**	**138**	I	I	08 05 40.0	
	baz=317,slow=309,SNR=1.7						
ZALV	**Zalesovo Beam**	**0.92**	**138**	Pg	Pg	07 59 33.5	-0.9
	3.2nm,0.3s,baz=326,slow=18,SNR=21						
ZALV				Lg	Lg	07 59 47.6	
	15nm,0.3s,baz=319,slow=29,SNR=19						
KURBB	**Kurchatov Arra**	**5.13**	**221**	Pn	Pn	08 00 36.0	+1.2
	0.1nm,0.3s,baz=39,slow=14,SNR=13						
KURBB				Sn	Sn	08 01 31.9	-2.7
	0.1nm,0.3s,baz=35,slow=22,SNR=5.3						
KURBB				Lg	Lg	08 02 01.0	
	0.1nm,0.3s,baz=40,slow=31,SNR=5.6 1.0nm,0.6s						
MKAR	**Makanchi Array**	**7.91**	**187**	Pn	Pn	08 01 13.1	+0.2
	0.2nm,0.3s,baz=8.7,slow=12,SNR=6.9						
MKAR				Sn	Sn	08 02 42.4	-0.7
	0.1nm,0.3s,baz=18,slow=20,SNR=2.9						
MKAR				Lg	Lg	08 03 21.7	
	0.1nm,0.3s,baz=17,slow=27,SNR=5.9 0.6nm,0.5s						
BVAR	**Borovoye Array**	**8.08**	**264**	Pn	Pn	08 01 13.6	-1.6
	0.1nm,0.3s,baz=65,slow=14,SNR=5.5 2.1nm,0.5s						

IDC ***12*** *08:00:20.9±1.6,51.°92N×179.°45E, h0km, mb3.9/12, mbtmp3.9/14, ML3.0/2, Error ellipse: s-maj=44.5km s-min=17.0km az=8.0*

NEIC ***12*** *08:00:31.3±1.9,51.°7N±0.°1×179.°52E±0.°07, h97km±3km, mb3.7/24, ML3.6/10, ML3.7(AEIC), Error ellipse: s-maj=17.0km s-min=6.3km az=182.0*

AEIC ***12*** *08:00:31.3±1.2,51.°6N±0.°2×179.°62E±0.°09, h87km±5km, Error ellipse: s-maj=22.5km s-min=7.2km az=189.0*

ISC 12 08:00:31.0±0.8, 51.°6N±0.°1×179.°46E±0.°04, h100km, n90, σ1°29/88, mb3.8/14, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.22**	**206**		**Pn**	**08 00 45.1**	**-0.2**
AMKA	**Amchitka**	**0.22**	**206**		**Sn**	**08 00 55.0**	**-0.8**
CESW	**Semis' Southwe**	**0.33**	**12**		**Pn**	**08 00 44.8**	**-1.0**
CERB	**Semis' Cerberu**	**0.37**	**17**		**Pn**	**08 00 45.3**	**-0.6**
CETU	**Semis' Tuman**	**0.39**	**4**		**Pn**	**08 00 45.2**	**-0.9**
CEPE	**Semis' Perret**	**0.41**	**17**		**Pn**	**08 00 45.2**	**-1.0**
CEAP	**Semis' Anvil P**	**0.43**	**10**		**Pn**	**08 00 45.4**	**-0.9**
CEAP					**Sn**	**08 00 55.4**	**-2.4**
LSSE	**Little Sitkin**	**0.66**	**303**		**Pn**	**08 00 48.3**	**+0.3**
LSPA	**Little Sitkin**	**0.67**	**305**		**Pn**	**08 00 48.5**	**+0.3**
LSPA					**Sn**	**08 01 00.6**	**-0.3**
LSNW	**Little Sitkin**	**0.70**	**304**		**Pn**	**08 00 48.5**	**+0.1**
KIMD	**Kanaga Island**	**2.07**	**84**		**Pn**	**08 01 04.0**	**-0.4**
KIMD					**Sn**	**08 01 28.0**	**-2.0**
KIKV	**Kanaga Island**	**2.12**	**80**		**Pn**	**08 01 04.5**	**-0.6**
KIKV					**Sn**	**08 01 28.9**	**-2.3**
KIWB	**Kanaga Island**	**2.13**	**81**		**Pn**	**08 01 04.4**	**-0.8**
KIWB				IAML		08 01 31.4	
	comp=E,425nm,0.5s						
KIWB				IAML		08 01 35.9	
	comp=N,444nm,0.5s						
KIWB	**Kanaga Island**	**2.13**	**81**		**Sn**	**08 01 29.4**	**-2.0**
KINC	**Kanaga Island**	**2.15**	**79**		**Pn**	**08 01 04.9**	**-0.6**
KIRH	**Kanaga Island**	**2.17**	**80**		**Pn**	**08 01 05.2**	**-0.5**
ADK	**Adak**	**2.42**	**81**		**Pn**	**08 01 08.0**	**-1.0**
ADK				IAML		08 01 37.6	
	comp=N,375nm,0.4s						
ADK				IAML		08 01 48.9	
	comp=N,320nm,0.3s						
ADK	**Adak**	**2.42**	**81**		**Sn**	**08 01 36.1**	**-2.0**
ADAG	**Mount Adagdak**	**2.48**	**79**		**Pn**	**08 01 09.1**	**-0.7**
ETKA	**Kagalaska Isla**	**2.59**	**82**		**Pn**	**08 01 10.4**	**-0.8**
GSCK	**Great Sitkin C**	**2.76**	**79**		**Pn**	**08 01 12.7**	**-0.7**
GSSP	**Great Sitkin S**	**2.76**	**77**		**Pn**	**08 01 12.4**	**-1.1**
GSTD	**Great Sitkin T**	**2.77**	**78**		**Pn**	**08 01 12.5**	**-1.2**
GSMY	**Great Sitkin M**	**2.83**	**79**		**Pn**	**08 01 13.3**	**-1.0**
GSTR	**Great Sitkin T**	**2.83**	**78**		**Pn**	**08 01 13.3**	**-1.1**
GSIG	**Igitkin Island**	**2.90**	**80**		**Pn**	**08 01 14.4**	**-0.9**
SMY	**Shemya**	**3.50**	**291**	Pn	**Pn**	**08 01 23.1**	**-0.2**
ATKA	**Atka Island**	**3.98**	**78**		**Pn**	**08 01 28.5**	**-1.3**
ATKA				IAML		08 02 30.6	
	comp=E,67nm,1.5s						
ATKA				IAML		08 02 37.2	
	comp=N,66nm,1.8s						
NIKH	**Nikolski High**	**7.31**	**74**		**Pn**	**08 02 16.1**	**+1.2**
OKTU	**Okmok Mt. Tuli**	**7.85**	**72**		**Pn**	**08 02 24.0**	**+1.7**
P08K	**Saint George I**	**8.19**	**48**		**Pn**	**08 02 27.0**	**+0.1**
SPIA	**Saint Paul Isl**	**8.22**	**43**		**Pn**	**08 02 28.2**	**+1.0**
MAPS	**Pakushin South**	**8.56**	**70**		**Pn**	**08 02 32.9**	**+0.9**
MREP	**Makushin Rep't**	**8.68**	**70**		**Pn**	**08 02 34.9**	**+1.4**
UNV	**Unalaska Valle**	**8.82**	**70**		**Pn**	**08 02 36.5**	**+1.0**
LVA	**Lava Point**	**9.15**	**68**	Pn	**Pn**	**08 02 40.9**	**+0.9**
AKUT	**Akutan**	**9.30**	**68**	Pn	**Pn**	**08 02 43.2**	**+1.3**
SDPT	**Sand Point**	**12.53**	**65**	Pn	**Pn**	**08 03 23.7**	**-1.8**
CNBA	**Chernabura Isl**	**12.97**	**67**	Pn	**Pn**	**08 03 28.0**	**-3.2**
PETK	**Petropavlovsk-**	**13.38**	**285**	Pn	**Pn**	**08 03 32.1**	**-4.6**
	comp=N,0.1nm,0.3s,baz=84,slow=27,SNR=1.2 comp=N,1.8nm,1.0s						
N14K	**Kuskokwak Cree**	**13.47**	**44**	Pn	**Pn**	**08 03 39.3**	**+1.6**
CHGN	**Chignik**	**13.84**	**61**	Pn	**Pn**	**08 03 42.3**	**-0.2**
M16K	**Timber Creek**	**15.19**	**43**	P	**P**	**08 04 03.6**	**+1.1**
M16K				IAmb	IAmb	08 04 27.5	
	comp=Z,9.2nm,1.4s						
M17K	**Holitna River**	**16.02**	**43**	P	**P**	**08 04 12.7**	**+1.0**
M17K				IAmb	IAmb	08 04 37.6	
	comp=Z,6.2nm,1.1s						
J17K	**VABM Dome**	**16.43**	**36**	P	**P**	**08 04 17.1**	**+1.0**
J17K				IAmb	IAmb	08 04 33.3	
	comp=Z,8.1nm,1.4s						
L18K	**Granite Mounta**	**16.72**	**41**	P	**P**	**08 04 19.5**	**+0.1**
L18K				IAmb	IAmb	08 04 48.7	
	comp=Z,5.9nm,1.3s						
KDAK	**Kodiak Island**	**17.24**	**58**	P	**P**	**08 04 22.6**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=287,slow=17,SNR=18						
KDAK				S	Sn	08 07 22.3	-14
	comp=Z,3.8nm,0.9s,baz=201,slow=19,SNR=1.9 comp=Z,0.6nm,0.3s						
J18K	**Innoko River**	**17.34**	**37**	P	**Pn**	**08 04 29.0**	**+2.6**
MA2	**Magadan**	**17.97**	**308**	P	**Pn**	**08 04 34.3**	**+0.3**
MA2				IAmb	IAmb	08 04 41.9	
	comp=Z,7.7nm,1.1s						
K20K	**Telida**	**18.32**	**40**	P	**Pn**	**08 04 38.1**	**0.0**
J20K	**Nowinta River**	**18.69**	**37**		**Pn**	**08 04 42.4**	**-0.1**
G19K	**Purcell Mounta**	**18.79**	**30**	P	**Pn**	**08 04 43.5**	**-0.3**
G19K				IAmb	IAmb	08 04 48.7	
	comp=Z,4.8nm,0.9s						
F19K	**Shaleruckik Mo**	**19.04**	**28**		**P**	**08 04 45.8**	**+1.0**
F19K				IAmb	IAmb	08 04 46.9	
	comp=Z,3.9nm,0.9s						
CAST	**Castle Rocks**	**19.15**	**41**	P	**Pn**	**08 04 47.6**	**-0.4**
E19K	**Redstone River**	**19.62**	**27**	P	**P**	**08 04 52.3**	**+1.1**
E19K				IAmb	IAmb	08 04 53.9	
	comp=Z,3.7nm,0.9s						
IMAR	**Indian Mountai**	**19.79**	**33**	P	**P**	**08 04 54.4**	**+1.4**
F20K	**Avaraart Lake**	**19.79**	**29**		**P**	**08 04 54.2**	**+1.3**
H21K	**Melozitna Rive**	**19.94**	**34**	P	**P**	**08 04 56.1**	**+1.5**
H21K				IAmb	IAmb	08 04 56.9	
	comp=Z,3.5nm,0.8s						
F21K	**Alatna River**	**20.59**	**30**		**P**	**08 05 02.7**	**+1.0**
F21K				IAmb	IAmb	08 05 04.5	
	comp=Z,2.9nm,0.9s						
D20K	**Etivluk River**	**20.66**	**25**	P	**P**	**08 05 03.0**	**+0.7**
CCB	**Clear Creek Bu**	**21.37**	**40**	P	**P**	**08 05 11.7**	**+1.7**
ILAR	**Eielson Array**	**21.78**	**40**	P	**P**	**08 05 12.7**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=257,slow=5.9,SNR=8.0						
VRDI	**Verde Repeater**	**22.38**	**50**	P	**P**	**08 05 21.9**	**+1.0**
VRDI				IAmb	IAmb	08 05 22.3	
	comp=Z,3.1nm,1.0s						
J26L	**Joseph Creek**	**23.05**	**42**	P	**P**	**08 05 26.3**	**-1.1**
G26K	**Porcupine Rive**	**23.78**	**36**	P	**P**	**08 05 34.5**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**33.28**	**202**	T	T	08 42 48.9	
	baz=10,slow=76,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**33.29**	**202**	T	T	08 42 31.6	
	baz=10,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**33.30**	**202**	T	T	08 42 28.7	
	baz=10,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**34.50**	**202**	T	T	08 44 01.3	
	baz=20,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**34.52**	**202**	T	T	08 44 13.3	
	baz=20,slow=76,SNR=5.8						
H11S3	**WAKE ISLAND Hy**	**34.52**	**202**	T	T	08 44 02.6	
	baz=20,slow=76,SNR=4.6						
YKA	**Yellowknife Ar**	**35.88**	**46**	P	**P**	**08 07 20.5**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=286,slow=9.9,SNR=6.6 comp=Z,0.5nm,0.5s						
NVAR	**Mina Array Bea**	**44.61**	**82**	P	**P**	**08 08 35.1**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=296,slow=7.9,SNR=5.1 comp=Z,0.4nm,0.6s						
SONM	**Songino Array**	**45.58**	**296**	P	**P**	**08 08 41.9**	**+1.1**
SONM				IAmb	IAmb	08 08 43.2	
	comp=Z,0.7nm,0.7s						
SONM	**Songino Array**	**45.58**	**296**	P	**P**	**08 08 42.5**	**+1.7**
	comp=Z,0.8nm,0.4s,baz=76,slow=6.1,SNR=3.2 comp=Z,0.8nm,0.4s						
PDAR	**Pinedale Array**	**47.28**	**71**	P	**P**	**08 08 54.6**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=320,slow=4.1,SNR=8.3 comp=Z,0.5nm,0.5s						
SPITS	**Spitsbergen Ar**	**50.10**	**356**	P	**P**	**08 09 14.5**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=44,slow=6.1,SNR=7.7 comp=Z,1.8nm,0.5s						
ARCES	**ARCESS Array B**	**57.70**	**349**	P	**P**	**08 10 10.3**	**-0.2**
	comp=Z,9nm,1.0s,baz=32,slow=7.2,SNR=1.8 comp=Z,2.9nm,1.0s						
KURBB	**Kurchatov Arra**	**58.19**	**313**	P	**P**	**08 10 14.9**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=43,slow=6.4,SNR=8.3 comp=Z,0.6nm,0.5s						
MKAR	**Makanchi Array**	**59.05**	**307**	P	**P**	**08 10 21.0**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=55,slow=6.4,SNR=7.5 comp=Z,0.7nm,0.4s						
TXAR	**Lajitas Array**	**59.70**	**80**	P	**P**	**08 10 26.4**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=301,slow=4.8,SNR=8.0 comp=Z,0.3nm,0.5s						
FINES	**FINESS Array B**	**65.34**	**346**	P	**P**	**08 11 01.2**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=345,slow=10,SNR=1.6 comp=Z,1.9nm,0.9s						
AB31	**Akbulak array**	**67.11**	**322**	P	**P**	**08 11 15.0**	**+1.6**
ABKAR	**Akbulak array**	**67.11**	**322**	P	**P**	**08 11 15.4**	**+2.0**
NC204	**NORSAR Array S**	**67.13**	**354**	P	**P**	**08 11 13.6**	**+0.2**
NC405	**NORSAR Array S**	**67.23**	**354**	P	**P**	**08 11 14.0**	**0.0**
NB2	**NORSAR Subarra**	**67.34**	**354**	P	**P**	**08 11 14.7**	**0.0**
	comp=Z,0.4nm,0.4s,baz=7.2,slow=6.5						
NOA	**NORSAR Array B**	**67.34**	**354**	P	**P**	**08 11 14.4**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=8.1,slow=6.3,SNR=7.4 comp=Z,0.7nm,0.5s						
KKAR	**Karatay Array**	**67.44**	**311**	P	**P**	**08 11 16.7**	**+1.0**
HFS	**Hagfors**	**68.05**	**352**	P	**P**	**08 11 18.5**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=23,slow=4.8,SNR=8.8 comp=Z,0.9nm,0.4s						

NOU ***12*** *08:02:35.8,37.°50S×176.°82E, h240km, MLv3.8/12, North Island, New Zealand*

WEL ***12*** *08:02:41.5±0.8,37.°5S±5.°×177.°7E±.°, h174km±7km, M3.0/27, MLv3.0/27, Error ellipse: s-maj=8.0km s-min=4.7km az=41.7, confirmed*

ISC 12 08:02:36.9±1.9, 37.°49S±0.°06×176.°66E±0.°06, h215km±11km, n113, σ1°60/121, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.37**	**193**	P	**Pn**	**08 03 05.6**	**+0.3**
TGRZ	**Tauranga**	**0.40**	**232**	P	**Pn**	**08 03 05.8**	**+0.5**
OMRZ	**Omania**	**0.66**	**200**	P	**Pn**	**08 03 07.6**	**+1.3**
KMRZ	**Kaimai**	**0.67**	**238**	P	**Pn**	**08 03 07.4**	**+0.9**
URZ	**Urewera**	**0.85**	**155**	P	**Pn**	**08 03 07.6**	**+0.3**
URZ	**Urewera**	**0.85**	**155**	P	**Pn**	**08 03 07.8**	**+0.5**
URZ				S	**S**	**08 03 28.5**	**-2.6**
HAZ	**Te Kaha**	**0.93**	**107**	P	**Pn**	**08 03 08.2**	**+0.5**
HAZ				S	**S**	**08 03 30.6**	**-1.2**
RUGZ	**Raukumara Rang**	**0.94**	**121**	P	**Pn**	**08 03 07.9**	**-0.1**
RUGZ				S	**S**	**08 03 29.6**	**-2.6**
TOZ	**Tahuroa Road**	**0.95**	**255**	P	**Pn**	**08 03 08.6**	**+0.8**
MUGZ	**Murupara**	**0.99**	**175**	P	**Pn**	**08 03 09.1**	**+1.0**
MUGZ				S	**S**	**08 03 30.4**	**-2.3**
KUZ	**Kuaotunu**	**1.05**	**314**	P	**Pn**	**08 03 08.8**	**+0.3**
MWZ	**Matawai**	**1.09**	**141**	P	**Pn**	**08 03 10.1**	**+1.3**
ALRZ	**Allen Road**	**1.10**	**193**	P	**Pn**	**08 03 10.3**	**+1.4**
RTZ	**Ruatahuna**	**1.16**	**167**	P	**Pn**	**08 03 10.5**	**+1.2**
RTZ				S	**S**	**08 03 32.9**	**-1.7**
RAGZ	**Rawiri**	**1.17**	**150**	P	**Pn**	**08 03 11.3**	**+1.9**
PKGZ	**Pakihiroa**	**1.19**	**109**	P	**Pn**	**08 03 10.8**	**+1.3**
KUTZ	**Kaahu Road**	**1.20**	**213**	P	**Pn**	**08 03 11.7**	**+2.1**
TWGZ	**Tauwhareparae**	**1.25**	**124**	P	**Pn**	**08 03 12.5**	**+2.5**
TWGZ				S	**S**	**08 03 37.6**	**+1.9**
MXZ	**Matakaoa Point**	**1.31**	**94**	P	**Pn**	**08 03 11.7**	**+1.3**
MXZ	**Matakaoa Point**	**1.31**	**94**	P	**Pn**	**08 03 11.7**	**+1.3**
TKGZ	**Te Karaka**	**1.34**	**136**	P	**Pn**	**08 03 12.1**	**+1.6**
TKGZ				S	**S**	**08 03 35.7**	**-1.1**
MRHZ	**Matea Rd**	**1.36**	**188**	P	**Pn**	**08 03 12.1**	**+1.3**
MTHZ	**Maungataniwha**	**1.37**	**174**	P	**Pn**	**08 03 12.2**	**+1.3**
PUZ	**Puketiti**	**1.40**	**115**	P	**Pn**	**08 03 12.2**	**+1.2**
PUZ				S	**S**	**08 03 36.4**	**-1.2**
SNGZ	**Shannon Statio**	**1.40**	**158**	P	**Pn**	**08 03 12.8**	**+1.7**
WIAZ	**Waiheke Island**	**1.40**	**299**	P	**Pn**	**08 03 11.5**	**+0.4**
WATZ	**Wairara**	**1.42**	**211**	P	**Pn**	**08 03 14.2**	**+2.9**
WMGZ	**Waiomatatini S**	**1.43**	**104**	P	**Pn**	**08 03 12.8**	**+1.5**
WMGZ				S	**S**	**08 03 37.9**	**-0.1**
RAHZ	**Arahi**	**1.47**	**167**	P	**Pn**	**08 03 13.5**	**+1.9**
ETAZ	**East Tamaki Re**	**1.48**	**291**	P	**Pn**	**08 03 12.9**	**+1.2**
RIGZ	**Rimuhau**	**1.50**	**145**	P	**Pn**	**08 03 13.8**	**+1.9**
RATZ	**Rangitukua**	**1.54**	**207**	P	**Pn**	**08 03 14.3**	**+2.0**
GRZ	**Great Barrier**	**1.56**	**322**	P	**Pn**	**08 03 12.7**	**+0.2**
CNGZ	**Carnagh Statio**	**1.58**	**130**	P	**Pn**	**08 03 14.9**	**+2.4**
MBAZ	**Motutapu North**	**1.58**	**296**	P	**Pn**	**08 03 13.8**	**+1.2**
NMHZ	**Naumai**	**1.61**	**176**	P	**Pn**	**08 03 15.2**	**+2.2**
RITZ	**Rihia Road**	**1.62**	**203**	P	**Pn**	**08 03 15.5**	**+2.6**
WHHZ	**Waihua**	**1.65**	**164**	P	**Pn**	**08 03 15.1**	**+1.9**
AWAZ	**Awhitu Peninsu**	**1.66**	**284**	P	**Pn**	**08 03 14.4**	**+1.1**
HBAZ	**Herne Bay Bore**	**1.67**	**292**	P	**Pn**	**08 03 14.0**	**+0.6**
BKZ	**Black Stump Fm**	**1.68**	**184**	P	**Pn**	**08 03 15.0**	**+1.5**
BKZ	**Black Stump Fm**	**1.68**	**184**	P	**Pn**	**08 03 14.6**	**+1.1**
ABAZ	**Army Bay**	**1.71**	**301**	P	**Pn**	**08 03 15.1**	**+1.4**
PRGZ	**Paritu Road**	**1.73**	**146**	P	**Pn**	**08 03 15.6**	**+1.7**
KNZ	**Kokohu**	**1.73**	**153**	P	**Pn**	**08 03 15.6**	**+1.8**
HIZ	**Hauiti**	**1.75**	**234**	P	**Pn**	**08 03 16.1**	**+2.0**
HIZ	**Hauiti**	**1.75**	**234**	P	**Pn**	**08 03 16.1**	**+2.0**
TMVZ	**Te Maari**	**1.79**	**204**	P	**Pn**	**08 03 17.1**	**+2.5**
ARHZ	**Aropaoanui**	**1.79**	**172**	P	**Pn**	**08 03 16.4**	**+1.9**
ETVZ	**East Tongariro**	**1.81**	**204**	P	**Pn**	**08 03 16.9**	**+2.2**
RVAZ	**Riverhead Bore**	**1.81**	**293**	P	**Pn**	**08 03 15.6**	**+1.0**
WTVZ	**West Tongariro**	**1.83**	**207**	P	**Pn**	**08 03 17.3**	**+2.3**
OTVZ	**Oturere**	**1.85**	**205**	P	**Pn**	**08 03 16.4**	**+1.2**
NGZ	**Ngauruhoe**	**1.88**	**206**	P	**Pn**	**08 03 17.7**	**+2.3**
MHGZ	**Mahia Peninsul**	**1.93**	**150**	P	**Pn**	**08 03 17.8**	**+2.0**
KWHZ	**Kaweka Forest**	**1.94**	**185**	P	**Pn**	**08 03 17.7**	**+1.7**
MCHZ	**McNeill Hill**	**1.96**	**179**	P	**Pn**	**08 03 18.1**	**+2.1**
FWVZ	**Far West T-bar**	**1.97**	**206**	P	**Pn**	**08 03 18.2**	**+1.8**
MAVZ	**Matarangi**	**1.98**	**206**	P	**Pn**	**08 03 18.6**	**+2.0**
WHVZ	**Whangaehu Hut**	**1.98**	**205**	P	**Pn**	**08 03 18.3**	**+1.8**
TRVZ	**Turoa**	**2.01**	**205**	P	**Pn**	**08 03 18.9**	**+2.1**
WNVZ	**Wahianoa**	**2.02**	**204**	P	**Pn**	**08 03 18.6**	**+1.8**
MOVZ	**Moawhango**	**2.04**	**200**	P	**Pn**	**08 03 18.2**	**+1.2**
PKVZ	**Pokaka**	**2.

PB03 IAML 08 23 35.4
comp=Z,2µm,0.4s
PB02 IPOC Station P 1.54 278 Pn 08 23 15.6 +0.3
PB02 IPOC Station P 1.54 278⇑ *i*P Pn 08 23 15.9 +0.6
PB02 *e*S **Sn 08 23 36.1 -0.2**
PB02 IAML 08 23 38.0
comp=E,9µm,0.4s
PB02 IPOC Station P 1.54 278 *e*P Pn 08 23 15.9 +0.6
PB02 *e*S **Sn 08 23 36.8 +0.5**
PB02 IAML 08 23 38.0
comp=Z,4µm,0.2s
PB06 IPOC Station P 1.67 226 Pn 08 23 17.9 +0.9
PB06 IPOC Station P 1.67 226⇑ *i*P Pn 08 23 17.9 +0.9
PB06 *e*S **Sn 08 23 39.5 +0.2**
PB06 IAML 08 23 40.8
comp=E,4µm,0.5s
PB06 IPOC Station P 1.67 226 *e*P Pn 08 23 17.9 +0.9
PB06 *e*S **Sn 08 23 40.0 +0.7**
PB06 IAML 08 23 40.4
comp=Z,2µm,0.5s
PATCX Punta Patache 1.91 292 Pn 08 23 20.4 +0.6
TA01 Diego Aracena 2.04 298 Pn 08 23 21.5 +0.2
TA01 Diego Aracena 2.04 298⇑ *e*P Pn 08 23 21.6 +0.2
TA01 *e*S **Sn 08 23 46.3 -0.8**
GO01 Chusmiza 2.07 335 Pn 08 23 23.7 +1.5
GO01 Chusmiza 2.07 335⇑ *i*P Pn 08 23 24.2 +2.0
GO01 IAML 08 23 54.2
comp=E,1µm,0.1s
TA02 Huaiquique 2.16 306 Pn 08 23 23.6 +0.7
TA02 Huaiquique 2.16 306 *e*P Pn 08 23 23.3 +0.4
PB11 IPOC Station P 2.21 324 Pn 08 23 24.7 +1.0
PB11 IPOC Station P 2.21 324 *e*P Pn 08 23 24.5 +0.8
PB11 *e*S **Sn 08 23 51.5 +0.3**
PB11 IAML 08 23 54.0
comp=E,2µm,0.4s
PB11 IPOC Station P 2.21 324 *e*P Pn 08 23 24.7 +1.0
PB11 *e*S **Sn 08 23 52.1 +0.9**
PB11 IAML 08 23 56.1
comp=Z,476nm,0.2s
PB05 IPOC Station P 2.21 234 Pn 08 23 23.5 -0.2
PB05 IPOC Station P 2.21 234 *e*P Pn 08 23 23.5 -0.2
PB05 *e*S **Sn 08 23 49.4 -1.9**
PB05 IAML 08 23 56.5
comp=E,1µm,0.5s
PB10 IPOC Station P 2.88 227 Pn 08 23 32.0 -0.2
PB10 IPOC Station P 2.88 227 *e*P Pn 08 23 32.1 -0.1
PB10 IAML 08 24 16.4
comp=N,386nm,0.2s
PB14 IPOC Station P 3.64 212 Pn 08 23 42.3 -0.3
PB14 IPOC Station P 3.64 212 *e*P Pn 08 23 42.9 +0.3
PB14 IAML 08 24 33.1
comp=Z,269nm,0.5s
GO02 Mina Guanaco 3.80 198 Pn 08 23 44.6 0.0
GO02 Mina Guanaco 3.80 198 *e*P Pn 08 23 44.8 +0.1
SLA San Lorenzo 4.05 142 *e*P Pn 08 23 53.2 +5.3
SLA *e*S **Sn 08 24 37.1 +2.5**
FSA Cafayete 5.00 156 *e*P Pn 08 24 05.0 +4.3
FSA *e*S Sn 08 24 39.7 -18
AC01 Pan de Azucar 5.05 205 Pn 08 23 59.2 -2.0
LPAZ La Paz 5.24 1 Pn 08 24 07.4 +3.0
LPAZ La Paz 5.24 1 P Pn 08 24 06.0 +1.6
comp=Z,4.1nm,0.3s,baz=155,slow=4.4,SNR=55
LPAZ S **Sn 08 25 03.3 -0.6**
comp=Z,7.5nm,0.8s,baz=159,slow=5.4,SNR=3.7
AC02 Maricunga 5.32 188 Pn 08 24 04.7 -0.6
AC06 Mina Casimiro 6.09 198 Pn 08 24 12.3 -2.9
GO03 Copiapo 6.28 196 Pn 08 24 15.6 -2.2
SIV San Ignacio 8.77 52 P Pn 08 24 51.3 -0.5
comp=Z,18nm,0.6s,baz=243,slow=11,SNR=103
SIV S **Sn 08 26 24.0 -4.9**
comp=Z,9.9nm,0.7s,baz=303,slow=23,SNR=9.7
PTLB Pontes e Lacer 10.57 56 Pn 08 25 16.2 +0.2
PTLB Pontes e Lacer 10.57 56 *e*P Pn 08 25 16.6 +0.6
BDQN Bodoquena, MS 10.81 86 *e*P Pn 08 25 18.8 -0.5
CPUP Villa Florida 11.07 118 P Pn 08 25 20.9 -1.8
comp=Z,0.5nm,0.7s,baz=209,slow=1.2,SNR=6.0
CPUP S **Sn 08 27 17.7 -6.9**
comp=Z,0.6nm,0.7s,baz=207,slow=6.8,SNR=3.4
VILB Vilhena 11.50 43 Pn 08 25 29.0 +0.5
VILB Vilhena 11.50 43 *e*P Pn 08 25 28.0 -0.6
SJPY San Joaquin 11.69 109 *e*P Pn 08 25 32.2 +1.2
AQDB Aquidauana 11.78 87 *e*P Pn 08 25 35.2 +3.0
SALV Santo Antonio 13.16 67 *e*P Pn 08 25 52.5 +2.2
RPRD Ribas do Rio P 13.64 88 *e*P P 08 25 59.1 -2.3
TRCB Terra Rica 14.53 98 *e*P P 08 26 09.7 -1.6
PDRB Porto dos Gac 14.82 50 *e*P Pn 08 26 11.7 +0.2
PTGB Pitanga 15.23 105 *e*P P 08 26 18.5 -0.5
ITAB Concordia 15.74 114 P P 08 26 25.2 +0.6
ITAB IAmb IAmb 08 26 27.6
comp=Z,31nm,1.1s
ITAB Concordia 15.74 114 *e*P Pn 08 26 23.3 +0.2
PCMB Pacaembu 15.82 93 *e*P P 08 26 26.1 +0.6
CPSB Cacapava Do Su 15.97 127 *e*P Pn 08 26 24.9 -1.0
CLDB Colider 15.99 50 *e*P Pn 08 26 26.3 +0.1
PLTB Pedras Altas 16.57 131 P P 08 26 33.4 -0.4
PLTB IAmb IAmb 08 26 34.9
comp=Z,11nm,0.7s
PLTB Pedras Altas 16.57 131 *e*P Pn 08 26 31.1 -2.2
ARAG Araguaiana, MT 16.64 72 *e*P P 08 26 34.8 +0.2
ITRB Iturama 16.86 87 *e*P P 08 26 39.3 +2.2
TRQA Tornquist 17.32 163 P 08 26 41.8 -0.2
TRQA IAmb IAmb 08 26 44.5
comp=Z,9.3nm,0.6s
FRTB Fartura 17.38 99 *e*P Pn 08 26 44.1 +0.9
BB19B Bebedouro 18.40 92 *e*P Pn 08 26 55.0 -0.4
MAJ01 Sao Joao Batis 18.46 112 *e*P P 08 26 53.0 -1.6
SNDB Serra Nova Dou 18.82 62 *e*P P 08 26 58.9 +0.4
NPGB Novo Progresso 19.07 43 *e*P P 08 27 00.7 -0.6
IPMB Ipameri, GO 19.20 83 *e*P Pn 08 27 03.8 -1.1
PLCA Paso Flores 19.22 185 P P 08 27 02.1 -0.7
PLCA Paso Flores 19.22 185 P P 08 27 02.9 0.0
comp=Z,1.3nm,0.7s,baz=19,slow=4.8,SNR=1.9
SPB Sao Paulo 19.34 100 *e*P Pn 08 27 05.4 -1.1
PET01 Itanhaem-SP 19.52 102 *e*P P 08 27 06.7 +0.5
MACA Manacapuru-AM 19.71 23 P P 08 27 07.3 -0.9
MACA IAmb IAmb 08 27 11.2
comp=Z,15nm,0.6s
MACA Manacapuru-AM 19.71 23 *e*P P 08 27 03.9 -4.3
VAO Valinhos 19.76 98 P P 08 27 08.8 -0.1
VAO IAmb IAmb 08 27 10.6
comp=Z,22nm,0.8s
VAO Valinhos 19.76 98 *e*P P 08 27 08.8 -0.1
BDFB Brasilia 20.06 76 P P 08 27 12.6 +0.4
BDFB Brasilia 20.06 76 P P 08 27 12.1 -0.2
comp=Z,2.9nm,0.5s,baz=246,slow=9.0,SNR=6.7
ITTB Itaituba 20.97 37 *e*P P 08 27 20.7 -1.1
BSCB Bom Sucesso 21.89 93 *e*P P 08 27 31.8 +0.1
DIAM Diamantina, MG 23.34 86 *e*P P 08 27 45.1 -1.0
PRPB Parauapebas 23.50 52 *e*P P 08 27 45.6 -1.9
JANB Januaria 23.62 78 *e*P P 08 27 47.9 -0.7
SDBA SAO DESIDERIO 24.09 72 *e*P P 08 27 51.7 -1.2
BOAV Boa Vista 24.98 19 P P 08 28 01.3 +0.5
BOAV IAmb IAmb 08 28 06.2
comp=Z,10nm,1.4s
RCBR Riachuelo 35.00 68 P P 08 29 29.6 +0.2
VNA1 Neumayer--Stat 60.04 161⇑P P 08 32 44.1 +2.1
comp=Z,2.3nm,0.9s
VNA2 Neumayer--Watz 60.40 161⇑P P 08 32 45.9 +1.4
comp=Z,2.5nm,0.6s,baz=155,slow=8.8
TXAR Lajitas Array 61.02 325 P P 08 32 49.7 +0.3
comp=Z,0.3nm,0.9s,baz=149,slow=9.7,SNR=2.6
SNAA Sanae 62.03 161⇑P P 08 32 56.6 +1.0
comp=Z,52nm,0.6s
SNAA Sanae 62.03 161 P P 08 32 55.9 +0.2
SNAA IAmb IAmb 08 32 57.5
comp=Z,3.6nm,0.8s
SNAA Sanae 62.03 161 P P 08 32 55.8 +0.2
comp=Z,2.7nm,0.7s,baz=280,slow=7.5,SNR=14
comp=Z,2.7nm,0.7s
DBIC Dimbokro 68.17 73 P P 08 33 36.1 0.0
DBIC Dimbokro 68.17 73 P P 08 33 36.6 +0.5
comp=Z,15nm,0.7s,baz=265,slow=6.7,SNR=18
comp=Z,15nm,0.7s
QSPA South Pole Qui 68.64 180 P P 08 33 39.4 +1.0
comp=Z,1.1nm,0.5s,baz=115,slow=6.3,SNR=13
comp=Z,1.1nm,0.5s
NVAR Mina Array Bea 75.91 322 P P 08 34 24.0 +2.0
comp=Z,0.2nm,0.3s,baz=97,slow=2.7,SNR=2.5
comp=Z,0.2nm,0.3s
TORD Torodi Ar. Bea 76.81 70 P P 08 34 27.7 +0.4
comp=Z,8.1nm,0.8s,baz=252,slow=4.5,SNR=9.9
BOSA Boshof 82.89 118 P P 08 35 00.5 +0.3
comp=Z,2.2nm,0.6s,baz=248,slow=5.4,SNR=5.6
comp=Z,2.2nm,0.6s

MAW Mawson 84.11 163 P P 08 35 06.1 +0.7
comp=Z,1.3nm,0.7s,baz=220,slow=13,SNR=2.5
comp=Z,1.3nm,0.7s
ESDC Sonseca Array 85.45 44 P P 08 35 13.4 +0.8
comp=Z,1.2nm,0.9s,baz=240,slow=3.8,SNR=6.9
comp=Z,1.2nm,0.9s
YKA Yellowknife Ar 91.44 340 P P 08 35 41.4 +1.0
comp=Z,1.4nm,0.7s,baz=137,slow=3.7,SNR=13
comp=Z,1.4nm,0.7s
ASAR Alice Springs 130.14 207 PKP PKPdf 08 41 45.5 +0.5
comp=Z,0.3nm,0.5s,baz=129,slow=1.7,SNR=2.1
WRA Warramunga Arr 133.21 210 PKP PKiKP 08 41 51.8 -0.3
comp=Z,0.5nm,0.6s,baz=151,slow=1.8,SNR=6.0
KURBB Kurchatov Arra 141.05 34 PKP PKPdf 08 42 05.4 +1.2
comp=Z,0.3nm,0.5s,baz=306,slow=2.0,SNR=2.7
MKAR Makanchi Array 145.32 36 PKPbc PKPab 08 42 13.1 +0.8
comp=Z,1.9nm,0.6s,baz=323,slow=3.8,SNR=19

*TRN **12** 08:34:09.0, 10°.56N×62°.63W, h46km, MD0.0, Gulf of Paria.*
*FUNV **12** 08:34:10.6, 10°.39N×62°.54W, h35km, MW3.2*
ISC 12 08:34:07.4±2.4, 10°.5N±0°.1×62°.58W±0°.08, h87km±35km, n10, σ1°.79/16, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DMDM	**Guralp CMG5TDE**	**1.03**	**79**	***e*P**	**Pn**	**08 34 28.4**	**+1.1**
DMDM				*e*S	**Sn**	**08 34 41.6**	**-0.6**
PSKH	**Kent House, Po**	**1.06**	**81**	***e*S**	**Sn**	**08 34 42.3**	**-0.5**
PSGH	**Port of Spain**	**1.07**	**82**	***e*P**	**Pn**	**08 34 28.2**	**+0.4**
TRN	**Trinidad (W)**	**1.17**	**83**	***e*P**	**Pn**	**08 34 29.6**	**+0.6**
TRN				*e*S	**Sn**	**08 34 43.9**	**-1.2**
GRGR	**Grenville**	**1.85**	**29**	***e*P**	**Pn**	**08 34 38.1**	**+0.4**
GRGR				*e*S	**Sn**	**08 34 59.9**	**-0.8**
PCRV	**Puerto La Cruz**	**2.05**	**261**	***e*P**	**Pn**	**08 34 41.5**	**+1.3**
PCRV				*e*S	**Sn**	**08 35 04.8**	**-0.4**
PCRV	**Puerto La Cruz**	**2.05**	**261**	***e*P**	**Pn**	**08 34 41.6**	**+1.4**
PCRV				*e*S	**Sn**	**08 35 03.6**	**-1.6**
CACV	**CAICARA DEL OR**	**4.88**	**234**	***e*P**	Pn	08 35 14.3	-4.1
CACV				*e*S	Sn	08 36 01.4	-12
BENV	**Beln**	**4.96**	**264**	***e*P**	**Pn**	**08 35 22.1**	**+2.5**
BENV				*e*S	**Sn**	**08 36 14.2**	**-1.8**
BAUV	**El Baul**	**5.60**	**254**	***e*P**	**Pn**	**08 35 29.6**	**+1.4**
BAUV				*e*S	**Sn**	**08 36 27.3**	**-4.0**

*ASRS **12** 08:50:13.0±1.4, 53°.65N×88°.00E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 12 08:50:16.9±3.2, 53°.58N×87°.94E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=26.3km s-min=17.8km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**282**	I	I	09 01 49.2	
	baz=98,slow=314,SNR=7.9						
ZALV	**Zalesovo Beam**	**1.89**	**282**	Pg	Pn	08 50 50.9	+0.5
	1.4nm,0.3s,baz=98,slow=16,SNR=9.6						
ZALV				Lg	Lg	08 51 17.0	
	2.3nm,0.3s,baz=103,slow=25,SNR=8.5						
KURBB	**Kurchatov Arra**	**6.51**	**247**	Pn	Pn	08 51 54.5	+0.6
	0.1nm,0.3s,baz=64,slow=13,SNR=4.2						
KURBB				Sn	Sn	08 53 08.3	-0.5
	baz=53,slow=33,SNR=2.2						
KURBB				Lg	Lg	08 53 42.7	
	baz=64,slow=32,SNR=4.3						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**7.70**	**210**	Pn	Pn	08 52 11.4	+1.2
	0.1nm,0.3s,baz=27,slow=13,SNR=2.9						
MKAR				Lg	Lg	08 54 22.1	
	0.1nm,0.3s,baz=25,slow=32,SNR=3.4						
	0.2nm,0.3s						

CATAC 12 08:51:55.1±0.6, 12°N±5°×8°6W±°, h147km±4km, M2.3/17, MLv2.3/17, Error ellipse: s-maj=15.3km s-min=5.2km az=46.7, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NANN	**Nandasmo**	**0.18**	**9**	P	Pn	08 52 16.8	+1.7
NANN	**Nandasmo**	**0.18**	**9**	S	Sn	08 52 32.8	+2.5
SABN	**Sabanita**	**0.19**	**356**	P	Pn	08 52 15.8	+0.7
TISN	**Laguna Tiscapa**	**0.39**	**342**	P	Pn	08 52 15.2	-0.5
WILN	**Americas 2**	**0.40**	**354**	P	Pn	08 52 16.3	+0.6
APO2	**Apoyeque**	**0.46**	**338**	P	Pn	08 52 16.5	+0.5
SAPS	**Ciudad Sandino**	**0.47**	**328**	P	Pn	08 52 16.5	+0.5
SAPS	**Ciudad Sandino**	**0.47**	**328**	S	Sn	08 52 34.4	+2.4
COPN	**Copaltepe**	**0.60**	**314**	P	Pn	08 52 16.6	-0.1
MOM2	**El Cardon**	**0.74**	**334**	P	Pn	08 52 17.9	+0.3
MOMN	**Momotombo**	**0.75**	**329**	P	Pn	08 52 17.6	-0.1
MOMN				S	Sn	08 52 36.4	+1.5
BOAB	**BOACO BROADBAN**	**0.83**	**35**	P	Pn	08 52 18.8	+0.6
CARN	**Rivas**	**0.84**	**133**	P	Pn	08 52 19.8	+1.4
CARN				S	Sn	08 52 35.5	-0.5
CNGN	**Cerro Negro**	**0.91**	**324**	P	Pn	08 52 19.0	+0.1
ACON	**Acoyapa**	**0.97**	**78**	P	Pn	08 52 20.4	+1.0
PLRN	**Geotermica Pol**	**1.02**	**323**	P	Pn	08 52 18.9	-0.9
PLRN				S	Sn	08 52 39.6	+1.0
MATN	**Matagalpa**	**1.18**	**11**	P	Pn	08 52 20.9	-0.5
PKGN	**Cerro Pekin**	**1.21**	**318**	P	Pn	08 52 21.6	+0.1
PKGN				S	Sn	08 52 43.7	+1.9
RCPN	**Sur Rio San Ju**	**1.75**	**2**	P	Pn	08 52 26.9	-0.5
RCVN	**Varillal2**	**1.81**	**359**	P	Pn	08 52 28.6	+0.6
JTS	**Las Juntas de**	**1.88**	**141**	P	Pn	08 52 30.3	+1.6
JTS				S	Sn	08 52 55.6	+1.1

*TEH **12** 08:57:44.8, 34°.16N×45°.54E, h9km, 20km*
*ISN **12** 08:57:46.9±1.8, 34°.19N×45°.51E, h32km±18km, ML2.8*
ISC 12 08:57:45.7±1.1, 34°.18N±0°.05×45°.55E±0°.05, h10km, n11, σ0°.91/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLG1	**Gilan-e-Gharb**	**0.31**	**102**	Pg	**Pg**	**08 57 51.1**	**-0.8**
KGS1	**Ghasr-e-Shirin**	**0.33**	**6**	Pg	**Pg**	**08 57 52.2**	**-0.1**
ILBA	**Ilam Banvizeh**	**0.78**	**135**	Pg	**Pg**	**08 57 59.8**	**-1.0**
IGHG	**Ghaleghazi**	**0.86**	**80**	Pg	**Pg**	**08 58 01.7**	**-0.6**
IGHG				Sg	**Sb**	**08 58 14.8**	**+0.2**
IDHR	**Dehrash**	**0.86**	**53**	Pg	**Pg**	**08 58 01.3**	**-1.1**
IBDR	**Badra**	**1.11**	**163**	*e*Pg	**Pb**	**08 58 07.0**	**-0.1**
	baz=342						
IBDR				*e*Sg	**Sn**	**08 58 24.0**	**+1.2**
IBDR				AML	AML	08 58 31.2	
	comp=N,9.5nm,0.9s						
KCHF	**Cheshme Sefid,**	**1.24**	**85**	Pg	**Pn**	**08 58 09.1**	**-0.2**
BHD	**Baghdad**	**1.33**	**227**	*e*Pn	**Pn**	**08 58 10.0**	**-0.4**
BHD				*e*Sn	**Sn**	**08 58 29.0**	**+0.8**
SNQR	**Sonqor, Kerman**	**1.84**	**68**	Pn	**Pb**	**08 58 19.1**	**-0.7**
IBZA	**Bozab**	**1.93**	**81**	Pn	**Pn**	**08 58 20.1**	**+1.2**
IKFM	**Kafar-mosalman**	**2.02**	**108**	Pn	**Pn**	**08 58 21.1**	**+1.2**

IDC 12 08:58:35.6±1.5, 22°.20S×174°.94W, h0km, mb3.6/4, mbtmp3.6/4, ML5.5/1, MS3.2/2, Error ellipse: s-maj=42.9km s-min=33.0km az=139.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**7.52**	**200**	Pn	Pn	09 00 26.2	-0.4
	68nm,0.3s,baz=49,slow=20,SNR=2.7						
ASAR	**Alice Springs**	**46.93**	**258**	P	P	09 07 07.8	-0.7
	0.2nm,0.3s,baz=94,slow=7.2,SNR=12						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**47.21**	**263**	P	P	09 07 11.1	+0.5
	0.6nm,0.4s,baz=100,slow=7.0,SNR=11						
	0.6nm,0.4s						
VNDA	**Vanda**	**56.50**	**186**	P	P	09 08 19.0	-0.1
	0.3nm,0.6s,baz=5.9,slow=5.8,SNR=2.0						
VNDA				LR	LR	09 28 16.5	
	comp=Z,16nm,20.5s,baz=301,slow=32						
	0.3nm,0.6s						
SHEM	**Shemya Is, Ala**	**75.22**	**353**	LR	LR	09 38 53.6	
	comp=Z,20nm,19.8s,baz=158,slow=32						
NVAR	**Mina Array Bea**	**80.34**	**42**	P	P	09 10 49.1	+0.1
	0.2nm,0.7s,baz=215,slow=6.9,SNR=2.2						
	0.2nm,0.7s						

*IDC **12** 09:02:25.4±1.7, 67°.42N×23°.41E, h0km, mbtmp2.6/2, ML1.8/2, Error ellipse: s-maj=37.8km s-min=10.4km az=93.0*
*HEL **12** 09:02:25.8±0.1, 67°.43N×23°.36E, h0km, ML1.6, Explosion Hypocentre not reviewed by the ISC*
*BER **12** 09:02:26.5±2.4, 67°.33N×23°.51E, h0km, ML1.4, Suspected explosion*
ISC 12 09:02:24.9±1.1, 67°.46N±0°.05×23°.39E±0°.07, h0km, n11, σ0°.97/13, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLF	**Kolari**	**0.32**	**134**	PG		09 02 31.3	
	baz=308						
KLF				SG		09 02 35.6	
PAJU	**Pajala**	**0.45**	**194**	PG		09 02 33.1	
PAJU				SG		09 02 39.0	
LANU	**Lannavaara**	**0.80**	**319**	PG		09 02 40.4	
LANU				SB		09 02 53.3	
HEF	**Hetta**	**0.96**	**6**	***e*P**	**Pb**	**09 02 44.0**	**-0.4**
HEF	**Hetta**	**0.96**	**6**	PG		09 02 44.2	
HEF				MSG		09 02 56.1	
	comp=Z,5.0nm,0.2s						
HEF				SB		09 02 59.0	
ERTU	**Ertsjaerv**	**1.02**	**208**	PG		09 02 43.6	
ERTU				SB		09 02 57.2	
RNF	**Rovaniemi**	**1.34**	**128**	PG		09 02 49.8	
RNF				SG		09 03 07.7	
TOF	**Tornio**	**1.43**	**164**	PN		09 02 52.4	
TOF				MSG		09 03 08.1	
	comp=Z,2.8nm,0.2s						
TOF				SB		09 03 09.8	
KTK1	**Kautokeino**	**1.56**	**358**	***e*P**	**Pn**	**09 02 54.1**	**+0.2**
KTK1				IAML		09 03 19.2	
	comp=Z,7.2nm,0.2s						
KTK1	**Kautokeino**	**1.56**	**358**	PG		09 02 54.3	
KTK1				SN		09 03 16.7	
KALU	**Kalix**	**1.60**	**180**	PN		09 02 54.3	
KIF	**Kilpisjarvi**	**1.83**	**329**	***e*P**	**Pb**	**09 02 59.3**	**+0.2**
KIF	**Kilpisjarvi**	**1.83**	**329**	PG		09 02 59.6	
KIF				MSG		09 03 21.8	
	comp=Z,4.9nm,0.2s						
KIF				SG		09 03 24.8	
SALU	**Saltoluokta**	**1.89**	**270**	***e*P**	**Pn**	**09 02 59.1**	**+0.8**
RANF	**Ranua**	**1.98**	**135**	PG		09 03 00.7	
RANF				SG		09 03 26.7	
RAJF	**Raja-Jooseppi**	**2.12**	**59**	PG		09 03 03.8	
RAJF				SG		09 03 32.2	
ARA0	**ARCESS Array S**	**2.23**	**20**	***e*P**	**Pn**	**09 03 04.2**	**+1.1**
ARA0				*e*S	**Sb**	**09 03 34.0**	**-0.1**
ARA0				IAML		09 03 39.7	
	comp=Z,2.5nm,0.2s						
ARA0	**ARCESS Array S**	**2.23**	**20**	PB		09 03 04.4	
	baz=206						
ARA0				SB		09 03 33.5	
ARCES	**ARCESS Array B**	**2.23**	**20**	Pn	**Pn**	**09 03 04.1**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=198,slow=15,SNR=13						
ARCES				Sn	**Sb**	**09 03 33.5**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=201,slow=27,SNR=13						
	comp=Z,1.0nm,0.3s						
JETT	**Jettan, Norway**	**2.38**	**334**	***e*P**	**Pb**	**09 03 07.6**	**-0.9**
JETT				IAML		09 03 41.4	
	comp=Z,7.5nm,0.2s						
VRF	**Varrio**	**2.40**	**80**	PB		09 03 08.1	
	baz=262						
VRF				MSG		09 03 37.3	
	comp=Z,3.8nm,0.2s						
VRF				SG		09 03 39.6	
I37NO	**I37NO**	**2.41**	**315**	I	I	09 17 10.0	
	comp=Z,0.1nm,0.8s,baz=133,slow=322,SNR=4.7						
OUL	**Oulu**	**2.59**	**156**	SG		09 03 44.7	
KU2	**Taivalkoski**	**2.61**	**130**	PG		09 03 11.4	
KU2				SG		09 03 46.3	
OLKF	**Oulanka, Finla**	**2.63**	**113**	PB		09 03 11.4	
OLKF				MSG		09 03 43.3	
	comp=Z,2.4nm,0.2s						
OLKF				SG		09 03 47.0	
KEV	**Kevo**	**2.66**	**28**	***e*P**	**Pn**	**09 03 10.0**	**+1.1**
KEV	**Kevo**	**2.66**	**28**	PB		09 03 12.0	
KEV				MSG		09 03 45.4	
	comp=Z,2.5nm,0.2s						
KEV				SB		09 03 45.7	
MSF	**Maaselka**	**2.73**	**122**	SG		09 03 49.4	
OBF4	**Vikkela, Lumij**	**2.75**	**164**	PB		09 03 12.9	
OBF4				MSG		09 03 45.9	
	comp=Z,0.8nm,0.2s						
KU6	**Riekki**	**2.96**	**116**	PB		09 03 14.5	
KU6				MSG		09 03 52.6	
	comp=Z,1.3nm,0.2s						
KU6				SG		09 03 56.6	
KU1	**Kurvinen**	**3.12**	**125**	PN		09 03 16.4	
KU1				SN		09 03 55.2	
FAUS	**Fauske**	**3.13**	**272**	***e*P**	**Pn**	**09 03 16.1**	**+0.9**
UMAU	**Umeaa**	**3.76**	**199**	PN		09 03 25.7	
FINES	**FINESS Array B**	**6.15**	**168**	Pn	**Pn**	**09 03 57.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=355,slow=13,SNR=2.1						
FINES				Sn	**Sn**	**09 05 06.3**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=354,slow=24,SNR=1.8						
FINES				Lg	Lg	09 05 29.6	
	comp=Z,0.1nm,0.3s,baz=352,slow=28,SNR=2.2						
	comp=Z,0.7nm,0.5s						

IDC 12 09:09:05.9±16.0, 5°.13S×145°.90E, h182km±155km, mb3.0/2, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=199.3km s-min=24.1km az=105.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**5.80**	**296**	P	Pn	09 10 30.9	+0.5
	1.0nm,0.3s,baz=132,slow=14,SNR=5.0						
	2.6nm,0.3s						
WRA	**Warramunga Arr**	**18.53**	**216**	P	P	09 13 08.9	0.0
	0.2nm,0.3s,baz=43,slow=11,SNR=6.5						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**21.76**	**211**	P	P	09 13 43.3	0.0
	0.7nm,0.8s,baz=36,slow=9.1,SNR=11						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**85.12**	**23**	P	P	09 21 20.9	-0.2
	0.4nm,0.6s,baz=260,slow=5.9,SNR=5.5						
	0.4nm,0.6s						

GCG 12 09:13:24.1±1.4, 15°.54N×93°.21W, h88km±16km, MD3.7, ML2.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.11**	**124**	*i* P	Pn	09 13 45.1	+0.1
THIG				*i* S	Sn	09 14 02.1	+1.4
THIG				IAML		09 14 03.5	
	comp=N,188nm,0.3s						
TGIG		**1.23**	**4**	*i* P	Pn	09 13 47.0	+0.4
TGIG				*i* S	Sn	09 14 04.0	+0.6
TGIG				IAML		09 14 04.6	
	comp=E,88nm,0.2s						
CCIG	**Comitan**	**1.27**	**54**	*i* P	Pn	09 13 48.8	+1.7
CCIG				IAML		09 14 08.6	
	comp=E,31nm,0.1s						
SMCA	**Catarina**	**1.29**	**122**	***e*P**	Pn	09 13 47.0	-0.2
SMCA				*i* S	Sn	09 14 05.2	+0.6
SMCA				IAML		09 14 09.5	
	comp=E,28nm,0.1s						
STG8	**El Palmar, Qui**	**2.10**	**121**	***e*P**	Pn	09 13 53.7	-4.2
STG8				*i* S	Sn	09 14 17.2	-6.3
STG8				IAML		09 14 21.0	
	comp=N,161nm,0.2s						
STG0	**El Palmar, Qui**	**2.12**	**121**	***e*P**	Pn	09 13 53.9	-4.2
STG0				*e*S	Sn	09 14 17.6	-6.3
STG0				IA

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.14**	**320**		**Pn**	**09 25 12.5**	**+0.9**
CO06				Sn	**Sn**	**09 25 19.7**	**+1.7**
CO06	**Fray Jorge**	**0.14**	**320**	⇓*iP*	**Pn**	**09 25 12.5**	**+0.9**
CO06				*eS*	**Sn**	**09 25 19.5**	**+1.5**
CO06				IAML		09 25 20.6	
	comp=E,29μm,0.3s						
CO02	**Combarbal**	**0.61**	**133**		**Pn**	**09 25 15.9**	**0.0**
CO02				Sn	**Sn**	**09 25 25.5**	**+0.1**
CO02	**Combarbal**	**0.61**	**133**	⇓*iP*	**Pn**	**09 25 15.9**	**0.0**
CO02				*eS*	**Sn**	**09 25 25.5**	**+0.1**
CO03	**El Pedregal**	**0.72**	**94**		**Pn**	**09 25 16.4**	**-0.7**
CO03				Sn	**Sn**	**09 25 26.5**	**-1.2**
CO03	**El Pedregal**	**0.72**	**94**	⇑*iP*	**Pn**	**09 25 16.4**	**-0.7**
CO03				*eS*	**Sn**	**09 25 26.4**	**-1.4**
CO03				IAML		09 25 27.2	
	comp=E,47μm,0.3s						
GO04	**Tololo Observa**	**0.88**	**46**		**Pn**	**09 25 18.6**	**-0.6**
GO04				Sn	**Sn**	**09 25 30.2**	**-1.2**
GO04	**Tololo Observa**	**0.88**	**46**	*eP*	**Pn**	**09 25 18.4**	**-0.8**
GO04				*eS*	**Sn**	**09 25 29.9**	**-1.4**
CO05	**La Serena**	**0.90**	**16**		**Pn**	**09 25 19.3**	**0.0**
CO05				Sn	**Sn**	**09 25 30.9**	**-0.6**
CO05	**La Serena**	**0.90**	**16**	*eP*	**Pn**	**09 25 19.2**	**0.0**
CO05				*eS*	**Sn**	**09 25 31.1**	**-0.4**
CO05				IAML		09 25 32.1	
	comp=E,12μm,0.5s						
CO01	**Juntas del Tor**	**1.48**	**57**		**Pn**	**09 25 27.4**	**+0.2**
CO01				Sn	**Sn**	**09 25 45.6**	**-0.1**
CO01	**Juntas del Tor**	**1.48**	**57**	⇑*iP*	**Pn**	**09 25 27.4**	**+0.2**
CO01				*eS*	**Sn**	**09 25 45.5**	**-0.1**
CO01				IAML		09 25 46.6	
	comp=E,4μm,0.3s						
VA06	**Catapilco**	**1.78**	**174**		**Pn**	**09 25 31.4**	**+0.4**
VA06	**Catapilco**	**1.78**	**174**	⇑*iP*	**Pn**	**09 25 31.4**	**+0.4**
VA06				IAML		09 25 59.8	
	comp=N,5μm,0.4s						
AROD	**Rodeo**	**1.88**	**71**	*eP*	**Pn**	**09 25 34.3**	**+1.6**
AROD				*eS*	**Sn**	**09 25 55.6**	**+0.2**
LCO	**Las Campanas**	**1.91**	**22**		**Pn**	**09 25 33.0**	**-0.1**
LCO	**Las Campanas**	**1.91**	**22**	⇑*iP*	**Pn**	**09 25 32.8**	**-0.3**
ACCO	**Cerro Coronel**	**2.13**	**85**	*eP*	**Pn**	**09 25 37.9**	**+1.8**
ACCO				*eS*	**Sn**	**09 25 56.8**	**-4.9**
VA03	**San Esteban**	**2.14**	**157**		**Pn**	**09 25 37.1**	**+1.0**
VA03	**San Esteban**	**2.14**	**157**	*eP*	**Pn**	**09 25 37.1**	**+1.0**
VA03				IAML		09 26 07.8	
	comp=E,3μm,0.2s						
RTLS	**Leoncito**	**2.16**	**118**	*eP*	**Pn**	**09 25 38.8**	**+2.2**
RTLS				IAML		09 25 55.9	
	comp=Z,2μm,0.4s						
RTLS				*eS*	**Sn**	**09 26 04.5**	**+2.2**
ACDV	**Cuesta del Vie**	**2.17**	**74**	*eP*	**Pn**	**09 25 38.1**	**+1.6**
ROCH	**El Roble**	**2.22**	**169**	⇑*iP*	**Pn**	**09 25 37.8**	**+0.4**
ROCH				IAML		09 26 23.1	
	comp=N,3μm,0.3s						
VA01	**Torpederas**	**2.23**	**183**		**Pn**	**09 25 37.2**	**-0.1**
AUSP	**Uspallata**	**2.32**	**129**	*eP*	**Pn**	**09 25 41.2**	**+2.5**
PEL	**Peldehue**	**2.46**	**163**		**Pn**	**09 25 41.3**	**+1.0**
PEL	**Peldehue**	**2.46**	**163**	*eP*	**Pn**	**09 25 41.0**	**+0.6**
PEL				IAML		09 26 25.1	
	comp=N,1μm,0.5s						
MT02	**Curacav**	**2.49**	**172**		**Pn**	**09 25 40.7**	**0.0**
MT02	**Curacav**	**2.49**	**172**	*eP*	**Pn**	**09 25 40.5**	**-0.3**
MT02				IAML		09 26 24.9	
	comp=E,789nm,0.4s						
ZON	**Zonda**	**2.56**	**108**		**Pn**	**09 25 43.6**	**+1.9**
AC04	**Llanos de Chal**	**2.60**	**9**		**Pn**	**09 25 42.0**	**-0.3**
AC04	**Llanos de Chal**	**2.60**	**9**	*eP*	**Pn**	**09 25 42.0**	**-0.3**
AC04				IAML		09 26 30.1	
	comp=E,575nm,0.5s						
MT10	**Hacienda Santa**	**2.62**	**162**	*eP*	**Pn**	**09 25 43.5**	**+0.9**
MT10				IAML		09 26 31.1	
	comp=N,3μm,0.3s						
SJA	**San Juan**	**2.65**	**107**	*eP*	**Pn**	**09 25 44.9**	**+1.9**
SJA				IAML		09 26 19.3	
	comp=Z,800nm,0.3s						
RTLL	**Cerro Villicun**	**2.67**	**102**	*eP*	**Pn**	**09 25 44.0**	**+0.7**
MT05	**Renca**	**2.68**	**166**		**Pn**	**09 25 44.3**	**+0.8**
MT05	**Renca**	**2.68**	**166**	*eP*	**Pn**	**09 25 44.1**	**+0.6**
MT14	**Cerro Cal¡n**	**2.73**	**162**	*eP*	**Pn**	**09 25 45.1**	**+0.9**
MT14				IAML		09 26 32.4	
	comp=E,2μm,0.7s						
FCH	**Farellones**	**2.74**	**158**	*eP*	**Pn**	**09 25 45.8**	**+1.3**
FCH				IAML		09 26 21.9	
	comp=E,837nm,0.3s						
MT16	**CCHEN**	**2.77**	**162**		**Pn**	**09 25 45.9**	**+1.2**
MT16	**CCHEN**	**2.77**	**162**	*eP*	**Pn**	**09 25 45.8**	**+1.2**
MT16				IAML		09 26 31.4	
	comp=E,799nm,0.7s						
MT03	**Universidad Ad**	**2.83**	**163**		**Pn**	**09 25 46.6**	**+1.1**
MT03	**Universidad Ad**	**2.83**	**163**	*eP*	**Pn**	**09 25 46.6**	**+1.1**
MT03				IAML		09 26 35.3	
	comp=E,2μm,0.2s						
VA05	**Santo Domingo**	**2.86**	**181**		**Pn**	**09 25 45.7**	**-0.2**
VA05	**Santo Domingo**	**2.86**	**181**	⇑*iP*	**Pn**	**09 25 45.4**	**-0.5**
VA05				IAML		09 26 21.4	
	comp=E,1μm,0.3s						
MT04	**Ro Olivares**	**2.87**	**156**	*eP*	**Pn**	**09 25 48.3**	**+2.2**
MT04				IAML		09 26 39.1	
	comp=E,948nm,0.8s						
ASAL	**Salagasta**	**2.92**	**129**	*eP*	**Pn**	**09 25 49.4**	**+2.7**
AGUA	**GUANDACOL**	**2.93**	**65**	*eP*	**Pn**	**09 25 49.7**	**+2.8**
AGUA				IAML		09 26 10.5	
	comp=Z,1μm,0.4s						
MT08	**Bocatoma Ro**	**2.94**	**155**		**Pn**	**09 25 50.0**	**+2.8**
MT08	**Bocatoma Ro**	**2.94**	**155**	*eP*	**Pn**	**09 25 50.0**	**+2.8**
MT08				IAML		09 26 45.6	
	comp=N,667nm,0.4s						
MT09	**Talagante**	**3.02**	**171**		**Pn**	**09 25 48.7**	**+0.6**
MT09	**Talagante**	**3.02**	**171**	⇑*iP*	**Pn**	**09 25 48.6**	**+0.6**
MT01	**Popeta**	**3.08**	**176**		**Pn**	**09 25 49.0**	**+0.2**
MT01	**Popeta**	**3.08**	**176**	⇑*iP*	**Pn**	**09 25 48.8**	**0.0**
MT01				IAML		09 26 27.2	
	comp=N,533nm,0.2s						
LMEL	**Las Melosas**	**3.25**	**160**		**Pn**	**09 25 53.0**	**+1.6**
LMEL	**Las Melosas**	**3.25**	**160**	*eP*	**Pn**	**09 25 52.9**	**+1.6**
LMEL				IAML		09 26 33.2	
	comp=N,869nm,0.4s						
BO04	**La Punta**	**3.29**	**167**		**Pn**	**09 25 52.5**	**+0.7**
BO04	**La Punta**	**3.29**	**167**	*eP*	**Pn**	**09 25 52.2**	**+0.5**
BO04				IAML		09 26 31.1	
	comp=E,608nm,0.4s						
GO03	**Copiapo**	**3.38**	**20**		**Pn**	**09 25 52.9**	**-0.1**
GO03	**Copiapo**	**3.38**	**20**	*eP*	**Pn**	**09 25 52.5**	**-0.5**
GO03				IAML		09 26 46.9	
	comp=N,730nm,0.4s						
AVFE	**Valle Fertil**	**3.51**	**89**	*eP*	**Pn**	**09 25 55.1**	**+0.3**
AVFE				IAML		09 26 38.7	
	comp=Z,323nm,0.6s						
VCA	**Vinchina**	**3.54**	**56**	*eP*	**Pn**	**09 25 57.8**	**+2.6**
VCA				IAML		09 26 42.1	
	comp=Z,614nm,0.6s						
AC06	**Mina Casimiro**	**3.57**	**17**		**Pn**	**09 25 55.1**	**-0.4**
BO01	**Tunca**	**3.62**	**174**		**Pn**	**09 25 56.3**	**+0.2**
BO03	**Pichilemu**	**3.72**	**186**	⇑*iP*	**Pn**	**09 25 56.5**	**-1.0**
ACAN	**Cantantal**	**3.99**	**113**	*eP*	**Pn**	**09 26 02.4**	**+1.0**
BO02	**Sierra Bellavi**	**4.04**	**171**		**Pn**	**09 26 02.4**	**+0.3**
BO02	**Sierra Bellavi**	**4.04**	**171**	*eP*	**Pn**	**09 26 02.3**	**+0.2**
ACLC	**CERRO LA CRUZ**	**4.19**	**72**	*eP*	**Pn**	**09 26 05.0**	**+0.8**
ACHE	**Chepes**	**4.19**	**96**	*eP*	**Pn**	**09 26 04.5**	**+0.3**
GO05	**Hualane**	**4.23**	**184**	⇑*iP*	**Pn**	**09 26 03.5**	**-1.1**
APLL	**PUNTA DE LOS L**	**4.33**	**86**	*eP*	**Pn**	**09 26 06.3**	**+0.3**
AC02	**Maricunga**	**4.46**	**29**		**Pn**	**09 26 07.3**	**-0.9**
AC01	**Pan de Azucar**	**4.69**	**10**	Pn	**Pn**	**09 26 09.0**	**-2.0**
ML02	**Panimavida**	**4.96**	**179**		**Pn**	**09 26 14.5**	**-0.2**
MRA	**San Martin**	**5.22**	**110**	*eP*	**Pn**	**09 26 17.9**	**-0.3**
CYA	**Choya**	**5.50**	**66**	*eP*	**Pn**	**09 26 21.7**	**-0.4**
GO02	**Mina Guanaco**	**5.86**	**17**	Pn	**Pn**	**09 26 25.4**	**-1.8**
BI02	**San Fabin de**	**5.87**	**178**		**Pn**	**09 26 27.1**	**0.0**
TCA	**Tanti**	**5.97**	**97**	*eP*	**Pn**	**09 26 27.6**	**-0.9**
BI05	**Punta Hualpn**	**6.11**	**193**	Pn	**Pn**	**09 26 28.6**	**-1.6**
PB14	**IPOC Station P**	**6.22**	**9**	Pn	**Pn**	**09 26 29.4**	**-2.8**
FSA	**Cafayete**	**6.75**	**48**	*eP*	**Pn**	**09 26 38.6**	**-0.7**
H03N1	**Juan Fernandez**	**6.80**	**245**	P	**Pn**	**09 26 40.3**	**+0.8**
	baz=34,slow=72,SNR=103						
H03N1				S	**Sn**	**09 27 52.9**	**-2.6**
	baz=267,slow=76,SNR=5.9						
H03N1				T	T	09 33 35.0	
	baz=74,slow=72,SNR=721						
VA04	**Juan Fernndez**	**6.81**	**243**		**Pn**	**09 26 39.9**	**-0.1**
H03N3	**Juan Fernandez**	**6.82**	**245**	P	**Pn**	**09 26 40.4**	**+0.6**
	baz=34,slow=72,SNR=101						
H03N3				S	**Sn**	**09 27 50.2**	**-5.6**
	baz=267,slow=76,SNR=5.6						
H03N3				T	T	09 33 35.3	
	baz=74,slow=72,SNR=602						
H03N2	**Juan Fernandez**	**6.82**	**245**	P	**Pn**	**09 26 40.7**	**+0.9**
	baz=34,slow=72,SNR=108						
H03N2				S	**Sn**	**09 27 52.8**	**-3.0**
	baz=267,slow=76,SNR=5.3						
H03N2				T	T	09 33 36.4	
	baz=74,slow=72,SNR=586						
H03S3	**Juan Fernandez**	**6.95**	**242**	P	**Pn**	**09 26 41.1**	**-0.4**
	baz=32,slow=19,SNR=25						
H03S3				S	Sn	09 27 53.6	-5.4
	baz=53,slow=70,SNR=5.5						
H03S3				T	T	09 33 48.2	
	baz=65,slow=78,SNR=3.7						
H03S1	**Juan Fernandez**	**6.95**	**242**	P	**Pn**	**09 26 40.7**	**-0.9**
	baz=32,slow=19,SNR=21						
H03S1				S	Sn	09 27 53.2	-5.9
	baz=53,slow=70,SNR=4.4						
H03S1				T	T	09 33 42.9	
	baz=65,slow=78,SNR=4.5						
H03S2	**Juan Fernandez**	**6.96**	**242**	P	**Pn**	**09 26 41.2**	**-0.6**
	baz=32,slow=19,SNR=30						
H03S2				S	Sn	09 27 53.5	-5.9
	baz=53,slow=70,SNR=3.9						
H03S2				T	T	09 33 41.6	
	baz=65,slow=78,SNR=5.0						
PB05	**IPOC Station P**	**7.99**	**9**	Pn	**Pn**	**09 26 53.4**	**-2.8**
SLA	**San Lorenzo**	**8.06**	**43**	*eP*	**Pn**	**09 26 57.2**	**0.0**
PB06	**IPOC Station P**	**8.23**	**13**	Pn	**Pn**	**09 26 55.7**	**-3.9**
AF01	**San Pedro de A**	**8.35**	**22**	Pn	**Pn**	**09 26 58.6**	**-2.8**
PB03	**IPOC Station P**	**8.85**	**11**	Pn	**Pn**	**09 27 04.8**	**-3.2**
LR03	**Panguipulli**	**8.85**	**184**		**Pn**	**09 27 06.9**	**-0.9**
PB09	**IPOC Station P**	**9.18**	**13**	Pn	**Pn**	**09 27 10.7**	**-1.9**
LR04	**Corral**	**9.21**	**189**	Pn	**Pn**	**09 27 09.6**	**-3.1**
LR05	**Currie**	**9.43**	**182**	Pn	**Pn**	**09 27 13.3**	**-2.5**
PB01	**IPOC Station P**	**9.87**	**11**	Pn	**Pn**	**09 27 20.0**	**-1.9**
PLCA	**Paso Flores**	**9.96**	**176**	Pn	**Pn**	**09 27 22.7**	**-0.3**
PLCA	**Paso Flores**	**9.96**	**176**	P	**Pn**	**09 27 23.2**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=332,slow=12,SNR=5.7						
TRQA	**Tornquist**	**10.71**	**135**		**Pn**	**09 27 32.0**	**-1.3**
PB11	**IPOC Station P**	**11.11**	**9**	Pn	**Pn**	**09 27 37.4**	**-1.5**
ITQB	**Itaqui**	**12.94**	**89**	Pn	**Pn**	**09 28 00.8**	**-2.9**
CPUP	**Villa Florida**	**13.24**	**74**	P	**Pn**	**09 28 05.4**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=82,slow=9.3,SNR=2.9						
CPUP				LR	LR	09 33 55.7	
	comp=Z,8.9nm,19.9s,baz=142,slow=41						
PB18	**Visviri**	**13.27**	**9**	Pn	**Pn**	**09 28 05.8**	**-3.0**
LPAZ	**La Paz**	**14.76**	**13**	P	**Pn**	**09 28 28.8**	**0.0**
	comp=Z,1.1nm,0.8s,baz=192,slow=9.4,SNR=5.7						
SIV	**San Ignacio**	**17.56**	**35**	P	**Pn**	**09 29 02.0**	**-1.5**
	comp=Z,4.0nm,0.7s,baz=205,slow=8.4,SNR=22						
GO09	**Cerro Castillo**	**20.48**	**181**	P	**P**	**09 29 36.0**	**+0.5**
BDFB	**Brasilia**	**26.27**	**60**	P	**P**	**09 30 31.2**	**-1.6**
	comp=Z,2.5nm,0.5s,baz=256,slow=9.9,SNR=5.8						
	comp=Z,2.5nm,0.5s						
VA02	**Isla de Pascua**	**33.26**	**267**	P	**P**	**09 31 36.0**	**+1.5**
PMSA	**Palmer Station**	**34.33**	**174**	LR	LR	09 43 59.0	
	comp=Z,54nm,19.5s,baz=348,slow=33						
BOAV	**Boa Vista**	**34.62**	**20**	P	**P**	**09 31 46.6**	**+0.1**
BOAV				IAmb	IAmb	09 32 01.7	
	comp=Z,4.4nm,1.1s						
PAYG	**Puerto Ayora**	**34.84**	**326**	P	**P**	**09 31 48.3**	**0.0**
RUSC	**La Rusia**	**36.50**	**357**		**P**	**09 32 05.1**	**+2.0**
RUSC				IAmb	IAmb	09 32 06.2	
	comp=Z,7.4nm,0.8s						
BAUV	**El Baul**	**39.64**	**5**	P	**P**	**09 32 28.9**	**-0.1**
BAUV				IAmb	IAmb	09 32 37.7	
	comp=Z,9.7nm,1.0s						
CRPR	**Cabo Rojo, PR**	**48.70**	**6**	P	**P**	**09 33 40.7**	**-0.6**
CELP	**Cerrillos**	**48.81**	**6**	P	**P**	**09 33 41.0**	**-1.2**
BELA	**Belgrano 2**	**49.96**	**170**	P	**P**	**09 33 50.8**	**+0.4**
BELA				IAmb	IAmb	09 34 07.4	
	comp=Z,5.4nm,1.4s						
TEIG	**Tepich**	**53.21**	**340**	P	**P**	**09 34 15.8**	**+0.6**
SNAA	**Sanae**	**54.40**	**159**	⇑P	**P**	**09 34 22.9**	**-0.5**
	comp=Z,87nm,0.6s						
SNAA	**Sanae**	**54.40**	**159**	P	**P**	**09 34 23.2**	**-0.2**
SNAA				IAmb	IAmb	09 34 39.8	
	comp=Z,5.0nm,0.9s						
SNAA	**Sanae**	**54.40**	**159**	P	**P**	**09 34 23.4**	**-0.1**
	comp=Z,2.9nm,0.6s,baz=266,slow=8.9,SNR=22						
SNAA				pP	**pP**	**09 34 39.6**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=254,slow=8.1,SNR=4.8						
SNAA				PcP	**PcP**	**09 35 25.9**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=260,slow=6.8,SNR=5.4						
	comp=Z,2.9nm,0.6s						
TROLL	**Troll, Antarti**	**56.11**	**159**	⇑P	**P**	**09 34 34.5**	**-1.4**
	comp=Z,116nm,0.6s						
QSPA	**South Pole Qui**	**59.44**	**180**	P	**P**	**09 34 59.7**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=38,slow=0.3,SNR=25						
QSPA				pP	**pP**	**09 35 15.9**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=168,slow=1.8,SNR=4.4						
	comp=Z,3.2nm,0.8s						
833A	**Chaparral WMA,**	**64.51**	**333**	P	**P**	**09 35 35.0**	**+1.5**
833A				IAmb	IAmb	09 35 35.7	
	comp=Z,10nm,1.2s						
PAULI	**Pauline**	**65.97**	**351**	P	**P**	**09 35 45.0**	**+2.3**
PAULI				IAmb	IAmb	09 36 01.4	
	comp=Z,7.7nm,1.2s						
V58A	**Windy Hill, Pi**	**66.61**	**353**	P	**P**	**09 35 46.9**	**+0.1**
V58A				IAmb	IAmb	09 35 47.0	
	comp=Z,12nm,1.3s						
W50A	**Signal Mountai**	**66.91**	**348**	P	**P**	**09 35 48.8**	**0.0**
W50A				IAmb	IAmb	09 35 49.3	
	comp=Z,4.7nm,0.7s						
V55A	**Taylorsville**	**66.91**	**351**	P	**P**	**09 35 48.6**	**-0.1**
V55A				IAmb	IAmb	09 36 00.2	
	comp=Z,8.6nm,1.2s						
V53A	**Saluda**	**66.95**	**350**	P	**P**	**09 35 48.7**	**-0.4**
V53A				IAmb	IAmb	09 35 49.7	
	comp=Z,8.1nm,1.0s						
CPCT	**Cooper Cave**	**67.01**	**348**	P	**P**	**09 35 49.7**	**+0.3**
CPCT				IAmb	IAmb	09 35 50.2	
	comp=Z,4.0nm,0.8s						
SAND	**Sanderson**	**67.05**	**331**	P	**P**	**09 35 50.9**	**+1.0**
SAND				IAmb	IAmb	09 35 52.0	
	comp=Z,6.8nm,1.5s						
TKL	**Tuckaleechee C**	**67.09**	**349**	P	**P**	**09 35 49.6**	**-0.3**
TKL				IAmb	IAmb	09 35 49.9	
	comp=Z,5.0nm,0.8s						
OXF	**Oxford**	**67.10**	**344**	P	**P**	**09 35 50.4**	**+0.4**
TXAR	**Lajitas Array**	**67.17**	**330**	P	**P**	**09 35 51.7**	**+1.0**
TXAR	**Lajitas Array**	**67.17**	**330**	P	**P**	**09 35 51.5**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=153,slow=8.2,SNR=12						
TXAR				sP	**sP**	**09 36 15.0**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=148,slow=7.4,SNR=2.4						
	comp=Z,0.5nm,0.6s						
TX31	**Lajitas Ar. Si**	**67.17**	**330**	P	**P**	**09 35 51.8**	**+1.2**
VNDA	**Vanda**	**67.33**	**191**	P	**P**	**09 35 51.4**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=110,slow=18,SNR=3.5						
	comp=Z,0.4nm,0.6s						
CLTN	**Cedars of Leba**	**67.96**	**347**	P	**P**	**09 35 56.1**	**+0.8**
CLTN				IAmb	IAmb	09 35 56.2	
	comp=Z,2.3nm,0.6s						
PLPT	**Palo Pinto**	**68.15**	**336**	P	**P**	**09 35 58.0**	**+1.3**
PLPT				IAmb	IAmb	09 35 58.1	
	comp=Z,6.4nm,1.3s						
MIAR	**Mount Ida**	**68.23**	**341**	P	**P**	**09 35 57.9**	**+0.8**
MIAR				IAmb	IAmb	09 35 58.5	
	comp=Z,8.2nm,1.4s						
U49A	**Red Boiling Sp**	**68.27**	**348**	P	**P**	**09 35 57.3**	**0.0**
U49A				IAmb	IAmb	09 36 01.4	
	comp=Z,6.1nm,1.2s						
WVT	**Waverly**	**68.30**	**346**	P	**P**	**09 35 57.2**	**-0.3**
WVT				IAmb	IAmb	09 35 58.3	
	comp=Z,6.7nm,1.0s						
WHAR	**Wooly Hollow**	**68.57**	**342**	P	**P**	**09 35 59.7**	**+0.5**
WHAR				IAmb	IAmb	09 35 59.9	
	comp=Z,8.7nm,1.3s						
VHRN	**Van Horn**	**68.99**	**329**	P	**P**	**09 36 02.8**	**+0.6**
S51A	**Beattyville**	**69.00**	**350**	P	**P**	**09 36 01.9**	**+0.1**
S51A				IAmb	IAmb	09 36 18.2	
	comp=Z,7.0nm,1.0s						
LCAR	**Lake Charles**	**69.01**	**343**	P	**P**	**09 36 02.3**	**+0.4**
LCAR				IAmb	IAmb	09 36 02.7	
	comp=Z,4.7nm,0.7s						
FCAR	**Ozark Folk Cen**	**69.09**	**342**	P	**P**	**09 36 03.2**	**+0.8**
ODSA	**Odessa**	**69.13**	**332**	P	**P**	**09 36 03.7**	**+0.8**
R55A	**Marlinton**	**69.18**	**353**	P	**P**	**09 36 04.1**	**+1.1**
R55A				IAmb	IAmb	09 36 28.0	
	comp=Z,9.4nm,1.3s						
MNTX	**Cornudas Mount**	**69.95**	**330**	P	**P**	**09 36 08.3**	**+0.5**
Q54A	**Coxs Mills**	**69.95**	**352**	P	**P**	**09 36 07.6**	**-0.1**
S44A	**Carbondale**	**70.11**	**345**	P	**P**	**09 36 08.7**	**+0.1**
S44A				IAmb	IAmb	09 36 09.4	
	comp=Z,4.0nm,0.7s						
N49A	**Columbus Grove**	**72.30**	**350**	P	**P**	**09 36 22.0**	**+0.1**
N49A				IAmb	IAmb	09 36 23.3	
	comp=Z,11nm,1.1s						
DBIC	**Dimbokro**	**73.75**	**72**	P	**P**	**09 36 30.6**	**-0.4**
DBIC				IAmb	IAmb	09 36 31.4	
	comp=Z,13nm,1.3s						
DBIC	**Dimbokro**	**73.75**	**72**	P	**P**	**09 36 30.2**	**-0.8**
	comp=Z,3.7nm,0.5s,baz=254,slow=7.0,SNR=8.9						
	comp=Z,3.7nm,0.5s						
N35A	**Tabor**	**74.70**	**341**	P	**P**	**09 36 36.6**	**+0.7**
SDCO	**Great Sand Dun**	**75.21**	**333**	P	**P**	**09 36 41.1**	**+1.7**
GLA	**Glamis**	**75.55**	**324**	P	**P**	**09 36 43.6**	**+2.5**
MAW	**Mawson**	**76.13**	**164**	P	**P**	**09 36 43.8**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=204,slow=6.6,SNR=14						
	comp=Z,2.1nm,0.5s						
PV13	**Radium Mtn., P**	**76.92**	**331**	P	**P**	**09 36 50.6**	**+1.6**
PV18	**Skein Mesa, Pa**	**77.03**	**331**	P	**P**	**09 36 50.1**	**+0.5**
PV18				IAmb	IAmb	09 36 51.5	
	comp=Z,2.4nm,0.7s						
PV17	**East Wray Mesa**	**77.08**	**331**	P	**P**	**09 36 51.7**	**+1.8**
I37A	**Lemond, Waseca**	**77.08**	**344**	P	**P**	**09 36 49.9**	**+0.5**
ECSD	**EROS Data Cent**	**77.64**	**342**	P	**P**	**09 36 53.2**	**+0.6**
ECSD				IAmb	IAmb	09 36 53.5	
	comp=Z,6.4nm,0.8s						
CCUT	**Cedar City**	**78.43**	**327**	P	**P**	**09 36 58.2**	**+0.8**
P18A	**Preston Nutter**	**78.75**	**330**	P	**P**	**09 37 00.5**	**+1.3**
TBO	**Thunder Bay**	**80.68**	**348**	P	**P**	**09 37 09.6**	**+0.5**
TBO				IAmb	IAmb	09 37 09.9	
	comp=Z,6.4nm,1.0s						
HWUT	**Hardware Ranch**	**80.95**	**331**	P	**P**	**09 37 11.7**	**+0.7**
PDAR	**Pinedale Array**	**81.11**	**333**	P	**P**	**09 37 11.9**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=152,slow=6.7,SNR=4.5						
	comp=Z,0.4nm,0.7s						
BOSA	**Boshof**	**81.18**	**118**	P	**P**	**09 37 12.5**	**-0.1**
BOSA				IAmb	IAmb	09 37 30.4	
	comp=Z,13nm,1.4s						
BOSA	**Boshof**	**81.18**	**118**	P	**P**	**09 37 11.5**	**-1.1**
	comp=Z,3.4nm,0.8s,baz=166,slow=4.3,SNR=4.4						
	comp=Z,3.4nm,0.8s						
NVAR	**Mina Arroyo Bea**	**81.51**	**325**	P	**P**	**09 37 15.4**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=146,slow=6.4,SNR=4.1						
	comp=Z,0.7nm,0.8s						
HVU	**Hansel Valley**	**81.61**	**330**	P	**P**	**09 37 15.2**	**+0.8**
CASY	**Casey**	**83.23**	**181**	P	**P**	**09 37 23.4**	**+1.0**
CASY				IAmb	IAmb	09 37 23.4	
	comp=Z,3.0nm,0.8s						
LBTB	**Lobatse**	**83.26**	**115**	P	**P**	**09 37 23.2**	**-0.3**
YHL	**Hebgen Lake**	**83.49**	**333**	P	**P**	**09 37 26.5**	**+2.2**
DGMT	**Dagmar**	**84.15**	**339**	P	**P**	**09 37 28.3**	**+1.1**
PLID	**Pearl Lake**	**85.67**	**330**	P	**P**	**09 37 36.1**	**+1.0**
CMWZ	**Cape Campbell**	**85.80**	**223**	P	**P**	**09 37 36.5**	**+0.6**
OVMT	**Ovando**	**86.04**	**333**	P	**P**	**09 37 37.7**	**+0.9**
WRA	**Warramunga Arr**	**123.77**	**210**	PKP	**PKPdf**	**09 43 53.1**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=152,slow=1.9,SNR=7.7						
WRA				pPKP	**pPKPdf**	**09 44 11.4**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=149,slow=1.6,SNR=2.3						
H11S2	**WAKE ISLAND Hyl**	**126.19**	**271**	T	T	12 02 55.2	
	baz=116,slow=75,SNR=41						
H11S1	**WAKE ISLAND Hyl**	**126.21**	**271**	T	T	12 02 57.6	
	baz=116,slow=75,SNR=30						
H11S3	**WAKE ISLAND Hyl**

KNZ	Kokohu	6.97	209	P		Pn	09 31 03.0	+0.3
MHGZ	Mahia Peninsul	6.99	207	P		Pn	09 31 01.7	-1.3
MHGZ				S		Sn	09 32 21.2	-0.2
WCZ	Waipu Caves	7.00	243	P		Pn	09 31 04.4	+1.3
MTHZ	Maungataniwha	7.20	214	P		Pn	09 31 08.2	+2.3
MTHZ				S		Sn	09 32 24.5	-2.1
OUZ	Omahuta	7.34	250	P		Pn	09 31 09.6	+1.8
CTZ	Chatham Island	10.77	175	P		Pn	09 32 02.6	+7.8
CTZ				S		Sn	09 33 53.0	-1.1
ASAR	Alice Springs	43.06	270	P		P	09 37 18.0	-1.9
	0.9nm,0.8s,baz=110,slow=7.4,SNR=6.7							
	0.9nm,0.8s							
WRA	Warramunga Arr	44.29	275	P		P	09 37 27.9	-1.9
	0.7nm,0.4s,baz=116,slow=8.7,SNR=26							
	0.7nm,0.4s							
QSPA	South Pole Qui	57.12	180	P		P	09 39 14.3	+8.3
	1.2nm,1.0s,baz=220,slow=2.0,SNR=6.4							
	1.2nm,1.0s							
H03S2	Juan Fernandez	79.01	123	T		T	11 09 55.9	
	baz=236,slow=74,SNR=7.7							
H03S1	Juan Fernandez	79.02	123	T		T	11 09 59.6	
	baz=236,slow=74,SNR=6.4							
H03S3	Juan Fernandez	79.03	123	T		T	11 10 01.5	
	baz=236,slow=74,SNR=6.6							
H03N3	Juan Fernandez	79.22	123	T		T	11 10 06.8	
	baz=241,slow=72,SNR=9.4							
H03N2	Juan Fernandez	79.22	123	T		T	11 10 04.6	
	baz=241,slow=72,SNR=8.6							
H03N1	Juan Fernandez	79.23	123	T		T	11 10 02.7	
	baz=241,slow=72,SNR=12							
FINES	FINESS Array B	147.58	339	PKPbc		PKiKP	09 49 04.6	-0.4
	0.7nm,0.4s,baz=47,slow=2.8,SNR=10							
HFS	Hagfors	151.78	348	PKPbc		PKiKP	09 49 15.6	+1.8
	0.3nm,0.3s,baz=42,slow=2.3,SNR=4.7							

ASRS ***12*** *09:35:11.0±1.3, 53.56N×87.87E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 12 09:35:13.2±3.0, 53.56N×87.87E, h0km, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=26.3km s-min=16.0km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.85	283	I	I	09 46 22.5	
	baz=99,slow=311,SNR=13						
ZALV	Zalesovo Beam	1.85	283	Pn	Pn	09 35 45.9	-0.3
	1.0nm,0.3s,baz=102,slow=14,SNR=7.4						
ZALV				Lg	Lg	09 36 11.7	
	1.7nm,0.3s,baz=102,slow=20,SNR=8.3						
KURBB	Kurchatov Arra	6.47	247	Pn	Pn	09 36 50.5	+1.0
	0.1nm,0.3s,baz=61,slow=14,SNR=2.0						
KURBB				Lg	Lg	09 38 38.6	
	baz=62,slow=33						
	0.9nm,0.2s						
MKAR	Makanchi Array	7.66	210	Pn	Pn	09 37 07.0	+1.0
	0.2nm,0.3s,baz=25,slow=13,SNR=7.2						
MKAR				Sn	Sn	09 38 33.3	-0.2
	0.1nm,0.3s,baz=26,slow=24,SNR=3.8						
MKAR				Lg	Lg	09 39 15.6	
	0.1nm,0.3s,baz=29,slow=29,SNR=4.1						
	0.2nm,0.3s						

GCG ***12*** *09:46:41.4±1.1, 14.60N×92.36W, h70km±66km, MD3.3, ML2.7*

MEX ***12*** *09:46:42.0±0.5, 14.69N×92.34W, h96km±8km, MD3.4*

ISC 12 09:46:37.4±2.6, 14.8N±0.2×92.1W±0.2, h117km±15km, n9, s1.9/65/18, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		0.23	302	eP		Pn	09 46 54.8	+1.0
THIG				eS		Sn	09 47 04.2	-1.9
PATR	El Naranjo	0.37	333	eP		Pn	09 46 55.6	+0.9
PATR				eS		Sn	09 47 06.4	-1.3
PAVE	Pavencul	0.42	345	eP		Pn	09 46 56.7	+1.7
PAVE				eS		Sn	09 47 08.2	+0.1
RTAL	Retalhuleu	0.44	126	eP		Pn	09 46 57.2	+2.5
RTAL				eS		Sn	09 47 08.9	+1.2
STG2	El Palmar, Qui	0.75	117	i P		Pn	09 46 56.9	-0.2
STG2				i S		Sn	09 47 10.1	-1.8
STG8	El Palmar, Qui	0.76	116	i P		Pn	09 46 57.3	0.0
STG8				i S		Sn	09 47 11.0	-1.2
STG8					IAML		09 47 13.3	
	comp=E,65nm,0.1s							
STG0	El Palmar, Qui	0.78	117	eP		Pn	09 46 57.6	+0.2
STG0				eS		Sn	09 47 10.4	-2.0
STG0					IAML		09 47 12.3	
	comp=E,155nm,0.1s							
PCIG		1.45	310	eP		Pn	09 47 05.3	+1.2
PCIG				eS		Sn	09 47 21.5	-2.8
FG16	Alotenango, Sa	1.58	108	i P		Pn	09 47 07.2	+1.3
FG16				i S		Sn	09 47 26.6	-0.9
FG16					IAML		09 47 28.2	
	comp=N,257nm,0.2s							

OSPL ***12*** *09:49:07.7±1.5, 18.91N×72.96W, h6km±5km, ML2.7*

SSNC ***12*** *09:49:07.9±2.7, 18.81N×72.98W, h7km±14km, MD3.3, ML2.8*

SDD ***12*** *09:49:09.1±2.2, 19.04N×72.82W, h0km±22km, MD3.2, ML2.9, MW3.2*

ISC 12 09:49:04.6±1.2, 19.00N±0.04×72.95W±0.02, h13km±10km, n26, s1.9/63/44, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAPH	Port-au-Prince	0.77	128	i P		Pb	09 49 20.6	+0.8
PAPH				eS		Sg	09 49 30.4	+0.7
PAPH					IAML		09 49 31.1	
	comp=Z,400nm,0.1s							
JIDR	Jimani	1.15	116	i P		Pb	09 49 26.8	+0.5
JIDR				eSg		Sn	09 49 43.3	+1.3
JIDR					IAML		09 49 45.3	
	comp=N,174nm,0.8s							
REDR	Restauracion	1.48	83	i P		Pn	09 49 28.6	-2.2
REDR				eSg		Sn	09 49 43.9	-6.1
REDR					IAML		09 49 46.3	
	comp=N,547nm,0.1s							
MCDR	Montecristi	1.51	54	i P		Pg	09 49 34.2	+0.7
MCDR				eSg		Sb	09 49 51.5	+0.1
MCDR					IAML		09 49 57.1	
	comp=N,201nm,0.2s							
SDDR	Presa de Saban	1.57	90	eP		Pb	09 49 33.8	+0.3
SDDR				eS		Sb	09 49 54.0	+0.7
SDDR					IAML		09 49 55.2	
	comp=N,94nm,0.2s							
SDDR					IAML		09 49 56.7	
	comp=N,121nm,0.5s							
SDDR	Presa de Saban	1.57	90	i P		Pg	09 49 34.1	-0.6
SDDR				eSg		Sb	09 49 53.4	+0.2
SDDR					IAML		09 49 57.1	
	comp=N,126nm,0.6s							
SDDR	Presa de Saban	1.57	90	i P		Pg	09 49 34.1	-0.6
SDDR				eS		Sb	09 49 53.8	+0.6
SDDR					IAML		09 49 55.3	
	comp=Z,95nm,0.5s							
LOBH	Bahia de las A	1.68	132	i P		Pn	09 49 34.8	+1.2
LOBH					IAML		09 50 01.6	
	comp=Z,70nm,0.9s							
MASC	Masc	1.69	314	eP		Pb	09 49 35.7	+0.3
MASC				eS		Sb	09 49 56.6	+0.1
MASC				eSg		Sg	09 50 00.1	+1.3
MASC					IAML		09 50 02.7	
	comp=N,20nm,0.2s							
MASC					IAML		09 50 04.2	
	comp=E,13nm,0.1s							
MASC	Masc	1.69	314	i P		Pg	09 49 36.2	-0.7
MASC					IAML		09 49 56.0	
	comp=Z,45nm,2.1s							
PODR	Polo	1.78	117	i P		Pb	09 49 37.6	+0.4
MADR	Mao Valverde	1.83	72	i P		Pb	09 49 37.6	-0.3
MADR				eSg		Sg	09 50 02.2	-1.2
MADR					IAML		09 50 13.9	
	comp=N,215nm,0.8s							
LOPP1	Punta Rusia, P	1.85	62	i P		Pg	09 49 40.1	0.0
LOPP1					IAML		09 50 07.4	
	comp=Z,69nm,0.3s							
LOVI	El Cajuil, Ovi	1.92	128	i P		Pb	09 49 39.3	-0.1
LOVI					IAML		09 50 14.2	
	comp=Z,104nm,1.0s							
LUDR	Luperon	2.08	64	i P		Pb	09 49 42.7	+0.6
QMBU	Quimbuelo	2.13	304	eP		Pn	09 49 41.1	+1.3
QMBU				eS		Sn	09 50 05.7	-0.4
QMBU					IAML		09 50 12.8	
	comp=E,40nm,0.2s							
QMBU					IAML		09 50 13.7	
	comp=N,29nm,0.2s							
SC01	Santiago de lo	2.14	78	i P		Pb	09 49 43.0	-0.2
NMDO	Nuevo Mundo	2.47	309	eP		Pb	09 49 48.4	-0.4
NMDO				eS		Sb	09 50 18.7	-0.4
NMDO					IAML		09 50 20.7	
	comp=N,9.4nm,0.2s							
NMDO					IAML		09 50 22.9	
	comp=E,11nm,0.2s							
MOAC	Moa	2.52	311	eP		Pb	09 49 49.0	-0.6
MOAC					IAML		09 50 22.2	
	comp=N,4.6nm,0.0s							
MOAC					IAML		09 50 22.5	
	comp=E,6.1nm,0.1s							
MARVS	Santiago de Cu	2.96	290	eP		Pb	09 49 56.3	-0.9
MARVS				eS		Sb	09 50 35.0	+1.7
MARVS					IAML		09 50 36.6	
	comp=N,17nm,0.2s							
MARVS					IAML		09 50 38.9	
	comp=E,12nm,0.1s							
GRTK	Grand Turk	3.02	34	i P		Pn	09 49 54.6	+2.5
GRTK					IAML		09 50 37.9	
	comp=Z,45nm,2.0s							
PINC	Pinares de May	3.06	299	eP		Pb	09 49 56.2	-2.7
PINC				eS		Sn	09 50 32.4	+3.2
PINC				eS		Sb	09 50 32.8	-3.4
PINC					IAML		09 50 42.4	
	comp=E,11nm,0.1s							
PINC					IAML		09 50 43.2	
	comp=N,12nm,0.1s							
CHIV	Chivirico	3.41	287	eP		Pn	09 49 59.0	+1.5
STH	Stony Hill	3.78	257	eP		Pb	09 50 09.0	-2.1
STH				eS		Sb	09 50 56.4	-0.5
STH					IAML		09 50 59.8	
	comp=E,2μm,0.2s							
STH					IAML		09 51 00.2	
	comp=N,3μm,0.1s							
LMGC	Las Mercedes	3.97	286	eP		Pn	09 50 06.2	+1.1
LMGC				eS		Sn	09 50 51.3	-0.4
LMGC					IAML		09 50 59.2	
	comp=E,4.4nm,0.1s							
LMGC					IAML		09 51 01.8	
	comp=N,8.8nm,0.1s							
PILO	Pilon	4.30	283	eP		Pn	09 50 11.6	+1.8
PILO				eS		Sn	09 50 59.8	-0.1
PILO					IAML		09 51 06.8	
	comp=N,9.7nm,0.5s							
PILO					IAML		09 51 08.6	
	comp=E,4.3nm,0.2s							

IDC 12 09:49:46.7±1.6, 0.30N×126.27E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=168.8km s-min=21.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.62	159	P	P	09 54 37.7	-0.9
	1.1nm,0.6s,baz=337,slow=11,SNR=9.7						
	1.1nm,0.6s						
ASAR	Alice Springs	24.95	163	P	P	09 55 12.6	+0.6
	0.5nm,0.3s,baz=346,slow=8.8,SNR=12						
	0.5nm,0.3s						
MKAR	Makanchi Array	60.12	327	P	P	09 59 56.0	0.0
	0.3nm,0.4s,baz=117,slow=8.6,SNR=5.3						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	64.38	328	P	P	10 00 24.4	-0.1
	0.5nm,0.6s,baz=125,slow=6.1,SNR=5.2						
	0.5nm,0.6s						

IDC ***12*** *09:51:34.6±0.4, 47.97N×122.03W, h0km, mb4.3/22, mbtmp4.2/28, ML3.6/6, MS3.6/44, Error ellipse: s-maj=8.3km s-min=6.2km az=49.0*

SEA ***12*** *09:51:38.3±1.8, 47.87N±0.02×122.02W±0.03, h29km±3km, ML4.6/49, mb4.4/152(NEIC), ML4.5/128(NEIC), Mwr4.3/133(NEIC), Mww4.5/20(NEIC), Error ellipse: s-maj=3.1km s-min=2.7km az=69.0*

NEIC ***12*** *09:51:38.1±1.9, 47.88N±0.02×122.02W±0.03, h28km±4km, Error ellipse: s-maj=3.3km s-min=2.7km az=60.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr3.22; Mθθ-2.34; Mϕϕ-0.88; Mrθ-0.11; Mθϕ-1.48; Mϕr0.48; Fault plane solution: M0 3.28000×10^15 NP1: ϕ=50.06000°, δ=47.01000°, λ=78.83000°. NP2: ϕ=246.21000°, δ=44.15000°, λ=101.74000°. Principal axes: T 3.2940, Plg82.0000°, Azm248.0000°; N -0.0293, Plg8.0000°, Azm58.0000°; P -3.2647, Plg1.0000°, Azm148.0000°;*

NEIC ***12*** *09:51:38.9, 47.97N×122.00W, h36km, Moment Tensor Solution. Duration: 0 Moment tensor: Scale 10^15 Nm; Mrr6.87; Mθθ-3.55; Mϕϕ-3.33; Mrθ-0.84; Mθϕ-2.97; Mϕr1.24; Fault plane solution: M0 6.82000×10^15 NP1: ϕ=236.78000°, δ=44.93000°, λ=105.62000°. NP2: ϕ=35.23000°, δ=47.15000°, λ=74.96000°. Principal axes: T 7.1666, Plg79.0000°, Azm232.0000°; N -0.7554, Plg11.0000°, Azm46.0000°; P -6.4112, Plg1.0000°, Azm136.0000°;*

NEIC ***12*** *09:51:38.9, 47.87N×122.00W, h36km*

NEIC ***12*** *09:51:38.9, 47.87N×122.00W, h24km*

ISC 12 09:51:38.2±0.5, 47.89N±0.02×122.03W±0.02, h30km±2km, n606, s1.9/28/576, mb4.4/81, MS3.7/38, 2C, Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLH	Bald Hill	0.05	186		Pb	09 51 42.8	-0.5
EVGW	Everett Gatewa	0.09	250		Pb	09 51 43.2	-0.3
EVGW					Sn	09 51 46.8	-0.2
LEOT	Leota Junior H	0.13	207		Pb	09 51 43.6	-0.2
LEOT					Sb	09 51 47.4	-0.1
EARN	East Ridge Ele	0.15	184		Pb	09 51 43.6	-0.2
EARN					Sb	09 51 47.8	+0.1
BEVT	Boeing Everett	0.17	282		Pb	09 51 44.2	+0.1
BEVT					Sn	09 51 48.9	+0.8
HTW	Haystack Looko	0.19	116		Pb	09 51 43.9	-0.5
LYNC	Lynnwood City	0.19	252		Pb	09 51 44.0	-0.2
LYNC					Sb	09 51 49.1	+0.7
NIHS	Ingelmoor High	0.20	223		Pb	09 51 44.3	0.0
NIHS					Sb	09 51 48.4	-0.1
FINN	Finn Hill Juni	0.22	220		Pb	09 51 44.6	0.0
FINN					Sn	09 51 50.1	+1.2
BRKS	Brookside Elem	0.22	234		Pb	09 51 44.5	-0.2
BRKS					Sb	09 51 49.4	+0.4
MARYW	Marymoor Park	0.23	196		Pb	09 51 44.7	-0.1
MARYW					Sn	09 51 50.3	+1.1
ALCT	Alcott Element	0.24	182		Pb	09 51 44.7	-0.2
ALCT					Sb	09 51 48.6	-0.7
NOWS	NOAA--Sand Poi	0.25	218		Pb	09 51 45.1	+0.1
NOWS					Sn	09 51 50.7	-0.1
SCCW	Shoreline CC	0.27	239		Pb	09 51 45.0	-0.1
SCCW					Sb	09 51 50.6	+0.8
SWID	South Whidbey	0.29	295		Pb	09 51 45.3	-0.1
SWID					Sn	09 51 51.3	-0.4
WISC	Wilburton Inst	0.29	200		Pb	09 51 45.6	+0.1
C05A	Tolt Reservoir	0.30	130		Pb	09 51 44.9	-0.8
C05A					Sb	09 51 50.0	-0.7
TTW	Tolt Reservoir	0.30	130		Pb	09 51 44.9	-0.8
TTW					Sb	09 51 49.9	-0.8
SEA	Seattle	0.30	220		Pb	09 51 45.8	+0.2
SEA					Sn	09 51 52.4	+0.4
JCW	Jim Creek	0.31	12		Pb	09 51 45.8	-0.1
JCW					Sb	09 51 51.4	+0.3
KDKW	Coast Env Seat	0.36	216		Pb	09 51 46.7	+0.3
KDKW					Sn	09 51 53.8	+0.3
KIMB	Kimball Elemen	0.36	211		Pb	09 51 46.8	+0.3
KIMB					Sb	09 51 52.2	+0.1
SP2	Seward Park 2	0.36	205		Pb	09 51 46.3	-0.2
SP2					Sb	09 51 51.4	-0.7
PIER	Pier 30 Seattl	0.37	215		Pb	09 51 46.9	+0.3
PIER					Sn	09 51 54.5	+0.8
B05A	Bryant	0.38	353		Pb	09 51 46.4	-0.4
B05A					Sb	09 51 52.8	+0.1
GTWN	Georgetown Pla	0.39	211		Pb	09 51 47.0	+0.1
GTWN					Sb	09 51 52.7	-0.1
TKCO	King County	0.40	208		Pb	09 51 46.9	-0.1
TKCO					Sb	09 51 52.3	-0.6
HOLY	Holy Rosary Sc	0.40	217		Pb	09 51 47.3	+0.2
HOLY					Sn	09 51 55.0	+0.5
ELW	Echo Lake	0.41	165		Pb	09 51 46.4	-0.8
ELW					Sb	09 51 52.8	-0.4
ALKI	Alki Wastewate	0.41	221		Pb	09 51 47.3	+0.1
ALKI					Sb	09 51 52.2	-1.1
BSFP	Boeing Fire Pr	0.41	207		Pb	09 51 47.0	-0.2
BSFP					Sb	09 51 52.7	-0.6
MPL	Maple valley S	0.43	195		Pb	09 51 46.8	-0.7
MPL					Sb	09 51 51.7	-2.2
KINR	Kitsap County	0.44	252		Pb	09 51 47.2	-0.4
KITP	Kitsap County	0.46	243		Pb	09 51 47.8	-0.2
CDMR	Cedar Moraine	0.50	159		Pb	09 51 47.7	-0.9
CDMR					Sb	09 51 55.1	-0.6
HICC	Highline Commu	0.53	201		Pb	09 51 48.5	-0.6
HICC					Sb	09 51 57.3	+0.8
VVHS	Vashon High Sc	0.55	212		Pb	09 51 48.5	-0.8
RAW	Raver	0.55	173		Pb	09 51 48.5	-1.0
SVOH	Skagit Valley	0.57	315		Pb	09 51 49.0	-0.8
B013	Quilcene	0.60	263		Pb	09 51 48.8	-1.5
B013					Sb	09 51 57.0	-1.5
GMW	Gold Mountain	0.62	237		Pb	09 51 49.0	-1.6
GMW					Sb	09 51 57.6	-1.4
GNW	Green Mountain	0.63	240		Pb	09 51 49.1	-1.6
GNW					IAML	Sg	09 51 58.0	-1.3
	comp=N,23μm,0.3s							
GNW					Sg	Sg	09 51 58.0	-1.3
KIMR	Kitsap County	0.63	233		Pb	09 51 49.9	-0.9
GPW	Glacier Peak	0.64	68		Pb	09 51 50.7	-0.4
BLN	Blyn Mountain	0.65	281		Pb	09 51 49.7	-1.4
RPW	Rockport	0.66	31		Pb	09 51 51.1	-0.2
C04A	Brinnon	0.66	256		Pb	09 51 49.6	-1.7
ERW	Mount Erie	0.70	325		Pb	09 51 51.3	-0.6
UPS	University of	0.70	207		Pb	09 51 51.0	-0.9
D05A	Enumclaw	0.70	178		Pb	09 51 51.1	-0.9
D05A					IAML		09 52 01.4	
	comp=N,17μm,0.6s							
D05A					IAML		09 52 01.5	
	comp=E,23μm,1.1s							
D05A						Sb	09 52 01.7	+0.5
SQM	Sequim	0.71	286			Pn	09 51 51.1	-1.1
SQM						Sn	09 52 02.1	-0.1
PAYL	Puyallup Schoo	0.72	196			Pn	09 51 51.3	-1.1
WRW	Wenatchee Ridg	0.77	92			Pn	09 51 52.4	-0.8
PCEP	Pierce County	0.80	193			Pn	09 51 52.4	-1.0
GHW	Garrison Hill	0.86	191			Pn	09 51 52.9	-1.4
GHW						Sn	09 52 04.9	-1.0
D04E	Lakebay	0.87	216			Pn	09 51 53.8	-0.6
MBW	Mount Baker	0.90	5			Pn	09 51 55.1	0.0
B941	Kapowsin	0.91	188			Pn	09 51 53.5	-1.5
UWFH	University of	0.93	315			Pn	09 51 54.4	-0.9
RVC	Mount Rainier-	0.94	178			Pn	09 51 54.5	-1.0
A04D	Lummi Island	0.95	332			Pn	09 51 55.0	-0.5
A04D					IAML		09 52 15.7	
	comp=E,10μm,0.6s							
MCW	Mount Constitu	0.96	326			Pn	09 51 55.2	-0.6
FMW	Mount Fremont	0.98	166			Pn	09 51 55.1	-1.1
FMW						Sn	09 52 07.9	-1.3
OBSR	Observation Ro	1.00	172			Pn	09 51 55.6	-0.9
SLFW	Sugar Loaf	1.02	97			Pn	09 51 56.5	-0.2
PANH	Panhandle Gap,	1.06	166			Pn	09 51 56.5	-0.8
LTY	Liberty	1.11	124			Pn	09 51 57.9	+0.1
LTY					Sg	Sb	09 52 12.8	-0.3
LTY					IAML		09 52 14.2	
	comp=E,14μm,0.6s							
STW	Striped Peak	1.14	284			Pn	09 51 57.1	-1.0
LON	Longmire	1.15	173			Pn	09 51 57.6	-0.7
LON	Longmire	1.15	173			Pn	09 51 57.5	-0.7
LON					Sn	Sn	09 52 12.4	-0.6
LON					IAML		09 52 13.1	
	comp=E,30μm,0.6s							
LON					IAML		09 52 13.3	
	comp=N,7μm,0.5s							
PGC	Sidney	1.22	309			Pn	09 51 58.5	-0.7
PGC					Sn	Sn	09 52 14.4	-0.4
PGC					IAML		09 52 18.2	
	comp=N,12μm,0.7s							
NLWA	Neilton Lookou	1.34	249			Pn	09 52 00.8	-0.1
NLWA					IAML		09 52 33.2	
	comp=N,6μm,0.8s							
WISH	Wishkah	1.41	238			Pn	09 52 02.5	+0.6
CLRS	Cowichan Lake	1.69	304			Pn	09 52 05.2	-0.5
E03A	Lebam	1.70	219			Pn	09 52 06.5	+0.6
E03A					IAML		09 52 35.4	
	comp=E,6μm,0.8s							
E03A					IAML		09 52 38.1	
	comp=N,5μm,0.6s							
C03A	Quillayute Air	1.71	273			Pn	09 52 06.8	+0.8
C03A					IAML		09 52 39.8	
	comp=N,4μm,1.4s							
MXC	Moxie City	1.76	137			Pn	09 52 07.6	+0.8
B08A	Colville Reser	1.86	74			Pn	09 52 08.3	+0.1
B08A					IAML		09 52 36.2	
	comp=N,3μm,0.6s							
RADR	Rader Ridge	1.90	220			Pn	09 52 09.0	+0.3
RADR					IAML		09 52 46.9	
	comp=E,6μm,0.8s							
RADR					IAML		09 53 05.8	
	comp=N,4μm,0.9s							
F04D	Rainier, OR	1.93	201			Pn	09 52 09.8	+0.8
E07A	Sunnyside	1.99	131			Pn	09 52 10.6	+0.7
WAH2	Wahluke Slope	2.02	123			Pn	09 52 10.7	+0.5
F03A	Seaside	2.22	209			Pn	09 52 13.0	0.0
D08A	Wollman Farm,	2.26	110			Pn	09 52 13.3	-0.3
D08A					IAML		09 52 55.3	
	comp=N,2μm,0.7s							
D08A					IAML		09 52 55.4	
	comp=E,2μm,0.9s							
HAWA	Hanford	2.26	130			Pn	09 52 14.0	+0.4
HAWA					IAML		09 52 52.7	
	comp=E,3μm,0.9s							
HAWA					IAML		09 52 53.3	
	comp=E,4μm,0.7s							
E08A	Dider Farm, El	2.46	124			Pn	09 52 16.2	-0.1
E08A					IAML		09 53 02.9	
	comp=N,3μm,0.6s							
E08A					IAML		09 53 04.3	
	comp=E,3μm,0.6s							
F07A	Phinny Hill Vi	2.46	143			Pn	09 52 16.8	+0.6
C09A	Chrisman Ranch	2.53	91			Pn	09 52 17.0	-0.2
OZB	Mount Ozzard	2.55	296			Pn	09 52 17.8	+0.2
OZB					IAML		09 53 09.4	
	comp=N,2μm,0.9s							
HOOD	Mount Hood Mea	2.58	174		Pn	Pn	09 52 19.1	+1.0
HOOD					IAML		09 53 00.2	
	comp=N,2μm,0.9s							
G05A	Wamic	2.69	169			Pn	09 52 20.9	+1.4
G05A					IAML		09 53 13.6	
	comp=N,1μm,0.7s							
G05A					IAML		09 53 14.1	
	comp=E,2μm,1.1s							
G04A	Mulino	2.70	187			Pn	09 52 21.0	+1.4
G04A					IAML		09 52 58.8	
	comp=E,3μm,0.6s							
G04A					IAML		09 53 20.4	
	comp=N,3μm,0.8s							
LLLB	Lillooet	2.73	2			Pn	09 52 20.9	+0.8
LLLB					IAML		09 53 08.7	
	comp=E,2μm,1.1s							
LLLB					IAML		09 53 09.8	
	comp=N,2μm,0.6s							
YPT	Yellepit	2.79	130			Pn	09 52 20.8	0.0
YPT					IAML		09 53 12.1	
	comp=E,2μm,0.9s							
G03

LNOR IAML 09 53 26.7
comp=E,1µm,1.1s
LNOR IAML 09 53 29.6
comp=N,1µm,0.6s
NEW Newport 3.31 82 Pn Pn 09 52 28.0 0.0
NEW IAML 09 53 24.8
comp=N,960nm,0.8s
NEW IAML 09 53 27.7
comp=N,861nm,1.2s
NEW Newport 3.31 82 Pn Pn 09 52 27.8 -0.2
comp=N,126nm,0.4s,baz=263,slow=11,SNR=694
NEW Sn Sn **09 53 06.1 -0.2**
comp=N,76nm,0.3s,baz=346,slow=23,SNR=9.2
NEW Lg Lg 09 53 20.1
comp=N,150nm,0.3s,baz=107,slow=9.8,SNR=14
G08A Pilot Rock 3.35 140 Pn 09 52 28.1 -0.6
G08A IAML 09 53 27.5
comp=N,1µm,0.7s
H04D Lebanon 3.40 189 Pn 09 52 30.9 +1.7
H04D IAML 09 53 24.5
comp=N,1µm,0.6s
COR Corvallis 3.42 196 Pn 09 52 30.9 +1.5
COR IAML 09 53 31.2
comp=N,878nm,1.1s
COR IAML 09 53 35.4
comp=N,1µm,0.8s
I05D Terrebonne, OR 3.58 172 Pn 09 52 33.4 +1.6
I05D IAML 09 53 37.4
comp=N,1µm,0.7s
I05D IAML 09 53 42.4
comp=E,852nm,1.0s
BUCK Buck Mountain 3.75 191 Pn 09 52 36.7 +2.5
BUCK IAML 09 53 43.7
comp=E,770nm,1.3s
I02E Swisshome, OR 3.99 199 Pn 09 52 38.4 +1.1
I02E IAML 09 53 50.3
comp=N,670nm,1.1s
PINE Pine Mountain 4.16 169 Pn 09 52 41.6 +1.7
PINE IAML 09 53 59.5
comp=E,782nm,0.8s
I07A Izee 4.19 154 Pn 09 52 41.5 +1.3
I07A IAML 09 53 49.4
comp=E,476nm,1.0s
I07A IAML 09 54 00.5
comp=N,570nm,0.9s
I03D Drain, OR 4.29 193 Pn 09 52 43.0 +1.5
BMO Blue Mountains 4.46 131 Pn 09 52 43.9 +0.1
J05D Fort Rock, OR 4.63 173 Pn 09 52 48.1 +1.8
J05D IAML 09 54 21.3
comp=E,338nm,1.2s
J05D IAML 09 54 27.6
comp=N,325nm,1.6s
J04A Umpqua Nationa 4.65 181 Pn 09 52 49.1 +2.5
HOLB Holberg 4.86 307 Pn 09 52 50.8 +1.6
HOLB IAML 09 54 12.3
comp=E,408nm,1.1s
HOLB IAML 09 54 27.0
comp=N,469nm,1.1s
J01E Myrtle Point 4.91 197 Pn 09 52 50.9 +0.9
J01E IAML 09 54 23.5
comp=E,402nm,1.1s
J01E IAML 09 54 28.4
comp=N,276nm,1.1s
BBOR Butler Butte 5.02 186 Pn 09 52 52.9 +1.2
J08A Circle Bar Ran 5.17 150 Pn 09 52 54.2 +0.6
K05A Summer Lake 5.22 171 Pn 09 52 56.9 +2.4
K04D Chiloquin, OR 5.26 178 Pn Pn 09 52 57.0 +2.1
KEBM Edson Butte 5.27 199 Pn Pn 09 52 55.4 +0.4
KEBM IAML 09 54 42.6
comp=E,238nm,1.4s
KEBM IAML 09 54 44.2
comp=N,207nm,1.1s
K02D Willamette Mer 5.32 193 Pn Pn 09 52 57.1 +1.4
MSO Missoula 5.59 98 Pn 09 52 58.6 -0.8
L04D Klamath Falls 5.67 182 Pn 09 53 03.2 +2.6
BBB Bella Bella 5.82 320 Pn Pn 09 53 03.9 +1.4
BBB Bella Bella 5.82 320 Pn Pn 09 53 03.5 +1.1
comp=N,0.8nm,0.3s,baz=126,slow=8.0,SNR=22
BBB Lg Lg 09 54 33.3
comp=N,7.3nm,0.3s,baz=206,slow=22,SNR=4.2
BBB LR LR 09 54 37.1
comp=N,63nm,21.3s,baz=192,slow=32
L02F Cave Junction 5.87 191 Pn Pn 09 53 04.7 +1.5
KBO Bosley Butte 5.88 196 Pn Pn 09 53 04.2 +0.8
WVOR Wild Horse Val 5.95 155 Pn 09 53 06.0 +1.5
BPMT Black Pine Rid 6.03 101 Pn 09 53 04.9 -0.6
YBH Yreka Blue Hor 6.17 185 Pn 09 53 09.7 +2.3
YBH Yreka Blue Hor 6.17 185 Pn Pn 09 53 10.4 +2.9
comp=N,0.1nm,0.3s,baz=12,slow=11,SNR=44
YBH Lg Lg 09 54 49.8
baz=324,slow=5.7,SNR=1.7
OVMT Ovando 6.18 94 Pn 09 53 06.7 -0.8
KSXB Camp Six Broad 6.20 193 Pn Pn 09 53 09.6 +1.9
MFID Camas Ranch 6.23 134 Pn 09 53 08.2 0.0
KRMB Red Mountain 6.50 193 Pn Pn 09 53 13.8 +1.8
LYMT Lyon Mountain 6.67 94 Pn 09 53 13.4 -1.0
HLID Hailey 6.86 126 Pn 09 53 17.1 +0.2
KRPM Rodgers 6.88 193 Pn Pn 09 53 19.0 +1.9
KHMM Horse Mountain 7.12 191 Pn Pn 09 53 22.8 +2.3
HG4B Hotspring 7.37 310 Pn 09 53 24.9 +1.3
YFT Old Faithful 8.49 110 Pn Pn 09 53 39.7 +0.3
ELK Elko 8.64 143 Pn Pn 09 53 45.7 +4.4
comp=N,0.2nm,0.3s,baz=309,slow=11,SNR=15
ELK Lg Lg 09 56 07.0
comp=N,0.9nm,0.3s,baz=24,slow=20,SNR=5.1
comp=N,3.5nm,0.8s
FXWY Fox Creek 8.78 115 Pn 09 53 45.0 +1.6
TPAW Teton Pass 8.91 115 Pn 09 53 48.2 +3.1
V35K Ketchikan 9.54 325 P Pn 09 53 52.1 -1.3
baz=157
NVAR Mina Array Bea 9.83 163 Pn Pn 09 54 03.8 +6.0
NVAR Mina Array Bea 9.83 163 Pn Pn 09 54 02.7 +5.0
comp=N,0.3nm,0.3s,baz=342,slow=12,SNR=35
NVAR Lg Lg 09 56 45.1
baz=345,slow=30
NVAR LR LR 09 58 35.5
comp=N,153nm,18.7s,baz=12,slow=42
comp=N,5.2nm,0.9s
NV11 Mina Array Sit 9.86 162 Pn Pn 09 54 04.2 +6.2
CMB Columbia Colle 9.92 172 Pn Pn 09 54 05.0 +6.3
LHV Little Huntoon 9.97 164 Pn 09 54 06.0 +6.7
BW06 Boulder Array 10.16 116 Pn 09 54 05.0 +2.8
PD31 Pinedale Array 10.16 116 Pn 09 54 05.3 +3.1
PDAR Pinedale Array 10.16 116 Pn 09 54 05.8 +3.6
PDAR Pinedale Array 10.16 116 Pn Pn 09 54 04.8 +2.6
comp=N,0.2nm,0.3s,baz=310,slow=9.4,SNR=17
PDAR Lg Lg 09 56 53.3
baz=304,slow=33,SNR=2.7
PDAR LR LR 09 58 07.8
comp=N,334nm,20.1s,baz=298,slow=39
comp=N,1.2nm,0.6s
CRAG Craig 10.24 322 Pn Pn 09 54 03.0 -0.1
CRAG Craig 10.24 322 P Pn 09 54 01.4 -1.6
baz=133
T35M Bob Quinn 10.39 334 P Pn 09 54 03.9 -1.3
baz=148
JLU Jordanelle 10.51 130 Pn Pn 09 54 08.5 +1.5
WRAK Wrangell Islan 10.63 327 P Pn 09 54 07.5 -0.8
baz=139,SNR=5.3
U33K Whale Pass 10.70 324 P Pn 09 54 08.6 -0.6
baz=136
MZP Montezuma Peak 10.73 160 Pn Pn 09 54 10.5 +0.4
LAO LASA Array 10.80 91 Pn 09 54 10.6 -0.3
BSUT Blindstream Ca 10.92 128 Pn 09 54 16.1 +3.4
PSUT Pine Spring 11.08 145 Pn Pn 09 54 17.1 +2.3
GMN Gold Mountain 11.14 160 Pn Pn 09 54 18.0 +2.3
TOAD Toad River Com 11.15 351 P Pn 09 54 14.9 -0.5
baz=169
S11A Rachel 11.22 154 Pn 09 54 19.4 +2.7
S34M Telegraph Cree 11.44 335 P Pn 09 54 18.2 -1.1
baz=147
DLBC Dease Lake 11.60 339 Pn Pn 09 54 26.2 +4.6
baz=138,slow=9.6,SNR=8.7
DLBC Lg Lg 09 57 37.2
DLBC LR LR 09 59 20.5
comp=N,43nm,20.7s,baz=138,slow=40
DLBC Dease Lake 11.60 339 P Pn 09 54 19.6 -2.0
baz=152,SNR=9.1
TMUT Trail Mountain 11.62 134 Pn Pn 09 54 24.8 +2.6
PRN Pahroc Range 11.66 151 Pn 09 54 25.9 +3.2
DGMT Dagmar 11.92 81 Pn 09 54 26.3 +0.2
SZCU Shurtz Canyon 12.19 144 Pn 09 54 33.1 +3.1
SIT Sitka 12.23 324 P Pn 09 54 29.3 -0.9
baz=133
S32K Killisnoo 12.23 326 P Pn 09 54 29.3 -0.9
baz=136
KOTAN Kotaneelee Air 12.33 355 P Pn 09 54 30.4 -1.1
baz=174
SHPR Sheep Range 12.45 153 Pn Pn 09 54 33.5 -0.1
Q32M Nakina River 12.64 335 P Pn 09 54 33.9 -2.2
baz=147,SNR=8.1
R33M Jennings River 12.68 339 P Pn 09 54 35.4 -1.0
baz=151,SNR=9.2
R32K Eaglecrest 12.81 329 P Pn 09 54 37.1 -0.9
baz=139
S31K Pelican 13.21 325 P Pn 09 54 42.4 -1.1
baz=134
V12A Nelson 13.27 154 Pn Pn 09 54 44.6 +0.1
PV21 Cone Mtn., Par 13.30 130 Pn Pn 09 54 44.8 -0.4
R31K City Hall, Gus 13.34 327 P Pn 09 54 43.9 -1.5
baz=136
PV23 Carpenter Ridg 13.37 130 Pn Pn 09 54 45.9 -0.1
PV22 Blue Mesa, Par 13.42 129 Pn Pn 09 54 46.9 +0.2
P32M Atlin 13.58 334 P Pn 09 54 47.7 -1.0
baz=144
PV15 Paradox Valley 13.72 129 Pn 09 54 51.9 +1.0
PV01 Paradox Valley 13.83 130 Pn Pn 09 54 54.7 +2.3
P33M Teslin, Yukon 13.85 337 P Pn 09 54 51.6 -0.8
baz=148
SKAG Skagway 13.98 331 P Pn 09 54 53.0 -1.1
baz=140
TGTN Hyland Airport 14.13 348 P Pn 09 54 55.2 -1.0
baz=162
FFC Flin Flon 14.26 54 Pn 09 54 57.4 -0.5
ISCO Idaho Springs 14.32 118 Pn Pn 09 55 00.2 +1.1
PLBC Pleasant Camp 14.33 329 P Pn 09 54 57.3 -1.6
baz=138
E28A Huff 14.55 87 Pn 09 55 01.6 -0.3
MVCO Mesa Verde 14.58 132 P P 09 55 08.3 -0.4
ELS Elsinore Mount 14.64 165 P P 09 55 07.6 -1.6
WUAZ Wupatki 14.68 143 P Pn 09 55 05.1 +1.2
N32M Quiet Lake 14.73 339 P P 09 55 07.5 -2.6
N32M Quiet Lake 14.73 339 P Pn 09 55 03.1 -1.2
baz=149
WHY Whitehorse 14.80 335 P P 09 55 09.1 -1.8
WHY Whitehorse 14.80 335 P Pn 09 55 04.3 -1.0
baz=144
PFO Pinyon Flats O 14.86 162 LR LR 10 01 36.6
comp=N,362nm,18.1s,baz=314,slow=40
P29M Windy Craggy 14.94 328 P P 09 55 10.8 -1.6
P29M Windy Craggy 14.94 328 P Pn 09 55 06.3 -0.8
baz=135
P30M Million Dollar 15.03 330 P Pn 09 55 07.2 -1.1
baz=138
MDND Maddock 15.04 82 P 09 55 13.8 +0.1
YKA Yellowknife Ar 15.22 13 P P 09 55 13.2 -2.2
YKA Yellowknife Ar 15.22 13 Pn Pn 09 55 04.7 -6.1
comp=N,0.6nm,0.3s,baz=194,slow=13,SNR=13
YKA Lg Lg 09 59 25.4
comp=N,0.1nm,0.3s,baz=150,slow=30,SNR=3.9
YKA LR LR 10 01 19.1
comp=N,441nm,18.1s,baz=191,slow=39
comp=N,0.4nm,0.8s
YKAW1 Yellowknife Wh 15.23 13 Pn Pn 09 55 10.1 -0.8
YKAW1 IAmb IAmb 09 55 24.7
comp=Z,7.4nm,0.8s
O30N Mendenhall 15.24 333 P 09 55 14.7 -1.1
O30N IAmb IAmb 09 55 16.9
comp=Z,22nm,1.2s
O30N Mendenhall 15.24 333 P Pn 09 55 10.3 -0.8
baz=142,SNR=10
YKAW3 Yellowknife Wh 15.29 13 Pn Pn 09 55 10.8 -0.8
YKAW3 IAmb IAmb 09 55 32.9
comp=Z,7.7nm,0.8s
Y14A Wickenburg 15.49 151 P Pn 09 55 16.4 +1.7
PNL Peninsula 15.58 326 P Pn 09 55 14.7 -0.8
baz=132
X16A Lo Mia Camp, P 15.62 146 P P 09 55 18.9 -1.3
O29M Mount Kennedy 15.71 328 P P 09 55 20.4 -0.6
O29M IAmb IAmb 09 55 33.5
comp=Z,16nm,0.9s
O29M Mount Kennedy 15.71 328 P Pn 09 55 16.7 -0.7
baz=135
N31M Braeburn, Yuko 15.72 335 P P 09 55 20.4 -0.7
N31M IAmb IAmb 09 55 33.9
comp=Z,17nm,0.8s
N31M Braeburn, Yuko 15.72 335 P Pn 09 55 16.8 -0.6
baz=144
FARO Faro, Yukon 15.73 340 P P 09 55 21.6 +0.4
FARO Faro, Yukon 15.73 340 P Pn 09 55 16.8 -0.7
baz=151,SNR=6.7
HYT Haines Junctio 15.73 331 P P 09 55 21.4 +0.1
HYT IAmb IAmb 09 55 45.2
comp=Z,17nm,1.1s
HYT Haines Junctio 15.73 331 P Pn 09 55 16.3 -1.2
baz=138,SNR=6.1
SDCO Great Sand Dun 15.77 124 P 09 55 20.1 -1.9
OGNE Ogallala 15.86 109 P P 09 55 22.4 -0.3
M31M Drury Creek, Y 15.95 339 P P 09 55 22.8 -0.8
M31M Drury Creek, Y 15.95 339 P Pn 09 55 19.4 -0.9
baz=148
N30M Aishikik Lake 16.09 333 P P 09 55 24.3 -0.8
N30M Aishikik Lake 16.09 333 P Pn 09 55 20.7 -1.4
baz=141
YUK6 Outpost Mounta 16.10 330 P Pn 09 55 20.4 -2.0
baz=137
X18A Snowflake 16.12 142 P Pn 09 55 24.0 +1.3
X18A IAmb IAmb 09 55 40.0
comp=Z,16nm,0.7s
PINM Pinnacle 16.18 326 P Pn 09 55 21.0 -2.3
baz=131
113A Mohawk Valley, 16.34 155 P Pn 09 55 26.6 +1.1
YUK4 Talbot Arm 16.49 331 P Pn 09 55 25.8 -1.5
baz=138
K30B Basset 16.59 100 Pn 09 55 29.0 +0.4
K30B IAmb IAmb 09 55 47.3
comp=Z,33nm,1.0s
KSCO Kaye Shedlock' 16.61 115 P Pn 09 55 29.4 +0.5
O28M Mount Upton 16.61 328 Pn Pn 09 55 28.8 -0.2
O28M Mount Upton 16.61 328 P Pn 09 55 26.7 -2.3
baz=133
TABL Table Mountain 16.75 326 Pn Pn 09 55 29.2 -1.4
T25A Trinidad 16.81 123 P 09 55 32.5 -1.0
T25A IAmb IAmb 09 55 48.7
comp=Z,42nm,1.4s
YUK8 Steele Glacier 16.82 329 P Pn 09 55 29.2 -2.3
baz=135
M30M Minto, Yukon 16.89 336 P P 09 55 34.0 0.0
M30M Minto, Yukon 16.89 336 P Pn 09 55 30.5 -1.6
baz=144,SNR=9.2
MESA MESA 16.89 324 P Pn 09 55 31.5 -0.9
baz=128
LOGN Logan Glacier 16.95 327 Pn Pn 09 55 32.6 -0.4
CTGM Chitina Glacie 17.16 327 P 09 55 36.8 -0.3
CTG Chitna Glacier 17.16 327 P Pn 09 55 34.6 -1.2
baz=131
M29M Somme Creek 17.26 334 P P 09 55 37.7 -0.5
M29M Somme Creek 17.26 334 P Pn 09 55 36.0 -0.9
baz=140
BARN Barnard Glacie 17.34 327 Pn Pn 09 55 37.1 -0.9
ANMO Albuquerque 17.38 132 P P 09 55 40.8 +1.1
ANMO IAmb IAmb 09 55 54.6
comp=Z,19nm,1.0s
ANMO Albuquerque 17.38 132 P 09 55 40.7 +0.9
ANMO IAmb IAmb 09 55 54.7
comp=Z,20nm,1.0s
ANMO Albuquerque 17.38 132 P P 09 55 40.4 +0.7
comp=Z,0.1nm,0.3s,baz=46,slow=9.1,SNR=6.5
ANMO LR LR 10 02 42.1
comp=Z,172nm,19.9s,baz=49,slow=38
comp=Z,2.2nm,1.0s
214A Organ Pipe Nat 17.39 153 Pn 09 55 38.7 +0.1
YUK3 Moose Creek 17.41 330 P Pn 09 55 37.8 -1.0
baz=135
AGMN Agassiz Nation 17.46 79 P Pn 09 55 39.5 +0.2
AGMN IAmb IAmb 09 55 41.7
comp=Z,23nm,0.9s
L29M L29M 17.69 335 P P 09 55 44.7 +1.9
L29M L29M 17.69 335 P Pn 09 55 41.3 -0.7
baz=142
F33A 5 Mile Ranch, 17.69 87 P Pn 09 55 42.0 -0.3
BERG Berg Lake 17.72 323 P P 09 55 43.6 +0.4
BERG IAmb IAmb 09 55 56.9
comp=Z,20nm,1.0s
TUC Tucson 17.75 147 P P 09 55 44.3 +0.6
LENM Lemitar 17.75 135 P P 09 55 44.4 +0.5
KAIM Kayak Island 17.76 321 P Pn 09 55 42.2 -0.8
baz=123
SBM South Baldy 17.81 136 P Pn 09 55 43.0 -1.2
BVCY Beaver Creek 17.99 331 P Pn 09 55 45.5 -0.3
baz=135
CRNM Carthage 18.04 135 P P 09 55 47.9 +0.8
MCARA McCarthy VSAT 18.06 326 P Pn 09 55 46.6 -0.1
baz=129
K29M Barlow Dome 18.11 338 P P 09 55 47.4 -0.2
K29M Barlow Dome 18.11 338 P Pn 09 55 47.2 -0.2
baz=145
M27K Edge Creek, AK 18.29 330 P P 09 55 48.6 -1.0
baz=133
Q23K Middleton Isla 18.35 318 P P 09 55 49.7 -0.3
baz=118
BMRM Bremner River 18.42 324 P P 09 55 50.2 -0.7
baz=125
J30M Hart River 18.44 340 P P 09 55 49.3 -1.8
baz=148
EYAK Cordova Ski Ar 18.65 322 P P 09 55 51.9 -1.5
baz=122
EPLO Experimental L 18.69 74 P 09 55 52.9 -1.0
EPLO IAmb IAmb 09 55 54.6
comp=Z,35nm,1.2s
BCAR Beaver Creek A 18.76 331 P P 09 55 52.8 -1.7
L27K Beaver Creek, 18.77 331 P P 09 55 53.2 -1.4
baz=135,SNR=6.2
DAWY Dawson 18.79 336 P P 09 55 52.1 -2.8
DAWY Dawson 18.79 336 P P 09 55 48.7 -6.2
baz=141
DAWY P Pn 09 55 53.6 -1.9
baz=141
N25K Chitina, Valde 18.79 325 P P 09 55 53.3 -1.7
baz=127
I30M Mount Dempster 19.01 341 P P 09 55 55.9 -1.5
I30M Mount Dempster 19.01 341 P P 09 55 55.4 -2.0
baz=149
P23K Montague Islan 19.09 319 P P 09 55 57.0 -1.2
baz=118
H31M Peel River 19.12 344 P P 09 55 57.6 -0.8
baz=154
KLU Klutina 19.24 324 P P 09 55 58.8 -1.1
baz=124
L26K Log Cabin Wild 19.25 330 P P 09 55 58.6 -1.3
baz=132
GLI Glacier Island 19.39 321 P P 09 56 00.7 -0.8
baz=121
HARP HAARP 19.48 327 P P 09 56 01.4 -1.1
baz=128
K27K Chicken 19.54 333 P P 09 56 01.8 -1.3
baz=136
I29M Ogilvie Camp, 19.56 339 P P 09 56 02.8 -0.5
baz=146
M24K Tolsona, Glenn 19.69 325 P P 09 56 03.7 -1.1
baz=125
PWL Port Wells 19.91 320 P P 09 56 05.9 -1.2
baz=119
PAX Paxson 19.95 328 P P 09 56 06.5 -1.2
baz=128,SNR=5.2
SCM Sheep Creek Mo 19.99 324 P P 09 56 06.4 -1.7
baz=123
I28M Miner Creek 20.03 338 IAmb IAmb 09 56 20.0
comp=Z,9.6nm,0.8s
I28M Miner Creek 20.03 338 P P 09 56 07.3 -1.2
baz=143,SNR=16
SEW Seward 20.06 318 P P 09 56 07.3 -1.4
baz=115
N35A Tabor 20.06 101 P P 09 56 09.2 +0.3
EPYK Eagle Plains 20.07 343 IAmb IAmb 09 56 30.0
comp=Z,14nm,1.0s
EPYK Eagle Plains 20.07 343 P P 09 56 07.9 -1.0
baz=150
SCRK Sand Creek 20.10 331 P P 09 56 07.6 -1.8
baz=133,SNR=6.5
G31M Satah River 20.12 346 P P 09 56 08.1 -1.2
baz=155
M23K Glacier View 20.13 323 P P 09 56 08.7 -0.9
baz=122
SPMN Marine on St. 20.22 87 IAmb IAmb 09 56 14.6
comp=Z,29nm,1.2s
I37A Lemond, Waseca 20.22 90 IAmb IAmb 09 56 23.9
comp=Z,11nm,0.8s
RIDG Independent Ri 20.23 330 P P 09 56 09.1 -1.5
baz=131,SNR=6.6
KNK Knik Glacier 20.23 322 P P 09 56 09.2 -1.4
baz=120
H29M Whitestone 20.29 341 P P 09 56 10.1 -1.2
baz=147
J26L Joseph Creek 20.33 333 IAmb IAmb 09 56 27.5
comp=Z,17nm,1.2s
J26L Joseph Creek 20.33 333 P P 09 56 10.3 -1.5
baz=135,SNR=7.7
O22K Cooper Landing 20.34 319 P P 09 56 10.0 -1.8
baz=116
EYMN Ely 20.40 78 P 09 56 11.2 -1.4
EYMN IAmb IAmb 09 56 15.1
comp=Z,14nm,0.8s
ELIS Ellis County 20.46 117 P P 09 56 13.2 -0.2
G30M tAoh Zrail Nji 20.51 344 P P 09 56 12.8 -0.9
baz=152
F31M Tsiigehtchic 20.51 347 P P 09 56 13.1 -0.5
F31M IAmb IAmb 09 56 28.8
comp=Z,13nm,0.8s
F31M Tsiigehtchic 20.51 347 P P 09 56 12.7 -0.9
baz=157
WAT6 Susitna Watana 20.56 325 P P 09 56 13.7 -0.7
baz=124,SNR=5.1
K24K Donnelly Dome 20.58 329 P P 09 56 14.4 -0.1
baz=130
I27K Kandik River 20.59 337 P P 09 56 14.5 0.0
baz=140
PMR Palmer 20.60 322 P P 09 56 14.0 -0.6
baz=119
RC01 Rabbit Creek A 20.62 320 P P 09 56 15.1 +0.2
baz=117
DHY Denali Highway 20.71 327 IAmb IAmb 09 56 34.7
comp=Z,9.3nm,0.9s
DHY Denali Highway 20.71 327 P P 09 56 15.3 -0.6
baz=125
KAN14 Manchester OK 20.77 113 IAmb IAmb 09 56 30.8
comp=Z,14nm,0.9s
KDAK Kodiak Island 20.77 310 LR LR 10 02 51.7
comp=Z,260nm,20.2s,baz=120,slow=33
KDAK Kodiak Island 20.77 310 P P 09 56 15.9 -0.6
baz=105
I26K Coal Creek Min 20.79 335 P P 09 56 16.6 0.0
baz=137
G29M Pine Creek 20.80 342 IAmb IAmb 09 56 46.4
comp=Z,14nm,0.8s
G29M Pine Creek 20.80 342 P P 09 56 16.5 -0.3
baz=148,SNR=10
J25K Salcha River, 20.98 331 P P 09 56 18.9 +0.1
baz=132
F30M Barrier River 21.00 345 P P 09 56 18.8 0.0
baz=153,SNR=14
OHAK Old Harbor 21.01 308 P P 09 56 19.2 +0.2
baz=103
WAT1 Susitna Watana 21.01 325 P P 09 56 19.0 -0.1
baz=123
KAN13 South Haven SW 21.03 112 P P 09 56 18.2 -1.3
KAN13 IAmb IAmb 09 56 35.9
comp=Z,13nm,0.7s
CROK Carrier 21.04 114 P P 09 56 18.5 -1.1
H27K Steamboat Moun 21.05 338 P P 09 56 19.4 -0.1
baz=141,SNR=6.6
M22K Willow 21.09 321 P P 09 56 20.4 +0.5
baz=118
SUA Susitna One 21.23 320 P P 09 56 21.0 -0.5
baz=117
INK Inuvik 21.29 348 P P 09 56 21.8 -0.1
comp=Z,3.1nm,0.6s,baz=154,slow=12,SNR=9.3
INK LR LR 10 05 16.3
comp=Z,601nm,18.1s,baz=135,slow=39
comp=Z,3.1nm,0.6s
INK Inuvik 21.29 348 P P 09 56 22.0 +0.1
baz=158
SII Sitkinak Islan 21.35 306 P P 09 56 22.6 -0.2
baz=100
HDA Harding Lake 21.36 330 P P 09 56 23.0 +0.2
baz=129,SNR=5.6
VHRN Van Horn 21.49 136 IAmb IAmb 09 56 38.8
comp=Z,20nm,0.9s
O20K Slope Mountain 21.51 316 P P 09 56 23.6 -0.9
baz=111
G27K Doyon Strip 21.54 339 P P 09 56 24.9 +0.2
baz=142,SNR=8.7
ILAR Eielson Array 21.57 331 P P 09 56 26.8 +1.8
ILAR Eielson Array 21.57 331 P P 09 56 27.9 +2.8
comp=Z,3.7nm,0.8s,baz=141,slow=9.0,SNR=41
PRP Porcupine Dome 21.64 333 P P 09 56 25.4 -0.5
baz=133
P19K Oil Pt 21.65 315 P P 09 56 25.5 -0.4
baz=109

MCK	McKinley	21.66	327	P		P	09 56 25.6	-0.4
	baz=124							
BLKN	Baker Lake	21.69	31			P	09 56 24.2	-2.0
BLKN				IAmb		IAmb	09 56 57.8	
	comp=Z,11nm,0.9s							
N38A	Joes South For	21.69	98	P		P	09 56 25.8	-0.8
R18K	Karluk	21.70	309	P		P	09 56 25.3	-1.1
	baz=102							
ILSW	Iliamna Southw	21.72	315	P		P	09 56 26.3	-0.5
ILSW				IAmb		IAmb	09 56 39.0	
	comp=Z,15nm,0.8s							
F28M	Old Crow	21.79	342	P		P	09 56 27.2	-0.2
	baz=146,SNR=6.2							
SKT	Skwentna	21.79	321	P		P	09 56 27.1	-0.3
	baz=117							
WRH	Wood River Hil	21.79	329	IAmb		IAmb	09 56 32.6	
	comp=Z,8.7nm,0.9s							
CCB	Clear Creek Bu	21.80	330	IAmb		IAmb	09 56 41.9	
	comp=Z,9.0nm,0.7s							
SN05	Snyder 5	21.90	126	IAmb		IAmb	09 56 45.9	
	comp=Z,14nm,0.9s							
G40A	Rib Lake	21.95	85	P		P	09 56 28.5	-0.8
G40A				IAmb		IAmb	09 56 34.0	
	comp=Z,11nm,0.7s							
COLA	College	21.96	330	P		P	09 56 28.4	-0.8
COLA				IAmb		IAmb	09 56 47.1	
	comp=Z,12nm,0.9s							
COLA	College	21.96	330	P		P	09 56 28.6	-0.5
	baz=128							
POKR	Poker Plat Res	21.98	331	P		P	09 56 28.3	-1.1
	baz=129							
TRF	Thorofare Moun	22.01	325	P		P	09 56 29.1	-0.8
	baz=122,SNR=5.8							
CHIR	Chirikof Islan	22.04	304	P		P	09 56 29.4	-0.7
	baz=97							
E29M	Blow River	22.06	344	IAmb		IAmb	09 56 51.8	
	comp=Z,16nm,1.0s							
E29M	Blow River	22.06	344	P		P	09 56 29.5	-0.7
	baz=151,SNR=8.1							
P38A	Dawn	22.08	101	IAmb		IAmb	09 56 40.1	
	comp=Z,12nm,0.9s							
I40A	Norwalk	22.14	89	IAmb		IAmb	09 56 50.5	
	comp=Z,15nm,0.8s							
G26K	Porcupine Rive	22.18	337	P		P	09 56 30.8	-0.7
	baz=139,SNR=7.2							
NEA2	Nenana	22.21	329	P		P	09 56 31.0	-0.9
	baz=126							
Q18K	Katmai Hardscr	22.24	311	P		P	09 56 31.2	-1.1
	baz=104							
H25L	Birch Creek	22.25	334	P		P	09 56 31.2	-1.1
	baz=134,SNR=5.4							
FYU	Fort Yukon	22.29	335	P		P	09 56 32.6	-0.1
FYU				IAmb		IAmb	09 56 49.0	
	comp=Z,32nm,1.5s							
O19K	Port Alsworth	22.35	315	P		P	09 56 32.4	-1.0
	baz=109							
DEOK	Depew	22.39	113	P		P	09 56 33.5	-0.5
COWI	Conover	22.41	82	P		P	09 56 32.4	-1.8
COWI				IAmb		IAmb	09 56 38.2	
	comp=Z,9.8nm,0.6s							
M20K	Styx River	22.43	320	P		P	09 56 32.9	-1.5
	baz=114							
L40A	Anamosa	22.46	94	P		P	09 56 33.2	-1.6
L40A				IAmb		IAmb	09 56 42.5	
	comp=Z,23nm,1.1s							
PPLA	Purkeypile	22.49	323	P		P	09 56 34.2	-0.8
	baz=118,SNR=5.2							
P18K	Big Mountain,	22.54	313	P		P	09 56 34.5	-1.1
	baz=106							
E28M	Babbage River	22.55	343	P		P	09 56 34.8	-0.8
	baz=148							
H24K	Noodor Dome	22.58	332	IAmb		IAmb	09 56 40.7	
	comp=Z,8.4nm,0.9s							
H24K	Noodor Dome	22.58	332	P		P	09 56 34.9	-1.0
	baz=130,SNR=12							
Q17K	Contact Creek	22.60	310	P		P	09 56 35.6	-0.6
	baz=102							
BPAW	Bear Paw Mtn.	22.62	326	IAmb		IAmb	09 56 47.8	
	comp=Z,25nm,1.3s							
BPAW	Bear Paw Mtn.	22.62	326	P		P	09 56 35.5	-0.8
	baz=122							
N19K	Bonanza Creek	22.63	317	P		P	09 56 35.3	-1.3
	baz=110,SNR=5.7							
E27K	Coleen River	22.63	341	P		P	09 56 35.0	-1.4
	baz=144							
I23K	Minto, Yukon-K	22.64	330	P		P	09 56 35.7	-0.7
	baz=126,SNR=7.2							
O18K	Koktuh Hills	22.66	314	P		P	09 56 35.3	-1.5
	baz=107							
G25K	Bearman Lake	22.68	335	P		P	09 56 36.0	-0.9
	baz=135							
CAST	Castle Rocks	22.69	324	IAmb		IAmb	09 56 49.0	
	comp=Z,15nm,1.4s							
CAST	Castle Rocks	22.69	324	P		P	09 56 36.4	-0.7
	baz=119,SNR=5.7							
R17L	Mt. Peulik Vol	22.72	308	P		P	09 56 36.2	-1.2
	baz=100							
BMAR	Burnt Mountain	22.75	337	P		P	09 56 35.7	-2.0
JFWS	Jewell Farm	22.76	91			P	09 56 36.3	-1.7
F26K	Sheenjek River	22.84	338	P		P	09 56 38.0	-0.6
	baz=139,SNR=5.9							
M19K	Big River Lodg	22.99	320	P		P	09 56 39.3	-0.9
	baz=113							
CHUM	Lake Minchumin	23.01	325	P		P	09 56 39.1	-1.2
	baz=120							
G24K	Hadweenzic Riv	23.03	334	IAmb		IAmb	09 57 06.2	
	comp=Z,11nm,1.1s							
G24K	Hadweenzic Riv	23.03	334	P		P	09 56 39.7	-0.9
	baz=132,SNR=6.4							
MLY	Manley	23.04	329	P		P	09 56 39.5	-1.2
	baz=124							
P17K	Kvichak River	23.09	312	P		P	09 56 40.1	-1.0
	baz=104							
H23K	Yukon River	23.11	331	P		P	09 56 40.7	-0.6
	baz=128,SNR=14							
P40A	Paris	23.11	100	IAmb		IAmb	09 56 58.9	
	comp=Z,6.6nm,0.7s							
F25K	Christian Rive	23.15	337	P		P	09 56 40.8	-1.0
	baz=137,SNR=5.5							
N18K	Kilae Creek	23.24	316	P		P	09 56 41.2	-1.5
	baz=108							
OZNA	Ozona	23.29	129	P		P	09 56 42.2	-1.2
OZNA				IAmb		IAmb	09 56 57.2	
	comp=Z,17nm,0.9s							
L19K	White Mountain	23.30	320	IAmb		IAmb	09 56 56.9	
	comp=Z,12nm,1.1s							
L19K	White Mountain	23.30	320	P		P	09 56 42.2	-1.1
	baz=113							
TX31	Lajitas Ar. Si	23.32	136	P		P	09 56 43.5	-0.4
TX31				IAmb		IAmb	09 57 04.3	
	comp=Z,8.6nm,0.9s							
TXAR	Lajitas Array	23.32	136			P	09 56 42.9	-0.9
TXAR	Lajitas Array	23.32	136	P		P	09 56 43.7	-0.2
	comp=Z,1.1nm,0.9s,baz=334,slow=9.0,SNR=12							
	comp=Z,1.1nm,0.9s							
U38A	Gravette	23.34	109	P		P	09 56 42.6	-1.3
D27M	Malcolm River	23.37	343	P		P	09 56 43.3	-0.7
	baz=147							
K20K	Telida	23.46	323	P		P	09 56 43.8	-1.0
	baz=116							
M18K	Stony River	23.47	318	P		P	09 56 44.1	-0.8
	baz=110							
E25K	Arctic Village	23.52	338	P		P	09 56 44.9	-0.5
	baz=138							
SAND	Sanderson	23.55	132			P	09 56 44.9	-1.2
SAND				IAmb		IAmb	09 57 02.3	
	comp=Z,12nm,1.0s							
O17K	Koliganek Bris	23.56	313	P		P	09 56 44.7	-1.1
	baz=104							
I21K	Tanana	23.57	328	IAmb		IAmb	09 57 10.7	
	comp=Z,16nm,0.9s							
I21K	Tanana	23.57	328	P		P	09 56 44.9	-0.9
	baz=123							
R40A	Maddies Statio	23.62	103	P		P	09 56 45.2	-1.4
R40A				IAmb		IAmb	09 56 54.8	
	comp=Z,16nm,0.9s							
F24K	Squaw Lake	23.71	335	P		P	09 56 46.7	-0.5
	baz=133							
HHAR	Hobbs	23.72	109	P		P	09 56 45.8	-1.7
H22K	Ishtalitna Cre	23.76	330	P		P	09 56 47.3	-0.4
	baz=125,SNR=14							
N17K	Nushagak Hills	23.80	315	P		P	09 56 47.1	-1.1
N17K				IAmb		IAmb	09 57 00.5	
	comp=Z,7.7nm,0.9s							
N17K	Nushagak Hills	23.80	315	P		P	09 56 47.5	-0.6
	baz=106							
G23K	Bananza Creek	23.81	332	IAmb		IAmb	09 56 53.5	
	comp=Z,9.8nm,1.0s							
G23K	Bananza Creek	23.81	332	P		P	09 56 47.9	-0.3
	baz=128,SNR=11							
J20K	Nowinta River	23.86	325	IAmb		IAmb	09 57 00.6	
	comp=Z,8.9nm,1.0s							
J20K	Nowinta River	23.86	325	P		P	09 56 47.8	-0.9
	baz=118,SNR=6.0							
O16K	Kokwok River B	24.01	313	IAmb		IAmb	09 57 02.8	
	comp=Z,13nm,0.9s							
O16K	Kokwok River B	24.01	313	P		P	09 56 49.6	-0.4
	baz=103,SNR=5.5							
L18K	Granite Mounta	24.11	319			P	09 56 50.5	-0.5
L18K				IAmb		IAmb	09 57 03.3	
	comp=Z,16nm,1.0s							
L18K	Granite Mounta	24.11	319	P		P	09 56 50.4	-0.6
	baz=110,SNR=9.5							
H21K	Melozitna Rive	24.11	329	IAmb		IAmb	09 57 02.5	
	comp=Z,7.9nm,0.7s							
H21K	Melozitna Rive	24.11	329	P		P	09 56 50.5	-0.5
	baz=122,SNR=13							
M17K	Holitna River	24.18	317			P	09 56 52.1	+0.5
M17K				IAmb		IAmb	09 57 03.6	
	comp=Z,13nm,0.9s							
M17K	Holitna River	24.18	317	P		P	09 56 51.2	-0.4
	baz=108							
COLD	Coldfoot	24.19	333	P		P	09 56 51.1	-0.6
	baz=129,SNR=5.8							
CHNA	Chernabura Isl	24.23	301	P		P	09 56 51.2	-0.9
	baz=91							
C27K	Jago River	24.25	342	P		P	09 56 51.6	-0.6
	baz=143							
E24K	Your Creek	24.25	336	IAmb		IAmb	09 56 56.6	
	comp=Z,6.5nm,0.8s							
E24K	Your Creek	24.25	336	P		P	09 56 51.8	-0.5
	baz=133							
S14K	Fog Glacier	24.28	304	P		P	09 56 52.4	-0.2
	baz=94,SNR=5.4							
I20K	Naaghedeneel	24.28	326	P		P	09 56 52.8	+0.3
	baz=118							
J19K	Poorman	24.36	324	IAmb		IAmb	09 57 06.4	
	comp=Z,21nm,1.4s							
J19K	Poorman	24.36	324	P		P	09 56 52.9	-0.4
	baz=115,SNR=7.6							
CCM	Cathedral Cave	24.43	102			P	09 56 52.8	-1.3
HDIL	Hopedale	24.44	95			P	09 56 52.8	-1.4
N16K	Nishlik Lake	24.55	314	P		P	09 56 55.3	+0.3
	baz=104,SNR=5.6							
E23K	Chandalar	24.56	335	P		P	09 56 55.6	+0.4
	baz=131,SNR=11							
J18K	Innoko River	24.59	322	P		P	09 56 54.9	-0.4
	baz=113							
D25K	Kavik River	24.61	339	P		P	09 56 55.0	-0.5
	baz=138,SNR=9.0							
IMAR	Indian Mountai	24.62	329	P		P	09 56 57.0	+1.5
DRIO	Del Rio	24.75	130	P		P	09 56 56.4	-0.7
DRIO				IAmb		IAmb	09 57 10.9	
	comp=Z,12nm,0.8s							
SDPT	Sand Point	24.75	302	P		P	09 56 56.9	0.0
	baz=91							
H20K	Anotleneega Mo	24.77	327	P		P	09 56 57.0	+0.1
	baz=119,SNR=11							
M16K	Timber Creek	24.78	316	IAmb		IAmb	09 57 12.7	
	comp=Z,7.7nm,0.8s							
M16K	Timber Creek	24.78	316	P		P	09 56 57.1	+0.1
	baz=105							
O15K	Umialikthiuk R	24.79	311	P		P	09 56 56.8	-0.4
	baz=100							
L17K	Donlin	24.80	318	P		P	09 56 57.2	0.0
	baz=108,SNR=17							
G21K	Allakaket	24.82	330	P		P	09 56 57.7	+0.3
	baz=123,SNR=6.3							
TOLK	Toolik Lake Re	24.94	336	IAmb		IAmb	09 57 03.2	
	comp=Z,13nm,1.0s							
TOLK	Toolik Lake Re	24.94	336	P		P	09 56 58.8	+0.3
	baz=132,SNR=12							
F22K	John River	24.96	333	P		P	09 56 58.9	+0.2
	baz=127							
K17K	Iditarod	24.99	320	IAmb		IAmb	09 57 11.4	
	comp=Z,13nm,0.9s							
K17K	Iditarod	24.99	320	P		P	09 56 59.0	+0.1
	baz=109							
FVM	French Village	25.01	102	IAmb		IAmb	09 57 08.4	
	comp=Z,6.9nm,0.8s							
MIAR	Mount Ida	25.05	112			P	09 56 59.7	0.0
MIAR				IAmb		IAmb	09 57 18.7	
	comp=Z,13nm,0.9s							
D24K	Happy Valley	25.09	338	P		P	09 56 58.7	-1.1
D24K				IAmb		IAmb	09 57 19.2	
	comp=Z,5.2nm,0.8s							
D24K	Happy Valley	25.09	338	P		P	09 57 00.1	+0.3
	baz=134							
FCAR	Ozark Folk Cen	25.12	108	P		P	09 56 59.7	-0.6
FCAR				IAmb		IAmb	09 57 16.2	
	comp=Z,5.4nm,0.8s							
N15K	Kwethluk River	25.12	313	P		P	09 57 00.0	-0.1
	baz=102							
GCSA	Galena City Sc	25.18	325	P		P	09 56 59.9	-0.6
	baz=115							
L16K	Owhat River	25.20	317			P	09 57 01.0	+0.1
L16K				IAmb		IAmb	09 57 13.3	
	comp=Z,10nm,1.1s							
L16K	Owhat River	25.20	317	P		P	09 57 00.9	+0.1
	baz=106							
F21K	Alatna River	25.21	332	P		P	09 57 00.9	0.0
	baz=124							
E22K	Anaktuvuk Pass	25.24	334			P	09 57 00.7	-0.5
E22K				IAmb		IAmb	09 57 25.6	
	comp=Z,6.4nm,0.7s							
E22K	Anaktuvuk Pass	25.24	334	P		P	09 57 01.2	-0.1
	baz=128,SNR=5.7							
HNDO	Hondo	25.36	128	P		P	09 57 00.6	-2.0
HNDO				IAmb		IAmb	09 57 22.1	
	comp=Z,7.6nm,1.0s							
H19K	Roundabout Mou	25.36	327	P		P	09 57 02.2	-0.1
	baz=117							
D23K	Nanushuk River	25.45	336	P		P	09 57 03.6	+0.5
	baz=131,SNR=10							
C24K	Franklin Bluff	25.46	339	IAmb		IAmb	09 57 06.5	
	comp=Z,14nm,1.1s							
C24K	Franklin Bluff	25.46	339	P		P	09 57 03.3	+0.2
	baz=135							
M15K	Kasigluk River	25.52	314	P		P	09 57 03.9	+0.1
	baz=102							
O14K	Tigyukauivet M	25.53	311	P		P	09 57 03.9	0.0
	baz=99							
J17K	VABM Dome	25.55	321	P		P	09 57 03.8	-0.2
	baz=110							
S12K	Black Hills	25.66	303	P		P	09 57 04.6	-0.5
	baz=91							
N14K	Kuskokwak Cree	25.86	313	P		P	09 57 06.9	+0.1
	baz=100							
G19K	Purcell Mounta	25.88	328	P		P	09 57 07.3	+0.3
	baz=118							
H18K	Honhosa River	25.92	325	P		P	09 57 07.8	+0.4
	baz=114							
D22K	Ayikyak River	25.95	335	P		P	09 57 08.1	+0.4
	baz=128							
C23K	Itkillik River	26.02	338			P	09 57 07.6	-0.6
C23K				IAmb		IAmb	09 57 22.9	
	comp=Z,10nm,1.1s							
C23K	Itkillik River	26.02	338	P		P	09 57 08.0	-0.2
	baz=133							
E21K	Killik River	26.07	334	P		P	09 57 08.1	-0.6
	baz=126							
L15K	Ungalak Mounta	26.12	316	P		P	09 57 09.4	+0.2
	baz=104							
M14K	Bethel	26.14	314	P		P	09 57 09.6	+0.2
	baz=101							
OLIL	Oiney	26.15	98	P		P	09 57 07.9	-1.7
J16K	Anvik River	26.16	320	P		P	09 57 09.7	+0.1
	baz=108							
K15K	Wolf Creek Mou	26.29	318	IAmb		IAmb	09 57 38.2	
	comp=Z,8.2nm,1.0s							
K15K	Wolf Creek Mou	26.29	318	P		P	09 57 10.6	-0.2
	baz=105							
G18K	Tagagawik	26.34	326	P		P	09 57 11.2	0.0
	baz=115							
H17K	Granite Mounta	26.44	324	P		P	09 57 12.1	+0.1
	baz=112,SNR=5.3							
L14K	Kuka Creek	26.61	315	P		P	09 57 13.8	+0.2
	baz=102							
C21K	Knifeblade Rid	26.73	334	P		P	09 57 14.7	+0.1
	baz=126							
M13K	Dall Lake	26.76	313	P		P	09 57 14.6	-0.4
	baz=99							
G17K	Kiwalik Mounta	26.94	325	P		P	09 57 16.8	+0.2
	baz=112							
B21K	Ikpikpuk River	26.95	335	P		P	09 57 16.8	+0.2
	baz=127							
F18K	Selawik	27.01	328	P		P	09 57 17.2	+0.1
	baz=115							
D20K	Etivluk River	27.02	333	P		P	09 57 16.8	-0.5
	baz=123,SNR=19							
B22K	Teshekpuk Lake	27.08	337	P		P	09 57 17.5	-0.2
	baz=130							
H16K	Elim	27.27	323	P		P	09 57 19.2	-0.4
	baz=108							
J14K	Nanvaranak Lak	27.32	318	P		P	09 57 19.3	-0.6
	baz=103							
F17K	Baldwin Pennin	27.53	327	P		P	09 57 21.6	-0.2
	baz=113							
G16K	Koyuk River	27.57	324	P		P	09 57 21.6	-0.6
	baz=110							
K13K	Kusilvak Mount	27.64	316	P		P	09 57 22.9	0.0
	baz=101							
E18K	Tukpahlearik C	27.70	329	P		P	09 57 23.8	+0.4
	baz=115							
B20K	Meade River	27.90	335	P		P	09 57 25.1	0.0
	baz=124							
E17K	Hotham Inlet	27.99	328	P		P	09 57 26.2	+0.3
	baz=113							
G15K	Niukluk	28.12	323	P		P	09 57 27.6	+0.5
	baz=107							
C19K	Lookout Ridge	28.15	332	P		P	09 57 27.6	+0.2
	baz=120							
M11K	Mekoryuk	28.16	313	P		P	09 57 27.3	-0.2
	baz=96							
UNV	Unalaska Valle	28.32	299	P		P	09 57 28.6	-0.4
	baz=84							
C18K	Utukok River	28.44	331	P		P	09 57 30.3	+0.3
	baz=117							
A21K	Barrow	28.52	337	P		P	09 57 30.7	+0.1
	baz=127							
RES	Resolute Bay	29.29	14	LR		LR	10 09 50.6	
	comp=Z,210nm,18.1s,baz=278,slow=38							
SADO	Sadowa	29.50	80	LR		LR	10 09 40.1	
	comp=Z,286nm,18.5s,baz=336,slow=37							
TKL	Tuckaleechee C	30.72	99	LR		LR	10 11 02.4	
	comp=Z,129nm,19.5s,baz=314,slow=38							
FRB	Frobisher Bay	32.80	41	LR		LR	10 11 41.2	
	comp=Z,133nm,18.6s,baz=284,slow=37							
SCHQ	Schefferville	34.36	57	LR		LR	10 12 28.5	
	comp=Z,169nm,18.4s,baz=276,slow=36							
SFJD	Kangerlussuaq	40.15	35	LR		LR	10 14 48.7	
	comp=Z,79nm,19.2s,baz=282,slow=35							
SEY	Seymchan	47.05	321	LR		LR	10 20 45.8	
	comp=Z,52nm,18.1s,baz=14,slow=37							
JTS	Las Juntas de	48.72	128	LR		LR	10 24 58.8	
	comp=Z,30nm,18.2s,baz=302,slow=41							
PETK	Petropavlovsk-	48.81	308	P		P	10 00 20.8	+0.5
	comp=Z,3.8nm,0.8s,baz=76,slow=13,SNR=7.3							
PETK				LR		LR	10 18 57.7	
	comp=Z,42nm,20.7s,baz=112,slow=34							
	comp=Z,3.8nm,0.8s							
MA2	Magadan	49.21	318	LR		LR	10 22 11.1	
	comp=Z,47nm,18.1s,baz=62,slow=37							
TIXI	Tiksi	50.83	337	LR		LR	10 23 23.2	
	comp=Z,69nm,20.2s,baz=24,slow=38							
SPITS	Spitsbergen Ar	51.69	10	LR		LR	10 21 28.0	
	comp=Z,89nm,19.7s,baz=318,slow=35							
BORG	Borgarnes	52.09	32	LR		LR	10 23 21.9	
	comp=Z,113nm,18.0s,baz=305,slow=37							
SJG	San Juan	54.01	103	LR		LR	10 24 29.3	
	comp=Z,23nm,19.2s,baz=292,slow=36							
YAK	Yakutsk	56.45	328	LR		LR	10 26 51.0	
	comp=Z,65nm,20.1s,baz=43,slow=38							
ARCES	ARCESS Array B	60.49	13	P		P	10 01 44.6	-0.1
	comp=Z,1.9nm,0.7s,baz=341,slow=6.0,SNR=5.0							
ARCES				LR		LR	10 28 53.3	
	comp=Z,57nm,18.7s,baz=9.0,slow=37							
	comp=Z,1.9nm,0.7s							
PCRV	Puerto La Cruz	60.86	108	LR		LR	10 30 25.2	
	comp=Z,41nm,18.2s,slow=38							
NRIK	Noril'sk	61.07	348	P		P	10 01 49.4	+0.7
	comp=Z,4.9nm,0.7s,baz=13,slow=2.8,SNR=4.5							
NRIK				LR		LR	10 30 27.2	
	comp=Z,29nm,20.4s,baz=11,slow=38							
	comp=Z,4.9nm,0.7s							
ASAJ	Asahikawa	62.12	306	LR		LR	10 28 13.8	
	comp=Z,28nm,19.9s,baz=342,slow=35							
NB2	NORSAR Subarra	65.06	23	P		P	10 02 15.5	+0.2
	comp=Z,1.2nm,0.8s,baz=322,slow=6.9							
NOA	NORSAR Array B	65.06	23	P		P	10 02 15.7	+0.4
	comp=Z,1.0nm,0.8s,baz=324,slow=6.7,SNR=4.7							
NOA				LR		LR	10 29 48.0	
	comp=Z,39nm,21.2s,baz=315,slow=35							
	comp=Z,1.0nm,0.8s							
HFS	Hagfors	66.48	22	P		P	10 02 24.4	-0.1
	comp=Z,3.1nm,0.7s,baz=346,slow=3.7,SNR=10							
HFS				LR		LR	10 32 09.6	
	comp=Z,48nm,18.3s,baz=336,slow=37							
	comp=Z,3.1nm,0.7s							
FINES	FINESS Array B	68.04	16	P		P	10 02 34.2	0.0
	comp=Z,4.0nm,0.6s,baz=344,slow=4.3,SNR=17							
FINES				LR		LR	10 31 58.8	
	comp=Z,51nm,19.1s,baz=317,slow=36							
	comp=Z,4.0nm,0.6s							
PPT	Papeete	69.67	208	LR		LR	10 27 09.2	
	comp=Z,72nm,21.2s,baz=82,slow=31							
PPT2	Papeete2	69.69	208	*e*LR		LR	10 23 41.9	
	comp=Z,61nm,22.8s							
MJAR	Matsushiro Arr	69.73	302	P		P	10 02 46.3	+1.1
	comp=Z,1.9nm,0.7s,baz=44,slow=7.4,SNR=4.1							
	comp=Z,1.9nm,0.7s							
KIRV	Kirov	73.66	5	LR		LR	10 39 43.0	
	comp=Z,38nm,19.3s,baz=356,slow=39							
CLL	Collm	73.93	27	*e*P		P	10 03 11.0	+0.8
KSRS	Korea Array	74.68	309	P		P	10 03 16.4	+1.7
	comp=Z,1.5nm,0.8s,baz=44,slow=4.6,SNR=5.2							
	comp=Z,1.5nm,0.8s							
MNK	Minsk	74.87	18	*i* LR		LR	10 36 56.4	
MNK	Minsk	74.87	18	*i* P		P	10 03 15.7	+0.1
	comp=E,14nm,0.7s							
MNK	Minsk	74.87	18	*i* P		P	10 03 15.7	+0.1
	comp=N,16nm,0.7s							
MNK	Minsk	74.87	18	*i* P		P	10 03 15.7	+0.1
	comp=Z,14nm,0.7s,baz=339							
MNK	Minsk	74.87	18	*i* PP		PP	10 06 02.9	+0.5
MNK	Minsk	74.87	18	*i* PPP		PPP	10 07 48.6	
MNK	Minsk	74.87	18	*i* S		S	10 12 53.0	+2.8
MNK	Minsk	74.87	18	*i* SS		SS	10 17 42.7	+5.5
MNK	Minsk	74.87	18	*i* SSS		SSS	10 21 04.9	
MNK	Minsk	74.87	18	*i* LQ		LQ	10 30 33.5	
TBI	Tubuai	75.07	206	*e*LR		LR	10 26 24.8	
	comp=Z,210nm,21.8s							
SONM	Songino Array	75.79	329	P		P	10 03 22.8	+1.6
	comp=Z,0.3nm,0.3s,baz=92,slow=3.0,SNR=6.7							
SONM				LR		LR	10 39 19.2	
	comp=Z,60nm,18.5s,baz=306,slow=38							
	comp=Z,0.3nm,0.3s							
ZALV	Zalesovo Beam	76.02	344	P		P	10 03 22.6	+0.5
	comp=

HHC				pmax	pmax			
	comp=Z,95nm,5.8s							
BELG	**Belogornoye**	**79.71**	**6**	LR	LR	10 43 39.4		
	comp=Z,35nm,18.1s,baz=233,slow=39							
LPAZ	**La Paz**	**79.94**	**128**	P	**P**	**10 03 44.1**	**-0.9**	
	comp=Z,1.1nm,0.6s,baz=307,slow=2.2,SNR=6.3							
KURBB	**Kurchatov Arra**	**80.29**	**347**	P	**P**	**10 03 46.0**	**+0.1**	
	comp=Z,2.3nm,0.6s,baz=12,slow=5.5,SNR=9.2							
	comp=Z,2.3nm,0.6s							
AKTO	**Aktyubinsk**	**82.06**	**360**	P	**P**	**10 03 55.4**	**+0.1**	
	comp=Z,2.5nm,0.8s,baz=17,slow=6.9,SNR=3.6							
AKTO				LR	LR	10 44 43.4		
	comp=Z,36nm,18.2s,baz=100,slow=39							
	comp=Z,2.5nm,0.8s							
MLR	**Muntele Rosu**	**82.86**	**22**	LR	LR	10 41 06.8		
	comp=Z,66nm,20.9s,baz=316,slow=36							
MKAR	**Makanchi Array**	**83.34**	**343**	P	**P**	**10 04 02.4**	**+0.3**	
	comp=Z,2.0nm,0.8s,baz=357,slow=6.1,SNR=12							
	comp=Z,2.0nm,0.6s							
NJ2	**Nanjing**	**83.55**	**312**	*e*P	**P**	**10 04 04.3**	**+1.0**	
NJ2				pmax	pmax			
	comp=Z,5.0nm,0.5s							
LYN	**LuoYang**	**84.56**	**318**	P	**P**	**10 04 09.9**	**+1.4**	
LYN				pP	pP	10 04 15.4	-2.6	
LYN				sP	PcP	10 04 16.3	+4.3	
LYN				pmax	pmax			
	comp=Z,25nm,0.9s							
WMQ	**Urumqi**	**85.00**	**339**	*e*P	**P**	**10 04 11.4**	**+0.8**	
WMQ				pmax	pmax			
	comp=Z,38nm,0.9s							
XAN	**Xi'an**	**86.56**	**320**	*e*P	**P**	**10 04 19.1**	**+0.6**	
XAN				pmax	pmax			
	comp=Z,7.0nm,1.5s							
LZH	**Lanzhou**	**86.90**	**324**	*e*P	**P**	**10 04 20.2**	**-0.1**	
LZH				pP	pP	10 04 27.9	-1.9	
LZH				sP	sP	10 04 33.6	+0.3	
LZH				pmax	pmax			
	comp=Z,24nm,1.3s							
KBZ	**Khabaz**	**87.81**	**11**	P	**P**	**10 04 24.6**	**+0.3**	
	comp=Z,1.9nm,0.6s,baz=2.1,slow=5.5,SNR=4.7							
	comp=Z,1.9nm,0.6s							
AAK	**Ala-Archa**	**88.69**	**348**	P	**P**	**10 04 29.7**	**+1.0**	
	comp=Z,4.0nm,0.5s,baz=64,slow=5.5,SNR=4.3							
	comp=Z,4.0nm,0.5s							
KSH	**Kashi**	**91.52**	**346**	P	**P**	**10 04 45.1**	**+3.2**	
KSH				pmax	pmax			
	comp=Z,4.0nm,0.7s							
DZM	**Mont Dzumac**	**94.50**	**242**	*e*LR	LR	10 35 21.1		
	comp=Z,56nm,23.6s							
PZH	**PanZhiHua**	**96.16**	**321**	P	**P**	**10 05 03.4**	**-0.1**	
ASAR	**Alice Springs**	**116.44**	**263**	PKP	**PKPdf**	**10 10 18.7**	**-0.3**	
	comp=Z,0.6nm,0.7s,baz=85,slow=2.4,SNR=7.7							
QSPA	**South Pole Qui**	**137.70**	**180**	PKP	**PKiKP**	**10 10 59.8**	**-0.3**	
	comp=Z,2.1nm,1.0s,baz=310,slow=0.4,SNR=8.3							
VNA1	**Neumayer--Stat**	**141.97**	**150**	⇑P	**Pdif**	**10 08 32.5**	**+6.6**	
	comp=Z,0.7nm,0.2s							
VNA2	**Neumayer--Watz**	**142.25**	**151**	⇑P	**Pdif**	**10 08 38.3**	**+11**	
	comp=Z,0.5nm,0.1s,baz=321,slow=17							
SNAA	**Sanae**	**143.65**	**152**	PKhKP	PKPpre	10 11 04.7		
	comp=Z,2.2nm,0.9s,baz=175,slow=1.6,SNR=4.0							
BOSA	**Boshof**	**148.24**	**65**	PKPbc	**PKPbc**	**10 11 20.3**	**-1.0**	
	comp=Z,3.6nm,0.9s,baz=257,slow=1.0,SNR=5.9							

NEIC ***12*** *09:53:58.3±1.1, 47.88N±0.03×122.00W±0.04, h34km±2km, Error ellipse: s-maj=4.1km s-min=3.7km az=50.0*

SEA 12 09:53:58.8±1.7, 47.87N±0.03×122.03W±0.01, h31km±6km, ML3.5/25, ML3.3/52(NEIC), Error ellipse: s-maj=3.7km s-min=1.1km az=174.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLH	**Bald Hill**	**0.03**	**184**		Pb	09 54 03.6	-0.4
EVGW	**Everett Gatewa**	**0.09**	**263**		Pb	09 54 04.0	-0.2
EVGW					Sb	09 54 08.3	+0.4
LEOT	**Leota Junior H**	**0.11**	**211**		Pb	09 54 04.4	+0.1
LEOT					Sb	09 54 09.0	+0.9
EARN	**East Ridge Ele**	**0.12**	**183**		Pb	09 54 04.4	0.0
EARN					Sb	09 54 09.0	+0.8
BEVT	**Boeing Everett**	**0.17**	**289**		Pb	09 54 05.0	+0.1
NIHS	**Ingelmoor High**	**0.18**	**227**		Pb	09 54 05.2	+0.2
NIHS					Sn	09 54 10.8	+1.4
LYNC	**Lynnwood City**	**0.18**	**258**		Pb	09 54 04.9	-0.1
LYNC					Sn	09 54 09.8	+0.3
HTW	**Haystack Looko**	**0.19**	**109**		Pb	09 54 04.8	-0.3
FINN	**Finn Hill Juni**	**0.20**	**223**		Pn	09 54 05.4	-0.2
FINN					Sn	09 54 11.2	+1.2
BRKS	**Brookside Elem**	**0.21**	**238**		Pb	09 54 05.3	+0.1
BRKS					Sn	09 54 10.8	+0.7
MARYW	**Marymoor Park**	**0.21**	**197**		Pb	09 54 05.5	+0.3
ALCT	**Alcott Element**	**0.22**	**181**		Pb	09 54 05.5	+0.2
NOWS	**NOAA--Sand Poi**	**0.23**	**221**		Pn	09 54 05.9	-0.2
NOWS					Sn	09 54 12.1	+1.3
SCCW	**Shoreline CC**	**0.25**	**243**		Pb	09 54 05.8	+0.1
SCCW					Sn	09 54 11.8	+0.6
C05A	**Tolt Reservoir**	**0.28**	**126**		Pb	09 54 05.8	-0.5
C05A					Sb	09 54 10.8	-0.5
TTW	**Tolt Reservoir**	**0.28**	**127**		Pb	09 54 05.8	-0.4
TTW					Sb	09 54 10.8	-0.4
SWID	**South Whidbey**	**0.30**	**299**		Pb	09 54 06.1	-0.2
SWID					Sn	09 54 12.2	-0.1
JCW	**Jim Creek**	**0.34**	**11**		Pb	09 54 06.6	-0.3
JCW					Sb	09 54 12.1	-0.3
SP2	**Seward Park 2**	**0.34**	**206**		Pb	09 54 07.1	+0.2
TKCO	**King County**	**0.38**	**209**		Sn	09 54 14.9	+0.6
ELW	**Echo Lake**	**0.39**	**164**		Pb	09 54 07.2	-0.4
ELW					Sb	09 54 13.9	+0.4
BSFP	**Boeing Fire Pr**	**0.39**	**208**		Sn	09 54 15.4	+0.8
B05A	**Bryant**	**0.40**	**354**		Pb	09 54 07.3	-0.5
B05A					Sb	09 54 13.4	-0.5
KINR	**Kitsap County**	**0.43**	**255**		Pb	09 54 08.0	-0.2
KINR					Sn	09 54 15.4	-0.3
KITP	**Kitsap County**	**0.45**	**245**		Pb	09 54 08.6	+0.1
CDMR	**Cedar Moraine**	**0.48**	**157**		Pb	09 54 08.5	-0.4
RAW	**Raver**	**0.53**	**173**		Pb	09 54 09.4	-0.4
SVOH	**Skagit Valley**	**0.59**	**317**		Pb	09 54 09.8	-0.8
B013	**Quilcene**	**0.60**	**265**		Pb	09 54 09.6	-1.3
B013					Sb	09 54 17.9	-1.1
GMW	**Gold Mountain**	**0.60**	**238**		Pb	09 54 09.8	-1.2
GNW	**Green Mountain**	**0.62**	**241**		Pb	09 54 10.0	-1.1
GNW					Sb	09 54 18.4	-1.1
KIMR	**Kitsap County**	**0.62**	**234**		Pb	09 54 10.5	-0.6
BLN	**Blyn Mountain**	**0.65**	**283**		Pb	09 54 10.5	-1.3
GPW	**Glacier Peak**	**0.65**	**67**		Pb	09 54 11.7	-0.2
C04A	**Brinnon**	**0.65**	**257**		Pb	09 54 10.3	-1.4
D05A	**Enumclaw**	**0.68**	**178**		Pb	09 54 11.9	-0.3
ERW	**Mount Erie**	**0.71**	**326**		Pn	09 54 11.9	-0.8
SQM	**Sequim**	**0.71**	**287**		Pn	09 54 11.9	-0.8
GHW	**Garrison Hill**	**0.84**	**191**		Pn	09 54 13.8	-0.7
B941	**Kapowsin**	**0.89**	**188**		Pn	09 54 14.4	-0.7
PCFR	**Pierce County**	**0.92**	**198**		Pn	09 54 15.0	-0.6
RVC	**Mount Rainier-**	**0.92**	**178**		Pn	09 54 15.5	-0.3
MBW	**Mount Baker**	**0.92**	**5**		Pn	09 54 16.0	+0.1
UWFH	**University of**	**0.95**	**316**		Pn	09 54 15.2	-0.7
FMW	**Mount Fremont**	**0.96**	**165**		Pn	09 54 15.9	-0.5
A04D	**Lummi Island**	**0.97**	**332**		Pn	09 54 16.0	-0.3
A04D				IAML		09 54 33.5	
	comp=N,819nm,0.3s						
A04D				IAML		09 54 36.2	
	comp=E,871nm,0.5s						
MCW	**Mount Constitu**	**0.98**	**327**		Pn	09 54 16.2	-0.2
B04A	**Port Angeles**	**1.01**	**282**		Pn	09 54 15.9	-0.9
RCS	**Mount Rainier-**	**1.01**	**168**		Pn	09 54 17.1	-0.1
SMW	**South Mountain**	**1.04**	**239**		Pn	09 54 17.1	-0.2
LTY	**Liberty**	**1.10**	**123**	Pn	Pn	09 54 18.6	+0.4
LTY				IAML		09 54 34.8	
	comp=E,668nm,0.4s						
LON	**Longmire**	**1.12**	**172**		Pn	09 54 18.6	+0.1
LON	**Longmire**	**1.12**	**172**	Pn	Pn	09 54 18.5	0.0
LON				IAML		09 54 33.4	
	comp=E,536nm,0.7s						
LON				IAML		09 54 34.0	
	comp=N,274nm,0.3s						
B011	**North Saanich**	**1.23**	**310**		Pn	09 54 19.3	-0.6
PGC	**Sidney**	**1.23**	**310**	Pn	Pn	09 54 19.3	-0.6
OLQ	**Olympics--Lake**	**1.25**	**254**		Pn	09 54 20.9	+0.8
NLWA	**Neilton Lookou**	**1.33**	**250**		Pn	09 54 21.0	-0.3
NLWA				IAML		09 54 43.0	
	comp=N,443nm,0.8s						
SYMB	**Survey Mountai**	**1.37**	**301**		Pn	09 54 21.3	-0.6
NAC	**Naches**	**1.40**	**144**		Pb	09 54 24.1	-0.2
WISH	**Wishkah**	**1.40**	**238**	Pn	Pn	09 54 21.7	-0.5
WISH				IAML		09 54 30.6	
	comp=E,368nm,2.6s						
WISH				IAML		09 54 44.8	
	comp=N,384nm,1.6s						
P403	**Sandy Floe Qua**	**1.43**	**279**		Pn	09 54 23.3	+0.6
B201	**Coldwater, Mou**	**1.57**	**186**		Pn	09 54 25.5	+0.9
E03A	**Lebam**	**1.68**	**219**	Pn	Pn	09 54 26.3	+0.2
E03A				IAML		09 54 55.8	
	comp=N,261nm,0.6s						
E03A				IAML		09 55 02.8	
	comp=E,291nm,0.7s						
B926	**Mesachie Lake**	**1.70**	**305**		Pn	09 54 26.8	+0.5
CLRS	**Cowichan Lake**	**1.70**	**305**	Pn	Pn	09 54 25.6	-0.7
MXC	**Moxie City**	**1.75**	**137**	Pn	Pn	09 54 25.2	-1.8
MXC				IAML		09 54 53.9	
	comp=N,368nm,0.7s						
B08A	**Colville Reser**	**1.87**	**74**	Pn	Pn	09 54 27.6	-1.1
RADR	**Rader Ridge**	**1.88**	**221**	Pn	Pn	09 54 28.0	-0.8
RADR				IAML		09 54 41.3	
	comp=E,257nm,2.6s						
RADR				IAML		09 55 01.2	
	comp=N,240nm,1.0s						
B023	**Clatskanie**	**1.90**	**203**		Pn	09 54 30.6	+1.6
F04D	**Rainier, OR**	**1.91**	**201**	Pn	Pn	09 54 27.4	-1.8
E07A	**Sunnyside**	**1.98**	**131**	Pn	Pn	09 54 29.0	-1.1
E07A				IAML		09 55 01.9	
	comp=N,362nm,0.7s						
SHB	**Sechelt**	**2.12**	**326**		Pn	09 54 34.1	+1.9
E08A	**Dider Farm, El**	**2.45**	**123**	Pn	Pn	09 54 35.0	-1.6
E08A				IAML		09 54 54.5	
	comp=E,145nm,1.6s						
OZB	**Mount Ozzard**	**2.56**	**297**	Pn	Pn	09 54 36.6	-1.5
OZB				IAML		09 54 57.9	
	comp=E,117nm,2.1s						
OZB				IAML		09 55 21.7	
	comp=N,120nm,0.6s						
G05A	**Wamic**	**2.67**	**169**	Pn	Pn	09 54 38.4	-1.3
G05A				IAML		09 55 21.4	
	comp=N,192nm,2.2s						
G04A	**Mulino**	**2.68**	**187**	Pn	Pn	09 54 38.1	-1.6
LLLB	**Lillooet**	**2.75**	**2**	Pn	Pn	09 54 38.7	-2.1
LLLB				IAML		09 55 02.8	
	comp=E,154nm,0.9s						
LLLB				IAML		09 55 21.3	
	comp=N,117nm,1.0s						
G03D	**McMinnville, O**	**2.79**	**198**	Pn	Pn	09 54 40.1	-1.2
G03D				IAML		09 55 07.8	
	comp=E,114nm,1.6s						
G03D				IAML		09 55 33.8	
	comp=N,151nm,1.2s						
HEBO	**Mount Hebo**	**2.91**	**205**	Pn	Pn	09 54 41.7	-1.3
HEBO				IAML		09 55 23.1	
	comp=N,116nm,1.6s						
NEW	**Newport**	**3.31**	**81**	Pn	Pn	09 54 47.6	-0.9
NEW				IAML		09 55 13.0	
	comp=N,83nm,0.8s						
NEW				IAML		09 55 19.7	
	comp=N,102nm,1.4s						
PINE	**Pine Mountain**	**4.14**	**169**	Pn	Pn	09 54 58.5	-1.6
I07A	**Izee**	**4.17**	**154**	Pn	Pn	09 55 00.0	-0.4
J05D	**Fort Rock, OR**	**4.61**	**173**	Pn	Pn	09 55 06.0	-0.5
J04A	**Umpqua Nationa**	**4.62**	**181**	Pn	Pn	09 55 07.0	+0.3
HOLB	**Holberg**	**4.87**	**307**	Pn	Pn	09 55 08.9	-0.9
JCC	**Jacoby Creek,**	**7.19**	**192**	Pn	Pn	09 55 41.9	+0.2

ASRS ***12*** *09:58:11.0±0.6, 53.66N×86.88E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 12 09:58:14.9±2.9, 53.71N×86.94E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=25.8km s-min=16.1km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**281**	I	I	10 06 10.0	
	baz=102,slow=316,SNR=1.6						
ZALV	**Zalesovo Beam**	**1.28**	**281**	Pg	Pg	09 58 37.5	-1.8
	2.1nm,0.3s,baz=102,slow=16,SNR=11						
ZALV				Lg	Lg	09 58 56.6	
	1.0nm,0.3s,baz=102,slow=29,SNR=3.7						
KURBB	**Kurchatov Arra**	**6.03**	**242**	Pn	Pn	09 59 46.2	+1.0
	0.1nm,0.3s,baz=57,slow=13,SNR=4.1						
KURBB				Lg	Lg	10 01 26.7	
	baz=60,slow=33,SNR=4.4						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.54**	**205**	Pn	Pn	10 00 07.5	+1.5
	0.1nm,0.3s,baz=24,slow=13,SNR=3.5						
MKAR				Lg	Lg	10 02 15.2	
	baz=23,slow=31,SNR=5.1						
	0.3nm,0.4s						

ASRS ***12*** *09:59:28.0±1.1, 53.55N×87.77E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 12 09:59:30.2±2.9, 53.51N×87.67E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=25.1km s-min=15.0km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**286**	I	I	10 10 20.0	
	0.1nm,0.8s,baz=103,slow=313,SNR=12						
ZALV	**Zalesovo Beam**	**1.75**	**286**	Pn	Pn	10 00 01.1	-0.7
	2.2nm,0.3s,baz=104,slow=14,SNR=7.1						
ZALV				Lg	Lg	10 00 25.6	
	3.6nm,0.3s,baz=103,slow=33,SNR=11						
KURBB	**Kurchatov Arra**	**6.33**	**246**	Pn	Pn	10 01 05.3	+0.5
	0.1nm,0.3s,baz=61,slow=14,SNR=5.1						
KURBB				Lg	Lg	10 02 51.4	
	baz=63,slow=32,SNR=7.8						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.56**	**209**	Pn	Pn	10 01 23.1	+1.5
	0.2nm,0.3s,baz=27,slow=13,SNR=5.3						
MKAR				Sn	Sn	10 02 47.6	-0.3
	0.1nm,0.3s,baz=26,slow=24,SNR=2.7						
MKAR				Lg	Lg	10 03 29.4	
	0.1nm,0.3s,baz=25,slow=31,SNR=5.4						
	0.3nm,0.3s						

IDC 12 10:03:46.3±2.0, 3.69N×127.63E, h0km, mb3.4/4, mbtmp3.4/4, MS2.4/1, Error ellipse: s-maj=166.0km s-min=23.3km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.93**	**329**	LR	LR	10 06 33.5	
	comp=Z,47nm,21.0s,baz=346,slow=43						
WRA	**Warramunga Arr**	**24.39**	**165**	P	P	10 09 05.5	-1.1
	0.4nm,0.6s,baz=344,slow=11,SNR=8.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**27.87**	**168**	P	P	10 09 39.5	+1.5
	0.3nm,0.7s,baz=350,slow=8.9,SNR=4.3						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**58.10**	**325**	P	P	10 13 41.9	+0.2
	0.3nm,0.5s,baz=124,slow=7.2,SNR=2.2						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**62.26**	**327**	P	P	10 14 09.7	-0.3
	0.5nm,0.6s,baz=125,slow=6.5,SNR=5.2						
	0.5nm,0.6s						

IDC ***12*** *10:20:39.6±1.8, 3.91N×126.96E, h0km, mb3.4/5, mbtmp3.5/5, Error ellipse: s-maj=118.9km s-min=21.7km az=70.0*

DJA ***12*** *10:20:45.1±0.4, 4.1°N±5.1°×12.7°E±1.1°, h13km±5km, M3.9/8, mb4.0/3, MLv3.8/8*

ISC 12 10:20:45.1±1.4, 3.9N±0.1×126.8E±0.1, h36km, n7, σ0.9s28/8, mb3.4/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.29**	**263**	P	**Pn**	**10 21 06.5**	**-0.1**
SGSI				S	**Sn**	**10 21 22.7**	**0.0**
TNTI	**Ternate**	**3.11**	**170**	P	**Pn**	**10 21 31.6**	**0.0**
FITZ	**Fitzroy Crossi**	**21.84**	**183**	P	**P**	**10 25 34.8**	**+0.2**
	2.9nm,0.9s,baz=32,slow=9.8,SNR=6.6						
	2.9nm,0.9s						
WRA	**Warramunga Arr**	**24.77**	**163**	P	**P**	**10 26 03.3**	**-0.4**
	0.4nm,0.3s,baz=342,slow=9.4,SNR=19						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**28.21**	**166**	P	**P**	**10 26 34.5**	**-0.1**
	0.3nm,0.5s,baz=352,slow=8.4,SNR=8.1						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**57.50**	**325**	P	**P**	**10 30 30.6**	**-0.2**
	0.1nm,0.4s,baz=126,slow=7.5,SNR=2.4						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**61.68**	**327**	P	**P**	**10 30 59.8**	**+0.3**
	0.1nm,0.3s,baz=130,slow=6.7,SNR=2.4						
	0.1nm,0.3s						

KRNET 12 10:34:22.4±0.1, 40.92N×69.47E, mb2.5, 9C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.34**	**130**	⇑*e*P	Pg	10 34 47.6	-0.5
BTK				⇑*e*S	Sg	10 35 05.7	+0.2
TRKS	**Terek-Say**	**1.40**	**64**	⇑*e*P	Pg	10 34 48.6	-0.6
ARK	**Arkit**	**2.07**	**64**	⇑*e*P	Pb	10 34 59.9	-1.0
ARK				⇑*e*S	Sb	10 35 27.2	-0.1
DRK	**Karamyk**	**2.29**	**128**	⇑*e*P	Pn	10 35 02.9	+1.1
DRK				⇑*e*S	Sb	10 35 33.2	-0.7
OHH	**Osh**	**2.55**	**98**	⇑*e*P	Pn	10 35 06.3	+1.2
OHH				⇑*e*S	Sn	10 35 38.4	+1.5

KRNET ***12*** *10:34:41.1±0.1, 40.97N×69.31E, mb2.9*
SOME ***12*** *10:34:41.0, 40.77N×69.02E, h10km*
NNC ***12*** *10:34:42.6±7.0, 40.68N×69.57E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=46.3km s-min=38.3km az=28.0, Suspected Mining explosion.*

ISC 12 10:34:37.6±1.5, 40.77N±0.03×69.11E±0.09, h0km, n14, σ2.83/25, 10C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.48**	**118**	⇓*i*P	**Pb**	**10 35 07.5**	**+1.4**
BTK				⇓*i*S	**Sn**	**10 35 26.4**	**+0.6**
IUG	**Iuzhnay**	**1.54**	**26**	P	**Pg**	**10 35 10.5**	**+3.4**
	96nm,0.2s						
IUG				S	**Sb**	**10 35 31.9**	**+4.8**
	32nm,0.3s						
TRKS	**Terek-Say**	**1.71**	**63**	⇑*i*P	**Pn**	**10 35 07.6**	**-1.2**
TRKS				⇑*i*S	**Sn**	**10 35 27.1**	**-4.3**
TRKS	**Terek-Say**	**1.71**	**63**	⇑*e*S	**Pn**	**10 35 07.7**	**-1.1**
GAR	**Garm**	**2.00**	**152**	⇓*i*P	**Pg**	**10 35 16.4**	**+0.5**
GAR				⇓*i*S	**Sg**	**10 35 42.1**	**+0.3**
BRLS	**Boroldaу**	**2.32**	**13**	Pg	**Pb**	**10 35 19.3**	**-1.0**
	8.1nm,0.3s						
BRLS				Lg	Lg	10 35 47.0	
	22nm,0.3s						
BRLS	**Boroldaу**	**2.32**	**13**	*e*P	**Pb**	**10 35 19.3**	**-1.0**
	8.1nm,0.3s						
BRLS				*e*S	**Sn**	**10 35 47.0**	**+0.7**
	22nm,0.3s						
ARK	**Arkit**	**2.38**	**64**	⇑*e*P	**Pn**	**10 35 16.6**	**-1.4**
ARK				⇑*e*S	**Sn**	**10 35 43.4**	**-4.5**
DRK	**Karamyk**	**2.43**	**121**	⇑*i*P	**Pb**	**10 35 20.9**	**-1.5**
DRK				⇑*i*S	**Sn**	**10 35 49.7**	**+0.3**
KK31	**Karatay Array**	**2.55**	**24**	⇑Pn	**Pg**	**10 35 26.5**	**0.0**
	0.6nm,0.1s,baz=202,slow=15,SNR=14						
KK31				Sn	**Sg**	**10 35 58.9**	**-0.7**
	2.7nm,0.2s,baz=194,slow=30,SNR=5.1						
MNAS	**Manas**	**3.06**	**55**	⇑*i*P	**Pn**	**10 35 26.4**	**-1.0**
MNAS				⇑*i*S	**Sn**	**10 35 59.3**	**-5.6**
UCH	**Uchtor**	**4.31**	**69**	⇓*i*P	**Pn**	**10 35 44.1**	**-0.7**
UCH				⇓*i*S	**Sn**	**10 36 30.0**	**-6.0**
KST	**Kastek**	**5.59**	**64**	Pg	**Pg**	**10 36 26.1**	**+1.4**
	1.0nm,0.3s						
KST				Lg	Lg	10 37 41.4	
	3.7nm,0.9s						
KST	**Kastek**	**5.59**	**64**	*e*P	**Pg**	**10 36 26.1**	**+1.4**
	1.0nm,0.3s						
KST				*e*S	**Sg**	**10 37 41.4**	**+4.2**
	3.7nm,0.9s						

CATAC ***12*** *10:34:56.0±0.5, 13°N±3°×8°9W±1°, h26km±2km, M3.4/20, MLv3.4/20, Error ellipse: s-maj=6.1km s-min=3.2km az=26.2, confirmed*
SNET ***12*** *10:34:56.9±1.1, 13.07N×89.44W, h45km±11km, ML3.3*
GCG ***12*** *10:34:57.5±0.7, 13.07N×89.53W, h41km±11km, MD4.0, ML3.3*

ISC 12 10:34:57.5±1.5, 13.04N±0.06×89.43W±0.03, h33km±9km, n84, σ0.82/104, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.46**	**13**	*e*P	**Pb**	**10 35 07.4**	**-0.1**
LALI				*e*S	**Sb**	**10 35 15.1**	**+0.8**
LALI	**Alcalda de L**	**0.46**	**13**	*e*P	**Pb**	**10 35 07.5**	**+0.1**
LALI				*e*S	**Sn**	**10 35 15.5**	**+0.6**
LALI				IAML		10 35 17.5	
	comp=E,223nm,0.1s						
LALI	**Alcalda de L**	**0.46**	**13**	P	**Pb**	**10 35 07.5**	**+0.1**
JAYA	**Jayaque - finc**	**0.61**	**358**	*e*P	**Pb**	**10 35 09.3**	**-0.7**
JAYA				*e*S	**Sb**	**10 35 18.0**	**-0.6**
JAYA	**Jayaque - finc**	**0.61**	**358**	*e*P	**Pb**	**10 35 09.3**	**-0.7**
JAYA				*i* S	**Sb**	**10 35 19.1**	**+0.5**
JAYA	**Jayaque - finc**	**0.61**	**358**	P	**Pb**	**10 35 09.3**	**-0.7**
JAYA	**Jayaque - finc**	**0.61**	**358**	S	**Sb**	**10 35 18.3**	**-0.2**
PANCS	**Alcalda de**	**0.62**	**23**	*e*P	**Pb**	**10 35 09.3**	**-0.7**
PANCS	**Alcalda de**	**0.62**	**23**	P	**Pb**	**10 35 09.5**	**-0.5**
PANCS	**Alcalda de**	**0.62**	**23**	S	**Sb**	**10 35 19.1**	**+0.5**
LOMA	**Loma Larga**	**0.65**	**22**	*e*P	**Pb**	**10 35 10.0**	**-0.6**
PMON	**Piamonte**	**0.68**	**9**	*e*P	**Pb**	**10 35 10.1**	**-1.0**
PMON				*e*S	**Sb**	**10 35 20.6**	**+0.3**
PMON	**Piamonte**	**0.68**	**9**	P	**Pb**	**10 35 10.3**	**-0.7**
LFRS	**El Faro**	**0.68**	**31**	*e*P	**Pn**	**10 35 10.5**	**-0.4**
LFRS				*e*S	**Sb**	**10 35 20.1**	**-0.

PQSS	**Presa 15 de Se**	**1.02**	**55**	*e*P		**Pn**	**10 35 15.0**	**-0.5**
PQSS				*e*S		**Sn**	**10 35 28.4**	**-0.4**
PQSS				IAML			10 35 31.0	
	comp=Z,239nm,0.3s							
PQSS	**Presa 15 de Se**	**1.02**	**55**	P		**Pn**	**10 35 15.1**	**-0.5**
SLOZ	**Alcaldia de Sa**	**1.04**	**340**	*e*P		**Pn**	**10 35 14.6**	**-1.2**
SLOZ				*e*S		**Sn**	**10 35 29.4**	**+0.1**
SLOZ	**Alcaldia de Sa**	**1.04**	**340**	P		**Pn**	**10 35 15.1**	**-0.8**
PACA	**Pacayal**	**1.16**	**68**	*e*P		**Pn**	**10 35 17.4**	**0.0**
PACA				*e*S		**Sn**	**10 35 32.2**	**0.0**
PACA	**Pacayal**	**1.16**	**68**	P		**Pn**	**10 35 17.5**	**0.0**
PACA	**Pacayal**	**1.16**	**68**	S		**Sn**	**10 35 33.2**	**+1.0**
LCY	**Lacayo**	**1.17**	**71**	*e*P		**Pn**	**10 35 17.1**	**-0.5**
VSM	**San Miguel**	**1.19**	**71**	*e*P		**Pn**	**10 35 17.7**	**-0.4**
CNRM	**Centro Naciona**	**1.30**	**70**	P		**Pn**	**10 35 19.6**	**+0.3**
MTO3	**Montecristo**	**1.35**	**3**	*e*P		**Pn**	**10 35 19.9**	**-0.4**
MTO3	**Montecristo**	**1.35**	**3**	*i* P		**Pn**	**10 35 19.9**	**-0.4**
MTO3	**Montecristo**	**1.35**	**3**	P		**Pn**	**10 35 20.0**	**-0.4**
MTO3	**Montecristo**	**1.35**	**3**	S		**Sn**	**10 35 38.0**	**+0.8**
ESQI	**Esquipulas**	**1.51**	**3**	*e*P		**Pn**	**10 35 22.4**	**-0.1**
ESQI	**Esquipulas**	**1.51**	**3**	P		**Pn**	**10 35 22.4**	**-0.1**
ESQI	**Esquipulas**	**1.51**	**3**	S		**Sn**	**10 35 42.7**	**+1.6**
LCND	**La Caada**	**1.52**	**80**	*e*P		**Pn**	**10 35 21.9**	**-0.4**
LCND	**La Caada**	**1.52**	**80**	P		**Pn**	**10 35 22.1**	**-0.3**
CNCH	**Conchagua**	**1.57**	**81**	*e*P		**Pn**	**10 35 22.6**	**-0.6**
CNCH	**Conchagua**	**1.57**	**81**	P		**Pn**	**10 35 22.3**	**-0.8**
CNCH	**Conchagua**	**1.57**	**81**	S		**Sn**	**10 35 43.6**	**+1.2**
FG16	**Alotenango, Sa**	**1.62**	**319**	*e*P		**Pb**	**10 35 27.8**	**+0.9**
FG16				*i* S		**Sb**	**10 35 51.9**	**+4.9**
FG16				IAML			10 35 58.1	
	comp=E,910nm,0.2s							
SARH	**Santa Rosa de**	**1.84**	**20**	*e*P		**Pn**	**10 35 27.4**	**+0.4**
POTN	**Potosi Cosigui**	**1.87**	**91**	P		**Pn**	**10 35 26.5**	**-0.7**
ESSG	**Sabana Grande**	**1.91**	**315**	*i* P		**Pn**	**10 35 26.6**	**-1.3**
ESSG				IAML			10 35 54.3	
	comp=N,232nm,0.3s							
STG0	**El Palmar, Qui**	**2.32**	**307**	*e*P		**Pb**	**10 35 37.5**	**-1.3**
STG0				*e*S		**Sb**	**10 36 08.5**	**+1.4**
STG0				IAML			10 36 11.5	
	comp=E,427nm,0.3s							
STG8	**El Palmar, Qui**	**2.34**	**307**	*e*P		**Pb**	**10 35 38.1**	**-1.1**
STG8				IAML			10 36 15.8	
	comp=N,102nm,0.2s							
PKGN	**Cerro Pekin**	**2.42**	**98**	P		**Pn**	**10 35 34.3**	**-0.5**

PNSN ***12*** *10:46:07.9, 46˚.83N×119˚.74W, h3km, MD2.5, Fault plane solution: NP1:φ=100.00000°, δ=40.00000°, λ=100.00000°.*
NEIC ***12*** *10:46:08.4±1.0, 46˚.86N±0˚.01×119˚.73W±0.02, h7km±5km, Error ellipse: s-maj=1.7km s-min=1.6km az=153.0*
SEA 12 10:46:07.9±1.4, 46˚.83N±0˚.01×119˚.74W±0˚.02, h3km±6km, ML2.5/16, ML2.5/52(NEIC), Error ellipse: s-maj=1.6km s-min=1.6km az=61.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVW	**Beverly**	**0.10**	**260**		**Pg**	**10 46 10.4**	**+0.4**
WAH2	**Wahluke Slope**	**0.14**	**122**		**Pg**	**10 46 11.0**	**+0.4**
WAH2					Sg	10 46 13.3	+0.9
FHE	**Frenchman Hill**	**0.20**	**53**		**Pg**	**10 46 12.4**	**+0.5**
MDW	**Midway**	**0.22**	**185**		**Pg**	**10 46 12.7**	**+0.6**
MDW					Sg	10 46 16.4	+1.5
VT2	**Vantage 2**	**0.23**	**307**		**Pg**	**10 46 13.0**	**+0.6**
GBB	**Gable Butte**	**0.23**	**161**		**Pg**	**10 46 13.0**	**+0.5**
GBB					Sg	10 46 17.6	+2.1
LOCW	**Locke Island**	**0.24**	**118**		**Pg**	**10 46 13.1**	**+0.6**
CRF	**Corfu**	**0.24**	**91**		**Pg**	**10 46 13.2**	**+0.7**
E07A	**Sunnyside**	**0.28**	**197**		**Pg**	**10 46 14.1**	**+0.7**
E07A					Sb	10 46 19.0	-1.9
GBL	**Gable Mountain**	**0.30**	**141**		**Pg**	**10 46 14.4**	**+0.7**
GBL	**Gable Mountain**	**0.30**	**141**		**Pg**	**10 46 14.6**	**+0.9**
GBL					Sb	10 46 19.5	-1.7
BENWA	**Benson Ranch**	**0.31**	**178**		**Pg**	**10 46 14.7**	**+0.8**
SNIWA	**Snively Ranch**	**0.37**	**172**		**Pg**	**10 46 15.8**	**+0.8**
MJ2	**May Junction 2**	**0.38**	**136**		**Pg**	**10 46 16.1**	**+1.0**
MJ2					Sb	10 46 22.4	-1.1
OT3	**Othello 3**	**0.38**	**115**		**Pg**	**10 46 16.3**	**+1.0**
OT3					Sb	10 46 22.4	-1.2
BRVW	**Black Rock Val**	**0.39**	**207**		**Pg**	**10 46 16.4**	**+1.0**
RSW	**Rattlesnake Hi**	**0.45**	**167**		**Pb**	**10 46 17.5**	**-0.9**
HAWA	**Hanford**	**0.46**	**162**		**Pg**	**10 46 17.5**	**+0.8**
HAWA				IAML		10 46 27.4	
	411nm,0.6s						
MXC	**Moxie City**	**0.46**	**237**		**Pb**	**10 46 18.0**	**-0.7**
MXC					Sb	10 46 25.9	0.0
H2OWA	**Water**	**0.48**	**154**		**Pb**	**10 46 18.3**	**-0.8**
H2OWA					Sb	10 46 26.0	-0.5
WIW	**Wooded Island**	**0.51**	**142**		**Pb**	**10 46 19.1**	**-0.3**
WIW	**Wooded Island**	**0.51**	**142**		**Pb**	**10 46 18.7**	**-0.7**
E08A	**Dider Farm, El**	**0.57**	**126**		**Pb**	**10 46 19.9**	**-0.8**
E08A					Sb	10 46 28.9	-0.3
E08A				IAML		10 46 31.7	
	comp=E,301nm,0.4s						
E08A				IAML		10 46 31.7	
	comp=N,296nm,0.4s						
EBG	**Ellensburg**	**0.58**	**278**		**Pb**	**10 46 20.1**	**-0.6**
D08A	**Wollman Farm,**	**0.60**	**67**		**Pg**	**10 46 20.3**	**+0.8**
D08A					Sg	10 46 27.6	+0.3
D08A				IAML		10 46 33.0	
	comp=E,186nm,0.1s						
D08A				IAML		10 46 35.9	
	comp=N,185nm,0.5s						
PRW	**Prosser**	**0.62**	**177**		**Pb**	**10 46 21.2**	**-0.2**
YA2	**Yakima**	**0.63**	**241**		**Pb**	**10 46 21.3**	**-0.2**
TBM	**Table Mountain**	**0.68**	**300**		**Pb**	**10 46 21.8**	**-0.7**
NAC	**Naches**	**0.76**	**263**		**Pb**	**10 46 23.4**	**-0.4**
LTY	**Liberty**	**0.77**	**304**		**Pg**	**10 46 22.6**	**-0.1**
LTY				IAML		10 46 34.7	
	comp=E,153nm,0.3s						
LTY				IAML		10 46 39.4	
	comp=N,165nm,0.3s						
TRW	**Toppenish Ridg**	**0.78**	**226**		**Pb**	**10 46 24.0**	**-0.1**
ETW	**Entiat**	**0.88**	**333**		**Pg**	**10 46 24.4**	**-0.4**
WTV	**Waterville**	**0.88**	**350**		**Pg**	**10 46 24.8**	**-0.1**
OD2	**Odessa Site #2**	**0.90**	**51**		**Pg**	**10 46 25.0**	**-0.2**
SAW	**Saint Andrews**	**0.90**	**14**		**Pg**	**10 46 24.8**	**-0.4**
F07A	**Phinny Hill Vi**	**0.94**	**188**	Pg	**Pb**	**10 46 26.8**	**-0.1**
F07A				IAML		10 46 46.8	
	comp=N,155nm,0.6s						
F07A				IAML		10 46 50.1	
	comp=E,151nm,0.7s						
PAT2	**Paterson 2**	**0.95**	**181**		**Pb**	**10 46 27.3**	**+0.3**
YPT	**Yellepit**	**0.95**	**145**	Pg	**Pg**	**10 46 26.0**	**-0.1**
BLTW	**Bickleton**	**0.96**	**199**		**Pb**	**10 46 27.1**	**-0.2**
CBSW	**Chelan Butte S**	**1.00**	**348**		**Pg**	**10 46 26.2**	**-0.9**
SLFW	**Sugar Loaf**	**1.07**	**330**		**Pg**	**10 46 27.9**	**-0.6**
E09A	**Wood Farm, Sta**	**1.14**	**106**		**Pg**	**10 46 29.6**	**-0.1**
E09A				IAML		10 46 50.0	
	comp=N,131nm,0.1s						
E09A				IAML		10 46 50.2	
	comp=E,149nm,0.1s						
WRW	**Wenatchee Ridg**	**1.29**	**323**		**Pg**	**10 46 31.8**	**-0.9**
NLW	**Nelson Butte**	**1.31**	**342**		**Pg**	**10 46 32.4**	**-0.8**
RCS	**Mount Rainier-**	**1.37**	**272**		**Pg**	**10 46 33.0**	**-1.2**
LNOR	**Lincton Mounta**	**1.39**	**133**	Pn	**Pn**	**10 46 33.8**	**-0.4**
LNOR				IAML		10 46 58.0	
	comp=E,76nm,0.5s						
C09A	**Chrisman Ranch**	**1.39**	**45**	Pn	**Pn**	**10 46 33.7**	**-0.5**
LON	**Longmire**	**1.43**	**268**		**Pn**	**10 46 34.1**	**-0.7**
LON				IAML		10 46 55.5	
	comp=N,62nm,0.2s						
LON	**Longmire**	**1.43**	**268**		**Pn**	**10 46 34.2**	**-0.5**
OBSR	**Observation Ro**	**1.43**	**274**		**Pn**	**10 46 34.5**	**-0.4**
REMR	**Mount Rainier-**	**1.45**	**270**		**Pn**	**10 46 34.7**	**-0.5**
F05D	**White Salmon**	**1.52**	**232**		**Pn**	**10 46 35.9**	**-0.2**
RVC	**Mount Rainier-**	**1.54**	**275**		**Pn**	**10 46 36.2**	**-0.1**
D05A	**Enumclaw**	**1.58**	**284**		**Pn**	**10 46 36.8**	**-0.1**
D05A				IAML		10 46 59.3	
	comp=N,81nm,0.5s						
D05A				IAML		10 46 60.0	
	comp=E,51nm,0.3s						
GPW	**Glacier Peak**	**1.60**	**324**		**Pn**	**10 46 37.0**	**-0.4**
G08A	**Pilot Rock**	**1.63**	**160**		**Pn**	**10 46 37.4**	**-0.3**
G08A				IAML		10 47 01.5	
	comp=N,75nm,0.4s						
G08A				IAML		10 47 03.1	
	comp=E,63nm,0.5s						
HTW	**Haystack Looko**	**1.69**	**306**		**Pn**	**10 46 38.4**	**0.0**
B941	**Kapowsin**	**1.71**	**276**		**Pn**	**10 46 38.7**	**+0.1**
G06A	**Carlson Farm,**	**1.71**	**202**		**Pn**	**10 46 38.3**	**-0.4**
G06A				IAML		10 47 05.7	
	comp=N,43nm,0.3s						

CDFW	**Cedar Flats**	**1.75**	**247**			Pn	10 46 39.9	+0.7
ESD	**East Dome**	**1.78**	**250**			Pb	10 46 41.0	-0.4
JLK	**June Lake**	**1.81**	**249**			Pb	10 46 40.9	-0.7
SEPW	**September Lobe**	**1.81**	**251**			Pn	10 46 40.8	+0.7
STD	**Studebaker Rid**	**1.82**	**252**			Pn	10 46 40.7	+0.5
B201	**Coldwater, Mou**	**1.82**	**254**			Pn	10 46 40.3	+0.1
SWF2	**Southwest Flan**	**1.83**	**250**			Pn	10 46 41.3	+0.8
SHRK	**Shell Rock**	**1.85**	**223**			Pn	10 46 40.9	+0.3
FL2	**Flat Top 2**	**1.91**	**252**			Pn	10 46 42.1	+0.6
G05A	**Wamic**	**1.93**	**215**			Pn	10 46 42.1	+0.4
G05A					IAML		10 47 14.6	
	comp=N,28nm,0.6s							
G05A					IAML		10 47 17.5	
	comp=E,33nm,0.7s							
HOOD	**Mount Hood Mea**	**2.01**	**222**	Pn	Pn		10 46 43.4	+0.5
HOOD					IAML		10 47 32.9	
	comp=E,30nm,0.6s							
RPW	**Rockport**	**2.02**	**324**			Pb	10 46 44.7	-0.6
TDH	**Tom, Dick, Har**	**2.10**	**224**			Pn	10 46 45.2	+1.1
GNW	**Green Mountain**	**2.23**	**290**			Pn	10 46 46.2	+0.5
NEW	**Newport**	**2.28**	**50**	Pn	Pn		10 46 45.6	-0.8
NEW					IAML		10 47 22.1	
	comp=E,24nm,0.5s							
NEW					IAML		10 47 30.8	
	comp=E,28nm,0.5s							
MBW	**Mount Baker**	**2.44**	**324**			Pb	10 46 52.4	-0.1
BMO	**Blue Mountains**	**2.61**	**138**	Pn		Pn	10 46 50.5	-0.5
I05D	**Terrebonne, OR**	**2.73**	**205**			Pn	10 46 51.8	-1.0
H04A	**Detroit Lake**	**2.75**	**220**	Pn		Pn	10 46 52.5	-0.4
I07A	**Izee**	**2.75**	**177**			Pn	10 46 52.7	-0.3
A04D	**Lummi Island**	**2.76**	**314**	Pn		Pn	10 46 51.9	-1.1
RADR	**Rader Ridge**	**2.83**	**263**	Pn		Pn	10 46 53.6	-0.4
PGC	**Sidney**	**3.10**	**307**	Pn		Pn	10 46 57.3	-0.3
H04D	**Lebanon**	**3.12**	**223**	Pn		Pn	10 46 56.9	-1.2
PLID	**Pearl Lake**	**3.13**	**122**	Pn		Pn	10 46 58.0	-0.4
PINE	**Pine Mountain**	**3.15**	**196**	Pn		Pn	10 46 59.0	+0.4
HEBO	**Mount Hebo**	**3.23**	**241**	Pn		Pn	10 47 01.1	+1.5
JTMT	**Jette**	**3.82**	**74**	Pn		Pn	10 47 06.3	-1.4
I02E	**Swisshome, OR**	**3.97**	**228**	Pn		Pn	10 47 08.0	-1.7
MSO	**Missoula**	**3.98**	**88**	Pn		Pn	10 47 07.7	-2.2
MSO					IAML		10 48 23.1	
	comp=E,9.6nm,0.7s							
BPMT	**Black Pine Rid**	**4.35**	**93**	Pn		Pn	10 47 15.1	-0.1
DLMT	**Dillon**	**5.18**	**104**	Pn		Pn	10 47 26.9	+0.5

GCG ***12*** *10:47:55.4±1.2, 14˚.43N×92˚.93W, h11km±11km, MD3.8*
MEX ***12*** *10:47:55.3±0.6, 14˚.30N×93˚.06W, h10km±42km, MD4.0*
ISC 12 10:47:52.4±2.2, 14˚.29N±0˚.09×93˚.02W±0˚.05, h19km±4km, n15,σ1§83/22, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.96**	**50**	*e*P	**Pg**	**10 48 11.0**	**0.0**
THIG				*e*S	**Sg**	**10 48 23.6**	**0.0**
PATR	**El Naranjo**	**1.12**	**43**	*e*P	**Pg**	**10 48 13.8**	**-0.4**
PATR				*i* S	**Sg**	**10 48 27.8**	**-1.2**
PAVE	**Pavencul**	**1.22**	**42**	*e*P	**Pn**	**10 48 15.2**	**+0.6**
PAVE				*e*S	**Sb**	**10 48 30.5**	**+0.1**
PCIG		**1.42**	**352**	*e*P	**Pn**	**10 48 16.8**	**-0.4**
PCIG				*e*S	Sn	10 48 30.5	-4.9
STG2	**El Palmar, Qui**	**1.60**	**84**	*e*P	Pn	10 48 18.7	-1.2
STG2				*e*S	**Sn**	**10 48 37.9**	**-2.3**
STG8	**El Palmar, Qui**	**1.63**	**84**	*e*P	Pn	10 48 19.3	-0.9
STG0	**El Palmar, Qui**	**1.63**	**85**	*e*P	Pn	10 48 19.1	-1.2
STG0				*e*S	**Sn**	**10 48 37.6**	**-3.4**
FG16	**Alotenango, Sa**	**2.43**	**90**	*e*P	Pn	10 48 29.6	-1.8
TGIG		**2.48**	**358**	*e*P	**Pn**	**10 48 34.2**	**+2.4**
TGIG				*e*S	**Sn**	**10 49 02.3**	**+0.6**
TGIG		**2.48**	**358**	*e*P	**Pn**	**10 48 34.2**	**+2.4**
TGIG				*e*S	**Sn**	**10 49 03.4**	**+1.8**
NILT	**Santiago Nilte**	**2.74**	**326**	*e*P	**Pn**	**10 48 36.4**	**+1.1**
NILT				*e*S	**Sn**	**10 49 05.9**	**-2.0**
NUBE	**Las Nubes**	**3.17**	**97**	*e*P	**Pn**	**10 48 44.5**	**+3.1**
UXUV	**UXUV**	**3.20**	**340**	*e*P	**Pn**	**10 48 43.9**	**+2.2**
UXUV				*e*S	**Sn**	**10 49 19.7**	**+0.3**
CMIG	**Matias Romero**	**3.31**	**327**	*e*P	**Pn**	**10 48 43.7**	**+0.4**
CMIG				*e*S	**Sn**	**10 49 19.3**	**-2.9**
NEUV	**Arroyo Zacate**	**4.33**	**322**	*e*P	**Pn**	**10 48 56.7**	**-0.5**
NEUV				*e*S	**Sn**	**10 49 48.0**	**+0.8**

KRSC ***12*** *11:01:16.8±1.3, 56˚.28N×164˚.25E, h48km±19km, Ml3.8*
IDC ***12*** *11:01:17.3±1.0, 56˚.55N×163˚.77E, h0km, mb3.4/6, mbtmp3.3/7, ML2.3/1, Error ellipse: s-maj=37.5km s-min=19.5km az=161.0*
ISC 12 11:01:19.5±0.7, 56˚.29N±0˚.05×164˚.15E±0˚.04, h23km, n48, σ1§44/46, mb3.6/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.75**	**264**	*e*P	**Pb**	**11 01 30.8**	**-3.0**
KBG	**Krutoberegovo**	**0.81**	**268**	*e*P	**Pb**	**11 01 31.8**	**-3.0**
BKI	**Bering**	**1.50**	**136**	*e*P	**Pn**	**11 01 43.3**	**-1.6**
BKI				*e*S	**Sn**	**11 02 01.9**	**-1.9**
SMKR	**Semkarok**	**1.52**	**282**	*e*P	**Pn**	**11 01 44.3**	**-0.9**
BDR	**Baidarnaya**	**1.66**	**281**	*e*S	**Sb**	**11 02 09.4**	**-0.4**
ZLN	**Zelenaya**	**1.89**	**263**	*e*P	**Pn**	**11 01 50.6**	**+0.1**
CIRR	**Tsirk**	**1.91**	**266**	*e*P	**Pn**	**11 01 50.7**	**0.0**
LGNR	**Loginova**	**1.95**	**265**	*e*P	**Pn**	**11 01 51.2**	**-0.1**
KLY	**Klyuchi**	**1.95**	**272**	*e*P	**Pn**	**11 01 49.3**	**-1.8**
BZGR	**Bezymyannyi-Gr**	**1.97**	**261**	*e*P	**Pn**	**11 01 51.1**	**-0.3**
BZWR	**Bezymyannyi-We**	**2.07**	**262**	*e*P	**Pn**	**11 01 53.0**	**0.0**
BZMR	**Bezymyannaya**	**2.08**	**262**	*e*P	**Pn**	**11 01 53.1**	**0.0**
KIRR	**Kirishev**	**2.16**	**262**	*e*P	**Pn**	**11 01 54.4**	**+0.2**
MKZ	**Mys Kozlova**	**2.22**	**219**	*e*P	**Pn**	**11 01 53.0**	**-1.8**
MKZ				*e*S	**Sn**	**11 02 18.7**	**-2.8**
KPT	**Kopyto**	**2.22**	**263**	*e*P	**Pn**	**11 01 55.6**	**+0.7**
KMNR	**Kamenistaya**	**2.26**	**258**	*e*P	**Pn**	**11 01 56.1**	**+0.6**
TUMD	**Tumrok D**	**2.39**	**244**	*e*P	**Pn**	**11 01 57.1**	**-0.1**
KOZ	**Kozyrevsk**	**2.40**	**266**	*e*P	**Pn**	**11 01 58.2**	**+0.8**
SRDR	**Sredinnyy**	**2.47**	**272**	*e*P	**Pn**	**11 01 59.0**	**+0.7**
OSSR	**Ossora**	**3.02**	**349**	*e*P	**Pn**	**11 02 05.4**	**-0.4**
OSSR				*e*S	**Sn**	**11 02 40.0**	**-1.2**
ESO	**Esso**	**3.08**	**265**	*e*P	**Pn**	**11 02 06.9**	**+0.3**
SDLR	**Sedlovina**	**4.29**	**227**	*e*P	**Pn**	**11 02 23.3**	**-0.1**
KRER	**Koryakskii**	**4.33**	**228**	*e*P	**Pn**	**11 02 24.5**	**+0.5**
KRX	**Arik**	**4.33**	**230**	*e*P	**Pn**	**11 02 25.0**	**+1.0**
SMAR	**Somma**	**4.34**	**228**	*e*P	**Pn**	**11 02 24.0**	**-0.1**
AVH	**Avacha**	**4.36**	**228**	*e*P	**Pn**	**11 02 25.9**	**+1.6**
UGLR	**Uglovaya**	**4.37**	**227**	*e*P	**Pn**	**11 02 24.8**	**+0.3**
KOK	**Koryaka**	**4.39**	**229**	*e*P	**Pn**	**11 02 25.4**	**+0.8**
GNL	**Ganaly**	**4.42**	**237**	*e*P	**Pn**	**11 02 26.1**	**+1.0**
DALK	**Dalny**	**4.53**	**226**	*e*P	**Pn**	**11 02 25.9**	**-0.6**
PETK	**Petropavlovsk-**	**4.92**	**232**	Pn	**Pn**	**11 02 32.3**	**+0.4**
	0.7nm,0.3s,baz=61,slow=14,SNR=23						
PETK				Sn	**Sn**	**11 03 32.4**	**+4.4**
	0.2nm,0.3s,baz=276,slow=32,SNR=1.6 1.7nm,0.6s						
GRL	**Gorelyy**	**5.16**	**226**	*e*P	**Pn**	**11 02 36.4**	**+1.0**
MTVR	**Mutnovka**	**5.17**	**225**	*e*P	**Pn**	**11 02 35.9**	**+0.4**
ASAK	**Asacha**	**5.36**	**226**	*e*P	**Pn**	**11 02 38.8**	**+0.8**
ILAR	**Eielson Array**	**24.91**	**50**	P	**P**	**11 06 41.8**	**+1.5**
	0.2nm,0.8s,baz=268,slow=8.6,SNR=1.9 0.2nm,0.8s						
SONM	**Songino Array**	**35.52**	**281**	P	**P**	**11 08 14.1**	**-0.3**
	0.3nm,0.4s,baz=60,slow=7.7,SNR=3.8 0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**36.56**	**176**	T	T	11 47 07.0	
	baz=358,slow=76,SNR=2142						
H11N3	**WAKE ISLAND Hy**	**36.58**	**176**	T	T	11 47 10.9	
	baz=358,slow=76,SNR=1032						
H11N1	**WAKE ISLAND Hy**	**36.58**	**176**	T	T	11 47 06.8	
	baz=358,slow=76,SNR=1110						
H11S1	**WAKE ISLAND Hy**	**37.77**	**176**	T	T	11 48 31.4	
	baz=6.9,slow=25,SNR=26						
H11S3	**WAKE ISLAND Hy**	**37.78**	**176**	T	T	11 48 34.1	
	baz=6.9,slow=25,SNR=22						
H11S2	**WAKE ISLAND Hy**	**37.79**	**176**	T	T	11 48 32.9	
	baz=6.9,slow=25,SNR=19						
MKAR	**Makanchi Array**	**48.90**	**295**	P	**P**	**11 10 01.7**	**-1.4**
	0.2nm,0.4s,baz=51,slow=8.3,SNR=2.3 0.2nm,0.4s						
PDAR	**Pinedale Array**	**53.97**	**65**	P	**P**	**11 10 43.7**	**+2.3**
	0.4nm,0.5s,baz=318,slow=3.3,SNR=5.7 0.4nm,0.5s						
AKASG	**Malin Array Be**	**67.03**	**331**	P	**P**	**11 12 09.2**	**-0.8**
	0.2nm,0.3s,baz=30,slow=7.1,SNR=1.7 0.2nm,0.3s						
TXAR	**Lajitas Array**	**67.29**	**71**	P	**P**	**11 12 14.4**	**+2.2**
	0.4nm,0.5s,baz=294,slow=4.9,SNR=10 0.4nm,0.5s						
VNDA	**Vanda**	**133.56**	**181**	PKP	**PKiKP**	**11 20 35.1**	**+1.9**
	0.7nm,0.7s,baz=0.0,slow=7.1,SNR=5.0						
QSPA	**South Pole Qui**	**146.05**	**180**	PKPbc	**PKPbc**	**11 20 56.3**	**+0.5**
	0.7nm,0.9s,baz=266,slow=2.4,SNR=1.8						

IDC ***12*** *11:01:53.9±2.2, 31˚.32S×177˚.92W, h0km, mb4.4/3, mbtmp4.4/5, ML4.4/2, MS2.9/2, Error ellipse: s-maj=56.9km s-min=23.7km az=118.0*
NEIC ***12*** *11:02:00.9±1.2, 31˚.06S±0˚.08×178˚.2W±0˚.1, h35km±2km, mb4.5/12, Error ellipse: s-maj=23.6km s-min=7.2km az=59.0*
ISC 12 11:02:00.4±0.7, 31˚.11S±0˚.06×178˚.3W±0˚.1, h35km, n26, σ1§36/27, mb4.4/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.88**	**10**		**Pn**	**11 02 29.3**	**-0.7**
RAO	**Raoul Island**	**1.88**	**10**	Pn	**Pn**	**11 02 30.0**	**-0.1**
	346nm,0.3s,baz=231,slow=22,SNR=14						
RAO				Sn	**Sn**	**11 02 50.5**	**-2.0**
	834nm,0.3s,baz=185,slow=23,SNR=12						
RAO				LR	LR	11 03 21.8	
	comp=Z,194nm,20.1s,baz=126,slow=43 690nm,0.3s						
URZ	**Urewera**	**8.07**	**207**	Pn	**Pn**	**11 03 52.2**	**-2.8**
	1.7nm,0.3s,baz=261,slow=5.0,SNR=14						
URZ				Sn	**Sn**	**11 05 22.7**	**-2.3**
	2.9nm,0.3s,baz=220,slow=23,SNR=9.9 3.0nm,0.3s						
MSVF	**Nonsavu**	**13.72**	**345**	Pn	**Pn**	**11 05 12.3**	**-0.3**
DZM	**Mont Dzumac**	**16.32**	**300**	LR	LR	11 10 41.7	
	comp=Z,66nm,20.5s,baz=17,slow=32						
CTAO	**Charters Tower**	**33.66**	**280**	P	**P**	**11 08 37.8**	**-0.3**
CTAO				IAmb	IAmb	11 08 55.0	
	comp=Z,5.6nm,1.1s						
STKA	**Stephens Creek**	**34.06**	**258**	P	**P**	**11 08 44.2**	**+2.8**
	comp=Z,3.2nm,0.6s,baz=102,slow=13,SNR=2.8 comp=Z,3.2nm,0.6s						
AS31	**Alice Springs**	**42.81**	**268**	P	**P**	**11 09 55.4**	**+0.3**
ASAR	**Alice Springs**	**42.81**	**268**	P	**P**	**11 09 55.0**	**0.0**
ASAR	**Alice Springs**	**42.81**	**268**	P	**P**	**11 09 55.6**	**+0.5**
	comp=Z,3.6nm,0.7s,baz=106,slow=7.2,SNR=67 comp=Z,3.6nm,0.7s						
WRA	**Warramunga Arr**	**43.86**	**273**	P	**P**	**11 10 04.6**	**+1.0**
	comp=Z,2.1nm,0.4s,baz=113,slow=8.1,SNR=5.3 comp=Z,2.1nm,0.4s						
FITZ	**Fitzroy Crossi**	**52.09**	**271**	P	**P**	**11 11 07.3**	**+0.1**
SAUI	**Saumlaki**	**52.23**	**285**	P	**P**	**11 11 08.0**	**-0.3**
CASY	**Casey**	**54.39**	**208**	P	**P**	**11 11 22.8**	**-0.6**
CASY				IAmb	IAmb	11 11 30.4	
	comp=Z,4.5nm,1.1s						
QSPA	**South Pole Qui**	**59.00**	**180**	P	**P**	**11 11 58.7**	**+2.4**
QSPA				IAmb	IAmb	11 11 59.7	
	comp=Z,5.5nm,1.1s						
QSPA	**South Pole Qui**	**59.00**	**180**	P	**P**	**11 11 58.3**	**+1.9**
	comp=Z,2.9nm,0.7s,baz=7.3,slow=1.1,SNR=11						
BELA	**Belgrano 2**	**69.12**	**172**	P	**P**	**11 13 02.3**	**-0.2**
KKM	**Kota Kinabalu**	**72.53**	**288**	P	**P**	**11 13 25.4**	**+1.2**
KKM				IAmb	IAmb	11 13 33.2	
	comp=Z,27nm,1.1s						
SBUM	**Sibu**	**73.82**	**283**	P	**P**	**11 13 30.

MORW	**Morawa**	**35.95**	**196**	P	**P**	**11 11 11.8**	**-0.2**
MORW				IAmb	IAmb	11 11 21.2	
	comp=Z,18nm,1.3s						
FORT	**Forrest**	**36.27**	**178**	P	**P**	**11 11 14.7**	**-0.1**
STKA	**Stephens Creek**	**40.05**	**160**	P	**P**	**11 11 46.3**	**0.0**
STKA	**Stephens Creek**	**40.05**	**160**	P	**P**	**11 11 46.7**	**+0.4**
	comp=Z,4.1nm,0.5s,baz=340,slow=8.5,SNR=9.9						
STKA				PcP	**PcP**	**11 13 48.0**	**-0.3**
	comp=Z,3.3nm,0.9s,baz=45,slow=5.7,SNR=1.8						
	comp=Z,4.1nm,0.5s						
SONM	**Songino Array**	**45.37**	**341**	P	**P**	**11 12 31.3**	**+2.1**
	comp=Z,0.2nm,0.4s,baz=146,slow=8.6,SNR=1.8						
SONM				PcP	**PcP**	**11 14 06.3**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=186,slow=1.3,SNR=3.3						
DZM	**Mont Dzumac**	**47.92**	**126**	P	**P**	**11 12 50.2**	**+0.8**
	comp=Z,8.2nm,1.0s,baz=292,slow=16,SNR=2.7						
	comp=Z,8.2nm,1.0s						
MKAR	**Makanchi Array**	**55.79**	**325**	P	**P**	**11 13 45.7**	**-1.6**
MKAR	**Makanchi Array**	**55.79**	**325**	P	**P**	**11 13 46.5**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=120,slow=8.2,SNR=4.7						
MKAR				PcP	**PcP**	**11 14 44.5**	**0.0**
	comp=Z,1.2nm,0.7s,baz=115,slow=3.6,SNR=6.7						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**59.95**	**327**	P	**P**	**11 14 15.9**	**-0.2**
	comp=Z,2.1nm,0.2s,baz=127,slow=7.2,SNR=1.7						
	comp=Z,2.1nm,0.2s						
LBZ	**Lake Benmore**	**63.46**	**146**	P	**P**	**11 14 40.4**	**+0.7**
NRIK	**Noril'sk**	**68.48**	**346**	P	**P**	**11 15 11.4**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=150,slow=9.9,SNR=3.7						
	comp=Z,3.1nm,0.6s						
AB31	**Akbulak array**	**70.46**	**320**	P	**P**	**11 15 22.8**	**-1.1**
ABKAR	**Akbulak array**	**70.46**	**320**	P	**P**	**11 15 22.4**	**-1.5**
CASY	**Casey**	**72.69**	**187**	P	**P**	**11 15 37.5**	**+0.7**
CASY				IAmb	IAmb	11 15 38.6	
	comp=Z,7.7nm,0.9s						
D19K	**Kuna River**	**79.44**	**21**	P	**P**	**11 16 14.5**	**-0.7**
D19K				IAmb	IAmb	11 16 28.4	
	comp=Z,3.2nm,1.2s						
IMAR	**Indian Mountai**	**80.72**	**24**	P	**P**	**11 16 23.0**	**+1.0**
CAST	**Castle Rocks**	**81.16**	**27**	P	**P**	**11 16 25.4**	**+1.0**
I23K	**Minto, Yukon-K**	**82.46**	**25**	P	**P**	**11 16 31.3**	**+0.2**
I23K				IAmb	IAmb	11 16 52.6	
	comp=Z,3.7nm,1.4s						
ILAR	**Eielson Array**	**83.50**	**26**	P	**P**	**11 16 36.3**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=261,slow=6.2,SNR=2.9						
	comp=Z,0.2nm,0.5s						
VNDA	**Vanda**	**85.38**	**173**	P	**P**	**11 16 46.0**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=326,slow=6.6,SNR=5.8						
	comp=Z,0.6nm,0.5s						
MAW	**Mawson**	**85.45**	**200**	P	**P**	**11 16 46.4**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=14,slow=7.2,SNR=4.0						
	comp=Z,1.5nm,0.7s						
PPT	**Papeete**	**86.01**	**108**	LR	LR	11 54 54.2	
	comp=Z,106nm,18.3s,baz=348,slow=35						
ARCES	**ARCESS Array B**	**88.53**	**340**	P	**P**	**11 17 00.6**	**-0.5**
	comp=Z,3.9nm,0.9s,baz=81,slow=6.3,SNR=11						
	comp=Z,3.9nm,0.9s						
FINES	**FINESS Array B**	**89.98**	**332**	P	**P**	**11 17 07.5**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=64,slow=4.4,SNR=7.9						
	comp=Z,0.8nm,0.5s						
QSPA	**South Pole Qui**	**95.56**	**180**	P	**P**	**11 17 34.5**	**+0.8**
	comp=Z,1.2nm,1.1s,baz=270,slow=3.0,SNR=2.3						
	comp=Z,1.2nm,1.1s						
HFS	**Hagfors**	**96.16**	**332**	P	**P**	**11 17 35.5**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=125,slow=7.6,SNR=2.2						
	comp=Z,0.5nm,0.5s						
NOA	**NORSAR Array B**	**96.92**	**334**	P	**P**	**11 17 39.0**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=70,slow=6.1,SNR=2.8						
	comp=Z,0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**122.00**	**289**	PKP	**PKPdf**	**11 23 03.3**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=89,slow=1.8,SNR=4.8						

NNC ***12*** *11:11:57.9±0.7, 43.°54N×78.°62E, h0km, mpv3.0, Error ellipse: s-maj=6.2km s-min=4.4km az=15.0*
KRNET ***12*** *11:11:59.8±0.1, 43.°45N×78.°58E, h18km, mb2.1*
SOME ***12*** *11:11:59.8, 43.°50N×78.°48E, h10km*

ISC 12 11:11:57.5±1.2, 43.°49N±0.°03×78.°65E±0.°03, h10km±11km, n17, σ0°42/34, 6C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BLB	**Baldybastay**	**0.62**	**348**	P		P	**Pg**	**11 12 09.8**	**+0.3**
	32nm,0.1s								
BLB				S			**Sg**	**11 12 17.0**	**-0.7**
	11nm,0.1s								
PDGK	**Podgornoye**	**0.63**	**105**	⇑P			**Pb**	**11 12 10.7**	**+0.1**
	0.7nm,0.2s								
PDGK				⇑S			**Sb**	**11 12 19.5**	**-0.1**
	3.4nm,0.2s								
ARXS	**Arharly**	**0.94**	**321**	P			**Pg**	**11 12 15.9**	**+0.4**
	0.9nm,0.1s								
ARXS				S			**Sg**	**11 12 27.4**	**-0.3**
	9.2nm,0.2s								
ARXS	**Arharly**	**0.94**	**321**	*e*P			**Pg**	**11 12 15.9**	**+0.4**
ARXS				*e*S			**Sg**	**11 12 27.4**	**-0.3**
PRZ	**Przheval'sk**	**1.03**	**191**	⇓*e*P			**Pb**	**11 12 17.8**	**+0.4**
PRZ				⇓*e*S			**Sb**	**11 12 31.2**	**+0.2**
CHKK	**Chushkaly**	**1.26**	**287**	P			**Pn**	**11 12 21.4**	**+0.2**
	14nm,0.1s								
CHKK				S			**Sb**	**11 12 36.8**	**-0.9**
	6.9nm,0.1s								
CHKK	**Chushkaly**	**1.26**	**287**	*e*P			**Pn**	**11 12 21.4**	**+0.2**
	14nm,0.1s								
CHKK				*e*S			**Sb**	**11 12 36.8**	**-0.9**
	6.9nm,0.1s								
TNSS	**Tian-Shan**	**1.33**	**251**	P			**Pg**	**11 12 23.4**	**+0.4**
	0.6nm,0.1s								
TNSS				S			**Sg**	**11 12 40.4**	**+0.1**
	0.9nm,0.3s								
TNSS	**Tian-Shan**	**1.33**	**251**	*e*P			**Pg**	**11 12 23.4**	**+0.4**
	0.6nm,0.1s								
TNSS				*e*S			**Sg**	**11 12 40.4**	**+0.1**
	0.9nm,0.3s								
KTBS	**Karatobe**	**1.45**	**279**	P			**Pb**	**11 12 25.0**	**+0.4**
	1.1nm,0.1s								
KTBS				S			**Sn**	**11 12 42.8**	**0.0**
	5.8nm,0.3s								
MTBS	**Maitube**	**1.66**	**258**	P			**Pg**	**11 12 29.7**	**+0.3**
	1.5nm,0.1s								
MTBS				S			**Sg**	**11 12 51.0**	**0.0**
	6.2nm,0.2s								
MTBS	**Maitube**	**1.66**	**258**	*e*P			**Pg**	**11 12 29.7**	**+0.3**
	1.5nm,0.1s								
MTBS				*e*S			**Sg**	**11 12 51.0**	**0.0**
	6.2nm,0.2s								
KDJ	**Kajisay**	**1.74**	**219**	⇓*i*P			**Pg**	**11 12 30.9**	**0.0**
KDJ				⇓*i*S			**Sg**	**11 12 52.6**	**-0.8**
TARG	**Taragay, Kyrgy**	**1.87**	**200**	⇑*i*P			**Pg**	**11 12 32.9**	**-0.5**
TARG				⇑*i*S			**Sg**	**11 12 57.4**	**-0.2**
ULHL	**Ulahol**	**2.17**	**236**	⇓*i*P			**Pb**	**11 12 36.9**	**0.0**
ULHL				⇓*i*S			**Sb**	**11 13 04.4**	**+0.5**
BOOM	**Boomskoye usch**	**2.23**	**244**	⇑*i*P			**Pb**	**11 12 37.8**	**-0.1**
BOOM				⇑*i*S			**Sb**	**11 13 05.7**	**+0.1**
TKM2	**Tokmak 2**	**2.31**	**257**	⇓*i*P			**Pb**	**11 12 38.8**	**-0.5**
TKM2				⇓*i*S			**Sb**	**11 13 07.6**	**-0.3**

IDC 12 11:14:37.0±2.2, 0.°72N×126.°72E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=168.2km s-min=28.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.85**	**160**	P		P	P	11 19 30.6	-0.9
	0.4nm,0.4s,baz=339,slow=11,SNR=11								
	0.4nm,0.4s								
ASAR	**Alice Springs**	**25.23**	**164**	P		P	P	11 20 05.5	+0.7
	0.7nm,0.7s,baz=344,slow=11,SNR=9.2								
	0.7nm,0.7s								
MKAR	**Makanchi Array**	**60.02**	**326**	P		P	P	11 24 45.6	-0.1
	0.2nm,0.4s,baz=122,slow=8.1,SNR=2.1								
	0.2nm,0.4s								

IDC ***12*** *11:22:41.4±0.4, 54.°55S×27.°61W, h0km, mb4.6/13, mbtmp4.6/13, MS3.6/22, Error ellipse: s-maj=17.0km s-min=13.8km az=66.0*
NEIC ***12*** *11:22:43.5±1.6, 54.°68S±0.°09×27.°9W±0.°1, h10km±1km, mb5.1/85, Error ellipse: s-maj=15.8km s-min=13.0km az=32.0*
MOS ***12*** *11:22:43.1±1.1, 54.°65S×28.°04W, h19km, mb5.0/20, Error ellipse: s-maj=18.8km s-min=12.2km az=113.5*
GCMT ***12*** *11:22:46.5±0.4, 54.°73S±0.°02×27.°78W±0.°06, h23km±1km, MW5.0/67, Moment Tensor Solution. s19,c20; s67,c85;*

Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.93±.32; $M_{\theta\theta}$3.44±.20; $M_{\phi\phi}$0.49±.17; $M_{r\theta}$-1.42±.23; $M_{r\phi}$0.95±.10; $M_{\theta\phi}$0.17±.26; Best double couple: M_W4.08200×10^{16} NP1:ϕ_s247.00000°, δ36.00000°, λ-102.00000°. NP2: ϕ_s81.00000°, δ55.00000°, λ-82.00000°. Principal axes: T 3.9440, Plg10.0000°, Azm165.0000°; N 0.2750, Plg7.0000°, Azm256.0000°; P -4.2190, Plg78.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 12 11:22:43.2±0.3, 54.°68S±0.°06×27.°82W±0.°07, h10km, n339, σ1°62/321, mb5.0/56, MS3.7/23, 9C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.07**	**271**	P			Pn	11 23 57.2	-1.9
HOPE	**Hope Point**	**5.07**	**271**	P			Pn	11 23 57.2	-1.9
ESPZ	**Base Esperanza**	**17.21**	**228**	P			**Pn**	**11 26 43.0**	**-0.4**
VNA1	**Neumayer--Stat**	**18.21**	**159**	⇑P			**P**	**11 26 58.5**	**+2.7**
	comp=Z,31nm,0.8s								
VNA2	**Neumayer--Watz**	**18.60**	**159**	⇑P			**P**	**11 27 01.0**	**+0.8**
	comp=Z,21nm,0.6s,baz=333,slow=9.1								
SNAA	**Sanae**	**20.15**	**157**	⇑P			**P**	**11 27 17.0**	**-0.1**
	comp=Z,559nm,0.6s								
SNAA	**Sanae**	**20.15**	**157**				**P**	**11 27 17.0**	**-0.1**
SNAA	**Sanae**	**20.15**	**157**	P			**P**	**11 27 16.5**	**-0.7**
	comp=Z,20nm,1.0s,baz=295,slow=10,SNR=49								
SNAA				S			**S**	**11 30 58.5**	**-4.5**
	comp=Z,2.2nm,0.9s,baz=276,slow=4.3,SNR=3.0								
SNAA				LR			LR	11 34 49.9	
	comp=Z,189nm,18.9s,baz=296,slow=36								
	comp=Z,20nm,1.0s								
SNAA	**Sanae**	**20.15**	**157**	*ce*P			**P**	**11 27 18.2**	**+1.1**
SNAA				pmax			pmax		
	comp=Z,20nm,0.7s								
PMSA	**Palmer Station**	**20.56**	**226**	P			**P**	**11 27 19.8**	**-1.8**
PMSA	**Palmer Station**	**20.56**	**226**	P			**P**	**11 27 24.9**	**+3.4**
	comp=Z,34nm,0.9s,baz=77,slow=11,SNR=10								
PMSA				LR			LR	11 34 24.0	
	comp=Z,141nm,19.7s,baz=88,slow=34								
	comp=Z,34nm,0.9s								
PMSA	**Palmer Station**	**20.56**	**226**	*e*P			**P**	**11 27 23.1**	**+1.6**
TROLL	**Troll, Antarti**	**21.64**	**155**	⇑P			**P**	**11 27 33.5**	**+0.2**
	comp=Z,818nm,0.6s								
SMAI	**San Martin Ant**	**22.60**	**218**	P			**P**	**11 27 42.5**	**-0.9**
USHA	**Ushuaia**	**23.21**	**253**	P			**P**	**11 27 51.5**	**+1.6**
	comp=Z,12nm,1.0s,baz=319,slow=15,SNR=5.3								
	comp=Z,12nm,1.0s								
BELA	**Belgrano 2**	**23.42**	**184**				**P**	**11 27 50.7**	**-1.2**
BELA						IAmb	IAmb	11 27 55.5	
	comp=Z,59nm,1.4s								
MG04	**Isla Riesco**	**25.61**	**256**	P			**P**	**11 28 11.7**	**-0.7**
MG05	**Puerto Natales**	**26.60**	**258**	P			**P**	**11 28 20.1**	**-1.2**
MG05						IAmb	IAmb	11 28 23.6	
	comp=Z,42nm,1.0s								
GO09	**Cerro Castillo**	**26.68**	**259**	P			**P**	**11 28 21.0**	**-1.0**
GO09						IAmb	IAmb	11 28 27.5	
	comp=Z,122nm,1.9s								
TRQA	**Tornquist**	**28.47**	**292**				**P**	**11 28 36.7**	**-1.4**
TRQA	**Tornquist**	**28.47**	**292**	P			**P**	**11 28 36.7**	**-1.4**
TRQA				pmax			pmax		
	comp=Z,19nm,1.7s								
PLTB	**Pedras Altas**	**29.32**	**311**	P			**P**	**11 28 44.5**	**-1.3**
PLTB	**Pedras Altas**	**29.32**	**311**	*e*P			**P**	**11 28 45.9**	**+0.1**
CNLB	**Canela**	**30.31**	**317**	*e*P			**P**	**11 28 55.3**	**+0.7**
CPSB	**Cacapava Do Su**	**30.42**	**312**	*e*P			**P**	**11 28 56.9**	**+1.4**
MAJ01	**Sao Joao Batis**	**31.35**	**322**	*e*P			**P**	**11 29 04.3**	**+0.6**
PLCA	**Paso Flores**	**31.42**	**278**	P			**P**	**11 29 03.2**	**-1.2**
PLCA						IAmb	IAmb	11 29 18.0	
	comp=Z,25nm,1.7s								
PLCA	**Paso Flores**	**31.42**	**278**	P			**P**	**11 29 06.6**	**+2.2**
	comp=Z,2.6nm,1.0s,baz=146,slow=7.6,SNR=4.1								
	comp=Z,2.6nm,1.0s								
PLCA	**Paso Flores**	**31.42**	**278**	P			**P**	**11 29 03.2**	**-1.2**
PLCA				pmax			pmax		
	comp=Z,25nm,1.7s								
PLCA	**Paso Flores**	**31.42**	**278**	*e*P			**P**	**11 29 04.8**	**+0.5**
ITQB	**Itaqui**	**32.45**	**309**	P			**P**	**11 29 12.6**	**-0.8**
ITQB						IAmb	IAmb	11 29 15.6	
	comp=Z,14nm,0.8s								
ITQB	**Itaqui**	**32.45**	**309**	*e*P			**P**	**11 29 15.0**	**+1.6**
ITAB	**Concordia**	**32.67**	**317**	P			**P**	**11 29 15.0**	**-0.3**
ITAB	**Concordia**	**32.67**	**317**	*e*P			**P**	**11 29 15.7**	**+0.4**
SYO	**Syowa Base**	**32.88**	**142**	*e*pP			**P**	**11 29 18.0**	**+1.3**
SYO	**Syowa Base**	**32.88**	**142**	*e*sP			sP	11 29 21.0	+2.5
PET01	**Itanhaem-SP**	**33.62**	**327**	*e*P			**P**	**11 29 24.5**	**+0.9**
MAN01	**Angra dos Reis**	**34.00**	**333**	*e*P			**P**	**11 29 27.5**	**+0.6**
DUB01	**Friburgo-RJ**	**34.35**	**336**	*e*P			**P**	**11 29 30.2**	**+0.2**
VAS01	**Vassouras-RJ**	**34.42**	**334**	*e*P			**P**	**11 29 32.5**	**+1.8**
VAO	**Valinhos**	**34.73**	**328**	*e*P			**P**	**11 29 34.0**	**+0.7**
PTGB	**Pitanga**	**34.91**	**319**	*e*P			**P**	**11 29 36.1**	**+1.2**
FRTB	**Fartura**	**35.26**	**324**	*e*P			**P**	**11 29 38.4**	**+0.6**
QSPA	**South Pole Qui**	**35.58**	**180**	P			**P**	**11 29 39.9**	**-0.4**
QSPA						IAmb	IAmb	11 29 45.6	
	comp=Z,45nm,1.6s								
QSPA	**South Pole Qui**	**35.58**	**180**	P			**P**	**11 29 40.2**	**-0.1**
	comp=Z,5.8nm,0.6s,baz=206,slow=2.4,SNR=74								
QSPA				PcP			**PcP**	**11 32 08.9**	**0.0**
	comp=Z,4.1nm,0.8s,baz=281,slow=5.2,SNR=3.3								
QSPA				LR			LR	11 44 18.7	
	comp=Z,207nm,18.9s,baz=188,slow=36								
	comp=Z,5.8nm,0.6s								
CPUP	**Villa Florida**	**35.64**	**311**				**P**	**11 29 40.0**	**-1.0**
CPUP	**Villa Florida**	**35.64**	**311**	P			**P**	**11 29 39.9**	**-1.2**
	comp=Z,4.0nm,0.7s,baz=1.9,slow=7.5,SNR=19								
	comp=Z,4.0nm,0.7s								
CPUP	**Villa Florida**	**35.64**	**311**	P			**P**	**11 29 40.0**	**-1.0**
CPUP				pmax			pmax		
	comp=Z,4.0nm,0.8s								
CPUP	**Villa Florida**	**35.64**	**311**	*e*P			**P**	**11 29 39.8**	**-1.2**
BO02	**Sierra Bellavi**	**35.69**	**286**	P			**P**	**11 29 41.7**	**+0.1**
BO02						IAmb	IAmb	11 29 54.4	
	comp=Z,36nm,1.8s								
LDASE	**Londrina, Braz**	**35.76**	**322**	*e*P			**P**	**11 29 42.5**	**+0.3**
BSCB	**Bom Sucesso**	**35.99**	**332**	*e*P			**P**	**11 29 43.5**	**-0.7**
BO04	**La Punta**	**36.19**	**287**	P			**P**	**11 29 45.3**	**-0.5**
BO04						IAmb	IAmb	11 29 49.7	
	comp=Z,21nm,1.4s								
MT08	**Botatoma Ro**	**36.26**	**288**	P			**P**	**11 29 46.3**	**-0.3**
SJPY	**San Joaquin**	**36.28**	**313**	*e*P			**P**	**11 29 47.6**	**+1.1**
MT09	**Talagante**	**36.55**	**287**	P			**P**	**11 29 47.9**	**-1.1**
MT09						IAmb	IAmb	11 30 35.0	
	comp=Z,36nm,1.5s								
RIB01	**Linhares ES**	**36.59**	**340**	*e*P			**P**	**11 29 50.4**	**+1.2**
MT01	**Popeta**	**36.63**	**287**	P			**P**	**11 29 48.6**	**-1.0**
PEL	**Peldehue**	**36.86**	**288**				**P**	**11 29 51.1**	**-0.4**
PEL						IAmb	IAmb	11 29 56.7	
	comp=Z,24nm,0.8s								
PEL	**Peldehue**	**36.86**	**288**	P			**P**	**11 29 51.1**	**-0.4**
PEL				pmax			pmax		
	comp=Z,24nm,0.8s								
ZON	**Zonda**	**36.98**	**292**	P			**P**	**11 29 51.3**	**-1.3**
ZON	**Zonda**	**36.98**	**292**	P			**P**	**11 29 51.3**	**-1.3**
ZON				pmax			pmax		
	comp=Z,15nm,1.1s								
VA05	**Santo Domingo**	**36.99**	**286**	P			**P**	**11 29 51.9**	**-0.7**
VA05						IAmb	IAmb	11 29 55.4	
	comp=Z,41nm,0.8s								
MT02	**Curacav**	**37.02**	**287**	P			**P**	**11 29 52.9**	**+0.1**
MT02						IAmb	IAmb	11 29 57.1	
	comp=Z,35nm,1.4s								
BB19B	**Bebedouro**	**37.03**	**327**	*e*P			**P**	**11 29 53.9**	**+0.9**
VA03	**San Esteban**	**37.07**	**288**	P			**P**	**11 29 53.8**	**+0.4**
VA03						IAmb	IAmb	11 29 59.3	
	comp=Z,26nm,0.8s								
SJMB	**Sao Joao De Ma**	**37.34**	**339**	*e*P			**P**	**11 29 55.2**	**-0.5**
PCMB	**Pacaembu**	**37.45**	**322**	*e*P			**P**	**11 29 58.0**	**+1.5**
VA06	**Catapilco**	**37.63**	**288**				**P**	**11 29 57.6**	**-0.4**
DIAM	**Diamantina, MG**	**38.30**	**335**	*e*P			**P**	**11 30 03.4**	**-0.5**
CO02	**Combarbal**	**38.51**	**290**	P			**P**	**11 30 05.6**	**+0.1**
CO02						IAmb	IAmb	11 30 23.0	
	comp=Z,108nm,1.9s								
CO03	**El Pedregal**	**38.62**	**290**	P			**P**	**11 30 06.7**	**+0.2**
CO03						IAmb	IAmb	11 30 59.2	
	comp=Z,48nm,1.8s								
PMNB	**Patos De Minas**	**38.79**	**331**	*e*P			**P**	**11 30 07.8**	**-0.2**
ITRB	**Iturama**	**38.90**	**325**	*e*P			**P**	**11 30 10.0**	**+1.1**
CO01	**Juntas del Tor**	**38.96**	**292**				**P**	**11 30 09.2**	**-0.3**
GUA01	**Guaratinga, BA**	**39.13**	**342**	*e*P			**P**	**11 30 12.0**	**+1.3**
GO04	**Tololo Observa**	**39.19**	**291**	P			**P**	**11 30 10.8**	**-0.6**
GO04						IAmb	IAmb	11 31 38.5	
	comp=Z,81nm,1.6s								
CO06	**Fray Jorge**	**39.26**	**290**	P			**P**	**11 30 11.9**	**+0.2**
CO06						IAmb	IAmb	11 30 52.0	
	comp=Z,73nm,1.7s								
RPRD	**Ribas do Rio P**	**39.37**	**320**	*e*P			**P**	**11 30 14.2**	**+1.5**
CO05	**La Serena**	**39.63**	**291**	P			**P**	**11 30 14.7**	**0.0**
IPMB	**Ipameri, GO**	**39.83**	**329**	*e*P			**P**	**11 30 17.9**	**+1.3**
MURT	**Porto Murtinho**	**39.86**	**314**	*e*P			**P**	**11 30 17.3**	**+0.5**
LCO	**Las Campanas**	**40.05**	**292**	P			**P**	**11 30 17.3**	**-1.3**
LCO						IAmb	IAmb	11 30 21.3	
	comp=Z,30nm,1.2s								
LCO	**Las Campanas**	**40.05**	**292**	P			**P**	**11 30 17.3**	**-1.3**
LCO				pmax			pmax		
	comp=Z,30nm,1.3s								
AQDB	**Aquidauana**	**40.15**	**317**				**P**	**11 30 17.9**	**-1.2**
AQDB	**Aquidauana**	**40.15**	**317**	*e*P			**P**	11 30 16.4	-2.8
CMC01	**Camacan, BA**	**40.28**	**342**	*e*P			**P**	**11 30 21.3**	**+1.0**
BDQN	**Bodoquena, MS**	**40.59**	**316**	*e*P			**P**	11 30 20.3	-2.6
SUR	**Sutherland**	**40.66**	**77**	P			**P**	**11 30 22.7**	**-0.8**
SUR						IAmb	IAmb	11 31 55.6	
	comp=Z,103nm,1.8s								
AC02	**Maricunga**	**40.95**	**296**	P			**P**	**11 30 26.2**	**-0.1**
MAW	**Mawson**	**41.47**	**145**	P			**P**	**11 30 30.5**	**+0.9**
	comp=Z,7.7nm,0.8s,baz=239,slow=7.4,SNR=19								
MAW				PcP			**PcP**	**11 32 27.4**	**+0.5**
	comp=Z,3.7nm,0.8s,baz=257,slow=6.2,SNR=3.4								
MAW				LR			LR	11 46 27.6	
	comp=Z,73nm,20.4s,baz=248,slow=34								
	comp=Z,7.7nm,0.8s								
JANB	**Januaria**	**41.57**	**336**	*e*P			**P**	**11 30 30.0**	**-1.0**
BDFB	**Brasilia**	**41.99**	**330**				**P**	**11 30 34.3**	**-0.2**
BDFB	**Brasilia**	**41.99**	**330**	P			**P**	**11 30 34.8**	**+0.3**
	comp=Z,11nm,0.7s,baz=159,slow=4.1,SNR=14								
BDFB				LR			LR	11 47 37.3	
	comp=Z,92nm,18.7s,baz=142,slow=36								
	comp=Z,11nm,0.7s								
BDFB	**Brasilia**	**41.99**	**330**	P			**P**	**11 30 34.3**	**-0.2**
BDFB				pmax			pmax		
	comp=Z,13nm,0.8s								
AC01	**Pan de Azucar**	**42.27**	**295**	P			**P**	**11 30 36.4**	**-0.2**
GO02	**Mina Guanaco**	**42.55**	**297**				**P**	**11 30 38.6**	**-0.6**
GO02						IAmb	IAmb	11 30 43.4	
	comp=Z,79nm,1.5s								
ARAG	**Araguaiana, MT**	**43.11**	**325**	*e*P			**P**	**11 30 43.1**	**-0.4**
SDBA	**SAO DESIDERIO**	**44.26**	**336**	*e*P			**P**	**11 30 51.8**	**-1.0**
SALV	**Santo Antonio**	**44.30**	**320**	*e*P			**P**	**11 30 53.9**	**+0.8**
PB05	**IPOC Station P**	**44.76**	**298**	P			**P**	**11 30 57.1**	**+0.2**
PB05						IAmb	IAmb	11 30 59.9	
	comp=Z,23nm,1.0s								
PB09	**IPOC Station P**	**45.15**	**300**	P			**P**	**11 31 00.1**	**+0.1**
NBAN	**Anadia - AL**	**45.40**	**348**	*e*P			**P**	**11 31 02.8**	**+1.0**
PB02	**IPOC Station P**	**45.88**	**299**	P			**P**	**11 31 05.2**	**-0.5**
PB01	**IPOC Station P**	**45.91**	**300**	P			**P**	**11 31 06.0**	**+0.1**
BOSA	**Boshof**	**46.01**	**78**	P			**P**	**11 31 06.5**	**-0.2**
BOSA						IAmb	IAmb	11 31 06.5	
	comp=Z,12nm,0.9s								
BOSA	**Boshof**	**46.01**	**78**	P			**P**	**11 31 05.8**	**-0.9**
	comp=Z,12nm,1.0s,baz=192,slow=6.5,SNR=9.7								
BOSA				LR			LR	11 47 41.5	
	comp=Z,116nm,18.5s,baz=204,slow=33								
	comp=Z,12nm,1.0s								
BOSA	**Boshof**	**46.01**	**78**	P			**P**	**11 31 06.5**	**-0.2**
BOSA				pmax			pmax		
	comp=Z,12nm,0.9s								
PTLB	**Pontes e Lacer**	**46.06**	**316**				**P**	**11 31 06.1**	**-0.8**
PTLB						IAmb	IAmb	11 31 11.7	
	comp=Z,26nm,0.9s								

comp=Z,60nm,21.7s,baz=154,slow=35
NNA Nana 57.27 299 *i* P **P 11 32 31.0 +0.1**
NNA pmax pmax
comp=Z,30nm,1.1s
MACA Manacapuru-AM 57.88 320 P **P 11 32 34.0 -1.1**
MACA IAmb IAmb 11 32 36.4
comp=Z,15nm,0.7s
MACA Manacapuru-AM 57.88 320 *e*P **P 11 32 33.8 -1.3**
LSZ Lusaka 58.23 70 P **P 11 32 36.2 -1.5**
LSZ IAmb IAmb 11 32 51.5
comp=Z,31nm,1.9s
LSZ Lusaka 58.23 70 LR LR 11 54 38.5
comp=Z,102nm,18.1s,baz=178,slow=33
LSZ Lusaka 58.23 70 P **P 11 32 36.2 -1.5**
LSZ pmax pmax
comp=Z,31nm,1.9s
CZSB Cruzeiro do Su 58.90 305 P **P 11 32 40.9 -1.4**
CZSB IAmb IAmb 11 32 43.8
comp=Z,13nm,0.7s
CZSB Cruzeiro do Su 58.90 305 *e*P **P 11 32 42.2 -0.1**
TEFE Tefe 59.10 316 *e*P **P 11 32 42.1 -1.5**
TBTG Tabatinga, AM 60.73 310 P **P 11 32 54.3 -0.6**
TBTG Tabatinga, AM 60.73 310 *e*P **P 11 32 54.9 0.0**
BOAV Boa Vista 62.97 323 P **P 11 33 08.2 -1.7**
BOAV IAmb IAmb 11 33 13.4
comp=Z,11nm,1.1s
BOAV Boa Vista 62.97 323 *e*P **P 11 33 10.6 +0.7**
MDP Montagnes des 63.06 332 LR LR 12 00 26.0
comp=Z,58nm,18.1s,baz=132,slow=36
DBIC Dimbokro 64.07 26 **P 11 33 15.9 -1.1**
DBIC Dimbokro 64.07 26 P **P 11 33 15.6 -1.5**
comp=Z,15nm,0.7s,baz=218,slow=6.3,SNR=17
DBIC LR LR 11 54 07.0
comp=Z,45nm,20.9s,baz=156,slow=30
comp=Z,15nm,0.7s
DBIC Dimbokro 64.07 26 P **P 11 33 16.0 -1.1**
DBIC pmax pmax
comp=Z,17nm,0.8s
COHC Cochancay 66.64 302 P **P 11 33 33.7 -0.2**
FLOC Florencia 68.45 307 P **P 11 33 43.6 -1.7**
FLOC IAmb IAmb 11 33 54.7
comp=Z,9.5nm,0.9s
OTAV Otavalo 68.59 304 P **P 11 33 45.3 -1.4**
OTAV IAmb IAmb 11 33 51.5
comp=Z,12nm,1.2s
OTAV Otavalo 68.59 304 P **P 11 33 45.3 -1.4**
OTAV pmax pmax
comp=Z,12nm,1.2s
OTAV Otavalo 68.59 304 *e*P **P 11 33 46.2 -0.5**
RUSC La Rusia 71.12 312 P **P 11 34 01.3 -1.0**
RUSC IAmb IAmb 11 34 06.5
comp=Z,31nm,1.6s
PCRV Puerto La Cruz 71.65 322 LR LR 12 08 06.4
comp=Z,26nm,19.0s,slow=38
BAUV El Baul 71.80 318 P **P 11 34 04.7 -1.0**
BAUV IAmb IAmb 11 34 08.4
comp=Z,26nm,1.1s
MBAR Mbarara 71.86 64 *i* P **P 11 34 05.8 -0.6**
MBAR pmax pmax
comp=Z,14nm,1.3s
TORD Torodi Ar. Bea 72.04 30 P **P 11 34 06.3 -0.9**
comp=Z,1µm,0.3s,baz=200,slow=5.5,SNR=4.6
SDV Santo Domingo 72.78 315 LR LR 12 09 24.8
comp=Z,79nm,18.4s,baz=276,slow=38
ANWB Willy Bob 77.67 327 P **P 11 34 39.3 -0.3**
SJG San Juan 79.53 323 LR LR 12 11 33.5
comp=Z,12nm,20.1s,baz=146,slow=37
TAM Tamanrasset 82.29 31 P **P 11 35 04.9 +0.2**
TAM Tamanrasset 82.29 31 P **P 11 35 04.9 +0.2**
TAM pmax pmax
comp=Z,46nm,0.2s
TCW Tory Channel 82.63 197 P **P 11 35 06.3 0.0**
MTO3 Montecristo 86.16 301 P **P 11 35 24.2 -0.5**
MTO3 IAmb IAmb 11 35 29.3
comp=Z,9.0nm,0.9s
TBI Tubuai 87.66 232 *e*LR LR 12 03 17.0
comp=Z,260nm,28.5s
TBI *e*LR LR 12 03 19.8
comp=Z,944nm,30.8s
ATD Arta Tunnel 88.47 68 LR LR 12 13 44.1
comp=Z,7.5nm,18.1s,baz=182,slow=35
MDT Midelt 89.41 19 LR LR 12 11 53.9
comp=Z,88nm,18.2s,baz=233,slow=33
TEIG Tepich 90.62 305 P **P 11 35 45.4 -0.1**
TAOE Nuku Hiva Isla 95.37 247 *e*LR LR 12 06 45.4
comp=Z,393nm,33.3s
KEST Kesra 95.55 30 LR LR 12 15 40.8
comp=Z,72nm,18.2s,baz=311,slow=33
COI Coimbra 95.97 15 P **P 11 36 10.2 +0.6**
COI Coimbra 95.97 15 P **P 11 36 10.3 +0.6**
COI pmax pmax
comp=Z,107nm,1.8s
ESDC Sonseca Array 96.19 18 P **P 11 36 10.9 +0.1**
ESDC Sonseca Array 96.19 18 P **P 11 36 10.8 0.0**
comp=Z,1.2nm,0.9s,baz=200,slow=5.0,SNR=6.6
ESDC LR LR 12 13 46.3
comp=Z,36nm,21.5s,baz=224,slow=32
comp=Z,1.2nm,0.9s
EIL Elat 99.77 52 LR LR 12 17 57.6
comp=Z,45nm,18.0s,baz=246,slow=33
ASAR Alice Springs 100.41 163 Pdif **Pdif 11 36 30.5 +0.1**
ASAR Alice Springs 100.41 163 P **Pdif 11 36 29.7 -0.7**
comp=Z,1.0nm,0.7s,baz=191,slow=4.1,SNR=13
ASAR PP **PP 11 40 31.8 -3.9**
comp=Z,0.5nm,0.8s,baz=186,slow=8.8,SNR=5.0
AS31 Alice Springs 100.41 163 Pdif **Pdif 11 36 30.6 +0.3**
DZM Mont Dzumac 102.59 194 *e*LR LR 12 10 08.1
comp=Z,80nm,24.4s
WRA Warramunga Arr 104.12 163 Pdiff **Pdif 11 36 46.2 -0.7**
comp=Z,0.4nm,0.6s,baz=198,slow=4.0,SNR=5.1
ANMO Albuquerque 111.73 300 *i* PKIKP **PKiKP 11 41 18.1 +0.4**
AKBB Malin Array Si 115.30 36 *i* PKIKP **PKPdf 11 41 24.5 +0.8**
PDAR Pinedale Array 119.30 303 PKP **PKPdf 11 41 30.1 -2.0**
comp=Z,0.3nm,0.5s,baz=122,slow=5.6,SNR=3.5
NOA NORSAR Array B 119.45 21 PKP **PKPdf 11 41 30.1 -1.4**
comp=Z,0.5nm,0.9s,baz=197,slow=1.9,SNR=2.9
NVAR Mina Array Bea 120.52 294 PKP **PKPdf 11 41 34.4 -0.1**
comp=Z,0.4nm,0.5s,baz=61,slow=2.3,SNR=4.6
FINES FINESS Array B 123.33 28 PKP **PKPdf 11 41 37.6 -1.2**
comp=Z,1.2nm,0.5s,baz=149,slow=2.9,SNR=11
FINES FINESS Array B 123.33 28*ce*PKIKP **PKPdf 11 41 37.4 -1.4**
FINES pmax pmax
comp=Z,1.0nm,0.5s
PLID Pearl Lake 124.16 301 **PKPdf 11 41 40.7 -0.6**
K05A Summer Lake 124.98 296 **PKPdf 11 41 43.4 +0.5**
J05D Fort Rock, OR 125.55 296 **PKPdf 11 41 44.3 +0.3**
G08A Pilot Rock 125.79 300 **PKPdf 11 41 44.5 +0.2**
CMAR Chiang Mai Arr 125.88 110 **PKPdf 11 41 44.8 -0.4**
CMAR Chiang Mai Arr 125.88 110 PKP **PKPdf 11 41 44.9 -0.2**
comp=Z,2.6nm,0.8s,baz=232,slow=3.6,SNR=17
AB31 Akbulak array 126.88 55 **PKPdf 11 41 45.5 -0.5**
ABKAR Akbulak array 126.88 55 **PKPdf 11 41 45.1 -1.0**
KKAR Karatay Array 128.02 67 **PKPdf 11 41 47.7 -0.8**
KKAR Karatay Array 128.02 67 PKIKP **PKPdf 11 41 47.7 -0.8**
KSH Kashi 128.54 74 PKP **PKPdf 11 41 48.8 -0.9**
ARCES ARCESS Array B 129.80 22 PKP **PKPdf 11 41 49.8 -1.3**
comp=Z,5.8nm,0.8s,baz=242,slow=2.6,SNR=11
ARCES PP **PP 11 44 01.6 -1.8**
comp=Z,2.9nm,0.9s,baz=212,slow=4.3,SNR=4.2
AAK Ala-Archa 129.85 70 *i* PKIKP **PKPdf 11 41 50.9 -1.3**
TNCH TengChong 130.90 105 *e*PKP **PKPdf 11 41 55.4 +0.7**
TNCH sPKP 11 42 00.5
ARTI Arti 130.93 47 **PKPdf 11 41 53.2 -0.4**
ARTI Arti 130.93 47 *i* PKIKP **PKPdf 11 41 53.5 0.0**
ARTI 11 44 08.3
PZH PanZhiHua 133.85 107 PKP **PKPdf 11 42 00.3 +0.1**
BRVK Borovoye 134.31 57 *i* PKIKP **PKPdf 11 41 59.8 -0.2**
BVAR Borovoye Array 134.34 57 PKP **PKPdf 11 42 00.6 +0.6**
comp=Z,6.3nm,1.0s,baz=233,slow=7.0,SNR=3.8
YKA Yellowknife Ar 134.90 319 PKP **PKPdf 11 41 59.9 -0.9**
comp=Z,0.9nm,0.7s,baz=112,slow=1.7,SNR=5.4
MK31 Makanchi Array 136.78 70 *i* PKIKP **PKPdf 11 42 03.1 -1.8**
MKAR Makanchi Array 136.78 70 **PKPdf 11 42 03.9 -1.0**
MKAR Makanchi Array 136.78 70 PKP **PKPdf 11 42 03.6 -1.3**
comp=Z,1.8nm,0.9s,baz=245,slow=3.0,SNR=8.1
MKAR Makanchi Array 136.78 70*ce*PKIKP **PKPdf 11 42 03.7 -1.2**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
KURBB Kurchatov Arra 137.03 64 PKhKP PKPpre 11 41 56.3
comp=Z,0.2nm,0.4s,baz=242,slow=3.2,SNR=1.5
KURBB PKP **PKPdf 11 42 04.5 -0.6**
comp=Z,1.8nm,0.9s,baz=230,slow=2.7,SNR=9.0
KURK Kurchatov 137.13 64 *i* PKIKP **PKPdf 11 42 04.7 -0.6**
ZALV Zalesovo Beam 142.07 63 PKhKP PKPpre 11 42 07.2
comp=Z,1.0nm,0.4s,baz=145,slow=5.3,SNR=2.4
ZALV PKP **PKPdf 11 42 11.0 -3.2**
comp=Z,1.1nm,0.4s,baz=306,slow=5.0,SNR=3.8
ZALV Zalesovo Beam 142.07 63 PKIKP **PKPdf 11 42 11.0 -3.2**
XAN Xi'an 143.59 107 PKP PKPab 11 42 15.8 +1.6
G30M tAoh Zraii Nji 145.14 319 **PKPbc 11 42 18.9 0.0**
F30M Barrier River 145.15 320 **PKPbc 11 42 18.7 -0.1**
EPYK Eagle Plains 145.17 318 **PKPbc 11 42 18.4 -0.6**
J29N Klondike Camp 145.22 315 **PKPbc 11 42 19.1 -0.1**
LOGN Logan Glacier 145.25 308 **PKPbc 11 42 19.6 0.0**
YAH Yahtse 145.43 307 **PKPdf 11 42 20.4 +0.2**
CTGM Chitina Glacie 145.45 308 **PKPdf 11 42 20.6 +0.5**
MESA MESA 145.46 306 **PKPdf 11 42 19.9 -0.3**
I29M Ogilvie Camp, 145.52 316 **PKPdf 11 42 19.1 -0.9**
GRNC Granite Creek 145.57 307 **PKPdf 11 42 20.5 +0.1**
DAWY Dawson 145.59 314 **PKPdf 11 42 19.3 -0.8**
BARN Barnard Glacie 145.64 308 **PKPdf 11 42 20.5 0.0**
H29M Whitestone 145.77 318 **PKPdf 11 42 19.9 -0.4**
G29M Pine Creek 145.81 319 **PKPdf 11 42 20.5 +0.1**
LYN LuoYang 145.93 110 ||PKPbc **PKPdf 11 42 22.1 +0.5**
LYN PKPab **PKiKP 11 42 27.9 +2.2**
LYN pPKP sPKPab 11 42 33.8 +9.2
LYN sPKP 11 42 37.4
WAX Waxell Ridge 145.98 307 PKPdf **PKPdf 11 42 21.9 +0.9**
E29M Blow River 146.10 321 **PKPdf 11 42 21.0 +0.2**
M27K Edge Creek, AK 146.15 310 **PKPdf 11 42 21.7 +0.4**
I28M Miner Creek 146.20 316 **PKPdf 11 42 21.3 +0.1**
SUCK Suckling Hills 146.28 306 PKPdf **PKPdf 11 42 22.5 +1.1**
BCAR Beaver Creek A 146.32 311 **PKPdf 11 42 22.1 +0.7**
L27K Beaver Creek, 146.34 311 **PKPdf 11 42 22.0 +0.5**
BERG Berg Lake 146.36 306 PKPdf **PKPdf 11 42 22.8 +0.3**
VRDI Verde Repeater 146.51 308 **PKPdf 11 42 22.6 +0.7**
KAIM Kayak Island 146.54 305 PKPdf **PKPdf 11 42 23.1 +1.3**
HMT Hamilton 146.60 306 PKPdf **PKPdf 11 42 22.7 +0.7**
F28M Old Crow 146.67 320 **PKPdf 11 42 23.1 +1.2**
K27K Chicken 146.72 313 PKPdf **PKPdf 11 42 23.1 +1.1**
E28M Babbage River 146.74 322 PKPdf **PKPdf 11 42 22.9 +1.0**
GLB Gilahina Butte 146.74 308 PKPdf **PKPdf 11 42 23.5 +1.3**
RAGM Ragged Mountai 146.81 306 PKPdf **PKPdf 11 42 23.2 +0.9**
BMRM Bremner River 146.96 307 PKPdf **PKPdf 11 42 24.3 +1.7**
L26K Log Cabin Wild 147.00 311 PKPdf **PKPdf 11 42 24.0 +1.4**
H27K Steamboat Moun 147.02 317 PKPdf **PKPdf 11 42 24.3 +1.8**
JOW Kunigami 147.13 138 PKPdf **PKPdf 11 42 23.5 -0.4**
N25K Chitina, Valde 147.15 308 PKPdf **PKPdf 11 42 24.4 +1.4**
G27K Doyon Strip 147.19 318 PKPdf **PKPdf 11 42 23.9 +1.1**
D27M Malcolm River 147.35 323 **PKPdf 11 42 25.8 +2.8**
NJ2 Nanjing 147.35 120 *e*P **PKPdf 11 42 24.5 +0.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
EYAK Cordova Ski Ar 147.37 306 **PKPdf 11 42 25.9 +2.8**
E27K Coleen River 147.41 321 PKPbc **PKPdf 11 42 25.6 +2.5**
J26L Joseph Creek 147.46 314 PKPdf **PKPdf 11 42 25.0 +1.7**
DOT Dot Lake 147.47 312 PKPdf **PKPdf 11 42 25.0 +1.7**
I26K Coal Creek Min 147.48 315 PKPdf **PKPdf 11 42 24.9 +1.7**
SCRK Sand Creek 147.52 313 PKPdf **PKPdf 11 42 24.4 +0.9**
DIV Divide 147.55 307 **PKPdf 11 42 25.8 +2.2**
HIN Hinchinbrook I 147.68 305 PKPbc **PKPdf 11 42 26.2 +2.5**
KLU Klutina 147.73 308 **PKPdf 11 42 26.8 +2.9**
FID Port Fidalgo 147.77 306 PKPdf **PKPdf 11 42 25.1 +1.2**
RIDG Independent Ri 147.83 312 **PKPdf 11 42 26.5 +2.5**
NRIK Noril'sk 148.15 37 **PKPdf 11 42 26.7 +2.5**
NRIK Noril'sk 148.15 37 PKPbc **PKPdf 11 42 26.2 +2.0**
comp=Z,6.8nm,0.8s,baz=104,slow=0.9,SNR=4.9
NRIK Noril'sk 148.15 37 PKP2 **PKPdf 11 42 26.7 +2.5**
F26K Sheenjek River 148.29 319 **PKPdf 11 42 27.1 +2.5**
BMAR Burnt Mountain 148.42 319 **PKPdf 11 42 28.2 +3.5**
ILAR Eielson Array 148.92 313 PKPbc **PKPdf 11 42 28.9 +3.3**
ILAR Eielson Array 148.92 313 PKPbc **PKPdf 11 42 28.5 +2.9**
comp=Z,0.6nm,0.9s,baz=350,slow=1.0,SNR=5.1
ILAR Eielson Array 148.92 313 PKP2 **PKPdf 11 42 28.9 +3.3**
SEW Seward 149.00 304 **PKPdf 11 42 29.5 +3.7**
GHO Glory Hole Cre 149.19 307 **PKPdf 11 42 30.0 +3.8**
HNS HongShan 149.25 109 ||PKPbc **PKPdf 11 42 31.3 +4.3**
COLA College 149.34 314 PKPbc **PKPdf 11 42 29.9 +3.6**
COLA College 149.34 314 PKP2 **PKPdf 11 42 29.9 +3.6**
WRH Wood River Hil 149.38 313 PKPbc **PKPdf 11 42 30.2 +3.9**
H24K Noodor Dome 149.50 315 **PKPdf 11 42 30.5 +4.0**
MCK McKinley 149.61 311 **PKPdf 11 42 31.2 +4.4**
MCK McKinley 149.61 311 PKP2 **PKPdf 11 42 31.2 +4.4**
TIA Tai'an 149.69 113 PKPbc **PKPdf 11 42 32.4 +4.6**
MOY Mondy 149.73 74 *e*PKP2 **PKPdf 11 42 32.1 +4.6**
MOY pmax pmax
comp=Z,46nm,1.7s
KDAK Kodiak Island 149.86 299 *i* PKHKP PKPpre 11 42 27.4
HHC Hu-ho-hao-te 149.87 100 *e*P **PKPdf 11 42 24.5 -3.5**
HHC LR LR
comp=N,110nm,15.7s
HHC LR LR
comp=E,94nm,17.0s
HHC LR LR
comp=Z,140nm,17.2s
CUT Chulitna 149.94 308 **PKPdf 11 42 32.1 +4.8**
E24K Your Creek 149.97 320 **PKPdf 11 42 32.2 +4.9**
D24K Happy Valley 150.14 322 **PKPdf 11 42 31.8 +4.4**
SII Sitkinak Islan 150.29 296 **PKPdf 11 42 32.9 +4.8**
TOLK Toolik Lake Re 150.40 321 **PKPdf 11 42 32.9 +5.0**
ZAK Zakamensk 150.44 78 *e*PKIKP **PKPdf 11 42 33.0 +4.4**
ZAK pmax pmax
comp=Z,20nm,1.1s
SKT Skwentna 150.44 307 PKPbc **PKPdf 11 42 33.1 +5.0**
C23K Itkillik River 150.77 323 **PKPbc 11 42 33.7 -0.2**
D23K Nanushuk River 150.80 322 **PKPbc 11 42 34.2 +0.1**
SONM Songino Array 150.98 84 PKPdf **PKPdf 11 42 28.9 -0.7**
SONM PKPbc **sPKPdf 11 42 34.7 +3.4**
SONM PKPab **PKPab 11 42 43.6 +0.7**
SONM Songino Array 150.98 84 PKP **PKPdf 11 42 28.0 -1.6**
comp=Z,1.3nm,0.9s,baz=196,slow=2.2,SNR=7.3
SONM PKPbc **sPKPdf 11 42 34.8 +3.4**
comp=Z,15nm,0.8s,baz=222,slow=3.2,SNR=62
SONM Songino Array 150.98 84 PKIKP **PKPdf 11 42 28.9 -0.7**
SONM 11 42 34.7
I21K Tanana 151.12 314 **PKPdf 11 42 28.5 -0.6**
I21K PKPbc **sPKPdf 11 42 34.5 +3.7**
I21K PKPab **PKPab 11 42 44.0 +1.2**
ULN Ulaanbaatar 151.37 85 PKPdf **PKPdf 11 42 29.6 -0.5**
ULN PKPbc **sPKPdf 11 42 35.8 +3.8**
ULN PKPab **PKPab 11 42 44.5 -0.1**
ULN Ulaanbaatar 151.37 85 PKIKP **PKPdf 11 42 29.7 -0.5**
ULN 11 42 35.8
ULN 11 42 44.5
IRK Irkutsk 151.81 75 *e*PKIKP **PKPdf 11 42 35.5 +5.0**
IRK pmax pmax
comp=Z,23nm,1.4s
B21K Ikpikpuk River 152.17 323 **PKPbc 11 42 37.5 +0.3**
N17K Nushagak Hills 152.84 303 **PKPbc 11 42 39.2 +0.2**
K17K Iditarod 153.67 308 **PKPbc 11 42 41.0 +0.3**
KSRS Korea Array 156.11 126 PKPab **PKPab 11 43 05.1 +0.4**
comp=Z,0.6nm,0.6s,baz=233,slow=3.4,SNR=2.3
MJAR Matsushiro Arr 159.47 146 PKPab **PKPab 11 43 19.4 +0.2**
comp=Z,2.5nm,0.6s,baz=168,slow=4.4,SNR=4.4

MOS ***12*** *11:35:53.5±1.3, 15°.50S×174°.27W, h97km, mb5.0/10, Error ellipse: s-maj=13.2km s-min=10.7km az=115.4*
NEIC ***12*** *11:35:55.6±1.6, 15°.54S±0°.08×174°.09W±0°.09, h107km±4km, mb4.9/470, Error ellipse: s-maj=12.2km s-min=11.7km az=51.0*
IDC ***12*** *11:35:55.4±2.6, 15°.54S×174°.17W, h108km±22km, mb4.6/20, mbtmp4.9/22, MS3.6/27, Error ellipse: s-maj=16.1km s-min=11.4km az=144.0*
NOU ***12*** *11:35:58.5, 15°.79S×173°.89W, h142km, mb5.2/81, Tonga Islands*
GCMT ***12*** *11:36:00.5±0.2, 15°.52S±0°.01×173°.92W±0°.01, h136km±1km, MW5.1/119, Moment Tensor Solution. s67,c82; s119,c189; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.46±.11; $M_{\theta\theta}$3.35±.12; $M_{\phi\phi}$-1.89±.12; $M_{r\theta}$2.56±.08; $M_{r\phi}$0.89±.12; $M_{\theta\phi}$-3.21±.08; Best double couple: M_o5.02800×10^{16} NP1:$\phi_0$48.00000°, δ37.00000°, λ-162.00000°. NP2:$\phi_0$303.00000°, δ80.00000°, λ-54.00000°. Principal axes: T 4.5010, Plg26.0000°, Azm6.0000°; N 1.0530, Plg35.0000°, Azm116.0000°; P -5.5540, Plg44.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 11:35:55.4±0.4,**15°.63S**±0°.04×**173°.95W**±0°.04, **h113**km±3km,**h113**km;**pP-P,n992,**σ1**902/840,mb4.9/297, 39C-36D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h	m	s	Res ISC

AFI Afiamalu 2.71 51 **Pn 11 36 38.1 +0.3**
AFI Sn **Sn 11 37 08.2 -2.2**
FUTU Fugatoga 4.24 288 Pn **Pn 11 37 01.3 +3.3**
FUTU Fugatoga 4.24 288 P **Pn 11 37 01.3 +3.3**
NIUE Niue 5.15 132 **Pn 11 37 11.8 +1.5**
NIUE Niue 5.15 132 P **Pn 11 37 12.0 +1.7**
comp=Z,4µm,0.7s
NIUE S **Sn 11 38 06.8 -1.8**
NIUE Niue 5.15 132 P **Pn 11 37 12.0 +1.7**
NIUE Niue 5.15 132 S **Sn 11 38 07.5 -1.1**
NIUE Niue 5.15 132 P **Pn 11 37 12.3 +2.0**
NIUE S **Sn 11 38 06.9 -1.7**
LKBA Tubou, Lakemba 5.33 240 P Pn 11 37 18.0 +5.3
TAVE Taveuni 5.82 259 P Pn 11 37 24.4 +5.0
DGTI Dogotuki 6.11 263 P Pn 11 37 27.7 +4.4
MSVF Nonsavu 7.95 254 Pn 11 37 53.3 +5.1
MSVF Nonsavu 7.95 254 P Pn 11 37 52.9 +4.6
MSVF Nonsavu 7.95 254 *d* iP Pn 11 37 53.6 +5.3
YSA Yasawairara 8.21 261 P Pn 11 37 56.1 +4.4
FUNA Funafuti 9.73 316 Pn **Pn 11 38 14.5 +2.1**
FUNA Funafuti 9.73 316 P **Pn 11 38 14.9 +2.5**
RAR Rarotonga 14.55 115 P **P 11 39 18.8 -0.5**
RAR Rarotonga 14.55 115 P **P 11 39 19.3 0.0**
comp=Z,14nm,0.4s,baz=177,slow=3.5,SNR=7.4
RAR S **Sn 11 41 50.4 -6.3**
comp=Z,13nm,0.4s,baz=128,slow=18,SNR=1.7
RAR LR LR 11 44 01.4
comp=Z,210nm,18.2s,baz=284,slow=33
RAR Rarotonga 14.55 115 P **P 11 39 19.2 -0.1**
VLAKA Lakatoro 17.93 266 P **Pn 11 39 58.1 +0.5**
MARNC Mare, Loyalty 18.04 248 P **Pn 11 39 58.4 -0.5**
PINNC Pines Island, 18.89 246 P **P 11 40 05.7 -1.4**
PINNC Pines Island, 18.89 246 P **Pn 11 40 08.1 -0.9**
YATNC Mamie plateau, 19.22 248 P **Pn 11 40 11.9 -1.0**
OUENC Ouen Island, N 19.36 247 P **Pn 11 40 13.3 -1.3**
DZM Mont Dzumac 19.62 248 **P 11 40 13.5 -1.7**
DZM Mont Dzumac 19.62 248 *e*P **P 11 40 14.3 -0.9**
comp=Z,412nm,1.2s
DZM *e*S **S 11 43 47.6 -3.1**
comp=Z,1µm,28.7s
DZM *e*LR LR 11 44 57.7
comp=Z,589nm,35.2s
DZM Mont Dzumac 19.62 248 P **P 11 40 14.2 -1.0**
comp=Z,42nm,0.9s,baz=79,slow=18,SNR=18
DZM Mont Dzumac 19.62 248 P **P 11 40 15.2 0.0**
ONTNC Ouen Toro 19.67 247 P **P 11 40 14.1 -1.6**
ONTNC Ouen Toro 19.67 247 P **P 11 40 16.1 +0.4**
KOUNC Koumac, New Ca 21.25 253 P **P 11 40 33.2 +0.5**
NFK Norfolk Island 21.38 228 P **P 11 40 33.7 -0.3**
comp=Z,113nm,0.9s
OUZ Ouanuta 22.48 208 P **P 11 40 46.7 +1.3**
WCZ Waipu Caves 22.77 205 P **P 11 40 50.5 +2.2**
MXZ Matakaoa Point 22.90 196 P **P 11 40 51.8 +2.3**
KUZ Kuaotunu 22.95 202 P **P 11 40 50.0 0.0**
KUZ Kuaotunu 22.95 202 P **P 11 40 51.2 +1.2**
HAZ Te Kaha 23.22 197 P **P 11 40 53.7 +1.1**
PUZ Puketiti 23.39 196 P **P 11 40 56.4 +2.3**
PUZ S **S 11 45 01.5 +2.9**
PPT2 Papeete2 23.44 98 *e*P **P 11 40 52.8 -2.0**
comp=Z,68nm,24.5s
PPT2 *e*sS sS 11 45 49.7 +9.1
comp=Z,316nm,26.8s
MWZ Matawai 23.83 197 P **P 11 40 58.9 +0.7**
URZ Urewera 23.88 198 P **P 11 40 57.5 -1.1**
TOZ Tahuroa Road 23.91 201 P **P 11 40 60.0 +1.2**
XMAS Kiritimati 23.98 44 P **P 11 41 01.1 +1.5**
TBI Tubuai 24.31 112 *e*sS sS 11 45 59.0 +3.3
comp=Z,917nm,28.5s
BKZ Black Stump Fm 24.90 198 P **P 11 41 06.7 -1.1**
ALEG Aligegeo Malai 25.69 282 P **P 11 41 16.4 +1.2**
OGWZ Otaki Gorge 26.82 199 P **P 11 41 23.9 -1.2**
CAW Cannon Point 27.11 198 P **P 11 41 25.7 -2.0**
DUWZ D'Urville Isla 27.20 200 P **P 11 41 28.6 0.0**
TCW Tory Channel 27.46 200 P **P 11 41 29.4 -1.4**
QRZ Quartz Range 27.72 202 P **P 11 41 32.8 -0.3**
QRZ Quartz Range 27.72 202 P **P 11 41 33.2 +0.1**
NNZ Nelson 27.76 201 P **P 11 41 32.0 -1.4**
TUWZ Tuamarina 27.76 200 P **P 11 41 33.0 -0.5**
MRNZ Matariki Terra 28.14 202 P **P 11 41 36.4 -0.5**
KHZ Kahutara 28.78 199 P **P 11 41 40.8 -1.7**
DSZ Dennison Nort 28.78 202 P **P 11 41 41.7 +1.0**
RPZ Rata Peaks 30.77 202 P **P 11 41 59.7 -0.4**
GC1S Gold Coast 1 S 32.55 242 P **P 11 42 16.3 +0.4**
EIDS Eidsvold 34.07 248 P **P 11 42 27.5 -1.7**
EIDS Eidsvold 34.07 248 P **P 11 42 25.6 -3.5**
comp=Z,9.0nm,1.1s
ARMA Armidale 34.77 239 P **P 11 42 34.5 -0.8**
ARMA Armidale 34.77 239 P **P 11 42 34.3 -1.0**
comp=Z,47nm,1.0s
ARMA Armidale 34.77 239 P **P 11 42 34.4 -0.8**
SYDH Sydney Hard Ro 36.57 234 P **P 11 42 50.2 -0.3**
CTAO Charters Tower 38.07 257 P **P 11 43 02.0 -1.3**
CNB Canberra Magne 38.19 232 P **P 11 43 02.9 -1.3**
comp=Z,71nm,1.0s
CNB Canberra 38.19 232 P **P 11 43 03.9 -0.3**
CAN Canberra 38.47 232 P **P 11 43 05.8 -0.7**
CAN Canberra 38.47 232 P **P 11 43 05.4 -1.1**
comp=Z,51nm,0.9s
CAN Canberra 38.47 232 P **P 11 43 06.0 -0.6**
H11S2 WAKE ISLAND Hy 38.89 330 T T 12 23 56.6
baz=146,slow=76,SNR=33
H11S3 WAKE ISLAND Hy 38.90 330 T T 12 23 57.6
baz=146,slow=76,SNR=30
H11S1 WAKE ISLAND Hy 38.91 330 T T 12 23 53.5
baz=146,slow=76,SNR=33
KHU Kahuku 39.07 28 P **P 11 43 11.4 -0.5**
H11N3 WAKE ISLAND Hy 39.85 331 T T 12 24 59.1
baz=147,slow=76,SNR=36
H11N1 WAKE ISLAND Hy 39.85 331 T T 12 25 01.3
baz=147,slow=76,SNR=24
H11N2 WAKE ISLAND Hy 39.87 331 T T 12 25 00.6
baz=147,slow=76,SNR=22
MTSU Mount Surprise 39.95 260 P **P 11 43 18.0 -1.1**
comp=Z,58nm,0.8s
MTSU Mount Surprise 39.95 260 P **P 11 43 18.9 -0.2**
CMSA Cobar Meteorol 39.98 239 P **P 11 43 17.5 -1.6**
comp=Z,56nm,0.9s
CMSA Cobar Meteorol 39.98 239 P **P 11 43 17.8 -1.3**
KIP Kipapa 40.01 23 P **P 11 43 21.1 +1.8**
KIP Kipapa 40.01 23 P **P 11 43 21.0 +1.8**
KIP Kipapa 40.01 23 *d* iP **P 11 43 21.1 +1.8**
KIP pmax pmax
comp=Z,142nm,1.3s
KIP Kipapa 40.01 23 P **P 11 43 21.1 +1.8**
HLK Haleakala 40.12 26 P **P 11 43 21.1 +0.5**
KHLH Kahului Airpor 40.17 26 P **P 11 43 20.9 +0.3**
QLP Quilpie 40.34 247 P **P 11 43 20.2 -1.9**
comp=Z,57nm,0.8s
QLP Quilpie 40.34 247 P **P 11 43 20.9 -1.2**
COEN Coen 41.44 266 **P 11 43 31.2 -0.1**
COEN Coen 41.44 266 P **P 11 43 30.9 -0.4**
comp=Z,82nm,0.8s
COEN Coen 41.44 266 P **P 11 43 31.4 +0.1**
TOO Toolangi 41.91 231 P **P 11 43 34.1 -0.8**
CORO Coronation Par 42.25 225 P **P 11 43 37.4 -0.1**
TAU Tasmania Unive 42.79 223 P **P 11 43 40.7 -1.2**
BRAT Ballarat 43.07 231 P **P 11 43 44.2 0.0**
STKA Stephens Creek 43.46 240 **P 11 43 46.9 -0.6**
STKA Stephens Creek 43.46 240 P **P 11 43 46.6 -0.9**
comp=Z,252nm,1.3s
STKA Stephens Creek 43.46 240 P **P 11 43 46.2 -1.2**
comp=Z,26nm,0.8s,baz=81,slow=9.2,SNR=20
STKA PcP **PcP 11 45 35.4 +1.6**
comp=Z,4.3nm,0.7s,baz=58,slow=5.3,SNR=3.2
STKA LR LR 12 00 02.8
comp=Z,128nm,18.6s,baz=104,slow=33
comp=Z,26nm,0.8s
STKA Stephens Creek 43.46 240 P **P 11 43 47.1 -0.4**
QIS Mount Isa 44.31 256 P **P 11 43 53.0 -1.5**
comp=Z,20nm,1.2s
QIS Mount Isa 44.31 256 P **P 11 43 54.7 +0.3**
HTT Hallett 45.97 238 P **P 11 44 07.9 +0.4**
JAY Jayapura 46.51 282 P **P 11 44 10.9 -1.0**
comp=Z,12nm,0.5s,baz=130,slow=5.8,SNR=15
JAY LR LR 12 04 15.2
comp=Z,38nm,18.0s,baz=341,slow=37
comp=Z,12nm,0.5s
JAY Jayapura 46.51 282 P **P 11 44 11.8 -0.1**
GENI Genyem 46.99 281 P **P 11 44 16.3 +0.7**
GENI Genyem 46.99 281 P **P 11 44 16.7 +1.1**
comp=Z,50nm,1.1s
SMPI Sarmi 48.56 281 P **P 11 44 27.9 +0.2**
comp=Z,29nm,1.5s

WR8 **Warramunga Arr** 49.12 257 P 11 44 30.3 -1.7
WB0 **Warramunga Arr** 49.23 257 P 11 44 31.1 -1.7
WRAB **Tennant Creek** 49.26 257 P P 11 44 31.4 -1.6
WRA **Warramunga Arr** 49.27 257 P 11 44 30.9 -2.3
WRA **Warramunga Arr** 49.27 257 P P 11 44 31.1 -2.0
comp=Z,34nm,0.8s,baz=91,slow=7.2,SNR=326
WRA PcP PcP 11 45 54.1 -0.3
comp=Z,3.7nm,0.6s,baz=92,slow=3.1,SNR=4.2
WRA ScP ScP 11 49 40.5 +1.0
comp=Z,1.2nm,1.0s,baz=97,slow=5.4,SNR=3.7
WRA LR LR 12 04 21.5
comp=Z,102nm,18.7s,baz=62,slow=35
comp=Z,34nm,0.8s
AS01 **Alice Springs** 49.49 252 P P 11 44 33.4 -1.4
AS31 **Alice Springs** 49.53 252 P 11 44 33.8 -1.3
AS31 IAmb IAmb 11 44 36.1
comp=Z,19nm,0.8s
AS31 **Alice Springs** 49.53 252 P P 11 44 33.5 -1.5
comp=Z,23nm,0.6s
ASAR **Alice Springs** 49.53 252 P P 11 44 33.5 -1.5
comp=Z,55nm,0.6s,baz=87,slow=8.4,SNR=994
ASAR PcP PcP 11 45 55.3 -0.1
comp=Z,4.4nm,0.7s,baz=91,slow=7.6,SNR=0.8
ASAR ScP ScP 11 49 38.6 -1.9
comp=Z,0.4nm,0.8s,baz=92,slow=2.6,SNR=2.1
comp=Z,55nm,0.6s
GUMO **Guam** 50.01 303 LR LR 12 05 07.1
comp=Z,17nm,18.1s,baz=110,slow=35
KDU **Kakadu** 51.92 266 P P 11 44 51.9 -1.2
comp=Z,32nm,0.6s
KDU **Kakadu** 51.92 266 P P 11 44 52.6 -0.4
MTN **Manton Dam** 53.18 266 P 11 45 01.1 -1.2
MTN **Manton Dam** 53.18 266 P P 11 45 00.8 -1.5
comp=Z,41nm,0.8s
MTN **Manton Dam** 53.18 266 P P 11 45 01.7 -0.7
DRS **Darwin Rock St** 53.48 266 P P 11 45 04.3 -0.2
FORT **Forrest** 54.84 243 P 11 45 12.8 -1.4
KNRA **Kununurra** 55.01 262 P 11 45 14.4 -1.2
KNRA IAmb IAmb 11 45 19.3
comp=Z,16nm,0.8s
KNRA **Kununurra** 55.01 262 P P 11 45 14.3 -1.2
comp=Z,21nm,0.8s
SWI **Sorong** 55.98 280 P P 11 45 22.5 -0.1
FITZ **Fitzroy Crossi** 57.64 258 P 11 45 33.4 -1.0
FITZ **Fitzroy Crossi** 57.64 258 P P 11 45 33.3 -1.0
comp=Z,3.0nm,1.1s
FITZ **Fitzroy Crossi** 57.64 258 P P 11 45 33.2 -1.0
comp=Z,9.4nm,0.8s,baz=96,slow=5.0,SNR=15
FITZ LR LR 12 07 33.5
comp=Z,125nm,21.3s,baz=108,slow=33
comp=Z,9.4nm,0.8s
FITZ **Fitzroy Crossi** 57.64 258 P P 11 45 34.4 +0.1
DRV **Dumont d'Urvil** 59.20 200 P P 11 45 44.6 +0.3
NLAI **Namlea** 59.25 276 P P 11 45 44.2 -1.3
comp=Z,50nm,0.8s
SOEI **Soe** 60.39 268 P 11 45 54.4 +1.0
SOEI **Soe** 60.39 268 P P 11 45 55.1 +1.7
SOEI **Soe** 60.39 268 P P 11 45 53.8 +0.4
comp=Z,158nm,1.0s
MMRI **Maumere** 62.59 268 P P 11 46 06.4 -1.7
MMRI **Maumere** 62.59 268 P P 11 46 07.0 -1.1
comp=Z,115nm,1.4s
MBWA **Marble Bar** 62.79 254 P 11 46 08.4 -1.0
MBWA **Marble Bar** 62.79 254 P P 11 46 08.2 -1.1
comp=Z,43nm,1.3s
MBWA **Marble Bar** 62.79 254 P P 11 46 09.0 -0.3
MBWA **Marble Bar** 62.79 254 P P 11 46 08.3 -1.0
MBWA pP pP 11 46 33.9 -2.5
SBA **Scott Base** 62.98 185 P P 11 46 12.8 +3.1
SBA IAmb IAmb 11 46 13.7
comp=Z,22nm,0.8s
EDFI **Ende, Flores** 63.09 268 P P 11 46 10.1 -1.5
comp=Z,1μmcomp=Z,156nm,0.9s
VNDA **Vanda** 63.10 186 P 11 46 12.4 +2.0
VNDA IAmb IAmb 11 46 13.6
comp=Z,16nm,0.9s
VNDA **Vanda** 63.10 186 P P 11 46 12.0 +1.6
comp=Z,14nm,0.9s,baz=5.8,slow=7.0,SNR=66
comp=Z,14nm,0.9s
VNDA **Vanda** 63.10 186 P P 11 46 12.0 +1.6
VNDA **Vanda** 63.10 186 P P 11 46 12.3 +1.8
MEEK **Meekatharra** 63.23 248 P P 11 46 10.8 -1.5
comp=Z,68nm,0.8s
MEEK **Meekatharra** 63.23 248 P P 11 46 11.2 -1.1
KLBR **Kellerberrin** 63.66 242 P P 11 46 13.9 -1.0
comp=Z,339nm,0.8s
KLBR **Kellerberrin** 63.66 242 P P 11 46 14.0 -1.0
LUWI **Luwuk** 64.02 277 P P 11 46 17.3 -0.3
comp=Z,1μmcomp=Z,130nm,1.2s
NWAO **Narrogin (SRO)** 64.04 241 P 11 46 16.9 -0.5
NWAO **Narrogin (SRO)** 64.04 241 P P 11 46 17.0 -0.5
NWAO **Narrogin (SRO)** 64.04 241 P P 11 46 16.8 -0.7
NWAO **Narrogin (SRO)** 64.04 241 P P 11 46 16.9 -0.5
BLDU **Ballidu** 64.61 243 P P 11 46 19.8 -1.4
comp=Z,65nm,1.0s
BLDU **Ballidu** 64.61 243 P P 11 46 20.2 -1.0
MUN **Mundaring** 64.96 242 P P 11 46 22.8 -0.6
comp=Z,100nm,0.8s
MUN **Mundaring** 64.96 242 P P 11 46 23.1 -0.3
WBSI **Waikabubak, Su** 65.10 266 P P 11 46 24.4 -0.3
comp=Z,49nm,1.3s
APSI **Ampana** 65.13 276 P P 11 46 25.0 +0.2
comp=Z,1μmcomp=Z,115nm,1.6s
MRSI **Marisa** 65.26 278 P P 11 46 25.1 -0.5
comp=Z,45nm,1.0s
MORW **Morawa** 65.31 245 P 11 46 24.8 -0.9
MORW **Morawa** 65.31 245 P P 11 46 24.4 -1.3
comp=Z,46nm,1.1s
MORW **Morawa** 65.31 245 P P 11 46 26.3 +0.6
MTKN **Mount Kenneth** 65.33 242 P P 11 46 25.8 0.0
BKSI **Bulukumba** 65.42 271 P P 11 46 25.5 -1.1
comp=Z,20nm,0.9s
BNSI **Bone** 65.67 272 P P 11 46 28.2 0.0
comp=Z,90nm,1.2s
KAPI **Kappang** 65.85 271 P 11 46 29.0 -0.4
KAPI IAmb IAmb 11 46 29.7
comp=Z,20nm,0.8s
KAPI **Kappang** 65.85 271 P P 11 46 28.6 -0.8
comp=Z,15nm,0.4s,baz=130,slow=2.3,SNR=8.1
comp=Z,15nm,0.4s
KAPI **Kappang** 65.85 271 P P 11 46 28.9 -0.5
SPSI **Sidrap Palu** 66.10 273 P P 11 46 29.9 -1.1
comp=Z,6μmcomp=Z,37nm,0.9s
TTSI **Tana Toraja** 66.30 274 P P 11 46 31.8 -0.5
comp=Z,23nm,1.0s
H01W1 **Cape Leeuwin H** 66.51 238 P P 11 46 34.1 +1.1
baz=117,slow=6.8,SNR=7.9
H01W3 **Cape Leeuwin H** 66.52 238 P P 11 46 34.2 +1.0
baz=117,slow=6.8,SNR=7.0
H01W2 **Cape Leeuwin H** 66.53 238 P P 11 46 34.1 +1.0
baz=117,slow=6.8,SNR=6.9
TOLI2 **Tolitoli** 66.55 278 P 11 46 32.6 -1.4
TOLI2 **Tolitoli** 66.55 278 P P 11 46 33.4 -0.5
PLAI **Plampang** 66.84 267 P P 11 46 36.0 +0.3
PLAI **Plampang** 66.84 267 P P 11 46 34.8 -0.9
comp=Z,987nmcomp=Z,90nm,1.4s
PCI **Palu** 66.87 276 P P 11 46 37.0 +1.0
MPSI **Mapaga** 67.17 277 P P 11 46 37.0 -0.8
comp=Z,685nmcomp=Z,97nm,0.9s
CCD **Concordia, Ant** 68.11 194 P P 11 46 43.9 +0.7
CCD PcP PcP 11 47 08.8 +0.4
NIKH **Nikolski High** 68.46 3 P P 11 46 44.4 -0.7
baz=185
JGF **Kuroka** 68.70 319 P P 11 46 46.5 -0.5
MJAR **Matsushiro Arr** 68.77 320 P P 11 46 46.1 -1.3
comp=Z,2.3nm,0.8s,baz=160,slow=7.6,SNR=5.3
comp=Z,2.3nm,0.8s
MAJO **Matsushiro** 68.77 320⇑ *i*P P 11 46 46.3 -1.1
MAJO pmax pmax
comp=Z,18nm,2.1s
SHEM **Shemya Is, Ala** 68.86 352 LR LR 12 10 46.3
comp=Z,68nm,21.7s,baz=113,slow=30
SRBI **Singaraja** 69.47 267 P P 11 46 51.6 -0.6
comp=Z,120nm,1.2s
UNV **Unalaska Valle** 69.49 5 P 11 46 51.1 -0.3
UNV IAmb IAmb 11 46 53.3
comp=Z,23nm,0.8s
UNV **Unalaska Valle** 69.49 5 P P 11 46 50.7 -0.6
baz=188
AKUT **Akutan** 69.83 5 P P 11 46 53.1 -0.3
LVA **Lava Point** 69.84 5 P P 11 46 53.5 -0.1
JMN **Monobe** 69.85 315 P P 11 46 54.3 +0.2
JTM **Tenmabayashi** 69.92 325 P P 11 46 55.2 +0.8
MYLDM **Lahad Datu** 69.97 282 P 11 46 53.7 -1.5
MYLDM **Lahad Datu** 69.97 282 P P 11 46 55.8 +0.6
CASY **Casey** 69.98 205 P 11 46 54.6 +0.2
CASY IAmb IAmb 11 46 55.0
comp=Z,13nm,0.9s
CASY **Casey** 69.98 205 P P 11 46 54.4 0.0
JAGI **Jajag, Banyuwa** 70.41 266 P 11 46 56.3 -1.6
JAGI **Jajag, Banyuwa** 70.41 266 P P 11 46 58.3 +0.4
JAGI **Jajag, Banyuwa** 70.41 266 P P 11 46 55.9 -2.0
GMJI **Gumukmas** 71.13 266 P P 11 47 00.7 -1.6
comp=Z,56nm,0.8s
CNBA **Chernabura Isl** 71.23 9 P 11 47 01.9 0.0
CNBA IAmb IAmb 11 47 02.7
comp=Z,40nm,1.3s
CHNA **Chernabura Isl** 71.24 9 P P 11 47 02.3 +0.3
CHNA **Chernabura Isl** 71.24 9 P P 11 47 01.6 -0.4
baz=195
JKA **Kamikawa-asahi** 71.45 329 P P 11 47 03.0 -0.6
JKA IAmb IAmb 11 47 11.2
comp=Z,61nm,1.9s
JNU **Nakatsue** 71.57 313 P P 11 47 04.1 -0.5
JNU IAmb IAmb 11 47 06.3
comp=Z,17nm,1.0s
JNU **Nakatsue** 71.57 313 P P 11 47 03.7 -0.9
comp=Z,13nm,0.8s,baz=45,slow=1.4,SNR=14
JNU LR LR 12 11 51.7
comp=Z,33nm,21.4s,baz=144,slow=30
comp=Z,13nm,0.8s
SDPT **Sand Point** 71.61 8 P 11 47 04.2 -0.1
SDPT **Sand Point** 71.61 8 P P 11 47 04.2 -0.1
SDPT **Sand Point** 71.61 8 P P 11 47 03.8 -0.4
baz=194
S12K **Black Hills** 71.76 7 P P 11 47 04.9 -0.2
S12K **Black Hills** 71.76 7 P P 11 47 04.7 -0.5
baz=192
SAO **San Andreas Ge** 71.86 42 IAmb IAmb 11 47 09.0
comp=Z,22nm,0.9s
P08K **Saint George I** 72.05 3 P P 11 47 06.5 -0.3
baz=184
SPIA **Saint Paul Isl** 72.60 2 P P 11 47 09.9 -0.2
baz=184
S14K **Fog Glacier** 72.65 8 P P 11 47 10.6 +0.1
baz=194
PEA0B **Petropavlovsk-** 72.69 343 P 11 47 10.5 -0.3
PEA0B IAmb IAmb 11 47 23.2
comp=Z,18nm,1.1s
PEA0B **Petropavlovsk-** 72.69 343 *c i*P P 11 47 10.4 -0.3
PETK **Petropavlovsk-** 72.69 343 P 11 47 10.7 -0.1
PETK **Petropavlovsk-** 72.69 343 P P 11 47 10.1 -0.6
comp=Z,5.8nm,0.7s,baz=117,slow=7.9,SNR=13
PETK LR LR 12 12 01.7
comp=Z,22nm,21.9s,baz=141,slow=30
comp=Z,5.8nm,0.7s
JCC **Jacoby Creek,** 72.75 37 P P 11 47 10.9 -0.5
JCC IAmb IAmb 11 47 44.1
comp=Z,37nm,1.2s
CHGN **Chignik** 72.83 9 P P 11 47 11.3 -0.1
baz=196
CHIR **Chirikof Islan** 72.83 11 P P 11 47 12.0 +0.5
CHIR **Chirikof Islan** 72.83 11 P P 11 47 11.7 +0.2
baz=198
KHMM **Horse Mountain** 72.97 38 IAmb IAmb 11 47 16.0
comp=Z,19nm,1.0s
NGJI **Ngawi** 73.25 267 P P 11 47 15.7 +0.7
comp=Z,64nm,1.0s
KRMB **Red Mountain** 73.27 37 P P 11 47 16.8 +2.2
KRMB IAmb IAmb 11 47 17.8
comp=Z,23nm,0.9s
CMB **Columbia Colle** 73.29 42 IAmb IAmb 11 47 17.0
comp=Z,19nm,0.9s
PCJI **Pacitan** 73.33 266 P P 11 47 15.2 -0.2
YSS **Yuzhno-Sakhali** 73.42 331 P 11 47 15.6 +0.4
YSS IAmb IAmb 11 47 16.6
comp=Z,13nm,0.8s
YSS **Yuzhno-Sakhali** 73.42 331 P P 11 47 16.2 +1.1
YSS **Yuzhno-Sakhali** 73.42 331 *e*P P 11 47 15.4 +0.3
YSS *e*S S 11 56 30.7 -4.5
YSS *e*SS SS 12 01 13.7 -6.7
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,100nm,10.0s
AFDM **Forest Hills D** 73.46 41 IAmb IAmb 11 47 17.9
comp=Z,17nm,0.9s
PFO **Pinyon Flats O** 73.47 47 LR LR 12 15 42.0
comp=Z,112nm,18.1s,baz=236,slow=32
PFO **Pinyon Flats O** 73.47 47 *c i*P P 11 47 16.5 +0.6
PFO pmax pmax
comp=Z,12nm,1.8s
KSXB **Camp Six Broad** 73.49 37 IAmb IAmb 11 47 18.8
comp=Z,15nm,0.9s
LPIG **La Paz** 73.61 59 LR LR 12 15 17.7
comp=Z,66nm,18.5s,baz=224,slow=32
WOJI **Wonogiri, Jawa** 73.66 266 P P 11 47 17.2 -0.1
comp=Z,186nm,1.1s
SII **Sitkinak Islan** 73.80 11 P 11 47 17.8 +0.7
SII IAmb IAmb 11 47 18.4
comp=Z,36nm,1.1s
SII **Sitkinak Islan** 73.80 11 P P 11 47 18.3 +1.1
SII **Sitkinak Islan** 73.80 11 P P 11 47 17.5 +0.3
baz=200
L02F **Cave Junction** 73.85 37 IAmb IAmb 11 47 20.8
comp=Z,19nm,1.1s
YBH **Yreka Blue Hor** 74.10 37 IAmb IAmb 11 47 22.3
comp=Z,25nm,0.8s
K02D **Willamette Mer** 74.16 36 IAmb IAmb 11 47 22.5
comp=Z,15nm,1.0s
WAKR **Walker** 74.17 42 IAmb IAmb 11 47 22.6
comp=Z,21nm,0.7s
YULB **Yu-li** 74.22 300 P P 11 47 19.8 -0.6
HATC **Hat Creek Radi** 74.28 39 IAmb IAmb 11 47 23.2
comp=Z,34nm,1.0s
J01E **Myrtle Point** 74.31 36 IAmb IAmb 11 47 23.2
comp=Z,19nm,0.9s
SMRI **Semarang** 74.31 267 P P 11 47 21.2 0.0
comp=Z,2μmcomp=Z,74nm,1.0s
BEKR **Beckworth** 74.38 40 P P 11 47 22.7 +1.5
BEKR IAmb IAmb 11 47 23.6
comp=Z,20nm,0.9s
QSPA **South Pole Qui** 74.42 180 P P 11 47 22.5 +1.6
R17L **Mt. Peulik Vol** 74.43 10 P P 11 47 21.1 +0.2
baz=198
DSP **Deep Springs** 74.48 43 IAmb IAmb 11 47 24.5
comp=Z,20nm,1.3s
OHAK **Old Harbor** 74.59 11 P P 11 47 22.9 +1.2
OHAK **Old Harbor** 74.59 11 P P 11 47 21.9 +0.2
baz=201
LHV **Little Huntoon** 74.62 42 IAmb IAmb 11 47 25.3
comp=Z,22nm,0.9s
L04D **Klamath Falls** 74.64 37 P 11 47 24.2 +1.6
L04D IAmb IAmb 11 47 25.1
comp=Z,27nm,0.8s
SSLB **Suanglung** 74.67 301 IAmb IAmb 11 47 23.2
comp=Z,14nm,0.6s
GWY **Greenwater Val** 74.70 45 IAmb IAmb 11 47 36.6
comp=Z,12nm,0.4s
R18K **Karluk** 74.70 11 P P 11 47 22.5 +0.2
baz=199
RYN **Ryan** 74.83 42 IAmb IAmb 11 47 26.2
comp=Z,19nm,0.9s
NVAR **Mina Array Bea** 74.85 42 P 11 47 25.3 +1.3
NVAR **Mina Array Bea** 74.85 42 P P 11 47 25.4 +1.4
comp=Z,20nm,0.7s,baz=228,slow=9.9,SNR=162
NVAR PP PP 11 50 12.4 -0.8
comp=Z,0.6nm,0.9s,baz=252,slow=6.7,SNR=4.4
comp=Z,20nm,0.7s
PAHR **Pah Rah Range** 74.90 41 IAmb IAmb 11 47 26.6
comp=Z,19nm,0.9s
GMN **Gold Mountain** 74.91 44 IAmb IAmb 11 47 26.7
comp=Z,15nm,0.7s
NV11 **Mina Array Sit** 74.95 42 IAmb IAmb 11 47 27.0
comp=Z,27nm,1.0s
I03D **Drain, OR** 74.98 35 IAmb IAmb 11 47 26.8
comp=Z,20nm,1.0s
MZP **Montezuma Peak** 75.05 43 P P 11 47 26.6 +1.4
WCT **Wildcat Mounta** 75.06 44 P P 11 47 24.0 -1.0
Q17K **Contact Creek** 75.11 10 P P 11 47 24.6 -0.2
baz=198
SBUM **Sibu** 75.12 277 IAmb IAmb 11 47 26.9
comp=Z,23nm,1.0s
SBUM **Sibu** 75.12 277 P P 11 47 27.0 +1.2
STKI **Sintang** 75.17 274 P P 11 47 26.6 +0.5
KDAK **Kodiak Island** 75.25 12 P 11 47 26.1 +0.5
KDAK IAmb IAmb 11 47 27.0
comp=Z,21nm,1.0s
KDAK **Kodiak Island** 75.25 12 LR LR 12 12 40.7
comp=Z,47nm,20.5s,baz=174,slow=29
KDAK **Kodiak Island** 75.25 12 *c i*P P 11 47 25.9 +0.4
KDAK pmax pmax
comp=Z,26nm,1.0s
KDAK **Kodiak Island** 75.25 12 P P 11 47 26.0 +0.5
baz=201
O14K **Tigyukauivet M** 75.33 7 P P 11 47 25.7 -0.3
baz=193
Q16K **King Salmon** 75.39 9 P P 11 47 26.1 -0.1
baz=197
O15K **Ungalikthiuk R** 75.43 7 P 11 47 26.7 +0.2
O15K **Ungalikthiuk R** 75.43 7 P P 11 47 26.2 -0.3
baz=194
P16K **Nushagak River** 75.53 8 P P 11 47 27.2 +0.2
baz=196
Q18K **Katmai Hardscr** 75.63 10 P P 11 47 27.8 0.0
baz=199
HEBO **Mount Hebo** 75.72 34 P P 11 47 30.4 +1.8
K05A **Summer Lake** 75.78 37 IAmb IAmb 11 47 31.9
comp=Z,27nm,0.9s
H04D **Lebanon** 75.84 35 IAmb IAmb 11 47 32.6
comp=Z,20nm,0.8s
P17K **Kvichak River** 75.92 9 P P 11 47 29.3 0.0
baz=197
J05D **Fort Rock, OR** 75.92 37 P 11 47 31.6 +1.7
J05D IAmb IAmb 11 47 32.6
comp=Z,28nm,0.9s
N14K **Kuskokwak Cree** 75.94 6 IAmb IAmb 11 47 30.0
comp=Z,8.9nm,0.7s
N14K **Kuskokwak Cree** 75.94 6 P P 11 47 29.5 +0.2
baz=192
KSRS **Korea Array** 75.95 316 P P 11 47 30.9 +1.0
comp=Z,2.8nm,0.9s,baz=128,slow=6.0,SNR=11
KSRS LR LR 12 13 55.8
comp=Z,9μm,21.8s,baz=85,slow=30
comp=Z,2.8nm,0.9s
KSRS **Korea Array** 75.95 316 P P 11 47 31.0 +1.0
M11K **Mekoryuk** 76.01 4 P P 11 47 30.9 +1.2
baz=188
O16K **Kokwok River B** 76.06 8 IAmb IAmb 11 47 30.4
comp=Z,15nm,0.9s
O16K **Kokwok River B** 76.06 8 P P 11 47 29.6 -0.5
baz=196
Q20K **Shuyak Island** 76.06 11 P P 11 47 30.9 +0.8
baz=201
SYI **Shuyak Island** 76.06 11 P P 11 47 30.7 +0.6
S11A **Rachel** 76.11 44 IAmb IAmb 11 47 33.5
comp=Z,13nm,0.8s
Q19K **Cape Douglas,** 76.13 11 P P 11 47 30.6 +0.1
baz=200
H04A **Detroit Lake** 76.25 35 P 11 47 32.5 +1.0
H04A IAmb IAmb 11 47 33.4
comp=Z,20nm,1.0s
M13K **Dall Lake** 76.26 5 P P 11 47 32.5 +1.3
baz=190,SNR=13
F03A **Seaside** 76.29 34 IAmb IAmb 11 47 34.1
comp=Z,30nm,1.0s
P18K **Big Mountain,** 76.30 10 P P 11 47 31.5 0.0
baz=198
TYV **Tymovskoe** 76.31 333 *e*P P 11 47 31.4 -0.3
TYV pmax pmax
comp=Z,100nm,3.0s
TYV pmax pmax
comp=Z,120nm,1.0s
N15K **Kwethluk River** 76.36 7 P 11 47 32.3 +0.5
N15K IAmb IAmb 11 47 33.0
comp=Z,15nm,0.7s
N15K **Kwethluk River** 76.36 7 P P 11 47 32.2 +0.4
baz=194,SNR=13
O17K **Koliganek Bris** 76.37 9 P P 11 47 31.8 0.0
baz=197
PRN **Pahroc Range** 76.45 45 IAmb IAmb 11 47 35.9
comp=Z,24nm,1.3s
RADR **Rader Ridge** 76.48 33 P P 11 47 34.1 +1.3
RADR IAmb IAmb 11 49 23.8
comp=Z,28nm,1.2s
I05D **Terrebonne, OR** 76.51 36 IAmb IAmb 11 47 35.5
comp=Z,17nm,1.0s
KSM **Kuching** 76.68 275 P 11 47 35.1 +0.4
KSM **Kuching** 76.68 275 P P 11 47 34.9 +0.2
M14K **Bethel** 76.72 6 P P 11 47 34.9 +1.1
baz=192,SNR=42
O18K **Koktuh Hills** 76.74 10 P P 11 47 34.6 +0.6
O18K IAmb IAmb 11 47 35.2
comp=Z,37nm,1.1s
O18K **Koktuh Hills** 76.74 10 P P 11 47 34.2 +0.2
baz=198
M15K **Kasigluk River** 76.80 7 P P 11 47 35.0 +0.8
baz=193,SNR=36
N16K **Nishlik Lake** 76.82 8 P P 11 47 35.0 +0.5
baz=195,SNR=9.4
P19K **Oil Pt** 76.88 11 P P 11 47 34.4 -0.4
baz=200
BBJI **Bungbulang** 76.90 266 P P 11 47 36.0 0.0
HOOD **Mount Hood Mea** 76.94 35 IAmb IAmb 11 47 38.1
comp=Z,21nm,0.9s
WVOR **Wild Horse Val** 76.94 39 P P 11 47 37.0 +1.3
WVOR IAmb IAmb 11 47 38.0
comp=Z,19nm,1.1s
TUC **Tucson** 76.95 51 P P 11 47 37.4 +1.5
WISH **Wishkah** 76.95 33 IAmb IAmb 11 47 38.2
comp=Z,17nm,1.0s
G05A **Wamic** 77.08 35 P P 11 47 37.4 +1.1
G05A IAmb IAmb 11 47 38.4
comp=Z,17nm,1.1s
NLWA **Neilton Lookou** 77.08 32 IAmb IAmb 11 47 38.6
comp=Z,15nm,0.9s
N17K **Nushagak Hills** 77.08 8 P P 11 47 36.1 +0.2
baz=196
HG4B **Hotspring** 77.10 25 IAmb IAmb 11 47 38.4
comp=Z,21nm,0.7s
CNPM **China Poot** 77.14 12 IAmb IAmb 11 47 37.7
comp=Z,23nm,1.0s
HOM **Homer** 77.18 11 P P 11 47 36.6 +0.2
baz=202
O19K **Port Alsworth** 77.21 10 P P 11 47 36.7 +0.2
baz=199
ILSW **Iliamna Southw** 77.21 11 P P 11 47 36.7 0.0
L14K **Kuka Creek** 77.23 6 IAmb IAmb 11 47 38.7
comp=Z,22nm,0.9s
L14K **Kuka Creek** 77.23 6 P P 11 47 37.7 +1.0
baz=191
DIB **Dawson Inlet,** 77.27 24 IAmb IAmb 11 47 39.0
comp=Z,21nm,1.3s
M16K **Timber Creek** 77.33 7 P P 11 47 38.6 +1.4
baz=195,SNR=23
O20K **Slope Mountain** 77.39 11 P P 11 47 37.9 +0.2
baz=201
I07A **Izee** 77.40 37 IAmb IAmb 11 47 40.5
comp=Z,14nm,0.9s
N18K **Kilae Creek** 77.42 9 P P 11 47 37.9 +0.1
N18K **Kilae Creek** 77.42 9 P P 11 47 37.9 +0.1
baz=198,SNR=8.8
BRLK **Bradley Lake** 77.42 12 P P 11 47 38.1 +0.3
BRLK IAmb IAmb 11 47 39.2
comp=Z,30nm,1.1s
J08A **Circle Bar Ran** 77.58 38 IAmb IAmb 11 47 41.5
comp=Z,22nm,1.2s
319A **Douglas** 77.65 52 IAmb IAmb 11 48 17.5
comp=Z,16nm,1.0s
K13K **Kusilvak Mount** 77.65 4 P 11 47 40.0 +1.0
K13K IAmb IAmb 11 47 41.1
comp=Z,16nm,1.1s
K13K **Kusilvak Mount** 77.65 4 P P 11 47 40.1 +1.1
baz=189,SNR=5.3
L15K **Ungalak Mounta** 77.68 6 P P 11 47 40.0 +0.9
baz=192,SNR=16
RED **Redoubt Volcan** 77.68 11 P P 11 47 39.2 -0.1
GNW **Green Mountain** 77.73 33 IAmb IAmb 11 47 41.9
comp=Z,22nm,1.3s
N19K **Bonanza Creek** 77.77 10 P P 11 47 39.7 -0.1
baz=199,SNR=13
SPR3 **Spring Creek 3** 77.77 43 P 11 47 41.5 +0.9
PSUT **Pine Spring** 77.84 44 P 11 47 42.2 +1.3
U15A **North Rim** 77.84 47 IAmb IAmb 11 47 44.1
comp=Z,17nm,1.1s
SZCU **Shurtz Canyon** 77.88 45 P 11 47 42.8 +1.6
CLRS **Cowichan Lake** 77.88 31 IAmb IAmb 11 47 42.7
comp=Z,16nm,0.9s
M17K **Holitna River** 77.89 8 IAmb IAmb 11 47 42.6
comp=Z,20nm,0.8s
M17K **Holitna River** 77.89 8 P P 11 47 41.7 +1.3
baz=196,SNR=17
D05A **Enumclaw** 77.93 33 P P 11 47 42.2 +1.4
D05A IAmb IAmb 11 47 43.5
comp=Z,31nm,1.0s
L16K **Owhat River** 77.93 7 IAmb IAmb 11 47 42.8
comp=Z,15nm,1.1s
L16K **Owhat River** 77.93 7 P P 11 47 41.7 +1.2
baz=194,SNR=10

DBJI **Dramaga** 77.99 266 P P 11 47 42.1 +0.1
comp=Z,95nm,1.3s
SEW **Seward** 78.03 12 P P 11 47 41.2 +0.2
SEW IAmb IAmb 11 47 42.1
comp=Z,20nm,1.0s
SEW **Seward** 78.03 12 P P 11 47 41.1 +0.1
baz=204
TPI **Tanjungpandan** 78.09 270 P P 11 47 42.8 +0.3
comp=Z,60nm,1.1s
CBB **Campbell River** 78.09 30 IAmb IAmb 11 47 43.9
comp=Z,22nm,1.0s
Q23K **Middleton Isla** 78.09 14 P P 11 47 41.5 0.0
baz=207
ELK **Elko** 78.11 42 IAmb IAmb 11 47 44.5
comp=Z,11nm,0.8s
PGC **Sidney** 78.11 32 IAmb IAmb 11 47 43.8
comp=Z,26nm,0.7s
M18K **Stony River** 78.20 9 P P 11 47 42.5 +0.5
baz=198,SNR=11
K15K **Wolf Creek Mou** 78.28 6 P P 11 47 44.1 +1.6
baz=192,SNR=15
O22K **Cooper Landing** 78.32 12 P P 11 47 42.7 +0.1
baz=204
BBB **Bella Bella** 78.33 27 IAmb IAmb 11 47 44.9
comp=Z,18nm,0.8s
BBB **Bella Bella** 78.33 27 LR LR 12 17 00.4
comp=Z,40nm,18.3s,baz=208,slow=32
DUN6 **Lazy B Ranch** 78.33 51 P P 11 47 45.5 +1.9
P23K **Montague Islan** 78.36 13 P 11 47 43.2 +0.3
P23K IAmb IAmb 11 47 44.4
comp=Z,31nm,1.6s
P23K **Montague Islan** 78.36 13 P P 11 47 43.3 +0.3
baz=206
G08A **Pilot Rock** 78.43 36 IAmb IAmb 11 47 46.0
comp=Z,17nm,1.0s
MXC **Moxie City** 78.46 35 P P 11 47 44.9 +1.0
L17K **Donlin** 78.49 7 P P 11 47 45.5 +1.8
baz=195,SNR=27
J14K **Nanvaranak Lak** 78.55 5 P P 11 47 44.5 +0.7
baz=190
LTY **Liberty** 78.67 34 P P 11 47 45.5 +0.4
E07A **Sunnyside** 78.69 35 IAmb IAmb 11 47 47.3
comp=Z,27nm,0.9s
CRAG **Craig** 78.75 22 IAmb IAmb 11 47 47.7
comp=Z,15nm,0.9s
CRAG **Craig** 78.75 22 P P 11 47 46.9 +1.7
CRAG **Craig** 78.75 22 P P 11 47 46.7 +1.6
baz=220,SNR=7.2
HAWA **Hanford** 78.77 35 IAmb IAmb 11 47 47.6
comp=Z,16nm,0.9s
L18K **Granite Mounta** 78.78 8 P P 11 47 46.6 +1.5
L18K IAmb IAmb 11 47 47.6
comp=Z,16nm,0.7s
L18K **Granite Mounta** 78.78 8 P P 11 47 46.7 +1.5
baz=197,SNR=30
M19K **Big River Lodg** 78.81 9 P P 11 47 45.4 0.0
baz=199,SNR=12
STLK **Strandline Lak** 78.86 11 IAmb IAmb 11 47 46.1
comp=Z,15nm,0.8s
RC01 **Rabbit Creek A** 78.87 12 IAmb IAmb 11 47 47.0
comp=Z,29nm,1.1s
RC01 **Rabbit Creek A** 78.87 12 P P 11 47 46.1 +0.4
baz=204,SNR=5.7
HIN **Hinchinbrook I** 78.92 13 P 11 47 46.1 0.0
HIN IAmb IAmb 11 47 47.2
comp=Z,22nm,0.9s
PWL **Port Wells** 78.94 12 IAmb IAmb 11 47 47.2
comp=Z,37nm,1.2s
PWL **Port Wells** 78.94 12 P P 11 47 46.1 -0.1
baz=205,SNR=7.1
WAH2 **Wahluke Slope** 78.97 35 IAmb IAmb 11 47 48.1
comp=Z,11nm,0.7s
RUBB **Prince Rupert** 78.99 24 P P 11 47 47.1 +0.6
RUBB IAmb IAmb 11 47 48.8
comp=Z,20nm,1.2s
CGJI **Cibinong** 78.99 266 P P 11 47 46.7 -0.8
KAIM **Kayak Island** 79.00 15 P P 11 47 47.5 +1.1
baz=209,SNR=14
M20K **Styx River** 79.00 10 P P 11 47 45.7 -0.8
M20K **Styx River** 79.00 10 P P 11 47 46.0 -0.5
baz=200,SNR=11
L19K **White Mountain** 79.01 9 P P 11 47 46.7 +0.2
L19K **White Mountain** 79.01 9 P P 11 47 46.7 +0.2
baz=199,SNR=7.5
SUA **Susitna One** 79.02 11 P P 11 47 46.9 +0.2
baz=203
K17K **Iditarod** 79.05 7 P P 11 47 47.0 +0.3
K17K IAmb IAmb 11 47 48.6
comp=Z,12nm,0.8s
K17K **Iditarod** 79.05 7 P P 11 47 48.1 +1.4
baz=195,SNR=9.6
GAMB **Gambell** 79.17 1 P P 11 47 48.1 +0.8
baz=182
V35K **Ketchikan** 79.20 23 IAmb IAmb 11 47 49.9
comp=Z,19nm,0.9s
V35K **Ketchikan** 79.20 23 P P 11 47 48.9 +1.2
baz=221,SNR=9.1
SIT **Sitka** 79.22 20 P 11 47 47.7 0.0
SIT **Sitka** 79.22 20 P P 11 47 48.8 +1.1
SIT **Sitka** 79.22 20 P P 11 47 48.6 +0.9
baz=218
GLI **Glacier Island** 79.22 13 P P 11 47 47.7 0.0
GLI **Glacier Island** 79.22 13 P P 11 47 47.8 +0.1
baz=206,SNR=7.0
EYAK **Cordova Ski Ar** 79.23 14 P P 11 47 48.7 +1.0
EYAK **Cordova Ski Ar** 79.23 14 P P 11 47 47.8 +0.2
baz=208,SNR=5.3
U33K **Whale Pass** 79.25 22 IAmb IAmb 11 47 50.2
comp=Z,20nm,1.0s
U33K **Whale Pass** 79.25 22 P P 11 47 49.3 +1.5
baz=220,SNR=12
RAGM **Ragged Mountai** 79.34 14 IAmb IAmb 11 47 49.9
comp=Z,13nm,0.8s
J16K **Anvik River** 79.34 6 P P 11 47 49.4 +1.1
J16K **Anvik River** 79.34 6 P P 11 47 49.9 +1.6
baz=193,SNR=18
SKT **Skwentna** 79.36 11 P P 11 47 47.6 -0.8
SKT **Skwentna** 79.36 11 P P 11 47 47.6 -0.8
baz=202,SNR=9.4
DUG **Dugway, Tooele** 79.39 43 P P 11 47 49.5 +0.2
HMT **Hamilton** 79.39 15 IAmb IAmb 11 47 50.0
comp=Z,17nm,0.9s
M22K **Willow** 79.41 11 P P 11 47 49.1 +0.5
M22K **Willow** 79.41 11 P P 11 47 48.7 +0.1
baz=203,SNR=11
KNK **Knik Glacier** 79.42 12 IAmb IAmb 11 47 50.0
comp=Z,33nm,1.2s
KNK **Knik Glacier** 79.42 12 P P 11 47 49.0 +0.2
baz=205
L20K **Farewell, AK** 79.44 9 P P 11 47 48.8 -0.1
baz=200,SNR=16
BGLC **Bering Glacier** 79.44 15 P P 11 47 48.9 +0.1
baz=210
PMR **Palmer** 79.45 12 P 11 47 49.0 +0.2
PMR IAmb IAmb 11 47 50.1
comp=Z,30nm,1.2s
PMR **Palmer** 79.45 12 P P 11 47 49.7 +0.9
PMR **Palmer** 79.45 12 P P 11 47 48.9 +0.1
baz=204,SNR=18
D08A **Wollman Farm,** 79.50 35 IAmb IAmb 11 47 51.6
comp=Z,20nm,1.0s
BERG **Berg Lake** 79.58 15 IAmb IAmb 11 47 51.4
comp=Z,13nm,1.0s
J17K **VABM Dome** 79.62 7 IAmb IAmb 11 47 52.2
comp=Z,14nm,0.9s
J17K **VABM Dome** 79.62 7 P P 11 47 51.1 +1.3
baz=194,SNR=8.1
BGU **Big Grassy Mou** 79.62 42 P 11 47 51.3 +0.7
S31K **Pelican** 79.65 19 P P 11 47 50.8 +0.8
baz=217
GHO **Glory Hole Cre** 79.66 12 P P 11 47 50.4 +0.3
GHO IAmb IAmb 11 47 51.3
comp=Z,32nm,0.9s
WRAK **Wrangell Islan** 79.76 22 IAmb IAmb 11 47 52.9
comp=Z,17nm,1.1s
WRAK **Wrangell Islan** 79.76 22 P P 11 47 51.9 +1.2
baz=220,SNR=9.7
S32K **Killisnoo** 79.80 20 P P 11 47 51.5 +0.7
baz=218
MESA **MESA** 79.83 16 P P 11 47 52.0 +0.8
MESA **MESA** 79.83 16 P P 11 47 52.0 +0.8
baz=211,SNR=7.3
WAX **Waxell Ridge** 79.84 15 P P 11 47 51.9 +0.8
BMRM **Bremner River** 79.86 14 P P 11 47 51.8 +0.6
BMRM **Bremner River** 79.86 14 P P 11 47 51.7 +0.6
baz=209,SNR=20
NJ2 **Nanjing** 79.88 307 *e*P P 11 47 52.7 +0.8
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
M23K **Glacier View** 79.92 12 P P 11 47 51.3 -0.2
baz=206
I17K **Unalakleet** 79.92 6 P P 11 47 52.6 +1.3
baz=193
J18K **Innoko River** 79.97 8 IAmb IAmb 11 47 54.4
comp=Z,37nm,1.4s
J18K **Innoko River** 79.97 8 P P 11 47 52.7 +1.0
baz=197,SNR=14
CUT **Chulitna** 79.98 11 P P 11 47 51.7 0.0
baz=203
TMUT **Trail Mountain** 80.01 44 IAmb IAmb 11 47 55.8
comp=Z,20nm,1.1s
PLID **Pearl Lake** 80.03 38 P 11 47 52.8 +0.1
KLU **Klutina** 80.03 13 IAmb IAmb 11 47 53.5
comp=Z,13nm,0.9s
KLU **Klutina** 80.03 13 P P 11 47 52.3 +0.2
baz=207,SNR=10
CRQM **Cirque** 80.03 15 IAmb IAmb 11 47 53.8
comp=Z,27nm,0.9s
SCM **Sheep Creek Mo** 80.03 12 P P 11 47 52.4 +0.3
baz=206,SNR=19
CRQE **Cirque** 80.04 15 P P 11 47 52.8 +0.6
baz=210,SNR=9.8
YAH **Yahtse** 80.05 16 IAmb IAmb 11 47 54.3
comp=Z,22nm,0.9s
B08A **Colville Reser** 80.06 34 P 11 47 52.6 +0.1
B08A IAmb IAmb 11 47 53.8
comp=Z,18nm,0.8s
PNL **Peninsula** 80.09 17 P P 11 47 53.3 +0.9
PNL **Peninsula** 80.09 17 P P 11 47 53.2 +0.7
baz=214,SNR=5.1
PPLA **Purkeypile** 80.10 10 P P 11 47 53.2 +0.6
baz=201
TGL **Tana Glacier** 80.11 15 IAmb IAmb 11 47 54.1
comp=Z,26nm,0.9s
HLID **Hailey** 80.14 39 IAmb IAmb 11 47 55.8
comp=Z,18nm,0.9s
LLLB **Lillooet** 80.15 31 IAmb IAmb 11 47 54.7
comp=Z,22nm,1.0s
ANM **Nome** 80.22 4 P P 11 47 53.7 +0.7
baz=188
PINM **Pinnacle** 80.22 16 P P 11 47 53.7 +0.5
baz=213
MA2 **Magadan** 80.22 343 LR LR 12 15 52.8
comp=Z,20nm,21.2s,baz=173,slow=30
MA2 **Magadan** 80.22 343 ⇑*i*P P 11 47 51.2 -1.9
MA2 pmax pmax
comp=Z,11nm,1.1s
HVU **Hansel Valley** 80.23 42 P 11 47 54.8 +1.0
K20K **Telida** 80.24 9 IAmb IAmb 11 47 54.7
comp=Z,14nm,1.0s
K20K **Telida** 80.24 9 P P 11 47 53.5 +0.4
baz=199,SNR=17
TABL **Table Mountain** 80.27 16 IAmb IAmb 11 47 55.2
comp=Z,17nm,0.8s
C09A **Chrisman Ranch** 80.30 34 IAmb IAmb 11 47 55.5
comp=Z,18nm,0.7s
GRNC **Granite Creek** 80.36 15 IAmb IAmb 11 47 55.6
comp=Z,18nm,0.9s
VRDI **Verde Repeater** 80.37 14 P 11 47 54.2 +0.2
VRDI IAmb IAmb 11 47 55.5
comp=Z,20nm,0.9s
KASI **Kota Agung** 80.41 267 P P 11 47 54.0 -1.2
comp=Z,554nmcomp=Z,71nm,1.0s
N25K **Chitina, Valde** 80.43 14 P P 11 47 54.8 +0.6
N25K **Chitina, Valde** 80.43 14 P P 11 47 54.9 +0.6
baz=209,SNR=32
R32K **Eaglecrest** 80.45 20 P P 11 47 55.3 +0.9
baz=218,SNR=7.7
GLB **Gilahina Butte** 80.47 14 IAmb IAmb 11 47 55.8
comp=Z,24nm,0.9s
JIS **Juneau Island** 80.50 20 P P 11 47 55.3 +0.8
H16K **Elim** 80.52 5 P P 11 47 55.4 +0.8
baz=191
M24K **Tolsona, Glenn** 80.52 13 P P 11 47 55.7 +0.9
baz=207,SNR=13
P29M **Windy Craggy** 80.54 18 IAmb IAmb 11 47 57.0
comp=Z,22nm,0.8s
P29M **Windy Craggy** 80.54 18 P P 11 47 55.9 +1.0
baz=215,SNR=12
MCARA **McCarthy VSAT** 80.61 15 P P 11 47 54.1 -1.0
MCARA IAmb IAmb 11 47 56.7
comp=Z,18nm,1.0s
MCARA **McCarthy VSAT** 80.61 15 P P 11 47 55.5 +0.4
baz=210
CAST **Castle Rocks** 80.61 10 P 11 47 53.6 -1.5
CAST **Castle Rocks** 80.61 10 P P 11 47 53.9 -1.2
baz=201,SNR=10
J19K **Poorman** 80.62 8 P P 11 47 56.2 +1.0
baz=198,SNR=8.9
WAT6 **Susitna Watana** 80.63 12 P P 11 47 55.7 +0.3
baz=206,SNR=9.9
LOGN **Logan Glacier** 80.63 16 IAmb IAmb 11 47 57.0
comp=Z,17nm,0.9s
BARN **Barnard Glacie** 80.66 15 IAmb IAmb 11 47 57.3
comp=Z,22nm,0.8s
CTG **Chitna Glacier** 80.66 15 P P 11 47 56.2 +0.6
baz=212,SNR=8.5
CTGM **Chitina Glacie** 80.67 15 IAmb IAmb 11 47 57.2
comp=Z,19nm,0.8s
WAT1 **Susitna Watana** 80.69 12 P P 11 47 55.7 +0.1
baz=205
VHRN **Van Horn** 80.72 54 P 11 47 58.0 +1.4
VHRN IAmb IAmb 11 47 59.2
comp=Z,19nm,0.7s
G15K **Niukluk** 80.73 4 P P 11 47 56.5 +0.8
baz=190
MNTX **Cornudas Mount** 80.79 53 P 11 47 57.8 +1.0
MNTX IAmb IAmb 11 47 59.4
comp=Z,21nm,1.4s
BNX **BinXian** 80.79 323 ⇑P P 11 47 56.3 -0.2
BNX pmax pmax
comp=Z,10.0nm,0.6s
O28M **Mount Upton** 80.80 16 P P 11 47 56.4 -0.1
O28M **Mount Upton** 80.80 16 P P 11 47 57.0 +0.5
baz=213,SNR=6.1
PLBC **Pleasant Camp** 80.81 18 P P 11 47 57.5 +1.3
baz=216,SNR=14
O29M **Mount Kennedy** 80.85 17 IAmb IAmb 11 47 58.7
comp=Z,14nm,0.9s
O29M **Mount Kennedy** 80.85 17 P P 11 47 57.7 +1.1
baz=214,SNR=5.7
PV05 **Paradox Valley** 80.87 46 IAmb IAmb 11 48 35.7
comp=Z,16nm,1.0s
BSUT **Blindstream Ca** 80.92 44 P P 11 47 56.9 -0.9
CN2 **Changchun** 80.92 320 P P 11 47 58.4 +1.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KTH **Kantishna Hill** 80.93 10 P P 11 47 56.2 -0.7
KTH IAmb IAmb 11 47 58.1
comp=Z,16nm,1.0s
TRF **Thorofare Moun** 80.94 11 P P 11 47 57.1 0.0
TRF IAmb IAmb 11 47 57.8
comp=Z,14nm,0.7s
TRF **Thorofare Moun** 80.94 11 P P 11 47 56.7 -0.4
baz=203,SNR=11
T35M **Bob Quinn** 80.95 23 P P 11 47 58.1 +1.0
baz=222,SNR=6.7
MDSI **Maura Dua** 80.99 268 P P 11 47 56.8 -1.4
comp=Z,35nm,0.8s
HARP **HAARP** 81.00 13 P P 11 47 57.8 +0.6
baz=208,SNR=5.5
J20K **Nowinta River** 81.01 9 P P 11 47 57.9 +0.7
baz=199,SNR=23
CHUM **Lake Minchumin** 81.01 10 P P 11 47 56.7 -0.5
baz=201,SNR=9.4
H17K **Granite Mounta** 81.03 6 P P 11 47 58.0 +0.7
baz=194
PV10 **Paradox Valley** 81.05 46 IAmb IAmb 11 47 59.9
comp=Z,14nm,0.8s
PV19 **Morning Glory** 81.06 46 IAmb IAmb 11 48 36.1
comp=Z,26nm,1.1s
PV17 **East Wray Mesa** 81.06 46 P P 11 47 58.6 +0.2
PV17 IAmb IAmb 11 48 00.7
comp=Z,20nm,1.3s
F14K **Arctic Creek** 81.06 3 P P 11 47 58.3 +0.8
baz=187
TNA **Tin City** 81.07 3 P P 11 47 58.3 +0.8
baz=186
PV18 **Skein Mesa, Pa** 81.08 46 IAmb IAmb 11 48 36.1
comp=Z,25nm,1.1s
PV20 **West Nyswonger** 81.08 46 IAmb IAmb 11 48 36.2
comp=Z,28nm,1.1s
PV13 **Radium Mtn., P** 81.10 46 P P 11 47 59.3 +0.7
PV23 **Carpenter Ridg** 81.11 46 P P 11 47 58.7 0.0
PV23 IAmb IAmb 11 48 01.1
comp=Z,21nm,0.8s
SKAG **Skagway** 81.13 19 IAmb IAmb 11 48 00.5
comp=Z,24nm,1.2s
SKAG **Skagway** 81.13 19 P P 11 47 58.9 +1.0
DHY **Denali Highway** 81.15 12 P P 11 47 58.3 +0.1
baz=206,SNR=7.5
RND **Reindeer** 81.16 11 P P 11 47 57.8 -0.3
RND IAmb IAmb 11 48 00.6
comp=Z,31nm,0.9s
P30M **Million Dollar** 81.17 18 P P 11 47 59.5 +1.3
baz=216
TX31 **Lajitas Ar. Si** 81.18 56 P P 11 47 59.2 +0.2
TX31 IAmb IAmb 11 48 37.2
comp=Z,22nm,1.3s
TXAR **Lajitas Array** 81.18 56 P P 11 48 00.5 +1.4
TXAR **Lajitas Array** 81.18 56 P P 11 48 00.8 +1.7
comp=Z,3.9nm,0.7s,baz=223,slow=6.4,SNR=20
TXAR PP PP 11 51 05.9 -0.2
comp=Z,0.4nm,1.0s,baz=246,slow=3.6,SNR=3.4
TXAR LR LR 12 19 37.6
comp=Z,38nm,18.0s,baz=218,slow=32
comp=Z,3.9nm,0.7s
PV21 **Cone Mtn., Par** 81.18 46 IAmb IAmb 11 48 01.5
comp=Z,17nm,1.2s
PV02 **Paradox Valley** 81.18 46 IAmb IAmb 11 48 01.4
comp=Z,18nm,0.9s
GCSA **Galena City Sc** 81.18 7 P P 11 47 59.0 +1.0
baz=197
PV12 **Saucer Basin,** 81.19 46 IAmb IAmb 11 48 37.0
comp=Z,31nm,1.1s
NEW **Newport** 81.20 34 P 11 47 58.2 -0.4
NEW **Newport** 81.20 34 LR LR 12 15 51.3
comp=Z,34nm,20.9s,baz=198,slow=30
G16K **Koyuk River** 81.25 5 P P 11 47 59.4 +0.9
baz=191
S34M **Telegraph Cree** 81.33 22 P P 11 47 59.8 +0.8
S34M IAmb IAmb 11 48 01.3
comp=Z,19nm,1.1s
S34M **Telegraph Cree** 81.33 22 P P 11 48 00.2 +1.2
baz=221,SNR=11
YUK8 **Steele Glacier** 81.34 16 P P 11 48 00.2 +0.8
baz=213,SNR=10
PV07 **Paradox Valley** 81.35 46 P P 11 47 59.5 -0.4
ANMO **Albuquerque** 81.36 50 LR LR 12 21 24.2
comp=Z,71nm,18.0s,baz=324,slow=34
ANMO **Albuquerque** 81.36 50 *d i*P P 11 48 01.1 +1.1
ANMO *i* *PP pP 11 48 32.5 +4.0
ANMO pmax pmax
comp=Z,9.0nm,1.1s
F15K **North Star Dit** 81.40 4 P P 11 47 60.0 +0.7
baz=189
H18K **Honhosa River** 81.40 7 P P 11 48 00.6 +1.3
baz=195
BPAW **Bear Paw Mtn.** 81.43 10 P P 11 47 58.8 -0.7
BPAW **Bear Paw Mtn.** 81.43 10 P P 11 48 00.7 +1.3
baz=202
YUK6 **Outpost Mounta** 81.44 17 P P 11 48 00.5 +0.7
baz=214,SNR=5.6
PAX **Paxson** 81.44 13 P 11 47 59.3 -0.4
PAX **Paxson** 81.44 13 P P 11 47 59.5 -0.1
baz=208,SNR=8.7
MCK **McKinley** 81.45 11 P P 11 47 59.6 0.0
baz=204,SNR=22
M26K **Nabesna, AK** 81.50 14 P P 11 48 00.6 +0.7
baz=210,SNR=9.0
G17K **Kiwalik Mounta** 81.51 6 P P 11 48 00.6 +0.8
baz=193
I20K **Naaghedeneel** 81.55 8 P P 11 48 00.9 +0.9
baz=199
YUK3 **Moose Creek** 81.58 15 P P 11 48 01.2 +0.6
baz=212,SNR=17
HYT **Haines Junctio** 81.58 17 IAmb IAmb 11 48 02.6
comp=Z,24nm,1.2s
HYT **Haines Junctio** 81.58 17 P P 11 48 01.5 +1.0
baz=215,SNR=18
ALPN **Alpine** 81.62 55 IAmb IAmb 11 48 03.8
comp=Z,15nm,0.8s
YUK4 **Talbot Arm** 81.70 16 P P 11 48 02.3 +1.1
baz=214,SNR=7.7
M27K **Edge Creek, AK** 81.72 14 IAmb IAmb 11 48 03.8
comp=Z,32nm,0.9s
M27K **Edge Creek, AK** 81.72 14 P P 11 48 02.2 +1.0
baz=211,SNR=41
Q32M **Nakina River** 81.73 20 P P 11 48 02.2 +0.8
baz=220,SNR=11
P32M **Atlin** 81.74 19 P P 11 48 02.2 +1.0
baz=219
SMAI **San Martin Ant** 81.74 159 P P 11 48 03.5 +2.4
SMAI IAmb IAmb 11 48 04.0
comp=Z,13nm,0.8s
O30N **Mendenhall** 81.95 18 IAmb IAmb 11 48 04.4
comp=Z,43nm,1.4s
O30N **Mendenhall** 81.95 18 P P 11 48 03.4 +1.1
baz=217,SNR=27
L26K **Log Cabin Wild** 81.96 14 IAmb IAmb 11 48 04.0
comp=Z,19nm,0.9s
L26K **Log Cabin Wild** 81.96 14 P P 11 48 03.0 +0.7
baz=210,SNR=17
H19K **Roundabout Mou** 81.99 7 P P 11 48 03.2 +0.9
baz=197
BVCY **Beaver Creek** 82.02 15 P P 11 48 03.5 +0.9
baz=212,SNR=7.1
G18K **Tagagawik** 82.09 6 IAmb IAmb 11 48 04.3
comp=Z,37nm,1.8s
G18K **Tagagawik** 82.09 6 P P 11 48 03.3 +0.4
baz=195,SNR=7.1
DLBC **Dease Lake** 82.11 22 P P 11 48 04.3 +1.1
baz=222,SNR=10.0
K24K **Donnelly Dome** 82.12 12 P P 11 48 03.7 +0.6
baz=207
H20K **Anotleneega Mo** 82.15 8 P P 11 48 04.3 +1.1
baz=198,SNR=11
MSO **Missoula** 82.18 37 P 11 48 04.0 +0.1
DLMT **Dillon** 82.20 39 IAmb IAmb 11 48 06.4
comp=Z,19nm,1.1s
NEA2 **Nenana** 82.21 11 P P 11 48 03.3 -0.2
NEA2 **Nenana** 82.21 11 P P 11 48 02.9 -0.6
baz=204,SNR=13
N30M **Aishikik Lake** 82.22 17 P P 11 48 04.4 +0.7
baz=216
WHY **Whitehorse** 82.22 18 IAmb IAmb 11 48 05.9
comp=Z,40nm,1.3s
WHY **Whitehorse** 82.22 18 P P 11 48 04.6 +0.8
baz=218,SNR=10
TPAW **Teton Pass** 82.26 41 IAmb IAmb 11 48 06.9
comp=Z,15nm,0.9s
RIDG **Independent Ri** 82.26 13 IAmb IAmb 11 48 05.2
comp=Z,21nm,0.9s
RIDG **Independent Ri** 82.26 13 P P 11 48 04.0 +0.2
baz=208,SNR=15
I21K **Tanana** 82.27 9 P P 11 48 04.1 +0.3
baz=201
WRH **Wood River Hil** 82.28 11 P 11 48 03.9 0.0
FXWY **Fox Creek** 82.28 41 P P 11 48 05.5 +0.8
FXWY IAmb IAmb 11 48 07.1
comp=Z,26nm,1.6s
MLY **Manley** 82.33 10 P P 11 48 03.8 -0.4
baz=202,SNR=6.9
L27K **Beaver Creek,** 82.34 14 P P 11 48 04.8 +0.6
L27K **Beaver Creek,** 82.34 14 P P 11 48 04.9 +0.6
baz=211,SNR=15
BCAR **Beaver Creek A** 82.35 14 P P 11 48 04.8 +0.4
SNOW **Snow King Moun** 82.37 41 P P 11 48 05.0 -0.2
SNOW IAmb IAmb 11 48 07.5
comp=Z,18nm,0.9s
F17K **Baldwin Pennin** 82.38 5 IAmb IAmb 11 48 06.2
comp=Z,15nm,1.1s
F17K **Baldwin Pennin** 82.38 5 P P 11 48 05.1 +0.8
baz=192
HDA **Harding Lake** 82.43 11 P P 11 48 04.8 +0.1
baz=206,SNR=29
JTMT **Jette** 82.48 36 P P 11 48 05.3 -0.2
R33M **Jennings River** 82.50 21 IAmb IAmb 11 48 07.5
comp=Z,20nm,1.3s
R33M **Jennings River** 82.50 21 P P 11 48 06.2 +0.9
baz=221,SNR=13
G19K **Purcell Mounta** 82.50 7 P P 11 48 05.8 +0.8
baz=196,SNR=9.8
P33M **Teslin, Yukon** 82.51 19 P P 11 48 05.9 +0.6
baz=220,SNR=7.3
LRM **Limekiln Ridge** 82.53 38 P P 11 48 06.8 +0.9
LOHW **Long Hollow** 82.54 41 P P 11 48 06.8 +0.8
LOHW IAmb IAmb 11 48 08.1
comp=Z,15nm,1.2s
H21K **Melozitna Rive** 82.60 9 P P 11 48 06.3 +0.8
baz=200,SNR=15

SEY	Seymchan	82.60	345	LR	LR	12 19 41.1			
	comp=Z,30nm,20.8s,baz=68,slow=32								
SEY	Seymchan	82.60	345	*c i*P	P	11 48 05.1	-0.4		
SEY				pmax	pmax				
	comp=Z,14nm,1.0s								
N31M	Braeburn, Yuko	82.61	17	IAmb	IAmb	11 48 07.8			
	comp=Z,19nm,1.1s								
N31M	Braeburn, Yuko	82.61	17	P	P	11 48 06.7	+1.0		
	baz=217,SNR=12								
SCRK	Sand Creek	82.65	13	IAmb	IAmb	11 48 07.4			
	comp=Z,21nm,0.8s								
SCRK	Sand Creek	82.65	13	P	P	11 48 06.5	+0.5		
	baz=209,SNR=47								
M29M	Somme Creek	82.66	16	IAmb	IAmb	11 48 07.7			
	comp=Z,14nm,1.2s								
M29M	Somme Creek	82.66	16	P	P	11 48 06.6	+0.6		
	baz=214,SNR=12								
I23K	Minto, Yukon-K	82.67	10	IAmb	IAmb	11 48 06.9			
	comp=Z,15nm,0.9s								
I23K	Minto, Yukon-K	82.67	10	P	P	11 48 06.2	+0.3		
	baz=204,SNR=18								
F18K	Selawik	82.68	6	P	P	11 48 06.2	+0.3		
	baz=194,SNR=5.7								
COLA	College	82.69	11	P	P	11 48 06.0	+0.1		
COLA	College	82.69	11	P	P	11 48 06.6	+0.7		
COLA	College	82.69	11	*c i*P	P	11 48 05.8	-0.1		
COLA				pmax	pmax				
	comp=Z,44nm,0.8s								
COLA	College	82.69	11	P	P	11 48 06.0	+0.1		
	baz=205								
MNHN	Monahans	82.69	55	IAmb	IAmb	11 48 08.9			
	comp=Z,9.3nm,0.7s								
YHB	Horse Butte	82.74	40	IAmb	IAmb	11 48 09.8			
	comp=Z,25nm,0.9s								
IL31		82.77	11	IAmb	IAmb	11 48 07.6			
	comp=Z,44nm,1.5s								
ILAR	Eielson Array	82.77	11	P	P	11 48 06.3	-0.1		
	comp=Z,6.7nm,0.6s,baz=229,slow=5.9,SNR=121								
ILAR				PP	PP	11 51 13.8	-4.5		
	comp=Z,1.2nm,1.0s,baz=218,slow=6.8,SNR=4.7								
ILAR				LR	LR	12 15 56.8			
	comp=Z,23nm,21.8s,baz=202,slow=29								
	comp=Z,6.7nm,0.6s								
BW06	Boulder Array	82.79	42	P	P	11 48 07.9	+0.6		
BW06				IAmb	IAmb	11 48 08.9			
	comp=Z,14nm,0.8s								
PD31	Pinedale Array	82.79	42	P	P	11 48 07.6	+0.3		
PD31				IAmb	IAmb	11 48 08.9			
	comp=Z,13nm,0.8s								
PDAR	Pinedale Array	82.79	42	P	P	11 48 07.8	+0.5		
	comp=Z,12nm,0.8s,baz=215,slow=3.1,SNR=106								
PDAR				PP	PP	11 51 18.7	-0.5		
	comp=Z,0.7nm,0.8s,baz=236,slow=10,SNR=3.4								
PDAR				LR	LR	12 18 24.0			
	comp=Z,29nm,18.2s,baz=199,slow=31								
	comp=Z,12nm,0.8s								
OVMT	Ovando	82.86	37	P	P	11 48 07.5	+0.1		
BOZ	Bozeman (W)	82.90	39	P	P	11 48 08.4	+0.7		
BOZ				IAmb	IAmb	11 48 10.0			
	comp=Z,17nm,1.1s								
J25K	Salcha River,	82.93	12	P	P	11 48 07.7	+0.3		
	baz=208,SNR=36								
H17A	Grant Village	82.94	40	IAmb	IAmb	11 48 11.4			
	comp=Z,11nm,0.8s								
TIA	Tai'an	82.95	311	P	P	11 48 08.3	+0.3		
E17K	Hotham Inlet	82.96	5	P	P	11 48 08.1	+0.7		
	baz=192,SNR=6.5								
POKR	Poker Plat Res	82.98	11	P	P	11 48 07.7	+0.2		
	baz=206								
H22K	Ishtalitna Cre	83.03	9	P	P	11 48 08.2	+0.4		
	baz=202,SNR=28								
F19K	Shaleruckik Mo	83.09	6	IAmb	IAmb	11 48 09.7			
	comp=Z,21nm,1.1s								
F19K	Shaleruckik Mo	83.09	6	P	P	11 48 08.4	+0.4		
	baz=196,SNR=20								
K27K	Chicken	83.12	14	IAmb	IAmb	11 48 10.4			
	comp=Z,30nm,1.5s								
K27K	Chicken	83.12	14	P	P	11 48 09.3	+1.1		
	baz=211								
N32M	Quiet Lake	83.15	19	IAmb	IAmb	11 48 10.6			
	comp=Z,21nm,1.1s								
N32M	Quiet Lake	83.15	19	P	P	11 48 09.4	+0.9		
	baz=219								
J26L	Joseph Creek	83.20	13	IAmb	IAmb	11 48 10.9			
	comp=Z,21nm,0.8s								
J26L	Joseph Creek	83.20	13	P	P	11 48 09.6	+0.8		
	baz=209,SNR=46								
M30M	Minto, Yukon	83.21	16	IAmb	IAmb	11 48 10.3			
	comp=Z,20nm,1.3s								
M30M	Minto, Yukon	83.21	16	P	P	11 48 09.3	+0.5		
	baz=216,SNR=24								
H23K	Yukon River	83.26	10	P	P	11 48 08.5	-0.5		
H23K	Yukon River	83.26	10	P	P	11 48 08.7	-0.3		
	baz=204,SNR=8.9								
L29M	L29M	83.29	16	P	P	11 48 10.2	+1.0		
	baz=214,SNR=32								
HEH	HeiHe	83.30	327	*e*P	P	11 48 10.8	+1.3		
G21K	Allakaket	83.31	8	IAmb	IAmb	11 48 11.1			
	comp=Z,20nm,1.0s								
G21K	Allakaket	83.31	8	P	P	11 48 10.1	+0.9		
	baz=200								
E18K	Tukpahlearik C	83.39	5	IAmb	IAmb	11 48 11.4			
	comp=Z,16nm,0.9s								
E18K	Tukpahlearik C	83.39	5	P	P	11 48 10.4	+0.9		
	baz=193,SNR=14								
D17K	Noatak River	83.47	4	P	P	11 48 11.0	+1.0		
	baz=190,SNR=7.2								
F20K	Avaraart Lake	83.53	7	IAmb	IAmb	11 48 12.7			
	comp=Z,15nm,1.1s								
F20K	Avaraart Lake	83.53	7	P	P	11 48 11.1	+0.8		
	baz=198,SNR=22								
H24K	Noodor Dome	83.56	10	P	P	11 48 09.6	-0.9		
	baz=205,SNR=7.5								
M31M	Drury Creek, Y	83.58	17	P	P	11 48 10.9	+0.2		
M31M				IAmb	IAmb	11 48 12.0			
	comp=Z,19nm,1.4s								
M31M	Drury Creek, Y	83.58	17	P	P	11 48 10.9	+0.2		
	baz=218,SNR=9.8								
YNE	Yellowstone No	83.60	40	IAmb	IAmb	11 48 14.0			
	comp=Z,16nm,1.0s								
PRP	Porcupine Dome	83.70	12	P	P	11 48 11.8	+0.4		
	baz=207,SNR=54								
E19K	Redstone River	83.76	6	IAmb	IAmb	11 48 13.2			
	comp=Z,17nm,0.8s								
E19K	Redstone River	83.76	6	P	P	11 48 12.2	+0.8		
	baz=196								
WTLY	Watson Lake, Y	83.77	21	P	P	11 48 12.3	+0.7		
	baz=223								
DAWY	Dawson	83.77	15	P	P	11 48 12.3	+0.7		
DAWY				IAmb	IAmb	11 48 13.4			
	comp=Z,25nm,0.9s								
DAWY	Dawson	83.77	15	P	P	11 48 12.5	+0.8		
	baz=213,SNR=36								
T25A	Trinidad	83.79	49	P	P	11 48 13.4	+0.8		
RDOG	Red Dog Mine	83.84	4	P	P	11 48 12.5	+0.6		
	baz=191								
BELA	Belgrano 2	83.85	172	P	P	11 48 12.2	+0.2		
C16K	Lisburne Hills	83.90	3	P	P	11 48 12.6	+0.5		
	baz=188								
FARO	Faro, Yukon	83.91	18	P	P	11 48 12.9	+0.5		
FARO	Faro, Yukon	83.91	18	P	P	11 48 12.9	+0.5		
	baz=219,SNR=11								
G22K	Bettles	83.97	9	P	P	11 48 13.4	+0.9		
	baz=202								
F21K	Alatna River	83.98	8	P	P	11 48 13.2	+0.6		
	baz=200,SNR=17								
I26K	Coal Creek Min	83.99	12	IAmb	IAmb	11 48 14.5			
	comp=Z,22nm,0.8s								
I26K	Coal Creek Min	83.99	12	P	P	11 48 13.6	+0.9		
	baz=210								
G23K	Bananza Creek	84.00	9	IAmb	IAmb	11 48 14.4			
	comp=Z,20nm,1.0s								
G23K	Bananza Creek	84.00	9	P	P	11 48 13.4	+0.7		
	baz=203,SNR=28								
K29M	Barlow Dome	84.05	15	IAmb	IAmb	11 48 15.1			
	comp=Z,19nm,0.9s								
K29M	Barlow Dome	84.05	15	P	P	11 48 14.2	+1.0		
	baz=215,SNR=25								
RLMT	Red Lodge	84.11	40	IAmb	IAmb	11 48 16.3			
	comp=Z,16nm,1.1s								
TOAD	Toad River Com	84.16	23	P	P	11 48 14.7	+1.0		
	baz=227,SNR=54								
LIRD	Liard River Hi	84.23	22	P	P	11 48 14.8	+0.8		
	baz=226,SNR=8.9								
C17K	DeLong Mountai	84.23	4	P	P	11 48 14.3	+0.4		
	baz=190								
MAYO	Mayo, Yukon	84.28	16	P	P	11 48 14.9	+0.8		
	baz=217,SNR=6.7								
H25L	Birch Creek	84.31	11	P	P	11 48 14.0	-0.3		
	baz=207,SNR=10								
J29N	Klondike Camp	84.38	15	P	P	11 48 16.0	+1.3		
	baz=214								
G24K	Hadweenzic Riv	84.41	10	P	P	11 48 15.9	+1.1		
	baz=206								
F22K	John River	84.42	8	P	P	11 48 15.6	+0.8		
	baz=201								
HBVL	Hebbronville	84.43	60	IAmb	IAmb	11 48 18.9			
	comp=Z,12nm,0.8s								
COLD	Coldfoot	84.45	9	P	P	11 48 16.0	+1.1		
	baz=203,SNR=18								
CMIG	Matias Romero	84.46	71	LR	LR	12 18 29.9			
	comp=Z,48nm,18.3s,baz=228,slow=30								
C18K	Utukok River	84.55	5	P	P	11 48 15.8	+0.3		
	baz=192								
I27K	Kandik River	84.57	13	P	P	11 48 16.3	+0.6		
	baz=211,SNR=19								
E20K	Nigu River	84.64	7	P	P	11 48 16.7	+0.7		
	baz=197								
BILL	Bilibino	84.67	353	⇑*i*P	P	11 48 15.7	-0.3		
BILL				pmax	pmax				
	comp=Z,14nm,1.3s								
D19K	Kuna River	84.67	6	IAmb	IAmb	11 48 17.5			
	comp=Z,15nm,0.8s								
D19K	Kuna River	84.67	6	P	P	11 48 16.6	+0.5		
	baz=195								
FYU	Fort Yukon	84.69	11	IAmb	IAmb	11 48 17.7			
	comp=Z,8.4nm,0.7s								
G25K	Bearman Lake	84.71	11	P	P	11 48 17.0	+0.8		
	baz=207,SNR=7.1								
K22A	Casper	84.72	43	P	P	11 48 17.6	+0.5		
HNDO	Hondo	84.80	58	IAmb	IAmb	11 48 55.4			
	comp=Z,17nm,0.9s								
I28M	Miner Creek	84.81	14	P	P	11 48 17.4	+0.5		
	baz=213,SNR=35								
SN07	Snyder	84.83	54	IAmb	IAmb	11 48 19.0			
	comp=Z,18nm,0.7s								
AMTX	Amarillo	84.91	52	P	P	11 48 18.7	+0.6		
J30M	Hart River	84.95	15	IAmb	IAmb	11 48 19.4			
	comp=Z,12nm,0.8s								
J30M	Hart River	84.95	15	P	P	11 48 18.6	+0.9		
	baz=216,SNR=18								
D20K	Etivluk River	85.03	6	IAmb	IAmb	11 48 19.6			
	comp=Z,30nm,1.1s								
D20K	Etivluk River	85.03	6	P	P	11 48 18.5	+0.7		
	baz=197								
E22K	Anaktuvuk Pass	85.06	8	P	P	11 48 18.9	+0.8		
	baz=201,SNR=29								
E21K	Killik River	85.07	7	IAmb	IAmb	11 48 19.5			
	comp=Z,18nm,0.9s								
E21K	Killik River	85.07	7	P	P	11 48 18.5	+0.4		
	baz=199								
F24K	Squaw Lake	85.08	10	IAmb	IAmb	11 48 20.1			
	comp=Z,12nm,0.9s								
F24K	Squaw Lake	85.08	10	P	P	11 48 19.1	+1.0		
	baz=205,SNR=18								
I29M	Ogilvie Camp,	85.11	14	IAmb	IAmb	11 48 19.6			
	comp=Z,20nm,0.8s								
I29M	Ogilvie Camp,	85.11	14	P	P	11 48 18.7	+0.4		
	baz=214,SNR=22								
C19K	Lookout Ridge	85.13	5	IAmb	IAmb	11 48 20.1			
	comp=Z,14nm,0.8s								
C19K	Lookout Ridge	85.13	5	P	P	11 48 19.1	+0.8		
	baz=194,SNR=8.1								
H27K	Steamboat Moun	85.13	13	P	P	11 48 19.4	+1.0		
	baz=211,SNR=26								
B18K	Kokolik River	85.21	4	P	P	11 48 19.5	+0.8		
	baz=192								
EGMT	Eagleton	85.23	37	IAmb	IAmb	11 48 21.1			
	comp=Z,9.5nm,0.9s								
UBPT	Khong Chiam	85.29	287	IAmb	IAmb	11 48 22.5			
	comp=Z,17nm,0.9s								
UBPT	Khng Chiam	85.29	287	P	P	11 48 20.4	+0.1		
G26K	Porcupine Rive	85.30	11	P	P	11 48 20.4	+1.2		
	baz=209,SNR=49								
E23K	Chandalar	85.31	9	IAmb	IAmb	11 48 22.2			
	comp=Z,15nm,0.9s								
E23K	Chandalar	85.31	9	P	P	11 48 20.2	+0.9		
	baz=203,SNR=18								
ZEA	Zeya	85.34	329	*e*P	P	11 48 22.0	+2.3		
I30M	Mount Dempster	85.47	15	P	P	11 48 20.9	+0.7		
	baz=216,SNR=30								
KOTAN	Kotaneelee Air	85.48	23	P	P	11 48 20.9	+0.7		
	baz=228								
E24K	Your Creek	85.49	9	P	P	11 48 21.2	+1.0		
	baz=204,SNR=6.7								
APMT	Aspermont	85.51	54	IAmb	IAmb	11 48 22.7			
	comp=Z,18nm,0.8s								
F25K	Christian Rive	85.53	11	IAmb	IAmb	11 48 22.7			
	comp=Z,12nm,1.0s								
F25K	Christian Rive	85.53	11	P	P	11 48 21.5	+1.1		
	baz=207,SNR=21								
BMAR	Burnt Mountain	85.58	11	P	P	11 48 21.6	+1.0		
G27K	Doyon Strip	85.60	12	IAmb	IAmb	11 48 22.7			
	comp=Z,11nm,0.9s								
G27K	Doyon Strip	85.60	12	P	P	11 48 21.7	+0.9		
	baz=211,SNR=20								
D22K	Ayikyak River	85.65	8	IAmb	IAmb	11 48 22.9			
	comp=Z,21nm,0.9s								
D22K	Ayikyak River	85.65	8	P	P	11 48 21.9	+1.0		
	baz=200								
BRDY	Brady	85.65	56	IAmb	IAmb	11 48 23.6			
	comp=Z,13nm,1.0s								
C21K	Knifeblade Rid	85.66	7	P	P	11 48 21.9	+0.9		
	baz=198,SNR=10								
LYN	LuoYang	85.78	307	P	P	11 48 23.0	+0.7		
LYN				pmax	pmax				
	comp=Z,32nm,0.6s								
H29M	Whitestone	85.81	14	P	P	11 48 22.6	+0.8		
	baz=214,SNR=47								
TOLK	Toolik Lake Re	85.85	9	P	P	11 48 22.5	+0.6		
TOLK				IAmb	IAmb	11 48 23.6			
	comp=Z,9.7nm,0.9s								
TOLK	Toolik Lake Re	85.85	9	P	P	11 48 22.5	+0.6		
	baz=204,SNR=8.6								
F26K	Sheenjek River	85.89	11	P	P	11 48 23.3	+1.2		
	baz=209,SNR=22								
D23K	Nanushuk River	85.99	8	IAmb	IAmb	11 48 24.7			
	comp=Z,15nm,1.0s								
D23K	Nanushuk River	85.99	8	P	P	11 48 23.7	+1.1		
	baz=202,SNR=16								
E25K	Arctic Village	86.01	10	IAmb	IAmb	11 48 25.4			
	comp=Z,16nm,1.0s								
E25K	Arctic Village	86.01	10	P	P	11 48 23.7	+1.0		
	baz=207,SNR=23								
A19K	Wainwright	86.08	4	P	P	11 48 23.5	+0.5		
	baz=192								
B21K	Ikpikpuk River	86.12	7	P	P	11 48 23.9	+0.7		
	baz=199								
B20K	Meade River	86.22	6	P	P	11 48 24.3	+0.6		
	baz=196								
EPYK	Eagle Plains	86.32	14	P	P	11 48 24.9	+0.6		
	baz=216,SNR=13								
IPM	Ipoh	86.41	276	P	P	11 48 26.2	+0.3		
D24K	Happy Valley	86.43	9	P	P	11 48 25.4	+0.7		
	baz=204								
H31M	Peel River	86.45	15	P	P	11 48 25.1	+0.2		
	baz=218,SNR=5.8								
G29M	Pine Creek	86.47	13	IAmb	IAmb	11 48 26.8			
	comp=Z,18nm,0.9s								
G29M	Pine Creek	86.47	13	P	P	11 48 25.5	+0.5		
	baz=214,SNR=16								
F28M	Old Crow	86.65	12	IAmb	IAmb	11 48 28.1			
	comp=Z,11nm,0.9s								
F28M	Old Crow	86.65	12	P	P	11 48 26.4	+0.5		
	baz=213,SNR=17								
E27K	Coleen River	86.80	12	IAmb	IAmb	11 48 29.3			
	comp=Z,11nm,1.0s								
E27K	Coleen River	86.80	12	P	P	11 48 27.6	+1.0		
	baz=211,SNR=16								
C23K	Itkillik River	86.81	8	P	P	11 48 27.1	+0.5		
	baz=202								
XLT	XiLinHaoTe	86.93	317	*e*P	P	11 48 29.2	+1.3		
XLT				pP	sP	11 49 07.0	-1.1		
XLT				sP	pwP	11 49 20.2	+21		
XLT				S	S	11 58 57.9	+0.9		
XLT				sS	sS	11 59 56.6	+10		
XLT				pmax	pmax				
	comp=Z,7.0nm,0.8s								
G30M	tAoh Zrail Nji	86.93	14	P	P	11 48 27.7	+0.4		
	baz=216,SNR=19								
B22K	Teshekpuk Lake	86.94	7	P	P	11 48 27.6	+0.4		
	baz=200								
D25K	Kavik River	86.96	9	P	P	11 48 27.0	-0.3		
	baz=206,SNR=6.5								
C24K	Franklin Bluff	86.97	9	IAmb	IAmb	11 48 29.9			
	comp=Z,12nm,0.9s								
C24K	Franklin Bluff	86.97	9	P	P	11 48 27.7	+0.4		
	baz=204								
RSSD	Black Hills	86.99	43	P	P	11 48 28.1	-0.2		
G31M	Satah River	87.35	15	P	P	11 48 29.6	+0.4		
	baz=218,SNR=16								
A22K	Sinclair Lake	87.40	6	P	P	11 48 29.9	+0.6		
	baz=198								
MAW	Mawson	87.41	199	P	P	11 48 30.2	+0.5		
	comp=Z,3.9nm,0.7s								
MAW	Mawson	87.41	199	P	P	11 48 30.4	+0.8		
	comp=Z,15nm,0.7s,baz=131,slow=5.6,SNR=36								
MAW				LR	LR	12 24 19.5			
	comp=Z,36nm,21.7s,baz=82,slow=33								
	comp=Z,15nm,0.7s								
F30M	Barrier River	87.54	14	P	P	11 48 30.4	+0.3		
	baz=216								
A21K	Barrow	87.54	6	P	P	11 48 30.0	-0.1		
	baz=197								
E28M	Babbage River	87.56	12	P	P	11 48 30.7	+0.5		
	baz=213,SNR=9.9								
ESPZ	Base Esperanza	87.57	156	P	P	11 48 31.7	+1.2		
ESPZ				IAmb	IAmb	11 48 33.3			
	comp=Z,24nm,1.1s								
C27K	Jago River	87.67	10	P	P	11 48 31.0	+0.3		
	baz=209								
GYA	Guiyang	87.68	298	⇓P	P	11 48 33.8	+1.9		
GYA				pmax	pmax				
	comp=Z,18nm,1.0s								
E29M	Blow River	87.72	13	P	P	11 48 30.9	0.0		
	baz=214								
C26K	Camden Bay	87.72	10	P	P	11 48 31.6	+0.7		
	baz=208								
WRGLY	Wrigley	87.77	20	P	P	11 48 31.8	+0.5		
	baz=228								
D27M	Malcolm River	87.82	11	P	P	11 48 32.0	+0.5		
	baz=212								
F31M	Tsiigehtchic	87.89	14	P	P	11 48 32.2	+0.5		
	baz=218,SNR=19								
XAN	Xi'an	88.33	306	P	P	11 48 35.6	+0.9		
XAN				pmax	pmax				
	comp=Z,9.0nm,0.8s								
R32A	Long Quarter,	88.45	49	IAmb	IAmb	11 48 37.5			
	comp=Z,10nm,0.8s								
SLVN	Son La	88.51	293	IAmb	IAmb	11 48 39.0			
	comp=Z,15nm,0.8s								
SLVN	Son La	88.51	293	P	P	11 48 36.0	+0.1		
INK	Inuvik	88.62	14	P	P	11 48 35.2	+0.1		
INK				IAmb	IAmb	11 48 36.9			
	comp=Z,9.8nm,0.9s								
INK	Inuvik	88.62	14	LR	LR	12 27 57.3			
	comp=Z,32nm,18.4s,baz=90,slow=35								
INK	Inuvik	88.62	14	P	P	11 48 35.4	+0.3		
	baz=219								
HHC	Hu-ho-hao-te	88.79	313	*e*P	P	11 48 36.6	-0.2		
HHC				pmax	pmax				
	comp=Z,11nm,0.7s								
HHC				pmax	pmax				
	comp=Z,57nm,4.3s								
GSI	Gunungsitoli	88.88	272	P	P	11 48 38.5	+0.8		
GSI	Gunungsitoli	88.88	272	P	P	11 48 38.9	+1.2		
	comp=Z,81nm,0.8s								
YAK	Yakutsk	89.11	337	LR	LR	12 21 47.7			
	comp=Z,29nm,21.9s,baz=136,slow=31								
YAK	Yakutsk	89.11	337	*e*P	P	11 48 34.8	-2.8		
YAK				pmax	pmax				
	comp=Z,14nm,1.1s								
YAK				pmax	pmax				
	comp=N,2.0nm,1.0s								
YAK				pmax	pmax				
	comp=E,2.0nm,1.3s								
YKA	Yellowknife Ar	90.52	24	P	P	11 48 43.3	-0.9		
YKA	Yellowknife Ar	90.52	24	P	P	11 48 44.9	+0.7		
	comp=E,6.7nm,0.9s,baz=247,slow=4.5,SNR=26								
YKA				LR	LR	12 24 02.6			
	comp=E,46nm,18.7s,baz=337,slow=32								
	comp=E,6.7nm,0.9s								
YKAW3	Yellowknife Wh	90.56	23	P	P	11 48 45.4	+1.0		
YKAW3				IAmb	IAmb	11 48 46.6			
	comp=Z,9.3nm,0.9s								
YKAW1	Yellowknife Wh	90.56	24	P	P	11 48 45.3	+0.9		
YKAW1				IAmb	IAmb	11 48 46.1			
	comp=Z,11nm,1.0s								
KMI	Kunming	90.64	296	P	P	11 48 46.6	+0.6		
KMI				pmax	pmax				
	comp=Z,17nm,1.1s								
JTS	Las Juntas de	91.78	80	LR	LR	12 22 51.1			
	comp=Z,33nm,19.4s,baz=218,slow=31								
PZH	PanZhiHua	91.90	297	P	P	11 48 51.7	+0.1		
CMAR	Chiang Mai Arr	92.18	288	P	P	11 48 53.8	+0.8		
	comp=Z,8.1nm,0.7s,baz=95,slow=2.5,SNR=45								
	comp=Z,8.1nm,0.7s								
CMAR	Chiang Mai Arr	92.18	288	*ce*P	P	11 48 53.7	+0.8		
CMAR				pmax	pmax				
	comp=Z,9.0nm,0.7s								
SYO	Syowa Base	92.27	191	⇑*e*P	P	11 48 52.2	-0.2		
CHTO	Chiang Mai	92.28	289	P	P	11 48 54.3	+1.0		
CHTO	Chiang Mai	92.28	289	P	P	11 48 54.0	+0.6		
TROLL	Troll, Antarti	92.54	179	⇓P	P	11 48 54.5	+0.7		
	comp=Z,186nm,0.7s								
P38A	Dawn	92.65	50	IAmb	IAmb	11 48 55.2			
	comp=Z,4.4nm,0.9s								
SNAA	Sanae	92.71	177	P	P	11 48 55.3	+0.8		
SNAA				IAmb	IAmb	11 49 35.8			
	comp=Z,5.3nm,0.6s								
SNAA	Sanae	92.71	177	P	P	11 48 55.2	+0.7		
	comp=Z,6.4nm,1.1s,baz=178,slow=4.7,SNR=7.9								
	comp=Z,6.4nm,1.1s								
SNAA	Sanae	92.71	177	⇑*i*P	P	11 48 54.4	-0.1		
SNAA				pmax	pmax				
	comp=Z,11nm,1.5s								
A36M	Sachs Harbour	93.25	14	P	P	11 48 57.0	+0.4		
	baz=226								
VNA1	Neumayer--Stat	93.37	175	⇓P	P	11 48 58.8	+1.4		
	comp=Z,13nm,1.2s								
AGMN	Agassiz Nation	93.81	41	P	P	11 48 58.9	-0.9		
AGMN				IAmb	IAmb	11 49 00.6			
	comp=Z,4.6nm,1.0s								
SONM	Songino Array	94.66	318	P	P	11 49 03.7	-0.

CLL				*i* PKPdf	**PKPdf**	11 55 18.0	+0.5	
	comp=Z,6.0nm,0.8s							
CLL				*i* x	x	11 55 53.6		
CLL				*e*SKPdf	**SKPdf**	**11 58 41.0**	**-0.6**	
CLL				*e*SS	SS	12 17 36.0	+30	
STHS	**Stebnicka Huta**	**144.09 343**		*e*PKIKP	PKPbc	11 55 16.2	+0.1	
STHS	**Stebnicka Huta**	**144.09 343**		*e*PKP	PKPbc	11 55 16.2	+0.1	
BRG	**Berggiesshubel**	**144.27 351**		*e*PKP	PKPbc	11 55 16.6	+0.1	
BRG				Amp		11 55 18.0		
	comp=Z,3.0nm,1.0s							
BRG	**Berggiesshubel**	**144.27 351**		P	**PKiKP**	**11 55 21.9**	**+0.3**	
BRG				Amp		11 55 24.0		
	comp=Z,2.9nm,1.0s							
BURAR	**Bucovina Array**	**144.38 338**		⇓P	**PKPab**	**11 55 17.0**	**+0.2**	
BURAR	**Bucovina Array**	**144.38 338**		⇓PKIKP	**PKPab**	**11 55 17.0**	**+0.2**	
DPC	**Dobruska-Polom**	**144.38 349**		*e*PKP	PKPbc	11 55 17.7	+0.7	
DPC	**Dobruska-Polom**	**144.38 349**		*e*PKIKP	PKPbc	11 55 17.7	+0.7	
STEB	**Steborice**	**144.48 347**		*e*PKP	PKPbc	11 55 17.5	+0.3	
OKC	**Ostrava-Krasne**	**144.49 346**		*e*PKP	**PKiKP**	**11 55 21.3**	**-0.8**	
OKC	**Ostrava-Krasne**	**144.49 346**		*e*PKIKP	**PKiKP**	**11 55 21.3**	**-0.8**	
KRLC	**Kraliky**	**144.56 348**		*e*PKP	PKPbc	11 55 17.7	+0.2	
KRLC	**Kraliky**	**144.56 348**		*e*PKIKP	PKPbc	11 55 17.7	+0.2	
MORC	**Moravsky Berou**	**144.68 347**		*e*PKP	**PKPab**	**11 55 17.9**	**+0.1**	
MORC	**Moravsky Berou**	**144.68 347**		⇑P	PKPbc	11 55 18.2	+0.2	
MORC	**Moravsky Berou**	**144.68 347**		⇑PKIKP	PKPbc	11 55 18.2	+0.3	
LANS	**Liptovska Anna**	**144.81 345**		*e*PKIKP	**PKiKP**	**11 55 21.6**	**-1.3**	
LANS	**Liptovska Anna**	**144.81 345**		*e*PKP	**PKiKP**	**11 55 21.6**	**-1.3**	
MAUC	**Maruska**	**145.01 347**		*e*PKP	**PKPab**	**11 55 19.2**	**+0.2**	
PRU	**Pruhonice**	**145.04 350**		*e*PKP	PKPbc	11 55 19.1	+0.1	
PRU	**Pruhonice**	**145.04 350**		*e*PKIKP	PKPbc	11 55 19.1	+0.1	
GOPC	**GO Pecny, Ondr**	**145.07 350**		*e*PKP	**PKPdf**	**11 55 19.9**	**+0.4**	
GOPC	**GO Pecny, Ondr**	**145.07 350**		*e*PKIKP	**PKPdf**	**11 55 19.9**	**+0.4**	
BNN	**Bunyan**	**145.10 317**		PKPbc	**PKPdf**	**11 55 20.3**	**+0.2**	
MEM	**Membach**	**145.11**	**0**	*d*PKP	**PKPbc**	**11 55 19.1**	**0.0**	
BSTI	**Sart Tilman**	**145.13**	**1**	*d*PKP	**PKPdf**	**11 55 19.7**	**+0.2**	
BTNL	**Ternell**	**145.13 360**		*d*PKP	**PKPbc**	**11 55 19.3**	**0.0**	
ARCR	**ARCALIA**	**145.14 338**		⇓P	**PKPdf**	**11 55 20.9**	**+1.2**	
CFR	**Carcaliu**	**145.16 332**		⇓P	**PKPbc**	**11 55 19.5**	**0.0**	
CFR	**Carcaliu**	**145.16 332**		⇓PKIKP	**PKPbc**	**11 55 19.5**	**0.0**	
VRI	**Vrincioaia**	**145.22 334**		⇑P	**PKPdf**	**11 55 20.7**	**+0.8**	
VRI	**Vrincioaia**	**145.22 334**		⇑PKIKP	**PKPdf**	**11 55 20.7**	**+0.8**	
PLOR	**Plostina**	**145.27 334**		⇑P	**PKPab**	**11 55 20.9**	**+0.8**	
TPGR	**Topolog**	**145.28 332**		⇓P	**PKPab**	**11 55 20.9**	**+0.7**	
BCLA	**Clavier**	**145.29**	**1**	*e*PKP	**PKPab**	**11 55 20.1**	**+0.1**	
VRAC	**Vranov**	**145.32 348**		*e*PKP	**PKPab**	**11 55 20.3**	**+0.1**	
VRAC	**Vranov**	**145.32 348**		⇑P	**PKPbc**	**11 55 19.9**	**-0.1**	
VRAC	**Vranov**	**145.32 348**		⇑PKIKP	**PKPbc**	**11 55 19.9**	**-0.1**	
BGES	**Gesves**	**145.32**	**1**	*d*PKP	**PKPbc**	**11 55 19.9**	**0.0**	
BHOU	**Houvegnez**	**145.36**	**0**	*d*PKP	**PKPab**	**11 55 20.7**	**+0.4**	
BMRD	**Maredsous**	**145.40**	**1**	*d*PcP	**PKPdf**	**11 55 19.1**	**-0.9**	
COVR	**Voineasa-Covas**	**145.46 335**		⇓P	**PKPbc**	**11 55 20.5**	**0.0**	
JAVC	**Velka Javorina**	**145.52 346**		*e*PKP	**PKPab**	**11 55 21.8**	**+0.8**	
VYHS	**Vyhne**	**145.58 345**		*e*PKIKP	**PKPab**	**11 55 21.7**	**+0.6**	
VYHS	**Vyhne**	**145.58 345**		*e*PKP	**PKPab**	**11 55 21.7**	**+0.6**	
TIRR	**Tirgusor**	**145.58 331**		PKPbc	**PKPbc**	**11 55 20.9**	**+0.1**	
TIRR	**Tirgusor**	**145.58 331**		⇓P	**PKPab**	**11 55 21.9**	**+0.7**	
TIRR	**Tirgusor**	**145.58 331**		⇓PKIKP	**PKPab**	**11 55 21.9**	**+0.7**	
KRUC	**Moravsky**	**145.60 348**		*e*PKP	**PKPab**	**11 55 21.2**	**0.0**	
DOU	**Dourbes**	**145.60**	**2**	*d*PKP	**PKPdf**	**11 55 20.7**	**+0.4**	
HARR	**Harsova**	**145.62 332**		⇑P	**PKPab**	**11 55 21.5**	**+0.1**	
HARR	**Harsova**	**145.62 332**		⇑PKIKP	**PKPab**	**11 55 21.5**	**+0.1**	
DOPR	**Dopca**	**145.68 336**		⇓P	**PKPab**	**11 55 22.6**	**+0.9**	
GRA1	**Grafenberg Arr**	**145.77 354**		PKPbc	**PKPab**	**11 55 21.8**	**0.0**	
GRFO	**Grafenberg**	**145.77 354**		PKPbc	**PKPbc**	**11 55 21.6**	**-0.1**	
MLR	**Muntele Rosu**	**145.85 335**		PKPbc	**PKPbc**	**11 55 22.1**	**+0.2**	
MLR	**Muntele Rosu**	**145.85 335**		⇓P	**PKPbc**	**11 55 22.7**	**+0.3**	
MLR	**Muntele Rosu**	**145.85 335**		⇓PKP2	**PKPab**	**11 55 22.7**	**+0.3**	
ISR	**Istrita**	**145.90 334**		⇑P	**PKPab**	**11 55 22.6**	**+0.1**	
ISR	**Istrita**	**145.90 334**		⇑PKP2	**PKPab**	**11 55 22.6**	**+0.1**	
MARR	**Marisel-Cluj**	**145.93 339**		⇓P	**PKPbc**	**11 55 22.0**	**0.0**	
DRGR		**145.97 339**		⇑P	**PKPbc**	**11 55 21.9**	**-0.2**	
BRTR	**Keskin Array B**	**146.00 320**		PKPbc	**PKPbc**	**11 55 22.7**	**+0.2**	
BRTR	**Keskin Array B**	**146.00 320**		PKPbc	**PKPbc**	**11 55 22.4**	**-0.2**	
	comp=Z,9.9nm,0.7s,baz=98,slow=2.7,SNR=48							
KHC	**Kasperske Hory**	**146.03 351**		*e*PKP	**PKPbc**	**11 55 22.1**	**0.0**	
KHC				*ex*	x	11 55 58.0		
KHC	**Kasperske Hory**	**146.03 351**		*e*PKP2	**PKPbc**	**11 55 22.1**	**0.0**	
WLF	**Walferdange**	**146.05 360**		PKPbc	**PKPab**	**11 55 22.7**	**-0.2**	
WLF	**Walferdange**	**146.05 360**		*d*PKP	**PKPab**	**11 55 22.9**	**+0.1**	
MODS	**Modra-Piesok**	**146.06 347**		*e*PKP2	**PKPbc**	**11 55 22.6**	**+0.3**	
MODS	**Modra-Piesok**	**146.06 347**		*e*PKP	**PKPbc**	**11 55 22.6**	**+0.3**	
KIRS	**Kirsehir-Merke**	**146.17 319**		⇑P	**PKPbc**	**11 55 23.2**	**+0.2**	
CKRC	**Cesky Krumlov**	**146.21 350**		*e*PKP	**PKPab**	**11 55 23.4**	**-0.1**	
CKRC	**Cesky Krumlov**	**146.21 350**		*e*PKP2	**PKPab**	**11 55 23.4**	**-0.1**	
VOIR		**146.26 336**		⇑P	**PKPab**	**11 55 23.9**	**0.0**	
VOIR		**146.26 336**		⇑PKP2	**PKPab**	**11 55 23.9**	**0.0**	
GEC2	**GERESS Array S**	**146.28 351**		PKPbc	**PKPdf**	**11 55 22.3**	**+0.6**	
GERES	**GERESS Array B**	**146.28 351**		PKPbc	**PKPbc**	**11 55 23.2**	**+0.2**	
GERES	**GERESS Array B**	**146.28 351**		PKPbc	**PKPbc**	**11 55 22.9**	**-0.1**	
	comp=Z,1.7nm,0.6s,baz=29,slow=3.0,SNR=11							
ANTO	**Ankara**	**146.42 321**		⇑P	**PKPbc**	**11 55 23.4**	**-0.3**	
ANTO	**Ankara**	**146.42 321**		⇑PKP2	**PKPbc**	**11 55 23.4**	**-0.3**	
ARR	**Arges**	**146.48 336**		⇓P	**PKPbc**	**11 55 24.2**	**+0.6**	
SIRR	**Siria**	**146.78 340**		⇓P	**PKPbc**	**11 55 24.6**	**+0.2**	
CONA	**Conrad Observa**	**146.79 348**		*e*PKP	**PKPbc**	**11 55 24.8**	**+0.3**	
	comp=Z,12nm,0.8s							
CONA				*i* pPKiKP	**sPKPdf**	**11 56 04.0**	**-0.3**	
	comp=Z,17nm,1.3s							
STU	**Stuttgart**	**146.85 356**		PKPbc	**PKPbc**	**11 55 23.9**	**-0.6**	
RONA	**Rosalia, Austr**	**146.91 347**		*i* PKP	**PKPbc**	**11 55 25.5**	**+0.7**	
	comp=Z,7.9nm,1.1s							
RONA				*i* pPKiKP	**sPKPdf**	**11 56 03.6**	**-0.9**	
	comp=Z,9.8nm,1.0s							
SURR	**Surduc**	**147.07 339**		⇓P	**PKPbc**	**11 55 25.8**	**+0.6**	
GZR	**Gura Zlata**	**147.16 338**		⇑P	**PKPdf**	**11 55 24.1**	**+0.9**	
GZR	**Gura Zlata**	**147.16 338**		⇑PKIKP	**PKPdf**	**11 55 24.1**	**+0.9**	
MOA	**Molln**	**147.16 350**		*i* PKP	**PKPbc**	**11 55 25.9**	**+0.4**	
	comp=Z,13nm,1.0s							
MOA				*ep*PKiKP	**sPKPdf**	**11 56 04.1**	**-0.7**	
	comp=Z,6.9nm,1.0s							
BFO	**Black Forest**	**147.34 357**		PKPbc	**PKPbc**	**11 55 26.4**	**+0.5**	
BZS	**Buzias**	**147.37 340**		⇓P	**PKPbc**	**11 55 26.9**	**+0.9**	
BZS	**Buzias**	**147.37 340**		⇓PKP2	**PKPbc**	**11 55 26.9**	**+0.9**	
BIOA	**Bad Ischl, Aus**	**147.42 350**		*e*PKP	**PKPbc**	**11 55 26.5**	**+0.4**	
	comp=Z,4.7nm,0.6s							
BIOA				*ep*PKiKP	**sPKPdf**	**11 56 05.2**	**-0.1**	
	comp=Z,11nm,0.9s							
ECH	**Echery**	**147.49 359**		PKPbc	**PKPbc**	**11 55 26.4**	**+0.1**	
ARSA	**Arzberg**	**147.50 348**		PKPbc	**PKPbc**	**11 55 25.4**	**-1.0**	
ARSA	**Arzberg**	**147.50 348**		*e*PKP	**PKPbc**	**11 55 26.7**	**+0.3**	
	comp=Z,5.0nm,0.9s							
ARSA				*i* pPKiKP	**sPKPdf**	**11 56 03.5**	**-1.9**	
	comp=Z,10nm,1.4s							
CLF	**Chambon-Foret**	**147.54**	**5**	PKPbc	**PKPbc**	**11 55 27.2**	**+0.8**	
MORH	**Mrgy, Hungar**	**147.73 344**		⇑P	**PKPdf**	**11 55 25.1**	**+1.1**	
LESA	**Schwarzleotal**	**147.82 352**		*i* PKP	**PKPbc**	**11 55 27.1**	**-0.2**	
	comp=Z,11nm,1.6s							
LESA				*i* pPKiKP	**sPKPdf**	**11 56 05.5**	**-0.5**	
	comp=Z,6.1nm,1.1s							
ELND	**Elena**	**147.93 332**		⇓P	**PKPbc**	**11 55 27.5**	**-0.2**	
RETA	**Reutte**	**147.99 354**		*i* PKiKP	**PKiKP**	**11 55 28.9**	**-0.7**	
	comp=Z,4.7nm,0.6s							
RETA				*i* pPKiKP	**sPKPdf**	**11 56 05.9**	**-0.4**	
	comp=Z,20nm,1.4s							
WATA	**Walderalm**	**148.05 353**		*i* PKiKP	**PKPbc**	**11 55 28.5**	**+0.5**	
	comp=Z,7.8nm,0.7s							
WATA				*i* pPKiKP	**sPKPdf**	**11 56 04.6**	**-1.9**	
	comp=Z,3.5nm,0.5s							
KBA	**Koelnbreinsper**	**148.06 351**		*i* PKiKP	PKPbc	**11 55 28.5**	**+0.4**	
	comp=Z,3.4nm,0.5s							
KBA				*i* pPKP	**sPKPdf**	**11 56 04.3**	**-2.2**	
	comp=Z,6.8nm,1.0s							
MDVR	**Moldovita**	**148.06 339**		⇑P	**PKPbc**	**11 55 28.8**	**+0.8**	
MOTA	**Moosalm**	**148.10 353**		*i* PKiKP	**PKiKP**	**11 55 29.2**	**-0.7**	
	comp=Z,1.9nm,0.7s							
MOTA				*i* pPKiKP	**sPKPdf**	**11 56 04.7**	**-1.9**	
	comp=Z,14nm,1.0s							
WTTA	**Wattenberg**	**148.12 353**		*e*PKiKP	PKPbc	**11 55 28.5**	**+0.3**	
	comp=Z,4.2nm,0.5s							
WTTA				*i* pPKiKP	**sPKPdf**	**11 56 06.0**	**-0.7**	
	comp=Z,8.3nm,0.8s							
SOKA	**Soboth**	**148.15 348**		*i* PKP	PKPbc	**11 55 27.9**	**-0.3**	
	comp=Z,6.6nm,1.2s							
SOKA				*i* pPKP	**sPKPdf**	**11 56 04.6**	**-2.0**	
	comp=Z,7.7nm,1.1s							
SQTA	**Sankt Quirin**	**148.21 353**		*e*PKP	**PKiKP**	**11 55 30.1**	**0.0**	
	comp=Z,5.8nm,1.0s							
SQTA				*ep*PKiKP	**sPKPdf**	**11 56 05.8**	**-0.9**	
	comp=Z,9.0nm,1.2s							
DAVA	**Damuels**	**148.27 355**		*i* PKiKP	PKPbc	**11 55 28.4**	**-0.2**	
	comp=Z,13nm,1.4s							
DAVA				*i* pPKP	**sPKPdf**	**11 56 06.0**	**-0.9**	
	comp=Z,12nm,1.2s							

MMAI	**Mount Meron Ar**	**148.29 308**		PKPbc	**PKPbc**	**11 55 28.9**	**-0.1**	
	comp=Z,6.0nm,0.6s,baz=61,slow=6.8,SNR=7.7							
OBKA	**Obir**	**148.40 349**		*i* PKiKP	**PKiKP**	**11 55 30.0**	**-0.5**	
	comp=Z,2.8nm,0.6s							
OBKA				*ep*PKP	**sPKPdf**	**11 56 06.1**	**-0.9**	
	comp=Z,2.7nm,0.6s							
MYKA	**Terra Mystica**	**148.45 350**		*i* PKP	**PKPbc**	**11 55 28.4**	**-0.6**	
	comp=Z,6.1nm,0.8s							
MYKA				*i* pPKP	**sPKPdf**	**11 56 06.4**	**-0.6**	
	comp=Z,0.1nm,0.2s							
FETA	**Feichten**	**148.46 354**		*i* PKP	**PKPbc**	**11 55 27.7**	**-1.4**	
	comp=Z,7.6nm,1.0s							
FETA				*i* pPKP	**sPKPdf**	**11 56 07.6**	**+0.4**	
	comp=Z,7.6nm,1.2s							
ABTA	**Abfaltersbach**	**148.51 351**		*i* PKP	**PKPbc**	**11 55 28.7**	**-0.5**	
	comp=Z,6.3nm,0.8s							
ABTA				*i* pPKP	**sPKPdf**	**11 56 06.2**	**-1.0**	
	comp=Z,11nm,1.1s							
BAND	**Balkesir-Ban**	**148.77 326**		⇑P	**PKPbc**	**11 55 29.8**	**-0.1**	
FUORN	**Ofenpass-Fuorn**	**148.90 354**		PKPbc	**PKPbc**	**11 55 30.9**	**+0.5**	
TUE	**Stuetta**	**149.12 356**		PKPbc	**PKPbc**	**11 55 30.9**	**0.0**	
CTI	**Castel Tesino**	**149.31 352**		PKPbc	**PKPbc**	**11 55 31.4**	**+0.2**	
SENIN	**Lac Senin/Sane**	**149.34 358**		PKPbc	**PKPbc**	**11 55 30.7**	**-0.8**	
RDO	**Rodhopi**	**149.48 330**		PKPbc	**PKPbc**	**11 55 30.9**	**-0.7**	
EZN	**Ezine**	**150.09 328**		⇓P	**PKPbc**	**11 55 33.0**	**-0.1**	
EZN	**Ezine**	**150.09 328**		⇓PKP2	**PKPbc**	**11 55 33.0**	**-0.1**	
TAVA	**DENIZLI_Tavas**	**150.29 321**		⇑P	**PKiKP**	**11 55 35.1**	**+0.4**	
PGAV	**Gavieira, Arco**	**151.00**	**22**	*e*PKPbc	**PKiKP**	**11 55 36.9**	**+0.9**	
PCAB	**Cabril**	**151.31**	**22**	*e*PKPbc	**PKiKP**	**11 55 36.9**	**+0.4**	
PBRG	**Braganca**	**151.68**	**20**	*e*PKPbc	**PKiKP**	**11 55 37.6**	**+0.3**	
PBRG				*e*PKPab	**PKPab**	**11 55 44.8**	**-1.1**	
POLO	**Lamas de Olo**	**151.69**	**22**	*e*PKPbc	**PKiKP**	**11 55 37.5**	**+0.1**	
POLO				*e*PKPab	**PKPab**	**11 55 47.3**	**+1.3**	
PVRL	**Vila Real**	**151.80**	**22**	*e*PKPbc	**PKiKP**	**11 55 38.0**	**+0.5**	
MVO	**Moncorvo**	**152.15**	**21**	*e*PKPbc	**PKiKP**	**11 55 38.9**	**+0.6**	
MVO				*e*PKPab	**PKPab**	**11 55 48.6**	**+0.7**	
PVIS	**Viseu**	**152.22**	**23**	*e*PKPab	**PKPab**	**11 55 48.8**	**+0.5**	
MTE	**Manteigas**	**152.63**	**23**	*e*PKPbc	**PKiKP**	**11 55 41.5**	**+2.2**	
PSARD	**Sardoal**	**153.07**	**25**	*e*PKPbc	**PKPbc**	**11 55 39.4**	**-0.6**	
PSARD				*e*PKPab	**PKPab**	**11 55 51.3**	**-0.5**	
PCBR	**Castelo Branco**	**153.14**	**23**	*e*PKPbc	**PKiKP**	**11 55 41.3**	**+1.0**	
PARRA	**Arraiolos**	**153.37**	**27**	*e*PKPbc	**PKiKP**	**11 55 44.5**	**+3.7**	
PARRA				*e*PKPab	**PKPab**	**11 55 55.4**	**+2.3**	
PMTG	**Montargil**	**153.50**	**25**	*e*PKPbc	**PKiKP**	**11 55 42.4**	**+1.3**	
PMRV	**Marv??o**	**153.53**	**24**	*e*PKiKP	**PKiKP**	**11 55 43.1**	**+2.0**	
ESDC	**Sonseca Array**	**154.49**	**18**	PKPbc	**PKiKP**	**11 55 44.1**	**+0.9**	
	comp=Z,0.8nm,0.6s,baz=330,slow=2.3,SNR=7.5							
TORD	**Torodi Ar. Bea**	**175.11 120**		PKPab	**PKPab**	**11 57 28.8**	**-0.3**	
	comp=Z,2μm,0.4s,baz=276,slow=2.8,SNR=3.9							

IDC ***12*** *11:58:18.6±7.8,4.˚71N×124.˚19E,h507km±108km,mb2.9/6, mbtmp3.8/6,Error ellipse: s-maj=137.0km s-min=20.5km az=67.0*

ISC 12 11:58:18.0±1.1,**4.˚8N**±0.˚5×**12.˚4E**±.˚,**h500**km,**n6,**σ**0$78/7, mb3.3/6,Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.49**	**158**	P	**P**	**12 03 13.9**	**-0.9**
	0.6nm,0.5s,baz=336,slow=9.8,SNR=8.7 0.5nm,0.5s						
ASAR	**Alice Springs**	**29.80**	**162**	P	**P**	**12 03 43.5**	**-0.2**
	0.5nm,0.5s,baz=341,slow=7.3,SNR=17 0.5nm,0.5s						
STKA	**Stephens Creek**	**40.02**	**157**	P	**P**	**12 05 09.8**	**+0.7**
	2.6nm,0.9s,baz=8.1,slow=7.1,SNR=1.6 2.6nm,0.9s						
SONM	**Songino Array**	**45.56**	**343**	P	**P**	**12 05 52.5**	**0.0**
	0.3nm,0.6s,baz=159,slow=6.4,SNR=1.5 0.3nm,0.6s						
MKAR	**Makanchi Array**	**55.29**	**326**	P	**P**	**12 07 04.1**	**+0.4**
	0.7nm,0.4s,baz=124,slow=7.9,SNR=15						
MKAR				PcP	**PcP**	**12 07 56.1**	**-0.9**
	0.3nm,0.7s,baz=141,slow=4.8,SNR=2.7 0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**59.53**	**328**	P	**P**	**12 07 32.7**	**+0.2**
	0.9nm,0.5s,baz=134,slow=6.6,SNR=13 0.9nm,0.5s						

WEL 12 12:10:11.0±1.1,**31.˚S**±12.˚×**18.˚0E**±2.˚3,**h490**km±41km, **mB4.4**/14,**ML4.8**/10,**MLv4.8**/12,**Mw(mB)3.6**/14,**Error ellipse: s-maj=30.5km s-min=14.7km az=80.8, confirmed,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.64**	**190**	P	P	12 11 51.2	-1.8
KUZ	**Kuaotunu**	**6.64**	**210**	P	P	12 11 55.8	+2.7
OUZ	**Omahuta**	**6.69**	**230**	P	P	12 11 53.1	-0.4
WCZ	**Waipu Caves**	**6.70**	**222**	P	P	12 11 53.4	-0.2
WMGZ	**Waiomatatini S**	**6.87**	**189**	P	P	12 11 55.1	-0.2
WMGZ				S	S	12 13 21.8	+0.7
HAZ	**Te Kaha**	**6.92**	**194**	P	P	12 11 55.8	-0.1
HAZ				S	S	12 13 22.5	+0.7
PKGZ	**Pakihiroa**	**6.97**	**191**	P	P	12 11 56.9	+0.5
RUGZ	**Raukumara Rang**	**7.14**	**194**	P	P	12 11 58.4	+0.1
RUGZ				S	S	12 13 27.7	+1.4
PUZ	**Puketiti**	**7.14**	**190**	P	P	12 11 57.6	-0.6
PUZ				S	S	12 13 24.0	-2.1
TWGZ	**Tauwhareparae**	**7.29**	**192**	P	P	12 12 00.1	+0.4
TWGZ				S	S	12 13 31.8	+2.9
OPRZ	**Ohinepanea**	**7.32**	**201**	P	P	12 12 00.9	+1.1
MWZ	**Matawai**	**7.53**	**194**	P	P	12 12 01.7	-0.5
MWZ				S	S	12 13 33.3	-0.1
URZ	**Urewera**	**7.55**	**196**	P	P	12 12 00.4	-1.9
URZ				S	S	12 13 31.7	-2.0
CNGZ	**Carnagh Statio**	**7.56**	**190**	P	P	12 12 03.0	+0.6
TKGZ	**Te Karaka**	**7.57**	**192**	P	P	12 12 02.5	0.0
TOZ	**Tahuroa Road**	**7.58**	**207**	P	P	12 12 03.6	+1.0
RAGZ	**Rawiri**	**7.71**	**194**	P	P	12 12 03.2	-0.8
MUGZ	**Murupara**	**7.84**	**198**	P	P	12 12 04.1	-1.2
RIGZ	**Rimuhau**	**7.84**	**192**	P	P	12 12 07.0	+1.6
SNGZ	**Shannon Statio**	**8.00**	**194**	P	P	12 12 08.6	+1.6
PRGZ	**Paritu Road**	**8.04**	**191**	P	P	12 12 08.2	+0.8
PRGZ				S	S	12 13 44.8	+1.8
RAHZ	**Arahi**	**8.18**	**195**	P	P	12 12 08.6	-0.3
RAHZ				S	S	12 13 47.5	+1.7
MHGZ	**Mahia Peninsul**	**8.26**	**190**	P	P	12 12 10.1	+0.5
BKZ	**Black Stump Fm**	**8.56**	**198**	P	P	12 12 11.3	-1.6
BKZ				S	S	12 13 52.6	-0.6

AEIC ***12*** *12:49:16.8±1.2,52.˚88N±0.˚06×167.˚50W±0.˚06,h35km±8km, Error ellipse: s-maj=8.6km s-min=4.4km az=161.0*

NEIC 12 12:49:16.8±1.1,**52.˚85N**±0.˚01×**167.˚49W**±0.˚05,**h35**km±2km, **ML2.6**/14,**ML2.2**(AEIC),**Error ellipse: s-maj=5.4km s-min=3.1km az=263.0,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.62**	**336**		Pn	12 49 29.0	-0.1
OKFG					Sn	12 49 38.0	+0.2
OKSP	**Okmok Steeple**	**0.63**	**310**		Pn	12 49 29.0	-0.4
OKTU	**Okmok Mt. Tuli**	**0.63**	**328**		Pn	12 49 29.3	-0.1
OKTU					Sn	12 49 38.2	0.0
OKER	**Okmok East Rim**	**0.70**	**331**		Pn	12 49 30.4	+0.1
OKCE	**Okmok Cone E**	**0.71**	**325**		Pn	12 49 30.6	+0.2
OKCE					Sn	12 49 41.5	+1.3
OKNC	**Okmok New Cone**	**0.72**	**328**		Pn	12 49 30.4	-0.1
NIKH	**Nikolski High**	**0.84**	**279**		Pn	12 49 31.5	-0.6
NIKH				Sn	Sn	12 49 42.9	-0.3
NIKH				IAML		12 49 43.9	
	comp=N,129nm,0.6s						
NIKH				IAML		12 49 46.9	
	comp=E,140nm,0.7s						
MAPS	**Pakushin South**	**1.02**	**19**		Pn	12 49 34.3	-0.3
MAPS					Sn	12 49 47.7	0.0
MGOD	**Makushin Gods**	**1.02**	**21**		Pn	12 49 34.6	-0.1
MGOD					Sn	12 49 47.8	+0.1
MREP	**Makushin Rep't**	**1.06**	**25**		Pn	12 49 35.2	0.0
UNV	**Unalaska Valle**	**1.16**	**30**		Pn	12 49 36.1	-0.5
UNV				Sn	Sn	12 49 49.9	-1.3
AKMO	**Akutan Morgan**	**1.53**	**35**		Pn	12 49 41.9	+0.3
ZRO	**Akutan Zero**	**1.54**	**35**		Pn	12 49 42.2	+0.5
AKRB	**Akutan Reef Bi**	**1.54**	**33**		Pn	12 49 42.2	+0.4
LVA	**Lava Point**	**1.58**	**33**		Pn	12 49 42.1	-0.2
LVA				IAML		12 50 11.3	
	comp=E,80nm,0.6s						
AHB	**Akutan Harbor**	**1.62**	**38**		Pn	12 49 43.4	+0.6
AKGG	**Akutan Green G**	**1.62**	**33**		Pn	12 49 43.6	+0.7
AKUT	**Akutan**	**1.65**	**38**	Pn	Pn	12 49 43.6	+0.3
AKUT					IAML	12 50 08.4	
	comp=E,29nm,0.6s						
SPIA	**Saint Paul Isl**	**4.62**	**341**	Pn	Pn	12 50 22.7	-1.4
SDPT	**Sand Point**	**4.83**	**56**	Pn	Pn	12 50 27.0	+0.1
SDPT					IAML	12 51 24.2	
	comp=E,7.2nm,1.1s						
SDPT					IAML	12 51 42.7	
	comp=N,5.6nm,0.9s						
CNBA	**Chernabura Isl**	**5.08**	**64**	Pn	Pn	12 50 29.6	-0.8
CNBA					IAML	12 52 08.9	
	comp=N,3.7nm,0.9s						
CNBA					IAML	12 53 01.0	
	comp=E,4.0nm,1.2s						
ADK	**Adak**	**5.72**	**264**	Pn	Pn	12 50 39.5	+0.4
KIWB	**Kanaga Island**	**6.00**	**264**	Pn	Pn	12 50 42.4	-0.7
CHGN	**Chignik**	**6.31**	**53**	Pn	Pn	12 50 47.0	-0.2
O15K	**Ungalikthiuk R**	**7.66**	**31**	Pn	Pn	12 51 04.3	-1.4
N15K	**Kwethluk River**	**8.40**	**26**	Pn	Pn	12 51 14.8	-1.1
K13K	**Kusilvak Mount**	**9.24**	**8**	Pn	Pn	12 51 25.9	-1.4

IDC 12 12:55:32.8±1.6,**0.˚50N×126.˚54E,h0**km,**mb3.4**/4, **mbtmp3.5**/4,**Error ellipse: s-maj=171.4km s-min=22.3km az=66.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.70**	**160**	P	P	13 00 24.6	-1.0
	0.9nm,0.6s,baz=338,slow=11,SNR=11 0.

s-maj=13.0km s-min=5.0km az=74.0
PAS ***12*** *13:11:38.0±2.3,35°.64N±0°.03×117°.59W±0°.04,h10km±3km, Mwr4.9/6,mb4.6/51(NEIC),ML5.0/164(NEIC), Mwr4.8/131(NEIC),Mww4.9/54(NEIC),Error ellipse: s-maj=5.3km s-min=4.2km az=104.0*
NEIC ***12*** *13:11:38,35°.64N×117.59W,h10km*
NEIC ***12*** *13:11:38,35°.64N×117.71W,h16km,Moment Tensor Solution. Duration: 134 Moment tensor: Scale 10¹⁶Nm; Mrr=0.29; Mθθ-2.53; Mφφ2.82; Mrθ-0.22; Mφ0.60; Mφr0.21; Fault plane solution: M◎2.77000×10¹⁶ NP1:φs51.22000°, δ83.42000°,λ-1.81000°. NP2:φs141.43000°,δ88.20000°, λ-173.42000°. Principal axes: T 2.8997, Plg3.0000°, Azm276.0000°; N -0.2805, Plg83.0000°, Azm157.0000°; P -2.6192, Plg6.0000°, Azm6.0000°;*
NEIC ***12*** *13:11:38,35°.64N×117°.59W,h16km*
GCMT ***12*** *13:11:41.0±0.2,35°.65N±0°.01×117°.58W±0°.01,h15km±1km, MW4.9/128,Moment Tensor Solution. s34,c42; s128,c184; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.36±.09; Mθθ-2.61±.07; Mφφ2.97±.09; Mrθ-0.48±.16; Mφθ0.87±.06; Mφr-0.50±.14; Best double couple: M◎3.00300×10¹⁶ NP1:φs144.00000°,δ77.00000°, λ-180.00000°. NP2:φs54.00000°,δ90.00000°, λ-13.00000°. Principal axes: T 3.1940, Plg9.0000°, Azm99.0000°; N -0.3790, Plg77.0000°, Azm232.0000°; P -2.8110, Plg10.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 13:11:37.9±0.7,35°.62N±0°.02×117°.57W±0°.02,h11km±4km, n489,σ1§80/452,mb4.5/35,MS4.2/55,1D,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.06**	**111**		**Pg**	**13 11 40.3**	**0.0**
WSHM					**Sg**	**13 11 42.3**	**+0.2**
WSHM				IAML		13 11 43.6	
	834μm,0.7s						
SRTC	**Snort**	**0.16**	**295**		**Pg**	**13 11 41.6**	**-0.1**
SRTC					**Sg**	**13 11 44.8**	**+0.6**
LRMC	**Laurel Mtn Rad**	**0.17**	**214**		**Pg**	**13 11 41.7**	**-0.1**
CCCA	**Chr Cany lake**	**0.19**	**121**		**Pg**	**13 11 42.7**	**+0.6**
TOW	**Tower One**	**0.25**	**319**		**Pg**	**13 11 43.0**	**-0.1**
TOW					**Sg**	**13 11 47.4**	**+0.8**
WNMM	**Nine Mile Cany**	**0.35**	**309**		**Pg**	**13 11 44.4**	**-0.5**
WNMM					**Sg**	**13 11 49.5**	**-0.1**
WVPM	**Volcano Peak E**	**0.39**	**328**		**Pg**	**13 11 45.0**	**-0.6**
WVPM					**Sg**	**13 11 50.2**	**-0.6**
JRC2	**Joshua Ridge**	**0.41**	**331**		**Pg**	**13 11 45.4**	**-0.6**
JRC2					**Sg**	**13 11 51.0**	**-0.6**
DTP	**Desert Tortois**	**0.42**	**213**		**Pg**	**13 11 45.9**	**-0.3**
DTP					**Sg**	**13 11 52.0**	**+0.2**
MPMC	**Manual Prospec**	**0.44**	**8**		**Pg**	**13 11 46.1**	**-0.5**
MPMC					**Sg**	**13 11 52.2**	**-0.3**
WRVM	**Rose V. Centra**	**0.47**	**326**		**Pg**	**13 11 46.4**	**-0.7**
WRVM					**Sg**	**13 11 52.5**	**-0.8**
WBSM	**Bird Springs**	**0.47**	**260**		**Sg**	**13 11 53.2**	**-0.4**
MFS	**McCloud Flat S**	**0.55**	**335**		**Pg**	**13 11 47.9**	**-0.7**
MFS					**Sg**	**13 11 55.3**	**-0.6**
WORM	**Onyx Ranch**	**0.56**	**278**		**Pg**	**13 11 48.0**	**-0.7**
WORM					**Sg**	**13 11 55.3**	**-0.8**
CCAC	**Calif City Air**	**0.60**	**218**		**Pg**	**13 11 49.2**	**-0.3**
CCAC					**Sg**	**13 11 57.8**	**+0.4**
WHFM	**Hanning Flat**	**0.64**	**277**		**Pg**	**13 11 49.5**	**-0.8**
WHFM					**Sg**	**13 11 58.0**	**-0.8**
QSM	**Queen of Sheba**	**0.66**	**59**		**Pg**	**13 11 50.4**	**-0.3**
QSM					**Sg**	**13 11 59.4**	**-0.1**
QSM				IAML		13 12 03.7	
	comp=N,92μm,0.7s						
QSM				IAML		13 12 03.7	
	comp=E,57μm,0.6s						
GSC	**Goldstone, Bar**	**0.70**	**117**		**Pg**	**13 11 51.2**	**-0.2**
GSC	**Goldstone, Bar**	**0.70**	**117**		**Sg**	**13 12 00.9**	**+0.3**
GSC	**Goldstone, Bar**	**0.70**	**117**	IAML		13 12 04.1	
GSC	comp=E,62μm,0.5s			IAML		13 12 04.1	
	comp=N,83μm,0.3s						
ISA	**Isabella, Lake**	**0.74**	**273**		**Pg**	**13 11 51.2**	**-1.0**
ISA				IAML		13 12 01.7	
	comp=N,41μm,0.7s						
WASM	**Alta Sierra Ca**	**0.81**	**278**		**Pg**	**13 11 52.7**	**-1.0**
EDW2	**Edwards Air Fo**	**0.82**	**205**		**Sg**	**13 12 03.5**	**-0.9**
RRX	**Edison Barstow**	**0.88**	**148**		**Pg**	**13 11 54.8**	**-0.1**
CWC	**Cottonwood Cre**	**0.92**	**333**		**Pg**	**13 11 54.6**	**-1.0**
CWC					**Sg**	**13 12 06.7**	**-0.9**
TPO	**Tropico Hills**	**0.92**	**216**		**Pg**	**13 11 54.9**	**-0.7**
GWY	**Greenwater Val**	**0.92**	**52**		**Pg**	**13 11 55.0**	**-0.6**
GWY				IAML		13 12 10.9	
	comp=E,45μm,0.5s						
GWY				IAML		13 12 11.9	
	comp=N,43μm,0.4s						
FURC	**Furnace Creek,**	**1.02**	**34**		**Pb**	**13 11 57.0**	**-0.5**
ADO	**Adelanto Recei**	**1.07**	**174**		**Pb**	**13 11 58.3**	**-0.3**
VTV	**Victorville**	**1.08**	**170**		**Pb**	**13 11 58.0**	**-0.6**
SHOC	**Shoshone, Teco**	**1.09**	**75**		**Pb**	**13 11 57.6**	**-1.1**
ALPC	**Antelope**	**1.11**	**213**		**Pb**	**13 11 58.3**	**-0.8**
TJR	**Tejon Ranch**	**1.13**	**239**		**Pb**	**13 11 58.1**	**-1.3**
SPG2	**Springville 2**	**1.13**	**301**		**Pb**	**13 11 58.2**	**-1.3**
ARVC	**Arvin**	**1.15**	**245**		**Pb**	**13 11 58.6**	**-1.1**
LRRC	**Littlerock Res**	**1.16**	**199**		**Pb**	**13 11 59.1**	**-0.8**
HOLC	**Holcomb Ridge**	**1.18**	**191**		**Pb**	**13 11 59.4**	**-1.0**
CJV	**Casa Juvan**	**1.19**	**204**		**Pb**	**13 11 59.5**	**-1.0**
JNH	**Juniper Hills**	**1.22**	**195**		**Pn**	**13 11 59.9**	**-1.0**
AMDNV	**Amargosa**	**1.33**	**51**		**Pn**	**13 12 01.1**	**-1.2**
GRAC	**Grapevine Rang**	**1.38**	**7**		**Pn**	**13 12 02.6**	**-0.6**
GRAC				IAML		13 12 08.8	
	comp=E,14μm,0.7s						
GRAC				IAML		13 12 32.3	
	comp=N,18μm,1.0s						
BFSC	**Mount Baldy Ra**	**1.38**	**183**		**Pn**	**13 12 02.4**	**-0.8**
BFSC				IAML		13 12 23.3	
	comp=N,19μm,0.7s						
BFSC				IAML		13 12 26.6	
	comp=E,23μm,0.7s						
OSI	**Osito Audit: C**	**1.38**	**224**		**Pn**	**13 12 02.1**	**-1.1**
WCT	**Wildcat Mounta**	**1.39**	**33**		**Pn**	**13 12 02.3**	**-1.0**
MWC	**Mount Wilson**	**1.45**	**196**		**Pn**	**13 12 03.6**	**-0.6**
MWC				IAML		13 12 26.5	
	comp=N,33μm,0.5s						
PASC	**Pasadena Art C**	**1.54**	**200**		**Pn**	**13 12 04.6**	**-0.6**
PASC				IAML		13 12 30.3	
	comp=E,25μm,0.8s						
PASC				IAML		13 12 30.9	
	comp=N,25μm,0.6s						
VOG	**Valley Oaks Go**	**1.63**	**296**		**Pn**	**13 12 07.0**	**+0.6**
MTPC	**Mountain Pass**	**1.65**	**94**		**Pn**	**13 12 05.7**	**-1.2**
GMN	**Gold Mountain**	**1.69**	**8**		**Pn**	**13 12 07.0**	**-0.6**
TPNV	**Topopah Spring**	**1.70**	**38**		**Pn**	**13 12 06.9**	**-0.7**
TPNV				IAML		13 12 35.3	
	comp=N,11μm,0.7s						
TPNV				IAML		13 12 36.2	
	comp=N,14μm,0.7s						
DSP	**Deep Springs**	**1.77**	**350**		**Pn**	**13 12 08.1**	**-0.4**
ELS	**Elsinore Mount**	**1.97**	**177**		**Pn**	**13 12 10.9**	**-0.4**
ELS				IAML		13 12 45.6	
	comp=E,12μm,0.8s						
ELS				IAML		13 12 48.1	
	comp=N,7μm,1.2s						
MZP	**Montezuma Peak**	**2.08**	**4**		**Pn**	**13 12 12.5**	**-0.4**
SHPR	**Sheep Range**	**2.14**	**65**		**Pn**	**13 12 13.1**	**-0.6**
PMD	**Palm Desert**	**2.20**	**153**		**Pn**	**13 12 13.5**	**-0.9**
PMD				IAML		13 12 49.9	
	comp=N,10μm,0.8s						
PMD				IAML		13 12 51.2	
	comp=E,11μm,1.2s						
PFO	**Pinyon Flats O**	**2.20**	**155**		**Pn**	**13 12 13.8**	**-0.7**
PFO				IAML		13 12 53.9	
	comp=E,15μm,1.6s						
PFO				IAML		13 12 54.5	
	comp=E,13μm,1.2s						
PFO	**Pinyon Flats O**	**2.20**	**155**	Pn	**Pn**	**13 12 13.8**	**-0.7**
	comp=E,38nm,0.3s,baz=340,slow=13,SNR=279						
PFO				Pg	**Pb**	**13 12 17.1**	**-0.7**
	comp=E,383nm,0.3s,baz=337,slow=17,SNR=79						
PFO				Sn	**Sn**	**13 12 41.7**	**-0.1**
	comp=E,262nm,0.3s,baz=315,slow=7.1,SNR=8.1						
PFO				Lg	Lg	13 12 47.7	
	comp=E,2μm,0.3s,baz=262,slow=19,SNR=28 comp=E,95nm,0.4s						
I57US	**PINON FLAT INF**	**2.21**	**155**	Pg	**Pb**	**13 12 17.3**	**-0.7**
	baz=336,slow=26						
V12A	**Nelson**	**2.21**	**87**		**Pn**	**13 12 13.6**	**-1.0**
SBI	**Santa Barbara**	**2.45**	**210**		**Pb**	**13 12 23.0**	**+1.0**
TPH	**Tonopah**	**2.46**	**6**		**Pn**	**13 12 17.9**	**-0.2**
S11A	**Rachel**	**2.49**	**35**		**Pn**	**13 12 18.3**	**-0.2**
S11A				IAML		13 13 06.3	
	comp=N,7μm,1.1s						
S11A				IAML		13 13 06.6	
	comp=E,9μm,1.5s						
NEE2	**Needles Airpor**	**2.56**	**109**		**Pn**	**13 12 17.8**	**-1.4**
NEE2				IAML		13 13 10.4	
	comp=N,10μm,0.8s						
NEE2				IAML		13 13 17.3	
	comp=E,6μm,0.6s						
DPP	**Dos Picos Cty**	**2.67**	**169**		**Pn**	**13 12 20.4**	**-0.4**
DPP				IAML		13 13 03.7	
	comp=E,8μm,1.0s						
DPP				IAML		13 13 07.3	
	comp=N,4μm,1.2s						
SALN	**Salton City**	**2.68**	**150**		**Pn**	**13 12 19.7**	**-1.2**
PMPB	**Monarch Peak**	**2.69**	**284**		**Pn**	**13 12 20.3**	**-0.9**
PRN	**Pahroc Range**	**2.70**	**48**		**Pn**	**13 12 21.1**	**-0.2**
PRN				IAML		13 13 13.8	
	comp=E,5μm,1.3s						
PRN				IAML		13 13 15.7	
	comp=N,5μm,1.4s						
LHV	**Little Huntoon**	**2.73**	**344**		**Pn**	**13 12 22.0**	**+0.4**
LHV				IAML		13 13 11.4	
	comp=E,5μm,1.9s						
LHV				IAML		13 13 21.4	
	comp=N,4μm,1.3s						
CPE	**Camp Elliot**	**2.75**	**172**	IAML		13 13 06.2	
	comp=E,8μm,0.8s						
CPE				IAML		13 13 07.3	
	comp=N,7μm,0.7s						
NV11	**Mina Array Sit**	**2.84**	**351**		**Pn**	**13 12 23.2**	**-0.1**
NVAR	**Mina Array Bea**	**2.86**	**348**	Pn	**Pn**	**13 12 23.4**	**-0.2**
	comp=N,43nm,0.3s,baz=171,slow=12,SNR=642						
NVAR				Pg	**Pb**	**13 12 29.1**	**0.0**
	comp=N,398nm,0.3s,baz=170,slow=17,SNR=100						
NVAR				Lg	Lg	13 13 09.9	
	comp=N,116nm,0.3s,baz=177,slow=31,SNR=4.6						
NVAR				LR	LR	13 13 29.2	
	comp=N,1μm,20.3s,baz=1.5,slow=39 comp=N,115nm,0.7s						
BBGB	**Big Mountain B**	**2.97**	**290**		**Pn**	**13 12 24.5**	**-0.5**
W13A	**Hualapai Mount**	**3.05**	**99**		**Pn**	**13 12 25.3**	**-1.0**
RYN	**Ryan**	**3.10**	**346**		**Pn**	**13 12 26.8**	**0.0**
BLYC	**Blythe**	**3.13**	**126**		**Pn**	**13 12 25.5**	**-1.6**
BLYC				IAML		13 13 18.2	
	comp=N,4μm,0.6s						
BLYC				IAML		13 13 40.5	
	comp=E,3μm,1.1s						
TJX	**Tijuana**	**3.13**	**172**		**Pn**	**13 12 26.7**	**-0.5**
R11B	**Troy Canyon, C**	**3.15**	**30**		**Pn**	**13 12 26.8**	**-0.7**
TKX	**Tecate**	**3.15**	**165**	IAML		13 13 18.1	
	comp=N,4μm,1.1s						
Q09A	**Carvers**	**3.22**	**5**		**Pn**	**13 12 28.7**	**+0.1**
Q09A				IAML		13 13 28.6	
	comp=E,5μm,0.8s						
Q09A				IAML		13 13 49.8	
	comp=N,6μm,1.3s						
WAKR	**Walker**	**3.24**	**333**		**Pn**	**13 12 28.5**	**-0.4**
WAKR				IAML		13 13 30.0	
	comp=N,4μm,1.7s						
WAKR				IAML		13 13 35.1	
	comp=E,3μm,1.2s						
YUH	**Yuha Desert**	**3.27**	**155**		**Pn**	**13 12 27.8**	**-1.2**
YUH				IAML		13 13 22.7	
	comp=N,3μm,1.8s						
YUH				IAML		13 13 24.3	
	comp=E,4μm,2.1s						
CMB	**Columbia Colle**	**3.30**	**318**		**Pn**	**13 12 29.9**	**+0.4**
CMB				IAML		13 13 23.2	
	comp=E,5μm,1.2s						
CMB				IAML		13 13 28.1	
	comp=N,4μm,0.8s						
SAO	**San Andreas Ge**	**3.34**	**291**		**Pn**	**13 12 29.2**	**-0.8**
CBX	**Cerro Bola**	**3.38**	**167**		**Pn**	**13 12 31.0**	**+0.2**
LCMT	**Little Creek M**	**3.76**	**67**		**Pn**	**13 12 36.1**	**+0.2**
ESJX	**Sierra Juarez**	**3.85**	**159**		**Pn**	**13 12 37.2**	**0.0**
ESJX				IAML		13 13 40.6	
	comp=N,3μm,1.3s						
ESJX				IAML		13 13 40.6	
	comp=E,4μm,1.1s						
CCUT	**Cedar City**	**3.89**	**59**		**Pn**	**13 12 38.1**	**+0.3**
CCUT				IAML		13 13 44.1	
	comp=N,1μm,2.1s						
KNB	**Kanab**	**4.08**	**69**		**Pn**	**13 12 40.5**	**+0.2**
KNB				IAML		13 14 05.2	
	comp=N,1μm,2.0s						
KNB				IAML		13 14 08.3	
	comp=E,1μm,2.2s						
SZCU	**Shurtz Canyon**	**4.11**	**60**		**Pn**	**13 12 40.4**	**-0.3**
SZCU				IAML		13 14 04.1	
	comp=E,1μm,2.5s						
Y14A	**Wickenburg**	**4.11**	**113**		**Pn**	**13 12 39.4**	**-1.3**
Y14A				IAML		13 14 00.9	
	comp=E,2μm,1.6s						
Y14A				IAML		13 14 01.1	
	comp=N,2μm,1.6s						
PSUT	**Pine Spring**	**4.15**	**45**		**Pn**	**13 12 41.1**	**-0.3**
PSUT				IAML		13 14 02.5	
	comp=N,2μm,1.9s						
PSUT				IAML		13 14 03.9	
	comp=E,2μm,1.9s						
MPK	**Martis Peak**	**4.16**	**333**		**Pn**	**13 12 41.8**	**+0.3**
SPR3	**Spring Creek 3**	**4.24**	**36**		**Pn**	**13 12 41.2**	**-1.5**
SPR3				IAML		13 13 58.3	
	comp=N,1μm,2.4s						
SPR3				IAML		13 14 15.6	
	comp=E,992nm,2.1s						
113A	**Mohawk Valley,**	**4.25**	**131**		**Pn**	**13 12 40.1**	**-2.3**
113A				IAML		13 14 02.0	
	comp=E,1μm,1.6s						
113A				IAML		13 14 12.2	
	comp=N,1μm,1.3s						
PAHR	**Pah Rah Range**	**4.32**	**341**		**Pn**	**13 12 44.2**	**+0.5**
MCCM	**Marconi Confer**	**4.95**	**302**		**Pn**	**13 12 51.7**	**-0.4**
MCCM				IAML		13 14 19.8	
	comp=N,1μm,1.4s						
MCCM				IAML		13 14 20.9	
	comp=E,2μm,1.5s						
WUAZ	**Wupatki**	**5.05**	**89**		**Pn**	**13 12 53.9**	**+0.2**
WUAZ				IAML		13 14 22.1	
	comp=E,1μm,1.7s						
WUAZ				IAML		13 14 27.4	
	comp=E,970nm,1.7s						
X16A	**Lo Mia Camp, P**	**5.17**	**102**		**Pn**	**13 12 55.4**	**+0.1**
ELK	**Elko**	**5.43**	**19**	Pn	**Pn**	**13 12 59.5**	**+0.5**
	comp=E,8.0nm,0.3s,baz=191,slow=14,SNR=107						
ELK				Lg	Lg	13 14 26.3	
	comp=E,39nm,0.3s,baz=158,slow=5.4,SNR=7.8 comp=E,15nm,0.3s						
TMUT	**Trail Mountain**	**6.25**	**52**		**Pn**	**13 13 10.5**	**+0.3**
X18A	**Snowflake**	**6.34**	**98**		**Pn**	**13 13 12.4**	**+1.0**
TUC	**Tucson**	**6.53**	**118**		**Pn**	**13 13 12.8**	**-1.2**
KHMM	**Horse Mountain**	**7.14**	**319**	Pn	**Pn**	**13 13 21.6**	**-0.7**
YBH	**Yreka Blue Hor**	**7.31**	**328**	Pn	**Pn**	**13 13 28.0**	**+3.4**
	baz=157,slow=9.7,SNR=12						
YBH				Lg	Lg	13 15 20.3	
	comp=E,0.1nm,0.3s,baz=159,slow=6.1,SNR=3.5						
YBH				LR	LR	13 15 56.8	
	comp=E,115nm,19.7s,baz=164,slow=35						
HWUT	**Hardware Ranch**	**7.60**	**36**		**Pn**	**13 13 28.6**	**-0.1**
319A	**Douglas**	**8.11**	**119**		**Pn**	**13 13 35.2**	**-0.5**
J05D	**Fort Rock, OR**	**8.16**	**341**		**Pn**	**13 13 35.8**	**-0.5**
HLID	**Hailey**	**8.29**	**16**	Pn	**Pn**	**13 13 37.3**	**-0.9**
PINE	**Pine Mountain**	**8.56**	**343**		**Pn**	**13 13 41.5**	**-0.4**
I07A	**Izee**	**8.58**	**351**		**Pn**	**13 13 40.9**	**-1.2**
HSIG		**8.64**	**138**	Pn	**Pn**	**13 13 42.1**	**-0.7**
CRNM	**Carthage**	**9.06**	**97**		**Pn**	**13 13 48.5**	**-0.3**
ANMO	**Albuquerque**	**9.11**	**91**	Pn	**Pn**	**13 13 51.2**	**+1.8**
	comp=E,0.3nm,0.3s,baz=355,slow=8.9,SNR=7.0						
ANMO				Lg	Lg	13 16 20.8	
	comp=E,0.5nm,0.3s,baz=288,slow=3.2,SNR=7.5						
ANMO				LR	LR	13 17 55.5	
	comp=E,468nm,18.1s,baz=9.0,slow=42						
PD31	**Pinedale Array**	**9.46**	**39**		**Pn**	**13 13 54.8**	**+0.6**
PDAR	**Pinedale Array**	**9.46**	**39**		**Pn**	**13 13 54.2**	**-0.1**
PDAR	**Pinedale Array**	**9.46**	**39**	Pn	**Pn**	**13 13 56.9**	**+2.7**
	comp=E,0.1nm,0.3s,baz=241,slow=12,SNR=22						
PDAR				Lg	Lg	13 16 31.0	
	baz=227,slow=39 comp=E,3.4nm,0.9s						
PLID	**Pearl Lake**	**9.53**	**7**		**Pn**	**13 13 55.1**	**-0.1**
SDCO	**Great Sand Dun**	**9.92**	**74**	Pn	**Pn**	**13 14 01.0**	**+0.4**
COR	**Corvallis**	**9.97**	**336**	Pn	**Pn**	**13 14 00.6**	**-0.3**
T25A	**Trinidad**	**10.71**	**78**	Pn	**Pn**	**13 14 11.5**	**+0.1**
MNTX	**Cornudas Mount**	**10.88**	**108**		**Pn**	**13 14 13.8**	**+0.2**
K22A	**Casper**	**11.07**	**47**	Pn	**Pn**	**13 14 15.8**	**-0.5**
E03A	**Lebam**	**11.81**	**339**	Pn	**Pn**	**13 14 26.0**	**-0.1**
NEW	**Newport**	**12.64**	**1**	Pn	**Pn**	**13 14 38.8**	**+1.3**
	comp=E,0.1nm,0.3s,baz=184,slow=16,SNR=7.6						
NEW				Lg	Lg	13 18 19.9	
	comp=E,0.1nm,0.3s,baz=180,slow=5.1,SNR=2.1						
NEW				LR	LR	13 19 36.6	
	comp=E,384nm,21.9s,baz=207,slow=38 comp=E,1.9nm,0.6s						
LPIG	**La Paz**	**13.09**	**149**	Lg	Lg	13 18 28.6	
	comp=E,9.2nm,0.3s,baz=24,slow=19,SNR=1.4						
LPIG				LR	LR	13 19 32.3	
	comp=E,698nm,18.6s,baz=342,slow=36						
TXAR	**Lajitas Array**	**13.30**	**114**		**Pn**	**13 14 47.0**	**+0.4**
TXAR	**Lajitas Array**	**13.30**	**114**	Pn	**Pn**	**13 14 47.2**	**+0.5**
	comp=E,0.9nm,0.3s,baz=302,slow=14,SNR=46						
TXAR				Lg	Lg	13 18 34.5	
	comp=E,0.2nm,0.3s,baz=298,slow=30,SNR=6.3						
TXAR				LR	LR	13 19 25.2	
	comp=E,437nm,19.2s,baz=296,slow=35 comp=E,1.6nm,0.4s						
SN05	**Snyder 5**	**14.07**	**96**		**Pn**	**13 14 57.4**	**+0.3**
OZNA	**Ozona**	**14.53**	**104**		**Pn**	**13 15 03.1**	**-0.3**
OZB	**Mount Ozzard**	**14.55**	**339**	Pn	**Pn**	**13 15 01.6**	**-2.0**
CBKS	**Cedar Bluff**	**14.56**	**72**		**Pn**	**13 15 01.5**	**-2.3**
WMOK	**Wichita Mounta**	**15.39**	**88**		**Pn**	**13 15 13.7**	**-1.2**
JCT	**Junction City**	**15.75**	**104**		**Pn**	**13 15 20.1**	**+0.4**
JCT				IAmb	IAmb	13 15 23.7	
	comp=Z,62nm,1.4s						
WTFS	**Witchita Falls**	**15.82**	**91**		**Pn**	**13 15 20.5**	**-0.1**
WTFS				IAmb	IAmb	13 15 26.9	
	comp=Z,38nm,1.2s						
DGMT	**Dagmar**	**16.20**	**33**		**Pn**	**13 15 24.2**	**-1.1**
T35A	**Sooner Cattle**	**17.03**	**79**		**Pn**	**13 15 35.5**	**-0.4**
ECSD	**EROS Data Cent**	**18.02**	**57**	Pn	**Pn**	**13 15 46.0**	**-2.1**
BBB	**Bella Bella**	**18.18**	**339**	LR	LR	13 23 45.0	
	comp=Z,737nm,18.4s,baz=158,slow=40						
ZAIG	**Zacatecas**	**18.29**	**130**		**Pn**	**13 15 49.6**	**-2.2**
P38A	**Dawn**	**19.43**	**71**	P	**P**	**13 16 04.2**	**0.0**
P38A				IAmb	IAmb	13 16 16.7	
	comp=Z,44nm,1.5s						
MIAR	**Mount Ida**	**19.66**	**86**		**P**	**13 16 06.9**	**+0.2**
AGMN	**Agassiz Nation**	**20.43**	**45**	P	**P**	**13 16 13.4**	**-1.6**
AGMN				IAmb	IAmb	13 16 28.9	
	comp=Z,76nm,1.6s						
WHAR	**Wooly Hollow**	**20.58**	**84**	P	**P**	**13 16 16.9**	**+0.2**
FCAR	**Ozark Folk Cen**	**20.64**	**82**	P	**P**	**13 16 17.6**	**+0.2**
FCAR				IAmb	IAmb	13 16 27.9	
	comp=Z,32nm,1.2s						
CCM	**Cathedral Cave**	**21.18**	**76**	P	**P**	**13 16 23.0**	**-0.3**
CCM				IAmb	IAmb	13 16 28.6	
	comp=Z,32nm,1.4s						
LCAR	**Lake Charles**	**21.40**	**81**	P	**P**	**13 16 24.1**	**-1.4**
LCAR				IAmb	IAmb	13 16 36.8	
	comp=Z,29nm,1.4s						
MOIG	**Morelia**	**21.46**	**133**	P	**P**	**13 16 25.7**	**-0.8**
MOIG				IAmb	IAmb	13 16 42.0	
	comp=Z,31nm,0.8s						
FVM	**French Village**	**21.83**	**76**	P	**P**	**13 16 29.2**	**-1.0**
FVM				IAmb	IAmb	13 16 47.2	
	comp=Z,38nm,1.4s						
PBMO	**Poplar Bluff**	**21.91**	**79**	P	**P**	**13 16 29.6**	**-1.4**
PBMO				IAmb	IAmb	13 16 39.4	
	comp=Z,26nm,1.1s						
FFC	**Flin Flon**	**21.94**	**25**	P	**P**	**13 16 29.5**	**-1.7**
V35K	**Ketchikan**	**21.95**	**338**	P	**P**	**13 16 32.3**	**+1.0**
	baz=148						
JFWS	**Jewell Farm**	**22.30**	**63**	P	**P**	**13 16 33.3**	**-1.9**
CRAG	**Craig**	**22.54**	**337**	P	**P**	**13 16 38.2**	**+0.6**
	baz=145						
HDIL	**Hopedale**	**22.74**	**69**	P	**P**	**13 16 38.7**	**-1.2**
T35M	**Bob Quinn**	**23.02**	**342**	P	**P**	**13 16 43.6**	**+0.9**
	baz=153,SNR=6.7						
OXF	**Oxford**	**23.05**	**85**	P	**P**	**13 16 41.2**	**-1.9**
U33K	**Whale Pass**	**23.08**	**337**	P	**P**	**13 16 43.8**	**+0.7**
	baz=146						
WRAK	**Wrangell Islan**	**23.10**	**339**	P	**P**	**13 16 44.0**	**+0.6**
	baz=148,SNR=6.9						
I42A	**Draeger Farm,**	**23.44**	**61**	P	**P**	**13 16 45.8**	**-1.2**
TOAD	**Toad River Com**	**23.78**	**350**	P	**P**	**13 16 51.3**	**+1.0**
	baz=164						
COWI	**Conover**	**23.80**	**55**	P	**P**	**13 16 48.7**	**-1.8**
S34M	**Telegraph Cree**	**24.06**	**342**	P	**P**	**13 16 53.1**	**+0.2**
	baz=152						
DLBC	**Dease Lake**	**24.27**	**344**	LR	LR	13 25 45.5	
	comp=Z,84nm,21.5s,baz=138,slow=35						
DLBC	**Dease Lake**	**24.27**	**344**	P	**P**	**13 16 55.0**	**+0.1**
	baz=155						
TBO	**Thunder Bay**	**24.44**	**49**	P	**P**	**13 16 55.4**	**-1.1**
LIRD	**Liard River Hi**	**24.45**	**349**	P	**P**	**13 16 57.1**	**+0.7**
	baz=163						
SIT	**Sitka**	**24.55**	**336**	P	**P**	**13 16 58.0**	**+0.6**
	baz=143						
S32K	**Killisnoo**	**24.65**	**338**	P	**P**	**13 16 58.9**	**+0.6**
	baz=145						
KOTAN	**Kotaneelee Air**	**24.88**	**352**	P	**P**	**13 17 01.2**	**+0.9**
	baz=167,SNR=5.7						
Q32M	**Nakina River**	**25.27**	**342**	P	**P**	**13 17 05.1**	**+1.0**
	baz=151						
R32K	**Eaglecrest**	**25.30**	**339**	P	**P**	**13 17 05.7**	**+1.6**
	baz

M30M	Minto, Yukon	29.52 342	P	P	13 17 43.0	+0.9
	baz=147					
BGLC	Bering Glacier	29.60 334	P	P	13 17 44.0	+1.3
	baz=134					
M29M	Somme Creek	29.85 341	P	P	13 17 47.0	+2.0
	baz=144					
KAIM	Kayak Island	29.89 333	P	P	13 17 46.7	+1.5
	baz=132					
YUK3	Moose Creek	29.89 338	P	P	13 17 47.2	+1.6
	baz=141					
CRQE	Cirque	29.98 335	P	P	13 17 47.7	+1.4
	baz=135					
MAYO	Mayo, Yukon	30.18 344	P	P	13 17 47.4	-0.4
	baz=149					
L29M	L29M	30.31 342	P	P	13 17 50.5	+1.5
	baz=146					
MCARA	McCarthy VSAT	30.41 336	P	P	13 17 51.7	+1.8
	baz=136					
SADO	Sadowa	30.50 61	LR	LR	13 30 51.4	
	comp=Z,534nm,19.1s,baz=276,slow=38					
BVCY	Beaver Creek	30.51 339	P	P	13 17 53.1	+2.3
	baz=141					
BMRM	Bremner River	30.66 334	P	P	13 17 54.6	+2.5
	baz=134					
K29M	Barlow Dome	30.77 343	P	P	13 17 55.4	+2.2
	baz=147					
M27K	Edge Creek, AK	30.77 338	P	P	13 17 54.9	+1.7
	baz=139					
EYAK	Cordova Ski Ar	30.80 333	P	P	13 17 55.7	+2.5
	baz=131					
P23K	Montague Islan	31.08 331	P	P	13 17 57.9	+2.2
	baz=128					
N25K	Chitina, Valde	31.11 335	P	P	13 17 57.9	+1.8
	baz=134					
J30M	Hart River	31.12 344	P	P	13 17 58.1	+1.9
	baz=150					
BCAR	Beaver Creek A	31.28 339	P	P	13 17 57.4	-0.2
L27K	Beaver Creek,	31.29 339	P	P	13 17 58.7	+1.1
	baz=140					
DAWY	Dawson	31.42 342	P	P	13 17 58.8	0.0
DAWY			IAmb	IAmb	13 18 31.2	
	comp=Z,7.4nm,1.2s					
DAWY	Dawson	31.42 342	P	P	13 17 59.5	+0.8
	baz=144					
GLI	Glacier Island	31.52 333	P	P	13 18 00.5	+0.9
	baz=130					
I30M	Mount Dempster	31.70 345	P	P	13 18 02.7	+1.4
	baz=150					
L26K	Log Cabin Wild	31.72 338	P	P	13 18 03.3	+1.9
	baz=138					
H31M	Peel River	31.81 347	P	P	13 18 03.8	+1.6
	baz=154					
HARP	HAARP	31.85 336	P	P	13 18 04.0	+1.5
	baz=134					
SEW	Seward	31.96 330	P	P	13 18 02.8	-0.7
SEW			IAmb	IAmb	13 18 15.9	
	comp=Z,8.6nm,0.9s					
SEW	Seward	31.96 330	P	P	13 18 05.5	+2.0
	baz=126					
PWL	Port Wells	31.97 332	P	P	13 18 03.5	-0.2
PWL			IAmb	IAmb	13 18 13.2	
	comp=Z,10nm,1.2s					
PWL	Port Wells	31.97 332	P	P	13 18 05.5	+1.8
	baz=128					
M24K	Tolsona, Glenn	31.99 335	P	P	13 18 05.2	+1.4
	baz=133					
KDAK	Kodiak Island	32.10 325	LR	LR	13 29 01.4	
	comp=Z,575nm,19.9s,baz=113,slow=32					
KDAK	Kodiak Island	32.10 325	P	P	13 18 06.2	+1.4
	baz=118					
K27K	Chicken	32.11 340	P	P	13 18 05.6	+0.8
	baz=141					
OHAK	Old Harbor	32.18 323	P	P	13 18 07.5	+2.1
	baz=117					
SCM	Sheep Creek Mo	32.22 334	P	P	13 18 07.5	+1.6
	baz=131					
I29M	Ogilvie Camp,	32.24 344	P	P	13 18 08.1	+2.2
	baz=147					
SII	Sitkinak Islan	32.34 322	P	P	13 18 08.4	+1.6
	baz=115					
KNK	Knik Glacier	32.37 333	P	P	13 18 08.5	+1.4
	baz=129					
SCRK	Sand Creek	32.62 339	P	P	13 18 10.9	+1.5
	baz=138					
RC01	Rabbit Creek A	32.66 331	P	P	13 18 11.3	+1.7
	baz=126					
I28M	Miner Creek	32.69 343	P	P	13 18 11.9	+1.9
	baz=145					
RIDG	Independent Ri	32.71 338	P	P	13 18 12.2	+2.2
	baz=136					
PMR	Palmer	32.73 332	P	P	13 18 09.8	-0.4
PMR	Palmer	32.73 332	P	P	13 18 12.1	+1.9
	baz=128					
GHO	Glory Hole Cre	32.76 333	P	P	13 18 10.0	-0.7
EPYK	Eagle Plains	32.77 346	P	P	13 18 12.5	+1.9
	baz=150					
G31M	Satah River	32.80 348	P	P	13 18 13.5	+2.8
	baz=154					
WAT6	Susitna Watana	32.85 335	P	P	13 18 13.8	+2.2
	baz=131					
J26L	Joseph Creek	32.89 340	P	P	13 18 13.5	+1.8
	baz=139					
R18K	Karluk	32.90 323	P	P	13 18 13.7	+2.0
	baz=116					
H29M	Whitestone	32.98 345	P	P	13 18 15.0	+2.7
	baz=148					
CAPN	Captain Cook N	33.03 330	P	P	13 18 15.8	+3.0
	baz=124					
DHY	Denali Highway	33.06 335	P	P	13 18 16.1	+2.8
	baz=132					
Q19K	Cape Douglas,	33.15 326	P	P	13 18 16.8	+2.8
	baz=119					
F31M	Tsiigehtchic	33.19 349	P	P	13 18 16.3	+2.1
	baz=156					
M22K	Willow	33.20 332	P	P	13 18 16.8	+2.5
	baz=127					
G30M	tAoh Zraii Nji	33.21 347	P	P	13 18 16.3	+1.9
	baz=152					
I27K	Kandik River	33.23 342	P	P	13 18 16.5	+1.8
	baz=143					
SUA	Susitna One	33.27 331	P	P	13 18 15.8	+0.7
	baz=126					
O20K	Slope Mountain	33.27 328	P	P	13 18 16.6	+1.6
	baz=122					
WAT1	Susitna Watana	33.30 335	P	P	13 18 16.8	+1.5
	baz=130					
P19K	Oil Pt	33.32 327	P	P	13 18 16.8	+1.4
	baz=120					
I26K	Coal Creek Min	33.40 341	P	P	13 18 17.8	+1.8
	baz=140					
G29M	Pine Creek	33.50 346	P	P	13 18 18.7	+1.8
	baz=149					
J25K	Salcha River,	33.50 339	P	P	13 18 19.4	+2.3
	baz=136					
Q18K	Katmai Hardscr	33.64 325	P	P	13 18 19.7	+1.3
	baz=117					
CUT	Chulitna	33.65 333	P	P	13 18 20.0	+1.7
	baz=128					
F30M	Barrier River	33.69 348	P	P	13 18 20.1	+1.6
	baz=153					
H27K	Steamboat Moun	33.71 343	P	P	13 18 20.5	+1.7
	baz=144					
R17L	Mt. Peulik Vol	33.86 323	P	P	13 18 21.6	+1.4
	baz=114					
SKT	Skwentna	33.88 332	P	P	13 18 18.6	-1.7
SKT	Skwentna	33.88 332	P	P	13 18 21.8	+1.5
	baz=125					
Q17K	Contact Creek	33.89 324	P	P	13 18 22.2	+1.7
	baz=115,SNR=5.5					
INK	Inuvik	33.95 349	LR	LR	13 33 52.5	
	comp=Z,811nm,18.1s,baz=166,slow=39					
INK	Inuvik	33.95 349	P	P	13 18 22.2	+1.4
	baz=156					
MCK	McKinley	34.02 336	P	P	13 18 23.5	+2.0
	baz=131					
O19K	Port Alsworth	34.06 328	P	P	13 18 23.2	+1.4
	baz=120					
ILAR	Eielson Array	34.07 338	P	P	13 18 23.8	+1.9
	comp=Z,1.0nm,0.9s,baz=134,slow=8.2,SNR=11					
ILAR			LR	LR	13 32 08.8	
	comp=Z,357nm,20.8s,baz=156,slow=36					
	comp=Z,1.0nm,0.9s					
P18K	Big Mountain,	34.09 326	P	P	13 18 23.7	+1.6
	baz=117					
G27K	Doyon Strip	34.21 343	P	P	13 18 24.9	+1.8
	baz=144					
PRP	Porcupine Dome	34.21 340	P	P	13 18 22.4	-0.8
PRP			IAmb	IAmb	13 18 33.3	
	comp=Z,11nm,1.6s					
PRP	Porcupine Dome	34.21 340	P	P	13 18 25.3	+2.0
	baz=137					
O18K	Koktuh Hills	34.29 327	P	P	13 18 25.7	+1.9
	baz=118					
TRF	Thorofare Moun	34.31 334	P	P	13 18 25.4	+1.2
	baz=129					
CHGN	Chignik	34.42 320	P	P	13 18 26.6	+1.7
	baz=110					
COLA	College	34.44 338	P	P	13 18 27.2	+2.2
	baz=133					
N19K	Bonanza Creek	34.44 329	P	P	13 18 26.6	+1.3
	baz=120					
M20K	Styx River	34.45 331	P	P	13 18 26.9	+1.6
	baz=123					
F28M	Old Crow	34.48 345	P	P	13 18 27.6	+2.2
	baz=147					
POKR	Poker Plat Res	34.48 338	P	P	13 18 27.8	+2.4
	baz=134					
P17K	Kvichak River	34.55 325	P	P	13 18 28.1	+2.0
	baz=116					
CHNA	Chernabura Isl	34.60 317	P	P	13 18 28.6	+2.1
	baz=106					
NEA2	Nenana	34.63 337	P	P	13 18 24.6	-2.2
NEA2			IAmb	IAmb	13 18 36.2	
	comp=Z,18nm,1.6s					
NEA2	Nenana	34.63 337	P	P	13 18 29.3	+2.6
	baz=132,SNR=5.3					
PPLA	Purkeypile	34.66 333	P	P	13 18 29.1	+1.9
	baz=126,SNR=6.3					
E29M	Blow River	34.75 347	P	P	13 18 30.1	+2.4
	baz=150					
G26K	Porcupine Rive	34.83 342	P	P	13 18 30.9	+2.4
	baz=141,SNR=11					
H25L	Birch Creek	34.84 340	P	P	13 18 31.1	+2.6
	baz=138					
CAST	Castle Rocks	34.93 334	P	P	13 18 32.6	+3.2
	baz=126					
BPAW	Bear Paw Mtn.	34.96 335	P	P	13 18 31.9	+2.3
	baz=128					
M19K	Big River Lodg	34.97 330	P	P	13 18 32.3	+2.6
	baz=122					
N18K	Kilae Creek	34.98 328	P	P	13 18 32.3	+2.4
	baz=118					
L20K	Farewell, AK	35.07 331	P	P	13 18 32.7	+2.1
	baz=123					
I23K	Minto, Yukon-K	35.10 337	P	P	13 18 32.3	+1.6
	baz=132					
H24K	Noodor Dome	35.12 339	P	P	13 18 32.7	+1.7
	baz=134					
SDPT	Sand Point	35.23 318	P	P	13 18 33.5	+1.4
	baz=106					
E28M	Babbage River	35.25 346	P	P	13 18 33.8	+1.7
	baz=148					
CHUM	Lake Minchumin	35.29 334	P	P	13 18 34.0	+1.6
	baz=126					
G25K	Bearman Lake	35.29 341	P	P	13 18 34.1	+1.7
	baz=138					
L19K	White Mountain	35.30 331	P	P	13 18 34.2	+1.6
	baz=121					
E27K	Coleen River	35.32 345	P	P	13 18 34.4	+1.7
	baz=145					
M18K	Stony River	35.34 329	P	P	13 18 34.1	+1.2
	baz=119					
BMAR	Burnt Mountain	35.40 342	P	P	13 18 33.2	-0.2
MLY	Manley	35.46 336	P	P	13 18 35.2	+1.3
	baz=130					
N17K	Nushagak Hills	35.48 327	P	P	13 18 34.9	+0.8
	baz=116					
O16K	Kokwok River B	35.49 325	P	P	13 18 36.3	+2.2
	baz=114					
F26K	Sheenjek River	35.50 343	P	P	13 18 35.6	+1.3
	baz=141,SNR=11					
H23K	Yukon River	35.61 338	P	P	13 18 36.3	+1.2
	baz=132					
G24K	Hadweenzic Riv	35.62 340	P	P	13 18 36.9	+1.7
	baz=136					
K20K	Telida	35.63 333	P	P	13 18 36.9	+1.6
	baz=124					
D28M	Stokes Point	35.72 347	P	P	13 18 38.2	+2.1
	baz=150					
F25K	Christian Rive	35.79 342	P	P	13 18 38.5	+1.7
	baz=139					
I21K	Tanana	35.97 336	P	P	13 18 39.9	+1.7
	baz=128					
M17K	Holitna River	35.98 328	P	P	13 18 39.6	+1.2
	baz=117					
L18K	Granite Mounta	36.06 330	P	P	13 18 40.8	+1.7
	baz=119					
D27M	Malcolm River	36.07 346	P	P	13 18 41.7	+2.5
	baz=147					
J20K	Nowinta River	36.12 334	P	P	13 18 41.3	+1.8
	baz=125					
O15K	Ungalikthiuk R	36.14 324	P	P	13 18 42.0	+2.2
	baz=112					
N16K	Nishlik Lake	36.16 326	P	P	13 18 42.0	+2.0
	baz=115					
E25K	Arctic Village	36.18 343	P	P	13 18 42.2	+2.2
	baz=140					
S12K	Black Hills	36.20 318	P	P	13 18 42.5	+2.2
	baz=105					
H22K	Ishtalitna Cre	36.22 337	P	P	13 18 43.9	+3.4
	baz=130					
F24K	Squaw Lake	36.32 341	P	P	13 18 43.8	+2.5
	baz=136					
G23K	Bananza Creek	36.35 339	P	P	13 18 43.8	+2.2
	baz=132					
M16K	Timber Creek	36.48 327	P	P	13 18 44.9	+2.2
	baz=115					
H21K	Melozitna Rive	36.53 336	P	P	13 18 45.1	+2.0
	baz=128					
J19K	Poorman	36.55 333	P	P	13 18 44.9	+1.7
	baz=123,SNR=5.9					
I20K	Naaghedeneel	36.59 334	P	P	13 18 46.1	+2.6
	baz=125					
N15K	Kwethluk River	36.64 326	P	P	13 18 46.0	+2.0
	baz=113					
L17K	Donlin	36.68 329	P	P	13 18 46.9	+2.5
	baz=117					
J18K	Innoko River	36.69 332	P	P	13 18 46.2	+1.7
	baz=121					
COLD	Coldfoot	36.76 339	P	P	13 18 47.4	+2.5
	baz=133					
O14K	Tigyukauivet M	36.86 324	P	P	13 18 48.7	+2.8
	baz=110					
E24K	Your Creek	36.88 341	P	P	13 18 48.2	+2.1
	baz=136					
G22K	Bettles	36.93 339	P	P	13 18 49.3	+2.9
	baz=131					
C27K	Jago River	36.94 345	P	P	13 18 49.4	+2.9
	baz=143					
K17K	Iditarod	36.95 330	P	P	13 18 49.3	+2.6
	baz=118					
L16K	Owhat River	37.00 328	P	P	13 18 49.6	+2.6
	baz=115					
IMAR	Indian Mountai	37.04 336	P	P	13 18 47.0	-0.4
M15K	Kasigluk River	37.12 326	P	P	13 18 50.5	+2.5
	baz=113					
H20K	Anotleneega Mo	37.13 335	P	P	13 18 50.9	+2.8
	baz=125					
E23K	Chandalar	37.17 341	P	P	13 18 52.1	+3.5
	baz=134					
D25K	Kavik River	37.29 344	P	P	13 18 52.0	+2.5
	baz=140					
G21K	Allakaket	37.29 337	P	P	13 18 51.7	+2.2
	baz=128					
N14K	Kuskokwak Cree	37.30 325	P	P	13 18 52.6	+3.0
	baz=111					
GCSA	Galena City Sc	37.42 333	P	P	13 18 52.7	+2.1
	baz=122					
TOLK	Toolik Lake Re	37.57 341	P	P	13 18 55.5	+3.6
	baz=135					
J17K	VABM Dome	37.59 331	P	P	13 18 55.1	+3.1
	baz=118					
H19K	Roundabout Mou	37.69 335	P	P	13 18 56.8	+4.0
	baz=123					
F21K	Alatna River	37.72 338	P	P	13 18 56.3	+3.1
	baz=129					
M14K	Bethel	37.72 326	P	P	13 18 55.9	+2.8
	baz=111					
D24K	Happy Valley	37.74 342	P	P	13 18 56.0	+2.8
	baz=136					
E22K	Anaktuvuk Pass	37.82 340	P	P	13 18 56.6	+2.5
	baz=132					
L15K	Ungalak Mounta	37.86 327	P	P	13 18 56.7	+2.3
	baz=113					
D23K	Nanushuk River	38.08 341	P	P	13 18 57.2	+1.1
	baz=134					
K15K	Wolf Creek Mou	38.12 328	P	P	13 18 59.0	+2.4
	baz=114					
C24K	Franklin Bluff	38.13 343	P	P	13 18 59.1	+2.5
	baz=137					
J16K	Anvik River	38.15 330	P	P	13 18 58.9	+2.1
	baz=116					
M13K	Dall Lake	38.24 325	P	P	13 18 59.7	+2.1
	baz=109					
G19K	Purcell Mounta	38.25 335	P	P	13 19 01.0	+3.4
	baz=123					
L14K	Kuka Creek	38.26 327	P	P	13 19 00.2	+2.5
	baz=111					
F20K	Avaraart Lake	38.31 337	P	P	13 19 01.6	+3.5
	baz=126					
UNV	Unalaska Valle	38.35 314	P	P	13 19 02.3	+3.8
	baz=98					
I17K	Unalakleet	38.45 331	P	P	13 19 02.9	+3.6
	baz=116					
D22K	Ayikyak River	38.56 340	P	P	13 19 03.8	+3.6
	baz=131					
E21K	Killik River	38.63 339	P	P	13 19 04.5	+3.7
	baz=129					
H17K	Granite Mounta	38.64 333	P	P	13 19 04.4	+3.5
	baz=118					
G18K	Tagagawik	38.66 334	P	P	13 19 04.4	+3.4
	baz=121					
C23K	Itkillik River	38.68 342	P	P	13 19 04.9	+3.8
	baz=135					
F19K	Shaleruckik Mo	38.86 336	P	P	13 19 05.5	+2.9
	baz=123					
JTS	Las Juntas de	38.90 122	LR	LR	13 35 25.3	
	comp=Z,419nm,21.2s,baz=304,slow=37					
J14K	Nanvaranak Lak	39.16 328	P	P	13 19 10.4	+5.2
	baz=112					
G17K	Kiwalik Mounta	39.18 333	P	P	13 19 09.7	+4.3
	baz=118					
C21K	Knifeblade Rid	39.32 340	P	P	13 19 10.6	+4.1
	baz=129					
K13K	Kusilvak Mount	39.35 327	P	P	13 19 10.5	+3.7
	baz=110					
F18K	Selawik	39.37 335	P	P	13 19 10.4	+3.5
	baz=121					
H16K	Elim	39.39 332	P	P	13 19 10.5	+3.4
	baz=116					
SCHQ	Schefferville	39.53 45	LR	LR	13 34 49.3	
	comp=Z,437nm,18.9s,baz=260,slow=35					
B21K	Ikpikpuk River	39.56 341	P	P	13 19 12.4	+3.9
	baz=130					
M11K	Mekoryuk	39.58 324	P	P	13 19 12.0	+3.2
	baz=106					
NIKH	Nikolski High	39.65 312	P	P	13 19 13.0	+3.5
	baz=95					
B22K	Teshekpuk Lake	39.72 342	P	P	13 19 14.7	+4.8
	baz=132					
G16K	Koyuk River	39.76 333	P	P	13 19 14.6	+4.3
	baz=116					
F17K	Baldwin Pennin	39.85 334	P	P	13 19 15.0	+4.1
	baz=119					
D19K	Kuna River	39.89 338	P	P	13 19 13.2	+1.9
	baz=124					
E18K	Tukpahlearik C	40.11 336	P	P	13 19 14.9	+1.8
	baz=120					
G15K	Niukluk	40.24 332	P	P	13 19 16.5	+2.3
	baz=114					
E17K	Hotham Inlet	40.35 335	P	P	13 19 16.8	+1.7
	baz=119					
P08K	Saint George I	40.48 318	P	P	13 19 19.2	+2.9
	baz=99					
B20K	Meade River	40.50 340	P	P	13 19 19.6	+3.3
	baz=127					
A22K	Sinclair Lake	40.55 342	P	P	13 19 20.9	+4.2
	baz=130					
ANM	Nome	40.60 331	P	P	13 19 21.0	+3.8
	baz=112					
RES	Resolute Bay	40.64 9	LR	LR	13 37 24.8	
	comp=Z,343nm,18.9s,baz=246,slow=38					
C19K	Lookout Ridge	40.68 338	P	P	13 19 21.6	+3.7
	baz=123					
F15K	North Star Dit	40.76 332	P	P	13 19 22.2	+3.7
	baz=114					
FRB	Frobisher Bay	40.80 31	LR	LR	13 35 35.1	
	comp=Z,243nm,19.7s,baz=261,slow=35					
C18K	Utukok River	40.93 337	P	P	13 19 23.4	+3.4
	baz=121					
SPIA	Saint Paul Isl	40.95 319	P	P	13 19 24.2	+4.0
	baz=99					
D17K	Noatak River	41.08 336	P	P	13 19 24.8	+3.7
	baz=118					
F14K	Arctic Creek	41.31 332	P	P	13 19 26.7	+3.7
	baz=112					
C17K	DeLong Mountai	41.48 337	P	P	13 19 28.2	+3.8
	baz=118					
B18K	Kokolik River	41.48 338	P	P	13 19 27.6	+3.2
	baz=121					
A19K	Wainwright	41.71 339	P	P	13 19 28.7	+2.4
	baz=123					
TNA	Tin City	41.97 331	P	P	13 19 31.5	+3.1
	baz=110					
C16K	Lisburne Hills	42.10 336	P	P	13 19 33.0	+3.6
	baz=116					
GAMB	Gambell	42.98 328	P	P	13 19 39.9	+3.2
	baz=104					
SJG	San Juan	48.52 97	LR	LR	13 44 21.0	
	comp=Z,164nm,18.8s,baz=281,slow=41					
SFJD	Kangerlussuaq	48.81 29	LR	LR	13 42 31.0	
	comp=Z,158nm,18.1s,baz=258,slow=38					
SHEM	Shemya Is, Ala	49.97 312	LR	LR	13 37 21.0	
	comp=Z,60nm,21.9s,baz=110,slow=31					
ROSC	El Rosal	50.21 117	LR	LR	13 45 26.7	
	comp=Z,166nm,18.3s,baz=342,slow=40					
SDV	Santo Domingo	50.30 110	LR	LR	13 43 28.5	
	comp=Z,388nm,21.4s,baz=290,slow=38					
OTAV	Otavalo	50.62 125	P	P	13 20 35.8	-1.8
OTAV			IAmb	IAmb	13 20 40.6	
	comp=Z,6.9nm,1.1s					
PCRV	Puerto La Cruz	54.18 104	LR	LR	13 47 59.5	
	comp=Z,216nm,18.3s,slow=40					
ATAH	Atahualpa	56.27 131	LR	LR	13 42 58.7	
	comp=Z,193nm,18.3s,baz=323,slow=34					
SEY	Seymchan	58.98 328	LR	LR	13 46 45.6	
	comp=Z,170nm,18.9s,baz=82,slow=36					
PEA0B	Petropavlovsk-	59.49 316	P	P	13 21 39.9	-0.8
PETK	Petropavlovsk-	59.49 316		P	13 21 39.9	-0.9
PETK	Petropavlovsk-	59.49 316	P	P	13 21 40.3	-0.4
	comp=Z,1.5nm,0.7s,baz=66,slow=8.8,SNR=14					
PETK			LR	LR	13 46 32.5	
	comp=Z,41nm,18.7s,baz=69,slow=35					
	comp=Z,1.5nm,0.7s					
MA2	Magadan	60.85 324	P	P	13 21 48.5	-1.4
MA2	Magadan	60.85 324	LR	LR	13 46 58.0	
	comp=Z,154nm,21.3s,baz=64,slow=35					
BORG	Borgarnes	60.93 29	LR	LR	13 46 28.2	
	comp=Z,238nm,18.1s,baz=297,slow=34					
PPT2	Papeete2	61.00 215	eLR	LR	13 39 43.8	
	comp=Z,88nm,25.2s					
NNA	Nana	61.02 133	LR	LR	13 46 25.2	
	comp=Z,123nm,18.4s,baz=330,slow=34					
BOAV	Boa Vista	62.17 109	P	P	13 21 58.2	-1.2
BOAV			IAmb	IAmb	13 22 14.1	
	comp=Z,9.9nm,1.4s					
SPITS	Spitsbergen Ar	63.20 10	LR	LR	13 50 02.8	
	comp=Z,305nm,19.1s,baz=316,slow=36					
TIXI	Tiksi	63.46 341	LR	LR	13 52 16.8	
	comp=Z,133nm,18.2s,baz=103,slow=38					
TBI	Tubuai	65.97 212	eLR	LR	13 42 03.2	
	comp=Z,465nm,29.2s					
MDP	Montagnes des	66.72 101	LR	LR	13 54 15.5	
	comp=Z,63nm,20.6s,baz=290,slow=38					
YAK	Yakutsk	68.73 332	LR	LR	13 53 05.3	
	comp=Z,172nm,18.7s,baz=47,slow=36					
LPAZ	La Paz	69.69 129	P	P	13 22 46.2	-2.3
LPAZ			IAmb	IAmb	13 22 55.4	
	comp=Z,8.6nm,1.4s					
LPAZ	La Paz	69.69 129	P	P	13 22 47.3	-1.2
	comp=Z,1.6nm,0.8s,baz=332,slow=0.5,SNR=5.1					
LPAZ			LR	LR	13 52 23.6	
	comp=Z,104nm,18.2s,baz=322,slow=35					
	comp=Z,1.6nm,0.8s					
ARCES	ARCESS Array B	71.71 13	LR	LR	13 56 57.0	
	comp=Z,134nm,19.1s,baz=310,slow=38					
EKA	Eskdalemuir Ar	73.53 33	P	P	13 23 10.4	-0.1
	comp=Z,0.6nm,0.7s,baz=286,slow=5.7,SNR=1.9					
	comp=Z,0.6nm,0.7s					
PB06	IPOC Station P	73.69 134	P	P	13 23 10.9	-1.0
NRIK	Noril'sk	73.72 351	P	P	13 23 10.5	-0.8
NRIK			IAmb	IAmb	13 23 19.8	
	comp=Z,6.0nm,1.1s					
NRIK	Noril'sk	73.72 351	LR	LR	13 57 36.8	

	comp=Z,86nm,20.2s,baz=40,slow=37					
SIV	**San Ignacio**	**74.11 124**	LR	LR	13 55 02.8	
	comp=Z,92nm,20.4s,baz=294,slow=35					
NB2	**NORSAR Subarra**	**75.04 23**	P	P	13 23 24.3	+5.1
	comp=Z,1.9nm,0.8s,baz=320,slow=5.9					
NOA	**NORSAR Array B**	**75.04 23**	P	**P**	**13 23 21.1**	**+2.0**
	comp=Z,0.9nm,0.9s,baz=318,slow=5.8,SNR=4.7					
NOA			LR	LR	13 57 17.0	
	comp=Z,99nm,18.6s,baz=330,slow=36					
	comp=Z,0.9nm,0.9s					
PTLB	**Pontes e Lacer**	**75.06 122**	P	**P**	**13 23 19.6**	**-0.2**
PTLB			IAmb	IAmb	13 23 29.2	
	comp=Z,12nm,1.7s					
HFS	**Hagfors**	**76.52 23**	P	**P**	**13 23 28.6**	**+0.9**
	comp=Z,2.6nm,1.0s,baz=318,slow=4.1,SNR=4.0					
HFS			LR	LR	13 58 45.4	
	comp=Z,207nm,18.4s,baz=314,slow=37					
	comp=Z,2.6nm,1.0s					
HEH	**HeiHe**	**77.09 323**	*e*P	**P**	**13 23 30.7**	**-0.3**
FINES	**FINESS Array B**	**78.86 17**	P	**P**	**13 23 40.0**	**-0.6**
FINES	**FINESS Array B**	**78.86 17**	LR	LR	14 01 02.8	
	comp=Z,168nm,18.8s,baz=4.5,slow=38					
BNX	**BinXian**	**80.06 320**	⇓P	**P**	**13 23 49.2**	**+1.7**
BNX			pmax	pmax		
	comp=Z,8.0nm,1.0s					
BDFB	**Brasilia**	**83.17 115**	LR	LR	14 03 52.5	
	comp=Z,96nm,21.6s,baz=316,slow=38					
ESDC	**Sonseca Array**	**83.28 45**	P	**P**	**13 24 05.7**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=309,slow=4.3,SNR=5.5					
ESDC			LR	LR	13 58 16.4	
	comp=Z,51nm,18.1s,baz=300,slow=34					
	comp=Z,0.2nm,0.5s					
CPUP	**Villa Florida**	**83.85 128**	LR	LR	14 01 15.1	
	comp=Z,22nm,20.2s,baz=204,slow=36					
KSRS	**Korea Array**	**85.29 313**	P	**P**	**13 24 17.8**	**+2.9**
	comp=Z,0.4nm,0.5s,baz=46,slow=5.3,SNR=2.8					
	comp=Z,0.4nm,0.5s					
GERES	**GERESS Array B**	**85.39 30**	LR	LR	14 02 55.6	
	comp=Z,136nm,19.4s,baz=304,slow=36					
KIRV	**Kirov**	**85.52 7**	LR	LR	14 06 20.2	
	comp=Z,79nm,18.1s,baz=349,slow=38					
VRAC	**Vranov**	**86.16 28**	LR	LR	14 03 47.2	
	comp=Z,127nm,20.8s,baz=313,slow=36					
JNU	**Nakatsue**	**86.32 309**	LR	LR	13 58 36.2	
	comp=Z,38nm,19.4s,baz=47,slow=33					
PLCA	**Paso Flores**	**87.41 146**	LR	LR	13 56 28.3	
	comp=Z,58nm,18.9s,baz=328,slow=31					
SONM	**Songino Array**	**88.09 332**	P	**P**	**13 24 29.7**	**+1.2**
	comp=Z,0.9nm,0.9s,baz=40,slow=2.5,SNR=4.5					
SONM			LR	LR	14 04 54.7	
	comp=Z,132nm,18.9s,baz=27,slow=36					
	comp=Z,0.9nm,0.9s					
GUMO	**Guam**	**88.22 285**	LR	LR	14 04 45.1	
	comp=Z,31nm,18.5s,baz=75,slow=36					
ARTI	**Arti**	**88.28 2**	LR	LR	14 10 13.3	
	comp=Z,85nm,18.4s,baz=356,slow=40					
ZALV	**Zalesovo Beam**	**88.72 347**	P	**P**	**13 24 31.1**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=33,slow=3.4,SNR=9.4					
ZALV			LR	LR	14 11 09.3	
	comp=Z,61nm,18.2s,baz=16,slow=40					
	comp=Z,0.7nm,0.4s					
AKASG	**Malin Array Be**	**89.19 20**	P	**P**	**13 24 34.2**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=332,slow=3.7,SNR=4.5					
	comp=Z,0.1nm,0.3s					
BBTS	**Babate**	**90.29 72**	LR	LR	14 00 30.0	
	comp=Z,95nm,19.8s,baz=197,slow=32					
BELG	**Belogornoye**	**91.40 9**	LR	LR	14 09 19.8	
	comp=Z,155nm,18.4s,baz=354,slow=38					
BVAR	**Borovoye Array**	**91.45 355**	P	**P**	**13 24 44.6**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=17,slow=6.0,SNR=1.8					
BVAR			LR	LR	14 09 57.3	
	comp=Z,134nm,20.9s,baz=1.7,slow=38					
	comp=Z,0.5nm,0.3s					
HHC	**Hu-ho-hao-te**	**91.52 325**	*e*P	**P**	**13 24 41.4**	**-3.3**
HHC	**Hu-ho-hao-te**	**91.52 325**	*e*P	**P**	**13 24 48.5**	**+3.8**
HHC			pmax	pmax		
	comp=Z,13nm,0.7s					
HHC			pmax	pmax		
	comp=Z,45nm,4.3s					
HHC			pmax	pmax		
	comp=Z,12nm,0.7s					
HHC			pmax	pmax		
	comp=Z,43nm,4.0s					
DZM	**Mont Dzumac**	**91.93 244**	*e*LR	LR	13 54 08.1	
	comp=Z,61nm,25.6s					
MLR	**Muntele Rosu**	**92.78 25**	LR	LR	14 09 42.1	
	comp=Z,201nm,18.4s,baz=301,slow=38					
KURBB	**Kurchatov Arra**	**92.96 350**	P	**P**	**13 24 51.4**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=13,slow=4.4,SNR=8.6					
	comp=Z,0.4nm,0.6s					
NJ2	**Nanjing**	**94.38 315**	*e*P	**P**	**13 24 57.8**	**-0.1**
NJ2			pmax	pmax		
	comp=Z,5.0nm,0.5s					
VAE	**Valguarnera**	**94.71 36**	LR	LR	14 06 40.0	
	comp=Z,73nm,18.6s,baz=148,slow=35					
ABKAR	**Akbulak array**	**95.47 2**	P	**P**	**13 25 02.6**	**+0.1**
MKAR	**Makanchi Array**	**96.04 346**	LR	LR	14 14 28.9	
	comp=Z,106nm,18.7s,baz=312,slow=39					
LZH	**Lanzhou**	**98.91 327**	*e*P	**P**	**13 25 17.8**	**-0.8**
LZH			pP	sP	13 25 23.7	-0.3
LZH			pmax	pmax		
	comp=Z,21nm,1.3s					
LZH			LR	LR		
	comp=N,190nm,16.1s					
LZH			LR	LR		
	comp=E,150nm,16.5s					
LZH			LR	LR		
	comp=Z,260nm,16.8s					
KBZ	**Khabaz**	**99.04 14**	LR	LR	14 12 59.0	
	comp=Z,109nm,18.1s,baz=358,slow=37					
PZH	**PanZhiHua**	**107.91 323**	PKP	**PKiKP**	**13 30 04.7**	**-1.3**
WRA	**Warramunga Arr**	**115.76 263**	PKP	**PKiKP**	**13 30 22.9**	**+2.1**
	comp=Z,0.5nm,0.8s,baz=59,slow=2.1,SNR=6.1					
ASAR	**Alice Springs**	**117.96 260**	PKP	**PKPdf**	**13 30 24.9**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=71,slow=2.2,SNR=6.2					
MATP	**Matopo**	**146.63 72**	PKPbc	**PKPbc**	**13 31 19.6**	**-0.5**
	comp=Z,2.5nm,1.0s,baz=336,slow=1.7,SNR=6.1					
MAW	**Mawson**	**147.97 180**	PKPbc	**PKPbc**	**13 31 22.5**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=193,slow=4.8,SNR=6.0					

NEIC ***12*** *13:13:18.8±0.6, 35°.64N±0°.01×117°.59W±0°.01, h10km±1km, Error ellipse: s-maj=2.8km s-min=2.3km az=160.0*

PAS 12 13:13:19.2±0.5, 35°.64N±0°.01×117°.58W±0°.01, h11km±2km, ML3.1/9, ML3.2/22(NEIC), Error ellipse: s-maj=2.0km s-min=1.7km az=172.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.08**	**116**		Pg	13 13 21.7	-0.2
WSHM					Sg	13 13 23.4	-0.3
SRTC	**Snort**	**0.15**	**293**		Pg	13 13 22.9	+0.2
LRMC	**Laurel Mtn Rad**	**0.17**	**207**	Pg	Pg	13 13 23.0	-0.2
LRMC				Sg	Sg	13 13 25.7	-0.2
WNMM	**Nine Mile Cany**	**0.33**	**308**		Pg	13 13 25.9	0.0
WNMM					Sg	13 13 30.5	+0.1
WVPM	**Volcano Peak E**	**0.37**	**329**		Sg	13 13 31.6	0.0
JRC2	**Joshua Ridge**	**0.39**	**332**		Sg	13 13 32.5	+0.2
MPMC	**Manual Prospec**	**0.43**	**10**	Pg	Pg	13 13 27.4	-0.4
MPMC				IAML		13 13 32.5	
	comp=E,1μm,1.5s						
MPMC				IAML		13 13 41.6	
	comp=N,2μm,2.1s						
WBSM	**Bird Springs**	**0.46**	**258**		Pg	13 13 28.0	-0.4
WBSM					Sg	13 13 34.4	-0.2
WORM	**Onyx Ranch**	**0.54**	**277**		Pg	13 13 29.2	-0.6
WORM					Sg	13 13 36.4	-0.6
WHFM	**Hanning Flat**	**0.63**	**276**		Pg	13 13 30.8	-0.6
TPO	**Tropico Hills**	**0.92**	**215**		Pb	13 13 37.2	0.0
TPO				IAML		13 13 44.3	
	comp=N,2μm,1.6s						
TEJ	**El Tejon**	**0.99**	**246**		Sg	13 13 50.8	-0.4
GRAC	**Grapevine Rang**	**1.37**	**7**	Pn	Pn	13 13 44.2	-0.1
S11A	**Rachel**	**2.49**	**36**	Pn	Pn	13 13 59.5	-0.3
NVAR	**Mina Array Bea**	**2.85**	**349**	Pn	Pn	13 14 04.6	-0.2

NEIC ***12*** *13:16:57.0±1.3, 20°.72N±0°.02×154°.82W±0°.03, h10km±1km, Error ellipse: s-maj=5.9km s-min=2.9km az=244.0*

HVO 12 13:17:01.5±1.5, 20°.72N±0°.05×154°.77W±0°.06, h20km±8km, ML3.1/40, ML3.0/50(NEIC), Error ellipse: s-maj=10.3km s-min=5.5km az=49.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPAH	**Hawaii Prepara**	**1.10**	**232**		Pn	13 17 18.0	-4.0
HPAH	**Hawaii Prepara**	**1.10**	**232**		Sb	13 17 30.7	-5.4
HPAH				IAML		13 17 32.1	
	comp=N,351nm,0.4s						
MHA	**Mahukona**	**1.18**	**244**		Pn	13 17 19.3	-3.7
MHA					Sb	13 17 32.9	-5.3
POHA	**Pohakuloa**	**1.19**	**217**		Sb	13 17 33.0	-5.7
POHA	**Pohakuloa**	**1.19**	**217**		Pn	13 17 19.4	-3.9
POHA				IAML		13 17 34.0	
	comp=N,268nm,0.8s						
HMH	**Humu'ula Sheep**	**1.29**	**211**		Pn	13 17 21.4	-3.4
HMH	**Humu'ula Sheep**	**1.29**	**211**		Sn	13 17 36.6	-5.1
HMH				IAML		13 17 36.7	
	comp=E,390nm,0.3s						
HMH				IAML		13 17 37.3	
	comp=N,330nm,0.1s						
JOKA	**Jonika Flow**	**1.29**	**190**		Pn	13 17 20.9	-3.7
JOKA					Sn	13 17 35.2	-6.1
RSD	**Rainshed**	**1.33**	**201**		Pn	13 17 24.1	-1.1
RSD	**Rainshed**	**1.33**	**201**		Sn	13 17 36.6	-5.9
MLH	**Mauna Loa**	**1.35**	**205**		Pn	13 17 21.8	-3.6
MLH					Sn	13 17 36.9	-6.0
MLH	**Mauna Loa**	**1.35**	**205**	IAML		13 17 38.5	
	comp=N,254nm,0.1s						
NPOC	**North of Pu'u**	**1.35**	**194**		Pn	13 17 21.6	-3.8
NPOC					Sn	13 17 36.5	-6.3
JCUZ	**Jacuzzi**	**1.36**	**193**		Pn	13 17 21.7	-3.8
JCUZ					Sn	13 17 36.9	-6.2
SBLHI	**Steaming Bluff**	**1.36**	**200**		Pn	13 17 21.7	-3.9
SBLHI					Sn	13 17 37.0	-6.2
STCH	**Steam Cracks**	**1.37**	**194**		Pn	13 17 21.8	-3.8
STCH					Sn	13 17 36.8	-6.3
HATHI	**Halema'uma'u T**	**1.37**	**200**		Pn	13 17 21.8	-3.9
HATHI	**Halema'uma'u T**	**1.37**	**200**		Sn	13 17 36.8	-6.4
HATHI				IAML		13 17 46.8	
	comp=N,245nm,1.8s						
HATHI				IAML		13 17 47.7	
	comp=E,220nm,0.8s						
UWB	**Uwekahuna Bluf**	**1.37**	**200**		Pn	13 17 21.5	-4.2
UWB					Sn	13 17 37.3	-6.1
BYL	**Byron's Ledge**	**1.38**	**200**		Pn	13 17 21.8	-4.0
BYL	**Byron's Ledge**	**1.38**	**200**	Sn	Sn	13 17 39.8	-3.7
BYL				IAML		13 17 41.9	
	comp=N,206nm,2.6s						
BYL				IAML		13 17 44.7	
	comp=E,234nm,2.3s						
OBL	**Observatory Le**	**1.38**	**201**		Pn	13 17 22.0	-3.8
OBL					Sn	13 17 37.5	-6.1
UWE	**Uwekahuna**	**1.38**	**201**		Pn	13 17 22.0	-3.8
UWE					Sn	13 17 37.4	-6.2
HLK	**Haleakala**	**1.38**	**272**		Pn	13 17 21.4	-4.5
HLK					Sn	13 17 38.0	-5.9
KNHH	**Kane Nui o Ham**	**1.38**	**196**		Pn	13 17 22.1	-3.8
KKO	**Keanakako'i**	**1.39**	**200**		Pn	13 17 22.1	-3.9
KKO					Sn	13 17 37.6	-6.3
WRMHI	**West Rim**	**1.40**	**201**		Pn	13 17 22.1	-4.0
WRMHI					Sn	13 17 37.3	-6.6
RIM	**Rim**	**1.40**	**200**		Pn	13 17 22.2	-3.9
RIM					Sn	13 17 37.5	-6.5
PUH	**Pauahi**	**1.40**	**197**		Pn	13 17 22.3	-3.8
PUH					Sn	13 17 37.6	-6.4
PUH	**Pauahi**	**1.40**	**197**	IAML		13 17 41.2	
	comp=N,282nm,0.4s						
SDHHI	**Sand Hill**	**1.41**	**200**		Pn	13 17 22.3	-3.9
SDHHI					Sn	13 17 38.0	-6.3
ALEP	**Alea Permanent**	**1.43**	**215**		Pn	13 17 23.3	-3.4
ALEP					Sn	13 17 39.5	-5.6
HUH	**Hualalai**	**1.43**	**224**		Pn	13 17 23.4	-3.3
MWH	**Mokuaweoweo**	**1.45**	**212**		Pn	13 17 23.4	-3.7
MWH	**Mokuaweoweo**	**1.45**	**212**		Sn	13 17 40.3	-5.5
MWH				IAML		13 18 14.1	
	comp=N,286nm,1.9s						
AIN	**Ainahou**	**1.48**	**206**		Pn	13 17 23.7	-3.6
AIN	**Ainahou**	**1.48**	**206**		Sn	13 17 41.0	-5.3
AIN				IAML		13 17 56.9	
	comp=E,184nm,1.6s						
HLP	**Hilina Pali**	**1.50**	**200**		Pn	13 17 23.5	-4.0
HLP	**Hilina Pali**	**1.50**	**200**	IAML		13 17 55.9	
	comp=N,307nm,2.4s						
KHLU	**Kahalu`u**	**1.54**	**223**		Pn	13 17 24.1	-3.9
KHLU					Sn	13 17 41.4	-6.1
KHLU	**Kahalu`u**	**1.54**	**223**	IAML		13 17 44.8	
	comp=N,161nm,0.3s						
KHLH	**Kahului Airpor**	**1.56**	**277**		Sn	13 17 41.9	-5.9
KHLH	**Kahului Airpor**	**1.56**	**277**		Pn	13 17 24.0	-4.2
KHLH				IAML		13 17 42.8	
	comp=E,208nm,0.4s						
KKH	**Kailua Kona**	**1.58**	**228**		Pn	13 17 24.7	-3.7
KKH					Sn	13 17 42.4	-5.8
HTC	**Hot Caves**	**1.58**	**202**		Pn	13 17 24.8	-3.7
CPH	**Captain Cook**	**1.63**	**222**		Pn	13 17 25.3	-3.8
KHU	**Kahuku**	**1.66**	**209**		Pn	13 17 25.9	-4.0
KHU					Sn	13 17 43.9	-6.8
KHU	**Kahuku**	**1.66**	**209**	IAML		13 17 51.9	
	comp=N,180nm,2.1s						
WMR	**Waimanalo Ridg**	**2.79**	**283**		Sn	13 18 10.3	-7.8
OPA	**Opana**	**3.17**	**288**		Pn	13 17 46.6	-3.8
OPA					Sn	13 18 20.9	-6.8

IDC ***12*** *13:19:18.5±1.6, 0°.52N×126°.25E, h0km, mb3.9/4, mbtmp3.8/5, ML3.1/1, Error ellipse: s-maj=122.7km s-min=20.0km az=68.0*

NEIC ***12*** *13:19:24.3±0.2, 0°.5N±0°.1×126°.38E±0°.09, h35km±2km, mb4.1/11, Error ellipse: s-maj=19.3km s-min=13.5km az=149.0*

ISC 12 13:19:24.7±0.8, 0°.48N±0°.09×126°.4E±0°.1, h47km, n20, σ0°85/20, mb4.2/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.01**	**73**		**Pn**	**13 19 41.9**	**-0.6**
KNRA	**Kununurra**	**16.22**	**172**	Pn	**Pn**	**13 23 09.4**	**-0.1**
KNRA				IAmb	IAmb	13 23 47.5	
	comp=Z,23nm,1.5s						
FITZ	**Fitzroy Crossi**	**18.48**	**182**	P	**Pn**	**13 23 37.0**	**-0.4**
	baz=3.2,slow=18,SNR=0.7						
	comp=Z,0.7nm,0.9s						
WB0	**Warramunga Arr**	**21.59**	**159**	P	**P**	**13 24 11.0**	**+0.3**
WB0				IAmb	IAmb	13 24 37.8	
	comp=Z,14nm,1.4s						
WRAB	**Tennant Creek**	**21.73**	**159**	P	**P**	**13 24 12.6**	**+0.4**
WRAB				IAmb	IAmb	13 24 26.4	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**21.73**	**159**	P	**P**	**13 24 10.2**	**-2.1**
WRA	**Warramunga Arr**	**21.73**	**159**	P	**P**	**13 24 12.0**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=337,slow=10,SNR=12						
	comp=Z,1.5nm,0.7s						
WB2	**Warramunga Arr**	**21.74**	**159**	P	**P**	**13 24 13.2**	**+0.9**
WB2				IAmb	IAmb	13 24 17.4	
	comp=Z,6.1nm,1.2s						
WR8	**Warramunga Arr**	**21.80**	**159**	P	**P**	**13 24 13.3**	**+0.3**
WR8				IAmb	IAmb	13 24 13.6	
	comp=Z,5.2nm,1.1s						
WR0	**Warramunga Arr**	**21.82**	**159**	P	**P**	**13 24 13.5**	**+0.3**
WR0				IAmb	IAmb	13 24 28.3	
	comp=Z,15nm,1.4s						
COEN	**Coen**	**21.95**	**131**	P	**P**	**13 24 15.2**	**+0.6**
COEN				IAmb	IAmb	13 24 44.5	
	comp=Z,20nm,1.4s						
AS31	**Alice Springs**	**25.08**	**164**	P	**P**	**13 24 45.5**	**+0.4**
ASAR	**Alice Springs**	**25.08**	**164**	P	**P**	**13 24 46.4**	**+1.3**
ASAR	**Alice Springs**	**25.08**	**164**	P	**P**	**13 24 46.0**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=344,slow=11,SNR=38						
	comp=Z,0.6nm,0.3s						
STKA	**Stephens Creek**	**35.25**	**157**	P	**P**	**13 26 14.5**	**-0.4**
KS19	**Wonju Array Si**	**36.87**	**2**	P	**P**	**13 26 28.1**	**-0.6**
PETK	**Petropavlovsk-**	**58.55**	**22**	P	**P**	**13 29 18.0**	**+1.5**
MKAR	**Makanchi Array**	**60.05**	**326**	P	**P**	**13 29 26.6**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=132,slow=8.0,SNR=9.3						
	comp=Z,0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**64.30**	**328**	P	**P**	**13 29 54.7**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=127,slow=5.8,SNR=4.1						
	comp=Z,0.8nm,0.3s						
ABKAR	**Akbulak array**	**74.46**	**321**	P	**P**	**13 30 58.2**	**+0.1**

IDC 12 13:30:00.3±1.2, 59°.64N×16°.22E, h0km, mbtmp2.9/2, ML1.6/3, Error ellipse: s-maj=15.6km s-min=8.6km az=24.0, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**1.36**	**292**	Pg	Pg	13 30 25.4	-1.0
	0.3nm,0.3s,baz=109,slow=13,SNR=18						
HFS				Lg	Lg	13 30 43.5	
	0.6nm,0.3s,baz=109,slow=31,SNR=15						
HFS				Rg	Rg	13 30 51.4	
	13nm,0.9s,baz=106,slow=33,SNR=16						
NOA	**NORSAR Array B**	**2.85**	**302**	Pn	Pn	13 30 47.5	+0.3
	baz=120,slow=18,SNR=1.7						
NOA				Lg	Lg	13 31 27.1	
	baz=120,slow=22,SNR=5.8						
FINES	**FINESS Array B**	**5.19**	**65**	Pn	Pn	13 31 18.3	-0.8
	0.1nm,0.3s,baz=248,slow=22,SNR=2.0						
	0.4nm,0.4s						
GERES	**GERESS Array B**	**10.92**	**189**	Pn	Pn	13 32 35.8	-2.0
	baz=6.5,slow=18,SNR=1.9						
	0.2nm,0.3s						

BER ***12*** *13:30:54.4±0.4, 67°.70N×34°.31E, h0km, ML1.5, Suspected explosion*

HEL ***12*** *13:31:00.4±0.2, 68°.12N×33°.18E, h0km, ML1.7, Explosion Hypocentre not reviewed by the ISC*

KOLA ***12*** *13:31:01.1, 68°.12N×33°.24E, h0km, ML2.0, Error ellipse: s-maj=2.9km s-min=1.5km az=100.0, Olenegorsk City, Mines*

IDC ***12*** *13:31:02.7±2.8, 68°.22N×32°.91E, h0km, mbtmp2.9/4, ML2.0/4, Error ellipse: s-maj=32.1km s-min=11.9km az=63.0*

ISC 12 13:30:58.8±0.8, 68°.09N±0°.03×33°.22E±0°.04, h0km, n18, σ1§17/27, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.49**	**190**	P	**Pb**	**13 31 09.9**	**-0.5**
APA0				S	**Sb**	**13 31 16.9**	**-1.2**
APA	**Apatity**	**0.53**	**172**	P	**Pb**	**13 31 10.8**	**-0.2**
APA				S	**Sb**	**13 31 18.4**	**-0.6**
LVZ	**Lovozero**	**0.57**	**109**	P	**Pb**	**13 31 11.4**	**-0.3**
LVZ				S	**Sb**	**13 31 19.9**	**-0.5**
LVZ	**Lovozero**	**0.57**	**109**	PG		13 31 11.7	
LVZ				SG		13 31 18.8	
TERR	**Teriberka**	**1.31**	**31**	P	**Pg**	**13 31 23.6**	**-0.3**
TERR				S	**Sg**	**13 31 40.5**	**-0.5**
VRF	**Varrio**	**1.41**	**258**	PG		13 31 25.8	
VRF				MSG		13 31 42.9	
	comp=Z,6.0nm,0.2s						
VRF				SG		13 31 44.2	
KVDA	**Kovda**	**1.41**	**186**	P	**Pb**	**13 31 26.4**	**+0.4**
KVDA				S	**Sn**	**13 31 46.6**	**+1.7**
RAJF	**Raja-Jooseppi**	**1.87**	**284**	PG		13 31 33.4	
RAJF				SG		13 31 56.9	
OLKF	**Oulanka, Finla**	**2.32**	**222**	PB		13 31 40.8	
OLKF				MSG		13 32 10.1	
	comp=Z,2.7nm,0.2s						
OLKF				SG		13 32 12.2	
KU6	**Riekki**	**2.45**	**214**	PN		13 31 42.8	
KU6				MSG		13 32 14.0	
	comp=Z,1.2nm,0.2s						
KU6				SG		13 32 18.1	
VADS	**Vadso**	**2.46**	**328**	P	**Pn**	**13 31 41.5**	**+1.3**
VADS				S	**Sb**	**13 32 13.0**	**-1.8**
VADS	**Vadso**	**2.46**	**328**	*e*P	**Pn**	**13 31 41.4**	**+1.3**
VADS				IAML		13 32 23.6	
	comp=Z,5.1nm,1.1s						
MSF	**Maaselka**	**2.74**	**219**	PN		13 31 46.8	
MSF				SG		13 32 24.6	
KEV	**Kevo**	**2.80**	**310**	*e*P	**Pn**	**13 31 46.5**	**+1.8**
KEV	**Kevo**	**2.80**	**310**	PB		13 31 46.7	
	baz=120						
KEV				SB		13 32 20.7	
KEV				MSG		13 32 21.2	
	comp=Z,5.0nm,0.2s						
KU1	**Kurvinen**	**2.92**	**211**	PB		13 31 50.8	
KU2	**Taivalkoski**	**3.10**	**222**	PB		13 31 53.9	
ARA0	**ARCESS Array S**	**3.15**	**301**	*e*P	**Pn**	**13 31 50.9**	**+1.2**
ARA0				IAML		13 32 35.5	
	comp=Z,1.5nm,0.2s						
ARA0	**ARCESS Array S**	**3.15**	**301**	PN		13 31 51.2	
	baz=109						
ARA0				SG		13 32 34.6	
ARCES	**ARCESS Array B**	**3.15**	**301**	P	**Pn**	**13 31 50.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=115,slow=15,SNR=23						
ARCES				Pg	**Pb**	**13 31 56.6**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=119,slow=14,SNR=6.8						
ARCES				Sn	**Sn**	**13 32 28.3**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=114,slow=27,SNR=4.0						
ARCES				Lg	Lg	13 32 35.2	
	comp=Z,0.4nm,0.3s,baz=110,slow=34,SNR=10						
	comp=Z,2.7nm,0.9s						
ARCES	**ARCESS Array B**	**3.15**	**301**	P	**Pn**	**13 31 51.0**	**+1.3**
ARCES				S	**Sn**	**13 32 27.8**	**-0.2**
RNF	**Rovaniemi**	**3.16**	**245**	PN		13 31 51.4	
	baz=60						
RNF				SN		13 32 29.9	
RANF	**Ranua**	**3.27**	**233**	PN		13 31 52.8	
	baz=46						
HEF	**Hetta**	**3.57**	**280**	*e*P	**Pn**	**13 31 55.9**	**+0.5**
HEF	**Hetta**	**3.57**	**280**	PN		13 31 56.3	
HEF				SG		13 32 48.8	
KLF	**Kolari**	**3.64**	**261**	PN		13 31 57.6	
KLF				SG		13 32 53.9	
KTK1	**Kautokeino**	**3.78**	**289**	*e*P	**Pn**	**13 31 59.2**	**+0.9**
KTK1				IAML		13 32 59.2	
	comp=Z,2.6nm,0.6s						
KTK1	**Kautokeino**	**3.78**	**289**	PN		13 31 59.5	
KTK1				SG		13 32 55.6	
PAJU	**Pajala**	**4.02**	**259**	PN		13 32 02.8	
PAJU				SN		13 32 50.7	
RMF	**Romuvaara**	**4.11**	**200**	PN		13 32 04.1	
LANU	**Lannavaara**	**4.21**	**275**	PN		13 32 04.8	
LANU				SG		13 33 09.3	
KALU	**Kalix**	**4.47**	**245**	PN		13 32 09.0	
OBF4	**Vikkela, Lumij**	**4.63**	**229**	PN		13 32 11.8	
KIF	**Kilpisjarvi**	**4.65**	**287**	*e*P	**Pn**	**13 32 10.7**	**+0.5**
KIF	**Kilpisjarvi**	**4.65**	**287**	PN		13 32 11.0	
FAUS	**Fauske**	**6.85**	**272**	S	**Sn**	**13 33 56.4**	**-2.4**
FINES	**FINESS Array

baz=11,slow=12,SNR=1.0
TSUM S Sn 13 38 13.2 -9.2
comp=N,3.8nm,0.4s,baz=307,slow=20,SNR=3.1
TSUM Lg Lg 13 40 09.8
comp=N,0.9nm,0.3s,baz=40,slow=7.9,SNR=3.3
comp=N,1.2nm,0.3s
PHDHD Phuduhudu 17.52 175 P **P** **13 35 18.2 +3.7**
MATP Matopo 18.50 163 P **Pn** **13 35 28.7 +3.1**
comp=N,2.2nm,0.4s,baz=346,slow=13,SNR=10
MATP S **Sn** **13 38 53.6 +1.1**
comp=N,1.9nm,0.8s,baz=352,slow=7.1,SNR=2.1
MATP Lg Lg 13 40 49.0
comp=N,0.2nm,0.3s,baz=254,slow=18,SNR=1.4
MATP LR LR 13 42 40.6
comp=N,88nm,19.6s,baz=355,slow=38
GRTLG Ghanzi 18.67 185 *i* P **Pn** **13 35 31.4 +3.8**
GRTLG *i* S **Sn** **13 38 53.4 -3.3**
BROLN Tlhalogang 18.84 167 *i* P **Pn** **13 35 34.3 +4.6**
BROLN *i* S **Sn** **13 39 02.7 +1.9**
GOBN Gobabis 20.04 191 ⇑*i* P Pn 13 35 48.8 +4.6
GOBN *i* S **S** **13 39 24.8 -3.0**
GOBN AMP 13 42 20.4
comp=Z,32nm,0.9s
KGCAE Kacgae 20.10 182 P Pn 13 35 48.0 +3.2
KGCAE Kacgae 20.10 182 *i* P Pn 13 35 47.1 +2.4
KGCAE *i* S **S** **13 39 25.6 -3.3**
KGCAE IAML 13 42 20.1
comp=N,56nm,1.6s
MREMI Moremi 20.29 168 P Pn 13 35 49.7 +2.7
MREMI IAmb IAmb 13 36 11.8
comp=Z,38nm,1.4s
MREMI Moremi 20.29 168 *i* P Pn 13 35 50.1 +3.2
KDWAN Kaudwane 20.68 175 P Pn 13 35 53.9 +2.4
KDWAN IAmb IAmb 13 35 58.2
comp=Z,18nm,0.7s
KDWAN Kaudwane 20.68 175 *i* P Pn 13 35 53.9 +2.3
KDWAN *i* S **S** **13 39 37.1 -3.4**
KDWAN Kaudwane 20.68 175 *i* P Pn 13 35 53.9 +2.4
LPHEP Lephephe 20.79 172 P Pn 13 35 55.1 +2.2
LPHEP Lephephe 20.79 172 *i* P Pn 13 35 54.6 +1.8
LPHEP *i* S **S** **13 39 39.2 -3.5**
LPHEP Lephephe 20.79 172 *i* P Pn 13 35 54.6 +1.7
SKOMA Sekoma 21.76 177 *i* P **P** **13 36 05.6 +4.8**
SKOMA Sekoma 21.76 177 *i* P **P** **13 36 05.6 +4.8**
LBTB Lobatse 22.39 174 P **P** **13 36 11.8 +4.2**
LBTB IAmb IAmb 13 36 21.1
comp=Z,18nm,0.9s
LBTB Lobatse 22.39 174 LR LR 13 45 31.8
comp=Z,148nm,19.0s,baz=42,slow=39
PHPEN Phepeng 22.70 180 P **P** **13 36 15.6 +4.7**
PHPEN IAmb IAmb 13 36 17.7
comp=Z,22nm,1.1s
BOSA Boshof 25.92 175 P **P** **13 36 41.1 -0.3**
comp=Z,1.9nm,0.8s,baz=357,slow=9.5,SNR=6.5
BOSA LR LR 13 47 46.4
comp=Z,107nm,19.8s,baz=28,slow=39
comp=Z,1.9nm,0.8s
TORD Torodi Ar. Bea 26.25 307 P **P** **13 36 43.4 -1.0**
comp=Z,3.2nm,0.7s,baz=122,slow=9.8,SNR=15
TORD Lg Lg 13 44 47.0
baz=126,slow=27,SNR=2.9
OPO Ambohidratompo 28.58 125 LR LR 13 47 15.1
comp=Z,224nm,19.7s,baz=178,slow=34
DBIC Dimbokro 29.20 289 P **P** **13 37 10.5 -0.4**
comp=Z,1.6nm,0.6s,baz=122,slow=10.0,SNR=4.3
comp=Z,1.6nm,0.6s
RAYN Ar Rayn 34.08 39 P **P** **13 37 54.3 +0.5**
RAYN IAmb IAmb 13 37 55.9
comp=Z,3.9nm,0.6s
GHAJ Ghor Haditha 35.85 19 P **P** **13 38 09.5 +0.6**
GHAJ IAmb IAmb 13 38 11.1
comp=Z,8.0nm,0.8s
KARP Karpathos 38.20 6 P **P** **13 38 28.8 -0.1**
comp=Z,72nm,1.9s
KEST Kesra 40.23 343 **P** **13 38 47.1 +1.2**
KEST IAmb IAmb 13 38 49.1
comp=Z,14nm,1.0s
KEST Kesra 40.23 343 P **P** **13 38 45.7 -0.2**
comp=Z,9.3nm,0.9s,baz=149,slow=1.8,SNR=7.9
comp=Z,9.3nm,0.9s
CEL Celeste 41.21 352 P **P** **13 38 53.7 -0.2**
comp=Z,12nm,1.0s
TIP Timpagrande 42.00 353 P **P** **13 39 01.4 +1.0**
EZN Ezine 42.38 4 P **P** **13 39 03.2 -0.2**
comp=Z,4.2nm,0.4s
SCTE Santa Cesarea 42.71 355 P **P** **13 39 06.7 +0.6**
FNA Florina 43.25 358 **P** **13 39 11.3 +0.9**
BR104 Keskin Array S 43.29 12 P **P** **13 39 11.5 +0.6**
comp=Z,59nmcomp=Z,8.4nm,1.0s
BR105 Keskin Array S 43.30 12 P **P** **13 39 11.5 +0.5**
comp=Z,62nmcomp=Z,8.9nm,0.9s
BR105 pP **sP** **13 39 14.8 -0.8**
comp=Z,62nmcomp=Z,8.9nm,0.9s
BR131 Keskin Array S 43.31 12 **P** **13 39 11.7 +0.6**
BR131 IAmb IAmb 13 39 13.4
comp=Z,21nm,1.4s
BRTR Keskin Array B 43.31 12 **P** **13 39 12.0 +0.9**
BRTR Keskin Array B 43.31 12 P **P** **13 39 10.1 -1.0**
comp=Z,4.5nm,0.6s,baz=190,slow=12,SNR=27
comp=Z,4.5nm,0.6s
BR106 Keskin Array S 43.31 12 P **P** **13 39 11.7 +0.6**
comp=Z,65nmcomp=Z,8.5nm,0.9s
BR106 pP **sP** **13 39 15.1 -0.6**
comp=Z,65nmcomp=Z,8.5nm,0.9s
GURO Guroymak-BITLI 44.64 21 P **P** **13 39 22.9 +1.0**
HOMI Horasan 45.92 20 ⇑P **P** **13 39 34.6 +2.5**
GNI Garni 47.06 23 P **P** **13 39 42.1 +1.1**
comp=Z,19nm,1.1s
MDVR Moldovita 47.23 359 ⇓P **P** **13 39 43.4 +1.3**
ISR Istrita 47.67 3 ⇓P **P** **13 39 47.4 +2.0**
GZR Gura Zlata 47.83 360 ⇑P **P** **13 39 46.8 0.0**
BANR Banloc 47.84 358 ⇑P P 13 39 38.3 -8.4
LOT Lotru 47.89 1 ⇓P **P** **13 39 46.8 -0.5**
VOIR 47.91 2 ⇑P **P** **13 39 47.6 +0.2**
VOIR 47.91 2 P **P** **13 39 47.4 0.0**
comp=Z,4.4nm,1.0s
VOIR pP **sP** **13 39 51.4 -0.6**
comp=Z,4.4nm,1.0s
MLR Muntele Rosu 48.01 3 **P** **13 39 49.2 +1.0**
MLR Muntele Rosu 48.01 3 ⇑P **P** **13 39 49.3 +1.1**
MLR Muntele Rosu 48.01 3 P **P** **13 39 48.1 -0.1**
comp=Z,11nm,0.7s
SURR Surduc 48.20 359 ⇑P **P** **13 39 50.2 +0.7**
COVR Voineasa-Covas 48.37 3 ⇑P P 13 39 45.4 -5.5
PLOR5 Plostina Array 48.40 4 P **P** **13 39 51.2 +0.1**
comp=Z,13nm,0.8s
PLOR Plostina 48.40 4 ⇓P **P** **13 39 50.3 -0.8**
VRI Vrincioaia 48.42 4 ⇓P **P** **13 39 51.5 +0.3**
VRI Vrincioaia 48.42 4 P **P** **13 39 51.0 -0.2**
comp=Z,6.6nm,1.1s
OZUR 48.60 3 ⇑P P 13 39 41.4 -11
SIRR Siria 48.72 359 ⇓P **P** **13 39 52.9 -0.6**
ESDC Sonseca Array 48.80 332 **P** **13 39 55.4 +1.1**
ESDC Sonseca Array 48.80 332 P **P** **13 39 54.0 -0.3**
comp=Z,0.8nm,0.6s,baz=144,slow=8.0,SNR=9.4
comp=Z,0.8nm,0.6s
TESR Tescani 49.06 3 ⇑P **P** **13 39 55.6 -0.6**
TESR Tescani 49.06 3 P **P** **13 39 56.1 0.0**
comp=Z,9.5nm,0.8s
MARR Marisel-Cluj 49.11 0 ⇑P **P** **13 39 53.6 -3.0**
DRGR 49.23 360 ⇓P **P** **13 39 54.1 -3.4**
KBZ Khabaz 49.54 19 P **P** **13 40 00.2 +0.4**
comp=Z,3.8nm,0.8s,baz=202,slow=6.3,SNR=4.8
comp=Z,3.8nm,0.8s
PRED Cave del Predi 49.57 352 P **P** **13 40 00.5 +0.4**
PRED IAmb IAmb 13 40 04.0
comp=Z,4.6nm,0.8s
SOKA Soboth 49.60 353 *i* P **P** **13 40 01.0 +0.7**
comp=Z,2.7nm,1.3s
MPLH Magyarpolny 49.83 355 P **P** **13 40 02.0 0.0**
comp=Z,26nm,0.8s
BURAR Bucovina Array 50.09 2 **P** **13 40 05.6 +1.5**
ARSA Arzberg 50.11 353 P **P** **13 40 03.7 -0.4**
ARSA IAmb IAmb 13 40 05.9
comp=Z,4.2nm,0.6s
ARSA Arzberg 50.11 353 *i* P **P** **13 40 05.6 +1.4**
comp=Z,2.7nm,0.6s
BUR08 Bucovina Ar. S 50.12 2 **P** **13 40 05.6 +1.2**
BUR08 IAmb IAmb 13 40 07.1
comp=Z,11nm,1.4s
KBA Koelnbreinsper 50.23 352 *i* P **P** **13 40 06.5 +1.3**
comp=Z,4.8nm,0.9s
TUE Stuetta 50.35 348 **P** **13 40 06.5 +0.3**
TUE IAmb IAmb 13 40 09.0
comp=Z,4.4nm,0.7s
TUE Stuetta 50.35 348 P **P** **13 40 06.0 -0.2**
comp=Z,27nm,0.8s
SSB Saint Sauveur 50.44 343 P **P** **13 40 07.4 +0.7**
RAKU Rahkiv 50.48 1 P **P** **13 40 08.2 +1.3**
FETA Feichten 50.61 349 *i* P **P** **13 40 08.7 +0.6**
comp=Z,5.0nm,1.2s
NSLU Nyzhne Selyshc 50.66 1 P **P** **13 40 07.6 -0.6**
LESA Schwarzleotal 50.66 351 *i* P **P** **13 40 08.2 -0.2**
comp=Z,0.1nm,0.3s
BERU Beregovo 50.67 360 P **P** **13 40 08.3 0.0**
WTTA Wittenberg 50.68 350 *i* P **P** **13 40 08.9 +0.3**
comp=Z,5.0nm,0.8s
SENIN Lac Senin/Sane 50.71 346 **P** **13 40 09.0 +0.1**
SENIN IAmb IAmb 13 40 09.7
comp=Z,4.5nm,0.7s
CONA Conrad Observa 50.74 354 *e*P **P** **13 40 08.9 -0.1**
comp=Z,2.0nm,1.0s
WATA Walderalm 50.76 350 *i* P **P** **13 40 09.4 +0.2**
comp=Z,0.2nm,0.1s
KSV Kosov 50.79 2 P **P** **13 40 09.2 0.0**
SORM Soroca 50.80 5 P **P** **13 40 09.3 0.0**
comp=Z,9.2nm,0.8s
MOTA Moosalm 50.85 350 *i* P **P** **13 40 10.1 +0.2**
comp=Z,4.4nm,0.9s
MOA Molln 50.85 353 *e*P **P** **13 40 09.5 -0.2**
comp=Z,3.3nm,0.7s
DAVA Damuels 51.02 349 *i* P **P** **13 40 11.6 +0.4**
comp=Z,6.0nm,0.6s
RETA Reutte 51.05 349 *i* P **P** **13 40 11.7 +0.4**
comp=Z,0.8nm,0.3s
KMPD K-Podol'skiy 51.10 3 P **P** **13 40 10.7 -0.8**
STNU Starunia 51.17 1 P **P** **13 40 12.3 +0.2**
NDNU Novodnistrovsk 51.18 4 P **P** **13 40 12.1 -0.1**
CKRC Cesky Krumlov 51.80 353 *e*P **P** **13 40 17.7 +0.9**
GERES GERESS Array B 51.90 352 P **P** **13 40 16.6 -1.1**
comp=Z,0.8nm,0.5s,baz=158,slow=7.0,SNR=6.7
comp=Z,0.8nm,0.5s
KWP Kalwaria Pacla 52.07 360 P **P** **13 40 19.1 +0.3**
comp=Z,1µmcomp=Z,11nm,1.1s
KHC Kasperske Hory 52.20 352 *e*P **P** **13 40 19.2 -0.6**
KHC Kasperske Hory 52.20 352 P **P** **13 40 19.9 +0.1**
comp=Z,4.0nm,0.8s
ZVC Zvikov 52.42 353 *e*P **P** **13 40 21.8 +0.4**
LUBAR Lubar, Ukraine 52.53 4 P **P** **13 40 21.9 -0.3**
KRLC Kraliky 52.78 355 *e*P **P** **13 40 24.3 +0.2**
DPC Dobruska-Polom 53.09 355 P **P** **13 40 26.0 -0.4**
comp=Z,3.7nm,1.0s
AK07 Malin Array Si 53.27 5 P **P** **13 40 27.2 -0.4**
AK06 Malin Array Si 53.30 5 P **P** **13 40 27.6 -0.3**
AK14 Malin Array Si 53.34 5 P **P** **13 40 28.6 +0.5**
KIEV Kiev 53.41 5 P **P** **13 40 28.7 0.0**
comp=Z,21nm,1.1s
AKASG Malin Array Be 53.42 5 P **P** **13 40 27.5 -1.2**
comp=Z,0.6nm,0.3s,baz=192,slow=6.4,SNR=9.0
comp=Z,0.6nm,0.3s
AKBB Malin Array Si 53.42 5 P **P** **13 40 28.8 +0.1**
AKBB IAmb IAmb 13 40 30.0
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 53.42 5 P **P** **13 40 28.7 0.0**
AK19 Malin Array Si 53.42 5 P **P** **13 40 28.5 -0.3**
RNPP5 Staryi Chortor 53.73 2 P **P** **13 40 30.8 -0.2**
RNPP9 Sopachiv 53.91 2 P **P** **13 40 32.2 -0.2**
AB31 Akbulak array 60.81 27 IAmb IAmb 13 41 22.3
comp=Z,2.9nm,0.7s
ABKAR Akbulak array 60.81 27 **P** **13 41 21.4 +0.2**
EKA Eskdalemuir Ar 61.63 343 P **P** **13 41 25.6 -1.0**
comp=Z,1.0nm,0.6s,baz=146,slow=7.7,SNR=5.4
comp=Z,1.0nm,0.6s
KK31 Karatay Array 62.49 38 **P** **13 41 33.5 +0.8**
KK31 IAmb IAmb 13 41 35.0
comp=Z,3.8nm,0.9s
KKAR Karatay Array 62.49 38 P **P** **13 41 32.7 0.0**
HFS Hagfors 63.01 355 P **P** **13 41 34.5 -1.2**
comp=Z,0.9nm,0.4s,baz=214,slow=4.9,SNR=12
comp=Z,0.9nm,0.4s
FINES FINESS Array B 63.96 2 P **P** **13 41 41.0 -0.9**
comp=Z,1.4nm,0.7s,baz=160,slow=9.8,SNR=8.0
comp=Z,1.4nm,0.7s
NB2 NORSAR Subarra 64.15 354 P **P** **13 41 42.2 -1.1**
comp=Z,1.8nm,0.7s,baz=172,slow=6.9
NOA NORSAR Array B 64.15 354 P **P** **13 41 42.1 -1.1**
comp=Z,1.7nm,0.9s,baz=172,slow=6.5,SNR=8.2
comp=Z,1.7nm,0.9s
NC405 NORSAR Array S 64.17 354 P **P** **13 41 44.9 +1.5**
NC303 NORSAR Array S 64.31 354 **P** **13 41 45.9 +1.6**
NC204 NORSAR Array S 64.43 354 P **P** **13 41 46.3 +1.2**
ARTI Arti 65.53 21 **P** **13 41 53.2 +0.9**
TARG Taragay, Kyrgy 66.46 42 P **P** **13 41 59.6 +0.4**
TARG IAmb IAmb 13 42 01.4
comp=Z,3.9nm,0.8s
BVAR Borovoye Array 68.22 29 P **P** **13 42 08.2 -1.3**
comp=Z,3.8nm,0.8s,baz=226,slow=7.7,SNR=8.5
comp=Z,3.8nm,0.8s
MAW Mawson 70.39 165 P **P** **13 42 20.4 -2.2**
comp=Z,2.4nm,0.6s,baz=285,slow=9.4,SNR=12
comp=Z,2.4nm,0.6s
KURBB Kurchatov Arra 71.11 34 P **P** **13 42 25.8 -1.6**
comp=Z,3.8nm,0.2s,baz=245,slow=6.5,SNR=5.0
comp=Z,3.8nm,0.2s
KURK Kurchatov 71.20 34 **P** **13 42 28.4 +0.4**
KURK IAmb IAmb 13 42 30.1
comp=Z,3.3nm,0.8s
MK31 Makanchi Array 71.58 39 P **P** **13 42 30.2 -0.2**
MKAR Makanchi Array 71.58 39 **P** **13 42 30.5 +0.1**
MKAR Makanchi Array 71.58 39 P **P** **13 42 29.3 -1.1**
comp=Z,2.1nm,0.7s,baz=252,slow=5.0,SNR=24
comp=Z,2.1nm,0.7s
ARCES ARCESS Array B 72.06 1 P **P** **13 42 33.1 +0.3**
ARCES ARCESS Array B 72.06 1 P **P** **13 42 33.0 +0.2**
comp=Z,1.3nm,0.6s,baz=185,slow=7.9,SNR=12
comp=Z,1.3nm,0.6s
ZAA0 Zalesovo Array 76.06 33 IAmb IAmb 13 42 58.0
comp=Z,3.6nm,0.7s
ZALV Zalesovo Beam 76.06 33 **P** **13 42 57.2 +0.7**
ZALV Zalesovo Beam 76.06 33 P **P** **13 42 55.7 -0.8**
comp=Z,3.9nm,0.5s,baz=248,slow=5.5,SNR=18
comp=Z,3.9nm,0.5s
GTA Gaotai 81.60 50 *e*P **P** **13 43 30.9 +3.5**
GTA pP PcP 13 43 35.7 +2.4
GTA pmax pmax
comp=Z,4.0nm,1.0s
SFJD Kangerlussuaq 86.03 338 LR LR 14 22 27.3
comp=Z,34nm,18.0s,baz=148,slow=36
QSPA South Pole Qui 87.41 180 P **P** **13 44 00.1 +3.8**
comp=Z,0.9nm,0.7s,baz=240,slow=2.0,SNR=6.3
QSPA LR LR 14 21 41.6
comp=Z,59nm,19.0s,baz=216,slow=35
SONM Songino Array 87.58 42 P **P** **13 43 54.6 -2.9**
comp=Z,0.2nm,0.3s,baz=207,slow=6.1,SNR=2.5
comp=Z,0.2nm,0.3s
PDAR Pinedale Array 121.84 320 PKP **PKPdf** **13 50 01.7 -2.3**
comp=Z,0.3nm,0.6s,baz=38,slow=2.1,SNR=3.5
TXAR Lajitas Array 122.81 303 PKP **PKPdf** **13 50 04.3 -1.8**
comp=Z,0.1nm,0.3s,baz=32,slow=2.4,SNR=3.9

IDC 12 13:41:04.4±2.2, 0.58N×126.34E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=180.3km s-min=28.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.85**	**159**	P	P	13 45 57.9	-0.9
	0.6nm,0.6s,baz=338,slow=11,SNR=5.1						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**25.19**	**164**	P	P	13 46 32.5	+0.6
	0.4nm,0.4s,baz=344,slow=11,SNR=12						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**59.93**	**326**	P	P	13 51 12.3	-0.1
	0.2nm,0.3s,baz=130,slow=8.5,SNR=2.7						
	0.2nm,0.3s						

IDC 12 14:05:10.3±1.8, 15.14N×119.66E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=41.3km s-min=19.2km az=51.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.61**	**130**	Pg	Pn	14 05 39.6	-0.6
	70nm,0.3s,baz=288,slow=3.2,SNR=2.1						
TGY				Lg	Lg	14 06 01.6	
	57nm,0.3s,baz=247,slow=13,SNR=1.6						
WRA	**Warramunga Arr**	**37.74**	**157**	P	P	14 12 27.8	-0.3
	0.4nm,0.7s,baz=332,slow=9.0,SNR=5.7						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**41.01**	**160**	P	P	14 12 55.6	+0.2
	0.4nm,0.5s,baz=343,slow=8.0,SNR=12						
	0.4nm,0.5s						
PETK	**Petropavlovsk-**	**48.27**	**30**	P	P	14 13 52.9	-0.2
	1.7nm,0.9s,baz=222,slow=7.0,SNR=3.7						
	1.7nm,0.9s						

JMA 12 14:16:32.0±0.1, 36.8N±0.4×138.1E±0.5, h5km±2km, MV0.3/13, SW NIIGATA PREF, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**0.29**	**162**	*e*S	Sg	14 16 41.1	-0.2
JJN	**Nakama**	**0.29**	**11**	*e*S	Sb	14 16 43.4	-1.5
JNG	**Nsakai**	**0.41**	**180**	*e*S	Sg	14 16 45.1	-0.1

*IDC **12** 14:17:22.2±1.0, 37.37N×141.53E, h0km, mb3.5/7, mbtmp3.5/9, ML3.4/2, Error ellipse: s-maj=25.5km s-min=21.1km az=110.0*
*JMA **12** 14:17:25.6±0.2, 37.4N±0.3×141.4E±1.0, h33km±1km, MV3.4/39, E OFF FUKUSHIMA PREF*
ISC 12 14:17:27.3±0.9, 37.42N±0.05×141.42E±0.07, h35km, n36, σ1s66/35, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.44**	**263**	P	**Pn**	**14 17 35.1**	**-2.0**
JFK				S	**Sn**	**14 17 41.5**	**-2.4**
JMST	**Minamisoumatoc**	**0.52**	**305**	P	**Pn**	**14 17 36.5**	**-1.7**
JMST				S	**Sn**	**14 17 43.6**	**-2.2**
ONAJ	**Iwakimizuishiy**	**0.59**	**237**	P	**Pn**	**14 17 37.0**	**-2.3**
ONAJ				S	**Sn**	**14 17 45.0**	**-2.8**
JMM	**Marumori**	**0.67**	**312**	P	**Pn**	**14 17 38.6**	**-1.6**
JMM	**Marumori**	**0.67**	**312**	S	**Sn**	**14 17 48.0**	**-1.5**
JMM	**Marumori**	**0.67**	**312**	P	**Pn**	**14 17 38.6**	**-1.6**
JMM				S	**Sn**	**14 17 48.0**	**-1.5**
JFFD	**Fukushimafurud**	**0.76**	**244**	P	**Pn**	**14 17 39.6**	**-1.9**
JOTO	**OTAMA OYAMA**	**0.88**	**279**	P	**Pn**	**14 17 42.5**	**-0.6**
JIO	**Ouri**	**1.03**	**357**	P	**Pn**	**14 17 43.5**	**-1.8**
JHO	**Hitachi**	**1.06**	**220**	P	**Pn**	**14 17 43.1**	**-2.6**
JOU	**Okura**	**1.11**	**328**	P	**Pn**	**14 17 46.1**	**-0.3**
JYS	**Shirataka**	**1.34**	**307**	P	**Pn**	**14 17 49.7**	**+0.3**
JFY	**Yanaizu**	**1.37**	**270**	P	**Pn**	**14 17 50.0**	**+0.1**
JSD	**Sado**	**2.58**	**285**	P	**Pn**	**14 18 07.1**	**+0.6**
MJAR	**Matsushiro Arr**	**2.72**	**252**	Pn	**Pn**	**14 18 09.0**	**+0.5**
	1.0nm,0.3s,baz=74,slow=15,SNR=55						
MJAR					**Sn**	**14 18 44.7**	**+4.5**
	1.4nm,0.3s,baz=79,slow=17,SNR=6.8						
	6.4nm,0.4s						
MAJO	**Matsushiro**	**2.72**	**252**	P	**Pn**	**14 18 10.7**	**+2.2**
JTM	**Tenmabayashi**	**3.37**	**355**	P	**Pn**	**14 18 18.0**	**+0.6**
JGF	**Kuroka**	**3.75**	**242**	P	**Pn**	**14 18 23.8**	**+1.2**
INU	**Inuyama**	**4.11**	**241**	P	**Pn**	**14 18 29.4**	**+1.8**
JHJ2	**Mitsune**	**4.50**	**197**	P	**Pn**	**14 18 33.3**	**+0.4**
ERM	**Erimo**	**4.78**	**16**	P	**Pn**	**14 18 36.0**	**-0.7**
JEM	**Erimo**	**4.78**	**16**	P	**Pn**	**14 18 36.3**	**-0.4**
ASAJ	**Asahikawa**	**6.75**	**7**	Pn	**Pn**	**14 19 03.1**	**-0.6**
	1.6nm,0.3s,baz=186,slow=14,SNR=19						
	3.7nm,0.3s						
H11N2	**WAKE ISLAND Hy 28.34**	**121**		T	T	14 53 26.2	
	baz=314,slow=75,SNR=45						
H11N1	**WAKE ISLAND Hy 28.35**	**121**		T	T	14 53 27.0	
	baz=314,slow=75,SNR=64						
H11N3	**WAKE ISLAND Hy 28.36**	**121**		T	T	14 53 27.6	
	baz=314,slow=75,SNR=49						
H11S1	**WAKE ISLAND Hy 29.07**	**123**		T	T	14 53 52.3	
	baz=316,slow=75,SNR=30						
H11S3	**WAKE ISLAND Hy 29.07**	**124**		T	T	14 54 23.3	
	baz=316,slow=75,SNR=35						
H11S2	**WAKE ISLAND Hy 29.08**	**124**		T	T	14 53 51.4	
	baz=316,slow=75,SNR=26						
ZALV	**Zalesovo Beam**	**41.66**	**312**	P	**P**	**14 25 12.6**	**+0.6**
	0.4nm,0.3s,baz=84,slow=16,SNR=2.0						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**43.92**	**302**	P	**P**	**14 25 30.6**	**+0.1**
	0.2nm,0.6s,baz=87,slow=8.8,SNR=2.3						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**45.77**	**308**	P	**P**	**14 25 45.3**	**+0.1**
	0.2nm,0.4s,baz=80,slow=7.9,SNR=4.5						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**49.16**	**33**	P	**P**	**14 26 11.7**	**+0.4**
	0.2nm,0.7s,baz=273,slow=8.1,SNR=2.2						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**57.45**	**188**	P	**P**	**14 27 11.8**	**-0.8**
	0.6nm,0.5s,baz=6.5,slow=6.8,SNR=10						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**61.17**	**188**	P	**P**	**14 27 38.5**	**+0.2**
	0.5nm,1.0s,baz=10,slow=7.4,SNR=2.2						
	0.5nm,1.0s						
TXAR	**Lajitas Array**	**89.88**	**52**	P	**P**	**14 30 24.0**	**+1.1**
	0.2nm,0.5s,baz=316,slow=4.7,SNR=2.6						
	0.2nm,0.5s						

*SJA **12** 14:36:05.1±0.8, 22.11S×67.27W, h202km±4km, ML4.1, MW4.0*
*NEIC **12** 14:36:06.8±1.6, 22.22S±0.07×67.2W±0.1, h165km±11km, mb4.2/20, Error ellipse: s-maj=15.2km s-min=9.8km az=88.0*
*VAO **12** 14:36:06.7±0.7, 22.12S×67.25W, h186km±4km, mb4.3*
*IDC **12** 14:36:07.3±1.8, 22.04S×67.00W, h169km±16km, mb3.6/10, mbtmp4.1/15, Error ellipse: s-maj=16.6km s-min=12.0km az=72.0*
*GUC **12** 14:36:07.6±0.8, 22.15S×67.53W, h196km±6km, ML4.4*
*SCB **12** 14:36:08.2±1.0, 22.21S×67.33W, h159km±6km, ML4.5/3, MW3.4, Error ellipse: s-maj=3.9km s-min=2.7km az=0.0*
ISC 12 14:36:06.8±0.6, 22.15S±0.03×67.29W±0.03, h181km±5km, n163, σ1s37/201, mb4.0/17, 11C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.15**	**226**		**Pn**	**14 36 37.2**	**+1.1**
AF01	**San Pedro de A**	**1.15**	**226**	⇑*i*P	**Pn**	**14 36 37.9**	**+1.8**
AF01				*e*S	**Sn**	**14 37 01.3**	**+2.6**
AF01	**San Pedro de A**	**1.15**	**226**	*e*P	**Pn**	**14 36 37.0**	**+0.9**
AF01				*e*S	**Sn**	**14 37 01.0**	**+2.2**
AF01				IAML		14 37 18.5	
	comp=Z,580nm,0.7s						
AF01	**San Pedro de A**	**1.15**	**226**	Pg	**Pn**	**14 36 35.9**	**-0.2**
YJA	**Yavi**	**1.64**	**91**	*e*P	**Pn**	**14 36 41.6**	**+0.9**
YJA				IAML		14 37 07.5	
	comp=Z,667nm,1.0s						
YJA				*e*S	**Sn**	**14 37 08.4**	**+1.5**
MOCB	**Mochara**	**1.78**	**60**	Pg	**Pn**	**14 36 42.8**	**+0.7**
MOCB				Sg	**Sn**	**14 37 09.5**	**+0.1**
MOCB				IAML		14 37 17.2	
	comp=Z,4µm,0.5s						
PB09	**IPOC Station P**	**1.85**	**281**		**Pn**	**14 36 43.7**	**+1.2**
PB09	**IPOC Station P**	**1.85**	**281**	⇑*i*P	**Pn**	**14 36 43.7**	**+1.2**
PB09				*e*S	**Sn**	**14 37 10.5**	**+0.3**
PB09	**IPOC Station P**	**1.85**	**281**	*e*P	**Pn**	**14 36 43.7**	**+1.2**
PB09				*e*S	**Sn**	**14 37 11.6**	**+1.4**
PB09	**IPOC Station P**	**1.85**	**281**	Pg	**Pn**	**14 36 43.1**	**+0.5**
PB06	**IPOC Station P**	**2.18**	**255**		**Pn**	**14 36 46.5**	**+0.3**
PB06					**Sn**	**14 37 13.5**	**-3.2**
PB06	**IPOC Station P**	**2.18**	**255**	⇑*i*P	**Pn**	**14 36 46.4**	**+0.3**
PB06				*e*S	**Sn**	**14 37 16.1**	**-0.6**
PB06	**IPOC Station P**	**2.18**	**255**	*e*P	**Pn**	**14 36 46.7**	**+0.5**
PB06				*e*S	**Sn**	**14 37 17.1**	**+0.4**
PB06				IAML		14 37 26.0	
	comp=Z,519nm,0.6s						
PB06	**IPOC Station P**	**2.18**	**255**	Pg	**Pn**	**14 36 46.3**	**+0.1**
SALTA		**2.24**	**157**	⇓*i*P	**Pn**	**14 36 48.8**	**+1.7**
SALTA		**2.24**	**157**	*e*P	**Pn**	**14 36 48.7**	**+1.6**
SALTA				*e*S	**Sn**	**14 37 19.4**	**+0.9**
PB03	**IPOC Station P**	**2.29**	**272**		**Pn**	**14 36 47.5**	**+0.1**
PB03				Sn	**Sn**	**14 37 17.4**	**-1.4**
PB03	**IPOC Station P**	**2.29**	**272**	⇑*i*P	**Pn**	**14 36 47.5**	**+0.1**
PB03				*e*S	**Sn**	**14 37 17.7**	**-1.1**
PB03				IAML		14 37 19.0	
	comp=E,1µm,0.3s						
PB03	**IPOC Station P**	**2.29**	**272**	*e*P	**Pn**	**14 36 47.7**	**+0.3**
PB03				*e*S	**Sn**	**14 37 19.3**	**+0.5**
PB03				IAML		14 37 19.7	
	comp=Z,691nm,0.4s						
PB03	**IPOC Station P**	**2.29**	**272**	Pg	**Pn**	**14 36 47.8**	**+0.5**
PB01	**IPOC Station P**	**2.33**	**298**		**Pn**	**14 36 48.0**	**+0.2**
PB01				Sn	**Sn**	**14 37 18.8**	**-0.6**
**

PB01	**IPOC Station P**	**2.33**	**298**	*e*P		**Pn**	**14 36 48.1**	**+0.4**
PB01				*e*S		**Sn**	**14 37 19.7**	**+0.3**
PB01				IAML			14 37 22.7	
	comp=Z,438nm,0.2s							
PB01	**IPOC Station P**	**2.33**	**298**	Pg		**Pn**	**14 36 48.2**	**+0.5**
AOVT	**TarijaAcel**	**2.48**	**76**	Pg		**Pn**	**14 36 50.6**	**+1.0**
PB02	**IPOC Station P**	**2.56**	**288**			**Pn**	**14 36 50.6**	**+0.1**
PB02				Sn		**Sn**	**14 37 22.4**	**-2.0**
PB02	**IPOC Station P**	**2.56**	**288**	⇑*i*P		**Pn**	**14 36 50.5**	**0.0**
PB02				IAML			14 37 30.1	
	comp=E,1μm,0.3s							
PB02	**IPOC Station P**	**2.56**	**288**	*e*P		**Pn**	**14 36 50.7**	**+0.3**
PB02				*e*S		**Sn**	**14 37 24.1**	**-0.2**
PB02				IAML			14 37 28.4	
	comp=Z,899nm,0.2s							
PB02	**IPOC Station P**	**2.56**	**288**	Pg		**Pn**	**14 36 50.8**	**+0.3**
PB02				Sg		**Sn**	**14 37 23.3**	**-1.0**
PB02				IAML			14 37 30.0	
	comp=Z,1μm,0.4s							
PB08	**IPOC Station P**	**2.65**	**319**			**Pn**	**14 36 53.2**	**+1.4**
PB08				Sn		**Sn**	**14 37 26.4**	**-0.4**
PB08	**IPOC Station P**	**2.65**	**319**	⇑*i*P		**Pn**	**14 36 53.2**	**+1.4**
PB08				IAML			14 37 29.2	
	comp=N,974nm,0.7s							
PB08	**IPOC Station P**	**2.65**	**319**	*e*P		**Pn**	**14 36 53.1**	**+1.4**
PB08				*e*S		**Sn**	**14 37 26.3**	**-0.4**
PB08				IAML			14 37 30.4	
	comp=Z,442nm,0.5s							
PB08	**IPOC Station P**	**2.65**	**319**	Pg		**Pn**	**14 36 53.3**	**+1.5**
PB05	**IPOC Station P**	**2.78**	**255**			**Pn**	**14 36 53.0**	**-0.1**
PB05				Sn		**Sn**	**14 37 26.6**	**-2.4**
PB05	**IPOC Station P**	**2.78**	**255**	*e*P		**Pn**	**14 36 53.0**	**-0.1**
PB05				IAML			14 37 28.6	
	comp=N,970nm,0.5s							
PB05	**IPOC Station P**	**2.78**	**255**	*e*P		**Pn**	**14 36 53.1**	**0.0**
PB05				*e*S		**Sn**	**14 37 29.2**	**+0.2**
PB05				IAML			14 37 29.3	
	comp=Z,400nm,0.3s							
PB05	**IPOC Station P**	**2.78**	**255**	Pg		**Pn**	**14 36 53.3**	**+0.2**
AZAP	**Zapla**	**2.90**	**136**	*e*P		**Pn**	**14 36 55.1**	**+0.5**
AZAP				*e*S		**Sn**	**14 37 31.4**	**-0.4**
AZAP				IAML			14 37 33.7	
	comp=Z,291nm,0.7s							
PATCX	**Punta Patache**	**2.98**	**296**			**Pn**	**14 36 55.4**	**-0.1**
PATCX				Sn		**Sn**	**14 37 31.4**	**-1.8**
PATCX	**Punta Patache**	**2.98**	**296**	⇑*i*P		**Pn**	**14 36 55.3**	**-0.1**
PATCX				*e*S		**Sn**	**14 37 32.1**	**-1.0**
PATCX				IAML			14 37 33.5	
	comp=N,2μm,0.2s							
PATCX	**Punta Patache**	**2.98**	**296**	*e*P		**Pn**	**14 36 55.5**	**+0.1**
PATCX				*e*S		**Sn**	**14 37 32.2**	**-1.0**
PATCX				IAML			14 37 34.6	
	comp=Z,658nm,0.6s							
SLA	**San Lorenzo**	**3.04**	**148**	⇑*i*P		**Pn**	**14 36 57.7**	**+1.5**
SLA	**San Lorenzo**	**3.04**	**148**	*e*P		**Pn**	**14 36 57.6**	**+1.5**
SLA				*e*S		**Sn**	**14 37 34.4**	**-0.3**
GO01	**Chusmiza**	**3.05**	**324**			**Pn**	**14 36 57.6**	**+1.0**
GO01				Sn		**Sn**	**14 37 33.7**	**-1.6**
GO01	**Chusmiza**	**3.05**	**324**	⇑*i*P		**Pn**	**14 36 57.5**	**+0.9**
GO01	**Chusmiza**	**3.05**	**324**	*e*P		**Pn**	**14 36 57.0**	**+0.4**
GO01				*e*S		**Sn**	**14 37 39.0**	**+3.7**
GO01	**Chusmiza**	**3.05**	**324**	Pg		**Pn**	**14 36 57.7**	**+1.0**
HMBC	**Humberstone**	**3.06**	**307**			**Pn**	**14 36 56.1**	**-0.3**
HMBC				Sn		**Sn**	**14 37 32.5**	**-2.5**
HMBC	**Humberstone**	**3.06**	**307**	⇑*i*P		**Pn**	**14 36 56.1**	**-0.3**
HMBC				*e*S		**Sn**	**14 37 33.9**	**-1.1**
HMBC	**Humberstone**	**3.06**	**307**	*e*P		**Pn**	**14 36 56.1**	**-0.3**
HMBC				*e*S		**Sn**	**14 37 33.5**	**-1.5**
HMBC				IAML			14 37 38.3	
	comp=Z,1μm,0.4s							
TA01	**Diego Aracena**	**3.12**	**300**			**Pn**	**14 36 56.7**	**-0.3**
TA01				Sn		**Sn**	**14 37 33.0**	**-3.2**
TA01	**Diego Aracena**	**3.12**	**300**	*e*P		**Pn**	**14 36 56.8**	**-0.3**
TA01				*e*S		**Sn**	**14 37 35.0**	**-1.2**
TA01				IAML			14 37 36.8	
	comp=Z,421nm,0.2s							
TA02	**Huaiquique**	**3.25**	**305**			**Pn**	**14 36 58.1**	**-0.5**
TA02	**Huaiquique**	**3.25**	**305**	*e*P		**Pn**	**14 36 58.3**	**-0.3**
TA02				IAML			14 37 42.8	
	comp=Z,360nm,0.8s							
PB11	**IPOC Station P**	**3.25**	**317**			**Pn**	**14 36 58.7**	**-0.1**
PB11	**IPOC Station P**	**3.25**	**317**	*e*P		**Pn**	**14 36 58.7**	**-0.1**
PB11				*e*S		**Sn**	**14 37 37.7**	**-1.6**
PB11				IAML			14 37 40.3	
	comp=Z,459nm,0.2s							
PB11	**IPOC Station P**	**3.25**	**317**	Pg		**Pn**	**14 36 59.1**	**+0.3**
PB11				Sg		**Sn**	**14 37 38.7**	**-0.6**
PB11				IAML			14 37 41.3	
	comp=Z,1μm,0.3s							
PB10	**IPOC Station P**	**3.30**	**245**			**Pn**	**14 36 59.3**	**0.0**
PB10	**IPOC Station P**	**3.30**	**245**	*e*P		**Pn**	**14 36 59.2**	**0.0**
PB10				*e*S		**Sn**	**14 37 36.8**	**-3.4**
PB10				IAML			14 37 40.7	
	comp=Z,445nm,0.3s							
ALOL	**LOMAS DE OLMED**	**3.47**	**119**	*e*P		**Pn**	**14 37 01.1**	**-0.3**
SOEO	**Opoqueri**	**3.61**	**351**	Pg		**Pn**	**14 37 06.0**	**+2.3**
GO02	**Mina Guanaco**	**3.67**	**215**			**Pn**	**14 37 04.8**	**+0.7**
GO02	**Mina Guanaco**	**3.67**	**215**	*e*P		**Pn**	**14 37 04.8**	**+0.7**
GO02				*e*S		**Sn**	**14 37 48.2**	**-0.6**
PB14	**IPOC Station P**	**3.78**	**229**			**Pn**	**14 37 05.6**	**+0.2**
PB14	**IPOC Station P**	**3.78**	**229**	Pg		**Pn**	**14 37 05.8**	**+0.3**
FSA	**Cafayete**	**4.12**	**163**	*e*P		**Pn**	**14 37 11.7**	**+2.0**
PB16	**IPOC Station P**	**4.33**	**331**			**Pn**	**14 37 13.2**	**+0.4**
AC02	**Maricunga**	**4.96**	**199**			**Pn**	**14 37 20.0**	**-0.7**
AC02	**Maricunga**	**4.96**	**199**	*e*P		**Pn**	**14 37 20.4**	**-0.3**
AC02				*e*S		**Sn**	**14 38 20.3**	**+1.6**
AC02				IAML			14 38 23.4	
	comp=Z,66nm,0.7s							
PB18	**Visviri**	**4.99**	**335**			**Pn**	**14 37 23.2**	**+2.0**
AC01	**Pan de Azucar**	**5.00**	**217**			**Pn**	**14 37 20.2**	**-0.6**
AC01	**Pan de Azucar**	**5.00**	**217**	*e*P		**Pn**	**14 37 19.9**	**-0.9**
AC01				*e*S		Sn	14 38 06.8	-12
AC01				IAML			14 38 18.9	
	comp=Z,134nm,0.5s							
BBOJ	**La Paz, Jacaqu**	**5.22**	**350**	Pg		**Pn**	**14 37 26.4**	**+2.1**
SOEJ	**Jacaque**	**5.22**	**350**	Pg		**Pn**	**14 37 26.4**	**+2.2**
BBOE	**La Paz, Chanca**	**5.35**	**353**	Pg		**Pn**	**14 37 28.0**	**+2.0**
BBOD	**La Paz, Gloria**	**5.62**	**347**	Pg		**Pn**	**14 37 31.4**	**+1.9**
AC06	**Mina Casimiro**	**5.88**	**208**			**Pn**	**14 37 31.1**	**-1.3**
LPAZ	**La Paz**	**5.89**	**352**			**Pn**	**14 37 34.6**	**+1.5**
LPAZ	**La Paz**	**5.89**	**352**	P		**Pn**	**14 37 34.3**	**+1.2**
	comp=Z,11nm,0.4s,baz=166,slow=8.7,SNR=61							
LPAZ				S		**Sn**	**14 38 40.5**	**-0.3**
	comp=Z,12nm,0.7s,baz=232,slow=19,SNR=4.2							
LPAZ	**La Paz**	**5.89**	**352**	Pg		**Pn**	**14 37 34.5**	**+1.5**
LPAZ	**La Paz**	**5.89**	**352**	*e*P		**Pn**	**14 37 32.4**	**-0.6**
LPAZ				*e*S		**Sn**	**14 38 40.5**	**-0.3**
BBOB	**La Paz, Bander**	**6.03**	**352**	Pg		**Pn**	**14 37 36.1**	**+1.3**
LCO	**Las Campanas**	**7.49**	**204**			**Pn**	**14 37 51.6**	**-2.1**
CO01	**Juntas del Tor**	**8.19**	**197**			**Pn**	**14 38 00.7**	**-2.2**
SIV	**San Ignacio**	**8.49**	**45**	P		**Pn**	**14 38 03.6**	**-3.1**
	comp=Z,71nm,0.4s,baz=228,slow=10,SNR=232							
SIV				S		Sn	14 39 32.4	-9.4
	comp=Z,21nm,0.3s,baz=159,slow=19,SNR=12							
GO04	**Tololo Observa**	**8.59**	**201**			**Pn**	**14 38 04.9**	**-3.2**
MURT	**Porto Murtinho**	**9.00**	**89**	*e*P		**Pn**	**14 38 11.0**	**-2.3**
CO03	**El Pedregal**	**9.17**	**199**			**Pn**	**14 38 13.0**	**-2.6**
CPUP	**Villa Florida**	**9.99**	**117**			**Pn**	**14 38 24.0**	**-2.2**
CPUP	**Villa Florida**	**9.99**	**117**	P		**Pn**	**14 38 24.9**	**-1.4**
	comp=Z,1.9nm,0.9s,baz=190,slow=14,SNR=13							
PTLB	**Pontes e Lacer**	**10.20**	**51**			**Pn**	**14 38 27.4**	**-1.6**
PTLB	**Pontes e Lacer**	**10.20**	**51**	*e*P		**Pn**	**14 38 27.5**	**-1.5**
SJPY	**San Joaquin**	**10.64**	**108**	*e*P		**Pn**	**14 38 34.6**	**-0.2**
AQDB	**Aquidauana**	**10.93**	**83**			**Pn**	**14 38 36.7**	**-1.8**
AQDB	**Aquidauana**	**10.93**	**83**	*e*P		**Pn**	**14 38 38.3**	**-0.2**
VA03	**San Esteban**	**10.96**	**195**			**Pn**	**14 38 39.9**	**+1.0**
VILB	**Vilhena**	**11.37**	**38**			**Pn**	**14 38 43.3**	**-1.0**
VILB	**Vilhena**	**11.37**	**38**	*e*P		**Pn**	**14 38 43.1**	**-1.1**
MT02	**Curacav**	**11.58**	**196**			**Pn**	**14 38 46.9**	**+0.1**
MT01	**Popeta**	**12.18**	**196**	Pn		**Pn**	**14 38 54.4**	**-0.1**
SALV	**Santo Antonio**	**12.60**	**62**	*e*P		**Pn**	**14 38 59.0**	**-1.0**
RPRD	**Ribas do Rio P**	**12.77**	**85**	*e*P		**Pn**	**14 39 02.3**	**+0.1**
BO02	**Sierra Bellavi**	**12.96**	**193**			**Pn**	**14 39 04.9**	**+0.4**
TRCB	**Terra Rica**	**13.56**	**95**	P		**P**	**14 39 14.6**	**-0.6**
TRCB	**Terra Rica**	**13.56**	**95**	*e*P		**Pn**	**14 39 11.6**	**-0.6**
PTGB	**Pitanga**	**14.21**	**103**	*e*P		**P**	**14 39 20.4**	**-1.9**
PDRB	**Porto dos Gac**	**14.55**	**46**	*e*P		**Pn**	**14 39 22.6**	**-1.9**
ITAB	**Concordia**	**14.67**	**113**			**P**	**14 39 26.8**	**-0.5**
ITAB	**Concordia**	**14.67**	**113**	*e*P		**P**	**14 39 25.7**	**-1.6**
CPSB	**Cacapava Do Su**	**14.88**	**126**	*e*P		**Pn**	**14 39 26.8**	**-1.7**
PLTB	**Pedras Altas**	**15.49**	**131**			**Pn**	**14 39 34.5**	**-1.5**
PLTB				IAmb		IAmb	14 39 37.5	
	comp=Z,111nm,0.8s							
PLTB	**Pedras Altas**	**15.49**	**131**	*e*P		**Pn**	**14 39 34.8**	**-1.1**
CLDB	**Colider**	**15.71**	**46**	*e*P		**P**	**14 39 38.3**	**-0.6**
ARAG	**Araguaiana, MT**	**15.98**	**69**	*e*P		**Pn**	**14 39 41.4**	**-0.6**
ITRB	**Iturama**	**16.00**	**84**	*e*P		**Pn**	**14 39 41.8**	**-0.5**
CNLB	**Canela**	**16.43**	**119**	*e*P		**Pn**	**14 39 46.5**	**-0.8**
TRQA	**Tornquist**	**16.50**	**165**			**Pn**	**14 39 47.4**	**-0.6**
TRQA				IAmb		IAmb	14 39 50.7	
	comp=Z,6.4nm,0.5s							
MAJ01	**Sao Joao Batis**	**17.39**	**111**	*e*P		**Pn**	**14 39 56.8**	**-2.0**
BB19B	**Bebedouro**	**17.48**	**90**	*e*P		**Pn**	**14 39 58.0**	**-1.9**
SNDB	**Serra Nova Dou**	**18.32**	**59**	*e*P		**P**	**14 40 07.0**	**-0.6**
SPB	**Sao Paulo**	**18.36**	**98**	IAmb		IAmb	14 40 09.8	
	comp=Z,10nm,0.7s							
SPB	**Sao Paulo**	**18.36**	**98**	*e*P		**Pn**	**14 40 07.8**	**-2.3**
IPMB	**Ipameri, GO**	**18.39**	**80**	*e*P		**P**	**14 40 07.9**	**-0.5**
PET01	**Itanhaem-SP**	**18.52**	**100**	*e*P		**Pn**	**14 40 09.5**	**-2.5**
PLCA	**Paso Flores**	**18.73**	**188**	P		**Pn**	**14 40 12.9**	**-1.5**
	comp=Z,2.0nm,0.5s,baz=7.5,slow=12,SNR=9.2							
VAO	**Valinhos**	**18.79**	**96**			**P**	**14 40 12.4**	**-0.3**
VAO	**Valinhos**	**18.79**	**96**	*e*P		**P**	**14 40 12.4**	**-0.3**
NPGB	**Novo Progresso**	**18.92**	**39**	*e*P		**P**	**14 40 12.2**	**-1.9**
BDFB	**Brasilia**	**19.34**	**74**			**P**	**14 40 18.4**	**-0.4**
BDFB	**Brasilia**	**19.34**	**74**	P		**P**	**14 40 17.7**	**-1.0**
	comp=Z,13nm,0.6s,baz=250,slow=12,SNR=16							
PMNB	**Patos De Minas**	**19.88**	**83**	*e*P		**P**	**14 40 23.9**	**-0.5**
PARB	**Paraibuna**	**20.02**	**98**	*e*P		**P**	**14 40 24.0**	**-1.9**
PARB				*e*pP		**pP**	**14 40 55.9**	**-1.7**
ITTB	**Itaituba**	**20.93**	**34**	*e*P		**P**	**14 40 34.0**	**-1.6**
BSCB	**Bom Sucesso**	**20.97**	**91**	*e*P		**P**	**14 40 35.5**	**-0.6**
VAS01	**Vassouras-RJ**	**22.07**	**95**	*e*P		**P**	**14 40 46.6**	**-0.9**
DIAM	**Diamantina, MG**	**22.48**	**84**	*e*P		**P**	**14 40 50.0**	**-1.5**
COHC	**Cochancay**	**22.76**	**328**	P		**P**	**14 40 56.0**	**+2.2**
JANB	**Januaria**	**22.87**	**76**	*e*P		**P**	**14 40 53.5**	**-1.5**
SMTB	**Santa Maria do**	**23.09**	**58**	*e*P		**P**	**14 40 55.8**	**-1.0**
PRPB	**Paraupebas**	**23.18**	**49**	*e*P		**P**	**14 40 56.2**	**-1.4**
SDBA	**SAO DESIDERIO**	**23.44**	**69**	*e*P		**P**	**14 40 58.8**	**-1.3**
SNAA	**Sanae**	**61.17**	**161**	P		**P**	**14 46 03.8**	**+1.9**
	comp=Z,0.8nm,0.6s,baz=278,slow=7.1,SNR=7.1							
	comp=Z,0.8nm,0.6s							
TXAR	**Lajitas Array**	**62.03**	**324**	P		**P**	**14 46 09.3**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=136,slow=5.8,SNR=4.7							
	comp=Z,0.3nm,0.5s							
DBIC	**Dimbokro**	**67.48**	**72**	P		**P**	**14 46 43.6**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=243,slow=6.3,SNR=2.9							
	comp=Z,2.1nm,0.5s							
QSPA	**South Pole Qui**	**68.04**	**180**	P		**P**	**14 46 49.4**	**+2.8**
	comp=Z,1.9nm,0.4s,baz=183,slow=3.6,SNR=45							
	comp=Z,1.9nm,0.4s							
SDCO	**Great Sand Dun**	**69.58**	**328**	IAmb		IAmb	14 46 59.7	
	comp=Z,2.6nm,0.9s							
KNB	**Kanab**	**72.84**	**323**	P		**P**	**14 47 19.0**	**+2.9**
KNB				IAmb		IAmb	14 47 20.3	
	comp=Z,3.7nm,0.9s							
CCUT	**Cedar City**	**73.52**	**323**			**P**	**14 47 22.9**	**+2.8**
CCUT				IAmb		IAmb	14 47 24.3	
	comp=Z,2.7nm,0.8s							
BSUT	**Blindstream Ca**	**74.33**	**327**	IAmb		IAmb	14 47 28.3	
	comp=Z,3.5nm,0.7s							
PDAR	**Pinedale Array**	**75.43**	**329**	P		**P**	**14 47 32.8**	**+1.8**
	comp=Z,0.7nm,0.6s,baz=126,slow=4.9,SNR=8.3							
	comp=Z,0.7nm,0.6s							
HWUT	**Hardware Ranch**	**75.54**	**327**	IAmb		IAmb	14 47 35.9	
	comp=Z,2.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**76.16**	**69**	P		**P**	**14 47 35.4**	**0.0**
	comp=Z,26nm,0.6s,baz=260,slow=5.1,SNR=92							
VNDA	**Vanda**	**76.47**	**190**	P		P	14 47 39.4	+3.3
	comp=Z,0.6nm,0.9s,baz=105,slow=3.2,SNR=2.7							
	comp=Z,0.6nm,0.9s							
NVAR	**Mina Array Bea**	**76.94**	**321**	P		**P**	**14 47 42.2**	**+2.6**
	comp=Z,0.5nm,0.6s,baz=128,slow=4.4,SNR=3.0							
	comp=Z,0.5nm,0.6s							
YNE	**Yellowstone No**	**77.35**	**330**	P		**P**	**14 47 43.3**	**+1.5**
YNE				IAmb		IAmb	14 47 44.9	
	comp=Z,3.7nm,0.8s							
BMO	**Blue Mountains**	**80.78**	**326**	P		**P**	**14 48 01.7**	**+1.5**
BMO				IAmb		IAmb	14 48 03.4	
	comp=Z,4.3nm,1.3s							
BOSA	**Boshof**	**81.81**	**117**	P		**P**	**14 48 07.2**	**+1.0**
	comp=Z,4.3nm,0.4s,baz=251,slow=5.5,SNR=10							
	comp=Z,4.3nm,0.4s							
ESDC	**Sonseca Array**	**85.25**	**44**	P		**P**	**14 48 23.8**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=249,slow=5.1,SNR=1.8							
	comp=Z,0.3nm,0.6s							
YKA	**Yellowknife Ar**	**92.31**	**340**	P		**P**	**14 48 57.4**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=130,slow=3.9,SNR=4.7							
	comp=Z,0.8nm,0.7s							
ASAR	**Alice Springs**	**130.01**	**206**	PKP		**PKiKP**	**14 54 57.1**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=132,slow=1.8,SNR=11							
PETK	**Petropavlovsk-**	**133.98**	**324**	PKP		**PKiKP**	**14 55 03.2**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=96,slow=4.9,SNR=4.3							
ZALV	**Zalesovo Beam**	**141.88**	**27**	PKP		**PKiKP**	**14 55 18.0**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=262,slow=2.9,SNR=2.0							
MKAR	**Makanchi Array**	**145.25**	**38**	PKPbc		**PKiKP**	**14 55 24.2**	**-2.7**
	comp=Z,1.1nm,0.8s,baz=302,slow=4.8,SNR=5.1							

*ISK **12** 14:54:08.3,37°.78N×26°.01E,h5km,ML2.4/12*
*AFAD **12** 14:54:09.4,37°.78N×26°.07E,h6km±3km,ML2.6*
*ATH **12** 14:54:10.2,37°.85N×26°.10E,h16km±2km,ML2.3/7,*
Manual Solution by A.Andreou First location: 2019/07/12 14:55:25, This location: 2019/07/12 15:26:59 ML
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km

ISC 12 14:54:09.6±1.1,37.80N±0.02×26.06E±0.02,h8km±10km, n28,σ0.59/47,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ZEYE	**Izmir, Urla-Ze**	**0.56**	**39**	P		**Pg**	**14 54 21.0**	**+0.6**
ZEYE				S		**Sb**	**14 54 29.5**	**-0.3**
CHOS	**Chios island**	**0.58**	**359**	Pg		**Pg**	**14 54 21.0**	**+0.1**
CHOS				Sg		**Sb**	**14 54 30.7**	**+0.1**
CHOS	**Chios island**	**0.58**	**359**	P		**Pg**	**14 54 21.2**	**+0.3**
CHOS				S		**Sg**	**14 54 28.9**	**+0.3**
SMG	**Samos**	**0.62**	**99**	P		**Pb**	**14 54 22.1**	**-0.7**
SMG				S		**Sb**	**14 54 30.9**	**-0.7**
DGB	**zmir**	**0.69**	**69**	P		**Pg**	**14 54 22.3**	**-0.7**
DGB				S		**Sg**	**14 54 32.8**	**+0.7**
DGB				*i* IAML			14 54 34.0	
	comp=N,287nm,0.5s							
DGB				*i* IAML			14 54 34.0	
	comp=E,226nm,0.4s							
URLA	**Izmir**	**0.70**	**37**	Pg		**Pb**	**14 54 23.7**	**-0.4**
URLA				Sg		**Sb**	**14 54 34.9**	**+1.1**
URLA	**Izmir**	**0.70**	**37**	P		**Pg**	**14 54 23.1**	**+0.1**
URLA				S		**Sb**	**14 54 33.5**	**-0.3**
URLA				*i* IAML			14 54 35.0	
	comp=N,210nm,0.6s							
URLA				*i* IAML			14 54 35.0	
	comp=E,246nm,0.5s							
GMLD	**Gumuldur**	**0.73**	**68**	Pg		**Pg**	**14 54 24.0**	**+0.4**
GMLD				Sg		**Sb**	**14 54 35.2**	**+0.6**
TNSA	**Tinos**	**0.76**	**250**	P		**Pb**	**14 54 25.8**	**+0.6**
TNSA				S		**Sb**	**14 54 36.2**	**+0.5**
KARB	**zmir-Karabur**	**0.90**	**18**	P		**Pg**	**14 54 26.7**	**-0.2**
KARB				S		**Sg**	**14 54 37.9**	**-0.7**
GCAM	**G?zelcaml?**	**0.93**	**96**	Pg		**Pb**	**14 54 28.1**	**+0.1**
GCAM				Sg		**Sn**	**14 54 42.5**	**-0.1**
GCAM	**G?zelcaml?**	**0.93**	**96**	P		**Pb**	**14 54 27.8**	**-0.2**
GCAM				S		**Sb**	**14 54 40.8**	**+0.2**
BLCB	**Balcova**	**0.97**	**53**	Pg		**Pg**	**14 54 28.3**	**+0.1**
AMGA	**Amorgos Island**	**0.98**	**188**	P		**Pb**	**14 54 28.9**	**0.0**
AMGA				S		**Sn**	**14 54 42.8**	**-1.0**
FOCM	**Foa**	**1.05**	**30**	Pn		**Pn**	**14 54 30.7**	**+0.1**
BODT	**Bodrum**	**1.24**	**126**	Pn		**Pn**	**14 54 33.5**	**+0.2**
KARY	**Karystos**	**1.31**	**281**	P		**Pn**	**14 54 34.2**	**0.0**
KARY				S		**Sb**	**14 54 51.0**	**-0.3**
BDRM	**Kayabasi**	**1.32**	**123**	P		**Pg**	**14 54 35.7**	**+0.7**
BDRM				S		**Sn**	**14 54 54.6**	**+2.3**
SIGR	**SIGRI**	**1.42**	**353**	Pn		**Pb**	**14 54 36.5**	**+0.2**
SIGR	**SIGRI**	**1.42**	**353**	P		**Pn**	**14 54 34.5**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**84**	Pn		**Pg**	**14 54 37.3**	**-0.2**
THERA	**Ancient Thera,**	**1.51**	**198**	P		**Pg**	**14 54 38.1**	**-0.4**
THERA				S		**Sg**	**14 54 57.5**	**-0.7**
IZMR	**zmir-demi**	**1.53**	**77**	P		**Pg**	**14 54 39.1**	**+0.2**
IZMR				S		**Sn**	**14 54 57.3**	**0.0**
DAT	**Datca**	**1.62**	**131**	Pn		**Pb**	**14 54 39.4**	**-0.4**
ODEM	**Odemis-Izmir**	**1.66**	**73**	Pn		**Pb**	**14 54 40.2**	**-0.2**
DION	**Dionisos Attik**	**1.71**	**280**	P		**Pn**	**14 54 39.8**	**0.0**
DION				S		**Sn**	**14 55 01.8**	**0.0**
NAZL	**Nazilli-Aydin**	**1.77**	**84**	Pn		**Pb**	**14 54 42.1**	**-0.3**
KIRA	**zmir-Kiraz**	**1.89**	**77**	P		**Pg**	**14 54 45.5**	**-0.3**
KIRA				S		**Sb**	**14 55 08.4**	**+0.2**

NEIC 12 15:26:59.0±0.4,37.00N±0.01×104.93W±0.02,h8km±1km, ML1.6/10,Error ellipse: s-maj=2.0km s-min=1.6km az=83.0,New Mexico

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
T25A	**Trinidad**	**0.44**	**71**			Pg	15 27 07.9	+0.3
T25A					Sg	Sg	15 27 13.8	+0.4
T25A					IAML		15 27 14.0	
	comp=E,60nm,0.2s							
T25A					IAML		15 27 14.1	
	comp=N,82nm,0.2s							
SDCO	**Great Sand Dun**	**0.87**	**329**	Pg		Pg	15 27 15.7	-0.2
SDCO				Sg		Sg	15 27 26.4	-0.8
SDCO				IAML			15 27 26.8	
	comp=N,15nm,0.1s							
RTBA	**Rita Blanca**	**1.85**	**107**	Pn		Pb	15 27 33.3	+0.2
RTBA						Sb	15 27 56.9	+0.5

IDC 12 15:32:39.3±1.7,0.73N×126.66E,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=167.3km s-min=20.8km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.88**	**160**	P		P	15 37 33.0	-1.1
	2.2nm,0.8s,baz=339,slow=11,SNR=18							
	2.2nm,0.8s							
ASAR	**Alice Springs**	**25.25**	**164**	P		P	15 38 08.1	+0.7
	3.8nm,0.9s,baz=343,slow=10,SNR=20							
	3.8nm,0.9s							
MKAR	**Makanchi Array**	**59.98**	**326**	P		P	15 42 47.3	-0.5
	0.5nm,0.5s,baz=126,slow=6.6,SNR=6.0							
	0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**64.22**	**328**	P		P	15 43 16.3	+0.3
	0.5nm,0.5s,baz=130,slow=6.1,SNR=8.6							
	0.5nm,0.5s							

IDC 12 15:48:57.6±21.0,53.32S×136.25W,h0km,mb3.9/2, mbtmp3.9/2,Error ellipse: s-maj=995.9km s-min=199.8km az=136.0,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
H03S2	**Juan Fernandez**	**44.52**	**88**	T		T	16 42 59.5	
	baz=222,slow=74,SNR=4.2							
H03S1	**Juan Fernandez**	**44.52**	**88**	T		T	16 43

KDMR	**Kurdemir**	**2.28**	**4**	Pn	**Pb**	**16 21 06.9**	**-0.7**
KDMR				Sn	**Sg**	**16 21 38.8**	**-0.4**
SBZ	**Shahbuz**	**2.29**	**305**	Pn	**Pb**	**16 21 08.6**	**+0.7**
SBZ				Sn	**Sg**	**16 21 39.3**	**-0.3**
IGZV	**Ghazvin**	**2.48**	**133**	Pn	**Pb**	**16 21 09.4**	**-1.8**
GBS	**Qobustan**	**2.54**	**17**	Pn	**Pn**	**16 21 09.4**	**+1.3**
GBS				Sn	**Sg**	**16 21 46.6**	**-1.2**
IML	**Ismayilli**	**2.69**	**3**	Pn	**Pb**	**16 21 13.0**	**-1.8**
IML				Sn	**Sb**	**16 21 48.9**	**+0.7**
QABG	**Abgarm-Qazvin**	**2.71**	**151**	Pn	**Pn**	**16 21 12.2**	**+1.7**
PQL	**Pirkuli**	**2.73**	**10**	Pn	**Pb**	**16 21 13.8**	**-1.5**
PQL				Sn	**Sg**	**16 21 51.0**	**-2.7**
QBL	**Gabala**	**2.84**	**358**	Pn	**Pb**	**16 21 14.4**	**-2.9**
QBL				Sn	**Sb**	**16 21 52.1**	**-0.3**
GANJ	**Ganja**	**2.84**	**334**	Pn	**Pb**	**16 21 15.4**	**-1.9**
GANJ				Sn	**Sb**	**16 21 52.6**	**+0.2**
HYR	**Heyderabad**	**2.92**	**305**	Pn	**Pb**	**16 21 20.0**	**+1.4**
HYR				Sn	**Sg**	**16 22 00.4**	**+0.6**
SIZA	**Siyzn**	**3.06**	**13**	Pn	**Pb**	**16 21 19.5**	**-1.5**
SIZA				Sn	**Sb**	**16 21 58.8**	**+0.2**
XNQ	**Khinaliq**	**3.07**	**2**	Pn	**Pn**	**16 21 17.8**	**+2.4**
XNQ				Sn	**Sb**	**16 21 58.1**	**-1.0**
GDB	**GEDABAY**	**3.13**	**327**	Pn	**Pb**	**16 21 20.3**	**-1.9**
GDB				Sn	**Sb**	**16 22 01.8**	**+1.0**
SEKA	**Sheki**	**3.16**	**349**	Pn	**Pn**	**16 21 19.1**	**+2.5**
SEKA				Sn	**Sb**	**16 21 57.8**	**-3.8**
SNQR	**Sonqor, Kerman**	**3.25**	**185**	Pn	**Pn**	**16 21 20.3**	**+2.4**
QUBA	**Quba, Azerbaij**	**3.27**	**7**	Pn	**Pb**	**16 21 22.0**	**-2.7**
QUBA				Sn	**Sb**	**16 22 04.2**	**-0.6**
MZPU	**Pul - Mazandar**	**3.31**	**119**	Pn	**Pn**	**16 21 19.9**	**+1.1**
HAGD	**Aghdareh**	**3.41**	**164**	Pn	**Pn**	**16 21 21.1**	**+1.0**
QSAR	**Qusar**	**3.42**	**4**	Pn	**Pb**	**16 21 23.2**	**-3.9**
QZX	**Qazax, Azerbai**	**3.57**	**327**	Pg	**Pb**	**16 21 28.3**	**-1.4**
QZX				Sg	**Sg**	**16 22 17.3**	**-3.4**
ZKTA	**Zakatala**	**3.68**	**344**	Pn	**Pn**	**16 21 26.7**	**+3.1**
ZKTA				Sn	**Sb**	**16 22 13.0**	**-3.5**
IPRN	**Peran**	**3.95**	**117**	Pn	**Pn**	**16 21 28.5**	**+1.1**
ISFB	**Sefidab**	**5.09**	**136**	Pn	**Pn**	**16 21 45.3**	**+2.3**
IKLH	**Kolahrood**	**5.60**	**147**	Pn	**Pn**	**16 21 52.6**	**+2.4**
ANAR	**Anarak**	**6.78**	**135**	Pn	**Pn**	**16 22 08.3**	**+2.0**

IDC ***12*** *16:38:01.7±6.0,23˚.24S×179˚.77E,h641^{km}±74^{km},mb3.1/7, mbtmp4.1/8,Error ellipse: s-maj=36.4km s-min=27.1km az=79.0*

ISC 12 16:38:02.1±0.9,**23˚.2S**±0˚.2×**179˚.7E**±0˚.1,**h650^{km},n10, σ0^{s}91/10,mb3.7/7,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.32**	**272**	P	**P**	**16 40 43.6**	**-0.2**
	5.4nm,0.6s,baz=91,slow=12,SNR=5.9						
STKA	**Stephens Creek**	**34.77**	**247**	P	**P**	**16 44 01.5**	**+0.2**
	2.4nm,0.6s,baz=76,slow=8.3,SNR=3.9						
	2.4nm,0.6s						
ASAR	**Alice Springs**	**41.91**	**260**	P	**P**	**16 44 59.4**	**+0.6**
	3.5nm,0.7s,baz=95,slow=6.9,SNR=55						
	3.5nm,0.7s						
WRA	**Warramunga Arr**	**42.21**	**265**	P	**P**	**16 45 01.4**	**+0.3**
	3.8nm,0.7s,baz=91,slow=8.4,SNR=85						
	3.8nm,0.7s						
QSPA	**South Pole Qui**	**66.92**	**180**	P	**P**	**16 47 51.9**	**0.0**
	1.7nm,0.6s,baz=341,slow=0.7,SNR=25						
	1.7nm,0.6s						
SNAA	**Sanae**	**85.41**	**179**	P	**P**	**16 49 32.2**	**-0.3**
	0.4nm,0.4s,baz=192,slow=15,SNR=6.8						
	0.4nm,0.4s						
TXAR	**Lajitas Array**	**90.25**	**58**	P	**P**	**16 49 56.6**	**+0.7**
	0.3nm,0.5s,baz=212,slow=6.8,SNR=4.8						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**92.33**	**44**	P	**P**	**16 50 05.6**	**+0.4**
	0.2nm,0.4s,baz=264,slow=7.8,SNR=3.0						
	0.2nm,0.4s						
HFS	**Hagfors**	**141.77**	**349**	PKP	**PKPdf**	**16 56 18.8**	**-2.1**
	1.0nm,0.3s,baz=29,slow=3.3,SNR=22						
AKASG	**Malin Array Be**	**144.21**	**328**	PKP	**PKPab**	**16 56 26.0**	**-0.1**
	0.5nm,0.5s,baz=49,slow=3.6,SNR=6.0						

BGSI ***12*** *16:45:26.2±0.3,24˚.97S×24˚.21E,h15^{km},ML1.8*

PRE 12 16:45:00.6±1.1,**26˚.37S×27˚.25E,h2^{km},ML1.9,South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.56**	**170**	*e*P	Pg	16 45 10.7	-0.7
PRYS				*e*S	Sg	16 45 18.6	-0.1
PRYS				IAML		16 45 22.7	
	comp=Z,68nm,0.8s						
HRAO	**HartRAO**	**0.61**	**39**	*e*P	Pg	16 45 12.1	-0.3
HRAO				*e*S	Sg	16 45 20.4	0.0
HRAO				IAML		16 45 20.4	
	comp=Z,41nm,0.5s						
SWZ	**Schweizer**	**1.90**	**244**	*e*P	Pn	16 45 34.9	+0.7
SWZ				*e*S	Sb	16 45 59.9	-0.4
SWZ				IAML		16 46 04.5	
	comp=Z,22nm,0.5s						
SNKL	**Senekal, Frees**	**1.95**	**166**	*e*P	Pn	16 45 35.3	+0.4
SNKL				*e*S	Sb	16 46 01.4	-0.6
SNKL				IAML		16 46 01.8	
	comp=Z,34nm,0.6s						
LBTB	**Lobatse**	**2.01**	**312**	*e*P	Pn	16 45 36.5	+0.8
LBTB				*e*S	Sb	16 46 02.9	-0.7
LBTB				IAML		16 46 07.5	
	comp=Z,28nm,0.2s						
MAKGR	**Makgori**	**2.27**	**284**	*i* P	Pg	16 45 43.7	-0.5
MAKGR				IAML		16 46 15.5	
	comp=E,36nm,0.1s						
LEPH	**Lephalale, Lim**	**2.55**	**11**	*e*P	Pn	16 45 43.9	+0.8
LEPH				*e*S	Sn	16 46 15.3	+0.6
LEPH				IAML		16 46 21.6	
	comp=Z,6.5nm,0.3s						
NWCL	**Newcastle**	**2.72**	**121**	*e*P	Pn	16 45 46.6	+1.1
NWCL				*e*S	Sn	16 46 19.6	+0.7
NWCL				IAML		16 46 22.4	
	comp=Z,7.8nm,0.3s						
BOSA	**Boshof**	**2.85**	**218**	*e*P	Pn	16 45 47.7	+0.4
BOSA				*e*S	Sn	16 46 23.4	+1.1
BOSA				IAML		16 46 29.9	
	comp=Z,6.9nm,0.4s						
LPHEP	**Lephephe**	**3.25**	**337**	*i* P	Pb	16 46 00.6	+1.5
LPHEP				IAML		16 46 48.6	
	comp=N,7.5nm,0.7s						
KDWAN	**Kaudwane**	**3.79**	**321**	*i* P	Pn	16 45 52.9	-7.4
KDWAN				IAML		16 47 04.2	
	comp=N,19nm,0.8s						
PMBG	**Pietermaritzbu**	**4.25**	**138**	*e*P	Pn	16 46 08.1	+1.6
PMBG				*e*S	Sn	16 46 56.7	-0.1
PMBG				IAML		16 47 16.9	
	comp=Z,3.2nm,0.5s						
KSTD	**Kokstad**	**4.60**	**157**	*e*P	Pn	16 46 12.4	+1.0
KSTD				*e*S	Sn	16 47 05.3	-0.2
KSTD				IAML		16 47 26.3	
	comp=Z,1.7nm,0.8s						
MOPA	**Mopani**	**4.71**	**54**	*e*P	Pn	16 46 12.8	0.0
MOPA				*e*S	Sn	16 47 06.6	-1.5
MOPA				IAML		16 47 28.1	
	comp=Z,3.8nm,0.5s						
ALKP	**Alkanpan, Nort**	**5.67**	**230**	*e*P	Pn	16 46 26.3	+0.3
ALKP				*e*S	Sn	16 47 29.8	-2.0
ALKP				IAML		16 48 02.5	
	comp=Z,3.5nm,0.5s						
BRAK	**Brakfontein**	**6.61**	**214**	*e*P	Pn	16 46 39.0	+0.1
BRAK				*e*S	Sn	16 47 51.6	-3.1
BRAK				IAML		16 48 37.0	
	comp=Z,1.4nm,0.4s						
FRAZ	**Fraserburg**	**7.54**	**221**	*e*P	Pn	16 46 53.7	+2.0
FRAZ				*e*S	Sn	16 48 14.0	-3.8
FRAZ				IAML		16 48 35.2	
	comp=Z,1.0nm,0.5s						

IDC ***12*** *17:01:08.0±0.8,55˚.07N×158˚.79W,h0^{km},mb3.8/21, mbtmp3.9/23,ML3.7/3,MS3.2/2,Error ellipse: s-maj=20.6km s-min=12.7km az=175.0*

NEIC ***12*** *17:01:10.3±1.6,54˚.81N±0˚.06×158˚.42W±0˚.04,h24^{km}±6^{km}, mb4.2/27,ML4.1/44,ML4.0(AEIC),Error ellipse: s-maj=9.2km s-min=3.3km az=174.0*

AEIC ***12*** *17:01:10.7±1.8,54˚.82N±0˚.03×158˚.44W±0˚.05,h8^{km}±5^{km}, Error ellipse: s-maj=5.0km s-min=4.2km az=143.0*

ISC 12 17:01:10.0±1.5,**54˚.87N**±0˚.06×**158˚.39W**±0˚.03,**h20^{km}±7^{km}, n221,σ1^{s}15/216,mb4.0/28,South of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNA	**Chernabura Isl**	**0.70**	**267**	P	**Pb**	**17 01 23.2**	**-0.2**
CHNA	**Chernabura Isl**	**0.70**	**267**	S	**Sg**	**17 01 32.8**	**-0.2**
CNBA	**Chernabura Isl**	**0.70**	**266**		**Pb**	**17 01 22.9**	**-0.5**
CNBA					**Sb**	**17 01 31.7**	**-0.8**
CNBA				IAML		17 01 34.0	
	comp=N,7μm,0.4s						
VNKR	**Veniaminof 5**	**1.29**	**335**		**Pn**	**17 01 33.2**	**+0.2**
SDPT	**Sand Point**	**1.29**	**293**		**Sn**	**17 01 48.2**	**-1.4**
SDPT	**Sand Point**	**1.29**	**293**		**Pn**	**17 01 31.7**	**-1.2**
SDPT				IAML		17 01 54.7	
	comp=E,3μm,0.8s						
SDPT				IAML		17 01 55.2	
	comp=N,3μm,0.8s						
SDPT	**Sand Point**	**1.29**	**293**	P	**Pn**	**17 01 31.7**	**-1.2**
SDPT	**Sand Point**	**1.29**	**293**	S	**Sn**	**17 01 48.6**	**-1.0**
VNSW	**Veniaminof 7**	**1.38**	**331**		**Pn**	**17 01 34.4**	**+0.2**
VNSW					**Sn**	**17 01 51.9**	**+0.1**
VNHG	**Veniaminof 1**	**1.42**	**342**		**Pn**	**17 01 35.4**	**+0.6**
CHGN	**Chignik**	**1.43**	**359**		**Pn**	**17 01 34.9**	**+0.1**
CHGN					**Sn**	**17 01 52.9**	**-0.2**
CHGN				IAML		17 01 55.6	
	comp=N,4μm,0.7s						
VNFG	**Fog Glacier, M**	**1.56**	**335**		**Pn**	**17 01 37.5**	**+0.7**
VNFG					**Sb**	**17 01 57.9**	**+0.2**
VNFG	**Fog Glacier, M**	**1.56**	**335**		**Pn**	**17 01 37.7**	**+1.0**
VNFG					**Sb**	**17 01 59.5**	**+1.8**
CHIR	**Chirikof Islan**	**1.84**	**58**		**Pn**	**17 01 41.5**	**+1.0**
CHIR	**Chirikof Islan**	**1.84**	**58**		**Sn**	**17 02 02.4**	**-0.8**
CHIR				IAML		17 02 18.0	
	comp=E,3μm,0.8s						
CHIR				IAML		17 02 20.9	
	comp=N,3μm,0.8s						
CHIR	**Chirikof Islan**	**1.84**	**58**	P	**Pn**	**17 01 41.4**	**+1.0**
ANPB	**Aniakchak Plen**	**1.94**	**2**		**Pn**	**17 01 42.6**	**+0.8**
ANPB					**Sb**	**17 02 07.5**	**-0.9**
ANPK	**Aniakchak Peak**	**1.98**	**4**		**Pn**	**17 01 43.6**	**+1.1**
ANPK					**Sb**	**17 02 10.7**	**+1.1**
PS1A	**Pavlof South-1**	**2.00**	**287**		**Pn**	**17 01 42.7**	**0.0**
PS1A					**Sn**	**17 02 07.7**	**+0.5**
PVV	**Pavlof Volcano**	**2.02**	**286**		**Pn**	**17 01 43.0**	**+0.1**
PVV					**Sn**	**17 02 08.8**	**+1.3**
AZAC	**Aniakchak**	**2.03**	**2**		**Pn**	**17 01 44.5**	**+1.3**
AZAC					**Sb**	**17 02 10.5**	**-0.6**
PS4A	**Pavlof South-4**	**2.05**	**285**		**Pn**	**17 01 43.7**	**+0.4**
PS4A					**Sn**	**17 02 09.6**	**+1.3**
S12K	**Black Hills**	**2.26**	**293**		**Pn**	**17 01 46.1**	**-0.1**
S12K				IAML		17 02 17.3	
	comp=N,2μm,0.3s						
SII	**Sitkinak Islan**	**2.92**	**53**		**Pn**	**17 01 56.4**	**+1.1**
SII	**Sitkinak Islan**	**2.92**	**53**	P	**Pn**	**17 01 57.0**	**+1.7**
PLBL	**Peulik Blue Cr**	**2.97**	**16**		**Pn**	**17 01 57.6**	**+1.7**
PLK4	**Peulik 4**	**2.99**	**21**		**Pn**	**17 01 57.8**	**+1.5**
PLK4				IAML		17 02 46.8	
	comp=N,1μm,0.7s						
PLK1	**Peulik 1**	**3.10**	**18**		**Pn**	**17 01 59.3**	**+1.5**
PLK2	**Peulik 2**	**3.12**	**21**		**Pn**	**17 01 59.9**	**+1.8**
SSBA	**Shishaldin**	**3.32**	**271**		**Pn**	**17 02 01.8**	**+0.9**
CAHL	**Cahill**	**3.62**	**27**		**Pn**	**17 02 07.0**	**+2.1**
WEBT	**Westdahl Beart**	**3.70**	**268**		**Pn**	**17 02 06.7**	**+0.7**
OHAK	**Old Harbor**	**3.71**	**48**		**Pn**	**17 02 06.4**	**+0.4**
OHAK				IAML		17 03 30.2	
	comp=N,244nm,1.0s						
WECS	**Westdahl Cape**	**3.73**	**267**		**Pn**	**17 02 07.2**	**+0.8**
ACHA	**Angle Creek He**	**3.75**	**26**		**Pn**	**17 02 08.1**	**+1.3**
P16K	**Nushagak River**	**4.18**	**3**		**Pn**	**17 02 13.4**	**+0.9**
KAHG	**Katmai Hook Gl**	**4.20**	**29**		**Pn**	**17 02 14.1**	**+1.2**
KAHC	**Katmai Hardscr**	**4.22**	**25**		**Pn**	**17 02 14.9**	**+1.6**
KAHC	**Katmai Hardscr**	**4.22**	**25**		**Pn**	**17 02 14.8**	**+1.6**
KDAK	**Kodiak Island**	**4.35**	**46**		**Pn**	**17 02 15.7**	**+0.8**
KDAK				IAML		17 03 41.4	
	comp=N,139nm,1.0s						
KDAK				IAML		17 03 50.6	
	comp=N,178nm,1.4s						
KDAK	**Kodiak Island**	**4.35**	**46**	Pn	**Pn**	**17 02 15.5**	**+0.6**
	comp=N,9.3nm,0.3s,baz=213,slow=5.6,SNR=59						
KDAK				Sn	**Sn**	**17 03 02.5**	**-2.5**
	comp=N,8.8nm,0.3s,baz=228,slow=7.5,SNR=1.6						
KDAK				Lg	Lg	17 03 27.7	
	comp=N,5.2nm,0.3s,baz=88,slow=17,SNR=6.1						
	comp=N,26nm,0.4s						
AKUT	**Akutan**	**4.37**	**263**	Pn	**Pn**	**17 02 15.2**	**+0.1**
AKUT				IAML		17 03 29.4	
	comp=N,144nm,0.9s						
AKUT	**Akutan**	**4.37**	**263**	P	**Pn**	**17 02 15.5**	**+0.4**
AKUT	**Akutan**	**4.37**	**263**	S	**Sn**	**17 03 05.0**	**-0.4**
O15K	**Ungalikthiuk R**	**4.39**	**350**		**Pn**	**17 02 15.6**	**+0.2**
O15K				IAML		17 03 42.3	
	comp=E,155nm,0.9s						
O15K				IAML		17 03 42.9	
	comp=N,168nm,0.8s						
P17K	**Kvichak River**	**4.46**	**13**		**Pn**	**17 02 17.9**	**+1.5**
AKGG	**Akutan Green G**	**4.48**	**264**		**Pn**	**17 02 17.3**	**+0.6**
LVA	**Lava Point**	**4.51**	**264**		**Pn**	**17 02 17.4**	**+0.2**
LVA				IAML		17 03 33.0	
	comp=N,248nm,0.7s						
O14K	**Tigyukauivet M**	**4.67**	**342**		**Pn**	**17 02 19.9**	**+0.7**
O14K				IAML		17 03 46.4	
	comp=N,165nm,1.0s						
O14K				IAML		17 03 49.2	
	comp=E,127nm,0.9s						
O16K	**Kokwok River B**	**4.74**	**2**		**Pn**	**17 02 21.0**	**+0.7**
O16K				IAML		17 03 48.3	
	comp=E,115nm,0.9s						
Q19K	**Cape Douglas,**	**4.83**	**31**		**Pn**	**17 02 22.8**	**+1.3**
P18K	**Big Mountain,**	**4.85**	**19**		**Pn**	**17 02 23.2**	**+1.4**
UNV	**Unalaska Valle**	**4.86**	**261**		**Pn**	**17 02 21.5**	**-0.3**
MTBL	**Makushin Table**	**4.93**	**263**		**Pn**	**17 02 23.3**	**+0.4**
SYI	**Shuyak Island**	**4.99**	**39**		**Pn**	**17 02 24.6**	**+0.9**
SYI	**Shuyak Island**	**4.99**	**39**	IAML		17 03 45.0	
	comp=N,121nm,0.8s						
SYI				IAML		17 04 06.0	
	comp=E,90nm,1.0s						
O18K	**Koktuh Hills**	**5.28**	**18**		**Pn**	**17 02 29.1**	**+1.3**
O18K				IAML		17 04 02.9	
	comp=N,72nm,0.9s						
O18K				IAML		17 04 12.0	
	comp=E,78nm,0.9s						
N14K	**Kuskokwak Cree**	**5.37**	**342**		**Pn**	**17 02 29.8**	**+0.9**
N15K	**Kwethluk River**	**5.39**	**351**		**Pn**	**17 02 29.9**	**+0.7**
P19K	**Oil Pt**	**5.55**	**28**		**Pn**	**17 02 33.0**	**+1.6**
N16K	**Nishlik Lake**	**5.62**	**358**		**Pn**	**17 02 34.4**	**+2.0**
N17K	**Nushagak Hills**	**5.71**	**6**		**Pn**	**17 02 34.1**	**+0.5**
O19K	**Port Alsworth**	**5.77**	**21**		**Pn**	**17 02 35.2**	**+0.8**
ILS	**Iliamna Low So**	**5.85**	**27**		**Pn**	**17 02 37.9**	**+2.3**
ILSW	**Iliamna Southw**	**5.86**	**27**		**Pn**	**17 02 36.6**	**+1.0**
IVE	**Iliamna Volcan**	**5.92**	**27**		**Pn**	**17 02 38.6**	**+2.1**
M15K	**Kasigluk River**	**5.97**	**349**		**Pn**	**17 02 38.5**	**+1.4**
N18K	**Kilae Creek**	**5.98**	**12**		**Pn**	**17 02 38.4**	**+1.2**
CNPM	**China Poot**	**6.07**	**37**		**Pn**	**17 02 39.8**	**+1.2**
M13K	**Dall Lake**	**6.16**	**336**	Pn	**Pn**	**17 02 40.8**	**+1.0**
M16K	**Timber Creek**	**6.18**	**357**		**Pn**	**17 02 41.0**	**+1.0**
M14K	**Bethel**	**6.20**	**344**		**Pn**	**17 02 40.6**	**+0.3**
N19K	**Bonanza Creek**	**6.31**	**18**		**Pn**	**17 02 43.1**	**+1.2**
RED	**Redoubt Volcan**	**6.33**	**26**		**Pn**	**17 02 42.7**	**+0.6**
RDSO	**Redoubt South**	**6.36**	**26**		**Pn**	**17 02 43.7**	**+1.1**
BRLK	**Bradley Lake**	**6.37**	**37**		**Pn**	**17 02 42.3**	**-0.3**
RDWB	**Redoubt West**	**6.37**	**26**		**Pn**	**17 02 43.5**	**+0.8**
NCT	**North Crescent**	**6.41**	**25**		**Pn**	**17 02 44.3**	**+1.0**
NIKH	**Nikolski High**	**6.47**	**257**	Pn	**Pn**	**17 02 44.1**	**+0.1**
NIKH	**Nikolski High**	**6.47**	**257**	P	**Pn**	**17 02 46.3**	**+2.3**
DFR	**Drift River**	**6.50**	**26**		**Pn**	**17 02 45.3**	**+0.8**
P08K	**Saint George I**	**6.54**	**290**	Pn	**Pn**	**17 02 45.1**	**+0.1**
RDT	**Redoubt**	**6.55**	**27**		**Pn**	**17 02 46.6**	**+1.4**
M17K	**Holitna River**	**6.57**	**4**		**Pn**	**17 02 45.9**	**+0.5**
M18K	**Stony River**	**6.78**	**10**		**Pn**	**17 02 49.5**	**+1.4**
L14K	**Kuka Creek**	**6.88**	**342**		**Pn**	**17 02 49.4**	**-0.1**
L16K	**Owhat River**	**6.88**	**356**		**Pn**	**17 02 49.4**	**-0.2**
M11K	**Mekoryuk**	**6.94**	**326**		**Pn**	**17 02 49.9**	**-0.5**
SPIA	**Saint Paul Isl**	**7.04**	**294**		**Pn**	**17 02 50.6**	**-1.2**
SEW	**Seward**	**7.12**	**39**		**Pn**	**17 02 53.6**	**+0.8**
SLKM	**Skilak Lake**	**7.14**	**34**		**Pn**	**17 02 53.6**	**+0.4**
O22K	**Cooper Landing**	**7.29**	**36**	Pn	**Pn**	**17 02 56.1**	**+0.9**
L18K	**Granite Mounta**	**7.42**	**6**		**Pn**	**17 02 57.6**	**+0.6**
STLK	**Strandline Lak**	**7.49**	**25**		**Pn**	**17 02 58.6**	**+0.5**
M20K	**Styx River**	**7.55**	**19**		**Pn**	**17 02 59.3**	**+0.3**
L19K	**White Mountain**	**7.56**	**13**		**Pn**	**17 02 59.2**	**+0.3**
K15K	**Wolf Creek Mou**	**7.62**	**349**		**Pn**	**17 02 59.6**	**-0.2**
RC01	**Rabbit Creek A**	**7.74**	**33**		**Pn**	**17 03 02.3**	**+0.9**
K13K	**Kusilvak Mount**	**7.81**	**338**		**Pn**	**17 03 02.6**	**+0.3**
P23K	**Montague Islan**	**7.84**	**45**		**Pn**	**17 03 03.8**	**+1.0**
K17K	**Iditarod**	**7.87**	**0**		**Pn**	**17 03 03.7**	**+0.5**
Q23K	**Middleton Isla**	**7.98**	**50**	Pn	**Pn**	**17 03 04.8**	**+0.2**
L20K	**Farewell, AK**	**7.98**	**15**		**Pn**	**17 03 06.0**	**+1.3**
SKT	**Skwentna**	**7.98**	**24**		**Pn**	**17 03 05.1**	**+0.4**
PWL	**Port Wells**	**8.04**	**38**		**Pn**	**17 03 05.2**	**-0.4**
J14K	**Nanvaranak Lak**	**8.34**	**343**		**Pn**	**17 03 09.5**	**-0.1**
HIN	**Hinchinbrook I**	**8.44**	**44**		**Pn**	**17 03 11.4**	**+0.5**
GHO	**Glory Hole Cre**	**8.52**	**32**		**Pn**	**17 03 12.4**	**+0.3**
J17K	**VABM Dome**	**8.56**	**358**		**Pn**	**17 03 12.9**	**+0.3**
FID	**Port Fidalgo**	**8.66**	**42**		**Pn**	**17 03 14.1**	**0.0**
EYAK	**Cordova Ski Ar**	**8.83**	**45**	P	**Pn**	**17 03 18.9**	**+2.6**
SCM	**Sheep Creek Mo**	**9.07**	**35**		**Pn**	**17 03 20.3**	**+0.5**
I17K	**Unalakleet**	**9.12**	**354**		**Pn**	**17 03 21.0**	**+0.7**
CAST	**Castle Rocks**	**9.16**	**18**		**Pn**	**17 03 21.7**	**+0.8**
J19K	**Poorman**	**9.26**	**8**		**Pn**	**17 03 23.0**	**+0.8**
KLU	**Klutina**	**9.34**	**40**		**Pn**	**17 03 23.8**	**+0.4**
HMT	**Hamilton**	**9.34**	**48**		**Pn**	**17 03 24.1**	**+0.7**
WAT7	**Susitna Watana**	**9.38**	**28**		**Pn**	**17 03 24.9**	**+1.0**
NICHA	**Nichawak Mount**	**9.42**	**49**		**Pn**	**17 03 25.1**	**+0.6**
BMRM	**Bremner River**	**9.53**	**45**		**Pn**	**17 03 26.9**	**+0.9**
TRF	**Thorofare Moun**	**9.55**	**22**		**Pn**	**17 03 27.0**	**+0.7**
J20K	**Nowinta River**	**9.58**	**11**		**Pn**	**17 03 27.4**	**+0.9**
BERG	**Berg Lake**	**9.61**	**49**		**Pn**	**17 03 27.6**	**+0.5**
M24K	**Tolsona, Glenn**	**9.65**	**36**		**Pn**	**17 03 28.9**	**+1.2**
GRIN	**Grindle Hills**	**9.73**	**50**		**Pn**	**17 03 29.2**	**+0.5**
ATKA	**Atka Island**	**9.78**	**261**	Pn	**Pn**	**17 03 28.8**	**-0.6**
ATKA	**Atka Island**	**9.78**	**261**	P	**Pn**	**17 03 29.7**	**+0.3**
BPAW	**Bear Paw Mtn.**	**9.98**	**19**		**Pn**	**17 03 32.4**	**+0.3**
H17K	**Granite Mounta**	**10.13**	**356**		**Pn**	**17 03 32.7**	**-1.4**
ANM	**Nome**	**10.34**	**343**	Pn	**Pn**	**17 03 36.3**	**-0.7**
PAX	**Paxson**	**10.49**	**34**		**Pn**	**17 03 39.4**	**+0.2**
H19K	**Roundabout Mou**	**10.73**	**4**		**Pn**	**17 03 40.3**	**-2.1**
G16K	**Koyuk River**	**10.74**	**351**		**Pn**	**17 03 42.2**	**-0.2**
GSTR	**Great Sitkin T**	**10.89**	**262**	Pn	**Pn**	**17 03 44.0**	**-0.6**
K24K	**Donnelly Dome**	**11.01**	**30**		**Pn**	**17 03 45.0**	**-1.1**
G18K	**Tagagawik**	**11.06**	**359**		**Pn**	**17 03 46.7**	**-0.2**
CCB	**Clear Creek Bu**	**11.14**	**24**		**Pn**	**17 03 45.8**	**-2.1**
GAMB	**Gambell**	**11.20**	**328**	Pn	**Pn**	**17 03 48.9**	**+0.2**
F15K	**North Star Dit**	**11.30**	**347**		**Pn**	**17 03 49.8**	**-0.3**
BCPM	**Bancas Point**	**11.30**	**56**		**Pn**	**17 03 50.4**	**+0.3**
ADK	**Adak**	**11.33**	**262**		**Pn**	**17 03 49.3**	**-1.2**
ADK	**Adak**	**11.33**	**262**	P	**Pn**	**17 03 50.9**	**+0.4**
PNL	**Peninsula**	**11.33**	**57**	P	**Pn**	**17 03 53.1**	**+2.5**
O28M	**Mount Upton**	**11.34**	**51**		**Pn**	**17 03 51.7**	**+0.8**
IMAR	**Indian Mountai**	**11.38**	**10**		**Pn**	**17 03 51.8**	**+0.6**
ILAR	**Eielson Array**	**11.47**	**25**	Pn	**Pn**	**17 03 51.5**	**-0.9**
	comp=E,0.9nm,0.3s,baz=221,slow=13,SNR=17						
ILAR				LR	LR	17 08 46.1	
	comp=E,92nm,19.2s,baz=246,slow=40						
KIWB	**Kanaga Island**	**11.61**	**263**	Pn	**Pn**	**17 03 53.5**	**-0.9**
SCRK	**Sand Creek**	**11.68**	**33**		**Pn**	**17 03 54.5**	**-0.9**
F17K	**Baldwin Pennin**	**11.69**	**354**	Pn	**Pn**	**17 03 55.7**	**+0.3**
TNA	**Tin City**	**11.71**	**340**	Pn	**Pn**	**17 03 55.9**	**+0.3**
J25K	**Salcha River,**	**11.74**	**29**		**Pn**	**17 03 55.8**	**-0.4**
L27K	**Beaver Creek,**	**11.81**	**39**	

comp=Z,0.3nm,0.3s,baz=350,slow=7.5,SNR=4.6
comp=Z,0.3nm,0.3s
FINES FINESS Array B 63.98 358 P **P** 17 11 41.4 +0.2
comp=Z,0.5nm,0.4s,baz=15,slow=7.9,SNR=9.4
comp=Z,0.5nm,0.4s
NOA NORSAR Array B 64.14 6 P **P** 17 11 42.5 +0.1
comp=Z,0.5nm,0.7s,baz=353,slow=6.6,SNR=4.4
comp=Z,0.5nm,0.7s
BVAR Borovoye Array 65.15 330 P **P** 17 11 48.1 -1.0
comp=Z,0.4nm,0.5s
comp=Z,0.4nm,0.5s
HFS Hagfors 65.17 4 P **P** 17 11 48.1 -1.0
comp=Z,0.6nm,0.4s,baz=33,slow=5.7,SNR=7.4
comp=Z,0.6nm,0.4s
MKAR Makanchi Array 66.52 319 P **P** 17 11 56.6 -1.4
comp=Z,0.2nm,0.4s,baz=34,slow=10,SNR=5.7
comp=Z,0.2nm,0.4s
WMQ Urumqi 66.83 314 *e*P **P** 17 12 02.7 +2.6
WMQ LR LR
comp=N,310nm,17.3s
WMQ LR LR
comp=E,360nm,23.9s
WMQ LR LR
comp=Z,590nm,24.3s
EKA Eskdalemuir Ar 68.30 15 P **P** 17 12 09.4 +0.4
comp=Z,1.6nm,0.9s,baz=353,slow=6.5,SNR=2.3
comp=Z,1.6nm,0.9s
PZH PanZhiHua 74.13 293 P **P** 17 12 45.4 +0.4
AKASG Malin Array Be 74.61 355 P **P** 17 12 46.8 -0.4
comp=Z,0.7nm,0.4s,baz=8.7,slow=5.6,SNR=8.5
comp=Z,0.7nm,0.4s
GERES GERESS Array B 76.44 5 P **P** 17 12 57.7 -0.2
comp=Z,0.4nm,0.5s,baz=355,slow=3.3,SNR=4.0
comp=Z,0.4nm,0.5s
CMAR Chiang Mai Arr 82.16 291 P **P** 17 13 29.0 -0.4
comp=Z,0.9nm,0.7s,baz=8.6,slow=4.9,SNR=4.2
comp=Z,0.9nm,0.7s
ESDC Sonseca Array 83.31 20 P **P** 17 13 36.2 +1.0
comp=Z,0.8nm,0.8s,baz=337,slow=5.0,SNR=6.9
comp=Z,0.8nm,0.8s
WRA Warramunga Arr 93.82 240 P **P** 17 14 26.8 +1.3
comp=Z,2.0nm,0.7s,baz=15,slow=12,SNR=3.5
comp=Z,2.0nm,0.7s
H03N2 Juan Fernandez 111.05 118 T T 19 20 33.0
baz=323,slow=77,SNR=27
H03N1 Juan Fernandez 111.06 118 T T 19 20 34.0
baz=323,slow=77,SNR=29
H03N3 Juan Fernandez 111.06 118 T T 19 20 32.8
baz=323,slow=77,SNR=25
QSPA South Pole Qui 144.65 180 PKP PKPbc 17 20 42.8 +0.3
comp=Z,1.9nm,0.7s,baz=69,slow=1.2,SNR=7.7

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*IDC **12** 17:01:49.3±0.3,8.83S×117.69E,h0km,mb4.9/29, mbtmp4.9/32,ML4.8/3,MS4.3/45,Error ellipse: s-maj=16.6km s-min=8.9km az=82.0*

*MOS **12** 17:01:52.7±1.2,8.88S×117.76E,h41km,mb5.3/54, MS4.3/6,Error ellipse: s-maj=8.9km s-min=4.9km az=113.3*

*GCMT **12** 17:01:55.5±0.1,9.03S±0.01×117.83E±0.01,h12km, MW5.2/123,Moment Tensor Solution. s100,c166; s123,c232; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.69±.01; $M_{\theta\theta}$-0.70±.01; $M_{\phi\phi}$0.01±.01; $M_{r\theta}$-0.21±.03; $M_{\theta\phi}$-0.27±.01; $M_{\phi r}$-0.00±.03; Best double couple: $M_0$0.77200×10^{17} NP1:ϕ_s65.00000°,δ38.00000°, λ81.00000°. NP2:ϕ_s257.00000°,δ53.00000°,λ97.00000°. Principal axes: T 0.7230, Plg80.0000°, Azm199.0000°; N 0.0970, Plg6.0000°, Azm73.0000°; P -0.8210, Plg8.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **12** 17:01:56.5,9.05S×117.99E,h26km,Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.92; $M_{\theta\theta}$-0.81; $M_{\phi\phi}$-0.10; $M_{r\theta}$-0.95; $M_{\theta\phi}$-0.11; $M_{\phi r}$-0.07; Fault plane solution: $M_0$1.29000×10^{17} NP1: ϕ_s79.39000°,δ21.36000°,λ85.28000°. NP2:ϕ_s264.46000°, δ68.71000°,λ91.84000°. Principal axes: T 1.3356, Plg66.0000°, Azm178.0000°; N -0.0895, Plg2.0000°, Azm84.0000°; P -1.2461, Plg24.0000°, Azm353.0000°;*

*NEIC **12** 17:01:56.2±2.0,8.94S±0.06×117.81E±0.05,h50km±4km, mb5.2/114,Mww5.3/26 Error ellipse: s-maj=8.9km s-min=6.9km az=189.0*

*NEIC **12** 17:01:56.5,8.95S×117.79E,h26km*

*DJA **12** 17:01:57.2±0.1,9˙S±2˙×11˙8E±˙,h55km±2km,M5.2/116, mb5.4/116,mB5.7/72,MLv5.8/29,Mw(mB)5.2/72, MwMwp5.0/27,Mwp5.3/27*

ISC 12 17:01:56.7±0.3,8.97S±0.03×117.83E±0.03,h57km±2km, h57km:pP-P,n634,σ1§93/642,mb5.1/152,MS4.4/70, 19C-2D,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.15**	**338**	P	Pn	17 01 56.9	-8.7
WSI	**Waingapu**	**2.53**	**106**	P	**Pn**	**17 02 32.7**	**-2.7**
SRBI	**Singaraja**	**2.73**	**289**	P	**Pn**	**17 02 38.3**	**+0.1**
BASI	**Baing, Sumba**	**2.98**	**115**	P	**Pn**	**17 02 42.0**	**+0.5**
JAGI	**Jajag, Banyuwa**	**3.67**	**277**		**Pn**	**17 02 50.6**	**-0.4**
JAGI				Sn	**Sn**	**17 03 32.3**	**-0.8**
JAGI	**Jajag, Banyuwa**	**3.67**	**277**	P	**Pn**	**17 02 51.7**	**+0.7**
JAGI	**Jajag, Banyuwa**	**3.67**	**277**	S	**Sn**	**17 03 36.1**	**+3.0**
JAGI	**Jajag, Banyuwa**	**3.67**	**277**	P	**Pn**	**17 02 50.7**	**-0.3**
EDFI	**Ende, Flores**	**3.82**	**87**	P	**Pn**	**17 02 53.1**	**0.0**
BSSI	**Bau Bau, Buton**	**3.85**	**43**	P	**Pn**	**17 02 53.5**	**0.0**
BKSI	**Bulukumba**	**4.28**	**32**	P	**Pn**	**17 02 59.2**	**-0.1**
KMMI	**Kalianget**	**4.28**	**296**	P	**Pn**	**17 03 00.2**	**+0.9**
KAPI	**Kappang**	**4.37**	**26**		**Pn**	**17 03 00.4**	**-0.2**
KAPI				Sn	**Sn**	**17 03 48.2**	**-2.0**
KAPI	**Kappang**	**4.37**	**26**	Pn	**Pn**	**17 03 00.2**	**-0.4**
	84nm,0.3s,baz=202,slow=8.3,SNR=106						
KAPI				Sn	**Sn**	**17 03 49.4**	**-0.8**
	282nm,0.3s,baz=7.8,slow=18,SNR=17						
KAPI	**Kappang**	**4.37**	**26**	P	**Pn**	**17 03 00.8**	**+0.3**
KAPI				S	**Sn**	**17 03 49.4**	**-0.8**
KAPI	**Kappang**	**4.37**	**26**	P	**Pn**	**17 03 00.2**	**-0.4**
KAPI	**Kappang**	**4.37**	**26**	P	**Pn**	**17 03 00.4**	**-0.2**
KAPI						17 03 48.2	
MMRI	**Maumere**	**4.37**	**86**		**Pn**	**17 03 00.8**	**+0.2**
MMRI				Sn	**Sn**	**17 03 50.0**	**-0.3**
MMRI	**Maumere**	**4.37**	**86**	P	**Pn**	**17 03 00.7**	**+0.2**
MMRI	**Maumere**	**4.37**	**86**	P	**Pn**	**17 03 01.4**	**+0.8**
GMJI	**Gumukmas**	**4.39**	**279**	P	**Pn**	**17 03 00.6**	**-0.3**
BNSI	**Bone**	**5.07**	**27**	P	**Pn**	**17 03 11.6**	**+1.4**
SPSI	**Sidrap Palu**	**5.33**	**21**	P	**Pn**	**17 03 14.0**	**+0.2**
	11µm7µm365nm,0.8s						
GRJI	**Gresik**	**5.68**	**291**	P	**Pn**	**17 03 19.7**	**+1.1**
BBSI	**Bau Bau**	**5.83**	**54**	P	**Pn**	**17 03 22.4**	**+1.7**
	4µm492nm,1.0s						
BATI	**Baumata**	**5.88**	**103**	Pn	**Pn**	**17 03 22.0**	**+0.6**
	101nm,0.3s,baz=299,slow=1.9,SNR=73						
BATI				Sn	**Sn**	**17 04 31.3**	**+3.8**
	64nm,0.3s,baz=213,slow=21,SNR=1.5						
	355nm,0.5s						
BATI	**Baumata**	**5.88**	**103**	P	**Pn**	**17 03 22.5**	**+1.1**
	3.2nm6µm9µm931nm,0.8s						
BWJI	**Bawean**	**5.99**	**301**	P	**Pn**	**17 03 24.5**	**+1.6**
TTSI	**Tana Toraja**	**6.21**	**19**	P	**Pn**	**17 03 26.7**	**+0.9**
	2.0nm10µm5µm303nm,0.7s						
TBJI	**Tambak Boyo**	**6.30**	**289**	P	**Pn**	**17 03 28.2**	**+1.1**
SOEI	**Soe**	**6.40**	**98**		**Pn**	**17 03 29.9**	**+1.4**
SOEI	**Soe**	**6.40**	**98**	P	**Pn**	**17 03 29.7**	**+1.2**
SOEI	**Soe**	**6.40**	**98**	P	**Pn**	**17 03 30.2**	**+1.7**
NGJI	**Ngawi**	**6.50**	**284**	P	**Pn**	**17 03 31.4**	**+1.5**
	11µm609nm,1.1s						
PCJI	**Pacitan**	**6.63**	**276**	P	**Pn**	**17 03 31.1**	**-0.4**
	10µm1µm,1.0s						
WOJI	**Wonogiri, Jawa**	**6.93**	**279**	P	**Pn**	**17 03 35.5**	**-0.2**
UGM	**Wanagama**	**7.31**	**278**		**Pn**	**17 03 40.4**	**-0.6**
UGM				Sn	**Sn**	**17 05 04.2**	**+1.7**
UGM	**Wanagama**	**7.31**	**278**	P	**Pn**	**17 03 42.8**	**+1.9**
UGM	**Wanagama**	**7.31**	**278**	P	**Pn**	**17 03 42.3**	**+1.4**
SMRI	**Semarang**	**7.56**	**284**		**Pn**	**17 03 43.0**	**-1.4**
SMRI	**Semarang**	**7.56**	**284**	P	**Pn**	**17 03 45.6**	**+1.2**
SMRI	**Semarang**	**7.56**	**284**	P	**Pn**	**17 03 46.1**	**+1.7**
	2.4nm4µm451nm,0.8s						
BKB	**Balikpapan**	**7.71**	**353**	Pn	**Pn**	**17 03 47.8**	**+1.4**
BKB	**Balikpapan**	**7.71**	**353**	P	**Pn**	**17 03 50.0**	**+3.5**
	2.4nm217nm,0.8s						
PCI	**Palu**	**8.25**	**14**	P	**Pn**	**17 03 55.7**	**+1.8**
	8µm2µm221nm,0.9s						
SMKI	**Samarinda**	**8.49**	**356**	P	**Pn**	**17 03 57.2**	**+0.1**
	118nm,0.5s						
APSI	**Ampana**	**8.86**	**26**	P	**Pn**	**17 04 05.1**	**+2.9**
	134nm,1.0s						
MPSI	**Mapaga**	**9.47**	**13**	P	**Pn**	**17 04 11.6**	**+1.1**
JCJI	**Jatiwangi**	**9.79**	**284**	P	**Pn**	**17 04 14.6**	**-0.3**
	397nm,0.7s						
BBJI	**Bungbulang**	**10.19**	**278**	P	**Pn**	**17 04 20.6**	**+0.2**
BBJI	**Bungbulang**	**10.19**	**278**	S	**Sn**	**17 06 15.7**	**+2.4**
MRSI	**Marisa**	**10.24**	**24**	P	**Pn**	**17 04 23.8**	**+2.8**
LEM	**Lembang**	**10.34**	**281**	LR	LR	17 08 48.5	
	comp=Z,3µm,18.0s,baz=72,slow=41						
LEM	**Lembang**	**10.34**	**281**	P	**Pn**	**17 04 22.2**	**-0.4**
	3µm175nm,0.6s						
TOLI2	**Tolitoli**	**10.44**	**17**		**Pn**	**17 04 23.0**	**-0.7**
TOLI2	**Tolitoli**	**10.44**	**17**	P	**Pn**	**17 04 23.7**	**0.0**
SANI	**Sanana**	**10.63**	**50**	P	**Pn**	**17 04 25.6**	**-0.8**
SANI	**Sanana**	**10.63**	**50**	P	**Pn**	**17 04 29.6**	**+3.2**
	2µm211nm,1.0s						
CNJI	**Cibinong**	**10.72**	**278**	P	**Pn**	**17 04 26.7**	**-0.9**
	2µm116nm,0.7s						
NLAI	**Namlea**	**10.83**	**59**	P	**Pn**	**17 04 32.7**	**+3.6**
	3µm3µm190nm,0.9s						
STKI	**Sintang**	**10.98**	**324**	P	**Pn**	**17 04 32.3**	**+1.1**
	4µm5µm103nm,0.8s						
DBJI	**Dramaga**	**11.24**	**282**	P	**Pn**	**17 04 34.8**	**+0.1**
	3µm238nm,0.7s						
KMSI	**Cibinong**	**11.29**	**33**	P	**Pn**	**17 04 36.5**	**+1.2**
	3µm3µm245nm,0.8s						
SKJI	**Sukabumi**	**11.34**	**279**	P	**Pn**	**17 04 37.0**	**+1.0**
AAI	**Ambon**	**11.56**	**64**	P	**Pn**	**17 04 43.2**	**+4.2**
	113nm,1.0s						
FITZ	**Fitzroy Crossi**	**11.83**	**141**	P	**Pn**	**17 04 39.5**	**-3.3**
FITZ	**Fitzroy Crossi**	**11.83**	**141**	Pn	**Pn**	**17 04 40.1**	**-2.6**
	2.3nm,0.3s,baz=325,slow=8.8,SNR=49						
FITZ				Sn	**Sn**	**17 06 46.2**	**-7.0**
	3.2nm,0.3s,baz=167,slow=12,SNR=5.8						
FITZ				LR	LR	17 09 36.2	
	comp=Z,2µm,18.4s,baz=326,slow=39						
	26nm,0.6s						
TPI	**Tanjungpandan**	**11.85**	**301**	P	**Pn**	**17 04 44.3**	**+1.2**
SBJI	**Serang**	**11.94**	**283**	P	**Pn**	**17 04 47.1**	**+2.8**
	23nm,0.7s						
XMI	**Christmas Isla**	**12.06**	**262**	P	**Pn**	**17 04 45.5**	**-0.5**
CGJI	**Cibinong**	**12.25**	**280**	P	**Pn**	**17 04 45.7**	**-2.9**
	4µm269nm,0.7s						
MBWA	**Marble Bar**	**12.26**	**172**		**Pn**	**17 04 45.2**	**-3.4**
MBWA	**Marble Bar**	**12.26**	**172**	P	**Pn**	**17 04 45.1**	**-3.5**
MBWA	**Marble Bar**	**12.26**	**172**	P	**Pn**	**17 04 46.8**	**-1.8**
MSAI	**Masohi**	**12.36**	**64**	P	**Pn**	**17 04 52.3**	**+2.2**
	2µm125nm,0.9s						
KNRA	**Kununurra**	**12.59**	**123**		**Pn**	**17 04 50.2**	**-2.9**
KNRA	**Kununurra**	**12.59**	**123**	P	**Pn**	**17 04 50.6**	**-2.5**
SBUM	**Sibu**	**12.65**	**333**		**Pn**	**17 04 51.9**	**-2.0**
SBUM	**Sibu**	**12.65**	**333**	P	**Pn**	**17 04 54.5**	**+0.6**
BNDI	**Bandanaira**	**12.77**	**71**	P	**Pn**	**17 04 55.7**	**0.0**
BNDI	**Bandanaira**	**12.77**	**71**	P	**Pn**	**17 04 57.7**	**+2.0**
KSM	**Kuching**	**12.80**	**324**		**Pn**	**17 04 54.2**	**-1.8**
KSM	**Kuching**	**12.80**	**324**	P	**Pn**	**17 04 56.3**	**+0.3**
DRS	**Darwin Rock St**	**13.29**	**106**	P	**Pn**	**17 05 02.5**	**-0.3**
SAUI	**Saumlaki**	**13.36**	**87**	Pn	**Pn**	**17 05 02.0**	**-1.7**
SAUI	**Saumlaki**	**13.36**	**87**	P	**Pn**	**17 05 03.8**	**+0.1**
KLI	**Kotabumi**	**13.51**	**287**	P	**Pn**	**17 05 04.4**	**-1.3**
	274nm,0.7s						
TNTI	**Ternate**	**13.56**	**45**	P	**Pn**	**17 05 05.9**	**-0.5**
TNTI	**Ternate**	**13.56**	**45**	P	**Pn**	**17 05 08.6**	**+2.2**
MTN	**Manton Dam**	**13.62**	**108**		**Pn**	**17 05 03.1**	**-4.0**
MTN	**Manton Dam**	**13.62**	**108**	P	**Pn**	**17 05 05.3**	**-1.8**
	comp=Z,252nm,1.0s						
MTN	**Manton Dam**	**13.62**	**108**	P	**Pn**	**17 05 06.7**	**-0.5**
KASI	**Kota Agung**	**13.66**	**284**	P	**Pn**	**17 05 06.6**	**-1.2**
	comp=Z,3µmcomp=Z,220nm,0.5s						
GIRL	**Giralia**	**14.03**	**194**		**Pn**	**17 05 09.7**	**-3.0**
LWLI	**Liwa**	**14.22**	**285**	P	**Pn**	**17 05 16.8**	**+1.4**
MDSI	**Maura Dua**	**14.27**	**287**	P	**Pn**	**17 05 13.9**	**-2.0**
	comp=Z,2µmcomp=Z,57nm,0.7s						
PMBI	**Palembang**	**14.30**	**294**	P	**Pn**	**17 05 17.7**	**+1.3**
	comp=Z,253nm,0.4s						
SGSI	**Sangihe**	**14.73**	**32**	P	**P**	**17 05 25.1**	**-1.6**
	comp=Z,3µmcomp=Z,5µmcomp=Z,425nm,1.0s						
KDU	**Kakadu**	**14.85**	**106**	P	**Pn**	**17 05 20.7**	**-2.7**
KDU	**Kakadu**	**14.85**	**106**	P	**Pn**	**17 05 24.0**	**+0.6**
KKM	**Kota Kinabalu**	**15.00**	**354**		**Pn**	**17 05 23.1**	**-2.4**
KKM	**Kota Kinabalu**	**15.00**	**354**	P	**Pn**	**17 05 27.1**	**+1.6**
LHSI	**Lahat**	**15.11**	**289**	P	**Pn**	**17 05 27.8**	**+1.0**
	comp=Z,3µmcomp=Z,161nm,0.9s						
MNAI	**Manna**	**15.46**	**286**	Pn	**Pn**	**17 05 28.7**	**-2.8**
MNAI	**Manna**	**15.46**	**286**	P	**Pn**	**17 05 31.2**	**-0.3**
	comp=Z,442nm,1.3s						
FAKI	**Fak Fak**	**15.54**	**68**		**Pn**	**17 05 30.7**	**-1.7**
FAKI	**Fak Fak**	**15.54**	**68**	P	**Pn**	**17 05 32.7**	**+0.3**
FAKI	**Fak Fak**	**15.54**	**68**	P	**Pn**	**17 05 29.8**	**-2.6**
	comp=Z,134nm,0.7s						
SWI	**Sorong**	**15.61**	**60**	P	**Pn**	**17 05 33.1**	**-0.1**
	comp=Z,2µmcomp=Z,150nm,1.1s						
KSI	**Kapahiang**	**16.04**	**288**	P	**Pn**	**17 05 37.8**	**-1.0**
	comp=Z,6µmcomp=Z,388nm,0.6s						
MYKOM	**Kota Tinggi**	**17.56**	**307**	P	**Pn**	**17 05 55.7**	**-2.0**
MYKOM	**Kota Tinggi**	**17.56**	**307**	P	**P**	**17 05 59.4**	**+1.3**
MEEK	**Meekatharra**	**17.59**	**178**	P	**Pn**	**17 05 57.3**	**-0.8**
	comp=Z,148nm,1.1s						
MEEK	**Meekatharra**	**17.59**	**178**	P	**P**	**17 05 59.9**	**+1.5**
DAV	**Davao City (W)**	**17.70**	**26**	LR	LR	17 14 05.6	
	comp=Z,839nm,18.3s,baz=238,slow=42						
DAV	**Davao City (W)**	**17.70**	**26**	P	**P**	**17 06 02.6**	**+2.9**
RKPI	**Ransiki, Papua**	**17.87**	**66**	P	**Pn**	**17 06 00.7**	**-0.9**
	comp=Z,231nm,0.9s						
PPSI	**Pulau Pagai**	**18.76**	**288**	P	**P**	**17 06 10.4**	**-0.9**
	comp=Z,335nm,0.7s						
BKNI	**Bangkinang**	**19.11**	**298**	P	**Pn**	**17 06 16.4**	**0.0**
BKNI	**Bangkinang**	**19.11**	**298**	P	**P**	**17 06 15.7**	**+0.6**
	comp=Z,3µmcomp=Z,229nm,1.3s						
WB0	**Warramunga Arr**	**19.28**	**126**	P	**P**	**17 06 16.2**	**-0.8**
WB0				IAmb	IAmb	17 06 26.1	
	comp=Z,84nm,0.8s						
WRA	**Warramunga Arr**	**19.33**	**126**	P	**P**	**17 06 16.1**	**-1.4**
WRA	**Warramunga Arr**	**19.33**	**126**	P	**P**	**17 06 17.4**	**-0.2**
	comp=Z,2.6nm,0.3s,baz=300,slow=13,SNR=124						
WRA				S	**S**	**17 09 50.3**	**-3.2**
	comp=Z,10nm,0.8s,baz=302,slow=24,SNR=4.8						
WRA				LR	LR	17 14 03.4	
	comp=Z,2µm,20.1s,baz=304,slow=38						
	comp=Z,33nm,1.0s						
WRAB	**Tennant Creek**	**19.34**	**126**	P	**P**	**17 06 17.4**	**-0.2**
WRAB				IAmb	IAmb	17 06 24.6	
	comp=Z,96nm,1.1s						
WRAB	**Tennant Creek**	**19.34**	**126**	*i* P	**P**	**17 06 17.8**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,91nm,1.0s						
WR8	**Warramunga Arr**	**19.47**	**126**	P	**P**	**17 06 19.0**	**-0.1**
WR8				IAmb	IAmb	17 06 32.3	
	comp=Z,108nm,0.7s						
SRPI	**Serui, Papua**	**19.62**	**70**	P	**P**	**17 06 21.4**	**+0.6**
	comp=Z,96nm,0.9s						
BAKI	**Biak**	**19.76**	**68**	P	**P**	**17 06 22.9**	**+0.6**
	comp=Z,268nm,1.1s						
MORW	**Morawa**	**20.07**	**185**	P	**P**	**17 06 25.0**	**-0.4**
MORW				IAmb	IAmb	17 06 35.0	
	comp=Z,123nm,1.3s						
MORW	**Morawa**	**20.07**	**185**	P	**P**	**17 06 26.5**	**+1.0**
	comp=Z,74nm,0.6s						
MORW	**Morawa**	**20.07**	**185**	P	Pn	17 06 27.8	+0.1
SISI	**Saibi**	**20.14**	**291**	P	**P**	**17 06 25.1**	**-1.3**
	comp=Z,68nm,0.6s						
MNSI	**Mandailing Nat**	**20.61**	**297**	P	**P**	**17 06 31.1**	**-0.4**
	comp=Z,2µmcomp=Z,57nm,0.8s						
COCO	**West Island**	**20.89**	**259**	P	**P**	**17 06 34.5**	**+0.1**
COCO	**West Island**	**20.89**	**259**	P	Pn	17 06 37.9	+0.4
COCO	**West Island**	**20.89**	**259**	P	**P**	**17 06 34.5**	**+0.1**
COCO				pmax	pmax		
	comp=Z,500nm,1.3s						
AS31	**Alice Springs**	**21.21**	**135**	P	**P**	**17 06 37.6**	**-0.4**
AS31	**Alice Springs**	**21.21**	**135**	P	**P**	**17 06 38.5**	**+0.5**
	comp=Z,49nm,0.8s						
ASAR	**Alice Springs**	**21.21**	**135**	P	**P**	**17 06 37.8**	**-0.2**
ASAR	**Alice Springs**	**21.21**	**135**	P	**P**	**17 06 38.4**	**+0.4**
	comp=Z,103nm,0.9s,baz=312,slow=10,SNR=80						
ASAR				S	**S**	**17 10 31.9**	**+1.0**
	comp=Z,16nm,0.9s,baz=308,slow=23,SNR=4.5						
ASAR				LR	LR	17 15 01.6	
	comp=Z,2µm,20.9s,baz=306,slow=37						
	comp=Z,103nm,0.9s						
AS01	**Alice Springs**	**21.25**	**135**	P	**P**	**17 06 39.8**	**+1.5**
IPM	**Ipoh**	**21.43**	**308**	P	**P**	**17 06 39.8**	**-0.5**
IPM				IAmb	IAmb	17 06 49.8	
	comp=Z,270nm,1.8s						
IPM	**Ipoh**	**21.43**	**308**	P	**P**	**17 06 43.2**	**+2.9**
BLDU	**Ballidu**	**21.56**	**183**	P	**P**	**17 06 42.4**	**+0.9**
	comp=Z,127nm,1.1s						
BLDU	**Ballidu**	**21.56**	**183**	P	**P**	**17 06 45.8**	**+4.2**
SMPI	**Sarmi**	**21.90**	**73**	P	**P**	**17 06 43.7**	**-1.6**
	comp=Z,65nm,0.8s						
RPSI	**Rantau Prapat**	**22.12**	**301**	P	**P**	**17 06 46.4**	**-1.4**
RPSI				IAmb	IAmb	17 06 54.1	
	comp=Z,105nm,1.0s						
PSI	**Prapat**	**22.18**	**301**	LR	LR	17 17 21.5	
	comp=Z,2µm,18.4s,baz=134,slow=42						
PSI	**Prapat**	**22.18**	**301**	P	**P**	**17 06 46.4**	**-2.1**
PSI				pmax	pmax		
	comp=Z,105nm,1.0s						
KULM	**Kulim**	**22.23**	**309**	P	**P**	**17 06 47.3**	**-1.5**
KULM	**Kulim**	**22.23**	**309**	P	**P**	**17 06 50.0**	**+1.2**
KLBR	**Kellerberrin**	**22.51**	**180**	P	**P**	**17 06 52.3**	**+0.5**
	comp=Z,139nm,0.6s						
KLBR	**Kellerberrin**	**22.51**	**180**	P	**P**	**17 06 55.3**	**+3.5**
GSI	**Gunungsitoli**	**22.62**	**296**	P	**P**	**17 06 50.5**	**-2.5**
GSI	**Gunungsitoli**	**22.62**	**296**	P	**P**	**17 06 55.3**	**+2.3**
GSI	**Gunungsitoli**	**22.62**	**296**	P	**P**	**17 06 50.7**	**-2.3**
	comp=Z,65nm,0.8s						
TSI	**Tuntungan**	**22.86**	**302**	P	**P**	**17 06 55.1**	**-0.4**
MUN	**Mundaring**	**22.95**	**184**	P	**P**	**17 06 58.2**	**+1.9**
GENI	**Genyem**	**23.10**	**75**	P	**P**	**17 06 59.1**	**+1.1**
GENI	**Genyem**	**23.10**	**75**	P	**P**	**17 06 55.7**	**-2.3**
TGY	**Tagaytay City**	**23.13**	**8**	LR	LR	17 18 17.5	
	comp=Z,391nm,20.4s,baz=170,slow=43						
JAY	**Jayapura**	**23.63**	**76**	P	**P**	**17 07 00.9**	**-2.2**
FORT	**Forrest**	**23.71**	**158**	P	**P**	**17 07 02.6**	**-1.0**
FORT				IAmb	IAmb	17 07 11.8	
	comp=Z,47nm,0.7s						
NWAO	**Narrogin (SRO)**	**23.85**	**181**	P	**P**	**17 07 03.9**	**-0.9**
NWAO				IAmb	IAmb	17 07 22.4	
	comp=Z,62nm,0.8s						
NWAO	**Narrogin (SRO)**	**23.85**	**181**	P	**P**	**17 07 05.3**	**+0.5**
	comp=Z,136nm,0.6s						
NWAO	**Narrogin (SRO)**	**23.85**	**181**	P	**P**	**17 07 05.0**	**+0.1**
	comp=Z,42nm,0.8s,baz=355,slow=9.9,SNR=16						
NWAO				S	**S**	**17 11 25.0**	**+8.1**
	comp=Z,40nm,0.7s,baz=254,slow=3.5,SNR=4.1						
NWAO				LR	LR	17 16 30.0	
	comp=Z,2µm,21.1s,baz=330,slow=37						
	comp=Z,42nm,0.8s						
NWAO	**Narrogin (SRO)**	**23.85**	**181**	P	**P**	**17 07 06.2**	**+1.4**
NWAO	**Narrogin (SRO)**	**23.85**	**181**	P	**P**	**17 07 05.4**	**+0.5**
NWAO	**Narrogin (SRO)**	**23.85**	**181**	P	**P**	**17 07 03.9**	**-0.9**
NWAO				pmax	pmax		
	comp=Z,62nm,0.8s						
QIS	**Mount Isa**	**23.96**	**121**	P	**P**	**17 07 07.3**	**+1.2**
	comp=Z,165nm,1.1s						
QIS	**Mount Isa**	**23.96**	**121**	P	**P**	**17 07 07.1**	**+1.0**
MLSI	**Meulaboh, Aceh**	**25.08**	**301**	P	**P**	**17 07 15.4**	**-0.9**
	comp=Z,203nm,0.8s						
LHMI	**Lhok Sumawe**	**25.15**	**303**	P	**P**	**17 07 16.1**	**-0.8**
LHMI				IAmb	IAmb	17 07 19.3	
	comp=Z,88nm,0.7s						
LHMI	**Lhok Sumawe**	**25.15**	**303**	P	**P**	**17 07 17.5**	**+0.7**
	comp=Z,107nm,0.7s						
SRIT	**Nakonsritamara**	**25.18**	**313**	P	**P**	**17 07 15.7**	**-1.4**
SRIT	**Nakonsritamara**	**25.18**	**313**	P	**P**	**17 07 19.4**	**+2.3**
COEN	**Coen**	**25.32**	**104**	P	**P**	**17 07 17.9**	**-0.5**
COEN				IAmb	IAmb	17 07 25.6	
	comp=Z,71nm,0.8s						
COEN	**Coen**	**25.32**	**104**	P	**P**	**17 07 19.0**	**+0.6**
	comp=Z,111nm,0.9s						
COEN	**Coen**	**25.32**	**104**	P	**P**	**17 07 19.6**	**+1.2**
UBPT	**Khong Chiam**	**27.03**	**333**	P	**P**	**17 07 33.9**	**+0.2**
UBPT				IAmb	IAmb	17 07 46.0	
	comp=Z,55nm,1.4s						
UBPT	**Khong Chiam**	**27.03**	**333**	P	**P**	**17 07 37.1**	**+3.3**
MTSU	**Mount Surprise**	**27.28**	**112**	P	**P**	**17 07 37.8**	**+1.6**
	comp=Z,72nm,1.0s						
MTSU	**Mount Surprise**	**27.28**	**112**	P	**P**	**17 07 38.2**	**+2.1**
QIZ	**Qiongzhong**	**28.91**	**344**	P	**P**	**17 07 50.2**	**-0.4**
QIZ				S	**S**	**17 12 37.5**	**+0.2**
QIZ				sS	**sS**	**17 13 05.3**	**+4.1**
QIZ				SS	**SnSn**	**17 14 08.4**	**+3.7**
QIZ				pmax	pmax		
	comp=Z,36nm,3.3s						
QIZ				pmax	pmax		
	comp=Z,760n

KMI PP **PnPn** **17 10 31.4 +4.8**
KMI pmax pmax
comp=Z,22nm,0.8s
KMI pmax pmax
comp=Z,360nm,7.4s
KMI LR LR
comp=Z,380nm,10.8s
KMI LR LR
comp=Z,890nm,14.8s
KMI LR LR
comp=Z,500nm,18.9s
BRAT Ballarat 36.95 144 P **P** **17 09 03.6 +3.1**
JOW Kunigami 37.00 16 P **P** **17 09 00.8 -0.2**
comp=Z,30nm,0.8s,baz=211,slow=5.1,SNR=4.8
JOW LR LR 17 25 20.3
comp=Z,220nm,19.5s,baz=286,slow=38
comp=Z,30nm,0.8s
CNSH ChangSha 37.23 353 P **P** **17 09 05.2 +2.3**
CNSH PP **PnPn** **17 10 37.1 +7.2**
CNSH pmax pmax
comp=Z,410nm,6.6s
CNSH LR LR
comp=Z,390nm,11.0s
CNSH LR LR
comp=Z,510nm,14.6s
CNSH LR LR
comp=Z,600nm,21.0s
GEXS Deakin Univers 37.61 145 P **P** **17 09 08.9 +2.9**
YNG Young 37.71 137 P **P** **17 09 08.4 +1.4**
comp=Z,78nm,0.5s
TOO Toolangi 37.88 143 P **P** **17 09 08.0 -0.4**
TOO IAmb IAmb 17 09 12.4
comp=Z,29nm,0.8s
TOO Toolangi 37.88 143 P **P** **17 09 11.1 +2.7**
TOO Toolangi 37.88 143 P **P** **17 09 08.0 -0.4**
TOO pmax pmax
comp=Z,29nm,0.8s
ARMA Armidale 38.08 129 P **P** **17 09 11.2 +1.0**
ARMA IAmb IAmb 17 09 20.2
comp=Z,42nm,0.8s
ARMA Armidale 38.08 129 P **P** **17 09 13.1 +2.9**
comp=Z,61nm,0.8s
ARMA Armidale 38.08 129 P **P** **17 09 13.9 +3.7**
PZH PanZhiHua 38.57 337 P **P** **17 09 15.6 +1.3**
PZH S **S** **17 15 09.5 +2.9**
PZH pmax pmax
comp=Z,20nm,0.7s
PZH pmax pmax
comp=Z,320nm,7.8s
PZH LR LR
comp=Z,410nm,15.1s
PZH LR LR
comp=Z,350nm,14.7s
PZH LR LR
comp=Z,500nm,20.6s
GC1S Gold Coast 1 S 38.62 124 P **P** **17 09 17.6 +2.9**
TNCH TengChong 38.68 331 P **P** **17 09 16.8 +1.4**
TNCH PP **PnPn** **17 10 52.1 +4.6**
TNCH pmax pmax
comp=Z,34nm,1.4s
TNCH pmax pmax
comp=Z,370nm,7.6s
TNCH LR LR
comp=Z,670nm,17.0s
TNCH LR LR
comp=Z,1μm,13.5s
TNCH LR LR
comp=Z,1μm,13.6s
CAN Canberra 38.70 137 P **P** **17 09 15.3 -0.1**
CAN IAmb IAmb 17 09 23.2
comp=Z,55nm,0.9s
CAN Canberra 38.70 137 P **P** **17 09 17.6 +2.2**
comp=Z,81nm,1.0s
CAN Canberra 38.70 137 P **P** **17 09 18.2 +2.8**
CAN Canberra 38.70 137 P **P** **17 09 15.3 -0.1**
CAN pmax pmax
comp=Z,55nm,0.9s
CAN Canberra 38.70 137 P **P** **17 09 17.9 +2.5**
CNB Canberra Magne 38.94 137 P **P** **17 09 19.2 +1.8**
comp=Z,50nm,1.3s
CNB Canberra Magne 38.94 137 P **P** **17 09 20.0 +2.6**
NTLH Newcastle Hard 39.30 132 P **P** **17 09 22.6 +2.3**
RIV Riverview 39.38 134 P **P** **17 09 23.1 +2.1**
comp=Z,104nm,0.8s
RIV Riverview 39.38 134 P **P** **17 09 24.5 +3.6**
WHN Wuhan 39.43 355 P **P** **17 09 23.5 +2.2**
WHN pmax pmax
comp=Z,940nm,9.4s
WHN LR LR
comp=Z,2μm,19.8s
ENH Enshi 39.83 349 **P** **17 09 24.3 -0.4**
ENH IAmb IAmb 17 09 27.7
comp=Z,30nm,0.7s
ENH Enshi 39.83 349 P **P** **17 09 27.6 +2.9**
ENH Enshi 39.83 349 P **P** **17 09 26.3 +1.5**
ENH pP **pP** **17 09 39.6 +0.4**
SSE Sheshan 39.96 4 P **P** **17 09 27.6 +1.9**
SSE S **S** **17 15 28.3 +1.2**
SSE pmax pmax
comp=Z,4.0nm,0.6s
SSE pmax pmax
comp=Z,130nm,3.3s
PALK Pallekele 40.37 292 LR LR 17 27 36.1
comp=Z,673nm,18.8s,baz=114,slow=38
PALK Pallekele 40.37 292 P **P** **17 09 28.7 -0.8**
PALK Pallekele 40.37 292 *i* P **P** **17 09 25.8 -3.7**
BRDH Bariadhala 40.59 321 LR LR 17 30 00.8
comp=Z,790nm,19.1s,baz=166,slow=42
NJ2 Nanjing 40.80 1 ⇑P **P** **17 09 34.1 +1.5**
NJ2 pmax pmax
comp=Z,12nm,0.8s
NJ2 pmax pmax
comp=Z,410nm,6.3s
NJ2 LR LR
comp=Z,320nm,18.0s
NJ2 LR LR
comp=Z,240nm,17.1s
NJ2 LR LR
comp=Z,440nm,15.7s
SAVO Savo Central 41.44 94 P **P** **17 09 39.0 +0.7**
TATA Tatamba Isabel 41.48 93 P **P** **17 09 39.3 +0.7**
CD2 Chengdu 41.89 342 P **P** **17 09 43.0 +1.3**
CD2 sP sP 17 10 05.5 +2.5
CD2 pmax pmax
comp=Z,70nm,0.7s
CD2 pmax pmax
comp=Z,470nm,6.1s
CD2 LR LR
comp=Z,670nm,14.0s
CD2 LR LR
comp=Z,1μm,15.9s
CD2 LR LR
comp=Z,950nm,13.3s
ALEG Aligegeo Malai 42.33 93 P **P** **17 09 47.0 +1.4**
SHL Shillong 42.62 324 P **P** **17 09 47.0 -0.8**
SHL IAmb IAmb 17 09 49.0
comp=Z,58nm,0.7s
SHL Shillong 42.62 324 P **P** **17 09 47.8 0.0**
SNR=8.3
SHL Shillong 42.62 324 P **P** **17 09 47.1 -0.8**
SHL pmax pmax
comp=Z,58nm,0.7s
LYN LuoYang 43.58 354 P **P** **17 09 57.4 +2.2**
LYN S **S** **17 16 24.4 +3.9**
LYN sS sS 17 16 48.8 +3.6
LYN pmax pmax
comp=Z,25nm,1.1s
LYN pmax pmax
comp=Z,540nm,6.3s
LYN LR LR
comp=Z,550nm,17.9s
LYN LR LR
comp=Z,700nm,21.3s
LYN LR LR
comp=Z,630nm,19.9s
XAN Xi'an 43.60 349 P **P** **17 09 55.7 +0.2**
XAN sP sP 17 10 16.9 +0.1
XAN S **S** **17 16 22.3 +1.3**
XAN ScS **ScS** **17 19 49.7 -0.4**
XAN pmax pmax
comp=Z,32nm,0.8s
XAN pmax pmax
comp=Z,450nm,5.0s
XAN LR LR
comp=Z,940nm,24.7s
XAN LR LR
comp=Z,520nm,21.1s
XAN LR LR
comp=Z,1μm,22.7s
JNU Nakatsue 43.66 16 P **P** **17 09 55.6 -0.4**
JNU Nakatsue 43.66 16 P **P** **17 09 55.5 -0.4**
comp=Z,16nm,0.9s,baz=151,slow=4.0,SNR=9.7
comp=Z,16nm,0.9s
JNU Nakatsue 43.66 16 P **P** **17 09 57.9 +1.9**
TIA Tai'an 44.94 359 P **P** **17 10 06.3 +0.2**
TIA PP **PP** **17 11 53.8 +1.6**
TIA S **S** **17 16 43.9 +3.6**
TIA pmax pmax
comp=Z,21nm,1.0s
TIA pmax pmax
comp=Z,320nm,7.1s
TIA LR LR
comp=Z,280nm,16.1s
TIA LR LR
comp=Z,630nm,16.1s
TIA LR LR
comp=Z,470nm,16.5s
TJN Taejon 45.99 11 P **P** **17 10 15.5 +1.2**
TJN Taejon 45.99 11 P **P** **17 10 16.9 +2.5**
TJN Taejon 45.99 11 P **P** **17 10 15.5 +1.2**
TJN pmax pmax
comp=Z,91nm,1.1s
HNS HongShan 46.22 357 ⇑P **P** **17 10 16.4 +0.3**
HNS sP **sP** **17 10 39.3 +1.8**
HNS PP **PP** **17 12 04.9 -0.7**
HNS S **S** **17 16 56.4 -2.2**
HNS sS **sS** **17 17 22.7 -0.7**
HNS pmax pmax
comp=Z,12nm,1.1s
HNS pmax pmax
comp=Z,310nm,8.8s
HNS LR LR
comp=Z,390nm,19.2s
HNS LR LR
comp=Z,590nm,18.8s
HNS LR LR
comp=Z,480nm,16.7s
LSA Lhasa 46.24 327 IAmb IAmb 17 10 47.4
comp=Z,15nm,0.7s
LSA Lhasa 46.24 327 P **P** **17 10 17.2 +0.2**
LSA pmax pmax
comp=Z,5.0nm,0.7s
LSA Lhasa 46.24 327 P **P** **17 10 17.4 +0.3**
LZH Lanzhou 46.71 344 *e*P **P** **17 10 20.2 -0.1**
LZH pP sP 17 10 38.9 -2.8
LZH sP pP 17 10 48.8 +14
LZH PP **PP** **17 12 14.6 +3.7**
LZH sS sS 17 17 36.5 +5.5
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,300nm,4.8s
LZH LR LR
comp=Z,460nm,13.4s
LZH LR LR
comp=Z,570nm,14.1s
LZH LR LR
comp=Z,650nm,14.8s
HYB Hyderabad 46.84 304 *e*P **P** **17 10 20.2 -1.3**
KSAR Wonju Array Be 47.12 11 P **P** **17 10 23.6 +0.4**
KSAR Wonju Array Be 47.12 11 P **P** **17 10 23.6 +0.4**
KSRS Korea Array 47.13 11 P **P** **17 10 23.9 +0.6**
comp=Z,15nm,0.9s,baz=191,slow=7.6,SNR=33
KSRS ScP **ScP** **17 15 49.2 +5.6**
comp=Z,1.4nm,0.9s,baz=197,slow=3.7,SNR=4.1
KSRS LR LR 17 31 37.5
comp=Z,99μm,20.2s,baz=190,slow=38
comp=Z,15nm,0.9s
KSRS Korea Array 47.13 11 P **P** **17 10 24.0 +0.6**
HMDM Hanimaadhoo 47.17 288 P **P** **17 10 23.4 -0.7**
HMDM Hanimaadhoo 47.17 288 P **P** **17 10 24.6 +0.6**
KS19 Wonju Array Si 47.17 11 P **P** **17 10 23.4 -0.3**
KS19 IAmb IAmb 17 10 41.1
comp=Z,22nm,1.0s
DL2 Dalian 47.76 4 P **P** **17 10 27.8 -0.4**
DL2 S **S** **17 17 23.5 +3.0**
DL2 pmax pmax
comp=Z,31nm,0.9s
DL2 pmax pmax
comp=Z,260nm,6.5s
DL2 LR LR
comp=Z,230nm,16.1s
DL2 LR LR
comp=Z,190nm,11.1s
DL2 LR LR
comp=Z,370nm,21.6s
NOUC Port Laguerre 48.29 112 P **P** **17 10 34.6 +2.0**
NOUC pP **pP** **17 10 48.1 +0.9**
DZM Mont Dzumac 48.41 111 P **P** **17 10 33.3 -0.5**
DZM IAmb IAmb 17 10 42.4
comp=Z,27nm,1.0s
DZM Mont Dzumac 48.41 111 *e*P **P** **17 10 32.8 -0.9**
comp=Z,65nm,1.2s
DZM *e*S **S** **17 17 30.5 -0.2**
comp=Z,302nm,35.0s
DZM *e*SS **SS** **17 21 00.7 -0.4**
comp=Z,299nm,24.4s
DZM *e*LR LR 17 24 22.7
comp=Z,1μm,23.0s
DZM Mont Dzumac 48.41 111 P **P** **17 10 36.7 +3.0**
DZM Mont Dzumac 48.41 111 P **P** **17 10 36.1 +2.4**
ONTNC Ouen Toro 48.45 112 P **P** **17 10 33.5 -0.5**
BJT Baijiatuau 48.76 358 IAmb IAmb 17 10 38.8
comp=Z,18nm,0.7s
BJT Baijiatuau 48.76 358 P **P** **17 10 36.7 +0.8**
BJI Beijing 48.78 358 P **P** **17 10 36.2 +0.2**
BJI PP **PP** **17 12 27.6 -2.2**
BJI S **S** **17 17 38.0 +3.0**
BJI pmax pmax
comp=Z,11nm,0.8s
BJI pmax pmax
comp=Z,69nm,3.8s
BJI LR LR
comp=Z,430nm,18.7s
BJI LR LR
comp=Z,210nm,15.3s
BJI LR LR
comp=Z,270nm,22.4s
MAJO Matsushiro 49.15 22 *i* P **P** **17 10 37.5 -1.5**
MAJO pmax pmax
comp=Z,12nm,0.9s
MJAR Matsushiro Arr 49.15 22 P **P** **17 10 37.4 -1.6**
comp=Z,8.0nm,1.0s,baz=190,slow=7.4,SNR=9.7
comp=Z,8.0nm,1.0s
HHC Hu-ho-hao-te 49.90 354 *e*P **P** **17 10 44.8 +0.1**
HHC PP **PP** **17 12 39.6 -0.6**
HHC S **S** **17 17 51.7 +0.8**
HHC sS sS 17 18 18.4 +2.4
HHC SS **SS** **17 21 18.6 -6.0**
HHC pmax pmax
comp=Z,26nm,0.6s
HHC pmax pmax
comp=Z,220nm,6.3s
HHC LR LR
comp=Z,260nm,20.6s
HHC LR LR
comp=Z,260nm,20.2s
HHC LR LR
comp=Z,430nm,20.2s
GTA Gaotai 50.96 342 *e*P **P** **17 10 54.2 +1.4**
GTA sP sP 17 11 19.7 +5.4
GTA PP **PP** **17 12 51.6 +1.8**
GTA sS sS 17 18 29.7 -1.1
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA pmax pmax
comp=Z,300nm,7.3s
GTA LR LR
comp=Z,470nm,22.5s
GTA LR LR
comp=Z,410nm,23.3s
GTA LR LR
comp=Z,430nm,22.9s
XLT XiLinHaoTe 52.64 358 *e*P **P** **17 11 05.4 +0.2**
XLT pP pP 17 11 22.2 +1.9
XLT sP sP 17 11 31.0 +4.3
XLT sS sS 17 18 52.2 -0.7
XLT pmax pmax
comp=Z,31nm,0.9s
XLT pmax pmax
comp=Z,170nm,6.5s
XLT LR LR
comp=Z,27nm,15.3s
XLT LR LR
comp=Z,130nm,14.0s
XLT LR LR
comp=Z,260nm,15.2s
PSTR Posyet 52.72 12 *i* P **P** **17 11 05.2 -0.4**
MSHR Mys Shultsa 52.73 12 *i* P **P** **17 11 05.0 -0.7**
CN2 Changchun 52.97 7 P **P** **17 11 07.7 +0.2**
CN2 S **S** **17 18 32.1 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
VLA Vladivostok 53.40 13 *i* P **P** **17 11 09.3 -1.3**
VLA pmax pmax
comp=Z,42nm,1.2s
MDJ Mudanjiang 54.38 10 P **P** **17 11 17.8 0.0**
MDJ S **S** **17 18 53.9 +2.0**
MDJ pmax pmax
comp=Z,37nm,0.8s
MDJ Mudanjiang 54.38 10 P **P** **17 11 18.6 +0.8**
MDJ Mudanjiang 54.38 10 P **P** **17 11 18.1 +0.4**
USA0B Ussuriysk Arra 54.45 12 P **P** **17 11 17.9 -0.4**
USA0B IAmb IAmb 17 11 20.6
comp=Z,38nm,1.2s
USA0B Ussuriysk Arra 54.45 12 P **P** **17 11 17.9 -0.4**
USA0B pmax pmax
comp=Z,38nm,1.3s
USRK Ussuriysk Ar. 54.45 12 P **P** **17 11 18.3 0.0**
comp=Z,15nm,0.6s,baz=193,slow=6.0,SNR=31
comp=Z,15nm,0.6s
BNX BinXian 55.13 8 ⇑P **P** **17 11 22.4 -0.8**
BNX pmax pmax
comp=Z,14nm,1.0s
LBZ Lake Benmore 57.27 138 P **P** **17 11 40.2 +1.6**
ULN Ulaanbaatar 57.38 351 P **P** **17 11 39.4 0.0**
ULN Ulaanbaatar 57.38 351 P **P** **17 11 39.7 +0.3**
ULN Ulaanbaatar 57.38 351 *ce*P **P** **17 11 39.8 +0.3**
ULN pmax pmax
comp=Z,20nm,1.7s
ULN Ulaanbaatar 57.38 351 P **P** **17 11 39.5 0.0**
ULN pP **pP** **17 11 53.0 -1.7**
ASAJ Asahikawa 57.41 21 P **P** **17 11 39.0 -0.4**
comp=Z,6.3nm,0.8s,baz=264,slow=5.5,SNR=7.9
comp=Z,6.3nm,0.8s
CASY Casey 57.45 183 P **P** **17 11 39.7 +0.3**
CASY IAmb IAmb 17 11 47.8
comp=Z,12nm,0.8s
SONM Songino Array 57.45 351 P **P** **17 11 39.4 -0.5**
SONM IAmb IAmb 17 11 45.8
comp=Z,13nm,0.8s
SONM Songino Array 57.45 351 P **P** **17 11 39.8 -0.1**
comp=Z,9.7nm,0.8s,baz=169,slow=7.7,SNR=41
comp=Z,9.7nm,0.8s
SONM Songino Array 57.45 351 P **P** **17 11 39.4 -0.5**
SONM pmax pmax
comp=Z,13nm,0.8s
RPZ Rata Peaks 57.62 137 P **P** **17 11 41.0 -0.1**
RPZ Rata Peaks 57.62 137 LR LR 17 38 20.3
comp=Z,259nm,18.6s,baz=290,slow=38
QRZ Quartz Range 57.72 133 P **P** **17 11 44.7 +2.9**
WCZ Waipu Caves 57.80 127 P **P** **17 11 45.9 +3.4**
ODZ Otahua Downs 57.82 138 P **P** **17 11 43.4 +0.9**
HIA Hailar 58.01 1 P **P** **17 11 45.8 +2.2**
LTZ Lake Taylor 58.14 135 P **P** **17 11 46.8 +2.0**
OXZ Oxford 58.16 136 P **P** **17 11 44.8 -0.1**
THZ Tophouse 58.27 134 P **P** **17 11 46.2 +0.5**
THZ Tophouse 58.27 134 P **P** **17 11 48.3 +2.5**
NNZ Nelson 58.45 133 P **P** **17 11 48.0 +1.1**
MQZ McQueen's Vall 58.71 136 P **P** **17 11 51.4 +2.7**
HIZ Hauiti 58.81 130 P **P** **17 11 52.5 +3.0**
VRZ Vera Road 58.89 130 P **P** **17 11 53.2 +3.2**
KHZ Kahutara 58.92 134 P **P** **17 11 51.9 +1.8**
MSVF Nonsavu 59.03 105 P **P** **17 11 50.9 -0.6**
MSVF IAmb IAmb 17 11 56.1
comp=Z,26nm,0.9s
MSVF Nonsavu 59.03 105 P **P** **17 11 54.7 +3.3**
MSVF Nonsavu 59.03 105 *i* P **P** **17 11 53.2 +1.8**
MSVF pmax pmax
comp=Z,28nm,0.9s
MSVF Nonsavu 59.03 105 P **P** **17 11 54.1 +2.7**
WAZ Wanganui 59.22 131 P **P** **17 11 55.7 +3.4**
WMQ Urumqi 59.23 335 *e*P **P** **17 11 54.2 +1.9**
WMQ LR LR
comp=Z,330nm,23.1s
WMQ LR LR
comp=Z,320nm,22.3s
WMQ LR LR
comp=Z,740nm,24.2s
HEH HeiHe 59.56 7 *e*P **P** **17 11 54.3 0.0**
HEH sP **sP** **17 12 18.5 +2.4**
HEH PP **PP** **17 14 09.2 +2.7**
HEH S **S** **17 19 59.7 -0.3**
HEH pmax pmax
comp=Z,41nm,0.9s
HEH pmax pmax
comp=Z,280nm,5.9s
HEH LR LR
comp=Z,180nm,16.9s
HEH LR LR
comp=Z,290nm,16.2s
HEH LR LR
comp=Z,210nm,17.0s
DRV Dumont d'Urvil 59.57 170 P **P** **17 11 55.6 +1.4**
NIL Nilore 59.90 317 **P** **17 11 55.8 -1.2**
NIL Nilore 59.90 317 P **P** **17 11 55.8 -1.2**
NIL pmax pmax
comp=Z,9.0nm,0.8s
YSS Yuzhno-Sakhali 59.94 19 P **P** **17 11 56.5 -0.4**
YSS IAmb IAmb 17 11 58.7
comp=Z,12nm,0.9s
YSS Yuzhno-Sakhali 59.94 19 *e*P **P** **17 11 56.6 -0.4**
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS MLR MLR
comp=Z,200nm,20.0s
TSZ Takapari Road 60.02 131 P **P** **17 11 59.6 +1.7**
PNHZ Pukenui 60.17 131 P **P** **17 12 00.9 +2.0**
BKZ Black Stump Fm 60.21 130 P **P** **17 11 59.0 -0.2**
BKZ Black Stump Fm 60.21 130 P **P** **17 12 01.2 +2.0**
BKZ Black Stump Fm 60.21 130 P **P** **17 12 01.1 +1.9**
KRHZ Kereru 60.23 131 P **P** **17 12 01.3 +2.0**
MTHZ Maungataniwha 60.40 130 P **P** **17 12 02.2 +1.8**
ZAK Zakamensk 60.45 349 *e*P **P** **17 11 59.2 -1.3**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
URZ Urewera 60.48 129 LR LR 17 38 31.3
comp=Z,726nm,20.1s,baz=300,slow=36
URZ Urewera 60.48 129 P **P** **17 12 02.2 +1.3**
DGTI Dogotuki 60.66 104 P **P** **17 12 05.5 +2.9**
MWZ Matawai 60.81 129 P **P** **17 12 04.6 +1.3**
RER Riviere de l'E 60.84 251 P **P** **17 12 06.3 +2.4**
CIT Chita 60.85 357 *e*P **P** **17 12 04.2 +1.0**
CIT *e* 17 12 20.4
CIT *e* 17 14 23.4
CIT *e* 17 15 42.8
CIT *e* 17 20 44.4
CIT *e* 17 26 46.0
CIT pmax pmax
comp=Z,45nm,2.0s
HAZ Te Kaha 60.89 128 P **P** **17 12 06.1 +2.4**
MXZ Matakaoa Point 61.26 128 P **P** **17 12 08.8 +2.5**
PUZ Puketiti 61.32 129 P **P** **17 12 08.0 +1.3**
WMGZ Waiomatatini S 61.39 128 P **P** **17 12 09.1 +2.0**
GRNR Gornyy 61.64 13 *e*P **P** **17 12 04.6 -3.9**
KSH Kashi 61.90 324 P **P** **17 12 09.1 -1.5**
KSH pmax pmax
comp=Z,17nm,0.9s
KSH LR LR
comp=Z,260nm,17.2s
KSH LR LR
comp=Z,280nm,19.2s
KSH LR LR
comp=Z,470nm,26.8s
TARG Taragay, Kyrgy 62.38 327 P **P** **17 12 13.2 -1.0**
TARG IAmb IAmb 17 12 23.9
comp=Z,8.5nm,0.7s
TARG Taragay, Kyrgy 62.38 327 P **P** **17 12 13.2 -1.0**
TARG pmax pmax
comp=Z,9.0nm,0.7s
PRZ Przheval'sk 62.60 328 IAmb IAmb 17 12 18.2
comp=Z,16nm,1.0s
ZEA Zeya 62.97 6 *e*P **P** **17 12 17.7 +0.4**
ZEA *e* 17 14 37.0

ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=Z,30nm,0.9s
ZEA pmax pmax
comp=Z,100nm,6.7s
ZEA MLR MLR
comp=Z,100nm,15.0s
NRN Naryn 63.17 326 IAmb IAmb 17 12 20.6
comp=Z,10nm,0.8s
RAO Raoul Island 63.23 118 LR LR 17 40 15.6
comp=Z,265nm,19.6s,baz=275,slow=36
KBL Kabul 63.26 316 P **P** **17 12 16.7 -3.3**
KBL IAmb IAmb 17 12 23.3
comp=Z,16nm,0.8s
KBL Kabul 63.26 316 P **P** **17 12 17.4 -2.5**
SNR=12
KBL Kabul 63.26 316 P **P** **17 12 16.7 -3.3**
KBL pmax pmax
comp=Z,16nm,0.8s
ZSN Zaisan 63.33 336 *e*P **P** **17 12 18.8 -1.1**
ZSN Zaisan 63.33 336 *e*P **P** **17 12 18.9 -1.1**
TNSS Tian-Shan 63.75 328 *e*P **P** **17 12 21.5 -1.7**
TNSS Tian-Shan 63.75 328 *e*P **P** **17 12 21.6 -1.7**
AAA Alma-Ata 63.88 328 *e*P **P** **17 12 22.3 -1.4**
AAA pmax pmax
comp=Z,7.0nm,0.4s
AAA Alma-Ata 63.88 328 *e*P **P** **17 12 22.3 -1.4**
comp=Z,6.9nm,0.4s
MK31 Makanchi Array 63.91 334*ce*P **P** **17 12 23.5 -0.2**
MKAR Makanchi Array 63.91 334 P **P** **17 12 22.4 -1.3**
MKAR Makanchi Array 63.91 334 P **P** **17 12 22.9 -0.8**
comp=Z,13nm,0.7s,baz=150,slow=7.1,SNR=70
MKAR PKP2bc 17 41 23.5
comp=Z,0.8nm,0.8s,baz=318,slow=3.3,SNR=8.2
comp=Z,13nm,0.7s
MKAR Makanchi Array 63.91 334 *i* P **P** **17 12 23.2 -0.5**
MKAR pmax pmax
comp=Z,14nm,0.7s
BOOM Boomskoye usch 63.91 327 IAmb IAmb 17 12 29.0
comp=Z,18nm,1.0s
MAKZ Makanchi 64.06 333 P **P** **17 12 23.4 -1.3**
MAKZ Makanchi 64.06 333 P **P** **17 12 23.4 -1.3**
MAKZ pmax pmax
comp=Z,10.0nm,1.1s
MAKZ Makanchi 64.06 333 P **P** **17 12 24.2 -0.5**
MAKZ pP **pP** **17 12 38.1 -2.2**
MAKZ sP **sP** **17 12 43.7 -3.0**
CHKK Chushkaly 64.29 328 *e*P **P** **17 12 24.5 -1.8**
CHKK Chushkaly 64.29 328 *e*P **P** **17 12 24.5 -1.8**
DRK Karamyk 64.36 322 IAmb IAmb 17 12 38.6
comp=Z,22nm,0.8s
TDK Taldyqorghan 64.39 330 *e*P **P** **17 12 25.5 -1.4**
TDK pmax pmax
comp=Z,14nm,0.6s
TDK Taldyqorghan 64.39 330 *e*P **P** **17 12 25.5 -1.4**
comp=Z,14nm,0.6s
TKM2 Tokmak 2 64.39 327 P **P** **17 12 26.9 -0.2**
SNR=8.9
UCH Uchtor 64.52 326 P **P** **17 12 28.3 0.0**
SNR=9.2
KBK Karagaybulak 64.57 326 P **P** **17 12 28.6 +0.3**
SNR=10
AAK Ala-Archa 64.80 326 P **P** **17 12 30.0 +0.1**
SNR=6.8
AAK Ala-Archa 64.80 326 P **P** **17 12 28.8 -1.1**
AAK IAmb IAmb 17 12 31.8
comp=Z,17nm,0.8s
AAK Ala-Archa 64.80 326 P **P** **17 12 29.8 0.0**
AAK Ala-Archa 64.80 326*ce*P **P** **17 12 29.9 +0.1**
AAK pmax pmax
comp=Z,38nm,1.7s
GAR Garm 64.98 321 P **P** **17 12 29.5 -1.5**
EKS2 Erkin-Say 65.22 326 P **P** **17 12 32.4 -0.1**
SNR=17
BTK Batken 65.31 322 IAmb IAmb 17 12 44.0
comp=Z,14nm,0.8s
MHTO MHTO 65.90 298 P **P** **17 12 35.1 -2.0**
WSAR Wadi Sarin 66.14 300 P **P** **17 12 37.6 -1.0**
CCD Concordia, Ant 66.17 178 P **P** **17 12 40.8 +2.4**
SMDO Samad 66.57 300 P **P** **17 12 40.0 -1.5**
BOD Bodaibo 66.63 358 *e*P **P** **17 12 39.5 -1.5**
BOD pmax pmax
comp=Z,32nm,1.6s
BTLS Baital 66.64 328 *e*P **P** **17 12 40.0 -1.4**
BTLS Baital 66.64 328 *e*P **P** **17 12 40.1 -1.4**
BIDO Bidbid 66.67 300 P **P** **17 12 40.5 -1.5**
DZA Taraz 66.75 325 *e*P **P** **17 12 40.7 -1.5**
DZA Taraz 66.75 325 *e*P **P** **17 12 40.8 -1.5**
H04N2 CROZET ISLANDS 67.03 224 T T 18 25 49.2
baz=79,slow=75,SNR=836
H04N1 CROZET ISLANDS 67.04 224 T T 18 25 49.1
baz=79,slow=75,SNR=1074
H04N3 CROZET ISLANDS 67.04 224 T T 18 25 50.6
baz=79,slow=75,SNR=40
IUG Iuzhnay 67.05 323 *e*P **P** **17 12 42.9 -1.3**
IUG pmax pmax
comp=Z,16nm,0.7s
IUG Iuzhnay 67.05 323 *e*P **P** **17 12 42.9 -1.3**
comp=Z,16nm,0.7s
H04S1 CROZET ISLANDS 67.09 223 T T 18 27 17.5
baz=74
H04S2 CROZET ISLANDS 67.10 223 T T 18 26 31.4
baz=74
H04S3 CROZET ISLANDS 67.10 223 T T 18 26 37.3
baz=74
BSY Bisya 67.19 299 P **P** **17 12 44.0 -1.4**
KK31 Karatay Array 67.35 324 P **P** **17 12 43.0 -3.0**
KK31 Karatay Array 67.35 324 P **P** **17 12 43.0 -3.0**
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 67.35 324 P **P** **17 12 43.2 -2.8**
KKAR Karatay Array 67.35 324 P **P** **17 12 43.2 -2.8**
HOQ Hoqain 67.39 300 P **P** **17 12 44.8 -1.8**
CHM Chimkent 67.41 323 *e*P **P** **17 12 44.9 -1.4**
CHM pmax pmax
comp=Z,25nm,1.2s
CHM Chimkent 67.41 323 *e*P **P** **17 12 44.9 -1.4**
comp=Z,25nm,1.2s
BRLS Boroldoy 67.70 324 *e*P **P** **17 12 46.4 -1.8**
BRLS Boroldoy 67.70 324 *e*P **P** **17 12 46.5 -1.8**
ARQ Araqi 67.98 300 P **P** **17 12 48.6 -1.8**
SOHO SOHO 68.25 300 P **P** **17 12 50.2 -1.8**
KURBB Kurchatov Arra 68.43 334 P **P** **17 12 51.6 -0.9**
comp=Z,7.5nm,0.8s,baz=147,slow=5.2,SNR=56
KURBB PKP2bc 17 41 09.6
comp=Z,0.6nm,0.3s,baz=320,slow=3.4,SNR=5.8
comp=Z,7.5nm,0.8s
KURK Kurchatov 68.46 334 P **P** **17 12 51.4 -1.4**
KURK IAmb IAmb 17 12 54.4
comp=Z,24nm,1.1s
KURK Kurchatov 68.46 334 P **P** **17 12 52.4 -0.4**
KURK Kurchatov 68.46 334*ce*P **P** **17 12 51.3 -1.4**
KURK pmax pmax
comp=Z,36nm,1.7s
KURK Kurchatov 68.46 334 P **P** **17 12 52.3 -0.5**
DOK Doka 68.54 294 P **P** **17 12 52.2 -1.7**
ZAA0 Zalesovo Array 68.61 340 IAmb IAmb 17 12 54.7
comp=Z,21nm,1.1s
ZALV Zalesovo Beam 68.61 340 **P** **17 12 51.2 -2.3**
ZALV Zalesovo Beam 68.61 340 P **P** **17 12 52.1 -1.5**
comp=Z,11nm,0.6s,baz=134,slow=4.3,SNR=29
comp=Z,11nm,0.6s
WHFO Wadi Hawf 68.65 293 P **P** **17 12 52.8 -1.9**
UOSS Minazif 68.83 301 P **P** **17 12 55.4 -0.1**
HATD Hatta, Dubai 68.84 301 P **P** **17 12 54.3 -1.4**
ASHO Ashiyiah 68.86 301 P **P** **17 12 54.1 -1.8**
ABPO Ambohimpanom 68.87 253 P **P** **17 12 55.2 -1.0**
ABPO IAmb IAmb 17 13 00.5
comp=Z,33nm,1.0s
ABPO Ambohimpanom 68.87 253 P **P** **17 12 55.2 -1.0**
ABPO pmax pmax
comp=Z,33nm,1.0s
ABPO Ambohimpanom 68.87 253 P **P** **17 12 57.9 +1.7**
MDH Madha 68.87 301 P **P** **17 12 51.8 -4.1**
MAW Mawson 68.88 200 P **P** **17 12 56.9 +1.8**
comp=Z,13nm,0.7s,baz=67,slow=6.9,SNR=57
MAW LR LR 17 37 11.8
comp=Z,278nm,21.1s,baz=53,slow=31
comp=Z,13nm,0.7s
ALNE Al Ain 68.89 300 P **P** **17 12 54.4 -1.6**
MASF Masafi 69.02 301 P **P** **17 12 57.3 +0.4**
VOI Vohitsoka 69.17 250 P **P** **17 12 57.4 -0.6**
VOI Vohitsoka 69.17 250 P **P** **17 13 00.3 +2.3**
SNR=5.9

FAQ Al Faqa, Dubai 69.27 301 P **P** **17 12 57.1 -1.3**
SHME Shamm 69.28 302 P **P** **17 12 57.5 -0.9**
ASUD Al Ashush, Dub 69.45 300 P **P** **17 12 58.3 -1.2**
MZR Muzera 70.50 298 P **P** **17 13 05.1 -0.9**
PEA0B Petropavlovsk- 70.51 24 IAmb IAmb 17 13 10.4
comp=Z,35nm,1.4s
PEA0B Petropavlovsk- 70.51 24 *i* P **P** **17 13 03.3 -2.1**
PETK Petropavlovsk- 70.51 24 **P** **17 13 04.4 -1.0**
PETK Petropavlovsk- 70.51 24 P **P** **17 13 05.4 0.0**
comp=Z,6.9nm,0.9s,baz=156,slow=0.6,SNR=16
comp=Z,6.9nm,0.9s
BRZS Berezniki 70.64 331 *e*P **P** **17 13 05.1 -1.1**
BRZS Berezniki 70.64 331 *e*P **P** **17 13 05.2 -1.1**
PET Petropavlovsk 70.84 25 *e*P **P** **17 13 02.9 -4.4**
PET *e*S **S** **17 22 17.2 -0.8**
PET pmax pmax
comp=Z,100nm,9.4s
PET pmax pmax
comp=Z,12nm,1.3s
PET MLR MLR
comp=Z,100nm,18.0s
PET MLR MLR
comp=Z,200nm,19.0s
GHWR Ruwais 71.33 299 P **P** **17 13 09.6 -1.3**
YAK Yakutsk 71.38 6 P **P** **17 13 08.8 -1.5**
YAK IAmb IAmb 17 13 12.3
comp=Z,20nm,0.8s
YAK Yakutsk 71.38 6 LR LR 17 47 47.0
comp=Z,113nm,19.9s,baz=198,slow=39
YAK Yakutsk 71.38 6*c* *i*P **P** **17 13 09.2 -1.2**
YAK *e**PP **pP** **17 13 25.3 -0.9**
YAK *e* 17 13 32.4
YAK *e* 17 15 46.5
YAK *e*PPP PPP 17 17 31.7
YAK *e*S **S** **17 22 23.2 -0.7**
YAK *e**SS **sS** **17 22 51.4 +0.9**
YAK *e* 17 23 08.3
YAK *e*SS **SS** **17 26 59.5 -0.2**
YAK pmax pmax
comp=Z,20nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.5s
YAK pmax pmax
comp=E,2.0nm,1.5s
YAK pmax pmax
comp=Z,120nm,5.9s
YAK pmax pmax
comp=N,68nm,5.6s
YAK pmax pmax
comp=E,44nm,4.6s
YAK smax smax
comp=E,39nm,3.8s
YAK smax smax
comp=N,48nm,3.3s
JRN Qarnain Island 71.68 300 P **P** **17 13 11.4 -1.6**
VNDA Vanda 72.20 171 P **P** **17 13 14.5 -0.7**
VNDA Vanda 72.20 171 P **P** **17 13 16.9 +1.7**
comp=N,4.0nm,0.5s,baz=319,slow=5.5,SNR=30
VNDA LR LR 17 42 51.3
comp=N,535nm,21.2s,baz=326,slow=34
comp=N,4.0nm,0.5s
VNDA Vanda 72.20 171 P **P** **17 13 14.5 -0.7**
VNDA pmax pmax
comp=Z,10.0nm,1.0s
SLWR Sila 72.39 299 P **P** **17 13 16.0 -1.3**
TRNA Turayna 73.02 299 P **P** **17 13 19.6 -1.4**
SBA Scott Base 73.21 170 P **P** **17 13 20.7 -0.5**
SBA Scott Base 73.21 170 P **P** **17 13 20.7 -0.5**
SBA pmax pmax
comp=Z,19nm,1.1s
MA2 Magadan 73.22 17 P **P** **17 13 21.5 +0.1**
MA2 Magadan 73.22 17 P **P** **17 13 22.0 +0.6**
comp=Z,7.2nm,0.8s,baz=207,slow=9.0,SNR=7.7
comp=Z,7.2nm,0.8s
MA2 Magadan 73.22 17 P **P** **17 13 26.0 +4.5**
MA2 Magadan 73.22 17*ce*P **P** **17 13 21.9 +0.4**
MA2 pmax pmax
comp=Z,27nm,1.7s
SMRA Abu-Samra 73.36 299 P **P** **17 13 21.6 -1.4**
SHMA Al-Shehemyia 73.59 300 P **P** **17 13 23.2 -1.1**
BVAR Borovoye Array 73.73 332 P **P** **17 13 23.7 -0.9**
comp=Z,17nm,0.8s
BVAR LR LR 17 49 17.2
comp=Z,164nm,19.3s,baz=135,slow=39
comp=Z,17nm,0.8s
BRVK Borovoye 73.80 332 P **P** **17 13 23.9 -1.1**
BRVK Borovoye 73.80 332 P **P** **17 13 24.4 -0.6**
BRVK Borovoye 73.80 332*ce*P **P** **17 13 23.3 -1.7**
BRVK pmax pmax
comp=Z,31nm,1.7s
SEY Seymchan 76.44 15 P **P** **17 13 39.5 -0.4**
comp=Z,1.7nm,0.6s,baz=210,slow=8.1,SNR=8.2
SEY LR LR 17 50 03.1
comp=Z,73nm,19.0s,baz=224,slow=38
comp=Z,1.7nm,0.6s
SEY Seymchan 76.44 15 *i* P **P** **17 13 39.8 -0.1**
SEY pmax pmax
comp=Z,7.0nm,0.9s
AB31 Akbulak array 76.87 325 IAmb IAmb 17 13 44.0
comp=Z,18nm,0.9s
ATD Arta Tunnel 77.29 284 P **P** **17 13 47.4 +1.6**
KBD Kabd 77.38 303 P **P** **17 13 44.8 -1.2**
SYO Syowa Base 77.47 201 ⇑ *i*P **P** **17 13 48.0 +2.3**
SYO Syowa Base 77.47 201 ⇓ *i*PcP **PcP** **17 13 57.2 +1.3**
SYO Syowa Base 77.47 201 ⇑ *i*sP sP 17 14 06.1 -1.2
RAYN Ar Rayn 77.66 296 P **P** **17 13 45.5 -2.2**
RAYN IAmb IAmb 17 13 48.4
comp=Z,21nm,0.8s
RAYN Ar Rayn 77.66 296 P **P** **17 13 46.8 -0.9**
RAYN Ar Rayn 77.66 296 P **P** **17 13 45.5 -2.2**
RAYN pmax pmax
comp=Z,21nm,0.8s
SHEM Shemya Is, Ala 77.84 31 LR LR 17 43 55.0
comp=Z,59nm,21.7s,baz=66,slow=32
AKTO Aktyubinsk 78.55 326 LR LR 17 52 53.1
comp=Z,173nm,21.0s,baz=172,slow=39
KIBK Kibwezi 79.55 269 IAmb IAmb 17 14 01.5
comp=Z,23nm,0.8s
KIBK Kibwezi 79.55 269 P **P** **17 13 60.0 +1.5**
LKRN Lenkeran, Azer 79.64 312 P **P** **17 13 58.3 +0.1**
RAR Rarotonga 79.76 110 LR LR 17 47 19.7
comp=Z,150nm,21.9s,baz=280,slow=34
SVE Sverdlovsk 80.51 332 *e*P **P** **17 14 01.5 -1.0**
SVE pmax pmax
comp=Z,21nm,1.1s
TIXI Tiksi 80.78 4 LR LR 17 52 11.9
comp=Z,168nm,22.0s,baz=198,slow=38
TIXI Tiksi 80.78 4 P **P** **17 14 03.3 -0.4**
TIXI pmax pmax
comp=Z,17nm,1.1s
NRIK Noril'sk 80.91 350 P **P** **17 14 03.4 -1.0**
comp=Z,1.5nm,0.6s,baz=145,slow=6.6,SNR=5.5
NRIK LR LR 17 52 29.8
comp=Z,151nm,19.8s,baz=138,slow=38
comp=Z,1.5nm,0.6s
NRIK Noril'sk 80.91 350 *i* P **P** **17 14 03.4 -1.0**
NRIK pmax pmax
comp=Z,10.0nm,1.8s
QSPA South Pole Qui 81.03 180 **P** **17 14 05.1 -0.3**
QSPA South Pole Qui 81.03 180 P **P** **17 14 06.5 +1.1**
comp=Z,38nm,1.0s,baz=314,slow=1.4,SNR=121
QSPA LR LR 17 48 11.3
comp=Z,604nm,20.3s,baz=332,slow=34
comp=Z,38nm,1.0s
ARTI Arti 81.34 331 **P** **17 14 05.0 -1.9**
ARTI Arti 81.34 331 LR LR 17 56 04.3
comp=Z,207nm,19.1s,baz=122,slow=40
ARTI Arti 81.34 331*c* *i*P **P** **17 14 04.6 -2.4**
ARTI 17 17 10.0
ARTI S **S** **17 24 11.1 -2.2**
ARTI pmax pmax
comp=Z,10.0nm,1.0s
AKT Akhty 81.35 314 *e*P P 17 14 02.1 -5.4
AKT *e**PP **PcP** **17 14 18.5 +5.0**
AKT pmax pmax
comp=Z,13nm,0.9s
MNGR Mingechevir, A 81.57 314 P **P** **17 14 08.7 +0.2**
SEKA Sheki 81.63 314 P **P** **17 14 08.7 -0.3**
GANJ Ganja 82.07 313 P **P** **17 14 11.4 +0.1**
NAX Nakhchivan 82.21 312 P **P** **17 14 12.0 -0.1**
LODK Lodwar 83.11 275 **P** **17 14 16.0 -1.3**
LODK IAmb IAmb 17 14 20.2
comp=Z,12nm,0.8s
LODK Lodwar 83.11 275 P **P** **17 14 18.7 +1.4**

SNR=8.2
BILL Bilibino 84.09 16 *i* P **P** **17 14 21.3 +0.3**
BILL pmax pmax
comp=Z,4.0nm,1.3s
BELG Belogornoye 85.26 325 LR LR 17 57 50.6
comp=Z,91nm,21.3s,baz=101,slow=40
KBZ Khabaz 85.44 315 P **P** **17 14 27.5 -0.9**
comp=Z,10nm,0.9s,baz=104,slow=4.2,SNR=13
comp=Z,10nm,0.9s
KBZ Khabaz 85.44 315 *i* P **P** **17 14 27.4 -0.9**
KBZ pmax pmax
comp=Z,15nm,0.9s
SHA1 Shidzhatmaz 85.61 315 *i* P **P** **17 14 27.8 -1.7**
KVAR Kislovodsk Arr 85.65 316 LR LR 18 01 44.8
comp=Z,56nm,18.4s,baz=256,slow=42
KIV Kislovodsk 85.65 316 *e*P **P** **17 14 26.8 -2.7**
KIV pmax pmax
comp=Z,6.0nm,1.1s
GOF Gofitskoye 85.73 317*ce*P **P** **17 14 29.9 +0.1**
MATP Matopo 86.30 250 LR LR 17 49 16.8
comp=Z,48nm,18.5s,baz=90,slow=33
KIRV Kirov 86.65 331 LR LR 17 57 12.5
comp=Z,151nm,21.8s,baz=120,slow=38
KIRV Kirov 86.65 331 *i* P **P** **17 14 31.3 -2.6**
MREMI Moremi 86.96 248 *i* P **P** **17 14 38.7 +2.2**
MBAR Mbarara 87.04 270 P **P** **17 14 37.2 +0.1**
MBAR Mbarara 87.04 270 P **P** **17 14 38.8 +1.6**
MBAR Mbarara 87.04 270 *i* P **P** **17 14 38.1 +1.0**
MBAR pmax pmax
comp=Z,38nm,0.8s
BROLN Tlhalogang 87.28 249 *i* P **P** **17 14 40.0 +1.9**
LSZ Lusaka 87.34 255 **P** **17 14 38.4 -0.1**
LSZ Lusaka 87.34 255 LR LR 17 52 17.3
comp=Z,97nm,18.1s,baz=123,slow=35
LSZ Lusaka 87.34 255 P **P** **17 14 40.4 +1.9**
LSZ Lusaka 87.34 255 P **P** **17 14 38.4 -0.1**
LSZ pmax pmax
comp=Z,34nm,1.0s
SOC Sochi 87.62 315 *e*P **P** **17 14 34.7 -4.3**
SOC *e*PPP PPP 17 19 55.5
SOC *e*S **SKSac** **17 24 55.9 -6.4**
SOC *e*SS **SS** **17 31 00.5 -3.3**
SOC *e*SSS SSS 17 34 27.3
SOC MLR MLR
comp=Z,138nm,21.0s
BOSA Boshof 88.01 242 P **P** **17 14 42.6 +1.2**
comp=Z,51nm,0.8s,baz=103,slow=4.0,SNR=72
BOSA LR LR 17 48 01.4
comp=Z,87nm,21.8s,baz=100,slow=32
comp=Z,51nm,0.8s
EIL Elat 88.26 300 LR LR 17 57 10.3
comp=Z,197nm,18.8s,baz=66,slow=38
LBTB Lobatse 88.27 245 LR LR 17 50 41.6
comp=Z,84nm,18.1s,baz=94,slow=33
LPHEP Lephephe 88.29 247 *i* P **P** **17 14 45.0 +2.1**
VRH Novokhopyorsk 88.35 322 *e*P **P** **17 14 39.1 -3.2**
VRH pmax pmax
comp=Z,10.0nm,0.9s
MMAI Mount Meron Ar 88.55 304 P **P** **17 14 44.2 +0.5**
comp=Z,6.0nm,0.8s,baz=83,slow=6.8,SNR=6.5
comp=Z,6.0nm,0.8s
MAKGR Makgori 88.86 244 *i* P **P** **17 14 47.8 +2.3**
TBI Tubuai 88.96 113 *e*S **S** **17 25 29.5 -0.5**
comp=Z,788nm,27.8s
TBI Tubuai 88.96 113 *e*LQ LQ 17 39 24.5
comp=Z,3μm,36.8s
TBI *e*LR LR 17 43 06.1
comp=Z,1μm,27.5s
TROLL Troll, Antarti 89.08 196 ⇑P **P** **17 14 48.4 +2.7**
comp=Z,869nm,0.7s
KDWAN Kaudwane 89.38 247 *i* P **P** **17 14 50.5 +2.5**
PPT2 Papeete2 89.78 108 *e*PKIKP **P** **17 14 49.0 -0.9**
comp=Z,30nm,22.5s
PPT2 Papeete2 89.78 108 *e*S S 17 25 26.9 -11
PPT2 *e*SS **SS** **17 31 33.9 -2.2**
comp=Z,64nm,23.0s
PPT2 *e*LQ LQ 17 39 41.4
comp=Z,109nm,32.2s
PPT2 *e*LR LR 17 43 27.6
comp=Z,894nm,37.8s
PPT2 *e*LR LR 17 43 38.6
comp=Z,547nm,28.0s
PPT2 *e*LR LR 17 43 38.6
comp=Z,337nm,30.8s
SKOMA Sekoma 89.84 245 *i* P **P** **17 14 52.2 +2.1**
VSR Storozhevoye 89.90 322 *e*P **P** **17 14 47.2 -2.4**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 89.99 322 *e*P **P** **17 14 49.9 -0.1**
VORR pmax pmax
comp=Z,24nm,1.6s
LPSR Galich'ya Gora 90.39 323 *e*P **P** **17 14 50.7 -1.1**
LPSR pmax pmax
comp=Z,19nm,1.8s
SNAA Sanae 90.72 196 ⇑P **P** **17 14 55.7 +2.5**
comp=Z,357nm,0.8s
SNAA Sanae 90.72 196 **P** **17 14 53.7 +0.5**
SNAA IAmb IAmb 17 15 03.6
comp=Z,15nm,0.9s
SNAA Sanae 90.72 196 P **P** **17 14 55.0 +1.8**
comp=Z,12nm,0.7s,baz=149,slow=4.7,SNR=61
SNAA LR LR 17 50 27.5
comp=Z,657nm,21.8s,baz=81,slow=32
comp=Z,12nm,0.7s
SNAA Sanae 90.72 196 *i* P **P** **17 14 54.2 +1.0**
SNAA pmax pmax
comp=Z,18nm,1.0s
SUR Sutherland 91.12 237 P **P** **17 14 59.4 +3.3**
BR104 Keskin Array S 91.23 310 P **P** **17 14 56.7 +0.5**
comp=Z,3.8nm,1.0s
BR131 Keskin Array S 91.23 310 *i* P **P** **17 14 53.8 -2.5**
BRTR Keskin Array B 91.23 310 **P** **17 14 54.6 -1.7**
BRTR Keskin Array B 91.23 310 P **P** **17 14 55.0 -1.2**
comp=Z,1.8nm,0.8s,baz=128,slow=5.5,SNR=9.4
BRTR LR LR 18 01 01.0
comp=Z,44nm,18.0s,baz=114,slow=39
comp=Z,1.8nm,0.8s
BR105 Keskin Array S 91.25 310 P **P** **17 14 56.9 +0.6**
comp=Z,5.4nm,0.9s
KGCAE Kacgae 91.69 247 *i* P **P** **17 15 01.1 +2.3**
MOS Moscow 91.87 326 *e*P **P** **17 14 56.5 -2.1**
BELA Belgrano 2 91.94 186 IAmb IAmb 17 15 03.0
comp=Z,12nm,1.0s
KLMR Klimovskoe 92.12 331 *e*P **P** **17 14 57.3 -2.4**
KLMR *e**PP **pP** **17 15 13.1 -2.8**
KLMR pmax pmax
comp=Z,10.0nm,1.1s
OBN Obninsk 92.32 325 LR LR 18 01 29.9
comp=Z,245nm,19.9s,baz=40,slow=39
OBN Obninsk 92.32 325 *e*P **P** **17 14 58.5 -2.2**
OBN *e* 17 18 38.5
OBN *e*S **SKSac** **17 25 34.5 +5.4**
OBN *e*SS **SS** **17 32 04.0 -7.2**
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,313nm,23.0s
VNA2 Neumayer--Watz 92.36 196 ⇑P **P** **17 15 03.8 +3.1**
comp=Z,14nm,0.6s,baz=104,slow=2.2
VNA1 Neumayer--Stat 92.75 196 ⇑P **P** **17 15 05.0 +2.5**
comp=Z,7.9nm,0.8s
GRTLG Ghanzi 92.87 248 *i* P **P** **17 15 06.0 +1.7**
KOOLE Kule 93.49 246 *i* P **P** **17 15 09.3 +2.2**
H17K Granite Mounta 94.78 25 P **P** **17 15 11.1 -0.8**
H17K IAmb IAmb 17 15 28.3
comp=Z,6.5nm,0.9s
J18K Innoko River 95.92 27 IAmb IAmb 17 15 48.1
comp=Z,7.1nm,1.2s
AKASG Malin Array Be 95.98 320 P **P** **17 15 15.4 -2.2**
comp=Z,0.2nm,0.3s,baz=83,slow=4.6,SNR=4.7
AKASG LR LR 18 05 21.5
comp=Z,110nm,19.3s,baz=78,slow=40
comp=Z,0.2nm,0.3s
AKASG Malin Array Be 95.98 320 *i* P **P** **17 15 17.2 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 95.98 320 *i* P **P** **17 15 15.4 -2.2**
AKBB pmax pmax
comp=Z,3.0nm,0.9s
G19K Purcell Mounta 96.14 24 IAmb IAmb 17 16 02.7
comp=Z,7.4nm,1.1s
E19K Redstone River 96.27 23 IAmb IAmb 17 15 31.6
comp=Z,5.9nm,1.0s
H19K Roundabout Mou 96.32 25 **P** **17 15 18.0 -0.8**
H19K IAmb IAmb 17 15 21.1
comp=Z,6.8nm,0.9s
TSUM Tsumeb 96.63 249 **P** **17 15 21.4 -0.2**

TSUM					IAmb	IAmb	17 15 32.5	
	comp=Z,6.7nm,0.9s							
TSUM	**Tsumeb**	**96.63**	**249**		LR	LR	17 56 42.5	
	comp=Z,140nm,18.3s,baz=98,slow=34							
K20K	**Telida**	**97.09**	**27**		IAmb	IAmb	17 15 24.6	
	comp=Z,5.6nm,1.1s							
VRI	**Vrincioaia**	**97.13**	**315**		P	**P**	**17 15 22.6**	**-0.4**
MNK	**Minsk**	**97.20**	**324**		*i* P	**P**	**17 15 21.1**	**-1.9**
MNK					*i* *PP	**pP**	**17 15 38.2**	**-1.1**
MNK					*i* S	**SKSac**	**17 25 51.7**	**-3.6**
MNK					*i* PS	**PS**	**17 28 09.2**	**-1.9**
MNK					*i* SS	**SS**	**17 33 18.4**	**-2.1**
MNK					*i* SSS	SSS	17 37 04.3	
MNK					pmax	pmax		
	comp=Z,9.0nm,0.6s							
MNK					pmax	pmax		
	comp=N,11nm,0.7s							
MNK					pmax	pmax		
	comp=E,12nm,0.7s							
MNK					MLR	MLR		
	comp=Z,185nm,22.0s							
KDAK	**Kodiak Island**	**97.29**	**33**		LR	LR	17 55 01.8	
	comp=Z,130nm,21.4s,baz=244,slow=33							
H21K	**Melozitna Rive**	**97.84**	**25**		IAmb	IAmb	17 15 37.5	
	comp=Z,18nm,1.9s							
BURAR	**Bucovina Array**	**98.31**	**317**		P	**P**	**17 15 26.0**	**-2.4**
BUR08	**Bucovina Ar. S**	**98.32**	**317**		IAmb	IAmb	17 19 25.4	
	comp=Z,10nm,1.6s							
FINES	**FINESS Array B**	**98.65**	**331**		P	**P**	**17 15 29.2**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=100,slow=7.6,SNR=7.2							
FINES					PKiKP	**PKiKP**	**17 20 00.4**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=85,slow=2.9,SNR=4.9							
FINES					LR	LR	18 04 41.1	
	comp=Z,159nm,21.4s,baz=100,slow=38							
	comp=Z,2.6nm,0.8s							
ARCES	**ARCESS Array B**	**99.15**	**339**		LR	LR	18 08 02.6	
	comp=Z,93nm,18.3s,baz=102,slow=40							
ILAR	**Eielson Array**	**100.31**	**26**		PKKPbc	PKKPbc	17 31 55.5	-0.6
	comp=Z,1.2nm,0.9s,baz=80,slow=1.7,SNR=7.4							
TAOE	**Nuku Hiva Isla**	**100.35**	**101**		eLR	LR	17 48 13.9	
	comp=Z,250nm,29.7s							
GERES	**GERESS Array B**	**106.00**	**318**		PKiKP	**PKiKP**	**17 20 11.0**	**-3.6**
	comp=Z,0.3nm,0.4s,baz=90,slow=2.9,SNR=3.6							
CLL	**Collm**	**106.22**	**321**		*e*PS	PS	17 29 46.0	-1.0
CLL					*e*PPS	PPS	17 30 48.0	
CLL					*e*PPPPrev		17 43 54.0	
YKA	**Yellowknife Ar**	**114.63**	**24**		PKP	PKPdf	17 20 30.6	+0.3
	comp=Z,1.9nm,0.8s,baz=291,slow=7.8,SNR=4.7							
ESDC	**Sonseca Array**	**120.01**	**311**		PKP	**PKPdf**	**17 20 40.9**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=65,slow=2.9,SNR=6.3							
PLID	**Pearl Lake**	**121.49**	**42**			**PKPdf**	**17 20 42.6**	**-1.8**
NVAR	**Mina Array Bea**	**121.89**	**50**		PKP	**PKPdf**	**17 20 44.7**	**-0.6**
	comp=Z,3.2nm,0.9s,baz=260,slow=2.0,SNR=10							
NVAR					PKKPbc	**PKKPbc**	**17 30 45.4**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=124,slow=4.7,SNR=8.4							
MSO	**Missoula**	**122.16**	**40**			**PKPdf**	**17 20 44.1**	**-1.3**
DBIC	**Dimbokro**	**123.22**	**272**		PKP	**PKiKP**	**17 20 48.6**	**+0.2**
	comp=Z,5.8nm,0.6s,baz=148,slow=2.8,SNR=8.8							
NRS	**Narsarsuaq**	**126.45**	**350**			**PKPdf**	**17 20 52.3**	**-0.7**
NRS	**Narsarsuaq**	**126.45**	**350**		PKiKP	**PKPdf**	**17 20 52.3**	**-0.7**
PDAR	**Pinedale Array**	**126.68**	**43**			**PKPdf**	**17 20 53.0**	**-1.4**
PDAR	**Pinedale Array**	**126.68**	**43**		PKP	**PKiKP**	**17 20 54.9**	**0.0**
	comp=Z,0.5nm,0.6s,baz=283,slow=4.2,SNR=5.3							
PLCA	**Paso Flores**	**129.95**	**172**		PKP	**PKiKP**	**17 21 02.7**	**+1.4**
	comp=Z,2.1nm,0.8s,baz=243,slow=2.3,SNR=6.0							
SCHQ	**Schefferville**	**134.11**	**4**		PKP	**PKiKP**	**17 21 08.6**	**-0.6**
	comp=Z,7.0nm,0.9s,baz=0.0,slow=5.1,SNR=7.3							
TXAR	**Lajitas Array**	**136.18**	**57**		PKhKP	PKPpre	17 21 02.8	
	comp=Z,0.8nm,0.8s,baz=287,slow=3.0,SNR=6.3							
TXAR					SKPbc	**SKiKP**	**17 24 48.2**	**+2.4**
	comp=Z,0.4nm,0.6s,baz=331,slow=2.2,SNR=2.0							
R40A	**Maddies Static**	**140.19**	**38**			PKPpre	17 21 10.0	
CCM	**Cathedral Cave**	**140.96**	**38**			PKPpre	17 21 11.2	
CCM	**Cathedral Cave**	**140.96**	**38**		PKHKP	PKPpre	17 21 11.2	
MIAR	**Mount Ida**	**141.57**	**44**			**PKPdf**	**17 21 18.5**	**-3.7**
MIAR	**Mount Ida**	**141.57**	**44**		PKiKP	**PKPdf**	**17 21 18.5**	**-3.7**
WCI	**Wyandotte Cave**	**143.66**	**33**			PKPbc	17 21 23.1	-0.2
WCI	**Wyandotte Cave**	**143.66**	**33**		PKiKP	PKPbc	17 21 23.1	-0.2
WVT	**Waverly**	**144.27**	**37**			**PKPab**	**17 21 24.7**	**-0.1**
WVT	**Waverly**	**144.27**	**37**		PKiKP	**PKPab**	**17 21 24.7**	**-0.1**
CPUP	**Villa Florida**	**144.60**	**188**		PKP	**PKPdf**	**17 21 28.0**	**+0.2**
	comp=Z,8.1nm,1.0s,baz=124,slow=3.6,SNR=39							
CPUP	**Villa Florida**	**144.60**	**188**		PKiKP	**PKPdf**	**17 21 28.0**	**+0.2**
P52A	**Corning**	**144.63**	**27**			**PKPab**	**17 21 25.6**	**-0.4**
250A	**Grady**	**148.00**	**41**			**PKPbc**	**17 21 35.5**	**-0.9**
152A	**Waverly Hall**	**148.51**	**38**		PKPdf	**PKPdf**	**17 21 31.1**	**-3.0**
152A						**PKPbc**	**17 21 36.8**	**-0.9**
RCBR	**Riachuelo**	**149.97**	**242**			**PKPdf**	**17 21 38.0**	**+0.9**
RCBR	**Riachuelo**	**149.97**	**242**		PKHKP	**PKPdf**	**17 21 38.0**	**+0.9**
AQDB	**Aquidauana**	**150.06**	**192**			**PKPdf**	**17 21 38.6**	**+1.7**
BDFB	**Brasilia**	**151.81**	**210**			**PKPdf**	**17 21 42.0**	**+2.1**
BDFB	**Brasilia**	**151.81**	**210**		PKP	**PKPdf**	**17 21 41.7**	**+1.8**
	comp=Z,5.9nm,0.8s,baz=146,slow=3.0,SNR=7.7							
BDFB					PKPbc	**PKiKP**	**17 21 47.9**	**+1.2**
	comp=Z,19nm,0.8s,baz=169,slow=3.7,SNR=22							
LPAZ	**La Paz**	**154.22**	**167**		PKPdf	**PKPdf**	**17 21 40.4**	**-3.6**
LPAZ						**PKPbc**	**17 21 45.7**	**-6.6**
LPAZ	**La Paz**	**154.22**	**167**		PKP	**PKPdf**	**17 21 45.4**	**+1.3**
	comp=Z,1.5nm,0.8s,baz=210,slow=3.9,SNR=5.5							
DSLB	**Salisbury**	**173.53**	**354**		*e*P	**PKPdf**	**17 21 55.4**	**-5.4**

*SJA **12** 17:08:37.7±0.8, 27.51S×70.39W, h85km±10km, ML3.3, MW3.5*
*GUC **12** 17:08:37.6±0.8, 27.63S×70.22W, h90km±4km, ML3.6*
ISC 12 17:08:38.7±1.5, **27.56S**±0.04×**70.31W**±0.06, **h90**km±10km, **n17**, σ0.58/27, **3C-1D**, **Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO03	**Copiapo**	**0.08**	**117**	*e*P	**Pn**	**17 08 51.0**	**-0.5**
GO03				*i* S	**Sn**	**17 09 00.8**	**-0.3**
GO03				IAML		17 09 01.1	
	comp=N,7μm,0.2s						
AC06	**Mina Casimiro**	**0.20**	**350**	*i*P	**Pn**	**17 08 51.8**	**0.0**
AC06				*i* S	**Sn**	**17 09 01.3**	**-0.2**
AC06				IAML		17 09 01.9	
	comp=E,6μm,0.2s						
AC04	**Llanos de Chal**	**0.93**	**226**	*i*P	**Pn**	**17 08 58.1**	**+0.4**
AC04				*i* S	**Sn**	**17 09 12.8**	**+1.0**
AC04				IAML		17 09 14.1	
	comp=E,2μm,0.1s						
AC04	**Llanos de Chal**	**0.93**	**226**	*i* P	**Pn**	**17 08 57.9**	**+0.2**
AC04				*i* S	**Sn**	**17 09 11.2**	**-0.7**
AC04				IAML		17 09 13.1	
	comp=Z,348nm,0.2s						
AC02	**Maricunga**	**1.28**	**56**	*i*P	**Pn**	**17 09 02.5**	**+0.3**
AC02				*i* S	**Sn**	**17 09 20.0**	**+0.1**
AC02				IAML		17 09 21.0	
	comp=E,1μm,0.2s						
AC02	**Maricunga**	**1.28**	**56**	*i* P	**Pn**	**17 09 02.7**	**+0.5**
AC02				*i* S	**Sn**	**17 09 20.9**	**+1.0**
AC02				IAML		17 09 22.1	
	comp=Z,468nm,0.1s						
AC01	**Pan de Azucar**	**1.43**	**350**	*i*P	**Pn**	**17 09 04.1**	**+0.5**
AC01				*i* S	**Sn**	**17 09 22.0**	**-0.4**
AC01				IAML		17 09 23.8	
	comp=E,588nm,0.1s						
AC01	**Pan de Azucar**	**1.43**	**350**	*i* P	**Pn**	**17 09 04.2**	**+0.5**
AC01				*i* S	**Sn**	**17 09 21.3**	**-1.1**
AC01				IAML		17 09 22.8	
	comp=Z,247nm,0.5s						
LCO	**Las Campanas**	**1.49**	**193**	*e*P	**Pn**	**17 09 04.2**	**-0.3**
LCO				*i* S	**Sn**	**17 09 24.5**	**+0.4**
LCO				IAML		17 09 25.5	
	comp=Z,3μm,0.2s						
LCO	**Las Campanas**	**1.49**	**193**	*i* P	**Pn**	**17 09 04.8**	**+0.2**
LCO				*i* S	**Sn**	**17 09 25.1**	**+1.0**
LCO				IAML		17 09 25.6	
	comp=Z,718nm,0.3s						
CO01	**Juntas del Tor**	**2.42**	**175**	*e*P	**Pn**	**17 09 16.4**	**-0.3**
GO02	**Mina Guanaco**	**2.47**	**15**	*e*P	**Pn**	**17 09 17.2**	**-0.2**
GO02				IAML		17 09 53.1	
	comp=E,248nm,0.2s						
GO02	**Mina Guanaco**	**2.47**	**15**	*i* P	**Pn**	**17 09 17.8**	**+0.4**
GO02				IAML		17 09 52.1	
	comp=Z,150nm,0.6s						
GO04	**Tololo Observa**	**2.64**	**189**	*e*P	**Pn**	**17 09 19.2**	**-0.4**
GO04	**Tololo Observa**	**2.64**	**189**	*i* P	**Pn**	**17 09 19.0**	**-0.6**
GO04				IAML		17 09 53.7	
	comp=Z,87nm,0.5s						
PB14	**IPOC Station P**	**2.92**	**358**	*i* P	**Pn**	**17 09 23.1**	**-0.3**
PB14				IAML		17 10 04.8	
	comp=Z,48nm,0.3s						
CYA	**Choya**	**4.08**	**103**	*e*P	**Pn**	**17 09 38.4**	**-0.5**

*JMA **12** 17:21:04.2±0.5, 44°N±3°×14°8E±°, h0km, MV3.8/22, SE OFF ETOROFU*
*SKHL **12** 17:21:04.3±0.2, 44.40N×148.80E, h53km±7km, mb4.5/4*
ISC 12 17:20:59.8±3.7, **44.28N**±0.09×**149.1E**±0.2, **h42**km, **n18**, σ**2.45**/26, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.32**	**317**	*e*P	**Pn**	**17 21 21.9**	**+0.2**
KUR				AMB	AMB	17 21 22.6	
	130nm,0.4s						
KUR				*i* S	**Sn**	**17 21 35.2**	**-2.9**
KUR				A	A	17 21 38.1	
	490nm,0.4s						
KUR				A	A	17 21 38.1	
	550nm,0.4s						
SHO	**Shikotan**	**1.72**	**257**	*e*P	**Pn**	**17 21 29.0**	**+1.8**
SHO				AMB	AMB	17 21 32.3	
	60nm,0.3s						
SHO				*i* S	**Sn**	**17 21 46.4**	**-1.5**
SHO				A	A	17 21 50.5	
	380nm,0.3s						
SHO				A	A	17 21 50.5	
	150nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.38**	**265**	*e*P	**Pn**	**17 21 37.6**	**+1.4**
YUK				AMB	AMB	17 21 38.9	
	200nm,0.4s						
YUK				*i* S	**Sn**	**17 22 02.4**	**-1.7**
YUK				A	A	17 22 07.7	
	160nm,0.3s						
YUK				A	A	17 22 07.7	
	270nm,0.3s						
NEM2	**Nemuro 2**	**2.62**	**251**	*e*P	**Pn**	**17 21 40.8**	**+1.2**
NEM2				*e*S	**Sn**	**17 22 07.6**	**-2.6**
NMR	**Nemuro--Hokkai**	**2.63**	**251**	*e*P	**Pn**	**17 21 40.8**	**+1.0**
NMR				*i* S	**Sn**	**17 22 08.3**	**-2.2**
GLVR	**Golovnino**	**2.67**	**260**	*e*P	**Pn**	**17 21 42.4**	**+2.1**
GLVR				AMB	AMB	17 21 45.5	
	80nm,0.2s						
GLVR				*i* S	**Sn**	**17 22 11.0**	**-0.4**
GLVR				A	A	17 22 17.2	
	230nm,0.3s						
GLVR				A	A	17 22 17.2	
	280nm,0.3s						
JRA	**Rausu**	**2.92**	**265**	*e*P	**Pn**	**17 21 46.0**	**+2.4**
JRA				*e*S	**Sn**	**17 22 17.1**	**-0.3**
JNSB	**Nemuroshibetsu**	**3.03**	**262**	*e*P	**Pn**	**17 21 47.0**	**+1.8**
JKHN	**Kushirohamanak**	**3.13**	**249**	*e*P	**Pn**	**17 21 48.3**	**+1.8**
JNK	**Nakash**	**3.27**	**259**	*e*P	**Pn**	**17 21 50.4**	**+1.9**
AKK	**Akkeshi**	**3.37**	**250**	*e*P	**Pn**	**17 21 51.1**	**+1.2**
JAK	**Akkeshi**	**3.47**	**250**	*e*P	**Pn**	**17 21 52.8**	**+1.5**
JTKR	**Abashiri--Toko**	**3.78**	**267**	*e*P	**Pn**	**17 21 58.8**	**+3.2**
JAR	**Ashorobuto**	**4.01**	**258**	*e*P	**Pn**	**17 22 01.4**	**+2.6**
JAR				*e*S	**Sn**	**17 22 43.9**	**-0.6**
JCH	**Churui**	**4.53**	**250**	*e*P	**Pn**	**17 22 08.2**	**+2.4**
JKK2	**Kamakawa 2**	**4.63**	**267**	*e*P	**Pn**	**17 22 10.7**	**+3.5**
JOT	**Ohata**	**6.62**	**247**	*e*P	**Pn**	**17 22 36.2**	**+1.7**
JANG	**Nango**	**6.87**	**238**	*e*S	**Sn**	**17 23 48.3**	**-6.4**

*DNK **12** 17:21:16.8±1.5, 82.18N×4.92W, h36km±17km, ML2.2*
*IDC **12** 17:21:18.3±0.9, 82.47N×1.56W, h0km, mb3.4/11, mbtmp3.5/13, ML3.6/2, MS3.3/5, Error ellipse: s-maj=27.3km s-min=15.3km az=47.0*
*FCIAR **12** 17:21:19.0, 82.01N×4.44W, h10km, station OMEGA has station magnitude of 3.80 station ZFI2 has station magnitude of 3.80*
ISC 12 17:21:15.0±0.7, **82.02N**±0.08×**6.05W**±0.05, **h10**km, **n27**, σ**3.75**/23, **mb3.5**/11, **MS3.2**/3, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**1.58**	**260**	*i* P	**Pb**	**17 21 43.3**	**-0.9**
NOR				*i* S	**Sb**	**17 22 03.9**	**-0.3**
NOR				IAML		17 22 05.3	
	comp=Z,49nm,0.4s						
KBS	**Kingsbay**	**4.29**	**127**	*i* P	**Pn**	**17 22 18.6**	**-1.5**
KBS				*i* S	Sn	17 23 02.3	-7.8
SPA0	**Spitsbergen Ar**	**5.41**	**123**	*e*P	**Pn**	**17 22 34.1**	**-1.3**
SPA0				*e*S	Sn	17 23 31.2	-6.5
SPITS	**Spitsbergen Ar**	**5.41**	**123**	Pn	**Pn**	**17 22 34.2**	**-1.3**
	baz=360,slow=9.5						
SPITS				Sn	**Sn**	**17 23 31.4**	**-6.3**
	baz=345,slow=13						
	comp=Z,2.9nm,0.2s						
DAG	**Danmarks Havn**	**5.74**	**210**	*i* P	**Pn**	**17 22 40.9**	**+0.8**
DAG				*i* S	**Sn**	**17 23 42.9**	**-3.0**
DAG				IAML		17 23 54.5	
	comp=Z,8.7nm,0.4s						
HOPEN	**Hopen**	**7.85**	**118**	*e*P	**Pn**	**17 23 07.7**	**-1.3**
HOPEN				S	Sn	17 24 28.4	-9.4
ZFI2	**Zemlya Franca-**	**7.86**	**71**	*e*P	**Pn**	**17 23 05.5**	**-3.5**
ZFI2				*e*S	Sn	17 24 23.7	-14
	comp=Z,26nm,0.6s						
OMEGA	**Omega**	**7.88**	**71**	P	**Pn**	**17 23 05.5**	**-3.9**
OMEGA				*e*S	Sn	17 24 24.9	-14
	comp=Z,25nm,1.4s						
DBG	**Daneborg**	**8.23**	**208**	*i* P	**Pn**	**17 23 14.5**	**+0.2**
DBG				*i* S	**Sn**	**17 24 40.1**	**-7.1**
DBG				IAML		17 24 51.9	
	comp=Z,3.1nm,0.4s						
NEEM	**North Greenlan**	**8.95**	**264**	*i* P	**Pn**	**17 23 22.5**	**-1.9**
NEEM				IAML		17 25 08.4	
	comp=Z,4.6nm,0.4s						
ARCES	**ARCESS Array B**	**14.35**	**132**	Pn	**Pn**	**17 24 37.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=352,slow=8.9,SNR=6.1						
ARCES				LR	LR	17 29 51.2	
	comp=Z,53nm,20.1s,baz=296,slow=36						
	comp=Z,0.9nm,0.5s						
RES	**Resolute Bay**	**17.19**	**296**	LR	LR	17 31 40.9	
	comp=Z,116nm,18.4s,baz=304,slow=36						
SFJD	**Kangerlussuaq**	**18.26**	**242**	LR	LR	17 32 56.6	
	comp=Z,94nm,18.2s,baz=359,slow=37						
NOA	**NORSAR Array B**	**21.57**	**157**	P	**P**	**17 26 10.9**	**+6.7**
	comp=Z,1.0nm,0.9s,baz=351,slow=11,SNR=4.3						
	comp=Z,1.0nm,0.9s						
FINES	**FINESS Array B**	**22.29**	**138**	P	**P**	**17 26 16.6**	**+4.7**
	comp=Z,2.6nm,0.9s,baz=352,slow=5.8,SNR=5.1						
	comp=Z,2.6nm,0.9s						
HFS	**Hagfors**	**22.62**	**154**	P	**P**	**17 26 22.4**	**+7.0**
	comp=Z,2.0nm,0.9s,baz=21,slow=13,SNR=4.5						
	comp=Z,2.0nm,0.9s						
NRIK	**Noril'sk**	**22.69**	**67**	LR	LR	17 36 39.6	
	comp=Z,93nm,19.2s,baz=318,slow=42						
FRB	**Frobisher Bay**	**23.71**	**259**	LR	LR	17 35 50.3	
	comp=Z,8.9nm,21.8s,baz=149,slow=36						
ILAR	**Eielson Array**	**31.98**	**329**	P	**P**	**17 27 42.7**	**+2.1**
	comp=Z,0.7nm,1.0s,baz=17,slow=8.2,SNR=4.6						
	comp=Z,0.7nm,1.0s						
GERES	**GERESS Array B**	**33.87**	**156**	P	P	17 28 03.8	+6.4
	comp=Z,0.7nm,0.8s,baz=356,slow=9.4,SNR=3.8						
	comp=Z,0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**39.49**	**86**	P	**P**	**17 28 45.4**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=349,slow=8.7,SNR=2.3						
	comp=Z,0.3nm,0.6s						
SADO	**Sadowa**	**43.62**	**261**	LR	LR	17 47 48.2	
	comp=Z,57nm,21.5s,baz=164,slow=36						
MKAR	**Makanchi Array**	**43.76**	**83**	P	**P**	**17 29 20.2**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=359,slow=8.3,SNR=2.3						
	comp=Z,0.3nm,0.8s						
BRTR	**Keskin Array B**	**44.50**	**135**	P	**P**	**17 29 30.6**	**+4.4**
	comp=Z,0.5nm,0.8s,baz=340,slow=17,SNR=4.7						
	comp=Z,0.5nm,0.8s						
SONM	**Songino Array**	**45.91**	**60**	P	**P**	**17 29 36.1**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=328,slow=11,SNR=4.1						
	comp=Z,0.6nm,0.9s						
PDAR	**Pinedale Array**	**49.77**	**290**	P	P	17 30 16.2	+8.8
	comp=Z,0.4nm,0.7s,baz=27,slow=7.0,SNR=6.1						
	comp=Z,0.4nm,0.7s						
TXAR	**Lajitas Array**	**62.20**	**282**	P	P	17 31 44.4	+8.1
	comp=Z,0.4nm,0.8s,baz=7.5,slow=5.9,SNR=3.6						
	comp=Z,0.4nm,0.8s						

*HVO **12** 17:21:24.2±4.8, 21.50N±0.03×157.15W±0.02, h13km±6km, Error ellipse: s-maj=5.5km s-min=2.1km az=206.0*
NEIC 12 17:21:17.9±1.6, **21.68N**±0.04×**157.06W**±0.02, **h10**km±2km, **ML3.4**/49, **ML3.4**/26(HVO), **Error ellipse: s-maj=8.0km s-min=3.0km az=208.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMR	**Waimanalo Ridg**	**0.68**	**239**		Pn	17 21 33.6	0.0
WMR					Sb	17 21 41.0	-0.4
DHH	**Diamond Head**	**0.81**	**239**		Pb	17 21 34.3	+0.2
DHH	**Diamond Head**	**0.81**	**239**		Sg	17 21 43.5	-0.6
OPA	**Opana**	**0.89**	**271**		Pn	17 21 37.6	+1.1
OPA					Sb	17 21 47.5	+0.2
KIP	**Kipapa**	**0.93**	**254**		Pn	17 21 37.4	+0.3
KIP					Sg	17 21 47.1	-0.8
KIP	**Kipapa**	**0.93**	**254**	IAML		17 21 48.3	
	1μm,0.5s						
HON	**Honolulu**	**0.95**	**248**		Pn	17 21 37.7	+0.4
HON					Sg	17 21 48.3	-0.2
KHLH	**Kahului Airpor**	**0.97**	**143**		Pn	17 21 38.6	+1.0
KHLH				IAML		17 21 49.8	
	comp=N,877nm,0.2s						
KHLH	**Kahului Airpor**	**0.97**	**143**		Sb	17 21 49.6	-0.1
HLK	**Haleakala**	**1.18**	**140**		Pn	17 21 41.5	+0.7
HLK	**Haleakala**	**1.18**	**140**		Sb	17 21 55.1	-1.1
MHA	**Mahukona**	**1.83**	**144**		Pn	17 21 49.3	-0.1
MHA	**Mahukona**	**1.83**	**144**		Sn	17 22 09.4	-3.3
HPAH	**Hawaii Prepara**	**2.07**	**142**		Sn	17 22 14.3	-4.5
HPAH	**Hawaii Prepara**	**2.07**	**142**	Pn	Pn	17 21 52.2	-0.7
HUH	**Hualalai**	**2.29**	**150**		Pn	17 21 55.2	-0.8
HUH				IAML		17 22 24.2	
	comp=N,266nm,1.8s						
HUH				IAML		17 22 36.4	
	comp=E,200nm,0.5s						
HUH	**Hualalai**	**2.29**	**150**		Sn	17 22 20.1	-4.2
KHLU	**Kahalu`u**	**2.34**	**152**		Pn	17 21 55.6	-1.0
KHLU				IAML		17 22 33.1	
	comp=E,149nm,2.8s						
KHLU	**Kahalu`u**	**2.34**	**152**		Sn	17 22 20.2	-5.3
KHLU	**Kahalu`u**	**2.34**	**152**	IAML		17 22 17.2	
	comp=N,121nm,2.8s						
POHA	**Pohakuloa**	**2.38**	**143**		Sn	17 22 20.8	-5.8
POHA	**Pohakuloa**	**2.38**	**143**		Pn	17 21 56.9	-0.4
POHA				IAML		17 23 07.2	
	comp=N,158nm,3.0s						
ALEP	**Alea Permanent**	**2.50**	**148**		Pn	17 21 58.8	-0.2
ALEP					Sn	17 22 24.9	-4.9
HMH	**Humu'ula Sheep**	**2.54**	**144**		Pn	17 21 59.5	0.0
HMH				IAML		17 22 45.0	
	comp=N,152nm,2.0s						
HMH	**Humu'ula Sheep**	**2.54**	**144**		Sn	17 22 26.6	-3.9
HMH	**Humu'ula Sheep**	**2.54**	**144**	IAML		17 22 21.0	
	comp=E,137nm,3.4s						
MWH	**Mokuaweoweo**	**2.57**	**148**		Pn	17 21 59.6	-0.5
MLH	**Mauna Loa**	**2.68**	**144**		Pn	17 22 01.0	-0.4
MLH				IAML		17 22 34.2	
	comp=E,135nm,1.6s						
MLH				IAML		17 23 28.9	
	comp=N,183nm,3.0s						
MLH	**Mauna Loa**	**2.68**	**144**		Sn	17 22 28.9	-5.0
AIN	**Ainahou**	**2.74**	**147**		Pn	17 22 01.8	-0.3
AIN					Sn	17 22 30.4	-5.0
AIN	**Ainahou**	**2.74**	**147**	IAML		17 22 40.7	
	comp=E,145nm,2.3s						
AIN				IAML		17 22 55.0	
	comp=N,192nm,2.4s						
RSD	**Rainshed**	**2.76**	**143**		Pn	17 22 03.1	+0.7
RSD					Sn	17 22 31.5	-4.4
KHU	**Kahuku**	**2.77**	**151**		Pn	17 22 01.6	-1.0
KHU					Sn	17 22 31.2	-5.1
KHU	**Kahuku**	**2.77**	**151**	IAML		17 22 40.2	
	comp=N,185nm,3.2s						
UWE	**Uwekahuna**	**2.79**	**143**		Pn	17 22 02.3	-0.4
UWE	**Uwekahuna**	**2.79**	**143**		Sn	17 22 32.1	-4.4
UWB	**Uwekahuna Bluf**	**2.79**	**143**		Pn	17 22 02.9	+0.1
OBL	**Observatory Le**	**2.79**	**143**		Pn	17 22 02.5	-0.3
OBL					Sn	17 22 32.1	-4.6
WRMHI	**West Rim**	**2.79**	**144**		Pn	17 22 02.5	-0.3
SBLHI	**Steaming Bluff**	**2.79**	**143**		Pn	17 22 02.9	+0.1
SBLHI					Sn	17 22 32.3	-4.4
HATHI	**Halema'uma'u T**	**2.80**	**143**		Pn	17 22 02.5	-0.4
HATHI					Sn	17 22 32.7	-4.2
HATHI	**Halema'uma'u T**	**2.80**	**143**	IAML		17 23 16.1	
	comp=E,118nm,1.1s						
HATHI				IAML		17 23 52.6	
	comp=N,183nm,2.1s						
BYL	**Byron's Ledge**	**2.81**	**143**	Pn	Pn	17 22 02.6	-0.4
BYL				IAML		17 22 29.2	
	comp=E,166nm,4.7s						
BYL				IAML		17 22 42.4	
	comp=N,120nm,2.3s						
PUH	**Pauahi**	**2.87**	**143**		Pn	17 22 03.7	-0.1
PUH	**P

IBDR					AML	AML	17 55 35.0	
	comp=E,2μm,0.3s							
ILBA	**Ilam Banvizeh**	**0.53**	**347**	Pg	**Pg**		**17 55 16.5**	**0.0**
GLG1	**Gilan-e-Gharb**	**1.06**	**340**	Pg	**Pb**		**17 55 27.0**	**-0.7**
GLG1				Sg	**Sg**		**17 55 41.9**	**+1.3**
IGHG	**Ghaleghazi**	**1.23**	**8**	Pg	**Pb**		**17 55 29.6**	**-1.0**
IGHG				Sg	**Sg**		**17 55 46.8**	**+1.0**
KCHF	**Cheshme Sefid,**	**1.29**	**26**	Pg	**Pn**		**17 55 30.3**	**-1.5**
IKFM	**Kafar-mosalman**	**1.32**	**71**	Pg	**Pn**		**17 55 31.3**	**-0.6**
RAFI	**Al-Rafai**	**1.40**	**188**	*e*Pn	**Pn**		**17 55 33.0**	**-0.1**
RAFI				*e*Sn	**Sn**		**17 55 53.0**	**+0.8**
KGS1	**Ghasr-e-Shirin**	**1.53**	**336**	Pg	**Pn**		**17 55 35.4**	**+0.5**
IDHR	**Dehrash**	**1.58**	**1**	Pg	**Pn**		**17 55 35.7**	**-0.1**
IDHR				Sg	**Sg**		**17 55 57.6**	**+0.3**
BHD	**Baghdad**	**1.66**	**276**	*e*Pn	**Pn**		**17 55 36.0**	**-0.7**
BHD				*e*Sn	**Sn**		**17 55 59.0**	**+0.4**
IDOB	**Doab**	**1.67**	**66**	Pg	**Pn**		**17 55 36.5**	**-0.5**
IBZA	**Bozab**	**1.85**	**42**	Pg	**Pb**		**17 55 40.1**	**-1.0**
ILIN	**Lien**	**1.87**	**16**	Pn	**Pn**		**17 55 40.4**	**+0.6**
SNQR	**Sonqor, Kerman**	**2.04**	**31**	Pn	**Pn**		**17 55 42.9**	**+0.7**
HAGD	**Aghdareh**	**2.88**	**53**	Pn	**Pn**		**17 55 54.0**	**+0.3**
QABG	**Abgarm-Qazvin**	**3.72**	**45**	Pn	**Pn**		**17 56 05.6**	**+0.4**
JHBN	**Jahan bin**	**3.74**	**102**	Pn	**Pn**		**17 56 05.5**	**-0.2**
IPIR	**Pirpir**	**3.84**	**95**	Pn	**Pn**		**17 56 07.5**	**+0.5**
ZNGN	**Zangian**	**3.93**	**103**	Pn	**Pn**		**17 56 08.1**	**0.0**
QAMS	**Qamsar**	**4.26**	**80**	Pn	**Pn**		**17 56 12.9**	**+0.1**
IKLH	**Kolahrood**	**4.39**	**86**	Pn	**Pn**		**17 56 15.4**	**+1.0**
IGZV	**Ghazvin**	**4.56**	**43**	Pn	**Pn**		**17 56 16.7**	**-0.1**
IGAR	**Gharneh**	**4.85**	**97**	Pn	**Pn**		**17 56 20.8**	**+0.1**
KRSH	**Karshahi**	**4.91**	**78**	Pn	**Pn**		**17 56 21.6**	**+0.2**
KLNJ	**Kolanjah**	**4.92**	**114**	Pn	**Pn**		**17 56 22.2**	**+0.3**
ISFB	**Sefidab**	**5.06**	**74**	Pn	**Pn**		**17 56 23.0**	**-0.5**
KLST	**Kelardasht - M**	**5.15**	**47**	Pn	**Pn**		**17 56 25.2**	**+0.2**
IRAM	**Ramesheh**	**5.26**	**103**	Pn	**Pn**		**17 56 26.2**	**-0.2**
IDMV	**Damavand**	**5.30**	**61**	Pn	**Pn**		**17 56 26.8**	**-0.3**
MZPU	**Pul - Mazandar**	**5.43**	**51**	Pn	**Pn**		**17 56 29.3**	**+0.6**
DSBU	**Dashti - Bushe**	**6.34**	**137**	Pn	**Pn**		**17 56 41.6**	**+0.5**

IDC 12 17:57:48.0±2.0, 4°.75S×128°.75E, h0km, mb3.4/1, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=80.4km s-min=24.9km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.61**	**193**	Pn	Pn	18 01 01.9	-0.5
	baz=352,slow=7.1,SNR=1.6						
FITZ				Sn	Sn	18 03 33.6	-0.7
	baz=127,slow=12,SNR=2.3						
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**16.05**	**161**	Pn	P	18 01 37.3	-1.5
	0.5nm,0.3s,baz=341,slow=11,SNR=22						
WRA				Sn	Sn	18 04 35.2	+1.2
	0.1nm,0.3s,baz=340,slow=22,SNR=1.1						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**19.45**	**166**	P	P	18 02 15.9	-0.4
	0.2nm,0.3s,baz=346,slow=11,SNR=11						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**65.68**	**327**	P	P	18 08 34.3	0.0
	0.2nm,0.4s,baz=110,slow=7.8,SNR=4.5						
	0.2nm,0.4s						

*IDC **12** 18:05:49.7±0.7, 54°.51S×132°.07W, h0km, mb4.1/8, mbtmp4.1/8, MS4.2/37, Error ellipse: s-maj=27.9km s-min=20.8km az=148.0*

*GCMT **12** 18:05:55.0±0.2, 54°.70S±0°.01×131°.43W±0°.02, h15km±1km, MW5.0/110, Moment Tensor Solution. s33,c38; s110,c162; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}-0.44±.11; $M_{\theta\theta}$2.91±.13; $M_{\phi\phi}$-2.47±.11; $M_{r\theta}$0.36±.20; $M_{\theta\phi}$2.60±.09; $M_{r\phi}$1.07±.23; Best double couple: M_o3.91500×10¹⁶ NP1:ϕ_s113.00000°, δ73.00000°, λ-4.00000°. NP2:ϕ_s204.00000°, δ86.00000°, λ-163.00000°. Principal axes: T 4.0820, Plg9.0000°, Azm337.0000°; N -0.3370, Plg72.0000°, Azm216.0000°; P -3.7490, Plg15.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 12 18:05:51.7±0.6, 54°.61S±0°.10×131°.9W±0°.2, h10km, n61, σ1$\hat{9}$33/20, mb4.2/9, MS4.3/37, 2D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**32.33**	**202**	P	**P**	**18 12 21.0**	**+0.7**
	0.7nm,0.9s,baz=100,slow=8.3,SNR=5.0						
VNDA				LR	LR	18 22 38.4	
	comp=Z,109nm,18.2s,baz=84,slow=31						
	0.7nm,0.9s						
TBI	**Tubuai**	**33.86**	**330**	*e*S	**S**	**18 17 57.2**	**-1.1**
	300nm,28.8s						
TBI				*e*LR	LR	18 21 09.5	
	1μm,28.5s						
TBI				*e*LR	LR	18 21 21.3	
	6μm,28.5s						
PMSA	**Palmer Station**	**34.03**	**135**	LR	LR	18 22 30.7	
	comp=Z,512nm,21.3s,baz=255,slow=29						
QSPA	**South Pole Qui**	**35.56**	**180**	P	**P**	**18 12 49.6**	**+0.9**
	6.4nm,1.1s,baz=89,slow=4.3,SNR=7.2						
QSPA				LR	LR	18 25 42.2	
	comp=Z,547nm,18.3s,baz=78,slow=33						
	6.4nm,1.1s						
URZ	**Urewera**	**37.81**	**274**	LR	LR	18 25 15.2	
	comp=Z,294nm,19.4s,baz=132,slow=31						
RPZ	**Rata Peaks**	**37.83**	**263**	LR	LR	18 24 55.7	
	comp=Z,279nm,18.3s,baz=127,slow=30						
PPT2	**Papeete2**	**39.37**	**333**	*e*S	**S**	**18 19 24.9**	**+2.3**
	111nm,26.2s						
PPT2				*e*LR	LR	18 23 53.0	
	1μm,25.5s						
PPT2				*e*LR	LR	18 23 55.1	
	1μm,27.8s						
PPT	**Papeete**	**39.39**	**333**	LR	LR	18 26 19.5	
	comp=Z,654nm,19.1s,baz=148,slow=31						
RAR	**Rarotonga**	**39.41**	**317**	LR	LR	18 26 52.8	
	comp=Z,332nm,18.9s,baz=132,slow=32						
RAO	**Raoul Island**	**41.52**	**289**	LR	LR	18 26 31.6	
	comp=Z,96nm,20.8s,baz=124,slow=30						
PLCA	**Paso Flores**	**42.23**	**97**	LR	LR	18 27 02.7	
	comp=Z,231nm,19.6s,baz=226,slow=30						
H03N3	**Juan Fernandez**	**42.36**	**82**	T	T	18 58 37.0	
	baz=225,slow=72,SNR=54						
H03N2	**Juan Fernandez**	**42.37**	**82**	T	T	18 58 40.3	
	baz=225,slow=72,SNR=62						
H03N1	**Juan Fernandez**	**42.38**	**82**	T	T	18 58 39.4	
	baz=225,slow=72,SNR=57						
TAOE	**Nuku Hiva Isla**	**46.10**	**349**	*e*S	**S**	**18 21 03.5**	**+1.8**
	229nm,29.1s						
TAOE				*e*LR	LR	18 27 01.5	
	1μm,25.2s						
VNA1	**Neumayer--Stat**	**48.75**	**158**	⇓P	**P**	**18 14 35.0**	**-0.9**
	comp=Z,10nm,0.8s						
SNAA	**Sanae**	**49.04**	**161**	⇓P	**P**	**18 14 40.9**	**+2.8**
	comp=Z,38nm,1.1s						
SNAA	**Sanae**	**49.04**	**161**	LR	LR	18 33 35.7	
	comp=Z,607nm,20.9s,baz=230,slow=34						
DZM	**Mont Dzumac**	**55.92**	**280**	*e*S	S	18 23 30.7	+13
	comp=Z,49nm,22.1s						
DZM				*e*LR	LR	18 31 58.9	
	comp=Z,263nm,27.7s						
DZM	**Mont Dzumac**	**55.92**	**280**	LR	LR	18 34 43.9	
	comp=Z,144nm,21.1s,baz=167,slow=31						
MAW	**Mawson**	**57.60**	**187**	P	**P**	**18 15 40.8**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=185,slow=7.6,SNR=3.6						
MAW				LR	LR	18 38 39.7	
	comp=Z,164nm,20.0s,baz=166,slow=34						
	comp=Z,1.4nm,0.8s						
CPUP	**Villa Florida**	**60.17**	**94**	P	**P**	**18 15 59.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=77,slow=8.0,SNR=5.1						
CPUP				LR	LR	18 38 08.0	
	comp=Z,84nm,19.0s,baz=78,slow=32						
	comp=Z,0.2nm,0.3s						
NNA	**Nana**	**60.43**	**67**	LR	LR	18 35 26.3	
	comp=Z,461nm,18.5s,baz=200,slow=29						
LPAZ	**La Paz**	**61.75**	**78**	P	**P**	**18 16 09.4**	**-1.7**
	comp=Z,1.9nm,0.9s,baz=191,slow=4.3,SNR=5.2						
	comp=Z,1.9nm,0.9s						
STKA	**Stephens Creek**	**62.74**	**253**	LR	LR	18 39 31.6	
	comp=Z,371nm,18.4s,baz=189,slow=32						
ATAH	**Atahualpa**	**63.68**	**63**	LR	LR	18 38 29.3	
	comp=Z,94nm,20.8s,baz=203,slow=31						
ASAR	**Alice Springs**	**73.38**	**253**	P	**P**	**18 17 23.0**	**-0.8**
	comp=Z,4.3nm,0.9s,baz=142,slow=6.0,SNR=27						
ASAR				LR	LR	18 45 16.4	
	comp=Z,235nm,20.0s,baz=152,slow=32						
	comp=Z,4.3nm,0.9s						
BDFB	**Brasilia**	**73.90**	**94**	LR	LR	18 46 02.3	
	comp=Z,150nm,21.1s,baz=246,slow=33						
H01W1	**Cape Leeuwin H**	**74.37**	**231**	T	T	19 40 10.6	
	baz=146,slow=76,SNR=92						
H01W2	**Cape Leeuwin H**	**74.37**	**231**	T	T	19 40 16.3	
	baz=146,slow=76,SNR=106						
H01W3	**Cape Leeuwin H**	**74.39**	**231**	T	T	19 40 12.4	
	baz=146,slow=76,SNR=98						
NWAO	**Narrogin (SRO)**	**74.57**	**235**	LR	LR	18 42 32.0	
	comp=Z,136nm,19.4s,baz=48,slow=30						
JTS	**Las Juntas de**	**75.75**	**48**	LR	LR	18 42 57.4	
	comp=Z,186nm,19.4s,baz=167,slow=29						
ROSC	**El Rosal**	**75.98**	**60**	LR	LR	18 46 25.9	
	comp=Z,494nm,18.8s,baz=202,slow=32						
WRA	**Warramunga Arr**	**76.10**	**255**	P	**P**	**18 17 38.4**	**-1.1**
	comp=Z,3.4nm,0.8s,baz=146,slow=5.1,SNR=20						
WRA				LR	LR	18 48 12.4	
	comp=Z,172nm,18.2s,baz=10.0,slow=33						
	comp=Z,3.4nm,0.8s						
LPIG	**La Paz**	**80.57**	**20**	LR	LR	18 44 54.9	
	comp=Z,68nm,19.8s,baz=194,slow=29						
FITZ	**Fitzroy Crossi**	**82.41**	**250**	LR	LR	18 50 02.9	
	comp=Z,346nm,21.6s,baz=146,slow=32						
PCRV	**Puerto La Cruz**	**85.52**	**66**	LR	LR	18 51 58.2	
	comp=Z,460nm,18.5s,slow=32						
TXAR	**Lajitas Array**	**87.08**	**24**	P	**P**	**18 18 37.9**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=170,slow=7.6,SNR=6.0						
	comp=Z,0.8nm,0.9s						
RCBR	**Riachuelo**	**88.79**	**98**	LR	LR	18 54 37.2	
	comp=Z,44nm,20.6s,baz=238,slow=33						
PFO	**Pinyon Flats O**	**88.87**	**13**	LR	LR	18 50 25.0	
	comp=Z,193nm,18.0s,baz=196,slow=30						
BATI	**Baumata**	**89.95**	**252**	LR	LR	18 56 25.0	
	comp=Z,299nm,19.6s,baz=227,slow=34						
H11N3	**WAKE ISLAND Hy**	**90.48**	**304**	T	T	19 59 19.5	
	baz=148,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**90.49**	**304**	T	T	19 59 21.8	
	baz=148,slow=76,SNR=9.7						
H11N2	**WAKE ISLAND Hy**	**90.50**	**304**	T	T	19 59 20.9	
	baz=148,slow=76,SNR=11						
ANMO	**Albuquerque**	**91.86**	**21**	LR	LR	18 50 59.1	
	comp=Z,114nm,21.5s,baz=222,slow=30						
NVAR	**Mina Array Bea**	**93.41**	**11**	LR	LR	18 51 06.9	
	comp=Z,146nm,21.2s,baz=172,slow=29						
BOSA	**Boshof**	**94.81**	**160**	LR	LR	18 55 40.1	
	comp=Z,194nm,19.2s,baz=194,slow=32						
ELK	**Elko**	**96.06**	**13**	LR	LR	18 52 55.0	
	comp=Z,140nm,18.8s,baz=130,slow=29						
YBH	**Yreka Blue Hor**	**96.30**	**7**	LR	LR	18 54 05.2	
	comp=Z,14nm,18.5s,baz=149,slow=30						
KAPI	**Kappang**	**96.40**	**252**	LR	LR	19 00 30.4	
	comp=Z,197nm,19.6s,baz=152,slow=34						
GUMO	**Guam**	**97.06**	**283**	LR	LR	18 55 20.1	
	comp=Z,21nm,21.9s,baz=143,slow=31						
LBTB	**Lobatse**	**98.38**	**159**	LR	LR	19 00 48.5	
	comp=Z,155nm,18.9s,baz=182,slow=34						
PDAR	**Pinedale Array**	**98.87**	**16**	LR	LR	18 55 46.9	
	comp=Z,108nm,20.4s,baz=174,slow=30						
ILAR	**Eielson Array**	**119.61**	**353**	PKP	**PKPdf**	**18 24 39.7**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=197,slow=2.6,SNR=6.9						
PETK	**Petropavlovsk-**	**122.08**	**318**	PKP	**PKiKP**	**18 24 45.3**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=125,slow=7.4,SNR=4.7						
SONM	**Songino Array**	**143.79**	**284**	PKP	**PKPab**	**18 25 23.2**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=143,slow=3.6,SNR=11						
EKA	**Eskdalemuir Ar**	**151.13**	**67**	PKPbc	**PKiKP**	**18 25 43.8**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=263,slow=2.8,SNR=2.5						
MKAR	**Makanchi Array**	**157.14**	**264**	PKPab	**PKPab**	**18 26 17.0**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=119,slow=4.4,SNR=8.8						
ZALV	**Zalesovo Beam**	**158.68**	**283**	PKPab	**PKPab**	**18 26 21.8**	**-2.1**
	comp=Z,0.4nm,0.2s,baz=94,slow=4.3,SNR=1.7						
KURBB	**Kurchatov Arra**	**161.16**	**270**	PKP	**PKPdf**	**18 25 50.7**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=86,slow=0.7,SNR=2.3						

*IDC **12** 18:18:28.1±2.2, 3°.38S×101°.18E, h0km, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=84.4km s-min=16.5km az=56.0*

*DJA **12** 18:18:33.9±0.5, 3°.5S±6°×10°.1E±°, h91km±13km, M4.1/12, mB5.0/1, mb4.2/3, MLv4.1/12, Mw(mB)4.3/1*

*NEIC **12** 18:18:34.6±0.9, 3°.2S±0°.1×101°.2E±0°.1, h43km±11km, mb4.4/9, Error ellipse: s-maj=20.8km s-min=9.9km az=50.0*

ISC 12 18:18:35.2±0.8, 3°.24S±0°.09×101°.28E±0°.08, h53km, n46, σ1$\hat{9}$01/37, mb4.2/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPSI	**Pulau Pagai**	**1.36**	**290**	P	**Pn**	**18 18 58.3**	**+0.5**
KSI	**Kapahiang**	**1.37**	**107**	P	**Pn**	**18 18 58.5**	**+0.4**
MNAI	**Manna**	**2.01**	**124**	Pn	**Pn**	**18 19 06.4**	**-0.3**
MNAI	**Manna**	**2.01**	**124**	P	**Pn**	**18 19 06.2**	**-0.5**
LHSI	**Lahat**	**2.31**	**105**	P	**Pn**	**18 19 11.9**	**+1.0**
SISI	**Saibi**	**2.90**	**311**	P	**Pn**	**18 19 19.0**	**0.0**
MDSI	**Maura Dua**	**3.14**	**113**	P	**Pn**	**18 19 21.5**	**-0.8**
LWLI	**Liwa**	**3.28**	**123**	P	**Pn**	**18 19 26.2**	**+1.9**
KASI	**Kota Agung**	**3.93**	**125**	P	**Pn**	**18 19 32.5**	**-0.5**
CGJI	**Cibinong**	**5.53**	**127**	P	**Pn**	**18 19 53.8**	**-1.2**
	0.2nm2μm40nm,1.6s						
MYKOM	**Kota Tinggi**	**5.62**	**27**	Pn	**Pn**	**18 19 55.5**	**-0.7**
GSI	**Gunungsitoli**	**5.84**	**321**	Pn	**Pn**	**18 19 56.3**	**-3.0**
GSI	**Gunungsitoli**	**5.84**	**321**	P	**Pn**	**18 19 56.7**	**-2.6**
KULM	**Kulim**	**8.50**	**356**	Pn	**Pn**	**18 20 34.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**21.68**	**354**	P	**P**	**18 23 22.9**	**+1.1**
	0.4nm,0.6s,baz=184,slow=8.2,SNR=5.8						
	0.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**28.06**	**123**	P	**P**	**18 24 21.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**28.06**	**123**	P	**P**	**18 24 21.4**	**-0.5**
	3.3nm,0.9s,baz=314,slow=10,SNR=2.2						
	3.3nm,0.9s						
H08S2	**Diego Garcia H**	**28.98**	**260**	T	T	18 54 07.7	
	baz=83,slow=76,SNR=44						
H08S3	**Diego Garcia H**	**28.99**	**260**	T	T	18 54 08.2	
	baz=83,slow=76,SNR=73						
H08S1	**Diego Carcia H**	**29.00**	**260**	T	T	18 54 09.0	
	baz=83,slow=76,SNR=28						
KNRA	**Kununurra**	**29.74**	**116**	P	**P**	**18 24 35.3**	**-1.5**
WB0	**Warramunga Arr**	**36.24**	**120**	P	**P**	**18 25 33.1**	**-0.5**
WB0				IAmb	IAmb	18 25 35.0	
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**36.27**	**120**	P	**P**	**18 25 33.3**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=299,slow=8.1,SNR=29						
	comp=Z,1.3nm,0.5s						
WR8	**Warramunga Arr**	**36.41**	**120**	P	**P**	**18 25 34.8**	**-0.2**
WR8				IAmb	IAmb	18 25 35.7	
	comp=Z,12nm,1.4s						
ASAR	**Alice Springs**	**37.49**	**126**	P	**P**	**18 25 44.5**	**+0.3**
ASAR	**Alice Springs**	**37.49**	**126**	P	**P**	**18 25 44.3**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=301,slow=7.8,SNR=28						
	comp=Z,1.3nm,0.5s						
AS31	**Alice Springs**	**37.49**	**126**	P	**P**	**18 25 44.5**	**+0.3**
CTAO	**Charters Tower**	**46.92**	**115**	P	**P**	**18 27 00.1**	**-0.9**
SONM	**Songino Array**	**51.06**	**4**	P	**P**	**18 27 33.6**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=189,slow=8.0,SNR=3.1						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**52.57**	**344**	P	**P**	**18 27 43.7**	**+0.3**
MKAR	**Makanchi Array**	**52.57**	**344**	P	**P**	**18 27 44.3**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=155,slow=8.5,SNR=30						
	comp=Z,1.0nm,0.4s						
USRK	**Ussuriysk Ar.**	**54.66**	**27**	P	**P**	**18 27 59.5**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=234,slow=4.0,SNR=5.7						
	comp=Z,2.7nm,0.7s						
KURBB	**Kurchatov Arra**	**57.10**	**343**	P	**P**	**18 28 16.4**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=161,slow=7.0,SNR=9.6						
	comp=Z,0.8nm,0.7s						
KURK	**Kurchatov**	**57.16**	**343**	P	**P**	**18 28 16.8**	**+0.3**
KURK				IAmb	IAmb	18 28 31.1	
	comp=Z,2.3nm,0.8s						
ZAA0	**Zalesovo Array**	**58.62**	**349**	P	**P**	**18 28 26.8**	**+0.1**
ZAA0				IAmb	IAmb	18 28 41.1	
	comp=Z,3.1nm,0.8s						
ZALV	**Zalesovo Beam**	**58.62**	**349**	P	**P**	**18 28 26.8**	**+0.1**
ZALV	**Zalesovo Beam**	**58.62**	**349**	P	**P**	**18 28 27.2**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=163,slow=5.6,SNR=7.9						
	comp=Z,0.9nm,0.4s						
H04N2	**CROZET ISLANDS**	**60.58**	**217**	T	T	19 33 47.7	
	baz=59,slow=75,SNR=92						
H04N1	**CROZET ISLANDS**	**60.59**	**217**	T	T	19 33 49.3	
	baz=59,slow=75,SNR=105						
H04N3	**CROZET ISLANDS**	**60.60**	**217**	T	T	19 33 47.9	
	baz=59,slow=75,SNR=105						
H04S1	**CROZET ISLANDS**	**60.85**	**217**	T	T	19 34 11.6	
	baz=60,slow=75,SNR=11						
H04S3	**CROZET ISLANDS**	**60.86**	**217**	T	T	19 34 11.1	
	baz=60,slow=75,SNR=30						
H04S2	**CROZET ISLANDS**	**60.87**	**217**	T	T	19 34 10.8	
	baz=60,slow=75,SNR=9.9						
AB31	**Akbulak array**	**63.34**	**331**		P	**18 28 58.2**	**-0.6**
AB31				IAmb	IAmb	18 28 59.9	
	comp=Z,2.0nm,0.8s						
ABKAR	**Akbulak array**	**63.34**	**331**	P	P	**18 28 58.7**	**-0.1**
TXAR	**Lajitas Array**	**144.87**	**40**	PKPbc	**PKPdf**	**18 38 07.0**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=203,slow=1.6,SNR=3.5						

IDC 12 18:37:21.6±1.7, 0°.60N×126°.14E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=184.4km s-min=21.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.94**	**159**	P	P	18 42 16.8	-0.2
	1.6nm,0.5s,baz=337,slow=10,SNR=21						
	1.6nm,0.5s						
ASAR	**Alice Springs**	**25.28**	**163**	P	P	18 42 50.1	+0.2
	0.6nm,0.4s,baz=343,slow=9.0,SNR=24						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**59.80**	**327**	P	P	18 47 29.8	+1.0
	0.3nm,0.5s,baz=122,slow=7.0,SNR=6.0						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**64.06**	**328**	P	P	18 47 56.2	-1.0
	0.2nm,0.4s,baz=129,slow=5.6,SNR=6.8						
	0.2nm,0.4s						

IDC 12 18:38:56.3±1.7, 1°.67S×138°.20E, h0km, mb3.7/2, mbtmp3.7/3, ML3.3/2, Error ellipse: s-maj=33.1km s-min=28.0km az=43.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.64**	**109**	Pn	Pn	18 39 40.1	-0.1
	0.8nm,0.3s,baz=174,slow=22,SNR=15						
JAY				Sn	Sn	18 40 14.0	+1.0
	1.6nm,0.3s,baz=127,slow=22,SNR=6.1						
WRA	**Warramunga Arr**	**18.55**	**191**	P	P	18 43 14.8	0.0
	0.2nm,0.3s,baz=12,slow=12,SNR=6.6						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**22.26**	**190**	P	P	18 43 55.1	-0.1
	1.4nm,0.6s,baz=13,slow=10,SNR=23						
	1.4nm,0.6s						
ZALV	**Zalesovo Beam**	**70.79**	**330**	P	P	18 50 14.5	0.0
	0.4nm,0.5s,baz=103,slow=6.4,SNR=1.8						
	0.4nm,0.5s						

*IDC **12** 18:45:41.5±3.9, 9°.03S×117°.70E, h0km, mb4.0/2, mbtmp3.8/6, ML3.6/4, MS3.9/5, Error ellipse: s-maj=60.2km s-min=27.7km az=91.0*

*NEIC **12** 18:45:47.9±2.7, 8°.94S±0°.07×117°.84E±0°.05, h68km±26km, mb4.1/3, Error ellipse: s-maj=11.4km s-min=6.5km az=157.0*

*DJA **12** 18:45:48.6±0.3, 9°.S±4°×11°.8E±°, h59km±34km, M4.1/19, mb4.1/8, MLv4.0/19*

ISC 12 18:45:46.5±0.7, 9°.08S±0°.06×117°.86E±0°.05, h35km, n46, σ2$\hat{8}$18/47, mb4.3/3, MS4.0/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.26**	**343**	P	Pn	18 45 48.9	-5.1
PLAI				S	Sn	18 45 50.5	-8.6
WBSI	**Waikabubak, Su**	**1.62**	**110**	P	**Pn**	**18 46 16.1**	**+3.5**
WBSI				S	**Sn**	**18 46 32.7**	**+0.5**
WSI	**Waingapu**	**2.48**	**104**	P	**Pn**	**18 46 28.3**	**+3.9**
SRBI	**Singaraja**	**2.79**	**291**	P	**Pn**	**18 46 31.8**	**+3.0**
BASI	**Baing, Sumba**	**2.91**	**113**	P	**Pn**	**18 46 32.5**	**+2.1**
JAGI	**Jajag, Banyuwa**	**3.71**	**279**		**Pn**	**18 46 42.9**	**+1.5**
JAGI				Sn	**Sn**	**18 47 26.2**	**+2.3**
JAGI	**Jajag, Banyuwa**	**3.71**	**279**	P	**Pn**	**18 46 42.8**	**+1.5**
EDFI	**Ende, Flores**	**3.80**	**85**	P	**Pn**	**18 46 44.3**	**+1.5**
BSSI	**Bau Bau, Buton**	**3.92**	**42**	P	**Pn**	**18 46 45.1**	**+0.9**
KMMI	**Kalianget**	**4.35**	**297**	P	**Pn**	**18 46 52.2**	**+2.1**
MMRI	**Maumere**	**4.35**	**85**		**Pn**	**18 46 50.9**	**+0.7**
MMRI				Sn	**Sn**	**18 47 43.7**	**+3.9**
MMRI	**Maumere**	**4.35**	**85**	P	**Pn**	**18 46 52.9**	**+2.7**
BKSI	**Bulukumba**	**4.36**	**31**	P	**Pn**	**18 46 50.5**	**+

CEVE	**Cerro Verde**	**0.51**	**359**	IAML			18 50 27.3		
	comp=Z,242nm,0.3s								
BOQS	**Boqueron**	**0.53**	**38**	*eP*		**Pn**	**18 50 13.9**	**-0.3**	
LOMA	**Loma Larga**	**0.54**	**53**	*eP*		**Pn**	**18 50 14.6**	**+0.4**	
LOMA				*eS*		**Sn**	**18 50 23.4**	**+0.4**	
NUBE	**Las Nubes**	**0.60**	**345**	*eP*		**Pn**	**18 50 14.9**	**-0.2**	
NUBE				*eS*		**Sn**	**18 50 25.1**	**+0.7**	
NUBE	**Las Nubes**	**0.60**	**345**	*eP*		**Pn**	**18 50 14.8**	**-0.2**	
NUBE				*eS*		**Sn**	**18 50 24.9**	**+0.6**	
LFRS	**El Faro**	**0.62**	**61**	*eS*		**Sn**	**18 50 24.6**	**0.0**	
MTO3	**Montecristo**	**1.10**	**13**	*eP*		**Pn**	**18 50 21.0**	**-0.5**	
MTO3	**Montecristo**	**1.10**	**13**	*eP*		**Pn**	**18 50 21.0**	**-0.5**	

IDC 12 18:51:07.0±2.0, 0.76N×126.52E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=174.8km s-min=25.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.96**	**160**	P	P	18 56 01.7	-0.8
	0.5nm,0.6s,baz=338,slow=11,SNR=7.6 0.5nm,0.6s						
ASAR	**Alice Springs**	**25.32**	**164**	P	P	18 56 36.1	+0.5
	0.3nm,0.3s,baz=344,slow=11,SNR=12 0.3nm,0.3s						
MKAR	**Makanchi Array**	**59.88**	**326**	P	P	19 01 14.6	-0.1
	0.2nm,0.3s,baz=124,slow=7.0,SNR=5.6 0.2nm,0.3s						

WEL 12 18:56:01.9±1.1, 36°S±9'×17°8E±1'0, h203km±14km, M3.6/13, ML3.6/11, MLv3.6/13, Error ellipse: s-maj=14.2km s-min=9.9km az=57.3, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.88**	**182**	P	Pn	18 56 39.3	-0.1
MXZ				S	S	18 57 07.0	-1.2
HAZ	**Te Kaha**	**2.13**	**193**	P	Pn	18 56 41.9	+0.1
HAZ				S	S	18 57 13.3	+0.7
WMGZ	**Waiomatatini S**	**2.13**	**179**	P	Pn	18 56 42.5	+0.5
WMGZ				S	S	18 57 13.4	+0.6
PKGZ	**Pakihiroa**	**2.20**	**186**	P	Pn	18 56 43.1	+0.4
PKGZ				S	S	18 57 15.3	+1.3
RUGZ	**Raukumara Rang**	**2.35**	**194**	P	Pn	18 56 44.2	-0.2
RUGZ				S	S	18 57 18.3	+1.1
KUZ	**Kuaotunu**	**2.40**	**243**	P	Pn	18 56 45.0	+0.2
GRZ	**Great Barrier**	**2.44**	**256**	P	Pn	18 56 44.6	-0.7
TWGZ	**Tauwhareparae**	**2.51**	**187**	P	Pn	18 56 47.2	+1.1
TWGZ				S	S	18 57 22.4	+2.2
OPRZ	**Ohinepanea**	**2.61**	**214**	P	Pn	18 56 48.8	+1.6
MARZ	**Manawahe**	**2.68**	**210**	P	Pn	18 56 49.6	+1.6
URZ	**Urewera**	**2.77**	**201**	P	Pn	18 56 49.2	+0.2
URZ				S	S	18 57 24.9	-0.3
TKGZ	**Te Karaka**	**2.79**	**189**	P	Pn	18 56 49.4	+0.3
TKGZ				S	S	18 57 27.6	+1.9
CNGZ	**Carnagh Statio**	**2.80**	**183**	P	Pn	18 56 49.8	+0.5
RAGZ	**Rawiri**	**2.92**	**195**	P	Pn	18 56 51.1	+0.4
RAGZ				S	S	18 57 31.6	+3.1
RIGZ	**Rimuhau**	**3.06**	**189**	P	Pn	18 56 51.8	-0.6
RIGZ				S	S	18 57 33.5	+2.0
MUGZ	**Murupara**	**3.08**	**204**	P	Pn	18 56 52.2	-0.3
MUGZ				S	S	18 57 32.1	+0.4
TOZ	**Tahuroa Road**	**3.09**	**228**	P	Pn	18 56 55.7	+3.0
SNGZ	**Shannon Statio**	**3.21**	**195**	P	Pn	18 56 49.8	-4.3
SNGZ				S	S	18 57 36.2	+1.7
PRGZ	**Paritu Road**	**3.26**	**187**	P	Pn	18 56 54.5	-0.2
PRGZ				S	S	18 57 34.4	-1.3
WCZ	**Waipu Caves**	**3.29**	**264**	P	Pn	18 56 54.6	-0.6
MTHZ	**Maungataniwha**	**3.40**	**201**	P	Pn	18 56 56.2	-0.3
MTHZ				S	S	18 57 37.2	-1.4
WHHZ	**Waihua**	**3.51**	**195**	P	Pn	18 56 58.4	+0.6
MRHZ	**Matea Rd**	**3.52**	**206**	P	Pn	18 56 58.3	+0.5
NMHZ	**Naumai**	**3.63**	**200**	P	Pn	18 56 59.8	+0.4
ARHZ	**Aropaoanui**	**3.74**	**197**	P	Pn	18 57 00.5	-0.1
OUZ	**Omahuta**	**3.94**	**275**	P	Pn	18 57 02.2	-0.8
KWHZ	**Kaweka Forest**	**4.05**	**202**	P	Pn	18 57 04.1	-0.3
KRHZ	**Kereru**	**4.27**	**201**	P	Pn	18 57 06.3	-0.8
KAHZ	**Kahuranaki**	**4.28**	**196**	P	Pn	18 57 07.0	-0.2
PNHZ	**Pukenui**	**4.57**	**202**	P	Pn	18 57 09.8	-1.1
KHZ	**Kahutara**	**7.71**	**208**	P	Pn	18 57 49.1	-2.2
CTZ	**Chatham Island**	**8.92**	**156**	P	Pn	18 58 09.2	+2.3

*ISK **12** 19:01:30.9, 41.44N×25.47E, h5km, ML2.2/19*
*ATH **12** 19:01:31.3, 41.44N×25.48E, h11km±3km, ML2.2/6, Manual Solution by S.Koutrakis First location: 2019/07/12 19:02:41, This location: 2019/07/12 19:09:23 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*SOF **12** 19:01:31.4, 41.48N±0.01×25.50E±0.01, h2km±1km, MD2.5/5*
*AFAD **12** 19:01:32.5, 41.34N×25.49E, h26km±1km, ML2.3*

ISC 12 19:01:31.4±1.0, 41.44N±0.02×25.48E±0.02, h12km±8km, n42, σ0°67/66, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDO	**Rodhopi**	**0.30**	**171**	Pg	**Pg**	**19 01 37.3**	**-0.2**
RDO				Sg	**Sg**	**19 01 41.5**	**0.0**
RDO	**Rodhopi**	**0.30**	**171**	P	**Pg**	**19 01 37.5**	**0.0**
RDO				S	**Sg**	**19 01 41.4**	**-0.2**
XANC	**Avdira**	**0.61**	**221**	P	**Pg**	**19 01 43.2**	**-0.1**
XANC				S	**Sg**	**19 01 51.2**	**0.0**
RZN	**Rozhen**	**0.61**	**295**	*i* P	**Pg**	**19 01 43.2**	**-0.2**
RZN				*i* S	**Sg**	**19 01 51.2**	**-0.3**
ALEX	**Alexandroupoli**	**0.67**	**151**	P	**Pg**	**19 01 44.6**	**+0.2**
ALEX				S	**Sb**	**19 01 54.0**	**-0.1**
ALN	**Alexandroupoli**	**0.69**	**142**	Pg	**Pg**	**19 01 44.7**	**-0.1**
ALN				Sg	**Sb**	**19 01 54.5**	**-0.3**
KAVA	**Kavala**	**0.85**	**239**	P	**Pg**	**19 01 47.4**	**-0.4**
KAVA				S	**Sg**	**19 01 59.0**	**0.0**
ENEZ	**Enez**	**0.87**	**144**	Pg	**Pg**	**19 01 48.2**	**0.0**
ENEZ				Sg	**Sb**	**19 02 00.5**	**+0.5**
PLD	**Plovdiv**	**0.89**	**322**	Pg	**Pg**	**19 01 48.4**	**-0.2**
PLD				Sg	**Sb**	**19 02 00.8**	**+0.1**
PLD	**Plovdiv**	**0.89**	**322**	*i* P	**Pg**	**19 01 48.3**	**-0.3**
CAVK	**Edirne/Enez-Ca**	**0.91**	**145**	P	**Pb**	**19 01 49.1**	**0.0**
CAVK				S	**Sb**	**19 02 01.3**	**+0.1**
CAVK				*i* IAML		19 02 03.0	
	comp=E,142nm,0.5s						
CAVK				*i* IAML		19 02 04.0	
	comp=N,159nm,0.1s						
UKOP	**Uzunkopru-Edir**	**0.92**	**109**	Pg	**Pg**	**19 01 49.2**	**0.0**
UKOP				Sg	**Sb**	**19 02 02.4**	**+0.9**
KVLA	**Kavala**	**0.97**	**239**	P	**Pg**	**19 01 49.5**	**-0.5**
KVLA				S	**Sg**	**19 02 02.5**	**-0.1**
SMTH	**Samothraki Isl**	**0.97**	**178**	P	**Pg**	**19 01 49.8**	**-0.3**
SMTH				S	**Sg**	**19 02 02.9**	**+0.1**
ENZZ	**Sultanice-Enez**	**0.97**	**149**	Pg	**Pg**	**19 01 50.1**	**0.0**
ENZZ				Sg	**Sn**	**19 02 04.1**	**-0.4**
THAS	**Thassos island**	**1.01**	**215**	P	**Pg**	**19 01 50.9**	**0.0**
THAS				S	**Sg**	**19 02 04.1**	**0.0**
EDRB	**Edirne**	**1.03**	**66**	Pg	**Pg**	**19 01 50.8**	**-0.5**
KESN	**Edirne-Kesan**	**1.10**	**124**	P	**Pg**	**19 01 52.4**	**-0.2**
KESN				S	**Sg**	**19 02 06.4**	**-0.4**
KESN				*i* IAML		19 02 08.0	
	comp=N,183nm,0.4s						
KESN				*i* IAML		19 02 09.0	
	comp=E,132nm,0.2s						
ERIK	**Erikli-Kesan**	**1.10**	**134**	Pn	**Pb**	**19 01 52.2**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.29**	**144**	Pn	**Pg**	**19 01 55.9**	**-0.2**
GADA	**Gvkgeada**	**1.29**	**166**	Pn	**Pb**	**19 01 55.9**	**+0.3**
JMB	**Yambol**	**1.31**	**36**	*i* P	**Pg**	**19 01 56.2**	**-0.4**
GOAD	**anakkale-G¶**	**1.32**	**166**	P	**Pn**	**19 01 55.4**	**-0.2**
GOAD				S	**Sb**	**19 02 12.9**	**0.0**
GOAD				*i* IAML		19 02 17.0	
	comp=E,44nm,0.3s						
LPK	**Lapseki**	**1.44**	**137**	Pn	**Pg**	**19 01 58.7**	**-0.4**
SRS	**Serrai**	**1.46**	**258**	P	**Pn**	**19 01 57.7**	**+0.2**
SRS				S	**Sb**	**19 02 17.6**	**+0.6**
RKY	**Sarkoy-Tekirda**	**1.49**	**120**	Pn	**Pb**	**19 01 58.8**	**-0.2**
LIA	**Limnos Island**	**1.56**	**188**	P	**Pn**	**19 01 58.5**	**-0.4**
OUR	**Ouranopolis**	**1.58**	**226**	Pn	**Pn**	**19 02 00.1**	**+0.9**
TKR	**Tekirdag**	**1.62**	**105**	Pn	**Pb**	**19 02 00.7**	**-0.4**
BOZC	**Bozcaada**	**1.66**	**165**	Pn	**Pb**	**19 02 01.3**	**-0.5**
BOZC	**Bozcaada**	**1.66**	**165**	P	**Pb**	**19 02 01.5**	**-0.3**
BOZC				S	**Sn**	**19 02 18.4**	**-3.1**
KRBG	**Karabiga-Canak**	**1.73**	**127**	Pn	**Pb**	**19 02 02.5**	**-0.6**
EZN	**Ezine**	**1.74**	**158**	Pn	**Pn**	**19 02 02.4**	**+1.0**
KKB	**Krupnik**	**1.81**	**284**	*i* P	**Pb**	**19 02 05.1**	**+0.7**
KKB				*i* S	**Sg**	**19 02 29.4**	**-0.1**
MRMT	**Marmara Adasi**	**1.81**	**117**	Pn	**Pb**	**19 02 03.6**	**-0.8**
PLNA	**Plana**	**1.85**	**305**	*i* P	**Pb**	**19 02 05.7**	**+0.5**
PLNA				*i* S	**Sg**	**19 02 31.3**	**+0.4**
CANM	**Can-anakkale**	**1.86**	**140**	Pn	**Pn**	**19 02 04.3**	**+1.2**
BAYC	**CANAKKALE_Bayr**	**1.88**	**154**	P	**Pn**	**19 02 03.9**	**+0.6**
BAYC				S	**Sn**	**19 02 28.3**	**+1.3**
VTS	**Vitosha**	**2.04**	**306**	*i* P	**Pg**	**19 02 09.7**	**-0.9**
VTS				*i* S	**Sg**	**19 02 36.5**	**-0.6**
EDC	**Edincik**	**2.11**	**120**	Pn	**Pn**	**19 02 07.9**	**+1.4**
BUHA	**Balikesir, Bur**	**2.29**	**147**	P	**Pb**	**19 02 13.3**	**+0.7**
BUHA				S	**Sb**	**19 02 40.1**	**-0.7**
BUHA				*i* IAML		19 02 44.0	
	comp=E,13nm,0.6s						
BUHA				*i* IAML		19 02 47.0	
	comp=N,15nm,0.3s						
SUSR	**Susurluk-Balik**	**2.47**	**126**	Pn	**Pn**	**19 02 13.0**	**+1.5**

WEL 12 19:06:51.0±1.8, 32°S±26'×18°0W±2'6, h279km±88km, M4.3/5, mB4.5/4, ML4.6/7, MLv4.5/5, Mw(mB)3.7/4, Error ellipse: s-maj=35.0km s-min=33.3km az=48.3, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.96**	**196**	P	Pn	19 08 21.8	+2.6
MXZ				S	S	19 09 30.9	+0.7
WMGZ	**Waiomatatini S**	**6.18**	**195**	P	Pn	19 08 21.9	+0.1
WMGZ				S	S	19 09 36.2	+1.1
HAZ	**Te Kaha**	**6.28**	**199**	P	Pn	19 08 21.2	-1.8
HAZ				S	S	19 09 37.3	+0.2
PKGZ	**Pakihiroa**	**6.31**	**197**	P	Pn	19 08 22.4	-1.1
PKGZ				S	S	19 09 39.0	+1.2
PUZ	**Puketiti**	**6.46**	**195**	P	Pn	19 08 26.0	+0.7
PUZ				S	S	19 09 40.6	-0.6
WCZ	**Waipu Caves**	**6.49**	**229**	P	Pn	19 08 26.1	+0.4
RUGZ	**Raukumara Rang**	**6.51**	**199**	P	Pn	19 08 24.2	-1.8
RUGZ				S	S	19 09 38.8	-3.6
TWGZ	**Tauwhareparae**	**6.62**	**197**	P	Pn	19 08 27.8	+0.4
TWGZ				S	S	19 09 46.2	+1.2
CNGZ	**Carnagh Statio**	**6.87**	**195**	P	Pn	19 08 28.1	-2.2
MWZ	**Matawai**	**6.89**	**199**	P	Pn	19 08 28.9	-1.7
MWZ				S	S	19 09 52.3	+1.3
TKGZ	**Te Karaka**	**6.91**	**197**	P	Pn	19 08 31.0	+0.3
TKGZ				S	S	19 09 52.9	+1.7
URZ	**Urewera**	**6.95**	**202**	P	Pn	19 08 30.3	-1.0
TOZ	**Tahuroa Road**	**7.13**	**213**	P	Pn	19 08 34.7	+1.2
KNZ	**Kokohu**	**7.50**	**197**	P	Pn	19 08 33.5	-4.6
MTHZ	**Maungataniwha**	**7.58**	**202**	P	Pn	19 08 39.3	+0.2

*NEIC **12** 19:08:50.0±2.4, 36.57N±0.10×71.1E±0.1, h245km±6km, mb4.2/6, Error ellipse: s-maj=15.0km s-min=12.9km az=139.0*
*IDC **12** 19:08:53.8±8.7, 36.82N×70.96E, h242km±66km, mb3.0/4, mbtmp3.6/8, MS3.1/1, Error ellipse: s-maj=87.7km s-min=64.8km az=167.0*
*NNC **12** 19:08:54.6±11.0, 36.80N×71.02E, h194km±149km, mb2.5, mpv3.5, Error ellipse: s-maj=110.0km s-min=73.0km az=23.0*

ISC 12 19:08:49.0±0.7, 36.43N±0.06×71.15E±0.06, h250km, n48, σ2°79/53, mb4.0/9, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.55**	**223**		**Pn**	**19 09 36.9**	**-0.2**
KBL				Sn	**S**	**19 10 12.1**	**-2.9**
GAR	**Garm**	**2.64**	**346**		**Pn**	**19 09 37.3**	**-0.5**
GAR				Sn	**S**	**19 10 11.7**	**-4.7**
DRK	**Karamyk**	**3.08**	**9**		**Pn**	**19 09 40.8**	**-1.9**
DRK				Sn	**S**	**19 10 21.5**	**-3.7**
NIL	**Nilore**	**3.27**	**148**		**S**	**19 10 23.0**	**-5.5**
BTK	**Batken**	**3.63**	**356**		**Pn**	**19 09 49.3**	**+0.8**
BTK				Sn	**S**	**19 10 32.6**	**-3.2**
JMU	**Jammu**	**4.83**	**139**	*e*S	**S**	**19 10 56.7**	**-4.8**
JMU				IAML		19 10 59.8	
	comp=E,80nm,0.2s						
JMU				IAML		19 11 11.9	
	comp=N,56nm,0.8s						
KSH	**Kashi**	**4.90**	**50**	Pn	Pn	19 09 58.6	-5.0
KSH				Sn	S	19 10 49.9	-13
KSH				smax	smax		
	comp=N,67nm,0.7s						
KSH				smax	smax		
	comp=E,44nm,0.9s						
ARSB	**Arslanbob**	**5.09**	**16**		**Pn**	**19 10 05.5**	**-0.4**
NRN	**Naryn**	**6.26**	**36**		**Pn**	**19 10 18.8**	**-1.8**
UCH	**Uchtor** SNR=60	**6.35**	**23**	P	**Pn**	**19 10 22.2**	**+0.4**
EKS2	**Erkin-Say** SNR=12	**6.54**	**17**	P	**Pn**	**19 10 26.3**	**+2.4**
BHK	**Bhakra**	**6.65**	**137**	IAML		19 11 44.1	
	comp=E,38nm,0.2s						
BHK				*ex*	**S**	**19 11 49.4**	**+6.8**
BHK				IAML		19 11 52.0	
	comp=E,61nm,0.8s						
KK31	**Karatay Array**	**6.68**	**356**		**Pn**	**19 10 25.2**	**-0.3**
KK31	**Karatay Array**	**6.68**	**356**	⇑P	**Pn**	**19 10 25.4**	**-0.2**
	comp=E,0.8nm,0.2s,baz=177,slow=12,SNR=60						
KK31				⇑S	**S**	**19 11 38.1**	**-4.8**
	comp=E,12nm,0.4s,baz=183,slow=24,SNR=22						
KKAR	**Karatay Array**	**6.68**	**356**		**Pn**	**19 10 24.2**	**-1.3**
AAK	**Ala-Archa**	**6.71**	**22**		**Pn**	**19 10 25.6**	**-0.6**
AAK	**Ala-Archa**	**6.71**	**22**	⇑P	**Pn**	**19 10 27.1**	**+0.9**
	comp=E,1.8nm,0.4s						
AAK				⇓S	**S**	**19 11 41.2**	**-2.8**
	comp=E,2.2nm,0.5s						
AAK	**Ala-Archa**	**6.71**	**22**	P	**Pn**	**19 10 27.5**	**+1.4**
	comp=E,11nm,0.3s,baz=173,slow=6.4,SNR=9.4						
AAK				S	**S**	**19 11 40.8**	**-3.2**
	comp=E,4.4nm,0.5s,baz=328,slow=18,SNR=5.6						
ULHL	**Ulahol** SNR=7.4	**7.02**	**33**	P	**Pn**	**19 10 30.2**	**+0.2**
BOOM	**Boomskoye usch**	**7.09**	**30**		**Pn**	**19 10 30.8**	**-0.1**
CHMS	**Chumysh** SNR=8.2	**7.12**	**22**	P	**Pn**	**19 10 32.5**	**+1.4**
SMLA	**Simla**	**7.29**	**135**	*e*P	**Pn**	**19 10 33.6**	**+0.3**
SMLA				*e*S	**S**	**19 11 52.0**	**-5.1**
SMLA				IAML		19 11 55.4	
	comp=E,56nm,0.5s						
SMLA				IAML		19 11 57.1	
	comp=E,58nm,0.5s						
TKM2	**Tokmak 2** SNR=8.4	**7.33**	**27**	P	**Pn**	**19 10 34.7**	**+0.8**
KDJ	**Kajisay**	**7.36**	**38**		**Pn**	**19 10 33.5**	**-0.8**
KLP	**Kalpa**	**7.66**	**128**	*e*S	**S**	**19 12 01.9**	**-4.3**
KUDL	**Kundal**	**9.42**	**150**	*e*S	**S**	**19 12 39.8**	**-6.8**
MAKZ	**Makanchi**	**13.14**	**35**		**Pn**	**19 11 43.7**	**-2.8**
MKAR	**Makanchi Array**	**13.28**	**35**	Pn	**Pn**	**19 11 45.9**	**-2.2**
MKAR	**Makanchi Array**	**13.28**	**35**	P	**P**	**19 11 50.4**	**+0.8**
	comp=E,0.1nm,0.3s,baz=205,slow=7.8,SNR=4.2						
WMQ	**Urumqi**	**14.64**	**55**	*e*P	**Pn**	**19 12 06.9**	**+2.1**
KURBB	**Kurchatov Arra**	**15.15**	**18**	P	**Pn**	**19 12 13.1**	**+2.4**
	comp=E,0.1nm,0.4s,baz=210,slow=12,SNR=2.1						
AB31	**Akbulak array**	**15.20**	**331**	P	**P**	**19 12 08.2**	**-2.5**
AB31	**Akbulak array**	**15.20**	**331**	⇓P	Pn	19 12 19.7	+8.4
	comp=E,0.2nm,0.3s,baz=165,slow=12,SNR=12						
AKTO	**Aktyubinsk**	**16.90**	**330**	⇓P	**Pn**	**19 12 31.6**	**+0.2**
	comp=E,1.8nm,0.7s						
AKTO	**Aktyubinsk**	**16.90**	**330**	P	**Pn**	**19 12 31.6**	**+0.2**
	comp=E,2.6nm,0.5s,baz=158,slow=9.7,SNR=7.7						
KARS	**Kars**	**22.31**	**289**	P	**P**	**19 13 24.5**	**-1.4**
KIV	**Kislovodsk**	**22.92**	**298**	P	**P**	**19 13 29.4**	**-2.0**
KIV				IAmb	IAmb	19 14 09.1	
	comp=Z,9.7nm,0.7s						
PZH	**PanZhiHua**	**27.81**	**102**	P	**P**	**19 14 19.4**	**+3.9**
CMAR	**Chiang Mai Arr**	**30.32**	**119**	LR	LR	19 31 04.2	
	comp=Z,33nm,18.1s,baz=240,slow=43						
HHC	**Hu-ho-hao-te**	**31.68**	**69**	*e*P	**P**	**19 14 49.8**	**+0.5**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,84nm,4.5s						
XLT	**XiLinHaoTe**	**34.79**	**63**	*e*P	**P**	**19 15 16.7**	**+0.6**
XLT				sP	sP	19 16 37.9	+0.8
XLT				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,79nm,5.0s						
FINES	**FINESS Array B**	**37.60**	**326**	P	**P**	**19 15 41.4**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=124,slow=10,SNR=3.7 comp=Z,0.8nm,0.7s						
ARCES	**ARCESS Array B**	**41.25**	**338**	P	**P**	**19 16 11.9**	**+2.5**
ARCES				IAmb	IAmb	19 16 31.7	
	comp=Z,10.0nm,1.4s						
ARCES	**ARCESS Array B**	**41.25**	**338**	P	**P**	**19 16 11.9**	**+2.5**
	comp=Z,0.8nm,0.5s,baz=116,slow=8.5,SNR=8.5 comp=Z,0.8nm,0.5s						
HFS	**Hagfors**	**43.19**	**322**	P	**P**	**19 16 26.9**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=99,slow=9.1,SNR=6.2 comp=Z,0.3nm,0.3s						
NB201	**NORSAR Array S**	**44.47**	**323**	P	**P**	**19 16 36.7**	**+1.4**
NB201				IAmb	IAmb	19 16 49.2	
	comp=Z,11nm,1.4s						
NOA	**NORSAR Array B**	**44.50**	**323**	P	**P**	**19 16 37.1**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=100,slow=6.5,SNR=1.9 comp=Z,0.4nm,0.6s						
NACB	**Ninganchiao**	**44.78**	**91**	P	**P**	**19 16 40.7**	**+2.5**
NACB				IAmb	IAmb	19 17 11.4	
	comp=Z,24nm,1.3s						

*IDC **12** 19:15:26.3±0.8, 8.96S×117.72E, h0km, mb3.8/11, mbtmp3.9/15, ML3.8/4, MS3.1/1, Error ellipse: s-maj=26.5km s-min=14.6km az=67.0*
*NEIC **12** 19:15:32.0±2.1, 9.01S±0.07×117.88E±0.06, h41km±6km, mb4.4/16, Error ellipse: s-maj=10.5km s-min=8.2km az=180.0*
*DJA **12** 19:15:31.3±1.3, 9°S±4'×11°8E±', h18km±12km, M4.5/20, mB5.2/1, mb4.6/8, MLv4.4/20, Mw(mB)4.6/1*

ISC 12 19:15:28.0±0.5, 9.06S±0.04×117.87E±0.04, h10km, n66, σ1°64/65, mb4.1/15, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.25**	**339**	P	**Pg**	**19 15 32.4**	**-0.6**
PLAI				S	**Sg**	**19 15 35.4**	**-1.1**
WBSI	**Waikabubak, Su**	**1.61**	**111**	P	**Pn**	**19 15 56.6**	**+0.1**
WBSI				S	**Sn**	**19 16 19.4**	**+2.0**
WSI	**Waingapu**	**2.48**	**104**	P	**Pn**	**19 16 09.3**	**+0.9**
SRBI	**Singaraja**	**2.80**	**290**	P	**Pn**	**19 16 14.3**	**+1.5**
BASI	**Baing, Sumba**	**2.91**	**113**	P	**Pn**	**19 16 17.0**	**+2.6**
JAGI	**Jajag, Banyuwa**	**3.72**	**279**		**Pn**	**19 16 27.0**	**+1.5**
JAGI				Sn	**Sn**	**19 17 09.4**	**+0.1**
JAGI	**Jajag, Banyuwa**	**3.72**	**279**	P	**Pn**	**19 16 28.1**	**+2.6**
EDFI	**Ende, Flores**	**3.79**	**86**	P	**Pn**	**19 16 29.6**	**+3.0**
BSSI	**Bau Bau, Buton**	**3.90**	**42**	P	**Pn**	**19 16 30.3**	**+2.4**
BKSI	**Bulukumba**	**4.34**	**31**	P	**Pn**	**19 16 35.3**	**+1.3**
BKSI				S	**Sn**	**19 17 25.6**	**+0.9**
MMRI	**Maumere**	**4.34**	**85**		**Pn**	**19 16 35.0**	**+1.0**
MMRI				Sn	**Sn**	**19 17 24.0**	**-0.7**
MMRI	**Maumere**	**4.34**	**85**	P	**Pn**	**19 16 36.4**	**+2.3**
KMMI	**Kalianget**	**4.35**	**297**	P	**Pn**	**19 16 37.2**	**+3.1**
KAPI	**Kappang**	**4.43**	**25**		**Pn**	**19 16 35.5**	**+0.2**
KAPI				Sn	**Sn**	**19 17 25.5**	**-1.5**
KAPI	**Kappang**	**4.43**	**25**	Pn	**Pn**	**19 16 36.3**	**+1.0**
	4.2nm,0.3s,baz=204,slow=14,SNR=7.8						
KAPI				Sn	**Sn**	**19 17 25.8**	**-1.3**
	12nm,0.3s,baz=231,slow=23,SNR=10 12nm,0.4s						
GMJI	**Gumukmas**	**4.44**	**280**	P	**Pn**	**19 16 37.6**	**+2.2**
BNSI	**Bone**	**5.14**	**26**	P	**Pn**	**19 16 48.4**	**+3.4**
	0.3nm48nm,0.6s						
SPSI	**Sidrap Palu** 19nm,0.9s	**5.41**	**21**	P	**Pn**	**19 16 52.8**	**+4.1**
BATI	**Baumata**	**5.83**	**102**	Pn	**Pn**	**19 16 57.7**	**+3.2**
	4.0nm,0.3s,baz=289,slow=3.9,SNR=6.5 28nm,0.6s						
BATI	**Baumata**	**5.83**	**102**	P	**Pn**	**19 16 57.8**	**+3.2**
	0.3nm54nm,0.7s						
TTSI	**Tana Toraja**	**6.28**	**18**	P	**Pn**	**19 17 03.3**	**+2.5**
SOEI	**Soe**	**6.35**	**97**	P	**Pn**	**19 17 01.0**	**-0.9**
NGJI	**Ngawi** 49nm,1.5s	**6.56**	**284**	P	**Pn**	**19 17 06.6**	**+2.1**
PCJI	**Pacitan**	**6.67**	**277**	P	Pn	19 17 11.3	+5.2
UGM	**Wanagama**	**7.35**	**278**	Pn	**Pn**	**19 17 17.4**	**+1.9**
UGM				Sn	**Sn**	**19 18 38.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**11.73**	**141**	Pn	**Pn**	**19 18 14.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**11.73**	**141**	Pn	**Pn**	**19 18 16.1**	**+0.5**
	0.3nm,0.3s,baz=326,slow=13,SNR=8.3						
FITZ				Sn	**Sn**	**19 20 23.1**	**-3.6**
	0.7nm,0.3s,baz=192,slow=9.2,SNR=5.4 2.5nm,0.6s						
MBWA	**Marble Bar**	**12.16**	**172**	Pn	**Pn**	**19 18 20.8**	**-0.6**
KNRA	**Kununurra**	**12.51**	**123**	Pn	**Pn**	**19 18 25.0**	**-1.1**
GIRL	**Giralia**	**13.95**	**194**	Pn	**Pn**	**19 18 46.0**	**+0.2**
WB0	**Warramunga Arr**	**19.20**	**125**	P	**P**	**19 19 52.8**	**+0.6**
WRA	**Warramunga Arr**	**19.25**	**126**	P	**P**	**19 19 52.7**	**0.0**

QSPA South Pole Qui 80.93 180 P P 19 27 43.3 +0.8
comp=Z,0.8nm,0.6s,baz=316,slow=3.9,SNR=8.7
comp=Z,0.8nm,0.6s
POGA Pongola 82.51 244 P P **19 27 51.7 +0.2**
BOSA Boshof 87.99 242 P P **19 28 18.6 -0.4**
BOSA Boshof 87.99 242 P P **19 28 19.8 +0.8**
comp=Z,3.3nm,1.0s,baz=98,slow=7.1,SNR=3.3
comp=Z,3.3nm,1.0s

KRSC ***12*** *19:25:14.2±1.2,53°.34N×170°.58E,h68km±43km, Ml4.5*
MOS ***12*** *19:25:15.0±0.8,53°.33N×170°.67E,h40km,mb4.4/15, Error ellipse: s-maj=8.2km s-min=5.3km az=35.0*
IDC ***12*** *19:25:15.3±0.7,54°.07N×170°.69E,h0km,mb4.0/21, mbtmp4.1/22,ML4.0/1,MS3.1/6, Error ellipse: s-maj=19.5km s-min=13.1km az=170.0*
NEIC ***12*** *19:25:16.7±1.6,53°.5N±0°.1×170°.7E±0°.1,h30km±6km, mb4.2/115,ML3.9(AEIC), Error ellipse: s-maj=14.7km s-min=9.0km az=186.0*
AEIC ***12*** *19:25:17.4±3.8,54°.0N±0°.1×171°.2E±0°.1,h49km±7km, Error ellipse: s-maj=17.8km s-min=9.1km az=192.0*
ISC 12 19:25:15.4±0.5,53°.38N±0°.07×170°.65E±0°.04,h24km,n245, σ1ᵍ39/232,mb4.2/72,MS3.2/5,7C-2D,Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMY	**Shemya**	**2.18**	**106**			**Sn**	**19 26 18.2**	**+1.8**
SMY	**Shemya**	**2.18**	**106**			**Pn**	**19 25 50.0**	**-0.2**
SMY	**Shemya**	**2.18**	**106**	P		**Pn**	**19 25 49.7**	**-0.5**
SMY				S		**Sn**	**19 26 18.0**	**+1.6**
BKI	**Bering**	**3.29**	**306**	P		**Pn**	**19 26 05.5**	**+0.1**
BKI				S		**Sn**	**19 26 42.4**	**-1.3**
BKI	**Bering**	**3.29**	**306**	*e*P		**Pn**	**19 26 05.5**	**+0.1**
BKI				*e*S		**Sn**	**19 26 42.4**	**-1.3**
LSNW	**Little Sitkin**	**4.99**	**103**			**Pn**	**19 26 30.3**	**+1.5**
LSSA	**Little Sitkin**	**5.00**	**103**			**Pn**	**19 26 28.9**	**0.0**
LSPA	**Little Sitkin**	**5.03**	**103**			**Pn**	**19 26 30.9**	**+1.6**
LSPA						**Sn**	**19 27 26.9**	**+0.2**
KBTR	**Krutoberegovo**	**5.34**	**305**	*e*S		**Sn**	**19 27 34.1**	**-0.1**
MKZ	**Mys Kozlova**	**5.39**	**286**	P		**Pn**	**19 26 34.4**	**+0.2**
MKZ				S		**Sn**	**19 27 33.1**	**-2.4**
MKZ	**Mys Kozlova**	**5.39**	**286**	*e*P		**Pn**	**19 26 34.4**	**+0.2**
MKZ				*e*S		**Sn**	**19 27 33.1**	**-2.4**
CETU	**Semis' Tuman**	**5.57**	**101**			**Pn**	**19 26 38.1**	**+1.4**
CEAP	**Semis' Anvil P**	**5.61**	**101**			**Pn**	**19 26 38.6**	**+1.4**
CEPE	**Semis' Perret**	**5.66**	**101**			**Pn**	**19 26 38.9**	**+1.0**
AMKA	**Amchitka**	**5.67**	**107**			**Sn**	**19 27 43.4**	**+1.1**
AMKA	**Amchitka**	**5.67**	**107**			**Pn**	**19 26 37.7**	**-0.3**
TUMD	**Tumrok D**	**6.27**	**291**	P		**Pn**	**19 26 47.7**	**+1.4**
TUMD				S		**Sn**	**19 27 55.9**	**-1.3**
TUMD	**Tumrok D**	**6.27**	**291**	*e*P		**Pn**	**19 26 47.7**	**+1.4**
TUMD				*e*S		**Sn**	**19 27 55.9**	**-1.3**
ZLN	**Zelenaya**	**6.29**	**299**	P		**Pn**	**19 26 50.0**	**+3.4**
ZLN	**Zelenaya**	**6.29**	**299**	*e*P		**Pn**	**19 26 50.1**	**+3.4**
BZGR	**Bezymyannyi-Gr**	**6.32**	**298**	P		**Pn**	**19 26 49.2**	**+2.2**
BZGR				S		**Sn**	**19 27 58.6**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**6.32**	**298**	*e*P		**Pn**	**19 26 49.3**	**+2.2**
BZGR				*e*S		**Sn**	**19 27 58.6**	**+0.2**
SPN	**Mys Shipunski**	**6.38**	**272**	P		**Pn**	**19 26 48.4**	**+0.6**
SPN				S		**Sn**	**19 27 56.2**	**-3.7**
SPN	**Mys Shipunski**	**6.38**	**272**	*e*P		**Pn**	**19 26 48.5**	**+0.6**
SPN				*e*S		**Sn**	**19 27 56.3**	**-3.7**
BZMR	**Bezymyannaya**	**6.42**	**298**	P		**Pn**	**19 26 50.5**	**+2.0**
BZMR	**Bezymyannaya**	**6.42**	**298**	*e*P		**Pn**	**19 26 50.5**	**+2.0**
BZWR	**Bezymyannyi-We**	**6.43**	**298**	P		**Pn**	**19 26 50.9**	**+2.3**
BZWR	**Bezymyannyi-We**	**6.43**	**298**	*e*P		**Pn**	**19 26 51.0**	**+2.3**
KMNR	**Kamenistaya**	**6.50**	**296**	P		**Pn**	**19 26 51.3**	**+1.7**
KMNR				S		**Sn**	**19 28 03.3**	**+0.3**
KMNR	**Kamenistaya**	**6.50**	**296**	*e*P		**Pn**	**19 26 51.4**	**+1.7**
KMNR				*e*S		**Sn**	**19 28 03.3**	**+0.3**
KIRR	**Kirishev**	**6.51**	**297**	P		**Pn**	**19 26 51.7**	**+2.0**
KIRR				S		**Sn**	**19 28 03.4**	**+0.2**
KIRR	**Kirishev**	**6.51**	**297**	*e*P		**Pn**	**19 26 51.7**	**+2.0**
KIRR				*e*S		**Sn**	**19 28 03.5**	**+0.2**
KPT	**Kopyto**	**6.58**	**297**	P		**Pn**	**19 26 52.8**	**+2.2**
KPT	**Kopyto**	**6.58**	**297**	*e*P		**Pn**	**19 26 52.8**	**+2.2**
NLC	**Nalytchevo**	**6.78**	**273**	P		**Pn**	**19 26 54.1**	**+0.8**
NLC				S		**Sn**	**19 28 06.4**	**-3.2**
NLC	**Nalytchevo**	**6.78**	**273**	*e*P		**Pn**	**19 26 54.2**	**+0.8**
NLC				*e*S		**Sn**	**19 28 06.5**	**-3.2**
KOZ	**Kozyrevsk**	**6.79**	**298**	*e*S		**Sn**	**19 28 11.9**	**+1.9**
UGLR	**Uglovaya**	**7.09**	**273**	P		**Pn**	**19 26 58.9**	**+1.3**
UGLR	**Uglovaya**	**7.09**	**273**	*e*P		**Pn**	**19 26 59.0**	**+1.3**
SMAR	**Somma**	**7.10**	**274**	P		**Pn**	**19 26 59.0**	**+1.1**
SMAR	**Somma**	**7.10**	**274**	*e*P		**Pn**	**19 26 59.0**	**+1.1**
KRER	**Koryakskii**	**7.12**	**274**	P		**Pn**	**19 26 59.6**	**+1.4**
KRER	**Koryakskii**	**7.12**	**274**	*e*P		**Pn**	**19 26 59.6**	**+1.4**
AVH	**Avacha**	**7.13**	**274**	P		**Pn**	**19 26 59.8**	**+1.6**
AVH	**Avacha**	**7.13**	**274**	*e*P		**Pn**	**19 26 59.8**	**+1.6**
KRX	**Arik**	**7.18**	**275**	P		**Pn**	**19 26 59.8**	**+0.9**
KRX	**Arik**	**7.18**	**275**	*e*P		**Pn**	**19 26 59.9**	**+0.9**
KOK	**Koryaka**	**7.19**	**274**	P		**Pn**	**19 27 00.2**	**+1.2**
KOK	**Koryaka**	**7.19**	**274**	*e*P		**Pn**	**19 27 00.3**	**+1.2**
PET	**Petropavlovsk**	**7.21**	**272**			**Pn**	**19 27 00.2**	**+1.0**
PET	**Petropavlovsk**	**7.21**	**272**	P		**Pn**	**19 27 00.4**	**+1.2**
PET				S		**Sn**	**19 28 18.9**	**-1.4**
PET	**Petropavlovsk**	**7.21**	**272**	*e*P		**Pn**	**19 27 00.5**	**+1.2**
PET				*e*S		**Sn**	**19 28 18.9**	**-1.4**
OSSR	**Ossora**	**7.24**	**327**	P		**Pn**	**19 27 00.4**	**+0.9**
OSSR	**Ossora**	**7.24**	**327**	*e*P		**Pn**	**19 27 00.5**	**+0.9**
ESO	**Esso**	**7.38**	**295**	P		**Pn**	**19 27 02.7**	**+1.1**
ESO	**Esso**	**7.38**	**295**	*e*P		**Pn**	**19 27 02.7**	**+1.1**
TILK	**Tilichiki**	**7.50**	**343**	P		**Pn**	**19 27 04.0**	**+0.9**
TILK	**Tilichiki**	**7.50**	**343**	*e*P		**Pn**	**19 27 04.1**	**+0.9**
KRMR	**Karymshinskiy**	**7.56**	**271**	P		**Pn**	**19 27 05.1**	**+1.2**
KRMR				S		**Sn**	**19 28 25.3**	**-3.4**
KRMR	**Karymshinskiy**	**7.56**	**271**	*e*P		**Pn**	**19 27 05.1**	**+1.2**
KRMR				*e*S		**Sn**	**19 28 25.4**	**-3.4**
KIMD	**Kanaga Island**	**7.56**	**98**			**Pn**	**19 27 04.4**	**+0.4**
KIKV	**Kanaga Island**	**7.57**	**97**			**Pn**	**19 27 04.1**	**0.0**
GNL	**Ganaly**	**7.58**	**277**	P		**Pn**	**19 27 06.3**	**+2.0**
GNL	**Ganaly**	**7.58**	**277**	*e*P		**Pn**	**19 27 06.4**	**+2.0**
KIWB	**Kanaga Island**	**7.59**	**97**			**Pn**	**19 27 03.9**	**-0.5**
MTVR	**Mutnovka**	**7.59**	**268**	P		**Pn**	**19 27 05.7**	**+1.2**
MTVR				S		**Sn**	**19 28 27.3**	**-2.4**
MTVR	**Mutnovka**	**7.59**	**268**	*e*P		**Pn**	**19 27 05.8**	**+1.2**
MTVR				*e*S		**Sn**	**19 28 27.3**	**-2.4**
GRL	**Gorelyy**	**7.64**	**269**	P		**Pn**	**19 27 07.3**	**+2.1**
GRL	**Gorelyy**	**7.64**	**269**	*e*P		**Pn**	**19 27 07.3**	**+2.1**
PEA0B	**Petropavlovsk-**	**7.77**	**273**			**Pn**	**19 27 07.6**	**+0.6**
PEA0B	**Petropavlovsk-**	**7.77**	**273**	P		**Pn**	**19 27 08.7**	**+1.7**
PEA0B				S		**Sn**	**19 28 32.6**	**-1.5**
PETK	**Petropavlovsk-**	**7.77**	**273**			**Pn**	**19 27 07.5**	**+0.5**
PETK	**Petropavlovsk-**	**7.77**	**273**	Pn		**Pn**	**19 27 08.8**	**+1.8**
	11nm,0.3s,baz=94,slow=19,SNR=262							
PETK				Sn		**Sn**	**19 28 32.3**	**-1.8**
	2.6nm,0.3s,baz=15,slow=26,SNR=1.2							
	8.6nm,0.3s							
PETK	**Petropavlovsk-**	**7.77**	**273**	P		**Pn**	**19 27 07.5**	**+0.5**
ASAK	**Asacha**	**7.78**	**268**	P		**Pn**	**19 27 08.8**	**+1.8**
ASAK	**Asacha**	**7.78**	**268**	*e*P		**Pn**	**19 27 08.9**	**+1.8**
ADK	**Adak**	**7.86**	**96**			**Pn**	**19 27 07.4**	**-0.6**
ADK	**Adak**	**7.86**	**96**	P		**Pn**	**19 27 07.4**	**-0.6**
ETKA	**Kagalaska Isla**	**8.03**	**96**			**Pn**	**19 27 10.0**	**-0.4**
GSSP	**Great Sitkin S**	**8.11**	**94**			**Pn**	**19 27 10.9**	**-0.5**
APC	**Apacha**	**8.12**	**272**	P		**Pn**	**19 27 14.0**	**+2.3**
APC				S		**Sn**	**19 28 43.0**	**+0.4**
APC	**Apacha**	**8.12**	**272**	*e*P		**Sn**	**19 27 14.0**	**+2.3**
APC				*e*S		**Sn**	**19 28 43.0**	**+0.4**
GSTR	**Great Sitkin T**	**8.17**	**94**			**Pn**	**19 27 12.0**	**-0.5**
ATKA	**Atka Island**	**9.26**	**91**			**Pn**	**19 27 26.7**	**-0.7**
SKR	**Severo-Kuril's**	**9.35**	**259**	*e*P		**Pn**	**19 27 30.0**	**+1.4**
SKR				*e*S		Sn	19 29 05.6	-7.3
SKR				pmax		pmax		
	comp=Z,118nm,0.7s							
SKR				smax		smax		
	comp=E,165nm,0.6s							
SKR				smax		smax		
	comp=N,176nm,0.6s							
SKR				MLR		MLR		
	comp=Z,500nm,14.0s							
SKR	**Severo-Kuril's**	**9.35**	**259**	*e*P		**Pn**	**19 27 29.5**	**+1.0**
SPIA	**Saint Paul Isl**	**11.53**	**63**			**Pn**	**19 27 57.5**	**-0.8**
P08K	**Saint George I**	**11.82**	**66**			**Pn**	**19 28 01.9**	**-0.3**
MA2	**Magadan**	**12.59**	**307**	LR		LR	19 33 04.0	
	comp=Z,39nm,21.7s,baz=109,slow=38							
SEY	**Seymchan**	**13.53**	**322**	Pn		**Pn**	**19 28 27.1**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=156,slow=15,SNR=5.4							
SEY				LR		LR	19 32 36.0	
	comp=Z,63nm,19.3s,baz=137,slow=34							

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SEY	**Seymchan**	**13.53**	**322**	*i* P		**Pn**	**19 28 26.5**	**+0.9**
SEY					pmax	pmax		
	comp=Z,5.0nm,1.2s							
M11K	**Mekoryuk**	**14.41**	**52**			**Pn**	**19 28 37.9**	**+0.2**
BILL	**Bilibino**	**14.86**	**354**	*ce*P		**P**	**19 28 45.5**	**-3.7**
BILL					pmax	pmax		
	comp=Z,17nm,1.3s							
K13K	**Kusilvak Mount**	**15.66**	**47**			**Pn**	**19 28 53.9**	**-0.3**
K13K					IAmb	IAmb	19 28 57.9	
	comp=Z,14nm,0.8s							
M13K	**Dall Lake**	**15.78**	**53**			**P**	**19 28 57.5**	**-1.9**
S12K	**Black Hills**	**15.97**	**71**	P		**P**	**19 28 59.7**	**-1.9**
L14K	**Kuka Creek**	**16.35**	**50**			**P**	**19 29 04.3**	**-1.4**
L14K					IAmb	IAmb	19 29 06.9	
	comp=Z,26nm,1.1s							
N14K	**Kuskokwak Cree**	**16.48**	**56**	P		**P**	**19 29 05.5**	**-1.7**
N14K					IAmb	IAmb	19 29 19.6	
	comp=Z,33nm,1.1s							
M14K	**Bethel**	**16.52**	**53**			**P**	**19 29 06.7**	**-1.0**
K15K	**Wolf Creek Mou**	**17.16**	**48**			**P**	**19 29 14.1**	**-0.6**
K15K					IAmb	IAmb	19 29 18.5	
	comp=Z,17nm,0.7s							
O15K	**Ungalikthiuk R**	**17.30**	**59**			**P**	**19 29 15.6**	**-0.7**
O15K					IAmb	IAmb	19 29 28.8	
	comp=Z,20nm,0.9s							
N15K	**Kwethluk River**	**17.31**	**55**			**P**	**19 29 15.5**	**-0.9**
N15K					IAmb	IAmb	19 29 21.3	
	comp=Z,11nm,0.6s							
M16K	**Timber Creek**	**18.02**	**53**			**P**	**19 29 23.7**	**-0.5**
J17K	**VABM Dome**	**18.58**	**45**			**Pn**	**19 29 30.5**	**-0.2**
J17K					IAmb	IAmb	19 29 44.5	
	comp=Z,17nm,0.8s							
K17K	**Iditarod**	**18.72**	**48**			**Pn**	**19 29 31.9**	**-0.5**
N17K	**Nushagak Hills**	**18.79**	**55**			**Pn**	**19 29 32.7**	**-0.6**
M17K	**Holitna River**	**18.81**	**52**		IAmb	IAmb	19 29 36.8	
	comp=Z,17nm,1.1s							
PLK4	**Peulik 4**	**19.05**	**64**			**Pn**	**19 29 35.9**	**-0.6**
PLK4					IAmb	IAmb	19 29 53.6	
	comp=Z,16nm,0.7s							
L18K	**Granite Mounta**	**19.33**	**50**	P		**P**	**19 29 37.7**	**-0.9**
N18K	**Kilae Creek**	**19.44**	**55**			**Pn**	**19 29 39.5**	**-1.7**
H18K	**Honhosa River**	**19.49**	**41**	P		**Pn**	**19 29 40.1**	**-1.6**
ACHA	**Angle Creek He**	**19.59**	**62**		IAmb	IAmb	19 29 48.2	
	comp=Z,9.9nm,0.8s							
J18K	**Innoko River**	**19.62**	**46**			**Pn**	**19 29 41.9**	**-1.3**
G18K	**Tagagawik**	**19.68**	**39**			**Pn**	**19 29 42.3**	**-1.6**
N19K	**Bonanza Creek**	**20.15**	**54**			Pn	19 29 47.4	-2.2
L19K	**White Mountain**	**20.16**	**50**			Pn	19 29 47.4	-2.3
J19K	**Poorman**	**20.23**	**45**			Pn	19 29 48.5	-1.9
J19K					IAmb	IAmb	19 30 00.7	
	comp=Z,7.3nm,0.7s							
H19K	**Roundabout Mou**	**20.38**	**41**			Pn	19 29 49.7	-2.4
H19K					IAmb	IAmb	19 30 02.7	
	comp=Z,8.2nm,0.8s							
F19K	**Shaleruckik Mo**	**20.40**	**36**	P		Pn	19 29 50.1	-2.3
ASAJ	**Asahikawa**	**20.57**	**255**	P		Pn	19 29 56.9	+2.4
	comp=Z,7.9nm,0.8s,baz=49,slow=4.3,SNR=5.0							
	comp=Z,7.9nm,0.8s							
OHAK	**Old Harbor**	**20.73**	**65**			**P**	**19 29 53.0**	**-0.8**
E19K	**Redstone River**	**20.87**	**35**	P		**P**	**19 29 53.7**	**-1.6**
E19K					IAmb	IAmb	19 30 23.7	
	comp=Z,8.1nm,0.9s							
J20K	**Nowinta River**	**20.90**	**45**			Pn	19 29 55.5	-2.8
KDAK	**Kodiak Island**	**21.06**	**63**	P		**P**	**19 29 57.7**	**+0.3**
KDAK					IAmb	IAmb	19 30 19.2	
	comp=Z,14nm,0.9s							
KDAK	**Kodiak Island**	**21.06**	**63**	P		**P**	**19 29 57.6**	**+0.1**
	comp=Z,5.5nm,0.6s,baz=304,slow=3.9,SNR=14							
	comp=Z,5.5nm,0.6s							
KDAK	**Kodiak Island**	**21.06**	**63**	P		**P**	**19 29 57.7**	**+0.3**
KDAK					pmax	pmax		
	comp=Z,14nm,0.9s							
GRNR	**Gornyy**	**21.08**	**277**	*i* P		**P**	**19 30 00.6**	**+2.9**
GRNR					pmax	pmax		
	comp=Z,3.0nm,0.5s							
GRNR					MLR	MLR		
	comp=E,70nm,18.0s							
GRNR					MLR	MLR		
	comp=N,80nm,19.0s							
GRNR					MLR	MLR		
	comp=Z,100nm,13.0s							
IMAR	**Indian Mountai**	**21.58**	**40**	P		**P**	**19 30 02.8**	**-0.1**
D20K	**Etivluk River**	**21.66**	**32**			**P**	**19 30 04.0**	**+0.2**
SKT	**Skwentna**	**21.68**	**52**			**P**	**19 30 04.2**	**+0.1**
SKT					IAmb	IAmb	19 30 21.8	
	comp=Z,12nm,1.0s							
H21K	**Melozitna Rive**	**21.85**	**42**	P		**P**	**19 30 05.0**	**-0.9**
H21K					IAmb	IAmb	19 30 42.1	
	comp=Z,11nm,1.2s							
F21K	**Alatna River**	**22.10**	**37**			**P**	**19 30 07.4**	**-1.1**
E21K	**Killik River**	**22.41**	**34**			**P**	**19 30 11.3**	**-0.5**
MLY	**Manley**	**22.53**	**44**			**P**	**19 30 12.7**	**-0.5**
RND	**Reindeer**	**23.07**	**48**			**P**	**19 30 17.5**	**-1.4**
RND					IAmb	IAmb	19 30 43.0	
	comp=Z,5.9nm,0.8s							
RND	**Reindeer**	**23.07**	**48**	P		**P**	**19 30 17.5**	**-1.4**
RND					pmax	pmax		
	comp=Z,6.0nm,0.8s							
MCK	**McKinley**	**23.07**	**47**	P		**P**	**19 30 17.2**	**-1.7**
MCK					IAmb	IAmb	19 30 35.1	
	comp=Z,10.0nm,1.1s							
MCK	**McKinley**	**23.07**	**47**	P		**P**	**19 30 17.2**	**-1.7**
MCK					pmax	pmax		
	comp=Z,10.0nm,1.1s							
YAK	**Yakutsk**	**23.16**	**308**			**P**	**19 30 18.2**	**-1.5**
YAK	**Yakutsk**	**23.16**	**308**	LR		LR	19 38 39.5	
	comp=Z,41nm,20.4s,baz=77,slow=35							
YAK	**Yakutsk**	**23.16**	**308**	*e*P		**P**	**19 30 18.2**	**-1.5**
YAK				*e**PP		**sP**	**19 30 27.8**	**-0.8**
YAK				*e*PPP		PPP	19 30 51.8	
YAK				*e*			19 34 03.5	
YAK				*e*S		**S**	**19 34 28.1**	**-1.4**
YAK				*e**SS		Sn	19 34 44.1	-3.3
YAK				*e*SSS		SSS	19 35 20.2	
YAK					pmax	pmax		
	comp=Z,23nm,0.9s							
YAK					pmax	pmax		
	comp=N,2.0nm,0.9s							
YAK					pmax	pmax		
	comp=E,13nm,1.2s							
YAK					pmax	pmax		
	comp=N,31nm,3.9s							
YAK					pmax	pmax		
	comp=Z,88nm,4.3s							
YAK					pmax	pmax		
	comp=E,23nm,1.5s							
YAK					smax	smax		
	comp=E,85nm,3.8s							
YAK					smax	smax		
	comp=N,72nm,3.7s							
G23K	**Bananza Creek**	**23.23**	**40**			**P**	**19 30 19.4**	**-1.1**
WRH	**Wood River Hil**	**23.55**	**46**	P		**P**	**19 30 23.1**	**-0.4**
WRH					IAmb	IAmb	19 30 35.1	
	comp=Z,8.9nm,0.8s							
P23K	**Montague Islan**	**23.63**	**57**	P		**P**	**19 30 23.4**	**-1.0**
CCB	**Clear Creek Bu**	**23.69**	**45**	P		**P**	**19 30 23.9**	**-1.1**
CCB					IAmb	IAmb	19 30 36.9	
	comp=Z,6.4nm,0.9s							
DHY	**Denali Highway**	**23.70**	**49**	IAmb		IAmb	19 30 25.8	
	comp=Z,4.3nm,0.7s							
COLA	**College**	**23.71**	**45**	*i* P		**P**	**19 30 24.4**	**-0.6**
COLA					pmax	pmax		
	comp=Z,5.0nm,0.7s							
D23K	**Nanushuk River**	**23.72**	**34**	IAmb		IAmb	19 30 37.6	
	comp=Z,6.6nm,0.9s							
H24K	**Noodor Dome**	**23.87**	**42**	P		**P**	**19 30 26.2**	**-0.5**
TOLK	**Toolik Lake Re**	**23.98**	**35**	IAmb		IAmb	19 30 58.4	
	comp=Z,4.5nm,0.8s							
ILAR	**Eielson Array**	**24.10**	**45**	P		**P**	**19 30 27.1**	**-1.7**
	comp=Z,2.3nm,0.9s,baz=259,slow=8.2,SNR=17							
ILAR					LR	LR	19 40 25.6	
	comp=Z,51nm,18.5s,baz=164,slow=39							
	comp=Z,2.3nm,0.9s							
E24K	**Your Creek**	**24.19**	**37**	P		**P**	**19 30 29.1**	**-0.5**
D24K	**Happy Valley**	**24.41**	**34**			**P**	**19 30 30.6**	**-0.9**
D24K					IAmb	IAmb	19 30 43.3	
	comp=Z,8.1nm,0.9s							
K24K	**Donnelly Dome**	**24.48**	**48**	IAmb		IAmb	19 30 59.6	
	comp=Z,11nm,1.0s							
PAX	**Paxson**	**24.56**	**50**	IAmb		IAmb	19 30 34.6	
	comp=Z,7.9nm,1.1s							
J25K	**Salcha River,**	**24.73**	**46**	P		**P**	**19 30 33.3**	**-1.3**
RIDG	**Independent Ri**	**24.89**	**48**	IAmb		IAmb	19 30 36.3	
	comp=Z,5.3nm,0.7s							
BMRM	**Bremner River**	**24.97**	**54**	P		**P**	**19 30 35.6**	**-1.1**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BMRM					IAmb	IAmb	19 30 51.3	
	comp=Z,7.3nm,1.0s							
F25K	**Christian Rive**	**25.11**	**39**	IAmb		IAmb	19 30 55.4	
	comp=Z,7.3nm,0.8s							
DOT	**Dot Lake**	**25.23**	**48**	P		**P**	**19 30 37.8**	**-1.2**
E25K	**Arctic Village**	**25.25**	**37**	P		**P**	**19 30 38.1**	**-1.1**
E25K					IAmb	IAmb	19 30 56.8	
	comp=Z,10nm,1.2s							
SCRK	**Sand Creek**	**25.28**	**47**	IAmb		IAmb	19 30 51.2	
	comp=Z,5.9nm,0.6s							
D25K	**Kavik River**	**25.29**	**35**	P		**P**	**19 30 38.1**	**-1.5**
D25K					IAmb	IAmb	19 30 55.3	
	comp=Z,7.0nm,0.8s							
GLB	**Gilahina Butte**	**25.34**	**53**	IAmb		IAmb	19 30 55.8	
	comp=Z,5.3nm,1.0s							
BMAR	**Burnt Mountain**	**25.47**	**39**			**P**	**19 30 39.9**	**-1.3**
ZEA	**Zeya**	**25.49**	**288**	*e*P		**P**	**19 30 43.3**	**+1.9**
ZEA				*e*			19 30 49.7	
J26L	**Joseph Creek**	**25.50**	**46**	IAmb		IAmb	19 31 13.1	
	comp=Z,3.2nm,0.7s							
VRDI	**Verde Repeater**	**25.52**	**54**	P		**P**	**19 30 39.8**	**-2.1**
VRDI					IAmb	IAmb	19 30 57.6	
	comp=Z,6.7nm,1.0s							
L26K	**Log Cabin Wild**	**25.53**	**50**	IAmb		IAmb	19 31 07.9	
	comp=Z,4.3nm,0.7s							
F26K	**Sheenjek River**	**25.69**	**39**	IAmb		IAmb	19 31 01.1	
	comp=Z,5.0nm,0.8s							
M26K	**Nabesna, AK**	**25.70**	**51**	P		**P**	**19 30 42.5**	**-0.9**
M26K					IAmb	IAmb	19 30 45.0	
	comp=Z,8.7nm,1.4s							
TIXI	**Tiksi**	**25.71**	**331**	P		**P**	**19 30 42.9**	**-0.4**
TIXI	**Tiksi**	**25.71**	**331**	*ce*P		**P**	**19 30 43.3**	**0.0**
TIXI					pmax	pmax		
	comp=Z,8.0nm,1.3s							
M27K	**Edge Creek, AK**	**26.22**	**51**	IAmb		IAmb	19 30 52.4	
	comp=Z,8.4nm,0.9s							
BCAR	**Beaver Creek A**	**26.25**	**49**			**P**	**19 30 47.6**	**-0.7**
GRNC	**Granite Creek**	**26.38**	**55**	P		**P**	**19 30 49.0**	**-0.7**
HEH	**HeiHe**	**26.60**	**281**	*e*P		**P**	**19 30 52.1**	**+0.5**
G29M	**Pine Creek**	**27.94**	**41**			**P**	**19 31 02.8**	**-0.7**
G29M					IAmb	IAmb	19 31 37.0	
	comp=Z,5.2nm,1.0s							
K29M	**Barlow Dome**	**28.14**	**48**	IAmb		IAmb	19 31 36.9	
	comp=Z,3.5nm,0.8s							
HYT	**Haines Junctio**	**28.44**	**54**	IAmb		IAmb	19 31 30.5	
	comp=Z,3.4nm,0.8s							
M31M	**Drury Creek, Y**	**29.72**	**51**	IAmb		IAmb	19 31 20.9	
	comp=Z,3.6nm,0.8s							
N32M	**Quiet Lake**	**30.51**	**53**	IAmb		IAmb	19 31 27.7	
	comp=Z,4.5nm,0.8s							
R33M	**Jennings River**	**31.94**	**55**	IAmb		IAmb	19 31 41.5	
	comp=Z,9.0nm,0.8s							
DLBC	**Dease Lake**	**32.68**	**57**	P		**P**	**19 31 45.8**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=272,slow=14,SNR=7.9							
	comp=Z,0.2nm,0.5s							
KS19	**Wonju Array Si**	**33.37**	**259**	P		**P**	**19 31 53.0**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**33.71**	**186**	T		T	20 07 32.5	
	baz=4.3,slow=76,SNR=857							
H11N3	**WAKE ISLAND Hy**	**33.72**	**186**	T		T	20 07 45.0	
	baz=4.3,slow=76,SNR=1281							
H11N1	**WAKE ISLAND Hy**	**33.73**	**186**	T		T	20 07 34.2	
	baz=4.3,slow=76,SNR=1194							
H11S1	**WAKE ISLAND Hy**	**34.94**	**

KLMR	**Klimovskoe**	**59.65**	**335**	*e*P	**P**	**19 35 14.7**	**-2.3**
KLMR				*e**PP	**sP**	**19 35 25.9**	**-0.7**
KLMR				pmax	pmax		
	comp=Z,17nm,1.9s						
FINES	**FINESS Array B**	**62.12**	**342**	P	**P**	**19 35 33.8**	**0.0**
	comp=Z,2.4nm,0.8s,baz=31,slow=8.8,SNR=9.9						
	comp=Z,2.4nm,0.8s						
FINES	**FINESS Array B**	**62.12**	**342***ce*	P	**P**	**19 35 33.7**	**0.0**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**64.50**	**267**	LR	LR	20 04 22.0	
	comp=Z,17nm,21.3s,baz=315,slow=36						
TXAR	**Lajitas Array**	**64.56**	**75**	P	**P**	**19 35 52.1**	**+1.6**
	comp=Z,2.9nm,0.6s,baz=303,slow=4.2,SNR=44						
	comp=Z,2.9nm,0.6s						
NB2	**NORSAR Subarra**	**64.76**	**349**	P	**P**	**19 35 50.9**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=14,slow=6.5						
NOA	**NORSAR Array B**	**64.76**	**349**	P	**P**	**19 35 51.3**	**0.0**
	comp=Z,1.4nm,0.6s,baz=15,slow=6.6,SNR=13						
	comp=Z,1.4nm,0.6s						
HFS	**Hagfors**	**65.34**	**348**	P	**P**	**19 35 54.7**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=29,slow=3.4,SNR=24						
	comp=Z,1.8nm,0.5s						
SADO	**Sadowa**	**65.51**	**47**	LR	LR	20 05 15.4	
	comp=Z,39nm,18.4s,baz=248,slow=37						
AKASG	**Malin Array Be**	**71.33**	**335**	P	**P**	**19 36 33.1**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=27,slow=6.3,SNR=2.4						
	comp=Z,0.5nm,0.4s						
GERES	**GERESS Array B**	**76.29**	**345**	P	**P**	**19 37 02.3**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=32,slow=5.2,SNR=8.3						
	comp=Z,0.9nm,0.7s						
WRA	**Warramunga Arr**	**79.47**	**215**	P	P	19 37 26.8	+7.2
	comp=Z,0.5nm,0.8s,baz=30,slow=6.2,SNR=5.7						
	comp=Z,0.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**81.04**	**223**	P	P	19 37 36.3	+8.2
	comp=Z,2.5nm,0.8s,baz=28,slow=5.1,SNR=6.4						
	comp=Z,2.5nm,0.8s						
ASAR	**Alice Springs**	**83.07**	**214**	P	P	19 37 45.8	+7.1
	comp=Z,0.3nm,0.7s,baz=14,slow=5.2,SNR=2.4						
	comp=Z,0.3nm,0.7s						
QSPA	**South Pole Qui**	**143.13**	**180**	PKP	**PKiKP**	**19 44 50.5**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=39,slow=0.8,SNR=1.8						

IDC 12 19:30:15.6±2.1, 0.70N×126.34E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=186.8km s-min=26.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.96**	**160**	P	P	19 35 10.2	-1.0
	1.1nm,0.7s,baz=338,slow=11,SNR=5.4						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**25.31**	**164**	P	P	19 35 44.8	+0.7
	1.1nm,0.7s,baz=341,slow=10,SNR=11						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**59.83**	**326**	P	P	19 40 22.9	-0.1
	0.1nm,0.4s,baz=143,slow=5.0,SNR=4.6						
	0.1nm,0.4s						

DJA 12 19:38:56.4±0.3, 9.3°S±4.7°×11.8°E±°, h10km, M3.6/9, mb3.9/1, MLv3.5/9, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.16**	**315**	P	Pg	19 39 00.3	+0.4
PLAI				S	Sg	19 39 03.2	+0.9
WBSI	**Waikabubak, Su**	**1.64**	**115**	P	Pn	19 39 24.2	-1.1
WBSI				S	Sn	19 39 45.3	-1.2
WSI	**Waingapu**	**2.48**	**107**	P	Pn	19 39 38.4	+1.5
WSI				S	Sn	19 40 07.4	+0.1
JAGI	**Jajag, Banyuwa**	**3.73**	**277**	P	Pn	19 39 54.5	+0.5
EDFI	**Ende, Flores**	**3.76**	**87**	P	Pn	19 39 56.1	+1.5
BSSI	**Bau Bau, Buton**	**3.79**	**43**	P	Pn	19 39 54.8	-0.1
BKSI	**Bulukumba**	**4.22**	**32**	P	Pn	19 40 01.4	+0.5
GMJI	**Gumukmas**	**4.45**	**278**	P	Pn	19 40 04.1	+0.2
BNSI	**Bone**	**5.02**	**26**	P	Pn	19 40 11.7	-0.1

JMA 12 20:41:30.9±0.3, 37.4N±0.9°×14.4E±°, h49km, MV3.6/23, FAR E OFF FUKUSHIMA PREF, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.93**	**300**	*i* P	Pn	20 42 02.1	+0.9
JIKH				S	Sn	20 42 25.1	+0.8
JIO	**Ouri**	**2.08**	**302**	*i* P	Pn	20 42 04.4	+1.1
JIO				S	Sn	20 42 29.1	+1.2
JMST	**Minamisoumatoc**	**2.18**	**280**	P	Pn	20 42 05.0	+0.4
JMST				S	Sn	20 42 30.9	+0.5
JKMT	**Kesennumamotoy**	**2.21**	**311**	*i* P	Pn	20 42 05.9	+0.9
JKMT				S	Sn	20 42 32.1	+1.0
JMK	**Ichinoseki**	**2.45**	**311**	*i* P	Pn	20 42 09.4	+1.1
JMK				S	Sn	20 42 38.5	+1.5
JOTO	**OTAMA OYAMA**	**2.60**	**275**	P	Pn	20 42 12.6	+2.1
JOTO				S	Sn	20 42 42.9	+2.1
JOM	**Ohasama**	**2.77**	**320**	P	Pn	20 42 14.1	+1.3
JYK	**Kaneyama**	**2.98**	**302**	P	Pn	20 42 17.6	+1.9
JANG	**Nango**	**3.41**	**332**	P	Pn	20 42 22.6	+1.0
JANG				S	Sn	20 43 00.9	+0.2
JAG	**Ashikaga**	**3.44**	**255**	P	Pn	20 42 23.5	+1.5
JAG				S	Sn	20 43 02.6	+1.0
JCH	**Churui**	**5.25**	**358**	P	Pn	20 42 46.0	-0.7
JCH				*e*S	Sn	20 43 42.8	-3.0

*BJI **12** 20:42:52.3, 9.10N×126.20E, h20km, mB5.3/51, mb5.2/84, Ms5.8/97, Ms7 5.6/94*

*IDC **12** 20:42:53.2±0.3, 9.34N×125.81E, h0km, mb5.4/39, mbtmp5.4/40, ML4.7/1, MS5.4/67, Error ellipse: s-maj=15.8km s-min=8.9km az=73.0*

*MOS **12** 20:42:53.3±1.6, 9.29N×125.96E, h12km, mb5.7/86, MS5.5/48, Error ellipse: s-maj=6.7km s-min=3.7km az=111.7*

*MAN **12** 20:42:54.6, 9.32N×126.08E, h15km, mb6.2, ML5.2, MS5.8*

MAN INTENSITY VI - CANTILAN CARRASCAL CARMEN LANUZA AND MADRID SURIGAO DEL SUR; INTENSITY V - BAYABAS AND CORTES SURIGAO DEL SUR; BUTUAN CITY; INTENSITY IV - TANDAG CITY SURIGAO DEL SUR; CLAVER AND SURIGAO CITY SURIGAO DEL NORTE; GINGOOG CITY AND MAGSAYSAY MISAMIS ORIENTAL; TALACOGON AGUSAN DEL SUR; INTENSITY III - CAGWAIT SURIGAO DEL SUR; SOCORRO SURIGAO DEL NORTE; CAGAYAN DE ORO CITY; BALINGASAG BALINGOAN JASAAN SALAY AND VILLANUEVA MISAMIS ORIENTAL; PINTUYAN; SAN FRANCISCO AND SAN RICARDO SOUTHERN LEYTE; INTENSITY II - MAMBAJAO CAMIGUIN.

*NEIC **12** 20:42:54.9, 9.30N×126.05E, h9km*

*ISC-PP **12** 20:42:55, 9.33N×126.04E, h4km, Mwppsm6.0, Moment Tensor Solution. s42 Moment tensor: Scale 10¹⁸Nm; Mrr-0.78±.13; Mθθ 0.17±.18; Mϕϕ-0.28±.16; Mrθ 0.31±.13; Mθϕ-0.07±.13; Mϕr 0.20±.25; Fault plane solution: M₀1.08000×10¹⁸ NP1:ϕs266.50000°, δ60.90000°, λ289.00000°. NP2:ϕs51.30000°, δ34.30000°, λ-120.20000°.*

*NEIC **12** 20:42:55.3±2.2, 9.33N±0.04×126.04E±0.07, h14km±3km, mb5.6/430, Ms_20 5.5/966, Mwb5.7/44, Mww5.8/22 Error ellipse: s-maj=10.2km s-min=4.0km az=63.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr 0.55; Mθθ 2.04; Mϕϕ-2.58; Mrθ 0.31; Mθϕ 3.61; Mϕr 1.25; Fault plane solution: M₀4.50000×10¹⁷ NP1:ϕs15.73000°, δ87.63000°, λ162.81000°. NP2:ϕs106.46000°, δ72.82000°, λ2.48000°. Principal axes: T 4.2274, Plg14.0000°, Azm330.0000°; N 0.5046, Plg73.0000°, Azm188.0000°; P -4.7320, Plg10.0000°, Azm62.0000°;*

*NEIC **12** 20:42:55.9, 9.31N×126.03E, h15km*

*NEIC **12** 20:42:55.9, 9.31N×126.03E, h16km, Moment Tensor Solution. Duration: 4.92 Moment tensor: Scale 10¹⁷Nm; Mrr-0.63; Mθθ 3.00; Mϕϕ-2.38; Mrθ-0.18; Mθϕ 5.75; Mϕr-2.15; Fault plane solution: M₀6.72000×10¹⁷ NP1: ϕs281.91000°, δ71.01000°, λ-4.65000°. NP2:ϕs13.42000°, δ85.61000°, λ-160.95000°. Principal axes: T 6.8924, Plg10.0000°, Azm146.0000°; N -0.3489, Plg70.0000°, Azm26.0000°; P -6.5435, Plg17.0000°, Azm239.0000°;*

*GCMT **12** 20:42:58.0±0.1, 9.35N×125.94E, h12km, MW5.8/167, Moment Tensor Solution. s144,c316; s167,c549; Duration: 1s9 Moment tensor: Scale 10¹⁷Nm; Mrr-1.02±.04; Mθθ 3.65±.04; Mϕϕ-2.63±.04; Mrθ-0.43±.10; Mθϕ 5.12±.03; Mϕr 0.43±.10; Best double couple: M₀6.04600×10¹⁷ NP1:ϕs196.00000°, δ84.00000°, λ-176.00000°. NP2:ϕs106.00000°, δ86.00000°, λ-6.00000°. Principal axes: T 6.5200, Plg1.0000°, Azm151.0000°; N -0.9480, Plg83.0000°, Azm251.0000°; P -5.5720, Plg7.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*DJA **12** 20:43:04.6±0.5, 9.7N±2.2×12.6E±°, h39km±7km, M5.6/43, mB5.9/42, mb5.8/43, MLv6.2/6, Mw(mB)5.5/42, MwMwp5.6/36, Mwp5.7/36*

ISC 12 20:42:57.8±0.4, 9.28N±0.02×125.98E±0.03, h27km±2km, h27km:pP-P, n1853, σ1°82/1414, mb5.6/395, MS5.5/608, 58C-22D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.23**	**190**		**Pn**	**20 43 34.0**	**+1.0**
DAV				Sn	**Sn**	**20 44 00.5**	**+0.9**
DAV	**Davao City (W)**	**2.23**	**190**	Pn	**Pb**	**20 43 35.1**	**-2.3**
	844nm,0.3s,baz=228,slow=1.0,SNR=28						
DAV				Sn	**Sb**	**20 44 06.5**	**+1.9**
	1µm,0.3s,baz=128,slow=18,SNR=9.3						
DAV				LR	LR	20 44 14.3	
	comp=Z,120µm,18.4s,baz=218,slow=36						
DAV	**Davao City (W)**	**2.23**	**190**	P	**Pb**	**20 43 35.0**	**-2.4**
DAV	**Davao City (W)**	**2.23**	**190**	P	**Pb**	**20 43 36.1**	**-1.4**
DAV				S	**Sb**	**20 44 07.4**	**+2.8**
DAV	**Davao City (W)**	**2.23**	**190**	P	**Pb**	**20 43 35.6**	**-1.8**
SGSI	**Sangihe**	**5.57**	**185**	P	**Pn**	**20 44 22.1**	**+3.1**
TGY	**Tagaytay City**	**6.88**	**315**	Pn	**Pn**	**20 44 38.8**	**+1.7**
	20nm,0.3s,baz=275,slow=2.6,SNR=27						
TNTI	**Ternate**	**8.56**	**171**		**Pn**	**20 44 59.6**	**-0.5**
TNTI	**Ternate**	**8.56**	**171**	P	**Pn**	**20 45 02.9**	**+2.8**
TNTI	**Ternate**	**8.56**	**171**	P	**Pn**	**20 45 04.2**	**+4.1**
	2.6nm21µm9µm952nm,1.2s						
KMSI	**Cibinong**	**8.87**	**193**	P	**Pn**	**20 45 07.7**	**+3.4**
TOLI2	**Tolitoli**	**9.62**	**213**		**Pn**	**20 45 15.0**	**+0.4**
TOLI2	**Tolitoli**	**9.62**	**213**	P	**Pn**	**20 45 17.0**	**+2.4**
MRSI	**Marisa**	**9.62**	**205**	P	**Pn**	**20 45 18.1**	**+3.5**
	16µm5µm533nm,0.8s						
SZP	**Santa**	**9.82**	**327**	P	Pn	20 45 22.1	+4.7
KKM	**Kota Kinabalu**	**10.20**	**252**		**Pn**	**20 45 23.2**	**+0.6**
KKM	**Kota Kinabalu**	**10.20**	**252**	P	**Pn**	**20 45 25.9**	**+3.3**
LUWI	**Luwuk**	**10.74**	**197**	P	Pn	20 45 35.5	+5.6
MPSI	**Mapaga**	**10.75**	**215**	P	Pn	20 45 40.6	+11
APSI	**Ampana**	**11.00**	**203**	P	Pn	20 45 40.9	+7.4
	6µm579nm,0.9s						
SANI	**Sanana**	**11.25**	**180**	P	**Pn**	**20 45 36.2**	**-0.8**
SANI	**Sanana**	**11.25**	**180**	S	**Sn**	**20 47 44.3**	**+2.4**
SANI	**Sanana**	**11.25**	**180**	P	**Pn**	**20 45 35.9**	**-1.1**
	29µm5µm689nm,0.7s						
SWI	**Sorong**	**11.36**	**152**	P	**Pn**	**20 45 40.8**	**+2.3**
	30µm5µm455nm,1.0s						
PCI	**Palu**	**11.82**	**211**	P	Pn	20 45 51.8	+7.0
	20µm3µm231nm,1.1s						
NLAI	**Namlea**	**12.48**	**175**	P	**Pn**	**20 45 53.9**	**+0.1**
	23µm5µm450nm,0.8s						
MSAI	**Masohi**	**12.88**	**167**	P	**P**	**20 46 09.8**	**+0.1**
	5µm413nm,0.9s						
SMKI	**Samarinda**	**13.02**	**223**	P	**P**	**20 46 10.0**	**-1.3**
AAI	**Ambon**	**13.06**	**170**	P	**P**	**20 46 09.8**	**-2.0**
	23µm3µm328nm,0.9s						
RKPI	**Ransiki, Papua**	**13.47**	**142**	P	**P**	**20 46 12.6**	**-3.7**
	23µm8µm414nm,1.1s						
KDI	**Kendari**	**13.57**	**194**	P	**P**	**20 46 13.1**	**-4.3**
FAKI	**Fak Fak**	**13.63**	**152**		**Pn**	**20 46 08.9**	**-0.6**
FAKI	**Fak Fak**	**13.63**	**152**	P	**Pn**	**20 46 12.7**	**+3.2**
FAKI	**Fak Fak**	**13.63**	**152**	P	**Pn**	**20 46 11.7**	**+2.2**
	20µm5µm251nm,1.0s						
TTSI	**Tana Toraja**	**13.69**	**207**	P	**P**	**20 46 15.5**	**-3.3**
	5µm327nm,0.8s						
BKB	**Balikpapan**	**13.84**	**221**		**Pn**	**20 46 11.4**	**-0.9**
BKB	**Balikpapan**	**13.84**	**221**	P	**Pn**	**20 46 13.0**	**+0.7**
BKB	**Balikpapan**	**13.84**	**221**	P	P	20 46 29.4	+9.0
BNDI	**Bandanaira**	**14.26**	**164**	P	**Pn**	**20 46 21.0**	**+3.0**
BNDI	**Bandanaira**	**14.26**	**164**	P	P	20 46 33.0	+8.0
TWGBT	**Beinan**	**14.26**	**341**	P	**P**	**20 46 24.2**	**-0.9**
TWG	**Pinlang**	**14.27**	**341**		**Pn**	**20 46 16.5**	**-1.7**
BAKI	**Biak**	**14.49**	**135**	P	**P**	**20 46 28.5**	**+0.9**
	19µm7µm652nm,1.3s						
SPSI	**Sidrap Palu**	**14.54**	**205**	P	**P**	**20 46 26.8**	**-1.4**
	6µm232nm,0.7s						
YULB	**Yu-li**	**14.73**	**343**		**Pn**	**20 46 21.9**	**-2.6**
YULB	**Yu-li**	**14.73**	**343**	P	**Pn**	**20 46 26.0**	**+1.5**
BNSI	**Bone**	**14.79**	**204**	P	**P**	**20 46 29.5**	**-1.5**
	9µm499nm,1.4s						
TPUB	**Ta-pu**	**14.86**	**340**		**Pn**	**20 46 23.2**	**-3.0**
TPUB	**Ta-pu**	**14.86**	**340**	P	**P**	**20 46 31.0**	**-0.7**
BBSI	**Bau Bau**	**15.05**	**193**	P	**P**	**20 46 37.8**	**+3.9**
	190nm,1.0s						
SRPI	**Serui, Papua**	**15.07**	**137**	P	**P**	**20 46 36.1**	**+2.0**
	13µm4µm224nm,0.8s						
SSLB	**Suanglung**	**15.21**	**342**		**Pn**	**20 46 29.1**	**-1.8**
SSLB	**Suanglung**	**15.21**	**342**	P	**P**	**20 46 35.4**	**-0.2**
SBUM	**Sibu**	**15.27**	**244**		**Pn**	**20 46 30.9**	**-0.8**
SBUM	**Sibu**	**15.27**	**244**	P	**P**	**20 46 33.9**	**-2.4**
YOJ	**Yonaguni jima**	**15.37**	**350**		**Pn**	**20 46 32.3**	**-0.6**
YOJ	**Yonaguni jima**	**15.37**	**350**	P	**P**	**20 46 37.4**	**+0.1**
YOJ	**Yonaguni jima**	**15.37**	**350**	P	**Pn**	**20 46 32.3**	**-0.6**
YOJ				pmax	pmax		
	comp=Z,82nm,1.0s						
NACB	**Ninganchiao**	**15.39**	**345**		**Pn**	**20 46 32.0**	**-1.3**
NACB	**Ninganchiao**	**15.39**	**345**	P	**P**	**20 46 38.8**	**+1.1**
KAPI	**Kappang**	**15.49**	**204**		**Pn**	**20 46 32.3**	**-2.4**
KAPI				IAmb	IAmb	20 46 42.0	
	comp=Z,302nm,1.1s						
KAPI	**Kappang**	**15.49**	**204**	Pn	**P**	**20 46 36.6**	**-2.1**
	comp=Z,5.7nm,0.3s,baz=18,slow=9.0,SNR=17						
KAPI				LR	LR	20 53 42.5	
	comp=Z,16µm,19.1s,baz=33,slow=42						
KAPI	**Kappang**	**15.49**	**204**	P	**P**	**20 46 38.8**	**0.0**
KAPI				P	**P**	**20 46 38.8**	**0.0**
KAPI				S	**S**	**20 49 36.0**	**-4.7**
KAPI				S	**S**	**20 49 36.0**	**-4.7**
KAPI	**Kappang**	**15.49**	**204**	P	**P**	**20 46 36.7**	**-2.1**
KAPI	**Kappang**	**15.49**	**204**	*i* P	**Pn**	**20 46 33.9**	**-0.7**
BKSI	**Bulukumba**	**15.63**	**202**	P	**P**	**20 46 42.4**	**+2.1**
	comp=Z,3µmcomp=Z,214nm,0.9s						
YHNB	**Yeheng**	**15.93**	**345**	P	**P**	**20 46 43.5**	**-0.1**
TATO	**Taipei**	**16.19**	**345**	P	**Pn**	**20 46 43.7**	**+0.2**
TATO	**Taipei**	**16.19**	**345**	P	**P**	**20 46 47.3**	**+0.9**
TATO				P	**P**	**20 46 47.3**	**+0.9**
TATO				S	**Sn**	**20 49 46.3**	**+4.0**
TATO				S	**Sn**	**20 49 46.3**	**+4.0**
TATO	**Taipei**	**16.19**	**345**	P	**P**	**20 46 47.8**	**+1.4**
BSSI	**Bau Bau, Buton**	**16.27**	**200**	P	P	20 46 56.2	+8.8
	comp=Z,4µmcomp=Z,122nm,0.8s						
KNMB	**Chin-men Tao**	**16.75**	**335**	P	**Pn**	**20 46 50.9**	**+0.3**
SMPI	**Sarmi**	**16.91**	**131**	P	**P**	**20 46 54.1**	**-0.5**
	comp=Z,18µmcomp=Z,7µmcomp=Z,695nm,1.0s						
STKI	**Sintang**	**17.09**	**238**	P	**P**	**20 47 00.3**	**+3.7**
	comp=Z,13µmcomp=Z,7µmcomp=Z,315nm,1.3s						
QZH	**Quanzhou**	**17.10**	**337**	P	**Pn**	**20 46 55.2**	**+0.2**
QZH				pmax	pmax		
	comp=Z,170nm,1.1s						
QZH				pmax	pmax		
	comp=Z,3µm,11.7s						
QZH				LR	LR		
	comp=Z,24µm,15.8s						
QZH				LR	LR		
	comp=Z,13µm,15.8s						
QZH				LR	LR		
	comp=Z,20µm,21.6s						
JMZ	**Minamidaito 2**	**17.19**	**16**	P	**Pn**	**20 46 55.4**	**-0.8**
JMZ	**Minamidaito 2**	**17.19**	**16**	P	**P**	**20 47 00.7**	**+3.2**
HKPS	**Hong Kong Po S**	**17.21**	**320**	P	**Pn**	**20 46 56.7**	**+0.2**
KSM	**Kuching**	**17.41**	**244**		**P**	**20 46 59.4**	**-0.7**
KSM				IAmb	IAmb	20 47 06.2	
	comp=Z,688nm,1.7s						
KSM	**Kuching**	**17.41**	**244**	P	**P**	**20 47 02.4**	**+2.3**
JOW	**Kunigami**	**17.60**	**7**	P	**P**	**20 47 02.9**	**+0.9**
JOW				IAmb	IAmb	20 47 08.2	
	comp=Z,557nm,1.5s						
JOW	**Kunigami**	**17.60**	**7**	P	**P**	**20 47 02.5**	**+0.5**
	comp=Z,140nm,1.1s,baz=195,slow=10,SNR=11						
JOW				LR	LR	20 54 00.9	
	comp=Z,13µm,19.0s,baz=179,slow=38						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**17.60**	**7**	P	**P**	**20 47 04.6**	**+2.6**
SAUI	**Saumlaki**	**17.95**	**163**		**Pn**	**20 47 04.6**	**-1.0**
SAUI				IAmb	IAmb	20 47 12.9	
	comp=Z,624nm,0.8s						
SAUI	**Saumlaki**	**17.95**	**163**	P	**P**	**20 47 10.2**	**+4.2**
SAUI	**Saumlaki**	**17.95**	**163**	P	**P**	**20 47 12.2**	**+6.2**
	comp=Z,1µm,0.8s						
MMRI	**Maumere**	**18.18**	**192**		**Pn**	**20 47 06.9**	**-1.5**
MMRI	**Maumere**	**18.18**	**192**	P	**P**	**20 47 10.4**	**+1.9**
MMRI	**Maumere**	**18.18**	**192**	P	**P**	**20 47 10.5**	**+1.9**
	comp=Z,7µmcomp=Z,5µmcomp=Z,463nm,0.9s						
GZH	**Guangzhou**	**18.31**	**320**	P	**P**	**20 47 12.4**	**+2.5**
GZH				S	**S**	**20 50 43.5**	**+5.6**
GZH				pmax	pmax		
	comp=Z,200nm,1.1s						
GZH				LR	LR		
	comp=Z,42µm,18.7s						
GZH				LR	LR		
	comp=Z,40µm,18.1s						
GZH				LR	LR		
	comp=Z,23µm,17.6s						
QIZ	**Qiongzhong**	**18.39**	**304**	P	**P**	**20 47 08.2**	**-2.7**
QIZ	**Qiongzhong**	**18.39**	**304**	P	**Pn**	**20 47 12.7**	**+1.7**
QIZ				PP	**PnPn**	**20 47 27.7**	**+4.8**
QIZ				S	**S**	**20 50 39.6**	**-0.1**
QIZ				pmax	pmax		
	comp=Z,120nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,5µm,9.1s						
QIZ				LR	LR		
	comp=Z,13µm,15.0s						
QIZ				LR	LR		
	comp=Z,15µm,14.7s						
QIZ				LR	LR		
	comp=Z,35µm,16.7s						
QIZ	**Qiongzhong**	**18.39**	**304**	P	**Pn**	**20 47 13.5**	**+2.5**
GENI	**Genyem**	**18.41**	**129**	P	**Pn**	**20 47 16.6**	**+5.3**
GENI	**Genyem**	**18.41**	**129**	P	**Pn**	**20 47 15.5**	**+4.2**
	comp=Z,16µmcomp=Z,8µmcomp=Z,545nm,0.8s						
EDFI	**Ende, Flores**	**18.41**	**194**	P	**Pn**	**20 47 13.4**	**+2.0**
JAY	**Jayapura**	**18.77**	**128**	P	**Pn**	**20 47 17.1**	**+1.3**
	comp=Z,2.4nm,0.3s,baz=292,slow=5.3,SNR=31						
JAY				LR	LR	20 54 31.8	
	comp=Z,14µm,18.5s,baz=310,slow=37						
	comp=Z,80nm,0.8s						
JAY	**Jayapura**	**18.77**	**128**	P	**Pn**	**20 47 17.6**	**+1.8**
	comp=Z,4µmcomp=Z,198nm,0.9s						
SOEI	**Soe**	**18.98**	**185**		**P**	**20 47 16.2**	**-1.3**
SOEI	**Soe**	**18.98**	**185**	P	**Pn**	**20 47 20.6**	**+2.3**
SOEI	**Soe**	**18.98**	**185**	P	**Pn**	**20 47 19.7**	**+1.4**
	comp=Z,16µmcomp=Z,9µmcomp=Z,1µm,0.9s						
GUMO	**Guam**	**19.00**	**75**	P	**P**	**20 47 14.6**	**-3.0**
GUMO	**Guam**	**19.00**	**75**	P	**Pn**	**20 47 20.8**	**+2.4**
	comp=Z,105nm,0.9s,baz=176,slow=12,SNR=4.0						
GUMO				LR	LR	20 54 55.1	
	comp=Z,8µm,18.5s,baz=252,slow=38						
GUMO	**Guam**	**19.00**	**75**	P	**P**	**20 47 14.6**	**-3.0**
GUMO				pmax	pmax		
	comp=Z,286nm,1.3s						
BATI	**Baumata**	**19.49**	**187**	P	**Pn**	**20 47 24.9**	**+0.5**
	comp=Z,2µm,1.0s,baz=225,slow=0.1,SNR=109						
BATI				LR	LR	20 55 48.4	
	comp=Z,13µm,19.1s,baz=26,slow=40						
BATI	**Baumata**	**19.49**	**187**	P	**Pn**	**20 47 24.4**	**+0.1**
WSI	**Waingapu**	**19.65**	**197**	P	**Pn**	**20 47 30.1**	**+3.9**
	comp=Z,7µmcomp=Z,5µmcomp=Z,316nm,0.6s						
PLAI	**Plampang**	**19.75**	**205**	P	**Pn**	**20 47 29.3**	**+1.9**
PLAI	**Plampang**	**19.75**	**205**	P	**Pn**	**20 47 31.1**	**+3.7**
	comp=Z,6µmcomp=Z,4µmcomp=Z,269nm,0.9s						
UBPT	**Khong Chiam**	**20.90**	**289**	P	**P**	**20 47 38.4**	**+0.1**
UBPT				IAmb	IAmb	20 47 46.0	
	comp=Z,442nm,1.3s						
UBPT	**Khong Chiam**	**20.90**	**289**	P	Pn	20 47 40.3	-0.6
JAGI	**Jajag, Banyuwa**	**21.20**	**214**		**P**	**20 47 41.1**	**-0.5**
JAGI				IAmb	IAmb	20 47 50.8	
	comp=Z,304nm,1.0s						
JAGI	**Jajag, Banyuwa**	**21.20**	**214**	P	**P**	**20 47 46.4**	**+4.8**
GULI	**GuiLin**	**21.78**	**319**	P	**P**	**20 47 44.6**	**-3.1**
GULI				pmax	pmax		
	comp=Z,51nm,1.2s						
GULI				LR	LR		
	comp=Z,25µm,23.9s						
GULI				LR	LR		
	comp=Z,23µm,23.9s						
GULI				LR	LR		
	comp=Z,13µm,18.4s						
DRS	**Darwin Rock St**	**22.11**	**167**	P	**P**	**20 47 53.4**	**+2.1**
SSE	**Sheshan**	**22.16**	**349**	P	**P**	**20 47 51.5**	**-0.2**
SSE				S	**S**	**20 51 56.1**	**+1.6**
SSE				pmax	pmax		
	comp=Z,17nm,1.1s						
SSE				pmax	pmax		
	comp=Z,450nm,6.1s						
SSE				LR	LR		
	comp=Z,4µm,16.8s						
SMRI	**Semarang**	**22.42**	**224**	P	**P**	**20 47 54.9**	**+0.2**
SMRI	**Semarang**	**22.42**	**224**	P	**P**	**20 47 58.9**	**+4.2**
CNSH	**ChangSha**	**22.47**	**329**	P	**P**	**20 47 52.4**	**-2.6**
CNSH				S	**S**	**20 52 00.4**	**+0.2**
CNSH				LR	LR		
	comp=Z,17µm,21.3s						
CNSH				LR	LR		
	comp=Z,19µm,21.1s						
CNSH				LR	LR		
	comp=Z,25µm,19.1s						
MTN	**Manton Dam**	**22.56**	**167**		**P**	**20 47 55.1**	**-1.0**
MTN	**Manton Dam**	**22.56**	**167**	P	**P**	**20 47 56.0**

PMBI Palembang 24.37 241 P P 20 48 16.8 +2.9
SLVN Son La 24.39 302 P 20 48 13.5 -0.7
SLVN Son La 24.39 302 P P 20 48 15.3 +1.1
BBJI Bungbulang 24.70 228 P P 20 48 19.7 +2.7
KNRA Kununurra 24.95 174 P 20 48 17.6 -1.5
KNRA Kununurra 24.95 174 P P 20 48 19.8 +0.7
comp=Z,474nm,0.9s
GYA Guiyang 25.04 316 ⇓P P 20 48 21.1 +1.1
GYA S S 20 52 41.0 -1.9
GYA pmax pmax
comp=Z,19nm,0.7s
GYA pmax pmax
comp=Z,540nm,5.3s
GYA LR LR
comp=Z,16μm,18.3s
GYA LR LR
comp=Z,12μm,21.3s
GYA LR LR
comp=Z,11μm,19.9s
IPM Ipoh 25.22 261 P 20 48 20.8 -0.9
IPM Ipoh 25.22 261 P P 20 48 22.9 +1.2
JTU Tsushima 25.32 7 P P 20 48 25.3 +2.9
JMN Monobe 25.40 15 P 20 48 21.9 -1.3
JMN IAMs_20 IAMs_20 20 57 44.3
comp=Z,13μm,19.0s
JMN Monobe 25.40 15 P P 20 48 24.4 +1.3
KULM Kulim 25.43 263 P 20 48 23.1 -0.4
KULM IAmb IAmb 20 48 28.9
comp=Z,240nm,1.0s
KULM Kulim 25.43 263 P P 20 48 25.3 +1.7
SRIT Nakonsritamara 26.07 271 P 20 48 29.6 +0.3
SRIT Nakonsritamara 26.07 271 P P 20 48 31.7 +2.4
BKNI Bangkinang 26.37 252 P P 20 48 31.7 -0.4
BKNI Bangkinang 26.37 252 P P 20 48 33.9 +1.8
JHJ2 Mitsune 26.94 26 IAMs_20 IAMs_20 20 59 29.5
comp=Z,11μm,18.0s
TJN Taejon 27.01 2 P 20 48 36.8 -0.8
TJN Taejon 27.01 2 P P 20 48 39.6 +2.0
TJN Taejon 27.01 2 P P 20 48 36.8 -0.8
TJN pmax pmax
comp=Z,251nm,0.9s
TJN MLR MLR
comp=Z,50μm,19.0s
KMI Kunming 27.15 308 ⇑P P 20 48 39.9 +0.6
KMI PP PnPn 20 49 24.7 +1.8
KMI PcP PcP 20 52 01.8 +2.1
KMI S S 20 53 18.3 +1.8
KMI pmax pmax
comp=Z,33nm,0.9s
KMI LR LR
comp=Z,6μm,16.7s
KMI LR LR
comp=Z,8μm,19.5s
KMI LR LR
comp=Z,7μm,16.8s
FITZ Fitzroy Crossi 27.20 181 P 20 48 37.8 -1.7
FITZ Fitzroy Crossi 27.20 181 P P 20 48 39.6 +0.1
comp=Z,42nm,1.0s
FITZ Fitzroy Crossi 27.20 181 P P 20 48 39.7 +0.2
JSG Sagara 27.64 22 P P 20 48 42.0 -1.3
JSG IAMs_20 IAMs_20 20 58 45.1
comp=Z,13μm,19.0s
JSG Sagara 27.64 22 P P 20 48 46.4 +3.1
PSI Prapat 27.65 258 LR LR 21 01 05.3
comp=Z,7μm,21.9s,baz=84,slow=40
CM31 Chiang Mai Arr 27.76 292 P P 20 48 44.3 -0.3
CM31 Chiang Mai Arr 27.76 292 P P 20 48 48.2 +3.7
SNR=38
CMAR Chiang Mai Arr 27.76 292 P 20 48 44.4 -0.1
CMAR Chiang Mai Arr 27.76 292 P P 20 48 45.8 +1.2
comp=Z,20nm,0.8s,baz=108,slow=7.0,SNR=61
CMAR PcP PcP 20 52 01.2 +0.3
comp=Z,13nm,0.9s,baz=103,slow=0.5,SNR=8.4
CMAR ScP ScP 20 55 42.1 +2.1
comp=Z,3.1nm,0.8s,baz=70,slow=2.1,SNR=6.0
CMAR LR LR 21 00 57.9
comp=Z,3μm,19.0s,baz=130,slow=39
CMAR P3KPbc 21 21 14.9
comp=Z,0.6nm,0.5s,baz=287,slow=5.7,SNR=7.5
CMAR Chiang Mai Arr 27.76 292 P P 20 48 44.4 -0.1
INU Inuyama 27.84 20 P P 20 48 43.4 -1.7
INU IAmb IAmb 20 48 48.0
comp=Z,130nm,0.8s
INU IAMs_20 IAMs_20 20 58 56.4
comp=Z,12μm,18.0s
INU Inuyama 27.84 20 P P 20 48 45.8 +0.7
CHTO Chiang Mai 27.85 293 P 20 48 45.0 -0.4
CHTO Chiang Mai 27.85 293 P P 20 48 46.5 +1.2
CHTO P P 20 48 46.5 +1.2
CHTO Chiang Mai 27.85 293 P P 20 48 46.6 +1.2
CHTO Chiang Mai 27.85 293 P P 20 48 45.0 -0.4
CHTO pmax pmax
comp=Z,54nm,1.2s
CHTO MLR MLR
comp=Z,4μm,20.0s
TIA Tai'an 28.00 345 P P 20 48 45.5 -1.0
TIA sP pP 20 48 53.0 -1.5
TIA PP PnPn 20 49 35.6 +1.4
TIA PcP PcP 20 52 04.2 +3.0
TIA S S 20 53 30.0 +0.8
TIA SS SnSn 20 54 50.6 +5.6
TIA pmax pmax
comp=Z,54nm,1.0s
TIA pmax pmax
comp=Z,280nm,4.9s
TIA LR LR
comp=Z,9μm,15.5s
TIA LR LR
comp=Z,5μm,20.0s
TIA LR LR
comp=Z,12μm,18.6s
LYN LuoYang 28.04 336 P P 20 48 48.1 +1.2
LYN pP pP 20 48 53.1 -1.8
LYN PP PnPn 20 49 36.2 +1.4
LYN S S 20 53 33.3 +3.4
LYN sS sS 20 53 40.5 -2.7
LYN SS SnSn 20 54 57.8 +12
LYN pmax pmax
comp=Z,48nm,1.0s
LYN LR LR
comp=Z,14μm,22.0s
LYN LR LR
comp=Z,12μm,17.9s
LYN LR LR
comp=Z,20μm,22.0s
INCN Inchon 28.09 1 P 20 48 46.2 -1.1
INCN Inchon 28.09 1 P P 20 48 50.8 +3.5
INCN Inchon 28.09 1 P P 20 48 46.2 -1.1
INCN pmax pmax
comp=Z,31nm,0.8s
INCN MLR MLR
comp=Z,10μm,21.0s
KSAR Wonju Array Be 28.09 3 P 20 48 45.8 -1.5
KSAR Wonju Array Be 28.09 3 P P 20 48 45.8 -1.5
KSRS Korea Array 28.11 3 P P 20 48 47.4 -0.1
comp=Z,16nm,0.6s,baz=182,slow=9.9,SNR=40
KSRS ScP ScP 20 55 43.9 +3.2
comp=Z,2.4nm,0.9s,baz=195,slow=2.9,SNR=7.8
KSRS LR LR 20 59 51.9
comp=Z,5584μm,20.9s,baz=185,slow=36
comp=Z,16nm,0.6s
KS19 Wonju Array Si 28.15 3 P P 20 48 45.4 -2.4
JGF Kuroka 28.18 20 P 20 48 46.2 -2.0
JGF Kuroka 28.18 20 P P 20 48 49.9 +1.7
PZH PanZhiHua 28.64 310 P P 20 48 52.3 -0.2
PZH S S 20 53 38.8 -1.0
PZH PcS PcS 20 55 46.2 +0.3
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,250nm,11.8s
PZH LR LR
comp=Z,3μm,17.2s
PZH LR LR
comp=Z,8μm,16.2s
PZH LR LR
comp=Z,9μm,16.7s
COEN Coen 28.70 143 P 20 48 50.4 -2.6
COEN IAMs_20 IAMs_20 21 01 10.0
comp=Z,10μm,18.0s
COEN Coen 28.70 143 P P 20 48 53.9 +0.9
LHMI Lhok Sumawe 29.07 264 P 20 48 55.1 -1.2
LHMI Lhok Sumawe 29.07 264 P P 20 48 58.4 +2.1
XAN Xi'an 29.21 330 P P 20 48 52.4 -5.0
XAN S S 20 53 40.8 -7.6
XAN SS SnSn 20 55 11.7 -2.9
XAN pmax pmax
comp=Z,74nm,0.9s
XAN LR LR
comp=N,8μm,15.1s
XAN LR LR
comp=E,14μm,15.5s
XAN LR LR
comp=Z,18μm,15.1s
MAJO Matsushiro 29.33 20 P 20 48 55.6 -2.7
MAJO Matsushiro 29.33 20 IAMs_20 IAMs_20 20 59 33.7
comp=Z,12μm,19.0s
MAJO Matsushiro 29.33 20 P P 20 48 57.5 -0.8
MAJO Matsushiro 29.33 20 *i* P P 20 48 55.1 -3.2
MAJO pmax pmax
comp=Z,52nm,0.9s
MJAR Matsushiro Arr 29.33 20 P 20 48 55.3 -3.0
MJAR Matsushiro Arr 29.33 20 P P 20 48 56.7 -1.6
comp=Z,54nm,0.9s,baz=188,slow=8.7,SNR=63
MJAR ScP ScP 20 55 47.9 +3.3
comp=Z,3.6nm,0.9s,baz=175,slow=3.0,SNR=4.2
comp=Z,54nm,0.9s
MJAR Matsushiro Arr 29.33 20 P P 20 48 55.3 -3.0
MJAR pmax pmax
comp=Z,48nm,0.9s
RABL Rabaul 29.33 116 P P 20 48 55.7 -2.8
RABL IAmb IAmb 20 49 04.7
comp=Z,77nm,0.8s
GSI Gunungsitoli 29.35 256 P 20 48 57.3 -1.5
GSI Gunungsitoli 29.35 256 P P 20 48 58.8 0.0
DL2 Dalian 29.76 353 P P 20 49 02.0 -0.1
DL2 S S 20 53 56.3 -0.5
DL2 pmax pmax
comp=Z,110nm,1.0s
DL2 pmax pmax
comp=Z,380nm,5.9s
DL2 LR LR
comp=Z,5μm,14.7s
DL2 LR LR
comp=Z,10μm,15.5s
DL2 LR LR
comp=Z,9μm,19.0s
HNS HongShan 29.80 342 ⇑P P 20 49 01.2 -1.2
HNS PcP PcP 20 52 08.8 +3.2
HNS S S 20 53 56.9 -0.5
HNS SS SnSn 20 55 29.9 +1.2
HNS pmax pmax
comp=Z,55nm,1.0s
HNS LR LR
comp=Z,2μm,10.6s
HNS LR LR
comp=Z,12μm,15.5s
HNS LR LR
comp=Z,9μm,18.2s
CD2 Chengdu 29.86 319 P P 20 49 02.8 -0.4
CD2 S S 20 54 01.0 +2.3
CD2 pmax pmax
comp=Z,250nm,5.9s
CD2 LR LR
comp=Z,39μm,22.2s
CD2 LR LR
comp=Z,37μm,23.5s
CD2 LR LR
comp=Z,13μm,19.7s
WB0 Warramunga Arr 30.03 164 P 20 49 02.8 -1.8
WB0 IAmb IAmb 20 49 24.8
comp=Z,66nm,0.8s
WRAB Tennant Creek 30.17 164 P P 20 49 03.9 -2.0
WRAB IAmb IAmb 20 49 24.1
comp=Z,65nm,0.8s
WRAB Tennant Creek 30.17 164 *i* P P 20 49 03.7 -2.2
WRAB pmax pmax
comp=Z,49nm,0.8s
WRA Warramunga Arr 30.18 164 P 20 49 03.5 -2.5
WRA Warramunga Arr 30.18 164 P P 20 49 04.8 -1.1
comp=Z,28nm,0.6s,baz=345,slow=9.8,SNR=77
WRA P3KPbc 21 20 59.6
comp=Z,0.9nm,0.9s,baz=170,slow=3.9,SNR=4.7
comp=Z,28nm,0.6s
WRA Warramunga Arr 30.18 164 *i* P P 20 49 04.9 -1.1
WRA pmax pmax
comp=Z,27nm,0.6s
WB1 Warramunga Ar. 30.20 164 P P 20 49 05.5 -0.7
WR8 Warramunga Arr 30.23 164 P 20 49 04.2 -2.3
WR8 IAmb IAmb 20 49 22.6
comp=Z,75nm,0.8s
WR0 Warramunga Arr 30.25 164 P P 20 49 04.9 -1.7
comp=Z,104nm,1.0s
TNCH TengChong 30.46 304 P P 20 49 08.5 -0.2
TNCH PcP PcP 20 52 09.4 +1.5
TNCH S S 20 54 07.8 -0.8
TNCH ScP ScP 20 55 48.9 +0.1
TNCH pmax pmax
comp=Z,110nm,1.3s
TNCH pmax pmax
comp=Z,340nm,5.3s
TNCH LR LR
comp=Z,7μm,16.8s
TNCH LR LR
comp=Z,8μm,17.5s
TNCH LR LR
comp=Z,17μm,17.3s
JSD Sado 30.70 19 P P 20 49 13.7 +3.3
TIY Taiyuan 30.84 339 *eP* P 20 49 15.5 +3.7
TIY PP PnPn 20 50 15.6 +3.0
TIY S S 20 54 14.0 0.0
TIY SS SnSn 20 55 58.4 +4.1
TIY pmax pmax
comp=Z,250nm,6.9s
TIY LR LR
comp=Z,8μm,15.8s
TIY LR LR
comp=Z,5μm,18.6s
TIY LR LR
comp=Z,5μm,15.8s
MBWA Marble Bar 30.86 191 P 20 49 10.0 -1.9
MBWA IAmb IAmb 20 49 19.2
comp=Z,53nm,0.8s
MBWA Marble Bar 30.86 191 P P 20 49 11.4 -0.6
comp=Z,74nm,1.2s
MBWA Marble Bar 30.86 191 P P 20 49 11.7 -0.3
MBWA P P 20 49 11.7 -0.3
MBWA Marble Bar 30.86 191 P P 20 49 13.0 +1.0
JMM Marumori 31.44 23 P P 20 49 15.3 -1.7
JMM Marumori 31.44 23 P P 20 49 18.1 +1.1
CMBY CAMPBELL BAY 31.80 268 IAMs_20 IAMs_20 21 05 03.4
comp=Z,8μm,22.6s
BJT Baijiatuau 31.84 346 P P 20 49 18.3 -2.1
BJT IAmb IAmb 20 49 28.6
comp=Z,78nm,0.9s
BJT Baijiatuau 31.84 346 P P 20 49 20.3 -0.1
BJT Baijiatuau 31.84 346 P P 20 49 18.3 -2.1
BJT pmax pmax
comp=Z,78nm,0.9s
BJT MLR MLR
comp=Z,5μm,19.0s
BJI Beijing 31.86 346 P P 20 49 18.4 -2.2
BJI PcP PcP 20 52 13.6 +2.6
BJI S S 20 54 33.8 +4.2
BJI pmax pmax
comp=Z,20nm,1.6s
BJI LR LR
comp=Z,4μm,17.2s
BJI LR LR
comp=Z,2μm,15.9s
BJI LR LR
comp=Z,3μm,18.2s
SNY Shenyang 32.49 357 ⇑P P 20 49 25.8 -0.3
SNY pmax pmax
comp=Z,49nm,1.3s
SNY LR LR
comp=Z,6μm,18.0s
SNY LR LR
comp=Z,5μm,14.2s
SNY LR LR
comp=Z,9μm,19.9s
QIS Mount Isa 32.53 156 P P 20 49 26.1 -0.7
comp=Z,229nm,0.9s
QIS Mount Isa 32.53 156 P P 20 49 26.4 -0.4
DGPR DIGLIPUR 32.63 280 *eP* P 20 49 25.8 -1.9
DGPR IAmb IAmb 20 49 34.8
comp=Z,139nm,0.9s
DGPR IAMs_20 IAMs_20 21 05 35.0
comp=Z,5μm,18.8s
MTSU Mount Surprise 32.70 146 P P 20 49 28.1 -0.2
comp=Z,112nm,0.8s
MTSU Mount Surprise 32.70 146 P P 20 49 30.3 +2.0
LZH Lanzhou 33.43 326 *eP* P 20 49 30.2 -4.5
LZH PcP PcP 20 52 18.8 +3.1
LZH pmax pmax
comp=Z,12nm,1.3s
LZH pmax pmax
comp=Z,130nm,4.8s
LZH LR LR
comp=Z,24μm,13.4s
LZH LR LR
comp=Z,19μm,13.7s
LZH LR LR
comp=Z,24μm,13.4s
MSHR Mys Shultsa 33.48 7 *ce* P P 20 49 36.1 +1.3
MSHR pmax pmax
comp=Z,42nm,0.8s
PSTR Posyet 33.51 6 *i* P P 20 49 35.7 +0.7
AS15 Alice Springs 33.62 167 P P 20 49 36.3 +0.1
comp=Z,62nm,1.1s
AS31 Alice Springs 33.64 167 P 20 49 34.6 -1.8
ASAR Alice Springs 33.65 167 P 20 49 35.2 -1.3
ASAR Alice Springs 33.65 167 P P 20 49 35.6 -0.8
comp=Z,15nm,0.4s,baz=349,slow=7.2,SNR=104
ASAR PcP PcP 20 52 16.2 -0.1
comp=Z,17nm,0.8s,baz=354,slow=2.7,SNR=6.1
ASAR ScP ScP 20 56 00.7 +1.4
comp=Z,9.7nm,1.0s,baz=340,slow=3.0,SNR=6.3
ASAR LR LR 21 04 05.1
comp=Z,4μm,18.4s,baz=356,slow=38
ASAR P3KPbc 21 20 46.2
comp=Z,0.7nm,0.8s,baz=161,slow=4.4,SNR=5.7
comp=Z,15nm,0.4s
AS01 Alice Springs 33.65 167 P P 20 49 36.9 +0.4
AS08 Alice Springs 33.67 167 P P 20 49 36.8 +0.1
comp=Z,76nm,0.9s
GIRL Giralia 33.75 200 P P 20 49 37.2 -0.1
GIRL IAmb IAmb 20 49 47.4
comp=Z,123nm,1.1s
GIRL Giralia 33.75 200 P P 20 49 38.6 +1.3
comp=Z,105nm,1.1s
HHC Hu-ho-hao-te 33.95 340 *eP* P 20 49 39.3 +0.3
HHC pP pP 20 49 43.4 -3.6
HHC S S 20 55 03.6 +1.3
HHC ScS ScS 20 59 59.5 -2.6
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,220nm,4.1s
HHC LR LR
comp=Z,7μm,15.3s
HHC LR LR
comp=Z,7μm,14.7s
HHC LR LR
comp=Z,6μm,16.1s
VLA Vladivostok 34.11 8 *i* P P 20 49 39.6 -0.6
VLA pmax pmax
comp=Z,97nm,1.0s
JTM Tenmabayashi 34.12 21 P 20 49 38.8 -1.5
JTM Tenmabayashi 34.12 21 P P 20 49 42.8 +2.5
WRKA Warakurna 34.18 176 P P 20 49 41.8 +0.7
comp=Z,68nm,0.9s
IMP Imphal 34.19 301 *eP* P 20 49 39.5 -1.8
IMP IAmb IAmb 20 50 01.4
comp=Z,35nm,0.8s
CN2 Changchun 34.40 359 P P 20 49 44.4 +1.7
CN2 sP sP 20 49 51.4 -2.7
CN2 PcP PcP 20 52 20.2 +2.1
CN2 S S 20 55 11.4 +2.4
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,5μm,14.0s
CN2 LR LR
comp=Z,8μm,14.0s
CN2 LR LR
comp=Z,3μm,17.0s
JORH JORHAT 34.67 304 *eP* P 20 49 44.4 -0.9
AZL Aizawl 34.89 298 *eP* P 20 49 49.2 +1.8
AZL IAmb IAmb 20 49 58.4
comp=Z,90nm,1.1s
USA0B Ussuriysk Arra 35.18 8 *i* P P 20 49 49.1 -0.4
USRK Ussuriysk Ar. 35.18 8 P P 20 49 48.5 -1.0
USRK Ussuriysk Ar. 35.18 8 P P 20 49 49.4 -0.1
comp=Z,125nm,0.8s,baz=194,slow=7.8,SNR=54
USRK LR LR 21 02 53.2
comp=Z,5μm,21.4s,baz=185,slow=34
comp=Z,125nm,0.8s
ZIRO ZIRO 35.32 305 *eP* P 20 49 50.0 -1.2
ZIRO IAmb IAmb 20 50 08.0
comp=Z,150nm,1.1s
MDJ Mudanjiang 35.35 4 IAmb IAmb 20 50 04.5
comp=Z,126nm,1.1s
MDJ IAMs_20 IAMs_20 21 06 54.3
comp=Z,7μm,19.0s
MDJ Mudanjiang 35.35 4 P P 20 49 51.3 +0.4
MDJ S S 20 55 24.3 +0.7
MDJ pmax pmax
comp=Z,40nm,1.2s
MDJ LR LR
comp=Z,6μm,18.8s
MDJ LR LR
comp=Z,5μm,21.3s
MDJ LR LR
comp=Z,10μm,18.3s
MDJ Mudanjiang 35.35 4 P P 20 49 52.0 +1.1
CTAO Charters Tower 35.35 146 P 20 49 49.3 -1.9
CTAO IAmb IAmb 20 49 57.0
comp=Z,70nm,0.8s
CTAO Charters Tower 35.35 146 P P 20 49 52.8 +1.6
CTAO Charters Tower 35.35 146 P P 20 49 49.3 -1.9
CTAO pmax pmax
comp=Z,70nm,0.8s
CTAO MLR MLR
comp=Z,7μm,20.0s
BRDH Bariadhala 35.49 296 P P 20 49 52.0 -0.5
comp=Z,101nm,0.4s,baz=62,slow=12,SNR=5.7
BRDH LR LR 21 06 24.2
comp=Z,6μm,19.4s,baz=112,slow=40
comp=Z,101nm,0.4s
XLT XiLinHaoTe 35.55 348 *eP* P 20 49 51.2 -1.6
XLT pP pP 20 49 56.5 -4.4
XLT sP sP 20 49 57.9 -6.3
XLT PP PP 20 51 13.7 -0.1
XLT S S 20 55 25.4 -1.6
XLT sS sS 20 55 45.2 +4.9
XLT ScP ScP 20 56 02.6 -3.3
XLT pmax pmax
comp=Z,62nm,1.3s
XLT pmax pmax
comp=Z,190nm,4.9s
XLT LR LR
comp=Z,7μm,16.2s
XLT LR LR
comp=Z,7μm,20.4s
TEZP TEZPUR 35.81 303 *eP* P 20 49 54.2 -1.0
ERM Erimo 35.95 22 P 20 49 54.7 -1.4
ERM IAmb IAmb 20 50 03.0
comp=Z,88nm,0.9s
ERM Erimo 35.95 22 IAMs_20 IAMs_20 21 03 06.8
comp=Z,7μm,20.0s
ERM Erimo 35.95 22 P P 20 49 58.7 +2.6
ERM Erimo 35.95 22 *ce* P P 20 49 56.5 +0.4
ERM pmax pmax
comp=Z,100nm,0.9s
JEM Erimo 35.95 22 P P 20 49 58.5 +2.4
COCO West Island 35.97 234 P P 20 49 55.1 -1.5
COCO West Island 35.97 234 P P 20 49 56.4 -0.2
COCO West Island 35.97 234 P P 20 49 58.6 +2.0
COCO West Island 35.97 234 P P 20 49 55.1 -1.5
COCO pmax pmax
comp=Z,774nm,1.7s
AGT Agartala 36.19 298 *eP* P 20 50 00.6 +2.2
AGT IAmb IAmb 20 50 10.9
comp=Z,230nm,1.1s
SHL Shillong 36.20 301 P P 20 49 57.6 -1.1
SHL Shillong 36.20 301 P P 20 49 59.7 +1.0
SNR=38
SHL Shillong 36.20 301 *eP* P 20 49 58.0 -0.7
SHL IAmb IAmb 20 50 10.5
comp=Z,124nm,0.8s
SHL IAMs_20 IAMs_20 21 06 37.9
comp=Z,3μm,20.6s
SHL Shillong 36.20 301 P P 20 49 57.6 -1.1
SHL pmax pmax

	comp=Z,150nm,0.7s										
SHL					MLR	MLR					
	comp=Z,6µm,22.0s										
BNX	**BinXian**	**36.35**	**2**	⇓	P	**P**	**20 49 58.1**	**-1.4**			
BNX					pP	**pP**	**20 50 06.4**	**-1.2**			
BNX					sP	**sP**	**20 50 08.8**	**-2.1**			
BNX					S	**S**	**20 55 39.6**	**+0.6**			
BNX					sS	**pS**	**20 55 47.5**	**-0.6**			
BNX					pmax	pmax					
	comp=Z,73nm,0.9s										
BNX					pmax	pmax					
	comp=Z,370nm,7.0s										
BNX					LR	LR					
	comp=Z,6µm,20.6s										
BNX					LR	LR					
	comp=Z,5µm,14.6s										
BNX					LR	LR					
	comp=Z,10µm,18.4s										
MEEK	**Meekatharra**	**36.41**	**191**		P	**P**	**20 49 59.5**	**-0.7**			
	comp=Z,201nm,1.2s										
MEEK	**Meekatharra**	**36.41**	**191**		P	**P**	**20 50 00.0**	**-0.2**			
GUWA	**GUWAHATI**	**36.58**	**302**		*e*P	**P**	**20 50 01.0**	**-0.7**			
GUWA					IAmb	IAmb	20 50 20.8				
	comp=Z,95nm,1.3s										
ASAJ	**Asahikawa**	**37.59**	**20**		P	**P**	**20 50 10.4**	**+0.4**			
	comp=Z,144nm,0.8s,baz=239,slow=8.6,SNR=45										
ASAJ					LR	LR	21 04 56.5				
	comp=Z,7µm,20.4s,baz=216,slow=35										
	comp=Z,144nm,0.8s										
JKA	**Kamikawa-asahi**	**37.59**	**20**		IAMs_20	IAMs_20	21 04 45.4				
	comp=Z,7µm,20.0s										
TATA	**Tatamba Isabel**	**37.98**	**117**		P	**P**	**20 50 15.7**	**+1.9**			
GTA	**Gaotai**	**38.04**	**326**		*e*P	**P**	**20 50 12.9**	**-1.2**			
GTA					sP	pP	20 50 20.8	-1.5			
GTA					PcP	**PcP**	**20 52 30.1**	**+0.9**			
GTA					S	**S**	**20 56 03.4**	**-1.7**			
GTA					pmax	pmax					
	comp=Z,5.0nm,1.1s										
GTA					pmax	pmax					
	comp=Z,220nm,8.4s										
GTA					LR	LR					
	comp=Z,14µm,20.7s										
GTA					LR	LR					
	comp=Z,7µm,22.9s										
GTA					LR	LR					
	comp=Z,16µm,22.9s										
LSA	**Lhasa**	**38.38**	**307**		IAmb	IAmb	20 50 23.4				
	comp=Z,170nm,1.4s										
LSA	**Lhasa**	**38.38**	**307**		P	**P**	**20 50 17.4**	**-0.1**			
LSA					S	**S**	**20 56 13.3**	**+2.1**			
LSA					pmax	pmax					
	comp=Z,33nm,1.5s										
LSA					LR	LR					
	comp=Z,3µm,18.7s										
LSA					LR	LR					
	comp=Z,5µm,16.5s										
LSA	**Lhasa**	**38.38**	**307**	*i*	P	**P**	**20 50 17.1**	**-0.4**			
	SNR=48										
YUK	**Yuzh-Kuril'sk**	**38.70**	**23**		P	**P**	**20 50 19.9**	**+0.5**			
YUK				*i*			20 51 47.3				
YUK				*i*	S	**S**	**20 56 15.3**	**+0.7**			
YUK							21 00 32.9				
YUK					pmax	pmax					
	comp=Z,740nm,0.9s										
YUK					pmax	pmax					
	comp=N,452nm,0.7s										
YUK					pmax	pmax					
	comp=E,471nm,0.7s										
YUK					pmax	pmax					
	comp=Z,820nm,1.3s										
YUK					MLR	MLR					
	comp=Z,3µm,16.0s										
YUK					MLR	MLR					
	comp=N,2µm,14.0s										
YUK					MLR	MLR					
	comp=E,2µm,17.0s										
ALEG	**Aligegeo Malai**	**38.94**	**116**		P	**P**	**20 50 23.9**	**+2.1**			
GOMU	**GeErMu**	**38.98**	**318**		P	**P**	**20 50 25.5**	**+3.1**			
GOMU					PP	**PnPn**	**20 51 53.9**	**-0.5**			
GOMU					S	**S**	**20 56 17.5**	**-2.4**			
GOMU					pmax	pmax					
	comp=E,26nm,1.1s										
GOMU					LR	LR					
	comp=E,15µm,18.7s										
GOMU					LR	LR					
	comp=E,5µm,17.5s										
GOMU					LR	LR					
	comp=E,10µm,22.0s										
MORW	**Morawa**	**39.31**	**194**		P	**P**	**20 50 23.4**	**-1.2**			
MORW					IAmb	IAmb	20 50 26.7				
	comp=Z,97nm,1.0s										
MORW	**Morawa**	**39.31**	**194**		P	**P**	**20 50 24.4**	**-0.3**			
	comp=Z,81nm,0.9s										
MORW	**Morawa**	**39.31**	**194**		P	**P**	**20 50 24.7**	**0.0**			
GTK	**Tadong**	**39.56**	**302**		*e*P	**P**	**20 50 27.0**	**0.0**			
GTK					IAmb	IAmb	20 50 33.6				
	comp=Z,111nm,1.0s										
QLP	**Quilpie**	**39.81**	**154**		P	**P**	**20 50 28.0**	**-0.9**			
	comp=Z,136nm,1.2s										
QLP	**Quilpie**	**39.81**	**154**		P	**P**	**20 50 29.0**	**+0.1**			
FORT	**Forrest**	**39.88**	**177**		P	**P**	**20 50 28.6**	**-0.7**			
FORT					IAmb	IAmb	20 50 43.7				
	comp=Z,97nm,0.8s										
FORT	**Forrest**	**39.88**	**177**		P	**P**	**20 50 30.1**	**+0.7**			
	comp=Z,143nm,0.7s										
YSS	**Yuzhno-Sakhali**	**40.17**	**18**		P	**P**	**20 50 30.4**	**-1.2**			
YSS					IAmb	IAmb	20 50 38.5				
	comp=Z,84nm,0.8s										
YSS	**Yuzhno-Sakhali**	**40.17**	**18**		P	**P**	**20 50 34.6**	**+3.0**			
YSS	**Yuzhno-Sakhali**	**40.17**	**18**		*e*P	**P**	**20 50 31.9**	**+0.2**			
YSS					*e*S	**S**	**20 56 37.3**	**+0.6**			
YSS					pmax	pmax					
	comp=Z,400nm,5.7s										
YSS					pmax	pmax					
	comp=Z,90nm,0.9s										
YSS					MLR	MLR					
	comp=Z,2µm,15.0s										
HIA	**Hailar**	**40.20**	**354**		IAMs_20	IAMs_20	21 06 47.0				
	comp=Z,7µm,20.0s										
HIA	**Hailar**	**40.20**	**354**		P	**P**	**20 50 34.6**	**+2.7**			
KUR	**Kuril'sk**	**40.49**	**24**		P	**P**	**20 50 36.7**	**+2.4**			
KUR					PPP	PPP	20 52 39.5				
KUR					S	**S**	**20 56 43.8**	**+2.3**			
KUR				*i*	SS	**SS**	**20 59 42.6**	**+1.1**			
KUR				*e*	SSS	SSS	21 00 09.0				
KUR					pmax	pmax					
	comp=Z,493nm,1.3s										
KUR					MLR	MLR					
	comp=Z,3µm,19.0s										
KMBL	**Kambalda**	**40.60**	**185**		P	**P**	**20 50 32.4**	**-2.9**			
BLDU	**Ballidu**	**40.65**	**192**		P	**P**	**20 50 35.4**	**-0.4**			
	comp=Z,109nm,0.8s										
BLDU	**Ballidu**	**40.65**	**192**		P	**P**	**20 50 35.4**	**-0.4**			
H11N1	**WAKE ISLAND Hy**	**40.84**	**71**		T	T	21 34 06.0				
	baz=265,slow=74,SNR=5273										
H11N2	**WAKE ISLAND Hy**	**40.85**	**71**		T	T	21 34 05.2				
	baz=265,slow=74,SNR=3264										
H11N3	**WAKE ISLAND Hy**	**40.86**	**71**		T	T	21 34 05.4				
	baz=265,slow=74,SNR=4569										
HEH	**HeiHe**	**40.87**	**1**		*e*P	**P**	**20 50 36.2**	**-1.1**			
HEH					PcP	**PcP**	**20 52 39.3**	**+1.5**			
HEH					S	**S**	**20 56 45.4**	**-1.6**			
HEH					SS	**SS**	**20 59 41.6**	**-7.3**			
HEH					pmax	pmax					
	comp=Z,26nm,1.4s										
HEH					LR	LR					
	comp=Z,6µm,16.7s										
HEH					LR	LR					
	comp=Z,6µm,19.8s										
HEH					LR	LR					
	comp=Z,9µm,18.0s										
GD1S	**Gladstone Soft**	**41.10**	**144**		P	**P**	**20 50 41.9**	**+2.3**			
KNTI	**KHUNTI**	**41.26**	**294**		*e*P	**P**	**20 50 42.4**	**+1.3**			
KNTI					IAmb	IAmb	20 50 55.1				
	comp=Z,132nm,1.4s										
KLBR	**Kellerberrin**	**41.39**	**191**		P	**P**	**20 50 41.8**	**-0.1**			
	comp=Z,339nm,1.1s										
KLBR	**Kellerberrin**	**41.39**	**191**		P	**P**	**20 50 42.0**	**+0.1**			
ULN	**Ulaanbaatar**	**41.66**	**341**		P	**P**	**20 50 42.2**	**-1.9**			
ULN	**Ulaanbaatar**	**41.66**	**341**		P	**P**	**20 50 43.0**	**-1.1**			
ULN					S	**S**	**20 57 04.9**	**+5.7**			
ULN	**Ulaanbaatar**	**41.66**	**341**	*ce*	P	**P**	**20 50 43.2**	**-0.9**			
ULN					pmax	pmax					
	comp=Z,9.0nm,0.7s										
SONM	**Songino Array**	**41.85**	**340**		P	**P**	**20 50 44.1**	**-1.6**			
SONM	**Songino Array**	**41.85**	**340**		P	**P**	**20 50 44.6**	**-1.1**			
	comp=Z,3.5nm,0.8s,baz=160,slow=9.2,SNR=15										
SONM					PcP	**PcP**	**20 52 42.4**	**+1.2**			
	comp=Z,8.6nm,0.8s,baz=157,slow=4.3,SNR=5.9										
SONM					ScP	**ScP**	**20 56 33.4**	**+3.5**			
	comp=Z,2.4nm,0.8s,baz=157,slow=4.3,SNR=4.2										
SONM					LR	LR	21 09 48.8				
	comp=Z,4µm,19.3s,baz=152,slow=39										
UGL	**Uglegorsk**	**41.90**	**16**		*e*P	P	20 50 37.5	-8.3			
UGL					*e*		20 52 22.6				
UGL					*e*S	S	20 56 53.3	-9.0			
UGL					pmax	pmax					
	comp=Z,200nm,0.8s										
UGL					smax	smax					
	comp=E,2µm,14.0s										
UGL					smax	smax					
	comp=N,2µm,8.4s										
UGL					MLR	MLR					
	comp=E,2µm,18.0s										
UGL					MLR	MLR					
	comp=N,2µm,14.0s										
UGL					MLR	MLR					
	comp=Z,4µm,18.0s										
MUN	**Mundaring**	**42.07**	**192**		P	**P**	**20 50 47.3**	**-0.1**			
	comp=Z,159nm,0.9s										
MUN	**Mundaring**	**42.07**	**192**		P	**P**	**20 50 47.6**	**+0.2**			
MTKN	**Mount Kenneth**	**42.12**	**193**		P	**P**	**20 50 49.6**	**+1.8**			
EIDS	**Eidsvold**	**42.23**	**145**		P	**P**	**20 50 46.4**	**-2.5**			
EIDS					IAMs_20	IAMs_20	21 08 58.4				
	comp=Z,5µm,20.0s										
EIDS	**Eidsvold**	**42.23**	**145**		P	**P**	**20 50 48.1**	**-0.7**			
	comp=Z,61nm,0.9s										
EIDS	**Eidsvold**	**42.23**	**145**		P	**P**	**20 50 48.9**	**0.0**			
VIS	**Vishakhapatnam**	**42.23**	**286**		*e*P	**P**	**20 50 50.5**	**+1.4**			
VIS					IAmb	IAmb	20 50 57.2				
	comp=Z,199nm,1.9s										
VIS					IAMs_20	IAMs_20	21 10 15.7				
	comp=Z,4µm,20.1s										
GRNR	**Gornyy**	**42.26**	**10**	⇓	*i*P	**P**	**20 50 49.2**	**+0.4**			
GRNR					pmax	pmax					
	comp=Z,10.0nm,1.2s										
GRNR					MLR	MLR					
	comp=E,2µm,15.0s										
GRNR					MLR	MLR					
	comp=N,3µm,18.0s										
GRNR					MLR	MLR					
	comp=Z,4µm,19.0s										
NWAO	**Narrogin (SRO)**	**42.79**	**191**		P	**P**	**20 50 51.5**	**-1.7**			
NWAO	**Narrogin (SRO)**	**42.79**	**191**		P	**P**	**20 50 53.6**	**+0.3**			
NWAO	**Narrogin (SRO)**	**42.79**	**191**		LR	LR	21 11 57.3				
	comp=Z,1µm,18.2s,baz=7.5,slow=41										
NWAO	**Narrogin (SRO)**	**42.79**	**191**		P	**P**	**20 50 54.4**	**+1.1**			
NWAO	**Narrogin (SRO)**	**42.79**	**191**		P	**P**	**20 50 53.7**	**+0.5**			
NWAO	**Narrogin (SRO)**	**42.79**	**191**		P	**P**	**20 50 51.6**	**-1.7**			
NWAO					pmax	pmax					
	comp=Z,164nm,0.8s										
WHYH	**Whyalla**	**43.50**	**166**		P	**P**	**20 51 00.1**	**+1.1**			
STKA	**Stephens Creek**	**43.56**	**161**		P	**P**	**20 50 57.9**	**-1.6**			
STKA	**Stephens Creek**	**43.56**	**161**		P	**P**	**20 50 59.1**	**-0.4**			
	comp=Z,590nm,1.4s										
STKA	**Stephens Creek**	**43.56**	**161**		P	**P**	**20 50 58.7**	**-0.8**			
	comp=Z,53nm,0.4s,baz=342,slow=8.1,SNR=68										
STKA					LR	LR	21 12 45.1				
	comp=Z,3µm,19.1s,baz=335,slow=41										
	comp=Z,53nm,0.4s										
STKA	**Stephens Creek**	**43.56**	**161**		P	**P**	**20 51 00.1**	**+0.6**			
STKA	**Stephens Creek**	**43.56**	**161**		P	**P**	**20 50 57.9**	**-1.6**			
STKA					pmax	pmax					
	comp=Z,384nm,0.9s										
TYV	**Tymovskoe**	**43.69**	**15**		*e*P	**P**	**20 51 01.3**	**+1.0**			
TYV					*e*S	**S**	**20 57 34.9**	**+6.3**			
TYV					pmax	pmax					
	comp=Z,400nm,5.6s										
TYV					pmax	pmax					
	comp=Z,56nm,1.5s										
TYV					smax	smax					
	comp=N,1µm,7.5s										
TYV					smax	smax					
	comp=E,2µm,7.5s										
TYV					MLR	MLR					
	comp=Z,2µm,18.0s										
BLSP	**Bilaspur**	**43.94**	**292**		*e*P	**P**	**20 51 03.1**	**+0.2**			
BLSP					IAmb	IAmb	20 51 12.3				
	comp=Z,95nm,1.1s										
HTT	**Hallett**	**44.22**	**164**		P	**P**	**20 51 06.0**	**+1.1**			
	comp=Z,30nm,1.4s										
HTT	**Hallett**	**44.22**	**164**		P	**P**	**20 51 06.4**	**+1.5**			
ZEA	**Zeya**	**44.35**	**1**		*e*P	**P**	**20 51 04.8**	**-0.8**			
ZEA					*e*S	**S**	**20 57 41.5**	**+3.3**			
ZEA					*e*		21 01 07.0				
ZEA					pmax	pmax					
	comp=N,20nm,1.4s										
ZEA					pmax	pmax					
	comp=Z,40nm,1.2s										
ZEA					smax	smax					
	comp=E,200nm,9.8s										
ZEA					MLR	MLR					
	comp=N,4µm,16.0s										
ZEA					MLR	MLR					
	comp=Z,3µm,17.0s										
LUES	**Luesalemba Tem**	**44.39**	**116**		P	**P**	**20 51 10.5**	**+4.0**			
RKGY	**Rocky Gully**	**44.47**	**191**		P	**P**	**20 51 07.6**	**+0.8**			
	comp=Z,104nm,1.0s										
VJD	**Vijayawada**	**44.69**	**284**		*e*P	P	20 51 16.6	+7.8			
VJD					IAmb	IAmb	20 51 21.7				
	comp=Z,204nm,1.1s										
CMSA	**Cobar Meteorol**	**44.76**	**156**		P	**P**	**20 51 09.3**	**+0.2**			
	comp=Z,133nm,1.1s										
CMSA	**Cobar Meteorol**	**44.76**	**156**		P	**P**	**20 51 09.9**	**+0.8**			
PALK	**Pallekele**	**44.83**	**271**		P	**P**	**20 51 09.0**	**-1.1**			
PALK					IAmb	IAmb	20 51 14.4				
	comp=Z,99nm,1.4s										
PALK	**Pallekele**	**44.83**	**271**		LR	LR	21 11 20.9				
	comp=Z,2µm,19.7s,baz=84,slow=38										
PALK	**Pallekele**	**44.83**	**271**		P	**P**	**20 51 12.9**	**+2.8**			
PALK					P	**P**	**20 51 12.9**	**+2.8**			
PALK	**Pallekele**	**44.83**	**271**		P	**P**	**20 51 09.0**	**-1.1**			
PALK					pmax	pmax					
	comp=Z,99nm,1.4s										
PALK					MLR	MLR					
	comp=Z,3µm,20.0s										
ALBI	**Allahabad**	**44.85**	**297**		*e*P	**P**	**20 51 10.5**	**+0.4**			
ALBI					IAmb	IAmb	20 51 16.1				
	comp=Z,103nm,1.1s										
ALBI					IAMs_20	IAMs_20	21 11 40.9				
	comp=Z,4µm,18.3s										
MDRS	**Chennai**	**44.98**	**279**		*e*P	**P**	**20 51 13.6**	**+2.4**			
MDRS					IAmb	IAmb	20 51 16.9				
	comp=Z,149nm,0.9s										
MDRS					IAMs_20	IAMs_20	21 11 05.7				
	comp=Z,4µm,19.8s										
ZAK	**Zakamensk**	**45.09**	**340**		*e*P	**P**	**20 51 12.2**	**+0.5**			
ZAK					pmax	pmax					
	comp=Z,10.0nm,1.3s										
ZAK					pmax	pmax					
	comp=Z,8.0nm,1.4s										
H01W3	**Cape Leeuwin H**	**45.33**	**194**		P	P	20 51 18.6	+5.2			
	baz=30,slow=7.5,SNR=5.4										
H01W1	**Cape Leeuwin H**	**45.33**	**194**		P	**P**	**20 51 16.6**	**+3.2**			
	baz=30,slow=7.5,SNR=4.3										
NKL	**Nikolayevsk**	**45.34**	**12**		*e*P	**P**	**20 51 10.9**	**-2.5**			
NKL					*e*S	**S**	**20 57 53.9**	**+1.4**			
NKL					pmax	pmax					
	comp=E,87nm,1.0s										
NKL					pmax	pmax					
	comp=N,95nm,0.9s										
NKL					pmax	pmax					
	comp=Z,481nm,0.9s										
NKL					smax	smax					
	comp=E,214nm,2.7s										
NKL					smax	smax					
	comp=N,230nm,2.8s										
NKL					MLR	MLR					
	comp=E,10µm,14.0s										
NKL					MLR	MLR					
	comp=N,7µm,16.0s										
NKL					MLR	MLR					
	comp=Z,11µm,16.0s										
H01W2	**Cape Leeuwin H**	**45.34**	**194**		P	P	20 51 18.3	+4.9			
	baz=30,slow=7.5,SNR=3.1										
GHSS	**Government Hou**	**45.55**	**165**		P	**P**	**20 51 17.3**	**+2.0**			
BRCI	**Bahraich**	**45.59**	**300**		IAMs_20	IAMs_20	21 12 38.4				
	comp=Z,3µm,20.1s										
GC1S	**Gold Coast 1 S**	**45.76**	**145**		P	**P**	**20 51 20.4**	**+3.3**			
IRK	**Irkutsk**	**46.35**	**342**		*e*P	**P**	**20 51 21.1**	**-0.4**			
IRK					*e*		20 53 02.7				
IRK					pmax	pmax					
	comp=Z,46nm,2.0s										
ARMA	**Armidale**	**46.53**	**149**		P	**P**	**20 51 21.6**	**-1.7**			
ARMA					IAmb	IAmb	20 51 27.3				
	comp=Z,66nm,0.9s										
ARMA					IAMs_20	IAMs_20	21 12 24.3				
	comp=Z,5µm,19.0s										
ARMA	**Armidale**	**46.53**	**149**		P	**P**	**20 51 23.4**	**+0.1**			
	comp=Z,81nm,0.8s										
ARMA	**Armidale**	**46.53**	**149**		P	**P**	**20 51 25.0**	**+1.7**			
HYB	**Hyderabad**	**46.75**	**285**		*e*P	**P**	**20 51 25.7**	**+0.5**			
HYB					IVmB_BB		20 51 36.5				
	comp=Z,859nm,1.5s										
HYB					*e*PcP	**PcP**	**20 52 56.9**	**-1.6**			
HYB					*e*ScP	**ScP**	**20 56 50.1**	**-0.4**			
HYB					*e*S	**S**	**20 58 14.2**	**+0.3**			
HYB					*e*SS	**SS**	**21 01 43.1**	**+2.6**			
HYB					IVMs_BB	IVMs_BB	21 12 26.9				
	comp=Z,738nm,4.5s										
MOY	**Mondy**	**46.96**	**339**		*e*P	**P**	**20 51 26.5**	**+0.1**			
MOY					pmax	pmax					
	comp=Z,35nm,2.5s										
SALM	**Salem**	**47.00**	**277**		*e*P	**P**	**20 51 28.9**	**+1.7**			
SALM					IAmb	IAmb	20 51 32.8				
	comp=Z,176nm,1.4s										
LGTI	**Lohaghat**	**47.21**	**302**		*e*P	**P**	**20 51 27.8**	**-0.9**			
LGTI					IAmb	IAmb	20 51 32.0				
	comp=Z,64nm,1.0s										
LGTI					IAMs_20	IAMs_20	21 11 54.2				
	comp=Z,4µm,21.3s										
PTH	**Pithoragarh**	**47.27**	**302**		*e*P	**P**	**20 51 27.7**	**-1.6**			
PTH					IAmb	IAmb	20 51 37.1				
	comp=Z,68nm,1.0s										
PTH					IAMs_20	IAMs_20	21 06 53.6				
	comp=Z,4µm,17.0s										
JHNI	**Jhansi**	**47.78**	**296**		*e*P	**P**	**20 51 31.4**	**-1.7**			
JHNI					IAmb	IAmb	20 51 40.0				
	comp=Z,106nm,1.2s										
JHNI					IAMs_20	IAMs_20	21 11 36.0				
	comp=Z,4µm,17.2s										
KOD	**Kodaikanal**	**47.79**	**275**		*e*P	**P**	**20 51 34.5**	**+0.9**			
KOD					IAmb	IAmb	20 51 38.5				
	comp=Z,88nm,0.7s										
WMQ	**Urumqi**	**47.83**	**323**		*e*P	**P**	**20 51 34.1**	**+0.8**			
WMQ					sP	sP	20 51 42.2	-2.6			
WMQ					S	**S**	**20 58 27.1**	**-1.6**			
WMQ					pmax	pmax					
	comp=Z,44nm,1.3s										
WMQ					pmax	pmax					
	comp=Z,280nm,3.7s										
WMQ					LR	LR					
	comp=Z,18µm,16.7s										
WMQ					LR	LR					
	comp=Z,15µm,17.7s										
WMQ					LR	LR					
	comp=Z,13µm,18.3s										
JOSI	**Joshimath**	**48.09**	**303**		*e*P	**P**	**20 51 34.9**	**-0.8**			
VLAKA	**Lakatoro**	**48.15**	**121**		P	**P**	**20 51 38.6**	**+2.6**			
ARPS	**Mount Arapiles**	**48.16**	**163**		P	**P**	**20 51 36.1**	**+0.3**			
	comp=Z,88nm,1.0s										
SKR	**Severo-Kuril's**	**48.19**	**25**		*e*P	**P**	**20 51 38.0**	**+2.2**			
SKR					*e*S	**S**	**20 58 39.0**	**+5.7**			
SKR					pmax	pmax					
	comp=Z,600nm,5.9s										
SKR					pmax	pmax					
	comp=Z,110nm,0.6s										
SKR					MLR	MLR					
	comp=Z,4µm,19.0s										
YNG	**Young**	**48.27**	**155**		P	**P**	**20 51 37.0**	**+0.4**			
	comp=Z,134nm,0.7s										
TRD	**Trivandrum**	**48.41**	**273**		*e*P	**P**	**20 51 39.6**	**+1.6**			
TRD					IAmb	IAmb	20 51 43.0				
	comp=Z,120nm,1.2s										
BHPL	**Bhopal**	**48.41**	**293**		*e*P	**P**	**20 51 37.7**	**-0.4**			
BHPL					IAmb	IAmb	20 51 43.1				
	comp=Z,40nm,0.7s										
BHPL					IAMs_20	IAMs_20	21 11 46.4				
	comp=Z,3µm,19.1s										
MGCD	**Mangrove Creek**	**48.55**	**152**		P	**P**	**20 51 39.0**	**+0.1**			
	comp=Z,71nm,0.6s										
NRDN	**NARMADA NAGAR**	**48.57**	**292**		*e*P	**P**	**20 51 40.2**	**+1.0**			
NRDN					IAmb	IAmb	20 51 51.6				
	comp=Z,74nm,0.9s										
NTLH	**Newcastle Hard**	**48.58**	**151**		P	**P**	**20 51 41.3**	**+2.3**			
SYDH	**Sydney Hard Ro**	**48.84**	**152**		P	**P**	**20 51 43.1**	**+2.1**			
UGON	**Onchagaon**	**48.92**	**300**		*e*P	**P**	**20 51 41.1**	**-0.7**			
RIV	**Riverview**	**49.09**	**152**		P	**P**	**20 51 45.4**	**+2.5**			
ASOR	**Ausora**	**49.14**	**300**		IAMs_20	IAMs_20	21 11 49.4				
	comp=Z,2µm,20.9s										
MERT	**Meerut**	**49.22**	**300**		IAMs_20	IAMs_20	21 11 51.8				
	comp=Z,3µm,20.1s										
DDI	**Dehra Dun**	**49.28**	**302**		*e*P	**P**	**20 51 44.0**	**-0.6**			
DDI					IAmb	IAmb	20 52 01.4				
	comp=Z,106nm,0.8s										
BOD	**Bodaibo**	**49.30**	**352**		*e*P	**P**	**20 51 43.2**	**-1.1**			
BOD					pmax	pmax					
	comp=Z,51nm,1.4s										
CAN	**Canberra**	**49.40**	**155**		P	**P**	**20 51 43.8**	**-1.6**			
CAN	**Canberra**	**49.40**	**155**		P	**P**	**20 51 46.5**	**+1.1**			
	comp=Z,177nm,1.0s										
CAN	**Canberra**	**49.40**	**155**		P	**P**	**20 51 47.2**	**+1.8**			
CAN	**Canberra**	**49.40**	**155**		P	**P**	**20 51 43.8**	**-1.6**			
CAN					pmax	pmax					
	comp=Z,110

comp=Z,59nm,0.8s,baz=207,slow=1.7,SNR=55
PETK LR LR 21 12 50.3
comp=Z,5µm,19.9s,baz=214,slow=36
comp=Z,59nm,0.8s
PETK Petropavlovsk- 50.66 24 P **P** **20 51 55.0 +0.3**
KAD Karad 50.91 285 *eP* **P** **20 51 58.3 +1.1**
KAD IAmb IAmb 20 52 06.5
comp=Z,44nm,0.9s
BHK Bhakra 50.92 303 *eP* **P** **20 51 54.2 -2.8**
BHK IAmb IAmb 20 52 07.0
comp=Z,121nm,1.1s
OUENC Ouen Island, N 50.95 129 P **P** **20 51 59.6 +2.4**
PET Petropavlovsk 50.98 25 P **P** **20 51 56.1 -1.0**
PET IAmb IAmb 20 52 09.3
comp=Z,92nm,1.0s
PET Petropavlovsk 50.98 25 P **P** **20 51 59.6 +2.5**
PET Petropavlovsk 50.98 25 *eP* **P** **20 51 57.9 +0.8**
PET *eS* **S** **20 59 16.6 +4.3**
PET pmax pmax
comp=Z,500nm,10.6s
PET pmax pmax
comp=Z,92nm,1.4s
PET pmax pmax
comp=Z,300nm,10.4s
PET MLR MLR
comp=Z,2µm,17.0s
PET MLR MLR
comp=Z,2µm,18.0s
PET Petropavlovsk 50.98 25 P **P** **20 51 58.1 +1.0**
comp=Z,2µmcomp=Z,67nm,0.6s
POO Poona 51.28 286 *eP* **P** **20 52 01.2 +1.2**
ZSN Zaisan 51.51 325 *eP* **P** **20 52 00.4 -0.8**
ZSN *eS* **S** **20 59 21.6 +1.7**
ZSN Zaisan 51.51 325 *eP* **P** **20 52 00.4 -0.8**
ZSN *eS* **S** **20 59 21.7 +1.7**
PINNC Pines Island, 51.52 129 IAmb IAmb 20 52 11.3
comp=Z,133nm,1.2s
PINNC Pines Island, 51.52 129 P **P** **20 52 03.3 +1.8**
HMDM Hanimaadhoo 52.30 271 P **P** **20 52 06.0 -1.6**
HMDM Hanimaadhoo 52.30 271 P **P** **20 52 09.4 +1.8**
JMU Jammu 52.49 304 *eP* **P** **20 52 08.5 -0.2**
JMU IAmb IAmb 20 52 20.2
comp=Z,130nm,1.2s
JMU IAMs_20 IAMs_20 21 04 16.0
comp=Z,2µm,17.1s
MK31 Makanchi Array 52.65 323 *ce* P **P** **20 52 08.5 -1.2**
MKAR Makanchi Array 52.65 323 P **P** **20 52 07.6 -2.1**
MKAR Makanchi Array 52.65 323 P **P** **20 52 08.7 -0.9**
comp=Z,31nm,0.7s,baz=122,slow=7.9,SNR=56
MKAR LR LR 21 15 05.5
comp=Z,7µm,19.8s,baz=121,slow=37
MKAR PKPPKP 21 22 37.2
comp=Z,1.2nm,1.1s,baz=274,slow=3.5,SNR=5.1
comp=Z,31nm,0.7s
SRGN SRI GANGA NAGA 52.70 301 *eP* **P** **20 52 11.5 +1.2**
YAK Yakutsk 52.73 2 P **P** **20 52 08.5 -1.4**
YAK Yakutsk 52.73 2 IAMs_20 IAMs_20 21 15 07.0
comp=Z,5µm,19.0s
YAK Yakutsk 52.73 2 LR LR 21 15 24.3
comp=Z,4µm,19.3s,baz=182,slow=37
YAK Yakutsk 52.73 2 *eP* **P** **20 52 08.8 -1.1**
YAK *e*PP **sP** **20 52 18.7 -2.8**
YAK *e* 20 53 19.9
YAK *e* 20 54 07.5
YAK ePPP PPP 20 55 10.9
YAK *eS* **S** **20 59 34.8 -1.2**
YAK *e*SS **sS** **20 59 51.9 +2.2**
YAK *e* 21 01 55.5
YAK *eSS* **SS** **21 03 15.8 +1.1**
YAK pmax pmax
comp=Z,215nm,1.1s
YAK pmax pmax
comp=N,114nm,1.4s
YAK pmax pmax
comp=E,44nm,1.4s
YAK pmax pmax
comp=Z,97nm,2.9s
YAK pmax pmax
comp=N,92nm,2.7s
YAK pmax pmax
comp=E,86nm,3.6s
YAK smax smax
comp=E,331nm,3.4s
YAK smax smax
comp=N,146nm,2.0s
YAK MLR MLR
comp=Z,5µm,24.0s
YAK MLR MLR
comp=N,5µm,24.0s
YAK MLR MLR
comp=E,4µm,25.0s
MAKZ Makanchi 52.84 323 P **P** **20 52 09.3 -1.8**
MAKZ IAmb IAmb 20 52 22.4
comp=Z,72nm,1.1s
MAKZ Makanchi 52.84 323 P **P** **20 52 09.3 -1.8**
MAKZ pmax pmax
comp=Z,72nm,1.1s
MAKZ MLR MLR
comp=Z,7µm,20.0s
TARG Taragay, Kyrgy 53.21 316 IAmb IAmb 20 52 26.0
comp=Z,106nm,1.4s
MA2 Magadan 53.56 15 P **P** **20 52 15.4 -0.7**
MA2 IAmb IAmb 20 52 21.3
comp=Z,43nm,0.7s
MA2 Magadan 53.56 15 P **P** **20 52 15.7 -0.4**
comp=Z,47nm,0.7s,baz=198,slow=7.0,SNR=20
MA2 LR LR 21 12 51.2
comp=Z,2µm,21.5s,baz=202,slow=34
comp=Z,47nm,0.7s
MA2 Magadan 53.56 15 P **P** **20 52 18.4 +2.3**
MA2 Magadan 53.56 15 *ce* P **P** **20 52 16.6 +0.4**
MA2 pmax pmax
comp=Z,42nm,0.7s
MA2 Magadan 53.56 15 P **P** **20 52 16.5 +0.4**
comp=Z,893nmcomp=Z,67nm,0.7s
KSH Kashi 53.69 313 P **P** **20 52 18.1 +0.5**
KSH sP sP 20 52 27.0 -2.2
KSH pmax pmax
comp=Z,25nm,1.5s
KSH LR LR
comp=Z,5µm,19.6s
KSH LR LR
comp=Z,6µm,21.0s
KSH LR LR
comp=Z,9µm,17.9s
GLAD Gladstone 53.98 159 P **P** **20 52 21.4 +2.0**
NIL Nilore 54.06 305 P **P** **20 52 18.4 -1.8**
NIL Nilore 54.06 305 P **P** **20 52 18.5 -1.8**
NIL pmax pmax
comp=Z,260nm,1.0s
CORO Coronation Par 54.10 160 P **P** **20 52 22.4 +2.1**
TDK Taldyqorghan 54.17 320 *eP* **P** **20 52 19.8 -1.1**
TDK pmax pmax
comp=Z,69nm,1.1s
TDK MLR MLR
comp=Z,3µm,17.0s
TDK Taldyqorghan 54.17 320 *eP* **P** **20 52 19.9 -1.1**
comp=Z,66nm,1.1s
TDK LR LR 21 16 04.9
comp=Z,3µm,17.1s
TNSS Tian-Shan 54.31 317 *eP* **P** **20 52 21.1 -1.3**
TNSS Tian-Shan 54.31 317 *eP* **P** **20 52 21.2 -1.2**
AAA Alma-Ata 54.40 317 *eP* **P** **20 52 21.6 -1.1**
AAA pmax pmax
comp=Z,16µm,18.7s
AAA Alma-Ata 54.40 317 *eP* **P** **20 52 21.6 -1.1**
comp=Z,16µm,18.7s
AAA LR LR 21 16 18.7
ULHL Ulahol 54.48 316 P **P** **20 52 23.0 -0.5**
SNR=56
CHKK Chushkaly 54.61 318 *eP* **P** **20 52 23.2 -0.9**
CHKK Chushkaly 54.61 318 *eP* **P** **20 52 23.3 -0.9**
JASL Jaisalmer 54.78 296 *eP* **P** **20 52 25.5 -0.2**
KUU Kurty 55.06 318 *eP* **P** **20 52 26.6 -0.7**
KUU pmax pmax
comp=Z,64nm,1.5s
KUU MLR MLR
comp=Z,4µm,15.0s
KUU Kurty 55.06 318 *eP* **P** **20 52 26.6 -0.7**
comp=Z,64nm,1.5s
KUU LR LR 21 16 45.3
comp=Z,4µm,15.0s
TKM2 Tokmak 2 55.18 316 P **P** **20 52 28.1 -0.4**
SNR=47
ZALV Zalesovo Beam 55.36 332 P **P** **20 52 27.2 -2.1**
ZALV Zalesovo Beam 55.36 332 P **P** **20 52 27.4 -1.9**
comp=Z,8.3nm,0.5s,baz=123,slow=6.9,SNR=25
ZALV LR LR 21 17 23.0
comp=Z,6µm,20.6s,baz=130,slow=38
ZALV PKP2bc 21 22 51.2
comp=Z,2.7nm,0.9s,baz=309,slow=4.7,SNR=6.2
comp=Z,8.3nm,0.5s
TAU Tasmania Unive 55.47 161 P **P** **20 52 29.8 -0.4**
TAU IAmb IAmb 20 52 37.2
comp=Z,76nm,1.0s
TAU Tasmania Unive 55.47 161 P **P** **20 52 32.3 +2.1**
TAU Tasmania Unive 55.47 161 P **P** **20 52 29.8 -0.4**
TAU pmax pmax
comp=Z,76nm,1.0s
BHUJ Bhuj 55.51 292 *eP* **P** **20 52 32.0 +1.1**
BHUJ IAmb IAmb 20 52 37.8
comp=Z,140nm,1.6s
KBK Karagaybulak 55.52 316 P **P** **20 52 30.6 -0.3**
SNR=25
UCH Uchtor 55.67 315 P **P** **20 52 32.0 -0.3**
SNR=118
SEM Semipalatinsk 55.67 326 *eP* **P** **20 52 31.1 -0.8**
SEM Semipalatinsk 55.67 326 *eP* **P** **20 52 31.1 -0.8**
SEM LR LR 21 18 23.3
CHMS Chumysh 55.78 316 P **P** **20 52 35.2 +2.6**
SNR=6.0
AAK Ala-Archa 55.83 316 P **P** **20 52 32.5 -0.6**
AAK IAmb IAmb 20 52 46.4
comp=Z,123nm,1.6s
AAK Ala-Archa 55.83 316 P **P** **20 52 32.2 -0.9**
comp=Z,7.9nm,0.8s,baz=97,slow=8.4,SNR=12
AAK LR LR 21 18 34.3
comp=Z,10µm,19.0s,baz=97,slow=38
comp=Z,7.9nm,0.8s
AAK Ala-Archa 55.83 316 P **P** **20 52 31.6 -1.5**
AAK P **P** **20 52 31.6 -1.5**
AAK Ala-Archa 55.83 316 *ce* P **P** **20 52 33.3 +0.2**
AAK pmax pmax
comp=Z,33nm,1.7s
AAK Ala-Archa 55.83 316 *i* P **P** **20 52 33.5 +0.4**
SNR=26
FUNA Funafuti 55.87 107 P **P** **20 52 36.0 +2.4**
SGDS Sogindy 56.03 317 *eP* **P** **20 52 33.6 -0.8**
USP Ospenovka 56.05 316 P **P** **20 52 34.0 -0.6**
SNR=46
EKS2 Erkin-Say 56.33 316 P **P** **20 52 36.3 -0.4**
SNR=78
ARSB Arslanbob 56.44 314 IAmb IAmb 20 52 48.3
comp=Z,117nm,1.4s
KURK Kurchatov 56.72 326 P **P** **20 52 37.1 -1.9**
KURK IAmb IAmb 20 52 47.2
comp=Z,94nm,0.9s
KURK Kurchatov 56.72 326 P **P** **20 52 38.0 -1.1**
KURK P **P** **20 52 38.0 -1.1**
KURK Kurchatov 56.72 326 *ce* P **P** **20 52 37.9 -1.2**
KURK pmax pmax
comp=Z,140nm,1.3s
KURBB Kurchatov Arra 56.73 326 P **P** **20 52 37.9 -1.2**
comp=Z,37nm,0.8s,baz=125,slow=6.4,SNR=50
KURBB LR LR 21 19 19.5
comp=Z,6µm,18.6s,baz=142,slow=39
KURBB PKPPKP 21 22 30.0
comp=Z,2.7nm,1.1s,baz=274,slow=3.8,SNR=7.0
KURBB PKP2bc 21 22 44.8
comp=Z,3.3nm,1.0s,baz=281,slow=3.1,SNR=4.4
comp=Z,37nm,0.8s
SEY Seymchan 56.85 14 P **P** **20 52 40.0 +0.2**
comp=Z,17nm,0.7s,baz=200,slow=7.9,SNR=30
SEY LR LR 21 15 10.0
comp=Z,3µm,21.9s,baz=215,slow=34
comp=Z,17nm,0.7s
SEY Seymchan 56.85 14 *i* P **P** **20 52 40.8 +1.0**
SEY pmax pmax
comp=Z,34nm,0.9s
BTLS Baital 57.02 318 *d* iP **P** **20 52 39.8 -1.5**
BTLS *eS* **S** **21 00 35.7 +1.5**
BTLS Baital 57.02 318 ǁ *i* P **P** **20 52 39.8 -1.5**
BTLS *eS* **S** **21 00 35.8 +1.5**
YSA Yasawairara 57.19 117 P **P** **20 52 45.6 +2.7**
BTK Batken 57.63 312 IAMs_20 IAMs_20 21 19 08.2
comp=Z,4µm,21.0s
KBL Kabul 57.66 305 P **P** **20 52 44.6 -1.7**
KBL IAmb IAmb 20 52 49.2
comp=Z,71nm,0.8s
KBL Kabul 57.66 305 P **P** **20 52 45.8 -0.6**
SNR=33
KBL P **P** **20 52 45.8 -0.6**
SNR=33
KBL S **S** **21 00 44.6 +1.1**
KBL S **S** **21 00 44.6 +1.1**
KBL Kabul 57.66 305 P **P** **20 52 44.6 -1.7**
KBL pmax pmax
comp=Z,71nm,0.8s
MSVF Nonsavu 58.01 118 *i* P **P** **20 52 47.4 -1.4**
MSVF pmax pmax
comp=Z,138nm,1.0s
DZA Taraz 58.11 315 *eP* **P** **20 52 48.2 -0.9**
DZA pmax pmax
comp=Z,26nm,0.9s
DZA Taraz 58.11 315 *eP* **P** **20 52 48.2 -0.9**
comp=Z,26nm,0.9s
SMY Shemya 58.14 32 P **P** **20 52 52.0 +3.0**
KK31 Karatay Array 58.74 315 IAmb IAmb 20 52 56.1
comp=Z,49nm,0.9s
KKAR Karatay Array 58.74 315 P **P** **20 52 51.7 -1.8**
KKAR Karatay Array 58.74 315 P **P** **20 52 51.7 -1.8**
IUG luzhnay 58.80 314 *d* iP **P** **20 52 52.9 -1.1**
IUG *eS* **S** **21 00 58.9 +1.0**
IUG pmax pmax
comp=Z,41nm,0.9s
IUG luzhnay 58.80 314 ǁ *i* P **P** **20 52 53.0 -1.1**
comp=Z,40nm,0.9s
IUG *eS* **S** **21 00 58.1 +0.2**
DGTI Dogotuki 58.95 115 P **P** **20 52 57.7 +2.4**
CHM Chimkent 59.15 314 *eP* **P** **20 52 55.2 -1.1**
CHM pmax pmax
comp=Z,14nm,0.8s
CHM Chimkent 59.15 314 *eP* **P** **20 52 55.2 -1.1**
comp=Z,14nm,0.8s
CHM LR LR 21 20 48.6
BRLS Borolday 59.20 315 *d* iP **P** **20 52 55.6 -1.1**
BRLS pmax pmax
comp=Z,29nm,1.0s
BRLS Borolday 59.20 315 ǁ *i* P **P** **20 52 55.6 -1.1**
comp=Z,29nm,1.0s
BRZS Berezniki 59.79 323 *eP* **P** **20 52 59.2 -1.4**
BRZS Berezniki 59.79 323 *eP* **P** **20 52 59.3 -1.4**
FUTU Fugatoga 60.19 112 P **P** **20 53 06.4 +2.6**
AMKA Amchitka 60.38 35 P **P** **20 53 01.6 -3.0**
LKBA Tubou, Lakemba 60.95 117 P **P** **20 53 11.9 +2.9**
BVAR Borovoye Array 62.32 326 P **P** **20 53 16.4 -1.3**
comp=Z,27nm,0.9s
BVAR LR LR 21 22 07.8
comp=Z,6µm,20.3s,baz=115,slow=38
comp=Z,27nm,0.9s
TIXI Tiksi 62.34 1 P **P** **20 53 15.5 -2.0**
TIXI Tiksi 62.34 1 LR LR 21 20 18.0
comp=Z,6µm,21.6s,baz=196,slow=36
TIXI Tiksi 62.34 1 *ce* P **P** **20 53 16.8 -0.7**
TIXI pmax pmax
comp=Z,222nm,1.3s
BRVK Borovoye 62.39 326 P **P** **20 53 16.1 -2.0**
BRVK IAmb IAmb 20 53 20.9
comp=Z,58nm,0.8s
BRVK Borovoye 62.39 326 P **P** **20 53 17.1 -1.0**
BRVK P **P** **20 53 17.1 -1.0**
BRVK Borovoye 62.39 326 *ce* P **P** **20 53 16.8 -1.4**
BRVK pmax pmax
comp=Z,108nm,1.3s
ADK Adak 62.88 36 P **P** **20 53 20.3 -1.1**
ADK IAmb IAmb 20 53 28.1
comp=Z,61nm,1.0s
ADK Adak 62.88 36 IAMs_20 IAMs_20 21 19 06.2
comp=Z,3µm,20.0s
ADK Adak 62.88 36 P **P** **20 53 23.4 +2.0**
ADK Adak 62.88 36 P **P** **20 53 20.3 -1.1**
ADK pmax pmax
comp=Z,61nm,1.0s
GSTR Great Sitkin T 63.31 36 P **P** **20 53 22.0 -2.4**
BILL Bilibino 64.43 16 P **P** **20 53 30.1 -1.3**
BILL IAmb IAmb 20 53 40.0
comp=Z,43nm,1.0s
BILL Bilibino 64.43 16 *ce* P **P** **20 53 31.4 0.0**
BILL pmax pmax
comp=Z,77nm,1.7s
ATKA Atka Island 64.43 36 P **P** **20 53 29.4 -2.2**
ATKA IAMs_20 IAMs_20 21 20 10.2
comp=Z,3µm,20.0s
ATKA Atka Island 64.43 36 P **P** **20 53 33.9 +2.3**
NRIK Noril'sk 64.90 346 IAmb IAmb 20 53 41.8
comp=Z,53nm,0.9s
NRIK Noril'sk 64.90 346 P **P** **20 53 32.8 -1.7**
comp=Z,29nm,0.9s,baz=141,slow=6.1,SNR=22
NRIK LR LR 21 24 50.5
comp=Z,5µm,18.8s,baz=140,slow=39
comp=Z,29nm,0.9s
NRIK Noril'sk 64.90 346 *i* P **P** **20 53 32.6 -1.8**
NRIK pmax pmax
comp=Z,85nm,1.4s
JLN Jalan Bani Buh 64.92 290 P **P** **20 53 38.4 +3.0**
KUZ Kuaotunu 65.36 138 P **P** **20 53 40.1 +2.2**
WSAR Wadi Sarin 65.64 291 LR LR 21 24 00.1
comp=Z,6.3nm,20.4s,baz=100,slow=38
WSAR Wadi Sarin 65.64 291 P **P** **20 53 41.4 +1.3**
MSZ Milford Sound 65.69 148 P **P** **20 53 42.0 +2.1**
JCZ Jackson Bay 65.73 148 P **P** **20 53 42.8 +2.5**
JCZ Jackson Bay 65.73 148 P **P** **20 53 42.2 +1.9**
QRZ Quartz Range 65.74 143 P **P** **20 53 41.1 +0.8**
QRZ Quartz Range 65.74 143 P **P** **20 53 42.5 +2.2**
TOZ Tahuroa Road 65.77 139 P **P** **20 53 41.2 +0.7**
TOZ IAMs_20 IAMs_20 21 24 30.5
comp=Z,3µm,18.0s
HIZ Hauiti 65.80 140 IAMs_20 IAMs_20 21 20 06.3
comp=Z,3µm,20.0s
HIZ Hauiti 65.80 140 P **P** **20 53 44.1 +3.4**
DSZ Denniston Nort 65.89 144 IAMs_20 IAMs_20 21 19 02.3
comp=Z,4µm,22.0s
AFI Afiamalu 65.91 110 IAMs_20 IAMs_20 21 18 15.0
comp=Z,3µm,21.0s
VRZ Vera Road 66.09 140 P **P** **20 53 45.3 +2.7**
BIDO Bidbid 66.10 292 P **P** **20 53 44.1 +1.0**
PYZ Puysegur Point 66.11 150 P **P** **20 53 42.7 +0.1**
PYZ IAMs_20 IAMs_20 21 23 06.8
comp=Z,3µm,21.0s
PYZ Puysegur Point 66.11 150 P **P** **20 53 45.0 +2.4**
SMDO Samad 66.17 291 P **P** **20 53 45.3 +1.6**
SMDO P **P** **20 53 45.3 +1.6**
RAO Raoul Island 66.22 128 LR LR 21 20 30.5
comp=Z,790nm,21.7s,baz=309,slow=34
MLZ Mavora Lakes 66.27 149 IAmb IAmb 20 54 03.6
comp=Z,67nm,1.2s
MHTO MHTO 66.27 289 P **P** **20 53 46.1 +1.9**
MHTO P **P** **20 53 46.1 +1.9**
INZ Inchbonnie 66.30 145 P **P** **20 53 44.1 +0.2**
JASK Jask - Hormozg 66.36 294 P **P** **20 53 47.1 +2.4**
WKZ Wanaka 66.37 148 IAMs_20 IAMs_20 21 24 45.0
comp=Z,3µm,19.0s
NNZ Nelson 66.49 143 IAMs_20 IAMs_20 21 24 30.2
comp=Z,3µm,19.0s
NNZ Nelson 66.49 143 P **P** **20 53 45.1 0.0**
TWVZ Taurewa 66.49 140 P **P** **20 53 48.4 +3.1**
THZ Tophouse 66.54 143 IAMs_20 IAMs_20 21 19 23.6
comp=Z,3µm,21.0s
WHZ Wether Hill Ro 66.55 149 IAmb IAmb 20 53 48.0
comp=Z,47nm,0.9s
PKVZ Pokaka 66.56 140 P **P** **20 53 48.5 +2.8**
WTVZ West Tongariro 66.61 140 P **P** **20 53 48.6 +2.5**
NGZ Ngauruhoe 66.65 140 P **P** **20 53 48.6 +2.2**
FWVZ Far West T-bar 66.67 140 P **P** **20 53 49.0 +2.4**
LBZ Lake Benmore 66.69 147 IAMs_20 IAMs_20 21 23 55.5
comp=Z,3µm,20.0s
LBZ Lake Benmore 66.69 147 P **P** **20 53 47.8 +1.5**
ETVZ East Tongariro 66.70 140 P **P** **20 53 50.1 +3.4**
DQM DQM 66.70 288 P **P** **20 53 49.9 +3.0**
DQM P **P** **20 53 49.9 +3.0**
RPZ Rata Peaks 66.72 146 IAMs_20 IAMs_20 21 21 35.4
comp=Z,3µm,21.0s
RPZ Rata Peaks 66.72 146 LR LR 21 24 41.3
comp=Z,1µm,18.3s,baz=296,slow=38
RPZ Rata Peaks 66.72 146 P **P** **20 53 47.7 +1.1**
LTZ Lake Taylor 66.81 145 IAMs_20 IAMs_20 21 21 00.7
comp=Z,3µm,22.0s
LTZ Lake Taylor 66.81 145 P **P** **20 53 48.8 +1.6**
HOQ Hoqain 66.85 292 P **P** **20 53 49.6 +1.7**
SNR=6.6
MOVZ Moawhango 66.88 140 P **P** **20 53 49.0 +1.2**
TUWZ Tuamarina 66.95 143 P **P** **20 53 48.2 +0.2**
BSY Bisya 66.96 291 P **P** **20 53 50.3 +1.7**
BSY P **P** **20 53 50.3 +1.7**
MRHZ Matea Rd 66.98 139 P **P** **20 53 49.5 +1.1**
OXZ Oxford 67.02 145 P **P** **20 53 47.9 -0.6**
OXZ IAMs_20 IAMs_20 21 27 41.3
comp=Z,2µm,19.0s
TCW Tory Channel 67.02 142 P **P** **20 53 47.9 -0.7**
BSWZ Blackbirch Sta 67.09 143 P **P** **20 53 48.2 -0.7**
URZ Urewera 67.11 138 P **P** **20 53 49.9 +0.7**
comp=Z,36nm,0.6s,baz=17,slow=5.6,SNR=21
URZ LR LR 21 25 38.5
comp=Z,4µm,18.1s,baz=305,slow=38
comp=Z,36nm,0.6s
URZ Urewera 67.11 138 P **P** **20 53 49.9 +0.7**
TMZ Timaru 67.13 147 P **P** **20 53 50.7 +1.5**
BKZ Black Stump Fm 67.22 139 P **P** **20 53 49.2 -0.7**
BKZ Black Stump Fm 67.22 139 P **P** **20 53 51.9 +2.0**
BKZ Black Stump Fm 67.22 139 P **P** **20 53 51.0 +1.1**
RTZ Ruatahuna 67.22 139 P **P** **20 53 49.5 -0.5**
RTZ IAMs_20 IAMs_20 21 25 40.2
comp=Z,2µm,19.0s
HAZ Te Kaha 67.28 138 P **P** **20 53 51.8 +1.6**
KHZ Kahutara 67.32 144 P **P** **20 53 50.6 +0.3**
SNZO South Karori 67.34 142 P **P** **20 53 50.0 -0.5**
SNZO South Karori 67.34 142 IAMs_20 IAMs_20 21 20 22.7
comp=Z,4µm,22.0s
GVZ Greta Valley S 67.36 144 IAMs_20 IAMs_20 21 20 10.4
comp=Z,3µm,22.0s
GVZ Greta Valley S 67.36 144 P **P** **20 53 52.2 +1.5**
ODZ Otahua Downs 67.37 147 P **P** **20 53 52.0 +1.4**
NMHZ Naumai 67.38 139 P **P** **20 53 52.7 +1.8**
KRHZ Kereru 67.41 140 P **P** **20 53 52.3 +1.3**
MWZ Matawai 67.43 138 P **P** **20 53 51.7 +0.5**
AB31 Akbulak array 67.44 320 IAmb IAmb 20 53 53.3
comp=Z,38nm,0.9s
ABKAR Akbulak array 67.44 320 P **P** **20 53 48.6 -2.5**
CAW Cannon Point 67.44 142 P **P** **20 53 51.5 +0.3**
MRZ Mangatainoka R 67.50 141 IAmb IAmb 20 54 00.2
comp=Z,69nm,1.1s
MRZ IAMs_20 IAMs_20 21 20 52.8
comp=Z,3µm,21.0s
MXZ Matakaoa Point 67.53 137 IAMs_20 IAMs_20 21 24 14.8
comp=Z,2µm,20.0s
MXZ Matakaoa Point 67.53 137 P **P** **20 53 54.9 +3.1**
SOHO SOHO 67.56 292 P **P** **20 53 54.2 +1.8**
SOHO SOHO 67.56 292 *i* P **P** **20 53 52.1 -0.2**
SNR=9.8
ARQ Araqi 67.58 291 P **P** **20 53 54.4 +1.9**
ARQ P **P** **20 53 54.4 +1.9**
SYZ Scrubby Hill 67.59 149 P **P** **20 53 54.5 +2.5**
MQZ McQueen's Vall 67.61 145 IAmb IAmb 20 54 02.0
comp=Z,84nm,1.2s
MQZ McQueen's Vall 67.61 145 P **P** **20 53 53.6 +1.4**
MDH Madha 67.77 294 P **P** **20 53 54.8 +1.1**
MDH Madha 67.77 294 P **P** **20 53 53.8 +0.1**
NIKH Nikolski High 67.77 36 IAMs_20 IAMs_20 21 18 03.9
comp=Z,3µm,22.0s
NIKH Nikolski High 67.77 36 P **P** **20 53 55.6 +2.5**
NIKH Nikolski High 67.77 36 P **P** **20 53 53.1 0.0**
baz=255
UOSS Minazif 67.86 293 P **P** **20 53 52.6 -1.6**
UOSS IAmb IAmb 20 54 04.5
comp=Z,24nm,0.8s
UOSS Minazif 67.86 293 P **P** **20 53 55.7 +1.5**
UOSS Minazif 67.86 293 P **P** **20 53 53.2 -1.0**
MSFE Esma-Masafi 67.90 294 P **P** **20 53 53.6 -0.9**
MASF Masafi 67.90 294 P **P** **20 53 56.8 +2.3**
SHME Shamm 67.91 294 P **P** **20 53 56.3 +1.8**
SHME P **P** **20 53 56.3 +1.8**
SHME Shamm 67.91 294 P **P** **20 53 53.8 -0.7**
BFZ Birch Farm 67.92 141 IAMs_20 IAMs_20 21 20 56.1
comp=Z,4µm,22.0s
BFZ Birch Farm 67.92 141 P **P** **20 53 56.9 +2.7**
BFZ Birch Farm 67.92 141 P **P** **20 53 55.3 +1.0**
HATD Hatta, Dubai 67.92 293 P **P** **20 53 56.1 +1.5**
HATD Hatta, Dubai 67.92 293 *i* P **P** **20 53 54.1 -0.6**
SNR=12
ASHO Ashiyiah 67.99 293 P **P** **20 53 57.4 +2.3**
ASHO P **P** **20 53 57.4 +2.3**
ASHO Ashiyiah 67.99 293 *i* P **P** **20 53 54.5 -0.6**
SNR=8.3
SPIA Saint Paul Isl 68.17 32 P **P** **20 53 58.5 +3.0**
SPIA Saint Paul Isl 68.17 32 P **P** **20 53 55.8 +0.3**

baz=252,SNR=14
ALNE Al Ain 68.28 292 P P 20 53 59.0 +2.1
SNR=11
ALNE P P **20 53 59.0 +2.1**
SNR=11
ALNE Al Ain 68.28 292 *i* P P **20 53 56.3 -0.6**
SNR=42
NAZ Nazwa, Dubai 68.35 293 P P 20 53 58.5 +1.2
NAZ P P **20 53 58.5 +1.2**
P08K Saint George I 68.36 32 P P 20 53 57.2 +0.5
baz=253,SNR=13
ASUD Al Ashush, Dub 68.65 293 P P 20 54 00.3 +1.1
SNR=5.8
ASUD Al Ashush, Dub 68.65 293 *i* P P **20 53 58.5 -0.7**
SNR=9.7
SVE Sverdlovsk 68.89 328 *ce* P P **20 53 58.4 -1.6**
SVE *e* S S **21 02 59.7 -2.8**
SVE *e* 21 04 03.5
SVE pmax pmax
comp=Z,106nm,1.0s
SVE MLR MLR
comp=Z,4µm,21.0s
AKTO Aktyubinsk 68.90 321 LR LR 21 25 08.8
comp=Z,8µm,21.0s,baz=105,slow=37
AJN Ajban 68.97 293 P P 20 54 03.1 +1.9
AJN P P **20 54 03.1 +1.9**
DMTO DMTO 69.25 285 P P 20 54 07.0 +3.9
DMTO P P **20 54 07.0 +3.9**
UNV Unalaska Valle 69.35 36 IAMs_20 IAMs_20 21 22 42.5
comp=Z,3µm,20.0s
UNV Unalaska Valle 69.35 36 P P 20 54 03.3 +0.3
baz=257
GAMB Gambell 69.68 25 P P 20 54 05.2 +0.4
baz=249
LVA Lava Point 69.69 36 IAMs_20 IAMs_20 21 19 26.5
comp=Z,3µm,21.0s
AKUT Akutan 69.83 36 P P 20 54 04.5 -1.4
AKUT Akutan 69.83 36 P P 20 54 08.9 +3.0
RBK Rabkut 69.97 285 P P 20 54 10.0 +2.4
RBK P P **20 54 10.0 +2.4**
DOK Doka 69.98 286 P P 20 54 09.6 +2.1
DOK P P **20 54 09.6 +2.1**
ARTI Arti 69.98 327 P P 20 54 03.7 -3.1
ARTI IAmb IAmb 20 54 08.2
comp=Z,51nm,0.7s
ARTI Arti 69.98 327 LR LR 21 26 59.9
comp=Z,4µm,19.7s,baz=110,slow=38
ARTI Arti 69.98 327 *c i* P P **20 54 04.7 -2.1**
ARTI 20 54 25.7
ARTI S S **21 03 14.5 -0.9**
ARTI 21 03 58.8
ARTI SS SS **21 07 42.1 -2.6**
ARTI pmax pmax
comp=Z,47nm,0.8s
ARTI MLR MLR
comp=Z,4µm,20.0s
WHFO Wadi Hawf 70.36 286 P P 20 54 13.3 +3.4
WHFO P P **20 54 13.3 +3.4**
MZR Muzera 70.38 291 P P 20 54 11.3 +1.4
SNR=14
MZR P P **20 54 11.3 +1.4**
SNR=14
MZR Muzera 70.38 291 *i* P P **20 54 09.8 -0.1**
SNR=48
ABTO Aybut 70.85 285 P P 20 54 15.4 +2.5
ABTO P P **20 54 15.4 +2.5**
JRN Qarnain Island 70.90 293 P P 20 54 14.7 +1.7
JRN P P **20 54 14.7 +1.7**
GHWR Ruwais 70.91 292 P P 20 54 15.0 +1.9
GHWR P P **20 54 15.0 +1.9**
M11K Mekoryuk 71.09 29 P P 20 54 12.1 -1.3
M11K IAmb IAmb 20 54 20.6
comp=Z,102nm,1.2s
M11K Mekoryuk 71.09 29 P P 20 54 13.4 -0.1
baz=255
MSEY Mahe Island 71.61 262 P P 20 54 15.3 -2.2
MSEY IAmb IAmb 20 54 22.8
comp=Z,105nm,1.3s
MSEY Mahe Island 71.61 262 P P 20 54 15.4 -2.2
MSEY pmax pmax
comp=Z,105nm,1.3s
MSEY MLR MLR
comp=Z,2µm,20.0s
TNA Tin City 71.82 24 IAMs_20 IAMs_20 21 25 32.4
comp=Z,2µm,20.0s
TNA Tin City 71.82 24 P P 20 54 17.8 0.0
baz=252
K13K Kusilvak Mount 72.20 28 IAmb IAmb 20 54 25.4
comp=Z,51nm,1.0s
K13K Kusilvak Mount 72.20 28 P P 20 54 20.3 +0.2
baz=256,SNR=18
S12K Black Hills 72.24 34 IAMs_20 IAMs_20 21 20 04.9
comp=Z,3µm,22.0s
S12K Black Hills 72.24 34 P P 20 54 19.9 -0.6
baz=260
TRNA Turayma 72.39 293 P P 20 54 23.8 +1.8
SNR=6.6
F14K Arctic Creek 72.43 24 P P 20 54 21.3 -0.1
baz=253,SNR=11
M13K Dall Lake 72.47 29 P P 20 54 22.2 +0.5
M13K IAmb IAmb 20 54 27.2
comp=Z,70nm,1.0s
M13K Dall Lake 72.47 29 P P 20 54 21.5 -0.2
baz=258
ANM Nome 72.56 25 P P 20 54 20.9 -1.4
ANM Nome 72.56 25 P P 20 54 20.9 -1.4
ANM pmax pmax
comp=Z,21nm,0.9s
ANM MLR MLR
comp=Z,2µm,21.0s
ANM Nome 72.56 25 P P 20 54 21.7 -0.5
baz=254
SHMA Al-Shehemyia 72.58 294 P P 20 54 24.8 +1.7
SMRA Abu-Samra 72.75 293 P P 20 54 25.7 +1.6
J14K Nanvaranak Lak 72.90 27 P P 20 54 24.1 -0.2
baz=257
SAKB Bahrain 72.96 294 P P 20 54 26.7 +1.4
L14K Kuka Creek 72.99 29 P P 20 54 25.0 +0.2
baz=258
SDPT Sand Point 73.07 35 IAMs_20 IAMs_20 21 21 20.9
comp=Z,2µm,22.0s
SDPT Sand Point 73.07 35 P P 20 54 28.4 +3.0
SDPT Sand Point 73.07 35 P P 20 54 25.0 -0.5
baz=262
F15K North Star Dit 73.16 24 P P 20 54 25.9 +0.1
baz=255
N14K Kuskokwak Cree 73.19 30 IAmb IAmb 20 54 34.5
comp=Z,60nm,0.7s
N14K Kuskokwak Cree 73.19 30 P P 20 54 25.8 -0.2
baz=259,SNR=16
M14K Bethel 73.21 29 P P 20 54 26.2 0.0
baz=259,SNR=26
G15K Niukluk 73.23 25 P P 20 54 26.2 0.0
baz=256
O14K Tigyukauivet M 73.28 31 P P 20 54 26.1 -0.5
O14K IAmb IAmb 20 54 32.2
comp=Z,53nm,0.9s
O14K Tigyukauivet M 73.28 31 P P 20 54 26.6 +0.1
baz=260,SNR=15
CHNA Chernabura Isl 73.51 36 P P 20 54 29.6 +1.6
CHNA Chernabura Isl 73.51 36 P P 20 54 27.6 -0.4
baz=263
C16K Lisburne Hills 73.60 21 IAmb IAmb 20 54 33.0
comp=Z,42nm,0.9s
C16K Lisburne Hills 73.60 21 P P 20 54 28.3 -0.1
baz=253
L15K Ungalak Mounta 73.62 28 P P 20 54 28.4 -0.1
baz=259,SNR=20
KIP Kipapa 73.71 70 P P 20 54 33.1 +3.3
KIP Kipapa 73.71 70 P P 20 54 33.2 +3.4
KIP Kipapa 73.71 70 *i* P P **20 54 29.7 -0.1**
KIP pmax pmax
comp=Z,240nm,1.1s
K15K Wolf Creek Mou 73.72 28 P P 20 54 29.1 0.0
baz=259,SNR=17
S14K Fog Glacier 73.72 34 P P 20 54 29.0 -0.4
baz=262
M15K Kasigluk Mine 73.82 29 P P 20 54 29.6 -0.1
baz=260,SNR=35
H16K Elim 73.89 25 P P 20 54 30.2 +0.1
baz=257
O15K Ungalikthiuk R 74.00 31 IAmb IAmb 20 54 40.9
comp=Z,78nm,1.2s
O15K Ungalikthiuk R 74.00 31 P P 20 54 31.0 +0.1
baz=261,SNR=25
G16K Koyuk River 74.01 24 IAMs_20 IAMs_20 21 26 53.5
comp=Z,2µm,20.0s
G16K Koyuk River 74.01 24 P P 20 54 31.0 +0.2
baz=257
N15K Kwethluk River 74.02 30 IAmb IAmb 20 54 38.1
comp=Z,59nm,0.8s
N15K Kwethluk River 74.02 30 P P 20 54 31.1 +0.1
baz=261,SNR=35
CTZ Chatham Island 74.03 141 IAMs_20 IAMs_20 21 25 52.8
comp=Z,2µm,21.0s
D17K Noatak River 74.27 22 P P 20 54 32.5 +0.2
baz=256,SNR=18
LKRN Lenkeran, Azer 74.29 308 P P 20 54 35.1 +2.2
J16K Anvik River 74.33 27 P P 20 54 32.6 -0.1
baz=259,SNR=10
CHGN Chignik 74.35 34 IAmb IAmb 20 54 37.9
comp=Z,84nm,1.0s
CHGN IAMs_20 IAMs_20 21 23 32.7
comp=Z,3µm,22.0s
CHGN Chignik 74.35 34 P P 20 54 32.7 -0.2
baz=263,SNR=13
I17K Unalakleet 74.40 26 IAmb IAmb 20 54 38.3
comp=Z,47nm,1.1s
I17K Unalakleet 74.40 26 P P 20 54 33.1 +0.1
baz=259
RDOG Red Dog Mine 74.42 22 P P 20 54 33.1 0.0
RDOG Red Dog Mine 74.42 22 P P 20 54 33.5 +0.3
baz=256
C17K DeLong Mountai 74.43 21 P P 20 54 33.5 +0.3
baz=255,SNR=13
L16K Owhat River 74.57 28 IAmb IAmb 20 54 39.0
comp=Z,77nm,1.2s
L16K Owhat River 74.57 28 P P 20 54 33.8 -0.2
baz=261,SNR=38
E17K Hotham Inlet 74.60 23 P P 20 54 34.4 +0.2
baz=257,SNR=12
F17K Baldwin Pennin 74.68 23 P P 20 54 34.2 -0.5
F17K Baldwin Pennin 74.68 23 P P 20 54 35.2 +0.6
baz=258
M16K Timber Creek 74.70 29 IAmb IAmb 20 54 45.9
comp=Z,75nm,1.1s
M16K IAMs_20 IAMs_20 21 20 07.9
comp=Z,2µm,22.0s
M16K Timber Creek 74.70 29 P P 20 54 35.2 +0.3
baz=261,SNR=46
N16K Nishlik Lake 74.72 30 P P 20 54 35.4 +0.3
baz=262,SNR=38
G17K Kiwalik Mounta 74.73 24 P P 20 54 35.6 +0.6
baz=259,SNR=24
P16K Nushagak River 74.91 31 P P 20 54 36.2 0.0
baz=263
H17K Granite Mounta 74.93 25 P P 20 54 36.3 +0.1
baz=259,SNR=26
O16K Kokwok River B 74.93 31 IAmb IAmb 20 54 41.6
comp=Z,82nm,1.0s
O16K Kokwok River B 74.93 31 P P 20 54 36.8 +0.6
baz=262,SNR=55
J17K VABM Dome 75.02 27 P P 20 54 37.3 +0.6
baz=261,SNR=21
AKT Akhty 75.12 310 *e* P P **20 54 37.9 0.0**
AKT *e* 20 54 47.3
AKT *e* 20 57 22.5
AKT *e* PPP PPP 20 59 05.7
AKT *e* S S **21 04 21.1 +6.1**
AKT pmax pmax
comp=Z,45nm,1.1s
B18K Kokolik River 75.13 20 P P 20 54 37.7 +0.5
baz=256,SNR=5.8
KIRV Kirov 75.14 328 LR LR 21 30 40.7
comp=Z,6µm,19.8s,baz=100,slow=38
KIRV Kirov 75.14 328 *i* P P **20 54 34.9 -2.5**
E18K Tukpahlearik C 75.14 23 IAmb IAmb 20 54 42.4
comp=Z,48nm,1.0s
E18K Tukpahlearik C 75.14 23 P P 20 54 37.8 +0.5
baz=258,SNR=33
C18K Utukok River 75.18 21 P P 20 54 37.8 +0.1
baz=257,SNR=14
L17K Donlin 75.18 28 P P 20 54 38.3 +0.6
baz=262,SNR=38
K17K Iditarod 75.27 28 IAmb IAmb 20 54 43.6
comp=Z,74nm,1.1s
K17K Iditarod 75.27 28 P P 20 54 38.8 +0.7
baz=262,SNR=42
MAK Makhachkala 75.31 312 *d i* P P 20 54 32.4 -6.4
MAK *e* 20 57 21.4
MAK *e* S S **21 04 09.3 -7.4**
MAK *e* SS SS **21 09 03.0 -3.8**
MAK *e* SSS SSS 21 12 24.6
MAK pmax pmax
comp=Z,202nm,1.3s
MAK MLR MLR
comp=Z,5µm,21.0s
F18K Selawik 75.34 23 P P 20 54 39.2 +0.8
baz=259,SNR=29
KBD Kabd 75.35 298 P P 20 54 40.4 +1.1
O17K Koliganek Bris 75.46 31 P P 20 54 39.7 +0.5
baz=263
M17K Holitna River 75.49 29 IAmb IAmb 20 54 48.6
comp=Z,42nm,0.8s
M17K Holitna River 75.49 29 P P 20 54 40.0 +0.6
baz=263,SNR=23
N17K Nushagak Hills 75.50 30 IAmb IAmb 20 54 46.6
comp=Z,72nm,1.1s
N17K Nushagak Hills 75.50 30 P P 20 54 40.2 +0.7
baz=263,SNR=46
SEKA Sheki 75.52 310 P P 20 54 42.2 +2.1
Q16K King Salmon 75.56 32 P P 20 54 40.6 +0.7
baz=264
A19K Wainwright 75.57 20 P P 20 54 40.4 +0.7
baz=257
BELG Belogornoye 75.60 322 LR LR 21 31 16.7
comp=Z,2µm,21.0s,baz=91,slow=38
BELG Belogornoye 75.60 322 *i* P P **20 54 36.6 -3.6**
BELG pmax pmax
comp=Z,24nm,1.0s
MNGR Mingechevir, A 75.61 310 P P 20 54 42.6 +2.1
R17L Mt. Peulik Vol 75.61 33 P P 20 54 40.2 -0.1
baz=264,SNR=18
H18K Honhosa River 75.61 25 IAmb IAmb 20 54 50.7
comp=Z,63nm,1.6s
H18K IAMs_20 IAMs_20 21 27 36.8
comp=Z,2µm,21.0s
H18K Honhosa River 75.61 25 P P 20 54 40.4 +0.3
baz=261,SNR=12
PLK4 Peulik 4 75.61 33 IAmb IAmb 20 54 46.1
comp=Z,85nm,1.1s
PLK4 IAMs_20 IAMs_20 21 26 29.0
comp=Z,2µm,20.0s
G18K Tagagawik 75.61 24 P P 20 54 40.5 +0.5
baz=260,SNR=14
P17K Kvichak River 75.72 31 P P 20 54 41.0 +0.2
baz=264,SNR=13
KHLU Kahalu`u 75.83 72 P P 20 54 41.1 -1.2
C19K Lookout Ridge 75.85 21 IAmb IAmb 20 54 51.7
comp=Z,55nm,0.8s
C19K IAMs_20 IAMs_20 21 28 36.9
comp=Z,3µm,20.0s
C19K Lookout Ridge 75.85 21 P P 20 54 42.0 +0.6
baz=259,SNR=35
CHIR Chirikof Islan 75.86 35 IAmb IAmb 20 54 48.7
comp=Z,85nm,0.9s
CHIR IAMs_20 IAMs_20 21 23 11.7
comp=Z,3µm,21.0s
CHIR Chirikof Islan 75.86 35 P P 20 54 44.0 +2.3
CHIR Chirikof Islan 75.86 35 P P 20 54 42.2 +0.5
baz=266,SNR=11
Q17K Contact Creek 75.92 32 P P 20 54 41.2 -0.9
baz=265,SNR=59
L18K Granite Mounta 75.94 28 IAMs_20 IAMs_20 21 28 09.6
comp=Z,2µm,20.0s
L18K Granite Mounta 75.94 28 P P 20 54 42.2 +0.2
baz=263,SNR=31
J18K Innoko River 76.08 27 P P 20 54 42.9 +0.1
baz=263,SNR=11
F19K Shaleruckik Mo 76.12 23 P P 20 54 43.2 +0.3
baz=261,SNR=13
KHU Kahuku 76.12 72 P P 20 54 41.2 -2.9
KHU Kahuku 76.12 72 P P 20 54 41.3 -2.9
KHU pmax pmax
comp=Z,401nm,1.2s
POHA Pohakuloa 76.15 72 P P 20 54 47.1 +2.8
N18K Kilae Creek 76.15 30 P P 20 54 43.6 +0.4
baz=264,SNR=26
GCSA Galena City Sc 76.18 26 P P 20 54 43.5 +0.3
baz=262,SNR=9.0
GANJ Ganja 76.19 310 P P 20 54 45.8 +1.9
CASY Casey 76.20 186 P P 20 54 43.3 0.0
CASY IAmb IAmb 20 54 56.0
comp=Z,42nm,0.8s
ACHA Angle Creek He 76.21 32 IAmb IAmb 20 54 49.4
comp=Z,55nm,1.2s
D19K Kuna River 76.26 22 IAmb IAmb 20 54 52.9
comp=Z,58nm,0.9s
D19K Kuna River 76.26 22 P P 20 54 44.4 +0.6
baz=260,SNR=31
M18K Stony River 76.27 29 P P 20 54 44.6 +0.8
baz=264,SNR=35
G19K Purcell Mounta 76.29 24 P P 20 54 44.5 +0.5
baz=262,SNR=26
P18K Big Mountain, 76.36 31 P P 20 54 42.0 -2.5
P18K Big Mountain, 76.36 31 P P 20 54 44.7 +0.2
baz=265
UWE Uwekahuna 76.41 72 IAMs_20 IAMs_20 21 21 07.0
comp=Z,2µm,20.0s
O18K Koktuh Hills 76.41 31 P P 20 54 45.3 +0.5
baz=265,SNR=48
Q18K Katmai Hardscr 76.42 32 P P 20 54 44.3 -0.6
baz=265,SNR=14
RSD Rainshed 76.42 72 P P 20 54 42.0 -3.7
E19K Redstone River 76.42 23 IAmb IAmb 20 54 51.6
comp=Z,82nm,0.9s
E19K Redstone River 76.42 23 P P 20 54 44.8 +0.1
baz=261,SNR=90
XMAS Kiritimati 76.42 90 P P 20 54 48.6 +2.9
H19K Roundabout Mou 76.46 25 IAmb IAmb 20 54 58.5
comp=Z,42nm,0.7s
H19K Roundabout Mou 76.46 25 P P 20 54 44.9 0.0
baz=262,SNR=36
J19K Poorman 76.63 26 P P 20 54 46.6 +0.7
baz=264,SNR=14
R18K Karluk 76.63 33 P P 20 54 45.8 -0.2
baz=266
JOKA Jonika Flow 76.67 72 P P 20 54 44.5 -2.5
JOKA IAMs_20 IAMs_20 21 21 05.1
comp=Z,3µm,19.0s
SII Sitkinak Islan 76.71 34 IAmb IAmb 20 54 53.0
comp=Z,121nm,1.3s
SII IAMs_20 IAMs_20 21 30 44.2
comp=Z,2µm,20.0s
SII Sitkinak Islan 76.71 34 P P 20 54 49.4 +2.9
SII Sitkinak Islan 76.71 34 P P 20 54 47.0 +0.5
baz=267
L19K White Mountain 76.79 28 IAmb IAmb 20 54 52.0
comp=Z,48nm,1.1s
L19K White Mountain 76.79 28 P P 20 54 47.6 +0.7
baz=265,SNR=29
D20K Etivluk River 76.84 21 IAmb IAmb 20 54 58.5
comp=Z,85nm,0.9s
D20K Etivluk River 76.84 21 P P 20 54 47.6 +0.6
baz=262,SNR=48
NAX Nakhchivan 76.84 308 P P 20 54 49.7 +2.0
B20K Meade River 76.85 20 IAmb IAmb 20 54 58.0
comp=Z,62nm,0.8s
B20K IAMs_20 IAMs_20 21 32 23.2
comp=Z,2µm,19.0s
B20K Meade River 76.85 20 P P 20 54 47.7 +0.8
baz=261,SNR=10
N19K Bonanza Creek 76.85 30 IAmb IAmb 20 55 02.5
comp=Z,92nm,1.4s
N19K Bonanza Creek 76.85 30 P P 20 54 47.9 +0.6
baz=265,SNR=31
O19K Port Alsworth 76.89 30 IAmb IAmb 20 54 52.5
comp=Z,39nm,0.8s
O19K Port Alsworth 76.89 30 P P 20 54 47.7 +0.4
baz=266
E20K Nigu River 76.93 22 P P 20 54 48.1 +0.5
baz=262,SNR=50
F20K Avaraart Lake 76.95 23 P P 20 54 48.4 +0.8
baz=263,SNR=38
M19K Big River Lodg 76.99 29 IAMs_20 IAMs_20 21 21 39.7
comp=Z,2µm,21.0s
M19K Big River Lodg 76.99 29 P P 20 54 48.1 +0.1
baz=265
H20K Anotleneega Mo 77.11 25 P P 20 54 48.9 +0.3
baz=264,SNR=46
Q19K Cape Douglas, 77.14 32 IAMs_20 IAMs_20 21 28 19.5
comp=Z,3µm,21.0s
Q19K Cape Douglas, 77.14 32 P P 20 54 48.8 -0.1
baz=267
I20K Naaghedeneel 77.21 26 IAmb IAmb 20 55 00.9
comp=Z,84nm,1.1s
I20K Naaghedeneel 77.21 26 P P 20 54 49.9 +0.8
baz=264,SNR=11
A21K Barrow 77.23 19 P P 20 54 49.8 +0.7
baz=261
OHAK Old Harbor 77.24 33 IAmb IAmb 20 54 54.5
comp=Z,48nm,0.9s
OHAK IAMs_20 IAMs_20 21 26 49.1
comp=Z,2µm,21.0s
OHAK Old Harbor 77.24 33 P P 20 54 51.9 +2.5
OHAK Old Harbor 77.24 33 P P 20 54 49.4 0.0
baz=267,SNR=33
K20K Telida 77.25 27 P P 20 54 49.6 +0.1
baz=265
L20K Farewell, AK 77.27 28 P P 20 54 49.8 +0.2
baz=266,SNR=7.0
J20K Nowinta River 77.29 26 IAmb IAmb 20 55 01.4
comp=Z,44nm,1.1s
J20K Nowinta River 77.29 26 P P 20 54 49.8 +0.2
baz=265,SNR=21
P19K Oil Pt 77.40 31 P P 20 54 50.6 +0.3
baz=267
GNI Garni 77.40 309 P P 20 54 50.2 -0.7
GNI Garni 77.40 309 P P 20 54 50.5 -0.4
GNI P P **20 54 50.5 -0.4**
GNI Garni 77.40 309 *ce* P P **20 54 52.9 +2.0**
GNI pmax pmax
comp=Z,49nm,1.3s
C21K Knifeblade Rid 77.55 21 P P 20 54 51.6 +0.6
baz=263,SNR=14
M20K Styx River 77.58 29 IAmb IAmb 20 55 07.8
comp=Z,113nm,1.7s
M20K Styx River 77.58 29 P P 20 54 51.8 +0.4
baz=266,SNR=28
IMAR Indian Mountai 77.62 24 P P 20 54 50.9 -0.5
KDAK Kodiak Island 77.64 33 P P 20 54 50.3 -1.4
KDAK IAmb IAmb 20 54 59.7
comp=Z,50nm,0.7s
KDAK Kodiak Island 77.64 33 IAMs_20 IAMs_20 21 24 08.8
comp=Z,3µm,22.0s
KDAK Kodiak Island 77.64 33 LR LR 21 24 42.3
comp=Z,2µm,21.2s,baz=252,slow=32
KDAK Kodiak Island 77.64 33 *i* P P **20 54 51.9 +0.2**
KDAK pmax pmax
comp=Z,62nm,0.7s
KDAK Kodiak Island 77.64 33 P P 20 54 51.9 +0.2
baz=268
RED Redoubt Volcan 77.67 30 IAmb IAmb 20 54 55.5
comp=Z,49nm,1.2s
B21K Ikpikpuk River 77.67 21 P P 20 54 52.0 +0.4
baz=263,SNR=15
RAYN Ar Rayn 77.68 292 P P 20 54 51.4 -1.2
RAYN IAmb IAmb 20 54 55.5
comp=Z,51nm,0.8s
RAYN Ar Rayn 77.68 292 IAMs_20 IAMs_20 21 36 05.7
comp=Z,3µm,20.0s
RAYN Ar Rayn 77.68 292 P P 20 54 52.5 -0.1
RAYN Ar Rayn 77.68 292 P P 20 54 51.4 -1.2
RAYN pmax pmax
comp=Z,51nm,0.8s
RAYN MLR MLR
comp=Z,3µm,20.0s
RAYN Ar Rayn 77.68 292 *i* P P **20 54 52.1 -0.5**
SNR=6.2
A22K Sinclair Lake 77.72 19 P P 20 54 52.2 +0.4
baz=263
O20K Slope Mountain 77.72 30 P P 20 54 52.4 +0.2
baz=267
G21K Allakaket 77.77 24 IAmb IAmb 20 55 04.7
comp=Z,52nm,1.0s
G21K Allakaket 77.77 24 P P 20 54 52.7 +0.4
baz=265,SNR=68
E21K Killik River 77.77 22 IAmb IAmb 20 55 04.3
comp=Z,60nm,0.9s
E21K Killik River 77.77 22 P P 20 54 52.6 +0.4
baz=264,SNR=54
Q20K Shuyak Island 77.78 32 P P 20 54 52.2 -0.2
baz=268
SYI Shuyak Island 77.78 32 IAmb IAmb 20 54 56.4
comp=Z,47nm,0.9s
SYI IAMs_20 IAMs_20 21 26 02.3
comp=Z,2µm,21.0s
F21K Alatna River 77.84 23 P P 20 54 53.1 +0.5
baz=265,SNR=21
H21K Melozitna Rive 77.98 25 P P 20 54 54.0 +0.5
baz=266,SNR=36

SPCR	Spurr Chakacha	77.98	29	P		P		20 54 54.2	+0.6	
	baz=267									
OZAP	Van, Ozalp-Mer	78.03	308	⇑P		P		20 54 54.5	-0.1	
CHUM	Lake Minchumin	78.07	27	P		P		20 54 54.8	+0.8	
	baz=267,SNR=6.7									
PPLA	Purkeypile	78.08	28	P		P		20 54 54.6	+0.4	
	baz=267									
CAST	Castle Rocks	78.15	27	IAmb		IAmb		20 55 05.2		
	comp=Z,36nm,0.8s									
CAST	Castle Rocks	78.15	27	P		P		20 54 54.7	+0.2	
	baz=267,SNR=45									
B22K	Teshekpuk Lake	78.16	20	P		P		20 54 54.3	0.0	
	baz=264									
NCK	Nalchik	78.17	313	*i* P		P		20 54 55.5	+0.5	
NCK				pmax		pmax				
	comp=Z,31nm,0.7s									
HOM	Homer	78.20	31	P		P		20 54 54.8	+0.1	
	baz=268									
D22K	Ayikyak River	78.28	21	P		P		20 54 54.9	-0.2	
	baz=265,SNR=14									
I21K	Tanana	78.29	25	IAmb		IAmb		20 55 13.2		
	comp=Z,42nm,0.9s									
I21K				IAMs_20		IAMs_20		21 29 18.7		
	comp=Z,2µm,20.0s									
I21K	Tanana	78.29	25	P		P		20 54 55.1	-0.1	
	baz=267,SNR=24									
SKT	Skwentna	78.34	29	P		P		20 54 55.1	-0.4	
	baz=268,SNR=23									
F22K	John River	78.36	23	P		P		20 54 56.0	+0.4	
	baz=266,SNR=9.7									
CNPM	China Poot	78.41	31	IAmb		IAmb		20 55 02.6		
	comp=Z,29nm,0.6s									
CAPN	Captain Cook N	78.48	30	P		P		20 54 56.7	+0.5	
	baz=268									
GOF	Gofitskoye	78.52	314	*ce* P		P		20 54 56.1	-0.7	
E22K	Anaktuvuk Pass	78.54	22	IAmb		IAmb		20 55 08.6		
	comp=Z,32nm,0.8s									
E22K	Anaktuvuk Pass	78.54	22	P		P		20 54 57.2	+0.6	
	baz=266,SNR=35									
H22K	Ishtalitna Cre	78.58	25	P		P		20 54 57.5	+0.7	
	baz=267,SNR=46									
G22K	Bettles	78.59	24	P		P		20 54 56.5	-0.2	
	baz=267,SNR=20									
BRLK	Bradley Lake	78.59	31	IAmb		IAmb		20 55 06.9		
	comp=Z,47nm,0.7s									
KARS	Kars	78.66	310	IAmb		IAmb		20 55 12.4		
	comp=Z,70nm,1.0s									
KBZ	Khabaz	78.67	313	P		P		20 54 56.4	-1.2	
	comp=Z,16nm,0.9s,baz=105,slow=3.7,SNR=18									
KBZ				LR		LR		21 35 05.3		
	comp=Z,5µm,18.3s,baz=80,slow=40									
	comp=Z,16nm,0.9s									
KBZ	Khabaz	78.67	313	*i* P		P		20 54 56.0	-1.6	
KBZ				pmax		pmax				
	comp=Z,27nm,1.0s									
BPAW	Bear Paw Mtn.	78.67	26	IAmb		IAmb		20 55 08.4		
	comp=Z,64nm,0.8s									
BPAW	Bear Paw Mtn.	78.67	26	P		P		20 54 57.2	-0.1	
	baz=268,SNR=55									
SUA	Susitna One	78.70	29	IAmb		IAmb		20 55 08.6		
	comp=Z,54nm,0.9s									
SUA	Susitna One	78.70	29	P		P		20 54 57.3	-0.3	
	baz=268									
GEVA	Gevas	78.78	307	IAmb		IAmb		20 55 13.5		
	comp=Z,71nm,1.1s									
MLY	Manley	78.81	25	IAmb		IAmb		20 55 09.2		
	comp=Z,31nm,0.7s									
MLY				IAMs_20		IAMs_20		21 31 22.3		
	comp=Z,2µm,20.0s									
MLY	Manley	78.81	25	P		P		20 54 58.4	+0.3	
	baz=268,SNR=31									
KIV	Kislovodsk	78.81	313	P		P		20 54 56.2	-2.4	
KIV				IAmb		IAmb		20 55 04.4		
	comp=Z,52nm,0.6s									
KIV	Kislovodsk	78.81	313	P		P		20 54 58.7	+0.1	
KIV				P		P		20 54 58.7	+0.1	
KIV	Kislovodsk	78.81	313	*eP*		P		20 54 57.9	-0.7	
KIV				*eS*		S		21 04 55.8	+0.8	
KIV				pmax		pmax				
	comp=Z,44nm,1.0s									
KIV				pmax		pmax				
	comp=Z,16nm,3.5s									
KIV	Kislovodsk	78.81	313	*i* P		P		20 54 58.5	-0.1	
	SNR=9.2									
KIV	Kislovodsk	78.81	313	P		P		20 54 58.3	-0.3	
	comp=Z,531nmcomp=Z,45nm,0.9s									
SHA1	Shidzhatmaz	78.84	313	*i* P		P		20 54 59.1	+0.2	
RAR	Rarotonga	78.90	114	LR		LR		21 24 31.2		
	comp=Z,718nm,19.5s,baz=285,slow=32									
SLKM	Skilak Lake	78.94	30	IAmb		IAmb		20 55 17.0		
	comp=Z,105nm,1.3s									
CUT	Chulitna	78.94	28	P		P		20 54 59.2	+0.4	
	baz=269									
TRF	Thorofare Moun	78.96	27	IAmb		IAmb		20 55 10.4		
	comp=Z,48nm,1.0s									
TRF	Thorofare Moun	78.96	27	P		P		20 54 59.1	0.0	
	baz=269,SNR=40									
D23K	Nanushuk River	79.01	21	IAmb		IAmb		20 55 10.5		
	comp=Z,49nm,0.9s									
D23K	Nanushuk River	79.01	21	P		P		20 54 59.8	+0.7	
	baz=267,SNR=29									
C23K	Itkillik River	79.08	21	IAmb		IAmb		20 55 10.2		
	comp=Z,65nm,0.8s									
C23K	Itkillik River	79.08	21	P		P		20 54 59.5	+0.2	
	baz=267,SNR=38									
COLD	Coldfoot	79.11	23	IAmb		IAmb		20 55 12.2		
	comp=Z,47nm,1.0s									
COLD	Coldfoot	79.11	23	P		P		20 54 59.7	+0.1	
	baz=268,SNR=44									
G23K	Bananza Creek	79.16	24	IAmb		IAmb		20 55 12.7		
	comp=Z,46nm,1.1s									
G23K	Bananza Creek	79.16	24	P		P		20 55 00.2	+0.2	
	baz=268,SNR=40									
RC01	Rabbit Creek A	79.18	29	IAmb		IAmb		20 55 16.9		
	comp=Z,30nm,0.7s									
RC01	Rabbit Creek A	79.18	29	P		P		20 54 59.6	-0.5	
	baz=270									
O22K	Cooper Landing	79.18	30	P		P		20 55 00.3	+0.2	
	baz=270									
VRH	Novokhopyorsk	79.25	320	*eP*		P		20 54 58.9	-1.7	
VRH				pmax		pmax				
	comp=Z,51nm,1.0s									
SEW	Seward	79.31	30	IAmb		IAmb		20 55 17.3		
	comp=Z,63nm,0.9s									
SEW	Seward	79.31	30	P		P		20 55 01.0	+0.2	
	baz=270,SNR=5.7									
H23K	Yukon River	79.33	25	IAmb		IAmb		20 55 12.1		
	comp=Z,47nm,0.9s									
H23K	Yukon River	79.33	25	P		P		20 55 01.4	+0.5	
	baz=269,SNR=44									
BWN	Browne	79.34	26	IAmb		IAmb		20 55 34.5		
	comp=Z,97nm,0.8s									
E23K	Chandalar	79.36	22	IAmb		IAmb		20 55 13.4		
	comp=Z,49nm,0.8s									
E23K	Chandalar	79.36	22	P		P		20 55 01.4	+0.3	
	baz=268,SNR=57									
TOLK	Toolik Lake Re	79.40	22	IAMs_20		IAMs_20		21 33 34.7		
	comp=Z,2µm,20.0s									
TOLK	Toolik Lake Re	79.40	22	IAmb		IAmb		20 55 13.6		
	comp=Z,32nm,0.7s									
TOLK	Toolik Lake Re	79.40	22	P		P		20 55 01.7	+0.4	
	baz=268,SNR=27									
I23K	Minto, Yukon-K	79.40	25	IAMs_20		IAMs_20		21 30 12.9		
	comp=Z,2µm,20.0s									
I23K	Minto, Yukon-K	79.40	25	P		P		20 55 01.5	+0.3	
	baz=269,SNR=25									
PMR	Palmer	79.47	29	IAmb		IAmb		20 55 15.9		
	comp=Z,34nm,0.8s									
PMR	Palmer	79.47	29	P		P		20 55 03.9	+2.2	
PMR	Palmer	79.47	29	P		P		20 55 01.9	+0.2	
	baz=270,SNR=9.3									
NEA2	Nenana	79.52	26	P		P		20 55 02.2	+0.3	
	baz=269,SNR=37									
MCK	McKinley	79.57	27	IAmb		IAmb		20 55 18.5		
	comp=Z,86nm,1.0s									
MCK	McKinley	79.57	27	P		P		20 55 01.8	-0.4	
	baz=270,SNR=34									
GHO	Glory Hole Cre	79.57	29	IAmb		IAmb		20 55 09.7		
	comp=Z,40nm,0.9s									
GURO	Guroymak-BITLI	79.57	308	P		P		20 55 01.4	-1.6	
GURO				IAmb		IAmb		20 55 06.8		
	comp=Z,93nm,0.9s									
HOMI	Horasan	79.58	309	⇓P		P		20 55 03.2	+0.2	
RND	Reindeer	79.60	27	IAmb		IAmb		20 55 16.1		
	comp=Z,79nm,1.3s									
D24K	Happy Valley	79.68	21	IAmb		IAmb		20 55 16.2		
	comp=Z,50nm,0.8s									
D24K	Happy Valley	79.68	21	P		P		20 55 02.8	+0.1	
	baz=269,SNR=27									
C24K	Franklin Bluff	79.74	21	IAmb		IAmb		20 55 08.8		
	comp=Z,74nm,1.4s									
C24K				IAMs_20		IAMs_20		21 31 44.0		
	comp=Z,2µm,20.0s									
C24K	Franklin Bluff	79.74	21	P		P		20 55 03.1	+0.1	
	baz=269									
WAT1	Susitna Watana	79.74	28	P		P		20 55 03.0	-0.2	
	baz=270									
E24K	Your Creek	79.79	22	IAMs_20		IAMs_20		21 27 27.1		
	comp=Z,2µm,21.0s									
E24K	Your Creek	79.79	22	P		P		20 55 03.5	+0.1	
	baz=269,SNR=30									
KNK	Knik Glacier	79.80	29	IAmb		IAmb		20 55 11.3		
	comp=Z,45nm,0.8s									
KNK				IAMs_20		IAMs_20		21 34 02.5		
	comp=Z,2µm,19.0s									
KNK	Knik Glacier	79.80	29	P		P		20 55 03.3	-0.2	
	baz=271,SNR=10									
PWL	Port Wells	79.86	30	IAmb		IAmb		20 55 11.9		
	comp=Z,64nm,0.6s									
PWL	Port Wells	79.86	30	P		P		20 55 03.6	-0.3	
	baz=271,SNR=42									
F24K	Squaw Lake	80.01	23	IAmb		IAmb		20 55 15.8		
	comp=Z,49nm,0.8s									
F24K	Squaw Lake	80.01	23	P		P		20 55 04.7	+0.1	
	baz=270,SNR=52									
H24K	Noodor Dome	80.02	25	P		P		20 55 04.9	+0.3	
	baz=270,SNR=67									
COLA	College	80.04	26	P		P		20 55 03.5	-1.2	
COLA				IAmb		IAmb		20 55 15.5		
	comp=Z,37nm,0.8s									
COLA	College	80.04	26	P		P		20 55 07.2	+2.5	
COLA	College	80.04	26	*i* P		P		20 55 03.7	-1.0	
COLA				pmax		pmax				
	comp=Z,34nm,1.0s									
COLA	College	80.04	26	P		P		20 55 04.8	+0.2	
	baz=270									
CCB	Clear Creek Bu	80.06	26	IAmb		IAmb		20 55 14.4		
	comp=Z,67nm,1.5s									
WAT6	Susitna Watana	80.12	28	P		P		20 55 05.3	-0.1	
	baz=271,SNR=66									
M23K	Glacier View	80.14	29	P		P		20 55 05.5	+0.2	
	baz=271,SNR=19									
G24K	Hadweenzic Riv	80.18	24	IAmb		IAmb		20 55 16.6		
	comp=Z,39nm,0.8s									
G24K	Hadweenzic Riv	80.18	24	P		P		20 55 05.7	+0.3	
	baz=270,SNR=55									
POKR	Poker Plat Res	80.21	25	P		P		20 55 06.1	+0.4	
	baz=271									
KLMR	Klimovskoe	80.24	330	*eP*		P		20 55 02.4	-3.5	
KLMR				S		S		21 05 06.7	-2.6	
KLMR				pmax		pmax				
	comp=Z,180nm,1.5s									
KLMR				MLR		MLR				
	comp=Z,6µm,19.0s									
DHY	Denali Highway	80.28	27	P		P		20 55 06.1	-0.1	
	baz=271,SNR=33									
ERBR	Yeremizino-Bor	80.30	315	*eP*		P		20 55 04.6	-1.9	
ERBR				*eS*		S		21 05 08.6	-1.9	
ERBR				pmax		pmax				
	comp=Z,46nm,1.0s									
SCM	Sheep Creek Mo	80.33	29	IAmb		IAmb		20 55 16.9		
	comp=Z,132nm,1.2s									
SCM	Sheep Creek Mo	80.33	29	P		P		20 55 06.5	+0.1	
	baz=272,SNR=28									
P23K	Montague Islan	80.34	31	IAMs_20		IAMs_20		21 28 26.1		
	comp=Z,2µm,21.0s									
P23K	Montague Islan	80.34	31	P		P		20 55 06.6	+0.2	
	baz=272,SNR=27									
HDA	Harding Lake	80.44	26	IAmb		IAmb		20 55 16.0		
	comp=Z,65nm,1.2s									
HDA	Harding Lake	80.44	26	P		P		20 55 06.1	-0.8	
	baz=271,SNR=26									
ILAR	Eielson Array	80.45	26	P		P		20 55 05.0	-2.0	
ILAR	Eielson Array	80.45	26	P		P		20 55 06.3	-0.7	
	comp=Z,11nm,0.8s,baz=244,slow=4.9,SNR=51									
ILAR				PKKPbc		PKKPbc		21 13 49.5	-1.3	
	comp=Z,1.2nm,1.0s,baz=60,slow=1.9,SNR=7.7									
ILAR				LR		LR		21 32 16.4		
	comp=Z,1µm,19.5s,baz=264,slow=37									
	comp=Z,11nm,0.8s									
GLI	Glacier Island	80.47	30	IAmb		IAmb		20 55 16.8		
	comp=Z,62nm,0.7s									
GLI	Glacier Island	80.47	30	P		P		20 55 07.0	-0.1	
	baz=272,SNR=40									
D25K	Kavik River	80.55	21	IAmb		IAmb		20 55 19.7		
	comp=Z,54nm,1.1s									
D25K				IAMs_20		IAMs_20		21 32 20.3		
	comp=Z,2µm,20.0s									
D25K	Kavik River	80.55	21	P		P		20 55 07.8	+0.3	
	baz=271,SNR=35									
KOPT	Kop Dagi	80.66	309	IAmb		IAmb		20 55 25.5		
	comp=Z,81nm,1.1s									
G25K	Bearman Lake	80.72	24	P		P		20 55 09.0	+0.6	
	baz=272,SNR=26									
VSLR	Vesyoloye	80.76	313	*i* P		P		20 55 08.1	-1.0	
VSLR				pmax		pmax				
	comp=Z,47nm,0.8s									
FID	Port Fidalgo	80.78	30	IAmb		IAmb		20 55 12.5		
	comp=Z,35nm,0.8s									
HIN	Hinchinbrook I	80.78	30	IAmb		IAmb		20 55 19.4		
	comp=Z,117nm,1.4s									
HIN				IAMs_20		IAMs_20		21 29 04.5		
	comp=Z,3µm,20.0s									
VORR	Voronezh	80.80	321	*eP*		P		20 55 07.2	-1.8	
VORR				pmax		pmax				
	comp=Z,47nm,1.0s									
VSR	Storozhevoye	80.85	321	*eP*		P		20 55 06.2	-3.1	
VSR				pmax		pmax				
	comp=Z,20nm,1.0s									
H25L	Birch Creek	80.85	24	P		P		20 55 09.2	+0.2	
	baz=272,SNR=46									
M24K	Tolsona, Glenn	80.86	28	P		P		20 55 09.6	+0.3	
	baz=272,SNR=17									
F25K	Christian Rive	80.87	23	P		P		20 55 09.8	+0.5	
	baz=272,SNR=26									
E25K	Arctic Village	80.88	22	P		P		20 55 09.5	+0.2	
	baz=272,SNR=25									
Q23K	Middleton Isla	80.90	31	P		P		20 55 09.6	+0.2	
	baz=273									
LPSR	Galich'ya Gora	80.92	322	P		P		20 55 08.0	-1.6	
LPSR				pmax		pmax				
	comp=Z,59nm,1.0s									
K24K	Donnelly Dome	80.97	27	IAmb		IAmb		20 55 14.4		
	comp=Z,63nm,0.7s									
K24K	Donnelly Dome	80.97	27	P		P		20 55 09.6	-0.2	
	baz=272,SNR=17									
SOC	Sochi	80.98	313	*eP*		P		20 55 06.6	-3.6	
SOC				*e*				20 58 10.6		
SOC				*eP*	PPP	PPP		21 00 03.1		
SOC				*eS*		S		21 05 15.9	-1.8	
SOC				*eSS*		SS		21 10 26.6	-5.5	
SOC				MLR		MLR				
	comp=Z,3µm,20.0s									
PRP	Porcupine Dome	81.00	25	IAMs_20		IAMs_20		21 31 00.3		
	comp=Z,2µm,21.0s									
PRP	Porcupine Dome	81.00	25	P		P		20 55 09.9	-0.2	
	baz=272									
KLU	Klutina	81.01	29	P		P		20 55 09.8	-0.3	
	baz=273,SNR=18									
C26K	Camden Bay	81.05	20	P		P		20 55 10.2	+0.2	
	baz=272									
FYU	Fort Yukon	81.08	24	IAmb		IAmb		20 55 21.5		
	comp=Z,65nm,1.0s									
DIV	Divide	81.10	29	IAmb		IAmb		20 55 24.9		
	comp=Z,58nm,0.9s									
DIV				IAMs_20		IAMs_20		21 35 04.0		
	comp=Z,2µm,20.0s									
J25K	Salcha River,	81.11	26	P		P		20 55 09.8	-0.8	
	baz=273,SNR=18									
EYAK	Cordova Ski Ar	81.14	30	IAMs_20		IAMs_20		21 29 06.2		
	comp=Z,3µm,21.0s									
EYAK	Cordova Ski Ar	81.14	30	P		P		20 55 13.5	+2.8	
EYAK	Cordova Ski Ar	81.14	30	P		P		20 55 10.3	-0.4	
	baz=273,SNR=6.2									
PAX	Paxson	81.15	28	P		P		20 55 10.8	0.0	
	baz=273,SNR=25									
BMAR	Burnt Mountain	81.29	23	P		P		20 55 11.0	-0.4	
HARP	HAARP	81.32	28	P		P		20 55 11.9	+0.2	
	baz=273									
RIDG	Independent Ri	81.39	27	IAmb		IAmb		20 55 25.5		
	comp=Z,86nm,1.0s									
RIDG	Independent Ri	81.39	27	P		P		20 55 11.9	-0.1	
	baz=273,SNR=36									
F26K	Sheenjek River	81.44	23	P		P		20 55 12.8	+0.6	
	baz=273,SNR=22									
C27K	Jago River	81.48	21	IAmb		IAmb		20 55 36.9		
	comp=Z,37nm,0.9s									
C27K				IAMs_20		IAMs_20		21 32 59.8		
	comp=Z,2µm,19.0s									
C27K	Jago River	81.48	21	P		P		20 55 12.9	+0.5	
	baz=274,SNR=15									
MOS	Moscow	81.48	325	*eP*		P		20 55 09.8	-2.8	
MOS				*e*				20 58 17.4		
MOS				*eS*		S		21 05 18.7	-3.7	
MOS				*eSS*		SS		21 10 35.8	-3.1	
MOS				pmax		pmax				
	comp=Z,47nm,0.6s									
MOS				pmax		pmax				
	comp=Z,100nm,0.8s									
MOS				MLR		MLR				
	comp=N,2µm,18.0s									
MOS				MLR		MLR				
	comp=E,3µm,18.0s									
MOS				MLR		MLR				
	comp=Z,3µm,18.0s									
ATD	Arta Tunnel	81.52	280	LR		LR		21 30 13.6		
	comp=Z,28nm,21.1s,baz=70,slow=35									
ATD	Arta Tunnel	81.52	280	P		P		20 55 17.8	+4.1	
G26K	Porcupine Rive	81.63	23	IAmb		IAmb		20 55 24.5		
	comp=Z,41nm,1.0s									
G26K	Porcupine Rive	81.63	23	P		P		20 55 13.9	+0.7	
	baz=274,SNR=20									
N25K	Chitina, Valde	81.64	29	IAmb		IAmb		20 55 28.4		
	comp=Z,83nm,1.5s									
N25K				IAMs_20		IAMs_20		21 35 22.2		
	comp=Z,2µm,21.0s									
N25K	Chitina, Valde	81.64	29	P		P		20 55 13.5	+0.1	
	baz=274,SNR=20									
BMRM	Bremner River	81.68	30	IAmb		IAmb		20 55 38.9		
	comp=Z,54nm,1.0s									
BMRM				IAMs_20		IAMs_20		21 29 28.3		
	comp=Z,2µm,21.0s									
BMRM	Bremner River	81.68	30	P		P		20 55 13.6	-0.1	
	baz=274,SNR=14									
RAGM	Ragged Mountai	81.69	30	IAmb		IAmb		20 55 28.6		
	comp=Z,56nm,1.2s									
RAGM				IAMs_20		IAMs_20		21 31 21.5		
	comp=Z,2µm,20.0s									
DOT	Dot Lake	81.74	27	IAmb		IAmb		20 55 26.2		
	comp=Z,34nm,0.9s									
DOT				IAMs_20		IAMs_20		21 31 35.8		
	comp=Z,2µm,21.0s									
SCRK	Sand Creek	81.75	26	P		P		20 55 13.6	-0.5	
	baz=274,SNR=21									
KAIM	Kayak Island	81.85	31	IAMs_20		IAMs_20		21 30 39.8		
	comp=Z,2µm,19.0s									
KAIM	Kayak Island	81.85	31	P		P		20 55 14.4	0.0	
	baz=274,SNR=7.3									
HMT	Hamilton	81.89	30	IAMs_20		IAMs_20		21 30 46.0		
	comp=Z,2µm,20.0s									
J26L	Joseph Creek	81.90	26	P		P		20 55 14.5	-0.2	
	baz=274,SNR=22									
MENT	Mentasta	81.95	28	P		P		20 55 17.5	+2.5	
LVZ	Lovozero	81.98	338	*i* P		P		20 55 11.7	-3.3	
LVZ				pmax		pmax				
	comp=Z,142nm,1.6s									
I26K	Coal Creek Min	82.01	25	IAmb		IAmb		20 55 27.6		
	comp=Z,40nm,0.8s									
I26K	Coal Creek Min	82.01	25	P		P		20 55 15.0	-0.2	
	baz=275									
GLB	Gilahina Butte	82.03	29	IAmb		IAmb		20 55 30.9		
	comp=Z,52nm,1.0s									
GLB				IAMs_20		IAMs_20		21 29 57.4		
	comp=Z,2µm,21.0s									
L26K	Log Cabin Wild	82.11	27	P		P		20 55 16.1	+0.3	
	baz=275,SNR=16									
OBN	Obninsk	82.13	325	P		P		20 55 13.2	-2.8	
OBN				IAmb		IAmb		20 55 42.2		
	comp=Z,121nm,1.4s									
OBN	Obninsk	82.13	325	LR		LR		21 32 32.4		
	comp=Z,3µm,19.0s,baz=33,slow=36									
OBN	Obninsk	82.13	325	⇑P		P		20 55 16.6	+0.6	
OBN	Obninsk	82.13	325	*c i* P		P		20 55 14.5	-1.5	
OBN				*e*				20 58 22.8		
OBN				*eSS*		SS		21 10 53.5	+5.0	
OBN				pmax		pmax				
	comp=Z,45nm,1.0s									
OBN				MLR		MLR				
	comp=Z,3µm,17.0s									
SUCK	Suckling Hills	82.16	30	IAMs_20		IAMs_20		21 30 50.9		
	comp=Z,2µm,19.0s									
BERG	Berg Lake	82.17	30	IAmb		IAmb		20 55 24.4		
	comp=Z,45nm,0.8s									
VRDI	Verde Repeater	82.22	29	IAMs_20		IAMs_20		21 31 42.5		
	comp=Z,2µm,20.0s									
M26K	Nabesna, AK	82.33	28	IAmb		IAmb		20 55 29.3		
	comp=Z,40nm,0.9s									
M26K				IAMs_20		IAMs_20		21 28 51.4		
	comp=Z,2µm,22.0s									
M26K	Nabesna, AK	82.33	28	P		P		20 55 17.0	-0.1	
	baz=275,SNR=21									
E27K	Coleen River	82.36	22	IAmb		IAmb		20 55 28.2		
	comp=Z,40nm,0.9s									
E27K	Coleen River	82.36	22	P		P		20 55 17.5	+0.4	
	baz=276,SNR=23									
BGLC	Bering Glacier	82.40	30	P		P		20 55 17.4	+0.1	
	baz=275									
ARPR	Arapgir-MALATY	82.41	308	IAmb		IAmb		20 55 43.5		
	comp=Z,72nm,1.1s									
ARPR				IAMs_20		IAMs_20		21 36 40.7		
	comp=Z,3µm,22.0s									
MCARA	McCarthy VSAT	82.41	29	IAmb		IAmb		20 55 53.3		
	comp=Z,34nm,0.8s									
MCARA				IAMs_20		IAMs_20		21 31 49.6		
	comp=Z,2µm,21.0s									
MCARA	McCarthy VSAT	82.41	29	P		P		20

baz=276,SNR=11
E28M Babbage River 83.07 22 IAmb IAmb 20 55 30.1
comp=Z,79nm,1.6s
E28M IAMs_20 IAMs_20 21 35 37.8
comp=Z,2µm,18.0s
E28M Babbage River 83.07 22 P **P** **20 55 21.1 +0.4**
baz=278,SNR=50
F28M Old Crow 83.07 23 IAmb IAmb 20 55 31.1
comp=Z,28nm,0.8s
F28M Old Crow 83.07 23 P **P** **20 55 21.2 +0.4**
baz=277
GRNC Granite Creek 83.09 30 IAmb IAmb 20 55 31.9
comp=Z,44nm,0.9s
GRNC IAMs_20 IAMs_20 21 34 29.6
comp=Z,2µm,19.0s
YAH Yahtse 83.14 30 IAmb IAmb 20 55 35.2
comp=Z,54nm,0.8s
YAH IAMs_20 IAMs_20 21 32 07.8
comp=Z,2µm,21.0s
D28M Stokes Point 83.26 21 P **P** **20 55 22.1 +0.5**
baz=278
CTG Chitna Glacier 83.27 29 P **P** **20 55 22.8 +0.8**
baz=277,SNR=40
BVCY Beaver Creek 83.31 28 P **P** **20 55 22.8 +0.7**
baz=277,SNR=14
I28M Miner Creek 83.33 25 IAMs_20 IAMs_20 21 32 23.8
comp=Z,2µm,20.0s
I28M Miner Creek 83.33 25 P **P** **20 55 23.2 +1.0**
baz=278,SNR=73
TABL Table Mountain 83.42 30 IAMs_20 IAMs_20 21 32 16.4
comp=Z,2µm,21.0s
GAZ Gaziantep 83.50 307 IAmb IAmb 20 55 26.5
comp=Z,51nm,1.0s
VOI Vohitsoka 83.54 247 P **P** **20 55 21.5 -2.6**
VOI IAmb IAmb 20 55 28.1
comp=Z,31nm,1.1s
VOI Vohitsoka 83.54 247 P **P** **20 55 23.3 -0.9**
YUK3 Moose Creek 83.58 29 P **P** **20 55 24.5 +0.8**
baz=278,SNR=32
TOKA Tokat 83.70 310 IAmb IAmb 20 55 35.5
comp=Z,71nm,1.6s
TOKA IAMs_20 IAMs_20 21 39 34.8
comp=Z,2µm,19.0s
E29M Blow River 83.70 22 IAmb IAmb 20 55 33.0
comp=Z,116nm,1.9s
E29M Blow River 83.70 22 P **P** **20 55 24.2 +0.2**
baz=279,SNR=22
DAWY Dawson 83.75 26 IAmb IAmb 20 55 39.5
comp=Z,70nm,1.0s
DAWY Dawson 83.75 26 P **P** **20 55 24.7 +0.4**
baz=278,SNR=20
O28M Mount Upton 83.85 30 IAMs_20 IAMs_20 21 28 32.6
comp=Z,2µm,22.0s
O28M Mount Upton 83.85 30 P **P** **20 55 25.5 +0.3**
baz=278,SNR=40
H29M Whitestone 83.86 24 IAMs_20 IAMs_20 21 34 07.7
comp=Z,2µm,21.0s
H29M Whitestone 83.86 24 P **P** **20 55 25.1 +0.3**
baz=279,SNR=29
G29M Pine Creek 83.89 23 IAMs_20 IAMs_20 21 34 35.4
comp=Z,2µm,20.0s
G29M Pine Creek 83.89 23 P **P** **20 55 25.5 +0.6**
baz=279,SNR=46
PINM Pinnacle 83.91 30 P **P** **20 55 25.8 +0.5**
baz=278,SNR=17
YUK8 Steele Glacier 83.98 29 P **P** **20 55 26.2 +0.4**
baz=278,SNR=39
I29M Ogilvie Camp, 84.02 25 IAMs_20 IAMs_20 21 33 04.0
comp=Z,2µm,20.0s
I29M Ogilvie Camp, 84.02 25 P **P** **20 55 25.8 +0.1**
baz=279,SNR=40
J29N Klondike Camp 84.20 26 IAMs_20 IAMs_20 21 33 59.8
comp=Z,2µm,20.0s
J29N Klondike Camp 84.20 26 P **P** **20 55 27.0 +0.4**
baz=279,SNR=6.0
BCPM Bancas Point 84.24 30 IAmb IAmb 20 55 41.2
comp=Z,51nm,1.0s
BCPM IAMs_20 IAMs_20 21 28 01.9
comp=Z,2µm,22.0s
ASF Jabal al Asfar 84.36 302 LR LR 21 37 38.2
comp=Z,1µm,21.0s,baz=108,slow=39
PNL Peninsula 84.40 31 P **P** **20 55 30.3 +2.6**
PNL Peninsula 84.40 31 P **P** **20 55 28.2 +0.6**
baz=279,SNR=31
M29M Somme Creek 84.42 28 IAmb IAmb 20 55 40.0
comp=Z,47nm,0.8s
M29M Somme Creek 84.42 28 P **P** **20 55 28.4 +0.6**
baz=279,SNR=80
L29M L29M 84.46 27 P **P** **20 55 28.7 +0.7**
baz=279,SNR=72
KEV Kevo 84.46 340 P **P** **20 55 26.7 -1.0**
KEV IAmb IAmb 20 55 30.1
comp=Z,26nm,0.9s
KEV IAMs_20 IAMs_20 21 40 14.4
comp=Z,2µm,20.0s
KEV Kevo 84.46 340 P **P** **20 55 26.7 -1.0**
KEV pmax pmax
comp=Z,26nm,0.9s
KEV MLR MLR
comp=Z,2µm,20.0s
EPYK Eagle Plains 84.49 24 P **P** **20 55 28.5 +0.4**
baz=280,SNR=34
YUK4 Talbot Arm 84.50 29 P **P** **20 55 28.5 +0.1**
baz=279,SNR=25
G30M tAoh Zraii Nji 84.57 23 P **P** **20 55 28.6 +0.1**
baz=281,SNR=22
K29M Barlow Dome 84.60 26 IAmb IAmb 20 55 41.4
comp=Z,43nm,0.9s
K29M Barlow Dome 84.60 26 P **P** **20 55 29.4 +0.7**
baz=280,SNR=39
F30M Barrier River 84.62 22 P **P** **20 55 29.1 +0.5**
baz=281,SNR=16
YUK6 Outpost Mounta 84.71 29 P **P** **20 55 29.9 +0.4**
baz=279,SNR=28
O29M Mount Kennedy 84.71 30 IAmb IAmb 20 55 46.6
comp=Z,38nm,0.9s
O29M Mount Kennedy 84.71 30 P **P** **20 55 29.9 +0.5**
baz=279
SIM Simferopol' 84.84 315 *e*P **P** **20 55 30.9 +0.7**
SIM *e*S **SKSac** **21 05 54.7 +1.8**
SIM pmax pmax
comp=Z,75nm,1.0s
SIM smax smax
comp=E,110nm,9.0s
SIM MLR MLR
comp=Z,3µm,22.0s
I30M Mount Dempster 84.84 25 P **P** **20 55 30.3 +0.3**
baz=281,SNR=53
SPITS Spitsbergen Ar 84.93 349 P **P** **20 55 28.9 -1.2**
comp=Z,45nm,0.8s,baz=95,slow=7.8,SNR=34
SPITS PKKPbc **PKKPbc** **21 13 39.1 -1.7**
comp=Z,3.3nm,0.8s,baz=197,slow=4.5,SNR=4.7
SPITS LR LR 21 39 48.5
comp=Z,2µm,18.8s,baz=58,slow=40
comp=Z,45nm,0.8s
SPITS Spitsbergen Ar 84.93 349 P **P** **20 55 27.9 -2.1**
SPITS pmax pmax
comp=Z,145nm,1.1s
J30M Hart River 84.98 25 IAmb IAmb 20 55 43.9
comp=Z,59nm,1.1s
J30M IAMs_20 IAMs_20 21 34 53.5
comp=Z,2µm,20.0s
J30M Hart River 84.98 25 P **P** **20 55 31.4 +0.7**
baz=281,SNR=26
ARCES ARCESS Array B 85.02 340 P **P** **20 55 28.5 -2.1**
ARCES IAmb IAmb 20 55 35.8
comp=Z,54nm,0.9s
ARCES ARCESS Array B 85.02 340 P **P** **20 55 28.6 -2.0**
comp=Z,23nm,0.8s,baz=82,slow=7.4,SNR=34
ARCES LR LR 21 36 15.2
comp=Z,2µm,21.6s,baz=84,slow=38
comp=Z,23nm,0.8s
ARCES ARCESS Array B 85.02 340 P **P** **20 55 28.5 -2.1**
ARCES pmax pmax
comp=Z,54nm,0.9s
HYT Haines Junctio 85.14 29 IAmb IAmb 20 55 54.6
comp=Z,48nm,1.0s
HYT IAMs_20 IAMs_20 21 35 58.7
comp=Z,2µm,19.0s
HYT Haines Junctio 85.14 29 P **P** **20 55 32.5 +0.9**
baz=280,SNR=47
M30M Minto, Yukon 85.16 27 IAmb IAmb 20 55 44.3
comp=Z,50nm,1.1s
M30M Minto, Yukon 85.16 27 P **P** **20 55 32.5 +1.0**
baz=281,SNR=57
N30M Aishikik Lake 85.22 29 IAmb IAmb 20 55 45.5
comp=Z,76nm,1.2s
N30M IAMs_20 IAMs_20 21 33 17.0
comp=Z,2µm,20.0s
N30M Aishikik Lake 85.22 29 P **P** **20 55 32.9 +1.1**
baz=280,SNR=48
P29M Windy Craggy 85.24 30 IAmb IAmb 20 55 41.8
comp=Z,66nm,1.0s
P29M Windy Craggy 85.24 30 P **P** **20 55 33.0 +1.1**
baz=280,SNR=22
INK Inuvik 85.31 22 IAmb IAmb 20 55 44.4
comp=Z,63nm,1.1s
INK Inuvik 85.31 22 P **P** **20 55 31.5 -0.5**
comp=Z,21nm,0.9s,baz=281,slow=5.4,SNR=18
INK LR LR 21 36 25.9
comp=Z,824nm,19.7s,baz=288,slow=38
comp=Z,21nm,0.9s
INK Inuvik 85.31 22 P **P** **20 55 32.0 0.0**
baz=283,SNR=16
G31M Satah River 85.34 23 IAmb IAmb 20 55 42.4
comp=Z,66nm,1.0s
G31M Satah River 85.34 23 P **P** **20 55 32.2 0.0**
baz=283,SNR=18
MAYO Mayo, Yukon 85.36 26 P **P** **20 55 32.7 +0.3**
baz=281
F31M Tsiigehtchic 85.42 22 P **P** **20 55 32.6 0.0**
baz=283,SNR=14
BALJ Balqa 85.43 302 IAMs_20 IAMs_20 21 35 03.3
comp=Z,2µm,21.0s
KBS Kingsbay 85.45 350 P **P** **20 55 31.4 -1.2**
KBS IAmb IAmb 20 55 34.8
comp=Z,33nm,0.7s
KBS Kingsbay 85.45 350 P **P** **20 55 31.4 -1.2**
KBS pmax pmax
comp=Z,33nm,0.7s
KBS MLR MLR
comp=Z,4µm,20.0s
KBS Kingsbay 85.45 350 *i* P **P** **20 55 32.6 0.0**
MMAI Mount Meron Ar 85.50 303 P **P** **20 55 33.4 -0.4**
comp=Z,37nm,1.1s,baz=61,slow=6.9,SNR=14
MMAI LR LR 21 39 45.4
comp=Z,890nm,18.8s,baz=88,slow=40
comp=Z,37nm,1.1s
P30M Million Dollar 85.53 30 P **P** **20 55 33.6 +0.2**
baz=281
H31M Peel River 85.55 24 IAmb IAmb 20 55 45.1
comp=Z,58nm,0.9s
H31M IAMs_20 IAMs_20 21 34 11.5
comp=Z,2µm,19.0s
H31M Peel River 85.55 24 P **P** **20 55 33.7 +0.3**
baz=283,SNR=28
ILGA Ilgaz 85.68 311 P **P** **20 55 31.8 -3.0**
ILGA IAmb IAmb 20 55 37.4
comp=Z,28nm,0.8s
KIRS Kirsehir-Merke 85.81 309 ⇑P **P** **20 55 34.8 -0.5**
O30N Mendenhall 85.83 29 IAMs_20 IAMs_20 21 36 28.1
comp=Z,2µm,20.0s
O30N Mendenhall 85.83 29 P **P** **20 55 35.3 +0.4**
baz=281,SNR=14
N31M Braeburn, Yuko 85.84 28 IAMs_20 IAMs_20 21 30 48.1
comp=Z,2µm,22.0s
N31M Braeburn, Yuko 85.84 28 P **P** **20 55 36.4 +1.5**
baz=282,SNR=19
BR131 Keskin Array S 85.94 309 IAmb IAmb 20 55 45.9
comp=Z,44nm,1.4s
BR131 Keskin Array S 85.94 309 P **P** **20 55 35.4 -0.6**
SNR=8.2
BR131 P **P** **20 55 35.4 -0.6**
SNR=8.2
BRTR Keskin Array B 85.94 309 P **P** **20 55 33.6 -2.4**
BRTR Keskin Array B 85.94 309 P **P** **20 55 34.0 -2.0**
comp=Z,10nm,0.8s,baz=98,slow=3.9,SNR=30
BRTR LR LR 21 39 07.6
comp=Z,2µm,20.6s,baz=60,slow=39
comp=Z,10nm,0.8s
BRTR Keskin Array B 85.94 309 P **P** **20 55 33.6 -2.4**
BR104 Keskin Array S 85.94 309 P **P** **20 55 34.6 -1.4**
comp=Z,117nmcomp=Z,16nm,1.0s
BR106 Keskin Array S 85.95 309 P **P** **20 55 34.1 -2.0**
comp=Z,117nmcomp=Z,16nm,0.9s
BR105 Keskin Array S 85.95 309 P **P** **20 55 34.9 -1.2**
comp=Z,139nmcomp=Z,15nm,1.0s
PLBC Pleasant Camp 85.95 30 P **P** **20 55 36.7 +1.2**
baz=281
FURI Furi 85.96 278 IAMs_20 IAMs_20 21 34 40.5
comp=Z,2µm,20.0s
CIDE Kastamonu/Cide 86.13 312 ⇑P **P** **20 55 36.0 -0.7**
S31K Pelican 86.32 32 IAmb IAmb 20 56 17.4
comp=Z,56nm,1.6s
S31K Pelican 86.32 32 P **P** **20 55 38.3 +1.0**
baz=282
M31M Drury Creek, Y 86.33 28 IAMs_20 IAMs_20 21 34 24.1
comp=Z,2µm,21.0s
M31M Drury Creek, Y 86.33 28 P **P** **20 55 38.2 +0.9**
baz=283,SNR=26
EIL Eilat 86.36 299 LR LR 21 39 59.0
comp=Z,637nm,18.4s,baz=69,slow=40
WHY Whitehorse 86.44 29 P **P** **20 55 39.1 +1.2**
baz=282,SNR=50
SKAG Skagway 86.47 30 P **P** **20 55 41.3 +3.3**
SKAG Skagway 86.47 30 P **P** **20 55 38.9 +0.9**
baz=282
ANTO Ankara 86.56 310 P **P** **20 55 35.8 -3.2**
ANTO Ankara 86.56 310 ⇑P **P** **20 55 38.5 -0.4**
ANTO Ankara 86.56 310 P **P** **20 55 35.8 -3.2**
ANTO pmax pmax
comp=Z,24nm,1.0s
FINES FINESS Array B 86.62 332 P **P** **20 55 35.6 -3.1**
FINES FINESS Array B 86.62 332 P **P** **20 55 36.9 -1.8**
comp=Z,18nm,0.6s,baz=79,slow=3.4,SNR=42
FINES PKiKP **PKiKP** **21 00 43.4 -1.7**
comp=Z,2.1nm,1.1s,baz=20,slow=4.4,SNR=1.0
FINES PKKPbc **PKKPbc** **21 13 37.2 +0.9**
comp=Z,1.5nm,0.8s,baz=305,slow=6.7,SNR=4.6
FINES LR LR 21 37 39.1
comp=Z,5µm,19.8s,baz=84,slow=38
comp=Z,18nm,0.6s
FINES FINESS Array B 86.62 332 *i* P **P** **20 55 36.9 -1.8**
FINES pmax pmax
comp=Z,18nm,0.6s
FARO Faro, Yukon 86.80 27 IAMs_20 IAMs_20 21 34 59.5
comp=Z,2µm,20.0s
FARO Faro, Yukon 86.80 27 P **P** **20 55 40.4 +0.8**
baz=284
A36M Sachs Harbour 86.94 17 P **P** **20 55 40.4 +0.4**
baz=291
VSU Vasula 86.97 329 *ce*P **P** **20 55 40.3 -0.1**
VSU pmax pmax
comp=Z,45nm,1.7s
SIT Sitka 86.98 33 P **P** **20 55 43.1 +2.6**
SIT Sitka 86.98 33 P **P** **20 55 40.5 0.0**
baz=282
AK08 Malin Array Si 87.14 321 P **P** **20 55 40.0 -1.4**
R32K Eaglecrest 87.14 31 P **P** **20 55 41.8 +0.5**
baz=283,SNR=6.9
AK03 Malin Array Si 87.14 321 P **P** **20 55 40.0 -1.4**
AKASG Malin Array Be 87.15 321 P **P** **20 55 38.7 -2.8**
AKASG Malin Array Be 87.15 321 P **P** **20 55 39.7 -1.7**
comp=Z,4.0nm,0.5s,baz=68,slow=4.3,SNR=26
AKASG LR LR 21 37 00.9
comp=Z,2µm,20.5s,baz=77,slow=37
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 87.15 321 *i* P **P** **20 55 39.7 -1.7**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKBB Malin Array Si 87.15 321 IAmb IAmb 20 56 15.5
comp=Z,32nm,0.9s
AKBB Malin Array Si 87.15 321 *ce*P **P** **20 55 39.8 -1.7**
AKBB pmax pmax
comp=Z,52nm,1.4s
AKBB Malin Array Si 87.15 321 P **P** **20 55 39.7 -1.7**
KIEV Kiev 87.16 321 P **P** **20 55 38.8 -2.7**
KIEV IAmb IAmb 20 56 15.5
comp=Z,28nm,0.9s
KIEV Kiev 87.16 321 P **P** **20 55 38.8 -2.7**
KIEV pmax pmax
comp=Z,28nm,1.0s
KIEV MLR MLR
comp=Z,3µm,19.0s
KIEV Kiev 87.16 321 *i* P **P** **20 55 39.8 -1.7**
SNR=18
KIEV Kiev 87.16 321 P **P** **20 55 39.5 -2.0**
comp=Z,2µmcomp=Z,115nm,1.1s
N32M Quiet Lake 87.18 28 P **P** **20 55 42.0 +0.5**
baz=284
MNK Minsk 87.19 325 *i* P **P** **20 55 38.8 -2.8**
MNK *i* 20 59 02.5
MNK *i* PPP PPP 21 00 57.2
MNK *i* S **SKSac** **21 06 05.6 -1.6**
MNK *i* SS **SS** **21 12 07.5 +4.4**
MNK *i* SSS SSS 21 15 32.7
MNK pmax pmax
comp=N,9.0nm,0.7s
MNK pmax pmax
comp=E,10.0nm,0.7s
MNK pmax pmax
comp=Z,20nm,0.9s
MNK MLR MLR
comp=Z,3µm,19.0s
MNK MLR MLR
comp=E,2µm,21.0s
MNK MLR MLR
comp=N,2µm,18.0s
JIS Juneau Island 87.21 31 P **P** **20 55 44.3 +2.7**
P32M Atlin 87.25 30 P **P** **20 55 42.8 +0.9**
baz=284
S32K Killisnoo 87.29 32 IAMs_20 IAMs_20 21 27 40.8
comp=Z,2µm,22.0s
S32K Killisnoo 87.29 32 P **P** **20 55 42.8 +0.8**
baz=283
PURM Purcari 87.52 317 ⇑P **P** **20 55 43.6 +0.3**
PPT Papeete 87.53 108 P **P** **20 55 44.8 +0.9**
comp=Z,41nm,0.6s,baz=36,slow=9.7,SNR=3.5
PPT LR LR 21 28 26.5
comp=Z,912nm,21.3s,baz=278,slow=31
comp=Z,41nm,0.6s
PPT2 Papeete2 87.53 108 *e*P **P** **20 55 39.5 -4.5**
comp=Z,178nm,23.5s
PPT2 Papeete2 87.53 108 *e*S **S** **21 06 21.1 -3.2**
comp=Z,593nm,25.5s
PPT2 *e*SS **SS** **21 12 02.3 -8.1**
comp=Z,1µm,28.0s
PPT2 *e*LQ LQ 21 19 39.4
comp=Z,6µm,28.5s
PPT2 *e*LR LR 21 23 16.2
comp=Z,2µm,29.8s
PPT2 *e*LR LR 21 23 23.1
comp=Z,2µm,24.2s
P33M Teslin, Yukon 87.53 29 P **P** **20 55 44.1 +0.8**
baz=284,SNR=6.2
NOR Nord 87.54 355 *i* P **P** **20 55 41.8 -1.0**
NOR IAmb IAmb 20 55 45.3
comp=Z,45nm,1.1s
MMPY Sheldon Lake, 87.64 27 IAMs_20 IAMs_20 21 33 16.7
comp=Z,2µm,22.0s
MMPY Sheldon Lake, 87.64 27 P **P** **20 55 44.6 +1.0**
baz=286
MI28 Mi28,Pidlybu 88.07 321 P **P** **20 55 46.5 +0.6**
Q32M Nakina River 88.12 31 P **P** **20 55 45.9 -0.3**
baz=285
KIS Kishinev 88.14 317 *e*P **P** **20 55 44.0 -2.3**
KIS Kishinev 88.14 317 *e*P **P** **20 55 44.0 -2.3**
MILM Milestii Mici 88.16 317 *e*P **P** **20 55 43.0 -3.4**
MILM *e*S **S** **21 06 22.0 -7.1**
MILM *e*L L 21 36 35.0
MILM LRM MLR 21 38 06.0
comp=Z,2µm,22.0s
MILM Milestii Mici 88.16 317 ⇓P **P** **20 55 47.0 +0.6**
MILM Milestii Mici 88.16 317 *e*P **P** **20 55 43.0 -3.4**
MILM *e* 21 06 12.0
MILM *e*S **S** **21 06 22.0 -7.1**
MILM MLR MLR
comp=Z,2µm,22.0s
LUBAR Lubar, Ukraine 88.23 320 P **P** **20 55 44.5 -2.2**
KIBK Kibwezi 88.33 267 IAmb IAmb 20 55 55.9
comp=Z,53nm,1.3s
KIBK Kibwezi 88.33 267 P **P** **20 55 50.5 +2.5**
SNR=8.1
U33K Whale Pass 88.39 33 P **P** **20 55 47.7 +0.5**
baz=284
TLCR 88.50 315 ⇑P **P** **20 55 48.8 +0.8**
TLCR 88.50 315 P **P** **20 55 48.8 +0.8**
CRAG Craig 88.55 34 P **P** **20 55 50.8 +2.8**
CRAG Craig 88.55 34 P **P** **20 55 48.7 +0.7**
baz=284
R33M Jennings River 88.65 30 P **P** **20 55 49.2 +0.6**
baz=286,SNR=11
MAW Mawson 88.67 200 P **P** **20 55 48.8 +0.6**
comp=Z,5.4nm,0.7s,baz=86,slow=6.1,SNR=18
MAW LR LR 21 37 14.7
comp=Z,499nm,18.3s,baz=56,slow=37
comp=Z,5.4nm,0.7s
TBI Tubuai 88.69 114 *e*S **S** **21 06 35.4 +0.5**
comp=Z,2µm,25.8s
TBI *e*SS **SS** **21 12 21.0 -5.9**
comp=Z,7µm,30.2s
TBI *e*LQ LQ 21 20 14.2
comp=Z,25µm,35.0s
TBI *e*LR LR 21 23 47.9
comp=Z,9µm,25.8s
TBI *e*LR LR 21 23 51.9
comp=Z,2µm,26.2s
WRAK Wrangell Islan 88.73 33 P **P** **20 55 49.7 +0.8**
baz=285
NDNU Novodnistrovsk 88.76 319 P **P** **20 55 47.1 -2.1**
TPGR Topolog 88.84 315 ⇑P **P** **20 55 50.6 +0.9**
TIRR Tirgusor 88.93 315 ⇓P **P** **20 55 49.5 -0.6**
TIRR Tirgusor 88.93 315 P **P** **20 55 49.5 -0.6**
SCTR Scanteiesti 88.97 316 ⇑P **P** **20 55 50.6 +0.4**
CFR Carcaliu 88.97 316 ⇑P **P** **20 55 49.6 -0.7**
CFR Carcaliu 88.97 316 P **P** **20 55 49.5 -0.7**
S34M Telegraph Cree 88.97 31 P **P** **20 55 50.8 +0.8**
baz=286
VNDA Vanda 88.99 173 P **P** **20 55 48.3 -1.3**
VNDA IAmb IAmb 20 55 58.5
comp=Z,36nm,0.8s
VNDA Vanda 88.99 173 P **P** **20 55 50.3 +0.7**
comp=Z,35nm,0.7s,baz=318,slow=6.0,SNR=81
VNDA LR LR 21 36 56.2
comp=Z,1µm,18.2s,baz=344,slow=36
comp=Z,35nm,0.7s
VNDA Vanda 88.99 173 P **P** **20 55 48.3 -1.3**
VNDA pmax pmax
comp=Z,36nm,0.8s
RNPP9 Sopachiv 89.05 322 P **P** **20 55 48.7 -1.8**
RNPP8 Varash 89.09 322 P **P** **20 55 50.7 0.0**
PABE Paberze 89.15 326 IAmb IAmb 20 56 03.8
comp=Z,31nm,0.9s
HARR Harsova 89.22 315 ⇑P **P** **20 55 50.6 -0.8**
HARR Harsova 89.22 315 P **P** **20 55 50.6 -0.8**
TGTN Hyland Airport 89.30 27 P **P** **20 55 52.7 +1.1**
baz=288
ELL Elmali 89.34 307 IAmb IAmb 20 56 08.3
comp=Z,27nm,0.8s
DLBC Dease Lake 89.39 31 LR LR 21 33 02.4
comp=Z,84nm,20.7s,baz=276,slow=34
DLBC Dease Lake 89.39 31 P **P** **20 55 52.3 +0.2**
baz=287
DIB Dawson Inlet, 89.48 36 IAmb IAmb 20 56 03.9
comp=Z,39nm,1.6s
H02S1 DAWSON INLET T 89.48 36 P **P** **20 55 54.0 +1.6**
SNR=6.0
WTLY Watson Lake, Y 89.50 29 IAMs_20 IAMs_20 21 30 18.9
comp=Z,2µm,22.0s
WTLY Watson Lake, Y 89.50 29 P **P** **20 55 53.4 +0.9**
baz=288
PANC Panciu 89.50 316 ⇑P **P** **20 55 53.1 +0.3**
T35M Bob Quinn 89.69 32 IAMs_20 IAMs_20 21 29 03.3
comp=Z,2µm,22.0s
T35M Bob Quinn 89.69 32 P **P** **20 55 54.3 +0.8**
baz=286
TESR Tescani 89.70 317 ⇑P **P** **20 55 53.5 -0.2**
VRI Vrincioaia 89.79 316 ⇑P **P** **20 55 53.9 -0.2**
VRI Vrincioaia 89.79 316 P **P** **20 55 53.9 -0.2**
PLOR Plostina 89.85 316 ⇓P **P** **20 55 54.6 +0.1**
PLOR Plostina 89.85 316 P **P** **20 55 54.5 +0.1**
SBA Scott Base 89.89 172 P **P** **20 55 53.6 -0.2**
SBA IAmb IAmb 20 56 06.4
comp=Z,40nm,1.0s
SBA Scott Base 89.89 172 P **P** **20 55 53.6 -0.2**
SBA pmax pmax
comp=Z,40nm,1.0s
SBA MLR MLR
comp=Z,1µm,18.0s
ONER Baraj Valea Uz 89.91 317 ⇑P **P** **20 55 54.4 -0.3**
BAND Balkesir-Ban 90.01 311 ⇑P **P** **20 55 55.9 +0.7**
LODK Lodwar 90.07 273 P **P** **20 55 52.4 -3.8**
LODK Lodwar 90.07 273 P **P** **20 55 56.9 +0.7**
U35K Hyder 90.12 33 P **P** **20 55 56.1 +0.8**
baz=287
COVR Voineasa-Covas 90.15 316 ⇑P **P** **20 55 56.9 +1.0**
TURR Turia 90.23 317 ⇑P **P** **20 55 56.3 +0.1**
OZUR 90.38 317 ⇓P **P** **20 55 57.0 +0.1**
BURAR Bucovina Array 90.39 318 P **P** **20 55 54.9 -2.1**
BURAR Bucovina Array 90.39 318 ⇑P **P** **20 55 56.6 -0.5**
BURAR Bucovina Array 90.39 318 P **P** **20 55 56.5 -0.5**

MLR	Muntele Rosu	90.41	316		LR		LR	21 41 02.3		
	comp=Z,5µm,21.5s,baz=72,slow=39									
MLR	Muntele Rosu	90.41	316	⇑	P		P	20 55 57.6	+0.3	
MLR	Muntele Rosu	90.41	316		P		P	20 55 57.5	+0.3	
DOPR	Dopca	90.67	317	⇑	P		P	20 55 58.9	+0.6	
WRGLY	Wrigley	90.81	25		IAMs_20		IAMs_20	21 34 37.6		
	comp=Z,2µm,21.0s									
WRGLY	Wrigley	90.81	25		P		P	20 55 59.5	+1.0	
	baz=292									
LIRD	Liard River Hi	91.02	29		P		P	20 56 00.1	+0.5	
	baz=290									
VOIR		91.03	316	⇑	P		P	20 55 59.7	-0.4	
VOIR		91.03	316		P		P	20 55 59.6	-0.4	
ELND	Elena	91.06	314	⇑	P		P	20 56 00.8	+0.7	
EZN	Ezine	91.45	311	⇑	P		P	20 56 02.2	+0.2	
EZN	Ezine	91.45	311		P		P	20 56 02.1	+0.2	
KWP	Kalwaria Pacla	91.47	321	*e*	P		P	20 56 02.2	+0.4	
BMR	Baia Mare	91.50	319	⇑	P		P	20 56 02.5	+0.4	
BMR	Baia Mare	91.50	319		P		P	20 56 02.4	+0.4	
TOAD	Toad River Com	91.63	29		P		P	20 56 02.9	+0.5	
	baz=291									
DAG	Danmarks Havn	91.69	352	*i*	P		P	20 56 00.0	-2.3	
DAG					IAmb		IAmb	20 56 03.8		
	comp=Z,158nm,1.5s									
KOTAN	Kotaneelee Air	91.72	28		P		P	20 56 03.1	+0.3	
	baz=292									
RDO	Rodhopi	91.73	312		IAMs_20		IAMs_20	21 44 29.1		
	comp=Z,2µm,20.0s									
VLAD	Vladila	91.84	315	⇓	P		P	20 56 04.3	+0.6	
PLVB	Pleven	91.84	314	⇑	P		P	20 56 04.4	+0.7	
LOT	Lotru	91.90	316	⇓	P		P	20 56 04.7	+0.6	
KOLS	Kolonicke sedl	91.94	320	*e*	P		P	20 56 05.1	+1.0	
KOLS					pmax		pmax			
	comp=Z,12nm,1.5s									
KOLS	Kolonicke sedl	91.94	320	*e*	P		P	20 56 05.1	+1.0	
MARR	Marisel-Cluj	92.02	318	⇓	P		P	20 56 03.8	-0.8	
BBB	Bella Bella	92.31	36		LR		LR	21 31 11.6		
	comp=Z,510nm,21.9s,baz=298,slow=31									
DEV	Deva	92.37	317	⇑	P		P	20 56 06.9	+0.8	
DEV	Deva	92.37	317		P		P	20 56 06.9	+0.8	
STHS	Stebnicka Huta	92.45	321	*e*	P		P	20 56 07.0	+0.6	
STHS					pmax		pmax			
	comp=Z,7.0nm,1.0s									
STHS	Stebnicka Huta	92.45	321	*e*	P		P	20 56 07.0	+0.6	
RES	Resolute Bay	92.52	10		IAmb		IAmb	20 56 09.6		
	comp=Z,27nm,0.9s									
RES	Resolute Bay	92.52	10		P		P	20 56 04.1	-2.1	
	comp=Z,17nm,0.8s,baz=311,slow=4.6,SNR=10									
RES					LR		LR	21 41 44.4		
	comp=Z,605nm,18.7s,baz=307,slow=38									
	comp=Z,17nm,0.8s									
GZR	Gura Zlata	92.59	317	⇑	P		P	20 56 07.7	+0.4	
GZR	Gura Zlata	92.59	317		P		P	20 56 07.6	+0.4	
HFS	Hagfors	92.79	332		P		P	20 56 05.2	-2.5	
	comp=Z,9.0nm,0.6s,baz=88,slow=3.7,SNR=21									
HFS					LR		LR	21 41 20.2		
	comp=Z,5µm,19.1s,baz=67,slow=38									
	comp=Z,9.0nm,0.6s									
SURR	Surduc	92.93	317	⇑	P		P	20 56 07.9	-0.8	
HERR	Herculane	92.98	316	⇓	P		P	20 56 08.8	-0.2	
NIE	Niedzica	93.03	321	*e*	P		P	20 56 10.0	+0.9	
NIE				*e*	S		S	21 07 14.2	+0.3	
NIE				*e*	L		L	21 43 02.6		
	comp=Z,2µm,19.0s									
OJC	Ojcow	93.09	322	*e*	P		P	20 56 09.6	+0.3	
OJC				*e*	S		S	21 07 11.9	-2.4	
OJC				*e*	L		L	21 42 43.2		
	comp=Z,3µm,17.5s									
SIRR	Siria	93.10	318	⇑	P		P	20 56 08.6	-0.8	
KECS	Kecovo	93.20	320	*e*	P		P	20 56 11.2	+1.3	
KECS					pmax		pmax			
	comp=Z,22nm,1.1s									
KECS	Kecovo	93.20	320	*e*	P		P	20 56 11.2	+1.3	
NC405	NORSAR Array S	93.27	334		P		P	20 56 06.2	-3.7	
NC405					IAmb		IAmb	20 56 11.3		
	comp=Z,18nm,0.9s									
BZS	Buzias	93.31	317	⇑	P		P	20 56 10.2	-0.3	
BZS	Buzias	93.31	317		P		P	20 56 10.1	-0.3	
NC303	NORSAR Array S	93.37	334		IAmb		IAmb	20 56 11.8		
	comp=Z,53nm,1.6s									
NEEM	North Greenlan	93.41	359	*i*	P		P	20 56 10.0	-0.6	
NEEM					IAmb		IAmb	20 56 13.5		
	comp=Z,59nm,1.0s									
MDVR	Moldovita	93.49	316	⇑	P		P	20 56 11.0	-0.3	
NC602	NORSAR Array S	93.51	333		IAmb		IAmb	20 56 17.8		
	comp=Z,47nm,1.9s									
NB2	NORSAR Subarra	93.52	334		P		P	20 56 08.4	-2.7	
	comp=Z,10nm,0.8s,baz=66,slow=4.6									
NB2	NORSAR Subarra	93.52	334		P		P	20 56 08.4	-2.7	
	baz=66,slow=4.6									
NOA	NORSAR Array B	93.52	334		P		P	20 56 08.2	-2.9	
	comp=Z,4.2nm,0.7s,baz=65,slow=4.5,SNR=26									
NOA					LR		LR	21 41 56.2		
	comp=Z,5µm,20.6s,baz=70,slow=38									
	comp=Z,4.2nm,0.7s									
IDI	Anoyia	93.62	306		IAmb		IAmb	20 56 14.1		
	comp=Z,26nm,1.1s									
IDI	Anoyia	93.62	306		LR		LR	21 43 37.2		
	comp=Z,680nm,21.1s,baz=96,slow=39									
LANS	Liptovska Anna	93.64	321	*e*	P		P	20 56 12.8	+0.9	
LANS					pmax		pmax			
	comp=Z,5.0nm,1.2s									
LANS	Liptovska Anna	93.64	321	*e*	P		P	20 56 12.8	+0.9	
NAO01	NORSAR Array S	93.75	334		P		P	20 56 08.6	-3.5	
PSZ	Piszkesteto	93.75	320	⇑	P		P	20 56 13.3	+0.8	
PSZ	Piszkesteto	93.75	320		P		P	20 56 13.3	+0.8	
TULEG	Thule	93.89	3		IAMs_20		IAMs_20	21 37 16.6		
	comp=Z,2µm,22.0s									
DBG	Daneborg	93.97	351	*i*	P		P	20 56 12.5	-0.4	
DBG					IAmb		IAmb	20 56 17.2		
	comp=Z,46nm,1.0s									
OKC	Ostrava-Krasne	94.23	322		AMS		AMS	21 43 00.0		
	comp=Z,3µm,16.5s									
VYHS	Vyhne	94.24	320	*e*	P		P	20 56 14.8	+0.1	
VYHS					pmax		pmax			
	comp=Z,9.0nm,1.3s									
VYHS	Vyhne	94.24	320	*e*	P		P	20 56 14.8	+0.1	
JMIC	Jan Mayen	94.32	346		LR		LR	21 44 52.2		
	comp=Z,µm,19.4s,baz=36,slow=40									
STEB	Steborice	94.42	322	*e*	P		P	20 56 17.5	+2.0	
MAUC	Maruska	94.58	321	*e*	P		P	20 56 18.3	+2.0	
MORC	Moravsky Berou	94.61	322		IAmb		IAmb	20 56 41.6		
	comp=Z,39nm,1.9s									
MORC	Moravsky Berou	94.61	322	*e*	P		P	20 56 16.7	+0.3	
MORC	Moravsky Berou	94.61	322	⇑	P		P	20 56 16.2	-0.3	
MORC	Moravsky Berou	94.61	322		P		P	20 56 16.1	-0.3	
YKAW3	Yellowknife Wh	94.74	24		IAmb		IAmb	20 56 28.2		
	comp=Z,39nm,1.2s									
YKA	Yellowknife Ar	94.78	24		P		P	20 56 13.0	-3.8	
YKA	Yellowknife Ar	94.78	24		P		P	20 56 15.9	-0.8	
	comp=Z,14nm,0.9s,baz=306,slow=5.1,SNR=24									
YKA					PP		PP	21 00 10.7	+5.8	
	comp=Z,2.9nm,0.9s,baz=301,slow=7.8,SNR=4.3									
YKA					PKKPbc		PKKPdf	21 13 13.2	-1.6	
	comp=Z,2.4nm,0.9s,baz=111,slow=2.9,SNR=5.3									
YKA					LR		LR	21 37 12.1		
	comp=Z,618nm,21.8s,baz=296,slow=34									
	comp=Z,14nm,0.9s									
YKA	Yellowknife Ar	94.78	24	*i*	P		P	20 56 17.2	+0.4	
YKA					pmax		pmax			
	comp=Z,12nm,0.9s									
SRO	Srobarova	94.80	320	*e*	P		P	20 56 18.4	+1.2	
SRO					pmax		pmax			
	comp=Z,7.0nm,0.9s									
SRO	Srobarova	94.80	320	*e*	P		P	20 56 18.4	+1.2	
YKAW1	Yellowknife Wh	94.83	24		IAmb		IAmb	20 56 28.6		
	comp=Z,32nm,1.1s									
JAVC	Velka Javorina	94.85	321	*e*	P		P	20 56 17.6	+0.1	
KRLC	Kraliky	94.97	322	*e*	P		P	20 56 19.7	+1.7	
KRLC					AMS		AMS	21 40 40.0		
	comp=Z,3µm,21.2s									
KRLC	Kraliky	94.97	322	*e*	P		P	20 56 19.7	+1.7	
KRLC					MLR		MLR			
	comp=Z,3µm,21.2s									
MORH	Mrgy, Hungar	95.11	318	⇑	P		P	20 56 19.1	+0.5	
OSTC	Ostas	95.14	323	*e*	P		P	20 56 21.7	+2.9	
OSTC					AMS		AMS	21 42 00.0		
	comp=Z,2µm,20.9s									
OSTC	Ostas	95.14	323	*e*	P		P	20 56 21.7	+2.9	
OSTC					MLR		MLR			
	comp=Z,2µm,20.9s									
DPC	Dobruska-Polom	95.15	323	*e*	P		P	20 56 20.6	+1.8	
DPC					AMS		AMS	21 40 40.0		
	comp=Z,3µm,19.9s									
DPC	Dobruska-Polom	95.15	323	*e*	P		P	20 56 20.6	+1.8	
					MLR		MLR			
	comp=Z,3µm,19.9s									
TAOE	Nuku Hiva Isla	95.18	98	*e*	S		S	21 07 20.7	-13	
	comp=Z,846nm,28.9s									
TAOE	Nuku Hiva Isla	95.18	98	*e*	LQ		LQ	21 22 33.9		
	comp=Z,5µm,30.2s									
TAOE				*e*	LR		LR	21 26 59.5		
	comp=Z,5µm,31.0s									
CHVC	Chvalec	95.22	323	*e*	P		P	20 56 21.3	+2.1	
CHVC					AMS		AMS	21 42 00.0		
	comp=Z,3µm,20.7s									
CHVC	Chvalec	95.22	323	*e*	P		P	20 56 21.3	+2.1	
CHVC					MLR		MLR			
	comp=Z,3µm,20.7s									
UPC	Upice	95.28	323		AMS		AMS	21 42 20.0		
	comp=Z,3µm,20.1s									
VRAC	Vranov	95.36	322	*e*	P		P	20 56 19.0	-0.8	
VRAC	Vranov	95.36	322		LR		LR	21 40 41.6		
	comp=Z,3µm,22.0s,baz=83,slow=36									
KRUC	Moravsky	95.57	321	*e*	P		P	20 56 19.9	-0.8	
TIR	Tirane	95.79	313		IAMs_20		IAMs_20	21 45 08.5		
	comp=Z,2µm,20.0s									
CLRS	Cowichan Lake	95.84	39		IAMs_20		IAMs_20	21 31 34.3		
	comp=Z,2µm,22.0s									
PDG	Podgorica	95.89	315	⇑	P		P	20 56 21.1	-1.2	
TREC	Trest	96.04	322		AMS		AMS	21 45 40.0		
	comp=Z,3µm,17.7s									
RONA	Rosalia, Austr	96.11	320	*e*	PcP		P	20 56 22.9	-0.4	
	comp=Z,3.9nm,1.1s									
PVCC	Panska Ves	96.12	323		AMS		AMS	21 42 50.0		
	comp=Z,2µm,18.8s									
GOPC	GO Pecny, Ondr	96.23	323		AMS		AMS	21 44 20.0		
	comp=Z,3µm,16.6s									
KULLO	Kullorsuaq	96.28	1	*i*	P		P	20 56 23.9	+0.5	
KULLO					IAmb		IAmb	20 56 26.2		
	comp=Z,50nm,1.1s									
CONA	Conrad Observa	96.31	321	*e*	PcP		P	20 56 24.1	-0.1	
	comp=Z,9.5nm,1.4s									
PGC	Sidney	96.32	39		IAMs_20		IAMs_20	21 32 01.0		
	comp=Z,1µm,22.0s									
PRU	Pruhonice	96.35	323	*e*	P		P	20 56 27.2	+3.0	
PRU					AMS		AMS	21 41 30.0		
	comp=Z,3µm,18.0s									
PRU	Pruhonice	96.35	323	*e*	P		P	20 56 27.2	+3.0	
PRU					MLR		MLR			
	comp=Z,3µm,18.0s									
BRG	Berggiesshubel	96.36	324	*e*	P		P	20 56 24.1	-0.2	
BRG					Amp			20 56 26.8		
	comp=Z,11nm,1.3s									
BRG	Berggiesshubel	96.36	324		P		P	20 56 31.4	+7.1	
BRG					Amp			20 56 33.1		
	comp=Z,5.8nm,1.0s									
BRG	Berggiesshubel	96.36	324		S		S	21 07 53.0	+10	
BRG	Berggiesshubel	96.36	324		SP		SP	21 08 59.0	-2.7	
BRG	Berggiesshubel	96.36	324		SS		SS	21 14 16.0	+1.0	
PRA	Prague	96.38	323		AMS		AMS	21 42 40.0		
	comp=Z,2µm,18.1s									
RICC	Richard	96.40	323		AMS		AMS	21 44 00.0		
	comp=Z,2µm,16.0s									
WISH	Wishkah	96.68	40		IAMs_20		IAMs_20	21 32 48.7		
	comp=Z,2µm,20.0s									
POIN	Pond Inlet	96.72	7		IAMs_20		IAMs_20	21 39 48.4		
	comp=Z,2µm,22.0s									
CLL	Collm	96.73	324	*i*	P		P	20 56 26.6	+0.7	
CLL				*i*				20 56 32.7		
CLL				*e*				21 07 06.0		
CLL					pmax		pmax			
	comp=Z,14nm,1.6s									
CLL					MLR		MLR			
	comp=Z,2µm,20.8s									
A04D	Lummi Island	96.75	38		IAMs_20		IAMs_20	21 31 41.5		
	comp=Z,2µm,21.0s									
ARSA	Arzberg	96.77	320	*e*	PcP		P	20 56 25.7	-0.6	
	comp=Z,3.9nm,1.2s									
ZVC	Zvikov	96.77	322		AMS		AMS	21 46 20.0		
	comp=Z,3µm,18.1s									
RADR	Rader Ridge	96.91	41		IAMs_20		IAMs_20	21 31 30.9		
	comp=Z,2µm,22.0s									
CKRC	Cesky Krumlov	96.94	322	*e*	P		P	20 56 26.8	-0.2	
CKRC					AMS		AMS	21 43 00.0		
	comp=Z,2µm,17.6s									
CKRC	Cesky Krumlov	96.94	322	*e*	P		P	20 56 26.8	-0.2	
CKRC					MLR		MLR			
	comp=Z,2µm,17.6s									
E03A	Lebam	97.02	41		IAMs_20		IAMs_20	21 31 22.7		
	comp=Z,2µm,22.0s									
F03A	Seaside	97.25	41		IAMs_20		IAMs_20	21 31 17.7		
	comp=Z,2µm,22.0s									
KHC	Kasperske Hory	97.26	322	*e*	P		Pdif	20 56 30.1	+1.6	
KHC	Kasperske Hory	97.26	322	*e*	P		Pdif	20 56 30.1	+1.6	
SOKA	Soboth	97.29	320	*e*	PcP		P	20 56 28.2	-0.5	
	comp=Z,2.0nm,1.0s									
GEC2	GERESS Array S	97.30	322		IAmb		IAmb	20 56 52.5		
	comp=Z,38nm,1.7s									
GERES	GERESS Array B	97.30	322		P		P	20 56 25.7	-3.0	
GERES	GERESS Array B	97.30	322		P		P	20 56 26.9	-1.7	
	comp=Z,4.5nm,0.9s,baz=66,slow=4.5,SNR=29									
GERES					PP		PP	21 00 28.6	+3.6	
	comp=Z,0.7nm,0.8s,baz=86,slow=6.8,SNR=3.5									
GERES					PKKPbc		PKKPbc	21 13 07.3	-1.5	
	comp=Z,0.2nm,0.3s,baz=349,slow=2.7,SNR=4.2									
GERES					LR		LR	21 43 00.8		
	comp=Z,2µm,21.1s,baz=76,slow=37									
	comp=Z,4.5nm,0.9s									
GERES	GERESS Array B	97.30	322		P		P	20 56 27.0	-1.7	
SYO	Syowa Base	97.30	201	⇓	ePcP		Pdif	20 56 30.2	+2.2	
SYO	Syowa Base	97.30	201	⇑	epP		pP	20 56 33.8	-3.1	
MOA	Molln	97.33	321	*e*	PcP		Pdif	20 56 28.8	0.0	
	comp=Z,19nm,1.1s									
SCO	Scoresbysund	97.49	350	*i*	P		Pdif	20 56 30.2	+1.2	
SCO					IAmb		IAmb	20 56 31.7		
	comp=Z,15nm,0.9s									
F04D	Rainier, OR	97.55	41		IAMs_20		IAMs_20	21 32 31.6		
	comp=Z,2µm,21.0s									
OBKA	Obir	97.66	320	*e*	P		P	20 56 29.1	-1.3	
	comp=Z,0.4nm,0.5s									
SUMG	Summit	97.69	355		P		P	20 56 28.6	-1.7	
SUMG					IAmb		IAmb	20 56 36.2		
	comp=Z,14nm,1.1s									
SUMG					IAMs_20		IAMs_20	21 43 56.1		
	comp=Z,2µm,21.0s									
SUMG	Summit	97.69	355		P		P	20 56 28.6	-1.7	
SUMG					pmax		pmax			
	comp=Z,14nm,1.1s									
SUMG					MLR		MLR			
	comp=Z,2µm,21.0s									
SUMG	Summit	97.69	355	*i*	P		P	20 56 29.0	-1.3	
SUMG					IAmb		IAmb	20 56 37.1		
	comp=Z,9.7nm,1.0s									
D05A	Enumclaw	97.78	40		IAMs_20		IAMs_20	21 31 27.8		
	comp=Z,2µm,22.0s									
BIOA	Bad Ischl, Aus	97.78	321	*e*	PcP		P	20 56 30.4	-0.4	
	comp=Z,2.5nm,0.7s									
KEBM	Edson Butte	97.81	44		IAMs_20		IAMs_20	21 42 51.9		
	comp=Z,1µm,19.0s									
COR	Corvallis	97.90	42		IAMs_20		IAMs_20	21 43 24.1		
	comp=Z,1µm,19.0s									
POGA	Pongola	97.97	244		IAMs_20		IAMs_20	21 39 31.3		
	comp=Z,1µm,20.0s									
J01E	Myrtle Point	97.98	44		IAMs_20		IAMs_20	21 32 55.5		
	comp=Z,1µm,20.0s									
LON	Longmire	98.06	40		IAMs_20		IAMs_20	21 32 21.3		
	comp=Z,1µm,22.0s									
KBO	Bosley Butte	98.11	45		IAMs_20		IAMs_20	21 32 43.0		
	comp=Z,1µm,20.0s									
MYKA	Terra Mystica	98.19	320	*i*	PcP		P	20 56 32.6	-0.2	
	comp=Z,0.8nm,0.4s									
KBA	Koelnbreinsper	98.21	320	*e*	PcP		P	20 56 32.7	-0.2	
	comp=Z,4.4nm,0.9s									
G04A	Mudmo	98.22	42		IAMs_20		IAMs_20	21 33 07.5		
	comp=Z,2µm,21.0s									
BUCK	Buck Mountain	98.25	43		IAmb		IAmb	20 56 53.0		
	comp=Z,19nm,1.1s									
H04D	Lebanon	98.30	42		IAMs_20		IAMs_20	21 33 22.7		
	comp=Z,1µm,21.0s									
LESA	Schwarzleotal	98.49	321	*e*	Pdiff		P	20 56 32.3	-1.7	
	comp=Z,4.7nm,0.9s									
KSXB	Camp Six Broad	98.49	45		IAMs_20		IAMs_20	21 35 51.9		
	comp=Z,2µm,20.0s									
KRMB	Red Mountain	98.58	45		IAMs_20		IAMs_20	21 35 52.2		
	comp=Z,1µm,20.0s									
SGRT	San Giovanni R	98.58	315		IAMs_20		IAMs_20	21 44 58.2		
	comp=Z,2µm,22.0s									
L02F	Cave Junction	98.60	45		IAMs_20		IAMs_20	21 35 14.9		
	comp=Z,2µm,21.0s									
H04A	Detroit Lake	98.61	42		IAMs_20		IAMs_20	21 33 30.8		
	comp=Z,2µm,21.0s									
KRPM	Rodgers	98.62	46		IAMs_20		IAMs_20	21 32 34.5		
	comp=Z,2µm,22.0s									
HOOD	Mount Hood Mea	98.72	41		IAMs_20		IAMs_20	21 33 07.6		
	comp=Z,2µm,21.0s									
JCC	Jacoby Creek,	98.73	46		IAMs_20		IAMs_20	21 32 57.5		
	comp=Z,1µm,22.0s									
TIP	Timpagrande	98.73	312		IAMs_20		IAMs_20	21 48 32.5		
	comp=Z,2µm,20.0s									
ABTA	Abfaltersbach	98.86	320	*e*	Pdiff		P	20 56 33.3	-2.5	
	comp=Z,8.8nm,1.3s									
KHMM	Horse Mountain	98.93	46		IAMs_20		IAMs_20	21 33 27.5		
	comp=Z,1µm,22.0s									
G05A	Wamic	98.96	41		IAMs_20		IAMs_20	21 33 15.2		
	comp=Z,2µm,21.0s									
MXC	Moxie City	99.09	40		IAMs_20		IAMs_20	21 32 18.4		
	comp=Z,2µm,22.0s									
QSPA	South Pole Qui	99.15	180		P		Pdif	20 56 34.8	-1.8	
QSPA					IAmb		IAmb	20 56 39.7		
	comp=Z,21nm,1.1s									
QSPA	South Pole Qui	99.15	180		IAMs_20		IAMs_20	21 42 14.5		
	comp=Z,2µm,19.0s									
QSPA	South Pole Qui	99.15	180		P		Pdif	20 56 35.8	-0.7	
	comp=Z,11nm,1.0s,baz=319,slow=2.8,SNR=19									
QSPA					LR		LR	21 42 25.5		
	comp=Z,1µm,19.1s,baz=352,slow=36									
	comp=Z,11nm,1.0s									
KMRM	Mail Ridge	99.17	47		IAMs_20		IAMs_20	21 37 59.2		
	comp=Z,1µm,19.0s									
ILON	Igloolik, Nuna	99.19	10		IAmb		IAmb	20 56 39.1		
	comp=Z,23nm,1.3s									
WTTA	Wattenberg	99.20	321	*i*	Pdiff		Pdif	20 56 35.7	-1.7	
	comp=Z,11nm,1.1s									
WATA	Walderalm	99.21	321	*e*	Pdiff		Pdif	20 56 35.5	-1.9	
	comp=Z,8.6nm,1.2s									
I05D	Terrebonne, OR	99.30	42		IAMs_20		IAMs_20	21 33 54.1		
	comp=Z,2µm,22.0s									
YBH	Yreka Blue Hor	99.34	45		IAMs_20		IAMs_20	21 35 49.4		
	comp=Z,2µm,21.0s									
YBH	Yreka Blue Hor	99.34	45		LR		LR	21 33 16.5		
	comp=Z,78nm,21.9s,baz=284,slow=30									
E07A	Sunnyside	99.38	40		IAMs_20		IAMs_20	21 34 27.0		
	comp=Z,2µm,21.0s									
G06A	Carlson Farm,	99.41	41		IAMs_20		IAMs_20	21 33 50.0		
	comp=Z,2µm,20.0s									
KCPM	Cahto Peak	99.44	47		IAMs_20		IAMs_20	21 31 02.4		
	comp=Z,1µm,22.0s									
WAH2	Wahluke Slope	99.48	39		IAMs_20		IAMs_20	21 34 51.6		
	comp=Z,2µm,20.0s									
SQTA	Sankt Quirin	99.48	321	*i*	Pdiff		Pdif	20 56 37.7	-0.8	
	comp=Z,8.5nm,1.1s									
MOTA	Moosalm	99.50	321	*e*	Pdiff		Pdif	20 56 37.5	-1.2	
	comp=Z,2.8nm,1.1s									
F07A	Phinny Hill Vi	99.60	40		IAMs_20		IAMs_20	21 32 56.9		
	comp=Z,2µm,22.0s									
N02D	Trinity Center	99.62	46		IAMs_20		IAMs_20	21 33 30.5		
	comp=Z,2µm,21.0s									
RETA	Reutte	99.65	322	*e*	Pdiff		Pdif	20 56 38.3	-1.0	
	comp=Z,5.3nm,1.0s									
HAWA	Hanford	99.65	40		IAMs_20		IAMs_20	21 34 35.1		
	comp=Z,2µm,21.0s									
PAOL	Paolisi	99.67	314		IAMs_20		IAMs_20	21 48 17.9		
	comp=Z,1µm,20.0s									
CEL	Celeste	99.68	311		IAMs_20		IAMs_20	21 49 22.6		
	comp=Z,2µm,21.0s									
D08A	Wollman Farm,	99.75	39		IAMs_20		IAMs_20	21 34 29.9		
	comp=Z,2µm,22.0s									
PINE	Pine Mountain	99.78	43		IAMs_20		IAMs_20	21 34 09.7		
	comp=Z,2µm,22.0s									
O02D	Mt. Diablo Mer	99.84	46		IAMs_20		IAMs_20	21 38 13.9		
	comp=Z,1µm,20.0s									
LSZ	Lusaka	99.85	256		IAMs_20		IAMs_20	21 37 37.6		
	comp=Z,2µm,

BOZ Bozeman (W) 104.90 38 IAMs_20 IAMs_20 21 53 33.1
comp=Z,1µm,19.0s
OSI Osito Audit: C 104.91 51 IAMs_20 IAMs_20 21 35 21.4
comp=Z,2µm,22.0s
GRAC Grapevine Rang 104.98 48 IAMs_20 IAMs_20 21 37 33.1
comp=Z,1µm,20.0s
KEST Kesra 105.48 311 PP **PP 21 01 28.4 +1.3**
comp=Z,3.6nm,0.7s,baz=27,slow=9.0,SNR=4.9
PASC Pasadena Art C 105.49 51 IAMs_20 IAMs_20 21 35 25.8
comp=Z,2µm,22.0s
YHL Hebgen Lake 105.56 38 IAMs_20 IAMs_20 21 45 20.3
comp=Z,1µm,21.0s
MWC Mount Wilson 105.57 51 IAMs_20 IAMs_20 21 35 40.8
comp=Z,2µm,22.0s
YHB Horse Butte 105.60 38 IAMs_20 IAMs_20 21 35 55.5
comp=Z,2µm,22.0s
PHPEN Phepeng 105.73 246 IAMs_20 IAMs_20 21 45 13.0
comp=Z,1µm,20.0s
QSM Queen of Sheba 105.77 49 IAMs_20 IAMs_20 21 36 38.0
comp=Z,2µm,21.0s
GWY Greenwater Val 105.83 48 IAMs_20 IAMs_20 21 36 22.4
comp=Z,1µm,22.0s
S11A Rachel 105.89 47 IAMs_20 IAMs_20 21 36 22.9
comp=Z,2µm,21.0s
HVU Hansel Valley 106.06 42 IAMs_20 IAMs_20 21 37 50.0
comp=Z,2µm,21.0s
GSC Goldstone, Bar 106.09 49 IAMs_20 IAMs_20 21 37 58.4
comp=Z,2µm,22.0s
ELS Elsinore Mount 106.28 51 IAMs_20 IAMs_20 21 39 38.6
comp=Z,1µm,20.0s
BGU Big Grassy Mou 106.30 43 IAMs_20 IAMs_20 21 40 02.4
comp=Z,1µm,21.0s
AHID Auburn Hatcher 106.66 40 IAMs_20 IAMs_20 21 36 50.7
comp=Z,2µm,22.0s
CPE Camp Elliot 106.82 52 IAMs_20 IAMs_20 21 36 39.8
comp=Z,1µm,21.0s
PSUT Pine Spring 106.84 45 IAMs_20 IAMs_20 21 37 54.9
comp=Z,2µm,21.0s
QNGWA Qangwa 106.93 252 IAMs_20 IAMs_20 21 41 41.0
comp=Z,2µm,21.0s
HWUT Hardware Ranch 106.94 41 IAMs_20 IAMs_20 21 38 29.1
comp=Z,1µm,22.0s
GRTLG Ghanzi 107.01 250 IAMs_20 IAMs_20 21 45 44.0
comp=Z,1µm,20.0s
PFO Pinyon Flats O 107.03 51 IAMs_20 IAMs_20 21 36 22.6
comp=Z,2µm,22.0s
PMD Palm Desert 107.08 51 IAMs_20 IAMs_20 21 40 04.8
comp=Z,1µm,21.0s
CTU Camp Tracy 107.26 42 IAMs_20 IAMs_20 21 38 43.8
comp=Z,1µm,21.0s
MAHO Mahon 107.27 317 IAMs_20 IAMs_20 21 51 41.9
comp=Z,1µm,21.0s
TCUT Toone Canyon 107.28 42 IAMs_20 IAMs_20 21 38 40.3
comp=Z,1µm,21.0s
V12A Nelson 107.36 48 IAMs_20 IAMs_20 21 42 51.0
comp=Z,1µm,21.0s
JLU Jordanelle 107.50 42 IAMs_20 IAMs_20 21 38 38.3
comp=Z,2µm,21.0s
SALN Salton City 107.53 51 IAMs_20 IAMs_20 21 36 11.7
comp=Z,1µm,22.0s
CCUT Cedar City 107.63 46 IAMs_20 IAMs_20 21 39 54.9
comp=Z,2µm,21.0s
PDAR Pinedale Array 107.64 40 Pdiff **Pdif 20 57 15.7 +0.6**
comp=Z,0.1nm,0.4s,baz=195,slow=17,SNR=1.4
PDAR PKiKP **PKiKP 21 01 21.6 -1.4**
comp=Z,0.7nm,0.9s,baz=283,slow=3.3,SNR=2.6
PDAR PP **PP 21 01 46.4 +3.5**
comp=Z,1.1nm,0.8s,baz=315,slow=8.7,SNR=4.1
MPU Maple Canyon 107.67 43 IAMs_20 IAMs_20 21 39 11.6
comp=Z,1µm,22.0s
SZCU Shurtz Canyon 107.80 46 IAMs_20 IAMs_20 21 36 15.5
comp=Z,2µm,22.0s
YUH Yuha Desert 107.83 51 IAMs_20 IAMs_20 21 51 00.8
comp=Z,2µm,19.0s
CEST Esterri de Car 107.89 320 IAMs_20 IAMs_20 21 53 45.8
comp=Z,2µm,18.0s
LCMT Little Creek M 107.96 46 IAMs_20 IAMs_20 21 37 11.6
comp=Z,2µm,22.0s
KOOLE Kule 108.04 249 IAMs_20 IAMs_20 21 47 37.3
comp=Z,2µm,22.0s
ESJX Sierra Juarez 108.07 52 IAMs_20 IAMs_20 21 36 23.2
comp=Z,2µm,22.0s
KNB Kanab 108.25 46 IAMs_20 IAMs_20 21 36 48.5
comp=Z,1µm,22.0s
P18A Preston Nutter 108.79 43 IAMs_20 IAMs_20 21 50 46.3
comp=Z,1µm,19.0s
SFX San Felipe 109.32 53 IAMs_20 IAMs_20 21 37 09.2
comp=Z,1µm,21.0s
113A Mohawk Valley, 109.43 51 IAMs_20 IAMs_20 21 51 03.2
comp=Z,1µm,19.0s
Y14A Wickenburg 109.50 49 IAMs_20 IAMs_20 21 38 08.8
comp=Z,2µm,22.0s
IVI Ivigtut 109.59 357 IAMs_20 IAMs_20 21 55 19.5
comp=Z,1µm,20.0s
WUAZ Wupatki 109.98 47 IAMs_20 IAMs_20 21 40 36.4
comp=Z,1µm,20.0s
RSSD Black Hills 110.22 36 IAMs_20 IAMs_20 21 52 03.7
comp=Z,1µm,21.0s
TSUM Tsumeb 110.29 253 IAMs_20 IAMs_20 21 48 49.1
comp=Z,2µm,20.0s
MDND Maddock 110.30 31 IAMs_20 IAMs_20 21 51 06.3
comp=Z,1µm,19.0s
SNAA Sanae 110.35 195 IAMs_20 IAMs_20 21 49 59.0
comp=Z,1µm,20.0s
SNAA Sanae 110.35 195 Pdiff **Pdif 20 57 28.0 +1.8**
comp=Z,0.9nm,1.0s,baz=324,slow=10,SNR=2.5
SNAA PKKPbc **PKKPbc 21 12 28.3 -2.1**
comp=Z,2.3nm,0.9s,baz=253,slow=4.7,SNR=5.8
X16A Lo Mia Camp, P 110.44 48 IAMs_20 IAMs_20 21 37 00.7
comp=Z,2µm,22.0s
E28A Huff 110.57 32 IAMs_20 IAMs_20 21 41 37.4
comp=Z,1µm,22.0s
BELA Belgrano 2 110.69 184 IAMs_20 IAMs_20 21 44 28.6
comp=Z,1µm,21.0s
WIN Windhoek 110.88 249 IAMs_20 IAMs_20 21 47 50.7
comp=Z,2µm,20.0s
MVCO Mesa Verde 111.19 44 IAMs_20 IAMs_20 21 42 40.2
comp=Z,2µm,21.0s
W18A Petrified Fore 111.35 47 IAMs_20 IAMs_20 21 41 30.6
comp=Z,1µm,20.0s
X18A Snowflake 111.48 47 IAMs_20 IAMs_20 21 41 19.0
comp=Z,1µm,22.0s
ISCO Idaho Springs 111.73 41 IAMs_20 IAMs_20 21 40 21.1
comp=Z,2µm,22.0s
EPLO Experimental L 111.81 27 IAMs_20 IAMs_20 21 53 28.0
comp=Z,968nm,19.0s
KUQ Kuujjuaa 111.83 8 IAMs_20 IAMs_20 21 49 29.6
comp=Z,1µm,20.0s
TUC Tucson 111.90 50 IAMs_20 IAMs_20 21 39 03.0
comp=Z,1µm,22.0s
CART Cartagena 111.99 317 IAMs_20 IAMs_20 21 54 19.8
comp=Z,1µm,20.0s
ESDC Sonseca Array 112.79 320 PKiKP **PKiKP 21 01 33.5 +0.8**
comp=Z,0.7nm,0.9s,baz=34,slow=2.3,SNR=5.3
ESDC PP **PP 21 02 21.1 +1.3**
comp=Z,1.7nm,1.0s,baz=47,slow=4.7,SNR=5.4
ESDC PKKPbc **PKKPbc 21 12 21.8 +0.3**
comp=Z,0.6nm,0.9s,baz=253,slow=4.6,SNR=4.1
SUSD Miller 112.88 33 IAMs_20 IAMs_20 21 53 32.7
comp=Z,1µm,21.0s
SRIG Santa Rosalia 112.92 55 IAMs_20 IAMs_20 21 53 45.9
comp=Z,1µm,19.0s
PAB San Pablo 113.10 320 IAMs_20 IAMs_20 21 58 52.9
comp=Z,1µm,19.0s
PBRG Braganca 113.22 323 *e*PKPdf **PKiKP 21 01 37.2 +3.8**
HSIG 113.23 53 IAMs_20 IAMs_20 21 39 08.0
comp=Z,1µm,21.0s
OGNE Ogallala 113.31 38 IAMs_20 IAMs_20 21 54 24.4
319A Douglas 113.46 50 IAMs_20 IAMs_20 21 44 54.8
comp=Z,1µm,20.0s
TAM Tamanrasset 113.58 300 IAMs_20 IAMs_20 21 58 27.5
comp=Z,1µm,19.0s
ANMO Albuquerque 113.77 45 IAMs_20 IAMs_20 21 42 34.4
comp=Z,1µm,20.0s
MVO Moncorvo 113.79 323 *e*PKPdf **PKiKP 21 01 37.9 +3.4**
MVO *e*SS SS 21 18 33.8 +20
MVO *e*LR LR 21 39 59.7
MVO *i* IAMs_20 IAMs_20 21 54 25.6
comp=Z,3µm,20.0s
PGAV Gavieira, Arco 114.02 324 *e*SS SS 21 18 27.1 +11
PGAV *e*LR LR 21 39 59.5
PGAV *i* IAMs_20 IAMs_20 21 54 39.9
comp=Z,2µm,22.0s
EYMN Ely 114.09 27 IAMs_20 IAMs_20 21 57 19.1
comp=Z,1µm,20.0s
MTE Manteigas 114.57 322 *e*PKPdf PKPdf 21 01 39.1 +3.1
MTE *e*SS SS 21 17 44.8 -39
MTE *e*LR LR 21 38 50.4
MTE *i* IAMs_20 IAMs_20 21 52 54.3
comp=Z,2µm,22.0s
ECSD EROS Data Cent 114.61 33 IAMs_20 IAMs_20 21 52 20.4
comp=Z,1µm,20.0s
PCBR Castelo Branco 114.87 322 *e*PKPdf PKPdf 21 01 39.1 +2.6
E38A The Farm, Brul 115.07 28 IAMs_20 IAMs_20 21 58 19.1
comp=Z,1µm,20.0s
PMRV Marv??o 115.07 322 *e*PKPdf **PKPdf 21 01 39.0 +2.1**
PMRV *e*LR LR 21 38 51.7
PMRV *i* IAMs_20 IAMs_20 21 58 07.3
comp=Z,1µm,20.0s
SCHQ Schefferville 115.23 8 PKP **PKiKP 21 01 36.2 -0.6**
comp=Z,4.0nm,0.8s,baz=298,slow=0.6,SNR=3.2
BGNE Belgrade 115.30 35 IAMs_20 IAMs_20 21 45 20.0
comp=Z,1µm,21.0s
EPT El Paso 115.34 48 IAMs_20 IAMs_20 21 41 38.4
comp=Z,1µm,22.0s
PCAS Casmilo, Conde 115.35 323 *e*PKPdf **PKPdf 21 01 37.8 +0.3**
SPMN Mane on St. 115.50 29 IAMs_20 IAMs_20 22 01 01.6
comp=Z,1µm,18.0s
PBAR Barrancos 115.61 320 *e*PKPdf **PKPdf 21 01 40.5 +2.5**
L34A Svendsen Farm, 115.93 34 IAMs_20 IAMs_20 21 56 32.5
comp=Z,1µm,20.0s
I37A Lemond, Waseca 116.08 31 IAMs_20 IAMs_20 21 52 30.1
comp=Z,1µm,20.0s
MNTX Cornudas Mount 116.21 48 **PKPdf 21 01 37.9 -1.5**
MNTX IAMs_20 IAMs_20 21 56 22.0
comp=Z,1µm,19.0s
PARRA Arraiolos 116.45 322 *e*PKPdf **PKiKP 21 01 40.8 +1.2**
PVAQ Vaqueiros 116.50 320 *e*PKPdf **PKiKP 21 01 41.9 +2.2**
PVAQ *e*SS SS 21 19 50.4 +61
PVAQ *e*LR LR 21 39 32.5
PVAQ *i* IAMs_20 IAMs_20 22 00 34.7
comp=Z,1µm,20.0s
COWI Conover 116.54 27 IAMs_20 IAMs_20 21 52 40.9
comp=Z,1µm,22.0s
MESJ Messejana 116.55 321 *e*PP **PP 21 02 45.9 -0.4**
MESJ IAMs_20 IAMs_20 21 55 18.5
comp=Z,2µm,15.9s
MESJ Messejana 116.55 321 *e*PKPdf **PKiKP 21 01 42.6 +2.7**
PCVE Castro Verde 116.56 320 *e*PKPdf **PKiKP 21 01 40.0 +0.1**
G40A Rib Lake 116.69 28 IAMs_20 IAMs_20 21 46 56.2
comp=Z,1µm,22.0s
MSTX Muleshoe 116.86 44 IAMs_20 IAMs_20 21 56 59.1
comp=Z,991nm,20.0s
R32A Long Quarter, 116.88 38 IAMs_20 IAMs_20 21 45 09.0
comp=Z,2µm,21.0s
PTEO Sao Teotonio 117.05 321 *e*PKPdf **PKPdf 21 01 40.0 -0.8**
N35A Tabor 117.08 34 IAMs_20 IAMs_20 21 45 39.1
comp=Z,2µm,22.0s
AMTX Amarillo 117.09 43 IAMs_20 IAMs_20 21 45 58.9
comp=Z,1µm,21.0s
MORF Marmelete 117.15 320 *e*PP **PP 21 02 50.3 -0.3**
MORF IAMs_20 IAMs_20 21 49 21.7
comp=E,2µm,25.5s
MORF Marmelete 117.15 320 *e*PKPdf **PKiKP 21 01 43.9 +2.9**
I40A Norwalk 117.54 29 IAMs_20 IAMs_20 21 57 42.4
comp=Z,1µm,20.0s
SCIA State Center 117.68 32 IAMs_20 IAMs_20 21 54 01.5
comp=Z,1µm,21.0s
HPIG 118.34 53 IAMs_20 IAMs_20 22 00 39.9
comp=Z,1µm,18.0s
E46A Sault Ste Mari 118.34 23 IAMs_20 IAMs_20 21 57 04.3
comp=Z,1µm,21.0s
H43A Windswept, Lux 118.41 27 IAMs_20 IAMs_20 22 00 15.4
comp=Z,1µm,20.0s
JFWS Jewell Farm 118.44 30 IAMs_20 IAMs_20 22 00 38.5
comp=Z,1µm,20.0s
N38A Joes South For 118.45 33 IAMs_20 IAMs_20 21 58 55.0
comp=Z,1µm,19.0s
L40A Anamoose 118.59 31 **PKPdf 21 01 41.4 -2.2**
TXAR Lajitas Array 118.69 49 PKP **PKPdf 21 01 43.9 -0.4**
comp=Z,1.7nm,0.7s,baz=332,slow=1.9,SNR=9.8
TXAR PP **PP 21 03 00.9 -0.8**
comp=Z,1.6nm,0.9s,baz=269,slow=5.0,SNR=3.9
TXAR PKKPbc **PKKPbc 21 12 01.6 +0.9**
comp=Z,0.2nm,0.5s,baz=145,slow=4.6,SNR=3.9
AVE Averroes 118.71 316 IAMs_20 IAMs_20 22 03 10.5
comp=Z,1µm,20.0s
WMOK Wichita Mounta 119.10 42 IAMs_20 IAMs_20 21 51 55.0
comp=Z,964nm,21.0s
P38A Dawn 119.11 34 IAMs_20 IAMs_20 21 46 39.4
comp=Z,1µm,22.0s
T35A Sooner Cattle 119.18 38 IAMs_20 IAMs_20 21 57 37.7
comp=Z,960nm,21.0s
L42A Oliver, Polo 119.41 30 IAMs_20 IAMs_20 22 01 17.1
comp=Z,998nm,20.0s
I45A Fountain 119.43 26 IAMs_20 IAMs_20 21 57 54.3
comp=Z,1µm,18.0s
GLMI Grayling 119.48 25 IAMs_20 IAMs_20 21 54 07.5
comp=Z,1µm,22.0s
K43A Burlington 119.52 29 IAMs_20 IAMs_20 22 03 16.9
comp=Z,992nm,19.0s
FNO Franklin 119.68 40 IAMs_20 IAMs_20 21 58 24.1
comp=Z,1µm,20.0s
N41A Harden Midland 119.77 32 IAMs_20 IAMs_20 21 47 29.8
comp=Z,1µm,21.0s
P40A Paris 119.99 33 IAMs_20 IAMs_20 21 57 28.6
comp=Z,1µm,21.0s
L44A Lake County Fo 120.13 29 IAMs_20 IAMs_20 22 03 52.9
comp=Z,1µm,20.0s
TUL3 Leonard 120.27 39 IAMs_20 IAMs_20 21 46 15.7
comp=Z,1µm,22.0s
TORD Torodi Ar. Bea 120.36 291 PKP **PKPdf 21 01 46.5 -1.3**
comp=Z,1µm,0.5s,baz=49,slow=2.2,SNR=4.3
HQIL Hanson Quary C 120.45 29 IAMs_20 IAMs_20 21 47 53.4
comp=Z,1µm,22.0s
S39A Bolivar 120.56 36 IAMs_20 IAMs_20 21 57 20.2
comp=Z,945nm,18.0s
SMAI San Martin Ant 120.58 174 **PKPdf 21 01 45.9 -0.6**
SMAI IAMs_20 IAMs_20 21 51 56.1
comp=Z,1µm,21.0s
M44A Midewin, Midew 120.67 29 IAMs_20 IAMs_20 22 01 33.4
comp=Z,1µm,20.0s
HDIL Hopedale 120.68 31 IAMs_20 IAMs_20 21 55 21.8
comp=Z,1µm,21.0s
R40A Maddies Statio 120.74 35 IAMs_20 IAMs_20 21 53 07.7
comp=Z,1µm,22.0s
BUKO Buck Lake 120.94 21 IAMs_20 IAMs_20 21 57 07.9
comp=Z,1µm,19.0s
L46A Eue Claire 121.01 28 IAMs_20 IAMs_20 22 01 47.2
comp=Z,968nm,20.0s
HHAR Hobbs 121.15 37 IAMs_20 IAMs_20 21 48 33.9
comp=Z,1µm,21.0s
CCM Cathedral Cave 121.48 34 IAMs_20 IAMs_20 22 04 30.1
comp=Z,996nm,19.0s
FW14 Alvrado 121.57 43 IAMs_20 IAMs_20 21 48 19.6
comp=Z,1µm,21.0s
LMQ La Malbaie 121.60 13 IAMs_20 IAMs_20 22 01 06.0
comp=Z,1µm,20.0s
SLM Saint Louis 121.61 33 IAMs_20 IAMs_20 21 57 40.5
comp=Z,1µm,20.0s
SADO Sadowa 121.61 21 IAMs_20 IAMs_20 22 01 02.7
comp=Z,1µm,19.0s
DRLN Deer Lake 121.64 3 IAMs_20 IAMs_20 22 01 17.9
comp=Z,1µm,20.0s
AAM Ann Arbor 121.94 26 IAMs_20 IAMs_20 22 00 10.8
comp=Z,1µm,20.0s
FVM French Village 121.98 34 IAMs_20 IAMs_20 21 56 48.4
comp=Z,979nm,20.0s
K50A Casco 121.99 25 IAMs_20 IAMs_20 22 03 11.8
comp=Z,1µm,19.0s
Q44A Meyer Farm, Va 122.06 32 IAMs_20 IAMs_20 22 03 03.3
comp=Z,1µm,20.0s
N47A Urbana 122.18 28 IAMs_20 IAMs_20 22 03 58.2
comp=Z,1µm,20.0s
435B Jarrell 122.28 45 IAMs_20 IAMs_20 21 48 13.3
comp=Z,1µm,22.0s
DELO Deloro Mine 122.36 20 IAMs_20 IAMs_20 22 03 23.3
comp=Z,1µm,20.0s
833A Chaparral WMA, 122.39 48 IAMs_20 IAMs_20 22 02 02.8
comp=Z,1µm,20.0s
P46A Rosedale 122.44 30 IAMs_20 IAMs_20 21 48 50.2
comp=Z,1µm,20.0s
FCAR Ozark Folk Cen 122.50 36 IAMs_20 IAMs_20 22 05 15.3
comp=Z,1µm,20.0s
OLIL Olney 122.66 31 IAMs_20 IAMs_20 22 03 51.2
comp=Z,1µm,20.0s
WBO Williamsburg 122.67 18 IAMs_20 IAMs_20 22 05 27.5
comp=Z,1µm,20.0s
237A Washetta, Mont 122.74 42 IAMs_20 IAMs_20 21 51 49.4
comp=Z,1µm,19.0s
ZAIG Zacatecas 122.79 55 IAMs_20 IAMs_20 21 53 17.1
comp=Z,1µm,20.0s
WHAR Wooly Hollow 122.81 37 IAMs_20 IAMs_20 22 03 33.7
comp=Z,1µm,20.0s
S44A Carbondale 122.82 33 IAMs_20 IAMs_20 21 57 58.7
comp=Z,1µm,20.0s
N49A Columbus Grove 122.83 27 IAMs_20 IAMs_20 22 05 18.5
comp=Z,1µm,19.0s
PBMO Poplar Bluff 122.84 35 IAMs_20 IAMs_20 21 57 33.3
comp=Z,916nm,20.0s
CGM3 Cape Girardeau 122.89 34 IAMs_20 IAMs_20 21 57 13.6
comp=Z,1µm,21.0s
O48B Farmland 122.92 28 IAMs_20 IAMs_20 21 50 45.9
comp=Z,1µm,22.0s
LCAR Lake Charles 122.93 36 IAMs_20 IAMs_20 22 00 44.9
comp=Z,960nm,21.0s
M50A Fremont 122.94 26 IAMs_20 IAMs_20 22 04 21.2
comp=Z,1µm,20.0s
PECO Prince Edward 123.08 20 IAMs_20 IAMs_20 21 59 11.5
comp=Z,1µm,20.0s
BLO Bloomington 123.12 30 IAMs_20 IAMs_20 21 54 57.2
comp=Z,985nm,21.0s
UALR University of 123.13 38 IAMs_20 IAMs_20 21 53 48.2
comp=Z,1µm,20.0s
LONY Lake Ozonia 123.22 17 IAMs_20 IAMs_20 22 00 02.1
comp=Z,1µm,21.0s
735A Kenedy 123.24 47 IAMs_20 IAMs_20 21 59 55.2
comp=Z,1µm,19.0s
PARMO Parma 123.30 34 IAMs_20 IAMs_20 22 06 14.9
comp=Z,952nm,20.0s
O49A Covington 123.36 28 IAMs_20 IAMs_20 22 06 44.3
comp=Z,1µm,19.0s
WLAR White Oak Lake 123.39 39 IAMs_20 IAMs_20 21 48 51.3
comp=Z,1µm,21.0s
J55A Hilton 123.39 21 IAMs_20 IAMs_20 21 58 33.8
comp=Z,1µm,21.0s
P48A Milroy 123.42 29 IAMs_20 IAMs_20 22 05 50.2
comp=Z,1µm,20.0s
USIN University of 123.46 32 IAMs_20 IAMs_20 21 50 09.4
comp=Z,1µm,22.0s
M52A Chesterland 123.53 24 IAMs_20 IAMs_20 21 58 50.8
comp=Z,1µm,21.0s
N51A Ashland 123.63 26 IAMs_20 IAMs_20 22 01 15.3
comp=Z,1µm,20.0s
PEBM Pemiscott Bayo 123.64 35 IAMs_20 IAMs_20 21 58 54.4
comp=Z,1µm,20.0s
T45A Paducah 123.65 33 IAMs_20 IAMs_20 21 58 52.6
comp=Z,1µm,20.0s
HICK Hickman 123.68 34 IAMs_20 IAMs_20 22 04 34.5
comp=Z,1µm,19.0s
MMNY Mt. Morris Dam 123.83 21 IAMs_20 IAMs_20 22 01 40.4
comp=Z,1µm,20.0s
GLAT Glass 123.85 34 IAMs_20 IAMs_20 22 07 24.9
comp=Z,969nm,20.0s
LNXT Lenox 123.86 34 IAMs_20 IAMs_20 22 04 37.1
comp=Z,1µm,20.0s
WVNY West Valley, N 123.86 22 IAMs_20 IAMs_20 21 56 05.3
comp=Z,1µm,21.0s
Z41A Richland Creek 123.87 39 IAMs_20 IAMs_20 22 06 57.0
comp=Z,1µm,19.0s
KVTX Kingsville 123.93 48 IAMs_20 IAMs_20 22 06 16.4
comp=Z,899nm,18.0s
WCI Wyandotte Cave 123.96 30 IAMs_20 IAMs_20 22 03 39.5
comp=Z,1µm,20.0s
HKT Hockley 123.98 44 IAMs_20 IAMs_20 21 49 25.2
comp=Z,1µm,20.0s
VT1 Waterbury 124.01 16 IAMs_20 IAMs_20 22 00 07.2
comp=Z,1µm,22.0s
HALT Halls 124.08 35 IAMs_20 IAMs_20 21 58 36.0
comp=Z,916nm,20.0s
J59A Piesco 124.30 18 IAMs_20 IAMs_20 22 04 05.6
comp=Z,1µm,20.0s
K57A Scipio Center 124.31 20 IAMs_20 IAMs_20 21 58 58.0
comp=Z,996nm,20.0s
LBNH Lisbon 124.32 16 IAMs_20 IAMs_20 22 05 31.0
comp=Z,1µm,20.0s
ACRG Acnca 124.36 283 IAMs_20 IAMs_20 22 05 47.4
comp=Z,1µm,20.0s
R49A Shelbyville 124.47 30 IAMs_20 IAMs_20 21 50 56.8
comp=Z,1µm,22.0s
L56A Greenwood 124.47 21 IAMs_20 IAMs_20 22 02 08.5
comp=Z,1µm,20.0s
T47A Sharon Grove 124.49 32 IAMs_20 IAMs_20 21 50 38.7
comp=Z,1µm,22.0s
P51A Williamsport 124.50 27 IAMs_20 IAMs_20 21 56 21.7
comp=Z,1µm,21.0s
O52A Adamsville 124.52 26 IAMs_20 IAMs_20 22 01 51.1
comp=Z,1µm,20.0s
GGN Saint George 124.64 11 IAMs_20 IAMs_20 21 53 23.3
comp=Z,1µm,22.0s
HNH Hanover 124.72 16 IAMs_20 IAMs_20 22 00 48.6
comp=Z,1µm,21.0s
Q51A Peebles 124.74 28 IAMs_20 IAMs_20 22 05 37.0
comp=Z,1µm,19.0s
WVT Waverly 124.75 33 IAMs_20 IAMs_20 21 59 35.6
comp=Z,1µm,20.0s
P52A Corning 124.79 26 IAMs_20 IAMs_20 22 01 07.2
comp=Z,1µm,21.0s
R50A Paris 124.88 29 IAMs_20 IAMs_20 21 50 28.8
comp=Z,1µm,21.0s
BINY Binghamton 124.96 20 IAMs_20 IAMs_20 22 00 59.3
comp=Z,1µm,22.0s
J61A Chester 124.97 16 IAMs_20 IAMs_20 22 01 18.4
comp=Z,1µm,21.0s
OXF Oxford 125.04 36 IAMs_20 IAMs_20 21 50 28.7
comp=Z,1µm,22.0s
TRY Troy 125.22 18 IAMs_20 IAMs_20 22 01 19.9
comp=Z,1µm,20.0s
P53A Whipple 125.23 26 IAMs_20 IAMs_20 22 02 10.9
comp=Z,1µm,20.0s
L59A Walton 125.28 19 IAMs_20 IAMs_20 22 01 26.7
comp=Z,1µm,22.0s
M57A Sunshine Farm, 125.33 21 IAMs_20 IAMs_20 22 01 04.1
comp=Z,1µm,21.0s
PMOZ Porto Moniz, M 125.38 322 *e*LR LR 21 43 36.0
PMOZ *i* IAMs_20 IAMs_20 22 00 45.6
comp=Z,1µm,22.0s
PLAL Pickwick Lake 125.46 34 IAMs_20 IAMs_20 21 59 25.6
comp=Z,1µm,22.0s
U49A Red Boiling Sp 125.54 31 IAMs_20 IAMs_20 22 04 33.5
comp=Z,1µm,20.0s
V48A Smith Brothers 125.58 33 IAMs_20 IAMs_20 22 05 47.7
comp=Z,1µm,20.0s
KSPA Keystone Colle 125.61 20 IAMs_20 IAMs_20 22 03 47.4
comp=Z,853nm,20.0s
T50A Nancy 125.62 30 IAMs_20 IAMs_20 22 04 36.6
comp=Z,1µm,20.0s
L61B Northampton 125.77 17 IAMs_20 IAMs_20 21 56 29.4
comp=Z,1µm,20.0s
ESPZ Base Esperanza 125.93 178 **PKPdf 21 01 55.0 -2.0**
WES Weston 126.20 16 IAMs_20 IAMs_20 22 01 42.0
comp=Z,1µm,22.0s
X48A Hartselle 126.42 34 IAMs_20 IAMs_20 21 50 41.0
comp=Z,1µm,22.0s
SWET Sewanee 126.45 33 IAMs_20 IAMs_20 21 49 15.7
comp=Z,1µm,22.0s
UCCT U. Connecticut 126.50 17 IAMs_20 IAMs_20 22 02 24.8
comp=Z,1µm,22.0s
Q56A Snyder Ridge, 126.53 24 IAMs_20 IAMs_20 22 04 26.1
comp=Z,1µm,20.0s
P57A Homestead Farm 126.62 23 IAMs_20 IAMs_20 22 02 32.3
comp=Z,1µm,20.0s
WSPT Westport, CT 126.75 18 IAMs_20 IAMs_20 22 02 07.2
comp=Z,1µm,19.0s
W50A Signal Mountai 126.79 32 IAMs_20 IAMs_20 21 52 01.6
comp=Z,1µm,22.0s
BRNJ Basking Ridge 126.79 19 IAMs_20 IAMs_20 21 59 43.7
comp=Z,1µm,22.0s
N62A Caumsett State 126.92 18 IAMs_20 IAMs_20 22 02 05.0
comp=Z,1µm,20.0s
CPCT Cooper Cave 127.01 31 IAMs_20 IAMs_20 21 53 46.3
comp=Z,1µm,21.0s
M65A Busby, Falmout 127.15 16 IAMs_20 IAMs_20 22 07 50.0
comp=Z,1µm,20.0s
U54A Nelsons Funny 127.48 28 IAMs_20 IAMs_20 22 05 54.5
comp=Z,1µm,21.0s
X51A Calhoun 127.52 32 IAMs_20 IAMs_20 21 49 58.8
comp=Z,1µm,21.0s
P61A Hammonton 127.62 20 IAMs_20 IAMs_20 21 59 21.8
comp=Z,1µm,22.0s
CBN Corbin Frederi 127.97 23 IAMs_20 IAMs_20 22 05 29.2
comp=Z,1µm,21.0s
Y52A Lilburn 128.47 32 IAMs_20 IAMs_20 21 50 26.2
comp=Z,1µm,22.0s
DBIC Dimbokro 128.51 286 PKP **PKPdf 21 02 03.1 -0.3**
comp=Z,20nm,0.9s,baz=137,slow=1.7,SNR=10
PAULI Pauline 128.86 30 IAMs_20 IAMs_20 22 02 56.1
comp=Z,1µm,21.0s
T59A Double "B" Far 128.97 24 IAMs_20 IAMs_20 22 00 13.6
comp=Z,1µm,20.0s
152A Waverly Hall 129.04 34 IAMs_20 IAMs_20 22 01 13.3
comp=Z,1µm,22.0s

HODGE	**Hodges**	**129.11**	**30**	IAMs_20	IAMs_20	22 05 03.9		
	comp=Z,1µm,19.0s							
GOGA	**Godfrey**	**129.14**	**32**	IAMs_20	IAMs_20	22 06 05.8		
	comp=Z,1µm,21.0s							
V58A	**Windy Hill, Pi**	**129.31**	**26**	IAMs_20	IAMs_20	22 01 15.8		
	comp=Z,1µm,22.0s							
154A	**Montrose**	**129.95**	**32**	IAMs_20	IAMs_20	22 00 10.3		
	comp=Z,1µm,21.0s							
X58A	**Rowland**	**130.24**	**28**	IAMs_20	IAMs_20	22 08 48.6		
	comp=Z,1µm,21.0s							
257A	**Skidaway Islan**	**131.53**	**31**	IAMs_20	IAMs_20	22 07 20.0		
	comp=Z,1µm,21.0s							
HUEH	**Huehuetenango**	**135.54**	**57**	IAMs_20	IAMs_20	22 10 51.2		
	comp=Z,1µm,22.0s							
PETF	**Flores**	**136.02**	**54**	IAMs_20	IAMs_20	21 53 57.6		
	comp=Z,1µm,22.0s							
BBSR	**BB Station**	**137.35**	**13**	IAMs_20	IAMs_20	22 07 28.9		
	comp=Z,961nm,20.0s							
ESQI	**Esquipulas**	**137.72**	**56**	IAMs_20	IAMs_20	22 00 24.8		
	comp=Z,1µm,22.0s							
MTO3	**Montecristo**	**137.79**	**57**	IAMs_20	IAMs_20	22 04 32.6		
	comp=Z,902nm,21.0s							
TGUH	**Tegucigalpa,Un**	**139.68**	**55**	IAMs_20	IAMs_20	21 56 42.6		
	comp=Z,994nm,22.0s							
ACON	**Acoyapa**	**142.52**	**56**		**PKPdf**	**21 02 23.9**	**-5.5**	
LL02	**Futaleuf**	**142.79**	**158**		**PKPdf**	**21 02 25.3**	**-3.8**	
LL01	**San Ignacio de**	**143.28**	**157**		PKPab	21 02 26.1	+0.4	
LL01				IAMs_20	IAMs_20	21 54 12.6		
	comp=Z,1µm,21.0s							
JTS	**Las Juntas de**	**143.59**	**58**	IAMs_20	IAMs_20	21 53 18.7		
	comp=Z,895nm,22.0s							
JTS	**Las Juntas de**	**143.59**	**58**	PKP	**PKPdf**	**21 02 30.7**	**-0.6**	
	comp=Z,17nm,0.9s,baz=312,slow=3.7,SNR=8.0							
NMDO	**Nuevo Mundo**	**143.89**	**35**	IAMs_20	IAMs_20	22 21 09.8		
	comp=Z,1µm,20.0s							
MTDJ	**Mount Denham**	**144.14**	**40**	IAMs_20	IAMs_20	22 12 31.9		
	comp=Z,841nm,21.0s							
GTBY	**Guantanamo Bay**	**144.32**	**35**	IAMs_20	IAMs_20	22 20 24.3		
	comp=Z,858nm,20.0s							
HDC	**Heredia**	**144.45**	**58**	IAMs_20	IAMs_20	22 04 18.4		
	comp=Z,833nm,21.0s							
PLCA	**Paso Flores**	**145.41**	**158**		**PKPbc**	**21 02 30.2**	**-3.5**	
PLCA					**PKPab**	**21 02 34.0**	**+0.1**	
PLCA	**Paso Flores**	**145.41**	**158**	PKPbc	**PKPab**	**21 02 34.9**	**+1.0**	
	comp=Z,148nm,1.0s,baz=214,slow=3.6,SNR=131							
DR12	**Loma Pena Alta**	**148.26**	**28**		**PKPdf**	**21 02 34.9**	**-4.3**	
BCIP	**Isla Barro Col**	**148.43**	**55**	IAMs_20	IAMs_20	22 20 26.5		
	comp=Z,769nm,20.0s							
AGPR	**Aguadilla, PR**	**149.56**	**25**	IAMs_20	IAMs_20	22 18 45.9		
	comp=Z,744nm,22.0s							
PRSN	**Puerto Rico Se**	**149.76**	**25**	IAMs_20	IAMs_20	22 16 38.5		
	comp=Z,767nm,20.0s							
UUPR	**Utuado, UPR, P**	**149.91**	**25**	IAMs_20	IAMs_20	22 14 22.3		
	comp=Z,843nm,20.0s							
CRPR	**Cabo Rojo, PR**	**149.97**	**26**	IAMs_20	IAMs_20	22 14 28.9		
	comp=Z,695nm,20.0s							
GCPR	**Guaynabo City**	**150.12**	**23**	IAMs_20	IAMs_20	22 10 33.6		
	comp=Z,685nm,22.0s							
CELP	**Cerrillos**	**150.13**	**25**	IAMs_20	IAMs_20	22 14 47.0		
	comp=Z,815nm,20.0s							
OBIP	**Obispado Ponce**	**150.15**	**25**	IAMs_20	IAMs_20	22 14 46.5		
	comp=Z,981nm,22.0s							
SJG	**San Juan**	**150.27**	**24**	PKPbc	**PKPbc**	**21 02 45.3**	**-2.2**	
	comp=Z,14nm,0.2s,baz=164,slow=1.0,SNR=6.0							
HUMP	**Col San Antoni**	**150.36**	**23**	IAMs_20	IAMs_20	22 13 29.0		
	comp=Z,670nm,21.0s							
BO01	**Tunca**	**150.50**	**150**		**PKPdf**	**21 02 40.0**	**-2.2**	
ROC1	**El Roble**	**151.67**	**149**	*eP*	**PKPdf**	**21 02 45.2**	**+0.8**	
PEL	**Peldehue**	**151.70**	**149**	*eP*	**PKPdf**	**21 02 45.0**	**+0.8**	
MT08	**Bocatoma Ro**	**151.79**	**151**		**PKPdf**	**21 02 41.5**	**-3.1**	
MT08				PKPbc	**PKPbc**	**21 02 47.6**	**-3.3**	
SEUS	**St. Eustatius**	**151.97**	**18**	IAMs_20	IAMs_20	22 10 25.2		
	comp=Z,803nm,22.0s							
ASAL	**Salagasta**	**153.05**	**152**	*eP*	**PKPdf**	**21 02 47.4**	**+1.1**	
AUSP	**Uspallata**	**153.09**	**150**	*eP*	**PKPdf**	**21 02 47.3**	**+0.7**	
RTLS	**Leoncito**	**153.48**	**150**	*eP*	**PKPdf**	**21 02 48.2**	**+1.0**	
GDSD	**La Dsirade Is**	**153.64**	**15**	IAMs_20	IAMs_20	22 12 18.3		
	comp=Z,1µm,22.0s							
OTAV	**Otavalo**	**153.90**	**70**		**PKPbc**	**21 02 52.5**	**-3.9**	
OTAV	**Otavalo**	**153.90**	**70**	IAMs_20	IAMs_20	22 03 07.3		
	comp=Z,853nm,21.0s							
OTAV	**Otavalo**	**153.90**	**70**	PKIKP	**PKPbc**	**21 02 52.5**	**-3.9**	
OTAV				MLR	MLR			
	comp=Z,900nm,21.0s							
ZON	**Zonda**	**153.99**	**150**	*eP*	**PKPdf**	**21 02 48.7**	**+1.1**	
ACAN	**Cantantal**	**154.07**	**154**	*eP*	**PKPdf**	**21 02 48.3**	**+0.7**	
ACCO	**Cerro Coronel**	**154.57**	**149**	*eP*	**PKPdf**	**21 02 50.5**	**+1.7**	
AROD	**Rodeo**	**154.69**	**147**	*eP*	**PKPdf**	**21 02 50.1**	**+1.1**	
FDF	**Fort de France**	**155.12**	**17**	IAMs_20	IAMs_20	22 12 26.6		
	comp=Z,900nm,22.0s							
ACHE	**Chepes**	**155.25**	**153**	*eP*	**PKPdf**	**21 02 50.1**	**+0.6**	
AVFE	**Valle Fertil**	**155.31**	**151**	*eP*	**PKPdf**	**21 02 50.3**	**+0.8**	
ROSC	**El Rosal**	**155.38**	**56**	PKP	**PKPdf**	**21 02 51.8**	**+1.3**	
	comp=Z,5.7nm,0.3s,baz=92,slow=11,SNR=4.0							
SDV	**Santo Domingo**	**155.52**	**43**	PKP	**PKPdf**	**21 02 52.0**	**+1.7**	
	comp=Z,8.0nm,0.3s,baz=308,slow=3.3,SNR=4.8							
AGUA	**GUANDACOL**	**155.75**	**148**	*eP*	**PKPdf**	**21 02 50.9**	**+0.7**	
ATAH	**Atahualpa**	**155.78**	**87**	PKP	**PKPdf**	**21 02 52.3**	**+1.3**	
	comp=Z,9.3nm,1.0s,baz=332,slow=6.8,SNR=3.2							
APLL	**PUNTA DE LOS L**	**155.96**	**153**	*eP*	**PKPdf**	**21 02 51.3**	**+1.0**	
VCA	**Vinchina**	**156.50**	**147**	*eP*	**PKPdf**	**21 02 52.4**	**+1.2**	
ACLC	**CERRO LA CRUZ**	**156.57**	**151**	*eP*	**PKPdf**	**21 02 50.1**	**-1.2**	
GRGR	**Grenville**	**157.42**	**20**	IAMs_20	IAMs_20	22 23 54.8		
	comp=Z,770nm,20.0s							
AC02	**Maricunga**	**157.43**	**143**	*eP*	**PKPdf**	**21 02 55.2**	**+2.3**	
PLTB	**Pedras Altas**	**157.62**	**181**	*eP*	**PKPdf**	**21 02 52.7**	**+0.4**	
CYA	**Choya**	**157.95**	**151**	*eP*	**PKPdf**	**21 02 53.8**	**+0.9**	
FSA	**Cafayete**	**159.77**	**147**	*eP*	**PKPdf**	**21 02 56.5**	**+1.2**	
CPUP	**Villa Florida**	**162.75**	**170**	PKP	**PKPdf**	**21 02 58.6**	**+0.4**	
	comp=Z,2.6nm,1.0s,baz=64,slow=1.4,SNR=11							
CPUP				PKPab	**PKPab**	**21 03 48.2**	**+1.6**	
	comp=Z,6.0nm,0.9s,baz=50,slow=5.3,SNR=11							
LPAZ	**La Paz**	**164.58**	**118**	PKP	**PKPdf**	**21 03 01.0**	**+0.1**	
	comp=Z,16nm,1.0s,baz=28,slow=2.1,SNR=26							
LPAZ				PKPab	**PKPab**	**21 03 57.8**	**+1.7**	
	comp=Z,4.9nm,0.9s,baz=239,slow=5.9,SNR=1.4							
MDP	**Montagnes des**	**165.65**	**354**	PKP	**PKPdf**	**21 03 01.7**	**+0.5**	
	comp=Z,16nm,1.1s,baz=46,slow=2.2,SNR=4.0							
MDP				PKPab	**PKPab**	**21 04 01.5**	**+1.8**	
	comp=Z,14nm,0.9s,baz=347,slow=5.4,SNR=5.8							
SIV	**San Ignacio**	**170.41**	**135**	PKP	**PKPdf**	**21 03 04.5**	**+0.1**	
	comp=Z,24nm,1.1s,baz=190,slow=1.1,SNR=33							
SIV				PP	**PP**	**21 08 09.1**	**-1.5**	
	comp=Z,1.8nm,0.9s,baz=251,slow=6.7,SNR=3.6							
BDFB	**Brasilia**	**171.38**	**222**	PKP	**PKPdf**	**21 03 05.6**	**+0.6**	
	comp=Z,9.6nm,1.0s,baz=65,slow=1.9,SNR=8.5							

NEIC ***12*** *20:51:05.0±2.0,21°.8S±0°.2×175°.33W±0°.10,h75km±11km, mb4.5/16,Error ellipse: s-maj=36.6km s-min=5.9km az=161.0*

IDC ***12*** *20:51:05.5±2.4,21°.23S×177°.07W,h0km,mb4.3/4, mbtmp4.3/4,Error ellipse: s-maj=139.1km s-min=30.0km az=149.0*

ISC 12 20:51:05.7±1.1,21°.4S±0°.2×176°.8W±0°.2,h10km,n30, σ1§31/30,mb4.4/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.07**	**306**		**Pb**	**20 52 50.4**	**-1.3**
MSVF	**Nonsavu**	**6.07**	**306**	P	**Pb**	**20 52 51.4**	**-0.3**
NIUE	**Niue**	**6.83**	**72**	Pn	Pn	20 52 27.9	-18
EIDS	**Eidsvold**	**29.73**	**256**	P	**P**	**20 57 14.6**	**+2.3**
EIDS				IAmb	IAmb	20 57 27.5	
	comp=Z,6.2nm,1.1s						
ARMA	**Armidale**	**29.73**	**246**	P	**P**	**20 57 13.4**	**+0.9**
CTAO	**Charters Tower**	**34.55**	**265**	P	**P**	**20 57 56.8**	**+2.1**
STKA	**Stephens Creek**	**38.45**	**245**	P	**P**	**20 58 28.7**	**+0.8**
STKA	**Stephens Creek**	**38.45**	**245**	P	**P**	**20 58 28.4**	**+0.4**
	comp=Z,9.3nm,1.1s,baz=94,slow=14,SNR=4.0						
	comp=Z,9.3nm,1.1s						
COEN	**Coen**	**38.78**	**274**	P	**P**	**20 58 33.5**	**+2.7**
COEN				IAmb	IAmb	20 58 42.2	
	comp=Z,9.3nm,1.1s						
AS31	**Alice Springs**	**45.43**	**257**	P	**P**	**20 59 24.0**	**-1.2**
ASAR	**Alice Springs**	**45.43**	**257**	P	**P**	**20 59 24.4**	**-0.8**
ASAR				PcP	**PcP**	**21 01 03.6**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=92,slow=8.0,SNR=17						
	comp=Z,0.3nm,0.6s,baz=105,slow=3.6,SNR=4.1						
	comp=Z,3.6nm,0.8s						
WR8	**Warramunga Arr**	**45.46**	**263**	P	**P**	**20 59 24.5**	**-0.9**
WR8				IAmb	IAmb	20 59 38.8	
	comp=Z,3.8nm,0.9s						
WB0	**Warramunga Arr**	**45.60**	**263**	P	**P**	**20 59 25.9**	**-0.6**
WB0				IAmb	IAmb	20 59 38.0	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**45.61**	**263**	P	**P**	**20 59 25.4**	**-1.2**
	comp=Z,2.7nm,0.8s,baz=92,slow=6.5,SNR=41						
	comp=Z,2.7nm,0.8s						
FORT	**Forrest**	**50.00**	**247**	P	**P**	**20 59 59.8**	**-0.7**
KNRA	**Kununurra**	**51.74**	**267**	P	**P**	**21 00 13.4**	**-0.4**
KNRA				IAmb	IAmb	21 00 20.1	
	comp=Z,14nm,1.2s						
FITZ	**Fitzroy Crossi**	**54.04**	**263**	P	**P**	**21 00 29.0**	**-1.8**
MBWA	**Marble Bar**	**58.78**	**258**	P	**P**	**21 01 02.6**	**-1.9**
NWAO	**Narrogin (SRO)**	**59.00**	**244**	P	**P**	**21 01 04.7**	**-1.2**
MORW	**Morawa**	**60.55**	**248**	P	**P**	**21 01 14.3**	**-2.4**
GIRL	**Giralia**	**63.42**	**255**	P	**P**	**21 01 35.2**	**-0.8**
TOLI2	**Tolitoli**	**64.90**	**282**	P	**P**	**21 01 47.0**	**+1.1**
TOLI2				IAmb	IAmb	21 02 02.7	
	comp=Z,5.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**91.47**	**289**	P	**P**	**21 04 13.8**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=145,slow=3.2,SNR=10						
	comp=Z,1.1nm,0.6s						
ARCES	**ARCESS Array B**	**129.97**	**350**	PKP	**PKiKP**	**21 10 16.5**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=53,slow=4.6,SNR=9.9						
FINES	**FINESS Array B**	**136.92**	**344**	PKP	**PKiKP**	**21 10 31.1**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=64,slow=4.4,SNR=4.7						
AKASG	**Malin Array Be**	**144.32**	**331**	PKP	**PKPdf**	**21 10 41.0**	**-1.0**
	comp=Z,2.3nm,0.4s,baz=44,slow=4.0,SNR=20						
EKA	**Eskdalemuir Ar**	**145.75**	**6**	PKPbc	**PKPbc**	**21 10 44.6**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=298,slow=1.8,SNR=3.7						
BRTR	**Keskin Array B**	**148.26**	**312**	PKPbc	**PKPbc**	**21 10 51.7**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=144,slow=4.6,SNR=7.3						
MMAI	**Mount Meron Ar**	**149.23**	**299**	PKPbc	**PKPbc**	**21 10 54.7**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=70,slow=3.6,SNR=11						
GERES	**GERESS Array B**	**151.33**	**345**	PKPbc	**PKiKP**	**21 11 00.6**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=28,slow=3.2,SNR=6.3						

IDC 12 21:04:32.6±2.0,0°.53N×126°.16E,h0km,mb3.4/3, mbtmp3.5/3,Error ellipse: s-maj=178.2km s-min=26.2km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.87**	**159**	P	P	21 09 26.8	-0.5
	0.7nm,0.5s,baz=337,slow=11,SNR=5.2						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**25.21**	**163**	P	P	21 10 00.6	+0.3
	1.0nm,0.8s,baz=345,slow=12,SNR=9.2						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**59.86**	**327**	P	P	21 14 40.1	-0.1
	0.1nm,0.3s,baz=121,slow=7.2,SNR=5.5						
	0.1nm,0.3s						

IDC ***12*** *21:15:53.9±0.6,9°.36N×125°.92E,h0km,mb4.0/13, mbtmp4.1/14,ML4.9/1,Error ellipse: s-maj=33.3km s-min=12.9km az=75.0*

NEIC ***12*** *21:15:56.9±2.0,9°.29N±0°.08×125°.9E±0°.1,h10km±1km, mb4.5/30,Error ellipse: s-maj=20.1km s-min=13.8km az=78.0*

ISC 12 21:16:02.5±0.5,9°.24N±0°.06×125°.8E±0°.1,h66km,n58, σ1§53/56,mb4.2/26,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.17**	**187**	Pn	**Pn**	**21 16 34.5**	**-1.9**
DAV	**Davao City (W)**	**2.17**	**187**	Pn	**Pn**	**21 16 36.9**	**+0.5**
	106nm,0.3s,baz=45,slow=7.4,SNR=6.5						
DAV				Sn	**Sn**	**21 17 03.2**	**+0.9**
	118nm,0.3s,baz=118,slow=22,SNR=5.5						
TNTI	**Ternate**	**8.55**	**170**	Pn	**Pn**	**21 18 00.1**	**-3.6**
TOLI2	**Tolitoli**	**9.51**	**212**	Pn	**Pn**	**21 18 13.1**	**-3.7**
KKM	**Kota Kinabalu**	**10.05**	**252**	Pn	**Pn**	**21 18 21.8**	**-2.4**
TPUB	**Ta-pu**	**14.84**	**341**	P	**P**	**21 19 33.5**	**+0.5**
SBUM	**Sibu**	**15.12**	**244**	P	**P**	**21 19 38.2**	**+2.1**
SBUM				IAmb	IAmb	21 19 41.8	
	comp=Z,36nm,1.1s						
BATI	**Baumata**	**19.44**	**186**	P	**P**	**21 20 23.9**	**+0.1**
	comp=Z,3.5nm,0.3s,baz=214,slow=2.1,SNR=9.5						
	comp=Z,56nm,0.9s						
MTN	**Manton Dam**	**22.57**	**166**	P	**P**	**21 20 59.2**	**+1.8**
MTN				IAmb	IAmb	21 21 03.9	
	comp=Z,15nm,0.9s						
KNRA	**Kununurra**	**24.93**	**173**		**P**	**21 21 21.3**	**+1.6**
FITZ	**Fitzroy Crossi**	**27.17**	**180**	P	**P**	**21 21 40.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**27.63**	**292**	P	**P**	**21 21 44.6**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=101,slow=8.1,SNR=4.6						
	comp=Z,0.4nm,0.3s						
KSRS	**Korea Array**	**28.15**	**4**	P	**P**	**21 21 47.8**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=188,slow=10,SNR=5.1						
	comp=Z,0.7nm,0.5s						
COEN	**Coen**	**28.77**	**143**	P	**P**	**21 21 53.5**	**-0.7**
COEN				IAmb	IAmb	21 22 13.2	
	comp=Z,13nm,1.2s						
MJAR	**Matsushiro Arr**	**29.41**	**21**	P	**P**	**21 21 56.6**	**-3.1**
	comp=Z,1.9nm,0.9s,baz=186,slow=8.4,SNR=4.6						
	comp=Z,1.9nm,0.9s						
WB0	**Warramunga Arr**	**30.03**	**164**	P	**P**	**21 22 05.0**	**-0.4**
WB0				IAmb	IAmb	21 22 47.5	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**30.19**	**164**	P	**P**	**21 22 07.0**	**+0.2**
WRA	**Warramunga Arr**	**30.19**	**164**	P	**P**	**21 22 05.9**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=348,slow=9.5,SNR=21						
	comp=Z,1.2nm,0.5s						
WR8	**Warramunga Arr**	**30.24**	**164**	P	**P**	**21 22 07.4**	**+0.1**
WR8				IAmb	IAmb	21 22 23.3	
	comp=Z,12nm,1.3s						
AS31	**Alice Springs**	**33.65**	**167**	P	**P**	**21 22 37.2**	**+0.2**
ASAR	**Alice Springs**	**33.65**	**167**	P	**P**	**21 22 37.5**	**+0.4**
ASAR	**Alice Springs**	**33.65**	**167**	P	**P**	**21 22 37.3**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=350,slow=6.9,SNR=41						
	comp=Z,1.2nm,0.4s						
USRK	**Ussuriysk Ar.**	**35.23**	**8**	P	**P**	**21 22 50.1**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=186,slow=7.5,SNR=9.2						
	comp=Z,2.3nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**40.99**	**71**	T	T	22 06 57.3	
	baz=263,slow=75,SNR=28						
H11N2	**WAKE ISLAND Hy**	**41.00**	**71**	T	T	22 06 59.2	
	baz=263,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**41.01**	**71**	T	T	22 06 52.8	
	baz=263,slow=75,SNR=27						
STKA	**Stephens Creek**	**43.58**	**160**	P	**P**	**21 24 00.8**	**+0.7**
	comp=Z,4.6nm,0.5s,baz=333,slow=8.3,SNR=15						
	comp=Z,4.6nm,0.5s						
MKAR	**Makanchi Array**	**52.58**	**323**	P	**P**	**21 25 09.7**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=125,slow=7.3,SNR=12						
	comp=Z,0.5nm,0.4s						
KURK	**Kurchatov**	**56.67**	**326**	P	**P**	**21 25 39.9**	**+1.0**
KURK				IAmb	IAmb	21 25 44.6	
	comp=Z,2.6nm,1.0s						
KURBB	**Kurchatov Arra**	**56.67**	**326**	P	**P**	**21 25 38.0**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=124,slow=7.1,SNR=12						
	comp=Z,0.8nm,0.4s						
BVAR	**Borovoye Array**	**62.26**	**326**	P	**P**	**21 26 16.4**	**-1.1**
	comp=Z,0.4nm,0.6s						
	comp=Z,0.4nm,0.6s						
D23K	**Nanushuk River**	**79.09**	**21**	P	**P**	**21 28 00.6**	**+1.1**
C23K	**Itkillik River**	**79.16**	**21**	P	**P**	**21 28 00.9**	**+1.1**
C23K				IAmb	IAmb	21 28 06.9	
	comp=Z,3.9nm,0.9s						
I23K	**Minto, Yukon-K**	**79.49**	**25**	P	**P**	**21 28 04.0**	**+2.3**
F24K	**Squaw Lake**	**80.10**	**23**	P	**P**	**21 28 07.3**	**+2.3**
H24K	**Noodor Dome**	**80.11**	**25**	P	**P**	**21 28 07.4**	**+2.2**
G24K	**Hadweenzic Riv**	**80.27**	**24**	P	**P**	**21 28 08.1**	**+2.2**
D25K	**Kavik River**	**80.64**	**21**	P	**P**	**21 28 09.3**	**+1.4**
D25K				IAmb	IAmb	21 28 41.3	
	comp=Z,4.6nm,1.4s						
K27K	**Chicken**	**82.68**	**26**	P	**P**	**21 28 20.3**	**+1.6**
K27K				IAmb	IAmb	21 28 27.0	
	comp=Z,2.4nm,0.8s						
BCAR	**Beaver Creek A**	**82.91**	**27**	P	**P**	**21 28 21.7**	**+1.7**
I28M	**Miner Creek**	**83.42**	**25**	P	**P**	**21 28 24.2**	**+1.5**
I28M				IAmb	IAmb	21 28 39.4	
	comp=Z,3.1nm,1.1s						
H29M	**Whitestone**	**83.95**	**24**	P	**P**	**21 28 26.5**	**+1.3**
H29M				IAmb	IAmb	21 28 35.2	
	comp=Z,5.6nm,1.2s						
G29M	**Pine Creek**	**83.98**	**23**	P	**P**	**21 28 26.2**	**+0.8**
M29M	**Somme Creek**	**84.51**	**28**	P	**P**	**21 28 30.4**	**+2.1**
M29M				IAmb	IAmb	21 28 36.6	
	comp=Z,2.8nm,1.1s						
L29M	**L29M**	**84.56**	**27**	P	**P**	**21 28 28.0**	**-0.4**
I30M	**Mount Dempster**	**84.93**	**25**	P	**P**	**21 28 31.5**	**+1.2**
I30M				IAmb	IAmb	21 29 01.1	
	comp=Z,4.2nm,1.1s						
ARCES	**ARCESS Array B**	**85.00**	**340**	P	**P**	**21 28 30.4**	**0.0**
ARCES				IAmb	IAmb	21 28 38.2	
	comp=Z,4.6nm,1.1s						
ARCES	**ARCESS Array B**	**85.00**	**340**	P	**P**	**21 28 30.5**	**0.0**
	comp=Z,1.0nm,0.7s,baz=64,slow=6.9,SNR=4.9						
	comp=Z,1.0nm,0.7s						
M30M	**Minto, Yukon**	**85.25**	**27**	P	**P**	**21 28 32.1**	**+0.2**
M30M				IAmb	IAmb	21 28 48.9	
	comp=Z,2.7nm,1.1s						
G31M	**Satah River**	**85.43**	**23**	P	**P**	**21 28 35.5**	**+3.0**
H31M	**Peel River**	**85.64**	**24**	P	**P**	**21 28 35.0**	**+1.3**
FIA1	**FINESS Array S**	**86.58**	**332**	P	**P**	**21 28 38.4**	**+0.1**
FINES	**FINESS Array B**	**86.58**	**332**	P	**P**	**21 28 37.8**	**-0.5**
FINES	**FINESS Array B**	**86.58**	**332**	P	**P**	**21 28 37.5**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=66,slow=4.8,SNR=6.2						
	comp=Z,1.3nm,0.8s						
VNDA	**Vanda**	**88.97**	**173**	P	**P**	**21 28 51.4**	**+2.0**
VNDA				IAmb	IAmb	21 28 52.0	
	comp=Z,2.0nm,0.8s						
VNDA	**Vanda**	**88.97**	**173**	P	**P**	**21 28 51.0**	**+1.6**
	comp=Z,1.4nm,0.7s,baz=318,slow=6.3,SNR=12						
	comp=Z,1.4nm,0.7s						
QSPA	**South Pole Qui**	**99.11**	**180**	P	**Pdif**	**21 29 36.2**	**0.0**
PLCA	**Paso Flores**	**145.43**	**158**	PKPbc	**PKPab**	**21 35 34.5**	**+0.8**
	comp=Z,4.0nm,1.0s,baz=235,slow=4.7,SNR=6.5						

CNRM ***12*** *21:31:02.7,35°.54N×5°.17W,h60km,ML0.3*

MDD ***12*** *21:31:03.8±1.0,35°.77N×5°.06W,h59km±10km,Mb2.7/9, Error ellipse: s-maj=7.9km s-min=4.3km az=168.0*

INMG ***12*** *21:31:04.9±1.6,35°.87N×5°.14W,h58km±8km,ML1.6,Error ellipse: s-maj=4.3km s-min=3.6km az=113.0, #DIST_RANGE: REGIONAL #IPMA_REGION: E Ceuta*

IGIL ***12*** *21:31:04.9,35°.88N×5°.20W,h20km*

ISC 12 21:31:01.1±1.2,35.71N±0°.03×5°.08W±0°.03,h70km±7km, n44,σ1§55/61,9C,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMIR	**Smir Dam**	**0.25**	**265**	P	**Pn**	**21 31 12.6**	**+0.6**
SMIR	**Smir Dam**	**0.25**	**265**	S	**Sn**	**21 31 19.9**	**-0.1**
ECEU	**Ceuta**	**0.31**	**308**	Pg	**Pn**	**21 31 14.0**	**+1.6**
ECEU				Sg	**Sn**	**21 31 20.2**	**-0.5**
CHEFC	**Chefchaouen**	**0.63**	**200**	P	**Pn**	**21 31 14.4**	**-1.0**
CHEFC	**Chefchaouen**	**0.63**	**200**	S	**Sn**	**21 31 23.1**	**-2.9**
EMIJ	**Mijas**	**0.89**	**16**	Pg	**Pn**	**21 31 18.7**	**+0.4**
EMIJ				⇑*i*IVmb_VC		21 31 20.7	
	118nm,SNR=1.8						
EMIJ				Sg	**Sn**	**21 31 29.7**	**-1.5**
PALE	**Palemas**	**1.05**	**117**	P	**Pn**	**21 31 21.6**	**+1.3**
PALE	**Palemas**	**1.05**	**117**	S	**Sn**	**21 31 35.9**	**+1.4**
ESPR	**Espera**	**1.32**	**332**	Pg	**Pn**	**21 31 25.6**	**+1.9**
ESPR				⇑*i*IVmb_VC		21 31 27.8	
	63nm,SNR=1.4						
ESPR				Sg	**Sn**	**21 31 41.1**	**+0.4**
ELGU	**Los Guajares,**	**1.65**	**45**	Pn	**Pn**	**21 31 28.9**	**+0.7**
ELGU				⇑*i*IVmb_VC		21 31 30.8	
	46nm,SNR=1.0						
ELGU

EVGW					Sb	21 31 12.5	+0.7	
LEOT	**Leota Junior H**	**0.10**	**211**		Pb	21 31 08.7	+0.2	
LEOT					Sb	21 31 13.2	+1.3	
EARN	**East Ridge Ele**	**0.11**	**180**		Pb	21 31 08.8	+0.1	
EARN					Sb	21 31 13.2	+1.1	
NIHS	**Ingelmoor High**	**0.17**	**228**		Pb	21 31 09.5	+0.4	
NIHS					Sb	21 31 14.9	+2.0	
HTW	**Haystack Looko**	**0.19**	**105**		Pb	21 31 09.0	-0.4	
HTW					Sb	21 31 13.2	-0.3	
SCCW	**Shoreline CC**	**0.24**	**245**		Pb	21 31 10.2	+0.3	
SCCW					Sb	21 31 16.1	+1.7	
C05A	**Tolt Reservoir**	**0.28**	**124**		Pb	21 31 10.0	-0.6	
C05A					Sb	21 31 14.9	-0.4	
TTW	**Tolt Reservoir**	**0.28**	**124**		Pb	21 31 10.1	-0.5	
TTW					Sb	21 31 15.0	-0.4	
SWID	**South Whidbey**	**0.29**	**302**		Pb	21 31 10.6	-0.1	
SWID					Sn	21 31 16.6	-0.8	
SP2	**Seward Park 2**	**0.33**	**206**		Pb	21 31 11.4	+0.2	
JCW	**Jim Creek**	**0.35**	**12**		Pb	21 31 11.0	-0.6	
JCW					Sb	21 31 16.5	-0.5	
ELW	**Echo Lake**	**0.38**	**162**		Pb	21 31 11.6	-0.3	
ELW					Sb	21 31 17.9	+0.3	
B05A	**Bryant**	**0.41**	**355**		Pb	21 31 11.6	-0.9	
CDMR	**Cedar Moraine**	**0.47**	**156**		Pb	21 31 12.9	-0.5	
GMW	**Gold Mountain**	**0.59**	**239**		Pb	21 31 14.2	-1.2	
GNW	**Green Mountain**	**0.60**	**242**		Pb	21 31 14.3	-1.2	
GNW	**Green Mountain**	**0.60**	**242**	Sg	Sb	21 31 22.8	-1.0	
GNW				IAML		21 31 23.0		
	comp=N,121nm,0.3s							
GNW				IAML		21 31 23.0		
	comp=E,99nm,0.2s							
C04A	**Brinnon**	**0.64**	**258**		Pb	21 31 14.8	-1.3	
GPW	**Glacier Peak**	**0.66**	**66**		Pb	21 31 15.9	-0.8	
D05A	**Enumclaw**	**0.67**	**177**		Pb	21 31 16.2	-0.4	
D05A					Sb	21 31 25.8	+0.3	
D05A				IAML		21 31 26.6		
	comp=N,40nm,0.5s							
RPW	**Rockport**	**0.69**	**30**		Pb	21 31 16.3	-0.8	
WRW	**Wenatchee Rido**	**0.78**	**89**		Pb	21 31 17.9	-0.7	
GHW	**Garrison Hill**	**0.83**	**191**		Pb	21 31 18.2	-1.0	
MBW	**Mount Baker**	**0.94**	**6**		Pn	21 31 20.4	-0.6	
OBSR	**Observation Ro**	**0.97**	**171**		Pn	21 31 20.9	-0.6	
A04D	**Lummi Island**	**0.97**	**333**	Pn	Pn	21 31 20.9	-0.4	
A04D				IAML		21 31 36.1		
	comp=E,26nm,0.3s							
A04D				IAML		21 31 38.6		
	comp=N,22nm,0.6s							
MCW	**Mount Constitu**	**0.98**	**328**		Pn	21 31 20.9	-0.5	
B04A	**Port Angeles**	**1.01**	**282**		Pn	21 31 20.6	-1.2	
VGZ	**Gonzales**	**1.03**	**304**		Pn	21 31 20.9	-1.2	
PANH	**Panhandle Gap,**	**1.03**	**165**		Pn	21 31 21.7	-0.6	
LTY	**Liberty**	**1.10**	**122**		Pn	21 31 23.1	-0.1	
LTY				IAML		21 31 39.1		
	comp=N,27nm,0.2s							
LTY				IAML		21 31 39.5		
	comp=E,24nm,0.3s							
LON	**Longmire**	**1.11**	**172**		Pn	21 31 23.0	-0.4	
LON				Sn	Sn	21 31 37.3	-0.5	
LON				IAML		21 31 37.7		
	comp=N,33nm,0.1s							
NLW	**Nelson Butte**	**1.17**	**78**		Pn	21 31 24.5	+0.4	
TBM	**Table Mountain**	**1.19**	**124**		Pb	21 31 25.4	-0.1	
B011	**North Saanich**	**1.23**	**311**		Pn	21 31 24.1	-0.8	
PGC	**Sidney**	**1.23**	**311**	Pn	Pn	21 31 24.0	-0.9	
PGC				Sn	Sn	21 31 39.5	-1.1	
PGC				IAML		21 31 40.7		
	comp=E,27nm,0.2s							
PGC				IAML		21 31 41.1		
	comp=N,27nm,0.2s							
NLWA	**Neilton Lookou**	**1.32**	**250**	Pn	Pn	21 31 26.3	+0.2	
NLWA				IAML		21 31 48.0		
	comp=N,12nm,0.8s							
NAC	**Naches**	**1.39**	**143**		Pb	21 31 28.4	-0.4	
E03A	**Lebam**	**1.67**	**219**		Pn	21 31 30.9	0.0	
E03A				IAML		21 31 57.4		
	comp=E,18nm,0.7s							
E03A				IAML		21 31 58.4		
	comp=N,17nm,0.5s							
CLRS	**Cowichan Lake**	**1.70**	**306**	Pn	Pn	21 31 31.1	-0.1	
CLRS				IAML		21 32 11.8		
	comp=E,7.1nm,3.0s							
CLRS				IAML		21 32 25.1		
	comp=N,5.4nm,3.1s							
MXC	**Moxie City**	**1.75**	**136**	Pn	Pn	21 31 33.2	+1.2	
MXC				Sg	Sb	21 31 57.3	+0.9	
MXC				IAML		21 31 57.8		
	comp=N,17nm,0.6s							
RADR	**Rader Ridge**	**1.87**	**221**	Pn	Pn	21 31 33.1	-0.5	
RADR				IAML		21 32 01.1		
	comp=E,18nm,1.9s							
RADR				IAML		21 32 15.9		
	comp=N,17nm,3.2s							
B023	**Clatskanie**	**1.88**	**203**		Pn	21 31 35.0	+1.3	
B08A	**Colville Reser**	**1.88**	**73**	Pn	Pn	21 31 34.1	+0.3	
WAH2	**Wahluke Slope**	**2.01**	**122**	Pn	Pn	21 31 35.3	-0.2	
WAH2				IAML		21 32 14.5		
	comp=N,14nm,0.5s							
HAWA	**Hanford**	**2.25**	**130**	Pn	Pn	21 31 38.0	-0.9	
HAWA				IAML		21 32 12.5		
	comp=N,4.2nm,0.6s							
HAWA				IAML		21 32 16.8		
	comp=N,4.7nm,0.7s							

*IDC **12** 21:56:21.2±1.6,9°.20S×117°.30E,h0km,mb3.4/4, mbtmp3.6/8,ML3.7/4,MS3.3/2,Error ellipse: s-maj=49.9km s-min=19.7km az=51.0*
*DJA **12** 21:56:28.4±0.2,9°.S±3°×11°.8E±°,h14km±2km,M4.5/17, mb4.6/6,MLv4.4/17*
ISC 12 21:56:24.4±0.6,**8°.64S**±0°.04×**118°.06E**±0°.03,**h10**km,**n32,** σ1§**97**/33,**mb3.5/4,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.34**	**237**	P	**Pg**	**21 56 31.1**	**-0.1**
PLAI				S	**Sg**	**21 56 33.3**	**-2.4**
WBSI	**Waikabubak, Su**	**1.65**	**127**	P	**Pg**	**21 56 56.4**	**+0.4**
WBSI				S	**Sg**	**21 57 16.2**	**-1.2**
WSI	**Waingapu**	**2.43**	**115**	P	**Pb**	**21 57 07.5**	**-0.8**
SRBI	**Singaraja**	**2.88**	**281**	P	**Pn**	**21 57 12.3**	**+2.0**
SRBI				S	**Sn**	**21 57 46.6**	**+1.6**
BASI	**Baing, Sumba**	**2.93**	**122**	P	**Pb**	**21 57 16.8**	**-0.1**
BSSI	**Bau Bau, Buton**	**3.46**	**44**	P	**Pb**	**21 57 27.8**	**+2.0**
BSSI				pP	**Pg**	**21 57 29.4**	**-1.3**
BSSI				S	**Sb**	**21 58 09.8**	**+1.9**
EDFI	**Ende, Flores**	**3.59**	**92**	P	**Pb**	**21 57 27.3**	**-0.8**
EDFI				pP	**Pg**	**21 57 29.1**	**-4.1**
JAGI	**Jajag, Banyuwa**	**3.87**	**272**	P	**Pn**	**21 57 24.7**	**+0.6**
JAGI				pP	Pb	21 57 27.8	-5.1
JAGI				S	**Sn**	**21 58 07.5**	**-2.2**
KAPI	**Kappang**	**3.97**	**25**	Pn	**Pb**	**21 57 34.5**	**-0.1**
	5.1nm,0.3s,baz=182,slow=9.7,SNR=6.0						
KAPI				Sn	**Sb**	**21 58 23.5**	**+0.8**
	10nm,0.3s,baz=22,slow=23,SNR=11						
KAPI				LR	LR	21 59 20.4	
	comp=Z,133nm,19.9s,baz=108,slow=37 13nm,0.3s						
MMRI	**Maumere**	**4.13**	**90**	P	**Pb**	**21 57 36.5**	**-0.7**
MMRI				pP	Pg	21 57 36.9	-6.7
KMMI	**Kalianget**	**4.36**	**291**	P	**Pn**	**21 57 34.1**	**+3.4**
GMJI	**Gumukmas**	**4.58**	**274**	P	**Pn**	**21 57 35.7**	**+1.8**
BNSI	**Bone**	**4.68**	**26**	P	**Pb**	**21 57 45.4**	**-1.2**
	0.3nm49nm,0.7s						
BNSI				pP	Pg	21 57 48.0	-6.1
	0.3nm49nm,0.7s						
BNSI				S	**Sb**	**21 58 41.9**	**-1.1**
	0.3nm49nm,0.7s						
SPSI	**Sidrap Palu**	**4.95**	**20**	P	**Pb**	**21 57 50.2**	**-1.0**
SPSI				S	**Sb**	**21 58 48.9**	**-1.8**
BATI	**Baumata**	**5.74**	**106**	Pn	Pn	21 57 55.0	+5.2
	6.6nm,0.3s,baz=117,slow=2.5,SNR=8.4						
BATI				Sn	**Sn**	**21 59 02.0**	**+6.2**
	3.2nm,0.3s,baz=42,slow=22,SNR=1.2 10.0nm,0.3s						
BATI	**Baumata**	**5.74**	**106**	P	Pn	21 57 54.7	+4.9
	0.2nm45nm,0.7s						
PCJI	**Pacitan**	**6.83**	**273**	P	**Pn**	**21 58 04.8**	**+0.1**
	58nm,1.1s						
UGM	**Wanagama**	**7.50**	**275**	P	**Pn**	**21 58 14.3**	**+0.3**
	85nm,1.8s						
FITZ	**Fitzroy Crossi**	**11.94**	**143**	Pn	**Pn**	**21 59 12.8**	**-2.0**
	0.3nm,0.3s,baz=324,slow=17,SNR=7.6						
FITZ				Sn	Sn	22 01 18.1	-10
	0.3nm,0.3s,baz=78,slow=23,SNR=3.1 1.7nm,0.7s						
WRA	**Warramunga Arr**	**19.34**	**127**	P	**Pn**	**22 00 51.2**	**0.0**
	0.1nm,0.3s,baz=303,slow=12,SNR=7.9 1.0nm,0.8s						
ASAR	**Alice Springs**	**21.29**	**136**	P	**P**	**22 01 12.2**	**+0.8**
	2.9nm,0.7s,baz=304,slow=8.9,SNR=33 2.9nm,0.7s						
TGY	**Tagaytay City**	**22.77**	**7**	LR	LR	22 12 07.5	
	comp=Z,209nm,19.1s,baz=259,slow=40						
H08S2	**Diego Garcia H**	**45.10**	**268**	T	T	22 52 01.2	
	baz=95,slow=76,SNR=4.0						
H08S3	**Diego Garcia H**	**45.11**	**268**	T	T	22 52 00.4	
	baz=95,slow=76,SNR=3.9						
H08S1	**Diego Garcia H**	**45.12**	**268**	T	T	22 52 01.9	
	baz=95,slow=76,SNR=3.4						
XLT	**XiLinHaoTe**	**52.32**	**358**	eP	P	22 05 44.4	+7.9
XLT				pP	sP	22 05 49.4	+8.5
SONM	**Songino Array**	**57.17**	**351**	P	**P**	**22 06 13.3**	**+1.6**
	0.1nm,0.3s,baz=169,slow=10,SNR=3.8 0.1nm,0.3s						
MKAR	**Makanchi Array**	**63.72**	**333**	P	**P**	**22 06 55.9**	**-0.4**
	0.3nm,0.7s,baz=157,slow=7.8,SNR=2.4 0.3nm,0.7s						
H04N2	**CROZET ISLANDS**	**67.42**	**224**	T	T	23 20 22.4	
	baz=79,slow=75,SNR=15						
H04N1	**CROZET ISLANDS**	**67.44**	**224**	T	T	23 20 26.9	
	baz=79,slow=75,SNR=18						
H04N3	**CROZET ISLANDS**	**67.44**	**224**	T	T	23 20 25.3	
	baz=79,slow=75,SNR=14						
KURBB	**Kurchatov Arra**	**68.24**	**334**	P	**P**	**22 07 24.4**	**-0.9**
	0.2nm,0.8s,baz=139,slow=5.8,SNR=2.2 0.2nm,0.8s						

*IDC **12** 22:16:12.3±0.6,27°.56N×140°.34E,h454km±13km, mb3.2/11,mbtmp4.0/12,Error ellipse: s-maj=42.6km s-min=16.8km az=74.0*
ISC 12 22:16:12.6±0.9,**27°.4N**±0°.1×**140°.0E**±0°.2,**h450**km,**n15,** σ1§**38**/16,**mb3.6/11,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.96**	**98**	P	**P**	**22 17 13.7**	**+0.8**
JCJ				S	**S**	**22 17 59.7**	**-2.1**
MJAR	**Matsushiro Arr**	**9.27**	**351**	P	**P**	**22 18 24.3**	**+2.7**
	0.6nm,0.3s,baz=179,slow=10,SNR=4.2						
USRK	**Ussuriysk Ar.**	**17.99**	**341**	P	**P**	**22 19 54.9**	**-0.1**
	1.7nm,0.6s,baz=150,slow=9.9,SNR=4.9						
SONM	**Songino Array**	**33.18**	**317**	P	**P**	**22 22 09.5**	**-0.9**
	0.3nm,0.5s,baz=219,slow=35,SNR=1.4 0.3nm,0.5s						
WRA	**Warramunga Arr**	**47.36**	**187**	P	**P**	**22 24 05.6**	**+1.0**
	0.3nm,0.4s,baz=6.8,slow=7.5,SNR=2.5 0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**48.01**	**319**	P	**P**	**22 24 08.5**	**-0.6**
	1.2nm,0.4s,baz=109,slow=7.3,SNR=5.4 1.2nm,0.4s						
MKAR	**Makanchi Array**	**48.80**	**309**	P	**P**	**22 24 14.6**	**-0.6**
	0.3nm,0.3s,baz=90,slow=10,SNR=6.1 0.3nm,0.3s						
ASAR	**Alice Springs**	**51.08**	**187**	P	**P**	**22 24 33.4**	**+1.1**
	0.2nm,0.4s,baz=2.2,slow=5.5,SNR=1.5 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**51.46**	**314**	P	**P**	**22 24 34.6**	**-0.1**
	2.8nm,0.4s,baz=92,slow=7.9,SNR=42 2.8nm,0.4s						
BVAR	**Borovoye Array**	**56.52**	**317**	P	**P**	**22 25 11.0**	**+0.3**
	5.1nm,0.4s 5.1nm,0.4s						
ARCES	**ARCESS Array B**	**72.64**	**340**	P	**P**	**22 26 52.4**	**-0.5**
	2.5nm,1.0s,baz=67,slow=9.3,SNR=5.6 2.5nm,1.0s						
FINES	**FINESS Array B**	**76.83**	**333**	P	**P**	**22 27 15.9**	**-0.7**
	1.4nm,0.4s,baz=68,slow=5.0,SNR=33 1.4nm,0.4s						
HFS	**Hagfors**	**82.39**	**336**	P	**P**	**22 27 44.6**	**-1.5**
	0.6nm,0.4s,baz=94,slow=1.9,SNR=11 0.6nm,0.4s						
NB2	**NORSAR Subarra**	**82.62**	**338**	P	**P**	**22 27 46.0**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=49,slow=4.6						
NOA	**NORSAR Array B**	**82.62**	**338**	P	**P**	**22 27 45.4**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=45,slow=5.1,SNR=4.2 comp=Z,0.6nm,0.6s						

CATAC 12 22:24:43.6±0.6,**12°N**±4°×**8°6W**±°,**h179**km±4km,**M3.0**/21, **MLv3.0**/21,**Error ellipse: s-maj=8.3km s-min=6.8km az=26.0,confirmed,Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIN	**Rivas**	**0.15**	**160**	P	Pn	22 25 08.0	+0.7
NADN	**Granada**	**0.21**	**317**	P	Pn	22 25 07.8	+0.3
JAPN	**Al SSO del Vol**	**0.21**	**108**	P	Pn	22 25 08.6	+1.2
MORN	**Al O del Volca**	**0.24**	**101**	P	Pn	22 25 08.4	+0.9
NANN	**Nandasmo**	**0.41**	**326**	P	Pn	22 25 09.8	+1.8
NANN	**Nandasmo**	**0.41**	**326**	S	Sn	22 25 29.3	+2.4
SABN	**Sabanita**	**0.45**	**323**	P	Pn	22 25 08.8	+0.6
CARN	**Rivas**	**0.54**	**138**	P	Pn	22 25 09.3	+0.8
CARN				S	Sn	22 25 28.8	+1.2
MAFN	**Magfor**	**0.61**	**325**	P	Pn	22 25 09.6	+0.8
ENAN	**Enatrel Managu**	**0.64**	**325**	P	Pn	22 25 09.8	+0.8
WILN	**Americas 2**	**0.64**	**332**	P	Pn	22 25 09.6	+0.7
WILN				S	Sn	22 25 30.7	+2.1
UNAN	**Cigeo UNAN**	**0.64**	**324**	P	Pn	22 25 09.6	+0.6
USIM	**UNAN**	**0.64**	**324**	P	Pn	22 25 09.5	+0.5
MGAN	**Managua**	**0.65**	**327**	P	Pn	22 25 09.3	+0.3
TISN	**Laguna Tiscapa**	**0.66**	**326**	P	Pn	22 25 09.8	+0.7
ALLN	**Telcor Managua**	**0.68**	**326**	P	Pn	22 25 10.0	+0.8
APQ2	**Apoyeque**	**0.74**	**325**	P	Pn	22 25 10.2	+0.8
SAPS	**Ciudad Sandino**	**0.77**	**319**	P	Pn	22 25 10.1	+0.5
ACON	**Acoyapa**	**0.79**	**62**	P	Pn	22 25 10.7	+0.9
ACON	**Acoyapa**	**0.79**	**62**	S	Sn	22 25 30.5	+0.4
BOAB	**BOACO BROADBAN**	**0.88**	**14**	P	Pn	22 25 11.0	+0.7
BOAB	**BOACO BROADBAN**	**0.88**	**14**	S	Sn	22 25 31.8	+0.6
COPN	**Copaltepe**	**0.90**	**310**	P	Pn	22 25 10.4	-0.1
MOMN	**Momotombo**	**1.03**	**322**	P	Pn	22 25 11.4	-0.1
CNGN	**Cerro Negro**	**1.20**	**319**	P	Pn	22 25 12.9	0.0
MATN	**Matagalpa**	**1.33**	**358**	P	Pn	22 25 13.5	-0.5
MATN	**Matagalpa**	**1.33**	**358**	S	Sn	22 25 37.4	-0.3
PKGN	**Cerro Pekin**	**1.51**	**315**	P	Pn	22 25 16.0	+0.4
PKGN				S	Sn	22 25 41.8	+1.4
ESPN	**Las Esperanzas**	**1.66**	**69**	P	Pn	22 25 17.5	+0.4
ESPN	**Las Esperanzas**	**1.66**	**69**	S	Sn	22 25 44.0	+1.0
BLUN	**Bluefields**	**2.11**	**79**	P	Pn	22 25 22.1	+0.3
SIUN	**Universidad Ur**	**2.37**	**27**	P	Pn	22 25 24.8	0.0
SIUN				S	Sn	22 25 57.2	+0.2

*FCIAR **12** 22:57:41.0,79°.73N×20°.60E,h10km,station ZFI2 has station magnitude of 2.80*
*KOLA **12** 22:57:42.6±0.8,79°.75N×20°.23E,h12km±3km,ML2.9*
*BER **12** 22:57:42.9±5.5,79°.88N×20°.20E,h20km±21km,ML2.5, ML2.9(NAO),Confirmed Earthquake*
ISC 12 22:57:38.4±1.6,**79°.85N**±0°.05×**20°.51E**±0°.04,**h12**km±11km, **n19,**σ1§**25**/45,**Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.84**	**244**	Pn	**Pb**	**22 58 12.6**	**+0.8**
KBS				Sn	**Sb**	**22 58 34.5**	**-0.2**
KBS	**Kingsbay**	**1.84**	**244**	P	**Pn**	**22 58 09.3**	**-0.3**
KBS				S	**Sn**	**22 58 28.5**	**-4.2**
KBS	**Kingsbay**	**1.84**	**244**	eP	**Pn**	**22 58 09.3**	**-0.3**
KBS				ePg	**Pb**	**22 58 12.7**	**+0.9**
KBS				eS	**Sb**	**22 58 34.9**	**+0.2**
KBS				IAML		22 58 36.9	
	comp=Z,119nm,0.3s						
SPA0	**Spitsbergen Ar**	**1.86**	**207**	Pn	**Pb**	**22 58 12.1**	**-0.1**
	baz=32,slow=16						
SPA0				Pg	**Pg**	**22 58 13.6**	**-0.4**
	baz=38,slow=18						
SPA0				Sb	**Sn**	**22 58 33.5**	**+0.2**
	baz=54,slow=22						
SPA0	**Spitsbergen Ar**	**1.86**	**207**	eP	**Pn**	**22 58 10.3**	**+0.4**
SPA0				eS	**Sn**	**22 58 32.8**	**-0.4**
SPA0	**Spitsbergen Ar**	**1.86**	**207**	e	**Pn**	**22 58 10.4**	**+0.4**
SPA0				Pn	**Pb**	**22 58 12.1**	**-0.1**
	baz=32,slow=16						
SPA0				Pg	**Pg**	**22 58 13.6**	**-0.4**
	baz=38,slow=18						
SPA0				Sb	**Sn**	**22 58 33.5**	**+0.2**
	baz=54,slow=22						
SPA0				eSg	**Sg**	**22 58 38.7**	**+0.7**
SPITS	**Spitsbergen Ar**	**1.86**	**207**	P	**Pn**	**22 58 11.1**	**+1.1**
SPITS				S	**Sn**	**22 58 31.5**	**-1.7**
BRBB	**Barentsburg B**	**2.14**	**218**	Pn	**Pb**	**22 58 16.7**	**-0.3**
BRBB				Sg	**Sg**	**22 58 46.6**	**-0.4**
BRBB	**Barentsburg B**	**2.14**	**218**	S	**Sn**	**22 58 39.2**	**-1.0**
BRBB	**Barentsburg B**	**2.14**	**218**	eP	**Pb**	**22 58 16.6**	**-0.3**
BRBB				eSg	**Sg**	**22 58 46.5**	**-0.5**
BRBA	**Barentsburg A**	**2.17**	**217**	Pn	**Pn**	**22 58 15.3**	**+1.1**
BRBA				Sg	**Sg**	**22 58 47.8**	**-0.1**
BRBA	**Barentsburg A**	**2.17**	**217**	eP	**Pn**	**22 58 14.9**	**+0.7**
BRBA				ePg	**Pb**	**22 58 19.2**	**+1.8**
BRBA				eS	**Sn**	**22 58 40.2**	**-0.7**
BRBA				eSg	**Sg**	**22 58 47.6**	**-0.3**
BRBA				IAML		22 58 54.6	
	comp=Z,36nm,0.4s						
HOPEN	**Hopen**	**3.48**	**162**	Pn	**Pn**	**22 58 36.1**	**+3.9**
HOPEN				Sn	**Sn**	**22 59 12.8**	**-0.3**
HOPEN				Sg	**Sg**	**22 59 28.7**	**-1.3**
HOPEN	**Hopen**	**3.48**	**162**	P	**Pn**	**22 58 33.5**	**+1.3**
HOPEN				eS	**Sn**	**22 59 12.9**	**-0.3**
HOPEN	**Hopen**	**3.48**	**162**	eP	**Pb**	**22 58 37.9**	**-1.9**
HOPEN				ePg	**Pg**	**22 58 45.0**	**+0.1**
HOPEN				eS	**Sn**	**22 59 13.6**	**+0.3**
HOPEN				eSg	**Sg**	**22 59 29.2**	**-0.8**
HOPEN				IAML		22 59 37.4	
	comp=Z,26nm,0.4s						
ZFI2	**Zemlya Franca-**	**4.65**	**65**	eP	**Pn**	**22 58 49.4**	**+1.3**
ZFI2				eS	**Sn**	**22 59 40.9**	**-1.0**
	comp=Z,8.2nm,2.0s						
OMEGA	**Omega**	**4.66**	**65**	eP	**Pn**	**22 58 49.3**	**+0.9**
OMEGA				eS	**Sn**	**22 59 40.1**	**-2.1**
ARA0	**ARCESS Array S**	**10.45**	**170**	Pn	**Pn**	**23 00 08.1**	**+0.4**
	baz=359,slow=11						
ARA0				Sn	Sn	23 01 55.8	-8.6
	baz=0.4,slow=22						
ARA0	**ARCESS Array S**	**10.45**	**170**	Pn	**Pn**	**23 00 08.1**	**+0.4**
	baz=359,slow=11						
ARA0				Sn	Sn	23 01 55.8	-8.6
	baz=0.4,slow=22						

IDC 12 23:06:17.8±7.0,**6°.32S×147°.58E,h0km,mb4.2/3, mbtmp4.2/4,ML3.2/1,Error ellipse: s-maj=107.1km s-min=68.3km az=32.0,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.68**	**222**	P	P	23 10 36.1	-1.6
	0.1nm,0.3s,baz=47,slow=11,SNR=4.8 3.4nm,0.9s						
ASAR	**Alice Springs**	**21.69**	**216**	P	P	23 11 09.6	-0.9
	7.3nm,0.9s,baz=50,slow=8.4,SNR=4.3 7.3nm,0.9s						
FITZ	**Fitzroy Crossi**	**24.39**	**239**	P	P	23 11 38.8	+0.6
	5.8nm,0.6s,baz=59,slow=8.9,SNR=7.4 5.8nm,0.6s						
STKA	**Stephens Creek**	**26.04**	**192**	P	P	23 11 53.7	+0.8
	1.2nm,0.3s,baz=8.0,slow=10,SNR=3.0 1.2nm,0.3s						

*IDC **12** 23:07:42.0±0.9,5°.46S×148°.34E,h0km,mb4.2/14, mbtmp4.2/15,ML4.2/1,Error ellipse: s-maj=30.1km s-min=15.4km az=102.0*
ISC 12 23:08:00.4±0.8,**5°.7S**±0°.1×**148°.3E**±0°.2,**h163**km,**n15,** σ1§**67**/15,**mb4.1/14,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.64**	**222**	P	**P**	**23 12 13.5**	**-3.2**
	0.7nm,0.3s,baz=51,slow=11,SNR=7.3 6.0nm,0.8s						
ASAR	**Alice Springs**	**22.64**	**216**	P	**P**	**23 12 46.6**	**-1.3**
	11nm,0.9s,baz=54,slow=8.9,SNR=9.4 11nm,0.9s						
DZM	**Mont Dzumac**	**23.96**	**135**	P	**P**	**23 12 58.5**	**-1.5**
	9.9nm,1.1s,baz=309,slow=17,SNR=3.5 9.9nm,1.1s						
FITZ	**Fitzroy Crossi**	**25.35**	**239**	P	**P**	**23 13 12.2**	**-0.3**
	27nm,1.0s,baz=57,slow=6.4,SNR=9.4 27nm,1.0s						
STKA	**Stephens Creek**	**26.83**	**193**	P	**P**	**23 13 27.2**	**+1.6**
	5.7nm,0.9s,baz=6.0,slow=11,SNR=3.5 5.7nm,0.9s						
NWAO	**Narrogin (SRO)**	**39.65**	**223**	P	**P**	**23 15 17.8**	**+1.2**
	7.4nm,1.0s,baz=32,slow=9.3,SNR=2.2 7.4nm,1.0s						
MJAR	**Matsushiro Arr**	**43.03**	**348**	P	**P**	**23 15 42.0**	**-1.9**
	0.7nm,0.4s,baz=160,slow=7.4,SNR=5.1 0.7nm,0.4s						
KSRS	**Korea Array**	**46.91**	**338**	P	**P**	**23 16 12.1**	**-2.4**
	0.4nm,0.3s,baz=158,slow=9.9,SNR=4.1 0.4nm,0.3s						
PETK	**Petropavlovsk-**	**59.08**	**7**	P	**P**	**23 17 42.7**	**-0.6**
	9.4nm,1.2s,baz=142,slow=7.5,SNR=6.1 9.4nm,1.2s						
SONM	**Songino Array**	**64.75**	**330**	P	**P**	**23 18 22.2**	**+0.8**
	2.4nm,1.1s,baz=158,slow=7.4,SNR=9.4 2.4nm,1.1s						
MKAR	**Makanchi Array**	**78.06**	**320**	P	**P**	**23 19 41.4**	**+0.2**
	0.7nm,0.8s,baz=94,slow=8.8,SNR=4.7 0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**79.42**	**327**	P	**P**	**23 19 48.5**	**+0.2**
	0.5nm,0.4s,baz=88,slow=4.7,SNR=3.8 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**81.74**	**323**	P	**P**	**23 20 01.9**	**+1.2**
	0.7nm,1.0s,baz=116,slow=3.4,SNR=4.0 0.7nm,1.0s						
ILAR	**Eielson Array**	**84.66**	**23**	P	**P**	**23 20 16.8**	**+1.3**
	1.6nm,0.9s,baz=253,slow=5.0,SNR=7.9 1.6nm,0.9s						
NRIK	**Noril'sk**	**85.35**	**342**	P	**P**	**23 20 20.0**

PETK	**Petropavlovsk-**	**58.98**	**7**	P		**P**	**23 19 35.2**	**-0.8**
	comp=Z,2.2nm,0.9s,baz=205,slow=7.4,SNR=3.4							
	comp=Z,2.2nm,0.9s							
SONM	**Songino Array**	**64.50**	**330**	P		**P**	**23 20 13.3**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=145,slow=5.4,SNR=5.3							
	comp=Z,0.8nm,0.8s							
L14K	**Kuka Creek**	**76.74**	**22**	P		**P**	**23 21 28.8**	**+1.3**
L14K				IAmb		IAmb	23 22 10.6	
	comp=Z,8.3nm,1.1s							
MKAR	**Makanchi Array**	**77.79**	**320**	P		**P**	**23 21 33.1**	**-0.7**
MKAR	**Makanchi Array**	**77.79**	**320**	P		**P**	**23 21 33.5**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=114,slow=5.9,SNR=6.3							
	comp=Z,1.0nm,0.9s							
ZALV	**Zalesovo Beam**	**79.16**	**328**	P		**P**	**23 21 40.0**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=112,slow=6.9,SNR=4.6							
	comp=Z,0.6nm,0.6s							
L19K	**White Mountain**	**80.26**	**24**	P		**P**	**23 21 47.9**	**+0.9**
L19K				IAmb		IAmb	23 22 07.5	
	comp=Z,5.5nm,1.2s							
KURBB	**Kurchatov Arra**	**81.47**	**323**	P		**P**	**23 21 52.8**	**-0.9**
	comp=Z,0.6nm,0.9s,baz=110,slow=4.4,SNR=3.5							
	comp=Z,0.6nm,0.9s							
E19K	**Redstone River**	**82.33**	**19**	P		**P**	**23 21 58.5**	**+0.6**
E19K				IAmb		IAmb	23 22 00.1	
	comp=Z,4.4nm,1.0s							
GLB	**Gilahina Butte**	**84.59**	**27**	P		**P**	**23 22 13.1**	**+3.4**
GLB				IAmb		IAmb	23 22 16.3	
	comp=Z,3.0nm,0.8s							
ILAR	**Eielson Array**	**84.64**	**23**	P		**P**	**23 22 08.9**	**-0.9**
ILAR	**Eielson Array**	**84.64**	**23**	P		**P**	**23 22 08.8**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=256,slow=4.8,SNR=7.8							
	comp=Z,1.6nm,0.8s							
VRDI	**Verde Repeater**	**84.68**	**27**	P		**P**	**23 22 12.7**	**+2.4**
NRIK	**Noril'sk**	**85.14**	**342**	P		**P**	**23 22 12.3**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=126,slow=4.7,SNR=3.6							
	comp=Z,2.2nm,0.8s							
J25K	**Salcha River,**	**85.17**	**23**	P		**P**	**23 22 11.9**	**-0.7**
J25K				IAmb		IAmb	23 22 18.6	
	comp=Z,3.9nm,0.8s							
D23K	**Nanushuk River**	**85.21**	**19**			**P**	**23 22 14.2**	**+1.6**
G24K	**Hadweenzic Riv**	**85.25**	**21**	P		**P**	**23 22 13.9**	**+1.0**
G24K				IAmb		IAmb	23 22 14.6	
	comp=Z,2.7nm,1.1s							
F24K	**Squaw Lake**	**85.46**	**20**			**P**	**23 22 15.2**	**+1.3**
F24K				IAmb		IAmb	23 22 57.3	
	comp=Z,4.8nm,1.0s							
M27K	**Edge Creek, AK**	**85.78**	**26**	P		**P**	**23 22 15.3**	**-0.4**
M27K				IAmb		IAmb	23 22 17.8	
	comp=Z,4.7nm,0.9s							
K27K	**Chicken**	**86.28**	**24**	P		**P**	**23 22 19.4**	**+1.5**
K27K				IAmb		IAmb	23 22 20.3	
	comp=Z,5.2nm,1.1s							
G26K	**Porcupine Rive**	**86.68**	**21**	P		**P**	**23 22 20.4**	**+0.5**
G26K				IAmb		IAmb	23 22 27.3	
	comp=Z,4.2nm,0.8s							
HYT	**Haines Junctio**	**87.28**	**28**	P		**P**	**23 22 24.4**	**+1.3**
M29M	**Somme Creek**	**87.31**	**27**	P		**P**	**23 22 23.7**	**+0.5**
M29M				IAmb		IAmb	23 22 30.3	
	comp=Z,3.1nm,0.8s							
L29M	**L29M**	**87.66**	**26**	P		**P**	**23 22 25.0**	**+0.3**
K29M	**Barlow Dome**	**88.13**	**25**	P		**P**	**23 22 26.9**	**-0.2**
K29M				IAmb		IAmb	23 22 29.2	
	comp=Z,4.0nm,0.9s							

IDC 12 23:09:52.1±411.0, 0.30S×78.42W, h0km, Error ellipse: s-maj=247.2km s-min=151.0km az=25.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I20EC	**Galapagos**	**11.95**	**269**	I	I	00 21 25.0	
	0.1nm,1.1s,baz=88,slow=314,SNR=6.1						
I41PY	**VILLA FLORIDA**	**32.92**	**144**	I	I	02 30 04.7	
	baz=321,slow=319,SNR=4.5						
I09BR	**BRASILIA INFRA**	**33.66**	**118**	I	I	02 36 50.3	
	baz=291,slow=321,SNR=1.2						

*IDC **12** 23:10:15.0±0.9, 5.47S×148.35E, h0km, mb4.3/11, mbtmp4.3/13, ML4.0/2, Error ellipse: s-maj=28.9km s-min=18.2km az=96.0*
*NEIC **12** 23:10:34.9±2.2, 5.28S±0.10×147.1E±0.2, h117km±12km, mb4.3/24, Error ellipse: s-maj=24.7km s-min=13.4km az=101.0*

ISC 12 23:10:32.0±0.8, 5.34S±0.09×147.2E±0.1, h100km, n41, σ1°48/38, mb4.3/20, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.27**	**3**	Pn	**Pn**	**23 11 23.3**	**+1.8**
JAY	**Jayapura**	**7.06**	**293**	Pn	**Pn**	**23 12 12.8**	**+0.1**
	0.5nm,0.3s,baz=292,slow=8.5,SNR=3.9						
	13nm,0.9s						
CTAO	**Charters Tower**	**14.69**	**184**	Pn	**Pn**	**23 13 55.7**	**+0.7**
WB0	**Warramunga Arr**	**19.00**	**220**	P	**P**	**23 14 47.0**	**+1.0**
WR0	**Warramunga Arr**	**19.05**	**219**	P	**P**	**23 14 47.7**	**+1.2**
WR0				IAmb	IAmb	23 14 52.3	
	comp=Z,16nm,0.8s						
WR8	**Warramunga Arr**	**19.07**	**219**	P	**P**	**23 14 46.9**	**+0.1**
WR8				IAmb	IAmb	23 14 51.4	
	comp=Z,17nm,0.8s						
WRAB	**Tennant Creek**	**19.15**	**220**	P	**P**	**23 14 48.3**	**+0.6**
WB2	**Warramunga Arr**	**19.16**	**220**		**Pn**	**23 14 51.4**	**+1.8**
WRA	**Warramunga Arr**	**19.17**	**220**	P	**P**	**23 14 48.4**	**+0.6**
WRA	**Warramunga Arr**	**19.17**	**220**	P	**P**	**23 14 46.5**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=49,slow=11,SNR=6.1						
	comp=Z,7.2nm,0.8s						
EIDS	**Eidsvold**	**20.27**	**170**	P	Pn	23 15 02.5	0.0
KNRA	**Kununurra**	**20.82**	**239**	P	**P**	**23 15 05.5**	**-0.1**
KNRA				IAmb	IAmb	23 15 22.3	
	comp=Z,11nm,0.8s						
AS31	**Alice Springs**	**22.27**	**214**	P	**P**	**23 15 23.0**	**+1.9**
ASAR	**Alice Springs**	**22.28**	**214**	P	**P**	**23 15 22.1**	**+0.9**
ASAR	**Alice Springs**	**22.28**	**214**	P	**P**	**23 15 19.6**	**-1.6**
	comp=Z,14nm,0.8s,baz=56,slow=8.3,SNR=5.9						
	comp=Z,14nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.59**	**237**	P	**P**	**23 15 46.2**	**+3.3**
	comp=Z,22nm,0.7s,baz=49,slow=9.0,SNR=5.9						
	comp=Z,22nm,0.7s						
DZM	**Mont Dzumac**	**24.97**	**134**	P	P	23 15 31.5	-15
	comp=Z,16nm,1.1s,baz=336,slow=11,SNR=3.4						
	comp=Z,16nm,1.1s						
STKA	**Stephens Creek**	**26.92**	**191**	P	**P**	**23 15 59.6**	**-4.3**
	comp=Z,17nm,1.2s,baz=342,slow=15,SNR=3.6						
	comp=Z,17nm,1.2s						
MJAR	**Matsushiro Arr**	**42.50**	**349**	P	**P**	**23 18 14.8**	**-2.7**
	comp=Z,2.9nm,1.0s,baz=164,slow=7.4,SNR=1.9						
	comp=Z,2.9nm,1.0s						
SONM	**Songino Array**	**63.92**	**331**	P	**P**	**23 20 54.7**	**+0.2**
	comp=Z,3.1nm,1.1s,baz=134,slow=6.4,SNR=6.6						
	comp=Z,3.1nm,1.1s						
MKAR	**Makanchi Array**	**77.11**	**320**	P	**P**	**23 22 14.7**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=120,slow=7.1,SNR=3.9						
	comp=Z,0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**78.56**	**328**	P	**P**	**23 22 21.9**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=95,slow=3.7,SNR=4.1						
	comp=Z,1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**80.82**	**323**	P	**P**	**23 22 35.5**	**+0.8**
	comp=Z,1.1nm,1.1s,baz=106,slow=4.3,SNR=2.8						
	comp=Z,1.1nm,1.1s						
G23K	**Bananza Creek**	**84.47**	**21**	P	**P**	**23 22 52.7**	**-0.7**
G23K				IAmb	IAmb	23 22 59.8	
	comp=Z,2.9nm,0.9s						
PAX	**Paxson**	**84.65**	**25**	P	**P**	**23 22 54.7**	**+0.3**
NRIK	**Noril'sk**	**84.71**	**342**	P	**P**	**23 22 53.4**	**-1.0**
	comp=Z,4.2nm,0.9s,baz=126,slow=4.1,SNR=4.4						
	comp=Z,4.2nm,0.9s						
ILAR	**Eielson Array**	**84.80**	**23**	P	P	23 22 49.5	-5.4
	comp=Z,1.6nm,0.8s,baz=251,slow=5.1,SNR=4.4						
	comp=Z,1.6nm,0.8s						
H24K	**Noodor Dome**	**84.86**	**22**	P	**P**	**23 22 54.1**	**-1.3**
E23K	**Chandalar**	**85.23**	**20**	P	**P**	**23 22 58.2**	**+1.0**
E23K				IAmb	IAmb	23 23 00.7	
	comp=Z,4.4nm,0.9s						
D23K	**Nanushuk River**	**85.30**	**19**	P	**P**	**23 22 58.4**	**+1.0**
D23K				IAmb	IAmb	23 22 58.5	
	comp=Z,4.6nm,0.9s						
J25K	**Salcha River,**	**85.33**	**24**	P	**P**	**23 22 56.8**	**-0.9**
M27K	**Edge Creek, AK**	**85.98**	**26**	P	**P**	**23 23 01.1**	**0.0**
M27K				IAmb	IAmb	23 23 04.3	
	comp=Z,3.9nm,0.8s						
J26L	**Joseph Creek**	**86.01**	**24**	P	**P**	**23 23 00.2**	**-1.0**
L27K	**Beaver Creek,**	**86.24**	**26**	P	**P**	**23 23 02.4**	**+0.2**
L27K				IAmb	IAmb	23 23 05.0	
	comp=Z,2.5nm,0.9s						
BCAR	**Beaver Creek A**	**86.26**	**26**	P	**P**	**23 23 04.0**	**+1.6**
K27K	**Chicken**	**86.46**	**25**	P	**P**	**23 23 03.1**	**-0.1**
K27K				IAmb	IAmb	23 23 06.6	
	comp=Z,3.0nm,0.7s						
I26K	**Coal Creek Min**	**86.47**	**23**	P	**P**	**23 23 04.7**	**+1.5**
I26K				IAmb	IAmb	23 23 10.9	
	comp=Z,1.8nm,0.8s						
BMAR	**Burnt Mountain**	**86.71**	**21**	P	**P**	**23 23 05.8**	**+1.4**
H27K	**Steamboat Moun**	**87.41**	**23**	P	**P**	**23 23 08.6**	**+0.8**
H27K				IAmb	IAmb	23 23 11.1	
	comp=Z,3.6nm,0.8s						
MAYO	**Mayo, Yukon**	**88.96**	**26**	P	**P**	**23 23 17.6**	**+2.5**
J30M	**Hart River**	**89.01**	**25**	P	**P**	**23 23 15.8**	**+0.2**
J30M				IAmb	IAmb	23 23 18.5	
	comp=Z,2.3nm,0.8s						

*IDC **12** 23:15:22.5±0.9, 5.55S×148.13E, h0km, mb4.1/11, mbtmp4.1/12, ML4.0/1, Error ellipse: s-maj=31.0km s-min=17.7km az=107.0*
*NEIC **12** 23:15:27.4±2.4, 5.7S±0.1×148.18E±0.07, h24km±6km, mb4.5/24, Error ellipse: s-maj=15.6km s-min=9.3km az=189.0*

ISC 12 23:15:27.8±0.6, 5.67S±0.09×148.2E±0.1, h35km, n42, σ1°21/41, mb4.4/22, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**9.59**	**210**	Pn	**Pn**	**23 17 42.3**	**-1.2**
MTN	**Manton Dam**	**18.25**	**246**	P	**Pn**	**23 19 39.0**	**+0.6**
MTN				IAmb	IAmb	23 19 52.8	
	comp=Z,32nm,1.4s						
WB0	**Warramunga Arr**	**19.39**	**222**		**P**	**23 19 52.1**	**+1.2**
WB0				IAmb	IAmb	23 19 58.8	
	comp=Z,12nm,0.7s						
WR0	**Warramunga Arr**	**19.42**	**222**	Pn	**P**	**23 19 52.6**	**+1.3**
WR8	**Warramunga Arr**	**19.45**	**222**	P	**P**	**23 19 52.4**	**+0.8**
WR8				IAmb	IAmb	23 19 58.7	
	comp=Z,13nm,0.8s						
WRAB	**Tennant Creek**	**19.53**	**222**	P	**P**	**23 19 52.8**	**+0.3**
WB2	**Warramunga Arr**	**19.54**	**222**		**P**	**23 19 53.1**	**+0.5**
WRA	**Warramunga Arr**	**19.55**	**222**	P	**P**	**23 19 53.0**	**+0.4**
WRA	**Warramunga Arr**	**19.55**	**222**	P	**P**	**23 19 52.6**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=45,slow=11,SNR=14						
	comp=Z,5.0nm,0.8s						
KNRA	**Kununurra**	**21.48**	**241**	P	**P**	**23 20 14.9**	**+1.3**
KNRA				IAmb	IAmb	23 20 22.8	
	comp=Z,23nm,1.2s						
AS31	**Alice Springs**	**22.55**	**216**		**P**	**23 20 24.6**	**-0.5**
ASAR	**Alice Springs**	**22.56**	**216**		**P**	**23 20 24.6**	**-0.5**
ASAR	**Alice Springs**	**22.56**	**216**	P	**P**	**23 20 25.2**	**+0.1**
	comp=Z,13nm,0.9s,baz=56,slow=8.7,SNR=21						
	comp=Z,13nm,0.9s						
DZM	**Mont Dzumac**	**24.06**	**134**	P	**P**	**23 20 40.7**	**+0.7**
	comp=Z,7.1nm,0.8s,baz=346,slow=13,SNR=3.9						
	comp=Z,7.1nm,0.8s						
ARMA	**Armidale**	**24.84**	**173**	P	**P**	**23 20 46.0**	**-1.1**
FITZ	**Fitzroy Crossi**	**25.22**	**239**		**P**	**23 20 50.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**25.22**	**239**	P	**P**	**23 20 50.8**	**+0.1**
	comp=Z,16nm,1.0s,baz=64,slow=9.5,SNR=19						
	comp=Z,16nm,1.0s						
FUNA	**Funafuti**	**30.92**	**97**	P	**P**	**23 21 41.7**	**+0.1**
FORT	**Forrest**	**31.32**	**215**	P	**P**	**23 21 45.8**	**+0.8**
MJAR	**Matsushiro Arr**	**43.01**	**348**	P	**P**	**23 23 23.1**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=162,slow=7.5,SNR=4.5						
	comp=Z,2.4nm,0.8s						
KLR	**Kul'dur**	**56.51**	**347**	P	**P**	**23 25 06.5**	**0.0**
	baz=150,slow=9.7						
PETK	**Petropavlovsk-**	**59.11**	**7**	P	**P**	**23 25 24.1**	**-0.6**
	comp=Z,2.2nm,0.9s,baz=175,slow=6.8,SNR=3.9						
	comp=Z,2.2nm,0.9s						
GTA	**Gaotai**	**63.23**	**320**	P	**P**	**23 25 54.3**	**+1.3**
GTA				sP	PcP	23 26 21.8	-8.4
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SONM	**Songino Array**	**64.68**	**330**	P	**P**	**23 26 02.1**	**-0.3**
	comp=Z,1.7nm,1.1s,baz=141,slow=4.8,SNR=7.3						
	comp=Z,1.7nm,1.1s						
MKAR	**Makanchi Array**	**77.98**	**320**	P	**P**	**23 27 20.6**	**-2.0**
	comp=Z,0.3nm,0.6s,baz=101,slow=6.4,SNR=4.3						
	comp=Z,0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**79.35**	**327**	P	P	23 27 26.2	-3.8
	comp=Z,1.1nm,0.8s,baz=114,slow=7.1,SNR=3.6						
KURBB	**Kurchatov Arra**	**81.66**	**323**	P	**P**	**23 27 41.9**	**-0.5**
	comp=Z,0.8nm,1.0s,baz=112,slow=4.6,SNR=4.4						
	comp=Z,0.8nm,1.0s						
ILAR	**Eielson Array**	**84.72**	**23**	P	**P**	**23 27 57.2**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=252,slow=4.9,SNR=8.5						
	comp=Z,1.5nm,0.9s						
NRIK	**Noril'sk**	**85.31**	**342**	P	**P**	**23 28 00.3**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=135,slow=5.7,SNR=5.1						
	comp=Z,2.3nm,0.9s						
BVAR	**Borovoye Array**	**87.18**	**324**	P	**P**	**23 28 09.4**	**-1.0**
	comp=Z,0.4nm,0.3s						
	comp=Z,0.4nm,0.3s						
H27K	**Steamboat Moun**	**87.35**	**22**		**P**	**23 28 10.4**	**-0.5**
H27K				IAmb	IAmb	23 28 17.8	
	comp=Z,5.5nm,1.4s						
HYT	**Haines Junctio**	**87.35**	**28**		**P**	**23 28 11.1**	**-0.1**
HYT				IAmb	IAmb	23 28 18.8	
	comp=Z,3.5nm,0.8s						
M29M	**Somme Creek**	**87.39**	**26**	P	**P**	**23 28 11.4**	**+0.1**
M29M				IAmb	IAmb	23 28 19.4	
	comp=Z,4.2nm,1.1s						
L29M	**L29M**	**87.73**	**26**		**P**	**23 28 14.8**	**+1.9**
L29M				IAmb	IAmb	23 28 15.2	
	comp=Z,4.4nm,0.9s						
C27K	**Jago River**	**87.82**	**19**	P	**P**	**23 28 13.5**	**+0.4**
E27K	**Coleen River**	**88.01**	**21**	P	**P**	**23 28 18.0**	**+3.9**
E27K				IAmb	IAmb	23 28 38.2	
	comp=Z,4.2nm,1.4s						
K29M	**Barlow Dome**	**88.21**	**25**		**P**	**23 28 15.7**	**+0.5**
K29M				IAmb	IAmb	23 28 17.5	
	comp=Z,4.5nm,1.1s						
G29M	**Pine Creek**	**88.90**	**22**	P	**P**	**23 28 18.8**	**+0.6**
G29M				IAmb	IAmb	23 28 48.9	
	comp=Z,4.4nm,1.1s						
J30M	**Hart River**	**88.91**	**25**	P	**P**	**23 28 18.6**	**+0.1**
J30M				IAmb	IAmb	23 28 57.4	
	comp=Z,4.0nm,1.3s						
H31M	**Peel River**	**90.03**	**24**	P	**P**	**23 28 27.1**	**+3.5**
G31M	**Satah River**	**90.33**	**23**	P	**P**	**23 28 25.9**	**+1.0**
TORD	**Torodi Ar. Bea**	**146.12**	**285**	PKPbc	**PKPdf**	**23 35 05.9**	**+1.5**
	comp=Z,3μm,0.5s,baz=54,slow=2.7,SNR=4.6						

IDC 12 23:22:44.3±2.1, 5.91S×148.68E, h0km, mb3.8/3, mbtmp3.8/4, ML3.5/1, MS3.5/1, Error ellipse: s-maj=101.3km s-min=29.4km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.72**	**224**	P	P	23 27 15.6	0.0
	0.2nm,0.3s,baz=50,slow=11,SNR=7.4						
	1.3nm,0.9s						
ASAR	**Alice Springs**	**22.67**	**217**	P	P	23 27 47.5	+0.1
	2.1nm,0.8s,baz=50,slow=8.9,SNR=11						
	2.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**25.54**	**240**	P	P	23 28 14.8	-0.1
	7.1nm,1.0s,baz=71,slow=6.3,SNR=5.1						
	7.1nm,1.0s						
JNU	**Nakatsue**	**42.34**	**338**	LR	LR	23 46 26.9	
	comp=Z,67nm,21.8s,baz=15,slow=34						
ILAR	**Eielson Array**	**84.75**	**23**	P	P	23 35 20.1	0.0
	0.3nm,0.8s,baz=247,slow=5.1,SNR=4.1						
	0.3nm,0.8s						

*NEIC **12** 23:23:38.1±1.2, 35.689N±0.005×117.51W±0.03, h12km±5km, Error ellipse: s-maj=3.7km s-min=0.4km az=100.0*

PAS 12 23:23:38.9±1.4, 35.69N±0.01×117.52W±0.05, h7km±5km, ML3.1/18, ML2.8/120(NEIC), Error ellipse: s-maj=5.7km s-min=1.3km az=102.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.09**	**163**		Pg	23 23 41.1	+0.1
WSHM				Sg	Sg	23 23 42.8	+0.3
SRTC	**Snort**	**0.18**	**272**		Pg	23 23 43.0	+0.4
CCCA	**Chr Cany lake**	**0.21**	**141**		Pg	23 23 43.3	+0.3
CCCA				Sg	Sg	23 23 46.5	+0.8
TOW	**Tower One**	**0.23**	**302**		Pg	23 23 43.8	+0.4
LRMC	**Laurel Mtn Rad**	**0.24**	**212**		Pg	23 23 43.5	-0.1
LRMC				Sg	Sg	23 23 47.0	+0.1
LRMC				IAML		23 23 47.7	
	comp=N,3μm,0.1s						
LRMC				IAML		23 23 48.1	
	comp=E,3μm,0.3s						
WNMM	**Nine Mile Cany**	**0.35**	**297**		Pg	23 23 45.6	-0.1
MPMC	**Manual Prospec**	**0.37**	**4**	Sg	Sg	23 23 50.9	-0.3
MPMC				IAML		23 23 51.6	
	comp=N,2μm,0.5s						
MPMC				IAML		23 23 53.0	
	comp=E,2μm,0.3s						
WRVM	**Rose V. Centra**	**0.44**	**317**		Pg	23 23 47.1	-0.3
QSM	**Queen of Sheba**	**0.60**	**62**	Sg	Sg	23 23 58.0	-0.3
QSM				IAML		23 23 58.6	
	comp=E,662nm,0.2s						
QSM				IAML		23 24 02.0	
	comp=N,815nm,0.5s						
GSC	**Goldstone, Bar**	**0.70**	**123**		Pg	23 23 52.0	-0.4
GSC				IAML		23 24 01.7	
	comp=N,793nm,0.3s						
ISA	**Isabella, Lake**	**0.77**	**269**		Pg	23 23 53.2	-0.6
GWY	**Greenwater Val**	**0.85**	**54**	IAML		23 24 08.8	
	comp=N,444nm,0.4s						
GWY				IAML		23 24 09.7	
	comp=E,506nm,0.3s						
CWC	**Cottonwood Cre**	**0.88**	**329**		Pg	23 23 55.3	-0.5
CWC				IAML		23 24 25.7	
	comp=E,351nm,0.2s						
CWC				IAML		23 24 25.9	
	comp=N,244nm,0.2s						
GRAC	**Grapevine Rang**	**1.31**	**6**		Pn	23 24 03.1	-0.6
GRAC				IAML		23 24 24.9	
	comp=N,210nm,0.4s						
GRAC				IAML		23 24 26.7	
	comp=E,257nm,0.7s						
BFSC	**Mount Baldy Ra**	**1.45**	**184**		Pn	23 24 04.7	-1.0
BFSC				IAML		23 24 26.1	
	comp=N,150nm,0.7s						
BFSC				IAML		23 24 26.4	
	comp=E,142nm,0.4s						
OSI	**Osito Audit: C**	**1.45**	**223**		Pn	23 24 04.8	-0.8
OSI				IAML		23 24 30.0	
	comp=N,161nm,0.7s						
OSI				IAML		23 24 30.7	
	comp=E,180nm,0.7s						
MWC	**Mount Wilson**	**1.52**	**197**		Pn	23 24 06.2	-0.5
PASC	**Pasadena Art C**	**1.60**	**200**		Pn	23 24 08.0	+0.3
PASC				IAML		23 24 32.5	
	comp=E,127nm,0.5s						
PASC				IAML		23 24 34.7	
	comp=N,82nm,0.5s						
MTPC	**Mountain Pass**	**1.62**	**97**		Pn	23 24 06.3	-1.7
MTPC				IAML		23 24 30.6	
	comp=E,184nm,0.3s						
MTPC				IAML		23 24 32.6	
	comp=N,118nm,0.2s						
GMN	**Gold Mountain**	**1.63**	**7**		Pn	23 24 07.3	-0.9
GMN				IAML		23 24 33.6	
	comp=N,79nm,0.5s						
TPNV	**Topopah Spring**	**1.63**	**39**		Pn	23 24 07.1	-1.1
TPNV				IAML		23 24 32.5	
	comp=N,112nm,0.3s						
TPNV				IAML		23 24 32.7	
	comp=N,120nm,0.5s						
DSP	**Deep Springs**	**1.72**	**348**		Pn	23 24 08.5	-0.8
MZP	**Montezuma Peak**	**2.02**	**3**		Pn	23 24 13.1	-0.5
ELS	**Elsinore Mount**	**2.03**	**178**		Pn	23 24 12.8	-0.9
ELS				IAML		23 24 46.5	
	comp=E,53nm,0.4s						
ELS				IAML		23 24 50.8	
	comp=N,66nm,0.5s						
SHPR	**Sheep Range**	**2.08**	**66**		Pn	23 24 12.8	-1.6
V12A	**Nelson**	**2.18**	**88**		Pn	23 24 16.2	+0.5
V12A				IAML		23 24 54.2	
	comp=N,34nm,0.5s						
V12A				IAML		23 24 54.6	
	comp=E,43nm,0.5s						
PMD	**Palm Desert**	**2.24**	**155**		Pn	23 24 15.4	-1.1
PMD				IAML		23 24 51.0	
	comp=E,37nm,0.5s						
PMD				IAML		23 24 51.1	
	comp=N,31nm,0.3s						
PFO	**Pinyon Flats O**	**2.25**	**157**		Pn	23 24 15.2	-1.5
PFO				IAML		23 24 51.7	
	comp=N,36nm,0.3s						
TPH	**Tonopah**	**2.40**	**6**		Pn	23 24 17.4	-1.4
S11A	**Rachel**	**2.42**	**36**		Pb	23 24 23.9	+1.0
S11A				IAML		23 25 04.3	
	comp=N,78nm,1.0s						
NJQ	**Nojoqui County**	**2.46**	**243**		Pn	23 24 19.9	+0.5
NEE2	**Needles Airpor**	**2.55**	**110**		Pn	23 24 20.4	-0.3
NEE2				IAML		23 25 01.6	
	comp=E,77nm,0.3s						
BORC	**Borrego Spring**	**2.58**	**159**		Pn	23 24 20.6	-0.5
BORC				IAML		23 25 01.3	
	comp=E,52nm,0.8s						
BORC				IAML		23 25 03.8	
	comp=N,40nm,0.8s						
PRN	**Pahroc Range**	**2.63**	**48**		Pg	23 24 28.0	-1.3
PRN				IAML		23 25 09.2	
	comp=N,33nm,0.5s						
PRN				IAML		23 25 15.6	
	comp=E,34nm,1.0s						
LHV	**Little Huntoon**	**2.68**	**343**		Pn	23 24 22.3	-0.1
LHV				Pg	Pb	23 24 28.6	+1.5
LHV				IAML		23 25 16.9	
	comp=N,34nm,1.5s						
LHV				IAML		23 25 18.0	
	comp=E,26nm,1.4s						
DPP	**Dos Picos Cty**	**2.72**	**170**		Pn	23 24 23.0	-0.1
DPP				IAML		23 25 08.5	
	comp=N,28nm,0.2s						
DPP				IAML		23 25 09.0	
	comp=E,47nm,0.5s						
NV11	**Mina Array Sit**	**2.79**	**350**		Pn	23 24 24.3	+0.1
NV11				Pg	Pg

VNDA	**Vanda**	**32.60**	**202**	P		**P**	**23 57 36.7 +1.0**
	0.9nm,0.9s,baz=112,slow=5.4,SNR=4.6						
VNDA				LR		LR	00 06 48.1
	comp=Z,69nm,21.1s,baz=272,slow=29						
	0.9nm,0.9s						
TBI	**Tubuai**	**33.62**	**330**	*e*LR		LR	00 06 25.2
	606nm,25.5s						
TBI				*e*LR		LR	00 06 33.6
	1µm,27.8s						
PMSA	**Palmer Station**	**34.23**	**135**	LR		LR	00 07 45.2
	comp=Z,108nm,21.5s,baz=261,slow=29						
QSPA	**South Pole Qui**	**35.85**	**180**	P		**P**	**23 58 03.1 -1.1**
	1.6nm,1.1s,baz=90,slow=2.0,SNR=5.0						
QSPA				LR		LR	00 10 46.1
	comp=Z,152nm,18.2s,baz=74,slow=33						
	1.6nm,1.1s						
URZ	**Urewera**	**37.79**	**274**	LR		LR	00 09 53.4
	comp=Z,133nm,20.8s,baz=185,slow=30						
PPT2	**Papeete2**	**39.12**	**333**	*e*LR		LR	00 09 03.6
	362nm,25.5s						
PPT2				*e*LR		LR	00 09 04.8
	230nm,27.8s						
PPT	**Papeete**	**39.14**	**333**	LR		LR	00 12 42.4
	comp=Z,223nm,18.1s,baz=163,slow=33						
RAR	**Rarotonga**	**39.21**	**316**	LR		LR	00 12 03.7
	comp=Z,153nm,18.2s,baz=142,slow=32						
H03S2	**Juan Fernandez**	**42.05**	**83**	T		T	00 43 49.5
	baz=222,slow=74,SNR=130						
H03S1	**Juan Fernandez**	**42.06**	**83**	T		T	00 43 37.2
	baz=222,slow=74,SNR=150						
H03S3	**Juan Fernandez**	**42.07**	**83**	T		T	00 43 37.3
	baz=222,slow=74,SNR=134						
PLCA	**Paso Flores**	**42.27**	**97**	LR		LR	00 12 08.2
	comp=Z,67nm,19.3s,baz=223,slow=30						
H03N3	**Juan Fernandez**	**42.32**	**83**	T		T	00 43 51.8
	baz=225,slow=72,SNR=46						
H03N2	**Juan Fernandez**	**42.33**	**83**	T		T	00 43 52.7
	baz=225,slow=72,SNR=106						
H03N1	**Juan Fernandez**	**42.34**	**83**	T		T	00 43 51.1
	baz=225,slow=72,SNR=61						
TAOE	**Nuku Hiva Isla**	**45.82**	**349**	*e*LR		LR	00 12 14.2
	234nm,23.1s						
VNA1	**Neumayer--Stat**	**49.01**	**158**	⇑P		P	23 59 55.5 +4.6
	comp=Z,7.5nm,0.9s						
SNAA	**Sanae**	**49.31**	**161**	⇓P		P	23 59 59.1 +5.9
	comp=Z,61nm,0.8s						
SNAA	**Sanae**	**49.31**	**161**	LR		LR	00 18 29.1
	comp=Z,164nm,21.7s,baz=228,slow=33						
DZM	**Mont Dzumac**	**55.87**	**280**	*e*LR		LR	00 17 19.0
	comp=Z,95nm,21.9s						
MAW	**Mawson**	**57.88**	**187**	P		**P**	**00 00 57.2 +1.2**
	comp=Z,1.1nm,0.7s,baz=182,slow=9.8,SNR=6.2						
MAW				LR		LR	00 23 43.4
	comp=Z,87nm,18.6s,baz=72,slow=34						
	comp=Z,1.1nm,0.7s						
CPUP	**Villa Florida**	**60.19**	**94**	LR		LR	00 23 02.4
	comp=Z,27nm,19.6s,baz=82,slow=32						
NNA	**Nana**	**60.32**	**67**	LR		LR	00 20 57.6
	comp=Z,203nm,21.9s,baz=191,slow=30						
LPAZ	**La Paz**	**61.69**	**78**	P		**P**	**00 01 22.6 -1.0**
	comp=Z,3.6nm,1.1s,baz=180,slow=2.9,SNR=5.9						
LPAZ				LR		LR	00 21 53.8
	comp=Z,41nm,21.9s,baz=236,slow=30						
	comp=Z,3.6nm,1.1s						
ATAH	**Atahualpa**	**63.55**	**63**	LR		LR	00 21 41.1
	comp=Z,82nm,20.9s,baz=235,slow=29						
ASAR	**Alice Springs**	**73.47**	**253**	P		**P**	**00 02 35.8 -1.5**
	comp=Z,2.0nm,1.0s,baz=149,slow=6.2,SNR=9.1						
ASAR				LR		LR	00 31 37.5
	comp=Z,96nm,18.0s,baz=120,slow=33						
	comp=Z,2.0nm,1.0s						
BDFB	**Brasilia**	**73.92**	**94**	LR		LR	00 31 05.8
	comp=Z,90nm,20.5s,baz=155,slow=32						
H01W1	**Cape Leeuwin H**	**74.55**	**231**	T		T	01 25 24.3
	baz=146,slow=75,SNR=56						
H01W2	**Cape Leeuwin H**	**74.56**	**231**	T		T	01 25 24.7
	baz=146,slow=75,SNR=74						
H01W3	**Cape Leeuwin H**	**74.57**	**231**	T		T	01 25 22.8
	baz=146,slow=75,SNR=60						
JTS	**Las Juntas de**	**75.56**	**48**	LR		LR	00 28 12.0
	comp=Z,90nm,19.9s,baz=229,slow=30						
WRA	**Warramunga Arr**	**76.17**	**255**	P		**P**	**00 02 52.2 -0.7**
	comp=Z,1.9nm,1.0s,baz=143,slow=5.7,SNR=5.5						
	comp=Z,1.9nm,1.0s						
PCRV	**Puerto La Cruz**	**85.40**	**66**	LR		LR	00 37 03.1
	comp=Z,174nm,18.7s,slow=32						
TXAR	**Lajitas Array**	**86.82**	**24**	P		**P**	**00 03 50.3 +1.3**
	comp=Z,0.5nm,1.0s,baz=188,slow=6.1,SNR=6.2						
	comp=Z,0.5nm,1.0s						
ILAR	**Eielson Array**	**119.32**	**353**	PKP		**PKiKP**	**00 09 52.7 +0.1**
	comp=Z,0.4nm,0.7s,baz=215,slow=2.6,SNR=7.1						
SONM	**Songino Array**	**143.72**	**284**	PKhKP	PKPpre		00 10 36.3
	comp=Z,0.9nm,0.8s,baz=147,slow=3.5,SNR=5.3						
MKAR	**Makanchi Array**	**157.17**	**265**	PKPab		**PKPab**	**00 11 30.8 +0.1**
	comp=Z,0.6nm,0.8s,baz=121,slow=4.7,SNR=6.0						

CATAC ***12*** *23:57:00.3±1.2, 7°N±4°×7°3W±°, h148km±10km, M3.5/7, MLv3.5/7, Error ellipse: s-maj=19.9km s-min=7.5km az=93.9, confirmed*

RSNC 12 23:57:00.7±0.0, 7°N±1°×7°3W±°, h148km±2km, M3.0, ML2.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**188**	P	Pn	23 57 20.7	-0.4
BARC				S	Sn	23 57 36.1	-0.6
BRJC	**Barrancabermej**	**0.61**	**285**	P	Pn	23 57 22.3	-0.1
BRJC				S	Sn	23 57 39.1	+0.2
PAMC	**Pamplona, Colo**	**0.68**	**41**	P	Pn	23 57 23.5	0.0
PAMC				S	Sn	23 57 40.4	-0.4
RUSC	**La Rusia**	**0.92**	**176**	P	Pn	23 57 24.6	-0.7
RUSC				S	Sn	23 57 43.1	-0.8
RUSC	**La Rusia**	**0.92**	**176**	P	Pn	23 57 24.5	-0.8
RUSC				S	Sn	23 57 43.2	-0.7
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	P	Pn	23 57 27.1	-1.3
PTBC				S	Sn	23 57 48.4	-1.1
TAMC	**Tame, Arauca**	**1.40**	**106**	P	Pn	23 57 29.2	0.0
TAMC				S	Sn	23 57 50.8	-0.1
OCAC	**Ocana**	**1.42**	**353**	P	Pn	23 57 29.1	-0.4
OCAC				P	Pn	23 57 29.1	-0.4
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	P	Pn	23 57 32.9	-0.8
ZARC				S	Sn	23 57 58.4	-0.5
NORC	**Norcasia**	**2.12**	**234**	P	Pn	23 57 36.5	-0.7
NORC				S	Sn	23 58 05.1	-0.1
CHIC	**Chingaza**	**2.25**	**195**	P	Pn	23 57 39.0	-0.2
CHIC				S	Sn	23 58 08.0	-0.7
ROSC	**El Rosal**	**2.29**	**211**	P	Pn	23 57 40.6	+1.1
ROSC				S	Sn	23 58 10.5	+1.1
HELC	**Santa Helena**	**2.44**	**255**	P	Pn	23 57 42.7	+1.3
HELC	**Santa Helena**	**2.44**	**255**	P	Pn	23 57 42.6	+1.2
HELC				S	Sn	23 58 12.0	-0.7
CVER	**Cruz Verde, Cu**	**2.46**	**202**	P	Pn	23 57 42.1	+0.3
CVER				S	Sn	23 58 14.0	+0.7
UREC	**San Jos de Ur**	**2.54**	**292**	P	Pn	23 57 40.6	-1.6
UREC				S	Sn	23 58 11.5	-2.7
GUY2C	**Guyana, Caldas**	**2.71**	**234**	P	Pn	23 57 45.2	+0.3
GUY2C				S	Sn	23 58 20.9	+2.0
VILC	**Villavicencio,**	**2.74**	**191**	P	Pn	23 57 44.3	-0.6
VILC				S	Sn	23 58 18.1	-1.0
PTGC	**Puerto Gaitan,**	**2.79**	**159**	P	Pn	23 57 44.0	-1.4
PTGC				S	Sn	23 58 17.2	-2.8
RECRC	**Villamaria, Ca**	**2.87**	**230**	P	Pn	23 57 48.0	+1.2
RECRC				S	Sn	23 58 25.1	+2.7
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P	Pn	23 57 48.7	+0.5
CBOC				S	Sn	23 58 25.6	+0.8
DBBC	**Dabeiba**	**3.04**	**274**	P	Pn	23 57 48.4	-0.2
DBBC				S	Sn	23 58 23.8	-1.9
ARGC	**Ariguani, Magd**	**3.21**	**340**	P	Pn	23 57 50.9	+0.2
ARGC				S	Sn	23 58 30.6	+1.2
ANIL	**Santa Ana**	**3.22**	**224**	P	Pn	23 57 52.3	+1.2
ANIL				S	Sn	23 58 31.1	+1.0
PRAC	**Prado**	**3.54**	**209**	P	Pn	23 57 54.6	-0.3
PRAC				S	Sn	23 58 35.9	-1.2
PRAC	**Prado**	**3.54**	**209**	P	Pn	23 57 54.7	-0.3
PRAC				S	Sn	23 58 36.5	-0.5
ORTC	**Ortega, Tolima**	**3.57**	**216**	P	Pn	23 57 55.0	-0.3
ORTC				S	Sn	23 58 38.3	+0.6
APAC	**Apartado, Choc**	**3.57**	**288**	P	Pn	23 57 54.4	-0.9
APAC				S	Sn	23 58 36.0	-1.6
PLMC	**San Jos del P**	**3.65**	**239**	P	Pn	23 57 56.2	-0.3
PLMC				S	Sn	23 58 39.4	-0.3
SJCC	**San Jacinto, C**	**3.66**	**327**	P	Pn	23 57 54.4	-2.2
SJCC	**San Jacinto, C**	**3.66**	**327**	P	Pn	23 57 54.2	-2.3
SJCC				S	Sn	23 58 37.8	-2.0
URMC	**La Uribe, Meta**	**3.75**	**199**	P	Pn	23 57 57.7	-0.1
URMC				S	Sn	23 58 41.4	-0.8
CRJC	**Cerrejon, Guaj**	**4.18**	**4**	P	Pn	23 58 01.1	-2.3
CRJC				S	Sn	23 58 48.5	-3.7
SMRC	**Santa Marta, M**	**4.45**	**346**	P	Pn	23 58 05.7	-1.1
SMRC				S	Sn	23 58 53.5	-4.7
MACC	**Macarena, Meta**	**4.70**	**189**	P	Pn	23 58 07.6	-2.5
MACC				S	Sn	23 58 59.5	-4.7
URIC	**Uribia, Colomb**	**4.98**	**13**	P	Pn	23 58 11.2	-2.7
URIC				S	Sn	23 59 06.6	-4.4

NEIC ***13*** *00:24:38.9±1.1, 41°.77N±0°.04×125°.53W±0°.09, h13km±8km, Error ellipse: s-maj=10.2km s-min=5.3km az=78.0*

SEA ***13*** *00:24:42.5±1.6, 41°.74N±0°.04×125°.72W±0°.07, h15km±2km, Error ellipse: s-maj=9.6km s-min=7.6km az=280.0*

NCEDC 13 00:24:41.4±1.4, 41°.75N±0°.04×125°.60W±0°.05, h22km±7km, ML2.6/12, ML2.5/10(SEA), ML2.4/58(NEIC), Error ellipse: s-maj=6.4km s-min=4.3km az=148.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.12**	**65**		Pn	00 24 59.4	-2.5
KBO					Sb	00 25 13.3	-3.2
KBO				IAML		00 25 14.4	
	comp=E,51nm,0.2s						
KBO				IAML		00 25 14.9	
	comp=N,59nm,0.6s						
SIGP	**Signal Peak, C**	**1.15**	**83**		Pn	00 25 00.1	-2.1
SIGP					Sb	00 25 14.0	-3.1
KRMB	**Red Mountain**	**1.29**	**99**		Pn	00 25 02.0	-2.1
KRMB				IAML		00 25 18.3	
	comp=E,44nm,0.4s						
KRMB	**Red Mountain**	**1.29**	**99**		Sn	00 25 17.6	-3.2
KSXB	**Camp Six Broad**	**1.29**	**86**		Pn	00 25 02.0	-2.2
KSXB	**Camp Six Broad**	**1.29**	**86**		Sn	00 25 17.2	-3.6
KSXB				IAML		00 25 17.9	
	comp=E,54nm,0.3s						
KRPM	**Rodgers**	**1.32**	**116**	Pn	Pn	00 25 02.5	-2.1
KEBM	**Edson Butte**	**1.47**	**39**		Pn	00 25 04.3	-2.3
KEBM					Sn	00 25 21.2	-3.9
KEBM				IAML		00 25 22.9	
	comp=N,62nm,0.6s						
KEBM				IAML		00 25 24.5	
	comp=E,91nm,0.5s						
JCC	**Jacoby Creek,**	**1.50**	**128**	Pn	Pn	00 25 05.2	-1.8
JCC				IAML		00 25 23.4	
	comp=E,36nm,0.8s						
JCC				IAML		00 25 23.7	
	comp=N,30nm,0.5s						
L02F	**Cave Junction**	**1.56**	**75**	Pn	Pn	00 25 05.1	-2.7
KHMM	**Horse Mountain**	**1.65**	**121**	Pn	Pn	00 25 07.9	-1.3
KOMM	**Orleans Mounta**	**1.68**	**105**		Pn	00 25 07.9	-1.6
K02D	**Willamette Mer**	**1.72**	**56**		Pn	00 25 18.1	-2.0
K02D	**Willamette Mer**	**1.72**	**56**	IAML		00 25 27.8	
	comp=N,21nm,0.2s						
K02D				IAML		00 25 28.1	
	comp=E,25nm,0.2s						
KMPM	**Mount Pierce**	**1.73**	**139**	Pn	Pn	00 25 08.6	-1.6
KMPM				IAML		00 25 29.8	
	comp=N,69nm,0.6s						
KMPM				IAML		00 25 33.8	
	comp=E,58nm,0.7s						
PETL	**Petrolia**	**1.74**	**146**		Pn	00 25 08.5	-1.7
J01E	**Myrtle Point**	**1.88**	**41**		Pn	00 25 09.8	-2.3
BRIC	**Briceland Vine**	**2.08**	**141**		Pn	00 25 14.2	-0.8
KMRM	**Mail Ridge**	**2.09**	**136**	Pn	Pn	00 25 14.2	-0.9
KMRM				IAML		00 25 40.0	
	comp=N,41nm,0.9s						
KMRM				IAML		00 25 41.6	
	comp=E,41nm,0.6s						
M02C	**Callahan**	**2.09**	**99**		Pn	00 25 14.1	-1.1
KHBM	**Hayfork Bally**	**2.10**	**120**		Pn	00 25 14.0	-1.3
KHBM	**Hayfork Bally**	**2.10**	**120**	IAML		00 25 39.0	
	comp=E,36nm,0.3s						
KHBM				IAML		00 25 40.9	
	comp=N,36nm,0.5s						
YBH	**Yreka Blue Hor**	**2.16**	**89**	Pn	Pn	00 25 14.7	-1.4
WEAV	**Weaverville**	**2.21**	**116**		Pn	00 25 15.9	-0.9
LBKM	**Bonanza King**	**2.30**	**106**		Pn	00 25 17.7	-0.4
N02D	**Trinity Center**	**2.31**	**109**		Pn	00 25 17.9	-0.3
N02D	**Trinity Center**	**2.31**	**109**	IAML		00 25 45.9	
	comp=N,32nm,0.3s						
N02D				IAML		00 25 45.9	
	comp=E,30nm,0.5s						
KBSM	**Bell Springs**	**2.38**	**140**		Pn	00 25 18.1	-1.0
B040	**Montague**	**2.38**	**87**		Pn	00 25 18.5	-0.6
B040	**Montague**	**2.38**	**87**		Pn	00 25 18.8	-0.3
BBOR	**Butler Butte**	**2.45**	**61**	Pn	Pn	00 25 19.1	-1.0
L04D	**Klamath Falls**	**2.50**	**78**		Pn	00 25 20.5	-0.3
L04D				IAML		00 25 50.5	
	comp=E,11nm,1.6s						
KIPM	**Iron Peak**	**2.52**	**140**		Pn	00 25 19.9	-1.1
LHEM	**Herd Peak**	**2.53**	**92**		Pn	00 25 21.5	+0.1
I03D	**Drain, OR**	**2.56**	**40**		Pn	00 25 19.5	-2.0
I03D				IAML		00 25 50.5	
	comp=N,23nm,0.4s						
I03D				IAML		00 25 51.0	
	comp=E,21nm,0.4s						
KCPM	**Cahto Peak**	**2.56**	**143**	Pn	Pn	00 25 20.4	-1.3
KCPM				IAML		00 25 52.5	
	comp=N,34nm,0.7s						
LMPM	**Military Pass**	**2.59**	**95**		Pn	00 25 22.7	+0.6
O02D	**Mt. Diablo Mer**	**2.64**	**125**	Pn	Pn	00 25 22.3	-0.4
O02D				IAML		00 25 59.3	
	comp=N,9.3nm,0.7s						
O02D				IAML		00 26 08.1	
	comp=E,9.3nm,3.9s						
I02E	**Swisshome, OR**	**2.69**	**28**	Pn	Pn	00 25 21.4	-1.9
I02E				IAML		00 25 53.9	
	comp=N,16nm,0.3s						
I02E				IAML		00 25 54.0	
	comp=E,19nm,0.3s						
J04A	**Umpqua Nationa**	**2.98**	**59**	Pn	Pn	00 25 27.1	-0.4
K04D	**Chiloquin, OR**	**2.99**	**72**	Pn	Pn	00 25 26.8	-0.8
BUCK	**Buck Mountain**	**3.11**	**37**	Pn	Pn	00 25 27.6	-1.6
BUCK				IAML		00 26 07.4	
	comp=N,16nm,0.4s						
H04D	**Lebanon**	**3.48**	**36**	Pn	Pn	00 25 32.7	-1.5

BJI ***13*** *00:57:40.1,29°.20N×128°.20E, h230km, mB6.0/68, mb5.8/95*

NIED ***13*** *00:57:43.0,29°.24N×128°.18E, h256km, MW6.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁸Nm; Mrr-1.62; Mθθ-0.07; Mϕϕ1.69; Mrθ-0.30; Mϕθ-0.17; Mϕr-0.33; Fault plane solution: M₀1.72000×10¹⁸ NP1: ϕs163.00000°,δ41.00000°,λ-107.00000°. NP2:ϕs6.00000°, δ51.00000°,λ-75.00000°.*

IDC ***13*** *00:57:43.2±0.4,29°.41N×128°.05E, h249km±3km, mb5.2/28, mbtmp5.8/35 Error ellipse: s-maj=9.1km s-min=6.0km az=79.0*

IPGP ***13*** *00:57:43.0,29°.39N×128°.12E, h256km, Mw6.1, Fault plane solution: NP1:ϕs157.00000°,δ40.00000°, λ-111.00000°. NP2:ϕs4.00000°,δ53.00000°,λ-73.00000°.*

JMA ***13*** *00:57:43.0±0.2,29°.2N±0°.9×12°8E±°, h256km±3km, MD6.0/39, MW6.1/39, NW OFF AMAMI-OSHIMA IS JMA Felt III J1 at NW OFF AMAMI-OSHIMA IS .*

MOS ***13*** *00:57:43.2±1.1,29°.44N×128°.05E, h261km, mb5.5/79, MS5.2/12, Error ellipse: s-maj=6.0km s-min=3.5km az=107.7*

NEIC ***13*** *00:57:44.3±2.4,29°.35N±0°.05×128°.15E±0°.07, h251km±1km, mb5.9/797, Mwb6.1/64, Mww6.1/86, Error ellipse: s-maj=10.2km s-min=8.9km az=99.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr-1.74; Mθθ0.03; Mϕϕ1.71; Mrθ-0.42; Mϕθ0.09; Mϕr-0.48; Fault plane solution: M₀1.84000×10¹⁸ NP1: ϕs172.08000°,δ38.01000°,λ-108.31000°. NP2: ϕs14.86000°,δ54.22000°,λ-76.20000°. Principal axes: T 1.7877, Plg8.0000°, Azm95.0000°; N 0.0978, Plg11.0000°, Azm187.0000°; P -1.8855, Plg76.0000°, Azm329.0000°;*

NEIC ***13*** *00:57:44.3,29°.33N×128°.27E, h260km, Moment Tensor Solution. Duration: 5ᵖ8 Moment tensor: Scale 10¹⁸Nm; Mrr-1.64; Mθθ0.04; Mϕϕ1.60; Mrθ-0.44; Mϕθ-0.31; Mϕr-0.61; Fault plane solution: M₀1.81000×10¹⁸ NP1: ϕs154.05000°,δ38.41000°,λ-115.52000°. NP2:ϕs5.40000°, δ55.89000°,λ-71.14000°. Principal axes: T 1.7424, Plg9.0000°, Azm82.0000°; N 0.1366, Plg16.0000°, Azm175.0000°; P -1.8790, Plg72.0000°, Azm323.0000°;*

NEIC ***13*** *00:57:44.3,29°.34N×128°.14E, h251km*

NEIC ***13*** *00:57:44.3,29°.33N×128°.15E, h260km*

GCMT ***13*** *00:57:46.3±0.1,29°.38N×128°.14E, h254km, MW6.1/170, Moment Tensor Solution. s170,c409; s170,c669; Duration: 2ᵖ8 Moment tensor: Scale 10¹⁸Nm; Mrr-1.67±.01; Mθθ-0.07±.01; Mϕϕ1.74±.01; Mrθ-0.48±.01; Mϕθ-0.32±.01; Mϕr-0.67±.01; Best double couple: M₀1.92200×10¹⁸ NP1:ϕs153.00000°,δ38.00000°, λ-118.00000°. NP2:ϕs8.00000°,δ57.00000°,λ-70.00000°. Principal axes: T 1.8940, Plg10.0000°, Azm83.0000°; N 0.0590, Plg17.0000°, Azm176.0000°; P -1.9490, Plg70.0000°, Azm325.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 13 00:57:43.5±0.2, 29°.43N±0°.02×128°.13E±0°.02, h251km±1km, h251km:pP-P, n2338, σ1ᵍ65/2721, mb5.8/670, 101C-144D, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.98**	**106**	⇓*i*P	Pn	**00 58 18.7**	**+0.2**
JTAJ				⇓S	S	**00 58 46.2**	**+0.1**
JTAJ	**Takarajima**	**0.98**	**106**	A	A	00 58 18.7	
	comp=N,393nm,4.6s,comp=E,474nm,4.4s						
JAMN	**Amaminishikomi**	**1.50**	**142**	⇓*i*P	Pn	**00 58 20.8**	**-1.2**
JAMN				⇓S	S	**00 58 49.7**	**-2.5**
JAMN	**Amaminishikomi**	**1.50**	**142**	A	A	00 58 20.8	
	comp=N,292nm,2.7s,comp=E,169nm,3.4s						
JNN	**Nakanoshima**	**1.57**	**74**	⇓*i*P	Pn	**00 58 22.9**	**+0.4**
JNN				⇓S	S	**00 58 54.1**	**+0.8**
JNN	**Nakanoshima**	**1.57**	**74**	A	A	00 58 22.9	
	comp=N,266nm,5.8s,comp=E,621nm,3.1s						
JAM	**Amami Oshima**	**1.64**	**128**	⇓*i*P	Pn	**00 58 22.2**	**-0.9**
JAM				⇓S	S	**00 58 51.0**	**-3.3**
JAM	**Amami Oshima**	**1.64**	**128**	A	A	00 58 22.2	
	comp=N,442nm,4.7s,comp=E,316nm,6.2s						
JTK	**Tokunoshima**	**1.79**	**156**	⇓*i*P	Pn	**00 58 23.0**	**-1.4**
JTK				⇓S	S	**00 58 53.5**	**-3.0**
JTK	**Tokunoshima**	**1.79**	**156**	A	A	00 58 23.0	
	comp=N,198nm,1.3s,comp=E,292nm,1.5s						
JZK	**Kikaishima**	**1.96**	**124**	⇓*i*P	Pn	**00 58 26.4**	**+0.6**
JZK				⇓S	S	**00 58 57.8**	**-1.3**
JZK	**Kikaishima**	**1.96**	**124**	A	A	00 58 26.4	
	comp=N,1µm,3.5s,comp=E,1µm,5.9s						
JKC	**Kuchinoerabu**	**2.07**	**60**	⇓*i*P	Pn	**00 58 27.5**	**+0.8**
JKC				⇓*e*S	S	**00 59 00.3**	**-0.4**
JKC	**Kuchinoerabu**	**2.07**	**60**	A	A	00 58 27.5	
	comp=N,221nm,3.8s,comp=E,373nm,10.2s						
JOKE	**Okinoerabujima**	**2.10**	**169**	⇓*i*P	Pn	**00 58 25.3**	**-1.8**
JOKE				⇓S	S	**00 58 57.8**	**-3.6**
JOKE	**Okinoerabujima**	**2.10**	**169**	A	A	00 58 25.3	
	comp=N,122nm,5.0s,comp=E,120nm,4.2s						
JYAK	**Yakushimahirau**	**2.22**	**68**	S	S	**00 59 01.1**	**-2.2**
JYAK	**Yakushimahirau**	**2.22**	**68**	A	A	00 59 01.1	
	comp=N,218nm,2.9s,comp=E,194nm,5.5s						
JIH	**Iheya**	**2.39**	**183**	⇓*i*P	Pn	**00 58 28.0**	**-1.9**
JIH				⇓S	S	**00 59 03.0**	**-3.4**
JIH	**Iheya**	**2.39**	**183**	A	A	00 58 28.0	
	comp=N,164nm,1.6s,comp=E,148nm,1.8s						
JYRO	**Yoronjima**	**2.41**	**173**	⇓*i*P	Pn	**00 58 28.2**	**-1.9**
JYRO				⇓S	S	**00 59 01.9**	**-4.9**
JYRO	**Yoronjima**	**2.41**	**173**	A	A	00 58 28.2	
	comp=N,120nm,3.7s,comp=E,151nm,1.5s						
JOW	**Kunigami**	**2.59**	**177**		Pn	**00 58 29.7**	**-2.1**
JOW				Sn	S	**00 59 05.6**	**-4.5**
JOW	**Kunigami**	**2.59**	**177**	P	Pn	**00 58 30.6**	**-1.2**
	comp=E,8µm,0.3s,baz=81,slow=11,SNR=1234						
JOW				S	S	**00 59 04.8**	**-5.2**
	comp=E,3µm,0.3s,baz=119,slow=23,SNR=6.4						
JOW	**Kunigami**	**2.59**	**177**	P	Pn	**00 58 30.7**	**-1.2**
JOW	**Kunigami**	**2.59**	**177**	⇓*i*P	Pn	**00 58 29.9**	**-2.1**
JOW				⇓S	S	**00 59 05.5**	**-4.5**
JOW	**Kunigami**	**2.59**	**177**	A	A	00 58 29.9	
	comp=N,174nm,1.4s,comp=E,177nm,0.9s						
JOW	**Kunigami**	**2.59**	**177**	⇓P	Pn	**00 58 29.8**	**-2.1**
JMTN	**Minamitane**	**2.59**	**67**	P	Pn	**00 58 31.5**	**-0.3**
JMTN				*e*S	S	**00 59 07.9**	**-2.0**
JMTN	**Minamitane**	**2.59**	**67**	A	A	00 58 31.5	
	comp=N,336nm,3.2s,comp=E,372nm,3.5s						
JSJ	**Shimokoshiki**	**2.63**	**31**	*i* P	Pn	**00 58 33.6**	**+1.5**
JSJ				S	S	**00 59 12.5**	**+1.9**
JSJ	**Shimokoshiki**	**2.63**	**31**	A	A	00 58 33.6	
	comp=N,259nm,3.6s,comp=E,342nm,4.2s						
JTN	**Tanegashima 3**	**2.76**	**63**	⇓P	Pn	**00 58 32.8**	**-0.7**
JTN	**Tanegashima 3**	**2.76**	**63**	A	A	00 58 32.8	
	comp=N,153nm,2.9s,comp=E,235nm,5.0s						
JSU	**Suzuyama**	**2.88**	**44**	A	A	00 58 36.1	
	comp=N,101nm,3.6s,comp=E,458nm,4.4s						
JNTH	**Nagotoyohara**	**2.90**	**182**	⇓*i*P	Pn	**00 58 33.2**	**-1.9**
JNTH				⇓S	S	**00 59 11.4**	**-4.5**
JNTH	**Nagotoyohara**	**2.90**	**182**	A	A	00 58 33.2	
	comp=N,97nm,1.1s,comp=E,137nm,4.4s						
JAGN	**Aguni-jima**	**2.94**	**196**	⇓P	Pn	**00 58 33.3**	**-2.2**
JAGN				⇓S	S	**00 59 12.1**	**-4.4**
JAGN	**Aguni-jima**	**2.94**	**196**	A	A	00 58 33.3	
	comp=N,88nm,1.2s,comp=E,103nm,3.6s						
JTSR	**Tashiro 2**	**2.97**	**54**	A	A	00 58 36.7	
	comp=N,180nm,3.2s,comp=E,124nm,2.5s						
JFU	**Fukue jima 2**

	comp=N,244nm,3.9s,comp=E,101nm,3.6s								
JFA	**Akaike**	**4.84**	**27**		A	A	00 58 59.3		
	comp=N,108nm,4.9s,comp=E,92nm,5.6s								
JTSM	**Tsushimamitsu**	**5.01**	**12**		A	A	00 59 01.7		
	comp=N,18nm,6.4s,comp=E,32nm,5.6s								
JKI	**Kunimi**	**5.12**	**34**		A	A	00 59 02.5		
	comp=N,116nm,5.4s,comp=E,53nm,4.9s								
JIKM	**Ikemajima**	**5.17**	**210**		A	A	00 58 59.7		
	comp=N,31nm,4.9s,comp=E,39nm,5.9s								
JTU	**Tsushima**	**5.19**	**12**		P	**Pn**	**00 59 04.0**	**+2.4**	
JTU	**Tsushima**	**5.19**	**12**		A	A	00 59 04.0		
	comp=N,21nm,10.9s,comp=E,29nm,4.9s								
JTU	**Tsushima**	**5.19**	**12**	⇑	P	**Pn**	**00 59 03.5**	**+1.9**	
JMJ	**Miyako jima 2**	**5.24**	**209**		P	**Pn**	**00 59 01.0**	**-1.4**	
JMJ	**Miyako jima 2**	**5.24**	**209**		S	**S**	**01 00 01.5**	**-3.8**	
JOGS	**Gusukube**	**5.24**	**208**		A	A	00 59 00.5		
	comp=N,54nm,6.2s,comp=E,43nm,4.9s								
JTO	**Tosashimizu**	**5.27**	**48**	*i*	P	**Pn**	**00 59 00.7**	**-1.8**	
JTO	**Tosashimizu**	**5.27**	**48**		A	A	00 59 00.7		
	comp=N,29nm,5.9s,comp=E,35nm,1.8s								
JIRB	**Irabujima**	**5.29**	**211**		A	A	00 59 01.1		
	comp=N,28nm,9.5s,comp=E,24nm,5.5s								
JMJ2	**Miyako jima3**	**5.29**	**209**		A	A	00 59 01.2		
	comp=N,54nm,5.3s,comp=E,44nm,8.2s								
UWA2	**Uwa jima 2**	**5.39**	**44**		A	A	00 59 05.5		
	comp=N,35nm,4.0s,comp=E,37nm,5.2s								
JTY	**Toyota**	**5.43**	**27**		A	A	00 59 06.5		
	comp=N,48nm,4.2s,comp=E,61nm,5.7s								
JNA	**Nagahama**	**5.54**	**41**		A	A	00 59 07.5		
	comp=N,29nm,5.0s,comp=E,50nm,8.1s								
JKD	**Kudamatsu**	**5.61**	**34**		A	A	00 59 08.5		
	comp=N,62nm,4.0s,comp=E,33nm,4.7s								
JTJ	**Tarama**	**5.66**	**213**		A	A	00 59 05.8		
	comp=N,20nm,8.7s,comp=E,23nm,5.1s								
JKU	**Kubokawa**	**5.72**	**46**		A	A	00 59 09.6		
	comp=N,26nm,3.1s,comp=E,30nm,2.3s								
JHGM	**Hagimishima**	**5.92**	**25**		A	A	00 59 12.6		
	comp=N,83nm,4.9s,comp=E,91nm,5.1s								
JHIK	**Hikimi**	**6.03**	**31**		A	A	00 59 13.8		
	comp=N,33nm,6.3s,comp=E,26nm,3.8s								
JET	**Tanbara**	**6.04**	**43**		A	A	00 59 13.6		
	comp=N,35nm,3.8s,comp=E,20nm,4.6s								
JKHR	**Kochiharuno**	**6.13**	**47**		A	A	00 59 14.6		
	comp=N,37nm,4.6s,comp=E,35nm,3.1s								
SSE	**Sheshan**	**6.23**	**287**		P	**Pn**	**00 59 15.9**	**+1.4**	
SSE					S	**S**	**01 00 27.8**	**+0.4**	
SSE					LR	LR			
	comp=E,9μm,10.0s								
SSE					LR	LR			
	comp=E,1μm,10.0s								
SSE					LR	LR			
	comp=E,920nm,9.8s								
IRIF	**Iriomote-Funau**	**6.42**	**219**		A	A	00 59 15.4		
	comp=N,14nm,1.8s,comp=E,12nm,2.0s								
JMN	**Monobe**	**6.51**	**47**			**Pn**	**00 59 17.3**	**-0.8**	
JMN					Sn	**S**	**01 00 30.5**	**-3.4**	
JMN	**Monobe**	**6.51**	**47**		P	**Pn**	**00 59 17.4**	**-0.7**	
YOJ	**Yonaguni jima**	**6.73**	**224**			**Pn**	**00 59 19.1**	**-1.8**	
YOJ					Sn	**S**	**01 00 34.9**	**-4.1**	
YOJ	**Yonaguni jima**	**6.73**	**224**		P	**Pn**	**00 59 18.6**	**-2.3**	
YOJ	**Yonaguni jima**	**6.73**	**224**		S	**S**	**01 00 35.6**	**-3.4**	
YOJ	**Yonaguni jima**	**6.73**	**224**	⇑	P	**Pn**	**00 59 18.1**	**-2.7**	
TJN	**Taejon**	**6.96**	**355**			**Pn**	**00 59 25.5**	**+1.9**	
TJN					Sn	**S**	**01 00 46.3**	**+2.4**	
TJN	**Taejon**	**6.96**	**355**	*i*	P	**Pn**	**00 59 25.2**	**+1.6**	
TATO	**Taipei**	**7.39**	**235**			**Pn**	**00 59 28.8**	**-0.3**	
TATO	**Taipei**	**7.39**	**235**		P	**Pn**	**00 59 31.6**	**+2.4**	
TATO					P	**Pn**	**00 59 31.6**	**+2.4**	
TATO					S	**S**	**01 00 59.1**	**+5.0**	
TATO					S	**S**	**01 00 59.1**	**+5.0**	
YHNB	**Yeheng**	**7.66**	**233**			**Pn**	**00 59 32.2**	**-0.5**	
YHNB	**Yeheng**	**7.66**	**233**		P	**Pn**	**00 59 33.3**	**+0.6**	
NACB	**Ninganchiao**	**7.84**	**230**			**Pn**	**00 59 32.0**	**-2.8**	
KSAR	**Wonju Array Be**	**8.00**	**359**			**Pn**	**00 59 38.6**	**+2.0**	
KSAR	**Wonju Array Be**	**8.00**	**359**		P	**Pn**	**00 59 38.7**	**+2.0**	
KSRS	**Korea Array**	**8.01**	**359**		P	**Pn**	**00 59 37.9**	**+1.1**	
	comp=E,499nm,0.8s,baz=179,slow=13,SNR=735								
KSRS					ScP	**ScP**	**01 08 54.1**	**+0.4**	
	comp=E,3.4nm,0.9s,baz=201,slow=1.5,SNR=4.3								
KSRS					PKiKP	**PKiKP**	**01 13 46.8**	**-0.1**	
	comp=E,1.4nm,0.6s,baz=232,slow=2.0,SNR=7.8								
KSRS					P3KPbc		01 36 49.1		
	comp=E,0.6nm,0.3s,baz=332,slow=4.1,SNR=5.1								
KS19	**Wonju Array Si**	**8.05**	**359**			**Pn**	**00 59 39.0**	**+1.6**	
INCN	**Inchon**	**8.13**	**352**			**Pn**	**00 59 40.4**	**+2.0**	
INCN	**Inchon**	**8.13**	**352**		P	**Pn**	**00 59 40.9**	**+2.5**	
INCN					S	**S**	**01 01 13.6**	**+2.6**	
INCN	**Inchon**	**8.13**	**352**		P	**Pn**	**00 59 40.4**	**+2.0**	
INCN	**Inchon**	**8.13**	**352**	⇓	P	**Pn**	**00 59 40.5**	**+2.1**	
NJ2	**Nanjing**	**8.40**	**290**	⇑	*i*P	**Pn**	**00 59 42.3**	**+0.5**	
NJ2					S	**S**	**01 01 16.8**	**-0.5**	
NJ2					pmax	pmax			
	comp=E,530nm,1.1s								
NJ2					pmax	pmax			
	comp=E,10μm,7.3s								
SSLB	**Suanglung**	**8.53**	**230**			**Pn**	**00 59 41.4**	**-2.2**	
YULB	**Yu-li**	**8.58**	**227**			**Pn**	**00 59 40.2**	**-4.0**	
TPUB	**Ta-pu**	**9.08**	**230**			**Pn**	**00 59 47.5**	**-3.1**	
TPUB	**Ta-pu**	**9.08**	**230**		P	**Pn**	**00 59 48.2**	**-2.4**	
TPUB	**Ta-pu**	**9.08**	**230**		S	**S**	**01 01 29.6**	**-3.7**	
TWG	**Pinlang**	**9.14**	**226**			**Pn**	**00 59 47.2**	**-4.0**	
INU	**Inuyama**	**9.55**	**50**			**Pn**	**00 59 56.5**	**+0.1**	
QZH	**Quanzhou**	**9.59**	**244**	⇑	*i*P	**Pn**	**00 59 57.4**	**+0.4**	
QZH					pmax	pmax			
	comp=E,3μm,0.9s								
QZH					pmax	pmax			
	comp=E,22μm,6.8s								
QZH					LR	LR			
	comp=E,12μm,9.4s								
QZH					LR	LR			
	comp=E,16μm,11.8s								
QZH					LR	LR			
	comp=E,18μm,11.0s								
JGF	**Kuroka**	**9.93**	**49**			**Pn**	**01 00 01.0**	**-0.1**	
JGF	**Kuroka**	**9.93**	**49**		P	**Pn**	**01 00 01.7**	**+0.6**	
JGF	**Kuroka**	**9.93**	**49**		S	**S**	**01 01 52.5**	**-0.3**	
JGF	**Kuroka**	**9.93**	**49**	⇑	P	**Pn**	**01 00 00.9**	**-0.2**	
KNMB	**Chin-men Tao**	**10.00**	**243**			**Pn**	**01 00 01.7**	**-0.4**	
JSG	**Sagara**	**10.01**	**56**			**Pn**	**01 00 02.2**	**+0.1**	
JSG	**Sagara**	**10.01**	**56**	⇑	P	**Pn**	**01 00 03.1**	**+1.0**	
JHJ2	**Mitsune**	**10.65**	**67**			**Pn**	**01 00 10.3**	**+0.1**	
JHJ2	**Mitsune**	**10.65**	**67**		P	**Pn**	**01 00 11.1**	**+0.9**	
JHJ2	**Mitsune**	**10.65**	**67**	⇑	P	**Pn**	**01 00 11.8**	**+1.6**	
DL2	**Dalian**	**10.88**	**332**		P	**P**	**01 00 15.3**	**-2.1**	
DL2					S	**S**	**01 02 11.4**	**-3.3**	
DL2					pmax	pmax			
	comp=E,770nm,0.9s								
DL2					pmax	pmax			
	comp=E,2μm,3.7s								
MAJO	**Matsushiro**	**11.04**	**47**			**Pn**	**01 00 15.6**	**+0.6**	
MAJO	**Matsushiro**	**11.04**	**47**		P	**Pn**	**01 00 16.1**	**+1.0**	
MAJO	**Matsushiro**	**11.04**	**47**	*i*	P	**Pn**	**01 00 14.8**	**-0.3**	
MAJO	**Matsushiro**	**11.04**	**47**	⇑	P	**Pn**	**01 00 15.6**	**+0.6**	
MAJO	**Matsushiro**	**11.04**	**47**		P	**Pn**	**01 00 15.6**	**+0.6**	
MAJO					S	**S**	**01 02 19.6**	**+1.0**	
MJAR	**Matsushiro Arr**	**11.04**	**47**		Pn	**Pn**	**01 00 16.1**	**+1.0**	
MJAR	**Matsushiro Arr**	**11.04**	**47**		P	**Pn**	**01 00 15.8**	**+0.8**	
	comp=E,359nm,0.6s,baz=236,slow=12,SNR=325								
MJAR	**Matsushiro Arr**	**11.04**	**47**		P	**Pn**	**01 00 16.1**	**+1.0**	
TIA	**Tai'an**	**11.46**	**309**		P	**P**	**01 00 22.6**	**-1.4**	
TIA					pmax	pmax			
	comp=E,810nm,1.1s								
TIA					pmax	pmax			
	comp=E,2μm,4.2s								
TIA					LR	LR			
	comp=E,8μm,10.3s								
TIA					LR	LR			
	comp=E,13μm,10.9s								
TIA					LR	LR			
	comp=E,18μm,12.4s								
WHN	**Wuhan**	**12.00**	**279**	⇑	P	**Pn**	**01 00 28.0**	**+1.0**	
WHN					S	**S**	**01 02 36.2**	**-4.6**	
WHN					pmax	pmax			
	comp=E,8μm,2.0s								
WHN					pmax	pmax			
	comp=E,15μm,6.3s								
JSD	**Sado**	**12.03**	**42**		P	**Pn**	**01 00 28.2**	**+0.9**	
JSD	**Sado**	**12.03**	**42**	⇑	P	**Pn**	**01 00 27.9**	**+0.6**	
JCJ	**Chichijima**	**12.61**	**97**			**P**	**01 00 35.8**	**-1.0**	
JCJ	**Chichijima**	**12.61**	**97**		P	**P**	**01 00 37.1**	**+0.3**	
JCJ	**Chichijima**	**12.61**	**97**	⇑	P	**P**	**01 00 36.1**	**-0.7**	
SNY	**Shenyang**	**12.91**	**345**	⇓	P	**P**	**01 00 41.1**	**+1.1**	
SNY					S	**S**	**01 03 04.7**	**+3.1**	
SNY					PcP	**PcP**	**01 05 55.4**	**+4.4**	
SNY					pmax	pmax			
	comp=E,2μm,1.3s								
SNY					LR	LR			
	comp=E,7μm,6.9s								
SNY					LR	LR			
	comp=E,7μm,7.1s								
SNY					LR	LR			
	comp=E,8μm,10.0s								
MSHR	**Mys Shultsa**	**13.35**	**10**	*ce*	P	**P**	**01 00 44.6**	**-0.3**	
MSHR					pmax	pmax			
	comp=E,2μm,1.7s								
PSTR	**Posyet**	**13.37**	**9**	*i*	P	**P**	**01 00 47.0**	**+1.9**	
CNSH	**ChangSha**	**13.39**	**268**		P	**P**	**01 00 44.8**	**-0.6**	
CNSH					S	**S**	**01 03 13.1**	**+0.4**	
CNSH					pmax	pmax			
	comp=Z,970nm,1.4s								
CNSH					LR	LR			
	comp=E,15μm,11.0s								
CNSH					LR	LR			
	comp=E,8μm,11.7s								
CNSH					LR	LR			
	comp=Z,13μm,17.3s								
JMM	**Marumori**	**13.48**	**48**		P	**Pn**	**01 00 45.3**	**0.0**	
JMM	**Marumori**	**13.48**	**48**	⇑	P	**Pn**	**01 00 45.0**	**-0.2**	
HNS	**HongShan**	**13.73**	**309**	⇑	P	**P**	**01 00 50.7**	**+1.5**	
HNS					S	**S**	**01 03 16.7**	**-3.6**	
HNS					ScS	**ScS**	**01 12 40.6**	**+2.0**	
HNS					pmax	pmax			
	comp=E,2μm,1.3s								
HNS					pmax	pmax			
	comp=E,5μm,4.8s								
HNS					LR	LR			
	comp=E,8μm,10.7s								
HNS					LR	LR			
	comp=E,6μm,13.4s								
HNS					LR	LR			
	comp=E,8μm,19.6s								
SZP	**Santa**	**13.75**	**212**		P	**Pn**	**01 00 48.3**	**-0.4**	
SZP	**Santa**	**13.75**	**212**		S	**S**	**01 03 22.1**	**+0.9**	
VLA	**Vladivostok**	**13.99**	**11**	*i*	P	**P**	**01 00 54.1**	**+2.1**	
LYN	**LuoYang**	**14.23**	**295**	⇓	*i*P	**P**	**01 00 56.7**	**+1.9**	
LYN					S	**S**	**01 03 26.5**	**-5.4**	
LYN					PcS	**PcS**	**01 09 27.5**	**-0.3**	
LYN					ScS	**ScS**	**01 12 40.8**	**+0.9**	
LYN					pmax	pmax			
	comp=Z,880nm,1.3s								
LYN					pmax	pmax			
	comp=E,6μm,3.6s								
BJT	**Baijiatuan**	**14.42**	**320**		P	**P**	**01 00 59.3**	**+2.6**	
BJT	**Baijiatuan**	**14.42**	**320**		P	**P**	**01 00 59.1**	**+2.4**	
BJT	**Baijiatuan**	**14.42**	**320**		P	**P**	**01 00 59.3**	**+2.6**	
HKC	**Hong Kong Obse**	**14.42**	**244**	⇑	P	**P**	**01 00 58.0**	**+1.1**	
BJI	**Beijing**	**14.43**	**320**		P	**P**	**01 00 59.1**	**+2.3**	
BJI					sP		01 02 01.0		
BJI					S	**S**	**01 03 37.8**	**+1.6**	
BJI					pmax	pmax			
	comp=E,1μm,1.0s								
HKPS	**Hong Kong Po S**	**14.46**	**244**			**Pn**	**01 00 56.1**	**-1.1**	
CN2	**Changchun**	**14.50**	**352**	⇓	*i*P	**P**	**01 00 59.5**	**+1.9**	
CN2					S	**S**	**01 03 35.2**	**-2.7**	
CN2					PcP	**PcP**	**01 05 56.4**	**+3.4**	
CN2					ScP	**ScP**	**01 09 04.2**	**+1.5**	
CN2					pmax	pmax			
	comp=E,2μm,1.1s								
CN2					pmax	pmax			
	comp=E,8μm,4.0s								
GZH	**Guangzhou**	**14.69**	**248**		P	**P**	**01 00 55.6**	**-4.3**	
GZH					pmax	pmax			
	comp=Z,1μm,1.2s								
USA0B	**Ussuriysk Arra**	**15.06**	**11**			**Pn**	**01 01 05.0**	**+0.8**	
USA0B	**Ussuriysk Arra**	**15.06**	**11**	*i*	P	**Pn**	**01 01 05.5**	**+1.3**	
USRK	**Ussuriysk Ar.**	**15.06**	**11**		P	**Pn**	**01 01 04.9**	**+0.7**	
USRK	**Ussuriysk Ar.**	**15.06**	**11**		P	**Pn**	**01 01 04.6**	**+0.3**	
	comp=Z,350nm,0.7s,baz=189,slow=8.7,SNR=149								
USRK					S	**S**	**01 04 00.9**	**+11**	
	comp=Z,122nm,1.1s,baz=215,slow=16,SNR=4.4								
USRK	**Ussuriysk Ar.**	**15.06**	**11**		P	**Pn**	**01 01 04.9**	**+0.7**	
MDJ	**Mudanjiang**	**15.21**	**4**		P	**Pn**	**01 01 07.1**	**+1.1**	
MDJ	**Mudanjiang**	**15.21**	**4**		P	**Pn**	**01 01 07.7**	**+1.7**	
MDJ					S	**S**	**01 03 53.5**	**+0.4**	
MDJ					pmax	pmax			
	comp=Z,76nm,1.3s								
MDJ					LR	LR			
	comp=Z,7μm,8.7s								
MDJ					LR	LR			
	comp=Z,9μm,10.5s								
MDJ					LR	LR			
	comp=Z,6μm,9.6s								
MDJ	**Mudanjiang**	**15.21**	**4**		P	**Pn**	**01 01 06.6**	**+0.6**	
TIY	**Taiyuan**	**15.46**	**306**	*ce*	P	**Pn**	**01 01 11.9**	**+2.7**	
TIY					S	**S**	**01 04 01.2**	**+2.6**	
TIY					pmax	pmax			
	comp=Z,280nm,1.1s								
TIY					pmax	pmax			
	comp=Z,4μm,3.7s								
JTM	**Tenmabayashi**	**15.49**	**40**		P	**P**	**01 01 07.6**	**-0.9**	
JTM	**Tenmabayashi**	**15.49**	**40**	⇑	P	**P**	**01 01 07.2**	**-1.3**	
ENH	**Enshi**	**16.20**	**278**		P	**Pn**	**01 01 17.7**	**-0.2**	
ENH	**Enshi**	**16.20**	**278**		P	**Pn**	**01 01 18.8**	**+0.8**	
BNX	**BinXian**	**16.29**	**358**	⇑	P	**Pn**	**01 01 18.2**	**-0.7**	
BNX					sP	**sP**	**01 02 25.2**	**-3.2**	
BNX					S	**S**	**01 04 13.1**	**-1.8**	
BNX					ScS	**ScS**	**01 12 45.5**	**+0.5**	
BNX					pmax	pmax			
	comp=Z,1μm,1.2s								
BNX					pmax	pmax			
	comp=Z,3μm,8.1s								
GULI	**GuiLin**	**16.31**	**260**		P	**P**	**01 01 17.7**	**0.0**	
GULI					pmax	pmax			
	comp=Z,79nm,1.1s								
GULI					LR	LR			
	comp=Z,7μm,10.3s								
GULI					LR	LR			
	comp=Z,6μm,8.7s								
GULI					LR	LR			
	comp=Z,12μm,15.2s								
TGY	**Tagaytay City**	**16.64**	**205**		P	**P**	**01 01 21.9**	**+0.4**	
	comp=Z,292nm,0.3s,baz=149,slow=1.1,SNR=13								
XAN	**Xi'an**	**16.97**	**291**	⇓	P	**Pn**	**01 01 26.3**	**-0.7**	
XAN					sP	sP	01 02 31.6	-4.5	
XAN					S	**S**	**01 04 31.1**	**+2.2**	
XAN					pmax	pmax			
	comp=Z,3μm,0.7s								
XLT	**XiLinHaoTe**	**17.35**	**330**	*e*	P	**P**	**01 01 30.0**	**+1.0**	
XLT					S	**S**	**01 04 33.2**	**-3.1**	
XLT					pmax	pmax			
	comp=Z,2μm,0.9s								
ERM	**Erimo**	**17.48**	**40**			**P**	**01 01 28.7**	**-1.6**	
ERM	**Erimo**	**17.48**	**40**		P	**P**	**01 01 29.7**	**-0.6**	
ERM	**Erimo**	**17.48**	**40**	*i*	P	**P**	**01 01 28.1**	**-2.2**	
ERM	**Erimo**	**17.48**	**40**		P	**P**	**01 01 29.0**	**-1.3**	
JEM	**Erimo**	**17.48**	**40**		P	**P**	**01 01 29.3**	**-1.0**	
HHC	**Hu-ho-hao-te**	**17.67**	**315**	*e*	P	**Pn**	**01 01 33.9**	**-1.3**	
HHC					sP	sP	01 02 43.1	-0.8	
HHC					S	**S**	**01 04 42.1**	**-0.6**	
HHC					pmax	pmax			
	comp=Z,360nm,1.1s								
HHC					pmax	pmax			
	comp=Z,3μm,3.6s								
ASAJ	**Asahikawa**	**18.64**	**34**		P	**P**	**01 01 43.0**	**+0.2**	
	comp=Z,126nm,0.6s,baz=229,slow=13,SNR=24								
ASAJ					S	**S**	**01 04 55.3**	**-6.4**	
	comp=Z,161nm,1.0s,baz=257,slow=29,SNR=3.8								
JKA	**Kamikawa-asahi**	**18.65**	**34**			**P**	**01 01 42.0**	**-0.9**	
GYA	**Guiyang**	**19.19**	**266**	⇑	P	**P**	**01 01 50.6**	**+1.6**	
GYA					S	**S**	**01 05 12.5**	**-0.5**	
GYA					ScS	**ScS**	**01 12 57.0**	**+2.1**	
GYA					pmax	pmax			
	comp=Z,75nm,1.7s								
GYA					pmax	pmax			
	comp=Z,2μm,5.2s								
GYA					LR	LR			
	comp=Z,8μm,7.2s								
GYA					LR	LR			
	comp=Z,12μm,12.1s								
GYA					LR	LR			
	comp=Z,11μm,13.2s								
QIZ	**Qiongzhong**	**19.60**	**242**		P	**P**	**01 01 54.0**	**+0.6**	
QIZ	**Qiongzhong**	**19.60**	**242**		P	**P**	**01 01 54.8**	**+1.5**	
QIZ					S	**S**	**01 05 20.7**	**-0.2**	
QIZ					pmax	pmax			
	comp=Z,340nm,1.4s								
QIZ					pmax	pmax			
	comp=Z,2μm,5.1s								
KLR	**Kul'dur**	**19.97**	**7**		P	**P**	**01 01 56.4**	**-0.6**	
	baz=202,slow=8.5								
YUK	**Yuzh-Kuril'sk**	**20.30**	**39**	*e*	P	**P**	**01 02 01.2**	**+0.7**	
YUK				*i*	*SP	**sP**	**01 03 15.5**	**+2.7**	
YUK				*i*	S	**S**	**01 05 32.1**	**-1.2**	
YUK					pmax	pmax			
	comp=Z,1μm,1.0s								
YUK					pmax	pmax			
	comp=N,456nm,0.8s								
YUK					pmax	pmax			
	comp=E,712nm,1.0s								
YUK					pmax	pmax			
	comp=Z,1μm,2.0s								
YUK					MLR	MLR			
	comp=N,3μm,12.0s								
YUK					MLR	MLR			
	comp=Z,3μm,12.0s								
HEH	**HeiHe**	**20.81**	**359**	*e*	P	**P**	**01 02 04.0**	**-1.8**	
HEH					S	**S**	**01 05 39.1**	**-2.8**	
HEH					PcP	**PcP**	**01 06 04.5**	**+1.2**	
HEH					ScS	**ScS**	**01 12 59.6**	**+0.3**	
HEH					pmax	pmax			
	comp=Z,42nm,1.1s								
HIA	**Hailar**	**20.82**	**344**		P	**P**	**01 02 05.3**	**-0.7**	
HIA	**Hailar**	**20.82**	**344**		P	**P**	**01 02 07.3**	**+1.3**	
HIA	**Hailar**	**20.82**	**344**		P	**P**	**01 02 05.3**	**-0.7**	
YSS	**Yuzhno-Sakhali**	**20.88**	**29**			**P**	**01 02 06.7**	**+0.1**	
YSS	**Yuzhno-Sakhali**	**20.88**	**29**		P	**P**	**01 02 07.7**	**+1.2**	
YSS	**Yuzhno-Sakhali**	**20.88**	**29**	κ *i*	P	**P**	**01 02 06.6**	**+0.1**	
YSS					*eSP	**sP**	**01 03 20.2**	**+1.2**	
YSS					*eS	**S**	**01 05 39.7**	**-3.4**	
YSS					*e		01 13 00.4		
YSS					pmax	pmax			
	comp=Z,380nm,1.3s								
YSS					pmax	pmax			
	comp=N,180nm,1.2s								
YSS					pmax	pmax			
	comp=Z,3μm,7.8s								
YSS					pmax	pmax			
	comp=N,1μm,5.2s								
YSS					pmax	pmax			
	comp=E,1μm,4.8s								
YSS					smax	smax			
	comp=N,320nm,1.1s								
YSS					smax	smax			
	comp=E,290nm,1.0s								
YSS					smax	smax			
	comp=N,10μm,8.2s								
YSS					smax	smax			
	comp=E,6μm,7.8s								
YSS	**Yuzhno-Sakhali**	**20.88**	**29**	⇓	P	**P**	**01 02 05.8**	**-0.8**	
CD2	**Chengdu**	**21.11**	**280**		P	**P**	**01 02 09.0**	**-0.2**	
CD2					sP	sP	01 03 17.9	-3.9	
CD2					S	**S**	**01 05 50.7**	**+3.2**	
CD2					pmax	pmax			
	comp=E,460nm,1.2s								
CD2					pmax	pmax			
	comp=E,4μm,5.5s								
CD2					LR	LR			
	comp=E,10μm,11.4s								
CD2					LR	LR			
	comp=E,11μm,8.9s								
CD2					LR	LR			
	comp=E,13μm,11.4s								
LZH	**Lanzhou**	**21.45**	**294**	⇓	P	**P**	**01 02 12.6**	**+0.1**	
LZH					S	**S**	**01 05 49.6**	**-3.5**	
LZH					PcP	**PcP**	**01 06 04.7**	**-0.4**	
LZH					ScS	**ScS**	**01 13 04.0**	**+1.5**	
LZH					pmax	pmax			
	comp=E,1μm,1.2s								
LZH					pmax	pmax			
	comp=E,4μm,4.1s								
LZH					LR	LR			
	comp=E,6μm,11.3s								
LZH					LR	LR			
	comp=E,5μm,11.0s								
LZH					LR	LR			
	comp=E,8μm,11.0s								
GUMO	**Guam**	**22.11**	**132**		P	**P**	**01 02 17.3**	**-1.3**	
GUMO	**Guam**	**22.11**	**132**		P	**P**	**01 02 17.3**	**-1.3**	
KUR	**Kuril'sk**	**22.16**	**39**	*e*	P	**P**	**01 02 18.6**	**-0.1**	
KUR				*i*	S	**S**	**01 06 03.1**	**-1.0**	
KUR					pmax	pmax			
	comp=Z,1μm,1.1s								
KUR					pmax	pmax			
	comp=Z,3μm,4.8s								
KUR					MLR	MLR			
	comp=Z,3μm,14.0s								
GRNR	**Gornyy**	**22.21**	**14**	⇓	*i*P	**P**	**01 02 17.0**	**-2.1**	
GRNR					pmax	pmax			
	comp=Z,50nm,1.1s								
DAV	**Davao City (W)**	**22.37**	**187**	⇓	*e*P	**P**	**01 02 23.0**	**+2.1**	
DAV	**Davao City (W)**	**22.37**	**187**		S	**S**	**01 06 12.9**	**+4.9**	
KMI	**Kunming**	**22.95**	**265**	⇓	P	**P**	**01 02 26.5**	**0.0**	
KMI					sP	sP	01 03 41.9	0.0	
KMI					PcP	**PcP**	**01 06 09.6**	**+1.2**	
KMI					S	**S**	**01 06 15.9**	**-1.8**	
KMI					PcS	**PcS**	**01 09 51.7**	**+3.7**	
KMI					pmax	pmax			
	comp=Z,75nm,0.7s								
KMI					pmax	pmax			
	comp=Z,1μm,5.5s								
KMI					LR	LR			
	comp=Z,7μm,9.7s								
KMI					LR	LR			
	comp=Z,6μm,17.2s								
KMI					LR	LR			
	comp=Z,11μm,11.0s								
SLVN	**Son La**	**23.29**	**255**			**P**	**01 02 29

SONM ScP **ScP** **01 09 27.7 +0.8**
comp=Z,21nm,0.9s,baz=142,slow=3.9,SNR=11
SONM PKiKP **PKiKP** **01 13 52.3 -0.7**
comp=Z,1.1nm,0.5s,baz=221,slow=1.3,SNR=5.8
SONM P3KPbc 01 35 41.5
comp=Z,1.5nm,1.1s,baz=279,slow=3.9,SNR=3.7
comp=Z,142nm,0.6s
SONM Songino Array 24.88 324 P **P** **01 02 43.4 -0.1**
SONM pmax pmax
comp=Z,456nm,0.8s
CIT Chita 25.03 338 *e*P **P** **01 02 44.2 -0.6**
CIT *e* 01 03 37.6
CIT *e* 01 04 02.2
CIT *e* 01 06 13.0
CIT pmax pmax
comp=Z,1μm,1.6s
UBPT Khong Chiam 25.18 241 P **P** **01 02 47.1 +0.7**
UBPT **PcP** **01 06 15.1 +2.0**
GTA Gaotai 25.30 301 P **P** **01 02 47.6 +0.2**
GTA PcP **PcP** **01 06 14.8 +1.6**
GTA S **S** **01 06 54.7 +0.2**
GTA sS sS 01 08 17.6 -4.5
GTA ScP **ScP** **01 09 30.8 +2.6**
GTA PcS **PcS** **01 09 54.6 +0.7**
GTA ScS **ScS** **01 13 16.4 -1.1**
GTA pmax pmax
comp=Z,280nm,1.2s
GTA pmax pmax
comp=Z,3μm,8.4s
GTA LR LR
comp=Z,21μm,14.5s
GTA LR LR
comp=Z,15μm,12.7s
GTA LR LR
comp=Z,10μm,17.1s
NKL Nikolayevsk 25.43 18 *e*P **P** **01 02 45.8 -2.4**
NKL *e*S **S** **01 06 53.4 -2.4**
NKL pmax pmax
comp=N,219nm,1.2s
NKL pmax pmax
comp=E,239nm,1.2s
NKL pmax pmax
comp=Z,734nm,1.2s
NKL smax smax
comp=N,2μm,5.3s
NKL smax smax
comp=E,2μm,5.3s
NKL MLR MLR
comp=E,10μm,11.0s
NKL MLR MLR
comp=N,12μm,12.0s
NKL MLR MLR
comp=Z,11μm,12.0s
SGSI Sangihe 25.72 186 P **P** **01 02 51.2 -0.1**
comp=Z,9μmcomp=Z,1μm,0.7s
KKM Kota Kinabalu 25.84 208 **P** **01 02 52.2 -0.2**
KKM IAmb IAmb 01 03 50.4
comp=Z,351nm,1.5s
KKM **PcP** **01 06 16.4 +1.7**
TNCH TengChong 26.65 268 P **P** **01 02 58.5 -1.3**
TNCH pP pP 01 03 47.2 -1.6
TNCH PcP **PcP** **01 06 18.1 +1.5**
TNCH S **S** **01 07 15.5 -0.7**
TNCH SS SS 01 08 50.3 -29
TNCH ScP **ScP** **01 09 35.5 +3.0**
TNCH ScS **ScS** **01 13 27.3 +3.5**
TNCH pmax pmax
comp=Z,52nm,1.0s
TNCH pmax pmax
comp=Z,820nm,6.8s
TNCH LR LR
comp=Z,8μm,10.4s
TNCH LR LR
comp=Z,6μm,8.6s
TNCH LR LR
comp=Z,16μm,16.1s
ZAK Zakamensk 28.08 325 *e*P **P** **01 03 10.5 -1.5**
ZAK pmax pmax
comp=Z,63nm,1.3s
TNTI Ternate 28.51 182 P **P** **01 03 15.2 -0.8**
TNTI IAmb IAmb 01 03 17.7
comp=Z,250nm,1.2s
TNTI Ternate 28.51 182 P **P** **01 03 16.6 +0.6**
comp=Z,4μmcomp=Z,181nm,1.2s
CHTO Chiang Mai 28.58 255 **P** **01 03 15.7 -1.0**
CHTO Chiang Mai 28.58 255 P **P** **01 03 18.4 +1.7**
CHTO Chiang Mai 28.58 255 P **P** **01 03 19.5 +2.8**
CHTO Chiang Mai 28.58 255 P **P** **01 03 15.7 -1.0**
CHTO pmax pmax
comp=Z,237nm,1.4s
CHTO Chiang Mai 28.58 255 P **P** **01 03 16.9 +0.2**
CHTO S **S** **01 07 45.0 -1.2**
GOMU GeErMu 28.70 292 P **P** **01 03 18.9 +0.9**
GOMU pmax pmax
comp=Z,130nm,1.2s
GOMU LR LR
comp=Z,4μm,11.6s
GOMU LR LR
comp=Z,4μm,11.0s
GOMU LR LR
comp=Z,4μm,12.6s
CM31 Chiang Mai Arr 28.75 254 P **P** **01 03 20.0 +1.9**
CM31 **PcP** **01 06 23.8 +2.2**
CMAR Chiang Mai Arr 28.75 254 **P** **01 03 18.1 -0.1**
CMAR Chiang Mai Arr 28.75 254 P **P** **01 03 19.2 +1.0**
comp=Z,4.7nm,0.6s,baz=52,slow=7.4,SNR=29
CMAR pP **pP** **01 04 07.2 -0.4**
comp=Z,18nm,1.0s,baz=56,slow=4.5,SNR=2.6
CMAR PcP **PcP** **01 06 22.3 +0.7**
comp=Z,34nm,0.6s,baz=38,slow=0.8,SNR=18
CMAR ScP **ScP** **01 09 38.5 -0.3**
comp=Z,6.9nm,0.8s,baz=27,slow=1.5,SNR=7.7
CMAR PKiKP **PKiKP** **01 13 55.7 -0.2**
comp=Z,3.0nm,0.7s,baz=256,slow=0.9,SNR=9.1
CMAR P3KPbc 01 35 29.1
comp=Z,1.1nm,0.3s,baz=249,slow=5.1,SNR=5.8
IRK Irkutsk 28.83 329 *e*P **P** **01 03 17.7 -0.8**
IRK pmax pmax
comp=Z,297nm,1.5s
KMSI Cibinong 28.96 189 P P 01 03 26.5 +6.5
TOLI2 Tolitoli 29.02 195 P **P** **01 03 19.9 -0.6**
TOLI2 IAmb IAmb 01 03 23.1
comp=Z,276nm,1.2s
TOLI2 Tolitoli 29.02 195 P **P** **01 03 21.1 +0.6**
MRSI Marisa 29.39 193 P **P** **01 03 25.1 +1.3**
comp=Z,6μmcomp=Z,4μmcomp=Z,212nm,0.8s
MPSI Mapaga 29.98 197 P **P** **01 03 30.3 +1.4**
comp=Z,9μmcomp=Z,2μmcomp=Z,199nm,0.9s
MOY Mondy 30.01 325 *e*P **P** **01 03 28.6 -0.4**
MOY pmax pmax
comp=Z,168nm,1.6s
BOD Bodaibo 30.04 345 *e*P **P** **01 03 28.3 -0.7**
BOD pmax pmax
comp=Z,59nm,1.5s
ZIRO ZIRO 30.13 275 *e*P **P** **01 03 31.5 +1.1**
ZIRO IAmb IAmb 01 03 39.8
comp=Z,91nm,0.3s
SWI Sorong 30.27 174 P **P** **01 03 32.1 +0.6**
comp=Z,2μmcomp=Z,185nm,1.1s
IMP Imphal 30.70 270 *e*P **P** **01 03 36.5 +1.1**
IMP IAmb IAmb 01 03 51.0
comp=Z,82nm,0.6s
LUWI Luwuk 30.73 191 P **P** **01 03 37.9 +2.3**
comp=Z,4μmcomp=Z,195nm,0.9s
APSI Ampana 30.80 193 P P 01 03 42.4 +6.2
SBUM Sibu 30.80 212 P **P** **01 03 35.8 -0.4**
SBUM Sibu 30.80 212 P **P** **01 03 37.1 +0.9**
SBUM Sibu 30.80 212 ⇑P **P** **01 03 37.0 +0.8**
PCI Palu 31.19 196 P **P** **01 03 41.1 +1.5**
comp=Z,477nm,1.3s
TEZP TEZPUR 31.24 274 *e*P **P** **01 03 41.1 +1.1**
TEZP IAmb IAmb 01 03 50.2
comp=Z,99nm,0.5s
RKPI Ransiki, Papua 31.30 168 P **P** **01 03 41.3 +0.7**
comp=Z,5μmcomp=Z,192nm,0.8s
SANI Sanana 31.37 184 P **P** **01 03 39.5 -1.7**
SANI Sanana 31.37 184 P **P** **01 03 40.0 -1.2**
SANI Sanana 31.37 184 P **P** **01 03 40.8 -0.3**
comp=Z,5μmcomp=Z,3μmcomp=Z,289nm,0.8s
SANI Sanana 31.37 184 ⇑P **P** **01 03 40.0 -1.2**
BAKI Biak 31.39 165 P **P** **01 03 43.4 +2.1**
comp=Z,3μmcomp=Z,244nm,1.2s
SMKI Samarinda 31.48 201 P P 01 03 47.8 +5.6
PEA0B Petropavlovsk- 32.06 34 P **P** **01 03 46.6 -0.2**
PEA0B IAmb IAmb 01 03 49.8
comp=Z,169nm,0.8s
PEA0B Petropavlovsk- 32.06 34 P **P** **01 03 46.7 -0.2**
PEA0B pmax pmax
comp=Z,169nm,0.8s
PETK Petropavlovsk- 32.06 34 P **P** **01 03 46.5 -0.4**
PETK Petropavlovsk- 32.06 34 P **P** **01 03 46.2 -0.6**
comp=Z,79nm,0.6s,baz=222,slow=4.0,SNR=100
PETK PcP **PcP** **01 06 30.1 +0.3**
comp=Z,34nm,1.0s,baz=184,slow=4.5,SNR=3.7
PETK ScP **ScP** **01 09 48.4 -0.8**
comp=Z,8.3nm,0.7s,baz=174,slow=3.0,SNR=4.1
PETK PKiKP **PKiKP** **01 13 57.2 0.0**
comp=Z,3.2nm,0.7s,baz=93,slow=5.9,SNR=4.7
comp=Z,79nm,0.6s
SRPI Serui, Papua 32.08 165 P **P** **01 03 48.8 +1.5**
comp=Z,4μmcomp=Z,216nm,1.1s
LSA Lhasa 32.08 280 **PcP** **01 06 32.7 +1.8**
LSA Lhasa 32.08 280 P **P** **01 03 49.1 +1.3**
LSA pmax pmax
comp=Z,27nm,1.1s
LSA LR LR
comp=Z,5μm,12.6s
LSA LR LR
comp=Z,8μm,23.4s
LSA Lhasa 32.08 280 P **P** **01 03 49.8 +1.9**
LSA P **P** **01 03 49.8 +1.9**
LSA Lhasa 32.08 280 P **P** **01 03 49.4 +1.5**
AZL Aizawl 32.11 268 *e*P **P** **01 03 48.8 +1.1**
AZL IAmb IAmb 01 04 04.4
comp=Z,100nm,0.9s
SHL Shillong 32.30 272 **P** **01 03 49.2 -0.2**
SHL Shillong 32.30 272 P **P** **01 03 49.9 +0.4**
SNR=14
SHL Shillong 32.30 272 *e*P **P** **01 03 49.5 +0.1**
SHL IAmb IAmb 01 03 59.8
comp=Z,84nm,0.7s
SHL IAMs_20 IAMs_20 01 18 20.4
comp=Z,4μm,16.3s
SHL Shillong 32.30 272 P **P** **01 03 49.2 -0.2**
SHL pmax pmax
comp=Z,154nm,1.2s
GUWA GUWAHATI 32.31 273 *e*P **P** **01 03 50.5 +1.2**
GUWA IAmb IAmb 01 03 59.4
comp=Z,79nm,0.6s
FAKI Fak Fak 32.41 172 **P** **01 03 48.7 -1.5**
FAKI Fak Fak 32.41 172 P **P** **01 03 49.9 -0.3**
FAKI Fak Fak 32.41 172 P **P** **01 03 50.5 +0.3**
comp=Z,5μmcomp=Z,10μmcomp=Z,978nm,1.2s
FAKI Fak Fak 32.41 172 ⇑P **P** **01 03 49.9 -0.3**
PET Petropavlovsk 32.49 35 P **P** **01 03 50.2 -0.3**
PET Petropavlovsk 32.49 35 P **P** **01 03 50.5 0.0**
PET Petropavlovsk 32.49 35 *e*P **P** **01 03 51.2 +0.7**
PET pmax pmax
comp=Z,3μm,5.0s
PET pmax pmax
comp=Z,781nm,0.8s
PET pmax pmax
comp=Z,600nm,8.1s
PET MLR MLR
comp=Z,3μm,14.0s
PET MLR MLR
comp=Z,3μm,16.0s
PET Petropavlovsk 32.49 35 P **P** **01 03 50.5 0.0**
comp=Z,8μmcomp=Z,826nm,1.2s
PET Petropavlovsk 32.49 35 ⇓P **P** **01 03 50.3 -0.3**
PET Petropavlovsk 32.49 35 P **P** **01 03 50.1 -0.4**
NLAI Namlea 32.50 182 P **P** **01 03 51.8 +0.8**
comp=Z,3μmcomp=Z,294nm,1.2s
KSM Kuching 32.57 215 P **P** **01 03 51.8 +0.2**
KSM IAmb IAmb 01 03 56.9
comp=Z,267nm,0.6s
KSM **PcP** **01 06 33.3 +1.5**
KSM Kuching 32.57 215 P **P** **01 03 54.1 +2.5**
KSM Kuching 32.57 215 ⇑P **P** **01 03 52.4 +0.7**
MSAI Masohi 32.60 179 P **P** **01 03 53.5 +1.7**
comp=Z,784nm,1.3s
YAK Yakutsk 32.62 1 **P** **01 03 51.2 -0.4**
YAK IAmb IAmb 01 03 54.4
comp=Z,254nm,0.7s
YAK **PcP** **01 06 31.4 +0.3**
YAK Yakutsk 32.62 1 *e*P **P** **01 03 50.0 -1.5**
YAK *e**PP **pP** **01 04 39.5 -2.0**
YAK *e* 01 05 08.6
YAK *e* 01 06 29.6
YAK *e*S **S** **01 08 47.5 -0.6**
YAK *e*SS **SS** **01 11 15.8 -0.3**
YAK *e* 01 13 45.6
YAK pmax pmax
comp=Z,245nm,1.1s
YAK pmax pmax
comp=N,111nm,1.5s
YAK pmax pmax
comp=E,28nm,1.5s
YAK pmax pmax
comp=Z,4μm,10.3s
YAK pmax pmax
comp=N,3μm,9.5s
YAK pmax pmax
comp=E,476nm,6.7s
YAK smax smax
comp=N,348nm,1.2s
YAK smax smax
comp=E,278nm,1.3s
SMPI Sarmi 32.84 160 P **P** **01 03 55.2 +1.2**
comp=E,6μmcomp=E,6μmcomp=E,475nm,1.5s
AAI Ambon 32.93 180 P **P** **01 03 56.0 +1.3**
comp=E,6μmcomp=E,636nm,0.9s
STKI Sintang 33.24 212 P **P** **01 03 59.8 +2.3**
comp=E,8μmcomp=E,112nm,0.9s
TTSI Tana Toraja 33.26 195 P **P** **01 03 58.6 +1.1**
KMPI Kaimana, Papua 33.33 170 P **P** **01 03 59.3 +1.1**
MA2 Magadan 33.84 21 **P** **01 04 00.9 -1.2**
MA2 Magadan 33.84 21 P **P** **01 04 02.9 +0.8**
MA2 Magadan 33.84 21 *e*P **P** **01 04 01.8 -0.3**
MA2 pmax pmax
comp=Z,194nm,1.3s
MA2 Magadan 33.84 21 P **P** **01 04 01.6 -0.5**
comp=Z,2μmcomp=Z,145nm,1.2s
MA2 Magadan 33.84 21 ⇓P **P** **01 04 01.0 -1.2**
SRIT Nakonsritamara 33.84 238 P **P** **01 04 02.7 +0.1**
GENI Genyem 33.86 158 P **P** **01 04 04.7 +1.9**
comp=Z,5μmcomp=Z,6μmcomp=Z,350nm,1.4s
SPSI Sidrap Palu 34.16 195 P **P** **01 04 06.0 +0.7**
BNSI Bone 34.51 194 P **P** **01 04 08.9 +0.6**
GTK Tadong 34.73 276 *e*P **P** **01 04 11.1 +0.7**
GTK IAmb IAmb 01 04 22.2
comp=Z,91nm,0.7s
JPG JALPAIGURI 34.81 275 IAMs_20 IAMs_20 01 12 13.7
comp=Z,4μm,18.0s
WMQ Urumqi 35.12 305 ⇓P **P** **01 04 14.4 +1.0**
WMQ PP **PnPn** **01 05 41.9 +1.0**
WMQ PcP **PcP** **01 06 39.2 +0.4**
WMQ ScP **ScP** **01 10 02.5 +2.3**
WMQ PcS **PcS** **01 10 23.5 -2.5**
WMQ pmax pmax
comp=Z,240nm,1.3s
WMQ pmax pmax
comp=Z,1μm,3.6s
WMQ LR LR
comp=Z,2μm,12.5s
WMQ LR LR
comp=Z,2μm,21.3s
KAPI Kappang 35.18 195 P **P** **01 04 13.3 -0.7**
KAPI **PcP** **01 06 40.5 +1.3**
KAPI Kappang 35.18 195 P **P** **01 04 14.0 0.0**
KAPI P **P** **01 04 14.0 0.0**
KAPI Kappang 35.18 195 P **P** **01 04 14.2 +0.2**
KAPI Kappang 35.18 195 *i* P **P** **01 04 13.7 -0.3**
KAPI pmax pmax
comp=Z,215nm,1.1s
KAPI Kappang 35.18 195 ⇑P **P** **01 04 13.8 -0.2**
KAPI Kappang 35.18 195 P **P** **01 04 13.3 -0.7**
KAPI Kappang 35.18 195 P **P** **01 04 14.0 0.0**
KAPI S **S** **01 09 26.3 -2.0**
KULM Kulim 35.37 233 **P** **01 04 16.6 +1.0**
KULM IAmb IAmb 01 04 21.3
comp=Z,333nm,0.7s
KULM **PcP** **01 06 41.5 +1.7**
KULM Kulim 35.37 233 P **P** **01 04 16.8 +1.1**
KULM Kulim 35.37 233 ⇓P **P** **01 04 17.1 +1.4**
IPM Ipoh 35.69 231 **PcP** **01 06 42.1 +1.3**
IPM Ipoh 35.69 231 P **P** **01 04 20.5 +2.0**
IPM Ipoh 35.69 231 ⇑P **P** **01 04 18.7 +0.3**
MYKOM Kota Tinggi 35.90 224 P **P** **01 04 21.3 +1.1**
BSSI Bau Bau, Buton 36.12 193 P **P** **01 04 22.2 +0.2**
comp=Z,4μmcomp=Z,489nm,0.8s
DGPR DIGLIPUR 36.38 251 *e*P **P** **01 04 25.1 +0.8**
DGPR IAmb IAmb 01 04 31.9
comp=Z,91nm,0.8s
SEY Seymchan 37.01 18 *i* P **P** **01 04 28.0 -0.9**
SEY pmax pmax
comp=Z,130nm,1.0s
SAUI Saumlaki 37.32 175 P **P** **01 04 30.2 -1.8**
TPI Tanjungpandan 37.53 215 P **P** **01 04 35.9 +2.0**
comp=Z,7μmcomp=Z,219nm,0.7s
LHMI Lhok Sumawe 38.04 237 P **P** **01 04 39.4 +1.3**
LHMI IAmb IAmb 01 04 44.5
comp=Z,357nm,0.9s
LHMI Lhok Sumawe 38.04 237 P **P** **01 04 42.3 +4.1**
TSI Tuntungan 38.09 233 P **P** **01 04 41.9 +3.3**
MMRI Maumere 38.27 189 P **P** **01 04 39.5 -0.5**
MMRI IAmb IAmb 01 04 41.1
comp=Z,362nm,1.0s
MMRI Maumere 38.27 189 P **P** **01 04 39.8 -0.2**
comp=Z,5μmcomp=Z,401nm,0.8s
RPSI Rantau Prapat 38.42 232 IAmb IAmb 01 04 46.6
comp=Z,250nm,0.7s
RPSI **PcP** **01 06 49.0 -0.2**
EDFI Ende, Flores 38.46 190 P **P** **01 04 40.3 -1.4**
comp=Z,3μmcomp=Z,287nm,1.1s
KMMI Kalianget 38.74 203 P **P** **01 04 46.4 +2.5**
comp=Z,7μmcomp=Z,271nm,1.0s
BKNI Bangkinang 38.79 227 P **P** **01 04 43.6 -0.8**
BKNI Bangkinang 38.79 227 P **P** **01 04 45.6 +1.3**
BKNI IAmb IAmb 01 04 49.4
comp=Z,508nm,0.9s
BKNI Bangkinang 38.79 227 P **P** **01 04 48.4 +4.0**
MLSI Meulaboh, Aceh 39.09 236 P **P** **01 04 47.7 +0.8**
SOEI Soe 39.13 186 P **P** **01 04 47.2 0.0**
SOEI Soe 39.13 186 IAmb IAmb 01 05 08.0
comp=Z,322nm,1.0s
SOEI Soe 39.13 186 P **P** **01 04 46.1 -1.1**
comp=Z,3μmcomp=Z,337nm,0.8s
SOEI Soe 39.13 186 ⇓P **P** **01 04 46.2 -1.1**
GRJI Gresik 39.15 205 P **P** **01 04 51.5 +4.3**
PMBI Palembang 39.19 219 P **P** **01 04 49.2 +1.6**
PMBI IAmb IAmb 01 04 52.2
comp=Z,662nm,1.1s
TBJI Tambak Boyo 39.29 206 P **P** **01 04 51.0 +2.5**
comp=Z,6μmcomp=Z,385nm,0.9s
SRBI Singaraja 39.31 200 P **P** **01 04 50.4 +1.8**
comp=Z,4μmcomp=Z,145nm,0.7s
PLAI Plampang 39.32 196 P **P** **01 04 47.9 -0.8**
PLAI Plampang 39.32 196 P **P** **01 04 48.8 +0.1**
MNSI Mandailing Nat 39.38 229 P **P** **01 04 50.2 +1.0**
comp=Z,3μmcomp=Z,268nm,0.6s
MK31 Makanchi Array 39.40 309 *e*P **P** **01 04 48.5 -0.6**
MKAR Makanchi Array 39.40 309 P **P** **01 04 48.4 -0.7**
comp=Z,62nm,0.8s,baz=98,slow=8.8,SNR=200
MKAR PcP **PcP** **01 06 52.2 +0.3**
comp=Z,68nm,0.7s,baz=72,slow=3.7,SNR=16
MKAR ScP **ScP** **01 10 16.1 -0.1**
comp=Z,15nm,0.8s,baz=105,slow=4.1,SNR=6.8
MKAR PKiKP **PKiKP** **01 14 01.6 -1.5**
comp=Z,1.9nm,0.8s,baz=241,slow=1.6,SNR=5.8
MKAR P3KPbc 01 34 42.1
comp=Z,1.5nm,0.7s,baz=272,slow=3.3,SNR=11
MKAR PKPPKP P'P'df 01 37 01.6 -16
comp=Z,0.6nm,0.9s,baz=318,slow=1.6,SNR=3.7
comp=Z,62nm,0.8s
MAKZ Makanchi 39.61 309 **P** **01 04 50.2 -0.6**
MAKZ Makanchi 39.61 309 P **P** **01 04 50.2 -0.6**
MAKZ pmax pmax
comp=Z,261nm,1.3s
MAKZ Makanchi 39.61 309 ⇓P **P** **01 04 50.2 -0.6**
BATI Baumata 39.64 187 P **P** **01 04 49.6 -1.7**
comp=Z,5μmcomp=Z,707nm,0.8s
ZALV Zalesovo Beam 39.69 321 P **P** **01 04 50.1 -1.2**
ZALV Zalesovo Beam 39.69 321 P **P** **01 04 50.3 -1.0**
comp=Z,68nm,0.5s,baz=107,slow=9.5,SNR=171
ZALV PcP **PcP** **01 06 52.8 +0.3**
comp=Z,53nm,0.5s,baz=105,slow=3.4,SNR=13
ZALV ScP **ScP** **01 10 16.3 -0.8**
comp=Z,13nm,0.4s,baz=122,slow=3.1,SNR=11
ZALV PKiKP **PKiKP** **01 14 01.7 -1.4**
comp=Z,3.3nm,0.7s,baz=254,slow=0.5,SNR=4.2
comp=Z,68nm,0.5s
WBSI Waikabubak, Su 39.74 194 P **P** **01 04 51.3 -0.9**
comp=Z,3μmcomp=Z,290nm,0.9s
NGJI Ngawi 39.95 206 P **P** **01 04 56.9 +3.1**
comp=Z,197nm,1.4s
JAGI Jajag, Banyuwa 40.01 202 P **P** **01 04 56.1 +1.7**
JAGI Jajag, Banyuwa 40.01 202 ⇑P **P** **01 04 54.8 +0.4**
SMRI Semarang 40.06 208 P **P** **01 04 54.9 +0.1**
SMRI Semarang 40.06 208 P **P** **01 04 57.8 +3.0**
comp=Z,10μmcomp=Z,279nm,0.7s
GMJI Gumukmas 40.06 203 P **P** **01 04 55.6 +0.8**
VAR Varanasi 40.09 275 IAMs_20 IAMs_20 01 14 30.2
comp=Z,4μm,21.7s
GSI Gunungsitoli 40.35 232 **P** **01 04 57.2 0.0**
GSI IAmb IAmb 01 05 01.2
comp=Z,553nm,0.9s
GSI Gunungsitoli 40.35 232 P **P** **01 04 57.3 0.0**
GSI Gunungsitoli 40.35 232 P **P** **01 04 57.5 +0.3**
GSI Gunungsitoli 40.35 232 ⇑P **P** **01 04 57.5 +0.3**
JCJI Jatiwangi 40.50 211 P **P** **01 05 02.5 +4.1**
comp=Z,780nm,0.8s
WOJI Wonogiri, Jawa 40.59 207 P **P** **01 05 01.1 +2.0**
comp=Z,6μmcomp=Z,4μmcomp=Z,278nm,1.6s
RABL Rabaul 40.61 141 P **P** **01 05 00.6 +1.3**
RABL IAmb IAmb 01 05 02.4
comp=Z,304nm,0.9s
LHSI Lahat 40.62 220 P **P** **01 05 01.6 +2.2**
comp=Z,7μmcomp=Z,4μmcomp=Z,240nm,1.1s
KLI Kotabumi 40.77 217 P **P** **01 05 02.5 +1.9**
MDSI Maura Dua 40.81 218 P **P** **01 05 02.0 +1.1**
comp=Z,7μmcomp=Z,5μmcomp=Z,378nm,0.9s
UGM Wanagama 40.81 207 **P** **01 05 01.0 0.0**
UGM IAmb IAmb 01 05 15.0
comp=Z,354nm,1.0s
UGM Wanagama 40.81 207 P **P** **01 05 02.7 +1.7**
UGM Wanagama 40.81 207 P **P** **01 05 02.6 +1.6**
comp=Z,5μmcomp=Z,411nm,0.9s
PCJI Pacitan 40.81 206 P **P** **01 05 04.6 +3.7**
comp=Z,151nm,0.9s
SMY Shemya 40.82 42 **P** **01 05 01.5 +1.0**
SMY IAmb IAmb 01 05 03.7
comp=Z,583nm,1.3s
SMY Shemya 40.82 42 P **P** **01 05 01.5 +1.0**
SMY pmax pmax
comp=Z,583nm,1.3s
KSI Kapahiang 41.00 221 P **P** **01 05 05.1 +2.5**
ALBI Allahabad 41.13 276 *e*P **P** **01 05 04.1 +0.5**
ALBI IAmb IAmb 01 05 05.7
comp=Z,156nm,0.8s
SBJI Serang 41.19 214 P **P** **01 05 05.7 +1.7**
DBJI Dramaga 41.26 213 P **P** **01 05 06.1 +1.5**
SISI Saibi 41.30 227 P **P** **01 05 06.1 +1.2**
comp=Z,494nm,0.7s
LWLI Liwa 41.32 218 P **P** **01 05 06.8 +1.6**
comp=Z,11μmcomp=Z,514nm,0.7s
MNAI Manna 41.38 220 P **P** **01 05 06.4 +0.8**
LGTI Lohaghat 41.46 282 *e*P **P** **01 05 07.9 +1.8**
LGTI IAmb IAmb 01 05 14.7
comp=Z,150nm,0.9s
PTH Pithoragarh 41.47 282 *e*P **P** **01 05 06.6 +0.2**
PTH IAmb IAmb 01 05 13.4
comp=Z,200nm,0.8s
KASI Kota Agung 41.51 217 P **P** **01 05 08.1 +1.5**
comp=Z,147nm,0.9s
BBJI Bungbulang 41.64 211 P **P** **01 05 07.3 -0.4**
DRS Darwin Rock St 41.70 176 P **P** **01 05 08.0 -0.1**
CNJI Cibinong 41.74 212 P **P** **01 05 09.2 +0.7**
comp=Z,160nm,0.8s
PRZ Przheval'sk 41.75 302 IAmb IAmb 01 05 12.2
comp=Z,443nm,1.3s
SKJI Sukabumi 41.75 213 P **P** **01 05 11.4 +2.9**
comp=Z,8μmcomp=Z,6μmcomp=Z,534nm,0.7s
JOSI Joshimath 41.82 284 *e*P **P** **01 05 09.4 +0.1**
JOSI IAmb IAmb 01 05 13.5
comp=Z,149nm,1.1s
JOSI IAMs_20 IAMs_20 01 19 51.1
comp=Z,3μm,17.4s
CGJI Cibinong 41.83 215 P **P** **01 05 09.2 0.0**
comp=Z,4μmcomp=Z,231nm,0.5s
BLSP Bilaspur 41.84 271 *e*P **P** **01 05 09.5 +0.2**
BLSP IAmb IAmb 01 05 22.1
comp=Z,90nm,0.9s
BLSP IAMs_20 IAMs_20 01 18 20.2
comp=Z,2μm,18.5s
KDU Kakadu 42.08 174 P **P** **01 05 10.5 -0.7**

comp=Z,212nm,1.3s
KDU Kakadu 42.08 174 P P 01 05 10.2 -0.9
KDU Kakadu 42.08 174 ⇑P P 01 05 10.1 -1.1
MTN Manton Dam 42.12 176 P 01 05 10.4 -1.1
MTN IAmb IAmb 01 05 13.2
comp=Z,593nm,0.8s
MTN Manton Dam 42.12 176 P P 01 05 10.8 -0.7
comp=Z,0.0nmcomp=Z,881nm,1.0s
MTN Manton Dam 42.12 176 P P 01 05 11.2 -0.3
MTN Manton Dam 42.12 176 ⇑P P 01 05 09.0 -2.5
ARXS Arharly 42.23 305 *eP* **P 01 05 12.0 -0.3**
TIXI Tiksi 42.27 0 P 01 05 11.4 -0.6
TIXI IAmb IAmb 01 05 15.2
comp=Z,748nm,1.9s
TIXI Tiksi 42.27 0*ceP* **P 01 05 11.8 -0.2**
TIXI pmax pmax
comp=Z,322nm,1.7s
KURK Kurchatov 42.48 314 P 01 05 13.3 -0.8
KURK Kurchatov 42.48 314 P P 01 05 13.5 -0.6
KURK P P 01 05 13.5 -0.6
KURK Kurchatov 42.48 314 P P 01 05 13.6 -0.5
KURK *PP **pP** 01 06 07.1 +0.8
KURK 01 07 01.5
KURK Kurchatov 42.48 314 ⇓P P 01 05 13.2 -0.8
KURK Kurchatov 42.48 314 P P 01 05 13.1 -1.0
KURBB Kurchatov Arra 42.52 314 P P 01 05 13.6 -0.8
comp=Z,88nm,0.4s,baz=103,slow=8.3,SNR=319
KURBB pP **pP** 01 06 07.1 +0.5
comp=Z,56nm,1.1s,baz=99,slow=9.0,SNR=2.4
KURBB PcP **PcP** 01 07 01.5 -0.5
comp=Z,222nm,1.2s,baz=100,slow=3.9,SNR=18
KURBB ScP **ScP** 01 10 26.8 -1.7
comp=Z,8.5nm,0.8s,baz=105,slow=3.3,SNR=5.0
KURBB PKPPKP P'P'df 01 36 51.1 -23
comp=Z,1.4nm,0.2s,baz=247,slow=2.8,SNR=4.6
comp=Z,88nm,0.4s
KURBB Kurchatov Arra 42.52 314 P P 01 05 13.4 -1.0
TKRD Thakurdwara 42.71 282 *eP* **P 01 05 16.5 +0.3**
KLP Kalpa 42.74 286 *eP* **P 01 05 16.7 -0.1**
KLP IAMs_20 IAMs_20 01 14 59.3
comp=Z,5μm,16.7s
AAA Alma-Ata 42.86 303 *eP* **P 01 05 17.3 0.0**
DDI Dehra Dun 43.14 284 *eP* **P 01 05 19.9 +0.2**
DDI IAMs_20 IAMs_20 01 22 34.9
comp=Z,2μm,17.7s
ULHL Ulahol 43.34 302 P P 01 05 23.0 +1.6
SNR=17
KSH Kashi 43.63 298 P P 01 05 27.8 +4.2
KSH PcP **PP** 01 07 09.2 -1.3
KSH S **S** 01 11 40.6 +6.7
KSH pmax pmax
comp=Z,62nm,1.3s
KSH pmax pmax
comp=Z,2μm,9.3s
KSH LR LR
comp=Z,3μm,15.8s
KSH LR LR
comp=Z,2μm,11.7s
KSH LR LR
comp=Z,4μm,14.8s
SMLA Simla 43.73 286 *eP* **P 01 05 24.5 +0.3**
SMLA IAmb IAmb 01 05 33.1
comp=Z,110nm,0.8s
SMLA IAMs_20 IAMs_20 01 18 22.9
comp=Z,2μm,17.4s
TKM2 Tokmak 2 43.82 303 P P 01 05 25.5 +0.4
SNR=272
JHNI Jhansi 43.92 277 *eP* **P 01 05 25.8 -0.2**
JMIU JAMIA UNIVERSI 44.18 282 *eP* **P 01 05 28.2 +0.3**
JMIU IAMs_20 IAMs_20 01 22 28.6
comp=Z,2μm,19.7s
NDI New Delhi 44.22 282 *eP* **P 01 05 28.6 +0.4**
NDI IAmb IAmb 01 05 31.9
comp=Z,211nm,1.0s
LDR Lodi Road 44.24 282 *eP* **P 01 05 28.7 +0.3**
NPLP NPLP New Delhi 44.27 282 *eP* **P 01 05 28.8 +0.2**
NPLP IAmb IAmb 01 05 32.0
comp=Z,123nm,0.8s
GNR GANAUR 44.28 283 *eP* **P 01 05 28.9 +0.2**
GNR IAMs_20 IAMs_20 01 17 04.7
comp=Z,2μm,16.8s
BHK Bhakra 44.30 286 *eP* **P 01 05 25.6 -3.2**
BHK IAmb IAmb 01 05 34.8
comp=Z,205nm,1.0s
KBK Karagaybulak 44.30 302 P P 01 05 30.1 +1.2
SNR=54
AYAN Aya Nagar 44.34 282 *eP* **P 01 05 29.6 +0.4**
SONA Sohna 44.44 282 IAmb IAmb 01 05 32.1
comp=Z,439nm,1.0s
CHMS Chumysh 44.44 303 P P 01 05 29.8 0.0
SNR=81
USP Ospenovka 44.62 303 P P 01 05 30.9 -0.4
SNR=47
UCH Uchtor 44.63 302 P P 01 05 32.7 +0.9
SNR=359
AAK Ala-Archa 44.63 302 P P 01 05 32.4 +0.9
SNR=25
AAK Ala-Archa 44.63 302 P 01 05 32.3 +0.9
AAK Ala-Archa 44.63 302 P P 01 05 31.4 -0.1
AAK P P 01 05 31.4 -0.1
AAK Ala-Archa 44.63 302*ceP* **P 01 05 32.1 +0.6**
AAK pmax pmax
comp=Z,143nm,1.7s
AAK Ala-Archa 44.63 302 *i* P **P 01 05 31.2 -0.3**
SNR=20
AAK Ala-Archa 44.63 302 ⇑P P 01 05 31.8 +0.3
AAK Ala-Archa 44.63 302 P P 01 05 31.1 -0.3
BILL Bilibino 44.68 19 P P 01 05 31.4 +0.2
BILL Bilibino 44.68 19*ceP* **P 01 05 31.3 0.0**
BILL pmax pmax
comp=Z,246nm,1.7s
BILL Bilibino 44.68 19 P P 01 05 31.5 +0.2
BILL PcP **PcP** 01 07 10.0 +1.0
RTK Rohtak 44.82 283 *eP* **P 01 05 33.1 +0.3**
KNRA Kununurra 44.84 179 P 01 05 33.0 -0.1
KNRA IAmb IAmb 01 05 35.3
comp=Z,468nm,0.8s
KNRA Kununurra 44.84 179 P P 01 05 33.4 +0.2
comp=Z,0.0nmcomp=Z,685nm,0.9s
NGP Nagpur 44.87 271 *eP* **P 01 05 33.6 +0.2**
BTLS Baital 44.96 306 *eP* **P 01 05 33.1 -0.7**
BTLS pmax pmax
comp=Z,89nm,1.1s
KUDL Kundal 44.97 282 *eP* **P 01 05 34.4 +0.3**
KUDL IAmb IAmb 01 05 37.5
comp=Z,118nm,0.7s
EKS2 Erkin-Say 45.16 302 P P 01 05 36.4 +0.8
SNR=70
VJD Vijayawada 45.27 264 IAMs_20 IAMs_20 01 17 47.2
comp=Z,4μm,19.2s
JMU Jammu 45.32 288 *eP* **P 01 05 37.3 +0.6**
JMU IAmb IAmb 01 05 42.7
comp=Z,100nm,0.7s
COEN Coen 45.51 159 P 01 05 37.3 -1.1
COEN Coen 45.51 159 P P 01 05 39.2 +0.7
comp=Z,263nm,1.5s
COEN Coen 45.51 159 P P 01 05 38.7 +0.3
COEN Coen 45.51 159 ⇑P P 01 05 39.1 +0.7
BHPL Bhopal 45.57 275 *eP* **P 01 05 39.2 +0.2**
BHPL IAmb IAmb 01 05 43.1
comp=Z,89nm,0.7s
BHPL IAMs_20 IAMs_20 01 17 21.0
comp=Z,3μm,16.5s
NRDN NARMADA NAGAR 45.97 274 *eP* **P 01 05 42.2 +0.2**
NRDN IAmb IAmb 01 05 48.6
comp=Z,116nm,0.5s
NRDN IAMs_20 IAMs_20 01 17 41.7
comp=Z,3μm,16.5s
BRZS Berezniki 46.16 313 *eP* **P 01 05 43.3 +0.2**
ADK Adak 46.19 45 P 01 05 43.0 -0.3
ADK Adak 46.19 45 P P 01 05 42.5 -0.7
ADK Adak 46.19 45 P P 01 05 43.0 -0.3
ADK pmax pmax
comp=Z,223nm,0.8s
ADK Adak 46.19 45 ⇑P P 01 05 42.7 -0.6
NRIK Noril'sk 46.20 341 P 01 05 42.5 -0.6
NRIK Noril'sk 46.20 341 P P 01 05 42.0 -1.1
comp=Z,63nm,0.5s,baz=119,slow=8.4,SNR=82
NRIK PcP **PcP** 01 07 14.1 -0.2
comp=Z,134nm,0.9s,baz=118,slow=3.6,SNR=11
NRIK ScP **ScP** 01 10 42.7 -0.5
comp=Z,12nm,0.9s,baz=102,slow=5.3,SNR=3.5
comp=Z,63nm,0.5s
NRIK Noril'sk 46.20 341 *i* P **P 01 05 42.0 -1.1**
NRIK pmax pmax
comp=Z,170nm,0.9s
NIL Nilore 46.51 290 P P 01 05 46.0 -0.1
NIL Nilore 46.51 290 P P 01 05 46.9 +0.8
NIL Nilore 46.51 290 P P 01 05 46.0 -0.1
NIL pmax pmax
comp=Z,97nm,0.7s
GSTR Great Sitkin T 46.60 45 P P 01 05 46.7 +0.2
GSTR IAmb IAmb 01 05 49.0
comp=Z,371nm,0.8s
HYB Hyderabad 46.73 267⇑*eP* **P 01 05 48.5 +0.5**
HYB *ep*P **pP** 01 06 41.4 +0.2
HYB *es*P **sP** 01 07 10.8 +1.4
HYB *e*PcP **PcP** 01 07 17.1 0.0
HYB *e*PP **PP** 01 07 40.9 +0.2
HYB *e*ScP **ScP** 01 10 46.1 -0.3
HYB *e*PcS **PcS** 01 11 12.5 -0.2
HYB *e*S **S** 01 12 18.3 -0.1
HYB *e*ScS **ScS** 01 15 15.9 +0.1
HYB *e*SS **SS** 01 15 51.6 +3.3
SRGN SRI GANGA NAGA 46.75 285 *eP* **P 01 05 48.2 +0.2**
SRGN IAMs_20 IAMs_20 01 17 46.1
comp=Z,6μm,18.1s
MDRS Chennai 47.16 260 IAMs_20 IAMs_20 01 20 53.0
comp=Z,3μm,19.4s
FITZ Fitzroy Crossi 47.31 183 P P 01 05 52.1 -0.1
comp=Z,115nm,0.9s
FITZ Fitzroy Crossi 47.31 183 P P 01 05 51.8 -0.4
FITZ Fitzroy Crossi 47.31 183 ⇓P P 01 05 51.9 -0.3
MIDW Midway 47.39 77 P P 01 05 53.7 +0.8
KK31 Karatay Array 47.54 303 *i* P **P 01 05 54.0 +0.1**
BKNR BIKANER 47.74 282 *eP* **P 01 05 55.4 -0.3**
ATKA Atka Island 47.75 45 P 01 05 55.2 -0.1
ATKA IAmb IAmb 01 05 56.6
comp=Z,445nm,1.0s
ATKA Atka Island 47.75 45 P P 01 05 55.2 -0.1
ATKA Atka Island 47.75 45 ⇑P P 01 05 54.7 -0.6
BVAO Borovoye Array 47.87 316 P P 01 05 55.3 -0.9
BVAR Borovoye Array 47.87 316 P P 01 05 55.1 -1.1
comp=Z,96nm,0.6s
BVAR PcP **PcP** 01 07 20.3 -0.3
comp=Z,96nm,0.6s
BRVK Borovoye 47.94 317 P 01 05 56.2 -0.5
BRVK Borovoye 47.94 317 P P 01 05 56.5 -0.2
BRVK P P 01 05 56.5 -0.2
BRVK Borovoye 47.94 317 *i* P **P 01 05 55.6 -1.1**
BRVK pmax pmax
comp=Z,346nm,1.3s
BRVK Borovoye 47.94 317 ⇓P P 01 05 56.1 -0.6
IUG Iuzhnay 47.96 302 *eP* **P 01 05 57.5 +0.3**
IUG pmax pmax
comp=Z,159nm,1.7s
BRLS Borolday 48.04 303 *eP* **P 01 05 58.1 +0.4**
TATA Tatamba Isabel 48.41 136 P P 01 06 02.1 +1.3
SIMJ Simiganj 49.11 297 P P 01 06 05.7 -0.3
SIMJ sP **PcP** 01 07 26.4 +0.9
MALK Mahakanadarawa 49.23 255 P P 01 06 07.6 +0.6
ALEG Aligegeo Malai 49.24 135 P P 01 06 08.0 +0.9
WRAB Tennant Creek 49.44 172 P P 01 06 08.6 +0.1
WRAB Tennant Creek 49.44 172 *i* P **P 01 06 08.0 -0.5**
WRAB pmax pmax
comp=Z,221nm,0.8s
WRA Warramunga Arr 49.45 172 P P 01 06 07.5 -1.0
WRA Warramunga Arr 49.45 172 P P 01 06 07.5 -1.0
comp=Z,136nm,0.7s,baz=353,slow=8.1,SNR=294
WRA pP **pP** 01 07 02.4 +0.2
comp=Z,22nm,0.8s,baz=349,slow=8.1,SNR=1.9
WRA PcP **PcP** 01 07 25.4 -1.3
comp=Z,35nm,0.7s,baz=344,slow=3.9,SNR=6.4
WRA S **S** 01 12 54.3 -1.9
comp=Z,6.8nm,0.9s,baz=349,slow=14,SNR=8.2
WRA PKPPKP **P'P'df** 01 36 55.0 -4.2
comp=Z,2.4nm,1.1s,baz=138,slow=1.9,SNR=4.9
WRA P4KPbc 01 43 41.4
comp=Z,2.9nm,0.6s,baz=352,slow=5.1,SNR=18
comp=Z,136nm,0.7s
WRA Warramunga Arr 49.45 172 *i* P **P 01 06 07.5 -1.0**
WRA pmax pmax
comp=Z,147nm,0.7s
WB2 Warramunga Arr 49.45 172 P P 01 06 08.3 -0.2
WR0 Warramunga Arr 49.49 172 P P 01 06 08.9 +0.1
SALM Salem 49.59 260 *eP* **P 01 06 10.2 +0.4**
SALM IAmb IAmb 01 06 15.2
comp=Z,122nm,0.8s
PALK Pallekele 49.69 253 P P 01 06 10.6 0.0
PALK Pallekele 49.69 253 P P 01 06 10.6 0.0
PALK pmax pmax
comp=Z,133nm,1.3s
PALK Pallekele 49.69 253 P P 01 06 11.9 +1.4
PALK S **S** 01 12 59.9 0.0
KBL Kabul 49.77 292 P P 01 06 11.4 +0.2
SNR=179
KBL P **P 01 06 11.4 +0.2**
SNR=179
MTSU Mount Surprise 49.80 160 P P 01 06 11.8 +0.6
comp=Z,216nm,1.1s
POO Poona 50.38 270 *eP* **P 01 06 15.6 -0.1**
SPIA Saint Paul Isl 50.52 38 P 01 06 17.4 +1.3
SPIA IAmb IAmb 01 06 19.1
comp=Z,527nm,1.3s
SPIA Saint Paul Isl 50.52 38 P P 01 06 16.9 +0.7
baz=264,SNR=38
SPIA S **S** 01 13 11.7 +1.5
baz=264
KAD Karad 50.58 269 *eP* **P 01 06 17.2 0.0**
KAD IAmb IAmb 01 06 19.4
comp=Z,171nm,0.4s
P08K Saint George I 50.85 39 P P 01 06 19.3 +0.7
P08K IAmb IAmb 01 06 21.4
comp=Z,374nm,1.0s
P08K Saint George I 50.85 39 P P 01 06 19.0 +0.5
baz=265,SNR=32
P08K S **S** 01 13 15.9 +1.2
baz=265
GAMB Gambell 50.90 30 P 01 06 19.1 +0.3
GAMB Gambell 50.90 30 P P 01 06 19.6 +0.8
baz=257,SNR=17
GAMB S **S** 01 13 16.9 +1.8
baz=257
KOD Kodaikanal 50.91 259 *eP* **P 01 06 19.7 -0.3**
KOD IAmb IAmb 01 06 32.9
comp=Z,136nm,0.9s
QIS Mount Isa 50.91 166 P P 01 06 18.8 -0.7
comp=Z,0.0nmcomp=Z,319nm,1.2s
QIS Mount Isa 50.91 166 P P 01 06 18.7 -0.8
MBWA Marble Bar 50.94 190 P 01 06 19.9 +0.3
MBWA IAmb IAmb 01 06 22.0
comp=Z,410nm,1.0s
MBWA Marble Bar 50.94 190 P P 01 06 20.0 +0.3
comp=Z,447nm,1.3s
MBWA Marble Bar 50.94 190 P P 01 06 20.0 +0.3
MBWA P P 01 06 20.0 +0.3
MBWA Marble Bar 50.94 190 P P 01 06 19.9 +0.3
MBWA Marble Bar 50.94 190 ⇑P P 01 06 19.9 +0.3
MBWA Marble Bar 50.94 190 P P 01 06 19.7 0.0
MBWA Marble Bar 50.94 190 P P 01 06 19.9 +0.3
MBWA S **S** 01 13 17.2 +0.5
NIKH Nikolski High 51.05 44 IAmb IAmb 01 07 33.7
comp=Z,508nm,1.2s
NIKH Nikolski High 51.05 44 P P 01 06 18.8 -1.3
NIKH Nikolski High 51.05 44 P P 01 06 19.4 -0.7
baz=268,SNR=11
NIKH S **S** 01 13 14.5 -3.0
baz=268
NGOA Tingoa Renbel 51.08 138 P P 01 06 22.1 +1.3
COCO West Island 51.22 221 P P 01 06 21.5 -0.3
COCO IAmb IAmb 01 06 26.0
comp=Z,635nm,1.6s
COCO West Island 51.22 221 P P 01 06 21.5 -0.3
COCO pmax pmax
comp=Z,635nm,1.6s
CTAO Charters Tower 52.24 158 P 01 06 29.1 -0.2
CTAO IAmb IAmb 01 06 31.9
comp=Z,306nm,0.8s
CTAO Charters Tower 52.24 158 P P 01 06 29.6 +0.3
CTAO Charters Tower 52.24 158 P P 01 06 29.1 -0.2
CTAO pmax pmax
comp=Z,306nm,0.9s
CTAO Charters Tower 52.24 158 ⇑P P 01 06 29.4 +0.1
CTAO Charters Tower 52.24 158 P P 01 06 29.2 0.0
UNV Unalaska Valle 52.47 43 P P 01 06 29.9 -0.7
baz=270,SNR=13
UNV S **S** 01 13 33.9 -2.9
baz=270
TNA Tin City 52.85 28 IAmb IAmb 01 06 36.2
comp=Z,436nm,1.1s
TNA Tin City 52.85 28 P P 01 06 34.1 +1.0
baz=259,SNR=29
TNA S **S** 01 13 43.2 +1.6
baz=259
AKUT Akutan 52.90 42 P P 01 06 33.3 -0.3
AKUT Akutan 52.90 42 P P 01 06 33.9 +0.2
M11K Mekoryuk 52.93 35 P P 01 06 35.2 +1.4
M11K IAmb IAmb 01 06 37.5
comp=Z,598nm,0.8s
M11K Mekoryuk 52.93 35 P P 01 06 35.1 +1.3
baz=265,SNR=86
M11K S **S** 01 13 47.1 +4.2
baz=265
AS31 Alice Springs 53.08 173 P P 01 06 35.5 +0.2
comp=Z,99nm,0.6s
ASAR Alice Springs 53.08 173 P P 01 06 35.0 -0.4
ASAR Alice Springs 53.08 173 P P 01 06 34.8 -0.6
comp=Z,167nm,0.7s,baz=3.1,slow=8.5,SNR=326
ASAR PcP **PcP** 01 07 40.0 -0.2
comp=Z,46nm,0.7s,baz=0.6,slow=5.6,SNR=6.5
ASAR S **S** 01 13 45.9 +0.1
comp=Z,8.6nm,1.1s,baz=12,slow=20,SNR=7.4
ASAR PKPPKP **P'P'df** 01 36 54.1 -0.1
comp=Z,2.8nm,0.8s,baz=166,slow=2.5,SNR=6.0
ASAR P4KPbc 01 43 57.2
comp=Z,3.9nm,0.7s,baz=355,slow=4.6,SNR=27
comp=Z,167nm,0.7s
AS01 Alice Springs 53.08 173 P P 01 06 34.5 -0.9
F14K Arctic Creek 53.49 28 P P 01 06 39.0 +1.1
baz=261,SNR=201
F14K S **S** 01 13 53.0 +2.7
baz=261
SVE Sverdlovsk 53.71 321*ceP* **P 01 06 39.1 -0.4**
SVE *e* 01 07 36.3
SVE *ePPP PPP 01 10 10.1
SVE *eS* **S 01 13 53.9 +0.5**
SVE pmax pmax
comp=Z,130nm,1.4s
ANM Nome 53.76 29 IAmb IAmb 01 06 43.2
comp=Z,422nm,0.8s
ANM Nome 53.76 29 P P 01 06 41.0 +1.2
baz=263,SNR=80
ANM S **S** 01 13 57.2 +3.2
baz=263
K13K Kusilvak Mount 53.81 33 IAmb IAmb 01 06 43.5
comp=Z,1μm,1.9s
K13K Kusilvak Mount 53.81 33 P P 01 06 41.2 +1.0
baz=265,SNR=159
K13K S **S** 01 13 56.8 +2.1
baz=265
LUES Luesalemba Tem 54.00 132 P P 01 06 43.9 +1.8
F15K North Star Dit 54.21 28 P P 01 06 43.8 +0.7
F15K IAmb IAmb 01 06 46.3
comp=Z,313nm,0.8s
F15K North Star Dit 54.21 28 P P 01 06 44.0 +1.0
baz=262,SNR=202
F15K S **S** 01 14 03.3 +3.3
baz=262
C16K Lisburne Hills 54.33 25 IAmb IAmb 01 06 46.3
comp=Z,269nm,0.9s
C16K Lisburne Hills 54.33 25 P P 01 06 44.1 +0.2
baz=260,SNR=38
C16K S **S** 01 14 02.1 +0.6
baz=260
M13K Dall Lake 54.34 35 IAmb IAmb 01 06 47.8
comp=Z,583nm,1.0s
M13K Dall Lake 54.34 35 P P 01 06 45.1 +1.1
baz=268,SNR=78
M13K S **S** 01 14 06.2 +4.4
baz=268
G15K Niukluk 54.38 29 P P 01 06 45.2 +1.0
baz=264,SNR=206
G15K S **S** 01 14 05.0 +2.8
baz=264
J14K Nanvaranak Lak 54.39 32 IAmb IAmb 01 06 47.5
comp=Z,570nm,1.4s
J14K Nanvaranak Lak 54.39 32 P P 01 06 45.2 +0.9
baz=266,SNR=108
J14K S **S** 01 14 05.0 +2.7
baz=266
AB31 Akbulak array 54.43 312 *i* P **P 01 06 43.8 -1.1**
ABKAR Akbulak array 54.43 312 P P 01 06 43.9 -0.9
L14K Kuka Creek 54.71 34 P P 01 06 47.8 +1.1
baz=267
L14K S **S** 01 14 09.9 +3.2
baz=267
ARTI Arti 54.95 320 P P 01 06 47.8 -0.7
ARTI Arti 54.95 320*di* P **P 01 06 47.0 -1.5**
ARTI *PP **pP** 01 07 43.7 +0.2
ARTI 01 07 48.6
ARTI S **S** 01 14 09.8 -0.3
ARTI *SS **sS** 01 15 45.1 -1.5
ARTI 01 16 04.7
ARTI pmax pmax
comp=Z,123nm,1.5s
ARTI Arti 54.95 320 P P 01 06 46.9 -1.5
ARTI pP **pP** 01 07 40.9 -2.6
ARTI sP **sP** 01 08 09.5 -1.8
S12K Black Hills 55.01 40 P P 01 06 47.7 -1.2
S12K Black Hills 55.01 40 P P 01 06 48.7 -0.3
baz=272,SNR=22
S12K S **S** 01 14 09.6 -1.3
baz=272
M14K Bethel 55.04 34 P P 01 06 49.5 +0.5
M14K IAmb IAmb 01 06 52.3
comp=Z,457nm,0.9s
M14K Bethel 55.04 34 P P 01 06 49.9 +0.9
baz=268,SNR=102
M14K S **S** 01 14 14.5 +3.4
baz=268
D17K Noatak River 55.09 26 P P 01 06 49.9 +0.6
baz=263,SNR=125
D17K S **S** 01 14 14.7 +3.1
baz=263
H16K Elim 55.12 29 P P 01 06 50.2 +0.7
baz=266,SNR=112
H16K S **S** 01 14 15.6 +3.6
baz=266
G16K Koyuk River 55.13 29 P P 01 06 50.2 +0.7
baz=265,SNR=114
G16K S **S** 01 14 15.7 +3.6
baz=265
C17K DeLong Mountai 55.16 25 P P 01 06 50.2 +0.4
baz=262,SNR=37
C17K S **S** 01 14 15.9 +3.4
baz=262
N14K Kuskokwak Cree 55.16 35 IAmb IAmb 01 06 53.2
comp=Z,582nm,1.2s
N14K Kuskokwak Cree 55.16 35 P P 01 06 50.7 +0.9
baz=269,SNR=83
N14K S **S** 01 14 15.4 +2.7
baz=269
RDOG Red Dog Mine 55.20 25 P P 01 06 50.5 +0.4
baz=262,SNR=36
RDOG S **S** 01 14 14.4 +1.3
baz=262
K15K Wolf Creek Mou 55.30 32 IAmb IAmb 01 06 54.4
comp=Z,229nm,0.8s
K15K Wolf Creek Mou 55.30 32 P P 01 06 51.8 +0.9
baz=268,SNR=171
K15K S **S** 01 14 17.9 +3.4
baz=268
L15K Ungalak Mounta 55.30 33 P P 01 06 51.4 +0.5
baz=268,SNR=73
L15K S **S** 01 14 16.8 +2.4
baz=268
O14K Tigyukauivet M 55.38 36 P P 01 06 52.3 +0.9
O14K Tigyukauivet M 55.38 36 P P 01 06 52.0 +0.6
baz=270,SNR=51
O14K S **S** 01 14 17.6 +2.1
baz=270
E17K Hotham Inlet 55.50 27 P P 01 06 52.9 +0.7
baz=264,SNR=102
E17K S **S** 01 14 19.1 +2.1
baz=264
M15K Kasigluk River 55.67 34 P P 01 06 54.0 +0.6
baz=270,SNR=201
M15K S **S** 01 14 21.0 +1.6
baz=270
F17K Baldwin Pennin 55.67 27 IAmb IAmb 01 06 56.7
comp=Z,388nm,0.8s
F17K Baldwin Pennin 55.67 27 P P 01 06 54.4 +1.0
baz=265,SNR=58
F17K S **S** 01 14 22.8 +3.6
baz=265
I17K Unalakleet 55.74 30 IAmb IAmb 01 06 57.5

comp=Z,441nm,0.9s
I17K Unalakleet 55.74 30 P **P 01 06 55.2 +1.3**
baz=267,SNR=133
I17K S **S 01 14 23.1 +2.8**
baz=267
J16K Anvik River 55.76 31 P **P 01 06 55.1 +1.0**
baz=268,SNR=120
J16K S **S 01 14 23.4 +2.9**
baz=268
B18K Kokolik River 55.77 24 P **P 01 06 55.1 +1.0**
baz=263,SNR=96
B18K S **S 01 14 21.3 +0.8**
baz=263
G17K Kiwalik Mounta 55.85 28 P **P 01 06 55.6 +0.9**
baz=266,SNR=379
G17K S **S 01 14 24.1 +2.4**
baz=266
C18K Utukok River 55.90 25 P **P 01 06 55.0 -0.2**
C18K IAmb IAmb 01 06 57.7
comp=Z,437nm,1.1s
C18K Utukok River 55.90 25 P **P 01 06 55.4 +0.2**
baz=264,SNR=154
C18K S **S 01 14 22.0 -0.5**
baz=264
SDPT Sand Point 55.93 41 IAmb IAmb 01 06 56.1
comp=Z,272nm,0.6s
SDPT Sand Point 55.93 41 P **P 01 06 54.7 -0.7**
SDPT Sand Point 55.93 41 P **P 01 06 54.4 -1.0**
baz=273,SNR=25
SDPT S **S 01 14 20.7 -2.2**
baz=273
N15K Kwethluk River 55.96 35 IAmb IAmb 01 06 58.8
comp=Z,393nm,0.8s
N15K Kwethluk River 55.96 35 P **P 01 06 56.4 +0.8**
baz=270,SNR=237
N15K S **S 01 14 24.6 +1.2**
baz=270
E18K Tukpahlearik C 56.01 26 IAmb IAmb 01 06 59.0
comp=Z,1µm,1.9s
E18K Tukpahlearik C 56.01 26 P **P 01 06 56.6 +0.8**
baz=265,SNR=154
E18K S **S 01 14 23.9 +0.3**
baz=265
O15K Ungalikthiuk R 56.12 36 P **P 01 06 57.3 +0.6**
O15K IAmb IAmb 01 06 59.7
comp=Z,368nm,1.0s
O15K Ungalikthiuk R 56.12 36 P **P 01 06 57.3 +0.6**
baz=271,SNR=103
O15K S **S 01 14 26.2 +0.8**
baz=271
H17K Granite Mounta 56.13 29 IAmb IAmb 01 07 00.1
comp=Z,458nm,1.1s
H17K Granite Mounta 56.13 29 P **P 01 06 57.5 +0.8**
baz=267,SNR=201
H17K S **S 01 14 27.3 +2.0**
baz=267
A19K Wainwright 56.13 23 P **P 01 06 57.4 +0.8**
baz=263,SNR=32
A19K S **S 01 14 26.6 +1.5**
baz=263
L16K Owhat River 56.26 33 P **P 01 06 58.7 +1.1**
L16K IAmb IAmb 01 07 00.7
comp=Z,276nm,0.9s
L16K Owhat River 56.26 33 P **P 01 06 58.0 +0.4**
baz=270,SNR=218
L16K S **S 01 14 29.5 +2.4**
baz=270
F18K Selawik 56.32 27 P **P 01 06 58.8 +0.9**
baz=267,SNR=346
F18K S **S 01 14 30.0 +2.2**
baz=267
S14K Fog Glacier 56.39 40 P **P 01 06 58.7 -0.1**
baz=274,SNR=14
S14K S **S 01 14 27.8 -1.4**
baz=274
J17K VABM Dome 56.45 31 P **P 01 06 59.8 +0.8**
J17K VABM Dome 56.45 31 P **P 01 06 60.0 +1.0**
baz=269,SNR=506
J17K S **S 01 14 31.9 +2.3**
baz=269
CHNA Chernabura Isl 56.47 41 P **P 01 06 58.7 -0.6**
CHNA Chernabura Isl 56.47 41 P **P 01 06 59.5 +0.3**
baz=274,SNR=62
CHNA S **S 01 14 30.4 +0.3**
baz=274
MEEK Meekatharra 56.49 190 P **P 01 06 59.6 0.0**
comp=Z,215nm,1.3s
MEEK Meekatharra 56.49 190 P **P 01 06 59.7 0.0**
M16K Timber Creek 56.51 34 P **P 01 07 00.2 +0.8**
M16K IAmb IAmb 01 07 02.6
comp=Z,319nm,0.9s
M16K Timber Creek 56.51 34 P **P 01 07 00.2 +0.8**
baz=271,SNR=216
M16K S **S 01 14 33.3 +2.8**
baz=271
C19K Lookout Ridge 56.53 24 IAmb IAmb 01 07 02.6
comp=Z,266nm,0.9s
C19K Lookout Ridge 56.53 24 P **P 01 07 00.2 +0.6**
baz=265,SNR=140
C19K S **S 01 14 30.7 +0.1**
baz=265
N16K Nishlik Lake 56.62 35 P **P 01 07 01.1 +0.8**
baz=271,SNR=195
N16K S **S 01 14 34.8 +2.9**
baz=271
G18K Tagagawik 56.69 28 P **P 01 07 00.9 +0.3**
G18K Tagagawik 56.69 28 P **P 01 07 01.1 +0.5**
baz=268,SNR=461
G18K S **S 01 14 34.6 +1.9**
baz=268
H18K Honhosa River 56.79 29 P **P 01 07 02.1 +0.7**
H18K IAmb IAmb 01 07 04.4
comp=Z,362nm,0.9s
H18K Honhosa River 56.79 29 P **P 01 07 01.8 +0.4**
baz=269,SNR=340
H18K S **S 01 14 36.6 +2.5**
baz=269
K17K Iditarod 56.80 32 P **P 01 07 02.5 +1.0**
baz=270,SNR=177
K17K S **S 01 14 35.6 +1.4**
baz=270
L17K Donlin 56.81 33 P **P 01 07 02.8 +1.3**
baz=271,SNR=485
L17K S **S 01 14 36.2 +1.8**
baz=271
O16K Kokwok River B 56.99 36 P **P 01 07 03.7 +0.9**
O16K IAmb IAmb 01 07 05.9
comp=Z,352nm,0.9s
O16K Kokwok River B 56.99 36 P **P 01 07 03.5 +0.7**
baz=273,SNR=155
O16K S **S 01 14 38.7 +2.0**
baz=273
D19K Kuna River 57.02 25 P **P 01 07 03.5 +0.5**
D19K Kuna River 57.02 25 P **P 01 07 03.4 +0.5**
baz=267,SNR=518
D19K S **S 01 14 36.9 -0.1**
baz=267
CHGN Chignik 57.02 40 P **P 01 07 02.7 -0.4**
baz=274,SNR=78
CHGN S **S 01 14 35.8 -1.4**
baz=274
P16K Nushagak River 57.07 36 P **P 01 07 04.1 +0.8**
baz=273
P16K S **S 01 14 39.5 +1.7**
baz=273
F19K Shaleruckik Mo 57.08 27 P **P 01 07 03.9 +0.6**
F19K IAmb IAmb 01 07 06.0
comp=Z,784nm,1.6s
F19K Shaleruckik Mo 57.08 27 P **P 01 07 03.6 +0.3**
baz=268,SNR=316
F19K S **S 01 14 38.8 +1.2**
baz=268
M17K Holitna River 57.24 33 P **P 01 07 05.7 +1.1**
baz=272,SNR=455
M17K S **S 01 14 42.5 +2.5**
baz=272
E19K Redstone River 57.31 26 IAmb IAmb 01 07 07.9
comp=Z,399nm,0.9s
E19K Redstone River 57.31 26 P **P 01 07 05.3 +0.4**
baz=268,SNR=394
E19K S **S 01 14 41.2 +0.5**
baz=268
G19K Purcell Mounta 57.34 28 IAmb IAmb 01 07 08.0
comp=Z,416nm,1.2s
G19K Purcell Mounta 57.34 28 P **P 01 07 05.5 +0.3**
baz=269,SNR=177
G19K S **S 01 14 41.9 +0.8**
baz=269
N17K Nushagak Hills 57.40 34 IAmb IAmb 01 07 09.3
comp=Z,464nm,1.0s
N17K Nushagak Hills 57.40 34 P **P 01 07 06.7 +1.0**
baz=273,SNR=284
N17K S **S 01 14 43.8 +1.8**
baz=273
GCSA Galena City Sc 57.42 29 P **P 01 07 06.3 +0.6**
baz=270,SNR=8.2
GCSA S **S 01 14 42.7 +0.6**
baz=270
B20K Meade River 57.44 23 P **P 01 07 06.2 +0.4**
B20K IAmb IAmb 01 07 08.6
comp=Z,261nm,0.8s
B20K Meade River 57.44 23 P **P 01 07 06.2 +0.4**
baz=267,SNR=70
B20K S **S 01 14 41.9 -0.4**
baz=267
O17K Koliganek Bris 57.48 35 P **P 01 07 06.8 +0.6**
baz=273
O17K S **S 01 14 44.7 +1.5**
baz=273
J18K Innoko River 57.51 31 IAmb IAmb 01 07 09.4
comp=Z,240nm,1.1s
J18K Innoko River 57.51 31 P **P 01 07 06.8 +0.4**
baz=271,SNR=285
J18K S **S 01 14 44.9 +1.4**
baz=271
L18K Granite Mounta 57.56 32 IAmb IAmb 01 07 10.4
comp=Z,362nm,0.8s
L18K Granite Mounta 57.56 32 P **P 01 07 07.8 +1.0**
baz=272,SNR=417
L18K S **S 01 14 46.5 +2.4**
baz=272
D20K Etivluk River 57.58 25 IAmb IAmb 01 07 09.7
comp=Z,385nm,0.8s
D20K Etivluk River 57.58 25 P **P 01 07 07.4 +0.5**
baz=268,SNR=619
D20K S **S 01 14 44.6 +0.4**
baz=268
H19K Roundabout Mou 57.60 29 P **P 01 07 07.7 +0.8**
baz=270,SNR=1000
H19K S **S 01 14 47.3 +2.8**
baz=270
A21K Barrow 57.70 22 P **P 01 07 08.8 +1.2**
baz=266,SNR=19
A21K S **S 01 14 45.3 -0.4**
baz=266
E20K Nigu River 57.72 25 P **P 01 07 08.4 +0.5**
baz=269,SNR=747
E20K S **S 01 14 46.9 +0.7**
baz=269
Q16K King Salmon 57.78 37 P **P 01 07 08.9 +0.6**
baz=274,SNR=51
Q16K S **S 01 14 49.6 +2.5**
baz=274
QLP Quilpie 57.79 163 P **P 01 07 09.4 +0.6**
P17K Kvichak River 57.86 36 P **P 01 07 09.6 +0.8**
baz=274,SNR=187
P17K S **S 01 14 50.3 +2.3**
baz=274
F20K Avaraart Lake 57.89 27 IAmb IAmb 01 07 12.9
comp=Z,250nm,1.0s
F20K Avaraart Lake 57.89 27 P **P 01 07 09.4 +0.5**
baz=270,SNR=305
F20K S **S 01 14 49.1 +0.9**
baz=270
J19K Poorman 57.98 30 P **P 01 07 10.5 +0.8**
baz=272,SNR=811
J19K S **S 01 14 51.5 +1.9**
baz=272
M18K Stony River 58.01 33 P **P 01 07 10.9 +1.0**
baz=273,SNR=239
M18K S **S 01 14 52.9 +3.0**
baz=273
N18K Kilae Creek 58.03 34 IAmb IAmb 01 07 14.5
comp=Z,219nm,0.8s
N18K Kilae Creek 58.03 34 P **P 01 07 11.0 +1.0**
baz=274,SNR=222
N18K S **S 01 14 53.8 +3.5**
baz=274
R17L Mt. Peulik Vol 58.03 38 P **P 01 07 10.4 +0.3**
baz=275,SNR=41
R17L S **S 01 14 50.7 +0.3**
baz=275
JOHN Johnston Islan 58.14 88 P **P 01 07 11.7 +0.2**
JOHN IAmb IAmb 01 07 13.9
comp=Z,293nm,0.8s
A22K Sinclair Lake 58.22 22 P **P 01 07 11.6 +0.4**
baz=268
A22K S **S 01 14 52.4 0.0**
baz=268
Q17K Contact Creek 58.22 37 P **P 01 07 11.6 +0.1**
baz=275,SNR=50
Q17K S **S 01 14 52.8 -0.2**
baz=275
C21K Knifeblade Rid 58.25 24 P **P 01 07 12.3 +0.9**
baz=270,SNR=331
C21K S **S 01 14 53.4 +0.5**
baz=270
H20K Anotleneega Mo 58.25 29 P **P 01 07 12.2 +0.7**
baz=272,SNR=602
H20K S **S 01 14 55.9 +2.9**
baz=272
B21K Ikpikpuk River 58.31 24 P **P 01 07 13.1 +1.3**
B21K IAmb IAmb 01 07 14.9
comp=Z,458nm,0.9s
B21K Ikpikpuk River 58.31 24 P **P 01 07 12.7 +0.9**
baz=269,SNR=84
B21K S **S 01 14 53.8 +0.2**
baz=269
L19K White Mountain 58.42 32 IAmb IAmb 01 07 16.2
comp=Z,422nm,0.9s
L19K White Mountain 58.42 32 P **P 01 07 13.7 +0.9**
baz=274,SNR=409
L19K S **S 01 14 57.8 +2.5**
baz=274
O18K Koktuh Hills 58.43 35 P **P 01 07 13.9 +1.1**
baz=275,SNR=202
O18K S **S 01 14 59.1 +3.6**
baz=275
I20K Naaghedeneel 58.45 29 P **P 01 07 14.9 +2.1**
I20K Naaghedeneel 58.45 29 P **P 01 07 14.1 +1.3**
baz=272
I20K S **S 01 15 00.1 +4.6**
baz=272
P18K Big Mountain, 58.46 36 P **P 01 07 13.7 +0.7**
baz=275,SNR=122
P18K S **S 01 14 58.1 +2.1**
baz=275
ACHA Angle Creek He 58.52 37 IAmb IAmb 01 07 15.2
comp=Z,170nm,0.6s
E21K Killik River 58.55 25 P **P 01 07 13.9 +0.4**
baz=271
E21K S **S 01 14 56.4 -0.4**
baz=271
J20K Nowinta River 58.62 30 P **P 01 07 15.2 +1.2**
baz=273,SNR=909
J20K S **S 01 15 01.3 +3.5**
baz=273
CHIR Chirikof Islan 58.63 40 P **P 01 07 14.9 +0.7**
CHIR Chirikof Islan 58.63 40 P **P 01 07 14.8 +0.6**
baz=277,SNR=35
CHIR S **S 01 14 59.2 +1.1**
baz=277
Q18K Katmai Hardscr 58.64 37 P **P 01 07 14.7 +0.3**
baz=276,SNR=126
Q18K S **S 01 14 57.8 -0.7**
baz=276
M19K Big River Lodg 58.66 33 P **P 01 07 15.6 +1.2**
baz=274
M19K S **S 01 15 02.0 +3.6**
baz=274
IMAR Indian Mountai 58.70 28 P **P 01 07 14.9 +0.4**
K20K Telida 58.70 31 P **P 01 07 15.8 +1.1**
baz=274,SNR=794
K20K S **S 01 15 02.6 +3.6**
baz=274
N19K Bonanza Creek 58.70 34 IAmb IAmb 01 07 18.1
comp=Z,211nm,0.8s
N19K Bonanza Creek 58.70 34 P **P 01 07 15.7 +0.9**
baz=275,SNR=158
N19K S **S 01 15 01.8 +2.6**
baz=275
B22K Teshekpuk Lake 58.73 23 IAmb IAmb 01 07 17.4
comp=Z,354nm,0.7s
B22K Teshekpuk Lake 58.73 23 P **P 01 07 15.4 +0.7**
baz=270,SNR=24
B22K S **S 01 14 58.7 -0.2**
baz=270
F21K Alatna River 58.76 26 IAmb IAmb 01 07 17.8
comp=Z,232nm,0.9s
F21K Alatna River 58.76 26 P **P 01 07 15.4 +0.4**
baz=272,SNR=346
F21K S **S 01 15 01.2 +1.6**
baz=272
EIDS Eidsvold 58.77 156 P **P 01 07 16.1 +0.6**
G21K Allakaket 58.78 27 P **P 01 07 16.1 +0.9**
baz=272,SNR=853
G21K S **S 01 15 02.3 +2.6**
baz=272
O19K Port Alsworth 58.84 35 P **P 01 07 16.6 +1.0**
baz=275,SNR=94
O19K S **S 01 15 03.8 +3.1**
baz=275
L20K Farewell, AK 58.85 32 P **P 01 07 16.9 +1.1**
baz=274,SNR=458
L20K S **S 01 15 04.9 +4.0**
baz=274
NGCH Negor - Chabah 58.89 283 P **P 01 07 19.1 +2.6**
D22K Ayikyak River 59.01 25 P **P 01 07 17.3 +0.7**
baz=272,SNR=403
D22K S **S 01 15 02.4 -0.3**
baz=272
R18K Karluk 59.06 38 P **P 01 07 17.1 0.0**
baz=277
R18K S **S 01 15 01.9 -1.6**
baz=277
H21K Melozitna River 59.11 28 P **P 01 07 18.4 +1.0**
baz=273,SNR=796
H21K S **S 01 15 06.4 +2.3**
baz=273
M20K Styx River 59.26 33 IAmb IAmb 01 07 23.6
comp=Z,309nm,0.7s
M20K Styx River 59.26 33 P **P 01 07 19.9 +1.3**
baz=275,SNR=534
M20K S **S 01 15 10.7 +4.5**
baz=275
MORW Morawa 59.30 192 IAmb IAmb 01 07 21.4
comp=Z,216nm,0.9s
MORW Morawa 59.30 192 P **P 01 07 19.4 +0.3**
Q19K Cape Douglas, 59.32 36 P **P 01 07 18.9 -0.1**
baz=277,SNR=73
Q19K S **S 01 15 04.7 -2.3**
baz=277
SII Sitkinak Islan 59.33 39 P **P 01 07 19.9 +0.8**
SII Sitkinak Islan 59.33 39 P **P 01 07 19.5 +0.4**
baz=278,SNR=75
SII S **S 01 15 07.8 +0.7**
baz=278
E22K Anaktuvuk Pass 59.36 25 P **P 01 07 19.9 +0.8**
baz=273,SNR=755
E22K S **S 01 15 08.1 +0.9**
baz=273
P19K Oil Pt 59.44 35 P **P 01 07 20.4 +0.6**
baz=277,SNR=76
P19K S **S 01 15 07.9 -0.7**
baz=277
CHUM Lake Minchumin 59.45 30 P **P 01 07 20.7 +1.0**
baz=275,SNR=228
I21K Tanana 59.48 29 P **P 01 07 21.2 +1.2**
baz=274,SNR=334
I21K S **S 01 15 11.2 +2.5**
baz=274
G22K Bettles 59.55 27 P **P 01 07 20.9 +0.5**
baz=274
G22K S **S 01 15 11.2 +1.6**
baz=274
CAST Castle Rocks 59.59 31 P **P 01 07 21.8 +1.1**
baz=275,SNR=1000
CAST S **S 01 15 13.2 +2.9**
baz=275
PPLA Purkeypile 59.59 31 P **P 01 07 21.8 +0.9**
baz=276,SNR=343
PPLA S **S 01 15 13.8 +3.2**
baz=276
KIRV Kirov 59.61 323 *i* P **P 01 07 18.7 -2.2**
H22K Ishtalitna Cre 59.68 28 P **P 01 07 22.7 +1.4**
baz=275,SNR=966
H22K S **S 01 15 14.6 +3.3**
baz=275
O20K Slope Mountain 59.70 35 P **P 01 07 21.6 0.0**
baz=277
O20K S **S 01 15 11.6 -0.2**
baz=277
C23K Itkillik River 59.70 23 P **P 01 07 21.8 +0.4**
baz=273,SNR=119
C23K S **S 01 15 11.5 0.0**
baz=273
OHAK Old Harbor 59.73 38 IAmb IAmb 01 07 24.0
comp=Z,484nm,1.2s
OHAK Old Harbor 59.73 38 P **P 01 07 21.6 -0.1**
OHAK Old Harbor 59.73 38 P **P 01 07 21.7 0.0**
baz=278,SNR=201
OHAK S **S 01 15 12.6 +0.5**
baz=278
D23K Nanushuk River 59.73 24 P **P 01 07 22.6 +1.0**
baz=273,SNR=556
D23K S **S 01 15 13.9 +2.1**
baz=273
N20K Mount Spurr 59.77 33 P **P 01 07 22.8 +0.8**
baz=277
N20K S **S 01 15 14.7 +2.0**
baz=277
SPCR Spurr Chakacha 59.77 33 P **P 01 07 22.8 +0.8**
baz=277
SPCR S **S 01 15 15.2 +2.5**
baz=277
SPU Mount Spurr 59.84 33 IAmb IAmb 01 07 25.5
comp=Z,468nm,1.0s
STLK Strandline Lak 59.91 33 IAmb IAmb 01 07 25.6
comp=Z,243nm,0.8s
SKT Skwentna 60.00 33 IAmb IAmb 01 07 25.9
comp=Z,365nm,1.0s
SKT Skwentna 60.00 33 P **P 01 07 23.5 0.0**
baz=277,SNR=365
SKT S **S 01 15 17.5 +2.0**
baz=277
Q20K Shuyak Island 60.01 36 P **P 01 07 24.5 +0.9**
baz=278,SNR=79
Q20K S **S 01 15 14.2 -1.4**
baz=278
BPAW Bear Paw Mtn. 60.01 30 IAmb IAmb 01 07 26.8
comp=Z,281nm,0.7s
BPAW Bear Paw Mtn. 60.01 30 P **P 01 07 24.5 +0.9**
baz=276,SNR=507
BPAW S **S 01 15 17.6 +2.0**
baz=276
MLY Manley 60.02 29 P **P 01 07 24.5 +0.8**
baz=276,SNR=790
MLY S **S 01 15 18.7 +2.9**
baz=276
KDAK Kodiak Island 60.02 37 P **P 01 07 23.8 +0.1**
KDAK Kodiak Island 60.02 37 *i* P **P 01 07 23.1 -0.6**
KDAK pmax pmax
comp=Z,679nm,0.9s
KDAK Kodiak Island 60.02 37 P **P 01 07 24.2 +0.5**
baz=278
KDAK S **S 01 15 16.4 +0.5**
baz=278
KDAK Kodiak Island 60.02 37 P **P 01 07 23.6 -0.1**
KDAK PcP **PcP 01 08 06.8 -0.2**
COLD Coldfoot 60.03 26 IAmb IAmb 01 07 27.8
comp=Z,178nm,0.9s
COLD Coldfoot 60.03 26 P **P 01 07 24.7 +1.0**
baz=275,SNR=151
COLD S **S 01 15 17.0 +1.2**
baz=275
KTH Kantishna Hill 60.10 31 P **P 01 07 25.2 +1.0**
G23K Bananza Creek 60.15 27 IAmb IAmb 01 07 27.8
comp=Z,400nm,1.1s
G23K Bananza Creek 60.15 27 P **P 01 07 25.4 +0.9**
baz=275,SNR=431
G23K S **S 01 15 19.6 +2.2**
baz=275
TOLK Toolik Lake Re 60.15 25 IAmb IAmb 01 07 27.6
comp=Z,383nm,1.0s
TOLK Toolik Lake Re 60.15 25 P **P 01 07 25.2 +0.7**
baz=275,SNR=319
TOLK S **S 01 15 18.1 +0.7**
baz=275
E23K Chandalar 60.19 25 P **P 01 07 25.6 +0.8**
baz=275,SNR=508
E23K S **S 01 15 19.8 +2.0**
baz=275
HOM Homer 60.24 35 P **P 01 07 25.8 +0.6**
baz=278

HOM S **S** **01 15 18.1 -0.5**
baz=278
CAPN Captain Cook N 60.33 34 P **P** **01 07 27.6 +1.8**
CAPN Captain Cook N 60.33 34 P **P** **01 07 26.4 +0.6**
baz=278
CAPN S **S** **01 15 21.0 +1.4**
baz=278
C24K Franklin Bluff 60.38 23 P **P** **01 07 26.6 +0.8**
baz=275
C24K S **S** **01 15 20.9 +0.9**
baz=275
D24K Happy Valley 60.38 24 P **P** **01 07 26.8 +0.9**
baz=275,SNR=400
D24K S **S** **01 15 21.4 +1.3**
baz=275
TRF Thorofare Moun 60.39 31 P **P** **01 07 26.4 +0.1**
baz=277,SNR=194
TRF S **S** **01 15 21.7 +0.9**
baz=277
H23K Yukon River 60.44 28 P **P** **01 07 28.0 +1.6**
baz=276,SNR=540
H23K S **S** **01 15 24.6 +3.6**
baz=276
SUA Susitna One 60.44 33 P **P** **01 07 27.0 +0.4**
baz=278
SUA S **S** **01 15 22.2 +1.0**
baz=278
CNPM China Poot 60.47 35 IAmb IAmb 01 07 30.8
comp=Z,380nm,0.8s
CUT Chulitna 60.53 32 P **P** **01 07 27.6 +0.6**
baz=278,SNR=7.9
CUT S **S** **01 15 23.7 +1.5**
baz=278
I23K Minto, Yukon-K 60.59 29 IAmb IAmb 01 07 30.9
comp=Z,472nm,1.3s
I23K Minto, Yukon-K 60.59 29 P **P** **01 07 28.4 +1.0**
baz=277,SNR=153
I23K S **S** **01 15 25.1 +2.3**
baz=277
E24K Your Creek 60.61 25 P **P** **01 07 28.5 +0.9**
baz=276,SNR=632
E24K S **S** **01 15 26.0 +2.9**
baz=276
M22K Willow 60.69 33 P **P** **01 07 28.4 +0.3**
M22K Willow 60.69 33 P **P** **01 07 28.4 +0.3**
baz=278,SNR=238
M22K S **S** **01 15 25.2 +1.1**
baz=278
BLDU Ballidu 60.69 191 P **P** **01 07 28.6 +0.1**
KOUNC Koumac, New Ca 60.69 141 P **P** **01 07 30.3 +1.6**
NEA2 Nenana 60.78 29 P **P** **01 07 29.5 +0.8**
baz=277,SNR=1000
NEA2 S **S** **01 15 27.6 +2.3**
baz=277
SLKM Skilak Lake 60.83 34 P **P** **01 07 29.0 -0.2**
SLKM IAmb IAmb 01 07 31.0
comp=Z,425nm,1.1s
F24K Squaw Lake 60.90 26 IAmb IAmb 01 07 32.8
comp=Z,301nm,0.7s
F24K Squaw Lake 60.90 26 P **P** **01 07 30.3 +0.8**
baz=277,SNR=562
F24K S **S** **01 15 29.2 +2.4**
baz=277
MCK McKinley 60.95 30 P **P** **01 07 30.3 +0.3**
baz=278,SNR=331
MCK S **S** **01 15 27.5 -0.1**
baz=278
RC01 Rabbit Creek A 60.97 33 P **P** **01 07 30.3 +0.2**
baz=279,SNR=126
RC01 S **S** **01 15 28.4 +0.6**
baz=279
RND Reindeer 61.04 31 P **P** **01 07 30.8 +0.3**
RND Reindeer 61.04 31 P **P** **01 07 30.8 +0.3**
RND pmax pmax
comp=Z,1µm,0.7s
O22K Cooper Landing 61.07 34 P **P** **01 07 31.1 +0.4**
baz=279,SNR=20
O22K S **S** **01 15 29.6 +0.5**
baz=279
H24K Noodor Dome 61.11 28 IAmb IAmb 01 07 34.8
comp=Z,368nm,0.9s
H24K Noodor Dome 61.11 28 P **P** **01 07 32.4 +1.3**
baz=278,SNR=649
H24K S **S** **01 15 33.2 +3.6**
baz=278
G24K Hadweenzic Riv 61.16 27 IAmb IAmb 01 07 34.9
comp=Z,248nm,0.8s
G24K Hadweenzic Riv 61.16 27 P **P** **01 07 32.5 +1.2**
baz=278,SNR=525
G24K S **S** **01 15 33.3 +3.2**
baz=278
PMR Palmer 61.18 33 IAmb IAmb 01 07 33.6
comp=Z,385nm,1.0s
PMR Palmer 61.18 33 P **P** **01 07 32.7 +1.3**
PMR Palmer 61.18 33 P **P** **01 07 31.4 0.0**
baz=279,SNR=131
PMR S **S** **01 15 31.6 +1.2**
baz=279
WRH Wood River Hil 61.22 29 IAmb IAmb 01 07 36.0
comp=Z,308nm,0.7s
D25K Kavik River 61.23 24 IAmb IAmb 01 07 34.7
comp=Z,339nm,1.0s
D25K Kavik River 61.23 24 P **P** **01 07 32.4 +0.6**
baz=277,SNR=269
D25K S **S** **01 15 29.9 -1.0**
baz=277
GHO Glory Hole Cre 61.25 33 IAmb IAmb 01 07 35.5
comp=Z,395nm,0.8s
WAT1 Susitna Watana 61.26 31 P **P** **01 07 32.3 +0.3**
baz=279
WAT1 S **S** **01 15 31.1 -0.4**
baz=279
COLA College 61.26 29 P **P** **01 07 32.4 +0.5**
COLA IAmb IAmb 01 07 36.2
comp=Z,295nm,0.7s
COLA College 61.26 29 P **P** **01 07 33.1 +1.2**
COLA College 61.26 29 *i* P **P** **01 07 31.8 -0.1**
COLA pmax pmax
comp=Z,237nm,0.8s
COLA College 61.26 29 P **P** **01 07 32.5 +0.6**
baz=278
COLA S **S** **01 15 33.6 +2.4**
baz=278
COLA College 61.26 29 P **P** **01 07 32.5 +0.6**
COLA PcP **PcP** **01 08 11.9 +0.1**
COLA pP **pP** **01 08 28.7 +0.7**
COLA College 61.26 29 P **P** **01 07 32.1 +0.2**
SEW Seward 61.27 34 P **P** **01 07 32.5 +0.5**
baz=280,SNR=100
SEW S **S** **01 15 30.6 -0.9**
baz=280
CCB Clear Creek Bu 61.31 29 P **P** **01 07 32.5 +0.3**
CCB IAmb IAmb 01 07 34.9
comp=Z,193nm,0.8s
POKR Poker Plat Res 61.40 29 P **P** **01 07 33.7 +0.8**
baz=278,SNR=318
POKR S **S** **01 15 35.9 +2.8**
baz=278
JASK Jask - Hormozg 61.48 285 P **P** **01 07 35.7 +1.7**
KLBR Kellerberrin 61.48 190 P **P** **01 07 33.5 -0.3**
JLN Jalan Bani Buh 61.52 281 P **P** **01 07 34.2 -0.2**
JLN P **P** **01 07 34.2 -0.2**
KNK Knik Glacier 61.53 33 P **P** **01 07 34.0 +0.2**
baz=280,SNR=110
KNK S **S** **01 15 37.2 +2.4**
baz=280
C26K Camden Bay 61.66 23 P **P** **01 07 35.1 +0.6**
baz=278
C26K S **S** **01 15 37.9 +1.7**
baz=278
WAT6 Susitna Watana 61.67 32 P **P** **01 07 35.1 +0.2**
baz=280,SNR=212
WAT6 S **S** **01 15 38.2 +1.3**
baz=280
BELG Belogornoye 61.67 317 *i* P **P** **01 07 32.4 -2.5**
BELG pmax pmax
comp=Z,36nm,1.6s
IL31 61.68 29 IAmb IAmb 01 07 38.4
comp=Z,162nm,0.7s
ILAR Eielson Array 61.68 29 P **P** **01 07 33.9 -0.8**
ILAR Eielson Array 61.68 29 P **P** **01 07 34.0 -0.8**
comp=Z,90nm,0.7s,baz=276,slow=4.5,SNR=303
ILAR S **S** **01 15 36.5 -0.2**
comp=Z,1.7nm,1.0s,baz=331,slow=14,SNR=6.0
ILAR PKPPKP **P'P'df** **01 36 40.2 -7.7**
comp=Z,2.8nm,1.0s,baz=106,slow=1.2,SNR=8.5
ILAR P4KPbc 01 44 32.7
comp=Z,0.6nm,0.9s,baz=277,slow=3.7,SNR=6.9
comp=Z,90nm,0.7s
PWL Port Wells 61.68 34 P **P** **01 07 35.1 +0.2**
baz=280,SNR=136
PWL S **S** **01 15 38.3 +1.5**
baz=280
E25K Arctic Village 61.69 25 IAmb IAmb 01 07 38.5
comp=Z,491nm,1.4s
E25K Arctic Village 61.69 25 P **P** **01 07 36.0 +1.2**
baz=278,SNR=236
E25K S **S** **01 15 39.6 +2.9**
baz=278
G25K Bearman Lake 61.69 27 P **P** **01 07 36.2 +1.4**
baz=279,SNR=336
G25K S **S** **01 15 40.1 +3.5**
baz=279
HDA Harding Lake 61.72 29 P **P** **01 07 35.4 +0.4**
HDA Harding Lake 61.72 29 P **P** **01 07 34.4 -0.6**
baz=279,SNR=710
HDA S **S** **01 15 36.7 -0.4**
baz=279
F25K Christian Rive 61.74 26 IAmb IAmb 01 07 39.1
comp=Z,259nm,0.9s
F25K Christian Rive 61.74 26 P **P** **01 07 36.5 +1.3**
baz=279,SNR=450
F25K S **S** **01 15 39.9 +2.5**
baz=279
DHY Denali Highway 61.75 31 IAmb IAmb 01 07 38.0
comp=Z,357nm,1.2s
DHY Denali Highway 61.75 31 P **P** **01 07 35.4 0.0**
baz=280,SNR=272
DHY S **S** **01 15 38.7 +0.9**
baz=280
WSAR Wadi Sarin 61.78 282 P **P** **01 07 37.1 +1.0**
M23K Glacier View 61.81 32 P **P** **01 07 36.1 +0.4**
baz=280,SNR=78
M23K S **S** **01 15 40.9 +2.5**
baz=280
H25L Birch Creek 61.88 27 P **P** **01 07 37.4 +1.4**
baz=279,SNR=320
H25L S **S** **01 15 43.4 +4.4**
baz=279
FUNA Funafuti 61.95 119 P **P** **01 07 36.3 -0.9**
FUNA IAmb IAmb 01 07 40.3
comp=Z,395nm,1.4s
SCM Sheep Creek Mo 61.99 32 P **P** **01 07 38.0 +1.1**
SCM Sheep Creek Mo 61.99 32 P **P** **01 07 38.1 +1.1**
SCM pmax pmax
comp=Z,759nm,1.0s
SCM Sheep Creek Mo 61.99 32 P **P** **01 07 37.5 +0.6**
baz=280,SNR=116
SCM S **S** **01 15 43.3 +2.6**
baz=280
MUN Mundaring 62.11 191 P **P** **01 07 38.9 +1.0**
C27K Jago River 62.12 23 P **P** **01 07 38.7 +1.2**
baz=279,SNR=232
C27K S **S** **01 15 42.7 +0.8**
baz=279
PRP Porcupine Dome 62.13 28 IAmb IAmb 01 07 40.9
comp=Z,198nm,0.8s
PRP Porcupine Dome 62.13 28 P **P** **01 07 38.3 +0.4**
baz=280,SNR=349
PRP S **S** **01 15 44.8 +2.3**
baz=280
BMAR Burnt Mountain 62.17 26 P **P** **01 07 39.4 +1.4**
GLI Glacier Island 62.28 33 IAmb IAmb 01 07 41.2
comp=Z,361nm,0.9s
GLI Glacier Island 62.28 33 P **P** **01 07 38.8 0.0**
baz=281,SNR=113
GLI S **S** **01 15 46.0 +1.8**
baz=281
F26K Sheenjek River 62.29 26 P **P** **01 07 40.2 +1.4**
baz=280,SNR=689
F26K S **S** **01 15 47.6 +3.5**
baz=280
STKA Stephens Creek 62.30 167 P **P** **01 07 39.8 +0.6**
comp=Z,200nm,0.6s,baz=340,slow=7.4,SNR=191
comp=Z,200nm,0.6s
STKA Stephens Creek 62.30 167 P **P** **01 07 39.7 +0.6**
STKA Stephens Creek 62.30 167 *i* P **P** **01 07 38.4 -0.8**
P23K Montague Islan 62.30 34 P **P** **01 07 39.1 +0.2**
baz=281,SNR=189
P23K S **S** **01 15 46.9 +2.5**
baz=281
K24K Donnelly Dome 62.33 30 P **P** **01 07 38.9 -0.2**
baz=281,SNR=254
K24K S **S** **01 15 44.3 -0.5**
baz=281
SMDO Samad 62.34 282 P **P** **01 07 40.6 +0.6**
SMDO P **P** **01 07 40.6 +0.6**
J25K Salcha River, 62.35 29 P **P** **01 07 39.2 -0.1**
baz=280,SNR=191
J25K S **S** **01 15 45.8 +0.6**
baz=280
M24K Tolsona, Glenn 62.47 32 P **P** **01 07 40.8 +0.7**
baz=281,SNR=58
M24K S **S** **01 15 49.9 +3.2**
baz=281
G26K Porcupine Rive 62.56 26 P **P** **01 07 41.9 +1.4**
baz=281,SNR=358
G26K S **S** **01 15 50.7 +3.3**
baz=281
FID Port Fidalgo 62.60 33 IAmb IAmb 01 07 44.3
comp=Z,308nm,0.8s
PAX Paxson 62.62 31 P **P** **01 07 41.4 +0.3**
PAX IAmb IAmb 01 07 44.8
comp=Z,223nm,0.8s
PAX Paxson 62.62 31 P **P** **01 07 41.4 +0.3**
PAX pmax pmax
comp=Z,223nm,0.8s
PAX Paxson 62.62 31 P **P** **01 07 41.4 +0.3**
baz=281,SNR=324
PAX S **S** **01 15 50.3 +1.7**
baz=281
HIN Hinchinbrook I 62.66 34 IAmb IAmb 01 07 44.0
comp=Z,399nm,1.1s
KLU Klutina 62.71 33 IAmb IAmb 01 07 44.5
comp=Z,244nm,0.9s
KLU Klutina 62.71 33 P **P** **01 07 42.1 +0.4**
baz=282,SNR=96
KLU S **S** **01 15 51.4 +1.7**
baz=282
RIDG Independent Ri 62.75 30 P **P** **01 07 41.8 -0.1**
baz=281,SNR=331
RIDG S **S** **01 15 50.9 +0.9**
baz=281
HOQ Hoqain 62.78 283 P **P** **01 07 43.5 +0.8**
HOQ P **P** **01 07 43.5 +0.8**
SHME Shamm 62.86 286 P **P** **01 07 45.1 +1.9**
SHME P **P** **01 07 45.1 +1.9**
SHME Shamm 62.86 286 P **P** **01 07 44.3 +1.1**
NWAO Narrogin (SRO) 62.87 190 P **P** **01 07 43.3 +0.4**
NWAO comp=Z,374nm,1.1s IAmb IAmb 01 07 45.2
NWAO Narrogin (SRO) 62.87 190 P **P** **01 07 43.4 +0.4**
NWAO P **P** **01 07 43.4 +0.4**
NWAO Narrogin (SRO) 62.87 190 P **P** **01 07 43.3 +0.4**
NWAO Narrogin (SRO) 62.87 190 P **P** **01 07 43.2 +0.3**
NWAO Narrogin (SRO) 62.87 190 P **P** **01 07 43.3 +0.4**
NWAO pmax pmax
comp=Z,374nm,1.2s
HARP HAARP 62.88 31 P **P** **01 07 43.5 +0.7**
baz=282,SNR=105
HARP S **S** **01 15 54.6 +2.9**
baz=282
CMSA Cobar Meteorol 62.89 163 P **P** **01 07 44.8 +1.7**
Q23K Middleton Isla 62.94 35 P **P** **01 07 43.8 +0.7**
baz=282,SNR=20
Q23K S **S** **01 15 55.8 +3.4**
baz=282
Q23K S **S** **01 15 55.8 +3.4**
baz=282
EYAK Cordova Ski Ar 62.99 34 IAmb IAmb 01 07 47.4
comp=Z,163nm,0.8s
EYAK Cordova Ski Ar 62.99 34 P **P** **01 07 44.7 +1.3**
EYAK Cordova Ski Ar 62.99 34 P **P** **01 07 44.1 +0.7**
baz=282,SNR=42
EYAK S **S** **01 15 54.3 +1.3**
baz=282
MDH Madha 63.00 285 P **P** **01 07 45.6 +1.4**
MDH Madha 63.00 285 P **P** **01 07 44.3 +0.2**
NOUC Port Laguerre 63.05 140 P **P** **01 07 45.3 +0.9**
NOUC sP **sP** **01 09 08.9 +1.1**
SCRK Sand Creek 63.07 30 P **P** **01 07 44.0 0.0**
baz=282,SNR=757
SCRK S **S** **01 15 53.0 -1.2**
baz=282
MASF Masafi 63.09 285 P **P** **01 07 45.8 +1.1**
MASF P **P** **01 07 45.8 +1.1**
MSFE Esma-Masafi 63.09 285 P **P** **01 07 45.5 +0.7**
DZM Mont Dzumac 63.11 140 IAmb IAmb 01 07 48.0
comp=Z,289nm,0.9s
DZM Mont Dzumac 63.11 140 *e*P **P** **01 07 45.2 +0.4**
comp=Z,936nm,1.3s
DZM *e*S **S** **01 15 54.2 -1.4**
comp=Z,3µm,26.1s
DZM *e*LQ LQ 01 24 34.3
comp=Z,5µm,28.3s
DZM *e*LR LR 01 27 05.5
comp=Z,3µm,22.3s
DZM Mont Dzumac 63.11 140 P **P** **01 07 45.9 +1.1**
DZM Mont Dzumac 63.11 140 P **P** **01 07 45.7 +0.9**
E27K Coleen River 63.14 25 P **P** **01 07 45.4 +1.0**
baz=282,SNR=310
E27K S **S** **01 15 56.8 +2.1**
baz=282
I26K Coal Creek Min 63.14 28 P **P** **01 07 44.3 -0.1**
baz=282
I26K S **S** **01 15 55.8 +1.1**
baz=282
J26L Joseph Creek 63.14 29 IAmb IAmb 01 07 46.5
comp=Z,330nm,0.8s
J26L Joseph Creek 63.14 29 P **P** **01 07 44.3 -0.2**
baz=282,SNR=637
J26L S **S** **01 15 55.3 +0.3**
baz=282
D27M Malcolm River 63.14 24 IAmb IAmb 01 07 48.0
comp=Z,368nm,1.1s
D27M Malcolm River 63.14 24 P **P** **01 07 45.3 +0.9**
baz=282,SNR=122
D27M S **S** **01 15 56.8 +2.0**
baz=282
BSY Bisya 63.19 282 P **P** **01 07 46.1 +0.7**
UOSS Minazif 63.21 285 P **P** **01 07 45.7 +0.2**
UOSS Minazif 63.21 285 P **P** **01 07 46.4 +0.9**
UOSS P **P** **01 07 46.4 +0.9**
UOSS Minazif 63.21 285 P **P** **01 07 45.1 -0.4**
UOSS Minazif 63.21 285 P **P** **01 07 45.8 +0.3**
UOSS S **S** **01 15 54.2 -2.6**
MHTO MHTO 63.21 280 P **P** **01 07 46.7 +1.1**
SNR=5.1
SOHO SOHO 63.23 284 P **P** **01 07 46.2 +0.5**
SOHO P **P** **01 07 46.2 +0.5**
SOHO SOHO 63.23 284 *i* P **P** **01 07 45.2 -0.4**
SNR=13
ONTNC Ouen Toro 63.30 140 IAmb IAmb 01 07 48.9
comp=Z,349nm,1.2s
N25K Chitina, Valde 63.31 32 IAmb IAmb 01 07 49.7
comp=Z,221nm,0.9s
N25K Chitina, Valde 63.31 32 P **P** **01 07 46.4 +0.8**
baz=283,SNR=83
N25K S **S** **01 15 58.7 +1.6**
baz=283
HATD Hatta, Dubai 63.31 285 P **P** **01 07 47.0 +0.8**
HATD P **P** **01 07 47.0 +0.8**
HATD Hatta, Dubai 63.31 285 P **P** **01 07 45.5 -0.7**
HTT Hallett 63.35 170 P **P** **01 07 46.6 +0.5**
YATNC Mamie plateau, 63.35 139 P **P** **01 07 48.7 +2.4**
G27K Doyon Strip 63.41 26 P **P** **01 07 47.0 +0.8**
baz=283,SNR=172
G27K S **S** **01 16 01.7 +3.5**
baz=283
ASHO Ashiyiah 63.43 285 P **P** **01 07 47.7 +0.7**
SNR=5.2
ASHO P **P** **01 07 47.7 +0.7**
SNR=5.2
ASHO Ashiyiah 63.43 285 *i* P **P** **01 07 47.2 +0.2**
SNR=10
BMRM Bremner River 63.45 33 P **P** **01 07 47.2 +0.7**
baz=283,SNR=171
BMRM S **S** **01 16 01.1 +2.3**
baz=283
ARQ Araqi 63.54 283 P **P** **01 07 48.7 +0.9**
ARQ P **P** **01 07 48.7 +0.9**
L26K Log Cabin Wild 63.56 31 IAmb IAmb 01 07 50.3
comp=Z,298nm,1.0s
L26K Log Cabin Wild 63.56 31 P **P** **01 07 47.7 +0.5**
baz=283,SNR=191
L26K S **S** **01 16 01.8 +1.8**
baz=283
ARMA Armidale 63.59 157 IAmb IAmb 01 07 50.9
comp=Z,325nm,1.2s
ARMA Armidale 63.59 157 P **P** **01 07 49.1 +1.3**
H27K Steamboat Moun 63.59 27 P **P** **01 07 48.5 +1.1**
baz=283,SNR=354
H27K S **S** **01 16 04.1 +3.7**
baz=283
OUENC Ouen Island, N 63.61 140 P **P** **01 07 50.0 +2.0**
NAZ Nazwa, Dubai 63.65 285 P **P** **01 07 48.7 +0.3**
NAZ P **P** **01 07 48.7 +0.3**
NAZ Nazwa, Dubai 63.65 285 *i* P **P** **01 07 48.1 -0.3**
SNR=8.4
I27K Kandik River 63.70 28 P **P** **01 07 49.3 +1.2**
baz=283,SNR=679
I27K S **S** **01 16 04.0 +2.3**
baz=283
HMT Hamilton 63.76 34 IAmb IAmb 01 07 51.5
comp=Z,354nm,1.0s
KAIM Kayak Island 63.78 34 P **P** **01 07 49.4 +0.8**
baz=284,SNR=63
KAIM S **S** **01 16 05.6 +2.8**
baz=284
E28M Babbage River 63.79 24 P **P** **01 07 49.0 +0.5**
E28M Babbage River 63.79 24 P **P** **01 07 49.6 +1.1**
baz=284,SNR=293
E28M S **S** **01 16 04.6 +2.0**
baz=284
FAQ Al Faqa, Dubai 63.80 285 P **P** **01 07 49.5 +0.2**
SNR=6.5
FAQ P **P** **01 07 49.5 +0.2**
SNR=6.5
FAQ Al Faqa, Dubai 63.80 285 *i* P **P** **01 07 48.8 -0.6**
SNR=23
M26K Nabesna, AK 63.86 31 P **P** **01 07 50.0 +0.8**
baz=284,SNR=588
M26K S **S** **01 16 04.8 +1.0**
baz=284
K27K Chicken 63.88 29 P **P** **01 07 49.9 +0.7**
baz=284,SNR=544
K27K S **S** **01 16 06.7 +2.8**
baz=284
D28M Stokes Point 63.89 23 P **P** **01 07 50.3 +1.1**
baz=284
D28M S **S** **01 16 07.6 +3.8**
baz=284
F28M Old Crow 63.90 25 IAmb IAmb 01 07 53.0
comp=Z,298nm,1.1s
F28M Old Crow 63.90 25 P **P** **01 07 50.4 +1.1**
baz=284,SNR=288
F28M S **S** **01 16 07.4 +3.3**
baz=284
ALNE Al Ain 63.92 284 P **P** **01 07 50.9 +0.7**
SNR=11
ALNE P **P** **01 07 50.9 +0.7**
SNR=11
ALNE Al Ain 63.92 284 *i* P **P** **01 07 50.8 +0.6**
SNR=38
VRDI Verde Repeater 63.93 33 P **P** **01 07 50.4 +0.6**
ASUD Al Ashush, Dub 64.06 285 P **P** **01 07 51.9 +0.9**
ASUD P **P** **01 07 51.9 +0.9**
ASUD Al Ashush, Dub 64.06 285 *i* P **P** **01 07 51.3 +0.2**
SNR=10.0
MCARA McCarthy VSAT 64.09 32 P **P** **01 07 51.2 +0.6**
baz=284,SNR=143
MCARA S **S** **01 16 09.4 +2.8**
baz=284
PINNC Pines Island, 64.10 139 P **P** **01 07 51.2 +0.1**
PINNC IAmb IAmb 01 07 54.6
comp=Z,344nm,1.3s
KLMR Klimovskoe 64.11 327 *e*P **P** **01 07 47.7 -3.0**
KLMR *e**PP **pP** **01 08 46.1 -1.4**
KLMR S **S** **01 16 01.2 -5.6**
KLMR pmax pmax
comp=Z,112nm,0.9s
MAK Makhachkala 64.13 306 *d* *i* P **P** **01 07 49.5 -1.7**
MAK *e**PP **pP** **01 08 46.9 -1.1**
MAK *e**SP **sP** **01 09 14.7 -0.6**
MAK *e* 01 10 15.7
MAK *e*PPP PPP 01 11 48.0
MAK *e*S **S** **01 16 06.3 -1.3**
MAK *e*SS **SS** **01 20 23.8 +2.5**
MAK pmax pmax
comp=Z,279nm,1.3s

CRQE	**Cirque**		**64.22**	**33**	P		**P**	**01 07 51.8**	**+0.2**
	baz=284,SNR=132								
CRQE					S		**S**	**01 16 09.7**	**+1.3**
	baz=284								
L27K	**Beaver Creek,**		**64.22**	**30**	P		**P**	**01 07 53.0**	**+1.5**
L27K					IAmb		IAmb	01 07 54.9	
	comp=Z,291nm,0.9s								
L27K	**Beaver Creek,**		**64.22**	**30**	P		**P**	**01 07 52.3**	**+0.7**
	baz=284,SNR=525								
L27K					S		**S**	**01 16 10.0**	**+1.8**
	baz=284								
BCAR	**Beaver Creek A**		**64.24**	**30**	P		**P**	**01 07 52.3**	**+0.7**
BGLC	**Bering Glacier**		**64.28**	**34**	P		**P**	**01 07 52.7**	**+0.9**
	baz=284								
BGLC					S		**S**	**01 16 11.6**	**+2.8**
	baz=284								
LVZ	**Lovozero**		**64.38**	**335**	P		**P**	**01 07 51.7**	**-0.7**
LVZ	**Lovozero**		**64.38**	**335**	*ce*P		**P**	**01 07 53.0**	**+0.6**
LVZ					pmax		pmax		
	comp=Z,129nm,1.7s								
LVZ	**Lovozero**		**64.38**	**335**	P		**P**	**01 07 51.9**	**-0.5**
	comp=Z,2µmcomp=Z,69nm,1.1s								
M27K	**Edge Creek, AK**		**64.38**	**31**	IAmb		IAmb	01 07 55.6	
	comp=Z,286nm,0.8s								
M27K	**Edge Creek, AK**		**64.38**	**31**	P		**P**	**01 07 53.0**	**+0.3**
	baz=285,SNR=473								
M27K					S		**S**	**01 16 12.2**	**+1.9**
	baz=285								
AJN	**Ajban**		**64.38**	**285**	P		**P**	**01 07 54.1**	**+1.1**
	SNR=8.8								
AJN					P		**P**	**01 07 54.1**	**+1.1**
	SNR=8.8								
AJN	**Ajban**		**64.38**	**285**	P		**P**	**01 07 53.4**	**+0.3**
WAX	**Waxell Ridge**		**64.41**	**33**	IAmb		IAmb	01 07 57.0	
	comp=Z,255nm,0.7s								
AKT	**Akhty**		**64.41**	**305**	*e*P		**P**	**01 07 52.3**	**-0.9**
AKT					*e*			01 08 22.7	
AKT					*e**PP		**pP**	**01 08 51.7**	**+1.6**
AKT					*e*PPP		PPP	01 11 49.1	
AKT					*e*S		**S**	**01 16 09.6**	**-1.8**
AKT					*e*SS		**SS**	**01 20 29.4**	**+3.4**
AKT					pmax		pmax		
	comp=Z,115nm,1.5s								
AKT					MLR		MLR		
	comp=Z,914nm,13.0s								
I28M	**Miner Creek**		**64.42**	**28**	P		**P**	**01 07 53.7**	**+0.9**
	baz=285,SNR=436								
I28M					S		**S**	**01 16 14.3**	**+3.7**
	baz=285								
E29M	**Blow River**		**64.43**	**24**	IAmb		IAmb	01 07 56.1	
	comp=Z,198nm,1.2s								
E29M	**Blow River**		**64.43**	**24**	P		**P**	**01 07 53.6**	**+0.9**
	baz=285,SNR=144								
E29M					S		**S**	**01 16 13.1**	**+2.6**
	baz=285								
LKRN	**Lenkeran, Azer**		**64.49**	**302**	P		**P**	**01 07 54.7**	**+1.1**
ISLE	**Juniper Island**		**64.61**	**33**	IAmb		IAmb	01 07 58.0	
	comp=Z,307nm,0.8s								
HOPEN	**Hopen**		**64.62**	**345**	*e*P		**P**	**01 07 53.9**	**+0.1**
HOPEN					IAmb		IAmb	01 07 55.0	
	comp=Z,183nm,1.1s								
HOPEN					*e*S		**S**	**01 16 13.0**	**+0.5**
G29M	**Pine Creek**		**64.78**	**26**	P		**P**	**01 07 56.1**	**+1.1**
	baz=286,SNR=235								
G29M					S		**S**	**01 16 18.4**	**+3.6**
	baz=286								
BARN	**Barnard Glacie**		**64.81**	**33**	IAmb		IAmb	01 07 59.8	
	comp=Z,228nm,0.7s								
BVCY	**Beaver Creek**		**64.82**	**31**	P		**P**	**01 07 56.2**	**+0.9**
	baz=285,SNR=130								
BVCY					S		**S**	**01 16 16.6**	**+1.1**
	baz=285								
H29M	**Whitestone**		**64.83**	**27**	IAmb		IAmb	01 07 58.3	
	comp=Z,258nm,1.1s								
H29M	**Whitestone**		**64.83**	**27**	P		**P**	**01 07 56.2**	**+0.8**
	baz=286,SNR=171								
H29M					S		**S**	**01 16 19.8**	**+4.3**
	baz=286								
GRNC	**Granite Creek**		**64.86**	**33**	IAmb		IAmb	01 07 59.5	
	comp=Z,139nm,0.8s								
SEKA	**Sheki**		**64.88**	**305**	P		**P**	**01 07 56.4**	**+0.2**
MESA	**MESA**		**64.91**	**33**	IAmb		IAmb	01 07 59.2	
	comp=Z,233nm,1.0s								
MESA	**MESA**		**64.91**	**33**	P		**P**	**01 07 56.8**	**+0.6**
	baz=286,SNR=45								
MESA					S		**S**	**01 16 18.5**	**+1.5**
	baz=286								
APA	**Apatity**		**64.92**	**335**	⇓*i*P		**P**	**01 07 54.3**	**-1.6**
APA					*i*			01 08 25.4	
APA					*i **PP		**pP**	**01 08 52.3**	**-0.5**
APA					*i*			01 10 23.1	
APA					*i* S		**S**	**01 16 10.0**	**-6.5**
APA					*i*			01 17 20.1	
APA					*i* SS		**SS**	**01 20 26.6**	**-5.9**
YAH	**Yahtse**		**64.96**	**33**	IAmb		IAmb	01 08 00.8	
	comp=Z,158nm,0.8s								
CTG	**Chitna Glacier**		**64.99**	**33**	P		**P**	**01 07 57.1**	**+0.5**
	baz=286,SNR=132								
CTG					S		**S**	**01 16 19.8**	**+1.9**
	baz=286								
DAWY	**Dawson**		**65.01**	**29**	IAmb		IAmb	01 07 59.4	
	comp=Z,165nm,0.8s								
DAWY	**Dawson**		**65.01**	**29**	P		**P**	**01 07 57.2**	**+0.6**
	baz=286,SNR=135								
DAWY					S		**S**	**01 16 19.9**	**+2.1**
	baz=286								
MNGR	**Mingechevir, A**		**65.09**	**304**	P		**P**	**01 07 59.1**	**+1.7**
I29M	**Ogilvie Camp,**		**65.10**	**27**	IAmb		IAmb	01 08 00.3	
	comp=Z,251nm,0.9s								
I29M	**Ogilvie Camp,**		**65.10**	**27**	P		**P**	**01 07 57.6**	**+0.5**
	baz=286,SNR=426								
I29M					S		**S**	**01 16 21.5**	**+2.7**
	baz=286								
YUK3	**Moose Creek**		**65.17**	**32**	P		**P**	**01 07 58.4**	**+0.5**
	baz=286,SNR=234								
YUK3					S		**S**	**01 16 23.2**	**+3.0**
	baz=286								
LOGN	**Logan Glacier**		**65.19**	**33**	IAmb		IAmb	01 08 06.3	
	comp=Z,171nm,0.7s								
H01W3	**Cape Leeuwin H**		**65.32**	**193**	P		**P**	**01 07 59.8**	**+1.4**
	baz=43,slow=2.6,SNR=10								
H01W1	**Cape Leeuwin H**		**65.32**	**193**	P		**P**	**01 07 59.7**	**+1.2**
	baz=43,slow=2.6,SNR=8.0								
H01W2	**Cape Leeuwin H**		**65.33**	**193**	P		**P**	**01 08 00.0**	**+1.5**
	baz=43,slow=2.6,SNR=8.5								
J29N	**Klondike Camp**		**65.39**	**28**	P		**P**	**01 08 00.1**	**+1.0**
	baz=287,SNR=150								
J29N					S		**S**	**01 16 26.4**	**+3.9**
	baz=287								
F30M	**Barrier River**		**65.41**	**25**	IAmb		IAmb	01 08 02.3	
	comp=Z,280nm,0.8s								
F30M	**Barrier River**		**65.41**	**25**	P		**P**	**01 07 59.9**	**+0.9**
	baz=287,SNR=152								
F30M					S		**S**	**01 16 25.0**	**+2.6**
	baz=287								
EPYK	**Eagle Plains**		**65.43**	**26**	P		**P**	**01 07 59.7**	**+0.5**
	baz=287,SNR=230								
EPYK					S		**S**	**01 16 24.4**	**+1.6**
	baz=287								
G30M	**tAoh Zraii Nji**		**65.44**	**25**	P		**P**	**01 07 59.5**	**+0.3**
	baz=287,SNR=287								
G30M					S		**S**	**01 16 23.7**	**+0.8**
	baz=287								
VRH	**Novokhopyorsk**		**65.52**	**316**	*e*P		**P**	**01 07 57.2**	**-2.8**
VRH					*e*			01 08 26.9	
VRH					*e*S		S	01 16 12.4	-12
VRH					pmax		pmax		
	comp=Z,30nm,0.7s								
VRH					smax		smax		
	comp=E,850nm,12.1s								
VADS	**Vadso**		**65.55**	**338**	*e*P		**P**	**01 07 58.5**	**-1.4**
VADS					IAmb		IAmb	01 08 01.1	
	comp=Z,218nm,1.4s								
VADS					*e*S		**S**	**01 16 22.0**	**-2.0**
O28M	**Mount Upton**		**65.58**	**33**	IAmb		IAmb	01 08 03.8	
	comp=Z,374nm,1.0s								
O28M	**Mount Upton**		**65.58**	**33**	P		**P**	**01 08 01.6**	**+1.0**
	baz=287,SNR=134								
O28M					S		**S**	**01 16 27.1**	**+1.8**
	baz=287								
YUK8	**Steele Glacier**		**65.64**	**32**	P		**P**	**01 08 01.7**	**+0.8**
	baz=287,SNR=159								
YUK8					S		**S**	**01 16 28.7**	**+2.8**
	baz=287								
GANJ	**Ganja**		**65.68**	**304**	P		**P**	**01 08 02.4**	**+1.1**
SPB2	**Spitsbergen Ar**		**65.69**	**348**	IAmb		IAmb	01 08 01.8	
	comp=Z,219nm,1.3s								
SPA0	**Spitsbergen Ar**		**65.69**	**348**	*e*P		**P**	**01 07 59.6**	**-1.1**
SPA0					IAmb		IAmb	01 08 02.2	
	comp=Z,188nm,1.1s								
SPA0					*e*S		**S**	**01 16 22.0**	**-3.6**
SPITS	**Spitsbergen Ar**		**65.69**	**348**	P		**P**	**01 07 59.9**	**-0.7**
	comp=Z,37nm,0.5s,baz=81,slow=7.1,SNR=70								
	comp=Z,37nm,0.5s								
SPITS	**Spitsbergen Ar**		**65.69**	**348**	P		**P**	**01 08 00.7**	**0.0**
SPITS					pmax		pmax		
	comp=Z,153nm,1.0s								
PINM	**Pinnacle**		**65.75**	**33**	P		**P**	**01 08 02.2**	**+0.8**
	baz=287,SNR=208								
PINM					S		**S**	**01 16 28.5**	**+1.5**
	baz=287								
L29M	**L29M**		**65.83**	**30**	P		**P**	**01 08 03.2**	**+1.4**
	baz=287,SNR=870								
L29M					S		**S**	**01 16 31.0**	**+3.2**
	baz=287								
K29M	**Barlow Dome**		**65.87**	**29**	IAmb		IAmb	01 08 05.5	
	comp=Z,245nm,0.9s								
K29M	**Barlow Dome**		**65.87**	**29**	P		**P**	**01 08 03.1**	**+1.0**
	baz=288,SNR=390								
K29M					S		**S**	**01 16 30.0**	**+1.6**
	baz=288								
M29M	**Somme Creek**		**65.88**	**31**	P		**P**	**01 08 03.9**	**+1.7**
M29M					IAmb		IAmb	01 08 06.0	
	comp=Z,234nm,0.8s								
M29M	**Somme Creek**		**65.88**	**31**	P		**P**	**01 08 03.6**	**+1.3**
	baz=287,SNR=609								
M29M					S		**S**	**01 16 31.6**	**+3.0**
	baz=287								
I30M	**Mount Dempster**		**65.91**	**27**	IAmb		IAmb	01 08 05.1	
	comp=Z,344nm,1.1s								
I30M	**Mount Dempster**		**65.91**	**27**	P		**P**	**01 08 03.1**	**+0.7**
	baz=288,SNR=392								
I30M					S		**S**	**01 16 31.0**	**+2.2**
	baz=288								
MGCD	**Mangrove Creek**		**65.99**	**159**	P		**P**	**01 08 05.8**	**+2.7**
INK	**Inuvik**		**66.00**	**24**	IAmb		IAmb	01 08 05.6	
	comp=Z,392nm,1.2s								
INK	**Inuvik**		**66.00**	**24**	P		**P**	**01 08 03.0**	**+0.3**
	baz=289,SNR=227								
INK					S		**S**	**01 16 30.6**	**+1.1**
	baz=289								
JRN	**Qarnain Island**		**66.03**	**286**	P		**P**	**01 08 05.0**	**+1.3**
KBS	**Kingsbay**		**66.10**	**349**	P		**P**	**01 08 03.2**	**0.0**
KBS	**Kingsbay**		**66.10**	**349**	*ce*P		**P**	**01 08 03.7**	**+0.5**
KBS					pmax		pmax		
	comp=Z,119nm,1.3s								
KBS	**Kingsbay**		**66.10**	**349**	*e*P		**P**	**01 08 02.5**	**-0.7**
KBS					IAmb		IAmb	01 08 04.7	
	comp=Z,78nm,0.9s								
KBS					*e*S		**S**	**01 16 29.7**	**-0.8**
KBS	**Kingsbay**		**66.10**	**349**	⇓*i*P		**P**	**01 08 02.9**	**-0.4**
YUK4	**Talbot Arm**		**66.13**	**32**	P		**P**	**01 08 04.7**	**+0.7**
	baz=288,SNR=379								
YUK4					S		**S**	**01 16 33.0**	**+1.3**
	baz=288								
J30M	**Hart River**		**66.14**	**28**	IAmb		IAmb	01 08 07.0	
	comp=Z,111nm,0.7s								
J30M	**Hart River**		**66.14**	**28**	P		**P**	**01 08 04.8**	**+0.9**
	baz=288,SNR=189								
J30M					S		**S**	**01 16 34.0**	**+2.4**
	baz=288								
G31M	**Satah River**		**66.19**	**25**	IAmb		IAmb	01 08 07.2	
	comp=Z,168nm,0.8s								
G31M	**Satah River**		**66.19**	**25**	P		**P**	**01 08 04.2**	**+0.2**
	baz=289,SNR=83								
G31M					S		**S**	**01 16 32.5**	**+0.8**
	baz=289								
KIP	**Kipapa**		**66.20**	**78**	P		**P**	**01 08 04.7**	**-0.1**
KIP					IAmb		IAmb	01 08 08.1	
	comp=Z,269nm,1.2s								
KIP	**Kipapa**		**66.20**	**78**	*ce*P		**P**	**01 08 02.7**	**-2.1**
KIP					pmax		pmax		
	comp=Z,200nm,1.0s								
YKU2	**Yakutat**		**66.21**	**34**	P		**P**	**01 08 06.4**	**+2.2**
F31M	**Tsiigehchic**		**66.21**	**25**	IAmb		IAmb	01 08 06.0	
	comp=Z,169nm,0.8s								
F31M	**Tsiigehtchic**		**66.21**	**25**	P		**P**	**01 08 04.2**	**+0.1**
	baz=289,SNR=86								
F31M					S		**S**	**01 16 31.9**	**-0.1**
	baz=289								
MZR	**Muzera**		**66.25**	**284**	P		**P**	**01 08 05.0**	**-0.1**
	SNR=8.1								
MZR					P		**P**	**01 08 05.0**	**-0.1**
	SNR=8.1								
MZR	**Muzera**		**66.25**	**284**	*i* P		**P**	**01 08 04.1**	**-1.0**
	SNR=45								
HON	**Honolulu**		**66.25**	**78**	P		**P**	**01 08 06.3**	**+1.2**
HON					IAmb		IAmb	01 08 35.3	
	comp=Z,260nm,1.1s								
HON	**Honolulu**		**66.25**	**78**	P		**P**	**01 08 06.3**	**+1.2**
HON					pmax		pmax		
	comp=Z,261nm,1.1s								
PNL	**Peninsula**		**66.29**	**34**	P		**P**	**01 08 05.9**	**+1.1**
PNL	**Peninsula**		**66.29**	**34**	P		**P**	**01 08 05.7**	**+0.9**
	baz=288,SNR=212								
PNL					S		**S**	**01 16 36.0**	**+2.6**
	baz=288								
YUK6	**Outpost Mounta**		**66.39**	**32**	P		**P**	**01 08 06.6**	**+1.0**
	baz=288,SNR=301								
YUK6					S		**S**	**01 16 39.9**	**+5.0**
	baz=288								
KEV	**Kevo**		**66.44**	**338**	P		**P**	**01 08 05.1**	**-0.4**
KEV					IAmb		IAmb	01 08 08.0	
	comp=Z,222nm,1.4s								
KEV	**Kevo**		**66.44**	**338**	P		**P**	**01 08 05.1**	**-0.4**
KEV					pmax		pmax		
	comp=Z,222nm,1.4s								
KEV	**Kevo**		**66.44**	**338**	P		**P**	**01 08 04.3**	**-1.2**
O29M	**Mount Kennedy**		**66.49**	**33**	IAmb		IAmb	01 08 09.8	
	comp=Z,257nm,1.1s								
O29M	**Mount Kennedy**		**66.49**	**33**	P		**P**	**01 08 07.2**	**+1.0**
	baz=288								
O29M					S		**S**	**01 16 40.0**	**+4.1**
	baz=288								
MOS	**Moscow**		**66.50**	**322**	*e*P		**P**	**01 08 04.3**	**-1.8**
MOS					*e*			01 08 32.6	
MOS					*e**PP		**pP**	**01 09 04.4**	**+1.1**
MOS					*e*			01 10 35.3	
MOS					*e*PPP		PPP	01 12 13.7	
MOS					*e*S		**S**	**01 16 33.5**	**-2.3**
MOS					*e*			01 17 35.1	
MOS					*e*SS		**SS**	**01 20 59.1**	**+1.8**
MOS					*e*SSS		SSS	01 24 04.8	
MOS					pmax		pmax		
	comp=Z,59nm,0.6s								
MOS					pmax		pmax		
	comp=Z,232nm,1.6s								
MOS					MLR		MLR		
	comp=Z,2µm,17.0s								
H31M	**Peel River**		**66.53**	**26**	IAmb		IAmb	01 08 08.9	
	comp=Z,300nm,0.8s								
H31M	**Peel River**		**66.53**	**26**	P		**P**	**01 08 06.6**	**+0.4**
	baz=289,SNR=199								
H31M					S		**S**	**01 16 38.2**	**+2.2**
	baz=289								
GOF	**Gofitskoye**		**66.56**	**310**	*ce*P		**P**	**01 08 06.4**	**-0.3**
M30M	**Minto, Yukon**		**66.58**	**30**	IAmb		IAmb	01 08 11.1	
	comp=Z,228nm,0.9s								
M30M	**Minto, Yukon**		**66.58**	**30**	P		**P**	**01 08 07.8**	**+1.2**
	baz=289,SNR=514								
M30M					S		**S**	**01 16 40.3**	**+3.6**
	baz=289								
MAYO	**Mayo, Yukon**		**66.63**	**29**	P		**P**	**01 08 08.2**	**+1.4**
	baz=289								
MAYO					S		**S**	**01 16 40.4**	**+3.1**
	baz=289								
NCK	**Nalchik**		**66.69**	**308**	*i* P		**P**	**01 08 06.7**	**-0.9**
NCK					pmax		pmax		
	comp=Z,25nm,0.7s								
LPSR	**Galich'ya Gora**		**66.75**	**318**	*e*P		**P**	**01 08 07.0**	**-0.7**
LPSR					*e**PP		**PcP**	**01 08 35.0**	**+0.3**
LPSR					*e*S		**SKSac**	**01 17 38.7**	**-0.8**
LPSR					pmax		pmax		
	comp=Z,101nm,1.4s								
NAX	**Nakhchivan**		**66.77**	**303**	P		**P**	**01 08 09.2**	**+1.0**
N30M	**Aishikik Lake**		**66.81**	**31**	IAmb		IAmb	01 08 11.6	
	comp=Z,191nm,1.1s								
N30M	**Aishikik Lake**		**66.81**	**31**	P		**P**	**01 08 09.2**	**+1.2**
	baz=289,SNR=171								
N30M					S		**S**	**01 16 42.0**	**+2.4**
	baz=289								
HYT	**Haines Junctio**		**66.82**	**32**	IAmb		IAmb	01 08 11.8	
	comp=Z,339nm,1.0s								
HYT	**Haines Junctio**		**66.82**	**32**	P		**P**	**01 08 09.4**	**+1.2**
	baz=289,SNR=433								
HYT					S		**S**	**01 16 41.6**	**+1.7**
	baz=289								
VORR	**Voronezh**		**66.88**	**317**	*e*P		**P**	**01 08 07.9**	**-0.7**
VORR					*e**PP		**PcP**	**01 08 35.8**	**+0.6**
VORR					*e*S		**SKSac**	**01 17 38.4**	**-2.2**
VORR					pmax		pmax		
	comp=Z,133nm,1.4s								
TRLG	**Trialeti**		**66.98**	**306**	P		**P**	**01 08 10.8**	**+1.2**
GNI	**Garni**		**66.99**	**304**	P		**P**	**01 08 09.9**	**+0.2**
GNI	**Garni**		**66.99**	**304**	P		**P**	**01 08 11.3**	**+1.6**
GNI					P		**P**	**01 08 11.3**	**+1.6**
GNI	**Garni**		**66.99**	**304**	*ce*P		**P**	**01 08 11.3**	**+1.6**
GNI					pmax		pmax		
	comp=Z,199nm,1.7s								
GNI	**Garni**		**66.99**	**304**	P		**P**	**01 08 10.2**	**+0.5**
	comp=Z,2µmcomp=Z,102nm,1.5s								
GNI	**Garni**		**66.99**	**304**	P		**P**	**01 08 10.3**	**+0.5**
ARA0	**ARCESS Array S**		**67.01**	**338**	*e*P		**P**	**01 08 08.5**	**-0.7**
ARA0					IAmb		IAmb	01 08 10.5	
	comp=Z,190nm,1.4s								
ARA0					*e*S		**S**	**01 16 39.3**	**-2.4**
ARCES	**ARCESS Array B**		**67.01**	**338**	P		**P**	**01 08 08.9**	**-0.2**
ARCES	**ARCESS Array B**		**67.01**	**338**	P		**P**	**01 08 07.9**	**-1.2**
	comp=Z,46nm,0.9s,baz=73,slow=8.6,SNR=87								
ARCES					pP		**pP**	**01 09 07.2**	**+0.8**
	comp=Z,8.0nm,0.7s,baz=60,slow=5.8,SNR=1.3								
ARCES					PKiKP		**PKiKP**	**01 14 34.1**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=160,slow=1.1,SNR=5.0								
ARCES					P4KPbc			01 44 57.0	
	comp=Z,1.8nm,0.9s,baz=38,slow=4.6,SNR=4.8								
	comp=Z,46nm,0.9s								
ARCES	**ARCESS Array B**		**67.01**	**338**	P		**P**	**01 08 08.9**	**-0.2**
ARCES					pmax		pmax		
	comp=Z,174nm,1.4s								
VSR	**Storozhevoye**		**67.05**	**317**	*e*P		**P**	**01 08 06.3**	**-3.3**
VSR					*e*			01 08 34.0	
VSR					pmax		pmax		
	comp=Z,110nm,1.4s								
KBZ	**Khabaz**		**67.09**	**308**	P		**P**	**01 08 10.4**	**+0.4**
	comp=Z,56nm,0.8s,baz=69,slow=5.6,SNR=33								
KBZ					PKPPKP		**P'P'df**	**01 36 35.2**	**-2.5**
	comp=Z,5.8nm,1.1s,baz=230,slow=9.7,SNR=4.1								
	comp=Z,56nm,0.8s								
KBZ	**Khabaz**		**67.09**	**308**	*i* P		**P**	**01 08 08.3**	**-1.7**
KBZ					pmax		pmax		
	comp=Z,97nm,1.2s								
P29M	**Windy Craggy**		**67.10**	**33**	IAmb		IAmb	01 08 13.6	
	comp=Z,307nm,0.8s								
P29M	**Windy Craggy**		**67.10**	**33**	P		**P**	**01 08 11.1**	**+1.2**
	baz=289,SNR=227								
P29M					S		**S**	**01 16 45.4**	**+2.3**
	baz=289								
HAMF	**Hammerfest**		**67.15**	**339**	*e*P		**P**	**01 08 09.8**	**-0.2**
HAMF					IAmb		IAmb	01 08 11.1	
	comp=Z,266nm,1.5s								
HAMF					*e*S		**S**	**01 16 41.2**	**-2.0**
KIV	**Kislovodsk**		**67.16**	**309**	P		**P**	**01 08 10.3**	**-0.4**
KIV	**Kislovodsk**		**67.16**	**309**	P		**P**	**01 08 11.0**	**+0.4**
KIV					P		**P**	**01 08 11.0**	**+0.4**
KIV	**Kislovodsk**		**67.16**	**309**	⇓P		**P**	**01 08 11.5**	**+0.9**
KIV	**Kislovodsk**		**67.16**	**309**	*e*P		**P**	**01 08 10.1**	**-0.6**
KIV					*e*			01 08 36.2	
KIV					*e**PP		**pP**	**01 09 07.6**	**-0.4**
KIV					*e**SP		**sP**	**01 09 34.9**	**-0.2**
KIV					*e*PPP		PPP	01 12 20.6	
KIV					*e*S		**S**	**01 16 43.7**	**-0.7**
KIV					*e*SS		**SS**	**01 21 09.3**	**+1.0**
KIV					pmax		pmax		
	comp=Z,82nm,1.0s								
KIV					MLR		MLR		
	comp=Z,745nm,17.0s								
KIV	**Kislovodsk**		**67.16**	**309**	*i* P		**P**	**01 08 09.5**	**-1.1**
	SNR=30								
KIV	**Kislovodsk**		**67.16**	**309**	P		**P**	**01 08 10.7**	**+0.1**
	comp=Z,2µmcomp=Z,109nm,1.9s								
KIV	**Kislovodsk**		**67.16**	**309**	P		**P**	**01 08 10.0**	**-0.6**
KIV					PcP		**PcP**	**01 08 37.7**	**+1.0**
KIV	**Kislovodsk**		**67.16**	**309**	P		**P**	**01 08 10.1**	**-0.6**
KIV					S		**S**	**01 16 43.3**	**-1.2**
MSVF	**Nonsavu**		**67.21**	**128**	P		**P**	**01 08 12.4**	**+1.2**
MSVF					IAmb		IAmb	01 08 15.4	
	comp=Z,352nm,1.1s								
MSVF	**Nonsavu**		**67.21**	**128**	P		**P**	**01 08 13.7**	**+2.5**
MSVF	**Nonsavu**		**67.21**	**128**	*i* P		**P**	**01 08 11.9**	**+0.7**
MSVF					pmax		pmax		
	comp=Z,372nm,1.1s								
A36M	**Sachs Harbour**		**67.24**	**19**	P		**P**	**01 08 11.3**	**+0.8**
	baz=295,SNR=32								
A36M					S		**S**	**01 16 45.2**	**+1.1**
	baz=295								
SHA1	**Shidzhatmaz**		**67.25**	**308**	*i* P		**P**	**01 08 11.2**	**-0.2**
OBN	**Obninsk**		**67.27**	**321**	P		**P**	**01 08 10.4**	**-0.5**
OBN	**Obninsk**		**67.27**	**321**	*e*P		**P**	**01 08 10.5**	**-0.4**
OBN					*e*			01 08 36.4	
OBN					*e**PP		**pP**	**01 09 08.0**	**-0.3**
OBN					*e**SP		**sP**	**01 09 34.0**	**-1.4**
OBN					*e*			01 10 45.0	
OBN					*e*PPP		PPP	01 12 23.1	
OBN					pmax		pmax		
	comp=Z,77nm,1.3s								
P30M	**Million Dollar**		**67.31**	**33**	P		**P**	**01 08 12.4**	**+1.2**
	baz=290								
P30M					S		**S**	**01 16 48.7**	**+3.2**
	baz=290								
SLWR	**Sila**		**67.34**	**286**	P		**P**	**01 08 11.6**	**-0.3**
SLWR					P		**P**	**01 08 11.6**	**-0.3**
CAN	**Canberra**		**67.34**	**162**	IAmb		IAmb	01 08 16.1	
	comp=Z,436nm,1.2s								
CAN	**Canberra**		**67.34**	**162**	P		**P**	**01 08 13.3**	**+1.7**
LHI	**Lord Howe Isla**		**67.37**	**152**	P		**P**	**01 08 12.0**	**+0.2**
LHI					IAmb		I

WHFO	**Wadi Hawf**	**68.07**	**279**	P	**P**	**01 08 16.4**	**-0.3**
WHY	**Whitehorse**	**68.09**	**32**	P	**P**	**01 08 17.2**	**+1.0**
	baz=291,SNR=420						
WHY				S	**S**	**01 16 57.4**	**+2.5**
	baz=291						
ALE	**Alert**	**68.17**	**1**	P	**P**	**01 08 15.7**	**-0.4**
ALE				pP	**pP**	**01 09 12.2**	**-1.3**
FARO	**Faro, Yukon**	**68.20**	**30**	P	**P**	**01 08 17.8**	**+1.0**
	baz=292,SNR=785						
FARO				S	**S**	**01 16 58.1**	**+2.1**
	baz=292						
LABN	**Labinsk**	**68.25**	**310**	*e*P	**P**	**01 08 17.2**	**-0.1**
LABN				*e**PP	**pP**	**01 09 12.8**	**-2.0**
LABN				*e*S	**S**	**01 16 59.5**	**+2.4**
LABN				pmax	pmax		
	comp=Z,35nm,0.7s						
BRAT	**Ballarat**	**68.25**	**167**	P	**P**	**01 08 19.1**	**+2.0**
SKAG	**Skagway**	**68.31**	**33**	P	**P**	**01 08 19.4**	**+2.0**
SKAG	**Skagway**	**68.31**	**33**	P	**P**	**01 08 18.6**	**+1.2**
	baz=291,SNR=101						
SKAG				S	**S**	**01 17 00.9**	**+3.6**
	baz=291						
S31K	**Pelican**	**68.41**	**35**	IAmb	IAmb	01 08 21.3	
	comp=Z,223nm,1.1s						
S31K	**Pelican**	**68.41**	**35**	P	**P**	**01 08 19.0**	**+1.0**
	baz=291,SNR=116						
S31K				S	**S**	**01 17 00.2**	**+1.7**
	baz=291						
R31K	**City Hall, Gus**	**68.49**	**34**	P	**P**	**01 08 19.5**	**+1.0**
	baz=291						
R31K				S	**S**	**01 17 03.2**	**+3.8**
	baz=291						
MHA	**Mahukona**	**68.51**	**78**	P	**P**	**01 08 21.6**	**+2.3**
MHA	**Mahukona**	**68.51**	**78**	P	**P**	**01 08 21.6**	**+2.3**
TOO	**Toolangi**	**68.61**	**165**	P	**P**	**01 08 20.4**	**+1.0**
TOO				IAmb	IAmb	01 08 22.7	
	comp=Z,227nm,1.4s						
TOO	**Toolangi**	**68.61**	**165**	P	**P**	**01 08 20.4**	**+1.0**
TOO				pmax	pmax		
	comp=Z,227nm,1.4s						
JETT	**Jettan, Norway**	**68.63**	**339**	*e*P	**P**	**01 08 19.2**	**-0.1**
JETT				IAmb	IAmb	01 08 20.7	
	comp=Z,310nm,1.3s						
KBD	**Kabd**	**68.66**	**292**	P	**P**	**01 08 20.7**	**+0.6**
ABTO	**Aybut**	**68.72**	**278**	P	**P**	**01 08 20.9**	**+0.2**
ABTO				P	**P**	**01 08 20.9**	**+0.2**
N32M	**Quiet Lake**	**68.72**	**31**	P	**P**	**01 08 20.7**	**+0.7**
	baz=292						
N32M				S	**S**	**01 17 04.2**	**+1.9**
	baz=292						
HPAH	**Hawaii Prepara**	**68.75**	**78**	P	**P**	**01 08 22.0**	**+1.2**
HPAH				IAmb	IAmb	01 08 24.0	
	comp=Z,342nm,1.0s						
KHLU	**Kahalu`u**	**68.76**	**79**	P	**P**	**01 08 22.3**	**+1.3**
KHLU				IAmb	IAmb	01 08 24.2	
	comp=Z,374nm,1.0s						
HUH	**Hualalai**	**68.77**	**79**	P	**P**	**01 08 21.2**	**-0.1**
HUH				IAmb	IAmb	01 08 24.6	
	comp=Z,458nm,1.5s						
MMPY	**Sheldon Lake,**	**68.95**	**29**	IAmb	IAmb	01 08 24.8	
	comp=Z,163nm,0.8s						
MMPY	**Sheldon Lake,**	**68.95**	**29**	P	**P**	**01 08 22.4**	**+1.0**
	baz=293,SNR=221						
MMPY				S	**S**	**01 17 07.6**	**+2.7**
	baz=293						
POHA	**Pohakuloa**	**69.00**	**79**	P	**P**	**01 08 23.3**	**+0.7**
POHA	**Pohakuloa**	**69.00**	**79**	P	**P**	**01 08 24.6**	**+2.0**
P32M	**Atlin**	**69.03**	**33**	IAmb	IAmb	01 08 25.2	
	comp=Z,185nm,0.9s						
P32M	**Atlin**	**69.03**	**33**	P	**P**	**01 08 22.8**	**+0.9**
	baz=292,SNR=95						
P32M				S	**S**	**01 17 08.8**	**+3.0**
	baz=292						
TRO	**Tromso**	**69.06**	**339**	*e*P	**P**	**01 08 18.8**	**-3.0**
TRO				IAmb	IAmb	01 08 22.1	
	comp=Z,90nm,1.2s						
TRO				*e*S	**S**	**01 17 02.3**	**-3.4**
HOMI	**Horasan**	**69.06**	**305**	⇑P	**P**	**01 08 23.4**	**+0.7**
MWH	**Mokuaweoweo**	**69.06**	**79**	P	**P**	**01 08 23.4**	**0.0**
MWH				IAmb	IAmb	01 08 26.6	
	comp=Z,492nm,1.2s						
HMH	**Humu'ula Sheep**	**69.11**	**79**	P	**P**	**01 08 23.8**	**+0.4**
HMH				IAmb	IAmb	01 08 27.0	
	comp=Z,289nm,0.9s						
VSLR	**Vesyoloye**	**69.14**	**309**	P	**P**	**01 08 22.1**	**-0.7**
VSLR				pmax	pmax		
	comp=Z,144nm,1.1s						
R32K	**Eaglecrest**	**69.14**	**34**	IAmb	IAmb	01 08 26.1	
	comp=Z,241nm,0.9s						
R32K	**Eaglecrest**	**69.14**	**34**	P	**P**	**01 08 23.8**	**+1.2**
	baz=292,SNR=116						
R32K				S	**S**	**01 17 12.1**	**+4.9**
	baz=292						
KHU	**Kahuku**	**69.15**	**79**	P	**P**	**01 08 24.3**	**+0.8**
KHU	**Kahuku**	**69.15**	**79**	P	**P**	**01 08 24.3**	**+0.8**
KHU				pmax	pmax		
	comp=Z,817nm,1.0s						
SIT	**Sitka**	**69.20**	**35**	IAmb	IAmb	01 08 26.4	
	comp=Z,314nm,1.0s						
SIT	**Sitka**	**69.20**	**35**	P	**P**	**01 08 24.8**	**+1.9**
SIT	**Sitka**	**69.20**	**35**	P	**P**	**01 08 24.1**	**+1.3**
	baz=292,SNR=117						
SIT				S	**S**	**01 17 10.9**	**+3.1**
	baz=292						
P33M	**Teslin, Yukon**	**69.21**	**32**	IAmb	IAmb	01 08 26.4	
	comp=Z,386nm,1.1s						
P33M	**Teslin, Yukon**	**69.21**	**32**	P	**P**	**01 08 23.9**	**+0.9**
	baz=293,SNR=404						
P33M				S	**S**	**01 17 10.4**	**+2.4**
	baz=293						
JIS	**Juneau Island**	**69.21**	**34**	P	**P**	**01 08 24.7**	**+1.8**
AIN	**Ainahou**	**69.23**	**79**	P	**P**	**01 08 25.8**	**+1.9**
MLH	**Mauna Loa**	**69.24**	**79**	P	**P**	**01 08 25.3**	**+1.2**
SOC	**Sochi**	**69.31**	**309**	*d* iP	**P**	**01 08 22.1**	**-1.7**
SOC				*e**PP	**pP**	**01 09 21.1**	**-0.4**
SOC				*e**SP	**sP**	**01 09 46.9**	**-1.6**
SOC				*e*		01 10 56.3	
SOC				*e*PPP	PPP	01 12 43.7	
SOC				*e*S	**S**	**01 17 08.3**	**-1.2**
SOC				*e*SS	**SS**	**01 21 41.5**	**+0.4**
SOC				pmax	pmax		
	comp=Z,95nm,0.7s						
UWE	**Uwekahuna**	**69.35**	**79**	IAmb	IAmb	01 08 35.7	
	comp=Z,329nm,1.1s						
HATHI	**Halema'uma'u T**	**69.38**	**79**	IAmb	IAmb	01 08 28.2	
	comp=Z,248nm,1.2s						
BYL	**Byron's Ledge**	**69.38**	**79**	IAmb	IAmb	01 08 28.2	
	comp=Z,377nm,1.3s						
S32K	**Killisnoo**	**69.42**	**35**	IAmb	IAmb	01 08 27.5	
	comp=Z,210nm,1.2s						
S32K	**Killisnoo**	**69.42**	**35**	P	**P**	**01 08 25.3**	**+1.1**
	baz=292,SNR=80						
S32K				S	**S**	**01 17 14.6**	**+4.2**
	baz=292						
GURO	**Guroymak-BITLI**	**69.52**	**303**	IAmb	IAmb	01 08 29.3	
	comp=Z,285nm,1.6s						
Q32M	**Nakina River**	**69.96**	**33**	P	**P**	**01 08 28.8**	**+1.1**
	baz=294,SNR=145						
Q32M				S	**S**	**01 17 19.6**	**+2.6**
	baz=294						
FIA1	**FINESS Array S**	**70.05**	**330**	IAmb	IAmb	01 08 30.5	
	comp=Z,284nm,1.1s						
FINES	**FINESS Array B**	**70.05**	**330**	P	**P**	**01 08 26.7**	**-1.2**
FINES	**FINESS Array B**	**70.05**	**330**	P	**P**	**01 08 27.0**	**-0.9**
	comp=Z,68nm,0.6s,baz=71,slow=5.1,SNR=146						
FINES				pP	**pP**	**01 09 26.2**	**+0.4**
	comp=Z,11nm,0.6s,baz=64,slow=4.4,SNR=1.2						
FINES				PKiKP	**PKiKP**	**01 14 38.2**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=222,slow=1.9,SNR=1.4						
FINES				PKPPKP	P'P'df	01 36 22.4	-11
	comp=Z,11nm,1.4s,baz=211,slow=2.2,SNR=6.3						
	comp=Z,68nm,0.6s						
KEF	**Keuruu**	**70.26**	**331**	*e*P	**P**	**01 08 26.9**	**-2.3**
ANN	**Anapa**	**70.38**	**311**	*e*P	**P**	**01 08 28.5**	**-1.8**
ANN				*e*		01 08 48.0	
ANN				*e**PP	**pP**	**01 09 26.0**	**-2.2**
ANN				*e*		01 11 07.4	
ANN				*e*PPP	PPP	01 12 54.4	
ANN				*e*S	**S**	**01 17 20.8**	**-1.1**
ANN				pmax	pmax		
	comp=Z,137nm,1.4s						
R33M	**Jennings River**	**70.39**	**32**	IAmb	IAmb	01 08 34.1	
	comp=Z,188nm,0.9s						
R33M	**Jennings River**	**70.39**	**32**	P	**P**	**01 08 31.5**	**+1.2**
	baz=295,SNR=332						
R33M				S	**S**	**01 17 25.0**	**+3.1**
	baz=295						
T33K	**Petersburg**	**70.49**	**35**	P	**P**	**01 08 32.1**	**+1.4**
	baz=294						
T33K				S	**S**	**01 17 26.4**	**+3.6**
	baz=294						
TGTN	**Hyland Airport**	**70.69**	**30**	P	**P**	**01 08 32.9**	**+1.0**
	baz=296						
TGTN				S	**S**	**01 17 26.3**	**+1.2**
	baz=296						
U33K	**Whale Pass**	**70.69**	**36**	IAmb	IAmb	01 08 35.4	
	comp=Z,210nm,0.8s						
U33K	**Whale Pass**	**70.69**	**36**	P	**P**	**01 08 33.0**	**+1.1**
	baz=294,SNR=142						
U33K				S	**S**	**01 17 28.1**	**+3.0**
	baz=294						
S34M	**Telegraph Cree**	**70.94**	**34**	IAmb	IAmb	01 08 37.1	
	comp=Z,188nm,0.9s						
S34M	**Telegraph Cree**	**70.94**	**34**	P	**P**	**01 08 34.5**	**+1.1**
	baz=295,SNR=164						
S34M				S	**S**	**01 17 30.6**	**+2.7**
	baz=295						
ARBE	**Arbavere**	**70.95**	**328**	*e*P	**P**	**01 08 32.3**	**-1.1**
CRAG	**Craig**	**70.96**	**37**	IAmb	IAmb	01 08 37.8	
	comp=Z,193nm,1.0s						
CRAG	**Craig**	**70.96**	**37**	P	**P**	**01 08 35.0**	**+1.5**
CRAG	**Craig**	**70.96**	**37**	P	**P**	**01 08 34.7**	**+1.1**
	baz=294,SNR=55						
CRAG				S	**S**	**01 17 30.7**	**+2.6**
	baz=294						
WRAK	**Wrangell Islan**	**70.96**	**35**	IAmb	IAmb	01 08 36.9	
	comp=Z,192nm,0.9s						
WRAK	**Wrangell Islan**	**70.96**	**35**	P	**P**	**01 08 34.7**	**+1.2**
	baz=294,SNR=68						
WRAK				S	**S**	**01 17 31.0**	**+2.8**
	baz=294						
VSU	**Vasula**	**71.02**	**327**	*ce*P	**P**	**01 08 32.9**	**-0.9**
VSU				pmax	pmax		
	comp=Z,355nm,1.7s						
VSU	**Vasula**	**71.02**	**327**	*e*P	**P**	**01 08 31.8**	**-2.0**
STEI	**Steigen**	**71.07**	**338**	*e*P	**P**	**01 08 33.5**	**-0.5**
STEI				IAmb	IAmb	01 08 34.5	
	comp=Z,269nm,1.2s						
WTLY	**Watson Lake, Y**	**71.08**	**31**	IAmb	IAmb	01 08 37.6	
	comp=Z,325nm,0.8s						
WTLY	**Watson Lake, Y**	**71.08**	**31**	P	**P**	**01 08 35.3**	**+1.1**
	baz=296,SNR=98						
WTLY				S	**S**	**01 17 31.2**	**+1.6**
	baz=296						
DLBC	**Dease Lake**	**71.24**	**33**	P	**P**	**01 08 36.7**	**+1.4**
	baz=296,SNR=244						
DLBC				S	**S**	**01 17 34.5**	**+2.9**
	baz=296						
MEF	**Metsahovi**	**71.33**	**329**	*e*P	**P**	**01 08 34.7**	**-0.9**
FAUS	**Fauske**	**71.35**	**338**	*e*P	**P**	**01 08 34.6**	**-1.1**
FAUS				IAmb	IAmb	01 08 36.8	
	comp=Z,300nm,1.3s						
FAUS				*e*S	**S**	**01 17 31.1**	**-1.1**
LOF	**Lofoten**	**71.50**	**339**	*e*P	**P**	**01 08 33.2**	**-3.4**
LOF				IAmb	IAmb	01 08 37.2	
	comp=Z,220nm,1.5s						
LOF				*e*S	**S**	**01 17 35.0**	**+1.0**
T35M	**Bob Quinn**	**71.77**	**34**	IAmb	IAmb	01 08 42.3	
	comp=Z,210nm,0.9s						
T35M	**Bob Quinn**	**71.77**	**34**	P	**P**	**01 08 39.9**	**+1.5**
	baz=296,SNR=158						
T35M				S	**S**	**01 17 40.7**	**+3.1**
	baz=296						
V35K	**Ketchikan**	**71.80**	**36**	P	**P**	**01 08 39.3**	**+0.8**
	baz=295,SNR=23						
V35K				S	**S**	**01 17 40.6**	**+2.8**
	baz=295						
WRGLY	**Wrigley**	**71.88**	**27**	P	**P**	**01 08 40.0**	**+1.2**
	baz=299,SNR=105						
WRGLY				S	**S**	**01 17 40.5**	**+2.1**
	baz=299						
DAG	**Danmarks Havn**	**72.08**	**352**	P	**P**	**01 08 38.5**	**-1.4**
DAG	**Danmarks Havn**	**72.08**	**352**	*i* P	**P**	**01 08 38.5**	**-1.4**
DAG				IAmb	IAmb	01 08 42.6	
	comp=Z,37nm,0.7s						
RAF	**Rauma**	**72.11**	**331**	*e*P	**P**	**01 08 37.8**	**-2.4**
MNK	**Minsk**	**72.15**	**323**	*i* P	**P**	**01 08 39.6**	**-1.0**
MNK				*i*		01 11 27.1	
MNK				*i* PPP	PPP	01 13 15.3	
MNK				*i* S	**S**	**01 17 42.2**	**+0.4**
MNK				*i* SS	**SS**	**01 22 28.3**	**+4.4**
MNK				pmax	pmax		
	comp=Z,87nm,0.8s						
MNK				pmax	pmax		
	comp=E,2μm,17.0s						
MNK				pmax	pmax		
	comp=N,2μm,18.5s						
MNK				MLR	MLR		
	comp=Z,1μm,17.0s						
DIB	**Dawson Inlet,**	**72.25**	**39**	IAmb	IAmb	01 08 43.8	
	comp=Z,290nm,0.8s						
H02S1	**DAWSON INLET T**	**72.25**	**39**	P	**P**	**01 08 42.1**	**+0.8**
	SNR=2455						
MOR8	**Moi Rana**	**72.28**	**337**	*e*P	**P**	**01 08 37.6**	**-3.7**
MOR8				IAmb	IAmb	01 08 41.2	
	comp=Z,381nm,1.3s						
MOR8				*e*PP	**PP**	**01 11 22.4**	**-2.6**
MOR8				*e*S	**S**	**01 17 40.7**	**-2.3**
U35K	**Hyder**	**72.35**	**35**	P	**P**	**01 08 43.0**	**+1.2**
	baz=296						
U35K				S	**S**	**01 17 46.7**	**+2.7**
	baz=296						
VAGH	**Vaagaholmen**	**72.37**	**338**	*e*P	**P**	**01 08 39.6**	**-2.1**
VAGH				IAmb	IAmb	01 08 42.5	
	comp=Z,272nm,1.6s						
VAGH				*e*PP	**PP**	**01 11 24.3**	**-1.3**
VAGH				*e*S	**S**	**01 17 42.6**	**-1.2**
IDID	**Didziasalis**	**72.39**	**324**	*e*P	**P**	**01 08 40.0**	**-2.0**
RES	**Resolute Bay**	**72.44**	**11**	IAmb	IAmb	01 08 44.3	
	comp=Z,620nm,1.6s						
GLAD	**Gladstone**	**72.44**	**164**	P	**P**	**01 08 43.9**	**+1.5**
SIM	**Simferopol'**	**72.49**	**312**	*e*P	**P**	**01 08 38.7**	**-4.2**
SIM				*e*S	**S**	**01 17 39.8**	**-6.3**
SIM				pmax	pmax		
	comp=Z,75nm,1.3s						
SIM				smax	smax		
	comp=E,299nm,16.5s						
ISAL	**Salakas**	**72.58**	**324**	*e*P	**P**	**01 08 43.4**	**+0.2**
LIRD	**Liard River Hi**	**72.61**	**31**	P	**P**	**01 08 44.7**	**+1.3**
	baz=298						
LIRD				S	**SKiKP**	**01 17 49.2**	**-1.6**
	baz=298						
STOK	**Stokkvaagen**	**72.67**	**337**	*e*P	**P**	**01 08 40.5**	**-3.0**
STOK				*e*S	**S**	**01 17 46.5**	**-0.8**
RAYN	**Ar Rayn**	**72.74**	**288**	P	**P**	**01 08 44.0**	**-0.7**
RAYN	**Ar Rayn**	**72.74**	**288**	P	**P**	**01 08 45.0**	**+0.3**
RAYN	**Ar Rayn**	**72.74**	**288**	P	**P**	**01 08 44.1**	**-0.7**
RAYN				pmax	pmax		
	comp=Z,51nm,0.8s						
RAYN	**Ar Rayn**	**72.74**	**288**	*i* P	**P**	**01 08 44.2**	**-0.5**
	SNR=8.3						
LEIR	**Leirfjorden**	**72.77**	**337**	*e*P	**P**	**01 08 41.7**	**-2.4**
LEIR				*e*PP	**PP**	**01 11 30.1**	**+1.0**
LEIR				*e*S	**S**	**01 17 46.5**	**-1.9**
RUBB	**Prince Rupert**	**72.95**	**37**	IAmb	IAmb	01 08 48.2	
	comp=Z,562nm,1.9s						
AKASG	**Malin Array Be**	**73.06**	**319**	P	**P**	**01 08 44.5**	**-1.5**
AKASG	**Malin Array Be**	**73.06**	**319**	P	**P**	**01 08 45.0**	**-1.1**
	comp=Z,34nm,0.5s,baz=55,slow=6.1,SNR=51						
AKASG				pP	**pP**	**01 09 45.0**	**+0.6**
	comp=Z,23nm,0.8s,baz=57,slow=6.3,SNR=2.8						
AKASG				PKiKP	**PKiKP**	**01 14 43.2**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=61,slow=1.8,SNR=4.4						
	comp=Z,34nm,0.5s						
AKBB	**Malin Array Si**	**73.06**	**319**	IAmb	IAmb	01 08 49.2	
	comp=Z,251nm,1.6s						
AKBB	**Malin Array Si**	**73.06**	**319**	*ce*P	**P**	**01 08 45.2**	**-0.9**
AKBB				pmax	pmax		
	comp=Z,53nm,0.6s						
KIEV	**Kiev**	**73.07**	**319**	P	**P**	**01 08 45.1**	**-1.0**
KIEV	**Kiev**	**73.07**	**319**	⇑P	**P**	**01 08 45.5**	**-0.7**
KIEV	**Kiev**	**73.07**	**319**	P	**P**	**01 08 45.1**	**-1.0**
KIEV				pmax	pmax		
	comp=Z,246nm,1.6s						
KIEV	**Kiev**	**73.07**	**319**	*i* P	**P**	**01 08 44.2**	**-1.9**
	SNR=34						
KOTAN	**Kotaneelee Air**	**73.17**	**30**	P	**P**	**01 08 47.5**	**+0.9**
	baz=300,SNR=23						
KOTAN				S	**S**	**01 17 55.3**	**+2.1**
	baz=300						
TOAD	**Toad River Com**	**73.28**	**31**	P	**P**	**01 08 48.0**	**+0.7**
	baz=299,SNR=226						
TOAD				S	**S**	**01 17 55.1**	**+0.6**
	baz=299						
HG4B	**Hotspring**	**73.35**	**39**	IAmb	IAmb	01 08 50.3	
	comp=Z,316nm,1.1s						
NEEM	**North Greenlan**	**73.37**	**360**	*i* P	**P**	**01 08 47.3**	**-0.6**
NEEM				IAmb	IAmb	01 08 49.4	
	comp=Z,124nm,0.6s						
SLIT	**Slitere, Latvi**	**73.50**	**327**	*e*P	**P**	**01 08 46.9**	**-1.6**
MOO	**Moorlands**	**73.64**	**165**	P	**P**	**01 08 50.6**	**+1.2**
PABE	**Paberze**	**73.70**	**325**	IAmb	IAmb	01 08 53.8	
	comp=Z,169nm,0.7s						
PABE	**Paberze**	**73.70**	**325**	*e*P	**P**	**01 08 48.7**	**-1.0**
TULEG	**Thule**	**73.76**	**4**	IAmb	IAmb	01 08 51.4	
	comp=Z,264nm,1.1s						
TULEG	**Thule**	**73.76**	**4**	*i* P	**P**	**01 08 48.4**	**-1.3**
BZK	**Bozkurt**	**73.81**	**309**	P	**P**	**01 08 51.6**	**+1.0**
	comp=Z,117nm,1.0s						
MI28	**Mi28,Pidlybu**	**73.84**	**320**	P	**P**	**01 08 50.0**	**-0.6**
BAL3X	**Bal3x, Balta**	**74.05**	**316**	P	**P**	**01 08 51.7**	**-0.2**
NSS	**Namsos**	**74.07**	**336**	*e*P	**P**	**01 08 49.6**	**-2.1**
TAU	**Tasmania Unive**	**74.12**	**165**	P	**P**	**01 08 53.9**	**+1.8**
TAU				IAmb	IAmb	01 08 55.2	
	comp=Z,192nm,1.0s						
TAU	**Tasmania Unive**	**74.12**	**165**	P	**P**	**01 08 53.4**	**+1.3**
TAU	**Tasmania Unive**	**74.12**	**165**	P	**P**	**01 08 53.9**	**+1.8**
TAU				pmax	pmax		
	comp=Z,192nm,1.0s						
LUBAR	**Lubar, Ukraine**	**74.25**	**319**	P	**P**	**01 08 51.9**	**-1.1**
DBG	**Daneborg**	**74.44**	**351**	*i* P	**P**	**01 08 52.4**	**-1.3**
PBUR	**Paburge**	**74.46**	**326**	*e*P	**P**	**01 08 52.7**	**-1.4**
PURM	**Purcari**	**74.51**	**315**	⇓P	**P**	**01 08 54.0**	**-0.5**
RNPP9	**Sopachiv**	**74.62**	**321**	P	**P**	**01 08 54.1**	**-1.0**
RNPP8	**Varash**	**74.67**	**321**	P	**P**	**01 08 54.8**	**-0.6**
RNPP5	**Staryi Chortor**	**74.70**	**320**	P	**P**	**01 08 55.0**	**-0.6**
SUW	**Suwalki**	**74.82**	**324**	*e*P	**P**	**01 08 55.2**	**-1.0**
SUW				*e*pP	**pP**	**01 09 56.1**	**+1.3**
SUW				*e*sP	**sP**	**01 10 20.2**	**-1.4**
SUW				*e*PKiKP	**PKiKP**	**01 14 47.1**	**+2.4**
SUW				*e*S	**S**	**01 18 10.1**	**-1.7**
SUW	**Suwalki**	**74.82**	**324**	*e*P	**P**	**01 08 55.3**	**-0.9**
KIS	**Kishinev**	**74.94**	**316**	*d* iP	**P**	**01 08 56.0**	**-1.0**
KIS				*i* *PP	**pP**	**01 09 56.0**	**+0.3**
KIS				*e*S	**S**	**01 18 07.0**	**-6.3**
KIS				pmax	pmax		
	comp=Z,480nm,10.2s						
KIS				pmax	pmax		
	comp=Z,500nm,15.0s						
MILM	**Milestii Mici**	**74.98**	**316**	*d* iP	**P**	**01 08 55.0**	**-2.3**
MILM				*i* *PP	**pP**	**01 09 55.0**	**-0.9**
MILM				*e*S	**S**	**01 18 08.0**	**-5.7**
MILM				pmax	pmax		
	comp=Z,1μm,6.4s						
MILM				pmax	pmax		
	comp=N,2μm,21.0s						
BR131	**Keskin Array S**	**75.02**	**307**	P	**P**	**01 08 57.0**	**-0.9**
	SNR=49						
BR131	**Keskin Array S**	**75.02**	**307**	*i* P	**P**	**01 08 56.3**	**-1.5**
BRTR	**Keskin Array B**	**75.02**	**307**	P	**P**	**01 08 56.7**	**-1.1**
BRTR	**Keskin Array B**	**75.02**	**307**	P	**P**	**01 08 56.9**	**-1.0**
	comp=N,34nm,0.7s,baz=98,slow=5.1,SNR=86						
BRTR				pP	**pP**	**01 09 56.8**	**+0.3**
	comp=N,56nm,0.9s,baz=95,slow=5.0,SNR=6.4						
BRTR				PKKPbc	**PKKPbc**	**01 28 23.6**	**+5.2**
	comp=N,0.7nm,0.8s,baz=358,slow=4.0,SNR=3.8						
BRTR				PKPPKP	**P'P'df**	**01 36 23.2**	**-0.9**
	comp=N,0.7nm,0.8s,baz=151,slow=2.8,SNR=4.8						
	comp=N,34nm,0.7s						
BRTR	**Keskin Array B**	**75.02**	**307**	*i* P	**P**	**01 08 56.9**	**-0.9**
BRTR				pmax	pmax		
	comp=Z,35nm,0.7s						
BR104	**Keskin Array S**	**75.02**	**307**	P	**P**	**01 08 57.1**	**-0.7**
	comp=Z,608nmcomp=Z,73nm,1.4s						
BR106	**Keskin Array S**	**75.03**	**307**	P	**P**	**01 08 57.3**	**-0.6**
	comp=Z,626nmcomp=Z,73nm,1.3s						
BBB	**Bella Bella**	**75.08**	**38**	IAmb	IAmb	01 09 00.3	
	comp=Z,223nm,1.4s						
KIRS	**Kirsehir-Merke**	**75.08**	**307**	⇑P	**P**	**01 08 57.8**	**-0.3**
NDNU	**Novodnistrovsk**	**75.08**	**318**	P	**P**	**01 08 56.3**	**-1.5**
NDNU	**Novodnistrovsk**	**75.08**	**318**	P	**P**	**01 08 56.6**	**-1.2**
JNW	**Jan Mayen West**	**75.24**	**347**	*e*P	**P**	**01 08 57.5**	**-0.7**
JNE	**Jan Mayen East**	**75.24**	**346**	*e*P	**P**	**01 08 57.5**	**-0.7**
JMIC	**Jan Mayen**	**75.29**	**347**	*e*P	**P**	**01 08 57.5**	**-1.0**
HORU	**Horodok**	**75.34**	**318**	P	**P**	**01 08 58.3**	**-1.0**
JMI	**Jan Mayen**	**75.38**	**347**	*e*P	**P**	**01 08 59.1**	**0.0**
XMAS	**Kiritimati**	**75.44**	**96**	P	**P**	**01 09 02.9**	**+2.5**
XMAS	**Kiritimati**	**75.44**	**96**	P	**P**	**01 09 02.9**	**+2.5**
ANTO	**Ankara**	**75.54**	**308**	P	**P**	**01 09 00.9**	**+0.2**
ANTO	**Ankara**	**75.54**	**308**	P	**P**	**01 09 00.7**	**+0.1**
ANTO	**Ankara**	**75.54**	**308**	⇑P	**P**	**01 09 01.0**	**+0.3**
ANTO	**Ankara**	**75.54**	**308**	P	**P**	**01 09 00.9**	**+0.2**
ANTO				pmax	pmax		
	comp=Z,88nm,1.2s						
ANTO	**Ankara**	**75.54**	**308**	P	**P**	**01 09 00.9**	**+0.2**
	comp=Z,757nmcomp=Z,43nm,1.4s						
ANTO	**Ankara**	**75.54**	**308**	P	**P**	**01 08 59.7**	**-1.0**
YKAW3	**Yellowknife Wh**	**75.63**	**25**	IAmb	IAmb	01 09 03.7	
	comp=Z,602nm,1.1s						
YKA	**Yellowknife Ar**	**75.68**	**25**	P	**P**	**01 09 01.2**	**+0.3**
	comp=Z,229nm,0.9s,baz=306,slow=6.1,SNR=333						
YKA				S	**S**	**01 18 22.8**	**+1.9**
	comp=Z,3.2nm,1.1s,baz=313,slow=11,SNR=4.6						
YKA				PKPPKP	**P'P'df**	**01 36 17.7**	**-6.2**
	comp=Z,0.7nm,0.8s,baz=98,slow=1.6,SNR=4.2						
	comp=Z,229nm,0.9s						
YKAW1	**Yellowknife Wh**	**75.73**	**25**	IAmb	IAmb	01 09 04.2	
	comp=Z,536nm,1.1s						
TLCR		**75.77**	**314**	⇓P	**P**	**01 09 01.4**	**-0.4**
TLCR		**75.77**	**314**	P	**P**	**01

DOMB Dombas 76.62 335 *e*P **P** **01 09 05.0 -1.3**
DOMB *e*S **S** **01 18 28.2 -3.0**
MMAI Mount Meron Ar 76.69 300 P **P** **01 09 06.2 -1.1**
comp=Z,14nm,0.6s,baz=74,slow=7.3,SNR=29
MMAI pP **pP** **01 10 06.9 +0.7**
comp=Z,17nm,1.0s,baz=53,slow=15,SNR=2.8
MMAI PKKPbc **PKKPbc** **01 28 16.2 +1.6**
comp=Z,4.8nm,0.9s,baz=256,slow=2.5,SNR=4.2
comp=Z,14nm,0.6s
ONER Baraj Valea Uz 76.73 316 ⇑P **P** **01 09 07.0 -0.2**
VRI Vrincioaia 76.75 315 ⇑P **P** **01 09 07.7 +0.3**
VRI Vrincioaia 76.75 315 P **P** **01 09 07.6 +0.3**
VRI Vrincioaia 76.75 315 P **P** **01 09 07.8 +0.5**
comp=Z,2µmcomp=Z,118nm,1.3s
R9F13 Warsaw-Wawer 76.79 323 *e*P **P** **01 09 07.0 -0.3**
R9F13 *e*pP **pP** **01 10 09.6 +3.4**
R9F13 *e*S **S** **01 18 33.7 +0.5**
R9F13 *e*SS **SS** **01 23 32.4 -1.7**
PLOR5 Plostina Array 76.80 315 P **P** **01 09 08.8 +1.2**
comp=Z,2µmcomp=Z,76nm,0.8s
PLOR Plostina 76.81 315 ⇑P **P** **01 09 07.9 +0.2**
PLOR Plostina 76.81 315 P **P** **01 09 07.8 +0.2**
BURAR Bucovina Array 76.82 317 P **P** **01 09 06.8 -0.9**
BURAR Bucovina Array 76.82 317 ⇑P **P** **01 09 07.2 -0.5**
BURAR Bucovina Array 76.82 317 P **P** **01 09 07.2 -0.5**
GRER 76.83 315 ⇑P **P** **01 09 08.5 +0.8**
MOL Molde 76.84 336 *e*P **P** **01 09 04.0 -3.4**
ICOR Ion Corvin 76.91 313 ⇑P **P** **01 09 08.3 +0.1**
COVR Voineasa-Covas 77.08 315 ⇓P **P** **01 09 09.7 +0.5**
TURR Turia 77.09 316 ⇑P **P** **01 09 09.0 -0.2**
BEL Belsk 77.17 323 *e*P **P** **01 09 09.3 -0.1**
BEL *e*pP **pP** **01 10 11.3 +2.9**
BEL *e*S **S** **01 18 36.2 -1.2**
RAK Rakhov 77.20 318 P **P** **01 09 10.2 +0.5**
OZUR 77.21 316 ⇑P **P** **01 09 09.5 -0.5**
ISR Istrita 77.22 315 ⇑P **P** **01 09 10.4 +0.4**
ISR Istrita 77.22 315 P **P** **01 09 10.4 +0.4**
ISR Istrita 77.22 315 P **P** **01 09 10.8 +0.8**
comp=Z,2µmcomp=Z,58nm,1.2s
NEHR Nehoiu 77.23 315 ⇑P **P** **01 09 10.7 +0.7**
KWP Kalwaria Pacla 77.26 320 *e*P **P** **01 09 09.5 -0.5**
KWP *e*S **S** **01 18 37.5 -1.0**
KWP Kalwaria Pacla 77.26 320 P **P** **01 09 10.0 0.0**
comp=Z,2µmcomp=Z,212nm,1.2s
OUZ Omahuta 77.28 143 P **P** **01 09 12.1 +2.0**
OUZ Omahuta 77.28 143 P **P** **01 09 12.2 +2.1**
OSL Oslo 77.28 333 *e*P **P** **01 09 07.8 -2.1**
OSL *e*S **S** **01 18 35.5 -2.7**
AKN Aaknes 77.29 336 *e*P **P** **01 09 09.2 -0.8**
BOSR Bodos 77.30 316 ⇑P **P** **01 09 10.6 +0.2**
MSEY Mahe Island 77.31 257 P **P** **01 09 12.6 +1.7**
CSS Mathiatis 77.35 303 P **P** **01 09 10.5 -0.4**
comp=Z,2µmcomp=Z,132nm,0.8s
MEZ Mezhgor'ye 77.36 319 P **P** **01 09 11.5 +0.9**
MLR Muntele Rosu 77.41 315 ⇑P **P** **01 09 12.2 +1.0**
MLR Muntele Rosu 77.41 315 P **P** **01 09 12.1 +1.0**
MLR Muntele Rosu 77.41 315 P **P** **01 09 11.5 +0.4**
comp=Z,1µmcomp=Z,41nm,1.2s
KLYT Kilyos 77.45 310 ⇓P **P** **01 09 11.6 +0.3**
KLYT Kilyos 77.45 310 P **P** **01 09 11.1 -0.1**
DOPR Dopca 77.52 316 ⇑P **P** **01 09 11.7 +0.1**
ARCR ARCALIA 77.59 317 ⇑P **P** **01 09 11.1 -0.8**
STRU Stroemstad 77.64 332 *i* P **P** **01 09 10.3 -1.6**
SKAR Skarslia 77.76 334 *e*P **P** **01 09 10.5 -2.2**
SKAR *e*S **S** **01 18 42.9 -0.7**
BMR Baia Mare 77.80 318 ⇓P **P** **01 09 12.4 -0.7**
BMR Baia Mare 77.80 318 P **P** **01 09 12.3 -0.7**
BORU Boraas 77.81 330 *i* P **P** **01 09 11.6 -1.3**
CTYL Yalikoy Yolu 77.85 311 ⇑P **P** **01 09 13.4 0.0**
CTYL Yalikoy Yolu 77.85 311 P **P** **01 09 13.1 -0.3**
comp=Z,2µmcomp=Z,94nm,1.1s
SUMG Summit 77.85 356 P **P** **01 09 13.3 0.0**
SUMG Summit 77.85 356 *i* P **P** **01 09 12.8 -0.6**
SUMG IAmb IAmb 01 09 15.9
comp=Z,201nm,0.6s
KOLS Kolonicke sedl 77.86 320 *e*P **P** **01 09 13.3 -0.1**
KOLS *e* 01 10 15.9
KOLS pmax pmax
comp=Z,34nm,0.6s
KOLS Kolonicke sedl 77.86 320 *e*P **P** **01 09 13.3 -0.1**
KOLS *e* 01 10 15.9
TRSU Trosnyk 77.90 319 P **P** **01 09 14.3 +0.8**
KONO Kongsberg 77.91 333 P **P** **01 09 12.7 -0.7**
KONO Kongsberg 77.91 333 *ce*P **P** **01 09 13.3 -0.1**
KONO pmax pmax
comp=Z,106nm,1.3s
KONO Kongsberg 77.91 333 *e*P **P** **01 09 11.5 -1.9**
KONO *e*S **S** **01 18 44.3 -0.7**
VOIR 77.99 315 ⇑P **P** **01 09 14.3 0.0**
VOIR 77.99 315 P **P** **01 09 14.2 0.0**
VOIR 77.99 315 P **P** **01 09 14.6 +0.4**
comp=Z,922nmcomp=Z,12nm,1.4s
RAZG Razgrad 78.00 313 ⇓P **P** **01 09 14.9 +0.6**
DEL Delary 78.01 329 *i* P **P** **01 09 12.9 -1.1**
UPNV Upernavik 78.02 1 *i* P **P** **01 09 13.9 +0.1**
LOZB Loznitsa 78.04 313 ⇑P **P** **01 09 14.3 -0.2**
MDB Medias 78.04 316 ⇓P **P** **01 09 15.6 +1.2**
MDB Medias 78.04 316 P **P** **01 09 15.6 +1.2**
ISP Isparta 78.05 307 *ce*P **P** **01 09 15.1 +0.3**
ISP pmax pmax
comp=Z,122nm,1.7s
SCO Scoresbysund 78.09 350 IAmb IAmb 01 09 16.9
comp=Z,283nm,1.2s
OZB Mount Ozzard 78.14 40 IAmb IAmb 01 09 17.9
comp=Z,272nm,1.3s
STHS Stebnicka Huta 78.19 320 *e*P **P** **01 09 15.5 +0.3**
STHS *e* 01 10 18.8
STHS pmax pmax
comp=Z,80nm,1.7s
STHS Stebnicka Huta 78.19 320 *e*P **P** **01 09 15.5 +0.3**
STHS *e* 01 10 18.8
FABU Falkenberg 78.21 330 *i* P **P** **01 09 13.1 -1.9**
WCZ Waipu Caves 78.22 143 P **P** **01 09 17.1 +1.8**
CJR Cluj-Napoca 78.22 317 ⇓P **P** **01 09 16.6 +1.1**
CJR Cluj-Napoca 78.22 317 P **P** **01 09 16.5 +1.1**
GKP Gorka Klasztor 78.23 325 *e*P **P** **01 09 14.8 -0.5**
GKP *e*pP **pP** **01 10 14.0 -0.4**
GKP *e*sP **sP** **01 10 39.4 -1.7**
GKP *e*PP **PP** **01 12 16.6 +1.4**
GKP *e*S **S** **01 18 49.3 +0.6**
GKP Gorka Klasztor 78.23 325 *e*P **P** **01 09 14.7 -0.6**
HYA Hoyanger 78.24 335 *e*P **P** **01 09 15.4 +0.2**
HYA *e*S **S** **01 18 48.7 +0.3**
ARR Arges 78.28 316 ⇑P **P** **01 09 16.6 +0.8**
BSD Bornholm Skovb 78.31 327 *e*P **P** **01 09 14.2 -1.5**
BSD Bornholm Skovb 78.31 327 *i* P **P** **01 09 14.7 -1.0**
BSD IAmb IAmb 01 09 17.7
comp=Z,71nm,0.6s
ONAU Onsala 78.32 330 *i* P **P** **01 09 14.0 -1.7**
FOO Floro 78.37 336 *e*P **P** **01 09 14.9 -0.9**
FOO *e*S **S** **01 18 50.2 +0.4**
MESR Meseseni 78.38 318 ⇑P **P** **01 09 17.2 +1.0**
HUMR Humele 78.48 315 ⇑P **P** **01 09 16.5 -0.3**
SZH Strazhitsa 78.48 313 *i* P **P** **01 09 16.9 0.0**
SZH Strazhitsa 78.48 313 P **P** **01 09 15.8 -1.0**
JMB Yambol 78.51 312 P **P** **01 09 15.9 -1.1**
BAND Balkesir-Ban 78.51 310 ⇑P **P** **01 09 16.7 -0.4**
MARR Marisel-Cluj 78.53 317 ⇓P **P** **01 09 16.7 -0.4**
COPA Copaceanca 78.53 314 ⇓P **P** **01 09 16.7 -0.4**
OJC Ojcow 78.56 322 *e*P **P** **01 09 16.2 -1.0**
OJC *e*pP **pP** **01 10 16.8 +0.4**
OJC *e*sP **sP** **01 10 41.6 -1.4**
OJC *e*S **S** **01 18 50.8 -1.5**
OJC Ojcow 78.56 322 P **P** **01 09 17.1 -0.1**
comp=Z,3µmcomp=Z,194nm,0.9s
BJUU Bjuv 78.62 329 *i* P **P** **01 09 16.0 -1.4**
LUNU Lund 78.69 328 *i* P **P** **01 09 16.8 -0.9**
DRGR 78.71 318 ⇑P **P** **01 09 18.5 +0.4**
DRGR 78.71 318 P **P** **01 09 18.5 +0.4**
NIE Niedzica 78.71 321 *e*P **P** **01 09 18.0 0.0**
NIE *e*pP **pP** **01 10 19.1 +1.8**
NIE *e*sP **sP** **01 10 43.4 -0.5**
NIE *e*S **S** **01 18 53.5 -0.5**
NIE Niedzica 78.71 321 P **P** **01 09 18.6 +0.6**
comp=Z,1µmcomp=Z,27nm,1.3s
ELND Elena 78.71 313 ⇓P **P** **01 09 17.6 -0.5**
LOT Lotru 78.76 316 ⇓P **P** **01 09 18.7 +0.2**
SUE Sulen 78.83 336 *e*P **P** **01 09 16.4 -1.9**
SUE *e*S **S** **01 18 51.6 -3.1**
ODD1 Odda 78.90 334 *e*P **P** **01 09 16.8 -2.0**
ODD1 *e*S **S** **01 18 54.5 -1.0**
ELL Elmali 78.99 306 IAmb IAmb 01 09 22.8
comp=Z,334nm,1.7s
GRZ Great Barrier 79.04 143 P **P** **01 09 21.2 +1.4**
ASK Askoy 79.06 335 *e*P **P** **01 09 18.7 -0.9**
DEV Deva 79.06 317 ⇑P **P** **01 09 20.5 +0.5**
DEV Deva 79.06 317 P **P** **01 09 20.4 +0.5**
BER Bergen 79.07 335 *e*P **P** **01 09 19.0 -0.7**
KECS Kecovo 79.10 320 *e*P **P** **01 09 22.5 +2.3**
KECS pmax pmax
comp=Z,132nm,1.7s
KECS Kecovo 79.10 320 *e*P **P** **01 09 22.5 +2.3**
QVD Ostervraa, Den 79.11 331 *i* P **P** **01 09 18.6 -1.4**
COP Copenhagen 79.12 329 *i* P **P** **01 09 19.4 -0.6**
COP IAmb IAmb 01 09 22.5
comp=Z,115nm,0.7s
C03A Quillayute Air 79.20 41 IAmb IAmb 01 09 24.6
comp=Z,404nm,1.4s
HOMB Homborsund 79.22 332 *e*P **P** **01 09 19.7 -0.8**
HOMB Homborsund 79.22 332 *i* P **P** **01 09 19.2 -1.3**
LLLB Lillooet 79.24 38 IAmb IAmb 01 09 23.9
comp=Z,263nm,1.0s
PLVB Pleven 79.28 314 ⇓P **P** **01 09 21.0 -0.2**
BLS5 Blasjo 79.28 334 *e*P **P** **01 09 19.9 -1.0**
BLS5 *e*S **S** **01 18 58.9 -0.7**
LANS Liptovska Anna 79.31 321 *e*P **P** **01 09 22.4 +1.1**
LANS pmax pmax
comp=Z,81nm,1.6s
LANS Liptovska Anna 79.31 321 *e*P **P** **01 09 22.3 +1.0**
GZR Gura Zlata 79.39 316 ⇓P **P** **01 09 22.5 +0.6**
GZR Gura Zlata 79.39 316 P **P** **01 09 22.4 +0.6**
RGN Rugen 79.39 327 IAmb IAmb 01 09 24.4
comp=Z,198nm,1.2s
KUZ Kuaotunu 79.55 143 P **P** **01 09 24.1 +1.6**
KUZ Kuaotunu 79.55 143 P **P** **01 09 24.0 +1.4**
SURR Surduc 79.59 317 ⇓P **P** **01 09 22.1 -0.7**
SIRR Siria 79.60 317 ⇓P **P** **01 09 22.4 -0.5**
ALN Alexandroupoli 79.61 311 P **P** **01 09 21.5 -1.5**
ENEZ Enez 79.62 311 P **P** **01 09 22.5 -0.6**
CAVK Calvinne/Enez-Ca 79.63 311 ⇓P **P** **01 09 23.6 +0.5**
OKC Ostrava-Krasne 79.66 322 *e*P **P** **01 09 23.6 +0.5**
OKC *e*pP **pP** **01 10 24.0 +1.6**
OKC *e*S **S** **01 19 03.0 -0.9**
OKC Ostrava-Krasne 79.66 322 *e*P **P** **01 09 23.6 +0.5**
OKC *e**PP **pP** **01 10 24.0 +1.6**
OKC *e*S **S** **01 19 03.0 -0.9**
SNART Snartemo 79.70 333 *e*P **P** **01 09 22.9 -0.2**
SNART Snartemo 79.70 333 *i* P **P** **01 09 22.3 -0.8**
PSZ Piszkesteto 79.74 320 ⇑P **P** **01 09 24.3 +0.5**
PSZ Piszkesteto 79.74 320 P **P** **01 09 24.2 +0.5**
PSZ Piszkesteto 79.74 320 *e*P **P** **01 09 23.1 -0.6**
STEB Steborice 79.81 322 *e*P **P** **01 09 24.3 +0.4**
STEB *e*pP **pP** **01 10 28.1 +4.8**
RDO Rodhopi 79.82 312 P **P** **01 09 22.7 -1.4**
PLD Plovdiv 79.82 313 *i* P **P** **01 09 24.1 0.0**
PLD Plovdiv 79.82 313 P **P** **01 09 23.8 -0.3**
A04D Lummi Island 79.83 39 IAmb IAmb 01 09 27.4
comp=Z,206nm,0.9s
MPEP Malo Peshtene 79.85 314 *i* P **P** **01 09 24.7 +0.5**
BSZH Besenyszg 79.86 319 ⇓P **P** **01 09 25.5 +1.3**
VALD Valchedram 79.86 315 *i* P **P** **01 09 24.7 +0.4**
PUNG Punghina 79.87 315 ⇑P **P** **01 09 25.1 +0.7**
HERR Herculane 79.87 316 ⇑P **P** **01 09 24.0 -0.3**
KMY Karmoy 79.89 334 *e*P **P** **01 09 22.2 -1.9**
NLWA Neilton Lookou 79.89 41 IAmb IAmb 01 09 28.1
comp=Z,184nm,1.1s
EZN Ezine 79.95 310 P **P** **01 09 23.7 -1.1**
EZN Ezine 79.95 310 ⇑P **P** **01 09 24.9 0.0**
EZN Ezine 79.95 310 P **P** **01 09 24.9 0.0**
EZN Ezine 79.95 310 P **P** **01 09 24.8 -0.1**
comp=Z,2µmcomp=Z,56nm,1.2s
BZS Buzias 79.97 317 ⇑P **P** **01 09 24.5 -0.3**
BZS Buzias 79.97 317 P **P** **01 09 24.5 -0.3**
PGB Panagyurishte 80.00 313 *i* P **P** **01 09 25.9 +0.8**
MORC Moravsky Berou 80.02 322 *e*P **P** **01 09 25.1 0.0**
MORC *e* 01 10 25.9
MORC *e*S **S** **01 19 07.7 0.0**
MORC *e*PKKP **PKKPbc** **01 28 08.3 +0.4**
MORC *e* 01 36 06.9
MORC *e* 01 39 15.6
MORC Moravsky Berou 80.02 322 ⇑P **P** **01 09 25.6 +0.5**
MORC Moravsky Berou 80.02 322 P **P** **01 09 25.6 +0.5**
VYHS Vyhne 80.02 320 *e*P **P** **01 09 25.8 +0.7**
VYHS *e* 01 10 26.8
VYHS pmax pmax
comp=Z,564nm,2.2s
VYHS Vyhne 80.02 320 *e*P **P** **01 09 25.8 +0.7**
VYHS *e* 01 10 26.8
VYHS *e* 01 19 20.9
VYHS *e* 01 28 08.0
GADA Gvkgeada 80.06 311 P **P** **01 09 24.4 -1.0**
RZN Rozhen 80.06 312 *i* P **P** **01 09 25.6 -0.1**
RZN Rozhen 80.06 312 P **P** **01 09 25.3 -0.3**
KSP Ksiaz 80.08 323 *e*P **P** **01 09 24.7 -0.6**
KSP *e*pP **pP** **01 10 25.8 +1.0**
KSP *e*sP **sP** **01 10 50.0 -1.3**
KSP *e*PP **PP** **01 12 30.8 +0.3**
KSP *e*S **S** **01 19 09.3 +1.1**
KSP Ksiaz 80.08 323 P **P** **01 09 25.5 +0.2**
comp=Z,2µmcomp=Z,82nm,1.4s
MUD Monsted U'grnd 80.09 330 *i* P **P** **01 09 25.1 -0.1**
MUD IAmb IAmb 01 09 27.3
comp=Z,67nm,1.3s
MAUC Maruska 80.09 322 *e*P **P** **01 09 26.2 +0.7**
WISH Wishkah 80.10 41 IAmb IAmb 01 09 29.4
comp=Z,237nm,1.0s
SMTH Samothraki Isl 80.16 311 P **P** **01 09 24.5 -1.4**
UMMG Uummannaq 80.18 0 *i* P **P** **01 09 25.2 -0.3**
TOZ Tahuroa Road 80.18 144 P **P** **01 09 27.5 +1.6**
BLCB Balcova 80.19 308 P **P** **01 09 25.4 -0.8**
KRLC Kraliky 80.26 322 *e*P **P** **01 09 26.5 +0.1**
KRLC *e*pP **pP** **01 10 26.9 +1.1**
KRLC Kraliky 80.26 322 *e*P **P** **01 09 26.5 +0.1**
KRLC *e**PP **pP** **01 10 26.9 +1.1**
OSTC Ostas 80.28 323 *e*P **P** **01 09 27.2 +0.7**
OSTC Ostas 80.28 323 *e*P **P** **01 09 27.2 +0.7**
DPC Dobruska-Polom 80.34 323 *e*P **P** **01 09 27.3 +0.5**
DPC *e*pP **pP** **01 10 31.6 +5.3**
DPC *e*S **S** **01 19 12.3 +1.2**
DPC Dobruska-Polom 80.34 323 *e*P **P** **01 09 27.3 +0.5**
DPC *e**PP **pP** **01 10 31.6 +5.3**
DPC *e*S **S** **01 19 12.3 +1.2**
DPC Dobruska-Polom 80.34 323 P **P** **01 09 27.3 +0.5**
comp=Z,2µmcomp=Z,50nm,2.5s
CHVC Chvalec 80.35 323 *e*P **P** **01 09 27.0 +0.2**
CHVC *e*S **S** **01 19 12.9 +1.8**
CHVC Chvalec 80.35 323 *e*P **P** **01 09 27.0 +0.2**
CHVC *e*S **S** **01 19 12.9 +1.8**
MDVR Moldovita 80.35 316 ⇓P **P** **01 09 26.6 -0.3**
ATD Arta Tunnel 80.36 278 P **P** **01 09 29.8 +2.2**
SNR=9.8
BLKN Baker Lake 80.38 18 IAmb IAmb 01 09 28.4
comp=Z,320nm,1.1s
RUE Ruedersdorf 80.40 326 *e*P **P** **01 09 27.1 +0.1**
RUE Ruedersdorf 80.40 326 *e*P **P** **01 09 26.8 -0.1**
comp=Z,228nm,1.2s,baz=52,slow=5.0
UPC Upice 80.42 323 *e*P **P** **01 09 27.2 +0.1**
UPC Upice 80.42 323 *e*P **P** **01 09 27.2 +0.1**
HIZ Hauiti 80.45 145 IAmb IAmb 01 09 30.8
comp=Z,420nm,1.2s
HIZ Hauiti 80.45 145 P **P** **01 09 30.0 +2.7**
HIZ Hauiti 80.45 145 P **P** **01 09 29.3 +2.0**
RADR Rader Ridge 80.46 42 IAmb IAmb 01 09 32.1
comp=Z,236nm,1.0s
JAVC Velka Javorina 80.46 321 *e*P **P** **01 09 28.6 +1.1**
JAVC *e* 01 10 29.1
JAVC *e*S **S** **01 19 14.8 +2.4**
JAVC *e*PKKP **PKKPbc** **01 28 08.2 +1.3**
JAVC *e* 01 36 08.4
ARG Arkhangelos 80.50 306 P **P** **01 09 27.2 -0.7**
E03A Lebam 80.53 42 IAmb IAmb 01 09 31.1
comp=Z,306nm,1.0s
VTS Vitosha 80.55 314 *i* P **P** **01 09 27.9 -0.2**
VTS Vitosha 80.55 314 P **P** **01 09 28.0 -0.2**
KAVA Kavala 80.56 312 P **P** **01 09 27.4 -0.6**
BDRM Kayabasi 80.56 307 ⇑P **P** **01 09 27.4 -0.7**
TGRZ Tauranga 80.57 143 P **P** **01 09 30.8 +2.8**
SIGR SIGRI 80.58 310 P **P** **01 09 26.9 -1.3**
THAS Thassos island 80.62 311 P **P** **01 09 26.7 -1.7**
KHEZ Kahui Hut 80.63 146 P **P** **01 09 29.6 +1.3**
NEZ North Egmont 80.65 146 P **P** **01 09 31.3 +2.9**
BODT Bodrum 80.66 307 P **P** **01 09 27.4 -1.3**
SMG Samos 80.66 308 P **P** **01 09 28.6 -0.1**

LIA Limnos Island 80.68 311 P **P** **01 09 27.5 -1.2**
SRO Srobarova 80.69 320 *e*P **P** **01 09 30.7 +2.1**
SRO pmax pmax
comp=Z,39nm,0.8s
SRO Srobarova 80.69 320 *e*P **P** **01 09 30.7 +2.1**
SMOL Smolenice 80.79 321 *e*P **P** **01 09 30.5 +1.3**
SMOL pmax pmax
comp=Z,104nm,1.3s
VRAC Vranov 80.79 322 *e*P **P** **01 09 29.4 +0.2**
VRAC *e* 01 10 29.8
VRAC *e*S **S** **01 19 16.0 +0.3**
VRAC *e*PKKP **PKKPbc** **01 28 06.3 +0.2**
VRAC Vranov 80.79 322 ⇑P **P** **01 09 30.1 +0.9**
VRAC Vranov 80.79 322 P **P** **01 09 30.1 +0.9**
OPRZ Ohinepanea 80.81 143 P **P** **01 09 30.8 +1.6**
CHOS Chios island 80.86 309 P **P** **01 09 28.3 -1.5**
VRZ Vera Road 80.86 145 P **P** **01 09 31.0 +1.6**
OMRZ Omania 80.92 143 P **P** **01 09 32.4 +2.5**
MODS Modra-Piesok 80.95 321 *e*P **P** **01 09 28.8 -1.2**
MODS *e* 01 10 30.2
MODS pmax pmax
comp=Z,481nm,1.4s
MODS Modra-Piesok 80.95 321 *e*P **P** **01 09 28.8 -1.2**
MODS *e* 01 10 30.2
MODS *e* 01 28 05.1
BOVS Bovan 80.96 315 ⇓P **P** **01 09 30.4 +0.2**
KKB Krupnik 81.02 313 *i* P **P** **01 09 30.0 -0.5**
KKB Krupnik 81.02 313 P **P** **01 09 29.8 -0.7**
KRUC Moravsky 81.04 322 *e*P **P** **01 09 30.3 -0.2**
KRUC *e* 01 10 32.1
KRUC *e*S **S** **01 19 18.7 +0.4**
KRUC *e*PKKP **PKKPbc** **01 28 05.5 0.0**
KRUC *e* 01 36 05.3
KRUC *e* 01 39 09.9
D05A Enumclaw 81.08 40 IAmb IAmb 01 09 34.4
comp=Z,208nm,0.9s
SRS Serrai 81.09 312 P **P** **01 09 29.4 -1.5**
F04D Rainier, OR 81.10 42 IAmb IAmb 01 09 35.5
comp=Z,207nm,1.0s
QRZ Quartz Range 81.10 147 P **P** **01 09 31.3 +0.6**
QRZ Quartz Range 81.10 147 P **P** **01 09 31.0 +0.3**
HEBO Mount Hebo 81.14 43 IAmb IAmb 01 09 34.7
comp=Z,336nm,1.1s
PVCC Panska Ves 81.15 324 *e*P **P** **01 09 31.4 +0.4**
PVCC *e*S **S** **01 19 20.4 +1.0**
PVCC Panska Ves 81.15 324 *e*P **P** **01 09 31.4 +0.4**
PVCC *e*S **S** **01 19 20.4 +1.0**
BSEG Bad Segeberg 81.17 328 *e*P **P** **01 09 30.7 -0.3**
comp=Z,86nm,0.8s,baz=52,slow=5.0
OUR Ouranopolis 81.25 311 P **P** **01 09 29.7 -1.9**
BRG Berggiesshubel 81.27 324 *e*P **P** **01 09 31.2 -0.5**
comp=Z,43nm,1.3s,baz=52,slow=5.0
BRG Berggiesshubel 81.27 324 *e*P **P** **01 09 32.0 +0.4**
BRG Amp 01 09 33.7
comp=Z,18nm,0.8s
BRG pP **pP** **01 10 36.3 +5.0**
BRG Amp 01 10 37.6
comp=Z,12nm,0.8s
BRG Berggiesshubel 81.27 324 PP PP 01 12 45.0 +4.7
BRG Berggiesshubel 81.27 324 S **S** **01 19 23.0 +2.5**
BRG Berggiesshubel 81.27 324 SS SS 01 24 46.0 +4.9
GORT1 Trebel 81.29 327 *e*P **P** **01 09 31.8 +0.3**
comp=Z,177nm,1.2s,baz=52,slow=5.0
NGZ Ngauruhoe 81.33 145 P **P** **01 09 33.5 +1.4**
ETVZ East Tongariro 81.35 144 P **P** **01 09 33.7 +1.5**
FWVZ Far West T-bar 81.36 145 P **P** **01 09 33.8 +1.5**
RICC Richard 81.39 324 *e*P **P** **01 09 32.7 +0.5**
MORH Mrgy, Hungar 81.39 319 ⇓P **P** **01 09 31.4 -0.9**
MORH Mrgy, Hungar 81.39 319 ⇑P **P** **01 09 32.5 +0.2**
TREC Trest 81.39 322 *e*P **P** **01 09 32.3 0.0**
TREC *e*S **S** **01 19 22.2 +0.3**
TREC Trest 81.39 322 *e*P **P** **01 09 32.3 0.0**
TREC *e*S **S** **01 19 22.2 +0.3**
HAZ Te Kaha 81.40 142 P **P** **01 09 32.5 +0.3**
MUGZ Murupara 81.40 143 P **P** **01 09 34.9 +2.6**
GOPC GO Pecny, Ondr 81.40 323 *e*P **P** **01 09 32.6 +0.2**
GOPC *e*pP **pP** **01 10 35.6 +3.6**
GOPC AMS AMS 01 51 10.0
comp=Z,2µm,23.2s
GOPC GO Pecny, Ondr 81.40 323 *e*P **P** **01 09 32.6 +0.2**
GOPC *e**PP **pP** **01 10 35.6 +3.6**
GOPC MLR MLR
comp=Z,2µm,23.2s
SOH Sokhos 81.40 312 P **P** **01 09 30.8 -1.8**
URZ Urewera 81.42 143 P **P** **01 09 32.3 -0.1**
URZ Urewera 81.42 143 P **P** **01 09 32.1 -0.2**
G03D McMinnville, O 81.43 43 IAmb IAmb 01 09 36.1
comp=Z,376nm,1.3s
SOEG Soedalen 81.47 352 *i* P **P** **01 09 31.4 -1.0**
PRU Pruhonice 81.49 323 *e*P **P** **01 09 32.9 +0.1**
PRU *e*pP **pP** **01 10 33.0 +0.6**
PRU *e*S **S** **01 19 21.6 -1.2**
PRU AMS AMS 01 51 50.0
comp=Z,2µm,18.5s
PRU Pruhonice 81.49 323 *e*P **P** **01 09 32.9 +0.1**
PRU *e**PP **pP** **01 10 33.0 +0.6**
PRU *e*S **S** **01 19 21.6 -1.2**
PRU MLR MLR
comp=Z,2µm,18.5s
CLL Collm 81.49 325 *i* P **P** **01 09 33.0 +0.3**
CLL *i **PP **pP** **01 10 34.6 +2.2**
CLL *e*S **S** **01 19 24.0 +1.3**
CLL *i* 01 28 04.3
CLL pmax pmax
comp=Z,115nm,1.2s
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL pmax pmax
comp=Z,20nm,2.0s
CLL Collm 81.49 325 P **P** **01 09 32.6 -0.1**
comp=Z,2µmcomp=Z,85nm,1.1s
CLL Collm 81.49 325 *e*pP pP 01 10 37.0 +4.7
PRA Prague 81.50 323 *e*P **P** **01 09 33.0 +0.2**
PRA *e*pP **pP** **01 10 34.9 +2.5**
PRA *e*S **S** **01 19 22.7 -0.1**
PRA AMS AMS 01 52 50.0
comp=Z,2µm,17.5s
PRA Prague 81.50 323 *e*P **P** **01 09 33.0 +0.2**
PRA *e**PP **pP** **01 10 34.9 +2.5**
PRA *e*S **S** **01 19 22.7 -0.1**
PRA MLR MLR
comp=Z,2µm,17.5s
KARP Karpathos 81.51 306 *e*P **P** **01 09 32.9 -0.4**
KNT Kendrikon 81.52 313 P **P** **01 09 31.2 -1.9**
MXZ Matakaoa Point 81.53 142 P **P** **01 09 34.1 +1.1**
MXZ Matakaoa Point 81.53 142 P **P** **01 09 33.8 +0.8**
LRW Lerwick 81.57 337 *e*P **P** **01 09 31.6 -1.4**
LRW IAmb IAmb 01 09 34.5
comp=Z,221nm,1.0s
MOVZ Moawhango 81.58 145 P **P** **01 09 34.0 +0.7**
RTZ Ruatahuna 81.61 143 IAmb IAmb 01 09 35.1
comp=Z,332nm,1.0s
RTZ Ruatahuna 81.61 143 P **P** **01 09 33.3 -0.2**
SKY Skiros Island 81.62 310 P **P** **01 09 33.2 -0.5**
VAY Valandovo 81.64 313 *i* P **P** **01 09 33.4 -0.3**
ILULI Ilulissat 81.65 360 IAmb IAmb 01 09 35.5
comp=Z,409nm,1.2s
ILULI Ilulissat 81.65 360 *i* P **P** **01 09 33.2 0.0**
PAIG Paliouri 81.66 311 P **P** **01 09 32.5 -1.3**
HORT Hortiatis 81.68 312 P **P** **01 09 32.5 -1.6**
I02E Swisshome, OR 81.69 44 IAmb IAmb 01 09 37.6
comp=Z,614nm,1.8s
MWZ Matawai 81.69 143 P **P** **01 09 34.4 +0.5**
FLTG Flechtingen 81.73 326 *e*P **P** **01 09 33.3 -0.6**
comp=Z,191nm,1.4s,baz=52,slow=5.0
COR Corvallis 81.75 43 P **P** **01 09 36.3 +2.0**
COR Corvallis 81.75 43 P **P** **01 09 36.3 +2.0**
COR pmax pmax
comp=Z,484nm,1.1s
THE Thessaloniki 81.75 312 P **P** **01 09 34.3 0.0**
BKZ Black Stump Fm 81.77 144 P **P** **01 09 34.8 +0.5**
BKZ Black Stump Fm 81.77 144 P **P** **01 09 35.0 +0.7**
WMGZ Waiomatatini S 81.78 142 P **P** **01 09 34.9 +0.6**
NNZ Nelson 81.81 147 IAmb IAmb 01 09 35.7
comp=Z,250nm,1.2s
NNZ Nelson 81.81 147 P **P** **01 09 34.3 0.0**
RONA Rosalia, Austr 81.88 321 *i* P **P** **01 09 35.6 +0.7**
comp=Z,83nm,1.4s,SNR=60
RONA *i* pP **pP** **01 10 31.9 -2.6**
comp=Z,39nm,1.8s
RONA *e*PKiKP **PKiKP** **01 14 56.4 +0.5**
comp=Z,8.2nm,1.5s
RONA *e*SKS **S** **01 19 30.1 +3.1**

RONA comp=Z,7.9nm,1.4s *i* PKKP **PKKPbc 01 28 04.2 +0.6**
RONA comp=Z,3.3nm,1.4s *eP'P'* 01 36 04.4
comp=Z,4.9nm,1.6s
PUZ Puketiti 81.88 142 P **P 01 09 35.1 +0.2**
AOS Alonnisos 81.92 310 P **P 01 09 34.2 -1.1**
TKGZ Te Karaka 81.94 143 P **P 01 09 34.3 -0.8**
CONA Conrad Observa 81.98 321 *i* P **P 01 09 36.3 +0.8**
comp=Z,202nm,1.3s,SNR=146
CONA comp=Z,34nm,1.1s *ep*P **pP 01 10 32.4 -2.8**
CONA comp=Z,8.8nm,1.5s *i* PKiKP **PKiKP 01 14 56.2 +0.1**
CONA comp=Z,8.7nm,1.6s *e*SKS **SKSac 01 19 31.7 +0.1**
CONA comp=Z,3.2nm,0.8s *e*PKKP **PKKPbc 01 28 04.5 +1.0**
CONA comp=Z,4.1nm,1.5s *i* P'P' 01 36 03.3
comp=Z,4.1nm,1.5s
ZVC Zvikov 81.99 323 *e*P **P 01 09 35.3 -0.1**
ZVC *ep*P **pP 01 10 39.6 +4.5**
THZ Tophouse 82.02 148 P **P 01 09 35.6 +0.1**
SKO Skopje 82.02 314 *i* P **P 01 09 36.3 +0.6**
FOZ Fox Glacier 82.05 151 IAmb IAmb 01 09 38.0
comp=Z,227nm,1.2s
KYMI Kymi, Euboea I 82.05 310 P **P 01 09 34.3 -1.6**
KRHZ Kereru 82.07 144 P **P 01 09 37.0 +1.2**
MCHZ McNeill Hill 82.09 144 P **P 01 09 37.3 +1.4**
RIGZ Rimuhau 82.09 143 P **P 01 09 36.4 +0.5**
ARHZ Aropaoanui 82.10 144 P **P 01 09 36.9 +0.9**
H04D Lebanon 82.12 43 IAmb IAmb 01 09 40.0
comp=Z,517nm,1.5s
ASSE Asse, Remlinge 82.13 326 *e*P **P 01 09 36.0 0.0**
comp=Z,226nm,1.6s,baz=52,slow=5.0
KARY Karystos 82.13 309 P **P 01 09 36.1 -0.3**
J01E Myrtle Point 82.15 45 IAmb IAmb 01 09 39.9
comp=Z,259nm,1.0s
CNGZ Carnagh Statio 82.16 143 P **P 01 09 37.4 +1.2**
NEUB Neuenburg 82.16 325 *e*P **P 01 09 36.0 -0.2**
comp=Z,474nm,1.8s,baz=52,slow=5.0
NEUB *ep*P **pP 01 10 40.8 +4.9**
NRDL Niedersach Rie 82.17 327 *e*P **P 01 09 36.2 0.0**
comp=Z,460nm,2.1s,baz=52,slow=5.0
TSZ Takapari Road 82.18 145 P **P 01 09 37.2 +0.8**
KNZ Kokohu 82.28 143 P **P 01 09 37.1 +0.3**
THERA Ancient Thera, 82.28 307 P **P 01 09 34.8 -2.4**
NEO Neokhori 82.28 311 P **P 01 09 34.7 -2.5**
CKRC Cesky Krumlov 82.30 322 *e*P **P 01 09 37.1 0.0**
CKRC *ep*P **pP 01 10 38.8 +2.0**
CKRC *e*S **SKSac 01 19 34.2 +0.7**
CKRC AMS AMS 01 51 50.0
comp=Z,2µm,19.5s
CKRC Cesky Krumlov 82.30 322 *e*P **P 01 09 37.1 0.0**
CKRC *e*'PP **pP 01 10 38.8 +2.0**
CKRC *e*S **SKSac 01 19 34.2 +0.7**
CKRC MLR MLR
comp=Z,2µm,19.5s
TANN Tannenbergstha 82.30 324 *e*P **P 01 09 37.0 -0.1**
comp=Z,163nm,1.6s,baz=52,slow=5.0
TANN *ep*P **pP 01 10 40.4 +3.6**
BEHE Becsehely 82.31 319 ||*i*P **P 01 09 36.8 -0.3**
H04A Detroit Lake 82.36 43 IAmb IAmb 01 09 40.5
comp=Z,331nm,1.2s
RETH Rethem/Aller, 82.37 327 *e*P **P 01 09 36.8 -0.4**
comp=Z,581nm,2.1s,baz=52,slow=5.0
MXC Moxie City 82.38 40 IAmb IAmb 01 09 40.9
comp=Z,343nm,1.1s
RUDO Rudo 82.40 316 *e*P **P 01 09 37.4 -0.3**
KAHZ Kahuranaki 82.44 144 P **P 01 09 38.4 +0.7**
MRZ Mangatainoka R 82.44 146 P **P 01 09 37.1 -0.5**
CLZ Clausthal 82.45 326 *e*P **P 01 09 38.0 +0.2**
comp=Z,340nm,1.3s,baz=52,slow=5.0
KBO Bosley Butte 82.49 46 IAmb IAmb 01 09 42.0
comp=Z,479nm,1.4s
IVA Berane 82.49 315 ||*i*P **P 01 09 38.1 -0.2**
KHC Kasperske Hory 82.50 323 *e*P **P 01 09 38.0 -0.1**
KHC Kasperske Hory 82.50 323 *e*P **P 01 09 38.0 -0.1**
PTL Penteli 82.51 309 P **P 01 09 36.0 -2.4**
SNZO South Karori 82.52 147 P **P 01 09 38.7 +0.7**
SNZO IAmb IAmb 01 09 39.0
comp=Z,185nm,1.1s
SNZO South Karori 82.52 147 P **P 01 09 40.0 +2.0**
PLE Pljevlja 82.55 316 ||*i*P **P 01 09 38.6 0.0**
G05A Wamic 82.56 42 IAmb IAmb 01 09 41.8
comp=Z,275nm,1.1s
ARSA Arzberg 82.56 321 *i* P **P 01 09 38.8 +0.3**
comp=Z,97nm,1.4s,SNR=53
ARSA *i* pP **pP 01 10 35.4 -2.8**
ARSA comp=Z,25nm,1.0s *e*PKiKP **PKiKP 01 14 58.5 +1.6**
ARSA comp=Z,4.1nm,1.0s *e*SKS **S 01 19 35.4 +1.5**
ARSA comp=Z,4.6nm,1.2s *i* PKKP **PKKPbc 01 28 03.7 +1.6**
ARSA comp=Z,6.5nm,1.0s *i* P'P' 01 36 06.9
comp=Z,3.5nm,1.0s
MOX Moxa 82.59 325 *e*P **P 01 09 38.5 0.0**
comp=Z,223nm,1.8s,baz=52,slow=5.0
MOX *e*L L 01 44 28.3
comp=Z,1µm,21.1s
GEC2 GERESS Array S 82.61 323 *e*P **P 01 09 38.5 -0.2**
comp=Z,68nm,1.3s,baz=52,slow=5.0
GEC2 *ep*P **pP 01 10 43.1 +4.6**
GERES GERESS Array B 82.61 323 P **P 01 09 38.0 -0.7**
GERES GERESS Array B 82.61 323 P **P 01 09 37.9 -0.8**
comp=Z,8.2nm,0.6s,baz=46,slow=5.8,SNR=64
GERES PKiKP **PKiKP 01 14 57.5 +0.4**
comp=Z,1.8nm,0.6s,baz=79,slow=1.7,SNR=9.3
GERES PKKPbc **PKKPbc 01 28 02.2 0.0**
comp=Z,2.9nm,0.6s,baz=233,slow=2.2,SNR=19
GERES PKPPKP **P'P'df 01 36 06.3 -4.7**
comp=Z,0.3nm,0.7s,baz=232,slow=3.2,SNR=3.4
comp=Z,8.2nm,0.6s
ATHU Athens Univers 82.61 309 P **P 01 09 36.8 -2.1**
E07A Sunnyside 82.64 40 IAmb IAmb 01 09 42.2
comp=Z,402nm,1.1s
ATH Athens Observa 82.65 309 P **P 01 09 37.2 -1.8**
VLY Voula,Athens 82.66 309 P P 01 09 25.4 -14
WAH2 Wahluke Slope 82.69 40 IAmb IAmb 01 09 42.1
comp=Z,294nm,0.8s
FNA Florina 82.69 313 P **P 01 09 37.5 -1.8**
KZN Kozani 82.70 312 P **P 01 09 37.6 -1.8**
TYRN Tyrnavos 82.72 312 P **P 01 09 37.1 -2.2**
RPZ Rata Peaks 82.73 150 P **P 01 09 39.8 +0.7**
KOME Kolasin 82.73 315 ||*i*P **P 01 09 39.3 -0.2**
MANZ Manzenberg 82.74 324 *e*P **P 01 09 39.3 0.0**
comp=Z,80nm,2.1s,baz=52,slow=5.0
WKZ Wanaka 82.77 152 IAmb IAmb 01 09 44.5
comp=Z,264nm,1.6s
LKR Lokris 82.77 310 P **P 01 09 37.6 -2.0**
BFZ Birch Farm 82.79 145 IAmb IAmb 01 09 41.0
comp=Z,184nm,1.1s
BFZ Birch Farm 82.79 145 P **P 01 09 39.4 0.0**
PHP Peshkopia 82.80 314 P **P 01 09 38.6 -1.2**
MOSL Moslavina 82.82 319 ||*i*P **P 01 09 38.9 -0.9**
KHZ Kahutara 82.82 148 P **P 01 09 39.1 -0.4**
KHZ Kahutara 82.82 148 P **P 01 09 39.2 -0.3**
VILL Villia 82.82 310 P **P 01 09 38.2 -1.8**
ROTZ Rotzenmuhle 82.83 324 *e*P **P 01 09 40.0 +0.3**
comp=Z,79nm,1.6s,baz=52,slow=5.0
GTTG Gottingen 82.84 326 *e*P **P 01 09 39.8 +0.1**
comp=Z,313nm,1.3s,baz=52,slow=5.0
OXZ Oxford 82.85 149 P **P 01 09 41.2 +1.4**
MHLO Agia Marina, M 82.85 308 P **P 01 09 38.4 -1.7**
WET Wettzell 82.86 323 *e*P **P 01 09 40.0 +0.1**
comp=Z,175nm,1.8s,baz=52,slow=5.0
D08A Wollman Farm, 82.87 39 IAmb IAmb 01 09 43.0
comp=Z,234nm,0.9s
OHR Ohrid 82.89 313 *i* P **P 01 09 42.0 +1.8**
LBZ Lake Benmore 82.90 151 IAmb IAmb 01 09 42.5
comp=Z,244nm,1.2s
LBZ Lake Benmore 82.90 151 P **P 01 09 40.7 +0.8**
MOA Molln 82.90 322 *i* P **P 01 09 40.7 +0.5**
comp=Z,119nm,1.3s,SNR=74
MOA *ep*P **pP 01 10 36.9 -3.1**
MOA comp=Z,28nm,1.1s *e*S **SKSac 01 19 38.0 +0.5**
MOA comp=Z,11nm,1.7s *i* PKKP **PKKPbc 01 28 02.8 +1.4**
MOA comp=Z,6.7nm,1.3s *i* P'P' 01 36 05.2
comp=Z,8.6nm,1.5s
UPM Unac-Piva 82.91 316 ||*i*P **P 01 09 39.4 -1.1**

KSXB Camp Six Broad 82.91 46 IAmb IAmb 01 09 44.0
comp=Z,336nm,1.3s
HAWA Hanford 82.92 40 IAmb IAmb 01 09 43.5
comp=Z,270nm,0.9s
THL Klokotos Trika 82.94 312 P **P 01 09 37.5 -3.0**
AXAR Agios Charalam 82.94 311 P **P 01 09 38.4 -2.1**
PUK Puka 82.95 315 P **P 01 09 39.0 -1.6**
PYZ Puysegur Point 82.95 154 IAmb IAmb 01 09 43.3
comp=Z,295nm,1.1s
G06A Carlson Farm, 82.95 42 IAmb IAmb 01 09 43.9
comp=Z,381nm,1.2s
F07A Phinny Hill Vi 82.98 41 IAmb IAmb 01 09 44.0
comp=Z,338nm,1.0s
AGG Agios Georgios 83.02 311 P **P 01 09 38.3 -2.6**
I05D Terrebonne, OR 83.06 43 IAmb IAmb 01 09 44.2
comp=Z,314nm,0.9s
BLY Banja Luka 83.06 318 ||*i*P **P 01 09 40.8 -0.2**
BLY Banja Luka 83.06 318 ⇑P **P 01 09 41.5 +0.5**
NEST Nestorio 83.11 313 P **P 01 09 39.5 -1.9**
KLINJ Klinje 83.12 316 *e*P **P 01 09 42.4 +0.9**
E08A Dider Farm, El 83.12 40 IAmb IAmb 01 09 44.5
comp=Z,249nm,1.0s
NKME Niksic 83.12 316 ||*i*P **P 01 09 40.9 -0.6**
PDG Podgorica 83.13 315 ||*i*P **P 01 09 40.7 -0.7**
LTK Loutraki 83.13 310 P **P 01 09 39.2 -2.4**
NEW Newport 83.13 38 IAmb IAmb 01 09 44.3
comp=Z,316nm,1.1s
NEW Newport 83.13 38 PKKPbc PKKPbc 01 28 01.8 +0.9
comp=Z,1.1nm,0.5s,baz=125,slow=4.7,SNR=4.3
BORG Borgarnes 83.15 347 P **P 01 09 42.5 +1.5**
BORG Borgarnes 83.15 347 P **P 01 09 42.5 +1.5**
BORG pmax pmax
comp=Z,146nm,1.2s
PERS Pernice 83.15 320 *i* P **P 01 09 41.1 -0.4**
PERS *i* pP **pP 01 10 42.1 +0.7**
PERS *es*P **sP 01 11 05.7 -2.2**
PERS *e*PP **PP 01 12 54.2 -1.7**
PERS *e* 01 14 16.8
PERS *e*SKSac **SKSac 01 19 36.1 -3.2**
PERS *i* PKKPbc **PKKPbc 01 28 02.2 +1.5**
MAKR Makrakomi, Fth 83.16 311 P **P 01 09 40.0 -1.6**
KBN Korca 83.16 313 P **P 01 09 40.4 -1.3**
SOKA Soboth 83.17 320 *i* P **P 01 09 42.3 +0.7**
SOKA comp=Z,224nm,1.5s,SNR=169 *i* pP **pP 01 10 39.0 -2.5**
SOKA comp=Z,39nm,1.3s *e*PKiKP **PKiKP 01 14 59.0 +1.0**
SOKA comp=Z,7.4nm,1.2s *e*SKS **SKSac 01 19 39.4 -0.1**
SOKA comp=Z,4.8nm,1.4s *i* PKKP **PKKPbc 01 28 02.2 +1.4**
SOKA comp=Z,4.0nm,1.0s *i* P'P' 01 36 03.5
comp=Z,0.6nm,0.4s
KRPM Rodgers 83.19 46 IAmb IAmb 01 09 45.6
comp=Z,661nm,1.8s
IDI Anoyia 83.24 307 P **P 01 09 41.6 -0.6**
IDI Anoyia 83.24 307 P **P 01 09 40.7 -1.6**
TMZ Timaru 83.24 151 P **P 01 09 42.3 +0.6**
CEME Cevo 83.27 315 ||*i*P **P 01 09 41.4 -0.8**
UBBA Unterbreizbach 83.28 326 *e*P **P 01 09 42.0 +0.1**
comp=Z,346nm,1.5s,baz=52,slow=5.0
BRY Bratogost 83.30 316 ||*i*P **P 01 09 41.6 -0.9**
DRME Dracevica, Mon 83.31 315 ||*i*P **P 01 09 41.7 -0.6**
BIOA Bad Ischl, Aus 83.33 322 *i* P **P 01 09 43.5 +1.1**
comp=Z,172nm,1.2s,SNR=113
BIOA *ep*P **pP 01 10 40.0 -2.3**
BIOA comp=Z,22nm,1.2s *i* PKiKP **PKiKP 01 15 00.3 +2.2**
BIOA comp=Z,2.7nm,0.7s *e*SKS **SKSac 01 19 39.8 -0.6**
BIOA comp=Z,7.8nm,1.4s *i* PKKP **PKKPbc 01 28 01.5 +1.1**
BIOA comp=Z,11nm,1.4s *i* P'P' 01 36 03.9
comp=Z,1.2nm,0.7s
TIR Tirane 83.35 314 ⇑P **P 01 09 42.8 +0.3**
TIR Tirane 83.35 314 P **P 01 09 42.8 +0.3**
TIR Tirane 83.35 314 P **P 01 09 42.5 0.0**
comp=Z,2µmcomp=Z,89nm,1.3s
GRA1 Grafenberg Arr 83.38 324 IAmb IAmb 01 09 45.8
comp=Z,480nm,1.4s
GRF Grafenberg Arr 83.38 324 *e*P **P 01 09 42.8 +0.3**
comp=Z,485nm,1.4s,baz=52,slow=5.0
GRF *ep*P **pP 01 10 46.6 +4.1**
GRF *e*L L 01 48 56.4
comp=Z,2µm,18.2s
GRFO Grafenberg 83.38 324 P **P 01 09 43.5 +1.0**
GRFO IAmb IAmb 01 09 45.7
comp=Z,435nm,1.4s
GRFO Grafenberg 83.38 324 P **P 01 09 43.5 +1.0**
GRFO pmax pmax
comp=Z,435nm,1.4s
ULC Ulcinj 83.39 315 ||*i*P **P 01 09 42.0 -0.8**
IBBN Ibbenburen 83.39 328 *e*P **P 01 09 42.2 -0.4**
comp=Z,488nm,1.3s,baz=52,slow=5.0
EVR Evrytania 83.42 311 P **P 01 09 41.5 -1.6**
BUM Brajici-Budva 83.42 315 ||*i*P **P 01 09 42.4 -0.6**
MQZ McQueen's Vall 83.43 149 P **P 01 09 43.3 +0.7**
YPT Yellepit 83.44 40 IAmb IAmb 01 09 46.3
comp=Z,333nm,0.9s
KALE Kalithea 83.48 311 P **P 01 09 40.9 -2.5**
ANX Ano Chora 83.52 311 P **P 01 09 40.8 -2.8**
TREB Trebinje 83.52 316 *e*P **P 01 09 43.2 -0.2**
SERG Sergoula 83.53 311 P **P 01 09 40.7 -2.8**
KHMM Horse Mountain 83.53 46 IAmb IAmb 01 09 47.4
comp=Z,415nm,1.7s
KMPM Mount Pierce 83.53 47 IAmb IAmb 01 09 48.0
comp=Z,209nm,1.1s
TETR Tetrakomo, Epi 83.54 312 P **P 01 09 42.2 -1.5**
OBKA Obir 83.54 320 *i* P **P 01 09 43.7 +0.1**
comp=Z,61nm,1.1s,SNR=48
OBKA *ep*P **pP 01 10 40.6 -2.9**
OBKA comp=Z,17nm,0.9s *e*SKS **SKSac 01 19 41.3 -0.6**
OBKA comp=Z,12nm,1.5s *i* PKKP **PKKPbc 01 28 01.0 +1.1**
OBKA comp=Z,6.7nm,0.9s *i* P'P' 01 36 06.7
comp=Z,4.0nm,1.2s
OZLJ Ozalj 83.55 319 ||*i*P **P 01 09 42.9 -0.6**
HCY Herceg Novi 83.58 315 ||*i*P **P 01 09 43.9 +0.2**
GUR Goura 83.59 310 P **P 01 09 41.2 -2.8**
A050A Klekovaca 83.60 318 ||*i*P **P 01 09 43.3 -0.6**
EFP Efpalio 83.62 311 P **P 01 09 42.7 -1.3**
E09A Wood Farm, Sta 83.62 40 IAmb IAmb 01 09 47.1
comp=Z,406nm,1.2s
ODZ Otahua Downs 83.62 151 P **P 01 09 44.5 +0.9**
ODZ Otahua Downs 83.62 151 P **P 01 09 44.8 +1.3**
JAN Janina 83.64 312 P **P 01 09 42.7 -1.4**
KLV Kalavryta, Ach 83.66 310 P **P 01 09 41.6 -2.7**
BIGH Upper Bighouse 83.73 337 *e*P **P 01 09 42.9 -1.2**
BIGH IAmb IAmb 01 09 45.0
comp=Z,241nm,1.3s
PVO Paravola 83.77 311 P **P 01 09 43.1 -1.6**
KASTN Kahler Asten 83.80 327 *e*P **P 01 09 44.5 -0.2**
comp=Z,194nm,1.3s,baz=52,slow=5.0
AMPL Ampelaki 83.81 311 P **P 01 09 42.8 -2.2**
STON Ston 83.83 316 ||*i*P **P 01 09 43.3 -1.6**
LJU Ljubljana 83.83 320 *i* P **P 01 09 44.5 -0.5**
LJU *ep*P **pP 01 10 44.7 -0.1**
LJU *i* sP **sP 01 11 09.1 -2.2**
LJU *e*PP **PP 01 12 58.4 -3.0**
LJU *e* 01 14 22.9
LJU *i* PKiKP **PKiKP 01 15 00.4 +1.4**
LJU *e*SKSac **SKSac 01 19 40.9 -2.7**
LJU *e* 01 19 51.1
LJU *e* 01 20 31.9
LJU *e* 01 21 32.2
VLI Veliai 83.84 309 P **P 01 09 41.8 -3.3**
KBA Koelnbreinsper 83.86 321 *i* P **P 01 09 44.7 -0.6**
comp=Z,53nm,1.5s
KBA *ep*P **pP 01 10 42.4 -2.8**
KBA comp=Z,18nm,0.9s *e*PKiKP **PKiKP 01 14 59.6 +0.4**
KBA comp=Z,6.6nm,0.7s *e*SKS **SKSac 01 19 44.0 -0.2**
KBA comp=Z,5.7nm,0.9s *i* PKKP **PKKPbc 01 28 00.3 +1.0**
KBA comp=Z,4.1nm,0.6s *e*P'P' 01 36 06.1
comp=Z,0.8nm,0.5s
VLX Vlachokerasia 83.87 310 P **P 01 09 42.6 -2.8**
SFJD Kangerlussuaq 83.87 360 P **P 01 09 44.1 -0.6**

SFJD Kangerlussuaq 83.87 360 P **P 01 09 44.1 -0.6**
SFJD pmax pmax
comp=Z,845nm,1.5s
SFJD Kangerlussuaq 83.87 360 *i* P **P 01 09 43.7 -0.9**
SFJD Kangerlussuaq 83.87 360 P **P 01 09 43.9 -0.8**
SFJD S **S 01 19 38.2 -8.0**
G08A Pilot Rock 83.89 41 IAmb IAmb 01 09 48.7
comp=Z,280nm,1.5s
KMRM Mail Ridge 83.90 47 IAmb IAmb 01 09 49.9
comp=Z,170nm,1.0s
LNOR Lincton Mounta 83.92 40 IAmb IAmb 01 09 48.9
comp=Z,134nm,1.0s
TUZ Tuapeka 83.94 152 P **P 01 09 46.8 +1.7**
KIJV Kijevo 83.95 318 ||*i*P **P 01 09 44.2 -1.4**
MYKA Terra Mystica 83.97 321 *i* P **P 01 09 46.1 +0.4**
comp=Z,103nm,1.6s,SNR=46
MYKA *ep*P **pP 01 10 42.8 -2.8**
MYKA comp=Z,16nm,1.2s *i* PKiKP **PKiKP 01 14 58.8 -0.5**
MYKA comp=Z,12nm,1.1s *e*SKS **SKSac 01 19 44.7 +0.1**
MYKA comp=Z,6.8nm,1.8s *i* PKKP **PKKPbc 01 27 59.6 +0.7**
MYKA comp=Z,5.5nm,0.9s *i* P'P' 01 36 01.9
comp=Z,7.4nm,1.0s
KTHA Kythira Island 84.00 308 P **P 01 09 43.6 -2.3**
APZ The Paps 84.01 154 P **P 01 09 46.7 +1.2**
LESA Schwarzleotal 84.01 322 *i* P **P 01 09 46.3 +0.4**
comp=Z,299nm,1.5s,SNR=162
LESA *i* pP **pP 01 10 42.9 -3.0**
LESA comp=Z,46nm,1.1s *e*PKiKP **PKiKP 01 14 59.1 -0.2**
LESA comp=Z,9.0nm,1.4s *e*SKS **SKSac 01 19 44.3 -0.6**
LESA comp=Z,27nm,1.6s *i* PKKP **PKKPbc 01 27 59.2 +0.3**
LESA comp=Z,5.2nm,1.2s *i* P'P' 01 36 02.4
comp=Z,7.0nm,1.4s
IGT Igoumenitsa 84.05 312 P **P 01 09 43.9 -2.2**
AXS Araxos 84.09 311 P **P 01 09 44.4 -2.0**
RLS Riolos of Patr 84.11 311 P **P 01 09 44.7 -1.7**
CADS Cadrg 84.16 321 *i* P **P 01 09 45.0 -1.6**
MCD Coleburn Disti 84.19 336 *e*P **P 01 09 45.0 -1.4**
MCD IAmb IAmb 01 09 47.1
comp=Z,244nm,1.2s
BUG Bochum--Univer 84.19 327 *e*P **P 01 09 46.0 -0.6**
comp=Z,677nm,1.8s,baz=52,slow=5.0
SYZ Scrubby Hill 84.22 153 P **P 01 09 47.6 +1.1**
SYZ Scrubby Hill 84.22 153 P **P 01 09 47.9 +1.4**
LKD2 Lefkada island 84.24 311 P **P 01 09 44.9 -2.2**
ITM Ithomi 84.28 310 P **P 01 09 45.0 -2.4**
HHSZ Highcliff Hill 84.28 152 P **P 01 09 48.0 +1.1**
KCPM Cahto Peak 84.28 47 IAmb IAmb 01 09 51.5
comp=Z,184nm,1.1s
I07A Izee 84.28 42 IAmb IAmb 01 09 50.8
comp=Z,222nm,1.1s
KEK Kerkira 84.29 313 P **P 01 09 47.3 -0.1**
FUR Furstenfeldbru 84.30 323 *e*P **P 01 09 47.3 +0.1**
comp=Z,697nm,1.7s,baz=52,slow=5.0
EVGI Lefkada island 84.34 311 P **P 01 09 45.7 -1.9**
SABO M.te Sabotino 84.39 320 IAmb IAmb 01 09 49.8
comp=Z,325nm,1.4s
DRUM Mains of Drumt 84.42 335 *e*P **P 01 09 45.4 -2.2**
DRUM IAmb IAmb 01 09 48.8
comp=Z,364nm,1.4s
TNS Taunus Mts 84.42 326 *e*P **P 01 09 47.7 -0.2**
comp=Z,133nm,1.2s,baz=52,slow=5.0
FSK Fiskardo 84.49 311 P **P 01 09 46.5 -1.8**
O02D Mt. Diablo Mer 84.51 47 IAmb IAmb 01 09 52.3
comp=Z,406nm,1.4s
ABTA Abfaltersbach 84.52 321 *i* P **P 01 09 47.8 -0.6**
comp=Z,115nm,1.2s,SNR=80
ABTA *i* pP **pP 01 10 46.1 -2.5**
ABTA comp=Z,36nm,1.2s *i* PKiKP **PKiKP 01 15 00.1 -0.1**
ABTA comp=Z,4.7nm,0.9s *e*SKS **SKSac 01 19 48.6 +0.4**
ABTA comp=Z,8.1nm,1.6s *e*PKKP **PKKPbc 01 27 57.3 -0.4**
ABTA comp=Z,5.0nm,1.1s *i* P'P' 01 36 04.1
comp=Z,5.4nm,1.5s
RTZL Ratzakli, Kefa 84.56 311 P **P 01 09 47.0 -1.7**
VLS Valsamata 84.62 311 P **P 01 09 46.9 -2.1**
ANGG Ammassalik, Gr 84.63 354 *i* P **P 01 09 47.8 -0.7**
WATA Walderalm 84.66 322 *i* P **P 01 09 49.3 +0.1**
comp=Z,92nm,1.3s,SNR=25
WATA *i* pP **pP 01 10 46.9 -2.4**
WATA comp=Z,29nm,0.9s *e*PKiKP **PKiKP 01 15 02.0 +1.6**
WATA comp=Z,7.8nm,1.0s *i* PKKP **PKKPbc 01 27 58.3 +0.8**
WATA comp=Z,12nm,1.4s *i* P'P' 01 35 59.4
comp=Z,6.6nm,1.4s
PSDA Pessada-Kefalo 84.66 311 P **P 01 09 47.8 -1.4**
WTTA Wattenberg 84.67 322 *i* P **P 01 09 49.6 +0.2**
comp=Z,194nm,1.4s,SNR=75
WTTA *i* pP **pP 01 10 46.6 -2.8**
WTTA comp=Z,52nm,1.1s *e*PKiKP **PKiKP 01 15 01.7 +1.2**
WTTA comp=Z,14nm,1.5s *e*SKS **SKSac 01 19 48.4 -0.9**
WTTA comp=Z,9.8nm,1.1s *i* PKKP **PKKPbc 01 27 57.6 +0.1**
WTTA comp=Z,12nm,1.1s *i* P'P' 01 36 01.2
comp=Z,12nm,1.9s
STAL STALIGIAL 84.71 321 IAmb IAmb 01 09 50.9
comp=Z,290nm,1.5s
LTHK Lithakia 84.72 310 P **P 01 09 46.8 -2.6**
ISOG Isortoq, Green 84.81 355 *i* P **P 01 09 48.8 -0.5**
MOTA Moosalm 84.90 323 *i* P **P 01 09 50.0 -0.5**
comp=Z,32nm,0.9s,SNR=26
MOTA *i* pP **pP 01 10 48.1 -2.5**
MOTA comp=Z,39nm,0.9s *e*PKiKP **PKiKP 01 15 02.3 +1.4**
MOTA comp=Z,6.8nm,0.8s *i* PKKP **PKKPbc 01 27 57.9 +0.9**
MOTA comp=Z,7.7nm,1.3s *i* P'P' 01 36 00.6
comp=Z,9.0nm,1.4s
SQTA Sankt Quirin 84.92 322 *i* P **P 01 09 50.2 -0.3**
comp=Z,27nm,1.0s,SNR=44
SQTA *i* pP **pP 01 10 47.1 -3.5**
SQTA comp=Z,35nm,1.0s *e*PKiKP **PKiKP 01 15 02.0 +1.1**
SQTA comp=Z,3.8nm,0.7s *i* PKKP **PKKPbc 01 27 57.7 +0.8**
SQTA comp=Z,9.7nm,1.3s *i* P'P' 01 35 59.8
comp=Z,8.7nm,1.7s
BRJN Brijuni 84.95 319 ||*i*P **P 01 09 49.5 -1.0**
STU Stuttgart 84.99 324 *e*P **P 01 09 50.4 -0.3**
STU Stuttgart 84.99 324 *e*P **P 01 09 50.0 -0.6**
comp=Z,333nm,1.3s,baz=52,slow=5.0
STU *ep*P **pP 01 10 54.2 +3.5**
HOPS Hopland Field 84.99 48 IAmb IAmb 01 09 54.7
comp=Z,250nm,1.3s
RETA Reutte 84.99 323 *i* P **P 01 09 51.1 +0.3**
comp=Z,30nm,1.4s,SNR=36
RETA *ep*P **pP 01 10 48.3 -2.6**
RETA comp=Z,33nm,1.4s *e*PKiKP **PKiKP 01 14 59.8 -1.1**
RETA comp=Z,7.5nm,1.3s *i* PKKP **PKKPbc 01 27 55.6 -1.1**
RETA comp=Z,7.4nm,0.9s *e*P'P' 01 35 59.5
comp=Z,7.7nm,1.7s
BMO Blue Mountains 85.09 40 IAmb IAmb 01 09 54.4
comp=Z,287nm,1.2s
KPL Plockton 85.21 337 *e*P **P 01 09 50.4 -1.1**
KPL IAmb IAmb 01 09 52.3
comp=Z,338nm,1.3s
GDXM Geysers 85.28 48 IAmb IAmb 01 09 56.7
comp=Z,326nm,1.3s
BTNL Ternell 85.30 327 *d*P **P 01 09 52.7 +0.5**
comp=Z,39nm,1.3s
BTNL *dp*P **pP 01 10 54.0 +1.6**
BTNL *d*S **S 01 20 02.3 +1.3**
FETA Feichten 85.31 322 *i* P **P 01 09 52.3 -0.2**
comp=Z,25nm,0.9s,SNR=48
FETA *ep*P **pP 01 10 49.9 -2.8**
comp=Z,39nm,1.0s

FETA ePKiKP **PKiKP** **01 15 01.7 +0.2**
comp=Z,5.4nm,0.8s
FETA eSKS **SKSac** **01 19 51.8 -1.5**
comp=Z,12nm,1.5s
FETA i PKKP **PKKPbc** **01 27 56.8 +0.8**
comp=Z,10nm,1.0s
FETA i P'P' 01 36 03.9
comp=Z,5.3nm,1.2s
MEM **Membach** **85.34 327** dP **P** **01 09 52.5 +0.2**
comp=Z,53nm,1.2s
MEM dpP **pP** **01 10 53.2 +0.8**
MEM dS **S** **01 20 01.9 +0.6**
BEBN **Eben Emael** **85.37 328** dP **P** **01 09 51.9 -0.6**
comp=Z,57nm,1.0s
BEBN dpP **pP** **01 10 52.8 +0.2**
EDI **Edinburgh** **85.42 335** eP **P** **01 09 51.6 -1.0**
EDI lAmb lAmb 01 09 55.8
comp=Z,103nm,1.2s
BHOU **Houvegnez** **85.51 327** dP **P** **01 09 53.0 -0.3**
comp=Z,52nm,1.3s
BHOU dpP **pP** **01 10 54.5 +1.1**
BHOU dS **S** **01 20 04.2 +1.2**
BSTI **Sart Tilman** **85.57 327** dP **P** **01 09 53.7 +0.3**
comp=Z,12nm,1.2s
BSTI dpP **pP** **01 10 56.0 +2.4**
DAVA **Damuels** **85.58 323** i P **P** **01 09 53.8 -0.1**
comp=Z,40nm,1.0s,SNR=34
DAVA i pP **pP** **01 10 50.9 -3.1**
comp=Z,62nm,1.0s
DAVA i PKiKP **PKiKP** **01 15 02.8 +0.8**
comp=Z,8.4nm,0.9s
DAVA i PKKP **PKKPbc** **01 27 56.3 +1.0**
comp=Z,4.5nm,0.9s
DAVA eP'P' 01 35 59.2
comp=Z,4.8nm,1.1s
MCCM **Marconi Confer** **85.59 48** lAmb lAmb 01 09 57.3
comp=Z,444nm,1.4s
SGRT **San Giovanni R** **85.66 316** lAmb lAmb 01 09 57.3
comp=Z,317nm,1.5s
ORV **Oroville** **85.68 47** lAmb lAmb 01 09 57.5
comp=Z,140nm,0.9s
MSO **Missoula** **85.71 37** lAmb lAmb 01 09 57.1
comp=Z,218nm,1.1s
BFO **Black Forest** **85.71 324** P **P** **01 09 53.9 -0.4**
BFO **Black Forest** **85.71 324** P **P** **01 09 53.9 -0.4**
BFO pmax pmax
comp=Z,66nm,1.2s
BFO **Black Forest** **85.71 324** eP **P** **01 09 53.5 -0.7**
comp=Z,91nm,1.3s,baz=52,slow=5.0
MATE **Matera** **85.71 315** eP **P** **01 09 51.9 -2.4**
EDMD **Edmundbyers** **85.78 334** eP **P** **01 09 52.9 -1.5**
EDMD lAmb lAmb 01 09 55.3
comp=Z,77nm,0.9s
FFC **Flin Flon** **85.78 27** P **P** **01 09 54.1 -0.3**
FFC **Flin Flon** **85.78 27** P **P** **01 09 54.1 -0.3**
FFC pmax pmax
comp=Z,416nm,0.9s
BCLA **Clavier** **85.80 327** dP **P** **01 09 54.4 -0.2**
comp=Z,34nm,1.3s
BCLA dpP **pP** **01 10 58.2 +3.4**
BCLA dS **S** **01 20 09.7 +3.9**
FUORN **Ofenpass-Fuorn** **85.81 322** lAmb lAmb 01 09 56.9
comp=Z,224nm,1.4s
TEOL **Teolo** **85.83 321** lAmb lAmb 01 09 58.2
comp=Z,140nm,1.0s
EKA **Eskdalemuir Ar** **85.86 335** P **P** **01 09 53.5 -1.3**
comp=Z,20nm,0.5s,baz=41,slow=4.7,SNR=107
EKA pP **pP** **01 10 54.6 -0.4**
comp=Z,14nm,0.8s,baz=30,slow=5.1,SNR=3.3
EKA PKKPbc **PKKPbc** **01 27 53.6 -1.2**
comp=Z,2.9nm,0.6s,baz=241,slow=2.4,SNR=12
comp=Z,20nm,0.5s
EKA **Eskdalemuir Ar** **85.86 335** P **P** **01 09 53.4 -1.3**
EKA pmax pmax
comp=Z,117nm,1.0s
ESK **Eskdalemuir** **85.89 335** P **P** **01 09 54.0 -0.9**
ESK lAmb lAmb 01 09 57.4
comp=Z,374nm,1.6s
ESK **Eskdalemuir** **85.89 335** eP **P** **01 09 53.5 -1.4**
ESK lAmb lAmb 01 09 57.2
comp=Z,107nm,0.9s
ESK **Eskdalemuir** **85.89 335** P **P** **01 09 54.0 -0.9**
ESK pmax pmax
comp=Z,374nm,1.7s
WLF **Walferdange** **85.91 326** P **P** **01 09 54.8 -0.3**
WLF **Walferdange** **85.91 326** lAmb lAmb 01 09 58.0
comp=Z,269nm,1.3s
WLF **Walferdange** **85.91 326** dP **P** **01 09 55.2 0.0**
comp=Z,81nm,1.3s
WLF dpP **pP** **01 10 57.8 +2.4**
WLF dSKS **SKSac** **01 19 55.2 -1.3**
WLF dS **S** **01 20 08.7 +1.9**
WLF **Walferdange** **85.91 326** eP **P** **01 09 54.9 -0.3**
comp=Z,284nm,1.4s,baz=52,slow=5.0
WLF epP **pP** **01 10 59.4 +4.0**
BGES **Gesves** **85.93 327** dP **P** **01 09 55.1 -0.1**
comp=Z,32nm,1.3s
BGES dx x 01 10 13.4
BGES dS **S** **01 20 07.6 +0.6**
RER **Riviere de l'E** **85.93 243** P **P** **01 09 57.3 +1.6**
LAWE **Loch Awe, Argy** **85.96 336** eP **P** **01 09 53.9 -1.4**
LAWE lAmb lAmb 01 09 55.8
comp=Z,118nm,1.1s
PGBU **Glenifferbraes** **85.98 335** eP **P** **01 09 53.9 -1.5**
PGBU lAmb lAmb 01 09 56.1
comp=Z,642nm,1.3s
UCC **Uccle** **85.98 328** lAmb lAmb 01 09 57.6
comp=Z,196nm,1.5s
UCC **Uccle** **85.98 328** dP **P** **01 09 55.2 -0.2**
comp=Z,43nm,1.4s
UCC dpP **pP** **01 10 56.3 +0.6**
UCC dS **S** **01 20 06.0 -1.4**
ACER **Acerenza** **86.10 315** lAmb lAmb 01 09 60.0
comp=Z,358nm,1.5s
BMRD **Maredsous** **86.13 328** dP **P** **01 09 55.9 -0.3**
comp=Z,70nm,1.3s
BMRD dpP **pP** **01 10 56.6 +0.1**
BMRD dS **S** **01 20 09.6 +0.6**
HPK **Haverah Park** **86.29 333** eP **P** **01 09 55.8 -1.1**
HPK lAmb lAmb 01 09 58.3
comp=Z,370nm,1.5s
GUMA **Gualdo di Mace** **86.30 318** lAmb lAmb 01 10 00.4
comp=Z,281nm,1.4s
DOU **Dourbes** **86.36 327** dP **P** **01 09 56.4 -0.9**
comp=Z,49nm,1.3s
DOU dpP **pP** **01 10 57.1 -0.4**
DOU dS **S** **01 20 11.8 +0.7**
AFDM **Forest Hills D** **86.37 47** lAmb lAmb 01 10 00.5
comp=Z,250nm,1.4s
TUE **Stuetta** **86.39 323** lAmb lAmb 01 10 02.4
comp=Z,247nm,1.6s
TUE **Stuetta** **86.39 323** P **P** **01 09 57.7 -0.1**
comp=Z,9μmcomp=Z,479nm,1.1s
NEWG **New Galloway** **86.42 335** eP **P** **01 09 56.0 -1.5**
NEWG lAmb lAmb 01 09 58.6
comp=Z,220nm,1.5s
TIP **Timpagrande** **86.53 314** ⇓P **P** **01 09 58.2 -0.3**
TIP **Timpagrande** **86.53 314** P **P** **01 09 59.3 +0.8**
comp=Z,1μmcomp=Z,42nm,1.7s
SBV **Sambava** **86.54 253** P **P** **01 10 00.2 +1.6**
SNR=5.3
NRCA **Norcia** **86.57 318** lAmb lAmb 01 10 01.6
comp=Z,292nm,1.4s
ELMS **Elmsett, Ipswi** **86.57 330** eP **P** **01 09 57.1 -1.2**
ELMS lAmb lAmb 01 09 59.0
comp=Z,70nm,0.8s
AQU **L'Aquila** **86.70 318** P **P** **01 09 58.8 -0.4**
AQU **L'Aquila** **86.70 318** P **P** **01 09 59.8 +0.6**
comp=Z,2μmcomp=Z,149nm,1.5s
NUUK **Nuuk** **86.71 360** i P **P** **01 09 58.0 -0.7**
LBWR **Ladybower, Pea** **86.75 333** eP **P** **01 09 57.8 -1.4**
LBWR lAmb lAmb 01 10 00.5
comp=Z,249nm,1.1s
GAL1 **Galloway** **86.79 335** eP **P** **01 09 57.7 -1.6**
GAL1 lAmb lAmb 01 10 01.9
comp=Z,117nm,0.8s
MFID **Camas Ranch** **86.81 41** lAmb lAmb 01 10 03.2
comp=Z,374nm,1.2s
ZCCA **Zocca** **86.85 320** lAmb lAmb 01 10 06.5
comp=Z,378nm,1.8s
PAHR **Pah Rah Range** **86.92 46** lAmb lAmb 01 10 03.5
comp=Z,256nm,1.0s
PRMA **PARMA** **86.96 321** lAmb lAmb 01 10 04.3
comp=Z,204nm,1.2s
CWF **Charnwood Fore** **87.07 332** eP **P** **01 09 59.1 -1.6**
CWF lAmb lAmb 01 10 01.7
comp=Z,173nm,1.4s
CLGH **Cloghs, Cushen** **87.13 336** eP **P** **01 09 59.3 -1.6**
STNC **Stoke** **87.17 333** eP **P** **01 10 00.2 -1.0**
ELSH **Elham, Standar** **87.19 330** eP **P** **01 10 00.1 -1.2**
ELSH lAmb lAmb 01 10 02.0
comp=Z,196nm,1.1s
IOMK **Kirk Michael** **87.20 334** eP **P** **01 09 59.8 -1.5**
IOMK lAmb lAmb 01 10 02.5
comp=Z,78nm,1.4s
VLC **Villacollemand** **87.30 320** P **P** **01 10 02.0 0.0**
HLID **Hailey** **87.52 40** lAmb lAmb 01 10 07.0
comp=Z,267nm,1.1s
CEL **Celeste** **87.62 313** lAmb lAmb 01 10 07.0
comp=Z,171nm,1.2s
CEL **Celeste** **87.62 313** P **P** **01 10 03.4 -0.3**
comp=Z,2μmcomp=Z,132nm,1.4s
IDGL **Inch Island, C** **87.64 336** P **P** **01 10 02.3 -1.0**
IDGL **Inch Island, C** **87.64 336** eP **P** **01 10 02.1 -1.2**
BBGB **Big Mountain B** **87.69 49** lAmb lAmb 01 10 07.4
comp=Z,256nm,1.2s
FOEL **Foel Wyfa** **87.72 333** eP **P** **01 10 02.8 -1.0**
FOEL lAmb lAmb 01 10 05.1
comp=Z,49nm,0.9s
BOZ **Bozeman (W)** **87.73 37** lAmb lAmb 01 10 07.4
comp=Z,308nm,1.4s
WPS **Cemaes, Angles** **87.84 334** eP **P** **01 10 03.0 -1.3**
HLM1 **Long Mynd** **87.87 333** eP **P** **01 10 03.8 -0.7**
WLF1 **Llynfaes** **87.88 334** eP **P** **01 10 02.9 -1.6**
WLF1 lAmb lAmb 01 10 05.7
comp=Z,110nm,0.7s
ILTH **Belurgan, C L** **88.04 335** P **P** **01 10 04.6 -0.6**
PMPB **Monarch Peak** **88.06 49** lAmb lAmb 01 10 09.0
comp=Z,303nm,1.9s
RYN **Ryan** **88.10 46** lAmb lAmb 01 10 09.5
comp=Z,169nm,1.1s
MCH1 **Michaelchurch** **88.31 332** eP **P** **01 10 05.2 -1.3**
LHV **Little Huntoon** **88.34 46** lAmb lAmb 01 10 11.0
comp=Z,396nm,1.6s
MONM **Monmouth** **88.35 332** eP **P** **01 10 05.5 -1.2**
NVAR **Mina Array Bea** **88.36 46** P **P** **01 10 07.9 +0.5**
NVAR **Mina Array Bea** **88.36 46** P **P** **01 10 06.9 -0.5**
comp=Z,60nm,1.0s,baz=284,slow=4.3,SNR=189
NVAR pP **pP** **01 11 08.6 +0.8**
comp=Z,4.1nm,0.7s,baz=276,slow=4.1,SNR=1.3
NVAR PKKPbc **PKKPbc** **01 27 50.0 +1.4**
comp=Z,0.7nm,0.6s,baz=183,slow=3.2,SNR=5.0
NVAR PKPPKP **P'P'df** **01 35 53.4 -6.7**
comp=Z,1.0nm,0.9s,baz=132,slow=2.2,SNR=5.1
comp=Z,60nm,1.0s
OLDB **Oldbury-Upon-S** **88.38 332** eP **P** **01 10 04.9 -1.9**
YHL **Hebgen Lake** **88.46 38** lAmb lAmb 01 10 11.6
comp=Z,288nm,1.2s
YHB **Horse Butte** **88.52 38** lAmb lAmb 01 10 11.8
comp=Z,272nm,1.1s
DSB **Dublin** **88.67 335** P **P** **01 10 08.3 +0.1**
DSB **Dublin** **88.67 335** P **P** **01 10 07.9 -0.3**
YNM **Yellowstone No** **88.80 38** lAmb lAmb 01 10 13.8
comp=Z,256nm,1.3s
ELK **Elko** **88.81 43** PKKPbc PKKPbc 01 27 50.4 +2.8
comp=Z,2.6nm,0.7s,baz=299,slow=2.7,SNR=12
Q09A **Carvers** **88.81 45** lAmb lAmb 01 10 12.6
comp=Z,158nm,0.9s
YNR **Norris Junctio** **88.82 38** lAmb lAmb 01 10 14.7
comp=Z,375nm,1.5s
CLF **Chambon-Foret** **88.90 327** lAmb lAmb 01 10 11.7
comp=Z,208nm,1.3s
YFT **Old Faithful** **88.91 38** lAmb lAmb 01 10 15.2
comp=Z,293nm,1.2s
RSBS **Rosebush, Pemb** **89.05 333** eP **P** **01 10 08.3 -1.7**
DSP **Deep Springs** **89.21 47** lAmb lAmb 01 10 14.8
comp=Z,158nm,1.3s
FXWY **Fox Creek** **89.35 39** lAmb lAmb 01 10 15.9
comp=Z,167nm,1.2s
TPAW **Teton Pass** **89.48 39** lAmb lAmb 01 10 16.5
comp=Z,146nm,1.1s
IWEX **Carrickbyrne,** **89.50 334** P **P** **01 10 12.0 -0.1**
NRS **Narsarsuaq** **89.59 357** lAmb lAmb 01 10 14.3
comp=Z,137nm,1.3s
NRS **Narsarsuaq** **89.59 357** i P **P** **01 10 10.7 -1.6**
HVU **Hansel Valley** **89.59 41** lAmb lAmb 01 10 16.2
comp=Z,118nm,1.0s
SNOW **Snow King Moun** **89.61 39** lAmb lAmb 01 10 17.1
comp=Z,120nm,1.1s
IGLA **Glengowla, Co** **89.62 336** P **P** **01 10 10.0 -2.6**
IGLA **Glengowla, Co** **89.62 336** eP **P** **01 10 10.2 -2.5**
IVI **Ivigtut** **89.64 358** lAmb lAmb 01 10 13.3
comp=Z,182nm,1.4s
GRAC **Grapevine Rang** **89.82 47** lAmb lAmb 01 10 17.4
comp=Z,384nm,1.9s
DYA **Yadsworthy** **89.88 332** eP **P** **01 10 12.8 -1.1**
DYA lAmb lAmb 01 10 16.1
comp=Z,348nm,1.8s
AHID **Auburn Hatcher** **89.88 39** lAmb lAmb 01 10 17.8
comp=Z,130nm,1.1s
ISA **Isabella, Lake** **89.91 48** lAmb lAmb 01 10 34.7
comp=Z,52nm,0.5s
BGU **Big Grassy Mou** **89.99 42** lAmb lAmb 01 10 19.6
comp=Z,222nm,1.5s
R11B **Troy Canyon, C** **90.10 45** lAmb lAmb 01 10 18.8
comp=Z,124nm,1.0s
OSI **Osito Audit C** **90.37 49** lAmb lAmb 01 10 19.7
comp=Z,405nm,2.0s
WCT **Wildcat Mounta** **90.41 47** lAmb lAmb 01 10 20.0
comp=Z,143nm,1.2s
S11A **Rachel** **90.44 45** lAmb lAmb 01 10 20.4
comp=Z,277nm,1.1s
LRMC **Laurel Mtn Rad** **90.53 48** lAmb lAmb 01 12 51.2
comp=Z,144nm,0.9s
TPO **Tropico Hills** **90.54 49** lAmb lAmb 01 10 20.7
comp=Z,270nm,1.3s
TPNV **Topopah Spring** **90.55 46** lAmb lAmb 01 10 20.6
comp=Z,162nm,1.0s
BW06 **Boulder Array** **90.73 38** lAmb lAmb 01 10 21.1
comp=Z,136nm,1.1s
PD31 **Pinedale Array** **90.73 38** lAmb lAmb 01 10 21.1
comp=Z,149nm,1.2s
PDAR **Pinedale Array** **90.73 38** P **P** **01 10 18.3 -0.1**
PDAR **Pinedale Array** **90.73 38** P **P** **01 10 18.4 +0.1**
comp=Z,68nm,0.9s,baz=309,slow=0.4,SNR=260
PDAR pP **pP** **01 11 20.3 +1.5**
comp=Z,29nm,1.0s,baz=294,slow=1.5,SNR=4.2
PDAR PKKPbc **PKKPbc** **01 27 42.9 -0.1**
comp=Z,3.2nm,0.7s,baz=132,slow=2.2,SNR=17
PDAR PKPPKP **P'P'df** **01 35 49.7 -6.2**
comp=Z,2.4nm,1.1s,baz=111,slow=3.3,SNR=8.7
comp=Z,68nm,0.9s
LODK **Lodwar** **90.75 274** P **P** **01 10 20.3 +1.5**
GWY **Greenwater Val** **90.75 47** lAmb lAmb 01 10 21.5
comp=Z,133nm,1.1s
QSM **Queen of Sheba** **90.76 47** lAmb lAmb 01 10 21.5
comp=Z,257nm,1.1s
VSL **Villasalto** **90.86 317** lAmb lAmb 01 10 21.1
comp=Z,188nm,1.5s
CTU **Camp Tracy** **90.88 41** lAmb lAmb 01 10 22.4
comp=Z,132nm,1.2s
PRN **Pahroc Range** **91.02 45** lAmb lAmb 01 10 23.3
comp=Z,192nm,1.1s
PSUT **Pine Spring** **91.04 44** lAmb lAmb 01 10 23.1
comp=Z,146nm,1.0s
MWC **Mount Wilson** **91.04 49** lAmb lAmb 01 10 22.6
comp=Z,190nm,1.4s
JLU **Jordanelle** **91.11 41** lAmb lAmb 01 10 23.8
comp=Z,265nm,1.6s
VAL **Valentia** **91.13 336** P **P** **01 10 19.6 0.0**
VAL **Valentia** **91.13 336** P **P** **01 10 19.7 0.0**
GSC **Goldstone, Bar** **91.21 48** lAmb lAmb 01 10 23.6
comp=Z,206nm,1.1s
KIBK **Kibwezi** **91.21 268** P **P** **01 10 20.8 -0.1**
KIBK **Kibwezi** **91.21 268** lAmb lAmb 01 10 23.7
comp=Z,202nm,1.6s
KIBK **Kibwezi** **91.21 268** P **P** **01 10 22.5 +1.7**
SNR=14
BFSC **Mount Baldy Ra** **91.30 49** lAmb lAmb 01 10 23.6
comp=Z,152nm,1.2s
MPU **Maple Canyon** **91.39 42** lAmb lAmb 01 10 25.0
comp=Z,162nm,1.1s
BSUT **Blindstream Ca** **91.55 41** lAmb lAmb 01 10 26.2
comp=Z,206nm,1.3s
ABPO **Ambohimpanom** **91.59 249** P **P** **01 10 22.9 +0.3**
ABPO **Ambohimpanom** **91.59 249** P **P** **01 10 22.9 +0.3**
ABPO pmax pmax
comp=Z,333nm,1.4s
KUQ **Kuujjuaa** **91.70 9** lAmb lAmb 01 10 23.6
comp=Z,427nm,1.9s
ELS **Elsinore Mount** **91.81 49** lAmb lAmb 01 10 26.1
comp=Z,227nm,1.5s
PPT2 **Papeete2** **92.02 109** eP **P** **01 10 24.4 0.0**
comp=Z,95nm,1.6s
PPT2 **Papeete2** **92.02 109** ePKP1 **P** **01 10 27.8 +3.4**
comp=Z,606nm,26.0s
PPT2 epP **pP** **01 11 30.0 +5.0**
comp=Z,46nm,1.1s
PPT2 **Papeete2** **92.02 109** ePP **PP** **01 14 10.0 +1.9**
comp=Z,351nm,29.8s
PPT2 eS **S** **01 21 06.6 +2.0**
comp=Z,2μm,25.2s
PPT2 eSS **SS** **01 27 21.3 +0.8**
comp=Z,1μm,26.0s
PPT2 eLQ LQ 01 36 15.3
comp=Z,1μm,27.8s
PPT2 eLR LR 01 40 23.9
comp=Z,1μm,23.8s
PPT2 eLR LR 01 40 26.7
comp=Z,863nm,25.0s
PAE **Paea** **92.05 109** eS **S** **01 20 56.7 -8.0**
comp=Z,320nm,23.9s
PAE **Paea** **92.05 109** eLR LR 01 40 18.0
comp=Z,480nm,27.4s
PMOR **Pomariorio Ree** **92.14 106** eP **P** **01 10 25.2 +0.3**
comp=Z,215nm,1.2s
PMOR epP **pP** **01 11 27.5 +2.0**
comp=Z,108nm,1.1s
PMOR **Pomariorio Ree** **92.14 106** eLR LR 01 40 10.3
comp=Z,3μm,25.1s
V12A **Nelson** **92.19 47** lAmb lAmb 01 10 28.5
comp=Z,192nm,1.1s
LCMT **Little Creek M** **92.38 45** lAmb lAmb 01 10 29.6
comp=Z,188nm,1.2s
Q16A **Castle Valley** **92.39 42** lAmb lAmb 01 10 30.7
comp=Z,173nm,1.1s
TVO **Taravao** **92.39 109** eLR LR 01 40 25.7
comp=Z,1μm,28.9s
K22A **Casper** **92.43 37** lAmb lAmb 01 10 29.6
comp=Z,145nm,1.2s
PFO **Pinyon Flats O** **92.47 49** P **P** **01 10 26.9 +0.5**
PFO **Pinyon Flats O** **92.47 49** P **P** **01 10 26.9 +0.5**
PFO pmax pmax
comp=Z,291nm,1.1s
VAH **Vaihoa** **92.48 106** eLR LR 01 40 29.9
comp=Z,15μm,41.9s
EJON **La Jonquera** **92.51 323** P **P** **01 10 25.6 -0.7**
DPP **Dos Picos Cty** **92.52 50** lAmb lAmb 01 10 29.3
comp=Z,143nm,1.0s
SRU **San Rafael Swe** **92.64 42** lAmb lAmb 01 10 31.3
comp=Z,78nm,0.7s
RSSD **Black Hills** **92.65 35** P **P** **01 10 27.5 +0.3**
RSSD **Black Hills** **92.65 35** P **P** **01 10 27.5 +0.3**
RSSD pmax pmax
comp=Z,437nm,1.4s
BORC **Borrego Spring** **92.71 49** lAmb lAmb 01 10 30.3
comp=Z,194nm,1.3s
EPLO **Experimental L** **92.90 26** lAmb lAmb 01 10 29.6
comp=Z,168nm,1.0s
NEE2 **Needles Airpor** **92.94 47** lAmb lAmb 01 10 31.4
comp=Z,95nm,1.1s
TKX **Tecate** **93.01 50** lAmb lAmb 01 10 31.7
comp=Z,161nm,1.1s
AGMN **Agassiz Nation** **93.17 28** lAmb lAmb 01 10 31.0
comp=Z,105nm,1.2s
W13A **Hualapai Mount** **93.20 46** lAmb lAmb 01 10 33.1
comp=Z,113nm,1.2s
O20A **White River Ci** **93.24 40** lAmb lAmb 01 10 32.9
comp=Z,116nm,1.2s
HMU **Henry Mountain** **93.29 43** lAmb lAmb 01 10 34.3
comp=Z,116nm,0.9s
KEST **Kesra** **93.30 314** P **P** **01 10 30.0 -0.2**
comp=Z,28nm,1.1s,baz=223,slow=0.9,SNR=19
comp=Z,28nm,1.1s
KEST **Kesra** **93.30 314** P **P** **01 10 31.1 +0.9**
SNR=9.7
U15A **North Rim** **93.34 45** lAmb lAmb 01 10 35.1
comp=Z,175nm,1.1s
VOI **Vohitsoka** **93.40 247** lAmb lAmb 01 10 34.4
comp=Z,141nm,0.8s
VOI **Vohitsoka** **93.40 247** P **P** **01 10 30.7 0.0**
SNR=10
YUH **Yuha Desert** **93.42 49** lAmb lAmb 01 10 33.8
comp=Z,157nm,1.1s
MAHO **Mahon** **93.53 320** P **P** **01 10 31.3 +0.3**
MAHO **Mahon** **93.53 320** lAmb lAmb 01 10 33.1
comp=Z,94nm,1.2s
PV21 **Cone Mtn., Par** **93.90 41** lAmb lAmb 01 10 36.4
comp=Z,106nm,1.1s
CPBX **Cerro Prieto** **93.97 49** lAmb lAmb 01 10 36.5
comp=Z,137nm,1.1s
PV14 **Lion Creek, Pa** **94.00 41** lAmb lAmb 01 10 36.9
comp=Z,155nm,1.1s
PV22 **Blue Mesa, Par** **94.02 41** lAmb lAmb 01 10 36.9
comp=Z,103nm,1.1s
PV04 **Paradox Valley** **94.05 41** lAmb lAmb 01 10 37.4
comp=Z,176nm,1.3s
PV16 **Nyswonger Mesa** **94.10 41** lAmb lAmb 01 10 37.4
comp=Z,195nm,1.4s
PV11 **David Mesa, Pa** **94.14 41** P **P** **01 10 34.4 +0.3**
PV11 lAmb lAmb 01 10 37.5
comp=Z,205nm,1.3s
PV07 **Paradox Valley** **94.17 41** lAmb lAmb 01 10 37.6
comp=Z,144nm,1.6s
PV03 **Paradox Valley** **94.18 41** P **P** **01 10 35.6 +1.3**
PV03 lAmb lAmb 01 10 37.6
comp=Z,136nm,1.2s
PV13 **Radium Mtn., P** **94.26 41** lAmb lAmb 01 10 38.0
comp=Z,165nm,1.4s
PV02 **Paradox Valley** **94.28 41** lAmb lAmb 01 10 37.4
comp=Z,133nm,1.1s
VTX **Valle De La Tr** **94.28 50** P **P** **01 10 35.9 +1.2**
PV15 **Paradox Valley** **94.33 41** lAmb lAmb 01 10 38.3
comp=Z,102nm,1.2s
PV01 **Paradox Valley** **94.42 41** lAmb lAmb 01 10 38.7
comp=Z,134nm,1.2s
ETOS **Mallorca** **94.43 321** P **P** **01 10 35.2 0.0**
WUAZ **Wupatki** **94.50 45** lAmb lAmb 01 10 39.1
comp=Z,73nm,0.9s
Y14A **Wickenburg** **94.50 47** P **P** **01 10 36.3 +0.7**
Y14A **PcP** **01 10 36.7 +0.7**
Y14A lAmb lAmb 01 10 38.7
comp=Z,85nm,1.2s
113A **Mohawk Valley,** **94.76 48** lAmb lAmb 01 10 39.9
comp=Z,127nm,1.5s
FOMA **Nahampoana Res** **94.79 244** P **P** **01 10 36.7 -0.2**
FOMA lAmb lAmb 01 10 38.9
comp=Z,134nm,1.3s
SUSD **Miller** **94.84 32** P **P** **01 10 37.8 +0.8**
TBI **Tubuai** **94.98 114** eP P 01 10 31.0 -6.8
comp=Z,2μm,28.5s
TBI **Tubuai** **94.98 114** ePP **PP** **01 14 31.1 +0.1**
comp=Z,1μm,30.2s
TBI eS **S** **01 21 23.6 -6.5**
comp=Z,5μm,28.2s
TBI eSS **SS** **01 28 06.3 +4.0**
comp=Z,5μm,28.2s
TBI eLQ LQ 01 37 21.0
comp=Z,11μm,34.0s
TBI eLR LR 01 41 43.5
comp=Z,4μm,23.0s
TBI eLR LR 01 41 48.5
comp=Z,1μm,29.5s
MVCO **Mesa Verde** **95.09 42** lAmb lAmb 01 10 41.8
comp=Z,99nm,1.3s
SCHQ **Schefferville** **95.10 9** P **P** **01 10 37.6 -0.3**
SCHQ PKKPbc **PKKPbc** **01 27 31.1 -0.9**
comp=Z,74nm,1.0s,baz=1.6,slow=4.8,SNR=48
comp=Z,4.5nm,0.7s,baz=228,slow=2.3,SNR=5.2
comp=Z,74nm,1.0s
SFX **San Felipe** **95.13 50** P **P** **01 10 39.9 +1.4**
EYMN **Ely** **95.16 25** lAmb lAmb 01 10 41.6
comp=Z,59nm,0.8s
TBO **Thunder Bay** **95.33 24** lAmb lAmb 01 10 40.9
comp=Z,192nm,1.7s
PIX **Pinacate** **95.72 49** P **P** **01 10 41.9 +0.7**
EIBI **Ibiza** **95.76 321** P **P** **01 10 41.2 0.0**
W18A **Petrified Fore** **95.77 44** P **P** **01 10 43.3 +1.7**
Q24A **Divide** **95.77 39** P **P** **01 10 42.3 +0.6**
TAOE **Nuku Hiva Isla** **95.78 97** eP **P** **01 10 43.6 +1.8**
comp=Z,430nm,26.7s
TAOE **Nuku Hiva Isla** **95.78 97** ePP **PP** **01 14 38.1 +0.8**
comp=Z,458nm,27.1s
TAOE eS **S** **01 21 33.9 -3.7**
comp=Z,2μm,25.3s
TAOE eSS **SS** **01 28 09.9 -4.1**
comp=Z,918nm,27.8s
TAOE eLQ LQ 01 37 56.2
comp=Z,5μm,31.8s
TAOE eLR LR 01 41 39.7
comp=Z,944nm,22.4s

K30B	**Basset**	**95.88**	**33**	P	**P**	01 **10 42.1 +0.3**		
214A	**Organ Pipe Nat**	**95.90**	**48**	IAmb	IAmb	01 10 45.3		
	comp=Z,86nm,1.4s							
OGNE	**Ogallala**	**95.98**	**36**	P	**P**	01 **10 43.0 +0.7**		
E38A	**The Farm, Brul**	**96.25**	**26**	IAmb	IAmb	01 10 45.0		
	comp=Z,48nm,1.0s							
CASY	**Casey**	**96.35**	**187**	P	**P**	01 **10 43.3 +0.4**		
CASY				IAmb	IAmb	01 10 45.3		
	comp=Z,64nm,1.4s							
SDCO	**Great Sand Dun**	**96.44**	**40**	P	**P**	01 **10 45.0 +0.3**		
ECSD	**EROS Data Cent**	**96.45**	**31**	IAmb	IAmb	01 10 47.2		
	comp=Z,65nm,1.1s							
ECHE	**Chera**	**96.59**	**323**	P	**P**	01 **10 44.4 -0.6**		
MBAR	**Mbarara**	**96.74**	**273**	P	**P**	01 **10 46.3 +0.1**		
MBAR					**P**	01 **10 47.1 +0.8**		
MBAR	**Mbarara**	**96.74**	**273**	P	**P**	01 **10 47.1 +0.8**		
MBAR	**Mbarara**	**96.74**	**273**	*i* P	**P**	01 **10 45.2 -1.1**		
MBAR				pmax	pmax			
	comp=Z,39nm,1.4s							
SPMN	**Marine on St.**	**96.89**	**28**	IAmb	IAmb	01 10 49.4		
	comp=Z,34nm,0.7s							
TUC	**Tucson**	**96.97**	**47**	P	**P**	01 **10 47.5 +0.6**		
TUC	**Tucson**	**96.97**	**47**	P	**P**	01 **10 47.5 +0.6**		
TUC				pmax	pmax			
	comp=Z,30nm,1.2s							
KSCO	**Kaye Shedlock'**	**97.09**	**37**	P	Pdif	01 10 48.4 +0.9		
KSCO				IAmb	IAmb	01 10 49.9		
	comp=Z,131nm,1.7s							
UCM	**Universidad Co**	**97.24**	**325**	P	**P**	01 **10 47.4 -0.5**		
ECAL	**Calabor**	**97.68**	**328**	P	**P**	01 **10 49.1 -0.8**		
PBRG	**Braganca**	**97.79**	**328**	*e*Pdif	**P**	01 **10 49.9 -0.5**		
ANMO	**Albuquerque**	**97.85**	**43**	P	Pdif	01 10 52.7 +1.7		
ANMO	**Albuquerque**	**97.85**	**43**	PP	**PP**	01 **14 55.7 +3.7**		
	comp=Z,6.7nm,1.0s,baz=62,slow=6.3,SNR=4.0							
ANMO	**Albuquerque**	**97.85**	**43**	*c e*P	**P**	01 **10 50.9 -0.1**		
ANMO				pmax	pmax			
	comp=Z,21nm,1.1s							
DUN6	**Lazy B Ranch**	**97.88**	**46**	IAmb	IAmb	01 10 55.9		
	comp=Z,69nm,0.8s							
G40A	**Rib Lake**	**97.88**	**26**	IAmb	IAmb	01 10 54.1		
	comp=Z,64nm,1.0s							
L34A	**Svendsen Farm,**	**97.95**	**32**	IAmb	IAmb	01 10 54.0		
	comp=Z,32nm,0.8s							
CART	**Cartagena**	**98.07**	**322**	P	**P**	01 **10 51.1 -0.6**		
ESDC	**Sonseca Array**	**98.08**	**325**	P	**P**	01 **10 50.8 -0.9**		
ESDC	**Sonseca Array**	**98.08**	**325**	P	**P**	01 **10 51.3 -0.4**		
	comp=Z,15nm,1.1s,baz=30,slow=3.9,SNR=59							
ESDC				PP	**PP**	01 **14 55.7 +2.3**		
	comp=Z,2.8nm,1.0s,baz=42,slow=7.6,SNR=4.3							
ESDC				PKKPbc	**PKKPdf**	01 **27 24.1 -0.6**		
	comp=Z,5.1nm,1.1s,baz=250,slow=2.4,SNR=15							
ESDC				PKPPKP	**P'P'df**	01 **35 37.5 -4.3**		
	comp=Z,1.2nm,1.2s,baz=216,slow=1.9,SNR=4.2							
	comp=Z,15nm,1.1s							
PGAV	**Gavieira, Arco**	**98.36**	**329**	*e*Pdif	Pdif	01 10 53.0 0.0		
PAB	**San Pablo**	**98.37**	**325**	P	**P**	01 **10 53.0 -0.1**		
PAB	**San Pablo**	**98.37**	**325**	P	**P**	01 **10 53.0 -0.1**		
PAB				pmax	pmax			
	comp=Z,28nm,1.3s							
TLOR	**Lorca, Murcia**	**98.39**	**322**	P	Pdif	01 10 53.3 +0.2		
MVO	**Moncorvo**	**98.42**	**327**	*e*Pdif	Pdif	01 10 53.2 -0.1		
PCAB	**Cabril**	**98.46**	**328**	*e*Pdif	**P**	01 **10 53.7 +0.3**		
POLO	**Lamas de Olo**	**98.61**	**328**	*e*Pdif	Pdif	01 10 52.9 -1.2		
CBKS	**Cedar Bluff**	**98.75**	**36**	IAmb	IAmb	01 10 56.5		
	comp=Z,79nm,1.4s							
ENIJ	**Nijar**	**99.18**	**322**	P	**Pdif**	01 **10 56.0 -0.7**		
PVIS	**Viseu**	**99.18**	**328**	*e*Pdif	**Pdif**	01 **10 56.4 -0.2**		
MTE	**Manteigas**	**99.27**	**327**	*e*Pdif	**Pdif**	01 **10 57.5 +0.5**		
EADA	**Adamuz**	**99.53**	**324**	P	**Pdif**	01 **10 58.0 -0.2**		
EQTA	**Presa de Quent**	**99.66**	**323**	P	**Pdif**	01 **10 58.2 -0.7**		
PCBR	**Castelo Branco**	**99.67**	**327**	*e*Pdif	**Pdif**	01 **10 58.9 +0.2**		
COI	**Coimbra**	**99.82**	**328**	*e*Pdif	**Pdif**	01 **10 59.3 -0.1**		
PMRV	**Marv??o**	**99.95**	**327**	*e*Pdif	**Pdif**	01 **11 00.1 +0.1**		
PCAS	**Casmilo, Conde**	**99.99**	**328**	*e*Pdif	**Pdif**	01 **11 00.3 +0.1**		
ELGU	**Los Guajares,**	**100.01**	**323**	P	**Pdif**	01 **10 60.0 -0.4**		
ECAB	**El Cabril**	**100.03**	**324**	P	**Pdif**	01 **11 00.9 +0.5**		
EGOR	**Sierra Gorda,**	**100.09**	**323**	P	**Pdif**	01 **11 00.1 -0.7**		
PSARD	**Sardoal**	**100.19**	**327**	*e*Pdif	**Pdif**	01 **11 01.3 +0.2**		
EBAD	**Badajoz**	**100.30**	**326**	P	**Pdif**	01 **11 01.3 -0.2**		
PESTR	**Estremoz**	**100.49**	**326**	P	**Pdif**	01 **11 02.6 +0.2**		
PESTR	**Estremoz**	**100.49**	**326**	*e*Pdif	**Pdif**	01 **11 01.4 -1.0**		
EMAL	**Malaga-Limoner**	**100.52**	**323**	P	**Pdif**	01 **11 02.1 -0.5**		
PMTG	**Montargil**	**100.64**	**327**	*e*Pdif	**Pdif**	01 **11 03.1 +0.1**		
PBAR	**Barrancos**	**100.76**	**326**	P	**Pdif**	01 **11 03.7 +0.1**		
PBAR	**Barrancos**	**100.76**	**326**	*e*Pdif	**Pdif**	01 **11 02.8 -0.8**		
EMIJ	**Mijas**	**100.85**	**323**	P	**Pdif**	01 **11 03.6 -0.4**		
EMIN	**Mina Concepcio**	**100.90**	**325**	P	**Pdif**	01 **11 04.3 +0.1**		
EVO	**Evora**	**100.96**	**326**	P	**Pdif**	01 **11 04.8 +0.3**		
EVO	**Evora**	**100.96**	**326**	*e*Pdif	**Pdif**	01 **11 04.8 +0.3**		
ESPR	**Espera**	**101.17**	**324**	P	**Pdif**	01 **11 06.1 +0.6**		
PARRA	**Arraiolos**	**101.22**	**327**	*e*Pdif	**Pdif**	01 **11 03.2 -2.4**		
PMAFR	**Mafra**	**101.23**	**327**	P	**Pdif**	01 **11 06.3 +0.6**		
PBEJ	**Beja**	**101.28**	**326**	*e*Pdif	**Pdif**	01 **11 06.0 +0.1**		
LIS	**Lisbon**	**101.35**	**327**	*e*Pdif	**Pdif**	01 **11 06.9 +0.7**		
LIS				*e*PP	**PP**	01 **15 19.9 +2.0**		
EGRO	**El Granado**	**101.48**	**325**	P	**Pdif**	01 **11 07.0 +0.2**		
MESJ	**Messejana**	**101.60**	**326**	*e*Pdif	**Pdif**	01 **11 07.9 +0.5**		
MESJ				*e*PP	**PP**	01 **15 21.8 +1.9**		
MESJ	**Messejana**	**101.60**	**326**	*e*Pdif	**Pdif**	01 **11 07.9 +0.5**		
CNIL	**Conil**	**101.66**	**324**	P	**Pdif**	01 **11 08.4 +0.8**		
ECEU	**Ceuta**	**101.67**	**327**	P	**Pdif**	01 **11 08.3 +0.8**		
PCVE	**Castro Verde**	**101.68**	**326**	P	**Pdif**	01 **11 08.4 +0.7**		
PCVE	**Castro Verde**	**101.68**	**326**	*e*Pdif	**Pdif**	01 **11 08.1 +0.4**		
PVAQ	**Vaqueiros**	**101.70**	**325**	P	**Pdif**	01 **11 08.2 +0.4**		
PVAQ	**Vaqueiros**	**101.70**	**325**	*e*Pdif	**Pdif**	01 **11 08.1 +0.4**		
PBDV	**Barranco-do-Ve**	**101.93**	**326**	*e*Pdif	**Pdif**	01 **11 09.4 +0.5**		
PTEO	**Sao Teotonio**	**102.08**	**326**	*e*Pdif	**Pdif**	01 **11 09.8 +0.4**		
MORF	**Marmelete**	**102.23**	**326**	*e*Pdif	**Pdif**	01 **11 10.7 +0.5**		
MORF				*e*PP	**PP**	01 **15 26.6 +1.9**		
MORF	**Marmelete**	**102.23**	**326**	*e*Pdif	**Pdif**	01 **11 10.8 +0.5**		
PFVI	**Vila Bisbo**	**102.46**	**326**	*e*Pdif	**Pdif**	01 **11 11.0 -0.2**		
TXAR	**Lajitas Array**	**103.47**	**45**	Pdiff	**Pdif**	01 **11 16.2 +0.3**		
	comp=Z,8.2nm,0.8s,baz=298,slow=2.9,SNR=38							
TXAR				PKiKP	**PKiKP**	01 **15 33.4 -0.1**		
	comp=Z,4.4nm,0.7s,baz=238,slow=1.0,SNR=10.0							
TXAR				PKKPbc	**PKKPbc**	01 **27 09.5 +1.5**		
	comp=Z,1.1nm,0.6s,baz=163,slow=5.5,SNR=9.1							
TXAR				PKPPKP	P'P'df	01 35 21.8 -9.4		
	comp=Z,0.9nm,1.0s,baz=105,slow=1.4,SNR=3.8							
LSZ	**Lusaka**	**105.86**	**261**	PKKPbc	PKKPbc	01 27 03.7 +3.1		
	comp=Z,4.1nm,0.6s,baz=218,slow=3.7,SNR=13							
TIO	**Tiouine**	**106.48**	**321**	P	**Pdif**	01 **11 30.5 +1.1**		
M65A	**Busby, Falmout**	**107.26**	**15**	P	**PKiKP**	01 **15 40.4 +0.5**		
	baz=343							
MATP	**Matopo**	**107.85**	**256**	PKKPbc	PKKPbc	01 26 57.9 +3.2		
	comp=Z,2.3nm,0.7s,baz=224,slow=3.2,SNR=10							
MAW	**Mawson**	**108.16**	**201**	Pdiff	**Pdif**	01 **11 36.8 +1.2**		
	comp=Z,1.7nm,0.8s,baz=291,slow=3.8,SNR=4.9							
MAW				PKiKP	**PKiKP**	01 **15 41.3 +0.7**		
	comp=Z,6.9nm,0.8s,baz=85,slow=4.9,SNR=15							
MAW				PKKPbc	**PKKPbc**	01 **26 53.1 -2.0**		
	comp=Z,21nm,1.0s,baz=253,slow=4.9,SNR=20							
VNDA	**Vanda**	**108.62**	**173**	Pdiff	**Pdif**	01 **11 39.2 +1.8**		
	comp=Z,1.7nm,0.8s,baz=327,slow=4.1,SNR=8.8							
VNDA				PKiKP	**PKiKP**	01 **15 42.0 +0.7**		
	comp=Z,2.6nm,0.5s,baz=313,slow=4.1,SNR=15							
VNDA				PP	**PP**	01 **16 09.3 -2.6**		
	comp=Z,8.3nm,1.0s,baz=336,slow=7.7,SNR=7.7							
VNDA				PKKPbc	**PKKPbc**	01 **26 52.8 -1.2**		
	comp=Z,8.6nm,1.0s,baz=206,slow=2.4,SNR=17							
TKL	**Tuckaleechee C**	**108.63**	**27**	PKiKP	**PKiKP**	01 **15 43.5 +0.7**		
	comp=Z,8.3nm,0.5s,baz=147,slow=6.7,SNR=18							
TKL				PP	**PP**	01 **16 13.2 +1.7**		
	comp=Z,20nm,1.1s,baz=293,slow=4.8,SNR=4.9							
BROLN	**Tlhalogang**	**109.12**	**256**	*i* P	**PKiKP**	01 **15 44.2 +0.2**		
KSANE	**Kasane**	**109.57**	**260**	*i* P	**PKiKP**	01 **15 46.1 +1.1**		
KATM	**Katima Mulilo**	**110.18**	**261**	⇓*i* P	**Pdif**	01 **11 49.2 +3.4**		
KATM				IAML		01 15 51.5		
	comp=Z,1.3nm,0.5s							
LPHEP	**Lephephe**	**111.29**	**255**	*i* P	**PKiKP**	01 **15 47.8 -0.2**		
LBTB	**Lobatse**	**112.17**	**253**	PKKPbc	PKKPbc	01 26 44.1 +3.3		
	comp=Z,6.6nm,0.8s,baz=176,slow=2.1,SNR=4.1							
KDWAN	**Kaudwane**	**112.31**	**255**	*i* P	**PKiKP**	01 **15 50.6 +0.6**		
GMARE	**Gumare**	**112.82**	**260**	*i* P	**PKiKP**	01 **15 52.5 +1.4**		
MAKGR	**Makgori**	**113.14**	**253**	*i* P	**PKiKP**	01 **15 51.5 0.0**		
TOAO	**Torodi Ar. Sit**	**113.22**	**301**	P	**PKiKP**	01 **15 51.7 -0.1**		
SKOMA	**Sekoma**	**113.36**	**254**	*i* P	**PKiKP**	01 **15 52.2 +0.3**		
ONGWA	**Qangwa**	**113.73**	**260**	*i* P	**PKiKP**	01 **15 53.8 +1.0**		
BOSA	**Boshof**	**113.81**	**250**	Pdiff	**Pdif**	01 **12 01.9 +0.1**		
	comp=Z,3.2nm,0.9s,baz=326,slow=1.0,SNR=4.1							
BOSA				PKiKP	**PKiKP**	01 **15 52.9 +0.2**		
	comp=Z,26nm,0.6s,baz=93,slow=2.1,SNR=45							
BOSA				PKKPbc	**PKKPab**	01 **26 41.6 -0.6**		
	comp=Z,5.8nm,0.6s,baz=254,slow=3.7,SNR=13							

KGCAE	**Kacgae**	**114.17**	**256**	*i* P	**PKiKP**	01 **15 54.5 +0.9**		
GRTLG	**Ghanzi**	**114.43**	**258**	*i* P	**PKiKP**	01 **15 54.9 +0.8**		
PHPEN	**Phepeng**	**114.63**	**254**	*i* P	**PKiKP**	01 **15 54.6 +0.3**		
KOOLE	**Kule**	**115.94**	**257**	*i* P	**PKiKP**	01 **15 57.7 +0.7**		
SYO	**Syowa Base**	**116.61**	**204**	⇓*e*PPdiff	pPdif	01 13 17.0 +3.1		
TSUM	**Tsumeb**	**116.69**	**262**		**PKiKP**	01 **15 59.5 +0.9**		
TSUM	**Tsumeb**	**116.69**	**262**	PKKPbc	PKKPbc	01 26 28.5 +3.2		
	comp=Z,10nm,1.1s,baz=261,slow=5.4,SNR=5.8							
CMIG	**Matias Romero**	**117.86**	**48**	PKP	**PKPdf**	01 **16 00.5 -0.2**		
	comp=Z,8.1nm,0.7s,baz=348,slow=3.1,SNR=15							
CMIG				PKKPbc	**PKKPbc**	01 **26 22.1 +0.8**		
	comp=Z,3.2nm,0.7s,baz=93,slow=3.3,SNR=6.9							
SUR	**Sutherland**	**118.70**	**247**	P	**PKiKP**	01 **16 02.8 +0.6**		
QSPA	**South Pole Qui**	**119.19**	**180**		**PKPdf**	01 **16 01.5 -0.4**		
QSPA	**South Pole Qui**	**119.19**	**180**	PKP	**PKiKP**	01 **16 02.0 +0.1**		
	comp=Z,45nm,0.6s,baz=268,slow=0.9,SNR=74							
QSPA				PP	**PP**	01 **17 25.6 -0.9**		
	comp=Z,12nm,0.7s,baz=41,slow=3.1,SNR=4.2							
QSPA				PKKPbc	**PKKPab**	01 **26 16.3 0.0**		
	comp=Z,8.0nm,0.9s,baz=328,slow=2.5,SNR=18							
QSPA				SKKPbc	SKKPbc	01 29 47.3 +3.5		
	comp=Z,4.7nm,1.0s,baz=172,slow=5.0,SNR=3.3							
CAMR	**Camarioca**	**120.59**	**32**	*e*P	**PKiKP**	01 **16 07.4 +1.4**		
CAIB	**Caibarien**	**121.94**	**30**	*e*P	**PKiKP**	01 **16 09.0 +0.3**		
DBIC	**Dimbokro**	**122.30**	**301**		**PKPdf**	01 **16 09.1 -0.3**		
DBIC	**Dimbokro**	**122.30**	**301**	PKP	**PKPdf**	01 **16 09.2 -0.2**		
	comp=Z,56nm,0.7s,baz=78,slow=2.0,SNR=36							
DBIC				PKKPbc	**PKKPbc**	01 **26 05.9 +1.1**		
	comp=Z,2.8nm,0.7s,baz=236,slow=3.6,SNR=5.0							
DBIC	**Dimbokro**	**122.30**	**301**	PKP	**PKPdf**	01 **16 08.4 -0.9**		
FSCY	**Frank Sound, G**	**123.90**	**34**	*e*P	PKPdf	01 16 03.1 -9.2		
HLGC	**Holguin**	**124.81**	**28**	*e*P	**PKiKP**	01 **16 15.7 +1.3**		
PILO	**Pilon**	**125.12**	**30**	*e*P	**PKiKP**	01 **16 15.7 +0.6**		
YAR	**Yar**	**125.15**	**28**	*e*P	**PKiKP**	01 **16 15.8 +0.8**		
LMGC	**Las Mercedes**	**125.15**	**29**	*e*P	**PKPdf**	01 **16 14.6 0.0**		
PINC	**Pinares de May**	**125.28**	**28**	*e*P	**PKiKP**	01 **16 16.0 +0.7**		
MOAC	**Moa**	**125.45**	**27**	*e*P	**PKiKP**	01 **16 16.0 +0.4**		
CHIV	**Chivirico**	**125.48**	**29**	*e*P	**PKiKP**	01 **16 15.8 +0.1**		
NMDO	**Nuevo Mundo**	**125.54**	**27**	*e*P	**PKiKP**	01 **16 15.8 0.0**		
MARVS	**Santiago de Cu**	**125.67**	**28**	*e*P	**PKPdf**	01 **16 12.2 -3.5**		
RCC	**Rio Carpintero**	**125.76**	**28**	*e*P	**PKPdf**	01 **16 15.7 -0.2**		
QMBU	**Quimbuelo**	**125.93**	**27**	*e*P	**PKiKP**	01 **16 18.4 +1.8**		
GTBY	**Guantanamo Bay**	**126.06**	**27**	*e*P	**PKiKP**	01 **16 18.1 +1.2**		
GRTK	**Grand Turk**	**126.06**	**22**	*e*P	**PKiKP**	01 **16 17.4 +0.6**		
NVL	**N'lazarevskaya**	**126.11**	**202**	*e*PKIKP	**PKPdf**	01 **16 12.6 -2.3**		
NVL				*e*		01 18 13.3		
NVL				*e*PPP	PPP	01 20 59.2		
NVL				*e*SS	SS	01 34 49.8 -4.5		
NVL				pmax	pmax			
	comp=Z,7.0nm,0.6s							
NVL				pmax	pmax			
	comp=E,403nm,14.2s							
MASC	**Masc**	**126.18**	**26**	*e*P	**PKPdf**	01 **16 14.9 -1.8**		
MTDJ	**Mount Denham**	**126.54**	**31**	*e*P	**PKiKP**	01 **16 17.8 -0.2**		
STH	**Stony Hill**	**126.99**	**30**	*e*P	**PKiKP**	01 **16 19.0 +0.1**		
BOAB	**BOACO BROADBAND**	**127.12**	**43**	PKP	**PKiKP**	01 **16 19.1 0.0**		
LGNH	**Logne**	**128.31**	**25**	*e*P	**PKPdf**	01 **16 19.4 -1.4**		
SDDR	**Presa de Saban**	**128.35**	**24**	*e*P	**PKiKP**	01 **16 23.7 +2.1**		
JTS	**Las Juntas de**	**129.24**	**44**		**PKPdf**	01 **16 22.9 +0.2**		
JTS	**Las Juntas de**	**129.24**	**44**	PKIKP	**PKPdf**	01 **16 22.9 +0.2**		
SNAA	**Sanae**	**130.14**	**198**	PKHKP	PKPpre	01 16 06.1		
	comp=E,2.5nm,0.7s,baz=144,slow=1.6,SNR=9.5							
SNAA				PKP	**PKPdf**	01 **16 22.8 +0.1**		
	comp=E,19nm,0.9s,baz=207,slow=4.4,SNR=22							
SNAA				SKPbc	**SKPab**	01 **19 22.2 +0.5**		
	comp=E,18nm,0.8s,baz=126,slow=1.3,SNR=7.9							
SNAA				SKKPbc	**SKKPbc**	01 **29 06.1 +0.2**		
	comp=E,6.4nm,1.1s,baz=317,slow=4.8,SNR=4.6							
SJG	**San Juan**	**130.77**	**18**		**PKPdf**	01 **16 25.7 +0.3**		
SJG	**San Juan**	**130.77**	**18**	PKIKP	**PKPdf**	01 **16 25.7 +0.3**		
VNA1	**Neumayer--Stat**	**132.18**	**198**	⇓P	PKPdf	01 16 12.5 -14		
	comp=Z,7.4nm,0.8s							
DWS	**Wesley**	**134.35**	**13**	*e*P	**PKiKP**	01 **16 38.9 +5.3**		
SVN	**Savane Anatole**	**135.08**	**13**	*e*P	**PKPdf**	01 **16 32.7 -1.0**		
SDV	**Santo Domingo**	**137.84**	**28**		PKPpre	01 16 29.5		
ROSC	**El Rosal**	**139.68**	**36**	PKhKP	PKPpre	01 16 36.8		
	comp=Z,64nm,0.8s,baz=192,slow=1.4,SNR=22							
OTAV	**Otavalo**	**141.09**	**45**		PKPpre	01 16 39.1		
OTAV	**Otavalo**	**141.09**	**45**	PKHKP	PKPpre	01 16 39.1		
OTAV	**Otavalo**	**141.09**	**45**	*e*P	**PKPdf**	01 **16 40.5 -4.7**		
PMSA	**Palmer Station**	**143.81**	**171**	*e*P	PKPab	01 16 44.0 -1.5		
ESPZ	**Base Esperanza**	**145.86**	**176**		**PKPbc**	01 **16 52.4 -0.2**		
ATAH	**Atahualpa**	**146.61**	**54**	PKPbc	**PKPbc**	01 **16 56.2 -0.5**		
	comp=Z,140nm,0.9s,baz=300,slow=1.4,SNR=52							
BOAV	**Boa Vista**	**147.29**	**16**		**PKPdf**	01 **16 56.2 +0.7**		
BOAV	**Boa Vista**	**147.29**	**16**	*e*P	**PKPdf**	01 **16 50.1 -5.4**		
BOAV	**Boa Vista**	**147.29**	**16**	PKP	**PKPdf**	01 **16 55.8 +0.4**		
SGC2	**Sao Gabriel da**	**152.51**	**29**	PKP	**PKPdf**	01 **16 56.2 +0.3**		
TBTG	**Tabatinga, AM**	**149.63**	**38**	PKP	**PKPdf**	01 **16 59.5 +0.3**		
CZSB	**Cruzeiro do Su**	**150.85**	**46**	*e*P	**PKPdf**	01 **16 58.1 -3.0**		
CZSB	**Cruzeiro do Su**	**150.85**	**46**	PKP	**PKPdf**	01 **17 00.9 -0.2**		
NNA	**Nana**	**151.01**	**58**	PKP	**PKPdf**	01 **17 01.5 +0.1**		
	comp=Z,149nm,1.1s,baz=339,slow=8.7,SNR=4.4							
NNA				PKPbc	**PKPbc**	01 **17 07.2 -0.2**		
	comp=Z,244nm,0.7s,baz=309,slow=4.6,SNR=40							
TEFE	**Tefe**	**151.52**	**28**	*e*P	**PKPdf**	01 **16 59.1 -3.0**		
TEFE	**Tefe**	**151.52**	**28**	PKP	**PKPdf**	01 **17 02.3 +0.1**		
NBCL	**Cascavel-CE**	**151.82**	**330**	*e*P	**PKPdf**	01 **17 00.1 -2.5**		
NBCL	**Cascavel-CE**	**151.82**	**330**	PKP	**PKPdf**	01 **17 02.9 +0.3**		
RCBR	**Riachuelo**	**152.10**	**324**	*e*P	**PKPdf**	01 **17 00.2 -2.9**		
RCBR	**Riachuelo**	**152.10**	**324**	PKP	**PKPdf**	01 **17 03.3 +0.3**		
SBBR	**Sobral**	**152.19**	**335**	PKP	**PKPdf**	01 **17 03.3 +0.1**		
NBPV	**Pedro Velho**	**152.28**	**322**	PKP	**PKPdf**	01 **17 03.6 +0.3**		
MACA	**Manacapuru-AM**	**152.57**	**19**	*e*P	**PKPdf**	01 **17 00.7 -3.0**		
MACA	**Manacapuru-AM**	**152.57**	**19**	PKP	**PKPdf**	01 **17 04.0 +0.3**		
MAL2	**Monte Alegre,**	**152.65**	**5**	PKP	**PKPdf**	01 **17 04.0 +0.1**		
HOPE	**Hope Point**	**152.77**	**200**		**PKPab**	01 **17 23.6 +1.7**		
HOPE	**Hope Point**	**152.77**	**200**	PKP2	**PKPab**	01 **17 23.6 +1.7**		
TMAB	**Tom-Au,PA,Br**	**152.85**	**352**	*e*P	**PKPdf**	01 **17 00.5 -3.6**		
TMAB	**Tom-Au,PA,Br**	**152.85**	**352**	PKP	**PKPdf**	01 **17 04.2 +0.1**		
NBPS	**Pedro II - PI**	**153.21**	**336**	PKP	**PKPdf**	01 **17 03.9 -0.9**		
NBPB	**Pedra_Branca-C**	**153.56**	**332**	*e*P	**PKPdf**	01 **17 02.0 -3.1**		
NBPB	**Pedra_Branca-C**	**153.56**	**332**	PKP	**PKPdf**	01 **17 05.4 +0.3**		
BMO1	**UHE Belo Monte**	**153.87**	**360**	PKP	**PKPdf**	01 **17 05.8 +0.2**		
ATM1	**UHE Belo Monte**	**154.00**	**1**	PKP	**PKPdf**	01 **17 05.9 +0.1**		
BMO2	**UHE Belo Monte**	**154.06**	**0**	PKP	**PKPdf**	01 **17 05.8 -0.1**		
ITTB	**Itatiuba**	**154.81**	**9**	*e*P	**PKPdf**	01 **17 03.1 -3.8**		
ITTB	**Itatiuba**	**154.81**	**9**	PKP	**PKPdf**	01 **17 06.9 0.0**		
NBMA	**Muriti-CE**	**154.82**	**328**	PKP	**PKPdf**	01 **17 06.7 -0.2**		
NBAN	**Anadia - AL**	**155.51**	**320**	*e*P	**PKPdf**	01 **17 04.4 -3.4**		
NBAN	**Anadia - AL**	**155.51**	**320**	PKP	**PKPdf**	01 **17 07.2 -0.6**		
LABB	**Lıbrea**	**156.17**	**36**	PKP	**PKPdf**	01 **17 08.6 -0.1**		
PRPB	**Parauapebas**	**156.79**	**355**	*e*P	**PKPdf**	01 **17 05.9 -3.6**		
PRPB	**Parauapebas**	**156.79**	**355**	PKP	**PKPdf**	01 **17 09.2 -0.4**		
PAL01	**Palmeiras do T**	**156.97**	**349**	PKP	**PKPdf**	01 **17 11.2 +1.4**		
NBLA	**Lagarto - SE**	**157.44**	**321**	PKP	**PKPdf**	01 **17 09.4 -0.8**		
NPGB	**Novo Progresso**	**157.49**	**9**	*e*P	**PKPdf**	01 **17 06.6 -3.8**		
NPGB	**Novo Progresso**	**157.49**	**9**	PKP	**PKPdf**	01 **17 09.6 -0.8**		
SMTB	**Santa Maria do**	**159.15**	**348**	*e*P	**PKPdf**	01 **17 08.8 -3.6**		
SMTB	**Santa Maria do**	**159.15**	**348**	PKP	**PKPdf**	01 **17 11.5 -0.8**		
LPAZ	**La Paz**	**160.14**	**52**	PKP	**PKPdf**	01 **17 15.6 +1.5**		
	comp=Z,150nm,1.3s,baz=2.5,slow=3.4,SNR=108							
LPAZ				PKPab	**PKPab**	01 **17 55.9 +0.3**		
	comp=Z,22nm,0.7s,baz=325,slow=3.6,SNR=12							
LPAZ	**La Paz**	**160.14**	**52**	*e*P	**PKPdf**	01 **17 09.8 -4.3**		
LPAZ	**La Paz**	**160.14**	**52**	PKP	**PKPdf**	01 **17 15.0 +0.9**		
LAJE	**UHE Lajeado**	**160.37**	**350**	PKP	**PKPdf**	01 **17 13.4 -0.3**		
GDU01	**Guandu, BA**	**160.66**	**321**	*e*P	**PKPdf**	01 **17 10.7 -3.3**		
PLCA	**Paso Flores**	**161.04**	**131**	PKP	**PKPdf**	01 **17 14.8 +1.0**		
	comp=Z,40nm,1.2s,baz=250,slow=2.2,SNR=18							
PLCA				PKPab	**PKPab**	01 **17 59.0 +0.6**		
	comp=Z,60nm,1.3s,baz=262,slow=3.7,SNR=4.0							
PLCA	**Paso Flores**	**161.04**	**131**	*e*P	**PKPdf**	01 **17 11.0 -2.8**		
PLCA	**Paso Flores**	**161.04**	**131**	PKP	**PKPdf**	01 **17 14.6 +0.8**		
CLDB	**Colider**	**161.18**	**12**	*e*P	**PKPdf**	01 **17 11.1 -3.5**		
CLDB	**Colider**	**161.18**	**12**	PKP	**PKPdf**	01 **17 14.4 -0.2**		
PDRB	**Porto dos Gac**	**161.70**	**15**	*e*P	**PKPdf**	01 **17 11.3 -3.8**		
PDRB	**Porto dos Gac**	**161.70**	**15**	PKP	**PKPdf**	01 **17 14.4 -0.7**		
SDBA	**SAO DESIDERIO**	**161.87**	**338**	*e*P	**PKPdf**	01 **17 11.9 -3.4**		
SDBA	**SAO DESIDERIO**	**161.87**	**338**	PKP	**PKPdf**	01 **17 14.5 -0.8**		
VILB	**Vilhena**	**161.87**	**27**	*e*P	**PKPdf**	01 **17 11.9 -3.4**		
VILB	**Vilhena**	**161.87**	**27**	PKP	**PKPdf**	01 **17 15.9 +0.6**		
CMC01	**Camacan, BA**	**161.95**	**318**	*e*P	**PKPdf**	01 **17 12.1 -3.2**		
CMC01	**Camacan, BA**	**161.95**	**318**	PKP	**PKPdf**	01 **17 15.2 -0.1**		
ANA01	**Lindo Horizont**	**161.96**	**323**	PKP	**PKPdf**	01 **17 14.8 -0.6**		
SNDB	**Serra Nova Dou**	**162.62**	**358**	*e*P	**PKPdf**	01 **17 12.6 -3.4**		
SNDB	**

LCO	**Las Campanas**	1.96	18	*e*P		Pn		01 02 54.6 +0.9
LCO				*e*S		Sn		01 03 19.4 +2.0
LCO					IAML			01 03 21.4
	comp=E,1μm,0.3s							
VA03	**San Esteban**	2.01	159			Pn		01 02 55.7 +1.4
VA03	**San Esteban**	2.01	159	*e*P		Pn		01 02 55.7 +1.4
VA03					IAML			01 03 28.3
	comp=E,4μm,0.3s							
VA03	**San Esteban**	2.01	159	*e*P		Pn		01 02 55.5 +1.2
VA03				*e*S		Sn		01 03 21.3 +3.0
VA03					IAML			01 03 26.8
	comp=Z,793nm,0.2s							
RTLS	**Leoncito**	2.02	117	*e*P		Pn		01 02 57.4 +2.8
RTLS				*e*S		Sn		01 03 19.1 +0.3
RTLS					IAML			01 03 25.0
	comp=Z,932nm,0.4s							
ACCO	**Cerro Coronel**	2.03	82	*e*P		Pn		01 02 57.7 +2.9
ACCO				*e*S		Sn		01 03 11.3 -7.9
ACDV	**Cuesta del Vie**	2.09	71	*e*P		Pn		01 02 53.6 -1.9
VA01	**Torpederas**	2.14	186			Pn		01 02 59.2 +3.2
VA01	**Torpederas**	2.14	186	*e*P		Pn		01 02 55.1 -1.0
VA01					IAML			01 03 30.9
	comp=Z,281nm,0.6s							
PEL	**Peldehue**	2.33	165			Pn		01 03 00.2 +1.4
PEL	**Peldehue**	2.33	165		IAML			01 03 41.2
	comp=E,682nm,0.6s							
PEL	**Peldehue**	2.33	165	*e*P		Pn		01 03 00.7 +2.0
PEL				*e*S		Sn		01 03 26.3 +0.1
MT02	**Curacav**	2.38	175			Pn		01 03 00.6 +1.2
MT02	**Curacav**	2.38	175		IAML			01 03 41.0
	comp=E,884nm,0.5s							
MT02	**Curacav**	2.38	175	*e*P		Pn		01 03 00.3 +1.0
MT02				*e*S		Sn		01 03 26.3 -1.0
MT02					IAML			01 03 42.5
	comp=Z,383nm,0.5s							
ZON	**Zonda**	2.42	107			Pn		01 03 02.9 +2.9
ZON	**Zonda**	2.42	107	*e*P		Pn		01 03 02.9 +2.9
ZON				*e*S		Sn		01 03 30.4 +2.0
ZON					IAML			01 03 52.1
	comp=Z,142nm,0.8s							
SJA	**San Juan**	2.52	106	*e*P		Pn		01 03 00.2 -1.0
SJA				*e*S		Sn		01 03 23.1 -7.6
SJA					IAML			01 03 23.9
	comp=Z,184nm,0.3s							
MT05	**Renca**	2.56	168			Pn		01 03 03.3 +1.4
MT05	**Renca**	2.56	168		IAML			01 03 46.5
	comp=E,1μm,0.2s							
MT05	**Renca**	2.56	168	*e*P		Pn		01 03 03.7 +1.8
MT05				*e*S		Sn		01 03 34.0 +2.1
MT05					IAML			01 03 40.1
	comp=Z,364nm,0.6s							
FCH	**Farellones**	2.61	159	*e*P		Pn		01 03 05.4 +2.5
FCH					IAML			01 03 43.5
	comp=E,601nm,0.2s							
MT16	**CCHEN**	2.64	164			Pn		01 03 05.6 +2.6
AC04	**Llanos de Chal**	2.68	6			Pn		01 03 04.3 +0.8
AC04	**Llanos de Chal**	2.68	6		IAML			01 03 47.2
	comp=E,591nm,0.4s							
AC04	**Llanos de Chal**	2.68	6	*e*P		Pn		01 03 04.4 +0.9
AC04				*e*S		Sn		01 03 36.3 +1.5
AC04					IAML			01 03 44.6
	comp=Z,198nm,0.5s							
MT03	**Universidad Ad**	2.71	164	*e*P		Pn		01 03 06.0 +2.1
MT03				*e*S		Sn		01 03 37.2 +1.6
MT03					IAML			01 03 53.5
	comp=Z,432nm,0.9s							
MT04	**Ro Olivares**	2.73	157	*e*P		Pn		01 03 01.9 -2.5
MT04				*e*S		Sn		01 03 37.4 +1.1
MT04					IAML			01 03 49.8
	comp=Z,315nm,0.6s							
ASAL	**Salagasta**	2.77	129	*e*P		Pn		01 03 08.3 +3.5
ASAL				*e*S		Sn		01 03 25.4 -12
VA05	**Santo Domingo**	2.77	184			Pn		01 03 05.4 +0.8
MT08	**Bocatoma Ro**	2.81	156			Pn		01 03 09.0 +3.6
MT08	**Bocatoma Ro**	2.81	156	*e*P		Pn		01 03 04.2 -1.2
MT08				*e*S		Sn		01 03 40.5 +2.3
MT08					IAML			01 03 51.2
	comp=Z,272nm,0.8s							
AGUA	**GUANDACOL**	2.88	62	*e*P		Pn		01 03 10.3 +4.1
AGUA				*e*S		Sn		01 03 47.8 +8.1
AGUA					IAML			01 03 53.6
	comp=Z,428nm,0.4s							
MT09	**Talagante**	2.91	173			Pn		01 03 08.0 +1.3
MT01	**Popeta**	2.98	178			Pn		01 03 08.5 +1.0
MT01	**Popeta**	2.98	178	*e*P		Pn		01 03 08.4 +1.0
MT01				*e*S		Sn		01 03 43.1 +1.2
MT01					IAML			01 03 56.7
	comp=Z,279nm,0.3s							
LMEL	**Las Melosas**	3.12	161	*e*P		Pn		01 03 08.3 -1.4
LMEL				*e*S		Sn		01 03 48.0 +2.1
BO04	**La Punta**	3.17	168			Pn		01 03 11.7 +1.5
AVFE	**Valle Fertil**	3.40	87	*e*P		Pn		01 03 15.2 +1.8
AVFE				*e*S		Sn		01 03 54.1 +1.5
GO03	**Copiapo**	3.43	18			Pn		01 03 15.1 +1.3
GO03	**Copiapo**	3.43	18	*e*P		Pn		01 03 15.3 +1.5
VCA	**Vinchina**	3.50	53	*e*P		Pn		01 03 19.4 +4.5
BO01	**Tunca**	3.51	176			Pn		01 03 15.8 +1.0
AC06	**Mina Casimiro**	3.63	15			Pn		01 03 17.3 +0.8
BO02	**Sierra Bellavi**	3.93	173			Pn		01 03 22.1 +1.3
ACLC	**CERRO LA CRUZ**	4.12	70	*e*S		Sn		01 04 14.1 +3.7
APLL	**PUNTA DE LOS L**	4.23	85	*e*P		Pn		01 03 26.8 +2.1
AC02	**Maricunga**	4.50	27	*e*P		Pn		01 03 30.3 +1.4
AC02					IAML			01 04 51.0
	comp=E,66nm,0.7s							
RFA	**San Rafael**	4.60	148	IAML				01 05 09.5
	comp=Z,36nm,0.5s							
RFA					IAML			01 05 09.5
	comp=Z,36nm,0.5s							
TRQA	**Tornquist**	10.56	135			Pn		01 04 51.6 +0.1
LPAZ	**La Paz**	14.83	12	Pn		Pn		01 05 51.9 +1.7
PLTB	**Pedras Altas**	15.24	98	Pn		Pn		01 05 53.8 -1.1
MG05	**Puerto Natales**	20.79	182	P		P		01 06 59.0 -0.8
MG05				IAmb		IAmb		01 07 41.7
	comp=Z,29nm,1.5s							
FLOC	**Florencia**	32.54	352	P		P		01 08 49.9 +0.4
FLOC				IAmb		IAmb		01 09 11.1
	comp=Z,8.7nm,1.3s							
RUSC	**La Rusia**	36.60	357	P		P		01 09 26.2 +1.1
RUSC				IAmb		IAmb		01 09 27.4
	comp=Z,3.7nm,0.6s							
ESPN	**Las Esperanzas**	44.59	342	P		P		01 10 29.0 -1.5
BANI	**BANI**	49.00	1	P		P		01 11 02.3 -2.7
TEIG	**Tepich**	53.34	340	P		P		01 11 37.2 -0.2
SNAA	**Sanae**	54.27	159	P		P		01 11 43.9 +0.1
SNAA				IAmb		IAmb		01 11 57.9
	comp=Z,7.6nm,1.4s							
CLN7	**Carlsbad 7**	70.03	331	P		P		01 13 28.3 -1.6

NEIC ***13*** *01:16:51.8±1.9,35°.76N±0°.01×117°.52W±0°.02, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.5km az=66.0*

PAS 13 01:16:52.5±1.1,35.75N±0°.01×117.57W±0°.02,h4km±2km, ML3.2/18,**ML3.0**/100(NEIC),**Error ellipse: s-maj=2.5km s-min=1.6km az=72.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	0.16	248		Pg	01 16 56.3	+0.6
WSHM	**Spangler Hills**	0.16	158		Pg	01 16 56.0	+0.2
TOW	**Tower One**	0.17	290		Pg	01 16 56.5	+0.6
CCCA	**Chr Cany lake**	0.28	144		Pg	01 16 58.4	+0.5
WVPM	**Volcano Peak E**	0.28	315		Pg	01 16 58.1	0.0
LRMC	**Laurel Mtn Rad**	0.29	199		Pg	01 16 58.1	0.0
JRC2	**Joshua Ridge**	0.30	320		Pg	01 16 58.5	+0.1
MPMC	**Manual Prospec**	0.31	12		Pg	01 16 58.5	-0.1
MPMC				IAML		01 17 03.5	
	comp=N,2μm,0.5s						
MPMC				IAML		01 17 04.9	
	comp=E,2μm,0.3s						
DTP	**Desert Tortois**	0.53	205		Pg	01 17 02.3	-0.4
QSM	**Queen of Sheba**	0.61	69	IAML		01 17 13.3	
	comp=E,1μm,0.2s						
QSM				IAML		01 17 13.4	
	comp=N,1μm,0.1s						
ISA	**Isabella, Lake**	0.74	263		Pg	01 17 06.2	-0.6
ISA				IAML		01 17 16.7	
	comp=N,853nm,0.3s						
ISA				IAML		01 17 17.5	
	comp=E,444nm,0.2s						
GSC	**Goldstone, Bar**	0.77	126	IAML		01 17 19.6	
	comp=N,987nm,0.5s						
GSC				IAML		01 17 21.2	
	comp=E,780nm,0.4s						

CWC	**Cottonwood Cre**	0.80	329			Pg	01 17 07.8	-0.1
CWC						Sg	01 17 18.4	0.0
CWC					IAML		01 17 18.7	
	comp=E,527nm,0.2s							
CWC					IAML		01 17 19.7	
	comp=N,491nm,0.2s							
CGO	**Cerro Gordo**	0.82	347			Pg	01 17 07.9	-0.4
CGO						Sg	01 17 19.2	+0.2
HYS	**Haystack Butte**	0.89	180			Pg	01 17 08.7	-0.7
TPO	**Tropico Hills**	1.02	212			Pg	01 17 11.3	-0.8
TPO					IAML		01 17 31.1	
	comp=E,686nm,0.7s							
TPO					IAML		01 17 31.8	
	comp=N,499nm,0.5s							
SPG2	**Springville 2**	1.07	295			Pg	01 17 11.9	-1.1
THC	**Tehachapi Micr**	1.23	227			Pg	01 17 15.4	-0.7
GRAC	**Grapevine Rang**	1.25	7			Pg	01 17 15.5	-1.0
GRAC					IAML		01 17 33.9	
	comp=E,596nm,0.4s							
GRAC					IAML		01 17 35.5	
	comp=N,522nm,0.5s							
WCT	**Wildcat Mounta**	1.29	36			Pg	01 17 15.6	-1.7
WCT					IAML		01 17 35.2	
	comp=E,186nm,0.4s							
WCT					IAML		01 17 35.4	
	comp=N,133nm,0.6s							
SGV	**South Grapevin**	1.30	19			Pg	01 17 16.0	-1.4
HEC	**Hector,Ludlow**	1.36	132			Pn	01 17 16.3	-2.1
TUQ	**Turquoise Moun**	1.38	103			Pn	01 17 17.5	-1.0
OSI	**Osito Audit: C**	1.48	220			Pn	01 17 19.4	-0.5
OSI					IAML		01 17 42.0	
	comp=E,180nm,0.5s							
OSI					IAML		01 17 43.9	
	comp=N,141nm,0.8s							
BFSC	**Mount Baldy Ra**	1.51	183		IAML		01 17 40.9	
	comp=N,212nm,0.4s							
BFSC					IAML		01 17 43.8	
	comp=E,236nm,0.6s							
GMN	**Gold Mountain**	1.57	9		IAML		01 17 44.0	
	comp=E,107nm,0.4s							
MWC	**Mount Wilson**	1.58	195		IAML		01 17 44.3	
	comp=E,369nm,0.3s							
MWC					IAML		01 17 44.3	
	comp=N,385nm,0.5s							
TPNV	**Topopah Spring**	1.60	41		IAML		01 17 45.3	
	comp=N,148nm,0.3s							
TPNV					IAML		01 17 45.9	
	comp=N,167nm,0.6s							
DSP	**Deep Springs**	1.65	349			Pn	01 17 21.1	-1.1
DSP					IAML		01 17 45.9	
	comp=E,158nm,0.6s							
PASC	**Pasadena Art C**	1.66	198		IAML		01 17 46.5	
	comp=N,109nm,0.5s							
PASC					IAML		01 17 47.9	
	comp=E,151nm,0.9s							
MTPC	**Mountain Pass**	1.66	99			Pn	01 17 20.4	-2.1
MTPC					IAML		01 17 47.3	
	comp=E,111nm,0.3s							
MTPC					IAML		01 17 48.1	
	comp=N,110nm,0.3s							
BLAC	**Blackrock camp**	1.94	150			Pn	01 17 24.8	-1.4
SHPR	**Sheep Range**	2.09	68			Pn	01 17 27.5	-0.9
ELS	**Elsinore Mount**	2.10	177			Pn	01 17 27.1	-1.4
ELS					IAML		01 18 02.5	
	comp=E,87nm,0.3s							
ELS					IAML		01 18 06.4	
	comp=N,61nm,0.6s							
BENR	**Benton**	2.12	338			Pb	01 17 31.7	+0.1
MLAC	**Mammoth, Mammo**	2.13	332			Pb	01 17 32.0	+0.2
V12A	**Nelson**	2.21	90			Pn	01 17 27.9	-2.1
CRY	**Cary Ranch**	2.29	162			Pn	01 17 30.1	-0.9
PFO	**Pinyon Flats O**	2.32	157			Pn	01 17 29.8	-1.8
TPH	**Tonopah**	2.34	7			Pn	01 17 30.8	-1.1
TPH					IAML		01 18 09.5	
	comp=E,169nm,0.9s							
NEE2	**Needles Airpor**	2.60	111			Pn	01 17 35.5	+0.1
NEE2					IAML		01 18 19.3	
	comp=N,110nm,0.7s							
NEE2					IAML		01 18 25.7	
	comp=E,109nm,0.6s							
LHV	**Little Huntoon**	2.61	344			Pn	01 17 34.6	-0.7
LHV					IAML		01 18 21.3	
	comp=N,34nm,0.8s							
LHV					IAML		01 18 22.4	
	comp=E,38nm,0.5s							
BORC	**Borrego Spring**	2.65	159		IAML		01 18 17.2	
	comp=E,50nm,0.8s							
BORC					IAML		01 18 19.6	
	comp=N,44nm,0.8s							
NVAR	**Mina Array Bea**	2.74	348			Pn	01 17 36.2	-1.1
CBX	**Cerro Bola**	3.51	167		IAML		01 18 44.8	
	comp=N,70nm,0.5s							
GLA	**Glamis**	3.52	139		IAML		01 18 46.6	
	comp=N,55nm,0.5s							
CCUT	**Cedar City**	3.83	61			Pn	01 17 56.0	+3.6
U15A	**North Rim**	4.33	79		IAML		01 19 10.5	
	comp=N,9.5nm,1.1s							
U15A					IAML		01 19 18.1	
	comp=E,8.7nm,1.1s							

IDC ***13*** *01:36:02.5±0.9,13°.79N×90°.55W, h0km, mb4.3/12, mbtmp4.3/14, ML4.5/2, Error ellipse: s-maj=32.7km s-min=16.6km az=42.0*

CATAC ***13*** *01:36:05.2±0.5,13°N±2°×9°1W±°, h10km±3km, M4.9/22, MLv4.9/22, Error ellipse: s-maj=6.3km s-min=2.8km az=36.3, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}4.56; $M_{\theta\theta}$-4.94; $M_{\phi\phi}$0.38; $M_{r\theta}$1.29; $M_{r\phi}$1.91; $M_{\theta\phi}$0.27; Fault plane solution: M_o5.30105×10^{15} NP1: ϕ_s98.60917°, δ52.14893°, λ77.87990°. NP2:ϕ_s297.89792°, δ39.46547°, λ105.11936°. Principal axes: T 4.8013, Plg78.4586°, Azm320.7032°; N 0.8875, Plg9.5430°, Azm106.1159°; P -5.6888, Plg6.4308°, Azm197.2016°; confirmed*

GCG ***13*** *01:36:06.5±1.9,13°.44N×91°.26W, h35km±8km, MD4.1, ML4.7, MW4.1*

NEIC ***13*** *01:36:09.7±2.4,13°.65N±0°.08×90°.97W±0°.08, h35km±2km, mb4.6/276, Error ellipse: s-maj=16.7km s-min=8.8km az=222.0*

SNET ***13*** *01:36:16.8±6.7,13°.54N×90°.58W, h18km, ML4.5*

ISC 13 01:36:04.7±1.6,13°.44N±0°.04×91°.22W±0°.03,h17km±9km, n542,σ1§34/450,mb4.6/132,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	0.71	80	*i* P	Pb	01 36 20.3	+1.6
STG0	**El Palmar, Qui**	0.99	353	*i* P	Pn	01 36 27.8	+3.9
STG0				*i* S	Sn	01 36 41.9	+4.2
STG0					IAML	01 36 50.8	
	comp=E,26μm,0.3s						
STG2	**El Palmar, Qui**	1.00	352	*i* P	Pn	01 36 28.4	+4.3
STG2				*i* S	Sn	01 36 41.6	+3.6
STG8	**El Palmar, Qui**	1.01	353	*i* P	Pn	01 36 28.4	+4.0
STG8				*i* S	Sn	01 36 44.1	+5.8
ESSG	**Sabana Grande**	1.01	22	*i* P	Pg	01 36 24.0	-0.3
ESSG				*i* S	Sg	01 36 36.3	-1.4
ESSG					IAML	01 36 49.4	
	comp=E,10μm,0.4s						
ESSG					IAML	01 36 49.4	
	comp=E,10μm,0.3s						
FG16	**Alotenango, Sa**	1.08	40	*i* P	Pg	01 36 25.3	-0.3
FG16					IAML	01 36 42.7	
	comp=E,53μm,0.1s						
RTAL	**Retalhuleu**	1.17	337		Pb	01 36 26.0	-0.5
RTAL	**Retalhuleu**	1.17	337	S	Sn	01 36 43.1	+1.2
RTAL	**Retalhuleu**	1.17	337	P	Pb	01 36 26.0	-0.5
FAME	**Alcaldia de Sa**	1.24	71	P	Pn	01 36 27.2	-0.1
FAME	**Alcaldia de Sa**	1.24	71	S	Sb	01 36 43.8	+0.4
GCG4	**OSOP**	1.32	30	*i* P	Pb	01 36 30.0	+0.8
GCG4				*i* S	Sn	01 36 48.7	+2.7
GCG4					IAML	01 36 57.3	
	comp=N,9μm,0.4s						
SOKI	**Kika Raxquin**	1.38	353	*i* P	Pn	01 36 29.7	+0.1
SOKI				*i* S	Sb	01 36 45.8	-2.2
QUEO	**Labor Ovalle**	1.45	349	*i* P	Pn	01 36 30.9	+0.5
QUEO				*i* S	Sn	01 36 47.9	-1.3
NUBE	**Las Nubes**	1.48	72	*i* P	Pn	01 36 30.4	-0.3
NUBE				*i* S	Sn	01 36 50.1	+0.3
NUBE	**Las Nubes**	1.48	72	P	Pn	01 36 30.5	-0.3
LOAL	**Lomas de Alarc**	1.51	68	S	Sn	01 36 51.4	+1.1
LOAL	**Lomas de Alarc**	1.51	68	P	Pn	01 36 31.5	+0.4
SLOZ	**Alcaldia de Sa**	1.52	67	P	Pn	01 36 31.5	+0.3
SLOZ	**Alcaldia de Sa**	1.52	67	S	Sb	01 36 52.7	+1.3
CEVE	**Cerro Verde**	1.60	76	*e*P	Pn	01 36 32.9	+0.4
CEVE	**Cerro Verde**	1.60	76	S	Sn	01 36 53.9	+0.9
CEVE	**Cerro Verde**	1.60	76	P	Pn	01 36 33.1	+0.6
SMCA	**Catarina**	1.63	330	*i* P	Pn	01 36 32.8	+0.1
SMCA				*i* S	Sn	01 36 53.0	-0.4
UNIC	**Universidad Ca**	1.71	72	S	Sn	01 36 56.4	+0.9
UNIC	**Universidad Ca**	1.71	72	P	Pn	01 36 34.6	+0.7
JAYA	**Jayaque - finc**	1.74	83	*i* P	Pn	01 36 34.3	0.0
JAYA				*i* S	Sn	01 36 56.9	+0.7
JAYA	**Jayaque - finc**	1.74	83	P	Pn	01 36 34.6	+0.3
THIG		1.77	325	*i* P	Pn	01 36 34.7	+0.1
THIG				*i* S	Sn	01 36 56.8	-0.1
THIG					IAML	01 37 04.9	
	comp=E,10μm,0.5s						
CEDA	**San Andres**	1.81	78	S	Sn	01 36 58.9	+1.0
CEDA	**San Andres**	1.81	78	P	Pn	01 36 35.9	+0.7
QUIS	**Sacapulas**	1.84	4	*i* P	Pb	01 36 38.2	+0.2
QUIS				*i* S	Sn	01 36 59.9	+1.1
QUIS					IAML	01 37 03.8	
	comp=E,9μm,0.4s						
LALI	**Alcalda de L**	1.85	88	*i* P	Pn	01 36 36.8	+1.1
LALI				*i* S	Sn	01 36 59.4	+0.6
LALI					IAML	01 37 05.8	
	comp=N,1μm,0.2s						
LALI	**Alcalda de L**	1.85	88	P	Pn	01 36 36.9	+1.2
PMON	**Piamonte**	1.88	82	P	Pn	01 36 36.7	+0.5
PMON	**Piamonte**	1.88	82	S	Sn	01 37 01.5	+1.9
HUEH	**Huehuetenango**	1.89	352		Pn	01 36 38.1	+1.7
HUEH	**Huehuetenango**	1.89	352	*i* P	Pb	01 36 38.9	+0.1
HUEH				*i* S	Sn	01 37 02.3	+2.4
HUEH					IAML	01 37 05.6	
	comp=N,19μm,0.6s						
HUEH	**Huehuetenango**	1.89	352	P	Pn	01 36 38.3	+1.9
BOQS	**Boqueron**	1.91	81	*e*P	Pn	01 36 37.5	+0.8
UEES	**Universidad Ev**	1.95	82	P	Pn	01 36 38.5	+1.4
PANCS	**Alcalda de**	2.00	85	P	Pn	01 36 39.7	+2.0
PANCS	**Alcalda de**	2.00	85	S	Sn	01 37 03.8	+1.4
LOMA	**Loma Larga**	2.01	84	S	Sn	01 37 05.2	+2.4
LOMA	**Loma Larga**	2.01	84	P	Pn	01 36 39.0	+1.0
MTO3	**Montecristo**	2.04	62		Pn	01 36 39.8	+1.3
MTO3	**Montecristo**	2.04	62	*i* P	Pn	01 36 39.8	+1.3
MTO3	**Montecristo**	2.04	62	P	Pn	01 36 39.9	+1.3
MTO3	**Montecristo**	2.04	62	S	Sb	01 37 06.6	-0.2
AEIL	**Aeropuerto Ilo**	2.06	83	*e*P	Pn	01 36 40.5	+1.8
AEIL				*e*S	Sn	01 37 06.7	+2.6
ESQI	**Esquipulas**	2.14	58		Pn	01 36 41.4	+1.6
ESQI	**Esquipulas**	2.14	58	P	Pn	01 36 41.5	+1.8
AVCB	**Coban**	2.17	21	*i* P	Pn	01 36 41.1	+0.9
AVCB				*i* S	Sn	01 37 08.7	+1.9
AVCB					IAML	01 37 28.1	
	comp=N,22μm,0.7s						
PAVA	**Las Pavas**	2.24	83	P	Pn	01 36 42.7	+1.5
COEG	**Centro de Oper**	2.29	85	P	Pn	01 36 43.5	+1.8
COEG	**Centro de Oper**	2.29	85	S	Sn	01 37 12.3	+2.7
UESV	**Universidad de**	2.38	85	P	Pn	01 36 44.8	+1.8
TECO	**Alcaldia de Te**	2.38	87	P	Pn	01 36 44.3	+1.3
ALJI	**Alcalda de J**	2.58	92	*e*P	Pn	01 36 48.3	+2.6
ALJI				*e*S	Sn	01 37 18.9	+2.0
SARH	**Santa Rosa de**	2.73	61	*i* P	Pn	01 36 49.7	+1.8
SARH				*i* S	Sn	01 37 11.5	-9.2
CAHU	**Cacacuatique**	2.95	83	*e*P	Pn	01 36 52.4	+1.4
CCIG	**Comitan**	2.96	343		Pn	01 36 54.1	+3.0
CCIG	**Comitan**	2.96	343	*i* P	Pn	01 36 54.1	+3.0
CCIG				*i* S	Sn	01 37 28.2	+1.8
CCIG					IAML	01 37 39.1	
	comp=N,1μm,0.9s						
MARCA	**Marcala la Paz**	3.18	77	*i* P	Pn	01 36 55.5	+1.4
MARCA				*i* S	Sn	01 37 34.5	+2.7
LCND	**La Caada**	3.25	92	P	Pn	01 36 56.4	+1.5
CNCH	**Conchagua**	3.30	92	*e*P	Pn	01 36 56.9	+1.1
PETF	**Flores**	3.69	21		Pn	01 37 03.8	+2.7
PETF	**Flores**	3.69	21	*i* P	Pn	01 37 04.3	+3.3
PETF					IAML	01 38 08.0	
	comp=E,2μm,0.8s						
TGIG		3.79	331	*i* P	Pn	01 37 04.2	+1.7
TGIG				*i* S	Sn	01 37 51.8	+5.1
TGIG					IAML	01 38 06.6	
	comp=E,796nm,1.0s						
TGUH	**Tegucigalpa,Un**	3.89	80		Pn	01 37 04.9	+1.0
TGUH	**Tegucigalpa,Un**	3.89	80	P	Pn	01 37 04.7	+0.8
CRIN	**San Cristobal**	4.13	100		Pn	01 37 08.1	+0.9
CRIN	**San Cristobal**	4.13	100	P	Pn	01 37 08.6	+1.4
CRIN				S	Sn	01 37 56.0	+0.8
HERN	**Volcan Telica**	4.36	100		Pn	01 37 11.7	+1.3
CNGN	**Cerro Negro**	4.51	101		Pn	01 37 13.0	+0.6
CNGN	**Cerro Negro**	4.51	101	P	Pn	01 37 12.9	+0.6
CNGN				S	Sn	01 38 04.2	-0.3
MGAN	**Managua**	5.02	104		Pn	01 37 21.1	+1.8
MGAN	**Managua**	5.02	104	P	Pn	01 37 20.4	+1.0
MGAN				S	Sn	01 38 12.8	-4.3
CMIG	**Matias Romero**	5.06	316	Pn	Pn	01 37 21.3	+1.4
	comp=E,8.0nm,0.3s,baz=135,slow=11,SNR=47						
CMIG					Sn	Sn	01 38 18.9	+0.8
	comp=E,16nm,0.3s,baz=26,slow=12,SNR=7.4 comp=E,63nm,0.7s						
HUIG	**Huatulco**	5.26	297	*i* P	Pn	01 37 22.8	+0.2
HUIG				*i* S	Sn	01 38 16.9	-6.1
SCIG	**Sabancuy**	5.49	0	*i* P	Pn	01 37 27.1	+1.3
SCIG				*i* S	Sn	01 38 30.1	+1.5
BOAB	**BOACO BROADBAN**	5.51	100		Pn	01 37 26.1	+0.1
ACON	**Acoyapa**	6.08	103		Pn	01 37 33

URMC **La Uribe, Meta** 19.48 120 P P 01 40 31.5 +0.3
comp=Z,15nm,0.7s
TXAR **Lajitas Array** 19.58 326 P Pn 01 40 34.3 +0.8
TXAR **Lajitas Array** 19.58 326 P Pn 01 40 34.8 +1.4
comp=Z,0.5nm,0.3s,baz=154,slow=12,SNR=88
comp=Z,9.7nm,0.8s
OZNA **Ozona** 19.64 334 P 01 40 34.3 +1.5
Z47A **Carrollton** 19.88 8 P Pn 01 40 37.6 +0.7
LRAL **Lakeview Retre** 19.88 10 P 01 40 35.5 +0.2
LRAL IAmb IAmb 01 40 43.0
comp=Z,22nm,0.9s
152A **Waverly Hall** 20.04 16 P P 01 40 37.4 +0.4
152A IAmb IAmb 01 40 48.8
comp=Z,17nm,0.7s
FW07 **Weatherford** 20.09 344 IAmb IAmb 01 40 42.5
comp=Z,18nm,0.7s
WLAR **White Oak Lake** 20.23 355 IAmb IAmb 01 41 19.9
comp=Z,19nm,0.8s
PLPT **Palo Pinto** 20.34 343 P 01 40 41.1 +0.8
ALPN **Alpine** 20.38 328 P 01 40 42.9 +2.0
ALPN IAmb IAmb 01 40 45.4
comp=Z,30nm,0.8s
154A **Montrose** 20.48 20 P Pn 01 40 45.1 +1.2
FW03 **Perrin-Whitt E** 20.48 343 IAmb IAmb 01 40 46.4
comp=Z,27nm,0.7s
SGCY **Sterling City** 20.51 335 IAmb IAmb 01 40 44.6
comp=Z,28nm,0.8s
MACC **Macarena, Meta** 20.53 122 P P 01 40 43.1 +0.6
comp=Z,33nm,0.8s
SC01 **Santiago de lo** 20.53 70 P P 01 40 41.8 -0.7
ABTX **Abilene, Hawle** 20.59 339 P 01 40 43.9 +0.9
ABTX IAmb IAmb 01 40 45.6
comp=Z,32nm,0.9s
SDV **Santo Domingo** 20.70 100 P P 01 40 40.0 -4.5
comp=Z,9.1nm,0.4s,baz=326,slow=7.2,SNR=3.6
comp=Z,9.1nm,0.4s
Y49A **Blount Mountai** 20.79 11 P 01 40 45.4 +0.2
Y49A IAmb IAmb 01 41 19.2
comp=Z,18nm,0.8s
PTLC **Puerto Leguiza** 20.95 128 P Pn 01 40 52.9 +3.3
PTGC **Puerto Gaitan,** 20.96 114 P P 01 40 47.2 0.0
comp=Z,87nm,0.7s
OXF **Oxford** 21.04 4 IAmb IAmb 01 41 18.2
comp=Z,26nm,0.8s
X48A **Hartselle** 21.26 10 P P 01 40 49.3 -0.9
X48A IAmb IAmb 01 41 06.2
comp=Z,16nm,0.7s
UALR **University of** 21.26 357 IAmb IAmb 01 40 57.2
comp=Z,23nm,0.8s
SN05 **Snyder 5** 21.27 337 IAmb IAmb 01 40 55.0
comp=Z,21nm,0.7s
ODSA **Odessa** 21.29 333 IAmb IAmb 01 40 53.1
comp=Z,19nm,0.7s
Y52A **Lilburn** 21.35 17 IAmb IAmb 01 41 06.1
comp=Z,16nm,0.8s
APMT **Aspermont** 21.39 339 IAmb IAmb 01 40 56.2
comp=Z,16nm,0.7s
PLAL **Pickwick Lake** 21.64 7 P P 01 40 56.5 +2.3
PLAL IAmb IAmb 01 41 03.7
comp=Z,19nm,1.1s
POST **Post** 21.67 336 IAmb IAmb 01 40 56.4
comp=Z,18nm,0.7s
X34A **Smith Ranch, M** 21.90 345 IAmb IAmb 01 41 34.8
comp=Z,15nm,0.8s
DKNS **Dickens** 21.98 338 IAmb IAmb 01 41 02.2
comp=Z,18nm,0.8s
SWET **Sewanee** 22.20 12 IAmb IAmb 01 41 34.6
comp=Z,13nm,0.8s
W50A **Signal Mountai** 22.31 13 IAmb IAmb 01 41 30.4
comp=Z,21nm,1.1s
FNO **Franklin** 22.43 347 IAmb IAmb 01 41 07.0
comp=Z,18nm,0.8s
BG3 **Lake Jocassee** 22.73 18 IAmb IAmb 01 41 33.8
comp=Z,14nm,0.7s
TUL3 **Leonard** 22.75 350 P P 01 41 05.3 -0.8
WVT **Waverly** 22.80 7 P P 01 41 05.7 -0.9
WVT IAmb IAmb 01 41 17.3
comp=Z,18nm,0.8s
OK052 **Battle Ridge R** 23.01 348 IAmb IAmb 01 41 34.0
comp=Z,11nm,0.7s
SMWD **Samnorwood** 23.06 341 IAmb IAmb 01 41 11.9
comp=Z,19nm,0.7s
TKL **Tuckaleechee C** 23.12 16 IAmb IAmb 01 41 31.5
comp=Z,24nm,1.1s
QUOK **Quay** 23.16 349 IAmb IAmb 01 41 14.4
comp=Z,11nm,0.7s
BAUV **El Baul** 23.17 99 P 01 41 06.5 -4.2
BAUV IAmb IAmb 01 41 21.6
comp=Z,15nm,0.9s
AMTX **Amarillo** 23.35 338 IAmb IAmb 01 41 15.0
comp=Z,15nm,0.7s
V53A **Saluda** 23.39 17 IAmb IAmb 01 41 33.9
comp=Z,16nm,0.7s
U49A **Red Boiling Sp** 23.49 11 IAmb IAmb 01 41 35.9
comp=Z,15nm,0.9s
TZTN **Tazewell** 24.01 15 IAmb IAmb 01 41 30.5
comp=Z,14nm,0.9s
T50A **Nancy** 24.17 13 IAmb IAmb 01 41 21.0
comp=Z,8.5nm,0.7s
SIUC **Southern Illin** 24.24 4 IAmb IAmb 01 41 32.2
comp=Z,23nm,0.9s
319A **Douglas** 24.37 320 P 01 41 24.1 +1.8
319A IAmb IAmb 01 41 33.7
comp=Z,9.7nm,0.8s
CCM **Cathedral Cave** 24.51 360 P 01 41 21.2 -2.1
CCM IAmb IAmb 01 41 27.2
comp=Z,19nm,0.8s
R40A **Maddies Statio** 24.77 358 IAmb IAmb 01 41 29.6
comp=Z,20nm,1.0s
V58A **Windy Hill, Pi** 24.78 24 IAmb IAmb 01 41 29.2
comp=Z,12nm,0.7s
U56A **King** 24.80 21 IAmb IAmb 01 42 02.9
comp=Z,36nm,1.5s
S51A **Beattyville** 25.04 14 IAmb IAmb 01 42 04.8
comp=Z,12nm,0.7s
WCI **Wyandotte Cave** 25.07 9 P 01 41 26.8 -1.6
DUN6 **Lazy B Ranch** 25.07 322 IAmb IAmb 01 41 40.7
comp=Z,19nm,0.8s
RTBA **Rita Blanca** 25.12 338 P P 01 41 29.7 +0.7
RTBA IAmb IAmb 01 42 01.0
comp=Z,11nm,0.9s
R49A **Shelbyville** 25.33 11 IAmb IAmb 01 41 58.5
comp=Z,13nm,0.8s
ANMO **Albuquerque** 25.46 330 P 01 41 33.6 +1.5
TUC **Tucson** 25.95 320 P P 01 41 38.6 +2.1
P40A **Paris** 26.00 359 IAmb IAmb 01 41 41.0
comp=Z,14nm,0.7s
P38A **Dawn** 26.16 356 IAmb IAmb 01 41 38.9
comp=Z,7.6nm,0.6s
T59A **Double "B" Far** 26.43 25 IAmb IAmb 01 41 41.2
comp=Z,7.9nm,0.7s
X18A **Snowflake** 26.99 324 IAmb IAmb 01 41 50.0
comp=Z,9.4nm,0.8s
Q54A **Coxs Mills** 27.05 18 IAmb IAmb 01 41 46.5
comp=Z,9.7nm,0.8s
SDCO **Great Sand Dun** 27.34 335 P P 01 41 49.8 +0.5
O54A **Avella** 28.29 18 IAmb IAmb 01 41 58.0
comp=Z,7.7nm,0.8s
WUAZ **Wupatki** 28.51 324 IAmb IAmb 01 42 03.7
comp=Z,13nm,0.8s
PV18 **Skein Mesa, Pa** 29.28 331 IAmb IAmb 01 42 11.3
comp=Z,6.9nm,0.8s
PV12 **Saucer Basin,** 29.28 331 IAmb IAmb 01 42 11.3
comp=Z,14nm,0.8s
PV04 **Paradox Valley** 29.39 331 IAmb IAmb 01 42 12.0
comp=Z,6.5nm,0.8s
PV23 **Carpenter Ridg** 29.49 331 IAmb IAmb 01 42 12.9
comp=Z,9.8nm,0.9s
U15A **North Rim** 29.68 324 IAmb IAmb 01 42 14.3
comp=Z,7.1nm,0.8s
HMU **Henry Mountain** 29.95 328 IAmb IAmb 01 42 16.1
comp=Z,12nm,1.1s
LUPA **Lehigh Univers** 30.41 24 IAmb IAmb 01 42 16.7
comp=Z,9.4nm,0.6s
LCMT **Little Creek M** 30.63 324 IAmb IAmb 01 42 22.9
comp=Z,8.6nm,0.9s
V12A **Nelson** 30.73 320 IAmb IAmb 01 42 24.2
comp=Z,9.2nm,0.8s
Q16A **Castle Valley** 30.91 329 IAmb IAmb 01 42 26.9
comp=Z,5.6nm,0.8s
SZCU **Shurtz Canyon** 30.95 325 IAmb IAmb 01 42 25.0
comp=Z,8.8nm,0.9s
CCUT **Cedar City** 31.08 325 IAmb IAmb 01 42 27.5
comp=Z,11nm,1.0s
SPMN **Marine on St.** 31.71 358 IAmb IAmb 01 42 26.8
comp=Z,8.9nm,0.9s
L59A **Walton** 31.90 23 IAmb IAmb 01 42 29.8
comp=Z,10nm,0.8s
MPU **Maple Canyon** 31.98 330 IAmb IAmb 01 42 32.7
comp=Z,4.8nm,0.8s
PSUT **Pine Spring** 32.05 325 IAmb IAmb 01 42 35.8
comp=Z,6.0nm,0.7s
CTU **Camp Tracy** 32.56 330 IAmb IAmb 01 42 38.2
comp=Z,5.5nm,0.8s
SPR3 **Spring Creek 3** 32.64 325 P 01 42 38.0 +1.9
SPR3 IAmb IAmb 01 42 39.2
comp=Z,8.0nm,0.9s
TCUT **Toone Canyon** 32.72 331 IAmb IAmb 01 42 44.1
comp=Z,8.6nm,0.9s
E38A **The Farm, Brul** 33.06 360 IAmb IAmb 01 42 37.9
comp=Z,8.3nm,0.7s
HWUT **Hardware Ranch** 33.18 332 P 01 42 40.2 -0.5
HWUT IAmb IAmb 01 42 44.0
comp=Z,6.4nm,0.9s
GMN **Gold Mountain** 33.23 320 P P 01 42 42.5 +1.3
PDAR **Pinedale Array** 33.24 335 P P 01 42 41.9 +0.5
comp=Z,0.7nm,0.6s,baz=133,slow=9.2,SNR=10
PDAR PcP PcP 01 45 23.7 0.0
comp=Z,0.8nm,0.6s,baz=154,slow=5.1,SNR=7.8
comp=Z,0.7nm,0.6s
M65A **Busby, Falmout** 33.26 29 P P 01 42 39.3 -1.8
baz=218
BGU **Big Grassy Mou** 33.36 329 IAmb IAmb 01 42 44.9
comp=Z,5.1nm,0.9s
DSP **Deep Springs** 33.71 320 P 01 42 48.4 +3.2
LONY **Lake Ozonia** 34.17 21 P P 01 42 46.6 -2.5
LONY IAmb IAmb 01 43 04.0
comp=Z,6.7nm,1.0s
ELK **Elko** 34.37 327 P 01 42 52.7 +1.6
ELK IAmb IAmb 01 42 54.3
comp=Z,3.7nm,0.7s
LOHW **Long Hollow** 34.37 335 IAmb IAmb 01 42 52.9
comp=Z,4.9nm,1.0s
TPAW **Teton Pass** 34.41 334 IAmb IAmb 01 42 58.0
comp=Z,8.8nm,1.1s
NV11 **Mina Array Sit** 34.49 321 IAmb IAmb 01 42 57.0
comp=Z,7.0nm,0.8s
MACA **Manacapuru-AM** 34.51 116 P 01 42 51.6 -0.7
MACA **Manacapuru-AM** 34.51 116 eP P 01 42 51.2 -1.1
NVAR **Mina Array Bea** 34.58 321 P 01 42 55.4 +2.4
NVAR **Mina Array Bea** 34.58 321 P P 01 42 55.8 +2.9
comp=Z,8.2nm,0.7s,baz=132,slow=8.1,SNR=57
NVAR PcP PcP 01 45 28.9 +1.4
comp=Z,3.5nm,0.7s,baz=130,slow=3.5,SNR=14
comp=Z,8.2nm,0.7s
CMB **Columbia Colle** 35.65 319 P 01 43 04.2 +2.2
CMB IAmb IAmb 01 43 07.2
comp=Z,4.7nm,0.9s
HLID **Hailey** 36.03 331 P 01 43 06.5 +1.2
PAHR **Pah Rah Range** 36.03 322 IAmb IAmb 01 43 09.3
comp=Z,5.8nm,0.9s
EPLO **Experimental L** 36.19 357 IAmb IAmb 01 43 06.4
comp=Z,8.0nm,0.9s
BEKR **Beckworth** 36.72 321 IAmb IAmb 01 43 16.3
comp=Z,7.8nm,1.3s
LPAZ **La Paz** 37.33 142 P P 01 43 17.2 0.0
comp=Z,1.2nm,0.7s,baz=338,slow=6.8,SNR=5.2
comp=Z,1.2nm,0.7s
WVOR **Wild Horse Val** 37.37 326 IAmb IAmb 01 43 21.0
comp=Z,7.8nm,0.8s
PLID **Pearl Lake** 37.92 331 P 01 43 22.2 +0.7
PLID IAmb IAmb 01 43 23.0
comp=Z,4.7nm,0.8s
L04D **Klamath Falls** 39.32 323 IAmb IAmb 01 43 36.3
comp=Z,16nm,1.1s
KHMM **Horse Mountain** 39.40 320 IAmb IAmb 01 43 37.2
comp=Z,13nm,0.8s
ITTB **Itaituba** 39.42 114 eP P 01 43 32.9 -1.3
PINE **Pine Mountain** 39.54 326 IAmb IAmb 01 43 37.6
comp=Z,6.5nm,0.9s
BBOR **Butler Butte** 39.95 323 IAmb IAmb 01 43 40.7
comp=Z,15nm,1.4s
VILB **Vilhena** 40.41 129 eP P 01 43 42.4 0.0
G05A **Wamic** 40.69 327 IAmb IAmb 01 43 54.0
comp=Z,16nm,1.0s
H04A **Detroit Lake** 40.80 326 P 01 43 46.2 +0.9
H04A IAmb IAmb 01 43 48.0
comp=Z,14nm,1.0s
I03D **Drain, OR** 40.83 324 IAmb IAmb 01 43 48.5
comp=Z,14nm,1.1s
H04D **Lebanon** 41.00 325 IAmb IAmb 01 43 55.3
comp=Z,7.8nm,0.7s
NPGB **Novo Progresso** 41.02 118 eP P 01 43 45.4 -2.0
I02E **Swisshome, OR** 41.37 324 IAmb IAmb 01 43 52.8
comp=Z,11nm,0.9s
LON **Longmire** 41.96 328 IAmb IAmb 01 43 56.7
comp=Z,7.0nm,0.9s
FFC **Flin Flon** 42.04 351 P P 01 43 53.4 -1.9
PDRB **Porto dos Gac** 42.31 124 eP P 01 43 56.0 -2.0
CLDB **Colider** 42.65 123 eP P 01 44 00.7 -0.1
NLWA **Neilton Lookou** 43.44 328 IAmb IAmb 01 44 36.1
comp=Z,13nm,1.1s
SCHQ **Schefferville** 45.49 20 P P 01 44 20.4 -2.7
comp=Z,17nm,0.7s,baz=205,slow=6.2,SNR=19
comp=Z,17nm,0.7s
TMAB **Tom-Au,PA,Br** 45.57 107 eP P 01 44 23.0 -1.2
SNDB **Serra Nova Dou** 46.97 121 eP P 01 44 33.7 -1.5
H03N2 **Juan Fernandez** 48.07 166 T T 02 36 18.5
baz=347,slow=76,SNR=14
H03N1 **Juan Fernandez** 48.08 166 T T 02 36 18.4
baz=347,slow=76,SNR=18
H03N3 **Juan Fernandez** 48.09 166 T T 02 36 10.5
baz=347,slow=76,SNR=19
ARAG **Araguaiana, MT** 48.56 125 eP P 01 44 46.3 -1.2
RUBB **Prince Rupert** 50.95 332 IAmb IAmb 01 45 07.7
comp=Z,5.4nm,0.8s
YKA **Yellowknife Ar** 51.74 346 P P 01 45 09.9 -1.1
comp=Z,1.8nm,0.7s,baz=200,slow=3.7,SNR=13
comp=Z,1.8nm,0.7s
TOAD **Toad River Com** 51.93 338 P P 01 45 12.4 -0.2
baz=136
V35K **Ketchikan** 52.19 332 P P 01 45 15.6 +1.1
baz=127
KOTAN **Kotaeelee Air** 52.47 340 P P 01 45 17.2 +0.7
baz=138
T35M **Bob Quinn** 52.62 334 IAmb IAmb 01 45 20.2
comp=Z,3.8nm,0.8s
T35M **Bob Quinn** 52.62 334 P P 01 45 18.4 +0.7
baz=129
CRAG **Craig** 52.97 332 P P 01 45 21.0 +0.8
baz=125
WRAK **Wrangell Islan** 53.18 333 P P 01 45 23.3 +1.5
baz=126
U33K **Whale Pass** 53.34 332 P P 01 45 24.5 +1.6
baz=126
DLBC **Dease Lake** 53.47 336 P P 01 45 25.0 +1.1
baz=130,SNR=8.1
S34M **Telegraph Cree** 53.58 335 IAmb IAmb 01 45 26.9
comp=Z,3.8nm,0.8s
S34M **Telegraph Cree** 53.58 335 P P 01 45 25.4 +0.7
baz=129
WTLY **Watson Lake, Y** 54.12 338 P P 01 45 29.3 +0.7
baz=132
PMNB **Patos De Minas** 54.40 125 eP P 01 45 30.6 -0.8
R33M **Jennings River** 54.46 336 IAmb IAmb 01 45 33.1
comp=Z,3.4nm,0.9s
R33M **Jennings River** 54.46 336 P P 01 45 31.8 +0.5
baz=130
Q32M **Nakina River** 54.70 335 IAmb IAmb 01 45 35.3
comp=Z,6.1nm,0.8s
Q32M **Nakina River** 54.70 335 P P 01 45 33.7 +0.6
baz=128
S32K **Killisnoo** 54.79 333 P P 01 45 34.4 +0.9
baz=125
SIT **Sitka** 54.88 332 P P 01 45 35.3 +1.2
baz=124
P32M **Atlin** 55.68 335 P P 01 45 40.7 +0.7
baz=127
P33M **Teslin, Yukon** 55.70 336 P P 01 45 41.1 +0.9
baz=128
S31K **Pelican** 55.80 333 P P 01 45 41.4 +0.7
baz=123
SKAG **Skagway** 56.26 335 P P 01 45 44.6 +0.6
baz=125
N32M **Quiet Lake** 56.40 337 P P 01 45 45.5 +0.4
baz=128
DIAM **Diamantina, MG** 56.51 123 eP P 01 45 45.7 -0.9
MMPY **Sheldon Lake,** 56.69 339 IAmb IAmb 01 45 47.9
comp=Z,3.0nm,0.7s
MMPY **Sheldon Lake,** 56.69 339 P P 01 45 47.0 -0.1
baz=131
PLBC **Pleasant Camp** 56.70 334 P P 01 45 47.1 0.0
baz=124
WHY **Whitehorse** 56.79 336 P P 01 45 48.2 +0.3
baz=126
FARO **Faro, Yukon** 57.17 338 P P 01 45 51.1 +0.5
baz=129
P30M **Million Dollar** 57.32 335 P P 01 45 52.1 +0.4
baz=124
O30N **Mendenhall** 57.34 336 IAmb IAmb 01 45 53.1
comp=Z,4.8nm,0.9s
O30N **Mendenhall** 57.34 336 P P 01 45 52.2 +0.4
baz=125
P29M **Windy Craggy** 57.37 334 IAmb IAmb 01 45 53.9
comp=Z,6.2nm,0.8s
P29M **Windy Craggy** 57.37 334 P P 01 45 52.5 +0.5
baz=123
M31M **Drury Creek, Y** 57.54 338 P P 01 45 53.3 +0.2
baz=128
N31M **Braeburn, Yuko** 57.63 337 P P 01 45 54.2 +0.4
baz=126
HYT **Haines Junctio** 57.94 335 P P 01 45 56.3 +0.2
baz=124
O29M **Mount Kennedy** 58.09 334 P P 01 45 57.9 +0.7
baz=122
PNL **Peninsula** 58.11 334 P P 01 45 58.2 +1.1
baz=121
N30M **Aishikik Lake** 58.13 336 IAmb IAmb 01 45 58.9
comp=Z,4.8nm,1.1s
N30M **Aishikik Lake** 58.13 336 P P 01 45 57.3 -0.1
baz=124
YUK6 **Outpost Mounta** 58.35 335 P P 01 45 58.9 -0.3
baz=123
M30M **Minto, Yukon** 58.66 337 P P 01 46 01.2 +0.1
baz=125
YUK4 **Talbot Arm** 58.69 335 P P 01 46 00.9 -0.5
baz=123
PINM **Pinnacle** 58.70 334 P P 01 46 01.3 0.0
baz=120
O28M **Mount Upton** 59.02 334 P P 01 46 03.5 -0.3
baz=121
YUK8 **Steele Glacier** 59.11 335 P P 01 46 04.0 -0.4
baz=121
M29M **Somme Creek** 59.22 337 P P 01 46 05.2 +0.2
baz=123
L29M **L29M** 59.47 337 P P 01 46 07.1 +0.5
baz=124
CTG **Chitna Glacier** 59.60 334 P P 01 46 07.5 -0.1
baz=120
YUK3 **Moose Creek** 59.65 335 P P 01 46 07.7 -0.4
baz=121
K29M **Barlow Dome** 59.67 338 P P 01 46 07.9 -0.1
baz=125
J30M **Hart River** 59.68 339 P P 01 46 07.7 -0.5
baz=127
H31M **Peel River** 59.79 341 P P 01 46 08.1 -0.6
baz=129
BGLC **Bering Glacier** 60.03 333 P P 01 46 10.8 +0.3
baz=117
I30M **Mount Dempster** 60.09 340 P P 01 46 10.8 -0.2
baz=127
BVCY **Beaver Creek** 60.15 336 P P 01 46 11.9 +0.6
baz=121
CRQE **Cirque** 60.25 334 P P 01 46 11.9 -0.2
baz=118
J29N **Klondike Camp** 60.27 339 P P 01 46 12.2 0.0
baz=125
KAIM **Kayak Island** 60.45 332 P P 01 46 13.5 +0.2
baz=116
G31M **Satah River** 60.49 342 P P 01 46 13.1 -0.4
baz=130
MCARA **McCarthy VSAT** 60.52 334 P P 01 46 13.5 -0.3
baz=118
M27K **Edge Creek, AK** 60.53 336 P P 01 46 13.7 -0.3
baz=120
VRDI **Verde Repeater** 60.63 334 IAmb IAmb 01 46 16.4
comp=Z,3.2nm,0.8s
F31M **Tsiigehtchic** 60.67 343 P P 01 46 14.1 -0.6
baz=131
BCAR **Beaver Creek A** 60.85 336 P 01 46 16.0 -0.1
L27K **Beaver Creek,** 60.86 336 IAmb IAmb 01 46 17.2
comp=Z,3.3nm,0.9s
L27K **Beaver Creek,** 60.86 336 P P 01 46 15.9 -0.2
baz=120
EPYK **Eagle Plains** 60.90 341 P P 01 46 16.3 -0.1
baz=127
M26K **Nabesna, AK** 61.00 335 P P 01 46 17.0 -0.1
baz=119
BMRM **Bremner River** 61.01 333 P P 01 46 16.8 -0.4
baz=116
G30M **tAoh Zraii Nji** 61.12 341 P P 01 46 17.6 -0.3
baz=128
Q23K **Middleton Isla** 61.13 331 P P 01 46 17.8 -0.1
baz=114
INK **Inuvik** 61.19 343 P P 01 46 17.6 -0.5
baz=131
N25K **Chitina, Valde** 61.29 334 P P 01 46 18.9 -0.2
baz=117
EYAK **Cordova Ski Ar** 61.32 333 P P 01 46 19.9 +0.6
baz=115
H29M **Whitestone** 61.35 340 P P 01 46 19.1 -0.3
baz=125
F30M **Barrier River** 61.38 342 P P 01 46 19.1 -0.5
baz=128
I28M **Miner Creek** 61.44 339 P P 01 46 19.7 -0.4
baz=123
K27K **Chicken** 61.45 337 P P 01 46 20.2 +0.1
baz=120
G29M **Pine Creek** 61.64 341 P P 01 46 21.0 -0.3
baz=126
KLU **Klutina** 61.81 334 P P 01 46 22.5 -0.1
baz=115
P23K **Montague Islan** 61.84 332 P P 01 46 22.8 +0.1
baz=113
GLI **Glacier Island** 62.06 333 P P 01 46 23.9 -0.3
baz=114
I27K **Kandik River** 62.11 339 P P 01 46 24.3 -0.2
baz=122
SCRK **Sand Creek** 62.16 337 P P 01 46 25.0 0.0
baz=118
M24K **Tolsona, Glenn** 62.19 334 P P 01 46 25.0 -0.1
baz=115
J26L **Joseph Creek** 62.26 337 IAmb IAmb 01 46 31.2
comp=Z,5.0nm,1.1s
J26L **Joseph Creek** 62.26 337 P P 01 46 24.9 -0.7
baz=119
PAX **Paxson** 62.28 335 P P 01 46 25.5 -0.3
baz=116
RIDG **Independent Ri** 62.38 336 P P 01 46 25.7 -0.7
baz=118
H27K **Steamboat Moun** 62.41 339 P P 01 46 25.8 -0.8
baz=122
E29M **Blow River** 62.49 342 P P 01 46 25.4 -1.6
baz=127
I26K **Coal Creek Min** 62.51 338 P P 01 46 26.3 -0.8
baz=120
SCM **Sheep Creek Mo** 62.56 334 P P 01 46 27.1 -0.6
baz=114
PWL **Port Wells** 62.61 332 P P 01 46 27.4 -0.6
baz=113
F28M **Old Crow** 62.64 341 P P 01 46 27.0 -1.0
baz=124,SNR=9.7
M23K **Glacier View** 62.72 334 P P 01 46 28.2 -0.4
baz=114
G27K **Doyon Strip** 62.77 340 P P 01 46 28.6 -0.3
baz=122
K24K **Donnelly Dome** 62.78 336 P P 01 46 28.4 -0.6
baz=116
SEW **Seward** 62.84 331 P P 01 46 28.3 -1.1
baz=111
KNK **Knik Glacier** 62.88 333 P P 01 46 29.0 -0.7
baz=113
J25K **Salcha River,** 62.99 337 P P 01 46 29.9 -0.5
baz=117
WAT6 **Susitna Watana** 63.05 334 P P 01 46 30.4 -0.6
baz=114
DHY **Denali Highway** 63.10 335 P P 01 46 31.1 -0.3
baz=115
E28M **Babbage River** 63.11 342 P P 01 46 30.7 -0.4
baz=125
PMR **Palmer** 63.25 333 P P 01 46 32.5 +0.4
baz=112
RC01 **Rabbit Creek A** 63.33 332 P P 01 46 32.6 -0.1
baz=111,SNR=5.9
PRP **Porcupine Dome** 63.48 338 P P 01 46 33.3 -0.4
baz=118
WAT1 **Susitna Watana** 63.49 334 P P 01 46 34.1 +0.3
baz=113
E27K **Coleen River** 63.50 341 P P 01 46 33.7 -0.1
baz=123
HDA **Harding Lake** 63.51 336 P P 01 46 34.2 +0.3
baz=116

G26K	Porcupine Rive	63.56	340	P		P	01 46 34.2 +0.1
	baz=120						
KDAK	Kodiak Island	63.59	328	P		P	01 46 35.0 +0.6
KDAK	Kodiak Island	63.59	328	P		P	01 46 34.4 0.0
	baz=107						
ILAR	Eielson Array	63.65	337			P	01 46 34.0 -0.7
ILAR	Eielson Array	63.65	337	P		P	01 46 34.2 -0.5
	comp=Z,2.9nm,0.9s,baz=138,slow=4.4,SNR=27						
	comp=Z,2.9nm,0.9s						
Q20K	Shuyak Island	63.74	329	P		P	01 46 35.3 -0.1
	baz=108						
OHAK	Old Harbor	63.78	328	IAmb		IAmb	01 46 42.6
	comp=Z,7.0nm,1.0s						
OHAK	Old Harbor	63.78	328	P		P	01 46 35.7 0.0
	baz=106						
D27M	Malcolm River	63.90	342	P		P	01 46 35.8 -0.6
	baz=124						
SUA	Susitna One	63.92	333	P		P	01 46 37.0 +0.3
	baz=111						
H25L	Birch Creek	63.94	338	P		P	01 46 36.5 0.0
	baz=118						
POKR	Poker Plat Res	64.01	337	P		P	01 46 37.1 0.0
	baz=116						
MCK	McKinley	64.02	335	P		P	01 46 37.3 +0.1
	baz=113						
F26K	Sheenjek River	64.06	340	P		P	01 46 37.6 +0.2
	baz=120						
BMAR	Burnt Mountain	64.07	340			P	01 46 37.3 -0.2
SII	Sitkinak Islan	64.07	327	P		P	01 46 37.7 0.0
	baz=105						
G25K	Bearman Lake	64.27	339	P		P	01 46 38.8 +0.1
	baz=118						
O20K	Slope Mountain	64.32	331	P		P	01 46 39.5 +0.2
	baz=108						
NEA2	Nenana	64.42	336	IAmb		IAmb	01 46 40.9
	comp=Z,2.9nm,0.7s						
NEA2	Nenana	64.42	336	P		P	01 46 39.9 +0.1
	baz=114						
STLK	Strandline Lak	64.42	332	IAmb		IAmb	01 46 49.9
	comp=Z,5.8nm,1.0s						
SKT	Skwentna	64.46	333	P		P	01 46 40.3 +0.2
	baz=110,SNR=6.5						
Q19K	Cape Douglas,	64.46	329	P		P	01 46 39.9 -0.3
	baz=107						
TRF	Thorofare Moun	64.46	335	P		P	01 46 40.5 +0.2
	baz=112,SNR=6.7						
P19K	Oil Pt	64.48	330	P		P	01 46 40.5 +0.2
	baz=107						
R18K	Karluk	64.48	328	P		P	01 46 40.2 -0.1
	baz=105						
H24K	Noodor Dome	64.49	338	IAmb		IAmb	01 46 41.4
	comp=Z,4.0nm,1.0s						
H24K	Noodor Dome	64.49	338	P		P	01 46 40.1 -0.2
	baz=115						
N20K	Mount Spurr	64.49	332	P		P	01 46 40.3 -0.1
	baz=109						
SPCR	Spurr Chakacha	64.49	332	P		P	01 46 39.6 -0.8
	baz=109						
F25K	Christian River	64.51	340	P		P	01 46 40.5 0.0
	baz=118						
G24K	Hadweenzic Riv	64.73	339	IAmb		IAmb	01 46 43.4
	comp=Z,4.5nm,1.4s						
G24K	Hadweenzic Riv	64.73	339	P		P	01 46 41.5 -0.3
	baz=116						
E25K	Arctic Village	64.74	340	P		P	01 46 41.3 -0.6
	baz=119						
I23K	Minto, Yukon-K	64.76	337	IAmb		IAmb	01 46 42.8
	comp=Z,6.4nm,0.8s						
I23K	Minto, Yukon-K	64.76	337	P		P	01 46 41.5 -0.4
	baz=114,SNR=5.6						
KTH	Kantishna Hill	64.76	335	IAmb		IAmb	01 46 42.5
	comp=Z,5.6nm,0.8s						
C27K	Jago River	64.92	342	P		P	01 46 42.5 -0.5
	baz=121						
BPAW	Bear Paw Mtn.	65.00	335	IAmb		IAmb	01 46 44.0
	comp=Z,5.2nm,0.8s						
BPAW	Bear Paw Mtn.	65.00	335	P		P	01 46 43.4 -0.2
	baz=112,SNR=7.5						
PPLA	Purkeypile	65.06	334	P		P	01 46 43.6 -0.6
	baz=110						
Q18K	Katmai Hardscr	65.06	329	P		P	01 46 43.6 -0.7
	baz=105						
ACHA	Angle Creek He	65.11	328	IAmb		IAmb	01 46 52.0
	comp=Z,3.6nm,0.8s						
H23K	Yukon River	65.11	337	P		P	01 46 44.2 -0.1
	baz=114						
M20K	Styx River	65.14	333	P		P	01 46 44.1 -0.5
	baz=108,SNR=6.0						
O19K	Port Alsworth	65.16	331	P		P	01 46 44.4 -0.3
	baz=107						
CAST	Castle Rocks	65.20	334	IAmb		IAmb	01 46 45.0
	comp=Z,4.0nm,0.7s						
CAST	Castle Rocks	65.20	334	P		P	01 46 44.2 -0.7
	baz=110,SNR=6.0						
F24K	Squaw Lake	65.24	339	P		P	01 46 44.2 -1.0
	baz=116						
MLY	Manley	65.25	336	P		P	01 46 45.0 -0.3
	baz=112,SNR=17						
P18K	Big Mountain,	65.38	330	P		P	01 46 46.0 -0.1
	baz=105						
Q17K	Contact Creek	65.41	328	P		P	01 46 46.3 -0.2
	baz=104						
N19K	Bonanza Creek	65.42	331	P		P	01 46 46.0 -0.5
	baz=107,SNR=11						
O18K	Koktuh Hills	65.49	330	P		P	01 46 46.5 -0.4
	baz=106,SNR=5.6						
R17L	Mt. Peulik Vol	65.49	328	P		P	01 46 46.5 -0.4
	baz=104,SNR=7.3						
D25K	Kavik River	65.58	341	P		P	01 46 46.9 -0.5
	baz=118						
G23K	Bananza Creek	65.65	338	P		P	01 46 47.8 0.0
	baz=114						
L20K	Farewell, AK	65.66	333	P		P	01 46 47.5 -0.5
	baz=108,SNR=12						
E24K	Your Creek	65.69	340	P		P	01 46 47.5 -0.5
	baz=116						
M19K	Big River Lodg	65.71	332	P		P	01 46 47.6 -0.7
	baz=107						
I21K	Tanana	65.79	336	P		P	01 46 48.5 -0.2
	baz=111						
H22K	Ishtalitna Cre	65.83	337	P		P	01 46 48.6 -0.3
	baz=112						
Q16K	King Salmon	65.90	329	P		P	01 46 49.8 +0.3
	baz=104						
COLD	Coldfoot	65.92	339	P		P	01 46 49.3 -0.2
	baz=114						
P17K	Kvichak River	65.92	329	P		P	01 46 49.9 +0.3
	baz=104						
L19K	White Mountain	66.00	333	P		P	01 46 49.7 -0.5
	baz=107						
K20K	Telida	66.02	334	IAmb		IAmb	01 46 50.1
	comp=Z,5.4nm,0.7s						
K20K	Telida	66.02	334	P		P	01 46 49.7 -0.6
	baz=108,SNR=7.1						
N18K	Kilae Creek	66.05	331	P		P	01 46 49.6 -0.9
	baz=105,SNR=7.9						
E23K	Chandalar	66.06	340	IAmb		IAmb	01 46 51.8
	comp=Z,4.2nm,0.9s						
E23K	Chandalar	66.06	340	P		P	01 46 50.5 0.0
	baz=115						
M18K	Stony River	66.24	332	P		P	01 46 51.4 -0.3
	baz=106,SNR=7.9						
D24K	Happy Valley	66.28	341	P		P	01 46 51.1 -0.6
	baz=116						
H21K	Melozitna Rive	66.29	337	P		P	01 46 51.6 -0.3
	baz=110						
CHGN	Chignik	66.30	326	P		P	01 46 52.2 +0.1
	baz=101						
TOLK	Toolik Lake Re	66.30	340	P		P	01 46 51.8 -0.2
	baz=115						
J20K	Nowinta River	66.32	335	IAmb		IAmb	01 46 54.4
	comp=Z,2.9nm,0.7s						
J20K	Nowinta River	66.32	335	P		P	01 46 51.9 -0.3
	baz=108,SNR=6.1						
O17K	Koliganek Bris	66.39	330	P		P	01 46 52.2 -0.4
	baz=104						
SUMG	Summit	66.57	15			P	01 46 51.7 -2.4
SUMG				IAmb		IAmb	01 46 53.6
	comp=Z,4.4nm,0.8s						
N17K	Nushagak Hills	66.62	331	P		P	01 46 53.8 -0.4
	baz=104,SNR=8.6						
I20K	Naaghedeneel	66.66	335	P		P	01 46 54.3 +0.1
	baz=108						
D23K	Nanushuk River	66.80	340	P		P	01 46 55.1 -0.1
	baz=114						
L18K	Granite Mounta	66.84	332	P		P	01 46 54.9 -0.5
	baz=105						
O16K	Kokwok River B	66.84	329	P		P	01 46 55.5 -0.1
	baz=103,SNR=6.3						
E22K	Anaktuvuk Pass	66.85	339	IAmb		IAmb	01 46 56.2
	comp=Z,4.8nm,1.0s						
E22K	Anaktuvuk Pass	66.85	339	P		P	01 46 55.3 -0.2
	baz=112						
G21K	Allakaket	66.86	337	IAmb		IAmb	01 46 56.1
	comp=Z,3.3nm,0.8s						
G21K	Allakaket	66.86	337	P		P	01 46 55.6 0.0
	baz=110,SNR=5.3						
J19K	Poorman	66.88	334	IAmb		IAmb	01 46 55.7
	comp=Z,4.1nm,0.8s						
J19K	Poorman	66.88	334	P		P	01 46 55.2 -0.5
	baz=107,SNR=5.8						
S14K	Fog Glacier	66.92	326	P		P	01 46 56.2 +0.1
	baz=100						
M17K	Holitna River	66.96	331	P		P	01 46 55.9 -0.4
	baz=104						
H20K	Anotleneega Mo	67.04	336	P		P	01 46 56.3 -0.4
	baz=108						
F21K	Alatna River	67.10	338	P		P	01 46 56.5 -0.6
	baz=110,SNR=7.9						
C23K	Itkillik River	67.14	341	P		P	01 46 56.7 -0.5
	baz=114						
J18K	Innoko River	67.19	334	P		P	01 46 57.6 -0.2
	baz=106						
N16K	Nishlik Lake	67.37	330	P		P	01 46 58.7 -0.2
	baz=103						
L17K	Donlin	67.54	332	P		P	01 46 59.8 -0.1
	baz=104						
M16K	Timber Creek	67.59	331	IAmb		IAmb	01 47 05.8
	comp=Z,6.5nm,1.1s						
M16K	Timber Creek	67.59	331	P		P	01 46 59.7 -0.5
	baz=103						
O15K	Ungalikthiuk R	67.62	329	P		P	01 46 59.7 -0.7
	baz=101						
H19K	Roundabout Mou	67.68	336	IAmb		IAmb	01 47 06.2
	comp=Z,5.1nm,0.9s						
H19K	Roundabout Mou	67.68	336	P		P	01 47 00.5 -0.2
	baz=107						
K17K	Iditarod	67.69	333	P		P	01 47 00.6 -0.2
	baz=104						
E21K	Killik River	67.71	339	P		P	01 47 00.7 -0.2
	baz=110						
F20K	Avaraart Lake	67.87	338	P		P	01 47 01.6 -0.3
	baz=108						
N15K	Kwethluk River	67.95	330	P		P	01 47 02.5 -0.1
	baz=101						
L16K	Owhat River	67.98	331	IAmb		IAmb	01 47 03.8
	comp=Z,5.7nm,0.8s						
L16K	Owhat River	67.98	331	P		P	01 47 02.5 -0.2
	baz=102						
G19K	Purcell Mounta	68.11	336	P		P	01 47 03.4 0.0
	baz=106						
J17K	VABM Dome	68.20	333	P		P	01 47 04.2 +0.2
	baz=104						
S12K	Black Hills	68.21	325	P		P	01 47 04.7 +0.4
	baz=98						
C21K	Knifeblade Rid	68.24	340	P		P	01 47 04.2 0.0
	baz=110						
H18K	Honhosa River	68.34	335	P		P	01 47 04.1 -0.8
	baz=105						
B21K	Ikpikpuk River	68.34	340	P		P	01 47 04.7 -0.2
	baz=110						
M15K	Kasigluk River	68.34	330	P		P	01 47 05.2 +0.2
	baz=101						
O14K	Tigyukauivet M	68.36	329	P		P	01 47 04.0 -1.0
	baz=100						
E20K	Nigu River	68.42	339	P		P	01 47 04.9 -0.6
	baz=108						
E19K	Redstone River	68.55	338	P		P	01 47 05.9 -0.3
	baz=107						
F19K	Shaletuckik Mo	68.57	337	P		P	01 47 06.1 -0.2
	baz=106						
G18K	Tagagawik	68.66	336	P		P	01 47 07.1 +0.2
	baz=105						
N14K	Kuskokwak Cree	68.69	329	P		P	01 47 07.2 +0.1
	baz=100						
D20K	Etivluk River	68.72	339	P		P	01 47 07.3 +0.1
	baz=108						
J16K	Anvik River	68.84	333	IAmb		IAmb	01 47 09.6
	comp=Z,5.9nm,0.8s						
J16K	Anvik River	68.84	333	P		P	01 47 08.6 +0.5
	baz=102						
L15K	Ungalak Mounta	68.92	331	P		P	01 47 09.7 +1.2
	baz=101						
H17K	Granite Mounta	68.92	335	P		P	01 47 08.9 +0.4
	baz=103						
M14K	Bethel	68.97	330	P		P	01 47 09.7 +0.9
	baz=100,SNR=7.9						
I17K	Unalakleet	69.02	334	P		P	01 47 10.2 +1.1
	baz=102						
K15K	Wolf Creek Mou	69.06	332	P		P	01 47 10.4 +1.0
	baz=101,SNR=5.6						
D19K	Kuna River	69.17	339	P		P	01 47 10.5 +0.4
	baz=106						
F18K	Selawik	69.23	337	P		P	01 47 10.5 +0.1
	baz=104						
B20K	Meade River	69.31	340	P		P	01 47 10.6 -0.2
	baz=108						
G17K	Kiwalik Mounta	69.36	335	P		P	01 47 11.8 +0.6
	baz=103						
L14K	Kuka Creek	69.42	331	IAmb		IAmb	01 47 14.1
	comp=Z,4.6nm,0.8s						
L14K	Kuka Creek	69.42	331	P		P	01 47 12.5 +0.8
	baz=99						
M13K	Dall Lake	69.59	330	P		P	01 47 13.7 +1.0
	baz=98						
F17K	Baldwin Pennin	69.81	336	P		P	01 47 14.6 +0.6
	baz=103						
H16K	Elim	69.83	334	P		P	01 47 14.8 +0.6
	baz=101						
C19K	Lookout Ridge	69.86	339	P		P	01 47 15.2 +0.9
	baz=105						
G16K	Koyuk River	70.03	335	P		P	01 47 16.1 +0.7
	baz=101						
J14K	Nanvaranak Lak	70.06	332	P		P	01 47 16.6 +1.0
	baz=99						
E17K	Pitham Inlet	70.18	337	P		P	01 47 16.9 +0.6
	baz=102						
C18K	Utukok River	70.31	339	P		P	01 47 17.8 +0.7
	baz=104						
K13K	Kusilvak Mount	70.44	331	P		P	01 47 18.4 +0.4
	baz=98						
A19K	Wainwright	70.65	340	P		P	01 47 19.6 +0.6
	baz=104						
G15K	Niukluk	70.65	335	P		P	01 47 20.2 +1.0
	baz=100						
B18K	Kokolik River	70.69	339	P		P	01 47 20.0 +0.7
	baz=103						
M11K	Mekoryuk	70.99	330	P		P	01 47 21.5 +0.3
	baz=96						
F15K	North Star Dit	71.03	335	P		P	01 47 21.1 -0.4
	baz=99						
F14K	Arctic Creek	71.68	335	P		P	01 47 25.7 +0.3
	baz=98						
C16K	Lisburne Hills	71.73	338	P		P	01 47 25.8 +0.1
	baz=99						
NIKH	Nikolski High	71.94	322	P		P	01 47 28.5 +1.3
	baz=91						
SPIA	Saint Paul Isl	72.86	326	P		P	01 47 33.8 +1.2
	baz=91						
GAMB	Gambell	73.83	333	P		P	01 47 39.4 +1.2
	baz=92						
EKA	Eskdalemuir Ar	77.97	36	P		P	01 47 58.3 -3.7
	comp=Z,1.4nm,0.7s,baz=280,slow=6.6,SNR=5.9						
	comp=Z,1.4nm,0.7s						
ESDC	Sonseca Array	79.47	52	P		P	01 48 06.3 -4.3
	comp=Z,0.6nm,0.7s,baz=291,slow=4.5,SNR=9.0						
	comp=Z,0.6nm,0.7s						
DBIC	Dimbokro	84.96	84	P		P	01 48 37.2 -2.6
	comp=Z,5.6nm,0.7s,baz=331,slow=6.0,SNR=6.7						
	comp=Z,5.6nm,0.7s						
ARCES	ARCESS Array B	86.43	18	P		P	01 48 42.6 -3.4
	comp=Z,2.0nm,0.7s,baz=294,slow=6.1,SNR=6.8						
	comp=Z,2.0nm,0.7s						
PETK	Petropavlovsk-	91.53	326	P		P	01 49 11.4 +0.9
	comp=Z,1.2nm,0.8s,baz=52,slow=12,SNR=3.6						
	comp=Z,1.2nm,0.8s						
BOSA	Boshof	119.44	115	PKP		PKPdf	01 54 53.7 -0.5
	comp=Z,2.6nm,0.8s,baz=342,slow=1.7,SNR=5.5						
MKAR	Makanchi Array	119.76	5	PKP		PKPdf	01 54 53.0 -1.2
	comp=Z,0.6nm,0.8s,baz=20,slow=4.0,SNR=4.8						
WRA	Warramunga Arr	135.99	255	PKP		PKPdf	01 55 25.9 +0.1
	comp=Z,1.0nm,0.7s,baz=85,slow=2.6,SNR=7.6						
ASAR	Alice Springs	136.19	250	PKP		PKPdf	01 55 26.5 +0.4
	comp=Z,0.7nm,0.7s,baz=53,slow=1.8,SNR=6.4						
FITZ	Fitzroy Crossi	144.26	258	PKPdf		PKPab	01 55 39.3 +0.6
CMAR	Chiang Mai Arr	146.75	342	PKPbc		PKPdf	01 55 47.2 +2.1
	comp=Z,10nm,0.7s,baz=336,slow=3.4,SNR=53						
UBPT	Khong Chiam	147.03	329			PKPdf	01 55 48.2 +2.6

IDC ***13*** *01:40:15.5±0.8, 13°.90N×90°.63W, h0km, mb4.2/12, mbtmp4.3/15, ML4.6/2, MS4.2/3, Error ellipse: s-maj=31.3km s-min=14.5km az=44.0*
CATAC ***13*** *01:40:16.7±0.5, 13°.N±3°×9°.1W±°, h1km, M4.8/18, MLv4.8/18, Error ellipse: s-maj=7.1km s-min=3.0km az=28.7, confirmed*
NEIC ***13*** *01:40:22.0±2.6, 13°.58N±0°.08×91°.05W±0°.07, h35km±2km, mb4.5/232, Error ellipse: s-maj=14.8km s-min=8.4km az=216.0*
SNET ***13*** *01:40:33.3±10.0, 13°.65N×90°.42W, h24km, ML4.3*
ISC 13 01:40:16.5±1.7, 13°.44N±0°.06×91°.23W±0°.04, h10km±9km, n437, s0%97/345, mb4.6/106, MS4.3/3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	1.16	337			Pg	01 40 38.8	-0.1
RTAL	Retalhuleu	1.16	337	S		Sn	01 40 55.7	+0.8
RTAL	Retalhuleu	1.16	337	P		Pg	01 40 38.9	0.0
FAME	Alcaldia de Sa	1.25	71	P		Pg	01 40 39.7	-0.9
FAME	Alcaldia de Sa	1.25	71	S		Sg	01 40 56.7	-0.1
NUBE	Las Nubes	1.48	72	eP		Pn	01 40 43.3	-0.2
NUBE	Las Nubes	1.48	72	P		Pn	01 40 43.1	-0.4
NUBE	Las Nubes	1.48	72	S		Sg	01 41 04.5	+0.2
LOAL	Lomas de Alarc	1.52	69	S		Sg	01 41 05.2	-0.1
LOAL	Lomas de Alarc	1.52	69	P		Pn	01 40 44.4	+0.6
SLOZ	Alcaldia de Sa	1.52	68	P		Pn	01 40 44.3	+0.4
SLOZ	Alcaldia de Sa	1.52	68	S		Sn	01 41 04.2	+0.4
CEVE	Cerro Verde	1.61	76	eP		Pn	01 40 45.6	+0.3
CEVE				eS		Sb	01 41 08.0	+1.0
CEVE	Cerro Verde	1.61	76	P		Pn	01 40 45.5	+0.3
UNIC	Universidad Ca	1.72	72	P		Pn	01 40 47.4	+0.7
UNIC	Universidad Ca	1.72	72	S		Sn	01 41 10.1	+1.3
JAYA	Jayaque - finc	1.75	83	eP		Pn	01 40 47.4	+0.2
JAYA				eS		Sn	01 41 08.8	-0.8
JAYA	Jayaque - finc	1.75	83	P		Pn	01 40 47.1	0.0
JAYA	Jayaque - finc	1.75	83	S		Sn	01 41 09.9	+0.3
CEDA	San Andres	1.82	79	eP		Pn	01 40 49.8	+1.7
CEDA	San Andres	1.82	79	P		Pn	01 40 49.4	+1.3
CEDA	San Andres	1.82	79	S		Sn	01 41 12.8	+1.6
LALI	Alcalda de L	1.86	88	eP		Pn	01 40 49.4	+0.9
LALI	Alcalda de L	1.86	88	S		Sn	01 41 13.6	+1.4
LALI	Alcalda de L	1.86	88	P		Pn	01 40 50.0	+1.5
HUEH	Huehuetenango	1.88	352			Pb	01 40 50.9	-0.3
HUEH	Huehuetenango	1.88	352	P		Pb	01 40 50.7	-0.4
PMON	Piamonte	1.89	82	P		Pn	01 40 49.5	+0.5
BOQS	Boqueron	1.92	81	eP		Pn	01 40 50.3	+0.8
UEES	Universidad Ev	1.96	82	P		Pn	01 40 50.9	+1.0
UEES	Universidad Ev	1.96	82	S		Sn	01 41 16.2	+1.6
LOMA	Loma Larga	2.02	84	eP		Pn	01 40 52.1	+1.4
LOMA				eS		Sb	01 41 19.1	+0.5
LOMA	Loma Larga	2.02	84	S		Sn	01 41 17.9	+1.8
LOMA	Loma Larga	2.02	84	P		Pn	01 40 52.1	+1.4
MTO3	Montecristo	2.05	62	Pn		Pn	01 40 52.5	+1.1
MTO3	Montecristo	2.05	62	P		Pn	01 40 52.4	+1.1
MTO3	Montecristo	2.05	62	S		Sb	01 41 19.8	+0.1
AEIL	Aeropuerto Ilo	2.07	83	eP		Pn	01 40 53.1	+1.6
AEIL				eS		Sb	01 41 21.1	+0.8
LFRS	El Faro	2.12	85	eP		Pn	01 40 53.7	+1.6
ESQI	Esquipulas	2.15	59			Pn	01 40 54.0	+1.5
PAVA	Las Pavas	2.25	83	eP		Pn	01 40 55.4	+1.4
PAVA	Las Pavas	2.25	83	S		Sn	01 41 24.0	+2.1
PAVA	Las Pavas	2.25	83	P		Pn	01 40 55.4	+1.4
COEG	Centro de Oper	2.29	85	eP		Pn	01 40 56.3	+1.7
COEG				eS		Sn	01 41 25.9	+2.9
CCIG	Comitan	2.95	343	Pn		Pn	01 41 06.8	+3.1
CAHU	Cacacuatique	2.96	83	eP		Pn	01 41 05.0	+1.3
PETF	Flores	3.69	21			Pn	01 41 16.7	+3.0
TGUH	Tegucigalpa,Un	3.90	81			Pn	01 41 18.0	+1.4
CRIN	San Cristobal	4.14	100			Pn	01 41 21.6	+1.6
HERN	Volcan Telica	4.37	100			Pn	01 41 23.9	+0.8
CNGN	Cerro Negro	4.52	101			Pn	01 41 26.5	+1.3
MGAN	Managua	5.03	104			Pn	01 41 33.3	+1.2
CMIG	Matias Romero	5.05	316	Pn		Pn	01 41 33.0	+0.5
	14nm,0.3s,baz=131,slow=8.4,SNR=13							
CMIG				Sn		Sn	01 42 30.5	-0.5
	14nm,0.3s,baz=358,slow=14,SNR=3.6							
	40nm,0.3s							
BOAB	BOACO BROADBAN	5.52	100			Pn	01 41 38.8	0.0
ACON	Acoyapa	6.09	103			Pn	01 41 46.2	-0.5
ESPN	Las Esperanzas	6.88	100			Pn	01 41 58.2	+0.7
JTS	Las Juntas de	6.90	116			Pn	01 42 01.1	+3.2
JTS	Las Juntas de	6.90	116	Pn		Pn	01 41 57.1	-0.7
	3.4nm,0.3s,baz=106,slow=22,SNR=15							
TEIG	Tepich	7.31	22			Pn	01 42 06.3	+2.8
LCR2	La Lucha 2	7.98	117			Pn	01 42 17.1	+4.3
BRU2	Volcan	9.57	118			Pn	01 42 38.0	+3.3
MOIG	Morelia	11.38	304			Pn	01 43 05.4	+5.9
833A	Chaparral WMA,	16.64	334	P		P	01 44 14.2	+1.8
HNDO	Hondo	17.66	336			P	01 44 24.3	+0.6
DRIO	Del Rio	18.13	333			Pn	01 44 29.4	+0.9
ROSC	El Rosal	18.75	116	P		P	01 44 33.9	-2.4
	2.0nm,0.3s,baz=257,slow=14,SNR=4.3							
HPIG		19.04	317			Pn	01 44 41.3	+1.3
BRDY	Brady	19.14	339	P		Pn	01 44 41.5	+0.6
BRDY				IAmb		IAmb	01 44 43.8	
	comp=Z,16nm,0.7s							
RUSC	La Rusia	19.39	111			P	01 44 44.0	+0.6
FLOC	Florencia	19.41	126			P	01 44 44.7	+1.6
FLOC				IAmb		IAmb	01 44 50.5	
	comp=Z,22nm,0.8s							
TXAR	Lajitas Array	19.57	326			Pn	01 44 47.0	+0.9
TXAR	Lajitas Array	19.57	326	P		P	01 44 46.2	+1.4
	comp=Z,0.6nm,0.3s,baz=153,slow=12,SNR=62							
TXAR				PcP		PcP	01 49 05.7	+0.6
	comp=Z,0.6nm,0.7s,baz=142,slow=4.8,SNR=4.6							
	comp=Z,9.3nm,0.7s							
OZNA	Ozona	19.64	334			Pn	01 44 47.4	+0.5
LRAL	Lakeview Retre	19.88	11			P	01 44 49.0	+0.9
LRAL				IAmb		IAmb	01 44 56.3	
	comp=Z,16nm,0.8s							
Z38A	Mt. Pleasant	20.02	351	P		P	01 44 49.9	+0.3
Z38A				IAmb		IAmb	01 44 51.8	
	comp=Z,20nm,0.8s							
152A	Waverly Hall	20.04	16	P		P	01 44 50.4	+0.6
152A				IAmb		IAmb	01 44 51.6	
	comp=Z,15nm,0.7s							
FW07	Weatherford	20.08	344	IAmb		IAmb	01 44 55.5	
	comp=Z,22nm,0.7s							
PLPT	Palo Pinto	20.34	343			P	01 44 52.4	-0.7
PLPT				IAmb		IAmb	01 44 55.8	
	comp=Z,26nm,0.7s							
ALPN	Alpine	20.37	328	IAmb		IAmb	01 44 58.7	

SN07 **Snyder 07** 21.45 337 lAmb lAmb 01 45 09.4
comp=Z,11nm,0.5s
POST **Post** 21.66 336 lAmb lAmb 01 45 09.7
comp=Z,18nm,0.7s
DKNS **Dickens** 21.98 338 lAmb lAmb 01 45 15.1
comp=Z,13nm,0.7s
SWET **Sewanee** 22.20 12 lAmb lAmb 01 45 52.2
comp=Z,12nm,0.7s
MNTX **Cornudas Mount** 22.33 327 lAmb lAmb 01 45 19.1
comp=Z,23nm,0.8s
FNO **Franklin** 22.42 347 lAmb lAmb 01 45 20.3
comp=Z,15nm,0.7s
V48A **Smith Brothers** 22.55 9 P P **01 45 15.9 -1.0**
BG3 **Lake Jocassee** 22.73 18 lAmb lAmb 01 45 46.4
comp=Z,14nm,0.7s
CPCT **Cooper Cave** 22.73 14 lAmb lAmb 01 45 48.1
comp=Z,11nm,0.8s
WVT **Waverly** 22.80 7 P **01 45 18.4 -1.0**
WVT lAmb lAmb 01 45 30.6
comp=Z,16nm,0.8s
RLO **Rose Lookout** 22.88 352 lAmb lAmb 01 45 22.9
comp=Z,9.5nm,0.7s
MSTX **Muleshoe** 22.97 335 lAmb lAmb 01 45 23.6
comp=Z,8.2nm,0.6s
U38A **Gravette** 23.07 354 lAmb lAmb 01 46 07.6
comp=Z,11nm,0.5s
TKL **Tuckaleechee C** 23.12 16 lAmb lAmb 01 45 44.0
comp=Z,15nm,0.8s
TKL **Tuckaleechee C** 23.12 16 LR LR 01 55 41.7
comp=Z,405nm,19.5s,baz=324,slow=41
PBMO **Poplar Bluff** 23.25 2 lAmb lAmb 01 45 57.9
comp=Z,12nm,0.8s
AMTX **Amarillo** 23.34 338 lAmb lAmb 01 45 35.7
comp=Z,14nm,0.8s
V53A **Saluda** 23.39 17 lAmb lAmb 01 45 47.6
comp=Z,14nm,0.7s
U49A **Red Boiling Sp** 23.49 11 lAmb lAmb 01 45 55.0
comp=Z,12nm,0.8s
CGM3 **Cape Girardeau** 23.80 3 P P **01 45 32.4 +2.9**
TZTN **Tazewell** 24.01 15 lAmb lAmb 01 45 31.8
comp=Z,12nm,0.7s
T50A **Nancy** 24.16 13 lAmb lAmb 01 45 33.0
comp=Z,8.5nm,0.7s
CCM **Cathedral Cave** 24.51 360 P **01 45 34.8 -1.4**
CCM lAmb lAmb 01 45 40.1
comp=Z,14nm,0.7s
R40A **Maddies Statio** 24.76 358 lAmb lAmb 01 45 42.9
comp=Z,13nm,0.8s
V58A **Windy Hill, Pi** 24.79 24 lAmb lAmb 01 45 42.2
comp=Z,12nm,0.7s
U56A **King** 24.80 21 lAmb lAmb 01 46 19.5
comp=Z,11nm,1.0s
S51A **Beattyville** 25.04 14 lAmb lAmb 01 46 18.6
comp=Z,12nm,0.9s
WCI **Wyandotte Cave** 25.07 9 P **01 45 39.5 -1.7**
RTBA **Rita Blanca** 25.12 338 lAmb lAmb 01 45 45.8
comp=Z,6.5nm,0.6s
R49A **Shelbyville** 25.33 11 lAmb lAmb 01 46 12.2
comp=Z,10nm,0.8s
OLIL **Olney** 25.34 6 lAmb lAmb 01 45 49.7
comp=Z,14nm,0.7s
ANMO **Albuquerque** 25.45 330 P **01 45 46.3 +1.3**
TUC **Tucson** 25.94 320 P P **01 45 51.9 +2.6**
P40A **Paris** 25.99 359 lAmb lAmb 01 45 53.9
comp=Z,12nm,0.7s
T59A **Double "B" Far** 26.43 25 lAmb lAmb 01 45 53.0
comp=Z,9.4nm,0.8s
X18A **Snowflake** 26.98 324 lAmb lAmb 01 46 03.3
comp=Z,8.1nm,0.7s
Q54A **Coxs Mills** 27.05 18 lAmb lAmb 01 45 59.1
comp=Z,8.1nm,0.7s
ACSO **Alum Creek Sta** 27.65 14 lAmb lAmb 01 46 27.5
comp=Z,13nm,1.0s
X16A **Lo Mia Camp, P** 27.77 322 lAmb lAmb 01 46 10.2
comp=Z,5.9nm,0.7s
MVCO **Mesa Verde** 28.25 330 lAmb lAmb 01 46 13.2
comp=Z,5.3nm,0.7s
O54A **Avella** 28.29 18 lAmb lAmb 01 46 10.3
comp=Z,8.8nm,0.6s
WUAZ **Wupatki** 28.50 324 lAmb lAmb 01 46 17.4
comp=Z,8.6nm,0.8s
PV18 **Skein Mesa, Pa** 29.27 331 lAmb lAmb 01 46 22.1
comp=Z,13nm,1.4s
PV04 **Paradox Valley** 29.39 331 lAmb lAmb 01 46 24.6
comp=Z,6.4nm,0.7s
PV23 **Carpenter Ridg** 29.48 331 lAmb lAmb 01 46 26.9
comp=Z,8.0nm,0.6s
HMU **Henry Mountain** 29.94 328 lAmb lAmb 01 46 29.5
comp=Z,5.9nm,0.7s
KNB **Kanab** 30.39 324 lAmb lAmb 01 46 33.9
comp=Z,10nm,0.8s
LCMT **Little Creek M** 30.63 324 lAmb lAmb 01 46 36.7
comp=Z,5.4nm,0.8s
V12A **Nelson** 30.72 320 P **01 46 32.8 +0.8**
V12A lAmb lAmb 01 46 37.1
comp=Z,7.0nm,0.8s
L59A **Walton** 31.90 23 lAmb lAmb 01 46 41.5
comp=Z,9.2nm,0.8s
PSUT **Pine Spring** 32.04 325 lAmb lAmb 01 46 49.0
comp=Z,4.1nm,0.7s
BOAV **Boa Vista** 32.29 107 P **01 46 45.3 -0.6**
BOAV lAmb lAmb 01 46 46.3
comp=Z,4.2nm,0.7s
TCUT **Toone Canyon** 32.72 331 lAmb lAmb 01 47 00.5
comp=Z,6.2nm,0.6s
PDAR **Pinedale Array** 33.23 335 P P **01 46 54.5 +0.3**
comp=Z,0.6nm,0.6s,baz=132,slow=9.1,SNR=5.8
PDAR PcP **PcP 01 49 35.9 -0.8**
comp=Z,0.7nm,0.6s,baz=156,slow=5.2,SNR=7.8
comp=Z,0.6nm,0.6s
NV11 **Mina Array Sit** 34.48 321 lAmb lAmb 01 47 09.2
comp=Z,7.2nm,0.8s
MACA **Manacapuru-AM** 34.52 116 P **01 47 04.7 -0.7**
NVAR **Mina Array Bea** 34.57 321 P **01 47 08.1 +2.3**
NVAR **Mina Array Bea** 34.57 321 P P **01 47 07.5 +1.7**
comp=Z,8.1nm,0.7s,baz=132,slow=8.2,SNR=39
NVAR PcP **PcP 01 49 41.7 +1.1**
comp=Z,3.4nm,0.7s,baz=131,slow=3.6,SNR=12
comp=Z,8.1nm,0.7s
PAHR **Pah Rah Range** 36.02 322 lAmb lAmb 01 47 22.0
comp=Z,4.4nm,0.8s
EPLO **Experimental L** 36.18 357 lAmb lAmb 01 47 19.0
comp=Z,4.9nm,0.8s
LPAZ **La Paz** 37.34 142 P P **01 47 31.2 +1.0**
comp=Z,1.2nm,0.6s,baz=295,slow=5.4,SNR=6.8
comp=Z,1.2nm,0.6s
WVOR **Wild Horse Val** 37.37 326 lAmb lAmb 01 47 38.5
comp=Z,5.8nm,1.0s
J08A **Circle Bar Ran** 37.91 327 lAmb lAmb 01 47 42.9
comp=Z,7.2nm,0.7s
PLID **Pearl Lake** 37.92 331 lAmb lAmb 01 47 43.1
comp=Z,5.0nm,0.8s
KHMM **Horse Mountain** 39.39 320 P **01 47 47.8 +1.1**
VILB **Vilhena** 40.42 129 P **01 47 54.2 -1.2**
VILB lAmb lAmb 01 48 02.3
comp=Z,9.0nm,0.8s
G05A **Wamic** 40.69 327 P **01 47 58.5 +1.3**
G05A lAmb lAmb 01 48 07.7
comp=Z,11nm,0.9s
H04A **Detroit Lake** 40.79 326 P **01 47 59.0 +0.8**
H04A lAmb lAmb 01 48 02.3
comp=Z,5.4nm,0.8s
H04D **Lebanon** 40.99 325 lAmb lAmb 01 48 03.4
comp=Z,6.2nm,0.7s
FFC **Flin Flon** 42.04 351 P **01 48 07.2 -1.0**
SCHQ **Schefferville** 45.49 20 P P 01 48 32.3 -3.6
comp=Z,12nm,0.7s,baz=215,slow=8.3,SNR=19
comp=Z,12nm,0.7s
H03N2 **Juan Fernandez** 48.08 166 T T 02 40 33.6
baz=347,slow=76,SNR=15
H03N1 **Juan Fernandez** 48.08 166 T T 02 40 34.7
baz=347,slow=76,SNR=15
H03N3 **Juan Fernandez** 48.09 166 T T 02 40 33.5
baz=347,slow=76,SNR=13
BDFB **Brasilia** 51.60 123 P P **01 49 22.8 -0.9**
comp=Z,1.7nm,0.6s,baz=288,slow=12,SNR=3.8
comp=Z,1.7nm,0.6s
YKA **Yellowknife Ar** 51.74 346 P P **01 49 21.8 -2.0**
comp=Z,1.7nm,0.7s,baz=198,slow=3.6,SNR=14
comp=Z,1.7nm,0.7s
TOAD **Toad River Com** 51.93 338 P P **01 49 25.8 +0.4**
baz=136
V35K **Ketchikan** 52.19 332 P P **01 49 28.6 +1.3**
baz=127
KOTAN **Kotaneelee Air** 52.46 340 P P **01 49 30.2 +0.8**
baz=138
T35M **Bob Quinn** 52.61 334 lAmb lAmb 01 49 33.5
comp=Z,3.7nm,0.8s
T35M **Bob Quinn** 52.61 334 P P **01 49 32.0 +1.4**
baz=129
CRAG **Craig** 52.96 332 P P **01 49 34.2 +1.1**
baz=125
WRAK **Wrangell Islan** 53.17 333 P P **01 49 36.0 +1.4**
baz=127
U33K **Whale Pass** 53.34 332 P P **01 49 37.5 +1.6**
baz=126
DLBC **Dease Lake** 53.46 336 P P **01 49 37.6 +0.8**
baz=130
S34M **Telegraph Cree** 53.57 335 lAmb lAmb 01 49 40.2
comp=Z,2.6nm,0.7s
S34M **Telegraph Cree** 53.57 335 P P **01 49 38.9 +1.3**
baz=129
WTLY **Watson Lake, Y** 54.11 338 P P **01 49 41.9 +0.3**
baz=133
R33M **Jennings River** 54.46 336 P P **01 49 45.2 +1.0**
baz=130
WRGLY **Wrigley** 54.64 343 P P **01 49 46.6 +1.3**
baz=140
Q32M **Nakina River** 54.70 335 lAmb lAmb 01 49 48.7
comp=Z,3.8nm,0.8s
Q32M **Nakina River** 54.70 335 P P **01 49 46.5 +0.5**
baz=128
S32K **Killisnoo** 54.78 333 P P **01 49 47.6 +1.2**
baz=125
P32M **Atlin** 55.67 335 P P **01 49 53.4 +0.5**
baz=127
P33M **Teslin, Yukon** 55.70 336 P P **01 49 53.9 +0.8**
baz=128
S31K **Pelican** 55.79 333 P P **01 49 54.4 +0.8**
baz=124
SKAG **Skagway** 56.26 335 P P **01 49 57.7 +0.7**
baz=125
N32M **Quiet Lake** 56.39 337 P P **01 49 58.4 +0.5**
baz=128
MMPY **Sheldon Lake,** 56.68 339 lAmb lAmb 01 50 00.6
comp=Z,2.8nm,0.6s
MMPY **Sheldon Lake,** 56.68 339 P P **01 50 00.0 0.0**
baz=131
PLBC **Pleasant Camp** 56.69 334 P P **01 50 00.8 +0.8**
baz=124
WHY **Whitehorse** 56.78 336 P P **01 50 01.4 +0.5**
baz=126
FARO **Faro, Yukon** 57.17 338 P P **01 50 03.9 +0.4**
baz=129
P30M **Million Dollar** 57.31 335 P P **01 50 05.2 +0.7**
baz=124
O30N **Mendenhall** 57.33 336 lAmb lAmb 01 50 06.5
comp=Z,3.1nm,0.8s
O30N **Mendenhall** 57.33 336 P P **01 50 05.1 +0.4**
baz=125
P29M **Windy Craggy** 57.37 334 lAmb lAmb 01 50 07.2
comp=Z,4.8nm,0.7s
P29M **Windy Craggy** 57.37 334 P P **01 50 05.8 +0.8**
baz=123
M31M **Drury Creek, Y** 57.53 338 P P **01 50 07.0 +0.9**
baz=128
N31M **Braeburn, Yuko** 57.63 337 P P **01 50 07.4 +0.7**
baz=126
HYT **Haines Junctio** 57.93 335 P P **01 50 09.8 +0.8**
baz=124
O29M **Mount Kennedy** 58.09 334 P P **01 50 10.9 +0.8**
baz=122
PNL **Peninsula** 58.10 334 P P **01 50 11.4 +1.3**
baz=121
N30M **Aishikik Lake** 58.12 336 P P **01 50 11.3 +1.1**
baz=124
YUK6 **Outpost Mounta** 58.35 335 P P **01 50 12.9 +0.9**
baz=123
M30M **Minto, Yukon** 58.66 337 P P **01 50 15.6 +1.6**
baz=125
YUK4 **Talbot Arm** 58.68 335 P P **01 50 15.7 +1.4**
baz=123
PINM **Pinnacle** 58.69 334 P P **01 50 15.3 +1.1**
baz=120
O28M **Mount Upton** 59.01 334 P P **01 50 17.4 +0.7**
baz=121
YUK8 **Steele Glacier** 59.10 335 P P **01 50 17.9 +0.6**
baz=122
M29M **Somme Creek** 59.22 337 lAmb lAmb 01 50 19.6
comp=Z,3.9nm,0.8s
M29M **Somme Creek** 59.22 337 P P **01 50 19.0 +1.1**
baz=124
L29M **L29M** 59.46 337 P P **01 50 20.4 +0.8**
baz=124
MESA **MESA** 59.47 333 P P **01 50 20.3 +0.5**
baz=119
CTG **Chitna Glacier** 59.60 334 P P **01 50 21.0 +0.4**
baz=120
YUK3 **Moose Creek** 59.65 335 P P **01 50 21.2 +0.2**
baz=121
K29M **Barlow Dome** 59.66 338 P P **01 50 21.0 0.0**
baz=125
J30M **Hart River** 59.68 339 P P **01 50 21.4 +0.4**
baz=127
H31M **Peel River** 59.79 341 P P **01 50 21.8 +0.1**
baz=129
I30M **Mount Dempster** 60.09 340 P P **01 50 24.1 +0.2**
baz=127
BVCY **Beaver Creek** 60.14 336 P P **01 50 24.8 +0.6**
baz=121
CRQE **Cirque** 60.24 334 P P **01 50 25.4 +0.4**
baz=118
KAIM **Kayak Island** 60.45 332 P P **01 50 26.5 +0.2**
baz=116
G31M **Satah River** 60.48 342 P P **01 50 27.0 +0.6**
baz=130
MCARA **McCarthy VSAT** 60.51 334 P P **01 50 27.6 +0.9**
baz=118
M27K **Edge Creek, AK** 60.52 336 P P **01 50 27.5 +0.6**
baz=120
HMT **Hamilton** 60.56 333 P P **01 50 28.2 +1.1**
VRDI **Verde Repeater** 60.62 334 lAmb lAmb 01 50 33.4
comp=Z,3.1nm,0.8s
F31M **Tsiigehtchic** 60.67 343 P P **01 50 28.3 +0.7**
baz=131
BCAR **Beaver Creek A** 60.84 336 P **01 50 28.3 -0.7**
L27K **Beaver Creek,** 60.86 336 P P **01 50 29.5 +0.5**
baz=120
GLB **Gilahina Butte** 60.88 334 P **01 50 30.0 +0.7**
EPYK **Eagle Plains** 60.90 341 P P **01 50 29.7 +0.4**
baz=127
M26K **Nabesna, AK** 60.99 335 P P **01 50 30.5 +0.4**
baz=119
BMRM **Bremner River** 61.00 333 P P **01 50 30.3 +0.2**
baz=116
Q23K **Middleton Isla** 61.12 331 P P **01 50 31.3 +0.5**
baz=114
INK **Inuvik** 61.18 343 LR LR 02 19 31.3
comp=Z,200nm,20.0s,baz=36,slow=39
INK **Inuvik** 61.18 343 P P **01 50 31.4 +0.4**
baz=131
N25K **Chitina, Valde** 61.29 334 P P **01 50 32.0 0.0**
baz=117
EYAK **Cordova Ski Ar** 61.32 333 P P **01 50 32.2 0.0**
baz=115
F30M **Barrier River** 61.38 342 P P **01 50 32.1 -0.4**
baz=129
I28M **Miner Creek** 61.43 339 P P **01 50 32.9 -0.1**
baz=123
K27K **Chicken** 61.45 337 P P **01 50 32.6 -0.4**
baz=121
G29M **Pine Creek** 61.64 341 P P **01 50 33.7 -0.6**
baz=126
KLU **Klutina** 61.80 334 P P **01 50 35.8 +0.2**
KLU **Klutina** 61.80 334 P P **01 50 35.1 -0.5**
baz=116
P23K **Montague Islan** 61.84 332 P P **01 50 35.3 -0.4**
baz=113
HARP **HAARP** 61.88 335 P P **01 50 36.4 +0.4**
baz=117
A36M **Sachs Harbour** 61.94 349 P P **01 50 35.8 -0.3**
baz=142
GLI **Glacier Island** 62.06 333 P P **01 50 37.0 -0.2**
baz=114
I27K **Kandik River** 62.10 339 P P **01 50 37.6 +0.2**
baz=122
SCRK **Sand Creek** 62.15 337 P P **01 50 37.9 0.0**
baz=119
M24K **Tolsona, Glenn** 62.18 334 P P **01 50 38.6 +0.5**
baz=116
J26L **Joseph Creek** 62.25 337 P P **01 50 38.4 -0.1**
baz=119
PAX **Paxson** 62.27 335 P P **01 50 39.1 +0.4**
baz=117
RIDG **Independent Ri** 62.38 336 P P **01 50 39.7 +0.4**
baz=118
H27K **Steamboat Moun** 62.41 339 P P **01 50 39.8 +0.3**
baz=122
E29M **Blow River** 62.49 342 P P **01 50 40.3 +0.4**
baz=127
I26K **Coal Creek Min** 62.50 338 P P **01 50 40.5 +0.5**
baz=120
SCM **Sheep Creek Mo** 62.55 334 P P **01 50 40.9 +0.3**
baz=114
F28M **Old Crow** 62.63 341 P P **01 50 40.7 -0.2**
baz=124,SNR=7.3
M23K **Glacier View** 62.71 334 P P **01 50 41.7 +0.1**
baz=114
G27K **Doyon Strip** 62.77 340 P P **01 50 41.8 -0.1**
baz=122
K24K **Donnelly Dome** 62.77 336 P P **01 50 42.2 +0.2**
baz=117
SEW **Seward** 62.83 331 P P **01 50 42.3 0.0**
baz=111
KNK **Knik Glacier** 62.88 333 P P **01 50 42.7 0.0**
baz=113
J25K **Salcha River,** 62.99 337 lAmb lAmb 01 50 44.7
comp=Z,2.6nm,0.9s
J25K **Salcha River,** 62.99 337 P P **01 50 43.2 -0.2**
baz=118
WAT6 **Susitna Watana** 63.04 334 P P **01 50 43.7 -0.2**
baz=114
DHY **Denali Highway** 63.10 335 P P **01 50 43.8 -0.5**
baz=115
E28M **Babbage River** 63.10 342 P P **01 50 44.2 +0.2**
baz=125
PMR **Palmer** 63.25 333 lAmb lAmb 01 50 46.3
comp=Z,4.5nm,0.7s
PMR **Palmer** 63.25 333 P P **01 50 45.8 +0.8**
baz=112
RC01 **Rabbit Creek A** 63.33 332 P P **01 50 45.5 -0.1**
baz=112
PRP **Porcupine Dome** 63.47 338 P P **01 50 47.1 +0.4**
baz=118
E27K **Coleen River** 63.50 341 P P **01 50 46.1 -0.6**
baz=123
HDA **Harding Lake** 63.50 336 P P **01 50 47.0 +0.2**
baz=116
G26K **Porcupine Rive** 63.56 340 P P **01 50 46.9 -0.1**
baz=120
KDAK **Kodiak Island** 63.58 328 P P **01 50 47.0 -0.4**
baz=107
IL31 63.64 337 lAmb lAmb 01 50 49.5
comp=Z,3.0nm,0.8s
ILAR **Eielson Array** 63.64 337 P P **01 50 46.5 -1.1**
comp=Z,1.4nm,0.7s,baz=164,slow=5.0,SNR=22
comp=Z,1.4nm,0.7s
HOM **Homer** 63.71 331 P P **01 50 48.0 -0.1**
baz=109
Q20K **Shuyak Island** 63.74 329 P P **01 50 48.0 -0.4**
baz=108
OHAK **Old Harbor** 63.78 328 P P **01 50 49.1 +0.4**
baz=106
RND **Reindeer** 63.84 335 lAmb lAmb 01 50 50.6
comp=Z,5.2nm,0.8s
SUA **Susitna One** 63.92 333 P P **01 50 49.3 -0.4**
baz=111
H25L **Birch Creek** 63.93 338 P P **01 50 49.4 -0.1**
baz=118
CCB **Clear Creek Bu** 63.94 336 lAmb lAmb 01 51 29.2
comp=Z,5.1nm,1.4s
POKR **Poker Plat Res** 64.00 337 P P **01 50 50.5 +0.4**
baz=116
MCK **McKinley** 64.01 335 P P **01 50 50.2 +0.1**
baz=114
SII **Sitkinak Islan** 64.06 327 P P **01 50 51.3 +0.7**
baz=105
G25K **Bearman Lake** 64.27 339 P P **01 50 52.4 +0.7**
baz=118
O20K **Slope Mountain** 64.31 331 P P **01 50 52.2 -0.1**
baz=108
NEA2 **Nenana** 64.41 336 P P **01 50 52.8 +0.1**
baz=114
SKT **Skwentna** 64.45 333 P P **01 50 53.2 +0.2**
baz=110,SNR=9.6
Q19K **Cape Douglas,** 64.45 329 P P **01 50 53.2 +0.1**
baz=107
TRF **Thorofare Moun** 64.46 335 P P **01 50 53.2 -0.1**
baz=112,SNR=7.3
P19K **Oil Pt** 64.47 330 P P **01 50 53.3 +0.1**
baz=108
R18K **Karluk** 64.48 328 P P **01 50 53.7 +0.4**
baz=106
H24K **Noodor Dome** 64.48 338 P P **01 50 53.6 +0.3**
baz=116
N20K **Mount Spurr** 64.49 332 P P **01 50 53.6 +0.2**
baz=109
SPCR **Spurr Chakacha** 64.49 332 P P **01 50 53.6 +0.2**
baz=109
F25K **Christian Rive** 64.50 340 P P **01 50 53.4 +0.1**
baz=118
ILSW **Iliamna Southw** 64.53 331 lAmb lAmb 01 51 08.9
comp=Z,6.8nm,1.0s
G24K **Hadweenzic Riv** 64.72 339 P P **01 50 54.5 -0.2**
baz=116
I23K **Minto, Yukon-K** 64.75 337 lAmb lAmb 01 50 56.1
comp=Z,5.1nm,0.8s
I23K **Minto, Yukon-K** 64.75 337 P P **01 50 54.9 0.0**
baz=114
KTH **Kantishna Hill** 64.76 335 lAmb lAmb 01 50 56.3
comp=Z,3.4nm,0.7s
BPAW **Bear Paw Mtn.** 64.99 335 lAmb lAmb 01 50 57.2
comp=Z,4.7nm,0.7s
BPAW **Bear Paw Mtn.** 64.99 335 P P **01 50 56.2 -0.3**
baz=112,SNR=7.6
PPLA **Purkeypile** 65.06 334 P P **01 50 56.5 -0.7**
baz=110
Q18K **Katmai Hardscr** 65.06 329 P P **01 50 56.6 -0.6**
baz=106
H23K **Yukon River** 65.10 337 P P **01 50 56.2 -1.0**
baz=114
M20K **Styx River** 65.13 333 P P **01 50 57.2 -0.3**
baz=109,SNR=9.0
O19K **Port Alsworth** 65.16 331 P P **01 50 57.2 -0.4**
baz=107
CAST **Castle Rocks** 65.19 334 lAmb lAmb 01 50 58.3
comp=Z,3.7nm,0.7s
CAST **Castle Rocks** 65.19 334 P P **01 50 57.0 -0.9**
baz=110,SNR=6.9
F24K **Squaw Lake** 65.23 339 P P **01 50 57.4 -0.7**
baz=116
MLY **Manley** 65.24 336 P P **01 50 57.6 -0.6**
baz=112,SNR=14
PPT **Papeete** 65.30 243 LR LR 02 12 14.8
comp=Z,282nm,19.5s,baz=337,slow=29
P18K **Big Mountain,** 65.37 330 P P **01 50 58.6 -0.5**
baz=106
Q17K **Contact Creek** 65.40 328 P P **01 50 59.3 -0.1**
baz=104
N19K **Bonanza Creek** 65.42 331 P P **01 50 59.2 -0.3**
baz=107,SNR=10
O18K **Koktuh Hills** 65.49 330 P P **01 51 00.0 +0.2**
baz=106
R17L **Mt. Peulik Vol** 65.49 328 P P **01 51 00.3 +0.4**
baz=104,SNR=7.6
E24K **Your Creek** 65.68 340 P P **01 51 00.7 -0.3**
baz=116
M19K **Big River Lodg** 65.70 332 P P **01 51 01.5 +0.3**
baz=108
I21K **Tanana** 65.79 336 P P **01 51 01.5 -0.2**
baz=111
H22K **Ishtalitna Cre** 65.82 337 P P **01 51 02.1 +0.2**
baz=112
Q16K **King Salmon** 65.90 329 P P **01 51 02.8 +0.4**
baz=104
L19K **White Mountain** 66.00 333 lAmb lAmb 01 51 03.9
comp=Z,3.0nm,0.8s
L19K **White Mountain** 66.00 333 P P **01 51 03.1 0.0**
baz=107
K20K **Telida** 66.02 334 lAmb lAmb 01 51 03.8
comp=Z,4.2nm,0.7s
K20K **Telida** 66.02 334 P P **01 51 02.7 -0.5**
baz=108,SNR=7.4
N18K **Kilae Creek** 66.04 331 P P **01 51 03.4 0.0**
baz=106,SNR=6.7
E23K **Chandalar** 66.06 340 lAmb lAmb 01 51 21.1
comp=Z,3.4nm,0.7s
E23K **Chandalar** 66.06 340 P P **01 51 03.1 -0.3**
baz=115
M18K **Stony River** 66.23 332 P P **01 51 04.3 -0.2**
baz=106,SNR=6.8
H21K **Melozitna Rive** 66.28 337 P P **01 51 04.7 -0.1**
baz=111
TOLK **Toolik Lake Re** 66.29 340 P P **01 51 04.9 0.0**

baz=115
J20K Nowinta River 66.31 335 IAmb IAmb 01 51 07.3
comp=Z,3.5nm,0.7s
J20K Nowinta River 66.31 335 P **P** **01 51 04.5 -0.5**
baz=109,SNR=6.7
O17K Koliganek Bris 66.39 330 P **P** **01 51 05.7 +0.1**
baz=104
C24K Franklin Bluff 66.49 341 P **P** **01 51 05.8 -0.2**
baz=116
SUMG Summit 66.57 15 P **P** **01 51 04.3 -2.8**
SUMG IAmb IAmb 01 51 06.9
comp=Z,3.0nm,0.7s
N17K Nushagak Hills 66.62 331 P **P** **01 51 06.9 -0.2**
baz=104,SNR=6.1
I20K Naaghedeneel 66.65 335 P **P** **01 51 07.2 +0.1**
baz=109
P16K Nushagak River 66.65 329 P **P** **01 51 07.2 -0.1**
baz=103
CHNA Chernabura Isl 66.67 324 P **P** **01 51 07.6 +0.2**
baz=100
D23K Nanushuk River 66.80 340 P **P** **01 51 08.3 +0.2**
baz=114
L18K Granite Mounta 66.83 332 P **P** **01 51 08.4 +0.1**
baz=106
O16K Kokwok River B 66.83 329 P **P** **01 51 08.4 0.0**
baz=103,SNR=5.6
E22K Anaktuvuk Pass 66.84 339 P **P** **01 51 08.6 +0.1**
baz=113
G21K Allakaket 66.85 337 IAmb IAmb 01 51 09.5
comp=Z,2.4nm,0.8s
G21K Allakaket 66.85 337 P **P** **01 51 08.2 -0.3**
baz=110,SNR=6.3
J19K Poorman 66.87 334 IAmb IAmb 01 51 09.0
comp=Z,3.7nm,0.8s
J19K Poorman 66.87 334 P **P** **01 51 07.9 -0.7**
baz=107,SNR=6.3
M17K Holitna River 66.96 331 P **P** **01 51 09.0 -0.2**
baz=104
H20K Anotleneega Mo 67.04 336 P **P** **01 51 09.3 -0.4**
baz=108
F21K Alatna River 67.10 338 IAmb IAmb 01 51 11.6
comp=Z,3.4nm,0.7s
F21K Alatna River 67.10 338 P **P** **01 51 09.6 -0.4**
baz=111,SNR=6.7
C23K Itkillik River 67.14 341 P **P** **01 51 09.7 -0.5**
baz=114
J18K Innoko River 67.19 334 P **P** **01 51 10.1 -0.6**
baz=106
SDPT Sand Point 67.26 325 P **P** **01 51 10.6 -0.5**
baz=99
N16K Nishlik Lake 67.37 330 P **P** **01 51 11.1 -0.8**
baz=103,SNR=5.9
D22K Ayikyak River 67.43 340 P **P** **01 51 11.7 -0.4**
baz=112
L17K Donlin 67.54 332 P **P** **01 51 12.2 -0.7**
baz=104
M16K Timber Creek 67.58 331 IAmb IAmb 01 51 14.6
comp=Z,3.7nm,0.8s
M16K Timber Creek 67.58 331 P **P** **01 51 12.6 -0.5**
baz=103,SNR=5.4
H19K Roundabout Mou 67.67 336 IAmb IAmb 01 51 14.4
comp=Z,2.9nm,0.8s
H19K Roundabout Mou 67.67 336 P **P** **01 51 12.5 -1.1**
baz=107
K17K Iditarod 67.68 333 P **P** **01 51 13.5 -0.3**
baz=104
E21K Killik River 67.70 339 P **P** **01 51 13.3 -0.5**
baz=111
F20K Avaraart Lake 67.86 338 P **P** **01 51 14.2 -0.6**
baz=108
L16K Owhat River 67.98 331 P **P** **01 51 15.2 -0.4**
baz=103
G19K Purcell Mounta 68.10 336 P **P** **01 51 16.0 -0.4**
baz=107
C21K Knifeblade Rid 68.23 340 P **P** **01 51 16.8 -0.3**
baz=110
H18K Honhosa River 68.34 335 P **P** **01 51 17.6 -0.3**
baz=105
M15K Kasigluk River 68.34 330 P **P** **01 51 17.8 -0.1**
baz=101
B21K Ikpikpuk River 68.34 340 P **P** **01 51 17.2 -0.6**
baz=110
O14K Tigyukauivet M 68.35 329 P **P** **01 51 17.8 -0.2**
baz=100
E20K Nigu River 68.42 339 P **P** **01 51 17.8 -0.6**
baz=108
E19K Redstone River 68.55 338 P **P** **01 51 18.7 -0.4**
baz=107
F19K Shaleruckik Mo 68.57 337 P **P** **01 51 18.8 -0.5**
baz=106
G18K Tagagawik 68.65 336 P **P** **01 51 19.3 -0.5**
baz=105
N14K Kuskokwak Cree 68.68 329 P **P** **01 51 19.8 -0.3**
baz=100
D20K Etivluk River 68.71 339 IAmb IAmb 01 51 21.3
comp=Z,2.9nm,0.7s
D20K Etivluk River 68.71 339 P **P** **01 51 19.4 -0.8**
baz=108
J16K Anvik River 68.84 333 P **P** **01 51 21.0 0.0**
baz=102
L15K Ungalak Mounta 68.91 331 P **P** **01 51 21.1 -0.3**
baz=101
H17K Granite Mounta 68.92 335 P **P** **01 51 21.4 0.0**
baz=104
M14K Bethel 68.96 330 P **P** **01 51 21.6 -0.2**
baz=100,SNR=6.9
I17K Unalakleet 69.01 334 P **P** **01 51 21.6 -0.4**
baz=102
K15K Wolf Creek Mou 69.05 332 P **P** **01 51 22.1 -0.2**
baz=101,SNR=5.9
D19K Kuna River 69.17 339 P **P** **01 51 22.7 -0.4**
baz=106
F18K Selawik 69.22 337 P **P** **01 51 23.3 0.0**
baz=104
B20K Meade River 69.30 340 P **P** **01 51 23.8 +0.1**
baz=108
G17K Kiwalik Mounta 69.35 335 P **P** **01 51 25.1 +1.0**
baz=103
L14K Kuka Creek 69.41 331 IAmb IAmb 01 51 27.0
comp=Z,4.1nm,0.8s
L14K Kuka Creek 69.41 331 P **P** **01 51 25.2 +0.6**
baz=100
M13K Dall Lake 69.58 330 P **P** **01 51 26.7 +1.1**
baz=99
H16K Elim 69.83 334 P **P** **01 51 27.5 +0.4**
baz=101
G16K Koyuk River 70.03 335 P **P** **01 51 29.3 +1.0**
baz=101
J14K Nanvaranak Lak 70.06 332 P **P** **01 51 29.1 +0.6**
baz=99
E17K Hotham Inlet 70.17 337 P **P** **01 51 29.7 +0.5**
baz=102
K13K Kusilvak Mount 70.44 331 P **P** **01 51 31.3 +0.4**
baz=98
UNV Unalaska Valle 70.57 323 P **P** **01 51 32.5 +0.7**
baz=94
G15K Niukluk 70.65 335 P **P** **01 51 32.8 +0.7**
baz=100
B18K Kokolik River 70.68 339 P **P** **01 51 32.6 +0.3**
baz=103
C17K DeLong Mountai 70.97 338 P **P** **01 51 35.1 +1.0**
baz=102
M11K Mekoryuk 70.98 330 P **P** **01 51 35.1 +0.9**
baz=96
F15K North Star Dit 71.02 335 P **P** **01 51 34.9 +0.5**
baz=99
F14K Arctic Creek 71.68 335 P **P** **01 51 39.1 +0.8**
baz=98
C16K Lisburne Hills 71.72 338 P **P** **01 51 39.1 +0.6**
baz=100
NIKH Nikolski High 71.93 322 P **P** **01 51 40.9 +0.8**
baz=91
TNA Tin City 72.35 335 P **P** **01 51 42.8 +0.5**
baz=96
P08K Saint George I 72.45 325 P **P** **01 51 44.0 +0.9**
baz=92
SPIA Saint Paul Isl 72.86 326 P **P** **01 51 46.3 +0.7**
baz=92
GAMB Gambell 73.83 333 P **P** **01 51 51.3 +0.2**
baz=92
ADK Adak 76.75 321 P **P** **01 52 08.7 +0.4**
EKA Eskdalemuir Ar 77.98 36 P P 01 52 11.1 -3.9
comp=Z,1.6nm,0.7s,baz=267,slow=5.6,SNR=7.4
comp=Z,1.6nm,0.7s
ESDC Sonseca Array 79.47 52 P P 01 52 19.2 -4.5
comp=Z,0.4nm,0.6s,baz=289,slow=4.7,SNR=7.6
comp=Z,0.4nm,0.6s
DBIC Dimbokro 84.97 84 P **P** **01 52 50.5 -2.4**
comp=Z,5.3nm,0.7s,baz=300,slow=6.9,SNR=7.1
comp=Z,5.3nm,0.7s
ARCES ARCESS Array B 86.43 18 P P 01 52 55.5 -3.6
comp=Z,2.2nm,0.7s,baz=304,slow=6.6,SNR=5.3
comp=Z,2.2nm,0.7s
SONM Songino Array 117.00 347 PKP **PKPdf** **01 59 01.4 -0.7**
comp=Z,0.4nm,0.7s,baz=181,slow=1.3,SNR=3.7
KSRS Korea Array 117.42 326 PKP **PKPdf** **01 59 03.0 0.0**
comp=Z,0.7nm,0.3s,baz=356,slow=2.5,SNR=4.8
BOSA Boshof 119.45 115 PKP **PKPdf** **01 59 06.5 -0.8**
comp=Z,2.4nm,0.7s,baz=336,slow=4.3,SNR=5.4
MKAR Makanchi Array 119.76 5 PKP **PKPdf** **01 59 05.7 -1.6**
comp=Z,0.2nm,0.5s,baz=8.7,slow=1.6,SNR=3.6
WRA Warramunga Arr 135.98 255 PKP **PKPdf** **01 59 38.6 -0.2**
comp=Z,1.0nm,0.7s,baz=96,slow=2.2,SNR=6.5
ASAR Alice Springs 136.18 250 PKP **PKPdf** **01 59 39.5 +0.4**
comp=Z,1.0nm,0.8s,baz=129,slow=1.3,SNR=7.1
CMAR Chiang Mai Arr 146.75 342 PKPbc **PKPdf** **01 59 59.6 +1.5**
comp=Z,9.2nm,0.6s,baz=344,slow=3.3,SNR=40

*IDC **13** 01:50:27.9±4.4, 13°.51N×90°.95W, h0km, mb3.6/1, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=255.3km s-min=55.1km az=41.0*
*CATAC **13** 01:50:31.1±1.2, 14°.1N±6°×9°.1W±°, h4km±5km, M3.7/13, MLv3.7/13, Error ellipse: s-maj=15.7km s-min=4.7km az=35.3, confirmed*
*GCG **13** 01:50:32.5±2.0, 13°.54N×91°.24W, h36km±12km, MD3.9, ML3.6, MW3.3*
*SNET **13** 01:50:34.8±3.4, 13°.48N×91°.09W, h40km, ML3.7*

ISC 13 01:50:33.5±1.6, 13°.5N±0°.1×91°.20W±0°.07, h39km±6km, n56, σ1s67/66, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESSJ	**San Jos, E**	**0.69**	**81**	*i* P	**Pn**	**01 50 45.2**	**-1.6**
STG0	**El Palmar, Qui**	**0.98**	**352**	*i* P	**Pn**	**01 50 52.9**	**+2.0**
STG0				*i* S	**Sn**	**01 51 07.4**	**+3.8**
STG0				IAML		01 51 16.9	
	comp=E,2μm,0.4s						
STG2	**El Palmar, Qui**	**0.99**	**350**	*i* P	**Pn**	**01 50 53.4**	**+2.4**
STG2				*i* S	**Sn**	**01 51 09.2**	**+5.3**
ESSG	**Sabana Grande**	**0.99**	**21**	*i* P	**Pn**	**01 50 49.0**	**-2.0**
ESSG				IAML		01 51 02.5	
	comp=N,814nm,0.8s						
STG8	**El Palmar, Qui**	**1.00**	**352**	*i* P	**Pn**	**01 50 53.6**	**+2.3**
STG8				*i* S	Sn	01 51 10.4	+6.1
STG8				IAML		01 51 15.7	
	comp=N,1μm,0.1s						
FG16	**Alotenango, Sa**	**1.06**	**39**	*i* P	**Pn**	**01 50 50.2**	**-1.8**
FG16				IAML		01 51 09.5	
	comp=E,5μm,0.1s						
FAME	**Alcaldia de Sa**	**1.22**	**71**	S	**Sn**	**01 51 07.8**	**-1.5**
FAME	**Alcaldia de Sa**	**1.22**	**71**	P	**Pn**	**01 50 51.8**	**-2.2**
SOKI	**Kika Raxquin**	**1.38**	**352**	*i* P	**Pn**	**01 50 54.6**	**-1.9**
SOKI				*i* S	**Sn**	**01 51 10.3**	**-3.4**
SOKI				IAML		01 51 32.1	
	comp=E,1μm,0.0s						
QUEO	**Labor Ovalle**	**1.44**	**348**	IAML		01 51 23.4	
	comp=N,1μm,0.5s						
NUBE	**Las Nubes**	**1.45**	**72**	*eP*	**Pn**	**01 50 55.6**	**-1.7**
NUBE	**Las Nubes**	**1.45**	**72**	*i* P	**Pn**	**01 50 55.6**	**-1.7**
NUBE				*i* S	**Sn**	**01 51 16.8**	**+1.5**
NUBE	**Las Nubes**	**1.45**	**72**	P	**Pn**	**01 50 55.8**	**-1.6**
NUBE	**Las Nubes**	**1.45**	**72**	S	**Sn**	**01 51 14.2**	**-1.1**
LOAL	**Lomas de Alarc**	**1.48**	**68**	S	**Sn**	**01 51 15.2**	**-0.8**
LOAL	**Lomas de Alarc**	**1.48**	**68**	P	**Pn**	**01 50 56.6**	**-1.1**
SLOZ	**Alcaldia de Sa**	**1.49**	**67**	*eP*	**Pn**	**01 50 56.9**	**-1.0**
SLOZ				*eS*	**Sn**	**01 51 17.2**	**+1.1**
SLOZ	**Alcaldia de Sa**	**1.49**	**67**	P	**Pn**	**01 50 56.8**	**-1.0**
SLOZ	**Alcaldia de Sa**	**1.49**	**67**	S	**Sn**	**01 51 15.3**	**-0.8**
RTR	**El Retiro**	**1.58**	**74**	*eP*	**Pn**	**01 50 58.3**	**-0.8**
CEVE	**Cerro Verde**	**1.58**	**76**	*eP*	**Pn**	**01 50 58.0**	**-1.2**
CEVE				*eS*	**Sn**	**01 51 21.0**	**+2.5**
CEVE	**Cerro Verde**	**1.58**	**76**	P	**Pn**	**01 50 58.1**	**-1.1**
SBLS	**San Blas**	**1.58**	**76**	*eP*	**Pn**	**01 50 57.7**	**-1.5**
SNJE	**San Jose**	**1.61**	**75**	*eP*	**Pn**	**01 50 58.8**	**-0.8**
SMCA	**Catarina**	**1.63**	**329**	*i* S	**Sn**	**01 51 17.3**	**-2.2**
JAYA	**Jayaque - finc**	**1.72**	**83**	*eP*	**Pn**	**01 50 59.5**	**-1.5**
JAYA				*eS*	**Sn**	**01 51 22.4**	**+0.6**
JAYA	**Jayaque - finc**	**1.72**	**83**	*i* P	**Pn**	**01 50 59.5**	**-1.5**
JAYA				*i* S	**Sn**	**01 51 21.8**	**0.0**
JAYA	**Jayaque - finc**	**1.72**	**83**	P	**Pn**	**01 50 59.5**	**-1.5**
THIG		**1.78**	**325**	*i* S	**Sn**	**01 51 20.6**	**-2.4**
PMON	**Piamonte**	**1.85**	**82**	*eP*	**Pn**	**01 51 02.3**	**-0.5**
PMON	**Piamonte**	**1.85**	**82**	S	**Sn**	**01 51 25.8**	**+0.7**
PMON	**Piamonte**	**1.85**	**82**	P	**Pn**	**01 51 02.0**	**-0.8**
LOMA	**Loma Larga**	**1.98**	**84**	*eP*	**Pn**	**01 51 04.7**	**0.0**
LOMA	**Loma Larga**	**1.98**	**84**	P	**Pn**	**01 51 03.9**	**-0.8**
LOMA	**Loma Larga**	**1.98**	**84**	S	**Sn**	**01 51 29.4**	**+1.0**
MTO3	**Montecristo**	**2.02**	**62**	*eP*	**Pn**	**01 51 05.0**	**-0.2**
MTO3	**Montecristo**	**2.02**	**62**	*i* P	**Pn**	**01 51 05.5**	**+0.2**
MTO3	**Montecristo**	**2.02**	**62**	P	**Pn**	**01 51 04.6**	**-0.7**
LFU	**La Fuente**	**2.05**	**81**	*eP*	**Pn**	**01 51 05.4**	**-0.2**
PAVA	**Las Pavas**	**2.22**	**83**	*eP*	**Pn**	**01 51 08.1**	**+0.2**
PAVA	**Las Pavas**	**2.22**	**83**	P	**Pn**	**01 51 08.1**	**+0.2**
COEG	**Centro de Oper**	**2.26**	**85**	*eP*	**Pn**	**01 51 08.6**	**+0.2**
COEG				*eS*	**Sn**	**01 51 38.8**	**+3.6**
COEG	**Centro de Oper**	**2.26**	**85**	P	**Pn**	**01 51 08.2**	**-0.2**
SCLA	**Alcaldia de Sa**	**2.42**	**84**	*eP*	**Pn**	**01 51 10.8**	**+0.2**
SCLA	**Alcaldia de Sa**	**2.42**	**84**	P	**Pn**	**01 51 10.5**	**-0.1**
TECA	**Tecapa**	**2.63**	**89**	*eP*	**Pn**	**01 51 13.4**	**-0.1**
TECA				*eS*	**Sn**	**01 51 46.9**	**+2.5**
SARH	**Santa Rosa de**	**2.71**	**61**	*i* P	**Pn**	**01 51 14.6**	**+0.1**
BLLM	**Bellamira**	**2.88**	**90**	*eP*	**Pn**	**01 51 18.8**	**+1.8**
CCIG	**Comitan**	**2.96**	**342**	*i* P	**Pn**	**01 51 19.2**	**+1.1**
LCND	**La Caada**	**3.23**	**92**	P	**Pn**	**01 51 22.2**	**+0.6**
CNCH	**Conchagua**	**3.28**	**93**	P	**Pn**	**01 51 21.7**	**-0.8**
CMIG	**Matias Romero**	**5.07**	**316**	Pn	**Pn**	**01 51 46.5**	**-0.5**
	comp=N,1.0nm,0.3s,baz=122,slow=10,SNR=13						
CMIG				Sn	**Sn**	**01 52 43.8**	**-0.6**
	comp=N,1.4nm,0.3s,baz=21,slow=11,SNR=4.2						
	comp=N,1.8nm,0.3s						
JTS	**Las Juntas de**	**6.88**	**117**	Pn	**Pn**	**01 52 12.8**	**+1.0**
	comp=N,0.3nm,0.3s,baz=307,slow=20,SNR=1.2						
TXAR	**Lajitas Array**	**19.58**	**326**	P	**Pn**	**01 54 58.3**	**-1.6**
	baz=153,slow=13,SNR=12						
	comp=N,0.8nm,0.7s						
NVAR	**Mina Array Bea**	**34.58**	**321**	P	**P**	**01 57 20.5**	**+1.6**
	comp=N,0.5nm,0.7s,baz=130,slow=7.3,SNR=5.1						
	comp=N,0.5nm,0.3s						
CMAR	**Chiang Mai Arr**	**146.75**	**342**	PKPbc	**PKPbc**	**02 10 11.8**	**-0.4**
	comp=N,1.7nm,0.3s,baz=339,slow=2.3,SNR=5.5						

IDC 13 01:50:38.1±5.8, 5°.65S×154°.42E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=172.7km s-min=33.4km az=108.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.14**	**232**	P	P	01 55 56.1	0.0
	1.1nm,0.7s,baz=60,slow=9.4,SNR=5.0						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**26.66**	**226**	P	P	01 56 19.2	+0.3
	0.2nm,0.5s,baz=49,slow=9.6,SNR=1.7						
	0.2nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**26.87**	**26**	T	T	02 24 53.1	
	baz=202,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**26.88**	**27**	T	T	02 24 37.0	
	baz=202,slow=75,SNR=6.3						
H11S1	**WAKE ISLAND Hy**	**26.89**	**27**	T	T	02 24 54.4	
	baz=202,slow=75,SNR=5.2						
SONM	**Songino Array**	**67.90**	**327**	P	P	02 01 39.9	+1.2
	0.5nm,0.6s,baz=117,slow=8.2,SNR=3.8						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**82.02**	**319**	P	P	02 02 58.9	-1.4
	0.4nm,0.6s,baz=91,slow=5.5,SNR=4.0						
	0.4nm,0.6s						

*FUNV **13** 01:57:14.7, 11°.02N×62°.34W, h5km, MW3.2*
*TRN **13** 01:57:16.8, 10°.96N×62°.20W, h74km, MD3.1, North of the Paria peninsula.*

ISC 13 01:57:15.0±2.4, 10°.92N±0°.08×62°.3W±0°.1, h86km±34km, n10, σ1s07/17, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DMDM	**Guralp CMG5TDE**	**0.75**	**107**	*eP*	**Pn**	**01 57 32.3**	**+0.7**
DMDM				*eS*	**Sn**	**01 57 44.0**	**-0.1**
TRN	**Trinidad (W)**	**0.90**	**107**	*eP*	**Pn**	**01 57 33.8**	**+0.6**
TRN				*eS*	**Sn**	**01 57 45.5**	**-1.4**
GRGR	**Grenville**	**1.35**	**27**	*eP*	**Pn**	**01 57 38.6**	**-0.1**
GRGR				*eS*	**Sn**	**01 57 56.0**	**-0.5**
GRW	**Mount Saint Ca**	**1.37**	**26**	*eP*	**Pn**	**01 57 40.4**	**+1.3**
GRW				*eS*	**Sn**	**01 57 55.7**	**-1.4**
GRSS	**Sisters**	**1.52**	**25**	*eP*	**Pn**	**01 57 41.1**	**+0.3**
GRSS				*eS*	**Sn**	**01 57 59.7**	**-0.5**
PCRV	**Puerto La Cruz**	**2.44**	**252**	*eP*	**Pn**	**01 57 53.9**	**+1.0**
PCRV				*eS*	**Sn**	**01 58 22.8**	**+0.8**
SVB	**Belmont**	**2.54**	**23**	*eP*	**Pn**	**01 57 55.4**	**+1.1**
SVB				*eS*	**Sn**	**01 58 24.2**	**-0.3**
BENV	**Beln**	**5.32**	**260**	*eP*	**Pn**	**01 58 31.9**	**-0.2**
CACV	**CAICARA DEL OR**	**5.37**	**232**	*eP*	Pn	01 58 28.7	-4.0
CACV				*eS*	Sn	01 59 23.7	-9.5
BAUV	**El Baul**	**6.01**	**251**	*eP*	**Pn**	**01 58 42.0**	**+0.6**
BAUV				*eS*	**Sn**	**01 59 46.7**	**-2.1**

IDC 13 01:58:38.8±1.5, 5°.15N×121°.93E, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=236.4km s-min=21.3km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.77**	**154**	P	P	02 04 28.4	-1.1
	0.6nm,0.4s,baz=331,slow=10,SNR=10						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**30.94**	**158**	P	P	02 04 58.7	+1.0
	1.5nm,0.5s,baz=341,slow=8.6,SNR=28						
	1.5nm,0.5s						
MKAR	**Makanchi Array**	**53.71**	**327**	P	P	02 08 03.6	+1.0
	0.5nm,0.4s,baz=123,slow=7.4,SNR=9.8						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**58.01**	**329**	P	P	02 08 31.6	-1.7
	0.5nm,0.2s,baz=123,slow=6.7,SNR=1.5						
	0.5nm,0.2s						

*BGR **13** 02:15:51.3, 34°.69N×71°.37E, h33km, mb4.9*
*MOS **13** 02:16:14.0±0.9, 36°.55N×70°.96E, h178km, mb4.9/48, Error ellipse: s-maj=4.9km s-min=3.3km az=109.3*
*IDC **13** 02:16:15.0±0.6, 36°.43N×70°.96E, h180km±4km, mb4.3/30, mbtmp4.9/35, Error ellipse: s-maj=10.5km s-min=7.6km az=21.0*
*NEIC **13** 02:16:15.6±1.8, 36°.54N±0°.06×70°.86E±0°.07, h177km±5km, mb4.5/191, Error ellipse: s-maj=8.8km s-min=8.3km az=55.0*
*BJI **13** 02:16:15.0, 36°.63N×70°.94E, h184km, mB4.9/9, mb4.8/53*
*NNC **13** 02:16:18.0±3.1, 36°.86N×70°.88E, h188km±25km, mb4.4, mpv5.2, Error ellipse: s-maj=27.2km s-min=15.8km az=20.0*

ISC 13 02:16:14.6±0.3, 36°.47N±0°.03×70°.94E±0°.03, h174km±2km, h175km:pP-P, n904, σ1s53/953, mb4.6/253, 56C-23D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.47**	**219**		**Pn**	**02 16 57.7**	**+0.8**
KBL	**Kabul**	**2.47**	**219**	P	**Pn**	**02 16 58.2**	**+1.3**
KBL				S	**Sn**	**02 17 29.2**	**-0.4**
KBL	**Kabul**	**2.47**	**219**	PN	**Pn**	**02 16 57.7**	**+0.8**
GAR	**Garm**	**2.57**	**349**		**Pn**	**02 16 58.0**	**+0.1**
DZET	**Dzherino**	**2.87**	**325**	PN	**Pn**	**02 17 01.1**	**-0.4**
NIL	**Nilore**	**3.40**	**145**		**Pn**	**02 17 10.3**	**+2.4**
NIL	**Nilore**	**3.40**	**145**	P	**Pn**	**02 17 10.6**	**+2.6**
NIL	**Nilore**	**3.40**	**145**	PN	**Pn**	**02 17 10.4**	**+2.4**
BTK	**Batken**	**3.58**	**359**		**Pn**	**02 17 11.2**	**+1.0**
BTK	**Batken**	**3.58**	**359**	PN	**Pn**	**02 17 11.2**	**+1.0**
SRNI	**Srinagar**	**3.98**	**125**	*eP*	**Pn**	**02 17 17.1**	**+1.8**
SRNI				*eS*	**Sn**	**02 18 03.1**	**+0.4**
JMU	**Jammu**	**4.97**	**138**	*eP*	**Pn**	**02 17 28.6**	**+0.5**
JMU				*eS*	**Sn**	**02 18 22.8**	**-2.9**
JMU				IAML		02 18 27.4	
	comp=N,373nm,0.5s						
JMU				IAML		02 18 32.3	
	comp=E,253nm,0.6s						
KSH	**Kashi**	**5.01**	**51**	P	**Pn**	**02 17 25.2**	**-3.4**
KSH				S	**Sn**	**02 18 17.9**	**-8.7**
IUG	**Iuzhnay**	**5.71**	**353**	*e*PN	**Pn**	**02 17 37.6**	**-0.2**
IUG	**Iuzhnay**	**5.71**	**353**	*e*P	**Pn**	**02 17 37.6**	**-0.2**
CHM	**Chimkent**	**5.93**	**350**	*e*PN	**Pn**	**02 17 40.3**	**-0.2**
CHM	**Chimkent**	**5.93**	**350**	*e*P	**Pn**	**02 17 40.4**	**-0.2**
NRN	**Naryn**	**6.33**	**37**		**Pn**	**02 17 44.4**	**-1.7**
NRN	**Naryn**	**6.33**	**37**	PN	**Pn**	**02 17 44.4**	**-1.7**
UCH	**Uchtor**	**6.38**	**25**	P	**Pn**	**02 17 46.6**	**-0.3**
	SNR=354						
DZA	**Taraz**	**6.42**	**3**	*e*PN	**Pn**	**02 17 46.4**	**-0.6**
DZA	**Taraz**	**6.42**	**3**	*e*P	**Pn**	**02 17 46.4**	**-0.6**
EKS2	**Erkin-Say**	**6.56**	**19**	P	**Pn**	**02 17 48.8**	**-0.1**
	SNR=144						
BRLS	**Boroldav**	**6.61**	**353**	*e*PN	**Pn**	**02 17 45.4**	**-4.0**
BRLS	**Boroldav**	**6.61**	**353**	*e*P	**Pn**	**02 17 45.4**	**-4.0**
KK31	**Karatay Array**	**6.63**	**357**		**Pn**	**02 17 49.0**	**-0.8**
KK31	**Karatay Array**	**6.63**	**357**	P	**Pn**	**02 17 48.8**	**-1.0**
	comp=E,162nm,0.5s,baz=191,slow=13,SNR=1902						
KK31				S	**Sn**	**02 18 58.8**	**-6.0**
	comp=E,287nm,0.4s,baz=185,slow=21,SNR=15						
KK31	**Karatay Array**	**6.63**	**357**	*i* PN	**Pn**	**02 17 48.9**	**-0.8**
KKAR	**Karatay Array**	**6.63**	**357**		**Pn**	**02 17 48.9**	**-0.9**
KKAR	**Karatay Array**	**6.63**	**357**	PN	**Pn**	**02 17 48.9**	**-0.9**
AAK	**Ala-Archa**	**6.74**	**23**	P	**Pn**	**02 17 51.4**	**0.0**
	SNR=98						
AAK	**Ala-Archa**	**6.74**	**23**		**Pn**	**02 17 51.4**	**0.0**
AAK	**Ala-Archa**	**6.74**	**23**	⇑P	**Pn**	**02 17 51.2**	**-0.1**
	comp=E,95nm,0.7s						
AAK				⇑S	**Sn**	**02 19 05.2**	**-2.5**
	comp=E,304nm,0.8s						
AAK	**Ala-Archa**	**6.74**	**23**	P	**Pn**	**02 17 50.9**	**-0.4**
	comp=E,165nm,0.6s,baz=203,slow=7.4,SNR=193						
AAK				S	**Sn**	**02 19 03.2**	**-4.5**
	comp=E,403nm,0.9s,baz=223,slow=14,SNR=3.6						
AAK	**Ala-Archa**	**6.74**	**23**	P	**Pn**	**02 17 51.4**	**0.0**
AAK				S	**Sn**	**02 19 05.7**	**-2.0**
AAK	**Ala-Archa**	**6.74**	**23**	PN	**Pn**	**02 17 51.0**	**-0.4**
AAK				S	**Sn**	**02 19 05.1**	**-2.5**
AAK	**Ala-Archa**	**6.74**	**23**	*i* P	**Pn**	**02 17 51.4**	**0.0**
	SNR=101						
KBK	**Karagaybulak**	**6.91**	**25**	P	**Pn**	**02 17 53.6**	**0.0**
	SNR=96						
FRU1	**Bishkek**	**6.94**	**23**		**Pn**	**02 17 54.6**	**+0.7**
FRU1	**Bishkek**	**6.94**	**23**	PN	**Pn**	**02 17 54.6**	**+0.7**
SRGN	**SRI GANGA NAGA**	**6.98**	**158**	*eP*	**Pn**	**02 17 55.7**	**+1.1**
SRGN				*eS*	**Sn**	**02 19 07.7**	**-5.7**
SRGN				IAML		02 19 16.9	
	comp=N,171nm,0.9s						
SRGN				IAML		02 19 18.7	
	comp=E,397nm,0.6s						
ULHL	**Ulahol**	**7.08**	**34**	P	**Pn**	**02 17 55.3**	**-0.5**
	SNR=50						
BOOM	**Boomskoye usch**	**7.15**	**31**		**Pn**	**02 17 56.3**	**-0.5**
BOOM	**Boomskoye usch**	**7.15**	**31**	PN	**Pn**	**02 17 56.3**	**-0.5**
CHMS	**Chumysh**	**7.15**	**23**	P	**Pn**	**02 17 56.3**	**-0.3**
	SNR=48						
USP	**Ospenovka**	**7.32**	**21**	P	**Pn**	**02 17 57.9**	**-1.0**
	SNR=103						
TKM2	**Tokmak 2**	**7.37**	**28**	P	**Pn**	**02 17 59.3**	**-0.5**
	SNR=418						
SMLA	**Simla**	**7.43**	**134**	*eP*	**Pn**	**02 18 00.8**	**+0.3**
SMLA				*eS*	**Sn**	**02 19 19.2**	**-4.7**
SMLA				IAML		02 19 27.3	
	comp=E,496nm,1.0s						
SMLA				IAML		02 19 30.4	
	comp=E,395nm,0.6s						
KDJ	**Kajisay**	**7.44**	**39**		**Pn**	**02 18 00.1**	**-0.5**
KDJ	**Kajisay**	**7.44**	**39**	PN	**Pn**	**02 18 00.1**	**-0.5**
TARG	**Taragay, Kyrgy**	**7.49**	**43**		**Pn**	**02 18 00.8**	**-0.7**
TARG	**Taragay, Kyrgy**	**7.49**	**43**	P

DDI eS Sn 02 19 47.5 -3.2
DDI IAML 02 19 53.0
comp=E,656nm,0.8s
DDI IAML 02 19 55.8
comp=E,746nm,0.8s
BKNR BIKANER 8.66 166 eP Pn **02 18 16.3 -0.4**
BKNR eS Sn 02 19 41.0 -12
BKNR IAML 02 19 50.7
comp=N,487nm,0.4s
BKNR IAML 02 19 52.2
comp=E,588nm,0.5s
RTK Rohtak 8.73 147 eS Sn **02 19 49.0 -6.1**
RTK IAML 02 19 51.9
comp=N,464nm,0.5s
RTK IAML 02 19 51.9
comp=E,550nm,0.5s
BTLS Baital 8.88 14 ePN Pn **02 18 18.2 -1.2**
BTLS Baital 8.88 14 eP Pn **02 18 18.2 -1.2**
GNR GANAUR 8.93 143 eS Sn **02 19 54.0 -5.7**
BHGR Bahadurgarh 9.27 145 eS Sn **02 20 01.1 -6.7**
BHGR IAML 02 20 08.1
comp=N,375nm,0.8s
BHGR IAML 02 20 09.3
comp=E,222nm,0.6s
JOSI Joshimath 9.30 127 eP Pn **02 18 27.0 +1.7**
JOSI eS Sn **02 20 02.8 -6.3**
JOSI IAML 02 20 09.6
comp=N,536nm,0.9s
JOSI IAML 02 20 14.1
comp=E,331nm,0.9s
ARXS Arharly 9.35 32 P Pn **02 18 24.0 -1.6**
NDI New Delhi 9.40 144 eP Pn **02 18 25.8 -0.6**
NDI eS Sn **02 20 03.5 -7.5**
NDI IAML 02 20 06.3
comp=E,478nm,0.7s
NDI IAML 02 20 13.5
comp=E,423nm,0.5s
NPLP NPLP New Delhi 9.41 144 eP Pn **02 18 24.5 -2.1**
NPLP IAML 02 20 05.8
comp=E,566nm,0.6s
NPLP eS Sn **02 20 05.9 -5.5**
NPLP IAML 02 20 12.6
comp=E,495nm,0.5s
LDR Lodi Road 9.48 144 eS Sn **02 20 07.2 -5.8**
LDR IAML 02 20 16.8
comp=E,586nm,0.7s
LDR IAML 02 20 20.6
comp=E,368nm,0.6s
PDGK Podgornoye 9.49 41 ⇓P Pn **02 18 26.1 -1.5**
comp=E,26nm,0.8s
PDGK Podgornoye 9.49 41 P Pn **02 18 26.4 -1.1**
JASL Jaisalmer 9.52 180 eP Pn **02 18 26.9 -1.1**
JASL eS Sn **02 20 05.6 -8.4**
JASL IAML 02 20 11.0
comp=E,412nm,0.6s
JASL IAML 02 20 24.8
comp=E,474nm,0.6s
AYAN Aya Nagar 9.53 145 eP Pn **02 18 26.9 -1.1**
AYAN eS Sn **02 20 06.1 -8.0**
KUDL Kundal 9.54 149 eP Pn **02 18 27.1 -1.1**
KUDL eS Sn **02 20 10.8 -3.6**
KUDL IAML 02 20 11.4
comp=E,550nm,0.3s
KUDL IAML 02 20 17.0
comp=E,436nm,1.0s
ASOR Ausora 9.61 141 eS Sn **02 20 09.9 -6.2**
SONA Sohna 9.70 146 eP Pn **02 18 28.6 -1.7**
SONA eS Sn **02 20 10.6 -7.7**
SONA IAML 02 20 12.1
comp=N,401nm,1.0s
TKRD Thakurdwara 9.88 135 eS Sn **02 20 16.1 -6.5**
PTH Pithoragarh 10.40 129 eP Pn **02 18 38.7 -1.0**
PTH eS Sn **02 20 30.1 -5.3**
PTH IAML 02 20 33.3
comp=E,258nm,0.4s
PTH IAML 02 20 40.6
comp=E,200nm,0.4s
AJM Ajmer 10.45 161 eP Pn **02 18 39.8 -0.4**
AJM eS Sn **02 20 29.5 -6.9**
LGTI Lohaghat 10.49 129 eP Pn **02 18 39.0 -1.7**
LGTI eS Sn **02 20 28.4 -8.8**
LGTI IAML 02 20 35.6
comp=E,227nm,0.7s
LGTI IAML 02 20 46.1
comp=E,407nm,0.9s
BRCI Bahraich 12.66 132 eS Sn **02 21 20.6 -8.6**
JHNI Jhansi 12.76 147 eP Pn **02 19 09.2 -0.7**
JHNI eS Sn 02 21 20.5 -11
GUNA GUNA 13.00 153 eP Pn **02 19 13.2 +0.1**
GUNA eS Sn 02 21 25.6 -12
MAKZ Makanchi 13.21 35 P Pn **02 19 14.1 -1.4**
MAKZ Makanchi 13.21 35 ⇓P Pn **02 19 13.3 -2.1**
comp=E,46nm,0.6s
MAKZ Makanchi 13.21 35 P Pn **02 19 14.1 -1.4**
BHUJ Bhuj 13.22 185 eP Pn **02 19 15.4 -0.4**
BHUJ eS Sn 02 21 28.9 -14
MK31 Makanchi Array 13.34 36 P Pn **02 19 16.1 -1.0**
comp=E,12nm,0.5s,baz=218,slow=8.9,SNR=155
MK31 Makanchi Array 13.34 36 ce P Pn **02 19 16.2 -1.0**
MKAR Makanchi Array 13.34 36 P Pn **02 19 15.3 -1.8**
MKAR Makanchi Array 13.34 36 P Pn **02 19 15.8 -1.3**
comp=E,20nm,0.8s,baz=218,slow=8.8,SNR=115
MKAR Makanchi Array 13.34 36 *i* P Pn **02 19 15.8 -1.3**
MKAR pmax pmax
comp=Z,19nm,0.9s
BRZS Berezniki 13.56 5 eP Pn **02 19 18.8 -1.1**
BRZS Berezniki 13.56 5 eP Pn **02 19 18.9 -1.0**
BHPL Bhopal 14.33 155 eP Pn **02 19 30.2 +0.5**
ALBI Allahabad 14.51 137 *i* P Pn **02 19 31.1 -0.8**
ALBI eP Pn **02 19 31.1 -0.8**
NRDN NARMADA NAGAR 14.73 157 eP P **02 19 37.4 +1.1**
NRDN eS Sn **02 22 16.6 -2.3**
WMQ Urumqi 14.76 55 eP P **02 19 38.2 +1.8**
WMQ pmax pmax
comp=Z,29nm,1.1s
AB31 Akbulak array 15.08 331 P Pn **02 19 36.5 -2.3**
AB31 Akbulak array 15.08 331 P Pn **02 19 37.0 -1.8**
comp=Z,88nm,0.6s,baz=145,slow=12,SNR=670
AB31 S Sn **02 22 21.9 -5.0**
comp=Z,2.6nm,0.2s,baz=158,slow=23,SNR=11
AB31 Akbulak array 15.08 331 P Pn **02 19 36.3 -2.5**
ABKAR Akbulak array 15.08 331 P Pn **02 19 36.4 -2.4**
KURBB Kurchatov Arra 15.16 19 P Pn **02 19 36.9 -2.8**
comp=Z,52nm,0.7s,baz=209,slow=10,SNR=53
KURBB S Sn **02 22 28.1 -0.7**
comp=Z,4.3nm,0.9s,baz=194,slow=23,SNR=4.9
KURK Kurchatov 15.27 19 P Pn **02 19 38.3 -2.8**
KURK Kurchatov 15.27 19 ⇑P Pn **02 19 37.8 -3.2**
comp=Z,84nm,1.2s
KURK Kurchatov 15.27 19 P Pn **02 19 38.4 -2.6**
KURK S Sn **02 22 31.4 0.0**
KURK Kurchatov 15.27 19 ce P Pn **02 19 38.6 -2.5**
KURK pmax pmax
comp=Z,92nm,1.3s
SHME Shamm 16.35 235 P Pn **02 19 54.1 -0.3**
SHME Shamm 16.35 235 P Pn **02 19 54.1 -0.3**
BVA0 Borovoye Array 16.56 359 ⇓P P **02 19 54.7 -1.4**
comp=Z,85nm,0.9s
BVA0 Borovoye Array 16.56 359 P P **02 19 54.7 -1.4**
BVA0 pmax pmax
comp=Z,85nm,1.0s
BVAR Borovoye Array 16.56 359 P P **02 19 55.7 -0.5**
comp=Z,50nm,0.5s
AKL Akola 16.59 160 eS S **02 22 59.7 -0.9**
BRVK Borovoye 16.59 359 P P **02 19 55.6 -0.9**
BRVK Borovoye 16.59 359 ⇑P P **02 19 55.1 -1.4**
comp=Z,132nm,1.0s
BRVK Borovoye 16.59 359 P P **02 19 56.2 -0.2**
BRVK Borovoye 16.59 359 P P **02 19 55.6 -0.9**
BRVK pmax pmax
comp=Z,118nm,1.0s
MDH Madha 16.77 232 P P **02 19 57.6 -1.1**
AKTO Aktyubinsk 16.78 330 ⇓P P **02 19 58.1 -0.5**
comp=Z,194nm,0.8s
AKTO Aktyubinsk 16.78 330 P P **02 19 58.4 -0.2**
comp=Z,329nm,0.9s,baz=146,slow=9.4,SNR=469
AKTO S S **02 23 01.8 -2.6**
comp=Z,34nm,0.5s,baz=209,slow=21,SNR=6.0
MASF Masafi 16.81 233 P Pn **02 20 00.8 +0.8**
WSAR Wadi Sarin 16.94 222 P P **02 20 00.6 -0.1**
comp=Z,0.1nm,0.6s,baz=64,slow=24,SNR=7.8
WSAR Wadi Sarin 16.94 222 P Pn **02 20 02.6 +1.0**
UOSS Minazif 17.08 232 P P **02 20 01.8 -0.3**
UOSS IAML IAmb 02 20 06.5
comp=Z,27nm,0.7s
UOSS Minazif 17.08 232 P P **02 20 02.5 +0.3**
UOSS Minazif 17.08 232 *i* P P **02 20 02.2 +0.1**
SNR=5.7
HATD Hatta, Dubai 17.21 232 P Pn **02 20 04.3 -0.4**
SNR=6.3
HATD Hatta, Dubai 17.21 232 P Pn **02 20 04.1 -0.7**
BLSP Bilaspur 17.29 143 eP Pn **02 20 06.0 +0.3**
ASHO Ashiyiah 17.36 232 P Pn **02 20 06.1 -0.4**
SNR=7.8
ASHO Ashiyiah 17.36 232 *i* P Pn **02 20 05.8 -0.7**
SNR=26
NAZ Nazwa, Dubai 17.39 233 P Pn **02 20 06.2 -0.7**
NAZ Nazwa, Dubai 17.39 233 P Pn **02 20 06.4 -0.5**
SMDO Samad 17.41 223 P Pn **02 20 07.5 +0.3**
SMDO P Pn **02 20 07.5 +0.3**
JLN Jalan Bani Buh 17.43 218 P Pn **02 20 07.9 +0.5**
SOHO SOHO 17.46 229 P Pn **02 20 08.3 +0.6**
GTK Tadong 17.54 116 eP Pn **02 20 09.5 +0.8**
LKRN Lenkeran, Azer 17.70 284 P P **02 20 09.4 +0.6**
ASUD Al Ashush, Dub 17.86 233 P Pn **02 20 12.0 -0.4**
ASUD Al Ashush, Dub 17.86 233 *i* P P **02 20 11.3 +0.6**
SNR=5.7
ALNE Al Ain 18.00 231 P Pn **02 20 13.5 -0.6**
SNR=8.9
ALNE Al Ain 18.00 231 *i* P P **02 20 12.7 +0.4**
SNR=8.9
ARQ Araqi 18.07 228 P Pn **02 20 14.4 -0.5**
SNR=7.4
AJN Ajban 18.13 234 P P **02 20 14.1 +0.5**
AJN Ajban 18.13 234 *i* P P **02 20 13.7 +0.1**
SNR=8.3
LSA Lhasa 18.22 106 Pn **02 20 18.2 +1.1**
LSA Lhasa 18.22 106 P Pn **02 20 17.5 +0.4**
LSA S S **02 23 33.0 -1.7**
LSA Lhasa 18.22 106 P Pn **02 20 18.2 +1.1**
LSA pmax pmax
comp=Z,94nm,0.7s
AKT Akhty 18.70 293 eP P **02 20 20.3 +0.5**
AKT eS S **02 23 45.6 +2.0**
AKT pmax pmax
comp=Z,38nm,0.6s
AKT smax smax
comp=E,25nm,0.4s
AKT smax smax
comp=N,38nm,0.5s
SEKA Sheki 19.07 292 P P **02 20 24.3 +0.6**
MNGR Mingechevir, A 19.11 290 P P **02 20 25.1 +1.1**
GOMU GeErMu 19.23 84 P Pn **02 20 28.0 -0.8**
GOMU pmax pmax
comp=N,12nm,0.6s
JRN Qarnain Island 19.30 239 P P **02 20 25.3 -1.0**
UMZA Um Al Zommool 19.36 229 P P **02 20 26.0 -0.9**
GANJ Ganja 19.67 290 P P **02 20 30.9 +0.7**
ZAA0 Zalesovo Array 19.96 25 ⇑P P **02 20 32.3 -0.8**
comp=N,10nm,0.7s
ZALV Zalesovo Beam 19.96 25 P P **02 20 32.7 -0.4**
ZALV Zalesovo Beam 19.96 25 P P **02 20 32.9 -0.2**
comp=N,32nm,0.3s,baz=224,slow=11,SNR=231
ZALV S S **02 24 06.8 -1.0**
comp=N,21nm,0.8s,baz=210,slow=20,SNR=7.9
ZALV Zalesovo Beam 19.96 25 *i* P P **02 20 32.9 -0.2**
ZALV pmax pmax
comp=Z,44nm,0.5s
SHMA Al-Shehemyia 20.06 244 P P **02 20 34.0 -0.5**
SNR=9.9
NAX Nakhchvan 20.26 285 P P **02 20 37.2 +0.6**
SAKB Bahrain 20.30 245 P P **02 20 36.6 -0.4**
GUWA GUWAHATI 20.44 114 eP P **02 20 39.6 +1.1**
GUWA eS S **02 24 18.9 +1.1**
TRNA Turayna 20.57 241 P P **02 20 38.3 -1.6**
SLWR Sila 20.67 239 P P **02 20 40.9 -0.1**
KBD Kabd 20.82 256 P P **02 20 42.6 +0.1**
SMRA Abu-Samra 20.84 241 P P **02 20 41.2 -1.5**
GNI Garni 20.85 288 P P **02 20 45.3 +2.4**
GNI Garni 20.85 288 P P **02 20 43.3 +0.3**
comp=Z,52nm,0.9s,baz=18,slow=3.1,SNR=29
comp=Z,52nm,0.9s
GNI Garni 20.85 288 P P **02 20 45.3 +2.4**
GNI Garni 20.85 288 *i* P P **02 20 44.4 +1.4**
GNI pmax pmax
comp=Z,90nm,1.0s
GNI Garni 20.85 288 P P **02 20 45.0 +2.0**
comp=Z,703nmcomp=Z,95nm,1.2s
SHL Shillong 20.94 115 P P **02 20 44.8 +0.7**
SHL Shillong 20.94 115 eP P **02 20 44.7 +0.7**
SHL eS S **02 24 35.0 +7.2**
SHL Shillong 20.94 115 P P **02 20 44.8 +0.7**
SHL pmax pmax
comp=Z,162nm,1.0s
TEZP TEZPUR 21.02 112 eP P **02 20 45.5 +0.8**
ZIRO ZIRO 21.34 108 eP P **02 20 49.0 +0.7**
ZIRO eS S **02 24 40.2 +5.5**
TRLG Trialeti 21.42 292 P P **02 20 51.0 +2.0**
SVE Sverdlovsk 21.51 344 *c* *i* P P **02 20 49.4 -0.1**
SVE eS S **02 24 44.9 +8.3**
SVE pmax pmax
comp=Z,87nm,0.8s
ARTI Arti 21.65 341 P P **02 20 50.4 -0.6**
ARTI Arti 21.65 341 P P **02 20 50.7 -0.4**
comp=Z,53nm,0.6s,baz=153,slow=6.5,SNR=82
comp=Z,53nm,0.6s
ARTI Arti 21.65 341 *d* *i* P P **02 20 50.5 -0.6**
ARTI *PP pP **02 21 20.7 -1.1**
ARTI S S **02 24 40.1 +1.1**
ARTI pmax pmax
comp=Z,146nm,1.0s
NCK Nalchik 22.03 297 *i* P P **02 20 53.6 -1.5**
NCK pmax pmax
comp=Z,69nm,0.9s
KARS Kars 22.14 289 P P **02 20 55.1 -1.2**
KARS IAmb IAmb 02 20 59.8
comp=Z,43nm,1.3s
KARS Kars 22.14 289 P P **02 20 55.1 -1.2**
KARS pmax pmax
comp=Z,43nm,1.3s
KOHI KOHIMA 22.50 112 eP P **02 21 01.5 +1.7**
KBZ Khabaz 22.57 297 P P **02 20 59.7 -0.3**
comp=Z,14nm,0.7s,baz=118,slow=8.4,SNR=24
comp=Z,14nm,0.7s
KBZ Khabaz 22.57 297 *i* P P **02 20 58.8 -1.3**
KBZ pmax pmax
comp=Z,19nm,0.9s
AZL Aizawl 22.64 118 eP P **02 21 03.3 +2.2**
GOF Gofitskoye 22.71 301 ce P P **02 21 02.4 +1.0**
SHA1 Shidzhatmaz 22.74 297 *i* P P **02 21 01.0 -1.0**
KVAR Kislovodsk Arr 22.75 298 P P **02 21 02.0 +0.1**
comp=Z,4.5nm,0.5s,baz=87,slow=23,SNR=2.6
comp=Z,4.5nm,0.5s
KIV Kislovodsk 22.76 298 P P **02 21 01.3 -0.6**
KIV Kislovodsk 22.76 298 P P **02 21 02.3 +0.4**
KIV Kislovodsk 22.76 298 eP P **02 21 01.1 -0.8**
KIV eS S **02 24 56.5 -0.9**
KIV pmax pmax
comp=Z,18nm,1.0s
KIV Kislovodsk 22.76 298 P P **02 21 02.3 +0.4**
comp=Z,363nmcomp=Z,19nm,0.7s
BELG Belogornoye 22.88 321 P P **02 21 02.9 +0.1**
comp=Z,196nm,0.8s,baz=345,slow=0.9,SNR=43
comp=Z,196nm,0.8s
BELG Belogornoye 22.88 321 *i* P P **02 21 02.2 -0.6**
BELG pmax pmax
comp=Z,36nm,0.9s
IMP Imphal 22.88 114 eP P **02 21 05.9 +2.7**
GTA Gaotai 22.92 74 P P **02 21 04.9 +1.4**
GTA pmax pmax
comp=Z,24nm,1.1s
GURO Guroymak-BITLI 22.98 284 P P **02 21 04.5 +0.4**
GURO IAmb IAmb 02 21 41.6
comp=Z,22nm,1.1s
DOK Doka 23.14 224 P P **02 21 06.0 +0.5**
WHFO Wadi Hawf 23.90 224 P P **02 21 12.2 -0.3**
SNR=8.5
KOPT Kop Dagi 24.11 288 P P **02 21 14.0 -0.5**
KOPT IAmb IAmb 02 21 55.7
comp=Z,29nm,1.2s
LABN Labinsk 24.26 299 eP P **02 21 17.0 +1.5**
LABN e*PP pP **02 21 49.8 0.0**
LABN eS S **02 25 25.1 +3.8**
LABN pmax pmax
comp=Z,65nm,0.9s
VSLR Vesyoloye 24.60 296 *i* P P **02 21 18.4 -0.2**
VSLR pmax pmax
comp=Z,33nm,0.9s
ERBR Yeremizino-Bor 24.61 302 eP P **02 21 18.7 0.0**
ERBR e*PP pP **02 21 54.8 +1.1**
ERBR eS S **02 25 27.8 +0.9**
ERBR pmax pmax
comp=Z,46nm,0.8s
ABTO Aybut 24.62 224 P P **02 21 21.4 +2.3**
SOC Sochi 24.84 296 eP P **02 21 22.5 +1.8**
SOC e*PP pP **02 21 54.2 -1.7**
SOC e 02 22 05.6
SOC e*SP PP 02 22 18.8 -1.6
SOC eS S **02 25 34.8 +4.3**
SOC pmax pmax
comp=Z,34nm,0.8s
RAYN Ar Rayn 25.44 247 P P **02 21 25.7 -0.7**
RAYN IAmb IAmb 02 22 10.4
comp=Z,11nm,0.9s
RAYN Ar Rayn 25.44 247 P P **02 21 25.9 -0.6**
RAYN Ar Rayn 25.44 247 P P **02 21 25.7 -0.7**
RAYN pmax pmax
comp=Z,11nm,0.9s
RAYN Ar Rayn 25.44 247 *i* P P **02 21 25.8 -0.6**
SNR=10
VRH Novokhopyorsk 25.49 314 eP P **02 21 26.5 0.0**
VRH pmax pmax
comp=Z,34nm,1.0s
TNCH TengChong 26.22 108 eP P **02 21 35.6 +2.0**
TNCH pmax pmax
comp=Z,46nm,0.5s
KIRV Kirov 26.24 334 P P **02 21 33.7 +0.5**
comp=Z,52nm,0.6s,baz=140,slow=2.1,SNR=28
comp=Z,52nm,0.6s
LZH Lanzhou 26.46 81 eP P **02 21 37.4 +1.7**
LZH pP pP 02 22 11.5 -1.3
LZH sP sP 02 22 35.1 +1.4
LZH pmax pmax
comp=Z,19nm,1.3s
ANN Anapa 26.60 299 eP P **02 21 36.0 -0.6**
ANN e*PP pP **02 22 12.1 -0.3**
ANN e 02 22 27.5
ANN eS S **02 25 57.9 -0.3**
ANN pmax pmax
comp=Z,20nm,0.5s
VSR Storozhevoye 26.98 313 eP P **02 21 37.0 -2.9**
VSR pmax pmax
comp=Z,30nm,1.0s
ZAK Zakamensk 27.05 49 eP P **02 21 40.9 +0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
VORR Voronezh 27.12 314 eP P **02 21 41.3 +0.2**
VORR pmax pmax
comp=Z,52nm,1.2s
LPSR Galich'ya Gora 27.64 316 eP P **02 21 44.8 -0.9**
LPSR pmax pmax
comp=Z,60nm,0.9s
CD2 Chengdu 27.78 92 P P **02 21 49.3 +2.0**
CD2 pmax pmax
comp=Z,50nm,1.1s
CD2 pmax pmax
comp=Z,290nm,3.5s
PZH PanZhiHua 27.98 102 P P **02 21 50.9 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.9s
SONM Songino Array 28.39 55 P P **02 21 53.5 +0.8**
SONM Songino Array 28.39 55 P P **02 21 53.2 +0.6**
comp=Z,6.5nm,0.9s,baz=257,slow=9.7,SNR=21
comp=Z,6.5nm,0.9s
SONM Songino Array 28.39 55 P P **02 21 53.5 +0.8**
SONM pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 28.84 55 ce P P **02 21 57.9 +1.3**
ULN pmax pmax
comp=Z,5.0nm,0.8s
BR104 Keskin Array S 29.39 288 P P **02 22 02.7 +1.1**
comp=Z,2.3nm,0.7s
BR131 Keskin Array S 29.39 288 P P **02 22 02.6 +1.0**
BR131 Keskin Array S 29.39 288 P P **02 22 02.6 +1.0**
BR131 pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 29.39 288 P P **02 22 02.8 +1.2**
comp=Z,2.1nm,0.7s,baz=104,slow=9.8,SNR=13
comp=Z,2.1nm,0.7s
BR106 Keskin Array S 29.41 288 P P **02 22 02.9 +1.2**
comp=Z,3.6nm,1.2s
BR105 Keskin Array S 29.41 288 P P **02 22 02.3 +0.5**
comp=Z,3.8nm,0.7s
MOS Moscow 29.65 321 eP P **02 22 02.9 -0.6**
MOS e*PP pP **02 22 39.4 -0.8**
MOS e 02 23 05.1
MOS e 02 25 01.0
MOS eS S **02 26 43.8 -2.0**
MOS pmax pmax
comp=Z,59nm,1.0s
MOS pmax pmax
comp=E,38nm,1.0s
MOS pmax pmax
comp=Z,100nm,1.0s
OBN Obninsk 29.93 319 P P **02 22 05.4 -0.5**
OBN Obninsk 29.93 319 P P **02 22 06.1 +0.2**
comp=Z,17nm,0.4s,baz=58,slow=23,SNR=15
comp=Z,17nm,0.4s
OBN Obninsk 29.93 319 eP P **02 22 06.2 +0.3**
OBN e*PP pP **02 22 44.1 +1.7**
OBN e*SP sP **02 23 03.3 +0.6**
OBN e 02 23 10.9
OBN e 02 25 04.8
OBN pmax pmax
comp=Z,69nm,1.3s
OBN Obninsk 29.93 319 P P **02 22 06.2 +0.3**
comp=Z,600nmcomp=Z,53nm,1.0s
OBN pP pP **02 22 44.4 +2.0**
comp=Z,600nmcomp=Z,53nm,1.0s
ANTO Ankara 30.03 288 P P **02 22 07.7 +0.6**
comp=Z,3.1nm,2.4s
CHTO Chiang Mai 30.25 118 P P **02 22 11.0 +1.8**
CHTO IAmb IAmb 02 22 13.0
comp=Z,13nm,0.8s
CHTO Chiang Mai 30.25 118 P P **02 22 11.0 +1.8**
CHTO pmax pmax
comp=Z,13nm,0.8s
PALK Pallekele 30.40 161 P P **02 22 12.0 +1.4**
PALK Pallekele 30.40 161 P P **02 22 11.2 +0.6**
PALK pmax pmax
comp=Z,44nm,0.8s
CMAR Chiang Mai Arr 30.49 119 P P **02 22 12.4 +1.1**
CMAR Chiang Mai Arr 30.49 119 P P **02 22 12.7 +1.4**
comp=Z,20nm,0.9s,baz=300,slow=8.2,SNR=72
comp=Z,20nm,0.9s
XAN Xi'an 30.98 83 P P **02 22 16.7 +1.1**
XAN pP pP 02 22 54.9 +1.9
XAN pmax pmax
comp=Z,44nm,1.0s
KLMR Klimovskoe 31.48 331 eP P **02 22 17.0 -2.5**
KLMR e 02 23 26.1
KLMR pmax pmax
comp=Z,53nm,1.3s
HHC Hu-ho-hao-te 31.82 70 eP P **02 22 24.8 +1.9**
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,120nm,4.6s
PURM Purcari 32.03 301 ⇑P P **02 22 25.7 +1.2**
PURM Purcari 32.03 301 P P **02 22 25.5 +1.0**
comp=Z,2μmcomp=Z,90nm,0.8s
BAL3X Bal3x, Balta 32.32 304 P P **02 22 27.7 +0.7**
SLVN Son La 32.38 109 IAmb IAmb 02 22 30.3
comp=Z,11nm,0.9s
MILM Milestii Mici 32.78 302 ⇑P P **02 22 31.1 +0.1**
MILM Milestii Mici 32.78 302 ⇑P P **02 22 31.1 +0.1**
KIS Kishinev 32.78 302 P P **02 22 31.9 +0.8**
comp=Z,41nm,0.7s
AKASG Malin Array Be 32.92 309 P P **02 22 32.0 -0.2**
AKASG Malin Array Be 32.92 309 P P **02 22 32.0 -0.2**
comp=Z,12nm,0.5s,baz=83,slow=7.0,SNR=118
AKASG pP pP **02 23 10.1 +1.2**
comp=Z,2.4nm,0.5s,baz=89,slow=7.2,SNR=2.5
AKASG PP PnPn **02 23 48.5 +0.3**
comp=Z,12nm,0.9s,baz=88,slow=10,SNR=7.8
comp=Z,12nm,0.5s
AKASG Malin Array Be 32.92 309 P P **02 22 32.0 -0.2**
AKASG pmax pmax
comp=Z,34nm,0.7s
AKBB Malin Array Si 32.92 309 ce P P **02 22 32.1 -0.1**
AKBB pmax pmax
comp=Z,24nm,0.6s
KIEV Kiev 32.93 309 P P **02 22 32.2 0.0**

KIEV Kiev 32.93 309 ⇑P **P** **02 22 32.5 +0.2**
KIEV Kiev 32.93 309 P **P** **02 22 32.3 0.0**
KIEV pmax pmax
comp=Z,24nm,0.7s
KIEV Kiev 32.93 309 *i* P **P** **02 22 31.9 -0.4**
SNR=24
KIEV Kiev 32.93 309 P **P** **02 22 32.0 -0.3**
comp=Z,149nm,0.8s
TPGR Topolog 33.01 298 ⇑P **P** **02 22 33.8 +0.7**
CFR Carcaliu 33.21 299 ⇑P **P** **02 22 35.6 +0.9**
CFR Carcaliu 33.21 299 ⇑P **P** **02 22 35.6 +0.9**
VLDR Vladesti 33.25 300 ⇑P **P** **02 22 36.0 +0.9**
VARL Varlezi 33.41 300 ⇑P **P** **02 22 37.1 +0.6**
LYN LuoYang 33.68 81 P **P** **02 22 41.0 +2.0**
LYN pmax pmax
comp=Z,57nm,1.1s
GHRR 33.72 300 ⇑P **P** **02 22 39.5 +0.2**
GHRR 33.72 300 P **P** **02 22 40.6 +1.4**
LUBAR Lubar, Ukraine 33.74 307 P **P** **02 22 39.3 0.0**
MI29 MI29, Kamyanyy 33.75 308 P **P** **02 22 39.2 -0.2**
comp=Z,12µmcomp=Z,189nm,0.8s
NDNU Novodnistrovsk 33.87 305 P **P** **02 22 40.7 +0.3**
NDNU Novodnistrovsk 33.87 305 P **P** **02 22 41.0 +0.6**
MI28 MI28,Pidlybu 33.93 309 P **P** **02 22 40.8 -0.1**
NRIK Noril'sk 34.16 10 P **P** **02 22 43.6 +0.9**
NRIK Noril'sk 34.16 10 P **P** **02 22 43.8 +1.1**
comp=Z,22nm,0.8s,baz=202,slow=5.5,SNR=24
comp=Z,22nm,0.8s
NRIK Noril'sk 34.16 10 *eP* **P** **02 22 43.4 +0.7**
NRIK pmax pmax
comp=Z,37nm,1.0s
VRI Vrincioaia 34.20 300 ⇓P **P** **02 22 45.3 +2.0**
VRI Vrincioaia 34.20 300 ⇓P **P** **02 22 45.3 +2.0**
PLOR5 Plostina Array 34.24 300 P **P** **02 22 45.1 +1.4**
comp=Z,26nm,0.9s
PLOR Plostina 34.25 300 ⇓P **P** **02 22 45.6 +1.8**
PLOR Plostina 34.25 300 ⇓P **P** **02 22 45.6 +1.8**
TESR Tescani 34.26 301 ⇑P **P** **02 22 43.9 +0.1**
TESR Tescani 34.26 301 P **P** **02 22 44.6 +0.8**
comp=Z,21nm,0.7s
ONER Baraj Valea Uz 34.43 301 ⇓P **P** **02 22 47.2 +1.8**
MNK Minsk 34.48 315 *i* P **P** **02 22 44.5 -1.2**
comp=E,4.0nm,0.8s
MNK *i* P **P** **02 22 44.5 -1.2**
comp=N,35nm,1.1s
MNK *i* P **P** **02 22 44.5 -1.2**
comp=Z,42nm,0.9s,baz=104
MNK *i* pP **pP** **02 23 23.8 +1.0**
MNK *i* PP **PnPn** **02 24 04.8 -2.4**
MNK *i* S **S** **02 27 59.4 -1.5**
MNK *i* sS **sS** **02 29 06.8 -0.4**
MNK *i* SS **SnSn** **02 30 34.3 +0.7**
MNK *i* LRM MLR 02 37 07.0
comp=N,56nm,19.9s
MNK *i* LRM MLR 02 37 49.9
comp=E,67nm,15.9s
MNK *i* LRM MLR 02 37 51.1
comp=Z,78nm,15.3s
MNK Minsk 34.48 315 *i* P **P** **02 22 44.4 -1.2**
MNK *i* *PP **pP** **02 23 23.8 +1.0**
MNK *i* 02 24 04.8
MNK *i* S **S** **02 27 59.4 -1.5**
MNK *i* *SS **sS** **02 29 06.8 -0.4**
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK pmax pmax
comp=Z,42nm,0.9s
MNK pmax pmax
comp=N,35nm,1.1s
MLR MLR
comp=N,56nm,20.0s
MNK MLR MLR
comp=E,67nm,16.0s
MNK MLR MLR
comp=Z,78nm,15.0s
NEHR Nehoiu 34.50 299 ⇑P **P** **02 22 46.9 +0.9**
HORU Horodok 34.54 306 P **P** **02 22 45.2 -1.0**
HORU Horodok 34.54 306 P **P** **02 22 46.4 +0.2**
COVR Voineasa-Covas 34.56 300 ⇑P **P** **02 22 47.7 +1.2**
PRAR RASCA 34.56 303 ⇓P **P** **02 22 47.2 +0.8**
TURR Turia 34.69 300 ⇑P **P** **02 22 49.1 +1.5**
MLR Muntele Rosu 34.75 299 P **P** **02 22 49.6 +1.4**
comp=Z,24nm,0.8s,baz=101,slow=2.2,SNR=46
MLR PP **PnPn** **02 24 10.9 +0.1**
comp=Z,8.3nm,0.8s,baz=143,slow=5.1,SNR=3.2
comp=Z,24nm,0.8s
MLR Muntele Rosu 34.75 299 ⇑P **P** **02 22 50.5 +2.3**
MLR Muntele Rosu 34.75 299 ⇑P **P** **02 22 50.5 +2.3**
MLR Muntele Rosu 34.75 299 P **P** **02 22 50.2 +2.0**
comp=Z,357ncomp=Z,41nm,0.9s
HNS HongShan 34.77 75 ⇑P **P** **02 22 50.9 +2.6**
HNS pmax pmax
comp=Z,14nm,1.0s
XLT XiLinHaoTe 34.92 64 *eP* **P** **02 22 48.8 -0.9**
XLT pP pP 02 23 24.3 -3.5
XLT PcP **PcP** **02 25 15.0 -3.2**
XLT pmax pmax
comp=Z,5.0nm,0.8s
RNPP5 Staryi Chortor 35.09 309 P **P** **02 22 51.2 +0.3**
DOPR Dopca 35.13 300 ⇑P **P** **02 22 52.2 +0.8**
NACGM Naroch 35.20 316 *eP* **P** **02 22 52.2 +0.5**
BURAR Bucovina Array 35.26 303 P **P** **02 22 52.9 +0.4**
BURAR IAmb IAmb 02 22 54.2
comp=Z,12nm,0.8s
BURAR Bucovina Array 35.26 303 ⇓P **P** **02 22 53.2 +0.7**
BURAR Bucovina Array 35.26 303 ⇓P **P** **02 22 53.2 +0.7**
BUR08 Bucovina Ar. S 35.27 303 IAmb IAmb 02 22 54.0
comp=Z,8.7nm,0.8s
IDID Didziasalis 35.32 316 *eP* **P** **02 22 51.6 -1.2**
KSV Kosov 35.38 304 P **P** **02 22 54.0 +0.6**
VOIR 35.38 299 ⇑P **P** **02 22 54.5 +1.0**
VOIR 35.38 299 ⇑P **P** **02 22 54.5 +1.0**
VOIR 35.38 299 P **P** **02 22 54.4 +0.8**
comp=Z,5.5nm,1.8s
BJI Beijing 35.41 70 P **P** **02 22 55.2 +1.4**
BJI pmax pmax
comp=Z,4.0nm,0.9s
ISAL Salakas 35.72 317 *eP* **P** **02 22 56.9 +0.7**
ARCR ARCALIA 35.84 302 ⇑P **P** **02 22 57.2 -0.1**
RAK Rakhov 35.95 304 P **P** **02 23 00.5 +2.2**
LVV L'vov 36.14 307 P **P** **02 23 00.5 +0.7**
VSU Vasula 36.17 322 *ceP* **P** **02 22 59.1 -0.9**
VSU pmax pmax
comp=Z,63nm,1.0s
VSU Vasula 36.17 322 *eP* **P** **02 22 58.9 -1.1**
LOT Lotru 36.28 299 ⇓P **P** **02 23 02.9 +1.6**
CJR Cluj-Napoca 36.36 301 ⇑P **P** **02 23 03.6 +1.8**
CJR Cluj-Napoca 36.36 301 ⇑P **P** **02 23 03.6 +1.8**
BMR Baia Mare 36.42 303 ⇑P **P** **02 23 03.1 +0.8**
BMR Baia Mare 36.42 303 ⇑P **P** **02 23 03.1 +0.8**
WHN Wuhan 36.45 86 P **P** **02 23 04.3 +1.6**
WHN pmax pmax
comp=Z,84nm,0.8s
MARR Marisel-Cluj 36.69 301 ⇑P **P** **02 23 06.3 +1.6**
BRIU Brid 36.75 304 P **P** **02 23 06.0 +1.0**
TRSU Trosnyk 36.79 304 P **P** **02 23 06.1 +0.8**
ARBE Arbavere 36.85 323 *eP* **P** **02 23 06.0 +0.3**
DEV Deva 36.87 300 ⇑P **P** **02 23 07.7 +1.6**
DEV Deva 36.87 300 ⇑P **P** **02 23 07.7 +1.6**
PABE Paberze 36.90 316 *eP* **P** **02 23 06.4 +0.2**
DRGR 36.97 302 ⇑P **P** **02 23 08.0 +1.0**
DRGR 36.97 302 ⇑P **P** **02 23 08.0 +1.0**
MUKU Mukachevo 36.97 304 P **P** **02 23 08.1 +1.2**
GZR Gura Zlata 36.98 299 ⇑P **P** **02 23 07.7 +0.5**
KWP Kalwaria Pacla 36.98 306 *eP* **P** **02 23 07.7 +0.6**
KWP Kalwaria Pacla 36.98 306 P **P** **02 23 07.8 +0.8**
comp=Z,40nm,0.8s
BERU Beregovo 36.99 304 P **P** **02 23 08.4 +1.3**
VSVD Vaisvydziai 37.02 317 *eP* **P** **02 23 07.5 +0.4**
SUW Suwalki 37.10 314 *eP* **P** **02 23 07.5 -0.4**
SUW Suwalki 37.10 314 *eP* **P** **02 23 08.0 +0.1**
HOLU Holmets 37.17 304 P **P** **02 23 09.6 +1.0**
UZHM Uzhgorod 37.23 305 P **P** **02 23 10.2 +1.1**
KOLS Kolonicke sedl 37.25 305 *eP* **P** **02 23 10.3 +1.0**
KOLS pmax pmax
comp=Z,16nm,0.7s
KOLS Kolonicke sedl 37.25 305 *eP* **P** **02 23 10.2 +1.0**
UBPT Khong Chiam 37.27 115 IAmb IAmb 02 23 10.6
comp=Z,14nm,0.8s
HERR Herculane 37.27 298 ⇓P **P** **02 23 10.0 +0.5**
SURR Surduc 37.42 300 ⇑P **P** **02 23 12.5 +1.8**
LVZ Lovozero 37.47 338 ⇑P **P** **02 23 11.3 +0.4**
LVZ Lovozero 37.47 338 P **P** **02 23 10.9 0.0**
comp=Z,38nm,0.9s
FIA1 FINESS Array S 37.48 326 P **P** **02 23 10.8 -0.2**
FINES FINESS Array B 37.48 326 P **P** **02 23 11.0 +0.1**
FINES FINESS Array B 37.48 326 P **P** **02 23 10.8 -0.2**
comp=Z,22nm,0.7s,baz=122,slow=9.2,SNR=101
FINES pP **pP** **02 23 49.2 +0.7**
comp=Z,5.5nm,0.7s,baz=111,slow=10,SNR=3.1
FINES PP **PP** **02 24 39.6 -0.4**
comp=Z,9.4nm,0.7s,baz=107,slow=12,SNR=6.3
comp=Z,22nm,0.7s
SIRR Siria 37.71 301 ⇓P **P** **02 23 15.0 +1.8**
MDVR Moldovita 37.78 298 ⇑P **P** **02 23 15.1 +1.3**
BZS Buzias 37.78 300 ⇓P **P** **02 23 14.9 +1.1**
BZS Buzias 37.78 300 ⇓P **P** **02 23 14.9 +1.1**
MEF Metsahovi 37.85 324 *eP* **P** **02 23 14.4 +0.3**
STHS Stebnicka Huta 37.93 306 *eP* **P** **02 23 14.2 -0.8**
STHS pmax pmax
comp=Z,8.0nm,0.7s
STHS Stebnicka Huta 37.93 306 *eP* **P** **02 23 14.2 -0.8**
PBUR Paburge 38.13 317 *eP* **P** **02 23 16.6 +0.1**
SLIT Silitere, Latvi 38.24 319 *eP* **P** **02 23 16.4 -1.0**
KEF Keurusu 38.27 327 *eP* **P** **02 23 17.7 +0.1**
NIE Niedzica 38.55 306 *eP* **P** **02 23 21.3 +1.2**
NIE Niedzica 38.55 306 P **P** **02 23 21.5 +1.3**
comp=Z,148ncomp=Z,16nm,0.9s
PSZ Piszkesteto 38.84 303 IAmb IAmb 02 23 24.6
comp=Z,8.1nm,0.9s
PSZ Piszkesteto 38.84 303 *eP* **P** **02 23 24.3 +1.6**
OJC Ojcow 38.88 307 *eP* **P** **02 23 22.8 0.0**
OJC Ojcow 38.88 307 P **P** **02 23 23.2 +0.3**
comp=Z,23nm,1.0s
LANS Liptovska Anna 39.10 305 *eP* **P** **02 23 26.3 +1.6**
LANS pmax pmax
comp=Z,2.0nm,0.7s
LANS Liptovska Anna 39.10 305 *eP* **P** **02 23 26.3 +1.6**
LANS *ePP* **PnPn** **02 25 01.2 -1.2**
RAF Rauma 39.33 324 *eP* **P** **02 23 26.3 0.0**
NJ2 Nanjing 39.53 82 ⇓P **P** **02 23 30.1 +1.7**
NJ2 pmax pmax
comp=Z,31nm,0.7s
VYHS Vyhne 39.53 304 *eP* **P** **02 23 29.3 +1.0**
VYHS pmax pmax
comp=Z,6.0nm,1.1s
VYHS Vyhne 39.53 304 *eP* **P** **02 23 29.3 +1.0**
VYHS *ePP* **PP** **02 25 00.9 -1.7**
MLSI Meulaboh, Aceh 39.69 138 P **P** **02 23 29.9 0.0**
comp=Z,142nm,0.8s
MORH Mrgy, Hungar 39.80 301 ⇑P **P** **02 23 31.4 +0.8**
MORH Mrgy, Hungar 39.80 301 P **P** **02 23 31.2 +0.7**
comp=Z,4.3nm,1.2s
SRO Srobarova 39.91 303 *eP* **P** **02 23 33.2 +1.8**
SRO pmax pmax
comp=Z,23nm,0.9s
SRO Srobarova 39.91 303 *eP* **P** **02 23 33.2 +1.8**
MAUC Maruska 40.16 306 *eP* **P** **02 23 34.7 +1.2**
STEB Steborice 40.19 307 *eP* **P** **02 23 34.3 +0.6**
JAVC Velka Javorina 40.29 305 *eP* **P** **02 23 36.2 +1.6**
VADS Vadso 40.32 339 *eP* **P** **02 23 34.7 +0.2**
MORC Moravsky Berou 40.34 306 IAmb IAmb 02 23 36.7
comp=Z,12nm,0.7s
MORC Moravsky Berou 40.34 306 *eP* **P** **02 23 35.5 +0.5**
MORC Moravsky Berou 40.34 306 ⇑P **P** **02 23 36.1 +1.1**
MORC Moravsky Berou 40.34 306 ⇑P **P** **02 23 36.1 +1.1**
MPLH Magyarpolny 40.48 302 P **P** **02 23 36.8 +0.7**
comp=Z,12nm,1.4s
GKP Gorka Klasztor 40.55 312 *eP* **P** **02 23 36.8 +0.2**
GKP Gorka Klasztor 40.55 312 *eP* **P** **02 23 37.2 +0.6**
MODS Modra-Piesok 40.57 304 *eP* **P** **02 23 36.3 -0.6**
MODS pmax pmax
comp=Z,11nm,1.0s
MODS Modra-Piesok 40.57 304 *eP* **P** **02 23 36.3 -0.6**
KEV Kevo 40.81 338 P **P** **02 23 38.9 +0.5**
KEV IAmb IAmb 02 23 39.5
comp=Z,27nm,0.9s
KEV Kevo 40.81 338 P **P** **02 23 38.9 +0.5**
KEV pmax pmax
comp=Z,27nm,0.9s
KRLC Kraliky 40.82 307 *eP* **P** **02 23 39.7 +0.8**
KRLC Kraliky 40.82 307 *eP* **P** **02 23 39.7 +0.8**
VRAC Vranov 40.97 306 *eP* **P** **02 23 41.1 +1.0**
DPC Dobruska-Polom 41.11 307 *eP* **P** **02 23 42.3 +1.0**
DPC Dobruska-Polom 41.11 307 *eP* **P** **02 23 42.3 +1.0**
DPC Dobruska-Polom 41.11 307 P **P** **02 23 42.0 +0.7**
comp=Z,19nm,1.0s
KSP Ksiaz 41.11 308 *eP* **P** **02 23 41.5 +0.3**
KSP Ksiaz 41.11 308 P **P** **02 23 41.6 +0.4**
comp=Z,11nm,0.9s
KRUC Moravsky 41.12 305 *eP* **P** **02 23 42.0 +0.7**
ARA0 ARCESS Array S 41.15 338 *eP* **P** **02 23 41.3 0.0**
ARCES ARCESS Array B 41.15 338 P **P** **02 23 41.6 +0.3**
ARCES ARCESS Array B 41.15 338 P **P** **02 23 41.7 +0.3**
comp=Z,33nm,0.7s,baz=111,slow=8.1,SNR=131
ARCES pP **pP** **02 24 20.0 +0.4**
comp=Z,17nm,1.0s,baz=115,slow=8.2,SNR=4.9
comp=Z,33nm,0.7s
ARCES ARCESS Array B 41.15 338 P **P** **02 23 41.6 +0.3**
ARCES pmax pmax
comp=Z,37nm,0.9s
OSTC Ostas 41.17 308 *eP* **P** **02 23 42.3 +0.6**
OSTC Ostas 41.17 308 *eP* **P** **02 23 42.3 +0.6**
SNSI Sinabang, Aceh 41.21 139 P **P** **02 23 43.5 +1.1**
comp=Z,278nm,0.8s
CHVC Chvalec 41.27 308 *eP* **P** **02 23 43.1 +0.5**
CHVC Chvalec 41.27 308 *eP* **P** **02 23 43.1 +0.5**
RONA Rosalia, Austr 41.28 303 *iP* **P** **02 23 43.1 +0.4**
comp=Z,4.5nm,0.6s,SNR=5.2
RONA *i* pP **pP** **02 24 20.9 +0.2**
comp=Z,1.6nm,0.9s
KULM Kulim 41.29 132 P **P** **02 23 43.9 +0.8**
KULM IAmb IAmb 02 23 45.0
comp=Z,23nm,1.0s
UPC Upice 41.30 308 *eP* **P** **02 23 43.9 +1.1**
UPC Upice 41.30 308 *eP* **P** **02 23 43.9 +1.1**
CONA Conrad Observa 41.55 304 *iP* **P** **02 23 45.8 +0.9**
comp=Z,15nm,1.0s,SNR=12
CONA *i* pP **pP** **02 24 21.4 -1.7**
comp=Z,2.0nm,1.0s
CONA *i* ScP **ScP** **02 29 10.2 -2.2**
comp=Z,1.9nm,1.0s
BLEU Blekinge 41.56 316 *iP* **P** **02 23 43.9 -0.8**
KTK1 Kautokeino 41.62 336 *eP* **P** **02 23 44.4 -0.8**
TREC Trest 41.70 306 *eP* **P** **02 23 46.9 +0.9**
TREC Trest 41.70 306 *eP* **P** **02 23 46.9 +0.9**
ARSA Arzberg 41.84 303 *iP* **P** **02 23 48.2 +0.9**
comp=Z,5.8nm,1.6s
ARSA *i* pP **pP** **02 24 26.0 +0.6**
comp=Z,1.1nm,0.5s
BSD Bornholm Skovb 41.99 315 *iP* **P** **02 23 47.1 -1.1**
BSD IAmb IAmb 02 23 48.2
comp=Z,18nm,0.7s
IPM Ipoh 42.16 132 P **P** **02 23 50.4 +0.3**
PVCC Panska Ves 42.22 308 *eP* **P** **02 23 51.4 +1.2**
PVCC Panska Ves 42.22 308 *eP* **P** **02 23 51.4 +1.2**
HAMF Hammerfest 42.23 339 *eP* **P** **02 23 49.9 -0.1**
BOJS Bojanci 42.24 300 *iP* **P** **02 23 51.0 +0.5**
BOJS *epP* **pP** **02 24 30.9 +2.2**
BOJS *eScP* **ScP** **02 29 12.5 -2.5**
SOKA Soboth 42.24 302 *iP* **P** **02 23 51.4 +0.8**
comp=Z,7.4nm,0.6s,SNR=13
SOKA *i* pP **pP** **02 24 28.6 -0.1**
comp=Z,1.2nm,0.9s
SOKA *e* ScP **ScP** **02 29 13.1 -2.0**
comp=Z,2.8nm,1.3s
PRU Pruhonice 42.27 307 *eP* **P** **02 23 51.5 +0.9**
PRU Pruhonice 42.27 307 *eP* **P** **02 23 51.5 +0.9**
HEH HeiHe 42.30 53 *eP* **P** **02 23 51.9 +1.0**
HEH pP **pP** **02 24 34.4 +4.4**
HEH pmax pmax
comp=Z,38nm,1.0s
PRA Prague 42.33 307 *eP* **P** **02 23 52.1 +1.0**
PRA Prague 42.33 307 *eP* **P** **02 23 52.1 +1.0**
PRA MLR MLR
comp=Z,700nm,24.2s
CKRC Cesky Krumlov 42.51 305 *eP* **P** **02 23 52.7 +0.1**
CKRC *ex* x 02 24 35.5
CKRC Cesky Krumlov 42.51 305 *eP* **P** **02 23 52.7 +0.1**
CKRC *e* 02 24 35.5
ZVC Zvikov 42.53 306 *eP* **P** **02 23 53.8 +1.0**
ZVC *ex* x 02 24 33.5
OBKA Obir 42.59 302 *iP* **P** **02 23 54.1 +0.7**
comp=Z,5.0nm,1.0s
OBKA *i* pP **pP** **02 24 31.7 +0.1**
comp=Z,0.3nm,0.5s
BRG Berggiesshubel 42.60 308 *eP* **P** **02 23 54.1 +0.8**
comp=Z,14nm,0.7s,baz=86,slow=7.9
BRG Berggiesshubel 42.60 308 ⇑*iP* **P** **02 23 54.3 +1.0**
BRG Amp 02 23 55.0
comp=Z,14nm,0.7s
BRG pP **pP** **02 24 33.9 +2.4**
BRG Amp 02 24 35.8
comp=Z,8.2nm,0.9s
BRG sP **sP** **02 24 53.5 +1.9**
BRG Amp 02 24 56.5
comp=Z,2.7nm,0.8s
BRG PP **PP** **02 25 37.1 +1.5**
BRG Amp 02 25 38.7
comp=Z,3.1nm,0.8s
MOA Molln 42.63 304 *iP* **P** **02 23 54.2 +0.6**
comp=Z,9.7nm,0.9s,SNR=6.1
MOA *i* pP **pP** **02 24 33.0 +1.1**
comp=Z,7.4nm,1.4s
MOA *i* ScP **ScP** **02 29 13.1 -3.5**
comp=Z,2.2nm,1.0s
RUE Ruedersdorf 42.64 311 *eP* **P** **02 23 53.6 0.0**
RUE Ruedersdorf 42.64 311 *eP* **P** **02 23 53.7 +0.2**
comp=Z,25nm,0.9s,baz=86,slow=7.9
DEL Delary 42.65 317 *iP* **P** **02 23 53.2 -0.3**
LJU Ljubljana 42.67 301 *iP* **P** **02 23 54.3 +0.4**
LJU *i* pP **pP** **02 24 34.8 +2.7**
LJU *i* ScP **ScP** **02 29 14.1 -2.7**
JETT Jettan, Norway 42.76 336 *eP* **P** **02 23 54.8 +0.4**
GSI Gunungsitoli 42.80 139 P **P** **02 23 56.7 +1.4**
comp=Z,6µmcomp=Z,240nm,0.9s
LUNU Lund 42.85 315 *iP* **P** **02 23 55.3 +0.1**
CUC Castrocucco 42.86 292 P **P** **02 23 56.9 +1.3**
CUC IAmb IAmb 02 24 38.1
comp=Z,16nm,0.9s
RGN Rugen 42.90 314 *eP* **P** **02 23 56.5 +0.9**
comp=Z,88nm,1.0s,baz=86,slow=7.9
GERES GERESS Array B 42.90 305 P **P** **02 23 56.5 +0.6**
comp=Z,1.5nm,0.7s,baz=79,slow=6.9,SNR=13
GERES PP **PP** **02 25 38.8 -0.1**
comp=Z,2.0nm,0.9s,baz=72,slow=8.6,SNR=5.0
GERES ScP **ScP** **02 29 14.9 -2.9**
comp=Z,0.7nm,0.7s,baz=96,slow=4.5,SNR=3.6
comp=Z,1.5nm,0.7s
KHC Kasperske Hory 42.96 306 *eP* **P** **02 23 57.0 +0.8**
KHC *ex* x 02 24 58.5
KHC *ex* x 02 25 12.5
KHC Kasperske Hory 42.96 306 *eP* **P** **02 23 57.0 +0.8**
KHC *e* 02 24 58.5
HFS Hagfors 43.06 322 P **P** **02 23 56.9 +0.1**
comp=Z,35nm,0.5s,baz=98,slow=11,SNR=269
HFS pP **pP** **02 24 35.1 -0.2**
comp=Z,16nm,0.8s,baz=98,slow=11,SNR=3.7
comp=Z,35nm,0.5s
BIOA Bad Ischl, Aus 43.07 304 *iP* **P** **02 23 57.3 +0.2**
comp=Z,3.1nm,0.5s
BIOA *i* pP **pP** **02 24 36.7 +1.2**
comp=Z,0.4nm,0.3s
BJUU Bjuv 43.10 316 *iP* **P** **02 23 56.7 -0.5**
CLL Collm 43.17 309 IAmb IAmb 02 23 58.9
comp=Z,8.2nm,0.7s
CLL Collm 43.17 309 *iP* **P** **02 23 57.8 0.0**
CLL *i* *PP **pP** **02 24 38.3 +1.9**
CLL *eS* S **02 30 11.0 +0.1**
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 43.17 309 P **P** **02 23 57.9 +0.1**
comp=Z,12nm,0.9s
CLL Collm 43.17 309 *iP* **P** **02 23 57.8 0.0**
comp=Z,9.0nm,0.8s
CLL *i* pP **pP** **02 24 38.3 +1.9**
CLL *es*P **sP** **02 24 57.0 +0.8**
CLL *i* PP **PP** **02 25 41.4 -0.2**
comp=Z,24nm,1.9s
CLL *i* x x 02 25 53.3
CLL *ep*PP 02 26 11.0
CLL *es*PP 02 26 34.0
CLL *es*PcP 02 26 48.0
CLL *eS* **S** **02 30 11.0 +0.1**
CLL Collm 43.17 309 *eP* **P** **02 23 58.1 +0.3**
comp=Z,8.2nm,0.8s,baz=86,slow=7.9
CADS Cadrg 43.19 302 *iP* **P** **02 23 58.0 -0.1**
MYKA Terra Mystica 43.20 302 *iP* **P** **02 23 58.7 +0.4**
comp=Z,4.0nm,0.8s
MYKA *i* pP **pP** **02 24 37.0 +0.6**
comp=Z,1.5nm,0.6s
TRO Tromso 43.27 336 *eP* **P** **02 23 57.6 -0.8**
FABU Falkenberg 43.31 317 *iP* **P** **02 23 58.5 -0.3**
BORU Boraas 43.31 318 *iP* **P** **02 23 58.6 -0.3**
SABO M.te Sabotino 43.32 301 IAmb IAmb 02 24 00.3
comp=Z,18nm,1.1s
TANN Tannenbergstha 43.57 308 *eP* **P** **02 24 01.9 +0.7**
comp=Z,7.0nm,1.0s,baz=86,slow=7.9
LESA Schwarzleotal 43.75 303 *iP* **P** **02 24 03.1 +0.5**
comp=Z,7.1nm,0.4s,SNR=11
LESA *i* pP **pP** **02 24 41.4 +0.2**
comp=Z,1.0nm,0.5s
LESA *i* ScP **ScP** **02 29 18.2 -3.1**
comp=Z,3.9nm,1.3s
ONAU Onsala 43.76 318 *eP* **P** **02 24 01.4 -1.1**
ROTZ Rotzenmuhle 43.79 307 *eP* **P** **02 24 04.0 +1.2**
comp=Z,2.1nm,1.1s,baz=86,slow=7.9
FAUS Fauske 43.80 333 *eP* **P** **02 24 02.2 -0.5**
MOR8 Moi Rana 43.82 331 *eP* **P** **02 24 02.4 -0.4**
MANZ Manzenberg 43.84 307 *eP* **P** **02 24 04.4 +1.1**
comp=Z,3.4nm,1.3s,baz=86,slow=7.9
NEUB Neuenburg 43.95 309 *eP* **P** **02 24 04.5 +0.4**
comp=Z,16nm,0.8s,baz=86,slow=7.9
ABTA Abfaltersbach 43.95 302 *iP* **P** **02 24 04.2 0.0**
comp=Z,3.1nm,0.8s
ABTA *i* pP **pP** **02 24 42.1 -0.8**
comp=Z,1.4nm,0.4s
STEI Steigen 43.98 333 *eP* **P** **02 24 02.9 -1.1**
MOX Moxa 44.09 308 *eP* **P** **02 24 06.0 +0.8**
comp=Z,5.9nm,0.8s,baz=86,slow=7.9
NC602 NORSAR Array S 44.18 323 IAmb IAmb 02 24 06.2
comp=Z,19nm,1.0s
NC602 NORSAR Array S 44.18 323 *eP* **P** **02 24 04.2 -1.6**
FLTG Flechtingen 44.20 311 *eP* **P** **02 24 06.1 +0.1**
comp=Z,35nm,0.7s,baz=86,slow=7.9
STRU Stroemstad 44.23 320 ‖*eP* **P** **02 24 05.5 -0.7**
MNSI Mandailing Nat 44.31 137 P **P** **02 24 07.8 +0.4**
comp=Z,141nm,0.8s
PBSI Pulau Batu 44.32 139 P **P** **02 24 08.5 +1.1**
comp=Z,161nm,1.2s
LEIR Leirfjorden 44.33 330 *eP* **P** **02 24 05.7 -1.1**
NB2 NORSAR Subarra 44.37 323 P **P** **02 24 06.6 -0.7**
comp=Z,24nm,0.6s,baz=95,slow=7.9
NB2 pP **pP** **02 24 47.1 +1.1**
comp=Z,16nm,0.9s,baz=95,slow=8.6
NB2 NORSAR Subarra 44.37 323 P **P** **02 24 06.6 -0.7**
baz=95,slow=7.9
NOA NORSAR Array B 44.37 323 P **P** **02 24 06.7 -0.7**
comp=Z,22nm,0.6s,baz=96,slow=7.8,SNR=191
NOA pP **pP** **02 24 46.3 +0.2**
comp=Z,8.2nm,0.8s,baz=96,slow=8.0,SNR=5.1
NOA PP **PcP** **02 25 48.5 +0.5**
comp=Z,4.1nm,0.8s,baz=93,slow=8.9,SNR=3.2
comp=Z,22nm,0.6s
KONS Konsvik 44.41 331 *eP* **P** **02 24 06.7 -0.7**
STOK Stokkvaagen 44.41 331 *eP* **P** **02 24 06.7 -0.8**
WTTA Wattenberg 44.47 303 *iP* **P** **02 24 08.2 -0.3**
comp=Z,12nm,1.3s
WTTA *i* pP **pP** **02 24 47.7 +0.6**
comp=Z,6.2nm,0.9s
WTTA *i* ScP **ScP** **02 29 21.1 -3.2**
comp=Z,5.0nm,1.1s
WATA Walderalm 44.50 303 *iP* **P** **02 24 08.2 -0.5**
comp=Z,4.5nm,0.8s
WATA *i* pP **pP** **02 24 47.3 0.0**
comp=Z,1.9nm,0.8s
WATA *i* ScP **ScP** **02 29 21.2 -3.2**
comp=Z,6.8nm,1.5s
NAO01 NORSAR Array S 44.51 323 IAmb IAmb 02 24 08.8
comp=Z,20nm,0.8s
OSL Oslo 44.52 321 *eP* **P** **02 24 07.2 -1.2**
MURB Monte Urbino 44.55 298 IAmb IAmb 02 24 52.5
comp=Z,39nm,1.2s
SSLB Suanglung 44.62 92 P **P** **02 24 11.6 +1.9**
CTI Castel Tesino 44.65 302 P **P** **02 24 10.3 +0.4**
CTI IAmb IAmb 02 24 10.6
comp=Z,6.1nm,0.6s
CTI Castel Tesino 44.65 302 P **P** **02 24 10.3 +0.4**
CTI pmax pmax
comp=Z,6.0nm,0.6s
BSEG Bad Segeberg 44.67 313 *eP* **P** **02 24 10.6 +0.9**
comp=Z,24nm,0.8s,baz=86,slow=7.9
OVD Ostervraa, Den 44.69 318 *iP* **P** **02 24 10.0 +0.2**

SQTA	**Sankt Quirin**	**44.76**	**303**	*i* P		**P**	**02 24 10.5**	**-0.3**
	comp=Z,3.2nm,0.5s								
SQTA				*i* pP		**pP**	**02 24 48.9**	**-0.5**
	comp=Z,1.6nm,0.8s								
SQTA				*i* ScP		**ScP**	**02 29 22.0**	**-3.5**
	comp=Z,3.4nm,0.9s								
MOTA	**Moosalm**	**44.81**	**303**	*i* P		**P**	**02 24 10.7**	**-0.5**
	comp=Z,4.6nm,0.8s								
MOTA				*i* pP		**pP**	**02 24 49.8**	**-0.1**
	comp=Z,4.7nm,0.8s								
MOTA				*i* ScP		**ScP**	**02 29 20.7**	**-5.0**
	comp=Z,5.8nm,1.2s								
NRDL	**Niedersach Rie**	**44.88**	**311**	*e*P		**P**	**02 24 12.2**	**+0.9**
	comp=Z,14nm,0.8s,baz=86,slow=7.9								
KSAR	**Wonju Array Be**	**44.91**	**71**	P		**P**	**02 24 12.2**	**+0.3**
KSAR	**Wonju Array Be**	**44.91**	**71**	P		**P**	**02 24 12.2**	**+0.3**
KSRS	**Korea Array**	**44.94**	**71**	P		**P**	**02 24 12.4**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=276,slow=7.1,SNR=14								
	comp=Z,2.5nm,0.7s								
RETA	**Reutte**	**45.02**	**304**	*i* P		**P**	**02 24 12.3**	**-0.5**
	comp=Z,1.3nm,0.5s								
RETA				*i* pP		**pP**	**02 24 50.7**	**-0.7**
	comp=Z,0.8nm,0.6s								
RETA				*i* ScP		**ScP**	**02 29 23.0**	**-3.5**
	comp=Z,4.4nm,1.3s								
GTTG	**Gottingen**	**45.05**	**310**	*e*P		**P**	**02 24 13.7**	**+0.9**
	comp=Z,22nm,0.8s,baz=86,slow=7.9								
KONO	**Kongsberg**	**45.08**	**321**	P		**P**	**02 24 12.9**	**+0.1**
KONO				IAmb		IAmb	02 24 13.4		
	comp=Z,17nm,0.8s								
KONO	**Kongsberg**	**45.08**	**321**	*ce*P		**P**	**02 24 13.1**	**+0.3**
KONO				pmax		pmax			
	comp=Z,27nm,1.7s								
YULB	**Yu-li**	**45.08**	**92**	P		**P**	**02 24 15.6**	**+2.2**
YULB				IAmb		IAmb	02 24 16.7		
	comp=Z,21nm,0.7s								
FETA	**Feichten**	**45.12**	**303**	*i* P		**P**	**02 24 13.3**	**-0.3**
	comp=Z,3.3nm,0.5s								
FETA				*i* pP		**pP**	**02 24 51.6**	**-0.7**
	comp=Z,1.2nm,0.9s								
FETA				*i* ScP		**ScP**	**02 29 24.0**	**-3.0**
	comp=Z,4.9nm,1.0s								
TWG	**Pinlang**	**45.18**	**93**	P		**P**	**02 24 15.6**	**+1.5**
MUD	**Monsted U'grnd**	**45.25**	**316**	*i* P		**P**	**02 24 14.1**	**-0.2**
MUD				IAmb		IAmb	02 24 15.9		
	comp=Z,7.0nm,0.8s								
RETH	**Rethem/Aller,**	**45.32**	**311**	*e*P		**P**	**02 24 15.5**	**+0.7**
	comp=Z,8.1nm,0.9s,baz=86,slow=7.9								
BKNI	**Bangkinang**	**45.52**	**135**	P		**P**	**02 24 17.3**	**+0.4**
HOMB	**Homborsund**	**45.61**	**319**	*e*P		**P**	**02 24 16.0**	**-1.0**
DAVA	**Damuels**	**45.65**	**304**	*i* P		**P**	**02 24 17.9**	**+0.1**
	comp=Z,13nm,0.5s,SNR=10								
DAVA				*i* pP		**pP**	**02 24 57.3**	**+0.7**
	comp=Z,11nm,0.8s								
DAVA				*i* ScP		**ScP**	**02 29 26.2**	**-3.0**
	comp=Z,5.7nm,1.0s								
TIXI	**Tiksi**	**45.82**	**22**	P		**P**	**02 24 18.2**	**-0.3**
TIXI				IAmb		IAmb	02 24 19.4		
	comp=Z,8.4nm,0.8s								
TIXI	**Tiksi**	**45.82**	**22**	*i* P		**P**	**02 24 16.1**	**-2.4**
TIXI				pmax		pmax			
	comp=Z,18nm,1.5s								
MYKOM	**Kota Tinggi**	**46.00**	**131**	P		**P**	**02 24 21.2**	**+0.6**
TUE	**Stuetta**	**46.15**	**303**	P		**P**	**02 24 21.2**	**-0.5**
	comp=Z,19nm,0.8s								
SNART	**Snartemo**	**46.29**	**319**	*e*P		**P**	**02 24 22.6**	**+0.2**
IBBN	**Ibbenburen**	**46.34**	**311**	*e*P		**P**	**02 24 23.5**	**+0.7**
	comp=Z,19nm,0.7s,baz=86,slow=7.9								
LODK	**Lodwar**	**46.41**	**233**	P		**P**	**02 24 24.7**	**+0.8**
BUG	**Bochum--Univer**	**46.73**	**310**	*e*P		**P**	**02 24 26.3**	**+0.4**
	comp=Z,11nm,0.9s,baz=86,slow=7.9								
SPB2	**Spitsbergen Ar**	**47.50**	**347**	IAmb		IAmb	02 24 33.5		
	comp=Z,22nm,0.8s								
SPITS	**Spitsbergen Ar**	**47.51**	**347**	P		**P**	**02 24 32.8**	**+1.2**
	comp=Z,12nm,0.7s,baz=129,slow=13,SNR=13								
	comp=Z,12nm,0.7s								
SPITS	**Spitsbergen Ar**	**47.51**	**347**	P		**P**	**02 24 32.8**	**+1.2**
SPITS				pmax		pmax			
	comp=Z,21nm,0.9s								
SENIN	**Lac Senin/Sane**	**47.56**	**303**	P		**P**	**02 24 32.3**	**-0.3**
SENIN				IAmb		IAmb	02 24 33.2		
	comp=Z,6.3nm,0.6s								
BTNL	**Ternell**	**47.57**	**309**	*d*P		**P**	**02 24 33.2**	**+0.8**
	comp=Z,6.9nm,0.9s								
MEM	**Membach**	**47.64**	**309**	*d*P		**P**	**02 24 32.9**	**-0.1**
	comp=Z,9.1nm,1.0s								
WLF	**Walferdange**	**47.70**	**307**	IAmb		IAmb	02 24 35.3		
	comp=Z,12nm,0.7s								
WLF	**Walferdange**	**47.70**	**307**	*d*P		**P**	**02 24 34.0**	**+0.5**
	comp=Z,10nm,0.9s								
WLF	**Walferdange**	**47.70**	**307**	*e*P		**P**	**02 24 34.6**	**+1.1**
	comp=Z,12nm,0.8s,baz=86,slow=7.9								
KBS	**Kingsbay**	**48.63**	**347**	P		**P**	**02 24 41.0**	**+0.9**
KBS	**Kingsbay**	**48.63**	**347**	*ce*P		**P**	**02 24 41.7**	**+1.6**
KBS				pmax		pmax			
	comp=Z,44nm,1.3s								
KBS	**Kingsbay**	**48.63**	**347**	*i* P		**P**	**02 24 40.6**	**+0.4**
KEST	**Kesra**	**49.00**	**289**	P		**P**	**02 24 45.1**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=44,slow=2.8,SNR=7.8								
	comp=Z,1.5nm,0.6s								
KSI	**Kapahiang**	**49.66**	**137**	P		**P**	**02 24 48.2**	**-0.6**
	comp=Z,253nm,0.8s								
ELMS	**Elmsett, Ipswi**	**50.48**	**311**	*e*P		**P**	**02 24 54.8**	**+0.3**
ELMS				IAmb		IAmb	02 24 56.0		
	comp=Z,27nm,0.8s								
LRW	**Lerwick**	**50.48**	**322**	*e*P		**P**	**02 24 54.3**	**-0.1**
LRW				IAmb		IAmb	02 24 54.8		
	comp=Z,23nm,0.8s								
DRUM	**Mains of Drumt**	**51.61**	**318**	IAmb		IAmb	02 25 02.6		
	comp=Z,20nm,1.2s								
DRUM				*e*P		**P**	**02 25 02.7**	**-0.1**
HPK	**Haverah Park**	**51.67**	**314**	*e*P		**P**	**02 25 03.3**	**0.0**
HPK				IAmb		IAmb	02 25 03.8		
	comp=Z,22nm,0.6s								
EDMD	**Edmundbyers**	**51.70**	**315**	*e*P		**P**	**02 25 03.3**	**-0.2**
EDMD				IAmb		IAmb	02 25 03.9		
	comp=Z,14nm,0.6s								
MCD	**Coleburn Disti**	**51.91**	**319**	*e*P		**P**	**02 25 05.1**	**+0.1**
MCD				IAmb		IAmb	02 25 05.6		
	comp=Z,33nm,0.7s								
BIGH	**Upper Bighouse**	**52.10**	**320**	*e*P		**P**	**02 25 06.5**	**+0.1**
BIGH				IAmb		IAmb	02 25 07.0		
	comp=Z,9.6nm,0.9s								
EDI	**Edinburgh**	**52.17**	**317**	*e*P		**P**	**02 25 06.9**	**-0.1**
EDI				IAmb		IAmb	02 25 07.2		
	comp=Z,17nm,0.8s								
EKA	**Eskdalemuir Ar**	**52.27**	**316**	P		**P**	**02 25 07.5**	**-0.2**
	comp=Z,9.8nm,0.9s,baz=87,slow=8.0,SNR=15								
EKA				pP		**pP**	**02 25 48.3**	**+0.6**
	comp=Z,5.9nm,0.9s,baz=91,slow=7.8,SNR=4.9								
	comp=Z,9.8nm,0.9s								
EKA	**Eskdalemuir Ar**	**52.27**	**316**	P		**P**	**02 25 07.8**	**+0.1**
EKA				pmax		pmax			
	comp=Z,7.0nm,1.0s								
KESW	**Keswick, Cumbr**	**52.39**	**315**	*e*P		**P**	**02 25 08.8**	**+0.1**
KESW				IAmb		IAmb	02 25 09.2		
	comp=Z,17nm,0.7s								
MBAR	**Mbarara**	**52.45**	**234**	*ce*P		**P**	**02 25 10.8**	**+1.0**
MBAR				pmax		pmax			
	comp=Z,5.0nm,0.7s								
HLM1	**Long Mynd**	**52.72**	**312**	*e*P		**P**	**02 25 10.9**	**-0.1**
HLM1				IAmb		IAmb	02 25 11.4		
	comp=Z,12nm,1.0s								
LINV	**Loch Inver, As**	**52.83**	**320**	*e*P		**P**	**02 25 11.2**	**-0.5**
MONM	**Monmouth**	**52.83**	**312**	*e*P		**P**	**02 25 11.2**	**-0.7**
YSS	**Yuzhno-Sakhali**	**52.88**	**55**	*ce*P		**P**	**02 25 13.7**	**+1.4**
YSS				pmax		pmax			
	comp=Z,25nm,1.3s								
MCH1	**Michaelchurch**	**52.91**	**312**	*e*P		**P**	**02 25 12.2**	**-0.3**
MCH1				IAmb		IAmb	02 25 13.1		
	comp=Z,22nm,0.8s								
PGBU	**Glenifferbraes**	**52.91**	**317**	*e*P		**P**	**02 25 12.2**	**-0.2**
PGBU				IAmb		IAmb	02 25 12.5		
	comp=Z,29nm,0.8s								
NEWG	**New Galloway**	**52.92**	**316**	*e*P		**P**	**02 25 12.6**	**+0.1**
NEWG				IAmb		IAmb	02 25 13.1		
	comp=Z,15nm,0.7s								
MJAR	**Matsushiro Arr**	**53.01**	**68**	P		**P**	**02 25 13.9**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=288,slow=8.8,SNR=6.1								
MJAR				PcP		**PcP**	**02 26 18.9**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=283,slow=4.7,SNR=4.9								
	comp=Z,2.3nm,0.8s								
KPL	**Plockton**	**53.23**	**319**	*e*P		**P**	**02 25 14.2**	**-0.5**
KPL				IAmb		IAmb	02 25 14.3		
	comp=Z,36nm,1.4s								
LAWE	**Loch Awe, Argy**	**53.32**	**317**	*e*P		**P**	**02 25 15.6**	**+0.2**
LAWE				IAmb		IAmb	02 25 15.9		
	comp=Z,12nm,0.8s								
NOR	**Nord**	**53.82**	**350**	*i* P		**P**	**02 25 17.4**	**-1.3**
NOR				IAmb		IAmb	02 25 20.2		
	comp=Z,2.9nm,1.2s								
RSBS	**Rosebush, Pemb**	**53.97**	**312**	*e*P		**P**	**02 25 19.6**	**-0.5**
MA2	**Magadan**	**54.42**	**38**	*ce*P		**P**	**02 25 25.0**	**+1.7**
MA2				pmax		pmax			
	comp=Z,8.0nm,1.3s								
SEY	**Seymchan**	**54.47**	**34**	*i* P		**P**	**02 25 22.9**	**-0.7**
SEY				pmax		pmax			
	comp=Z,9.0nm,1.3s								
DAG	**Danmarks Havn**	**54.74**	**344**	*i* P		**P**	**02 25 25.0**	**-0.4**
DAG				IAmb		IAmb	02 25 26.8		
	comp=Z,13nm,0.7s								
ESDC	**Sonseca Array**	**57.42**	**298**	P		**P**	**02 25 44.9**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=53,slow=8.0,SNR=16								
ESDC				pP		**pP**	**02 26 25.7**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=58,slow=7.0,SNR=8.5								
	comp=Z,0.9nm,0.6s								
TAM	**Tamanrasset**	**57.49**	**276**	P		**P**	**02 25 46.4**	**+0.5**
TAM	**Tamanrasset**	**57.49**	**276**	P		**P**	**02 25 46.4**	**+0.5**
TAM				pmax		pmax			
	comp=Z,8.0nm,0.3s								
MPSI	**Mapaga**	**57.81**	**117**	P		**P**	**02 25 49.2**	**+1.2**
	comp=Z,423nmcomp=Z,32nm,1.1s								
BILL	**Bilibino**	**58.66**	**26**	*ce*P		**P**	**02 25 54.6**	**+1.5**
BILL				pmax		pmax			
	comp=Z,12nm,1.3s								
MRSI	**Marisa**	**59.20**	**115**	P		**P**	**02 25 58.2**	**+0.7**
	comp=Z,679nmcomp=Z,77nm,0.9s								
SUMG	**Summit**	**61.07**	**341**	P		**P**	**02 26 10.6**	**+0.6**
SUMG				IAmb		IAmb	02 26 11.9		
	comp=Z,14nm,0.8s								
SUMG	**Summit**	**61.07**	**341**	P		**P**	**02 26 10.6**	**+0.6**
SUMG				pmax		pmax			
	comp=Z,14nm,0.8s								
SUMG	**Summit**	**61.07**	**341**	*i* P		**P**	**02 26 11.0**	**+1.0**
SUMG				IAmb		IAmb	02 26 11.9		
	comp=Z,11nm,0.7s								
VOI	**Vohitsoka**	**62.38**	**205**	P		**P**	**02 26 19.4**	**+0.4**
VOI				IAmb		IAmb	02 26 20.0		
	comp=Z,9.4nm,0.8s								
LSZ	**Lusaka**	**65.40**	**226**	P		**P**	**02 26 39.0**	**+0.2**
LSZ				IAmb		IAmb	02 26 39.2		
	comp=Z,5.4nm,0.8s								
LSZ	**Lusaka**	**65.40**	**226**	P		**P**	**02 26 39.0**	**+0.2**
LSZ				pmax		pmax			
	comp=Z,5.0nm,0.8s								
TORD	**Torodi Ar. Bea**	**65.67**	**269**	P		**P**	**02 26 39.2**	**-1.3**
	comp=Z,2um,0.4s,baz=42,slow=7.2,SNR=4.4								
C16K	**Lisburne Hills**	**67.50**	**20**	P		**P**	**02 26 51.3**	**0.0**
	baz=314								
B18K	**Kokolik River**	**67.64**	**18**	P		**P**	**02 26 52.9**	**+0.8**
	baz=316								
C17K	**DeLong Mountai**	**67.93**	**19**	P		**P**	**02 26 54.3**	**+0.3**
	baz=315								
B20K	**Meade River**	**68.25**	**16**	P		**P**	**02 26 56.2**	**+0.3**
	baz=320								
RDOG	**Red Dog Mine**	**68.30**	**19**	P		**P**	**02 26 56.1**	**-0.3**
	baz=316								
C18K	**Utukok River**	**68.31**	**18**	IAmb		IAmb	02 26 57.6		
	comp=Z,7.8nm,0.7s								
C18K	**Utukok River**	**68.31**	**18**	P		**P**	**02 26 56.4**	**0.0**
	baz=317,SNR=6.4								
C19K	**Lookout Ridge**	**68.37**	**17**	P		**P**	**02 26 57.2**	**+0.4**
	baz=318,SNR=16								
D17K	**Noatak River**	**68.51**	**19**	P		**P**	**02 26 57.9**	**+0.3**
	baz=316,SNR=7.5								
GAMB	**Gambell**	**68.55**	**25**	P		**P**	**02 26 58.2**	**+0.4**
	baz=310								
TNA	**Tin City**	**68.61**	**22**	P		**P**	**02 26 58.4**	**+0.2**
	baz=312								
B22K	**Teshekpuk Lake**	**68.78**	**15**	P		**P**	**02 26 59.0**	**-0.2**
	baz=323								
B21K	**Ikpikpuk River**	**69.11**	**16**	P		**P**	**02 27 01.6**	**+0.3**
	baz=322								
F14K	**Arctic Creek**	**69.15**	**22**	P		**P**	**02 27 02.2**	**+0.6**
	baz=314								
D19K	**Kuna River**	**69.19**	**17**	P		**P**	**02 27 02.0**	**+0.2**
	baz=320,SNR=22								
E17K	**Hotham Inlet**	**69.30**	**19**	P		**P**	**02 27 02.5**	**+0.1**
	baz=317								
E18K	**Tukpahlearik C**	**69.37**	**19**	IAmb		IAmb	02 27 04.0		
	comp=Z,8.4nm,0.6s								
E18K	**Tukpahlearik C**	**69.37**	**19**	P		**P**	**02 27 03.1**	**+0.2**
	baz=318,SNR=7.8								
D20K	**Etivluk River**	**69.37**	**17**	IAmb		IAmb	02 27 04.3		
	comp=Z,8.4nm,0.9s								
D20K	**Etivluk River**	**69.37**	**17**	P		**P**	**02 27 03.3**	**+0.3**
	baz=321,SNR=7.4								
C21K	**Knifeblade Rid**	**69.44**	**16**	P		**P**	**02 27 03.8**	**+0.5**
	baz=322,SNR=5.2								
F15K	**North Star Dit**	**69.49**	**21**	IAmb		IAmb	02 27 05.3		
	comp=Z,11nm,0.6s								
F15K	**North Star Dit**	**69.49**	**21**	P		**P**	**02 27 04.4**	**+0.7**
	baz=315,SNR=6.7								
C23K	**Itkillik River**	**69.76**	**14**	P		**P**	**02 27 05.9**	**+0.6**
	baz=325								
E20K	**Nigu River**	**69.83**	**17**	P		**P**	**02 27 05.7**	**0.0**
	baz=321,SNR=11								
F17K	**Baldwin Pennin**	**69.92**	**20**	P		**P**	**02 27 06.7**	**+0.4**
	baz=317								
D22K	**Ayikyak River**	**70.12**	**15**	IAmb		IAmb	02 27 09.0		
	comp=Z,9.5nm,1.2s								
D22K	**Ayikyak River**	**70.12**	**15**	P		**P**	**02 27 07.9**	**+0.4**
	baz=324								
G15K	**Niukluk**	**70.18**	**22**	P		**P**	**02 27 08.1**	**+0.2**
	baz=316								
E21K	**Killik River**	**70.19**	**16**	IAmb		IAmb	02 27 08.8		
	comp=Z,6.3nm,0.7s								
E21K	**Killik River**	**70.19**	**16**	P		**P**	**02 27 07.9**	**0.0**
	baz=323								
E19K	**Redstone River**	**70.20**	**18**	IAmb		IAmb	02 27 08.8		
	comp=Z,3.8nm,0.6s								
E19K	**Redstone River**	**70.20**	**18**	P		**P**	**02 27 07.9**	**-0.1**
	baz=320								
C24K	**Franklin Bluff**	**70.23**	**14**	P		**P**	**02 27 08.3**	**+0.2**
	baz=327								
F18K	**Selawik**	**70.23**	**19**	P		**P**	**02 27 08.4**	**+0.3**
	baz=319,SNR=6.4								
G16K	**Koyuk River**	**70.38**	**21**	P		**P**	**02 27 09.3**	**+0.2**
	baz=317								
D23K	**Nanushuk River**	**70.47**	**15**	IAmb		IAmb	02 27 11.1		
	comp=Z,6.6nm,1.0s								
D23K	**Nanushuk River**	**70.47**	**15**	P		**P**	**02 27 09.8**	**+0.3**
	baz=326								
F19K	**Shaleruckik Mo**	**70.54**	**18**	P		**P**	**02 27 10.1**	**+0.1**
	baz=320								
D24K	**Happy Valley**	**70.68**	**14**	P		**P**	**02 27 11.0**	**+0.1**
	baz=327								
C26K	**Camden Bay**	**70.75**	**12**	P		**P**	**02 27 11.5**	**+0.3**
	baz=330								
G17K	**Kiwalik Mounta**	**70.78**	**20**	P		**P**	**02 27 11.8**	**+0.3**
	baz=318,SNR=5.8								
F20K	**Avaraart Lake**	**70.88**	**18**	P		**P**	**02 27 12.2**	**+0.2**
	baz=322								
E22K	**Anaktuvuk Pass**	**70.91**	**16**	IAmb		IAmb	02 27 13.4		
	comp=Z,8.2nm,1.2s								
E22K	**Anaktuvuk Pass**	**70.91**	**16**	P		**P**	**02 27 12.3**	**-0.1**
	baz=325,SNR=8.4								
TOLK	**Toolik Lake Re**	**70.96**	**15**	P		**P**	**02 27 13.0**	**+0.4**
	baz=326,SNR=7.9								
H16K	**Elim**	**70.97**	**21**	P		**P**	**02 27 13.0**	**+0.4**
	baz=317								
D25K	**Kavik River**	**71.00**	**13**	IAmb		IAmb	02 27 16.1		
	comp=Z,5.4nm,0.8s								
D25K	**Kavik River**	**71.00**	**13**	P		**P**	**02 27 13.5**	**+0.6**
	baz=329,SNR=7.8								
G18K	**Tagagawik**	**71.03**	**19**	P		**P**	**02 27 13.3**	**+0.3**
	baz=320								
C27K	**Jago River**	**71.21**	**12**	P		**P**	**02 27 14.4**	**+0.4**
	baz=331								
A36M	**Sachs Harbour**	**71.24**	**5**	P		**P**	**02 27 14.5**	**+0.3**
	baz=346								
G19K	**Purcell Mounta**	**71.25**	**19**	IAmb		IAmb	02 27 15.3		
	comp=Z,8.6nm,0.7s								
G19K	**Purcell Mounta**	**71.25**	**19**	P		**P**	**02 27 14.2**	**-0.2**
	baz=321,SNR=9.1								
F21K	**Alatna River**	**71.28**	**17**	IAmb		IAmb	02 27 15.5		
	comp=Z,5.6nm,0.6s								
F21K	**Alatna River**	**71.28**	**17**	P		**P**	**02 27 14.5**	**0.0**
	baz=324,SNR=12								
F22K	**John River**	**71.34**	**16**	P		**P**	**02 27 15.2**	**+0.3**
	baz=325								
H17K	**Granite Mounta**	**71.42**	**20**	IAmb		IAmb	02 27 16.6		
	comp=Z,4.9nm,0.8s								
H17K	**Granite Mounta**	**71.42**	**20**	P		**P**	**02 27 15.7**	**+0.3**
	baz=319								
E23K	**Chandalar**	**71.44**	**15**	IAmb		IAmb	02 27 16.8		
	comp=Z,10nm,1.3s								
E23K	**Chandalar**	**71.44**	**15**	P		**P**	**02 27 15.8**	**+0.2**
	baz=326,SNR=8.2								
E24K	**Your Creek**	**71.66**	**15**	IAmb		IAmb	02 27 18.2		
	comp=Z,11nm,1.3s								
E24K	**Your Creek**	**71.66**	**15**	P		**P**	**02 27 17.2**	**+0.4**
	baz=328								
H18K	**Honhosa River**	**71.68**	**20**	P		**P**	**02 27 16.9**	**-0.1**
	baz=320								
G21K	**Allakaket**	**71.84**	**17**	P		**P**	**02 27 17.9**	**0.0**
	baz=324,SNR=6.2								
H19K	**Roundabout Mou**	**71.90**	**19**	IAmb		IAmb	02 27 19.4		
	comp=Z,5.5nm,0.7s								
H19K	**Roundabout Mou**	**71.90**	**19**	P		**P**	**02 27 18.3**	**+0.1**
	baz=322,SNR=8.8								
J14K	**Nanvaranak Lak**	**71.95**	**23**	IAmb		IAmb	02 27 20.2		
	comp=Z,5.8nm,0.8s								
J14K	**Nanvaranak Lak**	**71.95**	**23**	P		**P**	**02 27 18.7**	**+0.2**
	baz=316								
G22K	**Bettles**	**71.98**	**16**	P		**P**	**02 27 18.8**	**+0.1**
	baz=325								
I17K	**Unalakleet**	**71.98**	**21**	P		**P**	**02 27 19.1**	**+0.4**
	baz=318								
COLD	**Coldfoot**	**72.01**	**16**	IAmb		IAmb	02 27 20.2		
	comp=Z,8.9nm,1.1s								
COLD	**Coldfoot**	**72.01**	**16**	P		**P**	**02 27 19.1**	**+0.2**
	baz=326,SNR=9.6								
K13K	**Kusilvak Mount**	**72.18**	**24**	P		**P**	**02 27 20.4**	**+0.5**
	baz=316								
E25K	**Arctic Village**	**72.19**	**14**	P		**P**	**02 27 20.1**	**+0.1**
	baz=330,SNR=5.3								
IMAR	**Indian Mountai**	**72.22**	**18**	P		**P**	**02 27 19.8**	**-0.3**
F24K	**Squaw Lake**	**72.25**	**15**	P		**P**	**02 27 20.7**	**+0.3**
	baz=328								
H20K	**Anotleneega Mo**	**72.33**	**18**	P		**P**	**02 27 20.9**	**+0.1**
	baz=323,SNR=18								
J16K	**Anvik River**	**72.46**	**22**	IAmb		IAmb	02 27 23.2		
	comp=Z,8.2nm,0.7s								
J16K	**Anvik River**	**72.46**	**22**	P		**P**	**02 27 22.2**	**+0.6**
	baz=319,SNR=9.0								
G23K	**Bananza Creek**	**72.48**	**16**	P		**P**	**02 27 22.1**	**+0.4**
	baz=326								
F25K	**Christian Rive**	**72.63**	**14**	P		**P**	**02 27 23.1**	**+0.5**
	baz=330,SNR=8.2								
H21K	**Melozitna River**	**72.71**	**17**	IAmb		IAmb	02 27 24.8		
	comp=Z,8.3nm,1.1s								
H21K	**Melozitna River**	**72.71**	**17**	P		**P**	**02 27 23.4**	**+0.3**
	baz=324,SNR=10								
E28M	**Babbage River**	**72.80**	**11**	P		**P**	**02 27 24.6**	**+1.0**
	baz=335,SNR=5.1								
J17K	**VABM Dome**	**72.83**	**21**	P		**P**	**02 27 24.0**	**+0.2**
	baz=320								
F26K	**Sheenjek River**	**72.83**	**13**	P		**P**	**02 27 24.2**	**+0.5**
	baz=331								
E27K	**Coleen River**	**72.84**	**12**	P		**P**	**02 27 24.2**	**+0.3**
	baz=333,SNR=5.3								
H22K	**Ishtalitna Cre**	**72.85**	**17**	P		**P**	**02 27 24.0**	**+0.1**
	baz=326								
K15K	**Wolf Creek Mou**	**72.92**	**23**	P		**P**	**02 27 25.0**	**+0.7**
	baz=318								
BMAR	**Burnt Mountain**	**72.98**	**14**	P		**P**	**02 27 25.0**	**+0.3**
G24K	**Hadweenzic Riv**	**73.04**	**15**	IAmb		IAmb	02 27 26.6		
	comp=Z,4.8nm,0.7s								
G24K	**Hadweenzic Riv**	**73.04**	**15**	P		**P**	**02 27 25.6**	**+0.6**
	baz=328,SNR=7.2								
E29M	**Blow River**	**73.25**	**11**	P		**P**	**02 27 26.4**	**+0.2**
	baz=336,SNR=5.7								
L14K	**Kuka Creek**	**73.26**	**24**	IAmb		IAmb	02 27 28.2		
	comp=Z,6.4nm,0.8s								
L14K	**Kuka Creek**	**73.26**	**24**	P		**P**	**02 27 27.2**	**+1.0**
	baz=318,SNR=5.2								
G25K	**Bearman Lake**	**73.26**	**14**	P		**P**	**02 27 27.0**	**+0.8**
	baz=330								
I21K	**Tanana**	**73.30**	**17**	P		**P**	**02 27 27.0**	**+0.5**
	baz=325								
J19K	**Poorman**	**73.33**	**20**	IAmb		IAmb	02 27 28.2		
	comp=Z,15nm,1.2s								
J19K	**Poorman**	**73.33**	**20**	P		**P**	**02 27 27.3**	**+0.6**
	baz=322,SNR=17								
H23K	**Yukon River**	**73.33**	**16**	IAmb		IAmb	02 27 28.5		
	comp=Z,5.2nm,0.7s								
H23K	**Yukon River**	**73.33**	**16**

baz=336
H27K **Steamboat Moun** 74.61 13 IAmb IAmb 02 27 35.9
comp=Z,5.2nm,0.8s
H27K **Steamboat Moun** 74.61 13 P P **02 27 34.7 +0.5**
baz=333,SNR=6.3
N14K **Kuskokwak Cree** 74.64 25 P P **02 27 35.4 +1.1**
baz=318
M16K **Timber Creek** 74.69 23 IAmb IAmb 02 27 36.7
comp=Z,6.5nm,0.9s
M16K **Timber Creek** 74.69 23 P P **02 27 35.5 +0.9**
baz=320
CAST **Castle Rocks** 74.72 19 IAmb IAmb 02 27 36.0
comp=Z,14nm,1.0s
CAST **Castle Rocks** 74.72 19 P P **02 27 35.2 +0.4**
baz=325,SNR=18
F31M **Tsiigehtchic** 74.73 10 P P **02 27 35.0 +0.3**
baz=340
G30M **tAoh Zraii Nji** 74.81 11 P P **02 27 35.3 0.0**
baz=338
ILAR **Eielson Array** 74.82 16 P **02 27 34.8 -0.5**
ILAR **Eielson Array** 74.82 16 P P **02 27 34.1 -1.2**
comp=Z,2.7nm,0.9s,baz=319,slow=5.1,SNR=20
ILAR pP **pP** **02 28 18.7 +0.3**
comp=Z,2.1nm,0.8s,baz=326,slow=5.5,SNR=5.4
comp=Z,2.7nm,0.9s
M17K **Holitna River** 74.86 22 IAmb IAmb 02 27 37.7
comp=Z,11nm,0.8s
M17K **Holitna River** 74.86 22 P P **02 27 36.6 +1.0**
baz=322,SNR=6.7
KTH **Kantishna Hill** 74.91 18 IAmb IAmb 02 27 39.5
comp=Z,9.7nm,0.9s
FITZ **Fitzroy Crossi** 74.92 126 P P **02 27 36.4 -0.1**
N15K **Kwethluk River** 74.98 24 P P **02 27 36.7 +0.4**
baz=320
L19K **White Mountain** 74.99 20 IAmb IAmb 02 27 38.5
comp=Z,9.7nm,1.4s
L19K **White Mountain** 74.99 20 P P **02 27 36.9 +0.5**
baz=323
L20K **Farewell, AK** 75.02 20 P P **02 27 36.8 +0.3**
baz=324
HDA **Harding Lake** 75.12 16 P P **02 27 37.2 +0.2**
baz=329
I26K **Coal Creek Min** 75.13 14 P P **02 27 37.3 +0.3**
baz=332
PPLA **Purkeypile** 75.13 19 P P **02 27 37.1 -0.2**
baz=325
G31M **Satah River** 75.14 10 IAmb IAmb 02 27 38.1
comp=Z,5.9nm,0.7s
G31M **Satah River** 75.14 10 P P **02 27 37.3 +0.2**
baz=339,SNR=5.2
TRF **Thorofare Moun** 75.15 18 P P **02 27 37.6 +0.2**
baz=327
I27K **Kandik River** 75.16 13 P P **02 27 38.3 +1.0**
baz=331,SNR=5.5
H29M **Whitestone** 75.17 12 IAmb IAmb 02 27 38.8
comp=Z,8.5nm,0.6s
H29M **Whitestone** 75.17 12 P P **02 27 37.9 +0.6**
baz=336,SNR=8.0
N16K **Nishlik Lake** 75.17 23 P P **02 27 38.1 +0.7**
baz=321
MCK **McKinley** 75.24 17 P P **02 27 37.9 +0.1**
baz=328
KNRA **Kununurra** 75.25 123 P P **02 27 38.4 -0.1**
M18K **Stony River** 75.27 21 P P **02 27 37.9 0.0**
baz=323
J25K **Salcha River,** 75.28 15 P P **02 27 38.0 0.0**
baz=330,SNR=8.0
O14K **Tigyukauivet M** 75.29 25 P P **02 27 38.4 +0.4**
baz=319
EPYK **Eagle Plains** 75.30 11 P P **02 27 37.8 -0.2**
baz=337
M19K **Big River Lodg** 75.34 20 P P **02 27 38.7 +0.4**
baz=324
RND **Reindeer** 75.54 17 IAmb IAmb 02 27 39.6
comp=Z,16nm,1.4s
I28M **Miner Creek** 75.60 13 IAmb IAmb 02 27 40.8
comp=Z,5.7nm,0.7s
I28M **Miner Creek** 75.60 13 P P **02 27 40.0 +0.1**
baz=335,SNR=10
N17K **Nushagak Hills** 75.62 22 P P **02 27 40.6 +0.6**
baz=322
MAKGR **Makgor** 75.69 222 P P **02 27 41.0 +0.1**
J26L **Joseph Creek** 75.76 15 IAmb IAmb 02 27 41.7
comp=Z,5.4nm,0.7s
J26L **Joseph Creek** 75.76 15 P P **02 27 40.9 +0.1**
baz=332,SNR=7.8
O15K **Ungalikthiuk R** 75.83 24 P P **02 27 41.6 +0.5**
baz=320
N18K **Kilae Creek** 75.89 22 P P **02 27 41.6 +0.1**
baz=323
K24K **Donnelly Dome** 75.90 16 P P **02 27 41.1 -0.4**
baz=330,SNR=6.8
I29M **Ogilvie Camp,** 75.97 12 IAmb IAmb 02 27 42.6
comp=Z,3.9nm,0.6s
I29M **Ogilvie Camp,** 75.97 12 P P **02 27 41.8 0.0**
baz=336,SNR=6.2
SKT **Skwentna** 76.06 19 IAmb IAmb 02 27 45.5
comp=Z,11nm,1.0s
SKT **Skwentna** 76.06 19 P P **02 27 42.5 +0.1**
baz=326,SNR=7.4
O16K **Kokwok River B** 76.07 23 IAmb IAmb 02 27 44.6
comp=Z,14nm,1.1s
O16K **Kokwok River B** 76.07 23 P P **02 27 43.2 +0.7**
baz=321
WAT1 **Susitna Watana** 76.10 18 P P **02 27 42.3 -0.3**
baz=328
SCRK **Sand Creek** 76.14 15 IAmb IAmb 02 27 44.0
comp=Z,4.6nm,0.6s
SCRK **Sand Creek** 76.14 15 P P **02 27 42.8 -0.1**
baz=332,SNR=11
RIDG **Independent Ri** 76.16 16 P P **02 27 42.7 -0.3**
baz=331,SNR=6.1
DHY **Denali Highway** 76.17 17 IAmb IAmb 02 27 44.2
comp=Z,6.3nm,0.6s
DHY **Denali Highway** 76.17 17 P P **02 27 42.9 -0.3**
baz=329,SNR=7.4
H31M **Peel River** 76.18 10 IAmb IAmb 02 27 44.0
comp=Z,6.6nm,0.7s
H31M **Peel River** 76.18 10 P P **02 27 43.1 0.0**
baz=339,SNR=6.0
N19K **Bonanza Creek** 76.20 21 P P **02 27 43.3 -0.1**
baz=324
O17K **Koliganek Bris** 76.24 23 P P **02 27 43.5 +0.1**
baz=322
I30M **Mount Dempster** 76.41 11 P P **02 27 44.4 -0.2**
baz=338,SNR=6.0
K27K **Chicken** 76.48 14 P P **02 27 44.9 +0.2**
baz=333
WAT6 **Susitna Watana** 76.51 17 P P **02 27 44.8 -0.4**
baz=329,SNR=5.5
PAX **Paxson** 76.70 16 IAmb IAmb 02 27 49.6
comp=Z,5.6nm,0.7s
PAX **Paxson** 76.70 16 P P **02 27 45.8 -0.3**
baz=331,SNR=9.3
SUA **Susitna One** 76.70 19 P P **02 27 46.1 -0.1**
baz=327
O18K **Kokthulh Hills** 76.76 22 P P **02 27 46.9 +0.5**
baz=324
P17K **Kvichak River** 76.91 23 P P **02 27 47.9 +0.7**
baz=323
GHO **Glory Hole Cre** 76.91 18 IAmb IAmb 02 27 50.4
comp=Z,15nm,1.2s
DAWY **Dawson** 76.96 13 P P **02 27 47.7 +0.2**
baz=335,SNR=6.0
PMR **Palmer** 77.01 18 P P **02 27 47.7 0.0**
baz=328
J30M **Hart River** 77.02 12 P P **02 27 48.1 +0.1**
baz=338,SNR=5.1
L26K **Log Cabin Wild** 77.11 15 P P **02 27 48.9 +0.6**
baz=332
M23K **Glacier View** 77.19 18 P P **02 27 48.4 -0.3**
baz=329,SNR=5.8
Q16K **King Salmon** 77.25 23 P P **02 27 49.9 +0.8**
baz=322
SCM **Sheep Creek Mo** 77.25 18 IAmb IAmb 02 27 49.9
comp=Z,6.5nm,0.6s
SCM **Sheep Creek Mo** 77.25 18 P P **02 27 49.1 -0.1**
baz=329,SNR=5.9
HARP **HAARP** 77.27 16 P P **02 27 49.7 +0.5**
baz=331
RC01 **Rabbit Creek A** 77.28 19 P P **02 27 49.9 +0.7**
baz=328
M24K **Tolsona, Glenn** 77.29 17 P P **02 27 49.7 +0.3**
baz=330
KNK **Knik Glacier** 77.33 18 P P **02 27 50.0 +0.4**
baz=328
L27K **Beaver Creek,** 77.40 15 P P **02 27 50.2 +0.3**
baz=334,SNR=7.6
BCAR **Beaver Creek A** 77.40 15 P P **02 27 50.5 +0.5**
K29M **Barlow Dome** 77.50 12 IAmb IAmb 02 27 51.9
comp=Z,13nm,1.5s
K29M **Barlow Dome** 77.50 12 P P **02 27 50.8 +0.2**
baz=337,SNR=5.2
P19K **Oil Pt** 77.51 21 P P **02 27 50.6 0.0**
baz=325
S12K **Black Hills** 77.69 28 P P **02 27 52.0 +0.4**
baz=319
BOSA **Boshof** 77.69 220 P P **02 27 51.8 -0.3**
comp=Z,9.8nm,0.8s,baz=20,slow=4.2,SNR=16
comp=Z,9.8nm,0.8s
M26K **Nabesna, AK** 77.74 15 P P **02 27 51.5 -0.4**
baz=333
Q18K **Katmai Hardscr** 77.79 23 P P **02 27 51.5 -0.8**
baz=324
Q17K **Contact Creek** 77.83 23 P P **02 27 52.0 -0.4**
baz=323
KLU **Klutina** 77.89 17 P P **02 27 52.3 -0.4**
baz=330
Q19K **Cape Douglas,** 77.98 22 P P **02 27 53.3 +0.1**
baz=325
MAYO **Mayo, Yukon** 78.01 12 P P **02 27 53.5 +0.2**
baz=338
M27K **Edge Creek, AK** 78.02 15 IAmb IAmb 02 27 55.9
comp=Z,13nm,1.2s
M27K **Edge Creek, AK** 78.02 15 P P **02 27 53.7 +0.1**
baz=334,SNR=11
L29M **L29M** 78.07 13 P P **02 27 54.2 +0.5**
baz=336
N25K **Chitina, Valde** 78.09 16 P P **02 27 54.3 +0.5**
baz=332
GLI **Glacier Island** 78.13 18 P P **02 27 53.6 -0.4**
baz=330
BVCY **Beaver Creek** 78.18 15 P P **02 27 54.8 +0.5**
baz=334
R17L **Mt. Peulik Vol** 78.18 24 P P **02 27 54.7 +0.4**
baz=323
SEW **Seward** 78.19 19 P P **02 27 54.6 +0.4**
baz=328
SDPT **Sand Point** 78.54 27 P P **02 27 56.3 0.0**
baz=320
M29M **Somme Creek** 78.62 13 P P **02 27 56.8 +0.1**
baz=336
MCARA **McCarthy VSAT** 78.64 16 P P **02 27 57.0 +0.2**
baz=333
BMRM **Bremner River** 78.66 17 IAmb IAmb 02 28 01.5
comp=Z,5.5nm,0.8s
BMRM **Bremner River** 78.66 17 P P **02 27 57.3 +0.4**
baz=332
EYAK **Cordova Ski Ar** 78.75 18 IAmb IAmb 02 28 01.9
comp=Z,8.0nm,0.9s
EYAK **Cordova Ski Ar** 78.75 18 P P **02 27 58.0 +0.6**
baz=331
M30M **Mio, Yukon** 78.80 13 P P **02 27 58.2 +0.5**
baz=338
P23K **Montague Islan** 78.82 19 P P **02 27 58.1 +0.3**
baz=330
YUK3 **Moose Creek** 78.84 15 P P **02 27 58.1 0.0**
baz=335
R18K **Karluk** 78.84 23 P P **02 27 58.3 +0.4**
baz=324
CRQE **Cirque** 79.19 16 P P **02 28 00.3 +0.4**
baz=333
KDAK **Kodiak Island** 79.24 22 P P **02 28 00.1 +0.1**
baz=326
CHNA **Chernabura Isl** 79.27 27 P P **02 28 00.0 -0.2**
baz=321
BERG **Berg Lake** 79.37 17 IAmb IAmb 02 28 05.1
comp=Z,11nm,0.9s
CTG **Chitna Glacier** 79.39 15 P P **02 28 01.0 0.0**
baz=334
YUK8 **Steele Glacier** 79.42 15 P P **02 28 01.2 -0.2**
baz=335
OHAK **Old Harbor** 79.49 23 IAmb IAmb 02 28 02.5
comp=Z,8.7nm,1.0s
OHAK **Old Harbor** 79.49 23 P P **02 28 01.1 -0.3**
baz=325
M31M **Drury Creek, Y** 79.56 12 P P **02 28 02.0 +0.2**
baz=340
Q23K **Middleton Isla** 79.58 18 P P **02 28 02.6 +0.8**
baz=330
YUK4 **Talbot Arm** 79.59 14 P P **02 28 01.5 -0.7**
baz=336
KAIM **Kayak Island** 79.62 17 P P **02 28 02.9 +0.8**
baz=332
MMPY **Sheldon Lake,** 79.64 10 P P **02 28 02.8 +0.5**
baz=342
FARO **Faro, Yukon** 79.70 11 P P **02 28 03.3 +0.7**
baz=340
SII **Sikinak Islan** 79.75 23 P P **02 28 03.5 +0.6**
baz=325
N30M **Aishikik Lake** 79.78 13 P P **02 28 03.6 +0.5**
baz=338
O28M **Mount Upton** 79.80 15 P P **02 28 03.8 +0.3**
baz=335
CHIR **Chirikof Islan** 79.88 25 P P **02 28 04.2 +0.7**
baz=324
MESA **MESA** 79.96 16 P P **02 28 04.6 +0.5**
baz=334
WRGLY **Wrigley** 79.97 7 P P **02 28 04.5 +0.6**
baz=348
N31M **Braeburn, Yuko** 79.99 13 P P **02 28 04.9 +0.7**
baz=338
YUK6 **Outpost Mounta** 80.02 14 P P **02 28 04.7 +0.2**
baz=336
HYT **Haines Junctio** 80.29 14 P P **02 28 06.4 +0.5**
baz=337,SNR=6.1
PINM **Pinnacle** 80.41 15 P P **02 28 06.7 +0.3**
baz=335
O30N **Mendenhall** 80.61 13 P P **02 28 07.3 -0.1**
baz=338
N32M **Quiet Lake** 80.76 12 P P **02 28 08.7 +0.4**
baz=341
WHY **Whitehorse** 80.92 13 P P **02 28 08.9 -0.3**
baz=339
PNL **Peninsula** 80.97 15 P P **02 28 09.9 +0.5**
baz=326
P30M **Million Dollar** 81.05 14 P P **02 28 10.3 +0.5**
baz=338
TGTN **Hyland Airport** 81.10 9 P P **02 28 10.5 +0.4**
baz=344
YKA **Yellowknife Ar** 81.28 3 P P **02 28 10.9 0.0**
YKA **Yellowknife Ar** 81.28 3 P P **02 28 10.6 -0.3**
comp=Z,1.3nm,0.5s,baz=320,slow=0.7,SNR=36
YKA pP **pP** **02 28 55.2 +0.7**
comp=Z,3.6nm,0.8s,baz=350,slow=6.0,SNR=6.5
comp=Z,1.3nm,0.5s
P33M **Teslin, Yukon** 81.70 12 IAmb IAmb 02 28 14.7
comp=Z,6.9nm,0.8s
P33M **Teslin, Yukon** 81.70 12 P P **02 28 13.1 -0.1**
baz=341,SNR=9.2
PLBC **Pleasant Camp** 81.78 14 P P **02 28 13.7 +0.2**
baz=338,SNR=5.7
WB0 **Warramunga Arr** 81.94 122 P P **02 28 13.6 -1.3**
WB0 IAmb IAmb 02 28 14.5
comp=Z,16nm,0.8s
WRA **Warramunga Arr** 82.02 122 P P **02 28 14.2 -1.2**
comp=Z,19nm,0.6s,baz=324,slow=4.9,SNR=172
comp=Z,19nm,0.6s
P32M **Atlin** 82.13 12 P P **02 28 15.7 +0.2**
baz=340
WR8 **Warramunga Arr** 82.14 122 P P **02 28 15.0 -1.0**
R33M **Jennings River** 82.77 11 P P **02 28 19.2 +0.3**
baz=342,SNR=5.5
Q32M **Nakina River** 82.97 12 P P **02 28 20.6 +0.5**
baz=341,SNR=5.0
S31K **Pelican** 83.19 14 P P **02 28 21.2 +0.3**
baz=338
DLBC **Dease Lake** 83.83 11 P P **02 28 24.8 +0.5**
baz=343
S32K **Killisnoo** 83.98 14 P P **02 28 25.8 +0.9**
baz=340
TOAD **Toad River Com** 84.08 8 P P **02 28 26.0 +0.5**
baz=347
S34M **Telegraph Cree** 84.16 12 P P **02 28 26.5 +0.7**
baz=342
SIT **Sitka** 84.22 14 P P **02 28 27.2 +1.1**
baz=339
AS31 **Alice Springs** 84.28 125 IAmb IAmb 02 28 26.8
comp=Z,7.1nm,0.7s
ASAR **Alice Springs** 84.28 125 P P **02 28 26.0 -0.9**
ASAR **Alice Springs** 84.28 125 P P **02 28 26.0 -0.9**
comp=Z,21nm,0.6s,baz=309,slow=5.0,SNR=297
comp=Z,21nm,0.6s
T35M **Bob Quinn** 85.19 11 P P **02 28 32.1 +1.1**
baz=343
CRAG **Craig** 86.14 13 P P **02 28 36.5 +0.8**
baz=341
CTAO **Charters Tower** 90.58 115 P P **02 28 56.4 -0.8**
CTAO **Charters Tower** 90.58 115 P P **02 28 56.4 -0.8**
CTAO pmax pmax
comp=Z,13nm,0.7s
STKA **Stephens Creek** 94.81 126 P P **02 29 15.8 -0.7**
comp=Z,2.2nm,0.6s,baz=336,slow=3.6,SNR=4.2
comp=Z,2.2nm,0.6s
SNAA **Sanae** 119.35 200 PKP **PKPdf** **02 34 40.4 -1.7**
comp=Z,0.7nm,0.7s,baz=347,slow=23,SNR=2.1
VNDA **Vanda** 125.48 165 PKP **PKPdf** **02 34 52.0 -1.5**
comp=Z,0.5nm,0.7s,baz=271,slow=5.0,SNR=3.6
QSPA **South Pole Qui** 126.27 180 PKP **PKPdf** **02 34 53.5 -1.9**
comp=Z,3.2nm,0.8s,baz=297,slow=1.4,SNR=11
PLCA **Paso Flores** 149.77 250 PKPbc **PKPbc** **02 35 43.1 -0.6**
comp=Z,4.4nm,1.1s,baz=119,slow=10,SNR=3.0

IDC 13 02:31:04.0±1.8, 0.56N×126.75E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=169.7km s-min=22.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.69**	**160**	P	P	02 35 55.9	-0.8
	2.3nm,0.5s,baz=339,slow=11,SNR=14						
	2.3nm,0.5s						
ASAR	**Alice Springs**	**25.07**	**164**	P	P	02 36 30.9	+0.5
	1.4nm,0.7s,baz=343,slow=9.1,SNR=17						
	1.4nm,0.7s						
MKAR	**Makanchi Array**	**60.17**	**326**	P	P	02 41 13.6	0.0
	0.2nm,0.4s,baz=116,slow=6.6,SNR=2.7						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.41**	**328**	P	P	02 41 41.9	-0.1
	0.5nm,0.6s,baz=126,slow=6.0,SNR=3.7						
	0.5nm,0.6s						

*IDC **13** 02:39:01.9±1.1, 10.08N×73.07W, h132km±11km, mb3.8/19, mbtmp4.3/23, MS3.6/4, Error ellipse: s-maj=11.2km s-min=10.3km az=2.0*
*NEIC **13** 02:39:02.6±2.6, 10.10N±0.07×73.13W±0.08, h130km±7km, mb4.6/284, Error ellipse: s-maj=12.6km s-min=8.4km az=53.0*
*CATAC **13** 02:39:03.1±0.6, 10°N±4°×7°3W±°, h95km±23km, M5.2/6, mB5.4/2, mb5.3/2, MLv5.2/6, Mw(mB)4.9/2, confirmed*
*RSNC **13** 02:39:03.0±0.0, 10°N±1°×7°3W±°, h126km±3km, M4.6, mB5.5, mb5.3, ML4.4, Mw4.9, Mw(mB)5.0*
*VAO **13** 02:39:06.7±1.5, 9.60N×72.91W, h140km±5km, mb4.7*
*UPA **13** 02:39:07.6±2.7, 10.21N×73.56W, h132km±129km*

ISC 13 02:39:00.6±0.6, 10.16N±0.04×73.11W±0.04, h120km±6km, n523, σ1°58/427, mb4.6/140, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRJC	**Cerrejon, Guaj**	**0.89**	**15**	P	Pn	**02 39 24.2**	**+2.6**
CRJC				S	Sn	**02 39 40.7**	**+3.1**
ARGC	**Ariguani, Magd**	**1.16**	**255**	P	Pn	**02 39 27.2**	**+3.0**
ARGC				S	Sn	**02 39 45.2**	**+3.1**
SMRC	**Santa Marta, M**	**1.48**	**313**		Pn	**02 39 29.7**	**+1.9**
SMRC	**Santa Marta, M**	**1.48**	**313**	P	Pn	**02 39 29.7**	**+1.9**
SMRC				S	Sn	**02 39 50.2**	**+1.7**
URI	**Uribia**	**1.89**	**36**	P	Pn	**02 39 34.2**	**+1.6**
URIC	**Uribia, Colomb**	**1.89**	**36**	P	Pn	**02 39 34.7**	**+2.1**
URIC				S	Sn	**02 39 59.1**	**+1.9**
SJCC	**San Jacinto, C**	**2.05**	**263**	P	Pn	**02 39 35.7**	**+0.9**
SDV	**Santo Domingo**	**2.75**	**117**	P	Pn	**02 39 46.1**	**+2.3**
	2µm,0.6s,baz=304,slow=6.6,SNR=365						
SDV				S	Sn	**02 40 17.9**	**+0.8**
	8µm,0.4s,baz=331,slow=17,SNR=64						
SDV	**Santo Domingo**	**2.75**	**117**	*eP*	Pn	**02 39 46.1**	**+2.3**
SDV				*eS*	Sn	**02 40 15.9**	**-1.2**
LCBC	**Los crdobas,**	**3.46**	**248**	*eP*	Pn	**02 39 54.5**	**+1.5**
RUSC	**La Rusia**	**4.24**	**180**		Pn	**02 40 04.0**	**+0.3**
RUSC	**La Rusia**	**4.24**	**180**	P	Pn	**02 40 04.4**	**+0.6**
HELC	**Santa Helena**	**4.61**	**211**	P	Pn	**02 40 09.9**	**+1.3**
CBOC	**Ciudad Bolivar**	**5.14**	**214**	P	Pn	**02 40 17.0**	**+1.4**
	15µm736nm,1.2s						
CBOC				S	Sn	**02 41 15.7**	**+1.7**
	15µm736nm,1.2s						
GUY2C	**Guyana, Caldas**	**5.39**	**205**	P	Pn	**02 40 19.8**	**+0.6**
GUY2C				S	Sn	**02 41 22.9**	**+2.5**
ROSC	**El Rosal**	**5.42**	**193**	P	Pn	**02 40 21.1**	**+1.5**
	66nm,0.3s,baz=19,slow=7.6,SNR=30						
ROSC				S	Sn	**02 41 20.2**	**-0.8**
	250nm,0.4s,baz=184,slow=23,SNR=6.6						
ROSC	**El Rosal**	**5.42**	**193**	P	Pn	**02 40 21.3**	**+1.8**
	5µm128nm,0.7s						
ROSC				S	Sn	**02 41 22.0**	**+1.0**
	5µm128nm,0.7s						
PTAC	**Punta Ardita,**	**5.52**	**238**	P	Pn	**02 40 20.5**	**-0.1**
CHIC	**Chingaza**	**5.53**	**186**	P	Pn	**02 40 23.7**	**+2.7**
	4µm314nm,0.9s						
ARRA3	**Arraijan, Pana**	**6.56**	**260**	*eP*	Pn	02 40 48.2	+14
GAMB1	**Gamboa**	**6.59**	**262**	*eP*	Pn	**02 40 35.5**	**+0.5**
GAMB1				*eS*	Sn	02 41 37.8	-11
PRVC	**Prado**	**6.64**	**195**	P	Pn	**02 40 36.2**	**+0.9**
CHOR3	**La Chorrera**	**6.68**	**260**	*eP*	Pn	**02 40 35.7**	**-0.5**
CHOR3				*eS*	Sn	**02 41 46.1**	**-4.9**
BCIP	**Isla Barro Col**	**6.70**	**262**		Pn	**02 40 36.7**	**+0.2**
BCIP	**Isla Barro Col**	**6.70**	**262**	*eP*	Pn	**02 40 37.7**	**+1.2**
BCIP				*eS*	Sn	**02 41 45.6**	**-6.0**
AZU	**Azuero**	**7.46**	**252**	*eP*	Pn	**02 40 47.1**	**+0.4**
AZU				*eS*	Sn	**02 42 02.9**	**-6.8**
CHIT3	**Chitre**	**7.54**	**254**	*eP*	Pn	**02 40 47.4**	**-0.4**
CHIT3				*eS*	Sn	02 42 04.1	-7.7
PCRV	**Puerto La Cruz**	**8.35**	**89**	P	Pn	**02 40 59.0**	**+0.2**
	155nm,0.5s,baz=293,slow=2.8,SNR=121						
PCRV				S	Sn	**02 42 28.9**	**-2.6**
	208nm,0.5s,baz=326,slow=23,SNR=18						
GMAL	**Guarumal, Vera**	**8.37**	**254**	*eP*	Pn	**02 41 00.3**	**+1.3**
GMAL				*eS*	Sn	**02 42 25.4**	**-6.6**
HOJ	**Hope**	**8.56**	**336**	*i P*	Pn	**02 41 03.7**	**+2.0**
HOJ				*i S*	Sn	**02 42 32.8**	**-3.8**
BANI	**BANI**	**8.61**	**18**		Pn	**02 41 03.4**	**+1.0**
GWJ	**Greenwich**	**8.61**	**336**	*i P*	Pn	**02 41 04.9**	**+2.4**
STH	**Stony Hill**	**8.65**	**336**	*eP*	Pn	**02 41 05.2**	**+2.3**
STH				*eS*	Sn	**02 42 34.6**	**-4.2**
STH				IAML		02 42 40.2	
	comp=N,18µm,0.5s						
STH				IAML		02 42 45.1	
	comp=E,18µm,0.4s						
STH	**Stony Hill**	**8.65**	**336**	*i P*	Pn	**02 41 05.6**	**+2.7**
PRVC	**Isla de Provid**	**8.69**	**292**		Pn	02 41 01.0	-2.4
PRVC	**Isla de Provid**	**8.69**	**292**	P	Pn	**02 41 01.3**	**-2.0**
FLOC	**Florencia**	**8.88**	**197**		Pn	**02 41 05.9**	**-0.2**
FLOC	**Florencia**	**8.88**	**197**	P	Pn	**02 41 06.2**	**+0.1**
MCJ	**Malvern**	**8.90**	**331**	*i P*	Pn	**02 41 07.8**	**+1.4**
MCJ				*i S*	Sn	02 42 34.7	-10
SDDR	**Presa de Saban**	**8.95**	**11**		Pn	**02 41 10.0**	**+3.0**
SDDR	**Presa de Saban**	**8.95**	**11**	P	Pn	**02 41 10.1**	**+3.2**
MTDJ	**Mount Denham**	**9.09**	**332**		Pn	**02 41 10.4**	**+1.5**
MTDJ	**Mount Denham**	**9.09**	**332**	*eP*	Pn	**02 41 10.8**	**+1.9**
MTDJ				*eS*	Sn	**02 42 44.6**	**-5.1**
MTDJ				IAML		02 42 47.6	
	comp=E,373nm,1.0s						
MTDJ				IAML		02 42 51.1	
	comp=E,382nm,0.4s						
DR12	**Loma Pena Alta**	**9.31**	**22**		Pn	**02 41 10.6**	**-1.2**
SC01	**Santiago de lo**	**9.50**	**14**		Pn	**02 41 16.3**	**+2.0**
CRPR	**Cabo Rojo, PR**	**9.73**	**36**		Pn	**02 41 15.0**	**-2.5**
PRSN	**Puerto Rico Se**	**9.88**	**35**		Pn	**02 41 16.9**	**-2.5**
GTBY	**Guantanamo Bay**	**9.90**	**349**	*eP*	Pn	**02 41 22.8**	**+3.1**
GTBY				*eS*	Sn	**02 43 04.3**	**-4.8**
MASC	**Masc**	**10.02**	**354**	*eP*	Pn	**02 41 22.8**	**+1.5**
MASC				*eS*	Sn	**02 43 08.8**	**-3.0**
MASC				IAML		02 43 16.9	
	comp=E,34nm,0.5s						
MASC				IAML		02 43 18.9	
	comp=N,51nm,0.5s						
DRK0	**Durika**	**10.03**	**266**	*eP*	Pn	**02 41 22.0**	**+0.4**
DRK0				*eS*	Sn	02 43 02.1	-10
OBIP	**Obispado Ponce**	**10.06**	**38**		Pn	**02 41 19.7**	**-2.2**
RCC	**Rio Carpintero**	**10.09**	**346**	*eP*	Pn	**02 41 25.0**	**+2.7**
RCC				*eS*	Sn	**02 43 09.7**	**-4.0**
AGPR	**Aguadilla, PR**	**10.10**	**34**		Pn	**02 41 19.9**	**-2.5**
CELP	**Cerrillos**	**10.10**	**38**		Pn	**02 41 20.2**	**-2.2**
QMBU	**Quimbuelo**	**10.12**	**351**	*eP*	Pn	**02 41 24.8**	**+2.2**
QMBU				*eS*	Sn	02 43 07.8	-6.5
QMBU				IAML		02 43 18.1	
	comp=N,80nm,0.3s						
QMBU				IAML		02 43 23.0	
	comp=E,108nm,0.4s						

MARVS	Santiago de Cu	10.15	345	*e*P		Pn	02 41 25.4	+2.4	
MARVS				*e*S		Sn	02 43 09.8	-5.2	
MARVS				IAML			02 43 16.2		
	comp=N,33nm,0.2s								
MARVS				IAML			02 43 16.8		
	comp=E,22nm,0.2s								
UUPR	Utuado, UPR, P	10.15	37			Pn	02 41 21.1	-2.1	
AOPR	Arecibo Observ	10.21	36			Pn	02 41 21.5	-2.5	
CHIV	Chivirico	10.27	342	*e*P		Pn	02 41 26.2	+1.5	
CHIV				*e*S		Sn	02 43 10.2	-7.7	
CHIV				IAML			02 43 19.0		
	comp=E,27nm,0.4s								
CHIV				IAML			02 43 19.1		
	comp=N,16nm,0.3s								
IGPR	InterUniversit	10.31	40	P		Pn	02 41 23.2	-2.1	
SJG	San Juan	10.39	40			Pn	02 41 22.8	-3.6	
SJG	San Juan	10.39	40	P		Pn	02 41 24.0	-2.4	
	comp=N,111nm,0.3s,baz=195,slow=13,SNR=97								
SJG				S		Sn	02 43 11.9	-9.2	
	comp=N,103nm,0.5s,baz=51,slow=19,SNR=15								
PDPR	Patillas Dam,	10.41	41			Pn	02 41 22.6	-4.0	
NMDO	Nuevo Mundo	10.50	350	*e*P		Pn	02 41 31.5	+3.7	
NMDO				*e*S		Sn	02 43 19.2	-4.3	
LMGC	Las Mercedes	10.54	340	*e*P		Pn	02 41 30.2	+1.8	
LMGC				*e*S		Sn	02 43 16.1	-8.5	
PILO	Pilon	10.54	337	*e*P		Pn	02 41 31.1	+2.7	
PILO				*e*S		Sn	02 43 16.8	-7.9	
PILO				IAML			02 43 22.8		
	comp=N,118nm,0.6s								
PILO				IAML			02 43 24.4		
	comp=E,110nm,0.8s								
GCPR	Guaynabo City	10.58	39			Pn	02 41 26.8	-2.2	
PINC	Pinares de May	10.59	346	*e*P		Pn	02 41 31.5	+2.5	
PINC				*e*S		Sn	02 43 19.7	-6.0	
MOAC	Moa	10.59	351	*e*P		Pn	02 41 30.9	+1.8	
MOAC				*e*S		Sn	02 43 22.4	-3.3	
HUMP	Col San Antoni	10.61	41			Pn	02 41 26.8	-2.4	
YAR	Yar	10.62	343	*e*P		Pn	02 41 31.0	+1.5	
YAR				*e*S		Sn	02 43 18.1	-8.5	
LCR2	La Lucha 2	10.74	269			Pn	02 41 32.6	+1.4	
ESPN	Las Esperanzas	11.16	281			Pn	02 41 37.4	+0.6	
OTAV	Otavalo	11.20	209			Pn	02 41 37.1	-0.5	
OTAV	Otavalo	11.20	209	*e*P		Pn	02 41 37.3	-0.3	
SOCE	Pocosol	11.32	272			Pn	02 41 40.3	+1.3	
JTS	Las Juntas de	11.65	272			Pn	02 41 44.9	+1.6	
JTS	Las Juntas de	11.65	272	P		Pn	02 41 44.2	+0.9	
	comp=E,24nm,0.7s,baz=56,slow=7.1,SNR=18								
JTS				S		Sn	02 43 43.3	-8.3	
	comp=E,22nm,1.0s,baz=77,slow=11,SNR=3.7								
ACON	Acoyapa	11.97	280			Pn	02 41 48.2	+0.7	
SVT	Saint Vincent	12.01	74	*e*P		Pn	02 41 43.4	-4.5	
SABA	Saba	12.11	51			Pn	02 41 47.1	-2.2	
MBFL	Flemmings, Mon	12.46	57	*e*P		Pn	02 41 50.5	-3.3	
SLBI	Saint Lucia, B	12.47	71	*e*P		Pn	02 41 48.9	-5.1	
BOAB	BOACO BROADBAN	12.52	282			Pn	02 41 55.0	+0.3	
TBG	Guadaloupe-3	12.52	62	*e*P		Pn	02 41 51.0	-3.6	
MDN	Morne-Daniel	12.53	65	*e*P		Pn	02 41 50.7	-4.1	
FDF	Fort de France	12.53	68			Pn	02 41 50.0	-4.9	
BIM	Bigot	12.54	69	*e*P		Pn	02 41 50.4	-4.5	
DSLB	Salisbury	12.55	64	*e*P		Pn	02 41 50.4	-4.6	
DSLB	Salisbury	12.55	64	*e*P		Pn	02 41 51.2	-3.9	
DHSZ	Broadband at M	12.61	60	*e*P		Pn	02 41 53.8	-1.9	
ANBD	Bethesda, Anti	12.98	57	*e*P		Pn	02 41 58.2	-2.4	
DSDZ	La Diserade, G	13.22	61	*e*P		Pn	02 42 00.7	-3.1	
ANWB	Willy Bob	13.29	55	*e*P		Pn	02 42 02.3	-2.2	
TBTG	Tabatinga, AM	14.60	167	P		Pn	02 42 21.3	-0.2	
TBTG	Tabatinga, AM	14.60	167	*e*P		Pn	02 42 19.4	-2.0	
BOAV	Boa Vista	14.69	121	P		Pn	02 42 22.1	-0.5	
BOAV	Boa Vista	14.69	121	*e*P		Pn	02 42 21.4	-1.3	
CAMR	Camarioca	15.06	329	P		P	02 42 32.0	+2.4	
CAMR				IAmb		IAmb	02 42 33.5		
	comp=Z,231nm,1.0s								
TEFE	Tefe	15.99	148	*e*P		Pn	02 42 37.1	-1.7	
MTO3	Montecristo	16.43	286	P		Pn	02 42 46.5	+2.1	
ESQI	Esquipulas	16.44	287	P		P	02 42 47.9	+2.8	
PETF	Flores	17.61	294	P		Pn	02 43 00.5	+1.9	
TEIG	Tepich	17.71	306	P		P	02 43 01.1	+2.2	
CZSB	Cruzeiro do Su	17.77	179	P		P	02 42 59.4	-0.2	
CZSB	Cruzeiro do Su	17.77	179	*e*P		P	02 42 59.2	-0.4	
ATAH	Atahualpa	17.97	197	P		Pn	02 43 03.1	-0.1	
	comp=E,51nm,0.9s,baz=37,slow=5.8,SNR=22								
ATAH				S		Sn	02 46 23.9	-0.6	
	comp=E,9.6nm,0.8s,baz=147,slow=17,SNR=7.3								
MACA	Manacapuru-AM	18.12	136	P		P	02 43 03.6	+0.2	
MACA	Manacapuru-AM	18.12	136	*e*P		P	02 43 03.6	+0.2	
CCIG	Comitan	19.49	290	P		P	02 43 20.5	+2.0	
MDP	Montagnes des	20.90	102	P		P	02 43 34.1	+0.5	
	comp=E,18nm,0.9s,baz=64,slow=5.6,SNR=14								
	comp=Z,18nm,0.9s								
CMIG	Matias Romero	22.24	290	LR		LR	02 53 29.4		
	comp=Z,200nm,20.3s,baz=119,slow=39								
MAL2	Monte Alegre,	22.40	122	P		P	02 43 48.2	-1.1	
NPGB	Novo Progresso	24.59	133	*e*P		P	02 44 09.1	-0.6	
152A	Waverly Hall	24.83	336	IAmb		IAmb	02 44 17.1		
	comp=Z,14nm,0.8s								
250A	Grady	24.89	333	P		P	02 44 14.2	+2.0	
250A				IAmb		IAmb	02 44 16.5		
	comp=E,51nm,1.2s								
GOGA	Godfrey	25.03	339	P		P	02 44 15.0	+1.5	
GOGA				IAmb		IAmb	02 44 53.1		
	comp=Z,30nm,1.4s								
Y52A	Lilburn	25.65	339	IAmb		IAmb	02 44 23.2		
	comp=Z,16nm,1.3s								
TLIG	Tlapa	25.76	289	IAmb		IAmb	02 44 27.1		
	comp=Z,15nm,0.9s								
LRAL	Lakeview Retre	26.11	333	P		P	02 44 25.8	+2.5	
LRAL				IAmb		IAmb	02 44 30.0		
	comp=Z,11nm,0.8s								
VILB	Vilhena	26.30	151	P		P	02 44 24.2	-1.0	
VILB	Vilhena	26.30	151	*e*P		P	02 44 24.4	-0.7	
LPAZ	La Paz	26.73	169	P		P	02 44 28.6	-1.1	
LPAZ	La Paz	26.73	169	P		P	02 44 28.8	-0.9	
	comp=Z,1.8nm,0.4s,baz=9.5,slow=5.8,SNR=11								
	comp=Z,1.8nm,0.4s								
LPAZ	La Paz	26.73	169	*e*P		P	02 44 27.9	-1.8	
Z47A	Carrollton	26.75	331	IAmb		IAmb	02 44 36.3		
	comp=Z,26nm,0.8s								
PDRB	Porto dos Gac	27.07	143	*e*P		P	02 44 30.0	-2.1	
CLDB	Colider	27.07	140	*e*P		P	02 44 30.0	-2.2	
PLAL	Pickwick Lake	28.23	333	IAmb		IAmb	02 44 45.3		
	comp=Z,19nm,1.2s								
HKT	Hockley	28.93	316	P		P	02 44 50.3	+1.9	
HKT				IAmb		IAmb	02 44 51.8		
	comp=Z,28nm,1.2s								
PTLB	Pontes e Lacer	28.96	151	*e*P		P	02 44 46.8	-2.1	
WVT	Waverly	29.10	335	P		P	02 44 51.3	+1.4	
WVT				IAmb		IAmb	02 44 53.8		
	comp=Z,15nm,1.3s								
T47A	Sharon Grove	29.55	337	IAmb		IAmb	02 44 56.7		
	comp=Z,7.5nm,0.6s								
X40A	Basin Creek Fa	30.20	326	IAmb		IAmb	02 45 01.2		
	comp=Z,12nm,1.2s								
WHAR	Wooly Hollow	30.52	328	P		P	02 45 03.8	+1.4	
WHAR				IAmb		IAmb	02 45 05.1		
	comp=Z,18nm,1.0s								
LCAR	Lake Charles	30.56	330	IAmb		IAmb	02 45 05.4		
	comp=Z,12nm,1.1s								
833A	Chaparral WMA,	30.58	310	IAmb		IAmb	02 45 04.7		
	comp=Z,18nm,0.8s								
MIAR	Mount Ida	30.65	326	IAmb		IAmb	02 45 06.3		
	comp=Z,13nm,0.9s								
PBMO	Poplar Bluff	30.79	332	IAmb		IAmb	02 45 07.5		
	comp=Z,19nm,1.2s								
ZAIG	Zacatecas	30.83	298	IAmb		IAmb	02 45 09.8		
	comp=Z,16nm,1.1s								
SNDB	Serra Nova Dou	30.88	135	*e*P		P	02 45 05.4	-0.5	
FCAR	Ozark Folk Cen	30.89	329	IAmb		IAmb	02 45 08.0		
	comp=Z,20nm,1.2s								
SALV	Santo Antonio	31.11	146	*e*P		P	02 45 06.2	-1.7	
HNDO	Hondo	31.13	312	IAmb		IAmb	02 45 10.4		
	comp=Z,23nm,1.1s								
OLIL	Olney	31.46	337	IAmb		IAmb	02 45 13.4		
	comp=Z,16nm,0.8s								
SMTB	Santa Maria do	31.66	126	*e*P		P	02 45 13.0	+0.2	
FVM	French Village	31.78	333	IAmb		IAmb	02 45 16.1		
	comp=Z,13nm,0.8s								
JCT	Junction City	32.02	313	IAmb		IAmb	02 45 18.0		
	comp=Z,14nm,1.0s								
DRIO	Del Rio	32.06	311	IAmb		IAmb	02 45 17.7		
	comp=Z,17nm,0.9s								
HHAR	Hobbs	32.14	327	IAmb		IAmb	02 45 18.7		
	comp=Z,9.6nm,1.0s								
CCM	Cathedral Cave	32.20	333	P		P	02 45 17.7	+0.5	
CCM				IAmb		IAmb	02 45 19.6		
	comp=Z,12nm,0.9s								
FW03	Perrin-Whitt E	32.34	319	IAmb		IAmb	02 45 21.2		
	comp=Z,17nm,0.8s								
U38A	Gravette	32.49	327	IAmb		IAmb	02 45 21.5		
	comp=Z,11nm,1.1s								
SFIN	Lafayette	32.55	340	IAmb		IAmb	02 45 23.0		
	comp=Z,14nm,1.0s								
P43A	Skaggs, Pawnee	32.80	336	IAmb		IAmb	02 45 24.6		
	comp=Z,14nm,0.7s								
TUL3	Leonard	32.88	325	IAmb		IAmb	02 45 24.9		
	comp=Z,14nm,0.8s								
ARAG	Araguaiana, MT	33.25	140	*e*P		P	02 45 24.2	-2.4	
SAND	Sanderson	33.46	310	IAmb		IAmb	02 45 30.1		
	comp=Z,14nm,0.9s								
SGCY	Sterling City	33.76	314	IAmb		IAmb	02 45 32.9		
	comp=Z,19nm,1.0s								
P40A	Paris	33.77	333	IAmb		IAmb	02 45 32.5		
	comp=Z,7.8nm,0.9s								
WMOK	Wichita Mounta	33.88	320	IAmb		IAmb	02 45 33.3		
	comp=Z,14nm,0.9s								
SN05	Snyder 5	34.14	316	IAmb		IAmb	02 45 36.6		
	comp=Z,19nm,1.1s								
SN07	Snyder 07	34.26	316	IAmb		IAmb	02 45 37.4		
	comp=Z,27nm,1.4s								
TXAR	Lajitas Array	34.34	308	P		P	02 45 37.1	+1.0	
	comp=Z,6.3nm,0.8s,baz=129,slow=8.8,SNR=85								
	comp=Z,6.3nm,0.8s								
TX31	Lajitas Ar. Si	34.34	308	IAmb		IAmb	02 45 38.2		
	comp=Z,6.6nm,0.8s								
P38A	Dawn	34.52	332	IAmb		IAmb	02 45 40.1		
	comp=Z,12nm,1.0s								
MNHN	Monahans	34.63	312	IAmb		IAmb	02 45 40.6		
	comp=Z,20nm,1.0s								
MURT	Porto Murtinho	35.09	154	*e*P		P	02 45 39.3	-3.1	
PECS	Pecos	35.47	311	IAmb		IAmb	02 45 47.6		
	comp=Z,11nm,1.3s								
BDFB	Brasilia	35.71	136	P		P	02 45 46.8	-1.1	
BDFB				IAmb		IAmb	02 45 49.6		
	comp=Z,9.5nm,0.6s								
BDFB	Brasilia	35.71	136	P		P	02 45 47.2	-0.6	
	comp=Z,7.9nm,0.5s,baz=309,slow=9.3,SNR=16								
	comp=Z,7.9nm,0.5s								
SDBA	SAO DESIDERIO	35.89	128	*e*P		P	02 45 49.4	0.0	
RPRD	Ribas do Rio P	35.94	148	*e*P		P	02 45 48.3	-1.4	
VHRN	Van Horn	36.02	309	IAmb		IAmb	02 45 53.4		
	comp=Z,25nm,1.2s								
R32A	Long Quarter,	36.31	325	IAmb		IAmb	02 45 54.3		
	comp=Z,17nm,0.9s								
MNTX	Cornudas Mount	36.75	310	IAmb		IAmb	02 45 59.8		
	comp=Z,10nm,0.8s								
I40A	Norwalk	36.88	339	IAmb		IAmb	02 45 59.5		
	comp=Z,6.6nm,0.7s								
IPMB	Ipameri, GO	37.24	139	*e*P		P	02 46 00.1	-0.7	
EPT	El Paso	37.63	310	IAmb		IAmb	02 46 06.5		
	comp=Z,15nm,0.9s								
LPIG	La Paz	38.02	296	LR		LR	03 02 40.1		
	comp=Z,107nm,19.2s,baz=165,slow=37								
PCMB	Pacaembu	38.17	146	*e*P		P	02 46 07.6	-0.9	
COWI	Conover	38.35	342	IAmb		IAmb	02 46 12.8		
	comp=Z,8.9nm,1.0s								
SJPY	San Joaquin	38.68	155	*e*P		P	02 46 12.5	-0.3	
PMNB	Patos De Minas	38.80	137	*e*P		P	02 46 14.2	+0.1	
T25A	Trinidad	38.96	319	IAmb		IAmb	02 46 19.0		
	comp=Z,17nm,1.0s								
ANMO	Albuquerque	39.15	314	P		P	02 46 17.3	+0.5	
BB19B	Bebedouro	39.33	142	*e*P		P	02 46 18.8	+0.5	
SDCO	Great Sand Dun	40.02	319	P		P	02 46 25.0	+0.8	
SDCO				IAmb		IAmb	02 46 27.5		
	comp=Z,14nm,1.0s								
PTGB	Pitanga	40.29	150	*e*P		P	02 46 26.1	-0.1	
FRTB	Fartura	40.49	146	*e*P		P	02 46 28.2	+0.3	
EYMN	Ely	40.73	341	IAmb		IAmb	02 46 31.2		
	comp=Z,8.2nm,0.7s								
TUC	Tucson	41.14	308	P		P	02 46 34.5	+1.3	
TUC				IAmb		IAmb	02 46 36.1		
	comp=Z,9.3nm,0.9s								
X18A	Snowflake	41.46	312	IAmb		IAmb	02 46 39.5		
	comp=Z,18nm,1.1s								
MVCO	Mesa Verde	41.73	316	IAmb		IAmb	02 46 41.2		
	comp=Z,24nm,1.5s								
VAO	Valinhos	41.73	142	P		P	02 46 36.2	-1.8	
VAO	Valinhos	41.73	142	*e*P		P	02 46 38.7	+0.7	
PV01	Paradox Valley	42.26	317	IAmb		IAmb	02 46 46.0		
	comp=Z,16nm,1.1s								
PV13	Radium Mtn., P	42.44	317	IAmb		IAmb	02 46 47.2		
	comp=Z,20nm,0.9s								
PV07	Paradox Valley	42.47	317	IAmb		IAmb	02 46 47.4		
	comp=Z,18nm,1.1s								
PV03	Paradox Valley	42.51	317	IAmb		IAmb	02 46 47.6		
	comp=Z,15nm,1.1s								
PET01	Itanhaem-SP	42.53	144	*e*P		P	02 46 44.6	+0.2	
PV18	Skein Mesa, Pa	42.54	317	IAmb		IAmb	02 46 47.9		
	comp=Z,21nm,1.0s								
PV11	David Mesa, Pa	42.55	317	IAmb		IAmb	02 46 51.6		
	comp=Z,10nm,0.9s								
PV05	Paradox Valley	42.58	317	IAmb		IAmb	02 46 47.7		
	comp=Z,12nm,0.7s								
214A	Organ Pipe Nat	42.59	307	IAmb		IAmb	02 46 47.7		
	comp=Z,12nm,1.0s								
PV22	Blue Mesa, Par	42.61	318	IAmb		IAmb	02 46 48.4		
	comp=Z,12nm,0.9s								
PV04	Paradox Valley	42.62	317	IAmb		IAmb	02 46 49.4		
	comp=Z,19nm,1.4s								
PV19	Morning Glory	42.62	317	IAmb		IAmb	02 46 48.4		
	comp=Z,16nm,1.3s								
PV20	West Nyswonger	42.63	317	IAmb		IAmb	02 46 47.9		
	comp=Z,10nm,1.0s								
PV10	Paradox Valley	42.70	317	IAmb		IAmb	02 46 50.0		
	comp=Z,21nm,1.4s								
PV23	Carpenter Ridg	42.72	317	IAmb		IAmb	02 46 49.1		
	comp=Z,11nm,0.9s								
PV21	Cone Mtn., Par	42.75	317	IAmb		IAmb	02 46 49.4		
	comp=Z,10nm,1.0s								
WUAZ	Wupatki	42.95	312	IAmb		IAmb	02 46 51.2		
	comp=Z,16nm,0.9s								
EPLO	Experimental L	42.96	340	IAmb		IAmb	02 46 49.6		
	comp=Z,9.4nm,0.9s								
RSSD	Black Hills	43.13	327	P		P	02 46 49.7	+0.3	
RSSD				IAmb		IAmb	02 46 51.2		
	comp=Z,14nm,1.5s								
O20A	White River Ci	43.13	320	IAmb		IAmb	02 46 52.1		
	comp=Z,8.9nm,0.9s								
E28A	Huff	43.21	332	P		P	02 46 50.1	+0.4	
E28A				IAmb		IAmb	02 46 51.3		
	comp=Z,16nm,0.8s								
Y14A	Wickenburg	43.50	309	IAmb		IAmb	02 46 55.0		
	comp=Z,9.6nm,0.8s								
HMU	Henry Mountain	43.63	316	IAmb		IAmb	02 46 57.4		
	comp=Z,30nm,1.3s								
U15A	North Rim	44.02	313	IAmb		IAmb	02 47 00.1		
	comp=Z,14nm,1.0s								
SRU	San Rafael Swe	44.07	317	IAmb		IAmb	02 46 59.8		
	comp=Z,9.9nm,0.9s								
W13A	Hualapai Mount	44.63	310	IAmb		IAmb	02 47 04.7		
	comp=Z,9.2nm,1.0s								
KNB	Kanab	44.66	313	IAmb		IAmb	02 47 05.0		
	comp=Z,15nm,0.9s								
SCHQ	Schefferville	44.84	5	P		P	02 47 02.7	+0.2	
	comp=Z,5.5nm,0.9s,baz=168,slow=8.7,SNR=4.1								
	comp=Z,5.5nm,0.9s								
LCMT	Little Creek M	44.96	313	IAmb		IAmb	02 47 07.1		
	comp=Z,9.4nm,1.0s								
BSUT	Blindstream Ca	44.96	319	IAmb		IAmb	02 47 07.3		
	comp=Z,15nm,1.2s								
MPU	Maple Canyon	45.27	318	IAmb		IAmb	02 47 09.2		
	comp=Z,16nm,1.2s								
BW06	Boulder Array	45.43	322	P		P	02 47 08.7	+1.0	
BW06				IAmb		IAmb	02 47 09.9		
	comp=Z,17nm,1.2s								
PD31	Pinedale Array	45.43	322	IAmb		IAmb	02 47 09.9		
	comp=Z,15nm,1.2s								
PDAR	Pinedale Array	45.43	322	P		P	02 47 08.8	+1.1	
	comp=Z,4.9nm,0.7s,baz=122,slow=9.8,SNR=55								
	comp=Z,4.9nm,0.7s								
V12A	Nelson	45.60	311	IAmb		IAmb	02 47 11.8		
	comp=Z,19nm,0.8s								
TCUT	Toone Canyon	45.69	319	IAmb		IAmb	02 47 12.6		
	comp=Z,15nm,1.0s								
MTPC	Mountain Pass	46.04	310	P		P	02 47 13.6	+1.0	
PSUT	Pine Spring	46.07	315	IAmb		IAmb	02 47 15.9		
	comp=Z,9.6nm,0.9s								
AHID	Auburn Hatcher	46.37	321	IAmb		IAmb	02 47 17.4		
	comp=Z,8.0nm,0.9s								
LOHW	Long Hollow	46.54	322	IAmb		IAmb	02 47 18.9		
	comp=Z,13nm,0.9s								
SNOW	Snow King Moun	46.55	322	IAmb		IAmb	02 47 19.9		
	comp=Z,11nm,0.7s								
SPR3	Spring Creek 3	46.62	315	IAmb		IAmb	02 47 20.0		
	comp=Z,12nm,1.3s								
RLMT	Red Lodge	46.64	325	IAmb		IAmb	02 47 20.5		
	comp=Z,14nm,1.5s								
YHL	Hebgen Lake	47.59	324	IAmb		IAmb	02 47 29.0		
	comp=Z,16nm,1.1s								
BOZ	Bozeman (W)	48.27	324	P		P	02 47 31.3	+1.7	
BOZ				IAmb		IAmb	02 47 32.4		
	comp=Z,7.7nm,1.1s								
DSP	Deep Springs	48.55	311	IAmb		IAmb	02 47 34.8		
	comp=Z,7.7nm,0.9s								
MCMT	McKenzie Canyo	48.56	323	P		P	02 47 33.9	+1.9	
EGMT	Eagleton	48.69	328	IAmb		IAmb	02 47 35.2		
	comp=Z,7.4nm,0.8s								
DLMT	Dillon	48.70	323	IAmb		IAmb	02 47 35.9		
	comp=Z,13nm,1.2s								
NVAR	Mina Array Bea	49.20	313	P		P	02 47 37.4	+0.4	
NVAR	Mina Array Bea	49.20	313	P		P	02 47 37.8	+0.8	
	comp=Z,2.3nm,0.7s,baz=123,slow=7.1,SNR=16								
	comp=Z,2.3nm,0.7s								
MFID	Camas Ranch	49.68	320	IAmb		IAmb	02 47 44.2		
	comp=Z,5.4nm,0.8s								
PLID	Pearl Lake	50.60	321	IAmb		IAmb	02 47 49.4		
	comp=Z,7.8nm,1.0s								
PLCA	Paso Flores	50.69	177	P		P	02 47 47.9	0.0	
	comp=Z,1.9nm,0.6s,baz=345,slow=13,SNR=3.6								
	comp=Z,1.9nm,0.6s								
WVOR	Wild Horse Val	51.06	317	IAmb		IAmb	02 47 54.1		
	comp=Z,7.3nm,1.2s								
G08A	Pilot Rock	52.54	320	IAmb		IAmb	02 48 04.0		
	comp=Z,7.9nm,1.0s								
E09A	Wood Farm, Sta	52.61	322	IAmb		IAmb	02 48 04.2		
	comp=Z,9.7nm,1.0s								
NEW	Newport	52.88	324	IAmb		IAmb	02 48 05.9		
	comp=Z,7.6nm,1.1s								
J05D	Fort Rock, OR	53.16	317	IAmb		IAmb	02 48 08.6		
	comp=Z,8.7nm,1.0s								
PINE	Pine Mountain	53.17	318	IAmb		IAmb	02 48 09.1		
	comp=Z,12nm,1.0s								
L04D	Klamath Falls	53.47	316	IAmb		IAmb	02 48 10.4		
	comp=Z,18nm,1.1s								
YBH	Yreka Blue Hor	53.57	315	IAmb		IAmb	02 48 09.8		
	comp=Z,5.1nm,0.9s								
G06A	Carlson Farm,	53.58	320	IAmb		IAmb	02 48 12.5		
	comp=Z,20nm,1.4s								
B08A	Colville Reser	54.21	324	P		P	02 48 14.4	+0.6	
B08A				IAmb		IAmb	02 48 15.8		
	comp=Z,14nm,0.9s								
HOOD	Mount Hood Mea	54.26	319	IAmb		IAmb	02 48 18.0		
	comp=Z,16nm,1.1s								
H04A	Detroit Lake	54.35	318	IAmb		IAmb	02 48 17.1		
	comp=Z,10nm,0.9s								
LTY	Liberty	54.49	322	IAmb		IAmb	02 48 18.3		
	comp=Z,8.7nm,1.0s								
I03D	Bain, OR	54.73	317	IAmb		IAmb	02 48 20.5		
	comp=Z,9.0nm,1.0s								
GNW	Green Mountain	55.94	321	IAmb		IAmb	02 48 27.5		
	comp=Z,6.7nm,0.7s								
LLLB	Lillooet	56.74	325	IAmb		IAmb	02 48 33.7		
	comp=Z,8.4nm,1.1s								
CBB	Campbell River	58.49	323	P		P	02 48 42.8	-1.4	
CBB				IAmb		IAmb	02 48 46.8		
	comp=Z,10nm,0.9s								
YKA	Yellowknife Ar	60.16	339	P		P	02 48 55.6	+0.3	
	comp=Z,2.2nm,0.8s,baz=129,slow=6.5,SNR=10								
	comp=Z,2.2nm,0.8s								
TOAD	Toad River Com	62.36	332	P		P	02 49 10.4	+0.1	
	baz=119								
WRGLY	Wrigley	63.85	337	P		P	02 49 21.0	+1.1	
	baz=122								
T35M	Bob Quinn	63.95	329	P		P	02 49 22.0	+1.2	
	baz=113								
DLBC	Dease Lake	64.42	331	P		P	02 49 24.6	+0.7	
	baz=114								
S34M	Telegraph Cree	64.75	330	P		P	02 49 27.0	+1.0	
	baz=113								
CRAG	Craig	64.90	327	P		P	02 49 27.5	+0.6	

baz=110
EKA **Eskdalemuir Ar** 70.33 35 P P 02 50 00.3 -0.8
comp=Z,0.7nm,0.4s,baz=268,slow=5.8,SNR=16
comp=Z,0.7nm,0.4s
G30M **tAoh Zraii Nji** 70.35 338 P P 02 50 02.2 +1.2
baz=111
F30M **Barrier River** 70.43 339 P P 02 50 02.7 +1.2
baz=112
YUK3 **Moose Creek** 70.46 332 P P 02 50 03.3 +1.3
baz=106
I29M **Ogilvie Camp,** 70.59 336 P P 02 50 04.0 +1.5
baz=109
DAWY **Dawson** 70.64 335 P P 02 50 04.1 +1.2
baz=107
CTG **Chitna Glacier** 70.66 331 P P 02 50 04.3 +1.1
baz=104
MESA **MESA** 70.77 330 P P 02 50 04.2 +0.3
baz=104
BVCY **Beaver Creek** 70.81 333 P P 02 50 05.0 +1.0
baz=105
H29M **Whitestone** 70.90 337 P P 02 50 05.4 +1.1
baz=109
G29M **Pine Creek** 70.99 338 P P 02 50 06.0 +1.1
baz=110
M27K **Edge Creek, AK** 71.26 333 P P 02 50 08.1 +1.3
baz=104,SNR=6.5
I28M **Miner Creek** 71.27 336 P P 02 50 08.0 +1.3
baz=107
BCAR **Beaver Creek A** 71.39 333 P P 02 50 08.7 +1.2
L27K **Beaver Creek,** 71.41 333 P P 02 50 09.1 +1.6
baz=105
E29M **Blow River** 71.45 339 P P 02 50 09.1 +1.4
baz=110
MCARA **McCarthy VSAT** 71.56 332 P P 02 50 09.4 +1.0
baz=103
K27K **Chicken** 71.76 334 P P 02 50 11.0 +1.4
baz=105
M26K **Nabesna, AK** 71.78 333 P P 02 50 11.4 +1.7
baz=103
F28M **Old Crow** 71.90 338 P P 02 50 12.2 +1.8
baz=108
KAIM **Kayak Island** 71.92 330 P P 02 50 12.3 +1.7
baz=101
I27K **Kandik River** 71.99 336 P P 02 50 12.7 +1.7
baz=106
E28M **Babbage River** 72.09 339 P P 02 50 12.4 +0.9
baz=108
H27K **Steamboat Moun** 72.12 337 P P 02 50 12.4 +0.6
baz=106
BMRM **Bremner River** 72.22 331 P P 02 50 13.5 +1.0
baz=101
G27K **Doyon Strip** 72.33 337 P P 02 50 14.1 +1.1
baz=106
N25K **Chitina, Valde** 72.34 332 P P 02 50 14.0 +0.8
baz=102
J26L **Joseph Creek** 72.51 335 P P 02 50 14.9 +0.7
baz=103
I26K **Coal Creek Min** 72.53 336 P P 02 50 15.0 +0.9
baz=104
SCRK **Sand Creek** 72.57 334 P P 02 50 15.3 +0.8
baz=103,SNR=5.2
EYAK **Cordova Ski Ar** 72.69 330 P P 02 50 16.5 +1.4
baz=100
E27K **Coleen River** 72.69 339 P P 02 50 16.2 +1.1
baz=106
HARP **HAARP** 72.76 332 P P 02 50 16.1 +0.5
baz=101
D27M **Malcolm River** 72.78 340 P P 02 50 16.5 +0.9
baz=107
Q23K **Middleton Isla** 72.80 329 P P 02 50 16.6 +0.9
baz=99
RIDG **Independent Ri** 72.89 334 P P 02 50 17.1 +0.7
baz=102
KLU **Klutina** 72.94 331 P P 02 50 17.5 +0.8
baz=100
PAX **Paxson** 73.01 333 P P 02 50 18.5 +1.4
baz=101
M24K **Tolsona, Glenn** 73.17 332 P P 02 50 19.0 +0.9
baz=100
G26K **Porcupine Rive** 73.18 337 P P 02 50 19.3 +1.4
baz=104
J25K **Salcha River,** 73.30 335 P P 02 50 19.9 +1.2
baz=102
K24K **Donnelly Dome** 73.31 334 P P 02 50 19.6 +0.8
baz=101
GLI **Glacier Island** 73.40 331 P P 02 50 20.4 +1.1
baz=99
P23K **Montague Islan** 73.41 330 P P 02 50 20.4 +1.0
baz=99
F26K **Sheenjek River** 73.50 338 P P 02 50 21.0 +1.2
baz=104
PRP **Porcupine Dome** 73.55 336 P P 02 50 20.1 -0.2
PRP **Porcupine Dome** 73.55 336 P P 02 50 21.3 +1.0
baz=102
SCM **Sheep Creek Mo** 73.66 332 IAmb IAmb 02 50 23.2
comp=Z,7.5nm,1.0s
SCM **Sheep Creek Mo** 73.66 332 P P 02 50 21.9 +1.0
baz=99
H25L **Birch Creek** 73.82 336 P P 02 50 23.4 +1.8
baz=102
C27K **Jago River** 73.82 340 P P 02 50 23.0 +1.4
baz=105
M23K **Glacier View** 73.84 332 P P 02 50 22.9 +0.9
baz=99
DHY **Denali Highway** 73.89 333 P P 02 50 23.7 +1.4
baz=100
HDA **Harding Lake** 73.93 334 P P 02 50 23.8 +1.5
baz=100
ILAR **Eielson Array** 73.97 335 P P 02 50 22.3 -0.3
comp=Z,0.5nm,0.8s,baz=112,slow=5.1,SNR=4.5
comp=Z,0.5nm,0.8s
WAT6 **Susitna Watana** 73.97 332 P P 02 50 24.3 +1.5
baz=99
PWL **Port Wells** 74.00 331 P P 02 50 24.3 +1.5
baz=98
F25K **Christian Rive** 74.03 338 P P 02 50 24.3 +1.4
baz=102
G25K **Bearman Lake** 74.03 337 P P 02 50 23.8 +0.9
baz=102
E25K **Arctic Village** 74.12 338 P P 02 50 24.5 +1.1
baz=103
KNK **Knik Glacier** 74.13 331 P P 02 50 25.0 +1.4
baz=98
POKR **Poker Plat Res** 74.26 335 P P 02 50 25.7 +1.5
baz=100
ESPZ **Base Esperanza** 74.37 173 P P 02 50 24.1 -0.7
ESPZ IAmb IAmb 02 50 25.2
comp=Z,11nm,1.0s
WAT1 **Susitna Watana** 74.38 333 P P 02 50 26.4 +1.4
baz=98
SEW **Seward** 74.45 330 P P 02 50 26.2 +0.8
baz=97
G24K **Hadweenzic Riv** 74.56 337 P P 02 50 27.1 +1.2
baz=100
H24K **Noodor Dome** 74.56 336 P P 02 50 27.0 +1.0
baz=100
RND **Reindeer** 74.60 333 IAmb IAmb 02 50 28.9
comp=Z,9.4nm,0.9s
D25K **Kavik River** 74.66 339 P P 02 50 27.5 +0.9
baz=102
MCK **McKinley** 74.68 333 P P 02 50 27.6 +0.8
baz=98
RC01 **Rabbit Creek A** 74.70 331 P P 02 50 27.7 +0.8
baz=97
F24K **Squaw Lake** 74.86 337 P P 02 50 28.5 +0.8
baz=100
NEA2 **Nenana** 74.86 334 P P 02 50 28.5 +0.8
baz=98
I23K **Minto, Yukon-K** 75.07 335 P P 02 50 29.5 +0.6
baz=98
E24K **Your Creek** 75.18 338 P P 02 50 30.6 +1.0
baz=100
SUA **Susitna One** 75.23 331 P P 02 50 31.0 +0.9
baz=96
H23K **Yukon River** 75.24 336 P P 02 50 30.9 +1.0
baz=98
TRF **Thorofare Moun** 75.24 333 P P 02 50 31.0 +0.9
baz=97
HOM **Homer** 75.50 329 P P 02 50 32.7 +1.3
baz=95
C24K **Franklin Bluff** 75.54 340 P P 02 50 32.6 +1.1
baz=100
G23K **Bananza Creek** 75.56 336 P P 02 50 32.4 +0.6
baz=98
E23K **Chandalar** 75.60 338 P P 02 50 33.3 +1.3
baz=99
BPAW **Bear Paw Mtn.** 75.63 334 P P 02 50 33.1 +1.0
baz=96,SNR=5.7
MLY **Manley** 75.63 335 P P 02 50 33.0 +0.8
MLY **Manley** 75.63 335 P P 02 50 32.7 +0.5
baz=97
SKT **Skwentna** 75.65 331 P P 02 50 33.2 +0.9
baz=96
TOLK **Toolik Lake Re** 75.67 338 P P 02 50 33.3 +0.9
baz=99
COLD **Coldfoot** 75.70 337 P P 02 50 33.4 +0.9
baz=98
Q20K **Shuyak Island** 75.81 328 P P 02 50 34.5 +1.2
baz=94
KDAK **Kodiak Island** 75.86 327 P P 02 50 34.3 +0.7
baz=94
H22K **Ishtalitna Cre** 76.00 336 P P 02 50 35.6 +1.4
baz=97
O20K **Slope Mountain** 76.03 329 P P 02 50 35.5 +0.9
baz=94
CAST **Castle Rocks** 76.04 333 P P 02 50 35.4 +0.8
baz=95,SNR=5.5
PPLA **Purkeypile** 76.04 332 P P 02 50 35.6 +0.8
baz=95
D23K **Nanushuk River** 76.12 339 P P 02 50 36.0 +1.2
baz=98
I21K **Tanana** 76.17 335 P P 02 50 35.8 +0.6
baz=96,SNR=7.6
OHAK **Old Harbor** 76.21 327 P P 02 50 36.2 +0.7
baz=93
C23K **Itkillik River** 76.22 340 P P 02 50 36.3 +1.0
baz=98
P19K **Oil Pt** 76.31 329 P P 02 50 36.9 +0.8
baz=93
M20K **Styx River** 76.40 331 P P 02 50 37.2 +0.5
baz=94
E22K **Anaktuvuk Pass** 76.42 338 P P 02 50 37.5 +0.8
baz=97
Q19K **Cape Douglas,** 76.48 328 P P 02 50 37.7 +0.5
baz=93
H21K **Melozitna Rive** 76.56 335 P P 02 50 38.6 +1.2
baz=95
L20K **Farewell, AK** 76.79 332 P P 02 50 39.3 +0.5
baz=94
D22K **Ayikyak River** 76.83 339 P P 02 50 40.0 +1.1
baz=96
R18K **Karluk** 76.85 327 P P 02 50 40.1 +0.9
baz=92
G21K **Allakaket** 76.92 336 P P 02 50 40.6 +1.2
baz=95
K20K **Telida** 76.93 333 P P 02 50 40.5 +1.0
baz=94
F21K **Alatna River** 76.97 337 P P 02 50 40.6 +0.9
baz=95
N19K **Bonanza Creek** 76.99 330 P P 02 50 40.7 +0.7
baz=92
M19K **Big River Lodg** 77.00 331 P P 02 50 40.9 +1.0
baz=93
J20K **Nowinta River** 77.01 334 P P 02 50 41.1 +1.1
J20K **Nowinta River** 77.01 334 P P 02 50 40.8 +0.8
baz=94,SNR=8.1
Q18K **Katmai Hardscr** 77.18 328 P P 02 50 41.4 +0.3
baz=92
L19K **White Mountain** 77.23 332 P P 02 50 41.5 +0.3
baz=92
E21K **Killik River** 77.25 338 P P 02 50 41.8 +0.5
baz=95
P18K **Big Mountain,** 77.31 329 P P 02 50 42.3 +0.5
baz=92
O18K **Koktuh Hills** 77.31 329 P P 02 50 41.3 -0.5
baz=92
H20K **Anotleneega Mo** 77.41 335 P P 02 50 42.9 +0.8
baz=93
CHIR **Chirikof Islan** 77.46 325 P P 02 50 42.2 -0.4
baz=90
C21K **Knifeblade Rid** 77.61 339 P P 02 50 43.3 +0.1
baz=94
Q17K **Contact Creek** 77.63 328 P P 02 50 43.4 -0.3
baz=91
J19K **Poorman** 77.65 333 P P 02 50 44.0 +0.4
baz=92
M18K **Stony River** 77.66 331 P P 02 50 44.4 +0.7
baz=92
N18K **Kilae Creek** 77.67 330 P P 02 50 44.5 +0.8
baz=91
A22K **Sinclair Lake** 77.81 341 P P 02 50 44.7 +0.5
baz=94
F20K **Avaraart Lake** 77.83 337 P P 02 50 44.8 +0.4
baz=93
R17L **Mt. Peulik Vol** 77.88 327 P P 02 50 44.9 -0.1
baz=90
P17K **Kvichak River** 77.93 328 P P 02 50 45.6 +0.5
baz=90
H19K **Roundabout Mou** 78.06 335 P P 02 50 46.4 +0.7
baz=92
E20K **Nigu River** 78.06 338 P P 02 50 46.5 +0.6
baz=93
L18K **Granite Mounta** 78.09 332 P P 02 50 46.9 +1.0
baz=91
J18K **Innoko River** 78.12 333 P P 02 50 46.9 +0.7
baz=91
D20K **Etivluk River** 78.24 338 P P 02 50 47.3 +0.6
baz=92
O17K **Koliganek Bris** 78.27 329 P P 02 50 47.7 +0.7
baz=90
N17K **Nushagak Hills** 78.31 330 P P 02 50 47.8 +0.6
baz=90
G19K **Purcell Mounta** 78.34 336 P P 02 50 48.2 +0.9
baz=91
E19K **Redstone River** 78.43 337 P P 02 50 48.2 +0.5
baz=92
M17K **Holitna River** 78.44 331 P P 02 50 49.1 +1.1
baz=89
NB2 **NORSAR Subarra** 78.44 30 P P 02 50 48.9 +0.9
comp=Z,0.9nm,0.6s,baz=272,slow=5.9
NOA **NORSAR Array B** 78.44 30 P P 02 50 49.3 +1.3
comp=Z,0.8nm,0.6s,baz=270,slow=5.8,SNR=6.8
comp=Z,0.8nm,0.6s
F19K **Shaleruckik Mo** 78.63 336 P P 02 50 49.2 +0.4
baz=91
P16K **Nushagak River** 78.73 328 P P 02 50 49.9 +0.3
baz=89
D19K **Kuna River** 78.78 338 P P 02 50 50.4 +0.7
baz=91
K17K **Iditarod** 78.84 332 P P 02 50 50.3 +0.3
baz=90
L17K **Donlin** 78.84 331 P P 02 50 50.5 +0.4
baz=90
H18K **Honhosa River** 78.86 335 P P 02 50 51.1 +1.0
baz=90
G18K **Tagagawik** 78.98 335 P P 02 50 51.6 +0.7
baz=90
CHGN **Chignik** 79.02 326 P P 02 50 51.8 +0.6
baz=88
N16K **Nishlik Lake** 79.10 330 P P 02 50 52.4 +0.8
baz=89
M16K **Timber Creek** 79.18 330 P P 02 50 52.9 +0.9
baz=89
J17K **VABM Dome** 79.19 333 P P 02 50 53.0 +1.1
baz=89
C19K **Lookout Ridge** 79.32 339 P P 02 50 53.7 +1.0
baz=90
F18K **Selawik** 79.38 336 P P 02 50 53.8 +0.9
baz=89
L16K **Owhat River** 79.41 331 P P 02 50 54.1 +0.9
baz=88
H17K **Granite Mounta** 79.52 334 P P 02 50 54.6 +0.8
baz=89
S14K **Fog Glacier** 79.66 326 P P 02 50 55.5 +0.8
baz=87
O15K **Ungalikthiuk R** 79.67 328 P P 02 50 55.1 +0.4
baz=88
HFS **Hagfors** 79.68 31 P P 02 50 55.4 +0.7
comp=Z,0.6nm,0.4s,baz=238,slow=2.8,SNR=16
comp=Z,0.6nm,0.4s
E18K **Tukpahlearik C** 79.73 337 P P 02 50 55.4 +0.5
baz=88
CHNA **Chernabura Isl** 79.75 324 P P 02 50 55.2 +0.1
baz=87
N15K **Kwethluk River** 79.77 330 P P 02 50 55.3 +0.1
baz=88
G17K **Kiwalik Mounta** 79.81 335 P P 02 50 55.9 +0.6
baz=88
A19K **Wainwright** 79.82 340 P P 02 50 55.7 +0.4
baz=88
J16K **Anvik River** 79.88 333 P P 02 50 56.7 +1.0
baz=88
I17K **Unalakleet** 79.89 333 P P 02 50 56.7 +1.0
baz=88
C18K **Utukok River** 79.92 338 P P 02 50 56.8 +0.9
baz=88
F17K **Baldwin Pennin** 80.02 336 P P 02 50 57.3 +0.9
baz=88
SPITS **Spitsbergen Ar** 80.02 12 P P 02 50 56.7 +0.4
comp=Z,1.3nm,0.5s,baz=275,slow=8.5,SNR=2.1
SPITS LR LR 03 27 17.4
comp=Z,18nm,19.1s,baz=276,slow=36
comp=Z,1.3nm,0.5s
M15K **Kasigluk River** 80.04 330 P P 02 50 56.8 +0.2
baz=87
B18K **Kokolik River** 80.11 339 P P 02 50 58.1 +1.3
baz=88
E17K **Hotham Inlet** 80.22 337 P P 02 50 59.2 +1.8
baz=87
SDPT **Sand Point** 80.23 325 P P 02 50 59.4 +1.7
baz=86
GERES **GERESS Array B** 80.35 42 P P 02 50 59.6 +0.9
comp=Z,0.3nm,0.5s,baz=264,slow=12,SNR=3.4
comp=Z,0.3nm,0.5s
K15K **Wolf Creek Mou** 80.35 332 P P 02 50 59.3 +1.0
baz=87
L15K **Ungalak Mounta** 80.37 331 P P 02 50 59.2 +0.9
baz=87
O14K **Tigyukauivet M** 80.41 329 P P 02 50 59.2 +0.6
baz=86
H16K **Elim** 80.53 334 P P 02 51 00.1 +0.9
baz=86
G16K **Koyuk River** 80.53 335 P P 02 50 59.9 +0.7
baz=86
N14K **Kuskokwak Cree** 80.58 329 P P 02 51 00.1 +0.6
baz=86
RDOG **Red Dog Mine** 80.58 338 P P 02 51 00.8 +1.4
baz=86
C17K **DeLong Mountai** 80.65 338 P P 02 51 01.1 +1.3
baz=86
M14K **Bethel** 80.66 330 P P 02 51 01.0 +1.1
baz=86
D17K **Noatak River** 80.67 337 P P 02 51 00.8 +1.0
baz=86
L14K **Kuka Creek** 80.96 331 P P 02 51 02.0 +0.5
baz=86
S12K **Black Hills** 81.10 325 P P 02 51 02.5 +0.1
baz=85
J14K **Nanvaranak Lak** 81.25 332 P P 02 51 03.5 +0.4
baz=85
G15K **Niukluk** 81.27 335 P P 02 51 04.1 +1.0
baz=85
M13K **Dall Lake** 81.37 330 P P 02 51 04.7 +1.1
baz=85
C16K **Lisburne Hills** 81.47 338 P P 02 51 05.0 +1.0
baz=84
K13K **Kusilvak Mount** 81.84 331 P P 02 51 07.1 +0.9
baz=84
M11K **Mekoryuk** 82.78 330 P P 02 51 12.3 +1.2
baz=82
TNA **Tin City** 82.82 335 P P 02 51 12.5 +1.3
baz=81
ARCES **ARCESS Array B** 83.56 20 P P 02 51 15.8 +0.8
comp=Z,1.1nm,0.7s,baz=292,slow=3.8,SNR=5.4
ARCES LR LR 03 23 16.9
comp=Z,35nm,20.3s,baz=252,slow=32
comp=Z,1.1nm,0.7s
UNV **Unalaska Valle** 83.88 323 P P 02 51 17.6 +0.8
baz=81
SPIA **Saint Paul Isl** 85.39 327 P P 02 51 25.5 +1.2
baz=78
NIKH **Nikolski High** 85.41 323 P P 02 51 25.5 +1.0
baz=79
SNAA **Sanae** 93.50 163 P P 02 52 02.4 +0.1
comp=Z,1.9nm,1.0s,baz=180,slow=14,SNR=4.1
comp=Z,1.9nm,1.0s
KOOLE **Kule** 96.92 112 P P 02 52 19.3 +0.2
HHC **Hu-ho-hao-te** 129.07 355 eP PKPdf 02 57 50.1 -4.8
NJ2 **Nanjing** 136.50 345 eP PKPdf 02 58 09.5 +0.5
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
PZH **PanZhiHua** 143.22 8 PKP PKPbc 02 58 20.3 +1.6
ASAR **Alice Springs** 150.94 239 PKPbc PKPbc 02 58 39.6 -0.5
comp=Z,1.0nm,0.7s,baz=98,slow=2.6,SNR=8.5
WRA **Warramunga Arr** 151.80 247 PKPbc PKPbc 02 58 41.8 -0.4
comp=Z,1.8nm,0.7s,baz=104,slow=2.8,SNR=16

IDC 13 02:40:51.2±1.8, 10.06S×124.19E, h0km, mb3.2/1, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=29.9km s-min=12.1km az=170.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.54**	**254**	Pg	Pg	02 41 02.1	+0.5
	146nm,0.3s,baz=185,slow=5.5,SNR=74						
BATI				Lg	Lg	02 41 08.8	
	322nm,0.3s,baz=286,slow=11,SNR=20						
FITZ	**Fitzroy Crossi**	**8.12**	**170**	Pn	Pn	02 42 50.2	-0.2
	0.4nm,0.3s,baz=352,slow=8.4,SNR=20						
FITZ				Sn	Sn	02 44 16.5	-6.4
	0.8nm,0.3s,baz=246,slow=20,SNR=3.4						
	0.9nm,0.3s						
WRA	**Warramunga Arr**	**13.87**	**136**	Pn	Pn	02 44 08.6	-0.7
	0.2nm,0.3s,baz=309,slow=15,SNR=6.9						
WRA				Sn	Sn	02 46 39.7	-4.5
	0.1nm,0.3s,baz=308,slow=26,SNR=2.4						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**16.41**	**147**	Pn	Pn	02 44 43.4	+0.4
	0.2nm,0.3s,baz=324,slow=14,SNR=7.3						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**67.82**	**330**	P	P	02 51 50.8	-0.4
	0.1nm,0.4s,baz=138,slow=6.7,SNR=1.6						
	0.1nm,0.4s						

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*MDD **13** 02:51:46.4±0.6, 42.80N×14.21W, h0km, Mb4.2/40, M_mb3.6/32, Error ellipse: s-maj=4.8km s-min=3.6km az=111.0*
*IGIL **13** 02:51:48.9, 42.92N×14.53W, h43km, ML3.0*
*INMG **13** 02:51:49.1±1.9, 42.91N×14.57W, h12km, ML2.9, Error ellipse: s-maj=6.4km s-min=4.0km az=93.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Abissal Iberica*
*CNRM **13** 02:52:02.9, 41.87N×13.60W, h68km*

ISC 13 02:51:44.1±2.1, 42.76N±0.06×14.1W±0.1, h10km, n80, σ2s95/137, 22C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMAZ	**Mazaricos**	**3.77**	**85**	P	Pn	**02 52 45.7**	**+3.4**
EMAZ				⇑*i*IVmb_VC		02 52 46.2	
	294nm,SNR=1.5						
EMAZ				S	Sn	**02 53 26.8**	**+0.2**
PGAV	**Gavieira, Arco**	**4.39**	**98**	*e*P	Pn	**02 52 55.0**	**+4.1**
PGAV				*e*S	Sn	**02 53 44.0**	**+1.9**
PGAV				*i* IAML		02 53 45.5	
PGAV				*i* IAML		02 53 46.0	
PGAV				*i* IAML		02 53 47.5	
EAGO	**Agolada(Pontev**	**4.42**	**87**	P	Pn	**02 52 54.2**	**+3.0**
EAGO				⇑*i*IVmb_VC		02 52 55.5	
	337nm,SNR=2.5						
EAGO				S	Sn	**02 53 44.1**	**+1.3**
ELOB	**Lobios**	**4.56**	**99**	P	Pn	**02 52 57.6**	**+4.3**
ELOB				⇑*i*IVmb_VC		02 52 58.7	
	136nm,SNR=1.4						
ELOB				S	Sn	**02 53 48.6**	**+2.3**
PCAB	**Cabril**	**4.63**	**101**	*e*P	Pn	**02 52 58.6**	**+4.5**
PCAB				*e*S	Sn	**02 53 50.4**	**+2.6**
PCAB				*i* IAML		02 53 52.2	
PCAB				*i* IAML		02 53 54.1	
PCAB				*i* IAML		02 53 54.8	
POLO	**Lamas de Olo**	**4.89**	**104**	*e*P	Pn	**02 53 01.9**	**+4.2**
POLO				*e*S	Sn	**02 53 56.9**	**+2.4**
POLO				*i* IAML		02 53 59.1	
POLO				*i* IAML		02 54 01.1	
POLO				*i* IAML		02 54 02.2	
COI	**Coimbra**	**4.97**	**119**	*e*P	Pn	**02 53 02.0**	**+3.2**
COI				*e*S	Sn	**02 53 58.1**	**+1.8**
COI				*i* IAML		02 53 59.1	
COI				*i* IAML		02 54 01.8	
COI				*i* IAML		02 54 08.5	
PVRL	**Vila Real**	**4.98**	**105**	*e*P	Pn	**02 53 03.1**	**+4.1**
PVRL				*e*S	Sn	**02 53 58.5**	**+1.9**
PVRL				*i* IAML		02 54 00.3	
PVRL				*i* IAML		02 54 02.0	
PVRL				*i* IAML		02 54 02.1	
PCAS	**Casmilo, Conde**	**5.00**	**121**	*e*P	Pn	**02 53 03.2**	**+3.9**
PCAS				*e*S	Sn	**02 53 58.7**	**+1.6**
PCAS				*i* IAML		02 54 01.7	
PCAS				*i* IAML		02 54 01.9	

PCAS *i* IAML 02 54 03.6
PVIS Viseu 5.07 112 *e*P **Pn** **02 53 03.8 +3.6**
PVIS *e*S **Sn** **02 54 00.3 +1.5**
EPON Pontenova 5.12 81 P **Pn** **02 53 03.4 +2.5**
EPON ⇑*i*Vmb_VC 02 53 04.4
234nm,SNR=1.2
EPON S **Sn** **02 54 58.8 -1.3**
PMAFR Mafra 5.27 135 Pn **Pn** **02 53 07.3 +4.3**
PMAFR Sn **Sn** **02 54 04.7 +1.0**
PMAFR Mafra 5.27 135 *e*P **Pn** **02 53 07.2 +4.3**
PMAFR *e*S **Sn** **02 54 05.3 +1.6**
PMAFR *i* IAML 02 54 08.1
PMAFR *i* IAML 02 54 09.1
PMAFR *i* IAML 02 54 09.2
MTE Manteigas 5.45 113 *e*P **Pn** **02 53 08.9 +3.5**
MTE *e*S **Sn** **02 54 09.6 +1.4**
MTE *i* IAML 02 54 13.7
MTE *i* IAML 02 54 13.7
MTE *i* IAML 02 54 25.0
PSARD Sardoal 5.48 123 ⇑*i*P **Pn** **02 53 09.6 +3.9**
PSARD *e*S **Sn** **02 54 10.5 +1.7**
PSARD *i* IAML 02 54 12.6
PSARD *i* IAML 02 54 12.6
PSARD *i* IAML 02 54 17.9
PARRA Arraiolos 5.50 134 *e*P **Pb** **02 53 17.2 -3.0**
PARRA *e*S **Sb** **02 54 23.5 -2.7**
PARRA *i* IAML 02 54 27.1
PARRA *i* IAML 02 54 27.6
PARRA *i* IAML 02 54 27.8
MVO Moncorvo 5.50 104 *e*P **Pn** **02 53 10.1 +3.9**
MVO *e*S **Sn** **02 54 10.4 +0.8**
MVO *i* IAML 02 54 13.3
MVO *i* IAML 02 54 14.2
MVO *i* IAML 02 54 15.1
ECAL Calabor 5.51 96 Pn **Pn** **02 53 10.5 +4.2**
ECAL Sn **Sn** **02 54 11.6 +1.8**
ECAL Calabor 5.51 96 P **Pn** **02 53 10.2 +3.9**
ECAL ⇑*i*Vmb_VC 02 53 11.8
146nm,SNR=1.4
ECAL S **Sn** **02 54 11.5 +1.7**
PBRG Braganca 5.54 97 *e*S **Sn** **02 54 11.7 +1.3**
PBRG *i* IAML 02 54 14.0
PBRG *i* IAML 02 54 15.5
PBRG *i* IAML 02 54 15.6
PCBR Castelo Branco 5.78 118 *e*P **Pn** **02 53 13.6 +3.8**
PCBR *e*S **Sn** **02 54 16.1 0.0**
PCBR *i* IAML 02 54 20.1
PCBR *i* IAML 02 54 20.4
PCBR *i* IAML 02 54 20.6
PMTG Montargil 5.78 128 *e*P **Pn** **02 53 13.7 +3.9**
PMTG *e*S **Sn** **02 54 17.3 +1.2**
PMTG *i* IAML 02 54 21.5
PMTG *i* IAML 02 54 21.9
PMTG *i* IAML 02 54 22.6
PMRV Marv??o 6.06 121 *e*P **Pn** **02 53 17.6 +3.8**
PMRV *e*S **Sn** **02 54 23.8 +0.6**
PMRV *i* IAML 02 54 28.6
PMRV *i* IAML 02 54 29.9
PMRV *i* IAML 02 54 30.3
EVO Evora 6.26 130 Pn **Pn** **02 53 20.4 +3.9**
EVO Sn **Sn** **02 54 28.3 +0.1**
EVO Evora 6.26 130 *e*P **Pn** **02 53 20.5 +3.9**
EVO *e*S **Sn** **02 54 28.5 +0.3**
EVO *i* IAML 02 54 34.3
EVO *i* IAML 02 54 34.4
EVO *i* IAML 02 54 41.1
PESTR Estremoz 6.28 126 Pn **Pn** **02 53 20.2 +3.4**
PESTR Sn **Sn** **02 54 27.8 -0.9**
PESTR Estremoz 6.28 126 *e*P **Pn** **02 53 20.2 +3.4**
PESTR *e*S **Sn** **02 54 28.9 +0.2**
PESTR *i* IAML 02 54 34.1
PESTR *i* IAML 02 54 35.7
PESTR *i* IAML 02 54 36.9
PESTR Estremoz 6.28 126 P **Pn** **02 53 21.3 +4.5**
PESTR Estremoz 6.28 126 S **Sn** **02 54 24.6 -4.1**
EJUZ Juzbado, Salam 6.34 103 P **Pn** **02 53 20.0 +2.2**
EJUZ S **Sn** **02 54 31.2 +1.0**
EARI Arriondas 6.53 82 P **Pn** **02 53 23.1 +2.8**
EARI ⇑*i*Vmb_VC 02 53 24.2
167nm,SNR=1.7
EARI S **Sn** **02 54 35.0 +0.1**
EPLA Plasencia 6.60 111 P **Pn** **02 53 25.2 +4.0**
EPLA ⇑*i*Vmb_VC 02 53 25.8
66nm,SNR=1.3
EPLA S **Sn** **02 54 37.0 +0.5**
PTEO Sao Teotonio 6.64 140 *e*P **Pn** **02 53 25.7 +4.0**
PTEO *e*S **Sn** **02 54 37.7 +0.4**
PTEO *i* IAML 02 54 42.8
PTEO *i* IAML 02 54 44.2
PTEO *i* IAML 02 54 45.9
MESJ Messejana 6.66 136 *e*P **Pn** **02 53 26.3 +4.3**
MESJ *e*S **Sn** **02 54 37.1 -0.8**
MESJ IAML 02 54 43.9
comp=N,5.3nm,0.5s
MESJ Messejana 6.66 136 *e*P **Pn** **02 53 26.3 +4.3**
MESJ *e*S **Sn** **02 54 37.7 -0.1**
MESJ *i* IAML 02 54 43.8
MESJ *i* IAML 02 54 43.9
MESJ *i* IAML 02 54 44.0
EBAD Badajoz 6.70 124 Pn **Pn** **02 53 25.9 +3.3**
EBAD Sn **Sn** **02 54 38.0 -1.0**
EBAD Badajoz 6.70 124 P **Pn** **02 53 25.5 +3.0**
EBAD ⇑*i*Vmb_VC 02 53 27.2
comp=N,121nm,SNR=2.5
EBAD S **Sn** **02 54 38.8 -0.1**
PBEJ Beja 6.70 133 *e*S **Sn** **02 54 39.5 +0.5**
PBEJ *i* IAML 02 54 44.4
PBEJ *i* IAML 02 54 44.6
PBEJ *i* IAML 02 54 46.5
MORF Marmelete 6.87 141 *e*P **Pn** **02 53 28.6 +3.8**
MORF *e*S **Sn** **02 54 41.7 -1.3**
MORF IAML 02 54 49.4
comp=N,28nm,0.3s
MORF Marmelete 6.87 141 *e*P **Pn** **02 53 28.6 +3.8**
MORF *e*S **Sn** **02 54 44.5 +1.4**
MORF *i* IAML 02 54 45.5
MORF *i* IAML 02 54 45.9
MORF *i* IAML 02 54 49.2
PCVE Castro Verde 6.91 136 Pn **Pn** **02 53 29.7 +4.3**
PCVE Sn **Sn** **02 54 43.3 -0.8**
PCVE Castro Verde 6.91 136 *e*P **Pn** **02 53 29.7 +4.3**
PCVE *e*S **Sn** **02 54 43.6 -0.5**
PCVE *i* IAML 02 54 50.2
PCVE *i* IAML 02 54 51.4
PCVE *i* IAML 02 54 52.4
PFVI Vila Bisbo 6.92 143 Pn **Pn** **02 53 29.1 +3.5**
PFVI Vila Bisbo 6.92 143 *e*P **Pn** **02 53 29.1 +3.5**
PFVI *e*S **Sn** **02 54 43.6 -0.9**
PFVI *i* IAML 02 54 47.2
PFVI *i* IAML 02 54 48.1
PFVI *i* IAML 02 54 50.8
PFVI Vila Bisbo 6.92 143 P **Pn** **02 53 28.7 +3.1**
PFVI Vila Bisbo 6.92 143 S Sn 02 54 36.0 -8.5
PBAR Barrancos 7.06 128 Pn **Pn** **02 53 31.0 +3.4**
PBAR Sn **Sn** **02 54 47.6 -0.3**
PBAR Barrancos 7.06 128 *e*P **Pn** **02 53 31.6 +4.0**
PBAR *e*S **Sn** **02 54 47.1 -0.8**
PBAR *i* IAML 02 54 54.1
PBAR *i* IAML 02 54 54.9
PBAR *i* IAML 02 54 55.6
PVAQ Vaqueiros 7.25 135 Pn **Pn** **02 53 34.0 +4.0**
PVAQ Vaqueiros 7.25 135 *e*P **Pn** **02 53 34.0 +4.0**
PVAQ *e*S **Sn** **02 54 52.2 -0.1**
PVAQ *i* IAML 02 54 58.4
PVAQ *i* IAML 02 54 58.7
PVAQ *i* IAML 02 54 59.4
PVAQ Vaqueiros 7.25 135 P **Pn** **02 53 33.5 +3.4**
PVAQ Vaqueiros 7.25 135 S **Sn** **02 54 47.2 -5.2**
PBDV Barranco-do-Ve 7.26 137 *e*P Pn 02 53 35.1 +4.8
PBDV *e*S **Sn** **02 54 53.1 +0.3**
PBDV *i* IAML 02 54 56.1
PBDV *i* IAML 02 54 58.9
PBDV *i* IAML 02 54 59.3
EGRO El Granado 7.27 134 Pn **Pn** **02 53 34.8 +4.4**
EGRO El Granado 7.27 134 P **Pn** **02 53 35.0 +4.6**
EGRO ⇑*i*Vmb_VC 02 53 35.5
comp=N,86nm,SNR=1.6
EGRO S **Sn** **02 54 52.6 -0.3**
ALT03 Santillana del 7.33 82 P **Pn** **02 53 34.8 +3.6**
ALT03 ⇑*i*Vmb_VC 02 53 36.3
comp=N,250nm,SNR=3.2
ALT03 S **Sn** **02 54 54.1 -0.2**
ALT02 Santillana del 7.33 82 P **Pn** **02 53 34.2 +3.0**
ALT02 S **Sn** **02 54 54.3 -0.1**
EMIN Mina Concepcio 7.55 129 Pn **Pn** **02 53 38.4 +4.1**
EMIN Sn **Sn** **02 54 59.4 -0.5**
EMIN Mina Concepcio 7.55 129 P **Pn** **02 53 38.2 +3.9**
EMIN ⇑*i*Vmb_VC 02 53 39.2
comp=N,135nm,SNR=3.1
EMIN S **Sn** **02 54 59.1 -0.8**
GUD Guadarrama 7.73 103 P **Pn** **02 53 40.2 +3.4**
GUD ⇑*i*Vmb_VC 02 53 42.0
comp=N,49nm,SNR=1.7
GUD S **Sn** **02 55 04.6 +0.1**
ELAN Lanestosa 7.83 83 P **Pn** **02 53 41.2 +3.1**
ELAN ⇑*i*Vmb_VC 02 53 43.2
comp=N,68nm,SNR=1.0
ELAN S **Sn** **02 55 05.9 -0.9**
PAB San Pablo 8.02 110 P **Pn** **02 53 44.6 +3.8**
PAB ⇑*i*Vmb_VC 02 53 45.5
comp=N,47nm,SNR=1.4
PAB S **Sn** **02 55 10.1 -1.5**
ECAB El Cabril 8.10 122 Pn **Pn** **02 53 45.0 +3.2**
ECAB Sn **Sn** **02 55 12.4 -1.1**
ECAB El Cabril 8.10 122 P **Pn** **02 53 44.3 +2.5**
ECAB ⇑*i*Vmb_VC 02 53 46.0
comp=N,94nm,SNR=2.5
ECAB S **Sn** **02 55 11.6 -2.0**
ESDC Sonseca Array 8.23 109 P **Pn** **02 53 47.2 +3.5**
ESDC ⇑*i*Vmb_VC 02 53 48.3
comp=N,50nm,SNR=1.8
ESDC S **Sn** **02 55 14.7 -2.1**
ESBB Sonseca Array 8.24 109 P **Pn** **02 53 47.2 +3.5**
ESBB ⇑*i*Vmb_VC 02 53 48.3
comp=N,45nm,SNR=1.5
ESBB S **Sn** **02 55 14.7 -2.1**
EADA Adamuz 8.58 119 Pn **Pn** **02 53 52.5 +4.1**
EADA Sn **Sn** **02 55 23.0 -2.2**
EADA Adamuz 8.58 119 P **Pn** **02 53 51.7 +3.3**
EADA ⇑*i*Vmb_VC 02 53 52.5
comp=N,116nm,SNR=2.8
EADA S **Sn** **02 55 23.7 -1.6**
ESPR Espera 8.65 130 Sn **Sn** **02 55 26.2 -0.6**
ESPR Espera 8.65 130 P **Pn** **02 53 52.3 +3.0**
ESPR ⇑*i*Vmb_VC 02 53 52.8
comp=N,132nm,SNR=2.1
ESPR S **Sn** **02 55 26.6 -0.2**
PSIM Granatula de C 8.77 113 P **Pn** **02 53 54.8 +3.8**
PSIM S **Sn** **02 55 28.0 -2.0**
EALK Alkurruntz 9.24 83 P **Pn** **02 54 00.5 +3.0**
EALK ⇑*i*Vmb_VC 02 54 03.6
comp=N,84nm,SNR=1.1
EALK S **Sn** **02 55 39.5 -2.0**
EMIJ Mijas 9.48 128 P **Pn** **02 54 05.1 +4.4**
EMIJ ⇑*i*Vmb_VC 02 54 06.9
comp=N,71nm,SNR=1.1
EMIJ S **Sn** **02 55 45.8 -1.6**
CCA1 Carnmenellis 9.62 36 P **Pn** **02 54 00.2 -2.3**
CCA1 S Sn 02 55 36.7 -14
MD31 MD31 12.32 140 P **Pn** **02 54 42.4 +2.8**
MD31 MD31 12.32 140 S Sn 02 56 48.9 -8.2
TIO Tiouine 13.01 153 P **Pn** **02 54 53.0 +3.9**
TIO Tiouine 13.01 153 S Sn 02 57 04.9 -9.2
OUZM OUZ 13.20 151 P **Pn** **02 54 56.0 +4.3**
OUZM OUZ 13.20 151 S **Sn** **02 57 11.8 -6.8**

IDC ***13*** *03:17:23.7±1.3,59°.85N×152°.99W,h88km±16km,mb3.6/7, mbtmp3.9/11,Error ellipse: s-maj=20.8km s-min=10.7km az=105.0*
NEIC ***13*** *03:17:25.4±0.6,59°.80N±0°.03×153°.11W±0°.07, h103km±4km,Error ellipse: s-maj=5.2km s-min=4.6km az=112.0*
AEIC ***13*** *03:17:26.2±0.7,59°.79N±0°.03×153°.09W±0°.05, h101km±4km,ML3.4,ML3.5/188(NEIC),Error ellipse: s-maj=4.9km s-min=3.7km az=158.0*
ISC 13 03:17:25.1±0.7,59.79N±0°.04×153.00W±0°.04, h107km±5km,n203,σ0s83/190,mb4.1/7,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.17**	**348**		**Pn**	**03 17 39.9**	**-0.3**
ILS					**Sn**	**03 17 51.1**	**-0.5**
P19K	**Oil Pt**	**0.18**	**220**		**Pn**	**03 17 39.8**	**-0.4**
P19K				Sn	**Sn**	**03 17 50.5**	**-1.0**
ILSW	**Iliamna Southw**	**0.20**	**339**		**Pn**	**03 17 39.8**	**-0.6**
ILSW				Sn	**Sn**	**03 17 50.7**	**-1.2**
ILSW				IAML		03 17 51.2	
	comp=N,2μm,0.7s						
ILSW				IAML		03 17 52.3	
	comp=E,2μm,0.6s						
IVE	**Iliamna Volcan**	**0.23**	**358**		**Pn**	**03 17 39.7**	**-0.7**
IVE					**Sn**	**03 17 51.3**	**-0.6**
O20K	**Slope Mountain**	**0.35**	**33**		**Pn**	**03 17 40.9**	**0.0**
O20K					**Sn**	**03 17 52.6**	**-0.1**
AU22	**Augustine Moun**	**0.46**	**203**		**Pn**	**03 17 41.0**	**-0.4**
AU22					**Sn**	**03 17 52.9**	**-0.7**
AUL	**Augustine Lava**	**0.47**	**208**		**Pn**	**03 17 41.2**	**-0.3**
AUL					**Sn**	**03 17 53.2**	**-0.5**
AUCH	**Augustine Cone**	**0.49**	**208**		**Pn**	**03 17 41.5**	**-0.1**
AUCH					**Sn**	**03 17 53.5**	**-0.6**
RED	**Redoubt Volcan**	**0.64**	**10**		**Pn**	**03 17 42.7**	**-0.1**
RED				Sn	**Sn**	**03 17 55.5**	**-0.7**
RED				IAML		03 17 56.1	
	comp=E,3μm,0.7s						
RED				IAML		03 17 58.2	
	comp=N,844nm,0.6s						
RDSO	**Redoubt South**	**0.68**	**11**		**Sn**	**03 17 56.1**	**-0.7**
HOM	**Homer**	**0.70**	**100**		**Pn**	**03 17 43.8**	**+0.6**
HOM				Sn	**Sn**	**03 17 58.1**	**+1.3**
HOM				IAML		03 17 60.0	
	comp=E,2μm,0.3s						
RDWB	**Redoubt West**	**0.70**	**6**		**Sn**	**03 17 56.4**	**-0.7**
O19K	**Port Alsworth**	**0.78**	**302**		**Pn**	**03 17 43.2**	**-0.7**
O19K				Sn	**Sn**	**03 17 56.4**	**-1.5**
RDJH	**Redoubt Jeurge**	**0.81**	**7**		**Pn**	**03 17 44.2**	**-0.1**
Q19K	**Cape Douglas,**	**0.93**	**201**		**Pn**	**03 17 44.8**	**-0.6**
Q19K				IAML		03 18 03.5	
	comp=E,858nm,0.8s						
Q19K				IAML		03 18 04.0	
	comp=N,795nm,0.7s						
CNPM	**China Poot**	**0.93**	**106**		**Pn**	**03 17 45.7**	**+0.3**
CNPM				IAML		03 18 01.3	
	comp=E,911nm,0.5s						
CNPM				IAML		03 18 02.4	
	comp=N,2μm,0.5s						
BRLK	**Bradley Lake**	**1.07**	**91**		**Pn**	**03 17 47.1**	**+0.3**
BRLK	**Bradley Lake**	**1.07**	**91**	IAML		03 18 04.3	
	comp=N,1μm,0.2s						
BRLK				IAML		03 18 05.2	
	comp=E,882nm,0.1s						
O18K	**Koktuh Hills**	**1.12**	**274**		**Pn**	**03 17 46.5**	**-0.9**
O18K				IAML		03 18 03.2	
	comp=N,379nm,0.9s						
P18K	**Big Mountain,**	**1.20**	**251**		**Pn**	**03 17 47.2**	**-1.2**
SYI	**Shuyak Island**	**1.23**	**165**		**Pn**	**03 17 48.8**	**+0.3**
SYI				IAML		03 18 07.5	
	comp=N,805nm,0.5s						
SYI				IAML		03 18 08.2	
	comp=E,801nm,0.3s						
N19K	**Bonanza Creek**	**1.26**	**325**		**Pn**	**03 17 48.6**	**-0.4**
N19K				IAML		03 18 06.8	
	comp=N,261nm,1.1s						
SPCR	**Spurr Chakacha**	**1.47**	**15**		**Pn**	**03 17 51.7**	**+0.3**
SPU	**Mount Spurr**	**1.47**	**18**		**Pn**	**03 17 51.7**	**+0.2**
SPU				IAML		03 18 13.3	
	comp=E,276nm,0.7s						
SPU				IAML		03 18 16.5	
	comp=N,192nm,0.4s						
KAHC	**Katmai Hardscr**	**1.54**	**223**		**Pn**	**03 17 51.8**	**-0.5**
KAHC	**Katmai Hardscr**	**1.54**	**223**		**Pn**	**03 17 51.9**	**-0.5**
SLKM	**Skilak Lake**	**1.56**	**61**		**Pn**	**03 17 53.3**	**+0.8**
SLKM				IAML		03 18 15.1	
	comp=E,814nm,0.2s						
SLKM				IAML		03 18 15.3	
	comp=N,909nm,0.3s						
N18K	**Kilae Creek**	**1.69**	**303**		**Pn**	**03 17 53.3**	**-0.8**
N18K				IAML		03 18 14.9	
	comp=E,162nm,0.7s						
O22K	**Cooper Landing**	**1.78**	**66**		**Pn**	**03 17 55.8**	**+0.7**
STLK	**Strandline Lak**	**1.81**	**18**		**Pn**	**03 17 56.0**	**+0.5**
STLK				IAML		03 18 21.1	
	comp=E,144nm,0.4s						
STLK				IAML		03 18 21.3	
	comp=N,144nm,0.5s						
SEW	**Seward**	**1.81**	**79**		**Pn**	**03 17 56.0**	**+0.4**
SEW				IAML		03 18 25.4	
	comp=N,192nm,0.4s						
SEW				IAML		03 18 29.2	
	comp=E,284nm,0.5s						
P17K	**Kvichak River**	**1.85**	**253**		**Pn**	**03 17 55.5**	**-0.5**
FIS	**Fire Island**	**1.93**	**44**		**Pn**	**03 17 57.7**	**+0.7**
ACHA	**Angle Creek He**	**1.99**	**218**		**Pn**	**03 17 57.5**	**-0.4**
SUA	**Susitna One**	**2.01**	**33**	IAML		03 18 28.2	
	comp=E,600nm,0.8s						
KDAK	**Kodiak Island**	**2.03**	**174**		**Pn**	**03 17 57.6**	**-0.7**
KDAK				IAML		03 18 24.6	
	comp=E,609nm,0.3s						
KDAK	**Kodiak Island**	**2.03**	**174**	P	**Pn**	**03 17 57.6**	**-0.7**
	comp=E,136nm,0.3s,baz=23,slow=6.3,SNR=1088						
KDAK				S	**Sn**	**03 18 22.3**	**-1.3**
	comp=E,189nm,0.3s,baz=316,slow=12,SNR=4.1						
ANCK	**Angle Creek**	**2.05**	**220**		**Pn**	**03 17 58.5**	**-0.2**
RC01	**Rabbit Creek A**	**2.08**	**50**		**Pn**	**03 17 59.7**	**+0.8**
SKT	**Skwentna**	**2.31**	**17**		**Pn**	**03 18 02.3**	**+0.3**
SKT				IAML		03 18 34.4	
	comp=E,153nm,0.4s						
SKT				IAML		03 18 37.6	
	comp=N,140nm,0.4s						
M22K	**Willow**	**2.42**	**34**		**Pn**	**03 18 03.8**	**+0.4**
OHAK	**Old Harbor**	**2.58**	**183**		**Pn**	**03 18 04.2**	**-1.3**
OHAK				IAML		03 18 37.0	
	comp=E,177nm,0.3s						
OHAK				IAML		03 18 37.2	
	comp=N,134nm,0.3s						
OHAK	**Old Harbor**	**2.58**	**183**	P	**Pn**	**03 18 04.1**	**-1.3**
PMR	**Palmer**	**2.62**	**45**		**Pn**	**03 18 06.0**	**+0.1**
PMR				IAML		03 18 38.3	
	comp=N,388nm,0.2s						
PMR	**Palmer**	**2.62**	**45**	P	**Pn**	**03 18 06.7**	**+0.7**
PMR	**Palmer**	**2.62**	**45**	S	**Sn**	**03 18 36.6**	**-0.8**
P16K	**Nushagak River**	**2.66**	**256**		**Pn**	**03 18 06.0**	**-0.5**
P16K	**Nushagak River**	**2.66**	**256**	IAML		03 19 13.1	
	comp=N,70nm,0.8s						
P16K				IAML		03 19 22.0	
	comp=E,78nm,0.9s						
PLK2	**Peulik 2**	**2.67**	**222**		**Pn**	**03 18 06.0**	**-0.7**
PLK3	**Peulik 3**	**2.71**	**220**		**Pn**	**03 18 06.9**	**-0.3**
M17K	**Holitna River**	**2.72**	**308**		**Pn**	**03 18 06.7**	**-0.6**
M17K				IAML		03 18 38.4	
	comp=N,107nm,0.9s						
M17K				IAML		03 18 39.4	
	comp=E,101nm,0.7s						
KNK	**Knik Glacier**	**2.77**	**52**		**Pn**	**03 18 07.8**	**-0.2**
PLK4	**Peulik 4**	**2.79**	**220**		**Pn**	**03 18 08.4**	**+0.2**
PLK4				IAML		03 18 42.9	
	comp=E,142nm,1.1s						
PLK4				IAML		03 18 43.5	
	comp=N,114nm,1.4s						
GHO	**Glory Hole Cre**	**2.82**	**43**		**Pn**	**03 18 08.5**	**-0.2**
P23K	**Montague Islan**	**2.83**	**83**		**Pn**	**03 18 09.1**	**+0.5**
P23K	**Montague Islan**	**2.83**	**83**	IAML		03 18 44.5	
	comp=E,297nm,0.3s						
P23K				IAML		03 18 44.7	
	comp=N,245nm,0.2s						
CUT	**Chuitna**	**2.94**	**26**		**Pn**	**03 18 11.0**	**+0.9**
N16K	**Nishlik Lake**	**2.97**	**286**		**Pn**	**03 18 09.8**	**-0.8**
GLI	**Glacier Island**	**3.13**	**67**		**Pn**	**03 18 11.6**	**-1.2**
PPLA	**Purkeypile**	**3.14**	**7**		**Pn**	**03 18 12.5**	**-0.5**
PPLA	**Purkeypile**	**3.14**	**7**	IAML		03 18 55.0	
	comp=N,47nm,0.6s						
PPLA				IAML		03 18 55.4	
	comp=E,73nm,1.3s						
M16K	**Timber Creek**	**3.20**	**295**		**Pn**	**03 18 12.7**	**-0.9**
M23K	**Glacier View**	**3.27**	**50**		**Pn**	**03 18 14.6**	**0.0**
SII	**Sitkinak Islan**	**3.30**	**191**		**Pn**	**03 18 13.5**	**-1.5**
SII				IAML		03 18 53.8	
	comp=E,204nm,0.3s						
SII				IAML		03 19 03.6	
	comp=N,165nm,0.9s						
SII	**Sitkinak Islan**	**3.30**	**191**	P	**Pn**	**03 18 13.6**	**-1.4**
SII	**Sitkinak Islan**	**3.30**	**191**	S	**Sn**	**03 18 51.1**	**-2.5**
HIN	**Hinchinbrook I**	**3.31**	**77**		**Pn**	**03 18 14.6**	**-0.5**
HIN				IAML		03 18 54.8	
	comp=N,177nm,0.6s						
HIN				IAML		03 18 56.6	
	comp=E,121nm,0.6s						
Q23K	**Middleton Isla**	**3.40**	**93**		**Pn**	**03 18 16.7**	**+0.4**
Q23K				IAML		03 18 57.5	
	comp=N,144nm,0.3s						
Q23K				IAML		03 18 57.6	
	comp=E,136nm,0.3s						
SCM	**Sheep Creek Mo**	**3.45**	**51**	IAML		03 19 03.9	
	comp=N,214nm,0.6s						
O15K	**Ungalikthiuk R**	**3.54**	**263**		**Pn**	**03 18 18.4**	**+0.3**
N15K	**Kwethluk River**	**3.58**	**279**		**Pn**	**03 18 18.2**	**-0.6**
N15K	**Kwethluk River**	**3.58**	**279**	IAML		03 19 00.1	
	comp=N,29nm,0.9s						
CAST	**Castle Rocks**	**3.67**	**6**		**Pn**	**03 18 20.5**	**+0.7**
EYAK	**Cordova Ski Ar**	**3.70**	**75**	IAML		03 19 05.0	
	comp=N,55nm,0.3s						
EYAK				IAML		03 19 10.7	
	comp=E,44nm,0.6s						
EYAK	**Cordova Ski Ar**	**3.70**	**75**	P	**Pn**	**03 18 20.2**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.70**	**75**	S	**Sn**	**03 19 02.1**	**-0.9**
L16K	**Owhat River**	**3.71**	**304**		**Pn**	**03 18 19.8**	**-0.7**
DIV	**Divide**	**3.82**	**66**	IAML		03 19 07.1	
	comp=E,94nm,0.4s						
DIV				IAML		03 19 08.1	
	comp=N,120nm,0.3s						
TRF	**Thorofare Moun**	**3.89**	**18**		**Pn**	**03 18 23.6**	**+0.5**
TRF				IAML		03 19 12.6	
	comp=N,83nm,0.4s						
TRF				IAML		03 19 30.8	
	comp=E,48nm,0.8s						
K17K	**Iditarod**	**3.89**	**321**		**Pn**	**03 18 22.5**	**-0.3**
K17K				IAML		03 19 27.1	
	comp=E,28nm,0.8s						
KTH	**Kantishna Hill**	**3.90**	**14**	IAML		03 19 09.9	
	comp=N,52nm,0.6s						
KTH				IAML		03 19 13.9	
	comp=E,40nm,0.8s						
M24K	**Tolsona, Glenn**	**4.06**	**52**		**Pn**	**03 18 25.5**	**+0.4**
RND	**Reindeer**	**4.13**	**27**	IAML		03 19 24.9	
	comp=N,37nm,0.8s						
RND				IAML		03 19 34.2	
	comp=E,51nm,0.9s						
O14K	**Tigyukauivet M**	**4.24**	**266**		**Pn**	**03 18 28.0**	**+0.5**
DHY	**Denali Highway**	**4.26**	**37**	IAML		03 19 18.4	
	comp=E,95nm,0.3s						
DHY				IAML		03 19 18.9	
	comp=N,112nm,0.3s						
KAIM	**Kayak Island**	**4.33**	**85**		**Pn**	**03 18 29.2**	**+0.4**
KAIM				IAML		03 19 23.1	
	comp=N,111nm,0.9s						
BMRM	**Bremner River**	**4.33**	**71**	IAML		03 19 18.7	
	comp=N,84nm,0.5s						
BMRM				IAML		03 19 22.5	
	comp=E,86nm,0.5s						
N14K	**Kuskokwak Cree**	**4.38**	**275**		**Pn**	**03 18 29.9**	**+0.5**
N14K				IAML		03 19 56.6	
	comp=E,20nm,1.4s						
N14K				IAML		03 20 10.2	
	comp=N,25nm,1.4s						
J19K	**Poorman**	**4.40**	**345**		**Pn**	**03 18 29.1**	**-0.5**
MCK	**McKinley**	**4.40**	**24**		**Pn**	**03 18 30.4**	**+0.7**
MCK	**McKinley**	**4.40**	**24**	IAML		03 19 20.9	
	comp=N,34nm,0.5s						
MCK				IAML		03 19 25.3	
	comp=E,33nm,0.5s						
HMT	**Hamilton**	**4.41**	**79**		**Pn**	**03 18 29.5**	**-0.4**
HMT	**Hamilton**	**4.41**	**79**	IAML		03 19 21.4	
	comp=N,104nm,0.3s						
BPAW	**Bear Paw Mtn.**	**4.43**	**12**		**Pn**	**03 18 29.7**	**-0.4**
BPAW	**Bear Paw Mtn.**	**4.43**	**12**	IAML		03 19 21.3	
	comp=N,22nm,0.7s						
BPAW				IAML		03 19 28.7	
	comp=E,20nm,0.5s						
N25K	**Chitina, Valde**	**4.51**	**63**	IAML		03 19 24.0	
	comp=N,89nm,0.4s						
L15K	**Ungalak Mounta**	**4.58**	**298**		**Pn**	**03 18 31.1**	**-1.0**
J17K	**VABM Dome**	**4.64**	**324**		**Pn**	**03 18 31.8**	**-1.0**
SUCK	**Suckling Hills**	**4.65**	**83**		**Pn**	**03 18 33.3**	**+0.3**
SUCK	**Suckling Hills**	**4.65**	**83**	IAML		03 19 28.9	
	comp=N,47nm,0.3s						
SUCK				IAML		03 19 32.7	
	comp=E,38nm,0.6s						

BERG	**Berg Lake**	**4.69**	**79**			**Pn**	**03 18 33.7**	**0.0**
BWN	**Browne**	**4.70**	**19**	IAML			03 19 44.2	
	comp=E,42nm,0.8s							
BWN				IAML			03 20 22.1	
	comp=N,62nm,1.4s							
WACK	**Wrangell Chich**	**4.77**	**59**			**Pn**	**03 18 34.9**	**0.0**
GLB	**Gilahina Butte**	**4.82**	**66**	IAML			03 19 31.6	
	comp=N,56nm,0.3s							
GLB				IAML			03 19 31.8	
	comp=E,49nm,0.3s							
PAX	**Paxson**	**4.82**	**45**			**Pn**	**03 18 35.8**	**+0.3**
PAX	**Paxson**	**4.82**	**45**	IAML			03 19 30.6	
	comp=N,51nm,0.4s							
PAX				IAML			03 19 31.7	
	comp=E,52nm,0.4s							
K15K	**Wolf Creek Mou**	**4.85**	**305**			**Pn**	**03 18 34.9**	**-0.8**
GRIN	**Grindle Hills**	**4.88**	**80**			**Pn**	**03 18 35.9**	**-0.3**
KHIT	**Khitrov Hills**	**4.92**	**78**			**Pn**	**03 18 36.1**	**-0.7**
VRDI	**Verde Repeater**	**4.93**	**69**	IAML			03 19 35.2	
	comp=N,32nm,0.4s							
VRDI				IAML			03 19 37.5	
	comp=E,24nm,0.5s							
CRQM	**Cirque**	**5.00**	**75**	IAML			03 19 34.8	
	comp=E,66nm,0.6s							
L14K	**Kuka Creek**	**5.02**	**292**			**Pn**	**03 18 38.4**	**+0.4**
L14K				IAML			03 20 11.6	
	comp=E,13nm,1.3s							
L14K				IAML			03 20 14.1	
	comp=N,11nm,1.1s							
I20K	**Naaghedeneel**	**5.07**	**353**			**Pn**	**03 18 37.7**	**-1.0**
I20K	**Naaghedeneel**	**5.07**	**353**	IAML			03 19 20.2	
	comp=N,38nm,0.6s							
I20K				IAML			03 20 21.6	
	comp=E,42nm,0.9s							
WAX	**Waxell Ridge**	**5.12**	**78**			**Pn**	**03 18 39.0**	**-0.5**
TGL	**Tana Glacier**	**5.15**	**75**			**Pn**	**03 18 39.0**	**-0.9**
TGL	**Tana Glacier**	**5.15**	**75**	IAML			03 19 39.2	
	comp=N,60nm,0.4s							
TGL				IAML			03 19 43.9	
	comp=E,61nm,0.6s							
NEA2	**Nenana**	**5.16**	**19**			**Pn**	**03 18 39.3**	**-0.6**
NEA2	**Nenana**	**5.16**	**19**	IAML			03 19 40.5	
	comp=N,12nm,0.8s							
NEA2				IAML			03 19 42.9	
	comp=E,12nm,0.5s							
MCARA	**McCarthy VSAT**	**5.17**	**68**			**Pn**	**03 18 40.3**	**+0.2**
WRH	**Wood River Hil**	**5.23**	**24**	IAML			03 19 39.9	
	comp=N,26nm,0.5s							
WRH				IAML			03 19 40.5	
	comp=E,19nm,0.5s							
K24K	**Donnelly Dome**	**5.28**	**37**			**Pn**	**03 18 41.7**	**0.0**
ISLE	**Juniper Island**	**5.38**	**77**			**Pn**	**03 18 43.8**	**+0.7**
KIAG	**Kiagna River**	**5.40**	**73**			**Pn**	**03 18 44.0**	**+0.6**
BALM	**Baldy**	**5.43**	**72**			**Pn**	**03 18 43.6**	**0.0**
BAGL	**Bagley Icefiel**	**5.50**	**78**			**Pn**	**03 18 45.1**	**+0.6**
M26K	**Nabesna, AK**	**5.51**	**57**			**Pn**	**03 18 45.1**	**+0.3**
RIDG	**Independent Ri**	**5.54**	**41**			**Pn**	**03 18 45.6**	**+0.5**
MESA	**MESA**	**5.56**	**81**			**Pn**	**03 18 45.9**	**+0.3**
COLA	**College**	**5.63**	**23**			**Pn**	**03 18 46.5**	**+0.2**
COLA	**College**	**5.63**	**23**	P		**Pn**	**03 18 46.1**	**-0.2**
ILAR	**Eielson Array**	**5.75**	**27**			**Pn**	**03 18 47.5**	**-0.4**
ILAR	**Eielson Array**	**5.75**	**27**	P		**Pn**	**03 18 46.6**	**-1.3**
	comp=E,11nm,0.5s,baz=219,slow=14,SNR=182							
ILAR				S		**Sn**	**03 19 48.1**	**-4.4**
	comp=E,5.5nm,0.3s,baz=268,slow=3.9,SNR=7.1							
BARN	**Barnard Glacie**	**5.76**	**72**			**Pn**	**03 18 48.6**	**+0.4**
H20K	**Anotleneega Mo**	**5.79**	**352**			**Pn**	**03 18 48.1**	**-0.3**
RKAV	**Rock Avalanche**	**5.86**	**80**			**Pn**	**03 18 50.3**	**+0.7**
H21K	**Melozitna Rive**	**5.89**	**1**			**Pn**	**03 18 49.5**	**-0.3**
CTGM	**Chitina Glacie**	**5.91**	**73**			**Pn**	**03 18 50.4**	**+0.3**
TABL	**Table Mountain**	**5.96**	**79**			**Pn**	**03 18 51.0**	**0.0**
M27K	**Edge Creek, AK**	**5.98**	**60**			**Pn**	**03 18 51.8**	**+0.6**
SCRK	**Sand Creek**	**5.98**	**42**			**Pn**	**03 18 50.6**	**-0.5**
LOGN	**Logan Glacier**	**6.05**	**75**			**Pn**	**03 18 52.1**	**-0.1**
H22K	**Ishtalitna Cre**	**6.17**	**6**			**Pn**	**03 18 53.9**	**+0.2**
IMAR	**Indian Mountai**	**6.22**	**357**			**Pn**	**03 18 54.9**	**+0.5**
H23K	**Yukon River**	**6.26**	**13**			**Pn**	**03 18 54.7**	**-0.1**
YUK2	**White River**	**6.28**	**66**			**Pn**	**03 18 55.3**	**+0.1**
L27K	**Beaver Creek,**	**6.28**	**54**			**Pn**	**03 18 54.2**	**-0.9**
BCAR	**Beaver Creek A**	**6.30**	**54**			**Pn**	**03 18 55.7**	**+0.3**
PCA	**Pinnacle**	**6.41**	**82**			**Pn**	**03 18 57.1**	**+0.1**
BVCY	**Beaver Creek**	**6.44**	**61**			**Pn**	**03 18 57.0**	**-0.4**
O28M	**Mount Upton**	**6.45**	**76**			**Pn**	**03 18 58.5**	**+0.9**
YUK3	**Moose Creek**	**6.45**	**67**			**Pn**	**03 18 58.1**	**+0.4**
J26L	**Joseph Creek**	**6.47**	**39**			**Pn**	**03 18 58.1**	**+0.4**
G19K	**Purcell Mounta**	**6.64**	**345**			**Pn**	**03 18 58.2**	**-1.8**
G18K	**Tagagawik**	**6.65**	**340**			**Pn**	**03 18 59.0**	**-1.1**
G17K	**Kiwalik Mounta**	**6.72**	**332**			**Pn**	**03 19 00.2**	**-0.9**
BCPM	**Bancas Point**	**6.73**	**83**			**Pn**	**03 19 01.6**	**+0.4**
G21K	**Allakaket**	**6.75**	**358**			**Pn**	**03 19 01.3**	**-0.2**
PNL	**Peninsula**	**6.88**	**85**	P		**Pn**	**03 19 03.2**	**-0.1**
PNL	**Peninsula**	**6.88**	**85**	S		**Sn**	**03 20 18.6**	**-1.4**
G23K	**Bananza Creek**	**7.07**	**10**			**Pn**	**03 19 05.3**	**-0.5**
O29M	**Mount Kennedy**	**7.24**	**80**			**Pn**	**03 19 08.3**	**0.0**
YUK6	**Outpost Mounta**	**7.35**	**75**			**Pn**	**03 19 09.7**	**-0.1**
F19K	**Shaleruckik Mo**	**7.38**	**345**			**Pn**	**03 19 10.0**	**0.0**
F21K	**Alatna River**	**7.46**	**359**			**Pn**	**03 19 10.3**	**-0.8**
M29M	**Somme Creek**	**7.52**	**63**			**Pn**	**03 19 11.8**	**-0.2**
COLD	**Coldfoot**	**7.57**	**8**			**Pn**	**03 19 11.6**	**-0.9**
P29M	**Windy Craggy**	**7.72**	**85**			**Pn**	**03 19 15.7**	**+1.0**
HYT	**Haines Junctio**	**7.76**	**76**			**Pn**	**03 19 15.2**	**-0.1**
I27K	**Kandik River**	**7.83**	**37**			**Pn**	**03 19 15.6**	**-0.5**
E19K	**Redstone River**	**7.92**	**348**			**Pn**	**03 19 16.3**	**-1.0**
N30M	**Aishikik Lake**	**8.00**	**71**			**Pn**	**03 19 18.0**	**-0.5**
F24K	**Squaw Lake**	**8.08**	**14**			**Pn**	**03 19 18.9**	**-0.6**
I28M	**Miner Creek**	**8.26**	**41**			**Pn**	**03 19 20.7**	**-1.3**
H27K	**Steamboat Moun**	**8.29**	**34**			**Pn**	**03 19 22.1**	**-0.3**
M30M	**Minto, Yukon**	**8.31**	**63**			**Pn**	**03 19 22.6**	**0.0**
E17K	**Hotham Inlet**	**8.31**	**335**			**Pn**	**03 19 21.6**	**-0.9**
E18K	**Tukpahlearik C**	**8.37**	**339**			**Pn**	**03 19 22.3**	**-1.0**
E22K	**Anaktuvuk Pass**	**8.39**	**3**			**Pn**	**03 19 22.5**	**-1.2**
E23K	**Chandalar**	**8.43**	**9**			**Pn**	**03 19 23.3**	**-1.0**
O30N	**Mendenhall**	**8.46**	**76**			**Pn**	**03 19 24.2**	**-0.5**
E20K	**Nigu River**	**8.61**	**352**			**Pn**	**03 19 25.4**	**-1.3**
F26K	**Sheenjek River**	**8.84**	**22**			**Pn**	**03 19 28.5**	**-1.2**
S31K	**Pelican**	**8.88**	**95**			**Pn**	**03 19 30.1**	**-0.1**
SKAG	**Skagway**	**8.96**	**84**	P		**Pn**	**03 19 33.7**	**+2.3**
E25K	**Arctic Village**	**8.97**	**18**			**Pn**	**03 19 30.7**	**-0.9**
D19K	**Kuna River**	**9.01**	**348**			**Pn**	**03 19 30.2**	**-1.9**
R32K	**Eaglecrest**	**9.64**	**91**			**Pn**	**03 19 39.8**	**-0.9**
JIS	**Juneau Island**	**9.71**	**91**			**Pn**	**03 19 40.7**	**-0.9**
JIS	**Juneau Island**	**9.71**	**91**	P		**Pn**	**03 19 44.4**	**+2.8**
P32M	**Atlin**	**9.75**	**83**			**Pn**	**03 19 40.6**	**-1.6**
S32K	**Killisnoo**	**9.88**	**96**			**Pn**	**03 19 43.1**	**-0.8**
D25K	**Kavik River**	**9.97**	**14**			**Pn**	**03 19 43.8**	**-1.4**
DLBC	**Dease Lake**	**11.87**	**87**	P		**Pn**	**03 20 11.4**	**+0.7**
	comp=E,0.5nm,0.3s,baz=266,slow=12,SNR=29							
DLBC				S		**Sn**	**03 22 20.7**	**-0.4**
	comp=E,0.1nm,0.4s,baz=156,slow=20,SNR=2.1							
INK	**Inuvik**	**12.00**	**37**	P		**Pn**	**03 20 12.6**	**+0.2**
	comp=E,2.9nm,1.1s,baz=269,slow=18,SNR=3.5							
PDAR	**Pinedale Array**	**31.34**	**103**	P		**P**	**03 23 35.7**	**+0.3**
	comp=E,0.1nm,0.3s,baz=297,slow=5.3,SNR=1.6							
	comp=E,0.1nm,0.3s							
KSRS	**Korea Array**	**53.23**	**283**	P		**P**	**03 26 32.9**	**+0.8**
	comp=E,1.3nm,0.4s,baz=42,slow=7.1,SNR=6.2							
	comp=E,1.3nm,0.4s							
SONM	**Songino Array**	**54.91**	**306**	P		**P**	**03 26 45.4**	**+1.0**
	comp=E,1.3nm,0.6s,baz=53,slow=6.4,SNR=6.9							
	comp=E,1.3nm,0.6s							
ZALV	**Zalesovo Beam**	**57.54**	**324**	P		**P**	**03 27 03.0**	**+0.2**
	comp=E,3.2nm,0.5s,baz=24,slow=6.9,SNR=9.1							
	comp=E,3.2nm,0.5s							
BVAR	**Borovoye Array**	**62.25**	**332**	P		**P**	**03 27 35.2**	**+0.2**
	comp=E,0.8nm,0.4s							
	comp=E,0.8nm,0.4s							
KURBB	**Kurchatov Arra**	**62.31**	**326**	P		**P**	**03 27 34.9**	**-0.5**
	comp=E,0.5nm,0.4s,baz=29,slow=6.3,SNR=1.5							
	comp=E,0.5nm,0.4s							
MKAR	**Makanchi Array**	**64.59**	**321**	P		**P**	**03 27 50.9**	**+0.4**
	comp=E,0.2nm,0.4s,baz=43,slow=8.9,SNR=2.3							
	comp=E,0.2nm,0.4s							
QSPA	**South Pole Qui**	**149.59**	**180**	PKPbc		**PKPbc**	**03 37 00.7**	**+0.4**
	comp=E,0.3nm,0.6s,baz=285,slow=0.9,SNR=6.4							

*IDC **13** 04:26:35.3±2.1, 8°.93S×118°.00E, **h0**km, **mb3.4**/2,*
mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=52.0km
s-min=25.6km az=68.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.26**	**24**	Pn	Pn	04 27 41.7	+0.3
	1.5nm,0.3s,baz=116,slow=17,SNR=1.2						
KAPI				Sn	Sn	04 28 33.1	+1.1
	12nm,0.3s,baz=35,slow=23,SNR=9.2						
	5.9nm,0.3s						
WRA	**Warramunga Arr**	**19.23**	**126**	P	P	04 31 00.2	-1.0
	0.1nm,0.3s,baz=304,slow=12,SNR=4.5						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**21.13**	**136**	P	P	04 31 22.7	+0.8
	1.7nm,0.7s,baz=309,slow=9.0,SNR=21						
	1.7nm,0.7s						
MKAR	**Makanchi Array**	**63.95**	**333**	P	P	04 37 10.2	-0.1
	0.1nm,0.3s,baz=138,slow=6.7,SNR=1.9						
	0.1nm,0.3s						

*IDC **13** 04:36:20.6±16.0, 34°.93N×22°.12E, h0km, mb3.6/5,*
mbtmp3.6/5, MS2.8/1, Error ellipse: s-maj=327.8km
s-min=44.9km az=30.0
*ATH **13** 04:36:32.5, 35°.48N×22°.56E, h60km±10km, ML3.1/7,*
Manual Solution by S.Liakopoulos First location:
2019/07/13 04:37:54, This location: 2019/07/13 13:33:38
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 3
km; Longitude uncertainty: 3 km
*THE **13** 04:36:33.2, 35°.N±14°.×2°.3E±°, h64km±17km, M3.0/11,*
MLh3.0/11

ISC 13 04:36:31.8±1.3, 35°.45N±0°.07×22°.51E±0°.07, h44km, n34,
σ1s09/36, mb3.6/5, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.77**	**57**	P	**Pn**	**04 36 46.8**	**+0.5**
ANKY				S	**Sn**	**04 36 58.8**	**+2.1**
ANKY	**Antikythira Is**	**0.77**	**57**	P	**Pn**	**04 36 46.9**	**+0.6**
ANKY				S	**Sn**	**04 36 58.0**	**+1.3**
KTHA	**Kythira Island**	**0.92**	**29**	P	**Pn**	**04 36 49.3**	**+1.0**
MNVA	**Monemvasia**	**1.31**	**19**	P	**Pn**	**04 36 54.9**	**+1.3**
VLI	**Veliai**	**1.31**	**15**	P	**Pn**	**04 36 55.0**	**+1.3**
VLI	**Veliai**	**1.31**	**15**	P	**Pn**	**04 36 55.1**	**+1.4**
GVD	**Gavdhos**	**1.43**	**115**	P	**Pn**	**04 36 56.4**	**+1.1**
GVD	**Gavdhos**	**1.43**	**115**	P	**Pn**	**04 36 56.3**	**+1.1**
GVD				S	**Sn**	**04 37 13.7**	**+0.8**
PYL2	**Kinigos**	**1.59**	**337**	P	**Pn**	**04 36 58.2**	**+0.7**
ITM	**Ithomi**	**1.79**	**345**	P	**Pn**	**04 37 01.3**	**+1.0**
ITM	**Ithomi**	**1.79**	**345**	P	**Pn**	**04 37 01.4**	**+1.2**
VLX	**Vlachokerasia**	**1.92**	**357**	P	**Pn**	**04 37 02.8**	**+0.7**
IDI	**Anoyia**	**1.95**	**94**	P	**Pn**	**04 37 03.9**	**+1.5**
IDI	**Anoyia**	**1.95**	**94**	P	**Pn**	**04 37 04.0**	**+1.5**
MHLO	**Agia Marina, M**	**1.97**	**50**	P	**Pn**	**04 37 03.1**	**+0.5**
MHLO	**Agia Marina, M**	**1.97**	**50**	P	**Pn**	**04 37 03.0**	**+0.3**
MET6	**Megalochori,Me**	**2.25**	**17**	P	**Pn**	**04 37 07.0**	**+0.6**
MET5	**Makryloggos,Me**	**2.27**	**17**	P	**Pn**	**04 37 07.0**	**+0.2**
MET4	**Agioi Theodoro**	**2.29**	**18**	P	**Pn**	**04 37 07.6**	**+0.6**
GUR	**Goura**	**2.49**	**357**	P	**Pn**	**04 37 11.6**	**+1.7**
THR5	**Thira Island,**	**2.50**	**66**	P	**Pn**	**04 37 10.3**	**+0.4**
SAP3	**Santorini-Thir**	**2.50**	**66**	P	**Pn**	**04 37 10.1**	**+0.1**
SNT5	**Nea Kammeni, S**	**2.53**	**67**	P	**Pn**	**04 37 10.6**	**+0.2**
THERA	**Ancient Thera,**	**2.58**	**68**	P	**Pn**	**04 37 11.3**	**+0.3**
LTK	**Loutraki**	**2.60**	**8**	P	**Pn**	**04 37 12.5**	**+1.2**
KLV	**Kalavryta, Ach**	**2.61**	**354**	P	**Pn**	**04 37 13.2**	**+1.7**
VILL	**Villia**	**2.79**	**13**	P	**Pn**	**04 37 14.4**	**+0.4**
AXS	**Araxos**	**2.89**	**342**	P	**Pn**	**04 37 16.8**	**+1.5**
GERES	**GERESS Array B**	**14.88**	**337**	LR	LR	04 46 58.5	
	comp=Z,35nm,20.9s,baz=172,slow=42						
HFS	**Hagfors**	**25.35**	**350**	P	**P**	**04 41 53.4**	**-1.0**
	0.6nm,0.3s,baz=151,slow=11,SNR=9.3						
	0.6nm,0.3s						
FINES	**FINESS Array B**	**26.11**	**4**	P	**P**	**04 42 00.4**	**-0.9**
	0.7nm,0.8s,baz=186,slow=9.6,SNR=1.5						
	0.7nm,0.8s						
NOA	**NORSAR Array B**	**26.61**	**348**	P	**P**	**04 42 04.4**	**-1.4**
	0.2nm,0.7s,baz=162,slow=9.1,SNR=2.0						
	0.2nm,0.7s						
ARCES	**ARCESS Array B**	**34.18**	**2**	P	**P**	**04 43 11.7**	**-0.8**
	1.0nm,0.8s,baz=195,slow=9.3,SNR=7.5						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**45.42**	**56**	P	**P**	**04 44 45.3**	**-0.8**
	0.5nm,0.3s,baz=269,slow=9.1,SNR=7.7						
	0.5nm,0.3s						

*IDC **13** 05:03:14.2±4.2, 13°.51N×50°.25E, h0km, mb3.6/6,*
mbtmp3.6/7, ML2.9/1, MS2.6/3, Error ellipse: s-maj=91.2km
s-min=33.4km az=156.0

ISC 13 05:03:15.3±3.5, 13°.4N±0°.5×50°.3E±0°.3, h10km, n8, σ0s88/7,
mb3.5/6, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**7.52**	**256**	Pn	**Pn**	**05 05 05.3**	**+0.1**
	0.2nm,0.3s,baz=108,slow=20,SNR=5.9						
ATD				LR	LR	05 07 18.4	
	comp=Z,5.2nm,18.8s,baz=154,slow=33						
	0.4nm,0.3s						
GNI	**Garni**	**27.05**	**351**	LR	LR	05 21 43.6	
	comp=Z,42nm,19.2s,baz=172,slow=41						
AKASG	**Malin Array Be**	**40.92**	**340**	P	**P**	**05 10 58.3**	**+0.4**
	0.4nm,0.5s,baz=140,slow=10,SNR=1.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**42.71**	**32**	P	**P**	**05 11 12.3**	**-0.3**
	0.4nm,0.5s,baz=228,slow=9.4,SNR=5.3						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**43.61**	**26**	P	**P**	**05 11 20.4**	**+0.7**
	0.2nm,0.3s,baz=226,slow=8.3,SNR=1.6						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**51.03**	**345**	P	**P**	**05 12 17.4**	**+0.1**
	1.7nm,0.7s,baz=146,slow=8.2,SNR=9.4						
	1.7nm,0.7s						
HFS	**Hagfors**	**53.78**	**338**	P	**P**	**05 12 37.5**	**-0.3**
	1.0nm,0.5s,baz=127,slow=9.6,SNR=9.4						
	1.0nm,0.5s						
NOA	**NORSAR Array B**	**55.30**	**338**	P	**P**	**05 12 47.4**	**-1.5**
	0.4nm,0.8s,baz=137,slow=5.9,SNR=3.3						
NOA				LR	LR	05 39 09.7	
	comp=Z,8.6nm,18.5s,baz=170,slow=39						
	0.4nm,0.8s						

IDC 13 05:04:00.8±3.8, 4°.12S×141°.43E, h92km±26km, mb3.3/3,
mbtmp3.7/4, Error ellipse: s-maj=69.5km s-min=19.6km
az=89.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.75**	**336**	P	Pn	05 04 29.9	0.0
	6.2nm,0.4s,baz=165,slow=11,SNR=15						
JAY				S	Sn	05 04 52.2	+0.2
	20nm,0.3s,baz=167,slow=8.8,SNR=7.9						
WRA	**Warramunga Arr**	**17.18**	**203**	P	Pn	05 07 54.2	-1.0
	0.8nm,0.3s,baz=23,slow=12,SNR=14						
ASAR	**Alice Springs**	**20.75**	**200**	P	P	05 08 33.5	-0.8
	1.0nm,0.5s,baz=26,slow=11,SNR=13						
	1.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.78**	**227**	P	P	05 08 36.2	+1.6
	2.4nm,0.5s,baz=32,slow=12,SNR=9.8						
	2.4nm,0.5s						
MKAR	**Makanchi Array**	**72.56**	**322**	P	P	05 15 18.0	-0.2
	0.3nm,0.6s,baz=113,slow=6.1,SNR=4.2						
	0.3nm,0.6s						

*ISN **13** 05:16:50.9±1.3, 34°.99N×45°.87E, h25km±6km, ML2.7*
*TEH **13** 05:16:51.1, 34°.90N×45°.84E, h8km±29km*

ISC 13 05:16:51.3±1.7, 34°.91N±0°.08×45°.85E±0°.06, h10km, n11,
σ0s82/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.45**	**208**	Pg	**Pg**	**05 17 00.1**	**-0.1**
IDHR	**Dehrash**	**0.49**	**115**	Pg	**Pg**	**05 17 00.9**	**0.0**
GLG1	**Gilan-e-Gharb**	**0.79**	**176**	Pg	**Pg**	**05 17 06.3**	**-0.3**
GLG1				Sg	**Sb**	**05 17 18.3**	**+0.2**
IGHG	**Ghaleghazi**	**0.82**	**134**	Pg	**Pg**	**05 17 07.2**	**-0.1**
ILIN	**Lien**	**0.91**	**89**	Pg	**Pb**	**05 17 09.2**	**-0.2**
ILBA	**Ilam Banvizeh**	**1.31**	**167**	Pg	**Pn**	**05 17 15.5**	**-0.2**
SNQR	**Sonqor, Kerman**	**1.46**	**91**	Pg	**Pg**	**05 17 19.1**	**-0.3**
IBDR	**Badra**	**1.79**	**178**	*e*Pg	**Pb**	**05 17 24.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**05 17 48.0**	**-1.0**
IBDR				AML	AML	05 17 53.6	
	comp=N,94nm,0.6s						
IBDR				AML	AML	05 17 56.4	
	comp=E,90nm,0.7s						
BHD	**Baghdad**	**2.04**	**217**	*e*Pn	**Pn**	**05 17 26.0**	**+0.3**
BHD				*e*Sn	**Sb**	**05 17 53.0**	**-0.8**
IKFM	**Kafar-mosalman**	**2.15**	**129**	Pn	**Pb**	**05 17 29.5**	**-0.9**
RAFI	**Al-Rafai**	**3.18**	**176**	*e*Pn	**Pn**	**05 17 43.0**	**+1.6**
RAFI				*e*Sn	**Sn**	**05 18 21.0**	**+1.6**

*IDC **13** 05:31:43.9±0.7, 0°.44N×126°.07E, h0km, mb4.1/11,*
mbtmp4.1/13, ML3.4/2, Error ellipse: s-maj=37.8km
s-min=14.1km az=77.0
*NEIC **13** 05:31:47.4±1.7, 0°.46N±0°.07×126°.34E±0°.08, h21km±4km,*
mb4.5/16, Error ellipse: s-maj=13.1km s-min=8.7km
az=124.0
*DJA **13** 05:31:48.7±1.4, 0°.N±3°×12°.6E±°, h31km±21km, M4.0/9,*
mb4.0/2, MLv4.0/9

ISC 13 05:31:50.1±0.5, 0°.38N±0°.06×126°.31E±0°.08, h47km, n40,
σ1s15/41, mb4.3/19, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.12**	**70**		Pn	05 32 06.8	-2.7
TNTI	**Ternate**	**1.12**	**70**	P	Pn	05 32 07.1	-2.3
TNTI				S	**Sn**	**05 32 22.8**	**-1.0**
KMSI	**Cibinong**	**2.34**	**275**	P	**Pn**	**05 32 24.0**	**-2.0**
SANI	**Sanana**	**2.44**	**188**	P	**Pn**	**05 32 25.4**	**-2.1**
SANI				S	**Sn**	**05 32 56.3**	**+0.2**
LUWI	**Luwuk**	**3.81**	**248**	P	**Pn**	**05 32 46.7**	**+0.4**
APSI	**Ampana**	**4.84**	**255**	P	**Pn**	**05 33 00.6**	**+0.2**
KAPI	**Kappang**	**8.46**	**231**	Pn	**Pn**	**05 33 49.0**	**-1.2**
KAPI	**Kappang**	**8.46**	**231**	**Pn**	**Pn**	**05 33 47.6**	**-2.6**
	0.6nm,0.3s,baz=229,slow=4.7,SNR=2.9						
	4.7nm,0.5s						
KNRA	**Kununurra**	**16.14**	**171**	Pn	**Pn**	**05 35 33.9**	**0.0**
FITZ	**Fitzroy Crossi**	**18.38**	**182**	P	**P**	**05 36 01.2**	**+0.1**
	0.1nm,0.3s,baz=22,slow=11,SNR=1.3						
	1.7nm,0.7s						
WB0	**Warramunga Arr**	**21.54**	**159**	P	**P**	**05 36 34.7**	**-0.8**
WB0				IAmb	IAmb	05 36 53.5	
	comp=Z,23nm,1.2s						
WRA	**Warramunga Arr**	**21.68**	**159**	P	**P**	**05 36 36.2**	**-0.8**
WRA	**Warramunga Arr**	**21.68**	**159**	P	**P**	**05 36 36.3**	**-0.8**
	comp=Z,7.9nm,0.6s,baz=337,slow=11,SNR=43						
	comp=Z,7.9nm,0.6s						
AS31	**Alice Springs**	**25.02**	**163**	P	**P**	**05 37 10.1**	**+0.2**
ASAR	**Alice Springs**	**25.02**	**163**	P	**P**	**05 37 10.7**	**+0.8**
ASAR	**Alice Springs**	**25.02**	**163**	P	**P**	**05 37 11.7**	**+1.8**
	comp=Z,7.0nm,0.7s,baz=351,slow=15,SNR=53						
	comp=Z,7.0nm,0.7s						
FORT	**Forrest**	**31.04**	**177**	P	**P**	**05 38 03.1**	**-0.5**
FORT				IAmb	IAmb	05 38 06.5	
	comp=Z,7.6nm,0.8s						
STKA	**Stephens Creek**	**35.20**	**157**	P	**P**	**05 38 40.7**	**+0.8**
STKA	**Stephens Creek**	**35.20**	**157**	P	**P**	**05 38 40.6**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=344,slow=12,SNR=4.0						
	comp=Z,2.7nm,0.6s						
KSRS	**Korea Array**	**36.92**	**2**	P	**P**	**05 38 54.0**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=178,slow=9.3,SNR=4.1						
	comp=Z,0.4nm,0.3s						
PETK	**Petropavlovsk-**	**58.67**	**22**	P	**P**	**05 41 42.2**	**-0.4**
PETK	**Petropavlovsk-**	**58.67**	**22**	P	**P**	**05 41 44.7**	**+2.1**
	comp=Z,1.2nm,0.7s,baz=234,slow=8.6,SNR=2.8						
	comp=Z,1.2nm,0.7s						
MKAR	**Makanchi Array**	**60.07**	**327**	P	**P**	**05 41 51.4**	**-1.1**
	comp=Z,1.3nm,0.3s,baz=121,slow=7.7,SNR=20						
MKAR				PcP	**PcP**	**05 42 38.7**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=116,slow=4.3,SNR=4.0						
	comp=Z,1.3nm,0.3s						
ZALV	**Zalesovo Beam**	**63.38**	**334**	P	**P**	**05 42 12.4**	**-2.1**
	comp=Z,0.6nm,0.4s,baz=115,slow=6.7,SNR=3.6						
	com

	comp=Z,75nm,0.8s						
MAW	**Mawson**	**54.84**	**192**	LR	LR	06 09 39.2	
	comp=Z,57nm,18.1s,baz=130,slow=34						
STKA	**Stephens Creek**	**55.95**	**262**	LR	LR	06 08 38.9	
	comp=Z,83nm,18.7s,baz=204,slow=32						
ASAR	**Alice Springs**	**66.59**	**262**	P	**P**	**05 49 35.2**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=147,slow=7.1,SNR=4.1						
	comp=Z,0.7nm,0.8s						
H01W1	**Cape Leeuwin H**	**67.97**	**240**	T	T	07 04 51.3	
	baz=143,slow=76,SNR=88						
H01W2	**Cape Leeuwin H**	**67.98**	**240**	T	T	07 04 46.9	
	baz=143,slow=76,SNR=95						
H01W3	**Cape Leeuwin H**	**67.99**	**240**	T	T	07 04 52.5	
	baz=143,slow=76,SNR=76						
WRA	**Warramunga Arr**	**69.32**	**265**	P	**P**	**05 49 52.5**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=147,slow=6.0,SNR=1.6						
	comp=Z,0.2nm,0.5s						
JTS	**Las Juntas de**	**82.03**	**58**	LR	LR	06 19 53.0	
	comp=Z,25nm,21.3s,baz=128,slow=30						
SJG	**San Juan**	**98.08**	**70**	LR	LR	06 32 58.6	
	comp=Z,25nm,18.4s,baz=115,slow=33						
LBTB	**Lobatse**	**98.45**	**170**	LR	LR	06 32 26.7	
	comp=Z,41nm,18.7s,baz=140,slow=33						
MKAR	**Makanchi Array**	**150.49**	**271**	PKPbc	**PKPbc**	**05 58 37.0**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=116,slow=2.8,SNR=4.2						

NEIC ***13*** *06:01:43.3±0.7, 8.95S±0.08×122.1E±0.1, h107km±6km, mb4.2/13, Error ellipse: s-maj=16.2km s-min=8.0km az=57.0*

IDC ***13*** *06:01:44.2±1.6, 9.15S×122.16E, h132km±15km, mb3.7/5, mbtmp4.2/9, Error ellipse: s-maj=41.4km s-min=17.0km az=53.0*

DJA ***13*** *06:01:45.6±0.3, 9.3S±2.2E±°, h83km±4km, M4.4/17, mB5.0/2, mb4.5/6, MLv4.4/17, Mw(mB)4.4/2*

ISC 13 06:01:42.9±0.6, 8.99S±0.04×122.24E±0.04, h102km±6km, n59,σ1°99/68, mb4.1/9, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.36**	**359**		**Pn**	**06 01 59.0**	**+0.9**
MMRI	**Maumere**	**0.36**	**359**	P	**Pn**	**06 01 59.2**	**+1.1**
MMRI	**Maumere**	**0.36**	**359**	P	**Pn**	**06 01 59.0**	**+0.9**
MMRI				S	**Sn**	**06 02 10.2**	**+0.9**
EDFI	**Ende, Flores**	**0.60**	**294**	P	**Pn**	**06 02 00.9**	**+1.1**
EDFI				S	**Sn**	**06 02 14.1**	**+1.7**
BATI	**Baumata**	**1.85**	**131**	P	**Pn**	**06 02 15.3**	**+1.6**
	599nm,0.5s,baz=32,slow=5.2,SNR=29						
BATI				S	**Sn**	**06 02 41.2**	**+4.1**
	485nm,0.5s,baz=322,slow=15,SNR=7.8						
BATI	**Baumata**	**1.85**	**131**	P	**Pn**	**06 02 15.8**	**+2.1**
WSI	**Waingapu**	**2.03**	**251**	P	**Pn**	**06 02 18.1**	**+2.1**
WSI				S	**Sn**	**06 02 43.5**	**+2.2**
BASI	**Baing, Sumba**	**2.04**	**233**	P	**Pn**	**06 02 18.5**	**+2.4**
BASI				S	**Sn**	**06 02 44.2**	**+2.7**
SOEI	**Soe**	**2.14**	**111**		**Pn**	**06 02 19.3**	**+1.9**
SOEI	**Soe**	**2.14**	**111**	P	**Pn**	**06 02 20.0**	**+2.5**
WBSI	**Waikabubak, Su**	**2.89**	**257**	P	**Pn**	**06 02 29.2**	**+1.9**
WBSI				S	**Sn**	**06 03 02.0**	**+0.6**
BSSI	**Bau Bau, Buton**	**3.32**	**328**	P	**Pn**	**06 02 34.4**	**+1.3**
BBSI	**Bau Bau**	**3.50**	**5**	P	**Pn**	**06 02 38.6**	**+3.2**
BKSI	**Bulukumba**	**4.21**	**330**	P	**Pn**	**06 02 46.7**	**+1.7**
PLAI	**Plampang**	**4.42**	**272**	P	**Pn**	**06 02 51.7**	**+3.9**
PLAI	**Plampang**	**4.42**	**272**	P	**Pn**	**06 02 50.7**	**+2.9**
PLAI				S	**Sn**	**06 03 39.7**	**+1.5**
KAPI	**Kappang**	**4.66**	**328**	P	**Pn**	**06 02 54.0**	**+2.9**
	20nm,0.4s,baz=168,slow=12,SNR=15						
KAPI	**Kappang**	**4.66**	**328**	P	**Pn**	**06 02 55.7**	**+4.6**
BNSI	**Bone**	**5.03**	**335**	P	**Pn**	**06 02 59.2**	**+3.1**
	0.2nm48nm,0.6s						
TWSI	**Taliwang, Sumb**	**5.30**	**272**	P	**Pn**	**06 03 02.1**	**+2.3**
TWSI				S	**Sn**	**06 04 01.3**	**+1.6**
SPSI	**Sidrap Palu**	**5.57**	**334**	P	**Pn**	**06 03 06.1**	**+2.7**
SRBI	**Singaraja**	**7.01**	**277**	P	**Pn**	**06 03 23.9**	**+0.9**
	45nm,1.4s						
JAGI	**Jajag, Banyuwa**	**8.02**	**273**	Pn	**Pn**	**06 03 34.9**	**-1.8**
JAGI	**Jajag, Banyuwa**	**8.02**	**273**	P	**Pn**	**06 03 35.2**	**-1.5**
	40nm,1.4s						
GMJI	**Gumukmas**	**8.73**	**274**	P	**Pn**	**06 03 46.8**	**+0.4**
DRS	**Darwin Rock St**	**9.17**	**113**	P	**Pn**	**06 03 51.7**	**-0.6**
KNRA	**Kununurra**	**9.20**	**137**		**Pn**	**06 03 51.2**	**-1.5**
MTN	**Manton Dam**	**9.53**	**114**		**Pn**	**06 03 56.7**	**-0.5**
MTN	**Manton Dam**	**9.53**	**114**	P	**Pn**	**06 03 56.4**	**-0.9**
FITZ	**Fitzroy Crossi**	**9.63**	**160**		**Pn**	**06 03 58.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**9.63**	**160**	P	**Pn**	**06 03 58.0**	**-0.6**
	17nm,0.5s,baz=356,slow=9.7,SNR=88						
FITZ				S	**Sn**	**06 05 40.0**	**-5.1**
	42nm,0.6s,baz=115,slow=9.0,SNR=12						
FITZ	**Fitzroy Crossi**	**9.63**	**160**	P	**Pn**	**06 03 58.4**	**-0.2**
KDU	**Kakadu**	**10.70**	**111**	P	**Pn**	**06 04 12.7**	**-0.4**
FAKI	**Fak Fak**	**11.63**	**59**		**Pn**	**06 04 26.7**	**+0.9**
GIRL	**Giralia**	**15.60**	**209**	P	**Pn**	**06 05 17.2**	**+0.1**
WB0	**Warramunga Arr**	**15.90**	**134**	Pn	**Pn**	**06 05 17.9**	**-3.0**
WB0				IAmb	IAmb	06 05 22.3	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**15.98**	**134**	Pn	**Pn**	**06 05 19.3**	**-2.6**
WRA	**Warramunga Arr**	**15.98**	**134**	P	**Pn**	**06 05 19.4**	**-2.5**
	comp=Z,3.5nm,0.6s,baz=310,slow=14,SNR=30						
WRA				S	Sn	06 08 06.1	-13
	comp=Z,7.8nm,0.7s,baz=312,slow=24,SNR=11						
AS31	**Alice Springs**	**18.37**	**144**	P	**P**	**06 05 50.2**	**+0.4**
ASAR	**Alice Springs**	**18.37**	**144**	P	**P**	**06 05 49.7**	**-0.1**
ASAR	**Alice Springs**	**18.37**	**144**	P	**P**	**06 05 48.4**	**-1.4**
	comp=Z,2.4nm,0.5s,baz=318,slow=12,SNR=36						
ASAR				S	S	06 09 03.6	-11
	comp=Z,5.0nm,0.7s,baz=319,slow=23,SNR=13						
AS01	**Alice Springs**	**18.39**	**144**	P	**Pn**	**06 05 52.7**	**+1.3**
QIS	**Mount Isa**	**20.32**	**126**	P	**P**	**06 06 12.8**	**+1.7**
MORW	**Morawa**	**20.80**	**195**	P	**P**	**06 06 14.9**	**-1.3**
MORW				IAmb	IAmb	06 06 43.0	
	comp=Z,13nm,1.0s						
COEN	**Coen**	**21.09**	**105**	P	**P**	**06 06 19.5**	**+0.1**
FORT	**Forrest**	**22.34**	**167**	P	**P**	**06 06 32.5**	**0.0**
FORT				IAmb	IAmb	06 06 51.2	
	comp=Z,8.9nm,0.8s						
NWAO	**Narrogin (SRO)**	**24.26**	**190**	P	**P**	**06 06 51.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**53.67**	**9**	P	**P**	**06 10 53.2**	**-0.9**
USRK	**Ussuriysk Ar.**	**53.67**	**9**	P	**P**	**06 10 52.9**	**-1.2**
	comp=Z,2.6nm,0.6s,baz=200,slow=10,SNR=5.4						
	comp=Z,2.6nm,0.6s						
SONM	**Songino Array**	**58.30**	**348**	P	**P**	**06 11 26.2**	**-1.0**
SONM				IAmb	IAmb	06 11 27.4	
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**58.30**	**348**	P	**P**	**06 11 25.9**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=162,slow=9.8,SNR=8.1						
	comp=Z,1.1nm,0.6s						
MKAR	**Makanchi Array**	**65.95**	**331**	P	**P**	**06 12 16.8**	**-1.5**
MKAR	**Makanchi Array**	**65.95**	**331**	P	**P**	**06 12 17.5**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=136,slow=7.0,SNR=15						
	comp=Z,0.9nm,0.5s						
PEA0B	**Petropavlovsk-**	**68.83**	**22**	P	**P**	**06 12 35.9**	**-0.3**
PEA0B				IAmb	IAmb	06 13 10.8	
	comp=Z,9.5nm,1.1s						
PETK	**Petropavlovsk-**	**68.83**	**22**	P	**P**	**06 12 35.6**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=218,slow=6.9,SNR=4.8						
	comp=Z,1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**70.22**	**338**	P	**P**	**06 12 43.0**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=134,slow=4.3,SNR=4.3						
	comp=Z,0.6nm,0.3s						
VNDA	**Vanda**	**71.51**	**172**	P	**P**	**06 12 55.1**	**+2.9**
SBA	**Scott Base**	**72.48**	**171**	P	**P**	**06 12 59.4**	**+1.4**
SBA				IAmb	IAmb	06 13 20.7	
	comp=Z,7.6nm,1.3s						
QSPA	**South Pole Qui**	**81.00**	**180**	P	**P**	**06 13 47.2**	**+0.9**
QSPA				IAmb	IAmb	06 14 23.2	
	comp=Z,2.5nm,1.1s						

NEIC ***13*** *06:12:16.8±1.8, 35.668N±0.002×117.48W±0.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.6km az=103.0*

PAS 13 06:12:17.4±1.8, 35.666N±0.009×117.48W±0.01, h6km±3km, ML3.0/19, ML2.7/106(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=98.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.07**	**188**		Pg	06 12 19.4	+0.2
CCCA	**Chr Cany lake**	**0.17**	**146**	Pg	Pg	06 12 21.3	+0.5
SRTC	**Snort**	**0.22**	**277**		Pg	06 12 22.1	+0.4
LRMC	**Laurel Mtn Rad**	**0.25**	**221**		Pg	06 12 22.3	0.0
LRMC					Sg	06 12 26.0	+0.4
LRMC				IAML		06 12 26.4	
	comp=N,2μm,0.2s						
LRMC				IAML		06 12 27.7	
	comp=E,926nm,0.2s						
TOW	**Tower One**	**0.27**	**302**		Pg	06 12 23.1	+0.3
MPMC	**Manual Prospec**	**0.39**	**359**	Pg	Pg	06 12 24.7	-0.4
MPMC					Sg	06 12 30.1	-0.1
MPMC				IAML		06 12 30.8	
	comp=N,746nm,0.6s						
MPMC				IAML		06 12 32.1	
	comp=E,1μm,0.4s						
WVPM	**Volcano Peak E**	**0.39**	**316**		Sg	06 12 30.7	+0.4
JRC2	**Joshua Ridge**	**0.41**	**320**		Sg	06 12 31.3	+0.4
WCSM	**Coso Springs S**	**0.43**	**327**		Sg	06 12 31.6	+0.2
WRVM	**Rose V. Centra**	**0.48**	**316**		Pg	06 12 26.4	-0.3
WRVM					Sg	06 12 33.1	+0.2
DTP	**Desert Tortois**	**0.50**	**217**		Pg	06 12 26.5	-0.4
MFS	**McCloud Flat S**	**0.54**	**326**		Pg	06 12 27.6	-0.3
MFS					Sg	06 12 35.1	+0.1
WBSM	**Bird Springs**	**0.55**	**257**		Pg	06 12 27.7	-0.3
WBSM					Sg	06 12 35.3	0.0
QSM	**Queen of Sheba**	**0.58**	**59**		Pg	06 12 28.4	-0.2
QSM				IAML		06 12 36.2	
	comp=E,306nm,0.4s						
QSM				IAML		06 12 37.4	
	comp=N,336nm,0.4s						
WORM	**Onyx Ranch**	**0.62**	**273**		Pg	06 12 28.8	-0.5
GSC	**Goldstone, Bar**	**0.66**	**123**		Pg	06 12 29.7	-0.4
CCAC	**Calif City Air**	**0.67**	**221**		Pg	06 12 30.0	-0.4
CCAC					Sg	06 12 39.4	+0.3
WHFM	**Hanning Flat**	**0.71**	**273**		Pg	06 12 30.5	-0.5
WHFM					Sg	06 12 39.8	-0.5
HYS	**Haystack Butte**	**0.80**	**185**		Pg	06 12 32.2	-0.6
HYS					Sg	06 12 43.0	-0.2
ISA	**Isabella, Lake**	**0.81**	**270**		Sg	06 12 43.0	-0.4
ISA	**Isabella, Lake**	**0.81**	**270**		Pg	06 12 32.2	-0.7
ISA				IAML		06 12 43.9	
	comp=N,272nm,0.2s						
ISA				IAML		06 12 44.8	
	comp=E,261nm,0.3s						
WASM	**Alta Sierra Ca**	**0.88**	**275**		Pg	06 12 33.6	-0.7
WASM					Sg	06 12 45.5	-0.2
RRX	**Edison Barstow**	**0.88**	**153**		Pb	06 12 34.9	-0.2
RRX					Sb	06 12 46.9	-0.3
EDW2	**Edwards Air Fo**	**0.89**	**208**		Pg	06 12 33.6	-0.8
CWC	**Cottonwood Cre**	**0.91**	**328**	Pg	Pg	06 12 34.6	-0.3
CWC				IAML		06 12 47.6	
	comp=N,283nm,0.2s						
CWC				IAML		06 12 49.6	
	comp=E,174nm,0.2s						
CGO	**Cerro Gordo**	**0.92**	**344**		Pg	06 12 34.9	-0.2
CGO					Sg	06 12 47.7	+0.6
TPO	**Tropico Hills**	**0.99**	**218**		Pg	06 12 36.0	-0.5
TPO				IAML		06 12 52.2	
	comp=N,220nm,0.6s						
TPO				IAML		06 12 55.6	
	comp=E,294nm,0.5s						
SHOC	**Shoshone, Teco**	**1.01**	**76**		Sb	06 12 50.7	-0.1
SBB	**Saddle Back Bu**	**1.01**	**196**		Pg	06 12 36.4	-0.5
TEJ	**El Tejon**	**1.08**	**247**		Pg	06 12 36.9	-1.2
SPG2	**Springville 2**	**1.17**	**297**		Pg	06 12 38.7	-1.2
SPG2					Sg	06 12 54.5	-0.6
LRRC	**Littlerock Res**	**1.22**	**202**		Pg	06 12 40.3	-0.6
LRRC					Sb	06 12 57.4	+0.4
DSCC	**Desert Studies**	**1.24**	**114**		Sg	06 12 57.1	-0.1
HOLC	**Holcomb Ridge**	**1.24**	**194**		Pg	06 12 39.7	-1.5
HOLC					Sg	06 12 57.6	0.0
AMDNV	**Amargosa**	**1.25**	**51**		Sg	06 12 57.2	-0.3
CJV	**Casa Juvan**	**1.26**	**206**		Sn	06 12 58.5	-0.4
HEC	**Hector,Ludlow**	**1.26**	**131**		Sg	06 12 56.9	-0.9
JNH	**Juniper Hills**	**1.28**	**198**		Pg	06 12 40.4	-1.4
JNH					Sn	06 12 59.1	-0.3
TUQ	**Turquoise Moun**	**1.29**	**100**		Pn	06 12 41.0	-1.1
TUQ					Sg	06 12 58.7	-0.2
VES	**Vestal, Richgr**	**1.32**	**278**		Sb	06 12 59.0	-0.6
WCT	**Wildcat Mounta**	**1.32**	**31**		Pn	06 12 41.0	-1.5
GRAC	**Grapevine Rang**	**1.33**	**4**		Pn	06 12 41.8	-0.9
GRAC				IAML		06 13 02.9	
	comp=N,184nm,0.7s						
GRAC				IAML		06 13 05.0	
	comp=E,192nm,0.6s						
SGV	**South Grapevin**	**1.36**	**15**		Pn	06 12 41.7	-1.4
SGV					Sb	06 13 01.1	-0.1
CHFC	**Chilao Flat St**	**1.40**	**199**		Pn	06 12 42.2	-1.4
CHFC					Sn	06 13 02.9	+0.3
SIL	**Silver Peak**	**1.42**	**158**		Pn	06 12 43.8	-0.1
MWC	**Mount Wilson**	**1.52**	**198**		Pn	06 12 44.3	-1.0
MWC				IAML		06 13 07.2	
	comp=E,98nm,0.4s						
MWC				IAML		06 13 09.2	
	comp=N,120nm,0.5s						
MTPC	**Mountain Pass**	**1.58**	**96**		Pn	06 12 44.4	-1.8
MTPC				IAML		06 13 07.7	
	comp=N,101nm,0.4s						
MTPC				IAML		06 13 08.0	
	comp=E,88nm,0.2s						
SVD	**Seven Oaks Dam**	**1.59**	**168**		Pb	06 12 47.5	+0.3
SVD					Sb	06 13 07.5	-0.1
PSRC	**Puddingstone R**	**1.59**	**190**		Pb	06 12 47.0	-0.3
PSRC					Sg	06 13 08.4	-0.1
PASC	**Pasadena Art C**	**1.60**	**201**		Pn	06 12 45.3	-0.9
PASC				IAML		06 13 13.8	
	comp=N,51nm,0.3s						
PASC				IAML		06 13 14.3	
	comp=E,69nm,0.4s						
TPNV	**Topopah Spring**	**1.62**	**37**		Pn	06 12 45.6	-1.1
GMRC	**Granite Mounta**	**1.73**	**120**		Sb	06 13 11.7	-0.1
DSP	**Deep Springs**	**1.75**	**347**		Pn	06 12 47.6	-0.7
DSP				IAML		06 13 13.6	
	comp=E,60nm,0.3s						
BHPR	**Bishop**	**1.82**	**334**		Pb	06 12 51.4	+0.1
BLAC	**Blackrock camp**	**1.83**	**150**		Pn	06 12 48.4	-1.1
EW2	**E Wide Canyon**	**1.93**	**153**		Pn	06 12 49.7	-1.2
TPC	**Twentynine Pal**	**1.95**	**142**		Pn	06 12 49.5	-1.7
HMTC	**Hemet**	**1.99**	**168**		Pn	06 12 50.5	-1.1
ELS	**Elsinore Mount**	**2.01**	**179**		Pn	06 12 50.9	-1.1
ELS				IAML		06 13 24.5	
	comp=E,36nm,0.4s						
POB	**Polly Butte**	**2.03**	**167**		Pn	06 12 51.2	-1.1
MZP	**Montezuma Peak**	**2.03**	**2**		Pn	06 12 51.7	-0.8
DGR	**Domenigoni Val**	**2.05**	**169**		Pn	06 12 51.8	-0.7
SHPR	**Sheep Range**	**2.06**	**65**		Pn	06 12 52.1	-0.6
PKM	**Mcpherson Peak**	**2.06**	**249**		Pn	06 12 51.5	-1.3
V12A	**Nelson**	**2.14**	**88**		Pn	06 12 52.3	-1.5
V12A				IAML		06 13 26.7	
	comp=N,32nm,0.5s						
PMD	**Palm Desert**	**2.21**	**155**		Pn	06 12 52.9	-1.7
PMD				IAML		06 13 28.7	
	comp=N,28nm,0.6s						
PMD				IAML		06 13 28.9	
	comp=E,38nm,0.6s						
PFO	**Pinyon Flats O**	**2.22**	**157**		Pn	06 12 53.5	-1.4
PFO				IAML		06 13 30.2	
	comp=E,36nm,0.7s						
MLAC	**Mammoth, Mammo**	**2.24**	**331**		Pb	06 12 58.8	+0.3
CTCC	**Cactus City**	**2.35**	**148**		Pn	06 12 55.5	-1.1
PLM	**Palomar**	**2.36**	**167**		Pn	06 12 55.9	-1.0
LHV	**Little Huntoon**	**2.71**	**343**		Pn	06 12 60.0	-1.5
LHV				IAML		06 13 48.6	
	comp=E,26nm,0.8s						
LHV				IAML		06 13 56.2	
	comp=N,15nm,1.4s						
NV11	**Mina Array Sit**	**2.81**	**349**		Pn	06 13 02.5	-0.6
NVAR	**Mina Array Bea**	**2.84**	**347**		Pn	06 13 02.8	-0.7
W13A	**Hualapai Mount**	**2.99**	**100**	Pn	Pn	06 13 04.1	-1.5
W13A				IAML		06 13 54.4	
	comp=N,14nm,0.8s						
W13A				IAML		06 13 58.3	
	comp=E,11nm,0.5s						
BBGB	**Big Mountain B**	**3.02**	**289**	Pn	Pn	06 13 05.7	-0.2
BAR	**Barrett**	**3.05**	**167**	IAML		06 13 53.9	
	comp=N,45nm,0.3s						
RYN	**Ryan**	**3.07**	**345**	Pn	Pn	06 13 05.0	-1.6
BLYC	**Blythe**	**3.10**	**127**	Pn	Pn	06 13 04.8	-2.0
BLYC				IAML		06 13 56.3	
	comp=N,34nm,0.5s						
BLYC				IAML		06 13 56.4	
	comp=E,31nm,0.5s						
WAKR	**Walker**	**3.24**	**332**	Pn	Pn	06 13 09.0	0.0
CBX	**Cerro Bola**	**3.41**	**168**	Pn	Pn	06 13 10.9	-0.4
LCMT	**Little Creek M**	**3.67**	**67**	Pn	Pn	06 13 15.4	+0.5
CCX	**Cicese**	**3.85**	**170**	Pn	Pn	06 13 16.3	-0.9
ESJX	**Sierra Juarez**	**3.87**	**160**	Pn	Pn	06 13 16.6	-1.0
ESJX				IAML		06 14 21.8	
	comp=E,10nm,1.1s						
ESJX				IAML		06 14 47.7	
	comp=N,10nm,0.1s						
KNB	**Kanab**	**4.00**	**69**	Pn	Pn	06 13 18.8	-0.6
SZCU	**Shurtz Canyon**	**4.02**	**60**	Pn	Pn	06 13 19.9	+0.1
SZCU				IAML		06 14 05.5	
	comp=E,8.6nm,1.1s						
SZCU				IAML		06 14 40.3	
	comp=N,6.9nm,0.6s						
113A	**Mohawk Valley,**	**4.22**	**132**	Pn	Pn	06 13 22.6	+0.3
113A				IAML		06 14 32.5	
	comp=N,4.1nm,0.5s						
113A				IAML		06 14 32.8	
	comp=E,7.0nm,0.6s						
U15A	**North Rim**	**4.27**	**78**	Pn	Pn	06 13 23.0	-0.3
U15A				IAML		06 14 32.1	
	comp=N,5.7nm,1.2s						
U15A				IAML		06 14 34.9	
	comp=E,6.3nm,1.0s						
AFDM	**Forest Hills D**	**4.30**	**321**	Pn	Pn	06 13 22.3	-1.1
AFDM				IAML		06 14 36.8	
	comp=N,5.0nm,0.8s						
AFDM				IAML		06 14 39.0	
	comp=E,6.7nm,2.3s						
X16A	**Lo Mia Camp, P**	**5.11**	**102**	Pn	Pn	06 13 32.8	-1.9
X16A				IAML		06 15 09.1	
	comp=E,3.5nm,3.5s						
X16A				IAML		06 15 10.7	
	comp=N,3.9nm,1.4s						
TUC	**Tucson**	**6.49**	**119**	Pn	Pn	06 13 53.3	-0.3

IDC ***13*** *06:16:42.8±2.4, 18.01S×178.49W, h602km±29km, mb3.5/15, mbtmp4.4/16, Error ellipse: s-maj=15.3km s-min=12.9km az=139.0*

NEIC ***13*** *06:16:43.0±1.3, 17.9S±0.1×178.5W±0.1, h600km±4km, mb4.4/79, Error ellipse: s-maj=20.1km s-min=14.8km az=146.0*

NOU ***13*** *06:16:44.0, 17.84S×178.57W, h593km, mb4.6/10, Fiji Islands Region*

ISC 13 06:16:42.6±0.4, 17.95S±0.08×178.49W±0.07, h600km, n347,σ0°68/347, mb4.3/57, 3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**0.42**	**228**	P	**P**	**06 17 53.0**	**+0.1**
TAVE	**Taveuni**	**1.83**	**312**	P	**P**	**06 17 57.0**	**+0.7**
MSVF	**Nonsavu**	**3.31**	**273**		**P**	**06 18 04.9**	**+1.3**
MSVF	**Nonsavu**	**3.31**	**273**	P	**P**	**06 18 04.7**	**+1.0**
NIUE	**Niue**	**8.20**	**99**	P	**P**	**06 18 43.2**	**-0.6**
NIUE	**Niue**	**8.20**	**99**	P	**P**	**06 18 46.1**	**+2.3**
DVP	**Devils Point**	**12.69**	**269**	P	**P**	**06 19 29.4**	**+1.1**
SANVU	**Saraoutou**	**13.93**	**278**	P	**P**	**06 19 40.3**	**-0.6**
SANVU	**Saraoutou**	**13.93**	**278**	P	**P**	**06 19 40.4**	**-0.5**
PINNC	**Pines Island,**	**13.99**	**248**	P	**P**	**06 19 40.0**	**-1.3**
YATNC	**Mamie plateau,**	**14.34**	**251**	P	**P**	**06 19 44.7**	**0.0**
OUENC	**Ouen Island, N**	**14.47**	**250**	P	**P**	**06 19 47.8**	**+1.9**
DZM	**Mont Dzumac**	**14.74**	**251**	P	**P**	**06 19 48.1**	**-0.4**
DZM	**Mont Dzumac**	**14.74**	**251**	P	**P**	**06 19 47.1**	**-1.4**
	5.1nm,0.4s,baz=122,slow=13,SNR=21						
KOUNC	**Koumac, New Ca**	**16.47**	**258**	P	**P**	**06 20 06.0**	**+1.7**
URZ	**Urewera**	**20.60**	**190**	P	**P**	**06 20 41.1**	**-0.4**
	3.2nm,0.4s,baz=254,slow=6.6,SNR=6.0						
	3.2nm,0.4s						
EIDS	**Eidsvold**	**29.18**	**250**		**P**	**06 21 57.1**	**-0.2**
ARMA	**Armidale**	**29.85**	**240**	P	**P**	**06 22 04.0**	**+0.8**
ARMA				IAmb	IAmb	06 22 05.1	
	comp=Z,9.7nm,0.8s						
CTAO	**Charters Tower**	**33.37**	**261**		**P**	**06 22 33.2**	**+0.1**
CAN	**Canberra**	**33.62**	**233**	P	**P**	**06 22 35.7**	**+0.7**
COEN	**Coen**	**37.03**	**270**		**P**	**06 23 03.7**	**+0.3**
TOO	**Toolangi**	**37.09**	**231**	P	**P**	**06 23 04.3**	**+0.7**
TOO				IAmb	IAmb	06 23 07.2	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**38.54**	**241**		**P**	**06 23 15.9**	**+0.5**
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**06 23 16.1**	**+0.6**
	comp=Z,17nm,0.7s,baz=89,slow=10,SNR=19						
	comp=Z,17nm,0.7s						
WR8	**Warramunga Arr**	**44.40**	**260**		**P**	**06 24 01.1**	**-0.6**
WR8				IAmb	IAmb	06 24 03.5	
	comp=Z,9.6nm,0.7s						
WB0	**Warramunga Arr**	**44.52**	**260**		**P**	**06 24 02.0**	**-0.6**
WRAB	**Tennant Creek**	**44.54**	**260**	P	**P**	**06 24 02.4**	**-0.4**
WRA	**Warramunga Arr**	**44.55**	**260**		**P**	**06 24 02.1**	**-0.8**
WRA	**Warramunga Arr**	**44.55**	**260**	P	**P**	**06 24 02.1**	**-0.8**
	comp=Z,16nm,0.5s,baz=95,slow=7.1,SNR=282						
	comp=Z,16nm,0.5s						
AS31	**Alice Springs**	**44.71**	**254**		**P**	**06 24 04.1**	**+0.1**
ASAR	**Alice Springs**	**44.71**	**254**		**P**	**06 24 04.3**	**+

R18K	Karluk	77.85	13	P		P	06 27 38.5	-0.4
	baz=203							
Q17K	Contact Creek	78.20	12	P		P	06 27 40.3	-0.7
	baz=202							
O14K	Tigyukauivet M	78.21	9	P		P	06 27 40.6	-0.2
	baz=197							
O15K	Ungalikthiuk R	78.36	10	P		P	06 27 41.1	-0.5
	baz=198							
KDAK	Kodiak Island	78.46	14	P		P	06 27 41.5	-0.6
	baz=205							
YBH	Yreka Blue Hor	78.61	39			P	06 27 44.0	+0.5
M11K	Mekoryuk	78.69	6	P		P	06 27 42.8	-0.5
	baz=192							
Q18K	Katmai Hardscr	78.73	12	P		P	06 27 43.2	-0.6
	baz=203							
N14K	Kuskokwak Cree	78.79	9	P		P	06 27 44.2	+0.3
N14K				IAmb		IAmb	06 27 44.7	
	comp=Z,12nm,0.7s							
N14K	Kuskokwak Cree	78.79	9	P		P	06 27 43.5	-0.3
	baz=196							
P17K	Kvichak River	78.96	11	P		P	06 27 44.3	-0.5
	baz=201							
O16K	Kokwok River B	79.04	10	P		P	06 27 44.3	-1.0
	baz=200							
M13K	Dall Lake	79.04	8	P		P	06 27 44.5	-0.7
	baz=195							
Q20K	Shuyak Island	79.25	14	P		P	06 27 45.8	-0.5
	baz=205							
N15K	Kwethluk River	79.26	9	P		P	06 27 45.9	-0.5
	baz=198							
Q19K	Cape Douglas,	79.27	13	P		P	06 27 45.9	-0.6
	baz=204							
P18K	Big Mountain,	79.38	12	P		P	06 27 46.8	-0.3
	baz=202							
O17K	Koliganek Bris	79.39	11	P		P	06 27 47.0	0.0
	baz=201							
NVAR	Mina Array Bea	79.51	44	P		P	06 27 49.0	+0.5
	comp=Z,3.9nm,0.8s,baz=224,slow=8.9,SNR=5.8							
	comp=Z,3.9nm,0.8s							
M14K	Bethel	79.55	8	P		P	06 27 48.1	+0.2
	baz=196							
M15K	Kasigluk River	79.68	9	P		P	06 27 48.1	-0.4
	baz=197							
N16K	Nishlik Lake	79.76	10	P		P	06 27 48.8	-0.2
	baz=199							
O18K	Koktuh Hills	79.81	12	P		P	06 27 49.4	+0.1
	baz=202							
J04A	Umpqua Nationa	79.86	38			P	06 27 51.3	+1.1
J04A				IAmb		IAmb	06 27 51.7	
	comp=Z,21nm,0.6s							
P19K	Oil Pt	80.02	13	P		P	06 27 50.7	+0.3
	baz=204							
L14K	Kuka Creek	80.03	8	P		P	06 27 50.7	+0.3
	baz=195							
N17K	Nushagak Hills	80.08	11	P		P	06 27 50.3	-0.3
	baz=201							
M16K	Timber Creek	80.25	10	P		P	06 27 52.4	+0.8
M16K				IAmb		IAmb	06 27 53.3	
	comp=Z,10nm,1.1s							
M16K	Timber Creek	80.25	10	P		P	06 27 52.1	+0.6
	baz=199							
K05A	Summer Lake	80.28	39			P	06 27 52.9	+0.5
K05A				IAmb		IAmb	06 27 54.2	
	comp=Z,12nm,1.0s							
CNPM	China Poot	80.34	14	P		P	06 27 52.1	+0.1
CNPM				IAmb		IAmb	06 27 52.5	
	comp=Z,7.5nm,1.0s							
K13K	Kusilvak Mount	80.37	7	P		P	06 27 52.4	+0.3
	baz=193							
J05D	Fort Rock, OR	80.40	39	P		P	06 27 53.5	+0.6
J05D				IAmb		IAmb	06 27 54.6	
	comp=Z,14nm,0.9s							
L15K	Ungalak Mounta	80.51	8	P		P	06 27 52.9	+0.1
	baz=196							
H04A	Detroit Lake	80.67	37			P	06 27 54.4	+0.2
H04A				IAmb		IAmb	06 27 54.6	
	comp=Z,6.8nm,0.5s							
L16K	Owhat River	80.83	9	P		P	06 27 55.2	+0.7
L16K	Owhat River	80.83	9	P		P	06 27 54.9	+0.4
	baz=198							
N19K	Bonanza Creek	80.84	12	P		P	06 27 54.7	0.0
	baz=203							
M17K	Holitna River	80.86	10			P	06 27 55.6	+0.9
M17K				IAmb		IAmb	06 27 56.4	
	comp=Z,11nm,0.8s							
M17K	Holitna River	80.86	10	P		P	06 27 54.9	+0.2
	baz=200,SNR=5.5							
PINE	Pine Mountain	80.87	38			P	06 27 55.7	+0.2
PINE				IAmb		IAmb	06 27 57.2	
	comp=Z,10nm,0.9s							
I05D	Terrebonne, OR	80.96	38	P		P	06 27 56.0	+0.3
K15K	Wolf Creek Mou	81.10	8			P	06 27 56.6	+0.7
K15K				IAmb		IAmb	06 27 57.5	
	comp=Z,9.6nm,0.8s							
K15K	Wolf Creek Mou	81.10	8	P		P	06 27 56.1	+0.2
	baz=196,SNR=6.6							
DIB	Dawson Inlet,	81.20	26	P		P	06 27 56.8	+0.2
DIB				IAmb		IAmb	06 28 07.2	
	comp=Z,10.0nm,1.3s							
M18K	Stony River	81.22	11	P		P	06 27 56.8	+0.3
	baz=202							
SEW	Seward	81.27	14	P		P	06 27 56.7	0.0
	baz=208							
HOLB	Holberg	81.34	30	P		P	06 27 57.4	0.0
HOLB				IAmb		IAmb	06 28 00.8	
	comp=Z,17nm,1.2s							
HOOD	Mount Hood Mea	81.36	37	P		P	06 27 58.2	+0.4
HOOD				IAmb		IAmb	06 27 58.9	
	comp=Z,10nm,1.2s							
C03A	Quillayute Air	81.37	33	P		P	06 27 58.8	+1.2
C03A				IAmb		IAmb	06 28 25.1	
	comp=Z,29nm,1.3s							
NLWA	Neilton Lookou	81.39	34	P		P	06 27 58.0	+0.2
NLWA				IAmb		IAmb	06 28 10.3	
	comp=Z,11nm,1.4s							
L17K	Donlin	81.41	9	P		P	06 27 57.7	+0.2
	baz=199							
CAPN	Captain Cook N	81.48	13	P		P	06 27 58.1	+0.3
	baz=206							
P23K	Montague Islan	81.67	15	P		P	06 27 58.9	0.0
	baz=210							
L18K	Granite Mounta	81.75	10	P		P	06 27 59.9	+0.7
L18K				IAmb		IAmb	06 28 00.6	
	comp=Z,15nm,1.5s							
L18K	Granite Mounta	81.75	10	P		P	06 27 59.3	+0.1
	baz=201,SNR=6.2							
M19K	Big River Lodg	81.86	11	P		P	06 27 59.9	0.0
	baz=203							
I07A	Izee	81.89	39	P		P	06 28 00.4	-0.1
I07A				IAmb		IAmb	06 28 02.1	
	comp=Z,5.7nm,0.7s							
K17K	Iditarod	81.96	9	P		P	06 27 59.9	-0.4
	baz=199							
L19K	White Mountain	82.03	11	P		P	06 28 00.5	-0.2
	baz=203							
GNW	Green Mountain	82.05	34	P		P	06 28 01.3	+0.2
GNW				IAmb		IAmb	06 28 02.3	
	comp=Z,5.8nm,0.9s							
RC01	Rabbit Creek A	82.08	14	P		P	06 28 00.7	-0.2
	baz=208							
J08A	Circle Bar Ran	82.10	40			P	06 28 01.1	-0.5
J08A				IAmb		IAmb	06 28 03.1	
	comp=Z,12nm,1.2s							
J16K	Anvik River	82.17	8	P		P	06 28 01.6	+0.3
	baz=197							
SUA	Susitna One	82.19	13	P		P	06 28 00.9	-0.7
	baz=207							
PWL	Port Wells	82.20	14	P		P	06 28 01.2	-0.4
	baz=209							
X16A	Lo Mia Camp, P	82.27	50			P	06 28 03.3	+0.6
KAIM	Kayak Island	82.39	17	P		P	06 28 01.5	-0.9
	baz=212							
L20K	Farewell, AK	82.49	11	P		P	06 28 02.6	-0.3
	baz=204							
J17K	VABM Dome	82.49	9	P		P	06 28 02.8	-0.1
J17K	VABM Dome	82.49	9	P		P	06 28 02.5	-0.4
	baz=199							
SKT	Skwentna	82.49	12	P		P	06 28 02.1	-0.9
	baz=206							
319A	Douglas	82.51	54			P	06 28 03.6	-0.3
319A				IAmb		IAmb	06 28 06.3	
	comp=Z,7.3nm,0.9s							
GLI	Glacier Island	82.51	15	P		P	06 28 02.1	-1.0
	baz=210							
EYAK	Cordova Ski Ar	82.56	16	P		P	06 28 02.8	-0.5
	baz=211							
CRAG	Craig	82.59	24	P		P	06 28 02.8	-0.7
	baz=223							
M22K	Willow	82.59	13	P		P	06 28 03.0	-0.4
	baz=207							
KNK	Knik Glacier	82.66	14	P		P	06 28 03.4	-0.5
	baz=209							
PMR	Palmer	82.66	14			P	06 28 03.0	-0.8
PMR	Palmer	82.66	14	P		P	06 28 03.0	-0.8
	baz=208							
I17K	Unalakleet	82.74	8	P		P	06 28 03.3	-0.8
	baz=197							
GHO	Glory Hole Cre	82.87	14	P		P	06 28 04.1	-0.8
GHO				IAmb		IAmb	06 28 05.1	
	comp=Z,11nm,0.6s							
G08A	Pilot Rock	82.89	38			P	06 28 05.8	+0.2
G08A				IAmb		IAmb	06 28 06.8	
	comp=Z,13nm,1.5s							
J18K	Innoko River	82.91	10	P		P	06 28 05.3	+0.3
J18K	Innoko River	82.91	10	P		P	06 28 04.6	-0.4
	baz=201,SNR=5.6							
U33K	Whale Pass	83.06	24	P		P	06 28 05.3	-0.6
	baz=223							
V35K	Ketchikan	83.08	25	P		P	06 28 05.2	-0.8
	baz=224							
HAWA	Hanford	83.18	37			P	06 28 06.9	+0.1
HAWA				IAmb		IAmb	06 28 08.1	
	comp=Z,7.6nm,1.0s							
PPLA	Purkeypile	83.19	12	P		P	06 28 06.2	-0.4
	baz=205							
BMRM	Bremner River	83.22	16	P		P	06 28 05.8	-0.9
	baz=212							
K20K	Telida	83.26	11	P		P	06 28 06.1	-0.7
	baz=203							
H16K	Elim	83.27	7	P		P	06 28 06.4	-0.4
	baz=196							
MESA	MESA	83.28	17	P		P	06 28 06.4	-0.8
	baz=215							
SCM	Sheep Creek Mo	83.29	14	P		P	06 28 06.0	-1.0
	baz=210,SNR=7.3							
S31K	Pelican	83.32	21	P		P	06 28 06.5	-0.6
	baz=220							
KLU	Klutina	83.33	15	P		P	06 28 07.1	-0.1
	baz=211							
G15K	Niukluk	83.42	6	P		P	06 28 06.8	-0.7
	baz=194							
CRQE	Cirque	83.44	17	P		P	06 28 07.3	-0.6
	baz=214							
S32K	Killisnoo	83.52	22	P		P	06 28 07.8	-0.3
	baz=222							
WRAK	Wrangell Islan	83.58	24	P		P	06 28 08.6	+0.2
WRAK	Wrangell Islan	83.58	24	P		P	06 28 07.8	-0.6
	baz=224							
J19K	Poorman	83.59	10	P		P	06 28 07.5	-0.9
	baz=202							
PNL	Peninsula	83.62	19	P		P	06 28 07.8	-0.9
	baz=217							
CAST	Castle Rocks	83.69	12	P		P	06 28 07.5	-1.4
	baz=205,SNR=9.5							
PINM	Pinnacle	83.71	18	P		P	06 28 08.1	-1.1
	baz=216							
MFID	Camas Ranch	83.75	41	P		P	06 28 09.8	-0.1
N25K	Chitina, Valde	83.76	16			P	06 28 08.9	-0.5
N25K				IAmb		IAmb	06 28 09.8	
	comp=Z,6.4nm,0.7s							
N25K	Chitina, Valde	83.76	16	P		P	06 28 08.4	-1.0
	baz=212,SNR=8.6							
MAW	Mawson	83.79	200	P		P	06 28 09.1	-0.4
	comp=Z,1.4nm,0.4s,baz=144,slow=2.9,SNR=10							
	comp=Z,1.4nm,0.4s							
M24K	Tolsona, Glenn	83.80	15	P		P	06 28 08.7	-0.8
	baz=211							
H17K	Granite Mounta	83.85	8	P		P	06 28 09.0	-0.6
	baz=198							
WAT6	Susitna Watana	83.85	14	P		P	06 28 09.2	-0.7
	baz=209,SNR=9.2							
WAT1	Susitna Watana	83.88	13	P		P	06 28 09.3	-0.6
	baz=208							
D08A	Wollman Farm,	83.91	36			P	06 28 10.7	+0.3
D08A				IAmb		IAmb	06 28 11.7	
	comp=Z,6.8nm,1.0s							
MCARA	McCarthy VSAT	83.99	16	P		P	06 28 10.1	-0.3
	baz=214							
J20K	Nowinta River	84.00	10			P	06 28 10.3	-0.1
J20K	Nowinta River	84.00	10	P		P	06 28 10.0	-0.4
	baz=203							
CHUM	Lake Minchumin	84.06	11	P		P	06 28 09.4	-1.3
	baz=205							
TRF	Thorofare Moun	84.07	12			P	06 28 09.9	-1.0
TRF				IAmb		IAmb	06 28 11.3	
	comp=Z,8.7nm,0.8s							
TRF	Thorofare Moun	84.07	12	P		P	06 28 09.9	-1.0
	baz=207,SNR=9.0							
GCSA	Galena City Sc	84.09	9	P		P	06 28 09.5	-1.3
	baz=201							
CTG	Chitna Glacier	84.10	17	P		P	06 28 09.9	-1.3
	baz=215							
P29M	Windy Craggy	84.11	19	P		P	06 28 10.1	-1.0
	baz=219							
H18K	Honhosa River	84.26	8	P		P	06 28 10.7	-1.0
	baz=199							
O28M	Mount Upton	84.28	18	P		P	06 28 10.9	-1.3
	baz=216							
G17K	Kiwalik Mounta	84.29	7	P		P	06 28 11.3	-0.5
	baz=197							
RND	Reindeer	84.33	13	P		P	06 28 11.3	-0.8
RND				IAmb		IAmb	06 28 12.3	
	comp=Z,8.5nm,0.8s							
DHY	Denali Highway	84.36	14	P		P	06 28 11.2	-1.1
	baz=210							
O29M	Mount Kennedy	84.38	19	P		P	06 28 11.7	-0.9
	baz=218							
B08A	Colville Reser	84.42	35			P	06 28 12.3	-0.6
B08A				IAmb		IAmb	06 28 13.3	
	comp=Z,4.5nm,0.8s							
PLBC	Pleasant Camp	84.42	20	P		P	06 28 11.8	-0.7
	baz=220							
BPAW	Bear Paw Mtn.	84.51	12	P		P	06 28 12.2	-0.7
	baz=206							
I20K	Naaghedeneel	84.52	10	P		P	06 28 12.1	-0.7
	baz=203							
MCK	McKinley	84.60	13	P		P	06 28 12.5	-0.9
	baz=208							
PAX	Paxson	84.71	14	P		P	06 28 13.2	-0.9
	baz=211							
HLID	Hailey	84.71	41			P	06 28 14.4	-0.2
TMUT	Trail Mountain	84.72	46	P		P	06 28 15.0	+0.1
P30M	Million Dollar	84.74	19	P		P	06 28 13.6	-0.6
	baz=219							
T35M	Bob Quinn	84.79	24	P		P	06 28 13.4	-1.1
	baz=226							
YUK8	Steele Glacier	84.81	18	P		P	06 28 13.9	-0.9
	baz=217							
M26K	Nabesna, AK	84.84	16	P		P	06 28 14.5	-0.2
	baz=214							
H19K	Roundabout Mou	84.89	9	P		P	06 28 14.4	-0.3
	baz=201							
G18K	Tagagawik	84.92	8	P		P	06 28 15.1	+0.2
	baz=199							
YUK6	Outpost Mounta	84.95	18	P		P	06 28 14.8	-0.7
	baz=218							
YUK3	Moose Creek	85.01	17	P		P	06 28 15.6	-0.1
	baz=216,SNR=8.5							
M27K	Edge Creek, AK	85.10	16	P		P	06 28 16.4	+0.4
	baz=215,SNR=5.1							
S34M	Telegraph Cree	85.11	23	P		P	06 28 15.9	0.0
	baz=225,SNR=5.9							
HYT	Haines Junctio	85.12	19	P		P	06 28 16.1	0.0
	baz=219							
YUK4	Talbot Arm	85.19	18	P		P	06 28 16.7	+0.2
	baz=218							
L26K	Log Cabin Wild	85.28	15	P		P	06 28 17.0	+0.3
	baz=213							
I21K	Tanana	85.30	11	P		P	06 28 16.8	+0.1
	baz=205							
NEA2	Nenana	85.33	12	P		P	06 28 16.7	-0.2
	baz=208							
K24K	Donnelly Dome	85.35	14	P		P	06 28 16.9	-0.1
	baz=211							
G19K	Purcell Mounta	85.38	9	P		P	06 28 16.8	-0.3
	baz=200							
MLY	Manley	85.40	11	P		P	06 28 16.9	-0.4
	baz=206							
P32M	Atlin	85.41	21	P		P	06 28 16.7	-0.7
	baz=222							
BVCY	Beaver Creek	85.42	17	P		P	06 28 16.9	-0.5
	baz=216							
Q32M	Nakina River	85.45	22	P		P	06 28 16.9	-0.9
	baz=224,SNR=6.1							
F18K	Selawik	85.47	7	P		P	06 28 17.0	-0.4
	baz=198							
RIDG	Independent Ri	85.52	14	P		P	06 28 16.6	-1.2
	baz=212							
O30N	Mendenhall	85.52	19	P		P	06 28 17.8	-0.1
O30N	Mendenhall	85.52	19	P		P	06 28 17.7	-0.3
	baz=220							
H21K	Melozitna Rive	85.59	10	P		P	06 28 17.0	-1.1
	baz=204							
HDA	Harding Lake	85.62	13	P		P	06 28 17.8	-0.4
	baz=210							
E17K	Hotham Inlet	85.68	6	P		P	06 28 17.7	-0.8
	baz=196							
L27K	Beaver Creek,	85.69	16	P		P	06 28 17.8	-0.9
	baz=215							
N30M	Aishikik Lake	85.74	19	P		P	06 28 18.1	-0.8
	baz=219							
I23K	Minto, Yukon-K	85.77	12	P		P	06 28 18.5	-0.4
	baz=208							
WHY	Whitehorse	85.82	20	P		P	06 28 18.7	-0.7
	baz=221							
COLA	College	85.83	13	P		P	06 28 18.8	-0.4
	baz=209							
DLBC	Dease Lake	85.90	23	P		P	06 28 18.7	-1.1
	baz=226							
SCRK	Sand Creek	85.92	15	P		P	06 28 19.2	-0.6
	baz=213							
F19K	Shaleruckik Mo	85.93	8	P		P	06 28 19.1	-0.6
	baz=200							
ILAR	Eielson Array	85.94	13	P		P	06 28 18.8	-1.0
	comp=Z,1.2nm,0.4s,baz=224,slow=5.0,SNR=34							
	comp=Z,1.2nm,0.4s							
H22K	Ishtalitna Cre	86.06	11	P		P	06 28 19.8	-0.6
	baz=206							
TX31	Lajitas Ar. Si	86.08	58	P		P	06 28 22.3	+0.9
TX31				IAmb		IAmb	06 28 23.8	
	comp=Z,6.2nm,0.9s							
TXAR	Lajitas Array	86.08	58			P	06 28 22.0	+0.6
TXAR	Lajitas Array	86.08	58	P		P	06 28 22.8	+1.4
	comp=Z,4.0nm,0.8s,baz=218,slow=6.2,SNR=57							
	comp=Z,4.0nm,0.8s							
M29M	Somme Creek	86.11	17	P		P	06 28 19.5	-1.2
	baz=218							
POKR	Poker Flat Res	86.13	13	P		P	06 28 19.8	-0.9
	baz=210							
J25K	Salcha River,	86.14	14	P		P	06 28 19.7	-1.1
	baz=211,SNR=6.2							
E18K	Tukpahlearik C	86.14	7	P		P	06 28 19.9	-0.7
	baz=197							
D17K	Noatak River	86.15	6	P		P	06 28 20.1	-0.6
	baz=195							
N31M	Braeburn, Yuko	86.17	19	P		P	06 28 20.6	-0.4
	baz=220							
P33M	Teslin, Yukon	86.17	21	P		P	06 28 20.2	-0.9
	baz=223							
ANMO	Albuquerque	86.18	52	P		P	06 28 21.8	0.0
R33M	Jennings River	86.23	22	P		P	06 28 20.1	-1.3
	baz=225							
G21K	Allakaket	86.27	10	P		P	06 28 21.0	-0.3
	baz=204							
H23K	Yukon River	86.34	12	P		P	06 28 20.9	-0.7
	baz=208							
F20K	Avaraart Lake	86.42	9	P		P	06 28 21.7	-0.2
	baz=202							
K27K	Chicken	86.43	15	P		P	06 28 21.8	-0.2
	baz=214							
J26L	Joseph Creek	86.46	14	P		P	06 28 21.8	-0.6
	baz=213,SNR=8.7							
E19K	Redstone River	86.59	8	P		P	06 28 22.0	-0.7
	baz=200							
H24K	Noodor Dome	86.67	12	P		P	06 28 22.7	-0.5
	baz=209							
M30M	Minto, Yukon	86.70	18	P		P	06 28 23.3	-0.2
	baz=219,SNR=8.1							
L29M	L29M	86.73	17	P		P	06 28 23.7	+0.1
	baz=218							
N32M	Quiet Lake	86.78	20	P		P	06 28 23.9	0.0
	baz=223							
PRP	Porcupine Dome	86.88	13	P		P	06 28 24.1	-0.3
	baz=211							
C17K	DeLong Mountai	86.90	6	P		P	06 28 23.9	-0.3
	baz=195							
F21K	Alatna River	86.92	9	P		P	06 28 24.0	-0.3
	baz=204							
G22K	Bettles	86.97	10	P		P	06 28 24.6	+0.1
	baz=206							
G23K	Bananza Creek	87.04	11	P		P	06 28 24.5	-0.5
	baz=207							
M31M	Drury Creek, Y	87.14	19	P		P	06 28 24.9	-0.6
	baz=222							
DAWY	Dawson	87.15	16	P		P	06 28 24.7	-0.8
	baz=217							
I26K	Coal Creek Min	87.23	14	P		P	06 28 25.0	-0.8
	baz=213							
HHC	Hu-ho-hao-te	87.25	314	*e*P		P	06 28 28.3	+1.7
HHC				pmax		pmax		
	comp=Z,11nm,0.6s							
HHC				pmax		pmax		
	comp=Z,59nm,3.8s							
C18K	Utukok River	87.26	6	P		P	06 28 25.3	-0.7
	baz=196							
YHL	Hebgen Lake	87.37	41			P	06 28 27.9	+0.5
YHL				IAmb		IAmb	06 28 29.5	
	comp=Z,4.9nm,0.9s							
PDAR	Pinedale Array	87.43	43			P	06 28 27.5	-0.1
PDAR	Pinedale Array	87.43	43	P		P	06 28 27.7	+0.1
	comp=Z,2.0nm,0.6s,baz=214,slow=3.1,SNR=29							
	comp=Z,2.0nm,0.6s							
D19K	Kuna River	87.46	7	P		P	06 28 26.3	-0.6
	baz=199							
H25L	Birch Creek	87.47	13	P		P	06 28 26.3	-0.5
	baz=211							
COLD	Coldfoot	87.47	11	P		P	06 28 26.2	-0.7
	baz=207							
K29M	Barlow Dome	87.48	17	P		P	06 28 26.5	-0.7
	baz=219							
E20K	Nigu River	87.48	8	P		P	06 28 26.6	-0.4
	baz=201							
FARO	Faro, Yukon	87.49	19	P		P	06 28 26.6	-0.5
	baz=222							
G24K	Hadweenzic Riv	87.51	12	P		P	06 28 26.7	-0.4
	baz=209							
WTLY	Watson Lake, Y	87.52	22	P		P	06 28 26.7	-0.7
	baz=227							
MAYO	Mayo, Yukon	87.75	18	P		P	06 28 27.8	-0.4
	baz=220							
G25K	Bearman Lake	87.84	12	P		P	06 28 27.9	-0.6
	baz=211							
I27K	Kandik River	87.84	14	P		P	06 28 27.9	-0.8
	baz=215							
D20K	Etivluk River	87.86	8	P		P	06 28 28.6	-0.1
	baz=201							
C19K	Lookout Ridge	87.87	7	P		P	06 28 28.4	-0.4
	baz=198							
B18K	Kokolik River	87.89	6	P		P	06 28 28.0	-0.8
	baz=196							
E21K	Killik River	87.97	9	P		P	06 28 28.2	-1.0
	baz=203							
E22K	Anaktuvuk Pass	88.02	10	P		P	06 28 28.7	-0.8
	baz=205							
TOAD	Toad River Com	88.03	25	P		P	06 28 29.2	-0.5
	baz=230							
LIRD	Liard River Hi	88.06	24	P		P	06 28 29.2	-0.6
	baz=229							
I28M	Miner Creek	88.12	15	P		P	06 28 29.6	-0.5
	baz=216							
F24K	Squaw Lake	88.15	11	P		P	06 28 29.4	-0.7
	baz=209							
E23K	Chandalar	88.31	10	P		P	06 28 30.4	-0.6
	baz=207							
J30M	Hart River	88.38	17	P		P	06 28 30.6	-0.7
	baz=220							
H27K	Steamboat Moun	88.38	14	P		P	06 28 30.3	-0.9
	baz=215							
MMPY	Sheldon Lake,	88.44	20	P		P	06 28 30.8	-0.8
	baz=224							
I29M	Ogilvie Camp,	88.47	16	P		P	06 28 30.6	-1.0
	baz=218							
C21K	Knifeblade Rid	88.52	8	P		P	06 28 30.7	-1.0
	baz=202							
E24K	Your Creek	88.53	11	P		P	06 28 31.0	-0.9
	baz=208							
D22K	Ayikyak River	88.56	9	P		P

baz=215
CMAR Chiang Mai Arr 88.83 290 P **P 06 28 36.0 +1.7**
comp=Z,1.1nm,0.3s,baz=116,slow=3.3,SNR=9.1
comp=Z,1.1nm,0.3s
TOLK Toolik Lake Re 88.84 10 P **P 06 28 33.6 +0.3**
baz=207
I30M Mount Dempster 88.87 16 P **P 06 28 32.8 -0.8**
baz=220
D23K Nanushuk River 88.95 10 P **P 06 28 32.8 -0.9**
baz=206
B21K Ikpikpuk River 88.97 8 P **P 06 28 32.9 -0.9**
baz=203
B20K Meade River 89.01 7 P **P 06 28 33.1 -0.8**
baz=200
F26K Sheenjek River 89.03 12 P **P 06 28 34.1 -0.1**
baz=215
PZH PanZhiHua 89.11 298 P **P 06 28 36.8 +1.2**
E25K Arctic Village 89.11 12 P **P 06 28 34.7 +0.2**
baz=211
H29M Whitestone 89.13 15 P **P 06 28 34.1 -0.5**
baz=218
D24K Happy Valley 89.42 10 P **P 06 28 36.3 +0.3**
baz=208
EPYK Eagle Plains 89.67 16 P **P 06 28 36.7 -0.5**
baz=219
C23K Itkillik River 89.75 9 P **P 06 28 37.1 -0.3**
baz=206
G29M Pine Creek 89.76 15 P **P 06 28 37.4 -0.2**
baz=218
H31M Peel River 89.86 17 P **P 06 28 37.9 -0.2**
baz=222
F28M Old Crow 89.89 14 P **P 06 28 37.8 -0.3**
baz=216
C24K Franklin Bluff 89.95 10 P **P 06 28 38.1 -0.2**
baz=208
E27K Coleen River 89.98 13 P **P 06 28 38.8 +0.2**
baz=215
D25K Kavik River 90.00 11 P **P 06 28 38.9 +0.2**
baz=210
A22K Sinclair Lake 90.21 8 P **P 06 28 39.3 -0.2**
baz=202
G30M tAoh Zraii Nji 90.26 15 P **P 06 28 39.3 -0.6**
baz=220
TROLL Troll, Antarti 90.26 180 ⇓P **P 06 28 39.5 -0.6**
comp=Z,47nm,0.5s
SNAA Sanae 90.56 179 ⇓P **P 06 28 40.5 -1.0**
SNAA Sanae 90.56 179 P **P 06 28 40.2 -1.2**
comp=Z,0.6nm,0.5s,baz=188,slow=9.0,SNR=8.2
comp=Z,0.6nm,0.5s
G31M Satah River 90.72 16 P **P 06 28 42.1 +0.2**
baz=222
E28M Babbage River 90.76 13 P **P 06 28 42.4 +0.2**
baz=217
F30M Barrier River 90.86 15 P **P 06 28 42.7 +0.1**
baz=220
E29M Blow River 90.96 14 P **P 06 28 43.0 -0.1**
baz=218
D27M Malcolm River 90.98 13 P **P 06 28 43.5 +0.3**
baz=215
F31M Tsiigehtchic 91.25 16 P **P 06 28 44.4 0.0**
baz=222
VNA1 Neumayer--Stat 91.37 177 ⇓P **P 06 28 45.0 -0.1**
WRGLY Wrigley 91.49 22 P **P 06 28 46.0 +0.5**
baz=231
INK Inuvik 91.95 15 P **P 06 28 46.8 -0.8**
baz=222
MKAR Makanchi Array 109.11 314 PKiKP **PKiKP 06 34 03.4 -1.8**
comp=Z,0.1nm,0.5s,baz=195,slow=1.2,SNR=4.6
HFS Hagfors 136.96 351 PKhKP PKPpre 06 34 51.2
comp=Z,0.4nm,0.4s,baz=8.7,slow=2.0,SNR=5.1
BRTR Keskin Array B 144.76 315 PKP **PKPdf 06 35 12.7 +0.2**
comp=Z,1.0nm,0.4s,baz=151,slow=3.8,SNR=5.7
MMAI Mount Meron Ar 146.10 303 PKPbc **PKPbc 06 35 17.6 +0.5**
comp=Z,2.2nm,0.5s,baz=72,slow=5.5,SNR=6.4

*NEIC **13** 06:25:19.1±0.9, 17.9S±0.2×178.44W±0.10, h600km±9km, mb4.2/18, Error ellipse: s-maj=23.3km s-min=10.9km az=157.0*
*IDC **13** 06:25:22.5±5.9, 17.91S×178.65W, h639km±75km, mb3.2/11, mbtmp4.2/12, Error ellipse: s-maj=30.3km s-min=18.2km az=94.0*
ISC 13 06:25:19.1±0.5, 17.9S±0.1×178.55W±0.09, h600km, n38, σ0.971/38, mb4.0/20, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.25**	**273**	P	**P**	**06 26 40.6**	**+0.8**
NIUE	**Niue**	**8.26**	**99**	P	**P**	**06 27 19.6**	**-1.3**
DZM	**Mont Dzumac**	**14.70**	**251**	P	**P**	**06 28 24.2**	**-0.5**
DZM	**Mont Dzumac**	**14.70**	**251**	P	**P**	**06 28 24.5**	**-0.2**
	3.9nm,0.8s,baz=120,slow=18,SNR=5.6						
CTAO	**Charters Tower**	**33.31**	**261**	P	**P**	**06 31 08.9**	**-0.2**
CTAO				IAmb	IAmb	06 31 48.7	
	comp=Z,11nm,1.2s						
CAN	**Canberra**	**33.59**	**232**	P	**P**	**06 31 12.2**	**+0.9**
COEN	**Coen**	**36.97**	**270**	P	**P**	**06 31 39.7**	**+0.2**
COEN				IAmb	IAmb	06 32 09.8	
	comp=Z,12nm,1.2s						
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	**06 31 51.7**	**+0.1**
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	**06 31 52.3**	**+0.6**
	comp=Z,4.8nm,0.7s,baz=91,slow=12,SNR=6.7						
	comp=Z,4.8nm,0.7s						
WR8	**Warramunga Arr**	**44.35**	**260**	P	**P**	**06 32 37.0**	**-0.7**
WR8				IAmb	IAmb	06 32 55.8	
	comp=Z,19nm,1.5s						
WRA	**Warramunga Arr**	**44.50**	**260**	P	**P**	**06 32 38.8**	**-0.2**
WRA	**Warramunga Arr**	**44.50**	**260**	P	**P**	**06 32 39.4**	**+0.5**
	comp=Z,1.9nm,0.4s,baz=96,slow=7.0,SNR=48						
	comp=Z,1.9nm,0.4s						
AS31	**Alice Springs**	**44.66**	**254**	P	**P**	**06 32 40.3**	**+0.2**
AS31				IAmb	IAmb	06 32 41.9	
	comp=Z,5.1nm,0.5s						
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**06 32 40.4**	**+0.2**
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**06 32 41.0**	**+0.8**
	comp=Z,14nm,0.6s,baz=87,slow=8.7,SNR=232						
	comp=Z,14nm,0.6s						
FORT	**Forrest**	**49.88**	**245**	P	**P**	**06 33 18.4**	**-0.6**
FORT				IAmb	IAmb	06 33 55.3	
	comp=Z,20nm,1.2s						
KNRA	**Kununurra**	**50.35**	**264**	P	**P**	**06 33 22.6**	**0.0**
MBWA	**Marble Bar**	**57.94**	**256**	P	**P**	**06 34 15.4**	**-0.3**
MBWA				IAmb	IAmb	06 34 25.1	
	comp=Z,35nm,1.5s						
VNDA	**Vanda**	**60.42**	**185**	P	**P**	**06 34 31.7**	**+0.4**
VNDA	**Vanda**	**60.42**	**185**	P	**P**	**06 34 31.9**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=345,slow=7.4,SNR=1.7						
	comp=Z,0.2nm,0.5s						
CASY	**Casey**	**66.07**	**205**	P	**P**	**06 35 06.8**	**-0.7**
CASY				IAmb	IAmb	06 35 40.1	
	comp=Z,6.9nm,1.5s						
ADK	**Adak**	**69.53**	**1**	P	**P**	**06 35 28.2**	**-0.3**
QSPA	**South Pole Qui**	**72.13**	**180**	P	**P**	**06 35 44.3**	**+0.5**
QSPA				IAmb	IAmb	06 35 48.0	
	comp=Z,8.7nm,1.5s						
QSPA	**South Pole Qui**	**72.13**	**180**	P	**P**	**06 35 44.0**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=357,slow=1.1,SNR=14						
	comp=Z,2.5nm,0.8s						
PETK	**Petropavlovsk-**	**73.66**	**345**	P	**P**	**06 35 50.9**	**-1.6**
	comp=Z,3.0nm,0.4s,baz=170,slow=5.4,SNR=4.4						
	comp=Z,3.0nm,0.4s						
OHAK	**Old Harbor**	**77.78**	**14**	P	**P**	**06 36 14.6**	**-0.4**
YBH	**Yreka Blue Hor**	**78.62**	**39**	P	**P**	**06 36 21.1**	**+1.0**
	baz=202,slow=0.4,SNR=2.0						
N14K	**Kuskokwak Cree**	**78.78**	**9**	P	**P**	**06 36 20.3**	**0.0**
N14K				IAmb	IAmb	06 36 24.8	
	comp=Z,9.1nm,1.0s						
NVAR	**Mina Array Bea**	**79.53**	**44**	P	**P**	**06 36 26.0**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=227,slow=8.3,SNR=4.6						
	comp=Z,0.6nm,0.6s						
M16K	**Timber Creek**	**80.23**	**10**	P	**P**	**06 36 28.4**	**+0.5**
J05D	**Fort Rock, OR**	**80.42**	**39**	P	**P**	**06 36 30.7**	**+1.2**
J05D				IAmb	IAmb	06 36 31.6	
	comp=Z,4.7nm,1.0s						
ILAR	**Eielson Array**	**85.93**	**13**	P	**P**	**06 36 55.8**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=224,slow=5.2,SNR=13						
	comp=Z,0.4nm,0.4s						
TXAR	**Lajitas Array**	**86.12**	**58**	P	**P**	**06 36 59.7**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=222,slow=6.9,SNR=11						
	comp=Z,0.8nm,0.8s						
PDAR	**Pinedale Array**	**87.45**	**43**	P	**P**	**06 37 04.7**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=208,slow=3.1,SNR=6.5						
	comp=Z,0.5nm,0.6s						
TROLL	**Troll, Antarti**	**90.29**	**180**	⇓P	**P**	**06 37 16.5**	**-0.3**
	comp=Z,47nm,0.5s						
SNAA	**Sanae**	**90.58**	**179**	⇓P	**P**	**06 37 17.6**	**-0.5**
SNAA	**Sanae**	**90.58**	**179**	P	**P**	**06 37 17.2**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=193,slow=12,SNR=5.4						
	comp=Z,0.8nm,0.8s						
GERES	**GERESS Array B**	**147.59**	**345**	PKPbc	**PKPbc**	**06 43 56.9**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=8.7,slow=1.8,SNR=5.9						

ISC 13 07:27:37.8±1.0, 46.72N±0.04×21.09E±0.05, h10km, n10, σ1.907/18, 9C-6D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIRR	**Siria**	**0.60**	**139**	⇑P	**Pg**	**07 27 49.2**	**-0.2**
SIRR				⇓S	**Sg**	**07 27 56.0**	**-1.4**
DRGR		**1.12**	**86**	⇓P	**Pb**	**07 27 58.6**	**-0.7**
DRGR				⇑S	**Sb**	**07 28 13.4**	**-0.5**
BZS	**Buzias**	**1.16**	**162**	⇑P	**Pb**	**07 27 59.8**	**-0.2**
BZS				⇓S	**Sb**	**07 28 16.6**	**+1.4**
SURR	**Surduc**	**1.21**	**143**	⇓P	**Pn**	**07 28 00.1**	**-0.6**
SURR				⇑S	**Sb**	**07 28 16.4**	**+0.1**
MARR	**Marisel-Cluj**	**1.40**	**91**	⇑P	**Pn**	**07 28 02.9**	**-0.6**
MARR				⇑S	**Sn**	**07 28 21.6**	**-0.4**
PSZ	**Piszkesteto**	**1.45**	**326**	⇑P	**Pg**	**07 28 06.5**	**+0.9**
CJR	**Cluj-Napoca**	**1.73**	**89**	⇓P	**Pn**	**07 28 08.9**	**+1.0**
CJR				⇑S	**Sn**	**07 28 31.0**	**+1.0**
GZR	**Gura Zlata**	**1.77**	**138**	⇓P	**Pn**	**07 28 08.9**	**-0.4**
GZR				⇑S	**Sn**	**07 28 32.9**	**+1.6**
KECS	**Kecovo**	**1.81**	**347**	*e*PG	**Pg**	**07 28 13.2**	**+0.7**
KECS				*e*SG	**Sb**	**07 28 34.8**	**+1.1**
VYHS	**Vyhne**	**2.34**	**320**	*e*PN	**Pn**	**07 28 14.3**	**-2.0**

*CATAC **13** 07:35:12.9±0.6, 13°N±4'×8°9W±°, h25km±4km, M3.0/15, MLv3.0/15, Error ellipse: s-maj=8.5km s-min=4.0km az=21.3, confirmed*
*SNET **13** 07:35:13.5±1.8, 13.92N×89.05W, h40km±25km, ML3.1*
*GCG **13** 07:35:16.0±0.6, 13.14N×89.14W, h48km±10km, ML3.8*
ISC 13 07:35:12.7±2.0, 12.93N±0.10×89.06W±0.04, h25km±13km, n48, σ0.964/57, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.61**	**336**	*i* P	**Pn**	**07 35 25.7**	**-0.2**
LALI				*i* S	**Sb**	**07 35 32.6**	**-0.4**
LALI	**Alcalda de L**	**0.61**	**336**	S	**Sn**	**07 35 35.2**	**+0.4**
LALI	**Alcalda de L**	**0.61**	**336**	P	**Pn**	**07 35 25.7**	**-0.2**
ALJI	**Alcalda de J**	**0.62**	**50**	*e*P	**Pn**	**07 35 26.9**	**+0.9**
ALJI				*e*S	**Sn**	**07 35 36.8**	**+1.7**
ALJI	**Alcalda de J**	**0.62**	**50**	S	**Sn**	**07 35 35.7**	**+0.5**
ALJI	**Alcalda de J**	**0.62**	**50**	P	**Pn**	**07 35 26.0**	**0.0**
TECO	**Alcaldia de Te**	**0.66**	**24**	P	**Pb**	**07 35 25.8**	**+0.1**
TECO	**Alcaldia de Te**	**0.66**	**24**	S	**Sn**	**07 35 35.4**	**-0.8**
LFRS	**El Faro**	**0.69**	**0**	*e*P	**Pn**	**07 35 26.5**	**-0.5**
COEG	**Centro de Oper**	**0.71**	**15**	*e*P	**Pb**	**07 35 26.6**	**0.0**
COEG	**Centro de Oper**	**0.71**	**15**	S	**Sn**	**07 35 37.3**	**-0.2**
COEG	**Centro de Oper**	**0.71**	**15**	P	**Pb**	**07 35 26.5**	**-0.1**
LOMA	**Loma Larga**	**0.72**	**352**	*e*P	**Pn**	**07 35 27.1**	**-0.4**
LOMA				*e*S	**Sn**	**07 35 37.5**	**-0.3**
LOMA	**Loma Larga**	**0.72**	**352**	P	**Pn**	**07 35 27.0**	**-0.4**
UESV	**Universidad de**	**0.75**	**21**	S	**Sn**	**07 35 37.9**	**-0.6**
UESV	**Universidad de**	**0.75**	**21**	P	**Pb**	**07 35 27.1**	**-0.1**
PAVA	**Las Pavas**	**0.79**	**9**	*e*P	**Pb**	**07 35 28.1**	**+0.1**
PAVA				*e*S	**Sn**	**07 35 39.8**	**+0.3**
PAVA	**Las Pavas**	**0.79**	**9**	P	**Pb**	**07 35 27.9**	**0.0**
UEES	**Universidad Ev**	**0.80**	**348**	S	**Sn**	**07 35 39.7**	**0.0**
UEES	**Universidad Ev**	**0.80**	**348**	P	**Pb**	**07 35 28.2**	**+0.1**
JAYA	**Jayaque - finc**	**0.81**	**332**	*e*P	**Pb**	**07 35 28.4**	**+0.1**
JAYA				*e*S	**Sb**	**07 35 39.2**	**+0.2**
JAYA	**Jayaque - finc**	**0.81**	**332**	*i* P	**Pb**	**07 35 28.4**	**+0.1**
JAYA				*i* S	**Sb**	**07 35 38.9**	**-0.1**
JAYA				IAML		07 35 40.9	
	comp=E,4μm,0.2s						
JAYA	**Jayaque - finc**	**0.81**	**332**	P	**Pb**	**07 35 28.3**	**0.0**
LFU	**La Fuente**	**0.82**	**357**	*e*P	**Pn**	**07 35 28.6**	**-0.2**
PMON	**Piamonte**	**0.82**	**343**	*e*P	**Pb**	**07 35 28.4**	**+0.1**
PMON				*e*S	**Sn**	**07 35 39.9**	**-0.2**
PMON	**Piamonte**	**0.82**	**343**	P	**Pb**	**07 35 28.5**	**+0.1**
PMON	**Piamonte**	**0.82**	**343**	S	**Sn**	**07 35 40.0**	**-0.1**
BOQS	**Boqueron**	**0.83**	**345**	*e*P	**Pn**	**07 35 29.2**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.83**	**23**	P	**Pn**	**07 35 28.9**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.83**	**23**	S	**Sn**	**07 35 40.5**	**0.0**
CEVE	**Cerro Verde**	**1.05**	**329**	*e*P	**Pb**	**07 35 32.8**	**+0.4**
CEVE				*e*S	**Sn**	**07 35 48.7**	**+2.7**
CEVE	**Cerro Verde**	**1.05**	**329**	S	**Sn**	**07 35 46.5**	**+0.5**
CEVE	**Cerro Verde**	**1.05**	**329**	P	**Pn**	**07 35 32.2**	**+0.1**
UNIC	**Universidad Ca**	**1.15**	**336**	P	**Pn**	**07 35 33.4**	**+0.1**
UNIC	**Universidad Ca**	**1.15**	**336**	S	**Sb**	**07 35 46.5**	**0.0**
NUBE	**Las Nubes**	**1.19**	**324**	*i* P	**Pn**	**07 35 33.8**	**-0.2**
NUBE				*i* S	**Sn**	**07 35 47.0**	**-2.5**
NUBE	**Las Nubes**	**1.19**	**324**	P	**Pn**	**07 35 34.0**	**0.0**
NUBE	**Las Nubes**	**1.19**	**324**	S	**Sn**	**07 35 48.9**	**-0.5**
LCND	**La Caada**	**1.20**	**72**	*e*P	**Pn**	**07 35 33.6**	**-0.4**
LCND	**La Caada**	**1.20**	**72**	P	**Pn**	**07 35 33.8**	**-0.1**
CNCH	**Conchagua**	**1.25**	**74**	*e*P	**Pn**	**07 35 33.9**	**-0.8**
CNCH	**Conchagua**	**1.25**	**74**	P	**Pn**	**07 35 34.0**	**-0.7**
CNCH	**Conchagua**	**1.25**	**74**	S	**Sn**	**07 35 50.7**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.30**	**327**	S	**Sb**	**07 35 52.9**	**+0.1**
SLOZ	**Alcaldia de Sa**	**1.30**	**327**	P	**Pn**	**07 35 35.6**	**+0.3**
FAME	**Alcaldia de Sa**	**1.30**	**315**	P	**Pn**	**07 35 35.3**	**0.0**
MTO3	**Montecristo**	**1.49**	**349**	*i* P	**Pn**	**07 35 38.1**	**-0.1**
MTO3	**Montecristo**	**1.49**	**349**	P	**Pn**	**07 35 38.0**	**-0.1**

*IDC **13** 07:44:28.2±1.4, 40.36S×176.28E, h0km, mb3.9/3, mbtmp3.8/5, ML3.1/2, Error ellipse: s-maj=34.2km s-min=21.6km az=108.0*
*NOU **13** 07:44:33.2, 40.46S×176.47E, h54km, MLv3.9/11, North Island, New Zealand*
*WEL **13** 07:44:35.0±0.3, 40°S±2'×17°6E±°, h31km±3km, M3.9/91, ML4.3/19, MLv3.9/91, Error ellipse: s-maj=3.9km s-min=2.7km az=123.9, confirmed*
ISC 13 07:44:34.4±0.9, 40.35S±0.03×176.24E±0.03, h53km±5km, n161, σ1.940/174, mb3.8/3, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVHZ	**Dannevirke**	**0.08**	**312**	P	**Pn**	**07 44 41.4**	**-1.1**
DVHZ				S	**Sn**	**07 44 46.4**	**-2.0**
ANWZ	**Angora Road**	**0.21**	**122**	P	**Pn**	**07 44 44.2**	**+1.1**
WDPS	**Woodville Poli**	**0.28**	**272**	P	**Pn**	**07 44 42.9**	**-0.7**
WDPS				S	**Sn**	**07 44 48.8**	**-1.5**
PGFS	**Porangahau For**	**0.29**	**80**	P	**Pn**	**07 44 44.7**	**+1.0**
PGFS				S	**Sn**	**07 44 52.2**	**+1.9**
PRWZ	**Pori Road**	**0.29**	**225**	P	**Pn**	**07 44 44.2**	**+0.5**
PRWZ				S	**Sn**	**07 44 51.2**	**+0.7**
PRHZ	**Porangahau**	**0.31**	**74**	P	**Pn**	**07 44 44.8**	**+0.9**
PRHZ				S	**Sn**	**07 44 52.7**	**+1.9**
WPHZ	**Waipukurau**	**0.32**	**28**	P	**Pn**	**07 44 43.9**	**-0.2**
WPHZ				S	**Sn**	**07 44 50.8**	**-0.2**
BFZ	**Birch Farm**	**0.33**	**179**	P	**Pn**	**07 44 44.8**	**+0.7**
BFZ	**Birch Farm**	**0.33**	**179**	P	**Pn**	**07 44 45.2**	**+1.1**
TSZ	**Takapari Road**	**0.36**	**324**	P	**Pn**	**07 44 43.0**	**-1.5**
TSZ				S	**Sn**	**07 44 48.7**	**-3.0**
POWZ	**Post Office Ro**	**0.36**	**263**	P	**Pn**	**07 44 43.9**	**-0.5**
POWZ				S	**Sn**	**07 44 50.2**	**-1.4**
TRMS	**Tiraumea**	**0.37**	**211**	P	**Pn**	**07 44 45.5**	**+1.0**
TRMS				S	**Sn**	**07 44 53.4**	**+1.7**
PNHZ	**Pukenui**	**0.44**	**356**	P	**Pn**	**07 44 44.3**	**-0.9**
PNHZ				S	**Sn**	**07 44 51.3**	**-1.7**
WPWS	**Waipawa Distri**	**0.48**	**33**	P	**Pn**	**07 44 45.9**	**+0.2**
TIWZ	**Tintock**	**0.50**	**213**	P	**Pn**	**07 44 47.2**	**+1.2**
CPWZ	**Castlepoint**	**0.56**	**183**	P	**Pn**	**07 44 48.8**	**+2.2**
PXZ	**Pawanui**	**0.57**	**56**	P	**Pn**	**07 44 47.6**	**+1.0**
MRZ	**Mangatainoka R**	**0.59**	**238**	P	**Pn**	**07 44 47.6**	**+0.6**
MRZ				S	**Sn**	**07 44 56.5**	**+0.5**
KRHZ	**Kereru**	**0.71**	**8**	P	**Pn**	**07 44 48.2**	**-0.3**
KAHZ	**Kahuranaki**	**0.74**	**41**	P	**Pn**	**07 44 49.6**	**+0.8**
HOWZ	**Holdsworth Sta**	**0.78**	**225**	P	**Pn**	**07 44 50.2**	**+0.9**
HOWZ				S	**Sn**	**07 45 01.2**	**+1.0**
TMWZ	**Te Maipa**	**0.80**	**199**	P	**Pn**	**07 44 51.0**	**+1.3**
TMWZ				S	**Sn**	**07 45 03.1**	**+2.3**
KWHZ	**Kaweka Forest**	**0.94**	**9**	P	**Pn**	**07 44 51.5**	**+0.1**
OGWZ	**Otaki Gorge**	**0.94**	**240**	P	**Pn**	**07 44 52.0**	**+0.6**
CKHZ	**Cape Kidnapper**	**0.94**	**43**	P	**Pn**	**07 44 51.9**	**+0.4**
MCHZ	**McNeill Hill**	**0.97**	**21**	P	**Pn**	**07 44 52.3**	**+0.5**
MTW	**Mount Morrison**	**0.98**	**215**	P	**Pn**	**07 44 52.8**	**+0.8**
MOVZ	**Moawhango**	**1.01**	**338**	P	**Pn**	**07 44 52.9**	**+0.4**
MOVZ				S	**Sn**	**07 45 05.5**	**-0.3**
TRWZ	**Traveller**	**1.13**	**202**	P	**Pn**	**07 44 55.1**	**+1.1**
MTVZ	**Mangateitei**	**1.13**	**328**	P	**Pn**	**07 44 54.8**	**+0.7**
WAZ	**Wanganui**	**1.13**	**301**	P	**Pn**	**07 44 54.8**	**+0.8**
KIW	**Kapiti Island**	**1.14**	**243**	P	**Pn**	**07 44 54.6**	**+0.6**
WNVZ	**Wahianoa**	**1.14**	**334**	P	**Pn**	**07 44 54.6**	**+0.4**
CAW	**Cannon Point**	**1.17**	**229**	P	**Pn**	**07 44 55.0**	**+0.5**
TUVZ	**Tukino**	**1.17**	**337**	P	**Pn**	**07 44 55.4**	**+0.7**
TRVZ	**Turoa**	**1.18**	**333**	P	**Pn**	**07 44 55.2**	**+0.4**
WHVZ	**Whangaehu Hut**	**1.18**	**335**	P	**Pn**	**07 44 55.3**	**+0.4**
BKZ	**Black Stump Fm**	**1.20**	**9**	P	**Pn**	**07 44 54.7**	**-0.2**
BKZ	**Black Stump Fm**	**1.20**	**9**	P	Pn	07 45 10.4	+15
BKZ	**Black Stump Fm**	**1.20**	**9**	P	**Pn**	**07 44 55.0**	**0.0**
MAVZ	**Matarangi**	**1.20**	**334**	P	**Pn**	**07 44 55.7**	**+0.5**
FWVZ	**Far West T-bar**	**1.22**	**334**	P	**Pn**	**07 44 55.7**	**+0.4**
ARHZ	**Aropaoanui**	**1.23**	**28**	P	**Pn**	**07 44 55.6**	**+0.3**
SNVZ	**South Ngauruho**	**1.25**	**338**	P	**Pn**	**07 44 56.3**	**+0.5**
PKVZ	**Pokaka**	**1.27**	**327**	P	**Pn**	**07 44 56.5**	**+0.7**
OTVZ	**Oturere**	**1.27**	**339**	P	**Pn**	**07 44 56.9**	**+1.0**
COVZ	**Chateau Observ**	**1.27**	**335**	P	**Pn**	**07 44 56.6**	**+0.6**
NGZ	**Ngauruhoe**	**1.27**	**337**	P	**Pn**	**07 44 56.5**	**+0.5**
ETVZ	**East Tongariro**	**1.28**	**341**	P	**Pn**	**07 44 56.6**	**+0.5**
TMVZ	**Te Maari**	**1.30**	**341**	P	**Pn**	**07 44 56.8**	**+0.5**
MSWZ	**Moikau Station**	**1.30**	**215**	P	**Pn**	**07 44 56.6**	**+0.3**
NNVZ	**North Ngauruho**	**1.31**	**338**	P	**Pn**	**07 44 57.0**	**+0.5**
NTVZ	**North Tongarir**	**1.32**	**341**	P	**Pn**	**07 44 57.5**	**+0.8**
NMHZ	**Naumai**	**1.33**	**19**	P	**Pn**	**07 44 57.1**	**+0.4**
WTVZ	**West Tongariro**	**1.33**	**338**	P	**Pn**	**07 44 57.4**	**+0.6**
KRVZ	**Karewarewa**	**1.34**	**340**	P	**Pn**	**07 44 57.8**	**+0.9**
RITZ	**Rihia Road**	**1.40**	**348**	P	**Pn**	**07 44 58.4**	**+0.7**
TWVZ	**Taurewa**	**1.42**	**334**	P	**Pn**	**07 44 58.7**	**+0.7**
PLWZ	**Palliser**	**1.43**	**211**	P	**Pn**	**07 44 58.3**	**+0.3**
KATZ	**Kakaramea**	**1.44**	**343**	P	**Pn**	**07 45 00.2**	**+1.9**
WEL	**Wellington**	**1.46**	**230**	P	**Pn**	**07 44 58.7**	**+0.3**
BHW	**Baring Head**	**1.48**	**224**	P	**Pn**	**07 44 58.8**	**+0.1**
WHHZ	**Waihua**	**1.48**	**31**	P	**Pn**	**07 44 58.9**	**+0.2**
SNZO	**South Karori**	**1.51**	**230**	P	**Pn**	**07 44 58.9**	**-0.1**
MRHZ	**Matea Rd**	**1.52**	**5**	P	**Pn**	**07 44 59.5**	**+0.2**
RATZ	**Rangitukua**	**1.53**	**346**	P	**Pn**	**07 44 60.0**	**+0.6**
MTHZ	**Maungataniwha**	**1.57**	**17**	P	**Pn**	**07 45 00.2**	**+0.3**
RAHZ	**Arahi**	**1.57**	**25**	P	**Pn**	**07 44 59.9**	**-0.1**
LREZ	**Lake Rotokare**	**1.67**	**302**	P	**Pn**	**07 45 02.6**	**+1.3**
VRZ	**Vera Road**	**1.68**	**316**	P	**Pn**	**07 45 02.1**	**+0.7**
WATZ	**Wairara**	**1.69**	**346**	P	**Pn**	**07 45 02.6**	**+1.1**
WHTZ	**Whakaora**	**1.70**	**352**	P	**Pn**	**07 45 04.5**	**+2.7**
TCW	**Tory Channel**	**1.72**	**239**	P	**Pn**	**07 45 01.8**	**-0.1**
KNZ	**Kokohu**	**1.73**	**40**	P	**Pn**	**07 45 01.6**	**-0.4**
MHGZ	**Mahia Peninsul**	**1.75**	**48**	P	**Pn**	**07 45 02.3**	**-0.1**
SNGZ	**Shannon Statio**	**1.78**	**29**	P	**Pn**	**07 45 02.6**	**-0.2**
ALRZ	**Allen Road**	**1.79**	**3**	P	**Pn**	**07 45 02.9**	**0.0**
DUWZ	**D'Urville Isla**	**1.82**	**255**	P	**Pn**	**07 45 03.7**	**+0.3**
RTZ	**Ruatahuna**	**1.82**	**18**	P	**Pn**	**07 45 03.5**	**+0.1**
WPRZ	**Whakapapatarin**	**1.83**	**358**	P	**Pn**	**07 45 03.4**	**-0.1**
PRRZ	**Plateau Road**	**1.85**	**4**	P	**Pn**	**07 45 03.5**	**-0.3**
KUTZ	**Kaahu Road**	**1.89**	**350**	P	**Pn**	**07 45 04.3**	**0.0**
PREZ	**Palmer Road**	**1.89**	**301**	P	**Pn**	**07 45 06.0**	**+1.7**
PRGZ	**Paritu Road**	**1.91**	**42**	P	**Pn**	**07 45 04.3**	**-0.2**
MUGZ	**Murupara**	**1.92**	**12**	P	**Pn**	**07 45 04.1**	**-0.6**
DREZ	**Durham Road**	**1.96**	**306**	P	**Pn**	**07 45 06.5**	**+1.3**
HRRZ	**Handcock Road**	**1.96**	**1**	P	**Pn**	**07 45 05.4**	**+0.2**
NEZ	**North Egmont**	**1.98**	**302**	P	**Pn**	**07 45 06.9**	**+1.4**
GRRZ	**Galatos Road**	**2.00**	**357**	P	**Pn**	**07 45 09.9**	**+4.1**
KHEZ	**Kahui Hut**	**2.01**	**301**	P	**Pn**	**07 45 08.3**	**+2.2**
KHEZ	**Kahui Hut**	**2.01**	**301**	P	**Pn**	**07 45 08.2**	**+2.2**
RIGZ	**Rimuhau**	**2.02**	**36**	P	**Pn**	**07 45 05.5**	**-0.5**
RRRZ	**Republican Roa**	**2.02**	**6**	P	**Pn**	**07 45 05.7**	**-0.4**
HSRZ	**Hossack Road**	**2.04**	**0**	P	**Pn**	**07 45 06.5**	**+0.2**
NMEZ	**Namu Road**	**2.05**	**296**	P	**Pn**	**07 45 08.1**	**+1.7**
TUWZ	**Tuamarina**	**2.05**	**238**	P	**Pn**	**07 45 06.4**	**0.0**
RAGZ	**Rawiri**	**2.06**	**26**	P	**Pn**	**07 45 06.2**	**-0.5**
PKEZ	**Pukeiti**	**2.09**	**303**	P	**Pn**	**07 45 08.3**	**+1.7

KURBB **Kurchatov Arra** 64.38 328 P P 07 56 39.0 +0.1
0.5nm,0.5s,baz=126,slow=6.2,SNR=7.0
0.5nm,0.5s

IDC ***13*** *07:59:30.4±0.4,49.°60S×116.°93W,h0km,mb4.6/16, mbtmp4.6/16,MS5.2/40,Error ellipse: s-maj=17.6km s-min=13.5km az=137.0*

MOS ***13*** *07:59:32.0±1.6,49.°62S×116.°70W,h10km,mb5.3/16, MS5.2/5,Error ellipse: s-maj=20.2km s-min=11.9km az=66.7*

NEIC ***13*** *07:59:33.6±1.3,49.°6S±0.°1×116.°7W±0.°2,h10km±1km, mb5.2/80,Ms_20 5.4/855,Mwb5.6/27,Mww5.7/27,Error ellipse: s-maj=20.7km s-min=17.0km az=313.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.31; Mθθ-1.13; Mφφ0.82; Mrθ-0.57; Mθφ3.14; Mφr0.69; Fault plane solution: M₀3.42000×10¹⁷ NP1:φs80.70000°, δ77.92000°,λ-5.65000°. NP2:φs171.88000°,δ84.47000°, λ-167.86000°. Principal axes: T 3.1561, Plg5.0000°, Azm306.0000°; N 0.4819, Plg77.0000°, Azm196.0000°; P -3.6380, Plg12.0000°, Azm37.0000°;*

NEIC ***13*** *07:59:33.5,49.°55S×116.°75W,h18km,Moment Tensor Solution. Duration: 3s6 Moment tensor: Scale 10¹⁷Nm; Mrr-0.90; Mθθ-0.01; Mφφ0.91; Mrθ1.13; Mθφ4.04; Mφr1.15; Fault plane solution: M₀4.44000×10¹⁷ NP1: φs355.60000°,δ77.93000°,λ170.26000°. NP2: φs87.66000°,δ80.47000°,λ12.24000°. Principal axes: T 4.9612, Plg15.0000°, Azm312.0000°; N -1.3423, Plg75.0000°, Azm125.0000°; P -3.6189, Plg2.0000°, Azm221.0000°;*

NEIC ***13*** *07:59:33.5,49.°55S×116.°75W,h18km*

NEIC ***13*** *07:59:34.2,49.°58S×116.°79W,h10km*

GCMT ***13*** *07:59:35.5±0.1,49.°69S×116.°79W,h12km,MW5.7/164, Moment Tensor Solution. s147,c292; s164,c429; Duration: 1s7 Moment tensor: Scale 10¹⁷Nm; Mrr-0.51±.03; Mθθ-0.22±.03; Mφφ0.73±.03; Mrθ-0.56±.07; Mθφ4.04±.03; Mφr0.42±.07; Best double couple: M₀4.13900×10¹⁷ NP1:φs177.00000°,δ81.00000°, λ-172.00000°. NP2:φs86.00000°,δ82.00000°,λ-9.00000°. Principal axes: T 4.3250, Plg1.0000°, Azm132.0000°; N -0.3730, Plg79.0000°, Azm225.0000°; P -3.9520, Plg11.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 13 07:59:32.8±0.2,49°48S±0'06×116°69W±0'05,h10km, n758,σ1§60/313,mb5.2/63,MS5.4/467,7C-6D,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**22.98**	**17**	P	**P**	**08 04 38.7**	**+1.2**
RPN	**Rapa Nui**	**23.03**	**17**	P	**P**	**08 04 37.9**	**-0.1**
RPN	**Rapa Nui**	**23.03**	**17**	P	**P**	**08 04 37.9**	**-0.1**
RPN				pmax	pmax		
	comp=Z,197nm,1.2s						
PTCN	**Pitcairn Islan**	**26.51**	**332**	IAMs_20	IAMs_20	08 12 28.5	
	comp=Z,11μm,20.0s						
MG05	**Puerto Natales**	**27.83**	**112**	IAMs_20	IAMs_20	08 13 29.4	
	comp=Z,9μm,18.0s						
GO09	**Cerro Castillo**	**28.02**	**111**	IAMs_20	IAMs_20	08 13 06.6	
	comp=Z,13μm,21.0s						
MG04	**Isla Riesco**	**28.14**	**114**	P	**P**	**08 05 24.5**	**-0.3**
MG04				IAMs_20	IAMs_20	08 13 40.4	
	comp=Z,11μm,19.0s						
AY03	**Cochrane**	**29.07**	**103**	P	**P**	**08 05 33.2**	**0.0**
AY03				IAmb	IAmb	08 06 30.5	
	comp=Z,69nm,2.0s						
AY03				IAMs_20	IAMs_20	08 14 11.9	
	comp=Z,8μm,18.0s						
USHA	**Ushuaia**	**29.60**	**119**	LR	LR	08 14 10.6	
	comp=Z,12μm,21.8s,baz=268,slow=30						
COYC	**Coyhaique**	**30.04**	**100**	P	**P**	**08 05 42.9**	**+1.1**
COYC				IAmb	IAmb	08 05 53.3	
	comp=Z,50nm,1.5s						
COYC	**Coyhaique**	**30.04**	**100**	IAMs_20	IAMs_20	08 14 08.6	
	comp=Z,6μm,21.0s						
GO07	**Milladeo Hill,**	**30.08**	**94**	IAMs_20	IAMs_20	08 14 19.9	
	comp=Z,7μm,19.0s						
SMAI	**San Martin Ant**	**30.55**	**146**		**P**	**08 05 46.9**	**+1.0**
SMAI				IAmb	IAmb	08 05 48.4	
	comp=Z,75nm,1.6s						
LL02	**Futaleuf**	**31.22**	**96**		**P**	**08 05 52.1**	**-0.1**
PMSA	**Palmer Station**	**31.30**	**139**	P	**P**	**08 05 52.9**	**+0.2**
PMSA				IAmb	IAmb	08 05 55.7	
	comp=Z,54nm,1.5s						
PMSA	**Palmer Station**	**31.30**	**139**	LR	LR	08 14 54.4	
	comp=Z,15μm,21.1s,baz=272,slow=30						
H03S2	**Juan Fernandez** baz=227,slow=74,SNR=321	**31.86**	**75**	T	T	08 39 33.1	
H03S1	**Juan Fernandez** baz=227,slow=74,SNR=316	**31.87**	**75**	T	T	08 39 34.4	
H03S3	**Juan Fernandez** baz=227,slow=74,SNR=254	**31.88**	**75**	T	T	08 39 35.2	
H03N3	**Juan Fernandez** baz=230,slow=72,SNR=324	**32.12**	**74**	T	T	08 39 48.9	
H03N2	**Juan Fernandez** baz=230,slow=72,SNR=641	**32.12**	**74**	T	T	08 39 46.7	
H03N1	**Juan Fernandez** baz=230,slow=72,SNR=394	**32.13**	**74**	T	T	08 39 50.5	
PLCA	**Paso Flores**	**33.27**	**93**		**P**	**08 06 11.6**	**+1.4**
PLCA	**Paso Flores**	**33.27**	**93**	P	**P**	**08 06 10.6**	**+0.3**
	comp=Z,4.5nm,1.0s,baz=245,slow=9.5,SNR=4.8						
PLCA				PcP	**PcP**	**08 08 53.4**	**+1.0**
	comp=Z,3.4nm,1.1s,baz=135,slow=1.4,SNR=3.4						
PLCA				LR	LR	08 15 20.0	
	comp=Z,2μm,20.7s,baz=235,slow=28						
	comp=Z,4.5nm,1.0s						
PLCA	**Paso Flores**	**33.27**	**93**	*e*P	**P**	**08 06 11.7**	**+1.4**
PLCA				pmax	pmax		
	comp=Z,11nm,1.2s						
PLCA	**Paso Flores**	**33.27**	**93**	*e*P	**P**	**08 06 09.6**	**-0.7**
ESPZ	**Base Esperanza**	**34.41**	**137**	P	**P**	**08 06 19.9**	**0.0**
ESPZ				IAmb	IAmb	08 06 21.2	
	comp=Z,57nm,1.5s						
BI02	**San Fabin de**	**35.04**	**86**	P	**P**	**08 06 27.0**	**+1.3**
BI02				IAmb	IAmb	08 06 33.1	
	comp=Z,80nm,1.6s						
ML02	**Panimavida**	**35.48**	**85**	P	**P**	**08 06 30.9**	**+1.6**
EFI	**East Falkland**	**36.43**	**116**	IAMs_20	IAMs_20	08 19 33.1	
	comp=Z,5μm,18.0s						
BO02	**Sierra Bellavi**	**36.48**	**84**		**P**	**08 06 39.6**	**+1.5**
BO02				IAmb	IAmb	08 06 45.9	
	comp=Z,59nm,1.2s						
BO01	**Tunca**	**36.53**	**83**		**P**	**08 06 39.4**	**+1.0**
TBI	**Tubuai**	**36.60**	**303**	*e*P	P	08 06 30.6	-8.5
	comp=Z,1μm,30.2s						
TBI	**Tubuai**	**36.60**	**303**	*e*PP	**PP**	**08 08 05.5**	**+3.2**
	comp=Z,677nm,29.8s						
TBI				*e*S	**S**	**08 12 27.9**	**+6.1**
	comp=Z,3μm,26.2s						
TBI				*e*SS	**SS**	**08 15 02.6**	**+1.0**
	comp=Z,9μm,26.8s						
TBI				*e*LR	LR	08 16 33.6	
	comp=Z,68μm,25.5s						
TBI				*e*LR	LR	08 16 35.9	
	comp=Z,15μm,24.0s						
MT01	**Popeta**	**36.75**	**82**	P	**P**	**08 06 41.8**	**+1.4**
MT09	**Talagante**	**36.98**	**82**	P	**P**	**08 06 43.8**	**+1.4**
MT09				IAmb	IAmb	08 06 49.2	
	comp=Z,78nm,1.4s						
VA01	**Torpederas**	**37.03**	**81**	P	**P**	**08 06 43.5**	**+0.8**
VA01				IAmb	IAmb	08 06 50.3	
	comp=Z,85nm,1.3s						
BO04	**La Punta**	**37.09**	**83**	P	**P**	**08 06 43.6**	**+0.4**
MT02	**Curacav**	**37.21**	**82**	P	**P**	**08 06 44.1**	**-0.1**
MT05	**Renca**	**37.38**	**82**	P	**P**	**08 06 46.1**	**+0.4**
LMEL	**Las Melosas**	**37.44**	**83**	P	**P**	**08 06 46.0**	**-0.3**
LMEL				IAmb	IAmb	08 07 00.5	
	comp=Z,53nm,1.4s						
MT03	**Universidad Ad**	**37.47**	**82**	P	**P**	**08 06 46.3**	**-0.2**
MT03				IAmb	IAmb	08 06 53.5	
	comp=Z,49nm,1.3s						
MT16	**CCHEN**	**37.50**	**82**	P	**P**	**08 06 47.9**	**+1.2**
MT16				IAmb	IAmb	08 07 25.3	
	comp=Z,80nm,1.5s						
VA06	**Catapilco**	**37.55**	**81**		**P**	**08 06 48.6**	**+1.5**
PEL	**Peldehue**	**37.57**	**82**	P	**P**	**08 06 47.8**	**+0.5**
PEL				IAmb	IAmb	08 06 54.5	
	comp=Z,95nm,1.6s						
PEL	**Peldehue**	**37.57**	**82**	P	**P**	**08 06 47.8**	**+0.5**
PEL				pmax	pmax		
	comp=Z,95nm,1.6s						
MT08	**Bocatoma Ro**	**37.81**	**83**		**P**	**08 06 49.2**	**-0.4**
MT08				IAmb	IAmb	08 06 57.4	
	comp=Z,109nm,2.0s						
VA03	**San Esteban**	**37.90**	**81**	P	**P**	**08 06 50.5**	**+0.3**
CO02	**Combarbal**	**38.63**	**79**		**P**	**08 06 56.7**	**+0.3**
CO02				IAmb	IAmb	08 07 04.4	
	comp=Z,110nm,1.4s						
CO03	**El Pedregal**	**39.07**	**79**	P	**P**	**08 07 01.5**	**+1.5**
SBA	**Scott Base**	**39.38**	**199**	P	**P**	**08 07 02.9**	**+0.9**
SBA				IAmb	IAmb	08 07 23.9	
	comp=Z,149nm,1.9s						
SBA	**Scott Base**	**39.38**	**199**	P	**P**	**08 07 02.9**	**+0.9**
SBA				pmax	pmax		
	comp=Z,149nm,1.9s						
ZON	**Zonda**	**39.90**	**82**		**P**	**08 07 08.2**	**+1.3**
ZON				IAmb	IAmb	08 07 14.1	
	comp=Z,88nm,1.5s						
ZON	**Zonda**	**39.90**	**82**	P	**P**	**08 07 08.2**	**+1.3**
ZON				pmax	pmax		
	comp=Z,88nm,1.5s						
TRQA	**Tornquist**	**40.29**	**95**		**P**	**08 07 10.8**	**+0.7**
TRQA				IAmb	IAmb	08 07 20.8	
	comp=Z,72nm,1.4s						
TRQA				IAMs_20	IAMs_20	08 21 39.3	
	comp=Z,4μm,19.0s						
TRQA	**Tornquist**	**40.29**	**95**	P	**P**	**08 07 10.8**	**+0.7**
TRQA				pmax	pmax		
	comp=Z,72nm,1.4s						
VNDA	**Vanda**	**40.45**	**199**		**P**	**08 07 11.1**	**+0.2**
VNDA	**Vanda**	**40.45**	**199**	P	**P**	**08 07 09.7**	**-1.2**
	comp=Z,9.4nm,1.0s,baz=97,slow=7.3,SNR=32						
VNDA				PcP	**PcP**	**08 09 12.8**	**-0.6**
	comp=Z,5.9nm,1.0s,baz=148,slow=1.7,SNR=4.1						
VNDA				LR	LR	08 20 51.1	
	comp=Z,8μm,18.2s,baz=95,slow=32						
	comp=Z,9.4nm,1.0s						
VNDA	**Vanda**	**40.45**	**199**	P	**P**	**08 07 11.1**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,40nm,1.2s						
BELA	**Belgrano 2**	**40.54**	**161**		**P**	**08 07 11.5**	**-0.1**
BELA				IAMs_20	IAMs_20	08 23 05.8	
	comp=Z,3μm,18.0s						
QSPA	**South Pole Qui**	**40.72**	**180**	P	**P**	**08 07 12.3**	**-1.2**
	comp=Z,27nm,1.0s,baz=106,slow=4.1,SNR=39						
QSPA				LR	LR	08 22 20.0	
	comp=Z,2μm,19.2s,baz=92,slow=34						
	comp=Z,27nm,1.0s						
PPT2	**Papeete2**	**41.40**	**308**	*e*P	P	08 07 07.8	-12
	comp=Z,160nm,25.2s						
PPT2	**Papeete2**	**41.40**	**308**	*e*PP	**PP**	**08 08 48.3**	**-6.6**
	comp=Z,254nm,37.2s						
PPT2				*e*S	**S**	**08 13 29.6**	**-4.6**
	comp=Z,1μm,25.2s						
PPT2				*e*SS	**SnSn**	**08 16 44.2**	**-3.0**
	comp=Z,2μm,27.5s						
PPT2				*e*LR	LR	08 18 40.4	
	comp=Z,10μm,23.0s						
PPT2				*e*LR	LR	08 18 45.9	
	comp=Z,19μm,24.8s						
PPT	**Papeete**	**41.42**	**308**	LR	LR	08 20 25.0	
	comp=Z,7μm,18.6s,baz=148,slow=30						
AC02	**Maricunga**	**42.81**	**76**		**P**	**08 07 32.3**	**+1.0**
RAR	**Rarotonga**	**44.18**	**294**	IAMs_20	IAMs_20	08 20 40.0	
	comp=Z,5μm,18.0s						
RAR	**Rarotonga**	**44.18**	**294**	LR	LR	08 20 53.6	
	comp=Z,3μm,19.9s,baz=146,slow=29						
TAOE	**Nuku Hiva Isla**	**44.99**	**326**	*e*S	**S**	**08 14 23.1**	**-3.8**
	comp=Z,1μm,25.9s						
TAOE				*e*SS	**ScS**	**08 17 42.8**	**-3.2**
	comp=Z,580nm,25.8s						
TAOE				*e*LR	LR	08 20 19.7	
	comp=Z,14μm,26.1s						
MRZ	**Mangatainoka R**	**47.15**	**254**	IAMs_20	IAMs_20	08 24 25.0	
	comp=Z,3μm,18.0s						
RTZ	**Ruatahuna**	**47.45**	**257**		**P**	**08 08 08.5**	**+0.9**
URZ	**Urewera**	**47.57**	**257**	LR	LR	08 23 09.1	
	comp=Z,1μm,21.5s,baz=118,slow=30						
ODZ	**Otahua Downs**	**47.75**	**246**	IAMs_20	IAMs_20	08 24 01.3	
	comp=Z,2μm,18.0s						
RPZ	**Rata Peaks**	**48.23**	**248**	P	**P**	**08 08 11.7**	**-1.8**
	comp=Z,19nm,1.0s,baz=104,slow=4.6,SNR=5.4						
RPZ				LR	LR	08 24 05.3	
	comp=Z,2μm,19.9s,baz=116,slow=31						
	comp=Z,19nm,1.0s						
PB16	**IPOC Station P**	**48.85**	**68**	P	**P**	**08 08 20.2**	**+1.0**
PB16				IAmb	IAmb	08 08 33.0	
	comp=Z,58nm,1.5s						
ITQB	**Itaqui**	**48.96**	**89**	P	**P**	**08 08 19.6**	**+0.3**
FOZ	**Fox Glacier**	**49.08**	**247**	IAMs_20	IAMs_20	08 23 02.6	
	comp=Z,3μm,22.0s						
PLTB	**Pedras Altas**	**49.57**	**94**		**P**	**08 08 24.3**	**+0.3**
PLTB	**Pedras Altas**	**49.57**	**94**	*e*P	**P**	**08 08 23.9**	**-0.1**
NNA	**Nana**	**49.73**	**55**	LR	LR	08 24 00.1	
	comp=Z,7μm,21.9s,baz=213,slow=29						
VNA1	**Neumayer--Stat**	**49.77**	**156**	⇓P	**P**	**08 08 23.6**	**-1.3**
	comp=Z,46nm,1.0s						
VNA2	**Neumayer--Watz**	**49.84**	**156**	⇓P	**P**	**08 08 24.1**	**-1.4**
	comp=Z,18nm,0.8s,baz=229,slow=8.0						
VNA2				sP	**sP**	**08 08 28.4**	**-0.3**
RAO	**Raoul Island**	**49.99**	**270**	LR	LR	08 23 34.0	
	comp=Z,761nm,21.6s,baz=131,slow=29						
SNAA	**Sanae**	**50.53**	**158**	⇓P	**P**	**08 08 29.1**	**-1.6**
	comp=Z,191nm,0.9s						
SNAA				sP	**pP**	**08 08 33.5**	**+0.3**
SNAA	**Sanae**	**50.53**	**158**		**P**	**08 08 29.4**	**-1.4**
SNAA	**Sanae**	**50.53**	**158**	P	**P**	**08 08 29.3**	**-1.5**
	comp=Z,9.5nm,1.0s,baz=220,slow=5.6,SNR=26						
SNAA				LR	LR	08 27 19.1	
	comp=Z,7μm,21.8s,baz=236,slow=33						
	comp=Z,9.5nm,1.0s						
SNAA	**Sanae**	**50.53**	**158**	*i* P	**P**	**08 08 29.2**	**-1.6**
SNAA				pmax	pmax		
	comp=Z,36nm,1.4s						
CPSB	**Cacapava Do Su**	**50.56**	**93**	*e*P	**P**	**08 08 30.8**	**-0.7**
CPUP	**Villa Florida**	**50.75**	**86**		**P**	**08 08 32.5**	**-0.4**
CPUP	**Villa Florida**	**50.75**	**86**	P	**P**	**08 08 32.4**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=107,slow=7.7,SNR=16						
CPUP				LR	LR	08 26 21.9	
	comp=Z,791nm,20.8s,baz=90,slow=32						
	comp=Z,3.4nm,0.9s						
CPUP	**Villa Florida**	**50.75**	**86**	P	**P**	**08 08 32.5**	**-0.4**
CPUP				pmax	pmax		
	comp=Z,17nm,1.4s						
LPAZ	**La Paz**	**51.26**	**67**		**P**	**08 08 38.6**	**+1.0**
LPAZ	**La Paz**	**51.26**	**67**	P	**P**	**08 08 37.5**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=214,slow=1.9,SNR=8.0						
LPAZ				LR	LR	08 25 15.3	
	comp=Z,2μm,19.1s,baz=226,slow=30						
	comp=Z,3.0nm,0.8s						
LPAZ	**La Paz**	**51.26**	**67**	*e*P	**P**	**08 08 40.9**	**+3.4**
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LPAZ	**La Paz**	**51.26**	**67**	*e*P	**P**	**08 08 35.9**	**-1.7**
TROLL	**Troll, Antarti**	**51.57**	**160**	⇓P	**P**	**08 08 37.8**	**-0.9**
	comp=Z,1μm,1.0s						
TROLL				sP	**sP**	**08 08 42.8**	**+0.9**
NIUE	**Niue**	**52.01**	**286**	P	**P**	**08 08 43.7**	**+1.2**
	comp=Z,253nm,2.5s						
SJPY	**San Joaquin**	**52.47**	**85**	*e*P	**P**	**08 08 45.2**	**-0.6**
CNLB	**Canela**	**52.96**	**93**	*e*P	**P**	**08 08 50.6**	**+1.1**
ATAH	**Atahualpa**	**53.02**	**50**	LR	LR	08 25 51.5	
	comp=Z,5μm,21.7s,baz=223,slow=30						
ITAB	**Concordia**	**53.52**	**90**		**P**	**08 08 53.9**	**+0.4**
ITAB	**Concordia**	**53.52**	**90**	*e*P	**P**	**08 08 53.7**	**+0.2**
BDQN	**Bodoquena, MS**	**55.28**	**81**	*e*P	**P**	**08 09 04.9**	**-1.5**
PTGB	**Pitanga**	**55.29**	**88**	*e*P	**P**	**08 09 06.6**	**0.0**
CZSB	**Cruzeiro do Su**	**55.50**	**57**	P	**P**	**08 09 08.2**	**+0.2**
CZSB	**Cruzeiro do Su**	**55.50**	**57**	*e*P	**P**	**08 09 06.9**	**-1.1**
SIV	**San Ignacio**	**55.82**	**74**	LR	LR	08 29 08.9	
	comp=Z,1μm,20.8s,baz=252,slow=32						
AQDB	**Aquidauana**	**55.93**	**82**	*e*P	**P**	**08 09 11.4**	**+0.3**
TRCB	**Terra Rica**	**56.27**	**86**	*e*P	**P**	**08 09 13.3**	**-0.2**
COHC	**Cochancay**	**56.65**	**47**		**P**	**08 09 16.0**	**-0.1**
LDASE	**Londrina, Braz**	**56.84**	**88**	*e*P	**P**	**08 09 17.9**	**+0.3**
AFI	**Afiamalu**	**57.07**	**288**	IAMs_20	IAMs_20	08 26 10.6	
	comp=Z,3μm,19.0s						
RPRD	**Ribas do Rio P**	**57.22**	**83**	*e*P	**P**	**08 09 20.5**	**+0.2**
PTLB	**Pontes e Lacer**	**57.45**	**75**	*e*P	**P**	**08 09 21.3**	**-0.6**
FRTB	**Fartura**	**57.88**	**89**	*e*P	**P**	**08 09 25.7**	**+0.7**
PCMB	**Pacaembu**	**58.00**	**86**	*e*P	**P**	**08 09 24.4**	**-1.4**
VILB	**Vilhena**	**58.68**	**72**	P	**P**	**08 09 31.4**	**+0.8**
VILB				IAmb	IAmb	08 09 48.0	
	comp=Z,22nm,0.9s						
VILB	**Vilhena**	**58.68**	**72**	*e*P	**P**	**08 09 30.4**	**-0.1**
CASY	**Casey**	**59.07**	**200**	P	**P**	**08 09 32.7**	**+0.2**
CASY				IAmb	IAmb	08 09 38.2	
	comp=Z,28nm,1.1s						
CASY	**Casey**	**59.07**	**200**	IAMs_20	IAMs_20	08 31 22.1	
	comp=Z,4μm,21.0s						
SPB	**Sao Paulo**	**59.10**	**91**	IAMs_20	IAMs_20	08 31 35.7	
	comp=Z,2μm,22.0s						
SALV	**Santo Antonio**	**59.29**	**78**	*e*P	**P**	**08 09 34.1**	**-0.7**
OTAV	**Otavalo**	**59.39**	**46**	P	**P**	**08 09 37.3**	**+1.3**
OTAV				IAmb	IAmb	08 10 01.1	
	comp=Z,28nm,1.4s						
OTAV	**Otavalo**	**59.39**	**46**	P	**P**	**08 09 37.3**	**+1.3**
OTAV				pmax	pmax		
	comp=Z,28nm,1.5s						
OTAV	**Otavalo**	**59.39**	**46**	*e*P	**P**	**08 09 36.2**	**+0.2**
VAO	**Valinhos**	**59.82**	**91**	P	**P**	**08 09 39.2**	**+0.8**
VAO				IAmb	IAmb	08 09 45.8	
	comp=Z,28nm,1.3s						
VAO	**Valinhos**	**59.82**	**91**	*e*P	**P**	**08 09 39.2**	**+0.8**
ITRB	**Iturama**	**59.95**	**85**	*e*P	**P**	**08 09 39.8**	**+0.5**
BB19B	**Bebedouro**	**60.17**	**88**	*e*P	**P**	**08 09 41.3**	**+0.5**
SYO	**Syowa Base**	**60.53**	**170**	*e*P	**P**	**08 09 39.8**	**-2.8**
SYO	**Syowa Base**	**60.53**	**170**	*e*sP	sP	08 09 45.8	0.0
FUTU	**Fugatoga**	**60.76**	**283**	IAMs_20	IAMs_20	08 29 01.4	
	comp=Z,2μm,20.0s						
PDRB	**Porto dos Gac**	**61.87**	**74**	*e*P	**P**	**08 09 51.0**	**-1.3**
ARAG	**Araguaiana, MT**	**61.93**	**81**	*e*P	**P**	**08 09 52.8**	**0.0**
IPMB	**Ipameri, GO**	**62.59**	**86**	*e*P	**P**	**08 09 57.1**	**-0.1**
VAS01	**Vassouras-RJ**	**62.62**	**93**	*e*P	**P**	**08 09 58.7**	**+1.3**
BSCB	**Bom Sucesso**	**62.67**	**91**	*e*P	**P**	**08 09 57.6**	**-0.1**
CLDB	**Colider**	**63.02**	**74**	*e*P	**P**	**08 09 57.8**	**-2.3**
MAW	**Mawson**	**63.24**	**180**	P	**P**	**08 09 59.0**	**-1.8**
	comp=Z,4.5nm,1.0s						
MAW	**Mawson**	**63.24**	**180**	P	**P**	**08 09 58.1**	**-2.7**
	comp=Z,15nm,0.9s,baz=186,slow=7.6,SNR=27						
MAW				LR	LR	08 35 59.6	
	comp=Z,2μm,19.1s,baz=174,slow=35						
	comp=Z,15nm,0.9s						
PMNB	**Patos De Minas**	**63.35**	**88**	*e*P	**P**	**08 10 02.8**	**+0.4**
DUB01	**Friburgo-RJ**	**63.46**	**93**	*e*P	**P**	**08 10 03.2**	**+0.2**
TEFE	**Tefe**	**63.49**	**62**	*e*P	**P**	**08 10 02.6**	**-0.6**
BDFB	**Brasilia**	**64.43**	**84**	P	**P**	**08 10 09.9**	**+0.4**
BDFB				IAmb	IAmb	08 10 11.9	
	comp=Z,23nm,1.4s						
BDFB	**Brasilia**	**64.43**	**84**	P	**P**	**08 10 08.8**	**-0.7**
	comp=Z,8.5nm,0.9s,baz=208,slow=4.8,SNR=13						
BDFB				LR	LR	08 35 18.2	
	comp=Z,2μm,21.2s,baz=218,slow=33						
	comp=Z,8.5nm,0.9s						
BDFB	**Brasilia**	**64.43**	**84**	P	**P**	**08 10 09.9**	**+0.4**
BDFB				pmax	pmax		
	comp=Z,23nm,1.4s						
SNDB	**Serra Nova Dou**	**65.04**	**79**	*e*P	**P**	**08 10 12.5**	**-0.9**
DZM	**Mont Dzumac**	**65.12**	**265**	*e*S	**S**	**08 18 59.4**	**+2.7**
	comp=Z,273nm,26.9s						
DZM				*e*LQ	LQ	08 26 34.4	
	comp=Z,5μm,37.5s						
DZM				*e*LR	LR	08 29 45.6	
	comp=Z,1μm,25.8s						
DIAM	**Diamantina, MG**	**65.32**	**90**	*e*P	**P**	**08 10 14.6**	**-0.8**
ROSC	**El Rosal**	**65.38**	**48**	P	**P**	**08 10 16.5**	**+0.6**
	comp=Z,5.4nm,0.4s,baz=150,slow=2.9,SNR=8.5						
ROSC				LR	LR	08 34 36.8	
	comp=Z,3μm,19.0s,baz=226,slow=32						
	comp=Z,5.4nm,0.4s						
JTS	**Las Juntas de**	**65.71**	**35**	P	**P**	**08 10 19.6**	**+2.0**
JTS				IAmb	IAmb	08 10 28.6	
	comp=Z,26nm,1.2s						
JTS	**Las Juntas de**	**65.71**	**35**	IAMs_20	IAMs_20	08 32 07.3	
	comp=Z,3μm,19.0s						
JTS	**Las Juntas de**	**65.71**	**35**	LR	LR	08 32 18.9	
	comp=Z,2μm,18.3s,baz=196,slow=30						
JTS	**Las Juntas de**	**65.71**	**35**	P	**P**	**08 10 19.6**	**+2.0**
JTS				pmax	pmax		
	comp=Z,27nm,1.2s						
HDC	**Heredia**	**65.76**	**36**	IAMs_20	IAMs_20	08 32 56.6	
	comp=Z,2μm,18.0s						
MACA	**Manacapuru-AM**	**66.07**	**65**	P	**P**	**08 10 19.9**	**-0.1**
MACA	**Manacapuru-AM**	**66.07**	**65**	*e*P	**P**	**08 10 16.2**	**-3.8**
NPGB	**Novo Progresso**	**66.24**	**72**	*e*P	**P**	**08 10 20.4**	**-0.8**
CNB	**Canberra Magne**	**66.45**	**243**	P	**P**	**08 10 21.4**	**-1.0**
	comp=Z,35nm,1.3s						
SJMB	**Sao Joao De Ma**	**66.65**	**92**	*e*P	**P**	**08 10 23.3**	**-0.4**
CAN	**Canberra**	**66.66**	**243**	P	**P**	**08 10 24.6**	**+1.0**
	comp=Z,32nm,2.0s						
RIB01	**Linhares ES**	**66.73**	**93**	*e*P	**P**	**08 10 25.3**	**+1.1**
TOO	**Toolangi**	**67.06**	**239**		**P**	**08 10 26.5**	**+0.3**
TOO				IAmb	IAmb	08 10 32.2	
	comp=Z,28nm,1.1s						
TOO	**Toolangi**	**67.06**	**239**	P	**P**	**08 10 26.6**	**+0.4**
	comp=Z,23nm,1.2s						
TOO	**Toolangi**	**67.06**	**239**	P	**P**	**08 10 26.5**	**+0.3**
TOO				pmax	pmax		
	comp=Z,28nm,1.2s						
JANB	**Januaria**	**67.27**	**87**	*e*P	**P**	**08 10 27.7**	**-0.1**
ITTB	**Itaituba**	**68.10**	**70**	*e*P	**P**	**08 10 30.1**	**-2.8**
TGUH	**Tegucigalpa,Un**	**68.38**	**31**	IAMs_20	IAMs_20	08 33 12.2	
	comp=Z,2μm,20.0s						
SDBA	**SAO DESIDERIO**	**68.84**	**84**	*e*P	**P**	**08 10 38.2**	**+0.5**

HKT	**Hockley**	**81.23**	**18**	*i* P	**P**	**08 11 50.4**	**+1.9**		
HKT				pmax	pmax				
	comp=Z,4.0nm,0.8s								
MAGL	**Barre de l'ile**	**81.42**	**53**	IAMs_20	IAMs_20	08 44 21.3			
	comp=Z,2µm,20.0s								
GRTK	**Grand Turk**	**81.44**	**42**	IAMs_20	IAMs_20	08 44 19.9			
	comp=Z,1µm,20.0s								
MNTX	**Cornudas Mount**	**81.44**	**10**	IAMs_20	IAMs_20	08 43 10.5			
	comp=Z,1µm,18.0s								
061Z	**Ochoppi**	**81.50**	**32**	IAMs_20	IAMs_20	08 41 16.7			
	comp=Z,1µm,20.0s								
435B	**Jarrell**	**81.70**	**17**	P	**P**	**08 11 53.1**	**+2.0**		
435B				IAmb	IAmb	08 12 02.0			
	comp=Z,18nm,0.8s								
ABD	**La Joyeuse, An**	**81.75**	**53**	IAMs_20	IAMs_20	08 43 30.1			
	comp=Z,1µm,22.0s								
YUH	**Yuha Desert**	**81.77**	**1**		**P**	**08 11 53.6**	**+2.2**		
GDSD	**La Dsirade Is**	**81.84**	**53**	IAMs_20	IAMs_20	08 43 32.3			
	comp=Z,2µm,22.0s								
SEUS	**St. Eustatius**	**81.84**	**51**	IAMs_20	IAMs_20	08 45 43.5			
	comp=Z,1µm,19.0s								
113A	**Mohawk Valley,**	**81.92**	**2**	IAMs_20	IAMs_20	08 41 06.0			
	comp=Z,979nm,18.0s								
CPE	**Camp Elliot**	**82.00**	**360**	IAMs_20	IAMs_20	08 38 58.8			
	comp=Z,1µm,21.0s								
SGCY	**Sterling City**	**82.21**	**13**		**P**	**08 11 53.8**	**0.0**		
SALN	**Salton City**	**82.39**	**1**	IAMs_20	IAMs_20	08 49 28.4			
	comp=Z,1µm,18.0s								
HTMS	**Hat Mesa**	**82.41**	**11**	P	**P**	**08 11 56.1**	**+1.2**		
PFO	**Pinyon Flats O**	**82.72**	**0**	LR	LR	08 39 45.9			
	comp=Z,1µm,21.7s,baz=186,slow=29								
PFO	**Pinyon Flats O**	**82.72**	**0**	*i* P	**P**	**08 11 57.1**	**+0.6**		
PFO				pmax	pmax				
	comp=Z,24nm,1.3s								
ELS	**Elsinore Mount**	**82.76**	**359**	IAMs_20	IAMs_20	08 39 21.2			
	comp=Z,1µm,22.0s								
060A	**Indiantown**	**82.76**	**32**	IAMs_20	IAMs_20	08 42 08.1			
	comp=Z,1µm,20.0s								
Y14A	**Wickenburg**	**83.11**	**3**		**P**	**08 11 59.2**	**+0.7**		
Y14A				IAmb	IAmb	08 12 11.3			
	comp=Z,20nm,1.4s								
QIS	**Mount Isa**	**83.12**	**246**	P	**P**	**08 11 57.5**	**-1.5**		
	comp=Z,17nm,0.9s								
PASC	**Pasadena Art C**	**83.29**	**359**	IAMs_20	IAMs_20	08 40 03.1			
	comp=Z,1µm,20.0s								
MWC	**Mount Wilson**	**83.34**	**359**	IAMs_20	IAMs_20	08 41 10.5			
	comp=Z,1µm,20.0s								
DWPF	**Disney Wildern**	**83.39**	**31**	IAMs_20	IAMs_20	08 42 57.6			
	comp=Z,1µm,19.0s								
CRNM	**Carthage**	**83.53**	**8**		**P**	**08 12 02.3**	**+1.5**		
LENM	**Lemitar**	**83.72**	**8**	P	**P**	**08 12 03.3**	**+1.5**		
OSI	**Osito Audit: C**	**83.74**	**358**	IAMs_20	IAMs_20	08 41 21.1			
	comp=Z,2µm,18.0s								
MSTX	**Muleshoe**	**84.00**	**12**	IAMs_20	IAMs_20	08 44 15.2			
	comp=Z,1µm,19.0s								
TPO	**Tropico Hills**	**84.00**	**359**	P	**P**	**08 12 03.7**	**+0.7**		
AS31	**Alice Springs**	**84.04**	**240**	P	**P**	**08 12 01.2**	**-2.6**		
	comp=Z,4.3nm,1.0s								
ASAR	**Alice Springs**	**84.04**	**240**	P	**P**	**08 12 01.7**	**-2.0**		
ASAR	**Alice Springs**	**84.04**	**240**	P	**P**	**08 12 01.1**	**-2.6**		
	comp=Z,9.0nm,1.0s,baz=147,slow=5.0,SNR=30								
ASAR				LR	LR	08 43 20.5			
	comp=Z,2µm,21.7s,baz=155,slow=31								
	comp=Z,9.0nm,1.0s								
ASAR	**Alice Springs**	**84.04**	**240**	P	**P**	**08 12 01.7**	**-2.0**		
WTFS	**Witchita Falls**	**84.45**	**15**	P	**P**	**08 12 06.2**	**+0.9**		
ANMO	**Albuquerque**	**84.55**	**8**		**P**	**08 12 06.3**	**+0.3**		
ANMO				IAmb	IAmb	08 12 26.2			
	comp=Z,18nm,1.3s								
ANMO	**Albuquerque**	**84.55**	**8**	LR	LR	08 44 11.4			
	comp=Z,664nm,19.6s,baz=274,slow=32								
ANMO	**Albuquerque**	**84.55**	**8**	*i* P	**P**	**08 12 06.0**	**+0.1**		
ANMO				pmax	pmax				
	comp=Z,14nm,1.1s								
H01W1	**Cape Leeuwin H**	**84.66**	**220**	T	T	09 46 18.8			
	baz=148,slow=76,SNR=47								
H01W2	**Cape Leeuwin H**	**84.66**	**220**	T	T	09 46 18.5			
	baz=148,slow=76,SNR=39								
H01W3	**Cape Leeuwin H**	**84.67**	**220**	T	T	09 46 20.0			
	baz=148,slow=76,SNR=39								
WSHM	**Spangler Hills**	**84.71**	**359**	IAMs_20	IAMs_20	08 40 57.7			
	comp=Z,1µm,20.0s								
RAMR	**Ramage Ranch**	**84.82**	**357**	IAMs_20	IAMs_20	08 42 17.5			
	comp=Z,2µm,18.0s								
NWAO	**Narrogin (SRO)**	**85.00**	**223**	LR	LR	08 41 08.7			
	comp=Z,2µm,21.8s,baz=136,slow=30								
AMTX	**Amarillo**	**85.05**	**12**	IAMs_20	IAMs_20	08 44 20.9			
	comp=Z,1µm,20.0s								
HULI	**Fort Hunter Li**	**85.22**	**356**	IAMs_20	IAMs_20	08 40 28.0			
	comp=Z,2µm,20.0s								
GWY	**Greenwater Val**	**85.29**	**0**	IAMs_20	IAMs_20	08 41 34.1			
	comp=Z,1µm,22.0s								
PMPB	**Monarch Peak**	**85.40**	**357**	IAMs_20	IAMs_20	08 40 55.9			
	comp=Z,1µm,21.0s								
250A	**Grady**	**85.50**	**26**	IAMs_20	IAMs_20	08 43 37.5			
	comp=Z,1µm,22.0s								
BBGB	**Big Mountain B**	**85.77**	**356**	IAMs_20	IAMs_20	08 40 45.7			
	comp=Z,1µm,21.0s								
SCZ	**Santa Cruz**	**85.81**	**356**	IAMs_20	IAMs_20	08 42 45.4			
	comp=Z,2µm,18.0s								
WCT	**Wildcat Mounta**	**85.90**	**0**	IAMs_20	IAMs_20	08 41 44.2			
	comp=Z,1µm,22.0s								
KLBR	**Kellerberrin**	**85.90**	**224**	P	**P**	**08 12 17.0**	**+4.1**		
SAO	**San Andreas Ge**	**85.97**	**356**	IAMs_20	IAMs_20	08 41 40.0			
	comp=Z,2µm,19.0s								
Z47A	**Carrollton**	**86.16**	**24**	IAMs_20	IAMs_20	08 45 49.1			
	comp=Z,1µm,20.0s								
KNB	**Kanab**	**86.19**	**3**		**P**	**08 12 14.9**	**+0.8**		
KNB				IAmb	IAmb	08 12 58.7			
	comp=Z,21nm,1.5s								
KNB	**Kanab**	**86.19**	**3**	P	**P**	**08 12 14.9**	**+0.8**		
KNB				pmax	pmax				
	comp=Z,21nm,1.5s								
MUN	**Mundaring**	**86.27**	**223**	P	**P**	**08 12 19.3**	**+4.6**		
LRAL	**Lakeview Retre**	**86.29**	**25**	IAMs_20	IAMs_20	08 44 51.7			
	comp=Z,1µm,20.0s								
DSP	**Deep Springs**	**86.48**	**359**	IAMs_20	IAMs_20	08 41 58.5			
	comp=Z,2µm,21.0s								
PRN	**Pahroc Range**	**86.52**	**1**	IAMs_20	IAMs_20	08 41 48.7			
	comp=Z,1000nm,20.0s								
MVCO	**Mesa Verde**	**86.62**	**7**		**P**	**08 12 17.0**	**+0.8**		
MVCO				IAmb	IAmb	08 12 35.3			
	comp=Z,28nm,1.2s								
WRA	**Warramunga Arr**	**86.70**	**243**	P	**P**	**08 12 14.1**	**-2.9**		
	comp=Z,0.9nm,0.7s,baz=139,slow=4.8,SNR=4.8								
WRA				LR	LR	08 45 40.6			
	comp=Z,1µm,19.9s,baz=146,slow=32								
	comp=Z,0.9nm,0.7s								
WRA	**Warramunga Arr**	**86.70**	**243**	*e*P	**P**	**08 12 15.7**	**-1.3**		
WRA				pmax	pmax				
	comp=Z,4.0nm,1.0s								
MTOS	**Mt Oso, Westle**	**86.70**	**356**	IAMs_20	IAMs_20	08 42 03.3			
	comp=Z,2µm,20.0s								
S11A	**Rachel**	**86.75**	**1**	IAMs_20	IAMs_20	08 42 24.8			
	comp=Z,1µm,20.0s								
BUCR	**Buckhorn Ranch**	**86.83**	**357**	IAMs_20	IAMs_20	08 42 42.7			
	comp=Z,1µm,19.0s								
FARB	**Farallon Islan**	**86.98**	**355**	IAMs_20	IAMs_20	08 42 29.5			
	comp=Z,1µm,19.0s								
257A	**Skidaway Islan**	**87.08**	**30**	IAMs_20	IAMs_20	08 45 04.5			
	comp=Z,1µm,19.0s								
CMB	**Columbia Colle**	**87.20**	**357**	IAMs_20	IAMs_20	08 41 54.5			
	comp=Z,1µm,21.0s								
BLDU	**Ballidu**	**87.20**	**224**	P	**P**	**08 12 17.8**	**-1.5**		
	comp=Z,42nm,1.1s								
HMU	**Henry Mountain**	**87.20**	**5**	P	**P**	**08 12 19.8**	**+0.6**		
Y49A	**Blount Mountai**	**87.23**	**25**	IAMs_20	IAMs_20	08 45 07.3			
	comp=Z,1µm,22.0s								
MCCM	**Marconi Confer**	**87.42**	**355**	IAMs_20	IAMs_20	08 42 15.3			
	comp=Z,1µm,19.0s								
R11B	**Troy Canyon, C**	**87.46**	**1**	IAMs_20	IAMs_20	08 42 45.4			
	comp=Z,1µm,20.0s								
NVAR	**Mina Array Bea**	**87.54**	**359**	P	**P**	**08 12 21.4**	**+0.7**		
NVAR	**Mina Array Bea**	**87.54**	**359**	P	**P**	**08 12 19.9**	**-0.8**		
	comp=Z,1.7nm,1.0s,baz=194,slow=7.2,SNR=7.1								
	comp=Z,1.7nm,1.0s								
CVS	**Carmenet Viney**	**87.60**	**355**	IAMs_20	IAMs_20	08 41 20.8			
	comp=Z,1µm,22.0s								
WELL	**Weller Preserv**	**87.61**	**357**	IAMs_20	IAMs_20	08 41 44.4			
	comp=Z,1µm,21.0s								
X48A	**Hartselle**	**87.62**	**24**	IAMs_20	IAMs_20	08 46 05.6			
	comp=Z,1µm,20.0s								
PV11	**David Mesa, Pa**	**87.67**	**6**	P	**P**	**08 12 21.4**	**+0.1**		
PV11				IAmb	IAmb	08 12 28.8			
	comp=Z,24nm,1.4s								
PV16	**Nyswonger Mesa**	**87.68**	**6**	P	**P**	**08 12 22.4**	**+1.0**		
PV16				IAmb	IAmb	08 12 40.7			
	comp=Z,14nm,1.3s								
RYN	**Ryan**	**87.74**	**359**	IAMs_20	IAMs_20	08 43 52.0			
	comp=Z,2µm,19.0s								
RUSS	**Russell Ranch**	**87.77**	**356**	IAMs_20	IAMs_20	08 41 52.4			
	comp=Z,1µm,19.0s								
U38A	**Gravette**	**87.80**	**18**		**P**	**08 12 23.0**	**+1.2**		
U38A				IAmb	IAmb	08 12 35.1			
	comp=Z,21nm,1.4s								
PLAL	**Pickwick Lake**	**87.85**	**23**	IAMs_20	IAMs_20	08 46 32.8			
	comp=Z,1µm,21.0s								
PV22	**Blue Mesa, Par**	**87.92**	**6**		**P**	**08 12 22.9**	**+0.5**		
Q09A	**Carvers**	**87.94**	**360**	IAMs_20	IAMs_20	08 43 27.1			
	comp=Z,973nm,20.0s								
GDXM	**Geysers**	**88.07**	**355**	IAMs_20	IAMs_20	08 42 36.6			
	comp=Z,2µm,20.0s								
SPR3	**Spring Creek 3**	**88.12**	**2**		**P**	**08 12 24.0**	**+0.5**		
MNRC	**McLaughlin Min**	**88.13**	**356**	IAMs_20	IAMs_20	08 42 09.9			
	comp=Z,1µm,19.0s								
AFDM	**Forest Hills D**	**88.13**	**357**	IAMs_20	IAMs_20	08 42 19.1			
	comp=Z,1µm,22.0s								
HOPS	**Hopland Field**	**88.28**	**355**	IAMs_20	IAMs_20	08 42 21.9			
	comp=Z,1µm,19.0s								
SRU	**San Rafael Swe**	**88.38**	**5**	IAMs_20	IAMs_20	08 45 11.0			
	comp=Z,864nm,18.0s								
NHSC	**New Hope**	**88.40**	**30**	IAMs_20	IAMs_20	08 46 05.4			
	comp=Z,1µm,19.0s								
SUTB	**Sutter Butte**	**88.44**	**356**	IAMs_20	IAMs_20	08 42 23.3			
	comp=Z,1µm,22.0s								
MPK	**Martis Peak**	**88.44**	**357**	IAMs_20	IAMs_20	08 42 35.4			
	comp=Z,2µm,21.0s								
ORV	**Oroville**	**88.76**	**356**	IAMs_20	IAMs_20	08 44 16.7			
	comp=Z,1µm,18.0s								
PAHR	**Pah Rah Range**	**88.84**	**358**	IAMs_20	IAMs_20	08 45 02.0			
	comp=Z,2µm,18.0s								
V48A	**Smith Brothers**	**88.89**	**24**	IAMs_20	IAMs_20	08 46 14.4			
	comp=Z,994nm,20.0s								
KSCO	**Kaos Seadlock**	**88.98**	**11**	IAMs_20	IAMs_20	08 47 03.2			
	comp=Z,1µm,19.0s								
KCPM	**Cahto Peak**	**88.99**	**355**	IAMs_20	IAMs_20	08 41 60.0			
	comp=Z,1µm,20.0s								
WVT	**Waverly**	**89.00**	**23**	IAMs_20	IAMs_20	08 47 08.2			
	comp=Z,931nm,20.0s								
Y57A	**Sumter**	**89.17**	**29**	IAMs_20	IAMs_20	08 46 38.7			
	comp=Z,1µm,19.0s								
CBKS	**Cedar Bluff**	**89.18**	**13**	IAMs_20	IAMs_20	08 46 43.5			
	comp=Z,1µm,20.0s								
MPU	**Maple Canyon**	**89.23**	**4**	IAMs_20	IAMs_20	08 45 01.4			
	comp=Z,1µm,21.0s								
Y58A	**Scranton**	**89.30**	**30**	IAMs_20	IAMs_20	08 47 42.2			
	comp=Z,1µm,18.0s								
ISCO	**Idaho Springs**	**89.44**	**9**	IAMs_20	IAMs_20	08 47 44.1			
	comp=Z,1µm,18.0s								
KMRM	**Mail Ridge**	**89.53**	**355**	IAMs_20	IAMs_20	08 42 55.8			
	comp=Z,1µm,20.0s								
TKL	**Tuskaleechee C**	**89.66**	**26**	LR	LR	08 48 50.4			
	comp=Z,386nm,19.2s,baz=190,slow=33								
KMPM	**Mount Pierce**	**89.76**	**354**	IAMs_20	IAMs_20	08 43 46.1			
	comp=Z,1µm,19.0s								
JLU	**Jordanelle**	**89.82**	**4**	IAMs_20	IAMs_20	08 45 49.1			
	comp=Z,1µm,19.0s								
X58A	**Rowland**	**90.00**	**30**	IAMs_20	IAMs_20	08 48 53.8			
	comp=Z,1µm,18.0s								
HATC	**Hat Creek Radi**	**90.01**	**356**	IAMs_20	IAMs_20	08 43 14.0			
	comp=Z,1µm,22.0s								
KHMM	**Horse Mountain**	**90.19**	**355**	IAMs_20	IAMs_20	08 43 04.5			
	comp=Z,2µm,21.0s								
N02D	**Trinity Center**	**90.23**	**355**	IAMs_20	IAMs_20	08 43 28.5			
	comp=Z,2µm,20.0s								
W57A	**Gilead**	**90.34**	**29**	IAMs_20	IAMs_20	08 47 32.8			
	comp=Z,1µm,20.0s								
KRPM	**Rodgers**	**90.49**	**354**	IAMs_20	IAMs_20	08 42 42.4			
	comp=Z,1µm,20.0s								
T50A	**Nancy**	**90.63**	**25**	IAMs_20	IAMs_20	08 46 39.4			
	comp=Z,995nm,21.0s								
HWUT	**Hardware Ranch**	**90.82**	**4**	IAMs_20	IAMs_20	08 46 02.5			
	comp=Z,951nm,21.0s								
KRMB	**Red Mountain**	**90.84**	**355**	IAMs_20	IAMs_20	08 43 34.9			
	comp=Z,1µm,20.0s								
W59A	**Clinton**	**90.86**	**30**	IAMs_20	IAMs_20	08 48 55.5			
	comp=Z,1µm,18.0s								
OGNE	**Ogallala**	**90.97**	**11**	IAMs_20	IAMs_20	08 47 29.6			
	comp=Z,1µm,21.0s								
YBH	**Yreka Blue Hor**	**90.98**	**355**	IAMs_20	IAMs_20	08 43 40.6			
	comp=Z,2µm,21.0s								
KSXB	**Camp Six Broad**	**91.15**	**355**	IAMs_20	IAMs_20	08 43 44.9			
	comp=Z,1µm,20.0s								
V58A	**Windy Hill, Pi**	**91.21**	**30**	IAMs_20	IAMs_20	08 49 29.8			
	comp=Z,920nm,18.0s								
U56A	**King**	**91.32**	**29**	IAMs_20	IAMs_20	08 49 52.6			
	comp=Z,860nm,18.0s								
WCI	**Wyandotte Cave**	**91.38**	**23**	IAMs_20	IAMs_20	08 47 43.2			
	comp=Z,1µm,22.0s								
L02F	**Cave Junction**	**91.42**	**355**	IAMs_20	IAMs_20	08 47 02.1			
	comp=Z,1µm,18.0s								
L04D	**Klamath Falls**	**91.45**	**356**	IAMs_20	IAMs_20	08 44 09.9			
	comp=Z,1µm,21.0s								
WVOR	**Wild Horse Val**	**91.55**	**359**	IAMs_20	IAMs_20	08 45 51.7			
	comp=Z,899nm,19.0s								
KBO	**Bosley Butte**	**91.55**	**354**	IAMs_20	IAMs_20	08 43 55.6			
	comp=Z,1µm,21.0s								
BGNE	**Belgrade**	**91.97**	**14**	IAMs_20	IAMs_20	08 48 57.2			
	comp=Z,813nm,18.0s								
AHID	**Auburn Hatcher**	**91.99**	**4**	IAMs_20	IAMs_20	08 46 51.6			
	comp=Z,1µm,20.0s								
K02D	**Willamette Mer**	**92.00**	**355**	IAMs_20	IAMs_20	08 44 30.4			
	comp=Z,1µm,21.0s								
V61A	**Roper**	**92.05**	**32**	IAMs_20	IAMs_20	08 47 06.1			
	comp=Z,2µm,21.0s								
BW06	**Boulder Array**	**92.08**	**5**	IAMs_20	IAMs_20	08 48 09.9			
	comp=Z,1µm,18.0s								
PDAR	**Pinedale Array**	**92.08**	**5**	P	**P**	**08 12 41.2**	**-0.7**		
	comp=Z,3.1nm,1.0s,baz=196,slow=4.3,SNR=18								
	comp=Z,3.1nm,1.0s								
KEBM	**Edson Butte**	**92.21**	**354**	IAMs_20	IAMs_20	08 44 16.1			
	comp=Z,1µm,22.0s								
T57A	**Hurt**	**92.27**	**29**	IAMs_20	IAMs_20	08 48 49.8			
	comp=Z,881nm,19.0s								
J04A	**Umpqua Nationa**	**92.46**	**356**	IAMs_20	IAMs_20	08 44 42.7			
	comp=Z,1µm,22.0s								
J08A	**Circle Bar Ran**	**92.47**	**359**	IAMs_20	IAMs_20	08 45 03.0			
	comp=Z,1µm,21.0s								
J01E	**Myrtle Point**	**92.48**	**355**	IAMs_20	IAMs_20	08 44 45.1			
	comp=Z,2µm,21.0s								
MFID	**Camas Ranch**	**92.52**	**1**	IAMs_20	IAMs_20	08 46 18.3			
	comp=Z,1µm,20.0s								
SNOW	**Snow King Moun**	**92.70**	**4**	IAMs_20	IAMs_20	08 47 23.4			
	comp=Z,1µm,19.0s								
TPAW	**Teton Pass**	**92.72**	**4**	IAMs_20	IAMs_20	08 47 13.9			
	comp=Z,904nm,20.0s								
LOHW	**Long Hollow**	**92.86**	**4**	IAMs_20	IAMs_20	08 47 38.6			
	comp=Z,1µm,20.0s								
FXWY	**Fox Creek**	**92.87**	**4**	IAMs_20	IAMs_20	08 47 19.8			
	comp=Z,834nm,19.0s								
K30B	**Basset**	**92.99**	**13**	IAMs_20	IAMs_20	08 48 43.2			
	comp=Z,1µm,21.0s								
FITZ	**Fitzroy Crossi**	**93.10**	**238**	LR	LR	08 49 58.7			
	comp=Z,2µm,18.8s,baz=153,slow=33								
I07A	**Izee**	**93.21**	**358**	IAMs_20	IAMs_20	08 46 19.7			
	comp=Z,1µm,20.0s								
I02E	**Swisshome, OR**	**93.41**	**355**	IAMs_20	IAMs_20	08 45 25.9			
	comp=Z,2µm,20.0s								
R58B	**Mineral**	**93.59**	**30**	IAMs_20	IAMs_20	08 49 12.8			
	comp=Z,1µm,20.0s								
YFT	**Old Faithful**	**93.69**	**4**	IAMs_20	IAMs_20	08 47 56.5			
	comp=Z,1µm,20.0s								
MBWA	**Marble Bar**	**93.71**	**231**	IAMs_20	IAMs_20	08 49 32.1			
	comp=Z,1µm,20.0s								
O49A	**Covington**	**93.73**	**24**	IAMs_20	IAMs_20	08 48 26.6			
	comp=Z,950nm,22.0s								
RSSD	**Black Hills**	**93.87**	**9**	IAMs_20	IAMs_20	08 50 08.5			
	comp=Z,1µm,19.0s								
H04A	**Detroit Lake**	**93.90**	**356**	IAMs_20	IAMs_20	08 45 14.9			
	comp=Z,967nm,21.0s								
P53A	**Whipple**	**93.91**	**27**	IAMs_20	IAMs_20	08 49 48.2			
	comp=Z,943nm,20.0s								
BMO	**Blue Mountains**	**93.95**	**360**	IAMs_20	IAMs_20	08 47 33.3			
	comp=Z,1µm,19.0s								
YNR	**Norris Junctio**	**93.96**	**4**	IAMs_20	IAMs_20	08 47 46.7			
	comp=Z,868nm,20.0s								
YNM	**Yellowstone No**	**93.97**	**4**	IAMs_20	IAMs_20	08 48 07.9			
	comp=Z,884nm,20.0s								
YMP	**Mirror Lake Pl**	**94.01**	**5**	IAMs_20	IAMs_20	08 48 20.0			
	comp=Z,1µm,19.0s								
ACSO	**Alum Creek Sta**	**94.14**	**25**	IAMs_20	IAMs_20	08 48 24.5			
	comp=Z,955nm,22.0s								
PLID	**Pearl Lake**	**94.19**	**0**	IAMs_20	IAMs_20	08 46 49.5			
	comp=Z,1µm,20.0s								
HQIL	**Hanson Quary C**	**94.37**	**21**	IAMs_20	IAMs_20	08 52 25.3			
	comp=Z,812nm,19.0s								
G08A	**Pilot Rock**	**94.41**	**358**	IAMs_20	IAMs_20	08 46 59.3			
	comp=Z,968nm,20.0s								
RLMT	**Red Lodge**	**94.44**	**5**	IAMs_20	IAMs_20	08 48 52.4			
	comp=Z,860nm,18.0s								
HOOD	**Mount Hood Mea**	**94.52**	**356**	IAMs_20	IAMs_20	08 46 01.2			
	comp=Z,1µm,20.0s								
SUSD	**Miller**	**94.81**	**13**	IAMs_20	IAMs_20	08 49 50.5			
	comp=Z,1µm,20.0s								
P57A	**Homestead Farm**	**94.93**	**29**	IAMs_20	IAMs_20	08 49 18.4			
	comp=Z,1µm,22.0s								
L46A	**Eue Claire**	**94.94**	**22**	IAMs_20	IAMs_20	08 50 09.6			
	comp=Z,999nm,21.0s								
LNOR	**Lincton Mounta**	**94.98**	**359**	IAMs_20	IAMs_20	08 46 19.5			
	comp=Z,1µm,22.0s								
YPT	**Yellepit**	**95.17**	**358**	IAMs_20	IAMs_20	08 49 01.4			
	comp=Z,869nm,18.0s								
BOSA	**Boshof**	**95.19**	**147**	LR	LR	08 47 36.8			
	comp=Z,2µm,21.7s,baz=199,slow=30								
F03A	**Seaside**	**95.22**	**355**	IAMs_20	IAMs_20	08 46 21.6			
	comp=Z,1µm,21.0s								
M50A	**Fremont**	**95.22**	**25**	IAMs_20	IAMs_20	08 49 31.9			
	comp=Z,1µm,22.0s								
F04D	**Rainier, OR**	**95.34**	**356**	IAMs_20	IAMs_20	08 46 32.9			
	comp=Z,1µm,21.0s								
H11S2	**WAKE ISLAND Hy**	**95.48**	**292**	T	T	09 59 01.8			
	baz=141,slow=75,SNR=233								
H11S3	**WAKE ISLAND Hy**	**95.50**	**292**	T	T	09 58 57.6			
	baz=141,slow=75,SNR=205								
H11S1	**WAKE ISLAND Hy**	**95.50**	**292**	T	T	09 59 04.1			
	baz=141,slow=75,SNR=110								
E09A	**Wood Farm, Sta**	**95.62**	**359**	IAMs_20	IAMs_20	08 48 12.4			
	comp=Z,1µm,20.0s								
RADR	**Rader Ridge**	**95.72**	**355**	IAMs_20	IAMs_20	08 46 35.9			
	comp=Z,1µm,21.0s								
M52A	**Chesterland**	**95.82**	**26**	IAMs_20	IAMs_20	08 50 49.7			
	comp=Z,966nm,21.0s								
E03A	**Lebam**	**95.83**	**355**	IAMs_20	IAMs_20	08 46 39.8			
	comp=Z,1µm,20.0s								
AAM	**Ann Arbor**	**95.89**	**24**	IAMs_20	IAMs_20	08 49 55.6			
	comp=Z,927nm,22.0s								
SSPA	**Standing Stone**	**96.02**	**29**	IAMs_20	IAMs_20	08 50 13.2			
	comp=Z,1µm,21.0s								
I42A	**Draeger Farm,**	**96.11**	**20**	IAMs_20	IAMs_20	08 53 43.4			
	comp=Z,756nm,18.0s								
P61A	**Hammonton**	**96.16**	**31**	IAMs_20	IAMs_20	08 51 11.8			
	comp=Z,1µm,19.0s								
LAO	**LASA Array**	**96.22**	**7**	IAMs_20	IAMs_20	08 52 22.5			
	comp=Z,742nm,18.0s								
JAY	**Jayapura**	**96.27**	**259**	LR	LR	08 51 56.1			
	comp=Z,289nm,19.6s,baz=127,slow=33							

S32K	Killisnoo	107.60	350	IAMs_20	IAMs_20	08 52 11.1			
	comp=Z,1µm,20.0s								
S31K	Pelican	108.28	349	IAMs_20	IAMs_20	08 52 55.0			
	comp=Z,900nm,20.0s								
R32K	Eaglecrest	108.39	350	IAMs_20	IAMs_20	08 53 04.8			
	comp=Z,1µm,20.0s								
P32M	Atlin	109.59	351	IAMs_20	IAMs_20	08 54 59.7			
	comp=Z,907nm,18.0s								
SKAG	Skagway	109.64	350	IAMs_20	IAMs_20	08 52 52.9			
	comp=Z,1µm,20.0s								
WTLY	Watson Lake, Y	109.68	354	IAMs_20	IAMs_20	08 54 28.0			
	comp=Z,1µm,20.0s								
P29M	Windy Craggy	110.09	349	IAMs_20	IAMs_20	08 54 16.9			
	comp=Z,1µm,20.0s								
SII	Sitkinak Islan	110.16	339	IAMs_20	IAMs_20	08 52 52.4			
	comp=Z,1µm,20.0s								
OHAK	Old Harbor	110.56	340	IAMs_20	IAMs_20	08 52 33.0			
	comp=Z,815nm,20.0s								
O30N	Mendenhall	111.01	350	IAMs_20	IAMs_20	08 53 44.1			
	comp=Z,1µm,20.0s								
N32M	Quiet Lake	111.06	352	IAMs_20	IAMs_20	08 56 14.8			
	comp=Z,606nm,18.0s								
HYT	Haines Junctio	111.23	349	IAMs_20	IAMs_20	08 53 29.9			
	comp=Z,1µm,22.0s								
ACRG	Accra	111.32	107	IAMs_20	IAMs_20	08 56 48.3			
	comp=Z,1µm,20.0s								
O28M	Mount Upton	111.52	348	IAMs_20	IAMs_20	08 54 01.6			
	comp=Z,1µm,21.0s								
SYI	Shuyak Island	111.63	341	IAMs_20	IAMs_20	08 55 16.3			
	comp=Z,1µm,20.0s								
N31M	Braeburn, Yuko	111.67	350	IAMs_20	IAMs_20	08 54 46.6			
	comp=Z,1µm,20.0s								
N30M	Aishikik Lake	111.79	350	IAMs_20	IAMs_20	08 53 57.9			
	comp=Z,1µm,22.0s								
CTGM	Chitina Glacie	111.87	347	IAMs_20	IAMs_20	08 53 59.8			
	comp=Z,1µm,20.0s								
ACHA	Angle Creek He	111.92	339	IAMs_20	IAMs_20	08 54 01.0			
	comp=Z,801nm,21.0s								
FARO	Faro, Yukon	112.15	352	IAMs_20	IAMs_20	08 56 14.4			
	comp=Z,738nm,18.0s								
Q19K	Cape Douglas,	112.19	340	IAMs_20	IAMs_20	08 59 01.2			
	comp=Z,894nm,18.0s								
M31M	Drury Creek, Y	112.22	351	IAMs_20	IAMs_20	08 56 41.3			
	comp=Z,1µm,18.0s								
SEW	Seward	112.41	343	IAMs_20	IAMs_20	08 57 33.0			
	comp=Z,969nm,18.0s								
HOM	Homer	112.44	342	IAMs_20	IAMs_20	08 54 54.6			
	comp=Z,987nm,19.0s								
MCARA	McCarthy VSAT	112.52	347	IAMs_20	IAMs_20	08 54 35.9			
	comp=Z,814nm,20.0s								
GLI	Glacier Island	112.70	344	IAMs_20	IAMs_20	08 53 30.8			
	comp=Z,1µm,22.0s								
P19K	Oil Pt	112.76	341	IAMs_20	IAMs_20	08 56 12.2			
	comp=Z,951nm,20.0s								
O22K	Cooper Landing	112.81	343	IAMs_20	IAMs_20	08 57 46.6			
	comp=Z,1µm,18.0s								
M30M	Minto, Yukon	112.85	350	IAMs_20	IAMs_20	08 55 02.7			
	comp=Z,1µm,20.0s								
PWL	Port Wells	112.91	344	IAMs_20	IAMs_20	08 54 05.1			
	comp=Z,1µm,20.0s								
M29M	Somme Creek	112.91	349	IAMs_20	IAMs_20	08 57 44.5			
	comp=Z,1µm,18.0s								
SLKM	Skilak Lake	112.93	343	IAMs_20	IAMs_20	08 58 01.9			
	comp=Z,1µm,18.0s								
P18K	Big Mountain,	112.97	340	IAMs_20	IAMs_20	08 53 59.6			
	comp=Z,1µm,22.0s								
N25K	Chitina, Valde	112.97	346	IAMs_20	IAMs_20	08 56 23.9			
	comp=Z,969nm,19.0s								
ILSW	Iliamna Southw	113.05	341	IAMs_20	IAMs_20	08 56 21.7			
	comp=Z,1µm,19.0s								
GSTR	Great Sitkin T	113.05	325	IAMs_20	IAMs_20	08 55 15.3			
	comp=Z,1µm,20.0s								
DAV	Davao City (W)	113.20	253	IAMs_20	IAMs_20	08 58 25.5			
	comp=Z,671nm,18.0s								
KIWB	Kanaga Island	113.27	324	IAMs_20	IAMs_20	08 55 29.2			
	comp=Z,1µm,21.0s								
M27K	Edge Creek, AK	113.28	348	IAMs_20	IAMs_20	08 54 47.1			
	comp=Z,1µm,21.0s								
O18K	Koktuh Hills	113.38	340	IAMs_20	IAMs_20	08 54 34.4			
	comp=Z,793nm,20.0s								
RC01	Rabbit Creek A	113.38	343	IAMs_20	IAMs_20	08 54 41.6			
	comp=Z,975nm,21.0s								
KNK	Knik Glacier	113.44	344	IAMs_20	IAMs_20	08 55 24.3			
	comp=Z,1µm,20.0s								
M26K	Nabesna, AK	113.48	347	IAMs_20	IAMs_20	08 55 58.4			
	comp=Z,872nm,20.0s								
O19K	Port Alsworth	113.49	341	IAMs_20	IAMs_20	08 58 24.4			
	comp=Z,907nm,18.0s								
L29M	L29M	113.52	350	IAMs_20	IAMs_20	08 55 03.5			
	comp=Z,1µm,21.0s								
FIS	Fire Island	113.52	343	IAMs_20	IAMs_20	08 54 47.5			
	comp=Z,948nm,21.0s								
SCM	Sheep Creek Mo	113.64	345	IAMs_20	IAMs_20	08 54 22.4			
	comp=Z,975nm,21.0s								
M24K	Tolsona, Glenn	113.70	345	IAMs_20	IAMs_20	08 55 19.1			
	comp=Z,1µm,20.0s								
PMR	Palmer	113.73	344	IAMs_20	IAMs_20	08 58 16.9			
	comp=Z,845nm,18.0s								
MAYO	Mayo, Yukon	113.74	351	IAMs_20	IAMs_20	08 56 22.4			
	comp=Z,1µm,19.0s								
GHO	Glory Hole Cre	113.86	344	IAMs_20	IAMs_20	09 01 41.3			
	comp=Z,1µm,18.0s								
SPU	Mount Spurr	113.91	342	IAMs_20	IAMs_20	08 56 00.7			
	comp=Z,677nm,20.0s								
SUA	Susitna One	113.92	343	IAMs_20	IAMs_20	08 55 23.0			
	comp=Z,877nm,20.0s								
M22K	Willow	114.06	343	IAMs_20	IAMs_20	08 58 37.7			
	comp=Z,696nm,19.0s								
N19K	Bonanza Creek	114.08	341	IAMs_20	IAMs_20	08 54 46.1			
	comp=Z,939nm,21.0s								
MENT	Mentasta	114.10	347	IAMs_20	IAMs_20	08 56 28.7			
	comp=Z,846nm,20.0s								
L26K	Log Cabin Wild	114.13	347	IAMs_20	IAMs_20	08 58 16.5			
	comp=Z,1µm,18.0s								
K29M	Barlow Dome	114.16	350	IAMs_20	IAMs_20	08 57 19.4			
	comp=Z,1µm,19.0s								
STLK	Strandline Lak	114.16	342	IAMs_20	IAMs_20	08 59 02.2			
	comp=Z,695nm,18.0s								
N18K	Kilae Creek	114.27	340	IAMs_20	IAMs_20	08 54 40.1			
	comp=Z,1µm,22.0s								
PAX	Paxson	114.40	346	IAMs_20	IAMs_20	08 57 36.6			
	comp=Z,906nm,18.0s								
N17K	Nushagak Hills	114.43	339	IAMs_20	IAMs_20	08 55 07.2			
	comp=Z,1µm,22.0s								
SKT	Skwentna	114.54	343	IAMs_20	IAMs_20	08 55 31.3			
	comp=Z,1µm,21.0s								
DAWY	Dawson	114.59	349	IAMs_20	IAMs_20	08 55 44.9			
	comp=Z,870nm,20.0s								
BLKN	Baker Lake	114.61	10	IAMs_20	IAMs_20	09 01 44.9			
	comp=Z,1µm,18.0s								
CUT	Chulitna	114.69	344	IAMs_20	IAMs_20	08 57 11.3			
	comp=Z,863nm,19.0s								
J30M	Hart River	114.74	351	IAMs_20	IAMs_20	08 56 54.9			
	comp=Z,1µm,20.0s								
DOT	Dot Lake	114.83	347	IAMs_20	IAMs_20	08 55 22.9			
	comp=Z,1µm,22.0s								
J29N	Klondike Camp	114.83	350	IAMs_20	IAMs_20	08 57 49.3			
	comp=Z,1µm,19.0s								
RIDG	Independent Ri	115.03	347	IAMs_20	IAMs_20	08 57 05.3			
	comp=Z,877nm,20.0s								
M19K	Big River Lodg	115.05	341	IAMs_20	IAMs_20	08 56 28.6			
	comp=Z,1µm,20.0s								
SCRK	Sand Creek	115.12	347	IAMs_20	IAMs_20	09 00 05.8			
	comp=Z,1µm,18.0s								
K24K	Donnelly Dome	115.23	346	IAMs_20	IAMs_20	08 56 20.6			
	comp=Z,1µm,21.0s								
M17K	Holitna River	115.26	340	IAMs_20	IAMs_20	08 55 45.2			
	comp=Z,1µm,22.0s								
RND	Reindeer	115.36	345	IAMs_20	IAMs_20	08 55 16.1			
	comp=Z,947nm,21.0s								
I30M	Mount Dempster	115.38	351	IAMs_20	IAMs_20	08 57 44.7			
	comp=Z,1µm,20.0s								
PPLA	Purkeypile	115.50	343	IAMs_20	IAMs_20	08 56 02.8			
	comp=Z,1µm,22.0s								
TRF	Thorofare Moun	115.66	344	IAMs_20	IAMs_20	08 59 03.9			
	comp=Z,1µm,18.0s								
MCK	McKinley	115.68	345	IAMs_20	IAMs_20	08 55 37.5			
	comp=Z,958nm,22.0s								
H31M	Peel River	115.75	352	IAMs_20	IAMs_20	09 00 03.6			
	comp=Z,942nm,19.0s								
L18K	Granite Mounta	115.82	340	IAMs_20	IAMs_20	09 02 14.0			
	comp=Z,1µm,18.0s								
KTH	Kantishna Hill	115.87	344	IAMs_20	IAMs_20	09 01 57.4			
	comp=Z,961nm,18.0s								
J25K	Salcha River,	115.93	347	IAMs_20	IAMs_20	08 55 54.1			
	comp=Z,879nm,22.0s								
CAST	Castle Rocks	115.96	343	IAMs_20	IAMs_20	09 02 19.8			
	comp=Z,1µm,18.0s								
I28M	Miner Creek	115.99	349	IAMs_20	IAMs_20	08 56 49.9			
	comp=Z,1µm,20.0s								
BWN	Browne	116.18	345	IAMs_20	IAMs_20	08 57 03.9			
	comp=Z,1µm,20.0s								
ILAR	Eielson Array	116.31	346	PKP	PKPdf	08 18 13.6	-1.5		
	comp=Z,1.8nm,1.0s,baz=226,slow=1.4,SNR=9.6								
ILAR	Eielson Array	116.31	346	ePKIKP	PKiKP	08 18 16.0	+0.9		
ILAR				pmax	pmax				
	comp=Z,2.0nm,1.0s								
CCB	Clear Creek Bu	116.34	346	IAMs_20	IAMs_20	08 56 43.9			
	comp=Z,1µm,20.0s								
BPAW	Bear Paw Mtn.	116.38	344	IAMs_20	IAMs_20	09 02 14.0			
	comp=Z,736nm,18.0s								
NEA2	Nenana	116.50	345	IAMs_20	IAMs_20	08 57 25.1			
	comp=Z,976nm,20.0s								
H29M	Whitestone	116.56	350	IAMs_20	IAMs_20	08 58 17.8			
	comp=Z,1µm,20.0s								
M11K	Mekoryuk	116.59	335	IAMs_20	IAMs_20	08 59 45.1			
	comp=Z,1µm,19.0s								
K17K	Iditarod	116.61	340	IAMs_20	IAMs_20	08 56 27.0			
	comp=Z,1µm,22.0s								
PMBI	Palembang	116.72	228	IAMs_20	IAMs_20	09 18 52.2			
	comp=Z,669nm,18.0s								
PRP	Porcupine Dome	116.80	347	IAMs_20	IAMs_20	08 56 33.2			
	comp=Z,916nm,22.0s								
G31M	Satah River	116.84	352	IAMs_20	IAMs_20	08 59 40.4			
	comp=Z,804nm,19.0s								
H27K	Steamboat Moun	116.94	349	IAMs_20	IAMs_20	08 59 44.8			
	comp=Z,1µm,19.0s								
J20K	Nowinta River	117.04	343	IAMs_20	IAMs_20	09 01 01.4			
	comp=Z,952nm,18.0s								
G30M	tAoh Zraii Nji	117.08	352	IAMs_20	IAMs_20	09 01 55.6			
	comp=Z,954nm,18.0s								
MLY	Manley	117.19	345	IAMs_20	IAMs_20	08 59 34.4			
	comp=Z,601nm,20.0s								
G29M	Pine Creek	117.19	351	IAMs_20	IAMs_20	08 58 40.6			
	comp=Z,1µm,19.0s								
F31M	Tsiigehtchic	117.30	353	IAMs_20	IAMs_20	08 59 56.6			
	comp=Z,809nm,19.0s								
J17K	VABM Dome	117.38	340	IAMs_20	IAMs_20	09 01 38.3			
	comp=Z,1µm,18.0s								
G27K	Doyon Strip	117.51	349	IAMs_20	IAMs_20	08 57 36.9			
	comp=Z,897nm,20.0s								
I21K	Tanana	117.55	344	IAMs_20	IAMs_20	09 00 20.7			
	comp=Z,845nm,19.0s								
F30M	Barrier River	117.65	352	IAMs_20	IAMs_20	08 59 45.7			
	comp=Z,778nm,19.0s								
I20K	Naaghedeneel	117.66	343	IAMs_20	IAMs_20	08 58 00.8			
	comp=Z,923nm,20.0s								
H23K	Yukon River	117.72	345	IAMs_20	IAMs_20	08 58 05.3			
	comp=Z,1µm,20.0s								
FYU	Fort Yukon	117.75	348	IAMs_20	IAMs_20	08 57 45.2			
	comp=Z,992nm,20.0s								
KKM	Kota Kinabalu	118.07	244	IAMs_20	IAMs_20	09 05 48.8			
	comp=Z,843nm,20.0s								
F28M	Old Crow	118.07	350	IAMs_20	IAMs_20	08 58 16.7			
	comp=Z,961nm,20.0s								
H21K	Melozitna Rive	118.13	344	IAMs_20	IAMs_20	09 00 57.1			
	comp=Z,802nm,19.0s								
INK	Inuvik	118.14	353	IAMs_20	IAMs_20	09 00 31.6			
	comp=Z,909nm,20.0s								
G24K	Hadweenzic Riv	118.20	347	IAMs_20	IAMs_20	09 00 27.1			
	comp=Z,951nm,19.0s								
F25K	Christian River	118.77	348	IAMs_20	IAMs_20	08 58 29.2			
	comp=Z,1µm,21.0s								
E27K	Coleen River	118.81	350	IAMs_20	IAMs_20	08 58 38.4			
	comp=Z,976nm,20.0s								
H17K	Granite Mounta	118.90	341	IAMs_20	IAMs_20	08 57 38.5			
	comp=Z,1µm,22.0s								
E28M	Babbage River	118.98	351	IAMs_20	IAMs_20	08 59 36.0			
	comp=Z,877nm,19.0s								
F24K	Squaw Lake	119.02	347	IAMs_20	IAMs_20	08 57 50.8			
	comp=Z,1µm,21.0s								
G21K	Allakaket	119.03	344	IAMs_20	IAMs_20	09 15 08.9			
	comp=Z,537nm,18.0s								
E24K	Your Creek	119.62	347	IAMs_20	IAMs_20	08 58 33.0			
	comp=Z,1µm,21.0s								
D27M	Malcolm River	119.75	350	IAMs_20	IAMs_20	08 59 40.4			
	comp=Z,900nm,20.0s								
E23K	Chandalar	119.78	346	IAMs_20	IAMs_20	08 59 43.9			
	comp=Z,1µm,20.0s								
F20K	Avaraart Lake	119.91	343	IAMs_20	IAMs_20	09 01 56.3			
	comp=Z,822nm,19.0s								
F19K	Shaleruckik Mo	120.11	343	IAMs_20	IAMs_20	09 00 54.4			
	comp=Z,1µm,19.0s								
TOLK	Toolik Lake Re	120.31	347	IAMs_20	IAMs_20	08 58 42.8			
	comp=Z,1µm,22.0s								
E19K	Redstone River	120.55	343	IAMs_20	IAMs_20	08 59 51.1			
	comp=Z,619nm,20.0s								
E21K	Killik River	120.83	345	IAMs_20	IAMs_20	09 06 30.8			
	comp=Z,910nm,18.0s								
C24K	Franklin Bluff	121.17	348	IAMs_20	IAMs_20	09 00 35.9			
	comp=Z,1µm,20.0s								
MYKOM	Kota Tinggi	121.26	229	IAMs_20	IAMs_20	09 06 02.2			
	comp=Z,596nm,19.0s								
ILON	Igloolik, Nuna	121.28	14	IAMs_20	IAMs_20	09 07 02.3			
	comp=Z,1µm,20.0s								
D20K	Etivluk River	121.53	344	IAMs_20	IAMs_20	09 03 45.1			
	comp=Z,690nm,21.0s								
D19K	Kuna River	121.62	343	IAMs_20	IAMs_20	09 13 58.4			
	comp=Z,766nm,19.0s								
B21K	Ikpikpuk River	121.99	345	IAMs_20	IAMs_20	09 04 38.2			
	comp=Z,952nm,18.0s								
C19K	Lookout Ridge	122.42	343	IAMs_20	IAMs_20	09 00 12.6			
	comp=Z,809nm,21.0s								
B20K	Meade River	122.76	345	IAMs_20	IAMs_20	09 06 03.8			
	comp=Z,828nm,18.0s								
IVI	Ivigtut	123.20	33	IAMs_20	IAMs_20	09 09 42.2			
	comp=Z,587nm,18.0s								
RPSI	Ranau Prapat	124.41	225	IAMs_20	IAMs_20	09 19 43.0			
	comp=Z,731nm,18.0s								
PETK	Petropavlovsk-	125.08	313	PKP	PKPdf	08 18 30.1	-2.2		
	comp=Z,9.6nm,1.1s,baz=174,slow=1.5,SNR=9.2								
KULM	Kulim	125.86	228	IAMs_20	IAMs_20	09 09 54.9			
	comp=Z,534nm,19.0s								
MJA0	Matsu Arr-Jizo	125.86	286	ePKIKP	PKiKP	08 18 36.3	+1.4		
MJA0				pmax	pmax				
	comp=Z,4.0nm,1.0s								
MJAR	Matsushiro Arr	125.89	286	PKP	PKPdf	08 18 32.6	-1.9		
	comp=Z,3.5nm,1.0s,baz=136,slow=3.7,SNR=8.0								
SFJD	Kangerlussuaq	126.37	26	IAMs_20	IAMs_20	09 10 20.8			
	comp=Z,638nm,18.0s								
AVE	Averroes	126.48	79	IAMs_20	IAMs_20	09 08 08.8			
	comp=Z,577nm,21.0s								
JMN	Monobe	126.85	281	IAMs_20	IAMs_20	09 04 59.7			
	comp=Z,847nm,21.0s								
ILULI	Ilulissat	127.72	24	IAMs_20	IAMs_20	09 10 19.4			
	comp=Z,682nm,20.0s								
TAM	Tamanrasset	127.80	99	IAMs_20	IAMs_20	09 11 30.3			
	comp=Z,652nm,20.0s								
JKA	Kamikawa-asahi	127.81	296	IAMs_20	IAMs_20	09 07 00.1			
	comp=Z,931nm,20.0s								
PCVE	Castro Verde	128.79	75	ePP	PP	08 20 55.1	+7.9		
PVAQ	Vaqueiros	128.86	75	ePP	PP	08 20 53.9	+6.3		
PMTG	Montargil	129.54	73	ePP	PP	08 20 57.4	+5.4		
ANGG	Ammassalik, Gr	129.66	32	IAMs_20	IAMs_20	09 09 49.8			
	comp=Z,502nm,19.0s								
PESTR	Estremoz	129.82	74	ePP	PP	08 21 02.2	+8.2		
PCAS	Casmilo, Conde	129.95	72	ePP	PP	08 21 02.2	+7.4		
COI	Coimbra	130.10	72	IAMs_20	IAMs_20	09 09 09.8			
	comp=Z,646nm,20.0s								
COI	Coimbra	130.10	72	ePP	PP	08 21 04.5	+8.8		
PMRV	Marv??o	130.28	73	ePP	PP	08 20 59.8	+2.9		
BILL	Bilibino	130.34	331	i PKIKP	PKPdf	08 18 41.5	-0.4		
MTE	Manteigas	130.75	72	IAMs_20	IAMs_20	09 09 41.0			
	comp=Z,685nm,20.0s								
MTE	Manteigas	130.75	72	ePP	PP	08 21 10.1	+10		
MTE	Manteigas	130.75	72	eSS	SS	08 38 38.5	+8.9		
QIZ	Qiongzhong	132.08	248	PKP	PKiKP	08 18 50.3	+2.5		
QIZ				PP	PP	08 21 10.8	+2.5		
QIZ				SS	SS	08 38 48.6	+3.2		
QIZ				LR	LR				
	comp=Z,290nm,15.2s								
QIZ				LR	LR				
	comp=Z,280nm,12.3s								
QIZ				LR	LR				
	comp=Z,970nm,19.6s								
PAB	San Pablo	132.25	75	IAMs_20	IAMs_20	09 10 18.7			
	comp=Z,595nm,21.0s								
ESDC	Sonseca Array	132.57	75	PKP	PKPdf	08 18 46.7	-0.5		
	comp=Z,0.8nm,0.8s,baz=307,slow=2.0,SNR=5.9								
SEY	Seymchan	132.75	321	i PKIKP	PKPdf	08 18 45.4	-1.2		
NEEM	North Greenlan	132.90	16	i P	PKPdf	08 18 46.3	-0.6		
KSRS	Korea Array	132.96	281	PKP	PKPdf	08 18 46.8	-1.1		
	comp=Z,1.9nm,1.0s,baz=81,slow=1.1,SNR=8.4								
SUMG	Summit	133.06	24	IAMs_20	IAMs_20	09 16 43.3			
	comp=Z,545nm,19.0s								
SUMG	Summit	133.06	24	i P	PKPdf	08 18 46.3	-1.1		
INCN	Inchon	133.81	280	IAMs_20	IAMs_20	09 06 10.1			
	comp=Z,599nm,22.0s								
NJ2	Nanjing	135.53	268	ePKP	PKiKP	08 18 54.9	+0.5		
MDJ	Mudanjiang	135.88	290	PKP	PKiKP	08 18 55.4	+0.7		
SCO	Scoresbysund	137.06	29	IAMs_20	IAMs_20	09 14 42.3			
	comp=Z,564nm,20.0s								
SCO	Scoresbysund	137.06	29	i P	PKPdf	08 18 49.3	-5.1		
SLVN	Son La	137.38	244	IAMs_20	IAMs_20	09 12 59.6			
	comp=Z,584nm,22.0s								
WHN	Wuhan	137.49	263	PKP	PKiKP	08 19 01.3	+2.9		
CMAR	Chiang Mai Arr	137.88	236	PKP	PKPdf	08 18 57.0	-0.7		
	comp=Z,1.0nm,0.3s,baz=251,slow=1.8,SNR=5.5								
CMAR	Chiang Mai Arr	137.88	236	ePKIKP	PKiKP	08 18 59.5	-0.1		
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
GYA	Guiyang	139.56	252	⇓PKP	PKiKP	08 19 04.3	+1.3		
GYA				PP	PP	08 22 00.9	+5.3		
GYA				SKKS		08 28 51.9			
GYA				AMB	AMB				
	comp=Z,170nm,7.1s								
GYA				LR	LR				
	comp=Z,280nm,21.9s								
GYA				LR	LR				
	comp=Z,200nm,21.1s								
GYA				LR	LR				
	comp=Z,240nm,18.4s								
HEH	HeiHe	139.82	296	PKP	PKPdf	08 19 01.3	+1.2		
HEH				sPKP		08 19 07.5			
HEH				AMB	AMB				
	comp=Z,160nm,4.0s								
HEH				LR	LR				
	comp=Z,330nm,18.4s								
HEH				LR	LR				
	comp=Z,1µm,18.6s								
HEH				LR	LR				
	comp=Z,2µm,18.2s								
ESK	Eskdalemuir	140.40	55	IAMs_20	IAMs_20	09 15 07.4			
	comp=Z,516nm,20.0s								
CLF	Chambon-Foret	140.70	68	IAMs_20	IAMs_20	09 18 39.2			
	comp=Z,623nm,21.0s								
SSB	Saint Sauveur	140.86	73	IAMs_20	IAMs_20	09 14 10.5			
	comp=Z,585nm,21.0s								
VSL	Villasalto	141.02	84	IAMs_20	IAMs_20	09 19 34.2			
	comp=Z,488nm,20.0s								
BNI	Bardonecchia	142.09	74	IAMs_20	IAMs_20	09 15 18.1			
	comp=Z,766nm,21.0s								
WDD	Wied Dalam	142.28	92	IAMs_20	IAMs_20	09 21 28.8			
	comp=Z,830nm,20.0s								
PZH	PanZhiHua	142.59	246	PKP	PKiKP	08 19 08.1	-1.1		
PZH				PP	PP	08 22 20.3	+6.2		
PZH				AMB	AMB				
	comp=Z,80nm,9.3s								
PZH				LR	LR				
	comp=Z,290nm,24.3s								
PZH				LR	LR				
	comp=Z,240nm,24.3s								
PZH				LR	LR				
	comp=Z,430nm,23.0s								
SENIN	Lac Senin/Sane	143.07	73	IAMs_20	IAMs_20	09 17 58.0			
	comp=Z,779nm,20.0s								
XAN	Xi'an	143.25	263	PKP	PKiKP	08 19 12.9	+2.7		
XAN				PP	PP	08 22 20.3	+2.2		
XAN				SS	SS	08 41 02.6	+4.3		
XAN				LR	LR				
	comp=Z,420nm,21.8s								
XAN				LR	LR				
	comp=Z,340nm,20.1s								
XAN				LR	LR				
	comp=Z,710nm,22.7s								
TIXI	Tiksi	143.56	331	i PKIKP	PKPbc	08 19 03.2	-0.4		
WLF	Walferdange	143.71	67	IAMs_20	IAMs_20	09 16 11.0			
	comp=Z,581nm,20.0s								
ECH	Echery	143.76	70	IAMs_20	IAMs_20	09 15 47.2			
	comp=Z,507nm,21.0s								
XLT	XiLinHaoTe	144.00	282	ePKP	PKPbc	08 19 06.1	+0.2		
XLT				pPKP	PKiKP

CLL	**Collm**	**148.38**	**67**	*e*PKIKP	**PKPbc**	**08 19 17.0**	**-1.5**
CLL				*i*		08 19 19.6	
CLL				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CLL				MLR	MLR		
	comp=Z,500nm,19.8s						
CKRC	**Cesky Krumlov**	**148.39**	**72**	*e*PKP	**PKPbc**	**08 19 19.0**	**+0.3**
CKRC				*e*SS	SS	08 41 52.2	-4.6
CKRC				AMS	AMS	09 18 20.0	
	comp=Z,500nm,22.7s						
CKRC	**Cesky Krumlov**	**148.39**	**72**	*e*PKP2	**PKPbc**	**08 19 19.0**	**+0.3**
CKRC				*e*SS	SS	08 41 52.2	-4.6
CKRC				MLR	MLR		
	comp=Z,500nm,22.7s						
ZVC	**Zvikov**	**148.53**	**71⇑**	*e*PKP	**PKiKP**	**08 19 20.7**	**+0.2**
ZVC				AMS	AMS	09 18 00.0	
	comp=Z,600nm,24.0s						
ARSA	**Arzberg**	**148.59**	**75**	*i* pPKP	**PKiKP**	**08 19 20.6**	**-0.1**
	comp=Z,12nm,1.5s						
CIT	**Chita**	**148.62**	**294**	*e*PKIKP	**PKPbc**	**08 19 17.6**	**-1.6**
CIT				*e*		08 26 10.4	
CIT				pmax	pmax		
	comp=Z,109nm,2.5s						
BRG	**Berggiesshubel**	**148.82**	**68**	*e*PKP	**PKPbc**	**08 19 18.1**	**-1.5**
BRG				Amp		08 19 19.3	
	comp=Z,2.2nm,1.0s						
BRG	**Berggiesshubel**	**148.82**	**68**	P	**PKiKP**	**08 19 21.6**	**+0.5**
BRG				Amp		08 19 22.5	
	comp=Z,11nm,1.1s						
PRA	**Prague**	**148.88**	**70**	*e*SS	SS	08 42 07.6	+5.5
PRA				AMS	AMS	09 17 30.0	
	comp=Z,700nm,24.2s						
PRU	**Pruhonice**	**148.92**	**70**	AMS	AMS	09 18 00.0	
	comp=Z,600nm,22.5s						
PDG	**Podgorica**	**148.94**	**86**	IAMs_20	IAMs_20	09 39 39.9	
	comp=Z,507nm,20.0s						
NB2	**NORSAR Subarra**	**149.00**	**48**	PKP	**PKPbc**	**08 19 20.2**	**+0.3**
	comp=Z,11nm,1.2s,baz=278,slow=2.3						
NOA	**NORSAR Array B**	**149.00**	**48**	PKPbc	**PKPbc**	**08 19 20.3**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=281,slow=2.3,SNR=7.4						
CONA	**Conrad Observa**	**149.05**	**74**	*i* pPKP	**PKiKP**	**08 19 21.9**	**+0.1**
	comp=Z,20nm,1.5s,SNR=8.3						
RONA	**Rosalia, Austr**	**149.24**	**75**	*i* pPKP	**PKiKP**	**08 19 22.2**	**+0.1**
	comp=Z,14nm,1.6s						
OHR	**Ohrid**	**149.30**	**89**	*i* P	**PKPbc**	**08 19 19.2**	**-2.0**
RGN	**Rugen**	**149.36**	**61**	IAMs_20	IAMs_20	09 22 26.4	
	comp=Z,504nm,19.0s						
KRUC	**Moravsky**	**149.77**	**73**	*e*PKP	**PKiKP**	**08 19 23.3**	**+0.2**
VRAC	**Vranov**	**149.97**	**72**	*e*PKP	**PKiKP**	**08 19 23.9**	**+0.4**
UPC	**Upice**	**149.98**	**70**	AMS	AMS	09 18 30.0	
	comp=Z,600nm,20.6s						
CHVC	**Chvalec**	**150.03**	**70**	AMS	AMS	09 20 20.0	
	comp=Z,500nm,19.5s						
MODS	**Modra-Piesok**	**150.10**	**74**	*e*PKIKP	**PKiKP**	**08 19 23.4**	**-0.4**
MODS	**Modra-Piesok**	**150.10**	**74**	*e*PKP	**PKiKP**	**08 19 23.4**	**-0.4**
OSTC	**Ostas**	**150.12**	**70⇑**	*e*PKP	**PKPab**	**08 19 26.8**	**-2.2**
OSTC				AMS	AMS	09 18 50.0	
	comp=Z,600nm,20.8s						
OSTC	**Ostas**	**150.12**	**70**	*e*PKIKP	**PKPab**	**08 19 26.8**	**-2.2**
OSTC				MLR	MLR		
	comp=Z,600nm,20.8s						
DPC	**Dobruska-Polom**	**150.12**	**70**	*e*PKP	**PKPab**	**08 19 27.1**	**-1.9**
DPC				*e*SS	SS	08 42 18.0	+1.9
DPC				AMS	AMS	09 18 10.0	
	comp=Z,600nm,21.7s						
DPC	**Dobruska-Polom**	**150.12**	**70**	*e*PKIKP	**PKPab**	**08 19 27.1**	**-1.9**
DPC				*e*SS	SS	08 42 18.0	+1.9
DPC				MLR	MLR		
	comp=Z,600nm,21.2s						
SKO	**Skopje**	**150.14**	**88**	*i* P	**PKPbc**	**08 19 23.6**	**+0.3**
HFS	**Hagfors**	**150.20**	**50**	PKPbc	**PKiKP**	**08 19 23.9**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=156,slow=7.5,SNR=6.1						
KSP	**Ksiaz**	**150.24**	**69**	*e*PKP	**PKPbc**	**08 19 23.2**	**+0.1**
KARP	**Karpathos**	**150.25**	**104**	IAMs_20	IAMs_20	09 26 44.8	
	comp=Z,772nm,20.0s						
KRLC	**Kraliky**	**150.32**	**71⇑**	*e*PKP	**PKiKP**	**08 19 26.5**	**+2.3**
KRLC				AMS	AMS	09 19 30.0	
	comp=Z,600nm,22.4s						
KRLC	**Kraliky**	**150.32**	**71**	*e*PKIKP	**PKiKP**	**08 19 26.5**	**+2.3**
KRLC				MLR	MLR		
	comp=Z,600nm,22.4s						
JAVC	**Velka Javorina**	**150.50**	**74**	*e*PKP	**PKiKP**	**08 19 24.9**	**+0.2**
VAY	**Valandovo**	**150.56**	**90**	*i* P	**PKPbc**	**08 19 23.6**	**-0.7**
MORC	**Moravsky Berou**	**150.71**	**72**	*e*PKP	**PKiKP**	**08 19 25.9**	**+0.9**
MAUC	**Maruska**	**150.76**	**73⇑**	*e*PKP	**PKPab**	**08 19 28.6**	**-3.1**
STEB	**Steborice**	**150.90**	**71⇑**	*e*PKP	**PKiKP**	**08 19 26.8**	**+1.4**
LSA	**Lhasa**	**151.10**	**237**	IAMs_20	IAMs_20	09 37 44.0	
	comp=Z,613nm,18.0s						
LSA	**Lhasa**	**151.10**	**237**	PKPbc	**PKPbc**	**08 19 25.8**	**-0.7**
VYHS	**Vyhne**	**151.12**	**75**	*e*PKIKP	**PKiKP**	**08 19 25.8**	**-0.1**
VYHS	**Vyhne**	**151.12**	**75**	*e*PKP	**PKiKP**	**08 19 25.8**	**-0.1**
ULN	**Ulaanbaatar**	**151.37**	**284**	IAMs_20	IAMs_20	09 22 08.8	
	comp=Z,608nm,20.0s						
ULN	**Ulaanbaatar**	**151.37**	**284**	*i* PKIKP	**PKPbc**	**08 19 24.3**	**-1.8**
LANS	**Liptovska Anna**	**151.72**	**74**	*e*PKIKP	**PKiKP**	**08 19 29.6**	**+2.5**
LANS	**Liptovska Anna**	**151.72**	**74**	*e*PKP	**PKiKP**	**08 19 29.6**	**+2.5**
SONM	**Songino Array**	**151.77**	**283**	PKPbc	**PKPbc**	**08 19 26.1**	**-0.9**
	comp=Z,6.8nm,0.7s,baz=163,slow=1.5,SNR=22						
SONM	**Songino Array**	**151.77**	**283**	*e*PKIKP	**PKPbc**	**08 19 24.1**	**-2.9**
SONM				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GTA	**Gaotai**	**152.31**	**263**	PKPbc	**PKPbc**	**08 19 27.8**	**-0.7**
GTA				LR	LR		
	comp=Z,260nm,16.7s						
GTA				LR	LR		
	comp=Z,380nm,21.4s						
GTA				LR	LR		
	comp=Z,610nm,22.5s						
ARCES	**ARCESS Array B**	**152.98**	**28**	PKPbc	**PKPbc**	**08 19 27.9**	**-1.0**
	comp=Z,7.4nm,1.1s,baz=14,slow=2.5,SNR=5.2						
KEV	**Kevo**	**153.33**	**27**	IAMs_20	IAMs_20	09 38 20.0	
	comp=Z,553nm,20.0s						
ISP	**Isparta**	**153.78**	**104**	IAMs_20	IAMs_20	09 34 42.3	
	comp=Z,572nm,20.0s						
ZAK	**Zakamensk**	**154.46**	**287**	*e*PKIKP	**PKPbc**	**08 19 31.7**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.5s						
MLR	**Muntele Rosu**	**154.61**	**85**	IAMs_20	IAMs_20	09 24 41.0	
	comp=Z,733nm,21.0s						
SUW	**Suwalki**	**154.99**	**64**	IAMs_20	IAMs_20	09 25 10.4	
	comp=Z,647nm,22.0s						
PABE	**Paberze**	**155.56**	**61**	IAMs_20	IAMs_20	09 32 20.2	
	comp=Z,403nm,20.0s						
TIRR	**Tirgusor**	**155.81**	**89**	IAMs_20	IAMs_20	09 46 15.0	
	comp=Z,768nm,22.0s						
FINES	**FINESS Array B**	**156.11**	**46**	PKP	**PKPdf**	**08 19 26.1**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=55,slow=4.3,SNR=16						
APA	**Apatity**	**156.49**	**29**	*i* PKIKP	**PKPdf**	**08 19 33.9**	**+7.4**
APA				*e*		08 23 34.5	
BRTR	**Keskin Array B**	**156.87**	**104**	PKP	**PKPdf**	**08 19 28.2**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=235,slow=4.4,SNR=4.3						
BRTR				PKPab	**PKPab**	**08 19 57.4**	**-0.7**
	comp=Z,12nm,1.0s,baz=208,slow=4.8,SNR=16						
BRTR	**Keskin Array B**	**156.87**	**104**	*e*PKIKP	**PKPdf**	**08 19 29.9**	**+1.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NRIK	**Noril'sk**	**156.89**	**338**	PKPab	**PKPab**	**08 19 57.0**	**0.0**
	comp=Z,3.3nm,0.8s,baz=267,slow=4.6,SNR=3.8						
KIEV	**Kiev**	**158.19**	**74**	IAMs_20	IAMs_20	09 47 23.4	
	comp=Z,422nm,18.0s						
AKASG	**Malin Array Be**	**158.21**	**74**	PKP	**PKPdf**	**08 19 27.9**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=277,slow=1.8,SNR=9.9						
AKASG	**Malin Array Be**	**158.21**	**74**	*e*PKIKP	**PKPdf**	**08 19 29.5**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARPR	**Arapgir-MALATY**	**159.42**	**111**	IAMs_20	IAMs_20	09 40 18.8	
	comp=Z,577nm,20.0s						
WMQ	**Urumqi**	**162.36**	**261**	*e*PKP	**PKPdf**	**08 19 36.6**	**+2.5**
WMQ				LR	LR		
	comp=Z,890nm,22.1s						
WMQ				LR	LR		
	comp=Z,580nm,20.5s						
WMQ				LR	LR		
	comp=Z,550nm,24.9s						
KLMR	**Klimovskoe**	**162.39**	**41**	*e*PKIKP	**PKPdf**	**08 19 33.3**	**-0.1**
KLMR				*e*		08 20 21.0	
KLMR				pmax	pmax		
	comp=Z,16nm,1.4s						
OBN	**Obninsk**	**162.76**	**61**	*e*PKIKP	**PKPdf**	**08 19 35.7**	**+1.7**
OBN				*e*		08 24 09.6	
OBN				*e*PPP	PPP	08 27 57.8	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KIV	**Kislovodsk**	**164.83**	**104**	*e*PKIKP	**PKPdf**	**08 19 36.9**	**+0.5**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ZALV	**Zalesovo Beam**	**165.95**	**297**	PKP	**PKPdf**	**08 19 37.0**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=197,slow=4.5,SNR=4.3						
ZALV				PKPab	**PKPab**	**08 20 35.8**	**-1.4**
	comp=Z,5.8nm,0.9s,baz=64,slow=6.9,SNR=11						
MAK	**Makhachkala**	**167.28**	**115**	*e*PKIKP	**PKPdf**	**08 19 34.5**	**-3.7**
MAK				pmax	pmax		
	comp=Z,276nm,2.0s						
AAK	**Ala-Archa**	**169.65**	**233**	PKPab	**PKPab**	**08 20 51.4**	**-2.6**
	comp=Z,17nm,1.0s,baz=178,slow=2.4,SNR=7.1						
KURK	**Kurchatov**	**170.08**	**283**	PKIKP	**PKPdf**	**08 19 37.2**	**-2.6**
KURK						08 20 53.1	
KURBB	**Kurchatov Arra**	**170.14**	**282**	PKP	**PKPdf**	**08 19 37.1**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=310,slow=0.5,SNR=4.9						
KURBB				PKPab	**PKPab**	**08 20 53.1**	**-2.7**
	comp=Z,0.6nm,0.6s,baz=88,slow=3.7,SNR=6.8						

IDC ***13*** *07:59:45.0±2.4, 32.°54S×178.°19W, h0km, mb4.2/2, mbtmp4.2/3, ML3.9/1, Error ellipse: s-maj=64.0km s-min=41.9km az=134.0*
WEL ***13*** *07:59:47.6±1.1, 33.°S±10.°×17.°8W±1.°5, h12km, M4.4/13, mB4.9/7, ML4.8/15, MLv4.6/13, Mw(mB)4.2/7, Error ellipse: s-maj=21.6km s-min=8.5km az=118.4, confirmed*
NOU ***13*** *07:59:58.3, 33.°51S×178.°23W, h169km, mb4.1/7, South of Kermadec Islands*

ISC 13 07:59:46.5±1.6, 32.°89S±0.°10×177.°5W±0.°2, h35km, n35, σ1s10/40, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.80**	**215**	P	**Pn**	**08 01 11.1**	**+1.1**
MXZ	**Matakaoa Point**	**5.80**	**215**	P	**Pn**	**08 01 10.6**	**+0.5**
MXZ				S	**Sn**	**08 02 15.1**	**-0.2**
WMGZ	**Waiomatatini S**	**5.96**	**213**	P	**Pn**	**08 01 13.7**	**+1.5**
WMGZ				S	**Sn**	**08 02 21.1**	**+2.0**
PKGZ	**Pakihiroa**	**6.15**	**215**	P	**Pn**	**08 01 15.5**	**+0.6**
PKGZ				S	**Sn**	**08 02 25.1**	**+1.1**
HAZ	**Te Kaha**	**6.21**	**217**	P	**Pn**	**08 01 16.4**	**+0.7**
HAZ				S	**Sn**	**08 02 27.7**	**+2.2**
PUZ	**Puketiti**	**6.24**	**213**	P	**Pn**	**08 01 16.5**	**+0.5**
PUZ				S	**Sn**	**08 02 26.6**	**+0.6**
RUGZ	**Raukumara Rang**	**6.43**	**217**	P	**Pn**	**08 01 19.2**	**+0.5**
RUGZ				S	**Sn**	**08 02 31.9**	**+1.0**
TWGZ	**Tauwhareparae**	**6.45**	**214**	P	**Pn**	**08 01 19.8**	**+0.9**
CNGZ	**Carnagh Statio**	**6.60**	**211**	P	**Pn**	**08 01 21.9**	**+1.0**
TKGZ	**Te Karaka**	**6.72**	**213**	P	**Pn**	**08 01 23.2**	**+0.6**
MWZ	**Matawai**	**6.79**	**215**	P	**Pn**	**08 01 24.0**	**+0.4**
MWZ				S	**Sn**	**08 02 39.3**	**-0.4**
KUZ	**Kuaotunu**	**6.79**	**234**	P	**Pn**	**08 01 24.3**	**+0.7**
KUZ	**Kuaotunu**	**6.79**	**234**	P	Pn	08 01 30.2	+6.6
URZ	**Urewera**	**6.94**	**218**	Pn	**Pn**	**08 01 27.0**	**+1.3**
	2.0nm,0.3s,baz=271,slow=4.3,SNR=36						
URZ				Sn	**Sn**	**08 02 41.9**	**-1.5**
	5.2nm,0.3s,baz=111,slow=23,SNR=11						
	7.1nm,0.3s						
URZ	**Urewera**	**6.94**	**218**	P	**Pn**	**08 01 25.5**	**-0.2**
URZ	**Urewera**	**6.94**	**218**	P	**Pn**	**08 01 24.9**	**-0.8**
URZ				S	**Sn**	**08 02 41.2**	**-2.2**
RIGZ	**Rimuhau**	**6.98**	**212**	S	**Sn**	**08 02 44.9**	**+0.6**
PRGZ	**Paritu Road**	**7.10**	**211**	P	**Pn**	**08 01 27.9**	**0.0**
KNZ	**Kokohu**	**7.28**	**211**	P	**Pn**	**08 01 29.4**	**-0.9**
MUGZ	**Murupara**	**7.28**	**218**	P	**Pn**	**08 01 29.9**	**-0.5**
MHGZ	**Mahia Peninsul**	**7.29**	**210**	P	**Pn**	**08 01 30.6**	**+0.2**
WCZ	**Waipu Caves**	**7.41**	**244**	P	**Pn**	**08 01 32.2**	**0.0**
MTHZ	**Maungataniwha**	**7.53**	**216**	P	**Pn**	**08 01 35.0**	**+1.2**
OUZ	**Omahuta**	**7.77**	**250**	P	**Pn**	**08 01 37.9**	**+0.9**
OUZ	**Omahuta**	**7.77**	**250**	P	**Pn**	**08 01 37.6**	**+0.6**
BKZ	**Black Stump Fm**	**7.94**	**216**	P	**Pn**	**08 01 39.0**	**-0.5**
BFZ	**Birch Farm**	**9.26**	**211**	P	**Pn**	**08 01 57.3**	**-0.2**
KHZ	**Kahutara**	**11.88**	**214**	P	**Pn**	**08 02 30.8**	**-2.4**
ASAR	**Alice Springs**	**43.48**	**269**	P	**P**	**08 07 45.2**	**-1.3**
	2.9nm,0.8s,baz=109,slow=8.0,SNR=20						
	2.9nm,0.8s						
WRA	**Warramunga Arr**	**44.69**	**274**	P	**P**	**08 07 54.8**	**-1.5**
	2.6nm,0.6s,baz=115,slow=7.7,SNR=23						
	2.6nm,0.6s						
H03S2	**Juan Fernandez**	**78.73**	**123**	T	T	09 40 29.8	
	baz=236,slow=74,SNR=4.6						
H03S1	**Juan Fernandez**	**78.74**	**123**	T	T	09 40 29.3	
	baz=236,slow=74,SNR=5.0						
H03S3	**Juan Fernandez**	**78.75**	**123**	T	T	09 40 26.7	
	baz=236,slow=74,SNR=4.9						
KURBB	**Kurchatov Arra**	**123.11**	**312**	PKP	**PKiKP**	**08 18 40.5**	**+1.4**
	0.4nm,0.2s,baz=116,slow=2.2,SNR=4.0						
FINES	**FINESS Array B**	**147.63**	**339**	PKPbc	**PKPab**	**08 19 29.3**	**+0.6**
	2.2nm,0.6s,baz=51,slow=2.7,SNR=4.6						

CATAC ***13*** *08:01:31.8±1.2, 10.°N±7.°×7.°3W±.°, h112km±26km, M4.1/6, mb4.2/1, mB4.5/1, MLv4.1/6, Mw(mB)3.7/1, confirmed*
RSNC ***13*** *08:01:31.7±0.0, 10.°N±1.°×7.°3W±.°, h128km±2km, M3.6, mB4.6, mb4.0, ML3.3, Mw(mB)3.8*

ISC 13 08:01:30.5±1.2, 10.°13N±0.°04×73.°19W±0.°04, h139km±12km, n44, σ1s49/64, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	**Cerrejon, Guaj**	**0.93**	**19**	P	**Pn**	**08 01 53.7**	**0.0**
CRJC				S	**Sn**	**08 02 09.7**	**-1.7**
ARGC	**Ariguani, Magd**	**1.07**	**255**	P	**Pn**	**08 01 56.4**	**+1.6**
ARGC				S	**Sn**	**08 02 14.5**	**+1.1**
SMRC	**Santa Marta, M**	**1.44**	**315**	P	**Pn**	**08 01 59.0**	**+0.4**
SMRC				S	**Sn**	**08 02 19.1**	**-0.9**
OCAC	**Ocana**	**1.89**	**184**	P	**Pn**	**08 02 04.0**	**+0.2**
OCAC				S	**Sn**	**08 02 28.6**	**-0.6**
URI	**Uribia**	**1.96**	**37**	P	**Pn**	**08 02 03.7**	**-0.7**
URIC	**Uribia, Colomb**	**1.96**	**37**	P	**Pn**	**08 02 04.1**	**-0.3**
URIC				S	**Sn**	**08 02 28.5**	**-1.9**
SJCC	**San Jacinto, C**	**1.97**	**263**	P	**Pn**	**08 02 05.1**	**+0.4**
SJCC	**San Jacinto, C**	**1.97**	**263**	P	**Pn**	**08 02 05.6**	**+1.0**
SJCC				S	**Sn**	**08 02 31.2**	**+0.4**
SDV	**Santo Domingo**	**2.81**	**116**	P	**Pn**	**08 02 15.4**	**+0.2**
SDV				S	**Sn**	**08 02 47.7**	**-1.9**
PAMC	**Pamplona, Colo**	**2.82**	**170**	P	**Pn**	**08 02 16.4**	**+0.8**
PAMC				S	**Sn**	**08 02 49.4**	**-0.8**
ZARC	**Zaragoza, Cauc**	**3.10**	**212**	P	**Pn**	**08 02 19.2**	**+0.5**
ZARC				S	**Sn**	**08 02 54.4**	**-1.5**
BRJC	**Barrancabermej**	**3.19**	**190**	P	**Pn**	**08 02 20.7**	**+0.9**
BRJC				S	**Sn**	**08 02 58.0**	**0.0**
UREC	**San Jos de Ur**	**3.31**	**225**	P	**Pn**	**08 02 21.9**	**+0.5**
UREC				S	**Sn**	**08 02 58.9**	**-1.9**
LCBC	**Los crdobas,**	**3.38**	**248**	P	**Pn**	**08 02 23.4**	**+1.1**
LCBC				S	**Sn**	**08 02 58.7**	**-3.7**
BARC	**Barichara**	**3.52**	**180**	P	**Pn**	**08 02 25.4**	**+1.0**
BARC				S	**Sn**	**08 03 06.2**	**+0.1**
PTBC	**PUERTO BERRIO,**	**3.78**	**199**	P	**Pn**	**08 02 28.8**	**+1.2**
PTBC				S	**Sn**	**08 03 11.1**	**-0.8**
TAMC	**Tame, Arauca**	**3.92**	**159**	P	**Pn**	**08 02 30.3**	**+0.8**
TAMC				S	**Sn**	**08 03 14.4**	**-1.0**
APAC	**Apartado, Choc**	**4.01**	**237**	P	**Pn**	**08 02 31.8**	**+1.2**
APAC				S	**Sn**	**08 03 15.9**	**-1.5**
RUSC	**La Rusia**	**4.21**	**179**	P	**Pn**	**08 02 34.4**	**+0.6**
RUSC	**La Rusia**	**4.21**	**179**	P	**Pn**	**08 02 34.1**	**+0.4**
DBBC	**Dabeiba**	**4.30**	**224**	P	**Pn**	**08 02 35.0**	**+0.5**
DBBC				S	**Sn**	**08 03 20.4**	**-3.8**
HELC	**Santa Helena**	**4.55**	**211**	P	**Pn**	**08 02 39.9**	**+1.9**
HELC	**Santa Helena**	**4.55**	**211**	P	**Pn**	**08 02 39.6**	**+1.5**
HELC				S	**Sn**	**08 03 28.5**	**-2.1**
NORC	**Norcasia**	**4.83**	**200**	P	**Pn**	**08 02 42.3**	**+0.7**
NORC				S	**Sn**	**08 03 33.1**	**-3.8**
CBOC	**Ciudad Bolivar**	**5.08**	**214**	P	**Pn**	**08 02 46.7**	**+1.8**
	981nm14nn,0.5s						
CBOC				S	**Sn**	**08 03 43.5**	**+0.6**
	981nm14nn,0.5s						
GUY2C	**Guyana, Caldas**	**5.33**	**204**	P	**Pn**	**08 02 49.6**	**+1.0**
	445nm20nn,0.6s						
ROSC	**El Rosal**	**5.38**	**192**	P	**Pn**	**08 02 50.4**	**+1.3**
	13nm,0.8s						
PTAC	**Punta Ardita,**	**5.44**	**237**	P	**Pn**	**08 02 50.2**	**+0.6**
	3um50nm,0.5s						
NIZA	**Niza - Manizal**	**5.52**	**204**	P	**Pn**	**08 02 53.6**	**+2.6**
CVER	**Cruz Verde, Cu**	**5.64**	**189**	P	**Pn**	**08 02 54.9**	**+2.1**
	1um20nn,0.8s						
PLMC	**San Jos del P**	**6.03**	**211**	P	**Pn**	**08 02 59.5**	**+1.9**
ORTC	**Ortega, Tolima**	**6.51**	**198**	P	**Pn**	**08 03 03.9**	**-0.1**
	504nm10nn,0.7s						
PRAC	**Prado**	**6.59**	**195**	P	**Pn**	**08 03 07.2**	**+2.0**
PRAC	**Prado**	**6.59**	**195**	P	**Pn**	**08 03 06.7**	**+1.6**
	7.7nm,0.6s						
BCIP	**Isla Barro Col**	**6.62**	**262**	P	**Pn**	**08 03 06.0**	**+0.6**
	33nm,1.5s						
YOTC	**Yotoco, Valle**	**6.86**	**207**	P	**Pn**	**08 03 09.5**	**+0.7**
	17nm,0.6s						
URMC	**La Uribe, Meta**	**6.94**	**190**	P	**Pn**	**08 03 11.7**	**+1.9**
	5.7nm,0.9s						
AZU	**Azuero**	**7.37**	**252**	P	**Pn**	**08 03 16.2**	**+0.7**
	12nm,0.8s						
JAMC	**Jamundi, Valle**	**7.69**	**207**	P	**Pn**	**08 03 20.3**	**+0.3**
	7.0nm,1.5s						
POPC	**Popayan, Colom**	**8.30**	**205**	P	**Pn**	**08 03 27.8**	**-0.4**
	3.6nm,0.8s						
PRVC	**Isla de Provid**	**8.63**	**293**	P	**Pn**	**08 03 29.9**	**-2.4**
BBAC	**Balboa, Cauca**	**9.01**	**207**	P	**Pn**	**08 03 38.0**	**+0.3**
	3.9nm,1.8s						
MTDJ	**Mount Denham**	**9.08**	**333**	P	**Pn**	**08 03 39.8**	**+1.3**
	48nm,0.4s						
GTBY	**Guantanamo Bay**	**9.91**	**349**	P	**Pn**	**08 03 51.0**	**+1.5**

NOU ***13*** *08:08:12.9, 36.°74S×177.°56E, h232km, mb3.5/12, Off E. Coast of N. Island, N.Z.*
WEL ***13*** *08:08:14.1±0.7, 37.°5S±6.°×17.°8E±.°, h216km±7km, M3.1/31, ML3.1/8, MLv3.1/31, Error ellipse: s-maj=8.1km s-min=7.2km az=118.4, confirmed*

ISC 13 08:08:08.1±2.8, 36.°6S±0.°1×177.°69E±0.°09, h260km±13km, n97, σ1s87/125, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.12**	**154**	P	**Pn**	**08 08 45.9**	**+1.2**
MXZ	**Matakaoa Point**	**1.12**	**154**	P	**S**	**08 09 11.1**	**-2.7**
MXZ	**Matakaoa Point**	**1.12**	**154**	P	**Pn**	**08 08 46.0**	**+1.2**
MXZ				S	**S**	**08 09 10.9**	**-2.8**
HAZ	**Te Kaha**	**1.21**	**177**	P	**Pn**	**08 08 46.1**	**+0.9**
HAZ				S	**S**	**08 09 11.7**	**-2.9**
PKGZ	**Pakihiroa**	**1.35**	**167**	P	**Pn**	**08 08 48.1**	**+1.8**
PKGZ				S	**S**	**08 09 14.8**	**-1.6**
WMGZ	**Waiomatatini S**	**1.39**	**156**	P	**Pn**	**08 08 48.4**	**+2.0**
WMGZ				S	**S**	**08 09 14.6**	**-2.3**
RUGZ	**Raukumara Rang**	**1.41**	**180**	P	**Pn**	**08 08 47.4**	**+0.6**
OPRZ	**Ohinepanea**	**1.58**	**215**	P	**Pn**	**08 08 49.0**	**+1.2**
PUZ	**Puketiti**	**1.58**	**164**	P	**Pn**	**08 08 49.8**	**+1.9**
PUZ				S	**S**	**08 09 17.0**	**-2.5**
KUZ	**Kuaotunu**	**1.60**	**262**	P	**Pn**	**08 08 48.6**	**+0.6**
KUZ	**Kuaotunu**	**1.60**	**262**	P	**Pn**	**08 08 48.7**	**+0.6**
TWGZ	**Tauwhareparae**	**1.64**	**172**	P	**Pn**	**08 08 50.9**	**+2.5**
TWGZ				S	**S**	**08 09 20.0**	**-0.3**
TGRZ	**Tauranga**	**1.64**	**224**	P	**Pn**	**08 08 49.9**	**+1.6**
EDRZ	**Edgecumbe**	**1.73**	**206**	P	**Pn**	**08 08 50.2**	**+1.1**
URZ	**Urewera**	**1.77**	**195**	P	**Pn**	**08 08 50.8**	**+1.5**
URZ	**Urewera**	**1.77**	**195**	P	**Pn**	**08 08 50.7**	**+1.4**
URZ				S	**S**	**08 09 19.5**	**-2.5**
MWZ	**Matawai**	**1.78**	**184**	P	**Pn**	**08 08 51.4**	**+1.9**
MWZ				S	**S**	**08 09 21.2**	**-1.2**
TWKZ	**Te Karaka**	**1.89**	**176**	P	**Pn**	**08 08 52.4**	**+2.1**
TKGZ				S	**S**	**08 09 22.6**	**-1.2**
KMRZ	**Kaimai**	**1.90**	**227**	P	**Pn**	**08 08 52.6**	**+2.1**
RAGZ	**Rawiri**	**1.95**	**186**	P	**Pn**	**08 08 53.3**	**+2.3**
RAGZ				S	**S**	**08 09 25.0**	**+0.1**
CNGZ	**Carnagh Statio**	**1.97**	**168**	P	**Pn**	**08 08 53.9**	**+2.9**
MUGZ	**Murupara**	**2.06**	**201**	P	**Pn**	**08 08 53.4**	**+1.6**
MUGZ				S	**S**	**08 09 24.5**	**-2.0**
TOZ	**Tahuroa Road**	**2.11**	**235**	P	**Pn**	**08 08 54.5**	**+2.2**
RTZ	**Ruatahuna**	**2.14**	**195**	P	**Pn**	**08 08 54.0**	**

mb4.5/14,mB5.2/4,MLv4.8/13,Mw(mB)4.5/4
NEIC ***13*** *08:37:13.4±1.1,6.˚10S±0.˚06×130.˚6E±0.˚1,h120km±9km, mb4.4/10,Error ellipse: s-maj=18.2km s-min=4.0km az=113.0*

ISC 13 08:37:13.1±0.5,6.˚18S±0.˚06×130.˚67E±0.˚07,h124km,n60, σ1s12/57,mb4.2/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.82**	**335**	P	**Pn**	**08 37 46.0**	**+1.4**
BNDI	**Bandanaira**	**1.82**	**335**	P	**Pn**	**08 37 46.3**	**+1.7**
BNDI				S	**Sn**	**08 38 10.9**	**+2.3**
SAUI	**Saumlaki**	**1.90**	**161**		**Pn**	**08 37 47.4**	**+1.9**
SAUI	**Saumlaki**	**1.90**	**161**	P	**Pn**	**08 37 48.0**	**+2.5**
SAUI	**Saumlaki**	**1.90**	**161**	P	**Pn**	**08 37 47.6**	**+2.1**
MSAI	**Masohi**	**3.31**	**328**	P	**Pn**	**08 38 04.2**	**+0.6**
AAI	**Ambon**	**3.50**	**315**	P	**Pn**	**08 38 06.4**	**+0.3**
FAKI	**Fak Fak**	**3.60**	**26**		**Pn**	**08 38 06.5**	**-1.0**
FAKI	**Fak Fak**	**3.60**	**26**	P	**Pn**	**08 38 06.8**	**-0.7**
FAKI	**Fak Fak**	**3.60**	**26**	P	**Pn**	**08 38 06.8**	**-0.7**
KMPI	**Kaimana, Papua**	**3.92**	**51**	P	**Pn**	**08 38 12.1**	**+0.3**
NLAI	**Namlea**	**4.61**	**309**	P	**Pn**	**08 38 21.8**	**+0.9**
SWI	**Sorong** 23µm65nm,0.4s	**5.32**	**6**	P	**Pn**	**08 38 29.2**	**-1.2**
RKPI	**Ransiki, Papua**	**5.81**	**37**	P	**Pn**	**08 38 37.0**	**-0.1**
DRS	**Darwin Rock St**	**6.21**	**178**	P	**Pn**	**08 38 43.0**	**+0.5**
SANI	**Sanana**	**6.22**	**311**	P	**Pn**	**08 38 43.4**	**+0.8**
SANI	**Sanana** 0.2nm50nm,0.8s	**6.22**	**311**	P	**Pn**	**08 38 42.8**	**+0.2**
MTN	**Manton Dam**	**6.64**	**176**		**Pn**	**08 38 49.0**	**+0.8**
MTN	**Manton Dam**	**6.64**	**176**	P	**Pn**	**08 38 49.0**	**+0.8**
KDU	**Kakadu**	**6.70**	**165**	P	**Pn**	**08 38 48.6**	**-0.5**
SOEI	**Soe**	**7.27**	**240**		**Pn**	**08 38 56.8**	**0.0**
SOEI	**Soe**	**7.27**	**240**	P	**Pn**	**08 38 57.9**	**+1.0**
SOEI	**Soe** 0.2nm43nm,0.8s	**7.27**	**240**	P	**Pn**	**08 38 57.1**	**+0.2**
BATI	**Baumata** 65nm,0.6s	**8.01**	**240**	P	**Pn**	**08 39 07.6**	**+0.8**
EDFI	**Ende, Flores** 13nm,0.7s	**9.26**	**253**	P	**Pn**	**08 39 25.2**	**+1.4**
KNRA	**Kununurra**	**9.62**	**191**		**Pn**	**08 39 26.9**	**-1.7**
FITZ	**Fitzroy Crossi** 6.4nm,0.3s,baz=29,slow=11,SNR=91	**12.82**	**202**	Pn	Pn	08 40 07.2	-3.8
FITZ				Sn	Sn	08 42 19.6	-13
	5.9nm,0.3s,baz=278,slow=16,SNR=6.6 18nm,0.4s						
TWSI	**Tallwang, Sumb** 36nm,1.2s	**13.91**	**259**	P	**Pn**	**08 40 25.3**	**+0.3**
WB0	**Warramunga Arr**	**13.98**	**165**		**Pn**	**08 40 23.3**	**-2.7**
WRA	**Warramunga Arr** 1.4nm,0.3s,baz=354,slow=13,SNR=33	**14.14**	**166**	Pn	**Pn**	**08 40 24.7**	**-3.3**
WRA				Sn	Sn	08 42 51.0	-13
	2.9nm,0.3s,baz=336,slow=22,SNR=7.7 1.9nm,0.3s						
COEN	**Coen**	**14.53**	**123**	P	**Pn**	**08 40 33.5**	**+0.5**
COEN	**Coen**	**14.53**	**123**	P	**Pn**	**08 40 34.3**	**+1.3**
QIS	**Mount Isa**	**16.71**	**150**	P	**Pn**	**08 41 00.0**	**-0.1**
AS31	**Alice Springs**	**17.66**	**170**	P	**P**	**08 41 10.1**	**-0.6**
ASAR	**Alice Springs**	**17.66**	**170**	P	**P**	**08 41 10.4**	**-0.2**
ASAR	**Alice Springs** 0.7nm,0.3s,baz=341,slow=8.6,SNR=23	**17.66**	**170**	P	**P**	**08 41 10.6**	**-0.1**
ASAR				S	S	08 44 16.9	-11
	1.2nm,0.6s,baz=350,slow=26,SNR=4.9 1.4nm,0.5s						
AS01	**Alice Springs** 4.7nm,0.6s	**17.67**	**170**	P	**P**	**08 41 12.1**	**+1.3**
MTSU	**Mount Surprise**	**17.84**	**133**	P	**Pn**	**08 41 14.7**	**+0.9**
MBWA	**Marble Bar**	**18.28**	**214**	P	**P**	**08 41 17.5**	**+0.1**
MBWA				IAmb	IAmb	08 41 48.6	
	comp=Z,35nm,1.5s						
MBWA	**Marble Bar**	**18.28**	**214**	P	**P**	**08 41 17.3**	**-0.1**
GIRL	**Giralia**	**22.79**	**222**	P	**P**	**08 42 05.6**	**+0.2**
STKA	**Stephens Creek**	**27.53**	**160**	P	**P**	**08 42 48.5**	**+0.3**
STKA				IAmb	IAmb	08 43 22.2	
	comp=Z,25nm,0.9s						
NWAO	**Narrogin (SRO)**	**29.41**	**203**	P	**P**	**08 43 05.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**39.73**	**309**	P	**P**	**08 44 33.2**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=128,slow=8.3,SNR=5.8 comp=Z,1.3nm,0.3s						
USRK	**Ussuriysk Ar.**	**50.16**	**1**	LR	LR	09 06 48.6	
	comp=Z,805nm,22.0s,baz=122,slow=36						
SONM	**Songino Array**	**57.89**	**341**	P	**P**	**08 46 52.9**	**+0.7**
SONM				IAmb	IAmb	08 46 53.3	
	comp=Z,0.6nm,0.6s						
SONM	**Songino Array**	**57.89**	**341**	P	**P**	**08 46 52.1**	**0.0**
	comp=Z,0.7nm,0.5s,baz=160,slow=7.6,SNR=4.7 comp=Z,0.7nm,0.5s						
PETK	**Petropavlovsk-**	**63.34**	**18**	P	**P**	**08 47 29.0**	**+0.1**
MKAR	**Makanchi Array**	**67.91**	**326**		**P**	**08 47 58.2**	**-0.3**
MKAR	**Makanchi Array**	**67.91**	**326**	P	**P**	**08 47 58.8**	**+0.3**
	comp=Z,4.2nm,0.4s,baz=112,slow=8.4,SNR=63 comp=Z,4.2nm,0.4s						
MAKZ	**Makanchi**	**68.09**	**326**		**P**	**08 47 59.3**	**-0.3**
MAKZ				IAmb	IAmb	08 48 00.1	
	comp=Z,5.0nm,0.5s						
ARSB	**Arslanbob**	**70.74**	**318**	P	**P**	**08 48 15.5**	**-0.7**
ARSB				IAmb	IAmb	08 48 17.3	
	comp=Z,3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**71.15**	**333**	P	**P**	**08 48 17.4**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=151,slow=3.3,SNR=1.4 comp=Z,0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**72.17**	**328**	P	**P**	**08 48 24.4**	**0.0**
	comp=Z,1.3nm,0.4s,baz=130,slow=5.1,SNR=16 comp=Z,1.3nm,0.4s						
BVAR	**Borovoye Array**	**77.73**	**328**	P	**P**	**08 48 56.0**	**-0.3**
	comp=Z,0.8nm,0.4s comp=Z,0.8nm,0.4s						
AB31	**Akbulak array**	**82.29**	**321**	P	**P**	**08 49 20.4**	**-0.4**
ABKAR	**Akbulak array**	**82.29**	**321**	P	**P**	**08 49 19.6**	**-1.2**
L16K	**Owhat River**	**86.04**	**27**	P	**P**	**08 49 40.9**	**+1.3**
L16K				IAmb	IAmb	08 49 44.9	
	comp=Z,3.5nm,1.1s						
BELG	**Belogornoye**	**90.62**	**323**	LR	LR	09 33 52.8	
	comp=Z,879nm,21.9s,baz=59,slow=38						
KIRV	**Kirov**	**90.68**	**329**	LR	LR	09 33 00.7	
	comp=Z,594nm,21.2s,baz=46,slow=37						

VIE ***13*** *08:38:40.4±1.4,51.˚48N×16.˚34E,h0km,ml2.5/1,Error ellipse: s-maj=10.3km s-min=8.6km az=43.0 63 km NW of Wroclaw Suspected Mining induced.*
PRU ***13*** *08:38:44.3,51.˚36N×16.˚12E,h0km*

ISC 13 08:38:41.8±1.2,51.˚39N±0.˚06×16.˚10E±0.˚03,h0km,n19, σ0s72/34,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.56**	**167**	*e*Pg	**Pb**	**08 38 53.9**	**-0.7**
KSP				*e*Sg	**Sb**	**08 39 02.5**	**-0.7**
CHVC	**Chvalec**	**0.81**	**182**	*e*PG	**Pb**	**08 38 58.5**	**-0.2**
CHVC				*e*SG	**Sb**	**08 39 09.5**	**-0.7**
	comp=Z,13nm,0.4s						
OSTC	**Ostas**	**0.84**	**175**	*e*PG	**Pb**	**08 38 59.2**	**-0.1**
OSTC				*e*SG	**Sb**	**08 39 10.6**	**-0.6**
	comp=Z,12nm,0.3s						
UPC	**Upice**	**0.89**	**183**	*e*PG	**Pb**	**08 39 00.2**	**+0.1**
UPC				*e*SG	**Sb**	**08 39 12.4**	**-0.1**
	comp=Z,25nm,0.3s						
DPC	**Dobruska-Polom**	**1.05**	**172**	*e*PG	**Pb**	**08 39 02.8**	**-0.2**
DPC				*e*SG	**Sb**	**08 39 16.8**	**-0.5**
	comp=Z,9.1nm,0.6s						
PVCC	**Panska Ves**	**1.30**	**229**	*e*PG	**Pn**	**08 39 07.3**	**+0.1**
PVCC				*e*SG	**Sn**	**08 39 24.8**	**-0.4**
	comp=Z,39nm,0.4s						
KRLC	**Kraliky**	**1.39**	**161**	*e*PG	**Pb**	**08 39 08.9**	**+0.2**
KRLC				*e*SG	**Sn**	**08 39 27.9**	**+0.3**
	comp=Z,10nm,0.5s						
BRG	**Berggiesshubel**	**1.45**	**250**	Pg	**Pg**	**08 39 09.6**	**0.0**
BRG				Sg	**Sn**	**08 39 29.6**	**+0.6**
BRG				Amp		08 39 30.2	
	comp=Z,17nm,0.4s						
PRU	**Pruhonice**	**1.72**	**216**	*e*SG	**Sg**	**08 39 38.6**	**+1.6**
	comp=Z,14nm,0.4s						
STEB	**Steborice**	**1.81**	**143**	*e*PG	**Pb**	**08 39 15.2**	**-0.6**
STEB				*e*SG	**Sg**	**08 39 40.3**	**+0.4**
	comp=Z,10.0nm,0.4s						
MORC	**Moravsky Berou**	**1.86**	**150**	*e*PN	**Pn**	**08 39 14.0**	**-1.0**
MORC				*e*SG	**Sg**	**08 39 41.8**	**+0.2**
CLL	**Collm**	**1.94**	**269**	*e*Pn	**Pn**	**08 39 15.0**	**-1.0**
CLL				*e*Pg	**Pb**	**08 39 18.0**	**0.0**
CLL				*e*Sg	**Sb**	**08 39 43.0**	**+0.2**
	comp=Z,7.0nm,0.5s						
VRAC	**Vranov**	**2.11**	**171**	*e*PN	**Pn**	**08 39 17.8**	**-0.6**
VRAC				*e*SG	**Sg**	**08 39 50.0**	**+0.4**
TREC	**Trest**	**2.14**	**191**	*e*SG	**Sg**	**08 39 51.2**	**+0.8**
KRUC	**Moravsky**	**2.34**	**175**	*e*SG	**Sg**	**08 39 57.1**	**+0.1**
OJC	**Ojcow**	**2.63**	**115**	*e*Pg	**Pg**	**08 39 32.5**	**+0.4**
OJC				*e*Sg	**Sg**	**08 40 07.5**	**+1.3**
KHC	**Kasperske Hory**	**2.78**	**216**	*e*SG	**Sg**	**08 40 11.5**	**+0.4**
CKRC	**Cesky Krumlov** comp=Z,4.7nm,0.3s	**2.82**	**205**	*e*SG	**Sg**	**08 40 11.3**	**-1.1**
CONA	**Conrad Observa** comp=Z,0.1nm,0.1s	**3.47**	**183**	*i* Pn	**Pn**	**08 39 37.0**	**-0.1**
CONA				*i* Sn	**Sn**	**08 40 20.9**	**+1.9**
	comp=Z,2.0nm,0.3s						

IDC ***13*** *08:40:33.2±5.6,36.˚16N×140.˚21E,h67km±43km,mb3.4/6, mbtmp3.7/6,Error ellipse: s-maj=53.6km s-min=25.8km az=70.0*
JMA ***13*** *08:40:35.0±0.1,36.˚1N±0.˚3×140.˚0E±0.˚3,h66km,MV3.3/40, SW IBARAKI PREF*
JMA Felt I J1 at SW IBARAKI PREF .

ISC 13 08:40:34.4±0.9,36.˚08N±0.˚04×140.˚04E±0.˚05,h71km±7km, n31,σ0s80/39,mb3.6/6,10D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.20**	**40**	*i* P	**Pn**	**08 40 45.4**	**+0.3**
JYT				S	**Sn**	**08 40 53.0**	**+0.1**
JAG	**Ashikaga**	**0.59**	**307**	⇓*i*P	**Pn**	**08 40 48.4**	**+0.2**
JAG				⇓S	**Sn**	**08 40 58.2**	**-0.1**
JRY	**Ryogami san**	**0.92**	**267**	⇓*i*P	**Pn**	**08 40 52.4**	**+0.3**
JRY				⇓S	**Sn**	**08 41 05.1**	**0.0**
JKT	**Katashina**	**0.94**	**317**	⇓*i*P	**Pn**	**08 40 52.3**	**+0.1**
JKT				⇓S	**Sn**	**08 41 05.6**	**+0.1**
JOD2	**Odawara 2**	**1.12**	**224**	⇓*i*P	**Pn**	**08 40 54.7**	**+0.2**
JOD2				⇓S	**Sn**	**08 41 09.1**	**-0.3**
BSO3	**Boso 3**	**1.33**	**163**	P	**Pn**	**08 40 57.2**	**+0.3**
JYN	**Shimob**	**1.34**	**245**	⇓*i*P	**Pn**	**08 40 58.1**	**+0.7**
JYN				⇓S	**Sn**	**08 41 15.0**	**+0.3**
JFY	**Yanaizu**	**1.35**	**349**	P	**Pn**	**08 40 58.0**	**+0.5**
JUON	**Uonuma**	**1.38**	**325**	P	**Pn**	**08 40 58.1**	**+0.3**
JOTO	**OTAMA OYAMA**	**1.50**	**9**	P	**Pn**	**08 41 00.2**	**+0.7**
JOTO				S	**Sn**	**08 41 18.9**	**+0.6**
MJAR	**Matsushiro Arr** 44nm,0.5s,baz=90,slow=13,SNR=239	**1.55**	**288**	P	**Pn**	**08 41 00.1**	**0.0**
MJAR				S	**Sn**	**08 41 19.8**	**+0.4**
	25nm,0.4s,baz=350,slow=17,SNR=4.3						
MAJO	**Matsushiro**	**1.55**	**288**	P	**Pn**	**08 41 00.8**	**+0.7**
MAT	**Matsushiro**	**1.55**	**288**	*i* P	**Pn**	**08 41 00.8**	**+0.8**
JMM	**Marumori**	**1.89**	**18**	P	**Pn**	**08 41 05.1**	**+0.6**
JMM	**Marumori**	**1.89**	**18**	S	**Sn**	**08 41 28.9**	**+1.5**
JGF	**Kuroka**	**2.23**	**258**	P	**Pn**	**08 41 10.4**	**+1.2**
JGF	**Kuroka**	**2.23**	**258**	S	**Sn**	**08 41 37.8**	**+2.0**
JSD	**Sado**	**2.42**	**325**	P	**Pn**	**08 41 12.3**	**+0.6**
INU	**Inuyama**	**2.56**	**254**	P	**Pn**	**08 41 14.8**	**+1.1**
JHJ2	**Mitsune**	**2.96**	**184**	P	**Pn**	**08 41 19.7**	**+0.6**
JHJ2	**Mitsune**	**2.96**	**184**	S	**Sn**	**08 41 55.0**	**+1.4**
JTM	**Tenmabayashi**	**4.77**	**9**	P	**Pn**	**08 41 45.4**	**+1.6**
JMN	**Monobe**	**5.58**	**247**	P	**Pn**	**08 41 55.6**	**+0.8**
ERM	**Erimo**	**6.41**	**21**	P	**Pn**	**08 42 06.8**	**+0.7**
MKAR	**Makanchi Array** 0.9nm,0.7s,baz=87,slow=11,SNR=3.6 0.9nm,0.7s	**43.70**	**303**	P	**P**	**08 48 32.5**	**+0.1**
KURBB	**Kurchatov Arra** 0.9nm,0.5s,baz=84,slow=7.6,SNR=6.8 0.9nm,0.5s	**45.72**	**309**	P	**P**	**08 48 47.9**	**-0.5**
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=3.5,slow=7.3,SNR=5.0 0.3nm,0.5s	**55.97**	**186**	P	**P**	**08 50 04.9**	**-0.7**
FINES	**FINESS Array B** 0.6nm,0.9s,baz=50,slow=7.2,SNR=1.2 0.6nm,0.9s	**69.14**	**332**	P	**P**	**08 51 32.0**	**-0.8**
HFS	**Hagfors** 0.5nm,0.6s,baz=12,slow=3.4,SNR=4.2 0.5nm,0.6s	**74.50**	**335**	P	**P**	**08 52 03.9**	**-1.1**
NB2	**NORSAR Subarra** comp=Z,0.3nm,0.5s,baz=42,slow=5.9	**74.63**	**337**	P	**P**	**08 52 05.2**	**-0.6**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.5s,baz=39,slow=5.8,SNR=3.7 comp=Z,0.4nm,0.5s	**74.63**	**337**	P	**P**	**08 52 05.2**	**-0.6**

IDC ***13*** *08:57:02.0±0.8,10.˚17N×125.˚94E,h42km±7km,mb3.6/11, mbtmp3.9/12,ML4.6/1,Error ellipse: s-maj=34.8km s-min=13.2km az=74.0*

ISC 13 08:57:02.9±0.7,10.˚20N±0.˚09×125.˚9E±0.˚2,h54km,n14, σ1s38/16,mb4.0/13,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)** 80nm,0.3s,baz=49,slow=6.0,SNR=5.0 184nm,0.3s	**3.13**	**186**	P	**Pn**	**08 57 49.7**	**-0.2**
KSRS	**Korea Array** 0.2nm,0.4s,baz=182,slow=11,SNR=1.5	**27.19**	**4**	P	**P**	**09 02 43.4**	**+1.9**
KSRS				pP	**pP**	**09 02 54.0**	**-0.9**
	1.4nm,0.9s,baz=186,slow=11,SNR=3.5 0.2nm,0.4s						
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=95,slow=7.6,SNR=4.1 0.9nm,0.3s	**27.36**	**290**	P	**P**	**09 02 45.0**	**+1.7**
WRA	**Warramunga Arr** 1.6nm,0.6s,baz=342,slow=9.3,SNR=19 1.6nm,0.6s	**31.09**	**165**	P	**P**	**09 03 15.1**	**-1.2**
USRK	**Ussuriysk Ar.** 3.1nm,0.7s,baz=160,slow=6.1,SNR=5.3	**34.28**	**8**	pP	pP	09 03 56.5	-1.0
ASAR	**Alice Springs** 2.1nm,0.3s,baz=350,slow=7.1,SNR=113 2.1nm,0.3s	**34.56**	**167**	P	**P**	**09 03 46.4**	**-0.2**
SONM	**Songino Array** 0.5nm,0.7s,baz=116,slow=3.4,SNR=3.8	**40.96**	**340**	P	**P**	**09 04 41.1**	**+0.6**
SONM				pP	**pP**	**09 04 54.0**	**-0.5**
	0.4nm,0.5s,baz=154,slow=6.7,SNR=2.8 0.5nm,0.7s						
STKA	**Stephens Creek** 1.8nm,0.4s,baz=339,slow=11,SNR=5.3 1.8nm,0.4s	**44.45**	**161**	P	**P**	**09 05 09.1**	**+0.3**
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=116,slow=7.6,SNR=6.5	**51.87**	**323**	P	**P**	**09 06 05.8**	**-0.1**
MKAR				pP	**pP**	**09 06 18.1**	**-2.3**
	2.4nm,0.7s,baz=126,slow=7.6,SNR=17 0.6nm,0.7s						
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=106,slow=11,SNR=1.4 0.6nm,0.4s	**54.52**	**332**	P	**P**	**09 06 25.4**	**+0.2**
KURBB	**Kurchatov Arra** 0.7nm,0.5s,baz=126,slow=7.0,SNR=5.8	**55.93**	**326**	P	**P**	**09 06 35.0**	**-0.4**
KURBB				pP	**pP**	**09 06 47.2**	**-2.9**
	2.0nm,0.8s,baz=127,slow=6.9,SNR=6.4 0.7nm,0.5s						
NRIK	**Noril'sk** 1.5nm,0.3s,baz=112,slow=3.0,SNR=3.2	**63.99**	**346**	pP	pP	09 07 42.3	-2.9
ILAR	**Eielson Array** 0.4nm,0.7s,baz=247,slow=5.1,SNR=4.3 0.4nm,0.7s	**79.65**	**26**	P	**P**	**09 09 04.4**	**0.0**
VNDA	**Vanda** 0.3nm,0.6s,baz=303,slow=5.6,SNR=2.2 0.3nm,0.6s	**89.91**	**173**	P	**P**	**09 09 56.8**	**+1.2**

ANF ***13*** *08:59:05.2±0.6,56.˚62N×121.˚53W,h0km,Error ellipse: s-maj=6.0km s-min=3.3km az=122.0*
IDC ***13*** *08:59:10.0±0.7,56.˚88N×121.˚96W,h0km,mb4.0/5, mbtmp3.7/11,ML3.5/6,Error ellipse: s-maj=11.1km s-min=8.3km az=132.0*
PGC ***13*** *08:59:11.5±0.7,56.˚81N×122.˚14W,h8km,ML3.9/19,99km northwest of Fort St. John, Bc British Columbia, Canada*

ISC 13 08:59:09.8±1.3,56.˚84N±0.˚02×122.˚31W±0.˚03,h5km±9km, n152,σ2s15/193,mb4.1/4,British Columbia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BMTB	**Bullhead Mount**	**0.80**	**173**	P	**Pg**	**08 59 25.5**	**+0.4**
BMTB				S	**Sg**	**08 59 36.0**	**+0.5**
FNSB	**Fort Nelson**	**1.99**	**354**	P	**Pn**	**08 59 45.8**	**+1.7**
FNSB				Sn	**Sb**	**09 00 11.8**	**+0.3**
WTMTA	**White Mountain**	**2.06**	**123**	P	**Pn**	**08 59 44.6**	**-0.5**
WTMTA				Sn	**Sn**	**09 00 09.6**	**-1.6**
TOAD	**Toad River Com**	**2.55**	**323**	P	**Pn**	**08 59 54.1**	**+2.2**
TOAD	**Toad River Com** baz=137,SNR=33	**2.55**	**323**	P	**Pn**	**08 59 53.6**	**+1.7**
TOAD				S	**Sg**	**09 00 31.2**	**-0.5**
	baz=137						
FSJB	**Fort St James**	**2.64**	**206**	P	**Pn**	**08 59 54.5**	**+1.5**
BDMTA	**Bald Mountain**	**2.79**	**135**	Pn	**Pn**	**08 59 54.7**	**-0.4**
BDMTA				Sn	**Sn**	**09 00 26.0**	**-3.2**
LIRD	**Liard River Hi** baz=137	**3.27**	**324**	P	**Pn**	**09 00 03.6**	**+1.9**
LIRD				Sb	**Sg**	**09 00 57.6**	**+2.9**
	baz=137						
KOTAN	**Kotaneelee Air** baz=158,SNR=7.7	**3.43**	**345**	P	**Pn**	**09 00 04.1**	**+0.3**
KOTAN				Sb	**Sg**	**09 01 00.4**	**+0.7**
	baz=158						
STPRA	**Salt Prairie L**	**3.80**	**105**	Pn	**Pn**	**09 00 08.2**	**-0.8**
STPRA				Sn	**Sn**	**09 00 50.6**	**-3.4**
STPRA				Sg	**Sb**	**09 01 06.7**	**+3.0**
BRLDA	**Berland Lookou**	**3.92**	**133**	Pn	**Pn**	**09 00 10.4**	**-0.3**
BRLDA				Sn	**Sn**	**09 00 54.5**	**-2.6**
BRLDA				Sg	**Sb**	**09 01 09.6**	**+2.5**
T35M	**Bob Quinn**	**4.36**	**275**	Pn	**Pn**	**09 00 18.7**	**+2.1**
T35M				Sg	**Sg**	**09 01 29.3**	**-0.3**
T35M	**Bob Quinn** baz=91	**4.36**	**275**	P	**Pn**	**09 00 18.9**	**+2.3**
T35M				Sb	**Sg**	**09 01 31.2**	**+1.6**
	baz=91						
U35K	**Hyder**	**4.39**	**261**	Pn	**Pn**	**09 00 18.2**	**+1.2**
U35K	**Hyder** baz=78	**4.39**	**261**	Sb	**Sg**	**09 01 31.1**	**+0.4**
DLBC	**Dease Lake** 0.1nm,0.3s,baz=76,slow=12,SNR=8.3	**4.45**	**294**	Pn	**Pn**	**09 00 20.5**	**+2.5**
DLBC				Pg	**Pg**	**09 00 33.8**	**-1.1**
	0.7nm,0.3s,baz=89,slow=12,SNR=32						
DLBC				Lg	Lg	09 01 34.0	
	0.3nm,0.3s,baz=133,slow=24,SNR=5.8						
DLBC	**Dease Lake** baz=108,SNR=17	**4.45**	**294**	P	**Pn**	**09 00 20.2**	**+2.3**
DLBC				Sb	**Sg**	**09 01 35.0**	**+2.5**
	baz=108						
KITB	**Kitimat**	**4.54**	**235**	Pn	**Pn**	**09 00 21.1**	**+2.0**
KITB				Sn	**Sn**	**09 01 11.7**	**-0.6**
MBLB	**Minette Bay Lo**	**4.56**	**235**	Pn	**Pn**	**09 00 20.6**	**+1.2**
WTLY	**Watson Lake, Y**	**4.73**	**317**	Pn	**Pn**	**09 00 22.8**	**+1.1**
WTLY				Sg	**Sg**	**09 01 41.4**	**-0.2**
WTLY	**Watson Lake, Y** baz=129	**4.73**	**317**	P	**Pn**	**09 00 23.1**	**+1.3**
WTLY				Sb	**Sg**	**09 01 41.9**	**+0.4**
	baz=129						
S34M	**Telegraph Cree**	**4.90**	**286**	Sg	**Sg**	**09 01 45.0**	**-1.8**
S34M	**Telegraph Cree** baz=100	**4.90**	**286**	P	**Pn**	**09 00 25.9**	**+1.9**
S34M				Sb	**Sg**	**09 01 49.5**	**+2.6**
	baz=100						
RUBB	**Prince Rupert**	**5.16**	**244**	Pn	**Pn**	**09 00 29.5**	**+1.8**
RUBB				Sn	**Sn**	**09 01 27.4**	**-0.1**
RUBB				Sg	**Sg**	**09 01 54.5**	**-1.0**
BUTB	**Butedale**	**5.19**	**226**	Pn	**Pn**	**09 00 29.6**	**+1.5**
BUTB				Sn	**Sn**	**09 01 26.8**	**-1.5**
BUTB				Sg	**Sg**	**09 01 53.5**	**-2.7**
R33M	**Jennings River** baz=115,SNR=10	**5.26**	**303**	P	**Pn**	**09 00 31.0**	**+1.9**
R33M				Sb	**Sg**	**09 01 59.5**	**+1.0**
	baz=115						
GRIB	**Gribbell Islan**	**5.26**	**231**	Pn	**Pn**	**09 00 32.2**	**+1.2**
GRIB				Sg	**Sg**	**09 01 55.8**	**-2.9**
GRNB	**Grenville Isla**	**5.30**	**239**	Pn	**Pn**	**09 00 31.0**	**+1.5**
GRNB				Sg	**Sg**	**09 01 59.5**	**-0.2**
V35K	**Ketchikan**	**5.43**	**258**	Pn	**Pn**	**09 00 33.6**	**+2.3**
V35K				Sn	**Sn**	**09 01 32.4**	**-1.7**
V35K	**Ketchikan** baz=73	**5.43**	**258**	Sb	**Sg**	**09 02 01.3**	**-2.6**
WRAK	**Wrangell Islan**	**5.56**	**270**	Pn	**Pn**	**09 00 35.0**	**+1.9**
WRAK	**Wrangell Islan** baz=84,SNR=6.2	**5.56**	**270**	P	**Pn**	**09 00 34.7**	**+1.6**
WRAK				Sb	**Sg**	**09 02 07.3**	**-0.8**
	baz=84						
TGTN	**Hyland Airport**	**5.61**	**329**	Sg	**Sg**	**09 02 07.7**	**-2.0**
TGTN	**Hyland Airport** baz=142,SNR=8.1	**5.61**	**329**	P	**Pn**	**09 00 34.9**	**+1.0**
TGTN				Sb	**Sg**	**09 02 07.8**	**-2.0**
	baz=142						
Q32M	**Nakina River**	**5.72**	**296**	Pn	**Pn**	**09 00 36.6**	**+1.1**
Q32M				Sn	**Sn**	**09 01 42.3**	**+0.6**
Q32M	**Nakina River** baz=108	**5.72**	**296**	P	**Pn**	**09 00 36.9**	**+1.4**
Q32M				Sb	**Sg**	**09 02 13.7**	**+0.3**
	baz=108						
BBB	**Bella Bella** 0.6nm,0.3s,baz=42,slow=6.4,SNR=20	**5.76**	**218**	Pn	**Pn**	**09 00 37.9**	**+2.1**
BBB				Sn	**Sn**	**09 01 43.7**	**+1.5**
	1.1nm,0.3s,baz=107,slow=14,SNR=3.5						
BBB				Lg	Lg	09 02 15.7	
	1.5nm,0.3s,baz=74,slow=19,SNR=3.7 1.9nm,0.4s						
BBB	**Bella Bella**	**5.76**	**218**	Pn	**Pn**	**09 00 37.2**	**+1.4**
BBB				Sg	**Sg**	**09 02 13.0**	**-1.5**
BNAB	**Bonilla**	**5.83**	**238**	Sg	**Sg**	**09 02 13.5**	**-3.4**
U33K	**Whale Pass**	**6.04**	**268**	Pn	**Pn**	**09 00 41.0**	**+1.4**
U33K	**Whale Pass** baz=81	**6.04**	**268**	P	**Pn**	**09 00 40.8**	**+1.2**
U33K				Sb	**Sg**	**09 02 21.9**	**-1.6**
	baz=81						
CRAG	**Craig** baz=75	**6.20**	**262**	P	**Pn**	**09 00 42.9**	**+1.0**
CRAG				Sb	**Sg**	**09 02 25.5**	**-3.2**
	baz=75						
LLLB	**Lillooet**	**6.25**	**178**	Pn	**Pn**	**09 00 43.6**	**+1.1**

WHY			Sn	**Sn**	09 02 25.7	-1.5
WHY	**Whitehorse**	**7.58 306**	Sb	**Sg**	**09 03 08.0**	**-4.8**
	baz=114					
S31K	**Pelican**	**7.61 284**	Sb	**Sg**	**09 03 07.4**	**-6.4**
	baz=93					
FARO	**Faro, Yukon**	**7.79 319**	Sb	**Sg**	**09 03 13.5**	**-5.9**
	baz=128					
PLBC	**Pleasant Camp**	**7.89 295**	P	**Pn**	**09 01 07.6**	**+2.6**
	baz=104					
M31M	**Drury Creek, Y**	**8.16 316**	P	**Pn**	**09 01 11.8**	**+3.1**
	baz=125					
O30N	**Mendenhall**	**8.17 305**	P	**Pn**	**09 01 11.1**	**+2.2**
	baz=112					
N31M	**Braeburn, Yuko**	**8.34 310**	P	**Pn**	**09 01 14.3**	**+3.1**
	baz=117					
P30M	**Million Dollar**	**8.35 299**	P	**Pn**	**09 01 14.5**	**+3.0**
	baz=107					
HYT	**Haines Junctio**	**8.83 303**	P	**Pn**	**09 01 21.0**	**+2.9**
	baz=110					
HSPGA	**Hill Springs,**	**9.12 142**	Pn	**Pn**	**09 01 19.9**	**-2.1**
NEW	**Newport**	**9.15 158**	Lg	Lg	09 03 57.5	
	0.2nm,0.3s,baz=278,slow=22,SNR=4.6					
M30M	**Minto, Yukon**	**9.30 314**	Pn	**Pn**	**09 01 26.0**	**+1.6**
M30M	**Minto, Yukon**	**9.30 314**	P	**Pn**	**09 01 25.7**	**+1.3**
	baz=121					
MAYO	**Mayo, Yukon**	**9.55 321**	P	**Pn**	**09 01 28.8**	**+0.9**
	baz=128					
MKRVA	**Milk River, Al**	**9.97 136**	Pn	**Pn**	**09 01 31.6**	**-2.2**
L29M	**L29M**	**10.10 315**	Pn	**Pn**	**09 01 36.7**	**+1.3**
L29M	**L29M**	**10.10 315**	P	**Pn**	**09 01 37.5**	**+2.2**
	baz=120					
J30M	**Hart River**	**10.34 324**	Pn	**Pn**	**09 01 40.2**	**+1.5**
J30M	**Hart River**	**10.34 324**	P	**Pn**	**09 01 40.9**	**+2.2**
	baz=131					
H31M	**Peel River**	**10.67 332**	Pn	**Pn**	**09 01 43.1**	**0.0**
I30M	**Mount Dempster**	**10.80 327**	Pn	**Pn**	**09 01 46.1**	**+1.1**
I30M	**Mount Dempster**	**10.80 327**	P	**Pn**	**09 01 46.5**	**+1.5**
	baz=133,SNR=8.7					
FFC	**Flin Flon**	**11.63 92**	Pn	**Pn**	**09 01 54.0**	**-2.3**
F31M	**Tsiigehtchic**	**11.88 338**	Pn	**Pn**	**09 02 00.7**	**+1.1**
G30M	**tAoh Zrail Nji**	**12.06 333**	Pn	**Pn**	**09 02 02.6**	**+0.4**
I28M	**Miner Creek**	**12.08 323**	Pn	**Pn**	**09 02 02.7**	**+0.3**
H29M	**Whitestone**	**12.09 328**	Pn	**Pn**	**09 02 04.3**	**+1.8**
F30M	**Barrier River**	**12.46 336**	Pn	**Pn**	**09 02 07.3**	**-0.2**
F30M	**Barrier River**	**12.46 336**	P	**Pn**	**09 02 09.3**	**+1.7**
	baz=142					
G29M	**Pine Creek**	**12.48 330**	Pn	**Pn**	**09 02 07.0**	**-0.9**
G29M	**Pine Creek**	**12.48 330**	P	**Pn**	**09 02 09.4**	**+1.6**
	baz=135					
INK	**Inuvik**	**12.58 341**	Pn	**Pn**	**09 02 08.9**	**-0.2**
	0.5nm,0.3s,baz=154,slow=11,SNR=14					
	2.1nm,0.5s					
INK	**Inuvik**	**12.58 341**	Pn	**Pn**	**09 02 08.2**	**-1.0**
INK	**Inuvik**	**12.58 341**	P	**Pn**	**09 02 09.7**	**+0.5**
	baz=149					
I27K	**Kandik River**	**12.74 321**	Pn	**Pn**	**09 02 12.4**	**+1.0**
I27K	**Kandik River**	**12.74 321**	P	**Pn**	**09 02 14.2**	**+2.8**
	baz=124					
SCRK	**Sand Creek**	**12.83 313**	P	**Pn**	**09 02 15.7**	**+3.0**
	baz=113					
H27K	**Steamboat Moun**	**13.07 324**	Pn	**Pn**	**09 02 17.0**	**+1.0**
H27K	**Steamboat Moun**	**13.07 324**	P	**Pn**	**09 02 18.6**	**+2.7**
	baz=126					
G27K	**Doyon Strip**	**13.47 326**	P	**Pn**	**09 02 23.7**	**+2.4**
	baz=128					
F28M	**Old Crow**	**13.49 330**	Pn	**Pn**	**09 02 23.1**	**+1.5**
F28M	**Old Crow**	**13.49 330**	P	**Pn**	**09 02 23.8**	**+2.2**
	baz=134					
E29M	**Blow River**	**13.57 335**	Pn	**Pn**	**09 02 23.2**	**+0.6**
E29M	**Blow River**	**13.57 335**	P	**Pn**	**09 02 24.4**	**+1.8**
	baz=140					
E28M	**Babbage River**	**14.12 334**	Pn	**Pn**	**09 02 30.8**	**+0.6**
E28M	**Babbage River**	**14.12 334**	P	**Pn**	**09 02 31.0**	**+0.8**
	baz=137					
G26K	**Porcupine Rive**	**14.23 324**	Pn	**Pn**	**09 02 32.7**	**+1.0**
G26K	**Porcupine Rive**	**14.23 324**	P	**Pn**	**09 02 34.6**	**+3.0**
	baz=124					
ILAR	**Eielson Array**	**14.30 314**	Pn	**Pn**	**09 02 32.3**	**-0.4**
	0.2nm,0.7s,baz=131,slow=9.7,SNR=2.5					
ILAR			Lg	Lg	09 06 42.6	
	baz=104,slow=27,SNR=5.5					
E27K	**Coleen River**	**14.36 330**	P	**Pn**	**09 02 35.9**	**+2.4**
	baz=132					
A36M	**Sachs Harbour**	**15.26 357**	P	**Pn**	**09 02 45.4**	**-0.2**
PDAR	**Pinedale Array**	**16.27 145**	Pn	**Pn**	**09 02 57.1**	**-2.0**
	baz=350,slow=8.0,SNR=3.8					
	0.4nm,0.9s					
J20K	**Nowinta River**	**17.15 308**	P	**Pn**	**09 03 11.3**	**+1.4**
	baz=100					
L19K	**White Mountain**	**17.23 302**	P	**P**	**09 03 12.8**	**+0.3**
	baz=93					
N18K	**Kilae Creek**	**17.71 297**	P	**P**	**09 03 19.6**	**+1.7**
	baz=88					
H20K	**Anotleneega Mo**	**17.74 313**	P	**P**	**09 03 19.4**	**+1.3**
	baz=103					
J19K	**Poorman**	**17.76 307**	P	**Pn**	**09 03 18.2**	**+0.7**
	baz=98					
J18K	**Innoko River**	**18.18 306**	P	**P**	**09 03 24.5**	**+1.5**
	baz=95,SNR=12					
Q16K	**King Salmon**	**18.30 290**	P	**Pn**	**09 03 24.8**	**+0.7**
	baz=81					
E21K	**Killik River**	**18.35 322**	P	**Pn**	**09 03 24.4**	**-0.3**
	baz=113					
H19K	**Roundabout Mou**	**18.38 312**	P	**P**	**09 03 26.6**	**+1.5**
	baz=102,SNR=5.8					
NVAR	**Mina Array Bea**	**18.61 170**	P	**Pn**	**09 03 30.2**	**+2.0**
	0.1nm,0.3s,baz=341,slow=11,SNR=6.9					
	1.0nm,0.8s					
L17K	**Donlin**	**18.84 301**	P	**Pn**	**09 03 33.2**	**+2.5**
	baz=90					
J17K	**VABM Dome**	**19.23 305**	P	**Pn**	**09 03 37.9**	**+2.5**
	baz=93					
RES	**Resolute Bay**	**20.76 20**	P	**P**	**09 03 51.3**	**+0.2**
	5.6nm,0.6s,baz=217,slow=13,SNR=8.8					
	5.6nm,0.6s					
RES	**Resolute Bay**	**20.76 20**	P	**P**	**09 03 51.2**	**+0.1**
C18K	**Utukok River**	**20.92 320**	P	Pn	09 03 56.1	+0.7
	baz=104					
L14K	**Kuka Creek**	**20.97 299**	P	Pn	09 03 55.7	-0.2
	baz=84					
NB2	**NORSAR Subarra**	**56.93 25**	P	**P**	**09 08 56.7**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=328,slow=7.4					
NOA	**NORSAR Array B**	**56.93 25**	P	**P**	**09 08 56.2**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=328,slow=7.2,SNR=5.3					
	comp=Z,0.9nm,0.7s					
HFS	**Hagfors**	**58.30 24**	P	**P**	**09 09 06.1**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=337,slow=6.4,SNR=8.9					
	comp=Z,1.7nm,0.6s					
FINES	**FINESS Array B**	**59.48 17**	P	**P**	**09 09 14.2**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=352,slow=8.2,SNR=14					
	comp=Z,2.2nm,0.7s					
KURBB	**Kurchatov Arra**	**71.53 346**	P	**P**	**09 10 30.7**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=7.2,slow=5.5,SNR=1.3					
	comp=Z,0.1nm,0.3s					
QSPA	**South Pole Qui**	**146.66 180**	PKPbc	**PKPab**	**09 18 52.8**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=190,slow=1.3,SNR=3.9					
SNAA	**Sanae**	**151.41 145**	PKPbc	**PKPbc**	**09 19 02.2**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=131,slow=0.9,SNR=6.3					

*ISK **13** 08:59:37.7, 38.58N×25.15E, h17km, ML2.5/11*
*ATH **13** 08:59:42.3, 38.64N×25.51E, h16km±4km, ML2.1/4,*
Manual Solution by S.Koutrakis First location: 2019/07/13 09:00:53, This location: 2019/07/13 22:34:34 ML
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km

ISC 13 08:59:42.7±1.2, 38.67N±0.04×25.51E±0.04, h22km±9km, n17, σ1°01/22, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOS	**Chios island**	**0.51**	**123**	Pg	**Pb**	**08 59 52.5**	**-0.6**
CHOS				Sg	**Sb**	**09 00 03.2**	**+3.1**
CHOS	**Chios island**	**0.51**	**123**	P	**Pb**	**08 59 52.4**	**-0.6**
CHOS				S	**Sb**	**08 59 59.3**	**-0.8**
SIGR	**SIGRI**	**0.61**	**26**	Pg	**Pb**	**08 59 54.4**	**-0.3**
SIGR	**SIGRI**	**0.61**	**26**	P	**Pb**	**08 59 54.0**	**-0.7**
SIGR				S	**Sb**	**09 00 03.2**	**+0.4**
URLA	**Izmir**	**0.91**	**109**	Pn	**Pb**	**08 59 59.6**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.93**	**31**	Pn	**Pb**	**08 59 59.7**	**-0.3**
KARY	**Karystos**	**1.05**	**233**	P	**Pn**	**09 00 01.8**	**-0.3**
KARY				S	**Sb**	**09 00 15.0**	**-0.6**
KYMI	**Kymi, Euboea I**	**1.10**	**269**	P	**Pn**	**09 00 03.2**	**+0.5**
BOZC	**Bozcaada**	**1.25**	**20**	Pn	**Pn**	**09 00 04.0**	**-0.8**
LIA	**Limnos Island**	**1.25**	**348**	P	**Pn**	**09 00 05.9**	**+1.0**
LIA				S	**Sn**	**09 00 22.2**	**+1.1**
EZN	**Ezine**	**1.32**	**28**	Pn	**Pn**	**09 00 05.3**	**-0.5**
GADA	**Gvkgeada**	**1.55**	**11**	Pn	**Pn**	**09 00 07.6**	**-1.4**
SMTH	**Samothraki Isl**	**1.80**	**1**	P	**Pn**	**09 00 13.0**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.88**	**23**	Pn	**Pn**	**09 00 13.1**	**-0.4**
LPK	**Lapseki**	**1.96**	**29**	Pn	**Pn**	**09 00 14.1**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**2.01**	**110**	Pn	**Pn**	**09 00 15.1**	**-0.2**
ODEM	**Odemis-Izmir**	**2.05**	**100**	Pn	**Pn**	**09 00 16.1**	**+0.2**

*SNET **13** 09:11:53.7±1.1, 13.12N×89.53W, h48km, ML3.2*
*CATAC **13** 09:11:53.5±0.5, 13.4N×90W±, h30km±4km, M3.2/19, MLv3.2/19, Error ellipse: s-maj=8.1km s-min=4.4km az=24.7, confirmed*
*GCG **13** 09:11:55.0±0.8, 13.25N×89.54W, h50km±7km, MD3.7, ML3.0*

ISC 13 09:11:54.3±1.7, 13.14N±0.08×89.54W±0.05, h48km±12km, n56, σ0°65/71, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.40**	**32**	*e*P	**Pn**	**09 12 04.0**	**-0.3**
LALI	**Alcalda de L**	**0.40**	**32**	*i* P	**Pn**	**09 12 04.0**	**-0.3**
LALI				*i* S	**Sn**	**09 12 10.3**	**-1.1**
LALI				IAML		09 12 15.2	
	comp=E,194nm,0.4s						
LALI	**Alcalda de L**	**0.40**	**32**	P	**Pn**	**09 12 04.2**	**-0.1**
LALI	**Alcalda de L**	**0.40**	**32**	S	**Sn**	**09 12 12.5**	**+1.1**
JAYA	**Jayaque - finc**	**0.52**	**10**	*e*P	**Pn**	**09 12 05.3**	**-0.5**
JAYA				*e*S	**Sn**	**09 12 13.8**	**-0.2**
JAYA	**Jayaque - finc**	**0.52**	**10**	*i* P	**Pn**	**09 12 05.3**	**-0.5**
JAYA				*i* S	**Sn**	**09 12 13.6**	**-0.4**
JAYA	**Jayaque - finc**	**0.52**	**10**	P	**Pn**	**09 12 05.4**	**-0.5**
PMON	**Piamonte**	**0.61**	**21**	P	**Pn**	**09 12 06.5**	**-0.3**
PMON	**Piamonte**	**0.61**	**21**	S	**Sn**	**09 12 16.5**	**+0.6**
LOMA	**Loma Larga**	**0.61**	**36**	*e*P	**Pn**	**09 12 06.4**	**-0.5**
LOMA				*e*S	**Sn**	**09 12 16.6**	**+0.6**
LOMA	**Loma Larga**	**0.61**	**36**	P	**Pn**	**09 12 06.5**	**-0.5**
BOQS	**Boqueron**	**0.64**	**23**	*e*P	**Pn**	**09 12 07.2**	**-0.2**
BOQS				*e*S	**Sn**	**09 12 17.6**	**+0.8**
UEES	**Universidad Ev**	**0.64**	**27**	P	**Pn**	**09 12 07.0**	**-0.3**
UEES	**Universidad Ev**	**0.64**	**27**	S	**Sn**	**09 12 17.2**	**+0.5**
UTEC	**Universidad Te**	**0.64**	**31**	S	**Sn**	**09 12 17.3**	**+0.6**
UTEC	**Universidad Te**	**0.64**	**31**	P	**Pn**	**09 12 06.9**	**-0.4**
LFRS	**El Faro**	**0.67**	**44**	*e*P	**Pn**	**09 12 07.2**	**-0.4**
LFRS				*e*S	**Sn**	**09 12 17.6**	**+0.3**
CEDA	**San Andres**	**0.67**	**12**	P	**Pn**	**09 12 07.4**	**-0.2**
CEDA	**San Andres**	**0.67**	**12**	S	**Sn**	**09 12 17.9**	**+0.7**
UDBS	**Universidad Do**	**0.68**	**33**	S	**Sn**	**09 12 18.1**	**+0.6**
UDBS	**Universidad Do**	**0.68**	**33**	P	**Pn**	**09 12 07.4**	**-0.4**
CEVE	**Cerro Verde**	**0.68**	**353**	*e*P	**Pn**	**09 12 08.2**	**+0.1**
CEVE				*e*S	**Sn**	**09 12 19.8**	**+1.9**
CEVE	**Cerro Verde**	**0.68**	**353**	P	**Pn**	**09 12 07.9**	**-0.1**
LFU	**La Fuente**	**0.73**	**35**	*e*P	**Pn**	**09 12 08.4**	**-0.1**
LBRS	**Las Brisas**	**0.76**	**39**	*e*P	**Pn**	**09 12 08.8**	**-0.1**
NUBE	**Las Nubes**	**0.79**	**343**	*e*P	**Pn**	**09 12 08.9**	**-0.5**
NUBE				*e*S	**Sn**	**09 12 20.4**	**+0.3**
NUBE	**Las Nubes**	**0.79**	**343**	*i* P	**Pn**	**09 12 08.8**	**-0.5**
NUBE				*i* S	**Sn**	**09 12 19.7**	**-0.5**
NUBE	**Las Nubes**	**0.79**	**343**	P	**Pn**	**09 12 08.8**	**-0.5**
COEG	**Centro de Oper**	**0.80**	**54**	*e*P	**Pn**	**09 12 08.5**	**-0.8**
COEG				*e*S	**Sn**	**09 12 20.2**	**-0.1**
COEG	**Centro de Oper**	**0.80**	**54**	P	**Pn**	**09 12 08.5**	**-0.8**
PAVA	**Las Pavas**	**0.81**	**46**	*e*P	**Pn**	**09 12 09.5**	**-0.1**
PAVA				*e*S	**Sn**	**09 12 22.1**	**+1.4**
PAVA	**Las Pavas**	**0.81**	**46**	S	**Sn**	**09 12 21.3**	**+0.6**
PAVA	**Las Pavas**	**0.81**	**46**	P	**Pn**	**09 12 09.1**	**-0.1**
UNIC	**Universidad Ca**	**0.83**	**359**	P	**Pn**	**09 12 09.7**	**-0.1**
UNIC	**Universidad Ca**	**0.83**	**359**	S	**Sn**	**09 12 21.9**	**+0.8**
FAME	**Alcaldia de Sa**	**0.83**	**326**	P	**Pn**	**09 12 09.1**	**-0.6**
TECO	**Alcaldia de Te**	**0.83**	**62**	P	**Pn**	**09 12 08.6**	**-1.2**
TECO	**Alcaldia de Te**	**0.83**	**62**	S	**Sn**	**09 12 20.5**	**-0.6**
UESV	**Universidad de**	**0.88**	**56**	S	**Sn**	**09 12 22.2**	**0.0**
UESV	**Universidad de**	**0.88**	**56**	P	**Pn**	**09 12 09.8**	**-0.6**
SLOZ	**Alcaldia de Sa**	**0.91**	**345**	P	**Pn**	**09 12 10.9**	**+0.1**
SLOZ	**Alcaldia de Sa**	**0.91**	**345**	S	**Sn**	**09 12 24.2**	**+1.3**
ALJI	**Alcalda de J**	**0.96**	**79**	*e*P	**Pn**	**09 12 12.0**	**+0.6**
ALJI				*e*S	**Sn**	**09 12 24.8**	**+0.8**
ALJI	**Alcalda de J**	**0.96**	**79**	P	**Pn**	**09 12 11.7**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.96**	**55**	P	**Pn**	**09 12 11.2**	**-0.4**
LCY	**Lacayo**	**1.24**	**77**	*e*P	**Pn**	**09 12 15.4**	**0.0**
MTO3	**Montecristo**	**1.26**	**8**	*i* P	**Pn**	**09 12 15.2**	**-0.5**
MTO3	**Montecristo**	**1.26**	**8**	P	**Pn**	**09 12 15.4**	**-0.4**
ESQI	**Esquipulas**	**1.42**	**8**	P	**Pn**	**09 12 17.6**	**-0.3**
LCND	**La Caada**	**1.61**	**84**	*e*P	**Pn**	**09 12 20.6**	**-0.4**
LCND	**La Caada**	**1.61**	**84**	P	**Pn**	**09 12 20.3**	**-0.1**
CNCH	**Conchagua**	**1.67**	**85**	*e*P	**Pn**	**09 12 20.6**	**-0.5**
CNCH				*e*S	**Sn**	**09 12 42.6**	**+1.1**
CNCH	**Conchagua**	**1.67**	**85**	P	**Pn**	**09 12 20.9**	**-0.3**
ESSG	**Sabana Grande**	**1.76**	**315**	*i* P	**Pn**	**09 12 22.5**	**+0.1**
ESSG				*i* S	**Sn**	**09 12 43.5**	**-0.1**
SARH	**Santa Rosa de**	**1.79**	**25**	*i* P	**Pn**	**09 12 22.9**	**+0.1**
SARH				*i* S	**Sn**	**09 12 42.6**	**-1.8**
COPN	**Copaltepe**	**3.03**	**108**	P	**Pn**	**09 12 39.2**	**-0.6**

*CATAC **13** 09:17:46.1±0.9, 13.4N×88.8W±, h27km±7km, M2.9/11, MLv2.9/11, Error ellipse: s-maj=9.0km s-min=4.4km az=31.9, confirmed*
*SNET **13** 09:17:47.1±0.7, 12.62N×88.33W, h22km±7km, ML2.4*

ISC 13 09:17:43.1±1.7, 12.46N±0.09×88.33W±0.05, h10km, n35, σ0°60/40, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**0.90**	**345**	S	**Sb**	**09 18 13.6**	**+0.7**
CNCH	**Conchagua**	**0.95**	**30**	*e*P	**Pg**	**09 18 01.9**	**+0.5**
CNCH	**Conchagua**	**0.95**	**30**	P	**Pg**	**09 18 02.0**	**+0.5**
CNCH	**Conchagua**	**0.95**	**30**	S	**Sb**	**09 18 14.5**	**+0.1**
LCND	**La Caada**	**0.95**	**27**	*e*P	**Pg**	**09 18 01.8**	**+0.3**
LCND				IAML		09 18 17.0	
	comp=Z,169nm,0.2s						
LCY	**Lacayo**	**0.96**	**2**	*e*P	**Pg**	**09 18 02.6**	**+0.8**
POTN	**Potosi Cosigui**	**0.96**	**56**	P	Pn	09 18 14.1	+11
CNRM	**Centro Naciona**	**1.02**	**8**	S	**Sg**	**09 18 16.3**	**0.0**
TECA	**Tecapa**	**1.05**	**351**	*e*P	**Pg**	**09 18 03.9**	**+0.6**
TECA				⇑*e*P	**Pg**	**09 18 03.9**	**+0.6**
TECA				*e*S	**Sg**	**09 18 16.6**	**-0.4**
TECA				*e*S	**Sb**	**09 18 17.2**	**-0.2**
TECA				IAML		09 18 18.5	
	comp=Z,90nm,0.2s						
TECO	**Alcaldia de Te**	**1.16**	**338**	*e*P	**Pb**	**09 18 05.3**	**-0.1**
TECO				*e*S	**Sg**	**09 18 19.1**	**-1.5**
TECO	**Alcaldia de Te**	**1.16**	**338**	P	**Pb**	**09 18 05.3**	**-0.1**
UESV	**Universidad de**	**1.26**	**339**	P	**Pb**	**09 18 06.9**	**-0.1**
UESV	**Universidad de**	**1.26**	**339**	S	**Sb**	**09 18 22.8**	**-0.5**
COEG	**Centro de Oper**	**1.28**	**335**	*e*P	**Pn**	**09 18 07.4**	**+0.3**
COEG				*e*S	**Sb**	**09 18 23.1**	**-0.8**
COEG				IAML		09 18 26.6	
	comp=Z,99nm,0.2s						
COEG	**Centro de Oper**	**1.28**	**335**	P	**Pn**	**09 18 07.3**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.30**	**342**	*e*P	**Pn**	**09 18 07.9**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.30**	**342**	P	**Pn**	**09 18 07.9**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.30**	**342**	S	**Sb**	**09 18 24.3**	**-0.3**
PKGN	**Cerro Pekin**	**1.33**	**81**	P	**Pn**	**09 18 08.5**	**+0.7**
PKGN				S	**Sb**	**09 18 25.0**	**-0.4**
LFRS	**El Faro**	**1.36**	**328**	*e*P	**Pn**	**09 18 08.8**	**+0.4**
PAVA	**Las Pavas**	**1.39**	**335**	*e*P	**Pn**	**09 18 09.3**	**+0.6**
PAVA	**Las Pavas**	**1.39**	**335**	S	**Sb**	**09 18 26.7**	**-0.3**
PAVA	**Las Pavas**	**1.39**	**335**	P	**Pn**	**09 18 09.3**	**+0.6**
LOMA	**Loma Larga**	**1.44**	**325**	P	**Pn**	**09 18 09.9**	**+0.5**
PMON	**Piamonte**	**1.58**	**322**	*e*P	**Pn**	**09 18 11.9**	**+0.6**
PMON	**Piamonte**	**1.58**	**322**	P	**Pn**	**09 18 12.1**	**+0.8**
PMON	**Piamonte**	**1.58**	**322**	S	**Sn**	**09 18 31.4**	**-0.5**
JAYA	**Jayaque - finc**	**1.62**	**318**	*e*P	**Pn**	**09 18 12.5**	**+0.5**
JAYA	**Jayaque - finc**	**1.62**	**318**	P	**Pn**	**09 18 12.4**	**+0.5**
JAYA	**Jayaque - finc**	**1.62**	**318**	S	**Sn**	**09 18 32.2**	**-0.8**
COPN	**Copaltepe**	**1.72**	**99**	P	**Pn**	**09 18 12.8**	**-0.3**
NUBE	**Las Nubes**	**2.02**	**316**	*e*P	**Pn**	**09 18 18.3**	**+0.9**
NUBE	**Las Nubes**	**2.02**	**316**	P	**Pn**	**09 18 18.4**	**+0.9**
NUBE	**Las Nubes**	**2.02**	**316**	S	**Sn**	**09 18 42.3**	**-0.6**
MTO3	**Montecristo**	**2.18**	**333**	P	**Pn**	**09 18 20.0**	**+0.3**

*IDC **13** 09:18:48.7±0.9, 45.02N×153.41E, h0km, mb3.7/12, mbtmp3.7/13, ML3.1/1, Error ellipse: s-maj=27.3km s-min=21.5km az=164.0*
*SKHL **13** 09:18:52.8±0.4, 45.40N×153.00E, h27km±7km, mb4.6/3*
*MOS **13** 09:18:55.2±1.8, 45.28N×152.95E, h61km, mb4.3/1, Error ellipse: s-maj=10.9km s-min=9.2km az=51.3*

ISC 13 09:18:52.1±0.7, 45.19N±0.08×153.21E±0.07, h22km, n46, σ1°50/52, mb3.9/14, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.77**	**273**	*e*PN	**Pn**	**09 19 49.1**	**+0.2**
KUR				*e*S	**Sn**	**09 20 32.3**	**-0.3**
KUR				pmax	pmax		
	comp=Z,68nm,0.2s						
KUR				pmax	pmax		
	comp=N,12nm,0.1s						
KUR				smax	smax		
	comp=N,149nm,0.3s						
KUR				smax	smax		
	comp=E,143nm,0.5s						
KUR	**Kuril'sk**	**3.77**	**273**	*e*P	**Pn**	**09 19 49.1**	**+0.2**
KUR				AMB	AMB	09 19 51.3	
	comp=E,50nm,0.4s						
KUR				*e*S	**Sn**	**09 20 29.4**	**-3.2**
KUR				A	A	09 20 34.4	
	comp=E,160nm,0.4s						
KUR				A	A	09 20 34.4	
	comp=E,180nm,0.4s						
SHO	**Shikotan**	**4.75**	**256**	*e*PN	**Pn**	**09 20 02.8**	**+0.5**
SHO				*e*S	**Sn**	**09 20 54.9**	**-1.6**
SHO				pmax	pmax		
	comp=E,5.0nm,0.2s						
SHO				pmax	pmax		
	comp=Z,14nm,0.2s						
SHO				pmax	pmax		
	comp=N,2.0nm,0.1s						
SHO				smax	smax		
	comp=N,42nm,0.2s						
SHO				smax	smax		
	comp=E,55nm,0.2s						
SHO	**Shikotan**	**4.75**	**256**	*e*P	**Pn**	**09 20 02.8**	**+0.5**
SHO				AMB	AMB	09 20 11.7	
	comp=E,10.0nm,0.2s						
SHO				*e*S	**Sn**	**09 20 55.0**	**-1.6**
SHO				A	A	09 21 03.0	
	comp=E,40nm,0.2s						
SHO				A	A	09 21 03.0	
	comp=E,60nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.37**	**260**	*e*PN	**Pn**	**09 20 11.0**	**+0.2**
YUK				*e*S	**Sn**	**09 21 09.9**	**-2.0**
YUK				pmax	pmax		
	comp=Z,59nm,0.2s						
YUK				smax	smax		
	comp=N,110nm,0.2s						
YUK				smax	smax		
	comp=E,16nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**5.37**	**260**	*e*P	**Pn**	**09 20 11.5**	**+0.7**
YUK				AMB	AMB	09 20 12.4	
	comp=E,80nm,0.6s						
YUK				*e*S	**Sn**	**09 21 09.6**	**-2.3**
YUK				A	A	09 21 13.3	
	comp=E,120nm,0.6s						
YUK				A	A	09 21 13.3	
	comp=E,180nm,0.6s						
NMR	**Nemuro--Hokkai**	**5.67**	**254**	*e*PN	**Pn**	**09 20 14.0**	**-0.9**
NMR	**Nemuro--Hokkai**	**5.67**	**254**	*e*P	**Pn**	**09 20 14.0**	**-0.9**
NMR				*e*S	**Sn**	**09 21 15.2**	**-4.1**
GLVR	**Golovnino**	**5.69**	**258**	*e*S	**Sn**	**09 21 17.3**	**-2.5**
RUSJ	**Misakicho**	**5.78**	**262**	*e*PN	**Pn**	**09 20 18.0**	**+1.5**
RUSJ				*e*S	**Sn**	**09 21 22.3**	**+0.2**
SKR	**Severo-Kuril's**	**5.84**	**19**	*i* PN	Pn	09 20 15.3	-1.9
SKR	**Severo-Kuril's**	**5.84**	**19**	*e*P	**Pn**	**09 20 16.9**	**-0.3**
AKK	**Akkeshi**	**6.40**	**253**	*e*P	**Pn**	**09 20 25.1**	**+0.1**
PAU	**Pauzhetka**	**6.73**	**20**	*e*P	**Pn**	**09 20 29.8**	**+0.3**
PAU				*e*S	**Sn**	**09 21 42.4**	**-3.0**
YSS	**Yuzhno-Sakhali**	**7.48**	**287**	*e*PN	**Pn**	**09 20 41.3**	**+1.5**
YSS				*e*S	**Sn**	**09 22 04.5**	**+0.6**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.3s						
YSS				smax	smax		
	comp=N,10.0nm,0.8s						
YSS				smax	smax		
	comp=E,10.0nm,1.0s						
YSS	**Yuzhno-Sakhali**	**7.48**	**287**	*e*P	**Pn**	**09 20 40.3**	**+0.5**
YSS				*e*x	rx	09 22 00.6	
JKA	**Kamikawa-asahi**	**7.64**	**266**	*e*P	**Pn**	**09 20 42.3**	**+

H11S2	**WAKE ISLAND Hy 20.66**	**88**	T	T	09 50 12.1		
	baz=275,slow=74,SNR=66						
H11N1	**WAKE ISLAND Hy 20.77**	**84**	T	T	09 50 21.2		
	baz=272,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hy 20.78**	**84**	T	T	09 50 21.5		
	baz=272,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy 20.79**	**84**	T	T	09 50 24.7		
	baz=272,slow=75,SNR=12						
KSRS	**Korea Array**	**23.68**	**325**	P	**P**	**09 29 09.0**	**+0.3**
	0.8nm,0.9s,baz=152,slow=9.7,SNR=9.2						
	0.8nm,0.9s						
WRA	**Warramunga Arr**	**40.00**	**196**	P	**P**	**09 31 31.5**	**-0.4**
	0.9nm,1.0s,baz=10,slow=8.3,SNR=3.2						
	0.9nm,1.0s						
ZALV	**Zalesovo Beam**	**57.36**	**323**	P	**P**	**09 33 45.5**	**+0.5**
	1.3nm,0.7s,baz=88,slow=7.4,SNR=4.8						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**57.75**	**314**	P	**P**	**09 33 48.8**	**+0.9**
	0.5nm,0.6s,baz=90,slow=8.7,SNR=5.1						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**60.63**	**318**	P	**P**	**09 34 07.4**	**-0.3**
	1.0nm,0.7s,baz=96,slow=7.8,SNR=5.6						
	1.0nm,0.7s						
ILAR	**Eielson Array**	**63.77**	**26**	P	**P**	**09 34 28.4**	**-0.1**
	0.8nm,0.9s,baz=252,slow=4.6,SNR=7.2						
	0.8nm,0.9s						
NVAR	**Mina Array Bea**	**83.59**	**52**	P	**P**	**09 36 26.1**	**+0.5**
	0.6nm,0.7s,baz=286,slow=4.5,SNR=5.3						
	0.6nm,0.7s						

MDD ***13*** *09:30:47.1±1.2,36°.98N×5°.85E,h23km±16km, Mb4.1/11, M_mb3.4/12, Error ellipse: s-maj=17.0km s-min=6.3km az=173.0*

CRAAG ***13*** *09:30:53.3,36°.70N×6°.01E, Ml2.7, Algerie 05km NE Chahna*

ISC 13 09:30:45.9±1.0,37°.18N±0°.05×5°.80E±0°.05,h10km,n11, σ1s63/16,4C,Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.64**	**175**	P	**Pg**	**09 30 58.6**	**+0.3**
SET	**Setif**	**1.03**	**198**	P	**Pn**	**09 31 08.0**	**+1.5**
CKFL	**Kef-Lekhel**	**1.07**	**136**	P	**Pn**	**09 31 06.9**	**-0.2**
CTEI	**Djebel Teioual**	**1.22**	**156**	P	**Pb**	**09 31 08.3**	**-0.8**
CMAH	**Djebel Manchou**	**1.41**	**113**	P	**Pg**	**09 31 14.8**	**+1.8**
ETOS	**Mallorca**	**3.49**	**319**	Pn	**Pn**	**09 31 41.8**	**+1.6**
ETOS				⇑*i*Vmb_VC		09 31 48.5	
	168nm,SNR=1.7						
ETOS				Sn	**Sn**	**09 32 21.7**	**+0.1**
VSL	**Villasalto**	**3.64**	**49**	Pn	**Pn**	**09 31 42.6**	**+0.3**
VSL				Sn	**Sn**	**09 32 23.6**	**-1.7**
EIBI	**Ibiza**	**3.97**	**299**	Pn	**Pn**	**09 31 48.6**	**+1.7**
EIBI				⇑*i*Vmb_VC		09 31 49.0	
	354nm,SNR=1.9						
EIBI				Sn	**Sn**	**09 32 31.6**	**-1.9**
ECOL	**Islas Columbre**	**4.84**	**306**	Pn	**Pn**	**09 32 00.1**	**+1.3**
EPOB	**Poblet**	**5.55**	**320**	Pn	**Pn**	**09 32 09.8**	**+1.2**
EPOB				⇑*i*Vmb_VC		09 32 15.9	
	68nm,SNR=1.4						
EPOB				Sn	**Sn**	**09 33 10.6**	**-1.9**
EMOS	**Mosqueruela**	**5.84**	**305**	Pn	**Pn**	**09 32 12.7**	**0.0**
EMOS				⇑*i*Vmb_VC		09 32 16.9	
	138nm,SNR=1.4						
EMOS				Sn	**Sn**	**09 33 16.8**	**-3.1**

TRN ***13*** *09:56:12.5, 10°.87N×62°.32W, h81km, MD3.4, North of Paria peninsula.*

FUNV ***13*** *09:56:12.1, 10°.73N×62°.40W, h5km, MW3.5*

ISC 13 09:56:10.8±1.8,10°.83N±0°.06×62°.33W±0°.07,h98km±21km, n18, σ1s33/32,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**0.77**	**100**	*e*P	**Pn**	**09 56 29.9**	**+1.2**
DMDM				*e*S	**Sn**	**09 56 41.5**	**-0.5**
TRN	**Trinidad (W)**	**0.92**	**101**	*e*P	**Pn**	**09 56 31.0**	**+0.8**
TRN				*e*S	**Sn**	**09 56 44.0**	**-0.9**
TPP	**Pointe-a-Pierr**	**1.00**	**121**	*e*P	**Pn**	**09 56 31.5**	**+0.5**
TPP				*e*S	**Sn**	**09 56 45.8**	**-0.4**
TBH	**Brigand Hill**	**1.28**	**105**	*e*P	**Pn**	**09 56 34.7**	**+0.5**
GRFF	**Grenada Fort F**	**1.34**	**25**	*e*P	**Pn**	**09 56 35.4**	**+0.3**
GRFF				*e*S	**Sn**	**09 56 52.1**	**-1.3**
GRGR	**Grenville**	**1.45**	**27**	*e*P	**Pn**	**09 56 37.0**	**+0.7**
GRGR				*e*S	**Sn**	**09 56 54.4**	**-1.4**
GRW	**Mount Saint Ca**	**1.48**	**26**	*e*P	**Pn**	**09 56 38.1**	**+1.4**
GRW				*e*S	**Sn**	**09 56 55.8**	**-0.5**
GRSS	**Sisters**	**1.62**	**25**	*e*P	**Pn**	**09 56 39.3**	**+0.9**
GRSS				*e*S	**Sn**	**09 56 58.2**	**-1.2**
PCRV	**Puerto La Cruz**	**2.36**	**254**	*e*P	**Pn**	**09 56 49.0**	**+1.0**
PCRV				*e*S	**Sn**	**09 57 16.8**	**+0.2**
SVOC	**Richmond Hill,**	**2.55**	**25**	*e*P	**Pn**	**09 56 51.5**	**+1.0**
SVOC				*e*S	**Sn**	**09 57 21.1**	**+0.1**
SVT	**Saint Vincent**	**2.56**	**24**	*e*P	**Pn**	**09 56 52.4**	**+1.8**
SVT				*e*S	**Sn**	**09 57 19.2**	**-2.0**
SVB	**Belmont**	**2.65**	**23**	*e*P	**Pn**	**09 56 53.3**	**+1.5**
SVB				*e*S	**Sn**	**09 57 21.4**	**-1.9**
SLBI	**Saint Lucia, B**	**3.44**	**22**	*e*P	**Pn**	**09 57 03.9**	**+1.5**
SLBI				*e*S	**Sn**	**09 57 40.3**	**-1.9**
TACV	**Tcata**	**4.67**	**262**	*e*P	**Pn**	**09 57 20.1**	**+1.0**
TACV				*e*S	**Sn**	**09 58 12.3**	**0.0**
BENV	**Beln**	**5.26**	**261**	*e*P	**Pn**	**09 57 28.4**	**+1.3**
BENV				*e*S	**Sn**	**09 58 25.1**	**-1.4**
CACV	**CAICARA DEL OR**	**5.28**	**232**	*e*P	Pn	09 57 22.9	-4.4
CACV				*e*S	Sn	09 58 16.1	-11
BAUV	**El Baul**	**5.94**	**252**	*e*P	**Pn**	**09 57 36.9**	**+0.7**
BAUV				*e*S	**Sn**	**09 58 40.1**	**-2.8**
BAUV	**El Baul**	**5.94**	**252**	*e*S	**Sn**	**09 58 41.1**	**-1.8**

NAO ***13*** *09:56:33.3,37°.07N×5°.79E, h10km, mb5.5*

IDC ***13*** *09:56:33.5±0.4,37°.07N×5°.79E, h0km, mb4.6/36, mbtmp4.6/46, ML4.2/7, MS4.2/64, Error ellipse: s-maj=12.4km s-min=10.0km az=135.0*

MOS ***13*** *09:56:33.9±1.3,37°.12N×5°.68E, h14km, mb5.3/47, MS4.3/15, Error ellipse: s-maj=6.5km s-min=3.1km az=60.3*

CRAAG ***13*** *09:56:34.9,37°.08N×5°.86E, Ml4.7, Algerie 31km NE Jijel*

NEIC ***13*** *09:56:35.4,37°.11N×5°.75E, h20km*

NEIC ***13*** *09:56:35.4±1.2,37°.10N±0°.06×5°.75E±0°.07, h10km±1km, mb5.1/499, Mww4.9/23, Error ellipse: s-maj=11.1km s-min=8.9km az=209.0*

IGIL ***13*** *09:56:35.3,37°.21N×5°.74E, h10km, Ms4.1*

NEIC ***13*** *09:56:35.4,37°.11N×5°.63E, h20km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^16 Nm; Mrr1.85; Mθθ-1.49; Mφφ-0.36; Mrθ-2.67; Mθφ-0.76; Mφr-0.53; Fault plane solution: M0 3.30000×10^16 NP1: φs51.75000°, δ18.40000°, λ66.96000°. NP2:φs255.90000°, δ73.11000°, λ97.42000°. Principal axes: T 3.3290, Plg61.0000°, Azm177.0000°; N -0.0644, Plg7.0000°, Azm74.0000°; P -3.2646, Plg28.0000°, Azm340.0000°;*

MED_RC ***13*** *09:56:36.0±0.4,37°.18N×5°.74E, h10km, MW5.0/35, Moment Tensor Solution.Mantle waves: s35,c55; Duration: 1s3 Moment tensor: Scale 10^16 Nm; Mrr1.32±.05; Mθθ-1.21±.04; Mφφ-0.11±.04; Mrθ-3.21±.13; Mθφ-0.51±.03; Mφr-0.80±.12; Best double couple: M0 3.58000×10^16 NP1:φs61.00000°, δ11.00000°, λ76.00000°. NP2:φs255.00000°, δ79.00000°, λ93.00000°. Principal axes: T 3.5400, Plg56.0000°, Azm169.0000°; N 0.0700, Plg3.0000°, Azm75.0000°; P -3.6100, Plg34.0000°, Azm343.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

GCMT ***13*** *09:56:36.4±0.3,37°.17N±0°.02×5°.84E±0°.03, h17km±1km, MW5.1/100, Moment Tensor Solution. s34,c39; s100,c140; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.59±.18; Mθθ-2.26±.12; Mφφ-0.33±.10; Mrθ-4.34±.50; Mθφ-0.43±.06; Mφr0.54±.29; Best double couple: M0 5.01400×10^16 NP1:φs68.00000°, δ16.00000°, λ65.00000°. NP2:φs274.00000°, δ76.00000°, λ97.00000°. Principal axes: T 5.2190, Plg59.0000°, Azm194.0000°; N -0.4160, Plg7.0000°, Azm92.0000°; P -4.8090, Plg30.0000°, Azm359.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MDD ***13*** *09:56:36.1±0.4,37°.19N×5°.83E, h1km±3km, Mb5.6/95, M_mb5.2/97 Error ellipse: s-maj=3.1km s-min=1.7km az=153.0*

LDG ***13*** *09:56:37.2±0.5,37°.24N×5°.85E, h10km, Ml4.9/10, Error ellipse: s-maj=11.4km s-min=5.4km az=152.0*

ISC 13 09:56:35.0±0.5,37°.16N±0°.03×5°.78E±0°.03,h8km±3km, h7km:pP-P,n1282,σ1s65/1107,mb5.1/315,MS4.3/72, 98C-53D,Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBOS	**Bilal Ibnou Ra**	**0.57**	**131**	P	**Pg**	**09 56 45.4**	**-0.5**
DFRA	**Djebel Bou Aff**	**0.62**	**173**	P	**Pg**	**09 56 46.2**	**-0.8**
CBHR	**Beni Haroun da**	**0.71**	**147**	P	**Pg**	**09 56 48.1**	**-0.6**
CAEH	**'Ain El Ouahch**	**0.94**	**114**	P	Pg	09 56 47.3	-5.7
SET	**Setif**	**1.01**	**198**	P	**Pn**	**09 56 58.0**	**+2.4**
COAT	**Oued Athmania**	**1.01**	**156**	P	**Pg**	**09 56 52.7**	**-1.7**
CASM	**Ain Smara**	**1.07**	**148**	P	**Pg**	**09 56 53.7**	**-1.7**
CKFL	**Kef-Lekhel**	**1.07**	**135**	P	**Pg**	**09 56 53.3**	**-2.3**
CKHR	**Kef el Ahmar**	**1.17**	**191**	P	Pn	09 57 05.6	+7.8
CTCHA	**Tamokra**	**1.17**	**231**	P	**Pg**	**09 56 55.9**	**-1.5**
CTEI	**Djebel Teioual**	**1.21**	**155**	P	**Pg**	**09 56 55.8**	**-2.4**
CSGS	**Sigus**	**1.27**	**144**	P	**Pn**	**09 56 56.8**	**-2.4**
CJSR	**Ain Djasser**	**1.31**	**174**	P	**Pn**	**09 56 57.9**	**-1.8**
ATKB	**Taksebt**	**1.42**	**250**	P	**Pn**	**09 56 59.8**	**-1.3**
CMAH	**Djebel Manchou**	**1.42**	**112**	P	**Pn**	**09 56 58.7**	**-2.5**
ABSA	**Djebel Ababsia**	**1.63**	**123**	P	**Pn**	**09 57 02.6**	**-1.5**
MAHO	**Mahon**	**2.98**	**337**	Pn	**Pn**	**09 57 21.9**	**-0.6**
MAHO				Sn	**Sn**	**09 57 55.1**	**-3.3**
MAHO	**Mahon**	**2.98**	**337**		**Pn**	**09 57 21.5**	**-1.0**
MAHO				Sn	**Sn**	**09 57 55.0**	**-3.3**
MAHO	**Mahon**	**2.98**	**337**	⇓P	**Pn**	**09 57 21.3**	**-1.2**
KEST	**Kesra**	**3.21**	**115**		**Pn**	**09 57 24.8**	**-1.1**
KEST	**Kesra**	**3.21**	**115**	Pn	**Pn**	**09 57 24.6**	**-1.2**
KEST	36nm,0.3s,baz=290,slow=3.7,SNR=166			Sn	**Sn**	**09 58 05.2**	**+0.8**
	38nm,0.3s,baz=3.5,slow=9.1,SNR=3.6						
	310nm,0.5s						
ETOS	**Mallorca**	**3.49**	**319**	Pn	**Pn**	**09 57 30.2**	**+0.6**
ETOS				Sn	**Sn**	**09 58 09.9**	**-1.3**
ETOS	**Mallorca**	**3.49**	**319**	Pn	**Pn**	**09 57 29.5**	**-0.2**
ETOS				⇑*i*Vmb_VC		09 57 32.7	
	9µm,SNR=89						
ETOS				Sn	**Sn**	**09 58 10.2**	**-1.0**
VSL	**Villasalto**	**3.66**	**49**		**Pn**	**09 57 31.1**	**-0.9**
VSL	**Villasalto**	**3.66**	**49**	Pn	**Pn**	**09 57 31.1**	**-0.9**
VSL				Sn	**Sn**	**09 58 12.1**	**-3.3**
VSL	**Villasalto**	**3.66**	**49**	⇓P	**Pn**	**09 57 30.9**	**-1.1**
EIBI	**Ibiza**	**3.96**	**299**	Pn	**Pn**	**09 57 37.0**	**+0.9**
EIBI				Sn	**Sn**	**09 58 20.1**	**-2.7**
EIBI	**Ibiza**	**3.96**	**299**	Pn	**Pn**	**09 57 36.7**	**+0.6**
EIBI				⇑*i*Vmb_VC		09 57 40.9	
	14µm,SNR=68						
EIBI				Sn	**Sn**	**09 58 21.6**	**-1.3**
OKGL	**Djebel Kef Gue**	**4.29**	**256**	P	**Pn**	**09 57 40.0**	**-0.6**
DGI	**Dorgali Grotta**	**4.34**	**42**	Pn	**Pn**	**09 57 40.7**	**-0.6**
DGI				Sn	**Sn**	**09 58 29.2**	**-2.9**
OJBR	**Djebel Berber**	**4.66**	**252**	P	**Pn**	**09 57 44.0**	**-1.8**
ECOL	**Islas Columbre**	**4.84**	**306**	Pn	**Pn**	**09 57 48.4**	**+0.2**
ECOL				Sn	**Sn**	**09 58 41.5**	**-2.9**
EBEN2	**Beniarda presa**	**4.96**	**290**	Pn	**Pn**	**09 57 50.0**	**+0.2**
EBEN2				⇑*i*Vmb_VC		09 57 54.6	
	11µm,SNR=45						
EBEN2				Sn	**Sn**	**09 58 45.7**	**-1.6**
ODJA	**Bouhanifia**	**5.13**	**251**	P	Pn	09 57 42.0	-10
ETRV	**Los Montesinos**	**5.27**	**281**	Pn	**Pn**	**09 57 54.8**	**+0.7**
ETRV				⇑*i*Vmb_VC		09 58 00.9	
	4µm,SNR=4.7						
USTO	**Oran**	**5.30**	**256**	P	Pn	09 57 49.0	-5.5
CART	**Cartagena**	**5.42**	**277**	Pn	**Pn**	**09 57 55.8**	**-0.3**
CART				Sn	**Sn**	**09 58 54.8**	**-3.9**
CART	**Cartagena**	**5.42**	**277**		**Pn**	**09 57 55.3**	**-0.8**
CART	**Cartagena**	**5.42**	**277**	⇑P	**Pn**	**09 57 56.1**	**0.0**
EPOB	**Poblet**	**5.55**	**320**	Pn	**Pn**	**09 57 58.1**	**+0.1**
EPOB				⇑*i*Vmb_VC		09 58 07.5	
	4µm,SNR=76						
EPOB				Sn	**Sn**	**09 58 59.2**	**-2.8**
ERTA	**Horta de San J**	**5.69**	**313**	Pn	**Pn**	**09 57 59.8**	**0.0**
ERTA				⇑*i*Vmb_VC		09 58 08.7	
	2µm,SNR=24						
ERTA				Sn	**Sn**	**09 59 02.8**	**-2.5**
EJON	**La Jonquera**	**5.73**	**338**	Pn	**Pn**	**09 57 59.6**	**-0.8**
EJON	**La Jonquera**	**5.73**	**338**	Pn	**Pn**	**09 57 59.5**	**-0.9**
EJON				⇑*i*Vmb_VC		09 58 02.3	
	2µm,SNR=20						
EJON				Sn	**Sn**	**09 59 03.5**	**-2.8**
LPDG	**Lampedusa Capo**	**5.77**	**105**	Pn	**Pn**	**09 58 01.0**	**+0.2**
ECHE	**Chera**	**5.83**	**297**	Pn	**Pn**	**09 58 03.3**	**+1.4**
ECHE	**Chera**	**5.83**	**297**	Pn	**Pn**	**09 58 02.2**	**+0.4**
ECHE				⇑*i*Vmb_VC		09 58 11.7	
	7µm,SNR=66						
EMOS	**Mosqueruela**	**5.84**	**305**	Pn	**Pn**	**09 58 03.0**	**+0.9**
EMOS				⇑*i*Vmb_VC		09 58 10.9	
	10µm,SNR=102						
EMOS				Sn	**Sn**	**09 59 06.4**	**-2.9**
LINA	**Linosa Island**	**5.85**	**101**	Pn	**Pn**	**09 58 02.4**	**+0.4**
LINA				Sn	**Sn**	**09 59 06.3**	**-2.9**
TLOR	**Lorca, Murcia**	**5.97**	**277**	Pn	**Pn**	**09 58 04.4**	**+0.7**
EZAR	**Zarzadilla de**	**5.99**	**279**	Pn	Pn	09 57 32.2	-32
ELOR	**Lorca, Murcia**	**6.01**	**277**	Pn	**Pn**	**09 58 05.0**	**+0.7**
ELOR				⇑*i*Vmb_VC		09 58 09.8	
	2µm,SNR=2.6						
LMR	**La Mourre**	**6.19**	**5**	*e*Pn	**Pn**	**09 58 05.8**	**-0.9**
LMR				*e*Sn	**Sn**	**09 59 11.5**	**-6.1**
	193nm,0.2s						
E0901	**Celadas (Terue**	**6.33**	**304**	Pn	**Pn**	**09 58 08.9**	**+0.1**
E0901				⇑*i*Vmb_VC		09 58 16.8	
	4µm,SNR=15						
ENIJ	**Nijar**	**6.39**	**271**	Pn	**Pn**	**09 58 10.8**	**+1.3**
ENIJ	**Nijar**	**6.39**	**271**	Pn	**Pn**	**09 58 10.1**	**+0.6**
ENIJ				⇑*i*Vmb_VC		09 58 18.8	
	774nm,SNR=3.7						
ENIJ				Sn	**Sn**	**09 59 20.0**	**-2.7**
CEST	**Esterri de Car**	**6.45**	**329**		**Pn**	**09 58 11.1**	**+0.7**
RESU	**Resuttano**	**6.61**	**83**	Pn	**Pn**	**09 58 12.5**	**0.0**
ESAC	**San Caprasio**	**6.64**	**315**	Pn	**Pn**	**09 58 12.9**	**-0.1**
ESAC				⇑*i*Vmb_VC		09 58 19.1	
	7µm,SNR=56						
MON	**Monaco**	**6.68**	**10**	Pn	**Pn**	**09 58 13.3**	**-0.1**
MTLF	**Montolieu**	**6.75**	**337**	*e*Pn	**Pn**	**09 58 13.3**	**-1.1**
MTLF				*e*Sn	**Sn**	**09 59 25.8**	**-5.5**
	131nm,0.3s						
MTLF	**Montolieu**	**6.75**	**337**	⇓P	**Pn**	**09 58 13.2**	**-1.1**
SMRF	**Simiane la Rot**	**6.81**	**359**	*e*Pn	**Pn**	**09 58 15.1**	**-0.1**
SMRF				*e*Sn	**Sn**	**09 59 26.3**	**-6.6**
	77nm,0.4s						
SBF	**Sospel**	**6.81**	**10**	*e*Pn	**Pn**	**09 58 15.1**	**-0.2**
SBF				*e*Sn	**Sn**	**09 59 25.3**	**-7.7**
	192nm,0.3s						
RAFF	**Raffo Rosso**	**6.85**	**87**		**Pn**	**09 58 17.1**	**+1.3**
VAE	**Valguarnera**	**6.88**	**85**	Pn	**Pn**	**09 58 15.8**	**-0.5**
	2.6nm,0.3s,baz=72,slow=10,SNR=6.8						
ECHI	**Chisagues Biel**	**6.97**	**324**	Pn	**Pn**	**09 58 18.4**	**+0.8**
ECHI				⇑*i*Vmb_VC		09 58 26.3	
	2µm,SNR=61						
LASF	**Ste Croix**	**7.06**	**349**	*e*Pn	**Pn**	**09 58 17.0**	**-1.6**
LASF				*e*Sn	**Sn**	**09 59 32.6**	**-6.5**
	181nm,0.3s						
EQES	**Quesada**	**7.07**	**278**	Pn	**Pn**	**09 58 20.6**	**+1.7**
EQES				⇑*i*Vmb_VC		09 58 28.5	
	2µm,SNR=37						
ETOR	**Torete**	**7.11**	**303**	Pn	**Pn**	**09 58 20.6**	**+1.2**
ETOR				⇑*i*Vmb_VC		09 58 25.0	
	2µm,SNR=27						
EPF	**Esparros**	**7.19**	**326**	*e*Pn	**Pn**	**09 58 22.7**	**+2.2**
EPF				*e*Sn	**Sn**	**09 59 35.3**	**-7.1**
	228nm,0.3s						
EALB	**Alboran**	**7.20**	**263**	Pn	**Pn**	**09 58 20.0**	**-0.6**
EALB				Sn	**Sn**	**09 59 37.1**	**-5.4**
EALB	**Alboran**	**7.20**	**263**	Pn	**Pn**	**09 58 20.9**	**+0.3**
EALB				⇑*i*Vmb_VC		09 58 28.2	
	891nm,SNR=2.0						
EALB				Sn	**Sn**	**09 59 38.7**	**-3.9**
WMELI	**Melilla**	**7.29**	**258**	Sn	**Sn**	**09 59 39.0**	**-5.8**
EMEL	**Melilla**	**7.30**	**258**	Pn	**Pn**	**09 58 23.4**	**+1.4**
EMEL				Sn	**Sn**	**09 59 41.3**	**-3.8**
E0802	**Ubeda,Jaen**	**7.32**	**280**	Pn	**Pn**	**09 58 23.5**	**+1.2**
EQUE	**Quentar**	**7.36**	**273**	Pn	**Pn**	**09 58 24.1**	**+1.2**
EQUE				⇑*i*Vmb_VC		09 58 30.7	
	540nm,SNR=13						
EQTA	**Presa de Quent**	**7.36**	**273**	Pn	**Pn**	**09 58 25.1**	**+2.2**
E0803	**Jimena (Jaen)**	**7.39**	**278**	Pn	**Pn**	**09 58 24.3**	**+1.1**
E0803				Sn	**Sn**	**09 59 45.5**	**-1.7**

ETSF	**Etsaut**	**7.51**	**322**	*e*Pn	**Pn**	**09 58 26.5**	**+1.6**
ETSF				*e*Sn	**Sn**	**09 59 44.8**	**-5.6**
MGAB	**Montegabbione**	**7.52**	**38**	⇑P	**Pn**	**09 58 26.2**	**+1.3**
ELGU	**Los Guajares,**	**7.53**	**271**	Pn	**Pn**	**09 58 27.0**	**+1.8**
ELGU				Sn	**Sn**	**09 59 46.8**	**-4.1**
ELGU	**Los Guajares,**	**7.53**	**271**	Pn	**Pn**	**09 58 25.9**	**+0.7**
ELGU				⇑*i*Vmb_VC		09 58 35.9	
	646nm,SNR=5.0						
ELGU				Sn	**Sn**	**09 59 48.3**	**-2.6**
CESX	**Cesi**	**7.54**	**42**		**Pn**	**09 58 26.4**	**+1.2**
MBDF	**Montbardon**	**7.59**	**5**	*e*Pn	**Pn**	**09 58 26.8**	**+0.7**
MBDF				*e*Sn	**Sn**	**09 59 44.0**	**-8.4**
	204nm,0.7s						
OSSC	**Osservatorio P**	**7.60**	**32**		**Pn**	**09 58 26.6**	**+0.5**
PCP	**Piancastagn**	**7.66**	**15**	Pn	**Pn**	**09 58 26.0**	**-0.9**
PCP				Sn	**Sn**	**09 59 48.0**	**-6.0**
PSIM	**Granatula de C**	**7.71**	**285**	Pn	**Pn**	**09 58 28.3**	**+0.6**
UCM	**Universidad Co**	**7.72**	**297**	Pn	**Pn**	**09 58 30.3**	**+2.5**
VIVF	**Saint-Julien-l**	**7.73**	**354**	*e*Pn	**Pn**	**09 58 26.9**	**-1.0**
VIVF				*e*Sn	**Sn**	**09 59 49.5**	**-6.1**
	77nm,0.2s						
ORIF	**Oris-en-Rattie**	**7.75**	**1**	*e*Pn	**Pn**	**09 58 29.0**	**+0.8**
ORIF				*e*Sn	**Sn**	**09 59 48.7**	**-7.4**
	230nm,1.0s						
VAGA	**Valle Agricola**	**7.81**	**54**	Pn	**Pn**	**09 58 29.2**	**+0.3**
VLC	**Villacollemand**	**7.81**	**25**	Pn	**Pn**	**09 58 29.2**	**+0.2**
VLC				Sn	**Sn**	**09 59 50.7**	**-7.0**
VLC	**Villacollemand**	**7.81**	**25**	Pn	**Pn**	**09 58 28.8**	**-0.3**
VLC				Sn	**Sn**	**09 59 52.2**	**-5.4**
VLC	**Villacollemand**	**7.81**	**25**	⇑P	**Pn**	**09 58 29.2**	**+0.2**
PAOL	**Paolisi**	**7.85**	**58**	Pn	**Pn**	**09 58 29.3**	**-0.2**
EORO	**Oroz-Betelu**	**7.89**	**319**	Pn	**Pn**	**09 58 31.1**	**+1.0**
EORO				⇑*i*Vmb_VC		09 58 38.7	
	2µm,SNR=36						
EGOR	**Sierra Gorda,**	**7.90**	**273**	Pn	**Pn**	**09 58 32.2**	**+1.8**
EGOR	**Sierra Gorda,**	**7.90**	**273**	Pn	**Pn**	**09 58 31.6**	**+1.3**
EGOR				⇑*i*Vmb_VC		09 58 37.4	
	664nm,SNR=11						
BNI	**Bardonecchia**	**7.91**	**5**		**Pn**	**09 58 31.6**	**+1.1**
BNI	**Bardonecchia**	**7.91**	**5**	Pn	**Pn**	**09 58 30.4**	**0.0**
BNI	**Bardonecchia**	**7.91**	**5**	P	**Pn**	**09 58 31.6**	**+1.1**
BNI	**Bardonecchia**	**7.91**	**5**	⇓P	**Pn**	**09 58 31.2**	**+0.7**
CAMP	**Campotosto**	**7.95**	**45**		**Pn**	**09 58 32.5**	**+1.6**
EARA	**Aranguren**	**7.96**	**317**	Pn	**Pn**	**09 58 31.6**	**+0.7**
EARA				⇑*i*Vmb_VC		09 58 41.4	
	2µm,SNR=18						
MURB	**Monte Urbino**	**7.98**	**38**		**Pn**	**09 58 31.9**	**+0.5**
NRCA	**Norcia**	**7.98**	**43**		**Pn**	**09 58 33.6**	**+2.3**
SJPF	**Ste Jean**	**8.01**	**320**	*e*Pn	**Pn**	**09 58 33.4**	**+1.8**
SJPF				*e*Sn	**Sn**	**09 59 56.0**	**-6.4**
ESBB	**Sonseca Array**	**8.05**	**291**		**Pn**	**09 58 33.2**	**+0.9**
ESBB	**Sonseca Array**	**8.05**	**291**	Pn	**Pn**	**09 58 33.0**	**+0.7**
ESBB				⇑*i*Vmb_VC		09 58 42.5	
	2µm,SNR=40						
ESDC	**Sonseca Array**	**8.05**	**291**		**Pn**	**09 58 33.6**	**+1.3**
ESDC	**Sonseca Array**	**8.05**	**291**	Pn	**Pn**	**09 58 33.0**	**+0.7**
ESDC				⇑*i*Vmb_VC		09 58 35.7	
	1µm,SNR=33						
ESDC	**Sonseca Array**	**8.05**	**291**	Pn	**Pn**	**09 58 33.1**	**+0.9**
	118nm,0.8s,baz=103,slow=13,SNR=247						
ESDC				LR	LR	10 01 38.6	
	comp=Z,2µm,21.4s,baz=100,slow=38						
MONC	**Moncucco Torin**	**8.07**	**11**	⇓P	**Pn**	**09 58 34.3**	**+1.9**
CEL	**Celeste**	**8.09**	**79**		**Pn**	**09 58 33.6**	**+0.7**
SSB	**Saint Sauveur**	**8.16**	**354**		**Pn**	**09 58 33.3**	**-0.5**
SSB	**Saint Sauveur**	**8.16**	**354**	P	**Pn**	**09 58 33.3**	**-0.5**
PIEI	**Pieia**	**8.19**	**37**	Pn	**Pn**	**09 58 35.6**	**+1.5**
ZCCA	**Zocca**	**8.19**	**27**		**Pn**	**09 58 36.2**	**+2.1**
EALK	**Alkurruntz**	**8.23**	**320**	Pn	**Pn**	**09 58 35.5**	**+0.7**
EALK				⇑*i*Vmb_VC		09 58 44.6	
	4µm,SNR=83						
CAF	**Calviac**	**8.25**	**341**	*e*Pn	**Pn**	**09 58 34.5**	**-0.5**
C

MFF Saint Martin d 10.41 337 *e*Pn **Pn 09 59 04.0 -0.6**
LIENZ Kamor/St.Gall 10.49 14 Pn **Pn 09 59 06.0 +0.2**
FETA Feichten 10.51 19 *i* Pn Pn 09 59 11.0 +4.9
70nm,1.1s,SNR=32
DAVA Damuels 10.56 15 *i* Pn **Pn 09 59 11.1 +4.3**
34nm,1.0s,SNR=12
DAVA Damuels 10.56 15 ⇑P **Pn 09 59 10.8 +4.1**
EGRO El Granado 10.57 276 Pn **Pn 09 59 08.2 +1.4**
PMRV Marv??o 10.60 286 *e*P **Pn 09 59 08.8 +1.6**
PMRV *i* IAmb IAmb 09 59 12.7
63nm,1.2s
PMRV *e*LQ LQ 10 01 35.2
PMRV *e*LR LR 10 02 17.5
PMRV *i* IAMs_20 IAMs_20 10 03 25.3
1µm,18.0s
ROSI Rosskopf 10.61 21 Pn **Pn 09 59 07.4 -0.1**
HINF Hinteralfeld 10.68 4 *e*Pn **Pn 09 59 06.3 -1.9**
PESTR Estremoz 10.69 283 **Pn 09 59 08.2 -0.2**
PESTR Estremoz 10.69 283 *e*P **Pn 09 59 10.2 +1.8**
PESTR *i* IAmb IAmb 09 59 16.3
79nm,1.1s
PESTR Estremoz 10.69 283 ⇓P **Pn 09 59 10.7 +2.3**
MVO Moncorvo 10.72 296 *e*P **Pn 09 59 08.5 -0.3**
MVO *i* IAmb IAmb 09 59 20.3
168nm,0.9s
MVO *e*LR LR 10 02 29.7
PBRG Braganca 10.73 299 *e*P **Pn 09 59 10.6 +1.6**
PBRG *i* IAmb IAmb 09 59 20.3
168nm,1.1s
PCBR Castelo Branco 10.73 288 *e*P **Pn 09 59 09.6 +0.7**
PCBR *i* IAmb IAmb 09 59 30.1
89nm,1.2s
PVAQ Vaqueiros 10.76 275 **Pn 09 59 08.3 -1.1**
PVAQ Vaqueiros 10.76 275 *e*P **Pn 09 59 08.7 -0.7**
PVAQ *i* IAmb IAmb 09 59 24.1
40nm,1.7s
PVAQ *e*LQ LQ 10 01 43.0
PVAQ *e*LR LR 10 02 11.3
PVAQ *i* IAMs_20 IAMs_20 10 03 22.3
831nm,18.0s
PVAQ Vaqueiros 10.76 275 ⇓P **Pn 09 59 08.9 -0.5**
ECAL Calabor 10.78 300 Pn **Pn 09 59 10.8 +1.2**
ECAL ⇑*i*VMb_VC 09 59 20.8
4µm,SNR=44
SLE Schleitheim 10.78 10 Pn **Pn 09 59 10.1 +0.4**
ABTA Abfaltersbach 10.80 25 *i* Pn **Pn 09 59 13.4 +3.4**
86nm,0.9s,SNR=31
PTCC Patocco-Chiusa 10.82 29 ⇑P **Pn 09 59 11.7 +1.4**
SQTA Sankt Quirin 10.82 20 *i* Pn **Pn 09 59 13.9 +3.6**
14nm,0.9s,SNR=15
HAU Haudompre 10.84 2 *e*Pn **Pn 09 59 09.7 -0.8**
PBEJ Beja 10.87 279 *e*P **Pn 09 59 12.2 +1.3**
PBEJ *i* IAmb IAmb 09 59 18.8
37nm,1.3s
MTE Manteigas 10.89 291 **Pn 09 59 10.7 -0.6**
MTE Manteigas 10.89 291 *e*P **Pn 09 59 11.4 +0.1**
MTE *i* IAmb IAmb 09 59 22.4
91nm,0.8s
MTE *e*LQ LQ 10 01 53.7
MTE *e*LR LR 10 02 27.6
MTE *i* IAMs_20 IAMs_20 10 03 48.8
2µm,16.0s
MTE Manteigas 10.89 291 ⇑P **Pn 09 59 13.2 +1.9**
MOTA Moosalm 10.91 19 *i* Pn **Pn 09 59 14.2 +2.7**
32nm,0.8s,SNR=24
RETA Reutte 10.95 18 *i* Pn **Pn 09 59 14.4 +2.4**
26nm,1.2s
WTTA Wattenberg 10.98 21 *i* Pn **Pn 09 59 15.5 +2.9**
68nm,1.2s,SNR=19
EVO Evora 10.99 281 *e*P **Pn 09 59 14.2 +1.6**
EVO *i* IAmb IAmb 09 59 29.7
94nm,1.6s
PCVE Castro Verde 11.01 277 *e*P **Pn 09 59 11.5 -1.2**
PCVE *i* IAmb IAmb 09 59 33.6
42nm,1.4s
WATA Walderalm 11.03 21 *i* Pn **Pn 09 59 15.8 +2.7**
73nm,1.3s,SNR=22
SFTF Sexfontaines 11.05 357 *e*Pn **Pn 09 59 13.2 -0.1**
ECH Echery 11.09 5 **Pn 09 59 12.8 -1.1**
ECH Echery 11.09 5 P **Pn 09 59 12.8 -1.1**
ECH Echery 11.09 5 ⇑P **Pn 09 59 12.5 -1.4**
MYKA Terra Mystica 11.12 29 *i* Pn **Pn 09 59 16.3 +2.0**
31nm,1.2s
MESJ Messejana 11.15 278 *e*P **Pn 09 59 14.1 -0.5**
MESJ IAMs_20 IAMs_20 10 09 11.3
comp=N,1µm,12.1s
MESJ Messejana 11.15 278 **Pn 09 59 14.3 -0.4**
MESJ Messejana 11.15 278 *e*P **Pn 09 59 13.6 -1.0**
MESJ *i* IAmb IAmb 09 59 29.7
comp=N,39nm,1.4s
MESJ Messejana 11.15 278 P **Pn 09 59 14.3 -0.4**
MESJ Messejana 11.15 278 ⇓P **Pn 09 59 14.5 -0.2**
CLF Chambon-Foret 11.16 348 **Pn 09 59 15.1 +0.3**
CLF Chambon-Foret 11.16 348 Pn **Pn 09 59 15.6 +0.8**
CLF Chambon-Foret 11.16 348 ⇓P **Pn 09 59 15.3 +0.6**
PMTG Montargil 11.20 284 *e*P **Pn 09 59 15.9 +0.6**
PMTG *i* IAmb IAmb 09 59 25.8
comp=N,57nm,1.4s
PSARD Sardoal 11.21 287 *e*P **Pn 09 59 16.3 +0.7**
PSARD *i* IAmb IAmb 09 59 28.4
comp=N,48nm,1.7s
PVIS Viseu 11.23 293 *e*P **Pn 09 59 17.2 +1.4**
CDF Champ du Feu 11.29 5 *e*Pn **Pn 09 59 15.2 -1.6**
BFO Black Forest 11.31 9 **Pn 09 59 15.9 -1.1**
BFO Black Forest 11.31 9 Pn **Pn 09 59 16.5 -0.4**
BFO Black Forest 11.31 9 P **Pn 09 59 15.9 -1.1**
BFO Black Forest 11.31 9 ⇑P **Pn 09 59 15.9 -1.1**
POLO Lamas de Olo 11.33 296 *e*P **Pn 09 59 18.1 +0.8**
POLO *i* IAmb IAmb 09 59 28.2
comp=N,58nm,1.1s
MEZF Maizieres J'vi 11.35 358 *e*Pn **Pn 09 59 17.5 +0.2**
KBA Koelnbreinsper 11.38 27 *i* Pn **Pn 09 59 20.6 +2.6**
comp=N,63nm,1.4s
KBA Koelnbreinsper 11.38 27 ⇑P **Pn 09 59 21.1 +3.1**
PAGF Fort de Pagny 11.38 360 *e*Pn **Pn 09 59 17.8 -0.1**
OBKA Obir 11.39 32 *i* Pn **Pn 09 59 22.8 +4.7**
comp=N,20nm,0.9s,SNR=8.9
LESA Schwarzeotal 11.45 24 *i* Pn **Pn 09 59 21.9 +3.0**
comp=N,71nm,0.9s,SNR=30
SAVF Savonnieres en 11.46 358 *e*Pn **Pn 09 59 19.1 +0.3**
AVE Averroes 11.46 254 Pn **Pn 09 59 15.7 -3.2**
COI Coimbra 11.50 290 **Pn 09 59 19.3 -0.2**
COI Coimbra 11.50 290 *e*P **Pn 09 59 20.4 +0.9**
COI *i* IAmb IAmb 09 59 30.5
comp=N,218nm,0.8s
COI Coimbra 11.50 290 P **Pn 09 59 19.3 -0.2**
COI Coimbra 11.50 290 ⇓P **Pn 09 59 20.7 +1.2**
MORF Marmelete 11.51 275 **Pn 09 59 19.2 -0.4**
MORF Marmelete 11.51 275 *e*P **Pn 09 59 21.4 +1.7**
MORF *i* IAmb IAmb 09 59 42.8
comp=N,28nm,1.2s
MORF Marmelete 11.51 275 P **Pn 09 59 19.3 -0.4**
PCAS Casmilo, Conde 11.54 289 *e*P **Pn 09 59 21.0 +1.0**
PCAS *i* IAmb IAmb 09 59 31.0
comp=N,155nm,1.0s
PTEO Sao Teotonio 11.55 276 *e*P **Pn 09 59 20.4 +0.2**
PTEO *i* IAmb IAmb 09 59 29.7
comp=N,76nm,1.2s
PCAB Cabril 11.60 297 *e*P **Pn 09 59 22.6 +1.7**
PDG Podgorica 11.62 59 ⇑P **Pn 09 59 24.3 +3.2**
EPON Pontenova 11.64 306 Pn **Pn 09 59 23.6 +2.2**
EPON ⇑*i*VMb_VC 09 59 30.5
comp=N,498nm,SNR=2.3
PFVI Vila Bisbo 11.66 274 *e*P **Pn 09 59 22.3 +0.6**
PFVI *i* IAmb IAmb 09 59 23.3
comp=N,43nm,1.3s
ELOB Lobios 11.68 298 Pn **Pn 09 59 23.2 +1.3**
ELOB ⇑*i*VMb_VC 09 59 31.6
comp=N,632nm,SNR=5.4
SOKA Soboth 11.73 33 *i* Pn **Pn 09 59 26.4 +3.7**
comp=N,13nm,0.9s,SNR=9.6
PARRA Arraiolos 11.81 283 *e*P Pn 09 59 15.0 -8.8
PARRA *i* IAmb IAmb 09 59 20.6
comp=N,60nm,1.2s
PGAV Gavieira, Arco 11.86 298 *e*P **Pn 09 59 26.6 +2.2**
PGAV *i* IAmb IAmb 09 59 36.6
comp=N,109nm,1.6s
PGAV *e*LR LR 10 03 18.0
PGAV *i* IAMs_20 IAMs_20 10 04 38.4
comp=N,3µm,14.0s
STU Stuttgart 11.87 11 **Pn 09 59 25.8 +1.3**
STU Stuttgart 11.87 11 P **Pn 09 59 25.8 +1.3**
BIOA Bad Ischl, Aus 12.01 26 *i* Pn **Pn 09 59 29.0 +2.6**
comp=N,48nm,1.3s

EAGO Agolada(Pontev 12.03 302 Pn **Pn 09 59 28.0 +1.2**
EAGO ⇑*i*VMb_VC 09 59 30.2
comp=N,575nm,SNR=3.6
LDF La Druitiere 12.21 341 *e*Pn **Pn 09 59 28.6 -0.6**
GRR Gorron 12.23 339 *e*Pn **Pn 09 59 28.4 -1.0**
GRR *e*Sn Sn 10 01 36.2 -10
MOA Molln 12.37 28 *i* Pn **Pn 09 59 33.5 +2.1**
comp=N,26nm,0.9s,SNR=14
ARSA Arzberg 12.39 32 *i* Pn **Pn 09 59 34.0 +2.4**
comp=N,25nm,1.4s,SNR=11
ARSA Arzberg 12.39 32 ⇓P **Pn 09 59 33.9 +2.3**
FLN La Foliniere 12.46 340 *e*Pn **Pn 09 59 32.6 0.0**
WLF Walferdange 12.50 1 Pn **Pn 09 59 33.6 +0.5**
WLF Walferdange 12.50 1 *d*P **Pn 09 59 33.0 -0.1**
comp=Z,267nm,1.0s
WLF Walferdange 12.50 1 ⇓P **Pn 09 59 33.2 +0.1**
QUIF Quistinic 12.60 331 *e*Pn **Pn 09 59 36.0 +1.5**
SGMF Saint Gilles 12.66 334 *e*Pn Pn 09 59 30.4 -4.9
FNA Florina 12.66 69 **Pn 09 59 36.1 +0.7**
FNA Florina 12.66 69 P **Pn 09 59 36.1 +0.7**
EMAZ Mazaricos 12.69 302 Pn **Pn 09 59 37.3 +1.5**
EMAZ ⇑*i*VMb_VC 09 59 45.6
comp=Z,899nm,SNR=4.0
ITM Ithomi 12.88 85 **Pn 09 59 38.0 -0.5**
BAIF Baives 12.94 355 *e*Pn **Pn 09 59 39.1 0.0**
GIVF Givet 12.95 357 *e*Pn **Pn 09 59 39.4 +0.1**
DOU Dourbes 12.96 357 *d*P **Pn 09 59 39.3 0.0**
comp=Z,630nm,0.8s
ROSF Rostrenen 12.99 332 ⇑P **Pn 09 59 40.4 +0.6**
GEC2 GERESS Array S 13.02 24 **Pn 09 59 40.4 0.0**
GERES GERESS Array B 13.02 24 **Pn 09 59 40.5 +0.1**
GERES GERESS Array B 13.02 24 Pn **Pn 09 59 40.8 +0.4**
comp=Z,0.2nm,0.3s,baz=207,slow=11,SNR=39
GERES LR LR 10 04 47.0
comp=Z,940nm,20.7s,baz=197,slow=38
comp=Z,6.9nm,0.7s
CONA Conrad Observa 13.06 31 *i* Pn **Pn 09 59 42.7 +1.8**
comp=Z,32nm,1.4s,SNR=14
RONA Rosalia, Austr 13.07 33 *e*Pn **Pn 09 59 43.0 +2.1**
comp=Z,14nm,1.1s
GRFO Grafenberg 13.12 16 **Pn 09 59 41.9 +0.2**
GRFO Grafenberg 13.12 16 P **Pn 09 59 41.9 +0.2**
BMRD Maredsous 13.15 357 *d*P **Pn 09 59 41.0 -1.0**
comp=Z,293nm,0.8s
MORH Mrgy, Hungar 13.18 43 ⇓P **Pn 09 59 46.6 +4.1**
BHOU Houvegnez 13.19 1 *d*P **Pn 09 59 42.5 0.0**
comp=Z,100nm,1.0s
BHOU *d*PP **PbPb 10 00 25.7 +0.3**
CKRC Cesky Krumlov 13.20 25 *e*P **Pn 09 59 43.6 +0.8**
CKRC *ex* x 09 59 50.3
CKRC AMS AMS 10 08 50.0
comp=Z,2µm,9.4s
CKRC Cesky Krumlov 13.20 25 *e*P **Pn 09 59 43.6 +0.8**
CKRC MLR MLR
comp=Z,2µm,9.4s
BGES Gesves 13.23 358 *d*P **Pn 09 59 43.3 +0.3**
comp=Z,212nm,0.8s
BGES *d*PP **PbPb 10 00 26.1 +0.1**
KHC Kasperske Hory 13.24 23 *e*P **Pn 09 59 44.0 +0.8**
KHC Kasperske Hory 13.24 23 *e*P **Pn 09 59 44.0 +0.8**
MPLH Magyarpolny 13.25 37 P **Pn 09 59 44.6 +1.2**
comp=Z,72nm,1.2s
BCLA Clavier 13.26 359 *d*P **Pn 09 59 43.5 0.0**
comp=Z,119nm,1.0s
BSTI Sart Tilman 13.42 359 *d*P **Pn 09 59 46.6 +1.0**
comp=Z,53nm,0.9s
BTNL Ternell 13.42 1 *d*P **Pn 09 59 45.5 -0.2**
comp=Z,114nm,1.1s
MEM Membach 13.44 1 *d*P **Pn 09 59 45.6 -0.4**
comp=Z,160nm,0.7s
BEBN Eben Emael 13.63 360 *d*P **Pn 09 59 49.0 +0.5**
comp=Z,220nm,1.0s
UCC Uccle 13.67 356 **Pn 09 59 48.6 -0.4**
UCC Uccle 13.67 356 P **Pn 09 59 48.6 -0.4**
UCC Uccle 13.67 356 *d*P **Pn 09 59 49.2 +0.2**
comp=Z,160nm,1.0s
ZVC Zvikov 13.70 24 *e*P **Pn 09 59 50.7 +1.2**
ZVC AMS AMS 10 06 10.0
comp=Z,2µm,12.7s
BOVS Bovan 13.74 57 ⇑P **Pn 09 59 54.1 +4.0**
MODS Modra-Piesok 14.01 33 *e*P **P 10 00 04.5 +2.7**
MODS Modra-Piesok 14.01 33 *e*P **P 10 00 04.5 +2.7**
TREC Trest 14.02 27 Pn **Pn 09 59 54.5 +0.6**
TREC Trest 14.02 27 AMS AMS 10 12 40.0
comp=Z,2µm,9.0s
KRUC Moravsky 14.18 30 *e*P **Pn 09 59 58.1 +2.1**
MDVR Moldovita 14.22 53 ⇑P **P 10 00 00.7 -3.5**
PRU Pruhonice 14.29 23 Pn **Pn 09 59 57.9 +0.3**
PRU Pruhonice 14.29 23 *e*P **Pn 09 59 57.8 +0.2**
PRU AMS AMS 10 06 40.0
comp=Z,2µm,11.5s
PRU Pruhonice 14.29 23 *e*P **Pn 09 59 57.8 +0.2**
PRU MLR MLR
comp=Z,2µm,11.5s
GOPC GO Pecny, Ondr 14.30 24 *e*P **Pn 09 59 58.5 +0.7**
GOPC *ex* x 10 00 05.6
GOPC AMS AMS 10 06 40.0
comp=Z,2µm,12.4s
GOPC GO Pecny, Ondr 14.30 24 *e*P **Pn 09 59 58.5 +0.7**
GOPC MLR MLR
comp=Z,2µm,12.4s
TAM Tamanrasset 14.33 181 **Pn 09 59 54.5 -3.9**
TAM Tamanrasset 14.33 181 P **Pn 09 59 54.5 -3.9**
PRA Prague 14.33 23 AMS AMS 10 09 50.0
comp=Z,2µm,9.1s
ELSH Elham, Standar 14.37 348 *e*P **Pn 09 59 59.0 +0.4**
ELSH IAmb IAmb 10 00 01.8
comp=Z,340nm,1.1s
VRAC Vranov 14.45 29 *e*P **Pn 10 00 02.3 +2.5**
VRAC Vranov 14.45 29 Pn **Pn 10 00 00.9 +1.1**
comp=Z,0.2nm,0.3s,baz=222,slow=14,SNR=17
VRAC LR LR 10 06 18.8
comp=Z,1µm,18.1s,baz=204,slow=40
comp=Z,15nm,1.1s
VRAC Vranov 14.45 29 ⇓P **Pn 10 00 02.5 +2.6**
VRAC Vranov 14.45 29 P **Pn 10 00 02.4 +2.6**
JAVC Velka Javorina 14.55 33 *e*P **P 10 00 06.0 -1.8**
BZS Buzias 14.56 50 ⇓P **Pn 10 00 03.9 +2.5**
BZS Buzias 14.56 50 P **Pn 10 00 03.8 +2.5**
PVCC Panska Ves 14.77 22 AMS AMS 10 10 20.0
comp=Z,1µm,10.5s
VYHS Vyhne 14.80 36 *e*P **Pn 10 00 07.0 +2.4**
VYHS Vyhne 14.80 36 *e*P **Pn 10 00 07.0 +2.4**
BRG Berggiesshubel 14.89 20 *e*P **Pn 10 00 06.0 +0.2**
BRG Amp 10 00 09.7
comp=Z,24nm,1.1s
BRG PP **PnPn 10 00 14.5 +0.7**
BRG Amp 10 00 16.7
comp=Z,30nm,1.1s
BRG Berggiesshubel 14.89 20 Amp 10 00 22.5
comp=Z,28nm,1.0s
BRG Berggiesshubel 14.89 20 P P 10 00 21.0 +9.5
PSZ Piszkesteto 14.93 40 **Pn 10 00 06.5 +0.1**
PSZ Piszkesteto 14.93 40 ⇑P **Pn 10 00 09.2 +2.8**
PSZ Piszkesteto 14.93 40 P **Pn 10 00 09.1 +2.8**
PSZ Piszkesteto 14.93 40 ⇓P **Pn 10 00 08.9 +2.6**
SURR Surduc 14.94 50 ⇑P **Pn 10 00 09.2 +2.8**
DYA Yadsworthy 14.99 335 Pn **Pn 10 00 08.0 +0.9**
MAUC Maruska 15.00 32 *e*P **P 10 00 11.4 -1.4**
CLL Collm 15.04 18 *e*P **Pn 10 00 10.0 +2.2**
CLL pmax pmax
comp=Z,33nm,1.3s
CLL Collm 15.04 18 *e*P **Pn 10 00 10.0 +2.2**
comp=Z,33nm,1.3s
CLL *i* PP **sP 10 00 15.4 +0.1**
comp=Z,101nm,1.4s
CLL *i* x x 10 00 22.9
CLL AMS AMS 10 09 00.0
KRLC Kraliky 15.14 28 *e*P **P 10 00 12.2 -2.2**
KRLC AMS AMS 10 06 50.0
comp=Z,1µm,13.2s
KRLC Kraliky 15.14 28 *e*P **P 10 00 12.2 -2.2**
KRLC MLR MLR
comp=Z,1µm,13.2s
GZR Gura Zlata 15.17 52 ⇑P **Pn 10 00 12.1 +2.5**
GZR Gura Zlata 15.17 52 P **Pn 10 00 12.1 +2.5**
DPC Dobruska-Polom 15.20 27 *e*P **Pn 10 00 10.8 +0.9**
DPC AMS AMS 10 07 30.0
comp=Z,2µm,10.8s
DPC Dobruska-Polom 15.20 27 *e*P **Pn 10 00 10.8 +0.9**
DPC MLR MLR
comp=Z,2µm,10.8s
DPC Dobruska-Polom 15.20 27 P **Pn 10 00 09.7 -0.2**
comp=Z,16nm,0.9s

MORC Moravsky Berou 15.20 30 *e*P **P 10 00 13.2 -1.9**
MORC Moravsky Berou 15.20 30 ⇓P **Pn 10 00 11.9 +2.0**
MORC Moravsky Berou 15.20 30 P **Pn 10 00 11.9 +2.0**
MORC Moravsky Berou 15.20 30 ⇓P **Pn 10 00 12.1 +2.2**
UPC Upice 15.22 26 *e*P **Pn 10 00 11.9 +1.7**
UPC *e*pP **sP 10 00 17.4 +0.1**
UPC AMS AMS 10 10 10.0
comp=Z,2µm,10.4s
UPC Upice 15.22 26 *e*P **Pn 10 00 11.9 +1.7**
UPC MLR MLR
comp=Z,2µm,10.4s
CCA1 Carnmenellis 15.24 332 Pn **Pn 10 00 11.5 +1.1**
CCA1 Carnmenellis 15.24 332 *e*P **P 10 00 15.4 0.0**
CCA1 IAmb IAmb 10 00 18.5
comp=Z,122nm,1.3s
ELMS Elmsett, Ipswi 15.31 349 *e*P **Pn 10 00 12.1 +0.8**
OSTC Ostas 15.34 26 *e*P **Pn 10 00 12.9 +1.2**
OSTC AMS AMS 10 06 50.0
comp=Z,2µm,13.4s
OSTC Ostas 15.34 26 *e*P **Pn 10 00 12.9 +1.2**
OSTC MLR MLR
comp=Z,2µm,13.4s
STEB Steborice 15.42 30 *e*P **P 10 00 17.1 -0.3**
OKC Ostrava-Krasne 15.49 31 AMS AMS 10 08 00.0
comp=Z,2µm,12.4s
IDI Anoyia 15.54 91 **Pn 10 00 14.3 -0.1**
IDI IAmb IAmb 10 00 29.2
comp=Z,79nm,1.1s
IDI Anoyia 15.54 91 Pn **Pn 10 00 14.9 +0.4**
comp=Z,11nm,1.0s,baz=274,slow=14,SNR=8.8
LANS Liptovska Anna 15.57 35 *e*P **P 10 00 23.2 +4.1**
LANS Liptovska Anna 15.57 35 *e*P **P 10 00 23.2 +4.1**
KSP Ksiaz 15.60 25 *e*P **P 10 00 17.6 -1.8**
KSP *e*S **S 10 03 25.3 +1.6**
KSP Ksiaz 15.60 25 P **Pn 10 00 14.9 -0.3**
comp=Z,480nmcomp=Z,32nm,1.2s
PLVB Pleven 15.65 61 ⇑P **P 10 00 19.6 -0.4**
DRGR 15.81 47 ⇑P **P 10 00 21.1 -0.9**
DRGR 15.81 47 P **P 10 00 21.0 -0.9**
RDO Rodhopi 15.83 69 ⇑P **P 10 00 22.8 +0.8**
MONM Monmouth 15.88 340 *e*P **P 10 00 21.0 -1.5**
WACR West Acre 15.97 349 Pn **Pn 10 00 21.0 +1.1**
WACR West Acre 15.97 349 *e*P **Pn 10 00 21.0 +1.1**
MARR Marisel-Cluj 16.00 48 ⇑P **P 10 00 22.6 -1.3**
MCH1 Michaelchurch 16.08 340 Pn **Pn 10 00 22.4 +1.1**
MCH1 Michaelchurch 16.08 340 ⇓P **Pn 10 00 21.4 +0.1**
NIE Niedzica 16.14 36 *e*P **P 10 00 27.1 +1.6**
NIE *e*S S 10 03 48.0 +13
ALN Alexandroupoli 16.18 70 **Pn 10 00 22.8 +0.2**
ALN Alexandroupoli 16.18 70 P **Pn 10 00 22.8 +0.2**
EZN Ezine 16.30 74 ⇑P **P 10 00 28.2 +0.9**
EZN Ezine 16.30 74 P **P 10 00 28.1 +0.9**
CWF Charnwood Fore 16.35 345 *e*P **Pn 10 00 25.4 +0.6**
CWF IAmb IAmb 10 00 31.2
comp=Z,44nm,1.0s
ELND Elena 16.41 63 ⇑P **P 10 00 29.4 +0.9**
OJC Ojcow 16.49 33 *e*P **P 10 00 30.0 +0.7**
OJC *e*S **S 10 03 46.3 +4.5**
OJC Ojcow 16.49 33 P **Pn 10 00 27.6 +1.1**
comp=Z,763nmcomp=Z,27nm,1.4s
HLM1 Long Mynd 16.52 341 *e*P **Pn 10 00 27.7 +0.8**
HLM1 IAmb IAmb 10 00 35.0
comp=Z,101nm,1.1s
STHS Stebnicka Huta 16.59 38 *e*P **P 10 00 31.6 +1.1**
STHS Stebnicka Huta 16.59 38 *e*P **P 10 00 31.6 +1.1**
VOIR 16.64 54 ⇑P **P 10 00 32.2 +1.0**
VOIR 16.64 54 P **P 10 00 32.1 +1.0**
MUKU Mukachevo 16.73 42 P **P 10 00 30.9 -1.0**
LMK Market Rasen 16.84 347 Pn **Pn 10 00 31.7 +0.8**
FOEL Foel Wylfa 16.94 341 Pn **P 10 00 33.4 -0.8**
FOEL Foel Wylfa 16.94 341 *e*P **Pn 10 00 32.7 +0.5**
FOEL IAmb IAmb 10 00 39.3
comp=Z,111nm,1.1s
LBWR Ladybower, Pea 17.06 345 Pn **P 10 00 34.9 -0.6**
LBWR Ladybower, Pea 17.06 345 *e*P **Pn 10 00 33.6 -0.1**
LBWR IAmb IAmb 10 00 41.1
comp=Z,106nm,1.0s
DOPR Dopca 17.07 53 ⇑P **P 10 00 36.8 +1.0**
MLR Muntele Rosu 17.25 55 P **Pn 10 00 36.0 -0.3**
MLR IAmb IAmb 10 00 49.3
comp=Z,138nm,1.1s
MLR Muntele Rosu 17.25 55 Pn **P 10 00 38.6 +0.8**
comp=Z,0.5nm,0.3s,baz=224,slow=2.6,SNR=24
MLR LR LR 10 07 29.8
comp=Z,856nm,18.3s,baz=250,slow=38
comp=Z,54nm,1.1s
MLR Muntele Rosu 17.25 55 ⇑P **P 10 00 39.5 +1.7**
MLR Muntele Rosu 17.25 55 P **P 10 00 39.5 +1.7**
KARP Karpathos 17.30 89 P **Pn 10 00 37.1 +0.2**
RAKU Rahkiv 17.30 45 P **P 10 00 39.5 +1.2**
ISR Istrita 17.51 57 ⇑P **P 10 00 42.8 +2.1**
ISR Istrita 17.51 57 P **P 10 00 42.8 +2.1**
IWEX Carrickbyrne, 17.59 334 P **P 10 00 43.9 +2.5**
BURAR Bucovina Array 17.70 48 P **P 10 00 43.7 +0.9**
BURAR Bucovina Array 17.70 48 ⇓P **P 10 00 45.4 +2.5**
BURAR Bucovina Array 17.70 48 P **P 10 00 45.3 +2.5**
BUR08 Bucovina Ar. S 17.71 48 P **P 10 00 42.7 -0.2**
PLOR Plostina 17.84 54 ⇑P **P 10 00 45.0 +0.7**
PLOR Plostina 17.84 54 P **P 10 00 45.0 +0.7**
PLOR5 Plostina Array 17.85 54 P **P 10 00 44.4 0.0**
comp=Z,786nmcomp=Z,45nm,1.2s
ONER Baraj Valea Uz 17.86 53 ⇓P **P 10 00 46.6 +2.1**
VRI Vrincioaia 17.89 54 ⇑P **P 10 00 46.4 +1.5**
VRI Vrincioaia 17.89 54 P **P 10 00 46.3 +1.5**
VRI Vrincioaia 17.89 54 P **P 10 00 45.0 +0.1**
comp=Z,691nmcomp=Z,42nm,1.1s
KSV Kosov 17.97 46 P **P 10 00 45.5 -0.2**
TESR Tescani 18.09 52 ⇑P **P 10 00 49.9 +2.9**
TESR Tescani 18.09 52 P **P 10 00 48.0 +0.9**
comp=Z,807nmcomp=Z,26nm,1.3s
BEL Belsk 18.10 31 *e*P **P 10 00 49.7 +2.6**
DSB Dublin 18.18 336 P **P 10 00 48.9 +1.0**
TAVA DENIZLI_Tavas 18.40 82 ⇑P **P 10 00 52.9 +2.3**
EDMD Edmundbyers 18.45 346 Pn **Pn 10 00 52.1 +1.2**
EDMD Edmundbyers 18.45 346 *e*P **Pn 10 00 51.2 +0.2**
EDMD IAmb IAmb 10 00 54.9
comp=Z,143nm,1.1s
KESW Keswick, Cumbr 18.47 344 Pn **Pn 10 00 52.3 +1.2**
KLYT Kilyos 18.47 70 ⇓P **Pn 10 00 54.1 +2.9**
IOMK Kirk Michael 18.53 341 Pn **Pn 10 00 53.1 +1.2**
IOMK Kirk Michael 18.53 341 *e*P **Pn 10 00 52.4 +0.5**
IOMK IAmb IAmb 10 00 58.3
comp=Z,26nm,1.0s
TIRR Tirgusor 18.58 60 ⇓P **Pn 10 00 53.9 +1.3**
TIRR Tirgusor 18.58 60 P **Pn 10 00 53.9 +1.3**
TIRR Tirgusor 18.58 60 P **Pn 10 00 52.8 +0.2**
comp=Z,745nmcomp=Z,39nm,1.2s
TIRR Tirgusor 18.58 60 ⇓P **Pn 10 00 53.3 +0.7**
CFR Carcaliu 18.60 58 ⇑P **Pn 10 00 54.0 +1.2**
CFR Carcaliu 18.60 58 P **Pn 10 00 54.0 +1.2**
VAL Valentia 18.61 328 P **Pn 10 00 54.7 +1.8**
TPGR Topolog 18.69 59 ⇑P **Pn 10 00 55.2 +1.2**
ILTH Belurgan, Co L 18.83 337 P **Pn 10 00 55.8 +0.3**
VASR Vaslui 18.87 53 ⇓P **Pn 10 00 57.7 +1.6**
KMPD K-Podol'skiy 18.90 46 P **Pn 10 00 56.9 +0.5**
BSD Bornholm Skovb 19.01 16 Pn **Pn 10 00 58.4 +0.7**
BSD Bornholm Skovb 19.01 16 *e*P **Pn 10 00 57.9 +0.2**
BSD Bornholm Skovb 19.01 16 ⇓P **Pn 10 00 58.1 +0.4**
BSD Bornholm Skovb 19.01 16 *i* P **Pn 10 00 57.8 +0.2**
BSD IAmb IAmb 10 01 03.1
comp=Z,43nm,1.0s
GAL1 Galloway 19.11 341 *e*P **Pn 10 00 59.0 +0.1**
GAL1 IAmb IAmb 10 01 03.5
comp=Z,39nm,1.0s
ESK Eskdalemuir 19.16 344 P **P 10 00 58.8 +0.1**
ESK IAmb IAmb 10 01 12.4
comp=Z,81nm,1.0s
ESK Eskdalemuir 19.16 344 Pn **Pn 10 01 00.3 +0.8**
ESK Eskdalemuir 19.16 344 *e*P **P 10 00 59.0 +0.3**
ESK IAmb IAmb 10 01 05.3
comp=Z,80nm,1.1s
ESK Eskdalemuir 19.16 344 P **P 10 00 58.8 +0.1**
ESK pmax pmax
comp=Z,81nm,1.0s
ESK Eskdalemuir 19.16 344 ⇓P **Pn 10 01 00.3 +0.8**
EKA Eskdalemuir Ar 19.17 344 P **Pn 10 00 59.7 +0.1**
baz=159,slow=10
comp=Z,56nm,1.0s
EKA Eskdalemuir Ar 19.17 344 P **Pn 10 00 59.7 +0.1**
EKA pmax pmax
comp=Z,85nm,1.0s
LUNU Lund 19.19 13 *i* P **Pn 10 01 01.4 +1.5**
NEWG New Galloway 19.21 342 *e*P **Pn 10 01 00.3 +0.1**

NEWG IAmb IAmb 10 01 04.1
comp=Z,68nm,1.2s
ELL Elmali 19.28 84 P **P 10 01 00.7 +0.4**
ELL IAmb IAmb 10 01 10.2
comp=Z,99nm,1.0s
ELL Elmali 19.28 84 P **P 10 01 00.7 +0.4**
ELL pmax pmax
comp=Z,99nm,1.0s
IGLA Glengowla, Co 19.37 332 P **Pn 10 01 02.4 +0.3**
IGLA Glengowla, Co 19.37 332 *eP* **P 10 01 00.9 -0.1**
NDNU Novodnistrovsk 19.44 47 P **Pn 10 01 03.5 +0.5**
BJUU Bjuv 19.54 12 *i* P **Pn 10 01 05.4 +1.4**
ESY Stoneypath 19.60 346 *eP* **Pn 10 01 05.5 +0.7**
MILM Milestii Mici 19.62 53 ⇓*i* P **P 10 01 04.0 +0.2**
comp=Z,290nm,1.6s
MILM Milestii Mici 19.62 53 ⇓P **Pn 10 01 05.0 -0.2**
MILM Milestii Mici 19.62 53*d i* P **P 10 01 04.0 +0.2**
MILM *eS* **S 10 04 43.0 -2.4**
MILM pmax pmax
comp=Z,290nm,1.6s
KIS Kishinev 19.66 53 *eP* **Pn 10 01 05.0 -0.6**
KIS Kishinev 19.66 53 *eP* **Pn 10 01 05.0 -0.6**
KIS *eS* **S 10 04 45.0 -1.0**
EDI Edinburgh 19.72 345 *eP* **Pn 10 01 06.1 -0.1**
EDI IAmb IAmb 10 01 09.2
comp=Z,138nm,1.0s
SAHE Sakarya_HENDEK 19.81 72 ⇑P **Pn 10 01 08.7 +1.2**
SORM Soroca 19.82 49 ⇑P **Pn 10 01 07.3 -0.2**
SORM Soroca 19.82 49 P **Pn 10 01 07.2 -0.2**
SORM Soroca 19.82 49 P **P 10 01 06.3 +0.4**
comp=Z,788nmcomp=Z,68nm,0.8s
PGBU Glenifferbraes 19.91 343 *eP* **Pn 10 01 09.3 +0.9**
RNPP5 Staryi Chortor 20.04 39 P **P 10 01 08.7 +0.3**
DEL Delary 20.06 13 *i* P Pn 10 01 10.8 +0.5
IDGL Inch Island, C 20.08 337 P Pn 10 01 10.2 -0.3
RNPP8 Varash 20.09 39 P **P 10 01 09.0 +0.1**
RNPP2 Kostyukhnivka 20.11 39 P **P 10 01 09.6 +0.6**
RNPP9 Sopachiv 20.16 39 P **P 10 01 09.8 +0.2**
BLEU Blekinge 20.30 16 *i* P Pn 10 01 12.6 -0.5
LUBAR Lubar, Ukraine 20.31 44 P **P 10 01 11.4 +0.1**
FABU Falkenberg 20.38 11 *eP* Pn 10 01 14.3 +0.3
DRUM Mains of Drumt 20.52 347 *eP* Pn 10 01 14.8 -0.8
DRUM IAmb IAmb 10 01 17.3
comp=Z,157nm,1.1s
LAWE Loch Awe, Argy 20.53 342 *eP* **P 10 01 14.6 +1.0**
LAWE IAmb IAmb 10 01 20.5
comp=Z,107nm,1.2s
ONAU Onsala 20.65 9 *i* P Pn 10 01 17.2 0.0
SUW Suwalki 20.69 30 *eP* **P 10 01 16.2 +0.8**
SUW *eS* **S 10 05 06.8 +0.2**
SUW Suwalki 20.69 30 P **P 10 01 16.1 +0.8**
SUW Suwalki 20.69 30 P **P 10 01 16.2 +0.8**
SUW Suwalki 20.69 30 *eP* Pn 10 01 16.8 -0.9
SUW Suwalki 20.69 30 ⇓P **P 10 01 16.3 +0.8**
MI28 Mi28,Pidlybu 20.80 42 P **P 10 01 17.0 +0.5**
BORU Boraas 21.00 11 *i* P Pn 10 01 21.1 -0.2
HOMB Homborsund 21.20 4 *eP* **P 10 01 22.4 +1.7**
HOMB Homborsund 21.20 4 *i* P **P 10 01 23.2 +2.5**
SNART Snartemo 21.21 2 *eP* **P 10 01 21.7 +0.8**
SNART Snartemo 21.21 2 *i* P **P 10 01 22.6 +1.7**
ANTO Ankara 21.28 74 P **P 10 01 21.8 -0.2**
ANTO Ankara 21.28 74 P **P 10 01 21.8 -0.2**
ANTO pmax pmax
comp=Z,73nm,1.4s
MCD Coleburn Disti 21.29 347 *eP* **P 10 01 23.1 +1.3**
MCD IAmb IAmb 10 01 29.3
comp=Z,250nm,1.0s
AK19 Malin Array Si 21.41 43 P **P 10 01 22.5 -0.7**
AK14 Malin Array Si 21.42 44 P **P 10 01 22.6 -0.6**
AK17 Malin Array Si 21.42 44 P **P 10 01 22.5 -0.7**
AK20 Malin Array Si 21.42 43 P **P 10 01 22.6 -0.7**
AK07 Malin Array Si 21.43 44 P **P 10 01 22.7 -0.7**
AK16 Malin Array Si 21.44 44 P **P 10 01 22.8 -0.6**
AK18 Malin Array Si 21.44 43 P **P 10 01 22.8 -0.7**
AK06 Malin Array Si 21.45 44 P **P 10 01 22.9 -0.6**
AK12 Malin Array Si 21.45 44 P **P 10 01 22.9 -0.7**
AK21 Malin Array Si 21.46 43 P **P 10 01 22.9 -0.7**
AK15 Malin Array Si 21.46 44 P **P 10 01 23.1 -0.6**
AK22 Malin Array Si 21.46 43 P **P 10 01 23.1 -0.6**
AK05 Malin Array Si 21.47 44 P **P 10 01 23.0 -0.8**
AK11 Malin Array Si 21.48 44 P **P 10 01 23.1 -0.7**
KIEV Kiev 21.51 44 P **P 10 01 24.0 -0.2**
KIEV Kiev 21.51 44 ⇓P **P 10 01 24.1 -0.2**
KIEV Kiev 21.51 44 ⇑P **P 10 01 23.9 -0.2**
AKASG Malin Array Be 21.52 44 P **P 10 01 24.2 -0.1**
AKASG Malin Array Be 21.52 44 P **P 10 01 23.8 -0.5**
comp=Z,116nm,0.8s,baz=243,slow=11,SNR=88
AKASG LR LR 10 09 55.6
comp=Z,395nm,18.1s,baz=238,slow=37
comp=Z,116nm,0.8s
AKASG Malin Array Be 21.52 44 *i* P **P 10 01 22.6 -1.7**
AKASG pmax pmax
comp=Z,121nm,0.8s
AKBB Malin Array Si 21.52 44 P **P 10 01 24.2 -0.1**
AKBB Malin Array Si 21.52 44*ce*P **P 10 01 23.8 -0.5**
AKBB pmax pmax
comp=Z,195nm,0.9s
PBUR Paburge 21.79 25 *eP* **P 10 01 28.0 +0.9**
BR131 Keskin Array S 21.93 75 P **P 10 01 29.2 +0.1**
BR131 Keskin Array S 21.93 75 P **P 10 01 29.2 +0.1**
BR131 pmax pmax
comp=Z,18nm,0.9s
BRTR Keskin Array B 21.93 75 P **P 10 01 27.8 -1.3**
BRTR Keskin Array B 21.93 75 P **P 10 01 29.6 +0.6**
comp=Z,2.6nm,0.8s,baz=262,slow=8.6,SNR=12
BRTR PcP **PcP 10 05 28.1 +0.2**
comp=Z,0.5nm,0.3s,baz=196,slow=2.3,SNR=5.4
BRTR ScP **ScP 10 09 05.0 -0.5**
comp=Z,1.2nm,0.9s,baz=278,slow=0.9,SNR=5.0
comp=Z,2.6nm,0.8s
KMY Karmoy 22.07 359 *eP* **P 10 01 31.0 +0.9**
PABE Paberze 22.11 28 P **P 10 01 30.7 +0.1**
PABE Paberze 22.11 28 *eP* **P 10 01 31.5 +0.9**
STRU Stroemstad 22.17 7 *i* P **P 10 01 33.7 +2.5**
KIRS Kirsehir-Merke 22.18 76 ⇑P **P 10 01 33.6 +2.0**
BIGH Upper Bighouse 22.27 347 *eP* **P 10 01 32.2 0.0**
BIGH IAmb IAmb 10 01 35.8
comp=Z,59nm,1.1s
BLS5 Blasjo 22.28 1 *eP* **P 10 01 33.4 +0.9**
VSVD Vaisvydziai 22.45 27 *eP* **P 10 01 35.1 +0.8**
KONO Kongsberg 22.64 5 P **P 10 01 36.7 +0.5**
KONO IAmb IAmb 10 01 49.5
comp=Z,59nm,1.1s
KONO Kongsberg 22.64 5*ce*P **P 10 01 36.6 +0.4**
KONO pmax pmax
comp=Z,37nm,1.0s
KONO Kongsberg 22.64 5 *eP* **P 10 01 36.7 +0.5**
KONO Kongsberg 22.64 5 ⇓P **P 10 01 37.3 +1.1**
SIM Simferopol' 22.66 61 *eP* **P 10 01 34.9 -1.7**
SIM *eS* **S 10 05 35.2 -10**
SIM pmax pmax
comp=Z,32nm,1.1s
SIM smax smax
comp=N,282nm,15.8s
ODD1 Odda 22.77 1 *eP* **P 10 01 36.9 -0.8**
NACGM Naroch 22.81 32 *i* P **P 10 01 38.3 +0.2**
comp=Z,130nm,0.9s,baz=226
ISAL Salakas 23.00 30 *eP* **P 10 01 41.0 +1.0**
OSL Oslo 23.01 6 *eP* **P 10 01 39.0 -1.1**
MNK Minsk 23.03 34 *i* P **P 10 01 38.0 -2.4**
comp=E,246nm,1.2s
MNK *i* P **P 10 01 38.0 -2.4**
comp=N,193nm,1.2s
MNK *i* P **P 10 01 38.0 -2.4**
comp=Z,255nm,1.0s,baz=230
MNK *i* PP **PnPn 10 02 01.8 -3.3**
MNK *i* PPP PPP 10 02 10.1
MNK *i* S **S 10 05 48.4 -2.9**
MNK *i* SS **SnSn 10 06 21.9 -1.2**
MNK *i* SSS SSS 10 06 34.6
MNK *i* LQ LQ 10 08 37.2
MNK *i* LR LR 10 10 26.3
MNK *i* LRM MLR 10 12 02.2
comp=E,385nm,13.5s
MNK *i* LRM MLR 10 12 08.0
comp=Z,729nm,14.6s
MNK *i* LRM MLR 10 12 10.9
comp=N,552nm,12.8s
MNK Minsk 23.03 34 *i* P **P 10 01 37.9 -2.4**
MNK *i* PPP PPP 10 02 10.1
MNK *i* S **S 10 05 48.3 -2.9**
MNK *i* SSS SSS 10 06 34.5
MNK pmax pmax
comp=N,193nm,1.2s
MNK pmax pmax
comp=E,246nm,1.2s
MNK pmax pmax
comp=Z,255nm,1.0s
MNK MLR MLR
comp=E,385nm,13.0s
MNK MLR MLR
comp=Z,729nm,15.0s
MNK MLR MLR
comp=N,552nm,13.0s
IDID Didziasalis 23.07 31 *eP* **P 10 01 41.2 +0.4**
SLIT Slitere, Latvi 23.20 23 *eP* **P 10 01 42.2 +0.1**
BER Bergen 23.24 359 *eP* **P 10 01 43.4 +0.9**
ASK Askoy 23.34 359 *eP* **P 10 01 42.5 -1.0**
LRW Lerwick 23.42 351 *eP* **P 10 01 44.0 -0.3**
LRW IAmb IAmb 10 01 53.2
comp=Z,176nm,1.4s
LRW Lerwick 23.42 351 ⇑P **P 10 01 45.2 +1.0**
HFS Hagfors 23.54 10 P **P 10 01 45.3 -0.2**
comp=Z,26nm,1.1s,baz=196,slow=10,SNR=31
HFS LR LR 10 11 23.0
comp=Z,574nm,19.7s,baz=188,slow=38
comp=Z,26nm,1.1s
SKAR Skarslia 23.59 3 *eP* **P 10 01 45.0 -1.1**
NC602 NORSAR Array S 23.87 7 *eP* **P 10 01 48.3 -0.4**
NAO01 NORSAR Array S 23.92 6 P **P 10 01 49.7 +0.5**
SUE Sulen 23.92 359 *eP* **P 10 01 48.1 -1.1**
NB2 NORSAR Subarra 24.14 6 P **P 10 01 51.4 +0.1**
comp=Z,124nm,1.2s,baz=191,slow=9.3
NB2 S **PcP 10 05 38.6 +6.6**
comp=Z,4.6nm,1.0s,baz=183,slow=1.9
NB2 NORSAR Subarra 24.14 6 P P 10 02 00.7 +9.4
baz=191,slow=11
NOA NORSAR Array B 24.14 6 P **P 10 01 51.8 +0.5**
comp=Z,59nm,1.1s,baz=192,slow=9.4,SNR=56
NOA PcP **PcP 10 05 31.4 -0.5**
comp=Z,3.0nm,1.0s,baz=190,slow=2.0,SNR=4.1
NOA LR LR 10 12 18.1
comp=Z,712nm,18.1s,baz=190,slow=39
comp=Z,59nm,1.1s
TORD Torodi Ar. Bea 24.19 190 P **P 10 01 50.5 -1.6**
comp=Z,5µm,1.0s,baz=5.3,slow=12,SNR=3.7
TORD LR LR 10 12 56.7
comp=Z,886nm,18.6s,baz=4.0,slow=41
NC303 NORSAR Array S 24.34 7 IAmb IAmb 10 01 56.4
comp=Z,66nm,1.1s
FOO Floro 24.46 359 *eP* **P 10 01 52.6 -1.5**
MMAI Mount Meron Ar 24.54 91 P **P 10 01 55.2 -0.1**
comp=Z,14nm,1.0s,baz=317,slow=8.5,SNR=5.9
comp=Z,14nm,1.0s
ANN Anapa 24.97 62 *eP* **P 10 01 56.2 -2.7**
ANN *e**PP **pP 10 01 59.3 -1.0**
ANN *e* 10 02 29.7
ANN *e* 10 05 29.9
ANN *eS* **S 10 06 19.7 -3.0**
ANN pmax pmax
comp=Z,49nm,1.0s
ANN MLR MLR
comp=N,398nm,12.0s
ANN MLR MLR
comp=E,184nm,9.0s
ANN MLR MLR
comp=Z,673nm,11.0s
DOMB Dombas 24.99 4 *eP* **P 10 02 00.6 +1.6**
AKN Aaknes 25.05 1 *eP* **P 10 01 59.6 +0.1**
VSU Vasula 25.33 26*ceP* **P 10 02 01.8 -0.2**
VSU pmax pmax
comp=Z,245nm,1.0s
VSU Vasula 25.33 26 *eP* **P 10 02 02.2 +0.2**
VSU Vasula 25.33 26 ⇓P **P 10 02 01.4 -0.6**
EIL Elat 25.40 99 LR LR 10 14 42.6
comp=Z,408nm,18.9s,baz=248,slow=43
MOL Molde 25.46 2 *eP* **P 10 02 03.9 +0.8**
ARBE Arbavere 25.82 24 *eP* **P 10 02 08.1 +1.6**
RAF Rauma 25.93 18 *eP* **P 10 02 07.4 0.0**
MEF Metsahovi 25.95 21 *eP* **P 10 02 08.1 +0.4**
ASF Jabal al Asfar 26.00 92 P **P 10 02 08.4 -0.2**
comp=Z,9.5nm,0.9s,baz=270,slow=4.1,SNR=7.0
comp=Z,9.5nm,0.9s
SOC Sochi 26.51 65 *eP* **P 10 02 13.6 +0.7**
SOC *e*PPP PPP 10 02 58.8
SOC *eS* **S 10 06 46.4 -0.8**
SOC *eSS* **SnSn 10 07 51.3 +3.0**
SOC MLR MLR
comp=Z,177nm,13.0s
ERBR Yeremizino-Bor 27.21 61 *eP* **P 10 02 21.4 +2.2**
ERBR *e**PP **pwP 10 02 24.3 +0.1**
ERBR *eS* **S 10 07 03.7 +5.5**
ERBR pmax pmax
comp=Z,37nm,1.3s
LABN Labinsk 27.29 63 *eP* **P 10 02 17.3 -2.6**
LABN *e**PP **pP 10 02 20.1 -1.3**
LABN *eS* **S 10 06 56.9 -2.6**
LABN pmax pmax
comp=Z,23nm,0.6s
LABN MLR MLR
comp=E,547nm,12.0s
LABN MLR MLR
comp=N,1µm,12.0s
LABN MLR MLR
comp=Z,380nm,13.0s
FINES FINESS Array B 27.43 21 P **P 10 02 20.9 -0.1**
FINES FINESS Array B 27.43 21 P **P 10 02 20.8 -0.2**
comp=Z,23nm,1.0s,baz=193,slow=7.8,SNR=34
FINES PcP **PcP 10 05 39.5 +0.1**
comp=Z,2.1nm,0.7s,baz=315,slow=1.1,SNR=4.3
FINES LR LR 10 14 00.2
comp=Z,495nm,18.1s,baz=209,slow=38
comp=Z,23nm,1.0s
FIA1 FINESS Array S 27.43 21 P **P 10 02 20.5 -0.5**
VSR Storozhevoye 27.48 49 *eP* **P 10 02 20.3 -1.2**
VSR pmax pmax
comp=Z,8.0nm,1.0s
OBN Obninsk 27.55 39 P **P 10 02 22.2 +0.1**
OBN Obninsk 27.55 39 P **P 10 02 23.0 +1.0**
comp=Z,19nm,0.4s,baz=178,slow=22,SNR=20
OBN LR LR 10 14 38.3
comp=Z,422nm,18.3s,baz=190,slow=39
comp=Z,19nm,0.4s
OBN Obninsk 27.55 39 *eP* **P 10 02 22.2 +0.1**
OBN *ePPP* PPP 10 03 12.3
OBN *e* 10 05 45.6
OBN *eS* **S 10 07 04.5 +1.2**
OBN *eSS* **SnSn 10 08 14.1 +0.7**
OBN pmax pmax
comp=Z,115nm,1.3s
OBN MLR MLR
comp=Z,523nm,16.0s
VORR Voronezh 27.64 48 P **P 10 02 23.5 +0.5**
VORR pmax pmax
comp=Z,26nm,1.2s
NSS Namsos 27.65 6 *eP* **P 10 02 24.5 +1.6**
KEF Keuruu 27.69 19 *eP* **P 10 02 23.6 +0.3**
LPSR Galich'ya Gora 27.79 46 P **P 10 02 24.3 0.0**
LPSR pmax pmax
comp=Z,61nm,1.4s
MOS Moscow 28.37 39 *eP* **P 10 02 29.1 -0.3**
MOS *e* 10 03 20.9
MOS pmax pmax
comp=Z,68nm,0.9s
MOS MLR MLR
comp=E,1µm,11.0s
MOS MLR MLR
comp=Z,1µm,11.0s
KIV Kislovodsk 28.67 65 *eP* **P 10 02 32.6 +0.2**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 28.82 65 P **P 10 02 33.8 +0.2**
comp=Z,1.7nm,0.7s,baz=73,slow=15,SNR=4.0
comp=Z,1.7nm,0.7s
KBZ Khabaz 28.82 65 *i* P **P 10 02 36.4 +2.8**
KBZ pmax pmax
comp=Z,10.0nm,1.2s
GOF Gofitskoye 28.96 62*ce*P P 10 02 28.7 -6.1
VRH Novokhopyorsk 29.02 50 P **P 10 02 34.5 -0.7**
VRH pmax pmax
comp=Z,33nm,1.3s
LEIR Leirfjorden 29.30 6 *eP* **P 10 02 38.2 +0.6**
MOR8 Moi Rana 29.48 7 *eP* **P 10 02 40.8 +1.6**
STOK Stokkvaagen 29.51 6 *eP* **P 10 02 40.5 +1.0**
KONS Konsvik 29.68 6 *eP* **P 10 02 39.2 -1.8**
VAGH Vaagaholmen 29.92 6 *eP* **P 10 02 43.5 +0.4**
GNI Garni 30.41 72 LR LR 10 15 15.3
comp=Z,98nm,19.0s,baz=280,slow=37
FAUS Fauske 30.75 7 *eP* **P 10 02 50.8 +0.4**
STEI Steigen 31.27 7 *eP* **P 10 02 56.1 +1.1**
KLMR Klimovskoe 31.82 31 *eP* **P 10 02 58.5 -1.4**
KLMR pmax pmax
comp=Z,84nm,1.2s
KLMR MLR MLR
comp=Z,495nm,10.0s
DBIC Dimbokro 31.86 200 P **P 10 02 59.8 -0.9**
comp=Z,5.0nm,0.7s,baz=59,slow=6.2,SNR=4.0
DBIC LR LR 10 17 24.6
comp=Z,507nm,18.0s,baz=34,slow=39
comp=Z,5.0nm,0.7s
BORG Borgarnes 31.96 338 LR LR 10 15 34.4
comp=Z,344nm,19.0s,baz=132,slow=36
MAK Makhachkala 32.20 66 *eP* P 10 02 56.9 -6.6
MAK pmax pmax
comp=Z,98nm,0.9s
AKT Akhty 32.50 69 *eP* **P 10 03 09.6 +3.3**
BELG Belogornoye 32.85 49 P **P 10 03 08.3 -0.8**
comp=Z,14nm,0.9s,baz=94,slow=3.0,SNR=4.4
BELG LR LR 10 16 09.0
comp=Z,152nm,20.0s,baz=307,slow=36
comp=Z,14nm,0.9s
TRO Tromso 33.30 8 *eP* **P 10 03 12.4 -0.4**
KTK1 Kautokeino 33.31 11 *eP* **P 10 03 13.4 +0.5**
JETT Jettan, Norway 33.41 9 *eP* **P 10 03 13.7 -0.1**
ARA0 ARCESS Array S 34.15 12 *eP* **P 10 03 20.4 +0.2**
ARCES ARCESS Array B 34.15 12 P **P 10 03 20.2 0.0**
ARCES ARCESS Array B 34.15 12 P **P 10 03 20.0 -0.2**
comp=Z,13nm,0.7s,baz=205,slow=5.0,SNR=43
ARCES PcP **PcP 10 05 56.0 -1.0**
comp=Z,2.5nm,0.6s,baz=203,slow=2.7,SNR=9.2
ARCES LR LR 10 17 19.7
comp=Z,412nm,20.1s,baz=241,slow=36
comp=Z,13nm,0.7s
ARCES ARCESS Array B 34.15 12 P **P 10 03 20.2 0.0**
ARCES pmax pmax
comp=Z,77nm,1.4s
KEV Kevo 34.60 13 P **P 10 03 24.9 +0.8**
KEV Kevo 34.60 13 P **P 10 03 24.9 +0.8**
KEV pmax pmax
comp=Z,57nm,1.2s
KEV Kevo 34.60 13 ⇓P **P 10 03 24.9 +0.8**
JMIC Jan Mayen 34.71 352 LR LR 10 17 26.1
comp=Z,260nm,18.4s,baz=140,slow=36
HAMF Hammerfest 34.86 10 *eP* **P 10 03 26.0 -0.3**
KIRV Kirov 35.39 39 P **P 10 03 30.8 -0.1**
comp=Z,16nm,0.6s,baz=174,slow=21,SNR=8.9
KIRV LR LR 10 19 41.1
comp=Z,465nm,18.5s,baz=248,slow=39
comp=Z,16nm,0.6s
SCO Scoresbysund 36.47 345 P **P 10 03 39.1 -1.0**
SCO Scoresbysund 36.47 345 P **P 10 03 39.1 -1.0**
SCO pmax pmax
comp=Z,12nm,1.2s
SCO Scoresbysund 36.47 345 ⇑P **P 10 03 42.6 +2.6**
SCO Scoresbysund 36.47 345 *i* P **P 10 03 41.5 +1.5**
SCO IAmb IAmb 10 03 44.1
comp=Z,4.3nm,1.1s
RAYN Ar Rayn 36.61 100 P **P 10 03 41.6 -0.3**
RAYN Ar Rayn 36.61 100 P **P 10 03 41.6 -0.3**
RAYN pmax pmax
comp=Z,3.0nm,0.9s
AKTO Aktyubinsk 39.17 53 P **P 10 04 02.6 -0.6**
comp=Z,4.9nm,0.6s,baz=272,slow=7.7,SNR=14
AKTO LR LR 10 20 51.0
comp=Z,110nm,21.1s,baz=350,slow=37
comp=Z,4.9nm,0.6s
ARTI Arti 39.67 44 P **P 10 04 06.8 -0.5**
ARTI IAmb IAmb 10 04 15.5
comp=Z,29nm,1.0s
ARTI Arti 39.67 44 P **P 10 04 07.2 -0.1**
comp=Z,11nm,0.6s,baz=257,slow=6.0,SNR=14
ARTI LR LR 10 19 55.7
comp=Z,252nm,19.8s,baz=262,slow=35
comp=Z,11nm,0.6s
ARTI Arti 39.67 44*d i* P **P 10 04 07.5 +0.2**
ARTI 10 05 38.8
ARTI S **S 10 10 10.9 +0.3**
ARTI SS **SS 10 13 03.6 -2.0**
ARTI pmax pmax
comp=Z,18nm,0.8s
ARTI MLR MLR
comp=Z,500nm,15.0s
ARTI Arti 39.67 44 ⇓P **P 10 04 07.3 0.0**
ABKAR Akbulak array 40.46 55 P **P 10 04 13.1 -0.8**
SVE Sverdlovsk 40.95 43 *eP* **P 10 04 18.6 +0.7**
SVE *eS* **S 10 10 26.8 -3.0**
SVE pmax pmax
comp=Z,26nm,0.9s
DAG Danmarks Havn 41.16 352 *i* P **P 10 04 19.4 +0.1**
DAG IAmb IAmb 10 04 23.5
comp=Z,4.7nm,1.3s
SPB2 Spitsbergen Ar 41.36 3 IAmb IAmb 10 04 25.3
comp=Z,44nm,1.2s
SPITS Spitsbergen Ar 41.37 3 P **P 10 04 21.5 +0.5**
comp=Z,50nm,1.1s,baz=190,slow=9.2,SNR=12
SPITS LR LR 10 22 30.0
comp=Z,308nm,19.6s,baz=171,slow=38
comp=Z,50nm,1.1s
SPITS Spitsbergen Ar 41.37 3 P **P 10 04 22.0 +0.9**
SPITS pmax pmax
comp=Z,60nm,1.2s
SUMG Summit 41.75 342 P **P 10 04 25.0 +0.3**
SUMG IAmb IAmb 10 04 28.6
comp=Z,30nm,1.2s
SUMG Summit 41.75 342 P **P 10 04 25.0 +0.3**
SUMG pmax pmax
comp=Z,30nm,1.2s
SUMG Summit 41.75 342 ⇓P **P 10 04 26.2 +1.5**
SUMG Summit 41.75 342 *i* P **P 10 04 25.0 +0.3**
SUMG IAmb IAmb 10 04 28.1
comp=Z,13nm,1.0s
ATD Arta Tunnel 41.91 118 LR LR 10 23 52.3
comp=Z,24nm,18.5s,baz=324,slow=39
KBS Kingsbay 41.95 2 P **P 10 04 28.6 +2.8**
KBS IAmb IAmb 10 04 30.5
comp=Z,52nm,1.1s
KBS Kingsbay 41.95 2*ce*P **P 10 04 29.1 +3.3**
KBS pmax pmax
comp=Z,48nm,1.0s
KBS Kingsbay 41.95 2 ⇑P **P 10 04 28.6 +2.8**
LODK Lodwar 43.18 134 P **P 10 04 36.2 -0.4**
SFJD Kangerlussuaq 43.38 332 P **P 10 04 37.5 0.0**
SFJD IAmb IAmb 10 04 39.5
comp=Z,30nm,0.9s
SFJD Kangerlussuaq 43.38 332 LR LR 10 20 37.9
comp=Z,569nm,21.8s,baz=87,slow=33
SFJD Kangerlussuaq 43.38 332 P **P 10 04 37.5 0.0**
SFJD pmax pmax
comp=Z,30nm,1.0s
MBAR Mbarara 44.11 143 P **P 10 04 42.8 -1.4**
MBAR Mbarara 44.11 143*ce*P **P 10 04 43.8 -0.4**
MBAR pmax pmax
comp=Z,25nm,1.7s
UOSS Minazif 44.41 91 P **P 10 04 45.9 -0.5**
UOSS IAmb IAmb 10 04 53.9
comp=Z,32nm,0.8s
UOSS Minazif 44.41 91 ⇑P **P 10 04 45.8 -0.5**
NOR Nord 45.29 355 ⇑P **P 10 04 54.0 +1.3**
NOR Nord 45.29 355 *i* P **P 10 04 51.3 -1.3**
NOR IAmb IAmb 10 04 54.8
comp=Z,4.0nm,1.2s
BRVK Borovoye 46.59 49 P **P 10 05 04.0 +0.7**
BRVK Borovoye 46.59 49*ce*P **P 10 05 04.3 +1.0**
BRVK pmax pmax
comp=Z,12nm,0.8s
BVAR Borovoye Array 46.66 49 P **P 10 05 03.8 -0.1**
comp=Z,2.4nm,0.6s
BVAR LR LR 10 25 08.6
comp=Z,259nm,19.1s,baz=279,slow=37
comp=Z,2.4nm,0.6s
NEEM North Greenlan 46.96 345 ⇑P **P 10 05 07.4 +1.2**
NEEM North Greenlan 46.96 345 *i* P **P 10 05 05.3 -0.9**
KKAR Karatay Array 48.75 62 P **P 10 05 19.5 -0.8**
KKAR Karatay Array 48.75 62 P **P 10 05 19.5 -0.8**
KIBK Kibwezi 49.42 135 P **P 10 05 25.0 -0.6**
FRB Frobisher Bay 50.60 326 LR LR 10 24 59.2
comp=Z,744nm,19.5s,baz=96,slow=34
SCHQ Schefferville 51.05 315 P **P 10 05 36.8 -0.7**
comp=Z,16nm,1.0s,baz=62,slow=6.1,SNR=11
comp=Z,16nm,1.0s
KUQ Kuujjuuaa 51.30 319 IAmb IAmb 10 05 40.6
comp=Z,16nm,1.0s
AAK Ala-Archa 51.69 61 LR LR 10 31 42.9
comp=Z,89nm,18.4s,baz=292,slow=41

AAK Ala-Archa 51.69 61 *i* P **P** **10 05 45.1 +2.4**
AAK pmax pmax
comp=Z,5.0nm,1.0s

KURBB Kurchatov Arra 52.08 50 P **P** **10 05 45.2 0.0**
comp=Z,7.2nm,0.9s,baz=288,slow=8.1,SNR=21
KURBB LR LR 10 29 59.1
comp=Z,131nm,18.1s,baz=175,slow=38
comp=Z,7.2nm,0.9s

KURK Kurchatov 52.11 50 P **P** **10 05 45.2 -0.3**
KURK lAmb lAmb 10 05 53.8
comp=Z,27nm,1.1s

KURK Kurchatov 52.11 50*ce*P **P** **10 05 45.7 +0.2**
KURK pmax pmax
comp=Z,12nm,0.8s

BATG Bathurst New B 52.41 305 lAmb lAmb 10 05 49.5
comp=Z,30nm,1.3s

NRIK Noril'sk 52.92 26 P **P** **10 05 52.0 +0.8**
NRIK Noril'sk 52.92 26 P **P** **10 05 51.2 0.0**
comp=Z,3.2nm,0.5s,baz=222,slow=0.6,SNR=6.1
NRIK LR LR 10 29 27.5
comp=Z,230nm,18.1s,baz=276,slow=37
comp=Z,3.2nm,0.5s

NRIK Noril'sk 52.92 26 *i* P **P** **10 05 52.7 +1.5**
NRIK pmax pmax
comp=Z,9.0nm,1.1s

POIN Pond Inlet 53.13 338 P **P** **10 05 53.5 +0.8**
POIN lAmb lAmb 10 05 55.7
comp=Z,37nm,1.1s

EUNU Eureka 54.05 348 P **P** **10 06 01.0 +1.5**
E62A Clayton Lake 54.87 305 P **P** **10 06 05.5 -0.3**
E62A lAmb lAmb 10 06 16.4
comp=Z,21nm,1.1s

ZAA0 Zalesovo Array 54.90 45 P **P** **10 06 05.9 0.0**
ZAA0 lAmb lAmb 10 06 14.5
comp=Z,12nm,0.9s

ZALV Zalesovo Beam 54.90 45 P **P** **10 06 05.1 -0.8**
ZALV Zalesovo Beam 54.90 45 P **P** **10 06 05.0 -0.9**
comp=Z,2.3nm,0.5s,baz=261,slow=5.9,SNR=8.3
ZALV LR LR 10 31 48.4
comp=Z,276nm,18.2s,baz=280,slow=38
comp=Z,2.3nm,0.5s

ZALV Zalesovo Beam 54.90 45 P **P** **10 06 05.1 -0.8**
LMQ La Malbaie 55.08 307 P **P** **10 06 07.0 -0.4**
LMQ lAmb lAmb 10 06 17.9
comp=Z,16nm,1.1s

MK31 Makanchi Array 55.59 54*ce*P **P** **10 06 11.1 0.0**
MKAR Makanchi Array 55.59 54 P **P** **10 06 11.1 0.0**
MKAR Makanchi Array 55.59 54 P **P** **10 06 10.9 -0.1**
comp=Z,14nm,0.5s,baz=286,slow=6.2,SNR=87
MKAR LR LR 10 32 12.1
comp=Z,139nm,19.6s,baz=311,slow=38
comp=Z,14nm,0.5s

MKAR Makanchi Array 55.59 54 P **P** **10 06 11.1 0.0**
LSZ Lusaka 56.27 154 P **P** **10 06 14.9 -1.4**
LSZ lAmb lAmb 10 06 17.4
comp=Z,12nm,0.8s

LSZ Lusaka 56.27 154 LR LR 10 31 52.1
comp=Z,478nm,18.7s,baz=346,slow=38

LSZ Lusaka 56.27 154 P **P** **10 06 14.9 -1.4**
LSZ pmax pmax
comp=Z,12nm,0.9s

TSUM Tsumeb 57.16 167 LR LR 10 31 09.1
comp=Z,337nm,20.2s,baz=327,slow=36

RES Resolute Bay 57.28 342 LR LR 10 30 50.2
comp=Z,186nm,19.0s,baz=93,slow=36

LBNH Lisbon 57.29 303 ⇓P **P** **10 06 24.3 +1.1**
KSANE Kasane 57.64 158 P **P** **10 06 24.6 -1.4**
KSANE lAmb lAmb 10 06 27.1
comp=Z,13nm,0.9s

RCBR Riachuelo 57.80 231 LR LR 10 30 30.0
comp=Z,159nm,18.1s,baz=59,slow=35

MNTQ Montreal, Queb 57.93 305 P **P** **10 06 27.6 -0.1**
FRNY Flat Rock 58.16 305 P **P** **10 06 29.6 +0.3**
FRNY lAmb lAmb 10 06 37.5
comp=Z,13nm,1.1s

QNGWA Qangwa 58.23 163 P **P** **10 06 28.9 -1.1**
QNGWA lAmb lAmb 10 06 31.6
comp=Z,17nm,0.9s

TRQ Mont Tremblant 58.26 306 P **P** **10 06 30.0 -0.1**
TRQ lAmb lAmb 10 06 35.2
comp=Z,14nm,1.0s

LONY Lake Ozonia 58.90 305 lAmb lAmb 10 06 43.1
comp=Z,20nm,1.4s

VLDQ Val d'Or 59.37 309 lAmb lAmb 10 06 47.1
comp=Z,13nm,1.0s

GRTLG Ghanzi 60.00 163 P **P** **10 06 41.6 -0.7**
GRTLG lAmb lAmb 10 06 44.2
comp=Z,19nm,1.1s

WMQ Urumqi 60.24 56 *eP* **P** **10 06 46.4 +2.6**
WMQ pmax pmax
comp=Z,7.0nm,0.7s

K57A Scipio Center 60.95 303 lAmb lAmb 10 06 57.5
comp=Z,22nm,1.0s

MATP Matopo 61.16 156 LR LR 10 36 27.1
comp=Z,876nm,18.9s,baz=33,slow=39

J55A Hilton 61.59 304 lAmb lAmb 10 07 02.1
comp=Z,21nm,1.0s

KGCAE Kacgae 61.67 163 P **P** **10 06 53.0 -0.6**
BUKO Buck Lake 61.68 307 lAmb lAmb 10 07 01.7
comp=Z,23nm,1.2s

SADO Sadowa 61.80 306 LR LR 10 30 44.3
comp=Z,534nm,21.5s,baz=72,slow=33

MMNY Mt. Morris Dam 61.88 304 P **P** **10 06 54.5 -0.3**
MMNY lAmb lAmb 10 07 03.6
comp=Z,28nm,1.1s

N58A Sunbury 61.90 301 lAmb lAmb 10 07 03.6
comp=Z,26nm,1.2s

MVL Millersville 62.02 300 P **P** **10 06 58.2 +2.3**
MVL lAmb lAmb 10 07 04.7
comp=Z,23nm,1.0s

WVNY West Valley, N 62.48 304 P **P** **10 06 58.7 -0.2**
SDMD Soldier's Deli 62.62 300 lAmb lAmb 10 07 09.2
comp=Z,15nm,1.1s

KDWAN Kaudwane 62.79 160 P **P** **10 07 03.3 +2.2**
KDWAN lAmb lAmb 10 07 04.6
comp=Z,30nm,1.4s

MREMI Moremi 62.83 157 P **P** **10 07 00.2 -1.1**
LPHEP Lephephe 63.11 159 P **P** **10 07 02.6 -0.6**
P57A Homestead Farm 63.40 301 P **P** **10 07 05.3 +0.3**
P57A lAmb lAmb 10 07 15.0
comp=Z,24nm,1.1s

ERPA Erie 63.53 304 P **P** **10 07 06.3 +0.5**
ERPA lAmb lAmb 10 07 14.9
comp=Z,16nm,0.9s

CBN Corbin Frederi 63.55 299 P **P** **10 07 05.6 -0.4**
TIXI Tiksi 64.38 17 LR LR 10 38 26.3
comp=Z,203nm,18.6s,baz=349,slow=39

TIXI Tiksi 64.38 17*ce*P **P** **10 07 13.6 +2.7**
TIXI pmax pmax
comp=Z,19nm,1.3s

Q56A Snyder Ridge, 64.41 301 lAmb lAmb 10 07 14.1
comp=Z,16nm,1.1s

LBTB Lobatse 64.60 160 P **P** **10 07 12.2 -0.8**
LBTB lAmb lAmb 10 07 14.5
comp=Z,22nm,0.9s

LBTB Lobatse 64.60 160 LR LR 10 37 26.8
comp=Z,529nm,20.7s,baz=7.5,slow=38

LBTB Lobatse 64.60 160 P **P** **10 07 12.2 -0.8**
LBTB pmax pmax
comp=Z,22nm,1.0s

MOY Mondy 64.82 43 *eP* **P** **10 07 16.0 +1.6**
MOY pmax pmax
comp=Z,28nm,1.5s

SJG San Juan 65.07 274 LR LR 10 29 28.9
comp=Z,85nm,21.9s,baz=114,slow=30

A36M Sachs Harbour 65.89 345 P **P** **10 07 22.3 +1.5**
baz=41

TBO Thunder Bay 66.28 314 lAmb lAmb 10 07 26.4
comp=Z,21nm,1.1s

U56A King 66.54 299 lAmb lAmb 10 07 34.7
comp=Z,17nm,1.0s

ZAK Zakamensk 66.71 44 *eP* **P** **10 07 26.9 +0.3**
ZAK pmax pmax
comp=Z,15nm,1.1s

W57A Gilead 66.86 297 lAmb lAmb 10 07 36.1
comp=Z,24nm,1.1s

V55A Taylorsville 67.37 298 lAmb lAmb 10 07 40.0
comp=Z,21nm,1.0s

SMTB Santa Maria do 67.73 239 *eP* **P** **10 07 34.8 +1.4**
O48B Farmland 67.84 304 lAmb lAmb 10 07 41.2
comp=Z,24nm,1.1s

BOSA Boshof 67.94 162 P **P** **10 07 34.0 -0.4**
BOSA lAmb lAmb 10 07 35.1
comp=Z,11nm,0.9s

BOSA Boshof 67.94 162 P **P** **10 07 33.0 -1.4**
comp=Z,11nm,1.0s,baz=355,slow=6.1,SNR=11
comp=Z,11nm,1.0s

BOSA Boshof 67.94 162 P **P** **10 07 34.0 -0.4**
BOSA pmax pmax
comp=Z,11nm,0.9s

BOD Bodaibo 68.01 33 *eP* **P** **10 07 34.1 -0.4**
BOD pmax pmax
comp=Z,33nm,1.1s

S51A Beattyville 68.12 301 lAmb lAmb 10 07 44.2
comp=Z,13nm,0.8s

EPLO Experimental L 68.19 316 lAmb lAmb 10 07 44.1
comp=Z,24nm,1.1s

R50A Paris 68.29 302 lAmb lAmb 10 07 44.5
comp=Z,22nm,1.1s

I42A Draeger Farm, 68.39 309 lAmb lAmb 10 07 39.0
comp=Z,16nm,1.1s

P48A Milroy 68.42 304 lAmb lAmb 10 07 45.0
comp=Z,16nm,1.0s

G40A Rib Lake 68.46 311 lAmb lAmb 10 07 45.7
comp=Z,16nm,1.1s

E38A The Farm, Brul 68.57 313 lAmb lAmb 10 07 46.1
comp=Z,26nm,1.2s

TZTN Tazewell 68.65 300 lAmb lAmb 10 07 47.8
comp=Z,21nm,1.2s

R49A Shelbyville 68.86 302 lAmb lAmb 10 07 48.3
comp=Z,18nm,0.9s

TKL Tuckaleechee C 69.26 299 LR LR 10 37 23.8
comp=Z,167nm,19.3s,baz=55,slow=35

T50A Nancy 69.29 301 lAmb lAmb 10 07 50.9
comp=Z,17nm,1.2s

I40A Norwalk 69.44 310 lAmb lAmb 10 07 51.5
comp=Z,19nm,1.0s

FFC Flin Flon 69.60 324 P **P** **10 07 45.2 +0.8**
FFC lAmb lAmb 10 07 53.1
comp=Z,13nm,0.9s

FFC Flin Flon 69.60 324 P **P** **10 07 45.2 +0.8**
FFC pmax pmax
comp=Z,13nm,0.9s

WCI Wyandotte Cave 69.64 303 P **P** **10 07 44.9 -0.1**
WCI lAmb lAmb 10 07 53.2
comp=Z,22nm,0.9s

WCI Wyandotte Cave 69.64 303 P **P** **10 07 44.9 -0.1**
WCI pmax pmax
comp=Z,22nm,1.0s

W52A Murphy 69.66 299 lAmb lAmb 10 07 53.8
comp=Z,11nm,0.9s

JFWS Jewell Farm 69.73 309 lAmb lAmb 10 07 46.5
comp=Z,15nm,1.3s

YKAW3 Yellowknife Wh 69.77 335 lAmb lAmb 10 07 54.4
comp=Z,15nm,0.8s

BOAV Boa Vista 69.77 257 *eP* **P** **10 07 47.9 +1.8**
YKAW1 Yellowknife Wh 69.78 335 lAmb lAmb 10 07 54.4
comp=Z,14nm,0.9s

SONM Songino Array 69.80 45 P **P** **10 07 46.2 +0.2**
SONM lAmb lAmb 10 07 55.0
comp=Z,26nm,1.0s

SONM Songino Array 69.80 45 P **P** **10 07 46.5 +0.6**
comp=Z,5.8nm,0.8s,baz=302,slow=6.1,SNR=24
SONM LR LR 10 41 56.2
comp=Z,268nm,19.6s,baz=310,slow=39
comp=Z,5.8nm,0.8s

SONM Songino Array 69.80 45 P **P** **10 07 46.2 +0.2**
SONM pmax pmax
comp=Z,26nm,1.0s

YKA Yellowknife Ar 69.81 335 P **P** **10 07 45.7 +0.1**
YKA Yellowknife Ar 69.81 335 P **P** **10 07 46.4 +0.8**
comp=Z,3.7nm,0.6s,baz=327,slow=4.9,SNR=31
YKA LR LR 10 36 08.7
comp=Z,331nm,21.9s,baz=42,slow=34
comp=Z,3.7nm,0.6s

YKA Yellowknife Ar 69.81 335 *i* P **P** **10 07 46.4 +0.8**
YKA pmax pmax
comp=Z,3.0nm,0.6s

CPCT Cooper Cave 69.89 300 lAmb lAmb 10 07 55.2
comp=Z,16nm,0.8s

SPMN Marine on St. 70.04 312 lAmb lAmb 10 07 55.1
comp=Z,14nm,1.1s

JANB Januaria 70.13 232 *eP* **P** **10 07 48.9 +0.7**
ULN Ulaanbaatar 70.15 45 P **P** **10 07 48.3 +0.2**
ULN lAmb lAmb 10 07 57.2
comp=Z,15nm,0.9s

ULN Ulaanbaatar 70.15 45*ce*P **P** **10 07 49.1 +0.9**
ULN pmax pmax
comp=Z,12nm,1.3s

U49A Red Boiling Sp 70.19 301 lAmb lAmb 10 07 56.2
comp=Z,25nm,1.2s

GTA Gaotai 70.32 55 *eP* **P** **10 07 49.0 -0.3**
GTA pmax pmax
comp=Z,3.0nm,1.0s

GTA LR LR
comp=Z,240nm,13.8s

GTA LR LR
comp=Z,250nm,12.4s

GTA LR LR
comp=Z,170nm,16.4s

VOI Vohitsoka 70.33 140 lAmb lAmb 10 07 51.7
comp=Z,14nm,0.9s

HDIL Hopedale 70.38 306 lAmb lAmb 10 07 57.5
comp=Z,23nm,1.0s

ITTB Itaituba 70.47 248 *eP* **P** **10 07 51.8 +1.5**
INK Inuvik 70.54 345 LR LR 10 40 30.3
comp=Z,194nm,18.3s,baz=56,slow=37

INK Inuvik 70.54 345 P **P** **10 07 50.9 +1.0**
baz=34

L40A Anamosa 70.80 308 lAmb lAmb 10 07 59.9
comp=Z,26nm,1.0s

CLTN Cedars of Leba 70.80 301 lAmb lAmb 10 08 00.2
comp=Z,11nm,0.9s

I37A Lemond, Waseca 71.06 311 lAmb lAmb 10 08 01.9
comp=Z,30nm,1.3s

A21K Barrow 71.09 354 P **P** **10 07 54.2 +1.0**
baz=15

C26K Camden Bay 71.10 350 P **P** **10 07 54.1 +0.7**
baz=24

D27M Malcolm River 71.11 348 lAmb lAmb 10 08 03.5
comp=Z,8.3nm,0.8s

D27M Malcolm River 71.11 348 P **P** **10 07 54.6 +1.1**
baz=28

C27K Jago River 71.19 349 lAmb lAmb 10 08 04.2
comp=Z,20nm,0.8s

C27K Jago River 71.19 349 P **P** **10 07 54.3 +0.4**
baz=25,SNR=8.4

F31M Tsiigehtchic 71.31 345 P **P** **10 07 54.8 +0.2**
baz=33,SNR=21

YAK Yakutsk 71.31 24 LR LR 10 41 05.6
comp=Z,141nm,18.1s,baz=304,slow=37

YAK Yakutsk 71.31 24 *eP* **P** **10 07 55.8 +1.1**
YAK *e**PP **pwP** **10 08 00.7 +0.8**
YAK *e* 10 08 14.2
YAK *e* 10 10 33.2
YAK *e*PPP PPP 10 12 13.6
YAK *e*S **S** **10 17 14.1 +1.7**
YAK *e* 10 17 59.9
YAK pmax pmax
comp=Z,29nm,1.4s

YAK pmax pmax
comp=N,10.0nm,1.9s

YAK pmax pmax
comp=E,10.0nm,1.7s

YAK pmax pmax
comp=Z,200nm,9.4s

YAK pmax pmax
comp=N,68nm,3.8s

YAK pmax pmax
comp=E,91nm,7.6s

YAK smax smax
comp=E,71nm,4.5s

YAK smax smax
comp=N,49nm,4.8s

YAK MLR MLR
comp=Z,175nm,20.0s

YAK MLR MLR
comp=N,106nm,22.0s

YAK MLR MLR
comp=E,74nm,24.0s

E29M Blow River 71.32 347 P **P** **10 07 55.2 +0.5**
baz=30,SNR=22

V48A Smith Brothers 71.32 301 lAmb lAmb 10 08 03.3
comp=Z,21nm,1.0s

E28M Babbage River 71.43 347 P **P** **10 07 56.0 +0.6**
baz=29

152A Waverly Hall 71.50 297 lAmb lAmb 10 08 05.2
comp=Z,23nm,1.0s

F30M Barrier River 71.58 345 lAmb lAmb 10 08 06.0
comp=Z,13nm,0.9s

F30M Barrier River 71.58 345 P **P** **10 07 57.0 +0.7**
baz=32

F33A 5 Mile Ranch, 71.74 314 lAmb lAmb 10 08 05.3
comp=Z,14nm,1.0s

C24K Franklin Bluff 71.80 351 lAmb lAmb 10 08 07.5
comp=Z,31nm,1.1s

C24K Franklin Bluff 71.80 351 P **P** **10 07 58.7 +1.2**
baz=21

D25K Kavik River 71.86 350 lAmb lAmb 10 08 08.1
comp=Z,18nm,0.9s

D25K Kavik River 71.86 350 P **P** **10 07 58.2 +0.2**
baz=23,SNR=6.8

G31M Satah River 71.86 345 lAmb lAmb 10 08 06.8
comp=Z,18nm,0.8s

G31M Satah River 71.86 345 P **P** **10 07 58.2 +0.3**
baz=33

SIUC Southern Illin 71.87 304 lAmb lAmb 10 08 06.1
comp=Z,26nm,1.1s

S44A Carbondale 71.91 304 lAmb lAmb 10 08 06.3
comp=Z,26nm,1.1s

C23K Itkillik River 71.92 352 lAmb lAmb 10 08 09.0
comp=Z,19nm,0.8s

C23K Itkillik River 71.92 352 P **P** **10 07 59.8 +1.5**
baz=20,SNR=5.4

NPGB Novo Progresso 71.98 246 *eP* **P** **10 08 00.5 +1.0**
WRGLY Wrigley 72.09 338 P **P** **10 08 00.5 +1.0**
baz=40,SNR=6.4

E27K Coleen River 72.15 348 P **P** **10 08 00.6 +0.7**
baz=27,SNR=8.0

X48A Hartselle 72.17 300 lAmb lAmb 10 08 08.1
comp=Z,29nm,1.1s

DIAM Diamantina, MG 72.20 229 *eP* **P** **10 08 01.8 +1.0**
G30M tAoh Zraii Nji 72.21 345 P **P** **10 08 00.9 +0.7**
baz=31

D24K Happy Valley 72.34 351 P **P** **10 08 01.8 +0.9**
baz=21

F28M Old Crow 72.36 347 lAmb lAmb 10 08 10.2
comp=Z,9.5nm,0.7s

F28M Old Crow 72.36 347 P **P** **10 08 01.0 0.0**
baz=28,SNR=8.0

B20K Meade River 72.41 354 P **P** **10 08 01.4 +0.2**
baz=14

SNDB Serra Nova Dou 72.49 239 *eP* **P** **10 08 03.0 +0.5**
A19K Wainwright 72.51 355 P **P** **10 08 02.2 +0.4**
baz=11

FVM French Village 72.52 305 lAmb lAmb 10 08 10.4
comp=Z,28nm,1.0s

B21K Ikpikpuk River 72.55 353 P **P** **10 08 02.2 +0.2**
baz=16

G29M Pine Creek 72.63 346 P **P** **10 08 03.6 +1.0**
baz=30

P40A Paris 72.71 307 lAmb lAmb 10 08 11.2
comp=Z,18nm,1.0s

D23K Nanushuk River 72.75 351 lAmb lAmb 10 08 13.9
comp=Z,18nm,0.9s

D23K Nanushuk River 72.75 351 P **P** **10 08 04.2 +0.9**
baz=20,SNR=7.1

N38A Joes South For 72.76 308 lAmb lAmb 10 08 11.3
comp=Z,20nm,0.9s

H31M Peel River 72.82 344 lAmb lAmb 10 08 13.1
comp=Z,20nm,1.1s

H31M Peel River 72.82 344 P **P** **10 08 04.3 +0.5**
baz=32

EPYK Eagle Plains 72.84 345 lAmb lAmb 10 08 13.4
comp=Z,30nm,1.3s

EPYK Eagle Plains 72.84 345 P **P** **10 08 05.0 +1.1**
baz=31

E25K Arctic Village 72.85 349 lAmb lAmb 10 08 14.3
comp=Z,15nm,0.9s

E25K Arctic Village 72.85 349 P **P** **10 08 04.9 +1.0**
baz=24,SNR=20

LRAL Lakeview Retre 72.91 299 lAmb lAmb 10 08 12.9
comp=Z,20nm,0.8s

TOLK Toolik Lake Re 72.92 351 lAmb lAmb 10 08 14.8
comp=Z,22nm,0.8s

TOLK Toolik Lake Re 72.92 351 P **P** **10 08 05.6 +1.2**
baz=20,SNR=24

BDFB Brasilia 72.94 234 P **P** **10 08 04.6 -0.6**
BDFB Brasilia 72.94 234 P **P** **10 08 05.8 +0.6**
comp=Z,2.3nm,0.4s,baz=359,slow=4.5,SNR=5.3
BDFB LR LR 10 38 10.5
comp=Z,294nm,19.9s,baz=82,slow=34
comp=Z,2.3nm,0.4s

BDFB Brasilia 72.94 234 P **P** **10 08 04.6 -0.6**
BDFB pmax pmax
comp=Z,5.0nm,0.9s

CCM Cathedral Cave 73.02 305 P **P** **10 08 05.3 -0.1**
CCM lAmb lAmb 10 08 13.7
comp=Z,27nm,0.9s

CCM Cathedral Cave 73.02 305 P **P** **10 08 05.3 -0.1**
CCM pmax pmax
comp=Z,27nm,1.0s

F26K Sheenjek River 73.02 348 lAmb lAmb 10 08 15.3
comp=Z,9.1nm,0.8s

F26K Sheenjek River 73.02 348 P **P** **10 08 06.3 +1.3**
baz=25,SNR=19

C21K Knifeblade Rid 73.02 353 P **P** **10 08 06.5 +1.6**
baz=16

D22K Ayikyak River 73.06 352 P **P** **10 08 06.6 +1.4**
baz=18

ECSD EROS Data Cent 73.14 312 lAmb lAmb 10 08 13.9
comp=Z,13nm,0.9s

H29M Whitestone 73.31 346 lAmb lAmb 10 08 15.8
comp=Z,20nm,0.7s

H29M Whitestone 73.31 346 P **P** **10 08 07.7 +1.1**
baz=29,SNR=9.2

E24K Your Creek 73.31 350 P **P** **10 08 07.9 +1.2**
baz=21

BMAR Burnt Mountain 73.33 349 P **P** **10 08 07.5 +0.6**
F25K Christian Rive 73.34 349 P **P** **10 08 07.4 +0.5**
baz=24

B18K Kokolik River 73.39 355 P **P** **10 08 07.5 +0.5**
baz=10

G27K Doyon Strip 73.40 347 P **P** **10 08 08.1 +0.8**
baz=27

MACA Manacapuru-AM 73.41 253 *eP* **P** **10 08 09.2 +1.2**
E23K Chandalar 73.47 351 lAmb lAmb 10 08 21.3
comp=Z,14nm,1.0s

E23K Chandalar 73.47 351 P **P** **10 08 08.0 +0.3**
baz=20,SNR=7.8

C19K Lookout Ridge 73.49 355 lAmb lAmb 10 08 18.1
comp=Z,18nm,1.1s

C19K Lookout Ridge 73.49 355 P **P** **10 08 08.4 +0.6**
baz=12

R40A Maddies Statio 73.55 306 lAmb lAmb 10 08 16.6
comp=Z,26nm,1.0s

Z47A Carrollton 73.57 299 lAmb lAmb 10 08 16.3
comp=Z,22nm,0.8s

D20K Etivluk River 73.62 353 lAmb lAmb 10 08 18.8
comp=Z,10nm,0.7s

D20K Etivluk River 73.62 353 P **P** **10 08 09.5 +1.0**
baz=15,SNR=10

E21K Killik River 73.62 352 lAmb lAmb 10 08 18.3
comp=Z,8.8nm,0.7s

E21K Killik River 73.62 352 P **P** **10 08 08.2 -0.3**
baz=17

G26K Porcupine Rive 73.64 348 lAmb lAmb 10 08 19.1
comp=Z,16nm,1.0s

G26K Porcupine Rive 73.64 348 P **P** **10 08 08.4 -0.1**
baz=25,SNR=10

E22K Anaktuvuk Pass 73.68 351 P **P** **10 08 09.2 +0.4**
baz=18,SNR=7.2

F24K Squaw Lake 73.75 350 lAmb lAmb 10 08 20.0
comp=Z,12nm,0.8s

F24K Squaw Lake 73.75 350 P **P** **10 08 09.6 +0.4**
baz=22,SNR=9.8

I30M Mount Dempster 73.76 344 lAmb lAmb 10 08 19.0
comp=Z,33nm,1.3s

I30M Mount Dempster 73.76 344 P **P** **10 08 09.9 +0.4**
baz=31,SNR=14

SDV Santo Domingo 73.88 269 *eP* **P** **10 08 11.7 +0.6**
H27K Steamboat Moun 73.90 347 lAmb lAmb 10 08 20.2
comp=Z,13nm,0.8s

H27K Steamboat Moun 73.90 347 P **P** **10 08 09.7 -0.4**
baz=27,SNR=13

D19K Kuna River 73.97 354 lAmb lAmb 10 08 20.9
comp=Z,32nm,1.1s

D19K Kuna River 73.97 354 P **P** **10 08 10.4 -0.2**
baz=13

E20K Nigu River 74.03 353 P **P** **10 08 10.7 -0.2**
baz=15,SNR=6.2

I29M Ogilvie Camp, 74.05 345 lAmb lAmb 10 08 20.4
comp=Z,17nm,0.9s

C18K Utukok River 74.06 355 lAmb lAmb 10 08 21.5
comp=Z,16nm,0.8s

C18K Utukok River 74.06 355 P **P** **10 08 11.2 +0.1**
baz=11

LCAR Lake Charles 74.07 303 lAmb lAmb 10 08 19.7
comp=Z,30nm,1.1s

BILL Bilibino 74.09 8 *i* P **P** **10 08 12.3 +1.1**
BILL pmax pmax

comp=Z,18nm,1.3s
G25K Bearman Lake 74.18 349 P P 10 08 11.6 -0.1
baz=23,SNR=11
I28M Miner Creek 74.29 346 P P 10 08 12.4 -0.2
baz=28
J30M Hart River 74.31 344 P P 10 08 12.0 -0.7
baz=31
F22K John River 74.32 351 P P 10 08 12.5 -0.1
baz=18
COLD Coldfoot 74.34 351 IAmb IAmb 10 08 22.6
comp=Z,17nm,0.8s
COLD Coldfoot 74.34 351 P P 10 08 13.1 +0.4
baz=20,SNR=14
C17K DeLong Mountai 74.35 356 P P 10 08 13.4 +0.6
baz=9.1,SNR=10.0
G24K Hadweenzic Riv 74.45 349 P P 10 08 13.4 +0.1
baz=22,SNR=9.3
I27K Kandik River 74.47 347 P P 10 08 13.7 +0.1
baz=26,SNR=14
H25L Birch Creek 74.60 348 P P 10 08 14.7 +0.6
baz=23,SNR=26
KOTAN Kotaneelee Air 74.66 337 P P 10 08 15.4 +0.7
baz=40
C16K Lisburne Hills 74.67 357 P P 10 08 15.2 +0.7
baz=7.3
F21K Alatna River 74.74 352 P P 10 08 16.2 +1.2
baz=17,SNR=31
MMPY Sheldon Lake, 74.75 341 P P 10 08 16.2 +1.0
baz=34,SNR=9.7
G22K Bettles 74.79 351 P P 10 08 16.3 +1.0
baz=19
G23K Bananza Creek 74.80 350 IAmb IAmb 10 08 25.7
comp=Z,25nm,0.8s
G23K Bananza Creek 74.80 350 P P 10 08 16.0 +0.6
baz=20,SNR=59
LZH Lanzhou 74.81 56 eP P 10 08 22.9 +6.7
LZH sP PcP 10 08 30.0 -0.2
LZH S S 10 17 55.3 +1.9
LZH pmax pmax
comp=Z,37nm,1.3s
LZH LR LR
comp=Z,280nm,13.7s
LZH LR LR
comp=Z,180nm,13.4s
LZH LR LR
comp=Z,190nm,14.4s
FCAR Ozark Folk Cen 74.82 304 IAmb IAmb 10 08 23.6
comp=Z,27nm,1.2s
J29N Klondike Camp 74.82 345 P P 10 08 16.5 +0.9
baz=29
E19K Redstone River 74.91 353 P P 10 08 17.2 +1.2
baz=14,SNR=22
I26K Coal Creek Min 75.03 347 P P 10 08 17.8 +1.1
baz=25
MAYO Mayo, Yukon 75.06 343 IAmb IAmb 10 08 42.0
comp=Z,19nm,0.9s
D17K Noatak River 75.12 356 P P 10 08 18.1 +0.9
baz=9.2,SNR=6.1
F20K Avaraart Lake 75.15 353 P P 10 08 18.3 +0.9
baz=15
K29M Barlow Dome 75.21 344 P P 10 08 18.0 +0.1
baz=30
E18K Tukpahlearik C 75.22 355 IAmb IAmb 10 08 28.0
comp=Z,13nm,0.7s
E18K Tukpahlearik C 75.22 355 P P 10 08 17.9 +0.1
baz=11
PRP Porcupine Dome 75.24 348 IAmb IAmb 10 08 28.4
comp=Z,11nm,0.9s
PRP Porcupine Dome 75.24 348 P P 10 08 19.0 +0.9
baz=23,SNR=12
H24K Noodor Dome 75.31 349 IAmb IAmb 10 08 28.5
comp=Z,11nm,0.8s
H24K Noodor Dome 75.31 349 P P 10 08 19.0 +0.6
baz=22,SNR=12
DAWY Dawson 75.41 345 IAmb IAmb 10 08 28.8
comp=Z,12nm,0.8s
DAWY Dawson 75.41 345 P P 10 08 19.8 +0.8
baz=28,SNR=12
G21K Allakaket 75.42 352 IAmb IAmb 10 08 29.2
comp=Z,25nm,0.9s
G21K Allakaket 75.42 352 P P 10 08 20.2 +1.2
baz=17,SNR=17
ARAG Araguaiana, MT 75.49 237 eP P 10 08 21.1 +1.1
F19K Shaleruckik Mo 75.56 353 IAmb IAmb 10 08 29.5
comp=Z,15nm,0.9s
F19K Shaleruckik Mo 75.56 353 P P 10 08 20.7 +1.0
baz=14,SNR=11
H23K Yukon River 75.57 350 IAmb IAmb 10 08 30.3
comp=Z,23nm,0.8s
H23K Yukon River 75.57 350 P P 10 08 20.7 +0.8
baz=20,SNR=15
FARO Faro, Yukon 75.61 342 P P 10 08 21.1 +0.9
baz=33,SNR=10.0
E17K Hotham Inlet 75.65 355 P P 10 08 20.9 +0.7
baz=10
H22K Ishtalitna Cre 75.75 351 P P 10 08 21.6 +0.7
baz=19
J26L Joseph Creek 75.83 347 IAmb IAmb 10 08 31.8
comp=Z,20nm,1.1s
J26L Joseph Creek 75.83 347 P P 10 08 22.3 +0.8
baz=25,SNR=14
LIRD Liard River Hi 75.87 337 P P 10 08 22.4 +0.8
baz=38
M31M Drury Creek, Y 75.89 342 IAmb IAmb 10 08 32.8
comp=Z,15nm,1.2s
M31M Drury Creek, Y 75.89 342 P P 10 08 23.0 +1.2
baz=32
POKR Poker Plat Res 75.92 349 IAmb IAmb 10 08 31.9
comp=Z,22nm,0.8s
POKR Poker Plat Res 75.92 349 P P 10 08 22.9 +1.1
baz=22
F18K Selawik 75.96 354 P P 10 08 21.7 -0.2
baz=12
IMAR Indian Mountai 75.97 352 P P 10 08 23.8 +1.7
K27K Chicken 75.98 346 P P 10 08 23.0 +0.8
baz=26
L29M L29M 75.98 344 P P 10 08 23.3 +1.0
baz=29
U38A Gravette 76.00 305 IAmb IAmb 10 08 30.3
comp=Z,26nm,1.1s
TOAD Toad River Com 76.03 336 P P 10 08 23.5 +0.9
baz=38
J25K Salcha River, 76.05 348 P P 10 08 23.5 +0.9
baz=23
PDRB Porto dos Gac 76.06 244 eP P 10 08 24.5 +1.2
X40A Basin Creek Fa 76.10 303 IAmb IAmb 10 08 30.4
comp=Z,24nm,0.9s
WTLY Watson Lake, Y 76.12 338 IAmb IAmb 10 08 33.2
comp=Z,16nm,1.0s
WTLY Watson Lake, Y 76.12 338 P P 10 08 23.7 +0.5
baz=36,SNR=12
M30M Minto, Yukon 76.15 343 P P 10 08 24.3 +1.1
baz=30
ILAR Eielson Array 76.15 348 P P 10 08 23.4 +0.2
ILAR Eielson Array 76.15 348 P P 10 08 24.1 +0.9
comp=Z,2.2nm,0.8s,baz=7.2,slow=4.3,SNR=20
ILAR LR LR 10 45 18.3
comp=Z,191nm,19.6s,baz=53,slow=38
comp=Z,2.2nm,0.8s
H21K Melozitna Rive 76.16 351 IAmb IAmb 10 08 34.0
comp=Z,28nm,1.0s
H21K Melozitna Rive 76.16 351 P P 10 08 23.9 +0.7
baz=18,SNR=17
G19K Purcell Mounta 76.17 353 P P 10 08 23.8 +0.5
baz=14,SNR=6.4
I23K Minto, Yukon-K 76.18 349 P P 10 08 23.9 +0.7
baz=20,SNR=11
COLA College 76.21 349 P P 10 08 23.9 +0.5
COLA IAmb IAmb 10 08 33.8
comp=Z,8.0nm,0.7s
COLA College 76.21 349 P P 10 08 23.9 +0.5
COLA pmax pmax
comp=Z,8.0nm,0.7s
COLA College 76.21 349 P P 10 08 23.8 +0.3
baz=21
SCRK Sand Creek 76.39 347 IAmb IAmb 10 08 34.9
comp=Z,9.8nm,0.9s
SCRK Sand Creek 76.39 347 P P 10 08 24.7 0.0
baz=24,SNR=11
N32M Quiet Lake 76.45 341 IAmb IAmb 10 08 35.5
comp=Z,18nm,0.8s
N32M Quiet Lake 76.45 341 P P 10 08 26.0 +1.0
baz=33
MLY Manley 76.49 350 IAmb IAmb 10 08 35.1
comp=Z,13nm,1.0s
MLY Manley 76.49 350 P P 10 08 26.0 +0.9
baz=19,SNR=7.1
HDA Harding Lake 76.50 348 IAmb IAmb 10 08 35.1
comp=Z,24nm,0.8s
HDA Harding Lake 76.50 348 P P 10 08 26.0 +0.8
baz=22,SNR=16
I21K Tanana 76.52 351 IAmb IAmb 10 08 35.7
comp=Z,20nm,1.0s
I21K Tanana 76.52 351 P P 10 08 26.0 +0.9
baz=18,SNR=14
G18K Tagagawik 76.56 353 IAmb IAmb 10 08 35.7
comp=Z,11nm,0.9s
G18K Tagagawik 76.56 353 P P 10 08 26.3 +0.8
baz=13,SNR=8.1
MIAR Mount Ida 76.57 303 IAmb IAmb 10 08 34.6
comp=Z,19nm,0.8s
H20K Anotleneega Mo 76.57 352 P P 10 08 26.8 +1.3
baz=16,SNR=26
WRH Wood River Hil 76.62 349 IAmb IAmb 10 08 35.2
comp=Z,12nm,0.8s
M29M Somme Creek 76.64 344 P P 10 08 27.0 +0.9
baz=29,SNR=7.1
NEA2 Nenana 76.66 349 P P 10 08 26.5 +0.5
baz=20,SNR=6.6
TEFE Tefe 76.66 255 eP P 10 08 28.2 +1.4
LAO LASA Array 76.69 319 IAmb IAmb 10 08 35.9
comp=Z,13nm,0.9s
DOT Dot Lake 76.70 347 IAmb IAmb 10 08 36.6
comp=Z,14nm,0.9s
H19K Roundabout Mou 76.71 352 IAmb IAmb 10 08 36.6
comp=Z,17nm,0.9s
H19K Roundabout Mou 76.71 352 P P 10 08 27.2 +1.0
baz=14,SNR=13
SEY Seymchan 76.72 15 LR LR 10 47 23.5
comp=Z,68nm,18.4s,baz=340,slow=40
SEY Seymchan 76.72 15 *i* P P 10 08 27.5 +1.2
SEY pmax pmax
comp=Z,14nm,1.3s
RIDG Independent Ri 76.76 347 IAmb IAmb 10 08 37.1
comp=Z,35nm,1.2s
RIDG Independent Ri 76.76 347 P P 10 08 27.8 +1.1
baz=24,SNR=10
BCAR Beaver Creek A 76.79 345 P P 10 08 27.3 +0.4
L27K Beaver Creek, 76.81 345 P P 10 08 27.8 +0.9
baz=26,SNR=10
N31M Braeburn, Yuko 76.85 342 IAmb IAmb 10 08 37.3
comp=Z,12nm,1.1s
N31M Braeburn, Yuko 76.85 342 P P 10 08 27.7 +0.4
baz=31
K24K Donnelly Dome 76.86 347 IAmb IAmb 10 08 37.9
comp=Z,20nm,0.8s
K24K Donnelly Dome 76.86 347 P P 10 08 27.8 +0.5
baz=23,SNR=7.7
HHC Hu-ho-hao-te 76.87 49 eP P 10 08 24.9 -2.9
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,72nm,5.7s
HHC LR LR
comp=N,290nm,13.5s
HHC LR LR
comp=E,220nm,13.4s
HHC LR LR
comp=Z,360nm,14.3s
G17K Kiwalik Mounta 77.12 354 P P 10 08 29.0 +0.4
baz=11
L26K Log Cabin Wild 77.14 346 P P 10 08 29.7 +0.9
baz=25,SNR=8.3
RSSD Black Hills 77.16 316 P P 10 08 29.3 -0.2
RSSD IAmb IAmb 10 08 38.5
comp=Z,17nm,1.1s
RSSD Black Hills 77.16 316 P P 10 08 29.3 -0.2
RSSD pmax pmax
comp=Z,17nm,1.1s
P33M Teslin, Yukon 77.18 340 IAmb IAmb 10 08 39.2
comp=Z,12nm,0.9s
P33M Teslin, Yukon 77.18 340 P P 10 08 30.2 +1.0
baz=33,SNR=6.8
F15K North Star Dit 77.19 356 IAmb IAmb 10 08 39.1
comp=Z,12nm,0.8s
F15K North Star Dit 77.19 356 P P 10 08 29.7 +0.7
baz=7.8
BVCY Beaver Creek 77.19 345 P P 10 08 29.8 +0.7
baz=27
N30M Aishikik Lake 77.19 343 P P 10 08 29.7 +0.5
baz=30
I20K Naa Jeedeneel 77.19 351 P P 10 08 29.9 +0.9
baz=16
TUL3 Leonard 77.22 305 IAmb IAmb 10 08 37.9
comp=Z,22nm,0.9s
H18K Honhosa River 77.26 353 IAmb IAmb 10 08 40.0
comp=Z,14nm,1.1s
H18K Honhosa River 77.26 353 P P 10 08 30.3 +0.8
baz=13
WHY Whitehorse 77.34 341 IAmb IAmb 10 08 39.5
comp=Z,12nm,0.7s
WHY Whitehorse 77.34 341 P P 10 08 29.9 -0.1
baz=31
R33M Jennings River 77.34 339 P P 10 08 30.4 +0.3
baz=34,SNR=7.9
G16K Koyuk River 77.36 355 P P 10 08 30.2 +0.3
baz=9.7
BPAW Bear Paw Mtn. 77.41 350 P P 10 08 31.0 +0.7
baz=19
M27K Edge Creek, AK 77.45 345 P P 10 08 30.4 -0.3
baz=26
MCK McKinley 77.45 349 IAmb IAmb 10 08 39.5
comp=Z,14nm,1.0s
MCK McKinley 77.45 349 P P 10 08 31.0 +0.5
baz=20
TNA Tin City 77.49 357 P P 10 08 30.8 +0.2
baz=5.2
F14K Arctic Creek 77.51 357 P P 10 08 30.8 +0.1
baz=6.5
GCSA Galena City Sc 77.51 352 P P 10 08 31.1 +0.3
baz=14
O30N Mendenhall 77.55 342 P P 10 08 31.5 +0.4
baz=30
XLT XiLinHaoTe 77.57 44 eP P 10 08 32.8 +1.2
XLT pP pwP 10 08 37.6 +0.8
XLT sP PcP 10 08 39.8 -2.1
XLT PcP sP 10 08 43.3 +9.5
XLT pmax pmax
comp=Z,6.0nm,0.6s
XLT pmax pmax
comp=Z,120nm,3.7s
PAX Paxson 77.58 347 P P 10 08 31.9 +0.6
baz=23
EGMT Eagleton 77.61 322 IAmb IAmb 10 08 40.9
comp=Z,26nm,1.1s
H17K Granite Mounta 77.61 354 IAmb IAmb 10 08 42.2
comp=Z,16nm,0.9s
H17K Granite Mounta 77.61 354 P P 10 08 32.0 +0.6
baz=12,SNR=7.2
M26K Nabesna, AK 77.64 346 P P 10 08 31.6 -0.1
baz=25,SNR=6.8
YUK4 Talbot Arm 77.65 343 P P 10 08 31.7 -0.3
baz=28
YUK3 Moose Creek 77.67 344 P P 10 08 31.9 -0.2
baz=27,SNR=5.7
RND Reindeer 77.75 349 IAmb IAmb 10 08 41.5
comp=Z,17nm,0.9s
J20K Nowinta River 77.75 351 IAmb IAmb 10 08 42.0
comp=Z,9.4nm,0.8s
J20K Nowinta River 77.75 351 P P 10 08 33.1 +0.9
baz=16,SNR=8.8
CHUM Lake Minchumin 77.80 350 P P 10 08 33.1 +0.7
baz=18,SNR=13
DHY Denali Highway 77.81 348 P P 10 08 33.6 +0.8
baz=22,SNR=39
HYT Haines Junctio 77.84 343 P P 10 08 33.7 +0.7
baz=29,SNR=9.9
DLBC Dease Lake 77.86 338 LR LR 10 44 04.6
comp=Z,13nm,19.6s,baz=344,slow=37
DLBC Dease Lake 77.86 338 P P 10 08 33.3 +0.4
baz=35,SNR=7.7
G15K Niukluk 77.86 356 P P 10 08 34.1 +1.3
baz=8.3
KTH Kantishna Hill 77.92 350 IAmb IAmb 10 08 42.4
comp=Z,22nm,1.1s
TRF Thorofare Moun 77.92 349 IAmb IAmb 10 08 41.8
comp=Z,20nm,1.2s
TRF Thorofare Moun 77.92 349 P P 10 08 33.4 0.0
baz=19,SNR=9.0
YUK6 Outpost Mounta 77.94 343 P P 10 08 33.4 -0.2
baz=29,SNR=8.3
P32M Atlin 77.94 340 P P 10 08 33.9 +0.5
baz=32
YUK8 Steele Glacier 77.96 344 P P 10 08 34.0 +0.2
baz=28
OGNE Ogallala 78.02 313 IAmb IAmb 10 08 42.6
comp=Z,19nm,1.1s
HARP HAARP 78.05 347 P P 10 08 34.9 +1.0
baz=23
Q32M Nakina River 78.08 339 P P 10 08 34.3 0.0
baz=33
H16K Elim 78.09 355 P P 10 08 34.8 +0.7
baz=9.8
J19K Poorman 78.11 352 IAmb IAmb 10 08 44.9
comp=Z,13nm,1.1s
J19K Poorman 78.11 352 P P 10 08 34.7 +0.6
baz=15,SNR=7.9
CAST Castle Rocks 78.21 350 P P 10 08 35.5 +0.8
baz=18,SNR=11
WAT1 Susitna Watana 78.24 348 P P 10 08 35.9 +1.0
baz=21
P30M Million Dollar 78.33 342 P P 10 08 36.6 +1.1
baz=30
WAT6 Susitna Watana 78.34 348 P P 10 08 37.2 +1.6
baz=21,SNR=22
ANM Nome 78.37 356 P P 10 08 36.6 +1.1
baz=7.2
SKAG Skagway 78.48 341 P P 10 08 37.7 +1.4
baz=31
M24K Tolsona, Glenn 78.51 347 P P 10 08 37.6 +1.2
baz=22
O28M Mount Upton 78.51 344 IAmb IAmb 10 08 46.9
comp=Z,12nm,0.8s
O28M Mount Upton 78.51 344 P P 10 08 38.0 +1.2
baz=27,SNR=7.4
K20K Telida 78.53 351 IAmb IAmb 10 08 46.4
comp=Z,31nm,1.1s
K20K Telida 78.53 351 P P 10 08 37.8 +1.2
baz=16
O29M Mount Kennedy 78.56 343 P P 10 08 37.6 +0.7
baz=28
MCARA McCarthy VSAT 78.57 345 P P 10 08 37.8 +1.0
baz=25
CTG Chitna Glacier 78.59 344 P P 10 08 37.3 +0.3
baz=26
S34M Telegraph Cree 78.62 338 P P 10 08 38.2 +1.1
baz=34
N25K Chitina, Valde 78.67 346 P P 10 08 37.4 0.0
baz=24
I17K Unalakleet 78.72 354 IAmb IAmb 10 08 48.5
comp=Z,30nm,1.2s
I17K Unalakleet 78.72 354 P P 10 08 37.9 +0.4
baz=11
PPLA Purkeypile 78.72 350 IAmb IAmb 10 08 46.7
comp=Z,11nm,0.9s
PPLA Purkeypile 78.72 350 P P 10 08 38.0 +0.3
baz=18
J18K Innoko River 78.74 352 IAmb IAmb 10 08 48.0
comp=Z,12nm,0.9s
J18K Innoko River 78.74 352 P P 10 08 38.5 +0.8
baz=14
PLBC Pleasant Camp 78.75 341 P P 10 08 38.3 +0.5
baz=30
GRNC Granite Creek 78.89 344 IAmb IAmb 10 08 48.8
comp=Z,13nm,1.0s
PZH PanZhiHua 78.89 65 P P 10 08 39.3 0.0
PZH pmax pmax
comp=Z,10.0nm,0.8s
HEH HeiHe 78.91 34 eP P 10 08 39.3 +0.5
HEH pmax pmax
comp=Z,8.0nm,1.2s
HEH LR LR
comp=Z,320nm,14.6s
HEH LR LR
comp=Z,290nm,12.6s
HEH LR LR
comp=Z,390nm,14.9s
P29M Windy Craggy 78.95 342 IAmb IAmb 10 08 49.4
comp=Z,14nm,0.7s
P29M Windy Craggy 78.95 342 P P 10 08 39.1 +0.2
baz=29
SCM Sheep Creek Mo 78.97 347 IAmb IAmb 10 08 49.0
comp=Z,39nm,1.3s
SCM Sheep Creek Mo 78.97 347 P P 10 08 39.3 +0.2
baz=22,SNR=7.2
KLU Klutina 79.03 347 IAmb IAmb 10 08 49.1
comp=Z,12nm,0.7s
KLU Klutina 79.03 347 P P 10 08 40.0 +0.6
baz=23,SNR=7.9
J17K VABM Dome 79.05 353 IAmb IAmb 10 08 49.8
comp=Z,22nm,0.9s
J17K VABM Dome 79.05 353 P P 10 08 40.1 +0.7
baz=12
M23K Glacier View 79.07 348 P P 10 08 40.4 +0.9
baz=21
PINM Pinnacle 79.13 343 P P 10 08 40.6 +0.7
baz=27
T35M Bob Quinn 79.13 337 P P 10 08 40.7 +0.7
baz=34
PCA Pinnacle 79.13 343 IAmb IAmb 10 08 50.5
comp=Z,12nm,0.6s
CRQE Cirque 79.16 345 P P 10 08 40.5 +0.4
baz=25
BMRM Bremner River 79.26 346 P P 10 08 40.9 +0.3
baz=24,SNR=8.4
R32K Eaglecrest 79.29 340 P P 10 08 41.1 +0.3
baz=31,SNR=7.1
J16K Anvik River 79.30 354 P P 10 08 41.0 +0.2
baz=11
PNL Peninsula 79.31 343 P P 10 08 41.0 +0.1
baz=28,SNR=6.7
MA2 Magadan 79.35 17 P P 10 08 42.7 +1.6
MA2 IAmb IAmb 10 08 50.9
comp=Z,27nm,0.9s
MA2 Magadan 79.35 17 LR LR 10 48 56.0
comp=Z,72nm,18.5s,baz=318,slow=40
MA2 Magadan 79.35 17 eP P 10 08 43.9 +2.8
MA2 pmax pmax
comp=Z,19nm,1.7s
L20K Farewell, AK 79.36 351 P P 10 08 41.5 +0.4
baz=16
XAN Xi'an 79.38 55 P P 10 08 48.8 +7.1
XAN pmax pmax
comp=Z,17nm,1.2s
GAMB Gambell 79.38 359 P P 10 08 41.1 +0.1
baz=2.0
WAX Waxell Ridge 79.38 345 IAmb IAmb 10 08 54.5
comp=Z,14nm,0.8s
MESA MESA 79.43 344 P P 10 08 41.7 0.0
baz=26
VILB Vilhena 79.45 245 eP P 10 08 43.2 +0.9
K22A Casper 79.49 316 IAmb IAmb 10 08 50.7
comp=Z,14nm,0.8s
PMR Palmer 79.50 348 P P 10 08 41.6 -0.2
baz=20
R31K City Hall, Gus 79.50 341 P P 10 08 42.3 +0.5
baz=30
M22K Willow 79.50 349 P P 10 08 42.3 +0.5
baz=19
SKT Skwentna 79.50 349 P P 10 08 41.9 0.0
baz=18
KNK Knik Glacier 79.55 348 IAmb IAmb 10 08 51.9
comp=Z,22nm,1.0s
KNK Knik Glacier 79.55 348 P P 10 08 42.9 +0.7
baz=21
KSCO Kaye Shedlock' 79.60 311 IAmb IAmb 10 08 52.1
comp=Z,23nm,1.1s
BERG Berg Lake 79.61 345 IAmb IAmb 10 08 52.5
comp=Z,14nm,0.7s
K17K Iditarod 79.64 353 P P 10 08 43.2 +0.6
baz=13
L19K White Mountain 79.77 351 P P 10 08 43.8 +0.5
baz=16
YNE Yellowstone No 79.78 320 IAmb IAmb 10 08 54.4
comp=Z,17nm,1.0s
GLI Glacier Island 79.81 347 P P 10 08 44.3 +0.8
baz=22
M20K Styx River 79.83 350 P P 10 08 44.1 +0.3
baz=17
EYAK Cordova Ski Ar 79.87 346 P P 10 08 44.5 +0.7
baz=23
WMOK Wichita Mounta 79.88 306 IAmb IAmb 10 08 53.9
comp=Z,28nm,1.1s
SUA Susitna One 79.88 349 IAmb IAmb 10 08 55.1
comp=Z,21nm,0.8s
SUA Susitna One 79.88 349 P P 10 08 44.7 +0.6
baz=19
L18K Granite Mounta 79.95 352 IAmb IAmb 10 08 54.8
comp=Z,11nm,0.8s
L18K Granite Mounta 79.95 352 P P 10 08 43.6 -0.7
baz=14
M19K Big River Lodg 79.98 351 P P 10 08 44.4 0.0
baz=16
S32K Killisnoo 79.99 340 P P 10 08 45.1 +0.6

baz=31,SNR=8.1
S31K Pelican 80.02 341 IAmb IAmb 10 08 55.4
comp=Z,25nm,1.0s
S31K Pelican 80.02 341 P **P** **10 08 45.1 +0.5**
baz=30,SNR=19
PWL Port Wells 80.05 347 IAmb IAmb 10 08 54.3
comp=Z,20nm,1.0s
PWL Port Wells 80.05 347 P **P** **10 08 45.1 +0.2**
baz=21
J14K Nanvaranak Lak 80.06 355 IAmb IAmb 10 08 54.8
comp=Z,15nm,0.9s
J14K Nanvaranak Lak 80.06 355 P **P** **10 08 45.8 +1.0**
baz=8.6
RC01 Rabbit Creek A 80.07 348 P **P** **10 08 44.9 0.0**
baz=20
RPRD Ribas do Rio P 80.15 235 *e*P **P** **10 08 47.8 +1.9**
KAIM Kayak Island 80.18 345 P **P** **10 08 46.0 +0.4**
baz=24
L17K Donlin 80.21 352 P **P** **10 08 45.4 -0.2**
baz=13
WRAK Wrangell Islan 80.24 338 P **P** **10 08 46.5 +0.6**
baz=33
K15K Wolf Creek Mou 80.36 354 P **P** **10 08 47.6 +1.1**
baz=10
PTLB Pontes e Lacer 80.37 242 P **P** **10 08 46.0 -1.2**
PTLB Pontes e Lacer 80.37 242 *e*P **P** **10 08 47.8 +0.7**
KMI Kunming 80.43 66 P **P** **10 08 49.3 +1.5**
KMI pmax pmax
comp=Z,14nm,0.7s
SIT Sitka 80.56 340 P **P** **10 08 48.2 +0.6**
baz=30
M18K Stony River 80.56 351 P **P** **10 08 48.4 +0.9**
baz=15
SMWD Samnorwood 80.59 307 IAmb IAmb 10 08 57.6
comp=Z,19nm,1.0s
O22K Cooper Landing 80.64 348 P **P** **10 08 48.0 0.0**
baz=20
P23K Montague Islan 80.69 347 IAmb IAmb 10 08 58.0
comp=Z,13nm,0.8s
P23K Montague Islan 80.69 347 P **P** **10 08 47.9 -0.4**
baz=21
U33K Whale Pass 80.73 338 P **P** **10 08 49.1 +0.6**
baz=32
L16K Owhat River 80.75 353 P **P** **10 08 48.2 -0.3**
baz=12
PLPT Palo Pinto 80.76 304 IAmb IAmb 10 08 57.8
comp=Z,23nm,1.0s
M17K Holitna River 80.83 352 IAmb IAmb 10 09 00.1
comp=Z,19nm,0.9s
M17K Holitna River 80.83 352 P **P** **10 08 49.0 0.0**
baz=14
V35K Ketchikan 80.93 337 P **P** **10 08 50.3 +0.7**
baz=33
NEW Newport 80.94 325 LR LR 10 42 56.7
comp=Z,410nm,20.2s,baz=18,slow=34
HNS HongShan 80.94 50 ⇑P P 10 08 57.6 +7.6
HNS pmax pmax
comp=Z,12nm,1.2s
HNS LR LR
comp=Z,280nm,16.1s
HNS LR LR
comp=Z,210nm,11.2s
HNS LR LR
comp=Z,180nm,12.5s
K13K Kusilvak Mount 80.94 355 P **P** **10 08 49.7 +0.1**
baz=7.7
SEW Seward 80.95 348 IAmb IAmb 10 08 59.5
comp=Z,14nm,0.9s
SEW Seward 80.95 348 P **P** **10 08 49.9 +0.2**
baz=20
L15K Ungalak Mounta 80.96 354 P **P** **10 08 50.1 +0.5**
baz=10
Q23K Middleton Isla 81.02 346 P **P** **10 08 50.1 +0.1**
baz=22
N19K Bonanza Creek 81.04 350 P **P** **10 08 50.7 +0.4**
baz=16
PDAR Pinedale Array 81.07 318 P **P** **10 08 50.4 -0.6**
PDAR Pinedale Array 81.07 318 P **P** **10 08 51.1 +0.2**
comp=Z,3.9nm,1.0s,baz=57,slow=5.5,SNR=21
PDAR LR LR 10 42 32.2
comp=Z,115nm,19.7s,baz=9.5,slow=34
comp=Z,3.9nm,1.0s
LLLB Lillooet 81.22 329 IAmb IAmb 10 08 60.0
comp=Z,14nm,1.0s
CRAG Craig 81.28 338 P **P** **10 08 51.8 +0.3**
baz=32
RTBA Rita Blanca 81.31 309 IAmb IAmb 10 09 00.9
comp=Z,17nm,1.1s
TPAW Teton Pass 81.32 319 IAmb IAmb 10 09 02.0
comp=Z,12nm,1.0s
N18K Kilae Creek 81.35 351 IAmb IAmb 10 09 02.1
comp=Z,12nm,0.8s
N18K Kilae Creek 81.35 351 P **P** **10 08 51.5 -0.3**
baz=15
M16K Timber Creek 81.37 353 P **P** **10 08 52.1 +0.2**
baz=12
L14K Kuka Creek 81.39 354 P **P** **10 08 52.7 +0.7**
baz=9.3
O20K Slope Mountain 81.48 349 P **P** **10 08 53.0 +0.4**
baz=17
CMAR Chiang Mai Arr 81.52 73 P **P** **10 08 53.2 -0.2**
comp=Z,1.2nm,0.3s,baz=309,slow=8.1,SNR=6.8
comp=Z,1.2nm,0.3s
O19K Port Alsworth 81.61 350 P **P** **10 08 54.1 +0.9**
baz=16
APMT Aspermont 81.63 306 IAmb IAmb 10 09 02.9
comp=Z,26nm,0.9s
ILSW Iliamna Southw 81.65 349 IAmb IAmb 10 09 04.4
comp=Z,8.9nm,0.7s
N17K Nushagak Hills 81.66 352 P **P** **10 08 54.1 +0.6**
baz=14
HOM Homer 81.74 349 P **P** **10 08 53.8 0.0**
baz=18
M15K Kasigluk River 81.86 353 P **P** **10 08 53.8 -0.7**
baz=11
N16K Nishlik Lake 81.89 352 P **P** **10 08 54.9 +0.3**
baz=12
M14K Bethel 81.92 354 IAmb IAmb 10 09 05.2
comp=Z,30nm,1.1s
M14K Bethel 81.92 354 P **P** **10 08 55.0 +0.2**
baz=9.9
P19K Oil Pt 81.98 349 P **P** **10 08 55.7 +0.5**
baz=17
O18K Koktuh Hills 82.06 350 P **P** **10 08 55.2 -0.4**
baz=15
SIV San Ignacio 82.11 243 LR LR 10 44 18.8
comp=Z,253nm,18.3s,baz=101,slow=35
BDQN Bodoquena, MS 82.15 237 *e*P **P** **10 08 57.5 +1.0**
PTGB Pitanga 82.15 231 *e*P **P** **10 08 59.2 +2.7**
BNX BinXian 82.18 37 ⇑P **P** **10 08 57.8 +1.3**
BNX pmax pmax
comp=Z,29nm,1.0s
SN07 Snyder 07 82.27 306 IAmb IAmb 10 09 06.0
comp=Z,11nm,0.9s
N15K Kwethluk River 82.32 353 P **P** **10 08 57.0 0.0**
baz=11
BBB Bella Bella 82.36 333 LR LR 10 44 59.9
comp=Z,203nm,18.5s,baz=33,slow=35
M13K Dall Lake 82.36 355 P **P** **10 08 57.4 +0.3**
baz=8.7
O17K Koliganek Bris 82.38 351 P **P** **10 08 58.1 +0.9**
baz=14
SN05 Snyder 5 82.40 306 IAmb IAmb 10 09 07.0
comp=Z,22nm,1.0s
P18K Big Mountain, 82.51 350 P **P** **10 08 59.4 +1.4**
baz=15
M11K Mekoryuk 82.58 356 P **P** **10 08 59.1 +0.9**
baz=6.5
O16K Kokwok River B 82.67 352 P **P** **10 08 58.1 -0.6**
baz=13
E09A Wood Farm, Sta 82.70 325 IAmb IAmb 10 09 07.2
comp=Z,14nm,1.0s
N14K Kuskokwak Cree 82.71 354 P **P** **10 08 59.9 +1.0**
baz=10
Q19K Cape Douglas, 82.74 349 P **P** **10 08 59.9 +0.7**
baz=16
Q20K Shuyak Island 82.86 349 P **P** **10 09 00.5 +0.8**
baz=17
P17K Kvichak River 82.86 351 P **P** **10 09 00.6 +0.9**
baz=14
CBB Campbell River 83.06 331 IAmb IAmb 10 09 10.6
comp=Z,10nm,1.0s
WAH2 Wahluke Slope 83.17 326 IAmb IAmb 10 09 11.1
comp=Z,11nm,0.7s
Q18K Katmai Hardscr 83.20 350 P **P** **10 09 02.6 +0.9**
baz=15
BSUT Blindstream Ca 83.26 317 IAmb IAmb 10 09 11.6
comp=Z,10nm,1.1s

O15K Ungalikthiuk R 83.27 353 P **P** **10 09 02.3 +0.4**
baz=12
O14K Tigyukauivet M 83.33 353 P **P** **10 09 02.5 +0.3**
baz=10
HAWA Hanford 83.42 325 IAmb IAmb 10 09 11.9
comp=Z,11nm,1.0s
PV07 Paradox Valley 83.52 314 IAmb IAmb 10 09 12.3
comp=Z,9.5nm,1.0s
PV22 Blue Mesa, Par 83.53 314 IAmb IAmb 10 09 12.5
comp=Z,11nm,1.0s
P18A Preston Nutter 83.61 316 IAmb IAmb 10 09 15.6
comp=Z,8.6nm,1.0s
MXC Moxie City 83.63 326 IAmb IAmb 10 09 14.0
comp=Z,20nm,1.0s
KDAK Kodiak Island 83.68 349 P **P** **10 09 05.8 +1.8**
KDAK Kodiak Island 83.68 349 LR LR 10 48 12.4
comp=Z,162nm,21.9s,baz=30,slow=37
KDAK Kodiak Island 83.68 349 P **P** **10 09 05.8 +1.8**
KDAK pmax pmax
comp=Z,20nm,0.8s
KDAK Kodiak Island 83.68 349 P **P** **10 09 04.1 +0.2**
baz=17
CTU Camp Tracy 83.69 317 IAmb IAmb 10 09 13.4
comp=Z,12nm,1.2s
PV04 Paradox Valley 83.69 314 IAmb IAmb 10 09 13.5
comp=Z,14nm,1.1s
Q17K Contact Creek 83.70 350 P **P** **10 09 04.3 +0.1**
baz=15
PV23 Carpenter Ridg 83.71 314 IAmb IAmb 10 09 13.5
comp=Z,22nm,1.1s
PV02 Paradox Valley 83.72 314 IAmb IAmb 10 09 13.5
comp=Z,16nm,1.0s
PV11 David Mesa, Pa 83.74 314 IAmb IAmb 10 09 13.7
comp=Z,22nm,1.0s
PV03 Paradox Valley 83.75 314 IAmb IAmb 10 09 13.6
comp=Z,10nm,1.0s
PV14 Lion Creek, Pa 83.78 314 IAmb IAmb 10 09 13.9
comp=Z,12nm,1.0s
PV10 Paradox Valley 83.78 314 IAmb IAmb 10 09 14.2
comp=Z,20nm,0.9s
PV19 Morning Glory 83.80 314 IAmb IAmb 10 09 13.9
comp=Z,22nm,1.0s
PV17 East Wray Mesa 83.80 314 IAmb IAmb 10 09 13.9
comp=Z,20nm,1.1s
PV13 Radium Mtn., P 83.80 314 IAmb IAmb 10 09 14.4
comp=Z,13nm,0.9s
MFID Camas Ranch 83.87 321 IAmb IAmb 10 09 14.4
comp=Z,14nm,1.1s
GNW Green Mountain 83.97 328 IAmb IAmb 10 09 15.6
comp=Z,20nm,1.0s
PV05 Paradox Valley 84.02 314 IAmb IAmb 10 09 14.4
comp=Z,12nm,1.1s
SRU San Rafael Swe 84.12 315 IAmb IAmb 10 09 15.5
comp=Z,14nm,1.0s
LON Longmire 84.17 327 IAmb IAmb 10 09 15.4
comp=Z,16nm,0.9s
R18K Karluk 84.17 349 P **P** **10 09 06.8 +0.3**
baz=16
MVCO Mesa Verde 84.26 313 IAmb IAmb 10 09 17.2
comp=Z,14nm,0.9s
OHAK Old Harbor 84.33 349 IAmb IAmb 10 09 17.3
comp=Z,15nm,1.0s
OHAK Old Harbor 84.33 349 P **P** **10 09 07.0 -0.3**
baz=17
TMUT Trail Mountain 84.37 316 IAmb IAmb 10 09 17.0
comp=Z,10nm,1.0s
R17L Mt. Peulik Vol 84.37 350 P **P** **10 09 06.2 -1.4**
baz=14
JTS Las Juntas de 84.45 279 LR LR 10 40 43.6
comp=Z,126nm,21.7s,baz=15,slow=31
NLWA Neilton Lookou 84.55 328 IAmb IAmb 10 09 18.2
comp=Z,17nm,1.1s
ANMO Albuquerque 84.57 310 P **P** **10 09 10.5 +1.2**
ANMO Albuquerque 84.57 310 *ce*P **P** **10 09 11.1 +1.8**
ANMO pmax pmax
comp=Z,3.0nm,1.7s
Q16A Castle Valley 84.61 316 IAmb IAmb 10 09 17.7
comp=Z,16nm,1.2s
G06A Carlson Farm, 84.80 325 IAmb IAmb 10 09 18.9
comp=Z,14nm,1.1s
SII Sitkinak Islan 85.10 349 P **P** **10 09 10.1 -1.2**
baz=16
HOOD Mount Hood Mea 85.20 326 IAmb IAmb 10 09 23.8
comp=Z,16nm,1.0s
USRK Ussuriysk Ar. 85.50 36 P **P** **10 09 13.4 0.0**
comp=Z,1.2nm,0.5s,baz=307,slow=5.4,SNR=7.1
comp=Z,1.2nm,0.5s
ELK Elko 85.51 319 LR LR 10 45 56.0
comp=Z,191nm,18.4s,baz=23,slow=35
CZSB Cruzeiro do Su 85.55 257 IAmb IAmb 10 09 22.9
comp=Z,21nm,1.0s
CHGN Chignik 85.93 351 P **P** **10 09 14.7 -0.6**
baz=13
SPIA Saint Paul Isl 85.96 358 P **P** **10 09 15.0 -0.4**
baz=3.2
G03D McMinnville, O 86.00 327 IAmb IAmb 10 09 25.0
comp=Z,22nm,1.2s
CHIR Chirikof Islan 86.03 350 P **P** **10 09 15.3 -0.6**
baz=15
S14K Fog Glacier 86.08 352 P **P** **10 09 15.7 -0.6**
baz=12
SPR3 Spring Creek 3 86.29 318 IAmb IAmb 10 09 28.3
comp=Z,14nm,1.2s
P08K Saint George I 86.51 357 P **P** **10 09 17.0 -1.2**
baz=3.7
CPUP Villa Florida 86.62 233 P **P** **10 09 17.9 -1.2**
comp=Z,1.2nm,0.9s,baz=290,slow=7.3,SNR=7.5
CPUP LR LR 10 47 13.4
comp=Z,97nm,18.4s,baz=275,slow=35
comp=Z,1.2nm,0.9s
K05A Summer Lake 86.84 324 IAmb IAmb 10 09 30.6
comp=Z,11nm,1.2s
PETK Petropavlovsk- 86.85 17 P **P** **10 09 18.8 -1.2**
comp=Z,2.8nm,1.1s,baz=23,slow=8.0,SNR=3.8
PETK LR LR 10 54 02.3
comp=Z,95nm,18.7s,baz=327,slow=40
comp=Z,2.8nm,1.1s
S12K Black Hills 86.92 353 P **P** **10 09 18.2 -2.1**
baz=9.7
NJ2 Nanjing 87.03 51 *e*P **P** **10 09 20.4 -0.8**
NJ2 pmax pmax
comp=Z,11nm,0.5s
SDPT Sand Point 87.10 352 P **P** **10 09 19.8 -1.3**
baz=11
LPAZ La Paz 87.42 247 P **P** **10 09 23.4 -0.6**
comp=Z,0.8nm,1.0s,baz=73,slow=6.7,SNR=3.7
LPAZ LR LR 10 44 53.8
comp=Z,87nm,21.0s,baz=62,slow=33
comp=Z,0.8nm,1.0s
CHNA Chernabura Isl 87.51 352 P **P** **10 09 21.5 -1.6**
baz=12
CMIG Matias Romero 88.03 290 LR LR 10 44 24.4
comp=Z,73nm,21.8s,baz=2.5,slow=33
PAHR Pah Rah Range 88.41 321 IAmb IAmb 10 09 37.7
comp=Z,7.0nm,1.1s
YBH Yreka Blue Hor 88.47 324 LR LR 10 48 32.4
comp=Z,19nm,18.6s,baz=51,slow=35
KSRS Koa Array 88.51 42 P **P** **10 09 28.1 0.0**
comp=Z,0.4nm,0.5s,baz=335,slow=5.5,SNR=4.5
comp=Z,0.4nm,0.5s
NVAR Mina Array Bea 88.81 319 P **P** **10 09 29.6 -0.3**
comp=Z,0.4nm,0.9s,baz=70,slow=4.5,SNR=6.9
comp=Z,0.4nm,0.9s
UNV Unalaska Valle 89.11 355 P **P** **10 09 29.3 -1.4**
baz=6.2
QIZ Qiongzhong 89.35 67 P **P** **10 09 32.0 -0.5**
QIZ S **S** **10 20 20.9 -2.1**
QIZ LR LR
comp=Z,210nm,12.4s
QIZ LR LR
comp=Z,190nm,15.8s
QIZ LR LR
comp=Z,480nm,16.7s
NIKH Nikolski High 90.11 357 P **P** **10 09 34.5 -1.0**
baz=4.3
ASAJ Asahikawa 90.13 30 LR LR 10 52 45.0
comp=Z,159nm,18.7s,baz=342,slow=37
GSI Gunungsitoli 90.65 88 P **P** **10 09 40.9 +2.3**
PSI Prapat 90.83 86 P **P** **10 09 38.4 -1.2**
PSI pmax pmax
comp=Z,23nm,1.0s
RPSI Rantau Prapat 90.90 86 P **P** **10 09 38.4 -1.3**
JNU Nakatsue 93.34 43 LR LR 10 55 33.7
comp=Z,105nm,21.9s,baz=322,slow=38
LPIG La Paz 94.40 305 LR LR 10 52 10.6
comp=Z,176nm,18.0s,baz=15,slow=35
MJAR Matsushiro Arr 94.44 37 P **P** **10 09 55.7 -0.1**
comp=Z,0.4nm,0.6s,baz=327,slow=6.7,SNR=4.7
comp=Z,0.4nm,0.6s
QSPA South Pole Qui 127.03 180 **PKiKP** **10 15 39.4 +0.1**
QSPA South Pole Qui 127.03 180 PKP **PKPdf** **10 15 38.5 -0.2**
comp=Z,4.8nm,1.0s,baz=236,slow=1.9,SNR=12
WRA Warramunga Arr 132.25 84 PKP **PKPdf** **10 15 50.1 +0.1**
comp=Z,1.4nm,0.9s,baz=309,slow=1.7,SNR=7.8
WRA PP **PP** **10 18 12.1 -0.5**
comp=Z,2.3nm,1.2s,baz=325,slow=5.8,SNR=4.7
WRA SKPbc **SKPbc** **10 19 16.1 -0.8**
comp=Z,2.9nm,1.1s,baz=320,slow=3.5,SNR=4.8
ASAR Alice Springs 133.81 88 PKP **PKiKP** **10 15 53.6 -0.5**
comp=Z,2.0nm,0.9s,baz=320,slow=1.6,SNR=12
ASAR PP **PP** **10 18 21.7 -1.0**
comp=Z,0.4nm,0.8s,baz=322,slow=7.9,SNR=4.3
ASAR SKPbc **SKPbc** **10 19 21.7 -0.4**
comp=Z,1.7nm,1.0s,baz=318,slow=2.0,SNR=6.0
TAOE Nuku Hiva Isla 138.24 304 *e*LR LR 11 00 41.3
comp=Z,205nm,24.7s
STKA Stephens Creek 143.46 95 PKP PKPbc 10 16 07.9 +0.4
comp=Z,2.0nm,0.6s,baz=308,slow=10.0,SNR=3.3
PPT2 Papeete2 150.84 305 *e*LR LR 11 06 22.7
comp=Z,88nm,24.0s
PPT2 *e*LR LR 11 06 25.4
comp=Z,136nm,32.2s
TBI Tubuai 154.66 296 *e*LR LR 11 08 07.6
comp=Z,1μm,29.2s
TBI *e*LR LR 11 08 16.0
comp=Z,487nm,30.2s

LJU 13 09:58:42.8, 46°.11N×14°.73E, h8km, ML0.4, 1C,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDS	**Vrh nad Dolski**	**0.03**	**245**	⇑	*i* Pg	Pg		09 58 44.5	+0.2
VNDS					*i* Sg	Sg		09 58 45.6	+0.2
VNDS					IAML			09 58 45.8	
comp=Z,30nm,0.1s									
PDKS	**Podkum**	**0.19**	**105**		*i* Pg	Pg		09 58 46.9	+0.2
PDKS					*i* Sg	Sg		09 58 49.6	+0.2
PDKS					IAML			09 58 50.2	
comp=Z,1.3nm,0.1s									
GBAS	**Gorenja Brezov**	**0.27**	**229**		*i* Pg	Pg		09 58 48.4	+0.2
GBAS					*i* Sg	Sg		09 58 51.9	+0.2
GBAS					IAML			09 58 52.8	
comp=Z,0.7nm,0.1s									
MOZS	**Mozjanca**	**0.27**	**312**		*i* Pg	Pg		09 58 48.5	+0.2
MOZS					*i* Sg	Sg		09 58 52.3	+0.4
MOZS					IAML			09 58 52.8	
comp=Z,2.4nm,0.1s									
VISS	**Visnje**	**0.32**	**167**		*i* Pg	Pg		09 58 49.2	+0.1
VISS					*i* Sg	Sg		09 58 53.9	+0.6

*MDD **13** 10:03:18.9±1.6, 37°.29N×5°.75E, h1km, Mb4.6/18, M_mb4.0/18, Error ellipse: s-maj=17.1km s-min=13.6km az=97.0*
*CRAAG **13** 10:03:21.8, 36°.73N×6°.06E, Ml2.5, Algerie 04km SE Bordj-Tahar*

ISC 13 10:03:16.1±1.1, 37°.13N±0°.07×5°.76E±0°.08, h10km, n21, σ1§52/25, 12C, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.60**	**171**		P	**Pg**		**10 03 26.9**	**-0.8**
SET	**Setif**	**0.97**	**197**		P	**Pn**		**10 03 39.0**	**+3.1**
CASM	**Ain Smara**	**1.05**	**146**		P	**Pg**		**10 03 34.6**	**-1.7**
CTEI	**Djebel Teioual**	**1.19**	**154**		P	**Pg**		**10 03 38.5**	**-0.5**
CMAH	**Djebel Manchou**	**1.43**	**110**		P	**Pg**		**10 03 43.5**	**0.0**
MAHO	**Mahon**	**3.00**	**337**		Sn	**Sn**		**10 04 37.8**	**-1.7**
ETOS	**Mallorca**	**3.50**	**320**		Pn	**Pn**		**10 04 11.5**	**+0.9**
ETOS					Sn	**Sn**		**10 04 51.6**	**-0.5**
ETOS	**Mallorca**	**3.50**	**320**		Pn	**Pn**		**10 04 11.7**	**+1.1**
ETOS				⇑	*i*VmB_VC			10 04 12.0	
724nm,SNR=1.0									
ETOS					Sn	**Sn**		**10 04 50.7**	**-1.4**
EIBI	**Ibiza**	**3.96**	**300**		Pn	**Pn**		**10 04 18.0**	**+1.1**
EIBI					Sn	**Sn**		**10 05 01.4**	**-2.0**
EIBI	**Ibiza**	**3.96**	**300**		Pn	**Pn**		**10 04 18.0**	**+1.1**
EIBI				⇑	*i*VmB_VC			10 04 24.6	
1μm,SNR=1.8									
EIBI					Sn	**Sn**		**10 05 02.5**	**-1.0**
EPOB	**Poblet**	**5.56**	**321**		Pn	**Pn**		**10 04 39.4**	**+0.4**
EPOB				⇑	*i*VmB_VC			10 04 40.5	
358nm,SNR=2.0									
ERTA	**Horta de San J**	**5.69**	**314**		Pn	**Pn**		**10 04 42.0**	**+1.3**
ERTA				⇑	*i*VmB_VC			10 04 49.0	
309nm,SNR=1.0									
ECHE	**Chera**	**5.83**	**297**		Pn	**Pn**		**10 04 44.0**	**+1.5**
ECHE	**Chera**	**5.83**	**297**		Pn	**Pn**		**10 04 44.9**	**+2.3**
ECHE				⇑	*i*VmB_VC			10 04 45.9	
346nm,SNR=1.3									
EMOS	**Mosqueruela**	**5.84**	**305**		Pn	**Pn**		**10 04 43.7**	**+0.8**
EMOS				⇑	*i*VmB_VC			10 04 51.6	
260nm,SNR=1.0									
ESAC	**San Caprasio**	**6.65**	**315**		Pn	**Pn**		**10 04 55.2**	**+1.3**
ESAC				⇑	*i*VmB_VC			10 05 02.4	
523nm,SNR=1.1									
ECHI	**Chisagues Biel**	**6.98**	**324**		Pn	**Pn**		**10 04 59.8**	**+1.3**
ECHI				⇑	*i*VmB_VC			10 05 00.6	
250nm,SNR=1.4									
EORO	**Oroz-Betelu**	**7.90**	**319**		Pn	**Pn**		**10 05 12.7**	**+1.6**
EORO				⇑	*i*VmB_VC			10 05 21.5	
199nm,SNR=1.3									
EALK	**Alkurruntz**	**8.23**	**320**		Pn	**Pn**		**10 05 17.1**	**+1.5**
EALK				⇑	*i*VmB_VC			10 05 18.4	
172nm,SNR=1.2									
ELAN	**Lanestosa**	**9.30**	**314**		Pn	**Pn**		**10 05 31.6**	**+1.4**
ELAN				⇑	*i*VmB_VC			10 05 39.3	
217nm,SNR=1.0									
ECAL	**Calabor**	**10.77**	**300**		Pn	**Pn**		**10 05 52.3**	**+1.8**
ECAL				⇑	*i*VmB_VC			10 05 53.2	
181nm,SNR=1.1									

*MDD **13** 10:10:08.2±0.9, 36°.95N×5°.89E, h28km±21km, Mb4.1/19, M_mb3.5/19, Error ellipse: s-maj=19.6km s-min=5.1km az=0.0*
*CRAAG **13** 10:10:15.3, 36°.43N×5°.82E, Ml1.9, Algerie 12km NW Ferdjioua*

ISC 13 10:10:05.5±1.1, 37°.05N±0°.05×5°.83E±0°.05, h10km, n13, σ2§12/18, 7C, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.51**	**176**		P	**Pn**		**10 10 18.2**	**-0.8**
SET	**Setif**	**0.92**	**202**		P	**Pn**		**10 10 25.0**	**+0.4**
CTEI	**Djebel Teioual**	**1.09**	**155**		P	**Pn**		**10 10 28.5**	**+1.5**
CMAH	**Djebel Manchou**	**1.34**	**108**		P	**Pg**		**10 10 33.3**	**+1.9**
ETOS	**Mallorca**	**3.60**	**320**	⇑	*i*VmB_VC			10 11 02.0	
190nm,SNR=1.5									
ETOS					Pn	**Pn**		**10 11 02.2**	**+0.8**
ETOS					Sn	**Sn**		**10 11 42.3**	**-1.7**
VSL	**Villasalto**	**3.71**	**48**		Pn	**Pn**		**10 11 03.8**	**+0.8**
VSL					Sn	**Sn**		**10 11 43.3**	**-3.4**
EIBI	**Ibiza**	**4.05**	**300**		Pn	**Pn**		**10 11 09.1**	**+1.5**
EIBI				⇑	*i*VmB_VC			10 11 16.4	
323nm,SNR=1.6									
EIBI					Sn	**Sn**		**10 11 52.2**	**-3.0**
DGI	**Dorgali Grotta**	**4.40**	**41**		Pn	**Pn**		**10 11 13.6**	**+1.2**
DGI					Sn	**Sn**		**10 12 00.2**	**-3.5**
EPOB	**Poblet**	**5.66**	**321**		Pn	**Pn**		**10 11 31.0**	**+1.2**
EPOB				⇑	*i*VmB_VC			10 11 32.7	
80nm,SNR=1.5									
EPOB					Sn	**Sn**		**10 12 31.9**	**-3.0**
ERTA	**Horta de San J**	**5.79**	**314**	⇑	*i*VmB_VC			10 11 32.7	
94nm,SNR=1.2									
ERTA					Pn	**Pn**		**10 11 33.6**	**+2.1**
EMOS	**Mosqueruela**	**5.93**	**306**		Pn	**Pn**		**10 11 35.2**	**+1.5**
EMOS				⇑	*i*VmB_VC			10 11 38.0	
202nm,SNR=1.7									
ECHI	**Chisagues Biel**	**7.08**	**324**		Pn	**Pn**		**10 11 50.4**	**+1.0**
ECHI				⇑	*i*VmB_VC			10 11 56.6	
72nm,SNR=1.6									
EALK	**Alkurruntz**	**8.34**	**320**		Pn	**Pn**		**10 12 07.8**	**+1.3**
EALK				⇑	*i*VmB_VC			10 12 15.8	
162nm,SNR=2.0									

*MDD **13** 10:21:03.4±1.6, 37°.07N×5°.67E, h2km±19km, Mb3.9/8, M_mb3.2/8, Error ellipse: s-maj=25.5km s-min=6.7km az=178.0*

*CRAAG **13** 10:21:08.7,36°81N×5°.93E,Ml2.8,Algerie 05km NE Tahir*

ISC 13 10:21:03.2±1.1,37°14N±0°08×5°68E±0°05,h10km,n9, σ0s63/12,5C,Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DFRA	**Djebel Bou Aff**	**0.62**	**165**	P	**Pg**	**10 21 15.3**	**+0.1**
CKFL	**Kef-Lekhel**	**1.11**	**131**	P	**Pg**	**10 21 24.3**	**-0.3**
CMAH	**Djebel Manchou**	**1.49**	**110**	P	**Pg**	**10 21 31.7**	**0.0**
ETOS	**Mallorca**	**3.46**	**320**	Pn	**Pn**	**10 21 57.2**	**+0.1**
ETOS				⇑*i*Vmb_VC		10 21 58.8	
	117nm,SNR=1.0						
ETOS				Sn	**Sn**	**10 22 38.1**	**0.0**
VSL	**Villasalto**	**3.74**	**50**	Pn	**Pn**	**10 22 01.3**	**+0.3**
VSL				Sn	**Sn**	**10 22 44.7**	**-0.4**
EIBI	**Ibiza**	**3.91**	**300**	Pn	**Pn**	**10 22 04.0**	**+0.8**
EIBI				⇑*i*Vmb_VC		10 22 06.6	
	232nm,SNR=1.3						
EIBI				Sn	**Sn**	**10 22 47.8**	**-1.3**
EPOB	**Poblet**	**5.52**	**321**	Pn	**Pn**	**10 22 26.2**	**+0.8**
EPOB				⇑*i*Vmb_VC		10 22 28.5	
	44nm,SNR=0.9						
ERTA	**Horta de San J**	**5.64**	**314**	Pn	**Pn**	**10 22 27.6**	**+0.5**
ERTA				⇑*i*Vmb_VC		10 22 30.2	
	47nm,SNR=0.6						
ECHE	**Chera**	**5.77**	**297**	Pn	**Pn**	**10 22 28.9**	**0.0**
ECHE				⇑*i*Vmb_VC		10 22 34.2	
	92nm,SNR=0.8						

*NEIC **13** 10:25:18.6±1.3,35°.947N±0°.008×117°.36W±0°.01, h5km±1km,Error ellipse: s-maj=1.9km s-min=1.4km az=295.0*

*PAS **13** 10:25:19.0±1.2,35°.944N±0°.009×117°.38W±0°.01, h3km±2km,Mwr3.8/6,ML3.8/140(NEIC),Error ellipse: s-maj=1.3km s-min=1.3km az=75.0*

*IDC **13** 10:25:19.1±0.7,35°.96N×117°.28W,h0km,mb3.6/2, mbtmp3.2/7,ML3.5/5,Error ellipse: s-maj=16.3km s-min=5.6km az=75.0*

ISC 13 10:25:19.0±1.1,35°93N±0°.01×117°38W±0°.01,h0km±10km, n147,σ1s02/179,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPMC	**Manual Prospec**	**0.16**	**324**		**Pg**	**10 25 21.9**	**-0.1**
MPMC				Sg	**Sg**	**10 25 24.2**	**+0.1**
WCSM	**Coso Springs S**	**0.33**	**287**		**Pg**	**10 25 25.5**	**+0.2**
WCSM					**Sg**	**10 25 30.1**	**+0.4**
TOW	**Tower One**	**0.34**	**249**		**Pg**	**10 25 26.2**	**+0.7**
TOW					**Sb**	**10 25 32.0**	**-1.8**
WSHM	**Spangler Hills**	**0.34**	**196**		**Pg**	**10 25 25.8**	**+0.2**
WSHM					**Sg**	**10 25 31.1**	**+1.1**
WSHM				IAML		10 25 31.4	
	10µm,0.3s						
JRC2	**Joshua Ridge**	**0.35**	**278**		**Pn**	**10 25 31.0**	**-0.6**
WVPM	**Volcano Peak E**	**0.36**	**273**		**Pg**	**10 25 26.2**	**+0.4**
WVPM					**Sg**	**10 25 31.4**	**+0.8**
SRTC	**Snort**	**0.39**	**232**		**Pg**	**10 25 27.1**	**+0.7**
SRTC					**Sb**	**10 25 33.5**	**-1.8**
CCCA	**Chr Cany lake**	**0.41**	**179**		**Pg**	**10 25 27.6**	**+0.8**
CCCA					**Sb**	**10 25 34.2**	**-1.6**
CCCA				IAML		10 25 34.7	
	comp=E,11µm,0.8s						
CCCA				IAML		10 25 38.1	
	comp=N,12µm,0.6s						
QSM	**Queen of Sheba**	**0.41**	**85**		**Pg**	**10 25 26.9**	**-0.1**
QSM					**Sg**	**10 25 32.3**	**0.0**
QSM				IAML		10 25 32.9	
	comp=E,5µm,0.4s						
QSM				IAML		10 25 36.3	
	comp=N,10µm,0.6s						
WRVM	**Rose V. Centra**	**0.42**	**281**		**Pg**	**10 25 27.2**	**0.0**
WRVM					**Sg**	**10 25 33.1**	**+0.5**
MFS	**McCloud Flat S**	**0.43**	**296**		**Pg**	**10 25 27.3**	**0.0**
MFS					**Sg**	**10 25 33.4**	**+0.5**
WNMM	**Nine Mile Cany**	**0.44**	**259**		**Pg**	**10 25 27.7**	**+0.3**
LRMC	**Laurel Mtn Rad**	**0.52**	**209**		**Pg**	**10 25 29.0**	**+0.1**
LRMC					**Sg**	**10 25 36.4**	**+0.8**
LRMC				IAML		10 25 36.8	
	comp=E,10µm,0.5s						
LRMC				IAML		10 25 36.8	
	comp=N,6µm,0.6s						
GWY	**Greenwater Val**	**0.63**	**66**		**Pg**	**10 25 31.0**	**0.0**
GWY					**Sg**	**10 25 39.6**	**+0.4**
GWY				IAML		10 25 40.0	
	comp=E,4µm,0.6s						
GWY				IAML		10 25 40.0	
	comp=N,4µm,0.5s						
FURC	**Furnace Creek,**	**0.68**	**38**		**Pg**	**10 25 32.0**	**0.0**
FURC					**Sg**	**10 25 41.2**	**+0.4**
CGO	**Cerro Gordo**	**0.71**	**331**		**Pg**	**10 25 32.0**	**-0.6**
CGO					**Sg**	**10 25 41.3**	**-0.5**
WBSM	**Bird Springs**	**0.73**	**238**		**Pg**	**10 25 33.0**	**-0.1**
WBSM					**Sg**	**10 25 43.3**	**+0.7**
WORM	**Onyx Ranch**	**0.74**	**252**		**Pg**	**10 25 33.0**	**-0.2**
WORM					**Sg**	**10 25 42.7**	**-0.1**
CWC	**Cottonwood Cre**	**0.76**	**312**		**Pg**	**10 25 33.3**	**-0.3**
CWC					**Sg**	**10 25 43.4**	**-0.1**
CWC				IAML		10 25 44.1	
	comp=N,7µm,0.5s						
CWC				IAML		10 25 45.8	
	comp=E,6µm,0.4s						
DTP	**Desert Tortois**	**0.77**	**210**		**Pg**	**10 25 33.4**	**-0.3**
DTP					**Sg**	**10 25 44.0**	**+0.5**
GSC	**Goldstone, Bar**	**0.78**	**143**		**Sg**	**10 25 44.6**	**+0.5**
GSC	**Goldstone, Bar**	**0.78**	**143**		**Pg**	**10 25 33.9**	**-0.1**
GSC				IAML		10 25 46.7	
	comp=N,3µm,0.6s						
GSC				IAML		10 25 48.4	
	comp=E,4µm,0.5s						
WHFM	**Hanning Flat**	**0.82**	**254**		**Pg**	**10 25 34.7**	**-0.2**
WHFM					**Sg**	**10 25 45.6**	**+0.1**
ISA	**Isabella, Lake**	**0.93**	**254**		**Pg**	**10 25 36.5**	**-0.4**
ISA				IAML		10 25 52.2	
	comp=N,2µm,0.6s						
ISA	**Isabella, Lake**	**0.93**	**254**		**Sg**	**10 25 48.2**	**-0.8**
CCAC	**Calif City Air**	**0.94**	**214**		**Pg**	**10 25 36.8**	**-0.2**
CCAC					**Sg**	**10 25 49.8**	**+0.8**
WASM	**Alta Sierra Ca**	**0.98**	**259**		**Pg**	**10 25 37.5**	**-0.3**
WASM					**Sg**	**10 25 51.2**	**+0.7**
AMDNV	**Amargosa**	**1.03**	**59**		**Pg**	**10 25 38.1**	**-0.6**
AMDNV					**Sg**	**10 25 51.5**	**-0.6**
WCT	**Wildcat Mounta**	**1.05**	**35**		**Pg**	**10 25 38.6**	**-0.5**
WCT				IAML		10 25 54.3	
	comp=N,2µm,0.6s						
WCT				IAML		10 25 55.2	
	comp=E,2µm,0.5s						
GRAC	**Grapevine Rang**	**1.06**	**0**		**Pg**	**10 25 38.8**	**-0.6**
HYS	**Haystack Butte**	**1.08**	**189**		**Pg**	**10 25 39.1**	**-0.6**
HYS					**Sg**	**10 25 53.8**	**+0.2**
SGV	**South Grapevin**	**1.08**	**15**		**Pg**	**10 25 39.1**	**-0.7**
RRX	**Edison Barstow**	**1.10**	**164**		**Pb**	**10 25 39.8**	**-1.1**
SPG2	**Springville 2**	**1.16**	**284**		**Pb**	**10 25 40.4**	**-1.5**
SPG2					**Sb**	**10 25 55.3**	**-2.2**
EDW2	**Edwards Air Fo**	**1.16**	**206**		**Pb**	**10 25 40.5**	**-1.5**
EDW2					**Sg**	**10 25 57.1**	**+0.7**
TPO	**Tropico Hills**	**1.26**	**214**		**Pn**	**10 25 42.7**	**-1.2**
TPO					**Sb**	**10 25 59.5**	**-0.9**
TEJ	**El Tejon**	**1.28**	**237**		**Pn**	**10 25 42.2**	**-1.9**
TUQ	**Turquoise Moun**	**1.28**	**112**		**Pn**	**10 25 42.3**	**-1.9**
TUQ					**Sb**	**10 25 59.8**	**-1.3**
SBB	**Saddle Back Bu**	**1.29**	**197**		**Pn**	**10 25 42.7**	**-1.7**
SBB					**Sn**	**10 26 01.1**	**-1.3**
DSCC	**Desert Studies**	**1.30**	**127**		**Pn**	**10 25 42.4**	**-2.0**
DSCC					**Sb**	**10 26 00.5**	**-1.1**
TIN	**Tinemaha, Big**	**1.32**	**329**		**Pn**	**10 25 42.7**	**-2.0**
LCH	**Last Change Ra**	**1.32**	**351**		**Pn**	**10 25 42.5**	**-2.3**
TPNV	**Topopah Spring**	**1.36**	**41**		**Pn**	**10 25 44.0**	**-1.4**
TPNV				IAML		10 26 05.8	
	comp=E,2µm,0.5s						
TPNV				IAML		10 26 10.7	
	comp=E,2µm,0.6s						
VTV	**Victorville**	**1.37**	**178**		**Pg**	**10 25 45.6**	**+0.3**
VTV					**Sg**	**10 26 04.2**	**+1.3**
GMN	**Gold Mountain**	**1.37**	**4**		**Pn**	**10 25 44.3**	**-1.3**
GMN				IAML		10 26 05.5	
	comp=N,1µm,0.5s						
GMN				IAML		10 26 08.1	
	comp=E,975nm,0.5s						
HEC	**Hector,Ludlow**	**1.39**	**142**		**Pn**	**10 25 44.0**	**-1.7**
VES	**Vestal, Richgr**	**1.39**	**267**		**Pn**	**10 25 44.5**	**-1.1**
VES					**Sg**	**10 26 03.9**	**+0.2**
ARVC	**Arvin**	**1.43**	**236**		**Pb**	**10 25 45.8**	**-0.7**
TJR	**Tejon Ranch**	**1.44**	**231**		**Pn**	**10 25 45.3**	**-1.0**
ALPC	**Antelope**	**1.45**	**212**		**Pg**	**10 25 47.8**	**+0.9**
THC	**Tehachapi Micr**	**1.47**	**226**		**Pn**	**10 25 45.9**	**-1.0**
LRRC	**Littlerock Res**	**1.50**	**201**		**Pb**	**10 25 47.1**	**-0.6**
LEOC	**Leona Valley**	**1.50**	**211**		**Pb**	**10 25 47.6**	**-0.2**
DSP	**Deep Springs**	**1.51**	**342**		**Pn**	**10 25 45.9**	**-1.4**
HOLC	**Holcomb Ridge**	**1.52**	**195**		**Pn**	**10 25 46.1**	**-1.4**
CJV	**Casa Juvan**	**1.53**	**204**		**Pg**	**10 25 48.8**	**+0.5**
MTPC	**Mountain Pass**	**1.55**	**106**		**Pn**	**10 25 46.2**	**-1.8**
MTPC					**Sb**	**10 26 07.9**	**-0.9**
MTPC				IAML		10 26 09.6	
	comp=N,1µm,0.8s						
MTPC				IAML		10 26 12.1	
	comp=E,1µm,0.7s						
JNH	**Juniper Hills**	**1.55**	**198**		**Pn**	**10 25 46.7**	**-1.3**
POCCA	**Poleta Canyon**	**1.60**	**333**		**Pb**	**10 25 49.0**	**-0.7**
BHPR	**Bishop**	**1.63**	**327**		**Pn**	**10 25 48.7**	**-0.5**
SIL	**Silver Peak**	**1.64**	**164**		**Pb**	**10 25 49.8**	**-0.5**
VOG	**Valley Oaks Go**	**1.67**	**284**		**Pb**	**10 25 50.0**	**-0.6**
CHFC	**Chilao Flat St**	**1.68**	**199**		**Pb**	**10 25 50.2**	**-0.7**
BFSC	**Mount Baldy Ra**	**1.70**	**188**		**Pn**	**10 25 49.4**	**-0.7**
BFSC				IAML		10 26 14.3	
	comp=E,1µm,0.6s						
BFSC				IAML		10 26 17.8	
	comp=N,624nm,0.8s						
BBRC	**Big Bear Solar**	**1.71**	**167**		**Pb**	**10 25 50.8**	**-0.6**
OSI	**Osito Audit: C**	**1.71**	**220**		**Pn**	**10 25 49.7**	**-0.5**
OSI				IAML		10 26 18.5	
	comp=E,1µm,0.7s						
SSK	**Sunset Peak**	**1.74**	**189**		**Pn**	**10 25 49.6**	**-0.9**
MZP	**Montezuma Peak**	**1.77**	**360**		**Pn**	**10 25 50.0**	**-1.0**
GMRC	**Granite Mounta**	**1.81**	**129**		**Pn**	**10 25 49.2**	**-2.3**
GTM	**Goat Mountain**	**1.83**	**153**		**Pb**	**10 25 52.7**	**-0.8**
SVD	**Seven Oaks Dam**	**1.83**	**173**		**Pb**	**10 25 53.1**	**-0.4**
PSRC	**Puddingstone R**	**1.87**	**191**		**Pb**	**10 25 53.9**	**-0.1**
SHPR	**Sheep Range**	**1.88**	**72**		**Pn**	**10 25 51.5**	**-1.0**
CFT	**Crafton Hills**	**1.90**	**173**		**Pg**	**10 25 55.2**	**-0.3**
BCW	**Bitter Crk WRg**	**1.94**	**240**		**Pb**	**10 25 54.5**	**-0.8**
BENR	**Benton**	**2.02**	**332**		**Pb**	**10 25 55.6**	**-1.2**
DJJ	**Donna J Jenkin**	**2.02**	**206**		**Pb**	**10 25 55.0**	**-1.6**
BLAC	**Blackrock camp**	**2.03**	**156**		**Pn**	**10 25 53.3**	**-1.2**
CRGC	**Crocker Grade**	**2.04**	**251**		**Pb**	**10 25 56.7**	**-0.2**
V12A	**Nelson**	**2.06**	**95**		**Pn**	**10 25 53.5**	**-1.5**
V12A				IAML		10 26 25.6	
	comp=N,654nm,1.1s						
V12A				IAML		10 26 32.7	
	comp=E,442nm,0.6s						
MLAC	**Mammoth, Mammo**	**2.06**	**326**		**Pb**	**10 25 57.2**	**-0.2**
DANC	**Danby, Needles**	**2.08**	**128**		**Pn**	**10 25 53.3**	**-1.9**
KCC	**Kaiser Creek**	**2.09**	**312**		**Pb**	**10 25 57.0**	**-0.9**
MCSM	**Casa Diablo Ho**	**2.11**	**325**		**Pb**	**10 25 58.2**	**-0.1**
TPC	**Twentynine Pal**	**2.12**	**149**		**Pn**	**10 25 54.4**	**-1.4**
EW2	**E Wide Canyon**	**2.14**	**158**		**Pn**	**10 25 54.9**	**-1.1**
TPH	**Tonopah**	**2.14**	**3**		**Pn**	**10 25 55.4**	**-0.8**
S11A	**Rachel**	**2.15**	**37**		**Pn**	**10 25 55.4**	**-0.9**
HMTC	**Hemet**	**2.24**	**172**		**Pn**	**10 25 56.4**	**-0.9**
PKM	**Mcpherson Peak**	**2.25**	**243**		**Pb**	**10 26 00.0**	**-0.6**
POB	**Polly Butte**	**2.27**	**170**		**Pn**	**10 25 57.0**	**-0.8**
ELS	**Elsinore Mount**	**2.28**	**181**		**Pn**	**10 25 57.0**	**-0.9**
ELS				IAML		10 26 36.9	
	comp=E,333nm,0.5s						
DGR	**Domenigoni Val**	**2.29**	**172**		**Pn**	**10 25 57.2**	**-0.9**
PRN	**Pahroc Range**	**2.38**	**51**		**Pn**	**10 25 58.8**	**-0.6**
PRN				IAML		10 26 42.0	
	comp=E,846nm,0.7s						
PRN				IAML		10 26 44.0	
	comp=N,765nm,0.6s						
CRY	**Cary Ranch**	**2.42**	**167**		**Pn**	**10 25 59.1**	**-0.8**
PMD	**Palm Desert**	**2.42**	**160**		**Pn**	**10 25 58.5**	**-1.4**
PFO	**Pinyon Flats O**	**2.43**	**162**		**Pn**	**10 25 58.9**	**-1.2**
PFO				IAML		10 26 39.8	
	comp=N,141nm,0.7s						
PFO				IAML		10 26 42.9	
	comp=N,177nm,0.7s						
PFO	**Pinyon Flats O**	**2.43**	**162**	Pn	**Pn**	**10 25 58.8**	**-1.3**
	comp=N,5.4nm,0.3s,baz=350,slow=9.7,SNR=52						
PFO				Pg	**Pb**	**10 26 04.0**	**+0.3**
	comp=N,41nm,0.3s,baz=338,slow=17,SNR=114						
PFO				Lg	Lg	10 26 36.6	
	comp=N,47nm,0.3s,baz=58,slow=17,SNR=4.4						
	comp=N,13nm,0.3s						
XPFO	**Pinon Flat**	**2.44**	**162**		**Pn**	**10 25 58.9**	**-1.2**
TSCN	**Private Proper**	**2.45**	**262**		**Pn**	**10 25 60.0**	**-0.2**
SNDA	**J Saunders Pla**	**2.46**	**165**		**Pn**	**10 25 59.5**	**-0.9**
LHV	**Little Huntoon**	**2.49**	**339**		**Pn**	**10 26 00.9**	**+0.2**
LHV				IAML		10 26 41.8	
	comp=N,529nm,0.7s						
LHV				IAML		10 26 50.0	
	comp=E,511nm,0.8s						
BZNA	**Buzz No.'s Pla**	**2.50**	**166**		**Pn**	**10 26 00.3**	**-0.8**
FRD	**Ford Ranch, An**	**2.51**	**165**		**Pn**	**10 26 00.3**	**-0.9**
FRD	**Ford Ranch, An**	**2.51**	**165**		**Pn**	**10 26 00.3**	**-0.9**
NEE2	**Needles Airpor**	**2.54**	**116**		**Pn**	**10 26 01.4**	**0.0**
CTW	**Cottonwood Mou**	**2.57**	**151**		**Pn**	**10 26 00.4**	**-1.4**
PKD	**Bear Valley Ra**	**2.57**	**271**		**Pn**	**10 26 02.1**	**+0.2**
NV11	**Mina Array Sit**	**2.57**	**346**		**Pn**	**10 26 01.3**	**-0.8**
NVAR	**Mina Array Bea**	**2.60**	**344**		**Pn**	**10 26 02.5**	**0.0**
NVAR	**Mina Array Bea**	**2.60**	**344**	Pn	**Pn**	**10 26 01.7**	**-0.8**
	comp=E,4.4nm,0.3s,baz=167,slow=14,SNR=74						
NVAR				Pg	**Pb**	**10 26 07.0**	**+0.4**
	comp=E,71nm,0.3s,baz=165,slow=18,SNR=112						
NVAR				Lg	Lg	10 26 41.7	
	comp=E,13nm,0.3s,baz=214,slow=29,SNR=4.4						
	comp=E,16nm,0.6s						
PLM	**Palomar**	**2.61**	**171**		**Pn**	**10 26 01.8**	**-0.7**
HAY	**Hayfield**	**2.62**	**147**		**Pn**	**10 26 01.1**	**-1.5**
BORC	**Borrego Spring**	**2.77**	**163**		**Pn**	**10 26 04.1**	**-0.5**
BORC				IAML		10 26 53.3	
	comp=E,211nm,0.8s						
BORC				IAML		10 26 56.5	
	comp=N,200nm,0.7s						
PMPB	**Monarch Peak**	**2.79**	**277**		**Pn**	**10 26 05.2**	**+0.3**
PMPB				IAML		10 27 06.1	
	comp=E,540nm,1.0s						
MATG	**Mataguay Scout**	**2.79**	**167**		**Pn**	**10 26 02.5**	**-2.5**
R11B	**Troy Canyon, C**	**2.81**	**30**		**Pn**	**10 26 06.2**	**+0.9**
RYN	**Ryan**	**2.84**	**342**		**Pn**	**10 26 05.1**	**-0.7**
MYLM	**Yosemite Lake**	**2.84**	**302**		**Pb**	**10 26 10.3**	**-0.3**
Q09A	**Carvers**	**2.90**	**3**		**Pn**	**10 26 06.3**	**-0.3**
DPP	**Dos Picos Cty**	**2.95**	**173**		**Pn**	**10 26 06.4**	**-0.7**
DPP				IAML		10 26 53.0	
	comp=E,192nm,0.5s						
W13A	**Hualapai Mount**	**2.96**	**105**		**Pn**	**10 26 07.1**	**-0.4**
W13A				IAML		10 26 58.5	
	comp=E,236nm,1.1s						
W13A				IAML		10 27 03.5	
	comp=N,266nm,0.9s						
BLYC	**Blythe**	**3.20**	**132**		**Pn**	**10 26 08.7**	**-1.8**
BLYC				IAML		10 27 08.6	
	comp=N,260nm,0.9s						
BLYC				IAML		10 27 13.3	
	comp=E,210nm,0.9s						
BAR	**Barrett**	**3.29**	**170**	IAML		10 27 06.4	
	comp=E,164nm,0.7s						
BAR				IAML		10 27 08.6	
	comp=N,146nm,0.6s						
SAO	**San Andreas Ge**	**3.39**	**285**		**Pn**	**10 26 12.7**	**-0.5**
YUH	**Yuha Desert**	**3.49**	**159**		**Pn**	**10 26 12.9**	**-1.6**
LCMT	**Little Creek M**	**3.50**	**71**		**Pn**	**10 26 14.7**	**-0.1**
GLA	**Glamis**	**3.56**	**143**		**Pn**	**10 26 13.8**	**-1.7**
GLA				IAML		10 27 22.7	
	comp=N,250nm,0.8s						
CCUT	**Cedar City**	**3.60**	**62**		**Pn**	**10 26 16.4**	**0.0**
CBX	**Cerro Bola**	**3.66**	**171**		**Pn**	**10 26 16.7**	**-0.3**
KNB	**Kanab**	**3.83**	**72**		**Pn**	**10 26 19.8**	**+0.5**
PSUT	**Pine Spring**	**3.83**	**46**		**Pn**	**10 26 20.0**	**+0.7**
PSUT				IAML		10 27 22.9	
	comp=N,187nm,0.6s						
PSUT				IAML		10 27 23.5	
	comp=E,175nm,0.9s						
PAHR	**Pah Rah Range**	**4.09**	**338**		**Pn**	**10 26 22.7**	**-0.2**
ESJX	**Sierra Juarez**	**4.09**	**163**		**Pn**	**10 26 21.7**	**-1.3**
Y14A	**Wickenburg**	**4.10**	**118**		**Pn**	**10 26 22.0**	**-1.0**
Y14A				IAML		10 27 30.8	
	comp=E,179nm,0.7s						
U15A	**North Rim**	**4.14**	**82**		**Pn**	**10 26 24.3**	**+0.6**
U15A				IAML		10 27 37.3	
	comp=N,104nm,0.8s						
U15A				IAML		10 27 45.5	
	comp=E,130nm,1.2s						
113A	**Mohawk Valley,**	**4.34**	**136**		**Pn**	**10 26 24.2**	**-2.1**
X16A	**Lo Mia Camp, P**	**5.09**	**106**		**Pn**	**10 26 36.8**	**+0.1**
X16A				IAML		10 28 05.8	
	comp=E,47nm,1.1s						
X16A				IAML		10 28 07.9	
	comp=N,60nm,1.2s						
ELK	**Elko**	**5.09**	**19**		**Pn**	**10 26 36.2**	**-0.6**
ELK				IAML		10 28 05.2	
	comp=N,36nm,0.7s						
ELK	**Elko**	**5.09**	**19**	Pn	**Pn**	**10 26 36.7**	**0.0**
	comp=N,0.6nm,0.3s,baz=216,slow=11,SNR=10						
ELK				Pg	**Pb**	**10 26 51.7**	**+2.6**
	comp=N,2.4nm,0.3s,baz=222,slow=15,SNR=24						
ELK				Lg	Lg	10 27 57.4	
	comp=N,7.7nm,0.3s,baz=107,slow=21,SNR=9.6						
	comp=N,1.7nm,0.4s						
TUC	**Tucson**	**6.55**	**122**		**Pn**	**10 26 54.7**	**-1.9**
YBH	**Yreka Blue Hor**	**7.13**	**326**	Lg	Lg	10 29 00.9	
	baz=24,slow=20,SNR=3.6						
ANMO	**Albuquerque**	**8.96**	**93**	Pg	Pg	10 28 02.8	-7.9
	comp=N,0.2nm,0.3s,baz=19,slow=13,SNR=14						
ANMO				Lg	Lg	10 29 56.9	
	comp=N,0.1nm,0.3s,baz=237,slow=12,SNR=3.7						
PDAR	**Pinedale Array**	**9.12**	**39**	Pn	**Pn**	**10 27 33.4**	**+1.4**
	comp=N,0.1nm,0.3s,baz=231,slow=9.4,SNR=4.0						
	comp=N,0.2nm,0.4s						
TXAR	**Lajitas Array**	**13.29**	**116**	Pn	**Pn**	**10 28 30.3**	**+1.3**
	comp=N,0.1nm,0.3s,baz=288,slow=11,SNR=7.0						
TXAR				Lg	Lg	10 32 17.1	
	baz=290,slow=29,SNR=6.8						
	comp=N,0.1nm,0.4s						
ILAR	**Eielson Array**	**33.84**	**338**	P	**P**	**10 32 04.8**	**+2.1**
	comp=N,0.6nm,1.1s,baz=165,slow=5.4,SNR=4.2						
	comp=N,0.6nm,1.1s						
PETK	**Petropavlovsk-**	**59.38**	**316**	P	**P**	**10 35 23.5**	**+0.7**
	comp=N,1.0nm,1.0s,baz=69,slow=9.6,SNR=2.2						
	comp=N,1.0nm,1.0s						

*IDC **13** 10:26:19.3±0.6,33°.14S×78°.19E,h0km,mb4.2/14, mbtmp4.2/14,MS4.1/40,Error ellipse: s-maj=23.2km s-min=16.2km az=94.0*

*NEIC **13** 10:26:21.0±1.2,33°.21S±0°.07×78°.2E±0°.1,h10km±1km, mb4.8/20,Error ellipse: s-maj=21.6km s-min=7.6km az=245.0*

*GCMT **13** 10:26:22.0±0.2,33°.18S±0°.01×77°.97E±0°.02,h12km, MW4.9/103,Moment Tensor Solution. s17,c19; s103,c142; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.64±.09; Mθθ-1.55±.09; Mϕϕ2.19±.07; Mrθ-0.96±.26; Mθϕ-1.66±.07; Mϕr0.35±.22; Best double couple: M₀2.73100×10¹⁶ NP1:ϕs23.00000°,δ66.00000°, λ-9.00000°. NP2:ϕs117.00000°,δ82.00000°, λ-155.00000°. Principal axes: T 2.9470, Plg11.0000°, Azm248.0000°; N -0.4330, Plg64.0000°, Azm134.0000°; P -2.5140, Plg23.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 10:26:20.6±0.4,33°16S±0°09×78°2E±0°1,h10km,n91, σ0s61/48,mb4.7/25,MS4.1/40,1C-1D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04N2	**CROZET ISLANDS**	**23.96**	**229**	T	T	10 56 30.9	
	baz=66,slow=74,SNR=1090						
H04N1	**CROZET ISLANDS**	**23.98**	**229**	T	T	10 56 26.0	
	baz=66,slow=74,SNR=1814						
H04N3	**CROZET ISLANDS**	**23.98**	**229**	T	T	10 56 21.8	
	baz=66,slow=74,SNR=1352						
H04S1	**CROZET ISLANDS**	**24.17**	**228**	T	T	10 56 36.1	
	baz=65,slow=76,SNR=1013						
H04S3	**CROZET ISLANDS**	**24.19**	**228**	T	T	10 56 31.7	
	baz=65,slow=76,SNR=710						
H04S2	**CROZET ISLANDS**	**24.19**	**228**	T	T	10 56 43.5	
	baz=65,slow=76,SNR=762						
H08S2	**Diego Garcia H**	**25.93**	**347**	T	T	10 58 47.7	
	baz=170,slow=76,SNR=552						
H08S1	**Diego Carcia H**	**25.93**	**347**	T	T	10 58 47.0	
	baz=170,slow=76,SNR=337						
H08S3	**Diego Garcia H**	**25.95**	**347**	T	T	10 58 49.3	
	baz=170,slow=76,SNR=1135						
H01W2	**Cape Leeuwin H**	**29.76**	**103**	T	T	11 03 37.1	
	baz=264,slow=74,SNR=114						
H01W3	**Cape Leeuwin H**	**29.77**	**103**	T	T	11 03 39.8	
	baz=264,slow=74,SNR=106						
H01W1	**Cape Leeuwin H**	**29.78**	**103**	T	T	11 03 38.5	
	baz=264,slow=74,SNR=103						
NWAO	**Narrogin (SRO)**	**32.62**	**101**	LR	LR	10 43 28.7	
	comp=Z,403nm,18.8s,baz=274,slow=32						
MAW	**Mawson**	**35.62**	**190**	P	**P**	**10 33 17.5**	**-0.6**
	2.5nm,0.9s,baz=14,slow=5.9,SNR=8.9						
MAW				LR	LR	10 45 58.3	
	comp=Z,248nm,18.1s,baz=1.5,slow=33						
	2.5nm,0.9s						
LEM	**Lembang**	**37.85**	**53**	LR	LR	10 46 36.5	
	comp=Z,483nm,19.3s,baz=336,slow=32						
HMDM	**Hanimaadhoo**	**40.00**	**352**	P	**P**	**10 33 55.8**	**

comp=Z,11nm,1.1s,baz=288,slow=1.4,SNR=25
QSPA LR LR 10 58 13.7
comp=Z,553nm,20.1s,baz=283,slow=34
comp=Z,11nm,1.1s
BRDH Bariadhala 57.00 15 LR LR 11 00 22.8
comp=Z,84nm,18.4s,baz=9.0,slow=36
DAV Davao City (W) 60.21 57 LR LR 10 59 27.6
comp=Z,116nm,21.5s,baz=226,slow=33
BELA Belgrano 2 62.39 193 P 10 36 43.1 0.0
BELA IAmb IAmb 10 36 50.1
comp=Z,7.3nm,1.0s
EIDS Eidsvold 62.94 104 P **P 10 36 47.1 -0.4**
EIDS IAmb IAmb 10 37 13.2
comp=Z,19nm,1.6s
LSA Lhasa 63.72 13 P **P 10 36 53.0 +0.1**
LSA IAmb IAmb 10 37 00.9
comp=Z,5.8nm,0.7s
RAYN Ar Rayn 64.40 327 P **P 10 36 57.1 0.0**
RAYN IAmb IAmb 10 36 57.9
comp=Z,6.0nm,1.1s
JAY Jayapura 65.78 76 LR LR 11 05 56.2
comp=Z,54nm,18.0s,baz=208,slow=36
ARSB Arslanbob 74.27 356 P **P 10 37 57.4 -0.5**
ARSB IAmb IAmb 10 38 01.3
comp=Z,14nm,1.4s
EIL Elat 74.70 322 LR LR 11 05 42.6
comp=Z,136nm,20.7s,baz=68,slow=32
AAK Ala-Archa 75.51 357 LR LR 11 08 23.8
comp=Z,99nm,20.5s,baz=176,slow=33
SMAI San Martin Ant 75.73 193 P 10 38 06.1 +0.2
ASF Jabal al Asfar 75.75 325 LR LR 11 06 13.8
comp=Z,78nm,21.4s,baz=181,slow=32
KK31 Karatay Array 76.22 354 P 10 38 09.5 +0.5
KK31 IAmb IAmb 10 38 17.0
comp=Z,6.7nm,0.9s
KKAR Karatay Array 76.22 354 P 10 38 09.5 +0.5
MMAI Mount Meron Ar 77.16 324 LR LR 11 09 03.1
comp=Z,69nm,18.3s,baz=153,slow=33
GUMO Guam 78.73 66 LR LR 11 13 53.6
comp=Z,22nm,19.3s,baz=236,slow=36
GNI Garni 79.23 335 LR LR 11 11 36.1
comp=Z,82nm,18.0s,baz=132,slow=34
MK31 Makanchi Array 79.67 3 P **P 10 38 27.3 -0.8**
MKAR Makanchi Array 79.67 3 P 10 38 27.0 -1.0
MKAR Makanchi Array 79.67 3 P **P 10 38 27.4 -0.6**
comp=Z,2.4nm,1.0s,baz=167,slow=5.7,SNR=11
comp=Z,2.4nm,1.0s
KBZ Khabaz 83.03 335 LR LR 11 12 42.7
comp=Z,69nm,18.7s,baz=149,slow=34
BRTR Keskin Array B 83.42 327 P **P 10 38 47.9 -0.4**
comp=Z,1.3nm,0.7s,baz=141,slow=6.4,SNR=4.9
comp=Z,1.3nm,0.7s
KURBB Kurchatov Arra 83.42 0 P **P 10 38 46.9 -0.8**
comp=Z,0.7nm,0.2s,baz=191,slow=5.2,SNR=7.9
comp=Z,0.7nm,0.2s
ABKAR Akbulak array 83.64 348 P 10 38 48.4 -0.5
KSAR Wonju Array Be 84.14 38 P **P 10 38 52.2 +0.4**
SONM Songino Array 84.51 19 P **P 10 38 53.2 -0.4**
comp=Z,0.8nm,0.6s,baz=197,slow=4.6,SNR=5.3
SONM LR LR 11 15 41.1
comp=Z,42nm,19.6s,baz=205,slow=35
comp=Z,0.8nm,0.6s
AKTO Aktyubinsk 85.12 347 LR LR 11 16 18.4
comp=Z,42nm,18.1s,baz=110,slow=35
ZAA0 Zalesovo Array 86.94 4 P **P 10 39 05.0 -0.3**
ZAA0 IAmb IAmb 10 39 12.2
comp=Z,8.9nm,1.1s
ZALV Zalesovo Beam 86.94 4 P **P 10 39 05.0 -0.3**
comp=Z,2.4nm,0.4s,baz=197,slow=4.5,SNR=11
ZALV LR LR 11 15 25.6
comp=Z,80nm,21.6s,baz=159,slow=34
comp=Z,2.4nm,0.4s
DBIC Dimbokro 87.80 279 LR LR 11 13 59.9
comp=Z,182nm,21.1s,baz=160,slow=33
BELG Belogornoye 89.29 342 LR LR 11 17 52.0
comp=Z,55nm,19.1s,baz=183,slow=35
ARTI Arti 90.77 349 LR LR 11 18 38.1
comp=Z,47nm,18.5s,baz=176,slow=35
USRK Ussuriysk Ar. 91.27 36 LR LR 11 18 41.9
comp=Z,117nm,20.3s,baz=233,slow=34
MLR Muntele Rosu 91.46 326 P 10 39 27.0 -0.1
MLR Muntele Rosu 91.46 326 P **P 10 39 27.5 +0.5**
comp=Z,6.2nm,1.0s,baz=148,slow=6.2,SNR=5.7
VAE Valguarnera 91.99 314 LR LR 11 18 01.2
comp=Z,44nm,18.1s,baz=320,slow=34
AKASG Malin Array Be 94.00 331 P 10 39 37.7 -0.7
comp=Z,0.6nm,0.6s,baz=124,slow=3.6,SNR=4.4
AKASG LR LR 11 19 45.4
comp=Z,62nm,20.8s,baz=154,slow=34
comp=Z,0.6nm,0.6s
ASAJ Asahikawa 96.72 41 LR LR 11 20 31.6
comp=Z,42nm,19.5s,baz=240,slow=34
ILAR Eielson Array 98.23 27 PKP **PKiKP 10 45 46.9 -0.4**
comp=Z,0.2nm,0.8s,baz=262,slow=2.4,SNR=4.5
FARO Faro, Yukon 144.68 25 PKPdf 10 45 56.3 -0.5
MMPY Sheldon Lake, 145.14 23 PKPdf 10 45 57.9 +0.3
SCHQ Schefferville 147.31 322 PKPbc **PKPab 10 46 05.4 -0.3**
comp=Z,3.8nm,0.7s,baz=344,slow=5.9,SNR=4.4
DLBC Dease Lake 148.42 28 PKPbc **PKPbc 10 46 07.3 +0.5**
comp=Z,0.2nm,0.7s,baz=293,slow=4.4,SNR=6.2
YKA Yellowknife Ar 149.54 12 PKPbc **PKiKP 10 46 11.2 +0.8**
comp=Z,3.1nm,1.0s,baz=338,slow=3.2,SNR=5.7
WCT Wildcat Mounta 167.34 69 PKPdf 10 46 25.0 -2.0

*MDD **13** 10:29:22.1±0.8, 37°.05N×5°.82E, h7km±12km, Mb4.1/21, M_mb3.4/22, Error ellipse: s-maj=14.1km s-min=4.2km az=176.0*
*CRAAG **13** 10:29:28.2, 36°.70N×6°.09E, Ml2.8, Algerie 07km SE Bordj-Tahar*
ISC 13 10:29:20.2±1.3, **37°.05N**±0°.06×**5°.83E**±0°.05, **h10km, n16,**
σ1§**48**/21, **8C, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBOS	**Bilal Ibnou Ra**	**0.47**	**123**	P	**Pn**	**10 29 33.3**	**+0.4**
DFRA	**Djebel Bou Aff**	**0.51**	**176**	P	**Pn**	**10 29 34.0**	**+0.5**
CASM	**Ain Smara**	**0.95**	**146**	P	**Pn**	**10 29 40.2**	**+0.6**
CKFL	**Kef-Lekhel**	**0.97**	**132**	P	**Pn**	**10 29 41.3**	**+1.4**
ETOS	**Mallorca**	**3.60**	**320**	Pn	**Pn**	**10 30 16.9**	**+0.9**
ETOS				⇑*i*Vmb_VC		10 30 25.5	
	344nm,SNR=3.2						
ETOS				Sn	**Sn**	**10 30 57.6**	**-1.0**
VSL	**Villasalto**	**3.71**	**48**	Pn	**Pn**	**10 30 18.6**	**+1.1**
VSL				Sn	**Sn**	**10 31 01.3**	**-0.1**
EIBI	**Ibiza**	**4.05**	**301**	Pn	**Pn**	**10 30 23.8**	**+1.6**
EIBI				⇑*i*Vmb_VC		10 30 30.6	
	541nm,SNR=2.9						
EIBI				Sn	**Sn**	**10 31 07.1**	**-2.7**
DGI	**Dorgali Grotta**	**4.40**	**41**	Pn	**Pn**	**10 30 28.4**	**+1.3**
DGI				Sn	**Sn**	**10 31 16.3**	**-2.1**
ECOL	**Islas Columbre**	**4.94**	**307**	Pn	**Pn**	**10 30 35.7**	**+1.3**
EPOB	**Poblet**	**5.66**	**321**	Pn	**Pn**	**10 30 45.3**	**+0.9**
EPOB				⇑*i*Vmb_VC		10 30 49.1	
	76nm,SNR=1.7						
EPOB				Sn	**Sn**	**10 31 47.3**	**-2.2**
ERTA	**Horta de San J**	**5.79**	**314**	Pn	**Pn**	**10 30 47.6**	**+1.5**
ERTA				⇑*i*Vmb_VC		10 30 50.8	
	93nm,SNR=1.3						
ECHE	**Chera**	**5.92**	**297**	Pn	**Pn**	**10 30 48.9**	**+1.0**
ECHE				⇑*i*Vmb_VC		10 30 50.2	
	172nm,SNR=1.3						
EMOS	**Mosqueruela**	**5.94**	**306**	Pn	**Pn**	**10 30 49.6**	**+1.4**
EMOS				⇑*i*Vmb_VC		10 30 56.3	
	167nm,SNR=2.3						
ESAC	**San Caprasio**	**6.75**	**316**	Pn	**Pn**	**10 31 00.5**	**+1.2**
EQES	**Quesada**	**7.12**	**279**	Pn	**Pn**	**10 31 06.0**	**+1.5**
EQES				⇑*i*Vmb_VC		10 31 10.4	
	102nm,SNR=2.2						
ETOR	**Torete**	**7.21**	**304**	Pn	**Pn**	**10 31 07.1**	**+1.5**
ETOR				⇑*i*Vmb_VC		10 31 08.7	
	85nm,SNR=1.6						

*TEH **13** 10:30:11.7, 33°.65N×45°.64E, h12km±28km*
*ISN **13** 10:30:11.0±0.6, 33°.64N×45°.61E, h10km±3km, ML2.8*
ISC 13 10:30:12.5±1.0, **33°.61N**±0°.04×**45°.68E**±0°.04, **h13km, n13,**
σ0§**74**/16, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.44**	**88**	Pg	**Pb**	**10 30 21.9**	**-0.3**
GLG1	**Gilan-e-Gharb**	**0.53**	**21**	Pg	**Pb**	**10 30 23.1**	**-0.7**
IBDR	**Badra**	**0.55**	**157**	*e*Pg	**Pg**	**10 30 23.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**10 30 31.0**	**+0.6**
IBDR				AML	AML	10 30 37.9	
	comp=E,179nm,0.8s						
IBDR				AML	AML	10 30 38.5	
	comp=N,236nm,0.4s						
IGHG	**Ghaleghazi**	**1.03**	**46**	Pg	**Pn**	**10 30 32.8**	**0.0**
BHD	**Baghdad**	**1.14**	**253**	*e*Pn	**Pg**	**10 30 34.0**	**-0.4**
BHD				*e*Sn	**Sn**	**10 30 51.0**	**+1.4**
BHD				AML	AML	10 30 59.3	
	comp=E,1μm,0.3s						
IDHR	**Dehrash**	**1.23**	**28**	Pg	**Pg**	**10 30 35.9**	**-0.3**
KCHF	**Chashme Sefid,**	**1.31**	**59**	Pg	**Pg**	**10 30 38.0**	**+0.3**
ILIN	**Lien**	**1.68**	**39**	Pg	**Pg**	**10 30 44.1**	**-0.6**
IKFM	**Kafar-mosalman**	**1.81**	**92**	Pn	**Pg**	**10 30 46.6**	**-0.7**
RAFI	**Al-Rafai**	**1.92**	**169**	*e*Pn	**Pb**	**10 30 46.0**	**-1.3**
RAFI				*e*Sn	**Sb**	**10 31 12.0**	**+0.8**
IBZA	**Bozab**	**2.00**	**64**	Pn	**Pb**	**10 30 48.9**	**0.0**
SNQR	**Sonqor, Kerman**	**2.04**	**52**	Pn	**Pb**	**10 30 49.1**	**-0.4**
IDOB	**Doab**	**2.09**	**85**	Pn	**Pb**	**10 30 49.8**	**-0.6**

*IDC **13** 10:34:17.5±2.1, 1°.82N×126°.22E, h0km, mb3.9/5, mbtmp4.0/5, Error ellipse: s-maj=267.8km s-min=20.9km az=65.0*
*DJA **13** 10:34:28.4±1.0, 1°.N±2°×12°.6E±°, h30km±14km, M4.1/13, mb4.5/3, MLv3.9/13*
ISC 13 10:34:27.2±0.9, **1°.38N**±0°.06×**125°.78E**±0°.05, **h54km, n13,**
σ2§**30**/16, **mb4.0/5, Northern Moluccа Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.70**	**111**	P	**Pn**	**10 34 55.4**	**+0.9**
TNTI				S	**Sn**	**10 35 17.9**	**+2.8**
KMSI	**Cibinong**	**1.97**	**246**	P	**Pn**	**10 34 59.2**	**+1.0**
KMSI				S	**Sn**	**10 35 23.7**	**+1.9**
SGSI	**Sangihe**	**2.30**	**354**	P	**Pn**	**10 35 04.7**	**+1.9**
SGSI				S	**Sn**	**10 35 32.5**	**+2.6**
LBMI	**Labuha**	**2.64**	**139**	P	**Pn**	**10 35 10.5**	**+3.0**
LUWI	**Luwuk**	**3.85**	**231**	P	**Pn**	**10 35 26.0**	**+2.0**
APSI	**Ampana**	**4.72**	**241**	P	**Pn**	**10 35 38.6**	**+2.7**
AAI	**Ambon**	**5.58**	**154**	P	**Pn**	**10 35 47.5**	**-0.3**
	59nm,0.6s						
MSAI	**Masohi**	**5.66**	**146**	P	**Pn**	**10 35 51.0**	**+2.2**
	107nm,0.6s						
WRA	**Warramunga Arr**	**22.80**	**159**	P	**P**	**10 39 23.5**	**-2.1**
	3.5nm,0.5s,baz=336,slow=9.6,SNR=18						
	3.5nm,0.5s						
ASAR	**Alice Springs**	**26.12**	**163**	P	**P**	**10 39 56.1**	**-0.3**
	2.6nm,0.4s,baz=344,slow=11,SNR=79						
	2.6nm,0.4s						
STKA	**Stephens Creek**	**36.32**	**157**	P	**P**	**10 41 25.2**	**-0.7**
	0.9nm,0.3s,baz=354,slow=10,SNR=1.4						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**58.95**	**327**	P	**P**	**10 44 18.2**	**-2.9**
	0.4nm,0.5s,baz=120,slow=8.4,SNR=3.2						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**63.21**	**328**	P	**P**	**10 44 47.3**	**-2.5**
	0.4nm,0.6s,baz=123,slow=6.7,SNR=1.5						
	0.4nm,0.6s						

*IDC **13** 10:42:22.6±1.0, 52°.00N×174°.04E, h0km, mb3.5/7, mbtmp3.5/9, ML3.1/2, MS4.1/1, Error ellipse: s-maj=22.1km s-min=10.8km az=96.0*
*NEIC **13** 10:42:29.6±2.4, 52°.35N±0°.07×174°.0E±0°.1, h35km±2km, mb3.6/10, Error ellipse: s-maj=14.4km s-min=11.3km az=58.0*
ISC 13 10:42:28.8±0.8, **52°.31N**±0°.10×**173°.95E**±0°.07, **h35km, n42,**
σ1§**01**/37, **mb3.6/7, Near Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	**0.43**	**12**	Pg	**Pn**	**10 42 38.5**	**+0.1**
	604nm,0.3s,baz=156,slow=4.5,SNR=1473						
SHEM				Lg	Lg	10 42 46.2	
	756nm,0.3s,baz=37,slow=22,SNR=25						
SHEM				LR	LR	10 43 05.9	
	comp=Z,161nm,18.8s,baz=343,slow=60						
SMY	**Shemya**	**0.43**	**12**		**Pn**	**10 42 38.8**	**+0.4**
SMY					**Sn**	**10 42 46.2**	**+1.1**
AMKA	**Amchitka**	**3.45**	**104**	Pn	**Pn**	**10 43 21.1**	**+1.1**
KIWB	**Kanaga Island**	**5.51**	**91**	Pn	**Pn**	**10 43 49.3**	**+1.1**
ADK	**Adak**	**5.79**	**91**	Pn	**Pn**	**10 43 53.2**	**+1.1**
GSTR	**Great Sitkin T**	**6.15**	**88**	Pn	**Pn**	**10 43 57.9**	**+0.9**
ATKA	**Atka Island**	**7.28**	**86**	Pn	**Pn**	**10 44 12.6**	**+0.1**
PET	**Petropavlovsk**	**9.33**	**280**	Pn	**Pn**	**10 44 42.4**	**+1.8**
PEA0B	**Petropavlovsk-**	**9.90**	**281**	Pn	**Pn**	**10 44 48.7**	**+0.2**
PETK	**Petropavlovsk-**	**9.90**	**281**	Pn	**Pn**	**10 44 50.5**	**+2.0**
PETK	**Petropavlovsk-**	**9.90**	**281**	Pn	**Pn**	**10 44 49.5**	**+1.0**
	0.2nm,0.3s,baz=86,slow=19,SNR=12						
PETK				Sn	**Sn**	**10 46 36.2**	**-2.0**
	0.2nm,0.3s,baz=159,slow=19,SNR=4.9						
	0.7nm,0.6s						
SPIA	**Saint Paul Isl**	**10.34**	**56**	Pn	**Pn**	**10 44 55.3**	**+0.8**
NIKH	**Nikolski High**	**10.47**	**80**	Pn	**Pn**	**10 44 56.0**	**-0.3**
P08K	**Saint George I**	**10.52**	**59**	Pn	**Pn**	**10 44 57.1**	**+0.2**
UNV	**Unalaska Valle**	**11.85**	**75**	Pn	**Pn**	**10 45 14.9**	**-0.2**
M13K	**Dall Lake**	**14.90**	**48**	Pn	**Pn**	**10 45 57.0**	**+0.4**
K13K	**Kusilvak Mount**	**15.02**	**42**	Pn	**Pn**	**10 45 59.1**	**+1.0**
L16K	**Owhat River**	**17.14**	**46**	P	**Pn**	**10 46 25.0**	**-0.2**
J16K	**Anvik River**	**17.31**	**41**	P	**P**	**10 46 27.8**	**-0.8**
J16K				IAmb	IAmb	10 46 43.2	
	comp=Z,7.1nm,1.2s						
N17K	**Nushagak Hills**	**17.83**	**51**	P	**Pn**	**10 46 32.9**	**-0.9**
M17K	**Holitna River**	**17.95**	**48**		**P**	**10 46 35.3**	**-0.3**
J17K	**VABM Dome**	**17.98**	**41**	P	**Pn**	**10 46 34.4**	**-1.3**
J17K				IAmb	IAmb	10 46 56.7	
	comp=Z,8.5nm,1.5s						
K17K	**Iditarod**	**18.02**	**44**	P	**P**	**10 46 36.3**	**-0.1**
K17K				IAmb	IAmb	10 46 48.7	
	comp=Z,4.4nm,1.1s						
H17K	**Granite Mounta**	**18.39**	**36**	P	**Pn**	**10 46 39.8**	**-0.8**
H17K				IAmb	IAmb	10 46 50.0	
	comp=Z,6.8nm,1.4s						
L18K	**Granite Mounta**	**18.55**	**46**	P	**P**	**10 46 41.6**	**-0.6**
L18K				IAmb	IAmb	10 46 46.0	
	comp=Z,4.9nm,1.3s						
J18K	**Innoko River**	**18.98**	**43**	P	**P**	**10 46 44.0**	**-2.9**
J18K				IAmb	IAmb	10 46 53.1	
	comp=Z,6.9nm,1.4s						
H18K	**Honhosa River**	**19.07**	**37**	P	**P**	**10 46 47.1**	**-0.7**
KDAK	**Kodiak Island**	**19.80**	**61**	P	**P**	**10 46 54.9**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=93,slow=1.0,SNR=17						
	comp=Z,2.5nm,0.6s						
ILAR	**Eielson Array**	**23.48**	**43**	P	**P**	**10 47 34.6**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=247,slow=10,SNR=8.2						
	comp=Z,0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**32.98**	**192**	T	T	11 23 50.9	
	baz=8.1,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**32.99**	**192**	T	T	11 23 49.3	
	baz=8.1,slow=76,SNR=21						
H11N1	**WAKE ISLAND Hy**	**33.00**	**192**	T	T	11 23 50.5	
	baz=8.1,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**34.21**	**192**	T	T	11 25 28.6	
	baz=7.9,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**34.22**	**192**	T	T	11 25 32.8	
	baz=7.9,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**34.23**	**192**	T	T	11 25 21.9	
	baz=7.9,slow=76,SNR=8.5						
KURBB	**Kurchatov Arra**	**55.14**	**309**	P	**P**	**10 51 57.5**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=46,slow=6.3,SNR=3.8						
	comp=Z,0.7nm,0.7s						
MKAR	**Makanchi Array**	**55.85**	**304**	P	**P**	**10 52 02.3**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=62,slow=6.1,SNR=2.7						
	comp=Z,0.3nm,0.4s						
TXAR	**Lajitas Array**	**62.88**	**76**	P	**P**	**10 52 51.4**	**0.0**
	comp=Z,0.2nm,0.5s,baz=311,slow=4.6,SNR=7.1						
	comp=Z,0.2nm,0.5s						
NOA	**NORSAR Array B**	**66.16**	**351**	P	**P**	**10 53 12.3**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=1.0,slow=5.8,SNR=4.4						
	comp=Z,0.2nm,0.4s						
HFS	**Hagfors**	**66.79**	**349**	P	**P**	**10 53 15.8**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=31,slow=5.9,SNR=7.7						
	comp=Z,1.0nm,0.6s						
RAR	**Rarotonga**	**76.72**	**155**	LR	LR	11 23 09.4	
	comp=Z,104nm,18.3s,baz=54,slow=32						
WRA	**Warramunga Arr**	**79.79**	**218**	P	**P**	**10 54 32.9**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=22,slow=5.6,SNR=1.4						
	comp=Z,0.3nm,0.8s						

*MDD **13** 10:44:10.0±1.0, 37°.25N×5°.96E, h0km, Mb4.0/13, M_mb3.3/13, Error ellipse: s-maj=9.1km s-min=5.2km az=7.0*
*CRAAG **13** 10:44:10.3, 36°.98N×5°.88E, Ml3.0, Algerie 22km NE Jijel*
ISC 13 10:44:08.4±1.1, **37°.12N**±0°.06×**5°.90E**±0°.05, **h10km, n10,**
σ1§**97**/13, **3C, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBOS	**Bilal Ibnou Ra**	**0.46**	**134**	P	**Pg**	**10 44 18.8**	**+1.3**
DFRA	**Djebel Bou Aff**	**0.57**	**182**	P	**Pg**	**10 44 20.0**	**+0.4**
CBHR	**Beni Haroun da**	**0.63**	**152**	P	**Pg**	**10 44 21.7**	**+1.1**
CBST	**Bordj Sabath**	**1.20**	**126**	P	**Pg**	**10 44 34.0**	**+2.6**
CTCHA	**Tamokra**	**1.22**	**236**	P	**Pn**	**10 44 29.9**	**-1.6**
ETOS	**Mallorca**	**3.59**	**318**	Pn	**Pn**	**10 45 04.9**	**+0.8**
ETOS				⇑*i*Vmb_VC		10 45 07.8	
	146nm,SNR=1.2						
ETOS				Sn	**Sn**	**10 45 45.2**	**-1.4**
VSL	**Villasalto**	**3.62**	**48**	Pn	**Pn**	**10 45 04.6**	**+0.1**
VSL				Sn	**Sn**	**10 45 44.2**	**-3.1**
EIBI	**Ibiza**	**4.07**	**299**	Pn	**Pn**	**10 45 12.1**	**+1.4**
EIBI				⇑*i*Vmb_VC		10 45 21.1	
	307nm,SNR=1.5						
EIBI				Sn	**Sn**	**10 45 57.7**	**-0.8**
DGI	**Dorgali Grotta**	**4.31**	**41**	Sn	**Sn**	**10 46 01.2**	**-3.2**
EMOS	**Mosqueruela**	**5.94**	**305**	Pn	**Pn**	**10 45 37.7**	**+1.0**
EMOS				⇑*i*Vmb_VC		10 45 43.5	
	98nm,SNR=0.9						

WEL 13 11:00:59.0±1.2, **34°.S**±8°×**17°.9W**±1°.5, **h12km, mB4.9/3, ML4.4/15, MLv4.3/11, Mw(mB)4.2/3, Error ellipse: s-maj=20.4km s-min=8.6km az=110.2, confirmed, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.98**	**211**	P	Pn	11 01 59.2	-0.6
MXZ				S	Sn	11 02 47.4	+1.0
WMGZ	**Waiomatatini S**	**4.15**	**208**	P	Pn	11 02 02.2	0.0
WMGZ				S	Sn	11 02 52.3	+1.6
PKGZ	**Pakihiroa**	**4.33**	**211**	P	Pn	11 02 04.3	-0.4
PKGZ				S	Sn	11 02 55.0	-0.2
HAZ	**Te Kaha**	**4.38**	**215**	P	Pn	11 02 05.2	-0.1
HAZ				S	Sn	11 02 59.2	+3.1
PUZ	**Puketiti**	**4.43**	**208**	P	Pn	11 02 05.5	-0.6
RUGZ	**Raukumara Rang**	**4.59**	**214**	P	Pn	11 02 07.0	-1.4
RUGZ				S	Sn	11 03 02.8	+1.0
TWGZ	**Tauwhareparae**	**4.64**	**210**	P	Pn	11 02 10.7	+1.8
TWGZ				S	Sn	11 03 03.1	+0.5
CNGZ	**Carnagh Statio**	**4.81**	**206**	P	Pn	11 02 11.5	+0.2
TKGZ	**Te Karaka**	**4.91**	**209**	P	Pn	11 02 13.6	+1.0
KUZ	**Kuaotunu**	**4.95**	**237**	P	Pn	11 02 14.7	+1.6
MWZ	**Matawai**	**4.96**	**212**	P	Pn	11 02 13.3	-0.1
MWZ				S	Sn	11 03 10.3	-0.4
OPRZ	**Ohinepanea**	**5.08**	**223**	P	Pn	11 02 15.4	+0.4
URZ	**Urewera**	**5.10**	**216**	P	Pn	11 02 13.5	-1.7
URZ				S	Sn	11 03 14.3	+0.4
MARZ	**Manawahe**	**5.12**	**221**	P	Pn	11 02 16.4	+0.9
RIGZ	**Rimuhau**	**5.18**	**208**	P	Pn	11 02 16.3	-0.1
PRGZ	**Paritu Road**	**5.32**	**206**	P	Pn	11 02 19.7	+1.4
SNGZ	**Shannon Statio**	**5.42**	**211**	P	Pn	11 02 20.6	+1.0
MUGZ	**Murupara**	**5.43**	**217**	P	Pn	11 02 19.0	-0.8
KNZ	**Kokohu**	**5.49**	**207**	P	Pn	11 02 21.0	+0.5
TOZ	**Tahuroa Road**	**5.64**	**230**	P	Pn	11 02 22.6	0.0
MTHZ	**Maungataniwha**	**5.70**	**214**	P	Pn	11 02 23.7	+0.3
WHHZ	**Waihua**	**5.71**	**210**	P	Pn	11 02 24.5	+0.9
OUZ	**Omahuta**	**6.12**	**258**	P	Pn	11 02 28.1	-1.1
HIZ	**Hauiti**	**6.52**	**227**	P	Pn	11 02 35.2	+0.4

RSNC 13 11:11:44.6±0.6, **12°.N**±4°×**7°.0W**±°, **h0km, M3.7, mB4.9, mb4.4, ML3.3, Mw(mB)4.2, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URIC	**Uribia, Colomb**	**2.12**	**268**	P	Pn	11 12 19.4	-1.9
URIC				S	Sn	11 12 49.2	+0.8
SDV	**Santo Domingo**	**2.99**	**195**	P	Pn	11 12 33.9	+0.4
SDV				S	Sn	11 13 11.8	+1.6
CRJC	**Cerrejon, Guaj**	**3.09**	**256**	P	Pn	11 12 33.8	-1.0
CRJC				S	Sn	11 13 12.4	-0.1
SMRC	**Santa Marta, M**	**4.35**	**262**	P	Pn	11 12 51.2	-0.9
SMRC				S	Sn	11 13 45.0	+1.5
ARGC	**Ariguani, Magd**	**4.74**	**247**	P	Pn	11 12 57.5	0.0
ARGC				S	Sn	11 13 53.7	+0.5
OCAC	**Ocana**	**4.92**	**225**	P	Pn	11 12 59.6	-0.5
OCAC				S	Sn	11 13 57.1	-0.8
PAMC	**Pamplona, Colo**	**5.25**	**213**	P	Pn	11 13 04.6	-0.2
PAMC				S	Sn	11 14 04.3	-2.1
SJCC	**San Jacinto, C**	**5.58**	**251**	P	Pn	11 13 08.7	-0.3
	44nm,1.2s						
SJCC				S	Sn	11 14 14.8	+0.8
	44nm,1.2s						
BARC	**Barichara**	**6.13**	**213**	P	Pn	11 13 17.2	+0.4
BARC				S	Sn	11 14 27.2	-0.6
BRJC	**Barrancabermej**	**6.15**	**219**	P	Pn	11 13 17.0	+0.2
ZARC	**Zaragoza, Cauc**	**6.54**	**230**	P	Pn	11 13 21.3	-0.9
	895nm37nm,1.0s						
RUSC	**La Rusia**	**6.68**	**209**	P	Pn	11 13 25.0	+0.5
PTBC	**PUERTO BERRIO,**	**6.93**	**222**	P	Pn	11 13 26.5	-1.1
	276nm11nm,0.5s						
HELC	**Santa Helena**	**7.91**	**226**	P	Pn	11 13 42.1	+0.8
	16nm,0.6s						
GUY2C	**Guyana, Caldas**	**8.52**	**220**	P	Pn	11 13 48.7	-1.0
	19nm,0.7s						
PLMC	**San Jos del P**	**9.36**	**224**	P	Pn	11 13 59.8	-1.1
	14nm,0.9s						
PRAC	**Prado**	**9.46**	**212**	P	Pn	11 14 01.7	-0.6
	8.7nm,0.5s						
ORTC	**Ortega, Tolima**	**9.49**	**215**	P	Pn	11 14 02.6	-0.1

*KOLA **13** 11:35:36.8, 67°.62N×30°.67E, h0km, ML2.2, Error ellipse: s-maj=5.4km s-min=2.9km az=50.0, Murmansk region, Kovdor district*
*IDC **13** 11:35:36.9±2.7, 67°.52

KLF			SG		11 36 52.8	
HEF	**Hetta**	**2.71 288**	PN		11 36 20.1	
HEF			MSG		11 36 55.0	
	comp=Z,3.9nm,0.2s					
HEF			SG		11 36 57.0	
TOF	**Tornio**	**3.00 239**	PN		11 36 21.7	
TOF			MSG		11 36 58.9	
	comp=Z,1.5nm,0.2s					
TOF			SB		11 37 01.8	
PAJU	**Pajala**	**3.00 260**	PN		11 36 23.2	
PAJU			SG		11 37 03.8	
KTK1	**Kautokeino**	**3.03 298**	PN		11 36 25.4	
OUL	**Oulu**	**3.28 218**	PB		11 36 27.7	
LANU	**Lannavaara**	**3.29 279**	PN		11 36 27.6	
KALU	**Kalix**	**3.45 240**	SG		11 37 18.7	
ERTU	**Ertsjaerv**	**3.51 254**	PN		11 36 30.2	
RMF	**Romuvaara**	**3.55 185**	PN		11 36 29.3	
OBF4	**Vikkela, Lumij**	**3.70 220**	PN		11 36 32.0	
KIF	**Kilpisjarvi**	**3.86 294**	PN		11 36 36.9	
OUF	**Merijarvi**	**4.16 218**	PN		11 36 37.6	
	baz=29					
OUF			SG		11 37 39.1	
OBF8	**Ulkokalla**	**4.51 224**	PN		11 36 42.8	
I37NO	**I37NO**	**4.65 292**	I	I	12 03 00.0	
	baz=104,slow=320,SNR=6.3					
FAUS	**Fauske**	**5.90 274**	S	**Sn**	**11 38 08.6**	**-0.8**
FINES	**FINESS Array B**	**6.62 199**	Pn	**Pn**	**11 37 11.9**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=17,slow=12,SNR=1.4					
FINES			Lg	Lg	11 38 55.3	
	comp=Z,0.1nm,0.3s,baz=10,slow=27,SNR=6.3					
	comp=Z,0.6nm,0.8s					

*NOU **13** 11:39:22.3, 36.20S×179.91E, h163km, mb3.8/6, Off E. Coast of N. Island, N.Z.*

WEL 13 11:38:54.2±1.0, 34.2°S±12.1°×178.0°W±2.3°, h12km, M4.1/12, mB4.8/5, ML4.2/14, MLv4.1/12, Mw(mB)4.0/5, Error ellipse: s-maj=33.4km s-min=7.9km az=115.9, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.01**	**205**	P	Pn	11 39 56.8	+1.3
MXZ	**Matakaoa Point**	**4.01**	**205**	P	Pn	11 39 55.7	+0.2
MXZ				S	Sn	11 40 45.8	+3.4
WMGZ	**Waiomatatini S**	**4.21**	**202**	P	Pn	11 39 58.5	+0.3
WMGZ				S	Sn	11 40 48.8	+1.5
PKGZ	**Pakihiroa**	**4.37**	**205**	P	Pn	11 40 00.4	+0.1
PKGZ				S	Sn	11 40 50.5	-0.6
HAZ	**Te Kaha**	**4.38**	**208**	P	Pn	11 40 01.2	+0.8
HAZ				S	Sn	11 40 54.0	+2.6
PUZ	**Puketiti**	**4.49**	**202**	P	Pn	11 40 01.5	-0.6
PUZ				S	Sn	11 40 54.1	-0.2
RUGZ	**Raukumara Rang**	**4.60**	**208**	P	Pn	11 40 03.8	+0.1
TWGZ	**Tauwhareparae**	**4.68**	**204**	P	Pn	11 40 05.4	+0.8
TWGZ				S	Sn	11 40 59.8	+0.9
CNGZ	**Carnagh Statio**	**4.89**	**201**	P	Pn	11 40 07.4	-0.1
TKGZ	**Te Karaka**	**4.96**	**204**	P	Pn	11 40 07.1	-1.3
TKGZ				S	Sn	11 41 06.0	+0.3
MWZ	**Matawai**	**4.98**	**207**	P	Pn	11 40 08.0	-0.8
MWZ				S	Sn	11 41 08.2	+1.8
OPRZ	**Ohinepanea**	**5.01**	**218**	P	Pn	11 40 10.8	+1.6
URZ	**Urewera**	**5.08**	**211**	P	Pn	11 40 09.6	-0.6
URZ	**Urewera**	**5.08**	**211**	P	Pn	11 40 09.4	-0.7
URZ				S	Sn	11 41 09.3	+0.5
RAGZ	**Rawiri**	**5.16**	**207**	P	Pn	11 40 13.9	+2.5
RIGZ	**Rimuhau**	**5.23**	**203**	P	Pn	11 40 14.0	+1.8
WCZ	**Waipu Caves**	**5.37**	**246**	P	Pb	11 40 21.3	-6.6
PRGZ	**Paritu Road**	**5.39**	**201**	P	Pn	11 40 12.0	-2.4
PRGZ				S	Sn	11 41 17.6	+1.2
MUGZ	**Murupara**	**5.41**	**212**	P	Pn	11 40 13.7	-1.0
MUGZ				S	Sn	11 41 16.5	-0.4
SNGZ	**Shannon Statio**	**5.44**	**206**	P	Pn	11 40 17.5	+2.3
SNGZ				S	Sn	11 41 19.6	+1.8
MHGZ	**Mahia Peninsul**	**5.59**	**200**	P	Pn	11 40 14.7	-2.5
MRHZ	**Matea Rd**	**5.86**	**212**	P	Pn	11 40 19.8	-1.2
MRHZ				S	Sn	11 41 27.1	-1.0
BKZ	**Black Stump Fm**	**6.11**	**210**	P	Pn	11 40 23.2	-1.1
HIZ	**Hauiti**	**6.41**	**223**	P	Pn	11 40 31.8	+3.4
BFZ	**Birch Farm**	**7.52**	**205**	P	Pn	11 40 41.2	-2.4
KHZ	**Kahutara**	**10.05**	**210**	P	Pn	11 41 13.6	-4.7

*NEIC **13** 11:45:20.7±1.5, 35.646N±0.009×117.43W±0.01, h6km±1km, Error ellipse: s-maj=1.4km s-min=1.3km az=62.0*

PAS 13 11:45:21.0±1.5, 35.632N±0.009×117.43W±0.01, h4km±2km, ML3.1/24, ML2.9/90(NEIC), Error ellipse: s-maj=1.4km s-min=1.3km az=65.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.06**	**238**	Pg	Pg	11 45 22.6	+0.2
WSHM				IAML		11 45 24.1	
	15μm,0.3s						
CCCA	**Chr Cany lake**	**0.12**	**153**		Pg	11 45 23.9	+0.4
LRMC	**Laurel Mtn Rad**	**0.26**	**234**	Pg	Pg	11 45 26.0	0.0
LRMC					Sg	11 45 29.8	+0.5
SRTC	**Snort**	**0.27**	**283**		Pg	11 45 26.6	+0.4
TOW	**Tower One**	**0.32**	**303**		Pg	11 45 27.8	+0.5
MPMC	**Manual Prospec**	**0.43**	**354**		Pg	11 45 29.0	-0.3
MPMC				IAML		11 45 35.5	
	comp=N,1μm,0.5s						
MPMC				IAML		11 45 37.6	
	comp=E,1μm,0.7s						
WNMM	**Nine Mile Cany**	**0.44**	**299**		Pg	11 45 29.6	+0.1
WVPM	**Volcano Peak E**	**0.45**	**315**		Pg	11 45 29.6	-0.1
JRC2	**Joshua Ridge**	**0.47**	**319**		Pg	11 45 30.0	0.0
JRC2					Sg	11 45 36.8	+0.7
DTP	**Desert Tortois**	**0.50**	**223**		Pg	11 45 30.3	-0.3
DTP					Sg	11 45 37.2	+0.2
WRVM	**Rose V. Centra**	**0.53**	**315**		Pg	11 45 30.8	-0.5
QSM	**Queen of Sheba**	**0.57**	**54**		Pg	11 45 31.8	-0.2
QSM				IAML		11 45 42.1	
	comp=N,743nm,0.7s						
QSM				IAML		11 45 42.8	
	comp=E,651nm,0.8s						
WBSM	**Bird Springs**	**0.58**	**261**		Pg	11 45 32.0	-0.2
MFS	**McCloud Flat S**	**0.59**	**325**		Pg	11 45 31.8	-0.7
MFS					Sg	11 45 40.7	+0.5
GSC	**Goldstone, Bar**	**0.61**	**123**		Sg	11 45 40.9	+0.3
GSC	**Goldstone, Bar**	**0.61**	**123**		Pg	11 45 32.4	-0.3
GSC				IAML		11 45 41.2	
	comp=N,856nm,0.6s						
GSC				IAML		11 45 41.8	
	comp=E,835nm,0.5s						
WORM	**Onyx Ranch**	**0.66**	**276**		Pg	11 45 33.4	-0.4
WORM					Sg	11 45 42.2	-0.2
CCAC	**Calif City Air**	**0.68**	**225**		Pg	11 45 33.8	-0.2
CCAC					Sg	11 45 43.1	+0.3
WHFM	**Hanning Flat**	**0.75**	**275**		Pg	11 45 35.0	-0.5
HYS	**Haystack Butte**	**0.77**	**188**		Pg	11 45 35.3	-0.6
GWY	**Greenwater Val**	**0.83**	**48**		Pg	11 45 36.5	-0.4
GWY				IAML		11 45 50.9	
	comp=N,340nm,0.9s						
GWY				IAML		11 45 53.8	
	comp=E,667nm,0.4s						
RRX	**Edison Barstow**	**0.83**	**155**		Pb	11 45 38.1	0.0
ISA	**Isabella, Lake**	**0.85**	**272**		Sg	11 45 48.1	-0.3
ISA	**Isabella, Lake**	**0.85**	**272**		Pg	11 45 36.9	-0.4
ISA				IAML		11 45 48.7	
	comp=E,334nm,0.5s						
ISA				IAML		11 45 51.3	
	comp=N,304nm,0.3s						
EDW2	**Edwards Air Fo**	**0.88**	**212**		Pg	11 45 37.3	-0.6
WASM	**Alta Sierra Ca**	**0.92**	**277**		Pg	11 45 38.2	-0.5
WASM					Sg	11 45 50.5	-0.3
CWC	**Cottonwood Cre**	**0.96**	**327**		Pg	11 45 39.2	-0.3
CWC				IAML		11 45 56.8	
	comp=E,181nm,0.3s						
CGO	**Cerro Gordo**	**0.96**	**342**		Pg	11 45 39.8	+0.3
SHOC	**Shoshone, Teco**	**0.98**	**74**		Pg	11 45 39.6	-0.1
SBB	**Saddle Back Bu**	**0.99**	**199**		Pg	11 45 39.4	-0.8
SBB					Sb	11 45 54.1	-0.3
TPO	**Tropico Hills**	**0.99**	**221**		Pg	11 45 39.8	-0.3
VTV	**Victorville**	**1.07**	**176**		Pb	11 45 42.1	0.0
ADO	**Adelanto Recei**	**1.08**	**180**		Pb	11 45 42.5	+0.2
ALPC	**Antelope**	**1.18**	**217**		Sb	11 45 59.8	+0.1
HEC	**Hector,Ludlow**	**1.20**	**131**		Sg	11 45 59.4	-0.3
LRRC	**Littlerock Res**	**1.21**	**204**		Pg	11 45 43.3	-0.8
LRRC					Sb	11 46 00.6	+0.3
HOLC	**Holcomb Ridge**	**1.22**	**196**		Pg	11 45 43.5	-0.9
HOLC					Sb	11 46 00.7	-0.1
SPG2	**Springville 2**	**1.22**	**298**		Pg	11 45 43.5	-1.1
SPG2					Sg	11 45 59.6	-0.7
LEOC	**Leona Valley**	**1.23**	**216**		Pg	11 45 43.7	-0.9
TUQ	**Turquoise Moun**	**1.24**	**99**		Pg	11 45 44.2	-0.7
TUQ					Sg	11 46 01.2	+0.2
JNH	**Juniper Hills**	**1.26**	**200**		Pg	11 45 44.2	-0.9
JNH					Sb	11 46 02.2	+0.2
WCT	**Wildcat Mounta**	**1.33**	**29**		Pn	11 45 45.3	-1.2
WCT				IAML		11 46 06.6	
	comp=E,130nm,0.5s						
VES	**Vestal, Richgr**	**1.36**	**279**		Sg	11 46 04.7	-0.1
GRAC	**Grapevine Rang**	**1.36**	**2**		Pn	11 45 46.3	-0.6
GRAC				IAML		11 46 09.6	
	comp=E,372nm,0.6s						
SIL	**Silver Peak**	**1.37**	**159**		Pn	11 45 47.2	0.0
CHFC	**Chilao Flat St**	**1.38**	**201**		Pn	11 45 46.6	-0.7
CHFC					Sb	11 46 05.7	0.0
SGV	**South Grapevin**	**1.38**	**13**		Pn	11 45 46.1	-1.2
SGV					Sg	11 46 05.2	-0.4
BFSC	**Mount Baldy Ra**	**1.40**	**188**		Pn	11 45 46.7	-0.8
BFSC				IAML		11 46 06.5	
	comp=E,315nm,0.6s						
BFSC				IAML		11 46 07.0	
	comp=N,286nm,0.6s						
BBRC	**Big Bear Solar**	**1.43**	**163**		Pn	11 45 47.5	-0.5
BBRC					Sn	11 46 07.3	0.0
SSK	**Sunset Peak**	**1.43**	**189**		Pn	11 45 47.7	-0.3
OSI	**Osito Audit: C**	**1.47**	**227**		Pn	11 45 47.7	-0.6
OSI				IAML		11 46 10.0	
	comp=N,265nm,0.6s						
OSI				IAML		11 46 10.9	
	comp=E,245nm,0.6s						
MWC	**Mount Wilson**	**1.50**	**200**		Pn	11 45 48.1	-0.7
MWC				IAML		11 46 11.0	
	comp=N,288nm,0.6s						
MWC				IAML		11 46 11.1	
	comp=E,233nm,0.5s						
PDE	**Pardee, Santa**	**1.52**	**219**		Pn	11 45 48.9	-0.1
MTPC	**Mountain Pass**	**1.54**	**95**		Pn	11 45 48.5	-0.9
MTPC				IAML		11 46 12.8	
	comp=E,93nm,0.5s						
SVD	**Seven Oaks Dam**	**1.55**	**170**		Pn	11 45 49.8	+0.4
PSRC	**Puddingstone R**	**1.57**	**191**		Pn	11 45 50.1	+0.4
PSRC					Sb	11 46 10.6	-0.1
GTM	**Goat Mountain**	**1.60**	**146**		Pn	11 45 50.8	-0.4
LCH	**Last Change Ra**	**1.61**	**354**		Pn	11 45 49.6	-0.7
TPNV	**Topopah Spring**	**1.62**	**36**		Pn	11 45 50.0	-0.6
TPNV				IAML		11 46 16.1	
	comp=E,154nm,0.6s						
TPNV				IAML		11 46 17.1	
	comp=E,132nm,0.7s						
GMN	**Gold Mountain**	**1.67**	**5**		Pn	11 45 50.6	-0.7
GMRC	**Granite Mounta**	**1.68**	**120**		Pn	11 45 49.0	-2.3
DSP	**Deep Springs**	**1.79**	**346**		Pn	11 45 52.1	-0.6
DSP				IAML		11 46 18.9	
	comp=E,75nm,0.4s						
BHPR	**Bishop**	**1.87**	**333**		Pb	11 45 56.0	+0.1
HMTC	**Hemet**	**1.95**	**169**		Pn	11 45 54.3	-0.7
ELS	**Elsinore Mount**	**1.98**	**180**		Pn	11 45 54.9	-0.5
ELS				IAML		11 46 27.1	
	comp=E,54nm,0.5s						
POB	**Polly Butte**	**1.98**	**168**		Pn	11 45 54.9	-0.6
DGR	**Domenigoni Val**	**2.01**	**170**		Pn	11 45 55.1	-0.6
MZP	**Montezuma Peak**	**2.07**	**1**		Pn	11 45 55.7	-1.1
V12A	**Nelson**	**2.10**	**87**		Pn	11 45 56.9	-0.3
PMD	**Palm Desert**	**2.16**	**156**		Pn	11 45 56.7	-1.1
PFO	**Pinyon Flats O**	**2.17**	**158**		Pn	11 45 57.2	-0.8
TPH	**Tonopah**	**2.44**	**4**		Pn	11 46 01.8	-0.1
NEE2	**Needles Airpor**	**2.46**	**110**	Pn	Pn	11 46 02.2	+0.2
NEE2				IAML		11 46 57.1	
	comp=E,104nm,0.7s						
DPP	**Dos Picos Cty**	**2.66**	**171**		Pn	11 46 04.3	-0.3
DPP				IAML		11 46 45.4	
	comp=E,35nm,0.6s						
LHV	**Little Huntoon**	**2.75**	**342**		Pn	11 46 06.5	+0.5
LHV				IAML		11 47 01.7	
	comp=N,31nm,1.9s						
LHV				IAML		11 47 12.0	
	comp=E,32nm,0.9s						
NV11	**Mina Array Sit**	**2.85**	**348**		Pn	11 46 07.5	0.0
NVAR	**Mina Array Bea**	**2.88**	**346**		Pn	11 46 07.4	-0.5
W13A	**Hualapai Mount**	**2.95**	**99**	Pn	Pn	11 46 07.8	-1.0
W13A				IAML		11 46 58.0	
	comp=E,26nm,0.8s						
YUH	**Yuha Desert**	**3.23**	**157**	Pn	Pn	11 46 11.5	-1.0
ESJX	**Sierra Juarez**	**3.82**	**161**	Pn	Pn	11 46 20.5	-0.3
ESJX				IAML		11 47 34.9	
	comp=E,9.4nm,1.2s						
KNB	**Kanab**	**3.97**	**68**	Pn	Pn	11 46 21.2	-1.7
KNB				IAML		11 47 33.5	
	comp=N,12nm,1.4s						
KNB				IAML		11 47 40.1	
	comp=E,8.7nm,0.9s						

GCG 13 11:49:23.6±1.4, 14.27N×91.91W, h106km±15km, MD3.8, ML3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	**0.55**	**72**	*i* P	Pn	11 49 41.4	+0.9
STG8	**El Palmar, Qui**	**0.57**	**71**	*i* P	Pn	11 49 41.9	+1.1
STG8				*i* S	Sn	11 49 55.4	+1.7
STG8				IAML		11 50 00.6	
	comp=N,969nm,0.3s						
STG0	**El Palmar, Qui**	**0.57**	**74**	*i* P	Pn	11 49 41.3	+0.6
STG0				*i* S	Sn	11 49 54.1	+0.5
STG0				IAML		11 49 58.4	
	comp=E,1μm,0.3s						
ESSG	**Sabana Grande**	**1.05**	**83**	*i* P	Pn	11 49 45.1	0.0
ESSG				*i* S	Sn	11 50 02.8	+1.4
FG16	**Alotenango, Sa**	**1.36**	**89**	*i* P	Pn	11 49 45.8	-2.9
FG16				*i* S	Sn	11 50 02.2	-5.5
NUBE	**Las Nubes**	**2.10**	**100**	*i* P	Pn	11 49 58.2	+0.4

*GCG **13** 12:01:20.5±0.7, 13.74N×92.06W, h35km±999km, ML3.4*
*MEX **13** 12:01:21.2±0.8, 13.68N×92.11W, h11km±84km, MD3.9*

ISC 13 12:01:17.1±2.9, 13.8N±0.1×92.41W±0.06, h10km±13km, n10, σ1°71/17, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.98**	**45**	*e*P	**Pn**	**12 01 37.0**	**0.0**
RTAL				*e*S	**Sg**	**12 01 47.4**	**-1.4**
STG0	**El Palmar, Qui**	**1.20**	**60**	*i* P	**Pn**	**12 01 39.6**	**-0.6**
STG0				IAML		12 01 56.5	
	comp=E,683nm,0.4s						
STG8	**El Palmar, Qui**	**1.20**	**59**	*i* P	**Pn**	**12 01 40.0**	**-0.3**
STG8				*i* S	**Sb**	**12 01 55.8**	**-0.1**
STG8				IAML		12 01 57.3	
	comp=N,570nm,0.3s						
PATR	**El Naranjo**	**1.29**	**8**	*e*P	**Pg**	**12 01 43.1**	**+1.2**
PATR				*e*S	**Sn**	**12 02 01.4**	**+2.4**
PAVE	**Pavencul**	**1.38**	**10**	*e*P	**Pg**	**12 01 44.9**	**+1.3**
PAVE				*e*S	**Sg**	**12 02 03.6**	**+2.1**
FG16	**Alotenango, Sa**	**1.90**	**76**	*i* P	Pn	12 01 43.9	-6.0
FG16				IAML		12 02 03.5	
	comp=E,936nm,0.4s						
PCIG		**2.02**	**337**	*e*P	**Pg**	**12 01 55.6**	**-0.3**
PCIG				*e*S	**Sg**	**12 02 23.0**	**+0.9**
CCIG	**Comitan**	**2.45**	**6**	*e*P	**Pg**	**12 02 03.8**	**-0.4**
CCIG				*e*S	**Sg**	**12 02 33.8**	**-2.2**
TGIG		**3.01**	**347**	*e*P	**Pn**	**12 02 06.1**	**+1.0**
TGIG				*e*S	**Sb**	**12 02 44.6**	**-3.2**
UXUV	**UXUV**	**3.85**	**335**	*e*P	**Pb**	**12 02 25.3**	**+0.1**
UXUV				*e*S	**Sb**	**12 03 09.8**	**-2.2**

*IGQ **13** 12:05:05.8±3.2, 1.1N±11.9×9.1W±1.7, h4km±18km, MLv4.4/4*
*IDC **13** 12:05:06.5±0.6, 1.41N×90.52W, h0km, mb4.3/14, mbtmp4.3/17, ML3.4/3, MS4.3/54, Error ellipse: s-maj=26.6km s-min=12.9km az=56.0*
*NEIC **13** 12:05:08.6±1.4, 1.08N±0.05×90.82W±0.07, h10km±1km, mb4.8/305, Error ellipse: s-maj=13.9km s-min=4.5km az=300.0*
*GCMT **13** 12:05:10.6±0.2, 1.35N±0.01×90.74W±0.01, h12km, MW5.2/137, Moment Tensor Solution. s76,c102; s137,c235; Duration: 1s0 Moment tensor: Scale 10¹⁶ Nm; Mrr-1.80±.11; Mθθ2.59±.10; Mφφ-0.79±.12; Mrθ-2.98±.28; Mrφ-6.42±.08; Mθφ3.57±.30; Best double couple: M₀7.74700×10¹⁶ NP1:φ₀259.00000°, δ60.00000°, λ178.00000°. NP2:φ₀350.00000°, δ88.00000°, λ30.00000°. Principal axes: T 9.3910, Plg22.0000°, Azm219.0000°; N -3.2890, Plg60.0000°, Azm353.0000°; P -6.1030, Plg20.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 12:05:07.7±0.3, 1.11N±0.04×90.89W±0.05, h10km, n600, σ1°34/427, mb4.8/162, MS4.3/52, 5C, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FER2	**Fernandina2, P**	**1.65**	**198**	⇑P	**Pn**	**12 05 36.6**	**-0.2**
FER2				S	**Sg**	**12 06 06.0**	**+5.0**
FER1	**Fernandina1, P**	**1.69**	**199**	⇑P	**Pn**	**12 05 33.5**	**-3.8**
FER1				S	**Sn**	**12 05 54.2**	**-4.7**
PAYG	**Puerto Ayora**	**1.88**	**161**		**Pn**	**12 05 39.5**	**-0.3**
ALCE	**Alcedo, Punta**	**1.89**	**215**	⇑P	Pn	12 05 34.4	-5.7
ALCE				S	**Sn**	**12 05 56.5**	**-7.6**
VCH1	**Volcn Chico**	**1.90**	**186**	⇑P	**Pn**	**12 05 39.7**	**-0.6**
CEAZ	**Cerra Azul, Ca**	**1.98**	**195**	⇑P	**Pn**	**12 05 40.7**	**-0.6**
CEAZ				S	**Sn**	**12 06 07.5**	**+1.3**
PPLP	**Puerto Lpez**	**10.45**	**105**	P	**Pn**	**12 07 41.1**	**+3.3**
	166nm,1.3s						
JTS	**Las Juntas de**	**10.86**	**33**	LR	LR	12 10 49.0	
	comp=Z,7μm,19.9s,baz=200,slow=33						
LCR2	**La Lucha 2**	**10.97**	**38**		**Pn**	**12 07 44.0**	**-1.0**
HDC	**Heredia**	**11.11**	**37**	Pn	**Pn**	**12 07 47.2**	**+0.3**
SOCE	**Pocosol**	**11.12**	**34**	Pn	**Pn**	**12 07 48.0**	**+1.0**
FLF1	**Flavio Alfaro-**	**11.14**	**97**	P	**Pn**	**12 07 47.8**	**+0.6**
	116nm,1.4s						
BRU2	**Volcan**	**11.17**	**47**		**Pn**	**12 07 47.8**	**0.0**
GMAL	**Guarumal, Vera**	**11.67**	**55**	P	**Pn**	**12 07 54.6**	**+0.2**
	23nm,1.4s						
CNGN	**Cerro Negro**	**12.05**	**20**	Pn	**Pn**	**12 08 00.4**	**+0.7**
CRIN	**San Cristobal**	**12.12**	**18**	Pn	**Pn**	**12 08 02.5**	**+1.8**
ACON	**Acoyapa**	**12.18**	**27**	Pn	**Pn**	**12 08 02.5**	**+1.1**
MCRA	**Macar, Loja**	**12.21**	**117**	P	**Pn**	**12 08 03.4**	**+1.6**
	2μm133nm,1.5s						
OTAV	**Otavalo**	**12.47**	**94**		**Pn**	**12 08 05.3**	**-0.5**
OTAV	**Otavalo**	**12.47**	**94**	*e*P	Pn	12 08 00.9	-4.9
OTAV	**Otavalo**	**12.47**	**94**	P	Pn	12 08 10.6	+4.8
	475nm30nm,1.4s						
AZU	**Azuero**	**12.48**	**58**	P	**Pn**	**12 08 07.4**	**+1.8**
	3μm29nm,1.6s						
SLOR	**San Lorenzo -**	**12.53**	**98**		**Pn**	**12 08 06.7**	**+0.1**
PIAT	**Ana Tenorio**	**12.80**	**99**	P	**Pn**	**12 08 11.9**	**+1.7**
	26nm,1.1s						
ESPN	**Las Esperanzas**	**12.80**	**30**	Pn	**Pn**	**12 08 10.4**	**+0.5**
MTO3	**Montecristo**	**13.29**	**6**		**Pn**	**12 08 18.4**	**+1.6**
RTAL	**Retalhuleu**	**13.35**	**357**	Pn	**Pn**	**12 08 17.4**	**0.0**
TGUH	**Tegucigalpa,Un**	**13.35**	**15**	Pn	**Pn**	**12 08 17.6**	**+0.1**
POPC	**Popayan, Colom**	**14.28**	**84**	P	**Pn**	**12 08 29.6**	**-0.7**
	14nm,1.2s						
ATAH	**Atahualpa**	**14.92**	**123**	Pn	**Pn**	**12 08 38.4**	**-0.8**
	0.3nm,0.3s,baz=312,slow=17,SNR=12						
ATAH				LR	LR	12 13 28.3	
	comp=Z,2μm,19.4s,baz=305,slow=34						
	12nm,1.0s						
CCIG	**Comitan**	**15.12**	**355**		**Pn**	**12 08 41.1**	**-0.6**
FLOC	**Florencia**	**15.24**	**88**		**Pn**	**12 08 41.5**	**-1.6**
FLOC	**Florencia**	**15.24**	**88**	P	**Pn**	**12 08 40.6**	**-2.6**
	569nm31nm,1.3s						
CBOC	**Ciudad Bolivar**	**15.58**	**72**	P	**Pn**	**12 08 45.3**	**-2.4**
	20nm,1.4s						
DBBC	**Dabeiba**	**15.77**	**68**	P	**P**	**12 08 51.9**	**-2.2**
APAC	**Apartado, Choc**	**15.77**	**64**	P	**Pn**	**12 08 49.2**	**-0.9**
	2μm93nm,1.4s						
ORTC	**Ortega, Tolima**	**15.87**	**80**	P	**Pn**	**12 08 49.2**	**-2.2**
	24nm,1.2s						
GUY2C	**Guyana, Caldas**	**16.02**	**75**	P	**Pn**	**12 08 50.7**	**-3.1**
	414nm29nm,1.6s						
CMIG	**Matias Romero**	**16.36**	**346**	Pn	**Pn**	**12 08 55.0**	**-2.6**
	0.1nm,0.3s,baz=179,slow=8.0,SNR=11						
	1.5nm,0.8s						
NORC	**Norcasia**	**16.59**	**74**	P	**P**	**12 09 01.8**	**-1.3**
	571nm38nm,1.3s						
URUEC	**San Jos de Ur**	**16.66**	**66**	P	**P**	**12 09 01.8**	**-2.1**
	3μm22nm,1.1s						
ROSC	**El Rosal**	**16.95**	**77**	Pn	**Pn**	**12 09 00.4**	**-5.2**
	2.2nm,0.3s,baz=246,slow=21,SNR=7.4						
ROSC				LR	LR	12 14 30.4	
	comp=Z,3μm,21.8s,baz=266,slow=34						
	8.0nm,0.5s						
MACC	**Macarena, Meta**	**17.06**	**86**	P	**P**	**12 09 09.4**	**+1.0**
	532nm26nm,1.3s						
PTBC	**PUERTO BERRIO,**	**17.25**	**71**	P	**P**	**12 09 09.1**	**-1.4**
	174nm15nm,1.3s						
SJCC	**San Jacinto, C**	**17.89**	**60**	P	**P**	**12 09 17.4**	**-0.2**
	990nm39nm,1.7s						
TLIG	**Tlapa**	**18.01**	**336**	P	**P**	**12 09 20.0**	**+1.1**
RUSC	**La Rusia**	**18.39**	**75**		**P**	**12 09 22.3**	**-1.2**
RUSC	**La Rusia**	**18.39**	**75**	P	**Pn**	**12 09 22.0**	**-1.5**
	1μm122nm,1.2s						
BARC	**Barichara**	**18.48**	**72**	P	**Pn**	**12 09 24.6**	**+0.3**
OCAC	**Ocana**	**18.88**	**67**	P	**Pn**	**12 09 27.7**	**-1.4**
	1μm50nm,1.5s						
NNA	**Nana**	**19.08**	**133**	LR	LR	12 15 23.0	
	comp=Z,1μm,21.5s,baz=310,slow=32						
TEIG	**Tepich**	**19.17**	**7**	P	**Pn**	**12 09 30.8**	**-1.6**
TEIG				IAmb	IAmb	12 09 35.1	
	comp=Z,140nm,1.7s						
CZSB	**Cruz

BRDY Brady 30.98 346 P P 12 11 25.2 -0.1
BRDY IAmb IAmb 12 11 30.5
comp=Z,25nm,1.7s
OZNA Ozona 31.20 343 P 12 11 27.5 +0.2
OZNA IAmb IAmb 12 11 33.3
comp=Z,7.6nm,0.7s
WHTX Lake Whitney, 31.33 349 P P 12 11 28.9 +0.4
WHTX IAmb IAmb 12 11 31.4
comp=Z,19nm,1.1s
152A Waverly Hall 31.92 10 P P 12 11 32.4 -1.2
152A IAmb IAmb 12 11 35.1
comp=Z,22nm,1.2s
Z47A Carrollton 32.03 4 P P 12 11 34.5 0.0
MNHN Monahans 32.09 341 P P 12 11 36.6 +1.4
MNHN IAmb IAmb 12 11 40.9
comp=Z,18nm,1.4s
PLPT Palo Pinto 32.30 348 IAmb IAmb 12 11 42.6
comp=Z,23nm,1.3s
ABTX Abilene, Hawle 32.41 346 P P 12 11 38.2 +0.3
WLAR White Oak Lake 32.47 357 P P 12 11 38.3 -0.1
PECS Pecos 32.50 339 IAmb IAmb 12 11 44.8
comp=Z,21nm,1.6s
SN05 Snyder 5 32.97 344 IAmb IAmb 12 11 48.2
comp=Z,11nm,1.3s
SN07 Snyder 07 33.17 345 IAmb IAmb 12 11 49.8
comp=Z,36nm,1.9s
APMT Aspermont 33.20 346 IAmb IAmb 12 11 50.2
comp=Z,15nm,1.0s
Y52A Lilburn 33.20 10 P P 12 11 44.7 -0.1
Y52A IAmb IAmb 12 11 45.9
comp=Z,17nm,1.1s
MIAR Mount Ida 33.35 356 P P 12 11 46.8 +0.7
MIAR IAmb IAmb 12 11 51.0
comp=Z,14nm,1.1s
MNTX Cornudas Mount 33.36 337 P P 12 11 47.2 +1.0
VILB Vilhena 33.50 116 P P 12 11 48.0 +0.3
VILB Vilhena 33.50 116 eP P 12 11 48.9 +1.2
FPAL Fort Paine 33.62 8 IAmb IAmb 12 11 48.8
comp=Z,13nm,1.3s
SIV San Ignacio 34.00 121 LR LR 12 25 14.2
comp=Z,796nm,19.7s,baz=318,slow=36
WHAR Wooly Hollow 34.03 358 IAmb IAmb 12 11 56.2
comp=Z,12nm,1.1s
SWET Sewanee 34.24 7 IAmb IAmb 12 11 55.0
comp=Z,20nm,1.1s
WMOK Wichita Mounta 34.25 348 IAmb IAmb 12 12 13.6
comp=Z,16nm,1.4s
W50A Signal Mountai 34.31 8 IAmb IAmb 12 11 54.9
comp=Z,24nm,1.4s
MSTX Muleshoe 34.53 342 IAmb IAmb 12 12 02.0
comp=Z,17nm,0.9s
PAULI Pauline 34.59 13 IAmb IAmb 12 11 58.0
comp=Z,24nm,1.2s
FCAR Ozark Folk Cen 34.62 358 IAmb IAmb 12 12 01.7
comp=Z,12nm,1.0s
319A Douglas 34.77 332 IAmb IAmb 12 12 05.4
comp=Z,23nm,1.2s
LCAR Lake Charles 34.78 360 IAmb IAmb 12 12 02.6
comp=Z,21nm,1.3s
SMWD Samnorwood 34.92 347 IAmb IAmb 12 12 22.2
comp=Z,28nm,1.4s
WVT Waverly 34.96 4 P P 12 11 59.5 -0.5
WVT IAmb IAmb 12 12 00.3
comp=Z,15nm,1.1s
TKL Tuckaleechee C 35.00 10 LR LR 12 25 45.9
comp=Z,265nm,20.0s,baz=189,slow=36
V53A Saluda 35.19 11 IAmb IAmb 12 12 02.8
comp=Z,17nm,1.2s
QUOK Quay 35.30 352 P P 12 12 04.0 +1.0
PTLB Pontes e Lacer 35.44 119 P P 12 12 03.5 -1.0
PTLB IAmb IAmb 12 12 10.1
comp=Z,14nm,1.0s
PTLB Pontes e Lacer 35.44 119 eP P 12 12 04.2 -0.3
PBMO Poplar Bluff 35.49 1 IAmb IAmb 12 12 08.8
comp=Z,17nm,1.3s
U49A Red Boiling Sp 35.54 7 IAmb IAmb 12 12 08.6
comp=Z,15nm,1.2s
OK051 E0350 and S346 35.64 352 IAmb IAmb 12 12 09.8
comp=Z,20nm,1.1s
ELIS Ellis County 35.67 348 IAmb IAmb 12 12 11.8
comp=Z,16nm,1.0s
CGM3 Cape Girardeau 36.02 2 IAmb IAmb 12 12 14.0
comp=Z,20nm,1.2s
V58A Windy Hill, Pi 36.20 16 IAmb IAmb 12 12 10.8
comp=Z,18nm,1.1s
PDRB Porto dos Gac 36.22 111 eP P 12 12 10.6 -0.6
TUC Tucson 36.26 331 P P 12 12 14.1 +2.7
TUC IAmb IAmb 12 12 18.0
comp=Z,13nm,1.2s
NPGB Novo Progresso 36.37 103 eP P 12 12 10.9 -1.5
S44A Carbondale 36.43 2 P P 12 12 12.8 +0.2
ANMO Albuquerque 36.66 338 P P 12 12 16.1 +1.3
ANMO Albuquerque 36.66 338 LR LR 12 26 25.8
comp=Z,835nm,19.2s,baz=248,slow=35
CCM Cathedral Cave 36.77 360 P P 12 12 14.8 -0.7
RTBA Rita Blanca 36.82 344 IAmb IAmb 12 12 22.2
comp=Z,23nm,1.1s
CLDB Colider 36.87 110 eP P 12 12 16.0 -0.8
WCI Wyandotte Cave 37.18 6 P P 12 12 19.1 +0.2
WCI IAmb IAmb 12 12 20.2
comp=Z,26nm,1.1s
T57A Hurt 37.29 15 IAmb IAmb 12 12 20.9
comp=Z,22nm,1.2s
R49A Shelbyville 37.37 7 IAmb IAmb 12 12 21.0
comp=Z,23nm,1.3s
R50A Paris 37.48 8 IAmb IAmb 12 12 25.8
comp=Z,14nm,1.1s
X18A Snowflake 37.71 334 IAmb IAmb 12 12 31.4
comp=Z,17nm,1.1s
R32A Long Quarter, 37.82 350 IAmb IAmb 12 12 29.6
comp=Z,17nm,0.9s
T25A Trinidad 37.96 342 IAmb IAmb 12 12 32.6
comp=Z,36nm,1.4s
R55A Marlinton 38.29 14 IAmb IAmb 12 12 29.2
comp=Z,25nm,1.2s
P43A Skaggs, Pawnee 38.37 2 IAmb IAmb 12 12 34.0
comp=Z,32nm,1.1s
MDP Montagnes des 38.39 83 LR LR 12 27 19.5
comp=Z,398nm,19.7s,baz=279,slow=35
CBKS Cedar Bluff 38.39 349 IAmb IAmb 12 12 31.9
comp=Z,18nm,1.1s
P38A Dawn 38.41 357 IAmb IAmb 12 12 34.0
comp=Z,22nm,1.4s
P48A Milroy 38.49 7 IAmb IAmb 12 12 33.9
comp=Z,24nm,1.0s
SALV Santo Antonio 38.66 117 eP P 12 12 31.2 -0.6
Y14A Wickenburg 38.67 330 IAmb IAmb 12 12 38.7
comp=Z,21nm,1.3s
VA03 San Esteban 38.79 152 P P 12 12 35.3 +2.5
VA03 IAmb IAmb 12 12 40.2
comp=Z,33nm,1.4s
Q54A Coxs Mills 38.80 13 IAmb IAmb 12 12 36.7
comp=Z,23nm,1.1s
P51A Williamsport 38.85 10 IAmb IAmb 12 12 37.1
comp=Z,32nm,1.2s
SDCO Great Sand Dun 38.86 341 P P 12 12 34.7 +1.1
P52A Corning 39.16 11 IAmb IAmb 12 12 36.0
comp=Z,16nm,0.9s
P53A Whipple 39.16 12 IAmb IAmb 12 12 40.1
comp=Z,32nm,1.2s
WUAZ Wupatki 39.18 333 P P 12 12 37.6 +1.4
WUAZ IAmb IAmb 12 12 43.8
comp=Z,32nm,1.1s
SFIN Lafayette 39.23 5 IAmb IAmb 12 12 40.3
comp=Z,26nm,1.1s
O48B Farmland 39.31 7 IAmb IAmb 12 12 40.0
comp=Z,19nm,1.2s
O49A Covington 39.35 8 IAmb IAmb 12 12 40.6
comp=Z,25nm,1.1s
MVCO Mesa Verde 39.43 338 IAmb IAmb 12 12 44.5
comp=Z,20nm,1.2s
N38A Joes South For 39.55 357 P 12 12 39.4 +0.4
N38A IAmb IAmb 12 12 43.4
comp=Z,14nm,0.8s
ACSO Alum Creek Sta 39.59 10 IAmb IAmb 12 12 40.5
comp=Z,30nm,1.2s
MURT Porto Murtinho 39.60 127 eP P 12 12 39.9 +0.2
BDQN Bodoquena, MS 39.71 125 eP P 12 12 40.4 -0.2
N49A Columbus Grove 40.09 8 P P 12 12 43.4 0.0
N49A IAmb IAmb 12 12 47.3
comp=Z,22nm,1.1s
M44A Midewin, Midew 40.17 3 P P 12 12 44.1 0.0
M44A IAmb IAmb 12 12 48.1
comp=Z,21nm,1.1s
PFO Pinyon Flats O 40.25 326 LR LR 12 26 27.2
comp=Z,316nm,20.5s,baz=132,slow=32

PV13 Radium Mtn., P 40.38 338 IAmb IAmb 12 12 52.3
comp=Z,24nm,1.3s
PV02 Paradox Valley 40.39 338 IAmb IAmb 12 12 52.6
comp=Z,42nm,1.3s
PV05 Paradox Valley 40.42 338 P P 12 12 47.3 +0.8
PV03 Paradox Valley 40.48 338 P P 12 12 47.9 +0.9
PV03 IAmb IAmb 12 12 53.0
comp=Z,20nm,1.3s
PV18 Skein Mesa, Pa 40.49 338 P P 12 12 47.7 +0.6
PV18 IAmb IAmb 12 12 53.1
comp=Z,39nm,1.3s
PV11 David Mesa, Pa 40.52 338 IAmb IAmb 12 12 54.1
comp=Z,19nm,1.1s
PV17 East Wray Mesa 40.54 338 IAmb IAmb 12 12 53.4
comp=Z,19nm,1.2s
PV19 Morning Glory 40.58 338 IAmb IAmb 12 12 53.7
comp=Z,17nm,1.1s
AQDB Aquidauana 40.59 124 P P 12 12 47.3 -0.6
AQDB IAmb IAmb 12 12 53.7
comp=Z,30nm,1.0s
AQDB Aquidauana 40.59 124 eP P 12 12 48.6 +0.7
PV20 West Nyswonger 40.60 338 IAmb IAmb 12 12 53.9
comp=Z,30nm,1.2s
PV04 Paradox Valley 40.62 338 IAmb IAmb 12 12 54.3
comp=Z,26nm,1.1s
PV10 Paradox Valley 40.65 338 IAmb IAmb 12 12 53.8
comp=Z,22nm,1.1s
PV23 Carpenter Ridg 40.71 338 IAmb IAmb 12 12 55.0
comp=Z,24nm,0.9s
L40A Anamosa 40.77 360 IAmb IAmb 12 12 53.1
comp=Z,21nm,1.0s
L44A Lake County Fo 40.97 3 P P 12 12 50.8 +0.1
V12A Nelson 41.01 330 IAmb IAmb 12 12 58.8
comp=Z,19nm,1.1s
BFSC Mount Baldy Ra 41.38 326 IAmb IAmb 12 13 01.4
comp=Z,17nm,1.2s
SNDB Serra Nova Dou 41.42 109 eP P 12 12 54.1 -0.7
JFWS Jewell Farm 41.62 1 IAmb IAmb 12 12 59.7
comp=Z,18nm,0.9s
PRPB Paraupebas 41.64 101 eP P 12 12 57.8 +1.2
GSC Goldstone, Bar 41.70 327 IAmb IAmb 12 13 04.2
comp=Z,22nm,1.1s
Q16A Castle Valley 41.95 336 IAmb IAmb 12 13 05.7
comp=Z,22nm,1.4s
ARAG Araguaiana, MT 42.07 115 eP P 12 12 59.8 -0.3
RPRD Ribas do Rio P 42.26 123 eP P 12 13 02.0 +0.4
CPUP Villa Florida 42.34 133 P P 12 13 02.7 +0.6
CPUP Villa Florida 42.34 133 P P 12 13 02.5 +0.4
comp=Z,1.7nm,1.1s,baz=168,slow=9.8,SNR=5.6
CPUP LR LR 12 31 23.2
comp=Z,119nm,21.3s,baz=174,slow=37
comp=Z,1.7nm,1.1s
SJPY San Joaquin 42.52 130 eP P 12 13 04.1 +0.4
I42A Draeger Farm, 42.63 2 IAmb IAmb 12 13 08.0
comp=Z,17nm,1.0s
WCT Wildcat Mounta 42.74 329 IAmb IAmb 12 13 24.7
comp=Z,10nm,0.5s
I37A Lemond, Waseca 42.77 357 IAmb IAmb 12 13 08.9
comp=Z,25nm,1.3s
BSUT Blindsteam Ca 43.19 338 IAmb IAmb 12 13 15.7
comp=Z,21nm,1.0s
SMTB Santa Maria do 44.27 104 eP P 12 13 16.7 -1.3
RSSD Black Hills 44.39 346 P P 12 13 18.9 +0.1
BGU Big Grassy Mou 44.41 336 IAmb IAmb 12 13 25.1
comp=Z,20nm,1.2s
HWUT Hardware Ranch 44.42 338 P P 12 13 20.4 +1.5
SADO Sadowa 44.70 12 P P 12 13 20.8 -0.2
SADO Sadowa 44.70 12 LR LR 12 33 20.9
comp=Z,360nm,18.1s,baz=200,slow=38
PDAR Pinedale Array 44.72 340 P P 12 13 21.5 +0.1
PDAR Pinedale Array 44.72 340 P P 12 13 19.8 -1.7
comp=Z,2.7nm,1.1s,baz=139,slow=7.0,SNR=10.0
PDAR LR LR 12 31 34.4
comp=Z,359nm,19.4s,baz=148,slow=36
comp=Z,2.7nm,1.1s
NV11 Mina Array Sit 44.77 329 IAmb IAmb 12 13 28.9
comp=Z,19nm,1.1s
DELO Deloro Mine 44.79 13 IAmb IAmb 12 13 22.6
comp=Z,21nm,1.2s
PCMB Pacaembu 44.80 123 eP P 12 13 21.4 -0.8
ITRB Iturama 44.80 120 eP P 12 13 21.7 -0.5
LHV Little Huntoon 44.81 329 IAmb IAmb 12 13 29.3
comp=Z,14nm,1.1s
NVAR Mina Array Bea 44.85 329 P 12 13 23.6 +1.1
NVAR Mina Array Bea 44.85 329 P P 12 13 23.3 +0.8
comp=Z,2.2nm,0.8s,baz=154,slow=10.0,SNR=16
NVAR LR LR 12 29 55.5
comp=Z,217nm,18.2s,baz=146,slow=33
comp=Z,2.2nm,0.8s
HVU Hazel Valley 45.03 337 IAmb IAmb 12 13 29.6
comp=Z,21nm,1.3s
RYN Ryan 45.11 329 IAmb IAmb 12 13 32.1
comp=Z,14nm,1.4s
ELK Elko 45.20 334 IAmb IAmb 12 13 31.7
comp=Z,12nm,1.2s
ELK Elko 45.20 334 LR LR 12 30 28.9
comp=Z,369nm,20.6s,baz=148,slow=34
E38A The Farm, Brul 45.31 359 IAmb IAmb 12 13 29.3
comp=Z,11nm,1.1s
WAKR Walker 45.49 328 IAmb IAmb 12 13 34.8
comp=Z,11nm,1.2s
BDFB Brasilia 45.51 113 P P 12 13 27.3 -0.7
BDFB Brasilia 45.51 113 P P 12 13 25.4 -2.6
comp=Z,3.8nm,0.7s,baz=273,slow=6.9,SNR=14
BDFB LR LR 12 33 27.2
comp=Z,291nm,19.0s,baz=303,slow=38
comp=Z,3.8nm,0.7s
PTGB Pitanga 45.54 127 eP P 12 13 28.0 -0.1
PLCA Paso Flores 45.58 158 P P 12 13 28.8 +0.7
PLCA IAmb IAmb 12 13 36.0
comp=Z,14nm,1.1s
PLCA Paso Flores 45.58 158 P P 12 13 29.6 +1.6
comp=Z,3.9nm,0.9s,baz=326,slow=9.6,SNR=10.0
PLCA LR LR 12 28 43.2
comp=Z,281nm,18.6s,baz=332,slow=31
comp=Z,3.9nm,0.9s
PLCA Paso Flores 45.58 158 eP P 12 13 29.7 +1.6
LONY Lake Ozonia 45.67 16 IAmb IAmb 12 13 32.5
comp=Z,15nm,1.0s
SNOW Snow King Moun 45.74 340 IAmb IAmb 12 13 38.7
comp=Z,18nm,1.1s
TPAW Teton Pass 45.83 340 IAmb IAmb 12 13 37.1
comp=Z,13nm,1.2s
FXWY Fox Creek 45.99 340 IAmb IAmb 12 13 37.4
comp=Z,14nm,1.1s
IPMB Ipameri, GO 46.08 116 eP P 12 13 31.3 -1.1
PAHR Pah Rah Range 46.36 329 IAmb IAmb 12 13 41.0
comp=Z,8.7nm,1.2s
AFDM Forest Hills D 46.63 327 IAmb IAmb 12 13 43.4
comp=Z,12nm,1.3s
EYMN Ely 46.65 359 IAmb IAmb 12 13 40.3
comp=Z,10nm,1.2s
ITAB Concordia 46.73 130 eP P 12 13 37.6 +0.4
RLMT Red Lodge 46.74 342 IAmb IAmb 12 13 42.2
comp=Z,13nm,1.4s
BB19B Bebedouro 46.91 120 eP P 12 13 35.8 -3.1
LL02 Futaleuf 47.31 161 P 12 13 47.5 +6.0
CPSB Cacapava Do Su 47.47 135 eP P 12 13 43.2 +0.3
SDBA SAO DESIDERIO 47.58 108 eP P 12 13 44.0 -0.2
MFID Camas Ranch 47.64 335 IAmb IAmb 12 13 52.9
comp=Z,7.1nm,1.0s
PMNB Patos De Minas 47.85 116 eP P 12 13 45.8 -0.5
BOZ Bozeman (W) 47.92 340 IAmb IAmb 12 13 55.3
comp=Z,9.6nm,1.2s
DLMT Dillon 48.04 339 IAmb IAmb 12 13 52.8
comp=Z,15nm,1.4s
WVOR Wild Horse Val 48.09 332 IAmb IAmb 12 13 53.3
comp=Z,14nm,1.2s
VLDQ Val d'Or 48.24 12 IAmb IAmb 12 13 52.6
comp=Z,15nm,1.2s
J08A Circle Bar Ran 48.73 333 IAmb IAmb 12 13 58.0
comp=Z,6.3nm,0.9s
JANB Januaria 48.78 111 eP P 12 13 55.7 +2.3
VAO Valinhos 49.00 122 eP P 12 13 54.5 -0.5
PLID Pearl Lake 49.09 337 IAmb IAmb 12 14 00.8
comp=Z,9.5nm,1.1s
YBH Yreka Blue Hor 49.56 329 LR LR 12 32 33.9
comp=Z,11nm,20.2s,baz=128,slow=33
J05D Fort Rock, OR 49.97 331 IAmb IAmb 12 14 08.2
comp=Z,22nm,1.3s
TAOE Nuku Hiva Isla 50.07 258 eLR LR 12 28 20.3
comp=Z,747nm,24.7s
BSCB Bom Sucesso 50.15 119 eP P 12 14 03.2 -0.7
PINE Pine Mountain 50.21 332 IAmb IAmb 12 14 10.0
comp=Z,17nm,1.0s
DIAM Diamantina, MG 50.27 115 eP P 12 14 03.3 -1.6
PARB Paraibuna 50.27 122 eP P 12 14 04.8 +0.1

G08A Pilot Rock 50.48 334 IAmb IAmb 12 14 38.8
comp=Z,20nm,1.8s
K02D Willamette Mer 50.74 329 IAmb IAmb 12 14 13.9
comp=Z,25nm,1.3s
E09A Wood Farm, Sta 51.12 336 IAmb IAmb 12 14 15.9
comp=Z,21nm,1.1s
G06A Carlson Farm, 51.17 333 IAmb IAmb 12 14 17.2
comp=Z,24nm,1.3s
H04A Detroit Lake 51.47 332 IAmb IAmb 12 14 18.3
comp=Z,17nm,1.6s
D08A Wollman Farm, 51.87 336 IAmb IAmb 12 14 23.5
comp=Z,17nm,1.5s
MXC Moxie City 52.06 335 IAmb IAmb 12 14 23.9
comp=Z,21nm,1.3s
NEW Newport 52.15 338 LR LR 12 36 14.1
comp=Z,476nm,18.5s,baz=153,slow=36
B08A Colville Reser 53.08 337 IAmb IAmb 12 14 30.4
comp=Z,9.6nm,1.1s
D05A Enumclaw 53.27 334 IAmb IAmb 12 14 31.9
comp=Z,16nm,1.0s
CMC01 Camacan, BA 53.34 110 eP P 12 14 27.5 -0.1
RIB01 Linhares ES 53.53 115 eP P 12 14 29.0 0.0
GNW Green Mountain 53.93 334 IAmb IAmb 12 14 36.3
comp=Z,8.6nm,1.2s
CLRS Cowichan Lake 55.45 334 IAmb IAmb 12 15 05.1
comp=Z,18nm,1.6s
LLLB Lillooet 55.88 337 IAmb IAmb 12 14 51.8
comp=Z,20nm,1.5s
SCHQ Schefferville 57.05 16 LR LR 12 38 04.2
comp=Z,506nm,22.0s,baz=209,slow=35
USHA Ushuaia 58.74 165 LR LR 12 36 32.3
comp=Z,173nm,18.9s,baz=12,slow=32
BBB Bella Bella 59.64 334 LR LR 12 38 53.0
comp=Z,128nm,20.6s,baz=140,slow=34
PPT Papeete 60.67 249 LR LR 12 35 09.7
comp=Z,371nm,19.0s,baz=80,slow=30
PPT2 Papeete2 60.67 249 eS S 12 23 35.9 -1.0
PPT2 comp=Z,226nm,28.2s eSS SS 12 27 34.0 -1.6
PPT2 comp=Z,121nm,23.5s eLQ LQ 12 30 41.9
PPT2 comp=Z,1μm,36.5s eLR LR 12 33 15.0
PPT2 comp=Z,1μm,25.8s eLR LR 12 33 16.8
comp=Z,813nm,26.8s
TBI Tubuai 61.87 243 eP P 12 15 12.2 -15
TBI comp=Z,202nm,31.2s eS S 12 23 50.0 -1.7
TBI comp=Z,1μm,28.8s eLQ LQ 12 31 16.8
TBI comp=Z,3μm,33.5s eLR LR 12 33 49.7
TBI comp=Z,966nm,25.5s eLR LR 12 33 53.6
TBI comp=Z,5μm,27.8s
V35K Ketchikan 63.33 335 P P 12 15 38.1 +1.3
baz=133
TOAD Toad River Com 63.54 341 P P 12 15 39.8 +1.6
baz=141
YKAW1 Yellowknife Wh 63.73 348 IAmb IAmb 12 15 40.9
comp=Z,10.0nm,1.1s
YKA Yellowknife Ar 63.76 348 P P 12 15 39.2 -0.4
comp=Z,3.6nm,1.0s,baz=150,slow=6.1,SNR=15
YKA LR LR 12 44 06.3
comp=Z,145nm,18.6s,baz=142,slow=37
comp=Z,3.6nm,1.0s
YKAW3 Yellowknife Wh 63.83 348 IAmb IAmb 12 15 48.1
comp=Z,8.9nm,1.2s
T35M Bob Quinn 63.94 337 IAmb IAmb 12 15 46.9
comp=Z,7.8nm,1.0s
T35M Bob Quinn 63.94 337 P P 12 15 42.9 +2.0
baz=135
CRAG Craig 64.06 335 P P 12 15 43.7 +2.1
baz=132
KOTAN Kotaneelee Air 64.17 342 P P 12 15 44.0 +1.7
baz=142
LIRD Liard River Hi 64.25 341 P P 12 15 44.7 +1.8
baz=140
WRAK Wrangell Islan 64.38 336 P P 12 15 45.6 +1.9
baz=133
U33K Whale Pass 64.49 335 P P 12 15 46.9 +2.4
baz=132
FRB Frobisher Bay 64.62 11 LR LR 12 42 59.4
comp=Z,402nm,21.4s,baz=198,slow=35
DLBC Dease Lake 64.89 338 LR LR 12 44 13.4
comp=Z,26nm,18.0s,baz=118,slow=36
DLBC Dease Lake 64.89 338 P P 12 15 49.0 +1.9
baz=136
S34M Telegraph Cree 64.93 338 P P 12 15 49.1 +1.7
baz=134
WTLY Watson Lake, Y 65.68 340 P P 12 15 54.2 +2.0
baz=138
R33M Jennings River 65.92 339 P P 12 15 55.8 +1.9
baz=135
S32K Killisnoo 65.99 336 P P 12 15 56.0 +1.8
baz=131
SIT Sitka 66.03 335 IAmb IAmb 12 15 57.5
comp=Z,4.1nm,0.8s
SIT Sitka 66.03 335 P P 12 15 57.0 +2.6
baz=130
Q32M Nakina River 66.09 338 P P 12 15 57.1 +2.0
baz=134
R32K Eaglecrest 66.50 337 P P 12 15 59.7 +2.2
baz=131
WRGLY Wrigley 66.50 345 P P 12 15 59.6 +2.3
baz=144
S31K Pelican 66.99 336 P P 12 16 02.3 +1.8
baz=129
P32M Atlin 67.07 338 P P 12 16 02.9 +1.8
baz=132
R31K City Hall, Gus 67.08 336 P P 12 16 03.1 +2.0
baz=130
P33M Teslin, Yukon 67.16 339 IAmb IAmb 12 16 07.6
comp=Z,9.3nm,1.1s
P33M Teslin, Yukon 67.16 339 P P 12 16 03.7 +1.9
baz=134
SKAG Skagway 67.60 337 P P 12 16 07.2 +2.8
baz=131
N32M Quiet Lake 67.91 339 P P 12 16 08.6 +2.2
baz=134
PLBC Pleasant Camp 68.00 337 P P 12 16 08.6 +1.6
baz=130
WHY Whitehorse 68.22 338 P P 12 16 10.6 +2.2
baz=132
MMPY Sheldon Lake, 68.33 341 P P 12 16 11.1 +2.1
baz=136
PMSA Palmer Station 68.60 168 LR LR 12 39 08.8
comp=Z,132nm,21.7s,baz=348,slow=30
P29M Windy Craggy 68.65 337 P P 12 16 13.1 +2.0
baz=128
P30M Million Dollar 68.66 337 P P 12 16 13.3 +2.2
baz=129
O30N Mendenhall 68.74 338 P P 12 16 13.4 +1.8
baz=130
FARO Faro, Yukon 68.74 340 P P 12 16 13.9 +2.3
baz=134
M31M Drury Creek, Y 69.08 340 P P 12 16 15.8 +2.1
baz=132
N31M Braeburn, Yuko 69.09 339 P P 12 16 15.9 +2.1
baz=131
HYT Haines Junctio 69.31 338 IAmb IAmb 12 16 21.9
comp=Z,12nm,1.3s
HYT Haines Junctio 69.31 338 P P 12 16 17.4 +2.1
baz=129
PNL Peninsula 69.34 336 P P 12 16 17.7 +2.4
baz=127
O29M Mount Kennedy 69.40 337 P P 12 16 17.6 +1.8
baz=128
N30M Aishikik Lake 69.56 338 P P 12 16 18.3 +1.6
baz=130
YUK6 Outpost Mounta 69.71 337 P P 12 16 18.7 +0.8
baz=128
PINM Pinnacle 69.94 336 P P 12 16 20.8 +1.7
baz=126
YUK4 Talbot Arm 70.07 338 P P 12 16 21.2 +1.2
baz=128
M30M Minto, Yukon 70.17 339 P P 12 16 21.4 +1.0
baz=130
O28M Mount Upton 70.32 337 P P 12 16 22.3 +0.6
baz=126
YUK8 Steele Glacier 70.46 337 P P 12 16 23.9 +1.4
baz=127
M29M Somme Creek 70.68 339 P P 12 16 25.3 +1.7
baz=128
MESA MESA 70.68 336 P P 12 16 25.0 +1.2
baz=124
RAR Rarotonga 70.78 247 LR LR 12 40 35.4

comp=Z,162nm,19.6s,baz=94,slow=30
CTG Chitna Glacier 70.89 337 P P 12 16 26.3 +1.4
baz=125
L29M L29M 70.98 339 P P 12 16 27.0 +1.6
baz=129
YUK3 Moose Creek 71.02 338 P P 12 16 27.3 +1.4
baz=126
SMAI San Martin Ant 71.04 171 P 12 16 26.0 +0.5
SMAI IAmb IAmb 12 16 38.4
comp=Z,16nm,1.6s
K29M Barlow Dome 71.24 340 P P 12 16 28.2 +1.2
baz=130
J30M Hart River 71.32 341 P P 12 16 28.8 +1.3
baz=131
CRQE Cirque 71.47 336 P P 12 16 29.9 +1.4
baz=124
SFJD Kangerlussuaq 71.48 16 LR LR 12 46 47.0
comp=Z,209nm,19.9s,baz=218,slow=35
H31M Peel River 71.54 343 P P 12 16 30.1 +1.5
baz=134
BVCY Beaver Creek 71.55 338 P P 12 16 30.1 +1.3
baz=126
KAIM Kayak Island 71.58 335 P P 12 16 29.7 +0.7
baz=122
MCARA McCarthy VSAT 71.80 336 P P 12 16 31.7 +1.4
baz=124
J29N Klondike Camp 71.87 340 P P 12 16 32.1 +1.4
baz=129
M27K Edge Creek, AK 71.91 338 P P 12 16 32.2 +1.1
baz=125
DAWY Dawson 72.02 340 P P 12 16 32.6 +0.9
baz=128
Q23K Middleton Isla 72.16 334 P P 12 16 33.3 +0.8
baz=120
BMRM Bremner River 72.21 336 P P 12 16 34.1 +1.2
baz=122
G31M Satah River 72.29 343 P 12 16 32.9 -0.2
G31M Satah River 72.29 343 P P 12 16 33.8 +0.7
baz=134
L27K Beaver Creek, 72.29 338 P P 12 16 34.1 +0.8
baz=125
M26K Nabesna, AK 72.36 337 P P 12 16 34.7 +1.0
baz=124
EYAK Cordova Ski Ar 72.47 335 P P 12 16 35.5 +1.2
baz=121
I29M Ogilvie Camp, 72.47 341 P P 12 16 35.0 +0.7
baz=129
F31M Tsiigehtchic 72.51 344 P P 12 16 35.3 +1.0
baz=134
N25K Chitina, Valde 72.55 336 IAmb IAmb 12 16 41.0
comp=Z,15nm,1.3s
N25K Chitina, Valde 72.55 336 P P 12 16 36.0 +1.0
baz=122
EPYK Eagle Plains 72.63 342 P P 12 16 36.2 +1.0
baz=131
L26K Log Cabin Wild 72.84 338 P P 12 16 37.6 +1.0
baz=124
G30M tAoh Zraii Nji 72.89 343 P P 12 16 37.6 +0.8
baz=132
P23K Montague Islan 72.91 334 P P 12 16 37.5 +0.6
baz=119
K27K Chicken 72.95 339 P P 12 16 38.5 +1.4
baz=125
KLU Klutina 73.03 336 P P 12 16 38.8 +1.0
baz=121
H29M Whitestone 73.04 342 P P 12 16 39.0 +1.3
baz=130
INK Inuvik 73.06 345 LR LR 12 50 33.5
comp=Z,166nm,18.7s,baz=111,slow=37
INK Inuvik 73.06 345 P P 12 16 39.0 +1.4
baz=135
I28M Miner Creek 73.06 341 P P 12 16 39.1 +1.2
baz=128
F30M Barrier River 73.19 344 P P 12 16 39.8 +1.3
baz=132,SNR=8.4
HARP HAARP 73.20 337 P P 12 16 39.8 +1.1
baz=122
GLI Glacier Island 73.21 335 P P 12 16 40.3 +1.6
baz=120
G29M Pine Creek 73.38 342 P P 12 16 40.5 +0.9
baz=130,SNR=23
M24K Tolsona, Glenn 73.45 336 P P 12 16 41.0 +0.8
baz=121
RES Resolute Bay 73.52 359 LR LR 12 51 14.7
comp=Z,223nm,18.1s,baz=167,slow=38
SCRK Sand Creek 73.61 338 IAmb IAmb 12 16 46.6
comp=Z,8.9nm,1.3s
SCRK Sand Creek 73.61 338 P P 12 16 43.0 +1.8
baz=124
PAX Paxson 73.63 337 P P 12 16 42.7 +1.5
baz=122
I27K Kandik River 73.71 340 P P 12 16 42.7 +1.0
baz=126
PWL Port Wells 73.73 335 P P 12 16 43.5 +1.8
baz=119
J26L Joseph Creek 73.75 339 P P 12 16 43.2 +1.3
baz=124
SCM Sheep Creek Mo 73.78 336 P P 12 16 43.4 +1.2
baz=120
RIDG Independent Ri 73.80 338 IAmb IAmb 12 16 47.5
comp=Z,8.6nm,1.1s
RIDG Independent Ri 73.80 338 P P 12 16 42.9 +0.7
baz=123
SEW Seward 73.86 334 P P 12 16 43.4 +0.9
baz=117
M23K Glacier View 73.93 336 P P 12 16 44.3 +1.3
baz=119
A36M Sachs Harbour 74.03 349 P P 12 16 44.2 +1.0
baz=144
KNK Knik Glacier 74.05 335 P P 12 16 44.7 +1.1
baz=119
H27K Steamboat Moun 74.06 341 P P 12 16 45.1 +1.5
baz=126
I26K Coal Creek Min 74.06 340 P P 12 16 45.0 +1.4
baz=125
K24K Donnelly Dome 74.19 338 P P 12 16 45.7 +1.3
baz=122
E29M Blow River 74.31 344 P P 12 16 46.0 +1.0
baz=130
KDAK Kodiak Island 74.32 331 LR LR 12 47 47.1
comp=Z,131nm,19.0s,baz=106,slow=34
KDAK Kodiak Island 74.32 331 P P 12 16 46.6 +1.4
baz=114
WAT6 Susitna Watana 74.32 336 P P 12 16 46.1 +0.7
baz=120
F28M Old Crow 74.39 343 IAmb IAmb 12 16 50.8
comp=Z,11nm,1.0s
F28M Old Crow 74.39 343 P P 12 16 46.8 +1.3
baz=126
SLKM Skilak Lake 74.39 334 IAmb IAmb 12 16 50.5
comp=Z,11nm,1.0s
PMR Palmer 74.42 335 P P 12 16 47.4 +1.7
baz=118
DHY Denali Highway 74.43 337 P P 12 16 47.5 +1.5
baz=120
RC01 Rabbit Creek A 74.44 334 P P 12 16 47.0 +1.1
baz=117
G27K Doyon Strip 74.44 341 P P 12 16 47.5 +1.6
baz=126,SNR=9.3
OHAK Old Harbor 74.44 330 P P 12 16 47.1 +1.2
baz=113
J25K Salcha River, 74.47 339 P P 12 16 47.1 +1.1
baz=122
Q20K Shuyak Island 74.57 331 P P 12 16 47.7 +1.1
baz=114
BBTS Babate 74.58 75 LR LR 12 48 23.2
comp=Z,81nm,18.9s,baz=152,slow=35
SII Sitkinak Islan 74.64 329 P P 12 16 48.5 +1.3
baz=112
HOM Homer 74.66 333 P P 12 16 48.3 +1.1
baz=115
WAT1 Susitna Watana 74.77 336 P P 12 16 48.8 +0.9
baz=119
E28M Babbage River 74.91 343 P P 12 16 49.5 +0.9
baz=129,SNR=6.1
M22K Willow 74.91 335 P P 12 16 49.6 +1.0
baz=117
CAPN Captain Cook N 74.92 334 P P 12 16 49.7 +1.1
baz=116
HDA Harding Lake 74.94 338 P P 12 16 49.2 +0.4
baz=121
PRP Porcupine Dome 75.01 339 IAmb IAmb 12 16 54.5
comp=Z,11nm,1.1s
PRP Porcupine Dome 75.01 339 P P 12 16 49.5 +0.2
baz=122
ILAR Eielson Array 75.10 338 P 12 16 49.8 +0.1
ILAR Eielson Array 75.10 338 P P 12 16 48.9 -0.8
comp=Z,3.2nm,1.0s,baz=149,slow=4.4,SNR=24
ILAR LR LR 12 50 39.7
comp=Z,249nm,18.5s,baz=100,slow=36
comp=Z,3.2nm,1.0s
CHIR Chirikof Islan 75.12 328 P P 12 16 50.8 +0.9
baz=111
D28M Stokes Point 75.15 344 P P 12 16 50.9 +1.1
baz=130
R18K Karluk 75.16 330 P P 12 16 51.1 +1.0
baz=112
G26K Porcupine Rive 75.21 341 P P 12 16 51.2 +1.0
baz=124
E27K Coleen River 75.25 343 P P 12 16 51.7 +1.1
baz=127,SNR=13
O20K Slope Mountain 75.28 333 P P 12 16 52.1 +1.2
baz=114
Q19K Cape Douglas, 75.29 332 P P 12 16 52.1 +1.2
baz=113
MCK McKinley 75.36 337 P P 12 16 52.4 +1.2
baz=119
P19K Oil Pt 75.39 332 P P 12 16 52.7 +1.2
baz=114
POKR Poker Plat Res 75.48 339 P P 12 16 52.9 +1.0
baz=120
COLA College 75.51 338 P P 12 16 53.4 +1.4
baz=120
H25L Birch Creek 75.51 340 P P 12 16 52.8 +0.8
baz=122
SKT Skwentna 75.61 335 P P 12 16 53.9 +1.2
baz=116
D27M Malcolm River 75.71 344 P P 12 16 54.5 +1.3
baz=128
BMAR Burnt Mountain 75.74 341 P 12 16 54.3 +1.0
F26K Sheenjek River 75.75 342 P P 12 16 54.8 +1.4
baz=124,SNR=13
TRF Thorofare Moun 75.76 336 P P 12 16 54.6 +0.9
baz=117
NEA2 Nenana 75.83 338 P P 12 16 54.7 +0.9
baz=119
Q18K Katmai Hardscr 75.84 331 P P 12 16 55.0 +0.8
baz=112
G25K Bearman Lake 75.88 340 P P 12 16 55.0 +0.9
baz=122
H24K Noodor Dome 76.01 339 P P 12 16 56.0 +1.0
baz=120
O19K Port Alsworth 76.11 333 P P 12 16 57.0 +1.5
baz=113
Q17K Contact Creek 76.13 330 P P 12 16 56.5 +0.7
baz=111
R17L Mt. Peulik Vol 76.14 330 P P 12 16 56.4 +0.6
baz=110
F25K Christian Rive 76.17 341 P P 12 16 57.1 +1.3
baz=123,SNR=22
I23K Minto, Yukon-K 76.21 338 P P 12 16 57.5 +1.6
baz=119
P18K Big Mountain, 76.22 332 P P 12 16 57.3 +1.0
baz=112
M20K Styx River 76.26 334 P P 12 16 57.1 +0.7
baz=114
PPLA Purkeypile 76.29 336 P P 12 16 57.0 +0.3
baz=115
G24K Hadweenzic Riv 76.31 340 P P 12 16 57.5 +1.0
baz=121,SNR=18
BPAW Bear Paw Mtn. 76.34 337 P P 12 16 57.8 +1.0
baz=117
O18K Koktuh Hills 76.39 332 P P 12 16 58.3 +1.2
baz=112
N19K Bonanza Creek 76.42 333 P P 12 16 58.5 +1.1
baz=113
E25K Arctic Village 76.44 342 P P 12 16 58.4 +1.1
baz=123
CAST Castle Rocks 76.47 336 IAmb IAmb 12 17 02.3
comp=Z,14nm,1.2s
CAST Castle Rocks 76.47 336 P P 12 16 57.9 +0.3
baz=116
H23K Yukon River 76.60 339 P P 12 16 58.8 +0.6
baz=119
C27K Jago River 76.72 343 P P 12 16 59.4 +0.6
baz=125
P17K Kvichak River 76.73 331 P P 12 16 59.9 +0.9
baz=111
CHGN Chignik 76.76 328 P P 12 16 59.7 +0.5
baz=108
CHUM Lake Minchumin 76.77 336 P P 12 16 59.7 +0.5
baz=116
M19K Big River Lodg 76.81 334 P P 12 17 00.1 +0.6
baz=113
L20K Farewell, AK 76.82 335 P P 12 17 00.3 +0.7
baz=114
F24K Squaw Lake 76.87 341 P P 12 17 00.7 +0.9
baz=120
CHNA Chenabura Isl 76.95 326 P P 12 17 01.6 +1.2
baz=107
N18K Kilae Creek 77.01 333 P P 12 17 01.7 +1.1
baz=112
L19K White Mountain 77.12 334 P P 12 17 02.1 +0.8
baz=113
G23K Bananza Creek 77.19 340 P P 12 17 02.4 +0.8
baz=118,SNR=14
I21K Tanana 77.20 338 P P 12 17 02.6 +1.0
baz=116
C26K Camden Bay 77.23 343 P P 12 17 02.4 +0.7
baz=124
O17K Koliganek Bris 77.25 332 P P 12 17 02.4 +0.4
baz=110
K20K Telida 77.26 336 P P 12 17 02.6 +0.6
baz=114
M18K Stony River 77.28 334 P P 12 17 02.7 +0.5
baz=112
H22K Ishtalitna Cre 77.30 339 P P 12 17 02.9 +0.7
baz=117
D25K Kavik River 77.33 343 P P 12 17 02.9 +0.6
baz=122,SNR=16
E24K Your Creek 77.34 341 P P 12 17 02.9 +0.4
baz=120
S14K Fog Glacier 77.36 328 P P 12 17 02.9 +0.1
baz=107
COLD Coldfoot 77.50 340 P P 12 17 03.9 +0.6
baz=118
N17K Nushagak Hills 77.55 332 P P 12 17 03.7 0.0
baz=110
SDPT Sand Point 77.58 327 P P 12 17 04.3 +0.4
baz=106
J20K Nowinta River 77.62 336 P P 12 17 04.4 +0.5
baz=114
O16K Kokwok River B 77.66 331 P P 12 17 05.1 +0.8
baz=109
E23K Chandalar 77.71 341 P P 12 17 05.1 +0.6
baz=119,SNR=16
H21K Melozitna Rive 77.72 338 P P 12 17 05.0 +0.4
baz=115
G22K Bettles 77.81 339 P P 12 17 05.5 +0.5
baz=117
L18K Granite Mounta 77.93 334 P P 12 17 06.5 +0.7
baz=111
M17K Holitna River 77.97 333 P P 12 17 06.3 +0.3
baz=110
TOLK Tolik Lake Re 77.98 341 P P 12 17 05.9 0.0
baz=119
D24K Happy Valley 77.99 342 P P 12 17 06.5 +0.5
baz=120
I20K Naaghedeneel 78.00 337 P P 12 17 06.7 +0.6
baz=114
J19K Poorman 78.14 336 P P 12 17 07.2 +0.3
baz=112
C24K Franklin Bluff 78.24 342 P P 12 17 07.4 +0.1
baz=120
N16K Nishlik Lake 78.27 332 P P 12 17 07.5 -0.3
baz=109
F22K John River 78.31 340 P P 12 17 08.3 +0.6
baz=116
G21K Allakaket 78.35 339 P P 12 17 08.1 +0.1
baz=115
O15K Ungalikthiuk R 78.37 331 P P 12 17 08.6 +0.3
baz=108
J18K Innoko River 78.40 335 P P 12 17 08.6 +0.3
baz=111
H20K Anotleneega Mo 78.44 338 P P 12 17 09.4 +0.9
baz=113
E22K Anaktuvuk Pass 78.47 340 IAmb IAmb 12 17 14.1
comp=Z,8.6nm,0.9s
E22K Anaktuvuk Pass 78.47 340 P P 12 17 09.2 +0.5
baz=117
D23K Nanushuk River 78.49 341 P P 12 17 09.6 +0.9
baz=118,SNR=8.7
M16K Timber Creek 78.54 333 P P 12 17 09.5 +0.3
baz=109
S12K Black Hills 78.55 327 P P 12 17 10.0 +0.7
baz=105
L17K Donlin 78.61 334 P P 12 17 10.6 +1.1
baz=110
F21K Alatna River 78.64 339 P P 12 17 10.5 +0.9
baz=115,SNR=12
N15K Kwethluk River 78.80 332 P P 12 17 11.3 +0.7
baz=108
K17K Iditarod 78.81 334 P P 12 17 11.3 +0.7
baz=110
C23K Itkillik River 78.88 342 P P 12 17 12.4 +1.6
baz=118,SNR=11
GCSA Galena City Sc 78.93 336 P P 12 17 12.2 +1.0
baz=111
L16K Owhat River 79.00 333 P P 12 17 12.6 +0.9
baz=108
H19K Roundabout Mou 79.06 337 P P 12 17 12.5 +0.7
baz=112
D22K Ayikyak River 79.09 341 P P 12 17 13.1 +1.0
baz=116
O14K Tigyukauivet M 79.10 330 P P 12 17 12.7 +0.4
baz=106
M15K Kasigluk River 79.24 332 P P 12 17 13.7 +0.7
baz=107
F20K Avaraart Lake 79.37 339 P P 12 17 14.5 +0.9
baz=113
J17K VABM Dome 79.37 335 P P 12 17 14.8 +1.2
baz=109
N14K Kuskokwak Cree 79.50 331 P P 12 17 15.4 +1.0
baz=106
G19K Purcell Mounta 79.53 338 P P 12 17 15.3 +0.8
baz=112
H18K Honhosa River 79.67 337 P P 12 17 16.0 +0.7
baz=110
M14K Bethel 79.86 332 P P 12 17 17.0 +0.7
baz=106
C21K Knifeblade Rid 79.89 341 P P 12 17 17.3 +0.9
baz=114
L15K Ungalak Mounta 79.90 333 P P 12 17 17.7 +1.1
baz=107
B22K Teshekpuk Lake 79.97 342 P P 12 17 17.9 +1.2
baz=116
J16K Anvik River 79.99 335 P P 12 17 18.4 +1.4
baz=108
E20K Nigu River 80.00 340 P P 12 17 17.9 +0.8
baz=113
B21K Ikpikpuk River 80.03 341 P P 12 17 18.0 +0.9
baz=114
F19K Shaleruckik Mo 80.04 338 P P 12 17 19.1 +1.9
baz=111
G18K Tagagawik 80.04 337 P P 12 17 19.0 +1.7
baz=110
E19K Redstone River 80.07 339 P P 12 17 18.7 +1.3
baz=112
K15K Wolf Creek Mou 80.10 333 P P 12 17 18.9 +1.2
baz=107
I17K Unalakleet 80.21 335 P P 12 17 19.1 +0.9
baz=108
H17K Granite Mounta 80.22 336 P P 12 17 18.9 +0.7
baz=109
D20K Etivluk River 80.33 340 P P 12 17 20.0 +1.3
baz=112
L14K Kuka Creek 80.36 332 P P 12 17 20.4 +1.4
baz=106
BORG Borgarnes 80.38 24 LR LR 12 48 20.8
comp=Z,142nm,21.7s,baz=239,slow=32
M13K Dall Lake 80.43 331 P P 12 17 20.3 +0.9
baz=105
UNV Unalaska Valle 80.64 324 P P 12 17 21.5 +0.8
baz=101
F18K Selawik 80.66 338 P P 12 17 21.6 +1.1
baz=109
G17K Kiwalik Mounta 80.69 337 P P 12 17 21.7 +0.9
baz=108
A22K Sinclair Lake 80.72 343 P P 12 17 22.2 +1.5
baz=114
D19K Kuna River 80.76 340 P P 12 17 21.5 +0.4
baz=111
B20K Meade River 81.00 341 P P 12 17 23.5 +1.2
baz=112
H16K Elim 81.08 336 P P 12 17 23.6 +0.8
baz=106
J14K Nanvaranak Lak 81.13 334 P P 12 17 24.1 +1.0
baz=105
F17K Baldwin Pennin 81.22 337 P P 12 17 24.7 +1.2
baz=108
E18K Tukpahlearik C 81.28 339 P P 12 17 24.9 +1.0
baz=108
G16K Koyuk River 81.34 336 P P 12 17 25.5 +1.4
baz=106
K13K Kusilvak Mount 81.42 333 P P 12 17 25.8 +1.1
baz=104
C19K Lookout Ridge 81.47 340 P P 12 17 26.1 +1.2
baz=110
E17K Hotham Inlet 81.63 338 P P 12 17 26.4 +0.7
baz=107
M11K Mekoryuk 81.80 331 P P 12 17 27.2 +0.5
baz=102
NIKH Nikolski High 81.87 323 P P 12 17 27.7 +0.4
baz=99
C18K Utukok River 81.87 340 P P 12 17 27.5 +0.5
baz=108
G15K Niukluk 81.92 336 P P 12 17 27.4 +0.2
baz=105
D17K Noatak River 82.27 338 P P 12 17 29.1 +0.1
baz=106
B18K Kokolik River 82.30 340 P P 12 17 29.3 +0.1
baz=108
RDOG Red Dog Mine 82.31 339 P P 12 17 30.2 +1.0
baz=106
A19K Wainwright 82.32 341 P P 12 17 30.3 +1.1
baz=108
PARRA Arraiolos 82.95 51 eP P 12 17 38.0 +4.8
PARRA i IAmb IAmb 12 17 41.8
comp=Z,23nm,1.5s
PFVI Vila Bisbo 83.00 53 eP P 12 17 33.6 +0.1
PFVI i IAmb IAmb 12 17 37.8
comp=Z,41nm,1.6s
MORF Marmelete 83.14 53 eP P 12 17 34.5 +0.1
MORF i IAmb IAmb 12 17 46.2
comp=Z,27nm,1.3s
SPIA Saint Paul Isl 83.30 327 P P 12 17 35.5 +0.9
baz=98
PCAS Casmilo, Conde 83.45 50 eP P 12 17 35.2 -0.6
PCAS i IAmb IAmb 12 17 46.9
comp=Z,42nm,1.5s
PGAV Gavieira, Arco 83.76 48 ePP PP 12 20 25.5 -25
PGAV eLR LR 12 44 32.0
PGAV i IAMs_20 IAMs_20 12 50 02.6
comp=Z,233nm,20.0s
PVAQ Vaqueiros 83.89 53 eSS SS 12 33 43.7 +14
PVAQ eLR LR 12 43 59.6
PVAQ i IAMs_20 IAMs_20 12 47 57.8
comp=Z,308nm,22.0s
PCBR Castelo Branco 84.22 50 eP P 12 17 40.7 +1.0
PCBR i IAmb IAmb 12 17 44.3
comp=Z,35nm,1.6s
PMRV Marv??o 84.27 51 eP P 12 17 39.4 -0.6
PMRV i IAmb IAmb 12 17 53.2
comp=Z,16nm,1.6s
PMRV eLR LR 12 44 11.0
PMRV i IAMs_20 IAMs_20 12 48 21.7
comp=Z,217nm,20.0s
PBAR Barrancos 84.47 52 eP P 12 17 41.5 +0.5
PBAR i IAmb IAmb 12 17 55.4
comp=Z,15nm,1.6s
DBIC Dimbokro 85.93 83 LR LR 12 52 29.2
comp=Z,110nm,21.8s,baz=296,slow=33
MDT Midelt 86.27 57 LR LR 12 49 32.6
comp=Z,119nm,20.9s,baz=298,slow=31
ESDC Sonseca Array 86.92 51 P 12 17 53.2 -0.1
ESDC IAmb IAmb 12 17 54.6
comp=Z,8.5nm,1.2s
ESDC Sonseca Array 86.92 51 P P 12 17 51.4 -1.9
comp=Z,3.7nm,0.9s,baz=278,slow=4.7,SNR=16
comp=Z,3.7nm,0.9s
EKA Eskdalemuir Ar 87.80 35 P P 12 17 55.3 -1.8
comp=Z,4.7nm,0.9s,baz=280,slow=4.9,SNR=6.7
comp=Z,4.7nm,0.9s
RAO Raoul Island 87.94 241 LR LR 12 47 42.3
comp=Z,240nm,21.5s,baz=110,slow=29
SNAA Sanae 90.43 162 P P 12 18 09.8 +0.6
comp=Z,1.4nm,0.8s,baz=236,slow=4.6,SNR=8.1
comp=Z,1.4nm,0.8s
QSPA South Pole Qui 91.15 180 P P 12 18 15.0 +2.3
comp=Z,2.1nm,0.8s,baz=165,slow=2.6,SNR=8.2
QSPA LR LR 12 52 28.1
comp=Z,312nm,19.4s,baz=138,slow=31
comp=Z,2.1nm,0.8s
SHEM Shemya Is, Ala 92.17 323 LR LR 12 50 38.5

comp=Z,57nm,20.5s,baz=106,slow=30
URZ Urewera 92.26 232 LR LR 12 52 40.3
comp=Z,199nm,18.2s,baz=116,slow=31
TORD Torodi Ar. Bea 92.27 77 LR LR 12 56 07.9
comp=Z,183nm,21.6s,baz=292,slow=33
SPITS Spitsbergen Ar 92.42 11 LR LR 12 58 54.6
comp=Z,304nm,21.6s,baz=278,slow=35
VNDA Vanda 94.78 192 LR LR 12 51 51.8
comp=Z,176nm,21.7s,baz=122,slow=30
NOA NORSAR Array B 94.89 29 LR LR 12 57 55.0
comp=Z,123nm,20.5s,baz=280,slow=34
HFS Hagfors 96.27 29 LR LR 13 01 27.6
comp=Z,124nm,18.1s,baz=286,slow=35
DAVOX Davos/Dischmat 96.57 43 LR LR 12 55 06.2
comp=Z,150nm,21.9s,baz=263,slow=31
RPZ Rata Peaks 96.60 226 LR LR 12 54 42.8
comp=Z,298nm,19.1s,baz=132,slow=31
KEST Kesra 97.66 54 LR LR 13 00 05.0
comp=Z,65nm,18.1s,baz=278,slow=34
CLL Collm 97.80 38 *e*PS PS 12 31 31.0 -2.5
CLL *e*PPS PPS 12 32 13.0
CLL *e*SS SS 12 36 54.0 +4.3
CLL AMS AMS 12 59 00.0
comp=Z,200nm,20.3s
ARCES ARCESS Array B 97.95 19 LR LR 13 02 50.4
comp=Z,87nm,18.4s,baz=288,slow=36
GERES GERESS Array B 98.74 40 LR LR 12 57 59.1
comp=Z,281nm,20.3s,baz=268,slow=32
H11N3 WAKE ISLAND Hyl 01.11 290 T T 14 11 49.1
baz=85,slow=75,SNR=20
H11N2 WAKE ISLAND Hyl 01.12 290 T T 14 11 50.5
baz=85,slow=75,SNR=14
H11N1 WAKE ISLAND Hyl 01.12 290 T T 14 11 47.7
baz=85,slow=75,SNR=24
H11S2 WAKE ISLAND Hyl 01.41 289 T T 14 12 16.3
baz=86,slow=75,SNR=110
H11S1 WAKE ISLAND Hyl 01.41 289 T T 14 12 11.3
baz=86,slow=75,SNR=122
H11S3 WAKE ISLAND Hyl 01.42 289 T T 14 12 17.5
baz=86,slow=75,SNR=87
DZM Mont Dzumac 102.16 248 *e*LR LR 12 52 37.8
comp=Z,147nm,23.9s
ZALV Zalesovo Beam 125.01 3 PKP **PKPdf 12 24 06.9 -1.3**
comp=Z,0.7nm,0.3s,baz=316,slow=6.2,SNR=3.8
KSRS Korea Array 127.47 321 PKP **PKiKP 12 24 12.7 -1.3**
comp=Z,0.9nm,0.8s,baz=42,slow=1.4,SNR=5.7
KURBB Kurchatov Arra 127.67 8 PKP **PKPdf 12 24 11.8 -1.7**
comp=Z,1.1nm,0.8s,baz=348,slow=1.9,SNR=6.6
SONM Songino Array 128.97 345 PKP **PKiKP 12 24 15.4 -1.5**
comp=Z,0.6nm,0.9s,baz=132,slow=2.2,SNR=4.3
ASAR Alice Springs 131.17 239 PKP **PKiKP 12 24 22.8 +0.9**
comp=Z,0.6nm,0.7s,baz=107,slow=2.1,SNR=6.2
MKAR Makanchi Array 131.92 6 PKP **PKiKP 12 24 21.8 -0.9**
comp=Z,0.7nm,0.6s,baz=103,slow=1.6,SNR=5.0
WRA Warramunga Arr 131.99 244 PKP **PKiKP 12 24 24.1 +0.5**
comp=Z,1.2nm,0.9s,baz=99,slow=2.3,SNR=8.7
CMAR Chiang Mai Arr 158.28 334 PKPab **PKPab 12 25 41.0 +0.9**
comp=Z,2.0nm,0.8s,baz=3.1,slow=4.4,SNR=8.5

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*IDC **13** 12:07:46.0±1.0,49.°10N×20.°68E,h0km,mbtmp3.3/8, ML3.0/7,Error ellipse: s-maj=14.8km s-min=8.0km az=167.0*
*MCSM **13** 12:07:47.8±0.4,49.°4N±4.°×2.°1E±.°,h10km±4km,MLv3.2*
*PRU **13** 12:07:49.8,49.°26N×20.°42E,h10km*
ISC 13 12:07:47.0±0.8,**49.°32N**±0.°02×**20.°59E**±0.°02,**h17**km±6km, **n75,σ1°93**/107,**10C-6D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIE	**Niedzica**	**0.22**	**298**	*e*Pg	**Pg**	**12 07 52.3**	**+0.2**
NIE				*e*Sg	**Sg**	**12 07 55.7**	**+0.1**
NIE	**Niedzica**	**0.22**	**298**	P	**Pg**	**12 07 52.1**	**0.0**
STHS	**Stebnicka Huta**	**0.44**	**76**	*e*PG	**Pg**	**12 07 55.2**	**-0.7**
STHS				*e*SG	**Sg**	**12 08 01.0**	**-0.9**
STHS				*e*LG	Lg	12 08 06.7	
LANS	**Liptovska Anna**	**0.75**	**258**	*e*PG	**Pg**	**12 08 00.9**	**-0.8**
LANS				*e*SG	**Sg**	**12 08 10.3**	**-1.4**
LANS				*e*LG	Lg	12 08 13.2	
KECS	**Kecovo**	**0.84**	**185**	*e*PG	**Pg**	**12 08 01.9**	**-1.4**
KECS				*e*SG	**Sg**	**12 08 12.4**	**-1.9**
KECS				*e*LG	Lg	12 08 15.1	
OJC	**Ojcow**	**1.04**	**331**	*e*Pg	**Pn**	**12 08 07.7**	**+0.9**
OJC				*e*Sg	**Sn**	**12 08 23.1**	**+2.1**
OJC	**Ojcow**	**1.04**	**331**	P	**Pn**	**12 08 07.9**	**+1.1**
KOLS	**Kolonicke sedl**	**1.17**	**108**	*e*PG	**Pg**	**12 08 10.0**	**+0.4**
KOLS				*e*SG	**Sn**	**12 08 27.1**	**+2.9**
KOLS				*e*LG	Lg	12 08 29.5	
UZHM	**Uzhgorod**	**1.31**	**121**	P	**Pg**	**12 08 12.1**	**-0.2**
KWP	**Kalwaria Pacla**	**1.42**	**76**	P	**Pg**	**12 08 14.6**	**+0.3**
VYHS	**Vyhne**	**1.42**	**235**	*e*PG	**Pb**	**12 08 13.0**	**0.0**
VYHS				*e*SG	**Sg**	**12 08 32.7**	**-0.1**
HOLU	**Holmets**	**1.42**	**123**	P	**Pb**	**12 08 13.6**	**+0.6**
PSZ	**Piszkesteto**	**1.47**	**199**	⇑P	**Pb**	**12 08 14.1**	**+0.1**
PSZ				⇑S	**Sg**	**12 08 34.9**	**+0.4**
MUKU	**Mukachevo**	**1.63**	**121**	P	**Pb**	**12 08 17.2**	**+0.6**
OKC	**Ostrava-Krasne**	**1.67**	**289**	*e*PG	**Pg**	**12 08 18.9**	**-0.2**
OKC				*e*SG	**Sg**	**12 08 41.6**	**+0.7**
comp=Z,101nm,0.7s							
RAC	**Raciborz**	**1.73**	**297**	*e*PG	**Pg**	**12 08 20.0**	**-0.3**
RAC				*e*SG	**Sg**	**12 08 44.2**	**+1.3**
BERU	**Beregovo**	**1.74**	**128**	P	**Pb**	**12 08 18.3**	**-0.1**
MAUC	**Maruska**	**1.81**	**273**	*e*PG	**Pg**	**12 08 21.0**	**-0.7**
BRIU	**Brid**	**1.88**	**120**	P	**Pb**	**12 08 21.4**	**+0.6**
STEB	**Steborice**	**1.93**	**290**	*e*PG	**Pb**	**12 08 22.6**	**+0.8**
STEB				*e*SG	**Sg**	**12 08 49.3**	**+0.1**
JAVC	**Velka Javorina**	**1.97**	**258**	*e*PN	**Pb**	**12 08 21.5**	**-1.0**
JAVC				*e*SG	**Sb**	**12 08 47.7**	**+0.9**
MORC	**Moravsky Berou**	**2.04**	**284**	*e*PN	**Pn**	**12 08 22.0**	**+1.4**
MORC				*e*SG	**Sb**	**12 08 50.7**	**+2.1**
MORC	**Moravsky Berou**	**2.04**	**284**	⇓P	**Pb**	**12 08 24.3**	**+0.7**
MORC				⇓S	**Sb**	**12 08 48.8**	**+0.2**
KORU	**Korolevo**	**2.04**	**124**	P	**Pn**	**12 08 22.2**	**+1.6**
MEZ	**Mezhgor'ye**	**2.09**	**111**	Pn	**Pb**	**12 08 23.4**	**-1.0**
SRO	**Srobarova**	**2.13**	**226**	*e*SG	**Sg**	**12 08 55.4**	**-0.1**
SRO				*e*LG	Lg	12 09 00.6	
MODS	**Modra-Piesok**	**2.38**	**248**	*e*PN	**Pn**	**12 08 25.3**	**0.0**
MODS				*e*SN	**Sn**	**12 08 54.9**	**+0.8**
MODS				*e*LG	Lg	12 08 57.2	
BMR	**Baia Mare**	**2.54**	**129**	⇑P	**Pb**	**12 08 30.0**	**+2.6**
KRLC	**Kraliky**	**2.59**	**289**	*e*PN	**Pb**	**12 08 31.4**	**-1.5**
VRAC	**Vranov**	**2.62**	**271**	*e*PN	**Pn**	**12 08 30.2**	**+1.7**
VRAC				*e*SG	**Sg**	**12 09 08.7**	**-2.3**
VRAC	**Vranov**	**2.62**	**271**	Pn	**Pn**	**12 08 31.0**	**+2.5**
2.8nm,0.3s,baz=92,slow=12,SNR=11							
VRAC				Sn	**Sb**	**12 09 03.3**	**-1.9**
4.7nm,0.3s,baz=200,slow=9.4,SNR=5.2							
VRAC				Lg	Lg	12 09 09.5	
14nm,0.3s,baz=76,slow=22,SNR=6.5							
9.9nm,0.6s							
VRAC	**Vranov**	**2.62**	**271**	⇑P	**Pn**	**12 08 30.8**	**+2.4**
VRAC				⇑S	**Sn**	**12 09 03.0**	**+3.2**
STNU	**Starunia**	**2.65**	**102**	P	**Pn**	**12 08 29.8**	**+0.9**
KRUC	**Moravsky**	**2.76**	**266**	*e*PN	**Pn**	**12 08 32.1**	**+1.6**
KRUC				*e*SN	**Sn**	**12 09 05.8**	**+2.4**
DRGR		**2.90**	**150**	⇑P	**Pn**	**12 08 34.6**	**+2.2**
DPC	**Dobruska-Polom**	**2.95**	**292**	*e*PN	**Pn**	**12 08 35.3**	**+2.2**
DPC				*e*SG	**Sg**	**12 09 20.4**	**-1.3**
comp=Z,27nm,0.5s							
DPC	**Dobruska-Polom**	**2.95**	**292**	P	**Pn**	**12 08 34.6**	**+1.5**
MPLH	**Magyarpolny**	**2.96**	**225**	P	**Pn**	**12 08 35.0**	**+1.8**
OSTC	**Ostas**	**3.09**	**295**	*e*PN	**Pn**	**12 08 37.5**	**+2.6**
KSV	**Kosov**	**3.12**	**107**	P	**Pn**	**12 08 36.7**	**+1.3**
KSP	**Ksiaz**	**3.16**	**301**	*e*Pg	**Pn**	**12 08 38.8**	**+2.9**
KSP				*e*Sg	**Sn**	**12 09 16.1**	**+2.8**
KSP	**Ksiaz**	**3.16**	**301**	P	**Pn**	**12 08 38.0**	**+2.1**
UPC	**Upice**	**3.19**	**294**	*e*SG	**Sg**	**12 09 28.9**	**-0.5**
comp=Z,37nm,0.5s							
CHVC	**Chvalec**	**3.19**	**295**	*e*PN	**Pn**	**12 08 38.5**	**+2.1**
RONA	**Rosalia, Austr**	**3.28**	**242**	*i* Pn	**Pn**	**12 08 38.9**	**+1.3**
1.2nm,0.3s							
RONA				*i* Sn	**Sn**	**12 09 17.7**	**+1.4**
20nm,0.4s							
CJR	**Cluj-Napoca**	**3.29**	**141**	⇑P	**Pn**	**12 08 40.1**	**+2.3**
MORH	**Mrgy, Hungar**	**3.37**	**204**	⇓P	**Pn**	**12 08 39.7**	**+1.0**
MORH	**Mrgy, Hungar**	**3.37**	**204**	P	**Pn**	**12 08 40.4**	**+1.6**
CONA	**Conrad Observa**	**3.43**	**248**	*i* Pn	**Pn**	**12 08 41.4**	**+1.6**
1.1nm,0.4s,SNR=4.4							
CONA				*i* Sn	**Sn**	**12 09 21.2**	**+1.2**
5.1nm,0.4s							
BURAR	**Bucovina Array**	**3.52**	**117**	⇑P	**Pn**	**12 08 43.4**	**+2.4**
SURR	**Surduc**	**3.71**	**163**	⇓P	**Pn**	**12 08 45.2**	**+1.7**
BZS	**Buzias**	**3.77**	**169**	⇓P	**Pn**	**12 08 46.6**	**+2.3**

GOPC	**GO Pecny, Ondr**	**3.82**	**281**	*e*SG	**Sg**	**12 09 47.1**	**-2.5**
comp=Z,21nm,0.7s							
RNPP1	**Kostyukhnivka**	**3.89**	**56**	Pn	**Pn**	**12 08 47.3**	**+1.4**
RNPP5	**Staryi Chortor**	**3.90**	**59**	Pn	**Pn**	**12 08 47.0**	**+0.9**
ARSA	**Arzberg**	**3.96**	**240**	*i* Pn	**Pn**	**12 08 51.4**	**+4.4**
1.1nm,0.4s							
ARSA				*i* Sn	**Sn**	**12 09 33.3**	**+0.2**
4.4nm,0.8s							
PRU	**Pruhonice**	**3.99**	**282**	*e*SG	**Sg**	**12 09 51.6**	**-3.3**
comp=Z,21nm,0.7s							
CKRC	**Cesky Krumlov**	**4.16**	**266**	*e*PN	**Pn**	**12 08 52.5**	**+2.8**
CKRC				*e*SG	**Sg**	**12 09 59.6**	**-0.8**
comp=Z,10.0nm,0.5s							
ZVC	**Zvikov**	**4.18**	**274**	*e*PN	**Pn**	**12 08 53.1**	**+3.1**
GZR	**Gura Zlata**	**4.20**	**158**	⇓P	**Pn**	**12 08 52.6**	**+2.4**
MOA	**Molln**	**4.45**	**253**	*i* Pn	**Pn**	**12 08 55.4**	**+1.8**
3.6nm,0.5s,SNR=6.2							
MOA				*e*Sn	**Sn**	**12 09 41.0**	**-4.0**
3.6nm,0.5s							
GERES	**GERESS Array B**	**4.55**	**267**	Pn	**Pn**	**12 08 57.0**	**+1.9**
0.1nm,0.3s,baz=81,slow=15,SNR=20							
GERES				Sn	**Sn**	**12 09 51.6**	**+3.9**
0.2nm,0.3s,baz=76,slow=22,SNR=6.5							
GERES				Lg	Lg	12 10 10.5	
0.3nm,0.3s,baz=73,slow=28,SNR=5.8							
1.8nm,0.4s							
BRG	**Berggiesshubel**	**4.55**	**293**	Pg	**Pb**	**12 09 09.9**	**+3.5**
BRG				Sg	**Sg**	**12 10 07.8**	**-5.2**
BRG				Amp		12 10 17.0	
comp=Z,11nm,0.6s							
KHC	**Kasperske Hory**	**4.60**	**270**	*e*PN	**Pn**	**12 08 58.0**	**+2.3**
KHC				*e*SG	**Sg**	**12 10 15.5**	**+1.0**
BIOA	**Bad Ischl, Aus**	**4.90**	**253**	*i* Pn	**Pn**	**12 09 01.5**	**+1.6**
comp=Z,3.1nm,0.5s							
BIOA				*e*Sg	Sg	12 10 34.5	+10
comp=Z,9.1nm,0.5s							
COVR	**Voineasa-Covas**	**5.15**	**130**	⇑P	**Pn**	**12 09 05.9**	**+2.6**
CLL	**Collm**	**5.25**	**295**	*e*Pg	**Pg**	**12 09 27.0**	**-0.5**
CLL				*e*Sg	**Sg**	**12 10 36.0**	**+0.5**
comp=Z,16nm,0.7s							
AKASG	**Malin Array Be**	**5.74**	**73**	Pn	**Pn**	**12 09 11.8**	**+0.5**
comp=Z,1.4nm,0.3s,baz=258,slow=12,SNR=4.4							
AKASG				Lg	Lg	12 10 47.5	
comp=Z,1.3nm,0.3s,baz=253,slow=29,SNR=4.2							
comp=Z,0.3nm,0.3s							
WTTA	**Wattenberg**	**6.32**	**254**	*i* Pn	**Pn**	**12 09 21.8**	**+2.3**
WTTA				*i* Sn	**Sb**	**12 10 52.8**	**+1.0**
comp=Z,1.0nm,0.2s							
NACGM	**Naroch**	**6.77**	**32**	⇑*i*P	**Pn**	**12 09 26.7**	**+1.2**
comp=Z,4.0nm,0.8s,baz=217							
HFS	**Hagfors**	**11.54**	**343**	Pn	**Pn**	**12 10 29.7**	**-1.1**
comp=Z,0.3nm,0.3s,baz=156,slow=12,SNR=15							
comp=Z,0.8nm,0.3s							
FINES	**FINESS Array B**	**12.54**	**12**	Pn	**Pn**	**12 10 42.7**	**-1.8**
comp=Z,0.5nm,0.3s,baz=182,slow=11,SNR=19							
FINES				Sn	**Sn**	**12 12 57.7**	**-5.9**
comp=Z,0.4nm,0.3s,baz=190,slow=18,SNR=6.4							
comp=Z,1.3nm,0.4s							
NOA	**NORSAR Array B**	**12.89**	**339**	Pn	**Pn**	**12 10 47.8**	**-1.5**
baz=151,slow=14,SNR=5.5							
comp=Z,0.1nm,0.3s							
BRTR	**Keskin Array B**	**13.35**	**131**	Pn	**Pn**	**12 10 55.5**	**-0.2**
comp=Z,0.1nm,0.3s,baz=333,slow=17,SNR=1.8							
comp=Z,0.2nm,0.4s							
ARCES	**ARCESS Array B**	**20.42**	**5**	Pn	**P**	**12 12 23.6**	**+0.6**
comp=Z,0.9nm,0.6s,baz=186,slow=14,SNR=7.9							

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*IDC **13** 12:24:46.1±0.7,28.°48N×139.°59E,h412km±7km,mb3.3/23, mbtmp4.1/29,Error ellipse: s-maj=13.6km s-min=10.5km az=68.0.*
*JMA **13** 12:24:47.2±0.3,29.°N±1.°×14.°0E±.°,h442km±4km,MV3.7/40, W OFF OGASAWARA*
ISC 13 12:24:46.5±0.5,**28.°63N**±0.°06×**139.°65E**±0.°08,**h400**km,**n63, σ2°18/73,mb3.7/23,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.72**	**124**	P	**Pn**	**12 25 49.8**	**+2.3**
CBIJ				*e*S	**S**	**12 26 38.5**	**+1.7**
JCJ	**Chichijima**	**2.72**	**124**	P	**Pn**	**12 25 48.5**	**+1.0**
204nm,0.3s,baz=180,slow=0.0							
JCJ				S	**S**	**12 26 37.0**	**+0.1**
baz=180,slow=0.0							
JCJ	**Chichijima**	**2.72**	**124**	P	**Pn**	**12 25 50.3**	**+2.8**
JCJ	**Chichijima**	**2.72**	**124**	S	**S**	**12 26 39.4**	**+2.6**
JHH2	**Haha-jima-NKT2**	**3.00**	**131**	P	**Pn**	**12 25 52.1**	**+2.4**
JHH2				*e*S	**S**	**12 26 43.6**	**+2.8**
JHJ2	**Mitsune**	**4.47**	**2**	P	**Pn**	**12 26 07.1**	**+4.1**
JHJ2	**Mitsune**	**4.47**	**2**	*e*P	**Pn**	**12 26 06.7**	**+3.7**
JHJ2				*e*S	**S**	**12 27 09.1**	**+3.9**
BSO1	**Boso 1**	**6.11**	**10**	*e*P	**Pn**	**12 26 22.6**	**+3.0**
BSO1				*e*S	**S**	**12 27 36.6**	**+0.9**
BSO3	**Boso 3**	**6.20**	**7**	*e*S	**S**	**12 27 38.3**	**+0.4**
JIE	**Ise**	**6.27**	**337**	*e*P	**Pn**	**12 26 26.6**	**+4.7**
JKN2	**Miekihoku**	**6.29**	**334**	*e*P	Pn	12 26 27.5	+5.3
BSO4	**Boso 4**	**6.37**	**5**	*e*S	**S**	**12 27 43.1**	**+1.5**
JOD2	**Odawara 2**	**6.63**	**356**	*e*P	**P**	**12 26 28.7**	**+2.1**
JOD2				*e*S	**S**	**12 27 48.1**	**+1.0**
JNY	**Yasuok**	**6.88**	**348**	*e*P	**P**	**12 26 31.8**	**+2.5**
INU	**Inuyama**	**7.06**	**342**	P	**P**	**12 26 34.4**	**+3.1**
JMN	**Monobe**	**7.09**	**317**	P	**P**	**12 26 35.5**	**+3.8**
JGF	**Kuroka**	**7.22**	**345**	P	**P**	**12 26 35.8**	**+2.7**
JRY	**Ryogami san**	**7.39**	**355**	*e*P	**P**	**12 26 36.2**	**+1.2**
JRY				*e*S	**S**	**12 28 02.2**	**-0.6**
JAG	**Ashikaga**	**7.78**	**359**	*e*P	**Pn**	**12 26 39.2**	**+0.5**
JAG				*e*S	**S**	**12 28 06.4**	**-4.3**
MJAR	**Matsushiro Arr**	**7.98**	**352**	P	**Pn**	**12 26 41.8**	**+0.6**
2.4nm,0.5s,baz=171,slow=11,SNR=9.9							
MJAR				S	**S**	**12 28 15.8**	**+0.7**
2.5nm,0.6s,baz=142,slow=22,SNR=4.5							
MAJO	**Matsushiro**	**7.98**	**352**	P	**P**	**12 26 42.8**	**+1.2**
JHO	**Hitachi**	**8.00**	**5**	P	**P**	**12 26 42.8**	**+1.1**
JMZ	**Minamidaito 2**	**8.00**	**251**	P	**P**	**12 26 45.0**	**+3.1**
JHS	**Saijyo**	**8.44**	**320**	*e*P	**P**	**12 26 50.2**	**+3.6**
JAMN	**Amaminishikomi**	**9.23**	**270**	*e*P	**Pn**	**12 26 58.8**	**+3.2**
JMM	**Marumori**	**9.26**	**6**	P	**Pn**	**12 26 57.9**	**+2.1**
JSD	**Sado**	**9.45**	**353**	P	**P**	**12 26 58.7**	**+0.8**
JOW	**Kunigami**	**10.23**	**263**	P	**Pn**	**12 27 06.7**	**-0.6**
39nm,0.6s,baz=109,slow=12,SNR=6.9							
JOW	**Kunigami**	**10.23**	**263**	P	**Pn**	**12 27 09.1**	**+1.8**
JOW	**Kunigami**	**10.23**	**263**	*e*P	**Pn**	**12 27 09.8**	**+2.6**
JMK	**Ichinoseki**	**10.38**	**7**	*e*P	**Pn**	**12 27 10.1**	**+1.4**
JMK				*e*S	**S**	**12 29 04.4**	**-0.5**
JTU	**Tsushima**	**10.53**	**306**	P	**Pn**	**12 27 13.6**	**+3.1**
JKE	**Kume jima 2**	**11.65**	**262**	*e*P	**Pn**	**12 27 24.6**	**+0.9**
JOT	**Ohata**	**12.77**	**5**	*e*P	**Pn**	**12 27 37.1**	**+0.6**
KSRS	**Korea Array**	**13.19**	**315**	P	**P**	**12 27 40.4**	**+1.3**
0.9nm,0.7s,baz=126,slow=11,SNR=6.3							
JCH	**Churui**	**14.28**	**11**	*e*P	**P**	**12 27 54.0**	**+3.1**
ASAJ	**Asahikawa**	**15.63**	**8**	P	**P**	**12 28 07.7**	**+2.1**
2.7nm,0.4s,baz=204,slow=11,SNR=7.7							
USRK	**Ussuriysk Ar.**	**16.70**	**341**	P	**P**	**12 28 18.7**	**+1.7**
10nm,0.4s,baz=145,slow=9.3,SNR=36							
KLR	**Kul'dur**	**21.45**	**346**	P	**P**	**12 29 04.7**	**+0.8**
baz=181,slow=8.5							
PETK	**Petropavlovsk-**	**27.85**	**24**	P	**P**	**12 30 02.9**	**+1.8**
0.9nm,0.9s,baz=193,slow=5.8,SNR=7.6							
0.9nm,0.9s							
SONM	**Songino Array**	**32.05**	**316**	P	**P**	**12 30 38.0**	**0.0**
0.8nm,0.5s,baz=125,slow=7.6,SNR=6.4							
0.8nm,0.5s							
ZALV	**Zalesovo Beam**	**46.86**	**319**	P	**P**	**12 32 37.1**	**-1.0**
0.4nm,0.3s,baz=98,slow=8.9,SNR=1.3							
0.4nm,0.3s							
MKAR	**Makanchi Array**	**47.77**	**309**	P	**P**	**12 32 44.5**	**-0.8**
0.7nm,0.8s,baz=91,slow=9.7,SNR=5.1							
MKAR				ScP	**ScP**	**12 37 17.3**	**-5.1**
1.0nm,0.6s,baz=83,slow=4.7,SNR=5.9							
0.7nm,0.8s							
WRA	**Warramunga Arr**	**48.56**	**187**	P	**P**	**12 32 49.0**	**-2.4**
0.5nm,0.4s,baz=1.5,slow=7.6,SNR=9.1							
0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**50.36**	**314**	P	**P**	**12 33 03.5**	**-1.1**
2.1nm,0.5s,baz=91,slow=8.0,SNR=30							
2.1nm,0.5s							
NRIK	**Noril'sk**	**50.41**	**339**	P	**P**	**12 33 03.7**	**-0.8**
3.6nm,0.4s,baz=135,slow=9.0,SNR=4.3							
3.6nm,0.4s							
ASAR	**Alice Springs**	**52.29**	**187**	P	**P**	**12 33 17.1**	**-1.9**
0.2nm,0.5s,baz=16,slow=14,SNR=6.1							
0.2nm,0.5s							
BVAR	**Borovoye Array**	**55.39**	**317**	P	**P**	**12 33 39.8**	**-1.0**
1.4nm,0.4s							
1.4nm,0.4s							

ILAR	**Eielson Array**	**57.46**	**29**	P	**P**	**12 33 54.2**	**-0.8**
0.7nm,0.4s,baz=254,slow=5.4,SNR=25							
0.7nm,0.4s							
SPITS	**Spitsbergen Ar**	**68.47**	**349**	P	**P**	**12 35 05.7**	**-0.6**
2.3nm,0.8s,baz=186,slow=4.3,SNR=1.9							
2.3nm,0.8s							
ARCES	**ARCESS Array B**	**71.35**	**340**	P	**P**	**12 35 22.8**	**-1.0**
1.4nm,0.4s,baz=73,slow=8.2,SNR=24							
1.4nm,0.4s							
YKA	**Yellowknife Ar**	**71.86**	**28**	P	**P**	**12 35 26.3**	**-0.5**
1.4nm,0.7s,baz=301,slow=6.6,SNR=10							
1.4nm,0.7s							
KBZ	**Khabaz**	**75.32**	**312**	P	**P**	**12 35 46.1**	**-0.9**
1.7nm,0.7s,baz=120,slow=1.9,SNR=4.4							
1.7nm,0.7s							
FINES	**FINESS Array B**	**75.57**	**333**	P	**P**	**12 35 47.0**	**-1.2**
4.1nm,0.3s,baz=70,slow=4.9,SNR=101							
4.1nm,0.3s							
AKASG	**Malin Array Be**	**80.05**	**323**	P	**P**	**12 36 11.1**	**-1.6**
0.8nm,0.4s,baz=53,slow=4.8,SNR=6.0							
0.8nm,0.4s							
HFS	**Hagfors**	**81.12**	**336**	P	**P**	**12 36 16.4**	**-1.8**
1.3nm,0.5s,baz=119,slow=1.1,SNR=24							
1.3nm,0.5s							
NVAR	**Mina Array Bea**	**81.32**	**51**	P	**P**	**12 36 19.5**	**-0.5**
1.2nm,0.7s,baz=290,slow=5.3,SNR=8.7							
1.2nm,0.7s							
NB2	**NORSAR Subarra**	**81.35**	**337**	P	**P**	**12 36 17.5**	**-1.9**
comp=Z,1.1nm,0.5s,baz=45,slow=5.1							
NOA	**NORSAR Array B**	**81.35**	**337**	P	**P**	**12 36 17.9**	**-1.6**
comp=Z,0.7nm,0.5s,baz=54,slow=6.7,SNR=9.7							
comp=Z,0.7nm,0.5s							
BRTR	**Keskin Array B**	**83.31**	**312**	P	**P**	**12 36 28.3**	**-1.8**
comp=Z,0.4nm,0.4s,baz=90,slow=5.8,SNR=2.3							
comp=Z,0.4nm,0.4s							
PDAR	**Pinedale Array**	**84.68**	**44**	P	**P**	**12 36 36.8**	**-0.2**
comp=Z,0.5nm,0.5s,baz=262,slow=1.2,SNR=6.7							
comp=Z,0.5nm,0.5s							
EKA	**Eskdalemuir Ar**	**90.51**	**340**	P	**P**	**12 37 02.0**	**-1.9**
comp=Z,0.4nm,0.5s,baz=49,slow=3.6,SNR=4.1							
comp=Z,0.4nm,0.5s							
TXAR	**Lajitas Array**	**96.45**	**52**	P	**P**	**12 37 31.1**	**-0.7**
comp=Z,0.2nm,0.6s,baz=315,slow=1.4,SNR=3.8							
comp=Z,0.2nm,0.6s							

JMA 13 12:25:02.0±0.1,**36.°7N**±0.°2×**139.°3E**±0.°3,**h10**km±1km, **MV0.5/16,TOCHIGI GUNMA BORDER,Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	**Katashina**	**0.13**	**331**	P	Pg	12 25 05.3	+0.1
JKT				*e*S	Sg	12 25 07.4	0.0
JAG	**Ashikaga**	**0.25**	**156**	P	Pg	12 25 07.2	+0.2
JAG				S	Sg	12 25 10.5	0.0

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*BER **13** 12:37:03.9±3.4,80.°70N×1.°73W,h10km,mb(Pn)3.0, Confirmed Earthquake*
*DNK **13** 12:37:04.9±1.5,80.°68N×1.°55W,h36km±15km,ML1.2*
*KOLA **13** 12:37:05.4,81.°18N×2.°28E,h0km,ML2.3,Error ellipse: s-maj=124.7km s-min=34.0km az=40.0,Greenland sea,Arctic Ocean*
ISC 13 12:37:01.5±1.0,**80.°61N**±0.°06×**1.°54W**±0.°05,**h10**km,**n21, σ2°32/32,1C,North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.55**	**300**	*e*P	**Pn**	**12 37 42.7**	**-0.1**
NOR				*e*S	**Sn**	**12 38 10.3**	**-3.4**
NOR	**Nord**	**2.55**	**300**	*i* P	**Pn**	**12 37 42.0**	**-0.7**
NOR				*i* S	**Sn**	**12 38 09.9**	**-3.8**
NOR				IAML		12 38 12.4	
comp=Z,2.0nm,0.4s							
KBS	**Kingsbay**	**2.94**	**118**	P	**Pn**	**12 37 49.0**	**+0.9**
KBS				S	**Sn**	**12 38 20.6**	**-2.7**
KBS	**Kingsbay**	**2.94

GSC	**Goldstone, Bar**	**0.96**	**131**			Sg	12 44 56.6	0.0
HYS	**Haystack Butte**	**1.08**	**175**			Pg	12 44 45.7	-0.7
TEJ	**El Tejon**	**1.08**	**229**			Pg	12 44 45.5	-0.8
GRAC	**Grapevine Rang**	**1.08**	**14**			Pg	12 44 46.3	-0.2
GRAC					IAML		12 45 06.3	
	comp=E,214nm,0.7s							
GRAC					IAML		12 45 08.8	
	comp=N,296nm,0.9s							
EDW2	**Edwards Air Fo**	**1.09**	**193**			Pg	12 44 45.5	-1.0
VES	**Vestal, Richgr**	**1.14**	**265**			Pg	12 44 47.1	-0.3
TPO	**Tropico Hills**	**1.15**	**203**			Pg	12 44 46.6	-1.1
TPO					IAML		12 45 04.8	
	comp=E,347nm,1.0s							
TPO					IAML		12 45 04.8	
	comp=N,310nm,0.5s							
RRX	**Edison Barstow**	**1.21**	**152**			Sn	12 45 06.3	0.0
ARVC	**Arvin**	**1.23**	**229**			Pn	12 44 49.9	+0.1
AMDNV	**Amargosa**	**1.25**	**66**			Pg	12 44 49.3	-0.3
SBB	**Saddle Back Bu**	**1.25**	**185**			Pg	12 44 49.1	-0.6
BAKC	**Calstate**	**1.30**	**243**			Sb	12 45 07.8	+0.1
VOG	**Valley Oaks Go**	**1.42**	**286**			Pn	12 44 52.1	-0.2
DSP	**Deep Springs**	**1.44**	**351**			Pn	12 44 52.8	+0.1
CJV	**Casa Juvan**	**1.46**	**195**			Sg	12 45 12.2	-0.3
HOLC	**Holcomb Ridge**	**1.49**	**185**			Pn	12 44 53.1	-0.3
JNH	**Juniper Hills**	**1.51**	**188**			Pb	12 44 54.3	0.0
OSI	**Osito Audit: C**	**1.57**	**213**			Pn	12 44 53.2	-1.3
OSI					IAML		12 45 18.2	
	comp=E,208nm,0.7s							
OSI					IAML		12 45 25.3	
	comp=N,96nm,0.8s							
CHFC	**Chilao Flat St**	**1.63**	**190**			Pb	12 44 56.3	-0.1
PDE	**Pardee, Santa**	**1.67**	**206**			Sg	12 45 19.3	+0.1
BFSC	**Mount Baldy Ra**	**1.70**	**179**			Pn	12 44 56.6	+0.3
BFSC					IAML		12 45 20.1	
	comp=E,70nm,0.6s							
SSK	**Sunset Peak**	**1.73**	**180**			Pb	12 44 58.3	+0.2
MWC	**Mount Wilson**	**1.74**	**190**			Pn	12 44 56.2	-0.7
MWC					IAML		12 45 22.2	
	comp=N,102nm,0.5s							
MWC					IAML		12 45 23.4	
	comp=E,97nm,0.6s							
SIL	**Silver Peak**	**1.74**	**156**			Pb	12 44 58.6	+0.3
BBRC	**Big Bear Solar**	**1.79**	**159**			Pb	12 44 59.5	+0.2
MTPC	**Mountain Pass**	**1.80**	**104**			Pn	12 44 56.6	-1.1
MTPC					IAML		12 45 24.4	
	comp=N,157nm,0.8s							
MTPC					IAML		12 45 26.1	
	comp=E,99nm,0.6s							
PASC	**Pasadena Art C**	**1.81**	**193**	Pn	Pn		12 44 57.5	-0.3
TSCN	**Private Proper**	**2.20**	**260**		Pb		12 45 05.1	-1.0
ELS	**Elsinore Mount**	**2.30**	**174**		Pn		12 45 04.0	-0.5
S11A	**Rachel**	**2.31**	**42**		Pn		12 45 04.5	-0.2
S11A					IAML		12 45 42.5	
	comp=E,134nm,0.9s							
S11A					IAML		12 45 49.4	
	comp=N,101nm,1.0s							
POB	**Polly Butte**	**2.34**	**164**			Pn	12 45 04.4	-0.7
DGR	**Domenigoni Val**	**2.35**	**166**			Pn	12 45 03.5	-1.8
PMD	**Palm Desert**	**2.53**	**154**	Pn	Pn		12 45 06.6	-1.1
PFO	**Pinyon Flats O**	**2.54**	**156**			Pn	12 45 07.1	-0.8
PFO					IAML		12 45 51.1	
	comp=N,29nm,1.4s							
PRN	**Pahroc Range**	**2.58**	**55**			Pn	12 45 08.4	0.0
PRN					IAML		12 45 55.3	
	comp=E,42nm,1.1s							
PRN					IAML		12 45 57.3	
	comp=N,43nm,0.7s							
DPP	**Dos Picos Cty**	**3.00**	**168**			Pn	12 45 13.3	-0.9
DPP					IAML		12 46 00.3	
	comp=E,19nm,0.9s							
CBX	**Cerro Bola**	**3.72**	**166**			Pn	12 45 24.0	-0.2
ESJX	**Sierra Juarez**	**4.18**	**159**	Pn	Pn		12 45 30.2	-0.3
ESJX					IAML		12 46 36.9	
	comp=E,8.6nm,2.2s							
ESJX					IAML		12 46 48.0	
	comp=N,8.3nm,1.4s							

MOS ***13*** *12:56:17.7±1.0,55°53.53N×110°35.35E, h7km, mb3.4/1, Error ellipse: s-maj=18.3km s-min=10.9km az=69.9*
IDC ***13*** *12:56:17.7±4.4, 55°51.51N×110°43.43E, h0km, mb3.6/1, mbtmp3.5/5, ML3.2/4, Error ellipse: s-maj=72.7km s-min=25.8km az=91.0*
BYKL ***13*** *12:56:18.9±0.1, 55°46.46N×110°44.44E*

ISC 13 12:56:18.0±1.1, 55°53.53N±0°02×110°62.62E±0°02, h4km±9km, n47, σ2§51/91, 4C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.49**	**42**	⇓*i*Pg	**Pb**	**12 56 29.6**	**+0.4**
KMO				*e*Sg	**Sb**	**12 56 37.8**	**+1.0**
KMO				Pmax			
	367nm,0.4s						
KMO				Smax			
	1µm,1.0s						
KMO	**Kumora**	**0.49**	**42**	⇓*i*PG	**Pb**	**12 56 29.6**	**+0.4**
KMO				*e*		12 56 37.5	
KMO				pmax	pmax		
	comp=Z,369nm,0.4s						
KMO				smax	smax		
	comp=N,1µm,0.9s						
NIZB	**Nizh Angarsk**	**0.66**	**292**	*e*Pg	**Pg**	**12 56 30.3**	**-0.4**
NIZB				*e*Sg	**Sg**	**12 56 38.4**	**-0.8**
NIZB				Pmax			
	comp=N,80nm,0.2s						
NIZB				Smax			
	comp=N,667nm,0.3s						
NIZB	**Nizh Angarsk**	**0.66**	**292**	*e*PG	**Pg**	**12 56 30.5**	**-0.2**
NIZB				*e*		12 56 38.6	
NIZB				pmax	pmax		
	comp=Z,79nm,0.3s						
NIZB				smax	smax		
	comp=E,653nm,0.3s						
YLYR	**Ulyunkhan**	**0.72**	**154**	⇓*i*Pg	**Pg**	**12 56 32.1**	**+0.3**
	comp=E,479nm,0.4s						
YLYR				⇑*i*Pg	**Pg**	**12 56 32.1**	**+0.3**
	comp=E,314nm,0.4s						
YLYR				⇑*i*Pg	**Pg**	**12 56 32.1**	**+0.3**
	comp=E,546nm,0.4s						
YLYR				*e*Sg	**Sg**	**12 56 41.8**	**+0.7**
YLYR				Pmax			
	comp=E,505nm,0.2s						
YLYR				Smax			
	comp=E,739nm,0.2s						
YOAB	**Uoyan, Buryati**	**0.88**	**45**	*e*Pg	**Pn**	**12 56 37.3**	**+0.1**
YOAB				*e*Sg	**Sn**	**12 56 50.5**	**+0.1**
YOAB				Pmax			
	comp=E,83nm,0.1s						
YOAB				Smax			
	comp=E,871nm,1.5s						
UKT	**Uakit**	**1.71**	**90**	⇑*i*Pg	**Pg**	**12 56 51.3**	**+0.5**
UKT				*e*Sg	**Sg**	**12 57 15.4**	**+2.5**
UKT				Pmax			
	comp=E,193nm,0.4s						
UKT				Smax			
	comp=E,642nm,0.4s						
UKT	**Uakit**	**1.71**	**90**	⇑*i*PN	**Pg**	**12 56 51.4**	**+0.6**
UKT				*e*		12 57 14.7	
UKT				pmax	pmax		
	comp=Z,192nm,0.3s						
UKT				smax	smax		
	comp=N,645nm,0.4s						
SVKR	**Severomuysk**	**1.76**	**69**	*e*Pg	**Pg**	**12 56 53.6**	**+1.9**
SVKR				*e*Sg	**Sg**	**12 57 17.8**	**+3.3**
SVKR				*e*		12 57 22.8	
SVKR				Pmax			
	comp=N,209nm,0.4s						
SVKR				max			
	comp=N,2µm,0.6s						
SYVR	**Suvo**	**1.91**	**191**	*e*Pg	**Pn**	**12 56 52.2**	**+0.9**
SYVR				*e*Sg	**Sn**	**12 57 17.2**	**+1.4**
SYVR				Pmax			
	comp=N,79nm,0.4s						
SYVR				Smax			
	comp=N,688nm,0.5s						
SYVR	**Suvo**	**1.91**	**191**	*e*PN	**Pn**	**12 56 52.1**	**+0.8**
SYVR				*e*		12 57 17.2	
SYVR				pmax	pmax		
	comp=Z,95nm,0.4s						
SYVR				smax	smax		
	comp=E,941nm,0.8s						
MXMB	**Maximikha**	**2.52**	**207**	*e*Pg	**Pn**	**12 57 02.4**	**+2.7**
MXMB				*e*Sg	**Sb**	**12 57 35.1**	**0.0**
OGRR	**Ongureny**	**2.58**	**224**	*e*Pn	**Pn**	**12 57 01.1**	**+0.5**
OGRR				*e*		12 57 02.1	
OGRR				*e*Pg	**Pb**	**12 57 03.4**	**-1.5**
OGRR				*e*Sg	**Sb**	**12 57 35.9**	**-1.0**
OGRR				Pmax			
	comp=E,87nm,0.2s						
OGRR				Smax			
	comp=E,366nm,0.3s						
OGRR	**Ongureny**	**2.58**	**224**	*e*PN	**Pn**	**12 57 00.5**	**-0.1**
OGRR				*e*		12 57 03.3	
OGRR				*e*		12 57 35.8	
OGRR				pmax	pmax		
	comp=Z,86nm,0.3s						
OGRR				smax	smax		
	comp=E,358nm,0.3s						
GORB	**Goryachinsk**	**2.89**	**209**	*e*Pg	**Pb**	**12 57 08.9**	**-1.2**
GORB				*e*Sg	**Sb**	**12 57 46.5**	**+0.7**
BOD	**Bodaibo**	**2.96**	**38**	*e*Pn	**Pn**	**12 57 08.6**	**+2.8**
BOD				*e*		12 57 10.4	
BOD				*e*Pg	**Pg**	**12 57 13.5**	**-1.2**
BOD				*e*Sg	**Sg**	**12 57 53.1**	**0.0**
BOD				Pmax			
	comp=E,14nm,0.3s						
BOD				Smax			
	comp=E,98nm,0.5s						
BOD	**Bodaibo**	**2.96**	**38**	*e*PN	**Pn**	**12 57 08.5**	**+2.8**
BOD				*e*		12 57 14.5	
BOD				*e*		12 57 53.1	
BOD				pmax	pmax		
	comp=Z,14nm,0.3s						
BOD				smax	smax		
	comp=E,98nm,0.5s						
NLYR	**Nelyaty**	**3.01**	**69**	*e*Pn	**Pb**	**12 57 09.9**	**-2.3**
NLYR				*e*Pg	**Pg**	**12 57 15.6**	**-0.1**
NLYR				*e*Sg	**Sg**	**12 57 55.8**	**+1.1**
NLYR				Pmax			
	comp=E,32nm,0.7s						
NLYR				Smax			
	comp=E,265nm,0.8s						
ZRHB	**Zarechye**	**3.61**	**216**	*e*Pg	**Pb**	**12 57 21.9**	**-0.5**
ZRHB				*e*Sg	**Sb**	**12 58 08.3**	**+1.7**
ZRHB				Pmax			
	comp=E,111nm,0.6s						
ZRHB				Smax			
	comp=E,722nm,1.0s						
TRG	**Tyrgan**	**3.74**	**224**	*e*Pn	**Pn**	**12 57 16.6**	**0.0**
TRG				*e*Pg	**Pb**	**12 57 23.7**	**-0.9**
TRG				*e*Sg	**Sb**	**12 58 11.3**	**+1.0**
TRG				*e*SgSg	**Sg**	**12 58 15.9**	**-2.2**
TRG				Pmax			
	comp=E,25nm,0.3s						
TRG				max			
	comp=E,132nm,0.4s						
TRG	**Tyrgan**	**3.74**	**224**	*e*PN	**Pn**	**12 57 16.6**	**0.0**
TRG				*e*		12 57 24.8	
TRG				*e*S	**Sn**	**12 57 58.7**	**-2.4**
TRG				*e*		12 58 10.7	
TRG				pmax	pmax		
	comp=Z,25nm,0.3s						
TRG				smax	smax		
	comp=N,134nm,0.4s						
CIT	**Chita**	**3.92**	**152**	*e*Sg	**Sg**	**12 58 19.8**	**-3.9**
CIT				Smax			
	comp=N,174nm,0.3s						
VTMR	**Vitim**	**4.06**	**14**	*e*Sg	**Sg**	**12 58 27.1**	**-1.3**
UUDB	**Ulan-Yde**	**4.07**	**207**	*e*Pg	**Pb**	**12 57 29.4**	**-0.8**
UUDB				*e*Sg	**Sb**	**12 58 21.5**	**+1.9**
UUDB				Pmax			
	comp=N,21nm,0.7s						
UUDB				Smax			
	comp=N,119nm,1.3s						
STDB	**Stepnoy Dvoret**	**4.20**	**219**	*e*Sg	**Sb**	**12 58 25.2**	**+1.7**
STDB				Smax			
	comp=N,117nm,0.3s						
HRMR	**Khuramsha**	**4.47**	**211**	*e*Pn	**Pn**	**12 57 27.0**	**+0.4**
HRMR				*e*Pg	**Pb**	**12 57 37.0**	**-0.1**
HRMR				*e*Sg	**Sb**	**12 58 34.6**	**+3.2**
HRMR				Pmax			
	comp=N,19nm,0.5s						
HRMR				Smax			
	comp=N,117nm,0.3s						
CRS	**Chara**	**4.49**	**69**	*e*Pg	**Pg**	**12 57 41.5**	**-2.4**
CRS				*e*Sg	**Sg**	**12 58 41.3**	**-0.7**
CRS				Pmax			
	comp=N,29nm,1.0s						
CRS				Smax			
	comp=N,113nm,1.0s						
BGT	**Bolshoye Golou**	**4.66**	**224**	*e*Pn	**Pn**	**12 57 29.6**	**+0.4**
BGT				*e*Pg	**Pb**	**12 57 40.2**	**-0.1**
BGT				*e*Sg	**Sb**	**12 58 39.1**	**+2.4**
BGT				Pmax			
	comp=N,19nm,0.3s						
BGT				Smax			
	comp=N,90nm,0.8s						
IRK	**Irkutsk**	**4.99**	**231**	*e*Sg	**Sb**	**12 58 49.1**	**+2.8**
IRK				Smax			
	comp=N,304nm,0.4s						
LSTR	**Listvyanka**	**5.03**	**226**	*e*Pn	**Pn**	**12 57 33.7**	**-0.5**
LSTR				*e*		12 57 35.5	
LSTR				*e*Pg	**Pb**	**12 57 47.3**	**+0.8**
LSTR				*e*Sg	**Sb**	**12 58 50.7**	**+3.5**
LSTR				Pmax			
	comp=N,7.0nm,0.4s						
LSTR				Smax			
	comp=N,62nm,1.0s						
IVK	**Ivanovka**	**5.25**	**227**	*e*Pn	**Pn**	**12 57 35.5**	**-1.7**
IVK				*e*Pg	**Pb**	**12 57 50.6**	**+0.3**
IVK				*e*Sg	**Sb**	**12 58 57.2**	**+3.6**
IVK				Pmax			
	comp=N,30nm,0.6s						
IVK				Smax			
	comp=N,178nm,1.0s						
KHNR	**Khani**	**5.41**	**71**	*e*Sg	**Sg**	**12 59 09.0**	**-2.5**
TLY	**Talaya**	**5.66**	**230**	*e*Pg	**Pb**	**12 57 58.2**	**+0.8**
TLY				*e*Sg	**Sb**	**12 59 10.1**	**+4.5**
TLY				Pmax			
	comp=N,28nm,0.4s						
TLY				Smax			
	comp=N,60nm,1.0s						
KPC	**Khapcheranga**	**5.93**	**169**	*e*Pn	**Pn**	**12 57 46.5**	**-0.1**
KPC				*e*Pg	**Pb**	**12 58 05.1**	**+3.2**
KPC				*e*Sn	**Sn**	**12 58 51.2**	**-3.8**
KPC				*e*Sg	**Sg**	**12 59 21.6**	**-6.7**
KPC				Pmax			
	comp=N,11nm,0.6s						
KPC				Smax			
	comp=N,67nm,1.0s						
ARS	**Arshan**	**6.06**	**237**	*e*Pn	**Pn**	**12 57 48.1**	**-0.3**
ARS				*e*Pg	**Pb**	**12 58 06.0**	**+1.9**
ARS				*e*		12 58 56.5	
ARS				*e*Sg	**Sb**	**12 59 22.8**	**+5.8**
ARS				Pmax			
	comp=N,36nm,0.5s						
ARS				Smax			
	comp=N,269nm,0.7s						
YKLR	**Yuktali**	**6.27**	**76**	*e*Sg	**Sg**	**12 59 36.2**	**-3.1**
ZAK	**Zakamensk**	**6.80**	**224**	*e*Pg	**Pb**	**12 58 18.8**	**+2.1**
ZAK				*e*Sg	**Sb**	**12 59 44.8**	**+6.6**
ZAK				Pmax			
	comp=N,7.0nm,0.4s						
ZAK				Smax			
	comp=N,36nm,1.2s						
MOY	**Mondy**	**6.91**	**240**	*e*Pn	**Pn**	**12 58 00.9**	**+0.7**
MOY				*e*Pg	**Pb**	**12 58 20.8**	**+2.1**
MOY				*e*		12 59 19.2	
MOY				*e*Sg	**Sb**	**12 59 48.3**	**+6.8**
MOY				Pmax			
	comp=N,10.0nm,0.5s						
MOY				Smax			
	comp=N,59nm,1.4s						
ORL	**Orlik**	**7.04**	**249**	*e*Pn	**Pn**	**12 58 02.2**	**+0.3**
ORL				*e*Pg	**Pb**	**12 58 24.1**	**+3.3**
ORL				*e*Sn	**Sn**	**12 59 17.4**	**-4.9**
ORL				*e*Sg	**Sb**	**12 59 53.2**	**+8.1**
ORL				Pmax			
	comp=N,11nm,0.9s						
ORL				Smax			
	comp=N,74nm,1.1s						
CLNS	**Chul'man**	**8.07**	**75**	*e*Sg	**Sg**	**13 00 32.9**	**-4.0**
SONM	**Songino Array**	**8.13**	**201**	Pn	**Pn**	**12 58 17.7**	**+0.7**
	comp=N,0.2nm,0.3s,baz=21,slow=12,SNR=4.2						
SONM				Pg	**Pb**	**12 58 44.2**	**+4.7**
	comp=N,0.4nm,0.3s,baz=12,slow=15,SNR=6.0						
SONM				Lg	Lg	13 00 32.1	
	comp=N,1.4nm,0.3s,baz=14,slow=30,SNR=14						
	comp=N,0.4nm,0.3s						
ARDR	**Aradan**	**10.53**	**261**	*e*Sg	Sn	13 01 41.1	+53
ZALV	**Zalesovo Beam**	**14.96**	**275**	Pn	**Pn**	**12 59 48.8**	**-1.2**
	comp=N,0.4nm,0.3s,baz=81,slow=9.3,SNR=9.5						
	comp=N,1.6nm,0.5s						
MKAR	**Makanchi Array**	**19.68**	**256**	P	**P**	**13 00 48.2**	**+0.2**
	comp=N,0.1nm,0.3s,baz=59,slow=9.0,SNR=6.1						
	comp=N,0.4nm,0.5s						
KURK	**Kurchatov**	**19.69**	**269**	P	**P**	**13 00 48.1**	**+0.1**
KURBB	**Kurchatov Arra**	**19.78**	**269**	P	**P**	**13 00 48.1**	**-0.9**
	baz=66,slow=11,SNR=6.6						
	comp=N,0.9nm,0.6s						
FINES	**FINESS Array B**	**41.64**	**314**	P	**P**	**13 04 05.8**	**-1.0**
	comp=N,0.5nm,0.5s,baz=46,slow=11,SNR=4.5						
	comp=N,0.5nm,0.5s						

OSUNB ***13*** *12:56:20.9±0.9, 5°46.46S×35°71.71W, h0km, MLv2.5/4, Error ellipse: s-maj=4.5km s-min=3.4km az=0.0*

VAO 13 12:56:20.9±1.0, 5°48.48S×35°82.82W, h0km, mbR2.6, Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**0.36**	**193**	*e*P	Pg	12 56 28.5	+0.7
RCBR				*e*S	Sg	12 56 33.1	+0.6
RCBR	**Riachuelo**	**0.36**	**193**	P	Pg	12 56 28.9	+1.1
RCBR				S	Sg	12 56 33.2	+0.7
NBPV	**Pedro Velho**	**1.07**	**151**	P	Pg	12 56 40.6	-0.9
NBPV				S	Sg	12 56 53.8	-1.6
NBPA	**Parau_RN**	**1.32**	**258**	P	Pn	12 56 47.5	+0.9
NBPA				S	Sn	12 57 05.1	+0.3
NBCL	**Cascavel-CE**	**2.76**	**297**	*e*P	Pn	12 57 06.3	-0.1
NBCL				*e*S	Sn	12 57 41.0	+0.6
NBPB	**Pedra_Branca-C**	**3.75**	**269**	*e*P	Pn	12 57 19.9	-0.1
NBPB				*e*S	Sn	12 58 04.5	-0.4
NBAN	**Anadia - AL**	**4.19**	**186**	*e*P	Pn	12 57 25.9	-0.3
NBAN				*e*S	Sn	12 58 15.3	-0.6

IDC 13 12:57:16.2±1.3, 27°32N×141°74E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=34.1km s-min=15.8km az=36.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.46**	**119**	Pn	Pn	12 57 30.6	+0.6
	baz=180,slow=0.0						
JCJ				Sn	Sb	12 57 38.0	+3.5
	baz=225,slow=0.0						
WRA	**Warramunga Arr**	**47.53**	**189**	P	P	13 05 53.5	+0.1
	0.5nm,0.6s,baz=11,slow=8.7,SNR=8.1						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**57.71**	**29**	P	P	13 07 09.3	+0.9
	0.2nm,0.7s,baz=270,slow=8.4,SNR=2.5						
	0.2nm,0.7s						
FINES	**FINESS Array B**	**77.57**	**334**	P	P	13 09 12.6	-1.2
	1.1nm,0.8s,baz=58,slow=5.2,SNR=4.5						
	1.1nm,0.8s						

IDC ***13*** *13:02:18.8±4.4, 41°30N×141°90E, h0km, mb3.9/3, mbtmp3.9/4, ML2.6/1, Error ellipse: s-maj=101.6km s-min=38.4km az=101.0*
JMA ***13*** *13:02:26.4±0.1, 40°9N±0°3×141°8E±0°8, h69km±1km, MV3.1/36, E OFF AOMORI PREF*
JMA Felt I J1 at E OFF AOMORI PREF .

ISC 13 13:02:26.3±1.1, 40°90N±0°05×141°82E±0°07, h57km, n23, σ1§43/20, mb4.0/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JARK	**Aomorirokkasho**	**0.36**	**287**	*i*P	**Pn**	**13 02 37.9**	**+1.4**
JARK				*e*S	**Sn**	**13 02 46.1**	**+2.2**
JAHD	**Aomorihigashid**	**0.51**	**315**	*i*P	**Pn**	**13 02 39.4**	**+1.3**
JAHD				*e*S	**Sn**	**13 02 48.9**	**+2.2**
JANG	**Nango**	**0.58**	**203**	P	**Pn**	**13 02 39.7**	**+0.8**
JTM	**Tenmabayashi**	**0.58**	**259**	P	**Pn**	**13 02 39.9**	**+1.0**
JTM				*e*S	**Sn**	**13 02 49.7**	**+1.7**
JOT	**Ohata**	**0.75**	**310**	P	**Pn**	**13 02 41.5**	**+0.5**
JKB	**Kayabe**	**1.15**	**329**	P	**Pn**	**13 02 46.7**	**+0.6**
JAH	**Hinai**	**1.15**	**232**	P	**Pn**	**13 02 47.1**	**+0.9**
JSR	**Shiriuchi**	**1.23**	**301**	*e*P	**Pn**	**13 02 48.1**	**+0.9**
JIW	**Iwasaki**	**1.41**	**258**	P	**Pn**	**13 02 50.2**	**+0.5**
JOM	**Ohasama**	**1.48**	**196**	P	**Pn**	**13 02 51.5**	**+0.9**
JEM	**Erimo**	**1.50**	**42**	*e*P	**Pn**	**13 02 52.1**	**+1.2**
JNBK	**Urakawa-nobuka**	**1.54**	**27**	*e*P	**Pn**	**13 02 52.9**	**+1.4**
JYM2	**Yakumo 2**	**1.63**	**319**	P	**Pn**	**13 02 53.5**	**+0.9**
MJAR	**Matsushiro Arr**	**5.19**	**214**	Pn	**Pn**	**13 03 42.7**	**+1.3**
	0.2nm,0.3s,baz=27,slow=14,SNR=25						
	2.9nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**30.05**	**127**	T	T	13 39 33.4	
	baz=318,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**30.06**	**127**	T	T	13 39 31.7	
	baz=318,slow=75,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**30.07**	**127**	T	T	13 39 39.3	
	baz=318,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**30.87**	**129**	T	T	13 40 40.6	
	baz=322,slow=76,SNR=5.5						
H11S3	**WAKE ISLAND Hy**	**30.88**	**129**	T	T	13 40 42.7	
	baz=322,slow=76,SNR=4.3						
H11S2	**WAKE ISLAND Hy**	**30.89**	**129**	T	T	13 40 44.3	
	baz=322,slow=76,SNR=4.7						
MKAR	**Makanchi Array**	**42.43**	**299**	P	**P**	**13 10 14.2**	**-1.1**
	0.8nm,0.8s,baz=75,slow=7.6,SNR=2.4						
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**43.96**	**305**	P	**P**	**13 10 25.7**	**-1.8**
	1.5nm,0.5s,baz=80,slow=8.9,SNR=12						
	1.5nm,0.5s						
FINES	**FINESS Array B**	**65.55**	**332**	P	**P**	**13 13 01.6**	**-1.9**
	1.1nm,0.6s,baz=46,slow=8.2,SNR=9.7						
	1.1nm,0.6s						

SOME ***13*** *13:05:27.6, 41°72N×83°88E, h15km*
NNC ***13*** *13:05:28.8±3.0, 41°29N×83°39E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=24.6km s-min=15.1km az=179.0*

ISC 13 13:05:24.2±4.0, 41°6N±0°2×84°1E±0°1, h10km, n12, σ2§92/13, 2C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.33**	**304**	Pg	**Pb**	**13 06 24.0**	**+0.6**
	1.2nm,0.3s						
KTMS				Lg	Lg	13 07 04.6	
	4.4nm,0.2s						
KTMS	**Ketmen**	**3.33**	**304**	*e*P	**Pb**	**13 06 24.0**	**+0.6**
	1.0nm,0.2s						
KTMS				*e*S	**Sb**	**13 07 04.5**	**+0.5**
	4.2nm,0.1s						
PDGK	**Podgornoye**	**3.83**	**298**	⇓Pg	**Pb**	**13 06 34.3**	**+2.4**
	7.4nm,0.8s						
PDGK				⇑Sn	**Sn**	**13 07 09.7**	**+1.3**
	11nm,0.5s						
PDGK				⇓Lg	Lg	13 07 23.2	
	88nm,0.8s						
BLB	**Baldybastay**	**4.83**	**302**	Pg	**Pg**	**13 06 52.6**	**-4.1**
	8.0nm,0.7s						
BLB				Lg	Lg	13 07 54.4	
	15nm,0.9s						
ARXS	**Arharly**	**5.30**	**301**	Pg	**Pb**	**13 07 00.3**	**+3.3**
	2.0nm,0.4s						
ARXS				Lg	Lg	13 08 08.0	
	8.5nm,0.7s						
MK31	**Makanchi Array**	**5.32**	**346**	⇓Pg	**Pb**	**13 06 54.2**	**-3.0**
	3.3nm,0.9s,baz=169,slow=15,SNR=7.4						
MK31				Lg	Lg	13 08 27.4	
	7.7nm,0.8s,baz=165,slow=27,SNR=4.0						
MAKZ	**Makanchi**	**5.39**	**344**	⇑Lg	Lg	13 08 31.5	
	10nm,1.1s						
TNSS	**Tian-

	2.1nm,0.5s				
KST			Lg	Lg	13 08 39.6
	17nm,0.8s				

MDD ***13*** *13:26:50.1±1.3, 37°.06N×5°.88E, h0km, Mb4.0/12, M_mb3.3/12, Error ellipse: s-maj=14.5km s-min=10.4km az=70.0*
CRAAG ***13*** *13:26:52.0, 36°.99N×5°.88E, Ml2.9, Algerie 23km NE Jijel*
ISC 13 13:26:50.8±1.1, 37°.06N±0°.06×5°.73E±0°.07, h10km, n14, σ0s92/15, 3C, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DFRA	**Djebel Bou Aff**	**0.53**	**167**	P		**Pg**	**13 27 01.7**	**+0.6**
CBOS	**Bilal Ibnou Ra**	**0.54**	**119**	P		**Pg**	**13 27 01.1**	**-0.2**
CBHR	**Beni Haroun da**	**0.66**	**138**	P		**Pg**	**13 27 03.6**	**+0.1**
CKFL	**Kef-Lekhel**	**1.03**	**129**	P		**Pg**	**13 27 11.0**	**+0.3**
CTCHA	**Tamokra**	**1.07**	**234**	P		**Pn**	**13 27 11.5**	**-0.3**
CTEI	**Djebel Teioual**	**1.14**	**151**	P		**Pn**	**13 27 13.4**	**+0.5**
CMAH	**Djebel Manchou**	**1.43**	**107**	P		**Pg**	**13 27 18.5**	**+0.4**
ETOS	**Mallorca**	**3.54**	**321**	Pn		**Pn**	**13 27 45.9**	**0.0**
ETOS				Sn		**Sn**	**13 28 27.3**	**-0.5**
EIBI	**Ibiza**	**3.98**	**301**	Pn		**Pn**	**13 27 52.8**	**+1.0**
EIBI				⇑*i*Vmb_VC			13 27 53.3	
	301nm,SNR=1.2							
EIBI				Sn		**Sn**	**13 28 36.6**	**-1.9**
ECOL	**Islas Columbre**	**4.87**	**307**	Pn		**Pn**	**13 28 04.2**	**+0.2**
EPOB	**Poblet**	**5.60**	**321**	Pn		**Pn**	**13 28 14.4**	**+0.2**
EPOB				⇑*i*Vmb_VC			13 28 19.1	
	73nm,SNR=1.3							
EPOB				Sn		**Sn**	**13 29 17.7**	**-0.9**
ENIJ	**Nijar**	**6.35**	**272**	Pn		Pn	13 28 10.0	-14
EALK	**Alkurruntz**	**8.28**	**320**	Pn		**Pn**	**13 28 52.7**	**+1.8**
EALK				⇑*i*Vmb_VC			13 28 59.8	
	76nm,SNR=1.2							
EMAZ	**Mazaricos**	**12.71**	**302**	Pn		Pn	13 29 36.7	-15

IDC ***13*** *13:33:47.4±1.0, 9°.24N×125°.51E, h0km, mb3.6/6, mbtmp3.6/7, ML3.9/1, MS3.1/4, Error ellipse: s-maj=54.1km s-min=18.4km az=76.0*
ISC 13 13:33:50.3±1.0, 9°.2N±0°.1×125°.5E±0°.4, h19km, n11, σ1s21/7, mb3.6/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DAV	**Davao City (W)**	**2.15**	**177**	Pn		**Pn**	**13 34 25.5**	**+0.2**
	37nm,0.3s,baz=57,slow=16,SNR=1.8							
DAV				Lg		Lg	13 34 59.3	
	37nm,0.3s,baz=117,slow=22,SNR=1.8							
	92nm,0.4s							
JAY	**Jayapura**	**19.16**	**127**	LR		LR	13 47 07.9	
	comp=Z,31nm,18.3s,baz=63,slow=42							
GUMO	**Guam**	**19.52**	**75**	LR		LR	13 46 30.9	
	comp=Z,11nm,19.2s,baz=240,slow=39							
WRA	**Warramunga Arr**	**30.28**	**163**	P		**P**	**13 39 59.5**	**-1.0**
	0.3nm,0.6s,baz=345,slow=8.8,SNR=1.9							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**33.73**	**166**	P		**P**	**13 40 29.6**	**-1.1**
	0.2nm,0.5s,baz=348,slow=8.8,SNR=4.9							
	0.2nm,0.5s							
SONM	**Songino Array**	**41.71**	**341**	LR		LR	14 00 17.0	
	comp=Z,60nm,19.6s,baz=354,slow=38							
STKA	**Stephens Creek**	**43.70**	**160**	P		**P**	**13 41 55.5**	**+1.2**
	1.6nm,0.6s,baz=333,slow=7.8,SNR=3.7							
	1.6nm,0.6s							
PETK	**Petropavlovsk-**	**50.91**	**24**	P		**P**	**13 42 50.1**	**-0.1**
	0.5nm,0.6s,baz=192,slow=5.7,SNR=6.4							
	0.5nm,0.6s							
MKAR	**Makanchi Array**	**52.37**	**324**	P		**P**	**13 43 00.4**	**-0.9**
	0.4nm,0.6s,baz=133,slow=7.1,SNR=4.3							
	0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**56.47**	**326**	P		**P**	**13 43 32.1**	**+1.1**
	0.2nm,0.3s,baz=126,slow=6.7,SNR=5.7							
	0.2nm,0.3s							
SPITS	**Spitsbergen Ar**	**84.87**	**349**	LR		LR	14 28 26.6	
	comp=Z,28nm,19.6s,baz=112,slow=39							

IDC 13 13:37:45.6±2.4, 29°.90N×104°.33E, h0km, mb3.3/2, mbtmp3.3/4, ML3.2/1, MS3.4/1, Error ellipse: s-maj=79.7km s-min=35.8km az=93.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMAR	**Chiang Mai Arr**	**12.40**	**205**	Pn		Pn	13 40 43.3	-0.1
	0.5nm,0.6s,baz=20,slow=10,SNR=4.5							
SONM	**Songino Array**	**17.98**	**5**	P		Pn	13 41 56.9	-0.2
	0.1nm,0.3s,baz=188,slow=9.9,SNR=3.2							
	0.3nm,0.5s							
KBZ	**Khabaz**	**50.02**	**304**	LR		LR	14 11 34.8	
	comp=Z,35nm,18.2s,baz=151,slow=41							
WRA	**Warramunga Arr**	**57.36**	**146**	P		P	13 47 35.3	-0.5
	0.2nm,0.6s,baz=335,slow=7.5,SNR=4.8							
	0.2nm,0.6s							
ASAR	**Alice Springs**	**60.36**	**149**	P		P	13 47 57.1	+0.6
	0.2nm,0.8s,baz=340,slow=8.6,SNR=1.4							
	0.2nm,0.8s							

IDC ***13*** *13:38:13.0±2.3, 37°.05N×5°.82E, h0km, mb3.6/6, mbtmp3.6/10, ML3.7/4, MS2.7/2, Error ellipse: s-maj=42.2km s-min=27.3km az=29.0*
CRAAG ***13*** *13:38:14.3, 37°.01N×5°.84E, Ml3.4, Algerie 23km NE Jijel*
MDD ***13*** *13:38:16.6±0.6, 37°.11N×5°.88E, h40km, Mb4.7/36, M_mb4.2/36, Error ellipse: s-maj=4.8km s-min=3.5km az=136.0*
INMG ***13*** *13:38:23.2±2.6, 37°.42N×5°.36E, h34km, mb4.6, #DIST_RANGE: DISTANT*
ISC 13 13:38:13.6±0.6, 37°.13N±0°.05×5°.79E±0°.04, h10km, n82, σ1s96/86, mb3.7/6, 14C, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CBOS	**Bilal Ibnou Ra**	**0.54**	**128**	P		**Pb**	**13 38 24.1**	**-1.1**
DFRA	**Djebel Bou Aff**	**0.59**	**173**	P		**Pg**	**13 38 24.7**	**-0.3**
CBHR	**Beni Haroun da**	**0.69**	**145**	P		**Pb**	**13 38 26.6**	**-1.0**
CASM	**Ain Smara**	**1.04**	**147**	P		**Pg**	**13 38 32.1**	**-1.4**
CKFL	**Kef-Lekhel**	**1.05**	**134**	P		**Pg**	**13 38 32.3**	**-1.4**
CKHR	**Kef el Ahmar**	**1.13**	**191**	P		Pn	13 38 45.0	+9.4
CTCHA	**Tamokra**	**1.15**	**233**	P		**Pb**	**13 38 34.4**	**-1.1**
CTEI	**Djebel Teioual**	**1.18**	**155**	P		**Pb**	**13 38 34.5**	**-1.6**
CMAH	**Djebel Manchou**	**1.40**	**111**	P		**Pn**	**13 38 37.5**	**-1.8**
KEST	**Kesra**	**3.19**	**115**	Pn		**Pn**	**13 39 03.9**	**0.0**
	3.0nm,0.3s,baz=132,slow=22,SNR=20							
	18nm,0.4s							
ETOS	**Mallorca**	**3.52**	**319**	P		**Pn**	**13 39 08.4**	**+0.1**
ETOS				⇑*i*Vmb_VC			13 39 17.1	
	2µm,SNR=9.6							
ETOS				S		**Sn**	**13 39 47.9**	**-2.1**
EIBI	**Ibiza**	**3.98**	**300**	P		**Pn**	**13 39 15.6**	**+0.9**
EIBI				S		**Sn**	**13 39 57.8**	**-3.7**
DGI	**Dorgali Grotta**	**4.37**	**42**	P		**Pn**	**13 39 19.4**	**-0.5**
DGI				S		**Sn**	**13 40 05.6**	**-5.3**
EBEN2	**Beniarda presa**	**4.97**	**290**	P		**Pn**	**13 39 28.9**	**+0.6**
EBEN2				S		**Sn**	**13 40 22.3**	**-3.6**
EPOB	**Poblet**	**5.58**	**321**	P		**Pn**	**13 39 36.4**	**-0.2**
EPOB				⇑*i*Vmb_VC			13 39 46.1	
	366nm,SNR=8.9							
EPOB				S		**Sn**	**13 40 37.9**	**-3.0**
ERTA	**Horta de San J**	**5.71**	**314**	P		**Pn**	**13 39 38.7**	**+0.3**
ERTA				⇑*i*Vmb_VC			13 39 45.5	
	177nm,SNR=2.5							
ERTA				S		**Sn**	**13 40 39.5**	**-4.6**
EJON	**La Jonquera**	**5.76**	**338**	P		**Pn**	**13 39 37.7**	**-1.4**
EJON				⇑*i*Vmb_VC			13 39 40.7	
	205nm,SNR=2.2							
EJON				S		**Sn**	**13 40 40.5**	**-4.8**
ECHE	**Chera**	**5.85**	**297**	P		**Pn**	**13 39 41.4**	**+1.0**
ECHE				⇑*i*Vmb_VC			13 39 48.8	
	649nm,SNR=5.6							
EMOS	**Mosqueruela**	**5.86**	**305**	P		**Pn**	**13 39 41.2**	**+0.6**
EMOS				S		**Sn**	**13 40 41.5**	**-6.4**
ESAC	**San Caprasio**	**6.67**	**315**	P		**Pn**	**13 39 52.8**	**+1.2**
ESAC				S		**Sn**	**13 41 03.9**	**-3.7**
ECHI	**Chisagues Biel**	**7.00**	**324**	P		**Pn**	**13 39 57.8**	**+1.6**
ECHI				⇑*i*Vmb_VC			13 39 58.2	
	445nm,SNR=4.9							
EQES	**Quesada**	**7.08**	**278**	P		**Pn**	**13 39 59.9**	**+2.6**
EQES				⇑*i*Vmb_VC			13 40 09.4	
	317nm,SNR=5.4							
EQES				S		**Sn**	**13 41 14.4**	**-3.5**
ETOR	**Torete**	**7.13**	**303**	P		**Pn**	**13 40 00.1**	**+2.1**
ETOR				⇑*i*Vmb_VC			13 40 08.5	
	256nm,SNR=3.7							
ELGU	**Los Guajares,**	**7.54**	**271**	⇑*i*Vmb_VC			13 40 03.2	
	220nm,SNR=0.9							
ELGU				P		**Pn**	**13 40 04.2**	**+0.6**
PCP	**Piancastagn**	**7.69**	**15**	P		**Pn**	**13 40 04.8**	**-0.9**
PCP				S		Sn	13 41 24.0	-8.9
PSIM	**Granatula de C**	**7.72**	**286**	P		**Pn**	**13 40 08.1**	**+2.0**
EORO	**Oroz-Betelu**	**7.92**	**319**	P		**Pn**	**13 40 10.5**	**+1.7**
EORO				⇑*i*Vmb_VC			13 40 18.7	
	242nm,SNR=4.0							
ESDC	**Sonseca Array**	**8.06**	**291**	Pn		**Pn**	**13 40 12.1**	**+1.3**
	0.6nm,0.3s,baz=102,slow=14,SNR=49							
ESDC				LR		LR	13 43 18.7	
	comp=Z,69nm,21.4s,baz=311,slow=38							
	5.7nm,0.7s							
EALK	**Alkurruntz**	**8.25**	**320**	P		**Pn**	**13 40 15.3**	**+2.0**
EALK				⇑*i*Vmb_VC			13 40 16.8	
	432nm,SNR=6.0							
EADA	**Adamuz**	**8.29**	**280**	P		**Pn**	**13 40 15.0**	**+1.2**
PAB	**San Pablo**	**8.32**	**290**	P		**Pn**	**13 40 15.0**	**+0.7**
PAB				⇑*i*Vmb_VC			13 40 17.0	
	113nm,SNR=3.3							
GUD	**Guadarrama**	**8.51**	**297**	P		**Pn**	**13 40 18.4**	**+1.5**
GUD				⇑*i*Vmb_VC			13 40 25.6	
	145nm,SNR=3.8							
ECAB	**El Cabril**	**8.94**	**279**	P		**Pn**	**13 40 22.8**	**0.0**
SENIN	**Lac Senin/Sane**	**9.29**	**7**	P		**Pn**	**13 40 28.8**	**+1.1**
ELAN	**Lanestosa**	**9.32**	**314**	P		**Pn**	**13 40 28.8**	**+0.9**
ELAN				⇑*i*Vmb_VC			13 40 36.1	
	241nm,SNR=2.2							
FETA	**Feichten**	**10.54**	**19**	*e*Pn		Pn	13 40 50.7	+5.9
	2.9nm,1.0s							
PESTR	**Estremoz**	**10.70**	**283**	*e*P		**Pn**	**13 40 49.9**	**+3.1**
PESTR				*i* IAmb		IAmb	13 41 01.7	
	18nm,1.7s							
MVO	**Moncorvo**	**10.73**	**296**	*e*P		**Pn**	**13 40 49.0**	**+1.6**
MVO				*i* IAmb		IAmb	13 40 57.5	
	22nm,1.9s							
PCBR	**Castelo Branco**	**10.74**	**289**	*e*P		**Pn**	**13 40 50.9**	**+3.4**
PBRG	**Braganca**	**10.75**	**300**	*e*P		**Pn**	**13 40 49.1**	**+1.5**
PBRG				*i* IAmb		IAmb	13 40 59.7	
	32nm,2.1s							
PVAQ	**Vaqueiros**	**10.77**	**276**	*e*P		**Pn**	**13 40 50.9**	**+3.1**
PVAQ				*i* IAmb		IAmb	13 41 04.7	
	15nm,1.4s							
MTE	**Manteigas**	**10.91**	**291**	*e*P		**Pn**	**13 40 51.8**	**+2.0**
MOTA	**Moosalm**	**10.94**	**19**	*e*Pn		Pn	13 40 57.6	+7.4
	4.5nm,1.0s							
RETA	**Reutte**	**10.98**	**18**	*e*Pn		Pn	13 40 58.5	+7.8
	3.3nm,1.0s							
WTTA	**Wattenberg**	**11.01**	**21**	*i* Pn		Pn	13 40 56.8	+5.6
	5.9nm,1.1s							
PCVE	**Castro Verde**	**11.01**	**277**	*e*P		**Pn**	**13 40 53.5**	**+2.3**
PMTG	**Montargil**	**11.21**	**284**	*e*P		**Pn**	**13 40 56.7**	**+2.9**
PSARD	**Sardoal**	**11.22**	**287**	*e*P		**Pn**	**13 40 54.9**	**+0.8**
PSARD				*i* IAmb		IAmb	13 40 55.9	
	24nm,1.5s							
POLO	**Lamas de Olo**	**11.35**	**296**	*e*P		**Pn**	**13 40 56.8**	**+1.0**
POLO				*i* IAmb		IAmb	13 41 09.8	
	22nm,1.7s							
LESA	**Schwarzleotal**	**11.48**	**24**	*i* Pn		Pn	13 41 05.0	+7.5
	3.0nm,0.7s							
PCAS	**Casmilo, Conde**	**11.55**	**289**	*e*P		**Pn**	**13 41 00.8**	**+2.3**
SOKA	**Soboth**	**11.76**	**33**	*i* Pn		Pn	13 41 09.7	+8.3
	3.9nm,1.1s							
MOA	**Molln**	**12.40**	**28**	*i* Pn		Pn	13 41 19.2	+9.2
	5.4nm,1.7s							
GERES	**GERESS Array B**	**13.05**	**24**	Pn		**Pn**	**13 41 19.9**	**+0.9**
	baz=210,slow=11,SNR=3.3							
	0.3nm,0.5s							
MLR	**Muntele Rosu**	**17.26**	**55**	P		**P**	**13 42 17.6**	**+1.3**
	0.3nm,0.3s,baz=280,slow=10,SNR=4.7							
	0.7nm,0.4s							
NDNU	**Novodnistrovsk**	**19.46**	**47**	P		**Pn**	**13 42 41.1**	**-0.4**
SORM	**Soroca**	**19.84**	**49**	P		**Pn**	**13 42 45.8**	**-0.2**
RNPP5	**Staryi Chortor**	**20.07**	**39**	P		**P**	**13 42 47.5**	**+0.6**
RNPP8	**Varash**	**20.12**	**39**	P		**P**	**13 42 47.4**	**0.0**
RNPP9	**Sopachiv**	**20.18**	**39**	P		**P**	**13 42 49.3**	**+1.2**
LUBAR	**Lubar, Ukraine**	**20.33**	**44**	P		**P**	**13 42 50.0**	**+0.2**
MI28	**Mi28,Pidlybu**	**20.82**	**42**	P		**P**	**13 42 55.5**	**+0.5**
AK13	**Malin Array Si**	**21.41**	**44**	P		**P**	**13 43 02.7**	**+1.4**
AK19	**Malin Array Si**	**21.43**	**43**	P		**P**	**13 43 01.9**	**+0.3**
AK14	**Malin Array Si**	**21.44**	**44**	P		**P**	**13 43 01.3**	**-0.4**
AK20	**Malin Array Si**	**21.44**	**43**	P		**P**	**13 43 01.3**	**-0.4**
AK07	**Malin Array Si**	**21.45**	**44**	P		**P**	**13 43 01.5**	**-0.4**
AK16	**Malin Array Si**	**21.46**	**44**	P		**P**	**13 43 01.5**	**-0.4**
AK18	**Malin Array Si**	**21.46**	**43**	P		**P**	**13 43 01.5**	**-0.5**
AK06	**Malin Array Si**	**21.47**	**44**	P		**P**	**13 43 01.6**	**-0.4**
AK12	**Malin Array Si**	**21.47**	**44**	P		**P**	**13 43 01.9**	**-0.2**
AK21	**Malin Array Si**	**21.48**	**43**	P		**P**	**13 43 01.9**	**-0.2**
AK15	**Malin Array Si**	**21.48**	**43**	P		**P**	**13 43 01.9**	**-0.3**
AK22	**Malin Array Si**	**21.49**	**43**	P		**P**	**13 43 02.0**	**-0.2**
AK22				pP		**sP**	**13 43 06.4**	**+1.1**
AK05	**Malin Array Si**	**21.49**	**44**	P		**P**	**13 43 02.0**	**-0.2**
AK11	**Malin Array Si**	**21.50**	**44**	P		**P**	**13 43 02.1**	**-0.2**
AK11				pP		**sP**	**13 43 06.8**	**+1.4**
AKASG	**Malin Array Be**	**21.54**	**44**	P		**P**	**13 43 02.9**	**+0.1**
	2.2nm,0.5s,baz=242,slow=11,SNR=5.2							
	2.2nm,0.5s							
HFS	**Hagfors**	**23.57**	**10**	P		**P**	**13 43 26.7**	**+2.6**
	1.1nm,0.8s,baz=187,slow=10,SNR=4.2							
	1.1nm,0.8s							
NOA	**NORSAR Array B**	**24.18**	**6**	P		**P**	**13 43 30.5**	**+0.6**
	0.9nm,1.0s,baz=189,slow=11,SNR=2.7							
NOA				LR		LR	13 53 46.3	
	comp=Z,11nm,18.1s,baz=90,slow=38							
	0.9nm,1.0s							
KURBB	**Kurchatov Arra**	**52.09**	**50**	P		**P**	**13 47 24.6**	**+1.0**
	0.2nm,0.2s,baz=288,slow=8.4,SNR=6.4							
	0.2nm,0.2s							
MKAR	**Makanchi Array**	**55.61**	**54**	P		**P**	**13 47 49.4**	**0.0**
	0.4nm,0.6s,baz=295,slow=6.3,SNR=8.7							
	0.4nm,0.6s							
SONM	**Songino Array**	**69.82**	**45**	P		**P**	**13 49 27.3**	**+3.0**
	0.8nm,0.9s,baz=305,slow=8.7,SNR=5.1							
	0.8nm,0.9s							

OSPL ***13*** *14:06:10.6±3.8, 18°.41N×68°.77W, h142km±26km, ML3.6*
RSPR ***13*** *14:06:10.6, 18°.35N×68°.80W, h111km±2km, MD3.3*
NEIC ***13*** *14:06:11.0±2.0, 18°.4N±0°.1×68°.80W±0°.05, h112km±14km, ML3.7/30, ML3.5/22(RSPR), Error ellipse: s-maj=20.9km s-min=5.9km az=187.0*
SDD ***13*** *14:06:12.7±4.0, 18°.57N×68°.78W, h115km±19km, MD3.6, ML3.7, MW3.7*
ISC 13 14:06:10.1±1.1, 18°.46N±0°.05×68°.79W±0°.02, h117km±7km, n99, σ1s26/126, 30C-11D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HIDR	**Higuey Centro**	**0.15**	**30**	*e*P		**Pn**	**14 06 25.6**	**-0.6**
HIDR	**Higuey Centro**	**0.15**	**30**	*e*S		**Sn**	**14 06 37.3**	**-1.1**
HIDR	**Higuey Centro**	**0.15**	**30**	*e*Pg		**Pn**	**14 06 25.7**	**-0.6**
HIDR				⇓*e*Sg		**Sn**	**14 06 37.3**	**-1.1**
HIDR				IAML			14 06 40.2	
	comp=N,3µm,0.2s							
MIDR	**Miches**	**0.57**	**335**	⇑*e*Pg		**Pn**	**14 06 28.1**	**-0.1**
MIDR				⇑*e*Sg		**Sn**	**14 06 41.8**	**0.0**
MIDR				IAML			14 06 42.9	
	comp=N,937nm,0.5s							
DR12	**Loma Pena Alta**	**0.64**	**300**			**Pn**	**14 06 28.2**	**-0.6**
HATOM	**Hato Mayor del**	**0.64**	**300**	⇑*e*Pg		**Pn**	**14 06 28.4**	**-0.4**
HATOM				⇑*e*Sg		**Sn**	**14 06 42.2**	**-0.7**
HATOM				IAML			14 06 44.0	
	comp=N,958nm,0.2s							
SMDR	**Samana, DR**	**0.90**	**336**	⇑*e*P		**Pn**	**14 06 30.3**	**-0.6**
SMDR	**Samana, DR**	**0.90**	**336**	*e*S		**Sn**	**14 06 49.2**	**+2.5**
SMDR	**Samana, DR**	**0.90**	**336**	⇑*e*Pg		**Pn**	**14 06 30.3**	**-0.6**
SMDR				⇑*e*Sg		**Sn**	**14 06 46.5**	**-0.1**
SMDR				IAML			14 06 51.1	
	comp=N,1µm,0.5s							
SDD	**Santo Domingo**	**1.06**	**270**			**Pn**	**14 06 33.1**	**+0.6**
SDD						**Sn**	**14 06 49.8**	**+0.3**
SDD	**Santo Domingo**	**1.06**	**270**	⇓*e*P		**Pn**	**14 06 33.1**	**+0.6**
SDD	**Santo Domingo**	**1.06**	**270**	⇓*e*Pg		**Pn**	**14 06 32.9**	**+0.4**
SDD				⇓*e*Sg		**Sn**	**14 06 49.9**	**+0.5**
SDD				IAML			14 06 51.3	
	comp=N,84nm,0.2s							
SDD	**Santo Domingo**	**1.06**	**270**	*i* P		**Pn**	**14 06 32.9**	**+0.4**
SDD				*e*S		**Sn**	**14 06 50.0**	**+0.5**
SDD				IAML			14 06 59.3	
	comp=Z,53nm,0.3s							
IDE	**Isla Desecheo**	**1.25**	**93**			**Pn**	**14 06 33.7**	**-0.8**
IDE						**Sn**	**14 06 54.3**	**+1.2**
IDE	**Isla Desecheo**	**1.25**	**93**	⇑*e*P		**Pn**	**14 06 33.7**	**-0.8**
IDE	**Isla Desecheo**	**1.25**	**93**	*e*S		**Sn**	**14 06 54.3**	**+1.2**
DR08	**Loma La Naviza**	**1.27**	**293**	*e*Pg		**Pn**	**14 06 34.6**	**-0.2**
DR08				*e*Sg		**Sn**	**14 06 52.6**	**-0.8**
DR08				IAML			14 07 01.4	
	comp=N,11µm,0.2s							
NADR	**Nagua**	**1.34**	**311**	*e*Pg		**Pn**	**14 06 35.2**	**-0.3**
NADR				*e*Sg		**Sn**	**14 06 53.5**	**-1.2**
NADR				IAML			14 07 01.6	
	comp=N,2µm,0.2s							
LONA1	**Toro Cenizo, N**	**1.36**	**312**	*i* P		**Pn**	**14 06 38.0**	**+2.2**
LONA1				*e*S		**Sn**	**14 07 00.4**	**+5.2**
BANI	**BANI**	**1.49**	**267**			**Pn**	**14 06 37.8**	**+0.5**
BANI	**BANI**	**1.49**	**267**	⇑*e*Pg		**Pn**	**14 06 38.6**	**+1.3**
BANI				*e*Sg		**Sn**	**14 07 00.8**	**+2.8**
BANI				IAML			14 07 07.2	
	comp=N,885nm,0.2s							
PRSN	**Puerto Rico Se**	**1.58**	**99**			**Pn**	**14 06 38.2**	**-0.1**
PRSN	**Puerto Rico Se**	**1.58**	**99**			**Sn**	**14 07 01.1**	**+1.3**
PRSN	**Puerto Rico Se**	**1.58**	**99**	⇑*i*P		**Pn**	**14 06 39.1**	**+0.8**
PRSN	**Puerto Rico Se**	**1.58**	**99**	*e*S		**Sn**	**14 07 01.1**	**+1.3**
AGPR	**Aguadilla, PR**	**1.60**	**90**			**Pn**	**14 06 38.9**	**+0.4**
AGPR						**Sn**	**14 07 00.2**	**+0.2**
AGPR	**Aguadilla, PR**	**1.60**	**90**	IAML			14 07 05.6	
	comp=E,984nm,0.5s							
AGPR				IAML			14 07 06.5	
	comp=N,683nm,0.3s							
AGPR	**Aguadilla, PR**	**1.60**	**90**	⇑*e*P		**Pn**	**14 06 38.9**	**+0.4**
AGPR	**Aguadilla, PR**	**1.60**	**90**	*e*S		**Sn**	**14 07 00.2**	**+0.2**
AGPR	**Aguadilla, PR**	**1.60**	**90**	⇑*e*Pg		**Pn**	**14 06 38.9**	**+0.4**
AGPR				⇑*e*Sg		**Sn**	**14 07 02.8**	**+2.8**
AGPR				IAML			14 07 08.5	
	comp=N,882nm,0.5s							
AGPR	**Aguadilla, PR**	**1.60**	**90**	*i* P		**Pn**	**14 06 38.9**	**+0.4**
AGPR				*e*S		**Sn**	**14 07 02.4**	**+2.3**
AGPR				IAML			14 07 05.7	
	comp=Z,581nm,0.2s							
LSP	**Las Mesas**	**1.65**	**100**			**Pn**	**14 06 39.6**	**+0.5**
LSP						**Sn**	**14 07 02.2**	**+1.0**
LSP	**Las Mesas**	**1.65**	**100**	⇑*e*P		**Pn**	**14 06 39.6**	**+0.5**
LSP	**Las Mesas**	**1.65**	**100**	*e*S		**Sn**	**14 07 02.2**	**+1.0**
CRPR	**Cabo Rojo, PR**	**1.66**	**106**			**Pn**	**14 06 39.0**	**-0.2**
CRPR						**Sn**	**14 07 02.4**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.66**	**106**	⇓*e*P		**Pn**	**14 06 39.0**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.66**	**106**	*e*S		**Sn**	**14 07 02.4**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.66**	**106**	*i* P		**Pn**	**14 06 39.0**	**-0.2**
CRPR				*e*S		**Sn**	**14 07 00.1**	**-1.4**
CRPR				IAML			14 07 09.7	
	comp=Z,264nm,0.6s							
MLPR	**Magueyes Islan**	**1.73**	**106**	⇑*e*P		**Pn**	**14 06 39.5**	**-0.6**
MLPR	**Magueyes Islan**	**1.73**	**106**	*e*S		**Sn**	**14 07 02.1**	**-0.8**
MLPR	**Magueyes Islan**	**1.73**	**106**	⇑*e*Pg		**Pn**	**14 06 39.5**	**-0.6**
MLPR				⇑*e*Sg		**Sn**	**14 07 02.1**	**-0.8**
MLPR				IAML			14 07 09.7	
	comp=N,71nm,0.2s							
ABDR	**Alto Bandera**	**1.77**	**282**	⇑*e*Pg		**Pn**	**14 06 41.8**	**+0.8**
ABDR				IAML			14 07 12.4	
	comp=N,532nm,0.3s							
GBPR	**Guanica, Bosqu**	**1.88**	**105**			**Pn**	**14 06 41.9**	**0.0**
GBPR	**Guanica, Bosqu**	**1.88**	**105**	⇓*e*P		**Pn**	**14 06 41.9**	**0.0**
AOPR	**Arecibo Observ**	**1.94**	**93**			**Pn**	**14 06 43.3**	**+0.7**
AOPR						**Sn**	**14 07 08.4**	**+0.8**
AOPR	**Arecibo Observ**	**1.94**	**93**	⇓*e*P		**Pn**	**14 06 43.3**	**+0.7**
AOPR	**Arecibo Observ**	**1.94**	**93**	*e*S		**Sn**	**14 07 08.4**	**+0.8**
AOPR	**Arecibo Observ**	**1.94**	**93**	⇓*e*Pg		**Pn**	**14 06 43.3**	**+0.7**
AOPR				⇑*e*Sg		**Sn**	**14 07

comp=N,214nm,0.2s
HUMP **Col San Antoni** 2.81 96 eP Pn **14 06 54.4 +0.6**
HUMP **Col San Antoni** 2.81 96 eS Sn **14 07 26.6 -1.0**
GRTK **Grand Turk** 3.75 324 i P Pn **14 07 03.8 -2.3**
GRTK eS Sn **14 07 45.6 -4.0**
GRTK IAML 14 07 45.7
comp=Z,68nm,1.1s
BAUV **El Baul** 9.49 175 Pn **14 08 25.4 +1.6**
RUSC **La Rusia** 13.18 199 Pn Pn **14 09 10.6 -2.8**

JMA ***13*** *14:14:53.5±0.4,27°N±2″×12°7E±″, h136km±4km, MV3.2/17, NW OFF OKINAWAJIMA IS*
ISC 13 14:14:51.0±1.6, 27.0N±0.1″×126.50E±0.07, h162km±13km, n22, σ1°20/29, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.71**	**159**	eP	**Pn**	**14 15 15.2**	**+0.3**
JAGN	**Aguni-jima**	**0.77**	**121**	P	**Pn**	**14 15 15.6**	**+0.4**
JAGN				S	**Sn**	**14 15 32.9**	**-0.9**
JIH	**Iheya**	**1.31**	**88**	P	**Pn**	**14 15 20.5**	**+0.9**
JIH				eS	**Sn**	**14 15 40.5**	**-1.1**
JJT3	**Tamagusuku3**	**1.42**	**126**	P	**Pn**	**14 15 22.5**	**+1.8**
JJT3				eS	**Sn**	**14 15 43.6**	**+0.1**
JNTH	**Nagotoyohara**	**1.44**	**109**	P	**Pn**	**14 15 22.0**	**+1.1**
JNTH				eS	**Sn**	**14 15 42.4**	**-1.4**
JOW	**Kunigami**	**1.59**	**95**	P	**Pn**	**14 15 23.5**	**+1.1**
JOW	**Kunigami**	**1.59**	**95**	P	**Pn**	**14 15 23.4**	**+1.0**
JOW				eS	**Sn**	**14 15 45.3**	**-1.3**
JYRO	**Yoronjima**	**1.74**	**88**	P	**Pn**	**14 15 25.0**	**+1.0**
JYRO				eS	**Sn**	**14 15 48.9**	**-0.4**
JOKE	**Okinoerabujima**	**1.88**	**78**	P	**Pn**	**14 15 26.2**	**+0.7**
JOKE				eS	**Sn**	**14 15 51.6**	**-0.6**
JTK	**Tokunoshima**	**2.32**	**69**	P	**Pn**	**14 15 31.1**	**+0.6**
JAMN	**Amaminishikomi**	**2.68**	**62**	P	**Pn**	**14 15 35.2**	**+0.4**
JAM	**Amami Oshima**	**3.10**	**62**	P	**Pn**	**14 15 40.4**	**+0.4**
JISG	**Ishigakijimahi**	**3.10**	**220**	eP	**Pn**	**14 15 40.8**	**+0.7**
YOJ	**Yonaguni jima**	**4.03**	**232**	P	**Pn**	**14 15 51.4**	**-0.6**
JMZ	**Minamidaito 2**	**4.39**	**104**	P	**Pn**	**14 15 57.1**	**+0.5**
JMZ	**Minamidaito 2**	**4.39**	**104**	S	**Sn**	**14 16 46.1**	**-1.8**
JMZ	**Minamidaito 2**	**4.39**	**104**	eP	**Pn**	**14 15 57.2**	**+0.5**
JKDJ	**Kitadaitoujima**	**4.42**	**102**	eP	**Pn**	**14 15 58.2**	**+1.2**
YHNB	**Yeheng**	**5.16**	**245**	P	**Pn**	**14 16 10.0**	**+3.1**
NACB	**Ninganchiao**	**5.24**	**239**	P	**Pn**	**14 16 07.9**	**+0.1**
YULB	**Yu-li**	**5.92**	**234**	P	**Pn**	**14 16 16.0**	**-0.8**
SSLB	**Suanglung**	**5.94**	**239**	P	**Pn**	**14 16 19.0**	**+1.9**

NEIC ***13*** *14:20:20.2±2.1, 1.6N±0.1×90.86W±0.09, h10km±2km, mb4.3/6, Error ellipse: s-maj=20.5km s-min=14.0km az=332.0*
IDC ***13*** *14:20:25.7±1.3, 1.2N×90.75W, h0km, mb3.6/8, mbtmp3.6/9, ML3.4/1, MS3.8/23, Error ellipse: s-maj=72.6km s-min=20.1km az=56.0*
IGQ ***13*** *14:20:26.7±1.3, 1.1N±12″×9.1W±1.5, h13km±17km, MLv3.5/5*
GCMT ***13*** *14:20:33.2±0.5, 1.40N±0.02×90.62W±0.03, h16km±1km, MW4.8/73, Moment Tensor Solution. s13,c14; s73,c96; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.52±.10; Mθθ0.76±.08; Mφφ-0.24±.08; Mrθ-0.72±.27; Mrφ-1.60±.07; Mθφ0.43±.23; Best double couple: M₀1.80900×10¹⁶ NP1:φs353.00000°,δ73.00000°,λ8.00000°. NP2: φs261.00000°,δ83.00000°,λ163.00000°. Principal axes: T 2.1930, Plg17.0000°, Azm216.0000°; N -0.7680, Plg72.0000°, Azm58.0000°; P -1.4250, Plg6.0000°, Azm308.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 14:20:25.9±0.7, 1.08N±0.06×90.85W±0.08, h10km, n52, σ3°02/22, mb3.8/10, MS3.8/21, 1D, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FER2	**Fernandina2, P**	**1.63**	**200**	P	**Pb**	**14 20 56.9**	**+0.8**
FER1	**Fernandina1, P**	**1.67**	**201**	⇓P	**Pn**	**14 20 53.0**	**-2.1**
FER1				S	**Sn**	**14 21 12.8**	**-3.7**
PAYG	**Puerto Ayora**	**1.83**	**162**		**Pn**	**14 20 58.7**	**+1.3**
PAYG				Sn	**Sg**	**14 21 28.4**	**+3.8**
VCH1	**Volcn Chico**	**1.86**	**188**	P	**Pn**	**14 20 59.1**	**+1.1**
ALCE	**Alcedo, Punta**	**1.88**	**217**	P	Pn	14 20 52.7	-5.5
ALCE				S	**Sn**	**14 21 15.0**	**-7.0**
CEAZ	**Cerra Azul, Ca**	**1.95**	**197**	P	**Pn**	**14 20 59.9**	**+0.8**
CEAZ				S	**Sn**	**14 21 25.2**	**+1.4**
JTS	**Las Juntas de**	**10.87**	**32**	LR	LR	14 26 07.2	
	comp=Z,1μm,20.0s,baz=216,slow=32						
COHC	**Cochancay**	**12.11**	**107**		**Pn**	**14 23 16.4**	**-2.3**
CRIN	**San Cristobal**	**12.15**	**18**	Pn	Pn	14 23 06.1	-13
ATAH	**Atahualpa**	**14.86**	**123**	Pn	**Pn**	**14 23 58.5**	**+1.9**
	0.2nm,0.3s,baz=143,slow=24,SNR=1.4						
ATAH				LR	LR	14 28 37.3	
	comp=Z,728nm,21.9s,baz=319,slow=33 1.0nm,0.4s						
FLOC	**Florencia**	**15.20**	**88**	Pn	Pn	14 23 53.9	-7.0
ROSC	**El Rosal**	**16.92**	**77**	LR	LR	14 29 48.1	
	comp=Z,432nm,21.8s,baz=258,slow=33						
RUSC	**La Rusia**	**18.36**	**74**	P	**Pn**	**14 24 34.7**	**-6.6**
RUSC				IAmb	IAmb	14 24 43.4	
	comp=Z,26nm,1.2s						
NNA	**Nana**	**19.03**	**133**	P	**P**	**14 24 46.4**	**-1.8**
NNA				IAmb	IAmb	14 24 51.7	
	comp=Z,21nm,1.1s						
SDV	**Santo Domingo**	**21.57**	**68**	LR	LR	14 32 32.4	
	comp=Z,262nm,21.6s,baz=266,slow=34						
BAUV	**El Baul**	**24.01**	**70**	P	P	14 25 31.1	-10
BAUV				IAmb	IAmb	14 25 58.9	
	comp=Z,10nm,1.1s						
H06E1	**SOCORRO T-PHAS** SNR=10.0	**26.41**	**313**	T	T	14 53 34.7	
LPAZ	**La Paz**	**28.30**	**129**	P	**P**	**14 26 16.8**	**-3.8**
LPAZ	**La Paz**	**28.30**	**129**	P	**P**	**14 26 21.3**	**+0.7**
	comp=Z,3.3nm,1.1s,baz=297,slow=5.5,SNR=2.9 comp=Z,3.3nm,1.1s						
SJG	**San Juan**	**29.58**	**54**	LR	LR	14 36 12.7	
	comp=Z,243nm,22.0s,baz=208,slow=32						
LPIG	**La Paz**	**29.65**	**322**	LR	LR	14 35 42.5	
	comp=Z,23nm,19.6s,baz=168,slow=31						
BOAV	**Boa Vista**	**30.34**	**87**	P	P	14 26 29.7	-8.3
BOAV				IAmb	IAmb	14 26 48.9	
	comp=Z,4.1nm,1.1s						
TXAR	**Lajitas Array**	**30.64**	**338**	P	**P**	**14 26 41.8**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=151,slow=4.8,SNR=2.7 comp=Z,0.1nm,0.3s						
SIV	**San Ignacio**	**33.95**	**121**	LR	LR	14 40 33.1	
	comp=Z,176nm,20.1s,baz=292,slow=36						
TKL	**Tuckaleechee C**	**35.03**	**10**	LR	LR	14 40 34.1	
	comp=Z,83nm,21.2s,baz=186,slow=35						
ANMO	**Albuquerque**	**36.71**	**338**	LR	LR	14 41 44.3	
	comp=Z,142nm,19.1s,baz=248,slow=35						
PFO	**Pinyon Flats O**	**40.30**	**326**	LR	LR	14 41 55.4	
	comp=Z,82nm,18.6s,baz=160,slow=32						
CPUP	**Villa Florida**	**42.28**	**133**	LR	LR	14 46 42.4	
	comp=Z,27nm,20.5s,baz=188,slow=37						
SADO	**Sadowa**	**44.73**	**12**	LR	LR	14 48 38.9	
	comp=Z,81nm,18.3s,baz=223,slow=38						
PDAR	**Pinedale Array**	**44.77**	**340**	P	**P**	**14 28 41.1**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=147,slow=8.1,SNR=2.3						
PDAR				LR	LR	14 46 52.7	
	comp=Z,65nm,19.4s,baz=149,slow=36 comp=Z,0.2nm,0.5s						
NVAR	**Mina Array Bea**	**44.90**	**329**	P	**P**	**14 28 43.2**	**+2.1**
	comp=Z,0.7nm,0.7s,baz=133,slow=6.3,SNR=4.4 comp=Z,0.7nm,0.7s						
ELK	**Elko**	**45.25**	**334**	LR	LR	14 46 30.7	
	comp=Z,100nm,18.9s,baz=153,slow=35						
BDFB	**Brasilia**	**45.46**	**113**	LR	LR	14 48 19.3	
	comp=Z,137nm,18.1s,baz=305,slow=37						
PLCA	**Paso Flores**	**45.53**	**158**	P	**P**	**14 28 47.2**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=327,slow=8.9,SNR=3.3 comp=Z,1.8nm,0.8s						
YBH	**Yreka Blue Hor**	**49.61**	**329**	LR	LR	14 47 54.4	
	comp=Z,4.6nm,19.0s,baz=143,slow=33						
NEW	**Newport**	**52.20**	**338**	LR	LR	14 51 40.3	
	comp=Z,87nm,18.6s,baz=154,slow=36						
SCHQ	**Schefferville**	**57.07**	**16**	LR	LR	14 55 48.0	
	comp=Z,91nm,18.0s,baz=228,slow=37						
PPT	**Papeete**	**60.69**	**249**	LR	LR	14 49 50.0	
	comp=Z,101nm,20.9s,baz=80,slow=29						
YKA	**Yellowknife Ar**	**63.81**	**348**	P	**P**	**14 31 00.2**	**+2.2**
	comp=Z,0.4nm,0.8s,baz=144,slow=6.0,SNR=2.1 comp=Z,0.4nm,0.8s						
FRB	**Frobisher Bay**	**64.65**	**11**	LR	LR	14 58 28.3	
	comp=Z,89nm,18.9s,baz=200,slow=35						
RAR	**Rarotonga**	**70.81**	**247**	LR	LR	14 54 29.7	
	comp=Z,106nm,18.1s,baz=114,slow=29						
SFJD	**Kangerlussuaq**	**71.51**	**16**	LR	LR	15 01 11.1	
	comp=Z,67nm,21.5s,baz=228,slow=34						
RES	**Resolute Bay**	**73.56**	**359**	LR	LR	15 06 13.2	
	comp=Z,55nm,18.1s,baz=72,slow=37						
ILAR	**Eielson Array**	**75.15**	**338**	P	**P**	**14 32 08.5**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=133,slow=6.6,SNR=5.5 comp=Z,0.4nm,0.8s						
ESDC	**Sonseca Array**	**86.92**	**51**	P	**P**	**14 33 12.1**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=283,slow=4.0,SNR=4.5 comp=Z,0.8nm,0.9s						
NOA	**NORSAR Array B**	**94.90**	**29**	LR	LR	15 13 03.2	
	comp=Z,25nm,20.8s,baz=170,slow=33						
H11N3	**WAKE ISLAND Hyd** baz=85,slow=75,SNR=6.2	**01.16**	**290**	T	T	16 27 07.0	
H11N2	**WAKE ISLAND Hyd** baz=85,slow=75,SNR=4.2	**01.17**	**290**	T	T	16 27 05.8	
H11N1	**WAKE ISLAND Hyd** baz=85,slow=75,SNR=5.7	**01.17**	**290**	T	T	16 27 08.1	
H11S2	**WAKE ISLAND Hyd** baz=85,slow=74,SNR=41	**01.46**	**289**	T	T	16 27 29.6	
H11S1	**WAKE ISLAND Hyd** baz=85,slow=74,SNR=15	**01.46**	**289**	T	T	16 27 32.7	
H11S3	**WAKE ISLAND Hyd** baz=85,slow=74,SNR=26	**01.47**	**289**	T	T	16 27 30.7	

NEIC ***13*** *14:34:41.1±1.2, 35.910N±0.004×117.66W±0.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.5km az=112.0*
PAS 13 14:34:41.5±1.2, 35.92N±0.01×117.68W±0.02, h1km±1km, ML3.1/23, ML3.0/90(NEIC), Error ellipse: s-maj=2.1km s-min=2.0km az=81.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WVPM	**Volcano Peak E**	**0.12**	**286**		Pg	14 34 44.2	+0.4
JRC2	**Joshua Ridge**	**0.13**	**301**		Pg	14 34 44.3	+0.4
TOW	**Tower One**	**0.13**	**213**		Pg	14 34 44.7	+0.7
WRVM	**Rose V. Centra**	**0.20**	**298**		Pg	14 34 45.6	+0.3
WNMM	**Nine Mile Cany**	**0.20**	**248**		Pg	14 34 45.7	+0.4
MPMC	**Manual Prospec**	**0.21**	**47**		Pg	14 34 45.8	+0.3
MPMC					IAML	14 34 49.2	
	comp=E,3μm,0.6s						
MPMC					IAML	14 34 50.7	
	comp=N,6μm,0.7s						
SRTC	**Snort**	**0.23**	**195**		Pg	14 34 46.6	+0.7
MFS	**McCloud Flat S**	**0.25**	**324**		Pg	14 34 46.5	+0.2
MFS					Sg	14 34 50.5	+1.1
WSHM	**Spangler Hills**	**0.35**	**155**		Pg	14 34 48.3	+0.1
WSHM					IAML	14 34 54.1	
	comp=N,2μm,0.3s						
WSHM					IAML	14 34 54.5	
	comp=N,2μm,0.2s						
LRMC	**Laurel Mtn Rad**	**0.44**	**181**		Pg	14 34 50.0	+0.2
LRMC					IAML	14 34 57.8	
	comp=N,1μm,0.2s						
LRMC					IAML	14 34 58.3	
	comp=E,1μm,0.4s						
CCCA	**Chr Cany lake**	**0.47**	**147**		Pg	14 34 50.9	+0.5
CCCA					IAML	14 35 00.2	
	comp=E,2μm,0.3s						
QSM	**Queen of Sheba**	**0.66**	**86**		Pg	14 34 54.0	-0.1
QSM					IAML	14 35 09.1	
	comp=N,1μm,0.5s						
ISA	**Isabella, Lake**	**0.70**	**249**		Pg	14 34 54.6	-0.2
ISA					IAML	14 35 05.0	
	comp=N,470nm,0.4s						
ISA					IAML	14 35 09.8	
	comp=E,674nm,0.4s						
GWY	**Greenwater Val**	**0.86**	**72**		Pg	14 34 58.0	0.0
GWY					IAML	14 35 10.3	
	comp=N,646nm,0.4s						
SPG2	**Springville 2**	**0.93**	**288**		Pg	14 34 58.7	-0.6
GSC	**Goldstone, Bar**	**0.94**	**131**		IAML	14 35 14.9	
	comp=N,695nm,0.9s						
GRAC	**Grapevine Rang**	**1.10**	**13**		Pg	14 35 02.5	-0.2
GRAC					IAML	14 35 23.7	
	comp=E,435nm,0.9s						
GRAC					IAML	14 35 24.8	
	comp=N,454nm,0.8s						
TPO	**Tropico Hills**	**1.13**	**204**		Pg	14 35 02.9	-0.2
TPO					IAML	14 35 21.2	
	comp=E,351nm,0.9s						
TPO					IAML	14 35 24.0	
	comp=N,332nm,0.8s						
WCT	**Wildcat Mounta**	**1.22**	**44**		Pg	14 35 04.5	-0.3
WCT					IAML	14 35 22.2	
	comp=N,183nm,0.7s						
WCT					IAML	14 35 25.8	
	comp=E,256nm,1.0s						
GMN	**Gold Mountain**	**1.42**	**14**		Pn	14 35 07.9	-0.8
VOG	**Valley Oaks Go**	**1.44**	**287**		Pn	14 35 08.3	-0.4
DSP	**Deep Springs**	**1.47**	**351**		Pn	14 35 08.8	-0.3
DSP					IAML	14 35 30.5	
	comp=E,162nm,0.8s						
TPNV	**Topopah Spring**	**1.54**	**48**		Pn	14 35 09.6	-0.8
TPNV					IAML	14 35 34.4	
	comp=E,256nm,0.8s						
TPNV					IAML	14 35 35.4	
	comp=E,303nm,1.0s						
MTUM	**Tungsten Hills**	**1.60**	**334**		Pb	14 35 11.8	-0.2
MWC	**Mount Wilson**	**1.72**	**191**		Pn	14 35 12.7	0.0
MWC					IAML	14 35 38.7	
	comp=N,119nm,0.6s						
MWC					IAML	14 35 45.3	
	comp=E,105nm,1.0s						
MTPC	**Mountain Pass**	**1.78**	**103**		Pn	14 35 12.2	-1.3
MTPC					IAML	14 35 40.6	
	comp=E,141nm,0.7s						
MZP	**Montezuma Peak**	**1.80**	**7**		Pn	14 35 13.7	-0.2
CRGC	**Crocker Grade**	**1.80**	**249**		Pb	14 35 15.0	-0.4
SHPR	**Sheep Range**	**2.12**	**73**		Pn	14 35 17.9	-0.4
TPH	**Tonopah**	**2.18**	**9**		Pn	14 35 19.0	-0.2
TPH					IAML	14 36 03.6	
	comp=E,149nm,0.8s						
TSCN	**Private Proper**	**2.21**	**261**		Pb	14 35 20.9	-1.3
ELS	**Elsinore Mount**	**2.27**	**175**		Pn	14 35 19.5	-0.7
V12A	**Nelson**	**2.30**	**94**		Pn	14 35 19.6	-1.1
V12A					IAML	14 36 01.7	
	comp=N,81nm,1.3s						
V12A					IAML	14 36 04.9	
	comp=E,53nm,0.8s						
PMD	**Palm Desert**	**2.50**	**154**		Pn	14 35 22.1	-1.3
PFO	**Pinyon Flats O**	**2.51**	**156**		Pn	14 35 22.6	-0.9
PRN	**Pahroc Range**	**2.58**	**54**		Pn	14 35 24.3	-0.3
PRN					IAML	14 36 12.8	
	comp=N,97nm,0.8s						
R11B	**Troy Canyon, C**	**2.95**	**34**		Pn	14 35 29.0	-0.6
DPP	**Dos Picos Cty**	**2.97**	**168**		Pn	14 35 29.0	-0.8
W13A	**Hualapai Mount**	**3.20**	**104**	Pn	Pn	14 35 31.8	-1.3
W13A					IAML	14 36 27.7	
	comp=E,32nm,0.8s						
W13A					IAML	14 36 30.2	
	comp=N,31nm,0.9s						
SZCU	**Shurtz Canyon**	**4.05**	**64**		IAML	14 37 07.8	
	comp=N,17nm,1.8s						
KNB	**Kanab**	**4.06**	**73**		IAML	14 37 03.5	
	comp=N,16nm,0.9s						
KNB					IAML	14 37 17.0	
	comp=E,14nm,1.7s						
Y14A	**Wickenburg**	**4.32**	**116**		IAML	14 37 03.9	
	comp=E,18nm,1.0s						

VAO ***13*** *14:39:29.5±1.4, 15.07S×73.76W, h54km±9km, mb4.3*
IDC ***13*** *14:39:39.3±0.6, 15.015S×73.45W, h109km±5km, mb3.7/6, mbtmp4.1/9, Error ellipse: s-maj=23.2km s-min=11.0km az=49.0*
ISC 13 14:39:38.3±0.5, 14.78S±0.09×73.17W±0.07, h101km, n34, σ1°47/43, mb4.0/7, 3C, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.53**	**307**	P	**Pn**	**14 40 43.2**	**-1.5**
	63nm,0.6s,baz=158,slow=10.0,SNR=4.6						
NNA				S	**Sn**	**14 41 34.8**	**-1.5**
	214nm,0.3s,baz=216,slow=16,SNR=11						
LPAZ	**La Paz**	**5.08**	**108**	P	**Pn**	**14 40 56.0**	**+3.3**
	14nm,0.3s,baz=290,slow=7.7,SNR=42						
LPAZ	**La Paz**	**5.08**	**108**	eP	**Pn**	**14 40 50.8**	**-1.9**
CZSB	**Cruzeiro do Su**	**7.02**	**4**	eP	**Pn**	**14 41 13.9**	**-4.6**
ATAH	**Atahualpa**	**9.16**	**325**	P	**Pn**	**14 41 48.5**	**+0.4**
	2.4nm,0.5s,baz=137,slow=9.4,SNR=3.7						
ATAH				S	**Sn**	**14 43 27.8**	**-1.9**
	7.4nm,0.6s,baz=159,slow=14,SNR=1.7						
SIV	**San Ignacio**	**11.72**	**97**	P	**Pn**	**14 42 21.6**	**-0.8**
	6.2nm,0.8s,baz=270,slow=12,SNR=12						
VILB	**Vilhena**	**12.72**	**83**	eP	**Pn**	**14 42 35.0**	**-0.6**
PTLB	**Pontes e Lacer**	**13.56**	**95**	eP	**Pn**	**14 42 44.9**	**-1.7**
PDRB	**Porto dos Gac**	**16.31**	**81**	eP	**P**	**14 43 23.1**	**+0.5**
BDQN	**Bodoquena, MS**	**16.63**	**112**	eP	**Pn**	**14 43 23.8**	**-1.6**
MACA	**Manacapuru-AM**	**16.87**	**48**	eP	**P**	**14 43 29.7**	**+0.9**
SALV	**Santo Antonio**	**16.89**	**96**	eP	**Pn**	**14 43 28.5**	**-0.2**
CLDB	**Colider**	**17.37**	**79**	eP	**Pn**	**14 43 35.8**	**+1.2**
NPGB	**Novo Progresso**	**19.09**	**68**	eP	**Pn**	**14 43 55.1**	**0.0**
RPRD	**Ribas do Rio P**	**19.39**	**110**	eP	**P**	**14 43 56.4**	**-0.1**
ITTB	**Itaituba**	**20.04**	**61**	eP	Pn	14 44 05.1	-1.1
FRTB	**Fartura**	**23.85**	**114**	eP	**P**	**14 44 43.0**	**+0.5**
IPMB	**Ipameri, GO**	**24.15**	**101**	eP	**P**	**14 44 45.2**	**-0.1**
PLCA	**Paso Flores**	**25.96**	**175**	P	**P**	**14 44 59.0**	**-2.5**
	2.9nm,1.0s,baz=14,slow=7.3,SNR=3.0 2.9nm,1.0s						
TXAR	**Lajitas Array**	**52.83**	**326**	P	**P**	**14 48 44.7**	**+1.0**
	0.7nm,0.8s,baz=154,slow=6.9,SNR=8.2						
TXAR				pP	**pP**	**14 49 11.2**	**+1.9**
	1.1nm,0.8s,baz=145,slow=8.0,SNR=5.5 0.7nm,0.8s						
VNA1	**Neumayer--Stat**	**67.93**	**161**	⇑P	**P**	**14 50 26.1**	**+0.3**
	comp=Z,3.9nm,0.9s						
SNAA	**Sanae**	**69.91**	**162**	⇑P	**P**	**14 50 37.8**	**-0.4**
	comp=Z,66nm,1.0s						
SNAA	**Sanae**	**69.91**	**162**	P	**P**	**14 50 37.0**	**-1.2**
	comp=Z,2.2nm,0.8s,baz=304,slow=5.6,SNR=8.1						
SNAA				pP	**pP**	**14 51 04.6**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=295,slow=6.4,SNR=2.6 comp=Z,2.2nm,0.8s						
TROLL	**Troll, Antarti**	**71.63**	**162**	⇑P	**P**	**14 50 47.5**	**-1.2**
	comp=Z,51nm,0.9s						
QSPA	**South Pole Qui**	**75.38**	**180**	P	**P**	**14 51 09.8**	**-0.9**
	comp=Z,2.7nm,0.9s,baz=346,slow=1.1,SNR=11 comp=Z,2.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**79.11**	**73**	P	**P**	**14 51 33.0**	**+0.6**
	comp=Z,2μm,0.4s,baz=277,slow=5.5,SNR=4.2						
TORD				pP	**pP**	**14 52 00.4**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=270,slow=3.8,SNR=5.5						
YKA	**Yellowknife Ar**	**83.56**	**342**	P	**P**	**14 51 55.9**	**+1.1**
	comp=Z,2.2nm,0.8s,baz=137,slow=4.7,SNR=15						
YKA				pP	**pP**	**14 52 23.4**	**+0.9**
	comp=Z,1.4nm,1.0s,baz=133,slow=4.3,SNR=3.6 comp=Z,2.2nm,0.8s						
ESDC	**Sonseca Array**	**84.03**	**47**	P	**P**	**14 51 59.6**	**+1.7**
	comp=Z,1.0nm,0.8s,baz=258,slow=5.4,SNR=6.7						
ESDC				pP	**pP**	**14 52 28.3**	**+2.6**
	comp=Z,0.8nm,0.9s,baz=271,slow=4.6,SNR=3.4 comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**136.16**	**219**	PKP	**PKPdf**	**14 58 47.5**	**-1.3**
	comp=Z,1.5nm,0.9s,baz=151,slow=1.8,SNR=6.0						
ZALV	**Zalesovo Beam**	**137.27**	**19**	PKP	**PKPdf**	**14 58 50.4**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=270,slow=3.0,SNR=6.3						
KURBB	**Kurchatov Array**	**137.55**	**27**	PKP	**PKiKP**	**14 58 51.7**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=311,slow=3.3,SNR=2.2						
MJAR	**Matsushiro Ant**	**144.62**	**314**	PKP	**PKPab**	**14 59 01.8**	**-0.5**
	comp=Z,3.1nm,1.0s,baz=96,slow=2.1,SNR=11						
SONM	**Songino Array**	**147.03**	**1**	PKPbc	**PKPab**	**14 59 10.5**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=331,slow=2.5,SNR=12						
SONM				pPKPbc	**pPKPab**	**14 59 40.2**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=276,slow=1.0,SNR=2.2						
KSRS	**Korea Array**	**150.66**	**324**	PKP	**PKPdf**	**14 59 14.3**	**+0.9**
	comp=Z,2.5nm,1.1s,baz=127,slow=3.2,SNR=4.4						
KSRS				PKPbc	**PKPbc**	**14 59 19.1**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=356,slow=1.2,SNR=5.0						
KSRS				pPKPbc	**pPKPbc**	**14 59 49.2**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=325,slow=1.6,SNR=3.1						

IDC 13 14:49:23.7±2.9, 32.84S×178.62W, h0km, mb3.6/2, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=69.8km s-min=35.7km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.43**	**212**	Pn	Pn	14 50 59.9	+0.3
	0.7nm,0.3s,baz=268,slow=4.9,SNR=18						
URZ				Sn	Sn	14 52 13.1	-0.6
	0.9nm,0.3s,baz=127,slow=24,SNR=5.9 7.3nm,0.8s						
ASAR	**Alice Springs**	**42.51**	**270**	P	P	14 57 20.9	-0.3
	0.6nm,0.8s,baz=114,slow=7.9,SNR=4.4 0.6nm,0.8s						
WRA	**Warramunga Arr**	**43.72**	**275**	P	P	14 57 31.0	+0.1
	0.6nm,0.3s,baz=115,slow=8.1,SNR=8.8 0.6nm,0.3s						
FINES	**FINESS Array B**	**147.23**	**338**	PKPbc	PKPbc	15 09 07.3	-0.9
	0.8nm,0.5s,baz=48,slow=4.1,SNR=8.1						

NEIC ***13*** *14:54:29.9±2.0, 35.62N±0.02×117.40W±0.01, h10km±2km, Error ellipse: s-maj=3.0km s-min=3.0km az=226.0*
PAS 13 14:54:30.5±1.4, 35.60N±0.02×117.42W±0.02, h9km±7km, ML3.1, ML2.9/72(NEIC), Error ellipse: s-maj=2.8km s-min=2.3km az=219.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.06**	**266**		Pg	14 54 32.4	-0.1
LRMC	**Laurel Mtn Rad**	**0.25**	**240**		Pg	14 54 35.4	-0.1
SRTC	**Snort**	**0.28**	**288**		Pg	14 54 36.3	+0.2
TOW	**

GMN	Gold Mountain	1.70	4		Pn	14 54 59.9	-0.6
DSP	Deep Springs	1.82	346		Pn	14 55 01.1	-0.9
ELS	Elsinore Mount	1.95	180		Pn	14 55 03.2	-0.6
ELS				IAML		14 55 33.2	
	comp=E,42nm,0.4s						
SHPR	Sheep Range	2.04	63		Pn	14 55 04.5	-0.7
PKM	Mcpherson Peak	2.09	251		Pb	14 55 08.5	-0.2
V12A	Nelson	2.10	86		Pn	14 55 04.4	-1.5
PFO	Pinyon Flats O	2.14	158		Pn	14 55 05.4	-1.1
PFO				IAML		14 55 40.9	
	comp=E,41nm,0.4s						
PFO				IAML		14 55 42.1	
	comp=E,44nm,1.3s						
FRD	Ford Ranch, An	2.21	162		Pb	14 55 11.3	+0.7
CTW	Cottonwood Mou	2.31	146		Pg	14 55 13.6	-1.1
NEE2	Needles Airpor	2.44	109		Pn	14 55 08.6	-1.9
NEE2				IAML		14 55 51.3	
	comp=E,103nm,0.5s						
NEE2				IAML		14 55 54.7	
	comp=N,132nm,0.6s						
SBI	Santa Barbara	2.50	213		Pb	14 55 14.9	-0.6
PRN	Pahroc Range	2.62	46		Pn	14 55 12.4	-0.7
PRN				IAML		14 56 01.7	
	comp=E,78nm,0.8s						
PRN				IAML		14 56 05.8	
	comp=N,70nm,0.5s						
LHV	Little Huntoon	2.78	342		Pg	14 55 23.6	-0.2
LHV				IAML		14 56 04.6	
	comp=E,21nm,0.9s						
NV11	Mina Array Sit	2.88	348		Pn	14 55 16.3	-0.5
NVAR	Mina Array Bea	2.91	346		Pg	14 55 25.6	-0.6
W13A	Hualapai Mount	2.93	99	Pn	Pn	14 55 16.2	-1.3
W13A				IAML		14 56 07.9	
	comp=E,16nm,0.7s						
W13A				IAML		14 56 10.8	
	comp=N,19nm,0.6s						
YUH	Yuha Desert	3.20	157		Pn	14 55 20.1	-0.8
LCMT	Little Creek M	3.65	66		Pn	14 55 27.1	-0.3
KNB	Kanab	3.97	68		Pn	14 55 31.8	0.0
KNB				IAML		14 56 42.1	
	comp=E,7.1nm,1.2s						
KNB				IAML		14 56 44.8	
	comp=N,6.4nm,1.3s						

NEIC ***13*** *15:04:42.2±2.0, 47°.90N±0°.04×122°.08W±0°.04, h30km±10km, Error ellipse: s-maj=5.5km s-min=4.3km az=188.0*

SEA 13 15:04:42.4±2.4, 47°.86N±0°.05×122°.04W±0°.04, h30km±7km, ML2.3/19, ML2.0/32(NEIC), Error ellipse: s-maj=6.9km s-min=4.3km az=181.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLH	Bald Hill	0.02	166		Pb	15 04 47.0	-0.3
BLH					Sb	15 04 50.6	-0.1
EVGW	Everett Gatewa	0.08	266		Pb	15 04 47.4	-0.1
EVGW					Sb	15 04 51.5	+0.6
LEOT	Leota Junior H	0.10	209		Pb	15 04 47.8	+0.2
LEOT					Sb	15 04 52.4	+1.2
EARN	East Ridge Ele	0.12	180		Pb	15 04 47.8	+0.1
EARN					Sb	15 04 52.4	+1.1
NIHS	Ingelmoor High	0.17	226		Pn	15 04 48.6	-0.4
LYNC	Lynnwood City	0.17	259		Pb	15 04 48.3	+0.1
LYNC					Sb	15 04 53.2	+1.1
FINN	Finn Hill Juni	0.19	223		Sb	15 04 54.6	+2.1
HTW	Haystack Looko	0.19	107		Pb	15 04 48.1	-0.4
ALCT	Alcott Element	0.21	179		Pb	15 04 48.9	+0.3
NOWS	NOAA--Sand Poi	0.23	220		Sb	15 04 55.6	+2.5
SCCW	Shoreline CC	0.24	243		Pb	15 04 49.2	+0.3
SCCW					Sb	15 04 55.3	+1.8
WISC	Wilburton Inst	0.27	200		Sb	15 04 53.8	-0.2
C05A	Tolt Reservoir	0.29	125		Pb	15 04 49.0	-0.6
C05A					Sb	15 04 54.0	-0.5
TTW	Tolt Reservoir	0.29	125		Pb	15 04 49.1	-0.6
TTW					Sb	15 04 54.1	-0.5
SWID	South Whidbey	0.29	301		Pb	15 04 49.6	-0.1
SWID					Sn	15 04 55.7	-0.2
JCW	Jim Creek	0.34	12		Pb	15 04 49.9	-0.5
JCW					Sb	15 04 55.4	-0.5
ELW	Echo Lake	0.38	163		Pb	15 04 50.6	-0.4
ELW					Sb	15 04 57.1	+0.4
B05A	Bryant	0.41	355		Pb	15 04 50.8	-0.5
B05A					Sb	15 04 57.1	-0.3
CDMR	Cedar Moraine	0.48	156		Pb	15 04 52.0	-0.5
SVOH	Skagit Valley	0.59	317		Pb	15 04 53.5	-0.7
B013	Quilcene	0.59	266		Pb	15 04 53.0	-1.2
B013					Sb	15 05 01.4	-0.8
B013	Quilcene	0.59	266		Pb	15 04 53.0	-1.2
GMW	Gold Mountain	0.59	239		Pb	15 04 53.2	-1.1
GNW	Green Mountain	0.61	241		Pb	15 04 53.3	-1.2
GNW	Green Mountain	0.61	241	IAML		15 05 02.4	
	comp=N,258nm,0.1s						
GNW				IAML		15 05 02.4	
	comp=E,212nm,0.2s						
BLN	Blyn Mountain	0.64	284		Pb	15 04 54.0	-1.2
C04A	Brinnon	0.64	258		Pb	15 04 53.8	-1.3
GPW	Glacier Peak	0.66	67		Pb	15 04 54.9	-0.7
D05A	Enumclaw	0.67	177		Pb	15 04 55.3	-0.3
D05A	Enumclaw	0.67	177	IAML		15 05 05.5	
	comp=N,92nm,0.6s						
RPW	Rockport	0.69	31		Pb	15 04 55.2	-0.7
RPW					Sb	15 05 04.6	-0.5
PAYL	Puyallup Schoo	0.69	196		Pb	15 04 54.7	-1.2
PAYL					Sn	15 05 06.4	+0.6
SQM	Sequim	0.71	288		Pb	15 04 55.5	-0.7
WRW	Wenatchee Ridg	0.78	90		Pn	15 04 56.6	-0.9
GHW	Garrison Hill	0.83	191		Pn	15 04 58.2	+0.1
D04E	Lakebay	0.84	216		Pn	15 04 58.1	-0.1
PCFR	Pierce County	0.91	198		Pn	15 04 58.5	-0.6
RVC	Mount Rainier-	0.92	177		Pn	15 04 59.0	-0.4
MBW	Mount Baker	0.93	6		Pn	15 04 59.3	-0.3
A04D	Lummi Island	0.97	333	Pn	Pn	15 04 58.9	-1.0
A04D				IAML		15 05 14.0	
	comp=E,39nm,0.8s						
A04D				IAML		15 05 16.5	
	comp=N,36nm,0.2s						
MCW	Mount Constitu	0.98	328		Pn	15 04 59.9	-0.2
B04A	Port Angeles	1.00	282	Pn	Pn	15 04 59.4	-1.0
B04A				IAML		15 05 13.1	
	comp=N,45nm,0.5s						
LTY	Liberty	1.11	122		Pn	15 05 01.6	-0.3
LTY				IAML		15 05 17.1	
	comp=N,44nm,0.4s						
LTY				IAML		15 05 17.5	
	comp=E,38nm,0.3s						
LON	Longmire	1.12	172		Pn	15 05 01.8	-0.3
LON				IAML		15 05 16.8	
	comp=N,26nm,0.1s						
NLW	Nelson Butte	1.17	79		Pb	15 05 03.4	-0.5
SNB	Saturna Island	1.19	321		Pn	15 05 03.2	+0.3
NLWA	Neilton Lookou	1.32	250		Pn	15 05 05.2	+0.3
CBSW	Chelan Butte S	1.35	92		Pb	15 05 07.0	0.0
NAC	Naches	1.40	143		Pb	15 05 07.6	-0.2
ERK	Elk Rock	1.57	188		Pn	15 05 09.1	+0.8
E03A	Lebam	1.68	219		Pn	15 05 10.9	+1.3
E03A	Lebam	1.68	219	IAML		15 05 39.1	
	comp=N,17nm,0.5s						
E03A				IAML		15 05 39.9	
	comp=E,16nm,0.5s						
CLRS	Cowichan Lake	1.69	305	IAML		15 05 31.8	
	comp=N,12nm,1.6s						
C03A	Quillayute Air	1.70	274		Pn	15 05 09.1	-0.9
RADR	Rader Ridge	1.87	220	Pn	Pn	15 05 13.1	+0.7
RADR				IAML		15 05 34.4	
	comp=E,18nm,2.6s						
RADR				IAML		15 05 38.5	
	comp=N,16nm,1.7s						
B08A	Colville Reser	1.88	74		Pn	15 05 12.5	-0.1
SHB	Sechelt	2.12	326		Pn	15 05 17.2	+1.3
HAWA	Hanford	2.25	130	Pn	Pn	15 05 16.9	-0.7
HAWA				IAML		15 05 53.4	
	comp=N,8.7nm,0.5s						
HAWA				IAML		15 05 53.4	
	comp=N,6.5nm,0.7s						
G06A	Carlson Farm,	2.80	159		Pn	15 05 23.8	-1.4
TMBU	Tom Butte, New	4.30	171		Pn	15 05 49.3	+3.3

IGQ 13 15:05:27.7±0.3, 3°S±2°×8°W±°, h29km±2km, MLv3.5/15, 3C-8D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACH2	Ecuador-Machal	0.09	30	⇓P	Pb	15 05 34.3	+1.4
ARNL	Arenillas	0.29	226	P	Pn	15 05 37.0	+0.9
ARNL				S	Sn	15 05 45.3	+3.8
PCRA	Pucara 2	0.38	69	⇓P	Pn	15 05 37.3	-0.3
PCRA				S	Sn	15 05 44.7	+0.5
ISPG	Isla Puna-Puer	0.49	320	P	Pn	15 05 39.8	+1.0
LAMO	ALAMOR	0.69	194	P	Pn	15 05 44.3	+2.7
MORR	Playas El Morr	0.85	325	⇓P	Pn	15 05 43.6	-0.1
ACUE	Ecuador-Cuenca	0.99	64	P	Pn	15 05 45.6	-0.3
ACUE				S	Sb	15 05 59.9	+0.5
GONZ	Gonzanam	1.00	153	S	Sn	15 05 59.5	0.0
GONZ				P	Pn	15 05 45.7	-0.4
AMCR	Ecuador-Macara	1.02	186	P	Pn	15 05 45.9	-0.3
MCRA	Macar, Loja	1.02	186	S	Sb	15 06 00.0	-0.1
MCRA				⇑P	Pn	15 05 45.7	-0.5
COHC	Cochancay	1.06	35	P	Pn	15 05 45.6	-0.9
COHC				S	Sn	15 05 59.9	-0.4
MILO	Milagro-Astudi	1.10	16	⇑P	Pn	15 05 47.5	+0.4
AZOG	Ecuador-Azogue	1.16	60	⇓P	Pn	15 05 47.8	-0.5
AC07	Ecuador-Guayaq	1.19	354	⇓P	Pn	15 05 47.7	-0.7
AC07				S	Sn	15 06 03.3	-0.3
AGUAY	Guayaquil	1.28	356	P	Pn	15 05 48.5	-1.2
BOSC	San Juan Bosco	1.37	82	⇓P	Pn	15 05 51.1	+0.1
BOSC				S	Sn	15 06 09.0	+0.7
ZUMB	Zumba	1.67	155	P	Pn	15 05 56.0	+0.9
PPLP	Puerto Lpez	2.01	333	P	Pn	15 05 59.0	-0.7
CHSH	Refugio Sur-Vo	2.08	28	P	Pn	15 06 00.6	-0.6
TAMH	Tambohuasha Ch	2.08	31	P	Pn	15 06 00.8	-0.3
PORT	Chimborazo Vol	2.16	30	P	Pn	15 06 01.8	-0.4
BPAT	Tungurahua Vol	2.31	38	P	Pn	15 06 04.6	+0.3
BBIL	Ulba Tungurahu	2.32	36	P	Pn	15 06 04.7	+0.4
JUI6	Juive	2.35	36	P	Pn	15 06 06.0	+1.3
ISPT	Isla de la Pla	2.40	329	⇓P	Pn	15 06 04.2	-0.8
BRRN	Barrancas-Volc	2.89	28	P	Pn	15 06 12.9	+0.6
BTAM	Cotopaxi Volca	3.02	29	⇓P	Pn	15 06 16.7	+2.6
PITA	Cotopaxi Volc	3.11	27	P	Pn	15 06 18.8	+3.6
GGPT	Toaza - Volcan	3.33	22	⇑P	Pn	15 06 18.7	+0.4
JUA2	San Juan 2	3.35	22	P	Pn	15 06 19.6	+1.0
TERV	Terraza Guagua	3.39	22	P	Pn	15 06 19.7	+0.6
PINO	Pino	3.40	22	P	Pn	15 06 20.2	+0.9
YANA	Yana	3.45	22	P	Pn	15 06 20.9	+0.9
PAC1	Pacto, Paraso	3.74	17	P	Pn	15 06 23.3	-0.3

IDC ***13*** *15:08:39.0±0.5, 38°.81N×21°.18E, h0km, mb4.3/25, mbtmp4.3/40, ML4.3/13, MS3.8/49, Error ellipse: s-maj=11.2km s-min=10.5km az=11.0*

MOS ***13*** *15:08:39.6±1.2, 38°.74N×21°.04E, h15km, mb4.8/19, Error ellipse: s-maj=5.7km s-min=3.2km az=74.4*

NEIC ***13*** *15:08:41.0±2.5, 38°.82N±0°.05×21°.22E±0°.07, h10km±1km, mb4.7/48, Error ellipse: s-maj=9.7km s-min=7.8km az=240.0*

SKO ***13*** *15:08:42.9, 38°.84N×21°.23E, h0km, ML4.7*

MED_RC ***13*** *15:08:42.0±0.5, 38°.90N×21°.22E, h29km±1km, MW4.7/27, Moment Tensor Solution. Mantle waves: s27,c31; Duration: 1s1 Moment tensor: Scale 10^16 Nm; Mrr0.37±.16; Mθθ0.95±.12; Mϕϕ-1.32±.10; Mrθ0.10±.11; Mθϕ0.90±.09; Mϕr0.07±.12; Best double couple: M=1.45000×10^16 NP1:ϕs116.00000°, δ84.00000°, λ4.00000°. NP2:ϕs26.00000°, δ86.00000°, λ174.00000°. Principal axes: T 1.2700, Plg7.0000°, Azm341.0000°; N 0.3600, Plg83.0000°, Azm168.0000°; P -1.6300, Plg1.0000°, Azm71.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=40s.*

BEO ***13*** *15:08:43.0±0.5, 38°.56N×21°.00E, h40km±4km, ML4.5/8*

ATH ***13*** *15:08:43.3, 38°.84N×21°.23E, h28km, Mw4.6, Moment Tensor Solution. s10 Moment tensor: Mrr0.90; Mθθ5.83; Mϕϕ-6.72; Mrθ1.24; Mθϕ5.93; Mϕr0.91; Fault plane solution: NP1:ϕs23.00000°, δ84.00000°, λ170.00000°. NP2:ϕs114.00000°, δ81.00000°, λ6.00000°.*

UPSL ***13*** *15:08:43.3, 38°.84N×21°.23E, h28km, Mw4.5, Moment Tensor Solution. s7 Moment tensor: Mrr-0.10; Mθθ5.32; Mϕϕ-5.21; Mrθ0.38; Mθϕ4.98; Mϕr1.49; Fault plane solution: NP1:ϕs204.00000°, δ88.00000°, λ-168.00000°. NP2: ϕs113.00000°, δ78.00000°, λ-2.00000°.*

THE ***13*** *15:08:43.7, 39°N±1°×21°.2E±0°.6, h19km±1km, M4.7/22, MLh4.7/22*

HLW ***13*** *15:08:43.8, 38°.74N×21°.31E, h32km±32km, Ml4.6*

MCSM ***13*** *15:08:43.8±0.4, 39°N±4°×2°1E±°, h10km±3km, mb4.7, mB5.0, MLv5.1, Mw(mB)4.3*

PDG ***13*** *15:08:44.5±0.8, 38°.81N×21°.14E, h28km±1km, MD4.8/3, ML4.7/9, Error ellipse: s-maj=0.8km s-min=0.9km az=0.0*

AFAD ***13*** *15:08:44.8, 39°.00N×21°.31E, h8km±3km, MW4.5*

NAO ***13*** *15:08:45.9, 39°.24N×20°.68E, h10km, mb4.4*

GII ***13*** *15:08:47.5±0.0, 37°.119N±0°.001×20°.857E±0°.001, h20km, Md4.6/2, confirmed*

ISC 13 15:08:42.0±0.6, 38°.82N±0°.01×21°.23E±0°.01, h17km±3km, n825, σ2§29/888, mb4.6/93, MS3.9/47, 57C-39D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMPL	Ampelaki	0.10	352	P	Pb	15 08 47.6	+1.9
AMPL				S	Sg	15 08 50.9	+3.0
PVO	Paravola	0.31	131	S	Sb	15 08 56.3	+2.5
PVO	Paravola	0.31	131	P	Pb	15 08 50.4	+1.4
PVO				S	Sb	15 08 55.3	+1.5
ARTB	Arta	0.39	330	P	Pn	15 08 51.8	-1.1
ARTB				S	Sb	15 08 57.2	+0.9
NYDR	Nydri-Lefkada	0.43	256	P	Pn	15 08 52.3	-1.1
NYDR				S	Sb	15 08 59.9	+2.6
NYDR	Nydri-Lefkada	0.43	256	P	Pn	15 08 52.3	-1.1
NYDR				S	Sb	15 08 58.3	+1.0
LKD2	Lefkada island	0.45	266	P	Pn	15 08 52.9	-0.9
LKD2				S	Sb	15 09 00.3	+2.3
LKD2	Lefkada island	0.45	266	P	Pn	15 08 52.9	-0.9
LKD2				S	Sb	15 09 00.3	+2.3
TSLK	Tsoukalades, L	0.45	271	P	Pn	15 08 52.9	-0.8
TSLK				S	Sb	15 08 59.7	+1.8
TSLK	Tsoukalades, L	0.45	271	P	Pn	15 08 52.9	-0.8
TSLK				S	Sb	15 08 59.8	+1.8
EVR	Evrytania	0.46	78	P	Pn	15 08 53.5	-0.5
EVR				S	Sb	15 08 59.9	+1.5
EVR	Evrytania	0.46	78	P	Pn	15 08 53.7	-0.3
EVR				S	Sb	15 08 59.9	+1.5
EVGI	Lefkada island	0.49	246	P	Pn	15 08 53.3	-1.0
EVGI				S	Sb	15 09 01.8	+2.7
EVGI	Lefkada island	0.49	246	P	Pn	15 08 53.6	-0.7
EVGI				S	Sb	15 09 01.6	+2.5
TETR	Tetrakomo, Epi	0.53	4	P	Pb	15 08 53.4	+0.6
TETR				S	Sb	15 09 00.8	+0.5
TETR	Tetrakomo, Epi	0.53	4	P	Pb	15 08 53.7	+0.8
TETR				S	Sb	15 09 00.8	+0.5
ANX	Ano Chora	0.58	112	P	Pb	15 08 54.6	+0.7
ANX				S	Sb	15 09 04.1	+2.2
ANX	Ano Chora	0.58	112	P	Pb	15 08 54.8	+0.9
ANX				S	Sb	15 09 04.2	+2.2
AXS	Araxos	0.63	170	P	Pn	15 08 56.0	-0.2
AXS				S	Sn	15 09 05.7	-0.2
FSK	Fiskardo	0.64	236	P	Pn	15 08 56.0	-0.2
FSK				S	Sn	15 09 05.0	-1.0
EFP	Efpalio	0.66	126	P	Pb	15 08 55.6	+0.5
EFP				S	Sb	15 09 05.3	+1.4
EFP	Efpalio	0.66	126	P	Pb	15 08 56.0	+1.0
EFP				S	Sb	15 09 05.2	+1.3
PATC	Patra C	0.69	143	P	Pn	15 08 57.2	+0.2
PATC				S	Sn	15 09 07.0	-0.3
UPR	University Cam	0.69	141	P	Pn	15 08 57.0	-0.1
UPR				S	Sn	15 09 07.0	-0.3
UPR	University Cam	0.69	141	P	Pn	15 08 56.9	-0.1
UPR				S	Sb	15 09 06.2	+1.4
PATG	Patra B	0.70	146	P	Pn	15 08 57.8	+0.7
PATG				S	Sn	15 09 07.1	-0.4
MAKR	Makrakomi, Fth	0.73	74	P	Pn	15 08 57.5	-0.1
MAKR				S	Sn	15 09 08.6	+0.2
MAKR	Makrakomi, Fth	0.73	74	P	Pn	15 08 57.5	-0.1
MAKR				S	Sn	15 09 08.1	-0.3
SMHA	Samh	0.73	219	P	Pb	15 08 56.7	+0.4
SMHA				S	Sn	15 09 08.3	0.0
RLS	Riolos of Patr	0.78	166	P	Pn	15 08 58.5	+0.2
RLS	Riolos of Patr	0.78	166	P	Pn	15 08 58.5	+0.2
RLS				S	Sn	15 09 10.4	+0.8
PRGA	Parga	0.80	306	P	Pn	15 08 58.5	0.0
VLS	Valsamata	0.81	218	P	Pn	15 08 58.5	-0.3
VLS				S	Sn	15 09 12.0	+1.6
VLS	Valsamata	0.81	218	P	Pn	15 08 58.6	-0.1
VLS				S	Sn	15 09 10.8	+0.3
RTZL	Ratzakli, Kefa	0.82	206	P	Pn	15 08 59.1	+0.3
RTZL				S	Sn	15 09 13.0	+2.3
KALE	Kalithea	0.83	121	P	Pn	15 08 59.0	0.0
TRKA	Trikala	0.84	29	P	Pn	15 08 59.0	-0.1
TRKA				S	Sb	15 09 10.7	+1.4
SOFA	Sofades	0.85	52	P	Pn	15 08 59.7	+0.5
PSDA	Pessada-Kefalo	0.87	216	P	Pn	15 08 59.4	0.0
PSDA				S	Sn	15 09 13.0	+1.3
PSDA	Pessada-Kefalo	0.87	216	P	Pn	15 08 59.4	0.0
PSDA				S	Sn	15 09 12.5	+0.8
AGG	Agios Georgios	0.88	76	P	Pb	15 09 00.0	+0.3
AGG				S	Sb	15 09 11.8	+1.4
AGG	Agios Georgios	0.88	76	P	Pn	15 08 59.9	+0.3
AGG				S	Sb	15 09 11.5	+1.1
LCHA	Lechaina	0.88	178	P	Pn	15 09 00.8	+1.2
LCHA				S	Sn	15 09 13.1	+1.1
JAN	Janina	0.89	341	P	Pn	15 09 00.2	+0.4
JAN				S	Sn	15 09 13.2	+0.9
DMLN	Damoulianata-K	0.89	230	P	Pn	15 08 59.8	0.0
DMLN				S	Sn	15 09 13.9	+1.6
DMLN	Damoulianata-K	0.89	230	P	Pn	15 08 59.7	0.0
DMLN				S	Sn	15 09 13.2	+0.9
CLEM	Kyllini,Ilia,G	0.93	185	P	Pn	15 09 01.4	+1.0
CLEM				S	Sn	15 09 14.6	+1.3
MSVA	Metsovo	0.95	358	P	Pn	15 09 00.9	+0.2
MSVA				S	Sn	15 09 15.3	+1.3
THL	Klokotos Trika	0.96	39	P	Pn	15 09 01.1	+0.3
THL				S	Sn	15 09 14.8	+0.7
THL	Klokotos Trika	0.96	39	P	Pn	15 09 01.5	+0.3
THL				S	Sb	15 09 13.4	+0.8
IGT	Igoumenitsa	1.00	316	P	Pn	15 09 02.1	+0.9
IGT				S	Sn	15 09 18.2	+3.2
IGT	Igoumenitsa	1.00	316	*e*Pg	Pn	15 09 02.3	+1.0
IGT				*e*Sg	Sn	15 09 18.6	+3.6
IGT	Igoumenitsa	1.00	316	P	Pn	15 09 02.3	+1.0
IGT				S	Sn	15 09 16.8	+1.8
DLFA	Delphi	1.05	109	P	Pn	15 09 02.4	+0.4
DLFA				S	Sn	15 09 16.5	+0.2
ORTH	Orthonies,Zaky	1.05	204	P	Pn	15 09 03.5	+1.4
ORTH				S	Sn	15 09 18.4	+2.0
KLV	Kalavryta, Ach	1.06	137	P	Pn	15 09 02.5	+0.4
KLV				S	Sn	15 09 19.8	+3.3
KLV	Kalavryta, Ach	1.06	137	P	Pn	15 09 02.9	+0.7
KLV				S	Sn	15 09 18.4	+1.8
LFKM	Lefkimmi	1.10	305	P	Pn	15 09 04.4	+1.7
LFKM				S	Sn	15 09 24.2	+6.6
AXAR	Agios Charalam	1.12	92	P	Pg	15 09 03.3	-0.3
AXAR				S	Sg	15 09 18.3	+0.1
AXAR	Agios Charalam	1.12	92	P	Pn	15 09 04.1	+1.2
AXAR				S	Sn	15 09 19.0	+1.0
LTHK	Lithakia	1.15	196	P	Pg	15 09 04.5	+0.3
LTHK				S	Sn	15 09 25.4	+6.7
LTHK	Lithakia	1.15	196	P	Pg	15 09 04.6	+0.3
LTHK				S	Sn	15 09 20.5	+1.8
TYRN	Tyrnavos	1.18	41	P	Pg	15 09 04.8	0.0
TYRN				S	Sn	15 09 21.2	+1.7
TYRN	Tyrnavos	1.18	41	P	Pg	15 09 05.1	+0.3
TYRN				S	Sn	15 09 21.1	+1.6
GINA	Giannouli	1.24	46	P	Pg	15 09 06.2	+0.4
GINA				S	Sg	15 09 21.9	-0.1
LRSO	Larissa Observ	1.24	46	P	Pg	15 09 06.0	+0.1
LRSO				S	Sg	15 09 24.2	+2.1
LRSO	Larissa Observ	1.24	46	P	Pg	15 09 06.2	+0.3
LRSO				S	Sg	15 09 22.6	+0.5
GUR	Goura	1.24	135	P	Pn	15 09 06.1	+0.1
GUR				S	Sn	15 09 23.7	+2.6
AMT	Artemida-Makis	1.34	164	P	Pg	15 09 08.0	+0.2
AMT				S	Sg	15 09 25.7	+0.5
ZARO	Zacharo	1.37	166	P	Pg	15 09 08.7	+0.3
PENT	Pentalofos	1.38	357	P	Pg	15 09 09.3	+0.7
LKR	Lokris	1.39	96	P	Pg	15 09 08.6	-0.3
AIDA	Aidipsos	1.42	88	P	Pb	15 09 08.2	+0.2
KEK	Kerkira	1.43	309	P	Pg	15 09 12.1	+2.6
KEK	Kerkira	1.43	309		Pg	15 09 11.9	+2.5
SRN	Sarande	1.43	318	P	Pg	15 09 09.6	+0.1
KIAA	Kiato	1.44	124	P	Pb	15 09 08.7	+0.4
KZN	Kozani	1.54	16	P	Pg	15 09 11.0	-0.7
LTK	Loutraki	1.58	120	P	Pg	15 09 12.0	-0.4
LTK				S	Sg	15 09 34.2	+1.3
LTK	Loutraki	1.58	120	P	Pg	15 09 12.0	-0.4
NEST	Nestorio	1.60	355	P	Pg	15 09 12.7	-0.1
NEST	Nestorio	1.60	355	P	Pg	15 09 12.5	-0.3
LOUT	Loutraki	1.60	121	P	Pg	15 09 12.4	-0.4
NEO	Neokhori	1.63	72	P	Pb	15 09 12.0	+0.4
NEO	Neokhori	1.63	72	P	Pb	15 09 12.0	+0.4
VLX	Vlachokerasia	1.71	148	P	Pg	15 09 14.0	-0.8
VIL2	Platees	1.71	110	P	Pg	15 09 14.5	-0.4
ITM	Ithomi	1.73	161	P	Pg	15 09 15.0	-0.2
ITM	Ithomi	1.73	161		Pb	15 09 14.0	+0.7
ITM	Ithomi	1.73	161	P	Pg	15 09 14.3	-0.9
ITM	Ithomi	1.73	161	P	Pg	15 09 14.3	-0.9
NPLA	Nafplio	1.76	135	P	Pb	15 09 14.4	+0.6
VILL	Villia	1.76	111	P	Pb	15 09 14.5	+0.6
FNA	Florina	1.96	3		Pb	15 09 17.7	+0.3
FNA	Florina	1.96	3	P	Pb	15 09 17.8	+0.5
FNA	Florina	1.96	3	P	Pb	15 09 17.7	+0.3
FNA	Florina	1.96	3	*e*Pn	Pb	15 09 18.0	+0.6
FNA				*e*Sn	Sg	15 09 45.4	+0.1
FNA	Florina	1.96	3	P	Pb	15 09 17.5	+0.1
ELFA	Athens-Elefsin	1.97	112	P	Pb	15 09 17.4	0.0
MET5	Makryloggos,Me	2.06	125	P	Pb	15 09 18.9	0.0

TIP Timpagrande 3.50 277 ⇑P Pn 15 09 37.9 +2.1
TIP Timpagrande 3.50 277 P Pn 15 09 37.3 +1.5
SIGR SIGRI 3.62 82 P Pn 15 09 40.4 +3.1
SIGR SIGRI 3.62 82 P Pn 15 09 39.7 +2.4
BCI Bajram Curri 3.65 346 P Pn 15 09 41.0 +3.2
SMTH Samothraki Isl 3.71 62 P Pn 15 09 39.9 +1.4
DRME Dracevica, Mon 3.71 336 ⇑*i*Pn Pn 15 09 40.2 +1.7
DRME *e*Sn Sn 15 10 22.2 +0.4
BOSS Bosilegrad 3.79 14 *e*Pn Pn 15 09 42.4 +2.7
BOSS *e*Sn Sn 15 10 26.9 +2.9
CHOS Chios island 3.80 95 P Pn 15 09 42.7 +2.8
CHOS Chios island 3.80 95 P Pn 15 09 42.7 +2.8
APE Apeiranthos 3.82 116 P Pn 15 09 43.1 +3.0
APE Apeiranthos 3.82 116 P Pn 15 09 43.5 +3.4
APE Apeiranthos 3.82 116 ⇓P Pn 15 09 43.5 +3.4
APE Apeiranthos 3.82 116 *i*P Pn 15 09 43.6 +3.4
APE Apeiranthos 3.82 116 P Pn 15 09 43.7 +3.6
GOAD anakkale-G¶ 3.86 68 P Pn 15 09 42.7 +2.1
GADA Gvkgeada 3.86 68 P Pn 15 09 42.4 +1.8
GADA Gvkgeada 3.86 68 P Pn 15 09 42.8 +2.1
KOCA Canakkale, Ayv 3.88 78 P Pn 15 09 43.8 +2.9
KOCA S Sb 15 10 36.2 -0.4
BOZC Bozcaada 3.88 73 P Pn 15 09 42.9 +2.1
BOZC Bozcaada 3.88 73 P Pn 15 09 42.9 +2.1
PVY Plav 3.89 346 ⇓*i*Pn Pn 15 09 43.8 +2.6
BUM Brajici-Budva 3.91 334 ⇑*i*Pn Pn 15 09 42.7 +1.4
BUM *e*Sn Sn 15 10 26.0 -0.8
PDG Podgorica 3.91 338 P Pn 15 09 43.2 +1.9
PDG Podgorica 3.91 338 P Pn 15 09 42.5 +1.3
PDG Podgorica 3.91 338 ⇓P Pn 15 09 43.1 +1.9
PDG Podgorica 3.91 338 *e*Pn Pn 15 09 43.6 +2.3
PDG Podgorica 3.91 338 ⇑*i*Pn Pn 15 09 42.8 +1.5
PDG *i*Sn Sn 15 10 26.6 +1.1
RZN Rozhen 3.93 42 P Pn 15 09 44.1 +2.4
MATE Matera 3.94 299 P Pn 15 09 43.9 +2.2
MATE Matera 3.94 299 ⇑P Pn 15 09 43.8 +2.2
BARS Barje 4.02 6 *e*Pn Pn 15 09 45.1 +2.3
BARS *e*Sn Sn 15 10 31.3 +1.8
ECEA Canakkale, Ece 4.02 71 P Pn 15 09 44.3 +1.5
ECEA S Sb 15 10 45.2 +4.6
RDO Rodhopi 4.04 54 P Pn 15 09 44.7 +1.5
RDO Rodhopi 4.04 54 P Pn 15 09 44.6 +1.5
RDO Rodhopi 4.04 54 P Pn 15 09 44.9 +1.8
KARB zmir-Karabur 4.05 91 P Pn 15 09 46.0 +2.7
KARB S Sn 15 10 28.1 -2.3
EZN Ezine 4.08 74 P Pn 15 09 45.8 +2.2
EZN Ezine 4.08 74 ⇑P Pn 15 09 46.2 +2.6
EZN Ezine 4.08 74 P Pn 15 09 46.2 +2.6
VTS Vitosha 4.09 21 P Pn 15 09 46.8 +2.9
VTS Vitosha 4.09 21 *e*Pn Pn 15 09 46.8 +2.9
VTS *e*Sn Sn 15 10 35.4 +3.9
CEME Cevo 4.12 335 ⇑*i*Pn Pn 15 09 45.4 +1.2
CEME *i*Sn Sn 15 10 31.5 -0.5
IVA Berane 4.17 346 ⇑*i*Pn Pn 15 09 47.6 +2.6
ZEYE Izmir, Urla-Ze 4.17 96 P Pn 15 09 48.4 +3.5
ZEYE S Sb 15 10 47.6 +2.5
HCY Herceg Novi 4.18 331 ⇓*i*Pn Pn 15 09 46.2 +1.2
HCY *i*Sn Sn 15 10 32.3 -1.2
CNKL anakkale-Mer 4.18 71 P Pn 15 09 47.0 +2.0
CEL Celeste 4.22 264 Pn 15 09 47.0 +1.3
CEL Celeste 4.22 264 P Pn 15 09 47.5 +1.9
BAYC CANAKKALE_Bayr 4.23 76 P Pn 15 09 48.2 +2.6
URLA Izmir 4.23 95 P Pn 15 09 48.9 +3.2
URLA Izmir 4.23 95 P Pn 15 09 48.6 +2.9
KOME Kolasin 4.23 343 ⇑*i*Pn Pn 15 09 48.0 +2.2
CAVK Edirne/Enez-Ca 4.24 62 P Pn 15 09 47.0 +1.2
CAVK S Sn 15 10 35.5 +0.1
CAVK Edirne/Enez-Ca 4.24 62 ⇑P Pn 15 09 47.7 +1.9
ALN Alexandroupoli 4.25 59 P Pn 15 09 47.6 +1.7
ALN Alexandroupoli 4.25 59 Pn 15 09 47.2 +1.3
ALN Alexandroupoli 4.25 59 P Pn 15 09 47.6 +1.7
ALN Alexandroupoli 4.25 59 P Pn 15 09 47.2 +1.3
ENEZ Enez 4.25 62 P Pn 15 09 47.7 +1.8
ENEZ Enez 4.25 62 P Pn 15 09 48.0 +2.1
PLD Plovdiv 4.27 38 P Pn 15 09 49.1 +2.8
PLD Plovdiv 4.27 38 P Pn 15 09 49.2 +3.0
PLD Plovdiv 4.27 38 *e*Pn Pn 15 09 49.0 +2.8
AYVA Ayvalik 4.28 82 P Pn 15 09 49.5 +3.1
NKME Niksic 4.31 337 ⇓*i*Pn Pn 15 09 48.4 +1.6
NKME *i*Sn Sn 15 10 35.8 -0.9
GELI Tayfur-Gelibol 4.34 67 P Pn 15 09 49.4 +2.1
CUC Castrocucco 4.36 287 Pn 15 09 50.2 +2.7
SELS Selova 4.40 359 *e*Pn Pn 15 09 49.8 +1.8
IZMD zmir-Dikili- 4.45 86 P Pn 15 09 51.4 +2.6
TRBB Trebinje 4.47 332 ⇑*i*Pn Pn 15 09 49.8 +0.5
ERIK Erikli-Kesan 4.47 64 P Pn 15 09 50.4 +1.4
DGB zmir 4.50 98 P Pn 15 09 51.5 +2.1
SJES Sjenica 4.54 348 *e*Pn Pn 15 09 52.5 +2.5
LPK Lapseki 4.54 68 P Pn 15 09 52.4 +2.4
BRY Bratogost 4.56 334 ⇓*i*Pn Pn 15 09 51.5 +1.1
BRY *i*Sn Sn 15 10 41.7 -1.4
ZEDA zmir-Bergama 4.56 86 P Pn 15 09 53.3 +3.0
BLCB Balcova 4.57 94 P Pn 15 09 53.2 +2.8
ZAPS Zavoj 4.58 13 *e*Pn Pn 15 09 53.5 +3.0
IDI Anoyia 4.58 139 P Pn 15 09 52.7 +2.1
IDI Anoyia 4.58 139 Pn 15 09 52.6 +2.1
IDI Anoyia 4.58 139 P Pn 15 09 52.3 +1.7
IDI Anoyia 4.58 139 Pn Pn 15 09 51.3 +0.7
comp=E,19nm,0.3s,baz=320,slow=15,SNR=40
IDI *i*Sn Sn 15 10 49.1 +5.6
comp=E,11nm,0.3s,baz=328,slow=12,SNR=4.4
GVD Gavdhos 4.59 149 P Pn 15 09 54.1 +3.5
GVD Gavdhos 4.59 149 P Pn 15 09 53.3 +2.7
BUHA Balikesir, Bur 4.59 80 P Pn 15 09 53.6 +2.9
DIM Dimitrovgrad 4.62 44 P Pn 15 09 53.6 +2.5
KESN Edirne-Kesan 4.65 63 P Pn 15 09 52.8 +0.9
PLE Pljevlja 4.72 343 ⇓*i*Pn Pn 15 09 54.3 +1.8
PLE *e*Sn Sn 15 10 45.6 -1.3
UPM Unac-Piva 4.72 339 ⇑*i*Pn Pn 15 09 54.3 +1.7
GOCS Kraljevo Serbi 4.75 357 *e*Pn Pn 15 09 54.9 +2.0
UKOP Uzunkopru-Edir 4.75 59 P Pn 15 09 52.2 -0.6
IVAS Ivanjica 4.82 351 *e*Pn Pn 15 09 55.1 +1.2
BOVS Bovan 4.83 4 ⇓P Pn 15 09 55.8 +1.9
BOVS Bovan 4.83 4 *e*Pn Pn 15 09 56.0 +2.1
BOVS *e*Sn Sn 15 10 52.3 +2.9
STON Ston 4.85 328 ⇑*i*Pn Pn 15 09 54.5 +0.3
STON Ston 4.85 328 *e*Pn Pn 15 09 54.8 +0.6
STON *e*Sn Sn 15 10 47.2 -2.8
GCAM G?zelcaml? 4.86 101 P Pn 15 09 57.8 +3.5
BLKB Belogradchik 4.92 12 *e*Pn Pn 15 09 58.6 +3.4
BLKB *e*Sn Sn 15 10 54.2 +2.4
SOMA Soma-Manisa 4.92 84 P Pn 15 09 59.9 +4.7
DDIM Aydin, Didim 4.93 104 P Pn 15 09 58.0 +2.6
RKY Sarkoy-Tekirda 4.95 66 P Pn 15 09 57.3 +1.7
SART Tekirdag 4.95 66 P Pn 15 09 57.6 +1.9
RUDO Rudo 5.00 344 ⇑*i*Pn Pn 15 09 57.0 +0.8
BALY Balya 5.04 77 P Pn 15 10 00.0 +3.1
BALY S Sn 15 10 47.3 -7.5
ZAGS Zajecar 5.05 8 *e*Pn Pn 15 09 59.5 +2.6
STEP BALIKESIR_Sava 5.08 82 P Pn 15 10 01.6 +4.2
GRUS Gruza 5.08 356 *e*Pn Pn 15 09 58.9 +1.5
BODT Bodrum 5.12 108 P Pn 15 10 01.9 +4.0
BODT Bodrum 5.12 108 P Pn 15 10 01.6 +3.7
SGRT San Giovanni R 5.12 307 Pn 15 09 59.3 +1.3
AKHS Akhisar 5.14 87 P Pn 15 10 01.6 +4.3
EDRB Edirne 5.18 53 P Pn 15 10 00.8 +2.0
BDRM Kayabasi 5.21 108 P Pn 15 10 02.5 +3.2
BDRM S Sn 15 11 02.2 +3.2
BDRM Kayabasi 5.21 108 ⇑P Pn 15 10 03.1 +3.8
BBLS Lazi&#263i 5.23 345 *e*Pn Pn 15 10 00.9 +1.4
PLVB Pleven 5.23 28 ⇑P Pn 15 10 02.8 +3.4
BKES Balkesir-Mer 5.28 78 P Pn 15 10 04.2 +4.1
BORS2 Bor- Borsko je 5.30 6 *e*Pn Pn 15 10 02.2 +1.8
AYDB Zeytinkoy-Aydi 5.30 97 P Pn 15 10 04.4 +3.8
IZMR zmir-demi 5.32 95 P Pn 15 10 04.2 +3.5
BLKS Balkesir-Sus 5.33 76 P Pn 15 10 04.0 +3.2
EDC Edincik 5.35 71 P Pn 15 10 03.6 +2.6
AYDN Tasoluk 5.36 100 P Pn 15 10 05.4 +4.1
YAZI Mula-Dat§a- 5.37 111 P Pn 15 10 05.6 +4.2
YAZI S Sn 15 11 03.7 +0.8
MLSB Milas 5.38 104 P Pn 15 10 06.0 +4.4
ODEM Odemis-Izmir 5.39 94 P Pn 15 10 05.2 +3.5
ELND Elena 5.41 39 ⇑P Pn 15 10 04.5 +2.6
GORD Gordes-Manisa 5.42 87 P Pn 15 10 06.1 +4.0
SUSR Susurluk-Balik 5.43 76 P Pn 15 10 05.8 +3.6
TRUS Trudelj 5.43 354 *e*Pn Pn 15 10 03.6 +1.3
ZKR Zakros 5.44 131 P Pn 15 10 06.4 +4.0
ZKR Zakros 5.44 131 P Pn 15 10 06.0 +3.7
CRLT Corlu 5.50 63 P Pn 15 10 06.6 +3.4

BAND Balkesir-Ban 5.52 72 P Pn 15 10 05.8 +2.3
BAND Balkesir-Ban 5.52 72 ⇑P Pn 15 10 05.3 +1.9
VAE Valguarnera 5.54 258 Pn Pn 15 10 04.5 +0.8
comp=E,34nm,0.3s,baz=134,slow=2.5,SNR=18
VAE Sn Sn 15 11 10.1 +3.0
comp=E,12nm,0.3s,baz=127,slow=14,SNR=3.7
VAE LR LR 15 12 57.5
comp=E,450nm,20.5s,baz=81,slow=47
PAOL Paolisi 5.58 295 Pn 15 10 07.4 +3.1
KUBS Kucevo 5.60 3 *e*Pn Pn 15 10 04.9 +0.4
NAZL Nazilli-Aydin 5.61 97 P Pn 15 10 08.6 +3.9
RAFF Raffo Rosso 5.65 256 Pn 15 10 06.1 +0.8
KIRA zmir-Kiraz 5.66 94 P Pn 15 10 09.7 +4.3
DURS Dursunbey 5.68 80 P Pn 15 10 09.0 +3.3
ESEN Aydn-Nazilli 5.69 98 P Pn 15 10 09.0 +3.3
SZH Strazhitsa 5.71 37 P Pn 15 10 08.6 +2.6
MANT Manisa 5.74 91 Pn 15 10 10.6 +3.9
MANT Manisa 5.74 91 P Pn 15 10 10.9 +4.2
KARP Karpathos 5.75 123 P Pn 15 10 10.1 +3.5
KARP Karpathos 5.75 123 Pn 15 10 11.4 +4.7
KARP Karpathos 5.75 123 P Pn 15 10 09.8 +3.1
KARP Karpathos 5.75 123 *e*P Pn 15 10 11.0 +4.3
MULA Mugla, Merkez- 5.81 103 P Pn 15 10 08.9 +1.4
KULA Kula-Manisa 5.82 91 P Pn 15 10 11.9 +4.2
DEMI Demirci 5.84 85 P Pn 15 10 12.0 +4.1
TEKS Tekeris 5.87 348 *e*Pn Pn 15 10 08.5 +0.3
AVAS Avala Beograd 5.90 355 *e*Pn Pn 15 10 10.1 +1.5
TURN Turunc 5.92 108 *e*P Pn 15 10 13.3 +4.4
TURN Turunc 5.92 108 P Pn 15 10 13.0 +4.2
MDVR Moldovita 5.97 3 ⇑P Pn 15 10 11.2 +1.6
MDVR Moldovita 5.97 3 *e*Pn Pn 15 10 11.4 +1.8
SRE Strehaia 6.02 14 ⇑P Pn 15 10 13.4 +3.0
SRE Strehaia 6.02 14 P Pn 15 10 13.3 +3.0
CTYL Yalikoy Yolu 6.02 62 P Pn 15 10 12.2 +1.9
CTYL Yalikoy Yolu 6.02 62 ⇑P Pn 15 10 12.4 +2.1
YYLC Yaylacik 6.05 73 P Pn 15 10 13.7 +3.1
ARG Arkhangelos 6.07 113 *e*P Pn 15 10 16.2 +5.3
USAK Uak-Merkez 6.09 89 P Pn 15 10 14.8 +3.5
MDNY Mudanya-Bursa 6.11 73 *e*P Pn 15 10 17.2 +5.7
WDD Wied Dalam 6.12 243 Pn 15 10 12.8 +1.2
HERR Herculane 6.12 8 ⇓P Pn 15 10 13.7 +2.1
ARMT Armutlu 6.14 71 *e*P Pn 15 10 15.2 +3.3
TAVA DENIZLI_Tavas 6.20 100 P Pn 15 10 17.5 +4.6
TAVA DENIZLI_Tavas 6.20 100 ⇑P Pn 15 10 17.0 +4.1
DALY Dalyan (Mula) 6.21 106 *e*P Pb 15 10 22.4 -7.2
BGKT Bogazkoy 6.25 65 *e*P Pn 15 10 17.9 +4.4
ULDT Uludag 6.26 75 P Pn 15 10 16.3 +2.6
DNIZ Denizli-Tavas- 6.26 99 P Pn 15 10 15.4 +1.7
VRSS Vrsac 6.30 1 *e*Pn Pn 15 10 15.0 +0.9
AVDN Avdancik/Bursa 6.30 74 P Pn 15 10 16.8 +2.6
EMET Ktahya-Emet 6.32 82 P Pn 15 10 18.6 +4.1
IGD Bursa 6.33 74 P Pn 15 10 17.4 +2.8
DNZT Denizli-Tavas- 6.34 102 P Pn 15 10 19.6 +4.8
DOB Doboj 6.36 339 *e*Pn Pn 15 10 15.1 +0.2
GEDZ Gediz 6.38 85 *e*P Pn 15 10 18.8 +3.5
ISK Istanbul-Kandi 6.42 67 *e*P Pn 15 10 18.8 +3.0
FRGS Fruska Gora 6.42 351 *e*Pn Pn 15 10 16.5 +0.7
TVSB Tavsanli 6.43 82 *e*P Pn 15 10 20.2 +4.2
GDZ Gediz 6.44 85 P Pn 15 10 20.1 +4.0
SABU Mula-Dalaman 6.44 106 P Pn 15 10 21.9 +5.7
KLYT Kilyos 6.47 65 *e*P Pn 15 10 19.2 +2.8
KLYT Kilyos 6.47 65 ⇑P Pn 15 10 19.6 +3.2
KLYT Kilyos 6.47 65 P Pn 15 10 19.3 +2.8
PASA Karahalli, USA 6.49 92 P Pn 15 10 21.0 +4.2
APMY Acipayam-Deniz 6.50 99 *e*P Pn 15 10 22.8 +5.8
FETY Fethiye 6.59 107 *e*P Pn 15 10 24.9 +6.7
BLY Banja Luka 6.65 334 *e*Pn Pn 15 10 19.5 +0.6
BLY Banja Luka 6.65 334 ⇑P Pn 15 10 19.6 +0.6
BLY Banja Luka 6.65 334 *e*Pn Pn 15 10 19.8 +0.9
CAME Cameli-Denizli 6.65 104 *e*P Pn 15 10 25.3 +6.2
INCE Denizli-Bozkur 6.66 97 P Pn 15 10 23.4 +4.2
A050A Klekovaca 6.66 330 ⇑*i*Pn Pn 15 10 20.3 +1.1
GZR Gura Zlata 6.67 9 ⇓P Pn 15 10 21.6 +2.3
GZR Gura Zlata 6.67 9 P Pn 15 10 22.9 +3.6
GZR Gura Zlata 6.67 9 *e*Pn Pn 15 10 21.3 +2.0
BNAZ Uak-Banaz 6.76 88 P Pn 15 10 24.1 +3.5
ADVT Abdulvahap 6.76 74 *e*P Pn 15 10 23.6 +3.1
BZS Buzias 6.80 2 *e*P Pn 15 10 21.5 +0.5
BZS Buzias 6.80 2 ⇓P Pn 15 10 22.5 +1.3
BZS Buzias 6.80 2 P Pn 15 10 22.3 +1.3
BZS Buzias 6.80 2 *e*Pn Pn 15 10 21.9 +0.9
CAVI Cavuskoy 6.80 76 *e*P Pn 15 10 24.5 +3.5
SILT Sile 6.87 68 *e*P Pn 15 10 24.3 +2.4
SILT Sile 6.87 68 ⇓P Pn 15 10 24.4 +2.5
LOT Lotru 6.89 15 ⇑P Pn 15 10 25.5 +3.2
AQU L'Aquila 6.92 303 P Pn 15 10 25.9 +3.1
comp=E,0.6nmcomp=E,1µmcomp=E,177nm,1.0s
SULR 6.95 31 ⇑P Pn 15 10 26.7 +3.6
SURR Surduc 6.96 5 ⇑P Pn 15 10 25.0 +1.8
A051A Mrakovica 6.98 334 ⇑*i*Pn Pn 15 10 23.8 +0.3
MTUR Matau 7.01 23 ⇓P Pn 15 10 28.1 +4.1
MTUR Matau 7.01 23 P Pn 15 10 28.0 +4.1
KALB Balgarevo 7.10 48 ⇓P Pn 15 10 28.4 +3.4
AKAS Kas 7.14 109 *e*P Pn 15 10 33.8 +8.0
ELLA Elmali 7.18 104 *e*P Pb 15 10 26.6 -1.0
VOIR 7.20 22 ⇓P Pn 15 10 30.0 +3.4
VOIR 7.20 22 P Pn 15 10 29.9 +3.4
VOIR 7.20 22 P Pn 15 10 29.5 +3.0
comp=E,0.3nmcomp=E,927nmcomp=E,71nm,0.6s
ICOR Ion Corvin 7.23 41 ⇑P Pn 15 10 30.3 +3.4
SHUT Suhut-Afyon 7.30 89 *e*P Pn 15 10 33.7 +5.8
ISP Isparta 7.37 95 *e*P Pn 15 10 33.6 +4.6
ISP Isparta 7.37 95 *i*P Pn 15 10 32.0 +3.0
ISR Istrita 7.43 30 ⇑P Pn 15 10 34.2 +4.5
ISR Istrita 7.43 30 P Pn 15 10 34.0 +4.3
ISR Istrita 7.43 30 P Pn 15 10 33.6 +3.9
comp=E,1.2nmcomp=E,3µmcomp=E,395nm,0.9s
KORT Korkueli 7.43 101 *e*P Pn 15 10 38.2 +8.3
SIRR Siria 7.45 2 ⇓P Pn 15 10 32.2 +2.3
SIRR Siria 7.45 2 *e*Pn Pn 15 10 32.2 +2.3
MANR Mangalia 7.45 46 ⇑P Pn 15 10 32.7 +2.7
MLR Muntele Rosu 7.53 26 *e*P Pn 15 10 35.5 +4.4
MLR Muntele Rosu 7.53 26 Pn 15 10 34.2 +3.1
MLR Muntele Rosu 7.53 26 Pn Pn 15 10 33.5 +2.4
comp=E,8.2nm,0.3s,baz=235,slow=5.0,SNR=80
MLR LR LR 15 14 26.1
comp=E,526nm,18.9s,baz=117,slow=46
comp=E,39nm,0.6s
MLR Muntele Rosu 7.53 26 ⇑P Pn 15 10 35.5 +4.4
MLR Muntele Rosu 7.53 26 P Pn 15 10 35.3 +4.2
comp=E,0.7nmcomp=E,2µmcomp=E,249nm,0.7s
SDAG Sultandagi-AFY 7.59 90 *e*P Pn 15 10 38.1 +6.1
NEHR Nehoiu 7.60 28 ⇑P Pn 15 10 36.4 +4.4
MORH Mrgy, Hungar 7.63 346 ⇓P Pn 15 10 32.7 +0.3
CIFT Cifteler, Eski 7.67 83 *e*P Pn 15 10 37.5 +4.5
HARR Harsova 7.71 38 P Pn 15 10 37.5 +4.0
DOPR Dopca 7.78 22 ⇓P Pn 15 10 38.0 +3.6
TIRR Tirgusor 7.79 41 *e*P Pn 15 10 37.9 +3.4
TIRR Tirgusor 7.79 41 ⇓P Pn 15 10 37.3 +2.7
TIRR Tirgusor 7.79 41 P Pn 15 10 37.2 +2.7
TIRR Tirgusor 7.79 41 P Pn 15 10 36.3 +1.8
comp=E,0.3nmcomp=E,631nmcomp=E,69nm,0.9s
MDUB Mudurnu 7.87 75 *e*P Pn 15 10 40.2 +4.5
COVR Voineasa-Covas 7.93 26 ⇓P Pn 15 10 40.9 +4.4
BOSR Bodos 7.96 23 ⇑P Pn 15 10 41.1 +4.3
SLUM Salum 8.00 155 P Pn 15 10 37.8 +0.3
SLUM S Sn 15 12 02.0 -5.7
OZUR 8.01 23 ⇓P Pn 15 10 41.6 +3.9
BOJS Bojanci 8.02 328 *e*Pn Pn 15 10 38.1 +0.4
BOJS *e*Sn Sn 15 12 02.5 -5.5
SVRH Sivrihisar-ESK 8.03 82 *e*P Pn 15 10 42.3 +4.4
DRGR 8.04 7 ⇑P Pn 15 10 40.7 +2.6
DRGR 8.04 7 P Pn 15 10 40.7 +2.6
TURR Turia 8.05 25 ⇑P Pn 15 10 42.7 +4.5
TPGR Topolog 8.07 39 ⇓P Pn 15 10 41.1 +2.7
PLOR Plostina 8.09 28 ⇑P Pn 15 10 42.6 +3.9
PLOR Plostina 8.09 28 P Pn 15 10 42.6 +3.9
PLOR5 Plostina Array 8.09 28 P Pn 15 10 42.7 +4.0
comp=E,2µmcomp=E,282nm,1.2s
VRI Vrincioaia 8.13 28 *e*P Pn 15 10 43.6 +4.4
VRI Vrincioaia 8.13 28 ⇑P Pn 15 10 43.7 +4.4
VRI Vrincioaia 8.13 28 P Pn 15 10 43.4 +4.1
VRI Vrincioaia 8.13 28 P Pn 15 10 43.2 +3.9
comp=E,2µmcomp=E,167nm,0.7s
CFR Carcaliu 8.17 37 ⇓P Pn 15 10 42.4 +2.6
CFR Carcaliu 8.17 37 P Pn 15 10 42.4 +2.6
YUVA Yuva-Kibriscik 8.22 76 *e*P Pn 15 10 44.6 +4.0
PANC Panciu 8.30 30 ⇑P Pn 15 10 44.7 +3.2
ONER Baraj Valea Uz 8.42 25 ⇑P Pn 15 10 46.5 +3.3
TLCR 8.50 39 ⇑P Pn 15 10 48.5 +4.1
TLCR 8.50 39 P Pn 15 10 48.4 +4.1

GHRR 8.55 30 P Pn 15 10 47.3 +2.3
CEY Cerknica 8.55 326 *e*Pn Pn 15 10 45.8 +0.7
CEY *e*Sn Sn 15 12 14.5 -6.7
SKDS Skadanscina 8.59 324 *e*Pn Pn 15 10 45.7 +0.1
SKDS *e*Sn Sn 15 12 16.2 -5.9
TESR Tescani 8.66 26 ⇓P Pn 15 10 50.5 +4.0
TESR Tescani 8.66 26 P Pn 15 10 49.9 +3.4
comp=E,663nmcomp=E,53nm,0.9s
LADK Ladik-KONYA 8.75 91 *e*P Pn 15 10 54.6 +6.7
ANTO Ankara 9.02 80 Pn 15 10 53.6 +2.1
ANTO Ankara 9.02 80 ⇓P Pn 15 10 56.1 +4.6
ANTO Ankara 9.02 80 P Pn 15 10 53.6 +2.1
ANTO Ankara 9.02 80 P Pn 15 10 55.5 +4.0
comp=E,16nm,1.0s
SOKA Soboth 9.08 332 *i*Pn Pn 15 10 52.2 -0.1
comp=E,3.8nm,0.3s,SNR=21
SOKA *e*Sn Sn 15 12 27.9 -6.2
comp=E,35nm,0.8s
HDMB Hadim 9.09 98 *e*P Pn 15 10 58.9 +6.3
OBKA Obir 9.12 330 *i*Pn Pn 15 10 53.3 +0.4
comp=E,11nm,0.4s,SNR=8.3
OBKA *e*Sn Sn 15 12 31.8 -3.4
comp=E,66nm,0.5s
PSZ Piszkesteto 9.15 354 Pn 15 10 54.5 +1.3
PSZ Piszkesteto 9.15 354 ⇑P Pn 15 10 55.0 +1.8
PSZ Piszkesteto 9.15 354 P Pn 15 10 54.5 +1.3
PSZ Piszkesteto 9.15 354 *e*P Pn 15 10 54.5 +1.3
SRO Srobarova 9.24 348 *e*P Pn 15 11 05.3 +11
SRO *e* 15 12 40.1
SRO Srobarova 9.24 348 *e*SN Sn 15 12 40.1 +2.2
BURAR Bucovina Array 9.26 17 Pn 15 10 57.4 +2.6
BURAR Bucovina Array 9.26 17 ⇓P Pn 15 10 59.1 +4.3
BURAR Bucovina Array 9.26 17 P Pn 15 10 59.1 +4.3
BUR08 Bucovina Ar. S 9.28 17 Pn 15 10 58.5 +3.3
ARSA Arzberg 9.40 335 Pn 15 10 56.2 -0.5
ARSA Arzberg 9.40 335 *i*Pn Pn 15 10 56.8 +0.1
comp=E,6.4nm,0.6s,SNR=10
ARSA *e*Sn Sn 15 12 40.3 -1.7
comp=E,6.8nm,0.5s
ARSA Arzberg 9.40 335 *e*Pn Pn 15 10 56.8 +0.1
RAKU Rahkiv 9.45 12 P Pn 15 11 03.2 +5.9
CIDE Kastamonu/Cide 9.45 67 ⇓P Pn 15 11 02.7 +5.4
BERU Beregovo 9.47 6 P Pn 15 10 58.8 +1.3
RONA Rosalia, Austr 9.58 340 *i*Pn Pn 15 10 58.0 -1.1
comp=E,1.8nm,0.2s
RONA *e*Sn Sn 15 12 47.4 +1.1
comp=E,10nm,0.6s
MYKA Terra Mystica 9.59 327 *i*Pn Pn 15 11 00.0 +0.7
comp=E,3.7nm,0.6s
MYKA *e*Sn Sn 15 12 44.6 -2.1
comp=E,16nm,0.5s
BR105 Keskin Array S 9.65 81 P Pn 15 11 04.3 +4.1
comp=E,259nmcomp=E,25nm,1.1s
BR106 Keskin Array S 9.65 81 P Pn 15 11 03.8 +3.6
comp=E,179nmcomp=E,18nm,0.9s
NSLU Nyzhne Selyshc 9.66 13 P Pn 15 11 01.1 +0.9
BR131 Keskin Array S 9.67 81 Pn 15 11 04.6 +4.2
BR131 Keskin Array S 9.67 81 ⇓*i*P Pn 15 11 04.5 +4.0
BRTR Keskin Array B 9.67 81 P Pn 15 11 04.5 +4.0
BRTR Keskin Array B 9.67 81 Pn Pn 15 11 03.5 +3.0
comp=E,2.0nm,0.3s,baz=265,slow=12,SNR=46
BRTR LR LR 15 15 13.8
comp=E,529nm,18.1s,baz=272,slow=41
comp=E,12nm,0.8s
BRTR Keskin Array B 9.67 81 *i*P Pn 15 11 04.9 +4.4
BRTR pmax pmax
comp=Z,12nm,0.8s
BR104 Keskin Array S 9.67 81 P Pn 15 11 04.3 +3.8
comp=Z,174nmcomp=Z,26nm,0.8s
KECS Kecovo 9.68 357 *e*P Pn 15 11 02.3 +1.9
KECS *e* 15 12 51.4
KECS Kecovo 9.68 357 *e*PN Pn 15 11 02.3 +1.9
KECS *e*SN Sn 15 12 51.4 +2.7
HOLU Holmets 9.74 5 P Pn 15 11 03.7 +2.4
TEKE Tekeli-Mersin 9.81 102 *e*P Pn 15 11 09.4 +7.0
MILM Milestii Mici 9.82 32 PM 15 11 06.0
comp=Z,40nm,0.7s
MILM Milestii Mici 9.82 32 *e*P Pn 15 11 12.0 +10
MILM *e*S Sn 15 12 56.0 +3.9
MILM *e*Lg Lg 15 14 20.0
comp=Z,1µm,16.0s
MILM LRM MLR 15 15 13.0
comp=Z,700nm,13.5s
MILM Milestii Mici 9.82 32 *e*P Pn 15 11 02.0 -0.3
MILM *e*S Sn 15 12 56.0 +3.9
MILM pmax pmax
comp=Z,40nm,0.7s
MILM MLR MLR
comp=Z,700nm,13.5s
VYHS Vyhne 9.82 351 *e*P Pn 15 11 02.9 +0.4
VYHS *e* 15 12 52.6
VYHS Vyhne 9.82 351 *e*PN Pn 15 11 02.9 +0.4
VYHS *e*SN Sn 15 12 52.6 +0.2
BERE Bereket-Mersin 9.83 101 *e*P Pn 15 11 08.8 +6.0
ILGA Ilgaz 9.85 73 Pn 15 11 09.5 +6.5
KIRS Kirsehir-Merke 9.88 84 ⇑P Pn 15 11 08.5 +5.1
KSV Kosov 9.89 15 P Pn 15 11 06.0 +2.6
CONA Conrad Observa 9.90 339 *i*Pn Pn 15 11 03.8 +0.1
comp=Z,1.5nm,0.4s
KEST Kesra 9.96 256 Pn Pn 15 11 04.8 +0.3
comp=Z,1.6nm,0.3s,baz=76,slow=3.6,SNR=64
KEST LR LR 15 16 31.4
comp=Z,360nm,18.9s,baz=349,slow=48
comp=Z,56nm,0.8s
MODS Modra-Piesok 9.97 345 *e*P Pn 15 11 03.6 -0.9
MODS *e* 15 12 53.4
MODS Modra-Piesok 9.97 345 *e*PN Pn 15 11 03.6 -0.9
MODS *e*SN Sn 15 12 53.4 -2.5
PURM Purcari 9.99 37 P Pn 15 11 08.0 +3.4
comp=Z,183nm,0.9s
KBA Koelnbreinsper 10.07 328 *i*Pn Pn 15 11 05.7 -0.3
comp=Z,5.6nm,0.4s
KBA *i*Sn Sn 15 12 54.3 -4.4
comp=Z,32nm,0.7s
KOLS Kolonicke sedl 10.14 4 *e*P Pn 15 11 09.8 +3.0
KOLS Kolonicke sedl 10.14 4 *e*PN Pn 15 11 09.8 +3.0
SWA2 10.17 159 P Pn 15 11 06.7 -0.6
KEBE Keben-Mersin 10.18 100 *e*P Pn 15 11 13.9 +6.5
ABTA Abfaltersbach 10.18 324 *i*Pn Pn 15 11 08.2 +0.7
comp=Z,9.4nm,0.5s
ABTA *e*Sn Sn 15 12 56.7 -4.6
comp=Z,56nm,1.2s
MOA Molln 10.35 333 *i*Pn Pn 15 11 10.0 +0.3
comp=Z,7.1nm,0.3s,SNR=14
MOA *i*Sn Sn 15 13 04.4 -0.8
comp=Z,11nm,0.4s
JAVC Velka Javorina 10.36 347 *e*PN Pn 15 11 09.9 +0.1
LANS Liptovska Anna 10.41 354 *e*P Pn 15 11 19.0 +8.6
CSS Mathiatis 10.43 108 *e*P Pn 15 11 13.2 +2.4
CSS Mathiatis 10.43 108 S Sn 15 13 10.5 +3.3
CSS Mathiatis 10.43 108 P Pn 15 11 14.3 +3.6
CORM Corum 10.45 78 *e*P Pn 15 11 15.4 +4.3
KMPD K-Podol'skiy 10.45 20 P Pn 15 11 14.4 +3.5
BIOA Bad Ischl, Aus 10.45 331 *i*Pn Pn 15 11 11.6 +0.5
comp=Z,4.9nm,0.3s,SNR=13
BIOA *i*Sn Sn 15 13 04.3 -3.4
comp=Z,17nm,0.5s
STHS Stebnicka Huta 10.60 0 *e*P Pn 15 11 23.9 +11
NIE Niedzica 10.62 357 *e*P Pn 15 11 15.5 +2.1
NIE *e*S 15 14 43.5
NIE Niedzica 10.62 357 P Pn 15 11 15.3 +2.0
comp=Z,213nmcomp=Z,23nm,1.0s
LESA Schwarzleotal 10.63 327 *i*Pn Pn 15 11 12.6 -0.9
comp=Z,11nm,0.5s,SNR=21
LESA *i*Sn Sn 15 13 07.8 -4.3
comp=Z,37nm,0.7s
SORM Soroca 10.65 27 P Pn 15 11 17.9 +4.2
comp=Z,11nm,0.7s
NDNU Novodnistrovsk 10.73 22 P Pn 15 11 18.7 +3.9
KRUC Moravsky 10.81 343 *e*PN Pn 15 11 15.0 -1.0
MAUC Maruska 10.82 348 *e*PN Pn 15 11 17.1 +1.0
WTTA Wattenberg 10.97 323 *i*Pn Pn 15 11 19.0 +0.7
comp=Z,3.3nm,0.2s,SNR=16
WTTA *e*Sn Sn 15 13 16.4 -4.3
comp=Z,92nm,0.8s
VRAC Vranov 11.00 344 *e*PN Pn 15 11 18.0 -0.6
VRAC Vranov 11.00 344 Pn Pn 15 11 18.3 -0.3
comp=Z,0.5nm,0.3s,baz=168,slow=11,SNR=8.4
VRAC LR LR 15 16 33.3
comp=Z,461nm,20.6s,baz=172,slow=43
comp=Z,4.0nm,0.6s
VRAC Vranov 11.00 344 ⇑P Pn

comp=Z,2.6nm,0.2s,SNR=20
WATA *e*Sn **Sn** 15 13 20.0 -2.7
comp=Z,73nm,0.9s
SQTA Sankt Quirin 11.14 322 *i* Pn **Pn** 15 11 21.5 +0.9
comp=Z,9.9nm,0.5s,SNR=17
SQTA *e*Sn **Sn** 15 13 25.2 +0.4
comp=Z,154nm,1.3s
CKRC Cesky Krumlov 11.17 336 *e*PN **Pn** 15 11 22.1 +1.2
CKRC *e*SN **Sn** 15 13 23.0 -2.4
CKRC AMS AMS 15 16 20.0
comp=Z,900nm,12.4s
CKRC Cesky Krumlov 11.17 336 *e*P **Pn** 15 11 22.1 +1.2
CKRC *e* 15 13 23.0
CKRC MLR MLR
comp=Z,900nm,12.4s
FUORN Ofenpass-Fuorn 11.21 318 **Pn** 15 11 23.2 +1.6
FETA Feichten 11.24 320 *i* Pn **Pn** 15 11 23.4 +1.4
comp=Z,5.4nm,0.9s
FETA *e*Sn **Sn** 15 13 28.4 +1.1
comp=Z,52nm,1.1s
MORC Moravsky Berou 11.27 348 **Pn** 15 11 21.8 -0.5
MORC Moravsky Berou 11.27 348 *e*PN **Pn** 15 11 22.1 -0.1
MORC Moravsky Berou 11.27 348 P **Pn** 15 11 21.8 -0.5
MOTA Moosalm 11.28 322 *i* Pn **Pn** 15 11 23.4 +0.9
comp=Z,32nm,0.9s,SNR=29
MOTA *e*Sn **Sn** 15 13 25.4 -2.8
comp=Z,67nm,0.9s
STEB Steborice 11.38 349 *e*PN **Pn** 15 11 24.5 +0.7
SIM Simferopol' 11.38 53 *e*P **Pn** 15 11 24.5 +0.7
SIM *e*S **Sn** 15 13 33.9 +3.3
SIM pmax pmax
comp=Z,41nm,0.8s
SIM smax smax
comp=E,118nm,19.6s
GERES GERESS Array B 11.39 334 **Pn** 15 11 24.4 +0.4
GERES GERESS Array B 11.39 334 Pn **Pn** 15 11 23.6 -0.4
comp=E,0.2nm,0.3s,baz=156,slow=13,SNR=32
GERES Sn **Sn** 15 13 30.2 -0.8
comp=E,0.2nm,0.3s,baz=145,slow=24,SNR=6.4
GERES LR LR 15 17 15.2
comp=E,446nm,18.6s,baz=160,slow=45
comp=E,2.0nm,0.3s
GERES GERESS Array B 11.39 334 P **Pn** 15 11 24.4 +0.4
BNN Bunyan 11.40 85 **Pn** 15 11 27.4 +3.2
DAVOX Davos/Dischmat 11.52 317 Pn **Pn** 15 11 25.8 0.0
comp=E,1.6nm,0.3s,baz=108,slow=18,SNR=11
DAVOX Sn **Sn** 15 13 32.6 -1.5
comp=E,2.2nm,0.3s,baz=16,slow=19,SNR=4.3
comp=E,2.5nm,0.3s
RETA Reutte 11.54 322 *i* Pn **Pn** 15 11 26.5 +0.5
comp=E,1.8nm,0.3s
RETA *e*Sn **Sn** 15 13 32.9 -1.7
comp=E,70nm,1.2s
TUE Stuetta 11.61 315 **Pn** 15 11 28.4 +1.3
TUE Stuetta 11.61 315 P **Pn** 15 11 29.4 +2.3
comp=E,1µmcomp=E,127nm,1.0s
KHC Kasperske Hory 11.68 334 *e*PN **Pn** 15 11 28.5 +0.6
KHC *ex* x 15 12 31.5
KHC *e*SN **Sn** 15 13 32.0 -5.9
KHC Kasperske Hory 11.68 334 *e*P **Pn** 15 11 28.5 +0.6
KHC *e* 15 13 32.0
KRLC Kraliky 11.69 346 *e*PN **Pn** 15 11 29.8 +1.8
KRLC Kraliky 11.69 346 *e*P **Pn** 15 11 29.8 +1.8
ZVC Zvikov 11.75 337 *e*PN **Pn** 15 11 30.0 +1.2
DAVA Damuels 11.85 319 *i* Pn **Pn** 15 11 29.6 -0.7
comp=E,2.3nm,0.3s
DAVA *e*Sn **Sn** 15 13 40.1 -2.0
comp=E,39nm,1.4s
TOKA Tokat 11.87 78 **Pn** 15 11 32.9 +2.5
GOPC GO Pecny, Ondr 12.01 340 AMS AMS 15 16 40.0
comp=E,1µm,12.3s
LUBAR Lubar, Ukraine 12.03 21 P **Pn** 15 11 36.2 +3.5
DPC Dobruska-Polom 12.04 345 *e*PN **Pn** 15 11 33.6 +0.7
DPC AMS AMS 15 16 50.0
comp=E,600nm,13.6s
DPC Dobruska-Polom 12.04 345 *e*P **Pn** 15 11 33.6 +0.7
DPC MLR MLR
comp=Z,600nm,13.6s
PRU Pruhonice 12.14 339 AMS AMS 15 16 30.0
comp=Z,1µm,13.8s
PRA Prague 12.24 339 AMS AMS 15 16 50.0
comp=Z,1µm,13.1s
RYAN Fayoum 12.27 140 P **Pn** 15 11 35.0 -1.0
PVCC Panska Ves 12.62 340 AMS AMS 15 17 00.0
comp=Z,900nm,13.0s
HNTI Hanita 12.66 113 S **Sn** 15 14 01.3 -0.6
HNTI Hanita 12.66 113 P **Pn** 15 11 43.0 +1.7
SENIN Lac Senin/Sane 12.72 311 **Pn** 15 11 44.5 +2.1
RNPP5 Staryi Chortor 12.83 13 P **Pn** 15 11 45.2 +1.6
MMA0B Mount Meron ar 12.86 112 S **Sn** 15 14 05.6 -1.2
MMA0B Mount Meron ar 12.86 112 P **Pn** 15 11 45.2 +1.1
MMAI Mount Meron Ar 12.86 112 Pn **Pn** 15 11 43.7 -0.4
comp=Z,2.7nm,0.3s,baz=316,slow=12,SNR=19
MMAI Sn **Sn** 15 14 02.8 -4.1
comp=Z,1.8nm,0.3s,baz=282,slow=25,SNR=2.9
comp=Z,1.4nm,0.3s
RNPP8 Varash 12.93 13 P **Pn** 15 11 46.4 +1.5
GEM Giv'at Ha'Em 12.95 111 S **Sn** 15 14 08.0 -1.0
GEM Giv'at Ha'Em 12.95 111 P **Pn** 15 11 47.0 +1.8
AK07 Malin Array Si 13.02 23 P **Pn** 15 11 49.5 +3.4
AK06 Malin Array Si 13.05 23 P **Pn** 15 11 49.3 +2.8
AK14 Malin Array Si 13.06 23 P **Pn** 15 11 49.4 +2.8
HFRF Wahat Farafira 13.06 151 P **Pn** 15 11 45.1 -1.7
AK10 Malin Array Si 13.07 23 P **Pn** 15 11 49.6 +2.7
AK05 Malin Array Si 13.08 23 P **Pn** 15 11 49.5 +2.6
AK12 Malin Array Si 13.09 23 P **Pn** 15 11 49.6 +2.6
AK16 Malin Array Si 13.09 23 P **Pn** 15 11 48.9 +1.8
AK09 Malin Array Si 13.10 23 P **Pn** 15 11 49.0 +1.8
BRG Berggiesshubel 13.11 339 *e*P **Pn** 15 11 48.1 +0.8
BRG Amp 15 11 50.2
comp=Z,1.9nm,0.8s
BRG Berggiesshubel 13.11 339 P **P** 15 11 59.8 +2.3
BRG Amp 15 12 13.1
comp=Z,3.4nm,0.9s
AK08 Malin Array Si 13.11 23 P **Pn** 15 11 49.1 +1.8
AK02 Malin Array Si 13.11 23 P **Pn** 15 11 49.1 +1.7
AK19 Malin Array Si 13.11 22 P **Pn** 15 11 49.1 +1.7
KIEV Kiev 13.15 23 **Pn** 15 11 49.8 +2.0
KIEV Kiev 13.15 23 P **Pn** 15 11 49.8 +2.0
AKASG Malin Array Be 13.16 23 Pn **Pn** 15 11 48.6 +0.7
comp=Z,0.8nm,0.3s,baz=210,slow=12,SNR=12
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 13.16 23 *i* P **Pn** 15 11 51.4 +3.4
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 13.16 23 *ce*P **Pn** 15 11 49.2 +1.2
MMLI Mount Malkishu 13.18 115 S **Sn** 15 14 10.9 -3.7
MMLI Mount Malkishu 13.18 115 P **Pn** 15 11 48.7 +0.4
STU Stuttgart 13.20 323 **Pn** 15 11 46.2 -2.3
STU Stuttgart 13.20 323 P **Pn** 15 11 46.2 -2.3
STU Stuttgart 13.20 323 *e*P **Pn** 15 11 48.5 0.0
BFO Black Forest 13.32 320 **Pn** 15 11 49.7 -0.5
BFO Black Forest 13.32 320 P **Pn** 15 11 49.7 -0.5
AMAZ Amatzia 13.34 119 S **Sn** 15 14 12.1 -6.5
AMAZ Amatzia 13.34 119 P **Pn** 15 11 49.3 -1.3
HMDT Nahal Hemdat 13.35 115 S **Sn** 15 14 15.6 -3.2
HMDT Nahal Hemdat 13.35 115 P **Pn** 15 11 50.8 +0.1
KZIT Kziot 13.38 122 S **Sn** 15 14 10.3 -9.1
KZIT Kziot 13.38 122 P **Pn** 15 11 48.5 -2.6
ANN Anapa 13.47 58 *e*P **Pn** 15 11 51.9 -0.4
ANN *e*S **Sn** 15 14 22.1 +0.5
ANN pmax pmax
comp=Z,22nm,1.0s
YTIR Yattir 13.58 119 S **Sn** 15 14 17.9 -6.5
YTIR Yattir 13.58 119 P **Pn** 15 11 52.8 -1.1
DSI Dead Sea 13.64 118 S **Sn** 15 14 19.9 -5.8
DSI Dead Sea 13.64 118 P **Pn** 15 11 53.8 -0.8
CLL Collm 13.76 338 *e*P **Pn** 15 11 58.0 +1.8
CLL MLR MLR
comp=Z,700nm,18.2s
CLL Collm 13.76 338 *e*P **Pn** 15 11 58.0 +1.8
CLL *e*(sP) **P** 15 12 02.0 -2.7
CLL *i* PP **PnPn** 15 12 06.5 +2.4
comp=Z,14nm,0.8s
CLL *i* sPPP 15 12 15.3
CLL *i* x x 15 12 19.4
CLL *ex* x 15 14 54.0
CLL *ex* x 15 15 31.0
CLL AMS AMS 15 17 00.0
comp=N,500nm,18.1s
CLL AMS AMS 15 17 00.0
comp=E,500nm,18.0s
CLL AMS AMS 15 17 00.0
comp=Z,700nm,18.2s
CLL AMS AMS 15 17 00.0
MSBI Mazada 13.77 119 S **Sn** 15 14 22.9 -6.1
MSBI Mazada 13.77 119 P **Pn** 15 11 55.1 -1.3
GHAJ Ghor Haditha 13.92 118 **Pn** 15 11 58.3 -0.2
GHAJ Ghor Haditha 13.92 118 S **Sn** 15 14 26.9 -5.7
GHAJ Ghor Haditha 13.92 118 P **Pn** 15 11 57.5 -0.9
KRMI Paran Flat 14.10 124 S Sn 15 14 26.9 -10
KRMI Paran Flat 14.10 124 P **Pn** 15 11 57.7 -3.3
ZFRI Zfri 14.12 122 S Sn 15 14 29.0 -8.5
ZFRI Zfri 14.12 122 P **Pn** 15 11 58.7 -2.5
PRNI Paran 14.13 123 S Sn 15 14 29.0 -8.9
PRNI Paran 14.13 123 P **Pn** 15 11 58.6 -2.8
HRFI Mount Harif 14.36 123 S Sn 15 14 34.0 -9.5
HRFI Mount Harif 14.36 123 P **Pn** 15 12 01.4 -3.2
ASF Jabal al Asfar 14.37 113 Pn **Pn** 15 12 06.0 +1.2
comp=Z,0.7nm,0.3s,baz=282,slow=5.9,SNR=6.2
comp=Z,3.1nm,0.5s
ASF Jabal al Asfar 14.37 113 P **Pn** 15 12 06.0 +1.2
MBRI Mt Berech 14.44 124 S Sn 15 14 35.4 -10
MBRI Mt Berech 14.44 124 P **Pn** 15 12 02.3 -3.4
EIL Elat 14.55 125 Pn **Pn** 15 12 04.8 -2.3
comp=Z,1.6nm,0.3s,baz=316,slow=3.5,SNR=37
EIL Sn Sn 15 14 38.4 -10
comp=Z,1.4nm,0.3s,baz=360,slow=14,SNR=5.7
EIL LR LR 15 19 09.5
comp=Z,140nm,19.0s,baz=247,slow=43
comp=Z,8.6nm,0.4s
EIL Elat 14.55 125 S Sn 15 14 37.2 -11
EIL Elat 14.55 125 P **Pn** 15 12 03.3 -3.8
SOC Sochi 14.70 65 *e*P **Pn** 15 12 09.6 +0.5
SOC *e* 15 14 54.1
SOC pmax pmax
comp=Z,14nm,0.8s
SOC MLR MLR
comp=Z,93nm,15.0s
SUW Suwalki 15.26 4 **Pn** 15 12 16.3 -0.2
SUW Suwalki 15.26 4 P **Pn** 15 12 16.3 -0.2
SUW Suwalki 15.26 4 *e*P **Pn** 15 12 18.0 +1.5
WLF Walferdange 15.28 320 P **P** 15 12 22.2 +0.6
WLF Walferdange 15.28 320 P **P** 15 12 22.2 +0.6
WLF pmax pmax
comp=Z,21nm,0.9s
WLF Walferdange 15.28 320 *d*P **P** 15 12 20.4 -1.1
comp=Z,17nm,0.8s
LABN Labinsk 15.66 62 *e*P **Pn** 15 12 21.7 -0.1
LABN *e*S **Sn** 15 15 16.3 +1.4
LABN pmax pmax
comp=Z,15nm,0.4s
ERBR Yeremizino-Bor 15.81 58 *e*P **P** 15 12 26.1 -1.4
ERBR *e*S **Sn** 15 15 24.6 +6.0
ERBR pmax pmax
comp=Z,57nm,0.7s
BTNL Ternell 15.89 323 *d*P **P** 15 12 31.0 +2.6
MEM Membach 15.96 323 *d*P **P** 15 12 31.0 +1.9
comp=Z,19nm,0.9s
BSTI Sart Tilman 16.16 322 *d*P **P** 15 12 34.7 +3.4
BCLA Clavier 16.18 321 *d*P **P** 15 12 33.6 +2.0
comp=Z,6.2nm,0.9s
GURO Guroymak-BITLI 16.25 84 P **P** 15 12 35.6 +3.0
BGES Gesves 16.26 321 *d*P **P** 15 12 34.8 +2.3
MNK Minsk 16.33 14 *i* P **Pn** 15 12 27.6 -2.6
MNK comp=E,58nm,0.8s *i* P **Pn** 15 12 27.6 -2.6
comp=N,26nm,0.8s
MNK *i* P **Pn** 15 12 27.6 -2.6
comp=Z,8.0nm,0.6s,baz=199
MNK *i* PP **pP** 15 12 35.9 -2.0
MNK *i* PPP PPP 15 12 43.8
MNK *i* S **Sn** 15 15 27.7 -3.3
MNK *i* SS S 15 15 41.9 -1.5
MNK *i* SSS SSS 15 15 54.3
MNK *i* LQ LQ 15 17 06.3
MNK *i* LRM MLR 15 20 05.6
comp=E,185nm,18.0s
MNK *i* LRM MLR 15 20 13.8
comp=Z,228nm,17.0s
MNK *i* LRM MLR 15 20 14.3
comp=N,101nm,15.1s
MNK Minsk 16.33 14 *i* P **Pn** 15 12 27.6 -2.6
MNK *i* S **Sn** 15 15 27.6 -3.3
MNK pmax pmax
comp=Z,8.0nm,0.6s
MNK pmax pmax
comp=E,58nm,0.8s
MNK pmax pmax
comp=N,26nm,0.8s
MNK MLR MLR
comp=E,185nm,18.0s
MNK MLR MLR
comp=Z,228nm,17.0s
MNK MLR MLR
comp=N,101nm,15.0s
DOU Dourbes 16.33 319 *d*P **P** 15 12 32.7 -0.6
comp=Z,14nm,0.9s
BMRD Maredsous 16.37 320 *d*P **P** 15 12 36.6 +2.9
NACGM Naroch 16.52 11 *i*P **P** 15 12 35.9 +0.6
comp=Z,28nm,1.0s,baz=195
PABE Paberze 16.80 5 **Pn** 15 12 34.4 -1.9
PABE IAmb IAmb 15 12 50.4
comp=Z,55nm,0.8s
PABE Paberze 16.80 5 *e*P **Pn** 15 12 36.1 -0.1
SHA1 Shidzhatmaz 16.82 66 *i* P **P** 15 12 38.8 -0.2
BSD Bornholm Skovb 16.85 347 *e*P **Pn** 15 12 36.8 -0.1
KIV Kislovodsk 16.88 65 P **Pn** 15 12 38.1 +0.5
KIV IAmb IAmb 15 13 02.9
comp=Z,57nm,1.0s
KIV Kislovodsk 16.88 65 *e*P **P** 15 12 39.3 -0.2
KIV *e*S **Sn** 15 15 48.2 +3.4
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,79nm,14.0s
KIV Kislovodsk 16.88 65 P **P** 15 12 39.1 -0.4
comp=Z,374nmcomp=Z,45nm,1.1s
KBZ Khabaz 17.00 66 Pn **P** 15 12 40.6 -0.1
comp=Z,0.5nm,0.3s,baz=312,slow=6.7,SNR=12
comp=Z,12nm,1.0s
KBZ Khabaz 17.00 66 *i* P **P** 15 12 41.8 +1.2
GOF Gofitskoye 17.36 62 *ce*P **P** 15 12 49.4 +4.7
VSR Storozhevoye 17.67 40 *e*P **P** 15 12 48.7 +0.6
VSR pmax pmax
comp=Z,10.0nm,1.1s
VORR Voronezh 17.97 39 P **P** 15 12 53.6 +2.2
VORR pmax pmax
comp=Z,26nm,1.6s
GNI Garni 18.19 78 LR LR 15 20 36.0
comp=Z,180nm,20.7s,baz=277,slow=39
LPSR Galich'ya Gora 18.44 36 *e*P **Pn** 15 12 57.1 +0.5
LPSR pmax pmax
comp=Z,40nm,0.9s
VRH Novokhopyorsk 18.98 43 P **Pn** 15 13 04.9 +1.7
VRH pmax pmax
comp=Z,28nm,1.3s
OBN Obninsk 19.30 27 P **P** 15 13 05.4 -0.4
comp=Z,5.7nm,0.3s,baz=211,slow=20,SNR=5.8
comp=Z,12nm,0.4s
OBN Obninsk 19.30 27 *e*P **Pn** 15 13 08.0 +1.0
OBN pmax pmax
comp=Z,13nm,0.8s
ESDC Sonseca Array 19.52 280 P **P** 15 13 08.7 +0.1
ESDC Sonseca Array 19.52 280 P **P** 15 13 08.8 +0.3
comp=Z,0.4nm,0.3s,baz=74,slow=11,SNR=39
ESDC LR LR 15 20 36.0
comp=Z,166nm,19.5s,baz=81,slow=37
comp=Z,5.1nm,0.7s
VSU Vasula 19.98 8 *i* P **P** 15 13 12.9 -0.4
VSU pmax pmax
comp=Z,23nm,0.6s
VSU Vasula 19.98 8 *e*P **P** 15 13 12.4 -0.9
MOS Moscow 20.16 28 *e*P Pn 15 13 17.1 -0.2
MOS *e* 15 13 32.5
MOS *e* 15 16 55.2
MAK Makhachkala 20.26 70 *d* iP **P** 15 13 13.9 -2.6
MAK *e*S **S** 15 17 01.8 -1.2
MAK pmax pmax
comp=Z,151nm,1.0s
MAK MLR MLR
comp=Z,218nm,14.0s
AKT Akhty 20.40 74 *e*P **P** 15 13 18.1 -0.1
AKT *e*PPP PPP 15 13 44.3
AKT *e*S **S** 15 17 08.5 +2.3
AKT *e* 15 17 31.1
AKT pmax pmax
comp=Z,22nm,0.8s
ARBE Arbavere 20.86 7 *e*P **P** 15 13 22.5 -0.3
CWF Charnwood Fore 20.88 319 *e*P **P** 15 13 23.8 +0.7
CWF IAmb IAmb 15 13 27.7
comp=Z,8.9nm,0.6s
MONM Monmouth 21.21 316 *e*P **P** 15 13 27.5 +0.8
MONM IAmb IAmb 15 13 29.2
comp=Z,11nm,0.7s
MCH1 Michaelchurch 21.39 316 *e*P **P** 15 13 29.3 +0.7
MCH1 IAmb IAmb 15 13 30.7
comp=Z,13nm,0.9s
LBWR Ladybower, Pea 21.45 320 *e*P **P** 15 13 29.6 +0.3
LBWR IAmb IAmb 15 13 33.8
comp=Z,22nm,1.0s
PBRG Braganca 21.50 287 *e*P **P** 15 13 33.1 +3.1
PBRG *i* IAmb IAmb 15 13 46.4
comp=Z,31nm,1.7s
MEF Metsahovi 21.51 4 *e*P **P** 15 13 27.6 -2.2
HLM1 Long Mynd 21.58 317 *e*P **P** 15 13 31.8 +1.1
HLM1 IAmb IAmb 15 13 35.0
comp=Z,20nm,1.1s
MVO Moncorvo 21.74 285 *e*P **P** 15 13 34.9 +2.2
MVO *i* IAmb IAmb 15 13 45.1
comp=Z,31nm,1.7s
MVO *e*LR LR 15 20 41.4
MVO *i* IAMs_20 IAMs_20 15 23 11.0
comp=Z,155nm,16.0s
MDT Midelt 21.76 262 P **P** 15 13 31.4 -1.5
comp=Z,1.8nm,0.5s,baz=74,slow=12,SNR=6.0
comp=Z,1.8nm,0.5s
HFS Hagfors 21.86 350 P **P** 15 13 32.8 -0.9
comp=Z,14nm,0.5s,baz=166,slow=12,SNR=83
HFS LR LR 15 22 34.9
comp=Z,168nm,19.3s,baz=171,slow=38
comp=Z,14nm,0.5s
FOEL Foel Wylfa 21.94 318 *e*P **P** 15 13 35.0 +0.5
FOEL IAmb IAmb 15 13 38.6
comp=Z,26nm,0.7s
PBAR Barrancos 22.10 277 *e*P **P** 15 13 37.3 +0.8
PBAR *i* IAmb IAmb 15 13 45.0
comp=Z,25nm,2.1s
PMRV Marv??o 22.18 281 *e*P **P** 15 13 38.8 +1.5
PMRV *i* IAmb IAmb 15 13 58.5
comp=Z,35nm,1.5s
MTE Manteigas 22.19 283 *e*LR LR 15 21 09.9
MTE *i* IAMs_20 IAMs_20 15 23 03.0
comp=Z,223nm,18.0s
PCBR Castelo Branco 22.20 282 *e*P **P** 15 13 40.4 +3.0
PCBR *i* IAmb IAmb 15 13 53.4
comp=Z,37nm,1.8s
RAF Rauma 22.23 1 *e*P **P** 15 13 36.2 -1.3
POLO Lamas de Olo 22.31 286 *e*pP pP 15 13 43.8 +0.4
PESTR Estremoz 22.41 279 *e*P **P** 15 13 40.1 +0.3
PESTR *i* IAmb IAmb 15 13 52.2
comp=Z,17nm,1.2s
PVIS Viseu 22.43 284 *e*P **P** 15 13 40.9 +0.9
PGAV Gavieira, Arco 22.64 287 *e*LR LR 15 21 21.4
PGAV *i* IAMs_20 IAMs_20 15 26 47.4
comp=Z,138nm,16.0s
BELG Belogornoye 22.76 45 P **P** 15 13 43.2 0.0
comp=Z,10nm,0.3s,baz=58,slow=2.1,SNR=10
comp=Z,10nm,0.3s
BELG Belogornoye 22.76 45 *i* P **P** 15 13 44.7 +1.5
BELG pmax pmax
comp=Z,13nm,1.0s
NC602 NORSAR Array S 22.76 348 P **P** 15 13 42.7 -0.6
NC602 IAmb IAmb 15 13 49.9
comp=Z,26nm,0.9s
PBEJ Beja 22.77 277 *e*P **P** 15 13 44.1 +0.6
PBEJ *i* IAmb IAmb 15 13 57.0
comp=Z,20nm,1.4s
PVAQ Vaqueiros 22.78 276 P **P** 15 13 43.4 -0.3
PVAQ IAmb IAmb 15 13 56.5
comp=Z,21nm,0.9s
PVAQ Vaqueiros 22.78 276 *e*P **P** 15 13 44.4 +0.7
PVAQ *i* IAmb IAmb 15 13 49.6
comp=Z,19nm,1.4s
EVO Evora 22.80 279 *e*P **P** 15 13 43.5 -0.3
EVO *i* IAmb IAmb 15 13 46.7
comp=Z,16nm,1.5s
FINES FINESS Array B 22.85 6 P **P** 15 13 42.4 -1.8
FINES FINESS Array B 22.85 6 P **P** 15 13 42.5 -1.6
comp=Z,9.3nm,0.8s,baz=171,slow=10.0,SNR=47
FINES LR LR 15 23 38.0
comp=Z,359nm,19.6s,baz=188,slow=39
comp=Z,9.3nm,0.8s
FIA1 FINESS Array S 22.85 6 P **P** 15 13 43.2 -0.9
PMTG Montargil 22.87 280 *e*P **P** 15 13 44.5 -0.1
PMTG *i* IAmb IAmb 15 14 03.5
comp=Z,30nm,1.2s
PCAS Casmilo, Conde 22.95 283 *e*pP **pP** 15 13 50.0 -0.2
PCAS *i* IAmb IAmb 15 14 07.9
comp=Z,79nm,1.8s
NAO01 NORSAR Array S 22.98 347 P **P** 15 13 44.7 -0.8
NAO01 IAmb IAmb 15 14 07.9
comp=Z,26nm,0.8s
PCVE Castro Verde 22.99 276 *e*P **P** 15 13 47.1 +1.3
PCVE *i* IAmb IAmb 15 14 08.6
comp=Z,33nm,1.8s
MESJ Messejana 23.08 277 *e*P **P** 15 13 46.2 -0.6
MESJ IAmb IAmb 15 13 57.7
comp=Z,21nm,1.2s
MESJ Messejana 23.08 277 P **P** 15 13 46.1 -0.6
MESJ Messejana 23.08 277 *e*P **P** 15 13 47.8 +1.0
MESJ *i* IAmb IAmb 15 13 56.7
comp=Z,26nm,1.2s
MESJ Messejana 23.08 277 P **P** 15 13 46.1 -0.7
MESJ pmax pmax
comp=Z,19nm,1.1s
NC405 NORSAR Array S 23.09 348 P **P** 15 13 45.8 -0.9
NB201 NORSAR Array S 23.10 348 P **P** 15 13 45.9 -0.9
NB2 NORSAR Subarra 23.11 348 P **P** 15 13 45.7 -1.2
comp=Z,8.9nm,0.6s,baz=161,slow=10
NOA NORSAR Array B 23.11 348 P **P** 15 13 45.6 -1.3
comp=Z,7.9nm,0.7s,baz=156,slow=9.3,SNR=46
NOA LR LR 15 23 35.5
comp=Z,160nm,19.4s,baz=160,slow=39
comp=Z,7.9nm,0.7s
NBO00 NORSAR Array S 23.17 347 IAmb IAmb 15 13 56.1
comp=Z,35nm,1.1s
EKA Eskdalemuir Ar 23.24 323 P **P** 15 13 47.2 -0.9
comp=Z,21nm,1.0s,baz=126,slow=9.6,SNR=28
comp=Z,21nm,1.0s
ESK Eskdalemuir 23.25 323 P **P** 15 13 47.4 -0.9
ESK Eskdalemuir 23.25 323 *e*P **P** 15 13 47.7 -0.7
ESK IAmb IAmb 15 13 50.0
comp=Z,17nm,1.0s
ESK Eskdalemuir 23.25 323 P **P** 15 13 47.4 -0.9
ESK pmax pmax
comp=Z,33nm,0.9s
NC204 NORSAR Array S 23.41 347 P **P** 15 13 48.8 -1.1
NC204 IAmb IAmb 15 13 59.7
comp=Z,26nm,0.8s
KEF Keuruu 23.48 4 *e*P **P** 15 13 48.8 -1.8
PTEO Sao Teotonio 23.54 276 *e*P **P** 15 13 52.3 +1.0
PTEO *i* IAmb IAmb 15 14 02.1
comp=Z,34nm,1.2s
PARRA Arraiolos 23.54 280 *e*P P 15 13 43.2 -8.2
PARRA *i* IAmb IAmb 15 13 57.6
comp=Z,23nm,1.4s
PFVI Vila Bisbo 23.71 275 *e*P **P** 15 13 55.0 +2.0
PFVI *i* IAmb IAmb 15 14 02.3
comp=Z,28nm,1.1s
MCD Coleburn Disti 24.64 328 *e*P **P** 15 14 01.0 -0.4
MCD IAmb IAmb 15 14 03.6
comp=Z,8.9nm,0.7s
KLMR Klimovskoe 24.84 21 *e*P **P** 15 14 02.9 -0.3
KLMR S **S** 15 18 25.6 +0.5
KLMR pmax pmax
comp=Z,38nm,1.3s
KLMR MLR MLR
comp=Z,232nm,13.0s
KPL Plockton 25.53 325 *e*P **P** 15 14 09.3 -0.2
KPL IAmb IAmb 15 14 10.5
comp=Z,7.6nm,0.9s
LRW Lerwick 25.59 334 *e*P **P** 15 14 09.6 -0.4
LRW IAmb IAmb 15 14 11.8
comp=Z,12nm,0.8s
KIRV Kirov 26.82 33 LR LR 15 25 42.7
comp=Z,252nm,18.8s,baz=234,slow=38
KIRV Kirov 26.82 33 *i* P **P** 15 14 23.2 +2.1
AB31 Akbulak array 29.42 57 P **P** 15 14 45.5 +1.0
ABKAR Akbulak array 29.42 57 P **P** 15 14 45.9 +1.4
ARTI Arti 30.10 42 P **P** 15 14 49.5 -0.9
ARTI Arti 30.10 42 *d* iP **P** 15 14 50.6 +0.1
ARTI 15 15 44.9
ARTI S **S** 15 19 51.2 +3.0

ARTI SS **SnSn** **15 21 22.1 +1.1**
ARTI pmax pmax
comp=Z,15nm,2.2s
ARCES **ARCESS Array B** **30.86 3** P **P** **15 14 54.1 -2.8**
ARCES IAmb IAmb 15 14 57.3
comp=Z,8.0nm,0.8s
ARCES **ARCESS Array B** **30.86 3** P **P** **15 14 55.5 -1.5**
comp=Z,4.4nm,0.6s,baz=191,slow=10,SNR=71
ARCES LR LR 15 28 07.6
comp=Z,152nm,18.3s,baz=172,slow=38
comp=Z,4.4nm,0.6s
ARCES **ARCESS Array B** **30.86 3** P **P** **15 14 54.2 -2.8**
ARCES pmax pmax
comp=Z,8.0nm,0.8s
SVE **Sverdlovsk** **31.43 42** *eP* **P** **15 15 02.9 +0.8**
SVE pmax pmax
comp=Z,15nm,0.7s
BORG **Borgarnes** **35.83 330** LR LR 15 32 42.3
comp=Z,138nm,18.4s,baz=130,slow=40
BRVK **Borovoye** **36.22 50** P **P** **15 15 43.0 -0.8**
BRVK IAmb IAmb 15 15 59.5
comp=Z,8.4nm,0.8s
BRVK **Borovoye** **36.22 50***ce*P **P** **15 15 44.7 +0.9**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BVAR **Borovoye Array** **36.28 51** P **P** **15 15 44.3 0.0**
comp=Z,2.0nm,0.4s
comp=Z,2.0nm,0.4s
KK31 **Karatay Array** **37.03 67** IAmb IAmb 15 15 56.4
comp=Z,11nm,0.7s
KKAR **Karatay Array** **37.03 67** P **P** **15 15 51.0 +0.1**
KKAR **Karatay Array** **37.03 67** P **P** **15 15 51.0 +0.1**
BTK **Batken** **37.92 72** IAmb IAmb 15 16 18.4
comp=Z,16nm,0.9s
SCO **Scoresbysund** **38.79 338** *i* P **P** **15 16 05.5 +0.2**
SCO IAmb IAmb 15 16 26.2
comp=Z,14nm,1.1s
SPITS **Spitsbergen Ar** **39.52 358** P **P** **15 16 10.3 -1.1**
comp=Z,1.8nm,0.4s,baz=150,slow=12,SNR=17
SPITS LR LR 15 33 31.1
comp=Z,183nm,20.9s,baz=175,slow=38
comp=Z,1.8nm,0.4s
DBIC **Dimbokro** **39.74 223** P **P** **15 16 14.0 +0.1**
comp=Z,5.0nm,0.8s,baz=58,slow=8.7,SNR=4.5
DBIC LR LR 15 34 13.2
comp=Z,125nm,18.4s,baz=54,slow=39
comp=Z,5.0nm,0.8s
DBIC **Dimbokro** **39.74 223** P **P** **15 16 14.0 +0.1**
AAK **Ala-Archa** **39.99 67** P **P** **15 16 17.0 +1.1**
AAK IAmb IAmb 15 16 31.6
comp=Z,9.3nm,0.7s
AAK **Ala-Archa** **39.99 67** LR LR 15 37 07.1
comp=Z,70nm,18.8s,baz=301,slow=43
AAK **Ala-Archa** **39.99 67***ce*P **P** **15 16 17.8 +1.9**
AAK pmax pmax
comp=Z,8.0nm,1.0s
SOEG **Soedalen** **40.86 333** *i* P **P** **15 16 19.5 -3.1**
SOEG IAmb IAmb 15 16 24.4
comp=Z,5.9nm,0.7s
BBTS **Babate** **41.00 245** LR LR 15 35 42.0
comp=Z,104nm,19.1s,baz=310,slow=40
BOOM **Boomskoye usch** **41.06 67** IAmb IAmb 15 16 45.9
comp=Z,12nm,0.7s
NRN **Naryn** **41.37 68** IAmb IAmb 15 16 37.6
comp=Z,9.3nm,0.8s
KURBB **Kurchatov Arra** **41.40 54** P **P** **15 16 27.2 -0.1**
comp=Z,4.4nm,0.7s,baz=281,slow=8.9,SNR=15
KURBB PP **PnPn** **15 18 08.0 +0.5**
comp=Z,1.5nm,0.7s,baz=280,slow=11,SNR=4.0
KURBB LR LR 15 37 29.0
comp=Z,89nm,19.2s,baz=176,slow=42
comp=Z,4.4nm,0.7s
KURK **Kurchatov** **41.45 54** P **P** **15 16 27.0 -0.6**
KURK **Kurchatov** **41.45 54***ce*P **P** **15 16 28.0 +0.4**
KURK pmax pmax
comp=Z,8.0nm,1.0s
DAG **Danmarks Havn** **41.79 347** *i* P **P** **15 16 28.0 -2.1**
DAG IAmb IAmb 15 16 44.0
comp=Z,5.2nm,0.9s
NIL **Nilore** **41.81 80** P **P** **15 16 30.1 -0.7**
NIL **Nilore** **41.81 80** P **P** **15 16 30.2 -0.7**
NIL pmax pmax
comp=Z,35nm,1.0s
KSH **Kashi** **41.89 71** P **P** **15 16 30.8 -0.7**
KSH pmax pmax
comp=Z,9.0nm,0.6s
SUMG **Summit** **44.43 338** *i* P **P** **15 16 51.3 -0.7**
SUMG IAmb IAmb 15 17 14.3
comp=Z,18nm,1.5s
MK31 **Makanchi Array** **44.49 59***ce*P **P** **15 16 52.4 0.0**
MKAR **Makanchi Array** **44.49 59** P **P** **15 16 51.9 -0.5**
MKAR **Makanchi Array** **44.49 59** P **P** **15 16 52.0 -0.3**
comp=Z,4.4nm,0.5s,baz=279,slow=7.5,SNR=43
MKAR S **S** **15 23 23.6 -3.2**
comp=Z,1.0nm,1.0s,baz=274,slow=17,SNR=3.8
MKAR LR LR 15 38 54.6
comp=Z,71nm,19.5s,baz=294,slow=41
comp=Z,4.4nm,0.5s
ZALV **Zalesovo Beam** **44.85 49** P **P** **15 16 54.6 -0.5**
ZALV **Zalesovo Beam** **44.85 49** P **P** **15 16 54.9 -0.2**
comp=Z,25nm,0.5s,baz=277,slow=8.8,SNR=77
ZALV S **S** **15 23 29.1 -2.7**
comp=Z,0.4nm,0.3s,baz=267,slow=9.9,SNR=3.9
ZALV LR LR 15 38 03.3
comp=Z,116nm,19.6s,baz=276,slow=39
NOR **Nord** **44.92 353** *i* P **P** **15 16 54.0 -1.2**
NOR IAmb IAmb 15 17 05.6
comp=Z,14nm,1.4s
NRIK **Noril'sk** **45.97 27** P **P** **15 17 04.0 +0.2**
comp=Z,1.6nm,0.4s,baz=275,slow=3.9,SNR=4.5
NRIK LR LR 15 37 56.1
comp=Z,175nm,20.4s,baz=261,slow=38
comp=Z,1.6nm,0.4s
NRIK **Noril'sk** **45.97 27** *i* P **P** **15 17 06.3 +2.5**
NRIK pmax pmax
comp=Z,5.0nm,0.9s
SFJD **Kangerlussuaq** **47.96 330** LR LR 15 38 02.9
comp=Z,101nm,19.8s,baz=89,slow=37
NUUG **Nuugaatsiaq** **48.81 336** *i* P **P** **15 17 26.1 +0.3**
NUUG IAmb IAmb 15 17 34.9
comp=Z,29nm,0.9s
WMQ **Urumqi** **48.96 62** *eP* **P** **15 17 30.0 +2.5**
WMQ LR LR
comp=Z,130nm,23.9s
LSZ **Lusaka** **54.20 172** LR LR 15 42 31.0
comp=Z,125nm,18.3s,baz=24,slow=38
EVN **Everest** **54.78 80** P **P** **15 18 09.9 -1.8**
EVN IAmb IAmb 15 18 20.4
comp=Z,8.7nm,0.8s
MOY **Mondy** **54.91 49** *eP* P 15 18 18.6 +6.9
MOY pmax pmax
comp=Z,16nm,1.4s
FRB **Frobisher Bay** **55.91 328** LR LR 15 43 10.8
comp=Z,110nm,19.7s,baz=112,slow=37
ZAK **Zakamensk** **56.72 49** *eP* **P** **15 18 23.3 -1.4**
ZAK pmax pmax
comp=Z,6μm,1.3s
TSUM **Tsumeb** **57.82 184** LR LR 15 45 51.4
comp=Z,137nm,18.1s,baz=329,slow=39
SCHQ **Schefferville** **58.37 317** P **P** **15 18 35.9 -0.2**
comp=Z,2.2nm,0.4s,baz=83,slow=5.5,SNR=8.8
SCHQ LR LR 15 43 39.3
comp=Z,86nm,18.5s,baz=74,slow=36
comp=Z,2.2nm,0.4s
TIXI **Tiksi** **58.85 21** LR LR 15 46 49.8
comp=Z,151nm,19.4s,baz=323,slow=39
GTA **Gaotai** **59.03 62** *eP* **P** **15 18 40.3 -0.9**
GTA sP sP 15 18 46.8 -1.9
GTA pmax pmax
comp=Z,4.0nm,0.6s
GTA LR LR
comp=N,130nm,13.8s
GTA LR LR
comp=E,110nm,16.7s
GTA LR LR
comp=Z,130nm,16.7s
SONM **Songino Array** **59.62 51** **P** **15 18 43.1 -2.0**
SONM **Songino Array** **59.62 51** P **P** **15 18 45.4 +0.3**
comp=Z,1.5nm,0.6s,baz=287,slow=8.8,SNR=6.9
SONM LR LR 15 46 58.9
comp=Z,62nm,19.3s,baz=299,slow=39
comp=Z,1.5nm,0.6s
SONM **Songino Array** **59.62 51** P **P** **15 18 43.1 -2.0**
SONM pmax pmax
comp=Z,15nm,1.4s
ULN **Ulaanbaatar** **60.01 51** P **P** **15 18 48.5 +0.7**
ULN IAmb IAmb 15 18 54.8
comp=Z,6.1nm,0.8s
ULN **Ulaanbaatar** **60.01 51***ce*P **P** **15 18 47.8 0.0**
ULN pmax pmax
comp=Z,5.0nm,0.8s
LZH **Lanzhou** **63.42 64** *eP* **P** **15 19 13.6 +2.6**
LZH sP sP 15 19 21.5 +3.0
LZH pmax pmax
comp=Z,19nm,1.3s
LZH LR LR
comp=N,140nm,17.5s
LZH LR LR
comp=E,190nm,17.6s
LZH LR LR
comp=Z,110nm,17.2s
LBTB **Lobatse** **63.63 176** LR LR 15 49 08.8
comp=Z,134nm,18.0s,baz=360,slow=38
YAK **Yakutsk** **64.28 30** LR LR 15 48 03.8
comp=Z,86nm,18.9s,baz=300,slow=37
YAK **Yakutsk** **64.28 30***ce*P **P** **15 19 18.0 +2.1**
YAK pmax pmax
comp=Z,4.0nm,0.5s
HHC **Hu-ho-hao-te** **66.21 56** *eP* **P** **15 19 29.8 +0.7**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,31nm,3.7s
PZH **PanZhiHua** **66.89 74** P **P** **15 19 36.8 +3.2**
PZH pmax pmax
comp=Z,10.0nm,0.7s
BOSA **Boshof** **67.19 176** P **P** **15 19 33.8 -1.4**
comp=Z,1.5nm,0.9s,baz=327,slow=4.1,SNR=4.4
BOSA LR LR 15 51 27.4
comp=Z,157nm,18.1s,baz=6.5,slow=38
comp=Z,1.5nm,0.9s
CMAR **Chiang Mai Arr** **69.25 83** P **P** **15 19 47.0 -1.3**
comp=Z,0.8nm,0.6s,baz=306,slow=7.9,SNR=6.1
comp=Z,0.8nm,0.6s
CMAR **Chiang Mai Arr** **69.25 83** *i* P P 15 19 54.2 +5.8
CMAR pmax pmax
comp=Z,2.0nm,0.9s
HEH **HeiHe** **70.19 41** *eP* **P** **15 19 53.3 -0.3**
HEH LR LR
comp=N,380nm,20.2s
HEH LR LR
comp=E,340nm,18.0s
HEH LR LR
comp=Z,150nm,17.7s
SADO **Sadowa** **70.25 312** LR LR 15 50 28.0
comp=Z,61nm,18.2s,baz=167,slow=36
SEY **Seymchan** **71.34 21** LR LR 15 53 01.2
comp=Z,90nm,19.6s,baz=323,slow=37
BNX **BinXian** **72.95 45** ⇑P **P** **15 20 09.9 -0.5**
BNX pmax pmax
comp=Z,7.0nm,0.7s
YKA **Yellowknife Ar** **72.98 340** P **P** **15 20 08.1 -2.2**
comp=Z,1.6nm,1.0s,baz=34,slow=6.0,SNR=8.5
YKA LR LR 15 54 26.1
comp=Z,42nm,19.4s,baz=24,slow=38
comp=Z,1.6nm,1.0s
CN2 **Changchun** **73.04 47** P **P** **15 20 09.1 -1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
E22K **Anaktuvuk Pass** **73.24 357** IAmb IAmb 15 20 35.9
comp=Z,5.1nm,0.9s
MA2 **Magadan** **73.48 24** LR LR 15 57 45.6
comp=Z,64nm,19.4s,baz=316,slow=40
BMAR **Burnt Mountain** **73.53 354** P **P** **15 20 14.7 +1.2**
EPYK **Eagle Plains** **73.77 351** IAmb IAmb 15 20 34.5
comp=Z,7.1nm,0.9s
MDP **Montagnes des** **74.26 264** LR LR 15 48 39.1
comp=Z,33nm,21.9s,baz=38,slow=32
IMAR **Indian Mountai** **75.46 358** P **P** **15 20 25.4 +0.7**
NJ2 **Nanjing** **76.01 60** *eP* **P** **15 20 27.4 -1.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
DAWY **Dawson** **76.31 351** IAmb IAmb 15 20 55.9
comp=Z,5.2nm,0.8s
ILAR **Eielson Array** **76.32 355** P **P** **15 20 28.6 -1.0**
comp=Z,0.9nm,0.8s,baz=356,slow=3.9,SNR=10
ILAR LR LR 15 57 32.0
comp=Z,40nm,19.5s,baz=352,slow=38
comp=Z,0.9nm,0.8s
USRK **Ussuriysk Ar.** **76.43 44** P **P** **15 20 30.3 -0.3**
comp=Z,3.8nm,0.7s,baz=296,slow=5.9,SNR=9.9
USRK LR LR 15 56 37.9
comp=Z,55nm,19.4s,baz=348,slow=38
comp=Z,3.8nm,0.7s
HDA **Harding Lake** **76.69 355** IAmb IAmb 15 20 41.5
comp=Z,4.9nm,0.6s
BPAW **Bear Paw Mtn.** **77.23 357** IAmb IAmb 15 20 52.8
comp=Z,5.2nm,1.0s
BCAR **Beaver Creek A** **77.55 352** P **P** **15 20 36.0 -0.7**
CAST **Castle Rocks** **77.96 357** **P** **15 20 38.9 0.0**
CAST IAmb IAmb 15 20 49.1
comp=Z,4.7nm,0.8s
DHY **Denali Highway** **78.04 355** IAmb IAmb 15 20 49.5
comp=Z,7.4nm,0.8s
KSRS **Korea Array** **78.49 51** P **P** **15 20 41.9 -0.3**
comp=Z,2.4nm,0.8s,baz=315,slow=4.6,SNR=9.8
comp=Z,2.4nm,0.8s
TKL **Tuckaleechee C** **78.60 307** LR LR 15 56 35.4
comp=Z,30nm,18.1s,baz=64,slow=37
YSS **Yuzhno-Sakhali** **79.92 36** *eP* **P** **15 20 52.2 +2.3**
YSS *eS* **S** **15 30 53.8 +1.2**
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS MLR MLR
comp=Z,200nm,21.0s
DLBC **Dease Lake** **80.17 345** LR LR 15 56 46.0
comp=Z,7.5nm,18.8s,baz=357,slow=36
PETK **Petropavlovsk-** **80.99 25** P **P** **15 20 56.4 +0.9**
comp=Z,1.7nm,1.0s,baz=35,slow=2.9,SNR=3.9
PETK LR LR 15 59 33.0
comp=Z,72nm,18.1s,baz=320,slow=38
comp=Z,1.7nm,1.0s
ASAJ **Asahikawa** **81.94 38** LR LR 16 01 26.5
comp=Z,62nm,18.6s,baz=328,slow=39
MJAR **Matsushiro Arr** **85.14 46** P **P** **15 21 18.2 +0.9**
comp=Z,1.7nm,0.7s,baz=325,slow=4.3,SNR=7.5
comp=Z,1.7nm,0.7s
T35A **Sooner Cattle** **85.30 315** P **P** **15 21 16.8 -1.3**
BBB **Bella Bella** **85.52 342** LR LR 16 02 47.4
comp=Z,58nm,18.0s,baz=26,slow=38
NEW **Newport** **85.73 334** LR LR 16 01 38.4
comp=Z,77nm,18.1s,baz=24,slow=37
SHEM **Shemya Is, Ala** **85.83 16** LR LR 16 03 41.5
comp=Z,39nm,18.4s,baz=286,slow=38
PDAR **Pinedale Array** **87.33 326** P **P** **15 21 28.3 0.0**
comp=Z,0.4nm,0.7s,baz=49,slow=4.5,SNR=5.2
PDAR LR LR 16 01 22.6
comp=Z,36nm,18.7s,baz=14,slow=36
comp=Z,0.4nm,0.7s
TXAR **Lajitas Array** **94.93 314** P **P** **15 22 04.2 +0.5**
comp=Z,1.5nm,1.0s,baz=57,slow=4.6,SNR=7.9
comp=Z,1.5nm,1.0s
LPAZ **La Paz** **99.54 257** LR LR 16 08 21.3
comp=Z,39nm,19.2s,baz=161,slow=36
WRA **Warramunga Arr** **120.01 92** PKP **PKPdf** **15 27 30.1 -1.9**
comp=Z,0.5nm,0.6s,baz=305,slow=2.0,SNR=5.1
ASAR **Alice Springs** **121.69 96** PKP **PKPdf** **15 27 34.6 -0.6**
comp=Z,1.1nm,0.5s,baz=317,slow=1.4,SNR=7.9
QSPA **South Pole Qui** **128.67 180** PKP **PKPdf** **15 27 47.9 +0.6**
comp=Z,1.0nm,0.9s,baz=273,slow=1.2,SNR=5.4

NDI ***13*** *15:08:56.8±1.8,24.83N×94.93E,h70km,ML4.2,MW4.2*
BKK ***13*** *15:08:56.6±0.8,25.°N±13.°×9.°5E±.°,h10km,M4.1/16, mB4.5/12,mb4.5/15,Mjma3.7/16,ML4.7/6,MLv4.5/8, Mw(mB)3.7/12*
NEIC ***13*** *15:08:59.2±1.8,24.°91N±0.°07.°×94.°70E±0.°10,h71km±9km, mb4.3/13,Error ellipse: s-maj=14.4km s-min=8.4km az=57.0*
IDC ***13*** *15:09:01.6±3.6,24.°84N×94.°85E,h98km±35km,mb3.6/11, mbtmp3.9/12,Error ellipse: s-maj=31.7km s-min=13.2km az=57.0*

ISC 13 15:08:59.0±0.8,24.°91N±0.°05×94.°74E±0.°06,h72km±9km, n63,σ1°52/72,mb4.1/20,1D,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.72**	**264**	*eP*	**Pn**		**15 09 14.7**	**+0.3**
IMP				*eS*	**Sn**		**15 09 25.9**	**+0.1**
IMP					IAML		15 09 30.4	
	19μm,0.4s							
IMP					IAML		15 09 31.1	
comp=E,4μm,0.3s
AZL **Aizawl** **2.20 238** *eP* **Pn** **15 09 32.9 -0.6**
AZL *eS* **Sn** **15 09 59.3 -0.6**
AZL IAML 15 10 05.6
comp=E,1μm,0.4s
AZL IAML 15 10 08.8
comp=E,542nm,0.3s
TEZP **TEZPUR** **2.44 315** *eP* **Pn** **15 09 35.8 -0.7**
TEZP *eS* **Sn** **15 10 06.0 +0.6**
TEZP IAML 15 10 07.9
comp=E,2μm,0.2s
TEZP IAML 15 10 10.3
comp=E,2μm,0.2s
SHL **Shillong** **2.67 285** **Pn** **15 09 39.3 -0.6**
SHL **Shillong** **2.67 285** *eP* **Pn** **15 09 39.0 -0.9**
SHL *eS* **Sn** **15 10 09.6 -1.7**
SHL IAML 15 10 10.9
comp=N,2μm,0.2s
SHL IAML 15 10 11.2
comp=E,1μm,0.2s
ZIRO **ZIRO** **2.72 343** *eP* **Pn** **15 09 40.5 -0.1**
ZIRO *eS* **Sn** **15 10 11.7 -0.9**
ZIRO IAML 15 10 26.6
comp=E,3μm,0.5s
ZIRO IAML 15 10 31.6
comp=E,2μm,0.3s
GUWA **GUWAHATI** **3.03 296** *eP* **Pn** **15 09 43.7 -1.0**
GUWA IAML 15 10 18.6
comp=E,1μm,0.4s
GUWA *eS* **Sn** **15 10 21.1 +1.2**
GUWA IAML 15 10 23.3
comp=E,956nm,0.3s
AGT **Agartala** **3.34 253** *eP* **Pn** **15 09 48.0 -0.8**
AGT *eS* **Sn** **15 10 26.3 -1.1**
AGT IAML 15 10 35.0
comp=E,780nm,0.3s
TNCH **TengChong** **3.43 87** Pn **Pn** **15 09 52.3 +2.0**
TNCH smax smax
comp=N,610nm,1.4s
TNCH smax smax
comp=E,370nm,1.1s
TNCH LR LR
comp=N,2μm,2.8s
TNCH LR LR
comp=E,1μm,2.5s
TNCH LR LR
comp=Z,180nm,4.1s
TAWA **Tawang** **3.71 317** *eP* **Pn** **15 09 54.7 +0.4**
TAWA *eS* **Sn** **15 10 34.0 -3.0**
TAWA IAML 15 10 41.5
comp=E,2μm,0.4s
TAWA IAML 15 10 42.7
comp=E,2μm,0.2s
LSA **Lhasa** **5.74 327** **Pn** **15 10 22.3 +0.3**
LSA **Lhasa** **5.74 327** Pn **Pn** **15 10 21.8 -0.2**
LSA Sn **Sn** **15 11 22.1 -4.6**
LSA smax smax
comp=N,42nm,1.4s
GTK **Tadong** **6.01 295** *eP* **Pn** **15 10 25.8 +0.2**
GTK *eS* **Sn** **15 11 31.2 -1.9**
GTK IAML 15 11 38.9
comp=E,204nm,0.5s
GTK IAML 15 11 38.9
comp=E,184nm,0.5s
CMAI **Chiengmai2** **6.36 140** P **Pn** **15 10 31.2 +0.9**
comp=E,0.5nmcomp=E,0.4nmcomp=E,0.6nmcomp=E,67nm,0.8s
PZH **PanZhiHua** **6.51 74** P **Pn** **15 10 36.9 +4.6**
PZH pmax pmax
comp=Z,60nm,0.7s
CHTO **Chiang Mai** **7.22 146** **Pn** **15 10 42.7 +0.9**
KMI **Kunming** **7.26 87** ⇓P Pn 15 10 48.1 +5.5
KMI pmax pmax
comp=Z,36nm,1.1s
KMI LR LR
comp=N,150nm,7.1s
KMI LR LR
comp=E,62nm,5.3s
MHMT **Maesarieng** **7.33 155** P **Pn** **15 10 43.9 +0.5**
comp=E,0.3nmcomp=E,0.2nmcomp=E,479nmcomp=E,51nm,0.8s
CM15 **Chiang Mai Arr** **7.51 148** P **Pn** **15 10 46.2 +0.3**
comp=E,0.1nmcomp=E,0.1nmcomp=E,210nmcomp=E,17nm,0.6s
CM31 **Chiang Mai Arr** **7.52 148** **Pn** **15 10 45.9 -0.1**
CM31 **Chiang Mai Arr** **7.52 148** P **Pn** **15 10 46.6 +0.6**
CMAR **Chiang Mai Arr** **7.52 148** **Pn** **15 10 45.6 -0.4**
CMAR **Chiang Mai Arr** **7.52 148** P **Pn** **15 10 46.6 +0.6**
comp=E,12nm,0.7s,baz=322,slow=13,SNR=59
CM09 **Chiang Mai Arr** **7.55 148** P **Pn** **15 10 47.0 +0.5**
comp=E,0.1nmcomp=E,0.1nmcomp=E,323nmcomp=E,24nm,0.8s
CM04 **Chiang Mai Arr** **7.58 148** P **Pn** **15 10 47.5 +0.6**
comp=E,0.1nmcomp=E,0.1nmcomp=E,272nmcomp=E,25nm,0.7s
EVN **Everest** **7.72 295** **Pn** **15 10 48.6 -0.7**
UTTA **Uttaradit** **8.96 142** P **Pn** **15 11 06.1 +0.5**
comp=E,0.1nmcomp=E,483nmcomp=E,33nm,1.0s
PHIT **Phitsanulok** **9.33 144** P **Pn** **15 11 12.5 +1.7**
UTHA **Uthaitani** **10.30 154** P **Pn** **15 11 25.1 +1.1**
GOMU **GeErMu** **11.25 0** P **Pn** **15 11 33.3 -3.9**
GOMU pP 15 11 41.0
GOMU sP 15 11 45.3
GOMU pmax pmax
comp=Z,5.0nm,1.0s
LZH **Lanzhou** **13.62 33** *eP* **Pn** **15 12 10.0 +1.0**
LZH pP P 15 12 20.8 +5.3
LZH pmax pmax
comp=Z,10.0nm,1.2s
ENH **Enshi** **14.12 65** **Pn** **15 12 12.1 -3.5**
GTA **Gaotai** **15.08 15** *eP* **P** **15 12 33.8 +2.1**
GTA sP pP 15 12 41.6 -5.0
GTA pmax pmax
comp=Z,11nm,0.8s
GTA LR LR
comp=N,120nm,12.7s
GTA LR LR
comp=E,120nm,13.1s
GTA LR LR
comp=Z,71nm,13.1s
WMQ **Urumqi** **19.72 345** *eP* **Pn** **15 13 25.8 +0.9**
KULM **Kulim** **20.32 163** P **P** **15 13 28.0 -1.4**
KULM IAmb IAmb 15 13 29.2
comp=Z,8.9nm,1.0s
HHC **Hu-ho-hao-te** **21.21 37** *eP* **P** **15 13 41.0 +2.2**
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,62nm,5.5s
KSH **Kashi** **21.48 317** P **P** **15 13 43.4 +1.6**
KSH pmax pmax
comp=Z,10.0nm,1.1s
TARG **Taragay, Kyrgy** **21.88 324** P **P** **15 13 44.3 -2.0**
TARG IAmb IAmb 15 13 54.1
comp=Z,8.9nm,0.6s
MKAR **Makanchi Array** **24.00 339** **P** **15 14 07.3 +0.4**
MKAR **Makanchi Array** **24.00 339** P **P** **15 14 08.1 +1.2**
comp=Z,3.4nm,0.6s,baz=152,slow=10,SNR=36
comp=Z,3.4nm,0.6s
MAKZ **Makanchi** **24.11 338** **P** **15 14 08.7 +0.7**
MAKZ IAmb IAmb 15 14 11.9
comp=Z,6.2nm,0.8s
SONM **Songino Array** **24.67 19** **P** **15 14 14.6 +1.4**
SONM **Songino Array** **24.67 19** P **P** **15 14 14.3 +1.2**
comp=Z,6.4nm,0.7s,baz=196,slow=9.4,SNR=33
comp=Z,6.4nm,0.7s
ULN **Ulaanbaatar** **24.90 20** **P** **15 14 15.5 +0.2**
ULN IAmb IAmb 15 14 18.1
comp=Z,7.1nm,0.7s
BTK **Batken** **25.10 313** P **P** **15 14 19.0 +1.9**
XLT **XiLinHaoTe** **25.73 37** *eP* **P** **15 14 22.4 -0.4**
XLT sP pP 15 14 42.4 +2.6
XLT pmax pmax
comp=Z,6.0nm,0.7s
KURBB **Kurchatov Arra** **28.56 338** P **P** **15 14 50.4 +2.5**
comp=Z,1.4nm,0.8s,baz=151,slow=9.5,SNR=9.5
comp=Z,1.4nm,0.8s
ZALV **Zalesovo Beam** **29.93 348** P **P** **15 15 01.5 +1.4**
comp=Z,0.4nm,0.3s,baz=183,slow=8.7,SNR=2.2
comp=Z,0.4nm,0.3s
MJAR **Matsushiro Arr** **38.83 62** P **P** **15 16 14.9 -2.1**
comp=Z,0.4nm,0.5s,baz=265,slow=9.4,SNR=1.9
comp=Z,0.4nm,0.5s
NRIK **Noril'sk** **44.65 356** P **P** **15 17 05.5 +1.4**
NRIK IAmb IAmb 15 17 12.9
comp=Z,4.4nm,0.8s
TIXI **Tiksi** **50.55 13** P **P** **15 17 49.2 -0.5**
KNRA **Kununurra** **52.23 137** P **P** **15 18 02.3 -0.7**
KNRA IAmb IAmb 15 18 11.0
comp=Z,4.2nm,0.9s
AKASG **Malin Array Be** **55.76 316** P **P** **15 18 28.1 -0.2**

comp=Z,0.6nm,0.5s,baz=80,slow=6.1,SNR=5.9
comp=Z,0.6nm,0.5s
FINES FINESS Array B 58.26 328 P **P** **15 18 44.9 -0.9**
comp=Z,1.5nm,0.7s,baz=107,slow=9.7,SNR=1.9
comp=Z,1.5nm,0.7s
WB0 Warramunga Arr 58.83 135 P **P** **15 18 49.5 -0.8**
WB0 IAmb IAmb 15 19 14.0
comp=Z,3.0nm,1.0s
WRA Warramunga Arr 58.92 136 P **P** **15 18 49.5 -1.5**
comp=Z,0.5nm,0.5s,baz=326,slow=7.1,SNR=14
comp=Z,0.5nm,0.5s
WR8 Warramunga Arr 59.04 135 P **P** **15 18 52.0 +0.2**
KEV Kevo 59.17 338 P **P** **15 18 51.7 -0.3**
AS31 Alice Springs 61.42 139 P **P** **15 19 07.5 -0.6**
ASAR Alice Springs 61.43 139 P **P** **15 19 06.8 -1.3**
ASAR Alice Springs 61.43 139 P **P** **15 19 08.1 0.0**
comp=Z,1.0nm,0.7s,baz=318,slow=6.5,SNR=17
comp=Z,1.0nm,0.7s
HFS Hagfors 64.32 327 P **P** **15 19 26.7 0.0**
comp=Z,0.9nm,0.6s,baz=145,slow=5.4,SNR=4.4
comp=Z,0.9nm,0.6s
GERES GERESS Array B 65.92 314 P **P** **15 19 38.2 +0.8**
comp=Z,0.8nm,0.8s,baz=70,slow=4.4,SNR=5.3
comp=Z,0.8nm,0.8s

*IDC **13** 15:13:35.0±1.6,53.°99S×158.°99E, h0km, mb4.2/9, mbtmp4.2/9, MS3.8/18, Error ellipse: s-maj=83.2km s-min=17.1km az=74.0*
*NEIC **13** 15:13:38.7±2.2,53.°82S±0.°07×158.°7E±0.°2, h10km±1km, mb4.5/18, Error ellipse: s-maj=21.9km s-min=10.0km az=248.0*
ISC 13 15:13:37.5±0.5,53.°91S±0.°08×158.°6E±0.°1, h10km, n63, σ1§54/39, mb4.4/18, MS3.7/18, 3D, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**9.32**	**37**	Pn	**Pn**	**15 15 51.5**	**-0.4**
WHZ	**Wether Hill Ro**	**10.03**	**41**	Pn	**Pn**	**15 16 00.3**	**-1.2**
MLZ	**Mavora Lakes**	**10.53**	**40**		**Pn**	**15 16 10.0**	**+1.5**
MQZ	**McQueen's Vall**	**13.75**	**48**	Pn	**Pn**	**15 16 51.2**	**-1.1**
MRZ	**Mangatainoka R**	**17.49**	**48**		**P**	**15 17 45.3**	**+2.8**
BFZ	**Birch Farm**	**17.77**	**49**	P	**P**	**15 17 47.0**	**+1.4**
URZ	**Urewera**	**20.14**	**47**	LR	LR	15 25 53.9	
	comp=Z,128nm,18.2s,baz=200,slow=37						
VNDA	**Vanda**	**23.74**	**178**	P	**P**	**15 18 51.4**	**+2.1**
VNDA	**Vanda**	**23.74**	**178**	P	**P**	**15 18 48.1**	**-1.2**
	0.9nm,0.9s,baz=356,slow=9.6,SNR=5.2						
VNDA				LR	LR	15 26 16.5	
	comp=Z,176nm,20.6s,baz=12,slow=32						
	0.9nm,0.9s						
STKA	**Stephens Creek**	**25.17**	**324**	P	**P**	**15 19 01.2**	**-1.6**
STKA	**Stephens Creek**	**25.17**	**324**	P	**P**	**15 19 03.2**	**+0.4**
	5.3nm,1.0s,baz=140,slow=13,SNR=5.9						
STKA				LR	LR	15 27 55.6	
	comp=Z,236nm,19.1s,baz=197,slow=34						
	5.3nm,1.0s						
CASY	**Casey**	**26.21**	**223**	P	**P**	**15 19 12.8**	**+0.9**
EIDS	**Eidsvold**	**29.05**	**346**	P	**P**	**15 19 35.7**	**-2.0**
EIDS				IAmb	IAmb	15 19 40.8	
	comp=Z,14nm,1.1s						
FORT	**Forrest**	**31.89**	**304**	P	**P**	**15 20 02.5**	**-0.3**
FORT				IAmb	IAmb	15 20 45.6	
	comp=Z,18nm,1.4s						
CTAO	**Charters Tower**	**35.07**	**340**		**P**	**15 20 30.6**	**+0.1**
CTAO				IAmb	IAmb	15 20 34.1	
	comp=Z,9.4nm,0.8s						
ASAR	**Alice Springs**	**35.45**	**319**	P	**P**	**15 20 35.8**	**+1.9**
	comp=Z,7.7nm,0.9s,baz=154,slow=8.1,SNR=36						
ASAR				PcP	**PcP**	**15 23 01.6**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=140,slow=3.3,SNR=8.4						
ASAR				LR	LR	15 34 59.4	
	comp=Z,196nm,18.0s,baz=123,slow=36						
	comp=Z,7.7nm,0.9s						
AS31	**Alice Springs**	**35.45**	**319**	P	**P**	**15 20 36.6**	**+2.7**
AS31				IAmb	IAmb	15 20 38.0	
	comp=Z,2.9nm,1.0s						
NWAO	**Narrogin (SRO)**	**35.95**	**289**	LR	LR	15 31 17.8	
	comp=Z,181nm,20.5s,baz=98,slow=29						
QSPA	**South Pole Qui**	**36.20**	**180**	P	**P**	**15 20 39.6**	**-0.5**
QSPA				IAmb	IAmb	15 20 45.9	
	comp=Z,7.5nm,1.3s						
QSPA	**South Pole Qui**	**36.20**	**180**	P	**P**	**15 20 39.5**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=29,slow=1.3,SNR=7.5						
QSPA				LR	LR	15 33 50.8	
	comp=Z,79nm,18.6s,baz=316,slow=34						
	comp=Z,1.6nm,0.9s						
H01W1	**Cape Leeuwin H**	**36.27**	**283**	T	T	15 59 24.9	
	baz=136,slow=76,SNR=726						
H01W2	**Cape Leeuwin H**	**36.27**	**283**	T	T	15 59 26.9	
	baz=136,slow=76,SNR=711						
H01W3	**Cape Leeuwin H**	**36.28**	**283**	T	T	15 59 26.1	
	baz=136,slow=76,SNR=839						
WR8	**Warramunga Arr**	**38.60**	**322**		**P**	**15 21 01.2**	**+0.6**
WR8				IAmb	IAmb	15 21 03.5	
	comp=Z,14nm,1.0s						
WRA	**Warramunga Arr**	**38.67**	**322**	P	**P**	**15 21 02.6**	**+1.4**
WRA	**Warramunga Arr**	**38.67**	**322**	P	**P**	**15 21 01.8**	**+0.6**
	comp=Z,7.1nm,1.0s,baz=155,slow=7.1,SNR=20						
WRA				PcP	**PcP**	**15 23 12.0**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=197,slow=2.8,SNR=6.0						
WRA				LR	LR	15 36 39.7	
	comp=Z,429nm,18.7s,baz=124,slow=36						
	comp=Z,7.1nm,1.0s						
WB0	**Warramunga Arr**	**38.81**	**322**	P	**P**	**15 21 03.5**	**+1.1**
WB0				IAmb	IAmb	15 21 04.5	
	comp=Z,8.1nm,0.8s						
MORW	**Morawa**	**39.54**	**292**	P	**P**	**15 21 10.6**	**+2.1**
MORW				IAmb	IAmb	15 21 12.4	
	comp=Z,18nm,1.1s						
COEN	**Coen**	**41.67**	**337**	P	**P**	**15 21 24.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**43.86**	**312**	P	**P**	**15 21 44.6**	**+0.8**
RAR	**Rarotonga**	**45.36**	**61**	LR	LR	15 38 17.4	
	comp=Z,86nm,21.2s,baz=231,slow=33						
BELA	**Belgrano 2**	**48.22**	**176**	P	**P**	**15 22 19.8**	**+2.2**
BELA				IAmb	IAmb	15 22 25.6	
	comp=Z,3.1nm,1.1s						
BATI	**Baumata**	**51.73**	**314**	LR	LR	15 43 53.6	
	comp=Z,259nm,18.2s,baz=218,slow=35						
TROLL	**Troll, Antarti**	**53.26**	**189**	||P	**P**	**15 22 53.9**	**-1.8**
	comp=Z,92nm,0.8s						
JAY	**Jayapura**	**53.30**	**337**	LR	LR	15 44 11.2	
	comp=Z,59nm,19.9s,baz=198,slow=34						
PPT	**Papeete**	**53.79**	**68**	LR	LR	15 42 05.0	
	comp=Z,73nm,19.2s,baz=232,slow=32						
SNAA	**Sanae**	**54.03**	**187**	||P	**P**	**15 22 59.6**	**-1.8**
	comp=Z,63nm,0.9s						
SNAA	**Sanae**	**54.03**	**187**	P	**P**	**15 23 04.0**	**+2.7**
SNAA				IAmb	IAmb	15 23 06.7	
	comp=Z,5.3nm,1.1s						
SNAA	**Sanae**	**54.03**	**187**	P	**P**	**15 22 58.9**	**-2.4**
	comp=Z,2.0nm,1.1s,baz=108,slow=2.7,SNR=3.9						
SNAA				LR	LR	15 45 45.8	
	comp=Z,117nm,18.3s,baz=133,slow=36						
	comp=Z,2.0nm,1.1s						
VNA1	**Neumayer--Stat**	**55.39**	**185**	||P	**P**	**15 23 09.5**	**-1.6**
	comp=Z,7.6nm,0.9s						
PMSA	**Palmer Station**	**57.18**	**160**	LR	LR	15 43 16.1	
	comp=Z,60nm,18.8s,baz=221,slow=31						
KAPI	**Kappang**	**58.06**	**313**	LR	LR	15 49 48.2	
	comp=Z,71nm,18.2s,baz=126,slow=37						
H04S2	**CROZET ISLANDS**	**61.99**	**228**	T	T	16 32 10.6	
	baz=140,slow=75,SNR=51						
H04S1	**CROZET ISLANDS**	**61.99**	**228**	T	T	16 32 11.3	
	baz=140,slow=75,SNR=76						
H04S3	**CROZET ISLANDS**	**62.01**	**228**	T	T	16 32 09.8	
	baz=140,slow=75,SNR=65						
DAV	**Davao City (W)**	**66.81**	**324**	LR	LR	15 54 56.7	
	comp=Z,40nm,19.7s,baz=156,slow=37						
PSI	**Prapat**	**74.98**	**297**	LR	LR	15 58 23.3	
	comp=Z,46nm,18.8s,baz=198,slow=36						
PLCA	**Paso Flores**	**76.70**	**144**	LR	LR	15 52 50.9	
	comp=Z,58nm,18.1s,baz=146,slow=31						
H03S2	**Juan Fernandez**	**79.49**	**134**	T	T	16 53 17.0	
	baz=208,slow=74,SNR=373						
H03S1	**Juan Fernandez**	**79.49**	**134**	T	T	16 53 18.3	
	baz=208,slow=74,SNR=429						
H03S3	**Juan Fernandez**	**79.50**	**134**	T	T	16 53 17.7	
	baz=208,slow=74,SNR=357						
H03N3	**Juan Fernandez**	**79.81**	**134**	T	T	16 53 39.9	
	baz=217,slow=76,SNR=126						
H03N2	**Juan Fernandez**	**79.83**	**134**	T	T	16 53 50.9	
	baz=217,slow=76,SNR=149						
H03N1	**Juan Fernandez**	**79.83**	**134**	T	T	16 53 44.5	
	baz=217,slow=76,SNR=82						
H08S2	**Diego Garcia H**	**81.59**	**269**	T	T	16 56 05.8	
	baz=143,slow=76,SNR=447						
H08S1	**Diego Garcia H**	**81.60**	**269**	T	T	16 56 06.7	
	baz=143,slow=76,SNR=534						
H08S3	**Diego Garcia H**	**81.61**	**269**	T	T	16 56 02.4	
	baz=143,slow=76,SNR=525						
CMAR	**Chiang Mai Arr**	**88.28**	**305**	P	**P**	**15 26 29.8**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=176,slow=3.2,SNR=7.3						
CMAR				LR	LR	16 03 55.7	
	comp=Z,34nm,21.1s,baz=275,slow=34						
	comp=Z,1.3nm,0.9s						
BOSA	**Boshof**	**88.45**	**220**	P	**P**	**15 26 29.1**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=161,slow=5.1,SNR=6.1						
	comp=Z,1.1nm,0.6s						
MJAR	**Matsushiro Arr**	**91.80**	**344**	P	**P**	**15 26 45.3**	**+0.4**
	comp=Z,2.9nm,1.0s,baz=179,slow=7.1,SNR=8.3						
	comp=Z,2.9nm,1.0s						
AKASG	**Malin Array Be**	**149.42**	**285**	PKPbc	**PKPbc**	**15 33 25.4**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=86,slow=2.4,SNR=10						
FINES	**FINESS Array B**	**154.05**	**306**	PKPbc	**PKPbc**	**15 33 35.1**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=344,slow=6.2,SNR=4.2						
GERES	**GERESS Array B**	**157.67**	**271**	PKPab	**PKPab**	**15 34 04.5**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=77,slow=5.8,SNR=4.3						

*IDC **13** 15:18:33.7±0.6,9.°18N×125.°96E, h0km, mb4.0/16, mbtmp4.0/18, ML4.2/2, MS3.2/4, Error ellipse: s-maj=32.6km s-min=12.2km az=85.0*
*NEIC **13** 15:18:35.9±2.0,9.°33N±0.°04×125.°8E±0.°2, h10km±1km, mb4.4/15, Error ellipse: s-maj=27.4km s-min=4.9km az=79.0*
ISC 13 15:18:35.2±0.5,9.°25N±0.°06×125.°9E±0.°1, h10km, n42, σ1§18/39, mb4.2/24, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.19**	**187**	Pn	**Pn**	**15 19 13.4**	**+1.7**
DAV	**Davao City (W)**	**2.19**	**187**	Pn	**Pn**	**15 19 11.2**	**-0.4**
	26nm,0.3s,baz=61,slow=9.0,SNR=7.6						
DAV				Sn	**Sn**	**15 19 40.1**	**+1.3**
	40nm,0.3s,baz=49,slow=24,SNR=7.4						
DAV				LR	LR	15 19 52.7	
	comp=Z,381nm,20.3s,baz=328,slow=37						
	109nm,0.4s						
DAV	**Davao City (W)**	**2.19**	**187**	||eP	Pg	15 19 24.0	+6.8
SBUM	**Sibu**	**15.15**	**244**		**Pn**	**15 22 09.0**	**-0.4**
SBUM				IAmb	IAmb	15 22 23.2	
	comp=Z,23nm,1.1s						
JAY	**Jayapura**	**18.86**	**128**	LR	LR	15 28 54.9	
	comp=Z,87nm,21.4s,baz=270,slow=33						
GUMO	**Guam**	**19.13**	**75**	LR	LR	15 30 50.9	
	comp=Z,35nm,18.5s,baz=265,slow=39						
BATI	**Baumata**	**19.45**	**186**	P	**P**	**15 22 60.0**	**-2.2**
	comp=Z,2.0nm,0.3s,baz=235,slow=2.2,SNR=5.2						
	comp=Z,42nm,1.0s						
KNRA	**Kununurra**	**24.94**	**173**	P	**P**	**15 23 59.9**	**+1.1**
KNRA				IAmb	IAmb	15 24 15.6	
	comp=Z,11nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.18**	**180**	P	**P**	**15 24 20.3**	**+1.2**
KSRS	**Korea Array**	**28.14**	**3**	P	**P**	**15 24 27.7**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=182,slow=9.9,SNR=10						
	comp=Z,0.7nm,0.7s						
COEN	**Coen**	**28.76**	**143**	P	**P**	**15 24 32.9**	**-0.5**
MJAR	**Matsushiro Arr**	**29.39**	**21**	P	**P**	**15 24 37.2**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=197,slow=9.2,SNR=4.7						
	comp=Z,0.8nm,0.8s						
WB0	**Warramunga Arr**	**30.04**	**164**	P	**P**	**15 24 45.1**	**+0.5**
WB0				IAmb	IAmb	15 24 53.1	
	comp=Z,6.4nm,1.1s						
WRA	**Warramunga Arr**	**30.19**	**164**	P	**P**	**15 24 44.0**	**-2.0**
	comp=Z,0.7nm,0.6s,baz=346,slow=9.5,SNR=7.6						
	comp=Z,0.7nm,0.6s						
WR8	**Warramunga Arr**	**30.25**	**164**	P	**P**	**15 24 46.5**	**0.0**
WR8				IAmb	IAmb	15 24 55.1	
	comp=Z,4.3nm,1.1s						
AS31	**Alice Springs**	**33.65**	**167**	P	**P**	**15 25 15.8**	**-0.5**
ASAR	**Alice Springs**	**33.65**	**167**	P	**P**	**15 25 15.8**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=350,slow=7.2,SNR=17						
	comp=Z,0.7nm,0.4s						
GIRL	**Giralia**	**33.68**	**200**	P	**P**	**15 25 16.8**	**+0.2**
USRK	**Ussuriysk Ar.**	**35.22**	**8**	P	**P**	**15 25 30.4**	**+0.7**
USRK	**Ussuriysk Ar.**	**35.22**	**8**	P	**P**	**15 25 30.6**	**+0.9**
	comp=Z,3.6nm,0.6s,baz=194,slow=6.6,SNR=7.8						
	comp=Z,3.6nm,0.6s						
ASAJ	**Asahikawa**	**37.66**	**20**	P	**P**	**15 25 52.2**	**+1.7**
	comp=Z,3.5nm,0.7s,baz=253,slow=24,SNR=1.6						
	comp=Z,3.5nm,0.7s						
JKA	**Kamikawa-asahi**	**37.66**	**20**	P	**P**	**15 25 50.5**	**0.0**
JKA				IAmb	IAmb	15 26 00.5	
	comp=Z,8.0nm,1.0s						
STKA	**Stephens Creek**	**43.58**	**160**	P	**P**	**15 26 39.5**	**-0.2**
STKA	**Stephens Creek**	**43.58**	**160**	P	**P**	**15 26 39.2**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=342,slow=5.4,SNR=6.3						
	comp=Z,3.4nm,0.8s						
PETK	**Petropavlovsk-**	**50.73**	**24**	P	**P**	**15 27 35.2**	**+0.1**
PETK	**Petropavlovsk-**	**50.73**	**24**	P	**P**	**15 27 35.8**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=208,slow=3.7,SNR=7.0						
	comp=Z,2.0nm,0.8s						
PET	**Petropavlovsk**	**51.06**	**25**	P	**P**	**15 27 37.8**	**+0.2**
PET				IAmb	IAmb	15 27 41.7	
	comp=Z,11nm,1.1s						
MKAR	**Makanchi Array**	**52.59**	**323**	P	**P**	**15 27 46.7**	**-2.5**
MKAR	**Makanchi Array**	**52.59**	**323**	P	**P**	**15 27 49.3**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=121,slow=7.4,SNR=6.3						
	comp=Z,0.8nm,0.8s						
MAKZ	**Makanchi**	**52.78**	**323**	P	**P**	**15 27 49.4**	**-1.2**
MAKZ				IAmb	IAmb	15 27 54.9	
	comp=Z,2.5nm,0.6s						
TARG	**Taragay, Kyrgy**	**53.14**	**316**	P	**P**	**15 27 51.6**	**-2.2**
AAK	**Ala-Archa**	**55.76**	**316**	LR	LR	15 53 21.7	
	comp=Z,58nm,19.3s,baz=288,slow=37						
KURK	**Kurchatov**	**56.67**	**326**	P	**P**	**15 28 16.7**	**-2.0**
KURK				IAmb	IAmb	15 28 31.5	
	comp=Z,2.2nm,0.9s						
KURBB	**Kurchatov Arra**	**56.68**	**326**	P	**P**	**15 28 19.8**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=127,slow=6.8,SNR=6.1						
	comp=Z,0.8nm,0.3s						
BVAR	**Borovoye Array**	**62.27**	**326**	P	**P**	**15 28 59.2**	**+1.8**
	comp=Z,0.8nm,0.5s						
	comp=Z,0.8nm,0.5s						
BRVK	**Borovoye**	**62.34**	**326**	P	**P**	**15 28 58.1**	**+0.3**
BRVK				IAmb	IAmb	15 29 01.9	
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**80.53**	**26**	P	**P**	**15 30 47.1**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=263,slow=5.4,SNR=5.4						
	comp=Z,0.3nm,0.6s						
SPITS	**Spitsbergen Ar**	**84.93**	**349**	P	**P**	**15 31 10.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=69,slow=9.9,SNR=1.2						
	comp=Z,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**85.00**	**340**	P	**P**	**15 31 12.1**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=69,slow=6.6,SNR=4.2						
	comp=Z,1.2nm,0.7s						
FINES	**FINESS Array B**	**86.59**	**332**	P	**P**	**15 31 18.1**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=48,slow=2.8,SNR=4.8						
	comp=Z,0.4nm,0.4s						
VNDA	**Vanda**	**88.98**	**173**	P	**P**	**15 31 29.4**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=306,slow=5.1,SNR=4.8						
	comp=Z,1.1nm,0.9s						
PLCA	**Paso Flores**	**145.43**	**158**	PKPbc	**PKPdf**	**15 38 14.7**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=196,slow=11,SNR=3.2						

*DNK **13** 16:09:35.0±3.7,53.°74N×34.°21W, h10km*
*IDC **13** 16:09:38.6±0.4,54.°15N×35.°09W, h0km, mb4.3/30, mbtmp4.3/35, ML3.7/5, MS4.1/67, Error ellipse: s-maj=13.2km s-min=10.2km az=164.0*
*NEIC **13** 16:09:40.3±1.7,54.°25N±0.°09×35.°1W±0.°1, h10km±1km, mb4.2/16, Error ellipse: s-maj=15.2km s-min=12.6km az=180.0*
*GCMT **13** 16:09:42.3±0.2,54.°41N±0.°02×35.°13W±0.°02, h12km, MW5.0/126, Moment Tensor Solution. s33,c39; s126,c201; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.47±.07; $M_{\theta\theta}$0.34±.08; $M_{\phi\phi}$3.13±.06; $M_{r\theta}$1.07±.32; $M_{\theta\phi}$0.43±.06; $M_{r\phi}$1.58±.25; Best double couple: M_o3.83100×10^{16} NP1:ϕ_s359.00000°, δ32.00000°, λ-108.00000°. NP2:ϕ_s200.00000°, δ60.00000°, λ-79.00000°. Principal axes: T 3.6250, Plg14.0000°, Azm282.0000°; N 0.4080, Plg9.0000°, Azm14.0000°; P -4.0370, Plg73.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 16:09:40.6±1.0,54.°23N±0.°06×35.°11W±0.°04, h14km±5km, n563, σ1§05/518, mb4.5/103, MS4.2/81, 6C-8D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRS	**Narsarsuaq**	**8.86**	**326**		**Pn**	**16 11 48.6**	**+0.6**
BORG	**Borgarnes**	**12.62**	**28**		**Pn**	**16 12 41.8**	**+2.4**
BORG	**Borgarnes**	**12.62**	**28**	Pn	**Pn**	**16 12 41.1**	**+1.7**
	0.4nm,0.3s,baz=201,slow=8.5,SNR=5.3						
	4.3nm,0.7s						
BORG	**Borgarnes**	**12.62**	**28**	*i* P	Pn	16 12 33.0	-6.4
NUUK	**Nuuk**	**13.06**	**326**	*i* P	**P**	**16 12 51.6**	**-4.1**
NUUK				IAML		16 18 26.7	
	comp=Z,25nm,2.8s						
SOEG	**Soedalen**	**14.13**	**6**	*i* P	**Pn**	**16 13 00.6**	**+0.6**
SOEG				IAML		16 15 41.7	
	comp=Z,8.0nm,1.7s						
SFJD	**Kangerlussuaq**	**14.83**	**336**	Pn	**Pn**	**16 13 10.2**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=157,slow=5.8,SNR=4.1						
SFJD				LR	LR	16 17 49.3	
	comp=Z,1μm,20.3s,baz=151,slow=33						
	comp=Z,8.3nm,0.8s						
VAL	**Valentia**	**15.09**	**89**	P	**P**	**16 13 17.0**	**-1.3**
IGLA	**Glengowla, Co**	**15.19**	**83**	P	**P**	**16 13 18.3**	**-1.2**
IDGL	**Inch Island, C**	**15.96**	**76**	P	**P**	**16 13 29.6**	**+1.7**
ILTH	**Belurgan, Co L**	**16.82**	**79**	P	**P**	**16 13 38.0**	**+0.5**
DSB	**Dublin**	**16.98**	**82**	P	**P**	**16 13 40.3**	**+1.0**
IWEX	**Carrickbyrne,**	**16.99**	**85**	P	**P**	**16 13 40.7**	**+1.3**
SCO	**Scoresbysund**	**17.34**	**15**		**Pn**	**16 13 40.4**	**-1.4**
SCO	**Scoresbysund**	**17.34**	**15**	*i* P	**Pn**	**16 13 39.5**	**-2.3**
SCO				IAML		16 22 56.1	
	comp=Z,4.6nm,2.9s						
SCHQ	**Schefferville**	**18.34**	**285**	P	**Pn**	**16 13 53.9**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=82,slow=11,SNR=15						
SCHQ				LR	LR	16 19 36.2	
	comp=Z,962nm,22.0s,baz=75,slow=32						
	comp=Z,28nm,1.0s						
ESK	**Eskdalemuir**	**18.36**	**74**		**Pn**	**16 13 52.0**	**-2.4**
EKA	**Eskdalemuir Ar**	**18.38**	**74**	P	**P**	**16 13 54.6**	**-0.1**
	baz=279,slow=10						
	comp=Z,14nm,1.0s						
SUMG	**Summit**	**18.47**	**357**		**P**	**16 13 55.1**	**-1.0**
SUMG	**Summit**	**18.47**	**357**	*i* P	**P**	**16 13 55.0**	**-1.0**
KUQ	**Kuujjuuaa**	**18.82**	**295**		**P**	**16 13 59.8**	**+0.2**
FRB	**Frobisher Bay**	**19.45**	**313**	P	**Pn**	**16 14 08.0**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=100,slow=9.9,SNR=6.2						
FRB				LR	LR	16 20 09.5	
	comp=Z,1μm,18.2s,baz=100,slow=32						
	comp=Z,11nm,0.9s						
JMIC	**Jan Mayen**	**20.47**	**25**	P	**P**	**16 14 18.3**	**+0.9**
	comp=Z,8.8nm,0.6s,baz=115,slow=4.5,SNR=4.4						
JMIC				LR	LR	16 20 10.6	
	comp=Z,728nm,18.9s,baz=243,slow=31						
	comp=Z,8.8nm,0.6s						
JMIC	**Jan Mayen**	**20.47**	**25**	*i* P	**P**	**16 14 15.7**	**-1.7**
BATG	**Bathurst New B**	**20.66**	**263**		**P**	**16 14 20.2**	**+0.6**
LMN	**Caledonia Moun**	**20.70**	**258**		**P**	**16 14 20.5**	**+0.3**
DBG	**Daneborg**	**21.03**	**11**	*i* P	**P**	**16 14 25.3**	**+1.8**
PGAV	**Gavieira, Arco**	**21.57**	**114**	*e*P	**P**	**16 14 30.8**	**+1.2**
PGAV				*i* IAmb	IAmb	16 14 37.0	
	comp=Z,95nm,1.6s						
PGAV				*e*LQ	LQ	16 18 42.9	
PGAV				*e*LR	LR	16 19 36.3	
PGAV				*i* IAMs_20	IAMs_20	16 20 53.4	
	comp=Z,952nm,20.0s						
POLO	**Lamas de Olo**	**22.24**	**114**	||*e*P	**P**	**16 14 39.9**	**+3.1**
POLO				*i* IAmb	IAmb	16 14 40.8	
	comp=Z,22nm,1.4s						
POLO				*e*LQ	LQ	16 18 44.9	
POLO				*e*LR	LR	16 19 53.9	
GGN	**Saint George**	**22.30**	**259**	P	**P**	**16 14 37.0**	**-0.3**
D62A	**Allapoint, Ali**	**22.50**	**265**		**P**	**16 14 39.8**	**+0.3**
PBRG	**Braganca**	**22.51**	**112**	*e*P	**P**	**16 14 42.8**	**+3.2**
PBRG				*i* IAmb	IAmb	16 14 48.5	
	comp=Z,49nm,1.4s						
PVIS	**Viseu**	**22.65**	**115**	||*e*P	**P**	**16 14 43.1**	**+1.9**
G65A	**Princeton**	**22.67**	**260**		**P**	**16 14 40.7**	**-0.5**
F64A	**Sherman**	**22.75**	**262**		**P**	**16 14 41.0**	**-1.0**
MVO	**Moncorvo**	**22.79**	**113**	*e*P	**P**	**16 14 42.3**	**-0.4**
MVO				*i* IAmb	IAmb	16 14 51.3	
	comp=Z,46nm,1.3s						
MVO				*e*LQ	LQ	16 19 04.5	
MVO				*e*LQ	LQ	16 19 09.6	
MVO				*e*LR	LR	16 20 01.8	
MVO				*i* IAMs_20	IAMs_20	16 21 41.4	
	comp=Z,925nm,20.0s						
PCAS	**Casmilo, Conde**	**22.81**	**118**	*e*P	**P**	**16 14 44.0**	**+1.2**
PCAS				*e*LQ	LQ	16 19 06.2	
PCAS				*e*LR	LR	16 20 08.9	
PCAS				*i* IAMs_20	IAMs_20	16 21 40.4	
	comp=Z,1μm,20.0s						
LMQ	**La Malbaie**	**23.02**	**268**	P	**P**	**16 14 43.6**	**-1.3**
MTE	**Manteigas**	**23.06**	**116**	*e*P	**P**	**16 14 46.3**	**+0.8**
MTE				*i* IAmb	IAmb	16 14 53.9	
	comp=Z,62nm,2.2s						
MTE				*

comp=Z,32nm,1.4s
PVAQ eLR LR 16 21 18.7
PVAQ i IAMs_20 IAMs_20 16 23 00.1
comp=Z,867nm,20.0s
NB2 NORSAR Subarra 25.25 56 P **P 16 15 06.1 +0.3**
comp=Z,15nm,1.2s,baz=275,slow=9.3
NOA NORSAR Array B 25.25 56 P **P 16 15 06.3 +0.5**
comp=Z,4.8nm,1.0s,baz=275,slow=9.1,SNR=5.0
NOA LR LR 16 23 18.1
comp=Z,398nm,21.5s,baz=270,slow=32
comp=Z,4.8nm,1.0s
NC303 NORSAR Array S 25.30 55 P **P 16 15 05.2 -1.1**
PAB San Pablo 25.39 113 P **P 16 15 06.1 -1.2**
ESDC Sonseca Array 25.50 112 P **P 16 15 07.7 -0.7**
ESDC Sonseca Array 25.50 112 P **P 16 15 09.1 +0.7**
comp=Z,9.1nm,1.0s,baz=315,slow=9.0,SNR=32
ESDC LR LR 16 23 01.3
comp=Z,785nm,19.6s,baz=313,slow=32
comp=Z,9.1nm,1.0s
WLF Walferdange 25.57 83 P **P 16 15 06.7 -2.1**
WLF IAmb IAmb 16 15 06.7
comp=Z,1.4nm,0.6s
WLF Walferdange 25.57 83 dP **P 16 15 11.3 +2.5**
ILON Igloolik, Nuna 25.89 324 P **P 16 15 10.6 -0.9**
CEST Esterri de Car 26.49 101 **P 16 15 14.8 -2.5**
HFS Hagfors 26.57 57 P **P 16 15 18.0 +0.2**
comp=Z,7.0nm,1.0s,baz=270,slow=5.9,SNR=7.1
HFS LR LR 16 24 38.2
comp=Z,523nm,19.1s,baz=284,slow=34
comp=Z,7.0nm,1.0s
BFO Black Forest 27.45 84 P **P 16 15 26.1 +0.3**
J59A Piesco 27.72 263 P **P 16 15 29.9 +1.6**
CLL Collm 28.81 76 **P 16 15 36.5 -1.4**
CLL Collm 28.81 76 P **P 16 15 38.0 +0.1**
comp=Z,12nm,1.5s
CLL Collm 28.81 76 *i* P **P 16 15 38.7 +0.8**
comp=Z,16nm,1.2s
CLL ePmax 16 15 40.0
CLL *i* sP **sP 16 15 42.5 -0.3**
CLL ex x 16 16 23.0
CLL eS **S 16 20 28.0 +1.0**
CLL eSSS SSS 16 22 00.0
CLL AMS AMS 16 27 00.0
DAVA Damuels 28.88 85 *i* pP pP 16 15 40.9 -1.4
comp=Z,5.9nm,1.2s
DAVOX Davos/Dischmat 29.14 86 LR LR 16 26 51.7
comp=Z,1μm,18.1s,baz=264,slow=36
RETA Reutte 29.29 84 *i* pP pP 16 15 44.5 -1.3
comp=Z,7.4nm,1.2s
FETA Feichten 29.51 85 *i* pP pP 16 15 46.6 -1.3
comp=Z,6.5nm,1.3s
BRG Berggiesshubel 29.53 76 eP **P 16 15 45.3 +1.0**
BRG Amp 16 15 46.3
comp=Z,4.3nm,1.1s
BRG Berggiesshubel 29.53 76 P P 16 15 50.0 +5.7
BRG Amp 16 15 50.9
comp=Z,3.4nm,1.0s
BRG Berggiesshubel 29.53 76 S **S 16 20 44.0 +5.7**
MOTA Moosalm 29.57 84 *i* pP pP 16 15 47.0 -1.3
comp=Z,12nm,1.5s
SADO Sadowa 29.68 270 LR LR 16 26 46.3
comp=Z,2μm,18.3s,baz=82,slow=35
SQTA Sankt Quirin 29.69 84 *i* pP pP 16 15 48.1 -1.3
comp=Z,13nm,1.3s
WATA Walderalm 29.85 84 *i* pP **P 16 15 49.0 +1.7**
comp=Z,5.5nm,1.3s
WTTA Wattenberg 29.92 84 *i* pP **P 16 15 49.3 +1.3**
comp=Z,4.7nm,0.9s
PVCC Panska Ves 30.04 76 AMS AMS 16 27 40.0
comp=Z,600nm,15.9s
PRA Prague 30.17 77 eP **P 16 15 51.7 +1.7**
PRA AMS AMS 16 28 30.0
comp=Z,600nm,15.2s
PRU Pruhonice 30.27 77 AMS AMS 16 28 20.0
comp=Z,500nm,15.0s
ZVC Zvikov 30.33 79 eP **P 16 15 53.0 +1.6**
ZVC AMS AMS 16 26 30.0
comp=Z,600nm,19.4s
GERES GERESS Array B 30.33 80 P **P 16 15 51.7 +0.2**
GERES GERESS Array B 30.33 80 P **P 16 15 51.9 +0.4**
comp=Z,3.3nm,1.0s,baz=308,slow=6.6,SNR=16
GERES LR LR 16 27 31.2
comp=Z,586nm,18.6s,baz=294,slow=35
comp=Z,3.3nm,1.0s
MDT Midelt 30.39 122 LR LR 16 25 11.7
comp=Z,118nm,20.2s,baz=30,slow=31
LESA Schwarzleotal 30.44 83 *i* pP pP 16 15 54.3 -1.7
comp=Z,13nm,1.7s
GOPC GO Pecny, Ondr 30.45 77 AMS AMS 16 28 30.0
comp=Z,500nm,14.1s
CKRC Cesky Krumlov 30.69 80 eP **P 16 15 56.4 +1.8**
CKRC eS **S 16 20 51.7 -4.9**
CKRC AMS AMS 16 27 10.0
comp=Z,500nm,20.1s
ARCES ARCESS Array B 30.79 37 P **P 16 15 55.2 0.0**
comp=Z,5.0nm,0.9s,baz=267,slow=8.4,SNR=8.9
ARCES LR LR 16 25 60.0
comp=Z,114nm,18.7s,baz=290,slow=32
comp=Z,5.0nm,0.9s
RES Resolute Bay 30.81 333 LR LR 16 26 49.1
comp=Z,326nm,20.2s,baz=84,slow=33
CHVC Chvalec 30.86 75 AMS AMS 16 29 00.0
comp=Z,500nm,13.1s
BIOA Bad Ischl, Aus 30.87 82 epP **P 16 15 57.5 +1.4**
comp=Z,7.6nm,1.2s
UPC Upice 30.87 76 eP **P 16 15 57.8 +1.6**
UPC AMS AMS 16 28 20.0
comp=Z,600nm,16.5s
KSP Ksiaz 30.88 75 P **P 16 15 56.6 +0.4**
comp=Z,5.7nm,1.8s
OSTC Ostas 30.97 75 AMS AMS 16 29 00.0
comp=Z,500nm,15.2s
KBA Koelnbreinsper 31.01 83 *i* pP pP 16 15 59.8 -1.3
comp=Z,9.1nm,1.1s
DPC Dobruska-Polom 31.12 76 eP **P 16 15 59.7 +1.3**
DPC eS **S 16 21 06.7 +3.3**
DPC AMS AMS 16 28 50.0
comp=Z,600nm,16.7s
DPC Dobruska-Polom 31.12 76 P **P 16 15 58.7 +0.3**
comp=Z,226nmcomp=Z,11nm,1.5s
MOA Molln 31.15 81 *i* pP pP 16 16 00.9 -1.3
comp=Z,9.2nm,1.5s
MYKA Terra Mystica 31.42 84 *i* pP **P 16 16 02.8 +1.7**
comp=Z,12nm,1.2s
SSPA Standing Stone 31.45 262 P **P 16 16 00.4 -0.9**
BLKN Baker Lake 31.45 313 P **P 16 16 00.4 -0.7**
KRLC Kraliky 31.51 76 eP **P 16 16 03.5 +1.7**
KRLC AMS AMS 16 29 00.0
comp=Z,700nm,15.5s
VRAC Vranov 31.77 77 eP **P 16 16 05.3 +1.2**
VRAC Vranov 31.77 77 LR LR 16 28 37.9
comp=Z,514nm,18.7s,baz=310,slow=36
KRUC Moravsky 31.77 78 eP **P 16 16 05.0 +0.9**
OBKA Obir 32.02 83 *i* P **P 16 16 07.2 +0.8**
comp=Z,0.3nm,0.4s
CONA Conrad Observa 32.03 80 *i* P **P 16 16 06.2 -0.3**
comp=Z,3.0nm,1.1s
MORC Moravsky Berou 32.09 76 eP **P 16 16 08.2 +1.3**
STEB Steborice 32.14 76 eP **P 16 16 08.3 +1.0**
ARSA Arzberg 32.19 81 *i* pP pP 16 16 10.2 -1.1
comp=Z,4.2nm,1.0s
SOKA Soboth 32.21 83 *i* P **P 16 16 08.4 +0.4**
comp=Z,3.4nm,1.2s
FINES FINESS Array B 32.23 52 P **P 16 16 04.3 -3.7**
FINES FINESS Array B 32.23 52 P **P 16 16 07.5 -0.5**
comp=Z,4.4nm,1.0s,baz=336,slow=9.0,SNR=9.0
FINES LR LR 16 27 36.8
comp=Z,322nm,21.3s,baz=268,slow=33
comp=Z,4.4nm,1.0s
OKC Ostrava-Krasne 32.40 76 AMS AMS 16 30 00.0
comp=Z,500nm,14.5s
RONA Rosalia, Austr 32.40 80 *i* pP **P 16 16 11.4 +1.7**
comp=Z,9.6nm,1.0s
MAUC Maruska 32.45 76 eP **P 16 16 11.6 +1.5**
JAVC Velka Javorina 32.61 77 eP **P 16 16 13.4 +1.9**
MODS Modra-Piesok 32.62 78 eP **P 16 16 11.7 +0.1**
OJC Ojcow 33.15 74 eP **P 16 16 16.9 +0.7**
OJC Ojcow 33.15 74 P **P 16 16 16.5 +0.3**
comp=Z,11nm,1.5s
Q56A Snyder Ridge, 33.25 261 **P 16 16 16.7 -0.5**
MPLH Magyarpolny 33.40 80 P **P 16 16 19.0 +0.7**
comp=Z,27nm,2.4s
VYHS Vyhne 33.46 77 eP **P 16 16 20.4 +1.5**
LANS Liptovska Anna 33.49 76 eP **P 16 16 21.3 +2.1**
SRO Srobarova 33.51 79 eP **P 16 16 21.8 +2.5**
NIE Niedzica 33.83 75 eP **P 16 16 23.4 +1.4**
NIE Niedzica 33.83 75 P **P 16 16 23.0 +0.9**
comp=Z,115nmcomp=Z,4.0nm,1.1s
MORH Mrgy, Hungar 34.56 81 P **P 16 16 28.8 +0.4**
comp=Z,163nmcomp=Z,8.1nm,1.9s
NACGM Naroch 34.86 63 eP **P 16 16 32.3 +1.5**
comp=Z,6.0nm,0.9s,baz=295
KWP Kalwaria Pacla 35.08 73 P **P 16 16 34.3 +1.4**
comp=Z,16nm,2.0s
KOLS Kolonicke sedl 35.19 75 eP **P 16 16 35.5 +1.6**
HOLU Holmets 35.46 75 P **P 16 16 36.7 +0.5**
EPLO Experimental L 35.51 287 P **P 16 16 37.0 +0.4**
MNK Minsk 35.60 63 *i* P **P 16 16 35.9 -1.4**
comp=E,16nm,0.7s
MNK *i* P **P 16 16 35.9 -1.4**
comp=N,15nm,0.9s
MNK *i* P **P 16 16 35.9 -1.4**
comp=Z,17nm,0.8s,baz=296
MNK *i* PP **PnPn 16 17 52.2 -4.2**
MNK *i* PPP PPP 16 18 07.0
MNK *i* S **S 16 22 12.2 -0.4**
MNK *i* SS **SnSn 16 24 33.9 +0.7**
MNK *i* SSS SSS 16 24 50.9
MNK *i* LQ LQ 16 27 23.1
MNK *i* LRM MLR 16 30 55.3
comp=Z,277nm,16.8s
MNK *i* LRM MLR 16 31 05.9
comp=N,237nm,16.3s
MNK *i* LRM MLR 16 32 22.5
comp=E,187nm,15.7s
MUKU Mukachevo 35.67 75 P **P 16 16 37.3 -0.7**
KEST Kesra 35.75 103 P **P 16 16 39.2 +0.4**
comp=E,14nm,1.0s,baz=310,slow=0.4,SNR=12
KEST LR LR 16 29 15.1
comp=E,288nm,18.5s,baz=354,slow=33
comp=E,14nm,1.0s
BERU Beregovo 35.77 75 P **P 16 16 39.1 +0.3**
G40A Rib Lake 35.86 279 P **P 16 16 40.8 +1.1**
I42A Draeger Farm, 35.91 276 P **P 16 16 40.4 +0.3**
BRIU Brid 35.92 75 P **P 16 16 39.6 -0.5**
RNPP9 Sopachiv 35.97 69 P **P 16 16 40.4 -0.1**
RNPP8 Varash 35.98 69 P **P 16 16 40.5 -0.1**
RNPP5 Staryi Chortor 36.05 69 P **P 16 16 41.0 -0.2**
MEZ Mezhgor'ye 36.11 74 P **P 16 16 42.9 +1.1**
K43A Burlington 36.28 274 P **P 16 16 42.5 -0.7**
STNU Starunia 36.56 74 P **P 16 16 46.6 +1.0**
RAKU Rahkiv 36.74 75 P **P 16 16 47.3 +0.2**
R49A Shelbyville 37.24 266 P **P 16 16 51.8 +0.4**
R49A IAmb IAmb 16 16 52.0
comp=Z,0.6nm,0.2s
VAE Valguarnera 37.47 96 LR LR 16 30 36.3
comp=Z,231nm,21.2s,baz=322,slow=34
FFC Flin Flon 37.52 299 P **P 16 16 53.7 +0.1**
BURAR Bucovina Array 37.56 75 P **P 16 16 55.2 +1.0**
KMPD K-Podol'skiy 37.74 73 P **P 16 16 55.4 -0.2**
LUBAR Lubar, Ukraine 37.75 70 P **P 16 16 55.5 -0.1**
WCI Wyandotte Cave 37.94 266 P **P 16 16 57.5 +0.2**
AK20 Malin Array Si 38.01 68 P **P 16 16 57.8 0.0**
AK21 Malin Array Si 38.01 68 P **P 16 16 57.7 -0.1**
AK19 Malin Array Si 38.02 68 P **P 16 16 57.8 -0.1**
AK22 Malin Array Si 38.03 68 P **P 16 16 57.9 -0.1**
AK18 Malin Array Si 38.05 68 P **P 16 16 58.0 -0.2**
AK17 Malin Array Si 38.06 68 P **P 16 16 58.0 -0.3**
AK16 Malin Array Si 38.10 68 P **P 16 16 58.3 -0.3**
AK04 Malin Array Si 38.10 68 P **P 16 16 58.6 0.0**
AK14 Malin Array Si 38.12 68 P **P 16 16 58.8 +0.1**
AK11 Malin Array Si 38.13 68 P **P 16 16 58.8 0.0**
AK03 Malin Array Si 38.13 68 P **P 16 16 58.9 +0.1**
AK12 Malin Array Si 38.14 68 P **P 16 16 58.9 0.0**
KIEV Kiev 38.14 68 P **P 16 16 58.6 -0.3**
KIEV Kiev 38.14 68 P **P 16 16 59.2 +0.3**
comp=Z,1μmcomp=Z,56nm,1.4s
AK01 Malin Array Si 38.14 68 P **P 16 16 59.2 +0.2**
AKASG Malin Array Be 38.15 68 P **P 16 16 58.0 -1.0**
comp=Z,3.3nm,0.8s,baz=304,slow=8.4,SNR=25
AKASG LR LR 16 33 36.9
comp=Z,146nm,18.1s,baz=293,slow=38
comp=Z,3.3nm,0.8s
AKBB Malin Array Si 38.15 68 P **P 16 16 59.2 +0.2**
AK02 Malin Array Si 38.16 68 P **P 16 16 58.7 -0.4**
AK05 Malin Array Si 38.18 68 P **P 16 16 58.8 -0.4**
AK06 Malin Array Si 38.19 68 P **P 16 16 59.0 -0.4**
AK08 Malin Array Si 38.20 68 P **P 16 16 59.2 -0.2**
AK10 Malin Array Si 38.21 68 P **P 16 16 59.1 -0.4**
AK09 Malin Array Si 38.22 68 P **P 16 16 59.2 -0.4**
TKL Tuckaleechee C 38.23 261 LR LR 16 31 45.8
comp=Z,603nm,21.6s,baz=50,slow=35
VOIR 38.69 78 P **P 16 17 02.9 -0.8**
comp=Z,7.8nm,1.2s
USIN University of 38.92 267 P **P 16 17 06.7 +1.1**
USIN IAmb IAmb 16 17 06.8
comp=Z,2.2nm,0.6s
SORM Soroca 39.03 72 P **P 16 17 05.7 -0.8**
comp=Z,7.5nm,1.5s
F33A 5 Mile Ranch, 39.04 284 P **P 16 17 06.8 +0.2**
MLR Muntele Rosu 39.17 77 LR LR 16 32 27.4
comp=Z,495nm,21.6s,baz=312,slow=35
MLR Muntele Rosu 39.17 77 P **P 16 17 07.4 -0.4**
comp=Z,5.5nm,1.5s
X51A Calhoun 39.62 261 P **P 16 17 12.3 +0.8**
A36M Sachs Harbour 39.75 331 P **P 16 17 13.5 +1.4**
baz=67
OBN Obninsk 39.77 58 LR LR 16 32 39.2
comp=Z,347nm,19.1s,baz=211,slow=35
YKAW3 Yellowknife Wh 39.92 315 P **P 16 17 13.7 0.0**
YKA Yellowknife Ar 39.95 315 P **P 16 17 14.2 +0.4**
comp=Z,3.0nm,0.7s,baz=61,slow=8.8,SNR=17
YKA PcP **PcP 16 19 18.9 0.0**
comp=Z,3.2nm,0.9s,baz=56,slow=3.4,SNR=15
YKA LR LR 16 32 10.3
comp=Z,386nm,20.7s,baz=46,slow=34
comp=Z,3.0nm,0.7s
WVT Waverly 40.26 265 P **P 16 17 17.3 +0.4**
WVT IAmb IAmb 16 17 17.4
comp=Z,0.7nm,0.3s
ECSD EROS Data Cent 40.48 281 P **P 16 17 19.4 +0.8**
FVM French Village 40.52 270 P **P 16 17 19.3 +0.3**
PURM Purcari 40.80 73 P **P 16 17 21.4 +0.3**
comp=Z,61nm,0.8s
E28A Huff 41.11 287 P **P 16 17 24.8 +1.0**
PLAL Pickwick Lake 41.20 264 P **P 16 17 25.2 +0.6**
SUSD Miller 41.39 283 P **P 16 17 25.5 -0.5**
SUSD IAmb IAmb 16 17 25.6
comp=Z,3.5nm,0.4s
RDO Rodhopi 41.59 83 P **P 16 17 28.7 +1.0**
ALN Alexandroupoli 42.04 83 P **P 16 17 31.1 -0.3**
BBTS Babate 42.08 153 LR LR 16 31 09.2
comp=Z,166nm,21.2s,baz=230,slow=31
BGNE Belgrade 42.81 279 P **P 16 17 37.7 0.0**
BGNE IAmb IAmb 16 17 37.8
comp=Z,7.9nm,0.9s
WRGLY Wrigley 43.16 319 P **P 16 17 41.6 +1.4**
baz=59
SJG San Juan 43.23 226 LR LR 16 32 50.0
comp=Z,67nm,20.9s,baz=105,slow=32
CELP Cerrillos 43.45 226 P **P 16 17 43.2 +0.2**
TAM Tamanrasset 43.70 120 P **P 16 17 44.4 -0.8**
INK Inuvik 43.98 328 P **P 16 17 45.9 -0.9**
INK Inuvik 43.98 328 LR LR 16 35 32.5
comp=Z,610nm,18.8s,baz=62,slow=35
INK Inuvik 43.98 328 P **P 16 17 48.0 +1.2**
baz=57
KIRV Kirov 44.04 49 LR LR 16 34 46.6
comp=Z,206nm,19.6s,baz=295,slow=34
LAO LASA Array 44.11 291 P **P 16 17 48.0 -0.2**
F31M Tsiigehtchic 44.54 327 P **P 16 17 51.8 +0.7**
baz=56
D28M Stokes Point 44.96 331 P **P 16 17 55.5 +1.0**
baz=54
G31M Satah River 45.00 327 P **P 16 17 56.1 +1.2**
baz=55,SNR=7.1
KOTAN Kotaneelee Air 45.07 315 P **P 16 17 56.6 +1.0**
baz=56
MANT Manisa 45.08 83 P **P 16 17 54.2 -2.0**
F30M Barrier River 45.08 328 P **P 16 17 56.3 +0.7**
baz=54
IDI Anoyia 45.11 89 LR LR 16 37 27.5
comp=Z,167nm,20.7s,baz=304,slow=37
E29M Blow River 45.27 329 P **P 16 17 58.1 +1.0**
baz=54
G30M tAoh Zraii Nji 45.59 327 P **P 16 18 01.3 +1.7**
baz=54
E28M Babbage River 45.62 330 P **P 16 18 01.5 +1.6**
baz=53
D27M Malcolm River 45.64 331 P **P 16 18 01.6 +1.5**
baz=52
H31M Peel River 45.67 325 P **P 16 18 01.8 +1.4**
baz=54
EPYK Eagle Plains 46.12 327 P **P 16 18 05.3 +1.4**
baz=53,SNR=8.4
C27K Jago River 46.16 333 P **P 16 18 04.9 +0.8**
baz=50
G29M Pine Creek 46.20 328 P **P 16 18 05.1 +0.6**
baz=52
TOAD Toad River Com 46.30 314 P **P 16 18 06.4 +1.0**
baz=54,SNR=9.1
MMPY Sheldon Lake, 46.47 321 P **P 16 18 08.2 +1.5**
baz=54,SNR=9.2
E27K Coleen River 46.48 330 P **P 16 18 07.4 +0.7**
baz=51
ANTO Ankara 46.62 79 P **P 16 18 08.3 +0.1**
comp=Z,5.0nm,1.5s
I30M Mount Dempster 46.70 325 P **P 16 18 09.2 +0.6**
baz=52,SNR=16
H29M Whitestone 46.74 327 P **P 16 18 09.3 +0.7**
baz=52,SNR=7.7
BELG Belogornoye 46.75 57 LR LR 16 36 59.2
comp=Z,299nm,18.4s,baz=286,slow=35
D25K Kavik River 47.07 333 P **P 16 18 12.1 +0.8**
baz=48
J30M Hart River 47.09 325 P **P 16 18 12.6 +1.1**
baz=52,SNR=14
BR106 Keskin Array S 47.18 78 P **P 16 18 13.7 +1.1**
comp=Z,89nmcomp=Z,9.5nm,1.2s
BR105 Keskin Array S 47.19 78 P **P 16 18 13.8 +1.1**
comp=Z,104nmcomp=Z,11nm,1.2s
BRTR Keskin Array B 47.20 78 P **P 16 18 13.6 +0.8**
BRTR Keskin Array B 47.20 78 P **P 16 18 13.9 +1.1**
comp=Z,9.9nm,1.1s,baz=308,slow=6.1,SNR=36
BRTR LR LR 16 39 36.3
comp=Z,188nm,18.4s,baz=308,slow=38
comp=Z,9.9nm,1.1s
BR104 Keskin Array S 47.22 78 P **P 16 18 14.0 +1.1**
comp=Z,104nmcomp=Z,11nm,1.1s
I29M Ogilvie Camp, 47.26 326 P **P 16 18 13.8 +1.1**
baz=51
G27K Doyon Strip 47.38 329 P **P 16 18 14.8 +1.1**
baz=50
C24K Franklin Bluff 47.41 334 P **P 16 18 15.4 +1.6**
baz=47
FARO Faro, Yukon 47.48 321 P **P 16 18 15.5 +1.0**
baz=52
F26K Sheenjek River 47.54 331 P **P 16 18 16.1 +1.2**
baz=49
E25K Arctic Village 47.66 332 P **P 16 18 16.5 +0.7**
baz=48
H27K Steamboat Moun 47.72 328 P **P 16 18 17.4 +1.0**
baz=50
I28M Miner Creek 47.73 327 P **P 16 18 17.5 +1.0**
baz=50,SNR=10
J29N Klondike Camp 47.80 325 P **P 16 18 18.2 +1.1**
baz=50
C23K Itkillik River 47.81 335 P **P 16 18 18.0 +1.1**
baz=46
D24K Happy Valley 47.83 334 P **P 16 18 17.8 +0.7**
baz=46
BMAR Burnt Mountain 47.84 331 P **P 16 18 18.2 +1.0**
M31M Drury Creek, Y 47.88 321 P **P 16 18 17.9 +0.3**
baz=51
G26K Porcupine Rive 47.93 330 P **P 16 18 18.5 +0.7**
baz=48
K29M Barlow Dome 47.95 324 P **P 16 18 18.9 +0.6**
baz=50,SNR=9.0
F25K Christian Rive 48.03 331 P **P 16 18 19.6 +0.8**
baz=48
N32M Quiet Lake 48.05 320 P **P 16 18 19.5 +0.5**
baz=51
B22K Teshekpuk Lake 48.13 336 P **P 16 18 19.8 +0.5**
baz=44
A21K Barrow 48.13 338 P **P 16 18 19.8 +0.5**
baz=42
I27K Kandik River 48.16 328 P **P 16 18 20.2 +0.5**
baz=49,SNR=7.8
R33M Jennings River 48.33 317 P **P 16 18 21.9 +0.6**
baz=51,SNR=13
TOLK Toolik Lake Re 48.38 334 P **P 16 18 22.0 +0.6**
baz=46
PDAR Pinedale Array 48.43 289 P **P 16 18 22.1 -0.3**
PDAR Pinedale Array 48.43 289 P **P 16 18 23.1 +0.7**
comp=Z,2.0nm,0.7s,baz=61,slow=8.0,SNR=18
PDAR LR LR 16 37 45.3
comp=Z,502nm,18.8s,baz=26,slow=35
comp=Z,2.0nm,0.7s
D23K Nanushuk River 48.44 334 P **P 16 18 22.7 +0.9**
baz=45
DAWY Dawson 48.44 325 P **P 16 18 22.1 +0.1**
DAWY Dawson 48.44 325 P **P 16 18 22.6 +0.6**
baz=49,SNR=6.7
E24K Your Creek 48.49 333 P **P 16 18 23.0 +0.7**
baz=46
M30M Minto, Yukon 48.51 323 P **P 16 18 23.2 +0.7**
baz=50
P33M Teslin, Yukon 48.54 319 P **P 16 18 23.5 +0.7**
baz=51,SNR=6.1
DLBC Dease Lake 48.55 316 LR LR 16 37 49.9
comp=Z,46nm,18.6s,baz=19,slow=35
DLBC Dease Lake 48.55 316 P **P 16 18 23.6 +0.7**
baz=51
L29M L29M 48.64 324 P **P 16 18 24.4 +0.9**
baz=50
F24K Squaw Lake 48.71 332 P **P 16 18 24.9 +0.9**
baz=46
G25K Bearman Lake 48.73 330 P **P 16 18 24.8 +0.8**
baz=47
E23K Chandalar 48.80 333 P **P 16 18 25.5 +0.7**
baz=45
I26K Coal Creek Min 48.84 328 P **P 16 18 25.2 +0.3**
baz=48
N31M Braeburn, Yuko 48.85 321 P **P 16 18 25.8 +0.7**
baz=50
B21K Ikpikpuk River 48.93 336 P **P 16 18 26.1 +0.5**
baz=43
NEW Newport 48.95 299 LR LR 16 37 29.9
comp=Z,547nm,21.6s,baz=51,slow=34
H25L Birch Creek 48.99 330 P **P 16 18 26.6 +0.5**
baz=47
D22K Ayikyak River 49.01 335 P **P 16 18 26.8 +0.6**
baz=44
WHY Whitehorse 49.05 320 P **P 16 18 27.0 +0.3**
baz=50
Q32M Nakina River 49.12 317 P **P 16 18 27.8 +0.3**
baz=50,SNR=6.3
G24K Hadweenzic Riv 49.17 331 P **P 16 18 27.8 +0.4**
baz=46
M29M Somme Creek 49.19 323 P **P 16 18 28.4 +0.6**
baz=49,SNR=11
B20K Meade River 49.23 337 P **P 16 18 28.1 +0.2**
baz=41
ARTI Arti 49.24 47 P **P 16 18 28.2 0.0**
ARTI IAmb IAmb 16 18 28.2
comp=Z,0.9nm,0.4s
ARTI Arti 49.24 47 LR LR 16 37 39.1
comp=Z,328nm,20.4s,baz=314,slow=34
P32M Atlin 49.29 318 P **P 16 18 29.5 +0.9**
baz=50
C21K Knifeblade Rid 49.32 336 P **P 16 18 29.3 +0.7**
baz=42
E22K Anaktuvuk Pass 49.33 334 P **P 16 18 29.4 +0.7**
baz=44
S34M Telegraph Cree 49.33 316 P **P 16 18 29.1 +0.3**
baz=50
N30M Aishikik Lake 49.34 322 P **P 16 18 29.7 +0.8**
baz=49
K27K Chicken 49.35 326 P **P 16 18 29.2 +0.3**
baz=48
PRP Porcupine Dome 49.42 329 P **P 16 18 29.1 -0.5**
baz=46
O30N Mendenhall 49.43 321 P **P 16 18 29.1 -0.4**
baz=49,SNR=8.1
KVAR Kislovodsk Arr 49.50 68 LR LR 16 39 09.3
comp=Z,127nm,19.1s,baz=312,slow=36
J26L Joseph Creek 49.51 327 P **P 16 18 29.5 -0.7**
baz=47,SNR=7.7
COLD Coldfoot 49.55 332 P **P 16 18 30.6 +0.2**
baz=44,SNR=6.0
T35M Bob Quinn 49.56 314 P **P 16 18 30.1 -0.5**
baz=50
E21K Killik River 49.65 335 P **P 16 18 31.5 +0.3**
baz=42
KBZ Khabaz 49.76 68 P **P 16 18 32.9 +0.7**
comp=Z,3.3nm,0.8s,baz=306,slow=17,SNR=8.0
KBZ LR LR 16 39 30.8
comp=Z,211nm,20.9s,baz=320,slow=36
comp=Z,3.3nm,0.8s

PCRV **Puerto La Cruz** 49.83 219 LR LR 16 35 34.5
comp=Z,71nm,21.7s,slow=31
G23K **Bananza Creek** 49.88 332 P P 16 18 33.2 +0.3
baz=44
F22K **John River** 49.88 333 P P 16 18 33.2 +0.4
baz=43
NRIK **Noril'sk** 49.88 23 P P 16 18 34.8 +2.0
comp=Z,1.6nm,0.7s,baz=302,slow=4.4,SNR=7.5
NRIK LR LR 16 38 42.9
comp=Z,78nm,21.3s,baz=326,slow=35
comp=Z,1.6nm,0.7s
H24K **Noodor Dome** 49.89 330 P P 16 18 33.3 +0.2
baz=45
BCAR **Beaver Creek A** 49.91 325 P P 16 18 34.5 +1.3
HYT **Haines Junctio** 49.91 321 P P 16 18 32.9 -0.4
baz=48,SNR=9.4
L27K **Beaver Creek,** 49.93 325 P P 16 18 33.2 -0.1
baz=47,SNR=5.9
A19K **Wainwright** 49.94 339 P P 16 18 33.3 +0.1
baz=38
YUK4 **Talbot Arm** 49.98 322 P P 16 18 33.7 -0.2
baz=48
J25K **Salcha River,** 50.00 328 P P 16 18 34.1 +0.2
baz=46,SNR=9.5
SCRK **Sand Creek** 50.01 327 P P 16 18 33.9 -0.1
baz=46,SNR=20
D20K **Etivluk River** 50.09 336 P P 16 18 35.2 +0.7
baz=41
G22K **Bettles** 50.13 333 P P 16 18 34.9 +0.2
baz=43
TORD **Torodi Ar. Bea** 50.14 131 LR LR 16 38 25.8
comp=Z,186nm,18.4s,baz=338,slow=34
YUK6 **Outpost Mounta** 50.15 322 P P 16 18 35.3 0.0
baz=48
P30M **Million Dollar** 50.18 320 P P 16 18 34.6 -0.7
baz=48
POKR **Poker Plat Res** 50.27 329 P P 16 18 35.6 -0.3
baz=45,SNR=6.8
E20K **Nigu River** 50.34 336 P P 16 18 34.7 -1.6
baz=41
YUK3 **Moose Creek** 50.34 323 P P 16 18 36.3 -0.3
baz=47
ILAR **Eielson Array** 50.35 329 P P 16 18 37.2 +0.7
ILAR **Eielson Array** 50.35 329 P P 16 18 36.7 +0.2
comp=Z,2.7nm,1.0s,baz=39,slow=5.8,SNR=23
ILAR PcP PcP 16 19 55.4 +0.5
comp=Z,2.4nm,1.0s,baz=8.1,slow=2.8,SNR=7.7
ILAR LR LR 16 39 42.1
comp=Z,326nm,18.6s,baz=66,slow=36
comp=Z,2.7nm,1.0s
H23K **Yukon River** 50.38 331 P P 16 18 35.9 -0.8
baz=44,SNR=11
PLBC **Pleasant Camp** 50.40 319 P P 16 18 36.9 0.0
baz=48
YUK8 **Steele Glacier** 50.42 323 P P 16 18 37.0 -0.4
baz=47
M27K **Edge Creek, AK** 50.43 325 P P 16 18 37.0 -0.2
baz=47
F21K **Alatna River** 50.43 334 P P 16 18 36.7 -0.3
baz=42
RIDG **Independent Ri** 50.45 327 P P 16 18 37.4 +0.1
baz=46
R32K **Eaglecrest** 50.47 317 P P 16 18 36.9 -0.5
baz=49
C19K **Lookout Ridge** 50.48 337 P P 16 18 36.8 -0.6
baz=39
COLA **College** 50.57 329 P P 16 18 37.9 -0.2
baz=44
D19K **Kuna River** 50.62 336 P P 16 18 38.2 -0.3
baz=40
HDA **Harding Lake** 50.63 329 P P 16 18 38.3 -0.3
baz=45
O29M **Mount Kennedy** 50.66 321 P P 16 18 38.7 -0.3
baz=48
K24K **Donnelly Dome** 50.70 328 P P 16 18 38.7 -0.5
baz=45,SNR=9.9
M26K **Nabesna, AK** 50.77 325 P P 16 18 38.6 -1.2
baz=46
P29M **Windy Craggy** 50.80 320 P P 16 18 39.2 -0.8
baz=48
WRAK **Wrangell Islan** 50.81 315 P P 16 18 39.7 -0.3
baz=49
I23K **Minto, Yukon-K** 50.82 330 P P 16 18 39.2 -0.7
baz=44,SNR=9.5
H22K **Ishtalitna Cre** 50.85 332 P P 16 18 39.7 -0.6
baz=43
O28M **Mount Upton** 50.93 322 P P 16 18 41.0 -0.2
baz=47
G21K **Allakaket** 50.97 333 P P 16 18 40.9 -0.2
baz=42
MDP **Montagnes des** 51.01 203 LR LR 16 35 54.7
comp=Z,65nm,19.5s,baz=325,slow=31
S32K **Killisnoo** 51.02 317 P P 16 18 41.6 0.0
baz=48,SNR=11
NEA2 **Nenana** 51.14 330 P P 16 18 42.4 0.0
baz=44
F20K **Avaraart Lake** 51.14 334 P P 16 18 42.3 -0.1
baz=40
PAX **Paxson** 51.19 327 P P 16 18 43.6 +0.7
baz=45
C18K **Utukok River** 51.20 338 P P 16 18 43.3 +0.4
baz=38
CTG **Chitna Glacier** 51.20 323 P P 16 18 42.6 -0.5
baz=46
E19K **Redstone River** 51.20 335 P P 16 18 42.8 -0.1
baz=40
V35K **Ketchikan** 51.22 313 P P 16 18 43.5 +0.4
baz=48
MLY **Manley** 51.31 331 P P 16 18 43.3 -0.4
baz=43
U33K **Whale Pass** 51.34 315 P P 16 18 44.3 +0.4
baz=48
S31K **Pelican** 51.35 318 P P 16 18 45.0 +0.9
baz=48,SNR=5.4
PNL **Peninsula** 51.40 321 P P 16 18 44.7 +0.3
baz=47
PINM **Pinnacle** 51.41 322 P P 16 18 44.9 +0.3
baz=46
H21K **Melozitna Rive** 51.42 332 P P 16 18 44.9 +0.3
baz=42,SNR=7.3
IMAR **Indian Mountai** 51.43 333 P P 16 18 45.3 +0.7
HARP **HAARP** 51.49 326 P P 16 18 45.8 +0.7
baz=45
MCARA **McCarthy VSAT** 51.50 324 P P 16 18 45.4 +0.3
baz=46
I21K **Tanana** 51.55 331 P P 16 18 45.7 +0.3
baz=42,SNR=9.0
SIT **Sitka** 51.60 317 P P 16 18 46.3 +0.4
baz=47
DHY **Denali Highway** 51.72 328 P P 16 18 46.5 -0.5
baz=44,SNR=7.5
MCK **McKinley** 51.73 329 P P 16 18 46.8 0.0
baz=43,SNR=7.3
BBB **Bella Bella** 51.76 308 LR LR 16 39 45.8
comp=Z,335nm,18.4s,baz=44,slow=35
CRAG **Craig** 51.77 314 P P 16 18 47.4 +0.3
baz=48
C17K **DeLong Mountai** 51.77 338 P P 16 18 47.2 +0.1
baz=36
F19K **Shaleruckik Mo** 51.82 335 P P 16 18 47.6 +0.2
baz=39
N25K **Chitina, Valde** 51.87 325 P 16 18 49.2 +1.2
N25K PcP 16 20 02.3 +1.7
N25K **Chitina, Valde** 51.87 325 P P 16 18 48.0 -0.1
baz=45
CRQE **Cirque** 51.97 324 P P 16 18 49.0 +0.2
baz=45,SNR=9.8
MESA **MESA** 51.97 323 P P 16 18 48.8 -0.1
baz=46
ANMO **Albuquerque** 51.99 279 P P 16 18 50.1 +0.7
ANMO **Albuquerque** 51.99 279 LR LR 16 40 17.6
comp=Z,1μm,18.9s,baz=140,slow=35
M24K **Tolsona, Glenn** 52.04 326 P P 16 18 48.5 -0.7
baz=44
E18K **Tukpahlearik C** 52.04 336 P P 16 18 49.0 -0.1
baz=37
BPAW **Bear Paw Mtn.** 52.07 330 P P 16 18 48.5 -0.9
baz=42
WAX **Waxell Ridge** 52.09 323 IAmb IAmb 16 18 55.2
comp=Z,3.0nm,0.5s
H20K **Anotleneega Mo** 52.11 333 P P 16 18 49.1 -0.6
baz=40,SNR=12
WAT6 **Susitna Watana** 52.20 327 P P 16 18 50.0 -0.5
baz=43,SNR=6.9
WAT1 **Susitna Watana** 52.27 328 P P 16 18 51.1 +0.2
baz=43
BAUV **El Baul** 52.27 223 P P 16 18 51.4 0.0
BMRM **Bremner River** 52.33 324 P P 16 18 51.7 +0.3
baz=44
TRF **Thorofare Moun** 52.34 329 P P 16 18 51.7 0.0
baz=42,SNR=9.4
D17K **Noatak River** 52.39 338 P P 16 18 52.1 +0.5
baz=36
KLU **Klutina** 52.40 326 P P 16 18 52.1 +0.1
baz=44
C16K **Lisburne Hills** 52.40 339 P P 16 18 51.9 +0.1
baz=34
F18K **Selawik** 52.47 335 P P 16 18 52.9 +0.6
baz=38
H19K **Roundabout Mou** 52.50 333 P P 16 18 52.2 -0.3
baz=39
I20K **Naaghedeneel** 52.54 332 P P 16 18 52.7 -0.1
baz=40
SCM **Sheep Creek Mo** 52.61 326 P P 16 18 53.6 0.0
baz=43
CHUM **Lake Minchumin** 52.62 330 P P 16 18 54.1 +0.7
baz=41
M23K **Glacier View** 52.77 327 P P 16 18 54.7 +0.1
baz=43
G18K **Tagagawik** 52.78 335 P P 16 18 54.8 +0.2
baz=38
MMAI **Mount Meron Ar** 52.88 83 LR LR 16 42 53.9
comp=Z,130nm,21.3s,baz=296,slow=38
CAST **Castle Rocks** 52.91 330 P P 16 18 55.9 +0.3
baz=41,SNR=12
J20K **Nowinta River** 52.92 331 P P 16 18 56.1 +0.5
baz=40
F17K **Baldwin Pennin** 52.98 336 P P 16 18 56.3 +0.3
baz=36
AKTO **Aktyubinsk** 53.00 53 LR LR 16 40 50.0
comp=Z,198nm,19.3s,baz=300,slow=35
KAIM **Kayak Island** 53.02 323 P P 16 18 57.1 +0.7
baz=44
EYAK **Cordova Ski Ar** 53.02 325 P P 16 18 56.6 +0.2
baz=43
GNI **Garni** 53.19 70 LR LR 16 42 33.8
comp=Z,129nm,20.1s,baz=318,slow=37
GCSA **Galena City Sc** 53.23 333 P P 16 18 58.4 +0.5
baz=38
GLI **Glacier Island** 53.24 326 P P 16 18 58.7 +0.7
baz=43
KNK **Knik Glacier** 53.29 327 P P 16 18 58.9 +0.4
baz=42
H18K **Honhosa River** 53.30 334 P P 16 18 58.3 -0.1
baz=38
DBIC **Dimbokro** 53.33 141 P P 16 18 58.5 -0.8
comp=Z,7.6nm,0.7s,baz=356,slow=8.7,SNR=8.2
DBIC LR LR 16 39 02.1
comp=Z,689nm,19.7s,baz=344,slow=33
comp=Z,7.6nm,0.7s
PPLA **Purkeypile** 53.33 329 P P 16 18 59.3 +0.4
baz=41
PMR **Palmer** 53.37 327 P P 16 18 59.4 +0.4
baz=42
SDV **Santo Domingo** 53.39 226 LR LR 16 39 44.1
comp=Z,51nm,21.0s,baz=61,slow=34
J19K **Poorman** 53.48 332 P P 16 19 00.2 +0.4
baz=39
K20K **Telida** 53.53 331 P P 16 19 00.4 +0.2
baz=40
M22K **Willow** 53.56 328 P P 16 19 00.3 -0.1
baz=41,SNR=5.6
G17K **Kiwalik Mounta** 53.60 335 P P 16 19 00.5 -0.1
baz=36
PWL **Port Wells** 53.66 326 P P 16 19 01.9 +0.8
baz=42,SNR=7.2
SKT **Skwentna** 53.83 328 P P 16 19 02.5 +0.1
baz=41,SNR=11
H17K **Granite Mounta** 53.87 334 P P 16 19 02.9 +0.3
baz=37
TIXI **Tiksi** 53.91 6 P P 16 19 02.4 -0.4
TIXI **Tiksi** 53.91 6 LR LR 16 39 02.9
comp=Z,103nm,21.7s,baz=12,slow=33
RC01 **Rabbit Creek A** 53.94 327 P P 16 19 03.1 -0.1
baz=41
P23K **Montague Islan** 53.99 325 P P 16 19 02.4 -1.1
baz=42
Q23K **Middleton Isla** 54.05 324 P P 16 19 03.3 -0.6
baz=42
G16K **Koyuk River** 54.10 336 P P 16 19 03.5 -0.8
baz=35
L20K **Farewell, AK** 54.16 330 P P 16 19 04.5 -0.3
baz=39
J18K **Innoko River** 54.19 332 P P 16 19 05.1 +0.1
baz=38
ASF **Jabal al Asfar** 54.35 83 LR LR 16 44 22.2
comp=Z,96nm,19.0s,baz=342,slow=38
M20K **Styx River** 54.39 329 P P 16 19 06.0 -0.6
baz=40
TXAR **Lajitas Array** 54.41 272 P P 16 19 07.4 +0.3
comp=Z,2.5nm,0.8s,baz=47,slow=5.7,SNR=4.1
TXAR PcP PcP 16 20 11.2 +0.4
comp=Z,1.0nm,0.9s,baz=115,slow=3.5,SNR=3.7
TXAR LR LR 16 41 50.3
comp=Z,450nm,18.8s,baz=48,slow=36
comp=Z,2.5nm,0.8s
SEW **Seward** 54.59 326 P P 16 19 08.3 +0.4
baz=41
L19K **White Mountain** 54.67 330 P P 16 19 08.0 -0.5
baz=39
H16K **Elim** 54.70 335 P P 16 19 08.0 -0.6
baz=35
ABKAR **Akbulak array** 54.71 53 P P 16 19 09.7 +0.7
M19K **Big River Lodg** 54.75 330 P P 16 19 09.1 0.0
baz=39
G15K **Niuluk** 54.84 336 P P 16 19 10.3 +0.7
baz=34
J17K **VABM Dome** 54.89 333 P P 16 19 10.8 +0.8
baz=36
F14K **Arctic Creek** 54.96 337 P P 16 19 11.4 +0.9
baz=33
EIL **Elat** 55.05 87 LR LR 16 45 52.1
comp=Z,44nm,18.8s,baz=246,slow=40
L18K **Granite Mounta** 55.17 331 P P 16 19 12.9 +0.8
baz=38
K17K **Iditarod** 55.23 332 P P 16 19 13.2 +0.7
baz=37
M18K **Stony River** 55.50 330 P P 16 19 15.2 +0.7
baz=38
ANM **Nome** 55.51 336 P P 16 19 14.8 +0.3
baz=33
O20K **Slope Mountain** 55.63 327 P P 16 19 16.0 +0.5
baz=39
N19K **Bonanza Creek** 55.64 329 P P 16 19 14.1 -1.5
baz=38
HOM **Homer** 55.65 327 P P 16 19 15.6 0.0
baz=39
L17K **Donlin** 55.70 332 P P 16 19 15.9 0.0
baz=36
M17K **Holitna River** 56.04 331 P P 16 19 18.6 +0.2
baz=37
N18K **Kilae Creek** 56.17 329 P P 16 19 19.0 -0.3
baz=37
NVAR **Mina Array Bea** 56.24 290 P P 16 19 21.9 +1.5
NVAR **Mina Array Bea** 56.24 290 P P 16 19 22.2 +1.8
comp=Z,0.7nm,0.7s,baz=169,slow=2.4,SNR=3.6
NVAR LR LR 16 42 45.9
comp=Z,573nm,18.1s,baz=29,slow=35
comp=Z,0.7nm,0.7s
YBH **Yreka Blue Hor** 56.27 296 LR LR 16 42 24.7
comp=Z,26nm,19.8s,baz=56,slow=35
L16K **Owhat River** 56.37 332 P P 16 19 20.2 -0.5
baz=36
TUC **Tucson** 56.38 280 P P 16 19 21.4 +0.1
K15K **Wolf Creek Mou** 56.45 333 P P 16 19 20.2 -1.1
baz=34
BRVK **Borovoye** 56.54 44 P P 16 19 22.6 +0.6
J14K **Nanvaranak Lak** 56.59 334 P P 16 19 22.2 0.0
baz=33
BVAR **Borovoye Array** 56.61 44 P P 16 19 23.4 +0.9
comp=Z,5.0nm,0.8s
BVAR LR LR 16 41 40.9
comp=Z,222nm,21.9s,baz=299,slow=34
comp=Z,5.0nm,0.8s
O18K **Koktuh Hills** 56.62 328 P P 16 19 23.5 +1.0
baz=37
N17K **Nushagak Hills** 56.67 330 P P 16 19 23.2 +0.3
baz=36
Q20K **Shuyak Island** 56.71 326 P P 16 19 24.0 +0.8
baz=39
M16K **Timber Creek** 56.78 331 P P 16 19 25.1 +1.4
baz=36
Q19K **Cape Douglas,** 56.86 327 P P 16 19 25.3 +1.0
baz=38
L15K **Ungalak Mounta** 56.95 333 P P 16 19 25.4 +0.7
baz=34
N16K **Nishlik Lake** 57.18 331 P P 16 19 26.9 +0.4
baz=36
O17K **Koliganek Bris** 57.26 329 P P 16 19 27.0 0.0
baz=36
KDAK **Kodiak Island** 57.42 326 LR LR 16 43 47.5
comp=Z,237nm,18.9s,baz=41,slow=36
KDAK **Kodiak Island** 57.42 326 P P 16 19 28.9 +0.7
baz=38
Q18K **Katmai Hardscr** 57.52 328 P P 16 19 29.5 +0.5
baz=37
M15K **Kasigluk River** 57.54 332 P P 16 19 30.0 +1.0
baz=34
L14K **Kuka Creek** 57.55 333 P P 16 19 29.2 +0.2
baz=33
K13K **Kusilvak Mount** 57.56 334 P P 16 19 29.2 +0.1
baz=32
O16K **Kokwok River B** 57.70 330 P P 16 19 30.6 +0.5
baz=36
N15K **Kwethluk River** 57.81 331 P P 16 19 30.5 -0.4
baz=35
M14K **Bethel** 57.84 332 P P 16 19 31.1 0.0
baz=34
Q16K **King Salmon** 58.01 328 P P 16 19 32.5 +0.3
baz=36
P16K **Nushagak River** 58.13 329 P P 16 19 32.7 -0.4
baz=35
R18K **Karluk** 58.21 326 P P 16 19 32.9 -0.8
baz=37
M13K **Dall Lake** 58.50 333 P P 16 19 35.7 0.0
baz=33
O15K **Ungalikthiuk R** 58.55 330 P P 16 19 35.8 -0.2
baz=34
ROSC **El Rosal** 58.59 228 P P 16 19 38.2 +0.8
comp=Z,53nm,0.8s,baz=119,slow=7.6,SNR=12
ROSC LR LR 16 42 22.1
comp=Z,95nm,22.0s,baz=87,slow=34
PFO **Pinyon Flats O** 58.69 285 P P 16 19 39.3 +1.7
CMIG **Matias Romero** 58.73 255 LR LR 16 46 30.7
comp=Z,142nm,19.2s,baz=7.0,slow=38
R17L **Mt. Peulik Vol** 58.77 327 P P 16 19 37.3 -0.4
baz=36
O14K **Tigyukauivet M** 58.90 331 P P 16 19 38.2 -0.3
baz=34
JTS **Las Juntas de** 58.92 241 LR LR 16 42 08.7
comp=Z,160nm,21.1s,baz=14,slow=33
SII **Sitkinak Islan** 58.93 326 P P 16 19 38.6 -0.1
baz=37
M11K **Mekoryuk** 59.27 334 P P 16 19 40.8 -0.2
baz=31
CHIR **Chirikof Islan** 60.00 326 P P 16 19 45.9 -0.2
baz=36
S14K **Fog Glacier** 60.87 328 P P 16 19 51.6 -0.6
baz=34
ZALV **Zalesovo Beam** 61.33 36 P P 16 19 55.1 -0.1
ZALV **Zalesovo Beam** 61.33 36 P P 16 19 55.9 +0.6
comp=Z,0.9nm,0.4s,baz=336,slow=7.0,SNR=4.9
ZALV LR LR 16 46 05.8
comp=Z,78nm,20.6s,baz=306,slow=36
comp=Z,0.9nm,0.4s
KURK **Kurchatov** 61.66 41 P P 16 19 57.0 -0.5
KURBB **Kurchatov Arra** 61.70 42 P P 16 19 58.5 +0.7
comp=Z,8.0nm,0.9s,baz=322,slow=7.5,SNR=48
KURBB PcP PcP 16 20 40.1 +1.0
comp=Z,2.8nm,1.0s,baz=320,slow=4.8,SNR=7.6
comp=Z,8.0nm,0.9s
SDPT **Sand Point** 61.94 328 P P 16 19 58.9 -0.4
baz=33
CHNA **Chernabura Isl** 62.10 327 P P 16 19 59.4 -1.0
baz=33
S12K **Black Hills** 62.13 329 P P 16 20 00.1 -0.5
baz=32
LPIG **La Paz** 62.24 273 LR LR 16 46 49.5
comp=Z,479nm,18.1s,baz=30,slow=36
SEY **Seymchan** 63.03 356 LR LR 16 46 10.7
comp=Z,168nm,21.7s,baz=10.0,slow=35
P08K **Saint George I** 63.44 334 P P 16 20 08.7 -0.6
baz=28
YAK **Yakutsk** 63.46 8 P P 16 20 08.5 -0.9
YAK **Yakutsk** 63.46 8 LR LR 16 45 22.2
comp=Z,95nm,22.0s,baz=349,slow=34
KK31 **Karatay Array** 64.19 52 P P 16 20 14.6 0.0
KKAR **Karatay Array** 64.19 52 P P 16 20 14.7 +0.1
UNV **Unalaska Valle** 65.04 331 P P 16 20 18.9 -0.9
baz=29
RAYN **Ar Rayn** 65.85 83 P P 16 20 25.1 -0.4
RAYN IAmb IAmb 16 20 25.2
comp=Z,0.6nm,0.2s
MAKZ **Makanchi** 66.13 42 P P 16 20 27.3 +0.3
MKAR **Makanchi Array** 66.26 42 P P 16 20 28.4 +0.5
MKAR **Makanchi Array** 66.26 42 P P 16 20 28.7 +0.8
comp=Z,6.0nm,0.9s,baz=328,slow=5.2,SNR=41
MKAR LR LR 16 50 15.7
comp=Z,84nm,18.5s,baz=322,slow=37
comp=Z,6.0nm,0.9s
MA2 **Magadan** 66.45 357 LR LR 16 48 20.8
comp=Z,124nm,21.8s,baz=7.0,slow=35
NIKH **Nikolski High** 66.47 332 P P 16 20 28.2 -0.9
baz=28
KSH **Kashi** 69.53 50 P P 16 20 52.0 +3.3
KSH pmax pmax
comp=Z,11nm,1.1s
BDFB **Brasilia** 70.46 193 P P 16 20 54.8 +0.3
comp=Z,2.0nm,0.6s,baz=139,slow=4.0,SNR=3.6
comp=Z,2.0nm,0.6s
WMQ **Urumqi** 70.83 40 eP P 16 20 56.3 -0.3
WMQ LR LR
comp=Z,130nm,22.5s
PTLB **Pontes e Lacer** 72.37 204 P P 16 21 06.0 +0.2
PETK **Petropavlovsk-** 72.50 352 P P 16 21 05.9 -0.4
PETK **Petropavlovsk-** 72.50 352 P P 16 21 07.4 +1.0
comp=Z,6.1nm,1.1s,baz=62,slow=10,SNR=9.5
comp=Z,6.1nm,1.1s
NIL **Nilore** 73.01 56 P 16 21 11.0 +1.2
SONM **Songino Array** 73.23 26 P P 16 21 11.2 +0.3
SONM **Songino Array** 73.23 26 P P 16 21 11.9 +1.0
comp=Z,5.6nm,1.0s,baz=330,slow=6.2,SNR=34
comp=Z,5.6nm,1.0s
ULN **Ulaanbaatar** 73.37 26 P P 16 21 12.0 +0.2
SIV **San Ignacio** 73.38 206 LR LR 16 48 52.4
comp=Z,104nm,21.6s,baz=111,slow=32
HEH **HeiHe** 74.86 12 eP P 16 21 21.0 +0.8
HEH pmax pmax
comp=Z,13nm,1.0s
LPAZ **La Paz** 75.69 213 P P 16 21 26.4 +0.3
LPAZ **La Paz** 75.69 213 P P 16 21 25.2 -0.8
comp=Z,1.4nm,0.8s,baz=350,slow=4.2,SNR=5.9
comp=Z,1.4nm,0.8s
GTA **Gaotai** 79.01 34 P P 16 21 44.4 +0.4
GTA pP sP 16 21 49.5 +0.5
GTA pmax pmax
comp=Z,14nm,1.2s
HHC **Hu-ho-hao-te** 81.07 25 eP P 16 21 54.3 -0.7
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,76nm,4.7s
USRK **Ussuriysk Ar.** 81.33 9 P P 16 21 56.4 +0.2
comp=Z,1.8nm,0.9s,baz=328,slow=6.8,SNR=4.3
comp=Z,1.8nm,0.9s
CPUP **Villa Florida** 82.49 200 P P 16 22 01.4 -0.9
comp=Z,0.6nm,0.9s,baz=278,slow=6.6,SNR=4.2
CPUP LR LR 16 57 01.4
comp=Z,7.0nm,21.2s,baz=220,slow=34
comp=Z,0.6nm,0.9s
LZH **Lanzhou** 83.34 32 eP P 16 22 08.0 +0.9
LZH sP pwP 16 22 14.4 +0.3
LZH pmax pmax
comp=Z,18nm,1.3s
TSUM **Tsumeb** 85.89 131 LR LR 16 56 28.4
comp=Z,117nm,21.6s,baz=350,slow=33
LYN **LuoYang** 87.25 26 P P 16 22 27.8 +1.3
LYN pmax pmax
comp=Z,23nm,1.2s
KSRS **Korea Array** 87.52 13 P P 16 22 26.4 -1.3
comp=Z,0.8nm,0.9s,baz=348,slow=6.5,SNR=5.0
comp=Z,0.8nm,0.9s
PZH **PanZhiHua** 91.41 38 P P 16 22 46.8 +0.5
PZH pmax pmax
comp=Z,20nm,1.2s
BOSA **Boshof** 97.49 130 LR LR 17 05 28.4
comp=Z,218nm,19.8s,baz=3.5,slow=34
CMAR **Chiang Mai Arr** 97.63 43 P P 16 23 14.3 -0.4
comp=Z,1.5nm,0.9s,baz=319,slow=4.5,SNR=7.1
comp=Z,1.5nm,0.9s
SNAA **Sanae** 127.65 168 PKP PKPdf 16 28 43.4 -0.3
comp=Z,1.2nm,0.8s,baz=183,slow=4.5,SNR=5.4
QSPA **South Pole Qui** 144.12 180 PKP PKPab 16 29 12.1 +0.1
comp=Z,5.0nm,0.9s,baz=231,slow=0.8,SNR=17

WRA	Warramunga Arr	144.83	17			PKPab	16 29 15.9	0.0	
WRA	Warramunga Arr	144.83	17	PKP		PKPab	16 29 15.6	-0.4	
	comp=Z,3.2nm,1.0s,baz=335,slow=2.8,SNR=10								
MORW	Morawa	147.29	51			PKPbc	16 29 22.4	-0.8	
ASAR	Alice Springs	148.38	19			PKPbc	16 29 26.3	0.0	
ASAR	Alice Springs	148.38	19	PKPbc		PKPbc	16 29 26.6	+0.3	
	comp=Z,12nm,0.8s,baz=347,slow=2.2,SNR=82								
VNDA	Vanda	155.82	189	PKP		PKPdf	16 29 30.5	-1.8	
	comp=Z,0.9nm,1.0s,baz=81,slow=2.4,SNR=4.2								
VNDA				PKPab		PKPab	16 29 59.5	+0.3	
	comp=Z,2.1nm,1.0s,baz=188,slow=4.8,SNR=5.5								

IDC ***13*** *16:11:59.0±0.9,54.°20N×35.°08W,h0km,mb4.0/16, mbtmp4.1/18,ML3.5/2,Error ellipse: s-maj=25.8km s-min=16.7km az=8.0*
NEIC ***13*** *16:12:01.2±2.2,54.°1N±0.°1×35.°0W±0.°2,h10km±1km, mb4.5/22,Error ellipse: s-maj=23.3km s-min=7.4km az=221.0*

ISC 13 16:12:01.3±0.6,54.°1N±0.°1×35.°07W±0.°07,h14km,n44, σ0§99/42,mb4.4/27,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKA	Eskdalemuir Ar	18.38	73	P	P	16 16 14.7	-0.7
	baz=276,slow=9.7						
	4.5nm,0.9s						
SCHQ	Schefferville	18.39	285	P	P	16 16 14.3	-1.2
	0.6nm,0.3s,baz=78,slow=8.3,SNR=7.6						
	4.8nm,0.6s						
NBO00	NORSAR Array S	25.06	56	P	P	16 17 28.8	+4.0
NBO00				IAmb	IAmb	16 17 31.5	
	comp=Z,14nm,1.1s						
NOA	NORSAR Array B	25.27	55	P	P	16 17 26.1	-0.6
	comp=Z,2.4nm,1.0s,baz=277,slow=9.7,SNR=3.8						
	comp=Z,2.4nm,1.0s						
ESDC	Sonseca Array	25.45	112	P	P	16 17 28.8	+0.2
ESDC	Sonseca Array	25.45	112	P	P	16 17 28.4	-0.1
	comp=Z,2.8nm,1.0s,baz=317,slow=8.7,SNR=9.6						
	comp=Z,2.8nm,1.0s						
CEST	Esterri de Car	26.45	101	P	P	16 17 37.6	-0.1
HFS	Hagfors	26.60	57	P	P	16 17 37.8	-0.9
	comp=Z,3.2nm,0.8s,baz=242,slow=12,SNR=4.9						
	comp=Z,3.2nm,0.8s						
CLL	Collm	28.81	76	eP	P	16 17 58.0	-0.5
GERES	GERESS Array B	30.32	80	P	P	16 18 11.0	-1.1
	comp=Z,0.3nm,0.6s,baz=309,slow=8.4,SNR=5.6						
	comp=Z,0.3nm,0.6s						
ARCES	ARCESS Array B	30.84	37	P	P	16 18 16.2	-0.2
	comp=Z,2.8nm,0.9s,baz=254,slow=7.4,SNR=5.3						
	comp=Z,2.8nm,0.9s						
MORC	Moravsky Berou	32.08	76		P	16 18 27.9	+0.4
MORC				IAmb	IAmb	16 18 34.3	
	comp=Z,6.1nm,1.1s						
FINES	FINESS Array B	32.27	52	P	P	16 18 28.7	-0.3
	comp=Z,2.2nm,0.9s,baz=297,slow=17,SNR=5.1						
	comp=Z,2.2nm,0.9s						
PABE	Paberze	33.15	63	P	P	16 18 35.7	-1.1
EYMN	Ely	35.18	284		P	16 18 54.0	-0.5
EYMN				IAmb	IAmb	16 18 56.0	
	comp=Z,4.2nm,0.8s						
KEST	Kesra	35.70	103	P	P	16 18 59.0	-0.1
	comp=Z,5.1nm,0.8s,baz=14,slow=5.3,SNR=4.8						
	comp=Z,5.1nm,0.8s						
BURAR	Bucovina Array	37.55	75		P	16 19 15.9	+1.1
KIEV	Kiev	38.15	68		P	16 19 18.8	-0.9
KIEV				IAmb	IAmb	16 19 25.4	
	comp=Z,7.1nm,1.1s						
AKASG	Malin Array Be	38.15	68	P	P	16 19 18.9	-0.9
	comp=Z,2.0nm,0.8s,baz=305,slow=8.2,SNR=4.0						
	comp=Z,2.0nm,0.8s						
YKA	Yellowknife Ar	40.03	315	P	P	16 19 33.9	-1.3
	comp=Z,1.7nm,0.9s,baz=61,slow=9.4,SNR=4.3						
	comp=Z,1.7nm,0.9s						
LCAR	Lake Charles	42.27	268		P	16 19 54.0	0.0
LCAR				IAmb	IAmb	16 19 59.5	
	comp=Z,5.8nm,0.7s						
BR131	Keskin Array S	47.19	78		P	16 20 34.3	+0.9
BR131				IAmb	IAmb	16 20 41.0	
	comp=Z,6.6nm,1.0s						
BRTR	Keskin Array B	47.19	78		P	16 20 33.6	+0.2
BRTR	Keskin Array B	47.19	78	P	P	16 20 33.8	+0.3
	comp=Z,2.4nm,0.9s,baz=308,slow=4.6,SNR=6.8						
	comp=Z,2.4nm,0.9s						
G26K	Porcupine Rive	48.02	330	IAmb	IAmb	16 20 44.9	
	comp=Z,4.6nm,0.9s						
M29M	Somme Creek	49.27	323	P	P	16 20 50.5	+1.4
ARTI	Arti	49.28	47	P	P	16 20 48.5	-0.6
COLD	Coldfoot	49.65	332	IAmb	IAmb	16 21 00.3	
	comp=Z,7.5nm,1.1s						
KBZ	Khabaz	49.76	68	P	P	16 20 54.3	+1.4
	comp=Z,3.2nm,0.9s,baz=266,slow=6.0,SNR=3.7						
	comp=Z,3.2nm,0.9s						
H23K	Yukon River	50.47	331	P	P	16 20 58.5	+0.4
H23K				IAmb	IAmb	16 21 07.8	
	comp=Z,7.0nm,0.9s						
K24K	Donnelly Dome	50.78	328	P	P	16 21 00.9	+0.4
S32K	Killisnoo	51.11	317	P	P	16 21 03.3	+0.4
PV18	Skein Mesa, Pa	51.14	284	P	P	16 21 04.7	+1.0
PV18				IAmb	IAmb	16 21 14.3	
	comp=Z,11nm,1.0s						
PV13	Radium Mtn., P	51.15	284	P	P	16 21 04.5	+0.7
PV13				IAmb	IAmb	16 21 06.3	
	comp=Z,5.6nm,1.1s						
SAND	Sanderson	53.08	271	P	P	16 21 18.5	+0.5
SAND				IAmb	IAmb	16 21 19.4	
	comp=Z,4.1nm,0.8s						
DBIC	Dimbokro	53.25	141	P	P	16 21 19.2	-0.1
	comp=Z,3.2nm,0.6s,baz=356,slow=7.2,SNR=4.0						
	comp=Z,3.2nm,0.6s						
PWL	Port Wells	53.75	326	P	P	16 21 24.2	+1.7
TXAR	Lajitas Array	54.44	272	P	P	16 21 28.4	+0.3
	comp=Z,0.9nm,0.9s,baz=75,slow=7.9,SNR=3.8						
	comp=Z,0.9nm,0.9s						
ABKAR	Akbulak array	54.74	53	P	P	16 21 30.4	+0.5
KURBB	Kurchatov Arra	61.75	42	P	P	16 22 18.4	-0.4
	comp=Z,3.0nm,0.9s,baz=322,slow=7.4,SNR=14						
	comp=Z,3.0nm,0.9s						
MKAR	Makanchi Array	66.31	42	P	P	16 22 48.4	-0.5
MKAR	Makanchi Array	66.31	42	P	P	16 22 49.0	0.0
	comp=Z,1.5nm,0.8s,baz=335,slow=5.4,SNR=7.0						
	comp=Z,1.5nm,0.8s						
SONM	Songino Array	73.29	26	P	P	16 23 31.5	-0.5
	comp=Z,1.2nm,1.0s,baz=338,slow=6.4,SNR=3.7						
	comp=Z,1.2nm,1.0s						
ASAR	Alice Springs	148.46	20	PKPbc		PKPbc	16 31 46.7	-0.5	
	comp=Z,3.8nm,0.8s,baz=352,slow=2.3,SNR=10								

IDC ***13*** *16:35:33.0±1.1,0.°80N×126.°79E,h0km,mb3.8/5, mbtmp3.8/5,Error ellipse: s-maj=62.5km s-min=20.3km az=71.0*
DJA ***13*** *16:35:37.1±0.8,0.°N±3.×12.°6E±.°,h11km±6km,M3.8/11, mB5.8/1,mb4.1/4,MLv3.7/11,Mw(mB)5.4/1*

ISC 13 16:35:39.1±0.9,0.°49N±0.°08×126.°40E±0.°07,h47km,n13, σ1§41/14,mb3.8/5,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	1.01	74	P	Pn	16 35 57.1	+0.3
TNTI				S	Sn	16 36 11.4	+1.5
KMSI	Cibinong	2.42	272	P	Pn	16 36 16.2	0.0
SANI	Sanana	2.55	189	P	Pn	16 36 15.5	-2.5
NLAI	Namlea	3.77	169	P	Pn	16 36 34.4	-0.3
MRSI	Marisa	4.46	270	P	Pn	16 36 43.9	-0.3
FAKI	Fak Fak	6.76	120	P	Pn	16 37 16.2	+0.5
	45nm,2.2s						
SPSI	Sidrap Palu	7.96	236	P	Pn	16 37 33.6	+1.3
	6µm13nm,0.6s						
BKSI	Bulukumba	8.52	227	P	Pn	16 37 40.7	+0.8
WRA	Warramunga Arr	21.74	159	P	P	16 40 27.2	+0.5
	2.0nm,0.7s,baz=340,slow=11,SNR=9.4						
	2.0nm,0.7s						
ASAR	Alice Springs	25.09	164	P	P	16 41 01.9	+2.3
	3.1nm,1.0s,baz=344,slow=11,SNR=17						
	3.1nm,1.0s						
PETK	Petropavlovsk-	58.54	22	P	P	16 45 28.4	-2.3
	1.3nm,1.0s,baz=218,slow=9.1,SNR=4.2						
	1.3nm,1.0s						
MKAR	Makanchi Array	60.04	326	P	P	16 45 41.3	+0.1
	0.7nm,0.6s,baz=126,slow=8.7,SNR=8.7						
	0.7nm,0.6s						
KURBB	Kurchatov Arra	64.29	328	P	P	16 46 09.6	+0.1
	0.5nm,0.6s,baz=131,slow=6.1,SNR=6.3						
	0.5nm,0.6s						

IDC 13 16:36:26.7±1.7,0.°63N×126.°17E,h0km,mb3.7/4, mbtmp3.8/4,MS3.2/1,Error ellipse: s-maj=177.6km s-min=22.1km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	Jayapura	14.86	102	LR	LR	16 45 59.6	
	comp=Z,84nm,18.7s,baz=200,slow=39						
WRA	Warramunga Arr	21.96	159	P	P	16 41 21.3	-1.0
	1.3nm,0.6s,baz=337,slow=10,SNR=5.7						
	1.3nm,0.6s						
ASAR	Alice Springs	25.30	163	P	P	16 41 55.9	+0.7
	1.8nm,0.7s,baz=344,slow=12,SNR=7.6						
	1.8nm,0.7s						
MKAR	Makanchi Array	59.79	327	P	P	16 46 34.0	+0.3
	0.6nm,0.5s,baz=120,slow=8.4,SNR=6.7						
	0.6nm,0.5s						
KURBB	Kurchatov Arra	64.05	328	P	P	16 47 01.8	-0.5
	0.6nm,0.6s,baz=128,slow=6.1,SNR=5.1						
	0.6nm,0.6s						

GCG ***13*** *16:43:14.0±1.3,14.°46N×92.°63W,h50km±32km,MD4.0, ML3.4*
MEX ***13*** *16:43:14.3±0.6,14.°55N×92.°78W,h60km±18km,MD3.9*

ISC 13 16:43:08.1±1.6,14.°19N±0.°08×92.°82W±0.°04,h50km,n18, σ2§86/36,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		0.90	37	eP	Pn	16 43 25.8	+1.3
THIG				eS	Sn	16 43 34.6	-1.9
THIG		0.90	37	i P	Pn	16 43 25.8	+1.3
THIG				i S	Sn	16 43 34.9	-1.5
THIG				IAML		16 43 37.9	
	comp=E,1µm,0.4s						
SMCA	Catarina	0.98	47	i P	Pn	16 43 27.4	+1.7
SMCA				i S	Sn	16 43 36.9	-1.7
SMCA				IAML		16 43 38.5	
	comp=E,855nm,0.1s						
PATR	El Naranjo	1.09	31	eP	Pn	16 43 27.9	+0.6
PATR				eS	Sn	16 43 38.8	-2.6
RTAL	Retalhuleu	1.14	73	eP	Pn	16 43 31.6	+3.8
RTAL				eS	Sn	16 43 44.3	+1.9
PAVE	Pavencul	1.18	32	eP	Pn	16 43 29.3	+0.8
PAVE				eS	Sn	16 43 41.4	-2.2
STG2	El Palmar, Qui	1.42	80	i P	Pn	16 43 32.3	+0.6
STG2				i S	Sn	16 43 45.2	-4.2
STG8	El Palmar, Qui	1.45	79	i P	Pn	16 43 32.8	+0.6
STG8				i S	Sn	16 43 46.9	-3.3
STG8				IAML		16 43 52.2	
	comp=E,1µm,0.4s						
STG0	El Palmar, Qui	1.45	80	i P	Pn	16 43 32.8	+0.6
STG0				i S	Sn	16 43 47.2	-3.0
STG0				IAML		16 43 49.0	
	comp=E,2µm,0.2s						
PCIG		1.56	346	eP	Pn	16 43 34.4	+0.9
PCIG				eS	Sn	16 43 48.4	-4.1
CCIG	Comitan	2.19	17	eP	Pn	16 43 45.6	+3.4
CCIG				eS	Sn	16 44 08.1	-0.2
CCIG	Comitan	2.19	17	i P	Pn	16 43 45.6	+3.4
CCIG				i S	Sn	16 44 09.6	+1.3
CCIG				IAML		16 44 14.5	
	comp=N,337nm,0.1s						
TGIG		2.59	354	eP	Pn	16 43 49.9	+2.2
TGIG				eS	Sn	16 44 13.4	-4.6
TGIG		2.59	354	i P	Pn	16 43 49.9	+2.2
TGIG				i S	Sn	16 44 16.6	-1.5
TGIG				IAML		16 44 19.9	
	comp=E,127nm,0.7s						
NILT	Santiago Nilte	2.93	324	eP	Pn	16 43 54.9	+2.6
NILT				eS	Sn	16 44 24.8	-1.5
UXUV	UXUV	3.37	338	eP	Pn	16 44 02.1	+3.9
UXUV				eS	Sn	16 44 36.8	-0.2
HUIG	Huatulco	3.55	297	eP	Pn	16 44 03.7	+3.0
HUIG				eS	Sn	16 44 39.7	-1.7
NEUV	Arroyo Zacate	4.53	321	eP	Pn	16 44 16.4	+2.1
NEUV				eS	Sn	16 44 57.3	-8.4

SDD ***13*** *16:43:57.9±1.6,18.°99N×68.°45W,h17km±12km,MD2.7, ML1.9,MW2.4*
RSPR ***13*** *16:43:59.8,18.°89N×68.°62W,h54km,MD2.6/3*

ISC 13 16:43:59.6±1.4,18.°97N±0.°08×68.°60W±0.°04,h35km,n19, σ1§53/20,3C-4D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HIDR	Higuey Centro	0.39	196	eP	Pn	16 44 09.0	+0.3
HIDR	Higuey Centro	0.39	196	eS	Sn	16 44 15.8	+0.8
HIDR	Higuey Centro	0.39	196	eSg	Sn	16 44 12.9	-2.1
HIDR				IAML		16 44 17.6	
	comp=N,90nm,0.2s						
MIDR	Miches	0.42	272	i P	Pn	16 44 07.5	-1.7
MIDR				eSg	Sn	16 44 16.9	+1.1
MIDR				IAML		16 44 17.9	
	comp=N,34nm,0.2s						
SMDR	Samana, DR	0.64	300	eS	Sn	16 44 22.4	+1.2
SMDR	Samana, DR	0.64	300	e	Pn	16 44 22.1	+10
SMDR				IAML		16 44 23.8	
	comp=N,58nm,1.0s						
HATOM	Hato Mayor del	0.76	256	i P	Pn	16 44 13.2	-0.7
HATOM				eSg	Sn	16 44 26.1	+1.9
HATOM				IAML		16 44 34.7	
	comp=N,26nm,2.2s						
AGPR	Aguadilla, PR	1.50	109	eP	Pn	16 44 26.3	+2.3
AGPR	Aguadilla, PR	1.50	109	eS	Sn	16 44 42.1	-0.3
LSP	Las Mesas	1.64	118	eP	Pn	16 44 25.2	-0.8
LSP	Las Mesas	1.64	118	eS	Sn	16 44 47.9	+2.0
CRPR	Cabo Rojo, PR	1.71	124	eS	Sn	16 44 48.8	+1.3
MLPR	Magueyes Islan	1.78	124	eS	Sn	16 44 51.4	+2.1
AOPR	Arecibo Observ	1.86	109	eS	Sn	16 44 50.3	-1.0
AOPR	Arecibo Observ	1.86	109	eSg	Sn	16 44 50.2	-1.0
AOPR				IAML		16 45 02.7	
	comp=N,19nm,0.8s						
UUPR	Utuado, UPR, P	1.92	111	eP	Pn	16 44 27.7	-2.2
UUPR	Utuado, UPR, P	1.92	111	eS	Sn	16 44 51.4	-1.5
CELP	Cerrillos	2.12	114	eP	Pn	16 44 32.6	+0.1
CELP	Cerrillos	2.12	114	eS	Sn	16 44 58.0	+0.3

SJA ***13*** *16:49:40.0±0.6,21.°15S×68.°77W,h138km±3km,ML4.2, MW4.1*
NEIC ***13*** *16:49:42.0±1.0,21.°15S±0.°05×68.°83W±0.°06,h126km±6km, mb4.4/8,ML4.2(GUC),Error ellipse: s-maj=8.8km s-min=6.9km az=111.0*
IDC ***13*** *16:49:42.1±3.2,21.°17S×68.°31W,h113km±32km,mb3.9/4, mbtmp4.4/6,Error ellipse: s-maj=28.2km s-min=25.1km az=109.0*
GUC ***13*** *16:49:42.3±0.8,21.°14S×68.°73W,h123km±4km,ML4.2*
VAO ***13*** *16:49:42.2±1.4,21.°07S×68.°49W,h127km±7km,mb4.4*

ISC 13 16:49:41.1±0.6,21.°13S±0.°03×68.°70W±0.°04,h126km±6km, n102,σ1§52/127,mb4.4/5,12C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	IPOC Station P	0.74	276		Pn	16 50 01.2	-0.2
PB01	IPOC Station P	0.74	276	i P	Pn	16 50 01.5	0.0
PB01				eS	Sn	16 50 16.2	-0.6
PB01				IAML		16 50 17.8	
	comp=E,10µm,0.1s						
PB01	IPOC Station P	0.74	276	eP	Pn	16 50 01.4	0.0
PB01				eS	Sn	16 50 16.8	0.0
PB01				IAML		16 50 17.7	
	comp=Z,6µm,0.2s						
PB09	IPOC Station P	0.83	217		Pn	16 50 02.6	+0.3
PB09	IPOC Station P	0.83	217	i P	Pn	16 50 03.0	+0.7
PB09				eS	Sn	16 50 18.7	+0.2
PB09				IAML		16 50 19.8	
	comp=N,4µm,0.5s						
PB09	IPOC Station P	0.83	217	eP	Pn	16 50 02.8	+0.5
PB09				eS	Sn	16 50 19.4	+1.0
PB09				IAML		16 50 20.2	
	comp=Z,3µm,0.4s						
PB08	IPOC Station P	1.07	337		Pn	16 50 05.2	+0.5
PB08	IPOC Station P	1.07	337	i P	Pn	16 50 05.3	+0.5
PB08				eS	Sn	16 50 23.0	+0.4
PB08				IAML		16 50 25.8	
	comp=E,3µm,0.1s						
PB08	IPOC Station P	1.07	337	eP	Pn	16 50 05.3	+0.5
PB08				eS	Sn	16 50 23.8	+1.2
PB08				IAML		16 50 25.6	
	comp=Z,984nm,0.2s						
PB02	IPOC Station P	1.13	260		Pn	16 50 05.4	+0.4
PB02	IPOC Station P	1.13	260	i P	Pn	16 50 05.3	+0.3
PB02				eS	Sn	16 50 23.0	-0.2
PB02				IAML		16 50 25.8	
	comp=E,12µm,0.2s						
PB02	IPOC Station P	1.13	260	eP	Pn	16 50 05.3	+0.3
PB02				eS	Sn	16 50 23.3	+0.1
PB02				IAML		16 50 24.7	
	comp=Z,10µm,0.4s						
PB03	IPOC Station P	1.34	227		Pn	16 50 07.7	+0.3
PB03	IPOC Station P	1.34	227	i P	Pn	16 50 07.6	+0.3
PB03				eS	Sn	16 50 26.5	-0.7
PB03				IAML		16 50 27.5	
	comp=E,4µm,0.3s						
PB03	IPOC Station P	1.34	227	eP	Pn	16 50 07.5	+0.3
PB03				eS	Sn	16 50 27.2	0.0
PB03				IAML		16 50 29.3	
	comp=Z,4µm,0.4s						
PATCX	Punta Patache	1.39	282		Pn	16 50 08.0	+0.3
PATCX	Punta Patache	1.39	282	i P	Pn	16 50 08.1	+0.3
PATCX				eS	Sn	16 50 27.9	-0.1
PATCX				IAML		16 50 29.9	
	comp=N,5µm,0.3s						
PATCX	Punta Patache	1.39	282	eP	Pn	16 50 08.1	+0.3
PATCX				eS	Sn	16 50 28.9	+0.9
PATCX				IAML		16 50 30.5	
	comp=Z,2µm,0.2s						
HMBC	Humberstone	1.39	307		Pn	16 50 07.6	-0.3
HMBC	Humberstone	1.39	307	i P	Pn	16 50 07.8	-0.1
HMBC				eS	Sn	16 50 27.7	-0.5
HMBC				IAML		16 50 29.7	
	comp=E,3µm,0.3s						
HMBC	Humberstone	1.39	307	eP	Pn	16 50 07.9	0.0
HMBC				eS	Sn	16 50 28.7	+0.5
HMBC				IAML		16 50 29.0	
	comp=Z,3µm,0.4s						
TA01	Diego Aracena	1.49	292		Pn	16 50 08.7	-0.1
TA01	Diego Aracena	1.49	292	i P	Pn	16 50 08.7	-0.1
TA01				eS	Sn	16 50 29.4	-0.4
TA01				IAML		16 50 31.3	
	comp=E,3µm,0.5s						
TA01	Diego Aracena	1.49	292	eP	Pn	16 50 08.8	0.0
TA01				eS	Sn	16 50 30.1	+0.3
TA01				IAML		16 50 32.1	
	comp=Z,960nm,0.5s						
GO01	Chusmiza	1.52	342		Pn	16 50 10.2	+0.5
GO01	Chusmiza	1.52	342	i P	Pn	16 50 10.2	+0.5
GO01				eS	Sn	16 50 32.2	+0.8
GO01				IAML		16 50 34.3	
	comp=E,5µm,0.1s						
GO01	Chusmiza	1.52	342	eP	Pn	16 50 08.8	-0.9
GO01				eS	Sn	16 50 33.3	+1.9
TA02	Huaiquique	1.58	302		Pn	16 50 09.9	0.0
TA02	Huaiquique	1.58	302	i P	Pn	16 50 09.9	0.0
TA02				eS	Sn	16 50 31.4	-0.4
TA02	Huaiquique	1.58	302	eP	Pn	16 50 09.8	0.0
TA02				IAML		16 50 35.6	
	comp=Z,2µm,0.1s						
PB11	IPOC Station P	1.63	327		Pn	16 50 10.5	-0.1
PB11	IPOC Station P	1.63	327	i P	Pn	16 50 10.5	-0.1
PB11				eS	Sn	16 50 32.8	-0.2
PB11				IAML		16 50 34.1	
	comp=E,5µm,0.2s						
PB11	IPOC Station P	1.63	327	eP	Pn	16 50 10.3	-0.3
PB11				eS	Sn	16 50 33.3	+0.3
PB11				IAML		16 50 35.2	
	comp=Z,2µm,0.3s						
PB06	IPOC Station P	1.77	207		Pn	16 50 12.2	0.0
PB06	IPOC Station P	1.77	207	i P	Pn	16 50 12.7	+0.5
PB06				eS	Sn	16 50 35.8	-0.1
PB06				IAML		16 50 39.7	
	comp=E,2µm,0.3s						
PB06	IPOC Station P	1.77	207	eP	Pn	16 50 12.0	-0.2
PB06				eS	Sn	16 50 36.8	+0.9
PB06				IAML		16 50 38.9	
	comp=Z,2µm,0.3s						
AF01	San Pedro de A	1.88	165		Pn	16 50 15.3	+1.6
AF01	San Pedro de A	1.88	165	eP	Pn	16 50 10.8	-2.8
AF01				eS	Sn	16 50 44.9	+6.3
AF01				IAML		16 51 03.2	
	comp=Z,1µm,0.9s						
PB05	IPOC Station P	2.21	219		Pn	16 50 17.6	0.0
PB05	IPOC Station P	2.21	219	i P	Pn	16 50 17.6	0.0
PB05				eS	Sn	16 50 44.1	-1.5
PB05				IAML		16 50 47.4	
	comp=E,1µm,0.2s						
PB05	IPOC Station P	2.21	219	eP	Pn	16 50 17.5	-0.1
PB05				eS	Sn	16 50 44.8	-0.8
PB05				IAML		16 50 49.5	
	comp=Z,847nm,0.6s						
PB16	IPOC Station P	2.88	345		Pn	16 50 27.7	+1.1
PB10	IPOC Station P	2.93	215		Pn	16 50 26.3	-0.3
PB10	IPOC Station P	2.93	215	eP	Pn	16 50 26.4	-0.3
PB10				eS	Sn	16 51 00.3	-1.5
YJA	Yavi	3.15	110	eP	Pn	16 50 31.9	+2.0
YJA				eS	Sn	16 51 11.8	+4.4
AP01	Chacalluta	3.15	330	eP	Pn	16 50 29.6	+0.1
AP01				IAML		16 51 12.2	
	comp=Z,739nm,0.2s						
PB14	IPOC Station P	3.82	204		Pn	16 50 37.4	-1.2
PB14	IPOC Station P	3.82	204	eP	Pn	16 50 36.9	-1.7
PB14				eS	Sn	16 51 21.6	-1.6
PB14				IAML		16 51 24.8	
	comp=Z,358nm,0.3s						
GO02	Mina Guanaco	4.10	191		Pn	16 50 42.0	-0.3
GO02	Mina Guanaco	4.10	191	eP	Pn	16 50 41.3	-1.0
GO02				eS	Sn	16 51 30.2	+0.3
AZAP	Zapla	4.56	133	eP	Pn	16 50 49.6	+1.1
AZAP				eS	Sn	16 51 39.3	-1.4
SLA	San Lorenzo	4.64	141	eP	Pn	16 50 45.6	-3.8
LPAZ	La Paz	4.84	7		Pn	16 50 55.1	+2.5
LPAZ	La Paz	4.84	7	P	Pn	16 50 54.4	+1.8
	comp=Z,33nm,0.3s,baz=191,slow=5.8,SNR=218						
LPAZ				S	Sn	16 51 49.8	+1.6
	comp=Z,8.5nm,0.5s,baz=159,slow=6.5,SNR=1.2						
LPAZ	La Paz	4.84	7	eP	Pn	16 50 51.9	-0.7
ALOL	LOMAS DE OLMED	5.12	122	eP	Pn	16 50 56.0	+0.2
AC01	Pan de Azucar	5.29	199		Pn	16 50 55.8	-2.2
AC01	Pan de Azucar	5.29	199	eP	Pn	16 50 55.2	-2.8
AC01				eS	Sn	16 51 54.5	-3.5
AC01				IAML		16 51 57.8	
	comp=Z,142

comp=Z,13nm,0.9s
BOAV Boa Vista 24.71 20 *e*P **P 16 54 51.0 +0.3**
RUSC La Rusia 27.19 350 P 16 55 13.7 +0.1
RUSC IAmb IAmb 16 55 23.3
comp=Z,10nm,0.7s
BAUV El Baul 29.89 1 P 16 55 36.2 -0.7
BLA Blacksburg 59.07 349 P **P 16 59 27.5 -0.4**
SNAA Sanae 62.57 161 P **P 16 59 52.2 +0.9**
SNAA Sanae 62.57 161 P **P 16 59 53.0 +1.8**
comp=Z,1.5nm,0.7s,baz=269,slow=7.0,SNR=8.4
comp=Z,1.5nm,0.7s
DBIC Dimbokro 68.44 73 P 17 00 30.2 +0.3
comp=Z,12nm,1.1s,baz=275,slow=11,SNR=3.3
comp=Z,12nm,1.1s
QSPA South Pole Qui 69.06 180 P **P 17 00 34.5 +1.4**
QSPA South Pole Qui 69.06 180 P **P 17 00 35.0 +1.9**
comp=Z,1.5nm,0.7s,baz=258,slow=1.1,SNR=12
comp=Z,1.5nm,0.7s
H11S2 WAKE ISLAND Hyl 28.02 277 T T 19 28 40.8
baz=102,slow=74,SNR=22
H11S1 WAKE ISLAND Hyl 28.03 277 T T 19 28 41.7
baz=102,slow=74,SNR=9.9
H11S3 WAKE ISLAND Hyl 28.04 277 T T 19 28 42.5
baz=102,slow=74,SNR=12
H11N3 WAKE ISLAND Hyl 28.09 279 T T 19 28 45.8
baz=102,slow=75,SNR=6.1
H11N2 WAKE ISLAND Hyl 28.11 279 T T 19 28 46.9
baz=102,slow=75,SNR=7.4
H11N1 WAKE ISLAND Hyl 28.11 279 T T 19 28 44.9
baz=102,slow=75,SNR=4.1
MKAR Makanchi Array 145.22 36 PKPbc **PKPab 17 09 05.2 +1.3**
comp=Z,2.5nm,0.7s,baz=327,slow=3.4,SNR=29

*IDC **13** 16:49:56.1±4.2,20.°17S×177.°68W,h529km±45km, mb3.4/10,mbtmp4.3/12,Error ellipse: s-maj=25.0km s-min=18.5km az=74.0*
ISC 13 16:49:57.5±0.8,20.°2S±0.°1×177.°7W±0.°1,h550km,n20, σ1§01/20,mb3.8/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.91**	**260**	P	**P**	**16 53 06.3**	**+0.2**
	4.9nm,0.6s,baz=137,slow=7.6,SNR=13						
URZ	**Urewera**	**18.55**	**193**	P	**P**	**16 53 39.5**	**-0.7**
	4.3nm,0.4s,baz=285,slow=4.0,SNR=12						
STKA	**Stephens Creek**	**38.17**	**244**	P	**P**	**16 56 30.2**	**-0.2**
	2.1nm,0.5s,baz=91,slow=7.9,SNR=2.9						
	2.1nm,0.5s						
ASAR	**Alice Springs**	**44.86**	**256**	P	**P**	**16 57 23.8**	**+0.3**
	10.0nm,0.7s,baz=90,slow=7.9,SNR=181						
ASAR				PcP	**PcP**	**16 58 53.1**	**-0.2**
	0.9nm,0.5s,baz=97,slow=4.1,SNR=4.4						
ASAR				S	**S**	**17 03 21.1**	**-0.3**
	1.8nm,1.0s,baz=92,slow=16,SNR=8.0						
	10.0nm,0.7s						
WRA	**Warramunga Arr**	**44.92**	**262**	P	**P**	**16 57 23.9**	**0.0**
	3.9nm,0.3s,baz=97,slow=7.8,SNR=75						
	3.9nm,0.3s						
QSPA	**South Pole Qui**	**69.87**	**180**	P	**P**	**17 00 13.9**	**+0.8**
	0.9nm,0.8s,baz=151,slow=1.2,SNR=8.7						
	0.9nm,0.8s						
MJAR	**Matsushiro Arr**	**70.13**	**323**	P	**P**	**17 00 14.4**	**-0.6**
	2.2nm,0.6s,baz=154,slow=6.3,SNR=17						
	2.2nm,0.6s						
PETK	**Petropavlovsk-**	**76.05**	**345**	P	**P**	**17 00 49.0**	**+0.5**
	2.5nm,0.9s,baz=123,slow=7.3,SNR=6.0						
	2.5nm,0.9s						
USRK	**Ussuriysk Ar.**	**78.87**	**326**	P	**P**	**17 01 05.0**	**+1.1**
	2.1nm,0.7s,baz=106,slow=6.3,SNR=5.9						
	2.1nm,0.7s						
TXAR	**Lajitas Array**	**86.66**	**57**	P	**P**	**17 01 44.9**	**+1.4**
	0.4nm,0.7s,baz=210,slow=7.5,SNR=6.2						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**87.96**	**13**	P	**P**	**17 01 48.0**	**-0.6**
	0.5nm,0.6s,baz=218,slow=5.2,SNR=8.6						
	0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**90.28**	**289**	P	**P**	**17 02 02.1**	**+1.7**
	1.3nm,0.9s,baz=107,slow=3.2,SNR=7.7						
	1.3nm,0.9s						
MKAR	**Makanchi Array**	**111.19**	**313**	PKiKP	**PKiKP**	**17 07 28.2**	**-0.8**
	0.3nm,0.5s,baz=153,slow=0.3,SNR=4.8						
ARCES	**ARCESS Array B**	**128.68**	**350**	PKP	**PKiKP**	**17 08 01.4**	**-1.1**
	1.1nm,0.8s,baz=2.9,slow=2.4,SNR=4.2						
HFS	**Hagfors**	**139.29**	**351**	PKhKP	PKPpre	17 08 14.9	
	0.8nm,0.7s,baz=75,slow=2.3,SNR=6.0						
AKASG	**Malin Array Be**	**142.88**	**331**	PKhKP	PKPpre	17 08 25.5	
	2.8nm,0.6s,baz=43,slow=4.3,SNR=21						
EKA	**Eskdalemuir Ar**	**144.68**	**5**	PKP	**PKPab**	**17 08 30.7**	**-1.7**
	0.8nm,0.7s,baz=101,slow=8.6,SNR=4.1						
BRTR	**Keskin Array B**	**146.84**	**313**	PKPbc	**PKiKP**	**17 08 38.8**	**-1.8**
	1.2nm,0.6s,baz=129,slow=3.3,SNR=7.5						
MMAI	**Mount Meron Ar**	**147.90**	**300**	PKPbc	**PKiKP**	**17 08 42.2**	**-0.8**
	1.5nm,0.5s,baz=72,slow=5.5,SNR=6.1						
GERES	**GERESS Array B**	**149.99**	**345**	PKPbc	**PKiKP**	**17 08 46.6**	**-0.2**
	0.8nm,0.7s,baz=340,slow=1.6,SNR=9.6						

*NIC **13** 16:52:56.7,34.°84N×32.°85E,h27km±1km,Ml2.3/9*
*ISK **13** 16:52:56.6,34.°77N×32.°94E,h17km,ML2.5/18*
*GII **13** 16:52:57.9±0.0,34.°73N±0.°02×32.°911E±0.°007, h10km,Mws2.5,confirmed*
*AFAD **13** 16:53:00.4,35.°15N×32.°80E,h6km±4km,ML2.3*
ISC 13 16:52:57.5±0.9,34.°85N±0.°02×32.°85E±0.°02,h19km±2km, n88,σ1§15/110,3C-1D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TROD	**Troodos**	**0.10**	**6⇑**	*i*P	**Pg**	**16 53 01.5**	**-0.1**
TROD				S	**Sg**	**16 53 06.4**	**+2.1**
TROD				AML	AML	16 53 07.1	
	7.8nm,0.2s						
TROD				AML	AML	16 53 07.3	
	7.0nm,0.2s						
APOL	**The Sanctuary**	**0.17**	**177⇑**	*i*P	**Pg**	**16 53 02.2**	**0.0**
APOL				S	**Sg**	**16 53 06.5**	**+1.2**
APOL				AML	AML	16 53 07.8	
	2.9nm,0.2s						
APOL				AML	AML	16 53 07.9	
	2.1nm,0.1s						
XYLS	**Xyliatos**	**0.23**	**44**	P	**Pb**	**16 53 03.1**	**+0.2**
XYLS				S	**Sg**	**16 53 08.1**	**+1.2**
XYLS				AML	AML	16 53 08.7	
	7.2nm,0.2s						
XYLS				AML	AML	16 53 08.8	
	6.5nm,0.2s						
NATA	**Nata**	**0.24**	**254⇑**	*i*P	**Pb**	**16 53 03.1**	**0.0**
NATA				S	**Sg**	**16 53 08.5**	**+1.4**
NATA				AML	AML	16 53 09.1	
	5.8nm,0.2s						
NATA				AML	AML	16 53 10.3	
	5.6nm,0.3s						
ASGA	**Asgata**	**0.33**	**100**	P	**Pg**	**16 53 04.7**	**+0.1**
ASGA				S	**Sb**	**16 53 11.9**	**+2.1**
ASGA				AML	AML	16 53 12.5	
	1.0nm,0.4s						
ASGA				AML	AML	16 53 13.7	
	0.9nm,0.3s						
ALFC	**Alefka**	**0.37**	**326**	P	**Pg**	**16 53 04.5**	**-0.9**
ALFC				S	**Sg**	**16 53 10.4**	**-0.4**
ALFC				AML	AML	16 53 12.0	
	2.5nm,0.3s						
ALFC				AML	AML	16 53 13.2	
	1.8nm,0.4s						
CSS	**Mathiatis**	**0.41**	**73**	Pg	**Pg**	**16 53 05.2**	**-0.8**
CSS				Sg	**Sg**	**16 53 10.9**	**-0.9**
CSS	**Mathiatis**	**0.41**	**73**	P	**Pg**	**16 53 05.7**	**-0.3**
CSS	**Mathiatis**	**0.41**	**73**	P	**Pg**	**16 53 05.9**	**-0.1**
CSS				S	**Sb**	**16 53 12.7**	**+0.5**
CSS	**Mathiatis**	**0.41**	**73⇓**	*i*P	**Pg**	**16 53 05.9**	**-0.1**
CSS				S	**Sg**	**16 53 12.3**	**+0.5**
CSS				AML	AML	16 53 13.3	
	0.8nm,0.4s						
CSS				AML	AML	16 53 18.1	
	0.6nm,0.4s						
AKMS	**Akamas**	**0.46**	**292**	P	**Pg**	**16 53 06.4**	**-0.6**
AKMS				S	**Sb**	**16 53 14.4**	**+0.8**
AKMS				AML	AML	16 53 16.4	
	0.7nm,0.5s						
AKMS				AML	AML	16 53 18.5	
	0.6nm,0.3s						
AKDN	**Akdeniz- Kıbrı**	**0.46**	**12**	Pg	**Pg**	**16 53 07.3**	**+0.3**
AKDN				Sg	**Sn**	**16 53 16.0**	**-0.8**
AKIN	**Akıncılar- Kıb**	**0.53**	**71**	Pg	**Pb**	**16 53 06.9**	**-1.3**
AKIN				Sg	**Sb**	**16 53 14.6**	**-0.9**
MVOU	**Mavrovouni**	**0.66**	**75**	P	**Pb**	**16 53 10.7**	**+0.3**
MVOU				S	**Sg**	**16 53 20.8**	**+1.3**
MVOU				AML	AML	16 53 26.9	
	0.2nm,0.6s						
MVOU				AML	AML	16 53 27.5	
	0.2nm,0.3s						
LFK	**Lefkose**	**0.71**	**52**	Pg	**Pb**	**16 53 11.1**	**-0.1**
LFK				Sg	**Sb**	**16 53 21.1**	**+0.5**
EREN	**Erenkoy**	**1.28**	**57**	Pn	**Pn**	**16 53 20.5**	**+0.1**
EREN	**Erenkoy**	**1.28**	**57**	P	**Pb**	**16 53 21.8**	**+0.8**
EREN				S	**Sn**	**16 53 35.1**	**-1.9**
EREN				*i* IAML		16 53 52.0	
	comp=E,91nm,0.9s						
EREN				*i* IAML		16 53 55.0	
	comp=N,82nm,0.7s						
TEKE	**Tekeli-Mersin**	**1.31**	**9**	Pn	**Pn**	**16 53 21.7**	**+0.8**
GULN	**MERSIN_Gulnar**	**1.45**	**23**	P	**Pn**	**16 53 20.3**	**-2.5**
GULN				S	**Sn**	**16 53 37.6**	**-3.6**
GAZI	**Gazipasa**	**1.45**	**343**	Pn	**Pn**	**16 53 23.7**	**+0.9**
GAZI	**Gazipasa**	**1.45**	**343**	P	**Pn**	**16 53 21.1**	**-1.7**
GAZI				S	**Sn**	**16 53 36.7**	**-4.7**
GAZI				*i* IAML		16 53 44.0	
	comp=N,41nm,0.5s						
BERE	**Bereket-Mersin**	**1.53**	**11**	Pn	**Pn**	**16 53 24.3**	**+0.3**
IKL	**Isikli**	**1.55**	**26**	Pn	**Pn**	**16 53 24.9**	**+0.8**
TEVE	**Tevekalti-Mers**	**1.66**	**17**	Pn	**Pn**	**16 53 26.5**	**+0.8**
KEBE	**Keben-Mersin**	**1.75**	**23**	Pn	**Pn**	**16 53 27.3**	**+0.4**
SILI	**Silifke-Mersin**	**1.75**	**30**	Pn	**Pn**	**16 53 27.6**	**+0.7**
ERMK	**Ermenek**	**1.79**	**2**	P	**Pn**	**16 53 27.3**	**-0.4**
ERMK				S	**Sn**	**16 53 49.3**	**-0.7**
ERMK				*i* IAML		16 53 58.0	
	comp=N,30nm,0.3s						
KIZK	**Mersin**	**1.94**	**32**	Pn	**Pn**	**16 53 30.2**	**+0.7**
KIZK	**Mersin**	**1.94**	**32**	P	**Pn**	**16 53 29.1**	**-0.4**
KIZK				S	**Sn**	**16 53 53.2**	**-0.2**
HDMB	**Hadim**	**2.13**	**352**	Pn	**Pb**	**16 53 34.6**	**-1.1**
KRMN	**Karaman**	**2.35**	**8**	Pn	**Pn**	**16 53 37.3**	**+2.1**
MERS	**Mersin**	**2.43**	**33**	Pn	**Pn**	**16 53 37.5**	**+1.2**
HNTI	**Hanita**	**2.61**	**132**	P	**Pn**	**16 53 38.3**	**-0.4**
HNTI	**Hanita**	**2.61**	**132**	S	**Sn**	**16 54 09.6**	**-0.3**
HNTI	**Hanita**	**2.61**	**132**	P	**Pn**	**16 53 38.5**	**-0.2**
DED	**Mersin**	**2.64**	**36**	P	**Pn**	**16 53 39.7**	**+0.6**
DED				*i* IAML		16 54 15.0	
	comp=E,15nm,0.8s						
DED				*i* IAML		16 54 19.0	
	comp=N,12nm,1.1s						
SEYD	**Seydisehir-KON**	**2.68**	**342**	Pn	**Pn**	**16 53 42.5**	**+2.7**
SEDI	**Konya, Seydise**	**2.75**	**341**	P	**Pn**	**16 53 42.8**	**+2.0**
SEDI				S	**Sn**	**16 54 16.3**	**+2.8**
SEDI				*i* IAML		16 54 22.0	
	comp=E,32nm,0.6s						
SEDI				*i* IAML		16 54 25.0	
	comp=N,20nm,0.6s						
KERG	**Konya-Eregli**	**2.76**	**22**	P	**Pn**	**16 53 42.8**	**+1.9**
KERG				*i* IAML		16 55 13.0	
	comp=E,12nm,2.3s						
MMA0B	**Mount Meron ar**	**2.80**	**130**	S	**Sn**	**16 54 14.0**	**-0.6**
MMA0B	**Mount Meron ar**	**2.80**	**130**	P	**Pn**	**16 53 41.0**	**-0.3**
OFRI	**`Ofer**	**2.84**	**141**	P	**Pn**	**16 53 41.7**	**-0.2**
OFRI	**`Ofer**	**2.84**	**141**	S	**Sn**	**16 54 14.9**	**-0.8**
OFRI	**`Ofer**	**2.84**	**141**	P	**Pn**	**16 53 41.8**	**-0.2**
GEM	**Giv'at Ha'Em**	**2.85**	**124**	P	**Pn**	**16 53 42.6**	**+0.6**
GEM	**Giv'at Ha'Em**	**2.85**	**124**	S	**Sn**	**16 54 14.9**	**-0.9**
GEM	**Giv'at Ha'Em**	**2.85**	**124**	P	**Pn**	**16 53 41.9**	**0.0**
NATI	**Neve Ativ**	**2.87**	**123**	P	**Pn**	**16 53 43.7**	**+1.5**
NATI	**Neve Ativ**	**2.87**	**123**	S	**Sn**	**16 54 16.0**	**-0.2**
NATI	**Neve Ativ**	**2.87**	**123**	P	**Pn**	**16 53 42.6**	**+0.3**
GULE	**Gulek**	**2.89**	**32**	P	**Pn**	**16 53 44.6**	**+1.8**
GULE				*i* IAML		16 54 27.0	
	comp=E,29nm,1.0s						
GULE				*i* IAML		16 54 36.0	
	comp=N,19nm,0.4s						
MMLI	**Mount Malkishu**	**3.22**	**138**	P	**Pn**	**16 53 46.3**	**-0.8**
MMLI	**Mount Malkishu**	**3.22**	**138**	S	**Sn**	**16 54 24.2**	**-0.7**
MMLI	**Mount Malkishu**	**3.22**	**138**	P	**Pn**	**16 53 46.8**	**-0.3**
SALP	**Salfit**	**3.39**	**144**	P	**Pn**	**16 53 49.7**	**+0.2**
SALP				S	**Sn**	**16 54 28.3**	**-0.9**
HMDT	**Nahal Hemdat**	**3.42**	**138**	P	**Pn**	**16 53 51.2**	**+1.4**
HMDT	**Nahal Hemdat**	**3.42**	**138**	S	**Sn**	**16 54 28.9**	**-0.9**
HMDT	**Nahal Hemdat**	**3.42**	**138**	P	**Pn**	**16 53 49.6**	**-0.1**
AMAZ	**Amatzia**	**3.73**	**152**	S	**Sn**	**16 54 37.0**	**-0.5**
AMAZ	**Amatzia**	**3.73**	**152**	P	**Pn**	**16 53 53.9**	**-0.2**
DSI	**Dead Sea**	**3.89**	**146**	P	**Pn**	**16 53 57.2**	**+0.9**
DSI	**Dead Sea**	**3.89**	**146**	S	**Sn**	**16 54 40.5**	**-1.0**
DSI	**Dead Sea**	**3.89**	**146**	P	**Pn**	**16 53 56.3**	**-0.1**
YTIR	**Yattir**	**3.96**	**151**	P	**Pn**	**16 53 59.1**	**+1.8**
YTIR	**Yattir**	**3.96**	**151**	S	**Sn**	**16 54 42.0**	**-1.3**
YTIR	**Yattir**	**3.96**	**151**	P	**Pn**	**16 53 57.0**	**-0.3**
MSBI	**Mazada**	**4.10**	**148**	P	**Pn**	**16 54 00.2**	**+1.0**
MSBI	**Mazada**	**4.10**	**148**	S	**Sn**	**16 54 45.5**	**-1.1**
MSBI	**Mazada**	**4.10**	**148**	P	**Pn**	**16 53 59.1**	**-0.1**
KZIT	**Kziot**	**4.14**	**161**	S	**Sn**	**16 54 46.4**	**-1.2**
KZIT	**Kziot**	**4.14**	**161**	P	**Pn**	**16 53 59.6**	**-0.1**
GHAJ	**Ghor Haditha**	**4.20**	**146**	S	**Sn**	**16 54 48.1**	**-1.0**
GHAJ	**Ghor Haditha**	**4.20**	**146**	P	**Pn**	**16 54 00.6**	**+0.1**
ZFRI	**Zfri**	**4.71**	**155**	S	**Sn**	**16 55 00.1**	**-1.5**
ZFRI	**Zfri**	**4.71**	**155**	P	**Pn**	**16 54 06.8**	**-0.7**
PRNI	**Paran**	**4.83**	**157**	S	**Sn**	**16 55 03.6**	**-1.2**
PRNI	**Paran**	**4.83**	**157**	P	**Pn**	**16 54 09.2**	**-0.1**
KRMI	**Paran Flat**	**4.97**	**161**	S	**Sn**	**16 55 08.0**	**-0.2**
KRMI	**Paran Flat**	**4.97**	**161**	P	**Pn**	**16 54 11.2**	**-0.1**
HRFI	**Mount Harif**	**5.14**	**158**	P	**Pn**	**16 54 13.7**	**+0.2**
HRFI	**Mount Harif**	**5.14**	**158**	S	**Sn**	**16 55 11.2**	**-1.1**
HRFI	**Mount Harif**	**5.14**	**158**	P	**Pn**	**16 54 13.6**	**+0.1**
MBRI	**Mt Berech**	**5.33**	**160**	P	**Pn**	**16 54 16.5**	**+0.3**
MBRI				S	**Sn**	**16 55 17.6**	**+0.5**
MBRI	**Mt Berech**	**5.33**	**160**	S	**Sn**	**16 55 16.2**	**-0.9**
MBRI	**Mt Berech**	**5.33**	**160**	P	**Pn**	**16 54 16.2**	**0.0**
EIL	**Elat**	**5.46**	**160**	P	**Pn**	**16 54 18.2**	**+0.3**
EIL	**Elat**	**5.46**	**160**	S	**Sn**	**16 55 18.5**	**-1.6**
EIL	**Elat**	**5.46**	**160**	P	**Pn**	**16 54 18.0**	**+0.1**

IDC 13 16:54:16.6±3.7,20.°87S×110.°35W,h0km,mb3.9/2, mbtmp3.9/2,Error ellipse: s-maj=455.2km s-min=75.2km az=94.0,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N2	**Juan Fernandez**	**30.51**	**121**	T	T	17 32 34.7	
	baz=290,slow=76,SNR=14						
H03N3	**Juan Fernandez**	**30.52**	**121**	T	T	17 32 37.2	
	baz=290,slow=76,SNR=13						
H03N1	**Juan Fernandez**	**30.53**	**121**	T	T	17 32 35.1	
	baz=290,slow=76,SNR=17						
NVAR	**Mina Array Bea**	**59.45**	**353**	P	P	17 04 21.4	-0.1
	1.9nm,0.6s,baz=182,slow=7.4,SNR=4.2						
	1.9nm,0.6s						
PDAR	**Pinedale Array**	**63.32**	**1**	P	P	17 04 47.5	-0.1
	0.4nm,0.7s,baz=165,slow=6.2,SNR=4.2						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**145.00**	**344**	PKPbc	PKPab	17 13 54.4	-0.5
	0.7nm,0.6s,baz=318,slow=1.9,SNR=3.9						
KURBB	**Kurchatov Arra**	**149.49**	**349**	PKPbc	PKPbc	17 14 07.4	-0.2
	2.8nm,0.2s,baz=17,slow=1.2,SNR=4.4						
MKAR	**Makanchi Array**	**152.16**	**341**	PKPbc	PKPbc	17 14 13.7	-0.4
	1.0nm,0.7s,baz=18,slow=2.4,SNR=9.2						

*IDC **13** 17:09:45.0±1.6,59.°26S×26.°07W,h0km,mb3.8/3, mbtmp3.9/4,ML4.2/1,Error ellipse: s-maj=88.3km s-min=37.2km az=87.0*
ISC 13 17:09:56.0±1.5,59.°9S±0.°2×24.°8W±0.°4,h35km,n13, σ2§08/15,mb3.7/3,1C-7D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.73**	**154**	⇓P	**Pn**	**17 12 56.7**	**+2.5**
	comp=Z,15nm,0.3s						
VNA1				⇓S	**Sn**	**17 15 16.0**	**+1.6**
VNA2	**Neumayer--Watz**	**13.13**	**154**	⇓P	**Pn**	**17 13 01.6**	**+2.0**
	comp=Z,1.6nm,0.2s,baz=320,slow=14						
VNA2				⇓S	**Sn**	**17 15 23.4**	**-0.7**
	baz=352,slow=13						
SNAA	**Sanae**	**14.70**	**152**	⇓P	**Pn**	**17 13 23.2**	**+2.1**
	comp=Z,42nm,0.2s						
SNAA				⇓S	**Sn**	**17 15 59.0**	**-3.4**
SNAA	**Sanae**	**14.70**	**152**	Pn	**Pn**	**17 13 23.7**	**+2.7**
	comp=Z,1.1nm,0.3s,baz=317,slow=15,SNR=33						
SNAA				Sn	**Sn**	**17 16 00.4**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=350,slow=14,SNR=5.1						
	comp=Z,2.1nm,0.3s						
TROLL	**Troll, Antarti**	**16.23**	**149**	⇓P	**P**	**17 13 43.7**	**-0.1**
	comp=Z,163nm,0.3s						
TROLL				⇑S	**Sn**	**17 16 37.9**	**-1.8**
QSPA	**South Pole Qui**	**30.31**	**180**	P	**P**	**17 16 03.6**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=225,slow=0.5,SNR=25						
	comp=Z,1.3nm,0.5s						
VNDA	**Vanda**	**42.74**	**182**	P	**P**	**17 17 49.1**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=150,slow=6.6,SNR=4.5						
	comp=Z,0.4nm,0.7s						
H04S2	**CROZET ISLANDS**	**44.95**	**109**	T	T	18 07 30.6	
	baz=224,slow=74,SNR=13						
H04S3	**CROZET ISLANDS**	**44.96**	**109**	T	T	18 07 31.6	
	baz=224,slow=74,SNR=6.9						
H04S1	**CROZET ISLANDS**	**44.97**	**109**	T	T	18 07 31.8	
	baz=224,slow=74,SNR=6.8						
ASAR	**Alice Springs**	**94.91**	**161**	P	**P**	**17 23 12.0**	**-2.4**
	comp=Z,0.2nm,0.6s,baz=186,slow=5.4,SNR=5.4						
	comp=Z,0.2nm,0.6s						
SONM	**Songino Array**	**149.55**	**91**	PKPbc	**PKPdf**	**17 29 37.3**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=203,slow=3.0,SNR=5.3						
ILAR	**Eielson Array**	**153.52**	**305**	PKPbc	**PKPdf**	**17 29 40.8**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=136,slow=1.2,SNR=2.1						

*IDC **13** 17:19:22.2±1.1,0.°59N×126.°28E,h0km,mb4.0/5, mbtmp4.0/5,Error ellipse: s-maj=62.7km s-min=20.5km az=71.0*
*DJA **13** 17:19:26.8±1.3,1.°1N±4.°×12.°6E±.°,h13km±12km,M3.6/9, MLv3.6/9*
ISC 13 17:19:28.8±0.9,0.°51N±0.°10×126.°42E±0.°06,h47km,n10, σ1§75/11,mb3.9/5,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.98**	**75**	P	**Pn**	**17 19 46.6**	**+0.3**
TNTI				S	**Sn**	**17 20 00.1**	**+1.0**
KMSI	**Cibinong**	**2.44**	**272**	P	**Pn**	**17 20 04.1**	**-2.1**
SANI	**Sanana**	**2.58**	**190**	P	**Pn**	**17 20 06.7**	**-1.4**
LUWI	**Luwuk**	**3.96**	**247**	P	**Pn**	**17 20 30.3**	**+3.2**
APSI	**Ampana**	**4.97**	**254**	P	**Pn**	**17 20 42.4**	**+1.4**
WRA	**Warramunga Arr**	**21.76**	**160**	P	**P**	**17 24 15.8**	**-0.8**
	2.7nm,0.8s,baz=339,slow=10,SNR=9.9						
	2.7nm,0.8s						
ASAR	**Alice Springs**	**25.11**	**164**	P	**P**	**17 24 50.7**	**+1.3**
	3.5nm,0.9s,baz=345,slow=12,SNR=23						
	3.5nm,0.9s						
PETK	**Petropavlovsk-**	**58.52**	**22**	P	**P**	**17 29 20.5**	**+0.2**
	0.7nm,0.9s,baz=187,slow=5.4,SNR=4.6						
	0.7nm,0.9s						
MKAR	**Makanchi Array**	**60.03**	**326**	P	**P**	**17 29 29.6**	**-1.3**
	0.7nm,0.5s,baz=116,slow=8.1,SNR=11						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**64.28**	**328**	P	**P**	**17 29 58.4**	**-0.8**
	1.6nm,0.2s,baz=130,slow=6.1,SNR=1.4						
	1.6nm,0.2s						

*IDC **13** 17:35:26.4±2.1,0.°84N×126.°91E,h0km,mb3.6/3, mbtmp3.7/3,Error ellipse: s-maj=176.8km s-min=25.2km az=66.0*
*DJA **13** 17:35:30.3±0.3,0.°7N±3.°×12.°6E±.°,h10km,M3.5/9,MLv3.5/9*
ISC 13 17:35:32.8±1.1,0.°48N±0.°09×126.°35E±0.°06,h47km,n8, σ1§20/9,mb3.6/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.06**	**74**	P	**Pn**	**17 35 50.3**	**-0.9**
TNTI				S	**Sn**	**17 36 04.7**	**-0.1**
KMSI	**Cibinong**	**2.37**	**272**	P	**Pn**	**17 36 08.7**	**-0.5**
SANI	**Sanana**	**2.54**	**188**	P	**Pn**	**17 36 10.4**	**-1.1**
NLAI	**Namlea**	**3.77**	**169**	P	**Pn**	**17 36 28.0**	**-0.4**
LUWI	**Luwuk**	**3.89**	**247**	P	**Pn**	**17 36 29.1**	**-0.9**
WRA	**Warramunga Arr**	**21.75**	**159**	P	**P**	**17 40 20.2**	**-0.3**
	0.6nm,0.3s,baz=340,slow=11,SNR=13						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**25.10**	**163**	P	**P**	**17 40 55.6**	**+2.3**
	0.9nm,0.5s,baz=344,slow=12,SNR=43						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**60.02**	**327**	P	**P**	**17 45 35.0**	**+0.2**
	0.4nm,0.3s,baz=118,slow=8.2,SNR=6.2						
	0.4nm,0.3s						

*IDC **13** 17:36:51.7±0.6,18.°70N×119.°70E,h0km,mb4.0/19, mbtmp4.0/21,ML4.3/2,MS3.4/22,Error ellipse: s-maj=23.3km s-min=14.0km az=70.0*
*NEIC **13** 17:36:52.0±1.6,18.°62N±0.°06×119.°43E±0.°08,h10km±1km, mb4.6/38,Error ellipse: s-maj=13.1km s-min=10.1km az=94.0*
*BJI **13** 17:36:53.9,18.°78N×119.°33E,h12km,mB4.4/6,mb4.0/20, ML4.2/2,Ms4.0/8,Ms7.3/9.4*
ISC 13 17:36:55.6±0.4,18.°54N±0.°06×119.°48E±0.°06,h32km,n109, σ1§60/98,mb4.4/40,MS3.5/22,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWG	**Pinlang**	**4.51**	**19**		**Pn**	**17 37 59.7**	**-2.1**
TWGBT	**Beinan**	**4.51**	**19**	P	**Pn**	**17 38 00.6**	**-1.2**
TGY	**Tag

LZH LR LR
comp=N,260nm,13.4s
LZH LR LR
comp=E,250nm,12.0s
LZH LR LR
comp=Z,270nm,11.7s
INU Inuyama 22.85 39 P **P 17 41 54.6 -1.6**
INU IAmb IAmb 17 42 12.4
comp=Z,18nm,1.1s
JGF Kuroka 23.22 39 P **P 17 41 58.1 -1.9**
HHC Hu-ho-hao-te 23.25 345 *e*P **P 17 41 57.9 -2.5**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,48nm,4.8s
HHC LR LR
comp=Z,130nm,11.5s
HHC LR LR
comp=Z,120nm,11.5s
MJAR Matsushiro Arr 24.36 39 P **P 17 42 10.1 -0.8**
MJAR Matsushiro Arr 24.36 39 P **P 17 42 09.6 -1.2**
comp=Z,2.6nm,1.1s,baz=218,slow=7.9,SNR=4.5
comp=Z,2.6nm,1.1s
GUMO Guam 24.88 98 LR LR 17 52 24.4
comp=Z,43nm,18.3s,baz=269,slow=38
XLT XiLinHaoTe 25.44 354 *e*P **P 17 42 19.3 -1.4**
XLT pP pP 17 42 24.3 -4.3
XLT pmax pmax
comp=Z,5.0nm,0.9s
BRDH Bariadhala 26.36 284 LR LR 17 54 12.1
comp=Z,95nm,18.1s,baz=36,slow=39
GTA Gaotai 26.88 325 *e*P **P 17 42 38.9 +5.2**
GTA sP pwP 17 42 47.3 +0.1
GTA pmax pmax
comp=Z,2.0nm,1.1s
GTA LR LR
comp=Z,160nm,13.1s
GTA LR LR
comp=Z,96nm,13.1s
GTA LR LR
comp=Z,190nm,13.1s
JAY Jayapura 29.57 133 LR LR 17 54 31.9
comp=Z,39nm,20.9s,baz=251,slow=36
SONM Songino Array 31.11 343 P **P 17 43 12.4 +1.2**
comp=Z,0.8nm,0.7s,baz=164,slow=11,SNR=4.1
SONM PcP **PcP 17 46 06.4 +0.3**
comp=Z,0.4nm,0.6s,baz=177,slow=3.0,SNR=4.0
SONM LR LR 17 55 33.7
comp=Z,70nm,19.0s,baz=166,slow=36
comp=Z,0.8nm,0.7s
WMQ Urumqi 36.70 320 *e*P **P 17 44 00.1 +0.3**
WB0 Warramunga Arr 40.78 158 P **P 17 44 30.5 -3.6**
WB0 IAmb IAmb 17 44 44.6
comp=Z,10.0nm,0.8s
WRA Warramunga Arr 40.93 158 P **P 17 44 36.1 +0.8**
comp=Z,4.0nm,0.6s,baz=327,slow=11,SNR=5.8
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 41.50 321 **P 17 44 37.4 -2.4**
MKAR Makanchi Array 41.50 321 P **P 17 44 41.0 +1.1**
comp=Z,2.2nm,0.9s,baz=113,slow=9.3,SNR=13
MKAR LR LR 18 01 05.6
comp=Z,37nm,19.3s,baz=107,slow=35
comp=Z,2.2nm,0.9s
YAK Yakutsk 44.03 7 LR LR 18 05 04.5
comp=Z,39nm,18.4s,baz=200,slow=39
AS31 Alice Springs 44.25 161 **P 17 45 01.6 -0.8**
ASAR Alice Springs 44.25 161 P **P 17 45 02.5 +0.2**
ASAR Alice Springs 44.25 161 P **P 17 45 03.5 +1.2**
comp=Z,2.5nm,0.5s,baz=341,slow=6.7,SNR=46
comp=Z,2.5nm,0.5s
ZALV Zalesovo Beam 44.26 331 LR LR 18 04 08.8
comp=Z,32nm,21.4s,baz=204,slow=37
AAK Ala-Archa 44.89 312 LR LR 18 05 46.9
comp=Z,64nm,21.5s,baz=88,slow=39
PEA0B Petropavlovsk- 45.45 32 P **P 17 45 11.0 -0.5**
PEA0B IAmb IAmb 17 45 12.7
comp=Z,9.6nm,1.1s
PETK Petropavlovsk- 45.45 32 P **P 17 45 11.2 -0.4**
PETK Petropavlovsk- 45.45 32 P **P 17 45 09.5 -2.1**
comp=Z,2.2nm,0.9s,baz=205,slow=6.6,SNR=4.8
comp=Z,2.2nm,0.9s
KURK Kurchatov 45.56 324 **P 17 45 10.8 -1.6**
KURK IAmb IAmb 17 45 26.1
comp=Z,3.8nm,0.7s
KURBB Kurchatov Arra 45.57 324 P **P 17 45 14.2 +1.8**
comp=Z,1.2nm,0.3s,baz=123,slow=8.1,SNR=13
comp=Z,1.2nm,0.3s
CTAO Charters Tower 46.51 144 P **P 17 45 20.1 -0.2**
MORW Morawa 47.45 184 P **P 17 45 27.2 -0.2**
FORT Forrest 49.73 170 P **P 17 45 45.8 +0.9**
STKA Stephens Creek 54.43 157 P **P 17 46 21.6 +1.7**
comp=Z,4.2nm,0.9s,baz=329,slow=7.8,SNR=4.6
comp=Z,4.2nm,0.9s
NRIK Noril'sk 54.46 347 **P 17 46 19.4 -0.3**
NRIK IAmb IAmb 17 46 32.8
comp=Z,3.9nm,0.7s
NRIK Noril'sk 54.46 347 P **P 17 46 20.5 +0.8**
comp=Z,3.6nm,0.7s,baz=126,slow=7.1,SNR=4.9
NRIK LR LR 18 10 19.5
comp=Z,28nm,20.1s,baz=154,slow=37
comp=Z,3.6nm,0.7s
AB31 Akbulak array 56.36 317 **P 17 46 33.1 -0.6**
ABKAR Akbulak array 56.36 317 P **P 17 46 34.0 +0.3**
ARTI Arti 58.82 325 **P 17 46 49.8 -1.0**
ARTI IAmb IAmb 17 46 53.1
comp=Z,5.3nm,0.7s
ARTI Arti 58.82 325 LR LR 18 14 30.2
comp=Z,31nm,19.1s,baz=143,slow=38
DZM Mont Dzumac 61.15 129 P **P 17 47 07.5 +0.1**
BELG Belogornoye 64.48 320 LR LR 18 16 23.8
comp=Z,24nm,18.1s,baz=121,slow=37
GNI Garni 66.77 306 LR LR 18 21 16.8
comp=Z,25nm,19.0s,baz=126,slow=40
KBZ Khabaz 67.83 310 P **P 17 47 52.1 +1.4**
comp=Z,3.4nm,0.9s,baz=131,slow=4.5,SNR=5.0
comp=Z,3.4nm,0.9s
L14K Kuka Creek 68.08 31 P **P 17 47 51.0 -1.0**
M14K Bethel 68.42 31 P **P 17 47 54.0 -0.2**
N15K Kwethluk River 69.36 32 P **P 17 47 58.1 -1.9**
L16K Owhat River 69.62 30 P **P 17 48 00.1 -1.5**
L16K IAmb IAmb 17 48 19.4
comp=Z,5.7nm,1.2s
J17K VABM Dome 69.77 28 P **P 17 48 01.9 -0.6**
J17K IAmb IAmb 17 48 05.5
comp=Z,4.8nm,0.9s
M16K Timber Creek 69.89 31 P **P 17 48 02.2 -1.1**
K17K Iditarod 70.14 29 P **P 17 48 03.0 -1.8**
K17K IAmb IAmb 17 48 07.8
comp=Z,5.1nm,0.8s
H19K Roundabout Mou 70.84 26 **P 17 48 07.7 -1.3**
H19K IAmb IAmb 17 48 11.9
comp=Z,9.7nm,1.4s
G21K Allakaket 71.98 25 P **P 17 48 15.0 -0.8**
G21K IAmb IAmb 17 48 19.0
comp=Z,4.4nm,1.1s
H21K Melozitna Rive 72.34 26 P **P 17 48 17.2 -0.9**
H21K IAmb IAmb 17 48 20.9
comp=Z,4.2nm,1.0s
I21K Tanana 72.74 26 P **P 17 48 20.1 -0.3**
CAST Castle Rocks 72.91 28 **P 17 48 20.8 -0.7**
CAST IAmb IAmb 17 48 23.9
comp=Z,6.4nm,0.9s
MLY Manley 73.28 26 **P 17 48 22.8 -0.9**
MLY IAmb IAmb 17 48 26.2
comp=Z,4.0nm,0.9s
G23K Bananza Creek 73.34 25 P **P 17 48 23.1 -0.9**
G23K IAmb IAmb 17 48 26.7
comp=Z,5.3nm,1.2s
ARCES ARCESS Array B 74.17 339 P **P 17 48 28.7 -0.1**
comp=Z,1.7nm,0.8s,baz=69,slow=11,SNR=3.7
ARCES LR LR 18 23 38.1
comp=Z,16nm,19.3s,baz=86,slow=38
comp=Z,1.7nm,0.8s
D25K Kavik River 74.27 22 P **P 17 48 28.0 -1.4**
D25K IAmb IAmb 17 48 31.6
comp=Z,3.5nm,0.8s
RND Reindeer 74.35 28 P **P 17 48 29.1 -0.9**
RND IAmb IAmb 17 48 31.3
comp=Z,5.4nm,0.9s
WRH Wood River Hil 74.49 27 P **P 17 48 29.5 -1.2**
SPITS Spitsbergen Ar 74.64 348 LR LR 18 24 45.7
comp=Z,29nm,18.9s,baz=70,slow=39
ILAR Eielson Array 74.94 26 P **P 17 48 32.5 -0.8**
comp=Z,0.6nm,0.8s,baz=284,slow=5.0,SNR=6.6
comp=Z,0.6nm,0.8s
PWL Port Wells 75.06 30 P **P 17 48 31.8 -2.2**
FINES FINESS Array B 75.52 330 P **P 17 48 37.2 +0.6**
comp=Z,1.3nm,0.6s,baz=58,slow=4.5,SNR=9.7
FINES LR LR 18 22 22.0
comp=Z,33nm,19.9s,baz=111,slow=36
comp=Z,1.3nm,0.6s
RIDG Independent Ri 76.03 27 P **P 17 48 38.8 -0.9**
RIDG IAmb IAmb 17 48 41.1
comp=Z,4.5nm,1.0s
AKASG Malin Array Be 76.04 319 P **P 17 48 40.2 +0.3**
comp=Z,0.6nm,0.5s,baz=67,slow=5.8,SNR=5.2
comp=Z,0.6nm,0.5s
M26K Nabesna, AK 77.18 28 P **P 17 48 45.0 -1.3**
M26K IAmb IAmb 17 48 48.4
comp=Z,4.2nm,0.9s
L27K Beaver Creek, 77.52 27 P **P 17 48 47.7 -0.4**
L29M L29M 79.11 27 P **P 17 48 54.6 -2.3**
MLR Muntele Rosu 79.42 314 LR LR 18 27 43.7
comp=Z,37nm,20.8s,baz=98,slow=38
HFS Hagfors 81.69 331 P **P 17 49 10.4 -0.3**
comp=Z,1.2nm,0.7s,baz=96,slow=3.0,SNR=4.9
comp=Z,1.2nm,0.7s
NB2 NORSAR Subarra 82.45 332 P **P 17 49 14.8 +0.1**
comp=Z,0.7nm,0.6s,baz=65,slow=5.3
NOA NORSAR Array B 82.45 332 P **P 17 49 15.1 +0.3**
comp=Z,1.3nm,1.0s,baz=65,slow=5.3,SNR=3.7
NOA LR LR 18 28 31.7
comp=Z,26nm,19.1s,baz=70,slow=38
comp=Z,1.3nm,1.0s
GERES GERESS Array B 86.17 320 P **P 17 49 34.8 +0.9**
comp=Z,0.5nm,0.7s,baz=81,slow=3.4,SNR=5.1
comp=Z,0.5nm,0.7s
YKA Yellowknife Ar 88.77 22 P **P 17 49 47.1 +1.1**
comp=Z,1.6nm,0.8s,baz=319,slow=5.1,SNR=11
comp=Z,1.6nm,0.8s
DAVOX Davos/Dischmat 89.38 320 LR LR 18 31 23.0
comp=Z,16nm,18.1s,baz=286,slow=37
VNDA Vanda 98.98 171 LR LR 18 39 00.1
comp=Z,18nm,18.2s,baz=234,slow=38
TXAR Lajitas Array 116.77 42 PKP **PKiKP 17 55 38.8 +1.2**
comp=Z,0.4nm,0.8s,baz=252,slow=1.2,SNR=4.4

*IDC **13** 17:41:24.8±4.9,8.˚17S×128.˚15E,h224km±52km,mb3.2/5, mbtmp3.9/8,Error ellipse: s-maj=56.5km s-min=20.0km az=47.0*
ISC 13 17:41:22.8±1.0,8.˚06S±0.˚08×128.˚3E±0.˚1,h200km,n8, σ0s99/11,mb3.4/5,Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.02**	**244**	P	**Pn**	**17 42 37.5**	**0.0**
	29nm,0.4s,baz=100,slow=6.4,SNR=14						
BATI				S	**Sn**	**17 43 36.8**	**+0.4**
	46nm,0.3s,baz=110,slow=21,SNR=8.7						
FITZ	**Fitzroy Crossi**	**10.30**	**194**	P	**Pn**	**17 43 46.4**	**+0.4**
	5.9nm,0.5s,baz=15,slow=10,SNR=50						
FITZ				S	**S**	**17 45 40.2**	**-1.3**
	5.6nm,0.4s,baz=69,slow=14,SNR=4.0						
WRA	**Warramunga Arr**	**13.20**	**154**	P	**Pn**	**17 44 24.2**	**+1.3**
	1.5nm,0.5s,baz=329,slow=12,SNR=18						
WRA				S	**S**	**17 46 48.7**	**-1.4**
	4.3nm,0.4s,baz=329,slow=24,SNR=11						
CMAR	**Chiang Mai Arr**	**39.13**	**313**	P	**P**	**17 48 31.6**	**+0.4**
	0.5nm,0.7s,baz=120,slow=8.4,SNR=4.3						
	0.5nm,0.7s						
SONM	**Songino Array**	**58.92**	**343**	P	**P**	**17 51 00.7**	**-0.3**
	0.4nm,0.7s,baz=170,slow=8.8,SNR=3.0						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**68.18**	**328**	P	**P**	**17 52 01.4**	**-0.1**
	0.3nm,0.4s,baz=126,slow=7.8,SNR=6.2						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**71.78**	**335**	P	**P**	**17 52 21.9**	**-1.3**
	0.6nm,0.4s,baz=140,slow=7.6,SNR=2.8						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**72.52**	**329**	P	**P**	**17 52 27.7**	**0.0**
	1.0nm,0.4s,baz=134,slow=4.7,SNR=13						
	1.0nm,0.4s						

*IDC **13** 17:56:45.3±1.1,46.˚89N×75.˚93W,h0km,mb3.3/2, mbtmp3.7/5,ML3.4/3,Error ellipse: s-maj=37.6km s-min=8.4km az=129.0*
*OTT **13** 17:56:47.6±0.1,47.˚17N×76.˚37W,h18km,MN4.1/26*
OTT 93km northeast from Maniwaki, Qc. Felt 87km northwest from Ferme-Neuve, Qc Western Quebec Seismic Zone. Felt in Maniwaki, Mont Laurier, Qc.
*NEIC **13** 17:56:47.1±1.0,47.˚17N±0.˚05×76.˚33W±0.˚07,h15km±6km, mb_Lg3.7/95,mb_Lg4.0(OTT),Error ellipse: s-maj=9.1km s-min=4.1km az=224.0*
ISC 13 17:56:47.1±1.5,47.˚12N±0.˚03×76.˚33W±0.˚03,h16km±10km, n151,σ1s48/156,1D,Southern Quebec

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRQ	**Grand Remous**	**0.60**	**147**	⇓PG	**Pg**	**17 56 60.0**	**+0.9**
GRQ				SG	**Sb**	**17 57 08.7**	**+1.2**
GRQ				Trac		17 57 08.9	
	comp=Z,1μm,0.1s						
VLDQ	**Val d'Or**	**1.25**	**323**		**Pg**	**17 57 12.7**	**+1.4**
VLDQ				Sg	**Sn**	**17 57 30.0**	**+3.6**
VLDQ	**Val d'Or**	**1.25**	**323**	PG	**Pg**	**17 57 12.8**	**+1.5**
VLDQ				SG	**Sn**	**17 57 31.1**	**+4.7**
VLDQ				Trac		17 57 33.2	
	comp=Z,197nm,0.1s						
CHRO	**Chalk River**	**1.30**	**214**	PG	**Pn**	**17 57 11.0**	**+0.4**
CHRO				SG	**Sb**	**17 57 28.6**	**+1.1**
CHRO				Trac		17 57 32.9	
	comp=Z,636nm,0.1s						
TRQ	**Mont Tremblant**	**1.52**	**126**		**Pn**	**17 57 14.3**	**+0.8**
TRQ					**Sn**	**17 57 33.9**	**+0.9**
TRQ	**Mont Tremblant**	**1.52**	**126**	PN	**Pn**	**17 57 14.4**	**+0.8**
TRQ				SN	**Sn**	**17 57 34.7**	**+1.7**
TRQ				Trac		17 57 39.2	
	comp=Z,124nm,0.1s						
GAC	**Glen Almond**	**1.53**	**157**	PN	**Pn**	**17 57 15.0**	**+1.3**
GAC				SN	**Sn**	**17 57 35.3**	**+2.0**
GAC				Trac		17 57 38.0	
	comp=Z,614nm,0.3s						
COBO	**Cobden**	**1.54**	**195**	PN	**Pn**	**17 57 15.2**	**+1.4**
COBO				SN	**Sn**	**17 57 34.8**	**+1.4**
PEMO	**Pembroke**	**1.57**	**204**	PN	**Pn**	**17 57 14.9**	**+0.6**
PEMO				SN	**Sn**	**17 57 35.4**	**+1.1**
PEMO				Trac		17 57 44.3	
	comp=Z,134nm,0.0s						
ORIO	**Orleans, Innes**	**1.76**	**161**	PN	**Pn**	**17 57 18.1**	**+1.2**
ORIO				SN	**Sn**	**17 57 39.8**	**+0.9**
ORIO				Trac		17 57 48.7	
	comp=Z,654nm,0.2s						
OTT	**Ottawa**	**1.77**	**166**	PN	**Pn**	**17 57 18.4**	**+1.3**
OTT				SN	**Sn**	**17 57 41.3**	**+2.0**
OTT				Trac		17 57 43.9	
	comp=Z,565nm,0.2s						
KIPQ	**Kipawa,Quebec**	**1.90**	**261**	PN	**Pn**	**17 57 19.2**	**+0.4**
KIPQ				SN	**Sn**	**17 57 42.7**	**+0.4**
KIPQ				Trac		17 57 51.4	
	comp=Z,703nm,0.2s						
PLVO	**Plevna**	**2.14**	**194**	PN	**Pn**	**17 57 22.7**	**+0.6**
PLVO				SN	**Sn**	**17 57 49.3**	**+0.9**
PLVO				LG	Lg	17 57 54.6	
PLVO				Trac		17 57 57.9	
	comp=Z,311nm,0.1s						
RIGQ	**Rigaud**	**2.20**	**139**	PN	**Pn**	**17 57 24.5**	**+1.6**
RIGQ				SN	**Sn**	**17 57 51.2**	**+1.3**
WBO	**Williamsburg**	**2.24**	**160**		**Pn**	**17 57 25.0**	**+1.5**
WBO	**Williamsburg**	**2.24**	**160**	PN	**Pn**	**17 57 24.7**	**+1.3**
WBO				SN	**Sn**	**17 57 52.1**	**+1.3**
WBO				LG	Lg	17 57 58.1	
WBO				Trac		17 58 01.9	
	comp=Z,245nm,0.2s						
DPQ	**Saint Jean**	**2.48**	**99**	PN	**Pn**	**17 57 26.7**	**0.0**
DPQ				SN	**Sn**	**17 57 56.8**	**+0.2**
DPQ				Trac		17 58 10.6	
	comp=Z,150nm,0.1s						
MNTQ	**Montreal, Queb**	**2.48**	**130**		**Pn**	**17 57 26.4**	**-0.3**
MNTQ	**Montreal, Queb**	**2.48**	**130**	PN	**Pn**	**17 57 27.5**	**+0.8**
MNTQ				SN	**Sn**	**17 57 57.2**	**+0.6**
MNTQ				Trac		17 58 08.5	
	comp=Z,230nm,0.2s						
KILO	**Kirkland Lake**	**2.67**	**302**	PN	**Pn**	**17 57 28.8**	**-0.6**
KILO				SN	**Sn**	**17 57 59.4**	**-2.0**
KILO				LG	Lg	17 58 09.7	
KILO				Trac		17 58 11.9	
	comp=Z,115nm,0.2s						
BUKO	**Buck Lake**	**2.71**	**233**		**Pn**	**17 57 30.1**	**+0.2**
BUKO				IAmb_Lg		17 58 15.3	
	comp=Z,293nm,0.7s						
BUKO	**Buck Lake**	**2.71**	**233**	PN	**Pn**	**17 57 30.1**	**+0.2**
BUKO				SN	**Sn**	**17 58 02.0**	**-0.3**
BUKO				LG	Lg	17 58 11.4	
BUKO				Trac		17 58 15.7	
	comp=Z,355nm,0.2s						
DELO	**Deloro Mine**	**2.75**	**200**		**Pn**	**17 57 31.0**	**+0.4**
DELO				IAmb_Lg		17 58 14.4	
	comp=Z,170nm,0.7s						
DELO	**Deloro Mine**	**2.75**	**200**	PN	**Pn**	**17 57 31.1**	**+0.6**
DELO				SN	**Sn**	**17 58 03.7**	**+0.3**
DELO				LG	Lg	17 58 14.9	
DELO				Trac		17 58 19.1	
	comp=Z,161nm,0.1s						
BECQ	**Becancour**	**2.76**	**105**	PN	**Pn**	**17 57 30.9**	**+0.4**
BECQ				SN	**Sn**	**17 58 03.6**	**+0.1**
BECQ				LG	Lg	17 58 14.7	
BECQ				Trac		17 58 17.4	
	comp=Z,8.0nm,0.0s						
LONY	**Lake Ozonia**	**2.78**	**153**		**Pn**	**17 57 31.5**	**+0.5**
LONY	**Lake Ozonia**	**2.78**	**153**	PN	**Pn**	**17 57 31.6**	**+0.7**
LONY				SN	**Sn**	**17 58 05.0**	**+0.9**
LONY				LG	Lg	17 58 15.2	
LONY				Trac		17 58 20.5	
	comp=Z,163nm,0.2s						
KGNO	**Kingston**	**2.89**	**182**	PN	**Pn**	**17 57 33.6**	**+1.2**
KGNO				SN	**Sn**	**17 58 06.7**	**-0.1**
KGNO				LG	Lg	17 58 19.4	
KGNO				Trac		17 58 19.6	
	comp=Z,185nm,0.2s						
FRNY	**Flat Rock**	**2.98**	**139**		**Pn**	**17 57 34.6**	**+0.9**
FRNY	**Flat Rock**	**2.98**	**139**	PN	**Pn**	**17 57 34.7**	**+1.1**
FRNY				SN	**Sn**	**17 58 09.3**	**+0.4**
FRNY				LG	Lg	17 58 20.9	
FRNY				Trac		17 58 24.5	
	comp=Z,216nm,0.2s						
SADO	**Sadowa**	**3.06**	**221**		**Pn**	**17 57 34.6**	**-0.1**
SADO	**Sadowa**	**3.06**	**221**	Pn	**Pn**	**17 57 35.3**	**+0.5**
	comp=Z,24nm,0.3s,baz=40,slow=15,SNR=133						
SADO				Lg	Lg	17 58 21.1	
	comp=Z,32nm,0.3s,baz=154,slow=6.7,SNR=11						
	comp=Z,59nm,0.3s						
SADO	**Sadowa**	**3.06**	**221**	PN	**Pn**	**17 57 35.0**	**+0.2**
SADO				SN	**Sn**	**17 58 11.3**	**+0.3**
SADO				LG	Lg	17 58 23.2	
SADO				Trac		17 58 26.1	
	comp=Z,375nm,0.2s						
CHGQ	**Chibougamau**	**3.08**	**24**	PN	**Pn**	**17 57 34.9**	**-0.2**
CHGQ				SN	**Sn**	**17 58 10.3**	**-1.3**
CHGQ				LG	Lg	17 58 20.8	
CHGQ				Trac		17 58 26.6	
	comp=Z,158nm,0.2s						
PECO	**Prince Edward**	**3.22**	**189**		**Pn**	**17 57 37.4**	**+0.5**
PECO				IAmb_Lg		17 58 37.2	
	comp=Z,198nm,0.8s						
PECO	**Prince Edward**	**3.22**	**189**	PN	**Pn**	**17 57 37.6**	**+0.7**
PECO				SN	**Sn**	**17 58 14.9**	**+0.1**
PECO				LG	Lg	17 58 28.1	
PECO				Trac		17 58 30.7	
	comp=Z,309nm,0.3s						
KLBO	**Killbear Provi**	**3.22**	**238**	PN	**Pn**	**17 57 37.2**	**+0.3**
KLBO				SN	**Sn**	**17 58 14.2**	**-0.7**
KLBO				LG	Lg	17 58 28.1	
KLBO				Trac		17 58 28.8	
	comp=Z,207nm,0.2s						
SUBO	**Sudbury**	**3.33**	**263**	PN	**Pn**	**17 57 38.1**	**-0.4**
SUBO				SN	**Sn**	**17 58 15.9**	**-1.8**
SUBO				LG	Lg	17 58 31.0	
SUBO				Trac		17 58 32.4	
	comp=Z,148nm,0.2s						
LDAQ	**Lac Daran**	**3.55**	**74**		**Pn**	**17 57 40.7**	**-0.8**
LDAQ				IAmb_Lg		17 58 48.8	
	comp=Z,202nm,0.8s						
J57A	**Williamstown**	**3.71**	**176**		**Pn**	**17 57 44.9**	**+1.1**
VT1	**Waterbury**	**3.75**	**137**		**Pn**	**17 57 47.0**	**+2.8**
VT1				IAmb_Lg		17 58 49.6	
	comp=Z,116nm,0.7s						
J59A	**Piesco**	**3.87**	**160**		**Pn**	**17 57 45.5**	**-0.5**
J55A	**Hilton**	**3.99**	**196**		**Pn**	**17 57 47.8**	**+0.2**
J55A				IAmb_Lg		17 59 00.7	
	comp=Z,151nm,0.9s						
LMQ	**La Malbaie**	**4.11**	**82**		**Pn**	**17 57 47.9**	**-1.3**
LMQ				IAmb_Lg		17 59 04.3	
	comp=Z,169nm,0.9s						
LBNH	**Lisbon**	**4.22**	**131**		**Pn**	**17 57 49.7**	**-1.0**
MEDO	**Medina**	**4.23**	**202**		**Pn**	**17 57 50.8**	**0.0**
K57A	**Scipio Center**	**4.39**	**182**		**Pn**	**17 57 50.4**	**-2.7**
K57A				IAmb_Lg		17 59 09.2	
	comp=Z,140nm,0.7s						
H62A	**Milan**	**4.42**	**123**		**Pn**	**17 57 54.2**	**+0.7**
H62A				IAmb_Lg		17 59 17.3	
	comp=Z,110nm,0.8s						
HNH	**Hanover**	**4.44**	**139**		**Pn**	**17 57 53.8**	**+0.1**
HNH				IAmb_Lg		17 59 09.5	
	comp=Z,114nm,0.9s						
G62A	**West of Eustis**	**4.45**	**113**		**Pn**	**17 57 53.9**	**-0.1**
MMNY	**Mt. Morris Dam**	**4.53**	**195**		**Pn**	**17 57 54.7**	**-0.2**
J61A	**Chester**	**4.62**	**143**		**Pn**	**17 57 56.8**	**+0.7**
TRY	**Troy**	**4.78**	**156**	Pn	**Pn**	**17 57 58.6**	**+0.3**
TRY				IAmb_Lg		17 59 16.6	
	comp=Z,115nm,0.7s						
I62A	**Tamworth**	**4.78**	**131**		**Pn**	**17 57 58.7**	**+0.3**
I62A				IAmb_Lg		17 59 21.4	
	comp=Z,124nm,0.8s						
BINY	**Binghamton**	**4.92**	**177**	Pn	**Pn**	**17 58 00.8**	**+0.4**
D62A	**Allapoint, All**	**4.97**	**88**		**Pn**	**17 58 00.5**	**-0.5**
WVNY	**West Valley, N**	**4.98**	**200**		**Pn**	**17 58 01.1**	**-0.1**
L59A	**Walton**	**5.01**	**169**		**Pn**	**17 58 02.4**	**+0.8**
L56A	**Greenwood**	**5.06**	**190**		**Pn**	**17 58 02.4**	**+0.1**
I63A	**Otisfield**	**5.07**	**125**	Pn	**Pn**	**17 58 02.1**	**-0.2**
PKME	**Peaks-Kenny Pk**	**5.23**	**108**	Pn	**Pn**	**17 58 04.1**	**-0.4**
WVL	**Waterville**	**5.32**	**116**	Pn	**Pn**	**17 58 04.6**	**-1.1**
K62A	**Royalston**	**5.32**	**145**		**Pn**	**17 58 06.4**	**+0.6**
K62A				IAmb_Lg		17 59 35.9	
	comp=Z,101nm,0.8s						
L61B	**Northampton**	**5.34**	**150**	Pn	**Pn**	**17 58 04.1**	**-2.0**
L61B				IAmb_Lg		17 59 37.7	
	comp=Z,109nm,0.8s						
E46A	**Sault Ste Mari**	**5.53**	**265**	Pn	Pn	17 58 03.6	-5.2
E46A				IAmb_Lg		17 59 46.4	
	comp=Z,111nm,0.7s						
I49A	**Point Hope**	**5.56**	**238**	Pn	Pn	17 58 05.6	-3.5
KSPA	**Keystone Colle**	**5.57**	**176**		**Pn**	**17 58 08.6**	**-0.7**
KSPA				IAmb_Lg		17 59 50.6	
	comp=Z,96nm,0.9s						
ERPA	**Erie**	**5.64**	**209**	IAmb_Lg		17 59 43.2	
	comp=Z,91nm,0.8s						
F64A	**Sherman**	**5.65**	**100**		**Pn**	**17 58 08.8**	**-1.5**
HRV	**Adam Dziewonsk**	**5.72**	**142**	Pn	**Pn**	**17 58 09.0**	**-2.4**
KSCT	**Kent School, K**	**5.76**	**158**		**Pn**	**17 58 12.4**	**+0.5**
M57A	**Sunshine Farm,**	**5.81**	**186**		**Pn**	**17 58 13.0**	**+0.5**
M57A				IAmb_Lg		18 00 01.1	
	comp=Z,114nm,0.7s						
WES	**Weston**	**5.92**	**141**	Pn	**Pn**	**17 58 13.6**	**-0.5**
UCCT	**U. Connecticut**	**6.08**	**150**	Pn	**Pn**	**17 58 18.1**	**+1.9**
UCCT				IAmb_Lg		18 00 01.1	
	comp=Z,73nm,0.8s						
ALLY	**Alegheny Colle**	**6.11**	**208**		**Pn**	**17 58 14.4**	**-2.3**
K50A	**Casco**	**6.23**	**228**		**Pn**	**17 58 17.3**	**-0.9**
K50A				IAmb_Lg		18 00 06.9	
	comp=Z,99nm,0.8s						
N58A	**Sunbury**	**6.28**	**183**		**Pn**	**17 58 19.0**	**0.0**
N58A				IAmb_Lg		18 00 11.7	
	comp=Z,91nm,0.9s						
WSPT	**Westport, CT**	**6.32**	**159**	IAmb_Lg		18 00 06.2	
	comp=Z,99nm,0.9s						
PAL	**Palisades**	**6.35**	**163**	Pn	**Pn**	**17 58 19.4**	**-0.6**
PAL				IAmb_Lg		18 00 11.7	
	comp=Z,92nm,0.8s						
G65A	**Princeton**	**6.38**	**104**	Pn	**Pn**	**17 58 18.3**	**-2.1**
M63A	**Gales Ferry**	**6.49**	**150**	Pn	**Pn**	**17 58 19.2**	**-2.6**
M63A				IAmb_Lg		18 00 23.6	
	comp=Z,70nm,0.9s						
L64A	**Middleborough**	**6.50**	**141**	Pn	**Pn**	**17 58 20.3**	**-1.6**
L64A				IAmb_Lg		18 00 10.8	
	comp=Z,108nm,1.2s						
ICQ	**Pointe Anglais**	**6.50**	**65**	Pn	**Pn**	**17 58 20.1**	**-1.9**
ICQ				IAmb_Lg		18 00 22.3	
	comp=Z,82nm,0.7s						
N62A	**Caumsett State**	**6.52**	**161**	Pn	Pn	17 58 18.9	-3.4
CPNY	**Central Park**	**6.55**	**164**	Pn	**Pn**	**17 58 22.5**	**-0.2**
CPNY				IAmb_Lg		18 00 16.7	
	comp=Z,83nm,0.8s						
BRNJ	**Basking Ridge**	**6.56**	**168**	Pn	**Pn**	**17 58 20.7**	**-2.0**
BRNJ				IAmb_Lg		18 00 18.9

comp=Z,68nm,0.8s
SSPA Standing Stone 6.58 190 Pn 17 58 22.3 -0.7
SSPA IAmb_Lg 18 00 20.4
comp=Z,83nm,0.7s
M52A Chesterland 6.64 215 Pn Pn 17 58 22.7 -1.2
EMMW East Machias 6.64 108 Pn Pn 17 58 23.0 -0.9
GGN Saint George 6.89 103 Pn Pn 17 58 25.8 -1.6
BATG Bathurst New B 7.00 85 Pn Pn 17 58 26.4 -2.5
N53A Lisbon 7.09 209 Pn 17 58 29.5 -0.7
AAM Ann Arbor 7.10 230 IAmb_Lg 18 00 40.4
comp=Z,116nm,0.8s
MVL Millersville 7.12 180 Pn Pn 17 58 30.4 0.0
J47A Sunmer 7.14 240 Pn Pn 17 58 28.8 -2.1
WUPA West Chester U 7.20 176 Pn 17 58 31.7 0.0
O54A Avella 7.53 204 Pn Pn 17 58 34.5 -1.6
O54A IAmb_Lg 18 00 57.8
comp=Z,97nm,0.7s
N51A Ashland 7.57 217 Pn Pn 17 58 34.6 -2.1
I45A Fountain 7.60 250 IAmb_Lg 18 01 08.9
comp=Z,117nm,0.8s
SDMD Soldier's Deli 7.71 183 Pn Pn 17 58 39.0 +0.3
O53A New Philadelph 7.72 209 Pn Pn 17 58 37.9 -0.9
O53A IAmb_Lg 18 00 58.2
comp=Z,105nm,0.8s
P57A Homestead Farm 7.73 190 Pn 17 58 39.1 +0.2
P57A IAmb_Lg 18 00 59.2
comp=Z,69nm,1.1s
MCWV Mont Chateau 7.88 200 Pn Pn 17 58 40.0 -0.9
MCWV IAmb_Lg 18 00 54.0
comp=Z,111nm,1.0s
O52A Adamsville 8.05 212 Pn Pn 17 58 40.7 -2.7
O52A IAmb_Lg 18 00 58.7
comp=Z,92nm,0.7s
LMN Caledonia Moun 8.06 95 Pn Pn 17 58 40.9 -2.4
F42A Maple Grove Fa 8.27 265 Pn Pn 17 58 42.9 -3.3
Q56A Snyder Ridge, 8.34 196 Pn 17 58 46.2 -1.1
Q56A IAmb_Lg 18 01 13.0
comp=Z,63nm,0.8s
ACSO Alum Creek Sta 8.40 217 Pn Pn 17 58 46.4 -1.7
H43A Windswept, Lux 8.42 256 Pn Pn 17 58 45.1 -3.3
P53A Whipple 8.47 208 Pn Pn 17 58 48.2 -0.9
P52A Corning 8.59 212 Pn Pn 17 58 48.5 -2.2
P52A IAmb_Lg 18 01 20.7
comp=Z,92nm,1.0s
L46A Eue Claire 8.75 238 Pn Pn 17 58 52.1 -0.8
L46A IAmb_Lg 18 01 28.4
comp=Z,78nm,0.8s
Q54A Coxs Mills 8.77 204 Pn 17 58 52.0 -1.2
COWI Conover 8.88 268 Pn Pn 17 58 53.2 -1.4
TBO Thunder Bay 8.92 285 Pn Pn 17 58 52.5 -2.8
CBN Corbin Frederi 8.94 185 IAmb_Lg 18 01 30.3
comp=Z,54nm,0.9s
O49A Covington 9.03 223 IAmb_Lg 18 01 42.6
comp=Z,76nm,0.7s
P51A Williamsport 9.07 215 Pn 17 58 55.2 -2.0
N47A Urbana 9.18 231 IAmb_Lg 18 01 50.8
comp=Z,51nm,0.7s
R58B Mineral 9.22 188 IAmb_Lg 18 01 43.8
comp=Z,38nm,0.8s
Q52A Bidwell 9.23 210 Pn Pn 17 58 57.2 -2.3
Q52A IAmb_Lg 18 01 43.3
comp=Z,88nm,1.1s
R55A Marlinton 9.26 199 Pn Pn 17 58 58.9 -1.0
R55A IAmb_Lg 18 01 38.6
comp=Z,42nm,0.9s
O48B Farmland 9.37 226 Pn Pn 17 58 59.9 -1.5
O48B IAmb_Lg 18 01 46.4
comp=Z,58nm,0.7s
I42A Draeger Farm, 9.40 255 Pn Pn 17 58 59.4 -2.5
S57A Dark Hollow, R 9.55 193 Pn Pn 17 59 03.0 -0.8
Q51A Peebles 9.57 215 Pn 17 59 02.5 -1.7
SCHQ Schefferville 9.77 34 Pn Pn 17 59 05.2 -1.5
comp=Z,0.8nm,0.3s,baz=215,slow=11,SNR=10
SCHQ Sn Sn 18 00 46.6 -9.4
comp=Z,2.3nm,0.3s,baz=57,slow=7.3,SNR=4.4
SCHQ Lg Lg 18 01 43.7
comp=Z,4.5nm,0.3s,baz=316,slow=18,SNR=7.3
comp=Z,1.7nm,0.3s
G40A Rib Lake 9.80 264 Pn 17 59 03.5 -3.7
T59A Double "B" Far 10.18 186 Pn Pn 17 59 09.4 -3.1
EYMN Ely 10.29 280 Pn Pn 17 59 10.3 -3.7
BLA Blacksburg 10.35 198 Pn Pn 17 59 13.5 -1.4
I40A Norwalk 10.53 257 Pn Pn 17 59 15.2 -2.1
R50A Paris 10.60 217 Pn Pn 17 59 15.6 -2.7
S51A Beattyville 10.88 212 Pn Pn 17 59 19.3 -2.8
R49A Shelbyville 10.95 220 Pn Pn 17 59 20.3 -2.8
U54A Nelsons Funny 11.35 203 Pn 17 59 27.3 -1.3
V55A Taylorsville 11.83 200 Pn Pn 17 59 31.8 -3.3
TZTN Tazewell 11.85 210 Pn Pn 17 59 32.8 -2.6
T50A Nancy 11.90 215 Pn Pn 17 59 33.5 -2.5
V53A Saluda 12.42 205 Pn Pn 17 59 39.1 -4.1
U49A Red Boiling Sp 12.71 217 Pn Pn 17 59 43.8 -3.3
TKL Tuckaleechee C 12.73 209 Pn Pn 17 59 44.5 -2.9
TKL Tuckaleechee C 12.73 209 Pn Pn 17 59 44.2 -3.2
comp=Z,1.0nm,0.3s,baz=31,slow=11,SNR=8.9
comp=Z,2.4nm,0.3s
DRLN Deer Lake 12.74 73 Pn Pn 17 59 42.4 -5.1
X58A Rowland 12.75 191 Pn Pn 17 59 47.9 +0.2
CPCT Cooper Cave 13.17 211 Pn Pn 17 59 50.9 -2.5
FPAL Fort Paine 14.38 212 Pn Pn 18 00 03.3 -6.6
FRB Frobisher Bay 17.22 12 Lg Lg 18 05 33.4
comp=Z,0.8nm,0.3s,baz=273,slow=6.9,SNR=6.1
PDAR Pinedale Array 23.81 272 P P 18 02 01.9 +2.6
comp=Z,0.3nm,0.6s,baz=69,slow=10,SNR=4.7
comp=Z,0.3nm,0.6s
YKA Yellowknife Ar 26.38 320 P P 18 02 27.4 +5.1
comp=Z,0.6nm,0.8s,baz=104,slow=9.5,SNR=3.6
comp=Z,0.6nm,0.8s
ASAR Alice Springs 146.36 304 PKPbc PKPdf 18 16 26.3 +0.4
comp=Z,0.3nm,0.4s,baz=46,slow=2.6,SNR=6.4

IDC ***13*** *18:12:28.6±2.4, 38°.39N×145°.08E, h0km, mb3.5/3, mbtmp3.6/4, ML2.7/1, MS2.8/1, Error ellipse: s-maj=47.9km s-min=36.7km az=70.0*
NIED ***13*** *18:12:34.2, 38°.46N×144°.62E, h42km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=-2.69; Mθθ 0.68; Mφφ 2.01; Mrθ -0.62; Mθφ 0.26; Mφr 1.97; Fault plane solution: M₀ 3.12000×10¹⁴ NP1:φs 16.00000°, δ 26.00000°, λ -70.00000°. NP2:φs 174.00000°, δ 65.00000°, λ -100.00000°.*
JMA ***13*** *18:12:34.2±0.2, 38°.5N±0°.8×14°.5E±°, h42km, MV3.7/33, FAR E OFF NORTH HONSHU*
ISC 13 18:12:34.8±1.4, 38°.54N±0°.06×144°.76E±0°.09, h43km, n24, σ1§57/33, mb3.8/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.47**	**284**	P	**Pn**	**18 13 12.3**	**-0.3**
OFUJ				*e*S	**Sn**	**18 13 41.1**	**-0.5**
MIYJ	**Miyakonagasawa**	**2.51**	**295**	P	**Pn**	**18 13 12.7**	**-0.4**
MIYJ				*e*S	**Sn**	**18 13 41.4**	**-1.1**
JKMT	**Kesennumamotoy**	**2.58**	**277**	P	**Pn**	**18 13 13.7**	**-0.4**
JKMT				*e*S	**Sn**	**18 13 43.3**	**-1.0**
JIKH	**Ishinomakikobu**	**2.59**	**266**	P	**Pn**	**18 13 13.4**	**-0.8**
JIKH				*e*S	**Sn**	**18 13 42.3**	**-2.2**
JMK	**Ichinoseki**	**2.79**	**280**	P	**Pn**	**18 13 17.0**	**0.0**
JMK				*e*S	**Sn**	**18 13 48.3**	**-1.1**
JOM	**Ohasama**	**2.85**	**290**	P	**Pn**	**18 13 18.0**	**+0.1**
JOM				*e*S	**Sn**	**18 13 50.5**	**-0.4**
JANG	**Nango**	**3.11**	**307**	*e*P	**Pn**	**18 13 21.5**	**+0.2**
JANG				*e*S	**Sn**	**18 13 56.2**	**-1.0**
JYK	**Kaneyama**	**3.46**	**278**	*e*P	**Pn**	**18 13 26.7**	**+0.6**
JYK				*e*S	**Sn**	**18 14 05.5**	**-0.3**
JOTO	**OTAMA OYAMA**	**3.62**	**256**	P	**Pn**	**18 13 28.6**	**+0.1**
JOTO				*e*S	**Sn**	**18 14 08.8**	**-1.2**
JOT	**Ohata**	**4.02**	**316**	*e*P	**Pn**	**18 13 34.9**	**+1.0**
JOT				*e*S	**Sn**	**18 14 17.9**	**-1.8**
JCH	**Churui**	**4.21**	**346**	*e*P	**Pn**	**18 13 35.8**	**-0.7**
JCH				*e*S	**Sn**	**18 14 23.2**	**-1.0**
NEM2	**Nemuro 2**	**4.88**	**8**	*e*P	**Pn**	**18 13 43.3**	**-2.4**
BSO1	**Boso 1**	**4.92**	**219**	P	**Pn**	**18 13 43.7**	**-2.1**
JRY	**Ryogami san**	**5.30**	**243**	P	**Pn**	**18 13 50.5**	**-1.0**
JRY				*e*S	**Sn**	**18 14 48.2**	**-3.1**
JTKR	**Abashiri--Toko**	**5.47**	**354**	P	**Pn**	**18 13 53.0**	**-0.7**
MJAR	**Matsushiro Arr**	**5.57**	**251**	Pn	**Pn**	**18 13 55.5**	**+0.3**
	0.2nm,0.3s,baz=85,slow=15,SNR=15						
MJAR				Sn	**Sn**	**18 15 03.0**	**+5.0**
	0.1nm,0.3s,baz=94,slow=32,SNR=4.5						
	15nm,1.3s						
JHR	**Hokuryu**	**5.68**	**337**	*e*S	**Sn**	**18 15 01.3**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**26.81**	**128**	T	T	18 46 02.7	
	baz=320,slow=76,SNR=8.2						
H11N1	**WAKE ISLAND Hy**	**26.82**	**128**	T	T	18 46 00.1	
	baz=320,slow=76,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**26.83**	**128**	T	T	18 46 04.0	
	baz=320,slow=76,SNR=8.8						
CMAR	**Chiang Mai Arr**	**44.43**	**256**	LR	LR	18 41 15.0	
	comp=Z,9.9nm,18.9s,baz=175,slow=39						
MKAR	**Makanchi Array**	**45.58**	**301**	P	**P**	**18 20 51.8**	**+1.3**
	0.3nm,0.8s,baz=77,slow=6.2,SNR=3.6						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**47.18**	**307**	P	**P**	**18 21 05.4**	**+2.5**
	0.5nm,0.5s,baz=81,slow=8.5,SNR=7.9						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**58.99**	**191**	P	**P**	**18 22 29.2**	**-0.8**
	0.5nm,0.7s,baz=7.0,slow=6.8,SNR=3.1						
	0.5nm,0.7s						

IDC ***13*** *18:14:41.7±0.9, 1°.71S×122°.77E, h0km, mb3.6/7, mbtmp3.7/8, ML4.1/1, Error ellipse: s-maj=36.8km s-min=18.2km az=69.0*
DJA ***13*** *18:14:47.1±0.7, 2°.5S×12°.3E±°, h32km±12km, M4.1/18, mb4.3/1, MLv4.0/18*
ISC 13 18:14:47.1±0.8, 1°.82S±0°.04×122°.63E±0°.05, h35km, n22, σ0§93/26, mb3.6/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.78**	**10**	P	**Pn**	**18 15 00.6**	**-1.1**
LUWI				S	**Sn**	**18 15 14.4**	**+2.2**
APSI	**Ampana**	**1.33**	**313**	P	**Pn**	**18 15 08.4**	**-0.8**
KDI	**Kendari**	**2.12**	**180**	P	**Pn**	**18 15 20.4**	**+0.3**
MRSI	**Marisa**	**2.38**	**343**	P	**Pn**	**18 15 24.0**	**+0.3**
MRSI				S	**Sn**	**18 15 52.7**	**+1.0**
KMSI	**Cibinong**	**2.73**	**30**	P	**Pn**	**18 15 29.5**	**+1.0**
PCI	**Palu**	**2.94**	**288**	P	Pn	18 15 34.4	+3.1
TTSI	**Tana Toraja**	**3.06**	**247**	P	**Pn**	**18 15 33.0**	**0.0**
TTSI				S	**Sn**	**18 16 08.1**	**-0.3**
MPSI	**Mapaga**	**3.47**	**308**	P	**Pn**	**18 15 38.8**	**+0.2**
SPSI	**Sidrap Palu**	**3.56**	**233**	P	**Pn**	**18 15 40.5**	**+0.6**
SPSI				S	**Sn**	**18 16 22.4**	**+1.5**
BNSI	**Bone**	**3.60**	**224**	P	**Pn**	**18 15 40.7**	**+0.3**
BBSI	**Bau Bau**	**3.65**	**181**	P	**Pn**	**18 15 40.7**	**-0.4**
KAPI	**Kappang**	**4.28**	**222**	Pn	**Pn**	**18 15 49.8**	**0.0**
	8.7nm,0.3s,baz=317,slow=0.5,SNR=13						
KAPI				Sn	**Sn**	**18 16 38.8**	**+0.3**
	baz=194,slow=18						
	33nm,0.5s						
BKSI	**Bulukumba**	**4.29**	**216**	P	**Pn**	**18 15 50.3**	**+0.4**
NLAI	**Namlea**	**4.68**	**108**	P	**Pn**	**18 15 55.2**	**-0.1**
BSSI	**Bau Bau, Buton**	**4.80**	**206**	P	**Pn**	**18 15 57.1**	**+0.2**
WRA	**Warramunga Arr**	**21.34**	**148**	P	**P**	**18 19 31.6**	**+0.3**
	3.1nm,0.8s,baz=332,slow=9.9,SNR=16						
	3.1nm,0.8s						
ASAR	**Alice Springs**	**24.31**	**154**	P	**P**	**18 20 02.1**	**+0.5**
	1.6nm,0.7s,baz=326,slow=7.7,SNR=22						
	1.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.81**	**312**	P	**P**	**18 21 00.9**	**+1.1**
	0.7nm,0.8s,baz=141,slow=7.1,SNR=6.4						
	0.7nm,0.8s						
MJAR	**Matsushiro Arr**	**40.83**	**19**	P	**P**	**18 22 23.6**	**-1.9**
	1.1nm,0.9s,baz=200,slow=6.3,SNR=4.1						
	1.1nm,0.9s						
MKAR	**Makanchi Array**	**59.97**	**329**	P	**P**	**18 24 50.5**	**+0.5**
	0.5nm,0.8s,baz=138,slow=9.2,SNR=4.4						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**64.35**	**331**	P	**P**	**18 25 17.8**	**-1.5**
	0.2nm,0.6s,baz=140,slow=5.7,SNR=4.2						
	0.2nm,0.6s						
VNDA	**Vanda**	**78.51**	**172**	P	**P**	**18 26 43.9**	**-0.3**
	0.5nm,0.9s,baz=308,slow=8.0,SNR=2.6						
	0.5nm,0.9s						

IDC 13 18:20:03.0±2.0, 0°.96N×127°.27E, h0km, mb3.3/4, mbtmp3.4/4, Error ellipse: s-maj=185.5km s-min=22.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.90**	**162**	P	P	18 24 56.9	-1.0
	0.4nm,0.4s,baz=341,slow=11,SNR=6.4						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**25.31**	**166**	P	P	18 25 32.2	+0.7
	0.4nm,0.4s,baz=341,slow=11,SNR=9.9						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**60.13**	**326**	P	P	18 30 12.1	-0.3
	0.2nm,0.4s,baz=124,slow=6.7,SNR=5.2						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.36**	**328**	P	P	18 30 40.9	+0.3
	0.2nm,0.6s,baz=119,slow=7.8,SNR=2.5						
	0.2nm,0.6s						

IDC ***13*** *18:25:20.7±1.0, 0°.15N×125°.86E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=62.5km s-min=19.2km az=70.0*
ISC 13 18:25:26.7±1.2, 0°.1N±0°.2×125°.8E±0°.4, h44km, n6, σ0§51/6, mb3.8/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.58**	**158**	P	**P**	**18 30 12.2**	**-0.6**
	1.0nm,0.4s,baz=337,slow=11,SNR=15						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**24.88**	**162**	P	**P**	**18 30 46.1**	**+0.7**
	1.2nm,0.4s,baz=341,slow=9.1,SNR=30						
	1.2nm,0.4s						
SONM	**Songino Array**	**50.47**	**343**	P	**P**	**18 34 20.2**	**-0.1**
	0.5nm,0.5s,baz=166,slow=7.4,SNR=3.8						
	0.5nm,0.5s						
PETK	**Petropavlovsk-**	**59.12**	**22**	P	**P**	**18 35 22.8**	**+0.1**
	0.4nm,0.5s,baz=207,slow=6.2,SNR=4.4						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**60.06**	**327**	P	**P**	**18 35 29.2**	**-0.1**
	0.4nm,0.4s,baz=122,slow=8.6,SNR=8.0						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.34**	**329**	P	**P**	**18 35 57.9**	**0.0**
	0.6nm,0.7s,baz=132,slow=6.2,SNR=8.7						
	0.6nm,0.7s						

IDC ***13*** *18:30:01.3±0.9, 0°.11N×125°.72E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=60.4km s-min=18.6km az=69.0*
NEIC ***13*** *18:30:08.8±2.2, 0°.39N±0°.09×126°.55E±0°.08, h59km±9km, mb4.0/8, Error ellipse: s-maj=15.0km s-min=8.9km az=139.0*
ISC 13 18:30:07.6±0.8, 0°.27N±0°.10×126°.51E±0°.08, h47km, n21, σ1§54/22, mb3.9/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.99**	**60**	P	**Pn**	**18 30 25.4**	**+0.3**
TNTI				Sn	**Sn**	**18 30 37.9**	**-0.2**
TOLI2	**Tolitoli**	**5.79**	**278**	Pn	**Pn**	**18 31 32.1**	**+1.2**
KNRA	**Kununurra**	**16.00**	**172**	Pn	**Pn**	**18 33 49.4**	**-0.3**
KNRA				IAmb	IAmb	18 34 26.4	
	comp=Z,28nm,1.4s						
WB0	**Warramunga Arr**	**21.36**	**159**	P	**P**	**18 34 50.9**	**-0.3**
WB0				IAmb	IAmb	18 35 04.1	
	comp=Z,5.8nm,0.8s						
WRA	**Warramunga Arr**	**21.51**	**160**	P	**P**	**18 34 51.7**	**-1.0**
WRA	**Warramunga Arr**	**21.51**	**160**	P	**P**	**18 34 52.8**	**0.0**
	comp=Z,1.4nm,0.4s,baz=338,slow=11,SNR=22						
	comp=Z,1.4nm,0.4s						
WR8	**Warramunga Arr**	**21.58**	**159**	P	**P**	**18 34 53.2**	**-0.3**
AS31	**Alice Springs**	**24.86**	**164**	P	**P**	**18 35 26.8**	**+0.9**
ASAR	**Alice Springs**	**24.86**	**164**	P	**P**	**18 35 27.3**	**+1.3**
ASAR	**Alice Springs**	**24.86**	**164**	P	**P**	**18 35 26.9**	**+1.0**
	comp=Z,2.4nm,0.5s,baz=350,slow=16,SNR=53						
	comp=Z,2.4nm,0.5s						
SONM	**Songino Array**	**50.49**	**343**	P	**P**	**18 39 01.0**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=163,slow=10,SNR=2.9						
	comp=Z,0.5nm,0.5s						
PETK	**Petropavlovsk-**	**58.70**	**21**	P	**P**	**18 40 03.0**	**+2.6**
PETK	**Petropavlovsk-**	**58.70**	**21**	P	**P**	**18 40 03.7**	**+3.4**
	comp=Z,0.8nm,0.8s,baz=215,slow=7.2,SNR=7.1						
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**60.27**	**327**	P	**P**	**18 40 09.3**	**-2.0**
MKAR	**Makanchi Array**	**60.27**	**327**	P	**P**	**18 40 10.0**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=119,slow=8.4,SNR=14						
	comp=Z,1.0nm,0.5s						
MAKZ	**Makanchi**	**60.45**	**326**	P	**P**	**18 40 12.4**	**-0.2**
ZALV	**Zalesovo Beam**	**63.56**	**334**	P	**P**	**18 40 32.1**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=105,slow=11,SNR=2.1						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**64.53**	**328**	P	**P**	**18 40 37.9**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=133,slow=6.4,SNR=15						
	comp=Z,0.9nm,0.8s						
KURK	**Kurchatov**	**64.53**	**329**	P	**P**	**18 40 38.4**	**-1.3**
KURK				IAmb	IAmb	18 40 42.7	
	comp=Z,1.9nm,0.9s						
AB31	**Akbulak array**	**74.68**	**321**	P	**P**	**18 41 40.0**	**-2.2**
AB31				IAmb	IAmb	18 41 42.8	
	comp=Z,1.5nm,1.1s						
ABKAR	**Akbulak array**	**74.68**	**321**	P	**P**	**18 41 40.5**	**-1.8**

IDC 13 18:32:58.0±2.2, 5°.38N×127°.11E, h0km, mb3.6/4, mbtmp3.6/4, MS2.7/2, Error ellipse: s-maj=116.2km s-min=28.0km az=69.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**19.31**	**64**	LR	LR	18 43 25.9	
	comp=Z,23nm,21.9s,baz=187,slow=32						
FITZ	**Fitzroy Crossi**	**23.37**	**184**	P	P	18 38 09.0	+0.5
	5.2nm,0.9s,baz=0.0,slow=7.1,SNR=3.6						
	5.2nm,0.9s						
WRA	**Warramunga Arr**	**26.15**	**164**	P	P	18 38 33.8	-0.4
	1.0nm,0.7s,baz=344,slow=11,SNR=6.6						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**29.62**	**167**	P	P	18 39 05.4	+0.1
	0.2nm,0.4s,baz=347,slow=7.4,SNR=7.2						
	0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**30.41**	**298**	LR	LR	18 52 01.4	
	comp=Z,16nm,18.3s,baz=105,slow=38						
MKAR	**Makanchi Array**	**56.43**	**324**	P	P	18 42 41.5	-0.1
	0.2nm,0.7s,baz=134,slow=4.2,SNR=2.0						
	0.2nm,0.7s						

NOU 13 18:53:12.7, 11°.26S×163°.53E, h0km, MLv4.4/13, Solomon Islands, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HURO	**Huro Makira**	**1.78**	**296**	P	Pn	18 53 44.1	-0.7
LUES	**Luesalemba Tem**	**2.42**	**76**	P	Pn	18 53 52.9	-0.6
NGOA	**Tingoa Renbel**	**3.41**	**265**	P	Pn	18 54 05.7	-1.5
ALEG	**Aligegeo Malai**	**3.74**	**311**	P	Pn	18 54 11.6	-0.1
SAVO	**Savo Central**	**4.22**	**299**	P	Pn	18 54 19.5	+1.2
TATA	**Tatamba Isabel**	**4.65**	**308**	P	Pn	18 54 24.8	+0.5
SANVU	**Saraoutou**	**5.49**	**140**	P	Pn	18 54 35.1	-0.6
VLAKA	**Lakatoro**	**6.12**	**142**	P	Pn	18 54 44.6	+0.1
DVP	**Devils Point**	**7.85**	**145**	P	Pn	18 55 08.2	0.0
DZM	**Mont Dzumac**	**11.11**	**166**	P	Pn	18 55 52.3	-0.7
OUENC	**Ouen Island, N**	**11.54**	**165**	P	Pn	18 56 00.0	+1.2

GCG 13 18:55:11.7±0.5, 14°.20N×91°.19W, h74km±14km, MD3.5, ML3.4, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STG0	**El Palmar, Qui**	**0.27**	**327**	*i* P	Pn	18 55 27.0	+3.6
STG0				*i* S	Sn	18 55 38.7	+6.7
STG0				IAML		18 55 39.3	
	comp=E,1μm,0.2s						
STG8	**El Palmar, Qui**	**0.29**	**328**	*i* P	Pn	18 55 27.2	+3.6
STG8				*i* S	Sn	18 55 39.5	+7.1
STG8				IAML		18 55 39.8	
	comp=N,1μm,0.2s						
STG2	**El Palmar, Qui**	**0.29**	**323**	*i* P	Pn	18 55 27.4	+3.9
STG2				*i* S	Sn	18 55 38.9	+6.8
ESSG	**Sabana Grande**	**0.39**	**62**	*i* P	Pn	18 55 24.1	0.0
FG16	**Alotenango, Sa**	**0.66**	**84**	*i* P	Pn	18 55 24.8	-1.9
FG16				*i* S	Sn	18 55 36.0	-1.9
FG16				IAML		18 55 40.5	
	comp=N,3μm,0.4s						

NEIC ***13*** *19:06:14.9±1.5, 35°.70N±0°.01×117°.54W±0°.02, h11km±4km, Error ellipse: s-maj=1.8km s-min=1.5km az=119.0*
PAS 13 19:06:15.6±1.8, 35°.692N±0°.003×117°.54W±0°.01, h6km±2km, ML3.3/18, ML3.0/130(NEIC), Error ellipse: s-maj=1.5km s-min=0.4km az=83.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.10**	**159**		Pg	19 06 18.0	+0.3
WSHM				Sg	Sg	19 06 19.9	+0.6
WSHM				IAML		19 06 20.6	
	9μm,0.2s						
SRTC	**Snort**	**0.17**	**270**		Pg	19 06 19.6	+0.5
CCCA	**Chr Cany lake**	**0.22**	**140**		Pg	19 06 20.3	+0.5
CCCA				Sg	Sg	19 06 24.1	+1.4
TOW	**Tower One**	**0.22**	**302**		Pg	19 06 20.3	+0.4
LRMC	**Laurel Mtn Rad**	**0.24**	**210**		Pg	19 06 20.4	0.0
LRMC				Sg	Sg	19 06 24.0	+0.4
LRMC				IAML		19 06 25.5	
	comp=E,3μm,0.4s						
WNMM	**Nine Mile Cany**	**0.34**	**297**		Pg	19 06 22.0	-0.1
MPMC	**Manual Prospec**	**0.37**	**6**		Pg	19 06 22.4	-0.3
MPMC					Sg	19 06 27.6	0.0
MPMC				IAML		19 06 28.2	
	comp=N,2μm,0.6s						
MPMC				IAML		19 06 30.1	
	comp=E,2μm,0.8s						
QSM	**Queen of Sheba**	**0.61**	**63**		Pg	19 06 26.8	-0.4
QSM					Sg	19 06 34.9	-0.3
QSM				IAML		19 06 35.2	
	comp=E,1μm,0.5s						
QSM				IAML		19 06 35.5	
	comp=N,2μm,0.6s						
GSC	**Goldstone, Bar**	**0.71**	**123**		Pg	19 06 28.7	-0.5
GSC				IAML		19 06 41.1	
	comp=N,902nm,0.4s						
GSC				IAML		19 06 42.7	
	comp=E,914nm,0.4s						
ISA	**Isabella, Lake**	**0.77**	**268**		Pg	19 06 29.5	-0.7
ISA				IAML		19 06 40.2	
	comp=N,1μm,0.5s						
ISA				IAML		19 06 40.3	
	comp=E,1μm,0.2s						
GWY	**Greenwater Val**	**0.86**	**55**		Pg	19 06 31.3	-0.7
GWY					Sg	19 06 42.6	-0.7
GWY				IAML		19 06 46.5	
	comp=E,951nm,0.5s						
GWY				IAML		19 06 47.4	
	comp=N,653nm,0.8s						
CWC	**Cottonwood Cre**	**0.87**	**330**		Pg	19 06 32.0	-0.3
TPO	**Tropico Hills**	**0.99**	**215**		Pg	19 06 33.7	-0.9
TPO				IAML		19 06 50.3	
	comp=N,617nm,0.8s						
TPO				IAML		19 06 52.8	
	comp=E,472nm,0.6s						
SPG2	**Springville 2**	**1.12**	**297**		Pg	19 06 35.8	-1.2
GRAC	**Grapevine Rang**

DSP	**Deep Springs**	**1.71**	**348**		Pn	19 06 44.8	-1.0
DSP				IAML		19 07 11.2	
	comp=E,118nm,0.3s						
MTUM	**Tungsten Hills**	**1.85**	**334**		Pb	19 06 49.9	0.0
MZP	**Montezuma Peak**	**2.01**	**3**		Pn	19 06 49.6	-0.6
ELS	**Elsinore Mount**	**2.04**	**177**		Pn	19 06 49.0	-1.5
ELS				IAML		19 07 26.2	
	comp=N,102nm,0.6s						
ELS				IAML		19 07 26.3	
	comp=E,133nm,0.6s						
SHPR	**Sheep Range**	**2.09**	**66**		Pn	19 06 50.1	-1.1
V12A	**Nelson**	**2.19**	**88**		Pn	19 06 51.1	-1.4
V12A				IAML		19 07 27.7	
	comp=N,90nm,0.6s						
V12A				IAML		19 07 31.5	
	comp=E,77nm,0.5s						
PMD	**Palm Desert**	**2.25**	**155**		Pn	19 06 51.3	-2.0
PMD				IAML		19 07 28.7	
	comp=E,82nm,0.7s						
PMD				IAML		19 07 32.4	
	comp=N,59nm,0.8s						
PFO	**Pinyon Flats O**	**2.26**	**157**		Pn	19 06 51.9	-1.6
PFO				IAML		19 07 31.9	
	comp=N,64nm,0.9s						
TPH	**Tonopah**	**2.39**	**6**		Pn	19 06 54.7	-0.8
S11A	**Rachel**	**2.42**	**36**		Pn	19 06 55.1	-0.7
S11A				IAML		19 07 40.0	
	comp=E,84nm,0.6s						
S11A				IAML		19 07 49.0	
	comp=N,86nm,0.8s						
BORC	**Borrego Spring**	**2.59**	**159**		Pn	19 06 57.1	-0.8
BORC				IAML		19 07 38.4	
	comp=E,85nm,0.8s						
BORC				IAML		19 07 44.6	
	comp=N,66nm,0.7s						
PRN	**Pahroc Range**	**2.63**	**49**		Pn	19 06 57.8	-0.8
PRN				IAML		19 07 44.7	
	comp=E,80nm,0.6s						
PRN				IAML		19 07 50.8	
	comp=N,84nm,0.7s						
LHV	**Little Huntoon**	**2.67**	**343**		Pn	19 06 58.6	-0.5
LHV				IAML		19 07 46.2	
	comp=N,40nm,0.7s						
LHV				IAML		19 07 50.3	
	comp=E,56nm,0.7s						
PMPB	**Monarch Peak**	**2.70**	**282**		Pn	19 06 58.9	-0.7
PMPB				IAML		19 07 45.7	
	comp=N,109nm,0.6s						
DPP	**Dos Picos Cty**	**2.73**	**169**		Pn	19 06 58.6	-1.3
DPP				IAML		19 07 46.0	
	comp=E,57nm,1.0s						
DPP				IAML		19 07 46.6	
	comp=N,34nm,0.8s						
NV11	**Mina Array Sit**	**2.78**	**350**		Pn	19 06 59.4	-1.4
NVAR	**Mina Array Bea**	**2.80**	**348**		Pn	19 07 00.1	-0.9
RYN	**Ryan**	**3.04**	**345**		Pn	19 07 03.8	-0.4
W13A	**Hualapai Mount**	**3.04**	**100**		Pn	19 07 02.6	-1.7
W13A				IAML		19 07 54.5	
	comp=E,29nm,0.6s						
W13A				IAML		19 07 55.0	
	comp=N,39nm,1.2s						
R11B	**Troy Canyon, C**	**3.08**	**30**		Pn	19 07 04.7	-0.2
CMB	**Columbia Colle**	**3.27**	**316**		Pn	19 07 07.0	-0.4
CMB				IAML		19 08 02.4	
	comp=N,25nm,0.7s						
CMB				IAML		19 08 07.0	
	comp=E,24nm,0.5s						
YUH	**Yuha Desert**	**3.32**	**156**		Pn	19 07 08.1	+0.1
SAO	**San Andreas Ge**	**3.34**	**290**		Pn	19 07 08.3	+0.1
CBX	**Cerro Bola**	**3.45**	**168**		Pn	19 07 09.1	-0.7
GLA	**Glamis**	**3.46**	**139**		Pn	19 07 10.2	+0.3
GLA				IAML		19 08 10.6	
	comp=N,56nm,0.6s						
LCMT	**Little Creek M**	**3.71**	**68**		Pn	19 07 13.2	-0.2
CCUT	**Cedar City**	**3.83**	**60**		Pn	19 07 13.9	-1.4
ESJX	**Sierra Juarez**	**3.91**	**160**		Pn	19 07 14.9	-1.4
KNB	**Kanab**	**4.03**	**69**		Pn	19 07 17.7	-0.2
KNB				IAML		19 08 31.9	
	comp=N,12nm,1.5s						
Y14A	**Wickenburg**	**4.12**	**114**		Pn	19 07 17.3	-1.7
Y14A				IAML		19 08 27.6	
	comp=E,18nm,0.6s						
Y14A				IAML		19 08 29.1	
	comp=N,24nm,0.6s						
SPR3	**Spring Creek 3**	**4.17**	**37**		Pn	19 07 18.2	-1.8
SPR3				IAML		19 08 32.9	
	comp=E,13nm,0.9s						
AFDM	**Forest Hills D**	**4.25**	**321**		Pn	19 07 20.4	-0.4
AFDM				IAML		19 08 32.1	
	comp=N,11nm,0.9s						
AFDM				IAML		19 08 34.0	
	comp=E,14nm,0.8s						
U15A	**North Rim**	**4.31**	**79**		Pn	19 07 21.5	-0.4
U15A				IAML		19 08 35.0	
	comp=N,14nm,1.2s						
U15A				IAML		19 08 37.9	
	comp=E,14nm,1.1s						
X16A	**Lo Mia Camp, P**	**5.16**	**103**	Pn	Pn	19 07 32.8	-0.6
X16A				IAML		19 09 17.4	
	comp=N,5.3nm,1.3s						
ELK	**Elko**	**5.36**	**19**		Pn	19 07 36.1	-0.2

*IDC **13** 19:08:02.8±26.0, 19°.84N×120°.75E, h0km, mb3.4/3, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=476.8km s-min=63.8km az=151.0*

ISC 13 19:07:59.6±5.7, 19°.0N±0°.5×121°.3E±0°.5, h35km, n10, σ0s70/8, mb3.2/3, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWGBT	**Beinan**	**3.82**	**357**	P	Pn	19 08 58.9	+2.9
TPUB	**Ta-pu**	**4.34**	**352**	P	Pn	19 09 07.2	+4.0
YULB	**Yu-li**	**4.39**	**360**	P	**Pn**	**19 09 04.2**	**+0.4**
SSLB	**Suanglung**	**4.79**	**356**	P	**Pn**	**19 09 09.5**	**+0.1**
NACB	**Ninganchiao**	**5.17**	**3**	P	**Pn**	**19 09 13.9**	**-0.7**
YHNB	**Yeheng**	**5.66**	**1**	P	**Pn**	**19 09 21.7**	**+0.3**
KSRS	**Korea Array**	**19.29**	**16**	P	**P**	**19 12 22.0**	**+0.5**
	0.1nm,0.3s,baz=195,slow=11,SNR=5.1						
	0.5nm,0.5s						
SONM	**Songino Array**	**31.24**	**340**	P	**P**	**19 14 15.0**	**-1.0**
	0.3nm,0.7s,baz=155,slow=7.9,SNR=3.8						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**42.26**	**320**	P	**P**	**19 15 50.2**	**+0.5**
	0.3nm,0.7s,baz=123,slow=10,SNR=3.2						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**46.24**	**323**	P	**P**	**19 16 21.7**	**+0.3**
	0.6nm,0.7s,baz=119,slow=8.5,SNR=5.7						
	0.6nm,0.7s						

*UCR **13** 19:17:35.3±0.9, 8°.34N×82°.89W, h27km±2km, MW4.3, Fault plane solution: NP1:φs=273.18000°, δ70.08000°, λ84.68000°.*

*UPA **13** 19:17:36.2±1.1, 8°.45N×82°.83W, h37km±5km, MW4.1, Fault plane solution: NP1:φs=95.00000°, δ16.00000°, λ114.00000°.*

*CATAC **13** 19:17:40.0±0.7, 9°N±8°×8°3W±°, h7km±3km, M4.0/7, MLv4.0/7, Error ellipse: s-maj=16.6km s-min=5.8km az=7.4, confirmed*

ISC 13 19:17:35.7±1.1, 8°.37N±0°.05×82°.90W±0°.03, h26km±6km, n74, σ1s06/96, 24C-33D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LESP3	**La Esperanza,**	**0.12**	**72**	⇑*iP*	**Pn**	**19 17 41.1**	**-0.8**
LESP3				*eS*	**Sb**	**19 17 42.3**	**-1.8**
LPPC	**Paso Canoas**	**0.17**	**21**	⇑*eP*	**Pb**	**19 17 41.5**	**+0.2**
LPPC				*eS*	**Sb**	**19 17 45.7**	**+0.7**
NELY	**Ciudad Neily**	**0.28**	**351**	⇑*eP*	**Pb**	**19 17 42.5**	**-0.1**
NELY				*eS*	**Sb**	**19 17 48.2**	**+0.9**
EDAD	**Golfito**	**0.38**	**317**	⇑*eP*	**Pb**	**19 17 43.4**	**-0.8**
EDAD				*eS*	**Sb**	**19 17 49.8**	**-0.1**
PRISO	**Paraso**	**0.42**	**47**	⇑*eP*	**Pb**	**19 17 44.6**	**-0.3**
MLIR3	**Monte Lirio, C**	**0.43**	**10**	⇑*iP*	**Pb**	**19 17 45.0**	**+0.1**
MLIR3				*eS*	**Sb**	**19 17 50.9**	**-0.3**
RSRNO	**Rio Sereno**	**0.45**	**5**	⇑*eP*	**Pb**	**19 17 45.3**	**+0.1**
RSRNO	**Rio Sereno**	**0.45**	**5**	⇑*eP*	**Pb**	**19 17 45.5**	**+0.2**
DVD	**David**	**0.45**	**81**	⇓*eP*	**Pb**	**19 17 44.9**	**-0.3**
DVD				*eS*	**Sb**	**19 17 50.8**	**-0.9**
VITO	**San Vito**	**0.45**	**352**	*eP*	**Pb**	**19 17 45.4**	**+0.1**
VITO				*eS*	**Sn**	**19 17 53.2**	**-0.7**
CSTBL	**De las Acacias**	**0.46**	**85**	⇓*eP*	**Pb**	**19 17 44.9**	**-0.3**
CSTBL	**De las Acacias**	**0.46**	**85**	⇓*eP*	**Pb**	**19 17 45.0**	**-0.3**
CSTBL				*eS*	**Sb**	**19 17 52.0**	**+0.2**
CLLRA	**Cordillera,**	**0.47**	**37**	⇓*eP*	**Pb**	**19 17 45.3**	**-0.3**
CLLRA	**Cordillera,**	**0.47**	**37**	⇓*eP*	**Pb**	**19 17 45.3**	**-0.3**
CLLRA				*eS*	**Sb**	**19 17 52.3**	**0.0**
BRU2	**Volcan**	**0.47**	**26**	⇓*eP*	**Pb**	**19 17 45.4**	**-0.3**
BRU2				*eS*	**Sb**	**19 17 53.1**	**+0.7**
BRU2	**Volcan**	**0.47**	**26**	⇑*iP*	**Pb**	**19 17 45.4**	**-0.3**
BRU2				*eS*	**Sb**	**19 17 53.2**	**+0.8**
BRU2	**Volcan**	**0.47**	**26**	P	**Pb**	**19 17 45.4**	**-0.3**
BRU2				S	**Sb**	**19 17 53.2**	**+0.8**
PEDE3	**Pedregal, Chir**	**0.48**	**88**	⇓*eP*	**Pb**	**19 17 45.3**	**-0.3**
PEDE3				*eS*	**Sb**	**19 17 52.4**	**+0.1**
SCLRA	**Santa Clara, W**	**0.48**	**15**	⇓*eP*	**Pb**	**19 17 45.6**	**-0.1**
SCLRA	**Santa Clara, W**	**0.48**	**15**	⇓*eP*	**Pb**	**19 17 45.6**	**-0.1**
LOCO3	**Loma Colorada,**	**0.48**	**85**	*eP*	**Pb**	**19 17 45.5**	**-0.2**
LOCO3				*eS*	**Sb**	**19 17 52.4**	**0.0**
TBS2		**0.49**	**30**	⇑*eP*	**Pn**	**19 17 46.4**	**-0.7**
LOMA3	**Las Lomas, Chi**	**0.51**	**83**	⇓*iP*	**Pb**	**19 17 45.8**	**-0.4**
LOMA3				*eS*	**Sb**	**19 17 53.2**	**-0.1**
PTAR3	**Potrerillos Ar**	**0.52**	**51**	⇑*eP*	**Pb**	**19 17 45.9**	**-0.4**
PTAR3				*eS*	**Sb**	**19 17 53.2**	**-0.4**
ALCO	**Alturas Coton,**	**0.58**	**7**	⇓*eP*	**Pb**	**19 17 46.8**	**-0.7**
BQTLY	**Boquete Panama**	**0.58**	**48**	*eP*	**Pb**	**19 17 46.7**	**-0.8**
BQTLY	**Boquete Panama**	**0.58**	**48**	⇓*eP*	**Pb**	**19 17 46.7**	**-0.8**
GUAL3	**Gualaca, Chiri**	**0.62**	**75**	⇓*iP*	**Pb**	**19 17 47.2**	**-0.8**
LNBQ3	**Los Naranjos,**	**0.62**	**47**	⇓*iP*	**Pb**	**19 17 47.2**	**-0.9**
PSOM3	**Paja de Sombre**	**0.66**	**61**	⇑*eP*	**Pb**	**19 17 47.5**	**-1.1**
PSOM3				*eS*	**Sb**	**19 17 55.4**	**-2.0**
EDP2	**Potrero Grande**	**0.70**	**337**	⇑*eP*	**Pb**	**19 17 48.9**	**-0.4**
EDP2				*eS*	**Sb**	**19 17 59.2**	**+0.6**
FIMO	**Fila Mora**	**0.76**	**324**	⇑*eP*	**Pb**	**19 17 49.8**	**-0.7**
PANP	**Palmar Norte**	**0.81**	**317**	*eP*	**Pb**	**19 17 50.3**	**-0.8**
PBNVO	**Pueblo Nuevo,**	**0.87**	**54**	⇓*eP*	**Pn**	**19 17 50.6**	**-1.7**
RBALA	**Bur**	**0.90**	**56**	⇓*eP*	**Pn**	**19 17 51.3**	**-1.4**
RBALA	**Bur**	**0.90**	**56**	⇓*eP*	**Pn**	**19 17 51.3**	**-1.4**
RBALA				*eS*	**Sb**	**19 18 03.3**	**-1.0**
BURE	**Buenos Aires**	**0.91**	**332**	*eP*	**Pn**	**19 17 51.6**	**-1.2**
BURE				*eS*	**Sb**	**19 18 04.2**	**-0.4**
CHGR2	**Aguacate**	**0.94**	**53**	*eS*	Sb	19 17 55.3	-10
DRK0	**Durika**	**0.95**	**339**	⇓*eP*	**Pn**	**19 17 51.9**	**-1.6**
DRK0	**Durika**	**0.95**	**339**	⇓*eP*	**Pn**	**19 17 52.0**	**-1.6**
DRK0				*eS*	**Sb**	**19 18 02.1**	**-3.9**
EDPE	**Pejibaye, P**	**1.03**	**320**	⇓*eP*	**Pn**	**19 17 53.3**	**-1.1**
RMDIO	**Remedios, Chir**	**1.07**	**97**	*eP*	**Pn**	**19 17 54.1**	**-0.9**
RMDIO	**Remedios, Chir**	**1.07**	**97**	⇓*eP*	**Pn**	**19 17 54.3**	**-0.7**
SAJE	**San Jernim**	**1.14**	**328**	⇓*eP*	**Pn**	**19 17 54.7**	**-1.4**
NANC3	**Nancito, Chiri**	**1.17**	**96**	⇑*iP*	**Pn**	**19 17 55.2**	**-1.1**
ISBTO	**Bastimentos Is**	**1.19**	**35**	⇓*eP*	**Pb**	**19 17 57.1**	**-0.5**
ISBTO	**Bastimentos Is**	**1.19**	**35**	⇓*eP*	**Pb**	**19 17 57.4**	**-0.3**
ISBTO				*eS*	**Sb**	**19 18 17.6**	**+5.0**
VERH	**Veragua Rainfo**	**1.57**	**350**	⇓*eP*	**Pn**	**19 18 01.8**	**-0.2**
LLNJ	**Naranjito**	**1.61**	**313**	*eP*	**Pn**	**19 18 02.9**	**+0.3**
PIEC	**Cerro El Cedra**	**1.62**	**320**	⇓*eP*	**Pn**	**19 18 02.2**	**-0.7**
VINA	**Juan Vinas**	**1.73**	**331**	*eP*	**Pn**	**19 18 04.6**	**+0.4**
LCR2	**La Lucha 2**	**1.75**	**321**	⇓*eP*	**Pn**	**19 18 03.6**	**-0.9**
PICV	**PH. Pirrs**	**1.79**	**315**	⇓*eP*	**Pn**	**19 18 05.2**	**+0.2**
VTCV	**VTCV, Calle Va**	**1.80**	**333**	⇓*eP*	**Pn**	**19 18 05.4**	**+0.2**
RESJ	**San Isidro (Tu**	**1.81**	**336**	⇓*eP*	**Pn**	**19 18 05.7**	**+0.5**
PAR1A	**Puntarenas Pro**	**1.81**	**313**	*eP*	**Pn**	**19 18 05.8**	**+0.7**
LCOCO	**El Coco**	**1.82**	**339**	⇓*eP*	**Pn**	**19 18 06.0**	**+0.6**
CVTV	**Tajo**	**1.83**	**333**	⇓*eP*	**Pn**	**19 18 06.0**	**+0.3**
CVTQ	**Turrialba Volc**	**1.84**	**332**	⇓*eP*	**Pn**	**19 18 06.1**	**+0.2**
VTR0	**Volcan Turrial**	**1.84**	**333**	⇓*eP*	**Pn**	**19 18 06.2**	**+0.2**
CVTR	**Volcan Turrial**	**1.85**	**333**	⇓*eP*	**Pn**	**19 18 06.2**	**+0.1**
RVLA	**Villa Bonita**	**1.86**	**339**	⇓*eP*	**Pn**	**19 18 06.4**	**+0.5**
VBV1	**V. Barva**	**2.10**	**326**	⇓*eP*	**Pn**	**19 18 09.6**	**+0.1**
TRT2	**Tortugero**	**2.33**	**339**	⇓*eP*	**Pn**	**19 18 12.4**	**+0.1**
AZU	**Azuero**	**2.67**	**102**	⇓*eP*	**Pn**	**19 18 18.3**	**+1.3**
AZU	**Azuero**	**2.67**	**102**	⇑*iP*	**Pn**	**19 18 18.5**	**+1.5**
VARE2	**V. Arenal**	**2.75**	**319**	⇓*eP*	**Pn**	**19 18 19.6**	**+1.4**
JTS	**Las Juntas de**	**2.78**	**314**	P	**Pn**	**19 18 20.2**	**+1.6**
JTS				S	**Sn**	**19 18 52.4**	**+1.0**
BCIP	**Isla Barro Col**	**3.13**	**75**	P	**Pn**	**19 18 25.9**	**+2.5**
BCIP				S	**Sb**	**19 19 09.2**	**+0.7**
ESPN	**Las Esperanzas**	**4.04**	**340**	P	**Pn**	**19 18 36.3**	**+0.4**
ACON	**Acoyapa**	**4.22**	**328**	⇓*eP*	**Pn**	**19 18 38.8**	**+0.4**
ACON	**Acoyapa**	**4.22**	**328**	P	**Pn**	**19 18 39.6**	**+1.3**
ACON	**Acoyapa**	**4.22**	**328**	S	Sn	19 19 16.6	-10
BOAB	**BOACO BROADBAN**	**4.88**	**326**	P	**Pn**	**19 18 48.1**	**+0.6**

*IDC **13** 19:18:05.9±1.0, 9°.32N×126°.70E, h0km, mb4.0/8, mbtmp4.0/9, ML3.6/1, MS2.7/1, Error ellipse: s-maj=62.1km s-min=17.4km az=72.0*

ISC 13 19:18:13.6±0.9, 9°.14N±0°.10×126°.4E±0°.2, h54km, n14, σ0s88/11, mb4.0/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.20**	**201**	Pn	**Pn**	**19 18 48.3**	**+0.5**
	13nm,0.3s,baz=7.5,slow=8.6,SNR=1.3						
DAV				Sn	**Sn**	**19 19 13.2**	**-0.5**
	35nm,0.3s,baz=80,slow=12,SNR=3.6						
	110nm,0.4s						
TGY	**Tagaytay City**	**7.25**	**313**	LR	LR	19 22 49.1	
	comp=Z,64nm,21.1s,baz=114,slow=38						
WRA	**Warramunga Arr**	**29.94**	**165**	P	**P**	**19 24 15.2**	**-1.7**
	0.6nm,0.6s,baz=346,slow=7.7,SNR=6.1						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**33.42**	**167**	P	**P**	**19 24 47.3**	**-0.2**
	0.3nm,0.3s,baz=348,slow=6.9,SNR=14						
	0.3nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**40.16**	**72**	T	T	20 08 38.0	
	baz=262,slow=75,SNR=139						
H11S1	**WAKE ISLAND Hy**	**40.18**	**72**	T	T	20 08 39.1	
	baz=262,slow=75,SNR=57						
H11S2	**WAKE ISLAND Hy**	**40.18**	**72**	T	T	20 08 43.9	
	baz=262,slow=75,SNR=52						
STKA	**Stephens Creek**	**43.30**	**161**	P	**P**	**19 26 10.3**	**0.0**
	2.1nm,0.7s,baz=333,slow=9.0,SNR=4.6						
	2.1nm,0.7s						
MKAR	**Makanchi Array**	**52.98**	**323**	P	**P**	**19 27 24.8**	**-0.1**
	0.5nm,0.6s,baz=120,slow=7.0,SNR=7.2						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**57.06**	**326**	P	**P**	**19 27 53.6**	**-0.5**
	2.4nm,0.2s,baz=120,slow=6.9,SNR=1.8						
	2.4nm,0.2s						
ARCES	**ARCESS Array B**	**85.28**	**340**	P	**P**	**19 30 44.2**	**-0.1**
	1.7nm,0.9s,baz=80,slow=7.5,SNR=4.5						
	1.7nm,0.9s						
FINES	**FINESS Array B**	**86.93**	**332**	P	**P**	**19 30 52.2**	**-0.4**
	0.5nm,0.4s,baz=85,slow=6.3,SNR=8.6						
	0.5nm,0.4s						
VNDA	**Vanda**	**88.80**	**173**	P	**P**	**19 31 02.4**	**+1.2**
	0.5nm,0.5s,baz=316,slow=6.7,SNR=10						
	0.5nm,0.5s						
PLCA	**Pao Flores**	**145.13**	**157**	PKPbc	**PKPdf**	**19 37 46.4**	**+0.8**
	1.7nm,0.8s,baz=189,slow=4.2,SNR=3.2						

*UCR **13** 19:25:53.6±0.8, 8°.31N×82°.90W, h27km±2km, MW3.8*
*UPA **13** 19:25:55.0±0.9, 8°.41N×82°.85W, h28km±4km, MW3.5, Fault plane solution: NP1:φs=0.00000°, δ68.00000°, λ11.00000°.*

ISC 13 19:25:54.2±1.0, 8°.42N±0°.05×82°.83W±0°.03, h32km±6km, n59, σ1s04/77, 14C-7D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LESP3	**La Esperanza,**	**0.04**	**110**	⇑*iP*	**Pn**	**19 25 59.8**	**+0.3**
LESP3				*eS*	**Sb**	**19 26 03.3**	**+0.2**
LPPC	**Paso Canoas**	**0.11**	**354**	*eP*	**Pn**	**19 26 00.1**	**+0.3**
NELY	**Ciudad Neily**	**0.26**	**333**	*eP*	**Pn**	**19 26 01.2**	**-0.5**
NELY				*eS*	**Sn**	**19 26 07.1**	**+0.4**
PRISO	**Paraso**	**0.34**	**44**	*eP*	**Pn**	**19 26 03.2**	**+0.3**
MLIR3	**Monte Lirio, C**	**0.37**	**1**	⇑*iP*	**Pn**	**19 26 03.8**	**+0.3**
MLIR3				*eS*	**Sn**	**19 26 10.1**	**+0.4**
DVD	**David**	**0.37**	**88**	⇑*iP*	**Pn**	**19 26 03.6**	**+0.2**
DVD				*eS*	**Sn**	**19 26 10.7**	**+1.1**
CSTBL	**De las Acacias**	**0.38**	**91**	*eP*	**Pn**	**19 26 03.6**	**+0.2**
CSTBL	**De las Acacias**	**0.38**	**91**	⇑*iP*	**Pn**	**19 26 03.7**	**+0.2**
CSTBL				*eS*	**Sn**	**19 26 10.0**	**+0.2**
CLLRA	**Cordillera,**	**0.39**	**33**	*eP*	**Pn**	**19 26 04.0**	**+0.3**
CLLRA	**Cordillera,**	**0.39**	**33**	⇑*iP*	**Pn**	**19 26 04.0**	**+0.3**
BRU2	**Volcan**	**0.40**	**20**	*eP*	**Pn**	**19 26 04.1**	**+0.2**
BRU2				*eS*	**Sn**	**19 26 11.9**	**+1.6**
BRU2	**Volcan**	**0.40**	**20**	⇑*iP*	**Pn**	**19 26 04.1**	**+0.2**
BRU2				*eS*	**Sn**	**19 26 11.9**	**+1.6**
RSRNO	**Rio Sereno**	**0.40**	**355**	⇑*iP*	**Pn**	**19 26 04.2**	**+0.3**
RSRNO				*eS*	**Sn**	**19 26 11.4**	**+1.2**
PEDE3	**Pedregal, Chir**	**0.40**	**95**	⇓*iP*	**Pn**	**19 26 03.9**	**+0.1**
PEDE3				*eS*	**Sn**	**19 26 10.4**	**+0.2**
EDAD	**Golfito**	**0.41**	**305**	*eP*	**Pb**	**19 26 02.2**	**-1.1**
EDAD				*eS*	**Sb**	**19 26 08.3**	**-1.2**
LOCO3	**Loma Colorada,**	**0.41**	**91**	⇓*iP*	**Pn**	**19 26 04.2**	**+0.3**
LOCO3				*eS*	**Sn**	**19 26 10.9**	**+0.5**
SCLRA	**Santa Clara, W**	**0.41**	**6**	*eP*	**Pn**	**19 26 04.1**	**0.0**
SCLRA	**Santa Clara, W**	**0.41**	**6**	⇑*iP*	**Pn**	**19 26 04.5**	**+0.4**
PTAR3	**Potrerillos Ar**	**0.43**	**50**	⇑*eP*	**Pn**	**19 26 04.7**	**+0.4**
PTAR3				*eS*	**Sn**	**19 26 11.3**	**+0.3**
LOMA3	**Las Lomas, Chi**	**0.43**	**89**	*eP*	**Pn**	**19 26 05.3**	**+1.1**
LOMA3				*eS*	**Sn**	**19 26 11.9**	**+0.9**
BC3P	**Paso Ancho**	**0.45**	**29**	⇑*iP*	**Pn**	**19 26 04.8**	**+0.1**
BC3P				*eS*	**Sn**	**19 26 12.8**	**+1.1**
CHIR3	**Chiriqui UPA,**	**0.49**	**93**	⇓*iP*	**Pn**	**19 26 05.2**	**+0.2**
CHIR3				*eS*	**Sn**	**19 26 13.0**	**+0.5**
BQTLY	**Boquete Panama**	**0.49**	**47**	*eP*	**Pn**	**19 26 05.4**	**+0.2**
BQTLY	**Boquete Panama**	**0.49**	**47**	⇑*iP*	**Pn**	**19 26 05.4**	**+0.2**
BQTLY				*eS*	**Sn**	**19 26 14.8**	**+2.0**
ALCO	**Alturas Coton,**	**0.53**	**359**	*eP*	**Pb**	**19 26 05.4**	**+0.1**
LNBQ3	**Los Naranjos,**	**0.53**	**46**	⇑*iP*	**Pn**	**19 26 05.7**	**0.0**
LNBQ3				*eS*	**Sb**	**19 26 10.3**	**-2.7**
GUAL3	**Gualaca, Chiri**	**0.54**	**78**	⇓*iP*	**Pn**	**19 26 06.1**	**+0.5**
GUAL3				*eS*	**Sn**	**19 26 13.9**	**+0.4**
EDP2	**Potrero Grande**	**0.69**	**330**	*eP*	**Pn**	**19 26 07.5**	**-0.2**
FIMO	**Fila Mora**	**0.77**	**317**	*eP*	**Pb**	**19 26 08.4**	**-0.8**
PBNVO	**Pueblo Nuevo,**	**0.78**	**53**	*eP*	**Pn**	**19 26 09.3**	**+0.3**
RBALA	**Bur**	**0.81**	**56**	*eP*	**Pn**	**19 26 09.9**	**+0.6**
RBALA	**Bur**	**0.81**	**56**	⇑*iP*	**Pn**	**19 26 10.0**	**+0.6**
PANP	**Palmar Norte**	**0.82**	**311**	*eP*	**Pb**	**19 26 08.9**	**-1.2**
BURE	**Buenos Aires**	**0.90**	**326**	*eP*	**Pn**	**19 26 10.5**	**-0.9**
DRK0	**Durika**	**0.93**	**334**	*eP*	**Pb**	**19 26 10.8**	**-1.2**
DRK0	**Durika**	**0.93**	**334**	⇓*iP*	**Pb**	**19 26 10.8**	**-1.2**
DRK0				*eS*	**Sn**	**19 26 24.6**	**+1.0**
RMDIO	**Remedios, Chir**	**1.00**	**101**	*eS*	**Sn**	**19 26 27.9**	**+2.7**
EDPE	**Pejibaye, P**	**1.04**	**315**	*eP*	**Pn**	**19 26 12.4**	**-0.2**
KKNTU	**Kakint^{e}**	**1.09**	**67**	*eP*	**Pn**	**19 26 13.9**	**+0.6**
KKNTU	**Kakint^{e}**	**1.09**	**67**	⇑*iP*	**Pn**	**19 26 13.9**	**+0.6**
ISBTO	**Bastimentos Is**	**1.11**	**34**	⇓*iP*	Pn	19 26 08.0	-5.5
PDCAN	**Manzana , Fuen**	**1.13**	**96**	*eP*	**Pn**	**19 26 13.6**	**-0.2**
SAJE	**San Jernim**	**1.14**	**324**	*eP*	**Pn**	**19 26 13.6**	**-0.5**
VERH	**Veragua Rainfo**	**1.54**	**347**	*eP*	**Pn**	**19 26 20.5**	**+1.0**
PIEC	**Cerro El Cedra**	**1.64**	**317**	*eP*	**Pn**	**19 26 21.2**	**+0.3**
RESJ	**San Isidro (Tu**	**1.79**	**333**	*eP*	**Pn**	**19 26 24.4**	**+1.4**
CVTV	**Tajo**	**1.82**	**330**	*eP*	**Pn**	**19 26 24.9**	**+1.3**
CVTQ	**Turrialba Volc**	**1.83**	**330**	*eP*	**Pn**	**19 26 25.2**	**+1.4**
PAR1A	**Puntarenas Pro**	**1.83**	**310**	*eP*	**Pn**	**19 26 24.8**	**+1.3**
VTR0	**Volcan Turrial**	**1.83**	**330**	*eP*	**Pn**	**19 26 25.1**	**+1.2**
CVTR	**Volcan Turrial**	**1.84**	**330**	*eP*	**Pn**	**19 26 25.0**	**+1.1**
ACOS	**Acosta**	**1.90**	**316**	*eP*	**Pn**	**19 26 25.5**	**+1.0**
VBV1	**V. Barva**	**2.10**	**323**	*eP*	**

DEOK				IAML			19 52 19.7		
	comp=N,342nm,0.2s								
DEOK				IAML			19 52 20.0		
	comp=E,364nm,0.2s								
OKCSW	**OKLAHOMA CITY**	**1.45**	**180**		Pn		19 52 02.3	+0.1	
CSTR	**Hydro, Custer**	**1.57**	**220**		Pb		19 52 04.5	-0.2	
FNO	**Franklin**	**1.60**	**179**		Pb		19 52 04.8	-0.4	
TUL3	**Leonard**	**1.64**	**125**		Pn		19 52 05.1	+0.4	
ELIS	**Ellis County**	**1.78**	**244**	Pn	Pn		19 52 07.2	+0.5	
R32A	**Long Quarter,**	**1.86**	**328**		Pn		19 52 08.5	+0.7	
RLO	**Rose Lookout**	**2.07**	**109**		Pn		19 52 11.4	+0.7	
X34A	**Smith Ranch, M**	**2.27**	**188**		Pn		19 52 14.2	+0.7	
X34A				IAmb_Lg			19 52 52.6		
	comp=Z,26nm,0.8s								
KSU1	**Kansas State U**	**2.33**	**16**		Pn		19 52 15.8	+1.5	
WMOK	**Wichita Mounta**	**2.38**	**208**		Pn		19 52 15.6	+0.6	
U38A	**Gravette**	**2.50**	**99**		Pn		19 52 18.2	+1.7	
SMWD	**Samnorwood**	**2.87**	**233**		Pn		19 52 22.4	+0.7	
SMWD				IAmb_Lg			19 53 13.0		
	comp=Z,15nm,0.9s								
HHAR	**Hobbs**	**2.88**	**100**		Pn		19 52 22.2	+0.3	
WTFS	**Witchita Falls**	**3.20**	**195**		Pn		19 52 26.6	+0.4	
FW03	**Perrin-Whitt E**	**3.84**	**188**	IAmb_Lg			19 53 44.9		
	comp=Z,18nm,0.9s								
MIAR	**Mount Ida**	**3.90**	**125**		Pn		19 52 37.0	+1.0	
MIAR				IAmb_Lg			19 53 41.4		
	comp=Z,23nm,0.7s								
AMTX	**Amarillo**	**3.96**	**241**	IAmb_Lg			19 53 42.3		
	comp=Z,16nm,0.7s								
PLPT	**Palo Pinto**	**4.10**	**190**		Pn		19 52 39.5	+0.9	
Z38A	**Mt. Pleasant**	**4.12**	**150**	IAmb_Lg			19 53 51.4		
	comp=Z,24nm,0.8s								
P38A	**Dawn**	**4.14**	**47**		Pn		19 52 39.4	+0.3	
P38A				IAmb_Lg			19 53 45.5		
	comp=Z,13nm,0.8s								
APMT	**Aspermont**	**4.15**	**213**	Pn	Pn		19 52 40.9	+1.6	
DKNS	**Dickens**	**4.27**	**223**	IAmb_Lg			19 53 58.3		
	comp=Z,8.5nm,0.7s								
RTBA	**Rita Blanca**	**4.28**	**266**		Pn		19 52 41.5	+0.3	
RTBA				IAmb_Lg			19 53 56.8		
	comp=Z,12nm,0.9s								
R40A	**Maddies Statio**	**4.36**	**69**	Pn	Pn		19 52 43.4	+1.3	
R40A				IAmb_Lg			19 54 03.3		
	comp=Z,8.9nm,0.9s								
FCAR	**Ozark Folk Cen**	**4.40**	**101**	IAmb_Lg			19 54 05.9		
	comp=Z,9.0nm,0.7s								
X40A	**Basin Creek Fa**	**4.44**	**121**		Pn		19 52 43.2	-0.1	
X40A				IAmb_Lg			19 54 05.6		
	comp=Z,9.4nm,0.8s								
WHAR	**Wooly Hollow**	**4.46**	**109**		Pn		19 52 44.4	+0.8	
ABTX	**Abilene, Hawle**	**4.60**	**204**	Pn	Pn		19 52 45.6	+0.1	
KSCO	**Kaye Shedlock'**	**4.62**	**299**	IAmb_Lg			19 54 01.7		
	comp=Z,11nm,0.8s								
SN07	**Snyder 07**	**4.70**	**218**	IAmb_Lg			19 54 01.7		
	comp=Z,10nm,0.7s								
P40A	**Paris**	**5.02**	**56**	IAmb_Lg			19 54 24.8		
	comp=Z,13nm,0.7s								
237A	**Washetta, Mont**	**5.03**	**164**	Pn	Pn		19 52 51.4	0.0	
CCM	**Cathedral Cave**	**5.08**	**75**	IAmb_Lg			19 54 19.2		
	comp=Z,12nm,0.7s								
LCAR	**Lake Charles**	**5.13**	**97**	Pn	Pn		19 52 53.1	+0.3	
L34A	**Svendsen Farm,**	**5.17**	**9**	IAmb_Lg			19 54 33.1		
	comp=Z,18nm,0.8s								
T25A	**Trinidad**	**5.58**	**275**	IAmb_Lg			19 54 41.4		
	comp=Z,7.1nm,0.8s								
PBMO	**Poplar Bluff**	**5.63**	**89**	IAmb_Lg			19 54 41.9		
	comp=Z,8.1nm,0.8s								
FVM	**French Village**	**5.70**	**77**	IAmb_Lg			19 54 36.0		
	comp=Z,15nm,0.8s								
SGCY	**Sterling City**	**5.79**	**213**	IAmb_Lg			19 54 48.9		
	comp=Z,8.7nm,0.9s								
SLM	**Saint Louis**	**5.98**	**71**	IAmb_Lg			19 54 44.2		
	comp=Z,16nm,0.7s								
SIUC	**Southern Illin**	**6.62**	**80**	IAmb_Lg			19 55 03.5		
	comp=Z,14nm,0.8s								
JCT	**Junction City**	**6.66**	**198**	IAmb_Lg			19 55 13.0		
	comp=Z,6.6nm,0.7s								
JFWS	**Jewell Farm**	**8.20**	**40**	IAmb_Lg			19 55 57.8		
	comp=Z,6.9nm,0.7s								

*SDD **13** 20:11:18.1±0.8, 17°.96N×71°.23W, h14km±6km, MD2.6, ML2.2, MW2.6*
*OSPL **13** 20:11:18.4±0.8, 17°.99N×71°.20W, h22km±7km, ML2.0*
ISC 13 20:11:17.7±1.2**, 18°.01N**±0°.04×**71°.22W**±0°.04**, h19**km±2km**, n10**, σ0°.49/20**, 5D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PODR	**Polo**	**0.17**	**339**	*e*Pg	**Pg**	**20 11 22.6**	**0.0**
PODR				⇓*e*Sg	**Sg**	**20 11 26.1**	**+0.3**
PODR				IAML		20 11 30.1	
	comp=N,1μm,0.2s						
PODR	**Polo**	**0.17**	**339**	*i* P	**Pg**	**20 11 22.6**	**0.0**
PODR				*e*S	**Sg**	**20 11 26.2**	**+0.3**
LOVI	**El Cajuil, Ovi**	**0.25**	**215**	*i* P	**Pg**	**20 11 23.7**	**+0.1**
LOVI				*e*S	**Sg**	**20 11 28.3**	**+0.7**
LOVI				IAML		20 11 31.0	
	comp=Z,226nm,0.5s						
LODU1	**El Espartillar**	**0.42**	**325**	*i* P	**Pb**	**20 11 26.6**	**0.0**
LODU1				*e*S	**Sb**	**20 11 33.0**	**+0.3**
LOBH	**Bahia de las A**	**0.43**	**250**	*i* P	**Pb**	**20 11 26.5**	**-0.3**
LOBH				*e*S	**Sb**	**20 11 33.2**	**+0.4**
LOBH				IAML		20 11 41.3	
	comp=Z,209nm,0.3s						
LONE3	**El Aguacate, B**	**0.64**	**339**	*i* P	**Pn**	**20 11 31.0**	**-0.8**
LONE3				*e*S	**Sg**	**20 11 39.6**	**+0.6**
LONE3				IAML		20 11 47.7	
	comp=Z,37nm,0.5s						
JIDR	**Jimani**	**0.77**	**309**	*e*Pg	**Pg**	**20 11 32.9**	**0.0**
JIDR				*e*Sg	**Sb**	**20 11 42.2**	**-0.4**
SDDR	**Presa de Saban**	**0.97**	**356**	*e*Pg	**Pb**	**20 11 36.0**	**0.0**
SDDR				⇓*e*Sg	**Sb**	**20 11 49.1**	**+0.6**
SDDR				IAML		20 11 59.3	
	comp=N,20nm,2.0s						
ABDR	**Alto Bandera**	**0.98**	**35**	*e*Pg	**Pb**	**20 11 36.2**	**-0.1**
ABDR				*e*Sg	**Sg**	**20 11 50.0**	**+0.2**
ABDR				IAML		20 11 54.8	
	comp=N,60nm,0.4s						
HATOM	**Hato Mayor del**	**1.91**	**66**	⇓*e*Pg	**Pb**	**20 11 51.4**	**-0.6**
HATOM				⇓*e*Sg	**Sb**	**20 12 16.3**	**+0.9**
HATOM				IAML		20 12 18.4	
	comp=N,15nm,0.5s						

IDC 13 20:13:00.6±2.5**, 43°.68N×28°.93W, h0**km**, mb3.6**/3**, mbtmp3.5**/4**, ML3.2**/1**, MS3.3**/26**, Error ellipse: s-maj=97.4km s-min=32.8km az=176.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**19.05**	**94**	P	P	20 17 24.4	+0.1
	baz=289,slow=12,SNR=2.9						
ESDC				LR	LR	20 23 02.1	
	comp=Z,58nm,21.9s,baz=282,slow=32						
	0.5nm,0.8s						
MDT	**Midelt**	**21.89**	**112**	LR	LR	20 24 44.2	
	comp=Z,32nm,19.6s,baz=222,slow=32						
SFJD	**Kangerlussuaq**	**26.14**	**341**	LR	LR	20 26 23.6	
	comp=Z,36nm,19.4s,baz=172,slow=31						
SCHQ	**Schefferville**	**26.81**	**308**	LR	LR	20 27 36.7	
	comp=Z,47nm,18.5s,baz=97,slow=33						
DAVOX	**Davos/Dischmat**	**27.32**	**70**	LR	LR	20 27 45.2	
	comp=Z,54nm,21.8s,baz=263,slow=32						
NOA	**NORSAR Array B**	**29.41**	**40**	LR	LR	20 29 38.0	
	comp=Z,13nm,18.1s,baz=125,slow=34						
GERES	**GERESS Array B**	**29.62**	**65**	LR	LR	20 29 38.4	
	comp=Z,43nm,19.9s,baz=227,slow=34						
FRB	**Frobisher Bay**	**30.13**	**326**	LR	LR	20 27 53.6	
	comp=Z,40nm,19.0s,baz=214,slow=30						
HFS	**Hagfors**	**30.35**	**42**	LR	LR	20 29 41.9	
	comp=Z,28nm,20.1s,baz=268,slow=33						
VRAC	**Vranov**	**31.46**	**63**	LR	LR	20 30 37.2	
	comp=Z,39nm,20.6s,baz=257,slow=34						
VAE	**Valguarnera**	**33.20**	**86**	LR	LR	20 31 50.8	
	comp=Z,115nm,19.8s,baz=315,slow=34						
SADO	**Sadowa**	**35.54**	**290**	LR	LR	20 33 09.1	
	comp=Z,91nm,20.9s,baz=150,slow=34						
FINES	**FINESS Array B**	**36.54**	**41**	LR	LR	20 34 35.9	
	comp=Z,22nm,19.3s,baz=278,slow=35						
ARCES	**ARCESS Array B**	**37.57**	**28**	LR	LR	20 33 40.0	
	comp=Z,32nm,19.9s,baz=66,slow=33						
MLR	**Muntele Rosu**	**38.48**	**68**	LR	LR	20 36 02.4	
	comp=Z,40nm,19.2s,baz=282,slow=36						
AKASG	**Malin Array Be**	**39.23**	**59**	LR	LR	20 35 57.5	
	comp=Z,39nm,20.4s,baz=244,slow=35						
SJG	**San Juan**	**40.35**	**243**	LR	LR	20 33 02.2	
	comp=Z,30nm,19.7s,baz=158,slow=30						
DBIC	**Dimbokro**	**42.48**	**143**	LR	LR	20 37 05.6	
	comp=Z,51nm,18.9s,baz=169,slow=34						
MDP	**Montagnes des**	**43.74**	**215**	LR	LR	20 34 16.3	
	comp=Z,56nm,21.7s,baz=150,slow=29						
BELG	**Belogornoye**	**49.67**	**51**	LR	LR	20 43 31.0	
	comp=Z,28nm,18.1s,baz=243,slow=37						
ANMO	**Albuquerque**	**58.59**	**290**	LR	LR	20 46 05.8	
	comp=Z,69nm,21.6s,baz=166,slow=34						
TXAR	**Lajitas Array**	**59.86**	**283**	P	P	20 23 08.1	-0.1
	0.3nm,0.9s,baz=69,slow=3.4,SNR=3.5						
TXAR				LR	LR	20 47 24.7	
	comp=Z,23nm,19.7s,baz=94,slow=34						
	0.3nm,0.9s						
PFO	**Pinyon Flats O**	**66.10**	**294**	LR	LR	20 52 47.2	
	comp=Z,50nm,18.1s,baz=200,slow=36						
KURBB	**Kurchatov Arra**	**66.93**	**41**	P	P	20 23 54.5	0.0
	0.5nm,0.6s,baz=314,slow=6.2,SNR=4.8						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**67.52**	**36**	LR	LR	20 53 05.0	
	comp=Z,23nm,18.2s,baz=238,slow=36						
AAK	**Ala-Archa**	**70.11**	**50**	LR	LR	20 56 36.9	
	comp=Z,36nm,18.3s,baz=276,slow=37						
MKAR	**Makanchi Array**	**71.36**	**43**	P	P	20 24 22.2	0.0
	0.9nm,1.0s,baz=309,slow=6.1,SNR=5.4						
	0.9nm,1.0s						
ASAJ	**Asahikawa**	**92.27**	**6**	LR	LR	21 05 18.5	
	comp=Z,15nm,20.3s,baz=3.5,slow=34						

*IDC **13** 20:29:19.2±3.7, 3°.16N×124°.45E, h326km±42km, mb3.5/10, mbtmp4.2/12, Error ellipse: s-maj=27.3km s-min=13.0km az=76.0*
*NEIC **13** 20:29:19.8±1.6, 3°.2N±0°.1×124°.47E±0°.09, h334km±10km, mb4.3/24, Error ellipse: s-maj=15.7km s-min=12.5km az=208.0*
ISC 13 20:29:19.2±0.5**, 3°.26N**±0°.07×**124°.45E**±0°.08**, h331**km**, n57, σ1s11/57, mb4.2/18, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.82**	**130**		**Pn**	**20 30 24.4**	**-0.9**
TNTI	**Ternate**	**3.82**	**130**	P	**Pn**	**20 30 24.8**	**-0.5**
TOLI2	**Tolitoli**	**4.25**	**240**		**Pn**	**20 30 29.4**	**-0.4**
TOLI2	**Tolitoli**	**4.25**	**240**	P	**Pn**	**20 30 29.3**	**-0.4**
SANI	**Sanana**	**5.49**	**164**	P	**Pn**	**20 30 41.3**	**-2.3**
KAPI	**Kappang**	**9.47**	**210**	P	**Pn**	**20 31 29.9**	**-0.9**
	3.4nm,0.3s,baz=135,slow=1.6,SNR=2.6						
FAKI	**Fak Fak**	**9.92**	**128**	Pn	**Pn**	**20 31 36.4**	**+0.1**
FAKI	**Fak Fak**	**9.92**	**128**	P	**Pn**	**20 31 37.9**	**+1.6**
SBUM	**Sibu**	**12.24**	**267**	P	**Pn**	**20 32 05.2**	**+0.9**
SBUM	**Sibu**	**12.24**	**267**	P	**P**	**20 32 06.0**	**+1.5**
SOEI	**Soe**	**12.93**	**181**	P	**P**	**20 32 12.7**	**+0.5**
SOEI	**Soe**	**12.93**	**181**	P	**Pn**	**20 32 14.0**	**+1.5**
BATI	**Baumata**	**13.40**	**183**	P	**P**	**20 32 17.6**	**+0.4**
	34nm,0.3s,baz=50,slow=2.4,SNR=22						
KSM	**Kuching**	**14.24**	**263**	P	**P**	**20 32 27.4**	**+0.9**
KSM	**Kuching**	**14.24**	**263**	P	**Pn**	**20 32 29.3**	**+1.4**
JAGI	**Jajag, Banyuwa**	**15.54**	**221**	P	**P**	**20 32 41.6**	**+0.9**
JAGI	**Jajag, Banyuwa**	**15.54**	**221**	P	**P**	**20 32 42.3**	**+1.6**
MTN	**Manton Dam**	**17.32**	**158**	P	**P**	**20 33 00.2**	**+0.2**
MTN				IAmb	IAmb	20 33 09.4	
	comp=Z,19nm,1.0s						
MTN	**Manton Dam**	**17.32**	**158**	P	**P**	**20 33 01.2**	**+1.2**
KDU	**Kakadu**	**17.73**	**153**	P	**P**	**20 33 06.6**	**+2.2**
UGM	**Wanagama**	**17.79**	**231**	P	**P**	**20 33 05.2**	**+0.1**
UGM	**Wanagama**	**17.79**	**231**	P	**P**	**20 33 06.9**	**+1.8**
KNRA	**Kununurra**	**19.29**	**167**	P	**P**	**20 33 20.2**	**-0.8**
KNRA				IAmb	IAmb	20 33 48.9	
	comp=Z,20nm,1.2s						
MYKOM	**Kota Tinggi**	**20.64**	**266**	P	**P**	**20 33 34.6**	**+0.1**
MYKOM				IAmb	IAmb	20 33 40.2	
	comp=Z,14nm,1.1s						
FITZ	**Fitzroy Crossi**	**21.26**	**177**	P	**P**	**20 33 39.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**21.26**	**177**	P	**P**	**20 33 39.1**	**-1.1**
	comp=Z,7.6nm,0.4s,baz=350,slow=7.8,SNR=50						
	Z,7.6nm,0.4s						
MBWA	**Marble Bar**	**24.71**	**191**	P	**P**	**20 34 10.2**	**-1.3**
MBWA				IAmb	IAmb	20 34 29.6	
	comp=Z,23nm,1.1s						
WB0	**Warramunga Arr**	**24.88**	**157**	P	**P**	**20 34 12.4**	**-0.7**
WB0				IAmb	IAmb	20 34 18.1	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**25.02**	**158**	P	**P**	**20 34 12.7**	**-1.6**
WRA	**Warramunga Arr**	**25.02**	**158**	P	**P**	**20 34 13.6**	**-0.7**
	comp=Z,2.8nm,0.4s,baz=335,slow=10,SNR=45						
	Z,2.8nm,0.4s						
GSI	**Gunungsitoli**	**26.93**	**266**	P	**P**	**20 34 30.2**	**-1.1**
GSI				IAmb	IAmb	20 34 59.4	
	comp=Z,25nm,1.3s						
ASAR	**Alice Springs**	**28.30**	**161**	P	**P**	**20 34 43.7**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=344,slow=8.6,SNR=2.2						
	Z,0.2nm,0.3s						
CHTO	**Chiang Mai**	**29.35**	**304**	P	**P**	**20 34 52.9**	**+0.2**
JMN	**Monobe**	**31.56**	**15**	P	**P**	**20 35 12.2**	**+0.4**
MORW	**Morawa**	**33.14**	**194**	P	**P**	**20 35 24.2**	**-1.4**
MORW				IAmb	IAmb	20 35 52.0	
	comp=Z,25nm,1.4s						
INU	**Inuyama**	**33.99**	**19**	P	**P**	**20 35 32.3**	**-0.3**
INU				IAmb	IAmb	20 35 36.2	
	comp=Z,23nm,1.4s						
FORT	**Forrest**	**34.02**	**174**	P	**P**	**20 35 32.6**	**-0.4**
JGF	**Kuroka**	**34.33**	**19**	P	**P**	**20 35 35.6**	**0.0**
JGF				IAmb	IAmb	20 35 56.2	
	comp=Z,26nm,1.5s						
MJAR	**Matsushiro Arr**	**35.46**	**19**	P	**P**	**20 35 45.5**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=192,slow=9.5,SNR=11						
	comp=Z,2.1nm,0.7s						
NWAO	**Narrogin (SRO)**	**36.64**	**190**	P	**P**	**20 35 53.9**	**-1.1**
STKA	**Stephens Creek**	**38.56**	**156**	P	**P**	**20 36 10.7**	**-0.4**
STKA	**Stephens Creek**	**38.56**	**156**	P	**P**	**20 36 11.4**	**+0.3**
	comp=Z,5.2nm,1.0s,baz=327,slow=13,SNR=3.5						
	comp=Z,5.2nm,1.0s						
JTM	**Tenmabayashi**	**40.25**	**20**	P	**P**	**20 36 25.5**	**+0.6**
JKA	**Kamikawa-asahi**	**43.73**	**19**	P	**P**	**20 36 52.5**	**-0.2**
JKA				IAmb	IAmb	20 37 14.2	
	comp=Z,21nm,1.2s						
MKAR	**Makanchi Array**	**56.66**	**326**	P	**P**	**20 38 29.1**	**+0.2**
MKAR	**Makanchi Array**	**56.66**	**326**	P	**P**	**20 38 30.4**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=122,slow=8.0,SNR=22						
	comp=Z,0.7nm,0.3s						
PETK	**Petropavlovsk-**	**56.74**	**23**	P	**P**	**20 38 29.1**	**-0.2**
PETK	**Petropavlovsk-**	**56.74**	**23**	P	**P**	**20 38 31.4**	**+2.2**
	comp=Z,1.1nm,0.6s,baz=203,slow=5.0,SNR=4.4						
	comp=Z,1.1nm,0.6s						
MAKZ	**Makanchi**	**56.85**	**326**	P	**P**	**20 38 30.3**	**+0.1**
MA2	**Magadan**	**59.73**	**15**	P	**P**	**20 38 50.6**	**+1.0**
MA2				IAmb	IAmb	20 39 06.1	
	comp=Z,16nm,1.3s						
MA2	**Magadan**	**59.73**	**15**	P	**P**	**20 38 50.9**	**+1.3**
	comp=Z,5.5nm,0.7s,baz=180,slow=19,SNR=4.2						
	comp=Z,5.5nm,0.7s						
KURBB	**Kurchatov Arra**	**60.92**	**328**	P	**P**	**20 38 58.5**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=130,slow=6.2,SNR=7.4						
	comp=Z,0.7nm,0.5s						
KURK	**Kurchatov**	**60.93**	**329**	P	**P**	**20 38 57.8**	**-0.1**
SIMJ	**Simiganj**	**61.41**	**313**	P	**P**	**20 38 58.1**	**-3.4**
SIMJ				IAmb	IAmb	20 38 59.4	
	comp=Z,4.2nm,0.6s						
AB31	**Akbulak array**	**71.08**	**321**	P	**P**	**20 40 01.5**	**-0.5**
ABKAR	**Akbulak array**	**71.08**	**321**	P	**P**	**20 40 01.4**	**-0.7**
FINES	**FINESS Array B**	**91.16**	**332**	P	**P**	**20 41 46.5**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=90,slow=0.6,SNR=4.0						
	comp=Z,0.9nm,0.9s						

*TIR **13** 20:35:38.5, 39°.80N×20°.64E, h25km±1km, Ml2.9/8*
*THE **13** 20:35:39.4, 39°.8N±0°.7×20°.7E±1°.0, h13km±1km, M2.7/12, MLh2.7/12*
*BEO **13** 20:35:39.9±0.3, 39°.81N×20°.59E, h15km±2km, ML2.6/11*
*ATH **13** 20:35:39.0, 39°.82N×20°.67E, h13km±1km, ML2.8/28, Manual Solution by F.Xalaris First location: 2019/07/13 20:36:38, This location: 2019/07/14 05:37:27 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*PDG **13** 20:35:39.4±0.6, 39°.81N×20°.63E, h18km±1km, ML2.9/9, Error ellipse: s-maj=1.6km s-min=2.9km az=0.0*
*IDC **13** 20:35:40.9±12.0, 40°.38N×20°.67E, h0km, mb3.1/4, mbtmp3.2/4, MS2.7/1, Error ellipse: s-maj=236.4km s-min=46.5km az=38.0*
ISC 13 20:35:39.2±0.8**, 39°.81N**±0°.01×**20°.67E**±0°.02**, h15**km±6km**, n128, σ1s01/175, mb3.2/3, 2C-7D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.20**	**138**	P	**Pg**	**20 35 44.0**	**0.0**
JAN				S	**Sg**	**20 35 47.5**	**+0.4**
JAN	**Janina**	**0.20**	**138**	P	**Pg**	**20 35 43.9**	**0.0**
JAN				S	**Sg**	**20 35 47.1**	**0.0**
IGT	**Igoumenitsa**	**0.38**	**224**	Pg	**Pg**	**20 35 46.6**	**-0.4**
IGT				Sg	**Sb**	**20 35 52.9**	**-0.4**
IGT	**Igoumenitsa**	**0.38**	**224**	P	**Pg**	**20 35 46.5**	**-0.5**
IGT				*S*	**Sb**	**20 35 54.0**	**+0.6**
IGT	**Igoumenitsa**	**0.38**	**224**	*e*Pg	**Pg**	**20 35 46.6**	**-0.4**
IGT				*e*Sg	**Sb**	**20 35 53.9**	**+0.6**
IGT	**Igoumenitsa**	**0.38**	**224**	P	**Pg**	**20 35 46.7**	**-0.2**
IGT				S	**Sg**	**20 35 52.3**	**+0.1**
MSVA	**Metsovo**	**0.39**	**95**	P	**Pg**	**20 35 47.0**	**-0.2**
SRN	**Sarande**	**0.52**	**278**	Pg	**Pg**	**20 35 49.4**	**-0.7**
SRN				Sg	**Sb**	**20 35 58.0**	**+0.5**
SRN				AML	AML	20 36 01.5	
	3.8nm,0.3s						
SRN	**Sarande**	**0.52**	**278**	P	**Pg**	**20 35 49.2**	**-0.4**
SRN				S	**Sb**	**20 35 57.9**	**+0.5**
PENT	**Pentalofos**	**0.53**	**42**	P	**Pg**	**20 35 49.6**	**-0.1**
PENT	**Pentalofos**	**0.53**	**42**	P	**Pg**	**20 35 49.5**	**-0.2**
LFKM	**Lefkimmi**	**0.59**	**233**	P	**Pg**	**20 35 50.6**	**-0.3**
LFKM				S	**Sb**	**20 36 00.5**	**+1.0**
TETR	**Tetrakomo, Epi**	**0.66**	**135**	P	**Pg**	**20 35 50.9**	**-1.2**
TETR				S	**Sg**	**20 36 00.9**	**+0.1**
TETR	**Tetrakomo, Epi**	**0.66**	**135**	P	**Pg**	**20 35 51.2**	**-0.8**
TETR				S	**Sg**	**20 36 01.3**	**+0.6**
NEST	**Nestorio**	**0.67**	**25**	Pg	**Pg**	**20 35 52.1**	**-0.3**
NEST				Sg	**Sb**	**20 36 02.7**	**+0.8**
NEST				AML	AML	20 36 06.2	
	1.4nm,0.4s						
NEST	**Nestorio**	**0.67**	**25**	P	**Pg**	**20 35 51.8**	**-0.6**
NEST				S	**Sg**	**20 36 01.4**	**0.0**
NEST	**Nestorio**	**0.67**	**25**	P	**Pb**	**20 35 52.3**	**-0.4**
KEK	**Kerkira**	**0.68**	**262**	P	**Pn**	**20 35 54.0**	**-0.3**
KEK				S	**Sn**	**20 36 04.6**	**-0.1**
KEK	**Kerkira**	**0.68**	**262**	P	**Pn**	**20 35 53.8**	**-0.5**
KEK				S	**Sb**	**20 36 02.5**	**+0.5**
ARTB	**Arta**	**0.69**	**160**	P	**Pg**	**20 35 52.5**	**-0.2**
KBN	**Korca**	**0.82**	**6**	Pg	**Pg**	**20 35 54.6**	**-0.6**
KBN				Sg	**Sb**	**20 36 06.3**	**+0.1**
KBN				AML	AML	20 36 09.9	
	0.7nm,0.5s						
KBN	**Korca**	**0.82**	**6**	P	**Pg**	**20 35 54.8**	**-0.4**
KBN				S	**Sb**	**20 36 06.7**	**+0.6**
AMPL	**Ampelaki**	**0.98**	**155**	P	**Pg**	**20 35 56.7**	**-1.5**
AMPL				S	**Sb**	**20 36 11.6**	**+1.0**
KZN	**Kozani**	**0.98**	**59**	P	**Pg**	**20 35 56.5**	**-1.7**
KZN				S	**Sg**	**20 36 10.5**	**-0.5**
KZN	**Kozani**	**0.98**	**59**	P	**Pg**	**20 35 57.1**	**-1.1**
TSLK	**Tsoukalades, L**	**0.98**	**181**	P	**Pg**	**20 35 57.2**	**-1.0**
TSLK	**Tsoukalades, L**	**0.98**	**181**	P	**Pb**	**20 35 58.2**	**+0.3**
LKD2	**Lefkada island**	**1.02**	**181**	Pn	**Pg**	**20 35 58.2**	**-0.7**
LKD2				Sn	**Sb**	**20 36 12.4**	**+0.7**
LKD2				AML	AML	20 36 19.5	
	1.1nm,0.3s						
LKD2	**Lefkada island**	**1.02**	**181**	P	**Pg**	**20 35 57.6**	**-1.3**
LKD2				S	**Sn**	**20 36 14.0**	**+1.0**
LKD2	**Lefkada island**	**1.02**	**181**	P	**Pg**	**20 35 58.5**	**-0.4**
THL	**Klokotos Trika**	**1.06**	**103**	P	**Pg**	**20 35 57.5**	**-2.2**
THL				S	**Sg**	**20 36 13.5**	**-0.1**
THL	**Klokotos Trika**	**1.06**	**103**	P	**Pg**	**20 35 58.6**	**-1.2**
NYDR	**Nydri-Lefkada**	**1.09**	**179**	P	**Pg**	**20 35 59.3**	**-1.0**
NYDR				S	**Sn**	**20 36 15.5**	**+0.8**
NYDR	**Nydri-Lefkada**	**1.09**	**179**	P	**Pg**	**20 35 59.6**	**-0.7**
FNA	**Florina**	**1.11**	**29**	Pg	**Pb**	**20 36 00.3**	**+0.1**
FNA				Sg	**Sn**	**20 36 16.9**	**+1.5**
FNA				AML	AML	20 36 20.4	
	1.2nm,0.6s						
FNA	**Florina**	**1.11**	**29**	P	**Pg**	**20 35 59.6**	**-1.2**
FNA				S	**Sn**	**20 36 15.9**	**+0.5**
FNA	**Florina**	**1.11**	**29**	*e*Pg	**Pg**	**20 35 59.7**	**-1.1**
FNA				*e*Sg	**Sn**	**20 36 16.0**	**+0.5**
FNA	**Florina**	**1.11**	**29**	P	**Pg**	**20 35 59.9**	**-0.9**
VLO	**Vlora**	**1.12**	**307**	Pg	**Pn**	**20 36 01.5**	**+1.2**
VLO				AML	AML	20 36 20.9	
	4.6nm,0.4s						
VLO	**Vlora**	**1.12**	**307**	P	**Pn**	**20 36 02.2**	**+1.8**
EVGI	**Lefkada island**	**1.19**	**181**	P	**Pg**	**20 36 01.2**	**-0.9**
EVGI				S	**Sn**	**20 36 18.8**	**+1.7**
EVGI	**Lefkada island**	**1.19**	**181**	P	**Pg**	**20 36 01.5**	**-0.5**
TYRN	**Tyrnavos**	**1.21**

CEME	**Cevo**	**3.04**	**335**	∥	*i*Pn	**Pn**	**20 36 26.8**	**0.0**
CEME					*i* Sn	**Sn**	**20 37 03.8**	**+0.8**
HCY	**Herceg Novi**	**3.11**	**329**	⇑	*i*Pn	**Pn**	**20 36 27.8**	**+0.1**
HCY					*i* Sn	**Sn**	**20 37 05.3**	**+0.7**
IVA	**Berane**	**3.12**	**349**	∥	*i*Pn	**Pn**	**20 36 30.3**	**+2.4**
BARS	**Barje**	**3.13**	**16**		*e*Pn	**Pn**	**20 36 29.2**	**+1.2**
BARS					*e*Sn	**Sn**	**20 37 06.0**	**+1.0**
KAVA	**Kavala**	**3.16**	**67**		P	**Pn**	**20 36 28.4**	**-0.1**
KOME	**Kolasin**	**3.16**	**344**	∥	*i*Pn	**Pn**	**20 36 29.6**	**+1.1**
KOME					*e*Sn	**Sn**	**20 37 07.1**	**+1.1**
THAS	**Thassos island**	**3.20**	**74**		P	**Pn**	**20 36 28.8**	**-0.1**
VTS	**Vitosha**	**3.41**	**34**		*e*Pn	**Pn**	**20 36 32.3**	**+0.3**
VTS					*e*Sn	**Sn**	**20 37 12.8**	**+0.6**
SELS	**Selova**	**3.43**	**5**		*e*Pn	**Pn**	**20 36 33.4**	**+1.3**
BRY	**Bratogost**	**3.48**	**333**	⇑	*i*Pn	**Pn**	**20 36 33.9**	**+0.9**
BRY					*i* Sn	**Sn**	**20 37 14.0**	**0.0**
SJES	**Sjenica**	**3.49**	**352**		*e*Pn	**Pn**	**20 36 34.3**	**+1.2**
PLE	**Pljevlja**	**3.65**	**345**	∥	*i*Pn	**Pn**	**20 36 36.7**	**+1.5**
PLE					*e*Sn	**Sn**	**20 37 19.2**	**+1.1**
GOCS	**Kraljevo Serbi**	**3.75**	**2**		*e*Pn	**Pn**	**20 36 37.8**	**+1.1**
ZAPS	**Zavoj**	**3.76**	**22**		*e*Pn	**Pn**	**20 36 38.0**	**+1.3**
IVAS	**Ivanjica**	**3.79**	**354**		*e*Pn	**Pn**	**20 36 37.4**	**+0.3**
STON	**Ston**	**3.79**	**325**		*e*Pn	**Pn**	**20 36 36.1**	**-1.0**
STON					*e*Sn	**Sn**	**20 37 19.0**	**-2.4**
BOVS	**Bovan**	**3.90**	**11**		*e*Pn	**Pn**	**20 36 39.8**	**+1.2**
GRUS	**Gruza**	**4.08**	**0**		*e*Pn	**Pn**	**20 36 41.0**	**0.0**
BLKB	**Belogradchik**	**4.10**	**21**		*e*Pn	**Pn**	**20 36 43.1**	**+1.8**
ZAGS	**Zajecar**	**4.17**	**16**		*e*Pn	**Pn**	**20 36 43.2**	**+1.0**
BORS2	**Bor- Borsko je**	**4.40**	**13**		*e*Pn	**Pn**	**20 36 44.8**	**-0.6**
TEKS	**Tekeris**	**4.81**	**350**		*e*Pn	**Pn**	**20 36 50.2**	**-1.0**
BOJS	**Bojanci**	**6.95**	**327**		*e*Pn	**Pn**	**20 37 19.7**	**-0.8**
CEY	**Cerknica**	**7.50**	**324**		*e*Pn	**Pn**	**20 37 27.4**	**-0.6**
SKDS	**Skadarsucina**	**7.55**	**322**		*e*Pn	**Pn**	**20 37 26.9**	**-1.8**
HFS	**Hagfors**	**20.82**	**350**		P	**P**	**20 40 17.6**	**-2.2**
	0.4nm,0.5s,baz=158,slow=13,SNR=5.8							
HFS					LR	LR	20 49 13.3	
	comp=Z,21nm,21.6s,baz=311,slow=40 0.4nm,0.5s							
FINES	**FINESS Array B**	**21.92**	**7**		P	**P**	**20 40 29.6**	**-2.0**
	1.1nm,0.8s,baz=168,slow=12,SNR=7.8 1.1nm,0.8s							
NOA	**NORSAR Array B**	**22.05**	**348**		P	**P**	**20 40 30.5**	**-2.6**
	0.5nm,0.9s,baz=162,slow=11,SNR=2.2 0.5nm,0.9s							
MKAR	**Makanchi Array**	**44.36**	**60**		P	**P**	**20 43 50.5**	**+1.7**
	0.2nm,0.6s,baz=289,slow=9.0,SNR=2.0 0.2nm,0.6s							

HLW ***13*** *20:46:50.2,26°.94N×34°.96E,h13*$_{\pm 4}$*km, MI2.8*
GII ***13*** *20:46:52.0±0.0,27°.165N±0°.003×35°.254E±0°.001,h3km, Mws3.2/6, confirmed*
SGS ***13*** *20:46:53.5,27°.13N×34°.98E,h19km, MI2.8*
ISC 13 20:46:49.6$_{\pm 1.1}$**,27°.02N**$_{\pm 0°.04}$**×34°.96E**$_{\pm 0°.03}$**,h10**$_{\pm}$**km,n101,** σ**1§17/70,Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MWLHS	**Almuwaylih**	**0.88**	**34**	S	**Sg**	**20 47 18.4**	**+0.5**
MWLHS	**Almuwaylih**	**0.88**	**34**	P	**Pg**	**20 47 07.2**	**+0.7**
NSFG	**Safaga**	**0.94**	**254**	P	Pg	20 47 08.0	+0.2
NSFG				S	**Sg**	**20 47 20.5**	**+0.4**
KRABS	**KRABS**	**1.11**	**14**	P	**Pg**	**20 47 10.6**	**-0.3**
KRABS	**KRABS**	**1.11**	**14**	S	**Sg**	**20 47 23.9**	**-1.4**
AYUS	**`Aynunah**	**1.20**	**13**	S	**Sg**	**20 47 26.4**	**-1.7**
AYUS				P	**Pb**	**20 47 11.9**	**-0.5**
HHRG	**Al Ghardaqah**	**1.25**	**279**	P	Pn	20 47 11.7	-1.5
TR1	**Tor 1**	**1.32**	**318**	P	**Pn**	**20 47 14.2**	**+0.1**
WTBKS	**WTBKS**	**1.36**	**39**	P	**Pn**	**20 47 14.9**	**+0.2**
WTBKS	**WTBKS**	**1.36**	**39**	S	**Sb**	**20 47 31.2**	**-1.4**
BDAS	**Al Bad`**	**1.41**	**5**	P	**Pn**	**20 47 15.4**	**+0.1**
BDAS	**Al Bad`**	**1.41**	**5**	S	**Sb**	**20 47 31.7**	**-2.4**
TAYS	**Tayyib Ism**	**1.52**	**357**	P	**Pn**	**20 47 16.5**	**-0.4**
TAYS	**Tayyib Ism**	**1.52**	**357**	S	**Sn**	**20 47 34.2**	**-2.6**
URD07	**Al Anba**	**1.61**	**65**	P	**Pn**	**20 47 18.5**	**+0.3**
URD06	**Shuwaq**	**1.66**	**75**	P	**Pn**	**20 47 19.1**	**+0.1**
HDHB	**Dhahab**	**1.72**	**350**	P	**Pn**	**20 47 19.6**	**+0.1**
HKAT	**Jabal Katrina**	**1.72**	**331**	P	**Pn**	**20 47 20.4**	**+0.6**
HKAT				S	**Sn**	**20 47 41.1**	**-0.9**
NADB	**Abo Dabab**	**1.72**	**194**	P	Pn	20 47 17.9	-1.8
TR2	**Tor 2**	**1.74**	**321**	P	**Pn**	**20 47 20.7**	**+0.8**
JLOS		**1.77**	**15**	P	**Pn**	**20 47 20.8**	**+0.4**
BIDS	**Bi'r al Bayda'**	**1.79**	**95**	P	**Pn**	**20 47 20.2**	**-0.4**
URD05	**Al Faraaah**	**1.80**	**83**	P	**Pn**	**20 47 20.8**	**0.0**
TBKS	**Tabuk**	**1.84**	**49**	P	**Pn**	**20 47 22.2**	**+0.9**
URD12	**Shuwaq**	**2.01**	**68**	P	**Pn**	**20 47 24.9**	**+1.2**
NUB	**Nuweibaa**	**2.02**	**352**	P	**Pn**	**20 47 22.6**	**-1.1**
HAQS	**Haql**	**2.02**	**359**	P	**Pn**	**20 47 24.3**	**+0.5**
URD04	**Abu Rakah**	**2.06**	**88**	P	**Pn**	**20 47 24.4**	**+0.1**
JMOS	**Jabal al Moall**	**2.14**	**4**	P	**Pn**	**20 47 26.3**	**+0.9**
UMJ05	**UMJ05**	**2.19**	**118**	P	Pn	20 47 25.0	-1.0
HBST	**Basata**	**2.19**	**355**	P	**Pn**	**20 47 27.1**	**+1.0**
URD10	**Hayder**	**2.22**	**58**	P	**Pn**	**20 47 27.4**	**+0.9**
URD15	**Abu Rakah**	**2.24**	**84**	P	**Pn**	**20 47 27.7**	**+0.8**
URD03	**Al Ula**	**2.26**	**98**	P	**Pn**	**20 47 26.9**	**-0.1**
HQLS		**2.27**	**2**	P	**Pn**	**20 47 28.2**	**+1.0**
GRB	**Gharib**	**2.29**	**303**	P	**Pn**	**20 47 28.6**	**+1.2**
UMJ11	**UMJ11**	**2.35**	**125**	P	Pn	20 47 27.2	-1.0
URD11	**Tayma**	**2.40**	**67**	P	**Pn**	**20 47 30.3**	**+1.2**
URD01	**URD01**	**2.42**	**91**	P	**Pn**	**20 47 31.0**	**+1.7**
UMJ06	**UMJ06**	**2.48**	**121**	P	Pn	20 47 29.0	-1.1
UMJ12	**UMJ12**	**2.48**	**128**	P	Pn	20 47 29.1	-1.0
UMJ04	**UMJ04**	**2.50**	**119**	P	Pn	20 47 29.4	-0.9
OLAS	**OLAS**	**2.51**	**107**	P	**Pn**	**20 47 31.0**	**+0.4**
UMJ02	**UMJ02**	**2.53**	**120**	P	Pn	20 47 29.7	-1.1
UMJ01	**UMJ01**	**2.55**	**121**	P	Pn	20 47 30.0	-1.1
UMJ07	**UMJ07**	**2.57**	**120**	P	Pn	20 47 30.2	-1.0
URD02	**Al Ula**	**2.63**	**98**	P	**Pn**	**20 47 33.3**	**+1.1**
HAGS	**Hagol**	**2.63**	**179**	P	Pn	20 47 30.1	-2.1
HAGS				S	Sn	20 48 00.9	-3.3
EIL	**Elat**	**2.64**	**360**	S	**Sn**	**20 48 05.5**	**+1.2**
EIL	**Elat**	**2.64**	**360**	P	**Pn**	**20 47 32.9**	**+0.7**
UMJ09	**UMJ09**	**2.67**	**116**	P	Pn	20 47 32.0	-0.7
UMJ13	**Umluj**	**2.67**	**124**	P	Pn	20 47 31.5	-1.2
UMJ08	**UMJ08**	**2.74**	**120**	P	Pn	20 47 32.9	-0.7
MBRI	**Mt Berech**	**2.76**	**359**	S	**Sn**	**20 48 08.9**	**+1.4**
MBRI	**Mt Berech**	**2.76**	**359**	P	**Pn**	**20 47 34.6**	**+0.6**
UMJS	**Umm Lajj**	**2.77**	**130**	P	Pn	20 47 32.4	-1.6
QLABS	**Al Qalibar**	**2.77**	**72**	P	**Pn**	**20 47 35.5**	**+1.4**
NEF	**New Edfo**	**2.79**	**221**	P	Pn	20 47 33.2	-1.1
LNY16	**LNY16**	**2.90**	**124**	P	Pn	20 47 34.9	-0.9
LNY09	**LNY09**	**2.92**	**123**	P	Pn	20 47 35.7	-0.5
LNY04	**LNY04**	**2.98**	**125**	P	Pn	20 47 36.1	-0.9
HRFI	**Mount Harif**	**3.00**	**1**	S	**Sn**	**20 48 13.6**	**+0.2**
HRFI	**Mount Harif**	**3.00**	**1**	P	**Pn**	**20 47 38.1**	**+0.8**
LNY07	**LNY07**	**3.01**	**128**	P	Pn	20 47 36.1	-1.3
LNY13	**LNY13**	**3.03**	**127**	P	Pn	20 47 36.6	-1.1
LNY11	**LNY11**	**3.05**	**123**	P	Pn	20 47 37.3	-0.7
LNY12	**LNY12**	**3.07**	**124**	P	Pn	20 47 37.9	-0.4
LNY03	**LNY03**	**3.08**	**121**	P	Pn	20 47 37.8	-0.5
LNY14	**LNY14**	**3.08**	**124**	P	Pn	20 47 37.6	-0.8
KRMI	**Paran Flat**	**3.09**	**356**	S	**Sn**	**20 48 16.2**	**+0.7**
KRMI	**Paran Flat**	**3.09**	**356**	P	**Pn**	**20 47 39.7**	**+1.2**
LNY15	**LNY15**	**3.10**	**124**	P	Pn	20 47 38.2	-0.4
LNY06	**LNY06**	**3.11**	**125**	P	Pn	20 47 38.4	-0.5
LNY17	**LNY17**	**3.11**	**124**	P	Pn	20 47 38.3	-0.6
LNY10	**LNY10**	**3.14**	**123**	P	Pn	20 47 38.7	-0.6
LNY02	**LNY02**	**3.22**	**125**	P	Pn	20 47 39.9	-0.4
BRNS	**Bernies**	**3.24**	**194**	P	Pn	20 47 39.5	-1.1
LNY08	**LNY08**	**3.27**	**127**	P	Pn	20 47 40.7	-0.4
LNYS	**LNYS**	**3.31**	**125**	P	**Pn**	**20 47 41.4**	**-0.2**
PRNI	**Paran**	**3.32**	**1**	S	**Sn**	**20 48 22.2**	**+1.0**
PRNI	**Paran**	**3.32**	**1**	P	**Pn**	**20 47 43.3**	**+1.7**
STAIM	**STAIM**	**3.46**	**87**	P	**Pn**	**20 47 44.8**	**+1.3**
ZFRI	**Zfri**	**3.52**	**3**	S	**Sn**	**20 48 26.6**	**+0.5**
ZFRI	**Zfri**	**3.52**	**3**	P	**Pn**	**20 47 45.8**	**+1.4**
TAMRE	**El Minia**	**3.65**	**281**	P	**Pn**	**20 47 46.4**	**+0.3**
NTAIM	**NTAIM**	**3.66**	**71**	P	**Pn**	**20 47 47.6**	**+1.3**
TRAS	**Al Qrash**	**3.79**	**120**	P	**Pn**	**20 47 48.8**	**+0.7**
KZIT	**Kziot**	**3.90**	**353**	S	**Sn**	**20 48 37.3**	**+1.8**
KZIT	**Kziot**	**3.90**	**353**	P	**Pn**	**20 47 52.0**	**+2.4**
GTR	**Jabal at Tayr**	**4.22**	**250**	P	**Pn**	**20 47 54.5**	**+0.4**
AKRG	**Al Kharijah**	**4.28**	**250**	P	Pn	20 47 54.6	-0.2
MSBI	**Mazada**	**4.29**	**5**	P	**Pn**	**20 47 56.1**	**+1.2**
YTIR	**Yattir**	**4.33**	**2**	S	**Sn**	**20 48 46.8**	**+0.5**
YTIR	**Yattir**	**4.33**	**2**	P	**Pn**	**20 47 57.7**	**+2.2**
AMAZ	**Amatzia**	**4.49**	**360**	S	**Sn**	**20 48 50.5**	**+0.4**
AMAZ	**Amatzia**	**4.49**	**360**	P	**Pn**	**20 48 00.0**	**+2.3**
DSI	**Dead Sea**	**4.55**	**5**	S	**Sn**	**20 48 51.8**	**+0.4**
DSI	**Dead Sea**	**4.55**	**5**	P	**Pn**	**20 48 00.3**	**+1.8**
QREAT	**Al Qurrayyat**	**5.01**	**26**	P	**Pn**	**20 48 06.3**	**+1.4**
HMDT	**Nahal Hemdat**	**5.24**	**5**	P	**Pn**	**20 48 10.2**	**+2.2**
NATI	**Neve Ativ**	**6.25**	**6**	P	**Pn**	**20 48 23.8**	**+1.9**

IDC ***13*** *20:48:51.2*$_{\pm 1.1}$*,55°.19N×164°.80E,h0km,mb3.7/8, mbtmp3.7/9,ML2.9/1,Error ellipse: s-maj=36.7km s-min=20.5km az=159.0*
KRSC ***13*** *20:48:52.1±1.5,54°.99N×164°.83E,h48km±23km,Ml4.3*
MOS ***13*** *20:48:54.0±0.9,55°.05N×164°.91E,h38km,mb3.9/1,Error ellipse: s-maj=7.3km s-min=6.3km az=160.3*
ISC 13 20:48:54.2$_{\pm 1.6}$**,55°.03N**$_{\pm 0°.04}$**×164°.90E**$_{\pm 0°.06}$**,h24**$_{\pm 14}$**km,**
n92,σ**1§45/117,mb3.7/8,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.64**	**74**	PN	**Pb**	**20 49 06.5**	**-0.2**
BKI				S	**Sb**	**20 49 15.8**	**+0.6**
BKI	**Bering**	**0.64**	**74**	*e*P	**Pb**	**20 49 06.6**	**-0.2**
BKI				*e*S	**Sb**	**20 49 15.8**	**+0.6**
KBTR	**Krutoberegovo**	**1.67**	**316**	PN	**Pn**	**20 49 19.2**	**-2.7**
KBTR				S	**Sn**	**20 49 38.5**	**-4.1**
KBTR	**Krutoberegovo**	**1.67**	**316**	*e*P	**Pn**	**20 49 19.3**	**-2.7**
KBTR				*e*S	**Sn**	**20 49 38.5**	**-4.1**
KBG	**Krutoberegovo**	**1.75**	**315**	PN	**Pn**	**20 49 20.6**	**-2.4**
KBG				S	**Sn**	**20 49 41.1**	**-3.4**
KBG	**Krutoberegovo**	**1.75**	**315**	*e*P	**Pn**	**20 49 20.7**	**-2.4**
KBG				*e*S	**Sn**	**20 49 41.2**	**-3.4**
MKZ	**Mys Kozlova**	**1.90**	**257**	PN	**Pn**	**20 49 24.0**	**-1.1**
MKZ				S	**Sn**	**20 49 45.2**	**-3.0**
MKZ	**Mys Kozlova**	**1.90**	**257**	*e*P	**Pn**	**20 49 24.0**	**-1.1**
MKZ				*e*S	**Sn**	**20 49 45.3**	**-3.0**
SMKR	**Semkarok**	**2.48**	**310**	PN	**Pn**	**20 49 32.6**	**-0.6**
SMKR	**Semkarok**	**2.48**	**310**	*e*P	**Pn**	**20 49 32.6**	**-0.6**
ZLN	**Zelenaya**	**2.53**	**295**	PN	**Pn**	**20 49 34.5**	**+0.6**
ZLN	**Zelenaya**	**2.53**	**295**	*e*P	**Pn**	**20 49 34.5**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**2.56**	**293**	PN	**Pn**	**20 49 34.3**	**0.0**
BZGR				S	**Sn**	**20 50 05.3**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**2.56**	**293**	*e*P	**Pn**	**20 49 34.3**	**0.0**
BZGR				*e*S	**Sn**	**20 50 05.3**	**+0.5**
BDR	**Baidarnaya**	**2.59**	**308**	*e*S	**Sn**	**20 50 06.5**	**+1.0**
TUMD	**Tumrok D**	**2.59**	**276**	PN	**Pn**	**20 49 34.4**	**-0.3**
TUMD				S	**Sn**	**20 50 04.9**	**-0.5**
TUMD	**Tumrok D**	**2.59**	**276**	*e*P	**Pn**	**20 49 34.5**	**-0.3**
TUMD				*e*S	**Sn**	**20 50 05.0**	**-0.5**
CIRR	**Tsirk**	**2.60**	**296**	PN	**Pn**	**20 49 34.9**	**+0.1**
CIRR	**Tsirk**	**2.60**	**296**	*e*P	**Pn**	**20 49 35.0**	**+0.1**
LGNR	**Loginova**	**2.61**	**295**	PN	**Pn**	**20 49 35.5**	**+0.3**
LGNR	**Loginova**	**2.61**	**295**	*e*P	**Pn**	**20 49 35.5**	**+0.3**
BZMR	**Bezymyannaya**	**2.67**	**292**	PN	**Pn**	**20 49 36.0**	**+0.1**
BZMR	**Bezymyannaya**	**2.67**	**292**	*e*P	**Pn**	**20 49 36.3**	**+0.1**
BZWR	**Bezymyannyi-We**	**2.67**	**292**	PN	**Pn**	**20 49 36.3**	**+0.3**
BZWR	**Bezymyannyi-We**	**2.67**	**292**	*e*P	**Pn**	**20 49 36.3**	**+0.3**
KLY	**Klyuchi**	**2.73**	**300**	PN	**Pn**	**20 49 34.5**	**-2.0**
KLY	**Klyuchi**	**2.73**	**300**	*e*P	**Pn**	**20 49 34.6**	**-2.0**
KIRR	**Kirishev**	**2.75**	**291**	PN	**Pn**	**20 49 37.5**	**+0.5**
KIRR				S	**Sn**	**20 50 10.4**	**+0.8**
KIRR	**Kirishev**	**2.75**	**291**	*e*P	**Pn**	**20 49 37.5**	**+0.5**
KIRR				*e*S	**Sn**	**20 50 10.4**	**+0.8**
KMNR	**Kamenistaya**	**2.76**	**287**	PN	**Pn**	**20 49 37.5**	**+0.5**
KMNR				S	**Sn**	**20 50 11.1**	**+1.5**
KMNR	**Kamenistaya**	**2.76**	**287**	*e*P	**Pn**	**20 49 37.5**	**+0.5**
KMNR				*e*S	**Sn**	**20 50 11.2**	**+1.5**
KPT	**Kopyto**	**2.82**	**291**	PN	**Pn**	**20 49 38.3**	**+0.4**
KPT				S	**Sn**	**20 50 12.4**	**+1.2**
KPT	**Kopyto**	**2.82**	**291**	*e*P	**Pn**	**20 49 38.3**	**+0.4**
KPT				*e*S	**Sn**	**20 50 12.5**	**+1.2**
KOZ	**Kozyrevsk**	**3.04**	**292**	PN	**Pn**	**20 49 42.2**	**+1.4**
KOZ	**Kozyrevsk**	**3.04**	**292**	*e*P	**Pn**	**20 49 42.2**	**+1.4**
SRDR	**Sredinnyy**	**3.21**	**296**	PN	**Pn**	**20 49 43.9**	**+0.8**
SRDR	**Sredinnyy**	**3.21**	**296**	*e*P	**Pn**	**20 49 44.0**	**+0.8**
SPN	**Mys Shipunski**	**3.47**	**238**	PN	**Pn**	**20 49 45.7**	**-1.0**
SPN	**Mys Shipunski**	**3.47**	**238**	*e*P	**Pn**	**20 49 45.7**	**-1.0**
SPN				*e*S	**Sn**	**20 50 22.3**	**-4.6**
ESO	**Esso**	**3.64**	**287**	PN	**Pn**	**20 49 49.0**	**-0.1**
ESO				S	**Sn**	**20 50 30.8**	**-0.5**
ESO	**Esso**	**3.64**	**287**	*e*P	**Pn**	**20 49 49.1**	**-0.1**
ESO				*e*S	**Sn**	**20 50 30.9**	**-0.5**
NLC	**Nalytchevo**	**3.77**	**243**	PN	**Pn**	**20 49 50.3**	**-0.5**
NLC	**Nalytchevo**	**3.77**	**243**	*e*P	**Pn**	**20 49 50.3**	**-0.5**
NLC				*e*S	**Sn**	**20 50 31.6**	**-2.7**
SDLR	**Sedlovina**	**3.95**	**246**	PN	**Pn**	**20 49 54.1**	**+0.7**
SDLR	**Sedlovina**	**3.95**	**246**	*e*P	**Pn**	**20 49 54.1**	**+0.7**
SDLR				*e*S	**Sn**	**20 50 36.8**	**-2.3**
SMAR	**Somma**	**4.00**	**246**	PN	**Pn**	**20 49 54.9**	**+0.7**
SMAR	**Somma**	**4.00**	**246**	*e*P	**Pn**	**20 49 55.0**	**+0.7**
SMAR				*e*S	**Sn**	**20 50 38.7**	**-2.3**
KRER	**Koryakskii**	**4.01**	**247**	PN	**Pn**	**20 49 55.2**	**+0.9**
KRER	**Koryakskii**	**4.01**	**247**	*e*P	**Pn**	**20 49 55.3**	**+0.9**
KRER				*e*S	**Sn**	**20 50 38.5**	**-2.1**
UGLR	**Uglovaya**	**4.02**	**245**	PN	**Pn**	**20 49 55.3**	**+1.0**
UGLR	**Uglovaya**	**4.02**	**245**	*e*P	**Pn**	**20 49 55.3**	**+1.0**
AVH	**Avacha**	**4.03**	**246**	PN	**Pn**	**20 49 55.7**	**+1.2**
AVH	**Avacha**	**4.03**	**246**	*e*P	**Pn**	**20 49 55.7**	**+1.2**
AVH				*e*S	**Sn**	**20 50 39.6**	**-1.4**
KRX	**Arik**	**4.04**	**248**	PN	**Pn**	**20 49 55.6**	**+1.0**
KRX	**Arik**	**4.04**	**248**	*e*P	**Pn**	**20 49 55.6**	**+1.0**
KRX				*e*S	**Sn**	**20 50 38.7**	**-2.5**
KOK	**Koryaka**	**4.08**	**247**	PN	**Pn**	**20 49 56.0**	**+0.9**
KOK	**Koryaka**	**4.08**	**247**	*e*P	**Pn**	**20 49 56.1**	**+0.9**
KOK				*e*S	**Sn**	**20 50 39.8**	**-2.3**
DALK	**Dalny**	**4.14**	**244**	PN	**Pn**	**20 49 56.4**	**+0.5**
DALK	**Dalny**	**4.14**	**244**	*e*P	**Pn**	**20 49 56.5**	**+0.5**
DALK				*e*S	**Sn**	**20 50 40.7**	**-2.8**
PET	**Petropavlovsk**	**4.20**	**244**	*e*PN	**Pn**	**20 49 57.3**	**+0.6**
GNL	**Ganaly**	**4.29**	**255**	PN	**Pn**	**20 49 59.1**	**+1.1**
GNL	**Ganaly**	**4.29**	**255**	*e*P	**Pn**	**20 49 59.2**	**+1.1**
OSSR	**Ossora**	**4.35**	**347**	PN	**Pn**	**20 49 58.4**	**-0.3**
OSSR	**Ossora**	**4.35**	**347**	*e*P	**Pn**	**20 49 58.4**	**-0.3**
KRMR	**Karymshinskiy**	**4.57**	**244**	PN	**Pn**	**20 50 02.5**	**+0.7**
KRMR	**Karymshinskiy**	**4.57**	**244**	*e*P	**Pn**	**20 50 02.5**	**+0.7**
KRMR				*e*S	**Sn**	**20 50 51.2**	**-2.9**
RUS	**Russkaya**	**4.60**	**238**	PN	**Pn**	**20 50 02.1**	**-0.1**
RUS	**Russkaya**	**4.60**	**238**	*e*P	**Pn**	**20 50 02.2**	**-0.1**
PEA0B	**Petropavlovsk-**	**4.66**	**249**	PN	**Pn**	**20 50 03.7**	**+0.6**
PETK	**Petropavlovsk-**	**4.66**	**249**	Pn	**Pn**	**20 50 03.0**	**-0.1**
	2.9nm,0.3s,baz=71,slow=18,SNR=19						
PETK					Sn	**20 50 55.1**	**-1.2**
	1.6nm,0.3s,baz=77,slow=20,SNR=4.0 5.0nm,0.4s						
PETK	**Petropavlovsk-**	**4.66**	**249**	PN	**Pn**	**20 50 03.0**	**-0.1**
MTVR	**Mutnovka**	**4.74**	**240**	PN	**Pn**	**20 50 04.4**	**+0.2**
MTVR	**Mutnovka**	**4.74**	**240**	*e*P	**Pn**	**20 50 04.4**	**+0.2**
GRL	**Gorelyy**	**4.75**	**241**	PN	**Pn**	**20 50 05.0**	**+0.6**
GRL	**Gorelyy**	**4.75**	**241**	*e*P	**Pn**	**20 50 05.1**	**+0.6**
ASAK	**Asacha**	**4.94**	**240**	PN	**Pn**	**20 50 07.6**	**+0.7**
ASAK	**Asacha**	**4.94**	**240**	*e*P	**Pn**	**20 50 07.7**	**+0.7**
ILAR	**Eielson Array**	**25.42**	**48**	P	**P**	**20 54 19.0**	**-0.6**
	0.7nm,0.8s,baz=264,slow=9.6,SNR=5.7 0.7nm,0.8s						
MJAR	**Matsushiro Arr**	**25.98**	**236**	P	**P**	**20 54 25.2**	**+0.3**
	0.7nm,0.7s,baz=23,slow=6.0,SNR=1.7 0.7nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**35.28**	**177**	T	T	21 33 38.8	
	baz=359,slow=76,SNR=89						
H11N3	**WAKE ISLAND Hy**	**35.29**	**177**	T	T	21 33 38.5	
	baz=359,slow=76,SNR=64						
H11N1	**WAKE ISLAND Hy**	**35.29**	**177**	T	T	21 33 26.3	
	baz=359,slow=76,SNR=72						
SONM	**Songino Array**	**36.21**	**283**	P	**P**	**20 55 55.1**	**+0.1**
	0.7nm,0.5s,baz=56,slow=8.5,SNR=6.2 0.7nm,0.5s						
H11S1	**WAKE ISLAND Hy**	**36.48**	**177**	T	T	21 34 54.6	
	baz=359,slow=76,SNR=4.2						
H11S3	**WAKE ISLAND Hy**	**36.50**	**177**	T	T	21 34 56.8	
	baz=359,slow=76,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**36.50**	**177**	T	T	21 35 08.0	
	baz=359,slow=76,SNR=3.5						
KURK	**Kurchatov**	**49.09**	**303**	P	**P**	**20 57 38.7**	**-0.5**
KURBB	**Kurchatov Arra**	**49.19**	**303**	P	**P**	**20 57 38.7**	**-1.3**
	1.7nm,0.2s,baz=55,slow=8.1,SNR=8.2 1.7nm,0.2s						
MKAR	**Makanchi Array**	**49.84**	**297**	P	**P**	**20 57 44.3**	**-0.7**
	0.5nm,0.6s,baz=57,slow=7.7,SNR=5.5 0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**61.32**	**261**	P	**P**	**20 59 09.7**	**+1.8**
	0.3nm,0.4s,baz=23,slow=6.9,SNR=5.1 0.3nm,0.4s						
TXAR	**Lajitas Array**	**67.30**	**71**	P	**P**	**20 59 48.7**	**+1.7**
	0.3nm,0.8s,baz=318,slow=6.5,SNR=2.1 0.3nm,0.8s						
ASAR	**Alice Springs**	**82.76**	**208**	P	**P**	**21 01 16.4**	**+0.5**
	0.9nm,0.8s,baz=15,slow=6.2,SNR=5.2 0.9nm,0.8s						

IDC ***13*** *20:51:20.0±0.8,15°.33S×173°.46W,h0km,mb4.0/9, mbtmp4.1/9,MS3.2/4,Error ellipse: s-maj=39.4km s-min=19.7km az=141.0*
NEIC ***13*** *20:51:27.1±1.1,15°.6S±0°.1×173°.5W±0°.1,h35km±2km, mb4.5/13,Error ellipse: s-maj=25.4km s-min=7.2km az=45.0*
ISC 13 20:51:26.0$_{\pm 0.6}$**,15°.4S**$_{\pm 0°.1}$**×173°.4W**$_{\pm 0°.1}$**,h42**$_{\pm}$**km,n44,** σ**0§68/34,mb4.3/13,MS2.9/3,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.93**	**138**		**Pn**	**20 52 37.2**	**-0.4**
RAR	**Rarotonga**	**14.19**	**116**	LR	LR	20 58 13.9	
	comp=Z,70nm,21.5s,baz=269,slow=29						
PINNC	**Pines Island,**	**19.42**	**246**	P	**P**	**20 55 48.8**	**0.0**
PINNC				IAmb	IAmb	20 56 08.8	
	comp=Z,56nm,1.0s						
DZM	**Mont Dzumac**	**20.15**	**248**	P	Pn	20 55 57.5	-1.6
DZM	**Mont Dzumac**	**20.15**	**248**	*e*P	Pn	20 56 03.5	+4.5
	comp=Z,54nm,1.4s						
DZM				*e*LR	LR	21 00 44.1	
	comp=Z,163nm,27.1s						
DZM	**Mont Dzumac**	**20.15**	**248**	P	**P**

ETRV	**Los Montesinos**	**0.08**	**91**	⇑Pg	**Pg**	**21 12 20.6**	**0.0**
ETRV				Sg	**Sg**	**21 12 22.0**	**-0.6**
ETRV				*i* IVmb_Lg		21 12 22.2	
CART	**Cartagena**	**0.45**	**194**	Pg	**Pb**	**21 12 27.6**	**+0.1**
CART				Sg	**Sb**	**21 12 34.0**	**0.0**
CART	**Cartagena**	**0.45**	**194**	P	**Pn**	**21 12 28.2**	**-1.6**
CART	**Cartagena**	**0.45**	**194**	S	**Sb**	**21 12 35.2**	**+1.1**
TLOR	**Lorca, Murcia**	**0.75**	**241**	Pg	**Pn**	**21 12 34.5**	**+0.4**
TLOR				Sg	**Sn**	**21 12 44.9**	**-0.4**
TLOR	**Lorca, Murcia**	**0.75**	**241**	Pg	**Pn**	**21 12 34.4**	**+0.4**
TLOR				Sg	**Sb**	**21 12 43.0**	**+0.3**
ELOR	**Lorca, Murcia**	**0.80**	**242**	Pg	**Pn**	**21 12 35.3**	**+0.6**
ELOR				Sg	**Sn**	**21 12 45.8**	**-0.6**
ELOR				*i* IVmb_Lg		21 12 51.8	
EBEN2	**Beniarda presa**	**0.84**	**39**	Pg	**Pn**	**21 13 34.6**	**-0.7**
EBEN2				Sg	**Sn**	**21 12 46.4**	**-1.1**
EBEN2				*i* IVmb_Lg		21 12 50.7	
ENIJ	**Nijar**	**1.50**	**226**	Pn	**Pb**	**21 12 45.0**	**-0.4**
ENIJ				Sn	**Sg**	**21 13 04.9**	**-1.1**
ENIJ				Sg	**Sb**	**21 13 07.0**	**+2.7**
ENIJ				*i* IVmb_Lg		21 13 11.3	
ECHE	**Chera**	**1.57**	**357**	Pn	**Pn**	**21 12 45.6**	**+0.2**
ECHE				Pg	**Pg**	**21 12 47.9**	**-0.1**
ECHE				Sn	**Sb**	**21 13 06.6**	**+0.2**
ECHE				Sg	**Sg**	**21 13 08.8**	**+0.5**
ECHE				*i* IVmb_Lg		21 13 10.4	
EQES	**Quesada**	**1.76**	**264**	Pn	**Pb**	**21 12 50.2**	**+0.3**
EQES				Sn	**Sb**	**21 13 11.9**	**-0.1**
EQES				*i* IVmb_Lg		21 13 20.3	
E0802	**Ubeda,Jaen**	**1.98**	**271**	Pn	**Pb**	**21 12 52.6**	**-1.2**
E0802				Pg	**Pg**	**21 12 56.5**	**+0.6**
E0802				Sn	**Sn**	**21 13 17.2**	**+1.4**
E0802				Sg	**Sg**	**21 13 22.7**	**+1.1**
EIBI	**Ibiza**	**2.00**	**59**	Pn	**Pn**	**21 12 50.9**	**-0.3**
EIBI				Sn	**Sn**	**21 13 16.1**	**-0.1**
EIBI				*i* IVmb_Lg		21 13 20.1	
E0803	**Jimena (Jaen)**	**2.07**	**266**	Pn	**Pb**	**21 12 54.2**	**-1.1**
E0803				Pg	**Pg**	**21 12 57.0**	**-0.6**
E0803				Sn	**Sn**	**21 13 19.5**	**+1.6**
E0803				Sg	**Sg**	**21 13 26.7**	**+2.3**
EQUE	**Quentar**	**2.20**	**249**	Pn	**Pn**	**21 12 55.4**	**+1.3**
EQUE				Sn	**Sn**	**21 13 22.2**	**+1.0**
EQUE				*i* IVmb_Lg		21 13 41.5	
EQTA	**Presa de Quent**	**2.20**	**249**	Pn	**Pb**	**21 12 56.4**	**-1.2**
EMOS	**Mosqueruela**	**2.36**	**7**	Pn	**Pn**	**21 12 57.5**	**+1.2**
EMOS				Sn	**Sn**	**21 13 24.6**	**-0.6**
EMOS				*i* IVmb_Lg		21 13 46.2	
PSIM	**Granatula de C**	**2.41**	**290**	Pn	**Pn**	**21 12 57.7**	**+0.8**
PSIM				Sn	**Sn**	**21 13 27.1**	**+0.9**
PSIM				Sg	**Sg**	**21 13 35.7**	**+0.5**
E0901	**Celadas (Terue**	**2.46**	**355**	Pn	**Pn**	**21 12 59.4**	**+1.7**
E0901				Pg	**Pg**	**21 13 03.9**	**-1.2**
E0901				Sn	**Sn**	**21 13 28.4**	**+0.7**
E0901				*i* IVmb_Lg		21 13 45.2	
ELGU	**Los Guajares,**	**2.48**	**243**	Pn	**Pn**	**21 12 59.5**	**+1.5**
ELGU	**Los Guajares,**	**2.48**	**243**	Pn	**Pn**	**21 12 59.7**	**+1.7**
ELGU				Sn	**Sn**	**21 13 28.0**	**-0.1**
ELGU				*i* IVmb_Lg		21 13 40.9	
EGOR	**Sierra Gorda,**	**2.73**	**252**	Sn	**Sn**	**21 13 36.4**	**+1.9**
EGOR				Pn	**Pb**	**21 13 04.6**	**-2.0**
EGOR	**Sierra Gorda,**	**2.73**	**252**	Pn	**Pb**	**21 13 03.9**	**-2.7**
EGOR				Sn	**Sn**	**21 13 35.6**	**+1.2**
EGOR				*i* IVmb_Lg		21 13 58.8	
ESBB	**Sonseca Array**	**2.93**	**305**	Pn	**Pn**	**21 13 04.5**	**+0.4**
ESDC	**Sonseca Array**	**2.93**	**305**	Pn	**Pn**	**21 13 04.2**	**+0.1**
ESDC				lAmb_Lg		21 13 55.4	
	comp=Z,69nm,0.9s						
ESDC	**Sonseca Array**	**2.93**	**305**	Pn	**Pn**	**21 13 04.6**	**+0.6**
ESDC				Sn	**Sn**	**21 13 40.1**	**+1.0**
ESDC				Sg	**Sg**	**21 13 52.8**	**+0.9**
ESDC				*i* IVmb_Lg		21 13 55.4	
EADA	**Adamuz**	**2.93**	**274**	Pn	**Pn**	**21 13 04.7**	**+0.6**
EADA				Sn	**Sn**	**21 13 39.5**	**+0.3**
EADA	**Adamuz**	**2.93**	**274**	Pn	**Pn**	**21 13 04.6**	**+0.6**
EADA				Sn	**Sn**	**21 13 39.7**	**+0.5**
EADA				Sg	**Sg**	**21 13 52.5**	**+0.5**
EADA				*i* IVmb_Lg		21 13 57.5	
UCM	**Universidad Co**	**2.94**	**322**	Pg	**Pg**	**21 13 14.3**	**+0.2**
UCM				Sg	**Sg**	**21 13 51.2**	**-1.0**
ETOR	**Torete**	**2.94**	**342**	Pn	**Pn**	**21 13 05.4**	**+1.2**
ETOR				Sn	**Sn**	**21 13 40.3**	**+0.8**
ETOR				Sg	**Sg**	**21 13 53.0**	**+0.6**
ETOR				*i* IVmb_Lg		21 14 02.2	
ERTA	**Horta de San J**	**3.07**	**17**	Pn	**Pn**	**21 13 06.9**	**+0.9**
ERTA				Sn	**Sn**	**21 13 42.6**	**0.0**
ERTA				*i* IVmb_Lg		21 14 07.0	
PAB	**San Pablo**	**3.12**	**300**	Pn	**Pn**	**21 13 07.3**	**+0.6**
PAB				lAmb_Lg		21 14 00.4	
	comp=Z,54nm,0.8s						
PAB	**San Pablo**	**3.12**	**300**	Pn	**Pn**	**21 13 07.5**	**+0.8**
PAB				Sg	**Sg**	**21 13 57.7**	**-0.3**
PAB				*i* IVmb_Lg		21 13 59.3	
GOG	**Mont Gurugu**	**3.28**	**212**	P	**Pn**	**21 13 09.1**	**+0.2**
GOG	**Mont Gurugu**	**3.28**	**212**	S	**Sn**	**21 13 47.9**	**+0.1**
ETOS	**Mallorca**	**3.36**	**58**	Pn	**Pn**	**21 13 10.3**	**+0.4**
ETOS				Sn	**Sn**	**21 13 48.7**	**-1.0**
ETOS				*i* IVmb_Lg		21 14 12.4	
TAF	**Taforalt**	**3.44**	**202**	P	**Pn**	**21 13 12.2**	**+1.1**
TAF	**Taforalt**	**3.44**	**202**	S	**Sn**	**21 13 51.8**	**+0.1**
ECAB	**El Cabril**	**3.60**	**272**	Pn	**Pn**	**21 13 13.7**	**+0.5**
ECAB				Sn	**Sn**	**21 13 55.3**	**-0.2**
ECAB				Sg	**Sg**	**21 14 13.0**	**-0.3**
ECAB	**El Cabril**	**3.60**	**272**	Pn	**Pn**	**21 13 13.6**	**+0.3**
ECAB				Sn	**Sn**	**21 13 55.7**	**+0.2**
ECAB				Sg	**Sg**	**21 14 13.2**	**-0.1**
ECAB				*i* IVmb_Lg		21 14 21.3	
EPOB	**Poblet**	**3.65**	**24**	Pn	**Pn**	**21 13 14.4**	**+0.4**
GUD	**Guadarrama**	**3.66**	**317**	Pn	**Pn**	**21 13 15.1**	**+1.0**
GUD				Pg	**Pb**	**21 13 24.8**	**+2.5**
GUD				Sn	**Sn**	**21 13 57.1**	**0.0**
GUD				Sg	**Sg**	**21 14 14.2**	**-1.0**
GUD				*i* IVmb_Lg		21 14 16.0	
ESAC	**San Caprasio**	**3.71**	**5**	Pn	**Pn**	**21 13 15.8**	**+1.1**
ESAC				*i* IVmb_Lg		21 14 20.8	
PALE	**Palemas**	**3.74**	**222**	P	**Pn**	**21 13 15.7**	**+0.6**
PALE	**Palemas**	**3.74**	**222**	S	**Sn**	**21 14 02.8**	**+1.2**
JBK	**JBK**	**3.93**	**201**	P	**Pn**	**21 13 19.8**	**+1.9**
JBK	**JBK**	**3.93**	**201**	S	**Sn**	**21 14 06.3**	**+2.3**
AKLM	**AKL**	**4.26**	**216**	P	**Pn**	**21 13 22.5**	**+0.1**
AKLM	**AKL**	**4.26**	**216**	S	**Sn**	**21 14 11.3**	**-0.7**
SMIR	**Smir Dam**	**4.31**	**239**	P	**Pn**	**21 13 23.8**	**+0.8**
SMIR	**Smir Dam**	**4.31**	**239**	S	**Sn**	**21 14 13.1**	**0.0**
MAHO	**Mahon**	**4.42**	**63**	Pn	**Pn**	**21 13 25.7**	**+1.3**
EPLA	**Plasencia**	**4.54**	**298**	Pn	**Pn**	**21 13 26.6**	**+0.3**
EPLA				Sn	**Sn**	**21 14 18.3**	**-0.6**
EPLA				Sg	**Sg**	**21 14 39.9**	**-3.8**
EPLA				*i* IVmb_Lg		21 14 45.5	
CEST	**Esterri de Car**	**4.85**	**19**	Pn	**Pn**	**21 13 30.2**	**-0.3**
PBAR	**Barrancos**	**4.87**	**274**	*e*Pn	**Pn**	**21 13 31.5**	**+0.7**
PBAR				*e*Sn	**Sn**	**21 14 23.4**	**-3.6**
PBAR				*e*Sg	**Sg**	**21 14 52.9**	**-1.4**
PBAR				*i* IAML		21 15 03.3	
PBAR				*i* IAML		21 15 06.7	
PBAR				*i* IAML		21 15 08.9	
EORO	**Oroz-Betelu**	**4.88**	**356**	Pn	**Pn**	**21 13 32.8**	**+1.9**
EORO				Sn	**Sn**	**21 14 27.2**	**0.0**
EORO				*i* IVmb_Lg		21 15 04.3	
EALK	**Alkurruntz**	**5.21**	**355**	Pn	**Pn**	**21 13 37.7**	**+2.2**
EALK				Sn	**Sn**	**21 14 34.5**	**-1.0**
EALK				*i* IVmb_Lg		21 15 07.0	
EGRO	**El Granado**	**5.27**	**267**	Pn	**Pn**	**21 13 36.2**	**0.0**
EGRO				Sg	**Sg**	**21 15 02.5**	**-4.3**
EGRO	**El Granado**	**5.27**	**267**	Pn	**Pn**	**21 13 35.4**	**-0.8**
EGRO				Sn	**Sn**	**21 14 35.2**	**-1.4**
EGRO				*i* IVmb_Lg		21 15 13.8	
PMRV	**Marv??o**	**5.29**	**287**	*e*Pn	**Pn**	**21 13 39.8**	**+3.2**
PMRV				*e*Pg	**Pb**	**21 13 54.1**	**+3.9**
PMRV				*e*Sn	**Sn**	**21 14 40.1**	**+2.7**
PMRV				*e*Sg	**Sg**	**21 15 06.7**	**-1.1**
PMRV				*i* IAML		21 15 10.5	
PMRV				*i* IAML		21 15 16.2	
PMRV				*i* IAML		21 15 17.5	
PESTR	**Estremoz**	**5.35**	**281**	Pn	**Pn**	**21 13 38.1**	**+0.8**
PESTR				lAmb_Lg		21 15 11.9	
	comp=Z,22nm,0.8s						
PESTR	**Estremoz**	**5.35**	**281**	*e*Pn	**Pn**	**21 13 39.0**	**+1.7**
PESTR				*e*Sn	**Sn**	**21 14 37.4**	**-1.3**
PESTR				*e*Sg	**Sg**	**21 15 08.5**	**-0.9**
PESTR				*i* IAML		21 15 14.2	
PESTR				*i* IAML		21 15 16.8	
PESTR				*i* IAML		21 15 21.7	
PESTR	**Estremoz**	**5.35**	**281**	P	**Pn**	**21 13 38.2**	**+1.0**
PESTR	**Estremoz**	**5.35**	**281**	S	**Sn**	**21 14 39.1**	**+0.4**
PCBR	**Castelo Branco**	**5.47**	**291**	*e*Pn	**Pn**	**21 13 41.1**	**+2.3**
PCBR				*e*Sn	**Sn**	**21 14 40.6**	**-1.0**
PCBR				*e*Sg	**Sg**	**21 15 11.7**	**-1.5**
PCBR				*i* IAML		21 15 21.8	
PCBR				*i* IAML		21 15 22.9	
PCBR				*i* IAML		21 15 28.0	
PVAQ	**Vaqueiros**	**5.47**	**266**	Pn	**Pn**	**21 13 38.8**	**-0.1**
PVAQ				lAmb_Lg		21 15 21.9	
	comp=Z,19nm,0.8s						
PVAQ	**Vaqueiros**	**5.47**	**266**	*e*Pn	**Pn**	**21 13 38.9**	**-0.1**
PVAQ				*e*Sn	**Sn**	**21 14 40.3**	**-1.4**
PVAQ				*e*Sg	**Sg**	**21 15 12.0**	**-1.3**
PVAQ				*i* IAML		21 15 18.9	
PVAQ				*i* IAML		21 15 21.9	
PVAQ				*i* IAML		21 15 28.9	
PVAQ	**Vaqueiros**	**5.47**	**266**	P	**Pn**	**21 13 39.0**	**+0.1**
PVAQ	**Vaqueiros**	**5.47**	**266**	S	**Sn**	**21 14 41.6**	**0.0**
PBEJ	**Beja**	**5.53**	**272**	*e*Pn	**Pn**	**21 13 41.0**	**+1.2**
PBEJ				*e*Sg	**Sg**	**21 15 16.7**	**+1.5**
PBEJ				*i* IAML		21 15 22.1	
PBEJ				*i* IAML		21 15 23.7	
PBEJ				*i* IAML		21 15 35.1	
ELAN	**Lanestosa**	**5.56**	**340**	Pn	**Pn**	**21 13 41.6**	**+1.4**
ELAN				Sn	**Sn**	**21 14 43.2**	**-0.7**
ELAN				*i* IVmb_Lg		21 15 25.7	
EVO	**Evora**	**5.65**	**277**	*e*Sn	**Sn**	**21 14 44.5**	**-1.6**
EVO				*e*Sg	**Sg**	**21 15 16.9**	**-2.2**
PBDV	**Barranco-do-Ve**	**5.66**	**264**	*e*Pn	**Pn**	**21 13 41.8**	**+0.2**
PBDV				*e*Sn	**Sn**	**21 14 45.6**	**-0.9**
PBDV				*e*Sg	**Sg**	**21 15 20.0**	**+0.5**
PBDV				*i* IAML		21 15 31.1	
PBDV				*i* IAML		21 15 31.8	
PBDV				*i* IAML		21 15 34.1	
PCVE	**Castro Verde**	**5.69**	**268**	*e*Pn	**Pn**	**21 13 42.3**	**+0.3**
PCVE				*e*Sg	**Sg**	**21 15 20.5**	**-0.1**
PCVE				*i* IAML		21 15 30.4	
PCVE				*i* IAML		21 15 31.6	
PCVE				*i* IAML		21 15 31.8	
MVO	**Moncorvo**	**5.70**	**305**	*e*Pn	**Pn**	**21 13 43.3**	**+1.1**
MVO				*e*Sn	**Sn**	**21 14 45.3**	**-2.2**
MVO				*e*Sg	**Sg**	**21 15 19.4**	**-1.4**
MVO				*i* IAML		21 15 29.3	
MVO				*i* IAML		21 15 30.0	
MVO				*i* IAML		21 15 33.2	
MTE	**Manteigas**	**5.71**	**297**	Pn	**Pn**	**21 13 42.8**	**+0.6**
MTE				lAmb_Lg		21 15 27.3	
	comp=Z,30nm,0.9s						
MTE	**Manteigas**	**5.71**	**297**	*e*Sg	**Sg**	**21 15 17.3**	**-3.7**
MTE				*i* IAML		21 15 22.5	
MTE				*i* IAML		21 15 22.8	
MTE				*i* IAML		21 15 25.2	
MESJ	**Messejana**	**5.82**	**270**	*e*P	**Pn**	**21 13 43.3**	**-0.4**
MESJ	**Messejana**	**5.82**	**270**	Pn	**Pn**	**21 13 44.2**	**+0.5**
MESJ	**Messejana**	**5.82**	**270**	*e*Pn	**Pn**	**21 13 43.3**	**-0.4**
MESJ				*e*Sg	**Sg**	**21 15 22.8**	**-1.7**
MESJ				*i* IAML		21 15 33.0	
MESJ				*i* IAML		21 15 35.0	
MESJ				*i* IAML		21 15 40.2	
PMTG	**Montargil**	**5.87**	**283**	*e*Pn	**Pn**	**21 13 44.8**	**+0.4**
PMTG				*e*Sn	**Sn**	**21 14 49.8**	**-1.6**
PMTG				*e*Sg	**Sg**	**21 15 24.6**	**-1.4**
PMTG				*i* IAML		21 15 32.4	
PMTG				*i* IAML		21 15 33.1	
PMTG				*i* IAML		21 15 34.2	
PBRG	**Braganca**	**5.89**	**312**	*e*Pn	**Pn**	**21 13 45.4**	**+0.6**
PBRG				*e*Sn	**Sn**	**21 14 49.3**	**-2.8**
PBRG				*e*Sg	**Sg**	**21 15 22.2**	**-4.5**
PBRG				*i* IAML		21 15 27.1	
PBRG				*i* IAML		21 15 32.7	
PBRG				*i* IAML		21 15 33.9	
PSARD	**Sardoal**	**5.91**	**288**	*e*Pn	**Pn**	**21 13 46.2**	**+1.2**
PSARD				*e*Sg	**Sg**	**21 15 25.9**	**-1.7**
PSARD				*i* IAML		21 15 30.7	
PSARD				*i* IAML		21 15 32.0	
PSARD				*i* IAML		21 15 38.9	
ECAL	**Calabor**	**5.97**	**313**	Pn	**Pn**	**21 13 46.6**	**+0.7**
ECAL				Sn	**Sn**	**21 14 51.6**	**-2.6**
ECAL	**Calabor**	**5.97**	**313**	Pn	**Pn**	**21 13 46.6**	**+0.7**
ECAL				Sn	**Sn**	**21 14 50.8**	**-3.3**
ECAL				*i* IVmb_Lg		21 15 42.0	
PVIS	**Viseu**	**6.08**	**298**	*e*Pn	**Pn**	**21 13 48.6**	**+1.3**
PVIS				*e*Sn	**Sn**	**21 14 55.2**	**-1.5**
PVIS				*e*Sg	**Sg**	**21 15 31.3**	**-1.5**
PVRL	**Vila Real**	**6.21**	**304**	*e*Sg	**Sg**	**21 15 36.9**	**0.0**
PVRL				*i* IAML		21 15 45.2	
PVRL				*i* IAML		21 15 49.5	
PVRL				*i* IAML		21 15 55.8	
MORF	**Marmelete**	**6.22**	**266**	*e*P	**Pn**	**21 13 49.0**	**-0.3**
MORF	**Marmelete**	**6.22**	**266**	Pn	**Pn**	**21 13 49.2**	**0.0**
MORF	**Marmelete**	**6.22**	**266**	*e*Pn	**Pn**	**21 13 49.0**	**-0.3**
MORF				*e*Sn	**Sn**	**21 14 58.4**	**-1.9**
MORF				*e*Sg	**Sg**	**21 15 36.1**	**-1.3**
MORF				*i* IAML		21 15 44.7	
MORF				*i* IAML		21 15 46.1	
PTEO	**Sao Teotonio**	**6.24**	**268**	*e*Sg	**Sg**	**21 15 32.8**	**-5.4**
PTEO				*i* IAML		21 15 53.7	
PTEO				*i* IAML		21 15 53.8	
PTEO				*i* IAML		21 15 58.8	
COI	**Coimbra**	**6.26**	**293**	*e*Sg	**Sg**	**21 15 38.4**	**-0.4**
PCAS	**Casmilo, Conde**	**6.28**	**291**	*e*Pn	**Pn**	**21 13 51.3**	**+1.2**
PCAS				*e*Sn	**Sn**	**21 15 00.1**	**-1.5**
PCAS				*e*Sg	**Sg**	**21 15 34.5**	**-4.8**
PCAS				*i* IAML		21 15 49.5	
PCAS				*i* IAML		21 15 50.3	
PCAS				*i* IAML		21 15 57.2	
POLO	**Lamas de Olo**	**6.31**	**304**	*e*Sg	**Sg**	**21 15 37.8**	**-2.3**
POLO				*i* IAML		21 15 41.8	
POLO				*i* IAML		21 15 47.7	
POLO				*i* IAML		21 15 49.5	
PFVI	**Vila Bisbo**	**6.39**	**264**	*e*Pn	**Pn**	**21 13 51.9**	**+0.4**
PFVI				*e*Sg	**Sg**	**21 15 41.6**	**-1.2**
PFVI				*i* IAML		21 15 49.2	
PFVI				*i* IAML		21 15 49.8	
PFVI				*i* IAML		21 15 59.4	
PARRA	**Arraiolos**	**6.47**	**280**	*e*Pn	Pn	21 13 42.2	-10
PARRA				*e*Sn	Sn	21 14 44.2	-22
PARRA				*e*Sg	Sb	21 15 18.5	-8.9
PARRA				*i* IAML		21 15 26.7	
PARRA				*i* IAML		21 15 29.1	
PARRA				*i* IAML		21 15 34.4	
PCAB	**Cabril**	**6.63**	**306**	*e*Sg	**Sg**	**21 15 50.0**	**-0.5**
PCAB				*i* IAML		21 15 54.1	
PCAB				*i* IAML		21 15 59.1	
PCAB				*i* IAML		21 15 59.4	
PMAFR	**Mafra**	**6.67**	**281**	*e*Sn	**Sn**	**21 15 10.1**	**-1.1**
PMAFR				*e*Sg	**Sg**	**21 15 53.9**	**+2.1**
PMAFR				*i* IAML		21 16 01.8	
PMAFR				*i* IAML		21 16 06.1	
PMAFR				*i* IAML		21 16 10.8	
PGAV	**Gavieira, Arco**	**6.92**	**307**	*e*Pn	**Pn**	**21 14 00.6**	**+1.7**
PGAV				*e*Sn	**Sn**	**21 15 15.9**	**-1.5**
PGAV				*e*Sg	**Sg**	**21 15 57.5**	**-2.2**
PGAV				*i* IAML		21 16 01.9	
PGAV				*i* IAML		21 16 07.0	
PGAV				*i* IAML		21 16 07.0	

IDC ***13*** *21:20:40.1±3.7,* **19°.00N×143°.60E, h0km, mb3.9/5, mbtmp3.9/6, ML3.2/1, MS2.7/1, Error ellipse: s-maj=119.1km s-min=73.0km az=67.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MJAR	**Matsushiro Arr**	**18.11**	**346**	P	Pn	21 24 53.1		0.0
	0.1nm,0.3s,baz=157,slow=9.1,SNR=6.9 1.5nm,0.7s							
KSRS	**Korea Array**	**22.93**	**327**	P	P	21 25 45.6		-0.2
	1.0nm,0.6s,baz=146,slow=9.0,SNR=9.6 1.0nm,0.6s							
ASAJ	**Asahikawa**	**25.06**	**358**	LR	LR	21 35 25.0		
	comp=Z,17nm,20.9s,baz=170,slow=35							
KURBB	**Kurchatov Arra**	**59.77**	**318**	P	P	21 30 46.8		-0.1
	0.4nm,0.4s,baz=90,slow=7.8,SNR=4.8 0.4nm,0.4s							
BVAR	**Borovoye Array**	**64.97**	**320**	P	P	21 31 22.1		+0.3
	0.8nm,0.4s							
ARCES	**ARCESS Array B**	**81.59**	**342**	P	P	21 32 59.9		+0.3
	1.4nm,0.9s,baz=63,slow=6.8,SNR=3.6 1.4nm,0.9s							
FINES	**FINESS Array B**	**85.77**	**335**	P	P	21 33 20.6		-0.5
	1.9nm,1.1s,baz=45,slow=5.3,SNR=3.8 1.9nm,1.1s							

WEL ***13*** *21:35:00.3±0.3, 39°.S×2°.17'.6E±', h5km, M3.4/31, ML3.6/25, MLv3.4/31, Error ellipse: s-maj=3.6km s-min=2.4km az=126.8, confirmed*
NOU ***13*** *21:35:02.6, 38°.90S×176°.06E, h4km, MLv3.6/8, North Island, New Zealand*
ISC 13 21:35:00.2±0.9, 38°.83S±0°.02×175°.95E±0°.03, h12km±6km, n47, σ0°.67/53, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
HATZ	**Hinemaiaia**	**0.13**	**120**	P	**Pg**	**21 35 03.6**		**+0.1**
HATZ				S	**Sg**	**21 35 06.0**		**+0.2**
RATZ	**Rangitukua**	**0.14**	**255**	P	**Pg**	**21 35 03.4**		**-0.3**
RATZ				S	**Sg**	**21 35 05.7**		**-0.5**
WHTZ	**Whakaora**	**0.16**	**2**	P	**Pg**	**21 35 04.5**		**+0.5**
RITZ	**Rihia Road**	**0.17**	**206**	P	**Pg**	**21 35 04.2**		**+0.1**
WATZ	**Wairara**	**0.21**	**305**	P	**Pg**	**21 35 04.5**		**-0.2**
WATZ				S	**Sg**	**21 35 07.7**		**-0.1**
KATZ	**Kakaramea**	**0.25**	**234**	P	**Pg**	**21 35 05.3**		**-0.1**
NTVZ	**North Tongarir**	**0.34**	**218**	P	**Pg**	**21 35 07.2**		**0.0**
TMVZ	**Te Maari**	**0.34**	**214**	P	**Pg**	**21 35 07.2**		**0.0**
TMVZ				S	**Sg**	**21 35 12.5**		**+0.6**
WPRZ	**Whakapapatarin**	**0.35**	**28**	P	**Pb**	**21 35 07.9**		**-0.5**
KUTZ	**Kaahu Road**	**0.35**	**344**	P	**Pg**	**21 35 07.5**		**+0.2**
KRVZ	**Karewarewa**	**0.36**	**222**	P	**Pg**	**21 35 07.4**		**-0.1**
KRVZ				S	**Sg**	**21 35 12.9**		**+0.5**
ETVZ	**East Tongariro**	**0.36**	**211**	P	**Pg**	**21 35 07.5**		**0.0**
MRHZ	**Matea Rd**	**0.36**	**91**	P	**Pb**	**21 35 08.2**		**-0.4**
NNVZ	**North Ngauruho**	**0.40**	**221**	P	**Pg**	**21 35 08.3**		**0.0**
OTVZ	**Oturere**	**0.40**	**214**	P	**Pg**	**21 35 08.3**		**+0.1**
OTVZ				S	**Sg**	**21 35 14.1**		**+0.5**
WTVZ	**West Tongariro**	**0.40**	**224**	P	**Pg**	**21 35 08.2**		**0.0**
ALRZ	**Allen Road**	**0.41**	**49**	P	**Pb**	**21 35 09.0**		**-0.3**
SNVZ	**South Ngauruho**	**0.43**	**214**	P	**Pg**	**21 35 08.9**		**+0.1**
NGZ	**Ngauruhoe**	**0.44**	**218**	P	**Pg**	**21 35 09.0**		**+0.1**
TWVZ	**Taurewa**	**0.47**	**239**	P	**Pg**	**21 35 09.1**		**-0.3**
PRRZ	**Plateau Road**	**0.48**	**47**	P	**Pb**	**21 35 10.5**		**0.0**
COVZ	**Chateau Observ**	**0.49**	**220**	P	**Pg**	**21 35 09.8**		**-0.1**
TUVZ	**Tukino**	**0.50**	**208**	P	**Pg**	**21 35 10.1**		**+0.1**
HRRZ	**Handcock Road**	**0.51**	**31**	P	**Pb**	**21 35 11.1**		**0.0**
FWVZ	**Far West T-bar**	**0.53**	**216**	P	**Pg**	**21 35 10.6**		**0.0**
MAVZ	**Matarangi**	**0.53**	**214**	P	**Pg**	**21 35 10.7**		**0.0**
WHVZ	**Whangaehu Hut**	**0.53**	**212**	P	**Pg**	**21 35 10.6**		**-0.1**
BKZ	**Black Stump Fm**	**0.54**	**129**	P	**Pb**	**21 35 11.7**		**+0.1**
BKZ	**Black Stump Fm**	**0.54**	**129**	P	**Pb**	**21 35 11.8**		**+0.1**
HSRZ	**Hossack Road**	**0.56**	**24**	P	**Pb**	**21 35 12.2**		**+0.2**
TRVZ	**Turoa**	**0.56**	**214**	P	**Pg**	**21 35 11.2**		**-0.1**
WNVZ	**Wahianoa**	**0.57**	**209**	P	**Pg**	**21 35 11.2**		**-0.1**
TLZ	**Tolley Road**	**0.59**	**327**	P	**Pg**	**21 35 11.2**		**-0.6**
MOVZ	**Moawhango**	**0.60**	**195**	P	**Pg**	**21 35 11.6**		**-0.3**
HLRZ	**Highlands Stat**	**0.66**	**29**	P	**Pb**	**21 35 14.2**		**+0.6**
PKVZ	**Pokaka**	**0.66**	**225**	P	**Pb**	**21 35 14.1**		**+0.5**
MTHZ	**Maungataniwha**	**0.70**	**92**	P	**Pn**	**21 35 14.9**		**-1.0**
KWHZ	**Kaweka Forest**	**0.70**	**148**	P	**Pn**	**21 35 14.8**		**-1.1**
MUGZ	**Murupara**	**0.73**	**62**	P	**Pn**	**21 35 15.6**		**-0.7**
KRHZ	**Kereru**	**0.88**	**158**	P	**Pn**	**21 35 17.9**		**-0.4**
URZ	**Urewera**	**1.07**	**58**	P	**Pn**	**21 35 21.8**		**+0.8**
KHEZ	**Kahui Hut**	**1.58**	**252**	P	**Pg**	**21 35 30.9**		**+0.4**
BFZ	**Birch Farm**	**1.86**	**173**	P	**Pb**	**21 35 33.9**		**-0.3**
KUZ	**Kuaotunu**	**2.09**	**355**	P	**Pg**	**21 35 40.4**		**+0.2**
**M

SBUM Sibu 49.19 63 P **P** **21 47 16.5 -0.3**
SBUM IAmb IAmb 21 47 24.9
comp=Z,15nm,1.3s
CM31 Chiang Mai Arr 51.54 36 P **P** **21 47 33.9 -0.5**
CMAR Chiang Mai Arr 51.54 36 P **P** **21 47 33.8 -0.6**
CMAR Chiang Mai Arr 51.54 36 P **P** **21 47 34.8 +0.4**
comp=Z,4.1nm,1.1s,baz=225,slow=7.0,SNR=16
CMAR LR LR 22 05 50.1
comp=Z,96nm,21.9s,baz=220,slow=32
comp=Z,4.1nm,1.1s
KAPI Kappang 51.66 76 LR LR 22 07 05.6
comp=Z,163nm,19.6s,baz=316,slow=33
BRDH Bariadhala 51.78 26 LR LR 22 07 28.7
comp=Z,234nm,20.2s,baz=192,slow=34
FITZ Fitzroy Crossi 51.96 94 LR LR 22 07 20.1
comp=Z,136nm,19.6s,baz=302,slow=33
RAYN Ar Rayn 53.67 332 P **P** **21 47 50.1 -0.1**
SHL Shillong 54.48 24 P **P** **21 47 55.8 -0.5**
SHL IAmb IAmb 21 48 14.4
comp=Z,19nm,1.3s
EVN Everest 55.02 18 P **P** **21 48 00.3 -0.4**
EVN IAmb IAmb 21 48 23.0
comp=Z,16nm,1.3s
ASAR Alice Springs 57.80 103 P **P** **21 48 20.0 0.0**
ASAR Alice Springs 57.80 103 P **P** **21 48 19.7 -0.4**
comp=Z,1.8nm,0.8s,baz=252,slow=5.9,SNR=13
ASAR LR LR 22 11 28.1
comp=Z,145nm,18.8s,baz=304,slow=34
comp=Z,1.8nm,0.8s
LSA Lhasa 57.99 22 P **P** **21 48 20.7 -0.9**
NIL Nilore 58.33 3 P **P** **21 48 23.5 +0.1**
QIZ Qiongzhong 58.45 45 P **P** **21 48 24.8 +0.4**
QIZ S **S** **21 56 29.8 +1.9**
QIZ LR LR
comp=Z,300nm,17.4s
QIZ LR LR
comp=Z,620nm,22.8s
KBL Kabul 59.14 359 P **P** **21 48 28.6 -0.6**
KBL IAmb IAmb 21 48 37.2
comp=Z,10nm,1.0s
WRA Warramunga Arr 59.25 99 P **P** **21 48 29.5 -0.6**
WRA Warramunga Arr 59.25 99 P **P** **21 48 29.7 -0.4**
comp=Z,3.7nm,1.0s,baz=255,slow=7.0,SNR=8.6
WRA LR LR 22 11 34.0
comp=Z,283nm,20.5s,baz=54,slow=34
comp=Z,3.7nm,1.0s
TROLL Troll, Antarti 59.56 199 ⇑P **P** **21 48 32.6 +0.9**
comp=Z,264nm,0.9s
PZH PanZhiHua 59.63 33 P P 21 48 38.1 +5.5
PZH pmax pmax
comp=Z,10.0nm,1.4s
SNAA Sanae 61.15 200 ⇓P **P** **21 48 42.6 +0.2**
comp=Z,84nm,0.9s
SNAA Sanae 61.15 200 P **P** **21 48 42.6 +0.2**
SNAA Sanae 61.15 200 P **P** **21 48 42.4 -0.1**
comp=Z,4.4nm,0.9s,baz=82,slow=5.2,SNR=12
SNAA LR LR 22 12 02.0
comp=Z,22nm,19.2s,baz=60,slow=33
comp=Z,4.4nm,0.9s
STKA Stephens Creek 62.39 114 LR LR 22 12 19.4
comp=Z,140nm,19.8s,baz=228,slow=33
VNA2 Neumayer--Watz 62.54 201 ⇑P **P** **21 48 52.1 +0.4**
comp=Z,4.6nm,0.8s,baz=76,slow=2.8
VNA1 Neumayer--Stat 62.82 202 ⇑P **P** **21 48 54.7 +1.2**
comp=Z,7.4nm,0.8s
TGY Tagaytay City 63.05 58 LR LR 22 14 04.2
comp=Z,177nm,19.6s,baz=169,slow=34
SIMJ Simiganj 63.25 359 P **P** **21 48 56.3 -0.6**
SIMJ IAmb IAmb 21 49 04.0
comp=Z,14nm,1.4s
GAR Garm 63.58 0 P **P** **21 48 57.5 -1.6**
EIL Elat 63.84 326 P **P** **21 49 00.7 -0.1**
comp=Z,6.1nm,0.9s,baz=38,slow=4.4,SNR=4.6
EIL LR LR 22 11 58.3
comp=Z,40nm,21.8s,baz=68,slow=32
comp=Z,6.1nm,0.9s
KSH Kashi 64.34 5 P **P** **21 49 01.3 -2.8**
KSH pmax pmax
comp=Z,10.0nm,0.7s
BTK Batken 64.64 1 P **P** **21 49 05.2 -0.8**
BTK IAmb IAmb 21 49 13.4
comp=Z,9.5nm,1.1s
ASF Jabal al Asfar 64.95 329 P **P** **21 49 08.1 0.0**
comp=Z,7.1nm,1.0s,baz=164,slow=4.9,SNR=5.2
comp=Z,7.1nm,1.0s
QSPA South Pole Qui 65.21 180 P **P** **21 49 09.1 -0.5**
QSPA South Pole Qui 65.21 180 P **P** **21 49 09.7 +0.2**
comp=Z,16nm,1.0s,baz=272,slow=2.0,SNR=29
comp=Z,16nm,1.0s
ARSB Arslanbob 65.96 2 P **P** **21 49 13.3 -1.3**
ARSB IAmb IAmb 21 49 21.9
comp=Z,9.3nm,0.8s
NRN Naryn 66.25 5 P **P** **21 49 15.2 -1.5**
NRN IAmb IAmb 21 49 23.9
comp=Z,5.3nm,1.0s
VNDA Vanda 66.27 166 P **P** **21 49 15.3 -0.7**
VNDA Vanda 66.27 166 P **P** **21 49 15.4 -0.6**
comp=Z,4.1nm,1.0s,baz=273,slow=6.8,SNR=16
comp=Z,4.1nm,1.0s
MMAI Mount Meron Ar 66.35 329 P **P** **21 49 16.5 -0.7**
comp=Z,16nm,1.1s,baz=239,slow=18,SNR=5.4
comp=Z,16nm,1.1s
BOOM Boomskoye usch 67.30 5 P **P** **21 49 22.1 -1.0**
BOOM IAmb IAmb 21 49 25.6
comp=Z,4.6nm,0.8s
AAK Ala-Archa 67.35 4 P **P** **21 49 21.8 -1.6**
AAK IAmb IAmb 21 49 31.3
comp=Z,10nm,1.2s
AAK Ala-Archa 67.35 4 LR LR 22 16 32.0
comp=Z,104nm,19.6s,baz=147,slow=34
KK31 Karatay Array 67.68 0 P **P** **21 49 25.4 0.0**
KKAR Karatay Array 67.68 0 P **P** **21 49 25.2 -0.2**
GURO Guroymak-BITLI 68.34 337 P **P** **21 49 30.1 +0.3**
LZH Lanzhou 68.60 29 *eP* **P** **21 49 32.8 +1.3**
LZH pmax pmax
comp=Z,11nm,1.3s
LZH LR LR
comp=Z,200nm,14.4s
LZH LR LR
comp=Z,180nm,14.1s
LZH LR LR
comp=Z,260nm,14.1s
GNI Garni 68.86 340 LR LR 22 17 30.3
comp=Z,39nm,18.8s,baz=138,slow=34
HOMI Horasan 69.72 337 ⇓P **P** **21 49 40.9 +2.5**
GTA Gaotai 69.81 24 *eP* **P** **21 49 39.9 +1.0**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA LR LR
comp=Z,130nm,14.5s
GTA LR LR
comp=Z,130nm,16.4s
GTA LR LR
comp=Z,130nm,18.2s
KOPT Kop Dagi 70.20 336 P **P** **21 49 41.0 -0.4**
KOPT IAmb IAmb 21 49 46.0
comp=Z,18nm,1.2s
WMQ Urumqi 70.31 14 *eP* **P** **21 49 43.8 +2.0**
BNN Bunyan 71.02 332 P **P** **21 49 46.3 +0.1**
BNN IAmb IAmb 21 49 49.0
comp=Z,8.7nm,1.2s
KIRS Kirsehir-Merke 72.08 331 ⇓P **P** **21 49 54.1 +1.5**
MAKZ Makanchi 72.21 9 P **P** **21 49 53.3 +0.2**
MAKZ IAmb IAmb 21 50 05.5
comp=Z,9.6nm,1.4s
MKAR Makanchi Array 72.24 9 P **P** **21 49 52.6 -0.7**
MKAR Makanchi Array 72.24 9 P **P** **21 49 52.9 -0.4**
comp=Z,3.0nm,0.6s,baz=195,slow=6.5,SNR=24
comp=Z,3.0nm,0.6s
BR104 Keskin Array S 72.67 331 P **P** **21 49 55.9 -0.3**
comp=Z,39nmcomp=Z,4.7nm,1.1s
KBZ Khabaz 72.69 340 P **P** **21 49 56.2 +0.3**
comp=Z,2.6nm,0.8s,baz=192,slow=9.9,SNR=4.7
comp=Z,2.6nm,0.8s
BR131 Keskin Array S 72.69 331 P **P** **21 49 56.0 -0.3**
BR131 IAmb IAmb 21 49 57.8
comp=Z,9.3nm,1.2s
BRTR Keskin Array B 72.69 331 P **P** **21 49 56.1 -0.2**
BRTR Keskin Array B 72.69 331 P **P** **21 49 55.7 -0.6**
comp=Z,4.6nm,1.0s,baz=157,slow=6.7,SNR=21
BRTR LR LR 22 20 43.5
comp=Z,59nm,18.4s,baz=132,slow=35
comp=Z,4.6nm,1.0s
BR105 Keskin Array S 72.69 331 P **P** **21 49 56.0 -0.3**
comp=Z,56nmcomp=Z,5.4nm,1.1s
BR106 Keskin Array S 72.71 331 P **P** **21 49 56.1 -0.3**
comp=Z,43nmcomp=Z,4.4nm,1.1s

ANTO Ankara 73.18 331 P **P** **21 49 58.5 -0.6**
ANTO IAmb IAmb 21 50 16.6
comp=Z,26nm,1.8s
NJ2 Nanjing 73.41 42 *eP* **P** **21 50 01.1 +0.6**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
ILGA Ilgaz 73.75 332 P **P** **21 50 02.8 +0.2**
ILGA IAmb IAmb 21 50 16.0
comp=Z,10nm,1.1s
MANT Manisa 74.05 327 P **P** **21 50 04.2 -0.3**
MANT IAmb IAmb 21 50 12.8
comp=Z,22nm,1.4s
AB31 Akbulak array 74.38 353 P **P** **21 50 05.5 -0.3**
AB31 IAmb IAmb 21 50 13.2
comp=Z,10nm,0.8s
ABKAR Akbulak array 74.38 353 P **P** **21 50 05.4 -0.3**
MDUB Mudurnu 74.38 330 P **P** **21 50 05.9 -0.3**
KURBB Kurchatov Arra 75.59 6 P **P** **21 50 12.7 -0.1**
comp=Z,3.6nm,0.8s,baz=202,slow=6.4,SNR=14
comp=Z,3.6nm,0.8s
KURK Kurchatov 75.69 6 P **P** **21 50 13.2 -0.1**
KURK IAmb IAmb 21 50 21.0
comp=Z,16nm,1.1s
AKTO Aktyubinsk 75.76 352 P **P** **21 50 13.8 0.0**
comp=Z,5.4nm,0.8s,baz=224,slow=1.9,SNR=7.7
comp=Z,5.4nm,0.8s
HHC Hu-ho-hao-te 76.00 31 *eP* **P** **21 50 17.8 +2.3**
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,71nm,6.4s
HHC LR LR
comp=Z,120nm,14.3s
HHC LR LR
comp=Z,130nm,14.7s
HHC LR LR
comp=Z,160nm,15.1s
EZN Ezine 76.18 327 ⇑P **P** **21 50 17.0 +0.6**
EZN Ezine 76.18 327 P **P** **21 50 16.8 +0.4**
comp=Z,14nm,1.0s
BVAR Borovoye Array 77.61 0 P **P** **21 50 24.2 0.0**
comp=Z,2.0nm,0.6s
comp=Z,2.0nm,0.6s
BRVK Borovoye 77.64 0 P **P** **21 50 23.7 -0.6**
SHAB Shabla 77.99 331 ⇓P P 21 50 35.6 +9.1
TAM Tamanrasset 78.45 302 P **P** **21 50 29.4 -0.3**
ELND Elena 78.77 329 ⇑P **P** **21 50 31.6 +0.8**
TIRR Tirgusor 78.80 331 P **P** **21 50 30.6 -0.3**
comp=Z,16nm,1.1s
DBIC Dimbokro 79.17 283 LR LR 22 24 10.5
comp=Z,162nm,18.2s,baz=151,slow=35
BELG Belogornoye 79.42 346 P **P** **21 50 34.1 0.0**
comp=Z,21nm,0.9s,baz=86,slow=5.4,SNR=10
comp=Z,21nm,0.9s
FNA Florina 79.42 325 P **P** **21 50 33.7 -0.9**
SONM Songino Array 79.48 24 P **P** **21 50 34.6 -0.2**
SONM Songino Array 79.48 24 P **P** **21 50 34.5 -0.3**
comp=Z,2.8nm,1.0s,baz=212,slow=5.6,SNR=13
SONM LR LR 22 29 02.8
comp=Z,80nm,18.4s,baz=179,slow=38
comp=Z,2.8nm,1.0s
CFR Carcaliu 79.49 331 ⇑P **P** **21 50 35.4 +0.7**
KEK Kerkira 79.51 323 P **P** **21 50 35.3 +0.4**
ZAA0 Zalesovo Array 79.58 9 P **P** **21 50 34.4 -0.6**
ZAA0 IAmb IAmb 21 50 42.0
comp=Z,14nm,1.2s
ZALV Zalesovo Beam 79.58 9 P **P** **21 50 34.2 -0.8**
ZALV Zalesovo Beam 79.58 9 P **P** **21 50 34.7 -0.3**
comp=Z,3.8nm,0.5s,baz=196,slow=5.0,SNR=17
comp=Z,3.8nm,0.5s
ULN Ulaanbaatar 79.75 24 P **P** **21 50 36.0 -0.3**
PURM Purcari 79.83 333 P **P** **21 50 36.6 +0.1**
SULR 79.94 330 ⇑P **P** **21 50 38.6 +1.5**
ISR Istrita 80.15 330 ⇓P **P** **21 50 39.9 +1.6**
ISR Istrita 80.15 330 P **P** **21 50 39.0 +0.6**
comp=Z,30nm,1.1s
ODBI Odobesti 80.42 331 P **P** **21 50 39.6 -0.1**
comp=Z,445nmcomp=Z,12nm,0.9s
GHRR 80.50 331 P **P** **21 50 39.5 -0.7**
MILM Milestii Mici 80.58 333 ⇑P **P** **21 50 40.3 -0.3**
VRI Vrincioaia 80.64 331 ⇑P **P** **21 50 42.2 +1.2**
VRI Vrincioaia 80.64 331 P **P** **21 50 41.0 0.0**
comp=Z,30nm,1.0s
PLOR5 Plostina Array 80.66 331 P **P** **21 50 41.2 +0.1**
comp=Z,29nm,0.9s
PLOR5 pP **sP** **21 50 44.0 +0.1**
comp=Z,29nm,0.9s
PLOR Plostina 80.67 331 ⇑P **P** **21 50 42.3 +1.1**
MLR Muntele Rosu 80.70 330 P **P** **21 50 41.0 -0.4**
MLR Muntele Rosu 80.70 330 P **P** **21 50 41.9 +0.5**
comp=Z,17nm,1.0s,baz=174,slow=3.3,SNR=22
MLR Muntele Rosu 80.70 330 ⇑P **P** **21 50 42.7 +1.2**
MLR Muntele Rosu 80.70 330 P **P** **21 50 41.4 -0.1**
comp=Z,21nm,1.2s
COVR Voineasa-Covas 80.86 331 ⇑P **P** **21 50 42.6 +0.5**
VOIR 81.07 330 ⇑P **P** **21 50 43.5 +0.1**
VOIR 81.07 330 P **P** **21 50 43.4 +0.1**
comp=Z,9.2nm,1.0s
TURR Turia 81.11 331 ⇑P **P** **21 50 44.0 +0.5**
TESR Tescani 81.18 331 P **P** **21 50 43.4 -0.4**
comp=Z,9.7nm,1.0s
DOPR Dopca 81.32 330 ⇑P **P** **21 50 44.8 +0.3**
ARTI Arti 81.58 354 P **P** **21 50 45.5 -0.2**
ARTI IAmb IAmb 21 50 53.4
comp=Z,12nm,0.9s
ARTI Arti 81.58 354 P **P** **21 50 46.4 +0.7**
comp=Z,9.7nm,1.0s,baz=200,slow=4.0,SNR=12
ARTI LR LR 22 26 56.3
comp=Z,52nm,18.4s,baz=122,slow=36
comp=Z,9.7nm,1.0s
LOT Lotru 81.67 329 ⇑P **P** **21 50 46.6 +0.1**
SORM Soroca 81.74 333 ⇑P **P** **21 50 47.4 +0.7**
SORM Soroca 81.74 333 P **P** **21 50 45.1 -1.6**
comp=Z,8.9nm,0.9s
BIZ Bicaz 81.75 331 ⇓P **P** **21 50 49.1 +2.3**
JNU Nakatsue 81.81 48 LR LR 22 23 55.1
comp=Z,57nm,21.2s,baz=183,slow=33
HERR Herculane 81.89 328 ⇑P **P** **21 50 47.7 +0.1**
MDB Medias 81.91 330 ⇓P **P** **21 50 49.1 +1.4**
SMAI San Martin Ant 81.98 195 P **P** **21 50 47.4 -0.5**
SMAI IAmb IAmb 21 50 55.6
comp=Z,6.4nm,0.9s
GZR Gura Zlata 82.09 329 ⇑P **P** **21 50 49.5 +0.8**
NDNU Novodnistrovsk 82.50 333 P **P** **21 50 50.1 -0.6**
KSAR Wonju Array Be 82.53 43 P **P** **21 50 50.0 -1.1**
KSRS Korea Array 82.56 43 P **P** **21 50 51.4 +0.1**
comp=Z,7.7nm,0.7s,baz=240,slow=5.4,SNR=6.1
comp=Z,0.7nm,0.7s
BURAR Bucovina Array 82.65 331 P **P** **21 50 52.1 +0.4**
BURAR Bucovina Array 82.65 331 ⇓P **P** **21 50 52.9 +1.2**
SURR Surduc 82.67 328 ⇓P **P** **21 50 52.5 +0.8**
BUR08 Bucovina Ar. S 82.68 331 P **P** **21 50 50.8 -1.0**
BUR08 IAmb IAmb 21 50 54.1
comp=Z,8.2nm,1.2s
CJR Cluj-Napoca 82.69 330 ⇑P **P** **21 50 52.9 +1.1**
BZS Buzias 82.81 328 ⇑P **P** **21 50 53.1 +0.7**
KMPD K-Podol'skiy 82.86 333 P **P** **21 50 51.5 -1.0**
DRGR 83.16 329 ⇑P **P** **21 50 55.0 +0.8**
KEST Kesra 83.17 314 P **P** **21 50 54.5 0.0**
KEST IAmb IAmb 21 51 03.9
comp=Z,14nm,1.1s
KEST Kesra 83.17 314 P **P** **21 50 54.6 0.0**
comp=Z,12nm,1.1s,baz=130,slow=2.2,SNR=7.5
KEST LR LR 22 28 46.6
comp=Z,76nm,18.2s,baz=345,slow=36
comp=Z,12nm,1.1s
KSV Kosov 83.25 332 P **P** **21 50 53.7 -1.0**
SIRR Siria 83.26 329 ⇓P **P** **21 50 55.4 +0.6**
AK07 Malin Array Si 83.33 335 P **P** **21 50 54.1 -0.8**
AK10 Malin Array Si 83.35 335 P **P** **21 50 54.2 -0.8**
AK09 Malin Array Si 83.35 335 P **P** **21 50 54.2 -0.8**
AK06 Malin Array Si 83.36 335 P **P** **21 50 54.3 -0.8**
HORU Horodok 83.38 333 P **P** **21 50 54.4 -0.8**
AK08 Malin Array Si 83.38 335 P **P** **21 50 54.4 -0.8**
AK05 Malin Array Si 83.39 335 P **P** **21 50 54.0 -1.2**
LUBAR Lubar, Ukraine 83.39 334 P **P** **21 50 54.3 -1.0**
AK02 Malin Array Si 83.42 335 P **P** **21 50 54.4 -1.0**
AK12 Malin Array Si 83.42 335 P **P** **21 50 54.4 -1.0**
AK14 Malin Array Si 83.43 335 P **P** **21 50 54.5 -1.0**
AK01 Malin Array Si 83.44 335 P **P** **21 50 54.5 -1.0**
AKASG Malin Array Be 83.44 335 P **P** **21 50 55.2 -0.3**
comp=Z,2.6nm,0.7s,baz=143,slow=4.2,SNR=12
comp=Z,2.6nm,0.7s
AKBB Malin Array Si 83.44 335 P **P** **21 50 54.8 -0.7**
AKBB IAmb IAmb 21 50 56.2
comp=Z,6.9nm,0.8s
AKBB Malin Array Si 83.44 335 P **P** **21 50 54.5 -1.0**
KIEV Kiev 83.44 335 P **P** **21 50 54.8 -0.7**
KIEV IAmb IAmb 21 50 56.3
comp=Z,6.2nm,0.8s
KIEV Kiev 83.44 335 ⇓P **P** **21 50 55.5 0.0**
KIEV Kiev 83.44 335 P **P** **21 50 54.5 -1.0**
comp=Z,36nm,0.9s
AK11 Malin Array Si 83.45 335 P **P** **21 50 54.5 -1.0**
BMR Baia Mare 83.46 330 ⇑P **P** **21 50 54.9 -0.8**
AK16 Malin Array Si 83.46 335 P **P** **21 50 54.6 -1.0**
AK03 Malin Array Si 83.46 335 P **P** **21 50 54.6 -1.0**
AK15 Malin Array Si 83.48 335 P **P** **21 50 54.7 -1.0**
PMSA Palmer Station 83.78 198 LR LR 22 25 38.4
comp=Z,106nm,20.2s,baz=114,slow=34
MORH Mrgy, Hungar 84.69 327 ⇑P **P** **21 51 02.6 +0.6**
KOLS Kolonicke sedl 84.94 331 *eP* **P** **21 51 04.1 +0.9**
RNPP5 Staryi Chortor 85.16 334 P **P** **21 51 03.7 -0.5**
RNPP8 Varash 85.25 334 P **P** **21 51 02.7 -2.0**
KWP Kalwaria Pacla 85.27 331 *eP* **P** **21 51 04.8 0.0**
KWP Kalwaria Pacla 85.27 331 P **P** **21 51 04.3 -0.6**
comp=Z,19nm,1.1s
RNPP9 Sopachiv 85.30 334 P **P** **21 51 04.4 -0.5**
RNPP1 Kostyukhnivka 85.30 334 P **P** **21 51 03.2 -1.7**
MPLH Magyarpolny 85.90 327 P **P** **21 51 08.4 +0.4**
KOGS Kog 86.05 326 *i* P **P** **21 51 08.9 +0.1**
VYHS Vyhne 86.20 329 *eP* **P** **21 51 10.3 +0.8**
VYHS *e* 21 51 15.8
LANS Liptovska Anna 86.37 329 *eP* **P** **21 51 11.6 +1.2**
GROS Grobnik 86.44 326 *i* P **P** **21 51 10.8 0.0**
DZM Mont Dzumac 86.48 113 *e*LR LR 22 18 32.9
comp=Z,171nm,25.0s
MODS Modra-Piesok 86.86 328 *eP* **P** **21 51 12.0 -0.8**
RONA Rosalia, Austr 86.88 327 *i* P **P** **21 51 13.5 +0.6**
comp=Z,20nm,1.2s,SNR=7.6
ARSA Arzberg 86.96 326 P **P** **21 51 13.2 -0.1**
ARSA IAmb IAmb 21 51 25.9
comp=Z,7.9nm,1.0s
ARSA Arzberg 86.96 326 *i* P **P** **21 51 14.3 +1.0**
comp=Z,9.1nm,1.1s,SNR=6.2
OBKA Obir 86.96 325 *ep*P pP 21 51 18.7 +3.3
comp=Z,7.4nm,1.1s
OJC Ojcow 86.98 330 *eP* **P** **21 51 12.4 -0.9**
OJC Ojcow 86.98 330 P **P** **21 51 13.0 -0.3**
JAVC Velka Javorina 87.01 328 *eP* **P** **21 51 14.6 +1.1**
CONA Conrad Observa 87.25 327 *i* P **P** **21 51 14.9 +0.1**
comp=Z,20nm,1.3s,SNR=11
MYKA Terra Mystica 87.51 325 *i* P **P** **21 51 17.4 +1.4**
comp=Z,4.4nm,0.5s
MORC Moravsky Berou 87.70 329 **P** **21 51 16.6 -0.3**
MORC Moravsky Berou 87.70 329 *eP* **P** **21 51 17.0 +0.1**
STEB Steborice 87.71 329 *eP* **P** **21 51 16.9 +0.1**
STEB *ep*P **pwP** **21 51 23.3 0.0**
TEOL Teolo 87.74 323 P **P** **21 51 16.8 -0.3**
KRUC Moravsky 87.76 328 *eP* **P** **21 51 17.0 -0.1**
VRAC Vranov 87.83 328 *eP* **P** **21 51 17.4 0.0**
KBA Koelnbreinsper 87.96 325 *i* P **P** **21 51 18.8 +0.5**
comp=Z,4.8nm,0.8s
MOA Molln 87.99 326 *i* P **P** **21 51 18.5 +0.2**
comp=Z,13nm,0.8s,SNR=11
ABTA Abfaltersbach 88.18 325 *i* P **P** **21 51 19.7 +0.5**
comp=Z,18nm,1.2s,SNR=7.5
BIOA Bad Ischl, Aus 88.21 326 *i* P **P** **21 51 19.6 +0.4**
comp=Z,11nm,1.2s,SNR=6.5
KRLC Kraliky 88.27 329 *eP* **P** **21 51 20.2 +0.7**
SUW Suwalki 88.35 335 P **P** **21 51 19.2 -0.6**
TREC Trest 88.35 328 *eP* **P** **21 51 20.0 +0.1**
TREC *ep*P **pwP** **21 51 26.1 -0.3**
LESA Schwarzleotal 88.53 325 *i* P **P** **21 51 20.7 -0.2**
comp=Z,11nm,1.0s,SNR=7.0
DPC Dobruska-Polom 88.67 329 *eP* **P** **21 51 21.7 +0.3**
DPC *ep*P **pwP** **21 51 28.1 +0.2**
GEC2 GERESS Array S 88.93 327 P **P** **21 51 22.1 -0.7**
GEC2 IAmb IAmb 21 51 29.7
comp=Z,6.7nm,1.2s
GERES GERESS Array B 88.93 327 P **P** **21 51 21.9 -0.9**
GERES GERESS Array B 88.93 327 P **P** **21 51 21.0 -1.7**
comp=Z,2.0nm,0.9s,baz=180,slow=1.3,SNR=13
comp=Z,2.0nm,0.9s
CHVC Chvalec 88.96 329 *eP* **P** **21 51 23.3 +0.6**
CHVC *ep*P **pwP** **21 51 29.2 0.0**
WTTA Wattenberg 88.97 325 *i* P **P** **21 51 23.3 +0.2**
comp=Z,18nm,1.3s,SNR=9.3
KSP Ksiaz 89.02 329 *eP* **P** **21 51 23.7 +0.7**
WATA Walderalm 89.05 325 *i* P **P** **21 51 23.6 +0.2**
comp=Z,12nm,1.0s,SNR=7.8
USRK Ussuriysk Ar. 89.13 39 LR LR 22 28 40.4
comp=Z,51nm,21.7s,baz=208,slow=34
SQTA Sankt Quirin 89.17 324 *i* P **P** **21 51 24.3 +0.4**
comp=Z,5.3nm,0.6s,SNR=9.8
KHC Kasperske Hory 89.18 327 *eP* **P** **21 51 23.5 -0.3**
PRU Pruhonice 89.27 328 *eP* **P** **21 51 24.7 +0.5**
PRU *ep*P **pwP** **21 51 31.3 +0.6**
FETA Feichten 89.30 324 *i* P **P** **21 51 25.5 +0.9**
comp=Z,24nm,1.2s,SNR=14
FUORN Ofenpass-Fuorn 89.30 323 **P** **21 51 25.0 +0.2**
MOTA Moosalm 89.30 324 *i* P **P** **21 51 25.0 +0.4**
comp=Z,16nm,1.2s,SNR=6.5
RETA Reutte 89.57 324 *i* P **P** **21 51 26.2 +0.4**
comp=Z,14nm,1.5s,SNR=5.2
TUE Stuetta 89.70 323 **P** **21 51 25.7 -0.9**
TUE IAmb IAmb 21 51 34.0
comp=Z,9.6nm,0.9s
DAVA Damuels 89.92 324 *i* P **P** **21 51 28.1 +0.6**
comp=Z,14nm,0.9s,SNR=7.6
BRG Berggiesshubel 90.15 328 *eP* **P** **21 51 29.6 +1.4**
BRG Amp 21 51 30.3
comp=Z,6.8nm,1.2s
BRG Berggiesshubel 90.15 328 P P 21 51 35.7 +7.5
BRG Amp 21 51 36.7
comp=Z,3.8nm,1.1s
BNI Bardonecchia 90.35 321 **P** **21 51 28.8 -0.8**
BNI IAmb IAmb 21 51 31.9
comp=Z,5.9nm,1.1s
GRA1 Grafenberg Arr 90.72 326 P **P** **21 51 30.3 -0.7**
GRFO Grafenberg 90.72 326 P **P** **21 51 30.2 -0.8**
SENIN Lac Senin/Sane 90.77 322 P **P** **21 51 31.0 -0.5**
SENIN IAmb IAmb 21 51 42.7
comp=Z,5.8nm,0.9s
CLL Collm 90.88 328 *i* P **P** **21 51 32.0 +0.3**
comp=Z,7.0nm,1.3s
MDT Midelt 91.28 306 LR LR 22 33 29.1
comp=Z,63nm,18.0s,baz=120,slow=36
FINES FINESS Array B 93.04 341 P **P** **21 51 41.0 -0.4**
comp=Z,0.6nm,0.5s,baz=150,slow=1.1,SNR=4.8
comp=Z,0.6nm,0.5s
ESDC Sonseca Array 94.14 312 P **P** **21 51 46.0 -1.1**
ESDC IAmb IAmb 21 51 48.6
comp=Z,4.1nm,1.2s
ESDC Sonseca Array 94.14 312 P **P** **21 51 46.8 -0.3**
comp=Z,2.1nm,1.1s,baz=115,slow=3.9,SNR=7.8
ESDC LR LR 22 35 07.9
comp=Z,39nm,18.1s,baz=117,slow=36
comp=Z,2.1nm,1.1s
NRIK Noril'sk 94.85 6 LR LR 22 32 55.5
comp=Z,90nm,21.0s,baz=161,slow=34
ASAJ Asahikawa 95.48 44 LR LR 22 32 02.3
comp=Z,41nm,20.4s,baz=202,slow=34
NOA NORSAR Array B 97.86 335 P **P** **21 52 02.5 -1.0**
comp=Z,0.8nm,0.9s,baz=121,slow=4.0,SNR=3.4
comp=Z,0.8nm,0.9s
YAK Yakutsk 98.84 24 LR LR 22 40 44.2
comp=Z,43nm,18.6s,baz=179,slow=38
ARCES ARCESS Array B 99.45 346 LR LR 22 36 30.9
comp=Z,30nm,20.6s,baz=118,slow=35
TBI Tubuai 118.66 138 *e*LR LR 22 33 26.6
comp=Z,266nm,27.0s
PPT2 Papeete2 122.83 134 *e*LR LR 22 35 19.4
comp=Z,62nm,26.0s
T57A Hurt 151.11 302 PKPbc **PKPbc** **21 58 20.8 -0.9**
Q54A Coxs Mills 151.66 307 PKPbc **PKPbc** **21 58 22.3 -0.6**
P53A Whipple 151.88 308 PKPbc **PKPbc** **21 58 23.1 -0.4**
BLA Blacksburg 151.94 303 PKPbc **PKPbc** **21 58 23.3 -0.4**
P52A Corning 152.35 309 PKPbc **PKPbc** **21 58 23.4 -1.0**
EYMN Ely 152.74 332 PKPbc **PKPbc** **21 58 24.3 -0.8**
PDAR Pinedale Array 162.19 359 PKP **PKPdf** **21 58 29.8 -0.5**
comp=Z,1.2nm,1.0s,baz=132,slow=2.2,SNR=7.2
PDAR PKPab **PKPab** **21 59 16.7 -0.2**
comp=Z,0.4nm,0.8s,baz=11,slow=2.0,SNR=1.8
TXAR Lajitas Array 172.81 309 PKP **PKPdf** **21 58 38.6 +0.6**
comp=Z,0.6nm,0.9s,baz=90,slow=1.3,SNR=5.1
TXAR PKPab **PKPab** **22 00 04.8 +0.6**
comp=Z,1.0nm,0.9s,baz=37,slow=4.0,SNR=7.5
TXAR PP **PP** **22 03 58.2 +2.7**
comp=Z,0.8nm,1.0s,baz=56,slow=5.0,SNR=4.8

TXAR Lajitas Array 172.81 309 PKPab 22 00 04.8 +0.6
TXAR Lajitas Array 172.81 309 PKIKP PKPdf 21 58 38.7 +0.6

MOS ***13*** *21:40:32.4±0.8, 36°.46N×71°.19E, h238km, mb4.1/9, Error ellipse: s-maj=9.3km s-min=5.6km az=89.6*
NEIC ***13*** *21:40:33.7±1.4, 36°.50N±0°.07×71°.15E±0°.06, h234km±7km, mb4.3/14, Error ellipse: s-maj=10.1km s-min=7.1km az=162.0*
IDC ***13*** *21:40:34.2±2.3, 36°.45N×71°.21E, h244km±24km, mb3.4/19, mbtmp4.0/24, Error ellipse: s-maj=13.2km s-min=11.0km az=48.0*
NNC ***13*** *21:40:36.1±4.5, 36°.74N×71°.22E, h215km±43km, mb3.1, mpv4.2, Error ellipse: s-maj=41.6km s-min=23.4km az=20.0*

ISC 13 21:40:33.9±0.4, **36°.41N**±0°.04×**71°.23E**±0°.04, **h250**km, **n150**, σ1.9**91**/163, **mb3.9**/27, **5C-6D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.58**	**224**			**Pn**	**21 41 20.6**	**-1.7**
KBL	**Kabul**	**2.58**	**224**	P		**Pn**	**21 41 20.8**	**-1.4**
KBL				S		**S**	**21 41 55.3**	**-5.1**
KBL	**Kabul**	**2.58**	**224**	PN		**Pn**	**21 41 20.6**	**-1.7**
GAR	**Garm**	**2.69**	**345**			**Pn**	**21 41 20.7**	**-2.4**
SIMJ	**Simiganj**	**2.86**	**322**			**Pn**	**21 41 22.1**	**-2.8**
NIL	**Nilore**	**3.21**	**148**			**Pn**	**21 41 28.7**	**-0.1**
NIL	**Nilore**	**3.21**	**148**	P		Pn	21 41 24.5	-4.3
NIL	**Nilore**	**3.21**	**148**	PN		**Pn**	**21 41 28.7**	**-0.1**
BTK	**Batken**	**3.66**	**355**			**Pn**	**21 41 32.5**	**-1.2**
BTK	**Batken**	**3.66**	**355**	PN		**Pn**	**21 41 32.5**	**-1.2**
SRNI	**Srinagar**	**3.75**	**127**	*eS*		**S**	**21 42 17.5**	**-5.6**
SRNI					IAML		21 42 22.4	
	comp=E,2μm,0.4s							
SRNI					IAML		21 42 31.1	
	comp=E,2μm,0.2s							
JMU	**Jammu**	**4.77**	**140**	*eP*		**Pn**	**21 41 45.8**	**-1.1**
JMU				*eS*		**S**	**21 42 41.0**	**-3.9**
JMU					IAML		21 42 42.6	
	comp=E,395nm,0.5s							
JMU					IAML		21 42 56.9	
	comp=E,383nm,0.5s							
KSH	**Kashi**	**4.86**	**49**	Pn		Pn	21 41 41.8	-6.3
KSH				Sn		S	21 42 33.3	-14
KSH					smax	smax		
	comp=N,230nm,0.6s							
KSH					smax	smax		
	comp=E,200nm,0.8s							
ARSB	**Arslanbob**	**5.09**	**15**	Pn		**Pn**	**21 41 48.7**	**-2.2**
ARSB	**Arslanbob**	**5.09**	**15**	PN		**Pn**	**21 41 48.7**	**-2.2**
NRN	**Naryn**	**6.24**	**35**			**Pn**	**21 42 02.3**	**-3.0**
NRN	**Naryn**	**6.24**	**35**	PN		**Pn**	**21 42 02.3**	**-3.0**
UCH	**Uchtor**	**6.34**	**23**	P		**Pn**	**21 42 05.3**	**-1.3**
	SNR=243							
EKS2	**Erkin-Say**	**6.55**	**17**	P		**Pn**	**21 42 07.4**	**-1.5**
	SNR=36							
BHK	**Bhakra**	**6.58**	**138**	*eP*		**Pn**	**21 42 08.9**	**-0.5**
BHK				*eS*		**S**	**21 43 25.3**	**-0.6**
BHK					IAML		21 43 26.8	
	comp=E,179nm,0.5s							
BHK					IAML		21 43 37.0	
	comp=E,190nm,0.3s							
KK31	**Karatay Array**	**6.71**	**355**			**Pn**	**21 42 08.8**	**-2.0**
KK31	**Karatay Array**	**6.71**	**355**	⇓P		**Pn**	**21 42 08.6**	**-2.2**
	comp=E,4.9nm,0.3s,baz=179,slow=12,SNR=197							
KK31				⇑S		**S**	**21 43 21.5**	**-7.0**
	comp=E,46nm,0.4s,baz=182,slow=24,SNR=6.1							
KK31	**Karatay Array**	**6.71**	**355**	PN		**Pn**	**21 42 08.8**	**-2.0**
KKAR	**Karatay Array**	**6.71**	**355**			**Pn**	**21 42 08.6**	**-2.2**
KKAR	**Karatay Array**	**6.71**	**355**	PN		**Pn**	**21 42 08.6**	**-2.2**
AAK	**Ala-Archa**	**6.71**	**21**	P		**Pn**	**21 42 10.2**	**-0.8**
	SNR=32							
AAK	**Ala-Archa**	**6.71**	**21**			**Pn**	**21 42 09.9**	**-1.0**
AAK	**Ala-Archa**	**6.71**	**21**	⇑P		**Pn**	**21 42 10.1**	**-0.8**
	comp=E,10nm,0.4s							
AAK				⇓S		**S**	**21 43 23.7**	**-5.1**
	comp=E,14nm,0.6s							
AAK	**Ala-Archa**	**6.71**	**21**	P		**Pn**	**21 42 10.1**	**-0.8**
	comp=E,53nm,0.3s,baz=176,slow=5.9,SNR=55							
AAK				S		S	21 43 16.9	-12
	comp=E,14nm,0.5s,baz=204,slow=15,SNR=4.0							
AAK	**Ala-Archa**	**6.71**	**21**	P		**Pn**	**21 42 09.7**	**-1.3**
AAK				S		**S**	**21 43 24.7**	**-4.1**
KBK	**Karagaybulak**	**6.87**	**24**	P		**Pn**	**21 42 12.1**	**-0.9**
	SNR=21							
FRU1	**Bishkek**	**6.91**	**21**	Pn		**Pn**	**21 42 12.7**	**-0.7**
FRU1	**Bishkek**	**6.91**	**21**	PN		**Pn**	**21 42 12.7**	**-0.7**
ULHL	**Ulahol**	**7.00**	**32**	P		**Pn**	**21 42 13.1**	**-1.6**
	SNR=28							
CHMS	**Chumysh**	**7.12**	**21**	P		**Pn**	**21 42 14.6**	**-1.3**
	SNR=20							
SMLA	**Simla**	**7.22**	**135**	*eP*		**Pn**	**21 42 17.0**	**-0.3**
SMLA				*eS*		**S**	**21 43 35.9**	**-4.6**
SMLA					IAML		21 43 40.0	
	comp=E,142nm,0.4s							
SMLA					IAML		21 43 40.6	
	comp=N,231nm,0.4s							
USP	**Ospenovka**	**7.29**	**19**	P		**Pn**	**21 42 16.8**	**-1.4**
	SNR=38							
TKM2	**Tokmak 2**	**7.32**	**26**	P		**Pn**	**21 42 17.5**	**-1.2**
	SNR=102							
KDJ	**Kajisay**	**7.34**	**37**			**Pn**	**21 42 17.1**	**-1.8**
KDJ	**Kajisay**	**7.34**	**37**	PN		**Pn**	**21 42 17.1**	**-1.8**
KLP	**Kalpa**	**7.59**	**128**	*eP*		**Pn**	**21 42 22.2**	**-0.2**
KLP				*eS*		**S**	**21 43 44.7**	**-4.8**
KLP					IAML		21 43 48.1	
	comp=E,188nm,0.4s							
KLP					IAML		21 43 54.0	
	comp=E,109nm,0.6s							
DDI	**Dehra Dun**	**8.33**	**135**	*eP*		**Pn**	**21 42 30.5**	**-1.0**
DDI				*eS*		S	21 43 58.2	-8.0
DDI					IAML		21 44 06.0	
	comp=N,108nm,0.3s							
DDI					IAML		21 44 06.8	
	comp=E,112nm,0.3s							
BKNR	**BIKANER**	**8.54**	**168**	*ex*		x	21 44 04.2	
BKNR					IAML		21 44 07.8	
	comp=E,143nm,0.3s							
BKNR					IAML		21 44 09.9	
	comp=N,106nm,0.7s							
JOSI	**Joshimath**	**9.08**	**128**	*eP*		**Pn**	**21 42 39.8**	**-1.2**
AYAN	**Aya Nagar**	**9.34**	**146**	*eP*		**Pn**	**21 42 43.0**	**-1.2**
AYAN				*eS*		S	21 44 21.9	-7.8
KUDL	**Kundal**	**9.36**	**150**	*eP*		**Pn**	**21 42 43.1**	**-1.3**
KUDL				*eS*		S	21 44 22.1	-8.1
KUDL					IAML		21 44 24.1	
	comp=E,48nm,0.4s							
KUDL					IAML		21 44 36.6	
	comp=E,18nm,0.3s							
PDGK	**Podgornoye**	**9.38**	**40**	⇑P		**Pn**	**21 42 43.2**	**-1.4**
	comp=E,7.6nm,0.9s							
PDGK	**Podgornoye**	**9.38**	**40**	P		Pn	21 42 43.2	-1.4
UGON	**Onchagaon**	**9.85**	**143**	*eP*		**Pn**	**21 42 49.9**	**-0.7**
UGON				*eS*		**S**	**21 44 36.4**	**-5.2**
UGON					IAML		21 44 38.8	
	comp=E,72nm,0.8s							
UGON					IAML		21 44 46.5	
	comp=E,80nm,0.7s							
PTH	**Pithoragarh**	**10.18**	**130**	*eP*		**Pn**	**21 42 53.4**	**-1.6**
PTH				*eS*		S	21 44 41.5	-8.0
LGTI	**Lohaghat**	**10.27**	**130**	*eP*		**Pn**	**21 42 54.3**	**-1.5**
LGTI				*eS*		S	21 44 42.7	-8.5
LGTI					IAML		21 44 50.0	
	comp=E,20nm,0.3s							
LGTI					IAML		21 44 59.8	
	comp=E,18nm,0.6s							
JHNI	**Jhansi**	**12.58**	**148**	*eP*		**Pn**	**21 43 24.6**	**-0.1**
JHNI				*eS*		**S**	**21 45 39.3**	**-5.4**
MAKZ	**Makanchi**	**13.12**	**34**			**Pn**	**21 43 29.9**	**-1.3**
MAKZ	**Makanchi**	**13.12**	**34**	⇓P		**Pn**	**21 43 29.5**	**-1.6**
	comp=E,6.3nm,0.5s							
MAKZ	**Makanchi**	**13.12**	**34**	P		**Pn**	**21 43 29.9**	**-1.3**
MK31	**Makanchi Array**	**13.26**	**35**	⇑P		**Pn**	**21 43 31.0**	**-1.9**
	comp=E,0.9nm,0.5s,baz=219,slow=15,SNR=9.9							
MK31	**Makanchi Array**	**13.26**	**35**	*i* P		**Pn**	**21 43 32.4**	**-0.4**
MKAR	**Makanchi Array**	**13.26**	**35**	Pn		**Pn**	**21 43 32.2**	**-0.6**
MKAR	**Makanchi Array**	**13.26**	**35**	P		**Pn**	**21 43 31.9**	**-0.9**
	comp=E,0.8nm,0.5s,baz=189,slow=9.9,SNR=9.7							
BHPL	**Bhopal**	**14.18**	**156**	*eP*		**P**	**21 43 47.5**	**+2.7**
BHPL				*eS*		**S**	**21 46 15.7**	**-5.6**
WMQ	**Urumqi**	**14.60**	**54**	*eP*		**P**	**21 43 51.3**	**+2.1**
KURBB	**Kurchatov Arra**	**15.15**	**18**	P		**P**	**21 43 54.3**	**-0.8**
	comp=E,0.5nm,0.5s,baz=207,slow=11,SNR=7.3							
AB31	**Akbulak array**	**15.25**	**331**			**P**	**21 43 55.1**	**-1.2**
AB31	**Akbulak array**	**15.25**	**331**	P		**P**	**21 43 54.8**	**-1.5**
	comp=E,0.9nm,0.3s,baz=149,slow=11,SNR=76							
ABKAR	**Akbulak array**	**15.25**	**331**			**Pn**	**21 43 55.1**	**-1.7**
KURK	**Kurchatov**	**15.26**	**18**	*i* P		**Pn**	**21 43 59.4**	**+2.5**
EVN	**Everest**	**15.64**	**118**			**P**	**21 44 02.2**	**+0.7**
SHME	**Shamm**	**16.51**	**236**	P		**Pn**	**21 44 11.3**	**-0.8**
BVA0	**Borovoye Array**	**16.62**	**358**	⇓P		**Pn**	**21 44 14.0**	**+1.0**
	comp=E,1.3nm,0.6s							
BVA0	**Borovoye Array**	**16.62**	**358**	P		**Pn**	**21 44 14.3**	**+1.2**
BVA0					pmax	pmax		
	comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**16.62**	**358**	P		**Pn**	**21 44 11.3**	**-1.8**
	comp=Z,1.7nm,0.4s							
BRVK	**Borovoye**	**16.66**	**358**			**Pn**	**21 44 12.5**	**-1.0**
BRVK					IAmb	IAmb	21 44 15.7	
	comp=E,3.3nm,0.5s							
BRVK	**Borovoye**	**16.66**	**358**	⇓P		**Pn**	**21 44 13.5**	**0.0**
	comp=Z,2.2nm,0.5s							
BRVK	**Borovoye**	**16.66**	**358**	P		**Pn**	**21 44 14.5**	**+1.0**
BRVK	**Borovoye**	**16.66**	**358**	P		**Pn**	**21 44 12.5**	**-1.0**
BRVK					pmax	pmax		
	comp=E,3.0nm,0.5s							
AKTO	**Aktyubinsk**	**16.95**	**330**	⇑P		**Pn**	**21 44 17.6**	**+0.7**
	comp=Z,7.2nm,0.7s							
AKTO	**Aktyubinsk**	**16.95**	**330**	P		**Pn**	**21 44 15.8**	**-1.2**
	comp=Z,12nm,0.6s,baz=151,slow=9.0,SNR=41							
MASF	**Masafi**	**16.96**	**234**	P		**Pn**	**21 44 16.3**	**-1.1**
WSAR	**Wadi Sarin**	**17.06**	**223**	P		**Pn**	**21 44 17.9**	**-0.6**
	comp=Z,0.1nm,0.9s,baz=73,slow=24,SNR=5.2							
UOSS	**Minazif**	**17.23**	**233**	P		**P**	**21 44 18.4**	**+0.2**
UOSS					IAmb	IAmb	21 44 47.7	
	comp=Z,24nm,1.3s							
UOSS	**Minazif**	**17.23**	**233**	P		**P**	**21 44 18.5**	**+0.3**
HATD	**Hatta, Dubai**	**17.36**	**232**	P		**Pn**	**21 44 20.9**	**-1.1**
ASHO	**Ashiyiah**	**17.51**	**232**	P		**P**	**21 44 22.4**	**+1.1**
	SNR=11							
LSA	**Lhasa**	**17.97**	**106**			**P**	**21 44 28.0**	**+1.3**
LSA					IAmb	IAmb	21 44 32.4	
	comp=Z,6.1nm,0.7s							
LSA	**Lhasa**	**17.97**	**106**	P		**Pn**	**21 44 30.3**	**+0.6**
LSA					pmax	pmax		
	comp=Z,8.0nm,0.9s							
LSA	**Lhasa**	**17.97**	**106**	P		**Pn**	**21 44 30.6**	**+1.0**
LSA	**Lhasa**	**17.97**	**106**	P		**P**	**21 44 28.0**	**+1.3**
LSA					pmax	pmax		
	comp=Z,6.0nm,0.7s							
ALNE	**Al Ain**	**18.15**	**232**	P		**P**	**21 44 29.1**	**+0.9**
	SNR=8.1							
BSY	**Bisya**	**18.26**	**226**	P		**Pn**	**21 44 31.1**	**-1.5**
AJN	**Ajban**	**18.29**	**234**	P		**P**	**21 44 30.2**	**+0.6**
MHTO	**MHTO**	**19.24**	**221**	P		**Pn**	**21 44 42.3**	**-1.8**
ZAA0	**Zalesovo Array**	**19.92**	**24**	P		**P**	**21 44 47.5**	**+0.7**
ZALV	**Zalesovo Beam**	**19.92**	**24**	P		**P**	**21 44 47.9**	**+1.1**
ZALV	**Zalesovo Beam**	**19.92**	**24**	P		**P**	**21 44 47.7**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=225,slow=10,SNR=5.7							
ZALV	**Zalesovo Beam**	**19.92**	**24**	*eP*		**Pn**	**21 44 50.3**	**-1.4**
ZALV					pmax	pmax		
	comp=Z,1.0nm,0.4s							
SHMA	**Al-Shehemyia**	**20.25**	**244**	P		**P**	**21 44 50.1**	**-0.5**
MZR	**Muzera**	**20.36**	**234**	P		**P**	**21 44 53.3**	**+1.5**
SHL	**Shillong**	**20.70**	**116**			**P**	**21 44 56.0**	**+0.4**
SHL	**Shillong**	**20.70**	**116**	P		**P**	**21 44 56.0**	**+0.4**
SHL					pmax	pmax		
	comp=Z,14nm,0.6s							
TRNA	**Turayna**	**20.75**	**241**	P		**P**	**21 44 56.2**	**+0.3**
ARTI	**Arti**	**21.79**	**341**	P		**P**	**21 45 06.0**	**+0.3**
ARTI					IAmb	IAmb	21 45 14.0	
	comp=Z,4.5nm,0.4s							
ARTI	**Arti**	**21.79**	**341**	P		**P**	**21 45 06.0**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=130,slow=4.1,SNR=3.5							
	comp=Z,1.4nm,0.5s							
ARTI	**Arti**	**21.79**	**341**	*d iP*		**P**	**21 45 07.2**	**+1.6**
ARTI					S	**S**	**21 48 51.3**	**+3.0**
ARTI					pmax	pmax		
	comp=Z,6.0nm,1.8s							
GTA	**Gaotai**	**22.71**	**74**	*eP*		**P**	**21 45 17.4**	**+3.0**
GTA					pmax	pmax		
	comp=Z,4.0nm,1.1s							
KBZ	**Khabaz**	**22.81**	**297**	P		**P**	**21 45 15.6**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=111,slow=11,SNR=4.4							
	comp=Z,1.8nm,0.8s							
KBZ	**Khabaz**	**22.81**	**297**	*i* P		**P**	**21 45 15.8**	**+0.7**
KBZ					pmax	pmax		
	comp=Z,4.0nm,1.0s							
SHA1	**Shidzhatmaz**	**22.98**	**297**	*i* P		**P**	**21 45 15.2**	**-1.8**
KIV	**Kislovodsk**	**23.00**	**298**	*eP*		**P**	**21 45 18.4**	**+1.5**
KIV				*eS*		**S**	**21 49 11.4**	**+3.1**
KIV					pmax	pmax		
	comp=Z,5.0nm,1.1s							
BELG	**Belogornoye**	**23.08**	**321**	P		**P**	**21 45 17.1**	**-0.3**
	comp=Z,11nm,0.8s,baz=60,slow=4.3,SNR=12							
	comp=Z,11nm,0.8s							
BELG	**Belogornoye**	**23.08**	**321**	*i* P		**P**	**21 45 18.0**	**+0.6**
BELG					pmax	pmax		
	comp=Z,3.0nm,0.9s							
DOK	**Doka**	**23.26**	**225**	P		**P**	**21 45 21.9**	**+2.4**
WHFO	**Wadi Hawf**	**24.02**	**225**	P		**P**	**21 45 28.2**	**+1.7**
ABTO	**Aybut**	**24.74**	**225**	P		**P**	**21 45 33.8**	**+0.9**
RAYN	**Ar Rayn**	**25.63**	**247**			**P**	**21 45 40.9**	**0.0**
RAYN	**Ar Rayn**	**25.63**	**247**	P		**P**	**21 45 41.3**	**+0.4**
RAYN	**Ar Rayn**	**25.63**	**247**	P		**P**	**21 45 40.9**	**0.0**
RAYN					pmax	pmax		
	comp=Z,3.0nm,0.8s							
PZH	**PanZhiHua**	**27.74**	**102**	P		**P**	**21 46 02.0**	**+2.3**
SONM	**Songino Array**	**28.23**	**55**	P		**P**	**21 46 03.9**	**0.0**
	comp=Z,0.6nm,0.8s,baz=243,slow=6.5,SNR=4.6							
SONM					pP	**pP**	**21 46 54.5**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=256,slow=11,SNR=8.1							
	comp=Z,0.6nm,0.8s							
BR131	**Keskin Array S**	**29.64**	**288**	*i* P		**P**	**21 46 17.1**	**+0.7**
BRTR	**Keskin Array B**	**29.64**	**288**	P		**P**	**21 46 16.6**	**+0.2**
BRTR	**Keskin Array B**	**29.64**	**288**	P		**P**	**21 46 17.5**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=81,slow=7.6,SNR=6.2							
	comp=Z,0.7nm,0.7s							
OBN	**Obninsk**	**30.13**	**319**	*eP*		**P**	**21 46 21.3**	**+1.0**
OBN				*e**PP		**pP**	**21 47 06.2**	**-3.6**
OBN				*e*			21 47 29.9	
OBN				*e**SP		**PP**	**21 47 34.3**	**+0.6**
OBN				*e*			21 49 17.2	
OBN					pmax	pmax		
	comp=Z,5.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**30.25**	**119**	P		**P**	**21 46 24.0**	**+2.2**
CMAR	**Chiang Mai Arr**	**30.25**	**119**	P		**P**	**21 46 23.9**	**+2.2**
	comp=Z,1.3nm,0.9s,baz=292,slow=8.6,SNR=7.8							
	comp=Z,1.3nm,0.9s							
CMAR	**Chiang Mai Arr**	**30.25**	**119**	*eP*		**P**	**21 46 24.7**	**+2.9**
CMAR					pmax	pmax		
	comp=Z,1.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**31.62**	**69**	*eP*		**P**	**21 46 34.3**	**+0.6**
HHC					pmax	pmax		
	comp=Z,20nm,0.7s							
HHC					pmax	pmax		
	comp=Z,30nm,4.5s							
ELL	**Elmali**	**33.00**	**283**	P		**P**	**21 46 46.4**	**+0.6**
ELL					IAmb	IAmb	21 47 05.5	
	comp=Z,6.8nm,1.0s							
ELL	**Elmali**	**33.00**	**283**	P		**P**	**21 46 46.4**	**+0.6**
ELL					pmax	pmax		
	comp=Z,7.0nm,1.0s							
MLR	**Muntele Rosu**	**34.99**	**299**	P		**P**	**21 47 03.2**	**+0.5**
	comp=Z,3.4nm,0.8s,baz=133,slow=5.3,SNR=8.2							
	comp=Z,3.4nm,0.8s							
FIA1	**FINESS Array S**	**37.66**	**326**	P		**P**	**21 47 25.3**	**+0.5**
FIA1					IAmb	IAmb	21 47 38.3	
	comp=Z,20nm,1.3s							
FINES	**FINESS Array B**	**37.66**	**326**	P		**P**	**21 47 25.3**	**+0.5**
FINES	**FINESS Array B**	**37.66**	**326**	P		**P**	**21 47 25.6**	**+0.8**
	comp=Z,2.0nm,0.5s,baz=117,slow=9.1,SNR=27							
	comp=Z,2.0nm,0.5s							
KEV	**Kevo**	**40.95**	**338**	P		**P**	**21 47 52.4**	**+0.6**
KEV					IAmb	IAmb	21 48 36.0	
	comp=Z,27nm,1.5s							
KEV	**Kevo**	**40.95**	**338**	P		**P**	**21 47 52.4**	**+0.6**
KEV					pmax	pmax		
	comp=Z,27nm,1.5s							
ARCES	**ARCESS Array B**	**41.30**	**338**	P		**P**	**21 47 55.6**	**+0.9**
ARCES					IAmb	IAmb	21 48 20.2	
	comp=Z,9.1nm,1.4s							
ARCES	**ARCESS Array B**	**41.30**	**338**	P		**P**	**21 47 56.0**	**+1.3**
	comp=Z,2.8nm,0.6s,baz=116,slow=8.2,SNR=23							
	comp=Z,2.8nm,0.6s							
ARCES	**ARCESS Array B**	**41.30**	**338**	P		**P**	**21 47 55.6**	**+0.9**
ARCES					pmax	pmax		
	comp=Z,9.0nm,1.4s							
HFS	**Hagfors**	**43.25**	**322**	P		**P**	**21 48 11.1**	**+0.6**
	comp=Z,2.1nm,0.5s,baz=98,slow=11,SNR=26							
	comp=Z,2.1nm,0.5s							
NB2	**NORSAR Subarra**	**44.56**	**323**	P		**P**	**21 48 21.1**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=96,slow=7.9							
NOA	**NORSAR Array B**	**44.56**	**323**	P		**P**	**21 48 21.1**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=101,slow=8.2,SNR=13							
	comp=Z,0.5nm,0.3s							
SPITS	**Spitsbergen Ar**	**47.62**	**347**	P		**P**	**21 48 45.9**	**+1.5**
	comp=Z,3.2nm,0.8s,baz=123,slow=15,SNR=4.8							
	comp=Z,3.2nm,0.8s							
ESDC	**Sonseca Array**	**57.66**	**298**	P		**P**	**21 49 58.0**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=74,slow=8.1,SNR=5.1							
	comp=Z,0.6nm,0.8s							
LSZ	**Lusaka**	**65.53**	**226**	P		**P**	**21 50 52.0**	**+1.0**
	comp=Z,2.1nm,0.6s,baz=71,slow=6.8,SNR=5.2							
	comp=Z,2.1nm,0.6s							
MATP	**Matopo**	**69.47**	**223**	P		**P**	**21 51 16.8**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=22,slow=6.0,SNR=11							
	comp=Z,0.9nm,0.3s							
LBTB	**Lobatse**	**74.74**	**222**	P		**P**	**21 51 47.9**	**+1.3**
	comp=Z,1.9nm,0.5s,baz=285,slow=20,SNR=3.1							
	comp=Z,1.9nm,0.5s							
BOSA	**Boshof**	**77.80**	**220**	P		**P**	**21 52 04.2**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=31,slow=5.9,SNR=2.0							
	comp=Z,1.2nm,0.6s							
WRA	**Warramunga Arr**	**81.78**	**122**	P		**P**	**21 52 25.7**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=324,slow=5.0,SNR=4.7							
	comp=Z,0.3nm,0.5s							
WRA	**Warramunga Arr**	**81.78**	**122**	*i* P		**P**	**21 52 26.6**	**+1.5**
ASAR	**Alice Springs**	**84.05**	**125**	P		**P**	**21 52 38.1**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=314,slow=5.3,SNR=4.9							
	comp=Z,0.4nm,0.5s							
PLCA	**Paso Flores**	**149.97**	**250**	PKPbc		**PKPbc**	**21 59 54.6**	**0.0**
	comp=Z,1.3nm,0.7s,baz=238,slow=3.5,SNR=3.5							

BGSI ***13*** *21:45:37.6±0.3, 25°.78S×24°.38E, h15km, ML1.8*

PRE 13 21:44:54.9±1.1, **26°.35S×28°.22E, h2**km, **ML1.9, South Africa**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HRAO	**HartRAO**	**0.66**	**313**	*eP*		Pg	21 45 07.3	-0.3
HRAO				*eS*		Sg	21 45 16.8	+0.6
HRAO					IAML		21 45 20.0	
	comp=Z,22nm,0.1s							
WDLM	**Western Deep L**	**0.72**	**264**	*eP*		Pg	21 45 08.3	-0.4
WDLM				*eS*		Sg	21 45 18.1	0.0
WDLM					IAML		21 45 26.3	
	comp=Z,81nm,0.1s							
CRLN	**Carolina, Mapu**	**1.66**	**78**	*eP*		Pn	21 45 25.3	+0.1
CRLN				*eS*		Sg	21 45 48.0	-0.2
CRLN					IAML		21 45 48.1	
	comp=Z,15nm,0.5s							
NWCL	**Newcastle**	**2.03**	**133**	*eP*		Pn	21 45 30.9	+0.5
NWCL				*eS*		Sn	21 45 56.9	+0.6
NWCL					IAML		21 46 00.8	
	comp=Z,8.0nm,0.4s							
LEPH	**Lephalale, Lim**	**2.51**	**351**	*eP*		Pn	21 45 37.0	+0.2
LEPH				*eS*		Sn	21 46 07.8	-0.3
LEPH					IAML		21 46 13.9	
	comp=Z,5.4nm,0.3s							
PILG	**Pilgrimsrest,**	**2.65**	**58**	*eP*		Pn	21 45 39.6	+0.7
PILG				*eS*		Sn	21 46 11.6	-0.2
PILG					IAML		21 46 18.9	
	comp=Z,7.0nm,0.8s							
SWZ	**Schweizer**	**2.71**	**252**	*eP*		Pn	21 45 40.3	+0.6
SWZ				*eS*		Sn	21 46 14.1	+0.9
SWZ					IAML		21 46 25.8	
	comp=Z,12nm,0.2s							
LBTB	**Lobatse**	**2.71**	**299**	*eP*		Pn	21 45 41.0	+1.3
LBTB				*eS*		Sn	21 46 14.1	+1.0
LBTB					IAML		21 46 17.7	
	comp=Z,6.8nm,0.2s							
MAKGR	**Makgori**	**3.12**	**279**	*i* P		Pn	21 45 44.8	-0.5
MAKGR					IAML		21 46 36.4	
	comp=N,40nm,0.6s							
POGA	**Pongola**	**3.27**	**108**	*eP*		Pn	21 45 48.5	+1.3
POGA				*eS*		Sn	21 46 26.9	+0.2
POGA					IAML		21 46 38.4	
	comp=Z,7.1nm,0.5s							
BOSA	**Boshof**	**3.47**	**229**	*eP*		Pn	21 45 51.0	+0.9
BOSA				*eS*		Sn	21 46 32.3	+0.5
BOSA					IAML		21 46 45.8	

KSRS Korea Array 29.07 332 P P 21 57 22.0 -1.7
comp=Z,1.3nm,0.7s,baz=139,slow=10,SNR=11
KSRS PcP **PcP 22 00 32.0 +0.6**
comp=Z,1.0nm,0.7s,baz=161,slow=1.9,SNR=7.0
comp=Z,1.3nm,0.7s
NJ2 Nanjing 30.70 314 *e*P **P 21 57 39.1 +0.9**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
USRK Ussuriysk Ar. 33.48 343 P **P 21 58 02.5 +0.1**
USRK Ussuriysk Ar. 33.48 343 P **P 21 58 01.7 -0.7**
comp=Z,1.2nm,0.6s,baz=162,slow=9.2,SNR=5.3
comp=Z,1.2nm,0.6s
WB0 Warramunga Arr 33.55 198 P **P 21 58 03.0 -0.3**
WB0 IAmb IAmb 21 58 10.0
comp=Z,20nm,1.4s
SBUM Sibu 33.60 255 P **P 21 58 04.9 +0.9**
SBUM IAmb IAmb 21 58 18.6
comp=Z,15nm,1.5s
WRA Warramunga Arr 33.73 198 P 21 58 03.7 -1.2
WRA Warramunga Arr 33.73 198 P **P 21 58 04.8 0.0**
comp=Z,8.1nm,0.8s,baz=21,slow=9.9,SNR=43
comp=Z,8.1nm,0.8s
KSM Kuching 35.73 255 P **P 21 58 21.6 -0.7**
KSM IAmb IAmb 21 58 24.7
comp=Z,9.6nm,1.1s
HNS HongShan 36.54 318 ⇑P **P 21 58 30.3 +1.4**
HNS pmax pmax
comp=Z,12nm,0.7s
HNS LR LR
comp=Z,190nm,16.5s
HNS LR LR
comp=Z,130nm,17.3s
HNS LR LR
comp=Z,190nm,16.7s
LYN LuoYang 36.57 312 P **P 21 58 30.3 +1.1**
LYN pmax pmax
comp=Z,38nm,0.7s
ENH Enshi 37.05 304 P 21 58 33.7 +0.3
ENH IAmb IAmb 21 58 35.0
comp=Z,11nm,0.7s
AS31 Alice Springs 37.38 196 P **P 21 58 35.8 -0.4**
ASAR Alice Springs 37.38 196 P **P 21 58 35.5 -0.7**
ASAR Alice Springs 37.38 196 P **P 21 58 36.4 +0.1**
comp=Z,1.2nm,0.8s,baz=20,slow=13,SNR=11
comp=Z,1.2nm,0.8s
UBPT Khong Chiam 38.11 279 P **P 21 58 42.4 -0.1**
XLT XiLinHaoTe 39.83 327 *e*P **P 21 58 56.8 +0.1**
XLT pP pP 21 59 01.4 -3.0
XLT pmax pmax
comp=Z,6.0nm,0.8s
HEH HeiHe 40.28 343 *e*P **P 21 58 59.1 -1.1**
HEH pmax pmax
comp=Z,7.0nm,0.9s
HHC Hu-ho-hao-te 40.51 320 *e*P **P 21 59 03.4 +1.0**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,53nm,4.3s
HHC LR LR
comp=Z,93nm,17.3s
HHC LR LR
comp=Z,100nm,16.7s
HHC LR LR
comp=Z,170nm,17.6s
MBWA Marble Bar 41.39 216 P **P 21 59 10.1 +0.4**
KMI Kunming 41.47 294 P **P 21 59 12.5 +1.8**
KMI pmax pmax
comp=Z,6.0nm,0.9s
CD2 Chengdu 41.92 303 P **P 21 59 14.4 +0.3**
CD2 pmax pmax
comp=Z,30nm,0.8s
PZH PanZhiHua 42.60 296 P **P 21 59 20.9 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.8s
LZH Lanzhou 43.58 310 *e*P **P 21 59 28.8 +1.2**
LZH pP pP 21 59 34.5 -0.8
LZH pmax pmax
comp=Z,17nm,1.2s
LZH LR LR
comp=Z,180nm,13.1s
LZH LR LR
comp=Z,120nm,13.7s
LZH LR LR
comp=Z,200nm,13.4s
KULM Kulim 44.00 265 P **P 21 59 31.8 +0.7**
KULM IAmb IAmb 21 59 34.5
comp=Z,22nm,0.9s
CM31 Chiang Mai Arr 44.37 284 P **P 21 59 34.7 +0.7**
CM31 IAmb IAmb 21 59 37.5
comp=Z,27nm,1.5s
CMAR Chiang Mai Arr 44.37 284 P 21 59 34.9 +0.9
CMAR Chiang Mai Arr 44.37 284 P **P 21 59 35.5 +1.5**
comp=Z,4.6nm,0.6s,baz=82,slow=6.8,SNR=41
comp=Z,4.6nm,0.6s
CHTO Chiang Mai 44.38 284 P 21 59 34.6 +0.5
MNAI Manna 44.67 251 P **P 21 59 36.8 +0.4**
SONM Songino Array 47.55 326 P **P 21 59 59.3 +0.4**
SONM Songino Array 47.55 326 P **P 21 59 58.4 -0.4**
comp=Z,1.1nm,0.6s,baz=144,slow=8.1,SNR=8.0
SONM PcP **PcP 22 01 29.0 +0.5**
comp=Z,2.0nm,0.6s,baz=142,slow=3.9,SNR=9.1
comp=Z,1.1nm,0.6s
GTA Gaotai 47.78 312 *e*P **P 22 00 02.1 +1.3**
GTA PcP **PcP 22 01 31.5 +2.0**
GTA pmax pmax
comp=Z,8.0nm,0.8s
GTA LR LR
comp=Z,130nm,14.5s
GTA LR LR
comp=Z,100nm,16.0s
GTA LR LR
comp=Z,130nm,18.5s
GSI Gunungsitoli 47.94 260 P **P 22 00 01.6 -0.5**
IMP Imphal 49.35 292 *e*P **P 22 00 12.7 -0.2**
IMP IAmb IAmb 22 00 14.9
comp=Z,4.2nm,0.7s
MORW Morawa 49.66 213 P **P 22 00 15.0 0.0**
MORW IAmb IAmb 22 00 16.8
comp=Z,16nm,1.0s
ZIRO ZIRO 49.71 296 *e*P **P 22 00 16.6 +0.8**
ZIRO IAmb IAmb 22 00 17.4
comp=Z,16nm,1.0s
AZL Aizawl 50.41 291 *e*P **P 22 00 22.5 +1.4**
TEZP TEZPUR 50.54 294 *e*P **P 22 00 22.2 +0.3**
TEZP IAmb IAmb 22 00 23.0
comp=Z,15nm,0.6s
YAK Yakutsk 50.69 351 P 22 00 22.5 +0.2
SHL Shillong 51.27 293 P 22 00 27.6 0.0
SHL Shillong 51.27 293 *e*P **P 22 00 27.4 -0.2**
SHL IAmb IAmb 22 00 30.8
comp=Z,9.3nm,0.5s
TAWA Tawang 51.47 295 *e*P **P 22 00 30.3 +1.0**
TAWA IAmb IAmb 22 00 31.6
comp=Z,8.7nm,0.8s
LSA Lhasa 52.34 298 P 22 00 36.0 +0.2
LSA IAmb IAmb 22 00 38.3
comp=Z,5.7nm,0.7s
LSA Lhasa 52.34 298 P **P 22 00 37.3 +1.4**
LSA pmax pmax
comp=Z,7.0nm,0.8s
GTK Tadong 54.33 295 *e*P **P 22 00 50.7 +0.5**
EVN Everest 55.96 295 P **P 22 01 02.5 0.0**
EVN IAmb IAmb 22 01 04.0
comp=Z,6.1nm,0.6s
LGTI Lohaghat 61.79 297 *e*P **P 22 01 42.9 +0.7**
LGTI IAmb IAmb 22 01 43.9
comp=Z,5.9nm,0.9s
PTH Pithoragarh 61.82 297 *e*P **P 22 01 42.1 -0.5**
PTH IAmb IAmb 22 01 43.4
comp=Z,9.9nm,1.2s
MKAR Makanchi Array 62.17 317 P **P 22 01 44.2 -0.3**
MKAR Makanchi Array 62.17 317 P **P 22 01 45.0 +0.5**
comp=Z,1.3nm,0.7s,baz=92,slow=8.8,SNR=12
comp=Z,1.3nm,0.7s
MAKZ Makanchi 62.39 316 P **P 22 01 46.3 +0.4**
ZALV Zalesovo Beam 62.44 325 P **P 22 01 45.8 -0.4**
comp=Z,0.9nm,0.6s,baz=108,slow=6.5,SNR=4.6
ZALV PcP **PcP 22 02 25.1 -0.3**
comp=Z,2.4nm,0.6s,baz=107,slow=5.1,SNR=8.0
comp=Z,0.9nm,0.6s
O16K Kokwok River B 63.07 29 P **P 22 01 50.3 +0.1**
O16K IAmb IAmb 22 01 51.4
comp=Z,10nm,1.4s
M17K Holitna River 64.08 27 P **P 22 01 57.7 +0.8**
M17K IAmb IAmb 22 02 26.4
comp=Z,9.4nm,1.3s

J17K VABM Dome 64.20 25 P **P 22 01 58.4 +0.8**
J17K IAmb IAmb 22 01 59.9
comp=Z,3.9nm,0.8s
SMLA Simla 64.48 299 *e*P **P 22 02 00.2 +0.2**
SMLA IAmb IAmb 22 02 02.2
comp=Z,9.3nm,0.7s
KUDL Kundal 65.08 295 *e*P **P 22 02 03.8 -0.3**
KUDL IAmb IAmb 22 02 04.2
comp=Z,9.6nm,0.8s
KURK Kurchatov 65.33 320 P **P 22 02 04.8 -0.5**
KURK IAmb IAmb 22 02 18.2
comp=Z,3.7nm,0.8s
KURBB Kurchatov Arra 65.37 320 P **P 22 02 05.2 -0.2**
comp=Z,2.8nm,0.9s,baz=103,slow=6.8,SNR=18
comp=Z,2.8nm,0.9s
KSH Kashi 65.77 308 P **P 22 02 11.8 +3.3**
KSH pmax pmax
comp=Z,5.0nm,0.9s
NRN Naryn 65.89 310 P **P 22 02 09.4 -0.1**
CAST Castle Rocks 67.13 26 P 22 02 16.4 -0.1
CAST IAmb IAmb 22 02 18.6
comp=Z,2.8nm,0.7s
IMAR Indian Mountai 67.34 23 P **P 22 02 18.3 +0.5**
NIL Nilore 67.80 301 P 22 02 21.7 +0.3
BPAW Bear Paw Mtn. 67.81 25 P **P 22 02 21.2 +0.3**
ARSB Arslanbob 68.15 310 P **P 22 02 23.9 +0.3**
ARSB IAmb IAmb 22 02 25.2
comp=Z,15nm,1.4s
MLY Manley 68.20 24 P **P 22 02 23.6 +0.3**
MLY IAmb IAmb 22 02 26.9
comp=Z,4.1nm,1.1s
IL31 69.70 25 P **P 22 02 31.7 -0.8**
ILAR Eielson Array 69.70 25 P **P 22 02 31.3 -1.3**
comp=Z,1.3nm,0.5s,baz=249,slow=5.6,SNR=14
comp=Z,1.3nm,0.5s
BTK Batken 69.76 308 P **P 22 02 32.9 -0.7**
BTK IAmb IAmb 22 02 51.3
comp=Z,4.3nm,1.0s
KK31 Karatay Array 70.05 311 P 22 02 35.2 0.0
KKAR Karatay Array 70.05 311 P 22 02 35.1 -0.1
GAR Garm 70.15 307 P **P 22 02 35.8 -0.2**
RIDG Independent Ri 70.33 26 P **P 22 02 36.5 0.0**
RIDG IAmb IAmb 22 02 37.4
comp=Z,4.3nm,1.0s
VRDI Verde Repeater 70.49 29 P **P 22 02 37.5 -0.2**
VRDI IAmb IAmb 22 02 39.4
comp=Z,3.5nm,0.8s
BVAR Borovoye Array 70.70 322 P **P 22 02 38.9 0.0**
comp=Z,1.9nm,0.5s
comp=Z,1.9nm,0.5s
SCRK Sand Creek 70.75 26 P **P 22 02 38.9 -0.3**
BRVK Borovoye 70.77 322 P **P 22 02 39.1 -0.2**
J26L Joseph Creek 71.04 26 P **P 22 02 40.4 -0.5**
J26L IAmb IAmb 22 02 45.4
comp=Z,3.2nm,0.8s
SIMJ Simiganj 71.17 307 P **P 22 02 41.8 -0.5**
GRNC Granite Creek 71.23 30 P **P 22 02 42.9 +0.6**
GRNC IAmb IAmb 22 02 44.4
comp=Z,6.2nm,0.7s
BMAR Burnt Mountain 71.25 23 P **P 22 02 42.1 0.0**
KBL Kabul 71.27 302 P **P 22 02 42.5 -0.5**
KBL IAmb IAmb 22 02 44.3
comp=Z,8.8nm,0.7s
BCAR Beaver Creek A 71.56 27 P **P 22 02 44.0 0.0**
HYT Haines Junctio 73.31 30 P **P 22 02 55.8 +1.2**
DIB Dawson Inlet, 75.89 38 P 22 03 09.9 +0.4
DIB IAmb IAmb 22 03 11.0
comp=Z,7.7nm,1.0s
AB31 Akbulak array 77.25 318 P **P 22 03 16.8 -0.6**
ABKAR Akbulak array 77.25 318 P **P 22 03 16.3 -1.0**
ARTI Arti 77.69 325 P **P 22 03 19.7 +0.1**
BBB Bella Bella 78.61 39 LR LR 22 30 42.9
comp=Z,40nm,21.2s,baz=334,slow=30
G04A Mulino 83.30 45 P **P 22 03 50.5 +0.5**
YKA Yellowknife Ar 83.98 27 P **P 22 03 54.1 +1.0**
comp=Z,1.2nm,0.8s,baz=293,slow=5.4,SNR=5.0
comp=Z,1.2nm,0.8s
LTY Liberty 84.13 43 P **P 22 03 54.6 +0.3**
LTY IAmb IAmb 22 03 58.8
comp=Z,5.5nm,0.8s
BELG Belogornoye 84.50 322 LR LR 22 45 12.5
comp=Z,45nm,18.2s,baz=84,slow=38
J05D Fort Rock, OR 84.55 47 P **P 22 03 57.0 +0.3**
J05D IAmb IAmb 22 04 02.6
comp=Z,3.7nm,0.8s
PINE Pine Mountain 84.66 46 P 22 03 58.0 +0.8
PINE IAmb IAmb 22 04 00.2
comp=Z,8.8nm,0.9s
NEW Newport 86.23 42 P 22 04 05.2 +0.5
WVOR Wild Horse Val 86.61 47 P **P 22 04 07.1 +0.2**
WVOR IAmb IAmb 22 04 15.0
comp=Z,4.6nm,1.2s
BMO Blue Mountains 86.96 45 P **P 22 04 09.2 +0.7**
BMO IAmb IAmb 22 04 10.5
comp=Z,5.8nm,0.9s
PLID Pearl Lake 87.79 44 P 22 04 12.6 -0.1
PLID IAmb IAmb 22 04 14.5
comp=Z,4.8nm,0.8s
NVAR Mina Array Bea 87.81 51 P **P 22 04 14.0 +1.1**
comp=Z,1.3nm,0.7s,baz=256,slow=6.9,SNR=4.3
comp=Z,1.3nm,0.7s
ARCES ARCESS Array B 88.11 342 P **P 22 04 13.5 +0.1**
ARCES ARCESS Array B 88.11 342 P **P 22 04 13.3 -0.1**
comp=Z,1.5nm,0.7s,baz=64,slow=8.2,SNR=5.4
comp=Z,1.5nm,0.7s
MFID Camas Ranch 88.36 46 P 22 04 15.7 +0.5
MFID IAmb IAmb 22 04 18.1
comp=Z,7.0nm,0.9s
HLID Hailey 89.31 46 P **P 22 04 20.5 +0.7**
HLID IAmb IAmb 22 04 22.1
comp=Z,2.9nm,0.9s
FINES FINESS Array B 92.12 335 P **P 22 04 31.1 -1.1**
comp=Z,2.9nm,0.6s,baz=68,slow=4.5,SNR=21
comp=Z,2.9nm,0.6s
PDAR Pinedale Array 92.93 45 P **P 22 04 36.1 -0.6**
comp=Z,0.4nm,0.8s,baz=243,slow=0.7,SNR=4.7
comp=Z,0.4nm,0.8s
AKASG Malin Array Be 95.83 325 LR LR 22 50 18.5
comp=Z,40nm,19.9s,baz=73,slow=37
BRTR Keskin Array B 97.70 313 P **P 22 04 57.4 -1.1**
comp=Z,0.5nm,0.6s,baz=158,slow=4.7,SNR=2.4
comp=Z,0.5nm,0.6s
HFS Hagfors 97.78 338 P **P 22 04 56.6 -1.5**
comp=Z,1.3nm,0.9s,baz=84,slow=15,SNR=2.1
comp=Z,1.3nm,0.9s
NOA NORSAR Array B 98.05 339 P **P 22 04 57.7 -1.6**
comp=Z,0.4nm,0.7s,baz=50,slow=4.8,SNR=2.5
comp=Z,0.4nm,0.7s
MMAI Mount Meron Ar 98.89 307 LR LR 22 55 28.3
comp=Z,21nm,20.6s,baz=140,slow=39
CLL Collm 103.94 331 *i* Pdif **Pdif 22 05 25.7 -0.1**
CLL *e*PP **PP 22 09 43.0 +0.5**
ESDC Sonseca Array 120.50 332 PKP **PKiKP 22 10 16.3 +1.1**
comp=Z,0.3nm,0.7s,baz=39,slow=3.3,SNR=2.4
DBIC Dimbokro 144.24 300 PKP PKPbc 22 10 58.5 +0.3
comp=Z,9.7nm,0.8s,baz=54,slow=2.9,SNR=7.4
LPAZ La Paz 148.03 101 PKPbc **PKiKP 22 11 11.2 -0.9**
comp=Z,3.5nm,0.9s,baz=308,slow=3.3,SNR=8.8

IDC ***13*** *21:57:54.0±0.5,3.°90N×128.°32E,h0km,mb4.4/27, mbtmp4.4/29,ML4.1/2,MS3.7/14,Error ellipse: s-maj=23.3km s-min=11.1km az=82.0*
DJA ***13*** *21:57:59.3±0.9,4.°N×3.°×12.°9E±.°,h22km±9km,M4.8/21, mb4.8/21,mB5.2/7,MLv5.0/12,Mw(mB)4.6/7*
NEIC ***13*** *21:58:00.4±1.6,3.°95N±0.°04×128.°38E±0.°09,h35km±1km, mb4.9/90,Error ellipse: s-maj=16.3km s-min=3.1km az=63.0*
ISC 13 21:58:00.7±0.3,3.°90N±0.°04×128.°40E±0.°06,h46km,n409, σ1ˢ**43**/391**,mb4.8**/94**,MS3.8**/19**,3C-2D,North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.87**	**266**	P	**Pn**	**21 58 44.9**	**+0.9**
SGSI				S	**Sn**	**21 59 20.5**	**+3.2**
TNTI	**Ternate**	**3.27**	**198**		**Pn**	**21 58 49.2**	**-0.3**
TNTI	**Ternate**	**3.27**	**198**	P	**Pn**	**21 58 51.8**	**+2.3**
DAV	**Davao City (W)**	**4.22**	**318**		**Pn**	**21 59 00.5**	**-2.0**
DAV	**Davao City (W)**	**4.22**	**318**	Pn	**Pn**	**21 58 59.9**	**-2.6**
	10nm,0.3s,baz=40,slow=21,SNR=1.1						
DAV				Sn	**Sn**	**21 59 48.7**	**-1.8**
	50nm,0.3s,baz=267,slow=14,SNR=4.4						
DAV				LR	LR	22 00 12.5	
	comp=Z,509nm,19.0s,baz=344,slow=33						

	56nm,0.3s						
KMSI	**Cibinong**	**5.51**	**233**	P	**Pn**	**21 59 22.6**	**+2.3**
SWI	**Sorong**	**5.53**	**149**	P	**Pn**	**21 59 18.8**	**-1.7**
	1μm37nm,0.7s						
SANI	**Sanana**	**6.38**	**202**	P	**Pn**	**21 59 31.5**	**-0.7**
	0.3nm55nm,1.1s						
NLAI	**Namlea**	**7.21**	**190**	P	Pn	21 59 47.6	+4.0
	0.2nm51nm,1.0s						
MRSI	**Marisa**	**7.29**	**242**	P	**Pn**	**21 59 47.3**	**+2.6**
LUWI	**Luwuk**	**7.46**	**229**	P	**Pn**	**21 59 49.5**	**+2.4**
	0.9nm2μm120nm,1.1s						
TOLI2	**Tolitoli**	**8.10**	**250**		**Pn**	**21 59 55.3**	**-0.5**
MPSI	**Mapaga**	**9.20**	**248**	P	**Pn**	**22 00 12.0**	**+1.1**
	52nm,0.9s						
PCI	**Palu**	**9.80**	**241**	P	**Pn**	**22 00 21.4**	**+2.3**
	2μm53nm,1.1s						
TTSI	**Tana Toraja**	**11.01**	**231**	P	**Pn**	**22 00 37.3**	**+1.7**
	32nm,0.6s						
SPSI	**Sidrap Palu**	**11.63**	**228**	P	**Pn**	**22 00 46.8**	**+2.6**
	646nm45nm,0.7s						
SMPI	**Sarmi**	**11.85**	**119**	P	**Pn**	**22 00 46.5**	**-0.6**
KKM	**Kota Kinabalu**	**12.32**	**280**	Pn	**Pn**	**22 00 54.0**	**+0.3**
BKSI	**Bulukumba**	**12.34**	**222**	P	Pn	22 00 57.4	+3.6
KAPI	**Kappang**	**12.37**	**224**	Pn	**Pn**	**22 00 53.7**	**-0.6**
KAPI	**Kappang**	**12.37**	**224**	Pn	**Pn**	**22 00 52.4**	**-1.8**
	1.1nm,0.3s,baz=84,slow=2.6,SNR=8.9						
	9.2nm,0.6s						
JAY	**Jayapura**	**13.85**	**117**	LR	LR	22 06 17.8	
	comp=Z,371nm,18.3s,baz=304,slow=36						
SOEI	**Soe**	**14.18**	**197**	Pn	**Pn**	**22 01 19.2**	**+0.2**
SOEI	**Soe**	**14.18**	**197**	P	**P**	**22 01 21.1**	**-4.3**
	40nm,0.9s						
EDFI	**Ende, Flores**	**14.23**	**208**	P	**P**	**22 01 22.4**	**-3.6**
	37nm,1.0s						
BATI	**Baumata**	**14.79**	**199**	Pn	**Pn**	**22 01 26.6**	**-0.4**
	6.8nm,0.3s,baz=153,slow=1.4,SNR=4.1						
SBUM	**Sibu**	**16.22**	**265**		**Pn**	**22 01 45.1**	**-0.4**
SBUM				IAmb	IAmb	22 01 52.1	
	comp=Z,80nm,1.2s						
PLAI	**Plampang**	**16.49**	**220**	P	**P**	**22 01 52.0**	**+1.0**
MTN	**Manton Dam**	**16.86**	**171**	Pn	**P**	**22 01 53.2**	**-1.8**
STKI	**Sintang**	**17.33**	**258**	P	**P**	**22 02 01.2**	**+0.9**
	comp=Z,38nm,1.1s						
KSM	**Kuching**	**18.23**	**263**		**Pn**	**22 02 10.6**	**+0.1**
JAGI	**Jajag, Banyuwa**	**18.79**	**229**		**Pn**	**22 02 17.3**	**+0.1**
JAGI	**Jajag, Banyuwa**	**18.79**	**229**	P	**Pn**	**22 02 19.6**	**+2.4**
	comp=Z,50nm,0.8s						
GUMO	**Guam**	**18.90**	**58**	LR	LR	22 09 39.5	
	comp=Z,162nm,18.5s,baz=230,slow=37						
GMJI	**Gumukmas**	**19.20**	**231**	P	**Pn**	**22 02 24.1**	**+1.9**
	comp=Z,56nm,0.8s						
KNRA	**Kununurra**	**19.45**	**179**	P	**Pn**	**22 02 23.8**	**-1.3**
TWG	**Pinlang**	**20.10**	**340**	P	**P**	**22 02 29.3**	**-1.4**
TWG				IAmb	IAmb	22 02 38.6	
	comp=Z,37nm,0.6s						
YULB	**Yu-li**	**20.56**	**341**	P	**P**	**22 02 32.2**	**-3.4**
YULB				IAmb	IAmb	22 02 50.4	
	comp=Z,41nm,0.9s						
TPUB	**Ta-pu**	**20.70**	**339**	P	**P**	**22 02 33.8**	**-3.4**
SSLB	**Suanglung**	**21.04**	**341**	P	**P**	**22 02 38.4**	**-2.4**
NACB	**Ninganchiao**	**21.20**	**343**	P	**P**	**22 02 42.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**22.03**	**187**	P	**P**	**22 02 51.4**	**0.0**
FITZ	**Fitzroy Crossi**	**22.03**	**187**	P	**P**	**22 02 50.0**	**-1.4**
	comp=Z,2.7nm,0.9s,baz=23,slow=10,SNR=6.2						
	comp=Z,2.7nm,0.9s						
COEN	**Coen**	**23.01**	**141**	P	**P**	**22 03 02.4**	**+0.5**
LEM	**Lembang**	**23.32**	**243**	LR	LR	22 13 31.9	
	comp=Z,218nm,19.0s,baz=353,slow=40						
QIZ	**Qiongzhong**	**23.55**	**311**	P	**P**	**22 03 07.0**	**-0.1**
QIZ				pmax	pmax		
	comp=Z,57nm,0.9s						
QIZ				pmax	pmax		
	comp=Z,680nm,3.0s						
QIZ				LR	LR		
	comp=Z,300nm,13.5s						
QIZ				LR	LR		
	comp=Z,270nm,13.5s						
QIZ				LR	LR		
	comp=Z,510nm,18.3s						
WB0	**Warramunga Arr**	**24.25**	**166**		**P**	**22 03 12.6**	**-0.9**
WB0				IAmb	IAmb	22 03 21.1	
	comp=Z,21nm,0.8s						
WRA	**Warramunga Arr**	**24.40**	**166**	P	**P**	**22 03 14.0**	**-0.9**
WRA	**Warramunga Arr**	**24.40**	**166**	P	**P**	**22 03 15.1**	**+0.1**
	comp=Z,4.8nm,0.7s,baz=344,slow=11,SNR=23						
	comp=Z,4.8nm,0.7s						
WR8	**Warramunga Arr**	**24.45**	**166**		**P**	**22 03 15.4**	**0.0**
WR8				IAmb	IAmb	22 03 32.5	
	comp=Z,29nm,1.1s						
MYKOM	**Kota Tinggi**	**24.61**	**266**	P	**P**	**22 03 16.5**	**-0.4**
MYKOM				IAmb	IAmb	22 03 19.4	
	comp=Z,31nm,0.9s						
UBPT	**Khong Chiam**	**25.24**	**298**		**P**	**22 03 21.6**	**-1.1**
UBPT				IAmb	IAmb	22 03 27.1	
	comp=Z,33nm,1.1s						
MBWA	**Marble Bar**	**26.31**	**199**	P	**P**	**22 03 32.2**	**-0.1**
MBWA				IAmb	IAmb	22 03 45.7	
	comp=Z,57nm,1.5s						
KULM	**Kulim**	**27.69**	**274**	P	**P**	**22 03 43.0**	**-1.8**
AS31	**Alice Springs**	**27.92**	**169**	P	**P**	**22 03 46.0**	**-0.7**
ASAR	**Alice Springs**	**27.92**	**169**	P	**P**	**22 03 46.5**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=358,slow=7.3,SNR=14						
	comp=Z,1.7nm,0.8s						
JNU	**Nakatsue**	**29.16**	**4**	P	**P**	**22 03 57.0**	**-0.7**
JNU				IAmb	IAmb	22 05 00.1	
	comp=Z,82nm,2.0s						
JNU	**Nakatsue**	**29.16**	**4**	P	**P**	**22 03 57.9**	**+0.2**
	comp=Z,7.0nm,0.8s,baz=258,slow=3.4,SNR=4.4						
	comp=Z,7.0nm,0.8s						
NJ2	**Nanjing**	**29.40**	**343**	*e*P	**P**	**22 04 01.9**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
PSI	**Prapat**	**29.44**	**269**	LR	LR	22 16 24.8	
	comp=Z,133nm,19.8s,baz=156,slow=38						
WHN	**Wuhan**	**29.64**	**335**	P	P	22 04 10.8	+9.0
GYA	**Guiyang**	**30.60**	**319**	⇓P	**P**	**22 04 13.1**	**+2.5**
GYA				pmax	pmax		
	comp=Z,8.0nm,2.0s						
GSI	**Gunungsitoli**	**30.90**	**266**	P	**P**	**22 04 11.7**	**-1.6**
GSI				IAmb	IAmb	22 04 13.4	
	comp=Z,15nm,0.9s						
ENH	**Enshi**	**31.74**	**328**		**P**	**22 04 19.9**	**-0.6**
ENH				IAmb	IAmb	22 04 28.5	
	comp=Z,18nm,0.7s						
CM31	**Chiang Mai Arr**	**32.23**	**299**	P	**P**	**22 04 25.1**	**+0.1**
CM31				IAmb	IAmb	22 04 30.4	
	comp=Z,13nm,0.9s						
CMAR	**Chiang Mai Arr**	**32.23**	**299**	P	**P**	**22 04 24.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**32.23**	**299**	P	**P**	**22 04 24.7**	**-0.3**
	comp=Z,4.2nm,0.7s,baz=115,slow=7.4,SNR=18						
	comp=Z,4.2nm,0.7s						
CHTO	**Chiang Mai**	**32.38**	**300**	P	**P**	**22 04 25.6**	**-0.6**
CHTO				IAmb	IAmb	22 04 31.2	
	comp=Z,9.3nm,0.8s						
KMI	**Kunming**	**32.46**	**313**	⇑P	**P**	**22 04 29.1**	**+2.0**
KMI				pmax	pmax		
	comp=Z,16nm,0.9s						
KMI				LR	LR		
	comp=Z,160nm,14.9s						
KMI				LR	LR		
	comp=Z,230nm,14.3s						
JGF	**Kuroka**	**32.62**	**14**		**P**	**22 04 27.6**	**-0.5**
KSAR	**Wonju Array Be**	**33.39**	**359**	P	**P**	**22 04 35.8**	**+1.1**
KSRS	**Korea Array**	**33.40**	**359**	P	**P**	**22 04 34.4**	**-0.5**
	comp=Z,3.6nm,0.7s,baz=179,slow=9.7,SNR=14						
	comp=Z,3.6nm,0.7s						
MAJO	**Matsushiro**	**33.72**	**14**	P	**P**	**22 04 37.6**	**-0.1**
MAJO				IAmb	IAmb	22 04 54.0	
	comp=Z,11nm,1.0s						
MJAR	**Matsushiro Arr**	**33.72**	**14**	P	**P**	**22 04 36.4**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=174,slow=9.5,SNR=8.9						
	comp=Z,2.1nm,0.7s						
PZH	**PanZhiHua**	**34.00**	**314**	P	**P**	**22 04 42.8**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
XAN	**Xi'an**	**35.04**	**331**	P	**P**	**22 04 49.3**	**+0.1**
XAN				pP	pwP	22 05 04.5	-1.4
XAN				pmax	pmax		
	comp=Z,35nm,1.0s						
XAN				LR	LR		
	comp=Z,240nm,16.5s						
XAN				LR	LR		
	comp=Z,220nm,13.7s						
XAN				LR	LR		
	comp=Z,200nm,16.5s						
CD2	**Chengdu**	**35.51**	**322**	P	**P**	**22 04 56.3**	**+3.0**

CD2 pmax pmax
comp=Z,10.0nm,1.0s
TNCH TengChong 35.59 309 P P 22 04 54.3 +0.1
TNCH pP pP 22 05 08.9 +3.3
TNCH sP sP 22 05 18.0 +7.3
TNCH pmax pmax
comp=Z,13nm,0.8s
HNS HongShan 35.62 341 ⇓P **P 22 04 54.3 +0.2**
HNS S **S 22 10 27.8 +0.6**
HNS pmax pmax
comp=Z,18nm,0.9s
HNS LR LR
comp=Z,130nm,11.2s
HNS LR LR
comp=Z,230nm,15.2s
HNS LR LR
comp=Z,210nm,18.6s
JMM Marumori 35.66 17 P P 22 04 55.2 +0.8
BJT Baijiatuau 37.62 345 P P 22 05 10.0 -1.1
BJT IAmb IAmb 22 05 24.9
comp=Z,22nm,1.3s
STKA Stephens Creek 37.73 161 P P 22 05 12.1 0.0
STKA Stephens Creek 37.73 161 P P 22 05 12.1 0.0
comp=Z,2.3nm,0.5s,baz=330,slow=5.3,SNR=6.2
comp=Z,2.3nm,0.5s
NWAO Narrogin (SRO) 38.12 195 LR LR 22 23 41.2
comp=Z,94nm,18.4s,baz=140,slow=41
IMP Imphal 39.13 305 *eP* **P 22 05 23.7 -0.4**
IMP IAmb IAmb 22 05 29.5
comp=Z,22nm,1.2s
LZH Lanzhou 39.22 328 *eP* **P 22 05 25.8 +1.0**
LZH sP sP 22 05 47.4 +6.6
LZH pmax pmax
comp=Z,30nm,1.3s
LZH LR LR
comp=Z,200nm,13.4s
LZH LR LR
comp=Z,180nm,13.4s
LZH LR LR
comp=Z,260nm,14.1s
AZL Aizawl 39.70 303 *eP* **P 22 05 28.8 0.0**
AZL IAmb IAmb 22 05 37.9
comp=Z,18nm,0.9s
HHC Hu-ho-hao-te 39.78 340 *eP* **P 22 05 29.6 +0.2**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,34nm,4.5s
HHC LR LR
comp=Z,110nm,20.1s
HHC LR LR
comp=Z,120nm,19.1s
HHC LR LR
comp=Z,180nm,19.0s
H11S3 WAKE ISLAND Hy 40.14 66 T T 22 48 43.3
baz=253,slow=75,SNR=17
H11S1 WAKE ISLAND Hy 40.16 66 T T 22 48 46.7
baz=253,slow=75,SNR=6.5
H11S2 WAKE ISLAND Hy 40.16 66 T T 22 48 45.1
baz=253,slow=75,SNR=13
USRK Ussuriysk Ar. 40.26 4 P P 22 05 32.5 -0.6
USRK Ussuriysk Ar. 40.26 4 P P 22 05 32.9 -0.2
comp=Z,1.5nm,0.7s,baz=194,slow=6.6,SNR=4.6
comp=Z,1.5nm,0.7s
ZIRO ZIRO 40.46 309 *eP* **P 22 05 35.5 +0.2**
ZIRO IAmb IAmb 22 05 45.4
comp=Z,25nm,0.9s
TEZP TEZPUR 40.86 307 *eP* **P 22 05 38.0 -0.3**
TEZP IAmb IAmb 22 05 56.6
comp=Z,18nm,1.2s
SHL Shillong 41.13 305 *eP* **P 22 05 40.5 -0.3**
SHL IAmb IAmb 22 05 50.5
comp=Z,29nm,0.7s
GUWA GUWAHATI 41.55 306 *eP* **P 22 05 43.5 -0.6**
GUWA IAmb IAmb 22 05 50.1
comp=Z,12nm,0.6s
ASAJ Asahikawa 41.97 15 P P 22 05 47.6 +0.5
comp=Z,7.0nm,0.8s,baz=180,slow=6.1,SNR=4.8
comp=Z,7.0nm,0.8s
TAWA Tawang 42.04 308 *eP* **P 22 05 49.2 +0.7**
TAWA IAmb IAmb 22 06 00.1
comp=Z,25nm,0.7s
LSA Lhasa 43.59 310 P P 22 06 00.7 -0.4
LSA Lhasa 43.59 310 P P 22 05 55.5 -5.6
LSA pmax pmax
comp=Z,5.0nm,1.4s
GTA Gaotai 43.83 328 P P 22 06 03.5 +1.0
GTA ScP **ScP 22 11 38.9 +2.4**
GTA pmax pmax
comp=Z,10.0nm,0.9s
GTA LR LR
comp=Z,150nm,14.9s
GTA LR LR
comp=Z,100nm,15.6s
GTA LR LR
comp=Z,140nm,15.6s
GTK Tadong 44.53 306 *eP* **P 22 06 09.0 +0.7**
GTK IAmb IAmb 22 06 25.7
comp=Z,21nm,1.0s
DZM Mont Dzumac 45.28 126 *e*LR LR 22 18 51.9
comp=Z,171nm,25.0s
HEH HeiHe 46.20 359 *eP* **P 22 06 21.6 +0.7**
EVN Everest 46.24 306 P P 22 06 21.6 -0.8
EVN IAmb IAmb 22 06 33.7
comp=Z,14nm,0.8s
ULN Ulaanbaatar 47.49 341 P P 22 06 31.4 +0.1
ULN IAmb IAmb 22 06 32.4
comp=Z,15nm,0.8s
ULN Ulaanbaatar 47.49 341 P P 22 06 31.3 +0.1
SONM Songino Array 47.69 340 P P 22 06 32.7 -0.1
SONM Songino Array 47.69 340 P P 22 06 32.8 0.0
comp=Z,6.7nm,0.8s,baz=156,slow=9.0,SNR=37
comp=Z,6.7nm,0.8s
ALBI Allahabad 49.51 300 *eP* **P 22 06 50.2 +3.1**
SALM Salem 50.27 282 *eP* **P 22 06 54.1 +1.3**
LGTI Lohaghat 52.15 305 *eP* **P 22 07 07.0 +0.2**
LGTI IAmb IAmb 22 07 13.7
comp=Z,6.0nm,0.8s
PTH Pithoragarh 52.21 305 *eP* **P 22 07 06.7 -0.8**
PTH IAmb IAmb 22 07 13.5
comp=Z,8.1nm,1.0s
WMQ Urumqi 53.55 324 *eP* **P 22 07 19.0 +2.0**
WMQ LR LR
comp=Z,85nm,21.5s
PEA0B Petropavlovsk- 54.66 21 P P 22 07 25.6 +0.8
PEA0B IAmb IAmb 22 07 59.0
comp=Z,8.1nm,0.9s
PETK Petropavlovsk- 54.66 21 P P 22 07 25.6 +0.8
PETK Petropavlovsk- 54.66 21 P P 22 07 25.2 +0.4
comp=Z,3.6nm,0.6s,baz=189,slow=5.1,SNR=17
comp=Z,3.6nm,0.6s
BHGR Bahadurgarh 54.66 303 *eP* **P 22 07 24.4 -0.8**
KUDL Kundal 54.88 302 *eP* **P 22 07 26.1 -0.8**
KUDL IAmb IAmb 22 07 32.9
comp=Z,12nm,0.7s
SMLA Simla 55.22 306 *eP* **P 22 07 29.5 +0.3**
SMLA IAmb IAmb 22 07 38.9
comp=Z,26nm,0.9s
JMU Jammu 57.54 307⇑ *eP* **P 22 07 47.5 +1.7**
JMU IAmb IAmb 22 07 56.9
comp=Z,273nm,0.6s
YAK Yakutsk 58.01 1 P P 22 07 48.1 -0.3
MA2 Magadan 58.15 13 P P 22 07 49.8 +0.2
comp=Z,4.5nm,0.8s,baz=175,slow=21,SNR=1.8
comp=Z,4.5nm,0.8s
MKAR Makanchi Array 58.38 324 P P 22 07 51.6 +0.2
MKAR Makanchi Array 58.38 324 P P 22 07 51.7 +0.3
comp=Z,6.3nm,0.5s,baz=122,slow=8.1,SNR=67
MKAR LR LR 22 34 22.8
comp=Z,82nm,19.1s,baz=112,slow=38
comp=Z,6.3nm,0.5s
MAKZ Makanchi 58.57 324 P P 22 07 52.5 -0.3
MAKZ IAmb IAmb 22 08 01.0
comp=Z,9.1nm,0.8s
MAKZ Makanchi 58.57 324 P P 22 07 52.9 +0.1
PRZ Przheval'sk 58.68 318 P P 22 07 54.8 +1.0
TARG Taragay, Kyrgy 58.74 317 P P 22 07 54.7 +0.1
TARG IAmb IAmb 22 08 16.4
comp=Z,8.0nm,1.0s
KSH Kashi 59.11 314 P P 22 07 58.6 +1.8
KSH pP sP 22 08 14.8 +1.5
KSH pmax pmax
comp=Z,7.0nm,1.0s
NIL Nilore 59.15 307 P P 22 07 56.7 -0.3
KDJ Kajisay 59.34 318 P P 22 07 58.6 +0.2
NRN Naryn 59.85 316 P P 22 08 01.4 -0.7

NRN IAmb IAmb 22 08 03.0
comp=Z,4.4nm,0.6s
BOOM Boomskoye usch 60.32 318 P P 22 08 04.9 -0.3
BOOM IAmb IAmb 22 08 14.8
comp=Z,8.2nm,0.9s
LBZ Lake Benmore 60.90 147 P P 22 08 09.8 +1.0
ZAA0 Zalesovo Array 61.20 332 P P 22 08 09.8 -0.8
ZAA0 IAmb IAmb 22 08 25.1
comp=Z,9.3nm,1.2s
ZALV Zalesovo Beam 61.20 332 P 22 08 09.6 -1.0
ZALV Zalesovo Beam 61.20 332 P P 22 08 10.0 -0.7
comp=Z,5.6nm,0.9s,baz=107,slow=5.1,SNR=16
comp=Z,5.6nm,0.9s
AAK Ala-Archa 61.36 317 P P 22 08 11.2 -1.0
AAK IAmb IAmb 22 08 26.3
comp=Z,21nm,1.6s
AAK Ala-Archa 61.36 317 LR LR 22 36 46.6
comp=Z,57nm,18.6s,baz=104,slow=38
SHEM Shemya Is, Ala 61.48 30 LR LR 22 30 19.3
comp=Z,42nm,20.4s,baz=271,slow=32
ARSB Arslanbob 61.90 315 P P 22 08 15.8 -0.1
ARSB IAmb IAmb 22 08 25.5
comp=Z,9.8nm,1.0s
KURK Kurchatov 62.50 327 P 22 08 19.0 -0.4
KURK Kurchatov 62.50 327 P P 22 08 19.4 -0.1
KURBB Kurchatov Arra 62.50 327 P P 22 08 19.3 -0.1
comp=Z,14nm,0.7s,baz=123,slow=6.2,SNR=106
comp=Z,14nm,0.7s
KBL Kabul 62.75 307 P P 22 08 21.3 -0.4
KBL IAmb IAmb 22 08 31.4
comp=Z,9.0nm,0.8s
BTK Batken 63.01 313 P 22 08 22.7 -0.5
BTK IAmb IAmb 22 08 43.0
comp=Z,6.3nm,0.8s
GAR Garm 63.04 312 P P 22 08 22.5 -1.0
SIMJ Simiganj 63.91 311 P P 22 08 29.0 -0.3
SIMJ IAmb IAmb 22 09 02.9
comp=Z,6.3nm,0.8s
KK31 Karatay Array 64.25 316 P 22 08 30.4 -0.8
KK31 IAmb IAmb 22 08 41.2
comp=Z,13nm,1.2s
KKAR Karatay Array 64.25 316 P 22 08 30.6 -0.7
TIXI Tiksi 67.66 0 P 22 08 51.7 -0.9
TIXI IAmb IAmb 22 08 52.9
comp=Z,5.6nm,0.6s
TIXI Tiksi 67.66 0 LR LR 22 40 38.0
comp=Z,85nm,18.6s,baz=211,slow=38
BVAR Borovoye Array 68.09 326 P P 22 08 55.6 0.0
comp=Z,5.8nm,0.9s
comp=Z,5.8nm,0.9s
BRVK Borovoye 68.16 326 P 22 08 55.4 -0.7
BRVK IAmb IAmb 22 09 05.2
comp=Z,15nm,1.1s
BRVK Borovoye 68.16 326 P P 22 08 56.0 -0.1
NRIK Noril'sk 70.67 346 P P 22 09 10.9 -0.3
NRIK Noril'sk 70.67 346 P P 22 09 10.9 -0.3
comp=Z,2.3nm,0.5s,baz=159,slow=1.3,SNR=5.2
comp=Z,2.3nm,0.5s
CASY Casey 71.19 188 P P 22 09 13.9 -0.5
UNV Unalaska Valle 72.34 34 P P 22 09 23.5 +1.9
baz=252
AB31 Akbulak array 73.08 320 P 22 09 25.6 -0.5
ABKAR Akbulak array 73.08 320 P 22 09 25.2 -0.8
GAMB Gambell 73.57 24 P P 22 09 30.3 +1.6
baz=244
ARTI Arti 75.77 327 P P 22 09 40.5 -1.1
ARTI IAmb IAmb 22 09 50.8
comp=Z,6.1nm,0.5s
TNA Tin City 75.79 23 P P 22 09 43.5 +2.0
baz=247
K13K Kusilvak Mount 75.86 27 P P 22 09 43.8 +1.8
baz=251
CHNA Chernabura Isl 76.50 34 P P 22 09 46.4 +0.7
baz=257
L14K Kuka Creek 76.57 28 P P 22 09 47.3 +1.3
L14K Kuka Creek 76.57 28 P P 22 09 47.2 +1.2
baz=253
J14K Nanvaranak Lak 76.61 26 P P 22 09 48.0 +1.9
baz=252
M14K Bethel 76.74 28 P P 22 09 47.7 +0.7
baz=254
L15K Ungalak Mounta 77.22 27 P P 22 09 50.4 +0.8
baz=254
M15K Kasigluk River 77.33 28 P P 22 09 51.5 +1.2
baz=255
K15K Wolf Creek Mou 77.37 27 P P 22 09 51.5 +1.0
K15K Wolf Creek Mou 77.37 27 P P 22 09 52.3 +1.8
baz=254
CHGN Chignik 77.47 33 P P 22 09 52.7 +1.6
baz=258
N15K Kwethluk River 77.48 29 P P 22 09 52.6 +1.4
baz=256
H16K Elim 77.73 24 P P 22 09 54.2 +1.7
baz=253
C16K Lisburne Hills 77.75 20 P P 22 09 54.4 +1.9
baz=249
G16K Koyuk River 77.91 24 P P 22 09 55.8 +2.3
baz=253
J16K Anvik River 78.05 26 P P 22 09 55.8 +1.5
baz=255
L16K Owhat River 78.15 28 P P 22 09 56.3 +1.4
baz=256
I17K Unalakleet 78.17 25 P P 22 09 56.8 +1.9
baz=254
N16K Nishlik Lake 78.20 29 P P 22 09 56.9 +1.7
baz=257
M16K Timber Creek 78.23 28 P P 22 09 57.2 +1.8
baz=257
O16K Kokwok River B 78.33 30 P P 22 09 57.3 +1.4
baz=258
D17K Noatak River 78.35 21 P P 22 09 57.5 +1.6
baz=252
RDOG Red Dog Mine 78.53 21 P P 22 09 58.3 +1.5
baz=252
C17K DeLong Mountai 78.57 20 P P 22 09 58.7 +1.6
baz=251
E17K Hotham Inlet 78.62 22 P P 22 09 58.8 +1.5
baz=253
G17K Kiwalik Mounta 78.63 24 P P 22 09 58.9 +1.4
baz=254
F17K Baldwin Pennin 78.66 23 P P 22 09 58.9 +1.4
baz=253
J17K VABM Dome 78.74 26 P P 22 09 59.8 +1.7
baz=256
H17K Granite Mounta 78.78 24 P P 22 09 59.8 +1.5
baz=255
L17K Donlin 78.80 27 P P 22 10 00.3 +1.8
baz=257
R17L Mt. Peulik Vol 78.83 32 P P 22 10 00.2 +1.5
baz=260
O17K Koliganek Bris 78.86 30 P P 22 10 00.5 +1.7
baz=258
K17K Iditarod 78.93 27 P P 22 10 00.6 +1.5
baz=257
N17K Nushagak Hills 78.97 29 P P 22 10 00.9 +1.5
baz=258
M17K Holitna River 79.03 28 P P 22 10 01.1 +1.4
baz=258
P17K Kvichak River 79.08 30 P P 22 10 01.6 +1.6
baz=259
E18K Tukpahlearik C 79.18 22 P 22 10 01.6 +1.2
E18K Tukpahlearik C 79.18 22 P P 22 10 01.9 +1.5
baz=254
Q17K Contact Creek 79.19 31 P P 22 10 02.2 +1.4
baz=260
F18K Selawik 79.31 23 P P 22 10 03.3 +2.2
baz=255
B18K Kokolik River 79.32 20 P P 22 10 02.5 +1.4
baz=252
H18K Honhosa River 79.47 24 P P 22 10 03.3 +1.3
baz=256
G18K Tagagawik 79.53 24 P P 22 10 03.5 +1.2
baz=256
L18K Granite Mounta 79.55 27 P P 22 10 04.0 +1.5
baz=258
N18K Kilae Creek 79.63 29 P P 22 10 04.3 +1.3
baz=259
Q18K Katmai Hardscr 79.72 31 P P 22 10 04.9 +1.2
baz=261
J18K Innoko River 79.79 26 P P 22 10 05.1 +1.2
baz=258
M18K Stony River 79.81 28 P P 22 10 05.3 +1.3
baz=259
O18K Koktuh Hills 79.82 30 P P 22 10 05.2 +1.2
baz=260
SII Sitkinak Islan 79.83 33 P P 22 10 05.4 +1.2
baz=262

R18K Karluk 79.83 32 P P 22 10 05.7 +1.5
baz=261
C19K Lookout Ridge 80.00 20 P P 22 10 06.4 +1.5
baz=254
F19K Shaleruckik Mo 80.10 23 P P 22 10 07.3 +1.9
baz=257
H19K Roundabout Mou 80.33 24 P P 22 10 08.5 +1.9
baz=258
N19K Bonanza Creek 80.33 29 P P 22 10 08.9 +2.0
baz=261
D19K Kuna River 80.36 21 P P 22 10 08.2 +1.4
baz=256
J19K Poorman 80.38 26 P 22 10 07.8 +0.9
J19K Poorman 80.38 26 P P 22 10 08.5 +1.6
baz=259
L19K White Mountain 80.39 28 P P 22 10 08.5 +1.4
baz=260
OHAK Old Harbor 80.41 33 P P 22 10 09.3 +2.1
baz=262
E19K Redstone River 80.45 22 P P 22 10 09.0 +1.7
baz=257,SNR=8.6
Q19K Cape Douglas, 80.46 31 P P 22 10 09.1 +1.6
baz=262
M19K Big River Lodg 80.56 28 P P 22 10 10.0 +2.0
baz=261
P19K Oil Pt 80.77 30 P P 22 10 10.9 +1.7
baz=262
KDAK Kodiak Island 80.86 32 P P 22 10 11.6 +1.9
KDAK IAmb IAmb 22 10 23.0
comp=Z,8.9nm,0.8s
KDAK Kodiak Island 80.86 32 P P 22 10 11.2 +1.6
baz=263
L20K Farewell, AK 80.89 27 P P 22 10 11.4 +1.6
baz=261
F20K Avaraart Lake 80.93 23 P P 22 10 11.7 +1.9
baz=258
K20K Telida 80.94 26 P P 22 10 11.3 +1.3
baz=261
D20K Etivluk River 80.95 21 P P 22 10 10.9 +0.9
baz=257,SNR=5.5
H20K Anotleneega Mo 80.97 24 P P 22 10 11.8 +1.7
baz=260
E20K Nigu River 81.01 21 P P 22 10 11.8 +1.4
baz=258,SNR=10
I20K Naaghedeneel 81.01 25 P P 22 10 12.1 +1.8
baz=260
J20K Nowinta River 81.05 26 P P 22 10 12.3 +1.8
baz=260
B20K Meade River 81.06 20 P P 22 10 12.1 +1.7
baz=257
Q20K Shuyak Island 81.06 31 P P 22 10 12.2 +1.5
baz=263
M20K Styx River 81.14 28 P P 22 10 12.6 +1.4
baz=262
IMAR Indian Mountai 81.51 24 P P 22 10 14.7 +1.7
C21K Knifeblade Rid 81.69 21 P P 22 10 15.5 +1.6
baz=259
G21K Allakaket 81.70 23 P 22 10 16.0 +2.0
G21K IAmb IAmb 22 10 17.3
comp=Z,29nm,1.9s
G21K Allakaket 81.70 23 P P 22 10 15.6 +1.7
baz=261,SNR=6.6
PPLA Purkeypile 81.72 27 P P 22 10 15.9 +1.5
baz=262
F21K Alatna River 81.82 23 P P 22 10 15.9 +1.3
baz=261
CAST Castle Rocks 81.84 27 P 22 10 16.5 +1.8
CAST IAmb IAmb 22 10 27.1
comp=Z,6.5nm,0.8s
CAST Castle Rocks 81.84 27 P P 22 10 15.9 +1.1
baz=262
B21K Ikpikpuk River 81.84 20 P P 22 10 16.4 +1.7
baz=259,SNR=6.1
H21K Melozitna Rive 81.85 24 P P 22 10 16.3 +1.5
baz=261,SNR=11
E21K Killik River 81.85 21 P P 22 10 16.3 +1.5
baz=260
SKT Skwentna 81.91 28 P 22 10 16.2 +1.0
SKT Skwentna 81.91 28 P P 22 10 16.8 +1.7
baz=263
RAYN Ar Rayn 81.95 293 P P 22 10 16.0 -0.3
RAYN IAmb IAmb 22 10 25.1
comp=Z,10nm,0.8s
A22K Sinclair Lake 81.99 19 P P 22 10 17.3 +2.0
baz=259
I21K Tanana 82.12 25 P P 22 10 18.1 +1.9
baz=262
F22K John River 82.37 22 P P 22 10 19.2 +1.7
baz=262
KTH Kantishna Hill 82.37 26 P 22 10 19.2 +1.5
KTH IAmb IAmb 22 10 20.5
comp=Z,15nm,1.2s
B22K Teshekpuk Lake 82.37 20 P P 22 10 19.2 +1.9
baz=260
D22K Ayikyak River 82.39 21 P P 22 10 19.4 +1.9
baz=261
BPAW Bear Paw Mtn. 82.41 26 P P 22 10 19.2 +1.5
BPAW IAmb IAmb 22 10 20.3
comp=Z,13nm,1.1s
BPAW Bear Paw Mtn. 82.41 26 P P 22 10 19.1 +1.3
baz=263,SNR=12
H22K Ishtalitna Cre 82.46 24 P P 22 10 19.6 +1.6
baz=263,SNR=8.8
G22K Bettles 82.55 23 P P 22 10 20.3 +1.9
baz=262
E22K Anaktuvuk Pass 82.59 22 P P 22 10 20.2 +1.5
baz=262
MLY Manley 82.62 25 P 22 10 20.1 +1.2
MLY IAmb IAmb 22 10 21.5
comp=Z,7.5nm,0.8s
MLY Manley 82.62 25 P P 22 10 20.6 +1.7
baz=263,SNR=13
TRF Thorofare Moun 82.64 27 P 22 10 20.1 +1.0
TRF Thorofare Moun 82.64 27 P P 22 10 20.5 +1.4
baz=264
GNI Garni 82.65 310 LR LR 22 50 05.8
comp=Z,32nm,21.3s,baz=125,slow=38
COLD Coldfoot 83.09 23 P P 22 10 22.7 +1.5
COLD IAmb IAmb 22 10 24.4
comp=Z,12nm,0.9s
COLD Coldfoot 83.09 23 P P 22 10 23.2 +2.0
baz=264,SNR=8.2
G23K Bananza Creek 83.10 23 P P 22 10 22.9 +1.5
baz=264,SNR=20
D23K Nanushuk River 83.12 21 P P 22 10 23.4 +2.1
baz=263,SNR=5.6
H23K Yukon River 83.20 24 P P 22 10 23.8 +1.9
baz=264,SNR=11
I23K Minto, Yukon-K 83.21 25 P P 22 10 23.4 +1.5
baz=265,SNR=16
C23K Itkillik River 83.25 20 P P 22 10 23.6 +1.7
baz=263
MCK McKinley 83.27 26 P P 22 10 23.1 +0.8
baz=265,SNR=5.5
RND Reindeer 83.28 27 P P 22 10 23.0 +0.6
RND IAmb IAmb 22 10 23.9
comp=Z,9.4nm,0.8s
NEA2 Nenana 83.29 26 P P 22 10 23.7 +1.4
baz=265,SNR=5.6
KNK Knik Glacier 83.31 29 P P 22 10 23.6 +1.1
baz=266
PWL Port Wells 83.33 29 P P 22 10 23.5 +0.9
PWL IAmb IAmb 22 10 42.8
comp=Z,10nm,0.9s
PWL Port Wells 83.33 29 P P 22 10 24.2 +1.6
baz=266
WAT1 Susitna Watana 83.37 27 P P 22 10 24.4 +1.6
baz=266
VNDA Vanda 83.39 173 P P 22 10 23.4 +0.8
VNDA Vanda 83.39 173 P P 22 10 22.6 0.0
comp=Z,1.5nm,1.0s,baz=332,slow=6.1,SNR=9.5
comp=Z,1.5nm,1.0s
E23K Chandalar 83.40 22 P P 22 10 24.7 +1.7
baz=264,SNR=27
TOLK Toolik Lake Re 83.48 21 P P 22 10 24.5 +1.2
baz=264,SNR=7.9
PPT2 Papeete2 83.58 108 *e*LR LR 22 36 49.5
comp=Z,62nm,26.0s
M23K Glacier View 83.68 28 P P 22 10 26.0 +1.6
baz=266
WAT6 Susitna Watana 83.73 28 P P 22 10 25.8 +1.0
baz=266,SNR=15
P23K Montague Islan 83.74 30 P P 22 10 26.4 +1.7
baz=267
D24K Happy Valley 83.80 21 P P 22 10 26.6 +1.7
baz=265,SNR=8.2
E24K Your Creek 83.83 22 P P 22 10 26.7 +1.6
baz=265,SNR=6.3

SCM	Sheep Creek Mo	83.87	28	P	P	22 10 26.2	+0.8
SCM	Sheep Creek Mo	83.87	28	P	P	22 10 26.9	+1.4
	baz=267,SNR=7.4						
H24K	Noodor Dome	83.89	24	P	P	22 10 27.0	+1.6
	baz=266,SNR=9.3						
C24K	Franklin Bluff	83.90	20	P	P	22 10 26.6	+1.3
	baz=265						
DHY	Denali Highway	83.92	27	P	P	22 10 27.6	+1.8
	baz=267						
GLI	Glacier Island	83.94	29	P	P	22 10 27.2	+1.5
	baz=267						
GEVA	Gevas	83.95	308	P	P	22 10 26.5	+0.1
F24K	Squaw Lake	84.01	23	P	P	22 10 27.6	+1.6
	baz=266,SNR=12						
POKR	Poker Plat Res	84.02	25	P	P	22 10 27.7	+1.6
	baz=266						
G24K	Hadweenzic Riv	84.11	23	P	P	22 10 28.0	+1.5
	baz=266,SNR=22						
HDA	Harding Lake	84.19	26	P	P	22 10 27.1	+0.2
HDA				IAmb	IAmb	22 10 29.0	
	comp=Z,5.3nm,0.8s						
HDA	Harding Lake	84.19	26	P	P	22 10 27.3	+0.4
	baz=267,SNR=5.4						
ILAR	Eielson Array	84.24	25	P	P	22 10 26.6	-0.5
ILAR	Eielson Array	84.24	25	P	P	22 10 27.7	+0.6
	comp=Z,1.8nm,0.9s,baz=241,slow=6.2,SNR=13						
	comp=Z,1.8nm,0.9s						
TBI	Tubuai	84.33	114	eLR	LR	22 36 56.8	
	comp=Z,263nm,26.8s						
M24K	Tolsona, Glenn	84.43	28	P	P	22 10 29.8	+1.5
	baz=268,SNR=5.3						
KLU	Klutina	84.53	29	P	P	22 10 30.5	+1.7
KLU	Klutina	84.53	29	P	P	22 10 30.5	+1.7
	baz=268,SNR=7.5						
EYAK	Cordova Ski Ar	84.58	30	P	P	22 10 30.4	+1.5
	baz=268						
G25K	Bearman Lake	84.66	23	P	P	22 10 31.0	+1.8
	baz=268						
K24K	Donnelly Dome	84.67	26	P	P	22 10 30.9	+1.4
	baz=268						
D25K	Kavik River	84.68	21	P	P	22 10 30.5	+1.2
	baz=267						
GURO	Guroymak-BITLI	84.75	308	P	P	22 10 30.6	+0.1
GURO				IAmb	IAmb	22 11 03.9	
	comp=Z,6.9nm,0.9s						
H25L	Birch Creek	84.75	24	P	P	22 10 31.5	+1.8
	baz=268,SNR=9.3						
PAX	Paxson	84.79	27		P	22 10 31.3	+1.2
PAX				IAmb	IAmb	22 10 42.4	
	comp=Z,7.4nm,1.0s						
PAX	Paxson	84.79	27	P	P	22 10 31.4	+1.4
	baz=268,SNR=7.7						
F25K	Christian Rive	84.87	23	P	P	22 10 32.5	+2.1
	baz=268,SNR=8.0						
J25K	Salcha River,	84.88	26	P	P	22 10 31.8	+1.3
	baz=268						
HARP	HAARP	84.92	28	P	P	22 10 32.4	+1.8
	baz=269						
E25K	Arctic Village	84.92	22	P	P	22 10 32.4	+1.8
	baz=268,SNR=5.9						
RIDG	Independent Ri	85.09	26	P	P	22 10 32.7	+1.2
	baz=269,SNR=6.3						
BMRM	Bremner River	85.15	29	P	P	22 10 33.5	+1.6
BMRM	Bremner River	85.15	29	P	P	22 10 33.6	+1.7
	baz=269						
N25K	Chitina, Valde	85.17	29	P	P	22 10 34.0	+2.0
	baz=269						
BMAR	Burnt Mountain	85.28	23	P	P	22 10 34.4	+2.1
F26K	Sheenjek River	85.45	22	P	P	22 10 34.9	+1.7
	baz=269,SNR=5.8						
SCRK	Sand Creek	85.47	26	P	P	22 10 34.8	+1.3
	baz=270						
G26K	Porcupine Rive	85.58	23	P	P	22 10 35.3	+1.5
	baz=270						
BERG	Berg Lake	85.59	30	P	P	22 10 36.0	+2.0
C27K	Jago River	85.63	21	P	P	22 10 35.7	+1.6
	baz=269						
J26L	Joseph Creek	85.66	26	P	P	22 10 35.8	+1.3
	baz=270						
I26K	Coal Creek Min	85.83	25	P	P	22 10 36.8	+1.7
	baz=270						
CRQE	Cirque	85.89	29	P	P	22 10 37.4	+1.7
	baz=271						
KOPT	Kop Dagi	85.91	310	P	P	22 10 37.4	+0.9
MCARA	McCarthy VSAT	85.92	29	P	P	22 10 37.3	+1.6
	baz=271						
M26K	Nabesna, AK	85.92	28	P	P	22 10 37.9	+2.1
	baz=271						
K27K	Chicken	86.31	26	P	P	22 10 39.1	+1.6
	baz=271						
E27K	Coleen River	86.41	22	P	P	22 10 39.5	+1.6
	baz=272						
G27K	Doyon Strip	86.42	23	P	P	22 10 40.0	+2.0
	baz=272						
M27K	Edge Creek, AK	86.44	28	P	P	22 10 40.0	+1.6
	baz=272						
L27K	Beaver Creek,	86.45	27	P	P	22 10 40.1	+1.8
	baz=272						
BCAR	Beaver Creek A	86.47	27	P	P	22 10 39.9	+1.6
I27K	Kandik River	86.47	25	P	P	22 10 40.0	+1.6
	baz=272						
MESA	MESA	86.47	30	P	P	22 10 40.6	+1.9
	baz=272						
H27K	Steamboat Moun	86.49	24	P	P	22 10 40.6	+2.2
	baz=272						
D27M	Malcolm River	86.61	21	P	P	22 10 41.1	+2.1
	baz=272						
CTG	Chitna Glacier	86.75	29	P	P	22 10 41.8	+1.9
	baz=272						
BVCY	Beaver Creek	86.92	28	P	P	22 10 41.7	+1.1
	baz=272						
F28M	Old Crow	87.08	23	P	P	22 10 43.0	+1.8
	baz=273						
E28M	Babbage River	87.15	22	P	P	22 10 43.4	+1.8
	baz=273						
I28M	Miner Creek	87.18	25	P	P	22 10 43.5	+1.6
	baz=273						
DAWY	Dawson	87.49	26	P	P	22 10 44.2	+0.9
	baz=274						
YUK8	Steele Glacier	87.49	29	P	P	22 10 45.0	+1.3
	baz=274						
H29M	Whitestone	87.77	24	P	P	22 10 46.1	+1.5
	baz=275						
E29M	Blow River	87.77	22	P	P	22 10 46.1	+1.6
	baz=275						
PNL	Peninsula	87.78	30	P	P	22 10 45.9	+1.2
	baz=274						
G29M	Pine Creek	87.85	23	P	P	22 10 45.9	+0.9
	baz=275						
I29M	Ogilvie Camp,	87.86	25	P	P	22 10 46.3	+1.2
	baz=275						
M29M	Somme Creek	88.03	28	P	P	22 10 47.4	+1.4
	baz=275						
YUK4	Talbot Arm	88.03	29	P	P	22 10 47.6	+1.5
	baz=275						
L29M	L29M	88.13	27	P	P	22 10 47.9	+1.5
	baz=275						
YUK6	Outpost Mounta	88.20	29	P	P	22 10 48.1	+1.1
	baz=275						
K29M	Barlow Dome	88.33	26	P	P	22 10 48.7	+1.3
	baz=275						
EPYK	Eagle Plains	88.42	24	P	P	22 10 49.1	+1.4
	baz=276						
G30M	tAoh Zraii Nji	88.55	23	P	P	22 10 49.4	+1.1
	baz=276						
P29M	Windy Craggy	88.62	30	P	P	22 10 50.5	+1.7
	baz=275						
HYT	Haines Junctio	88.63	29	P	P	22 10 49.9	+1.0
	baz=276						
F30M	Barrier River	88.64	22	P	P	22 10 49.6	+0.9
	baz=277						
I30M	Mount Dempster	88.68	25	P	P	22 10 50.0	+1.0
	baz=276						
N30M	Aishikik Lake	88.77	29	P	P	22 10 50.2	+0.8
	baz=276						
J30M	Hart River	88.78	25	P	P	22 10 50.9	+1.4
	baz=276						
M30M	Minto, Yukon	88.79	27	P	P	22 10 50.4	+0.9
	baz=276						
G31M	Satah River	89.32	23	P	P	22 10 53.3	+1.5
	baz=278						
O30N	Mendenhall	89.32	29	P	P	22 10 53.3	+1.2
	baz=277						
INK	Inuvik	89.39	22	P	P	22 10 53.4	+1.3
	baz=279						
F31M	Tsiigehtchic	89.44	22	P	P	22 10 53.3	+1.0
	baz=279						
H31M	Peel River	89.45	24	P	P	22 10 53.7	+1.2
	baz=278						
WHY	Whitehorse	89.93	29	P	P	22 10 56.5	+1.6
	baz=278						
M31M	Drury Creek, Y	89.94	28	P	P	22 10 56.4	+1.5
	baz=278						
SIT	Sitka	90.17	33	P	P	22 10 57.5	+1.5
	baz=277						
FARO	Faro, Yukon	90.42	28	P	P	22 10 58.8	+1.7
	baz=279						
R32K	Eaglecrest	90.44	32	P	P	22 10 58.9	+1.7
	baz=278						
N32M	Quiet Lake	90.72	29	P	P	22 11 00.2	+1.6
	baz=279						
ARCES	ARCESS Array B	90.86	340	P	P	22 10 58.0	-1.0
ARCES	ARCESS Array B	90.86	340	P	P	22 10 58.2	-0.8
	comp=Z,2.9nm,0.7s,baz=67,slow=4.3,SNR=10.0						
	comp=Z,2.9nm,0.7s						
EIL	Elat	91.08	300	LR	LR	22 57 15.7	
	comp=Z,50.2nm,0.4s,baz=65,slow=39						
BRTR	Keskin Array B	91.19	310	P	P	22 11 00.7	-0.7
	comp=Z,0.2nm,0.4s,baz=117,slow=4.3,SNR=4.4						
	comp=Z,0.2nm,0.4s						
MMPY	Sheldon Lake,	91.31	27	P	P	22 11 02.3	+1.0
	baz=281						
Q32M	Nakina River	91.49	31	P	P	22 11 03.4	+1.0
	baz=280						
R33M	Jennings River	92.07	30	P	P	22 11 06.5	+1.6
	baz=281						
S34M	Telegraph Cree	92.27	32	P	P	22 11 07.3	+1.6
	baz=281						
FINES	FINESS Array B	92.47	332	P	P	22 11 05.2	-1.3
	comp=Z,0.7nm,0.5s,baz=132,slow=2.8,SNR=8.7						
	comp=Z,0.7nm,0.5s						
DLBC	Dease Lake	92.74	31	P	P	22 11 09.6	+1.6
	baz=282						
AKASG	Malin Array Be	92.81	321	P	P	22 11 06.7	-1.6
	comp=Z,1.4nm,0.7s,baz=69,slow=4.4,SNR=5.8						
	comp=Z,1.4nm,0.7s						
SYO	Syowa Base	93.18	201	ep	P	22 11 24.0	+1.7
QSPA	South Pole Qui	93.80	180		P	22 11 13.8	+1.0
QSPA	South Pole Qui	93.80	180	P	P	22 11 13.3	+0.5
	comp=Z,2.8nm,1.0s,baz=310,slow=1.3,SNR=8.2						
	comp=Z,2.8nm,1.0s						
TOAD	Toad River Com	95.07	30	P	P	22 11 20.0	+1.3
	baz=286						
KOTAN	Kotaneelee Air	95.28	29	P	P	22 11 20.8	+1.3
	baz=287						
MLR	Muntele Rosu	95.93	316	LR	LR	23 00 59.3	
	comp=Z,28nm,18.2s,baz=76,slow=40						
HFS	Hagfors	98.64	333	P	P	22 11 33.0	-1.7
	comp=Z,1.0nm,0.6s,baz=132,slow=4.4,SNR=10						
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	99.37	334	P	Pdif	22 11 36.5	-1.6
	comp=Z,0.3nm,0.8s,baz=63,slow=7.9,SNR=3.6						
NOA				LR	LR	23 01 47.9	
	comp=Z,18nm,18.6s,baz=295,slow=39						
	comp=Z,0.3nm,0.8s						

NEIC ***13*** *22:05:11.7±1.9,35°.533N±0°.008×117°.38W±0°.01, h9km±5km, Error ellipse: s-maj=1.7km s-min=0.8km az=51.0*

PAS 13 22:05:12.4±1.2, 35°.524N±0°.009×117°.38W±0°.01, h8km±2km, ML3.1/142, ML2.9/112(NEIC)**, Error ellipse: s-maj=1.5km s-min=1.3km az=56.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	Chr Cany lake	0.01	84	Pg	Pg	22 05 14.2	+0.3
CCCA				IAML		22 05 15.8	
	comp=E,8μm,0.3s						
CCCA				IAML		22 05 15.9	
	comp=N,12μm,0.3s						
CCCA	Chr Cany lake	0.01	84		Sg	22 05 15.7	+0.7
WSHM	Spangler Hills	0.12	310		Pg	22 05 15.2	0.0
WSHM					Sg	22 05 17.1	+0.1
LRMC	Laurel Mtn Rad	0.25	260	Pg	Pg	22 05 17.4	0.0
LRMC				Sg	Sg	22 05 21.2	+0.3
LRMC				IAML		22 05 22.2	
	comp=E,3μm,0.3s						
SRTC	Snort	0.34	299		Pg	22 05 19.4	+0.1
SRTC					Sg	22 05 24.9	+1.1
TOW	Tower One	0.42	312		Pg	22 05 20.8	+0.1
DTP	Desert Tortois	0.46	236		Pg	22 05 21.0	-0.3
DTP					Sg	22 05 27.3	0.0
GSC	Goldstone, Bar	0.52	115	Pg	Pg	22 05 22.2	-0.3
GSC				Sg	Sg	22 05 29.2	-0.1
GSC				IAML		22 05 29.4	
	comp=N,531nm,0.4s						
GSC				IAML		22 05 31.0	
	comp=E,722nm,0.5s						
MPMC	Manual Prospec	0.54	351		Pg	22 05 22.4	-0.6
MPMC					Sg	22 05 29.7	-0.4
MPMC				IAML		22 05 30.4	
	comp=N,843nm,0.4s						
MPMC				IAML		22 05 30.6	
	comp=E,808nm,0.4s						
WVPM	Volcano Peak E	0.55	320		Pg	22 05 22.7	-0.5
WVPM					Sg	22 05 30.4	0.0
JRC2	Joshua Ridge	0.57	323		Pg	22 05 23.2	-0.4
JRC2					Sg	22 05 31.1	-0.1
WCSM	Coso Springs S	0.59	328		Pg	22 05 23.4	-0.5
WCSM					Sg	22 05 31.4	-0.3
QSM	Queen of Sheba	0.61	43		Pg	22 05 23.9	-0.3
QSM					Sg	22 05 31.9	-0.2
QSM				IAML		22 05 35.6	
	comp=E,1μm,0.2s						
QSM				IAML		22 05 35.8	
	comp=N,1μm,0.3s						
WBSM	Bird Springs	0.62	271		Sg	22 05 32.2	-0.4
WRVM	Rose V. Centra	0.64	320		Sg	22 05 32.8	-0.3
CCAC	Calif City Air	0.64	235		Pg	22 05 24.6	-0.2
CCAC					Sg	22 05 33.1	0.0
MFS	McCloud Flat S	0.71	327		Pg	22 05 25.6	-0.4
RRX	Edison Barstow	0.72	154		Pg	22 05 25.8	-0.5
WORM	Onyx Ranch	0.72	284		Sg	22 05 35.1	-0.7
EDW2	Edwards Air Fo	0.81	218		Sg	22 05 38.1	-0.6
GWY	Greenwater Val	0.88	41		Pg	22 05 28.8	-0.6
GWY					Sg	22 05 40.0	-0.7
GWY				IAML		22 05 43.2	
	comp=N,571nm,0.3s						
ISA	Isabella, Lake	0.90	279		Pg	22 05 28.9	-0.8
ISA					Sg	22 05 40.3	-1.2
ISA				IAML		22 05 41.2	
	comp=N,263nm,0.3s						
ISA				IAML		22 05 41.5	
	comp=E,407nm,0.4s						
SBB	Saddle Back Bu	0.91	204		Pg	22 05 29.1	-0.8
SBB					Sg	22 05 41.1	-0.7
TPO	Tropico Hills	0.95	227		Pg	22 05 30.0	-0.6
TPO					Sg	22 05 42.7	-0.3
TPO				IAML		22 05 45.4	
	comp=N,514nm,0.5s						
VTV	Victorville	0.96	177		Pb	22 05 31.4	0.0
SHOC	Shoshone, Teco	0.97	67		Pg	22 05 30.6	-0.5
SHOC					Sg	22 05 43.8	0.0
WASM	Alta Sierra Ca	0.98	283		Sg	22 05 43.4	-0.7
FURC	Furnace Creek,	1.03	24		Pg	22 05 31.8	-0.5
CWC	Cottonwood Cre	1.08	328		Pg	22 05 32.2	-0.9
CWC	Cottonwood Cre	1.08	328		Pg	22 05 32.4	-0.7
CWC	Cottonwood Cre	1.08	328		Sg	22 05 46.5	-0.6
CGO	Cerro Gordo	1.08	342		Pg	22 05 32.0	-1.3
CGO					Sg	22 05 47.1	-0.2
HEC	Hector,Ludlow	1.10	129		Pg	22 05 32.7	-0.9
HEC					Sg	22 05 46.7	-1.2
TEJ	El Tejon	1.11	255		Pg	22 05 32.4	-1.3
DSCC	Desert Studies	1.11	110		Pg	22 05 32.4	-1.4
DSCC					Sg	22 05 47.3	-0.9
LRRC	Littlerock Res	1.13	208		Pg	22 05 33.1	-1.0
LRRC					Sg	22 05 48.7	0.0
HOLC	Holcomb Ridge	1.13	200		Pg	22 05 33.2	-1.0
HOLC					Sg	22 05 48.6	-0.1
TUQ	Turquoise Moun	1.19	94		Pg	22 05 33.9	-1.4
THC	Tehachapi Micr	1.22	240		Pg	22 05 35.5	-0.3
AMDNV	Amargosa	1.29	44		Pn	22 05 35.1	-1.6
BFSC	Mount Baldy Ra	1.30	190		Pn	22 05 36.1	-0.9
BFSC				IAML		22 05 54.5	
	comp=E,146nm,0.7s						
BFSC				IAML		22 05 55.8	
	comp=N,136nm,0.3s						
SS2	San Sevaine	1.32	184		Pn	22 05 36.8	-0.3
WCT	Wildcat Mounta	1.41	26		Pn	22 05 37.1	-1.4
MWC	Mount Wilson	1.41	203		Pn	22 05 37.7	-0.9
MWC				IAML		22 06 01.5	
	comp=N,124nm,0.3s						
MWC				IAML		22 06 01.6	
	comp=E,122nm,0.3s						
GRAC	Grapevine Rang	1.47	0		Pn	22 05 38.8	-0.5
GRAC				IAML		22 06 05.4	
	comp=N,130nm,0.6s						
GRAC				IAML		22 06 06.1	
	comp=E,153nm,0.7s						
MTPC	Mountain Pass	1.49	91		Pn	22 05 38.2	-1.5
MTPC					Sn	22 05 59.3	-0.2
MTPC				IAML		22 05 59.8	
	comp=N,179nm,0.2s						
MTPC				IAML		22 06 01.2	
	comp=E,174nm,0.3s						
PASC	Pasadena Art C	1.50	206		Pn	22 05 39.2	-0.5
TPNV	Topopah Spring	1.69	32		Pn	22 05 41.4	-1.1
TPNV				IAML		22 06 09.6	
	comp=E,124nm,0.8s						
TPNV				IAML		22 06 11.6	
	comp=E,143nm,0.6s						
EW2	E Wide Canyon	1.77	153		Pn	22 05 42.3	-1.1
GMN	Gold Mountain	1.78	3		Pn	22 05 43.0	-0.7
ELS	Elsinore Mount	1.87	181		Pn	22 05 44.2	-0.6
ELS				IAML		22 06 14.4	
	comp=E,65nm,0.3s						
DSP	Deep Springs	1.90	346		Pn	22 05 44.4	-0.8
PMD	Palm Desert	2.05	156		Pn	22 05 45.7	-1.4
PMD				IAML		22 06 18.3	
	comp=E,66nm,0.5s						
PMD				IAML		22 06 18.8	
	comp=N,58nm,0.5s						
SHPR	Sheep Range	2.05	61		Pn	22 05 46.3	-1.1
PFO	Pinyon Flats O	2.05	158		Pn	22 05 46.0	-1.3
PFO				IAML		22 06 17.7	
	comp=N,58nm,0.5s						
V12A	Nelson	2.07	84		Pn	22 05 46.0	-1.6
V12A				IAML		22 06 19.9	
	comp=N,52nm,0.5s						
V12A				IAML		22 06 25.9	
	comp=E,56nm,0.5s						
NEE2	Needles Airpor	2.38	108		Pn	22 05 49.9	-2.0
NEE2				IAML		22 06 30.4	
	comp=E,80nm,0.4s						
NEE2				IAML		22 06 32.6	
	comp=N,94nm,0.3s						
BORC	Borrego Spring	2.39	160		Pn	22 05 50.9	-1.0
BORC				IAML		22 06 30.8	
	comp=E,48nm,0.6s						
BORC				IAML		22 06 35.1	
	comp=N,44nm,0.9s						
TPH	Tonopah	2.55	3		Pn	22 05 53.5	-0.9
TPH				IAML		22 06 39.6	
	comp=E,54nm,0.9s						
TPH				IAML		22 06 41.5	
	comp=N,62nm,0.9s						
PRN	Pahroc Range	2.66	44		Pn	22 05 55.5	-0.3
PMPB	Monarch Peak	2.86	285	Pn	Pn	22 05 57.8	-0.7
PMPB				IAML		22 06 42.1	
	comp=E,48nm,2.6s						
PMPB				IAML		22 06 52.9	
	comp=N,42nm,0.8s						
LHV	Little Huntoon	2.87	342		Pn	22 05 58.8	+0.3
LHV				IAML		22 06 48.8	
	comp=E,23nm,0.6s						
LHV				IAML		22 06 51.5	
	comp=N,26nm,1.0s						
W13A	Hualapai Mount	2.89	97		Pn	22 05 57.5	-1.5
W13A				IAML		22 06 47.3	
	comp=N,23nm,0.6s						
BLYC	Blythe	2.95	126		Pn	22 05 57.4	-2.1
BLYC				IAML		22 06 47.9	
	comp=N,26nm,0.3s						
BLYC				IAML		22 06 49.7	
	comp=E,34nm,0.6s						
NV11	Mina Array Sit	2.97	348		Pn	22 05 59.2	-0.8
NVAR	Mina Array Bea	2.99	346		Pn	22 05 59.7	-0.7
YUH	Yuha Desert	3.11	157		Pn	22 06 00.9	-0.9
RYN	Ryan	3.23	344		Pn	22 06 03.6	0.0
GLA	Glamis	3.25	139	Pn	Pn	22 06 01.8	-1.9
CBX	Cerro Bola	3.26	169	Pn	Pn	22 06 02.7	-1.2
LCMT	Little Creek M	3.66	65	Pn	Pn	22 06 08.6	-0.8
ESJX	Sierra Juarez	3.71	161	Pn	Pn	22 06 09.4	-0.8
ESJX				IAML		22 08 31.9	
	comp=N,33nm,0.1s						
CCUT	Cedar City	3.82	57		Pn	22 06 12.8	+1.1
Y14A	Wickenburg	3.94	112	Pn	Pn	22 06 11.8	-1.5
Y14A				IAML		22 07 20.7	
	comp=E,15nm,0.8s						
Y14A				IAML		22 07 23.0	
	comp=N,21nm,0.8s						
KNB	Kanab	3.97	67		Pn	22 06 11.6	-2.2
KNB				IAML		22 07 37.1	
	comp=N,8.3nm,1.5s						
PSUT	Pine Spring	4.12	42		Pn	22 06 15.6	-0.3
PSUT				IAML		22 07 31.4	
	comp=N,11nm,1.2s						
PSUT				IAML		22 07 32.1	
	comp=E,11nm,1.0s						
U15A	North Rim	4.22	76		Pn	22 06 16.6	-0.8
U15A				IAML		22 07 24.2	
	comp=E,13nm,0.9s						
U15A				IAML		22 07 27.8	
	comp=N,13nm,1.1s						

IDC ***13*** *22:05:35.0±2.0, 37°.68N×143°.84E, h0km, mb3.6/6, mbtmp3.6/8, ML3.4/2, Error ellipse: s-maj=49.5km s-min=27.1km az=82.0*

JMA ***13*** *22:05:39.2±0.2, 37°.8N±0°.7×14°.4E×°, h46km, MV3.5/33, FAR E OFF FUKUSHIMA PREF*

ISC 13 22:05:41.3±1.3, 37°.77N±0°.07×143°.51E±0°.09, h35km, n25, σ0s97/33, mb3.5/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.70	289	P	Pn	22 06 07.5	-1.0
JIKH				S	Sn	22 06 28.1	-0.9
JIO	Ouri	1.83	293	P	Pn	22 06 09.4	-0.9
JIO				S	Sn	22 06 31.8	-0.5
JKMT	Kesennumamotoy	1.91	304	*i* P	Pn	22 06 10.3	-1.0
JKMT				S	Sn	22 06 33.3	-0.8
OFUJ	Ofunato	1.95	313	P	Pn	22 06 10.8	-1.1
OFUJ				eS	Sn	22 06 34.2	-1.0
JFK	Kawauchi	2.13	260	eP	Pn	22 06 13.0	-1.4
JFK				eS	Sn	22 06 38.4	-1.3
JMK	Ichinoseki	2.15	304	eP	Pn	22 06 13.5	-1.1
JMM	Marumori	2.15	273	P	Pn	22 06 13.6	-1.1
JMM				eS	Sn	22 06 38.9	-1.3
JOU	Okura	2.32	286	P	Pn	22 06 16.8	-0.2
JOU				S	Sn	22 06 45.3	+0.9
JOM	Ohasama	2.43	315	eP	Pn	22 06 17.9	-0.7
JOM				eS	Sn	22 06 46.3	-0.7
JOTO	OTAMA OYAMA	2.53	266	P	Pn	22 06 19.6	-0.3
JOTO				eS	Sn	22 06 49.0	-0.4
JYK	Kaneyama	2.73	296	P	Pn	22 06 22.8	+0.1
JYK				eS	Sn	22 06 55.4	+1.0
JRG	Rokugo	2.78	307	eP	Pn	22 06 23.0	-0.3
JANG	Nango	3.03	330	eP	Pn	22 06 26.9	+0.2
JAG	Ashikaga	3.51	249	P	Pn	22 06 32.6	-0.7
MJAR	Matsushiro Arr	4.41	255	Pn	Pn	22 06 46.5	+0.8
	0.6nm,0.3s,baz=77,slow=15,SNR=39						
MJAR				Sn	Sn	22 07 37.2	+1.4
	0.2nm,0.3s,baz=335,slow=28,SNR=4.5						
	4.3nm,0.3s						
ASAJ	Asahikawa	6.38	354	Pn	Pn	22 07 11.9	-0.8
	1.2nm,0.3s,baz=209,slow=16,SNR=13						
	2.7nm,0.3s						
H11N2	WAKE ISLAND Hy	27.14	125	T	T	22 39 37.8	
	baz=317,slow=75,SNR=8.4						
H11N1	WAKE ISLAND Hy	27.15	125	T	T	22 39 42.0	
	baz=317,slow=75,SNR=4.6						
H11N3	WAKE ISLAND Hy	27.16	125	T	T	22 39 43.3	
	baz=317,slow=75,SNR=4.0						
SONM	Songino Array	28.78	302	P	P	22 11 36

WRA	**Warramunga Arr**	**58.05**	**190**	P		**P**	**22 15 29.4 -1.5**
	1.0nm,0.7s,baz=9.6,slow=7.1,SNR=4.9						
	1.0nm,0.7s						
FINES	**FINESS Array B**	**68.93**	**333**	P		**P**	**22 16 43.2 +0.8**
	0.6nm,0.6s,baz=12,slow=6.2,SNR=1.8						
	0.6nm,0.6s						

NEIC ***13*** *22:21:53.3±1.1,69.°13N±0.°02×144.°62W±0.°05,h3km±6km, Error ellipse: s-maj=2.7km s-min=2.5km az=134.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr0.63; Mθθ-2.32; Mϕϕ1.69; Mrθ-0.39; Mrϕ-2.64; Mθϕ0.92; Fault plane solution: M₀3.51000×10¹⁴ NP1:ϕ₀20.43000°, δ76.62000°,λ15.08000°. NP2:ϕ₀286.86000°,δ75.34000°, λ166.16000°. Principal axes: T 3.3648, Plg20.0000°, Azm244.0000°; N 0.2694, Plg70.0000°, Azm61.0000°; P -3.6342, Plg1.0000°, Azm153.0000°;*

NEIC ***13*** *22:21:53.5,69.°14N×144.°61W,h2km*

AEIC 13 22:21:52.4±1.5,69.°12N±0.°02×144.°66W±0.°05,h12km±6km, ML3.6,ML3.7/144(NEIC),**Mwr3.6**/44(NEIC),**Error ellipse: s-maj=3.6km s-min=2.6km az=164.0,Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.61**	**33**		Pg	22 22 04.0	-0.2
C27K					Sg	22 22 12.3	0.0
D25K	**Kavik River**	**0.64**	**289**		Pg	22 22 04.5	-0.4
D25K				Sg	Sg	22 22 13.0	-0.4
D25K				IAML		22 22 15.7	
	comp=E,5μm,0.4s						
C26K	**Camden Bay**	**0.81**	**354**		Pb	22 22 08.2	-0.1
C26K					Sg	22 22 18.7	+0.2
E25K	**Arctic Village**	**1.06**	**199**		Pn	22 22 13.4	+0.4
E25K					Sn	22 22 27.9	+0.2
E25K				IAML		22 22 32.7	
	comp=N,2μm,0.9s						
E25K				IAML		22 22 33.2	
	comp=E,1μm,0.8s						
D27M	**Malcolm River**	**1.33**	**83**		Pb	22 22 17.1	-0.1
D27M					Sb	22 22 33.8	-0.4
F26K	**Sheenjek River**	**1.45**	**172**		Pg	22 22 20.4	+0.3
F26K					Sg	22 22 40.2	+1.3
E27K	**Coleen River**	**1.46**	**128**		Pg	22 22 20.4	0.0
E27K					Sg	22 22 39.9	+0.5
E27K				IAML		22 22 43.0	
	comp=E,1μm,0.6s						
D24K	**Happy Valley**	**1.49**	**273**		Pg	22 22 20.6	-0.3
D24K					Sg	22 22 40.9	+0.7
C24K	**Franklin Bluff**	**1.55**	**295**		Pg	22 22 21.6	-0.4
C24K				IAML		22 22 44.3	
	comp=E,879nm,0.7s						
C24K				IAML		22 22 47.7	
	comp=N,864nm,1.0s						
F25K	**Christian River**	**1.58**	**194**		Pg	22 22 22.8	+0.2
F25K				IAML		22 22 49.7	
	comp=E,1μm,0.6s						
BMAR	**Burnt Mountain**	**1.70**	**179**		Pb	22 22 24.1	+0.6
E24K	**Your Creek**	**1.75**	**235**		Pb	22 22 25.0	+0.5
TOLK	**Toolik Lake Re**	**1.84**	**257**		Pg	22 22 26.8	-0.8
TOLK				IAML		22 22 57.7	
	comp=E,825nm,0.8s						
TOLK				IAML		22 23 05.4	
	comp=N,586nm,0.9s						
E28M	**Babbage River**	**1.93**	**103**		Pb	22 22 27.2	-0.2
E28M				IAML		22 22 57.3	
	comp=N,559nm,1.1s						
E28M	**Babbage River**	**1.93**	**103**		Sg	22 22 53.7	-0.6
F24K	**Squaw Lake**	**2.01**	**218**		Pb	22 22 28.7	-0.1
F24K				IAML		22 23 01.2	
	comp=E,451nm,0.8s						
E23K	**Chandalar**	**2.11**	**242**		Pb	22 22 30.9	+0.4
E23K				IAML		22 23 06.6	
	comp=E,455nm,0.7s						
D28M	**Stokes Point**	**2.12**	**82**		Pb	22 22 30.8	+0.1
D23K	**Nanushuk River**	**2.17**	**269**		Pb	22 22 30.8	-0.8
D23K				IAML		22 23 24.6	
	comp=N,430nm,0.9s						
G26K	**Porcupine Rive**	**2.21**	**171**		Pb	22 22 31.1	-1.0
G26K				IAML		22 23 06.8	
	comp=E,592nm,1.0s						
G26K				IAML		22 23 11.1	
	comp=N,516nm,0.6s						
C23K	**Itkillik River**	**2.22**	**292**		Pb	22 22 30.9	-1.4
F28M	**Old Crow**	**2.33**	**128**		Pb	22 22 32.8	-1.5
F28M				IAML		22 23 13.6	
	comp=N,324nm,0.6s						
F28M				IAML		22 23 15.0	
	comp=E,331nm,0.8s						
G25K	**Bearman Lake**	**2.43**	**194**		Pb	22 22 34.0	-1.9
G25K					Pn	22 22 34.5	+2.7
E29M	**Blow River**	**2.57**	**103**		Pn	22 22 36.0	+2.2
E29M				IAML		22 23 22.4	
	comp=E,395nm,0.8s						
E29M				IAML		22 23 25.9	
	comp=N,456nm,0.7s						
FYU	**Fort Yukon**	**2.58**	**185**		Pb	22 22 36.3	-2.1
G27K	**Doyon Strip**	**2.58**	**153**		Pn	22 22 35.8	+1.8
G24K	**Hadweenzic Riv**	**2.65**	**205**		Pn	22 22 37.2	+2.2
G24K				IAML		22 23 22.9	
	comp=E,412nm,0.6s						
E22K	**Anaktuvuk Pass**	**2.80**	**253**		Pn	22 22 39.4	+2.4
COLD	**Coldfoot**	**2.81**	**230**		Pb	22 22 40.0	-2.4
D22K	**Ayikyak River**	**2.90**	**269**		Pn	22 22 40.8	+2.5
D22K				IAML		22 23 34.6	
	comp=E,335nm,0.9s						
H27K	**Steamboat Moun**	**3.14**	**156**		Pn	22 22 43.5	+1.9
H27K				IAML		22 23 41.6	
	comp=E,162nm,0.9s						
G23K	**Bananza Creek**	**3.15**	**222**		Pn	22 22 43.7	+1.8
G23K				IAML		22 23 40.9	
	comp=E,194nm,0.7s						
G23K				IAML		22 23 43.5	
	comp=N,214nm,1.1s						
B22K	**Teshekpuk Lake**	**3.29**	**296**		Pn	22 22 45.2	+1.7
G29M	**Pine Creek**	**3.34**	**128**		Pn	22 22 47.3	+2.9
G29M				IAML		22 23 28.8	
	comp=N,208nm,0.6s						
E21K	**Killik River**	**3.45**	**263**		Pn	22 22 48.0	+2.0
E21K				IAML		22 23 52.8	
	comp=E,156nm,1.0s						
E21K				IAML		22 23 53.0	
	comp=N,194nm,0.8s						
H24K	**Noodor Dome**	**3.52**	**202**		Pn	22 22 49.0	+2.1
H24K				IAML		22 23 52.7	
	comp=N,134nm,0.9s						
H24K				IAML		22 23 59.5	
	comp=E,150nm,1.2s						
B21K	**Ikpikpuk River**	**3.56**	**283**		Pn	22 22 49.6	+2.3
B21K				IAML		22 23 53.3	
	comp=N,152nm,1.4s						
B21K				IAML		22 24 05.2	
	comp=E,137nm,0.7s						
F30M	**Barrier River**	**3.62**	**111**		Pn	22 22 51.8	+3.6
F30M				IAML		22 23 58.8	
	comp=E,161nm,1.1s						
C21K	**Knifeblade Rid**	**3.62**	**275**		Pn	22 22 50.8	+2.6
PRP	**Porcupine Dome**	**3.63**	**186**		Pn	22 22 51.4	+2.9
PRP				IAML		22 23 54.2	
	comp=N,133nm,0.9s						
I27K	**Kandik River**	**3.72**	**160**		Pn	22 22 52.2	+2.5
H29M	**Whitestone**	**3.78**	**138**		Pn	22 22 53.0	+2.7
H29M				IAML		22 23 59.6	
	comp=E,139nm,0.7s						
H29M				IAML		22 24 22.0	
	comp=N,127nm,0.9s						
F21K	**Alatna River**	**3.81**	**244**		Pn	22 22 53.7	+2.9
F21K				IAML		22 24 03.5	
	comp=N,153nm,0.8s						
F21K				IAML		22 24 05.4	
	comp=E,114nm,0.7s						
H23K	**Yukon River**	**3.81**	**212**		Pn	22 22 53.4	+2.7
G30M	**tAoh Zraii Nji**	**3.83**	**120**		Pn	22 22 53.5	+2.4
G30M				IAML		22 24 06.9	
	comp=N,93nm,1.0s						
I26K	**Coal Creek Min**	**3.88**	**171**		Pn	22 22 54.6	+2.9
I26K				IAML		22 23 57.2	
	comp=N,150nm,0.8s						
I26K				IAML		22 24 11.9	
	comp=E,136nm,1.0s						
A22K	**Sinclair Lake**	**4.00**	**303**		Pn	22 22 55.4	+2.0
EPYK	**Eagle Plains**	**4.09**	**129**		Pn	22 22 57.3	+2.6
I28M	**Miner Creek**	**4.12**	**151**		Pn	22 22 57.7	+2.6
I28M				IAML		22 24 13.7	
	comp=E,121nm,1.4s						
H22K	**Ishtalitna Cre**	**4.14**	**222**		Pn	22 22 57.8	+2.4
INK	**Inuvik**	**4.14**	**96**		Pn	22 22 57.6	+2.3
POKR	**Poker Plat Res**	**4.16**	**196**		Pn	22 22 58.5	+2.8
POKR				IAML		22 23 51.0	
	comp=N,117nm,0.3s						
POKR				IAML		22 24 19.0	
	comp=E,109nm,1.1s						
G21K	**Allakaket**	**4.25**	**236**		Pn	22 22 59.0	+2.2
G21K				IAML		22 24 18.0	
	comp=N,117nm,0.9s						
G21K				IAML		22 24 22.7	
	comp=E,117nm,1.0s						
D20K	**Etivluk River**	**4.34**	**270**		Pn	22 23 00.6	+2.5
D20K				IAML		22 24 29.8	
	comp=E,84nm,1.3s						
D20K				IAML		22 24 40.1	
	comp=N,89nm,1.4s						
I23K	**Minto, Yukon-K**	**4.39**	**207**		Pn	22 23 01.2	+2.5
I23K	**Minto, Yukon-K**	**4.39**	**207**	IAML		22 24 20.6	
	comp=E,88nm,1.1s						
I23K				IAML		22 24 30.1	
	comp=N,71nm,1.2s						
F31M	**Tsiigehtchic**	**4.39**	**107**		Pn	22 23 01.1	+2.3
F31M				IAML		22 24 16.2	
	comp=E,87nm,1.1s						
F31M				IAML		22 24 19.6	
	comp=N,91nm,1.3s						
COLA	**College**	**4.45**	**198**		Pn	22 23 00.9	+1.4
IL31		**4.46**	**192**		Pn	22 23 02.6	+3.0
ILAR	**Eielson Array**	**4.46**	**192**		Pn	22 23 02.3	+2.6
B20K	**Meade River**	**4.47**	**287**		Pn	22 23 01.8	+2.0
G31M	**Satah River**	**4.48**	**115**		Pn	22 23 02.3	+2.3
G31M				IAML		22 24 18.2	
	comp=E,94nm,0.8s						
I29M	**Ogilvie Camp,**	**4.51**	**144**		Pn	22 23 02.5	+2.0
I29M				IAML		22 24 24.9	
	comp=N,62nm,0.5s						
I29M				IAML		22 24 27.6	
	comp=E,83nm,0.8s						
J25K	**Salcha River,**	**4.54**	**184**		Pn	22 23 03.4	+2.6
J25K				IAML		22 24 31.0	
	comp=E,76nm,1.1s						
A21K	**Barrow**	**4.62**	**304**		Pn	22 23 04.2	+2.4
F20K	**Avaraart Lake**	**4.64**	**249**		Pn	22 23 05.5	+3.4
F20K				IAML		22 24 28.1	
	comp=E,50nm,1.2s						
F20K				IAML		22 24 31.8	
	comp=N,67nm,1.2s						
CCB	**Clear Creek Bu**	**4.66**	**197**		Pn	22 23 04.9	+2.4
CCB				IAML		22 24 27.8	
	comp=E,56nm,0.7s						
J26L	**Joseph Creek**	**4.66**	**174**		Pn	22 23 05.3	+2.7
J26L				IAML		22 24 26.1	
	comp=E,56nm,0.8s						
H21K	**Melozitna Rive**	**4.69**	**226**		Pn	22 23 05.5	+2.7
H21K	**Melozitna Rive**	**4.69**	**226**	IAML		22 24 28.0	
	comp=E,79nm,0.7s						
IMAR	**Indian Mountai**	**4.69**	**232**		Pn	22 23 05.3	+2.4
MLY	**Manley**	**4.74**	**213**		Pn	22 23 06.3	+2.7
WRH	**Wood River Hil**	**4.86**	**198**		Pn	22 23 07.9	+2.7
WRH				IAML		22 24 35.4	
	comp=N,62nm,1.0s						
WRH				IAML		22 24 37.5	
	comp=E,45nm,0.7s						
NEA2	**Nenana**	**4.87**	**203**		Pn	22 23 08.3	+3.0
I21K	**Tanana**	**4.88**	**219**		Pn	22 23 08.6	+3.2
D19K	**Kuna River**	**4.92**	**269**		Pn	22 23 08.5	+2.4
E19K	**Redstone River**	**4.96**	**256**		Pn	22 23 08.5	+2.0
E19K				IAML		22 24 41.6	
	comp=E,60nm,0.8s						
E19K				IAML		22 24 42.5	
	comp=N,67nm,0.9s						
I30M	**Mount Dempster**	**5.07**	**137**		Pn	22 23 10.6	+2.4
I30M				IAML		22 24 37.0	
	comp=N,41nm,0.6s						
I30M				IAML		22 24 50.7	
	comp=E,50nm,0.8s						
SCRK	**Sand Creek**	**5.17**	**177**		Pn	22 23 12.9	+3.3
SCRK				IAML		22 24 42.3	
	comp=N,40nm,0.7s						
SCRK				IAML		22 24 45.2	
	comp=E,51nm,0.9s						
H31M	**Peel River**	**5.18**	**125**		Pn	22 23 11.0	+1.4
H31M				IAML		22 24 44.2	
	comp=N,54nm,0.9s						
H31M				IAML		22 24 50.6	
	comp=E,62nm,1.1s						
K27K	**Chicken**	**5.22**	**167**		Pn	22 23 13.4	+3.3
BWN	**Browne**	**5.32**	**203**		Pn	22 23 11.9	+0.3
J29N	**Klondike Camp**	**5.33**	**148**		Pn	22 23 13.8	+2.0
C19K	**Lookout Ridge**	**5.34**	**277**		Pn	22 23 14.0	+2.2
C19K				IAML		22 25 06.4	
	comp=E,44nm,1.9s						
C19K				IAML		22 25 07.2	
	comp=N,47nm,1.6s						
K24K	**Donnelly Dome**	**5.36**	**185**		Pn	22 23 15.1	+3.0
H20K	**Anotleneega Mo**	**5.37**	**232**		Pn	22 23 14.8	+2.5
RIDG	**Independent Ri**	**5.41**	**181**		Pn	22 23 16.1	+3.3
F19K	**Shaleruckik Mo**	**5.44**	**251**		Pn	22 23 16.5	+3.4
DAWY	**Dawson**	**5.49**	**155**		Pn	22 23 16.3	+2.4
DOT	**Dot Lake**	**5.50**	**177**		Pn	22 23 16.9	+2.9
G19K	**Purcell Mounta**	**5.60**	**244**		Pn	22 23 17.9	+2.5
BPAW	**Bear Paw Mtn.**	**5.63**	**210**		Pn	22 23 18.7	+2.9
MCK	**McKinley**	**5.67**	**200**		Pn	22 23 19.4	+2.9
A19K	**Wainwright**	**5.82**	**288**		Pn	22 23 20.0	+1.6
C18K	**Utukok River**	**5.99**	**273**		Pn	22 23 22.7	+1.9
K29M	**Barlow Dome**	**6.02**	**148**		Pn	22 23 24.0	+2.8
B18K	**Kokolik River**	**6.09**	**280**		Pn	22 23 23.7	+1.5
TRF	**Thorofare Moun**	**6.13**	**204**		Pn	22 23 25.6	+2.9
KTH	**Kantishna Hill**	**6.13**	**207**		Pn	22 23 25.7	+3.0
DHY	**Denali Highway**	**6.17**	**192**		Pn	22 23 27.0	+3.6
PAX	**Paxson**	**6.19**	**183**		Pn	22 23 26.8	+3.2
BCAR	**Beaver Creek A**	**6.19**	**168**		Pn	22 23 26.0	+2.5
J20K	**Nowinta River**	**6.23**	**222**		Pn	22 23 26.5	+2.6
G18K	**Tagagawik**	**6.26**	**246**		Pn	22 23 27.2	+2.8
CAST	**Castle Rocks**	**6.46**	**211**		Pn	22 23 29.7	+2.6
WAT7	**Susitna Watana**	**6.54**	**197**		Pn	22 23 31.9	+3.5
L29M	**L29M**	**6.59**	**153**		Pn	22 23 31.8	+2.8
WAT6	**Susitna Watana**	**6.69**	**192**		Pn	22 23 33.4	+2.9
E17K	**Hotham Inlet**	**6.73**	**260**		Pn	22 23 32.5	+1.7
C17K	**DeLong Mountai**	**6.74**	**273**		Pn	22 23 32.0	+1.0
RDOG	**Red Dog Mine**	**6.76**	**269**		Pn	22 23 32.2	+1.0
F17K	**Baldwin Pennin**	**6.83**	**255**		Pn	22 23 34.7	+2.5
M27K	**Edge Creek, AK**	**6.89**	**169**		Pn	22 23 36.5	+3.3
D17K	**Noatak River**	**6.94**	**267**		Pn	22 23 34.6	+0.9
PPLA	**Purkeypile**	**6.96**	**210**		Pn	22 23 35.7	+1.6
A36M	**Sachs Harbour**	**7.07**	**57**		Pn	22 23 35.6	+0.1
H17K	**Granite Mounta**	**7.28**	**242**		Pn	22 23 40.8	+2.4
M30M	**Minto, Yukon**	**7.31**	**150**		Pn	22 23 41.6	+2.6
C16K	**Lisburne Hills**	**7.57**	**273**		Pn	22 23 43.1	+0.9
G16K	**Koyuk River**	**7.79**	**250**		Pn	22 23 48.1	+2.7
L19K	**White Mountain**	**8.13**	**216**		Pn	22 23 52.8	+2.7
J17K	**VABM Dome**	**8.15**	**232**		Pn	22 23 53.1	+2.7
M19K	**Big River Lodg**	**8.28**	**214**		Pn	22 23 54.6	+2.4
CTGM	**Chitina Glacie**	**8.31**	**169**	Pn	Pn	22 23 54.0	+1.4
N30M	**Aishikik Lake**	**8.31**	**154**		Pn	22 23 55.7	+3.1
F15K	**North Star Dit**	**8.40**	**256**	Pn	Pn	22 23 54.9	+1.2
CRQM	**Cirque**	**8.42**	**175**		Pn	22 23 57.0	+2.8
K17K	**Iditarod**	**8.49**	**227**	Pn	Pn	22 23 57.8	+2.9
L18K	**Granite Mounta**	**8.50**	**221**		Pn	22 23 58.1	+3.0
MMPY	**Sheldon Lake,**	**8.51**	**134**		Pn	22 23 57.1	+1.8
YUK5	**Granite Creek**	**8.51**	**157**		Pn	22 23 58.9	+3.4
WRGLY	**Wrigley**	**10.37**	**114**		Pn	22 24 22.3	+1.7
RES	**Resolute Bay**	**15.95**	**48**	Pn	Pn	22 25 36.8	+0.6
ILON	**Igloolik, Nuna**	**21.42**	**60**	P	P	22 26 41.1	+1.5

IDC ***13*** *22:23:12.4±0.7,3.°88N×128.°31E,h0km,mb4.0/17, mbtmp4.0/17,MS3.0/3, Error ellipse: s-maj=32.4km s-min=14.6km az=78.0*

NEIC ***13*** *22:23:19.0±1.5,3.°90N±0.°08×128.°34E±0.°07,h35km±1km, mb4.4/31, Error ellipse: s-maj=14.2km s-min=11.9km az=350.0*

DJA ***13*** *22:23:20.0±1.0,4.°N±4.°×12.°8E±.°, h22km±10km,M4.7/12, mB5.2/4,mb4.9/7,MLv4.5/12,Mw(mB)4.7/4*

ISC 13 22:23:19.1±0.5,3.°90N±0.°06×128.°37E±0.°07,h46km,n77, σ0°95/72,mb4.2/32,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.84**	**266**	P	**Pn**	**22 24 02.5**	**+0.5**
SGSI					S		**Sn**	**22 24 37.0**	**+2.0**
TNTI	**Ternate**	**3.26**	**198**		Pn		**Pn**	**22 24 05.5**	**-2.3**
TNTI	**Ternate**	**3.26**	**198**	P			**Pn**	**22 24 08.0**	**+0.2**
DAV	**Davao City (W)**	**4.20**	**319**	LR	LR			22 25 37.6	
	comp=Z,86nm,21.7s,baz=7.0,slow=35								
KMSI	**Cibinong**	**5.49**	**233**	P			**Pn**	**22 24 37.9**	**-0.5**
	5μm372nm,1.1s								
SWI	**Sorong**	**5.54**	**149**	P			**Pn**	**22 24 38.2**	**-0.9**
SANI	**Sanana**	**6.37**	**202**	P			**Pn**	**22 24 50.5**	**0.0**
	0.1nm33nm,0.8s								
MRSI	**Marisa**	**7.26**	**242**	P			**Pn**	**22 25 02.6**	**-0.2**
LUWI	**Luwuk**	**7.44**	**229**	P			**Pn**	**22 25 07.9**	**+2.7**
	0.4nm74nm,1.1s								
FAKI	**Fak Fak**	**7.80**	**150**	Pn			**Pn**	**22 25 11.0**	**+0.8**
TOLI2	**Tolitoli**	**8.07**	**250**				**Pn**	**22 25 14.7**	**+0.9**
APSI	**Ampana**	**8.24**	**235**	P			Pn	22 25 20.7	+4.5
KAPI	**Kappang**	**12.35**	**224**	Pn			**Pn**	**22 26 12.5**	**+0.2**
SBUM	**Sibu**	**16.19**	**265**				**Pn**	**22 27 02.9**	**-0.7**
SBUM					IAmb		IAmb	22 27 18.2	
	comp=Z,31nm,1.2s								
MTN	**Manton Dam**	**16.86**	**171**				**P**	**22 27 14.4**	**+0.9**
MTN					IAmb		IAmb	22 27 32.3	
	comp=Z,36nm,1.2s								
KSM	**Kuching**	**18.20**	**263**				**P**	**22 27 27.4**	**-1.0**
JAGI	**Jajag, Banyuwa**	**18.76**	**229**	P			**P**	**22 27 34.0**	**-0.6**
JAGI					IAmb		IAmb	22 27 48.8	
	comp=Z,26nm,1.0s								
KNRA	**Kununurra**	**19.45**	**179**	P			**P**	**22 27 41.3**	**-0.8**
KNRA					IAmb		IAmb	22 27 52.5	
	comp=Z,14nm,0.8s								
FITZ	**Fitzroy Crossi**	**22.02**	**187**	P			**P**	**22 28 10.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**22.02**	**187**	P			**P**	**22 28 09.1**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=38,slow=18,SNR=1.2								
	comp=Z,1.9nm,0.7s								
WB0	**Warramunga Arr**	**24.25**	**166**				**P**	**22 28 32.0**	**0.0**
WB0					IAmb		IAmb	22 28 43.9	
	comp=Z,16nm,1.1s								
WRA	**Warramunga Arr**	**24.41**	**166**	P			**P**	**22 28 33.7**	**+0.2**
WRA	**Warramunga Arr**	**24.41**	**166**	P			**P**	**22 28 33.0**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=345,slow=10,SNR=15								
	comp=Z,2.3nm,0.7s								
UBPT	**Khong Chiam**	**25.22**	**298**	P			**P**	**22 28 41.0**	**+0.1**
UBPT					IAmb		IAmb	22 28 52.7	
	comp=Z,13nm,1.3s								
AS31	**Alice Springs**	**27.92**	**169**	P			**P**	**22 29 05.8**	**+0.6**
ASAR	**Alice Springs**	**27.92**	**169**	P			**P**	**22 29 05.4**	**+0.2**
ASAR	**Alice Springs**	**27.92**	**169**	P			**P**	**22 29 04.1**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=353,slow=8.6,SNR=7.6								
	comp=Z,0.3nm,0.5s								
CMAR	**Chiang Mai Arr**	**32.21**	**299**	P			**P**	**22 29 42.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**32.21**	**299**	P			**P**	**22 29 42.4**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=110,slow=6.7,SNR=8.6								
CMAR					LR		LR	22 43 05.8	
	comp=Z,16nm,19.5s,baz=65,slow=37								
	comp=Z,0.8nm,0.4s								
CHTO	**Chiang Mai**	**32.35**	**300**	P			**P**	**22 29 44.2**	**-0.2**
CHTO					IAmb		IAmb	22 29 45.9	
	comp=Z,3.3nm,0.8s								
KSRS	**Korea Array**	**33.40**	**359**	P			**P**	**22 29 53.3**	**0.0**
	comp=Z,1.0nm,0.8s,baz=174,slow=9.0,SNR=5.8								
	comp=Z,1.0nm,0.8s								
MJAR	**Matsushiro Arr**	**33.73**	**14**	P			**P**	**22 29 55.3**	**-1.0**
	comp=Z,2.1nm,0.9s,baz=186,slow=10,SNR=4.4								
	comp=Z,2.1nm,0.9s								
LZH	**Lanzhou**	**39.21**	**328**	*e*P			**P**	**22 30 43.9**	**+0.7**
LZH					pP		pP	22 30 51.8	-2.8
LZH					pmax		pmax		
	comp=Z,22nm,1.4s								
H11S3	**WAKE ISLAND Hy**	**40.17**	**66**	T			T	23 14 07.4	
	baz=253,slow=74,SNR=14								
H11S2	**WAKE ISLAND Hy**	**40.19**	**66**	T			T	23 14 16.0	
	baz=253,slow=74,SNR=11								
H11S1	**WAKE ISLAND Hy**	**40.19**	**66**	T			T	23 14 08.5	
	baz=253,slow=74,SNR=5.6								
SHL	**Shillong**	**41.11**	**305**				**P**	**22 30 58.2**	**-0.9**
XLT	**XiLinHaoTe**	**41.29**	**347**	*e*P			**P**	**22 31 00.4**	**+0.2**
XLT					pP		sP	22 31 16.3	-0.1
XLT					sP		pwP	22 31 25.0	+8.3
XLT					pmax		pmax		
	comp=Z,4.0nm,0.8s								
GTA	**Gaotai**	**43.81**	**328**	*e*P			**P**	**22 31 22.5**	**+1.7**
GTA					sP		pP	22 31 31.8	-0.6
GTA					pmax		pmax		
	comp=Z,3.0nm,0.9s								
ULN	**Ulaanbaatar**	**47.49**	**341**				**P**	**22 31 49.7**	**0.0**
ULN					IAmb		IAmb	22 31 50.9	
	comp=Z,4.3nm,0.7s								
PALK	**Pallekele**	**47.54**	**276**	LR	LR			22 52 32.9	
	comp=Z,40nm,18.2s,baz=184,slow=37								
SONM	**Songino Array**	**47.68**	**340**	P			**P**	**22 31 51.1**	**-0.1**
SONM					IAmb		IAmb	22 32 03.7	
	comp=Z,2.0nm,0.8s								
SONM	**Songino Array**	**47.68**	**340**	P			**P**	**22 31 50.9**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=157,slow=8.0,SNR=10								
	comp=Z,2.1nm,0.8s								
PEA0B	**Petropavlovsk-**	**54.67**	**21**	P			**P**	**22 32 44.1**	**+0.7**
PETK	**Petropavlovsk-**	**54.67**	**21**	P			**P**	**22 32 44.0**	**+0.7**
PETK	**Petropavlovsk-**	**54.67**	**21**	P			**P**	**22 32 43.6**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=185,slow=5.3,SNR=6.1								
	comp=Z,1.4nm,0.6s								
YAK	**Yakutsk**	**58.01**	**1**	P			**P**	**22 33 06.8**	**-0.1**
MKAR	**Makanchi Array**	**58.36**	**324**				**P**	**22 33 09.6**	**-0.2**
MKAR	**Makanchi Array**	**58.36**	**324**	P			**P**	**22 33 10.2**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=114,slow=8.5,SNR=28								
	comp=Z,1.8nm,0.5s								
MAKZ	**Makanchi**	**58.55**	**324**				**P**	**22 33 11.3**	**+0.2**
MAKZ

IDC 13 22:29:30.6±2.8, 12°53N×145°60E, h0km, mb3.8/3, mbtmp3.8/3, MS3.4/1, Error ellipse: s-maj=93.8km s-min=19.7km az=75.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.28**	**326**	Pn	Pb	22 29 55.4	-0.1
	60nm,0.3s,baz=192,slow=13,SNR=4.8						
GUMO				Sn	Sn	22 30 15.1	+1.6
	97nm,0.3s,baz=16,slow=22,SNR=17						
GUMO				LR	LR	22 30 53.7	
	comp=Z,106nm,19.3s,baz=148,slow=65						
WRA	**Warramunga Arr**	**34.12**	**199**	P	P	22 36 16.8	-0.6
	1.5nm,0.9s,baz=22,slow=9.9,SNR=4.7						
	1.5nm,0.9s						
ASAR	**Alice Springs**	**37.75**	**198**	P	P	22 36 48.9	+0.4
	0.6nm,0.9s,baz=20,slow=11,SNR=4.8						
	0.6nm,0.9s						
FINES	**FINESS Array B**	**92.42**	**335**	P	P	22 42 43.1	-0.1
	0.6nm,0.6s,baz=60,slow=4.6,SNR=4.7						
	0.6nm,0.6s						
FRB	**Frobisher Bay**	**99.58**	**15**	LR	LR	23 27 12.3	
	comp=Z,18nm,20.7s,baz=73,slow=35						

*NEIC **13** 22:58:39.8±1.3, 35°695N±0°009×117°53W±0°02, h7km±3km, Error ellipse: s-maj=2.4km s-min=1.2km az=77.0*

PAS 13 22:58:40.5±1.2, 35°69N±0°02×117°54W±0°02, h5km±1km, ML3.5/19, ML3.3/124(NEIC), Error ellipse: s-maj=2.4km s-min=2.3km az=80.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.10**	**155**		Pg	22 58 42.6	0.0
WSHM				Sg	Sg	22 58 44.5	+0.4
SRTC	**Snort**	**0.17**	**272**		Pg	22 58 44.3	+0.3
CCCA	**Chr Cany lake**	**0.22**	**138**		Pg	22 58 45.2	+0.5
CCCA				Sg	Sg	22 58 49.0	+1.3
CCCA				IAML		22 58 50.7	
	comp=E,9μm,0.8s						
CCCA				IAML		22 58 51.5	
	comp=N,15μm,0.8s						
TOW	**Tower One**	**0.22**	**304**		Pg	22 58 45.2	+0.3
LRMC	**Laurel Mtn Rad**	**0.24**	**209**		Pg	22 58 45.1	-0.1
LRMC				Sg	Sg	22 58 48.5	+0.2
MPMC	**Manual Prospec**	**0.37**	**7**		Pg	22 58 47.6	-0.3
MPMC				IAML		22 58 54.7	
	comp=N,3μm,0.6s						
MPMC				IAML		22 58 55.0	
	comp=E,3μm,0.7s						
WRVM	**Rose V. Centra**	**0.43**	**319**		Pg	22 58 48.5	-0.3
MFS	**McCloud Flat S**	**0.50**	**329**		Pg	22 58 50.0	-0.2
QSM	**Queen of Sheba**	**0.61**	**63**		Pg	22 58 52.0	-0.4
GSC	**Goldstone, Bar**	**0.71**	**122**		Pg	22 58 53.8	-0.4
GSC				IAML		22 59 06.8	
	comp=E,1μm,0.6s						
GSC				IAML		22 59 07.5	
	comp=N,816nm,0.8s						
ISA	**Isabella, Lake**	**0.76**	**269**		Pg	22 58 54.5	-0.6
WASM	**Alta Sierra Ca**	**0.83**	**274**		Pg	22 58 56.0	-0.5
GWY	**Greenwater Val**	**0.87**	**55**		Pg	22 58 56.6	-0.5
GWY				IAML		22 59 16.1	
	comp=N,543nm,0.6s						
CWC	**Cottonwood Cre**	**0.87**	**330**		Pg	22 58 56.5	-0.7
TPO	**Tropico Hills**	**0.98**	**215**		Pg	22 58 58.7	-0.7
TPO				IAML		22 59 14.8	
	comp=E,2μm,0.6s						
GRAC	**Grapevine Rang**	**1.31**	**6**		Pn	22 59 05.1	-0.5
GRAC				IAML		22 59 28.2	
	comp=N,752nm,1.1s						
GRAC				IAML		22 59 29.4	
	comp=E,655nm,0.7s						
WCT	**Wildcat Mounta**	**1.33**	**34**		Pn	22 59 04.7	-1.1
TUQ	**Turquoise Moun**	**1.34**	**100**		Pn	22 59 05.1	-0.9
OSI	**Osito Audit: C**	**1.44**	**223**		Pn	22 59 06.3	-1.0
OSI				IAML		22 59 28.2	
	comp=N,395nm,0.7s						
OSI				IAML		22 59 34.5	
	comp=E,352nm,1.1s						
BFSC	**Mount Baldy Ra**	**1.45**	**184**		Pn	22 59 06.4	-1.1
BFSC				IAML		22 59 27.1	
	comp=E,448nm,0.8s						
BFSC				IAML		22 59 27.7	
	comp=N,390nm,0.4s						
MWC	**Mount Wilson**	**1.52**	**196**		Pn	22 59 07.4	-1.1
PASC	**Pasadena Art C**	**1.60**	**199**		Pn	22 59 08.6	-0.9
PASC				IAML		22 59 33.4	
	comp=N,357nm,0.7s						
PASC				IAML		22 59 38.1	
	comp=E,420nm,0.5s						
GMN	**Gold Mountain**	**1.63**	**8**		Pn	22 59 09.5	-0.6
MTPC	**Mountain Pass**	**1.63**	**96**		Pn	22 59 08.5	-1.5
MTPC				IAML		22 59 33.2	
	comp=E,230nm,0.6s						
MTPC				IAML		22 59 34.0	
	comp=N,242nm,1.1s						
TPNV	**Topopah Spring**	**1.64**	**39**		Pn	22 59 09.2	-0.9
TPNV				IAML		22 59 37.3	
	comp=N,283nm,0.7s						
DSP	**Deep Springs**	**1.72**	**349**		Pn	22 59 10.4	-0.6
ELS	**Elsinore Mount**	**2.04**	**177**		Pn	22 59 14.2	-1.3
ELS				IAML		22 59 51.3	
	comp=E,214nm,0.7s						
ELS				IAML		22 59 52.3	
	comp=N,130nm,0.6s						
SHPR	**Sheep Range**	**2.10**	**66**		Pn	22 59 15.5	-0.9
V12A	**Nelson**	**2.19**	**88**		Pn	22 59 16.1	-1.5
PMD	**Palm Desert**	**2.25**	**154**		Pn	22 59 16.8	-1.6
PMD				IAML		22 59 53.1	
	comp=N,102nm,0.6s						
PMD				IAML		22 59 53.8	
	comp=E,127nm,0.7s						
PFO	**Pinyon Flats O**	**2.25**	**156**		Pn	22 59 17.3	-1.3
PFO				IAML		22 59 59.4	
	comp=E,122nm,1.2s						
TPH	**Tonopah**	**2.40**	**6**		Pn	22 59 20.4	-0.2
TPH				IAML		22 59 59.2	
	comp=E,339nm,1.1s						
S11A	**Rachel**	**2.43**	**36**		Pn	22 59 21.0	+0.1
S11A				IAML		23 00 02.7	
	comp=E,203nm,0.9s						
S11A				IAML		23 00 06.0	
	comp=N,202nm,1.0s						
BORC	**Borrego Spring**	**2.58**	**159**		Pn	22 59 23.8	+0.8
BORC				IAML		23 00 04.5	
	comp=N,81nm,0.6s						
BORC				IAML		23 00 09.1	
	comp=E,146nm,0.8s						
LHV	**Little Huntoon**	**2.67**	**344**		Pn	22 59 24.1	-0.1
LHV				IAML		23 00 12.0	
	comp=N,64nm,1.7s						
LHV				IAML		23 00 13.0	
	comp=E,78nm,1.8s						
SALN	**Salton City**	**2.72**	**151**		Pn	22 59 24.7	-0.2
DPP	**Dos Picos Cty**	**2.73**	**169**		Pn	22 59 25.8	+0.9
DPP				IAML		23 00 11.1	
	comp=E,106nm,0.7s						
DPP				IAML		23 00 14.8	
	comp=N,61nm,0.6s						
NV11	**Mina Array Sit**	**2.78**	**350**		Pn	22 59 25.4	-0.5
NVAR	**Mina Array Bea**	**2.81**	**348**		Pn	22 59 26.1	-0.1
BBGB	**Big Mountain B**	**2.97**	**288**		Pn	22 59 27.8	-0.6
W13A	**Hualapai Mount**	**3.04**	**100**		Pn	22 59 28.3	-1.2
R11B	**Troy Canyon, C**	**3.08**	**30**		Pn	22 59 30.2	+0.1
BLYC	**Blythe**	**3.15**	**127**		Pn	22 59 28.6	-2.1
BLYC				IAML		23 00 23.1	
	comp=N,85nm,0.6s						
BLYC				IAML		23 00 35.1	
	comp=E,59nm,0.7s						
TKX	**Tecate**	**3.21**	**166**	Pn	Pn	22 59 31.0	-0.5
TKX				IAML		23 00 09.8	
	comp=N,176nm,0.1s						
SAO	**San Andreas Ge**	**3.34**	**290**		Pn	22 59 34.7	+1.4
CBX	**Cerro Bola**	**3.44**	**168**		Pn	22 59 35.1	+0.2
GLA	**Glamis**	**3.46**	**139**		Pn	22 59 33.1	-1.9
GLA				IAML		23 00 35.7	
	comp=N,105nm,0.7s						
GLA				IAML		23 00 37.3	
	comp=E,122nm,0.7s						
ESJX	**Sierra Juarez**	**3.90**	**160**		Pn	22 59 40.4	-0.9
ESJX				IAML		23 00 47.0	
	comp=E,39nm,0.9s						
ESJX				IAML		23 01 07.1	
	comp=N,42nm,0.1s						
PSUT	**Pine Spring**	**4.09**	**45**		Pn	22 59 44.8	+0.9
PSUT				IAML		23 00 58.0	
	comp=E,27nm,1.1s						
MPK	**Martis Peak**	**4.11**	**332**	Pn	Pn	22 59 43.1	-1.1
Y14A	**Wickenburg**	**4.12**	**114**		Pn	22 59 43.4	-0.8
Y14A				IAML		23 00 57.1	
	comp=E,28nm,1.0s						
Y14A				IAML		23 00 58.3	
	comp=N,42nm,0.7s						
U15A	**North Rim**	**4.32**	**79**		Pn	22 59 47.2	+0.2
U15A				IAML		23 01 04.5	
	comp=N,22nm,1.0s						
U15A				IAML		23 01 04.5	
	comp=E,30nm,0.9s						
WUAZ	**Wupatki**	**5.03**	**90**		Pn	22 59 57.2	+0.5
WUAZ				IAML		23 01 20.1	
	comp=E,21nm,1.4s						
WUAZ				IAML		23 01 28.3	
	comp=E,26nm,1.6s						
ELK	**Elko**	**5.37**	**19**		Pn	23 00 02.8	+1.4
ELK				IAML		23 01 33.5	
	comp=E,8.6nm,0.8s						

*NEIC **13** 23:03:35.4±1.2, 35°925N±0°009×117°68W±0°01, h5km, Error ellipse: s-maj=1.8km s-min=1.6km az=40.0*

PAS 13 23:03:35.9±1.2, 35°934N±0°009×117°70W±0°01, h1km±1km, ML3.2/22, ML3.1/118(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=57.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRC2	**Joshua Ridge**	**0.10**	**298**		Pg	23 03 38.1	+0.2
WRVM	**Rose V. Centra**	**0.17**	**295**		Pg	23 03 39.4	+0.1
WNMM	**Nine Mile Cany**	**0.19**	**242**		Pg	23 03 39.9	+0.3
WNMM					Sg	23 03 43.1	+1.1
MPMC	**Manual Prospec**	**0.21**	**54**	Pg	Pg	23 03 40.1	+0.1
MPMC				Sg	Sg	23 03 43.2	+0.4
MPMC				IAML		23 03 43.5	
	comp=N,6μm,0.6s						
MPMC				IAML		23 03 47.2	
	comp=E,3μm,0.8s						
MFS	**McCloud Flat S**	**0.22**	**325**		Pg	23 03 40.3	+0.1
MFS					Sg	23 03 44.0	+0.8
SRTC	**Snort**	**0.24**	**190**		Pg	23 03 45.5	+1.7
WSHM	**Spangler Hills**	**0.37**	**153**		Pg	23 03 43.0	0.0
WSHM				Sg	Sg	23 03 47.9	0.0
LRMC	**Laurel Mtn Rad**	**0.45**	**178**		Pg	23 03 44.5	-0.1
LRMC				Sg	Sg	23 03 50.9	+0.3
LRMC				IAML		23 03 52.2	
	comp=N,3μm,0.2s						
CCCA	**Chr Cany lake**	**0.49**	**146**		Pg	23 03 45.7	+0.4
CCCA				Sg	Sg	23 03 53.0	+1.4
CWC	**Cottonwood Cre**	**0.59**	**329**		Pg	23 03 47.5	+0.2
QSM	**Queen of Sheba**	**0.67**	**87**		Pg	23 03 48.6	-0.2
QSM					Sg	23 03 57.8	+0.2
QSM				IAML		23 03 58.3	
	comp=N,736nm,0.7s						
QSM				IAML		23 04 02.3	
	comp=E,1μm,0.6s						
ISA	**Isabella, Lake**	**0.69**	**247**		Pg	23 03 48.9	-0.1
GWY	**Greenwater Val**	**0.87**	**73**		Pg	23 03 52.5	-0.1
GWY				IAML		23 04 09.9	
	comp=E,1μm,0.4s						
GWY				IAML		23 04 10.8	
	comp=N,830nm,0.7s						
SPG2	**Springville 2**	**0.91**	**287**		Pg	23 03 52.6	-0.7
GSC	**Goldstone, Bar**	**0.96**	**131**		Pg	23 03 53.8	-0.5
GSC				IAML		23 04 09.4	
	comp=N,790nm,0.5s						
GRAC	**Grapevine Rang**	**1.09**	**14**		Pg	23 03 56.3	-0.6
GRAC				IAML		23 04 15.2	
	comp=E,625nm,0.9s						
GRAC				IAML		23 04 17.3	
	comp=N,483nm,1.1s						
TPO	**Tropico Hills**	**1.14**	**203**		Pg	23 03 57.0	-0.8
TPO				IAML		23 04 18.9	
	comp=E,506nm,0.9s						
TPO				IAML		23 04 18.9	
	comp=N,626nm,0.8s						
WCT	**Wildcat Mounta**	**1.22**	**45**		Pg	23 03 58.6	-0.6
WCT					Sg	23 04 14.6	-0.5
WCT				IAML		23 04 18.2	
	comp=E,258nm,1.1s						
GMN	**Gold Mountain**	**1.41**	**14**		Pn	23 04 02.2	-0.7
GMN				IAML		23 04 08.0	
	comp=N,162nm,0.7s						
VOG	**Valley Oaks Go**	**1.42**	**286**		Pn	23 04 02.1	-0.6
DSP	**Deep Springs**	**1.45**	**351**		Pn	23 04 02.5	-0.7
DSP					Sg	23 04 21.6	-0.9
TPNV	**Topopah Spring**	**1.54**	**49**		Pn	23 04 04.0	-0.7
TPNV				IAML		23 04 28.5	
	comp=N,251nm,0.8s						
TPNV				IAML		23 04 29.4	
	comp=N,301nm,0.9s						
OSI	**Osito Audit: C**	**1.56**	**213**		Pn	23 04 04.2	-0.6
OSI				IAML		23 04 30.1	
	comp=N,142nm,0.5s						
OSI				IAML		23 04 31.8	
	comp=E,169nm,0.8s						
BFSC	**Mount Baldy Ra**	**1.69**	**179**		Pn	23 04 05.4	-1.3
BFSC				IAML		23 04 31.0	
	comp=N,185nm,0.4s						
BFSC				IAML		23 04 35.9	
	comp=E,182nm,0.5s						
MWC	**Mount Wilson**	**1.73**	**190**		Pn	23 04 06.6	-0.7
MWC				IAML		23 04 33.2	
	comp=N,295nm,0.5s						
MWC				IAML		23 04 37.5	
	comp=E,169nm,0.6s						
MTPC	**Mountain Pass**	**1.80**	**104**		Pn	23 04 06.7	-1.6
MTPC				IAML		23 04 34.1	
	comp=N,150nm,0.6s						
MTPC				IAML		23 04 36.3	
	comp=E,201nm,0.5s						
PASC	**Pasadena Art C**	**1.80**	**193**		Pn	23 04 08.0	-0.1
SHPR	**Sheep Range**	**2.13**	**74**		Pn	23 04 11.9	-0.8
TPH	**Tonopah**	**2.17**	**10**		Pn	23 04 13.0	-0.4
TPH				IAML		23 04 25.4	
	comp=N,247nm,0.6s						
TPH				IAML		23 04 55.8	
	comp=E,158nm,1.1s						
ELS	**Elsinore Mount**	**2.29**	**174**		Pn	23 04 14.0	-0.8
ELS				IAML		23 04 52.4	
	comp=E,85nm,0.5s						
ELS				IAML		23 04 54.0	
	comp=N,71nm,0.7s						
V12A	**Nelson**	**2.32**	**94**		Pn	23 04 13.8	-1.5
V12A				IAML		23 04 52.8	
	comp=N,67nm,1.3s						
LHV	**Little Huntoon**	**2.40**	**345**		Pn	23 04 16.3	0.0
LHV				IAML		23 04 59.1	
	comp=E,86nm,1.5s						
LHV				IAML		23 05 03.6	
	comp=N,64nm,1.5s						
NV11	**Mina Array Sit**	**2.52**	**352**		Pn	23 04 17.6	-0.5
PMD	**Palm Desert**	**2.53**	**154**		Pn	23 04 17.5	-0.5
PMD				IAML		23 04 57.8	
	comp=E,79nm,0.5s						
PMD				IAML		23 04 58.2	
	comp=N,54nm,0.6s						
PMPB	**Monarch Peak**	**2.53**	**277**		Pn	23 04 18.6	+0.4
PMPB				IAML		23 05 02.9	
	comp=N,181nm,0.8s						
PMPB				IAML		23 05 03.7	
	comp=E,176nm,0.9s						
PFO	**Pinyon Flats O**	**2.53**	**156**		Pn	23 04 17.1	-1.1
PFO				IAML		23 05 02.1	
	comp=E,82nm,1.1s						
PFO				IAML		23 05 02.6	
	comp=E,58nm,0.8s						
NVAR	**Mina Array Bea**	**2.54**	**349**		Pn	23 04 17.8	-0.6
PRN	**Pahroc Range**	**2.59**	**55**		Pn	23 04 18.5	-0.5
PRN				IAML		23 05 04.6	
	comp=E,92nm,0.9s						
PRN				IAML		23 05 06.8	
	comp=N,82nm,0.8s						
MYLM	**Yosemite Lake**	**2.62**	**304**		Pb	23 04 22.6	-1.0
RYN	**Ryan**	**2.77**	**346**		Pn	23 04 21.5	0.0
BBGB	**Big Mountain B**	**2.78**	**284**		Pn	23 04 21.6	+0.1
BORC	**Borrego Spring**	**2.86**	**158**		Pn	23 04 22.6	-0.1
BORC				IAML		23 05 10.6	
	comp=E,64nm,0.9s						
BORC				IAML		23 05 17.8	
	comp=N,61nm,0.8s						
WAKR	**Walker**	**2.92**	**332**		Pn	23 04 22.6	-0.9
R11B	**Troy Canyon, C**	**2.94**	**34**		Pn	23 04 23.8	-0.1
R11B				IAML		23 05 10.3	
	comp=E,31nm,1.2s						
DPP	**Dos Picos Cty**	**2.99**	**168**		Pn	23 04 23.1	-1.3
DPP				IAML		23 05 10.7	
	comp=E,92nm,0.7s						
DPP				IAML		23 05 14.8	
	comp=N,43nm,0.7s						
SAO	**San Andreas Ge**	**3.14**	**286**		Pn	23 04 26.0	-0.5
W13A	**Hualapai Mount**	**3.22**	**104**		Pn	23 04 26.4	-1.4
YUH	**Yuha Desert**	**3.59**	**155**		Pn	23 04 32.0	-0.7
YUH				IAML		23 05 31.5	
	comp=N,19nm,0.7s						
CBX	**Cerro Bola**	**3.71**	**166**		Pn	23 04 33.8	-0.6
CCUT	**Cedar City**	**3.84**	**64**		Pn	23 04 36.2	0.0
CCUT				IAML		23 05 42.1	
	comp=N,16nm,1.1s						
KNB	**Kanab**	**4.08**	**73**		Pn	23 04 39.7	+0.2
KNB				IAML		23 05 58.0	
	comp=N,17nm,1.1s						
ESJX	**Sierra Juarez**	**4.18**	**159**		Pn	23 04 39.9	-1.0
ESJX				IAML		23 05 11.8	
	comp=N,26nm,0.1s						
ESJX				IAML		23 06 43.9	
	comp=E,47nm,0.1s						
Y14A	**Wickenburg**	**4.34**	**116**		Pn	23 04 41.5	-1.5
Y14A				IAML		23 05 59.6	
	comp=E,16nm,0.8s						
Y14A				IAML		23 06 03.0	
	comp=N,27nm,0.9s						
U15A	**North Rim**	**4.40**	**82**		Pn	23 04 42.5	-1.6
U15A				IAML		23 06 02.8	
	comp=E,17nm,0.9s						
U15A				IAML		23 06 15.8	
	comp=N,13nm,1.7s						
ELK	**Elko**	**5.18**	**21**	Pn	Pn	23 04 53.3	-1.4

DJA 13 23:05:27.2±0.5, 6°S±3°×13°1E±°, h123km±11km, M4.7/10, mB5.3/2, mb4.8/6, MLv4.6/10, Mw(mB)4.7/2, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.64**	**181**	P	Pn	23 05 56.0	-0.5
SAUI				S	Sn	23 06 19.4	+0.5
BNDI	**Bandanaira**	**2.29**	**322**	P	Pn	23 06 04.9	+0.5
BNDI				S	Sn	23 06 31.6	-1.4
FAKI	**Fak Fak**	**3.51**	**15**	P	Pn	23 06 19.2	-1.1
KMPI	**Kaimana, Papua**	**3.55**	**42**	P	Pn	23 06 20.8	-0.1
MSAI	**Masohi**	**3.81**	**321**	P	Pn	23 06 24.6	+0.3
SWI	**Sorong**	**5.43**	**359**	P	Pn	23 06 45.4	-0.6
	0.5nm3μm73nm,0.5s						
RKPI	**Ransiki, Papua**	**5.57**	**31**	P	Pn	23 06 48.7	+0.8
SOEI	**Soe**	**7.78**	**244**	P	Pn	23 07 18.1	+0.3
	0.3nm52nm,0.6s						
BATI	**Baumata**	**8.51**	**243**	P	Pn	23 07 27.3	-0.3

IDC 13 23:09:20.8±2.0, 0°81N×126°70E, h0km, mb3.8/4, mbtmp3.9/4, Error ellipse: s-maj=216.0km s-min=22.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.95**	**160**	P	P	23 14 15.3	-0.9
	2.0nm,0.8s,baz=339,slow=10,SNR=5.0						
	2.0nm,0.8s						
ASAR	**Alice Springs**	**25.32**	**164**	P	P	23 14 50.0	+0.6
	2.8nm,0.9s,baz=345,slow=12,SNR=9.5						
	2.8nm,0.9s						
MKAR	**Makanchi Array**	**59.93**	**326**	P	P	23 19 28.2	-0.6
	0.3nm,0.4s,baz=117,slow=8.6,SNR=4.8						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**64.17**	**328**	P	P	23 19 57.6	+0.4
	1.0nm,0.3s,baz=131,slow=6.1,SNR=4.9						
	1.0nm,0.3s						

IDC 13 23:18:20.7±1.9, 0°53N×126°26E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=193.9km s-min=24.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.83**	**159**	P	P	23 23 14.4	-0.5
	0.4nm,0.4s,baz=338,slow=11,SNR=4.9						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**25.17**	**163**	P	P	23 23 48.4	+0.4
	0.8nm,0.9s,baz=343,slow=11,SNR=6.1						
	0.8nm,0.9s						
MKAR	**Makanchi Array**	**59.92**	**327**	P	P	23 28 28.7	0.0
	0.4nm,0.7s,baz=128,slow=6.7,SNR=2.0						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**64.18**	**328**	P	P	23 28 57.1	-0.1
	0.3nm,0.3s,baz=129,slow=6.0,SNR=1.3						
	0.3nm,0.3s						

*IDC **13** 23:19:15.9±0.8, 12°94N×57°65E, h0km, mb4.0/19, mbtmp4.0/19, ML1.3/1, MS3.8/47, Error ellipse: s-maj=20.9km s-min=17.9km az=61.0*

*GCMT **13** 23:19:17.9±0.3, 13°13N±0°03×57°54E±0°03, h14km±1km, MW4.8/77, Moment Tension Solution. s11,c15; s77,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.85±.14; $M_{\theta\theta}$1.03±.09; $M_{\phi\phi}$0.82±.09; $M_{r\theta}$0.65±.18; $M_{\theta\phi}$-0.71±.05; $M_{\phi r}$-0.15±.20; Best double couple: M_o1.86700×10^{16} NP1:ϕ_s138.00000°,δ36.00000°,λ-77.00000°. NP2: ϕ_s302.00000°,δ55.00000°,λ-99.00000°. Principal axes: T 1.7470, Plg9.0000°, Azm39.0000°; N 0.2470, Plg8.0000°, Azm308.0000°; P -1.9880, Plg78.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **13** 23:19:18.9±1.3, 13°04N±0°09×57°6E±0°1, h10km±1km, mb4.5/44 Error ellipse: s-maj=19.3km s-min=14.8km az=108.0*

ISC 13 23:19:19.2±0.5, 13°00N±0°08×57°53E±0°09, h17km, n134, σ1s00/86, mb4.3/59, MS3.8/50, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**10.24**	**6**	Pn	**Pn**	**23 21 43.5**	**-2.0**
	baz=92,slow=24,SNR=1.7						
WSAR				LR	LR	23 25 16.4	
	comp=Z,5.7nm,20.8s,baz=196,slow=35						
RAYN	**Ar Rayn**	**15.48**	**314**		**Pn**	**23 22 56.1**	**-0.8**
PALK	**Pallekele**	**23.50**	**102**	LR	LR	23 32 02.2	
	comp=Z,213nm,18.3s,baz=284,slow=33						
KBL	**Kabul**	**23.85**	**24**		**P**	**23 24 30.8**	**-1.2**
KBL				IAmb	IAmb	23 24 43.9	
	comp=Z,12nm,1.2s						
LODK	**Lodwar**	**23.89**	**248**	P	**P**	**23 24 31.4**	**-1.0**
LODK				IAmb	IAmb	23 24 37.8	
	comp=Z,14nm,1.4s						
NIL	**Nilore**	**25.05**	**32**		**P**	**23 24 42.2**	**-0.5**
NIL				IAmb	IAmb	23 24 48.4	
	comp=Z,16nm,1.1s						
EIL	**Elat**	**26.70**	**312**	LR	LR	23 35 03.3	
	comp=Z,123nm,18.0s,baz=66,slow=35						
ASF	**Jabal al Asfar**	**26.87**	**319**	LR	LR	23 35 49.4	
	comp=Z,127nm,19.3s,baz=141,slow=37						
GNI	**Garni**	**29.29**	**340**	LR	LR	23 38 36.1	
	comp=Z,128nm,19.7s,baz=140,slow=40						
BTK	**Batken**	**29.38**	**21**		**P**	**23 25 21.1**	**-0.6**
KSH	**Kashi**	**31.03**	**28**	P	**P**	**23 25 33.3**	**-3.0**
KSH				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KSH				LR	LR		
	comp=N,680nm,20.6s						
KSH				LR	LR		
	comp=E,410nm,18.2s						
KSH				LR	LR		
	comp=Z,320nm,17.7s						
EVN	**Everest**	**31.10**	**57**	P	**P**	**23 25 37.3**	**-0.4**
ARSB	**Arslanbob**	**31.28**	**23**	P	**P**	**23 25 38.6**	**+0.1**
ARSB				IAmb	IAmb	23 26 04.3	
	comp=Z,12nm,1.5s						
KK31	**Karatay Array**	**32.02**	**18**		**P**	**23 25 44.6**	**-0.3**
KK31				IAmb	IAmb	23 25

KKAR	**Karatay Array**	**32.02**	**18**			**P**	**23 25 44.7**	**-0.1**
AAK	**Ala-Archa**	**32.99**	**23**	P		**P**	**23 25 54.3**	**+0.9**
AAK				IAmb	IAmb		23 25 59.6	
	comp=Z,10nm,1.1s							
AAK	**Ala-Archa**	**32.99**	**23**	LR	LR		23 41 37.0	
	comp=Z,201nm,18.5s,baz=203,slow=41							
OPO	**Ambohidratompo**	**32.99**	**198**	LR	LR		23 36 01.8	
	comp=Z,155nm,20.1s,baz=157,slow=30							
KBZ	**Khabaz**	**33.11**	**340**	LR	LR		23 40 52.9	
	comp=Z,97nm,21.2s,baz=151,slow=39							
KVAR	**Kislovodsk Arr**	**33.38**	**340**	LR	LR		23 41 07.7	
	comp=Z,74nm,21.8s,baz=62,slow=39							
BOOM	**Boomskoye usch**	**33.44**	**25**	P		**P**	**23 25 57.3**	**-0.1**
TARG	**Taragay, Kyrgy**	**33.63**	**28**	P		**P**	**23 25 57.8**	**-1.6**
TARG				IAmb	IAmb		23 26 07.8	
	comp=Z,4.8nm,0.8s							
BRDH	**Bariadhala**	**33.80**	**69**	LR	LR		23 40 14.5	
	comp=Z,296nm,19.1s,baz=218,slow=37							
BRTR	**Keskin Array B**	**33.94**	**326**	P		**P**	**23 26 02.0**	**+0.2**
BRTR	**Keskin Array B**	**33.94**	**326**	P		**P**	**23 26 02.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=148,slow=5.4,SNR=4.1							
	comp=Z,0.2nm,0.3s							
ANTO	**Ankara**	**34.51**	**325**	P		**P**	**23 26 06.2**	**-0.4**
ANTO				IAmb	IAmb		23 26 19.3	
	comp=Z,11nm,1.3s							
ILGA	**Ilgaz**	**34.85**	**328**	P		**P**	**23 26 10.7**	**+0.9**
ILGA				IAmb	IAmb		23 26 32.1	
	comp=Z,8.7nm,1.2s							
AB31	**Akbulak array**	**36.20**	**3**			**P**	**23 26 20.8**	**-0.2**
ABKAR	**Akbulak array**	**36.20**	**3**	P		**P**	**23 26 20.8**	**-0.1**
VOI	**Vohitsoka**	**36.25**	**197**	P		**P**	**23 26 21.8**	**-0.1**
VOI				IAmb	IAmb		23 27 03.9	
	comp=Z,8.4nm,1.1s							
AKTO	**Aktyubinsk**	**37.33**	**1**	P		**P**	**23 26 30.0**	**-0.6**
	comp=Z,4.9nm,1.0s,baz=191,slow=8.1,SNR=8.3							
AKTO				LR	LR		23 44 31.1	
	comp=Z,107nm,19.9s,baz=193,slow=40							
	comp=Z,4.9nm,1.0s							
MAKZ	**Makanchi**	**39.47**	**27**			**P**	**23 26 48.6**	**-0.1**
MAKZ				IAmb	IAmb		23 26 52.7	
	comp=Z,15nm,1.4s							
MKAR	**Makanchi Array**	**39.60**	**27**			**P**	**23 26 49.8**	**+0.1**
MKAR	**Makanchi Array**	**39.60**	**27**	P		**P**	**23 26 49.0**	**-0.7**
	comp=Z,3.2nm,1.1s,baz=208,slow=7.8,SNR=8.9							
	comp=Z,3.2nm,1.1s							
BELG	**Belogornoye**	**40.09**	**351**	LR	LR		23 46 46.0	
	comp=Z,32nm,19.4s,baz=183,slow=41							
WMQ	**Urumqi**	**40.16**	**34**	*e*P		**P**	**23 26 52.8**	**-1.7**
WMQ				pmax	pmax			
	comp=Z,23nm,0.9s							
CMAR	**Chiang Mai Arr**	**40.17**	**77**	P		**P**	**23 26 54.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**40.17**	**77**	P		**P**	**23 26 54.0**	**-0.9**
	comp=Z,1.0nm,0.2s,baz=276,slow=9.6,SNR=15							
CMAR				LR	LR		23 44 17.8	
	comp=Z,38nm,18.8s,baz=260,slow=38							
	comp=Z,1.0nm,0.2s							
LSZ	**Lusaka**	**40.40**	**227**	LR	LR		23 41 38.6	
	comp=Z,191nm,21.9s,baz=34,slow=33							
BVAR	**Borovoye Array**	**41.22**	**12**	P		**P**	**23 27 02.2**	**-0.9**
	comp=Z,0.9nm,0.8s							
BVAR				LR	LR		23 46 26.5	
	comp=Z,166nm,19.1s,baz=193,slow=40							
	comp=Z,0.9nm,0.8s							
BRVK	**Borovoye**	**41.23**	**12**	P		**P**	**23 27 03.4**	**+0.3**
KURBB	**Kurchatov Arra**	**41.24**	**20**	P		**P**	**23 27 02.3**	**-0.9**
	comp=Z,2.6nm,0.8s,baz=217,slow=8.6,SNR=13							
KURBB				LR	LR		23 46 49.8	
	comp=Z,140nm,18.4s,baz=182,slow=40							
	comp=Z,2.6nm,0.8s							
KURK	**Kurchatov**	**41.35**	**20**	P		**P**	**23 27 04.5**	**+0.4**
MLR	**Muntele Rosu**	**42.02**	**327**	P		**P**	**23 27 10.7**	**+0.9**
MLR	**Muntele Rosu**	**42.02**	**327**	P		**P**	**23 27 10.0**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=204,slow=12,SNR=4.0							
MLR				LR	LR		23 46 18.1	
	comp=Z,77nm,20.2s,baz=113,slow=38							
	comp=Z,0.9nm,0.6s							
PSI	**Prapat**	**42.17**	**100**	LR	LR		23 43 04.5	
	comp=Z,137nm,19.2s,baz=246,slow=34							
ARTI	**Arti**	**43.30**	**1**			**P**	**23 27 20.8**	**+0.8**
ARTI	**Arti**	**43.30**	**1**	P		**P**	**23 27 20.0**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=164,slow=6.9,SNR=6.5							
ARTI				LR	LR		23 47 05.2	
	comp=Z,54nm,20.6s,baz=180,slow=38							
	comp=Z,2.4nm,0.9s							
PZH	**PanZhiHua**	**43.51**	**65**	P		**P**	**23 27 24.3**	**+2.0**
MATP	**Matopo**	**43.80**	**221**	LR	LR		23 45 43.3	
	comp=Z,92nm,18.5s,baz=64,slow=36							
AKASG	**Malin Array Be**	**44.09**	**334**	LR	LR		23 49 57.8	
	comp=Z,35nm,18.8s,baz=136,slow=42							
AKBB	**Malin Array Si**	**44.09**	**334**	P		**P**	**23 27 25.6**	**-0.8**
KIEV	**Kiev**	**44.09**	**334**	P		**P**	**23 27 26.7**	**+0.3**
KSANE	**Kasane**	**44.24**	**227**	P		**P**	**23 27 29.0**	**+0.9**
KSANE				IAmb	IAmb		23 27 40.5	
	comp=Z,9.9nm,1.4s							
GTA	**Gaotai**	**45.58**	**47**	*e*P		**P**	**23 27 40.5**	**+1.9**
GTA				pP	pwP		23 27 45.0	-2.9
GTA				pmax	pmax			
	comp=Z,3.0nm,1.4s							
GTA				LR	LR			
	comp=N,110nm,15.3s							
GTA				LR	LR			
	comp=E,200nm,18.2s							
GTA				LR	LR			
	comp=Z,370nm,22.2s							
KIRV	**Kirov**	**45.91**	**354**	LR	LR		23 51 19.2	
	comp=Z,64nm,18.6s,baz=171,slow=42							
MREMI	**Moremi**	**46.03**	**220**	P		**P**	**23 27 42.9**	**+0.7**
KOLS	**Kolonicke sedl**	**46.14**	**328**	*e*P		**P**	**23 27 42.7**	**0.0**
ZAA0	**Zalesovo Array**	**46.19**	**22**	P		**P**	**23 27 42.3**	**-0.6**
ZAA0				IAmb	IAmb		23 27 45.8	
	comp=Z,5.3nm,1.1s							
ZALV	**Zalesovo Beam**	**46.19**	**22**			**P**	**23 27 42.0**	**-0.9**
ZALV	**Zalesovo Beam**	**46.19**	**22**	P		**P**	**23 27 42.8**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=190,slow=7.2,SNR=5.7							
	comp=Z,1.5nm,0.6s							
STHS	**Stebnicka Huta**	**46.97**	**328**	*e*P	P		23 27 56.6	+7.4
OJC	**Ojcow**	**48.20**	**328**	P		**P**	**23 27 59.5**	**+0.7**
NACGM	**Naroch**	**48.22**	**337**	*e*P		**P**	**23 27 59.6**	**+0.8**
	comp=Z,5.0nm,1.0s,baz=138							
QNGWA	**Qangwa**	**48.23**	**229**	P		**P**	**23 28 00.0**	**+0.5**
QNGWA				IAmb	IAmb		23 28 17.4	
	comp=Z,5.2nm,1.1s							
MODS	**Modra-Piesok**	**48.50**	**325**	*e*P	P		23 28 07.2	+6.0
LBTB	**Lobatse**	**48.97**	**220**	P		**P**	**23 28 05.5**	**+0.5**
LBTB	**Lobatse**	**48.97**	**220**	LR	LR		23 47 05.1	
	comp=Z,226nm,19.6s,baz=46,slow=34							
SUW	**Suwalki**	**49.05**	**334**	P		**P**	**23 28 05.7**	**+0.5**
CONA	**Conrad Observa**	**49.07**	**324**	*i* pP	pP		23 28 08.7	-1.1
	comp=Z,8.6nm,1.9s							
MORC	**Moravsky Berou**	**49.13**	**327**	P		**P**	**23 28 06.5**	**+0.6**
MORC				IAmb	IAmb		23 28 13.3	
	comp=Z,4.4nm,1.1s							
OBKA	**Obir**	**49.15**	**321**	*i* P		**P**	**23 28 07.4**	**+1.1**
	comp=Z,9.6nm,1.8s							
VRAC	**Vranov**	**49.39**	**326**	LR	LR		23 51 32.0	
	comp=Z,33nm,20.9s,baz=104,slow=39							
MYKA	**Terra Mystica**	**49.75**	**321**	*i* pP	pP		23 28 14.8	-0.1
	comp=Z,5.3nm,1.1s							
PABE	**Paberze**	**49.77**	**336**	P		**P**	**23 28 10.7**	**+0.1**
MOA	**Molln**	**49.96**	**323**	*i* P		**P**	**23 28 12.8**	**+0.5**
	comp=Z,3.6nm,1.7s							
KBA	**Koelnbreinsper**	**50.14**	**322**	*e*pP	pP		23 28 17.7	-0.4
	comp=Z,4.6nm,1.2s							
STAL	**STALIGIAL**	**50.16**	**320**	P		**P**	**23 28 14.3**	**+0.4**
STAL				IAmb	IAmb		23 28 26.5	
	comp=Z,10nm,1.3s							
BIOA	**Bad Ischl, Aus**	**50.26**	**322**	*i* pP	pP		23 28 18.0	-0.7
	comp=Z,1.0nm,0.6s							
LESA	**Schwarzleotal**	**50.71**	**322**	*i* P	P		**23 28 19.9**	**+1.8**
	comp=Z,3.2nm,1.1s							
TSUM	**Tsumeb**	**50.72**	**232**	LR	LR		23 49 16.6	
	comp=Z,196nm,21.6s,baz=52,slow=36							
XAN	**Xi'an**	**50.98**	**57**	*e*P	P		23 28 26.4	+6.1
KOOLE	**Kule**	**51.15**	**226**	P		**P**	**23 28 22.2**	**+0.4**
KOOLE				IAmb	IAmb		23 28 25.5	
	comp=Z,5.9nm,0.7s							
WTTA	**Wattenberg**	**51.27**	**321**	*i* pP	pP		23 28 26.4	-0.2
	comp=Z,3.1nm,0.8s							
WATA	**Walderalm**	**51.33**	**321**	*i* pP	pP		23 28 27.1	+0.1
	comp=Z,2.2nm,0.8s							
SQTA	**Sankt Quirin**	**51.51**	**321**	*i* P	P		**23 28 25.3**	**+1.1**
	comp=Z,0.1nm,0.3s							
MOTA	**Moosalm**	**51.63**	**321**	*i* P	P		**23 28 26.4**	**+1.3**
	comp=Z,5.3nm,1.5s							
FETA	**Feichten**	**51.72**	**321**	*e*P	P		**23 28 26.4**	**+0.6**
	comp=Z,4.5nm,1.4s							
BOSA	**Boshof**	**51.82**	**217**	P	P		**23 28 26.8**	**+0.1**
BOSA				IAmb	IAmb		23 28 29.9	
	comp=Z,6.5nm,1.1s							
BOSA	**Boshof**	**51.82**	**217**	P		**P**	**23 28 26.9**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=49,slow=7.9,SNR=5.8							
BOSA				LR	LR		23 48 35.3	
	comp=Z,273nm,20.0s,baz=34,slow=34							
	comp=Z,1.6nm,0.5s							
RETA	**Reutte**	**51.90**	**321**	*i* pP	pP		23 28 29.5	-1.6
	comp=Z,3.3nm,1.1s							
DAVOX	**Davos/Dischmat**	**52.15**	**320**	LR	LR		23 51 32.7	
	comp=Z,65nm,20.3s,baz=82,slow=37							
DAVA	**Damuels**	**52.36**	**321**	*i* P	P		**23 28 30.3**	**-0.2**
	comp=Z,5.0nm,1.5s							
CLL	**Collm**	**52.40**	**326**	P	P		**23 28 30.0**	**-0.5**
CLL	**Collm**	**52.40**	**326**	*i* P	P		**23 28 30.1**	**-0.4**
	comp=Z,25nm,2.3s							
CLL				*i* x	x		23 28 36.3	
	comp=Z,15nm,1.8s							
SONM	**Songino Array**	**53.33**	**39**	P	P		**23 28 37.3**	**-0.4**
SONM	**Songino Array**	**53.33**	**39**	P	P		**23 28 37.5**	**-0.2**
	comp=Z,1.1nm,1.0s,baz=242,slow=6.2,SNR=6.3							
SONM				LR	LR		23 51 56.4	
	comp=Z,77nm,20.2s,baz=246,slow=37							
	comp=Z,1.1nm,1.0s							
FINES	**FINESS Array B**	**53.45**	**342**	P	P		**23 28 38.4**	**+0.4**
FINES	**FINESS Array B**	**53.45**	**342**	P	P		**23 28 38.0**	**0.0**
	comp=Z,1.4nm,0.8s,baz=153,slow=7.3,SNR=4.9							
	comp=Z,1.4nm,0.8s							
LEM	**Lembang**	**53.52**	**109**	LR	LR		23 49 11.6	
	comp=Z,105nm,18.9s,baz=188,slow=34							
ECH	**Echery**	**54.41**	**321**	P	P		**23 28 46.0**	**+0.5**
ECH				IAmb	IAmb		23 28 49.5	
	comp=Z,9.5nm,1.5s							
HHC	**Hu-ho-hao-te**	**54.56**	**49**	*e*P	P		**23 28 49.1**	**+2.4**
HHC				pmax	pmax			
	comp=Z,7.0nm,0.7s							
HHC				pmax	pmax			
	comp=Z,56nm,3.7s							
HHC				LR	LR			
	comp=N,110nm,17.6s							
HHC				LR	LR			
	comp=E,150nm,17.7s							
HHC				LR	LR			
	comp=Z,210nm,20.0s							
HFS	**Hagfors**	**56.95**	**336**	LR	LR		23 56 10.9	
	comp=Z,59nm,21.5s,baz=120,slow=39							
NOA	**NORSAR Array B**	**58.47**	**336**	P	P		**23 29 13.1**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=123,slow=7.2,SNR=3.5							
NOA				LR	LR		23 57 18.4	
	comp=Z,46nm,19.9s,baz=95,slow=39							
	comp=Z,0.6nm,0.8s							
NJ2	**Nanjing**	**58.99**	**60**	*e*P	P		**23 29 19.8**	**+1.6**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
NRIK	**Noril'sk**	**59.44**	**12**	P	P		**23 29 20.8**	**+0.1**
NRIK	**Noril'sk**	**59.44**	**12**	P	P		**23 29 20.7**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=195,slow=7.6,SNR=4.8							
	comp=Z,1.2nm,0.3s							
MDT	**Midelt**	**59.72**	**300**	LR	LR		23 56 06.3	
	comp=Z,100nm,19.8s,baz=73,slow=37							
ESDC	**Sonseca Array**	**59.92**	**308**	P	P		**23 29 25.5**	**+0.9**
	comp=Z,1.2nm,1.0s,baz=91,slow=7.2,SNR=5.2							
ESDC				LR	LR		23 57 31.5	
	comp=Z,36nm,18.8s,baz=88,slow=38							
	comp=Z,1.2nm,1.0s							
ARCES	**ARCESS Array B**	**60.01**	**348**	P	P		**23 29 24.1**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=140,slow=6.4,SNR=5.6							
ARCES				LR	LR		23 59 00.1	
	comp=Z,40nm,18.4s,baz=104,slow=40							
	comp=Z,1.6nm,0.9s							
KSRS	**Korea Array**	**66.69**	**55**	P	P		**23 30 09.0**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=269,slow=7.6,SNR=4.4							
	comp=Z,0.8nm,0.7s							
HEH	**HeiHe**	**67.26**	**41**	*e*P	P		**23 30 14.5**	**+1.7**
JNU	**Nakatsue**	**69.15**	**59**	LR	LR		00 01 41.9	
	comp=Z,65nm,18.6s,baz=290,slow=37							
USRK	**Ussuriysk Ar.**	**69.93**	**48**	LR	LR		00 02 52.0	
	comp=Z,76nm,19.6s,baz=235,slow=37							
YAK	**Yakutsk**	**70.25**	**28**	LR	LR		00 03 25.5	
	comp=Z,109nm,21.8s,baz=262,slow=38							
H01W3	**Cape Leeuwin H**	**71.71**	**134**	T	T		00 48 40.3	
	baz=301,slow=75,SNR=97							
H01W2	**Cape Leeuwin H**	**71.72**	**134**	T	T		00 48 40.8	
	baz=301,slow=75,SNR=99							
H01W1	**Cape Leeuwin H**	**71.73**	**134**	T	T		00 48 41.7	
	baz=301,slow=75,SNR=90							
TIXI	**Tiksi**	**71.89**	**18**	LR	LR		00 05 17.8	
	comp=Z,198nm,19.0s,baz=229,slow=38							
BORG	**Borgarnes**	**73.58**	**334**	LR	LR		00 06 27.2	
	comp=Z,47nm,18.6s,baz=81,slow=38							
MJAR	**Matsushiro Arr**	**74.95**	**55**	LR	LR		00 05 43.2	
	comp=Z,58nm,20.2s,baz=282,slow=37							
ASAJ	**Asahikawa**	**77.56**	**47**	LR	LR		00 06 58.0	
	comp=Z,47nm,18.3s,baz=342,slow=37							
MA2	**Magadan**	**80.54**	**31**	LR	LR		00 08 51.1	
	comp=Z,41nm,19.1s,baz=254,slow=37							
SEY	**Seymchan**	**80.73**	**28**	LR	LR		00 10 10.2	
	comp=Z,111nm,20.9s,baz=276,slow=38							
WRA	**Warramunga Arr**	**82.33**	**112**	P	P		**23 31 38.5**	**-2.2**
	comp=Z,1.6nm,0.9s,baz=296,slow=4.7,SNR=4.7							
	comp=Z,1.6nm,0.9s							
WR8	**Warramunga Arr**	**82.48**	**112**	P	P		**23 31 39.9**	**-1.5**
ASAR	**Alice Springs**	**83.03**	**116**	P	P		**23 31 42.0**	**-2.3**
ASAR	**Alice Springs**	**83.03**	**116**	P	P		**23 31 42.2**	**-2.1**
	comp=Z,1.5nm,0.9s,baz=300,slow=5.6,SNR=6.9							
ASAR				PKiKP	**PKiKP**		**23 37 02.3**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=357,slow=2.2,SNR=7.3							
	comp=Z,1.5nm,0.9s							
SFJD	**Kangerlussuaq**	**85.06**	**338**	LR	LR		00 13 17.4	
	comp=Z,35nm,18.0s,baz=54,slow=38							
PETK	**Petropavlovsk-**	**85.72**	**37**	LR	LR		00 13 05.6	
	comp=Z,61nm,20.8s,baz=270,slow=38							
RES	**Resolute Bay**	**90.81**	**353**	LR	LR		00 20 08.5	
	comp=Z,34nm,18.9s,baz=282,slow=40							
SNAA	**Sanae**	**93.42**	**196**	P	P		**23 32 33.2**	**0.0**
SNAA				IAmb	IAmb		23 32 39.8	
	comp=Z,3.7nm,1.3s							
SNAA	**Sanae**	**93.42**	**196**	LR	LR		00 09 31.4	
	comp=Z,74nm,19.0s,baz=60,slow=32							
SHEM	**Shemya Is, Ala**	**95.03**	**33**	LR	LR		00 19 17.2	
	comp=Z,57nm,21.2s,baz=293,slow=38							

IDC 13 23:43:19.6±3.1, 28°.70N×141°.63E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=160.5km s-min=27.2km az=78.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.87**	**189**	P	P	23 52 07.3	0.0
	0.4nm,0.6s,baz=7.6,slow=7.5,SNR=2.0						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**51.58**	**314**	P	P	23 52 27.4	-0.1
	0.4nm,0.4s,baz=90,slow=7.8,SNR=4.2						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**52.60**	**189**	P	P	23 52 35.0	-0.3
	0.2nm,0.4s,baz=3.8,slow=5.2,SNR=6.3						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**76.30**	**334**	P	P	23 55 10.1	+0.1
	0.6nm,0.7s,baz=81,slow=4.9,SNR=7.1						
	0.6nm,0.7s						

*IDC **13** 23:48:47.0±1.4, 1°.17N×127°.52E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=103.3km s-min=18.8km az=71.0*

*DJA **13** 23:48:52.6±0.3, 0°.N±3°×12°.6E±°, h10km, M3.9/8, MLv3.9/8*

ISC 13 23:48:53.6±1.0, 0°.53N±0°.07×126°.39E±0°.07, h47km, n10, σ1s59/10, mb3.9/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.01**	**76**	P	**Pn**	**23 49 11.1**	**-0.2**
TNTI				S	**Sn**	**23 49 25.6**	**+1.2**
KMSI	**Cibinong**	**2.41**	**271**	P	**Pn**	**23 49 31.0**	**+0.4**
SANI	**Sanana**	**2.59**	**189**	P	**Pn**	**23 49 32.9**	**-0.2**
SGSI	**Sangihe**	**3.25**	**345**	P	**Pn**	**23 49 43.1**	**+0.9**
WRA	**Warramunga Arr**	**21.79**	**159**	P	**P**	**23 53 42.1**	**+0.4**
	2.1nm,0.5s,baz=338,slow=11,SNR=10						
	2.1nm,0.5s						
ASAR	**Alice Springs**	**25.13**	**164**	P	**P**	**23 54 16.6**	**+2.1**
	2.6nm,0.8s,baz=343,slow=11,SNR=15						
	2.6nm,0.8s						
SONM	**Songino Array**	**50.22**	**343**	P	**P**	**23 57 41.9**	**-3.1**
	0.1nm,0.3s,baz=142,slow=7.3,SNR=1.2						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**60.00**	**326**	P	**P**	**23 58 56.2**	**+0.7**
	0.4nm,0.5s,baz=118,slow=7.5,SNR=12						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**64.25**	**328**	P	**P**	**23 59 24.3**	**+0.4**
	0.9nm,0.4s,baz=127,slow=6.0,SNR=6.5						
	0.9nm,0.4s						
MAW	**Mawson**	**80.65**	**200**	P	P	00 01 08.0	+6.8
	0.9nm,0.3s,baz=68,slow=11,SNR=6.6						
	0.9nm,0.3s						

*IDC **14** 00:16:32.8±0.6, 10°.30N×125°.84E, h0km, mb4.0/20, mbtmp4.0/21, ML3.8/1, MS3.4/29, Error ellipse: s-maj=26.0km s-min=13.0km az=70.0*

*NEIC **14** 00:16:35.2±0.9, 10°.08N±0°.08×125°.73E±0°.07, h10km±1km, mb4.6/40, Error ellipse: s-maj=14.3km s-min=12.0km az=21.0*

ISC 14 00:16:34.7±0.4, 10°.11N±0°.05×125°.75E±0°.08, h10km, n328, σ0s87/305, mb4.3/42, MS3.5/27, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.03**	**183**		**Pn**	**00 17 21.9**	**-0.9**
DAV	**Davao City (W)**	**3.03**	**183**	Pn	**Pb**	**00 17 30.5**	**+1.7**
	34nm,0.3s,baz=230,slow=5.4,SNR=5.1						
DAV				Sn	**Sg**	**00 18 11.2**	**-0.8**
	41nm,0.3s,baz=102,slow=24,SNR=3.8						
DAV				LR	LR	00 19 08.0	
	comp=Z,1μm,18.6s,baz=93,slow=48						
DAV	**Davao City (W)**	**3.03**	**183**	‖ *e*P	Pg	00 17 42.0	+9.2
TGY	**Tagaytay City**	**6.16**	**311**	Pn	Pn	00 18 12.9	+7.0
	39nm,0.3s,baz=81,slow=1.3,SNR=14						
SBUM	**Sibu**	**15.45**	**241**		**P**	**00 20 17.3**	**-0.2**
SBUM				IAmb	IAmb	00 20 37.8	
	comp=Z,18nm,0.9s						
KAPI	**Kappang**	**16.17**	**202**		**P**	**00 20 24.8**	**-0.7**
KAPI	**Kappang**	**16.17**	**202**	LR	LR	00 27 52.6	
	comp=Z,107nm,19.6s,baz=8.0,slow=42						
QIZ	**Qiongzhong**	**17.75**	**302**	P	**Pn**	**00 20 42.3**	**+0.1**
QIZ				S	**Sn**	**00 24 01.5**	**+1.2**
QIZ				LR	LR		
	comp=N,190nm,12.4s						
QIZ				LR	LR		
	comp=E,200nm,11.5s						
QIZ				LR	LR		
	comp=Z,670nm,12.6s						
GUMO	**Guam**	**19.02**	**78**	LR	LR	00 26 44.8	
	comp=Z,60nm,19.5s,baz=230,slow=32						
JAY	**Jayapura**	**19.47**	**129**	P	**P**	**00 21 01.7**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=306,slow=9.0,SNR=4.3						
JAY				LR	LR	00 28 12.9	
	comp=Z,78nm,18.9s,baz=329,slow=36						
	comp=Z,10nm,0.8s						
NJ2	**Nanjing**	**22.75**	**345**	*e*P	**P**	**00 21 38.4**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
JNU	**Nakatsue**	**23.38**	**11**	LR	LR	00 30 00.5	
	comp=Z,50nm,21.5s,baz=172,slow=35						
MTN	**Manton Dam**	**23.42**	**167**	P	**P**	**00 21 43.5**	**-0.7**
KNRA	**Kununurra**	**25.79**	**173**	P	**P**	**00 22 05.5**	**-0.6**
CM31	**Chiang Mai Arr**	**27.24**	**291**	P	**P**	**00 22 19.7**	**+0.4**
CM31				IAmb	IAmb	00 22 26.3	
	comp=Z,11nm,1.2s						
CMAR	**Chiang Mai Arr**	**27.24**	**291**	P	**P**	**00 22 19.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**27.24**	**291**	P	**P**	**00 22 19.9**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=92,slow=6.3,SNR=8.0						
CMAR				LR	LR	00 33 28.3	
	comp=Z,33nm,18.6s,baz=120,slow=37						
	comp=Z,0.5nm,0.3s						
KSRS	**Korea Array**	**27.29**	**4**	P	**P**	**00 22 17.5**	**-2.0**
	comp=Z,0.9nm,0.8s,baz=184,slow=10,SNR=4.4						
	comp=Z,0.9nm,0.8s						
CHTO	**Chiang Mai**	**27.33**	**291**	P	**P**	**00 22 19.9**	**-0.2**
PZH	**PanZhiHua**	**27.94**	**309**	P	**P**	**00 22 27.9**	**+2.3**
FITZ	**Fitzroy Crossi**	**28.03**	**180**	P	**P**	**00 22 25.5**	**-0.7**
XAN	**Xi'an**	**28.38**	**330**	P	**P**	**00 22 31.3**	**+1.9**
XAN				pmax	pmax		
	comp=Z,12nm,1.2s						
MJAR	**Matsushiro Arr**	**28.63**	**21**	P	**P**	**00 22 28.9**	**-2.7**
	comp=Z,1.0nm,0.9s,baz=212,slow=11,SNR=2.3						
MJAR				LR	LR	00 31 58.5	
	comp=Z,88nm,21.5s,baz=202,slow=33						
	comp=Z,1.0nm,0.9s						
WB0	**Warramunga Arr**	**30.89**	**164**	P	**P**	**00 22 50.7**	**-0.9**
WB0				IAmb	IAmb	00 23 17.9	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**31.04**	**164**	P	**P**	**00 22 51.5**	**-1.5**
WRA	**Warramunga Arr**	**31.04**	**164**	P	**P**	**00 22 53.4**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=344,slow=9.6,SNR=5.7						
	comp=Z,0.6nm,0.5s						
LZH	**Lanzhou**	**32.62**	**326**	*e*P	**P**	**00 23 09.0**	**+2.0**
LZH				sP	sP	00 23 19.1	+7.8
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
LZH			

comp=Z,1.2nm,0.6s
MAKZ Makanchi 52.04 323 P P 00 25 44.8 +0.1
MAKZ IAmb IAmb 00 25 58.1
comp=Z,5.1nm,1.1s
MA2 Magadan 52.83 16 LR LR 00 45 59.9
comp=Z,33nm,21.9s,baz=155,slow=34
ZALV Zalesovo Beam 54.52 332 P P 00 26 02.5 -0.3
ZALV Zalesovo Beam 54.52 332 P P 00 26 01.5 -1.2
comp=Z,0.5nm,0.4s,baz=142,slow=7.5,SNR=3.7
ZALV LR LR 00 50 03.4
comp=Z,27nm,19.6s,baz=124,slow=37
comp=Z,0.5nm,0.4s
AAK Ala-Archa 55.08 315 LR LR 00 49 04.8
comp=Z,44nm,22.0s,baz=92,slow=36
KURK Kurchatov 55.91 326 P 00 26 13.1 +0.2
KURK IAmb IAmb 00 26 25.5
comp=Z,5.9nm,1.0s
KURBB Kurchatov Arra 55.91 326 P P 00 26 11.2 -1.7
comp=Z,1.5nm,0.6s,baz=126,slow=7.0,SNR=13
comp=Z,1.5nm,0.6s
SEY Seymchan 56.10 14 LR LR 00 47 46.3
comp=Z,33nm,22.0s,baz=180,slow=34
SHEM Shemya Is, Ala 57.56 33 LR LR 00 46 33.5
comp=Z,16nm,20.2s,baz=128,slow=31
KK31 Karatay Array 58.00 315 P P 00 26 27.7 -0.1
KKAR Karatay Array 58.00 315 P P 00 26 28.4 +0.6
BVAR Borovoye Array 61.51 326 P P 00 26 49.7 -2.1
comp=Z,0.3nm,0.3s,baz=158,slow=9.0,SNR=3.8
comp=Z,0.3nm,0.3s
TIXI Tiksi 61.52 1 LR LR 00 53 38.1
comp=Z,46nm,21.6s,baz=194,slow=36
BRVK Borovoye 61.58 326 P P 00 26 51.3 -1.0
BRVK IAmb IAmb 00 27 16.8
comp=Z,2.1nm,0.8s
NRIK Noril'sk 64.04 346 P P 00 27 06.1 -2.3
comp=Z,1.0nm,0.5s,baz=108,slow=6.4,SNR=2.0
comp=Z,1.0nm,0.5s
AB31 Akbulak array 66.66 319 P P 00 27 24.9 -0.8
ABKAR Akbulak array 66.66 319 P P 00 27 25.0 -0.8
NIKH Nikolski High 67.24 37 P P 00 27 30.8 +1.5
baz=256
SPIA Saint Paul Isl 67.58 32 P P 00 27 32.8 +1.4
baz=253
P08K Saint George I 67.79 33 P P 00 27 33.4 +0.8
baz=254
AKTO Aktyubinsk 68.12 320 LR LR 00 59 01.6
comp=Z,34nm,19.4s,baz=277,slow=38
UNV Unalaska Valle 68.81 36 P P 00 27 40.2 +1.1
baz=258
GAMB Gambell 69.03 25 P P 00 27 41.7 +1.4
baz=249
ARTI Arti 69.16 327 LR LR 00 57 45.8
comp=Z,27nm,19.3s,baz=174,slow=36
M11K Mekoryuk 70.47 29 P P 00 27 50.6 +1.4
baz=256
K13K Kusilvak Mount 71.58 28 P P 00 27 56.9 +0.9
baz=257
S12K Black Hills 71.68 35 P P 00 27 57.7 +0.9
baz=261
F14K Arctic Creek 71.76 24 P P 00 27 58.2 +1.1
baz=254
M13K Dall Lake 71.86 30 P P 00 27 58.8 +1.1
baz=258
ANM Nome 71.91 25 P P 00 27 59.2 +1.2
baz=255
J14K Nanvaranak Lak 72.26 27 P P 00 28 01.1 +1.1
baz=257
L14K Kuka Creek 72.37 29 P P 00 28 01.4 +0.7
L14K Kuka Creek 72.37 29 P P 00 28 01.8 +1.1
baz=259
F15K North Star Dit 72.50 24 P P 00 28 02.2 +0.8
baz=255
SDPT Sand Point 72.52 35 P P 00 28 02.7 +1.0
baz=262
G15K Niukluk 72.57 25 P P 00 28 02.7 +0.9
baz=256
N14K Kuskokwak Cree 72.58 30 P P 00 28 02.7 +0.7
baz=260
M14K Bethel 72.60 29 P P 00 28 02.6 +0.5
M14K Bethel 72.60 29 P P 00 28 03.2 +1.1
baz=259
O14K Tigyukauivet M 72.68 31 P P 00 28 03.2 +0.6
baz=260
C16K Lisburne Hills 72.91 21 P P 00 28 05.0 +1.2
baz=254
CHNA Chernabura Isl 72.96 36 P P 00 28 05.1 +0.7
baz=263
L15K Ungalak Mounta 72.99 28 P P 00 28 05.1 +0.7
baz=260
K15K Wolf Creek Mou 73.09 28 P P 00 28 05.5 +0.5
K15K IAmb IAmb 00 28 07.6
comp=Z,3.7nm,0.9s
K15K Wolf Creek Mou 73.09 28 P P 00 28 05.8 +0.8
baz=259
S14K Fog Glacier 73.16 34 P P 00 28 05.8 +0.1
baz=263
M15K Kasigluk River 73.20 30 P P 00 28 06.1 +0.4
baz=261
H16K Elim 73.24 25 P P 00 28 06.9 +1.0
baz=258
G16K Koyuk River 73.35 25 P P 00 28 06.9 +0.4
baz=258
O15K Ungalikthiuk R 73.40 31 P P 00 28 07.5 +0.6
baz=262
N15K Kwethluk River 73.41 30 P P 00 28 07.4 +0.4
N15K IAmb IAmb 00 28 09.4
comp=Z,12nm,1.1s
N15K Kwethluk River 73.41 30 P P 00 28 07.8 +0.8
baz=261
D17K Noatak River 73.59 22 P P 00 28 08.9 +1.1
baz=256
J16K Anvik River 73.69 27 P P 00 28 09.3 +0.8
baz=260
C17K DeLong Mountai 73.74 21 P P 00 28 09.6 +0.8
baz=256
I17K Unalakleet 73.75 26 P P 00 28 09.7 +0.8
baz=260
E17K Hotham Inlet 73.92 23 P P 00 28 10.7 +0.9
baz=258
L16K Owhat River 73.95 29 P P 00 28 10.5 +0.4
baz=261
F17K Baldwin Pennin 74.01 24 P P 00 28 11.0 +0.7
baz=258
G17K Kiwalik Mounta 74.07 25 P P 00 28 11.7 +0.9
baz=259
M16K Timber Creek 74.09 29 P P 00 28 11.4 +0.5
M16K IAmb IAmb 00 28 12.7
comp=Z,9.5nm,1.1s
M16K Timber Creek 74.09 29 P P 00 28 11.4 +0.5
baz=262
N16K Nishlik Lake 74.11 30 P P 00 28 11.9 +0.8
baz=262
H17K Granite Mounta 74.27 25 P P 00 28 12.9 +1.0
baz=260
P16K Nushagak River 74.32 31 P P 00 28 12.6 +0.3
baz=263
O16K Kokwok River B 74.33 31 P P 00 28 12.9 +0.5
baz=263
J17K VABM Dome 74.38 27 P P 00 28 13.4 +0.8
baz=261,SNR=6.6
B18K Kokolik River 74.43 21 P P 00 28 13.9 +1.1
baz=257
E18K Tukpahlearik C 74.46 23 P P 00 28 13.6 +0.6
baz=259
C18K Utukok River 74.49 21 P P 00 28 14.1 +0.9
baz=258
L17K Donlin 74.56 28 P P 00 28 14.5 +0.9
baz=262
K17K Iditarod 74.64 28 P P 00 28 14.7 +0.6
baz=262
F18K Selawik 74.67 24 P P 00 28 14.8 +0.7
baz=260
O17K Koliganek Bris 74.86 31 P P 00 28 15.8 +0.4
baz=264
A19K Wainwright 74.87 20 P P 00 28 16.0 +0.7
baz=258
M17K Holitna River 74.87 29 P P 00 28 16.1 +0.6
baz=263
N17K Nushagak Hills 74.89 30 P P 00 28 16.3 +0.7
baz=264
G18K Tagagawik 74.95 24 P P 00 28 16.8 +0.9
baz=261
H18K Honhosa River 74.96 25 P P 00 28 16.2 +0.3
baz=261
R17L Mt. Peulik Vol 75.04 33 P P 00 28 16.9 +0.3
baz=265
P17K Kvichak River 75.13 31 P P 00 28 17.5 +0.5
baz=265

C19K Lookout Ridge 75.15 21 P P 00 28 17.7 +0.7
baz=259
CHIR Chirikof Islan 75.31 35 P P 00 28 18.7 +0.6
baz=266
L18K Granite Mounta 75.32 28 P P 00 28 18.6 +0.6
baz=264
Q17K Contact Creek 75.34 32 P P 00 28 18.5 +0.1
baz=266
J18K Innoko River 75.44 27 P P 00 28 19.1 +0.3
baz=263
F19K Shaleruckik Mo 75.45 23 P P 00 28 19.2 +0.5
baz=262
GCSA Galena City Sc 75.53 26 P P 00 28 19.8 +0.7
baz=263
N18K Kilae Creek 75.55 30 P P 00 28 20.1 +0.7
baz=265
D19K Kuna River 75.57 22 P P 00 28 20.2 +0.8
D19K Kuna River 75.57 22 P P 00 28 20.1 +0.6
baz=261
G19K Purcell Mounta 75.62 24 P P 00 28 20.4 +0.7
baz=262
M18K Stony River 75.65 29 P P 00 28 20.7 +0.7
baz=265
E19K Redstone River 75.75 23 P P 00 28 21.2 +0.8
baz=262
P18K Big Mountain, 75.77 31 P P 00 28 21.2 +0.5
baz=266
H19K Roundabout Mou 75.80 25 P P 00 28 21.7 +1.0
baz=263,SNR=7.0
O18K Koktuh Hills 75.81 31 P P 00 28 21.4 +0.4
baz=266
Q18K Katmai Hardscr 75.83 32 P P 00 28 21.4 +0.2
baz=266
J19K Poorman 75.99 26 P P 00 28 22.2 +0.4
baz=264
R18K Karluk 76.06 33 P P 00 28 23.0 +0.7
baz=267
B20K Meade River 76.15 20 P P 00 28 23.6 +1.0
baz=261
D20K Etivluk River 76.15 22 P P 00 28 23.5 +0.8
baz=262
L19K White Mountain 76.17 28 P P 00 28 23.9 +1.0
baz=265
N19K Bonanza Creek 76.24 30 P P 00 28 24.3 +0.8
baz=266
E20K Nigu River 76.25 22 P P 00 28 24.0 +0.7
baz=263
F20K Avaraart Lake 76.27 23 P P 00 28 24.2 +0.9
baz=263
O19K Port Alsworth 76.28 30 P P 00 28 24.4 +0.8
baz=266
M19K Big River Lodg 76.37 29 P P 00 28 25.1 +1.0
baz=266
H20K Anotleneega Mo 76.45 25 P P 00 28 25.2 +0.7
baz=265,SNR=11
I20K Naaghedeneel 76.56 26 P P 00 28 26.0 +1.0
baz=265
Q19K Cape Douglas, 76.56 32 P P 00 28 25.8 +0.6
baz=267
K20K Telida 76.62 27 P P 00 28 26.4 +0.9
baz=266
L20K Farewell, AK 76.64 28 P P 00 28 26.1 +0.4
baz=266
J20K Nowinta River 76.65 26 P 00 28 25.6 +0.1
J20K IAmb IAmb 00 28 27.6
comp=Z,5.4nm,1.4s
J20K Nowinta River 76.65 26 P P 00 28 26.3 +0.8
baz=266
OHAK Old Harbor 76.67 34 P P 00 28 26.5 +0.7
baz=268
P19K Oil Pt 76.80 31 P P 00 28 26.8 +0.3
baz=267
C21K Knifeblade Rid 76.86 21 P P 00 28 27.6 +0.9
baz=264
IMAR Indian Mountai 76.96 24 P P 00 28 27.9 +0.6
M20K Styx River 76.96 29 P P 00 28 28.1 +0.6
baz=267
B21K Ikpikpuk River 76.97 21 P P 00 28 28.3 +1.0
baz=264
CASY Casey 77.00 186 P P 00 28 27.7 +0.3
CASY IAmb IAmb 00 28 31.6
comp=Z,12nm,1.5s
KDAK Kodiak Island 77.07 33 P P 00 28 28.1 0.0
KDAK Kodiak Island 77.07 33 LR LR 00 57 51.0
comp=Z,38nm,21.8s,baz=237,slow=32
KDAK Kodiak Island 77.07 33 P P 00 28 28.7 +0.6
baz=268
E21K Killik River 77.08 22 P P 00 28 28.6 +0.6
baz=265
G21K Allakaket 77.10 24 P P 00 28 28.9 +0.8
baz=266,SNR=7.1
O20K Slope Mountain 77.12 31 P P 00 28 28.9 +0.5
baz=268
RAYN Ar Rayn 77.16 292 P 00 28 28.6 -0.7
RAYN IAmb IAmb 00 28 31.0
comp=Z,2.9nm,0.8s
F21K Alatna River 77.16 23 P P 00 28 29.2 +0.7
baz=265
Q20K Shuyak Island 77.19 32 P P 00 28 29.1 +0.4
baz=268
H21K Melozitna Rive 77.32 25 P P 00 28 30.1 +0.7
baz=266,SNR=6.5
B22K Teshekpuk Lake 77.45 20 P P 00 28 30.8 +0.9
baz=265
D22K Ayikyak River 77.59 22 P P 00 28 31.6 +0.8
baz=266
I21K Tanana 77.64 25 P P 00 28 31.9 +0.8
baz=267
F22K John River 77.69 23 P P 00 28 32.0 +0.6
baz=267
SKT Skwentna 77.72 29 P P 00 28 32.3 +0.6
baz=268
E22K Anaktuvuk Pass 77.86 22 P P 00 28 33.0 +0.6
baz=267
G22K Bettles 77.92 24 P P 00 28 33.3 +0.6
baz=267
H22K Ishtalitna Cre 77.92 25 P P 00 28 33.6 +0.9
baz=268,SNR=7.6
BPAW Bear Paw Mtn. 78.03 26 P P 00 28 33.7 +0.3
BPAW IAmb IAmb 00 28 34.7
comp=Z,8.8nm,1.0s
BPAW Bear Paw Mtn. 78.03 26 P P 00 28 33.7 +0.3
baz=268
MLY Manley 78.16 26 P 00 28 34.3 +0.2
MLY IAmb IAmb 00 28 35.5
comp=Z,4.1nm,0.7s
MLY Manley 78.16 26 P P 00 28 34.7 +0.6
baz=268
D23K Nanushuk River 78.32 21 P P 00 28 35.6 +0.7
baz=268
TRF Thorofare Moun 78.32 27 P P 00 28 35.9 +0.7
baz=269
C23K Itkillik River 78.38 21 P P 00 28 36.1 +1.0
baz=268
COLD Coldfoot 78.44 23 P P 00 28 36.5 +1.0
baz=268
G23K Bananza Creek 78.50 24 P P 00 28 36.7 +0.7
baz=269,SNR=5.6
RC01 Rabbit Creek A 78.57 30 P P 00 28 37.0 +0.6
baz=270
H23K Yukon River 78.68 25 P P 00 28 37.8 +0.9
baz=269,SNR=5.0
E23K Chandalar 78.68 22 P P 00 28 37.6 +0.6
baz=269,SNR=5.8
TOLK Toolik Lake Re 78.71 22 P P 00 28 37.6 +0.5
baz=269
I23K Minto, Yukon-K 78.75 25 P P 00 28 38.1 +0.8
baz=270
PMR Palmer 78.86 29 P P 00 28 38.5 +0.5
baz=271
NEA2 Nenana 78.87 26 P P 00 28 38.7 +0.8
baz=270
MCK McKinley 78.93 27 P P 00 28 38.2 -0.1
baz=270
D24K Happy Valley 78.99 21 P P 00 28 39.2 +0.7
baz=269
C24K Franklin Bluff 79.04 21 P P 00 28 39.6 +0.9
baz=269
E24K Your Creek 79.11 22 P P 00 28 40.0 +0.7
baz=270
WAT1 Susitna Watana 79.11 28 P P 00 28 39.8 +0.4
baz=271
KNK Knik Glacier 79.18 29 P P 00 28 40.3 +0.5
baz=271
PWL Port Wells 79.25 30 P P 00 28 40.3 +0.1
baz=271
F24K Squaw Lake 79.34 23 P P 00 28 41.1 +0.5
baz=271

H24K Noodor Dome 79.36 25 P P 00 28 41.4 +0.7
baz=271,SNR=5.9
CCB Clear Creek Bu 79.41 26 P P 00 28 40.1 -0.9
CCB IAmb IAmb 00 28 41.0
comp=Z,5.8nm,1.4s
WAT6 Susitna Watana 79.49 28 P P 00 28 41.7 +0.1
baz=272
G24K Hadweenzic Riv 79.51 24 P P 00 28 42.2 +0.8
baz=271,SNR=5.7
M23K Glacier View 79.52 29 P P 00 28 42.4 +0.7
baz=272
POKR Poker Flat Res 79.56 25 P P 00 28 42.6 +0.8
baz=271
DHY Denali Highway 79.64 28 P P 00 28 42.4 -0.1
baz=272
SCM Sheep Creek Mo 79.71 29 P P 00 28 42.9 +0.2
baz=272
P23K Montague Islan 79.75 31 P P 00 28 43.1 +0.3
baz=272
HDA Harding Lake 79.79 26 P P 00 28 43.5 +0.5
baz=272
ILAR Eielson Array 79.80 26 P P 00 28 41.2 -1.9
comp=Z,1.3nm,0.9s,baz=245,slow=5.7,SNR=11
comp=Z,1.3nm,0.9s
D25K Kavik River 79.86 21 P P 00 28 44.0 +0.6
baz=272
G25K Bearman Lake 80.05 24 P P 00 28 45.2 +0.8
baz=272
H25L Birch Creek 80.19 24 P P 00 28 46.1 +1.0
baz=273
F25K Christian Rive 80.20 23 P P 00 28 46.2 +1.0
baz=273,SNR=5.1
E25K Arctic Village 80.20 22 P P 00 28 45.8 +0.7
baz=273
M24K Tolsona, Glenn 80.24 28 P P 00 28 46.2 +0.6
baz=273
K24K Donnelly Dome 80.33 27 P P 00 28 46.3 +0.3
baz=273
PAX Paxson 80.52 28 P P 00 28 47.5 +0.4
baz=274
EYAK Cordova Ski Ar 80.54 30 P P 00 28 48.0 +0.9
baz=274
BMAR Burnt Mountain 80.61 23 P 00 28 48.5 +1.0
HARP HAARP 80.70 28 P P 00 28 48.5 +0.5
baz=274
RIDG Independent Ri 80.75 27 P P 00 28 48.2 0.0
baz=274,SNR=6.7
F26K Sheenjek River 80.76 23 P P 00 28 49.0 +0.8
baz=274
C27K Jago River 80.78 21 P P 00 28 49.2 +0.9
baz=274
G26K Porcupine Rive 80.96 23 P P 00 28 50.2 +1.0
baz=274
N25K Chitina, Valde 81.02 29 P P 00 28 50.7 +0.9
baz=275
BMRM Bremner River 81.07 30 P P 00 28 50.4 +0.4
baz=275
SCRK Sand Creek 81.11 27 P P 00 28 50.4 +0.1
baz=275
KAIM Kayak Island 81.25 31 P P 00 28 51.5 +0.6
baz=275
J26L Joseph Creek 81.25 26 P P 00 28 51.3 +0.4
baz=275
I26K Coal Creek Min 81.35 25 P P 00 28 51.8 +0.5
baz=275
L26K Log Cabin Wild 81.48 27 P P 00 28 52.9 +0.8
baz=275
E27K Coleen River 81.68 22 P P 00 28 53.8 +0.7
baz=276
M26K Nabesna, AK 81.70 28 P P 00 28 54.1 +0.8
baz=276
D27M Malcolm River 81.79 21 P P 00 28 54.4 +0.8
baz=277
MCARA McCarthy VSAT 81.79 29 P P 00 28 54.4 +0.7
baz=276
BGLC Bering Glacier 81.80 30 P P 00 28 54.5 +0.7
baz=276
G27K Doyon Strip 81.81 24 P P 00 28 54.5 +0.8
baz=276
H27K Steamboat Moun 81.92 24 P P 00 28 55.1 +0.6
baz=277
K27K Chicken 81.94 26 P P 00 28 55.4 +0.9
baz=276
I27K Kandik River 81.96 25 P P 00 28 55.5 +0.9
baz=277,SNR=12
L27K Beaver Creek, 82.16 27 P P 00 28 56.6 +0.8
baz=277
BCAR Beaver Creek A 82.18 27 P 00 28 56.3 +0.4
M27K Edge Creek, AK 82.22 28 P P 00 28 56.8 +0.6
baz=277
E28M Babbage River 82.38 22 P P 00 28 57.5 +0.7
baz=278
F28M Old Crow 82.40 23 P P 00 28 57.7 +0.9
baz=278
MESA MESA 82.45 30 P P 00 28 58.0 +0.5
baz=277
CTG Chitna Glacier 82.65 29 P P 00 28 59.1 +0.6
baz=278
I28M Miner Creek 82.67 25 P P 00 28 59.4 +1.0
baz=278,SNR=10
BVCY Beaver Creek 82.69 28 P P 00 28 59.2 +0.7
baz=278
YUK3 Moose Creek 82.96 29 P P 00 29 00.6 +0.4
baz=278
E29M Blow River 83.01 22 P P 00 29 00.7 +0.7
baz=280
DAWY Dawson 83.11 26 P P 00 29 01.3 +0.7
baz=279
H29M Whitestone 83.19 24 P P 00 29 01.7 +0.7
baz=280
G29M Pine Creek 83.21 23 P P 00 29 01.6 +0.5
baz=280
O28M Mount Upton 83.24 30 P P 00 29 01.9 +0.2
baz=278
PINM Pinnacle 83.31 30 P P 00 29 02.3 +0.5
baz=278
YUK8 Steele Glacier 83.36 29 P P 00 29 02.6 +0.3
baz=279
M29M Somme Creek 83.79 28 P P 00 29 05.0 +0.7
baz=280
PNL Peninsula 83.80 31 P P 00 29 04.6 +0.3
baz=279
L29M L29M 83.82 27 P P 00 29 05.1 +0.8
baz=280,SNR=10
EPYK Eagle Plains 83.82 24 P P 00 29 05.2 +0.9
baz=281
YUK4 Talbot Arm 83.89 29 P P 00 29 05.7 +0.8
baz=280
G30M tAoh Zraii Nji 83.90 23 P P 00 29 05.2 +0.6
baz=281
F30M Barrier River 83.94 22 P P 00 29 05.4 +0.6
baz=282
K29M Barlow Dome 83.96 26 P P 00 29 05.8 +0.7
baz=280,SNR=5.3
SPITS Spitsbergen Ar 84.07 349 LR LR 01 13 17.0
comp=Z,25nm,18.1s,baz=118,slow=41
YUK6 Outpost Mounta 84.09 29 P P 00 29 06.3 +0.3
baz=280
O29M Mount Kennedy 84.10 30 P P 00 29 06.4 +0.5
baz=280
ARCES ARCESS Array B 84.17 340 P P 00 29 04.3 -1.6
comp=Z,0.9nm,0.8s,baz=93,slow=7.3,SNR=5.6
ARCES LR LR 01 11 08.7
comp=Z,21nm,18.3s,baz=100,slow=39
comp=Z,0.9nm,0.8s
I30M Mount Dempster 84.18 25 P P 00 29 07.1 +0.8
baz=281
M30M Minto, Yukon 84.52 27 P P 00 29 08.7 +0.8
baz=281,SNR=7.1
HYT Haines Junctio 84.53 29 P P 00 29 09.2 +1.2
HYT Haines Junctio 84.53 29 P P 00 29 08.9 +0.9
baz=281,SNR=9.4
N30M Aishikik Lake 84.60 29 P P 00 29 09.5 +1.1
baz=281,SNR=6.6
INK Inuvik 84.62 22 P P 00 29 09.2 +1.0
baz=284
P29M Windy Craggy 84.64 30 P P 00 29 09.5 +1.0
baz=281,SNR=5.9
G31M Satah River 84.66 23 P P 00 29 09.5 +1.1
baz=283
F31M Tsiigehtchic 84.74 22 P P 00 29 10.0 +1.2
baz=284
H31M Peel River 84.89 24 P P 00 29 10.8 +1.1
baz=283
P30M Million Dollar 84.93 30 P P 00 29 10.9 +0.9
baz=281
N31M Braeburn, Yuko 85.21 28 P P 00 29 12.2 +0.8
baz=282

O30N	Mendenhall baz=282	85.22	29	P		P	00 29 12.3	+0.9
BR131	Keskin Array S	85.24	309			P	00 29 11.5	-0.6
BR131	comp=Z,4.3nm,1.3s			IAmb		IAmb	00 29 44.7	
BRTR	Keskin Array B	85.24	309	P		P	00 29 11.1	-1.0
BRTR	Keskin Array B comp=Z,0.9nm,0.8s,baz=113,slow=3.7,SNR=6.1 comp=Z,0.9nm,0.8s	85.24	309	P		P	00 29 11.0	-1.1
PLBC	Pleasant Camp baz=282	85.36	31	P		P	00 29 13.1	+1.0
M31M	Drury Creek, Y baz=283	85.70	28	P		P	00 29 14.4	+0.6
FINES	FINESS Array B comp=Z,1.4nm,0.8s,baz=66,slow=5.0,SNR=4.8	85.79	332	P		P	00 29 12.7	-1.5
FINES	comp=Z,26nm,19.2s,baz=78,slow=39 comp=Z,1.4nm,0.8s			LR		LR	01 12 11.0	
WHY	Whitehorse	85.82	29			P	00 29 14.9	+0.3
WHY	Whitehorse baz=283,SNR=6.5	85.82	29	P		P	00 29 15.6	+1.1
FARO	Faro, Yukon baz=284,SNR=9.3	86.17	27	P		P	00 29 16.9	+0.8
CSS	Mathiatis	86.25	305	P		P	00 29 16.8	-0.4
AKASG	Malin Array Be comp=Z,0.6nm,0.5s,baz=70,slow=4.3,SNR=2.0	86.36	321	P		P	00 29 16.0	-1.2
AKASG	comp=Z,24nm,21.7s,baz=92,slow=37 comp=Z,0.6nm,0.5s			LR		LR	01 09 34.1	
N32M	Quiet Lake baz=285	86.56	28	P		P	00 29 18.7	+0.6
P32M	Atlin baz=284	86.64	30	P		P	00 29 18.9	+0.4
P33M	Teslin, Yukon baz=285	86.92	29	P		P	00 29 20.4	+0.4
MMPY	Sheldon Lake, baz=286	87.00	27	P		P	00 29 21.0	+0.8
U33K	Whale Pass baz=285	87.82	33	P		P	00 29 24.7	+0.5
CRAG	Craig baz=285	87.98	34	P		P	00 29 25.4	+0.4
PPT	Papeete comp=Z,30nm,19.9s,baz=236,slow=31	88.00	108	LR		LR	01 02 21.5	
PPT2	Papeete2 comp=Z,102nm,26.0s	88.00	108	eLR		LR	00 57 13.5	
PPT2	comp=Z,45nm,23.0s			eLR		LR	00 57 15.5	
R33M	Jennings River baz=286	88.05	30	P		P	00 29 25.9	+0.5
TBI	Tubuai comp=Z,327nm,46.0s	89.23	114	eLR		LR	00 57 53.9	
BURAR	Bucovina Array	89.62	318	P		P	00 29 32.2	-0.8
MLR	Muntele Rosu comp=Z,50nm,20.3s,baz=64,slow=39	89.66	316	LR		LR	01 15 03.9	
VNDA	Vanda	89.84	173	P		P	00 29 34.3	+1.1
VNDA	comp=Z,5.2nm,1.4s			IAmb		IAmb	00 29 39.2	
VNDA	Vanda comp=Z,0.6nm,0.7s,baz=315,slow=5.2,SNR=5.3 comp=Z,0.6nm,0.7s	89.84	173	P		P	00 29 33.4	+0.2
NOA	NORSAR Array B comp=Z,25nm,19.6s,baz=75,slow=38	92.67	334	LR		LR	01 14 53.5	
YKA	Yellowknife Ar comp=Z,1.0nm,0.8s,baz=305,slow=5.5,SNR=4.8 comp=Z,1.0nm,0.8s	94.11	24	P		P	00 29 52.3	-1.0
LSZ	Lusaka comp=Z,66nm,19.4s,baz=146,slow=35	99.83	256	LR		LR	01 14 45.8	
PLCA	Paso Flores comp=Z,2.2nm,0.8s,baz=255,slow=3.7,SNR=3.4	146.26	157	PKPbc		PKPdf	00 36 15.9	+0.9

CATAC ***14*** *00:18:21.1±1.0, 10°N×11°×8°6W±°, h6km±10km, M3.3/10, MLv3.3/10, Error ellipse: s-maj=23.4km s-min=9.3km az=14.0, confirmed*

UCR ***14*** *00:18:22.4±0.7, 10°33N×86°40W, h10km±7km, MW4.2*

ISC 14 00:18:24.2±1.8, 10°36N±0°07×86°32W±0°07, h23km, n48, σ0s70/50, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIBA	Liberia Airpor	0.80	73	eP	Pn	00 18 40.3	+0.2
ALIBA				eS	Sn	00 18 53.3	+2.0
ELI1	Hacienda Flor	0.81	69	eP	Pn	00 18 40.6	+0.4
NICO	Nicoya	0.89	104	eP	Pb	00 18 40.6	-0.4
LAPC	Finca la Perla	0.97	65	eP	Pb	00 18 42.0	-0.3
LCRUZ	La Cruz	0.99	43	eP	Pn	00 18 42.6	-0.1
GPS2	Hotel Rincn d	1.03	68	eP	Pn	00 18 43.1	-0.2
PG27	Guanacaste Pro	1.03	63	eP	Pn	00 18 43.2	-0.2
GPS1	Guardaparques	1.04	67	eP	Pn	00 18 43.3	-0.2
VORI	VORI	1.06	64	eP	Pn	00 18 43.9	0.0
BUAI	Buenos Aires	1.10	62	eP	Pn	00 18 44.3	0.0
NYURE	Nandayure	1.11	109	eP	Pn	00 18 44.4	0.0
CARN	Rivas	1.14	44	eP	Pn	00 18 44.9	+0.1
CARN	Rivas	1.14	44	P	Pn	00 18 44.7	0.0
CARN				S	Sn	00 18 57.3	-2.4
COLC	Colonia	1.14	74	eP	Pn	00 18 44.5	-0.3
MESS	Mesas	1.17	71	eP	Pn	00 18 45.3	0.0
CUI	Cuipilapa	1.18	75	eP	Pn	00 18 45.2	-0.1
HORNC	Hornillas	1.18	73	eP	Pn	00 18 45.3	-0.1
INVE	Universidad In	1.25	84	eP	Pn	00 18 46.5	+0.2
MOTZ	Rio Naranjo	1.27	75	eP	Pn	00 18 47.0	+0.3
VMAR	Armenia, Volca	1.27	69	eP	Pn	00 18 46.9	+0.3
TIMP	Tierras Morena	1.30	80	eP	Pn	00 18 47.1	0.0
JAPN	AI SSO del Vol	1.32	29	eP	Pb	00 18 48.0	-0.4
JAPN	AI SSO del Vol	1.32	29	P	Pb	00 18 48.1	-0.2
JUNT	Juntas	1.34	93	eP	Pn	00 18 47.6	0.0
JTS	Las Juntas de	1.35	93	eP	Pn	00 18 47.6	-0.1
JTS	Las Juntas de	1.35	93	P	Pn	00 18 47.5	-0.1
JTS				S	Sb	00 19 17.5	+12
MORN	AI O del Volca	1.35	29	P	Pb	00 18 48.6	-0.4
TENO	El Achiote	1.37	75	eP	Pn	00 18 47.5	-0.4
UPAL	Upala	1.40	67	eP	Pn	00 18 48.7	+0.4
QUEB	Quebradon, Cot	1.43	79	eP	Pn	00 18 49.2	+0.5
TABAC	Tabacon	1.54	85	eP	Pb	00 18 51.3	-0.8
CASO	Castillo	1.57	87	eP	Pn	00 18 51.5	+0.9
VARE2	V. Arenal	1.58	86	eP	Pb	00 18 52.0	-0.8
NANN	Nandasmo	1.58	7	P	Pb	00 18 52.5	-0.4
CEDE	Laguna Cedeo	1.60	85	eP	Pb	00 18 52.7	-0.4
FORC	Fortuna	1.63	86	eP	Pb	00 18 52.8	-0.8
SAPS	Ciudad Sandino	1.80	357	P	Pn	00 18 54.3	+0.5
COPN	Copaltepe	1.83	352	eP	Pn	00 18 54.1	-0.2
COPN	Copaltepe	1.83	352	P	Pn	00 18 54.3	0.0
VPL2	V. Platanar	1.91	91	eP	Pn	00 18 56.1	+0.6
ACON	Acoyapa	1.96	35	eP	Pn	00 18 55.9	-0.1
ACON	Acoyapa	1.96	35	P	Pn	00 18 55.6	-0.4
ACON	Acoyapa	1.96	35	S	Sb	00 19 24.4	+1.2
MOMN	Momotombo	2.05	354	P	Pn	00 18 57.5	+0.2
CNGN	Cerro Negro	2.16	350	P	Pb	00 19 01.3	-1.4
BOAB	BOACO BROADBAN	2.18	17	P	Pn	00 18 59.4	+0.4
PKGN	Cerro Pekin	2.38	344	P	Pn	00 19 03.0	+1.1
RCPN	Sur Rio San Ju	3.16	4	P	Pn	00 19 14.3	+1.7

WEL ***14*** *00:19:50.3±0.7, 39°S±2°×17°6E±°, h7km±5km, M3.5/42, ML3.8/22, MLv3.5/42, Error ellipse: s-maj=5.2km s-min=2.4km az=113.7, confirmed*

NOU ***14*** *00:19:51.1, 38°72S×175°94E, h4km, MLv3.8/9, North Island, New Zealand*

ISC 14 00:19:51.1±0.9, 38°80S±0°02×175°91E±0°02, h11km±6km, n64, σ0s82/74, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	Rangitukua	0.12	238	P	Pg	00 19 53.5	-0.7
WHTZ	Whakaora	0.14	17	P	Pg	00 19 54.8	+0.3
WATZ	Wairara	0.16	305	P	Pg	00 19 54.6	-0.2
WATZ				S	Sg	00 19 58.0	+0.6
TPPS	Taupo Police S	0.17	48	P	Pg	00 19 55.0	+0.1
RITZ	Rihia Road	0.18	192	P	Pg	00 19 54.3	-0.8
RITZ				S	Sg	00 19 57.5	-0.3
KATZ	Kakaramea	0.24	223	P	Pg	00 19 55.4	-0.7
KATZ				S	Sg	00 19 59.2	-0.3
KUTZ	Kaahu Road	0.32	348	P	Pb	00 19 58.1	-0.8
NTVZ	North Tongarir	0.35	211	P	Pg	00 19 57.3	-0.8
NTVZ				S	Sg	00 20 02.5	-0.3
WPRZ	Whakapapatarin	0.35	36	P	Pb	00 19 58.0	-1.3
TMVZ	Te Maari	0.35	207	P	Pg	00 19 57.3	-0.8
TMVZ				S	Sg	00 20 02.2	-0.7
KRVZ	Karewarewa	0.36	215	P	Pg	00 19 57.5	-0.8
KRVZ				S	Sg	00 20 02.6	-0.5
ETVZ	East Tongariro	0.37	204	P	Pg	00 19 57.6	-0.9
ETVZ				S	Sg	00 20 02.6	-0.8
WTVZ	West Tongariro	0.40	218	P	Pg	00 19 58.3	-0.7
NNVZ	North Ngauruho	0.40	214	P	Pg	00 19 58.4	-0.7
MRHZ	Matea Rd	0.40	95	P	Pg	00 19 58.4	-0.7
OTVZ	Oturere	0.41	207	P	Pg	00 19 58.4	-0.9
OTVZ				S	Sg	00 20 04.4	-0.3
ALRZ	Allen Road	0.42	55	P	Pb	00 19 59.3	-1.2
SNVZ	South Ngauruho	0.44	208	P	Pg	00 19 59.0	-0.8
SNVZ				S	Sg	00 20 05.3	-0.3
NGZ	Ngauruhoe	0.44	212	P	Pg	00 19 59.1	-0.8
TWVZ	Taurewa	0.45	234	P	Pg	00 19 59.2	-0.9
PRRZ	Plateau Road	0.49	52	P	Pb	00 20 00.8	-0.9
COVZ	Chateau Observ	0.49	215	P	Pg	00 19 59.9	-0.8
COVZ				S	Sg	00 20 06.8	-0.4
TUVZ	Tukino	0.50	203	P	Pg	00 20 00.2	-0.9
HRRZ	Handcock Road	0.51	36	P	Pb	00 20 01.2	-0.8
FWVZ	Far West T-bar	0.53	211	P	Pg	00 20 00.6	-0.9
WHVZ	Whangaehu Hut	0.54	207	P	Pg	00 20 00.7	-1.0
HSRZ	Hossack Road	0.56	29	P	Pb	00 20 02.5	-0.4
TRVZ	Turoa	0.57	209	P	Pg	00 20 01.2	-1.1
WNVZ	Wahianoa	0.58	204	P	Pg	00 20 01.3	-1.1
BKZ	Black Stump Fm	0.58	129	P	Pg	00 20 01.9	-0.6
BKZ	Black Stump Fm	0.58	129	S	Sb	00 20 12.6	+0.9
BKZ	Black Stump Fm	0.58	129	P	Pg	00 20 01.9	-0.6
MOVZ	Moawhango	0.61	191	P	Pg	00 20 01.7	-1.4
HLRZ	Highlands Stat	0.65	33	P	Pb	00 20 03.9	-0.6
UTU	Utuhina	0.66	20	P	Pn	00 20 07.2	+0.8
RRRZ	Republican Roa	0.67	46	P	Pb	00 20 04.4	-0.3
MTHZ	Maungataniwha	0.73	94	P	Pg	00 20 04.9	-0.4
KWHZ	Kaweka Forest	0.74	147	P	Pg	00 20 04.9	-0.5
MUGZ	Murupara	0.75	65	P	Pn	00 20 06.8	-0.9
NMHZ	Naumai	0.76	113	P	Pb	00 20 06.5	+0.1
OMRZ	Omania	0.79	28	P	Pn	00 20 08.0	-0.2
KARZ	Kaharoa	0.80	19	P	Pn	00 20 09.5	+0.8
HIZ	Hauiti	0.87	289	P	Pg	00 20 07.6	-0.3
HIZ	Hauiti	0.87	289	S	Sb	00 20 19.8	-0.1
HIZ	Hauiti	0.87	289	P	Pg	00 20 07.4	-0.5
MCHZ	McNeill Hill	0.89	136	P	Pb	00 20 08.9	+0.4
KRHZ	Kereru	0.91	157	P	Pg	00 20 08.0	-0.7
RAHZ	Arahi	0.93	97	P	Pb	00 20 09.2	0.0
WHHZ	Waihua	1.07	105	P	Pn	00 20 12.6	+0.6
URZ	Urewera	1.09	61	P	Pb	00 20 11.4	-0.6
URZ	Urewera	1.09	61	P	Pb	00 20 11.8	-0.2
TGRZ	Tauranga	1.11	15	P	Pn	00 20 14.2	+1.6
TOZ	Tahuroa Road	1.11	343	P	Pg	00 20 11.4	-1.2
WAZ	Wanganui	1.19	217	P	Pg	00 20 13.3	-0.7
KAHZ	Kahuranaki	1.25	143	P	Pn	00 20 15.9	+1.4
CKHZ	Cape Kidnapper	1.25	134	P	Pn	00 20 16.1	+1.6
TSZ	Takapari Road	1.26	178	P	Pn	00 20 13.9	-0.7
WPHZ	Waipukurau	1.33	162	P	Pb	00 20 16.3	+0.3
LREZ	Lake Rotokare	1.34	240	P	Pn	00 20 16.2	+0.4
PRVZ	Palmer Road	1.46	248	P	Pb	00 20 18.5	+0.2
KHEZ	Kahui Hut	1.55	251	P	Pb	00 20 19.9	0.0
KHEZ	Kahui Hut	1.55	251	S	Sg	00 20 41.6	+0.5
BFZ	Birch Farm	1.90	172	P	Pn	00 20 25.0	+1.6
QRZ	Quartz Range	3.29	231	P	Pn	00 20 44.6	+2.0

WEL ***14*** *00:21:08.7, 38°82S×175°90E, h9km, ML3.8, Mw3.9, Moment Tensor Solution. s7 Moment tensor: Scale 10¹⁴ Nm; Mrr2.58; Mθθ3.07; Mϕϕ-5.65; Mrθ-3.48; Mθϕ7.66; Mϕr1.04; Fault plane solution: M₀9.63000×10¹⁴ NP1: ϕs288.00000°, δ82.00000°, λ26.00000°. NP2: ϕs194.00000°, δ65.00000°, λ171.00000°. Principal axes: T -10.6500, Plg23.0000°, Azm154.0000°; N 8.6170, Plg64.0000°, Azm304.0000°; P 2.0340, Plg12.0000°, Azm59.0000°; Stations used: WHVZ BKZ HIZ WAZ TSZ MRZ BFZ STRIKE-SLIP FAULTING*

WEL 14 00:21:08.7±0.6, 39°S±2°×17°6E±°, h9km±5km, M3.7/24, ML4.0/24, MLv3.7/24 Error ellipse: s-maj=5.0km s-min=2.3km az=114.6, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	Rangitukua	0.11	244	P	Pg	00 21 12.1	+0.8
RATZ				S	Sg	00 21 14.1	+0.9
RITZ	Rihia Road	0.16	190	P	Pg	00 21 12.9	+0.7
RITZ				S	Sg	00 21 16.4	+1.9
WHTZ	Whakaora	0.16	18	P	Pg	00 21 13.3	+1.1
WHTZ				S	Sg	00 21 16.2	+1.6
WATZ	Wairara	0.17	312	P	Pg	00 21 13.2	+0.9
WATZ				S	Sg	00 21 16.5	+1.7
KATZ	Kakaramea	0.22	225	P	Pg	00 21 14.1	+0.8
KATZ				S	Sg	00 21 18.2	+1.9
NTVZ	North Tongarir	0.33	211	P	Pg	00 21 15.9	+0.7
TMVZ	Te Maari	0.33	207	P	Pg	00 21 16.0	+0.7
TMVZ				S	Sb	00 21 21.3	-1.0
KUTZ	Kaahu Road	0.34	350	P	Pb	00 21 16.4	-0.5
KRVZ	Karewarewa	0.34	216	P	Pg	00 21 16.1	+0.7
KRVZ				S	Sb	00 21 21.7	-0.9
ETVZ	East Tongariro	0.34	204	P	Pg	00 21 16.2	+0.6
WPRZ	Whakapapatarin	0.37	35	P	Pg	00 21 16.6	+0.6
WTVZ	West Tongariro	0.38	219	P	Pg	00 21 16.9	+0.7
NNVZ	North Ngauruho	0.38	215	P	Pg	00 21 17.0	+0.7
NNVZ				S	Sb	00 21 23.2	-0.6
OTVZ	Oturere	0.39	208	P	Pg	00 21 17.0	+0.7
MRHZ	Matea Rd	0.41	92	P	Pg	00 21 17.1	+0.4
SNVZ	South Ngauruho	0.41	209	P	Pg	00 21 17.7	+0.7
NGZ	Ngauruhoe	0.42	213	P	Pg	00 21 17.7	+0.7
TWVZ	Taurewa	0.43	235	P	Pg	00 21 17.8	+0.6
ALRZ	Allen Road	0.44	54	P	Pg	00 21 17.6	+0.4
COVZ	Chateau Observ	0.47	216	P	Pg	00 21 18.6	-0.7
TUVZ	Tukino	0.48	203	P	Pg	00 21 18.8	+0.6
PRRZ	Plateau Road	0.51	51	P	Pg	00 21 19.2	+0.6
FWVZ	Far West T-bar	0.51	211	P	Pg	00 21 19.3	+0.6
MAVZ	Matarangi	0.52	210	P	Pg	00 21 19.4	+0.6
WHVZ	Whangaehu Hut	0.52	207	P	Pg	00 21 19.4	+0.5
HRRZ	Handcock Road	0.53	35	P	Pb	00 21 19.7	-0.5
TRVZ	Turoa	0.55	209	P	Pg	00 21 19.9	+0.4
WNVZ	Wahianoa	0.56	204	P	Pg	00 21 20.0	+0.4
TLZ	Tolley Road	0.56	330	P	Pg	00 21 19.9	+0.3
HSRZ	Hossack Road	0.58	28	P	Pb	00 21 20.9	-0.1
BKZ	Black Stump Fm	0.58	127	P	Pg	00 21 20.5	+0.5
MOVZ	Moawhango	0.59	191	P	Pg	00 21 20.3	0.0
MTVZ	Mangateitei	0.65	210	P	Pb	00 21 21.9	-0.5
HLRZ	Highlands Stat	0.67	32	P	Pb	00 21 22.9	+0.3
RRRZ	Dupublican Roa	0.68	45	P	Pb	00 21 23.4	+0.6
UTU	Utuhina	0.69	20	P	Pn	00 21 23.8	-0.8
KWHZ	Kaweka Forest	0.73	146	P	Pb	00 21 23.5	-0.1
MTHZ	Maungataniwha	0.74	93	P	Pb	00 21 23.7	-0.1
NGRZ	Ngongotaha	0.75	18	P	Pn	00 21 25.4	-0.2
TARZ	Mount Tarawera	0.76	40	P	Pn	00 21 25.2	-0.5
NMHZ	Naumai	0.76	111	P	Pn	00 21 25.0	-0.8
MUGZ	Murupara	0.77	64	P	Pb	00 21 24.4	+0.1
OMRZ	Omania	0.81	28	P	Pb	00 21 25.6	+0.6
KARZ	Kaharoa	0.84	19	P	Pn	00 21 26.9	+0.1
HIZ	Hauiti	0.87	290	P	Pb	00 21 26.1	+0.1
RTZ	Ruatahuna	0.87	77	P	Pn	00 21 26.9	-0.4
MCHZ	McNeill Hill	0.88	135	P	Pn	00 21 27.5	+0.2
KRHZ	Kereru	0.90	156	P	Pb	00 21 26.6	+0.1
LIRZ	Lichensteins R	0.90	25	P	Pn	00 21 30.7	+3.1
RAHZ	Arahi	0.94	96	P	Pn	00 21 28.1	0.0
VRZ	Vera Road	0.94	251	P	Pn	00 21 27.3	+0.1
ARHZ	Aropaoanui	0.96	118	P	Pn	00 21 29.2	+0.7
KMRZ	Kaimai	0.97	2	P	Pn	00 21 28.9	+0.3
WHHZ	Waihua	1.08	104	P	Pn	00 21 31.1	+1.1
OPRZ	Ohinepanea	1.10	28	P	Pn	00 21 30.6	+0.2
URZ	Urewera	1.11	60	P	Pn	00 21 30.2	-0.2
PNHZ	Pukenui	1.12	168	P	Pn	00 21 30.6	-0.1
TGRZ	Tauranga	1.13	15	P	Pb	00 21 30.5	+0.1
SNGZ	Shannon Statio	1.13	88	P	Pn	00 21 31.7	+0.9
TOZ	Tahuroa Road	1.13	344	P	Pg	00 21 30.0	-0.4
WAZ	Wanganui	1.17	217	P	Pn	00 21 32.6	+1.3
RAGZ	Rawiri	1.23	75	P	Pg	00 21 34.5	+2.1
KAHZ	Kahuranaki	1.23	142	P	Pg	00 21 34.4	+2.0
TSZ	Takapari Road	1.24	178	P	Pg	00 21 32.6	+0.1
CKHZ	Cape Kidnapper	1.24	133	P	Pg	00 21 34.7	+2.1
WPHZ	Waipukurau	1.31	161	P	Pg	00 21 35.0	+1.1
LREZ	Lake Rotokare	1.32	241	P	Pg	00 21 34.9	+0.8
MWZ	Matawai	1.37	70	P	Pg	00 21 35.2	+0.2
DRRZ	Durham Road	1.37	254	P	Pg	00 21 35.7	+0.7
KNZ	Kokohu	1.40	99	P	Pg	00 21 37.4	+1.8
PXZ	Pawanui	1.42	148	P	Pg	00 21 37.6	+1.6
PREZ	Palmer Road	1.45	248	P	Pg	00 21 37.2	+0.7
OHWZ	Ohakea	1.45	198	P	Pg	00 21 36.5	-0.1
RIGZ	Rimuhau	1.47	86	P	Pg	00 21 37.8	+0.9
NEZ	North Egmont	1.47	252	P	Pg	00 21 37.7	+0.7
DVHZ	Dannevirke	1.49	172	P	Pg	00 21 37.7	+0.4
PKE	Pukeiti	1.53	255	P	Pg	00 21 38.3	+0.2
KHEZ	Kahui Hut	1.54	252	P	Pg	00 21 38.6	+0.3
PRHZ	Porangahau	1.55	159	P	Pg	00 21 39.4	+0.9
PRGZ	Paritu Road	1.56	94	P	Pg	00 21 39.6	+1.0
POWZ	Post Office Ro	1.57	184	P	Pg	00 21 38.7	-0.2
TKGZ	Te Karaka	1.58	77	P	Pg	00 21 40.7	+1.8
MHGZ	Mahia Peninsul	1.60	103	P	Pg	00 21 42.4	+2.9
NBEZ	Newall Road No	1.64	254	P	Pg	00 21 40.2	0.0
RUGZ	Raukumara Rang	1.64	59	P	Pb	00 21 39.5	+0.3
NMEZ	Namu Road	1.68	249	P	Pg	00 21 40.9	0.0
ANWZ	Angora Road	1.70	165	P	Pg	00 21 41.6	+0.4
PRWZ	Pori Road	1.73	178	P	Pg	00 21 42.9	+0.9
TWGZ	Tauwhareparae	1.76	69	P	Pg	00 21 43.7	+1.3
HAZ	Te Kaha	1.83	55	P	Pn	00 21 40.9	+0.6
CNGZ	Carnagh Statio	1.84	80	P	Pg	00 21 46.3	+2.3
MRZ	Mangatainoka R	1.85	187	P	Pb	00 21 42.5	-0.2
BFZ	Birch Farm	1.88	172	P	Pb	00 21 43.6	+0.4
PKGZ	Pakihiroa	1.96	62	P	Pb	00 21 44.7	0.0
AWAZ	Awhitu Peninsu	2.01	330	P	Pb	00 21 45.1	-0.4
ETAZ	East Tamaki Re	2.02	337	P	Pb	00 21 44.7	-0.8
OGWZ	Otaki Gorge	2.07	195	P	Pb	00 21 45.8	-0.6
KUZ	Kuaotunu	2.08	356	P	Pg	00 21 49.2	+0.7
HOWZ	Holdsworth Sta	2.09	188	P	Pb	00 21 45.5	-1.4
WIAZ	Waiheke Island	2.11	343	P	Pg	00 21 50.0	+0.8
WTAZ	Waiatarua	2.16	331	P	Pb	00 21 48.0	+0.1
KIW	Kapiti Island	2.17	200	P	Pb	00 21 48.5	+0.3
MBAZ	Motutapu North	2.19	339	P	Pb	00 21 47.4	-1.2
MXZ	Matakaoa Point	2.28	57	P	Pb	00 21 49.6	-0.4

IDC ***14*** *00:24:12.1±1.6, 0°53N×126°28E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=161.0km s-min=19.8km az=66.0*

DJA ***14*** *00:24:16.5±0.3, 1°N±3°×12°6E±°, h10km, M3.9/9, mB5.3/1, mb4.0/3, MLv3.8/9, Mw(mB)4.7/1*

ISC 14 00:24:14.8±0.9, 0°6N±0°1×126°37E±0°07, h10km, n11, σ1s60/12, mb3.9/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.01	79	P	Pg	00 24 35.5	+1.3
TNTI				S	Sn	00 24 50.2	+0.9
KMSI	Cibinong	2.39	270	P	Pn	00 24 55.2	+1.2
SANI	Sanana	2.64	188	P	Pn	00 24 58.9	+1.4
LUWI	Luwuk	3.95	246	P	Pn	00 25 17.8	+2.4
FAKI	Fak Fak 55nm,1.6s	6.83	121	P	Pn	00 25 55.4	+0.3
SPSI	Sidrap Palu	8.00	236	P	Pn	00 26 13.0	+1.9
WRA	Warramunga Arr 2.5nm,0.7s,baz=338,slow=11,SNR=9.9 2.5nm,0.7s	21.84	159	P	P	00 29 06.0	-1.6
ASAR	Alice Springs 1.7nm,0.6s,baz=341,slow=10,SNR=17 1.7nm,0.6s	25.19	164	P	P	00 29 39.6	-1.1
MKAR	Makanchi Array 0.8nm,0.6s,baz=122,slow=7.9,SNR=6.3 0.8nm,0.6s	59.94	326	P	P	00 34 20.2	-1.1
KURBB	Kurchatov Arra 0.6nm,0.6s,baz=130,slow=6.1,SNR=12 0.6nm,0.6s	64.19	328	P	P	00 34 48.6	-1.1
VNDA	Vanda 0.3nm,0.5s,baz=315,slow=8.6,SNR=5.6 0.3nm,0.5s	80.37	173	P	P	00 36 24.5	-1.4

VIE ***14*** *00:25:55.7±0.9, 51°71N×16°09E, h0km, mb2.8/14, ml3.1/11, ms3.4/2, Error ellipse: s-maj=10.4km s-min=7.1km az=70.0 94 km NW of Wroclaw Suspected Mining induced.*

IPEC ***14*** *00:25:57.2±0.2, 51°63N×16°09E, h1km, ML3.0/6, Error ellipse: s-maj=1.7km s-min=1.4km az=63.0*

IDC ***14*** *00:25:57.7±0.7, 51°61N×15°85E, h0km, mbtmp3.1/7, ML2.6/6, Error ellipse: s-maj=10.6km s-min=6.5km az=96.0*

DNK ***14*** *00:25:58.7±1.1, 51°79N×15°48E, h0km±50km, ML2.4*

PRU ***14*** *00:25:59.4, 51°56N×16°01E, h0km*

BGR ***14*** *00:25:59.1±0.3, 51°51N×15°97E, h1km, ML3.2/9, Error ellipse: s-maj=5.6km s-min=4.4km az=164.0*

UPP ***14*** *00:26:02.2±3.3, 51°94N×15°45E, h0km, ML2.4*

ISC 14 00:25:55.4±0.6, 51°62N±0°02×15°99E±0°02, h0km, n112, σ1s79/176, 7C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.80	166	ePg	Pb	00 26 12.7	+0.6
KSP				eSg	Sb	00 26 23.1	-0.4
KSP	Ksiaz	0.80	166	ePg	Pb	00 26 12.8	+0.6
KSP				eSg	Sb	00 26 22.8	-0.7
CHVC	Chvalec	1.03	178	ePG	Pn	00 26 17.4	+0.2
CHVC				eSG	Sb	00 26 31.5	+1.2
OSTC	Ostas	1.07	172	ePG	Pn	00 26 18.2	+0.5
OSTC	comp=Z,132nm,0.3s

KRUC	**Moravsky**	**2.57**	**174**	*e*Pg		**Pg**	**00 26 44.2**	**-0.5**
	baz=356							
KRUC				*e*Sg		**Sg**	**00 27 17.8**	**-0.2**
	comp=Z,72nm,0.7s,baz=356							
OJC	**Ojcow**	**2.79**	**119**	*e*Pn		**Pn**	**00 26 41.1**	**-0.2**
OJC				*e*Pg		**Pg**	**00 26 49.9**	**+1.1**
OJC				*e*Sg		**Sg**	**00 27 25.9**	**+0.9**
OJC	**Ojcow**	**2.79**	**119**	*e*Pn		**Pn**	**00 26 40.9**	**-0.4**
OJC				*e*Sg		**Sg**	**00 27 25.5**	**+0.6**
MOX	**Moxa**	**2.92**	**252**	*e*Pn		**Pn**	**00 26 44.5**	**+1.4**
MOX				*e*Sg		**Sg**	**00 27 29.2**	**0.0**
KHC	**Kasperske Hory**	**2.93**	**213**	*e*PN		**Pn**	**00 26 45.0**	**+1.8**
KHC				*e*PG		**Pg**	**00 26 51.0**	**-0.5**
KHC				*e*SN		**Sn**	**00 27 21.0**	**+1.9**
KHC				*e*SG		**Sg**	**00 27 30.0**	**+0.6**
MANZ	**Manzenberg**	**2.95**	**238**	*e*Pn		**Pn**	**00 26 45.1**	**+1.5**
MANZ				*e*Sg		**Sg**	**00 27 29.8**	**-0.5**
JAVC	**Velka Javorina**	**2.97**	**158**	*e*PN		**Pn**	**00 26 45.3**	**+1.5**
JAVC	**Velka Javorina**	**2.97**	**158**	*e*Pn		**Pn**	**00 26 45.2**	**+1.5**
	baz=340							
CKRC	**Cesky Krumlov**	**3.00**	**202**	*e*PN		**Pn**	**00 26 46.3**	**+2.1**
CKRC				*e*Pg		**Pg**	**00 26 52.8**	**-0.1**
CKRC				*e*SG		**Sg**	**00 27 32.3**	**+0.5**
	comp=Z,49nm,0.4s							
ROTZ	**Rotzenmuhle**	**3.04**	**234**	*e*Pn		**Pn**	**00 26 46.3**	**+1.6**
ROTZ				*e*Sg		**Sg**	**00 27 32.8**	**0.0**
GEC2	**GERESS Array S**	**3.14**	**209**	*e*Pn		**Pn**	**00 26 48.1**	**+1.9**
GERES	**GERESS Array B**	**3.14**	**209**	Pn		**Pn**	**00 26 48.1**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=27,slow=13,SNR=62							
GERES				Lg		Lg	00 27 33.6	
	comp=Z,0.7nm,0.3s,baz=27,slow=28,SNR=6.2							
	comp=Z,4.6nm,0.5s							
WET	**Wettzell**	**3.18**	**220**	*e*Pn		**Pn**	**00 26 48.3**	**+1.7**
WET				*e*Sg		**Sb**	**00 27 35.5**	**+3.6**
LANS	**Liptovska Anna**	**3.33**	**137**	*e*PN		**Pn**	**00 26 50.5**	**+1.8**
LANS				*e*PG		**Pg**	**00 27 00.8**	**+1.7**
LANS				*e*SG		**Sg**	**00 27 41.8**	**-0.4**
MODS	**Modra-Piesok**	**3.35**	**165**	*e*PN		**Pn**	**00 26 49.9**	**+0.9**
MODS				*e*PG		**Pg**	**00 26 59.6**	**0.0**
MODS				*e*SG		**Sg**	**00 27 43.2**	**+0.1**
NIE	**Niedzica**	**3.52**	**127**	*e*Pn		**Pn**	**00 26 53.3**	**+1.9**
NIE				*e*Pg		**Pg**	**00 27 03.4**	**+0.5**
NIE				*e*Sg		**Sg**	**00 27 48.8**	**+0.2**
NIE	**Niedzica**	**3.52**	**127**	*e*Pn		**Pn**	**00 26 52.9**	**+1.5**
NIE				*e*Sg		**Sg**	**00 27 47.3**	**-1.3**
BSD	**Bornholm Skovb**	**3.56**	**350**	*e*P		**Pn**	**00 26 52.9**	**+1.1**
BSD	**Bornholm Skovb**	**3.56**	**350**	*i* P		**Pn**	**00 26 52.0**	**+0.2**
BSD				*i*			00 27 30.5	
BSD				IAML			00 27 53.2	
	comp=Z,4.5nm,0.3s							
GRF	**Grafenberg Arr**	**3.59**	**239**	*e*Pn		**Pn**	**00 26 54.3**	**+1.9**
GRF				*e*Sg		**Sg**	**00 27 49.3**	**-1.5**
VYHS	**Vyhne**	**3.63**	**148**	*e*PN		**Pn**	**00 26 53.8**	**+1.0**
VYHS				*e*PG		**Pg**	**00 27 07.1**	**+2.2**
VYHS				*e*SG		**Sg**	**00 27 52.0**	**+0.2**
CONA	**Conrad Observa**	**3.69**	**181**	*i* Pn		**Pn**	**00 26 55.9**	**+2.1**
	comp=Z,1.7nm,0.2s,SNR=8.7							
CONA				*e*Sg		**Sg**	**00 27 57.9**	**+3.8**
	comp=Z,24nm,0.5s							
RONA	**Rosalia, Austr**	**3.93**	**177**	*e*Pn		**Pn**	**00 26 58.4**	**+1.4**
	comp=Z,0.8nm,0.3s							
MOA	**Molln**	**3.94**	**197**	*i* Pn		**Pn**	**00 26 58.9**	**+1.9**
	comp=Z,5.6nm,0.3s,SNR=36							
MOA	**Molln**	**3.94**	**197**	*e*Pn		**Pn**	**00 26 59.0**	**+1.9**
MOA				*e*Sg		**Sg**	**00 27 58.9**	**-2.9**
STHS	**Stebnicka Huta**	**4.01**	**121**	*e*PN		**Pn**	**00 26 59.0**	**+0.9**
STHS				*e*PG		**Pg**	**00 27 13.1**	**+0.8**
BIOA	**Bad Ischl, Aus**	**4.22**	**202**	*e*Pn		**Pn**	**00 27 02.8**	**+1.9**
	comp=Z,4.4nm,0.2s,SNR=5.1							
KECS	**Kecovo**	**4.27**	**136**	*e*PG		**Pg**	**00 27 18.7**	**+1.5**
LUNU	**Lund**	**4.30**	**340**	*i* P		**Pn**	**00 27 01.0**	**-0.9**
ARSA	**Arzberg**	**4.38**	**184**	*e*Pn		**Pn**	**00 27 04.6**	**+1.4**
	comp=Z,1.1nm,0.4s							
ARSA	**Arzberg**	**4.38**	**184**	*e*Pn		**Pn**	**00 27 05.9**	**+2.7**
RJOB	**Jochberg**	**4.40**	**209**	*e*Pn		**Pn**	**00 27 05.9**	**+2.4**
PSZ	**Piszkesteto**	**4.49**	**144**	⇓P		**Pn**	**00 27 06.2**	**+1.5**
NORI	**Noerdlinger Ri**	**4.50**	**232**	*e*Pn		**Pn**	**00 27 06.4**	**+1.5**
FUR	**Furstenfeldbru**	**4.61**	**223**	*e*Pn		**Pn**	**00 27 08.1**	**+1.8**
BLEU	**Blekinge**	**4.70**	**359**	P		**Pn**	**00 27 08.9**	**+1.5**
BLEU	**Blekinge**	**4.70**	**359**	*i* P		**Pn**	**00 27 07.3**	**-0.1**
BLEU				P		**Pn**	**00 27 08.9**	**+1.5**
BLEU				*i* S		**Sn**	**00 27 59.8**	**-2.7**
BLEU				IAML			00 28 01.1	
	comp=Z,1.6nm,0.4s							
LESA	**Schwarzleotal**	**4.72**	**208**	*e*Pn		**Pn**	**00 27 09.7**	**+1.8**
	comp=Z,0.3nm,0.1s							
BJUU	**Bjuv**	**4.80**	**340**	P		**Pn**	**00 27 08.9**	**+0.1**
BJUU				S		**Sn**	**00 28 00.4**	**-4.6**
BJUU	**Bjuv**	**4.80**	**340**	P		**Pn**	**00 27 08.9**	**+0.1**
BJUU				*i* P		**Pn**	**00 27 09.0**	**+0.1**
BJUU				S		**Sn**	**00 28 00.4**	**-4.0**
BJUU				*i* S		**Sn**	**00 28 01.0**	**-4.0**
KOLS	**Kolonicke sedl**	**4.84**	**121**	*e*PN		**Pn**	**00 27 11.2**	**+1.7**
KOLS				*e*PG		**Pg**	**00 27 32.7**	**+4.5**
KOLS				*e*SG		**Sg**	**00 28 30.9**	**0.0**
KBA	**Koelnbreinsper**	**4.86**	**202**	*e*Pn		**Pn**	**00 27 12.2**	**+2.3**
	comp=Z,2.1nm,0.3s							
TNS	**Taunus Mts**	**4.97**	**257**	*e*Pn		**Pn**	**00 27 12.9**	**+1.6**
SUW	**Suwalki**	**4.98**	**58**	*e*P		**Pn**	**00 27 08.0**	**-3.3**
DEL	**Delary**	**5.02**	**346**	P		**Pn**	**00 27 12.4**	**+0.5**
DEL	**Delary**	**5.02**	**346**	*i* P		**Pn**	**00 27 12.0**	**+0.1**
DEL				P		**Pn**	**00 27 12.4**	**+0.5**
DEL				*i*			00 28 07.8	
DEL				IAML			00 28 12.3	
	comp=Z,3.1nm,0.4s							
WATA	**Walderalm**	**5.16**	**216**	P		**Pn**	**00 27 16.8**	**+2.8**
	comp=Z,1.7nm,0.3s,SNR=4.7							
OBKA	**Obir**	**5.20**	**191**	*e*Pn		**Pn**	**00 27 17.1**	**+2.6**
WTTA	**Wattenberg**	**5.20**	**215**	*e*Pn		**Pn**	**00 27 17.2**	**+2.6**
	comp=Z,1.5nm,0.3s,SNR=6.2							
MOTA	**Moosalm**	**5.33**	**219**	P		**Pn**	**00 27 18.2**	**+1.8**
	comp=Z,0.8nm,0.2s,SNR=5.9							
VXJU	**Vaexsjoe**	**5.35**	**354**	P		**Pn**	**00 27 17.9**	**+1.4**
VXJU	**Vaexsjoe**	**5.35**	**354**	P		**Pn**	**00 27 17.9**	**+1.4**
RETA	**Reutte**	**5.35**	**221**	P		**Pn**	**00 27 18.0**	**+1.5**
	comp=Z,0.8nm,0.2s,SNR=5.7							
OSKU	**Oskarshamn**	**5.59**	**1**	P		**Pn**	**00 27 21.2**	**+1.5**
OSKU	**Oskarshamn**	**5.59**	**1**	P		**Pn**	**00 27 21.2**	**+1.5**
PBUR	**Paburge**	**5.64**	**36**	*e*P		**Pn**	**00 27 19.3**	**-1.1**
MORH	**Mrgy, Hungar**	**5.68**	**161**	⇑P		**Pn**	**00 27 22.8**	**+1.8**
BYXU	**Byxelkrok**	**5.71**	**6**	P		**Pn**	**00 27 23.2**	**+1.8**
BYXU	**Byxelkrok**	**5.71**	**6**	P		**Pn**	**00 27 23.2**	**+1.8**
FABU	**Falkenberg**	**5.72**	**342**	P		**Pn**	**00 27 22.3**	**+0.8**
FABU	**Falkenberg**	**5.72**	**342**	P		**Pn**	**00 27 22.3**	**+0.8**
DAVA	**Damuels**	**5.89**	**225**	*i* P		**Pn**	**00 27 26.1**	**+2.2**
	comp=Z,1.1nm,0.2s,SNR=5.0							
EKSU	**Eksjoe**	**5.98**	**356**	P		**Pn**	**00 27 26.5**	**+1.4**
EKSU	**Eksjoe**	**5.98**	**356**	P		**Pn**	**00 27 26.5**	**+1.4**
DAVOX	**Davos/Dischmat**	**6.28**	**222**	Pn		**Pn**	**00 27 31.2**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=13,slow=17,SNR=4.7							
DAVOX				Lg		Lg	00 29 18.3	
	comp=Z,0.3nm,0.3s,baz=9.6,slow=24,SNR=4.4							
	comp=Z,0.8nm,0.3s							
SIRR	**Siria**	**6.53**	**143**	⇑P		**Pn**	**00 27 33.9**	**+1.3**
DRGR		**6.54**	**135**	⇓P		**Pn**	**00 27 34.1**	**+1.3**
CJR	**Cluj-Napoca**	**7.00**	**132**	⇓P		**Pn**	**00 27 39.8**	**+0.7**
BZS	**Buzias**	**7.07**	**146**	⇑P		**Pn**	**00 27 41.2**	**+1.2**
BURAR	**Bucovina Array**	**7.21**	**120**	⇑P		**Pn**	**00 27 42.8**	**+0.7**
NACGM	**Naroch**	**7.26**	**59**	*e*P		**Pn**	**00 27 43.0**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=248							
MDVR	**Moldovita**	**7.84**	**149**	⇑P		**Pn**	**00 27 52.2**	**+1.5**
AKASG	**Malin Array Be**	**8.57**	**91**	Pn		**Pn**	**00 27 57.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=278,slow=13,SNR=7.1							
AKASG				Sn		Sn	**00 29 30.0**	**-3.1**
	comp=Z,0.8nm,0.3s,baz=79,slow=4.8,SNR=4.4							
AKASG				Lg		Lg	00 30 27.7	
	baz=286,slow=28							
HFS	**Hagfors**	**8.63**	**352**	Pn		**Pn**	**00 28 01.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=167,slow=15,SNR=13							
HFS				Sn		**Sn**	**00 29 35.6**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=172,slow=24,SNR=5.2							
HFS				Lg		Lg	00 30 33.9	
	comp=Z,0.2nm,0.3s,baz=168,slow=23,SNR=5.4							
	comp=Z,0.6nm,0.5s							
VSU	**Vasula**	**9.21**	**38**	*e*P		**Pn**	**00 28 07.8**	**-1.6**
NOA	**NORSAR Array B**	**9.81**	**346**	Pn		**Pn**	**00 28 16.1**	**-1.5**
	baz=185,slow=11,SNR=5.1							
NOA				Sn		Sn	00 29 58.8	-9.5
	baz=65,slow=7.3,SNR=3.6							
NOA				Lg		Lg	00 31 04.5	
	baz=295,slow=15,SNR=3.5							
	comp=Z,0.2nm,0.7s							
MEF	**Metsahovi**	**9.82**	**25**	*e*P		**Pn**	**00 28 17.4**	**-0.2**
RAF	**Rauma**	**9.95**	**16**	*e*P		**Pn**	**00 28 19.6**	**+0.1**
FINES	**FINESS Array B**	**11.30**	**25**	Pn		**Pn**	**00 28 37.4**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=216,slow=12,SNR=14							
FINES				Sn		**Sn**	**00 30 37.8**	**-6.9**
	comp=Z,0.4nm,0.3s,baz=215,slow=21,SNR=6.4							
FINES				Lg		Lg	00 31 51.9	
	baz=200,slow=24							
	comp=Z,0.8nm,0.5s							
KEF	**Keuruu**	**11.62**	**21**	*e*P		**Pn**	**00 28 40.0**	**-2.3**
EKA	**Eskdalemuir Ar**	**11.99**	**296**	Pn		**Pn**	**00 28 45.0**	**-2.4**
	baz=104,slow=14							
ARCES	**ARCESS Array B**	**18.53**	**11**	P		**P**	**00 30 12.0**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=196,slow=13,SNR=5.2							

LJU 14 00:30:06.9, 46.03N×14.97E, h4km, ML0.7, 3C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PDKS	**Podkum**	**0.03**	**34**	⇑*i* Pg		Pg		00 30 08.0	-0.1
PDKS				*i* Sg		Sg		00 30 08.8	0.0
PDKS				IAML				00 30 08.9	
	comp=Z,43nm,0.1s								
VNDS	**Vrh nad Dolski**	**0.20**	**290**	*i* Pg		Pg		00 30 11.6	+0.8
VNDS				*e*Sg		Sg		00 30 14.2	+0.8
VNDS				IAML				00 30 14.5	
	comp=Z,4.4nm,0.1s								
VISS	**Visnje**	**0.25**	**202**	⇑*i* Pg		Pg		00 30 11.7	0.0
VISS				*e*Sg		Sg		00 30 15.1	+0.1
VISS				IAML				00 30 15.2	
	comp=Z,3.5nm,0.1s								
LEGS	**Legarje**	**0.26**	**109**	*i* Pg		Pg		00 30 12.9	+1.1
LEGS				*e*Sg		Sg		00 30 16.0	+0.7
DOBS	**Dobrina**	**0.37**	**71**	*i* Pg		Pg		00 30 13.8	-0.2
DOBS				IAML				00 30 20.8	
	comp=Z,3.6nm,0.1s								
GBAS	**Gorenja Brezov**	**0.38**	**255**	⇑*i* Pg		Pg		00 30 14.2	-0.1
GBAS				IAML				00 30 21.1	
	comp=Z,0.9nm,0.1s								
ZAVS	**Zavodnje**	**0.40**	**5**	*i* Pg		Pg		00 30 14.8	0.0
ZAVS				*e*Sg		Sg		00 30 20.2	+0.2
ZAVS				IAML				00 30 21.0	
	comp=Z,5.2nm,0.1s								
MOZS	**Mozjanca**	**0.45**	**306**	⇓*e*Pg		Pg		00 30 15.9	+0.3
GOLS	**Golise**	**0.46**	**93**	⇓*e*Pg		Pg		00 30 15.8	+0.1
GOLS				IAML				00 30 23.3	
	comp=Z,2.6nm,0.1s								

*IDC **14** 00:34:05.1±8.5, 17.70S×178.59W, h543km±93km, mb3.1/5, mbtmp4.0/5, Error ellipse: s-maj=111.3km s-min=33.6km az=153.0*

ISC 14 00:34:05.2±1.8, 17.7S±0.7×178.6W±0.4, h547km, n7, σ0°38/8, mb3.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.46**	**259**	P		P	**P**	**00 41 28.4**	**0.0**
	1.1nm,0.6s,baz=97,slow=6.8,SNR=9.8								
	1.1nm,0.6s								
ASAR	**Alice Springs**	**44.65**	**254**	P		P	**P**	**00 41 30.1**	**+0.4**
	9.4nm,0.6s,baz=88,slow=8.3,SNR=140								
ASAR				PcP		**PcP**		**00 42 60.0**	**-0.7**
	0.5nm,0.6s,baz=93,slow=3.6,SNR=2.9								
	9.4nm,0.6s								
ILAR	**Eielson Array**	**85.69**	**13**	P		P	**P**	**00 45 46.0**	**+0.1**
	0.6nm,0.9s,baz=236,slow=4.9,SNR=3.0								
	0.6nm,0.9s								
TXAR	**Lajitas Array**	**86.05**	**58**	P		P	**P**	**00 45 48.9**	**+0.3**
	0.4nm,0.8s,baz=257,slow=4.0,SNR=4.1								
	0.4nm,0.8s								
PDAR	**Pinedale Array**	**87.32**	**44**	P		P	**P**	**00 45 54.2**	**-0.2**
	0.2nm,0.3s,baz=249,slow=4.1,SNR=3.5								
	0.2nm,0.3s								
BRTR	**Keskin Array B**	**144.45**	**315**	PKP		**PKPdf**		**00 52 40.0**	**+0.2**
	0.4nm,0.5s,baz=142,slow=3.0,SNR=3.7								
GERES	**GERESS Array B**	**147.31**	**345**	PKPbc		**PKPbc**		**00 52 47.5**	**-0.1**
	0.5nm,0.5s,baz=7.4,slow=3.1,SNR=7.9								

*SFS **14** 00:41:19.7, 37.98N×0.72W, h14km, ML2.8/8, ML2.4/10, MLv2.2/10*
*MDD **14** 00:41:19.1±0.3, 38.00N±0.03×0.82W±0.03, h15km±6km, n36, σ0°85/82, Spain*

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ETRV	**Los Montesinos**	**0.05**	**69**	Pg		Pg	**Pg**	**00 41 20.5**	**+0.3**
ETRV				Sg		Sg	**Sg**	**00 41 21.4**	**-0.7**
CART	**Cartagena**	**0.44**	**199**	Pg		Pn	**Pn**	**00 41 28.0**	**-1.4**
CART				Sg		Sg	**Sb**	**00 41 34.5**	**+1.0**
TLOR	**Lorca, Murcia**	**0.77**	**244**	Pg		Pn	**Pn**	**00 41 34.3**	**+0.3**
TLOR				Sg		Sn	**Sn**	**00 41 45.9**	**+0.5**
TLOR	**Lorca, Murcia**	**0.77**	**244**	Pg		Pn	**Pn**	**00 41 33.6**	**-0.3**
TLOR				Sg		Sg	**Sb**	**00 41 43.1**	**+0.1**
ELOR	**Lorca, Murcia**	**0.82**	**244**	Pg		Pn	**Pn**	**00 41 34.8**	**+0.2**
ELOR				Sg		Sg	**Sb**	**00 41 45.3**	**+0.9**
ELOR				*i* lVmb_Lg				00 41 50.5	
EBEN2	**Beniarda presa**	**0.83**	**36**	Pg		Pn	**Pn**	**00 41 34.5**	**-0.4**
EBEN2				Sg		Sg	**Sb**	**00 41 45.2**	**+0.4**
EBEN2				*i* lVmb_Lg				00 41 49.2	
ENIJ	**Nijar**	**1.51**	**227**	Pn		Pg	**Pg**	**00 41 45.8**	**-0.8**
ENIJ				Sn		Sb	**Sb**	**00 42 04.8**	**+0.5**
ENIJ	**Nijar**	**1.51**	**227**	Pn		Pg	**Pg**	**00 41 45.6**	**-1.0**
ENIJ				Pg		Pb	**Pb**	**00 41 47.0**	**+1.7**
ENIJ				Sn		Sb	**Sb**	**00 42 04.9**	**+0.5**
ENIJ				*i* lVmb_Lg				00 42 10.5	
ECHE	**Chera**	**1.59**	**356**	Pn		Pg	**Pg**	**00 41 47.0**	**-1.1**
ECHE				Sn		Sn	**Sn**	**00 42 06.0**	**+0.4**
ECHE	**Chera**	**1.59**	**356**	Pn		Pn	**Pn**	**00 41 45.6**	**+0.3**
ECHE				Pg		Pg	**Pg**	**00 41 47.9**	**-0.2**
ECHE				Sn		Sn	**Sn**	**00 42 06.0**	**+0.4**
ECHE				*i* lVmb_Lg				00 42 09.7	
EQES	**Quesada**	**1.79**	**264**	Pn		Pb	**Pb**	**00 41 49.1**	**-1.1**
EQES				Pg		Pg	**Pg**	**00 41 51.0**	**-1.0**
EQES				Sn		Sn	**Sn**	**00 42 11.9**	**+1.1**
EQES				*i* lVmb_Lg				00 42 15.3	
EQES				Sg		Sg	**Sg**	**00 42 15.9**	**+0.6**
EIBI	**Ibiza**	**1.98**	**58**	Pn		Pn	**Pn**	**00 41 51.0**	**+0.4**
EIBI				Sn		Sn	**Sn**	**00 42 14.2**	**-1.0**
EIBI	**Ibiza**	**1.98**	**58**	Pn		Pn	**Pn**	**00 41 51.0**	**+0.4**
EIBI				Sn		Sn	**Sn**	**00 42 15.6**	**+0.4**
EIBI				*i* lVmb_Lg				00 42 20.2	
E0802	**Ubeda,Jaen**	**2.02**	**271**	Pn		Pn	**Pn**	**00 41 51.5**	**+0.3**
E0802				Sn		Sn	**Sn**	**00 42 16.1**	**-0.1**
E0802				Sg		Sg	**Sg**	**00 42 22.8**	**+0.2**
E0803	**Jimena (Jaen)**	**2.10**	**266**	Pn		Pn	**Pn**	**00 41 53.3**	**+0.9**
E0803				Sn		Sn	**Sn**	**00 42 18.7**	**+0.4**
EQUE	**Quentar**	**2.23**	**250**	Pn		Pn	**Pn**	**00 41 55.5**	**+1.4**
EQUE				Sn		Sn	**Sn**	**00 42 21.5**	**+0.1**
EQUE				Sg		Sg	**Sg**	**00 42 30.4**	**+1.1**
EQUE				*i* lVmb_Lg				00 42 35.5	
EQTA	**Presa de Quent**	**2.23**	**250**	Pn		Pb	**Pb**	**00 41 57.1**	**-0.6**
EQTA				Sn		Sb	**Sb**	**00 42 25.0**	**-0.1**
EMOS	**Mosqueruela**	**2.37**	**6**	Pn		Pn	**Pn**	**00 41 56.1**	**0.0**
EMOS				Sn		Sn	**Sn**	**00 42 24.2**	**-1.0**
EMOS				*i* lVmb_Lg				00 42 40.4	
PSIM	**Granatula de C**	**2.45**	**290**	Pn		Pn	**Pn**	**00 41 57.6**	**+0.5**
PSIM				Sn		Sn	**Sn**	**00 42 25.9**	**-0.8**
PSIM				Sg		Sg	**Sg**	**00 42 36.3**	**+0.1**
E0901	**Celadas (Terue**	**2.48**	**355**	Pn		Pn	**Pn**	**00 41 58.5**	**+0.8**
E0901				Sn		Sn	**Sn**	**00 42 26.5**	**-1.3**
E0901				*i* lVmb_Lg				00 42 40.7	
ELGU	**Los Guajares,**	**2.51**	**244**	Pn		Pb	**Pb**	**00 42 00.2**	**-2.2**
ESBB	**Sonseca Array**	**2.97**	**305**	Pn		Pn	**Pn**	**00 42 05.5**	**+1.3**
ESBB				Sn		Sn	**Sn**	**00 42 39.0**	**-0.6**
ESBB				Sg		Sg	**Sg**	**00 42 52.4**	**-0.6**
ESDC	**Sonseca Array**	**2.97**	**305**	Pn		Pn	**Pn**	**00 42 04.6**	**+0.4**
ESDC				Sn		Sn	**Sn**	**00 42 39.5**	**-0.1**
ESDC				Sg		Sg	**Sg**	**00 42 52.6**	**-0.3**
ESDC				*i* lVmb_Lg				00 42 56.2	
EADA	**Adamuz**	**2.97**	**274**	Pn		Pn	**Pn**	**00 42 04.7**	**+0.4**
EADA				Sn		Sn	**Sn**	**00 42 40.7**	**+1.0**
EADA	**Adamuz**	**2.97**	**274**	Pn		Pn	**Pn**	**00 42 04.7**	**+0.4**
EADA				Sn		Sn	**Sn**	**00 42 39.7**	**+0.1**
EADA				Sg		Sg	**Sg**	**00 42 53.0**	**0.0**
EADA				*i* lVmb_Lg				00 42 58.4	
ETOR	**Torete**	**2.97**	**342**	Pn		Pn	**Pn**	**00 42 05.1**	**+0.8**
ETOR				Pg		Pb	**Pb**	**00 42 11.6**	**+1.3**
ETOR				Sn		Sn	**Sn**	**00 42 38.9**	**-0.9**
ETOR				Sg		Sg	**Sg**	**00 42 52.8**	**-0.2**
ETOR				*i* lVmb_Lg				00 42 55.4	
UCM	**Universidad Co**	**2.98**	**321**	Pg		Pg	**Pg**	**00 42 14.4**	**-0.2**
UCM				Sg		Sg	**Sg**	**00 42 53.4**	**+0.2**
ERTA	**Horta de San J**	**3.08**	**16**	Pn		Pn	**Pn**	**00 42 06.9**	**+1.2**
ERTA				Sn		Sn	**Sn**	**00 42 41.9**	**-0.5**
ERTA				*i* lVmb_Lg				00 42 50.0	
PAB	**San Pablo**	**3.16**	**300**	Pn		Pn	**Pn**	**00 42 07.3**	**+0.4**
PAB				Sn		Sn	**Sn**	**00 42 43.8**	**-0.6**
PAB				Sg		Sg	**Sg**	**00 42 57.4**	**-1.7**
PAB				*i* lVmb_Lg				00 43 02.5	
ECAB	**El Cabril**	**3.63**	**273**	Pn		Pn	**Pn**	**00 42 13.7**	**+0.4**
ECAB	**El Cabril**	**3.63**	**273**	Pn		Pn	**Pn**	**00 42 13.7**	**+0.4**
ECAB				Sn		Sn	**Sn**	**00 42 55.3**	**-0.7**
ECAB				Sg		Sg	**Sg**	**00 43 13.1**	**-1.1**
ECAB				*i* lVmb_Lg				00 43 17.6	
GUD	**Guadarrama**	**3.69**	**317**	Pn		Pn	**Pn**	**00 42 15.1**	**+0.8**
GUD				Sn		Sn	**Sn**	**00 42 56.0**	**-1.6**
GUD				Sg		Sg	**Sg**	**00 43 15.4**	**-0.8**
GUD				*i* lVmb_Lg				00 43 16.7	
PBAR	**Barrancos**	**4.91**	**274**	*e*Pn		Pn	**Pn**	**00 42 31.7**	**+0.8**
PBAR				*e*Sg		Sg	**Sg**	**00 43 55.6**	**+0.4**
PBAR				IAML				00 44 00.2	
PBAR				IAML				00 44 01.8	
PBAR				IAML				00 44 08.3	
PVAQ	**Vaqueiros**	**5.50**	**266**	*e*Pn		Pn	**Pn**	**00 42 39.2**	**+0.2**
MESJ	**Messejana**	**5.86**	**271**	*e*Pn		Pn	**Pn**	**00 42 45.9**	**+2.0**
PMTG	**Montargil**	**5.90**	**283**	*e*Pn		Pn	**Pn**	**00 42 46.0**	**+1.5**

*IDC **14** 01:44:48.7±0.9, 23.69S×179.99E, h529km±9km, mb4.0/24, mbtmp4.8/26, Error ellipse: s-maj=10.3km s-min=8.9km az=162.0*
*NOU **14** 01:44:48.9, 23.72S×179.79W, h546km, mb4.7/75, South of Fiji Islands*
*NEIC **14** 01:44:49.7±2.3, 23.64S±0.06×179.9W±0.1, h533km±7km, mb4.6/82, Error ellipse: s-maj=14.5km s-min=8.1km az=103.0*

ISC 14 01:44:47.5±0.3, 23.79S±0.04×179.91W±0.04, h518km, n359, σ1°72/374, mb4.5/75, 24C-15D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**5.63**	**11**	P		P	**P**	**01 46 23.9**	**+2.6**
LKBA	**Tubou, Lakemba**	**5.63**	**11**	S		S	**P**	**01 47 40.8**	**+3.1**
RAO	**Raoul Island**	**5.72**	**162**	P		P	**P**	**01 46 25.0**	**+3.1**
	1μm,0.3s,baz=277,slow=6.5,SNR=33								
RAO				S		S	**P**	**01 47 36.5**	**-2.7**
	318nm,0.3s,baz=278,slow=24,SNR=1.2								
RAO	**Raoul Island**	**5.72**

THZ **Tophouse** 18.89 197 P **P** 01 48 35.4 +0.3
THZ S **S** 01 51 35.9 -4.3
DSZ Denniston Nort 19.19 199 P **P** 01 48 38.8 +1.1
KHZ Kahutara 19.35 195 P **P** 01 48 38.6 -0.5
KHZ Kahutara 19.35 195 P **P** 01 48 39.6 +0.5
KHZ Kahutara 19.35 195 P **P** 01 48 38.6 -0.5
KHZ S **S** 01 51 42.8 -4.6
GVZ Greta Valley S 20.00 195 P **P** 01 48 44.1 -0.8
GVZ Greta Valley S 20.00 195 P **P** 01 48 44.3 -0.6
GVZ S **S** 01 51 50.2 -7.6
LTZ Lake Taylor 20.02 197 **P** 01 48 44.5 -0.7
LTZ Lake Taylor 20.02 197 P **P** 01 48 44.4 -0.7
LTZ S **S** 01 51 52.6 -5.6
INZ Inchbonnie 20.19 199 P **P** 01 48 46.9 +0.1
INZ Inchbonnie 20.19 199 P **P** 01 48 46.8 0.0
OXZ Oxford 20.58 197 P **P** 01 48 50.4 +0.1
RPZ Rata Peaks 21.22 198 **P** 01 48 55.5 -0.5
RPZ Rata Peaks 21.22 198 P **P** 01 48 55.6 -0.4
comp=Z,24nm,0.5s,baz=12,slow=3.0,SNR=12
comp=Z,24nm,0.5s
RPZ Rata Peaks 21.22 198 P **P** 01 48 56.7 +0.7
HURO Huro Makira 21.82 304 P **P** 01 49 01.0 -0.8
JCZ Jackson Bay 22.25 202 P **P** 01 49 05.4 -0.1
ODZ Otahua Downs 22.55 198 P **P** 01 49 08.6 +0.6
NGOA Tingoa Renbel 22.59 299 P **P** 01 49 09.1 +0.3
WHZ Wether Hill Ro 24.14 201 P **P** 01 49 22.1 -0.1
SAVO Savo Central 24.24 304 P **P** 01 49 23.6 +0.1
SYZ Scrubby Hill 24.35 199 P **P** 01 49 24.5 +0.6
TATA Tatamba Isabel 24.73 305 P **P** 01 49 27.3 -0.5
ARMA Armidale 26.14 249 **P** 01 49 42.1 +1.9
ARMA IAmb IAmb 01 49 43.7
comp=Z,15nm,0.7s
ARMA Armidale 26.14 249 P **P** 01 49 41.3 +1.1
EIDS Eidsvold 26.40 261 **P** 01 49 43.5 +1.0
EIDS IAmb IAmb 01 49 44.9
comp=Z,26nm,0.6s
EIDS Eidsvold 26.40 261 P **P** 01 49 43.9 +1.4
TBI Tubuai 27.89 95 *e*S **S** 01 53 59.9 -2.7
comp=Z,2µm,34.2s
TBI *es*S sS 01 56 45.8 +3.1
comp=Z,705nm,38.8s
TBI *es*S SS 01 56 46.3 -20
comp=Z,1µm,29.8s
CNB Canberra Magne 28.97 240 P **P** 01 50 05.7 +0.7
PPT2 Papeete2 29.00 83 *es*S **sS** 01 57 04.9 +3.7
comp=Z,373nm,26.8s
PPT2 *es*S SS 01 57 12.1 -16
comp=Z,229nm,33.5s
PPT Papeete 29.01 83 P **P** 01 50 05.9 +0.5
comp=Z,30nm,0.7s,baz=82,slow=22,SNR=3.1
comp=Z,30nm,0.7s
TVO Taravao 29.24 84 *e*P **P** 01 50 08.0 +0.5
comp=Z,20nm,0.8s
CAN Canberra 29.26 240 P **P** 01 50 08.4 +0.9
CMSA Cobar Meteorol 31.33 248 P **P** 01 50 26.0 +0.7
CTAO Charters Tower 31.55 270 **P** 01 50 28.1 +0.8
CTAO Charters Tower 31.55 270 P **P** 01 50 28.7 +1.3
QLP Quilpie 32.50 257 P **P** 01 50 35.9 +0.6
RABL Rabaul 33.24 302 P **P** 01 50 41.1 -0.7
MTSU Mount Surprise 33.81 273 P **P** 01 50 46.8 +0.2
STKA Stephens Creek 34.84 248 P **P** 01 50 55.6 +0.7
STKA Stephens Creek 34.84 248 P **P** 01 50 55.4 +0.4
comp=Z,8.3nm,0.5s,baz=98,slow=10,SNR=14
comp=Z,8.3nm,0.5s
COEN Coen 36.18 279 P **P** 01 51 06.9 +0.6
HTT Hallett 37.19 246 P **P** 01 51 15.4 +0.9
QIS Mount Isa 37.54 267 P **P** 01 51 17.8 +0.3
AS01 Alice Springs 42.09 260 P **P** 01 51 54.4 +0.4
AS31 Alice Springs 42.13 260 IAmb IAmb 01 51 56.0
comp=Z,11nm,0.4s
ASAR Alice Springs 42.13 260 P **P** 01 51 53.9 -0.5
ASAR Alice Springs 42.13 260 P **P** 01 51 54.3 -0.1
comp=Z,18nm,0.6s,baz=92,slow=7.2,SNR=100
ASAR ScP **ScP** 01 56 38.8 +0.6
comp=Z,6.5nm,0.7s,baz=107,slow=4.2,SNR=20
ASAR S **S** 01 57 33.2 -3.4
comp=Z,1.1nm,0.7s,baz=95,slow=14,SNR=5.1
ASAR ScS **ScS** 02 00 58.1 -0.3
comp=Z,1.0nm,0.9s,baz=106,slow=6.7,SNR=4.5
comp=Z,18nm,0.6s
WR8 Warramunga Arr 42.34 266 IAmb IAmb 01 51 56.7
comp=Z,25nm,0.9s
WRA Warramunga Arr 42.49 266 P **P** 01 51 55.9 -1.4
WRA Warramunga Arr 42.49 266 P **P** 01 51 56.8 -0.4
comp=Z,26nm,0.4s,baz=90,slow=5.9,SNR=299
WRA ScP **ScP** 01 56 40.0 +0.4
comp=Z,3.4nm,0.9s,baz=99,slow=4.0,SNR=8.1
WRA S **S** 01 57 36.8 -5.1
comp=Z,3.1nm,0.8s,baz=100,slow=13,SNR=6.5
comp=Z,26nm,0.4s
JAY Jayapura 43.55 293 P **P** 01 52 05.1 -0.5
comp=Z,20nm,0.4s,baz=158,slow=4.4,SNR=54
comp=Z,20nm,0.4s
KDU Kakadu 46.36 275 P **P** 01 52 27.0 -0.1
FORT Forrest 46.42 249 P **P** 01 52 27.1 -0.3
MTN Manton Dam 47.53 274 P **P** 01 52 35.9 0.0
DRS Darwin Rock St 47.88 275 P **P** 01 52 38.5 -0.1
KNRA Kununurra 48.77 270 IAmb IAmb 01 52 46.4
comp=Z,33nm,0.8s
HPAH Hawaii Prepara 49.54 30 P **P** 01 52 49.4 -1.4
FAKI Fak Fak 50.63 287 P **P** 01 52 58.5 -0.4
FITZ Fitzroy Crossi 50.92 265 P **P** 01 53 01.6 +0.6
comp=Z,14nm,0.5s,baz=108,slow=6.5,SNR=36
comp=Z,14nm,0.5s
VNDA Vanda 54.49 185 P **P** 01 53 27.9 +2.3
comp=Z,0.3nm,0.4s,baz=12,slow=5.7,SNR=2.5
VNDA PcP **PcP** 01 54 21.4 +0.4
comp=Z,0.8nm,0.6s,baz=7.8,slow=5.3,SNR=6.7
VNDA ScP **ScP** 01 57 28.0 -1.6
comp=Z,0.8nm,0.6s,baz=334,slow=4.4,SNR=9.5
KLBR Kellerberrin 55.10 247 P **P** 01 53 30.5 -0.2
MEEK Meekatharra 55.22 253 P **P** 01 53 32.5 +0.9
BATI Baumata 55.30 274 P **P** 01 53 33.6 +1.3
comp=Z,34nm,0.5s,baz=155,slow=4.4,SNR=5.0
comp=Z,34nm,0.5s
NWAO Narrogin (SRO) 55.35 245 P **P** 01 53 32.3 -0.1
MBWA Marble Bar 55.47 260 P **P** 01 53 33.1 -0.3
BLDU Ballidu 56.14 248 P **P** 01 53 38.0 +0.1
MUN Mundaring 56.35 246 P **P** 01 53 39.5 +0.2
MORW Morawa 56.99 250 P **P** 01 53 43.6 -0.2
PLAI Plampang 61.20 273 P **P** 01 54 12.0 -0.2
TOLI2 Tolitoli 62.63 285 P **P** 01 54 20.6 -0.9
TOLI2 IAmb IAmb 01 54 22.9
comp=Z,20nm,0.7s
TOLI2 Tolitoli 62.63 285 P **P** 01 54 21.1 -0.4
QSPA South Pole Qui 66.29 180 P **P** 01 54 45.8 +1.7
QSPA IAmb IAmb 01 54 46.2
comp=Z,7.3nm,0.6s
QSPA South Pole Qui 66.29 180 P **P** 01 54 45.8 +1.7
comp=Z,6.5nm,0.6s,baz=356,slow=0.6,SNR=68
comp=Z,6.5nm,0.6s
UGM Wanagama 68.18 271 P **P** 01 54 56.2 -0.2
JGF Kuroka 71.59 324 P **P** 01 55 16.0 -0.3
MJAR Matsushiro Arr 71.86 326 P **P** 01 55 15.9 -1.9
MJAR Matsushiro Arr 71.86 326 P **P** 01 55 16.4 -1.3
comp=Z,6.8nm,0.8s,baz=158,slow=5.5,SNR=21
comp=Z,6.8nm,0.8s
MAJO Matsushiro 71.86 326 P **P** 01 55 17.6 -0.2
MAJO IAmb IAmb 01 55 18.7
comp=Z,12nm,0.9s
MJB9 Matsu-Tunnel 71.86 326 P **P** 01 55 17.6 -0.2
MJB9 IAmb IAmb 01 55 18.7
comp=Z,12nm,0.8s
KSM Kuching 72.17 280 P **P** 01 55 18.1 -1.9
KSM IAmb IAmb 01 55 21.1
comp=Z,19nm,0.7s
JNU Nakatsue 73.50 318 P **P** 01 55 26.6 -0.7
comp=Z,6.7nm,0.8s,baz=304,slow=1.4,SNR=6.1
comp=Z,6.7nm,0.8s
JNU Nakatsue 73.50 318 P **P** 01 55 26.5 -0.9
JTM Tenmabayashi 73.78 330 P **P** 01 55 28.5 -0.2
NACB Ninganchiao 74.11 306 P **P** 01 55 30.1 -0.8
KIWB Kanaga Island 75.36 2 P **P** 01 55 36.6 -0.7
KIWB IAmb IAmb 01 55 37.4
comp=Z,25nm,0.8s
ADK Adak 75.40 2 P **P** 01 55 36.5 -1.0
ADK IAmb IAmb 01 55 37.3
comp=Z,30nm,0.6s
ADK Adak 75.40 2 P **P** 01 55 36.8 -0.7
ASAJ Asahikawa 75.81 333 P **P** 01 55 40.2 +0.2
comp=Z,15nm,0.8s,baz=152,slow=3.9,SNR=7.7
comp=Z,15nm,0.8s
ATKA Atka Island 75.83 4 P **P** 01 55 38.5 -1.4
SMAI San Martin Ant 76.18 159 P **P** 01 55 43.3 +1.6
SMAI IAmb IAmb 01 55 44.2
comp=Z,11nm,0.7s
NIKH Nikolski High 77.04 7 P **P** 01 55 45.8 -0.8
NIKH Nikolski High 77.04 7 P **P** 01 55 45.1 -1.5
MAW Mawson 77.88 200 P **P** 01 55 51.9 +0.9
comp=Z,1.4nm,0.4s,baz=102,slow=6.7,SNR=4.6
comp=Z,1.4nm,0.4s
KSRS Korea Array 78.22 320 P **P** 01 55 53.8 +0.4
comp=Z,3.7nm,0.7s,baz=136,slow=5.8,SNR=26
comp=Z,3.7nm,0.7s
KSAR Wonju Array Be 78.23 320 P **P** 01 55 53.3 -0.1
KS19 Wonju Array Si 78.28 320 P **P** 01 55 53.7 0.0
PEA0B Petropavlovsk- 79.02 346 IAmb IAmb 01 55 57.3
comp=Z,12nm,0.8s
PETK Petropavlovsk- 79.02 346 P **P** 01 55 55.7 -1.5
comp=Z,9.8nm,0.7s,baz=125,slow=7.0,SNR=26
comp=Z,9.8nm,0.7s
QIZ Qiongzhong 80.63 296 P **P** 01 56 02.6 -3.9
QIZ S **S** 02 05 32.3 +1.0
QIZ pmax pmax
QIZ comp=Z,27nm,1.7s LR LR
QIZ comp=N,180nm,3.0s LR LR
QIZ comp=E,130nm,2.7s LR LR
QIZ comp=Z,170nm,13.1s LR LR
NJ2 Nanjing 80.65 311 *e*P **P** 01 56 07.8 +1.5
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
USRK Ussuriysk Ar. 80.72 327 P **P** 01 56 06.1 -0.2
comp=Z,3.1nm,0.4s,baz=157,slow=4.5,SNR=12
comp=Z,3.1nm,0.4s
CBX Cerro Bola 82.20 50 P **P** 01 56 12.8 -1.7
CBX IAmb IAmb 01 56 16.8
comp=Z,12nm,0.8s
MDJ Mudanjiang 82.22 326 P **P** 01 56 13.4 -0.7
MDJ pmax pmax
comp=Z,11nm,0.6s
DPP Dos Picos Cty 82.39 49 IAmb IAmb 01 56 17.9
comp=Z,9.1nm,0.7s
SLBS Sierra La Lagu 82.68 60 **P** 01 56 18.3 +1.3
SLBS IAmb IAmb 01 56 19.6
comp=Z,13nm,0.8s
ISA Isabella, Lake 82.89 46 IAmb IAmb 01 56 20.1
comp=Z,10nm,0.8s
O02D Mt. Diablo Mer 82.92 40 **P** 01 56 19.6 +1.7
O02D IAmb IAmb 01 56 21.4
comp=Z,20nm,1.1s
WHN Wuhan 83.00 308 P **P** 01 56 19.3 +1.0
WHN pmax pmax
comp=Z,44nm,0.5s
CMB Columbia Colle 83.07 43 P **P** 01 56 19.4 +0.8
PFO Pinyon Flats O 83.07 49 P **P** 01 56 19.4 +0.6
comp=Z,1.4nm,0.6s,baz=220,slow=2.9,SNR=2.7
comp=Z,1.4nm,0.6s
YBH Yreka Blue Hor 83.95 39 P **P** 01 56 23.4 +0.5
comp=Z,0.2nm,0.8s,baz=135,slow=3.5,SNR=4.1
BNX BinXian 84.12 326 ⇑P **P** 01 56 23.3 -0.2
BNX pmax pmax
comp=Z,8.0nm,0.8s
TIA Tai'an 84.22 314 P **P** 01 56 24.6 +0.3
TIA pmax pmax
comp=Z,15nm,0.6s
TROLL Troll, Antarti 84.44 181 ⇓P **P** 01 56 24.2 -0.8
comp=Z,335nm,0.3s
HSIG 84.58 55 IAmb IAmb 01 56 28.6
comp=Z,11nm,0.8s
SNAA Sanae 84.77 179 ⇓P **P** 01 56 26.1 -0.4
comp=Z,43nm,0.4s
SNAA Sanae 84.77 179 P **P** 01 56 26.2 -0.4
SNAA Sanae 84.77 179 P **P** 01 56 26.2 -0.4
comp=Z,1.6nm,0.5s,baz=202,slow=9.6,SNR=32
comp=Z,1.6nm,0.5s
N15K Kwethluk River 85.22 10 IAmb IAmb 01 56 29.7
comp=Z,11nm,0.8s
VNA2 Neumayer--Watz 85.39 178 ⇓P **P** 01 56 27.3 -2.2
comp=Z,4.9nm,0.6s,baz=180,slow=4.2
VNA1 Neumayer--Stat 85.63 177 ⇓P **P** 01 56 30.8 +0.2
comp=Z,2.6nm,0.8s
O18K Koktuh Hills 85.77 12 IAmb IAmb 01 56 31.2
comp=Z,9.8nm,0.7s
LL02 Futaleuf 86.22 136 P **P** 01 56 35.3 +1.2
LL02 IAmb IAmb 01 56 35.8
comp=Z,9.4nm,0.8s
O19K Port Alsworth 86.26 12 IAmb IAmb 01 56 33.3
comp=Z,21nm,1.1s
ILSW Illiamna Southw 86.31 13 IAmb IAmb 01 56 34.1
comp=Z,13nm,0.8s
TUC Tucson 86.39 52 P **P** 01 56 37.0 +2.0
TUC IAmb IAmb 01 56 38.6
comp=Z,8.9nm,0.9s
MA2 Magadan 86.50 346 P **P** 01 56 33.8 -0.9
comp=Z,8.3nm,0.7s,baz=168,slow=9.3,SNR=4.7
comp=Z,8.3nm,0.7s
MA2 Magadan 86.50 346 P **P** 01 56 32.9 -1.8
comp=Z,21nm,1.0s
DIB Dawson Inlet, 87.00 26 IAmb IAmb 01 56 40.7
comp=Z,11nm,1.3s
HEH HeiHe 87.20 329 *e*P **P** 01 56 36.8 -1.4
SLKM Skilak Lake 87.41 14 IAmb IAmb 01 56 39.6
comp=Z,17nm,1.2s
L19K White Mountain 88.00 11 IAmb IAmb 01 56 43.4
comp=Z,6.3nm,0.8s
BBB Bella Bella 88.13 29 P **P** 01 56 42.4 -0.1
comp=Z,7.6nm,0.9s,baz=254,slow=7.2,SNR=3.5
comp=Z,7.6nm,0.9s
EYAK Cordova Ski Ar 88.52 16 IAmb IAmb 01 56 44.5
comp=Z,8.7nm,1.0s
XAN Xi'an 88.74 308 P **P** 01 56 45.8 -0.1
XAN pP pP 01 58 41.5 +2.3
XAN pmax pmax
comp=Z,13nm,0.7s
GHO Glory Hole Cre 88.83 14 IAmb IAmb 01 56 45.9
comp=Z,9.2nm,0.8s
J18K Inuko River 88.87 10 IAmb IAmb 01 56 46.6
comp=Z,8.3nm,1.2s
KLU Klutina 89.29 16 IAmb IAmb 01 56 49.3
comp=Z,12nm,1.4s
WRAK Wrangell Islan 89.43 24 IAmb IAmb 01 56 51.0
comp=Z,4.5nm,0.8s
CMAR Chiang Mai Arr 89.56 290 P **P** 01 56 50.8 +0.8
CMAR Chiang Mai Arr 89.56 290 P **P** 01 56 51.1 +1.1
comp=Z,1.4nm,0.4s,baz=152,slow=4.1,SNR=5.5
comp=Z,1.4nm,0.4s
BI02 San Fabin de 89.82 130 P **P** 01 56 52.1 +1.0
BI02 IAmb IAmb 01 56 52.7
comp=Z,5.2nm,0.8s
RND Reindeer 90.29 13 IAmb IAmb 01 56 52.9
comp=Z,7.9nm,1.2s
TXAR Lajitas Array 90.31 58 P **P** 01 56 54.2 +0.8
TXAR Lajitas Array 90.31 58 P **P** 01 56 54.6 +1.2
comp=Z,3.9nm,0.7s,baz=213,slow=6.5,SNR=51
comp=Z,3.9nm,0.7s
HHC Hu-ho-hao-te 90.40 315 *e*P **P** 01 56 54.5 +1.0
HHC pmax pmax
comp=Z,16nm,0.6s
ILAR Eielson Array 91.91 14 P **P** 01 56 58.2 -1.5
comp=Z,0.5nm,0.8s,baz=227,slow=4.4,SNR=6.5
comp=Z,0.5nm,0.8s
J26L Joseph Creek 92.42 15 IAmb IAmb 01 57 02.9
comp=Z,4.1nm,1.0s
L29M L29M 92.68 18 IAmb IAmb 01 57 04.8
comp=Z,7.1nm,1.4s
LZH Lanzhou 93.37 308 *e*P P 01 57 15.3 +7.9
LZH pP pwP 01 59 20.0 +14
LZH pmax pmax
comp=Z,22nm,0.9s
G30M tAoh Zraii Nji 96.22 16 IAmb IAmb 01 57 19.4
comp=Z,3.1nm,0.9s
SONM Songino Array 97.08 319 P Pdif 01 57 24.0 +0.1
comp=Z,0.6nm,0.6s,baz=144,slow=6.8,SNR=3.0
comp=Z,0.6nm,0.6s
MKAR Makanchi Array 112.14 313 PKiKP **PKiKP** 02 02 22.6 -1.3
comp=Z,0.3nm,0.4s,baz=249,slow=1.2,SNR=4.7
MKAR PKKPab **PKKPab** 02 13 26.1 +0.1
comp=Z,0.5nm,0.7s,baz=278,slow=3.6,SNR=3.9
KURBB Kurchatov Arra 115.22 316 PKP **PKPdf** 02 02 28.1 -1.5
comp=Z,0.7nm,0.7s,baz=103,slow=2.1,SNR=6.3
KURBB SKP 02 05 14.7
comp=Z,0.4nm,0.6s,baz=195,slow=2.5,SNR=5.0
BDFB Brasilia 118.81 125 PKP **PKPdf** 02 02 35.7 -2.1
comp=Z,1.6nm,0.8s,baz=159,slow=3.6,SNR=3.4
BVAR Borovoye Array 120.41 319 PKP **PKPdf** 02 02 37.6 -1.9
comp=Z,1.0nm,0.4s,baz=94,slow=5.9,SNR=7.8
ARCES ARCESS Array B 131.80 348 PKhKP PKPpre 02 02 50.7
comp=Z,0.3nm,0.5s,baz=48,slow=1.8,SNR=5.2
ARCES PKP **PKPdf** 02 02 59.8 -1.1
comp=Z,2.1nm,0.8s,baz=32,slow=1.9,SNR=16
ARCES SKPbc **SKPbc** 02 05 36.2 -2.0
comp=Z,3.6nm,1.0s,baz=325,slow=1.5,SNR=4.9
ARCES PKKPbc PKKPbc 02 11 58.8
comp=Z,1.4nm,0.6s,baz=293,slow=3.7,SNR=9.6
FINES FINESS Array B 138.37 342 PKhKP PKPpre 02 03 02.8
comp=Z,0.5nm,0.4s,baz=71,slow=4.5,SNR=12
FINES PKP **PKPdf** 02 03 13.1 -0.1
comp=Z,1.1nm,0.4s,baz=90,slow=3.0,SNR=15
FINES SKPbc **SKPbc** 02 05 56.9 -1.9
comp=Z,3.5nm,0.7s,baz=76,slow=2.4,SNR=11
NB2 NORSAR Subarra 141.99 351 PKP PKPpre 02 03 15.0
comp=Z,0.7nm,0.4s,baz=30,slow=2.9
NB2 SKPa **SKPbc** 02 06 06.4 -2.0
comp=Z,0.5nm,0.6s,baz=13,slow=2.6
NOA NORSAR Array B 141.99 351 PKhKP PKPpre 02 03 15.2
comp=Z,0.3nm,0.4s,baz=343,slow=1.9,SNR=14
NOA SKPbc **SKPbc** 02 06 05.5 -2.9
comp=Z,0.7nm,0.7s,baz=14,slow=4.1,SNR=4.3
HFS Hagfors 142.46 349 PKhKP PKPpre 02 03 16.1
comp=Z,7.9nm,0.4s,baz=67,slow=3.9,SNR=210
HFS SKPbc **SKPbc** 02 06 06.2 -3.3
comp=Z,2.5nm,0.7s,baz=0.0,slow=0.7,SNR=5.3
KONO Kongsberg 143.55 352 PKPab 02 03 20.1 -1.0
PABE Paberze 143.75 337 PKPab 02 03 21.1 -0.8
AK03 Malin Array Si 144.91 327 PKP **PKPdf** 02 03 23.8 -1.4
AKASG Malin Array Be 144.93 327 PKP **PKPdf** 02 03 24.3 -0.9
comp=Z,5.6nm,0.4s,baz=50,slow=4.7,SNR=43
AKASG SKPbc **SKPbc** 02 06 14.2 -1.4
comp=Z,5.1nm,0.7s,baz=46,slow=2.7,SNR=12
AKBB Malin Array Si 144.93 327 PKP **PKPdf** 02 03 23.9 -1.3
AK01 Malin Array Si 144.94 327 PKP **PKPdf** 02 03 23.8 -1.4
KIEV Kiev 144.94 327 **PKPdf** 02 03 24.6 -0.6
KIEV Kiev 144.94 327 ⇑P **PKPdf** 02 03 24.6 -0.6
KIEV Kiev 144.94 327 PKP **PKPdf** 02 03 23.9 -1.3
AK04 Malin Array Si 144.94 327 PKP **PKPdf** 02 03 23.8 -1.4
AK09 Malin Array Si 144.95 327 PKP **PKPdf** 02 03 23.8 -1.4
AK08 Malin Array Si 144.95 327 PKP **PKPdf** 02 03 23.8 -1.4
AK02 Malin Array Si 144.96 327 PKP **PKPdf** 02 03 23.8 -1.5
AK22 Malin Array Si 144.96 328 PKP **PKPdf** 02 03 23.8 -1.5
AK11 Malin Array Si 144.97 327 PKP **PKPdf** 02 03 23.8 -1.5
AK21 Malin Array Si 144.97 328 PKP **PKPdf** 02 03 23.8 -1.5
AK10 Malin Array Si 144.98 327 PKP **PKPdf** 02 03 23.8 -1.5
AK15 Malin Array Si 144.98 327 PKP **PKPdf** 02 03 23.8 -1.5
AK05 Malin Array Si 144.99 327 PKP **PKPdf** 02 03 23.9 -1.4
AK18 Malin Array Si 144.99 328 PKP **PKPdf** 02 03 23.9 -1.4
AK12 Malin Array Si 145.00 327 PKP **PKPdf** 02 03 23.9 -1.4
AK16 Malin Array Si 145.00 327 PKP **PKPdf** 02 03 23.9 -1.4
AK20 Malin Array Si 145.00 328 PKP **PKPdf** 02 03 23.9 -1.4
AK06 Malin Array Si 145.01 327 PKP **PKPdf** 02 03 23.9 -1.5
AK19 Malin Array Si 145.02 328 PKP **PKPdf** 02 03 23.9 -1.5
AK17 Malin Array Si 145.02 327 PKP **PKPdf** 02 03 23.9 -1.5
AK14 Malin Array Si 145.03 327 PKP **PKPdf** 02 03 23.9 -1.5
AK07 Malin Array Si 145.03 327 PKP **PKPdf** 02 03 23.9 -1.5
AK13 Malin Array Si 145.06 327 PKP **PKPdf** 02 03 24.0 -1.4
RNPP9 Sopachiv 146.02 331 PKP **PKPdf** 02 03 26.7 -0.3
RNPP8 Varash 146.09 331 PKP **PKPdf** 02 03 27.5 +0.3
LUBAR Lubar, Ukraine 146.15 327 PKP **PKPdf** 02 03 27.7 +0.4
RNPP5 Staryi Chortor 146.15 331 PKP **PKPdf** 02 03 27.6 +0.3
SORM Soroca 146.96 324 PKP **PKPdf** 02 03 29.7 +1.0
PURM Purcari 147.04 321 PKP **PKPdf** 02 03 29.9 +1.0
BR131 Keskin Array S 147.58 307 **PKPbc** 02 03 33.0 -0.7
BRTR Keskin Array B 147.58 307 PKPbc **PKPbc** 02 03 32.9 -0.8
comp=Z,2.9nm,0.6s,baz=145,slow=4.5,SNR=16
BR106 Keskin Array S 147.59 307 PKP **PKPdf** 02 03 30.3 +0.1
MMAI Mount Meron Ar 147.73 295 PKPbc **PKPbc** 02 03 34.7 +0.5
comp=Z,4.4nm,0.4s,baz=90,slow=5.8,SNR=32
ANTO Ankara 148.14 308 **PKPbc** 02 03 34.7 -0.4
TLCR 148.40 320 ⇑P **PKPbc** 02 03 34.9 -0.5
EKA Eskdalemuir Ar 148.41 4 PKPbc **PKPbc** 02 03 34.3 -0.8
comp=Z,1.9nm,0.3s,baz=344,slow=2.6,SNR=52
KWP Kalwaria Pacla 148.71 331 *e*PKPbc **PKPbc** 02 03 35.5 -0.6
GHRR 148.72 322 ⇑P **PKPbc** 02 03 35.4 -0.8
CPK Carcaliu 148.80 320 ⇓P **PKPbc** 02 03 34.9 -1.5
TPGR Topolog 148.81 319 ⇓P **PKPbc** 02 03 36.0 -0.5
TESR Tescani 148.87 323 ⇓P **PKPbc** 02 03 35.8 -0.8
BURAR Bucovina Array 148.93 326 **PKPbc** 02 03 37.0 +0.2
BURAR Bucovina Array 148.93 326 ⇓P **PKiKP** 02 03 37.4 -0.4
ONER Baraj Valea Uz 149.12 323 ⇓P **PKiKP** 02 03 37.7 -0.4
HARR Harsova 149.19 319 ⇑P **PKPbc** 02 03 37.2 -0.2
VRI Vrincioaia 149.22 322 ⇑P **PKPbc** 02 03 35.9 -1.5
MANR Mangalia 149.26 317 ⇑P **PKPbc** 02 03 36.9 -0.6
KOLS Kolonicke sedl 149.42 331 *e*PKP **PKiKP** 02 03 38.5 -0.1
KOLS *e* 02 03 46.9
OJC Ojcow 149.47 335 *e*PKPbc **PKPbc** 02 03 37.3 -0.6
TURR Turia 149.50 323 ⇓P **PKPab** 02 03 46.6 +1.4
STHS Stebnicka Huta 149.51 332 *e*PKP **PKPbc** 02 03 36.9 -1.1
ICOR Ion Corvin 149.58 319 ⇓P **PKPdf** 02 03 32.9 -0.2
MLR Muntele Rosu 149.88 322 ⇑P **PKPbc** 02 03 36.9 -2.3
DOPR Dopca 149.89 324 ⇑P **PKPbc** 02 03 38.5 -0.5
NIE Niedzica 149.90 333 *e*PKPbc **PKPbc** 02 03 39.1 +0.1
KSP Ksiaz 150.22 339 *e*PKPbc **PKPbc** 02 03 39.4 -0.2
CJR Cluj-Napoca 150.35 326 ⇓P **PKPbc** 02 03 39.9 -0.3
LANS Liptovska Anna 150.45 334 *e*PKP **PKiKP** 02 03 41.3 +0.5
LANS *e* 02 03 50.7
STEB Steborice 150.47 337⇑ *e*PKP **PKPbc** 02 03 39.9 -0.3
STEB *e*PKPAB **PKPab** 02 03 48.1 -1.0
OSTC Ostas 150.49 339⇑ *e*PKP **PKPbc** 02 03 40.3 0.0
CHVC Chvalec 150.51 339⇑ *e*PKP **PKPbc** 02 03 40.4 0.0
UPC Upice 150.60 339⇑ *e*PKP **PKPbc** 02 03 40.3 -0.2
UPC *e*PKPAB **PKPab** 02 03 49.8 +0.2
DPC Dobruska-Polom 150.63 339⇑ *e*PKP **PKPbc** 02 03 40.4 -0.3
DPC *e*PKPAB **PKPab** 02 03 49.7 -0.1
MORC Moravsky Berou 150.69 337 *e*PKP **PKPbc** 02 03 40.7 -0.1
MORC *e* 02 03 49.8
KRLC Kraliky 150.71 338⇑ *e*PKP **PKPbc** 02 03 40.4 -0.4
KRLC *e*PKPAB **PKPab** 02 03 49.7 -0.4
DRGR 150.74 327 ⇑P **PKPbc** 02 03 40.6 -0.5
CLL Collm 150.78 343 *i* PKPbc **PKPbc** 02 03 40.1 -0.8
comp=Z,7.0nm,0.6s
CLL *i* PKPab **PKPab** 02 03 49.5 -0.8
comp=Z,7.0nm,1.0s
CLL *e*pPKPbc **pPKPab** 02 05 44.0 -1.9
CLL *e*pPKPab **pPKPbc** 02 05 49.0 +7.6
BRG Berggiesshubel 150.91 342 *i* PKP **PKPbc** 02 03 41.0 -0.2
BRG Amp 02 03 42.1
comp=Z,8.0nm,0.4s
BRG Berggiesshubel 150.91 342 P **PKPab** 02 03 50.4 -0.5
BRG Amp 02 03 51.1
comp=Z,3.6nm,0.8s
BRG pPKP **pPKPab** 02 05 51.1 +4.7
BRG Amp 02 05 52.4
comp=Z,1.9nm,1.0s
MAUC Maruska 150.92 336⇑ *e*PKP **PKPbc** 02 03 41.3 0.0
PVCC Panska Ves 151.03 341⇑ *e*PKP **PKPbc** 02 03 41.5 0.0
PVCC *e*PKPAB **PKPab** 02 03 50.7 -0.7
VYHS Vyhne 151.23 334 *e*PKP **PKPbc** 02 03 41.8 -0.2
VYHS *e* 02 03 52.3
PSZ Piszkesteto 151.23 332 ⇑P **PKPbc** 02 03 40.8 -1.3
VRAC Vranov 151.42 337 *e*PKP **PKPbc** 02 03 42.0 -0.4
VRAC *e* 02 03 53.0
PRU Pruhonice 151.52 340⇑ *e*PKP **PKiKP** 02 03 43.0 +0.1
SIRR Siria 151.63 328 ⇑P **PKPbc** 02 03 42.6 -0.4
GZR Gura Zlata 151.66 325 ⇑P **PKPbc** 02 03 42.4 -0.8
KRUC Moravsky 151.70 337 *e*PKP **PKPbc** 02 03 42.5 -0.5
KRUC *e* 02 03 53.8
TAVA DENIZLI_Tavas 151.83 306 ⇓P **PKiKP** 02 03 44.0 -0.1
MODS Modra-Piesok 151.94 335 *e*PKP **PKPab** 02 03 54.8 -0.6
KHC Kasperske Hory 152.57 341⇑ *e*PKP **PKPbc** 02 03 45.0 0.0
CKRC Cesky Krumlov 152.61 339⇑ *e*PKP **PKPbc** 02 03 44.8 -0.3
GERES GERESS Array B 152.78 340 PKPbc **PKPbc** 02 03 44.8 -0.8
comp=Z,0.8nm,0.7s,baz=352,slow=2.7,SNR=7.9
GERES PKPab **PKPab** 02 03 57.7 -1.3
comp=Z,0.6nm,0.4s,baz=35,slow=4.6,SNR=8.0
CONA Conrad Observa 152.84 336 *e*PKP **PKPab** 02 03 59.5 +0.2
comp=Z,6.7nm,0.8s
RONA Rosalia, Austr 152.87 336 *e*PKP **PKPab** 02 03 59.7 +0.4
comp=Z,5.8nm,0.9s
BCLA Clavier 153.11 353 *d*PKP **PKPab** 02 03 59.1 -1.1
MOA Molln 153.47 338 *e*PKP **PKPab** 02 04 02.5 +0.6
comp=Z,2.9nm,1.0s
ARSA Arzberg 153.53 336 *e*PKP **PKPab** 02 04 01.7 -0.5
comp=Z,2.9nm,0.9s
WLF Walferdange 153.74 351 *d*PKP **PKPab** 02 04 02.8 -0.2
BIOA Bad Ischl, Aus 153.82 339 *e*PKP **PKPab** 02 04 03.2 -0.2
comp=Z,3.5nm,0.9s
SOKA Soboth 154.20 336 *e*PKP **PKPab** 02 04 05.0 -0.1
comp=Z,1.5nm,0.4s
OBKA Obir 154.52 336 *e*PKP **PKPab** 02 04 05.9 -0.6
comp=Z,3.4nm,0.7s
MYKA Terra Mystica 154.74 338 *e*PKP **PKPab** 02 04 06.3 -1.2
comp=Z,1.7nm,0.4s
WATA Walderalm 154.77 341 *e*PKP **PKPab** 02 04 07.4 -0.3
comp=Z,1.3nm,0.5s

WTTA	**Wattenberg**	**154.82**	**341**	*e*PKP	**PKPab**	**02 04 07.5**	**-0.4**
	comp=Z,3.2nm,0.5s						
RETA	**Reutte**	**154.87**	**343**	*e*PKP	**PKPab**	**02 04 07.4**	**-0.5**
	comp=Z,2.4nm,0.6s						
MOTA	**Moosalm**	**154.90**	**342**	*e*PKP	**PKPab**	**02 04 08.0**	**-0.2**
	comp=Z,1.4nm,0.5s						
SQTA	**Sankt Quirin**	**154.98**	**342**	*e*PKP	**PKPab**	**02 04 08.1**	**-0.4**
	comp=Z,3.4nm,1.0s						
ABTA	**Abfaltersbach**	**155.01**	**339**	*e*PKP	**PKPab**	**02 04 07.9**	**-0.7**
	comp=Z,1.2nm,0.5s						
DAVA	**Damuels**	**155.28**	**344**	*e*PKP	**PKPab**	**02 04 09.5**	**-0.3**
	comp=Z,3.3nm,0.5s						
ESDC	**Sonseca Array**	**163.80**	**11**	PKPab	**PKPab**	**02 04 45.3**	**-1.8**
	comp=Z,1.2nm,0.9s,baz=342,slow=4.3,SNR=5.9						

PLV ***14*** *01:51:36.0±1.0,21°.98N×103°.48E,h8km±7km, ML3.5*
BKK ***14*** *01:52:10.4±3.3,21°.96N±16°×10°.2E±1°.4,h10km, M3.1/10, Mjma3.0/10, ML3.1/8, MLv3.1/10*

ISC 14 01:51:35.0±1.3, 21°.96N±0'.07×103°.41E±0'.05, h11km, n14, σ1§12/13, Vietnam

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBV	**Dienbien**	**0.67**	**212**	*e*Pg	**Pb**	**01 51 49.3**	**+0.6**
DBV				IAML		01 52 05.0	
	comp=E,2μm,0.3s						
DBV				IAML		01 52 06.2	
	comp=N,2μm,0.3s						
MLVB	**It Ong**	**0.73**	**128**	*i* Pg	Pg	01 51 41.8	-7.4
MLVB				*i* Pg	Pg	01 51 41.8	-7.4
MLVB				*e*Sg	Sg	01 51 46.2	-13
MLVB				*e*Sg	Sg	01 51 46.2	-13
MLVB				IAML		01 51 46.4	
	comp=N,14μm,0.2s						
MLVB				IAML		01 51 46.4	
	comp=N,14μm,0.2s						
MLVB				IAML		01 51 46.5	
	comp=E,10μm,0.4s						
MLVB				IAML		01 51 46.6	
	comp=E,10μm,0.2s						
SLVN	**Son La**	**0.77**	**143**	*e*Pg	**Pb**	**01 51 50.5**	**0.0**
SLVN				IAML		01 52 05.3	
	comp=E,1μm,0.5s						
SLVN				IAML		01 52 05.5	
	comp=N,877nm,0.5s						
VTVB	**Vinh Tuy**	**1.41**	**78**	*e*Pg	**Pb**	**01 52 01.0**	**-0.3**
VTVB				IAML		01 52 22.4	
	comp=N,496nm,0.6s						
VTVB				IAML		01 52 24.8	
	comp=E,377nm,0.5s						
MCVV	**Moc Chau**	**1.63**	**135**	*e*Pn	**Pn**	**01 52 04.0**	**+0.2**
HGVB	**Ha Giang**	**1.71**	**59**	*e*Pg	**Pb**	**01 52 06.5**	**+0.1**
HGVB				IAML		01 52 33.4	
	comp=E,485nm,0.5s						
HGVB				IAML		01 52 33.7	
	comp=N,559nm,0.6s						
HBVN	**Hoa-Binh**	**2.13**	**121**	*e*Pg	**Pb**	**01 52 14.5**	**+0.8**
LSVB	**Lang Son stati**	**3.10**	**91**	*e*Pg	**Pg**	**01 52 34.4**	**-0.1**
CCVB	**Con Cuong**	**3.21**	**154**	*e*Pg	**Pg**	**01 52 36.4**	**0.0**
CCVB				IAML		01 53 21.9	
	comp=N,71nm,1.0s						
CCVB				IAML		01 53 21.9	
	comp=E,78nm,1.2s						
CMAI	**Chiengmai2**	**4.55**	**244**	Pg	**Pg**	**01 53 04.0**	**+1.9**
LAMP	**Lampang**	**4.92**	**227**	Pg	**Pg**	**01 53 07.5**	**-1.8**
UTTA	**Uttaradit**	**4.98**	**213**	Pg	**Pg**	**01 53 10.2**	**-0.2**
CM04	**Chiang Mai Arr**	**5.46**	**230**	Pg	**Pg**	**01 53 18.2**	**-1.4**
CM13	**Chiang Mai Arr**	**5.50**	**231**	Pg	**Pg**	**01 53 18.8**	**-1.5**

KRNET ***14*** *01:52:08.5±0.1,42°.11N×78°.91E,h10km,mb2.5*
SOME ***14*** *01:52:09.6,42°.13N×78°.70E,h0km*
NNC ***14*** *01:52:11.2±1.2,42°.15N×78°.78E,h0km,mb3.4,mpv3.1, Error ellipse: s-maj=10.1km s-min=4.3km az=172.0*

ISC 14 01:52:09.5±1.4, 42°.10N±0'.05×78°.82E±0'.04, h2km±11km, n26, σ0§89/45, 12C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**0.49**	**321**	⇑*e*P	**Pg**	**01 52 19.0**	**+0.1**
PRZ				⇑*e*S	**Sg**	**01 52 26.3**	**+1.0**
TARG	**Taragay, Kyrgy**	**0.84**	**244**	⇓*i*P	**Pg**	**01 52 25.4**	**-0.3**
TARG				⇓*i*S	**Sg**	**01 52 37.5**	**+0.9**
KDJ	**Kajisay**	**1.22**	**272**	⇑*i*P	**Pn**	**01 52 32.6**	**-1.2**
KDJ				⇑*i*S	**Sg**	**01 52 49.9**	**+1.2**
TNSS	**Tian-Shan**	**1.67**	**305**	P	**Pb**	**01 52 40.7**	**-0.5**
	0.4nm,0.1s						
TNSS				S	**Sb**	**01 53 02.9**	**+0.1**
	0.9nm,0.3s						
TNSS	**Tian-Shan**	**1.67**	**305**	*e*P	**Pb**	**01 52 40.7**	**-0.5**
	0.4nm,0.1s						
TNSS				*e*S	**Sb**	**01 53 02.9**	**+0.1**
	0.9nm,0.3s						
KOTS	**Kotyrbulak**	**1.69**	**312**	P	**Pg**	**01 52 42.0**	**+0.1**
	2.8nm,0.1s						
KOTS				S	**Sg**	**01 53 05.6**	**+1.8**
	16nm,0.4s						
KOTS	**Kotyrbulak**	**1.69**	**312**	*e*P	**Pb**	**01 52 40.8**	**-0.6**
	1.1nm,0.2s						
KOTS				*e*S	**Sb**	**01 53 03.0**	**-0.2**
	16nm,0.2s						
KTMS	**Ketmen**	**1.75**	**40**	P	**Pg**	**01 52 43.0**	**0.0**
	1.1nm,0.2s						
KTMS				S	**Sg**	**01 53 07.0**	**+1.2**
	4.7nm,0.2s						
KTMS	**Ketmen**	**1.75**	**40**	*e*P	**Pg**	**01 52 43.0**	**0.0**
	1.1nm,0.2s						
KTMS				*e*S	**Sg**	**01 53 07.0**	**+1.2**
	4.7nm,0.2s						
IZV	**Izvestkoviy**	**1.88**	**300**	P	**Pb**	**01 52 44.3**	**-0.3**
	4.2nm,0.1s						
IZV				S	**Sb**	**01 53 09.0**	**+0.4**
	22nm,0.5s						
IZV	**Izvestkoviy**	**1.88**	**300**	*e*P	**Pb**	**01 52 44.3**	**-0.3**
	4.2nm,0.1s						
IZV				*e*S	**Sb**	**01 53 09.1**	**+0.4**
	22nm,0.5s						
ULHL	**Ulahol**	**1.92**	**275**	⇑*i*P	**Pn**	**01 52 43.4**	**0.0**
ULHL				⇑*i*S	**Sn**	**01 53 08.3**	**0.0**
BLB	**Baldybastay**	**2.01**	**353**	Pg	**Pg**	**01 52 46.8**	**-1.2**
	31nm,0.2s						
BLB				Lg	Lg	01 53 13.2	
	14nm,0.2s						
MTBS	**Maitube**	**2.04**	**301**	Pg	**Pb**	**01 52 47.1**	**-0.3**
	2.4nm,0.2s						
MTBS				Lg	Lg	01 53 13.8	
	14nm,0.4s						
MTBS	**Maitube**	**2.04**	**301**	*e*P	**Pb**	**01 52 47.1**	**-0.3**
	2.4nm,0.2s						
MTBS				*e*S	**Sb**	**01 53 13.8**	**+0.6**
	14nm,0.4s						
BOOM	**Boomskoye usch**	**2.17**	**281**	⇑*e*P	**Pn**	**01 52 46.8**	**0.0**
BOOM				⇑*i*S	**Sn**	**01 53 14.7**	**+0.3**
CHKK	**Chushkaly**	**2.21**	**323**	Pg	**Pg**	**01 52 50.4**	**-1.3**
	4.0nm,0.2s						
CHKK				Lg	Lg	01 53 19.5	
	18nm,0.5s						
CHKK	**Chushkaly**	**2.21**	**323**	*e*P	**Pg**	**01 52 50.4**	**-1.3**
	4.0nm,0.2s						
CHKK				*e*S	**Sg**	**01 53 19.5**	**-0.8**
	18nm,0.5s						
NRN	**Naryn**	**2.21**	**253**	⇑*e*P	**Pn**	**01 52 47.6**	**+0.1**
NRN				⇑*e*S	**Sb**	**01 53 16.6**	**-1.8**
KTBS	**Karatobe**	**2.25**	**316**	Pg	**Pg**	**01 52 51.3**	**-1.2**
	4.3nm,0.3s						
KTBS				Lg	Lg	01 53 21.3	
	34nm,0.5s						
KNOS	**Konyrlen**	**2.27**	**7**	Pg	**Pg**	**01 52 50.9**	**-2.1**
	2.6nm,0.1s						
KNOS				Lg	Lg	01 53 20.9	
	5.0nm,0.2s						
KST	**Kastek**	**2.31**	**295**	Pg	**Pb**	**01 52 52.1**	**+0.2**
	1.7nm,0.3s						
KST				Lg	Lg	01 53 22.5	
	20nm,0.6s						
KST	**Kastek**	**2.31**	**295**	*e*P	**Pb**	**01 52 52.1**	**+0.2**
	1.7nm,0.3s						
KST				*e*S	**Sb**	**01 53 22.5**	**+1.5**
	20nm,0.6s						
TKM2	**Tokmak 2**	**2.52**	**290**	⇑*e*P	**Pn**	**01 52 52.0**	**+0.4**
TKM2				⇑*i*S	**Sn**	**01 53 23.4**	**+0.4**
KUU	**Kurty**	**2.55**	**315**	Pg	**Pb**	**01 52 55.6**	**-0.4**
	2.5nm,0.1s						
KUU				Lg	Lg	01 53 28.9	
	7.8nm,0.2s						
KUU	**Kurty**	**2.55**	**315**	*e*P	**Pb**	**01 52 56.2**	**+0.2**
	1.6nm,0.0s						
KUU				*e*S	**Sb**	**01 53 29.4**	**+1.5**
	6.9nm,0.2s						

IDC ***14*** *01:52:45.8±0.8,45°.89N×111°.57W,h0km,mb3.9/4, mbtmp3.7/10, ML3.5/5, MS3.1/8, Error ellipse: s-maj=12.1km s-min=7.0km az=67.0*
NEIC ***14*** *01:52:45.9±2.3,45°.95N±0°.03×111°.27W±0°.04,h6km±4km, mb4.1/32, ML4.4/61, Mwr4.0/62, ML4.5/31(BUT), Error ellipse: s-maj=5.0km s-min=2.1km az=223.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-0.21; Mθθ-1.02; Mϕϕ1.23; Mrθ0.04; Mrϕ-0.81; Mθϕ-0.48; Fault plane solution: M₀1.48000×10¹⁵ NP1: ϕs116.04000°, δ75.04000°, λ174.18000°. NP2: ϕs207.55000°, δ84.38000°, λ15.03000°. Principal axes: T 1.6118, Plg15.0000°, Azm73.0000°; N -0.3158, Plg74.0000°, Azm228.0000°; P -1.2960, Plg7.0000°, Azm341.0000°;*
BUT ***14*** *01:52:46.7±1.1,45°.87N±0°.03×111°.36W±0°.04,h7km±5km Error ellipse: s-maj=5.9km s-min=2.1km az=225.0*
NEIC ***14*** *01:52:46.5,45°.86N×111°.35W,h9km*

ISC 14 01:52:46.1±0.8, 45°.89N±0'.02×111°.35W±0'.02, h9km±5km, n155, σ1§18/154, mb4.0/14, MS3.3/3, Montana

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NQMA	**Gallatin River**	**0.02**	**40**		**Pg**	**01 52 48.1**	**+0.2**
NQMA					**Sg**	**01 52 49.3**	**-0.1**
BOZ	**Bozeman (W)**	**0.35**	**214**		**Pg**	**01 52 53.1**	**+0.1**
BOZ				Sg	**Sg**	**01 52 57.1**	**-0.5**
BOZ				IAML		01 52 58.4	
	46μm,0.3s						
BOZ				IAML		01 52 58.5	
	31μm,0.3s						
BZMT	**Bozeman Pass**	**0.46**	**121**		**Pb**	**01 52 55.6**	**-0.8**
MSMT	**Mission Creek**	**0.75**	**110**		**Pg**	**01 53 00.9**	**+0.4**
LRM	**Limekiln Ridge**	**0.77**	**266**		**Pg**	**01 53 01.1**	**+0.1**
BGMT	**Barton Gulch**	**0.81**	**217**		**Pg**	**01 53 01.8**	**+0.1**
BUT	**Butte**	**0.85**	**279**		**Pg**	**01 53 02.9**	**+0.4**
BUT					**Sg**	**01 53 13.8**	**+0.1**
HBMT	**Mount Humbug**	**0.88**	**264**		**Pg**	**01 53 03.2**	**+0.1**
HRY	**Holter Researc**	**0.89**	**338**	Pg	**Pg**	**01 53 03.6**	**+0.4**
CRMT	**Chrome Mountai**	**0.95**	**116**		**Pg**	**01 53 04.1**	**-0.4**
DLMT	**Dillon**	**1.02**	**239**		**Pg**	**01 53 05.4**	**-0.3**
DLMT				Sg	**Sb**	**01 53 19.4**	**0.0**
DLMT				IAML		01 53 23.2	
	6μm,0.6s						
DLMT				IAML		01 53 23.3	
	7μm,0.6s						
YMV	**Mammoth Vault**	**1.03**	**153**		**Pb**	**01 53 05.8**	**-0.3**
YHL	**Hebgen Lake**	**1.04**	**173**		**Pg**	**01 53 05.7**	**-0.4**
YHL				Sg	**Sg**	**01 53 19.6**	**-0.2**
YHL				IAML		01 53 24.0	
	comp=N,14μm,0.5s						
YHL				IAML		01 53 24.6	
	comp=E,10μm,0.5s						
BEMT	**Mount Belmont**	**1.09**	**322**		**Pg**	**01 53 07.5**	**+0.4**
GCR	**Grayling Creek**	**1.10**	**171**		**Pb**	**01 53 07.1**	**-0.3**
YHB	**Horse Butte**	**1.14**	**174**		**Pg**	**01 53 07.5**	**-0.5**
YHB				IAML		01 53 26.1	
	comp=N,14μm,0.5s						
YHB				IAML		01 53 26.3	
	comp=E,10μm,0.6s						
YMC	**Maple Creek**	**1.15**	**168**		**Pg**	**01 53 07.8**	**-0.5**
YHH	**Holmes Hill**	**1.16**	**162**		**Pg**	**01 53 07.8**	**-0.5**
YPDC	**Denny Creek**	**1.18**	**176**		**Pg**	**01 53 08.3**	**-0.5**
GCMT	**Greycliff**	**1.18**	**94**	Pg	**Pg**	**01 53 08.8**	**0.0**
YNM	**Yellowstone No**	**1.25**	**158**		**Pg**	**01 53 09.6**	**-0.5**
YNM				IAML		01 53 30.3	
	comp=E,10μm,0.3s						
YNM				IAML		01 53 31.6	
	comp=N,5μm,0.4s						
LYMT	**Lyon Mountain**	**1.26**	**329**	Pg	**Pg**	**01 53 10.4**	**+0.1**
YNR	**Norris Junctio**	**1.27**	**158**		**Pg**	**01 53 09.9**	**-0.5**
YNR				IAML		01 53 31.7	
	comp=E,5μm,0.3s						
YNR				IAML		01 53 32.0	
	comp=N,5μm,0.4s						
YPM	**Purple Mountai**	**1.28**	**164**		**Pb**	**01 53 10.4**	**0.0**
YNE	**Yellowstone No**	**1.29**	**132**		**Pg**	**01 53 10.3**	**-0.6**
YPWB	**West Boundary**	**1.29**	**172**		**Pb**	**01 53 10.8**	**+0.1**
YPSB	**Soda Butte**	**1.31**	**139**		**Pg**	**01 53 10.8**	**-0.5**
YUF	**Upper Falls**	**1.32**	**153**		**Pb**	**01 53 11.1**	**0.0**
YJC	**Joseph's Coat**	**1.33**	**148**		**Pn**	**01 53 11.9**	**+0.8**
CMI	**Centennial Mou**	**1.38**	**188**		**Pg**	**01 53 11.8**	**-0.7**
YML	**Mary Lake**	**1.38**	**158**		**Pb**	**01 53 12.3**	**+0.2**
YMP	**Mirror Lake Pl**	**1.43**	**143**		**Pg**	**01 53 12.9**	**-0.5**
YFT	**Old Faithful**	**1.48**	**166**		**Pn**	**01 53 13.7**	**+0.6**
YPPC	**Pelican Cone**	**1.49**	**146**		**Pb**	**01 53 15.4**	**+1.4**
MOMT	**Monida**	**1.49**	**210**		**Pg**	**01 53 14.2**	**-0.5**
MCMT	**McKenzie Canyo**	**1.50**	**225**		**Pb**	**01 53 14.1**	**0.0**
YLT	**Little Thumb C**	**1.55**	**159**		**Pg**	**01 53 15.6**	**-0.2**
BPMT	**Black Pine Rid**	**1.56**	**291**		**Pn**	**01 53 14.6**	**+0.4**
YPLA	**Lake Butte**	**1.57**	**150**		**Pg**	**01 53 16.2**	**-0.1**
H17A	**Grant Village**	**1.59**	**159**		**Pg**	**01 53 17.2**	**+0.6**
H17A	**Grant Village**	**1.59**	**159**	IAML		01 53 26.5	
	comp=N,817nm,0.4s						
H17A				IAML		01 53 46.7	
	comp=E,706nm,1.1s						
OVMT	**Ovando**	**1.64**	**317**		**Pn**	**01 53 15.9**	**+0.8**
RLMT	**Red Lodge**	**1.66**	**117**		**Pb**	**01 53 16.9**	**0.0**
CHMT	**Chamberlain Mo**	**1.67**	**309**		**Pn**	**01 53 16.3**	**+0.6**
YTP	**The Promontory**	**1.68**	**153**		**Pn**	**01 53 16.8**	**+1.0**
MCID	**Moose Creek**	**1.70**	**176**		**Pb**	**01 53 17.5**	**-0.1**
SLMT	**Seeley Lake**	**2.00**	**313**		**Pn**	**01 53 20.9**	**+0.7**
MSO	**Missoula**	**2.02**	**299**		**Pn**	**01 53 21.1**	**+0.6**
MSO				IAML		01 53 53.6	
	comp=E,3μm,0.7s						
MSO				IAML		01 53 53.9	
	comp=E,3μm,0.7s						
VCMT	**Victor**	**2.05**	**287**		**Pn**	**01 53 21.1**	**+0.4**
FXWY	**Fox Creek**	**2.26**	**174**		**Pn**	**01 53 25.5**	**+1.7**
PCMT	**Pistol Creek**	**2.27**	**307**		**Pg**	**01 53 29.9**	**+0.2**
LOHW	**Long Hollow**	**2.34**	**167**		**Pb**	**01 53 27.0**	**-1.5**
EGMT	**Eagleton**	**2.40**	**27**		**Pn**	**01 53 27.2**	**+1.6**
EGMT				IAML		01 54 08.1	
	comp=E,4μm,0.9s						
TPAW	**Teton Pass**	**2.41**	**173**		**Pn**	**01 53 27.9**	**+1.9**
TPAW				IAML		01 54 06.3	
	comp=E,965nm,0.6s						
TPAW				IAML		01 54 16.0	
	comp=E,1μm,0.6s						
ALMT	**Alberton, Mont**	**2.42**	**299**		**Pg**	**01 53 32.2**	**-0.3**
SWMT	**Swartz Lake**	**2.44**	**313**		**Pn**	**01 53 26.9**	**+0.7**
SNOW	**Snow King Moun**	**2.46**	**170**		**Pn**	**01 53 28.5**	**+1.9**
FBMT	**Ferry Basin**	**2.60**	**307**		**Pn**	**01 53 29.5**	**+1.1**
YBMT	**Yellow Bay**	**2.69**	**318**		**Pn**	**01 53 31.3**	**+1.7**
JTMT	**Jette**	**2.74**	**314**		**Pn**	**01 53 31.6**	**+1.3**
NDMT	**Ninemile Divid**	**2.75**	**301**		**Pn**	**01 53 30.6**	**+0.1**
MKMT	**Mink Peak**	**2.87**	**296**		**Pn**	**01 53 32.7**	**+0.6**
BLMT	**Blacktail Moun**	**2.96**	**317**		**Pn**	**01 53 34.7**	**+1.3**
BHMT	**Big Hole Peak**	**3.05**	**305**		**Pn**	**01 53 36.1**	**+1.5**
BSMT	**Bassoo Peak**	**3.07**	**311**		**Pn**	**01 53 36.1**	**+1.3**
AHID	**Auburn Hatcher**	**3.13**	**177**		**Pb**	**01 53 40.3**	**-1.6**
AHID	**Auburn Hatcher**	**3.13**	**177**	IAML		01 54 26.1	
	comp=E,556nm,0.6s						
AHID				IAML		01 54 30.5	
	comp=E,488nm,0.6s						
HLID	**Hailey**	**3.19**	**224**		**Pn**	**01 53 38.0**	**+1.6**
HLID				IAML		01 54 25.9	
	comp=E,1μm,0.6s						
HLID				IAML		01 54 31.0	
	comp=E,948nm,0.5s						
MKRVA	**Milk River, Al**	**3.27**	**355**		**Pb**	**01 53 43.6**	**-0.6**
PLID	**Pearl Lake**	**3.37**	**258**		**Pn**	**01 53 39.6**	**+0.6**
PLID				IAML		01 54 35.2	
	comp=E,404nm,0.7s						
PLID				IAML		01 54 39.5	
	comp=E,742nm,0.6s						
BW06	**Boulder Array**	**3.38**	**157**		**Pn**	**01 53 41.5**	**+2.4**
PD31	**Pinedale Array**	**3.38**	**157**		**Pn**	**01 53 41.9**	**+2.7**
PDAR	**Pinedale Array**	**3.38**	**157**		**Pn**	**01 53 42.0**	**+2.9**
PDAR	**Pinedale Array**	**3.38**	**157**	Pn	**Pb**	**01 53 44.5**	**-1.7**
	comp=E,46nm,0.5s,baz=348,slow=17,SNR=118						
PDAR				Lg	Lg	01 54 32.1	
	comp=E,40nm,0.3s,baz=3.1,slow=30,SNR=15						
PDAR				LR	LR	01 55 11.3	
	comp=E,258nm,20.0s,baz=264,slow=42						
LAO	**LASA Array**	**3.65**	**75**		**Pn**	**01 53 39.6**	**-3.1**
LAO					Pb	01 53 45.2	-5.5
LDM	**Libby Dam**	**3.73**	**315**		**Pn**	**01 53 44.8**	**+1.0**
HSPGA	**Hill Springs,**	**3.81**	**337**		**Pn**	**01 53 46.2**	**+1.3**
MFID	**Camas Ranch**	**4.04**	**234**		**Pn**	**01 53 49.1**	**+1.0**
HWUT	**Hardware Ranch**	**4.28**	**182**		**Pn**	**01 53 53.6**	**+2.1**
BMO	**Blue Mountains**	**4.32**	**258**		**Pn**	**01 53 52.5**	**+0.5**
NEW	**Newport**	**4.60**	**303**		**Pn**	**01 53 56.9**	**+1.1**
NEW				IAML		01 55 14.4	
	comp=E,314nm,1.8s						
NEW				IAML		01 55 21.2	
	comp=E,327nm,0.8s						
NEW	**Newport**	**4.60**	**303**	Pn	**Pn**	**01 53 56.5**	**+0.7**
	comp=E,2.3nm,0.3s,baz=124,slow=7.7,SNR=18						
NEW				Lg	Lg	01 55 06.4	
	comp=E,45nm,0.3s,baz=19,slow=16,SNR=12						
NEW				LR	LR	01 56 03.7	
	comp=E,94nm,21.2s,baz=121,slow=44						
	comp=E,5.4nm,0.3s						
K22A	**Casper**	**4.74**	**131**		**Pn**	**01 54 00.8**	**+2.9**
E09A	**Wood Farm, Sta**	**4.76**	**280**		**Pn**	**01 53 59.4**	**+1.5**
E09A				IAML		01 55 29.8	
	comp=N,471nm,0.7s						
E09A				IAML		01 55 36.4	
	comp=E,244nm,0.7s						
LNOR	**Lincton Mounta**	**4.84**	**272**		**Pn**	**01 54 01.2**	**+2.1**
LNOR				IAML		01 55 21.9	
	comp=N,223nm,1.8s						
LNOR				IAML		01 55 33.8	
	comp=E,179nm,1.0s						
OD2	**Odessa Site #2**	**5.29**	**289**		**Pn**	**01 54 05.6**	**+0.4**
YPT	**Yellepit**	**5.31**	**274**		**Pn**	**01 54 06.7**	**+1.3**
YPT				IAML		01 55 44.0	
	comp=N,210nm,1.7s						
YPT				IAML		01 55 44.6	
	comp=E,139nm,1.0s						
D08A	**Wollman Farm,**	**5.36**	**285**		**Pn**	**01 54 06.8**	**+0.7**
G08A	**Pilot Rock**	**5.37**	**266**		**Pn**	**01 54 07.3**	**+0.8**
E08A	**Dider Farm, El**	**5.38**	**279**		**Pn**	**01 54 07.5**	**+1.0**
RSSD	**Black Hills**	**5.48**	**106**		**Pn**	**01 54 09.3**	**+1.2**
DGMT	**Dagmar**	**5.52**	**60**		**Pn**	**01 54 09.4**	**+1.0**
J08A	**Circle Bar Ran**	**5.68**	**246**		**Pn**	**01 54 12.2**	**+1.6**
HAWA	**Hanford**	**5.71**	**278**		**Pn**	**01 54 11.7**	**+0.7**
WAH2	**Wahluke Slope**	**5.75**	**282**		**Pn**	**01 54 12.4**	**+0.8**
ELK	**Elko**	**5.87**	**210**	Pn	**Pn**	**01 54 15.5**	**+2.1**
	comp=E,0.7nm,0.3s,baz=23,slow=7.1,SNR=10						
ELK				Lg	Lg	01 55 45.9	
	comp=E,2.7nm,0.3s,baz=183,slow=6.0,SNR=7.6						
	comp=E,1.6nm,0.6s						
O20A	**White River Ci**	**6.18**	**157**		**Pn**	**01 54 19.0**	**+1.3**
MXC	**Moxie City**	**6.24**	**280**		**Pn**	**01 54 19.5**	**+1.2**
WVOR	**Wild Horse Val**	**6.27**	**239**		**Pn**	**01 54 20.4**	**+1.6**
TMUT	**Trail Mountain**	**6.59**	**179**	Pn	**Pn**	**01 54 24.1**	**+0.7**
I05D	**Terrebonne, OR**	**7.23**	**261**		**Pn**	**01 54 32.9**	**+0.9**
LON	**Longmire**	**7.29**	**281**		**Pn**	**01 54 33.8**	**+1.0**
ISCO	**Idaho Springs**	**7.40**	**143**		**Pn**	**01 54 35.9**	**+1.4**
E28A	**Huff**	**7.43**	**81**		**Pn**	**01 54 35.7**	**+1.2**
J05D	**Fort Rock, OR**	**7.52**	**253**		**Pn**	**01 54 37.1**	**+1.1**
PSUT	**Pine Spring**	**7.58**	**195**	Pn	**Pn**	**01 54 37.5**	**+0.6**
HMU	**Henry Mountain**	**7.96**	**177**	Pn	**Pn**	**01 54 41.9**	**-0.2**
GNW	**Green Mountain**	**8.06**	**286**	Pn	**Pn**	**01 54 43.7**	**+0.5**
NVAR	**Mina Array Bea**	**9.06**	**217**	Pn	**Pn**	**01 54 59.5**	**+2.4**
	comp=E,0.1nm,0.3s,baz=29,slow=11,SNR=9.4						
NVAR				Lg	Lg	01 57 28.3	
	comp=E,0.6nm,0.3s,baz=41,slow=33,SNR=6.6						
	comp=E,1.3nm,0.7s						
YBH	**Yreka Blue Hor**	**9.20**	**247**	Pn	**Pn**	**01 54 59.4**	**+0.5**
	baz=22,slow=12,SNR=7.0						
YBH				LR	LR	01 58 50.6	
	comp=E,12nm,21.3s,baz=62,slow=40						
SDCO	**Great Sand Dun**	**9.23**	**150**		**Pn**	**01 55 01.3**	**+1.7**
ANMO	**Albuquerque**	**11.54**	**159**	Pn	**Pn**	**01 55 33.5**	**+2.3**
	baz=4.8,slow=12,SNR=1.5						
ANMO				Lg	Lg	01 58 55.5	
	comp=E,0.1nm,0.3s,baz=234,slow=9.3,SNR=2.0						
	comp=E,0.5nm,0.5s						
BBB	**Bella Bella**	**12.66**	**306**	Lg	Lg	01 59 19.9	
	comp=E,0.2nm,0.3s,baz=337,slow=18,SNR=4.6						
BBB				LR	LR	02 00 55.6	
	comp=E,62nm,20.1s,baz=143,slow=39						
G40A	**Rib Lake**	**14.83**	**85**		**Pn**	**01 56 15.1**	**-0.6**
JFWS	**Jewell Farm**	**15.37**	**94**		**Pn**	**01 56 21.0**	**-2.0**
TUL3	**Leonard**	**15.39**	**125**	Pn	**Pn**	**01 56 22.4**	**-1.0**
TUL3				IAmb	IAmb	01 56 56.8	
	comp=Z,6.4nm,0.6s						
COWI	**Conover**	**15.44**	**81**		**Pn**	**01 56 22.2**	**-1.7**
COWI				IAmb	IAmb	01 56 53.3	
	comp=Z,10nm,0.7s						
P40A	**Paris**	**15.53**	**107**	Pn	**Pn**	**01 56 26.5**	**+1.3**
P40A				IAmb	IAmb	01 56 40.3	
	comp=Z,6.6nm,0.9s						
VHRN	**Van Horn**	**15.87**	**160**	Pn	**Pn**	**01 56 31.0**	**+1.2**
MNHN	**Monahans**	**15.99**	**152**		**Pn**	**01 56 31.8**	**+0.7**
MNHN				IAmb	IAmb	01 56 42.6	
	comp=Z,10nm,0.7s						
ALPN	**Alpine**	**16.62**	**156**	P	**Pn**	**01 56 41.0**

comp=Z,1.8nm,0.8s,baz=17,slow=11,SNR=6.0
comp=Z,1.8nm,0.8s
HHC Hu-ho-hao-te 85.51 329 *eP* **P 02 05 23.0 -1.4**
HHC pmax pmax
comp=Z,13nm,0.7s
MKAR Makanchi Array 86.93 351 P **P 02 05 32.1 +1.0**
comp=Z,0.3nm,0.4s,baz=16,slow=4.9,SNR=2.4
comp=Z,0.3nm,0.4s
TORD Torodi Ar. Bea 96.01 64 LR LR 02 46 19.1
comp=Z,69nm,20.0s,baz=309,slow=33
PZH PanZhiHua 101.93 330 P **Pdif 02 06 40.1 -0.3**

RSNC **14** *01:56:59.3±0.6, 16˚N±4˚×9˚3W±˚, h0km, M4.8, mB5.4, mb4.8, mBc6.4, Mjma5.5, ML6.5, ML5.4, MLh6.3, Ms(BB)4.8, Mw(mB)4.8, MwMwp4.9, Mwp5.2*
SNET **14** *01:57:11.7±1.1, 16˚.11N×91˚.23W, h13km±46km, ML4.5*
GCG **14** *01:57:15.1±2.8, 15˚.70N×91˚.01W, h1km±6km, MD4.2, ML4.8, MW5.0, Fault plane solution: NP1:ϕs4.55000°, δ71.25000°, λ23.86000°.*
CATAC **14** *01:57:15.9±0.2, 16˚N±1˚×9˚1W±˚, h1km, M5.1/25, MLv5.1/25, Error ellipse: s-maj=2.7km s-min=2.3km az=20.1, confirmed*
NEIC **14** *01:57:16.3, 15˚.72N×91˚.03W, h12km*
NEIC **14** *01:57:16.3±2.5, 15˚.72N±0˚.04×91˚.03W±0˚.04, h10km±1km, mb5.1/510, Mww4.8/28, Error ellipse: s-maj=7.6km s-min=5.7km az=145.0*
NEIC **14** *01:57:16.3, 16˚.02N×90˚.92W, h12km, Moment Tensor Solution. Duration: 1ŝ2 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.49; $M_{\theta\theta}$1.25; $M_{\phi\phi}$0.25; $M_{r\theta}$1.29; $M_{\theta\phi}$-0.41; $M_{\phi r}$-0.28; Fault plane solution: $M_0$1.96000×10^{16} NP1: ϕs113.95000°, δ24.03000°, λ-81.56000°. NP2: ϕs284.72000°, δ66.24000°, λ-93.75000°. Principal axes: T 1.8989, Plg21.0000°, Azm18.0000°; N 0.1092, Plg3.0000°, Azm286.0000°; P -2.0082, Plg69.0000°, Azm187.0000°;*
GCMT **14** *01:57:18.3±0.4, 15˚.91N±0˚.02×91˚.00W±0˚.03, h14km±1km, MW4.9/93, Moment Tensor Solution. s25,c32; s93,c132; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.26±.14; $M_{\theta\theta}$1.83±.09; $M_{\phi\phi}$0.42±.08; $M_{r\theta}$0.73±.18; $M_{\theta\phi}$-0.74±.06; $M_{\phi r}$1.04±.25; Best double couple: $M_0$2.48400×10^{16} NP1:ϕs133.00000°, δ46.00000°, λ-57.00000°. NP2: ϕs271.00000°, δ53.00000°, λ-119.00000°. Principal axes: T 2.1640, Plg4.0000°, Azm21.0000°; N 0.6390, Plg23.0000°, Azm289.0000°; P -2.8040, Plg67.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC **14** *01:57:22.3±2.7, 15˚.82N×90˚.86W, h64km±26km, mb4.0/25, mbtmp4.3/28, ML3.6/3, MS4.0/56 Error ellipse: s-maj=18.5km s-min=10.2km az=54.0*
BGR **14** *01:57:25.4, 15˚.77N×88˚.99W, h33km, mb5.2, Ms4.2*
ISC 14 01:57:16.1±0.9, 15˚.69N±0˚.02×90˚.98W±0˚.02, h17km±6km, n804, σ1ŝ31/562, mb5.0/263, MS4.0/53, 3C-15D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
QUIS	**Sacapulas**	**0.41**	**195**	*eP*		**Pg**	**01 57 23.3**	**-1.3**
QUIS				*eS*		**Sg**	**01 57 29.4**	**-0.9**
QUIS				IAML			01 57 30.6	
	comp=N,114μm,0.4s							
AVCB	**Coban**	**0.60**	**111**	*i* S		**Sg**	**01 57 36.2**	**+0.1**
AVCB				IAML			01 57 41.8	
	comp=N,158μm,0.7s							
HUEH	**Huehuetenango**	**0.62**	**234**			**Pg**	**01 57 26.9**	**-1.6**
HUEH	**Huehuetenango**	**0.62**	**234**	*eP*		**Pg**	**01 57 27.1**	**-1.4**
HUEH				*eS*		**Sn**	**01 57 40.2**	**+0.1**
HUEH	**Huehuetenango**	**0.62**	**234**	*eP*		**Pg**	**01 57 26.9**	**-1.6**
HUEH				*i* S		**Sg**	**01 57 36.7**	**-0.1**
HUEH				IAML			01 57 47.7	
	comp=E,138μm,2.0s							
HUEH	**Huehuetenango**	**0.62**	**234**	⇑P		**Pg**	**01 57 27.0**	**-1.6**
HUEH				S		**Sg**	**01 57 36.2**	**-0.7**
SOKI	**Kika Raxquin**	**0.95**	**205**	*eP*		**Pb**	**01 57 33.5**	**-1.0**
SOKI				IAML			01 58 04.7	
	comp=E,35μm,1.4s							
QUEO	**Labor Ovalle**	**0.96**	**212**	*i* P		**Pb**	**01 57 33.7**	**-0.9**
QUEO				IAML			01 58 11.7	
	comp=E,38μm,3.5s							
GCG4	**OSOP**	**1.18**	**158**	*eP*		**Pn**	**01 57 38.2**	**+0.1**
GCG4				*i* S		**Sg**	**01 57 55.3**	**+0.9**
GCG4				IAML			01 57 59.2	
	comp=E,50μm,1.2s							
CCIG	**Comitan**	**1.26**	**298**			**Pn**	**01 57 38.9**	**-0.3**
CCIG	**Comitan**	**1.26**	**298**	*i* P		**Pn**	**01 57 38.8**	**-0.3**
CCIG				*i* S		**Sg**	**01 57 57.7**	**+0.8**
CCIG				IAML			01 58 04.4	
	comp=N,13μm,0.4s							
CCIG	**Comitan**	**1.26**	**298**	⇓P		**Pn**	**01 57 38.6**	**-0.5**
CCIG	**Comitan**	**1.26**	**298**	S		**Sg**	**01 57 58.0**	**+1.1**
STG8	**El Palmar, Qui**	**1.28**	**196**	*eP*		**Pn**	**01 57 35.6**	**-4.0**
STG8				IAML			01 58 11.4	
	comp=N,10μm,3.7s							
STG2	**El Palmar, Qui**	**1.30**	**197**	*eP*		**Pn**	**01 57 36.4**	**-3.3**
STG0	**El Palmar, Qui**	**1.30**	**195**	*eP*		**Pn**	**01 57 36.3**	**-3.5**
STG0				IAML			01 58 06.4	
	comp=E,13μm,1.4s							
ESSG	**Sabana Grande**	**1.31**	**173**	*eP*		**Pn**	**01 57 39.9**	**+0.1**
ESSG				*i* S		**Sg**	**01 57 59.8**	**+1.3**
ESSG				IAML			01 58 13.0	
	comp=N,15μm,1.7s							
SMCA	**Catarina**	**1.34**	**232**	*eP*		**Pn**	**01 57 40.1**	**-0.1**
SMCA				IAML			01 58 20.5	
	comp=E,17μm,2.5s							
RTAL	**Retalhuleu**	**1.35**	**211**			**Pb**	**01 57 41.1**	**+0.1**
RTAL	**Retalhuleu**	**1.35**	**211**	⇑P		**Pb**	**01 57 41.2**	**+0.3**
RTAL	**Retalhuleu**	**1.35**	**211**	S		**Sg**	**01 58 00.5**	**+0.8**
THIG		**1.46**	**238**	*eP*		**Pb**	**01 57 43.0**	**+0.1**
THIG				IAML			01 58 13.7	
	comp=E,23μm,1.1s							
FG16	**Alotenango, Sa**	**1.48**	**162**	*i* P		**Pn**	**01 57 38.8**	**-3.5**
FG16				IAML			01 58 01.5	
	comp=N,30μm,0.6s							
PETF	**Flores**	**1.62**	**41**			**Pn**	**01 57 44.0**	**0.0**
PETF	**Flores**	**1.62**	**41**	*eP*		**Pn**	**01 57 44.1**	**0.0**
PETF				*eS*		**Sb**	**01 58 05.5**	**-0.5**
PETF				IAML			01 58 12.4	
	comp=E,28μm,0.5s							
PETF	**Flores**	**1.62**	**41**	⇓P		**Pn**	**01 57 44.0**	**0.0**
PETF	**Flores**	**1.62**	**41**	S		**Sg**	**01 58 06.9**	**-1.7**
ESQI	**Esquipulas**	**1.94**	**125**			**Pn**	**01 57 49.9**	**+1.4**
ESQI	**Esquipulas**	**1.94**	**125**	*eP*		**Pn**	**01 57 50.0**	**+1.4**
ESQI	**Esquipulas**	**1.94**	**125**	⇓P		**Pn**	**01 57 49.9**	**+1.4**
ESQI	**Esquipulas**	**1.94**	**125**	S		**Sg**	**01 58 18.0**	**-0.8**
SLOZ	**Alcaldia de Sa**	**2.02**	**145**	⇑P		**Pb**	**01 57 51.8**	**-0.7**
SLOZ	**Alcaldia de Sa**	**2.02**	**145**	S		**Sg**	**01 58 20.8**	**-0.4**
MTO3	**Montecristo**	**2.03**	**129**			**Pn**	**01 57 51.0**	**+1.2**
MTO3	**Montecristo**	**2.03**	**129**	*eP*		**Pn**	**01 57 51.0**	**+1.2**
	comp=Z,3μm,1.0s							
MTO3				IAML			01 58 24.1	
	comp=E,3μm,1.0s							
MTO3	**Montecristo**	**2.03**	**129**	S		**Sb**	**01 58 19.8**	**+2.1**
MTO3	**Montecristo**	**2.03**	**129**	⇓P		**Pn**	**01 57 51.0**	**+1.2**
LOAL	**Lomas de Alarc**	**2.04**	**145**	P		**Pb**	**01 57 52.4**	**-0.6**
LOAL	**Lomas de Alarc**	**2.04**	**145**	S		**Sg**	**01 58 22.1**	**+0.1**
FAME	**Alcaldia de Sa**	**2.06**	**153**	P		**Pb**	**01 57 52.3**	**-0.9**
FAME	**Alcaldia de Sa**	**2.06**	**153**	S		**Sg**	**01 58 21.3**	**-1.2**
NUBE	**Las Nubes**	**2.12**	**147**	*eP*		**Pb**	**01 57 53.2**	**-1.2**
NUBE				*i* S		**Sg**	**01 58 25.1**	**+0.5**
NUBE	**Las Nubes**	**2.12**	**147**	S		**Sg**	**01 58 23.4**	**-1.2**
NUBE	**Las Nubes**	**2.12**	**147**	⇓P		**Pb**	**01 57 53.2**	**-1.2**
ESSJ	**San Jos, E**	**2.17**	**167**	*eP*		**Pn**	**01 57 49.4**	**-2.1**
ESSJ				*i* S		**Sn**	**01 58 17.6**	**-0.4**
UNIC	**Universidad Ca**	**2.19**	**141**	S		**Sg**	**01 58 25.6**	**-1.2**
UNIC	**Universidad Ca**	**2.19**	**141**	P		**Pb**	**01 57 54.7**	**-0.8**
CEVE	**Cerro Verde**	**2.27**	**144**	*eP*		**Pb**	**01 57 55.8**	**-1.1**
CEVE				*eS*		**Sg**	**01 58 30.2**	**+0.9**
CEVE				IAML			01 58 44.0	
	comp=Z,2μm,0.6s							
CEVE	**Cerro Verde**	**2.27**	**144**	P		**Pb**	**01 57 55.7**	**-1.2**
IZABA	**Izabal, Puerto**	**2.31**	**89**	⇓P		**Pb**	**01 57 58.6**	**+1.2**
IZABA	**Izabal, Puerto**	**2.31**	**89**	S		**Sg**	**01 58 31.6**	**+1.1**
TGIG		**2.32**	**298**	*i* P		**Pn**	**01 57 54.5**	**+0.8**
TGIG				*eS*		**Sb**	**01 58 25.6**	**-0.5**
TGIG				IAML			01 58 36.5	
	comp=N,5μm,0.9s							
SARH	**Santa Rosa de**	**2.33**	**113**	*eP*		**Pn**	**01 57 55.3**	**+1.4**
SARH	**Santa Rosa de**	**2.33**	**113**	⇓P		**Pn**	**01 57 55.8**	**+2.0**
SARH	**Santa Rosa de**	**2.33**	**113**	S		**Sg**	**01 58 32.1**	**+0.9**
CEDA	**San Andres**	**2.42**	**140**	IAML			01 58 40.3	
	comp=Z,2μm,0.6s							
CEDA	**San Andres**	**2.42**	**140**	P		**Pn**	**01 57 57.3**	**+2.2**
CEDA	**San Andres**	**2.42**	**140**	S		**Sg**	**01 58 32.6**	**-1.7**
JAYA	**Jayaque - finc**	**2.51**	**144**	*eP*		**Pb**	**01 57 59.1**	**-1.8**
JAYA				*eS*		**Sb**	**01 58 34.7**	**+3.1**
JAYA	**Jayaque - finc**	**2.51**	**144**	*i* P		**Pb**	**01 57 59.1**	**-1.8**
JAYA	**Jayaque - finc**	**2.51**	**144**	⇓P		**Pn**	**01 57 58.6**	**+2.2**
JAYA	**Jayaque - finc**	**2.51**	**144**	S		**Sg**	**01 58 37.9**	**+1.0**
PMON	**Piamonte**	**2.54**	**140**	P		**Pb**	**01 57 59.6**	**-1.9**
PMON	**Piamonte**	**2.54**	**140**	S		**Sg**	**01 58 39.1**	**+1.0**
BQQS	**Boqueron**	**2.55**	**139**	*eP*		**Pb**	**01 57 60.0**	**-1.6**
UEES	**Universidad Ev**	**2.59**	**139**	P		**Pn**	**01 57 59.6**	**+2.2**
LOMA	**Loma Larga**	**2.69**	**139**	P		**Pb**	**01 58 01.6**	**-2.3**
LOMA	**Loma Larga**	**2.69**	**139**	S		**Sg**	**01 58 43.2**	**+0.6**
LALI	**Alcalda de L**	**2.72**	**143**	S		**Sg**	**01 58 43.3**	**-0.2**
LALI	**Alcalda de L**	**2.72**	**143**	P		**Pb**	**01 58 04.7**	**+0.3**
PAVA	**Las Pavas**	**2.79**	**135**	P		**Pn**	**01 58 01.7**	**+1.5**
COEG	**Centro de Oper**	**2.90**	**135**	*eP*		**Pn**	**01 58 03.6**	**+2.0**
COEG				*eS*		**Sb**	**01 58 45.3**	**+2.6**
COEG				IAML			01 58 55.5	
	comp=Z,859nm,0.7s							
COEG	**Centro de Oper**	**2.90**	**135**	P		**Pn**	**01 58 04.1**	**+2.5**
SCLA	**Alcaldia de Sa**	**2.94**	**132**	P		**Pn**	**01 58 04.7**	**+2.4**
TECO	**Alcaldia de Te**	**3.02**	**135**	P		**Pb**	**01 58 07.6**	**-2.0**
MARCA	**Marcala la Paz**	**3.23**	**118**	*i* P		**Pn**	**01 58 08.3**	**+2.0**
MARCA	**Marcala la Paz**	**3.23**	**118**	P		**Pn**	**01 58 09.5**	**+3.2**
MARCA	**Marcala la Paz**	**3.23**	**118**	S		**Sg**	**01 58 58.1**	**-2.0**
SCIG	**Sabancuy**	**3.27**	**357**	*i* P		**Pn**	**01 58 06.6**	**0.0**
SCIG				*i* S		**Sn**	**01 58 45.3**	**+0.2**
SCIG				IAML			01 58 49.9	
	comp=E,4μm,0.8s							
SCIG	**Sabancuy**	**3.27**	**357**	⇓P		**Pn**	**01 58 06.7**	**0.0**
SCIG	**Sabancuy**	**3.27**	**357**	S		**Sn**	**01 58 46.0**	**+0.9**
CAHU	**Cacacuatique**	**3.29**	**125**	*eP*		**Pn**	**01 58 09.8**	**+2.6**
ALJI	**Alcalda de J**	**3.31**	**135**	P		**Pg**	**01 58 18.8**	**-0.9**
CNCH	**Conchagua**	**3.88**	**128**	P		**Pb**	**01 58 24.3**	**0.0**
CNCH	**Conchagua**	**3.88**	**128**	S		**Sg**	**01 59 23.0**	**+2.0**
TGUH	**Tegucigalpa,Un**	**3.94**	**114**			**Pn**	**01 58 17.9**	**+1.9**
TGUH	**Tegucigalpa,Un**	**3.94**	**114**	P		**Pn**	**01 58 18.2**	**+2.2**
TGUH				S		**Sg**	**01 59 21.5**	**-1.2**
TGUH	**Tegucigalpa,Un**	**3.94**	**114**	P		**Pb**	**01 58 25.7**	**+0.4**
	comp=E,20nmcomp=E,5μmcomp=E,19μmcomp=E,3μm,1.1s							
TGUH				S		**Sg**	**01 59 19.0**	**-3.7**
	comp=E,20nmcomp=E,5μmcomp=E,19μmcomp=E,3μm,1.1s							
CMIG	**Matias Romero**	**3.99**	**291**	P		**Pn**	**01 58 16.4**	**-0.2**
	comp=E,54nm,0.6s,baz=91,slow=12,SNR=49							
CMIG				S		**Sn**	**01 59 04.1**	**+0.9**
	comp=E,406nm,0.8s,baz=298,slow=18,SNR=6.7							
CMIG				LR		LR	02 00 17.2	
	comp=E,859nm,20.8s,baz=115,slow=43							
CRIN	**San Cristobal**	**4.84**	**127**			**Pn**	**01 58 31.8**	**+3.4**
CRIN	**San Cristobal**	**4.84**	**127**	P		**Pb**	**01 58 38.4**	**-2.1**
	comp=E,9.7nmcomp=E,8μmcomp=E,592nm,0.9s							
TEIG	**Tepich**	**5.20**	**29**			**Pn**	**01 58 34.1**	**+0.9**
TEIG	**Tepich**	**5.20**	**29**	P		**Pn**	**01 58 33.9**	**+0.7**
	comp=E,49nmcomp=E,99μmcomp=E,9μm,0.8s							
TEIG				S		**Sn**	**01 59 32.3**	**-0.5**
	comp=E,49nmcomp=E,99μmcomp=E,9μm,0.8s							
CNGN	**Cerro Negro**	**5.23**	**127**			**Pn**	**01 58 36.9**	**+3.2**
CNGN	**Cerro Negro**	**5.23**	**127**	P		Pn	01 58 40.2	+6.5
	comp=E,42nmcomp=E,52μmcomp=E,4μm,1.1s							
MGAN	**Managua**	**5.79**	**127**			**Pn**	**01 58 45.9**	**+4.5**
BOAB	**BOACO BROADBAN**	**6.08**	**121**			**Pn**	**01 58 47.5**	**+2.1**
ACON	**Acoyapa**	**6.75**	**123**			**Pn**	**01 58 58.5**	**+3.9**
ACON	**Acoyapa**	**6.75**	**123**	P		**Pn**	**01 58 57.4**	**+2.9**
	comp=E,1μmcomp=E,117nm,1.2s							
ACON				S		**Sg**	**02 00 46.7**	**-6.1**
	comp=E,1μmcomp=E,117nm,1.2s							
ESPN	**Las Esperanzas**	**7.36**	**117**	P		Pn	01 59 10.9	+8.0
	comp=E,3μmcomp=E,232nm,1.2s							
ESPN				S		**Sg**	**02 01 08.6**	**-3.8**
	comp=E,3μmcomp=E,232nm,1.2s							
TLIG	**Tlapa**	**7.50**	**285**			**Pn**	**01 59 04.9**	**-0.1**
JTS	**Las Juntas de**	**7.96**	**132**			**Pn**	**01 59 14.1**	**+2.9**
JTS	**Las Juntas de**	**7.96**	**132**	P		**Pn**	**01 59 14.8**	**+3.6**
	comp=E,0.6nm,0.3s,baz=304,slow=8.6,SNR=8.4							
JTS				LR		LR	02 02 54.5	
	comp=E,1μm,18.3s,baz=306,slow=42							
	comp=E,65nm,1.2s							
JTS	**Las Juntas de**	**7.96**	**132**	P		**Pn**	**01 59 15.7**	**+4.5**
	comp=E,71nm,1.4s							
HDC	**Heredia**	**8.77**	**129**	*eP*		Pn	01 59 37.7	+15
CHIV	**Chivirico**	**14.51**	**71**	P		**P**	**02 00 46.5**	**-0.9**
833A	**Chaparral WMA,**	**14.79**	**330**			**Pn**	**02 00 46.1**	**+1.5**
HKT	**Hockley**	**14.88**	**343**			**Pn**	**02 00 44.6**	**-1.2**
656A	**Willston**	**15.68**	**28**	IAmb		IAmb	02 01 05.6	
	comp=Z,157nm,1.1s							
346A	**Big Creek Wild**	**15.69**	**5**			**Pn**	**02 00 57.2**	**+0.7**
HNDO	**Hondo**	**15.75**	**332**	Pn		**Pn**	**02 00 58.3**	**+1.0**
HNDO				IAmb		IAmb	02 01 05.2	
	comp=Z,248nm,1.6s							
435B	**Jarrell**	**16.19**	**339**			**Pn**	**02 01 02.6**	**-0.4**
DRIO	**Del Rio**	**16.30**	**329**			**Pn**	**02 01 03.8**	**-0.5**
NATX	**Nacogdoches**	**16.34**	**349**			**Pn**	**02 01 04.5**	**-0.5**
NATX				IAmb		IAmb	02 01 07.4	
	comp=Z,232nm,2.0s							
SJCC	**San Jacinto, C**	**16.45**	**109**	P		**P**	**02 01 10.4**	**+1.3**
	comp=Z,1μmcomp=Z,78nm,1.6s							
VBMS	**Vicksburg**	**16.46**	**1**	IAmb		IAmb	02 01 12.8	
	comp=Z,195nm,1.6s							
250A	**Grady**	**16.77**	**14**			**Pn**	**02 01 09.5**	**-0.9**
143A	**Socs Landing,**	**16.94**	**359**	IAmb		IAmb	02 01 18.9	
	comp=Z,207nm,1.3s							
146A	**Union**	**16.96**	**6**	IAmb		IAmb	02 01 21.5	
	comp=Z,202nm,1.5s							
456A	**Hilliard**	**17.07**	**27**	IAmb		IAmb	02 01 19.1	
	comp=Z,163nm,1.5s							
TIGA	**Tifton**	**17.07**	**22**	IAmb		IAmb	02 01 19.7	
	comp=Z,381nm,1.6s							
WHTX	**Lake Whitney,**	**17.27**	**341**	IAmb		IAmb	02 01 24.1	
	comp=Z,74nm,0.8s							
Z41A	**Richland Creek**	**17.57**	**355**	IAmb		IAmb	02 01 24.8	
	comp=Z,358nm,1.7s							
HPIG		**17.65**	**312**	P		**P**	**02 01 23.1**	**+0.6**
HELC	**Santa Helena**	**17.86**	**120**	P		**P**	**02 01 26.9**	**+1.9**
	comp=Z,498nmcomp=Z,25nm,1.4s							
Z38A	**Mt. Pleasant**	**17.86**	**349**	IAmb		IAmb	02 01 26.0	
	comp=Z,164nm,1.6s							
TX31	**Lajitas Ar. Si**	**17.91**	**321**	IAmb		IAmb	02 01 31.5	
	comp=Z,160nm,1.7s							
TXAR	**Lajitas Array**	**17.91**	**321**	P		**P**	**02 01 27.0**	**+1.8**
TXAR	**Lajitas Array**	**17.91**	**321**	P		**P**	**02 01 26.0**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=142,slow=10,SNR=43							
TXAR				LR		LR	02 09 23.7	
	comp=Z,104nm,21.4s,baz=134,slow=40							
	comp=Z,8.2nm,0.8s							
WLAR	**White Oak Lake**	**18.02**	**354**	IAmb		IAmb	02 01 31.6	
	comp=Z,365nm,1.5s							
Y45A	**Yeager Farm, C**	**18.14**	**4**	IAmb		IAmb	02 01 32.5	
	comp=Z,177nm,1.4s							
154A	**Montrose**	**18.30**	**22**	IAmb		IAmb	02 01 38.1	
	comp=Z,118nm,0.9s							
Z35A	**Pehaven, San**	**18.46**	**343**	IAmb		IAmb	02 01 35.9	
	comp=Z,108nm,1.3s							
YOTC	**Yotoco, Valle**	**18.51**	**127**	P		**Pn**	**02 01 33.5**	**+1.3**
	comp=Z,12nm,1.8s							
GUY2C	**Guyana, Caldas**	**18.53**	**122**	P		**Pn**	**02 01 35.1**	**+2.3**
	comp=Z,515nmcomp=Z,21nm,1.5s							
PTBC	**PUERTO BERRIO,**	**18.58**	**117**	P		**Pn**	**02 01 34.3**	**+1.4**
	comp=Z,128nmcomp=Z,13nm,0.9s							
ABTX	**Abilene, Hawle**	**18.60**	**337**	IAmb		IAmb	02 01 38.0	
	comp=Z,229nm,1.8s							
OCAC	**Ocana**	**18.79**	**111**	P		**Pn**	**02 01 37.2**	**+1.6**
	comp=Z,1μmcomp=Z,67nm,1.5s							
X40A	**Basin Creek Fa**	**18.79**	**355**	IAmb		IAmb	02 01 38.2	
	comp=Z,127nm,1.7s							
OXF	**Oxford**	**18.80**	**4**	P		**P**	**02 01 34.8**	**-0.1**
OXF				IAmb		IAmb	02 01 42.0	
	comp=Z,218nm,1.6s							
MIAR	**Mount Ida**	**18.92**	**353**	IAmb		IAmb	02 01 41.8	
	comp=Z,194nm,1.6s							
UALR	**University of**	**19.04**	**357**	IAmb		IAmb	02 01 43.4	
	comp=Z,193nm,1.4s							
SDDR	**Presa de Saban**	**19.08**	**77**	P		**Pn**	**02 01 40.1**	**+1.1**
Y52A	**Lilburn**	**19.14**	**18**	P		**P**	**02 01 38.2**	**-0.5**
BBAC	**Balboa, Cauca**	**19.18**	**134**	P		**Pn**	**02 01 43.3**	**+3.0**
	comp=Z,28nm,1.2s							
POPC	**Popayan, Colom**	**19.22**	**131**	P		**Pn**	**02 01 43.4**	**+2.5**
	comp=Z,25nm,1.1s							
SN05	**Snyder 5**	**19.32**	**334**	IAmb		IAmb	02 01 51.4	
	comp=Z,140nm,1.5s							
PLAL	**Pickwick Lake**	**19.39**	**7**	IAmb		IAmb	02 01 48.1	
	comp=Z,93nm,1.6s							
ODSA	**Odessa**	**19.45**	**329**	IAmb		IAmb	02 01 47.6	
	comp=Z,142nm,1.8s							
ROSC	**El Rosal**	**19.60**	**122**	P		**Pn**	**02 01 46.5**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=32,slow=6.0,SNR=14							
ROSC				LR		LR	02 09 57.1	
	comp=Z,551nm,18.0s,baz=242,slow=39							
	comp=Z,34nm,1.1s							
SC01	**Santiago de lo**	**19.66**	**76**	P		**Pn**	**02 01 47.1**	**+1.2**
OTAV	**Otavalo**	**19.72**	**140**	P		**Pn**	**02 01 48.5**	**+1.4**
OTAV	**Otavalo**	**19.72**	**140**	*eP*		**Pn**	**02 01 49.4**	**+2.4**
OTAV	**Otavalo**	**19.72**	**140**	P		**Pn**	**02 01 49.9**	**+2.8**
	comp=Z,22nm,2.0s							
POST	**Post**	**19.75**	**333**	IAmb		IAmb	02 02 00.9	
	comp=Z,63nm,1.0s							
SWET	**Sewanee**	**19.97**	**12**	IAmb		IAmb	02 01 52.0	
	comp=Z,120nm,1.8s							
LPIG	**La Paz**	**19.99**	**298**	P		**Pn**	**02 01 49.7**	**0.0**
	comp=Z,13nm,0.3s,baz=31,slow=6.0,SNR=0.8							
LPIG				LR		LR	02 09 37.2	
	comp=Z,663nm,20.3s,baz=138,slow=37							
	comp=Z,13nm,0.3s							
HODGE	**Hodges**	**20.07**	**21**	IAmb		IAmb	02 01 54.4	
	comp=Z,218nm,2.0s							
RUSC	**La Rusia**	**20.08**	**117**	P		**P**	**02 01 49.4**	**-0.2**
RUSC				IAmb		IAmb	02 01 54.3	
	comp=Z,73nm,1.2s							
FCAR	**Ozark Folk Cen**	**20.14**	**357**	IAmb		IAmb	02 02 01 53.0	
	comp=Z,100nm,1.6s							
LCAR	**Lake Charles**	**20.30**	**360**	IAmb		IAmb	02 02 01 55.0	
	comp=Z,101nm,1.3s							
V48A	**Smith Brothers**	**20.31**	**10**	IAmb		IAmb	02 02 01 56.7	
	comp=Z,176nm,1.7s							
FNO	**Franklin**	**20.32**	**345**	IAmb		IAmb	02 02 01 56.8	
	comp=Z,211nm,1.4s							
SDD	**Santo Domingo**	**20.33**	**79**	P		Pn	02 01 54.8	+1.0
W52A	**Murphy**	**20.33**	**17**	IAmb		IAmb	02 02 08.1	
	comp=Z,80nm,1.3s							
BG3	**Lake Jocassee**	**20.54**	**19**	IAmb		IAmb	02 02 01 58.4	
	comp=Z,75nm,1.3s							
WVT	**Waverly**	**20.55**	**7**	P		**P**	**02 01 54.6**	**+0.6**
WVT				IAmb		IAmb	02 02 09.8	
	comp=Z,112nm,1.6s							
FLOC	**Florencia**	**20.62**	**131**	P		**P**	**02 01 54.3**	**-0.6**
FLOC				IAmb		IAmb	02 02 02.4	
	comp=Z,88nm,1.4s							
PIAT	**Ana Tenorio**	**20.81**	**142**	P		Pn	02 02 01.7	+1.9
	comp=Z,18nm,0.9s							
DR12	**Loma Pena Alta**	**20.86**	**78**	P		Pn	02 01 59.8	-0.3
OK052	**Battle Ridge R**	**20.88**	**347**	IAmb		IAmb	02 02 04.0	
	comp=Z,102nm,1.1s							
TKL	**Tuckaleechee C**	**20.91**	**17**	IAmb		IAmb	02 02 03.2	
	comp=Z,111nm,1.4s							
TKL	**Tuckaleechee C**	**20.91**	**17**	P		**P**	**02 01 58.1**	**+0.3**
	comp=Z,28nm,1.1s,baz=188,slow=9.7,SNR=13							
TKL				S		**S**	**02 05 45.2**	**-5.2**
	comp=Z,7.5nm,1.0s,baz=244,slow=16,SNR=2.1							
TKL				LR		LR	02 11 13.2	
	comp=Z,1μm,18.1s,baz=192,slow=40							
	comp=Z,28nm,1.1s							
TAMC	**Tame, Arauca**	**20.94**	**114**	P		Pn	02 02 01.2	+0.2
	comp=Z,1μmcomp=Z,108nm,0.8s							
SDV	**Santo Domingo**	**20.99**	**106**	P		**P**	**02 02 00.8**	**+1.6**
SDV

PV13 Radium Mtn., P 27.36 328 IAmb IAmb 02 03 05.5
comp=Z,56nm,1.6s
MVL Millersville 27.38 25 IAmb IAmb 02 03 04.1
comp=Z,69nm,1.6s
PV05 Paradox Valley 27.44 328 IAmb IAmb 02 03 05.9
comp=Z,48nm,1.4s
PV03 Paradox Valley 27.44 328 IAmb IAmb 02 03 06.1
comp=Z,82nm,1.9s
PV12 Saucer Basin, 27.47 329 IAmb IAmb 02 03 10.9
comp=Z,65nm,1.2s
PV07 Paradox Valley 27.48 329 IAmb IAmb 02 03 06.6
comp=Z,61nm,1.7s
PV11 David Mesa, Pa 27.49 328 IAmb IAmb 02 03 05.6
comp=Z,22nm,0.9s
PV20 West Nyswonger 27.57 328 IAmb IAmb 02 03 37.9
comp=Z,46nm,1.3s
PV04 Paradox Valley 27.58 329 IAmb IAmb 02 03 06.5
comp=Z,22nm,0.9s
PV14 Lion Creek, Pa 27.62 328 IAmb IAmb 02 03 05.8
comp=Z,79nm,1.9s
PV22 Blue Mesa, Par 27.63 329 IAmb IAmb 02 03 08.3
comp=Z,23nm,1.2s
PV10 Paradox Valley 27.63 328 IAmb IAmb 02 03 06.3
comp=Z,34nm,1.0s
PV23 Carpenter Ridg 27.68 328 IAmb IAmb 02 03 12.8
comp=Z,23nm,0.8s
BLYC Blythe 27.83 315 P P 02 03 07.1 +2.4
YUH Yuha Desert 28.22 311 IAmb IAmb 02 03 13.5
comp=Z,60nm,1.9s
M57A Sunshine Farm, 28.23 22 IAmb IAmb 02 03 10.6
comp=Z,87nm,1.8s
O20A White River Ci 28.63 332 IAmb IAmb 02 03 25.9
comp=Z,28nm,1.2s
SRU San Rafael Swe 28.95 327 IAmb IAmb 02 03 18.6
comp=Z,44nm,1.6s
BBSR BB Station 29.07 50 P P 02 03 16.0 +0.2
PFO Pinyon Flats O 29.10 312 P P 02 03 18.5 +2.2
comp=Z,1.8nm,0.6s,baz=117,slow=9.2,SNR=7.3
PFO LR LR 02 16 30.7
comp=Z,276nm,19.1s,baz=135,slow=40
comp=Z,1.8nm,0.6s
Q16A Castle Valley 29.14 326 IAmb IAmb 02 03 20.9
comp=Z,36nm,1.6s
P18A Preston Nutter 29.19 329 IAmb IAmb 02 03 21.7
comp=Z,55nm,2.0s
V12A Nelson 29.20 318 IAmb IAmb 02 03 21.7
comp=Z,17nm,0.9s
SZCU Shurtz Canyon 29.29 322 IAmb IAmb 02 03 32.9
comp=Z,30nm,1.6s
BINY Binghamton 29.40 23 IAmb IAmb 02 03 21.8
comp=Z,44nm,1.4s
TMUT Trail Mountain 29.44 327 IAmb IAmb 02 03 23.4
comp=Z,48nm,1.9s
CZSB Cruzeiro do Su 29.48 141 P P 02 03 21.1 +1.5
CZSB IAmb IAmb 02 03 28.9
comp=Z,20nm,1.1s
CZSB Cruzeiro do Su 29.48 141 eP P 02 03 21.4 +1.8
MTPC Mountain Pass 29.52 316 IAmb IAmb 02 03 24.5
comp=Z,43nm,1.8s
L59A Walton 29.76 24 IAmb IAmb 02 03 24.2
comp=Z,55nm,1.6s
MPU Maple Canyon 30.19 327 IAmb IAmb 02 03 30.6
comp=Z,59nm,1.8s
J57A Williamstown 30.45 22 IAmb IAmb 02 03 29.4
comp=Z,47nm,1.6s
PECO Prince Edward 30.56 20 IAmb IAmb 02 03 35.4
comp=Z,25nm,1.4s
GWY Greenwater Val 30.66 317 IAmb IAmb 02 03 34.9
comp=Z,40nm,1.8s
QSM Queen of Sheba 30.67 316 IAmb IAmb 02 04 23.8
comp=Z,10nm,0.4s
SADO Sadowa 30.67 17 LR LR 02 16 54.6
comp=Z,1µm,18.1s,baz=173,slow=38
CTU Camp Tracy 30.75 328 IAmb IAmb 02 03 35.5
comp=Z,58nm,1.9s
TRY Troy 30.77 25 IAmb IAmb 02 03 33.8
comp=Z,50nm,1.4s
E38A The Farm, Brul 30.83 359 IAmb IAmb 02 04 26.4
comp=Z,21nm,1.0s
TPNV Topopah Spring 30.83 318 IAmb IAmb 02 03 45.5
comp=Z,40nm,1.8s
NNA Nana 30.86 152 LR LR 02 14 14.6
comp=Z,151nm,20.8s,baz=346,slow=33
DELO Deloro Mine 30.89 19 IAmb IAmb 02 03 36.6
comp=Z,16nm,1.0s
TCUT Toone Canyon 30.90 329 IAmb IAmb 02 03 35.9
comp=Z,28nm,1.3s
S11A Rachel 30.94 320 IAmb IAmb 02 04 07.0
comp=Z,60nm,1.6s
J59A Piesco 31.05 24 IAmb IAmb 02 03 36.8
comp=Z,38nm,1.6s
MPMC Manual Prospec 31.14 316 IAmb IAmb 02 04 11.8
comp=Z,21nm,0.9s
PDAR Pinedale Array 31.33 333 P P 02 03 34.2 -1.8
PDAR Pinedale Array 31.33 333 P P 02 03 36.3 +0.3
comp=Z,0.9nm,0.8s,baz=152,slow=8.9,SNR=4.6
PDAR LR LR 02 20 16.5
comp=Z,92nm,18.3s,baz=136,slow=44
comp=Z,0.9nm,0.8s
HWUT Hardware Ranch 31.35 330 IAmb IAmb 02 03 39.5
comp=Z,20nm,1.3s
WES Weston 31.51 28 IAmb IAmb 02 03 41.5
comp=Z,32nm,1.3s
BGU Big Grassy Mou 31.58 327 IAmb IAmb 02 03 42.0
comp=Z,63nm,1.9s
GRAC Grapevine Rang 31.58 317 IAmb IAmb 02 03 52.6
comp=Z,23nm,0.6s
CWC Cottonwood Cre 31.75 316 IAmb IAmb 02 03 44.6
comp=Z,25nm,1.7s
LONY Lake Ozonia 32.01 22 IAmb IAmb 02 03 43.5
comp=Z,58nm,1.6s
AHID Auburn Hatcher 32.02 331 IAmb IAmb 02 03 46.5
comp=Z,18nm,1.1s
HVU Hansel Valley 32.08 328 IAmb IAmb 02 03 47.2
comp=Z,52nm,1.5s
EYMN Ely 32.17 359 IAmb IAmb 02 03 44.7
comp=Z,61nm,1.7s
DSP Deep Springs 32.19 317 IAmb IAmb 02 03 50.6
comp=Z,21nm,1.4s
SNOW Snow King Moun 32.41 333 IAmb IAmb 02 03 54.1
comp=Z,32nm,0.9s
TPAW Teton Pass 32.52 332 IAmb IAmb 02 03 55.3
comp=Z,51nm,1.4s
ELK Elko 32.65 325 IAmb IAmb 02 03 52.1
comp=Z,55nm,2.0s
BOAV Boa Vista 32.79 111 eP P 02 03 48.0 -0.9
NV11 Mina Array Sit 32.93 319 IAmb IAmb 02 03 55.1
comp=Z,77nm,1.9s
NVAR Mina Array Mea 33.02 319 P P 02 03 52.2 +1.3
NVAR Mina Array Bea 33.02 319 P P 02 03 52.6 +1.8
comp=Z,3.9nm,0.7s,baz=125,slow=8.4,SNR=27
NVAR LR LR 02 19 03.0
comp=Z,222nm,19.4s,baz=114,slow=40
comp=Z,3.9nm,0.7s
LHV Little Huntoon 33.05 318 IAmb IAmb 02 03 58.7
comp=Z,42nm,1.2s
H17A Grant Village 33.08 334 IAmb IAmb 02 03 56.0
comp=Z,23nm,1.4s
MNTQ Montreal, Queb 33.11 23 IAmb IAmb 02 03 54.0
comp=Z,54nm,1.7s
I63A Otisfield 33.16 27 IAmb IAmb 02 03 54.5
comp=Z,35nm,1.3s
YFT Old Faithful 33.24 334 IAmb IAmb 02 04 08.6
comp=Z,14nm,1.0s
RYN Ryan 33.28 319 IAmb IAmb 02 03 58.0
comp=Z,50nm,2.0s
TRQ Mont Tremblant 33.40 21 IAmb IAmb 02 03 55.9
comp=Z,61nm,1.7s
YHL Hebgen Lake 33.70 334 IAmb IAmb 02 04 00.7
comp=Z,66nm,1.9s
WAKR Walker 33.79 318 IAmb IAmb 02 04 05.0
comp=Z,27nm,1.5s
EPLO Experimental L 33.97 357 IAmb IAmb 02 04 07.6
comp=Z,43nm,1.3s
PAHR Pah Rah Range 34.45 320 IAmb IAmb 02 04 09.8
comp=Z,35nm,1.9s
DLMT Dillon 34.72 333 IAmb IAmb 02 04 09.2
comp=Z,70nm,1.9s
MFID Camas Ranch 34.82 328 IAmb IAmb 02 04 11.9
comp=Z,33nm,1.7s
EMMW East Machias 35.10 30 IAmb IAmb 02 04 11.3
comp=Z,65nm,1.5s
E62A Clayton Lake 35.65 26 IAmb IAmb 02 04 15.9
comp=Z,67nm,1.9s
WVOR Wild Horse Val 35.68 324 IAmb IAmb 02 04 21.5
comp=Z,29nm,1.8s
PLID Pearl Lake 36.10 329 IAmb IAmb 02 04 20.3
comp=Z,63nm,2.0s

D62A Allapoint, All 36.21 26 IAmb IAmb 02 04 20.7
comp=Z,50nm,1.5s
MSO Missoula 36.45 333 IAmb IAmb 02 04 22.9
comp=Z,30nm,1.7s
YBH Yreka Blue Hor 37.68 320 LR LR 02 23 26.6
comp=Z,13nm,19.5s,baz=136,slow=42
L04D Klamath Falls 37.71 321 IAmb IAmb 02 04 36.2
comp=Z,26nm,1.4s
NEW Newport 38.95 332 LR LR 02 23 40.0
comp=Z,84nm,20.1s,baz=134,slow=41
LPAZ La Paz 38.97 144 P P 02 04 41.0 -1.4
LPAZ La Paz 38.97 144 P P 02 04 43.1 +0.7
comp=Z,1.6nm,0.7s,baz=344,slow=8.9,SNR=6.0
LPAZ LR LR 02 21 36.3
comp=Z,221nm,20.2s,baz=314,slow=37
comp=Z,1.6nm,0.7s
LPAZ La Paz 38.97 144 eP P 02 04 43.1 +0.7
MDP Montagnes des 39.08 101 LR LR 02 23 18.9
comp=Z,194nm,18.1s,baz=285,slow=40
HOOD Mount Hood Mea 39.20 325 IAmb IAmb 02 04 57.5
comp=Z,66nm,1.4s
MXC Moxie City 39.29 328 IAmb IAmb 02 04 48.4
comp=Z,42nm,1.8s
PB16 IPOC Station P 39.88 147 P P 02 04 49.7 -0.3
ITTB Itaituba 40.18 117 eP P 02 04 50.4 -1.6
LON Longmire 40.19 327 P P 02 04 52.9 +1.2
VILB Vilhena 41.68 131 P P 02 05 03.1 -1.2
VILB Vilhena 41.68 131 eP P 02 05 04.0 -0.3
NPGB Novo Progresso 41.90 120 eP P 02 05 03.9 -2.3
SIV San Ignacio 43.16 135 LR LR 02 23 15.8
comp=Z,191nm,19.4s,baz=303,slow=36
SCHQ Schefferville 43.30 20 P P 02 05 16.2 -0.8
comp=Z,8.2nm,0.9s,baz=201,slow=8.3,SNR=5.8
SCHQ LR LR 02 23 59.6
comp=Z,1µm,20.0s,baz=210,slow=37
comp=Z,8.2nm,0.9s
PDRB Porto dos Gac 43.42 127 eP P 02 05 16.6 -1.9
CLDB Colider 43.71 125 eP P 02 05 18.4 -2.4
PTLB Pontes e Lacer 44.12 133 P P 02 05 23.1 -1.0
PTLB Pontes e Lacer 44.12 133 eP P 02 05 22.9 -1.1
KUQ Kuujjuaa 45.58 17 P P 02 05 35.4 +0.3
BBB Bella Bella 46.80 329 LR LR 02 27 42.1
comp=Z,78nm,18.5s,baz=165,slow=39
BDQN Bodoquena, MS 49.20 136 eP P 02 06 02.9 -0.9
MURT Porto Murtinho 49.48 138 eP P 02 06 05.2 -0.8
YKAW1 Yellowknife Wh 49.59 346 IAmb IAmb 02 06 09.8
comp=Z,48nm,1.6s
YKA Yellowknife Ar 49.63 346 P P 02 06 07.3 +0.8
YKA Yellowknife Ar 49.63 346 P P 02 06 05.5 -0.9
comp=Z,2.0nm,0.7s,baz=148,slow=7.2,SNR=11
YKA LR LR 02 31 45.8
comp=Z,84nm,20.3s,baz=188,slow=42
comp=Z,2.0nm,0.7s
YKAW3 Yellowknife Wh 49.69 346 P P 02 06 07.8 +0.9
YKAW3 IAmb IAmb 02 06 13.6
comp=Z,25nm,1.3s
ARAG Araguaiana, MT 49.69 127 eP P 02 06 03.6 -4.0
AQDB Aquidauana 49.93 135 P P 02 06 08.6 -0.8
AQDB IAmb IAmb 02 06 09.8
comp=Z,19nm,1.2s
AQDB Aquidauana 49.93 135 eP P 02 06 09.0 -0.4
TOAD Toad River Com 49.95 338 P P 02 06 09.6 +0.5
baz=135
U35K Hyder 49.96 332 P P 02 06 10.4 +1.3
baz=128
V35K Ketchikan 50.34 331 P P 02 06 13.0 +1.0
baz=126
KOTAN Kotaneelee Air 50.45 339 P P 02 06 14.2 +1.4
baz=137
FRB Frobisher Bay 50.46 13 LR LR 02 28 46.1
comp=Z,855nm,19.4s,baz=194,slow=37
LIRD Lac River Hi 50.66 338 P P 02 06 15.3 +0.9
baz=134
T35M Bob Quinn 50.72 333 P P 02 06 15.5 +0.6
baz=128
CRAG Craig 51.12 331 P P 02 06 18.9 +1.0
baz=124
WRAK Wrangell Islan 51.31 332 P P 02 06 20.0 +0.7
baz=125
RPRD Ribas do Rio P 51.31 133 eP P 02 06 18.9 -1.0
U33K Whale Pass 51.49 331 P P 02 06 22.0 +1.4
baz=124
DLBC Dease Lake 51.53 335 P P 02 06 21.2 +0.1
comp=Z,0.4nm,0.8s,baz=125,slow=7.3,SNR=14
DLBC LR LR 02 30 11.2
comp=Z,18nm,21.4s,baz=112,slow=38
comp=Z,0.4nm,0.8s
DLBC Dease Lake 51.53 335 P P 02 06 22.2 +1.1
baz=129,SNR=12
ZON Zonda 51.62 156 P P 02 06 23.6 +1.6
S34M Telegraph Cree 51.66 334 P P 02 06 23.7 +1.7
baz=128
WTLY Watson Lake, Y 52.14 337 P P 02 06 26.9 +1.4
baz=132
R33M Jennings River 52.52 336 P P 02 06 29.6 +1.1
baz=129,SNR=6.8
BDFB Brasilia 52.63 124 P P 02 06 29.3 -0.5
comp=Z,1.7nm,0.8s,baz=292,slow=5.4,SNR=3.3
BDFB LR LR 02 30 15.4
comp=Z,153nm,18.1s,baz=311,slow=38
comp=Z,1.7nm,0.8s
Q32M Nakina River 52.78 335 P P 02 06 31.7 +1.2
baz=127,SNR=10
TGTN Hyland Airport 52.91 339 P P 02 06 32.5 +1.3
baz=133
S32K Killisnoo 52.91 332 P P 02 06 32.7 +1.5
baz=124
SIT Sitka 53.02 331 P P 02 06 33.3 +1.2
baz=123
CPUP Villa Florida 53.06 142 P P 02 06 31.9 -0.8
comp=Z,1.0nm,1.0s,baz=177,slow=4.7,SNR=6.1
CPUP LR LR 02 30 40.6
comp=Z,43nm,19.8s,baz=178,slow=38
comp=Z,1.0nm,1.0s
R32K Eaglecrest 53.33 333 P P 02 06 35.1 +0.8
baz=124
P32M Atlin 53.75 335 P P 02 06 38.5 +1.1
baz=126
P33M Teslin, Yukon 53.76 336 IAmb IAmb 02 06 40.1
comp=Z,34nm,1.9s
P33M Teslin, Yukon 53.76 336 P P 02 06 38.4 +0.8
baz=127,SNR=7.2
PCMB Pacaembu 53.77 133 eP P 02 06 37.5 -0.6
IPMB Ipameri, GO 53.81 127 eP P 02 06 36.7 -1.8
S31K Pelican 53.92 332 P P 02 06 39.5 +0.9
baz=122
SKAG Skagway 54.35 334 P P 02 06 43.0 +1.3
baz=124
N32M Quiet Lake 54.43 336 IAmb IAmb 02 06 52.5
comp=Z,15nm,1.1s
N32M Quiet Lake 54.43 336 P P 02 06 43.9 +1.4
baz=128
MMPY Sheldon Lake, 54.69 339 IAmb IAmb 02 06 48.1
comp=Z,54nm,1.8s
MMPY Sheldon Lake, 54.69 339 P P 02 06 45.4 +1.1
baz=130,SNR=9.8
IVI Ivigtut 54.74 24 iP P 02 06 45.9 +1.4
IVI IAmb IAmb 02 06 45.9
comp=Z,51nm,1.5s
PLBC Pleasant Camp 54.79 334 P P 02 06 46.4 +1.5
baz=123
WHY Whitehorse 54.85 335 P P 02 06 46.7 +1.2
baz=125
FARO Faro, Yukon 55.19 337 P P 02 06 49.0 +1.1
baz=128
NUUK Nuuk 55.37 20 iP P 02 06 47.4 -1.7
NUUK IAmb IAmb 02 06 50.9
comp=Z,115nm,1.4s
O30N Mendenhall 55.40 335 P P 02 06 50.4 +0.9
baz=124,SNR=6.5
P30M Million Dollar 55.40 334 P P 02 06 50.8 +1.4
baz=123
BB19B Bebedouro 55.41 130 eP P 02 06 48.9 -1.1
P29M Windy Craggy 55.47 333 P P 02 06 51.0 +1.0
baz=122
M31M Drury Creek, Y 55.57 337 IAmb IAmb 02 07 03.4
comp=Z,17nm,1.6s
M31M Drury Creek, Y 55.57 337 P P 02 06 51.9 +1.4
baz=127
N31M Braeburn, Yuko 55.68 336 P P 02 06 53.0 +1.6
baz=125,SNR=6.9
HYT Haines Junctio 56.01 335 IAmb IAmb 02 06 56.8
comp=Z,32nm,2.0s
HYT Haines Junctio 56.01 335 P P 02 06 55.3 +1.4
baz=123
O29M Mount Kennedy 56.18 334 P P 02 06 56.4 +1.3
baz=121

N30M Aishikik Lake 56.19 335 P P 02 06 56.8 +1.7
baz=123,SNR=5.8
PNL Peninsula 56.22 333 P P 02 06 55.8 +0.6
baz=120
YUK6 Outpost Mounta 56.43 334 P P 02 06 57.6 +0.6
baz=122
M30M Minto, Yukon 56.70 337 P P 02 06 59.5 +0.9
baz=124,SNR=6.5
PINM Pinnacle 56.80 333 P P 02 06 60.0 +0.5
baz=119
MAYO Mayo, Yukon 56.95 338 P P 02 07 01.8 +1.4
baz=126
M29M Somme Creek 57.27 336 IAmb IAmb 02 07 06.4
comp=Z,9.1nm,0.7s
M29M Somme Creek 57.27 336 P P 02 07 03.4 +0.6
baz=122,SNR=15
L29M L29M 57.50 337 P P 02 07 05.1 +0.7
baz=123,SNR=6.0
MESA MESA 57.59 333 P P 02 07 06.1 +0.9
baz=118
SFJD Kangerlussuaq 57.62 18 LR LR 02 32 09.0
comp=Z,724nm,21.3s,baz=229,slow=36
J30M Hart River 57.68 339 IAmb IAmb 02 07 08.9
comp=Z,34nm,1.9s
J30M Hart River 57.68 339 P P 02 07 05.7 0.0
baz=126,SNR=5.8
K29M Barlow Dome 57.68 338 IAmb IAmb 02 07 17.9
comp=Z,18nm,1.8s
K29M Barlow Dome 57.68 338 P P 02 07 06.1 +0.4
baz=124
CTG Chitna Glacier 57.70 334 P P 02 07 06.4 +0.5
baz=119
YUK3 Moose Creek 57.73 335 P P 02 07 06.6 +0.5
baz=120
H31M Peel River 57.76 340 P P 02 07 06.8 +0.7
baz=129
SPB Sao Paulo 57.76 132 eP P 02 07 06.2 -0.4
I30M Mount Dempster 58.08 339 P P 02 07 09.5 +1.0
baz=126,SNR=8.9
BVCY Beaver Creek 58.21 335 P P 02 07 09.8 +0.5
baz=120
J29N Klondike Camp 58.28 338 P P 02 07 10.6 +0.8
baz=124
CRQE Cirque 58.36 333 P P 02 07 11.2 +0.8
baz=117
G31M Satah River 58.44 342 IAmb IAmb 02 07 16.7
comp=Z,12nm,0.8s
DAWY Dawson 58.50 337 P P 02 07 12.3 +1.0
baz=122
KAIM Kayak Island 58.59 332 P P 02 07 12.8 +0.9
baz=115
M27K Edge Creek, AK 58.59 335 P P 02 07 12.9 +0.8
baz=119
F31M Tsiigehtchic 58.61 342 P P 02 07 12.2 +0.3
baz=130
MCARA McCarthy VSAT 58.62 334 P P 02 07 12.7 +0.6
baz=117
I29M Ogilvie Camp, 58.82 339 IAmb IAmb 02 07 16.0
comp=Z,24nm,1.9s
I29M Ogilvie Camp, 58.82 339 P P 02 07 13.5 0.0
baz=124
EPYK Eagle Plains 58.87 340 P P 02 07 14.4 +0.6
baz=126
BCAR Beaver Creek A 58.90 336 P P 02 07 14.8 +0.6
L27K Beaver Creek, 58.92 336 P P 02 07 14.6 +0.3
baz=119,SNR=8.6
RES Resolute Bay 59.04 359 LR LR 02 35 37.2
comp=Z,549nm,18.3s,baz=127,slow=39
M26K Nabesna, AK 59.07 335 P P 02 07 16.2 +0.9
baz=118
G30M tAoh Zraii Nji 59.08 341 P P 02 07 15.9 +0.6
baz=127
INK Inuvik 59.11 343 IAmb IAmb 02 07 17.2
comp=Z,14nm,1.0s
INK Inuvik 59.11 343 LR LR 02 37 52.8
comp=Z,100nm,18.6s,baz=96,slow=41
INK Inuvik 59.11 343 P P 02 07 15.8 +0.4
baz=131,SNR=9.3
BMRM Bremner River 59.12 333 P P 02 07 15.6 -0.1
baz=115
PLCA Paso Flores 59.26 162 P P 02 07 17.0 +0.2
comp=Z,3.1nm,1.0s,baz=358,slow=7.5,SNR=3.2
PLCA LR LR 02 27 30.1
comp=Z,128nm,20.9s,baz=338,slow=30
comp=Z,3.1nm,1.0s
Q23K Middleton Isla 59.28 331 P P 02 07 16.7 0.0
baz=113
H29M Whitestone 59.33 340 P P 02 07 17.6 +0.6
baz=125
F30M Barrier River 59.33 342 IAmb IAmb 02 07 23.2
comp=Z,22nm,1.1s
F30M Barrier River 59.33 342 P P 02 07 17.7 +0.7
baz=128
N25K Chitina, Valde 59.39 333 P P 02 07 18.9 +1.3
baz=116
I28M Miner Creek 59.44 339 P P 02 07 18.7 +0.8
baz=122
EYAK Cordova Ski Ar 59.45 332 P P 02 07 18.8 +0.9
baz=114
K27K Chicken 59.49 337 P P 02 07 19.0 +0.9
baz=120
L26K Log Cabin Wild 59.51 335 P P 02 07 19.5 +1.1
baz=118
G29M Pine Creek 59.61 340 IAmb IAmb 02 07 28.3
comp=Z,9.0nm,1.1s
G29M Pine Creek 59.61 340 P P 02 07 19.8 +0.8
baz=125
A36M Sachs Harbour 59.80 348 P P 02 07 21.6 +1.5
baz=141
KLU Klutina 59.92 333 P P 02 07 22.5 +1.3
baz=114
HARP HAARP 59.97 334 P P 02 07 22.1 +0.6
baz=116
P23K Montague Islan 59.99 331 P P 02 07 22.4 +0.8
baz=112
DOT Dot Lake 60.08 336 IAmb IAmb 02 07 35.7
comp=Z,15nm,1.3s
I27K Kandik River 60.12 338 P P 02 07 23.0 +0.5
baz=121
NUUG Nuugaatsiaq 60.18 13 iP P 02 07 21.6 -1.2
NUUG IAmb IAmb 02 07 37.3
comp=Z,138nm,2.1s
GLI Glacier Island 60.19 332 P P 02 07 23.9 +0.9
baz=113
SCRK Sand Creek 60.21 336 IAmb IAmb 02 07 25.7
comp=Z,26nm,1.8s
SCRK Sand Creek 60.21 336 P P 02 07 24.0 +0.8
baz=118,SNR=6.1
M24K Tolsona, Glenn 60.28 334 IAmb IAmb 02 07 38.2
comp=Z,20nm,1.1s
M24K Tolsona, Glenn 60.28 334 P P 02 07 24.7 +1.1
baz=114
J26L Joseph Creek 60.29 337 IAmb IAmb 02 07 27.4
comp=Z,29nm,1.8s
J26L Joseph Creek 60.29 337 P P 02 07 24.3 +0.5
baz=118
PAX Paxson 60.35 335 IAmb IAmb 02 07 27.1
comp=Z,6.6nm,0.8s
PAX Paxson 60.35 335 P P 02 07 24.5 +0.4
baz=116,SNR=9.9
H27K Steamboat Moun 60.41 339 IAmb IAmb 02 07 27.8
comp=Z,40nm,1.9s
H27K Steamboat Moun 60.41 339 P P 02 07 25.2 +0.7
baz=121,SNR=5.9
E29M Blow River 60.44 342 P P 02 07 25.7 +1.1
baz=126,SNR=11
RIDG Independent Ri 60.44 336 IAmb IAmb 02 07 37.5
comp=Z,22nm,1.4s
RIDG Independent Ri 60.44 336 P P 02 07 25.6 +0.9
baz=117,SNR=5.2
I26K Coal Creek Min 60.52 338 IAmb IAmb 02 07 28.2
comp=Z,31nm,1.9s
I26K Coal Creek Min 60.52 338 P P 02 07 25.3 +0.1
baz=119
F28M Old Crow 60.60 341 IAmb IAmb 02 07 32.3
comp=Z,17nm,0.8s
F28M Old Crow 60.60 341 P P 02 07 26.8 +1.1
baz=124,SNR=20
SCM Sheep Creek Mo 60.67 333 P P 02 07 26.8 +0.5
baz=113
RIB01 Linhares ES 60.71 123 eP P 02 07 25.0 -2.2
PWL Port Wells 60.74 332 P P 02 07 27.2 +0.4
baz=112
G27K Doyon Strip 60.76 339 IAmb IAmb 02 07 39.1
comp=Z,16nm,1.7s
G27K Doyon Strip 60.76 339 P P 02 07 27.6 +0.8
baz=121
M23K Glacier View 60.83 333 P P 02 07 27.9 +0.5

baz=113
K24K **Donnelly Dome** 60.84 335 IAmb IAmb 02 07 30.6
comp=Z,9,2nm,0.8s
K24K **Donnelly Dome** 60.84 335 P **P** **02 07 28.0 +0.6**
baz=116
KNK **Knik Glacier** 61.01 332 P **P** **02 07 28.8 +0.2**
baz=112
J25K **Salcha River,** 61.03 336 IAmb IAmb 02 07 41.5
comp=Z,11nm,1.1s
J25K **Salcha River,** 61.03 336 P **P** **02 07 29.0 +0.2**
baz=116,SNR=7.0
E28M **Babbage River** 61.05 342 IAmb IAmb 02 07 31.7
comp=Z,15nm,1.1s
E28M **Babbage River** 61.05 342 P **P** **02 07 28.9 +0.1**
baz=124,SNR=11
WAT6 **Susitna Watana** 61.14 334 P **P** **02 07 29.8 +0.1**
baz=113,SNR=5.8
DHY **Denali Highway** 61.18 334 P **P** **02 07 30.2 +0.3**
baz=114
D28M **Stokes Point** 61.24 343 P **P** **02 07 31.1 +1.1**
baz=126
GHO **Glory Hole Cre** 61.35 333 IAmb IAmb 02 07 34.0
comp=Z,10nm,0.8s
PMR **Palmer** 61.37 332 P **P** **02 07 31.8 +0.8**
baz=111
E27K **Coleen River** 61.46 341 IAmb IAmb 02 07 35.0
comp=Z,25nm,1.3s
E27K **Coleen River** 61.46 341 P **P** **02 07 31.9 +0.3**
baz=122,SNR=13
RC01 **Rabbit Creek A** 61.47 332 P **P** **02 07 32.5 +0.9**
baz=110
PRP **Porcupine Dome** 61.50 337 P **P** **02 07 32.4 +0.4**
PRP IAmb IAmb 02 07 45.0
comp=Z,12nm,1.3s
PRP **Porcupine Dome** 61.50 337 P **P** **02 07 32.0 0.0**
baz=117,SNR=6.0
G26K **Porcupine Rive** 61.55 339 IAmb IAmb 02 07 34.3
comp=Z,26nm,1.9s
G26K **Porcupine Rive** 61.55 339 P **P** **02 07 33.1 +0.9**
baz=119
HDA **Harding Lake** 61.56 336 P **P** **02 07 32.6 +0.3**
HDA IAmb IAmb 02 07 45.1
comp=Z,28nm,1.7s
HDA **Harding Lake** 61.56 336 P **P** **02 07 32.3 0.0**
baz=115
WAT1 **Susitna Watana** 61.58 334 P **P** **02 07 33.0 +0.5**
baz=112
IL31 61.69 336 IAmb IAmb 02 07 36.0
comp=Z,42nm,1.9s
ILAR **Eielson Array** 61.69 336 P **P** **02 07 32.9 -0.2**
ILAR **Eielson Array** 61.69 336 P **P** **02 07 32.2 -1.0**
comp=Z,1.9nm,0.9s,baz=114,slow=5.7,SNR=20
ILAR LR LR 02 39 16.2
comp=Z,73nm,18.1s,baz=114,slow=41
comp=Z,1.9nm,0.9s
KDAK **Kodiak Island** 61.81 328 P **P** **02 07 34.7 +0.7**
baz=106
D27M **Malcolm River** 61.84 342 P **P** **02 07 34.8 +0.6**
baz=123
M22K **Willow** 61.87 332 P **P** **02 07 35.0 +0.7**
baz=110
HOM **Homer** 61.89 330 P **P** **02 07 34.9 +0.4**
baz=108
RND **Reindeer** 61.93 334 P **P** **02 07 35.7 +0.9**
RND IAmb IAmb 02 08 00.3
comp=Z,23nm,1.3s
H25L **Birch Creek** 61.95 338 P **P** **02 07 35.1 +0.3**
baz=117
Q20K **Shuyak Island** 61.95 329 P **P** **02 07 35.2 +0.2**
baz=107
CCB **Clear Creek Bu** 62.00 336 IAmb IAmb 02 07 49.0
comp=Z,19nm,1.9s
CAPN **Captain Cook N** 62.01 331 P **P** **02 07 35.8 +0.6**
baz=109
F26K **Sheenjek River** 62.04 340 IAmb IAmb 02 07 39.1
comp=Z,30nm,1.8s
F26K **Sheenjek River** 62.04 340 P **P** **02 07 36.0 +0.5**
baz=119,SNR=6.4
POKR **Poker Plat Res** 62.05 336 P **P** **02 07 35.8 +0.3**
baz=115
BMAR **Burnt Mountain** 62.06 339 P **P** **02 07 36.3 +0.7**
MCK **McKinley** 62.09 335 P **P** **02 07 36.5 +0.7**
baz=112
COLA **College** 62.11 336 P **P** **02 07 36.6 +0.7**
baz=114
CUT **Chulitna** 62.16 333 P **P** **02 07 36.9 +0.6**
baz=111
G25K **Bearman Lake** 62.27 338 P **P** **02 07 37.7 +0.7**
baz=117
SII **Sitkinak Islan** 62.34 326 P **P** **02 07 38.0 +0.4**
baz=104
NEA2 **Nenana** 62.48 336 IAmb IAmb 02 07 43.0
comp=Z,22nm,1.9s
NEA2 **Nenana** 62.48 336 P **P** **02 07 38.9 +0.5**
baz=113
O20K **Slope Mountain** 62.49 330 P **P** **02 07 39.0 +0.4**
baz=107
F25K **Christian Rive** 62.50 339 IAmb IAmb 02 07 42.5
comp=Z,32nm,1.6s
F25K **Christian Rive** 62.50 339 P **P** **02 07 39.6 +1.0**
baz=118,SNR=11
H24K **Noodor Dome** 62.52 337 IAmb IAmb 02 07 51.9
comp=Z,14nm,1.2s
H24K **Noodor Dome** 62.52 337 P **P** **02 07 39.3 +0.5**
baz=115,SNR=10
TRF **Thorofare Moun** 62.55 334 IAmb IAmb 02 07 42.1
comp=Z,14nm,1.0s
TRF **Thorofare Moun** 62.55 334 P **P** **02 07 39.3 +0.2**
baz=111,SNR=10
SKT **Skwentna** 62.58 332 IAmb IAmb 02 07 52.2
comp=Z,14nm,1.4s
SKT **Skwentna** 62.58 332 P **P** **02 07 39.3 +0.1**
baz=109,SNR=5.6
SPCR **Spurr Chakacha** 62.63 331 P **P** **02 07 39.9 +0.3**
baz=108
P19K **Oil Pt** 62.66 330 P **P** **02 07 40.2 +0.4**
baz=106
RED **Redoubt Volcan** 62.66 331 IAmb IAmb 02 07 42.6
comp=Z,13nm,1.0s
Q19K **Cape Douglas,** 62.66 329 P **P** **02 07 39.6 -0.2**
baz=106
R18K **Karluk** 62.73 327 P **P** **02 07 40.0 -0.1**
baz=104
G24K **Hadweenzic Riv** 62.74 338 IAmb IAmb 02 07 43.8
comp=Z,44nm,1.9s
G24K **Hadweenzic Riv** 62.74 338 P **P** **02 07 41.1 +1.0**
baz=115
I23K **Minto, Yukon-K** 62.81 336 P **P** **02 07 41.0 +0.4**
baz=113,SNR=11
KTH **Kantishna Hill** 62.85 334 IAmb IAmb 02 07 43.8
comp=Z,16nm,1.3s
C27K **Jago River** 62.87 342 P **P** **02 07 41.4 +0.5**
baz=121
CHIR **Chirikof Islan** 62.95 325 P **P** **02 07 42.0 +0.3**
baz=102
BPAW **Bear Paw Mtn.** 63.07 335 IAmb IAmb 02 07 45.1
comp=Z,38nm,1.8s
BPAW **Bear Paw Mtn.** 63.07 335 P **P** **02 07 42.7 +0.3**
baz=111,SNR=9.5
H23K **Yukon River** 63.14 337 IAmb IAmb 02 07 56.8
comp=Z,11nm,1.3s
H23K **Yukon River** 63.14 337 P **P** **02 07 43.2 +0.3**
baz=113
PPLA **Purkeypile** 63.17 333 P **P** **02 07 43.9 +0.7**
baz=109
F24K **Squaw Lake** 63.23 339 IAmb IAmb 02 07 47.4
comp=Z,30nm,1.8s
F24K **Squaw Lake** 63.23 339 P **P** **02 07 44.3 +0.8**
baz=115
M20K **Styx River** 63.27 332 IAmb IAmb 02 07 46.0
comp=Z,40nm,1.9s
M20K **Styx River** 63.27 332 P **P** **02 07 44.3 +0.5**
baz=108,SNR=8.0
Q18K **Katmai Hardscr** 63.28 328 P **P** **02 07 44.4 +0.4**
baz=104
MLY **Manley** 63.30 336 IAmb IAmb 02 07 46.9
comp=Z,7.5nm,0.8s
MLY **Manley** 63.30 336 P **P** **02 07 44.6 +0.7**
baz=111,SNR=12
O19K **Port Alsworth** 63.34 330 P **P** **02 07 44.1 -0.1**
baz=106
C26K **Camden Bay** 63.38 342 P **P** **02 07 45.3 +1.0**
baz=120
D25K **Kavik River** 63.54 341 P **P** **02 07 46.1 +0.6**
baz=118
CHUM **Lake Minchumin** 63.54 334 P **P** **02 07 46.2 +0.7**
baz=109
P18K **Big Mountain,** 63.57 329 P **P** **02 07 46.6 +0.7**
baz=104
N19K **Bonanza Creek** 63.58 331 IAmb IAmb 02 07 58.1
comp=Z,13nm,1.1s
N19K **Bonanza Creek** 63.58 331 P **P** **02 07 46.9 +0.9**
baz=106
Q17K **Contact Creek** 63.63 328 P **P** **02 07 47.4 +1.1**
baz=103
G23K **Bananza Creek** 63.66 338 IAmb IAmb 02 07 59.8
comp=Z,17nm,1.4s
G23K **Bananza Creek** 63.66 338 P **P** **02 07 47.0 +0.7**
baz=113,SNR=5.4
E24K **Your Creek** 63.68 339 IAmb IAmb 02 08 28.1
comp=Z,9.5nm,1.1s
E24K **Your Creek** 63.68 339 P **P** **02 07 47.8 +1.4**
baz=115
O18K **Koktuh Hills** 63.68 330 P **P** **02 07 47.7 +1.2**
baz=105
R17L **Mt. Peulik Vol** 63.74 327 P **P** **02 07 48.2 +1.3**
baz=102
L20K **Farewell, AK** 63.78 333 P **P** **02 07 47.5 +0.4**
baz=107,SNR=9.2
M19K **Big River Lodg** 63.84 332 P **P** **02 07 48.3 +0.8**
baz=106
I21K **Tanana** 63.85 336 IAmb IAmb 02 07 50.3
comp=Z,38nm,1.8s
I21K **Tanana** 63.85 336 P **P** **02 07 48.5 +1.0**
baz=110
H22K **Ishtalitna Cre** 63.87 337 P **P** **02 07 48.6 +1.0**
baz=111
COLD **Coldfoot** 63.93 338 P **P** **02 07 49.3 +1.3**
baz=113
E23K **Chandalar** 64.06 339 P **P** **02 07 50.1 +1.2**
baz=114,SNR=13
K20K **Telida** 64.12 333 IAmb IAmb 02 08 02.0
comp=Z,20nm,1.3s
K20K **Telida** 64.12 333 P **P** **02 07 49.5 +0.2**
baz=107,SNR=8.3
Q16K **King Salmon** 64.12 328 P **P** **02 07 50.3 +0.9**
baz=103
L19K **White Mountain** 64.13 332 IAmb IAmb 02 07 50.3
comp=Z,11nm,1.4s
L19K **White Mountain** 64.13 332 P **P** **02 07 49.8 +0.3**
baz=106
P17K **Kvichak River** 64.13 329 P **P** **02 07 49.9 +0.5**
baz=103
N18K **Kilae Creek** 64.21 330 P **P** **02 07 50.4 +0.4**
baz=104
D24K **Happy Valley** 64.25 340 P **P** **02 07 50.3 +0.2**
baz=115
TOLK **Toolik Lake Re** 64.28 340 IAmb IAmb 02 07 56.7
comp=Z,20nm,1.4s
TOLK **Toolik Lake Re** 64.28 340 P **P** **02 07 51.0 +0.7**
baz=114
G22K **Betties** 64.29 338 P **P** **02 07 51.3 +1.0**
baz=112
H21K **Melozitna Rive** 64.33 336 IAmb IAmb 02 07 53.1
comp=Z,18nm,1.6s
H21K **Melozitna Rive** 64.33 336 P **P** **02 07 50.7 0.0**
baz=110,SNR=7.7
SUMG **Summit** 64.35 15 P **P** **02 07 51.4 +0.2**
SUMG **Summit** 64.35 15 *i* P **P** **02 07 51.5 +0.3**
SUMG IAmb IAmb 02 07 53.6
comp=Z,138nm,2.5s
R16K **Pilot Point** 64.37 327 P **P** **02 07 51.9 +0.9**
baz=101
M18K **Stony River** 64.39 331 P **P** **02 07 51.4 +0.3**
baz=105,SNR=5.2
J20K **Nowinta River** 64.40 334 IAmb IAmb 02 07 53.8
comp=Z,39nm,1.9s
J20K **Nowinta River** 64.40 334 P **P** **02 07 51.1 0.0**
baz=108,SNR=6.1
C24K **Franklin Bluff** 64.45 341 P **P** **02 07 52.1 +0.7**
baz=116
CHGN **Chignik** 64.58 325 P **P** **02 07 52.7 +0.3**
baz=100
O17K **Koliganek Bris** 64.58 329 P **P** **02 07 53.2 +0.8**
baz=103
I20K **Naaghedeneel** 64.73 335 P **P** **02 07 54.3 +1.0**
baz=108
F22K **John River** 64.75 338 P **P** **02 07 54.8 +1.4**
baz=111
D23K **Nanushuk River** 64.78 340 P **P** **02 07 54.4 +0.9**
baz=113,SNR=6.8
N17K **Nushagak Hills** 64.80 330 P **P** **02 07 54.0 +0.2**
baz=103
E22K **Anaktuvuk Pass** 64.85 339 IAmb IAmb 02 07 57.5
comp=Z,20nm,1.2s
E22K **Anaktuvuk Pass** 64.85 339 P **P** **02 07 55.2 +1.1**
baz=112
P16K **Nushagak River** 64.88 328 P **P** **02 07 54.7 +0.4**
baz=102
G21K **Allakaket** 64.89 337 P **P** **02 07 55.1 +0.8**
baz=109,SNR=6.7
J19K **Poorman** 64.97 334 IAmb IAmb 02 07 57.2
comp=Z,19nm,1.4s
J19K **Poorman** 64.97 334 P **P** **02 07 54.6 -0.3**
baz=106,SNR=7.4
L18K **Granite Mounta** 64.97 332 IAmb IAmb 02 07 57.5
comp=Z,20nm,1.6s
L18K **Granite Mounta** 64.97 332 P **P** **02 07 55.6 +0.7**
baz=104
CHNA **Chernabura Isl** 65.01 324 P **P** **02 07 55.7 +0.4**
baz=98
O16K **Kokwok River B** 65.04 329 P **P** **02 07 55.9 +0.6**
baz=102
H20K **Anotleneega Mo** 65.10 336 P **P** **02 07 56.5 +0.8**
baz=108
C23K **Itkillik River** 65.11 341 P **P** **02 07 56.5 +0.9**
baz=114
M17K **Holitna River** 65.12 331 P **P** **02 07 56.6 +0.7**
baz=103
F21K **Alatna River** 65.12 338 P **P** **02 07 57.2 +1.4**
baz=110,SNR=24
S14K **Fog Glacier** 65.21 325 P **P** **02 07 57.1 +0.4**
baz=99
J18K **Innoko River** 65.30 333 IAmb IAmb 02 07 59.4
comp=Z,20nm,1.7s
J18K **Innoko River** 65.30 333 P **P** **02 07 57.7 +0.7**
baz=105
D22K **Ayikyak River** 65.42 339 P **P** **02 07 58.8 +1.0**
baz=111
N16K **Nishlik Lake** 65.55 330 P **P** **02 07 59.0 +0.3**
baz=102
SDPT **Sand Point** 65.59 324 P **P** **02 07 59.1 +0.1**
baz=98
L17K **Donlin** 65.68 332 P **P** **02 08 00.1 +0.6**
baz=103
GCSA **Galena City Sc** 65.70 335 P **P** **02 07 60.0 +0.5**
baz=105
E21K **Killik River** 65.71 339 P **P** **02 08 00.4 +0.8**
baz=110
H19K **Roundabout Mou** 65.74 335 IAmb IAmb 02 08 02.5
comp=Z,22nm,1.4s
H19K **Roundabout Mou** 65.74 335 P **P** **02 07 59.7 -0.1**
baz=106,SNR=13
M16K **Timber Creek** 65.76 330 P **P** **02 08 00.4 +0.4**
baz=102
K17K **Iditarod** 65.81 332 P **P** **02 08 00.5 +0.1**
baz=103
O15K **Ungalikthiuk R** 65.83 328 P **P** **02 08 01.1 +0.6**
baz=100
F20K **Avaraart Lake** 65.89 337 P **P** **02 08 01.4 +0.6**
baz=107,SNR=16
L16K **Owhat River** 66.14 331 P **P** **02 08 03.0 +0.6**
baz=102
N15K **Kwethluk River** 66.14 329 P **P** **02 08 03.1 +0.6**
baz=100
G19K **Purcell Mounta** 66.16 336 IAmb IAmb 02 08 05.6
comp=Z,38nm,1.7s
G19K **Purcell Mounta** 66.16 336 P **P** **02 08 03.2 +0.7**
baz=106,SNR=6.9
B22K **Teshekpuk Lake** 66.19 341 P **P** **02 08 03.3 +0.7**
baz=111
C21K **Knifeblade Rid** 66.22 339 P **P** **02 08 03.8 +0.9**
baz=109
J17K **VABM Dome** 66.31 333 P **P** **02 08 03.9 +0.4**
baz=103
B21K **Ikpikpuk River** 66.32 340 P **P** **02 08 04.4 +0.9**
baz=110
H18K **Honhosa River** 66.41 335 P **P** **02 08 04.8 +0.6**
baz=104
E20K **Nigu River** 66.43 338 P **P** **02 08 05.0 +0.7**
baz=108,SNR=8.8
S12K **Black Hills** 66.52 324 P **P** **02 08 04.9 -0.2**
baz=97
M15K **Kasigluk River** 66.53 330 P **P** **02 08 05.6 +0.7**
baz=100
PPT2 **Papeete2** 66.54 243 *e*LR LR 02 28 03.4
comp=Z,99nm,28.2s
PPT2 *e*LR LR 02 28 03.6
comp=Z,160nm,27.0s
E19K **Redstone River** 66.57 337 IAmb IAmb 02 08 07.5
comp=Z,22nm,1.8s
E19K **Redstone River** 66.57 337 P **P** **02 08 06.3 +1.1**
baz=106
O14K **Tigyukauivet M** 66.58 328 P **P** **02 08 06.0 +0.7**
baz=99
F19K **Shaleruckik Mo** 66.61 337 P **P** **02 08 06.7 +1.4**
baz=105,SNR=13
D20K **Etivluk River** 66.71 339 P **P** **02 08 06.8 +0.8**
baz=107,SNR=6.3
G18K **Tagagawik** 66.71 336 P **P** **02 08 06.9 +0.8**
baz=104,SNR=12
N14K **Kuskokwak Cree** 66.89 329 P **P** **02 08 07.6 +0.3**
baz=99
J16K **Anvik River** 66.96 333 P **P** **02 08 08.8 +1.1**
baz=101
H17K **Granite Mounta** 67.00 334 P **P** **02 08 08.9 +0.9**
baz=102,SNR=7.6
L15K **Ungalak Mounta** 67.07 331 P **P** **02 08 09.4 +1.0**
baz=100,SNR=8.2
I17K **Unalakleet** 67.12 333 P **P** **02 08 10.1 +1.4**
baz=101
M14K **Bethel** 67.15 330 IAmb IAmb 02 08 11.2
comp=Z,24nm,1.1s
M14K **Bethel** 67.15 330 P **P** **02 08 09.9 +1.0**
baz=99
D19K **Kuna River** 67.18 338 IAmb IAmb 02 08 15.6
comp=Z,19nm,1.3s
D19K **Kuna River** 67.18 338 P **P** **02 08 10.1 +1.1**
baz=106
K15K **Wolf Creek Mou** 67.20 331 P **P** **02 08 09.3 +0.1**
baz=100
F18K **Selawik** 67.27 336 P **P** **02 08 10.5 +0.9**
baz=104
B20K **Meade River** 67.28 340 P **P** **02 08 10.7 +1.1**
baz=107
G17K **Kiwalik Mounta** 67.43 335 P **P** **02 08 11.7 +1.1**
baz=102,SNR=9.3
A21K **Barrow** 67.51 341 P **P** **02 08 12.1 +1.1**
baz=108
L14K **Kuka Creek** 67.59 330 IAmb IAmb 02 08 14.7
comp=Z,11nm,1.2s
L14K **Kuka Creek** 67.59 330 P **P** **02 08 12.1 +0.5**
baz=98
M13K **Dall Lake** 67.78 329 P **P** **02 08 14.2 +1.3**
baz=98
E18K **Tukpahlearik C** 67.83 337 IAmb IAmb 02 08 16.0
comp=Z,41nm,1.9s
E18K **Tukpahlearik C** 67.83 337 P **P** **02 08 13.7 +0.7**
baz=103
F17K **Baldwin Pennin** 67.86 336 P **P** **02 08 14.3 +1.0**
baz=102
H16K **Elim** 67.92 334 P **P** **02 08 14.8 +1.1**
baz=100
G16K **Koyuk River** 68.11 335 IAmb IAmb 02 08 18.5
comp=Z,29nm,1.6s
G16K **Koyuk River** 68.11 335 P **P** **02 08 15.8 +1.0**
baz=100
PMOZ **Porto Moniz, M** 68.20 61 *e*LR LR 02 29 15.3
PMOZ *i* IAMs_20 IAMs_20 02 31 47.9
comp=Z,103nm,22.0s
J14K **Nanvaranak Lak** 68.20 332 IAmb IAmb 02 08 19.4
comp=Z,25nm,1.4s
J14K **Nanvaranak Lak** 68.20 332 P **P** **02 08 16.7 +1.3**
baz=98
E17K **Hotham Inlet** 68.22 337 P **P** **02 08 16.8 +1.2**
baz=102
C18K **Utukok River** 68.31 338 P **P** **02 08 17.0 +0.8**
baz=103
K13K **Kusilvak Mount** 68.60 331 P **P** **02 08 19.1 +1.1**
baz=97
A19K **Wainwright** 68.63 340 P **P** **02 08 19.1 +1.1**
baz=104
B18K **Kokolik River** 68.69 339 P **P** **02 08 19.5 +1.0**
baz=102
G15K **Niukluk** 68.74 334 P **P** **02 08 19.8 +0.9**
baz=99
D17K **Noatak River** 68.81 337 P **P** **02 08 20.0 +0.8**
baz=101
RDOG **Red Dog Mine** 68.81 337 P **P** **02 08 20.0 +0.7**
baz=101
UNV **Unalaska Valle** 68.95 322 P **P** **02 08 21.0 +0.7**
baz=92
C17K **DeLong Mountai** 68.99 338 P **P** **02 08 21.0 +0.6**
baz=101
TBI **Tubuai** 69.09 237 *e*LR LR 02 29 17.8
comp=Z,929nm,28.0s
F15K **North Star Dit** 69.10 335 P **P** **02 08 21.3 +0.2**
baz=98
M11K **Mekoryuk** 69.19 329 P **P** **02 08 22.6 +1.0**
baz=95
ANM **Nome** 69.25 334 P **P** **02 08 22.8 +0.8**
baz=97
C16K **Lisburne Hills** 69.75 338 P **P** **02 08 25.9 +0.9**
baz=99
F14K **Arctic Creek** 69.76 335 P **P** **02 08 25.9 +0.7**
baz=97
TNA **Tin City** 70.43 335 P **P** **02 08 29.8 +0.6**
baz=95
P08K **Saint George I** 70.76 325 P **P** **02 08 31.7 +0.3**
baz=91
DAG **Danmarks Havn** 70.80 13 *i* P **P** **02 08 28.9 -2.4**
DAG IAmb IAmb 02 08 31.9
comp=Z,18nm,1.3s
SPIA **Saint Paul Isl** 71.15 326 P **P** **02 08 34.2 +0.4**
baz=90
BBTS **Babate** 71.49 80 LR LR 02 36 11.2
comp=Z,81nm,20.5s,baz=161,slow=33
GAMB **Gambell** 71.95 333 P **P** **02 08 39.5 +1.0**
baz=91
JMIC **Jan Mayen** 72.83 20 LR LR 02 41 15.4
comp=Z,218nm,19.0s,baz=250,slow=36
PARRA **Arraiolos** 74.14 54 *e*P P 02 09 01.9 +10
PGAV **Gavieira, Arco** 74.33 50 *e*LR LR 02 32 40.0
PGAV *i* IAMs_20 IAMs_20 02 38 40.6
comp=Z,157nm,20.0s
EVO **Evora** 74.98 54 *e*P P 02 09 02.3 +5.4
MTE **Manteigas** 75.08 52 *e*P P 02 09 02.6 +5.1
MTE *e*LR LR 02 33 20.4
MTE *i* IAMs_20 IAMs_20 02 39 41.0
comp=Z,122nm,18.0s
PMRV **Marv??o** 75.33 53 *e*LR LR 02 32 53.5
PMRV *i* IAMs_20 IAMs_20 02 36 27.8
comp=Z,113nm,20.0s
EKA **Eskdalemuir Ar** 76.03 36 P **P** **02 09 01.5 -1.0**
comp=Z,4.2nm,0.8s,baz=267,slow=5.4,SNR=8.1
comp=Z,4.2nm,0.8s
RAR **Rarotonga** 76.79 243 LR LR 02 34 36.8
comp=Z,27nm,20.6s,baz=124,slow=29
KBS **Kingsbay** 77.17 11 *i* P P 02 09 00.0 -8.6
ESDC **Sonseca Array** 77.91 52 P **P** **02 09 12.2 -1.3**
ESDC **Sonseca Array** 77.91 52 P **P** **02 09 13.2 -0.4**
comp=Z,1.4nm,1.0s,baz=281,slow=5.8,SNR=8.3
ESDC LR LR 02 37 52.6
comp=Z,142nm,20.7s,baz=290,slow=31
comp=Z,1.4nm,1.0s
SPITS **Spitsbergen Ar** 78.24 12 P **P** **02 09 14.3 -0.3**
comp=Z,2.2nm,0.8s,baz=319,slow=8.6,SNR=9.8
SPITS LR LR 02 44 22.9
comp=Z,458nm,21.9s,baz=261,slow=36
comp=Z,2.2nm,0.8s
MDT **Midelt** 78.68 59 LR LR 02 40 20.2
comp=Z,55nm,18.9s,baz=288,slow=33
BILL **Bilibino** 80.27 338 P **P** **02 09 26.6 +0.8**
SHEM **Shemya Is, Ala** 80.61 322 LR LR 02 44 45.9
comp=Z,23nm,20.1s,baz=116,slow=35
BGES **Gesves** 81.88 40 *d*P **P** **02 09 35.2 +0.5**
comp=Z,4.9nm,1.4s
BCLA **Clavier** 82.00 40 *d*P **P** **02 09 35.8 +0.4**
comp=Z,3.6nm,1.4s
NB2 **NORSAR Subarra** 82.20 29 P **P** **02 09 37.1 +0.8**
comp=Z,110nm,5.0s,baz=290,slow=5.3
NB2 **NORSAR Subarra** 82.20 29 P **P** **02 09 37.1 +0.8**
baz=290,slow=5.3
NOA **NORSAR Array B** 82.20 29 P **P** **02 09 36.7 +0.5**
comp=Z,1.0nm,0.8s,baz=289,slow=5.2,SNR=4.3
NOA LR LR 02 43 52.8
comp=Z,136nm,21.9s,baz=275,slow=34
comp=Z,1.0nm,0.8s
MEM **Membach** 82.39 40 *d*P **P** **02 09 37.8 +0.4**
comp=Z,4.8nm,1.1s
BHOU **Houvegnez** 82.45 40 *d*P **P** **02 09 38.0 +0.2**
comp=Z,4.2nm,1.3s
WLF **Walferdange** 82.73 41 *d*P **P** **02 09 38.9 -0.3**
comp=Z,5.0nm,1.4s

WLF	**Walferdange**	**82.73**	**41**	*eP*		**P**	**02 09 38.6**	**-0.6**
	comp=Z,25nm,1.4s,baz=288,slow=5.0							
PMSA	**Palmer Station**	**82.81**	**169**	LR		LR	02 41 09.8	
	comp=Z,125nm,18.4s,baz=316,slow=32							
HFS	**Hagfors**	**83.66**	**29**	P		**P**	**02 09 44.3**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=270,slow=3.0,SNR=5.8							
HFS				LR		LR	02 44 35.4	
	comp=Z,112nm,21.7s,baz=284,slow=34							
	comp=Z,2.4nm,0.8s							
ECH	**Echery**	**83.77**	**42**	IAmb		IAmb	02 10 06.9	
	comp=Z,15nm,1.5s							
RETH	**Rethem/Aller,**	**83.79**	**37**	*eP*		**P**	**02 09 44.9**	**+0.3**
	comp=Z,40nm,1.5s,baz=288,slow=5.0							
BSEG	**Bad Segeberg**	**83.97**	**36**	*eP*		**P**	**02 09 45.7**	**+0.3**
	comp=Z,46nm,1.4s,baz=288,slow=5.0							
TNS	**Taunus Mts**	**84.00**	**40**	*eP*		**P**	**02 09 45.2**	**-0.6**
	comp=Z,21nm,1.4s,baz=288,slow=5.0							
ARCES	**ARCESS Array B**	**84.23**	**18**	P		**P**	**02 09 43.9**	**-2.7**
ARCES	**ARCESS Array B**	**84.23**	**18**	P		**P**	**02 09 46.4**	**-0.1**
	comp=Z,2.8nm,0.6s,baz=286,slow=4.3,SNR=32							
ARCES				LR		LR	02 46 20.5	
	comp=Z,215nm,21.5s,baz=291,slow=35							
	comp=Z,2.8nm,0.6s							
NRDL	**Niedersach Rie**	**84.30**	**37**	*eP*		**P**	**02 09 47.2**	**+0.2**
	comp=Z,27nm,1.3s,baz=288,slow=5.0							
SENIN	**Lac Senin/Sane**	**84.39**	**44**	P		**P**	**02 09 45.0**	**-3.1**
SENIN				IAmb		IAmb	02 10 07.0	
	comp=Z,23nm,1.5s							
GTTG	**Gottingen**	**84.51**	**38**	*eP*		**P**	**02 09 48.2**	**-0.1**
	comp=Z,27nm,1.4s,baz=288,slow=5.0							
DBIC	**Dimbokro**	**84.51**	**85**	P		**P**	**02 09 48.6**	**-0.4**
DBIC	**Dimbokro**	**84.51**	**85**	P		**P**	**02 09 49.1**	**+0.1**
	comp=Z,16nm,1.1s,baz=340,slow=2.6,SNR=5.1							
DBIC				LR		LR	02 47 15.9	
	comp=Z,53nm,18.6s,baz=334,slow=36							
	comp=Z,16nm,1.1s							
CLZ	**Clausthal**	**84.66**	**38**	*eP*		**P**	**02 09 49.2**	**+0.1**
	comp=Z,24nm,1.5s,baz=288,slow=5.0							
ASSE	**Asse, Remlinge**	**84.74**	**37**	*eP*		**P**	**02 09 49.5**	**+0.2**
	comp=Z,31nm,1.4s,baz=288,slow=5.0							
UBBA	**Unterbreizbach**	**84.76**	**39**	*eP*		**P**	**02 09 49.4**	**0.0**
	comp=Z,40nm,1.9s,baz=288,slow=5.0							
FLTG	**Flechtingen**	**85.00**	**37**	*eP*		**P**	**02 09 50.3**	**-0.4**
	comp=Z,28nm,1.4s,baz=288,slow=5.0							
SMAI	**San Martin Ant**	**85.36**	**171**	P		**P**	**02 09 52.6**	**+0.6**
TUE	**Stuetta**	**85.71**	**43**	P		**P**	**02 09 54.3**	**-0.4**
TUE				IAmb		IAmb	02 10 08.5	
	comp=Z,15nm,1.2s							
MOX	**Moxa**	**85.79**	**39**	*eP*		**P**	**02 09 54.5**	**-0.3**
	comp=Z,46nm,1.9s,baz=288,slow=5.0							
MOX				*eL*		L	02 46 58.8	
	comp=Z,99nm,20.2s							
DAVA	**Damuels**	**85.80**	**42**	*eP*		**P**	**02 09 55.0**	**-0.1**
	comp=Z,12nm,1.3s,SNR=7.8							
GRF	**Grafenberg Arr**	**85.86**	**40**	*eP*		**P**	**02 09 55.1**	**0.0**
	comp=Z,40nm,1.6s,baz=288,slow=5.0							
GRF				*eL*		L	02 45 16.1	
	comp=Z,125nm,21.7s							
GRFO	**Grafenberg**	**85.86**	**40**	P		**P**	**02 09 54.7**	**-0.4**
DAVOX	**Davos/Dischmat**	**85.96**	**43**	LR		LR	02 44 48.6	
	comp=Z,87nm,20.9s,baz=281,slow=33							
FUORN	**Ofenpass-Fuorn**	**86.26**	**43**	IAmb		IAmb	02 10 03.9	
	comp=Z,26nm,1.4s							
RETA	**Reutte**	**86.30**	**42**	*eP*		**P**	**02 09 57.4**	**0.0**
	comp=Z,13nm,1.3s,SNR=6.7							
MANZ	**Manzenberg**	**86.31**	**39**	*eP*		**P**	**02 09 57.1**	**-0.2**
	comp=Z,4.5nm,1.4s,baz=288,slow=5.0							
TANN	**Tannenbergstha**	**86.37**	**39**	*eP*		**P**	**02 09 57.6**	**-0.1**
	comp=Z,24nm,1.3s,baz=288,slow=5.0							
CLL	**Collm**	**86.38**	**38**	IAmb		IAmb	02 09 59.2	
	comp=Z,23nm,1.4s							
CLL	**Collm**	**86.38**	**38**	⇓ *iP*		**P**	**02 09 57.9**	**+0.3**
	comp=Z,25nm,1.4s							
CLL				*i* x		x	02 10 07.5	
CLL	**Collm**	**86.38**	**38**	*eP*		**P**	**02 09 57.3**	**-0.3**
	comp=Z,25nm,1.4s,baz=288,slow=5.0							
FETA	**Feichten**	**86.43**	**42**	*eP*		**P**	**02 09 58.5**	**+0.2**
	comp=Z,7.4nm,1.2s							
ROTZ	**Rotzenmuhle**	**86.44**	**39**	*eP*		**P**	**02 09 58.1**	**+0.1**
	comp=Z,8.0nm,1.7s,baz=288,slow=5.0							
MOTA	**Moosalm**	**86.57**	**42**	*eP*		**P**	**02 09 58.9**	**0.0**
	comp=Z,7.6nm,1.2s,SNR=5.5							
SQTA	**Sankt Quirin**	**86.68**	**42**	*eP*		**P**	**02 09 59.3**	**0.0**
	comp=Z,11nm,1.5s,SNR=6.7							
WATA	**Walderalm**	**86.87**	**42**	*eP*		**P**	**02 10 00.1**	**-0.2**
	comp=Z,5.0nm,1.4s							
WTTA	**Wattenberg**	**86.94**	**42**	*eP*		**P**	**02 10 00.5**	**-0.2**
	comp=Z,5.4nm,1.3s							
WET	**Wettzell**	**87.07**	**40**	*eP*		**P**	**02 10 01.2**	**+0.1**
	comp=Z,37nm,1.4s,baz=288,slow=5.0							
BRG	**Berggiesshubel**	**87.09**	**38**	*eP*		**P**	**02 10 01.1**	**-0.1**
	comp=Z,28nm,1.5s,baz=288,slow=5.0							
BRG	**Berggiesshubel**	**87.09**	**38**	*eP*		**P**	**02 10 02.0**	**+0.8**
BRG				Amp			02 10 04.5	
	comp=Z,28nm,1.5s							
CTI	**Castel Tesino**	**87.36**	**43**	P		**P**	**02 10 01.6**	**-1.1**
CTI				IAmb		IAmb	02 10 03.4	
	comp=Z,25nm,1.6s							
KHC	**Kasperske Hory**	**87.50**	**40**	*eP*		**P**	**02 10 03.5**	**+0.3**
KHC				*ex*		x	02 10 43.0	
RJOB	**Jochberg**	**87.51**	**41**	*eP*		**P**	**02 10 02.8**	**-0.5**
	comp=Z,13nm,1.3s,baz=288,slow=5.0							
LESA	**Schwarzleotal**	**87.55**	**41**	*eP*		**P**	**02 10 03.3**	**-0.2**
	comp=Z,7.9nm,1.4s							
TEOL	**Teolo**	**87.60**	**44**	IAmb		IAmb	02 10 14.2	
	comp=Z,16nm,1.1s							
SEY	**Seymchan**	**87.62**	**336**	LR		LR	02 54 00.4	
	comp=Z,65nm,20.0s,baz=42,slow=39							
ABTA	**Abfaltersbach**	**87.68**	**42**	*eP*		**P**	**02 10 04.1**	**-0.1**
	comp=Z,15nm,1.3s,SNR=7.4							
GEC2	**GERESS Array S**	**87.68**	**40**	IAmb		IAmb	02 10 05.7	
	comp=Z,23nm,1.6s							
GEC2	**GERESS Array S**	**87.68**	**40**	*eP*		**P**	**02 10 03.9**	**-0.3**
	comp=Z,25nm,1.6s,baz=288,slow=5.0							
GERES	**GERESS Array B**	**87.68**	**40**	P		**P**	**02 10 03.9**	**-0.3**
GERES	**GERESS Array B**	**87.68**	**40**	P		**P**	**02 10 02.1**	**-2.0**
	comp=Z,2.5nm,1.1s,baz=294,slow=4.2,SNR=17							
GERES				LR		LR	02 47 29.5	
	comp=Z,118nm,20.0s,baz=300,slow=34							
	comp=Z,2.5nm,1.1s							
STAL	**STALIGIAL**	**87.97**	**42**	P		**P**	**02 10 04.0**	**-1.5**
STAL				IAmb		IAmb	02 10 06.2	
	comp=Z,12nm,1.1s							
BIOA	**Bad Ischl, Aus**	**88.06**	**41**	*eP*		**P**	**02 10 05.9**	**0.0**
	comp=Z,3.6nm,0.9s							
KBA	**Koelnbreinsper**	**88.09**	**41**	*eP*		**P**	**02 10 06.1**	**-0.2**
	comp=Z,7.2nm,0.9s							
MOA	**Molln**	**88.39**	**41**	*eP*		**P**	**02 10 07.3**	**-0.1**
	comp=Z,3.6nm,1.3s							
MYKA	**Terra Mystica**	**88.44**	**42**	*eP*		**P**	**02 10 07.8**	**0.0**
	comp=Z,12nm,1.4s							
PRED	**Cave del Predi**	**88.46**	**42**	IAmb		IAmb	02 10 08.9	
	comp=Z,14nm,1.3s							
FINES	**FINESS Array B**	**88.56**	**25**	P		**P**	**02 10 05.7**	**-2.2**
FINES	**FINESS Array B**	**88.56**	**25**	P		**P**	**02 10 06.1**	**-1.8**
	comp=Z,4.1nm,1.0s,baz=260,slow=3.5,SNR=10							
FINES				LR		LR	02 50 01.1	
	comp=Z,109nm,19.8s,baz=300,slow=36							
	comp=Z,4.1nm,1.0s							
TIXI	**Tiksi**	**88.81**	**348**	LR		LR	02 56 10.8	
	comp=Z,158nm,19.0s,baz=12,slow=40							
KEST	**Kesra**	**89.10**	**53**	P		**P**	**02 10 12.2**	**+1.1**
	comp=Z,4.4nm,0.9s,baz=304,slow=4.2,SNR=6.1							
	comp=Z,4.4nm,0.9s							
KRUC	**Moravsky**	**89.24**	**39**	*eP*		**P**	**02 10 09.9**	**-1.5**
VRAC	**Vranov**	**89.27**	**39**	*eP*		**P**	**02 10 11.9**	**+0.4**
VRAC	**Vranov**	**89.27**	**39**	LR		LR	02 49 28.1	
	comp=Z,45nm,20.0s,baz=302,slow=35							
CONA	**Conrad Observa**	**89.36**	**40**	*eP*		**P**	**02 10 12.6**	**+0.5**
	comp=Z,5.9nm,1.3s							
ARSA	**Arzberg**	**89.41**	**41**	*eP*		**P**	**02 10 12.5**	**+0.2**
	comp=Z,2.4nm,1.1s							
MORC	**Moravsky Berou**	**89.64**	**38**	*eP*		**P**	**02 10 13.3**	**0.0**
RONA	**Rosalia, Austr**	**89.72**	**40**	*eP*		**P**	**02 10 14.1**	**+0.3**
	comp=Z,5.3nm,1.2s							
MA2	**Magadan**	**90.04**	**333**	LR		LR	02 57 46.0	
	comp=Z,62nm,18.2s,baz=52,slow=40							
VYHS	**Vyhne**	**90.95**	**39**	*eP*		**P**	**02 10 20.2**	**+0.8**
VAE	**Valguarnera**	**92.33**	**50**	LR		LR	02 47 57.1	
	comp=Z,180nm,19.3s,baz=318,slow=33							
NRIK	**Nori'sk**	**95.19**	**1**	LR		LR	02 57 28.9	
	comp=Z,384nm,18.8s,baz=352,slow=38							
AKASG	**Malin Array Be**	**95.78**	**34**	LR		LR	02 56 27.2	
	comp=Z,60nm,18.0s,baz=303,slow=37							
YAK	**Yakutsk**	**96.17**	**342**	LR		LR	02 59 25.2	
	comp=Z,81nm,21.4s,baz=24,slow=39							
MLR	**Muntele Rosu**	**96.65**	**39**	IAmb		IAmb	02 10 48.0	
	comp=Z,15nm,1.6s							
MLR	**Muntele Rosu**	**96.65**	**39**	LR		LR	02 55 41.7	
	comp=Z,53nm,20.0s,baz=314,slow=36							
KIRV	**Kirov**	**99.19**	**20**	LR		LR	02 56 32.0	
	comp=Z,96nm,19.1s,baz=319,slow=36							
DZM	**Mont Dzumac**	**107.15**	**251**	*e*LR		LR	02 47 01.8	
	comp=Z,91nm,23.8s							
HHC	**Hu-ho-hao-te**	**119.98**	**340**	*eP*		**PKPdf**	**02 16 02.5**	**-3.9**
GTA	**Gaotai**	**124.27**	**350**	PKP		**PKPdf**	**02 16 13.0**	**-1.7**
NJ2	**Nanjing**	**124.58**	**329**	*eP*		**PKPdf**	**02 16 15.3**	**0.0**
NJ2				pmax		pmax		
	comp=Z,15nm,0.5s							
LZH	**Lanzhou**	**126.63**	**345**	*e*PKP		**PKPdf**	**02 16 12.8**	**-6.6**
LZH				sPKP			02 16 26.3	
XAN	**Xi'an**	**127.04**	**339**	*e*PKP		**PKiKP**	**02 16 20.6**	**0.0**
XAN				LR		LR		
	comp=N,170nm,21.3s							
XAN				LR		LR		
	comp=E,190nm,18.6s							
XAN				LR		LR		
	comp=Z,190nm,19.2s							
PZH	**PanZhiHua**	**136.27**	**343**	PKP		**PKPdf**	**02 16 37.6**	**-0.2**
WRA	**Warramunga Arr**	**136.74**	**257**	PKP		**PKPdf**	**02 16 38.4**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=87,slow=1.9,SNR=4.1							
ASAR	**Alice Springs**	**137.14**	**252**	PKP		**PKPdf**	**02 16 39.1**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=100,slow=2.7,SNR=3.0							
CMAR	**Chiang Mai Arr**	**144.69**	**344**	PKP		PKPbc	02 16 52.2	+0.4
	comp=Z,1.0nm,0.3s,baz=342,slow=3.8,SNR=9.3							

*SNET **14** 01:59:27.2±1.3, 15°.86N×91°.29W, h16km±218km, ML3.6*
*CATAC **14** 01:59:29.9±0.3, 16°.N±2°×.9°1W±°, h1km, M4.2/17, ML4.2/17, Error ellipse: s-maj=4.3km s-min=2.8km az=4.0, confirmed*
ISC 14 01:59:29.0±1.0, 15°.71N±0°.06×91°.10W±0°.04, h10km, n25, σ1§30/27, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HUEH	**Huehuetenango**	**0.55**	**225**	*eP*		**Pg**	**01 59 39.0**	**-0.8**
HUEH				*eS*		**Sb**	**01 59 47.6**	**-1.3**
HUEH				IAML			01 59 52.5	
	comp=Z,4μm,0.4s							
HUEH	**Huehuetenango**	**0.55**	**225**	P		**Pg**	**01 59 38.9**	**-0.8**
HUEH				S		**Sb**	**01 59 47.4**	**-1.5**
CCIG	**Comitan**	**1.15**	**300**	P		**Pn**	**01 59 52.2**	**+0.8**
CCIG	**Comitan**	**1.15**	**300**	S		**Sn**	**02 00 10.5**	**+3.2**
RTAL	**Retalhuleu**	**1.31**	**206**	P		**Pg**	**01 59 53.6**	**-0.6**
PETF	**Flores**	**1.69**	**44**	S		**Sn**	**02 00 18.3**	**-1.9**
ESQI	**Esquipulas**	**2.04**	**124**	S		**Sn**	**02 00 30.4**	**+1.2**
SLOZ	**Alcaldia de Sa**	**2.10**	**143**	*S*		**Sb**	**02 00 33.1**	**-0.3**
LOAL	**Lomas de Alarc**	**2.12**	**143**	*eS*		**Sb**	**02 00 34.7**	**+0.6**
LOAL	**Lomas de Alarc**	**2.12**	**143**	S		**Sb**	**02 00 33.9**	**-0.1**
LOAL	**Lomas de Alarc**	**2.12**	**143**	P		**Pn**	**02 00 04.4**	**-0.2**
MTO3	**Montecristo**	**2.12**	**128**	*eP*		**Pb**	**02 00 06.8**	**-1.0**
MTO3	**Montecristo**	**2.12**	**128**	P		**Pn**	**02 00 05.4**	**+0.6**
MTO3	**Montecristo**	**2.12**	**128**	S		**Sn**	**02 00 32.0**	**+0.7**
FAME	**Alcaldia de Sa**	**2.13**	**150**	P		**Pn**	**02 00 05.5**	**+0.9**
NUBE	**Las Nubes**	**2.20**	**144**	P		**Pn**	**02 00 05.8**	**0.0**
NUBE	**Las Nubes**	**2.20**	**144**	S		**Sb**	**02 00 36.0**	**-0.4**
UNIC	**Universidad Ca**	**2.28**	**139**	P		**Pn**	**02 00 07.8**	**+1.1**
UNIC	**Universidad Ca**	**2.28**	**139**	S		**Sn**	**02 00 36.4**	**+1.5**
CEVE	**Cerro Verde**	**2.35**	**142**	P		**Pn**	**02 00 09.4**	**+1.5**
IZABA	**Izabal, Puerto**	**2.42**	**89**	*eP*		**Pn**	**02 00 07.8**	**-0.8**
IZABA	**Izabal, Puerto**	**2.42**	**89**	P		**Pn**	**02 00 10.7**	**+2.1**
SARH	**Santa Rosa de**	**2.44**	**112**	P		**Pn**	**02 00 10.5**	**+1.5**
JAYA	**Jayaque - finc**	**2.59**	**142**	P		**Pn**	**02 00 12.6**	**+1.5**
PMON	**Piamonte**	**2.63**	**139**	P		**Pn**	**02 00 12.5**	**+0.9**

*IGQ **14** 02:15:29.9±0.3, 1°.S±4°×8°.0W±°, h21km±2km, MLv3.3/12*
*RSNC **14** 02:15:29.6±0.5, 1°.S±3°×8°.0W±°, h10km±4km, M3.1, mb3.8, ML2.7*
ISC 14 02:15:30.8±0.9, 0°.61S±0°.04×80°.27W±0°.04, h29km±6km, n57, σ1§45/59, 4C-18D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ABH2	**Ecuador-Univer**	**0.14**	**250**	⇑P		**Pb**	**02 15 36.3**	**-0.1**
ABH2				S		**Sb**	**02 15 41.9**	**+1.7**
ABH3	**Manabi, Bahia**	**0.16**	**275**	⇑P		**Pb**	**02 15 35.7**	**-0.8**
ABH3				S		**Sb**	**02 15 40.9**	**+0.5**
ACHN	**Ecuador-Chone-**	**0.20**	**115**	⇓P		**Pb**	**02 15 35.6**	**-1.4**
ACHN				S		**Sb**	**02 15 41.6**	**+0.4**
PECV	**Mancha de Ca P**	**0.27**	**127**	P		**Pb**	**02 15 36.8**	**-1.1**
FLF1	**Flavio Alfaro-**	**0.49**	**59**	⇓P		**Pb**	**02 15 40.1**	**-1.1**
FLF1	**Flavio Alfaro-**	**0.49**	**59**	P		**Pb**	**02 15 40.0**	**-1.1**
ISPT	**Isla de la Pla**	**1.03**	**231**	S		**Sb**	**02 16 03.2**	**-0.2**
ISPT				⇓P		**Pn**	**02 15 48.0**	**-1.4**
PPLP	**Puerto Lpez**	**1.06**	**209**	P		**Pn**	**02 15 49.0**	**-0.7**
PPLP	**Puerto Lpez**	**1.06**	**209**	P		**Pn**	**02 15 48.9**	**-0.8**
PPLP				S		**Sn**	**02 16 05.0**	**+1.5**
BV15	**Puerto Quito-O**	**1.29**	**54**	P		**Pn**	**02 15 49.9**	**-3.1**
CHSH	**Refugio Sur-Vo**	**1.65**	**122**	P		**Pn**	**02 15 58.0**	**-0.4**
GQPT	**Toaza - Volcan**	**1.69**	**77**	P		**Pn**	**02 15 57.9**	**-2.3**
JSCH	**Cashca Totoras**	**1.69**	**130**	⇓P		**Pn**	**02 15 57.4**	**-1.4**
SRAM	**San Ramn-Vol**	**1.71**	**95**	P		**Pn**	**02 15 58.0**	**-0.9**
PAC1	**Pacto, Paraso**	**1.71**	**59**	P		**Pn**	**02 15 56.4**	**-2.4**
PAC1	**Pacto, Paraso**	**1.71**	**59**	P		**Pn**	**02 15 56.3**	**-2.6**
PORT	**Chimborazo Vol**	**1.72**	**120**	⇑P		**Pn**	**02 15 58.5**	**-0.8**
TERV	**Terraza Guagua**	**1.72**	**75**	⇓P		**Pn**	**02 15 57.7**	**-1.6**
GGPC	**Guagua Pichinc**	**1.73**	**76**	⇓P		**Pn**	**02 15 57.9**	**-1.5**
TAMH	**Tambohuasha Ch**	**1.75**	**122**	⇑P		**Pn**	**02 15 59.1**	**-0.6**
YANA	**Yana**	**1.77**	**74**	P		**Pn**	**02 15 57.6**	**-2.3**
SUCR	**Mariscal Sucre**	**1.77**	**91**	P		**Pn**	**02 15 59.6**	**-0.4**
SLOR	**San Lorenzo -**	**1.77**	**94**	⇓P		**Pn**	**02 15 59.4**	**-0.6**
BRRN	**Barrancas-Volc**	**1.80**	**95**	⇓P		**Pn**	**02 15 59.6**	**-0.7**
MILO	**Milagro-Astudi**	**1.80**	**157**	⇓P		**Pn**	**02 15 57.4**	**-2.5**
BREF	**Cotopaxi Volca**	**1.83**	**92**	⇓P		**Pn**	**02 16 00.6**	**-0.2**
PITA	**Cotopaxi Volc**	**1.83**	**88**	⇓P		**Pn**	**02 16 00.1**	**-0.7**
BVC2	**Cotopaxi Volca**	**1.86**	**91**	⇓P		**Pn**	**02 16 00.9**	**-0.2**
BTAM	**Cotopaxi Volca**	**1.87**	**92**	⇓P		**Pn**	**02 16 01.0**	**-0.4**
VCES	**Cotopaxi**	**1.88**	**96**	⇓P		**Pn**	**02 16 00.2**	**-0.6**
TAMB	**Tambo**	**1.90**	**92**	⇓P		**Pn**	**02 16 01.4**	**-0.4**
PIS1	**Pisayambo**	**1.93**	**103**	⇓P		**Pn**	**02 16 01.9**	**-0.3**
JUI6	**Juive**	**1.97**	**114**	⇓P		**Pn**	**02 16 02.5**	**0.0**
POND	**Pondoa**	**1.98**	**114**	⇓P		**Pn**	**02 16 02.8**	**0.0**
OTAV	**Otavalo**	**2.00**	**65**	P		**Pn**	**02 16 01.0**	**-2.0**
OTAV	**Otavalo**	**2.00**	**65**	P		**Pn**	**02 16 01.1**	**-2.0**
OTAV				S		**Sn**	**02 16 29.6**	**+2.2**
ARRY	**Arrayan**	**2.02**	**116**	P		**Pn**	**02 16 03.6**	**+0.4**
BULB	**Ulba Tungurahu**	**2.03**	**114**	P		Pn	02 16 05.7	+2.3
BPAT	**Tungurahua Vol**	**2.04**	**116**	P		**Pn**	**02 16 05.1**	**+1.5**
PIAT	**Ana Tenorio**	**2.04**	**101**	P		**Pn**	**02 16 02.9**	**-0.7**
PIAT				S		**Sn**	**02 16 28.4**	**+0.1**
CUSE	**Cuicocha Este**	**2.08**	**64**	P		**Pn**	**02 16 02.9**	**-1.2**
CUSE	**Cuicocha Este**	**2.08**	**64**	P		**Pn**	**02 16 02.5**	**-1.6**
COHC	**Cochancay**	**2.10**	**151**	P		**Pn**	**02 16 02.3**	**-1.8**
ANTI	**Antisana**	**2.11**	**86**	P		**Pn**	**02 16 04.3**	**-0.4**
CUIC	**Cuicocha-Domo**	**2.11**	**65**	P		**Pn**	**02 16 03.2**	**-1.4**
IMBA	**Imbabura, San**	**2.25**	**67**	P		Pn	02 16 08.7	+2.2
URCU	**Urcuqui**	**2.27**	**63**	P		**Pn**	**02 16 06.1**	**-0.6**
ANGU	**Angureal**	**2.35**	**74**	P		**Pn**	**02 16 08.9**	**+0.8**
TULM	**Tulcn-Chalpat**	**2.81**	**62**	P		Pn	02 16 17.9	+3.7
CMBC	**Cumbal**	**2.89**	**58**	P		Pn	02 16 19.3	+4.0
BONI	**La Bonita**	**2.94**	**69**	P		Pn	02 16 19.4	+3.6
GCUF	**Volcan Galeras**	**3.44**	**58**	P		Pn	02 16 26.2	+3.2
CRUC	**La Cruz**	**3.96**	**57**	P		Pn	02 16 31.6	+1.7
BBAC	**Balboa, Cauca**	**4.00**	**49**	P		**Pn**	**02 16 30.6**	**+0.3**
BBAC				S		**Sn**	**02 17 19.6**	**+3.3**
POPC	**Popayan, Colom**	**4.76**	**49**	P		**Pn**	**02 16 41.6**	**+0.7**
POPC				S		**Sn**	**02 17 38.2**	**+2.9**
YOTC	**Yotoco, Valle**	**6.02**	**41**	P		**Pn**	**02 16 57.0**	**-1.0**
	6.3nm,0.6s							
PLMC	**San Jos del P**	**6.77**	**36**	P		**Pn**	**02 17 06.7**	**-1.7**

*SJA **14** 02:25:08.9±0.6, 29°.61S×68°.40W, h121km±2km, ML4.2, MW4.2*
*IDC **14** 02:25:09.8±0.6, 29°.52S×68°.20W, h110km±5km, mb3.7/8, mbtmp4.1/11, MS3.2/2, Error ellipse: s-maj=22.0km s-min=15.8km az=81.0*
*NEIC **14** 02:25:09.2±1.8, 29°.64S±0°.06×68°.35W±0°.09, h106km±8km, mb4.5/95, Error ellipse: s-maj=11.8km s-min=8.2km az=82.0*
*VAO **14** 02:25:10.4±0.5, 29°.68S×68°.52W, h176km, mb4.0*
ISC 14 02:25:09.4±0.5, 29°.61S±0°.03×68°.43W±0°.03, h117km±4km, n182, σ1§83/193, mb4.5/49, 3C-6D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC

AGUA	**GUANDACOL**	**0.13**	**336**	*eP*		**Pn**	**02 25 26.3**	**+0.5**
AGUA				*eS*		**Sn**	**02 25 38.6**	**+0.7**
AGUA				IAML			02 25 39.3	
	comp=Z,20μm,0.2s							
ACDV	**Cuesta del Vie**	**0.82**	**227**	*eP*		**Pn**	**02 25 30.6**	**+0.8**
ACDV				*eS*		**Sn**	**02 25 47.0**	**+1.9**
VCA	**Vinchina**	**0.89**	**13**	*eP*		**Pn**	**02 25 31.2**	**+0.8**
VCA				*eS*		**Sn**	**02 25 47.3**	**+1.2**
AROD	**Rodeo**	**1.06**	**238**	*eP*		**Pn**	**02 25 33.2**	**+1.0**
ACCO	**Cerro Coronel**	**1.12**	**209**	*eP*		**Pn**	**02 25 33.4**	**+0.6**
ACCO				*eS*		**Sn**	**02 25 52.5**	**+1.9**
ACLC	**CERRO LA CRUZ**	**1.30**	**82**	*eP*		**Pn**	**02 25 35.7**	**+0.6**
ACLC				*eS*		**Sn**	**02 25 54.5**	**+0.8**
ACLC				IAML			02 25 55.6	
	comp=Z,5μm,0.3s							
AVFE	**Valle Fertil**	**1.35**	**141**	*eP*		**Pn**	**02 25 35.5**	**+0.5**
AVFE				*eS*		**Sn**	**02 25 54.5**	**+0.1**
AVFE				IAML			02 25 55.2	
	comp=Z,10μm,0.7s							
CO01	**Juntas del Tor**	**1.49**	**255**			**Pn**	**02 25 38.6**	**+1.8**
CO01	**Juntas del Tor**	**1.49**	**255**	⇑ *iP*		**Pn**	**02 25 38.6**	**+1.8**
CO01				*i* S		**Sn**	**02 25 59.5**	**+1.9**
CO01	**Juntas del Tor**	**1.49**	**255**	*eP*		**Pn**	**02 25 37.9**	**+1.1**
CO01				*eS*		**Sn**	**02 26 00.3**	**+2.6**
RTLL	**Cerro Villicun**	**1.72**	**181**	*eP*		**Pn**	**02 25 39.9**	**+0.6**
RTLL				*eS*		**Sn**	**02 26 02.8**	**+0.6**
APLL	**PUNTA DE LOS L**	**1.83**	**116**	*eP*		Pn	02 25 35.7	-5.0
APLL				*eP*			02 25 41.2	
APLL				IAML			02 26 06.3	
	comp=Z,2μm,1.5s							
APLL				*eS*		**Sn**	**02 26 06.5**	**+2.0**
SJA	**San Juan**	**1.92**	**183**	*eP*		**Pn**	**02 25 42.7**	**+0.9**
SJA				*eS*		**Sn**	**02 26 11.1**	**+4.6**
SJA				IAML			02 26 27.9	
	comp=Z,678nm,2.0s							
ZON	**Zonda**	**1.94**	**186**			**Pn**	**02 25 42.7**	**+0.6**
ZON	**Zonda**	**1.94**	**186**	*eP*		**Pn**	**02 25 42.7**	**+0.6**
ZON				*eS*		**Sn**	**02 26 07.9**	**+0.7**
ZON				IAML			02 26 12.9	
	comp=Z,990nm,1.2s							
LCO	**Las Campanas**	**2.07**	**286**			**Pn**	**02 25 44.8**	**+0

GO02 eS Sn 02 27 09.7 +1.1
BO04 La Punta 4.75 202 Pn 02 26 18.1 -0.9
MT01 Popeta 4.88 209 eP **Pn 02 26 17.9 -2.8**
MT01 eS **Sn 02 27 15.6 -0.5**
MT01 IAML 02 27 37.4
comp=Z,128nm,0.8s
RFA San Rafael 5.15 180 eP Pn 02 26 17.7 -6.7
RFA eP 02 26 17.9
RFA eP 02 26 23.7
RFA eS **Sn 02 27 17.7 -5.1**
RFA IAML 02 28 12.7
comp=Z,209nm,0.8s
PB14 IPOC Station P 5.26 340 eP **Pn 02 26 26.1 -0.1**
PB14 eS **Sn 02 27 24.7 -1.2**
PB14 IAML 02 27 32.8
comp=Z,145nm,0.9s
BO01 Tunca 5.28 205 eP **Pn 02 26 24.2 -1.8**
BO01 eS **Sn 02 27 17.9 -7.8**
BO01 eS 02 27 23.0
BO01 IAML 02 27 58.8
comp=Z,70nm,0.8s
BO02 Sierra Bellavi 5.54 200 Pn 02 26 28.3 -1.4
AF01 San Pedro de A 6.63 2 Pn 02 26 42.8 -1.9
BI02 San Fabin de 7.43 198 Pn 02 26 52.9 -2.3
TRQA Tornquist 9.99 149 Pn 02 27 28.2 -1.5
ITQB Itaqui 10.27 93 eP **Pn 02 27 32.3 -1.3**
CPUP Villa Florida 10.34 74 Pn 02 27 32.3 -2.3
CPUP Villa Florida 10.34 74 P **Pn 02 27 32.0 -2.5**
comp=Z,0.9nm,0.3s,baz=109,slow=12,SNR=14
CPUP Villa Florida 10.34 74 eP **Pn 02 27 33.7 -0.9**
PLCA Paso Flores 11.24 188 Pn 02 27 43.9 -2.7
PLCA Paso Flores 11.24 188 P **Pn 02 27 44.2 -2.3**
comp=Z,4.0nm,0.7s,baz=8.3,slow=12,SNR=13
PLCA Paso Flores 11.24 188 eP **Pn 02 27 44.8 -1.8**
PB16 IPOC Station P 11.26 355 Pn 02 27 44.5 -3.0
SJPY San Joaquin 11.88 70 eP **Pn 02 27 55.5 +0.3**
PB18 Visviri 12.00 355 Pn 02 27 56.2 -1.0
PLTB Pedras Altas 12.94 103 Pn 02 28 07.2 -1.9
LPAZ La Paz 13.26 1 Pn 02 28 12.1 -1.7
LPAZ La Paz 13.26 1 P **Pn 02 28 12.4 -1.4**
comp=Z,8.0nm,0.7s,baz=182,slow=7.2,SNR=44
LPAZ LR LR 02 33 25.8
comp=Z,67nm,21.0s,baz=248,slow=38
SIV San Ignacio 15.15 28 P **Pn 02 28 36.1 -1.2**
comp=Z,3.2nm,0.6s,baz=203,slow=9.0,SNR=20
PTGB Pitanga 15.36 75 eP **Pn 02 28 39.9 0.0**
RPRD Ribas do Rio P 16.13 59 eP **Pn 02 28 49.0 -0.5**
COYC Coyhaique 16.20 189 P **P 02 28 51.0 0.0**
COYC IAmb IAmb 02 29 01.1
comp=Z,27nm,1.0s
LDASE Londrina, Braz 16.68 72 eP **Pn 02 28 54.8 -1.5**
PCMB Pacaembu 17.40 67 eP **P 02 29 02.7 -1.9**
AY03 Cochrane 17.91 189 P **P 02 29 07.0 -2.9**
AY03 IAmb IAmb 02 29 17.3
comp=Z,34nm,1.1s
FRTB Fartura 18.00 74 eP **P 02 29 09.6 -1.5**
VAO Valinhos 20.32 76 eP **P 02 29 34.7 -1.7**
ARAG Araguaiana, MT 20.62 51 eP **P 02 29 37.9 -1.7**
PDRB Porto dos Gac 20.96 34 eP **P 02 29 40.4 -2.8**
PARB Paraibuna 21.33 78 eP **P 02 29 45.4 -1.9**
IPMB Ipameri, GO 21.78 62 eP **P 02 29 49.7 -2.4**
CLDB Colider 22.05 35 eP **P 02 29 51.6 -3.2**
PMNB Patos De Minas 22.86 66 eP **P 02 30 00.4 -2.7**
BDFB Brasilia 23.36 58 P **P 02 30 05.7 -2.1**
comp=Z,1.1nm,0.5s,baz=194,slow=8.3,SNR=2.3
comp=Z,1.1nm,0.5s
DIAM Diamantina, MG 25.22 69 eP **P 02 30 20.7 -3.9**
TEFE Tefe 26.20 9 eP **P 02 30 28.4 -4.9**
JANB Januaria 26.52 62 eP **P 02 30 32.7 -3.6**
ITTB Itaituba 27.83 28 eP **P 02 30 44.3 -3.6**
RUSC La Rusia 35.58 352 P 02 31 58.0 +1.7
PCRV Puerto La Cruz 39.72 6 LR LR 02 48 43.8
comp=Z,56nm,21.0s,slow=36
CELP Cerrillos 47.44 2 P **P 02 33 32.6 +0.3**
VNA2 Neumayer--Watz 52.93 159 ⇓P **P 02 34 14.4 +1.3**
comp=Z,1.5nm,0.6s,baz=283,slow=8.0
TEIG Tepich 53.11 337 P **P 02 34 16.1 +1.1**
SNAA Sanae 54.54 159 ⇓P **P 02 34 26.1 +1.1**
comp=Z,29nm,0.6s
SNAA Sanae 54.54 159 P **P 02 34 24.9 0.0**
SNAA IAmb IAmb 02 35 00.1
comp=Z,7.3nm,1.3s
SNAA Sanae 54.54 159 P **P 02 34 25.7 +0.7**
comp=Z,1.3nm,0.7s,baz=271,slow=9.9,SNR=6.5
comp=Z,1.3nm,0.7s
TROLL Troll, Antarti 56.26 159 ⇓P **P 02 34 38.7 +1.4**
comp=Z,58nm,0.7s
QSPA South Pole Qui 60.62 180 P **P 02 35 09.7 +2.0**
QSPA IAmb IAmb 02 35 10.5
comp=Z,5.2nm,1.0s
QSPA South Pole Qui 60.62 180 P **P 02 35 09.7 +2.0**
comp=Z,3.3nm,0.6s,baz=176,slow=1.1,SNR=37
comp=Z,3.3nm,0.6s
833A Chaparral WMA, 64.76 330 P **P 02 35 37.6 +2.2**
Y49A Blount Mountai 65.37 344 P **P 02 35 40.5 +1.3**
Y49A IAmb IAmb 02 36 24.6
comp=Z,6.9nm,1.0s
X51A Calhoun 65.69 345 P **P 02 35 42.2 +0.9**
HNDO Hondo 65.76 331 P 02 35 42.2 +0.4
FPAL Fort Paine 65.83 344 P **P 02 35 42.5 +0.3**
FPAL IAmb IAmb 02 36 25.6
comp=Z,5.7nm,1.1s
DRIO Del Rio 66.25 329 P 02 35 46.4 +1.4
DRIO IAmb IAmb 02 35 47.2
comp=Z,4.3nm,0.8s
SWET Sewanee 66.55 344 P **P 02 35 47.4 +0.5**
JCT Junction City 66.81 331 IAmb IAmb 02 35 51.0
comp=Z,6.6nm,0.6s
BRDY Brady 67.17 332 P 02 35 52.1 +1.3
BRDY IAmb IAmb 02 35 53.0
comp=Z,6.8nm,0.8s
V48A Smith Brothers 67.27 344 IAmb IAmb 02 35 52.8
comp=Z,9.7nm,0.9s
SAND Sanderson 67.38 329 IAmb IAmb 02 35 55.1
comp=Z,10nm,1.2s
CLTN Cedars of Leba 67.48 344 IAmb IAmb 02 35 54.1
comp=Z,3.8nm,0.7s
TXAR Lajitas Array 67.57 327 P **P 02 35 55.1 +1.7**
comp=Z,1.4nm,0.7s,baz=152,slow=8.2,SNR=18
comp=Z,1.4nm,0.7s
TX31 Lajitas Ar. Si 67.57 327 P **P 02 35 55.0 +1.5**
OZNA Ozona 67.76 330 P 02 35 56.2 +1.7
WVT Waverly 67.89 343 P **P 02 35 55.6 +0.4**
T47A Sharon Grove 68.52 344 IAmb IAmb 02 36 00.4
comp=Z,8.7nm,1.1s
LCAR Lake Charles 68.74 340 P **P 02 36 01.6 +1.2**
MNHN Monahans 68.84 329 IAmb IAmb 02 36 03.8
comp=Z,7.8nm,0.8s
VNDA Vanda 68.98 190 P **P 02 36 03.5 +2.0**
comp=Z,0.1nm,0.4s,baz=144,slow=4.6,SNR=1.1
comp=Z,0.1nm,0.4s
PBMO Poplar Bluff 69.19 341 P **P 02 36 04.3 +1.0**
APMT Aspermont 69.41 332 IAmb IAmb 02 36 07.0
comp=Z,7.9nm,0.7s
SN07 Snyder 07 69.53 331 IAmb IAmb 02 36 07.5
comp=Z,5.8nm,0.7s
DKNS Dickens 70.04 332 IAmb IAmb 02 36 10.5
comp=Z,4.4nm,0.7s
TUL3 Leonard 70.07 337 IAmb IAmb 02 36 11.0
comp=Z,9.0nm,0.8s
MNTX Cornudas Mount 70.35 327 P **P 02 36 11.5 +0.9**
CCM Cathedral Cave 70.61 341 P **P 02 36 12.6 +0.7**
CCM IAmb IAmb 02 36 13.8
comp=Z,12nm,1.1s
DBIC Dimbokro 70.84 70 P **P 02 36 15.0 +1.1**
comp=Z,2.1nm,0.6s,baz=272,slow=6.7,SNR=4.4
comp=Z,2.1nm,0.6s
MSTX Muleshoe 71.08 330 IAmb IAmb 02 36 17.1
comp=Z,11nm,0.8s
R40A Maddies Statio 71.12 340 P **P 02 36 16.1 +1.1**
R40A IAmb IAmb 02 36 16.9
comp=Z,9.0nm,0.8s
KAN13 South Haven SW 71.65 336 IAmb IAmb 02 36 20.5
comp=Z,11nm,0.8s
N49A Columbus Grove 71.67 347 P **P 02 36 18.6 +0.3**
N49A IAmb IAmb 02 36 19.7
comp=Z,12nm,1.1s
319A Douglas 72.02 324 IAmb IAmb 02 36 24.0
comp=Z,5.8nm,0.8s
P40A Paris 72.21 341 P **P 02 36 22.4 +0.9**
P40A IAmb IAmb 02 36 23.2
comp=Z,7.4nm,0.7s
T25A Trinidad 74.47 331 IAmb IAmb 02 36 37.9
comp=Z,4.3nm,0.9s
G62A West of Eustis 74.49 358 P **P 02 36 36.4 +1.7**
G62A IAmb IAmb 02 37 14.8
comp=Z,21nm,1.4s
F64A Sherman 75.11 0 P **P 02 36 39.3 +1.0**
F64A IAmb IAmb 02 36 40.8
comp=Z,5.9nm,0.8s
LMN Caledonia Moun 75.17 3 P **P 02 36 40.4 +1.7**
E62A Clayton Lake 75.88 359 P **P 02 36 43.7 +1.1**
E62A IAmb IAmb 02 36 45.9
comp=Z,7.0nm,0.8s
D62A Allapoint, All 76.33 360 P **P 02 36 46.9 +1.7**
D62A IAmb IAmb 02 36 48.3
comp=Z,14nm,1.0s
PV13 Radium Mtn., P 77.26 328 IAmb IAmb 02 36 54.0
comp=Z,4.3nm,0.9s
PV02 Paradox Valley 77.27 329 IAmb IAmb 02 36 54.3
comp=Z,8.5nm,1.2s
PV05 Paradox Valley 77.33 328 IAmb IAmb 02 36 58.8
comp=Z,5.3nm,0.9s
PV18 Skein Mesa, Pa 77.38 328 IAmb IAmb 02 36 54.4
comp=Z,6.3nm,0.9s
ECSD EROS Data Cent 77.42 339 IAmb IAmb 02 36 53.3
comp=Z,6.6nm,0.8s
KNB Kanab 78.26 325 IAmb IAmb 02 37 00.1
comp=Z,7.7nm,1.1s
O20A White River Ci 78.62 330 IAmb IAmb 02 37 01.6
comp=Z,8.8nm,1.1s
CCUT Cedar City 78.95 325 IAmb IAmb 02 37 04.0
comp=Z,5.2nm,0.9s
P18A Preston Nutter 79.10 328 IAmb IAmb 02 37 04.4
comp=Z,7.8nm,1.1s
PRN Pahroc Range 79.69 324 IAmb IAmb 02 37 07.8
comp=Z,5.6nm,1.1s
K22A Casper 79.99 332 IAmb IAmb 02 37 08.7
comp=Z,5.0nm,0.6s
HWUT Hardware Ranch 81.29 329 IAmb IAmb 02 37 15.1
comp=Z,4.7nm,0.8s
TPH Tonopah 81.32 323 IAmb IAmb 02 37 15.9
comp=Z,12nm,0.9s
PDAR Pinedale Array 81.34 331 P **P 02 37 13.9 +0.9**
PDAR Pinedale Array 81.34 331 P **P 02 37 14.2 +1.2**
comp=Z,2.2nm,0.7s,baz=130,slow=7.1,SNR=23
PDAR pP **pP 02 37 42.4 -1.3**
comp=Z,0.4nm,0.6s,baz=111,slow=7.0,SNR=1.8
comp=Z,2.2nm,0.7s
AGMN Agassiz Nation 81.36 342 IAmb IAmb 02 37 14.0
comp=Z,3.8nm,0.8s
NVAR Mina Array Bea 82.15 323 P **P 02 37 19.1 +1.8**
comp=Z,1.5nm,0.9s,baz=156,slow=6.8,SNR=7.9
comp=Z,1.5nm,0.9s
WRA Warramunga Arr 126.07 207 PKP **PKiKP 02 43 58.9 0.0**
comp=Z,1.7nm,0.7s,baz=168,slow=1.6,SNR=8.3
PETK Petropavlovsk- 139.11 318 PKP **PKPdf 02 44 22.1 +0.2**
comp=Z,1.1nm,0.7s,baz=84,slow=4.6,SNR=3.8
KURBB Kurchatov Arra 147.56 40 PKPbc **PKPbc 02 44 38.4 -1.2**
comp=Z,2.9nm,0.6s,baz=304,slow=3.1,SNR=18
KURBB pPKPbc **pPKPdf 02 45 08.8 -0.1**
comp=Z,2.6nm,0.9s,baz=298,slow=3.3,SNR=6.6
ZALV Zalesovo Beam 148.89 31 PKPbc **PKiKP 02 44 44.2 0.0**
comp=Z,5.4nm,0.4s,baz=309,slow=4.0,SNR=20
ZALV pPKPbc **pPKPdf 02 45 12.8 +1.7**
comp=Z,4.5nm,0.7s,baz=300,slow=2.9,SNR=5.2
MKAR Makanchi Array 151.53 45 PKPbc **PKiKP 02 44 50.5 +0.5**
comp=Z,2.3nm,0.6s,baz=320,slow=1.9,SNR=18
MKAR pPKPbc **pPKPbc 02 45 20.2 -1.3**
comp=Z,4.4nm,0.9s,baz=298,slow=2.6,SNR=10

*KRNET **14** 02:36:42.2±0.1, 42.2°20N×75.4°45E, h20km, mb3.3*
*SOME **14** 02:36:42.8, 42.2°20N×75.4°43E, h15km*
*KNET **14** 02:36:42.4±0.6, 42.2°23N×75.4°43E, h0km, ml2.8, Error ellipse: s-maj=4.9km s-min=2.7km az=3.0*
*NNC **14** 02:36:43.3±0.8, 42.2°24N×75.4°42E, h0km, mb3.7, mpv3.6, Error ellipse: s-maj=6.9km s-min=1.9km az=174.0*

ISC 14 02:36:42.4±1.0, 42°22N±0.02×75°43E±0.01, h7km±9km, n64, σ1°19/120, 42C-32D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
BOOM	**Boomskoye usch**	**0.47**	**54**	⇑*i*P	**Pg**	**02 36 51.4**	**-0.2**
BOOM				⇑*i*S	**Sg**	**02 36 57.9**	**+0.2**
KBK	**Karagaybulak**	**0.56**	**321**	⇑P	**Pb**	**02 36 54.1**	**-0.6**
	528nm,0.3s,SNR=127						
KBK				⇓S	**Sb**	**02 37 02.0**	**-1.1**
	849nm,0.2s						
KBK	**Karagaybulak**	**0.56**	**321**	⇑*i*P	**Pg**	**02 36 53.7**	**+0.3**
KBK				⇑*i*S	**Sb**	**02 37 02.0**	**-1.1**
ULHL	**Ulahol**	**0.61**	**87**	P	**Pg**	**02 36 54.1**	**-0.1**
	46nm,0.1s,SNR=130						
ULHL				⇑S	**Sg**	**02 37 01.9**	**-0.2**
	106nm,0.1s						
ULHL	**Ulahol**	**0.61**	**87**	⇑*i*P	**Pg**	**02 36 53.5**	**-0.7**
ULHL				⇑*i*S	**Sg**	**02 37 01.6**	**-0.5**
UCH	**Uchtor**	**0.68**	**271**	⇓P	**Pg**	**02 36 56.2**	**+0.7**
	16nm,0.2s,SNR=21						
UCH				⇓S	**Sg**	**02 37 05.8**	**+1.4**
	102nm,0.3s						
UCH	**Uchtor**	**0.68**	**271**	⇓*i*P	**Pg**	**02 36 55.4**	**-0.2**
UCH				⇓*i*S	**Sg**	**02 37 05.2**	**+0.7**
TKM2	**Tokmak 2**	**0.71**	**10**	⇓P	**Pb**	**02 36 56.8**	**-0.6**
	210nm,0.2s,SNR=436						
TKM2				⇑S	**Sb**	**02 37 06.5**	**-1.0**
	446nm,0.2s						
TKM2	**Tokmak 2**	**0.71**	**10**	⇓*i*P	**Pg**	**02 36 56.1**	**-0.1**
TKM2				⇓*i*S	**Sb**	**02 37 06.1**	**-1.4**
AAK	**Ala-Archa**	**0.81**	**302**	⇓P	**Pb**	**02 36 58.7**	**-0.3**
	33nm,0.1s,SNR=26						
AAK				⇓S	**Sb**	**02 37 09.5**	**-0.6**
	285nm,0.3s						
AAK	**Ala-Archa**	**0.81**	**302**	⇓P	**Pg**	**02 36 58.2**	**+0.2**
	13nm,0.5s						
AAK				⇑S	**Sb**	**02 37 09.7**	**-0.4**
	110nm,0.7s						
AAK	**Ala-Archa**	**0.81**	**302**	⇓*i*P	**Pg**	**02 36 57.9**	**-0.1**
AAK				⇓*i*S	**Sb**	**02 37 09.2**	**-0.9**
FRU1	**Bishkek**	**0.84**	**315**	⇑*i*P	**Pb**	**02 36 58.8**	**-0.5**
FRU1				⇑*i*S	**Sn**	**02 37 10.7**	**-2.6**
NRN	**Naryn**	**0.89**	**151**	⇑*i*P	**Pg**	**02 36 58.5**	**-1.1**
NRN				⇑*i*S	**Sg**	**02 37 10.3**	**-0.9**
KST	**Kastek**	**0.92**	**25**	P	**Pb**	**02 37 00.3**	**-0.4**
	47nm,0.2s						
KST				S	**Sn**	**02 37 12.9**	**-2.5**
	233nm,0.6s						
KST	**Kastek**	**0.92**	**25**	eP	**Pb**	**02 37 00.3**	**-0.4**
	47nm,0.2s						
KST				eS	**Sn**	**02 37 12.9**	**-2.5**
	233nm,0.6s						
CHMS	**Chumysh**	**0.93**	**328**	⇓P	**Pn**	**02 37 00.9**	**-1.1**
	70nm,0.2s,SNR=81						
CHMS				⇓S	**Sn**	**02 37 13.4**	**-2.1**
	350nm,0.1s						
CHMS	**Chumysh**	**0.93**	**328**	⇓*i*P	**Pg**	**02 37 00.0**	**-0.2**
CHMS				⇓*i*S	**Sb**	**02 37 12.7**	**-0.7**
MTBS	**Maitube**	**1.17**	**39**	P	**Pn**	**02 37 04.9**	**-0.4**
	26nm,0.2s						
MTBS				S	**Sn**	**02 37 20.9**	**-0.8**
	128nm,0.5s						
MTBS	**Maitube**	**1.17**	**39**	eP	**Pn**	**02 37 04.9**	**-0.4**
	26nm,0.2s						
MTBS				eS	**Sn**	**02 37 20.9**	**-0.8**
	128nm,0.5s						
IZV	**Izvestkoviy**	**1.20**	**47**	P	**Pn**	**02 37 05.4**	**-0.4**
	20nm,0.1s						
IZV				S	**Sn**	**02 37 21.1**	**-1.3**
	107nm,0.2s						
IZV	**Izvestkoviy**	**1.20**	**47**	eP	**Pb**	**02 37 04.7**	**-0.9**
	9.4nm,0.1s						
IZV				eS	**Sb**	**02 37 20.3**	**-1.1**
	105nm,0.2s						
USP	**Ospenovka**	**1.25**	**327**	P	**Pg**	**02 37 06.6**	**+0.1**
	46nm,0.2s,SNR=116						
USP				⇑S	**Sg**	**02 37 23.6**	**+0.9**
	77nm,0.2s						
USP	**Ospenovka**	**1.25**	**327**	⇓*i*P	**Pn**	**02 37 05.6**	**-0.8**
USP				⇓*i*S	**Sg**	**02 37 22.6**	**-0.1**
EKS2	**Erkin-Say**	**1.30**	**291**	⇓P	**Pg**	**02 37 07.7**	**+0.4**
	9.3nm,0.1s,SNR=24						
EKS2				⇑S	**Sg**	**02 37 25.5**	**+1.3**
	49nm,0.3s						
EKS2	**Erkin-Say**	**1.30**	**291**	⇑eP	**Pn**	**02 37 06.6**	**-0.5**
EKS2				⇑*i*S	**Sg**	**02 37 24.2**	**0.0**
KDJ	**Kajisay**	**1.31**	**93**	⇑*i*P	**Pn**	**02 37 06.0**	**-1.3**
KDJ				⇑*i*S	**Sb**	**02 37 23.3**	**-1.2**
SGDS	**Sogindy**	**1.37**	**335**	P	**Pg**	**02 37 08.7**	**+0.1**
	15nm,0.1s						
SGDS				S	**Sg**	**02 37 27.8**	**+1.4**
	76nm,0.2s						
TNSS	**Tian-Shan**	**1.39**	**53**	P	**Pb**	**02 37 08.7**	**-0.2**
	5.3nm,0.2s						
TNSS				S	**Sg**	**02 37 27.2**	**0.0**
	18nm,0.5s						
TNSS	**Tian-Shan**	**1.39**	**53**	eP	**Pb**	**02 37 08.7**	**-0.2**
	5.3nm,0.2s						
TNSS				eS	**Sg**	**02 37 27.1**	**0.0**
	18nm,0.5s						
AAA	**Alma-Ata**	**1.48**	**47**	P	**Pg**	**02 37 10.5**	**-0.3**
	49nm,0.1s						
AAA				S	**Sg**	**02 37 30.7**	**+0.7**
	8.5nm,0.2s						
AAA	**Alma-Ata**	**1.48**	**47**	eP	**Pg**	**02 37 10.5**	**-0.3**
	49nm,0.1s						
AAA				eS	**Sg**	**02 37 30.7**	**+0.7**
	8.5nm,0.2s						
KNDC	**Almaty**	**1.51**	**48**	⇓P	**Pg**	**02 37 11.9**	**+0.4**
	20nm,0.5s						
KNDC				⇓S	**Sg**	**02 37 31.9**	**+0.9**
	52nm,0.5s						
KOTS	**Kotyrbulak**	**1.60**	**50**	P	**Pg**	**02 37 13.0**	**-0.2**
	12nm,0.3s						
KOTS				S	**Sg**	**02 37 34.8**	**+0.8**
	116nm,0.3s						
KOTS	**Kotyrbulak**	**1.60**	**50**	eP	**Pg**	**02 37 13.0**	**-0.2**
	12nm,0.3s						
KOTS				eS	**Sg**	**02 37 34.8**	**+0.8**
	116nm,0.3s						
MRKS	**Merke**	**1.71**	**289**	P	**Pg**	**02 37 15.4**	**+0.2**
	14nm,0.5s						
MRKS				S	**Sg**	**02 37 38.5**	**+1.1**
	82nm,0.2s						
MRKS	**Merke**	**1.71**	**289**	eP	**Pg**	**02 37 15.4**	**+0.2**
	14nm,0.5s						
MRKS				eS	**Sg**	**02 37 38.5**	**+1.1**
	82nm,0.2s						
KTBS	**Karatobe**	**1.75**	**31**	P	**Pg**	**02 37 15.5**	**-0.6**
	48nm,0.3s						
KTBS				S	**Sg**	**02 37 39.4**	**+0.5**
	143nm,0.5s						
SALK	**Salom-Alik**	**1.80**	**223**	⇓*i*P	**Pn**	**02 37 14.8**	**+0.8**
SALK				⇓*i*S	**Sn**	**02 37 38.5**	**+1.4**
KUU	**Kurty**	**1.80**	**21**	P	**Pg**	**02 37 16.1**	**-0.9**
	7.4nm,0.3s						
KUU				S	**Sg**	**02 37 40.0**	**-0.4**
	257nm,0.3s						
KUU	**Kurty**	**1.80**	**21**	eP	**Pg**	**02 37 16.1**	**-0.9**
	7.4nm,0.3s						
KUU				eS	**Sg**	**02 37 40.0**	**-0.4**
	257nm,0.3s						
CHKK	**Chushkaly**	**2.00**	**34**	Pg	**Pg**	**02 37 19.7**	**-1.0**
	14nm,0.2s						
CHKK				Lg	Lg	02 37 46.4	
	139nm,0.2s						
CHKK	**Chushkaly**	**2.00**	**34**	eP	**Pg**	**02 37 19.7**	**-1.0**
	14nm,0.2s						
CHKK				eS	**Sg**	**02 37 46.4**	**-0.2**
	139nm,0.2s						
ARSB	**Arslanbob**	**2.04**	**245**	⇑*i*P	**Pn**	**02 37 18.2**	**+0.9**
ARSB				⇑*i*S	**Sn**	**02 37 44.3**	**+1.3**
MNAS	**Manas**	**2.18**	**278**	⇓eP	**Pn**	**02 37 20.3**	**+1.0**
MNAS				⇓*i*S	**Sb**	**02 37 48.2**	**-1.5**
PRZ	**Przheval'sk**	**2.22**	**82**	⇑*i*P	**Pn**	**02 37 20.4**	**+0.6**
PRZ				⇑*i*S	**Sn**	**02 37 48.3**	**+0.7**
OHH	**Osh**	**2.61**	**230**	⇑*i*P	**Pn**	**02 37 25.9**	**+0.8**
OHH				⇑*i*S	**Sn**	**02 37 57.7**	**+0.6**
ARK	**Arkit**	**2.62**	**262**	⇓eP	**Pn**	**02 37 26.2**	**+1.0**
ARK				⇑*i*S	**Sn**	**02 37 58.2**	**+0.9**
SFK	**Sufi-Kurgan**	**2.64**	**214**	⇑*i*P	**Pn**	**02 37 26.5**	**+0.9**
SFK				⇑*i*S	**Sn**	**02 37 58.6**	**+0.6**
ARXS	**Arharly**	**2.66**	**41**	Pg	**Pb**	**02 37 30.4**	**0.0**
	20nm,0.4s						
ARXS				Lg	Lg	02 38 04.4	
	84nm,0.5s						
ARXS	**Arharly**	**2.66**	**41**	eP	**Pb**	**02 37 30.4**	**0.0**
ARXS				eS	**Sb**	**02 38 04.4**	**+1.2**
BLB	**Baldybastay**	**2.92**	**49**	Pg	**Pb**	**02 37 34.1**	**-0.7**
	25nm,0.4s						
BLB				Lg	Lg	02 38 10.8	
	69nm,0.3s						
BTLS	**Baital**	**3.00**	**341**	Pg	**Pb**	**02 37 37.1**	**+1.0**
	17nm,0.3s						
BTLS				Lg	Lg	02 38 15.9	
	15nm,0.2s						
BTLS	**Baital**	**3.00**	**341**	eP	**Pb**	**02 37 37.1**	**+1.0**
	17nm,0.3s						
BTLS				eS	**Sg**	**02 38 15.9**	**-2.8**
	15nm,0.2s						
PDGK	**Podgornoye**	**3.19**	**68**	⇑Pg	**Pb**	**02 37 38.0**	**-1.5**
	3.4nm,0.4s						
PDGK				⇑Lg	Lg	02 38 22.2	
	26nm,0.6s						
TRKS	**Terek-Say**	**3.27**	**259**	⇓*i*P	**Pn**	**02 37 35.5**	**+1.2**
TRKS				⇓*i*S	**Sn**	**02 38 14.1**	**+0.5**
KK31	**Karatay Array**	**3.73**	**285**	⇓Pg	**Pg**	**02 37 53.0**	**-0.9**
	3.6nm,0.6s,baz=101,slow=15,SNR=23						
KK31				Lg	Lg	02 38 39.5	
	7.7nm,0.4s,baz=97,slow=29,SNR=11						
KTMS	**Ketmen**	**3.83**	**70**	Pg	**Pb**	**02 37 51.3**	**+1.0**
	0.6nm,0.2s						
KTMS				Lg	Lg	02 38 40.4	
	13nm,0.4s						
KTMS	**Ketmen**	**3.83**	**70**	eP	**Pb**	**02 37 51.3**	**+1.0**
	0.6nm,0.2s						
KTMS				eS	**Sb**	**02 38 40.4**	**+3.5**
	13nm,0.4s						
BTK	**Batken**	**4.09**	**240**	⇑*i*P	**Pn**	**02 37 46.7**	**+1.2**
BTK				⇑*i*S	**Sn**	**02 38 33.7**	**0.0**
MAKZ	**Makanchi**	**6.56**	**43**	⇑Pn	Pn	02 38 24.8	+5.6
	1.3nm,0.7s						
MAKZ				⇑Sn	**Sn**	**02 39 37.2**	**+3.0**
	1.6nm,0.7s						
MAKZ				⇑Lg	Lg	02 40 11.9	
	2.2nm,0.6s						
MK31	**Makanchi Array**	**6.71**	**45**	Pn	**Pn**	**02 38 24.9**	**+3.6**
	1.9nm,0.6s,baz=222,slow=11,SNR=21						
MK31				⇓Sn	**Sn**	**02 39 41.4**	**+3.4**
	0.7nm,0.5s,baz=227,slow=27,SNR=4.4						
MK31				⇑Lg	Lg	02 40 15.5	
	2.5nm,0.7s						
KURBB	**Kurchatov Arra**	**8.68**	**13**	⇑Pn	**Pn**	**02 38 48.0**	**-0.2**
	0.5nm,0.3s						
KURBB				⇓Sn	**Sn**	**02 40 30.6**	**+4.3**
	3.1nm,0.6s						
KURBB				⇑Lg	Lg	02 41 16.6	
	15nm,0.7s						
KURK	**Kurchatov**	**8.78**	**13**	⇓Pn	**Pn**	**02 38 50.6**	**+0.9**
	0.4nm,0.4s						
KURK				⇑Sn	**Sn**	**02 40 30.6**	**+1.7**
	2.5nm,1.1s						
KURK				⇑Lg	Lg	02 41 17.7	
	10nm,1.1s						

*IDC **14** 02:44:25.1±1.4, 0.4°40S×128.0°07E, h0km, mb3.7/4, mbtmp3.9/5, ML4.3/1, Error ellipse: s-maj=54.2km s-min=21.9km az=70.0*
*NEIC **14** 02:44:27.7±1.6, 0.4°45S±0.0°07×128.0°00E±0.0°10, h10km±1km, mb4.1/4, Error ellipse: s-maj=18.5km s-min=9.9km az=60.0*

ISC 14 02:44:27.6±0.8, 0.4°43S±0.0°09×128.0°0E±0.0°1, h10km, n18, σ1°11/18, mb4.0/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
TNTI	**Ternate**	**1.32**	**334**		**Pb**	**02 44 53.5**	**+1.0**
FAKI	**Fak Fak**	**4.96**	**120**	Pn	**Pn**	**02 45 43.9**	**+1.7**
TOLI2	**Tolitoli**	**7.33**	**282**	Pn	**Pn**	**02 46 14.6**	**-0.1**
KAPI	**Kappang**	**9.37**	**241**	Pn	**Pn**	**02 46 44.4**	**+1.6**
KAPI	**Kappang**	**9.37**	**241**	Pn	**Pn**	**02 46 43.5**	**+0.8**
	2.8nm,0.3s,baz=63,slow=11,SNR=6.2						
	12nm,0.4s						
MTN	**Manton Dam**	**12.74**	**166**	Pn	**Pn**	**02 47 28.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**17.71**	**187**		**Pn**	**02 48 34.4**	**-0.1**
WB0	**Warramunga Arr**	**20.23**	**162**	P	**P**	**02 49 02.1**	**-1.0**
WB0				IAmb	IAmb	02 49 38.3	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**20.38**	**162**	P	**P**	**02 49 02.8**	**-2.0**
	comp=Z,0.5nm,0.5s,baz=341,slow=11,SNR=5.3			

comp=Z,2.4nm,0.8s
EVN Everest 48.48 309 P P 02 53 12.1 +0.6
MK31 Makanchi Array 61.65 326 P P 02 54 45.0 -0.7
MKAR Makanchi Array 61.65 326 P P 02 54 44.7 -1.0
MKAR Makanchi Array 61.65 326 P P 02 54 45.1 -0.6
comp=Z,0.5nm,0.3s,baz=115,slow=7.6,SNR=9.1
comp=Z,0.5nm,0.3s
KURBB Kurchatov Arra 65.88 328 P P 02 55 12.9 -0.6
comp=Z,0.6nm,0.5s,baz=128,slow=6.2,SNR=7.1
comp=Z,0.6nm,0.5s
ABKAR Akbulak array 76.12 321 P P 02 56 14.7 -1.1

*NEIC **14** 03:05:59.1±0.4,36°.876N±0°.010×97°.43W±0°.02,h8km±4km, Error ellipse: s-maj=2.0km s-min=1.3km az=59.0*
NEIC 14 03:05:58.9±0.4,36°.87N±0°.01×97°.44W±0°.02,h5km±1km, mb_Lg2.8/105,ML2.7/35,ML3.1/48,Error ellipse: s-maj=3.0km s-min=2.0km az=33.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.14**	**348**		Pg	03 06 02.6	+0.8
BLOK	**Blackwell**	**0.21**	**122**		Pg	03 06 03.6	+0.6
BLOK					Sg	03 06 06.8	+0.9
KAN09	**Caldwell North**	**0.30**	**332**		Pg	03 06 05.4	+0.7
KAN09				IAML		03 06 11.7	
	comp=N,4μm,0.2s						
KAN17	**Caldwell West**	**0.31**	**303**		Pg	03 06 05.6	+0.6
KAN17				IAML		03 06 10.3	
	comp=E,3μm,0.3s						
KAN17				IAML		03 06 10.5	
	comp=N,3μm,0.3s						
GC02	**Grant County #**	**0.34**	**266**		Pg	03 06 05.9	+0.5
KAN01	**Argonia South**	**0.38**	**318**		Pg	03 06 06.8	+0.6
KAN01					Sg	03 06 12.2	+1.0
KAN01				IAML		03 06 12.4	
	comp=E,2μm,0.4s						
KAN01				IAML		03 06 14.2	
	comp=N,1μm,0.6s						
KAN14	**Manchester OK**	**0.43**	**281**		Pg	03 06 07.6	+0.5
KAN14					Sg	03 06 13.6	+0.9
KAN08	**Anthony NE Sta**	**0.55**	**310**		Pg	03 06 10.0	+0.5
KAN08					Sg	03 06 17.5	+0.8
KAN08				IAML		03 06 18.2	
	comp=E,808nm,0.5s						
KAN08				IAML		03 06 19.5	
	comp=N,1μm,0.4s						
CROK	**Carrier**	**0.57**	**230**		Pg	03 06 10.2	+0.4
CROK				IAML		03 06 22.0	
	comp=N,2μm,0.5s						
CROK				IAML		03 06 22.2	
	comp=E,2μm,0.4s						
KAN10	**Anthony SW Sta**	**0.58**	**296**		Pg	03 06 10.6	+0.5
KAN10					Sg	03 06 18.6	+1.0
OK051	**E0350 and S346**	**0.61**	**127**		Pg	03 06 10.9	+0.3
OK051					Sg	03 06 18.9	+0.4
OK051				IAML		03 06 21.9	
	comp=E,816nm,0.5s						
OK051				IAML		03 06 26.2	
	comp=E,802nm,0.2s						
KAN12	**Harper NE Stat**	**0.61**	**314**		Pg	03 06 11.2	+0.5
KAN12					Sg	03 06 19.6	+0.9
T35A	**Sooner Cattle**	**0.75**	**86**		Pg	03 06 13.5	+0.2
T35A					Sg	03 06 23.2	+0.3
QUOK	**Quay**	**0.92**	**140**		Pg	03 06 16.6	+0.2
QUOK					Sg	03 06 28.4	0.0
QUOK				IAML		03 06 31.7	
	comp=N,467nm,0.4s						
QUOK				IAML		03 06 35.6	
	comp=E,423nm,0.3s						
OK052	**Battle Ridge R**	**1.02**	**149**		Pg	03 06 18.2	-0.2
OK052					Sg	03 06 31.7	+0.1
OK052				IAML		03 06 37.5	
	comp=E,782nm,0.4s						
OK052				IAML		03 06 38.9	
	comp=E,458nm,0.3s						
OK029	**Liberty Lake**	**1.07**	**181**		Pg	03 06 19.4	-0.1
OK029					Sb	03 06 34.1	-0.2
OK029				IAML		03 06 40.2	
	comp=E,359nm,0.6s						
OK038	**West end E0370**	**1.12**	**250**		Pg	03 06 20.1	-0.3
OK038					Sg	03 06 35.2	+0.4
BCOK	**Bluff Creek, N**	**1.22**	**186**		Pg	03 06 22.0	-0.4
DEOK	**Depew**	**1.28**	**143**		Pg	03 06 22.7	-0.7
DEOK				IAML		03 06 43.3	
	comp=N,398nm,0.6s						
TUL3	**Leonard**	**1.64**	**125**		Pn	03 06 29.0	+0.6
TUL3				IAmb_Lg		03 06 51.5	
	comp=Z,110nm,0.7s						
R32A	**Long Quarter,**	**1.85**	**327**		Pn	03 06 32.2	+0.9
RLO	**Rose Lookout**	**2.07**	**109**		Pb	03 06 35.9	-1.1
X34A	**Smith Ranch, M**	**2.29**	**188**		Pn	03 06 38.7	+1.3
X34A				IAmb_Lg		03 07 16.4	
	comp=Z,42nm,0.8s						
KSU1	**Kansas State U**	**2.32**	**16**		Pn	03 06 39.2	+1.5
WMOK	**Wichita Mounta**	**2.39**	**207**	Pn	Pn	03 06 39.3	+0.6
WMOK				IAmb_Lg		03 07 14.7	
	comp=Z,26nm,0.7s						
SMWD	**Samnorwood**	**2.88**	**233**		Pn	03 06 46.7	+1.3
SMWD				IAmb_Lg		03 07 30.4	
	comp=Z,21nm,0.7s						
HHAR	**Hobbs**	**2.88**	**101**		Pn	03 06 46.7	+1.3
FW03	**Perrin-Whitt E**	**3.86**	**188**	IAmb_Lg		03 08 10.4	
	comp=Z,17nm,0.7s						
FW06	**Azle**	**3.89**	**181**	IAmb_Lg		03 08 07.6	
	comp=Z,16nm,0.8s						
AMTX	**Amarillo**	**3.97**	**241**	IAmb_Lg		03 08 08.1	
	comp=Z,31nm,0.7s						
N35A	**Tabor**	**4.22**	**19**		Pn	03 07 04.9	+1.0
RTBA	**Rita Blanca**	**4.28**	**266**		Pn	03 07 05.5	+0.6
RTBA				IAmb_Lg		03 08 19.3	
	comp=Z,18nm,0.9s						
DKNS	**Dickens**	**4.28**	**223**	IAmb_Lg		03 08 24.0	
	comp=Z,17nm,0.8s						
R40A	**Maddies Statio**	**4.35**	**69**		Pn	03 07 07.0	+1.4
R40A				IAmb_Lg		03 08 23.9	
	comp=Z,26nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.40**	**101**		Pn	03 07 07.1	+0.8
FCAR				IAmb_Lg		03 08 16.3	
	comp=Z,20nm,0.7s						
X40A	**Basin Creek Fa**	**4.44**	**121**		Pn	03 07 07.8	+0.9
X40A				IAmb_Lg		03 08 30.4	
	comp=Z,16nm,0.7s						
WHAR	**Wooly Hollow**	**4.46**	**109**	IAmb_Lg		03 08 19.7	
	comp=Z,40nm,0.9s						
FW14	**Alvarado**	**4.47**	**177**	IAmb_Lg		03 08 28.2	
	comp=Z,15nm,0.8s						
FW13	**Cleburne**	**4.51**	**180**	IAmb_Lg		03 08 28.7	
	comp=Z,16nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.62**	**299**	IAmb_Lg		03 08 35.7	
	comp=Z,21nm,0.9s						
UALR	**University of**	**4.64**	**115**	IAmb_Lg		03 08 26.5	
	comp=Z,17nm,0.8s						
SN07	**Snyder 07**	**4.72**	**218**	IAmb_Lg		03 08 28.6	
	comp=Z,12nm,0.8s						
WLAR	**White Oak Lake**	**4.76**	**131**	IAmb_Lg		03 08 39.4	
	comp=Z,28nm,0.8s						
SN05	**Snyder 5**	**4.89**	**216**	IAmb_Lg		03 08 45.8	
	comp=Z,15nm,0.9s						
P40A	**Paris**	**5.01**	**56**	IAmb_Lg		03 08 46.1	
	comp=Z,35nm,0.8s						
POST	**Post**	**5.05**	**222**	IAmb_Lg		03 08 49.9	
	comp=Z,15nm,1.1s						
CCM	**Cathedral Cave**	**5.07**	**75**	IAmb_Lg		03 08 44.9	
	comp=Z,32nm,0.8s						
N38A	**Joes South For**	**5.11**	**39**	IAmb_Lg		03 08 52.6	
	comp=Z,34nm,0.8s						
MSTX	**Muleshoe**	**5.23**	**238**	IAmb_Lg		03 08 54.4	
	comp=Z,13nm,0.8s						
Z41A	**Richland Creek**	**5.24**	**132**	IAmb_Lg		03 08 53.1	
	comp=Z,29nm,0.8s						
T25A	**Trinidad**	**5.58**	**275**	IAmb_Lg		03 09 05.3	
	comp=Z,11nm,0.7s						
PBMO	**Poplar Bluff**	**5.63**	**89**	IAmb_Lg		03 09 07.5	
	comp=Z,16nm,0.8s						
BRDY	**Brady**	**5.72**	**194**	IAmb_Lg		03 09 13.5	
	comp=Z,11nm,0.7s						
SGCY	**Sterling City**	**5.81**	**213**	IAmb_Lg		03 09 12.2	
	comp=Z,19nm,0.9s						
K30B	**Basset**	**6.03**	**345**	IAmb_Lg		03 09 24.1	
	comp=Z,28nm,0.8s						
435B	**Jarrell**	**6.08**	**181**	IAmb_Lg		03 09 17.7	
	comp=Z,19nm,0.8s						
Q24A	**Divide**	**6.44**	**291**	IAmb_Lg		03 09 29.6	
	comp=Z,8.3nm,0.8s						
JCT	**Junction City**	**6.67**	**198**	IAmb_Lg		03 09 41.5	
	comp=Z,23nm,1.2s						
OZNA	**Ozona**	**6.68**	**208**	IAmb_Lg		03 09 38.5	
	comp=Z,9.9nm,0.9s						
ECSD	**EROS Data Cent**	**6.88**	**5**	IAmb_Lg		03 09 38.9	
	comp=Z,7.9nm,0.8s						
ISCO	**Idaho Springs**	**7.06**	**297**	IAmb_Lg		03 09 54.6	
	comp=Z,7.8nm,0.7s						
MNHN	**Manahans**	**7.06**	**220**	IAmb_Lg		03 09 52.1	
	comp=Z,7.4nm,0.9s						
HNDO	**Hondo**	**7.49**	**192**	IAmb_Lg		03 10 05.7	
	comp=Z,14nm,0.8s						
I37A	**Lemond, Waseca**	**7.77**	**22**	IAmb_Lg		03 10 08.3	
	comp=Z,16nm,1.0s						
L42A	**Oliver, Polo**	**7.90**	**47**	IAmb_Lg		03 10 12.1	
	comp=Z,16nm,0.8s						
735A	**Kenedy**	**8.00**	**182**	IAmb_Lg		03 10 35.5	
	comp=Z,18nm,0.7s						
JFWS	**Jewell Farm**	**8.18**	**40**	IAmb_Lg		03 10 34.2	
	comp=Z,14nm,0.7s						
I40A	**Norwalk**	**8.73**	**34**	IAmb_Lg		03 10 39.2	
	comp=Z,8.9nm,0.8s						
RSSD	**Black Hills**	**8.81**	**327**	IAmb_Lg		03 10 47.1	
	comp=Z,7.3nm,0.9s						
F33A	**5 Mile Ranch,**	**9.00**	**5**	IAmb_Lg		03 10 48.7	
	comp=Z,6.3nm,0.9s						
SPMN	**Marine on St.**	**9.05**	**21**	IAmb_Lg		03 11 03.4	
	comp=Z,8.1nm,1.0s						
EPT	**El Paso**	**9.06**	**238**	IAmb_Lg		03 11 12.4	
	comp=Z,7.1nm,0.7s						
K22A	**Casper**	**9.06**	**312**	IAmb_Lg		03 11 06.4	
	comp=Z,12nm,0.7s						
E28A	**Huff**	**9.99**	**347**	IAmb_Lg		03 11 44.4	
	comp=Z,8.7nm,0.7s						

*NEIC **14** 03:24:11.2±2.2,27°.62N±0°.06×129°.96E±0°.07,h10km±1km, mb4.5/12, Error ellipse: s-maj=11.0km s-min=10.4km az=193.0*
*IDC **14** 03:24:14.1±1.9,27°.60N×130°.12E,h41km±15km,mb3.8/20, mbtmp4.0/23,ML3.5/3,MS3.5/23,Error ellipse: s-maj=18.4km s-min=9.2km az=124.0*
*NIED **14** 03:24:16.1,27°.85N×129°.82E,h43km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.98; $M_{\theta\theta}$0.81; $M_{\phi\phi}$-1.79; $M_{r\theta}$-0.66; $M_{\theta\phi}$-0.28; $M_{\phi r}$-0.69; Fault plane solution: $M_0$1.80000×10^{15} NP1: ϕ_s331.00000°,δ43.00000°,λ33.00000°. NP2: ϕ_s216.00000°,δ68.00000°,λ128.00000°.*
*JMA **14** 03:24:16.1±0.2,27°.9N±0°.8×129°.8E±0°.5,h43km±3km, MV3.8/26,NEAR AMAMI-OSHIMA ISLAND*
JMA Felt I J1 at NEAR AMAMI-OSHIMA ISLAND.
ISC 14 03:24:14.2±1.2,27.74N±0°.03×129°.92E±0°.04,h29km±8km, n96,σ1ŝ47/95,mb4.2/32,MS3.6/22,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.57**	**5**	P	**Pn**	**03 24 26.7**	**+0.4**
JZK				*e*S	**Sb**	**03 24 34.2**	**+0.6**
JAM	**Amami Oshima**	**0.72**	**337**	*i* P	**Pn**	**03 24 28.4**	**0.0**
JAM				*e*S	**Sb**	**03 24 36.7**	**-1.1**
JAMN	**Amaminishikomi**	**0.83**	**307**	*i* P	**Pn**	**03 24 29.5**	**-0.3**
JAMN				*e*S	**Sn**	**03 24 39.4**	**-1.7**
JTK	**Tokunoshima**	**0.86**	**273**	P	**Pb**	**03 24 31.0**	**+0.4**
JTK				*e*S	**Sn**	**03 24 41.3**	**-0.6**
JOKE	**Okinoerabujima**	**1.26**	**253**	*e*P	**Pb**	**03 24 37.0**	**-0.3**
JYRO	**Yoronjima**	**1.49**	**242**	P	**Pn**	**03 24 40.2**	**+1.2**
JYRO				*e*S	**Sn**	**03 24 58.2**	**+0.8**
JTAJ	**Takarajima**	**1.54**	**336**	P	**Pn**	**03 24 39.5**	**-0.2**
JTAJ				*e*S	**Sn**	**03 24 57.1**	**-1.6**
JOW	**Kunigami**	**1.72**	**239**	P	**Pn**	**03 24 43.6**	**+1.3**
	364nm,0.3s,baz=107,slow=20,SNR=129						
JOW				S	**Sn**	**03 25 04.9**	**+1.7**
	236nm,0.4s,baz=38,slow=29,SNR=7.9						
JOW	**Kunigami**	**1.72**	**239**	P	**Pn**	**03 24 43.5**	**+1.3**
JOW	**Kunigami**	**1.72**	**239**	*e*P	**Pn**	**03 24 43.5**	**+1.3**
JOW				*e*S	**Sn**	**03 25 04.4**	**+1.1**
JIH	**Iheya**	**1.88**	**248**	P	**Pn**	**03 24 45.7**	**+1.4**
JNTH	**Nagotoyohara**	**2.09**	**235**	P	**Pn**	**03 24 48.5**	**+1.3**
JNTH				*e*S	**Sn**	**03 25 14.1**	**+1.9**
JKDJ	**Kitadaitoujima**	**2.17**	**145**	P	**Pn**	**03 24 49.2**	**+0.9**
JKDJ				*e*S	**Sn**	**03 25 13.6**	**-0.6**
JMZ	**Minamidaito 2**	**2.24**	**148**		**Pn**	**03 24 49.5**	**+0.2**
JMZ	**Minamidaito 2**	**2.24**	**148**	P	**Pn**	**03 24 50.0**	**+0.7**
JMZ	**Minamidaito 2**	**2.24**	**148**	P	**Pn**	**03 24 49.7**	**+0.4**
JMZ				S	**Sn**	**03 25 15.1**	**-0.9**
JJT3	**Tamagusuku3**	**2.49**	**231**	P	**Pn**	**03 24 54.2**	**+1.5**
JJT3				S	**Sn**	**03 25 24.0**	**+1.9**
JYAK	**Yakushimahirau**	**2.54**	**12**	P	**Pn**	**03 24 54.2**	**+0.8**
JYAK				*e*S	**Sn**	**03 25 23.2**	**-0.1**
JAGN	**Aguni-jima**	**2.65**	**245**	P	**Pn**	**03 24 55.8**	**+0.8**
JAGN				*e*S	**Sn**	**03 25 26.1**	**0.0**
JKC	**Kuchinoerabu**	**2.72**	**5**	*e*P	**Pn**	**03 24 56.7**	**+0.8**
JMTN	**Minamitane**	**2.78**	**18**	*e*P	**Pn**	**03 24 57.8**	**+1.1**
JTN	**Tanegashima 3**	**3.04**	**17**	*e*P	**Pn**	**03 25 01.1**	**+0.7**
JKE	**Kume jima 2**	**3.13**	**244**	*e*P	**Pn**	**03 25 02.4**	**+0.8**
JMJ	**Miyako jima 2**	**5.08**	**236**	P	**Pn**	**03 25 29.3**	**+1.0**
JNU	**Nakatsue**	**5.42**	**9**		**Pn**	**03 25 34.2**	**+1.1**
JNU	**Nakatsue**	**5.42**	**9**	P	**Pn**	**03 25 34.6**	**+1.5**
	5.7nm,0.3s,baz=174,slow=23,SNR=19						
JNU				S	**Sn**	**03 26 34.6**	**0.0**
	7.7nm,0.5s,baz=269,slow=19,SNR=0.9						
	37nm,0.8s						
JNU	**Nakatsue**	**5.42**	**9**	P	**Pn**	**03 25 35.0**	**+1.9**
JNU	**Nakatsue**	**5.42**	**9**	S	**Sn**	**03 26 36.8**	**+2.2**
JMN	**Monobe**	**6.87**	**29**	Pn	**Pn**	**03 25 53.2**	**+0.3**
JMN	**Monobe**	**6.87**	**29**	P	**Pn**	**03 25 54.4**	**+1.4**
YOJ	**Yonaguni jima**	**7.02**	**244**	Pn	**Pn**	**03 25 52.7**	**-2.3**
TPUB	**Ta-pu**	**9.48**	**244**	Pn	**Pn**	**03 26 27.3**	**-1.5**
TPUB	**Ta-pu**	**9.48**	**244**	P	**Pn**	**03 26 28.1**	**-0.8**
INU	**Inuyama**	**9.70**	**37**	P	**Pn**	**03 26 33.6**	**+1.9**
KSRS	**Korea Array**	**9.83**	**351**	P	**Pn**	**03 26 36.5**	**+3.0**
	0.2nm,0.3s,baz=176,slow=13,SNR=9.2						
	0.1nm,0.5s						
MJAR	**Matsushiro Arr**	**11.23**	**37**	P	**Pn**	**03 26 53.5**	**+0.8**
	0.1nm,0.3s,baz=241,slow=14,SNR=2.6						
	0.3nm,0.3s						
ASAJ	**Asahikawa**	**19.25**	**29**	LR	LR	03 36 24.9	
	comp=Z,118nm,21.8s,baz=171,slow=38						
DAV	**Davao City (W)**	**20.97**	**192**	LR	LR	03 37 01.2	
	comp=Z,64nm,20.2s,baz=342,slow=37						
SONM	**Songino Array**	**27.16**	**324**	P	**P**	**03 29 56.5**	**+1.4**
	0.4nm,0.4s,baz=143,slow=9.4,SNR=4.0						
SONM				LR	LR	03 41 40.4	
	comp=Z,69nm,18.9s,baz=128,slow=38						
	0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**29.89**	**259**	P	**P**	**03 30 20.1**	**+0.6**
	0.8nm,0.3s,baz=61,slow=8.4,SNR=1.5						
	0.8nm,0.3s						
JAY	**Jayapura**	**31.83**	**159**	LR	LR	03 42 22.5	
	comp=Z,61nm,18.6s,baz=350,slow=34						
PETK	**Petropavlovsk-**	**32.62**	**31**	P	**P**	**03 30 42.7**	**-0.5**
	2.6nm,1.2s,baz=300,slow=12,SNR=1.8						
PETK				LR	LR	03 44 20.1	
	comp=Z,36nm,20.7s,baz=220,slow=37						
	2.6nm,1.2s						
YAK	**Yakutsk**	**34.29**	**360**	LR	LR	03 45 41.3	
	comp=Z,25nm,18.6s,baz=220,slow=37						
H11N2	**WAKE ISLAND Hy**	**34.67**	**95**	T	T	04 07 45.0	
	baz=290,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**34.67**	**95**	T	T	04 07 44.9	
	baz=290,slow=75,SNR=8.0						
H11N3	**WAKE ISLAND Hy**	**34.69**	**95**	T	T	04 07 46.0	
	baz=290,slow=75,SNR=11						
MA2	**Magadan**	**34.90**	**18**	LR	LR	03 46 55.8	
	comp=Z,18nm,19.3s,baz=170,slow=39						
SEY	**Seymchan**	**38.14**	**16**	LR	LR	03 47 48.9	
	comp=Z,41nm,18.2s,baz=224,slow=37						
MKAR	**Makanchi Array**	**41.68**	**310**	P	**P**	**03 31 59.1**	**-1.1**
	0.4nm,0.7s,baz=87,slow=11,SNR=2.4						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**41.98**	**321**	P	**P**	**03 32 00.8**	**-1.7**
	0.7nm,0.4s,baz=112,slow=5.3,SNR=3.1						
	0.7nm,0.4s						
TIXI	**Tiksi**	**43.95**	**360**	LR	LR	03 52 16.1	
	comp=Z,56nm,18.2s,baz=188,slow=38						
KURBB	**Kurchatov Arra**	**44.82**	**315**	P	**P**	**03 32 23.6**	**-1.8**
	0.5nm,0.4s,baz=100,slow=8.9,SNR=6.1						
KURBB				LR	LR	03 52 53.1	
	comp=Z,93nm,20.1s,baz=174,slow=38						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**47.60**	**174**	P	**P**	**03 32 43.1**	**-4.4**
	0.3nm,0.6s,baz=350,slow=7.9,SNR=6.9						
	0.3nm,0.6s						
NRIK	**Noril'sk**	**48.29**	**341**	P	**P**	**03 32 52.2**	**-0.1**
NRIK				IAmb	IAmb	03 32 52.9	
	comp=Z,3.8nm,0.7s						
NRIK	**Noril'sk**	**48.29**	**341**	P	**P**	**03 32 51.5**	**-0.8**
	comp=Z,3.5nm,0.7s,baz=104,slow=7.1,SNR=5.8						
NRIK				LR	LR	03 55 11.9	
	comp=Z,62nm,18.1s,baz=168,slow=38						
	comp=Z,3.5nm,0.7s						
KKAR	**Karatay Array**	**49.79**	**304**	P	**P**	**03 33 04.6**	**+0.4**
BVAR	**Borovoye Array**	**50.17**	**317**	P	**P**	**03 33 06.8**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=86,slow=8.8,SNR=3.2						
BVAR				LR	LR	03 56 24.1	
	comp=Z,109nm,18.7s,baz=117,slow=38						
	comp=Z,0.7nm,0.5s						
ASAR	**Alice Springs**	**51.26**	**175**	P	**P**	**03 33 12.7**	**-2.7**
ASAR	**Alice Springs**	**51.26**	**175**	P	**P**	**03 33 12.4**	**-3.0**
	comp=Z,0.7nm,0.7s,baz=348,slow=9.8,SNR=9.1						
	comp=Z,0.7nm,0.7s						
ABKAR	**Akbulak array**	**56.73**	**313**	P	**P**	**03 33 54.0**	**-1.1**
ARTI	**Arti**	**57.25**	**321**	LR	LR	04 01 11.3	
	comp=Z,64nm,19.2s,baz=124,slow=39						
L18K	**Granite Mounta**	**58.14**	**32**	P	**P**	**03 34 07.2**	**+2.3**
E22K	**Anaktuvuk Pass**	**60.21**	**25**	P	**P**	**03 34 21.2**	**+2.1**
E22K				IAmb	IAmb	03 34 32.8	
	comp=Z,2.9nm,0.8s						
KIRV	**Kirov**	**61.90**	**324**	LR	LR	04 03 51.4	
	comp=Z,51nm,20.5s,baz=92,slow=38						
BELG	**Belogornoye**	**63.98**	**317**	LR	LR	04 04 56.3	
	comp=Z,40nm,18.4s,baz=65,slow=38						
SPITS	**Spitsbergen Ar**	**67.66**	**348**	P	**P**	**03 35 07.3**	**-0.7**
	comp=Z,4.0nm,0.8s,baz=91,slow=10.0,SNR=5.9						
	comp=Z,4.0nm,0.8s						
ARCES	**ARCESS Array B**	**69.15**	**339**	P	**P**	**03 35 17.9**	**+0.5**
ARCES	**ARCESS Array B**	**69.15**	**339**	P	**P**	**03 35 17.1**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=70,slow=7.2,SNR=10.0						
ARCES				LR	LR	04 10 50.5	
	comp=Z,38nm,18.0s,baz=84,slow=40						
	comp=Z,1.1nm,0.7s						
KBZ	**Khabaz**	**69.37**	**309**	P	**P**	**03 35 18.8**	**-0.4**
	comp=Z,3.2nm,0.9s,baz=129,slow=1.9,SNR=5.8						
	comp=Z,3.2nm,0.9s						
FIA1	**FINESS Array S**	**72.29**	**331**	P	**P**	**03 35 36.6**	**0.0**
FINES	**FINESS Array B**	**72.29**	**331**	P	**P**	**03 35 37.5**	**+0.9**
FINES	**FINESS Array B**	**72.29**	**331**	P	**P**	**03 35 37.0**	**+0.4**
	comp=Z,4.1nm,0.6s,baz=73,slow=6.1,SNR=45						
FINES				LR	LR	04 10 59.4	
	comp=Z,55nm,18.7s,baz=66,slow=39						
	comp=Z,4.1nm,0.6s						
AKASG	**Malin Array Be**	**75.36**	**320**	P	**P**	**03 35 55.0**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=60,slow=6.0,SNR=8.6						
AKASG				LR	LR	04 12 04.8	
	comp=Z,57nm,18.2s,baz=78,slow=38						
	comp=Z,1.1nm,0.5s						
AKBB	**Malin Array Si**	**75.36**	**320**	P	**P**	**03 35 55.5**	**+0.7**
AKBB				IAmb	IAmb	03 35 56.9	
	comp=Z,2.5nm,0.7s						
KIEV	**Kiev**	**75.37**	**320**	P	**P**	**03 35 55.6**	**+0.8**
KIEV				IAmb	IAmb	03 35 56.9	
	comp=Z,2.2nm,0.7s						
BR131	**Keskin Array S**	**77.29**	**308**	IAmb	IAmb	03 36 09.1	
	comp=Z,2.2nm,0.8s						
BRTR	**Keskin Array B**	**77.29**	**308**	P	**P**	**03 36 05.5**	**-0.7**
BRTR	**Keskin Array B**	**77.29**	**308**	P	**P**	**03 36 06.1**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=108,slow=4.5,SNR=8.1						
	comp=Z,1.2nm,0.9s						
HFS	**Hagfors**	**78.18**	**333**	P	**P**	**03 36 10.3**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=91,slow=5.9,SNR=15						
HFS				LR	LR	04 14 17.4	
	comp=Z,38nm,18.4s,baz=70,slow=38						
	comp=Z,2.2nm,0.7s						
NC405	**NORSAR Array S**	**78.38**	**334**	P	**P**	**03 36 11.3**	**-0.4**
NC405				IAmb	IAmb	03 36 25.1	
	comp=Z,9.0nm,1.1s						
NB2	**NORSAR Array B**	**78.62**	**334**	P	**P**	**03 36 13.1**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=51,slow=5.6						
NOA	**NORSAR Array B**	**78.62**	**334**	P	**P**	**03 36 12.5**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=51,slow=5.6,SNR=14						
NOA				LR	LR	04 14 32.5	
	comp=Z,18nm,19.5s,baz=170,slow=38						
	comp=Z,1.5nm,0.6s						
BURAR	**Bucovina Array**	**79.12**	**318**	P	**P**	**03 36 17.1**	**+1.0**
MLR	**Muntele Rosu**	**79.71**	**316**	LR	LR	04 15 44.0	
	comp=Z,48nm,19.5s,baz=74,slow=39						
CLL	**Sollm**	**83.76**	**326**	*i* P	**P**	**03 36 42.1**	**+1.6**
CONA	**Conrad Observa**	**84.28**	**322**	*e*PcP	**P**	**03 36 46.6**	**+3.3**
	comp=Z,2.0nm,0.5s						
GERES	**GERESS Array B**	**84.89**	**323**	P	**P**	**03 36 46.8**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=54,slow=6.8,SNR=6.5						
GERES				LR	LR	04 18 33.5	
	comp=Z,44nm,19.3s,baz=40,slow=38						
	comp=Z,0.5nm,0.6s						
OBKA	**Obir**	**85.84**	**321**	*e*PcP	**P**	**03 36 54.2**	**+3.0**
	comp=Z,0.6nm,0.4s						
LESA	**Schwarzleotal**	**86.31**	**323**	*e*PcP	**P**	**03 36 55.3**	**+1.8**
	comp=Z,1.6nm,0.4s						
WTTA	**Wattenberg**	**86.96**	**323**	*e*PcP	**

comp=Z,3.8nm,0.6s
GO01 Chusmiza 48.10 302 P **P** 03 40 13.6 +0.4
H10S2 ASCENSION HYDR 48.23 17 T T 04 33 09.8
baz=31,slow=74,SNR=3.0
H10S3 ASCENSION HYDR 48.23 17 T T 04 33 04.4
baz=189,slow=74,SNR=3.3
H10N1 ASCENSION HYDR 49.35 17 T T 04 34 33.5
baz=192
H10N3 ASCENSION HYDR 49.35 17 T T 04 34 37.3
baz=192
H10N2 ASCENSION HYDR 49.37 17 T T 04 34 29.2
baz=192
PB16 IPOC Station P 49.40 303 P **P** 03 40 23.4 +0.1
PB16 IAmb IAmb 03 41 03.4
comp=Z,11nm,1.4s
LPAZ La Paz 50.55 305 P **P** 03 40 32.5 +0.6
LPAZ IAmb IAmb 03 40 33.0
comp=Z,3.9nm,0.5s
LPAZ La Paz 50.55 305 P **P** 03 40 32.5 +0.6
comp=Z,3.5nm,0.5s,baz=115,slow=5.2,SNR=30
comp=Z,3.5nm,0.5s
CASY Casey 53.66 160 P **P** 03 40 54.3 +0.6
CASY IAmb IAmb 03 40 55.6
comp=Z,5.3nm,0.8s
ASAR Alice Springs 98.74 162 P **P** 03 45 11.0 -0.3
comp=Z,1.0nm,0.8s,baz=183,slow=4.0,SNR=12
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 102.46 162 P **Pdif** 03 45 27.0 -0.9
comp=Z,0.9nm,0.8s,baz=189,slow=4.4,SNR=3.1
FINES FINESS Array B 124.59 28 PKP **PKPdf** 03 50 28.8 -0.3
comp=Z,0.8nm,0.5s,baz=161,slow=2.3,SNR=17
ARCES ARCESS Array B 131.16 22 PKP **PKPdf** 03 50 40.8 -0.7
comp=Z,0.5nm,0.6s,baz=170,slow=1.6,SNR=5.8
R32K Eaglecrest 142.45 304 P **PKPdf** 03 50 58.6 -4.0
baz=120
WHY Whitehorse 143.73 308 P PKPab 03 51 02.2 +0.1
baz=116
FARO Faro, Yukon 143.75 310 P PKPab 03 51 02.3 +0.2
baz=116
M31M Drury Creek, Y 144.18 310 P **PKPab** 03 51 04.0 +0.3
baz=115
O30N Mendenhall 144.31 307 P PKPbc 03 51 05.2 +0.6
baz=116
P30M Million Dollar 144.42 306 P **PKPdf** 03 51 05.8 -0.4
baz=116
N31M Braeburn, Yuko 144.48 309 P **PKPab** 03 51 04.9 +0.1
baz=115
P29M Windy Craggy 144.56 305 P **PKPdf** 03 51 06.6 +0.2
baz=116
HYT Haines Junctio 144.96 307 P **PKPdf** 03 51 07.4 +0.3
baz=115
N30M Aishikik Lake 145.04 308 P **PKPdf** 03 51 07.6 +0.4
baz=114
M30M Minto, Yukon 145.35 310 P **PKPbc** 03 51 08.0 +0.2
baz=113,SNR=5.9
H31M Peel River 145.53 316 P **PKPbc** 03 51 08.3 +0.1
baz=110,SNR=8.7
YUK4 Talbot Arm 145.68 307 P **PKPab** 03 51 10.1 +0.5
baz=113,SNR=7.1
F31M Tsiigehtchic 145.83 319 P **PKPdf** 03 51 08.7 +0.4
baz=108
G31M Satah River 145.87 318 P **PKPbc** 03 51 09.1 0.0
baz=109,SNR=5.2
J30M Hart River 145.89 313 P **PKPbc** 03 51 10.0 +0.5
baz=110,SNR=5.6
PINM Pinnacle 145.91 305 P **PKPbc** 03 51 10.4 +0.1
baz=114
INK Inuvik 146.01 320 P **PKPbc** 03 51 09.7 +0.1
baz=107,SNR=6.9
M29M Somme Creek 146.02 309 P **PKPbc** 03 51 10.0 +0.1
baz=112,SNR=9.2
L29M L29M 146.12 310 P **PKPbc** 03 51 10.4 +0.3
baz=111,SNR=14
K29M Barlow Dome 146.13 312 P **PKPbc** 03 51 10.4 +0.1
baz=111,SNR=9.7
I30M Mount Dempster 146.13 314 P **PKPbc** 03 51 10.1 -0.1
baz=110,SNR=10.0
O28M Mount Upton 146.15 306 P **PKPab** 03 51 11.4 -0.1
baz=113
YUK8 Steele Glacier 146.16 307 P **PKPbc** 03 51 10.6 0.0
baz=113
G30M tAoh Zraii Nji 146.62 318 P **PKPbc** 03 51 12.0 +0.6
baz=107,SNR=5.9
EPYK Eagle Plains 146.63 316 P **PKPbc** 03 51 11.4 -0.1
baz=108,SNR=6.7
F30M Barrier River 146.63 319 P **PKPbc** 03 51 11.2 -0.3
baz=106
DAWY Dawson 146.98 312 P **PKPbc** 03 51 12.1 -0.5
baz=109
BVCY Beaver Creek 147.05 308 P **PKPbc** 03 51 13.5 +0.7
baz=111
H29M Whitestone 147.22 316 P **PKPbc** 03 51 12.9 -0.2
baz=107,SNR=6.7
G29M Pine Creek 147.28 317 P **PKPbc** 03 51 13.2 0.0
baz=106,SNR=12
M27K Edge Creek, AK 147.48 308 P **PKPbc** 03 51 13.4 -0.7
baz=110
E29M Blow River 147.60 320 P **PKPbc** 03 51 13.9 -0.2
baz=104,SNR=8.4
I28M Miner Creek 147.62 314 P **PKPbc** 03 51 13.8 -0.6
baz=107
L27K Beaver Creek, 147.69 309 P **PKPbc** 03 51 14.7 +0.1
baz=109
K27K Chicken 148.09 311 P **PKPbc** 03 51 16.0 +0.5
baz=107
F28M Old Crow 148.15 318 P **PKPbc** 03 51 15.8 +0.2
baz=103,SNR=7.0
BMRM Bremner River 148.23 305 P **PKPbc** 03 51 16.8 +0.8
baz=110
L26K Log Cabin Wild 148.34 309 P **PKPbc** 03 51 16.4 +0.2
baz=108
I27K Kandik River 148.34 314 P **PKPbc** 03 51 16.5 +0.3
baz=105
N25K Chitina, Valde 148.44 306 P **PKPbc** 03 51 17.2 +0.6
baz=109
H27K Steamboat Moun 148.46 315 P **PKPbc** 03 51 16.3 -0.2
baz=104
EYAK Cordova Ski Ar 148.62 304 P **PKiKP** 03 51 18.1 -0.2
baz=110
G27K Doyon Strip 148.64 316 P **PKPbc** 03 51 16.5 -0.4
baz=103
J26L Joseph Creek 148.85 311 P **PKPbc** 03 51 17.9 +0.3
baz=106
D27M Malcolm River 148.87 321 P **PKPbc** 03 51 17.7 +0.2
baz=100
I26K Coal Creek Min 148.88 313 P **PKPbc** 03 51 17.8 +0.3
baz=105
SCRK Sand Creek 148.89 310 P **PKPbc** 03 51 18.0 +0.2
baz=106
E27K Coleen River 148.91 319 P **PKPbc** 03 51 17.5 -0.1
baz=101
KLU Klutina 149.01 305 P **PKiKP** 03 51 19.2 -0.1
baz=109
RIDG Independent Ri 149.19 310 P **PKiKP** 03 51 19.2 -0.3
baz=106
P23K Montague Islan 149.20 302 P **PKPbc** 03 51 19.0 +0.6
baz=110
PAX Paxson 149.25 308 P **PKPbc** 03 51 19.0 +0.4
baz=107
M24K Tolsona, Glenn 149.31 306 P **PKiKP** 03 51 20.0 +0.2
baz=108
G26K Porcupine Rive 149.50 316 P **PKPbc** 03 51 19.2 +0.3
baz=101
K24K Donnelly Dome 149.60 310 P **PKPbc** 03 51 19.2 -0.1
baz=105
SCM Sheep Creek Mo 149.75 306 P **PKiKP** 03 51 21.1 +0.3
baz=107
F26K Sheenjek River 149.77 318 P **PKiKP** 03 51 20.6 0.0
baz=100
C27K Jago River 149.88 321 P **PKPbc** 03 51 20.2 +0.4
baz=97
PRP Porcupine Dome 149.90 313 P **PKPbc** 03 51 20.5 +0.3
baz=102
M23K Glacier View 149.92 305 P **PKiKP** 03 51 21.2 +0.2
baz=107
KNK Knik Glacier 150.14 304 P **PKiKP** 03 51 22.4 +0.9
baz=107
HDA Harding Lake 150.25 311 P **PKPbc** 03 51 21.1 +0.2
baz=103
ILAR Eielson Array 150.30 311 PKPbc **PKPbc** 03 51 20.7 -0.3
comp=Z,4.0nm,0.8s,baz=130,slow=1.7,SNR=30
F25K Christian Rive 150.32 317 P **PKiKP** 03 51 22.1 +0.3
baz=99
G25K Bearman Lake 150.36 315 P **PKiKP** 03 51 22.0 +0.2
baz=100
PMR Palmer 150.50 305 P **PKPbc** 03 51 21.8 +0.3
baz=107
SONM Songino Array 150.71 87 PKPbc **PKPbc** 03 51 22.0 -0.7
comp=Z,1.2nm,0.7s,baz=222,slow=3.6,SNR=5.5
G24K Hadweenzic Riv 150.89 315 P **PKiKP** 03 51 22.8 -0.1
baz=99
H24K Noodor Dome 150.92 313 P **PKPbc** 03 51 22.7 +0.2
baz=100
MCK McKinley 150.95 309 P **PKPbc** 03 51 23.0 +0.4
baz=103
M22K Willow 151.00 305 P **PKiKP** 03 51 23.8 +0.6
baz=106
F24K Squaw Lake 151.16 317 P **PKPbc** 03 51 23.3 +0.4
baz=97
NEA2 Nenana 151.19 311 P **PKPbc** 03 51 22.7 -0.4
baz=101
I23K Minto, Yukon-K 151.41 312 P **PKPbc** 03 51 23.2 -0.3
baz=100
E24K Your Creek 151.45 318 P **PKiKP** 03 51 24.4 +0.3
baz=96
TRF Thorofare Moun 151.48 308 P **PKiKP** 03 51 24.4 0.0
baz=103
H23K Yukon River 151.59 313 P **PKPbc** 03 51 24.0 0.0
baz=99
C24K Franklin Bluff 151.62 321 P **PKPbc** 03 51 24.1 +0.2
baz=92
SKT Skwentna 151.71 305 P **PKiKP** 03 51 24.8 0.0
baz=104
E23K Chandalar 151.87 318 P **PKPbc** 03 51 24.7 +0.1
baz=95
TOLK Toolik Lake Re 151.89 319 P **PKiKP** 03 51 25.1 +0.1
baz=94
G23K Bananza Creek 151.90 315 P **PKiKP** 03 51 25.1 +0.1
baz=97
BPAW Bear Paw Mtn. 151.91 309 P **PKPbc** 03 51 24.7 -0.1
baz=101
MLY Manley 151.97 311 P **PKiKP** 03 51 25.7 +0.5
baz=99
COLD Coldfoot 152.02 316 P **PKiKP** 03 51 25.9 +0.7
baz=96
PPLA Purkeypile 152.21 306 P **PKPbc** 03 51 25.5 -0.1
baz=102
H22K Ishtalitna Cre 152.35 313 P **PKPbc** 03 51 25.6 -0.1
baz=97
M20K Styx River 152.42 304 P **PKPbc** 03 51 26.0 0.0
baz=104
CHUM Lake Minchumin 152.45 309 P **PKPbc** 03 51 26.2 +0.3
baz=100
G22K Bettles 152.50 315 P **PKPbc** 03 51 25.9 0.0
baz=95
E22K Anaktuvuk Pass 152.69 318 P **PKPbc** 03 51 26.4 0.0
baz=92
L20K Farewell, AK 152.89 305 P **PKPbc** 03 51 26.4 -0.6
baz=102
H21K Melozitna Rive 152.91 312 P **PKPbc** 03 51 27.0 0.0
baz=96
K20K Telida 153.13 307 P **PKPbc** 03 51 27.0 -0.5
baz=100
G21K Allakaket 153.27 314 P **PKiKP** 03 51 28.2 +0.4
baz=94
F21K Alatna River 153.30 316 P **PKPbc** 03 51 27.9 +0.2
baz=93
J19K Poorman 153.91 308 P **PKPbc** 03 51 29.2 +0.1
baz=98

*NEIC **14** 04:27:31.0±1.1,25.°1S±0.°1×179.°9E±0.°2,h519km±12km, mb4.2/11,Error ellipse: s-maj=32.0km s-min=9.6km az=53.0*
*IDC **14** 04:27:32.0±3.4,24.°95S×179.°76E,h536km±35km,mb3.0/9, mbtmp3.9/9,Error ellipse: s-maj=24.1km s-min=20.2km az=39.0*
ISC 14 04:27:28.9±0.7,25.°0S±0.°1×179.°9E±0.°1,h501km,n29, σ1§22/29,mb3.8/14,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**11.67**	**279**	P	**P**	**04 30 05.5**	**+1.5**
DZM	**Mount Dzumac**	**12.70**	**281**	P	**P**	**04 30 16.1**	**+1.0**
QRZ	**Quartz Range**	**16.94**	**200**	P	**P**	**04 30 58.2**	**-0.9**
ARMA	**Armidale**	**25.59**	**251**	P	**P**	**04 32 19.1**	**+1.5**
EIDS	**Eidsvold**	**26.08**	**263**	P	**P**	**04 32 22.2**	**+0.3**
EIDS				IAmb	IAmb	04 32 23.2	
	comp=Z,6.0nm,0.7s						
CTAO	**Charters Tower**	**31.43**	**272**	P	**P**	**04 33 08.9**	**+0.3**
CTAO				IAmb	IAmb	04 33 09.4	
	comp=Z,8.3nm,0.8s						
STKA	**Stephens Creek**	**34.26**	**250**	P	**P**	**04 33 32.2**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=114,slow=10.0,SNR=2.2						
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**41.80**	**262**	P	**P**	**04 34 33.7**	**-0.6**
ASAR	**Alice Springs**	**41.80**	**262**	P	**P**	**04 34 34.0**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=85,slow=9.7,SNR=35						
	comp=Z,1.4nm,0.4s						
WR8	**Warramunga Arr**	**42.12**	**267**	P	**P**	**04 34 35.5**	**-1.4**
WR8				IAmb	IAmb	04 35 05.8	
	comp=Z,14nm,1.3s						
WRA	**Warramunga Arr**	**42.27**	**267**	P	**P**	**04 34 37.2**	**-0.9**
WRA	**Warramunga Arr**	**42.27**	**267**	P	**P**	**04 34 37.3**	**-0.7**
	comp=Z,3.5nm,0.6s,baz=99,slow=6.9,SNR=30						
WRA				ScP	**ScP**	**04 39 18.6**	**-4.6**
	comp=Z,0.4nm,0.8s,baz=111,slow=3.1,SNR=1.8						
	comp=Z,3.5nm,0.6s						
KNRA	**Kununurra**	**48.62**	**271**	P	**P**	**04 35 26.2**	**-0.5**
KNRA				IAmb	IAmb	04 35 55.8	
	comp=Z,34nm,1.5s						
VNDA	**Vanda**	**53.28**	**185**	P	**P**	**04 36 00.5**	**+0.7**
VNDA	**Vanda**	**53.28**	**185**	P	**P**	**04 35 59.5**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=6.1,slow=6.0,SNR=1.9						
	comp=Z,0.4nm,0.8s						
QSPA	**South Pole Qui**	**65.08**	**180**	P	**P**	**04 37 20.6**	**+1.3**
QSPA				IAmb	IAmb	04 37 21.7	
	comp=Z,5.7nm,1.4s						
QSPA	**South Pole Qui**	**65.08**	**180**	P	**P**	**04 37 20.2**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=349,slow=1.4,SNR=12						
	comp=Z,2.0nm,0.7s						
BELA	**Belgrano 2**	**75.35**	**173**	P	**P**	**04 38 19.8**	**-0.2**
BELA				IAmb	IAmb	04 38 20.3	
	comp=Z,2.0nm,0.6s						
MAW	**Mawson**	**76.69**	**201**	P	**P**	**04 38 27.9**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=129,slow=12,SNR=3.5						
	comp=Z,0.9nm,0.6s						
SNAA	**Sanae**	**83.57**	**179**	P	**P**	**04 39 03.4**	**-0.2**
SNAA				IAmb	IAmb	04 39 38.4	
	comp=Z,7.5nm,1.5s						
SNAA	**Sanae**	**83.57**	**179**	P	**P**	**04 39 03.1**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=172,slow=6.9,SNR=1.8						
	comp=Z,0.3nm,0.5s						
NVAR	**Mina Array Bea**	**85.59**	**44**	P	**P**	**04 39 13.9**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=232,slow=4.8,SNR=3.6						
	comp=Z,0.4nm,0.7s						
TXAR	**Lajitas Array**	**91.07**	**58**	P	**P**	**04 39 40.6**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=219,slow=7.7,SNR=4.9						
	comp=Z,0.4nm,0.8s						
ARCES	**ARCESS Array B**	**132.95**	**348**	PKP	**PKiKP**	**04 45 46.4**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=48,slow=2.0,SNR=4.7						
FINES	**FINESS Array B**	**139.46**	**341**	PKP	**PKPdf**	**04 45 59.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=65,slow=4.7,SNR=3.5						
HFS	**Hagfors**	**143.61**	**348**	PKP	PKPab	04 46 03.7	-0.6
	comp=Z,1.8nm,0.4s,baz=40,slow=3.4,SNR=25						
AKASG	**Malin Array Be**	**145.85**	**326**	PKPbc	**PKPdf**	**04 46 09.4**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=46,slow=4.2,SNR=4.5						
BRTR	**Keskin Array B**	**148.17**	**306**	PKPbc	**PKPbc**	**04 46 17.6**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=66,slow=1.7,SNR=2.6						
BURAR	**Bucovina Array**	**149.84**	**325**	PKPbc	**PKiKP**	**04 46 23.8**	**+1.0**

CATAC 14 04:44:55.0±0.7,12.°N±4.°×8.°8W±.°,h24km±4km,M2.9/11, MLv2.9/11,Error ellipse: s-maj=9.4km s-min=3.8km az=36.4,confirmed,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POTN	**Potosi Cosigui**	**0.78**	**21**	P	Pn	04 45 11.2	+0.6
POTN				S	Sn	04 45 21.7	+0.2
CRIN	**San Cristobal**	**0.85**	**59**	P	Pn	04 45 11.5	+0.1
PKGN	**Cerro Pekin**	**0.90**	**63**	P	Pn	04 45 12.0	0.0
PKGN				S	Sn	04 45 24.8	+0.5
CNCH	**Conchagua**	**1.01**	**358**	P	Pb	04 45 14.1	+0.3
CNCH	**Conchagua**	**1.01**	**358**	S	Sb	04 45 26.9	+0.2
LCND	**La Caada**	**1.04**	**355**	P	Pn	04 45 13.8	-0.3
PLRN	**Geotermica Pol**	**1.05**	**72**	P	Pn	04 45 13.4	-0.8
PLRN				S	Sn	04 45 28.3	+0.1
CNGN	**Cerro Negro**	**1.10**	**78**	P	Pn	04 45 15.1	+0.2
COPN	**Copaltepe**	**1.18**	**94**	P	Pn	04 45 15.5	-0.5
MOMN	**Momotombo**	**1.24**	**83**	P	Pn	04 45 16.3	-0.5
MOMN				S	Sn	04 45 32.9	+0.1
MOM2	**El Cardon**	**1.29**	**82**	P	Pn	04 45 17.5	0.0
MOM2				S	Sb	04 45 34.6	-0.2
CHOHN	**Orocuina**	**1.36**	**27**	P	Pn	04 45 18.6	0.0
SAPS	**Ciudad Sandino**	**1.36**	**94**	P	Pn	04 45 19.0	+0.5
SAPS	**Ciudad Sandino**	**1.36**	**94**	S	Sn	04 45 36.3	+0.5
SCLA	**Alcaldia de Sa**	**1.69**	**328**	P	Pn	04 45 23.0	-0.1
SCLA	**Alcaldia de Sa**	**1.69**	**328**	S	Sn	04 45 44.9	+0.9
MARCA	**Marcala la Paz**	**1.90**	**353**	S	Sn	04 45 48.9	-0.3

*IDC **14** 04:51:03.8±0.6,54.°44N×164.°28E,h0km,mb3.8/24, mbtmp3.8/27,ML3.9/3,MS3.1/9,Error ellipse: s-maj=18.8km s-min=12.4km az=157.0*
*KRSC **14** 04:51:04.1±1.4,54.°42N×164.°38E,h46km±30km,Ml4.5*
*NEIC **14** 04:51:05.8±1.3,54.°5N±0.°1×164.°3E±0.°1,h10km±2km, mb4.1/51,Error ellipse: s-maj=21.3km s-min=10.4km az=155.0*
*MOS **14** 04:51:07.2±0.8,54.°47N×164.°30E,h39km,mb4.3/8,Error ellipse: s-maj=6.0km s-min=5.5km az=95.4*
ISC 14 04:51:05.9±2.7,54.°44N±0.°03×164.°40E±0.°04,h15km±17km, n417,σ1§02/445,mb4.1/52,MS3.5/4,2C,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.19**	**49**	PN	**Pn**	**04 51 26.9**	**-1.0**
BKI				S	**Sb**	**04 51 41.2**	**-2.0**
BKI	**Bering**	**1.19**	**49**	*eP*	**Pn**	**04 51 27.0**	**-1.0**
BKI				*eS*	**Sb**	**04 51 41.2**	**-2.0**
MKZ	**Mys Kozlova**	**1.56**	**275**	PN	**Pn**	**04 51 31.9**	**-1.2**
MKZ				S	**Sn**	**04 51 49.4**	**-3.6**
MKZ	**Mys Kozlova**	**1.56**	**275**	*eP*	**Pn**	**04 51 31.9**	**-1.2**
MKZ				*eS*	**Sn**	**04 51 49.5**	**-3.6**
KBTR	**Krutoberegovo**	**1.99**	**334**	PN	**Pn**	**04 51 36.6**	**-2.3**
KBTR				S	**Sn**	**04 51 58.7**	**-4.8**
KBTR	**Krutoberegovo**	**1.99**	**334**	*eP*	**Pn**	**04 51 36.7**	**-2.3**
KBTR				*eS*	**Sn**	**04 51 58.8**	**-4.8**
KBG	**Krutoberegovo**	**2.06**	**333**	PN	**Pn**	**04 51 37.8**	**-2.1**
KBG				S	**Sn**	**04 52 01.4**	**-3.9**
KBG	**Krutoberegovo**	**2.06**	**333**	*eP*	**Pn**	**04 51 37.9**	**-2.1**
KBG				*eS*	**Sn**	**04 52 01.4**	**-3.9**
TUMD	**Tumrok D**	**2.44**	**290**	PN	**Pn**	**04 51 44.6**	**-0.5**
TUMD				S	**Sn**	**04 52 13.1**	**-1.6**
TUMD	**Tumrok D**	**2.44**	**290**	*eP*	**Pn**	**04 51 44.7**	**-0.5**
TUMD				*eS*	**Sn**	**04 52 13.2**	**-1.6**
ZLN	**Zelenaya**	**2.59**	**309**	PN	**Pn**	**04 51 47.7**	**+0.3**
ZLN				S	**Sn**	**04 52 18.8**	**+0.1**
ZLN	**Zelenaya**	**2.59**	**309**	*eP*	**Pn**	**04 51 47.8**	**+0.3**
ZLN				*eS*	**Sn**	**04 52 18.9**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**2.60**	**307**	PN	**Pn**	**04 51 46.8**	**-0.7**
BZGR				S	**Sn**	**04 52 18.0**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**2.60**	**307**	*eP*	**Pn**	**04 51 46.9**	**-0.7**
BZGR				*eS*	**Sn**	**04 52 18.1**	**-0.8**
CIRR	**Tsirk**	**2.68**	**310**	PN	**Pn**	**04 51 48.7**	**+0.1**
CIRR				S	**Sn**	**04 52 20.2**	**-0.6**
CIRR	**Tsirk**	**2.68**	**310**	*eP*	**Pn**	**04 51 48.7**	**+0.1**
CIRR				*eS*	**Sn**	**04 52 20.3**	**-0.6**
LGNR	**Loginova**	**2.69**	**309**	PN	**Pn**	**04 51 49.0**	**+0.2**
LGNR				S	**Sn**	**04 52 21.1**	**-0.1**
LGNR	**Loginova**	**2.69**	**309**	*eP*	**Pn**	**04 51 49.1**	**+0.2**
LGNR				*eS*	**Sn**	**04 52 21.1**	**-0.1**
BZMR	**Bezymyannaya**	**2.69**	**305**	PN	**Pn**	**04 51 48.4**	**-0.4**
BZMR				S	**Sn**	**04 52 21.2**	**0.0**
BZMR	**Bezymyannaya**	**2.69**	**305**	*eP*	**Pn**	**04 51 48.4**	**-0.4**
BZMR				*eS*	**Sn**	**04 52 21.3**	**0.0**
BZWR	**Bezymyannyi-We**	**2.71**	**306**	PN	**Pn**	**04 51 48.6**	**-0.4**
BZWR	**Bezymyannyi-We**	**2.71**	**306**	*eP*	**Pn**	**04 51 48.7**	**-0.4**
SMKR	**Semkarok**	**2.72**	**323**	PN	**Pn**	**04 51 47.8**	**-1.2**
SMKR				S	**Sn**	**04 52 20.7**	**-1.0**
SMKR	**Semkarok**	**2.72**	**323**	*eP*	**Pn**	**04 51 47.8**	**-1.2**
SMKR				*eS*	**Sn**	**04 52 20.7**	**-1.0**
KMNR	**Kamenistaya**	**2.73**	**301**	PN	**Pn**	**04 51 48.9**	**-0.3**
KMNR				S	**Sn**	**04 52 22.2**	**+0.2**
KMNR	**Kamenistaya**	**2.73**	**301**	*eP*	**Pn**	**04 51 49.0**	**-0.3**
KMNR				*eS*	**Sn**	**04 52 22.3**	**+0.2**
KIRR	**Kirishev**	**2.78**	**305**	PN	**Pn**	**04 51 49.0**	**-0.9**
KIRR				S	**Sn**	**04 52 22.5**	**-0.7**
KIRR	**Kirishev**	**2.78**	**305**	*eP*	**Pn**	**04 51 49.1**	**-0.9**
KIRR				*eS*	**Sn**	**04 52 22.5**	**-0.7**
BDR	**Baidarnaya**	**2.80**	**321**	*eS*	**Sn**	**04 52 24.1**	**+0.3**
KPT	**Kopyto**	**2.84**	**304**	PN	**Pn**	**04 51 50.6**	**-0.2**
KPT				S	**Sn**	**04 52 25.5**	**+0.8**
KPT	**Kopyto**	**2.84**	**304**	*eP*	**Pn**	**04 51 50.6**	**-0.2**
KPT				*eS*	**Sn**	**04 52 25.6**	**+0.8**
KLY	**Klyuchi**	**2.84**	**313**	PN	**Pn**	**04 51 48.6**	**-2.1**
KLY				S	**Sn**	**04 52 20.7**	**-4.0**
KLY	**Klyuchi**	**2.84**	**313**	*eP*	**Pn**	**04 51 48.7**	**-2.1**
KLY				*eS*	**Sn**	**04 52 20.7**	**-4.0**
SRKR	**Sorokina**	**2.88**	**322**	*eS*	**Sn**	**04 52 24.5**	**-1.1**
SPN	**Mys Shipunski**	**2.93**	**244**	PN	**Pn**	**04 51 50.6**	**-1.2**
SPN				S	**Sn**	**04 52 23.2**	**-3.5**
SPN	**Mys Shipunski**	**2.93**	**244**	*eP*	**Pn**	**04 51 50.6**	**-1.2**
SPN				*eS*	**Sn**	**04 52 23.3**	**-3.5**
KII	**Karymskiy**	**2.93**	**264**	PN	**Pn**	**04 51 51.8**	**-0.2**
KII	**Karymskiy**	**2.93**	**264**	*eP*	**Pn**	**04 51 51.9**	**-0.2**
KOZ	**Kozyrevsk**	**3.06**	**304**	PN	**Pn**	**04 51 53.4**	**-0.2**
KOZ				S	**Sn**	**04 52 30.1**	**+0.2**
KOZ	**Kozyrevsk**	**3.06**	**304**	*eP*	**Pn**	**04 51 53.5**	**-0.2**
KOZ				*eS*	**Sn**	**04 52 30.2**	**+0.2**
NLC	**Nalytchevo**	**3.26**	**249**	PN	**Pn**	**04 51 55.6**	**-0.8**
NLC				S	**Sn**	**04 52 31.3**	**-3.5**
NLC	**Nalytchevo**	**3.26**	**249**	*eP*	**Pn**	**04 51 55.7**	**-0.8**
NLC				*eS*	**Sn**	**04 52 31.3**	**-3.5**
SRDR	**Sredinnyy**	**3.27**	**307**	PN	**Pn**	**04 51 56.3**	**-0.3**
SRDR				S	**Sn**	**04 52 34.8**	**-0.4**
SRDR	**Sredinnyy**	**3.27**	**307**	*eP*	**Pn**	**04 51 56.4**	**-0.3**
SRDR				*eS*	**Sn**	**04 52 34.9**	**-0.4**
SDLR	**Sedlovina**	**3.47**	**253**	PN	**Pn**	**04 51 59.9**	**+0.5**
SDLR				S	**Sn**	**04 52 38.4**	**-1.8**
SDLR	**Sedlovina**	**3.47**	**253**	*eP*	**Pn**	**04 51 59.9**	**+0.5**
SDLR				*eS*	**Sn**	**04 52 38.5**	**-1.8**
SMAR	**Somma**	**3.52**	**253**	PN	**Pn**	**04 51 59.9**	**-0.3**
SMAR				S	**Sn**	**04 52 39.5**	**-2.2**
SMAR	**Somma**	**3.52**	**253**	*eP*	**Pn**	**04 51 59.9**	**-0.3**
SMAR				*eS*	**Sn**	**04 52 39.5**	**-2.2**
UGLR	**Uglovaya**	**3.53**	**252**	PN	**Pn**	**04 52 00.2**	**0.0**
UGLR	**Uglovaya**	**3.53**	**252**	*eP*	**Pn**	**04 52 00.2**	**0.0**
KRER	**Koryakskii**	**3.53**	**253**	PN	**Pn**	**04 52 00.7**	**+0.3**
KRER				S	**Sn**	**04 52 39.6**	**-2.4**
KRER	**Koryakskii**	**3.53**	**253**	*eP*	**Pn**	**04 52 00.7**	**+0.3**
KRER				*eS*	**Sn**	**04 52 39.7**	**-2.4**
AVH	**Avacha**	**3.56**	**253**	PN	**Pn**	**04 52 00.6**	**0.0**
AVH	**Avacha**	**3.56**	**253**	*eP*	**Pn**	**04 52 00.6**	**0.0**
KRX	**Arik**	**3.57**	**255**	PN	**Pn**	**04 52 00.8**	**0.0**
KRX	**Arik**	**3.57**	**255**	*eP*	**Pn**	**04 52 00.9**	**0.0**
ESO	**Esso**	**3.59**	**297**	PN	**Pn**	**04 52 00.4**	**-0.6**
ESO	**Esso**	**3.59**	**297**	*eP*	**Pn**	**04 52 00.4**	**-0.6**
KOK	**Koryaka**	**3.60**	**254**	PN	**Pn**	**04 52 01.2**	**0.0**
KOK	**Koryaka**	**3.60**	**254**	*eP*	**Pn**	**04 52 01.2**	**0.0**
DALK	**Dalny**	**3.64**	**249**	PN	**Pn**	**04 52 01.2**	**-0.4**
DALK	**Dalny**	**3.64**	**249**	*eP*	**Pn**	**04 52 01.2**	**-0.4**
DALK				*eS*	**Sn**	**04 52 40.3**	**-4.0**
PET	**Petropavlovsk**	**3.70**	**250**		**Pn**	**04 52 01.8**	**-0.6**
PET	**Petropavlovsk**	**3.70**	**250**	*ePN*	**Pn**	**04 52 01.9**	**-0.5**
PET				MLR	MLR		
	comp=Z,200nm,11.0s						
GNL	**Ganaly**	**3.88**	**261**	PN	**Pn**	**04 52 05.8**	**+0.8**
GNL	**Ganaly**	**3.88**	**261**	*eP*	**Pn**	**04 52 05.8**	**+0.8**
RUS	**Russkaya**	**4.05**	**243**	PN	**Pn**	**04 52 06.9**	**-0.4**
RUS	**Russkaya**	**4.05**	**243**	*eP*	**Pn**	**04 52 07.0**	**-0.4**
KRMR	**Karymshinskiy**	**4.07**	**249**	PN	**Pn**	**04 52 08.1**	**+0.6**
KRMR	**Karymshinskiy**	**4.07**	**249**	*eP*	**Pn**	**04 52 08.2**	**+0.6**
PEA0B	**Petropavlovsk-**	**4.19**	**254**	Pn	**Pn**	**04 52 10.2**	**+0.9**
PEA0B	**Petropavlovsk-**	**4.19**	**254**	PN	**Pn**	**04 52 10.2**	**+0.9**
PETK	**Petropavlovsk-**	**4.19**	**254**		**Pn**	**04 52 09.3**	**0.

APC Apacha 4.57 254 eP Pn 04 52 15.8 +1.4
OSSR Ossora 4.88 352 PN Pn 04 52 18.6 0.0
OSSR Ossora 4.88 352 eP Pn 04 52 18.6 0.0
SHEM Shemya Is, Ala 6.03 103 Pn Pn 04 52 34.2 -0.2
comp=Z,5.1nm,0.3s,baz=286,slow=19,SNR=6.9
SHEM Sn Sn 04 53 39.0 -4.1
comp=Z,6.6nm,0.3s,baz=256,slow=19,SNR=5.9
SHEM LR LR 04 54 49.9
comp=Z,142nm,21.5s,baz=353,slow=37
comp=Z,25nm,0.5s
SMY Shemya 6.03 103 Pn Pn 04 52 35.5 +1.1
SMY Shemya 6.03 103 PN Pn 04 52 35.5 +1.1
SKR Severo-Kuril's 6.30 237 ePN Pn 04 52 38.3 +0.2
SKR MLR MLR
comp=Z,200nm,18.0s
MA2 Magadan 9.04 310 LR LR 04 56 55.9
comp=Z,42nm,20.1s,baz=22,slow=39
SEY Seymchan 10.54 329 LR LR 04 58 22.2
comp=Z,45nm,18.0s,baz=85,slow=42
ATKA Atka Island 12.98 91 Pn Pn 04 54 10.9 +1.3
SPIA Saint Paul Isl 14.48 69 P Pn 04 54 30.5 +0.4
baz=270
P08K Saint George I 14.88 71 P Pn 04 54 35.7 +0.2
baz=273
GAMB Gambell 15.33 43 P Pn 04 54 41.3 -0.1
baz=244
NIKH Nikolski High 15.87 84 P Pn 04 54 48.6 +0.1
baz=286
M11K Mekoryuk 16.82 57 P Pn 04 55 01.0 +0.5
baz=262
UNV Unalaska Valle 17.01 80 P Pn 04 55 03.6 +0.6
baz=284
AKUT Akutan 17.36 79 P 04 55 12.0 +3.4
ASAJ Asahikawa 17.51 243 P Pn 04 55 08.7 -0.6
comp=Z,0.9nm,0.3s,baz=21,slow=14,SNR=2.5
ASAJ LR LR 05 01 28.9
comp=Z,46nm,20.0s,baz=356,slow=36
comp=Z,6.2nm,0.7s
TNA Tin City 17.58 40 P Pn 04 55 10.4 +0.4
baz=244
K13K Kusilvak Mount 17.81 53 P Pn 04 55 13.3 +0.4
baz=259
F14K Arctic Creek 18.15 41 P Pn 04 55 17.2 +0.2
baz=247
ANM Nome 18.19 44 P Pn 04 55 17.5 -0.1
baz=250
M13K Dall Lake 18.23 58 P Pn 04 55 17.7 -0.3
baz=265
J14K Nanvaranak Lak 18.47 50 P P 04 55 20.7 -0.1
baz=258
L14K Kuka Creek 18.65 55 P P 04 55 22.5 -0.3
baz=263
ERM Erimo 18.75 237 P P 04 55 21.9 -2.1
ERM Erimo 18.75 237 P P 04 55 21.9 -2.1
ERM pmax pmax
comp=Z,46nm,1.3s
G15K Niukluk 18.87 43 P P 04 55 24.6 -0.7
baz=251
F15K North Star Dit 18.88 41 P Pn 04 55 26.9 +0.9
F15K North Star Dit 18.88 41 P P 04 55 25.2 -0.1
baz=248
M14K Bethel 18.94 57 P P 04 55 26.3 +0.3
baz=266
N14K Kuskokwak Cree 19.03 60 P P 04 55 27.1 +0.1
baz=268
O14K Tigyukauivet M 19.24 62 P P 04 55 28.9 -0.4
baz=271
L15K Ungalak Mounta 19.25 54 P P 04 55 28.7 -0.8
baz=264
K15K Wolf Creek Mou 19.32 52 P Pn 04 55 32.0 +0.8
K15K Wolf Creek Mou 19.32 52 P P 04 55 29.9 -0.2
baz=262
H16K Elim 19.50 45 P P 04 55 32.0 -0.1
baz=254
M15K Kasigluk River 19.56 57 P P 04 55 32.9 +0.2
baz=267
YAK Yakutsk 19.58 307 LR LR 05 03 36.4
comp=Z,36nm,22.0s,baz=138,slow=38
G16K Koyuk River 19.67 43 P P 04 55 33.9 -0.1
baz=252
C16K Lisburne Hills 19.75 34 P P 04 55 34.8 0.0
baz=241
N15K Kwethluk River 19.84 59 P P 04 55 35.8 0.0
baz=269
J16K Anvik River 19.90 50 P P 04 55 36.0 -0.5
baz=260
I17K Unalakleet 19.97 48 P P 04 55 36.7 -0.6
baz=258
SDPT Sand Point 20.09 73 P P 04 55 38.3 -0.3
baz=282
L16K Owhat River 20.21 54 P P 04 55 38.9 -1.0
baz=265
D17K Noatak River 20.25 36 P P 04 55 39.3 -0.9
baz=245
G17K Kiwalik Mounta 20.38 43 P P 04 55 41.1 -0.6
baz=254
M16K Timber Creek 20.42 56 P Pn 04 55 43.9 -0.4
M16K IAmb IAmb 04 55 56.1
comp=Z,6.3nm,0.8s
M16K Timber Creek 20.42 56 P P 04 55 42.1 0.0
baz=268
S14K Fog Glacier 20.43 70 P P 04 55 42.1 -0.3
baz=280
F17K Baldwin Pennin 20.44 41 P P 04 55 42.0 -0.2
baz=251
E17K Hotham Inlet 20.45 39 P P 04 55 41.9 -0.5
baz=248
N16K Nishlik Lake 20.50 58 P P 04 55 43.1 +0.1
baz=269
H17K Granite Mounta 20.54 45 Pn 04 55 44.9 -0.8
H17K IAmb IAmb 04 55 46.8
comp=Z,9.1nm,1.1s
H17K Granite Mounta 20.54 45 P P 04 55 43.8 +0.4
baz=256,SNR=5.1
C17K DeLong Mountai 20.55 34 P P 04 55 43.8 +0.2
baz=243
J17K VABM Dome 20.59 50 Pn 04 55 46.5 +0.2
J17K IAmb IAmb 04 55 50.8
comp=Z,10nm,1.2s
J17K VABM Dome 20.59 50 P P 04 55 44.5 +0.4
baz=261
CHNA Chernabura Isl 20.71 74 P Pn 04 55 46.8 -0.9
baz=284
L17K Donlin 20.80 53 P P 04 55 47.5 +1.2
baz=265
O16K Kokwok River B 20.85 60 P P 04 55 48.1 +1.3
baz=272
K17K Iditarod 20.86 52 P 04 55 48.1 +1.3
K17K IAmb IAmb 04 55 59.0
comp=Z,7.7nm,0.8s
K17K Iditarod 20.86 52 P P 04 55 47.6 +0.8
baz=264
P16K Nushagak River 20.93 62 P P 04 55 48.6 +0.9
baz=274
E18K Tukpahlearik C 21.02 38 P P 04 55 49.0 +0.5
baz=249
CHGN Chignik 21.05 70 P P 04 55 49.8 +0.9
baz=281
F18K Selawik 21.09 41 P P 04 55 50.0 +0.7
baz=252
M17K Holitna River 21.17 55 P P 04 55 52.3 +2.0
M17K IAmb IAmb 04 56 03.8
comp=Z,6.4nm,0.8s
M17K Holitna River 21.17 55 P P 04 55 50.7 +0.4
baz=268
H18K Honhosa River 21.23 45 P P 04 55 51.7 +0.8
H18K IAmb IAmb 04 56 16.9
comp=Z,7.4nm,1.1s
H18K Honhosa River 21.23 45 P P 04 55 51.5 +0.6
baz=258
N17K Nushagak Hills 21.28 58 P P 04 55 51.8 +0.3
baz=271
G18K Tagagawik 21.29 43 P 04 55 52.5 +1.0
G18K Tagagawik 21.29 43 P P 04 55 52.1 +0.6
baz=255
C18K Utukok River 21.29 35 P P 04 55 51.8 +0.3
baz=246
O17K Koliganek Bris 21.35 60 P P 04 55 52.6 +0.5
baz=273
B18K Kokolik River 21.40 33 P P 04 55 53.2 +0.5
baz=243
Q16K King Salmon 21.65 63 P P 04 55 56.5 +1.1
baz=276
J18K Innoko River 21.66 50 P P 04 55 56.9 +1.4
J18K Innoko River 21.66 50 P P 04 55 56.3 +0.8
baz=264
P17K Kvichak River 21.72 61 P P 04 55 56.6 +0.5
baz=275
GCSA Galena City Sc 21.77 46 P P 04 55 56.8 +0.2
baz=260
F19K Shaleruckik Mo 21.88 41 P 04 55 59.1 +1.3
F19K Shaleruckik Mo 21.88 41 P P 04 55 58.1 +0.3
baz=254
N18K Kilae Creek 21.92 57 P P 04 55 58.8 +0.5
baz=271
R17L Mt. Peulik Vol 21.94 66 P P 04 55 58.3 -0.3
baz=279
M18K Stony River 21.95 55 P P 04 55 59.2 +0.6
baz=269
G19K Purcell Mounta 21.97 43 P P 04 55 59.4 +0.6
baz=257
C19K Lookout Ridge 22.01 34 P P 04 55 59.6 +0.4
baz=246
A19K Wainwright 22.02 31 P P 04 55 59.9 +0.6
baz=242
H19K Roundabout Mou 22.09 44 P P 04 56 01.5 +1.4
H19K Roundabout Mou 22.09 44 P P 04 56 00.6 +0.5
baz=259
Q17K Contact Creek 22.10 64 P P 04 56 00.9 +0.5
baz=277
J19K Poorman 22.20 49 P P 04 56 01.4 +0.1
baz=263
E19K Redstone River 22.26 39 P P 04 56 04.2 +2.3
E19K IAmb IAmb 04 56 05.7
comp=Z,8.9nm,1.1s
E19K Redstone River 22.26 39 P P 04 56 02.5 +0.6
baz=253,SNR=6.3
D19K Kuna River 22.27 36 P P 04 56 02.4 +0.3
baz=250
O18K Koktuh Hills 22.30 60 P P 04 56 02.2 -0.2
baz=274
P18K Big Mountain, 22.32 61 P P 04 56 03.1 +0.4
baz=275
L19K White Mountain 22.42 53 P P 04 56 03.2 -0.5
baz=269
Q18K Katmai Hardscr 22.51 63 P P 04 56 05.2 +0.3
baz=277
N19K Bonanza Creek 22.60 57 P P 04 56 05.9 +0.1
baz=272
M19K Big River Lodg 22.63 54 P P 04 56 06.3 +0.3
baz=270
CHIR Chirikof Islan 22.68 70 P P 04 56 06.9 +0.4
baz=283
F20K Avaraart Lake 22.71 41 P P 04 56 07.3 +0.5
F20K Avaraart Lake 22.71 41 P P 04 56 07.1 +0.4
baz=256
H20K Anotleneega Mo 22.73 45 P P 04 56 07.0 0.0
baz=261
I20K Naaghedeneel 22.79 47 P P 04 56 07.3 -0.2
baz=263
K20K Telida 22.83 50 P 04 56 09.0 +1.0
K20K IAmb IAmb 04 56 10.6
comp=Z,8.0nm,1.4s
K20K Telida 22.83 50 P P 04 56 08.1 +0.1
baz=266
J20K Nowinta River 22.86 48 P 04 56 08.6 +0.3
J20K IAmb IAmb 04 56 12.1
comp=Z,5.4nm,1.1s
J20K Nowinta River 22.86 48 P P 04 56 07.7 -0.6
baz=264,SNR=6.9
D20K Etivluk River 22.87 36 P P 04 56 08.6 +0.2
baz=251
E20K Nigu River 22.87 37 P P 04 56 08.7 +0.2
baz=253
L20K Farewell, AK 22.88 53 P P 04 56 08.7 +0.1
baz=269
R18K Karluk 22.96 65 P P 04 56 09.7 +0.3
baz=280
B20K Meade River 23.15 33 P P 04 56 11.4 +0.3
baz=248
Q19K Cape Douglas, 23.18 62 P P 04 56 11.9 +0.2
baz=277
M20K Styx River 23.23 54 P P 04 56 12.5 +0.3
baz=271
IMAR Indian Mountai 23.27 44 P P 04 56 12.3 -0.2
USRK Ussuriysk Ar. 23.28 257 LR LR 05 05 37.3
comp=Z,41nm,20.3s,baz=88,slow=38
SII Sitkinak Islan 23.30 68 P P 04 56 13.2 +0.3
baz=282
P19K Oil Pt 23.31 60 P P 04 56 13.2 +0.2
baz=276
G21K Allakaket 23.46 42 P P 04 56 14.3 -0.1
baz=260
O20K Slope Mountain 23.57 59 P P 04 56 15.7 +0.1
baz=275
F21K Alatna River 23.61 41 P P 04 56 16.1 +0.3
F21K Alatna River 23.61 41 P P 04 56 15.8 0.0
baz=258,SNR=5.3
H21K Melozitna Rive 23.61 45 P P 04 56 16.8 +0.9
H21K IAmb IAmb 04 56 18.1
comp=Z,6.4nm,1.1s
H21K Melozitna Rive 23.61 45 P P 04 56 16.3 +0.5
baz=262,SNR=7.0
C21K Knifeblade Rid 23.63 36 P P 04 56 16.0 -0.1
baz=252
OHAK Old Harbor 23.64 66 P P 04 56 16.7 +0.5
baz=282
CHUM Lake Minchumin 23.65 49 P P 04 56 16.5 +0.3
baz=267
PPLA Purkeypile 23.67 52 P P 04 56 16.8 +0.2
baz=269
SPCR Spurr Chakacha 23.69 56 P P 04 56 16.9 0.0
baz=273
E21K Killik River 23.71 38 P P 04 56 17.3 +0.4
baz=255
B21K Ikpikpuk River 23.84 35 P P 04 56 18.9 +0.9
baz=252
Q20K Shuyak Island 23.87 62 P P 04 56 19.0 +0.6
baz=279
I21K Tanana 23.89 46 IAmb IAmb 04 56 19.7
comp=Z,4.3nm,1.0s
I21K Tanana 23.89 46 P P 04 56 18.9 +0.4
baz=264
KDAK Kodiak Island 23.91 64 P P 04 56 18.3 -0.5
baz=281
SKT Skwentna 23.98 54 P P 04 56 19.5 0.0
baz=272
HOM Homer 24.11 60 P P 04 56 20.5 -0.1
baz=277
F22K John River 24.16 40 P P 04 56 21.2 +0.1
baz=259
A22K Sinclair Lake 24.20 31 P P 04 56 21.4 0.0
baz=248
H22K Ishtalitna Cre 24.22 44 P P 04 56 21.9 +0.3
baz=263
CAPN Captain Cook N 24.24 57 P P 04 56 22.2 +0.4
baz=275
BPAW Bear Paw Mtn. 24.24 49 P P 04 56 22.1 +0.2
baz=268
D22K Ayikyak River 24.28 37 P P 04 56 22.5 +0.2
baz=255
G22K Bettles 24.31 42 P P 04 56 23.1 +0.6
baz=261
MLY Manley 24.40 46 P 04 56 23.8 +0.4
MLY Manley 24.40 46 P P 04 56 23.3 0.0
baz=266
E22K Anaktuvuk Pass 24.42 39 P P 04 56 23.6 +0.1
E22K Anaktuvuk Pass 24.42 39 P P 04 56 23.9 +0.4
baz=258
B22K Teshekpuk Lake 24.46 33 P P 04 56 23.9 +0.2
baz=251
TRF Thorofare Moun 24.54 50 P 04 56 25.3 +0.5
TRF IAmb IAmb 04 56 27.1
comp=Z,4.4nm,0.8s
TRF Thorofare Moun 24.54 50 P P 04 56 25.3 +0.5
baz=270
CUT Chulitna 24.56 53 P P 04 56 25.9 +1.1
baz=272
M22K Willow 24.66 54 P P 04 56 27.1 +1.5
baz=274
G23K Bananza Creek 24.86 42 P 04 56 28.2 +0.7
G23K IAmb IAmb 04 56 29.0
comp=Z,2.6nm,0.8s
G23K Bananza Creek 24.86 42 P P 04 56 28.3 +0.8
baz=263
COLD Coldfoot 24.86 41 P P 04 56 26.8 -0.6
COLD IAmb IAmb 04 56 29.8
comp=Z,7.3nm,1.0s
COLD Coldfoot 24.86 41 P P 04 56 27.4 -0.1
baz=262,SNR=5.6
RC01 Rabbit Creek A 24.90 56 P P 04 56 28.4 +0.5
baz=275
H23K Yukon River 24.96 45 IAmb IAmb 04 56 32.5
comp=Z,6.2nm,0.9s
H23K Yukon River 24.96 45 P P 04 56 29.0 +0.6
baz=265,SNR=14
I23K Minto, Yukon-K 24.99 46 P P 04 56 28.8 +0.2
baz=267,SNR=9.0
D23K Nanushuk River 25.01 37 P P 04 56 28.5 -0.3
baz=257
NEA2 Nenana 25.09 48 P P 04 56 29.4 -0.2
baz=268
MCK McKinley 25.14 50 P P 04 56 30.1 0.0
baz=270
PMR Palmer 25.14 55 P P 04 56 30.4 +0.4
baz=275
SEW Seward 25.15 58 P P 04 56 30.2 +0.1
baz=278
RND Reindeer 25.18 50 P P 04 56 30.1 -0.4
RND Reindeer 25.18 50 P P 04 56 30.1 -0.4
RND pmax pmax
comp=Z,12nm,1.4s
E23K Chandalar 25.22 39 P 04 56 31.4 +0.7
E23K IAmb IAmb 04 56 33.3
comp=Z,6.0nm,0.9s
E23K Chandalar 25.22 39 P P 04 56 30.7 0.0
baz=260,SNR=7.3
C23K Itkillik River 25.23 35 P P 04 56 30.8 +0.1
baz=256
TOLK Toolik Lake Re 25.34 38 P P 04 56 32.1 +0.3
TOLK IAmb IAmb 04 56 34.2
comp=Z,5.7nm,0.9s
TOLK Toolik Lake Re 25.34 38 P P 04 56 31.5 -0.2
baz=259
MAJO Matsushiro 25.41 236 i P P 04 56 34.0 +1.4
MJAR Matsushiro Arr 25.41 236 P P 04 56 31.0 -1.6
comp=Z,0.6nm,0.5s,baz=22,slow=8.9,SNR=8.4
comp=Z,0.6nm,0.5s
KNK Knik Glacier 25.48 55 P P 04 56 33.2 +0.1
baz=276
WRH Wood River Hil 25.51 48 P P 04 56 34.2 +0.9
WRH IAmb IAmb 04 56 46.9
comp=Z,4.5nm,0.7s
PWL Port Wells 25.60 56 P P 04 56 34.4 +0.2
baz=277
COLA College 25.62 47 P P 04 56 34.6 +0.3
baz=269
E24K Your Creek 25.64 39 P P 04 56 34.7 +0.2
baz=262
H24K Noodor Dome 25.65 45 P P 04 56 35.3 +0.7
baz=267
D24K Happy Valley 25.70 37 P P 04 56 34.9 -0.1
D24K Happy Valley 25.70 37 P P 04 56 35.7 +0.7
baz=259
F24K Squaw Lake 25.79 41 P P 04 56 36.0 +0.1
baz=263
M23K Glacier View 25.79 54 P P 04 56 36.0 0.0
baz=276
POKR Poker Plat Res 25.80 46 P P 04 56 36.4 +0.4
baz=269
C24K Franklin Bluff 25.86 36 P P 04 56 36.9 +0.5
baz=258
G24K Hadweenzic Riv 25.87 43 IAmb IAmb 04 56 38.4
comp=Z,5.3nm,0.8s
G24K Hadweenzic Riv 25.87 43 P P 04 56 37.2 +0.6
baz=266,SNR=6.7
SCM Sheep Creek Mo 25.98 54 P P 04 56 38.3 +0.6
baz=276
HDA Harding Lake 26.01 48 P P 04 56 37.8 -0.1
baz=271
ILAR Eielson Array 26.03 47 P P 04 56 37.1 -0.9
comp=Z,1.8nm,0.7s,baz=252,slow=8.0,SNR=20
comp=Z,1.8nm,0.7s
P23K Montague Islan 26.18 58 P P 04 56 38.8 -0.6
baz=279
GLI Glacier Island 26.20 56 P P 04 56 39.6 -0.1
baz=278
G25K Bearman Lake 26.42 43 P P 04 56 40.6 -0.9
baz=267
M24K Tolsona, Glenn 26.49 53 P P 04 56 41.8 -0.5
baz=276
H25L Birch Creek 26.51 44 P P 04 56 42.5 +0.2
baz=268
K24K Donnelly Dome 26.54 49 P P 04 56 43.3 +0.5
baz=273
D25K Kavik River 26.59 37 IAmb IAmb 04 56 43.8
comp=Z,4.3nm,0.7s
D25K Kavik River 26.59 37 P P 04 56 43.2 0.0
baz=261
PRP Porcupine Dome 26.61 46 P P 04 56 43.5 +0.1
baz=270
F25K Christian Rive 26.66 41 P P 04 56 43.8 0.0
baz=266
KLU Klutina 26.68 55 P P 04 56 43.7 -0.4
baz=278
J25K Salcha River, 26.69 48 P P 04 56 44.1 0.0
baz=272
PAX Paxson 26.74 51 P P 04 56 44.0 -0.6
baz=275
EYAK Cordova Ski Ar 26.91 57 P P 04 56 45.3 -0.6
baz=280
HARP HAARP 26.94 52 P P 04 56 46.8 +0.6
baz=276
RIDG Independent Ri 26.96 49 P P 04 56 46.9 +0.4
baz=274
BMAR Burnt Mountain 27.05 41 P 04 56 47.3 0.0
C26K Camden Bay 27.18 36 P P 04 56 48.7 +0.3
baz=282
F26K Sheenjek River 27.23 41 P P 04 56 49.4 +0.5
baz=267
N25K Chitina, Valde 27.30 54 P P 04 56 49.8 +0.2
baz=278
SCRK Sand Creek 27.32 49 P P 04 56 50.0 +0.2
baz=274
G26K Porcupine Rive 27.34 42 IAmb IAmb 04 56 51.8
comp=Z,4.8nm,1.1s
G26K Porcupine Rive 27.34 42 P P 04 56 50.6 +0.8
baz=269
BMRM Bremner River 27.39 55 P P 04 56 51.1 +0.7
baz=280
J26L Joseph Creek 27.47 48 P P 04 56 51.3 +0.1
baz=274
C27K Jago River 27.56 37 P P 04 56 52.3 +0.5
baz=263
I26K Coal Creek Min 27.61 46 P P 04 56 52.4 +0.2
baz=272
KAIM Kayak Island 27.67 58 P P 04 56 53.0 +0.1
baz=282
M26K Nabesna, AK 27.93 52 P P 04 56 56.0 +0.7
baz=278
MCARA McCarthy VSAT 28.08 54 P P 04 56 57.3 +0.8
baz=280
K27K Chicken 28.16 49 IAmb IAmb 04 56 59.1
comp=Z,4.9nm,1.1s
K27K Chicken 28.16 49 P P 04 56 57.0 -0.2
baz=276
G27K Doyon Strip 28.18 43 P P 04 56 57.1 -0.3
baz=271
I27K Kandik River 28.24 45 P P 04 56 58.5 +0.6
baz=273
H27K Steamboat Moun 28.25 44 IAmb IAmb 04 57 10.6
comp=Z,3.6nm,1.2s
H27K Steamboat Moun 28.25 44 P P 04 56 57.7 -0.3
baz=272
L27K Beaver Creek, 28.38 51 P P 04 56 59.2 0.0
baz=278,SNR=9.0
BCAR Beaver Creek A 28.40 51 P 04 56 59.2 -0.1
M27K Edge Creek, AK 28.46 52 IAmb IAmb 04 57 04.2
comp=Z,4.2nm,1.2s
M27K Edge Creek, AK 28.46 52 P P 04 56 59.7 -0.3
baz=279
D27M Malcolm River 28.49 38 P P 04 56 59.6 -0.6
baz=267
MESA MESA 28.83 57 P P 04 57 03.1 -0.3
baz=283
F28M Old Crow 28.86 41 P P 04 57 03.2 -0.2
baz=271
I28M Miner Creek 28.95 45 P P 04 57 04.2 -0.1
baz=275
CTG Chitna Glacier 28.96 55 P P 04 57 04.6 +0.1
baz=282
E28M Babbage River 28.99 39 P P 04 57 04.4 -0.1
baz=268
YUK3 Moose Creek 29.21 53 P P 04 57 06.7 -0.1
baz=281
D28M Stokes Point 29.29 37 P P 04 57 07.2 +0.1
baz=269
DAWY Dawson 29.33 48 P P 04 57 08.0 +0.4
baz=278
H29M Whitestone 29.52 44 P P 04 57 09.6 +0.3
baz=275
O28M Mount Upton 29.55 55 P P 04 57 09.4 -0.5
baz=283

E29M	**Blow River**	29.59	39	P		P	04 57 10.3	+0.5
	baz=271							
G29M	**Pine Creek**	29.61	42	P		P	04 57 10.6	+0.6
	baz=274,SNR=6.2							
I29M	**Ogilvie Camp,**	29.63	46	P		P	04 57 11.2	+0.9
	baz=276							
PINM	**Pinnacle**	29.68	56	P		P	04 57 11.4	+0.6
	baz=284							
M29M	**Somme Creek**	30.01	51	P		P	04 57 13.6	-0.1
	baz=281							
L29M	**L29M**	30.03	50	P		P	04 57 12.9	-1.0
	baz=280,SNR=5.4							
KSRS	**Korea Array**	30.09	251	P		P	04 57 12.8	-1.7
	comp=Z,0.3nm,0.5s,baz=41,slow=10,SNR=4.1							
	comp=Z,0.3nm,0.5s							
YUK4	**Talbot Arm**	30.15	54	P		P	04 57 15.3	+0.1
	baz=283							
EPYK	**Eagle Plains**	30.18	43	P		P	04 57 15.5	+0.4
	baz=276							
K29M	**Barlow Dome**	30.18	48	P		P	04 57 16.1	+0.9
	baz=280							
PNL	**Peninsula**	30.20	57	P		P	04 57 15.0	-0.4
	baz=285							
G30M	**tAoh Zraii Nji**	30.31	42	P		P	04 57 16.1	-0.2
	baz=275							
YUK6	**Outpost Mounta**	30.38	54	P		P	04 57 16.8	-0.4
	baz=284							
F30M	**Barrier River**	30.43	41	P		P	04 57 16.9	-0.4
	baz=275							
I30M	**Mount Dempster**	30.45	46	P		P	04 57 17.3	-0.4
	baz=278							
J30M	**Hart River**	30.57	47	P		P	04 57 18.4	-0.3
	baz=279							
M30M	**Minto, Yukon**	30.74	51	P		P	04 57 20.1	0.0
	baz=282							
HYT	**Haines Junctio**	30.82	54	IAmb		IAmb	04 57 26.6	
	comp=Z,4.6nm,1.2s							
HYT	**Haines Junctio**	30.82	54	P		P	04 57 20.9	0.0
	baz=285							
N30M	**Aishikik Lake**	30.86	53	P		P	04 57 21.3	+0.1
	baz=284							
P29M	**Windy Craggy**	31.02	57	P		P	04 57 22.6	0.0
	baz=286							
G31M	**Satah River**	31.08	42	P		P	04 57 22.9	-0.1
	baz=277							
H31M	**Peel River**	31.21	44	P		P	04 57 24.3	+0.1
	baz=279							
INK	**Inuvik**	31.22	39	P		P	04 57 23.9	-0.2
	baz=275							
F31M	**Tsiigehtchic**	31.23	41	P		P	04 57 24.1	-0.1
	baz=277							
P30M	**Million Dollar**	31.26	55	P		P	04 57 24.9	+0.1
	baz=286							
O30N	**Mendenhall**	31.50	54	P		P	04 57 26.6	-0.2
	baz=286							
M31M	**Drury Creek, Y**	31.91	51	IAmb		IAmb	04 57 33.1	
	comp=Z,2.8nm,0.9s							
M31M	**Drury Creek, Y**	31.91	51	P		P	04 57 30.6	+0.1
	baz=285							
WHY	**Whitehorse**	32.10	54	P		P	04 57 32.4	+0.2
	baz=287							
S31K	**Pelican**	32.29	59	P		P	04 57 34.4	+0.8
	baz=290							
FARO	**Faro, Yukon**	32.38	51	P		P	04 57 34.5	0.0
	baz=285							
N32M	**Quiet Lake**	32.80	53	P		P	04 57 38.2	-0.1
	baz=287							
P32M	**Atlin**	32.98	56	P		P	04 57 39.8	-0.1
	baz=289							
R32K	**Eaglecrest**	33.03	58	IAmb		IAmb	04 57 46.8	
	comp=Z,5.3nm,1.4s							
R32K	**Eaglecrest**	33.03	58	P		P	04 57 40.4	+0.1
	baz=290							
SIT	**Sitka**	33.06	60	P		P	04 57 40.9	+0.4
	baz=292							
MMPY	**Sheldon Lake,**	33.21	50	P		P	04 57 41.2	-0.6
	baz=286							
P33M	**Teslin, Yukon**	33.21	54	P		P	04 57 41.4	-0.5
	baz=289							
S32K	**Killisnoo**	33.29	59	P		P	04 57 42.3	-0.2
	baz=292							
Q32M	**Nakina River**	33.90	56	P		P	04 57 47.7	-0.3
	baz=291							
R33M	**Jennings River**	34.37	55	P		P	04 57 52.5	+0.5
	baz=291							
U33K	**Whale Pass**	34.55	61	P		P	04 57 52.9	-0.5
	baz=294							
H11N2	**WAKE ISLAND Hy**	34.70	176	T		T	05 35 55.7	
	baz=359,slow=76,SNR=22							
H11N3	**WAKE ISLAND Hy**	34.72	176	T		T	05 35 39.9	
	baz=359,slow=76,SNR=11							
H11N1	**WAKE ISLAND Hy**	34.72	176	T		T	05 35 57.3	
	baz=359,slow=76,SNR=9.9							
CRAG	**Craig**	34.82	62	P		P	04 57 55.0	-0.8
	baz=295							
DLBC	**Dease Lake**	35.18	56	P		P	04 57 58.6	-0.3
	baz=293							
T35M	**Bob Quinn**	35.65	59	P		P	04 58 02.6	-0.4
	baz=294							
V35K	**Ketchikan**	35.66	62	P		P	04 58 03.0	+0.1
	baz=296							
SONM	**Songino Array**	36.07	284	P		P	04 58 06.8	0.0
	comp=Z,0.2nm,0.6s,baz=60,slow=8.5,SNR=1.3							
	comp=Z,0.2nm,0.6s							
HHC	**Hu-ho-hao-te**	37.20	271	*e*P		P	04 58 15.8	-0.6
HHC				pmax		pmax		
	comp=Z,13nm,0.7s							
TOAD	**Toad River Com**	37.31	54	P		P	04 58 17.2	+0.1
	baz=295							
JOW	**Kunigami**	38.19	238	LR		LR	05 15 40.1	
	comp=Z,129nm,19.9s,baz=314,slow=39							
YKA	**Yellowknife Ar**	40.42	45	P		P	04 58 43.8	+0.8
	comp=Z,1.1nm,0.8s,baz=302,slow=8.5,SNR=6.9							
	comp=Z,1.1nm,0.8s							
SPITS	**Spitsbergen Ar**	46.21	351	P		P	04 59 29.7	+0.1
	comp=Z,3.2nm,0.7s,baz=342,slow=9.1,SNR=2.6							
	comp=Z,3.2nm,0.7s							
KURK	**Kurchatov**	49.17	303	P		P	04 59 53.0	+0.2
KURK	**Kurchatov**	49.17	303	P		P	04 59 53.0	+0.2
KURK				pmax		pmax		
	comp=Z,5.0nm,0.9s							
KURBB	**Kurchatov Arra**	49.27	303	P		P	04 59 53.7	+0.1
	comp=Z,1.5nm,0.8s,baz=54,slow=7.8,SNR=10							
	comp=Z,1.5nm,0.8s							
MKAR	**Makanchi Array**	49.85	297	P		P	04 59 57.8	-0.3
MKAR	**Makanchi Array**	49.85	297	P		P	04 59 58.5	+0.3
	comp=Z,0.6nm,0.6s,baz=57,slow=8.8,SNR=4.6							
MKAR				LR		LR	05 22 13.4	
	comp=Z,52nm,18.5s,baz=163,slow=38							
	comp=Z,0.6nm,0.6s							
BVAR	**Borovoye Array**	51.52	310	P		P	05 00 11.0	+0.3
	comp=Z,0.6nm,0.4s,baz=50,slow=12,SNR=2.2							
	comp=Z,0.6nm,0.4s							
BVAR	**Borovoye Array**	51.52	310	P		P	05 00 11.0	+0.3
NVAR	**Mina Array Bea**	52.89	74	P		P	05 00 22.6	+1.3
	comp=Z,0.3nm,0.7s,baz=311,slow=5.2,SNR=2.8							
	comp=Z,0.3nm,0.7s							
PZH	**PanZhiHua**	53.08	265	P		P	05 00 23.5	+0.8
ARTI	**Arti**	54.20	319	LR		LR	05 26 06.5	
	comp=Z,35nm,18.5s,baz=233,slow=39							
ARTI	**Arti**	54.20	319	*c i*P		P	05 00 30.5	+0.2
ARTI							05 02 28.1	
ARTI				S		S	05 08 07.3	+0.8
ARTI				SS		SS	05 11 47.4	-0.2
ARTI				pmax		pmax		
	comp=Z,2.0nm,0.6s							
PDAR	**Pinedale Array**	54.63	64	P		P	05 00 34.4	+0.4
	comp=Z,0.2nm,0.6s,baz=312,slow=3.8,SNR=2.5							
	comp=Z,0.2nm,0.6s							
KK31	**Karatay Array**	58.42	301	P		P	05 00 59.8	-0.9
KK31	**Karatay Array**	58.42	301	P		P	05 00 59.8	-0.9
KK31				pmax		pmax		
	comp=Z,8.0nm,1.3s							
FINES	**FINESS Array B**	59.85	338	P		P	05 01 10.0	-0.2
	comp=Z,1.0nm,0.6s,baz=31,slow=8.9,SNR=6.8							
	comp=Z,1.0nm,0.6s							
CMAR	**Chiang Mai Arr**	60.94	261	P		P	05 01 17.2	-1.1
	comp=Z,0.6nm,0.4s,baz=35,slow=7.5,SNR=4.7							
	comp=Z,0.6nm,0.4s							
ANMO	**Albuquerque**	61.97	69	*ce*P		P	05 01 35.3	+10
ANMO				pmax		pmax		
	comp=Z,2.0nm,1.7s							
NB2	**NORSAR Subarra**	62.91	346	P		P	05 01 30.7	-0.3
	comp=Z,0.5nm,0.5s,baz=18,slow=6.9							
NOA	**NORSAR Array B**	62.91	346	P		P	05 01 30.8	-0.3
	comp=Z,1.0nm,0.6s,baz=18,slow=6.8,SNR=6.1							
	comp=Z,1.0nm,0.6s							
HFS	**Hagfors**	63.40	344	P		P	05 01 33.8	-0.4
	comp=Z,1.0nm,0.6s,baz=57,slow=5.5,SNR=7.4							
	comp=Z,1.0nm,0.6s							
TXAR	**Lajitas Array**	67.77	71	P		P	05 02 04.7	+1.7
	comp=Z,0.8nm,0.6s,baz=299,slow=4.7,SNR=13							
	comp=Z,0.8nm,0.6s							
AKASG	**Malin Array Be**	68.72	331	P		P	05 02 08.3	-0.2
	comp=Z,0.8nm,0.5s,baz=29,slow=6.3,SNR=5.6							
	comp=Z,0.8nm,0.5s							
EKA	**Eskdalemuir Ar**	70.11	352	P		P	05 02 16.7	-0.3
	comp=Z,1.5nm,0.9s,baz=12,slow=6.7,SNR=2.5							
	comp=Z,1.5nm,0.9s							
KBZ	**Khabaz**	70.26	319	P		P	05 02 19.0	+0.9
	comp=Z,1.5nm,0.8s,baz=53,slow=10,SNR=1.9							
	comp=Z,1.5nm,0.8s							
GERES	**GERESS Array B**	74.17	340	P		P	05 02 42.0	+0.4
	comp=Z,0.4nm,0.5s,baz=42,slow=6.2,SNR=5.1							
	comp=Z,0.4nm,0.5s							
GERES	**GERESS Array B**	74.17	340	*e*P		P	05 02 42.5	+1.0
BRTR	**Keskin Array B**	77.14	323	P		P	05 02 59.1	+0.3
	comp=Z,0.7nm,0.7s,baz=24,slow=3.9,SNR=5.0							
	comp=Z,0.7nm,0.7s							
WRA	**Warramunga Arr**	78.44	209	P		P	05 03 06.3	+0.5
	comp=Z,0.4nm,0.5s,baz=16,slow=5.5,SNR=2.0							
	comp=Z,0.4nm,0.5s							
ASAR	**Alice Springs**	82.10	208	P		P	05 03 26.9	+1.3
	comp=Z,1.4nm,0.9s,baz=10,slow=6.4,SNR=7.0							
	comp=Z,1.4nm,0.9s							
ESDC	**Sonseca Array**	85.72	351	P		P	05 03 44.6	+0.5
	comp=Z,1.0nm,0.9s,baz=344,slow=6.6,SNR=5.4							
	comp=Z,1.0nm,0.9s							
QSPA	**South Pole Qui**	144.19	180	PKP		PKPab	05 10 37.6	+0.1
	comp=Z,2.2nm,0.8s,baz=244,slow=0.6,SNR=13							

RSNC ***14*** *04:54:09.4±0.7,6°N±2°×7°9W±°, h10km±5km, M3.3, mb5.0, mB5.0, ML2.7, Mw(mB)4.3*
UPA ***14*** *04:54:10.3±1.3,5.77N×79.38W, h14km±14km, MW4.3*
CATAC ***14*** *04:54:11.6±0.9,6°N±3°×7°9W±°, h26km±8km, M4.1/13, mb4.3/6, mB4.5/3, MLv4.0/13, Mw(mB)3.7/3, Error ellipse: s-maj=7.1km s-min=4.2km az=38.9, confirmed*

ISC 14 04:54:09.0±1.2, 5.74N±0.04×79.29W±0.04, h10km, n49, σ1§94/81, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SOLC	**Bahia Solano**	1.93	75	P		Pn	04 54 40.3	-1.6
SOLC				S		Sn	04 55 00.4	-5.8
PTAC	**Punta Ardita,**	2.02	46	P		Pn	04 54 41.7	-1.5
PTAC				S		Sn	04 55 04.4	-4.2
CACAO	**El Cacao, Vera**	2.23	316	*e*P		Pn	04 54 44.7	-1.4
CACAO				*e*S		Sn	04 55 11.2	-2.6
CACAO	**El Cacao, Vera**	2.23	316	P		Pn	04 54 44.5	-1.6
AZU	**Azuero**	2.26	334	*e*P		Pn	04 54 45.7	-0.8
AZU				*e*S		Sn	04 55 12.8	-1.6
AZU	**Azuero**	2.26	334	P		Pn	04 54 45.5	-1.0
CHIT3	**Chitre**	2.47	333	*e*P		Pn	04 54 48.6	-0.8
CHIT3				*e*S		Sn	04 55 18.4	-1.2
MALC	**Bahia Malaga**	2.59	131	P		Pn	04 54 50.8	-0.3
MALC				S		Sn	04 55 20.5	-2.2
GMAL	**Guarumal, Vera**	2.79	316	*e*P		Pn	04 54 53.7	0.0
GMAL				*e*S		Sn	04 55 26.3	-1.2
GMAL	**Guarumal, Vera**	2.79	316	P		Pn	04 54 53.3	-0.4
MAPC	**Malpelo**	2.89	233	P		Pn	04 54 57.0	+1.9
MAPC				S		Sn	04 55 34.9	+5.0
GR1C	**Gorgona, Isla**	2.94	158	P		Pn	04 54 54.7	-1.1
PLMC	**San Jos del P**	3.10	105	P		Pn	04 54 57.1	-1.0
PLMC				S		Sn	04 55 31.1	-4.3
UPA	**Univ. de Panam**	3.23	356	*e*P		Pn	04 54 60.0	+0.2
UPA				*e*S		Sn	04 55 37.5	-0.8
CBOC	**Ciudad Bolivar**	3.26	88	P		Pn	04 54 59.4	-1.0
CBOC				S		Sn	04 55 34.6	-4.7
DBBC	**Dabeiba**	3.31	67	P		Pn	04 55 01.6	+0.6
TOTI	**Torti**	3.31	17	*e*P		Pn	04 55 02.7	+1.8
TOTI				*e*S		Sn	04 55 38.8	-1.6
YOTC	**Yotoco, Valle**	3.41	121	P		Pn	04 55 01.6	-0.8
YOTC				S		Sn	04 55 39.3	-3.7
APAC	**Apartado, Choc**	3.44	51	P		Pn	04 55 05.4	+2.7
BCIP	**Isla Barro Col**	3.44	351	*e*P		Pn	04 55 03.0	+0.2
BCIP				*e*S		Sn	04 55 42.9	-0.8
BCIP	**Isla Barro Col**	3.44	351	P		Pn	04 55 02.9	+0.2
BCIP				S		Sn	04 55 44.0	+0.3
BCIP	**Isla Barro Col**	3.44	351	P		Pn	04 55 03.0	+0.2
BCIP				S		Sn	04 55 43.8	+0.1
JAMC	**Jamundi, Valle**	3.62	134	P		Pn	04 55 04.3	-1.0
JAMC				S		Sn	04 55 47.6	-0.7
HELC	**Santa Helena**	3.76	83	P		Pn	04 55 07.8	+0.3
HELC				S		Sn	04 55 52.0	0.0
HELC	**Santa Helena**	3.76	83	P		Pn	04 55 08.1	+0.6
HELC				S		Sn	04 55 50.9	-1.1
GUY2C	**Guyana, Caldas**	3.94	97	P		Pn	04 55 11.6	+1.6
GUY2C				S		Sn	04 55 55.9	-0.6
ANIL	**Santa Ana**	4.06	108	P		Pn	04 55 11.9	+0.4
ANIL				S		Sn	04 55 59.4	+0.1
POPC	**Popayan, Colom**	4.11	141	P		Pn	04 55 11.3	-0.8
BBAC	**Balboa, Cauca**	4.22	151	P		Pn	04 55 12.6	-1.0
UREC	**San Jos de Ur**	4.23	62	*e*P		Pn	04 55 15.8	+2.2
UREC				*e*S		Sn	04 56 03.2	+0.2
UREC	**San Jos de Ur**	4.23	62	P		Pn	04 55 15.2	+1.6
UREC				S		Sn	04 56 02.1	-0.9
ORTC	**Ortega, Tolima**	4.42	114	P		Pn	04 55 18.5	+2.3
PRTC				S		Sn	04 56 08.6	+0.8
BRU2	**Volcan**	4.54	312	S		Pn	04 55 18.5	+0.5
BRU2	**Volcan**	4.54	312	S		Sn	04 56 12.5	+1.6
ZARC	**Zaragoza, Cauc**	4.73	68	P		Pn	04 55 22.0	+1.5
ZARC				S		Sn	04 56 15.3	-0.1
PRAC	**Prado**	4.83	114	P		Pn	04 55 23.8	+2.0
PRAC				S		Sn	04 56 17.7	-0.1
PRAC	**Prado**	4.83	114	P		Pn	04 55 23.9	+2.1
ROSC	**El Rosal**	5.03	100	P		Pb	04 55 31.3	-6.1
GARC	**Garzon, Huila**	5.17	133	P		Pn	04 55 28.7	+1.9
GARC				S		Sn	04 56 27.9	+1.1
URMC	**La Uribe, Meta**	5.48	117	P		Pn	04 55 32.7	+1.8
	1µm135nm,0.7s							
URMC				S		Sn	04 56 33.2	-0.9
	1µm135nm,0.7s							
FLOC	**Florencia**	5.50	139	P		Pn	04 55 33.1	+2.0
OTAV	**Otavalo**	5.53	171	P		Pn	04 55 32.5	+0.6
SJCC	**San Jacinto, C**	5.79	44	P		Pn	04 55 37.5	+2.3
SJCC	**San Jacinto, C**	5.79	44	P		Pn	04 55 36.9	+1.7
SJCC				S		Sn	04 56 39.3	-2.5
VILC	**Villavicencio,**	5.80	106	P		Pn	04 55 39.1	+3.8
RUSC	**La Rusia**	6.17	88	P		Pn	04 55 43.9	+3.2
RUSC				S		Sn	04 56 54.4	+2.8
OCAC	**Ocana**	6.42	67	P		Pn	04 55 45.5	+1.7
OCAC				S		Sn	04 56 56.5	-0.8
ARGC	**Ariguani, Magd**	6.45	50	P		Pn	04 55 46.9	+2.7
ARGC				S		Sn	04 56 59.4	+1.5
URI	**Uribia**	9.33	50	P		Pn	04 56 24.6	+1.0
URI				S		Sn	04 58 09.9	+1.2

GCG ***14*** *05:12:51.7±2.0, 17.01N×94.73W, h36km±999km, MD3.7, ML3.6*
MEX ***14*** *05:12:53.9±0.9, 16.72N×94.69W, h47km±18km, MD4.1*

ISC 14 05:12:49.3±1.0, 16.64N±0.03×94.63W±0.02, h20km±3km, n42, σ1§83/80, 1C, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
NILT	**Santiago Nilte**	0.08	171	*e*P		Pg	05 12 53.1	0.0
NILT				*e*S		Sg	05 12 55.1	-0.4
CMIG	**Matias Romero**	0.51	331	*i*P		Pn	05 13 01.9	+0.4
	baz=152,slow=18							
CMIG				*e*S		Sn	05 13 09.3	-0.4
UXUV	**UXUV**	0.81	35	*e*P		Pn	05 13 06.9	+1.1
UXUV				*e*S		Sn	05 13 17.9	+0.6
TUIG	**Tuzandepetl**	1.40	8	*e*P		Pg	05 13 17.3	+0.9
TUIG				*e*S		Sb	05 13 32.3	0.0
TGIG		1.45	85	*e*P		Pg	05 13 16.9	-0.5
TGIG				*e*S		Sg	05 13 35.4	-0.9
TGIG		1.45	85	*i*P		Pg	05 13 16.9	-0.5
TGIG				*i*S		Sg	05 13 35.9	-0.4
TGIG				IAML			05 13 37.9	
	comp=N,651nm,0.4s							
NEUV	**Arroyo Zacate**	1.54	314	*e*P		Pg	05 13 19.7	+0.5
NEUV				*e*S		Sn	05 13 34.2	-1.1
PCIG		1.65	124	*e*P		Pb	05 13 19.4	+0.3
PCIG				*e*S		Sg	05 13 40.3	-2.2
HUIG	**Huatulco**	1.67	239	*e*P		Pb	05 13 20.0	+0.6
HUIG				*e*S		Sn	05 13 39.0	+0.7
HUIG	**Huatulco**	1.67	239	*i*P		Pb	05 13 19.8	+0.4
HUIG				*i*S		Sg	05 13 43.1	-0.2
HUIG				IAML			05 13 44.7	
	comp=E,640nm,0.4s							
PMUV	**Sontecomapan**	1.95	346	*e*P		Pb	05 13 24.4	+0.1
PMUV				*e*S		Sn	05 13 43.8	-1.6
OXLC	**Oaxaca**	2.03	282	*e*P		Pb	05 13 26.8	+1.1
OXLC				*e*S		Sg	05 13 53.9	-1.0
OXBJ	**Oaxaca**	2.05	282	*e*P		Pn	05 13 24.3	+1.4
OXBJ				*e*S		Sn	05 13 47.2	-0.9
VHO	**Vista Hermosa**	2.06	282	*e*P		Pg	05 13 28.1	-0.9
VHO				*e*S		Sn	05 13 49.5	+1.2
CCIG	**Comitan**	2.42	98	*e*P		Pb	05 13 33.4	+1.0
CCIG				*e*S		Sb	05 14 02.5	+0.7
CCIG	**Comitan**	2.42	98	*i*P		Pb	05 13 33.3	+1.0
PEIG	**Puerto Escondi**	2.50	255	*e*P		Pb	05 13 31.8	-1.9
PEIG				*e*S		Sn	05 13 58.9	-0.1
TOIG	**Toxpalan**	2.74	302	*e*P		Pb	05 13 35.4	-2.4
TOIG				*e*S		Sn	05 14 04.2	-0.7
PATR	**El Naranjo**	2.76	123	*e*P		Pb	05 13 37.2	-1.0
PATR				*e*S		Sb	05 14 12.5	+0.8
PAVE	**Pavencul**	2.77	121	*e*P		Pb	05 13 36.6	-1.7
PAVE				*e*S		Sb	05 14 12.1	+0.2
YOIG	**Yosondua**	2.80	275	*e*P		Pb	05 13 37.2	-1.8
YOIG				*e*S		Sn	05 14 06.4	-0.4
THIG		2.86	127	*e*P		Pb	05 13 39.5	-0.2
THIG				*e*S		Sb	05 14 11.4	-2.8
TXIG	**Tlaxiaco**	3.06	282	*e*P		Pb	05 13 42.5	-1.0
TXIG				*e*S		Sn	05 14 14.6	+1.3
TPIG	**Tehuac#an**	3.15	305	*e*P		Pn	05 13 40.3	+2.3
TPIG				*e*S		Sn	05 14 14.7	-0.5
HLIG	**Huajuapan de L**	3.25	292	*e*		Pb	05 13 44.5	-2.1
HLIG				*e*			05 14 26.2	
HUEH	**Huehuetenango**	3.28	113	*e*P		Pb	05 13 45.0	-2.1
HUEH				*e*S		Sb	05 14 24.0	-2.8
PNIG	**Pinotepa**	3.37	266	*e*P		Pn	05 13 44.2	+3.4
PNIG				*e*S		Sn	05 14 24.5	+4.2
JAUV	**Jalcomulco**	3.41	323	*e*P		Pn	05 13 44.5	+3.1
JAUV				*e*S		Sn	05 14 23.4	+2.0
LVIG	**Laguna Verde**	3.50	331	*e*P		Pn	05 13 46.0	+3.2
LVIG				*e*S		Sn	05 14 21.4	-2.3
RTAL	**Retalhuleu**	3.53	126	*e*P		Pb	05 13 48.5	-2.7
RTAL				*e*S		Sn	05 14 25.3	+1.0
STG0	**El Palmar, Qui**	3.86	124	*i*P		Pn	05 13 49.2	+1.4
TLIG	**Tlapa**	3.87	284	*e*P		Pn	05 13 51.4	+3.4
TLIG				*e*S		Sn	05 14 34.7	+1.7
MGIG	**Malinaltepec**	3.88	279	*e*P		Pn	05 13 51.9	+3.8
MGIG				*e*S		Sn	05 14 33.9	+0.7
SCIG	**Sabancuy**	4.01	54	*e*P		Pn	05 13 53.6	+3.9
SCIG				*e*S		Sn	05 14 35.0	-1.3
CRIG	**Cruz Grande**	4.32	272	*e*P		Pn	05 13 56.4	+2.4
CRIG				*e*S		Sn	05 14 43.9	+0.1
PBCV	**Popocatepetl**	4.41	302	*e*		Pb	05 14 02.6	-3.7
PBCV				*e*			05 15 05.4	
CXUV	**Coxquihui**	4.50	322	*e*P		Pn	05 14 00.3	+3.9
CXUV				*e*S		Sn	05 14 48.2	-0.1
PPM	**Popocatepetl**	4.50	303	*e*P		Pn	05 13 58.5	+1.5
PPM				*e*S		Sn	05 14 51.1	+1.9
YAIG	**Yautepec**	4.77	298	*e*P		Pn	05 14 03.0	+2.7
YAIG				*e*S		Sn	05 14 56.6	+1.4
DAIG	**Los Arroyos**	4.82	275	*e*P		Pn	05 13 58.5	-2.5
DAIG				*e*S		Sn	05 14 54.7	-1.6
PLIG	**Platanillo**	4.96	291	*e*P		Pn	05 14 03.8	+0.9
PLIG				*e*S		Sn	05 15 01.2	+1.3
ARIG	**Puente Sto Nin**	5.70	287	*e*P		Pn	05 14 10.7	-2.3
ARIG				*e*S		Sn	05 15 18.3	+0.5

DJA ***14*** *05:19:21.0±2.2,3°N±6°×9°2E±1°3, h20km±21km, M5.1/10, mb5.2/8, mB5.5/7, MLv5.2/10, Mw(mB)4.9/7*
IDC ***14*** *05:19:27.2±0.5,3.58N×92.96E, h0km, mb4.1/19, mbtmp4.1/22, ML4.4/2, MS2.5/1, Error ellipse: s-maj=25.3km s-min=13.0km az=57.0*
NEIC ***14*** *05:19:30.4±2.1,3.50N±0.04×93.17E±0.08, h10km±1km, mb4.7/54, Error ellipse: s-maj=13.9km s-min=5.3km az=290.0*

ISC 14 05:19:29.3±0.4, 3.46N±0.06×93.06E±0.06, h10km, n145, σ1§74/109, mb4.5/66, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SNSI	**Sinabang, Aceh**	3.42	108	P		Pn	05 20 23.1	+0.3
MLSI	**Meulaboh, Aceh**	3.43	76	P		Pn	05 20 24.1	+1.2
CMBY	**CAMPBELL BAY**	3.63	14	*e*P		Pn	05 20 24.5	-1.2
CMBY				*e*S		Sn	05 21 06.6	-2.0
CMBY				IAML			05 21 13.7	
	comp=N,2µm,0.4s							
CMBY				IAML			05 21 16.1	
	comp=E,3µm,0.6s							
LHMI	**Lhok Sumawe**	4.25	65	Pn		Pn	05 20 33.6	-0.

EVN IAmb IAmb 05 25 27.4
comp=Z,6.0nm,0.8s
LSA Lhasa 26.16 356 P **P** **05 25 05.6 +1.1**
LSA IAmb IAmb 05 25 15.5
comp=Z,14nm,0.6s
LSA Lhasa 26.16 356 P **P** **05 25 05.0 +0.5**
LSA pmax pmax
comp=Z,4.0nm,0.5s
MMRI Maumere 31.48 113 P **P** **05 25 51.0 -0.6**
KNMB Chin-men Tao 32.12 47 P **P** **05 25 55.7 -1.5**
SOEI Soe 33.75 113 P **P** **05 26 11.7 +0.1**
XAN Xi'an 33.82 24 P P 05 26 19.1 +7.2
XAN pmax pmax
comp=Z,8.0nm,0.9s
LZH Lanzhou 33.96 16 *e*P P 05 26 06.9 -6.3
LZH pmax pmax
comp=Z,22nm,1.3s
TNTI Ternate 34.38 94 P **P** **05 26 16.7 -0.3**
NIL Nilore 35.27 331 **P** **05 26 24.4 -0.1**
GTA Gaotai 36.31 9 *e*P P 05 26 43.6 +10
GTA pP pwP 05 26 49.6 +8.6
GTA pmax pmax
comp=Z,5.0nm,0.8s
NJ2 Nanjing 37.36 38 *e*P **P** **05 26 43.8 +1.5**
NJ2 pmax pmax
comp=Z,11nm,0.5s
FITZ Fitzroy Crossi 38.60 125 P **P** **05 26 51.9 -1.0**
KSH Kashi 39.10 339 P **P** **05 26 57.6 +0.6**
KSH pmax pmax
comp=Z,6.0nm,0.5s
FAKI Fak Fak 39.67 99 P **P** **05 27 01.9 -0.1**
KNRA Kununurra 40.12 119 P **P** **05 27 04.8 -0.8**
KNRA IAmb IAmb 05 27 26.2
comp=Z,21nm,1.2s
TARG Taragay, Kyrgy 40.48 342 P **P** **05 27 09.8 +0.9**
HHC Hu-ho-hao-te 40.78 22 *e*P **P** **05 27 14.3 +3.3**
HHC pmax pmax
comp=Z,13nm,0.7s
NRN Naryn 40.79 340 P **P** **05 27 12.7 +1.4**
GAR Garm 40.98 333 P **P** **05 27 12.5 -0.2**
GAR IAmb IAmb 05 27 21.5
comp=Z,22nm,1.0s
PRZ Przheval'sk 41.00 343 P **P** **05 27 12.9 0.0**
PRZ IAmb IAmb 05 27 23.9
comp=Z,16nm,0.7s
KDJ Kajisay 41.04 342 P **P** **05 27 13.6 +0.4**
KDJ IAmb IAmb 05 27 23.3
comp=Z,11nm,0.8s
BTK Batken 41.62 334 P **P** **05 27 20.5 +2.6**
BTK IAmb IAmb 05 27 28.5
comp=Z,21nm,0.8s
BOOM Boomskoye usch 41.76 341 P **P** **05 27 19.8 +0.8**
BOOM IAmb IAmb 05 27 28.7
comp=Z,6.9nm,0.7s
ARSB Arslanbob 41.79 337 P **P** **05 27 19.4 0.0**
ARSB IAmb IAmb 05 27 29.3
comp=Z,12nm,0.7s
H01W3 Cape Leeuwin H 42.98 154 T T 06 13 47.2
baz=331,slow=75,SNR=8.4
H01W2 Cape Leeuwin H 42.99 154 T T 06 13 41.8
baz=331,slow=75,SNR=8.9
H01W1 Cape Leeuwin H 42.99 154 T T 06 13 53.9
baz=331,slow=75,SNR=3.8
MKAR Makanchi Array 44.17 349 P **P** **05 27 37.9 -0.4**
MKAR Makanchi Array 44.17 349 P **P** **05 27 36.9 -1.4**
comp=Z,2.5nm,0.7s,baz=161,slow=7.7,SNR=14
comp=Z,2.5nm,0.7s
MAKZ Makanchi 44.24 349 P **P** **05 27 39.5 +0.6**
MAKZ IAmb IAmb 05 27 48.7
comp=Z,5.3nm,0.8s
KK31 Karatay Array 44.27 336 **P** **05 27 38.5 -0.8**
KK31 IAmb IAmb 05 27 48.6
comp=Z,8.4nm,0.7s
KKAR Karatay Array 44.27 336 P **P** **05 27 38.2 -1.0**
SONM Songino Array 45.67 13 P **P** **05 27 50.3 -0.1**
SONM Songino Array 45.67 13 P **P** **05 27 49.0 -1.4**
comp=Z,0.9nm,0.6s,baz=193,slow=8.5,SNR=5.3
SONM PcP **PcP** **05 29 28.5 0.0**
comp=Z,1.3nm,0.7s,baz=207,slow=2.9,SNR=3.7
comp=Z,0.9nm,0.6s
ULN Ulaanbaatar 45.85 13 P **P** **05 27 51.8 0.0**
WB0 Warramunga Arr 46.70 121 P **P** **05 27 59.1 +0.2**
WRA Warramunga Arr 46.73 122 P **P** **05 27 57.3 -1.8**
WRA Warramunga Arr 46.73 122 P **P** **05 27 59.0 -0.1**
comp=Z,5.5nm,0.6s,baz=297,slow=8.9,SNR=46
comp=Z,5.5nm,0.6s
WR8 Warramunga Arr 46.87 121 P **P** **05 28 00.3 +0.1**
WR0 Warramunga Arr 46.91 121 P **P** **05 27 59.5 -0.9**
FORT Forrest 47.68 138 P **P** **05 28 07.4 +1.2**
FORT IAmb IAmb 05 28 25.3
comp=Z,5.9nm,1.0s
ASAR Alice Springs 48.05 126 P **P** **05 28 09.3 0.0**
comp=Z,2.9nm,0.8s,baz=297,slow=7.7,SNR=23
ASAR PcP **PcP** **05 29 37.2 0.0**
comp=Z,1.3nm,0.6s,baz=298,slow=3.5,SNR=6.0
comp=Z,2.9nm,0.8s
KURBB Kurchatov Arra 48.57 348 P **P** **05 28 11.1 -1.7**
KURBB PcP **PcP** **05 29 37.1 -1.4**
comp=Z,1.2nm,0.8s,baz=171,slow=7.3,SNR=6.2
comp=Z,0.5nm,0.6s,baz=160,slow=3.8,SNR=1.5
comp=Z,1.2nm,0.8s
RAYN Ar Rayn 50.05 298 P **P** **05 28 24.6 -0.1**
RAYN IAmb IAmb 05 28 34.8
comp=Z,4.5nm,0.8s
ZAA0 Zalesovo Array 50.78 354 P **P** **05 28 29.1 -0.5**
ZAA0 IAmb IAmb 05 28 39.3
comp=Z,5.8nm,0.6s
ZALV Zalesovo Beam 50.78 354 P **P** **05 28 29.0 -0.6**
ZALV Zalesovo Beam 50.78 354 P **P** **05 28 28.8 -0.8**
comp=Z,2.7nm,0.5s,baz=170,slow=7.1,SNR=9.7
comp=Z,2.7nm,0.5s
BVAR Borovoye Array 52.83 343 P **P** **05 28 43.8 -1.2**
comp=Z,1.4nm,0.6s,baz=151,slow=9.2,SNR=3.9
comp=Z,1.4nm,0.6s
BRVK Borovoye 52.89 343 P **P** **05 28 47.2 +1.8**
BRVK IAmb IAmb 05 28 54.4
comp=Z,3.9nm,0.9s
AB31 Akbulak array 53.62 334 P **P** **05 28 53.6 +2.8**
AB31 IAmb IAmb 05 29 00.1
comp=Z,5.7nm,0.9s
STKA Stephens Creek 57.94 131 P **P** **05 29 22.7 +0.5**
comp=Z,1.4nm,0.5s,baz=319,slow=11,SNR=3.8
comp=Z,1.4nm,0.5s
GAZ Gaziantep 61.08 311 P **P** **05 29 48.0 +4.1**
GAZ IAmb IAmb 05 29 54.7
comp=Z,11nm,1.0s
H04N2 CROZET ISLANDS 61.42 211 T T 06 37 52.1
baz=48,slow=75,SNR=23
H04N1 CROZET ISLANDS 61.43 211 T T 06 37 48.0
baz=48,slow=75,SNR=24
H04N3 CROZET ISLANDS 61.44 211 T T 06 37 49.7
baz=48,slow=75,SNR=20
H04S1 CROZET ISLANDS 61.81 211 T T 06 37 51.5
baz=48
H04S3 CROZET ISLANDS 61.82 211 T T 06 38 04.2
baz=48
H04S2 CROZET ISLANDS 61.83 211 T T 06 38 05.7
baz=48
DIKM Dikmen 64.01 315 P P 05 29 52.6 -11
comp=Z,15nm,1.1s
BR104 Keskin Array S 64.54 313 P P 05 29 57.1 -10
comp=Z,3.3nm,1.1s
BR131 Keskin Array S 64.55 313 P **P** **05 30 08.0 +1.0**
BR131 IAmb IAmb 05 30 15.7
comp=Z,3.3nm,0.8s
BRTR Keskin Array B 64.55 313 P **P** **05 30 06.4 -0.6**
BRTR Keskin Array B 64.55 313 P **P** **05 30 04.9 -2.1**
comp=Z,0.6nm,0.6s,baz=133,slow=7.0,SNR=4.4
comp=Z,0.6nm,0.6s
BR105 Keskin Array S 64.56 313 P P 05 29 56.7 -10
comp=Z,3.5nm,1.1s
NRIK Noril'sk 65.88 358 P **P** **05 30 17.7 +2.8**
NRIK IAmb IAmb 05 30 24.5
comp=Z,7.4nm,1.2s
ELL Elmali 66.56 309 P **P** **05 30 20.4 +0.3**
ELL IAmb IAmb 05 30 30.0
comp=Z,8.2nm,0.8s
TIRR Tirgusor 69.64 316 P P 05 30 29.8 -9.3
AKASG Malin Array Be 70.97 323 P **P** **05 30 44.9 -2.2**
comp=Z,0.4nm,0.5s,baz=90,slow=5.2,SNR=5.0
comp=Z,0.4nm,0.5s
MLR Muntele Rosu 71.60 317 P **P** **05 30 51.5 +0.3**
MLR IAmb IAmb 05 31 01.4
comp=Z,6.1nm,0.8s
PEA0B Petropavlovsk- 72.20 35 P **P** **05 30 53.2 -1.3**
PEA0B IAmb IAmb 05 31 02.1
comp=Z,18nm,1.4s
BOSA Boshof 72.37 239 P **P** **05 30 57.4 +1.3**
BOSA IAmb IAmb 05 31 08.5
comp=Z,5.0nm,1.2s
BURAR Bucovina Array 72.61 319 P **P** **05 30 56.4 -0.8**
MAW Mawson 74.02 192 P **P** **05 31 05.3 +0.4**
comp=Z,1.5nm,0.7s,baz=350,slow=6.3,SNR=5.3
comp=Z,1.5nm,0.7s
KOLS Kolonicke sedl 74.83 320 *e*P P 05 31 19.7 +10
SUW Suwalki 75.46 325 P **P** **05 31 15.8 +2.2**
FIA1 FINESS Array S 76.11 333 P **P** **05 31 19.9 +2.7**
FINES FINESS Array B 76.11 333 P **P** **05 31 17.7 +0.6**
FINES FINESS Array B 76.11 333 P **P** **05 31 15.2 -2.0**
comp=Z,0.9nm,0.8s,baz=97,slow=7.7,SNR=5.0
comp=Z,0.9nm,0.8s
VYHS Vyhne 76.98 319 *e*P P 05 31 31.3 +8.9
MODS Modra-Piesok 77.99 319 *e*P P 05 31 36.4 +8.4
MORC Moravsky Berou 78.03 320 *e*P P 05 31 37.0 +8.7
KRUC Moravsky 78.66 319 *e*P P 05 31 40.1 +8.4
CONA Conrad Observa 78.87 318 *i* P P 05 31 41.9 +8.9
comp=Z,0.6nm,0.4s
ARSA Arzberg 79.01 317 *e*P P 05 31 43.5 +10
comp=Z,2.1nm,0.6s
ARCES ARCESS Array B 79.04 341 P **P** **05 31 32.3 -1.1**
comp=Z,0.8nm,0.8s,baz=101,slow=5.4,SNR=1.4
comp=Z,0.8nm,0.8s
SOKA Soboth 79.28 317 *e*P P 05 31 44.4 +9.1
comp=Z,2.7nm,0.6s
OBKA Obir 79.59 317 *e*P P 05 31 47.1 +10
comp=Z,1.9nm,0.6s
PRED Cave del Predi 80.26 316 P **P** **05 31 39.8 -0.8**
PRED IAmb IAmb 05 31 51.6
comp=Z,2.9nm,0.8s
GEC2 GERESS Array S 80.40 319 P **P** **05 31 41.4 +0.1**
GEC2 IAmb IAmb 05 31 51.5
comp=Z,5.0nm,0.7s
GERES GERESS Array B 80.40 319 P **P** **05 31 39.9 -1.4**
GERES GERESS Array B 80.40 319 P **P** **05 31 40.5 -0.8**
comp=Z,2.1nm,0.8s,baz=105,slow=4.7,SNR=13
comp=Z,2.1nm,0.8s
BRG Berggiesshubel 80.46 321 *e*P P 05 31 50.9 +9.5
BRG Amp 05 31 51.7
comp=Z,2.5nm,0.8s
LESA Schwarzleotal 80.95 317 *i* P P 05 31 52.7 +8.3
comp=Z,4.4nm,0.5s
WTTA Wattenberg 81.65 317 *e*P P 05 31 56.4 +8.3
comp=Z,3.0nm,0.5s
HFS Hagfors 81.72 330 P **P** **05 31 45.7 -2.3**
comp=Z,0.8nm,0.9s,baz=109,slow=7.9,SNR=5.5
comp=Z,0.8nm,0.9s
SQTA Sankt Quirin 81.94 317 *e*P P 05 31 57.6 +8.0
comp=Z,2.3nm,0.4s
MOTA Moosalm 82.02 317 *e*P P 05 31 58.1 +8.1
comp=Z,2.8nm,0.6s
FETA Feichten 82.25 317 *e*P P 05 32 00.1 +8.8
comp=Z,1.2nm,0.5s
RETA Reutte 82.25 317 *e*P P 05 31 59.9 +8.7
comp=Z,3.9nm,0.5s
KEST Kesra 82.89 305 P **P** **05 31 53.6 -1.2**
comp=Z,1.5nm,0.4s,baz=87,slow=5.3,SNR=2.4
comp=Z,1.5nm,0.4s
BFO Black Forest 83.93 318 P **P** **05 32 01.2 +1.5**
BFO IAmb IAmb 05 32 10.6
comp=Z,2.4nm,0.6s
VNDA Vanda 88.85 168 P **P** **05 32 23.9 +0.7**
comp=Z,0.6nm,0.5s,baz=311,slow=5.6,SNR=8.9
comp=Z,0.6nm,0.5s
EKA Eskdalemuir Ar 90.72 325 P **P** **05 32 31.4 -1.1**
comp=Z,1.1nm,0.8s,baz=101,slow=4.3,SNR=1.8
comp=Z,1.1nm,0.8s
QSPA South Pole Qui 93.39 180 P **P** **05 32 45.6 +0.9**
comp=Z,0.7nm,0.5s,baz=293,slow=1.4,SNR=6.3
comp=Z,0.7nm,0.5s
PDAR Pinedale Array 129.64 22 PKP **PKPdf** **05 38 38.4 -1.1**
comp=Z,0.3nm,0.7s,baz=321,slow=2.1,SNR=3.6
CPUP Villa Florida 143.64 228 PKP PKPab 05 39 02.5 +0.6
comp=Z,0.6nm,0.8s,baz=336,slow=4.7,SNR=4.7
TXAR Lajitas Array 143.66 25 PKP PKPab 05 39 02.3 +0.2
comp=Z,0.3nm,0.4s,baz=244,slow=0.9,SNR=14

NEIC ***14*** *05:26:23.9±1.1, 35.964N±0.009×117.659W±0.007, h2km±2km, Error ellipse: s-maj=1.4km s-min=0.7km az=174.0*

PAS 14 05:26:24.3±1.0, 35.976N±0.008×117.67W±0.01, h2km±3km, ML3.1/23, ML2.9/106(NEIC), Error ellipse: s-maj=1.3km s-min=1.0km az=224.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRC2	**Joshua Ridge**	**0.11**	**273**		Pg	05 26 26.7	+0.2
WVPM	**Volcano Peak E**	**0.12**	**257**		Pg	05 26 26.9	+0.2
WVPM					Sg	05 26 29.1	+0.7
MPMC	**Manual Prospec**	**0.17**	**61**		Pg	05 26 27.6	-0.1
MPMC				IAML	Sg	05 26 30.6	+0.6
	comp=N,2μm,0.4s						
MPMC				Sg	Sg	05 26 30.6	+0.6
MPMC				IAML		05 26 31.7	
	comp=E,3μm,0.7s						
WRVM	**Rose V. Centra**	**0.18**	**280**		Pg	05 26 27.9	+0.1
MFS	**McCloud Flat S**	**0.20**	**314**		Pg	05 26 28.4	0.0
MFS					Sg	05 26 31.8	+0.7
WNMM	**Nine Mile Cany**	**0.23**	**235**		Pg	05 26 29.1	+0.3
WNMM					Sg	05 26 32.6	+0.9
SRTC	**Snort**	**0.29**	**192**		Pg	05 26 30.4	+0.5
WSHM	**Spangler Hills**	**0.40**	**159**		Pg	05 26 31.8	-0.3
LRMC	**Laurel Mtn Rad**	**0.49**	**181**		Pg	05 26 33.8	0.0
LRMC				IAML		05 26 41.9	
	comp=E,2μm,0.4s						
CCCA	**Chr Cany lake**	**0.52**	**151**		Pg	05 26 34.6	+0.4
WORM	**Onyx Ranch**	**0.54**	**239**		Pg	05 26 34.6	-0.1
CWC	**Cottonwood Cre**	**0.57**	**325**		Pg	05 26 35.2	0.0
WBSM	**Bird Springs**	**0.58**	**221**		Pg	05 26 35.4	0.0
WBSM					Sg	05 26 43.5	+0.5
CGO	**Cerro Gordo**	**0.58**	**350**		Pg	05 26 36.2	+0.6
WHFM	**Hanning Flat**	**0.62**	**243**		Pg	05 26 36.1	-0.1
QSM	**Queen of Sheba**	**0.65**	**91**		Pg	05 26 36.8	0.0
QSM				IAML		05 26 49.7	
	comp=E,414nm,0.3s						
QSM				IAML		05 26 51.8	
	comp=N,513nm,0.7s						
DTP	**Desert Tortois**	**0.72**	**191**		Pg	05 26 37.8	-0.3
DTP					Sg	05 26 47.8	+0.3
ISA	**Isabella, Lake**	**0.72**	**245**		Sg	05 26 47.9	+0.4
ISA	**Isabella, Lake**	**0.72**	**245**		Pg	05 26 38.3	+0.1
ISA				IAML		05 26 48.3	
	comp=N,997nm,0.3s						
ISA				IAML		05 26 48.8	
	comp=E,723nm,0.3s						
WASM	**Alta Sierra Ca**	**0.76**	**252**		Pg	05 26 38.8	-0.1
WASM					Sg	05 26 49.1	+0.4
GWY	**Greenwater Val**	**0.84**	**75**		Pg	05 26 40.4	0.0
GWY				IAML		05 26 56.9	
	comp=N,361nm,0.5s						
GWY				IAML		05 26 58.2	
	comp=E,480nm,0.6s						
CCAC	**Calif City Air**	**0.87**	**199**		Pg	05 26 40.6	-0.4
CCAC					Sg	05 26 52.6	+0.4
GSC	**Goldstone, Bar**	**0.97**	**133**		Sg	05 26 56.0	+0.4
GSC	**Goldstone, Bar**	**0.97**	**133**		Pg	05 26 42.5	-0.5
GSC				IAML		05 26 58.4	
	comp=N,584nm,0.3s						
GSC				IAML		05 26 58.5	
	comp=E,654nm,0.7s						
GRAC	**Grapevine Rang**	**1.05**	**14**		Pg	05 26 44.0	-0.4
GRAC				IAML		05 27 00.2	
	comp=E,250nm,0.8s						
GRAC				IAML		05 27 05.1	
	comp=N,211nm,0.6s						
HYS	**Haystack Butte**	**1.11**	**176**		Pg	05 26 44.9	-0.8
HYS					Sg	05 27 00.1	0.0
TEJ	**El Tejon**	**1.11**	**228**		Pb	05 26 46.3	0.0
EDW2	**Edwards Air Fo**	**1.12**	**194**		Pg	05 26 44.9	-0.9
SGV	**South Grapevin**	**1.13**	**27**		Pg	05 26 45.7	-0.3
VES	**Vestal, Richgr**	**1.16**	**264**		Pg	05 26 46.2	-0.2
VES					Sg	05 27 01.7	+0.3
WCT	**Wildcat Mounta**	**1.17**	**46**		Pg	05 26 46.3	-0.6
WCT				IAML		05 27 03.8	
	comp=E,152nm,0.4s						
TPO	**Tropico Hills**	**1.19**	**203**		Pg	05 26 46.2	-0.8
TPO				IAML		05 27 05.3	
	comp=N,436nm,0.6s						
TPO				IAML		05 27 05.4	
	comp=E,292nm,0.4s						
AMDNV	**Amargosa**	**1.22**	**67**		Pg	05 26 47.0	-0.8
SBB	**Saddle Back Bu**	**1.29**	**186**		Pg	05 26 48.0	-1.0
SBB					Sg	05 27 04.9	-0.9
GMN	**Gold Mountain**	**1.36**	**14**		Pg	05 26 50.0	-0.5
DSP	**Deep Springs**	**1.41**	**350**		Pn	05 26 50.5	-0.6
DSP				Pn	Pb	05 26 50.6	-0.8
LEOC	**Leona Valley**	**1.44**	**201**		Pn	05 26 51.5	0.0
LRRC	**Littlerock Res**	**1.48**	**191**		Pg	05 26 52.8	+0.2
TPNV	**Topopah Spring**	**1.50**	**49**		Pn	05 26 51.9	-0.6
TPNV				IAML		05 27 18.8	
	comp=E,171nm,0.8s						
TPNV				IAML		05 27 20.0	
	comp=E,171nm,0.9s						
HOLC	**Holcomb Ridge**	**1.52**	**185**		Pg	05 26 53.4	-0.1
CHFC	**Chilao Flat St**	**1.66**	**190**		Pb	05 26 55.8	0.0
CHFC					Sb	05 27 17.3	0.0
SSK	**Sunset Peak**	**1.76**	**181**		Pb	05 26 57.8	+0.3
MWC	**Mount Wilson**	**1.78**	**190**		Pn	05 26 55.6	-0.6
MWC				IAML		05 27 23.0	
	comp=N,178nm,0.5s						
MWC				IAML		05 27 24.1	
	comp=E,133nm,0.5s						
MTPC	**Mountain Pass**	**1.79**	**105**		Pn	05 26 54.9	-1.5
MTPC				IAML		05 27 23.2	
	comp=N,69nm,0.5s						
MTPC				IAML		05 27 23.6	
	comp=E,91nm,0.3s						
CRGC	**Crocker Grade**	**1.83**	**247**		Pb	05 26 58.2	-0.3
PASC	**Pasadena Art C**	**1.85**	**193**		Pn	05 26 55.2	-1.9
BLCC	**Black Canyon**	**1.91**	**206**		Pn	05 26 57.7	-0.3
GMRC	**Granite Mounta**	**2.03**	**125**		Pn	05 26 57.6	-2.0
SHPR	**Sheep Range**	**2.10**	**75**		Pn	05 27 00.1	-0.6
TPH	**Tonopah**	**2.13**	**10**	Pn	Pn	05 27 00.5	-0.6
TPH				IAML		05 27 36.7	
	comp=E,130nm,0.8s						
V12A	**Nelson**	**2.31**	**95**		Pn	05 27 02.1	-1.3
V12A				IAML		05 27 43.4	
	comp=N,31nm,0.9s						
ELS	**Elsinore Mount**	**2.33**	**175**		Pn	05 27 03.0	-0.8
ELS				IAML		05 27 40.8	
	comp=N,32nm,0.6s						
ELS				IAML		05 27 43.7	
	comp=E,34nm,1.1s						
PMPB	**Monarch Peak**	**2.54**	**276**		Pn	05 27 07.0	+0.3
PMPB				IAML		05 27 48.4	
	comp=N,76nm,0.7s						
PMPB				IAML		05 27 51.7	
	comp=E,99nm,0.7s						
PRN	**Pahroc Range**	**2.54**	**55**		Pn	05 27 06.3	-0.4
PRN				IAML		05 27 49.5	
	comp=N,53nm,0.6s						
PRN				IAML		05 27 56.1	
	comp=E,76nm,0.8s						
PFO	**Pinyon Flats O**	**2.56**	**157**		Pn	05 27 06.1	-0.9
PFO				IAML		05 27 51.4	
	comp=E,30nm,1.7s						
SBI	**Santa Barbara**	**2.73**	**205**		Pn	05 27 11.1	+1.9
RYN	**Ryan**	**2.73**	**346**	Pn	Pn	05 27 08.7	-0.7
NEE2	**Needles Airpor**	**2.77**	**115**		Pn	05 27 08.0	-1.8
NEE2				IAML		05 27 59.2	
	comp=E,70nm,0.7s						
DPP	**Dos Picos Cty**	**3.03**	**168**		Pn	05 27 12.6	-0.7
DPP				IAML		05 28 00.3	
	comp=E,28nm,0.6s						
W13A	**Hualapai Mount**	**3.21**	**105**		Pn	05 27 14.7	-1.3
W13A				IAML		05 28 09.5	
	comp=N,13nm,1.0s						
BLYC	**Blythe**	**3.41**	**130**		Pn	05 27 16.9	-1.6
BLYC				IAML		05 28 15.5	
	comp=N,22nm,0.8s						
BLYC				IAML		05 28 19.9	
	comp=E,19nm,0.5s						
LCMT	**Little Creek M**	**3.71**	**73**		Pn	05 27 23.1	+0.2
GLA	**Glamis**	**3.75**	**140**	Pn	Pn	05 27 21.2	-2.0
GLA				IAML		05 28 27.8	
	comp=E,36nm,0.5s						
GLA				IAML		05 28 27.8	
	comp=N,24nm,0.7s						
CBX	**Cerro Bola**	**3.75**	**167**	Pn	Pn	05 27 23.0	-0.3
CCUT	**Cedar City**	**3.80**	**64**		Pn	05 27 24.1	0.0
KNB	**Kanab**	**4.04**	**74**		Pn	05 27 27.9	+0.5
Y14A	**Wickenburg**	**4.34**	**117**	Pn	Pn	05 27 29.7	-1.7
Y14A				IAML		05 28 44.3	
	comp=N,21nm,0.5s						
Y14A				IAML		05 28 48.6	
	comp=E,15nm,1.0s						

IDC ***14*** *05:34:14.9±2.0, 7.99S×117.57E, h0km, mb3.4/3, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=55.9km s-min=26.3km az=59.0*

DJA ***14*** *05:34:15.7±1.4, 8.3S±3.3×117.7E±., h20km±14km, M3.8/11, MLv3.8/11*

ISC 14 05:34:18.1±1.0, 7.88S±0.05×117.37E±0.04, h35km, n14, c2s16/18, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.98**	**210**	P	**Pn**	**05 34 33.3**	**-2.0**
TWSI				S	**Sn**	**05 34 47.5**	**-0.5**
PLAI	**Plampang**	**1.02**	**157**	P	**Pn**	**05 34 34.4**	**-1.5**
PLAI				S	**Sn**	**05 34 49.1**	**+0.1**
SRBI	**Singaraja**	**2.15**	**264**	P	**Pn**	**05 34 52.5**	**+1.1**
SRBI				S	**Sn**	**05 35 15.9**	**-1.0**
WBSI	**Waikabubak, Su**	**2.65**	**131**	P	**Pn**	**05 35 00.0**	**+1.6**
JAGI	**Jajag, Banyuwa**	**3.24**	**259**	P	**Pn**	**05 35 03.5**	**-3.0**
KAPI	**Kappang**	**3.70**	**40**	Pn	**Pn**	**05 35 12.8**	**-0.1**
	10nm,0.3s,baz=205,slow=17,SNR=13						
KAPI				Sn	**Sn**	**05 35 53.9**	**-1.4**
	3.5nm,0.3s,baz=24,slow=17,SNR=4.1 24nm,0.3s						
BKSI	**Bulukumba**	**3.73**	**47**	P	**Pn**	**05 35 10.8**	**-2.5**
GMJI	**Gumukmas**	**3.91**	**264**	P	**Pn**	**05 35 15.5**	**-0.2**
EDFI	**Ende, Flores**	**4.36**	**102**	P	**Pn**	**05 35 20.6**	**-1.4**
BNSI	**Bone**	**4.40**	**38**	P	**Pn**	**05 35 25.0**	**+2.6**
SPSI	**Sidrap Palu**	**4.56**	**32**	P	**Pn**	**05 35 20.3**	**-4.4**
WRA	**Warramunga Arr**	**20.34**	**128**	P	**P**	**05 38 50.3**	**-1.3**
	1.3nm,0.9s,baz=301,slow=13,SNR=5.5 1.3nm,0.9s						
ASAR	**Alice Springs**	**22.31**	**137**	P	**P**	**05 39 12.2**	**-0.5**
	1.0nm,0.7s,baz=310,slow=9.3,SNR=9.9 1.0nm,0.7s						
MKAR	**Makanchi Array**	**62.74**	**334**	P	**P**	**05 44 43.2**	**+3.4**
	0.5nm,0.7s,baz=147,slow=7.2,SNR=4.4 0.5nm,0.7s						

IDC ***14*** *05:39:22.2±0.3, 18.7S×120.30E, h0km, mb5.8/38, mbtmp5.8/43, ML5.8/6, MS6.3/54, Error ellipse: s-maj=12.8km s-min=9.1km az=77.0*

NOU ***14*** *05:39:22.7, 18.36S×120.11E, h0km, ML6.6/119, Western Australia*

BJI ***14*** *05:39:22.6, 18.25S×120.15E, h10km, mB6.5/83, mb5.7/87, Ms6.6/99, Ms7 6.4/99*

NEIC ***14*** *05:39:23.4, 18.23S×120.36E, h20km*

NEIC ***14*** *05:39:23.4, 18.33S×120.36E, h20km, Moment Tensor Solution. Duration: 10s8 Moment tensor: Scale 10^{19}Nm; M_{rr}0.13; $M_{\theta\theta}$0.78; $M_{\phi\phi}$-0.92; $M_{r\theta}$0.22; $M_{\theta\phi}$0.63; $M_{\phi r}$-0.01; Fault plane solution: $M_0$1.09000×10^{19} NP1:ϕ_s26.07000°, δ78.24000°, λ173.39000°. NP2:ϕ_s117.42000°, δ83.52000°, λ11.84000°. Principal axes: T 1.0370, Plg13.0000°, Azm342.0000°; N 0.0923, Plg77.0000°, Azm146.0000°; P -1.1292, Plg4.0000°, Azm251.0000°;*

OSUNB ***14*** *05:39:23.8±0.7, 18.19S×120.40E, h10km±3km, mB6.5/10 Error ellipse: s-maj=3.1km s-min=4.6km az=0.0*

ISC-PP ***14*** *05:39:23, 18.22S×120.36E, h36km, Mwppsm6.8, Moment Tensor Solution. s45 Moment tensor: Scale 10^{19}Nm; M_{rr}0.43±.14; $M_{\theta\theta}$0.01±.16; $M_{\phi\phi}$-0.81±.14; $M_{r\theta}$-0.10±.17; $M_{\theta\phi}$-0.09±.26; $M_{\phi r}$0.25±.13; Fault plane solution: $M_0$1.78000×10^{19} NP1:ϕ_s180.20000°, δ49.80000°, λ112.10000°. NP2:ϕ_s328.00000°, δ45.00000°, λ66.00000°.*

NEIC ***14*** *05:39:23.4±1.4, 18.22S±0.06×120.36E±0.06, h10km±1km, mb6.3/191, Ms_20 6.7/1003, Mwb6.6/54, Mww6.6/116 Error ellipse: s-maj=10.1km s-min=9.7km az=292.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.26; $M_{\theta\theta}$6.03; $M_{\phi\phi}$-7.29; $M_{r\theta}$-0.97; $M_{\theta\phi}$6.68; $M_{\phi r}$-0.45; Fault plane solution: $M_0$9.55000×10^{18} NP1: ϕ_s292.73000°, δ84.25000°, λ5.45000°. NP2:ϕ_s202.18000°, δ84.58000°, λ174.23000°. Principal axes: T 8.9508, Plg8.0000°, Azm157.0000°; N 1.1077, Plg82.0000°,*

Azm339.0000°; P -10.0585, Plg0.0000°, Azm247.0000°;
NEIC ***14*** *05:39:23.4, 18˙22S×120˙36E, h10km*
MOS ***14*** *05:39:23.4±1.9, 18˙20S×120˙30E, h10km, mb6.3/72, MS6.3/46, Error ellipse: s-maj=7.3km s-min=4.5km az=111.6*
IPGP ***14*** *05:39:24.0, 18˙20S×120˙34E, h7km, Mw6.8, Fault plane solution: NP1:ϕs203.00000°, δ84.00000°, λ169.00000°. NP2:ϕs295.00000°, δ79.00000°, λ6.00000°.*
GCMT ***14*** *05:39:31.4±0.0, 18˙15S×120˙29E, h22km, MW6.7/169, Moment Tensor Solution. s169,c448; s166,c770; Duration: 5s3 Moment tensor: Scale 10¹⁹Nm; Mrr0.18±.00; Mθθ0.92±.00; Mϕϕ -1.10±.01; Mrθ0.07±.01; Mθϕ0.77±.00; Mϕr0.05±.01; Best double couple: M₀1.27500×10¹⁹ NP1:ϕs116.00000°, δ86.00000°, λ3.00000°. NP2:ϕs26.00000°, δ87.00000°, λ176.00000°. Principal axes: T 1.1870, Plg5.0000°, Azm341.0000°; N 0.1710, Plg85.0000°, Azm174.0000°; P -1.3630, Plg1.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=125s. Triangular moment-rate function*

ISC 14 05:39:25.2±0.4, 18˙27S±0˙03×120˙44E±0˙03, h20km±1km, h20km:pP-P, n2064, σ1996/1763, mb6.2/272, MS6.7/687, 101C-74D, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**2.95**	**193**		**Pn**	**05 40 10.3**	**-0.8**
MBWA	**Marble Bar**	**2.95**	**193**	P	**Pn**	**05 40 11.6**	**+0.6**
MBWA				S	**Sb**	**05 40 52.5**	**-0.4**
MBWA	**Marble Bar**	**2.95**	**193**	P	**Pn**	**05 40 09.4**	**-1.7**
MBWA	**Marble Bar**	**2.95**	**193**	↑P	**Pn**	**05 40 09.7**	**-1.4**
MBWA	**Marble Bar**	**2.95**	**193**	P	**Pn**	**05 40 10.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**4.95**	**89**		**Pn**	**05 40 38.5**	**0.0**
FITZ				Sn	**Sn**	**05 41 35.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**4.95**	**89**	Pn	**Pn**	**05 40 39.8**	**+1.3**
	468nm,0.3s,baz=263,slow=11,SNR=695						
FITZ				Sn	**Sn**	**05 41 37.4**	**+2.2**
	4μm,0.3s,baz=19,slow=16,SNR=6.4 1μm,0.3s						
FITZ	**Fitzroy Crossi**	**4.95**	**89**	P	**Pn**	**05 40 41.6**	**+3.1**
FITZ	**Fitzroy Crossi**	**4.95**	**89**	↓P	**Pn**	**05 40 38.3**	**-0.2**
GIRL	**Giralia**	**7.26**	**232**		**Pn**	**05 41 08.0**	**-2.4**
BASI	**Baing, Sumba**	**8.00**	**1**	P	**Pn**	**05 41 17.4**	**-3.1**
	114nm6μm,1.4s						
KNRA	**Kununurra**	**8.37**	**73**		**Pn**	**05 41 25.2**	**-0.4**
MEEK	**Meekatharra**	**8.50**	**191**	P	**Pn**	**05 41 24.4**	**-2.9**
WSI	**Waingapu**	**8.55**	**359**	P	**Pn**	**05 41 26.3**	**-1.7**
BATI	**Baumata**	**8.60**	**22**	Pn	**Pn**	**05 41 29.3**	**+0.6**
	400nm,0.3s,baz=205,slow=3.4,SNR=77						
BATI				Sn	**Sn**	**05 43 03.3**	**-2.0**
	2μm,0.3s,baz=311,slow=21,SNR=5.9 3μm,0.6s						
BATI	**Baumata**	**8.60**	**22**	P	**Pn**	**05 41 28.9**	**+0.1**
WBSI	**Waikabubak, Su**	**8.64**	**353**	P	**Pn**	**05 41 26.4**	**-2.9**
SOEI	**Soe**	**9.24**	**24**	P	**Pn**	**05 41 37.4**	**-0.3**
SOEI				S	**Sn**	**05 43 20.0**	**-1.1**
SOEI	**Soe**	**9.24**	**24**	Pn	**Pn**	**05 41 37.0**	**-0.6**
SOEI	**Soe**	**9.24**	**24**	P	**Pn**	**05 41 40.3**	**+2.7**
SOEI	**Soe**	**9.24**	**24**	P	**Pn**	**05 41 38.3**	**+0.7**
SOEI	**Soe**	**9.24**	**24**	↓P	**Pn**	**05 41 38.5**	**+0.8**
EDFI	**Ende, Flores**	**9.54**	**7**	P	**Pn**	**05 41 38.3**	**-3.4**
	507μm40μm3μm,0.7s						
MMRI	**Maumere**	**9.73**	**11**		**Pn**	**05 41 41.5**	**-2.8**
MMRI	**Maumere**	**9.73**	**11**	P	**Pn**	**05 41 44.8**	**+0.5**
MMRI	**Maumere**	**9.73**	**11**	P	**Pn**	**05 41 41.9**	**-2.4**
	366μm100μm5μm,0.9s						
MMRI	**Maumere**	**9.73**	**11**	↑P	**Pn**	**05 41 41.2**	**-3.0**
PLAI	**Plampang**	**9.73**	**344**	P	**Pn**	**05 41 40.3**	**-4.0**
	88μm6μm,1.3s						
TWSI	**Taliwang, Sumb**	**10.08**	**340**	P	**Pn**	**05 41 44.5**	**-4.6**
SRBI	**Singaraja**	**11.33**	**333**	P	**Pn**	**05 42 02.7**	**-3.4**
MORW	**Morawa**	**11.48**	**200**		**Pn**	**05 42 03.7**	**-4.5**
MORW	**Morawa**	**11.48**	**200**	P	**Pn**	**05 42 04.6**	**-3.5**
JAGI	**Jajag, Banyuwa**	**11.50**	**327**		Pn	05 42 02.1	-6.3
JAGI	**Jajag, Banyuwa**	**11.50**	**327**	P	Pn	05 42 03.3	-5.1
JAGI	**Jajag, Banyuwa**	**11.50**	**327**	↑P	Pn	05 42 01.7	-6.7
MTN	**Manton Dam**	**11.63**	**64**		**Pn**	**05 42 08.3**	**-1.9**
MTN	**Manton Dam**	**11.63**	**64**	↓P	**Pn**	**05 42 08.3**	**-1.9**
ABJI	**Asem Bagus**	**12.03**	**329**	P	**Pn**	**05 42 11.5**	**-4.3**
	60μm5μm,1.1s						
GMJI	**Gumukmas**	**12.04**	**325**	P	Pn	05 42 10.0	-5.8
	365μm57μm5μm,1.1s						
BSSI	**Bau Bau, Buton**	**12.05**	**0**	P	**Pn**	**05 42 13.5**	**-2.5**
	324μm34μm3μm,0.7s						
BLDU	**Ballidu**	**12.75**	**195**	P	**Pn**	**05 42 22.2**	**-3.3**
KMMI	**Kalianget**	**12.81**	**330**	P	**Pn**	**05 42 23.4**	**-3.0**
	42μm4μm,1.4s						
KDU	**Kakadu**	**12.86**	**66**	↓P	**Pn**	**05 42 24.3**	**-2.7**
BKSI	**Bulukumba**	**12.87**	**359**	P	**Pn**	**05 42 24.1**	**-3.1**
	342μm28μm3μm,1.1s						
BBSI	**Bau Bau**	**12.87**	**10**	P	**Pn**	**05 42 26.1**	**-1.2**
	188μm35μm3μm,1.0s						
KAPI	**Kappang**	**13.19**	**357**		**Pn**	**05 42 28.7**	**-2.9**
KAPI	**Kappang**	**13.19**	**357**	Pn	**Pn**	**05 42 29.5**	**-2.0**
	47nm,0.3s,baz=183,slow=7.6,SNR=55						
KAPI				Sn	**Sn**	**05 44 50.6**	**-7.2**
	74nm,0.3s,baz=241,slow=23,SNR=6.2						
KAPI				LR	LR	05 48 04.0	
	comp=Z,170μm,19.2s,baz=167,slow=40 184nm,0.7s						
KAPI	**Kappang**	**13.19**	**357**	P	**Pn**	**05 42 33.1**	**+1.5**
KAPI	**Kappang**	**13.19**	**357**	*i* P	**Pn**	**05 42 29.8**	**-1.8**
KAPI	**Kappang**	**13.19**	**357**	↑P	**Pn**	**05 42 28.0**	**-3.6**
KAPI	**Kappang**	**13.19**	**357**	P	**Pn**	**05 42 28.7**	**-2.9**
WRA	**Warramunga Arr**	**13.25**	**99**		**Pn**	**05 42 29.0**	**-3.4**
WRA	**Warramunga Arr**	**13.25**	**99**	Pn	**Pn**	**05 42 32.2**	**-0.1**
	30nm,0.3s,baz=275,slow=14,SNR=375						
WRA				Sn	**Sn**	**05 44 55.9**	**-3.3**
	329nm,0.3s,baz=278,slow=23,SNR=6.0						
WRA				Lg	Lg	05 46 28.3	
	baz=268,slow=27						
WRA				LR	LR	05 47 36.9	
	comp=Z,331μm,19.7s,baz=278,slow=37						
WRAB	**Tennant Creek**	**13.26**	**99**		**Pn**	**05 42 29.8**	**-2.7**
WRAB	**Tennant Creek**	**13.26**	**99**	*i* P	**Pn**	**05 42 31.0**	**-1.5**
WB2	**Warramunga Arr**	**13.26**	**99**	Pn	**Pn**	**05 42 30.4**	**-2.1**
WB0	**Warramunga Arr**	**13.28**	**99**		**Pn**	**05 42 30.7**	**-2.2**
WR8	**Warramunga Arr**	**13.40**	**99**		**Pn**	**05 42 31.9**	**-2.6**
WR0	**Warramunga Arr**	**13.44**	**99**	Pn	**Pn**	**05 42 32.8**	**-2.1**
PCJI	**Pacitan**	**13.47**	**317**	P	**Pn**	**05 42 31.1**	**-4.2**
	254μm32μm3μm,0.9s						
KLBR	**Kellerberrin**	**13.49**	**190**	P	**Pn**	**05 42 32.6**	**-3.0**
ASAR	**Alice Springs**	**13.67**	**115**		**Pn**	**05 42 35.4**	**-2.9**
ASAR	**Alice Springs**	**13.67**	**115**	Pn	**Pn**	**05 42 38.2**	**0.0**
	48nm,0.3s,baz=294,slow=12,SNR=315						
ASAR				Sn	**Sn**	**05 45 06.9**	**-2.8**
	326nm,0.3s,baz=297,slow=23,SNR=7.4						
ASAR				Lg	Lg	05 46 44.2	
	baz=280,slow=25						
ASAR				LR	LR	05 48 47.9	
	comp=Z,197μm,19.3s,baz=288,slow=41 490nm,0.5s						
AS31	**Alice Springs**	**13.68**	**115**		**Pn**	**05 42 35.6**	**-2.6**
GRJI	**Gresik**	**13.69**	**324**	P	**Pn**	**05 42 34.6**	**-3.8**
	39μm2μm,0.9s						
BNSI	**Bone**	**13.79**	**359**	P	**Pn**	**05 42 38.4**	**-1.3**
	324μm59μm2μm,1.2s						
WOJI	**Wonogiri, Jawa**	**13.90**	**317**	P	**Pn**	**05 42 37.4**	**-3.9**
	269μm57μm3μm,1.3s						
NGJI	**Ngawi**	**13.92**	**320**	P	**Pn**	**05 42 39.0**	**-2.6**
	340μm70μm4μm,0.8s						
UGM	**Wanagama**	**14.11**	**316**		Pn	05 42 38.4	-5.7
UGM	**Wanagama**	**14.11**	**316**	P	**Pn**	**05 42 40.0**	**-4.1**
UGM	**Wanagama**	**14.11**	**316**	P	**Pn**	**05 42 39.8**	**-4.3**
TBJI	**Tambak Boyo**	**14.13**	**323**	P	**Pn**	**05 42 40.9**	**-3.5**
	342μm60μm4μm,0.8s						
MUN	**Mundaring**	**14.18**	**195**	P	**Pn**	**05 42 40.6**	**-4.4**
SPSI	**Sidrap Palu**	**14.23**	**357**	P	**Pn**	**05 42 44.3**	**-1.5**
	294μm63μm3μm,1.8s						
MTKN	**Mount Kenneth**	**14.24**	**196**	P	**Pn**	**05 42 43.9**	**-2.0**
FORT	**Forrest**	**14.25**	**152**		Pn	05 42 41.0	-5.0
BWJI	**Bawean**	**14.49**	**327**	P	**Pn**	**05 42 45.9**	**-3.5**
	55μm4μm,1.1s						
SAUI	**Saumlaki**	**14.70**	**47**		**Pn**	**05 42 51.8**	**-0.5**
SAUI	**Saumlaki**	**14.70**	**47**	P	**Pn**	**05 42 54.4**	**+2.1**
SAUI	**Saumlaki**	**14.70**	**47**	P	**Pn**	**05 42 52.0**	**-0.3**
SAUI	**Saumlaki**	**14.70**	**47**	↓P	**Pn**	**05 42 51.9**	**-0.4**
SMRI	**Semarang**	**14.80**	**318**		**Pn**	**05 42 51.0**	**-2.7**
SMRI	**Semarang**	**14.80**	**318**	P	**Pn**	**05 42 52.3**	**-1.4**
SMRI	**Semarang**	**14.80**	**318**	P	**Pn**	**05 42 50.7**	**-3.0**
	21μm3μm,0.9s						
SMRI	**Semarang**	**14.80**	**318**	↑P	**Pn**	**05 42 51.3**	**-2.4**
NWAO	**Narrogin (SRO)**	**14.88**	**191**		Pn	05 42 48.6	-6.0
NWAO	**Narrogin (SRO)**	**14.88**	**191**	Pn	**Pn**	**05 42 50.4**	**-4.2**
	177nm,0.3s,baz=14,slow=10,SNR=314						
NWAO				Sn	Sn	05 45 23.4	-15
	775nm,0.3s,baz=110,slow=23,SNR=6.9						
NWAO				Lg	Lg	05 47 06.3	
	baz=98,slow=22						
NWAO				LR	LR	05 48 26.5	
	comp=Z,284μm,20.2s,baz=10.0,slow=36						
NWAO	**Narrogin (SRO)**	**14.88**	**191**	P	Pn	05 42 49.1	-5.5
NWAO				P	Pn	05 42 49.1	-5.5
NWAO	**Narrogin (SRO)**	**14.88**	**191**	P	Pn	05 42 48.6	-6.0
TTSI	**Tana Toraja**	**15.14**	**358**	P	**Pn**	**05 42 57.5**	**-0.7**
	263μm59μm2μm,1.1s						
XMI	**Christmas Isla**	**16.26**	**297**	P	**Pn**	**05 43 09.2**	**-3.4**
XMI	**Christmas Isla**	**16.26**	**297**	↓P	**Pn**	**05 43 09.5**	**-3.1**
NLAI	**Namlea**	**16.30**	**24**	P	**Pn**	**05 43 13.4**	**+0.2**
	75μm44μm2μm,0.9s						
AAI	**Ambon**	**16.36**	**29**	P	**Pn**	**05 43 13.8**	**-0.1**
	100μm39μm2μm,1.4s						
BBJI	**Bungbulang**	**16.44**	**309**	P	**Pn**	**05 43 12.8**	**-2.3**
BNDI	**Bandanaira**	**16.50**	**35**	P	**P**	**05 43 18.8**	**+0.5**
BNDI	**Bandanaira**	**16.50**	**35**	P	**Pn**	**05 43 14.9**	**-0.8**
	135μm103μm6μm,1.2s						
BNDI	**Bandanaira**	**16.50**	**35**	↓P	**Pn**	**05 43 15.1**	**-0.7**
I04AU	**SHANNON INFRAS**	**16.67**	**192**	Pn	**Pn**	**05 43 15.3**	**-2.4**
	baz=12,slow=19						
I04AU				Sn	Sn	05 46 06.5	-16
	baz=34,slow=53						
JCJI	**Jatiwangi**	**16.67**	**313**	P	**Pn**	**05 43 13.4**	**-4.4**
	165μm62μm2μm,0.9s						
LEM	**Lembang**	**16.89**	**311**	Pn	**Pn**	**05 43 18.2**	**-2.6**
	8.6nm,0.3s,baz=121,slow=13,SNR=28						
LEM				Sn	Sn	05 46 12.4	-16
	34nm,0.3s,baz=218,slow=9.1,SNR=2.3						
LEM				LR	LR	05 51 39.0	
	comp=Z,95μm,18.4s,baz=135,slow=44 378nm,1.0s						
LEM	**Lembang**	**16.89**	**311**	P	**Pn**	**05 43 18.9**	**-2.0**
	106μm78μm4μm,1.3s						
CNJI	**Cibinong**	**16.93**	**308**	P	**Pn**	**05 43 18.1**	**-3.0**
	42μm24μm994nm,1.2s						
SANI	**Sanana**	**17.01**	**19**	P	**Pn**	**05 43 21.1**	**-1.1**
SANI				S	**Sn**	**05 46 30.1**	**-0.8**
SANI	**Sanana**	**17.01**	**19**	P	**Pn**	**05 43 22.9**	**+0.7**
SANI	**Sanana**	**17.01**	**19**	P	**Pn**	**05 43 21.0**	**-1.2**
	49μm26μm864nm,0.9s						
SANI	**Sanana**	**17.01**	**19**	↑P	**Pn**	**05 43 21.0**	**-1.2**
BKB	**Balikpapan**	**17.25**	**348**	P	**Pn**	**05 43 25.1**	**-0.1**
BKB					IAmb	IAmb	05 43 33.0
	comp=Z,2μm,1.5s						
BKB	**Balikpapan**	**17.25**	**348**	P	**P**	**05 43 26.2**	**-0.4**
	comp=Z,3μm,1.0s						
BKB	**Balikpapan**	**17.25**	**348**	↑P	**P**	**05 43 28.2**	**+1.5**
PCI	**Palu**	**17.26**	**358**	P	**Pn**	**05 43 24.4**	**-1.0**
	comp=Z,218μmcomp=Z,55μmcomp=Z,2μm,1.3s						
APSI	**Ampana**	**17.29**	**4**	P	**Pn**	**05 43 24.1**	**-1.6**
	comp=Z,35μmcomp=Z,2μm,1.9s						
H01W3	**Cape Leeuwin H**	**17.47**	**197**	P	**Pn**	**05 43 24.4**	**-3.2**
	baz=23,slow=9.5						
H01W1	**Cape Leeuwin H**	**17.48**	**197**	P	**Pn**	**05 43 24.5**	**-3.1**
	baz=23,slow=9.5						
H01W2	**Cape Leeuwin H**	**17.49**	**197**	P	**Pn**	**05 43 24.7**	**-3.1**
	baz=23,slow=9.5						
SKJI	**Sukabumi**	**17.56**	**308**	P	**Pn**	**05 43 26.3**	**-2.7**
	comp=Z,107μmcomp=Z,107μmcomp=Z,4μm,1.1s						
DBJI	**Dramaga**	**17.71**	**309**	P	**Pn**	**05 43 28.5**	**-2.4**
	comp=Z,129μmcomp=Z,89μmcomp=Z,3μm,2.5s						
SMKI	**Samarinda**	**17.99**	**349**	P	**Pn**	**05 43 33.2**	**-1.2**
	comp=Z,95μmcomp=Z,3μm,1.6s						
TNG	**Tangerang**	**18.04**	**310**	P	**Pn**	**05 43 32.8**	**-2.2**
	comp=Z,154μmcomp=Z,101μmcomp=Z,3μm,1.5s						
SBJI	**Serang**	**18.46**	**309**	P	**P**	**05 43 37.6**	**-2.3**
	comp=Z,114μmcomp=Z,86μmcomp=Z,4μm,1.8s						
CGJI	**Cibinong**	**18.46**	**307**	P	**P**	**05 43 37.4**	**-2.5**
	comp=Z,99μmcomp=Z,58μmcomp=Z,2μm,1.6s						
MPSI	**Mapaga**	**18.50**	**358**	P	**P**	**05 43 39.1**	**-1.2**
MRSI	**Marisa**	**18.69**	**5**	P	**P**	**05 43 41.5**	**-0.9**
	comp=Z,137μmcomp=Z,53μmcomp=Z,1μm,0.7s						
KMSI	**Cibinong**	**19.05**	**11**	P	**P**	**05 43 46.6**	**+0.2**
	comp=Z,95μmcomp=Z,100μmcomp=Z,6μm,0.8s						
FAKI	**Fak Fak**	**19.15**	**39**	P	**P**	**05 43 45.3**	**-2.2**
FAKI				IAmb	IAmb	05 43 59.5	
	comp=Z,2μm,1.1s						
FAKI	**Fak Fak**	**19.15**	**39**	P	**P**	**05 43 46.0**	**-1.5**
	comp=Z,129μmcomp=Z,38μmcomp=Z,2μm,1.0s						
FAKI	**Fak Fak**	**19.15**	**39**	↓P	**P**	**05 43 45.3**	**-2.2**
TOLI2	**Tolitoli**	**19.26**	**1**	P	**P**	**05 43 47.5**	**-1.2**
TOLI2				IAmb	IAmb	05 43 59.1	
	comp=Z,1μm,1.1s						
TOLI2	**Tolitoli**	**19.26**	**1**	P	**P**	**05 43 48.5**	**-0.2**
KMPI	**Kaimana, Papua**	**19.48**	**43**	P	**P**	**05 43 50.7**	**-0.4**
	comp=Z,143μmcomp=Z,77μmcomp=Z,4μm,1.1s						
BLSI	**Bandar Lampung**	**19.61**	**309**	P	**P**	**05 43 50.2**	**-2.4**
	comp=Z,87μmcomp=Z,33μmcomp=Z,2μm,1.0s						
TPI	**Tanjungpandan**	**19.87**	**319**	P	**P**	**05 43 54.3**	**-1.1**
	comp=Z,157μmcomp=Z,68μmcomp=Z,2μm,1.2s						
KASI	**Kota Agung**	**20.07**	**307**	P	**P**	**05 43 56.7**	**-0.9**
	comp=Z,582nm,0.6s						
TNTI	**Ternate**	**20.11**	**21**	P	**P**	**05 43 57.2**	**-0.8**
TNTI	**Ternate**	**20.11**	**21**	P	**P**	**05 43 57.0**	**-1.0**
	comp=Z,38μmcomp=Z,2μm,1.7s						
TNTI	**Ternate**	**20.11**	**21**	↑P	**P**	**05 43 57.4**	**-0.6**
KLI	**Kotabumi**	**20.23**	**309**	P	**P**	**05 43 57.6**	**-1.8**
	comp=Z,104μmcomp=Z,32μmcomp=Z,3μm,1.1s						
STKI	**Sintang**	**20.24**	**333**	P	**P**	**05 43 59.1**	**-0.3**
	comp=Z,181μmcomp=Z,74μmcomp=Z,2μm,1.0s						
SWI	**Sorong**	**20.30**	**33**	P	**P**	**05 43 59.7**	**-0.4**
	comp=Z,92μmcomp=Z,20μmcomp=Z,2μm,0.9s						
LWLI	**Liwa**	**20.73**	**307**	P	**P**	**05 44 02.5**	**-2.3**
	comp=Z,81μmcomp=Z,46μmcomp=Z,3μm,0.7s						
MDSI	**Maura Dua**	**20.99**	**309**	P	**P**	**05 44 05.5**	**-2.0**
	comp=Z,82μmcomp=Z,42μmcomp=Z,2μm,1.6s						
WHYH	**Whyalla**	**21.28**	**137**	P	**P**	**05 44 11.4**	**+0.8**
PPBI	**Pangkal Pinang**	**21.28**	**317**	P	**P**	**05 44 08.9**	**-1.8**
RKPI	**Ransiki, Papua**	**21.43**	**41**	P	**P**	**05 44 12.8**	**+0.5**
PMBI	**Palembang**	**21.64**	**313**	P	**P**	**05 44 13.2**	**-1.3**
PMBI	**Palembang**	**21.64**	**313**	P	**P**	**05 44 13.1**	**-1.4**
	comp=Z,120μmcomp=Z,62μmcomp=Z,6μm,1.2s						
PMBI	**Palembang**	**21.64**	**313**	↑P	**P**	**05 44 14.3**	**-0.2**
PTPS	**Port Pirie**	**21.64**	**137**	P	**P**	**05 44 15.8**	**+1.4**
MMPI	**Merauke**	**21.69**	**66**	P	**P**	**05 44 15.8**	**+0.7**
	comp=Z,8μm,1.2s						
LHSI	**Lahat**	**21.91**	**309**	P	**P**	**05 44 16.3**	**-1.2**
	comp=Z,83μmcomp=Z,66μmcomp=Z,5μm,1.9s						
MNAI	**Manna**	**21.99**	**307**	P	**P**	**05 44 16.4**	**-1.9**
MNAI	**Manna**	**21.99**	**307**	P	**P**	**05 44 17.2**	**-1.1**
MNAI	**Manna**	**21.99**	**307**	P	**P**	**05 44 16.5**	**-1.8**
	comp=Z,69μmcomp=Z,61μmcomp=Z,3μm,1.4s						
MNAI	**Manna**	**21.99**	**307**	↑P	**P**	**05 44 17.1**	**-1.1**
KSM	**Kuching**	**22.00**	**332**	P	**P**	**05 44 15.5**	**-3.0**
KSM				IAmb	IAmb	05 44 33.2	
	comp=Z,902nm,0.8s						
KSM	**Kuching**	**22.00**	**332**	P	**P**	**05 44 18.0**	**-0.5**
KSM	**Kuching**	**22.00**	**332**	↑P	**P**	**05 44 17.3**	**-1.1**
SBUM	**Sibu**	**22.12**	**338**	P	**P**	**05 44 18.8**	**-0.9**
SBUM				IAmb	IAmb	05 44 32.4	
	comp=Z,2μm,1.4s						
SBUM	**Sibu**	**22.12**	**338**	P	**P**	**05 44 20.1**	**+0.4**
SBUM	**Sibu**	**22.12**	**338**	↑P	**P**	**05 44 18.9**	**-0.8**
COEN	**Coen**	**22.25**	**82**	P	**P**	**05 44 21.2**	**0.0**
COEN	**Coen**	**22.25**	**82**	↑P	**P**	**05 44 21.2**	**0.0**
SGSI	**Sangihe**	**22.39**	**13**	P	**P**	**05 44 21.8**	**-0.7**
	comp=Z,55μmcomp=Z,63μmcomp=Z,4μm,1.4s						
HTT	**Hallett**	**22.41**	**136**	P	**P**	**05 44 23.2**	**+0.4**
HTT	**Hallett**	**22.41**	**136**	↑P	**P**	**05 44 22.9**	**+0.1**
SRPI	**Serui, Papua**	**22.49**	**45**	P	**P**	**05 44 24.0**	**+0.3**
	comp=Z,123μmcomp=Z,32μmcomp=Z,1μm,1.1s						
MTSU	**Mount Surprise**	**22.68**	**93**	P	**P**	**05 44 29.2**	**+3.4**
KSI	**Kapahiang**	**22.72**	**308**	P	**P**	**05 44 23.9**	**-2.3**
WAMI	**Wamena**	**22.89**	**54**	P	**P**	**05 44 29.2**	**+1.2**
	comp=Z,82μmcomp=Z,4μm,1.6s						
BAKI	**Biak**	**22.91**	**44**	P	**P**	**05 44 28.9**	**+0.8**
	comp=Z,193μmcomp=Z,67μmcomp=Z,4μm,1.2s						
GHSS	**Government Hou**	**23.15**	**139**	P	**P**	**05 44 31.9**	**+1.5**
MYLDM	**Lahad Datu**	**23.38**	**355**	P	**P**	**05 44 32.5**	**-0.4**
MYLDM	**Lahad Datu**	**23.38**	**355**	P	**P**	**05 44 34.2**	**+1.4**
MYLDM	**Lahad Datu**	**23.38**	**355**	↑P	**P**	**05 44 33.1**	**+0.2**
STKA	**Stephens Creek**	**23.41**	**129**	P	**P**	**05 44 32.9**	**-0.2**
STKA	**Stephens Creek**	**23.41**	**129**	P	**P**	**05 44 33.1**	**0.0**
	comp=Z,270nm,0.8s,baz=306,slow=11,SNR=157						
STKA				S	**S**	**05 48 42.9**	**-2.6**
	comp=Z,2μm,0.9s,baz=357,slow=16,SNR=4.9 comp=Z,270nm,0.8s						
STKA	**Stephens Creek**	**23.41**	**129**	P	**P**	**05 44 34.2**	**+1.1**
QLP	**Quilpie**	**23.47**	**115**	P	**P**	**05 44 36.7**	**+2.9**
QLP	**Quilpie**	**23.47**	**115**	↑P	**P**	**05 44 34.8**	**+1.0**
COCO	**West Island**	**23.55**	**282**	P	**P**	**05 44 33.3**	**-1.3**
COCO				IAmb	IAmb	05 44 59.2	
	comp=Z,1μm,1.0s						
COCO	**West Island**	**23.55**	**282**	P	**P**	**05 44 35.8**	**+1.2**
COCO				P	**P**	**05 44 35.8**	**+1.2**
COCO				P	**P**	**05 44 35.8**	**+1.2**
COCO				S	Sn	05 49 03.6	-4.7
COCO				S	Sn	05 49 03.6	-4.7
COCO				S	Sn	05 49 03.6	-4.7
COCO	**West Island**	**23.55**	**282**	P	**P**	**05 44 33.3**	**-1.3**
COCO				pmax	pmax		
	comp=Z,1μm,1.0s						
SMPI	**Sarmi**	**24.14**	**50**	P	**P**	**05 44 41.1**	**+0.9**
	comp=Z,154μmcomp=Z,59μmcomp=Z,4μm,1.2s						
CTAO	**Charters Tower**	**24.44**	**98**	P	**P**	**05 44 43.5**	**+0.4**
CTAO				IAmb	IAmb	05 45 08.6	
	comp=Z,885nm,0.9s						
CTAO	**Charters Tower**	**24.44**	**98**	P	**P**	**05 44 45.7**	**+2.7**
CTAO	**Charters Tower**	**24.44**	**98**	P	**P**	**05 44 43.5**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,885nm,0.9s						
CTAO				MLR	MLR		
	comp=Z,323μm,18.0s						
CTAO	**Charters Tower**	**24.44**	**98**	↓P	**P**	**05 44 43.4**	**+0.4**
KKM	**Kota Kinabalu**	**24.51**	**350**	P	**P**	**05 44 40.3**	**-3.4**
KKM				IAmb	IAmb	05 44 53.7	
	comp=Z,496nm,1.0s						
KKM	**Kota Kinabalu**	**24.51**	**350**	P	**P**	**05 44 42.5**	**-1.2**
KKM	**Kota Kinabalu**	**24.51**	**350**	↑P	**P**	**05 44 41.4**	**-2.3**
GENI	**Genyem**	**24.83**	**53**	P	**P**	**05 44 48.3**	**+1.8**
GENI	**Genyem**	**24.83**	**53**	P	**P**	**05 44 46.8**	**+0.3**
	comp=Z,145μmcomp=Z,3μm,1.0s						
GENI	**Genyem**	**24.83**	**53**	↓P	**P**	**05 44 46.2**	**-0.3**
PPSI	**Pulau Pagai**	**25.26**	**305**	P	**P**	**05 44 50.1**	**-0.3**
	comp=Z,51μmcomp=Z,4μm,0.9s						
JAY	**Jayapura**	**25.29**	**54**	P	**P**	**05 44 50.6**	**-0.1**
	comp=Z,126nm,0.8s,baz=209,slow=4.9,SNR=27 comp=Z,126nm,0.8s						
JAY	**Jayapura**	**25.29**	**54**	P	**P**	**05 44 50.5**	**-0.2**
	comp=Z,98μmcomp=Z,29μmcomp=Z,973nm,0.9s						
DAV	**Davao City (W)**	**25.68**	**12**	P	**P**	**05 44 52.8**	**-1.4**
DAV	**Davao City (W)**	**25.68**	**12**	P	**P**	**05 44 53.3**	**-0.8**
	comp=Z,328nm,0.8s,baz=133,slow=1.9,SNR=9.7						
DAV				LR	LR	05 55 51.2	
	comp=Z,82μm,21.8s,baz=201,slow=39 comp=Z,328nm,0.8s						
DAV	**Davao City (W)**	**25.68**	**12**	P	**P**	**05 44 52.1**	**-2.0**
DAV				S	**S**	**05 49 17.0**	**-4.9**
DAV	**Davao City (W)**	**25.68**	**12**	P	**P**	**05 44 55.4**	**+1.2**
MYKOM	**Kota Tinggi**	**25.77**	**319**	P	**P**	**05 44 54.3**	**-2.0**

UBPT					IAmb	IAmb	05 46 39.0		
	comp=Z,946nm,1.3s								
UBPT	**Khong Chiam**	**36.45**	**335**		P	**P**	**05 46 27.7**	**-1.3**	
UBPT	**Khong Chiam**	**36.45**	**335**	⇑	P	**P**	**05 46 27.0**	**-2.0**	
LHI	**Lord Howe Isla**	**37.24**	**118**		IAms_20	IAms_20	06 02 10.7		
	comp=Z,102µm,18.0s								
LHI	**Lord Howe Isla**	**37.24**	**118**	⇑	P	P	05 46 40.7	+5.0	
QIZ	**Qiongzhong**	**38.50**	**344**			**P**	**05 46 44.7**	**-1.7**	
QIZ	**Qiongzhong**	**38.50**	**344**		P	**P**	**05 46 45.4**	**-0.9**	
QIZ					sP	**pP**	**05 46 51.4**	**-1.0**	
QIZ					PP	**PnPn**	**05 48 15.8**	**-0.9**	
QIZ					S	**S**	**05 52 45.3**	**+4.2**	
QIZ					pmax	pmax			
	comp=Z,260nm,1.4s								
QIZ					pmax	pmax			
	comp=Z,17µm,5.9s								
QIZ					LR	LR			
	comp=Z,29µm,19.5s								
QIZ					LR	LR			
	comp=Z,32µm,19.3s								
QIZ					LR	LR			
	comp=Z,110µm,32.8s								
QIZ	**Qiongzhong**	**38.50**	**344**		P	**P**	**05 46 45.5**	**-0.9**	
NGOA	**Tingoa Renbel**	**38.81**	**86**		P	**P**	**05 46 52.6**	**+3.5**	
SAVO	**Savo Central**	**39.24**	**82**		P	**P**	**05 46 56.3**	**+3.5**	
GUMO	**Guam**	**39.78**	**39**		P	**P**	**05 46 55.7**	**-1.4**	
GUMO					IAmb	IAmb	05 47 10.2		
	comp=Z,649nm,1.1s								
GUMO	**Guam**	**39.78**	**39**		LR	LR	06 06 37.1		
	comp=Z,17µm,18.0s,baz=220,slow=41								
GUMO	**Guam**	**39.78**	**39**		P	**P**	**05 46 59.1**	**+1.9**	
GUMO	**Guam**	**39.78**	**39**		P	**P**	**05 46 55.7**	**-1.4**	
GUMO					pmax	pmax			
	comp=Z,649nm,1.1s								
GUMO	**Guam**	**39.78**	**39**	⇓	P	**P**	**05 46 59.5**	**+2.4**	
ALEG	**Aligegeo Malai**	**40.19**	**82**		P	**P**	**05 47 04.0**	**+3.4**	
HKC	**Hong Kong Obse**	**40.78**	**351**	⇑	P	**P**	**05 47 09.0**	**+3.7**	
HURO	**Huro Makira**	**40.83**	**85**		P	**P**	**05 47 08.8**	**+2.8**	
TWGBT	**Beinan**	**40.84**	**1**		P	**P**	**05 47 07.1**	**+1.3**	
TWG	**Pinlang**	**40.84**	**1**		P	**P**	**05 47 04.4**	**-1.4**	
TPUB	**Ta-pu**	**41.31**	**0**		P	**P**	**05 47 08.3**	**-1.4**	
TPUB	**Ta-pu**	**41.31**	**0**		P	**P**	**05 47 11.3**	**+1.6**	
KOUNC	**Koumac, New Ca**	**41.33**	**101**		P	**P**	**05 47 12.8**	**+2.8**	
KOUNC	**Koumac, New Ca**	**41.33**	**101**	⇑	P	**P**	**05 47 12.5**	**+2.5**	
DGPR	**DIGLIPUR**	**41.38**	**317**	*eP*		**P**	**05 47 08.8**	**-1.5**	
DGPR					IAms_20	IAms_20	06 07 00.4		
	comp=Z,39µm,20.0s								
YULB	**Yu-li**	**41.41**	**1**		P	**P**	**05 47 08.9**	**-1.6**	
YULB	**Yu-li**	**41.41**	**1**		P	**P**	**05 47 12.1**	**+1.6**	
GZH	**Guangzhou**	**41.68**	**350**		P	**P**	**05 47 16.4**	**+3.7**	
GZH					PP	**PnPn**	**05 48 58.4**	**+4.1**	
GZH					S	S	05 53 38.9	+10	
GZH					LR	LR			
	comp=Z,27µm,20.6s								
GZH					LR	LR			
	comp=Z,40µm,17.5s								
GZH					LR	LR			
	comp=Z,56µm,19.6s								
SSLB	**Suanglung**	**41.80**	**1**		P	**P**	**05 47 11.8**	**-2.0**	
SSLB					IAmb	IAmb	05 47 25.1		
	comp=Z,547nm,1.4s								
SSLB	**Suanglung**	**41.80**	**1**		P	**P**	**05 47 14.4**	**+0.7**	
CM31	**Chiang Mai Arr**	**42.17**	**329**		P	**P**	**05 47 15.5**	**-1.3**	
CM31	**Chiang Mai Arr**	**42.17**	**329**		P	**P**	**05 47 16.2**	**-0.6**	
	SNR=78								
CM31					P	**P**	**05 47 16.2**	**-0.6**	
	SNR=78								
CM31					S	**S**	**05 53 43.9**	**+7.9**	
CM31					S	**S**	**05 53 43.9**	**+7.9**	
CMAR	**Chiang Mai Arr**	**42.17**	**329**		P	**P**	**05 47 15.3**	**-1.5**	
CMAR	**Chiang Mai Arr**	**42.17**	**329**		P	**P**	**05 47 16.0**	**-0.8**	
	comp=Z,57nm,1.0s,baz=162,slow=5.9,SNR=52								
	comp=Z,57nm,1.0s								
CMAR	**Chiang Mai Arr**	**42.17**	**329**	*i*	P	**P**	**05 47 16.0**	**-0.8**	
CMAR					pmax	pmax			
	comp=Z,62nm,1.0s								
NACB	**Ninganchiao**	**42.20**	**2**		P	**P**	**05 47 17.0**	**+0.1**	
CHTO	**Chiang Mai**	**42.47**	**329**		P	**P**	**05 47 18.2**	**-1.1**	
CHTO					P	**P**	**05 47 18.2**	**-1.1**	
CHTO					P	**P**	**05 47 18.2**	**-1.1**	
CHTO					S	**S**	**05 53 48.3**	**+7.8**	
CHTO					S	**S**	**05 53 48.3**	**+7.8**	
CHTO					S	**S**	**05 53 48.3**	**+7.8**	
CHTO	**Chiang Mai**	**42.47**	**329**		P	**P**	**05 47 19.4**	**+0.1**	
CHTO	**Chiang Mai**	**42.47**	**329**	⇑	P	**P**	**05 47 17.4**	**-1.9**	
CHTO	**Chiang Mai**	**42.47**	**329**		P	**P**	**05 47 17.3**	**-1.9**	
YOJ	**Yonaguni jima**	**42.55**	**3**		IAmb	IAmb	05 47 30.3		
	comp=Z,1µm,1.4s								
YOJ	**Yonaguni jima**	**42.55**	**3**		P	**P**	**05 47 21.1**	**+1.4**	
YOJ	**Yonaguni jima**	**42.55**	**3**	⇑	P	**P**	**05 47 18.9**	**-0.8**	
SLVN	**Son La**	**42.56**	**337**		P	**P**	**05 47 18.6**	**-1.5**	
SLVN	**Son La**	**42.56**	**337**		P	**P**	**05 47 20.5**	**+0.5**	
YHNB	**Yeheng**	**42.69**	**1**		IAmb	IAmb	05 47 38.4		
	comp=Z,706nm,1.2s								
YHNB	**Yeheng**	**42.69**	**1**		P	**P**	**05 47 22.1**	**+1.1**	
QZH	**Quanzhou**	**42.99**	**358**	⇑	*i*P	**P**	**05 47 23.6**	**+0.3**	
QZH					PP	**PP**	**05 49 08.1**	**+4.7**	
QZH					S	**S**	**05 53 47.3**	**-0.5**	
QZH					pmax	pmax			
	comp=Z,830nm,1.1s								
QZH					pmax	pmax			
	comp=Z,11µm,6.7s								
QZH					LR	LR			
	comp=Z,29µm,22.6s								
QZH					LR	LR			
	comp=Z,40µm,22.2s								
QZH					LR	LR			
	comp=Z,36µm,20.9s								
TATO	**Taipei**	**42.99**	**1**		P	**P**	**05 47 24.2**	**+0.9**	
TATO					IAmb	IAmb	05 47 33.1		
	comp=Z,770nm,1.1s								
TATO	**Taipei**	**42.99**	**1**		P	**P**	**05 47 23.0**	**-0.4**	
TATO					P	**P**	**05 47 23.0**	**-0.4**	
TATO					S	**S**	**05 53 50.2**	**+2.3**	
TATO					S	**S**	**05 53 50.2**	**+2.3**	
CRAI	**Chiangrai**	**43.02**	**332**		IAms_20	IAms_20	06 08 36.0		
	comp=Z,67µm,18.0s								
ONTNC	**Ouen Toro**	**43.22**	**103**		P	**P**	**05 47 27.9**	**+2.5**	
ONTNC					IAmb	IAmb	05 47 37.9		
	comp=Z,584nm,1.1s								
ONTNC	**Ouen Toro**	**43.22**	**103**		P	**P**	**05 47 28.5**	**+3.1**	
ONTNC	**Ouen Toro**	**43.22**	**103**	⇑	P	**P**	**05 47 28.1**	**+2.7**	
DZM	**Mont Dzumac**	**43.23**	**103**		P	**P**	**05 47 24.2**	**-1.4**	
DZM	**Mont Dzumac**	**43.23**	**103**	*eP*		**P**	**05 47 26.8**	**+1.2**	
	comp=Z,483nm,1.4s								
DZM	**Mont Dzumac**	**43.23**	**103**	*e*	PP	**PP**	**05 49 06.5**	**+0.3**	
	comp=Z,9µm,24.8s								
DZM				*e*	S	**S**	**05 53 49.1**	**-2.8**	
	comp=Z,70µm,29.4s								
DZM				*e*	SS	**SS**	**05 56 59.2**	**-6.1**	
	comp=Z,173µm,33.9s								
DZM				*e*	LR	LR	05 59 24.9		
	comp=Z,186µm,25.7s								
DZM	**Mont Dzumac**	**43.23**	**103**		LR	LR	06 04 49.8		
	comp=Z,112µm,18.5s,baz=272,slow=35								
DZM	**Mont Dzumac**	**43.23**	**103**		P	**P**	**05 47 28.0**	**+2.4**	
DZM	**Mont Dzumac**	**43.23**	**103**	⇑	P	**P**	**05 47 29.4**	**+3.8**	
OUENC	**Ouen Island, N**	**43.58**	**104**		P	**P**	**05 47 30.7**	**+2.4**	
YATNC	**Mamie plateau,**	**43.64**	**103**		P	**P**	**05 47 32.2**	**+3.3**	
PINNC	**Pines Island,**	**44.12**	**104**		IAmb	IAmb	05 48 16.1		
	comp=Z,418nm,1.1s								
GULI	**GuiLin**	**44.39**	**347**		P	**P**	**05 47 31.5**	**-3.2**	
GULI					pmax	pmax			
	comp=Z,63nm,1.9s								
GULI					LR	LR			
	comp=Z,38µm,20.1s								
GULI					LR	LR			
	comp=Z,16µm,20.6s								
GULI					LR	LR			
	comp=Z,61µm,22.8s								
NFK	**Norfolk Island**	**44.55**	**113**	⇓	P	**P**	**05 47 40.4**	**+4.3**	
SANVU	**Saraoutou**	**44.75**	**94**		P	**P**	**05 47 40.9**	**+3.1**	
VLAKA	**Lakatoro**	**44.84**	**95**		P	**P**	**05 47 41.1**	**+2.6**	
JMZ	**Minamidaito 2**	**45.06**	**14**		P	**P**	**05 47 41.6**	**+1.6**	
JMZ	**Minamidaito 2**	**45.06**	**14**	⇓	P	**P**	**05 47 44.8**	**+4.8**	
DVP	**Devils Point**	**45.31**	**97**		P	**P**	**05 47 45.6**	**+3.4**	
JOW	**Kunigami**	**45.47**	**10**		P	**P**	**05 47 43.2**	**0.0**	
	comp=Z,74nm,0.9s,baz=194,slow=3.0,SNR=8.5								
JOW					LR	LR	06 08 49.0		
	comp=Z,27µm,20.3s,baz=185,slow=39								
	comp=Z,74nm,0.9s								
GYA	**Guiyang**	**46.43**	**343**	⇓	P	**P**	**05 47 50.3**	**-0.6**	
GYA					S	**S**	**05 54 34.8**	**-3.2**	
GYA					pmax	pmax			
	comp=Z,36nm,0.8s								
GYA					pmax	pmax			
	comp=Z,8µm,9.0s								
GYA					LR	LR			
	comp=Z,26µm,18.1s								
GYA					LR	LR			
	comp=Z,44µm,18.6s								
GYA					LR	LR			
	comp=Z,48µm,17.3s								
KMI	**Kunming**	**46.45**	**338**	⇑	P	**P**	**05 47 50.8**	**-0.4**	
KMI					PP	**PP**	**05 49 42.8**	**+2.1**	
KMI					S	**S**	**05 54 37.3**	**-1.2**	
KMI					SS	**SS**	**05 57 56.4**	**-8.4**	
KMI					pmax	pmax			
	comp=Z,310nm,1.2s								
KMI					pmax	pmax			
	comp=Z,8µm,7.3s								
KMI					LR	LR			
	comp=Z,21µm,25.8s								
KMI					LR	LR			
	comp=Z,70µm,17.5s								
KMI					LR	LR			
	comp=Z,47µm,20.2s								
PALK	**Pallekele**	**46.71**	**299**		P	**P**	**05 47 51.4**	**-1.9**	
PALK					IAmb	IAmb	05 48 10.2		
	comp=Z,218nm,0.9s								
PALK	**Pallekele**	**46.71**	**299**		IAms_20	IAms_20	06 08 52.2		
	comp=Z,53µm,18.0s								
PALK	**Pallekele**	**46.71**	**299**		LR	LR	06 04 45.0		
	comp=Z,34µm,20.6s,baz=125,slow=33								
PALK	**Pallekele**	**46.71**	**299**		P	**P**	**05 47 55.0**	**+1.7**	
PALK	**Pallekele**	**46.71**	**299**	*d*	iP	**P**	**05 47 54.4**	**+1.1**	
PALK					pmax	pmax			
	comp=Z,407nm,1.0s								
PALK					MLR	MLR			
	comp=Z,57µm,17.0s								
PALK	**Pallekele**	**46.71**	**299**		P	**P**	**05 47 51.8**	**-1.5**	
PALK					S	**S**	**05 54 42.5**	**+0.2**	
CNSH	**ChangSha**	**46.74**	**351**		P	**P**	**05 47 53.4**	**+0.2**	
CNSH					S	**S**	**05 54 46.8**	**+4.6**	
CNSH					LR	LR			
	comp=Z,24µm,25.1s								
CNSH					LR	LR			
	comp=Z,22µm,25.5s								
CNSH					LR	LR			
	comp=Z,40µm,33.9s								
DCZ	**Deep Cove**	**47.17**	**136**		IAms_20	IAms_20	06 06 17.0		
	comp=Z,85µm,19.0s								
DCZ	**Deep Cove**	**47.17**	**136**		P	**P**	**05 48 00.5**	**+4.0**	
MSZ	**Milford Sound**	**47.43**	**134**		P	**P**	**05 48 01.5**	**+3.0**	
MALK	**Mahakanadarawa**	**47.46**	**301**		P	**P**	**05 47 59.1**	**+0.1**	
MALK					S	**S**	**05 54 54.0**	**+1.1**	
MALK	**Mahakanadarawa**	**47.46**	**301**	⇑	P	**P**	**05 48 00.4**	**+1.3**	
H08S2	**Diego Garcia H**	**47.77**	**276**		T	T	06 38 17.6		
	baz=106,slow=76								
MLZ	**Mavora Lakes**	**47.78**	**135**		IAmb	IAmb	05 48 06.0		
	comp=Z,323nm,0.9s								
MLZ					IAms_20	IAms_20	06 06 54.2		
	comp=Z,78µm,20.0s								
MLZ	**Mavora Lakes**	**47.78**	**135**		P	**P**	**05 48 03.7**	**+2.4**	
H08S3	**Diego Garcia H**	**47.78**	**276**		T	T	06 38 20.2		
	baz=106,slow=76								
H08S1	**Diego Garcia H**	**47.79**	**276**		T	T	06 38 18.9		
	baz=106,slow=76								
WHZ	**Wether Hill Ro**	**47.84**	**136**		P	**P**	**05 48 03.4**	**+1.8**	
JCZ	**Jackson Bay**	**47.84**	**133**		P	**P**	**05 48 03.6**	**+1.8**	
JCZ	**Jackson Bay**	**47.84**	**133**		P	**P**	**05 48 03.6**	**+1.8**	
DGAR	**Diego Garcia**	**47.88**	**277**		IAms_20	IAms_20	06 09 13.4		
	comp=Z,64µm,18.0s								
DGAR	**Diego Garcia**	**47.88**	**277**		P	**P**	**05 48 06.2**	**+3.8**	
DGAR					P	**P**	**05 48 06.2**	**+3.8**	
DGAR					P	**P**	**05 48 06.2**	**+3.8**	
DGAR	**Diego Garcia**	**47.88**	**277**	*i*	P	**P**	**05 48 01.0**	**-1.4**	
DGAR					pmax	pmax			
	comp=Z,247nm,0.7s								
DGAR					MLR	MLR			
	comp=Z,61µm,18.0s								
TNCH	**TengChong**	**48.04**	**333**	⇑	P	**P**	**05 48 02.6**	**-1.0**	
TNCH					sP	pP	05 48 07.8	-2.0	
TNCH					S	**S**	**05 55 01.1**	**-0.1**	
TNCH					SS	**SS**	**05 58 26.8**	**-3.8**	
TNCH					pmax	pmax			
	comp=Z,360nm,2.4s								
TNCH					pmax	pmax			
	comp=Z,10µm,7.4s								
TNCH					LR	LR			
	comp=Z,27µm,16.4s								
TNCH					LR	LR			
	comp=Z,30µm,15.9s								
TNCH					LR	LR			
	comp=Z,59µm,17.1s								
PZH	**PanZhiHua**	**48.07**	**337**		P	**P**	**05 48 04.3**	**+0.6**	
PZH					PP	**PP**	**05 49 59.9**	**+3.8**	
PZH					S	**S**	**05 54 59.4**	**-2.0**	
PZH					pmax	pmax			
	comp=Z,40nm,1.0s								
PZH					pmax	pmax			
	comp=Z,7µm,7.8s								
PZH					LR	LR			
	comp=Z,31µm,21.6s								
PZH					LR	LR			
	comp=Z,37µm,19.8s								
PZH					LR	LR			
	comp=Z,60µm,24.0s								
APZ	**The Paps**	**48.17**	**137**		P	**P**	**05 48 06.0**	**+1.7**	
WKZ	**Wanaka**	**48.22**	**134**		P	**P**	**05 48 06.9**	**+2.2**	
FOZ	**Fox Glacier**	**48.41**	**132**		IAmb	IAmb	05 48 21.8		
	comp=Z,512nm,1.7s								
FOZ	**Fox Glacier**	**48.41**	**132**		P	**P**	**05 48 08.3**	**+2.2**	
CASY	**Casey**	**48.42**	**185**		P	**P**	**05 48 05.6**	**-0.2**	
CASY					IAmb	IAmb	05 48 27.7		
	comp=Z,287nm,1.1s								
CASY	**Casey**	**48.42**	**185**		IAms_20	IAms_20	06 06 14.0		
	comp=Z,69µm,19.0s								
CASY	**Casey**	**48.42**	**185**	⇓	P	**P**	**05 48 06.8**	**+1.0**	
EAZ	**Earnscleugh**	**48.54**	**135**		P	**P**	**05 48 08.5**	**+1.4**	
SYZ	**Scrubby Hill**	**48.83**	**136**		P	**P**	**05 48 11.1**	**+1.9**	
SYZ	**Scrubby Hill**	**48.83**	**136**		P	**P**	**05 48 12.2**	**+3.0**	
WHN	**Wuhan**	**48.88**	**353**	⇓	P	**P**	**05 48 10.0**	**+0.3**	
WHN					sP	**pP**	**05 48 15.6**	**-0.3**	
WHN					PP	**PP**	**05 50 07.6**	**+4.2**	
WHN					S	**S**	**05 55 13.1**	**+0.6**	
WHN					pmax	pmax			
	comp=Z,25µm,8.2s								
WHN					LR	LR			
	comp=Z,66µm,16.2s								
WHN					LR	LR			
	comp=Z,19µm,13.7s								
WHN					LR	LR			
	comp=Z,128µm,19.5s								
LBZ	**Lake Benmore**	**48.90**	**133**		P	**P**	**05 48 11.9**	**+2.0**	
WVZ	**Waitaha Valley**	**48.94**	**132**		P	**P**	**05 48 11.7**	**+1.5**	
TUZ	**Tuapeka**	**48.97**	**136**		P	**P**	**05 48 12.5**	**+2.2**	
SSE	**Sheshan**	**49.08**	**1**		P	**P**	**05 48 11.3**	**0.0**	
SSE					S	**S**	**05 55 18.3**	**+3.0**	
SSE					pmax	pmax			
	comp=Z,24nm,1.6s								
SSE					pmax	pmax			
	comp=Z,510nm,7.1s								
SSE					LR	LR			
	comp=Z,290nm,22.7s								
RPZ	**Rata Peaks**	**49.33**	**132**		LR	LR	06 09 09.8		
	comp=Z,181µm,19.2s,baz=284,slow=36								
RPZ	**Rata Peaks**	**49.33**	**132**		P	**P**	**05 48 14.9**	**+1.7**	
RPZ	**Rata Peaks**	**49.33**	**132**		P	**P**	**05 48 14.7**	**+1.5**	
INZ	**Inchbonnie**	**49.37**	**131**		IAmb	IAmb	05 48 19.4		
	comp=Z,247nm,1.0s								
INZ	**Inchbonnie**	**49.37**	**131**		P	**P**	**05 48 15.1**	**+1.6**	
ODZ	**Otahua Downs**	**49.39**	**134**		P	**P**	**05 48 15.8**	**+2.1**	
ODZ					IAmb	IAmb	05 48 20.5		
	comp=Z,391nm,1.3s								
ODZ	**Otahua Downs**	**49.39**	**134**		P	**P**	**05 48 15.5**	**+1.9**	
ODZ	**Otahua Downs**	**49.39**	**134**		P	**P**	**05 48 14.4**	**+0.8**	
ODZ	**Otahua Downs**	**49.39**	**134**	⇑	P	**P**	**05 48 15.2**	**+1.6**	
ENH	**Enshi**	**49.40**	**347**			**P**	**05 48 12.2**	**-1.6**	
ENH	**Enshi**	**49.40**	**347**		P	**P**	**05 48 15.2**	**+1.4**	
DSZ	**Denniston Nort**	**49.41**	**130**		P	**P**	**05 48 16.3**	**+2.4**	
DSZ	**Denniston Nort**	**49.41**	**130**		P	**P**	**05 48 15.7**	**+1.8**	
TMZ	**Timaru**	**49.46**	**133**		P	**P**	**05 48 15.6**	**+1.4**	
BRDH	**Bariadhala**	**49.48**	**324**		LR	LR	06 09 58.3		
	comp=Z,42µm,22.0s,baz=132,slow=37								
QRZ	**Quartz Range**	**49.76**	**128**		P	**P**	**05 48 18.4**	**+1.9**	
QRZ	**Quartz Range**	**49.76**	**128**		P	**P**	**05 48 20.7**	**+4.2**	
AZL	**Aizawl**	**49.77**	**326**	*eP*		**P**	**05 48 15.5**	**-1.2**	
AZL					IAmb	IAmb	05 48 27.7		
	comp=Z,777nm,0.9s								
AZL					IAMs_20	IAMs_20	06 08 00.7		
	comp=Z,58µm,21.7s								
OUZ	**Omahuta**	**49.81**	**121**		P	**P**	**05 48 19.5**	**+2.6**	
OUZ	**Omahuta**	**49.81**	**121**		P	**P**	**05 48 21.4**	**+4.5**	
OUZ	**Omahuta**	**49.81**	**121**	⇑	P	**P**	**05 48 21.2**	**+4.3**	
OUZ	**Omahuta**	**49.81**	**121**	⇓	P	**P**	**05 48 21.2**	**+4.3**	
OXZ	**Oxford**	**49.93**	**132**		IAmb	IAmb	05 48 23.1		
	comp=Z,519nm,1.0s								
OXZ	**Oxford**	**49.93**	**132**		P	**P**	**05 48 19.9**	**+2.1**	
LTZ	**Lake Taylor**	**49.97**	**131**		IAmb	IAmb	05 48 31.1		
	comp=Z,234nm,0.9s								
IMP	**Imphal**	**50.01**	**328**	*eP*		**P**	**05 48 16.9**	**-1.7**	
IMP					IAmb	IAmb	05 48 28.9		
	comp=Z,892nm,0.8s								
IMP					IAMs_20	IAMs_20	06 04 04.1		
	comp=Z,17µm,23.0s								
NJ2	**Nanjing**	**50.05**	**358**	⇓	P	**P**	**05 48 20.4**	**+1.7**	
NJ2					pP	**pP**	**05 48 24.4**	**-0.5**	
NJ2					sP	**sP**	**05 48 27.8**	**+0.5**	
NJ2					S	**S**	**05 55 32.0**	**+3.1**	
NJ2					SS	**SS**	**05 58 58.1**	**-4.4**	
NJ2					pmax	pmax			
	comp=Z,240nm,1.1s								
NJ2					pmax	pmax			
	comp=Z,7µm,4.8s								
NJ2					LR	LR			
	comp=Z,17µm,22.7s								
NJ2					LR	LR			
	comp=Z,20µm,17.7s								
NJ2					LR	LR			
	comp=Z,26µm,18.6s								
THZ	**Tophouse**	**50.22**	**129**		P	**P**	**05 48 22.6**	**+2.5**	
MDRS	**Chennai**	**50.41**	**305**	*eP*		**P**	**05 48 22.2**	**+0.6**	
MDRS					IAmb	IAmb	05 48 32.9		
	comp=Z,630nm,1.1s								
MQZ	**McQueen's Vall**	**50.45**	**132**		IAMs_20	IAMs_20	06 07 13.0		
	comp=Z,96µm,21.0s								
MQZ	**McQueen's Vall**	**50.45**	**132**		P	**P**	**05 48 22.7**	**+1.1**	
NNZ	**Nelson**	**50.47**	**129**		IAmb	IAmb	05 48 28.0		
	comp=Z,320nm,1.2s								
NNZ	**Nelson**	**50.47**	**129**		P	**P**	**05 48 23.8**	**+2.0**	
WCZ	**Waipu Caves**	**50.48**	**122**		P	**P**	**05 48 25.8**	**+3.8**	
TRD	**Trivandrum**	**50.49**	**298**	*eP*		**P**	**05 48 22.8**	**+0.4**	
GVZ	**Greta Valley S**	**50.56**	**131**		IAmb	IAmb	05 48 44.4		
	comp=Z,288nm,0.9s								
GVZ	**Greta Valley S**	**50.56**	**131**		P	**P**	**05 48 23.8**	**+1.3**	
AGT	**Agartala**	**50.66**	**325**	*eP*		**P**	**05 48 21.3**	**-2.1**	
AGT					IAMs_20	IAMs_20	06 02 42.7		
	comp=Z,21µm,17.7s								
KOHI	**KOHIMA**	**50.67**	**329**	*eP*		**P**	**05 48 21.6**	**-2.1**	
KOHI					IAmb	IAmb	05 48 33.6		
	comp=Z,626nm,1.2s								
KOHI					IAMs_20	IAMs_20	06 08 17.4		
	comp=Z,38µm,24.2s								
PAF	**Port-aux-Franc**	**50.71**	**220**		P	**P**	**05 48 25.2**	**+1.8**	
PAF					IAmb	IAmb	05 48 27.2		
	comp=Z,297nm,0.9s								
PAF	**Port-aux-Franc**	**50.71**	**220**		P	**P**	**05 48 25.3**	**+1.8**	
PAF					pmax	pmax			
	comp=Z,297nm,0.9s								
PAF	**Port-aux-Franc**	**50.71**	**220**	⇑	P	**P**	**05 48 25.4**	**+1.8**	
KHZ	**Kahutara**	**50.81**	**130**		IAmb	IAmb	05 48 40.4		
	comp=Z,318nm,1.3s								
KHZ	**Kahutara**	**50.81**	**130**		P	**P**	**05 48 26.3**	**+1.9**	
KHZ	**Kahutara**	**50.81**	**130**		P	**P**	**05 48 27.5**	**+3.1**	
KHZ	**Kahutara**	**50.81**	**130**	⇑	P	**P**	**05 48 27.5**	**+3.1**	
KOD	**Kodaikanal**	**51.00**	**300**	*eP*		**P**	**05 48 27.4**	**+0.8**	
KOD					IAmb	IAmb	05 48 41.3		
	comp=Z,485nm,1.2s								
KOD					IAMs_20	IAMs_20	06 05 36.3		
	comp=Z,65µm,21.6s								
VIS	**Vishakhapatnam**	**51.10**	**312**	*eP*		**P**	**05 48 27.3**	**+0.5**	
HIZ	**Hauiti**	**51.17**	**125**		IAMs_20	IAMs_20	06 08 17.3		
	comp=Z,77µm,18.0s								
HIZ	**Hauiti**	**51.17**	**125**		P	**P**	**05 48 29.7**	**+2.5**	
HIZ	**Hauiti**	**51.17**	**125**		P	**P**	**05 48 30.8**	**+3.6**	
VRZ	**Vera Road**	**51.18**	**126**		P	**P**	**05 48 31.7**	**+4.4**	
SALM	**Salem**	**51.19**	**302**	*eP*		**P**	**05 48 28.8**	**+1.2**	
SALM				*ex*		x	05 48 38.1		
SALM					IAMs_20	IAMs_20	06 05 44.1		
	comp=Z,58µm,21.8s								
LKP	**Lekhapani**	**51.22**	**332**		IAMs_20	IAMs_20	06 07 25.7		
	comp=Z,33µm,20.3s								
GRZ	**Great Barrier**	**51.41**	**122**		P	**P**	**05 48 33.3**	**+4.3**	
WAZ	**Wanganui**	**51.44**	**127**		P	P	05 48 34.5	+5.2	
CD2	**Chengdu**	**51.46**	**342**		P	**P**	**05 48 28.8**	**-0.6**	
CD2					sP	pP	05 48 36.3	+0.7	
CD2					S	**S**	**05 55 47.8**	**-0.7**	
CD2					sS	sS	05 55 59.4	+0.7

ZIRO IAmb IAmb 05 48 46.7
comp=Z,615nm,1.4s
ZIRO IAms_20 IAms_20 06 07 22.3
comp=Z,19µm,26.2s
OMRZ Omania 52.31 124 P **P** **05 48 38.9 +3.1**
PNHZ Pukenui 52.39 127 P **P** **05 48 39.3 +3.0**
MRHZ Matea Rd 52.42 125 P **P** **05 48 38.8 +2.2**
OPRZ Ohinepanea 52.43 124 P **P** **05 48 40.1 +3.5**
KWHZ Kaweka Forest 52.50 126 P **P** **05 48 39.2 +2.0**
BKZ Black Stump Fm 52.52 126 P **P** **05 48 36.7 -0.7**
BKZ IAmb IAmb 05 48 44.0
comp=Z,452nm,1.1s
BKZ Black Stump Fm 52.52 126 P **P** **05 48 40.6 +3.3**
BFZ Birch Farm 52.52 128 IAmb IAmb 05 48 44.9
comp=Z,868nm,1.6s
BFZ Birch Farm 52.52 128 P P 05 48 42.9 +5.6
ANWZ Angora Road 52.67 127 P **P** **05 48 41.5 +3.2**
MCHZ McNeill Hill 52.71 126 P **P** **05 48 41.1 +2.4**
MTHZ Maungataniwha 52.76 125 P **P** **05 48 40.1 +1.0**
NMHZ Naumai 52.76 126 P **P** **05 48 41.9 +2.8**
HMDM Hanimaadhoo 52.84 294 P **P** **05 48 41.7 +1.8**
SNR=10.0
HMDM Hanimaadhoo 52.84 294 ⇑P **P** **05 48 42.0 +2.1**
KAHZ Kahuranaki 52.89 126 P **P** **05 48 43.8 +3.7**
URZ Urewera 52.91 124 P **P** **05 48 42.2 +2.1**
URZ Urewera 52.91 124 P **P** **05 48 41.2 +1.1**
URZ Urewera 52.91 124 ⇑P **P** **05 48 40.8 +0.7**
PXZ Pawanui 52.91 127 P P 05 48 45.4 +5.3
ARHZ Aropaoanui 52.92 126 P **P** **05 48 43.9 +3.6**
RAHZ Arahi 52.95 125 P **P** **05 48 42.8 +2.3**
LYN LuoYang 53.07 352 ⇑P **P** **05 48 39.4 -1.8**
LYN sP pP 05 48 46.9 -0.5
LYN PP **PP** **05 50 43.8 +2.4**
LYN S **S** **05 56 08.8 -1.6**
LYN pmax pmax
comp=Z,120nm,0.8s
LYN pmax pmax
comp=Z,11µm,7.6s
LYN LR LR
comp=Z,24µm,24.7s
LYN LR LR
comp=Z,33µm,21.3s
LYN LR LR
comp=Z,69µm,32.3s
WHHZ Waihua 53.09 125 P **P** **05 48 44.7 +3.3**
XAN Xi'an 53.16 348 ⇑P **P** **05 48 40.5 -1.5**
XAN PP **PP** **05 50 46.0 +3.7**
XAN S **S** **05 56 10.3 -1.5**
XAN pmax pmax
comp=Z,11µm,7.1s
XAN LR LR
comp=Z,28µm,21.1s
XAN LR LR
comp=Z,39µm,21.1s
XAN LR LR
comp=Z,52µm,24.0s
RAGZ Rawiri 53.17 125 P **P** **05 48 43.5 +1.4**
JTU Tsushima 53.19 9 P **P** **05 48 43.9 +1.8**
JTU Tsushima 53.19 9 ⇓P **P** **05 48 42.0 0.0**
MWZ Matawai 53.24 125 P **P** **05 48 44.1 +1.4**
JMN Monobe 53.27 14 IAmb IAmb 05 48 58.5
comp=Z,463nm,1.3s
JMN Monobe 53.27 14 P **P** **05 48 45.1 +2.3**
JMN Monobe 53.27 14 ⇓P **P** **05 48 44.3 +1.5**
RUGZ Raukumara Rang 53.33 124 P **P** **05 48 47.3 +3.9**
HAZ Te Kaha 53.39 124 P **P** **05 48 45.5 +1.9**
KNZ Kokohu 53.42 125 P **P** **05 48 46.0 +2.1**
KNTI KHUNTI 53.54 319 *e*P **P** **05 48 43.6 -1.4**
KNTI IAmb IAmb 05 48 55.7
comp=Z,608nm,0.9s
KNTI IAms_20 IAms_20 06 08 23.1
comp=Z,18µm,23.7s
PRGZ Paritu Road 53.57 125 P **P** **05 48 48.2 +3.2**
PKGZ Pakihiroa 53.63 124 P **P** **05 48 47.6 +2.0**
CNGZ Carnagh Statio 53.78 125 P **P** **05 48 49.6 +3.0**
MXZ Matakaoa Point 53.79 123 P **P** **05 48 51.2 +4.5**
PUZ Puketiti 53.79 124 P **P** **05 48 49.4 +2.7**
WMGZ Waiomatatini S 53.89 124 P **P** **05 48 50.7 +3.3**
JPG JALPAIGURI 54.16 324 IAms_20 IAms_20 06 07 39.9
comp=Z,19µm,27.8s
TIA Tai'an 54.27 357 P **P** **05 48 48.5 -1.5**
TIA PP **PP** **05 50 56.9 +4.7**
TIA S **S** **05 56 28.8 +2.1**
TIA pmax pmax
comp=Z,27nm,0.6s
TIA pmax pmax
comp=Z,6µm,5.2s
TIA LR LR
comp=Z,9µm,21.0s
TIA LR LR
comp=Z,20µm,21.6s
TIA LR LR
comp=Z,48µm,23.4s
YSA Yasawairara 54.33 98 P **P** **05 48 53.1 +2.2**
HYB Hyderabad 54.36 308 *e*P **P** **05 48 49.6 -1.5**
HYB IVmB_BB 05 49 01.3
comp=Z,6µm,7.0s
HYB *e*S **S** **05 56 28.0 -0.6**
HYB IVMs_BB IVMs_BB 06 09 17.1
comp=Z,7µm,17.3s
MSVF Nonsavu 54.59 99 IAmb IAmb 05 49 25.0
comp=Z,448nm,1.1s
MSVF Nonsavu 54.59 99 P **P** **05 48 55.1 +2.2**
MSVF Nonsavu 54.59 99 *i*P **P** **05 48 54.6 +1.7**
MSVF pmax pmax
comp=Z,267nm,1.0s
MSVF MLR MLR
comp=Z,93µm,16.0s
MSVF Nonsavu 54.59 99 ⇓P **P** **05 48 55.5 +2.7**
MNGI Mangalore 54.64 301 *e*P **P** **05 48 54.4 +1.3**
MNGI IAMs_20 IAMs_20 06 07 47.6
comp=Z,55µm,20.0s
TJN Taejon 54.74 7 P **P** **05 48 54.6 +1.2**
TJN Taejon 54.74 7 *d i*P **P** **05 48 53.7 +0.3**
GTK Tadong 54.83 325 *e*P **P** **05 48 54.1 -0.3**
GTK IAmb IAmb 05 49 07.2
comp=Z,594nm,1.2s
GTK IAMs_20 IAMs_20 06 03 14.5
comp=Z,23µm,20.3s
BLSP Bilaspur 54.92 315 *e*P **P** **05 48 53.5 -1.5**
BLSP IAmb IAmb 05 49 05.1
comp=Z,759nm,1.1s
LSA Lhasa 55.42 329 **P** **05 48 58.4 -0.7**
LSA Lhasa 55.42 329 P **P** **05 48 58.6 -0.5**
LSA S **S** **05 56 38.6 -4.7**
LSA pmax pmax
comp=Z,81nm,0.7s
LSA LR LR
comp=Z,17µm,21.9s
LSA LR LR
comp=Z,34µm,21.2s
LSA Lhasa 55.42 329 P **P** **05 48 59.1 +0.1**
LSA Lhasa 55.42 329 P **P** **05 48 58.4 -0.7**
LSA pmax pmax
comp=Z,1µm,0.8s
LSA MLR MLR
comp=Z,37µm,21.0s
LSA Lhasa 55.42 329 P **P** **05 48 59.9 +0.8**
INU Inuyama 55.59 16 P **P** **05 48 58.5 -1.1**
INU Inuyama 55.59 16 P **P** **05 48 01.6 +2.0**
INU Inuyama 55.59 16 ⇑P **P** **05 49 00.2 +0.6**
HNS HongShan 55.63 354 ⇓P **P** **05 48 58.9 -0.9**
HNS PP **PP** **05 51 06.1 +1.8**
HNS S **S** **05 56 44.8 0.0**
HNS pmax pmax
comp=Z,65nm,1.4s
HNS pmax pmax
comp=Z,7µm,9.6s
HNS LR LR
comp=Z,33µm,19.4s
HNS LR LR
comp=Z,17µm,22.6s
HNS LR LR
comp=Z,40µm,20.8s
INCN Inchon 55.76 6 P **P** **05 48 58.9 -1.8**
INCN Inchon 55.76 6 P **P** **05 48 58.9 -1.8**
INCN pmax pmax
comp=Z,104nm,0.9s
INCN MLR MLR
comp=Z,18µm,22.0s
KSAR Wonju Array Be 55.85 7 P **P** **05 49 00.3 -1.1**
KSAR Wonju Array Be 55.85 7 P **P** **05 49 00.3 -1.1**
KSRS Korea Array 55.87 7 P **P** **05 49 01.1 -0.3**
comp=Z,53nm,0.9s,baz=187,slow=7.4,SNR=84
KSRS LR LR 06 13 31.8
comp=Z,8750µm,21.8s,baz=190,slow=37
KSRS PKPPKP **P'P'df** **06 19 02.0 +4.8**
comp=Z,2.5nm,0.9s,baz=43,slow=2.1,SNR=6.4
comp=Z,53nm,0.9s
KS19 Wonju Array Si 55.91 7 P **P** **05 49 01.0 -0.8**
KS19 IAmb IAmb 05 49 17.1
comp=Z,175nm,0.8s
JGF Kuroka 55.92 17 IAmb IAmb 05 49 26.6
comp=Z,200nm,0.9s
JGF Kuroka 55.92 17 P **P** **05 49 03.0 +1.0**
TIY Taiyuan 56.19 352 *e*P **P** **05 49 04.5 +0.6**
TIY PP **PP** **05 51 13.6 +4.2**
TIY S **S** **05 56 51.6 -0.8**
TIY SS **SS** **06 00 40.6 +1.1**
TIY pmax pmax
comp=Z,48nm,1.3s
TIY pmax pmax
comp=Z,6µm,6.5s
TIY LR LR
comp=Z,15µm,23.4s
TIY LR LR
comp=Z,25µm,23.4s
TIY LR LR
comp=Z,27µm,23.4s
HJU Haeju 56.23 5 P **P** **05 49 03.4 -0.7**
HJU S **S** **05 56 54.0 +1.2**
HJU AmB
comp=Z,6µm,3.5s
HJU AMS AMS
comp=Z,56µm,42.1s
LZH Lanzhou 56.30 344 ⇑P **P** **05 49 04.8 0.0**
LZH sP pP 05 49 12.1 +1.0
LZH S **S** **05 56 55.3 +1.2**
LZH pmax pmax
comp=Z,9µm,4.6s
LZH LR LR
comp=Z,41µm,18.7s
LZH LR LR
comp=Z,37µm,19.9s
LZH LR LR
comp=Z,47µm,20.4s
EVN Everest 56.31 324 P **P** **05 49 04.3 -1.4**
EVN Everest 56.31 324 ⇑P **P** **05 49 04.7 -1.0**
NGP Nagpur 56.38 312 *e*P **P** **05 49 04.9 -0.6**
NGP IAmb IAmb 05 49 16.1
comp=Z,768nm,1.8s
DGTI Dogotuki 56.44 98 P **P** **05 49 08.5 +2.4**
VAR Varanasi 56.59 319 *e*P **P** **05 49 07.6 +0.7**
TAVE Taveuni 56.70 98 P **P** **05 49 10.0 +2.1**
DL2 Dalian 56.88 1 P **P** **05 49 07.1 -1.6**
DL2 S **S** **05 57 00.3 -1.1**
DL2 pmax pmax
comp=Z,150nm,2.0s
DL2 pmax pmax
comp=Z,7µm,9.1s
DL2 LR LR
comp=Z,15µm,22.0s
DL2 LR LR
comp=Z,46µm,20.4s
DL2 LR LR
comp=Z,36µm,26.7s
RAO Raoul Island 56.92 113 LR LR 06 11 38.1
comp=Z,112µm,19.5s,baz=264,slow=34
MAJO Matsushiro 57.04 17 P **P** **05 49 08.3 -1.6**
MAJO Matsushiro 57.04 17 P **P** **05 49 09.8 -0.1**
MAJO Matsushiro 57.04 17 *d i*P **P** **05 49 09.0 -0.9**
MAJO pmax pmax
comp=Z,164nm,1.0s
MAJO MLR MLR
comp=Z,18µm,20.0s
MAJO Matsushiro 57.04 17 ⇓P **P** **05 49 09.3 -0.7**
MAJO Matsushiro 57.04 17 P **P** **05 49 09.0 -0.9**
MAJO S **S** **05 57 02.5 -1.2**
MJAR Matsushiro Arr 57.04 17 P **P** **05 49 08.6 -1.3**
MJAR Matsushiro Arr 57.04 17 P **P** **05 49 09.9 0.0**
comp=Z,42nm,0.8s,baz=186,slow=7.1,SNR=42
MJAR LR LR 06 15 45.1
comp=Z,16µm,20.5s,baz=203,slow=38
MJAR PKPPKP **P'P'df** **06 19 00.4 +4.5**
comp=Z,1.5nm,0.8s,baz=31,slow=2.0,SNR=4.5
comp=Z,42nn,0.8s
MJAR Matsushiro Arr 57.04 17 P **P** **05 49 08.6 -1.3**
MJAR pmax pmax
comp=Z,141nm,1.1s
PYAG Pyongyang 57.23 5 P **P** **05 49 10.7 -0.4**
PYAG S **S** **05 57 07.2 +1.3**
PYAG AmB
comp=Z,2µm,1.8s
PYAG AMS AMS
comp=Z,26µm,28.5s
ALBI Allahabad 57.36 318 *e*P **P** **05 49 10.6 -1.7**
ALBI IAmb IAmb 05 49 22.4
comp=Z,994nm,0.7s
ALBI IAMs_20 IAMs_20 06 07 44.5
comp=Z,30µm,21.0s
LKBA Tubou, Lakemba 57.44 100 P **P** **05 49 16.2 +3.1**
KAD Karad 57.62 305 *e*P **P** **05 49 14.6 +0.2**
KAD IAmb IAmb 05 49 28.1
comp=Z,262nm,0.9s
FUNA Funafuti 57.77 89 IAMs_20 IAMs_20 06 11 44.6
comp=Z,54µm,18.0s
BJT Baijiatuau 58.12 356 **P** **05 49 16.5 -0.9**
BJT Baijiatuau 58.12 356 P **P** **05 49 18.1 +0.7**
BJT Baijiatuau 58.12 356 P **P** **05 49 16.5 -0.9**
BJT pmax pmax
comp=Z,174nm,1.1s
CTZ Chatham Island 58.13 131 IAmb IAmb 05 49 35.3
comp=Z,324nm,1.1s
CTZ Chatham Island 58.13 131 P **P** **05 49 19.4 +1.8**
BJI Beijing 58.14 356 P **P** **05 49 16.6 -0.9**
BJI pP **pP** **05 49 21.8 -2.0**
BJI PP **PP** **05 51 27.8 +1.1**
BJI S **S** **05 57 14.8 -3.0**
BJI SS **SS** **06 01 10.4 +0.4**
BJI pmax pmax
comp=Z,20nm,1.1s
BJI pmax pmax
comp=Z,3µm,9.3s
BJI LR LR
comp=Z,12µm,18.8s
BJI LR LR
comp=Z,8µm,19.6s
BJI LR LR
comp=Z,12µm,18.5s
SUJ Sinuiju 58.19 4 P **P** **05 49 17.6 -0.3**
SUJ S **S** **05 57 19.6 +1.2**
SUJ AmB
comp=Z,5µm,3.8s
SUJ AMS AMS
comp=Z,19µm,17.1s
HHU Hamhung 58.27 6 P **P** **05 49 18.1 -0.3**
HHU AmB
comp=Z,2µm,1.9s
JSD Sado 58.46 16 P **P** **05 49 21.5 +1.7**
JSD Sado 58.46 16 ⇑P **P** **05 49 19.4 -0.5**
POO Poona 58.59 306 *e*P **P** **05 49 20.7 -0.5**
POO IAmb IAmb 05 49 32.3
comp=Z,746nm,1.8s
NRDN NARMADA NAGAR 58.72 312 *e*P **P** **05 49 21.1 -1.0**
NRDN IAmb IAmb 05 49 33.3
comp=Z,357nm,0.9s
FUTU Fugatoga 58.88 96 IAMs_20 IAMs_20 06 13 24.1
comp=Z,55µm,19.0s
BHPL Bhopal 58.88 313 *e*P **P** **05 49 21.8 -1.3**
BHPL IAmb IAmb 05 49 31.7
comp=Z,235nm,1.1s
BHPL *e*S **S** **05 57 28.1 -0.1**
JMM Marumori 59.03 19 P **P** **05 49 26.0 +2.2**
JMM Marumori 59.03 19 ⇑P **P** **05 49 23.5 -0.3**
BRCI Bahraich 59.10 320 *e*P **P** **05 49 25.1 +0.6**
BRCI IAmb IAmb 05 49 35.2
comp=Z,680nm,0.9s
H11N1 WAKE ISLAND Hy 59.18 53 P **P** **05 49 29.3 +4.3**
baz=225,slow=14,SNR=8.4
H11N2 WAKE ISLAND Hy 59.20 53 P **P** **05 49 29.5 +4.4**
baz=225,slow=14,SNR=4.0
H11N3 WAKE ISLAND Hy 59.20 53 P **P** **05 49 28.3 +3.2**
baz=225,slow=14,SNR=7.3
GOMU GeErMu 59.35 336 P **P** **05 49 26.3 -0.2**
GOMU pP pP 05 49 31.4 -1.4
GOMU sP sP 05 49 37.8 +2.6
GOMU PP **PP** **05 51 38.8 +0.9**
GOMU S **S** **05 57 31.5 -3.0**
GOMU pmax pmax
comp=Z,35nm,1.4s
GOMU LR LR
comp=Z,15µm,19.8s
GOMU LR LR
comp=Z,31µm,21.4s
GOMU LR LR
comp=Z,25µm,20.0s
BTO Baotou 59.37 351 *e*P **P** **05 49 26.9 +0.7**
BTO pP **pP** **05 49 31.5 -1.0**
BTO sP **sP** **05 49 33.9 -1.0**
BTO PP **PP** **05 51 40.8 +3.1**
BTO sS **sS** **05 57 45.8 +1.4**
BTO SS **SS** **06 01 33.9 +4.4**
BTO pmax pmax
comp=Z,100nm,1.9s
BTO pmax pmax
comp=Z,16µm,8.7s
BTO LR LR
comp=Z,56µm,23.5s
BTO LR LR
comp=Z,64µm,19.0s
BTO LR LR
comp=Z,80µm,22.8s
HHC Hu-ho-hao-te 59.39 352 ⇓*i*P **P** **05 49 26.1 -0.3**
HHC sP sP 05 49 36.1 +1.1
HHC S **S** **05 57 35.3 +1.0**
HHC pmax pmax
comp=Z,48nm,1.5s
HHC pmax pmax
comp=Z,6µm,8.4s
HHC LR LR
comp=Z,24µm,21.3s
HHC LR LR
comp=Z,21µm,22.6s
HHC LR LR
comp=Z,33µm,22.6s
JHNI Jhansi 59.59 316 *e*P **P** **05 49 24.9 -3.1**
JHNI IAmb IAmb 05 49 37.0
comp=Z,622nm,0.9s
SNY Shenyang 59.86 3 ⇓P **P** **05 49 29.0 -0.4**
SNY S **S** **05 57 40.4 +0.3**
SNY pmax pmax
comp=Z,36nm,1.3s
SNY LR LR
comp=Z,12µm,28.2s
SNY LR LR
comp=Z,21µm,25.1s
SNY LR LR
comp=Z,27µm,25.3s
GUNA GUNA 59.86 314 *e*P **P** **05 49 28.0 -1.9**
GUNA IAmb IAmb 05 49 39.7
comp=Z,722nm,1.1s
GUNA IAMs_20 IAMs_20 05 58 25.4
comp=Z,17µm,16.3s
GTA Gaotai 60.53 342 P **P** **05 49 35.3 +1.0**
GTA sP sP 05 49 46.4 +3.4
GTA S **S** **05 57 52.9 +3.8**
GTA pmax pmax
comp=Z,91nm,1.3s
GTA pmax pmax
comp=Z,11µm,8.7s
GTA LR LR
comp=Z,40µm,21.1s
GTA LR LR
comp=Z,41µm,24.0s
GTA LR LR
comp=Z,46µm,21.5s
MAW Mawson 61.11 202 P **P** **05 49 37.9 +0.2**
comp=Z,139nm,0.8s,baz=73,slow=7.7,SNR=141
MAW LR LR 06 10 57.6
comp=Z,45µm,21.2s,baz=58,slow=31
MAW PKPPKP **P'P'df** **06 18 52.4 -5.6**
comp=Z,7.8nm,1.1s,baz=245,slow=8.8,SNR=5.3
comp=Z,139nm,0.8s
MAW Mawson 61.11 202 ⇑P **P** **05 49 38.0 +0.2**
LGTI Lohaghat 61.27 320 *e*P **P** **05 49 37.9 -1.5**
LGTI IAmb IAmb 05 49 49.5
comp=Z,652nm,0.5s
LGTI IAMs_20 IAMs_20 06 06 59.6
comp=Z,13µm,18.5s
MSHR Mys Shultsa 61.34 9 *c i*P **P** **05 49 39.9 +0.4**
MSHR pmax pmax
comp=Z,201nm,0.9s
MSHR MLR MLR
comp=Z,17µm,21.0s
PTH Pithoragarh 61.36 320 *e*P **P** **05 49 37.7 -2.5**
PTH IAmb IAmb 05 49 50.1
comp=Z,787nm,1.0s
PTH IAMs_20 IAMs_20 06 06 39.1
comp=Z,13µm,19.0s
JTM Tenmabayashi 61.80 18 P **P** **05 49 41.9 -0.8**
JTM IAmb IAmb 05 50 42.0
comp=Z,227nm,1.1s
JTM Tenmabayashi 61.80 18 P **P** **05 49 45.2 +2.5**
JTM Tenmabayashi 61.80 18 ⇑P **P** **05 49 43.5 +0.9**
TKRD Thakurdwara 61.92 319 *e*P **P** **05 49 45.9 +2.2**
CN2 Changchun 61.93 4 *e*P **P** **05 49 44.6 +1.1**
CN2 *e*S **S** **05 58 09.6 +3.1**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,3µm,6.0s
CN2 LR LR
comp=Z,6µm,15.0s
CN2 LR LR
comp=Z,5µm,15.0s
CN2 LR LR
comp=Z,3µm,17.0s
UGON Onchagaon 61.94 318 *e*P **P** **05 49 43.1 -0.8**
VLA Vladivostok 61.98 9 *d i*P **P** **05 49 45.1 +1.3**
VLA pmax pmax
comp=Z,177nm,1.2s
VLA MLR MLR
comp=Z,16µm,21.0s
XLT XiLinHaoTe 61.99 356 *e*P **P** **05 49 44.3 +0.3**
XLT sP pP 05 49 51.4 +1.1
XLT PP **PP** **05 52 00.6 -0.2**
XLT S **S** **05 58 09.4 +2.0**
XLT SS **SS** **06 02 15.1 +4.5**
XLT pmax pmax
comp=Z,430nm,1.4s
XLT pmax pmax
comp=Z,7µm,6.7s
XLT LR LR
comp=Z,1µm,21.2s
XLT LR LR
comp=Z,12µm,17.5s
XLT LR LR
comp=Z,21µm,22.6s
ASOR Ausora 62.33 318 *e*P **P** **05 49 45.3 -1.2**
ASOR IAmb IAmb 05 49 56.0
comp=Z,646nm,1.3s
ASOR IAMs_20 IAMs_20 06 06 02.2
comp=Z,7µm,17.2s
SONA Sohna 62.43 317 *e*P **P** **05 49 44.5 -2.6**
SONA IAmb IAmb 05 49 56.5
comp=Z,647nm,0.7s
SONA IAMs_20 IAMs_20 06 06 46.6
comp=Z,10µm,17.7s
JOSI Joshimath 62.47 320 *e*P **P** **05 49 47.6 -0.1**
JOSI IAMs_20 IAMs_20 06 07 22.3
comp=Z,17µm,25.9s
MERT Meerut 62.50 318 *e*P **P** **05 49 49.6 +1.9**
MERT IAMs_20 IAMs_20 06 06 58.6
comp=Z,20µm,20.9s
JMIU JAMIA UNIVERSI 62.51 317 *e*P **P** **05 49 44.8 -2.9**
JMIU IAmb IAmb 05 49 56.9
comp=Z,541nm,1.4s
JMIU IAMs_20 IAMs_20 06 07 45.4
comp=Z,13µm,27.8s
AYAN Aya Nagar 62.56 317 *e*P **P** **05 49 45.9 -2.1**
AYAN IAmb IAmb 05 49 56.6
comp=Z,569nm,1.1s
LDR Lodi Road 62.57 317 *e*P **P** **05 49 46.8 -1.3**
LDR IAmb IAmb 05 49 57.2
comp=Z,436nm,0.8s
LDR IAMs_20 IAMs_20 06 08 20.1
comp=Z,3µm,20.7s
NDI New Delhi 62.64 317 *e*P **P** **05 49 46.2 -2.4**
NDI IAmb IAmb 05 49 56.9
comp=Z,614nm,0.7s
NDI IAMs_20 IAMs_20 06 07 47.1
comp=Z,11µm,24.5s
NDI IAMs_20 IAMs_20 06 08 23.2
comp=Z,17µm,21.8s
NPLP NPLP New Delhi 62.64 317 *e*P **P** **05 49 45.5 -3.1**

NPLP IAmb IAmb 05 49 57.4
comp=Z,480nm,0.6s
VNDA Vanda 62.67 171 P **P** **05 49 48.4 +0.3**
VNDA IAmb IAmb 05 50 05.5
comp=Z,314nm,1.0s
VNDA Vanda 62.67 171 P **P** **05 49 48.5 +0.4**
comp=Z,162nm,1.0s,baz=313,slow=7.1,SNR=178
VNDA LR LR 06 15 52.0
comp=Z,60µm,18.1s,baz=325,slow=35
VNDA PKPPKP **P'P'df** **06 18 47.9 -7.5**
comp=Z,7.3nm,1.1s,baz=239,slow=0.1,SNR=4.9
comp=Z,162nm,1.0s
VNDA Vanda 62.67 171 P **P** **05 49 48.4 +0.3**
VNDA pmax pmax
comp=Z,314nm,1.0s
KUDL Kundal 62.75 316 *e*P **P** **05 49 46.4 -2.8**
KUDL IAmb IAmb 05 49 58.7
comp=Z,1µm,1.2s
KUDL IAMs_20 IAMs_20 06 06 58.8
comp=Z,10µm,20.0s
AJM Ajmer 62.89 314 *e*P **P** **05 49 48.8 -1.5**
AJM IAmb IAmb 05 50 00.6
comp=Z,490nm,0.7s
USA0B Ussuriysk Arra 63.05 9 P **P** **05 49 49.8 -1.2**
USA0B IAmb IAmb 05 50 46.6
comp=Z,158nm,0.8s
USA0B Ussuriysk Arra 63.05 9 P **P** **05 49 49.8 -1.2**
USA0B pmax pmax
comp=Z,158nm,0.9s
USRK Ussuriysk Ar. 63.05 9 P **P** **05 49 50.5 -0.5**
comp=Z,31nm,0.7s,baz=192,slow=5.5,SNR=35
USRK PKPPKP **P'P'df** **06 18 48.4 +2.2**
comp=Z,6.7nm,1.0s,baz=19,slow=1.4,SNR=5.7
USRK LR LR 06 18 50.8
comp=Z,11µm,20.2s,baz=185,slow=38
comp=Z,31nm,0.7s
GNR GANAUR 63.07 318 IAMs_20 IAMs_20 05 59 59.2
comp=Z,24µm,17.7s
MDJ Mudanjiang 63.13 7 **P** **05 49 51.4 -0.1**
MDJ IAmb IAmb 05 50 07.1
comp=Z,295nm,1.1s
MDJ Mudanjiang 63.13 7 P **P** **05 49 52.1 +0.6**
MDJ PP **PP** **05 52 17.0 +6.2**
MDJ S **S** **05 58 25.3 +3.7**
MDJ pmax pmax
comp=Z,120nm,1.4s
MDJ pmax pmax
comp=Z,7µm,8.2s
LR LR
comp=Z,11µm,24.4s
MDJ LR LR
comp=Z,22µm,24.8s
MDJ LR LR
comp=Z,28µm,24.7s
MDJ Mudanjiang 63.13 7 P **P** **05 49 52.8 +1.3**
DDI Dehra Dun 63.23 319 *e*P **P** **05 49 51.1 -1.5**
DDI IAmb IAmb 05 50 03.7
comp=Z,608nm,1.1s
DDI IAMs_20 IAMs_20 06 05 41.1
comp=Z,17µm,18.4s
RTK Rohtak 63.39 317 *e*P **P** **05 49 52.9 -0.6**
RTK IAmb IAmb 05 50 03.0
comp=Z,1µm,0.9s
ERM Erimo 63.55 19 P **P** **05 49 53.2 -1.1**
ERM IAmb IAmb 05 50 28.6
comp=Z,202nm,1.1s
ERM Erimo 63.55 19 P **P** **05 49 57.0 +2.7**
ERM Erimo 63.55 19*ce*P **P** **05 49 54.8 +0.5**
ERM pmax pmax
comp=Z,108nm,0.8s
ERM MLR MLR
comp=Z,15µm,20.0s
ERM Erimo 63.55 19 ⇑P **P** **05 49 55.6 +1.3**
ERM Erimo 63.55 19 P **P** **05 49 55.0 +0.7**
ERM S **S** **05 58 29.4 +2.5**
JEM Erimo 63.55 19 P **P** **05 49 56.5 +2.2**
SBA Scott Base 63.67 170 P **P** **05 49 54.8 +0.1**
SBA IAmb IAmb 05 50 21.9
comp=Z,206nm,0.9s
SBA Scott Base 63.67 170 IAMs_20 IAMs_20 06 16 53.7
comp=Z,44µm,18.0s
SBA Scott Base 63.67 170 P **P** **05 49 54.8 +0.1**
SBA pmax pmax
comp=Z,206nm,1.0s
KKR Kurukshetra 63.76 318 *e*P **P** **05 49 59.2 +3.2**
KKR IAmb IAmb 05 50 06.0
comp=Z,891nm,1.0s
KLP Kalpa 63.96 320 *e*P **P** **05 49 56.4 -1.3**
KLP IAmb IAmb 05 50 14.9
comp=Z,683nm,0.9s
KLP IAMs_20 IAMs_20 06 07 31.2
comp=Z,19µm,20.7s
BNX BinXian 64.01 5 ⇓P **P** **05 49 56.6 -0.7**
BNX PcP **PcP** **05 50 33.5 +0.9**
BNX S **S** **05 58 36.3 +3.8**
BNX pmax pmax
comp=Z,44nm,1.9s
BNX pmax pmax
comp=Z,420nm,3.3s
BNX LR LR
comp=Z,18µm,17.9s
BNX LR LR
comp=Z,11µm,18.0s
BNX LR LR
comp=Z,19µm,19.4s
SMLA Simla 64.34 319 *e*P **P** **05 49 57.6 -2.2**
HNLY HANLEY 64.41 322 *e*P **P** **05 49 59.9 -1.0**
HNLY IAmb IAmb 05 50 12.4
comp=Z,845nm,1.3s
HNLY IAMs_20 IAMs_20 06 06 57.3
comp=Z,19µm,20.4s
BHUJ Bhuj 64.52 308 *e*P **P** **05 50 02.3 +1.3**
BHUJ IAmb IAmb 05 50 42.8
comp=Z,484nm,1.4s
BHUJ *e*S **S** **05 58 39.6 0.0**
BHUJ IAMs_20 IAMs_20 06 06 59.0
comp=Z,19µm,21.1s
MSEY Mahe Island 64.78 273 IAMs_20 IAMs_20 06 15 50.0
comp=Z,30µm,18.0s
MSEY Mahe Island 64.78 273 P **P** **05 50 04.5 +1.4**
MSEY Mahe Island 64.78 273 ⇓P **P** **05 50 04.8 +1.6**
BHK Bhakra 65.00 319 *e*P **P** **05 50 02.9 -1.3**
BHK IAmb IAmb 05 50 14.6
comp=Z,602nm,0.9s
ASAJ Asahikawa 65.31 17 P **P** **05 50 05.5 -0.2**
comp=Z,18nm,0.7s,baz=228,slow=16,SNR=9.4
ASAJ LR LR 06 19 36.2
comp=Z,15µm,22.0s,baz=208,slow=37
comp=Z,18nm,0.7s
ASAJ Asahikawa 65.31 17 P **P** **05 50 05.6 -0.2**
ASAJ pmax pmax
comp=Z,143nm,1.0s
ASAJ MLR MLR
comp=Z,18µm,22.0s
JKA Kamikawa-asahi 65.31 17 P **P** **05 50 05.6 -0.3**
JKA IAmb IAmb 05 51 07.3
comp=Z,143nm,1.0s
DHRM DHARAMSHALA 65.65 320 *e*P **P** **05 50 06.1 -2.5**
DHRM IAmb IAmb 05 50 19.0
comp=Z,773nm,1.1s
DHRM IAMs_20 IAMs_20 06 06 44.7
comp=Z,16µm,21.1s
JASL Jaisalmer 65.78 312 *e*P **P** **05 50 10.0 +0.7**
JASL IAmb IAmb 05 50 19.9
comp=Z,455nm,0.7s
THN Thein Dam 66.13 319 *e*P **P** **05 50 09.4 -1.9**
THN IAmb IAmb 05 50 21.9
comp=Z,939nm,0.6s
THN IAMs_20 IAMs_20 06 06 55.4
comp=Z,20µm,18.0s
YUK Yuzh-Kuril'sk 66.22 20 *e*P **P** **05 50 11.9 +0.2**
YUK *i* 05 52 35.3
YUK *i* S **S** **05 58 59.0 -0.7**
YUK pmax pmax
comp=Z,567nm,1.1s
YUK pmax pmax
comp=E,300nm,1.2s
JMU Jammu 66.83 319 *e*P **P** **05 50 16.7 +0.9**
JMU IAmb IAmb 05 50 27.6
comp=Z,972nm,1.2s
ULN Ulaanbaatar 66.91 350 P **P** **05 50 15.6 -0.7**
ULN Ulaanbaatar 66.91 350 P **P** **05 50 14.5 -1.8**
ULN P **P** **05 50 14.5 -1.8**
ULN P **P** **05 50 14.5 -1.8**
ULN Ulaanbaatar 66.91 350 P **P** **05 50 15.6 -0.7**
ULN pmax pmax
comp=Z,569nm,1.3s
ULN MLR MLR
ULN Ulaanbaatar 66.91 350 ⇑P **P** **05 50 15.6 -0.7**
SONM Songino Array 66.99 350 P **P** **05 50 15.9 -0.8**
SONM Songino Array 66.99 350 P **P** **05 50 16.0 -0.7**
comp=Z,77nm,0.8s,baz=171,slow=7.3,SNR=71
SONM PKPPKP **P'P'df** **06 18 42.8 +2.7**
comp=Z,1.3nm,0.9s,baz=297,slow=0.3,SNR=3.9
SONM LR LR 06 21 51.1
comp=Z,15µm,20.6s,baz=166,slow=38
comp=Z,77nm,0.8s
SONM Songino Array 66.99 350 P **P** **05 50 15.9 -0.8**
SONM pmax pmax
comp=Z,760nm,1.2s
HIA Hailar 67.23 360 P **P** **05 50 17.4 -0.7**
HIA IAmb IAmb 05 50 32.9
comp=Z,296nm,1.2s
HIA Hailar 67.23 360 P **P** **05 50 19.3 +1.2**
HIA Hailar 67.23 360 P **P** **05 50 17.4 -0.7**
HIA pmax pmax
comp=Z,296nm,1.2s
HIA MLR MLR
comp=Z,19µm,21.0s
SBV Sambava 67.64 263 P **P** **05 50 22.6 +1.2**
SNR=7.8
SRNI Srinagar 67.79 320 IAMs_20 IAMs_20 06 07 27.3
comp=Z,14µm,21.3s
FOMA Nahampoana Res 67.89 250 P **P** **05 50 21.4 -1.5**
FOMA IAMs_20 IAMs_20 06 14 26.6
comp=Z,48µm,21.0s
FOMA Nahampoana Res 67.89 250 ⇓P **P** **05 50 23.4 +0.6**
KUR Kuril'sk 67.95 21 *e*P **P** **05 50 23.0 +0.4**
KUR *e* 05 50 50.8
KUR *e* 05 52 50.9
KUR *e*S **S** **05 59 17.7 -2.7**
KUR *e*SS **SS** **06 03 37.6 -5.5**
KUR pmax pmax
comp=Z,2µm,7.8s
KUR pmax pmax
comp=Z,815nm,1.1s
KUR pmax pmax
comp=N,350nm,1.2s
KUR pmax pmax
comp=E,302nm,1.1s
KUR MLR MLR
comp=E,5µm,19.0s
KUR MLR MLR
comp=Z,6µm,19.0s
KUR MLR MLR
comp=N,4µm,15.0s
YSS Yuzhno-Sakhali 67.96 16 P **P** **05 50 22.3 -0.4**
YSS IAmb IAmb 05 50 53.6
comp=Z,341nm,1.2s
YSS Yuzhno-Sakhali 67.96 16 P **P** **05 50 24.8 +2.1**
YSS Yuzhno-Sakhali 67.96 16*c i*P **P** **05 50 22.8 +0.1**
YSS *e* 05 50 51.6
YSS *e* 05 52 57.8
YSS *e*S **S** **05 59 21.0 +0.4**
YSS pmax pmax
comp=Z,3µm,5.7s
YSS pmax pmax
comp=N,1µm,4.7s
YSS pmax pmax
comp=E,800nm,5.2s
YSS pmax pmax
comp=Z,170nm,1.0s
YSS smax smax
comp=N,4µm,8.6s
YSS smax smax
comp=E,6µm,9.0s
YSS MLR MLR
comp=N,9µm,20.0s
YSS MLR MLR
comp=Z,14µm,20.0s
YSS MLR MLR
comp=E,5µm,18.0s
YSS Yuzhno-Sakhali 67.96 16 ⇑P **P** **05 50 22.9 +0.1**
NIL Nilore 68.48 319 P **P** **05 50 24.7 -1.6**
NIL Nilore 68.48 319 P **P** **05 50 24.7 -1.6**
NIL pmax pmax
comp=Z,658nm,0.8s
HEH HeiHe 68.50 5 *e*P **P** **05 50 24.6 -1.4**
HEH S **S** **05 59 25.0 -1.8**
HEH pmax pmax
comp=Z,21nm,0.7s
HEH pmax pmax
comp=Z,5µm,7.8s
HEH LR LR
comp=Z,8µm,21.6s
HEH LR LR
comp=Z,46µm,22.7s
HEH LR LR
comp=Z,19µm,18.9s
VOI Vohitsoka 68.65 253 P **P** **05 50 26.8 -1.1**
VOI IAmb IAmb 05 50 29.8
comp=Z,148nm,0.9s
VOI IAMs_20 IAMs_20 06 13 54.6
comp=Z,50µm,21.0s
VOI Vohitsoka 68.65 253 P **P** **05 50 28.0 +0.2**
SNR=15
VOI Vohitsoka 68.65 253 ⇑P **P** **05 50 27.4 -0.4**
WMQ Urumqi 68.68 335 P **P** **05 50 29.4 +2.0**
WMQ PP **PP** **05 53 02.3 +2.9**
WMQ ScP 05 54 49.5
WMQ S **S** **05 59 28.9 -0.6**
WMQ pmax pmax
comp=Z,130nm,2.4s
WMQ pmax pmax
comp=Z,7µm,6.5s
WMQ LR LR
comp=Z,19µm,23.8s
WMQ LR LR
comp=Z,24µm,23.9s
WMQ LR LR
comp=Z,29µm,23.9s
ABPO Ambohimpanom 68.86 256 P **P** **05 50 27.0 -2.3**
ABPO Ambohimpanom 68.86 256 P **P** **05 50 27.0 -2.3**
ABPO pmax pmax
comp=Z,124nm,1.2s
UGL Uglegorsk 69.75 15 *e*P P 05 50 27.2 -6.6
UGL pmax pmax
comp=Z,140nm,0.9s
UGL pmax pmax
comp=Z,5µm,6.9s
UGL MLR MLR
comp=E,5µm,16.0s
UGL MLR MLR
comp=N,13µm,18.0s
UGL MLR MLR
comp=Z,11µm,20.0s
SYO Syowa Base 69.81 202 ⇑*i*P **P** **05 50 33.4 -0.6**
SYO Syowa Base 69.81 202 ⇓*i*pP **P** **05 50 36.0 +2.0**
SYO Syowa Base 69.81 202 ⇓*i*sP sP 05 50 38.8 -3.9
ZAK Zakamensk 70.01 348 *e*P **P** **05 50 33.9 -1.6**
ZAK pmax pmax
comp=Z,145nm,1.4s
GRNR Gornyy 70.16 11 *e*P P 05 50 31.4 -4.9
CIT Chita 70.25 355 *e*P **P** **05 50 37.2 +0.4**
CIT *e* 05 50 57.0
CIT *e* 06 00 39.1
CIT pmax pmax
comp=Z,663nm,3.1s
KSH Kashi 70.91 325 P **P** **05 50 40.5 -0.8**
KSH sP sP 05 50 49.6 -0.4
KSH S **S** **05 59 54.4 -1.5**
KSH pmax pmax
comp=Z,6µm,6.7s
KSH LR LR
comp=Z,34µm,27.5s
KSH LR LR
comp=Z,25µm,26.1s
KSH LR LR
comp=Z,31µm,27.5s
TARG Taragay, Kyrgy 71.54 328 IAmb IAmb 05 51 05.1
comp=Z,420nm,1.3s
TYV Tymovskoe 71.55 15 *e*P **P** **05 50 46.7 +2.0**
TYV *e*S **S** **06 00 09.9 +7.3**
TYV pmax pmax
comp=Z,86nm,1.4s
TYV pmax pmax
comp=Z,600nm,3.8s
TYV smax smax
comp=N,16nm,1.9s
TYV smax smax
comp=E,22nm,1.9s
TYV smax smax
comp=N,4µm,9.8s
TYV smax smax
comp=E,3µm,9.8s
IRK Irkutsk 71.61 350 *e*P **P** **05 50 43.9 -1.2**
IRK *e*S **S** **06 00 04.7 +1.4**
IRK pmax pmax
comp=Z,468nm,2.9s
KBU Kabul Universi 71.65 317 P **P** **05 50 45.6 -0.4**
MOY Mondy 71.68 347 *e*P **P** **05 50 45.5 -0.2**
MOY pmax pmax
comp=Z,551nm,1.5s
KBL Kabul 71.72 317 P **P** **05 50 45.1 -1.3**
KBL Kabul 71.72 317 P **P** **05 50 45.1 -1.3**
SNR=222
KBL P **P** **05 50 45.1 -1.3**
SNR=222
KBL Kabul 71.72 317 P **P** **05 50 45.1 -1.3**
KBL pmax pmax
comp=Z,464nm,0.8s
QSPA South Pole Qui 71.78 180 P **P** **05 50 46.3 +0.1**
QSPA South Pole Qui 71.78 180 IAMs_20 IAMs_20 06 20 48.2
comp=Z,54µm,20.0s
QSPA South Pole Qui 71.78 180 P **P** **05 50 46.7 +0.5**
comp=Z,514nm,0.9s,baz=323,slow=2.2,SNR=185
QSPA LR LR 06 20 59.3
comp=Z,47µm,19.8s,baz=334,slow=35
comp=Z,514nm,0.9s
QSPA South Pole Qui 71.78 180 ⇑P **P** **05 50 46.7 +0.5**
PDGK Podgornoye 71.90 330 P **P** **05 50 47.1 -0.1**
JLN Jalan Bani Buh 71.95 301 P **P** **05 50 48.0 +0.2**
SNR=6.7
JLN P **P** **05 50 48.0 +0.2**
SNR=6.7
ZEA Zeya 71.95 4 *e*P **P** **05 50 46.3 -0.7**
ZEA *e* 05 53 34.2
ZEA *e*S **S** **06 00 10.0 +2.9**
ZEA *e* 06 00 59.6
ZEA pmax pmax
comp=E,200nm,7.8s
ZEA pmax pmax
comp=N,1µm,6.4s
ZEA pmax pmax
comp=Z,3µm,7.8s
ZEA pmax pmax
comp=E,60nm,1.2s
ZEA pmax pmax
comp=N,90nm,1.0s
ZEA pmax pmax
comp=Z,210nm,1.5s
ZEA pmax pmax
comp=E,200nm,7.3s
ZEA pmax pmax
comp=N,900nm,6.2s
ZEA pmax pmax
comp=Z,1µm,8.1s
ZEA smax smax
comp=E,4µm,12.5s
KDJ Kajisay 72.15 328 P **P** **05 50 47.7 -1.1**
KDJ Kajisay 72.15 328 P **P** **05 50 47.7 -1.1**
KDJ pmax pmax
comp=Z,635nm,1.2s
NGCH Negor - Chabah 72.17 305 P **P** **05 50 50.9 +1.9**
DQM DQM 72.44 299 P **P** **05 50 51.4 +0.6**
DQM P **P** **05 50 51.4 +0.6**
WBK Wadi Bani Khal 72.52 302 P **P** **05 50 53.5 +2.2**
WBK P **P** **05 50 53.5 +2.2**
MHTO MHTO 72.57 300 P **P** **05 50 51.2 -0.4**
SNR=12
MHTO P **P** **05 50 51.2 -0.4**
SNR=12
ULHL Ulahol 72.71 327 P **P** **05 50 51.7 -0.5**
SNR=21
ZSN Zaisan 72.80 336 *e*P **P** **05 50 52.3 0.0**
ZSN *e*S **S** **06 00 18.8 +1.7**
ZSN pmax pmax
comp=Z,423nm,2.5s
ZSN Zaisan 72.80 336 *e*P **P** **05 50 52.4 0.0**
comp=Z,423nm,2.5s
ZSN *e*S **S** **06 00 18.9 +1.7**
TNSS Tian-Shan 72.93 328 *e*P **P** **05 50 53.2 -0.4**
TNSS Tian-Shan 72.93 328 *e*P **P** **05 50 53.3 -0.4**
BOOM Boomskoye usch 73.04 327 P **P** **05 50 53.2 -0.9**
BOOM Boomskoye usch 73.04 327 P **P** **05 50 53.2 -0.9**
BOOM pmax pmax
comp=Z,631nm,1.1s
AAA Alma-Ata 73.07 328 *e*P **P** **05 50 54.0 -0.1**
AAA pmax pmax
comp=Z,311nm,1.4s
AAA Alma-Ata 73.07 328 *e*P **P** **05 50 54.1 -0.1**
comp=Z,311nm,1.4s
WSAR Wadi Sarin 73.10 302 P **P** **05 50 54.1 -0.6**
comp=Z,0.4nm,0.7s,baz=128,slow=24,SNR=19
WSAR LR LR 06 18 09.0
comp=Z,319nm,21.0s,baz=138,slow=32
WSAR Wadi Sarin 73.10 302 P **P** **05 50 55.0 +0.4**
SNR=19
JMDO Jabal Madar 73.11 301 P **P** **05 50 54.5 -0.2**
SNR=5.2
JMDO P **P** **05 50 54.5 -0.2**
SNR=5.2
NKL Nikolayevsk 73.25 13 *e*P **P** **05 50 53.2 -1.5**
NKL *e*S **S** **06 00 21.5 -0.4**
NKL pmax pmax
comp=N,325nm,1.1s
NKL pmax pmax
comp=E,170nm,1.1s
NKL pmax pmax
comp=Z,678nm,1.1s
NKL smax smax
comp=E,4µm,7.0s
NKL smax smax
comp=N,2µm,8.8s
NKL MLR MLR
comp=E,7µm,13.0s
NKL MLR MLR
comp=N,8µm,15.0s
NKL MLR MLR
comp=Z,23µm,19.0s
MK31 Makanchi Array 73.32 334 P **P** **05 50 54.3 -1.1**
MK31 IAmb IAmb 05 51 06.9
comp=Z,354nm,1.1s
MK31 Makanchi Array 73.32 334 P **P** **05 50 54.3 -1.1**
MK31 pmax pmax
comp=Z,354nm,1.1s
MKAR Makanchi Array 73.32 334 P **P** **05 50 54.3 -1.2**
MKAR Makanchi Array 73.32 334 P **P** **05 50 54.4 -1.0**
comp=Z,31nm,0.6s,baz=142,slow=7.5,SNR=101
MKAR PKPPKP **P'P'df** **06 18 33.8 +3.7**
comp=Z,1.3nm,0.9s,baz=293,slow=3.7,SNR=3.7
MKAR LR LR 06 28 23.8
comp=Z,5µm,18.3s,baz=151,slow=40
comp=Z,31nm,0.6s
ARXS Arharly 73.36 329 *i* P **P** **05 50 55.5 -0.3**
MAKZ Makanchi 73.46 334 P **P** **05 50 55.0 -1.3**
MAKZ IAmb IAmb 05 51 07.7
comp=Z,443nm,1.4s
MAKZ Makanchi 73.46 334 P **P** **05 50 55.0 -1.3**
MAKZ pmax pmax
comp=Z,443nm,1.4s
MAKZ MLR MLR
comp=Z,14µm,22.0s
SMDO Samad 73.48 302 P **P** **05 50 56.9 -0.1**
SNR=17
SMDO P **P** **05 50 56.9 -0.1**
SNR=17
CHKK Chushkaly 73.50 329 *e*P **P** **05 50 56.3 -0.3**
CHKK Chushkaly 73.50 329 *e*P **P** **05 50 56.3 -0.3**
TKM2 Tokmak 2 73.53 327 P **P** **05 50 56.3 -0.7**
SNR=31
UCH Uchtor 73.60 326 P **P** **05 50 57.1 -0.7**
SNR=54
BIDO Bidbid 73.64 302 P **P** **05 50 58.1 +0.3**
SNR=27
BIDO P **P** **05 50 58.1 +0.3**
SNR=27
DMTO DMTO 73.65 295 P **P** **05 50 58.9 +1.0**
DMTO P **P** **05 50 58.9 +1.0**
TDK Taldyqorghan 73.67 330 *e*P **P** **05 50 57.3 -0.2**
TDK *e*S **S** **06 00 28.3 +1.2**
TDK pmax pmax
comp=Z,322nm,1.3s
TDK MLR MLR
comp=Z,8µm,18.0s
TDK Taldyqorghan 73.67 330 *e*P **P** **05 50 57.4 -0.2**
comp=Z,322nm,1.3s

TDK *e*S **S** 06 00 28.4 +1.2
TDK LR LR 06 25 35.6
comp=Z,8µm,17.9s
KBK Karagaybulak 73.68 327 P **P** 05 50 58.2 +0.4
SNR=18
GAR Garm 73.77 321 IAMs_20 IAMs_20 06 22 54.7
comp=Z,55µm,22.0s
KUU Kurty 73.85 328 *e*P **P** 05 50 58.5 -0.1
KUU pmax pmax
comp=Z,307nm,1.4s
KUU Kurty 73.85 328 *e*P **P** 05 50 58.6 -0.1
comp=Z,307nm,1.4s
KUU LR LR 06 25 48.0
comp=Z,12µm,17.2s
AAK Ala-Archa 73.90 326 P **P** 05 50 58.6 -0.5
SNR=25
AAK Ala-Archa 73.90 326 P **P** 05 50 57.9 -1.2
AAK IAmb IAmb 05 51 11.1
comp=Z,495nm,1.2s
AAK Ala-Archa 73.90 326 P **P** 05 50 59.4 +0.3
comp=Z,50nm,0.8s,baz=142,slow=6.1,SNR=32
AAK LR LR 06 25 51.9
comp=Z,18µm,22.0s,baz=150,slow=38
comp=Z,50nm,0.8s
AAK Ala-Archa 73.90 326 P **P** 05 50 58.5 -0.6
AAK Ala-Archa 73.90 326 *ce*P **P** 05 50 58.8 -0.3
AAK pmax pmax
comp=Z,501nm,1.3s
AAK MLR MLR
comp=Z,21µm,21.0s
AAK Ala-Archa 73.90 326 *i* P **P** 05 50 57.7 -1.4
SNR=31
AAK Ala-Archa 73.90 326 P **P** 05 50 57.7 -1.4
AAK S **S** 06 00 32.2 +2.0
CHMS Chumysh 74.02 327 P **P** 05 51 10.1 +10
SNR=6.4
BSY Bisya 74.03 301 P **P** 05 50 59.9 -0.3
SNR=15
BSY P **P** 05 50 59.9 -0.3
SNR=15
BTK Batken 74.17 323 IAmb IAmb 05 51 17.1
comp=Z,264nm,1.0s
RBK Rabkut 74.20 295 P **P** 05 51 02.5 +1.3
RBK P **P** 05 51 02.5 +1.3
EKS2 Erkin-Say 74.30 326 P **P** 05 51 01.0 -0.3
SNR=74
HOQ Hoqain 74.33 302 P **P** 05 51 02.0 +0.1
SNR=28
HOQ P **P** 05 51 02.0 +0.1
SNR=28
SIMJ Simiganj 74.33 321 P **P** 05 50 60.0 -1.7
USP Ospenovka 74.34 327 P **P** 05 51 00.4 -1.1
SNR=44
RAR Rarotonga 74.38 108 IAMs_20 IAMs_20 06 21 00.0
comp=Z,31µm,20.0s
RAR Rarotonga 74.38 108 LR LR 06 21 21.6
comp=Z,25µm,21.4s,baz=260,slow=34
RAR Rarotonga 74.38 108 ⇑P **P** 05 51 05.6 +3.4
SGDS Segindy 74.40 327 *e*P **P** 05 51 01.6 -0.3
DOK Doka 74.74 296 P **P** 05 51 03.7 -0.6
DOK P **P** 05 51 03.7 -0.6
WHFO Wadi Hawf 74.75 295 P **P** 05 51 03.8 -0.6
SNR=8.7
WHFO P **P** 05 51 03.8 -0.6
SNR=8.7
ARQ Araqi 74.85 301 P **P** 05 51 04.3 -0.6
SNR=10
ARQ P **P** 05 51 04.3 -0.6
SNR=10
ABTO Aybut 74.92 294 P **P** 05 51 05.3 -0.1
SNR=7.3
ABTO P **P** 05 51 05.3 -0.1
SNR=7.3
JASK Jask - Hormozg 74.98 304 P **P** 05 51 07.3 +1.8
SNR=11
SOHO SOHO 75.22 302 P **P** 05 51 07.0 +0.1
SOHO SOHO 75.22 302 *i* P **P** 05 51 06.4 -0.5
SNR=11
SKR Severo-Kuril's 75.48 23 *e*P **P** 05 51 09.5 +1.7
SKR *e*S **S** 06 00 50.1 +3.0
SKR pmax pmax
comp=Z,345nm,1.1s
SKR pmax pmax
comp=Z,2µm,3.9s
SKR MLR MLR
comp=Z,7µm,18.0s
UMZA Um Al Zommool 75.68 300 P **P** 05 51 09.7 +0.1
UMZA P **P** 05 51 09.7 +0.1
DZA Taraz 75.77 325 *e*P **P** 05 51 09.4 -0.3
DZA Taraz 75.77 325 *e*P **P** 05 51 09.5 -0.3
ALNE Al Ain 75.81 302 P **P** 05 51 10.6 +0.2
SNR=16
ALNE P **P** 05 51 10.6 +0.2
SNR=16
ALNE Al Ain 75.81 302 *i* P **P** 05 51 09.5 -0.9
SNR=7.8
BTLS Baital 75.82 328 *i* P **P** 05 51 09.4 -0.6
BTLS pmax pmax
comp=Z,853nm,5.3s
BTLS Baital 75.82 328 *e*P **P** 05 51 09.7 -0.3
BTLS *e*S **S** 06 00 52.4 +1.3
ASHO Ashiyiah 75.86 302 P **P** 05 51 11.0 +0.3
SNR=41
ASHO P **P** 05 51 11.0 +0.3
SNR=41
ASHO Ashiyiah 75.86 302 *i* P **P** 05 51 10.0 -0.6
SNR=31
UOSS Minazif 75.86 303 P **P** 05 51 08.8 -1.9
UOSS IAmb IAmb 05 51 20.3
comp=Z,153nm,0.8s
UOSS Minazif 75.86 303 P **P** 05 51 10.3 -0.4
UOSS P **P** 05 51 10.3 -0.4
UOSS Minazif 75.86 303 *i* P **P** 05 51 09.4 -1.2
SNR=13
UOSS Minazif 75.86 303 P **P** 05 51 09.7 -0.9
HATD Hatta, Dubai 75.86 302 P **P** 05 51 10.9 +0.3
SNR=17
HATD P **P** 05 51 10.9 +0.3
SNR=17
HATD Hatta, Dubai 75.86 302 *i* P **P** 05 51 10.2 -0.5
SNR=17
MDH Madha 75.95 303 P **P** 05 51 10.4 -0.8
MDH P **P** 05 51 10.4 -0.8
BOD Bodaibo 75.99 356 *e*P **P** 05 51 10.3 -0.3
BOD pmax pmax
comp=Z,542nm,1.4s
IUG Iuzhnay 75.99 324 *e*P **P** 05 51 10.9 -0.2
IUG pmax pmax
comp=Z,309nm,1.0s
IUG Iuzhnay 75.99 324 *e*P **P** 05 51 11.0 -0.2
comp=Z,309nm,1.0s
MSFE Esma-Masafi 76.09 303 *i* P **P** 05 51 11.0 -1.0
SNR=7.9
MASF Masafi 76.10 303 P **P** 05 51 12.6 +0.6
SNR=7.1
MASF P **P** 05 51 12.6 +0.6
SNR=7.1
BANOM Banah 76.24 303 P **P** 05 51 13.6 +0.7
BANOM P **P** 05 51 13.6 +0.7
FAQ Al Faqa, Dubai 76.26 302 P **P** 05 51 13.0 +0.1
SNR=53
FAQ P **P** 05 51 13.0 +0.1
SNR=53
FAQ Al Faqa, Dubai 76.26 302 *i* P **P** 05 51 11.7 -1.2
SNR=6.4
NAZ Nazwa, Dubai 76.31 302 P **P** 05 51 13.0 -0.2
SNR=20
NAZ P **P** 05 51 13.0 -0.2
SNR=20
NAZ Nazwa, Dubai 76.31 302 *i* P **P** 05 51 11.8 -1.5
SNR=13
CHM Chimkent 76.34 324 *e*P **P** 05 51 13.0 0.0
CHM pmax pmax
comp=Z,498nm,1.5s
CHM Chimkent 76.34 324 *e*P **P** 05 51 13.0 0.0
comp=Z,498nm,1.5s
CHM LR LR 06 27 00.5
KK31 Karatay Array 76.36 325 P **P** 05 51 11.9 -1.2
KK31 IAmb IAmb 05 51 37.5
comp=Z,355nm,1.6s
KK31 Karatay Array 76.36 325 P **P** 05 51 11.9 -1.2
KK31 pmax pmax
comp=Z,355nm,1.6s
KKAR Karatay Array 76.36 325 P **P** 05 51 12.1 -1.0
KKAR Karatay Array 76.36 325 P **P** 05 51 12.1 -1.0
ASUD Al Ashush, Dub 76.42 302 P **P** 05 51 13.9 +0.1
SNR=26
ASUD P **P** 05 51 13.9 +0.1
SNR=26
ASUD Al Ashush, Dub 76.42 302 *i* P **P** 05 51 13.4 -0.4
SNR=20
SHME Shamm 76.43 304 P **P** 05 51 14.5 +0.7
SHME P **P** 05 51 14.5 +0.7
SHME Shamm 76.43 304 *i* P **P** 05 51 13.0 -0.9
SNR=7.9
AJN Ajban 76.66 302 P **P** 05 51 14.8 -0.4
SNR=20
AJN P **P** 05 51 14.8 -0.4
SNR=20
AJN Ajban 76.66 302 *i* P **P** 05 51 14.8 -0.4
SNR=18
BRLS Borolday 76.68 324 *e*P **P** 05 51 14.1 -0.8
BRLS pmax pmax
comp=Z,247nm,2.0s
BRLS Borolday 76.68 324 *e*P **P** 05 51 14.1 -0.8
comp=Z,247nm,2.0s
JOHN Johnston Islan 77.19 67 IAMs_20 IAMs_20 06 24 28.6
comp=Z,42µm,20.0s
MZR Muzera 77.19 300 P **P** 05 51 18.6 +0.4
SNR=63
MZR P **P** 05 51 18.6 +0.4
SNR=63
MZR Muzera 77.19 300 *i* P **P** 05 51 17.3 -1.0
SNR=38
MZWR Madinat Zayed 77.20 300 P **P** 05 51 18.5 +0.3
KURBB Kurchatov Arra 77.86 334 P **P** 05 51 19.9 -1.4
comp=Z,66nm,1.0s,baz=146,slow=4.6,SNR=103
KURBB PKPPKP **P'P'df** 06 18 25.1 +3.1
comp=Z,1.9nm,0.9s,baz=310,slow=3.0,SNR=6.1
KURBB LR LR 06 28 28.3
comp=Z,31µm,21.7s,baz=150,slow=38
comp=Z,66nm,1.0s
KURBB Kurchatov Arra 77.86 334 P **P** 05 51 19.7 -1.6
KURK Kurchatov 77.90 334 P **P** 05 51 20.1 -1.4
KURK Kurchatov 77.90 334 IAMs_20 IAMs_20 06 28 15.8
comp=Z,32µm,21.0s
KURK Kurchatov 77.90 334 P **P** 05 51 19.8 -1.7
KURK P **P** 05 51 19.8 -1.7
KURK Kurchatov 77.90 334 *c* iP **P** 05 51 20.5 -1.0
KURK pmax pmax
comp=Z,642nm,1.2s
KURK MLR MLR
comp=Z,30µm,21.0s
PEA0B Petropavlovsk- 78.03 22 P **P** 05 51 21.9 -0.3
PEA0B Petropavlovsk- 78.03 22 P **P** 05 51 21.9 -0.3
PEA0B pmax pmax
comp=Z,148nm,1.0s
PETK Petropavlovsk- 78.03 22 P **P** 05 51 22.3 +0.1
PETK Petropavlovsk- 78.03 22 P **P** 05 51 22.6 +0.4
comp=Z,44nm,0.7s,baz=204,slow=3.3,SNR=90
PETK LR LR 06 22 31.4
comp=Z,10µm,21.9s,baz=209,slow=33
comp=Z,44nm,0.7s
GHWR Ruwais 78.11 300 P **P** 05 51 23.8 +0.4
GHWR P **P** 05 51 23.8 +0.4
ZAA0 Zalesovo Array 78.15 339 P **P** 05 51 21.3 -1.5
ZAA0 IAmb IAmb 05 51 33.2
comp=Z,478nm,1.3s
ZALV Zalesovo Beam 78.15 339 P **P** 05 51 20.7 -2.2
comp=Z,56nm,0.9s,baz=157,slow=3.5,SNR=70
ZALV PKKPbc **PKKPbc** 06 10 23.8 -1.2
comp=Z,3.7nm,0.7s,baz=298,slow=3.2,SNR=9.1
ZALV PKPPKP **P'P'df** 06 18 24.6 +3.5
comp=Z,2.6nm,0.9s,baz=291,slow=4.6,SNR=5.1
ZALV LR LR 06 29 47.7
comp=Z,10µm,20.0s,baz=165,slow=39
comp=Z,56nm,0.9s
PET Petropavlovsk 78.31 22 P **P** 05 51 23.0 -0.7
PET Petropavlovsk 78.31 22 *ce*P **P** 05 51 24.5 +0.8
PET *e* 05 54 20.7
PET *i* S **S** 06 01 18.9 +1.1
PET *e*PS **PnS** 06 01 58.0 -2.6
PET *e*SS **SS** 06 06 17.5 -3.5
PET pmax pmax
comp=Z,3µm,8.4s
PET pmax pmax
comp=Z,130nm,1.2s
PET pmax pmax
comp=Z,2µm,11.6s
PET MLR MLR
comp=Z,9µm,20.0s
PET MLR MLR
comp=Z,7µm,19.0s
JRN Qarnain Island 78.57 301 P **P** 05 51 26.1 +0.3
SNR=52
JRN P **P** 05 51 26.1 +0.3
SNR=52
NVL N'lazarevskaya 78.84 199 *e*P **P** 05 51 28.2 +1.6
NVL *e* 05 51 38.2
NVL pmax pmax
comp=Z,19nm,0.7s
SLWR Sila 79.14 300 P **P** 05 51 29.1 +0.2
SLWR P **P** 05 51 29.1 +0.2
TRNA Turayna 79.81 300 P **P** 05 51 33.0 +0.3
SNR=18
BRZS Berezniki 79.95 331 *e*P **P** 05 51 32.4 -0.5
BRZS Berezniki 79.95 331 *e*P **P** 05 51 32.4 -0.5
SMRA Abu-Samra 80.14 300 P **P** 05 51 35.0 +0.6
SNR=36
YAK Yakutsk 80.36 4 P **P** 05 51 33.6 -1.1
YAK IAmb IAmb 05 51 45.8
comp=Z,384nm,0.8s
YAK Yakutsk 80.36 4 P **P** 05 51 34.4 -0.4
comp=Z,112nm,0.7s,baz=172,slow=1.0,SNR=39
YAK LR LR 06 33 20.8
comp=Z,8µm,18.0s,baz=184,slow=40
comp=Z,112nm,0.7s
YAK Yakutsk 80.36 4 *e*P **P** 05 51 34.7 0.0
YAK *e**PP **sP** 05 51 43.0 -0.5
YAK *e* 05 54 36.4
YAK *e*PPP PPP 05 56 25.5
YAK *e*S **S** 06 01 40.6 +1.3
YAK *e**SS **sS** 06 01 50.5 +0.6
YAK *e*SS **SS** 06 06 52.0 +0.5
YAK *e*SSS SSS 06 10 15.7
YAK pmax pmax
comp=Z,111nm,0.9s
YAK pmax pmax
comp=N,60nm,1.0s
YAK pmax pmax
comp=E,38nm,2.2s
YAK pmax pmax
comp=Z,617nm,4.3s
YAK pmax pmax
comp=N,489nm,3.8s
YAK pmax pmax
comp=E,160nm,2.6s
YAK smax smax
comp=N,491nm,3.3s
YAK smax smax
comp=E,698nm,4.2s
SHMA Al-Shehemyia 80.50 301 P **P** 05 51 36.4 +0.1
SNR=14
POGA Pongola 80.73 244 IAMs_20 IAMs_20 06 22 17.5
comp=Z,37µm,20.0s
TROLL Troll, Antarti 80.91 196 ⇑P **P** 05 51 38.1 +0.1
comp=Z,9µm,0.8s
TROLL ⇑SKSac **SKSac** 06 01 51.0 -4.6
MA2 Magadan 81.42 15 P **P** 05 51 39.5 -0.9
MA2 IAmb IAmb 05 51 52.3
comp=Z,179nm,0.9s
MA2 Magadan 81.42 15 P **P** 05 51 39.4 -1.0
comp=Z,66nm,0.8s,baz=172,slow=5.0,SNR=19
MA2 LR LR 06 27 31.0
comp=Z,4µm,21.9s,baz=210,slow=36
comp=Z,66nm,0.8s
MA2 Magadan 81.42 15 P **P** 05 51 42.3 +1.9
MA2 Magadan 81.42 15 *ce*P **P** 05 51 40.4 0.0
MA2 pmax pmax
comp=Z,202nm,0.9s
MA2 Magadan 81.42 15 P **P** 05 51 40.5 0.0
comp=Z,3µmcomp=Z,258nm,1.1s
KIBK Kibwezi 82.05 270 P **P** 05 51 45.4 +0.5
KIBK Kibwezi 82.05 270 IAMs_20 IAMs_20 06 28 13.6
comp=Z,31µm,18.0s
KIBK Kibwezi 82.05 270 P **P** 05 51 45.8 +0.8
SNR=15
ATD Arta Tunnel 82.05 285 P **P** 05 51 46.9 +2.0
SNR=5.3
SNAA Sanae 82.50 195 ⇑P **P** 05 51 46.4 +0.2
comp=Z,4µm,0.9s
SNAA ⇑SKSac **SKSac** 06 02 07.5 +1.5
SNAA Sanae 82.50 195 P **P** 05 51 45.5 -0.7
SNAA IAmb IAmb 05 52 03.7
comp=Z,453nm,1.2s
SNAA Sanae 82.50 195 P **P** 05 51 46.8 +0.6
comp=Z,225nm,1.0s,baz=120,slow=4.5,SNR=179
SNAA PKKPbc **PKKPbc** 06 10 11.8 -2.4
comp=Z,3.0nm,0.8s,baz=295,slow=11,SNR=6.9
SNAA PKPPKP **P'P'df** 06 18 17.3 -3.4
comp=Z,3.3nm,0.9s,baz=249,slow=1.2,SNR=7.2
SNAA LR LR 06 25 17.8
comp=Z,66µm,20.1s,baz=106,slow=33
comp=Z,225nm,1.0s
SNAA Sanae 82.50 195 *c* iP **P** 05 51 46.4 +0.2
SNAA pmax pmax
comp=Z,447nm,1.2s
SNAA MLR MLR
comp=Z,31µm,17.0s
BELA Belgrano 2 82.97 185 P **P** 05 51 48.1 -0.4
BELA IAmb IAmb 05 52 04.7
comp=Z,340nm,1.0s
BELA IAMs_20 IAMs_20 06 25 43.0
comp=Z,45µm,21.0s
TBI Tubuai 83.04 112 *e*P **P** 05 51 51.2 +1.3
comp=Z,12µm,27.0s
TBI Tubuai 83.04 112 *e*P **P** 05 51 51.6 +1.7
comp=Z,262nm,0.9s
TBI Tubuai 83.04 112 *e*PP **PP** 05 54 59.3 -1.4
comp=Z,5µm,26.2s
TBI *e*S **S** 06 02 05.4 -3.3
comp=Z,11µm,30.2s
TBI *e*SS **SS** 06 07 27.7 -4.7
comp=Z,60µm,29.2s
TBI *e*LQ LQ 06 14 21.5
comp=Z,688µm,37.0s
TBI *e*LR LR 06 17 46.3
comp=Z,299µm,37.8s
TBI *e*LR LR 06 17 50.9
comp=Z,50µm,38.0s
BVA0 Borovoye Array 83.09 332 P **P** 05 51 48.2 -1.2
BVAR Borovoye Array 83.09 332 P **P** 05 51 48.3 -1.1
comp=Z,15nm,0.8s,baz=120,slow=8.8,SNR=27
BVAR LR LR 06 32 22.8
comp=Z,20µm,20.7s,baz=132,slow=38
comp=Z,15nm,0.8s
XMAS Kiritimati 83.15 86 IAMs_20 IAMs_20 06 30 38.3
comp=Z,35µm,18.0s
BRVK Borovoye 83.16 332 P **P** 05 51 47.6 -2.1
BRVK Borovoye 83.16 332 P **P** 05 51 49.4 -0.4
BRVK P **P** 05 51 49.4 -0.4
BRVK Borovoye 83.16 332 *ce*P **P** 05 51 48.6 -1.1
BRVK pmax pmax
comp=Z,163nm,1.2s
BRVK MLR MLR
comp=Z,18µm,19.0s
GRHM Grahamstown, E 83.47 237 P **P** 05 51 50.5 -1.5
GRHM IAMs_20 IAMs_20 06 21 34.9
comp=Z,44µm,21.0s
RAYN Ar Rayn 84.08 297 P **P** 05 51 53.9 -1.4
RAYN IAmb IAmb 05 52 06.3
comp=Z,269nm,0.9s
RAYN Ar Rayn 84.08 297 IAMs_20 IAMs_20 06 24 57.2
comp=Z,34µm,20.0s
RAYN Ar Rayn 84.08 297 P **P** 05 51 55.6 +0.4
RAYN Ar Rayn 84.08 297 P **P** 05 51 53.9 -1.4
RAYN pmax pmax
comp=Z,269nm,1.0s
RAYN Ar Rayn 84.08 297 *i* P **P** 05 51 54.1 -1.1
SNR=31
VNA2 Neumayer--Watz 84.11 195 ⇑P **P** 05 51 54.7 +0.3
comp=Z,122nm,0.6s,baz=133,slow=5.3
VNA2 ⇑SKSac **S** 06 02 24.4 +6.5
baz=158,slow=8.3
VNA1 Neumayer--Stat 84.51 195 ⇑P **P** 05 51 56.9 +0.4
comp=Z,144nm,0.7s
VNA1 ⇑SKSac S 06 02 31.1 +9.2
KBD Kabd 84.53 303 P **P** 05 51 57.7 +0.5
SHEM Shemya Is, Ala 84.54 29 LR LR 06 24 58.4
comp=Z,15µm,21.8s,baz=229,slow=32
PAE Paea 84.59 107 *e*P **P** 05 51 59.7 +1.8
comp=Z,132nm,1.0s
PAE Paea 84.59 107 *e*LR LR 06 18 24.9
comp=Z,10µm,22.9s
PPT2 Papeete2 84.62 107 *e*PKP2 **P** 05 51 55.1 -3.0
comp=Z,3µm,25.5s
PPT2 Papeete2 84.62 107 *e*P **P** 05 52 00.6 +2.5
comp=Z,579nm,1.1s
PPT2 Papeete2 84.62 107 *e*S **SKSac** 06 02 24.4 +2.6
comp=Z,6µm,29.5s
PPT2 *e*SS **SS** 06 07 55.1 -1.1
comp=Z,15µm,30.5s
PPT2 *e*LQ LQ 06 15 05.5
comp=Z,112µm,36.5s
PPT2 *e*LR LR 06 18 30.9
comp=Z,52µm,23.2s
PPT2 *e*LR LR 06 18 35.0
comp=Z,48µm,30.8s
PPT Papeete 84.62 107 P **P** 05 51 59.8 +1.7
comp=Z,256nm,0.9s,baz=340,slow=1.9,SNR=26
PPT LR LR 06 27 20.2
comp=Z,12µm,19.9s,baz=256,slow=34
comp=Z,256nm,0.9s
PPTF Pamatai, Papee 84.63 107 IAMs_20 IAMs_20 06 23 50.0
comp=Z,25µm,22.0s
PPTF Pamatai, Papee 84.63 107 P **P** 05 52 00.7 +2.5
SEY Seymchan 84.73 14 P **P** 05 51 57.7 +0.2
comp=Z,78nm,0.8s,baz=214,slow=4.3,SNR=87
SEY LR LR 06 29 52.6
comp=Z,6µm,22.0s,baz=207,slow=36
comp=Z,78nm,0.8s
SEY Seymchan 84.73 14 *c* iP **P** 05 51 58.8 +1.3
SEY pmax pmax
comp=Z,266nm,1.0s
TVO Taravao 84.86 107 *e*P **P** 05 52 01.4 +2.1
comp=Z,97nm,0.9s
TVO Taravao 84.86 107 *e*S **SKSac** 06 02 22.9 -0.4
comp=Z,777nm,24.0s
TVO *e*SS **SS** 06 07 54.6 -5.1
comp=Z,2µm,25.1s
TVO Taravao 84.86 107 *e*LR LR 06 18 41.2
comp=Z,10µm,23.0s
FURI Furi 85.03 281 IAMs_20 IAMs_20 06 27 35.6
comp=Z,31µm,20.0s
MATP Matopo 85.53 250 LR LR 06 25 16.6
comp=Z,15µm,20.4s,baz=95,slow=32
MREMI Moremi 85.81 248 IAMs_20 IAMs_20 06 25 23.8
comp=Z,37µm,21.0s
MREMI Moremi 85.81 248 *i* P **P** 05 52 03.6 -0.5
BOSA Boshof 85.81 241 P **P** 05 52 02.3 -1.7
BOSA Boshof 85.81 241 P **P** 05 52 03.8 -0.3
comp=Z,427nm,0.9s,baz=115,slow=4.2,SNR=251
BOSA PKKPbc **PKKPbc** 06 10 07.0 +1.7
comp=Z,2.2nm,0.6s,baz=290,slow=3.1,SNR=7.0
BOSA LR LR 06 24 31.4
comp=Z,17µm,21.1s,baz=106,slow=32
comp=Z,427nm,0.9s
BOSA Boshof 85.81 241 P **P** 05 52 02.3 -1.7
BOSA pmax pmax
comp=Z,555nm,1.0s
BOSA Boshof 85.81 241 P **P** 05 52 03.8 -0.3
BOSA S **S** 06 02 38.6 +2.0
AB31 Akbulak array 85.91 325 P **P** 05 52 02.0 -1.8
AB31 IAmb IAmb 05 52 15.2
comp=Z,214nm,1.1s
AB31 Akbulak array 85.91 325 *i* P **P** 05 52 02.1 -1.6
BROLN Tlhalogang 86.36 249 *i* P **P** 05 52 05.9 -1.0
LODK Lodwar 86.39 275 P **P** 05 52 07.5 +0.4
SNR=45
LBTB Lobatse 86.66 245 P **P** 05 52 06.9 -1.4
LBTB IAmb IAmb 05 52 10.8
comp=Z,142nm,0.8s
LBTB Lobatse 86.66 245 LR LR 06 25 38.3
comp=Z,27µm,20.2s,baz=92,slow=32
LBTB Lobatse 86.66 245 P **P** 05 52 06.9 -1.4
LBTB pmax pmax
comp=Z,142nm,0.9s
PMOR Pomariorio Ree 86.94 105 *e*P **P** 05 52 11.9 +2.3
comp=Z,599nm,1.5s
PMOR Pomariorio Ree 86.94 105 *e*S **S** 06 02 46.6 -1.0
comp=Z,4µm,25.4s
PMOR *e*SS **SS** 06 08 28.0 -2.2
comp=Z,8µm,26.5s
PMOR Pomariorio Ree 86.94 105 *e*LR LR 06 19 37.1
comp=Z,35µm,22.5s
LPHEP Lephephe 86.95 247 IAmb IAmb 05 52 12.6
comp=Z,274nm,1.1s
LPHEP IAMs_20 IAMs_20 06 25 38.1
comp=Z,34µm,20.0s

LPHEP **Lephephe** 86.95 247 *i* P **P** 05 52 09.2 **-0.6**
MAKGR **Makgori** 87.09 244 *i* P **P** 05 52 10.2 **-0.1**
VAH Vaihoa 87.11 105 *e*P **P** 05 52 12.3 **+1.9**
comp=Z,286nm,1.1s
VAH Vaihoa 87.11 105 *e*S **S** 06 02 45.1 **-4.2**
comp=Z,3μm,24.9s
VAH *e*SS **SS** 06 08 32.8 **0.0**
comp=Z,5μm,27.7s
VAH Vaihoa 87.11 105 *e*LR LR 06 19 40.3
comp=Z,25μm,23.2s
LSZ Lusaka 87.39 255 P **P** 05 52 10.2 **-1.7**
LSZ Lusaka 87.39 255 IAMs_20 IAMs_20 06 25 17.8
comp=Z,33μm,20.0s
LSZ Lusaka 87.39 255 LR LR 06 25 18.8
comp=Z,32μm,21.9s,baz=124,slow=32
LSZ Lusaka 87.39 255 P **P** 05 52 11.5 **-0.4**
LSZ P **P** 05 52 11.5 **-0.4**
LSZ Lusaka 87.39 255 P **P** 05 52 10.2 **-1.7**
LSZ pmax pmax
comp=Z,333nm,0.8s
SOOWA **Sowa** 87.52 249 *i* P **P** 05 52 12.0 **-0.5**
AKTO Aktyubinsk 87.61 325 P **P** 05 52 10.4 **-1.6**
comp=Z,90nm,0.7s,baz=117,slow=5.5,SNR=78
AKTO LR LR 06 35 00.7
comp=Z,12μm,21.5s,baz=130,slow=38
comp=Z,90nm,0.7s
KDWAN **Kaudwane** 87.99 246 IAMs_20 IAMs_20 06 26 32.5
comp=Z,28μm,20.0s
KDWAN **Kaudwane** 87.99 246 *i* P **P** 05 52 14.3 **-0.4**
SUR Sutherland 88.19 237 P **P** 05 52 14.5 **-1.1**
SUR Sutherland 88.19 237 IAMs_20 IAMs_20 06 24 03.4
comp=Z,30μm,21.0s
SUR Sutherland 88.19 237 P **P** 05 52 16.8 **+1.2**
SUR P **P** 05 52 16.8 **+1.2**
SKOMA **Sekoma** 88.25 245 *i* P **P** 05 52 15.3 **-0.7**
KIWB Kanaga Island 88.36 33 IAmb IAmb 05 53 07.9
comp=Z,106nm,1.0s
ADK Adak 88.62 33 P **P** 05 52 16.1 **-0.7**
ADK IAmb IAmb 05 52 30.9
comp=Z,435nm,1.9s
ADK Adak 88.62 33 P **P** 05 52 18.7 **+1.9**
ADK Adak 88.62 33 P **P** 05 52 16.1 **-0.7**
ADK pmax pmax
comp=Z,435nm,2.0s
PHPEN **Phepeng** 88.86 244 IAmb IAmb 05 52 21.7
comp=Z,209nm,1.0s
PHPEN IAMs_20 IAMs_20 06 26 52.4
comp=Z,23μm,20.0s
PHPEN **Phepeng** 88.86 244 *i* P **P** 05 52 19.8 **+1.1**
GSTR Great Sitkin T 89.06 34 IAmb IAmb 05 54 26.0
comp=Z,178nm,1.2s
PHDHD **Phuduhudu** 89.13 249 IAmb IAmb 05 52 25.1
comp=Z,252nm,1.6s
PHDHD **Phuduhudu** 89.13 249 *i* P **P** 05 52 21.1 **+1.0**
KSANE **Kasane** 89.35 252 IAMs_20 IAMs_20 06 28 20.6
comp=Z,31μm,19.0s
KSANE **Kasane** 89.35 252 *i* P **P** 05 52 21.5 **+0.3**
MBAR Mbarara 89.53 270 P **P** 05 52 21.0 **-1.2**
MBAR Mbarara 89.53 270 IAMs_20 IAMs_20 06 29 31.8
comp=Z,32μm,19.0s
MBAR Mbarara 89.53 270 P **P** 05 52 22.5 **+0.3**
MBAR P **P** 05 52 22.5 **+0.3**
MBAR Mbarara 89.53 270 *i* P **P** 05 52 22.0 **-0.2**
MBAR pmax pmax
comp=Z,87nm,1.7s
MBAR MLR MLR
comp=Z,23μm,17.0s
AKT Akhty 89.62 314 *e*P **P** 05 52 20.4 **-1.5**
AKT *e* 05 55 53.0
AKT *e*PPP PPP 05 57 50.0
AKT *e*S **SKSac** 06 02 49.9 **-1.6**
AKT *e*SP **SP** 06 04 12.8 **-4.5**
AKT pmax pmax
comp=Z,193nm,1.2s
AKT pmax pmax
comp=E,96nm,1.1s
AKT pmax pmax
comp=Z,690nm,2.6s
AKT pmax pmax
comp=N,92nm,0.9s
AKT smax smax
comp=E,4333μm,5.1s
AKT smax smax
comp=N,7103μm,8.4s
AKT MLR MLR
comp=Z,17μm,23.0s
AKT MLR MLR
comp=N,6μm,24.0s
AKT MLR MLR
comp=E,7μm,21.0s
SVE Sverdlovsk 89.86 332 *e*P **P** 05 52 21.6 **-0.8**
SVE *e* 05 55 53.9
SVE *e*PPP PPP 05 57 50.8
SVE *e*S **SKSac** 06 02 50.6 **-1.3**
SVE *e*SS **SS** 06 09 06.9 **-4.7**
SVE pmax pmax
comp=Z,160nm,1.1s
TIXI Tiksi 89.87 3 P **P** 05 52 21.1 **-1.1**
TIXI Tiksi 89.87 3 LR LR 06 38 28.8
comp=Z,13μm,18.9s,baz=200,slow=40
TIXI Tiksi 89.87 3 *ce*P **P** 05 52 22.9 **+0.7**
TIXI pmax pmax
comp=Z,85nm,0.9s
ATKA Atka Island 90.10 34 P **P** 05 52 25.7 **+2.0**
KGCAE **Kacgae** 90.30 246 IAmb IAmb 05 52 28.4
comp=Z,224nm,0.8s
KGCAE IAMs_20 IAMs_20 06 27 44.6
comp=Z,29μm,20.0s
KGCAE **Kacgae** 90.30 246 *i* P **P** 05 52 25.1 **-0.4**
HUH Hualalai 90.37 69 IAMs_20 IAMs_20 06 30 43.9
comp=Z,38μm,20.0s
MAK Makhachkala 90.39 315 *e*P **P** 05 52 21.0 **-4.3**
MAK *e* 06 02 49.6
MAK *e*SSS SSS 06 12 51.4
MAK pmax pmax
comp=Z,197nm,1.5s
KHU Kahuku 90.42 70 IAMs_20 IAMs_20 06 31 04.3
comp=Z,29μm,20.0s
NRIK Noril'sk 90.46 349 P **P** 05 52 23.6 **-1.4**
NRIK IAmb IAmb 05 52 36.1
comp=Z,165nm,0.9s
NRIK Noril'sk 90.46 349 P **P** 05 52 24.4 **-0.5**
comp=Z,41nm,0.7s,baz=137,slow=4.1,SNR=59
NRIK LR LR 06 36 57.0
comp=Z,14μm,19.5s,baz=150,slow=38
comp=Z,41nm,0.7s
NRIK Noril'sk 90.46 349 *d* IP **P** 05 52 24.1 **-0.9**
MWH Mokuaweoweo 90.52 70 IAMs_20 IAMs_20 06 31 07.8
comp=Z,36μm,20.0s
AIN Ainahou 90.61 70 IAMs_20 IAMs_20 06 31 10.1
comp=Z,32μm,20.0s
ARTI Arti 90.65 331 P **P** 05 52 24.3 **-1.8**
ARTI IAmb IAmb 05 52 40.0
comp=Z,87nm,0.7s
ARTI Arti 90.65 331 P **P** 05 52 24.7 **-1.5**
comp=Z,42nm,0.7s,baz=133,slow=2.6,SNR=46
ARTI LR LR 06 36 16.4
comp=Z,18μm,21.1s,baz=136,slow=38
comp=Z,42nm,0.7s
ARTI Arti 90.65 331 *d* IP **P** 05 52 24.1 **-2.0**
ARTI 05 55 59.1
ARTI S **SKSac** 06 02 55.1 **-1.4**
ARTI SP **SP** 06 04 26.5 **-1.4**
ARTI PS PnS 06 04 57.4 +26
ARTI SSS SSS 06 12 57.0
ARTI pmax pmax
comp=Z,87nm,1.2s
ARTI pmax pmax
comp=Z,1μm,7.7s
ARTI MLR MLR
comp=Z,19μm,21.0s
MLH Mauna Loa 90.71 70 IAMs_20 IAMs_20 06 31 12.9
comp=Z,37μm,20.0s
HLP Hilina Pali 90.72 70 IAMs_20 IAMs_20 06 31 13.0
comp=Z,27μm,20.0s
UWE Uwekahuna 90.77 70 IAMs_20 IAMs_20 06 31 14.5
comp=Z,32μm,20.0s
HATHI Halema'uma'u T 90.80 70 IAMs_20 IAMs_20 06 31 14.2
comp=Z,31μm,20.0s
PUH Pauahi 90.82 70 IAMs_20 IAMs_20 06 31 15.9
comp=Z,28μm,20.0s
STCH Steam Cracks 90.91 70 IAMs_20 IAMs_20 06 31 18.1
comp=Z,27μm,20.0s
JOKA Jonika Flow 91.03 70 IAMs_20 IAMs_20 06 31 21.4
comp=Z,29μm,20.0s
OZAP Van, Ozalp-Mer 91.12 310 ⇓P **P** 05 52 29.9 **+0.8**

GNI Garni 91.16 312 P **P** 05 52 28.4 **-0.7**
GNI IAmb IAmb 05 53 41.5
comp=Z,106nm,1.1s
GNI Garni 91.16 312 P **P** 05 52 27.8 **-1.3**
comp=Z,15nm,0.9s,baz=193,slow=5.6,SNR=9.2
GNI LR LR 06 36 04.3
comp=Z,3μm,21.9s,baz=114,slow=37
comp=Z,15nm,0.9s
GNI Garni 91.16 312 *ce*P **P** 05 52 30.8 **+1.7**
GNI pmax pmax
comp=Z,100nm,1.1s
GNI Garni 91.16 312 P **P** 05 52 28.7 **-0.4**
GMARE **Gumare** 91.51 249 IAmb IAmb 05 52 33.9
comp=Z,111nm,0.8s
GMARE **Gumare** 91.51 249 *i* P **P** 05 52 32.5 **+1.2**
GRTLG Ghanzi 91.67 247 IAmb IAmb 05 52 34.4
comp=Z,132nm,0.9s
GRTLG IAMs_20 IAMs_20 06 29 03.5
comp=Z,27μm,20.0s
GRTLG **Ghanzi** 91.67 247 *i* P **P** 05 52 31.2 **-0.8**
KOOLE **Kule** 91.99 245 IAmb IAmb 05 52 36.2
comp=Z,179nm,1.1s
KOOLE IAMs_20 IAMs_20 06 28 50.9
comp=Z,39μm,20.0s
BILL Bilibino 92.27 16 P **P** 05 52 32.6 **-0.8**
BILL Bilibino 92.27 16 *d* IP **P** 05 52 35.4 **+2.0**
BILL pmax pmax
comp=Z,87nm,1.9s
BILL MLR MLR
comp=Z,9μm,22.0s
QNGWA **Qangwa** 92.33 249 IAmb IAmb 05 52 37.6
comp=Z,107nm,0.8s
QNGWA **Qangwa** 92.33 249 *i* P **P** 05 52 34.5 **-0.6**
GURO Guroymak-BITLI 92.50 310 IAmb IAmb 05 52 50.4
comp=Z,80nm,1.0s
KARS Kars 92.51 312 IAmb IAmb 05 52 50.0
comp=Z,191nm,1.1s
HOMI Horasan 93.13 311 ⇓P **P** 05 52 38.9 **+0.5**
NCK Nalchik 93.23 315 *i* P **P** 05 52 39.3 **+0.8**
NCK pmax pmax
comp=Z,75nm,1.3s
NIKH Nikolski High 93.34 35 IAmb IAmb 05 52 53.7
comp=Z,140nm,1.2s
NIKH Nikolski High 93.34 35 P **P** 05 52 41.0 **+2.3**
NIKH Nikolski High 93.34 35 P **P** 05 52 39.4 **+0.7**
baz=244
SMAI San Martin Ant 93.67 177 IAmb IAmb 05 52 56.8
comp=Z,210nm,1.8s
SMAI IAMs_20 IAMs_20 06 32 17.5
comp=Z,28μm,21.0s
KBZ Khabaz 93.78 315 P **P** 05 52 40.1 **-0.8**
comp=Z,20nm,0.9s,baz=139,slow=3.4,SNR=34
KBZ PKKPbc **PKKPbc** 06 09 47.0 **+0.6**
comp=Z,4.4nm,0.7s,baz=276,slow=3.0,SNR=7.7
comp=Z,20nm,0.9s
KBZ Khabaz 93.78 315 *c* IP **P** 05 52 40.9 **0.0**
KBZ pmax pmax
comp=Z,38nm,0.9s
SHA1 Shidzhatmaz 93.95 315 *d* IP **P** 05 52 41.9 **-0.1**
KVAR Kislovodsk Arr 94.00 315 LR LR 06 41 27.9
comp=Z,5μm,19.1s,baz=202,slow=40
KIV Kislovodsk 94.01 315 P **P** 05 52 41.2 **-0.9**
KIV Kislovodsk 94.01 315 ⇑P **P** 05 52 44.4 **+2.3**
KIV Kislovodsk 94.01 315 *e*P **P** 05 52 40.4 **-1.7**
KIV *e* 06 03 15.1
KIV *e*SS SS 06 10 09.9 -2.3
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,7μm,20.0s
KIV Kislovodsk 94.01 315 *i* P **P** 05 52 42.5 **+0.3**
SNR=12
KIV Kislovodsk 94.01 315 P **P** 05 52 41.7 **-0.4**
KOPT Kop Dagi 94.13 311 IAmb IAmb 05 52 59.7
comp=Z,82nm,0.8s
GOF Gofitskoye 94.18 316 *ce*P **P** 05 52 42.4 **-0.3**
GOF *e*S **SKSac** 06 03 17.4 **+0.7**
BELG Belogornoye 94.25 324 P **P** 05 52 42.4 **-0.5**
comp=Z,191nm,1.1s,baz=84,slow=1.3,SNR=29
BELG LR LR 06 42 30.6
comp=Z,9μm,18.7s,baz=109,slow=40
comp=Z,191nm,1.1s
BELG Belogornoye 94.25 324 *c* IP **P** 05 52 42.0 **-0.9**
BELG pmax pmax
comp=Z,60nm,1.3s
BELG MLR MLR
comp=Z,3μm,23.0s
ASF Jabal al Asfar 94.27 302 P **P** 05 52 42.8 **-0.8**
comp=Z,12nm,0.8s,baz=163,slow=5.0,SNR=15
ASF LR LR 06 33 51.1
comp=Z,15μm,20.2s,baz=136,slow=35
comp=Z,12nm,0.8s
SPIA Saint Paul Isl 94.50 31 P **P** 05 52 45.2 **+1.3**
baz=243
P08K Saint George I 94.59 31 P **P** 05 52 45.0 **+0.7**
baz=244
UNV Unalaska Valle 94.98 35 P **P** 05 52 46.8 **+0.6**
baz=246
EIL Elat 95.07 299 P **P** 05 52 47.5 **+0.3**
comp=Z,21nm,1.1s,baz=342,slow=17,SNR=6.4
EIL LR LR 06 31 11.1
comp=Z,22μm,21.9s,baz=113,slow=33
comp=Z,21nm,1.1s
AKUT Akutan 95.50 35 P **P** 05 52 49.9 **+1.4**
LABN Labinsk 95.57 315 *e*P **P** 05 52 48.3 **-0.8**
LABN *e**PP **PcP** 05 52 51.6 **+2.2**
LABN *e* 05 56 48.5
LABN *e*S **SKSac** 06 03 24.0 **-0.2**
LABN *e*SS **SS** 06 10 43.2 **+9.0**
LABN pmax pmax
comp=Z,28nm,0.6s
TSUM Tsumeb 95.62 248 P **P** 05 52 46.9 **-3.3**
TSUM Tsumeb 95.62 248 LR LR 06 31 01.3
comp=Z,39μm,20.2s,baz=102,slow=32
VSLR Vesyoloye 95.64 314 *i* P **P** 05 52 49.2 **-0.3**
VSLR pmax pmax
comp=Z,70nm,0.9s
VSLR MLR MLR
comp=Z,4μm,17.0s
MMAI Mount Meron Ar 95.73 303 P **P** 05 52 50.9 **+0.6**
comp=Z,9.3nm,0.7s,baz=171,slow=5.9,SNR=8.3
MMAI LR LR 06 36 52.6
comp=Z,18μm,19.5s,baz=102,slow=36
comp=Z,9.3nm,0.7s
SOC Sochi 95.89 314 *e*P **P** 05 52 48.4 **-2.2**
SOC *e* 05 56 46.6
SOC *e*PPP PPP 05 58 50.3
SOC *e*S **SKSac** 06 03 24.5 **-1.5**
SOC *e*SSS SSS 06 14 27.3
SOC pmax pmax
comp=Z,26nm,0.6s
SOC MLR MLR
comp=Z,8μm,21.0s
KIRV Kirov 95.94 330 P **P** 05 52 50.8 **+0.3**
comp=Z,21nm,0.8s,baz=307,slow=1.8,SNR=11
KIRV LR LR 06 40 59.3
comp=Z,13μm,20.9s,baz=122,slow=39
comp=Z,21nm,0.8s
KIRV Kirov 95.94 330 *i* P **P** 05 52 51.1 **+0.7**
TAOE Nuku Hiva Isla 96.08 101 IAMs_20 IAMs_20 06 33 07.4
comp=Z,23μm,19.0s
TAOE Nuku Hiva Isla 96.08 101 *e*P P 05 52 44.4 -7.9
comp=Z,1μm,26.1s
TAOE Nuku Hiva Isla 96.08 101 *e*PP **PP** 05 56 40.1 **-5.1**
comp=Z,2μm,25.6s
TAOE *e*S **S** 06 04 03.5 **-7.5**
comp=Z,7μm,32.7s
TAOE *e*SS **SS** 06 10 36.7 **-5.7**
comp=Z,7μm,26.7s
TAOE *e*LQ LQ 06 19 49.2
comp=Z,77μm,39.7s
TAOE *e*LR LR 06 23 49.0
comp=Z,44μm,23.0s
ERBR Yeremizino-Bor 96.09 316 *e*P **P** 05 52 52.7 **+1.2**
ERBR *e**PP **pP** 05 52 55.6 **-2.5**
ERBR *e* 05 56 50.8
ERBR *e*S **SKSac** 06 03 29.1 **+2.1**
ERBR pmax pmax
comp=Z,17nm,0.5s
GAMB Gambell 96.89 24 P **P** 05 52 55.5 **+0.8**
baz=242
TOKA Tokat 97.14 310 P **P** 05 52 55.8 **-0.6**
TOKA IAmb IAmb 05 53 07.2
comp=Z,53nm,0.8s
PMSA Palmer Station 97.15 178 P **P** 05 52 54.6 **-1.4**
PMSA Palmer Station 97.15 178 IAMs_20 IAMs_20 06 38 46.3
comp=Z,27μm,19.0s
PMSA Palmer Station 97.15 178 LR LR 06 35 54.0
comp=Z,17μm,19.4s,baz=182,slow=35
PMSA Palmer Station 97.15 178 *e*P Pdif 05 52 57.1 +1.0
BNN Bunyan 97.17 308 P **P** 05 52 55.7 **-1.1**
VRH Novokhopyorsk 97.19 322 *e*P **P** 05 52 54.6 **-1.7**
VRH pmax pmax
comp=Z,29nm,0.9s
VRH MLR MLR
comp=Z,16μm,21.0s
M11K Mekoryuk 97.77 29 P **P** 05 52 58.5 **-0.2**
M11K Mekoryuk 97.77 29 P Pdif 05 52 59.5 +0.8
baz=247
ANN Anapa 97.84 314 *e*P Pdif 05 53 02.8 +3.4
ANN *e**PP pP 05 53 06.4 +0.5
ANN *e*PPP PPP 05 59 07.9
ANN *e*S **SKSac** 06 03 37.1 **+1.1**
ANN *e*SP **SP** 06 05 57.7 **+10**
ANN *e*SS SS 06 11 17.4 +11
ANN pmax pmax
comp=E,21nm,0.8s
ANN pmax pmax
comp=Z,32nm,0.8s
ANN pmax pmax
comp=N,12nm,0.7s
ANN MLR MLR
comp=Z,10μm,21.0s
ANN MLR MLR
comp=N,13μm,23.0s
ANN MLR MLR
comp=E,6μm,22.0s
CSS Mathiatis 97.95 304 P **P** 05 52 58.8 **-1.4**
CSS IAMs_20 IAMs_20 06 36 17.9
comp=Z,23μm,20.0s
ESPZ Base Esperanza 98.58 181 P **P** 05 53 02.2 **-0.3**
KIRS Kirsehir-Merke 98.69 308 ⇑P **P** 05 53 03.0 **-0.5**
VSR Storozhevoye 98.72 321 *e*P **P** 05 53 01.2 **-2.0**
VSR pmax pmax
comp=Z,20nm,0.9s
SDPT Sand Point 98.80 35 IAmb IAmb 05 53 15.9
comp=Z,77nm,0.8s
SDPT Sand Point 98.80 35 P Pdif 05 53 04.4 +1.0
comp=Z,110nm,0.8s
SDPT Sand Point 98.80 35 Pdiff Pdif 05 53 04.2 +0.7
baz=251
VORR Voronezh 98.83 321 *e*P Pdif 05 53 04.0 +0.3
VORR *e* 05 57 00.9
VORR pmax pmax
comp=Z,54nm,1.4s
VORR MLR MLR
comp=Z,1μm,23.0s
PTCN Pitcairn Islan 98.97 120 IAMs_20 IAMs_20 06 36 00.5
comp=Z,21μm,20.0s
BR131 Keskin Array S 99.06 309 P **Pdif** 05 53 03.1 **-2.1**
BR131 Keskin Array S 99.06 309 P **Pdif** 05 53 04.5 **-0.7**
SNR=21
BR131 Keskin Array S 99.06 309 P **Pdif** 05 53 03.1 **-2.1**
BR131 pmax pmax
comp=Z,25nm,1.0s
BRTR Keskin Array B 99.06 309 P **Pdif** 05 53 03.2 **-2.0**
BRTR Keskin Array B 99.06 309 P **Pdif** 05 53 04.2 **-1.0**
comp=Z,8.9nm,0.9s,baz=125,slow=6.2,SNR=38
BRTR PP **PP** 05 57 04.8 **-3.0**
comp=Z,7.3nm,1.0s,baz=118,slow=6.9,SNR=2.3
BRTR PKKPbc **PKKPbc** 06 09 31.5 **-0.6**
comp=Z,0.9nm,0.6s,baz=259,slow=2.4,SNR=4.3
BRTR LR LR 06 40 11.8
comp=Z,5μm,20.4s,baz=105,slow=37
comp=Z,8.9nm,0.9s
K13K Kusilvak Mount 99.06 28 Pdiff **Pdif** 05 53 05.3 **+0.8**
baz=248
M13K Dall Lake 99.10 29 IAmb IAmb 05 53 20.8
comp=Z,190nm,2.0s
M13K Dall Lake 99.10 29 Pdiff **Pdif** 05 53 05.4 **+0.7**
baz=249
CHNA Chernabura Isl 99.11 35 P **Pdif** 05 53 06.8 **+1.9**
CHNA Chernabura Isl 99.11 35 Pdiff **Pdif** 05 53 05.2 **+0.4**
baz=252
TNA Tin City 99.14 24 Pdiff **Pdif** 05 53 05.5 **+0.8**
baz=246
LPSR Galich'ya Gora 99.28 322 *e*P **Pdif** 05 53 05.6 **-0.1**
LPSR *e* 05 57 05.1
LPSR pmax pmax
comp=Z,32nm,0.9s
LPSR MLR MLR
comp=Z,10μm,23.0s
S14K Fog Glacier 99.59 34 Pdiff **Pdif** 05 53 07.6 **+0.5**
baz=252
O14K Tigyukauivet M 99.69 31 IAMs_20 IAMs_20 06 34 14.1
comp=Z,21μm,22.0s
O14K Tigyukauivet M 99.69 31 Pdiff **Pdif** 05 53 08.0 **+0.7**
baz=251
N14K Kuskokwak Cree 99.71 30 Pdiff **Pdif** 05 53 08.3 **+0.9**
baz=251
F14K Arctic Creek 99.71 24 Pdiff **Pdif** 05 53 07.8 **+0.5**
baz=248
ANTO Ankara 99.72 309 P **Pdif** 05 53 07.6 **-0.5**
L14K Kuka Creek 99.73 28 Pdiff **Pdif** 05 53 08.3 **+0.8**
baz=250
ANM Nome 99.74 25 Pdiff **Pdif** 05 53 08.5 **+1.1**
baz=248
J14K Nanvaranak Lak 99.84 27 Pdiff **Pdif** 05 53 08.9 **+1.1**
baz=249
M14K Bethel 99.86 29 Pdiff **Pdif** 05 53 09.1 **+1.0**
baz=250
SIM Simferopol' 100.14 314 *e*P **Pdif** 05 53 09.7 **0.0**
SIM *e* 05 57 18.0
SIM pmax pmax
comp=Z,31nm,0.8s
SIM MLR MLR
comp=Z,13μm,24.9s
CHGN Chignik 100.20 34 Pdiff **Pdif** 05 53 10.6 **+0.9**
baz=253
L15K Ungalak Mounta 100.38 28 Pdiff **Pdif** 05 53 11.0 **+0.7**
baz=251
M15K Kasigluk River 100.43 29 Pdiff **Pdif** 05 53 11.1 **+0.5**
baz=252
G15K Niukluk 100.43 25 Pdiff **Pdif** 05 53 11.0 **+0.5**
baz=249
F15K North Star Dit 100.45 24 Pdiff **Pdif** 05 53 11.7 **+1.2**
baz=249
N15K Kwethluk River 100.55 30 Pdiff **Pdif** 05 53 12.2 **+1.1**
baz=252
K15K Wolf Creek Mou 100.56 28 Pdiff **Pdif** 05 53 12.1 **+0.9**
baz=251
MOS Moscow 100.94 325 *e*P **Pdif** 05 53 12.5 **-0.4**
MOS *e* 05 57 24.3
MOS *e*PPP PPP 05 59 37.1
MOS *e*S **SKSac** 06 03 49.3 **-1.5**
MOS *e*PS **PS** 06 06 24.5 **+1.1**
MOS *e*SS SS 06 12 00.0 +11
MOS pmax pmax
comp=Z,37nm,0.7s
H16K Elim 101.03 25 Pdiff **Pdif** 05 53 13.8 **+0.6**
baz=251
C16K Lisburne Hills 101.12 21 Pdiff **Pdif** 05 53 14.2 **+0.6**
baz=249
P16K Nushagak River 101.22 31 Pdiff **Pdif** 05 53 14.6 **+0.5**
baz=254
G16K Koyuk River 101.24 25 Pdiff **Pdif** 05 53 15.0 **+0.9**
baz=251
N16K Nishlik Lake 101.27 30 Pdiff **Pdif** 05 53 15.0 **+0.7**
baz=253
J16K Anvik River 101.28 27 **Pdif** 05 53 14.1 **-0.2**
J16K Anvik River 101.28 27 Pdiff **Pdif** 05 53 15.0 **+0.6**
baz=252
L16K Owhat River 101.30 29 **Pdif** 05 53 14.2 **-0.2**
L16K Owhat River 101.30 29 Pdiff **Pdif** 05 53 14.6 **+0.2**
baz=253
O16K Kokwok River B 101.33 31 Pdiff **Pdif** 05 53 15.5 **+0.8**
baz=254
M16K Timber Creek 101.34 29 Pdiff **Pdif** 05 53 15.1 **+0.5**
baz=253
OBN Obninsk 101.34 324 P **Pdif** 05 53 14.6 **-0.1**
comp=Z,26nm,0.4s,baz=73,slow=23,SNR=5.3
OBN Obninsk 101.34 324 *de*P **Pdif** 05 53 14.5 **-0.3**
OBN *e* 05 57 30.3
OBN pmax pmax
comp=Z,34nm,0.7s
I17K Unalakleet 101.43 26 Pdiff **Pdif** 05 53 15.8 **+0.8**
baz=252
KLMR Klimovskoe 101.44 330 *e*P **Pdif** 05 53 12.9 **-2.2**
KLMR PS **PS** 06 06 29.2 **+0.7**
KLMR SS SS 06 11 56.3 +0.7
KLMR pmax pmax
comp=Z,85nm,1.4s

KLMR MLR MLR
comp=Z,8µm,21.0s
CHIR Chirikof Islan 101.57 35 Pdiff **Pdif 05 53 16.5 +0.8**
baz=255
R17L Mt. Peulik Vol 101.66 33 Pdiff **Pdif 05 53 16.4 +0.2**
baz=255
PLK4 Peulik 4 101.66 33 IAMs_20 IAMs_20 06 36 24.3
comp=Z,29µm,21.0s
D17K Noatak River 101.72 22 Pdiff **Pdif 05 53 16.8 +0.6**
baz=251
Q16K King Salmon 101.79 32 Pdiff **Pdif 05 53 17.2 +0.5**
baz=254
O17K Koliganek Bris 101.87 31 Pdiff **Pdif 05 53 17.6 +0.6**
baz=254
RDOG Red Dog Mine 101.90 22 Pdiff **Pdif 05 53 18.1 +1.0**
baz=251
G17K Kiwalik Mounta 101.94 25 Pdiff **Pdif 05 53 18.4 +1.1**
baz=252
C17K DeLong Mountai 101.95 22 Pdiff **Pdif 05 53 18.1 +0.9**
baz=251
L17K Donlin 101.96 28 Pdiff **Pdif 05 53 18.3 +0.9**
baz=254
J17K VABM Dome 101.97 27 Pdiff **Pdif 05 53 18.4 +1.0**
baz=253
E17K Hotham Inlet 101.98 23 Pdiff **Pdif 05 53 18.4 +1.0**
baz=252
F17K Baldwin Pennin 102.00 24 Pdiff **Pdif 05 53 18.6 +1.2**
baz=252
N17K Nushagak Hills 102.03 30 Pdiff **Pdif 05 53 19.0 +1.3**
baz=254
P17K Kvichak River 102.04 31 Pdiff **Pdif 05 53 18.8 +1.1**
baz=255
H17K Granite Mounta 102.07 25 Pdiff **Pdif 05 53 18.8 +1.0**
baz=253
Q17K Contact Creek 102.07 32 Pdiff **Pdif 05 53 18.9 +0.7**
baz=255
K17K Iditarod 102.12 28 Pdiff **Pdif 05 53 19.2 +1.1**
baz=254
M17K Holitna River 102.15 29 **Pdif 05 53 17.7 -0.5**
M17K Holitna River 102.15 29 Pdiff **Pdif 05 53 19.2 +0.9**
baz=254
SII Sitkinak Islan 102.54 34 IAMs_20 IAMs_20 06 36 31.1
comp=Z,17µm,22.0s
SII Sitkinak Islan 102.54 34 Pdiff **Pdif 05 53 20.8 +0.7**
baz=256
E18K Tukpahlearik C 102.54 23 Pdiff **Pdif 05 53 20.8 +0.9**
baz=253
Q18K Katmai Hardscr 102.62 32 Pdiff **Pdif 05 53 21.4 +0.8**
baz=256
R18K Karluk 102.64 33 Pdiff **Pdif 05 53 21.4 +0.9**
baz=256
F18K Selawik 102.66 24 Pdiff **Pdif 05 53 21.2 +0.8**
baz=254
N18K Kilae Creek 102.69 30 Pdiff **Pdif 05 53 21.7 +1.0**
baz=256
P18K Big Mountain, 102.69 31 Pdiff **Pdif 05 53 21.7 +0.9**
baz=256
C18K Utukok River 102.69 22 Pdiff **Pdif 05 53 21.3 +0.7**
baz=253
B18K Kokolik River 102.70 21 Pdiff **Pdif 05 53 21.5 +0.9**
baz=252
L18K Granite Mounta 102.71 28 IAMs_20 IAMs_20 06 33 28.9
comp=Z,19µm,22.0s
L18K Granite Mounta 102.71 28 Pdiff **Pdif 05 53 21.8 +1.0**
baz=255
H18K Honhosa River 102.77 25 Pdiff **Pdif 05 53 21.8 +0.8**
baz=254
O18K Koktuh Hills 102.81 31 Pdiff **Pdif 05 53 21.8 +0.5**
baz=256
G18K Tagagawik 102.85 25 Pdiff **Pdif 05 53 22.0 +0.7**
baz=254
M18K Stony River 102.92 29 Pdiff **Pdif 05 53 22.7 +1.0**
baz=256
KARP Karpathos 102.98 303 IAMs_20 IAMs_20 06 39 53.7
comp=Z,22µm,20.0s
J18K Innoko River 103.02 27 Pdiff **Pdif 05 53 23.0 +0.9**
baz=256
OHAK Old Harbor 103.17 34 IAMs_20 IAMs_20 06 37 04.8
comp=Z,18µm,21.0s
OHAK Old Harbor 103.17 34 Pdiff **Pdif 05 53 23.7 +0.9**
baz=257
A19K Wainwright 103.20 20 Pdiff **Pdif 05 53 23.5 +0.8**
baz=253
GCSA Galena City Sc 103.27 26 Pdiff **Pdif 05 53 23.9 +0.8**
baz=256
O19K Port Alsworth 103.33 31 Pdiff **Pdif 05 53 24.2 +0.7**
baz=257
Q19K Cape Douglas, 103.37 32 Pdiff **Pdif 05 53 24.5 +0.7**
baz=257
C19K Lookout Ridge 103.38 21 Pdiff **Pdif 05 53 24.5 +0.8**
baz=254
N19K Bonanza Creek 103.39 30 Pdiff **Pdif 05 53 24.4 +0.5**
baz=257
F19K Shaleruckik Mo 103.44 24 Pdiff **Pdif 05 53 24.5 +0.7**
baz=255
G19K Purcell Mounta 103.53 25 Pdiff **Pdif 05 53 25.6 +1.3**
baz=256
L19K White Mountain 103.53 29 Pdiff **Pdif 05 53 25.1 +0.6**
baz=257
J19K Poorman 103.62 27 Pdiff **Pdif 05 53 25.5 +0.8**
baz=257
H19K Roundabout Mou 103.64 25 Pdiff **Pdif 05 53 25.6 +0.9**
baz=256
KDAK Kodiak Island 103.67 33 IAMs_20 IAMs_20 06 35 45.8
comp=Z,22µm,22.0s
KDAK Kodiak Island 103.67 33 Pdiff **Pdif 05 53 25.8 +0.7**
baz=258
M19K Big River Lodg 103.68 29 Pdiff **Pdif 05 53 26.0 +0.9**
baz=257
D19K Kuna River 103.74 22 Pdiff **Pdif 05 53 25.9 +0.7**
baz=255
P19K Oil Pt 103.74 31 Pdiff **Pdif 05 53 26.1 +0.7**
baz=258
E19K Redstone River 103.80 23 Pdiff **Pdif 05 53 26.7 +1.2**
baz=256
Q20K Shuyak Island 103.94 33 Pdiff **Pdif 05 53 27.4 +1.2**
baz=258
SYI Shuyak Island 103.94 33 IAMs_20 IAMs_20 06 35 18.9
comp=Z,20µm,22.0s
TIRR Tirgusor 103.98 312 P **Pdif 05 53 30.3 +3.5**
TIRR Tirgusor 103.98 312 P **Pdif 05 53 30.3 +3.5**
PSN Preselentsi 104.00 312 *e*P **Pdif 05 53 33.1 +6.2**
PSN Preselentsi 104.00 312 *e*P **PKiKP 05 57 47.5 +3.2**
L20K Farewell, AK 104.05 29 Pdiff **Pdif 05 53 27.9 +1.2**
baz=258
O20K Slope Mountain 104.13 31 Pdiff **Pdif 05 53 28.4 +1.2**
baz=258
K20K Telida 104.15 28 Pdiff **Pdif 05 53 28.2 +1.1**
baz=258
MILM Milestii Mici 104.20 315 *e*P **Pdif 05 53 18.0 -10**
MILM Milestii Mici 104.20 315 *e*PKP **PKiKP 05 57 38.0 -6.5**
MILM Milestii Mici 104.20 315 *e*PS PS 06 07 02.0 +3.7
MILM *e*L L 06 31 30.0
MILM LRM MLR 06 43 30.0
comp=Z,6µm,22.0s
M20K Styx River 104.26 29 Pdiff **Pdif 05 53 28.3 +0.5**
baz=258
H20K Anotleneega Mo 104.27 25 Pdiff **Pdif 05 53 28.4 +0.8**
baz=258
F20K Avaraart Lake 104.28 24 Pdiff **Pdif 05 53 28.4 +0.9**
baz=257
I20K Naaghedeneel 104.28 26 Pdiff **Pdif 05 53 28.5 +0.8**
baz=258
J20K Nowinta River 104.29 27 Pdiff **Pdif 05 53 28.5 +0.8**
baz=258
D20K Etivluk River 104.33 22 Pdiff **Pdif 05 53 28.4 +0.6**
baz=257
E20K Nigu River 104.38 22 Pdiff **Pdif 05 53 28.7 +0.6**
baz=257
PRD Provadia 104.42 311 *e*P **PP 05 57 51.3 +3.4**
B20K Meade River 104.44 21 Pdiff **Pdif 05 53 29.2 +1.0**
baz=257
HOM Homer 104.53 32 Pdiff **Pdif 05 53 29.4 +0.5**
baz=259
SPCR Spurr Chakacha 104.56 30 Pdiff **Pdif 05 53 29.5 +0.4**
baz=259
AK10 Malin Array Si 104.63 319 P **Pdif 05 53 28.3 -1.2**
AK08 Malin Array Si 104.64 319 P **Pdif 05 53 28.5 -1.0**
AK07 Malin Array Si 104.65 319 P **Pdif 05 53 29.6 0.0**
AK06 Malin Array Si 104.66 319 P **Pdif 05 53 28.9 -0.8**
AK05 Malin Array Si 104.67 319 P **Pdif 05 53 29.2 -0.5**
AKASG Malin Array Be 104.67 319 Pdiff **Pdif 05 53 28.3 -1.4**
comp=Z,1.3nm,0.5s,baz=85,slow=4.6,SNR=7.9
AKASG PKKPbc **PKKPbc 06 09 14.7 -1.1**
comp=Z,0.8nm,0.6s,baz=282,slow=3.2,SNR=4.6
AKBB Malin Array Si 104.67 319 P **Pdif 05 53 28.6 -1.1**
AK02 Malin Array Si 104.67 319 P **Pdif 05 53 28.9 -0.8**

AK01 Malin Array Si 104.67 319 P **Pdif 05 53 28.4 -1.3**
KIEV Kiev 104.68 319 ⇑P **Pdif 05 53 27.1 -2.6**
KIEV Kiev 104.68 319 ⇑P **Pdif 05 53 27.1 -2.6**
AK11 Malin Array Si 104.70 319 P **Pdif 05 53 28.9 -0.9**
IDI Anoyia 104.73 303 Pdiff **Pdif 05 53 29.8 -0.7**
comp=Z,21nm,1.2s,baz=43,slow=3.7,SNR=3.7
SORM Soroca 104.75 316 ⇓P **Pdif 05 53 28.2 -1.9**
SORM Soroca 104.75 316 ⇓P **Pdif 05 53 28.2 -1.9**
A21K Barrow 104.91 19 PKiKP **PKiKP 05 57 46.5 +1.4**
baz=258
JMB Yambol 104.93 310 *e*P **Pdif 05 53 33.1 +2.0**
JMB Yambol 104.93 310 *e*P **PP 05 57 53.4 +1.7**
F21K Alatna River 105.17 24 PKiKP **PKiKP 05 57 46.7 +0.9**
baz=259
VRI Vrincioaia 105.42 314 ⇓P **Pdif 05 53 33.3 +0.1**
VRI Vrincioaia 105.42 314 ⇓P **Pdif 05 53 33.3 +0.1**
LUBAR Lubar, Ukraine 105.45 318 P **Pdif 05 53 32.5 -0.7**
PLOR Plostina 105.47 314 ⇑P **Pdif 05 53 35.9 +2.5**
PLOR Plostina 105.47 314 ⇑P **Pdif 05 53 35.9 +2.5**
SZH Strazhitsa 105.47 311 *e*P **Pdif 05 53 33.1 -0.4**
TESR Tescani 105.59 314 ⇑P **Pdif 05 53 35.5 +1.6**
APA Apatity 105.59 337 ⇓P **Pdif 05 53 36.8 +3.4**
APA *i* 05 57 57.6
APA *i* S **Sdif 06 05 22.9 -5.6**
APA *i* SS **SS 06 12 54.9 +2.4**
BPAW Bear Paw Mtn. 105.64 27 PKiKP **PKiKP 05 57 47.2 +0.4**
baz=261
NEHR Nehoiu 105.64 313 ⇑P **Pdif 05 53 34.0 -0.2**
ONER Baraj Valea Uz 105.73 314 ⇓P **Pdif 05 53 34.6 +0.1**
B22K Teshekpuk Lake 105.76 21 PKiKP **PKiKP 05 57 48.2 +1.5**
baz=260
G22K Bettles 105.88 24 PKiKP **PKiKP 05 57 48.1 +1.1**
baz=261
MLR Muntele Rosu 105.89 313 Pdiff **Pdif 05 53 34.5 -1.0**
comp=Z,3.9nm,1.1s,baz=72,slow=5.2,SNR=5.0
MLR PKiKP **PKiKP 05 57 47.6 -0.3**
comp=Z,51nm,1.2s,baz=110,slow=2.0,SNR=3.5
MLR Muntele Rosu 105.89 313 ⇑P **Pdif 05 53 34.9 -0.5**
MLR Muntele Rosu 105.89 313 ⇑P **Pdif 05 53 34.9 -0.5**
MLY Manley 105.89 26 PKiKP **PKiKP 05 57 48.0 +0.8**
baz=261
E22K Anaktuvuk Pass 105.96 23 PKiKP **PKiKP 05 57 47.9 +0.6**
baz=261
MNK Minsk 106.13 323 *i* P **Pdif 05 53 33.4 -2.7**
MNK *i* 05 57 57.2
MNK *i* 06 04 57.4
MNK *i* SS SS 06 13 00.0 -0.4
MNK *i* SSS SSS 06 16 59.5
MNK pmax pmax
comp=Z,12nm,0.7s
MNK pmax pmax
comp=N,4.0nm,0.6s
MNK pmax pmax
comp=E,10.0nm,0.7s
MNK MLR MLR
comp=Z,9µm,20.0s
MNK MLR MLR
comp=N,6µm,19.0s
MNK MLR MLR
comp=E,7µm,20.0s
PLD Plovdiv 106.16 310 *e*P **Pdif 05 53 39.0 +2.4**
PLD Plovdiv 106.16 310 *e*P **PP 05 58 02.8 +2.0**
VOIR 106.50 313 ⇑P **Pdif 05 53 39.4 +1.3**
VOIR 106.50 313 ⇑P **Pdif 05 53 39.4 +1.3**
BURAR Bucovina Array 106.73 315 ⇓P **Pdif 05 53 39.5 +0.4**
BURAR Bucovina Array 106.73 315 ⇓P **Pdif 05 53 39.5 +0.4**
MG01 Puerto William 106.77 175 IAMs_20 IAMs_20 06 39 25.0
comp=Z,30µm,21.0s
MMB Musomishta 106.79 309 *e*P **Pdif 05 53 48.4 +8.9**
RNPP5 Staryi Chortor 106.84 319 P **Pdif 05 53 39.5 +0.2**
RNPP9 Sopachiv 106.86 319 P **Pdif 05 53 40.1 +0.7**
MPEP Malo Peshtene 107.10 311 *e*P **Pdif 05 53 44.2 +3.5**
MPEP Malo Peshtene 107.10 311 *e*P **PP 05 58 10.1 +2.4**
PLNA Plana 107.19 310 *e*P **Pdif 05 53 46.7 +5.4**
PLNA Plana 107.19 310 *e*P **PP 05 58 11.4 +2.9**
HIN Hinchinbrook I 107.20 31 IAMs_20 IAMs_20 06 37 01.8
comp=Z,23µm,22.0s
POKR Poker Plat Res 107.29 26 PKiKP **PKiKP 05 57 50.9 +1.1**
baz=264
KKB Krupnik 107.30 309 *e*P **PP 05 58 13.9 +4.6**
VTS Vitosha 107.35 310 *e*P **Pdif 05 53 48.4 +6.4**
VTS Vitosha 107.35 310 *e*P **PP 05 58 12.2 +2.5**
VADS Vadso 107.39 339 *e*Pdif **Pdif 05 53 43.8 +2.5**
VADS *e*PP **PP 05 58 10.4 +1.4**
VADS IVmB_BB 05 58 23.7
comp=Z,2µm,12.5s
VADS IVMs_BB IVMs_BB 06 43 45.0
comp=Z,5µm,23.0s
ILAR Eielson Array 107.49 27 Pdiff **Pdif 05 53 41.9 0.0**
comp=Z,1.6nm,0.9s,baz=232,slow=5.1,SNR=10
ILAR PKiKP **PKiKP 05 57 50.2 +0.1**
comp=Z,1.5nm,0.8s,baz=289,slow=3.9,SNR=4.6
ILAR PKKPbc **PKKPbc 06 09 05.2 -2.3**
comp=Z,2.3nm,0.8s,baz=105,slow=1.0,SNR=8.5
EYAK Cordova Ski Ar 107.58 31 IAMs_20 IAMs_20 06 41 46.1
comp=Z,24µm,20.0s
FINES FINESS Array B 107.94 330 Pdiff **Pdif 05 53 43.1 -0.9**
comp=Z,3.7nm,0.7s,baz=104,slow=6.3,SNR=15
FINES PKiKP **PKiKP 05 57 50.3 -0.7**
comp=Z,3.0nm,0.7s,baz=103,slow=2.3,SNR=5.3
GZR Gura Zlata 108.08 313 ⇓P **Pdif 05 53 45.8 +0.7**
GZR Gura Zlata 108.08 313 ⇓P **Pdif 05 53 45.8 +0.7**
KEV Kevo 108.17 339 IAMs_20 IAMs_20 06 52 49.5
comp=Z,17µm,20.0s
BMRM Bremner River 108.18 31 IAMs_20 IAMs_20 06 41 57.9
comp=Z,23µm,21.0s
KAIM Kayak Island 108.18 32 IAMs_20 IAMs_20 06 38 17.1
comp=Z,22µm,22.0s
HERR Herculane 108.26 312 ⇑P **Pdif 05 53 45.8 0.0**
RIDG Independent Ri 108.29 28 IAMs_20 IAMs_20 06 40 01.3
comp=Z,18µm,22.0s
MG04 Isla Riesco 108.41 172 IAMs_20 IAMs_20 06 44 18.6
comp=Z,21µm,20.0s
SURR Surduc 108.58 313 ⇓P **Pdif 05 53 48.8 +1.6**
BOVS Bovan 108.60 311 ⇑P **Pdif 05 53 48.3 +0.9**
DOT Dot Lake 108.63 28 IAMs_20 IAMs_20 06 39 58.3
comp=Z,17µm,22.0s
KWP Kalwaria Pacla 108.65 317 *e*L L 06 43 38.6
comp=Z,13µm,27.1s
KWP Kalwaria Pacla 108.65 317 *e*PKiKP **PP 05 58 20.3 +1.4**
ARA0 ARCESS Array S 108.69 338 *e*Pdif **Pdif 05 53 47.1 -0.1**
ARA0 *e*PP **PP 05 58 18.8 +0.3**
ARA0 IVmB_BB 05 58 27.9
comp=Z,2µm,7.4s
ARA0 IVMs_BB IVMs_BB 06 47 29.3
comp=Z,6µm,21.5s
ARCES ARCESS Array B 108.69 338 Pdiff **Pdif 05 53 47.2 +0.1**
comp=Z,7.9nm,1.0s,baz=92,slow=4.2,SNR=11
ARCES PKiKP **PKiKP 05 57 52.0 -0.3**
comp=Z,2.5nm,0.6s,baz=114,slow=2.4,SNR=6.8
ARCES PKKPbc **PKKPbc 06 09 01.7 -2.1**
comp=Z,0.6nm,0.4s,baz=256,slow=2.7,SNR=9.1
MDVR Moldovita 108.75 312 ⇓P **Pdif 05 53 48.5 +0.5**
KOLS Kolonicke sedl 108.86 316 *e*P **Pdif 05 53 49.8 +1.4**
KOLS *e* 05 58 22.4
KOLS Kolonicke sedl 108.86 316 *e*PDIFF **Pdif 05 53 49.8 +1.4**
HOPEN Hopen 108.90 346 *e*Pdif **Pdif 05 53 48.7 +0.7**
HOPEN *e*PP **PP 05 58 15.9 -4.0**
HOPEN IVmB_BB 05 58 32.8
comp=Z,2µm,4.5s
HOPEN IVMs_BB IVMs_BB 06 45 20.1
comp=Z,6µm,20.3s
L26K Log Cabin Wild 108.92 29 PKiKP **PKiKP 05 57 54.2 +1.3**
baz=267
BZS Buzias 108.92 313 ⇑P **Pdif 05 53 48.8 +0.1**
BZS Buzias 108.92 313 ⇑P **Pdif 05 53 48.8 +0.1**
WAX Waxell Ridge 109.00 31 IAMs_20 IAMs_20 06 38 57.7
comp=Z,17µm,22.0s
M26K Nabesna, AK 109.05 29 PKiKP **PKiKP 05 57 54.8 +1.6**
baz=267
TRIS Tristan da Cun 109.20 218 IAMs_20 IAMs_20 06 34 25.2
comp=Z,16µm,20.0s
HAMF Hammerfest 109.33 339 *e*Pdif **Pdif 05 53 50.3 +0.3**
HAMF *e*PP **PP 05 58 22.1 -1.0**
HAMF IVmB_BB 05 58 32.0
comp=Z,2µm,7.4s
HAMF IVMs_BB IVMs_BB 06 44 41.1
comp=Z,7µm,25.8s
MESA MESA 109.44 32 IAMs_20 IAMs_20 06 36 57.2
comp=Z,16µm,22.0s
MG05 Puerto Natales 109.44 171 IAMs_20 IAMs_20 06 43 35.8
comp=Z,19µm,19.0s
KTK1 Kautokeino 109.48 338 *e*Pdif **Pdif 05 53 50.3 -0.4**
KTK1 *e*PP **PP 05 58 23.4 -0.9**
KTK1 IVmB_BB 05 58 37.8
comp=Z,2µm,5.6s
KTK1 IVMs_BB IVMs_BB 06 49 19.6
comp=Z,4µm,19.9s
M27K Edge Creek, AK 109.56 29 IAMs_20 IAMs_20 06 38 59.2
comp=Z,21µm,22.0s
L27K Beaver Creek, 109.61 29 PKiKP **PKiKP 05 57 56.0 +1.8**
baz=268
G27K Doyon Strip 109.75 25 PKiKP **PKiKP 05 57 55.7 +1.4**
baz=270
I27K Kandik River 109.75 26 PKiKP **PKiKP 05 57 55.5 +1.1**
baz=270
CTG Chitna Glacier 109.77 31 PKiKP **PKiKP 05 57 56.1 +1.4**
baz=268
H27K Steamboat Moun 109.80 25 IAMs_20 IAMs_20 06 39 31.9
comp=Z,15µm,22.0s
GO09 Cerro Castillo 109.86 172 IAMs_20 IAMs_20 06 44 05.0
comp=Z,22µm,19.0s
D27M Malcolm River 109.98 22 PKiKP **PKiKP 05 57 56.4 +1.6**
baz=271
BVCY Beaver Creek 110.04 29 PKiKP **PKiKP 05 57 56.4 +1.4**
baz=269
PINM Pinnacle 110.28 32 PKiKP **PKiKP 05 57 57.3 +1.7**
baz=269
O28M Mount Upton 110.33 31 PKiKP **PKiKP 05 57 56.6 +0.6**
baz=269
EFI East Falkland 110.35 181 IAMs_20 IAMs_20 06 40 59.2
comp=Z,22µm,22.0s
F28M Old Crow 110.43 24 PKiKP **PKiKP 05 57 57.4 +1.8**
baz=272
I28M Miner Creek 110.45 26 IAMs_20 IAMs_20 06 39 29.4
comp=Z,15µm,22.0s
I28M Miner Creek 110.45 26 PKiKP **PKiKP 05 57 57.5 +1.7**
baz=271
JETT Jettan, Norway 110.48 338 *e*Pdif **Pdif 05 53 55.7 +0.5**
JETT IVmB_BB 05 58 44.9
comp=Z,3µm,3.7s
JETT IVMs_BB IVMs_BB 06 47 41.4
comp=Z,6µm,20.5s
E28M Babbage River 110.52 23 PKiKP **PKiKP 05 57 57.2 +1.4**
baz=273
YUK8 Steele Glacier 110.54 31 PKiKP **PKiKP 05 57 57.2 +0.9**
baz=270
SPA0 Spitsbergen Ar 110.64 348 *e*Pdif **Pdif 05 53 55.2 -0.6**
SPA0 IVmB_BB 05 58 44.1
comp=Z,2µm,10.2s
SPA0 IVMs_BB IVMs_BB 06 42 41.7
comp=Z,6µm,23.9s
SPITS Spitsbergen Ar 110.64 348 Pdiff **Pdif 05 53 56.3 +0.6**
comp=Z,3.2nm,0.6s,baz=105,slow=8.8,SNR=6.9
SPITS PKiKP **PKiKP 05 57 56.3 +0.6**
comp=Z,4.3nm,0.6s,baz=161,slow=14,SNR=4.1
SPITS PKKPbc **PKKPbc 06 08 55.9 -1.7**
comp=Z,10nm,0.8s,baz=161,slow=7.9,SNR=6.1
PNL Peninsula 110.71 32 PKiKP **PKiKP 05 57 57.7 +1.3**
baz=269
DAWY Dawson 110.71 28 PKiKP **PKiKP 05 57 57.8 +1.5**
baz=271
LANS Liptovska Anna 110.72 316 *e*PP **PP 05 58 37.4 +3.5**
TRO Tromso 110.99 338 *e*Pdif **Pdif 05 53 57.9 +0.5**
TRO IVmB_BB 05 58 48.1
comp=Z,2µm,5.8s
TRO IVMs_BB IVMs_BB 06 45 44.8
comp=Z,5µm,23.2s
H29M Whitestone 111.08 25 PKiKP **PKiKP 05 57 58.2 +1.4**
baz=273
YUK4 Talbot Arm 111.08 30 PKiKP **PKiKP 05 57 58.9 +1.6**
baz=271
VYHS Vyhne 111.08 316 *e*PKP PKiKP 05 57 43.8 -14
VYHS *e*PP **PP 05 58 38.7 +2.2**
VYHS *e*SDIFF 06 06 20.1
VYHS *e*SS **SS 06 14 02.8 -4.9**
O29M Mount Kennedy 111.12 32 IAMs_20 IAMs_20 06 39 49.7
comp=Z,24µm,22.0s
O29M Mount Kennedy 111.12 32 PKiKP **PKiKP 05 57 57.9 +0.7**
baz=270
E29M Blow River 111.14 23 PKiKP **PKiKP 05 57 58.3 +1.5**
baz=274
I29M Ogilvie Camp, 111.14 26 PKiKP **PKiKP 05 57 58.9 +1.9**
baz=272
M29M Somme Creek 111.16 29 PKiKP **PKiKP 05 57 58.5 +1.3**
baz=271
YUK6 Outpost Mounta 111.22 31 PKiKP **PKiKP 05 57 58.7 +1.1**
baz=271
L29M L29M 111.29 29 IAMs_20 IAMs_20 06 38 24.8
comp=Z,16µm,22.0s
L29M L29M 111.29 29 PKiKP **PKiKP 05 57 58.7 +1.3**
baz=272
KBS Kingsbay 111.34 349 IAMs_20 IAMs_20 06 52 50.3
comp=Z,22µm,20.0s
KBS Kingsbay 111.34 349 *e*Pdif **Pdif 05 53 57.3 -1.5**
KBS IVmB_BB 05 58 45.5
comp=Z,1µm,8.4s
KBS IVMs_BB IVMs_BB 06 52 49.1
comp=Z,7µm,20.8s
K29M Barlow Dome 111.54 28 PKiKP **PKiKP 05 57 58.9 +0.9**
baz=273
P29M Windy Craggy 111.55 32 PKiKP **PKiKP 05 57 58.9 +0.9**
baz=271
OKC Ostrava-Krasne 111.62 317 *e*PP **PP 05 58 42.5 +2.2**
OKC AMS AMS 06 46 50.0
comp=Z,9µm,23.2s
HYT Haines Junctio 111.65 31 PKiKP **PKiKP 05 57 58.9 +0.7**
baz=271
EPYK Eagle Plains 111.73 25 PKiKP **PKiKP 05 57 59.2 +1.1**
baz=274
N30M Aishikik Lake 111.83 30 PKiKP **PKiKP 05 57 59.9 +1.5**
baz=272
STEB Steborice 111.86 317 *e*PP **PP 05 58 42.0 0.0**
JAVC Velka Javorina 111.88 316 *e*PP **PP 05 58 46.8 +4.5**
G30M tAoh Zraii Nji 111.88 24 PKiKP **PKiKP 05 58 00.0 +1.6**
baz=275
M30M Minto, Yukon 111.92 29 PKiKP **PKiKP 05 58 00.1 +1.5**
baz=273
P30M Million Dollar 111.93 32 PKiKP **PKiKP 05 58 00.0 +1.3**
baz=272
I30M Mount Dempster 111.96 26 PKiKP **PKiKP 05 57 59.9 +1.2**
baz=274
F30M Barrier River 111.99 24 IAMs_20 IAMs_20 06 53 47.7
comp=Z,15µm,21.0s
F30M Barrier River 111.99 24 PKiKP **PKiKP 05 57 60.0 +1.4**
baz=276
MORC Moravsky Berou 112.01 317 *e*PKiKP **PKiKP 05 58 02.1 +3.0**
MORC *e*PP **PP 05 58 44.4 +1.3**
MORC Moravsky Berou 112.01 317 ⇑P **Pdif 05 54 03.0 +0.6**
MORC Moravsky Berou 112.01 317 ⇑P **Pdif 05 54 03.0 +0.6**
J30M Hart River 112.02 27 PKiKP **PKiKP 05 58 00.0 +1.2**
baz=274
MODS Modra-Piesok 112.11 316 *e*PKP PKiKP 05 57 48.1 -11
MODS *e*PP **PP 05 58 43.7 -0.2**
MODS *e* 06 08 28.3
MODS *e*SS SS 06 14 12.8 -8.6
PLBC Pleasant Camp 112.25 32 PKiKP **PKiKP 05 58 00.2 +1.0**
baz=272
MAYO Mayo, Yukon 112.28 28 PKiKP **PKiKP 05 58 00.2 +1.0**
baz=274
O30N Mendenhall 112.34 31 IAMs_20 IAMs_20 06 41 04.8
comp=Z,19µm,22.0s
O30N Mendenhall 112.34 31 PKiKP **PKiKP 05 58 00.5 +1.1**
baz=273
S31K Pelican 112.36 34 PKiKP **PKiKP 05 58 00.6 +1.1**
baz=271
N31M Braeburn, Yuko 112.46 30 PKiKP **PKiKP 05 58 00.7 +1.1**
baz=273
STEI Steigen 112.49 337 *e*Pdif **Pdif 05 54 02.2 -1.9**
STEI IVmB_BB 05 58 58.0
comp=Z,2µm,7.6s
STEI IVMs_BB IVMs_BB 06 48 35.5
comp=Z,5µm,22.6s
KRLC Kraliky 112.51 317 *e*PP **PP 05 58 47.8 +1.1**
KRLC AMS AMS 06 46 00.0
comp=Z,11µm,23.3s
KRLC Kraliky 112.51 317 *e* **PP 05 58 47.8 +1.1**
KRLC MLR MLR
comp=Z,11µm,23.3s
FAUS Fauske 112.54 336 *e*Pdif **Pdif 05 54 02.7 -1.6**
FAUS IVmB_BB 05 59 00.0
comp=Z,2µm,6.1s
FAUS IVMs_BB IVMs_BB 06 56 45.4
comp=Z,5µm,18.3s
VRAC Vranov 112.61 316 *e*PKiKP **PKiKP 05 58 03.0 +2.7**
VRAC *e*PP **PP 05 58 47.8 +0.4**
VRAC *e* 06 08 19.7
VRAC *e*PKKP **PKKPab 06 08 59.5 +3.2**
VRAC *e*SS SS 06 14 25.1 -2.8
VRAC Vranov 112.61 316 PKiKP **PKiKP 05 58 00.3 +0.1**
comp=Z,1.1nm,0.2s,baz=40,slow=5.9,SNR=4.0
G31M Satah River 112.65 24 PKiKP **PKiKP 05 58 01.2 +1.5**

baz=277
KRUC Moravsky 112.73 316 *e*PP **PP** 05 58 47.8 -0.4
KRUC *e*PKKP **PKKPab** 06 08 58.5 +2.8
RONA Rosalia, Austr 112.74 315 *e*PKiKP **PKiKP** 05 57 59.4 -1.2
comp=Z,6.7nm,1.1s
RONA *e*PKKP **PKKPab** 06 08 53.2 -2.6
comp=Z,1.4nm,0.5s
H31M Peel River 112.75 26 PKiKP **PKiKP** 05 58 01.4 +1.3
baz=276
INK Inuvik 112.76 23 PKiKP **PKiKP** 05 58 01.4 +1.5
baz=278
SKAG Skagway 112.78 32 PKiKP **PKiKP** 05 58 01.5 +1.3
baz=273
F31M Tsiigehtchic 112.79 24 PKiKP **PKiKP** 05 58 01.5 +1.5
baz=278
DPC Dobruska-Polom 112.81 318 *e*PKP **PKiKP** 05 58 00.1 -0.6
DPC *e*PP **PP** 05 58 48.5 -0.4
DPC AMS AMS 06 47 30.0
comp=Z,15μm,24.9s
DPC Dobruska-Polom 112.81 318 *e*PKiKP **PKiKP** 05 58 00.1 -0.6
DPC *e* 05 58 48.5
DPC MLR MLR
comp=Z,15μm,24.9s
SIT Sitka 112.87 35 PKiKP **PKiKP** 05 58 01.4 +1.0
baz=272
OSTC Ostas 112.88 318 *e*PKP **PKiKP** 05 58 01.3 +0.5
OSTC AMS AMS 06 47 50.0
comp=Z,14μm,22.6s
OSTC Ostas 112.88 318 *e*PKiKP **PKiKP** 05 58 01.3 +0.5
OSTC MLR MLR
comp=Z,14μm,22.6s
WHY Whitehorse 112.94 31 IAMs_20 IAMs_20 06 40 47.7
comp=Z,28μm,21.0s
WHY Whitehorse 112.94 31 PKiKP **PKiKP** 05 58 01.6 +1.0
baz=274
CHVC Chvalec 112.99 318 AMS AMS 06 47 50.0
comp=Z,13μm,23.9s
UPC Upice 113.01 318 *e*PP **PP** 05 58 50.0 -0.2
UPC *e*SP SP 06 08 24.4 +1.9
UPC AMS AMS 06 47 50.0
comp=Z,17μm,23.5s
MOR8 Moi Rana 113.02 335 *e*Pdif **Pdif** 05 54 05.4 -1.1
MOR8 *e*PP **PP** 05 58 48.8 -1.0
MOR8 IVmB_BB 05 59 02.9
comp=Z,2μm,3.4s
CONA Conrad Observa 113.04 315 PKKP 06 08 49.6
comp=Z,5.1nm,0.7s
M31M Drury Creek, Y 113.07 29 PKiKP **PKiKP** 05 58 01.7 +1.0
baz=275
LOF Lofoten 113.10 337 *e*Pdif **Pdif** 05 54 06.0 -0.8
LOF *e*PP **PP** 05 58 49.2 -1.0
LOF IVmB_BB 05 59 02.5
comp=Z,1μm,6.2s
LOF *e* 06 08 29.2
LOF IVMs_BB IVMs_BB 06 49 45.0
comp=Z,5μm,19.4s
ARSA Arzberg 113.25 314 *e*PKiKP **PKiKP** 05 58 00.3 -1.2
comp=Z,5.4nm,0.9s
ARSA *e*PKKP **PKKPbc** 06 08 45.6 -2.6
comp=Z,3.8nm,1.4s
R32K Eaglecrest 113.26 34 PKiKP **PKiKP** 05 58 02.3 +1.1
baz=273
S32K Killisnoo 113.26 35 IAMs_20 IAMs_20 06 45 06.7
comp=Z,15μm,21.0s
S32K Killisnoo 113.26 35 PKiKP **PKiKP** 05 58 02.4 +1.2
baz=272
TREC Trest 113.33 316 AMS AMS 06 43 30.0
comp=Z,16μm,25.0s
VAGH Vaagaholmen 113.41 336 *e*Pdif **Pdif** 05 54 08.7 +0.5
VAGH *e*PP **PP** 05 58 51.3 -1.2
VAGH IVmB_BB 05 59 05.7
comp=Z,2μm,6.3s
VAGH IVMs_BB IVMs_BB 06 52 36.9
comp=Z,6μm,18.3s
KONS Konsvik 113.51 335 *e*Pdif **Pdif** 05 54 08.7 +0.1
FARO Faro, Yukon 113.55 29 PKiKP **PKiKP** 05 58 02.8 +1.1
baz=276
SOKA Soboth 113.56 314 PKiKP **PKiKP** 05 58 01.2 -1.0
comp=Z,6.2nm,1.4s
SOKA *e*PKKP **PKKPab** 06 08 55.4 +3.1
comp=Z,8.5nm,1.5s
LEIR Leirfjorden 113.56 335 *e*Pdif **Pdif** 05 54 08.7 -0.2
LEIR *e*PP **PP** 05 58 52.9 -0.7
LEIR IVmB_BB 05 59 07.3
comp=Z,2μm,6.4s
LEIR IVMs_BB IVMs_BB 06 49 07.0
comp=Z,4μm,22.4s
STOK Stokkvaagen 113.57 335 *e*Pdif **Pdif** 05 54 08.7 -0.2
STOK *e*PP **PP** 05 58 52.3 -1.3
STOK IVmB_BB 05 59 06.2
comp=Z,2μm,6.4s
STOK IVMs_BB IVMs_BB 06 45 03.4
comp=Z,5μm,22.9s
P32M Atlin 113.59 32 PKiKP **PKiKP** 05 58 03.0 +1.2
baz=274
AY03 Cochrane 113.74 170 IAMs_20 IAMs_20 06 46 52.6
comp=Z,22μm,18.0s
N32M Quiet Lake 113.78 31 IAMs_20 IAMs_20 06 41 36.9
comp=Z,18μm,22.0s
N32M Quiet Lake 113.78 31 PKiKP **PKiKP** 05 58 03.4 +1.2
baz=275
GOPC GO Pecny, Ondr 113.79 317 *e*PP **PP** 05 59 00.4 +4.6
GOPC AMS AMS 06 46 00.0
comp=Z,15μm,22.5s
VA02 Isla de Pascua 113.84 132 IAMs_20 IAMs_20 06 45 28.2
comp=Z,23μm,18.0s
OBKA Obir 113.89 313 *e*PKP **PKiKP** 05 58 02.1 -0.8
comp=Z,5.2nm,1.1s
OBKA PKKP **PKKPab** 06 08 48.8 -2.0
comp=Z,5.0nm,1.0s
RPN Rapa Nui 113.93 132 IAMs_20 IAMs_20 06 45 30.0
comp=Z,22μm,18.0s
PVCC Panska Ves 113.93 318 AMS AMS 06 48 10.0
comp=Z,16μm,24.2s
PRU Pruhonice 113.95 317 *e*PP **PP** 05 58 59.5 +2.6
PRU AMS AMS 06 46 20.0
comp=Z,13μm,22.6s
P33M Teslin, Yukon 113.99 32 PKiKP **PKiKP** 05 58 03.7 +1.0
baz=275
HFS Hagfors 114.00 328 Pdiff **Pdif** 05 54 10.6 -0.4
comp=Z,2.4nm,0.8s,baz=51,slow=4.7,SNR=5.4
HFS PKiKP **PKiKP** 05 58 03.5 +1.0
comp=Z,6.2nm,1.0s,baz=109,slow=8.0,SNR=2.1
HFS PKKPbc **PKKPbc** 06 08 45.5 -0.5
comp=Z,1.2nm,0.5s,baz=195,slow=4.5,SNR=8.2
PRA Prague 114.02 317 *e*PP **PP** 05 59 00.4 +3.0
PRA AMS AMS 06 49 40.0
comp=Z,9μm,19.3s
CKRC Cesky Krumlov 114.10 316 *e*PKP PKPdf 05 58 01.3 -1.8
CKRC *e*PP **PP** 05 58 58.7 +0.7
CKRC *e*SP SP 06 08 37.0 +4.5
CKRC AMS AMS 06 47 10.0
comp=Z,9μm,20.8s
CKRC Cesky Krumlov 114.10 316 *e*PKiKP PKPdf 05 58 01.3 -1.8
CKRC *e* 05 58 58.7
CKRC *e*SP SP 06 08 37.0 +4.5
CKRC MLR MLR
comp=Z,9μm,20.8s
MOA Molln 114.11 315 *e*PKP PKPdf 05 58 02.6 -0.6
comp=Z,6.1nm,1.4s
MOA *e*PKKP **PKKPab** 06 08 49.6 -0.1
comp=Z,9.5nm,1.3s
U33K Whale Pass 114.13 36 IAMs_20 IAMs_20 06 45 32.7
comp=Z,13μm,19.0s
U33K Whale Pass 114.13 36 PKiKP **PKiKP** 05 58 04.1 +1.2
baz=273
CRAG Craig 114.16 37 IAMs_20 IAMs_20 06 43 07.6
comp=Z,14μm,21.0s
CRAG Craig 114.16 37 PKiKP **PKiKP** 05 58 04.1 +1.2
baz=273
ZVC Zvikov 114.18 317 *e*PKP PKPdf 05 58 01.7 -1.5
ZVC *e*PP **PP** 05 59 01.6 +3.1
ZVC AMS AMS 06 47 50.0
comp=Z,9μm,21.0s
RICC Richard 114.23 318 AMS AMS 06 48 30.0
comp=Z,12μm,21.9s
NOR Nord 114.24 354 *i* P PKPdf 05 57 59.4 -3.1
NOR IAMs_20 IAMs_20 06 35 41.6
comp=Z,24μm,43.4s
NSS Namsos 114.27 333 *e*Pdif **Pdif** 05 54 13.0 +0.9
BRG Berggiesshubel 114.33 318 PKP **PKiKP** 05 58 04.3 +0.8
BRG Amp 05 58 05.4
comp=Z,9.3nm,1.1s
BRG Berggiesshubel 114.33 318 Amp 05 59 12.6
comp=Z,31nm,1.2s
BRG Berggiesshubel 114.33 318 SKS **SKSdf** 06 05 10.0 -4.5
BRG Berggiesshubel 114.33 318 SS SS 06 14 51.0 +0.5
BRG Berggiesshubel 114.33 318 *e*Pif **Pdif** 05 54 18.5 +5.8
BRG Berggiesshubel 114.33 318 Amp 05 54 25.7
comp=Z,1.7nm,0.9s
BRG Berggiesshubel 114.33 318 PP PP 05 59 04.0 +4.5
Q32M Nakina River 114.38 33 PKiKP **PKiKP** 05 58 05.1 +1.5
baz=275
MMPY Sheldon Lake, 114.47 29 PKiKP **PKiKP** 05 58 04.8 +1.3
baz=278
GERES GERESS Array B 114.50 316 PKP **PKiKP** 05 58 04.5 +0.5
comp=Z,2.6nm,1.0s,baz=225,slow=0.9,SNR=5.3
GERES PKKPbc **PKKPbc** 06 08 44.1 0.0
comp=Z,1.7nm,0.6s,baz=275,slow=1.7,SNR=9.7
MYKA Terra Mystica 114.52 314 *e*PKKP 06 08 50.5
comp=Z,4.4nm,0.6s
BIOA Bad Ischl, Aus 114.53 315 *e*PKP PKPdf 05 58 03.7 -0.3
comp=Z,4.8nm,1.0s
BIOA *e*PKKP **PKKPab** 06 08 50.9 +3.1
comp=Z,18nm,1.3s
WRAK Wrangell Islan 114.54 36 PKiKP **PKiKP** 05 58 05.0 +1.3
baz=274
KHC Kasperske Hory 114.58 316 *e*PP **PP** 05 59 05.0 +3.6
KHC *e*SKP 06 01 38.0
KHC *e*SP SP 06 08 42.5 +5.6
DIB Dawson Inlet, 114.63 39 IAMs_20 IAMs_20 06 44 23.6
comp=Z,14μm,20.0s
A36M Sachs Harbour 114.70 18 PKiKP PKPdf 05 58 05.1 +1.5
baz=288
KBA Koelnbreinsper 114.73 314 PKKP 06 08 45.0
comp=Z,9.7nm,0.9s
CLL Collm 114.91 319 *e*P **Pdif** 05 54 14.0 -1.2
CLL *i* 05 58 04.8
CLL *i* 05 59 01.6
CLL *e* 06 04 52.0
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL pmax pmax
comp=Z,194nm,2.3s
CLL MLR MLR
comp=Z,10μm,20.4s
NC602 NORSAR Array S 115.00 329 *e*Pdif **Pdif** 05 54 15.0 -0.4
R33M Jennings River 115.01 32 PKiKP **PKPdf** 05 58 06.0 +1.3
baz=276
V35K Ketchikan 115.02 37 IAMs_20 IAMs_20 06 50 26.6
comp=Z,15μm,20.0s
V35K Ketchikan 115.02 37 PKiKP **PKPdf** 05 58 06.0 +1.4
baz=274
S34M Telegraph Cree 115.08 34 IAMs_20 IAMs_20 06 48 15.6
comp=Z,15μm,21.0s
S34M Telegraph Cree 115.08 34 PKiKP **PKPdf** 05 58 06.3 +1.6
baz=276
NB2 NORSAR Subarra 115.11 330 P **Pdif** 05 54 18.0 +2.0
comp=Z,12nm,2.0s,baz=78,slow=4.4
NB2 PKPdf **PKiKP** 05 58 04.3 -0.4
comp=Z,3.2nm,1.0s,baz=75,slow=2.8
NB2 PP **PP** 05 59 02.1 -2.7
comp=Z,739nm,3.3s,baz=82,slow=7.4
NB2 PKKP **PKKPbc** 06 08 42.7 +0.4
comp=Z,12nm,1.4s,baz=262,slow=4.4
NOA NORSAR Array B 115.11 330 PKP **PKiKP** 05 58 04.7 0.0
comp=Z,5.6nm,0.9s,baz=259,slow=3.2,SNR=9.8
NOA PKKPbc **PKKPbc** 06 08 42.2 0.0
comp=Z,3.2nm,1.0s,baz=258,slow=4.3,SNR=4.1
LESA Schwarzleotal 115.19 314 PKP **PKPdf** 05 58 04.6 -0.8
comp=Z,6.3nm,1.0s
LESA *e*PKKP **PKKPab** 06 08 48.8 +3.7
comp=Z,10nm,1.5s
ABTA Abfaltersbach 115.30 314 PKP **PKPdf** 05 58 05.3 -0.3
comp=Z,12nm,1.0s,SNR=8.7
COYC Coyhaique 115.45 170 IAMs_20 IAMs_20 06 42 31.0
comp=Z,18μm,21.0s
DLBC Dease Lake 115.60 33 PKiKP **PKPdf** 05 58 07.3 +1.5
baz=277
T35M Bob Quinn 115.64 35 PKiKP **PKPdf** 05 58 07.2 +1.4
baz=276
U35K Hyder 115.87 36 IAMs_20 IAMs_20 06 44 40.0
comp=Z,16μm,20.0s
U35K Hyder 115.87 36 PKiKP **PKiKP** 05 58 07.7 +1.4
baz=276
WTTA Wattenberg 115.89 314 *e*PKiKP **PKiKP** 05 58 06.9 0.0
comp=Z,9.1nm,0.6s,SNR=8.9
WTTA *e*PKKP **PKKPab** 06 08 41.0 -1.1
comp=Z,9.5nm,1.0s
WATA Walderalm 115.93 314 *e*PKP **PKPdf** 05 58 06.6 -0.2
comp=Z,19nm,1.1s,SNR=7.4
WATA *e*PKKP **PKKPab** 06 08 42.3 +0.4
comp=Z,16nm,1.7s
DOMB Dombas 115.98 331 *e*Pdif **Pdif** 05 54 19.8 0.0
WTLY Watson Lake, Y 116.00 31 PKiKP **PKiKP** 05 58 07.6 +1.1
baz=279
GRFO Grafenberg 116.11 317 **PKPdf** 05 58 06.0 -1.0
GRFO Grafenberg 116.11 317 PKiKP **PKPdf** 05 58 06.0 -1.0
KONO Kongsberg 116.11 328 IAMs_20 IAMs_20 06 53 13.6
comp=Z,14μm,21.0s
KONO Kongsberg 116.11 328 *e*Pdif **Pdif** 05 54 20.5 +0.2
SQTA Sankt Quirin 116.19 314 *e*PKP **PKiKP** 05 58 07.4 0.0
comp=Z,5.3nm,0.7s
SQTA PKKP **PKKPab** 06 08 40.1 -0.6
comp=Z,6.1nm,1.0s
MOTA Moosalm 116.25 314 *e*PKiKP **PKiKP** 05 58 08.2 +0.6
comp=Z,10.0nm,1.1s,SNR=4.5
ZCCA Zocca 116.37 311 IAMs_20 IAMs_20 06 49 10.6
comp=Z,16μm,20.0s
RETA Reutte 116.48 314 *e*PKP **PKPdf** 05 58 07.8 0.0
comp=Z,2.6nm,0.6s
RETA PKKP **PKKPab** 06 08 39.2 -0.2
comp=Z,8.7nm,1.3s
FETA Feichten 116.52 314 *e*PKiKP **PKiKP** 05 58 08.1 0.0
comp=Z,10nm,1.0s
FETA PKKP **PKKPab** 06 08 38.9 -0.4
comp=Z,10nm,1.6s
MOL Molde 116.57 332 *e*Pdif **Pdif** 05 54 22.2 -0.1
SKAR Skarslia 116.58 329 *e*Pdif **Pdif** 05 54 22.2 -0.3
FUORN Ofenpass-Fuorn 116.85 314 **PKPdf** 05 58 08.1 -0.8
HOMB Homborsund 116.88 327 *e*Pdif **Pdif** 05 54 22.2 -1.6
AKN Aaknes 116.90 331 *e*Pdif **Pdif** 05 54 24.6 +0.7
SHEL Horse Pasture 117.03 241 IAMs_20 IAMs_20 06 39 31.6
comp=Z,22μm,21.0s
DAVA Davuel 117.09 314 *e*PKP **PKPdf** 05 58 08.7 -0.4
comp=Z,22nm,1.0s,SNR=7.4
DAVA PKKP **PKKPab** 06 08 39.9 +3.1
comp=Z,15nm,1.3s
KEST Kesra 117.35 301 PKP **PKiKP** 05 58 10.7 +0.8
comp=Z,7.0nm,0.9s,baz=24,slow=7.0,SNR=4.7
BBB Bella Bella 117.35 40 IAMs_20 IAMs_20 06 51 24.6
comp=Z,13μm,19.0s
LIRD Liard River Hi 117.47 32 PKiKP **PKiKP** 05 58 10.3 +1.0
baz=281
HOLB Holberg 117.47 42 **PKPdf** 05 58 09.2 -0.3
HOLB IAMs_20 IAMs_20 06 40 28.0
comp=Z,14μm,21.0s
HYA Hoyanger 117.50 330 *e*Pdif **Pdif** 05 54 24.6 -1.9
ODD1 Odda 117.54 329 *e*Pdif **Pdif** 05 54 27.5 +0.7
GO07 Milladeo Hill, 117.56 168 IAMs_20 IAMs_20 06 52 49.9
comp=Z,16μm,20.0s
BLS5 Blasjo 117.72 328 *e*Pdif **Pdif** 05 54 27.5 -0.1
LL02 Futaleuf 117.81 170 IAMs_20 IAMs_20 06 44 56.4
comp=Z,19μm,21.0s
WRGLY Wrigley 117.85 27 **PKiKP** 05 58 09.9 0.0
WRGLY Wrigley 117.85 27 PKiKP **PKiKP** 05 58 11.1 +1.2
baz=285
LL07 Hotel Espejo d 117.87 168 IAMs_20 IAMs_20 06 53 09.0
comp=Z,16μm,19.0s
FOO Floro 117.94 331 *e*Pdif **Pdif** 05 54 27.5 -0.9
DAG Danmarks Havn 117.94 350 *i* P **PKPdf** 05 58 09.0 -0.7
DAG IAMs_20 IAMs_20 06 44 00.4
comp=Z,18μm,29.2s
TOAD Toad River Com 118.01 32 PKiKP **PKiKP** 05 58 11.6 +1.2
baz=281
BER Bergen 118.08 329 *e*Pdif **Pdif** 05 54 30.1 +1.0
ASK Askoy 118.12 329 *e*Pdif **Pdif** 05 54 30.1 +0.8
SUE Sulen 118.20 330 *e*Pdif **Pdif** 05 54 30.1 +0.5
KMY Karmoy 118.38 328 *e*Pdif **Pdif** 05 54 30.1 -0.3
LL01 San Ignacio de 118.50 169 IAMs_20 IAMs_20 06 50 04.8
comp=Z,15μm,20.0s
LL05 Los Muermos 119.25 168 IAMs_20 IAMs_20 06 44 19.5
comp=Z,15μm,19.0s
CBB Campbell River 119.29 42 IAMs_20 IAMs_20 06 44 33.3
comp=Z,19μm,22.0s
BTNL Ternell 119.30 318 *d*PKPdf **PKPdf** 05 58 12.9 -0.2
BTNL *d*PP **PP** 05 59 28.5 -5.7
TAM Tamanrasset 119.30 286 IAMs_20 IAMs_20 06 47 24.8
comp=Z,15μm,20.0s
OZB Mount Ozzard 119.32 44 IAMs_20 IAMs_20 06 45 20.2
comp=Z,12μm,20.0s
MEM Membach 119.38 318 *d*PKPdf **PKiKP** 05 58 13.6 +0.4
MEM *d*PP **PP** 05 59 33.8 -0.9
WLF Walferdange 119.39 317 *d*PKPdf **PKiKP** 05 58 13.9 +0.6
WLF *d*PP **PP** 05 59 32.6 -2.2
BHOU Houvegnez 119.41 318 *d*PKPdf **PKiKP** 05 58 13.4 +0.1
BEBN Eben Emael 119.56 319 *d*PKPdf **PKPdf** 05 58 11.9 -1.6
BEBN *d*PP **PP** 05 59 36.5 +0.5
BSTI Sart Tilman 119.66 318 *d*PP **PP** 05 59 35.9 -0.8
BCLA Clavier 119.85 318 *d*PKPdf **PKPdf** 05 58 14.0 -0.1
BCLA *d*PP **PP** 05 59 36.9 -1.0
BGES Gesves 119.99 318 *d*PP **PP** 05 59 38.6 -0.3
DBG Daneborg 119.99 349 *i* P **PKPdf** 05 58 12.9 -0.8
DBG IAMs_20 IAMs_20 06 44 44.5
comp=Z,12μm,31.0s
C03A Quillayute Air 120.04 45 IAMs_20 IAMs_20 06 46 54.3
comp=Z,15μm,20.0s
BMRD Maredsous 120.20 318 *d*PKPdf **PKPdf** 05 58 14.6 -0.1
BMRD *d*PP **PP** 05 59 37.9 -2.5
CLRS Cowichan Lake 120.23 44 IAMs_20 IAMs_20 06 47 18.3
comp=Z,15μm,21.0s
DOU Dourbes 120.34 318 *d*PKPdf **PKiKP** 05 58 15.4 +0.3
DOU *d*PP **PP** 05 59 40.6 -0.7
PLCA Paso Flores 120.42 170 **PKPdf** 05 58 14.3 -1.4
PLCA Paso Flores 120.42 170 PKP **PKiKP** 05 58 17.4 +1.5
comp=Z,8.6nm,0.7s,baz=234,slow=1.3,SNR=26
PLCA PKKPbc **PKKPbc** 06 08 21.9 -1.1
comp=Z,3.3nm,0.9s,baz=61,slow=4.4,SNR=4.0
PLCA Paso Flores 120.42 170 PKP **PKiKP** 05 58 17.2 +1.4
KEBM Edson Butte 120.59 51 IAMs_20 IAMs_20 06 45 58.9
comp=Z,12μm,20.0s
NEEM North Greenlan 120.64 358 *i* P **PKiKP** 05 58 15.5 +0.1
NEEM IAMs_20 IAMs_20 06 57 36.1
comp=Z,10μm,21.9s
LR05 Currie 120.66 169 IAMs_20 IAMs_20 06 46 08.9
comp=Z,17μm,22.0s
KBO Bosley Butte 120.71 51 IAMs_20 IAMs_20 06 43 59.0
comp=Z,16μm,21.0s
ACRG Accra 120.83 266 IAMs_20 IAMs_20 06 47 45.9
comp=Z,13μm,20.0s
HEBO Mount Hebo 120.85 48 IAMs_20 IAMs_20 06 56 12.2
comp=Z,12μm,19.0s
KMPM Mount Pierce 120.86 53 IAMs_20 IAMs_20 06 50 00.2
comp=Z,13μm,20.0s
E03A Lebam 120.86 46 **PKiKP** 05 58 16.3 0.0
I02E Swisshome, OR 120.87 49 IAMs_20 IAMs_20 06 40 52.0
comp=Z,16μm,22.0s
J01E Myrtle Point 120.87 50 IAMs_20 IAMs_20 06 40 40.8
comp=Z,15μm,21.0s
KRPM Rodgers 120.90 53 IAMs_20 IAMs_20 06 51 40.3
comp=Z,14μm,18.0s
JCC Jacoby Creek, 120.91 53 IAMs_20 IAMs_20 06 47 51.6
comp=Z,12μm,20.0s
F03A Seaside 120.92 47 IAMs_20 IAMs_20 06 47 04.1
comp=Z,14μm,21.0s
KRMB Red Mountain 120.97 52 IAMs_20 IAMs_20 06 45 25.2
comp=Z,17μm,21.0s
KSXB Camp Six Broad 120.98 52 IAMs_20 IAMs_20 06 45 37.4
comp=Z,21μm,20.0s
TORD Torodi Ar. Bea 121.03 275 PKP **PKPdf** 05 58 17.3 -0.1
comp=Z,1μm,0.3s,baz=78,slow=1.7,SNR=4.1
K02D Willamette Mer 121.09 51 IAMs_20 IAMs_20 06 45 42.8
comp=Z,13μm,20.0s
KHMM Horse Mountain 121.14 53 IAMs_20 IAMs_20 06 48 09.5
comp=Z,15μm,20.0s
KMRM Mail Ridge 121.18 54 IAMs_20 IAMs_20 06 52 39.7
comp=Z,19μm,18.0s
LR03 Panguipulli 121.18 168 IAMs_20 IAMs_20 06 48 20.6
comp=Z,16μm,19.0s
G03D McMinnville, O 121.20 48 IAMs_20 IAMs_20 06 56 30.4
comp=Z,11μm,19.0s
L02F Cave Junction 121.20 51 IAMs_20 IAMs_20 06 44 24.0
comp=Z,22μm,21.0s
COR Corvallis 121.22 49 IAMs_20 IAMs_20 06 39 51.2
comp=Z,16μm,22.0s
GNW Green Mountain 121.25 45 IAMs_20 IAMs_20 06 44 17.4
comp=Z,14μm,22.0s
I03D Drain, OR 121.26 50 IAMs_20 IAMs_20 06 41 15.3
comp=Z,21μm,22.0s
LRW Lerwick 121.27 330 IAMs_20 IAMs_20 06 45 24.2
comp=Z,15μm,27.1s
F04D Rainier, OR 121.29 47 IAMs_20 IAMs_20 06 47 25.7
comp=Z,15μm,21.0s
KCPM Cahto Peak 121.29 54 IAMs_20 IAMs_20 06 50 36.8
comp=Z,23μm,19.0s
BUCK Buck Mountain 121.48 49 IAMs_20 IAMs_20 06 41 11.1
comp=Z,21μm,22.0s
H04D Lebanon 121.63 49 IAMs_20 IAMs_20 06 57 07.7
comp=Z,12μm,18.0s
HOPS Hopland Field 121.70 55 IAMs_20 IAMs_20 06 48 04.5
comp=Z,21μm,20.0s
YBH Yreka Blue Hor 121.86 52 IAMs_20 IAMs_20 06 46 04.2
comp=Z,22μm,21.0s
MCCM Marconi Confer 121.88 56 IAMs_20 IAMs_20 06 47 46.1
comp=Z,21μm,19.0s
YKA Yellowknife Ar 121.92 27 **PKPdf** 05 58 16.6 -1.1
YKA Yellowknife Ar 121.92 27 PKP **PKPdf** 05 58 16.9 -0.8
comp=Z,17nm,0.7s,baz=305,slow=2.4,SNR=89
YKA PKKPbc **PKKPab** 06 08 14.3 -0.7
comp=Z,0.4nm,0.6s,baz=116,slow=16,SNR=8.4
H04A Detroit Lake 122.01 48 IAMs_20 IAMs_20 06 57 11.6
comp=Z,14μm,18.0s
L04D Klamath Falls 122.13 51 IAMs_20 IAMs_20 06 44 53.3
comp=Z,19μm,22.0s
J04A Umpqua Nationa 122.19 50 IAMs_20 IAMs_20 06 41 43.8
comp=Z,17μm,22.0s
ELMS Elmsett, Ipswi 122.24 321 IAMs_20 IAMs_20 06 57 09.5
comp=Z,13μm,19.8s
HOOD Mount Hood Mea 122.32 48 IAMs_20 IAMs_20 06 50 25.7
comp=Z,12μm,20.0s
WACR West Acre 122.32 321 IAMs_20 IAMs_20 06 54 59.7
comp=Z,12μm,21.9s
EJON La Jonquera 122.33 309 PKP **PKPdf** 05 58 19.3 +0.1
ELSH Elham, Standar 122.34 319 IAMs_20 IAMs_20 06 50 22.3
comp=Z,11μm,24.0s
ETOS Mallorca 122.55 306 PKP **PKiKP** 05 58 20.3 +0.4
LTY Liberty 122.74 45 IAMs_20 IAMs_20 06 52 59.7
comp=Z,12μm,19.0s
J05D Fort Rock, OR 122.83 50 IAMs_20 IAMs_20 06 41 53.5
comp=Z,19μm,21.0s
HATC Hat Creek Radi 122.86 53 IAMs_20 IAMs_20 06 49 14.7
comp=Z,12μm,20.0s
HMNX Herstmonceux 122.89 319 IAMs_20 IAMs_20 06 58 40.1
comp=Z,11μm,21.4s
DRUM Mains of Drumt 122.94 327 IAMs_20 IAMs_20 06 57 04.4
comp=Z,13μm,23.5s
PINE Pine Mountain 122.99 49 IAMs_20 IAMs_20 06 42 10.7
comp=Z,18μm,22.0s
G06A Carlson Farm, 123.04 48 IAMs_20 IAMs_20 06 57 23.8
comp=Z,13μm,19.0s
SAO San Andreas Ge 123.04 58 IAMs_20 IAMs_20 06 53 36.2
comp=Z,21μm,19.0s
MXC Moxie City 123.10 46 IAMs_20 IAMs_20 06 54 21.0
comp=Z,13μm,18.0s
SCO Scoresbysund 123.12 346 *i* P **PKPdf** 05 58 17.4 -2.4
SCO IAMs_20 IAMs_20 06 54 38.1
comp=Z,12μm,21.7s
K05A Summer Lake 123.13 51 IAMs_20 IAMs_20 06 54 29.6
comp=Z,14μm,20.0s
EDMD Edmundbyers 123.28 324 IAMs_20 IAMs_20 06 56 24.8
comp=Z,15μm,20.4s
HPK Haverah Park 123.33 323 IAMs_20 IAMs_20 06 52 56.5
comp=Z,15μm,24.2s
AFDM Forest Hills D 123.34 55 IAMs_20 IAMs_20 06 48 36.9
comp=Z,17μm,20.0s
BBGB Big Mountain B 123.37 58 IAMs_20 IAMs_20 06 57 44.0
comp=Z,20μm,18.0s
E07A Sunnyside 123.40 46 IAMs_20 IAMs_20 06 54 29.1
comp=Z,14μm,18.0s
B08A Colville Reser 123.45 44 IAMs_20 IAMs_20 06 53 37.2
comp=Z,11μm,19.0s
CWF Charnwood Fore 123.46 322 IAMs_20 IAMs_20 06 56 47.3
comp=Z,12μm,23.0s
LBWR Ladybower, Pea 123.53 323 IAMs_20 IAMs_20 06 53 04.3
comp=Z,10μm,25.4s
WAH2 Wahluke Slope 123.56 46 IAMs_20 IAMs_20 06 54 26.4
comp=Z,11μm,19.0s
EDI Edinburgh 123.62 326 IAMs_20 IAMs_20 06 50 27.1
comp=Z,15μm,25.9s
HAWA Hanford 123.64 46 IAMs_20 IAMs_20 06 50 10.6
comp=Z,14μm,20.0s
BI05 Punta Hualpn 123.79 167 IAMs_20 IAMs_20 06 47 28.2
comp=Z,15μm,20.0s
EKA Eskdalemuir Ar 123.79 325 PKP **PKiKP** 05 58 22.3 +0.5
comp=Z,6.4nm,1.0s,baz=87,slow=4.3,SNR=7.5
ESK Eskdalemuir 123.82 325 IAMs_20 IAMs_20 06 55 42.2
comp=Z,17μm,22.0s
ESK Eskdalemuir 123.82 325 IAMs_20 IAMs_20 06 55 36.3
comp=Z,17μm,21.6s

CMB	Columbia Colle	123.84	56	IAMs_20	IAMs_20	06 51 18.3			
	comp=Z,14µm,20.0s								
LINV	Loch Inver, As	123.90	329	IAMs_20	IAMs_20	06 52 03.7			
	comp=Z,13µm,22.7s								
TRQA	Tornquist	123.93	178		PKPdf	05 58 21.7	-0.8		
TRQA				IAMs_20	IAMs_20	06 50 34.2			
	comp=Z,17µm,20.0s								
TRQA	Tornquist	123.93	178	PKIKP	PKPdf	05 58 21.7	-0.8		
TRQA				MLR	MLR				
	comp=Z,17µm,20.0s								
TRQA	Tornquist	123.93	178	PKP	PKPdf	05 58 22.5	0.0		
E08A	Dider Farm, El	123.95	46	IAMs_20	IAMs_20	06 54 45.7			
	comp=Z,12µm,19.0s								
D08A	Wollman Farm,	123.95	45	IAMs_20	IAMs_20	06 48 47.6			
	comp=Z,12µm,20.0s								
KESW	Keswick, Cumbr	123.98	324	IAMs_20	IAMs_20	06 50 43.5			
	comp=Z,13µm,26.9s								
MPK	Martis Peak	124.05	55	IAMs_20	IAMs_20	06 49 20.5			
	comp=Z,20µm,20.0s								
SWN1	Swindon	124.06	320	IAMs_20	IAMs_20	06 57 24.4			
	comp=Z,13µm,22.5s								
YPT	Yellepit	124.09	46	IAMs_20	IAMs_20	06 49 43.4			
	comp=Z,15µm,20.0s								
G08A	Pilot Rock	124.20	47	IAMs_20	IAMs_20	06 59 09.6			
	comp=Z,12µm,18.0s								
STRD	Stroud	124.21	321	IAMs_20	IAMs_20	06 53 58.0			
	comp=Z,12µm,22.6s								
BI02	San Fabin de	124.26	169	IAMs_20	IAMs_20	06 50 37.5			
	comp=Z,20µm,21.0s								
SUMG	Summit	124.34	352		PKiKP	05 58 23.0	+0.1		
SUMG	Summit	124.34	352	PKIKP	PKiKP	05 58 23.0	+0.1		
SUMG	Summit	124.34	352	*i* P	PKiKP	05 58 23.0	+0.1		
SUMG				IAMs_20	IAMs_20	06 54 07.4			
	comp=Z,13µm,23.9s								
PGBU	Glenifferbraes	124.35	326	IAMs_20	IAMs_20	06 56 04.8			
	comp=Z,26µm,25.2s								
KPL	Plockton	124.42	328	IAMs_20	IAMs_20	06 54 14.7			
	comp=Z,13µm,22.7s								
NEWG	New Galloway	124.44	325	IAMs_20	IAMs_20	07 03 57.9			
	comp=Z,12µm,19.3s								
HLM1	Long Mynd	124.44	322	IAMs_20	IAMs_20	06 56 24.8			
	comp=Z,11µm,20.4s								
OLDB	Oldbury-Upon-S	124.47	321	IAMs_20	IAMs_20	06 55 26.7			
	comp=Z,12µm,22.2s								
PAHR	Pah Rah Range	124.52	54	IAMs_20	IAMs_20	06 49 48.9			
	comp=Z,14µm,20.0s								
WAKR	Walker	124.56	55	IAMs_20	IAMs_20	06 47 52.2			
	comp=Z,16µm,20.0s								
MONM	Monmouth	124.58	321	IAMs_20	IAMs_20	06 59 44.0			
	comp=Z,13µm,20.8s								
MCH1	Michaelchurch	124.65	321	IAMs_20	IAMs_20	06 55 31.8			
	comp=Z,11µm,21.9s								
LEWI	Lewis, Hebride	124.72	329	IAMs_20	IAMs_20	06 52 25.2			
	comp=Z,15µm,23.2s								
GAL1	Galloway	124.78	325	IAMs_20	IAMs_20	06 59 06.3			
	comp=Z,12µm,20.0s								
WVOR	Wild Horse Val	124.82	51	IAMs_20	IAMs_20	06 44 34.3			
	comp=Z,16µm,21.0s								
J08A	Circle Bar Ran	124.82	50	IAMs_20	IAMs_20	06 43 30.2			
	comp=Z,18µm,22.0s								
JSA	Saint Aubin	124.83	318	IAMs_20	IAMs_20	06 49 21.2			
	comp=Z,13µm,27.3s								
IOMK	Kirk Michael	124.90	324	IAMs_20	IAMs_20	06 51 36.5			
	comp=Z,6µm,27.5s								
WLF1	Llynfaes	125.10	323	IAMs_20	IAMs_20	06 53 44.5			
	comp=Z,23µm,26.0s								
ML02	Panimavida	125.10	168	IAMs_20	IAMs_20	06 56 52.9			
	comp=Z,15µm,19.0s								
VA04	Juan Fernndez	125.20	160	IAMs_20	IAMs_20	06 45 45.3			
	comp=Z,13µm,19.0s								
RYN	Ryan	125.27	55	IAMs_20	IAMs_20	06 48 37.0			
	comp=Z,16µm,21.0s								
LHV	Little Huntoon	125.31	56	IAMs_20	IAMs_20	06 51 32.1			
	comp=Z,18µm,20.0s								
UPNV	Upernavik	125.44	359	*i* P	PKPdf	05 58 22.8	-1.5		
UPNV				IAMs_20	IAMs_20	06 50 17.6			
	comp=Z,14µm,24.3s								
NVAR	Mina Array Bea	125.46	56	PKP	PKiKP	05 58 27.5	+1.6		
	comp=Z,12nm,0.8s,baz=248,slow=3.9,SNR=38								
DBIC	Dimbokro	125.54	265		PKPdf	05 58 25.9	-0.2		
DBIC	Dimbokro	125.54	265	PKP	PKiKP	05 58 26.4	0.0		
	comp=Z,25nm,0.9s,baz=154,slow=2.3,SNR=15								
DBIC	Dimbokro	125.54	265	PKP	PKPdf	05 58 25.7	-0.5		
DYA	Yadsworthy	125.63	320	IAMs_20	IAMs_20	06 56 47.5			
	comp=Z,12µm,23.3s								
DSP	Deep Springs	125.80	57	IAMs_20	IAMs_20	06 52 18.9			
	comp=Z,18µm,20.0s								
HTL	Hartland	125.82	320	IAMs_20	IAMs_20	06 56 21.9			
	comp=Z,16µm,22.5s								
BO02	Sierra Bellavi	126.17	169	IAMs_20	IAMs_20	06 55 32.0			
	comp=Z,13µm,18.0s								
MZP	Montezuma Peak	126.24	56	IAMs_20	IAMs_20	06 52 25.6			
	comp=Z,11µm,19.0s								
Q09A	Carvers	126.30	55	IAMs_20	IAMs_20	06 50 31.1			
	comp=Z,17µm,20.0s								
GRAC	Grapevine Rang	126.30	57	IAMs_20	IAMs_20	06 54 21.4			
	comp=Z,15µm,19.0s								
PLID	Pearl Lake	126.30	47	IAMs_20	IAMs_20	07 03 23.1			
	comp=Z,13µm,18.0s								
GMN	Gold Mountain	126.36	57	IAMs_20	IAMs_20	06 52 27.0			
	comp=Z,12µm,20.0s								
BO01	Tunca	126.50	168	IAMs_20	IAMs_20	06 57 19.8			
	comp=Z,17µm,19.0s								
CCA1	Carnmenellis	126.50	319	IAMs_20	IAMs_20	06 55 22.8			
	comp=Z,12µm,20.5s								
NUUG	Nuugaatsiaq	126.60	357	*i* P	PKPdf	05 58 26.1	-0.3		
NUUG				IAMs_20	IAMs_20	06 48 56.3			
	comp=Z,21µm,31.6s								
ENIJ	Nijar	126.66	303	PKP	PKiKP	05 58 28.8	+0.7		
MFID	Camas Ranch	126.72	49	IAMs_20	IAMs_20	06 47 42.4			
	comp=Z,13µm,20.0s								
TJX	Tijuana	126.74	63	IAMs_20	IAMs_20	06 46 22.6			
	comp=Z,19µm,22.0s								
WCT	Wildcat Mounta	126.91	57	IAMs_20	IAMs_20	06 52 04.5			
	comp=Z,13µm,20.0s								
GWY	Greenwater Val	126.91	58	IAMs_20	IAMs_20	06 51 11.8			
	comp=Z,19µm,20.0s								
MT01	Popeta	126.97	168	IAMs_20	IAMs_20	06 57 23.5			
	comp=Z,15µm,19.0s								
BO04	La Punta	126.98	169	IAMs_20	IAMs_20	06 51 23.5			
	comp=Z,15µm,20.0s								
SOEG	Soedalen	127.00	347	*i* P	PKPdf	05 58 26.4	-0.9		
SOEG				IAMs_20	IAMs_20	06 42 57.0			
	comp=Z,19µm,45.5s								
CBX	Cerro Bola	127.07	63	IAMs_20	IAMs_20	06 53 02.4			
	comp=Z,19µm,19.0s								
VA05	Santo Domingo	127.10	167	IAMs_20	IAMs_20	06 55 17.9			
	comp=Z,14µm,19.0s								
MT09	Talagante	127.11	168	IAMs_20	IAMs_20	06 57 28.1			
	comp=Z,19µm,19.0s								
UCM	Universidad Co	127.14	307	PKP	PKiKP	05 58 29.4	+0.4		
LMEL	Las Melosas	127.19	169	IAMs_20	IAMs_20	06 51 12.1			
	comp=Z,16µm,20.0s								
TPNV	Topopah Spring	127.20	57	IAMs_20	IAMs_20	06 51 56.1			
	comp=Z,12µm,19.0s								
PFO	Pinyon Flats O	127.21	61		PKiKP	05 58 29.5	0.0		
PFO	Pinyon Flats O	127.21	61	IAMs_20	IAMs_20	06 48 26.0			
	comp=Z,17µm,20.0s								
PFO	Pinyon Flats O	127.21	61	PKIKP	PKiKP	05 58 29.5	0.0		
PMD	Palm Desert	127.28	61	IAMs_20	IAMs_20	06 48 37.8			
	comp=Z,18µm,20.0s								
MSO	Missoula	127.34	45	IAMs_20	IAMs_20	06 51 22.1			
	comp=Z,14µm,20.0s								
UMMG	Ummannaq	127.41	357	*i* P	PKPdf	05 58 27.4	-0.6		
UMMG				IAMs_20	IAMs_20	06 56 00.2			
	comp=Z,12µm,25.3s								
MT03	Universidad Ad	127.48	168	IAMs_20	IAMs_20	06 51 25.8			
	comp=Z,16µm,20.0s								
MT05	Renca	127.53	168	IAMs_20	IAMs_20	06 59 03.2			
	comp=Z,17µm,18.0s								
MT16	CCHEN	127.54	168	IAMs_20	IAMs_20	06 51 28.4			
	comp=Z,16µm,21.0s								
ELK	Elko	127.56	52	IAMs_20	IAMs_20	06 55 58.2			
	comp=Z,13µm,19.0s								
MT02	Curacav	127.58	168	IAMs_20	IAMs_20	06 57 22.2			
	comp=Z,18µm,18.0s								
R11B	Troy Canyon, C	127.59	55	IAMs_20	IAMs_20	06 52 27.3			
	comp=Z,19µm,20.0s								
SALN	Salton City	127.62	62	IAMs_20	IAMs_20	06 56 39.8			
	comp=Z,14µm,19.0s								
MT08	Bocatoma Ro	127.62	169	IAMs_20	IAMs_20	06 51 05.4			
	comp=Z,13µm,20.0s								
YUH	Yuha Desert	127.69	63	IAMs_20	IAMs_20	06 46 49.7			
	comp=Z,24µm,22.0s								
HLID	Hailey	127.71	49	IAMs_20	IAMs_20	06 50 02.5			
	comp=Z,13µm,20.0s								
VA01	Torpederas	127.71	167	IAMs_20	IAMs_20	06 59 50.6			
	comp=Z,14µm,18.0s								
ESDC	Sonseca Array	127.77	306		PKPdf	05 58 29.3	-0.4		
ESDC	Sonseca Array	127.77	306	PKP	PKiKP	05 58 30.2	0.0		
	comp=Z,15nm,1.0s,baz=56,slow=2.2,SNR=31								
PEL	Peldehue	127.78	168	IAMs_20	IAMs_20	06 52 11.6			
	comp=Z,16µm,21.0s								
SHPR	Sheep Range	128.10	58	IAMs_20	IAMs_20	06 52 22.2			
	comp=Z,12µm,20.0s								
PRN	Pahroc Range	128.11	57	IAMs_20	IAMs_20	06 54 00.1			
	comp=Z,13µm,21.0s								
VA03	San Esteban	128.18	168	IAMs_20	IAMs_20	06 52 23.0			
	comp=Z,16µm,20.0s								
CPBX	Cerro Prieto	128.22	63	IAMs_20	IAMs_20	06 46 41.7			
	comp=Z,16µm,22.0s								
VA06	Catapilco	128.23	167	IAMs_20	IAMs_20	06 56 57.3			
	comp=Z,12µm,20.0s								
ASCN	Ascension	128.35	244	IAMs_20	IAMs_20	06 46 10.0			
	comp=Z,15µm,21.0s								
EADA	Adamuz	128.43	305	PKP	PKiKP	05 58 32.1	+0.4		
EMAL	Malaga-Limoner	128.46	303	PKP	PKiKP	05 58 32.1	+0.4		
SPR3	Spring Creek 3	128.49	54	IAMs_20	IAMs_20	06 52 32.0			
	comp=Z,18µm,20.0s								
DLMT	Dillon	128.59	46	IAMs_20	IAMs_20	07 06 46.6			
	comp=Z,11µm,18.0s								
GLA	Glamis	128.60	62	IAMs_20	IAMs_20	06 55 09.7			
	comp=Z,14µm,19.0s								
ASAL	Salagasta	128.66	170	*e*P	PKiKP	05 58 32.8	+0.3		
ILULI	Ilulissat	128.80	356	*i* P	PKiKP	05 58 32.9	+1.5		
ILULI				*e*PP	PP	06 00 39.0	+1.9		
ILULI				IAMs_20	IAMs_20	06 49 36.6			
	comp=Z,16µm,28.2s								
BLYC	Blythe	128.82	61	IAMs_20	IAMs_20	06 42 58.4			
	comp=Z,15µm,22.0s								
VAL	Valentia	128.91	323	PKP	PKiKP	05 58 32.5	+0.5		
AUSP	Uspallata	128.92	169	*e*P	PKiKP	05 58 35.0	+1.8		
PSUT	Pine Spring	128.92	55	IAMs_20	IAMs_20	06 52 14.4			
	comp=Z,21µm,20.0s								
ECAB	El Cabril	129.10	304	PKP	PKiKP	05 58 33.8	+0.8		
BGU	Big Grassy Mou	129.19	52	IAMs_20	IAMs_20	06 50 30.2			
	comp=Z,12µm,21.0s								
BOZ	Bozeman (W)	129.20	46	IAMs_20	IAMs_20	06 52 37.5			
	comp=Z,15µm,20.0s								
ACAN	Cantantal	129.22	172	*e*P	PKPdf	05 58 32.8	-0.1		
HVU	Hansel Valley	129.23	51	IAMs_20	IAMs_20	06 49 45.0			
	comp=Z,14µm,21.0s								
RTLS	Leoncito	129.35	169	*e*P	PKiKP	05 58 34.3	+0.2		
CCUT	Cedar City	129.43	56	IAMs_20	IAMs_20	06 52 46.0			
	comp=Z,15µm,20.0s								
DUG	Dugway, Tooele	129.48	53	IAMs_20	IAMs_20	06 57 16.1			
	comp=Z,16µm,19.0s								
113A	Mohawk Valley,	129.50	62	IAMs_20	IAMs_20	06 47 43.7			
	comp=Z,18µm,21.0s								
PBRG	Braganca	129.51	309	*e*PKPdf	PKiKP	05 58 34.7	+1.0		
PBRG				*e*PP	PP	06 00 41.7	-1.4		
ESPR	Espera	129.58	303	PKP	PKiKP	05 58 34.3	+0.4		
LCMT	Little Creek M	129.59	57	IAMs_20	IAMs_20	06 53 02.3			
	comp=Z,16µm,20.0s								
CO02	Combarbal	129.60	167	IAMs_20	IAMs_20	06 48 39.7			
	comp=Z,11µm,20.0s								
SZCU	Shurtz Canyon	129.64	56	IAMs_20	IAMs_20	06 52 52.6			
	comp=Z,13µm,21.0s								
YHL	Hegen Lake	129.69	46	IAMs_20	IAMs_20	06 50 09.6			
	comp=Z,13µm,21.0s								
ZON	Zonda	129.70	170	IAMs_20	IAMs_20	06 57 37.2			
	comp=Z,14µm,18.0s								
YHB	Horse Butte	129.71	47	IAMs_20	IAMs_20	06 50 09.1			
	comp=Z,13µm,22.0s								
EGMT	Eagleton	129.74	42	IAMs_20	IAMs_20	06 48 06.4			
	comp=Z,11µm,22.0s								
PIX	Pinacate	129.81	64	IAMs_20	IAMs_20	06 50 57.0			
	comp=Z,20µm,20.0s								
MVO	Moncorvo	129.84	309	*e*PKPdf	PKiKP	05 58 35.5	+1.1		
MVO				*e*PP	PP	06 00 39.9	-5.4		
MVO				*i* tx	tx	06 01 58.2			
KNB	Kanab	129.92	57	IAMs_20	IAMs_20	06 53 03.1			
	comp=Z,14µm,20.0s								
PLTB	Pedras Altas	129.93	187		PKPdf	05 58 33.5	-0.7		
PLTB	Pedras Altas	129.93	187	*e*P	PKPdf	05 58 34.2	+0.1		
PLTB	Pedras Altas	129.93	187	PKP	PKiKP	05 58 34.6	-0.3		
CO06	Fray Jorge	129.97	166	IAMs_20	IAMs_20	06 50 41.6			
	comp=Z,13µm,20.0s								
CO03	El Pedregal	130.02	167	IAMs_20	IAMs_20	06 49 03.7			
	comp=Z,17µm,21.0s								
YNM	Yellowstone No	130.05	46	IAMs_20	IAMs_20	06 50 19.2			
	comp=Z,15µm,21.0s								
Y14A	Wickenburg	130.07	61	IAMs_20	IAMs_20	06 55 15.5			
	comp=Z,17µm,19.0s								
YNR	Norris Junctio	130.07	46	IAMs_20	IAMs_20	06 50 20.7			
	comp=Z,14µm,21.0s								
FXWY	Fox Creek	130.09	48	IAMs_20	IAMs_20	06 49 35.6			
	comp=Z,16µm,21.0s								
EMIN	Mina Concepcio	130.12	304	PKP	PKiKP	05 58 36.6	+1.6		
HWUT	Hadware Ranch	130.15	51	IAMs_20	IAMs_20	06 56 05.4			
	comp=Z,14µm,20.0s								
TPAW	Teton Pass	130.18	48	IAMs_20	IAMs_20	06 49 36.8			
	comp=Z,17µm,21.0s								
CTU	Camp Tracy	130.19	52	IAMs_20	IAMs_20	06 51 21.6			
	comp=Z,12µm,20.0s								
H17A	Grant Village	130.22	47	IAMs_20	IAMs_20	06 52 07.8			
	comp=Z,19µm,21.0s								
EBAD	Badajoz	130.24	306	PKP	PKiKP	05 58 36.2	+1.0		
AHID	Auburn Hatcher	130.24	49	IAMs_20	IAMs_20	06 46 36.6			
	comp=Z,17µm,22.0s								
SNOW	Snow King Moun	130.33	48	IAMs_20	IAMs_20	06 49 41.8			
	comp=Z,19µm,22.0s								
PVRL	Vila Real	130.33	309	*e*PKPdf	PKiKP	05 58 37.1	+1.7		
PVRL				*e*PP	PP	06 00 44.1	-4.3		
214A	Organ Pipe Nat	130.35	63	IAMs_20	IAMs_20	06 50 03.2			
	comp=Z,19µm,20.0s								
PBAR	Barrancos	130.35	305	PKP	PKiKP	05 58 37.1	+1.7		
PBAR	Barrancos	130.35	305	*e*PKPdf	PKiKP	05 58 36.8	+1.3		
PBAR				*e*PP	PP	06 00 46.0	-2.6		
PBAR				*i* tx	tx	06 01 57.5			
POLO	Lamas de Olo	130.37	309	*e*PKPdf	PKiKP	05 58 36.9	+1.4		
POLO				*e*PP	PP	06 00 43.5	-5.2		
POLO				*i* tx	tx	06 01 58.0			
MTE	Manteigas	130.37	308	*e*PKPdf	PKiKP	05 58 35.4	-0.2		
MTE				*e*PP	PP	06 00 43.5	-5.2		
MTE				*i* tx	tx	06 01 58.0			
ACHE	Chepes	130.38	172	*e*P	PKiKP	05 58 35.8	-0.2		
LOHW	Long Hollow	130.40	48	IAMs_20	IAMs_20	06 49 44.6			
	comp=Z,17µm,22.0s								
MPU	Maple Canyon	130.40	53	IAMs_20	IAMs_20	06 59 49.3			
	comp=Z,14µm,19.0s								
U15A	North Rim	130.41	57	IAMs_20	IAMs_20	06 51 17.3			
	comp=Z,17µm,20.0s								
PCBR	Castelo Branco	130.42	307	*e*PKPdf	PKiKP	05 58 36.9	+1.4		
PCBR				*e*PP	PP	06 00 47.8	-1.2		
PCBR				*i* tx	tx	06 01 59.9			
YMP	Mirror Lake Pl	130.43	46	IAMs_20	IAMs_20	06 50 32.1			
	comp=Z,13µm,22.0s								
PMRV	Marv??o	130.43	307	*e*PKPdf	PKiKP	05 58 36.6	+1.0		
PMRV				*e*PP	PP	06 00 46.5	-2.5		
PMRV				*i* tx	tx	06 01 58.0			
JLU	Jordanelle	130.43	52	IAMs_20	IAMs_20	06 54 39.0			
	comp=Z,16µm,20.0s								
YNE	Yellowstone No	130.46	46	IAMs_20	IAMs_20	06 56 31.8			
	comp=Z,11µm,20.0s								
PCAB	Cabril	130.47	310	*i* tx	tx	06 01 58.0			
ANGG	Ammassalik, Gr	130.50	348	*i* P	PKPdf	05 58 33.9	-0.1		
ANGG				*e*PP	PP	06 00 44.9	-3.2		
ANGG				*e*PP	PP	06 00 47.9	-0.2		
ANGG				IAMs_20	IAMs_20	06 44 27.6			
	comp=Z,21µm,45.8s								
ACCO	Cerro Coronel	130.57	169	*e*P	PKiKP	05 58 37.1	+0.5		
PVIS	Viseu	130.57	308	*i* PKPdf	PKiKP	05 58 37.3	+1.4		
PVIS				*e*PP	PP	06 00 44.7	-5.3		
PVIS				*i* tx	tx	06 02 00.3			
PGAV	Gavieira, Arco	130.60	310	*e*PP	PP	06 00 46.0	-4.2		
PGAV				*i* tx	tx	06 01 58.6			
GO04	Tololo Observa	130.64	167	IAMs_20	IAMs_20	06 59 56.2			
	comp=Z,15µm,20.0s								
PESTR	Estremoz	130.67	306	PKP	PKiKP	05 58 37.6	+1.5		
PESTR	Estremoz	130.67	306	*e*PKPdf	PKiKP	05 58 37.7	+1.6		
PESTR				*i* tx	tx	06 01 56.9			
AVFE	Valle Fertil	130.77	171	*e*P	PKiKP	05 58 36.9	+0.1		
EGRO	El Granado	130.79	304	PKP	PKiKP	05 58 37.8	+1.5		
CO05	La Serena	130.79	167	IAMs_20	IAMs_20	06 51 06.2			
	comp=Z,21µm,22.0s								
ISOG	Isortoq, Green	130.81	349	*i* P	PKPdf	05 58 33.6	-0.9		
ISOG				*e*PP	PP	06 00 47.9	-2.2		
ISOG				IAMs_20	IAMs_20	06 49 02.3			
	comp=Z,15µm,31.3s								
TMUT	Trail Mountain	130.85	54	IAMs_20	IAMs_20	06 51 53.3			
	comp=Z,14µm,21.0s								
AROD	Rodeo	130.91	169	*e*P	PKiKP	05 58 37.3	-0.1		
RLMT	Red Lodge	130.93	46	IAMs_20	IAMs_20	06 57 07.3			
	comp=Z,17µm,19.0s								
Q16A	Castle Valley	130.94	54	IAMs_20	IAMs_20	06 53 43.8			
	comp=Z,17µm,20.0s								
SFJD	Kangerlussuaq	130.95	355	*i* P	PKPdf	05 58 34.9	+0.1		
SFJD				*e*PP	PP	06 00 55.9	+4.9		
SFJD				IAMs_20	IAMs_20	06 51 51.8			
	comp=Z,12µm,28.9s								
SFJD	Kangerlussuaq	130.95	355	PKP	PKPdf	05 58 34.7	-0.1		
BSUT	Blindstream Ca	130.96	52	IAMs_20	IAMs_20	06 54 01.9			
	comp=Z,14µm,20.0s								
ACDV	Cuesta del Vie	130.97	169	*e*P	PKiKP	05 58 37.9	+0.6		
CO01	Juntas del Tor	130.97	168	IAMs_20	IAMs_20	06 54 35.0			
	comp=Z,21µm,20.0s								
PSARD	Sardoal	130.98	307	*e*PKPdf	PKiKP	05 58 37.8	+1.1		
PSARD				*e*PP	PP	06 00 49.0	-3.6		
PSARD				*i* tx	tx	06 02 01.2			
PVAQ	Vaqueiros	130.99	304	PKP	PKiKP	05 58 38.3	+1.6		
PVAQ	Vaqueiros	130.99	304	*e*PKPdf	PKiKP	05 58 38.1	+1.4		
PVAQ				*i* tx	tx	06 02 01.5			
PBEJ	Beja	131.02	305	*e*PKPdf	PKiKP	05 58 38.2	+1.4		
PBEJ				*i* tx	tx	06 01 59.8			
EVO	Evora	131.05	305	*e*PKPdf	PKiKP	05 58 37.7	+0.9		
EVO				*e*PP	PP	06 00 52.2	-0.9		
EVO				*i* tx	tx	06 01 59.8			
COI	Coimbra	131.06	308	*e*PKPdf	PKiKP	05 58 37.9	+1.1		
COI				*e*PP	PP	06 00 49.6	-3.5		
PMTG	Montargil	131.12	306	*e*PKPdf	PKiKP	05 58 37.9	+0.9		
PMTG				*e*PP	PP	06 00 51.7	-1.9		
PMTG				*i* tx	tx	06 02 00.6			
PCAS	Casmilo, Conde	131.15	308	*e*PKPdf	PKiKP	05 58 38.4	+1.4		
PCAS				*e*PP	PP	06 00 50.6	-3.1		
PCAS				*i* tx	tx	06 01 59.5			
APLL	PUNTA DE LOS L	131.16	172	*e*P	PKPdf	05 58 35.4	-1.2		
PBDV	Barranco-do-Ve	131.18	304	*e*PKPdf	PKiKP	05 58 38.7	+1.5		
PBDV				*e*PP	PP	06 00 58.1	+4.1		
PBDV				*i* tx	tx	06 02 00.9			
AVE	Averroes	131.19	299	PKP	PKPdf	05 58 36.6	+0.3		
AVE	Averroes	131.19	299	IAMs_20	IAMs_20	06 57 10.7			
	comp=Z,17µm,20.0s								
TIO	Tiouine	131.20	295	PKP	PKiKP	05 58 38.3	+0.8		
PCVE	Castro Verde	131.21	304	PKP	PKiKP	05 58 38.9	+1.8		
PCVE	Castro Verde	131.21	304	*e*PKPdf	PKiKP	05 58 39.1	+1.9		
PCVE				*e*PP	PP	06 00 57.5	+3.3		
PCVE				*i* tx	tx	06 02 00.3			
CPSB	Cacapava Do Su	131.25	187	PKP	PKiKP	05 58 37.4	-0.2		
X16A	Lo Mia Camp, P	131.32	60	IAMs_20	IAMs_20	06 56 09.5			
	comp=Z,15µm,20.0s								
MESJ	Messejana	131.32	305	*e*PKPdf	PKPdf	05 58 36.3	-0.1		
MESJ				*e*PP	PP	06 00 54.4	-0.5		
MESJ				*e*SS	SS	06 18 27.8	+0.7		
MESJ				IAMs_20	IAMs_20	07 10 05.9			
	comp=Z,7µm,19.2s								
MESJ

comp=Z,20µm,22.0s
PTGB Pitanga 136.66 190 PKP PKPdf 05 58 46.9 -0.2
VAS01 Vassouras-RJ 136.73 202 PKP PKPdf 05 58 47.6 +0.4
PB10 IPOC Station P 137.11 165 IAMs_20 IAMs_20 07 03 33.7
comp=Z,13µm,20.0s
VABB Valinhos 137.18 197 PKP PKPdf 05 58 48.6 +0.5
OGNE Ogallala 137.25 49 IAMs_20 IAMs_20 06 51 13.1
comp=Z,14µm,22.0s
KSCO Kaye Shedlock' 137.41 52 IAMs_20 IAMs_20 06 59 07.6
comp=Z,20µm,20.0s
FRTB Fartura 137.50 194 PKP PKPdf 05 58 49.0 +0.4
PB05 IPOC Station P 137.83 165 IAMs_20 IAMs_20 06 58 40.8
comp=Z,11µm,20.0s
AGMN Agassiz Nation 138.01 36 IAMs_20 IAMs_20 06 58 06.4
comp=Z,12µm,20.0s
SUSD Miller 138.02 43 IAMs_20 IAMs_20 06 58 39.6
comp=Z,12µm,21.0s
PB06 IPOC Station P 138.12 166 IAMs_20 IAMs_20 07 02 52.4
comp=Z,15µm,20.0s
AF01 San Pedro de A 138.18 168 IAMs_20 IAMs_20 06 59 56.8
comp=Z,16µm,21.0s
K30B Basset 138.32 46 IAMs_20 IAMs_20 07 10 25.8
comp=Z,11µm,21.0s
TXAR Lajitas Array 138.39 66 PKhKP PKPpre 05 58 39.8
comp=Z,4.2nm,0.5s,baz=240,slow=2.9,SNR=39
TXAR Lajitas Array 138.39 66 PKHKP PKPpre 05 58 39.9
EPLO Experimental L 138.39 33 IAMs_20 IAMs_20 07 05 54.9
comp=Z,10µm,20.0s
MSTX Muleshoe, 138.49 59 IAMs_20 IAMs_20 06 59 45.3
comp=Z,16µm,20.0s
TRCB Terra Rica 138.63 190 IAMs_20 IAMs_20 07 02 16.0
comp=Z,16µm,19.0s
PMPST Porto Santo, M 138.64 300 *i* tx tx 06 01 51.4
PB03 IPOC Station P 138.71 166 IAMs_20 IAMs_20 07 04 08.1
comp=Z,14µm,20.0s
F33A 5 Mile Ranch, 139.04 40 IAMs_20 IAMs_20 06 54 29.1
comp=Z,14µm,22.0s
SJMB Sao Joao De Ma 139.06 207 PKP PKPdf 05 58 47.2 -4.2
PB09 IPOC Station P 139.07 166 IAMs_20 IAMs_20 07 00 30.6
comp=Z,19µm,22.0s
PMAR Madeira 139.18 299 *i* tx tx 06 01 55.6
AMTX Amarillo 139.19 58 IAMs_20 IAMs_20 07 00 20.5
comp=Z,12µm,19.0s
PB02 IPOC Station P 139.38 165 IAMs_20 IAMs_20 06 59 17.8
comp=Z,16µm,22.0s
PMOZ Porto Moniz, M 139.40 299 *i* tx tx 06 01 56.2
BB19B Bebedouro 139.44 196 PKP PKPdf 05 58 50.6 -1.6
CBKS Cedar Bluff 139.61 51 IAMs_20 IAMs_20 06 59 58.9
comp=Z,17µm,20.0s
PB01 IPOC Station P 139.74 166 IAMs_20 IAMs_20 06 58 05.4
comp=Z,14µm,20.0s
PATCX Punta Patache 139.79 165 IAMs_20 IAMs_20 06 59 29.8
comp=Z,11µm,20.0s
BGNE Belgrade 139.82 47 IAMs_20 IAMs_20 07 08 24.7
comp=Z,12µm,19.0s
ECSD EROS Data Cent 139.85 43 IAMs_20 IAMs_20 07 01 08.9
comp=Z,16µm,20.0s
TA01 Diego Aracena 140.03 164 IAMs_20 IAMs_20 07 00 34.1
comp=Z,12µm,21.0s
R32A Long Quarter, 140.50 51 IAMs_20 IAMs_20 07 03 26.5
comp=Z,14µm,20.0s
CAR01 Carai MG 140.58 208 PKP PKPdf 05 58 50.2 -4.2
EYMN Ely 140.61 34 IAMs_20 IAMs_20 07 02 55.7
comp=Z,13µm,20.0s
PB08 IPOC Station P 140.69 166 IAMs_20 IAMs_20 07 01 47.5
comp=Z,13µm,20.0s
L34A Svendsen Farm, 140.79 45 IAMs_20 IAMs_20 07 03 08.3
comp=Z,15µm,21.0s
PB11 IPOC Station P 140.93 165 IAMs_20 IAMs_20 07 02 44.0
comp=Z,14µm,19.0s
GO01 Chusmiza 141.13 165 IAMs_20 IAMs_20 07 02 54.3
comp=Z,13µm,20.0s
CMC01 Camacan, BA 141.19 212 PKP PKPdf 05 58 56.5 +1.1
ITRB Iturama 141.20 194 PKP PKPdf 05 58 52.6 -2.8
TBO Thunder Bay 141.24 32 IAMs_20 IAMs_20 07 08 11.1
comp=Z,13µm,20.0s
AQDB Aquidauana 141.31 186 PKPpre 05 58 48.4
E38A The Farm, Brul 141.38 36 IAMs_20 IAMs_20 07 01 22.4
comp=Z,13µm,20.0s
SPMN Marine on St. 141.45 38 IAMs_20 IAMs_20 06 57 23.7
comp=Z,15µm,22.0s
I37A Lemond, Waseca 141.74 40 IAMs_20 IAMs_20 07 00 32.6
comp=Z,16µm,21.0s
N35A Tabor 141.77 46 IAMs_20 IAMs_20 07 03 20.3
comp=Z,15µm,20.0s
AP01 Chacalluta 142.08 163 IAMs_20 IAMs_20 06 56 46.6
comp=Z,14µm,22.0s
SFA1 Serra Facao 142.15 199 PKP PKPdf 05 58 53.0 -4.2
X34A Smith Ranch, M 142.33 57 PKPdf 05 58 55.6 -1.3
PB16 IPOC Station P 142.34 164 IAMs_20 IAMs_20 06 58 49.3
comp=Z,16µm,22.0s
FNO Franklin 142.49 56 IAMs_20 IAMs_20 07 03 10.6
comp=Z,16µm,20.0s
ANA01 Lindo Horizont 142.50 211 PKP PKPdf 05 58 53.8 -4.0
OK051 E0350 and S346 142.54 53 IAMs_20 IAMs_20 06 58 46.7
comp=Z,17µm,20.0s
BAT3 Ipameri 142.64 199 PKP PKPdf 05 58 54.6 -3.5
T35A Sooner Cattle 142.65 53 IAMs_20 IAMs_20 06 58 55.5
comp=Z,16µm,19.0s
G40A Rib Lake 142.93 37 IAMs_20 IAMs_20 07 04 23.6
comp=Z,14µm,20.0s
COWI Conover 143.02 35 IAMs_20 IAMs_20 07 09 14.5
comp=Z,15µm,20.0s
PB18 Visviri 143.06 164 PKPdf 05 58 58.5 -0.8
PB18 IAMs_20 IAMs_20 06 56 51.4
comp=Z,19µm,22.0s
SCHQ Schefferville 143.08 7 PKP PKPbc 05 58 55.1 +0.7
comp=Z,35nm,0.9s,baz=0.9,slow=4.4,SNR=33
FW14 Alvarado 143.40 60 IAMs_20 IAMs_20 07 00 42.3
comp=Z,12µm,19.0s
435B Jarrell 143.41 63 IAMs_20 IAMs_20 06 57 34.9
comp=Z,15µm,20.0s
N38A Joes South For 143.43 45 IAMs_20 IAMs_20 07 05 47.1
comp=Z,13µm,20.0s
I40A Norwalk 143.49 39 IAMs_20 IAMs_20 06 55 28.7
comp=Z,18µm,22.0s
KVTX Kingsville 143.63 68 IAMs_20 IAMs_20 07 17 05.4
comp=Z,13µm,19.0s
JANB Januaria 143.63 205 PKP PKPbc 05 58 57.5 +0.3
P38A Dawn 143.76 47 IAMs_20 IAMs_20 06 59 04.1
comp=Z,17µm,21.0s
F42A Maple Grove Fa 143.77 35 IAMs_20 IAMs_20 07 12 29.6
comp=Z,16µm,21.0s
NBLA Lagarto - SE 143.85 218 PKP PKPbc 05 58 58.3 +0.5
NBAN Anadia - AL 143.96 221 PKP PKPbc 05 58 58.3 +0.2
L40A Anamosa 144.12 42 IAMs_20 IAMs_20 07 07 51.8
comp=Z,16µm,20.0s
BART Pico Bartolome 144.23 310 *e*PKP PKPdf 05 58 59.4 -0.9
JFWS Jewell Farm 144.26 40 IAMs_20 IAMs_20 07 03 27.3
comp=Z,18µm,20.0s
PGRON Lagoa das Cont 144.38 310 *e*PKP PKPdf 05 58 59.8 -0.7
BDFB Brasilia 144.44 199 PKPab 05 58 59.2 -0.2
BDFB Brasilia 144.44 199 PKP PKPbc 05 58 59.9 +0.2
comp=Z,52nm,0.9s,baz=134,slow=2.0,SNR=55
BDFB Brasilia 144.44 199 PKP PKPbc 05 58 59.9 +0.2
PSMN Pico do Norte, 144.45 309 *e*PKP PKPbc 05 58 59.8 +0.7
CMLA Cha da Macela 144.49 310 *e*PKP PKPdf 05 59 00.7 +0.1
CMLA eLR LR 06 23 03.4
I42A Draeger Farm, 144.49 38 IAMs_20 IAMs_20 07 01 12.1
comp=Z,17µm,21.0s
PSMA Santa Maria 144.50 309 *e*PKP PKPdf 05 59 00.2 -0.5
PSET Sete Cidades 144.61 310 *e*PKP PKPbc 05 58 59.8 +0.2
LPAZ La Paz 144.64 166 PKPab 05 59 00.2 -0.6
LPAZ La Paz 144.64 166 PKP PKPbc 05 59 01.6 +0.6
comp=Z,657nm,0.8s,baz=182,slow=1.9,SNR=270
LPAZ La Paz 144.64 166 PKP PKPbc 05 59 01.5 +0.6
H43A Windswept, Lux 144.79 36 IAMs_20 IAMs_20 07 13 58.6
comp=Z,11µm,20.0s
N41A Harden Midland 145.05 44 IAMs_20 IAMs_20 07 03 53.8
comp=Z,13µm,20.0s
L42A Oliver, Polo 145.13 41 IAMs_20 IAMs_20 07 02 54.3
comp=Z,15µm,20.0s
R40A Maddies Statio 145.23 48 IAMs_20 IAMs_20 07 01 39.1
comp=Z,17µm,20.0s
PSCM Serra do Cume 145.23 313 *e*PKP PKPdf 05 59 02.5 +0.6
PAGU Agualva, Azore 145.25 313 *e*PKP PKPdf 05 59 02.9 +1.0
E46A Sault Ste Mari 145.32 31 IAMs_20 IAMs_20 07 05 06.9
comp=Z,11µm,20.0s
ADH Angra Heroismo 145.34 313 *e*PKP PKPbc 05 59 01.2 -0.7
PSBA Serra de Santa 145.35 313 *e*PKP PKPab 05 59 02.6 +0.5
SACV Santiago Islan 145.43 270 IAMs_20 IAMs_20 07 01 19.4
comp=Z,12µm,20.0s
NNA Nana 145.44 149 IAMs_20 IAMs_20 07 03 50.2
comp=Z,16µm,19.0s
NNA Nana 145.44 149 PKPbc PKPab 05 59 03.3 +0.3
comp=Z,183nm,0.9s,baz=247,slow=5.5,SNR=39
NATX Nacogdoches 145.63 60 IAMs_20 IAMs_20 07 07 47.6
comp=Z,15µm,18.0s
PGRA Graciosa 145.68 314 *e*PKP PKiKP 05 59 16.7 +10
NBPV Pedro Velho 145.72 226 PKP PKPab 05 59 04.4 +0.3
SRBC Serra Branca 145.72 314 *e*PKP PKPbc 05 59 03.2 +0.1
SALV Santo Antonio 145.83 187 PKP PKPdf 05 59 03.5 -0.1
I45A Fountain 145.92 35 IAMs_20 IAMs_20 07 12 52.3
comp=Z,12µm,20.0s
SIV San Ignacio 145.92 177 PKPbc PKPbc 05 59 04.4 +0.1
comp=Z,150nm,0.9s,baz=186,slow=3.0,SNR=146
PMAN Manadas 145.94 313 *e*PKP PKiKP 05 59 05.8 -1.4
ROSA Rosais 146.01 313 *e*PKP PKPab 05 59 04.3 -0.2
ROSA eLR LR 06 22 49.4
PID Ribeirinha 146.05 313 *e*PKP PKiKP 05 59 09.0 +1.5
CCM Cathedral Cave 146.06 48 IAMs_20 IAMs_20 07 02 14.0
comp=Z,16µm,20.0s
L44A Lake County Fo 146.10 39 IAMs_20 IAMs_20 07 05 19.8
comp=Z,17µm,22.0s
PPNO Prainha do Nor 146.14 313 *e*PKP PKPab 05 59 06.4 +1.3
HDIL Hopedale 146.15 43 IAMs_20 IAMs_20 07 13 24.6
comp=Z,14µm,20.0s
PICO Pico 146.24 313 *e*PKP PKPbc 05 59 04.7 -0.1
PICO eLR LR 06 22 51.4
GLMI Grayling 146.25 33 IAMs_20 IAMs_20 07 05 25.8
comp=Z,12µm,20.0s
SDBA SAO DESIDERIO 146.26 206 PKP PKPdf 05 59 04.7 +0.3
PCAN Candelaria 146.29 313 *e*PKP PKPdf 05 59 00.4 -3.3
FCAR Ozark Folk Cen 146.32 52 IAMs_20 IAMs_20 07 00 45.6
comp=Z,18µm,21.0s
HQIL Hanson Quary C 146.36 40 IAMs_20 IAMs_20 07 08 07.7
comp=Z,15µm,20.0s
HOR Horta 146.37 313 *e*PKP PKPab 05 59 06.4 +0.5
PCED Cedros 146.37 314 *e*PKP PKPbc 05 59 04.9 -0.1
CALA Caldeira 146.39 313 *e*PKP PKPdf 05 59 03.5 -0.5
P43A Skaggs, Pawnee 146.48 44 IAMs_20 IAMs_20 07 00 50.6
comp=Z,18µm,22.0s
M44A Midewin, Midew 146.48 41 IAMs_20 IAMs_20 07 09 56.0
comp=Z,14µm,20.0s
SLM Saint Louis 146.49 46 IAMs_20 IAMs_20 07 06 58.2
comp=Z,13µm,21.0s
PTLB Pontes e Lacer 146.49 181 PKP PKPdf 05 59 05.2 +0.5
RCBR Riachuelo 146.56 226 IAMs_20 IAMs_20 06 53 59.2
comp=Z,13µm,22.0s
RCBR Riachuelo 146.56 226 PKP PKPbc 05 59 05.7 -0.7
FVM French Village 146.66 48 IAMs_20 IAMs_20 07 02 04.0
comp=Z,17µm,21.0s
Z41A Richland Creek 146.72 57 IAMs_20 IAMs_20 07 03 14.8
comp=Z,16µm,20.0s
VLDQ Val d'Or 146.85 22 IAMs_20 IAMs_20 07 06 50.7
comp=Z,19µm,22.0s
441A DeRidder 147.10 61 IAMs_20 IAMs_20 07 00 45.7
comp=Z,17µm,20.0s
SSV2 Sao Salvador 147.12 201 PKP PKPdf 05 59 05.9 +0.2
Q44A Meyer Farm, Va 147.19 45 IAMs_20 IAMs_20 07 05 17.5
comp=Z,17µm,20.0s
J47A Sunmer 147.21 35 IAMs_20 IAMs_20 07 19 29.7
comp=Z,13µm,19.0s
NBMA Muriti-CE 147.29 221 PKP PKPbc 05 59 07.5 -0.9
NBPA Parau_RN 147.44 225 PKP PKPbc 05 59 08.1 -0.7
HBAR Harrisburg 147.55 52 IAMs_20 IAMs_20 07 03 25.1
comp=Z,16µm,20.0s
H07S1 FLORES T-PHASE 147.67 317 *e*PKP PKPbc 05 59 09.0 +0.2
PARMO Parma 147.74 49 IAMs_20 IAMs_20 07 04 29.8
comp=Z,17µm,20.0s
I49A Point Hope 147.79 32 IAMs_20 IAMs_20 07 11 36.4
comp=Z,13µm,20.0s
OLIL Olney 147.89 45 IAMs_20 IAMs_20 07 05 58.0
comp=Z,16µm,21.0s
PEBM Pemiscott Bayo 147.90 50 IAMs_20 IAMs_20 07 02 01.2
comp=Z,18µm,21.0s
P46A Rosedale 148.00 43 IAMs_20 IAMs_20 07 06 01.6
comp=Z,18µm,20.0s
143A Socs Landing, 148.01 57 IAMs_20 IAMs_20 07 04 19.0
comp=Z,17µm,20.0s
HICK Hickman 148.17 49 IAMs_20 IAMs_20 07 02 06.2
comp=Z,17µm,21.0s
ICQ Pointe Anglais 148.21 10 IAMs_20 IAMs_20 07 19 33.9
comp=Z,11µm,20.0s
N47A Urbana 148.21 39 IAMs_20 IAMs_20 07 13 02.7
comp=Z,15µm,20.0s
MET Memphis--Engin 148.26 52 IAMs_20 IAMs_20 07 00 53.1
comp=Z,16µm,21.0s
BUKO Buck Lake 148.27 27 IAMs_20 IAMs_20 07 15 22.5
comp=Z,18µm,21.0s
ATAH Atahualpa 148.65 142 PKPbc PKPbc 05 59 10.7 -1.8
comp=Z,61nm,0.9s,baz=188,slow=3.0,SNR=29
BLO Bloomington 148.69 43 IAMs_20 IAMs_20 07 08 05.9
comp=Z,16µm,21.0s
K50A Casco 148.71 34 IAMs_20 IAMs_20 07 14 36.1
comp=Z,15µm,20.0s
CCIG Comitan 148.85 89 PKPdf 05 59 09.9 +1.2
CCIG IAMs_20 IAMs_20 06 59 45.2
comp=Z,16µm,19.0s
SNDB Serra Nova Dou 148.86 196 PKP PKPdf 05 59 08.4 -0.3
LDAQ Lac Daran 148.88 15 IAMs_20 IAMs_20 07 16 31.2
comp=Z,14µm,22.0s
OXF Oxford 148.91 53 IAMs_20 IAMs_20 07 04 29.1
comp=Z,15µm,20.0s
O48B Farmland 148.91 40 IAMs_20 IAMs_20 07 19 16.4
comp=Z,13µm,20.0s
SADO Sadowa 148.91 28 IAMs_20 IAMs_20 07 14 59.5
comp=Z,15µm,19.0s
VILB Vilhena 148.97 179 PKP PKPdf 05 59 09.7 +0.9
RTAL Retalhuleu 148.97 92 PKPbc 05 59 11.7 -1.1
RTAL IAMs_20 IAMs_20 06 57 33.4
comp=Z,17µm,21.0s
N49A Columbus Grove 149.08 38 IAMs_20 IAMs_20 06 59 02.5
comp=Z,15µm,22.0s
NBPB Pedra_Branca-C 149.21 222 PKP PKPdf 05 59 09.6 +0.3
P48A Milroy 149.22 41 IAMs_20 IAMs_20 07 02 58.7
comp=Z,15µm,21.0s
HUEH Huehuetenango 149.30 91 IAMs_20 IAMs_20 06 59 22.1
comp=Z,16µm,20.0s
NBCL Cascavel-CE 149.35 225 PKP PKPdf 05 59 11.1 +1.7
WCI Wyandotte Cave 149.36 44 PKPdf 05 59 08.6 -0.1
WCI Wyandotte Cave 149.36 44 IAMs_20 IAMs_20 07 04 07.8
comp=Z,19µm,22.0s
WCI Wyandotte Cave 149.36 44 PKHKP PKPpre 05 59 08.6
WCI MLR MLR
comp=Z,19µm,22.0s
WVT Waverly 149.36 49 PKPdf 05 59 08.3 -0.4
WVT Waverly 149.36 49 PKiKP PKPdf 05 59 08.4 -0.4
WVT MLR MLR
comp=Z,23µm,20.0s
M50A Fremont 149.42 36 IAMs_20 IAMs_20 07 01 49.2
comp=Z,15µm,22.0s
O49A Covington 149.45 39 IAMs_20 IAMs_20 07 07 49.5
comp=Z,15µm,20.0s
TRQ Mont Tremblant 149.49 21 IAMs_20 IAMs_20 07 15 13.9
comp=Z,17µm,21.0s
LMQ La Malbaie 149.49 14 IAMs_20 IAMs_20 07 10 48.3
comp=Z,10µm,21.0s
PLAL Pidwick Lake 149.71 51 IAMs_20 IAMs_20 07 07 22.0
comp=Z,15µm,19.0s
DELO Deloro Mine 149.77 26 IAMs_20 IAMs_20 07 18 40.0
comp=Z,14µm,20.0s
N51A Ashland 150.12 36 PKPdf 05 59 09.4 -0.5
N51A IAMs_20 IAMs_20 07 03 31.7
comp=Z,16µm,22.0s
PDRB Porto dos Gac 150.18 186 PKP PKPdf 05 59 10.3 -0.5
D62A Allapoint, All 150.22 13 PKPdf 05 59 09.3 -0.5
D62A IAMs_20 IAMs_20 07 11 19.5
comp=Z,16µm,21.0s
ACSO Alum Creek Sta 150.22 38 IAMs_20 IAMs_20 07 10 13.7
comp=Z,15µm,19.0s
WBO Williamsburg 150.29 23 IAMs_20 IAMs_20 07 16 43.3
comp=Z,14µm,21.0s
MNTQ Montreal, Queb 150.43 20 IAMs_20 IAMs_20 07 17 28.7
comp=Z,13µm,19.0s
CLTN Cedars of Leba 150.44 48 IAMs_20 IAMs_20 07 08 07.1
comp=Z,10µm,19.0s
Z47A Carrollton 150.45 54 IAMs_20 IAMs_20 07 16 12.2
comp=Z,14µm,20.0s
E62A Clayton Lake 150.55 14 IAMs_20 IAMs_20 07 11 47.3
comp=Z,17µm,22.0s
SMTB Santa Maria do 150.57 205 PKP PKPdf 05 59 11.3 -0.1
BATG Bathurst New B 150.58 9 IAMs_20 IAMs_20 07 14 58.6
comp=Z,12µm,20.0s
U49A Red Boiling Sp 150.62 46 IAMs_20 IAMs_20 07 03 52.5
comp=Z,15µm,20.0s
P51A Williamsport 150.66 39 IAMs_20 IAMs_20 07 08 31.4
comp=Z,18µm,22.0s
J55A Hilton 150.69 28 IAMs_20 IAMs_20 07 20 48.5
comp=Z,13µm,20.0s
X48A Hartselle 150.70 51 IAMs_20 IAMs_20 07 10 38.4
comp=Z,16µm,20.0s
CLDB Colider 150.81 188 PKP PKPdf 05 59 11.4 -0.4
LONY Lake Ozonia 150.87 22 IAMs_20 IAMs_20 07 09 50.6
comp=Z,18µm,21.0s
O52A Adamsville 150.96 37 IAMs_20 IAMs_20 07 12 33.4
comp=Z,11µm,20.0s
WVNY West Valley, N 151.00 30 IAMs_20 IAMs_20 07 15 45.0
comp=Z,14µm,20.0s
FRNY Flat Rock 151.03 21 IAMs_20 IAMs_20 07 19 16.7
comp=Z,13µm,20.0s
CZSB Cruzeiro do Su 151.09 152 PKP PKPdf 05 59 12.8 +0.6
SWET Sewanee 151.16 49 IAMs_20 IAMs_20 07 07 56.2
comp=Z,16µm,20.0s
MTO3 Montecristo 151.16 93 IAMs_20 IAMs_20 06 59 28.4
comp=Z,14µm,21.0s
ESQI Esquipulas 151.21 93 PKPbc 05 59 15.6 -2.7
ESQI IAMs_20 IAMs_20 06 59 42.8
comp=Z,15µm,21.0s
O53A New Philadelph 151.22 36 IAMs_20 IAMs_20 07 17 22.8
comp=Z,13µm,20.0s
NBPS Pedro II - PI 151.26 220 PKP PKPdf 05 59 13.2 +0.7
LRAL Lakeview Retre 151.34 54 IAMs_20 IAMs_20 07 05 44.7
comp=Z,15µm,19.0s
S51A Beattyville 151.45 43 IAMs_20 IAMs_20 07 05 16.0
comp=Z,17µm,21.0s
F64A Sherman 151.53 13 IAMs_20 IAMs_20 07 17 38.2
comp=Z,16µm,20.0s
K57A Scipio Center 151.69 27 IAMs_20 IAMs_20 07 13 25.8
comp=Z,15µm,19.0s
FPAL Fort Paine 151.71 50 IAMs_20 IAMs_20 07 13 15.0
comp=Z,8µm,19.0s
O54A Avella 151.73 35 IAMs_20 IAMs_20 07 04 00.1
comp=Z,19µm,22.0s
VT1 Waterbury 151.75 20 IAMs_20 IAMs_20 07 10 48.0
comp=Z,18µm,21.0s
J59A Piesco 151.89 23 IAMs_20 IAMs_20 07 03 18.8
comp=Z,15µm,22.0s
LABB Lajbrea 151.94 167 PKP PKPdf 05 59 13.2 -0.3
BRAL Brewton 152.01 57 IAMs_20 IAMs_20 07 09 51.0
comp=Z,13µm,20.0s
H62A Milan 152.03 18 IAMs_20 IAMs_20 07 21 23.8
comp=Z,15µm,21.0s
X51A Calhoun 152.25 49 IAMs_20 IAMs_20 07 08 53.0
comp=Z,15µm,19.0s
Q54A Coxs Mills 152.29 37 IAMs_20 IAMs_20 07 14 41.5
comp=Z,16µm,21.0s
PAL2 UHE Estreito - 152.37 207 PKP PKPdf 05 59 12.9 -1.3
WVL Waterville 152.45 16 IAMs_20 IAMs_20 07 15 27.7
comp=Z,15µm,20.0s
HNH Hanover 152.46 20 IAMs_20 IAMs_20 07 11 06.6
comp=Z,14µm,21.0s
NBBC Barra do Corda 152.48 212 PKP PKPdf 05 59 13.8 -0.5
PAL01 Palmeiras do T 152.56 207 PKP PKPdf 05 59 14.0 -0.4
I62A Tamworth 152.61 19 IAMs_20 IAMs_20 07 10 33.3
comp=Z,17µm,21.0s
I63A Otisfield 152.67 17 IAMs_20 IAMs_20 07 19 25.8
comp=Z,14µm,21.0s
J61A Chester 152.69 21 IAMs_20 IAMs_20 07 14 58.7
comp=Z,14µm,20.0s
SSPA Standing Stone 152.70 31 IAMs_20 IAMs_20 07 18 41.2
comp=Z,11µm,20.0s
EMMW East Machias 152.82 12 PKPbc 05 59 20.7 -0.3
TEIG Tepich 152.83 81 IAMs_20 IAMs_20 07 01 30.3
comp=Z,12µm,22.0s
CRIN San Cristobal 152.96 98 IAMs_20 IAMs_20 06 57 57.5
comp=Z,13µm,22.0s
TGUH Tegucigalpa,Un 153.07 95 IAMs_20 IAMs_20 06 59 18.9
comp=Z,16µm,20.0s
HERN Volcan Telica 153.14 98 IAMs_20 IAMs_20 06 58 12.6
comp=Z,15µm,22.0s
CNGN Cerro Negro 153.23 98 PKiKP 05 59 22.9 -0.1
451A Vernon 153.25 58 IAMs_20 IAMs_20 07 11 16.0
comp=Z,12µm,20.0s
K62A Royalston 153.40 21 IAMs_20 IAMs_20 07 22 14.6
comp=Z,15µm,19.0s
SLOR San Lorenzo - 153.48 133 PKPdf 05 59 19.4 +3.0
HAL Halifax 153.49 6 IAMs_20 IAMs_20 07 16 48.5
comp=Z,15µm,20.0s
P57A Homestead Farm 153.50 33 IAMs_20 IAMs_20 07 16 47.6
comp=Z,14µm,20.0s
MGAN Managua 153.56 100 IAMs_20 IAMs_20 07 01 32.8
comp=Z,11µm,22.0s
352A Blakely 153.57 55 IAMs_20 IAMs_20 07 24 39.1
comp=Z,14µm,21.0s
SDMD Soldier's Deli 154.15 32 IAMs_20 IAMs_20 07 10 49.7
comp=Z,11µm,20.0s
BOAB BOACO BROADBA 154.19 99 PKP PKPdf 05 59 18.5 +1.8
BOAB BOACO BROADBA 154.19 99 PKPdf 05 59 12.0 -4.6
OTAV Otavalo 154.20 132 IAMs_20 IAMs_20 07 00 10.7
comp=Z,11µm,22.0s
OTAV Otavalo 154.20 132 PKP PKPdf 05 59 18.6 +1.2
HODGE Hodges 154.26 47 IAMs_20 IAMs_20 07 21 55.1
comp=Z,18µm,22.0s
WUPA West Chester U 154.34 29 IAMs_20 IAMs_20 07 11 39.4
comp=Z,13µm,21.0s
553A Crawfordville 154.47 58 IAMs_20 IAMs_20 07 01 51.1
comp=Z,15µm,22.0s
NPGB Novo Progresso 154.51 190 PKP PKPdf 05 59 17.2 -0.1
TIGA Tifton 154.63 54 IAMs_20 IAMs_20 07 19 11.9
comp=Z,13µm,20.0s
ESPN Las Esperanzas 155.39 101 IAMs_20 IAMs_20 07 02 07.4
comp=Z,12µm,20.0s
TBTG Tabatinga, AM 155.47 154 PKP PKPdf 05 59 18.4 -0.1
656A Willston 156.30 58 IAMs_20 IAMs_20 07 20 16.7
comp=Z,12µm,22.0s
TMAB Tom-Au,PA,Br 156.59 210 PKP PKPdf 05 59 18.8 -1.2
Y60A Bolivia 157.12 43 IAMs_20 IAMs_20 07 24 36.2
comp=Z,16µm,20.0s
ITTB Itaituba 157.19 190 PKP PKPdf 05 59 19.9 -0.9
BMO2 UHE Belo Monte 157.26 200 PKP PKPdf 05 59 20.3 -0.6
BMO1 UHE Belo Monte 157.37 201 PKP PKPdf 05 59 20.0 -1.0
ATM1 UHE Belo Monte 157.39 199 PKP PKPdf 05 59 21.2 +0.1
DWPF Disney Wildern 157.67 60 IAMs_20 IAMs_20 07 09 12.2
comp=Z,16µm,22.0s
TEFE Tefe 157.79 166 PKP PKPdf 05 59 22.0 +0.5
MACA Manacapuru-AM 158.68 177 PKP PKPdf 05 59 23.5 +0.9
061Z Ochoppi 158.84 65 IAMs_20 IAMs_20 07 26 20.0
comp=Z,10µm,20.0s
060A Indiantown 158.94 62 IAMs_20 IAMs_20 07 24 30.1
comp=Z,15µm,22.0s
CAMR Camarioca 159.05 73 IAMs_20 IAMs_20 07 13 38.4
comp=Z,35µm,21.0s
MAL2 Monte Alegre, 159.16 195 PKP PKPdf 05 59 24.1 +0.9
SGC2 Sao Gabriel da 160.30 157 PKP PKPdf 05 59 24.7 +0.2
ROSC El Rosal 160.35 131 PKP PKPdf 05 59 26.3 +1.3
comp=Z,36nm,0.7s,baz=159,slow=7.5,SNR=28
ROSC PKPab PKPab 06 00 07.0 +1.4
comp=Z,54nm,0.7s,baz=43,slow=3.5,SNR=8.7
RUSC La Rusia 161.96 131 PKPdf 05 59 25.7 -1.2
BOAV Boa Vista 164.20 176 PKP PKPdf 05 59 28.5 +0.1
MDP Montagnes des 165.27 208 PKP PKPdf 05 59 30.4 +1.1
comp=Z,47nm,1.0s,baz=144,slow=0.7,SNR=12
MDP PKPab PKPab 06 00 26.5 0.0
comp=Z,51nm,1.2s,baz=157,slow=3.5,SNR=4.6
SDV Santo Domingo 165.77 129 PKP PKPdf 05 59 30.2 +0.2
comp=Z,7.9nm,0.4s,baz=267,slow=2.6,SNR=7.2
SDV PKPab PKPab 06 00 30.1 +1.0
comp=Z,25nm,0.6s,baz=252,slow=6.5,SNR=5.9
BAUV El Baul 167.60 137 PKPdf 05 59 30.5 -0.6
PCRV Puerto La Cruz 170.57 148 PKP PKPdf 05 59 32.6 -0.4
comp=Z,5.2nm,0.7s,baz=33,slow=3.4,SNR=3.1
PCRV PKPab PKPab 06 00 50.6 +0.6
comp=Z,10.0nm,0.9s,baz=45,slow=4.3,SNR=1.6
SJG San Juan 173.74 90 PKP PKPdf 05 59 34.2 0.0
comp=Z,19nm,0.9s,baz=304,slow=3.6,SNR=4.6
SJG PKPab PKPab 06 01 05.3 +1.0
comp=Z,22nm,0.8s,baz=247,slow=3.9,SNR=3.7

PRU 14 05:53:37.7, 50°30N×18°97E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STEB	Steborice	0.85	245	*e*SG	Sg	05 54 05.0	-0.1
MORC	Moravsky Berou	1.06	241	*e*PG	Pg	05 53 57.6	-0.4
MORC				*e*SG	Sg	05 54 10.0	-1.7
KRLC	Kraliky	1.42	262	*e*PG	Pn	05 54 02.9	-2.0
KRLC				*e*SG	Sg	05 54 22.3	-1.1
KRLC	Kraliky	1.42	262	*e*P	Pn	05 54 02.9	-2.0
DPC	Dobruska-Polom	1.70	273	*e*SG	Sg	05 54 32.1	-0.1

AUST 14 05:55:20.4±1.7, 19°S±8°×12°1E±°, h22km±18km, mb5.7/8, ML4.7/6, Error ellipse: s-maj=22.9km s-min=5.2km az=139.7, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC

MBWA	**Marble Bar**	**2.67**	**199**	P		Pn	05 56 02.9	+0.8
MBWA				S		Sn	05 56 34.9	+1.0
PSAC1	**Pilbara Seismi**	**3.00**	**195**	P		Pn	05 56 06.6	-0.1
PSAC1				S		Sn	05 56 42.5	+0.4
PSAC2	**Pilbara Seismi**	**3.01**	**194**	P		Pn	05 56 07.3	+0.4
PSAC2				S		Sn	05 56 43.2	+1.0
PSAB2	**Pilbara Seismi**	**3.01**	**194**	P		Pn	05 56 06.4	-0.5
PSAB2				S		Sn	05 56 42.5	+0.2
PSAA2	**Pilbara Seismi**	**3.02**	**194**	P		Pn	05 56 06.7	-0.3
PSAA2				S		Sn	05 56 43.0	+0.4
PSA00	**Pilbara Seismi**	**3.03**	**194**	P		Pn	05 56 06.8	-0.4
PSA00				S		Sn	05 56 43.2	+0.4
PSAB1	**Pilbara Seismi**	**3.03**	**195**	P		Pn	05 56 06.9	-0.3
PSAB1				S		Sn	05 56 43.3	+0.4
PSAA1	**Pilbara Seismi**	**3.04**	**195**	P		Pn	05 56 07.2	0.0
PSAA1				S		Sn	05 56 43.6	+0.6
PSAB3	**Pilbara Seismi**	**3.05**	**194**	P		Pn	05 56 07.2	-0.2
PSAB3				S		Sn	05 56 44.0	+0.7
FITZ	**Fitzroy Crossi**	**4.76**	**84**	S		Sn	05 57 25.7	+0.2
GIRL	**Giralia**	**7.22**	**235**	P		Pn	05 56 59.3	-5.5
GIRL				S		Sn	05 58 14.1	-12
MEEK	**Meekatharra**	**8.20**	**193**	P		Pn	05 57 16.4	-1.8
	comp=Z,770nm,1.3s,comp=Z,3.6nm							
MEEK	**Meekatharra**	**8.20**	**193**	S		Sn	05 58 45.6	-4.6
KNRA	**Kununurra**	**8.28**	**71**	P		Pn	05 57 18.4	-0.9
	comp=Z,700nm,1.1s,comp=Z,2.2nm							
KNRA				S		Sn	05 58 49.5	-2.8
CVQOZ	**Cooralya Stati**	**8.43**	**225**	P		Pn	05 57 16.8	-4.5
CVQOZ				S		Sn	05 58 42.6	-13
WRKA	**Warakurna**	**9.54**	**133**	P		Pn	05 57 41.8	+5.2
	comp=Z,379nm,1.3s,comp=Z,1.7nm							
WRKA				S		Sn	05 59 24.8	+1.6
MORW	**Morawa**	**11.22**	**201**	P		Pn	05 58 05.0	+5.4
	comp=Z,528nm,0.9s							
MORW	**Morawa**	**11.22**	**201**	S		Sn	05 59 52.7	-12
MTN	**Manton Dam**	**11.60**	**62**	P		Pn	05 58 06.4	+1.5
	comp=Z,615nm,1.4s							
MTN	**Manton Dam**	**11.60**	**62**	S		Sn	06 00 06.4	-7.4
BLDU	**Ballidu**	**12.46**	**196**	S		Sn	06 00 23.3	-11
KMBL	**Kambalda**	**12.74**	**175**	S		Sn	06 00 31.4	-10
	comp=Z,195nm,2.7s							
KLBR	**Kellerberrin**	**13.18**	**191**	S		Sn	06 00 41.3	-11
FORT	**Forrest**	**13.84**	**152**	S		Sn	06 01 07.2	-1.2
	comp=Z,313nm,1.0s							
MUN	**Mundaring**	**13.89**	**196**	S		Sn	06 00 58.5	-11
	comp=Z,621nm,2.5s							

ROM 14 05:56:02.3±0.2, 43°.034N±0°.005×13°.26E±0°.01, h25km±1km, ML1.4/10, 1D, Error ellipse: s-maj=1.0km s-min=0.8km az=85.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMA	**Gualdo di Mace**	**0.06**	**63**	⇓P	Pb	05 56 06.7	0.0
GUMA				S	Sb	05 56 10.1	+0.4
GUMA				AML	AML		
	comp=E,270μm,0.3s						
GUMA				AML	AML		
	comp=N,226μm,0.3s						
GUMA				AML	AML		
	comp=E,269μm,0.3s						
GUMA				AML	AML		
	comp=N,227μm,0.3s						
GUMA				AML	AML		
	comp=E,252μm,0.2s						
PF6	**Pievefavera**	**0.12**	**337**	P	Pb	05 56 06.9	-0.3
PF6				S	Sb	05 56 10.4	-0.1
MMO1	**Montemonaco**	**0.14**	**159**	P	Pb	05 56 07.3	-0.2
MMO1				S	Sb	05 56 11.0	+0.2
MF5	**Montefalcone A**	**0.15**	**107**	P	Pb	05 56 07.5	0.0
MF5				S	Sb	05 56 11.6	+0.5
NRCA	**Norcia**	**0.23**	**208**	P	Pb	05 56 08.4	0.0
NRCA				S	Sb	05 56 13.0	+0.6
NRCA				AML	AML		
	comp=E,115μm,0.9s						
NRCA				AML	AML		
	comp=N,107μm,1.2s						
NRCA				AML	AML		
	comp=E,112μm,0.2s						
NRCA				AML	AML		
	comp=N,96μm,0.1s						
NRCA				AML	AML		
	comp=E,117μm,0.2s						
NRCA				AML	AML		
	comp=N,482μm,0.6s						
EL6	**Elcito**	**0.32**	**339**	P	Pb	05 56 09.7	+0.1
EL6				S	Sb	05 56 15.5	+0.8
EL6				AML	AML		
	comp=N,46μm,0.3s						
SNTG	**Esanatoglia**	**0.32**	**314**	P	Pb	05 56 09.8	+0.2
SNTG				S	Sb	05 56 15.7	+1.0
SNTG				AML	AML		
	comp=E,18μm,0.2s						
SNTG				AML	AML		
	comp=N,42μm,0.3s						
CING	**Cingoli**	**0.34**	**352**	P	Pb	05 56 09.9	-0.1
CING				S	Sb	05 56 16.0	+0.7
TERO	**Teramo**	**0.48**	**148**	P	Pb	05 56 12.4	+0.1
TERO				S	Sn	05 56 20.7	-0.7

AUST 14 05:59:17.9±1.2, 18°S±5°×12°1E±°, h20km±11km, mb5.3/9, ML4.6/10, Error ellipse: s-maj=14.9km s-min=4.0km az=132.3, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.88**	**195**	P	Pn	06 00 02.0	-0.7
MBWA				S	Sn	06 00 38.3	+1.5
PSAC2	**Pilbara Seismi**	**3.23**	**191**	P	Pn	06 00 08.0	+0.4
PSAC2				S	Sn	06 00 47.2	+1.6
PSA00	**Pilbara Seismi**	**3.25**	**192**	P	Pn	05 59 59.4	-8.5
PSA00				S	Sn	06 00 47.1	+1.0
FITZ	**Fitzroy Crossi**	**4.84**	**88**	P	Pn	06 00 32.3	+2.6
FITZ	**Fitzroy Crossi**	**4.84**	**88**	S	Sn	06 01 26.6	+1.4
GIRL	**Giralia**	**7.29**	**233**	P	Pn	06 01 01.9	-1.4
GIRL				S	Sn	06 02 19.3	-6.3
KNRA	**Kununurra**	**8.30**	**72**	P	Pn	06 01 17.9	+0.7
	comp=Z,376nm,1.4s,comp=Z,1.5nm						
KNRA				S	Sn	06 02 51.2	+0.8
MEEK	**Meekatharra**	**8.42**	**192**	P	Pn	06 01 19.8	+0.9
	comp=Z,234nm,1.4s,comp=Z,1.7nm						
MEEK	**Meekatharra**	**8.42**	**192**	S	Sn	06 02 50.1	-3.3
CVQOZ	**Cooralya Stati**	**8.54**	**224**	P	Pn	06 01 18.7	-1.8
CVQOZ				S	Sn	06 02 47.0	-9.2
SOEI	**Soe**	**9.29**	**23**	P	Pn	06 01 30.3	-0.7
	comp=Z,209nm,1.5s,comp=Z,1.4nm						
SOEI	**Soe**	**9.29**	**23**	S	Sn	06 03 24.3	+9.3
EDFI	**Ende, Flores**	**9.63**	**7**	P	Pn	06 01 31.8	-3.7
WRKA	**Warakurna**	**9.78**	**134**	P	Pn	06 01 45.4	+7.8
WRKA				S	Sn	06 03 26.2	-0.7
MORW	**Morawa**	**11.42**	**200**	P	Pn	06 01 59.7	-0.3
	comp=Z,146nm,1.5s						
MTN	**Manton Dam**	**11.57**	**63**	P	Pn	06 02 01.2	-1.0
	comp=Z,347nm,2.5s						
BLDU	**Ballidu**	**12.68**	**195**	P	Pn	06 02 16.7	-0.5
	comp=Z,309nm,2.2s						
KLBR	**Kellerberrin**	**13.40**	**190**	P	Pn	06 02 27.6	+0.5
	comp=Z,277nm,1.3s						
FORT	**Forrest**	**14.11**	**153**	P	P	06 02 43.8	-0.4
MUN	**Mundaring**	**14.11**	**195**	P	Pn	06 02 35.7	-1.0
	comp=Z,257nm,2.0s						
NWAO	**Narrogin (SRO)**	**14.80**	**191**	P	Pn	06 02 45.1	-1.0
	comp=Z,382nm,1.4s						

*NEIC **14** 06:03:08.7±1.2, 18°.79S±0°.09×120°.29E±0°.07, h10km±1km, mb4.2/7, Error ellipse: s-maj=14.5km s-min=10.5km az=191.0*

*IDC **14** 06:03:11.2±1.6, 18°.75S×120°.51E, h0km, mb4.0/3, mbtmp4.3/6, ML4.1/3, Error ellipse: s-maj=53.0km s-min=25.0km az=50.0*

*AUST **14** 06:03:15.8±1.3, 19°S±5°×12°1E±°, h11km±11km, mb5.2/5, ML4.5/6, ML4.8/2, Error ellipse: s-maj=13.6km s-min=6.7km az=134.4*

ISC 14 06:03:10.1±1.5, 18.87S±0.05×120.45E±0.05, h17km±9km, n54, c2936/60, mb4.2/8, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.38**	**196**	Pn	**Pn**	**06 03 48.1**	**-0.2**
MBWA	**Marble Bar**	**2.38**	**196**	P	**Pg**	**06 03 58.5**	**+2.8**
MBWA				S	**Sg**	**06 04 29.0**	**+2.4**
PSAC1	**Pilbara Seismi**	**2.72**	**193**	P	**Pg**	**06 04 01.4**	**-0.8**
PSAC1				S	**Sg**	**06 04 36.8**	**-0.7**
PSAB2	**Pilbara Seismi**	**2.73**	**192**	P	**Pg**	**06 04 01.4**	**-1.0**
PSAB2				S	**Sg**	**06 04 37.3**	**-0.6**
PSAC2	**Pilbara Seismi**	**2.73**	**191**	P	**Pg**	**06 04 01.5**	**-1.0**
PSAC2				S	**Sg**	**06 04 37.9**	**0.0**
PSAA2	**Pilbara Seismi**	**2.74**	**192**	P	**Pg**	**06 04 02.0**	**-0.7**
PSAA2				S	**Sg**	**06 04 37.4**	**-0.8**
PSA00	**Pilbara Seismi**	**2.75**	**192**	P	**Pg**	**06 04 01.5**	**-1.4**
PSA00				S	**Sg**	**06 04 38.0**	**-0.5**
PSAB1	**Pilbara Seismi**	**2.75**	**192**	P	**Pg**	**06 04 02.7**	**-0.2**
PSAB1				S	**Sg**	**06 04 38.3**	**-0.3**
PSAA1	**Pilbara Seismi**	**2.75**	**192**	P	**Pg**	**06 04 01.6**	**-1.3**
PSAA1				S	**Sg**	**06 04 38.1**	**-0.6**
PSAB3	**Pilbara Seismi**	**2.77**	**192**	P	**Pg**	**06 04 01.7**	**-1.5**
PSAB3				S	**Sg**	**06 04 38.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**4.99**	**82**	Sn	**Sn**	**06 05 18.7**	**-2.7**
	11nm,0.3s,baz=235,slow=13,SNR=1.3						
GIRL	**Giralia**	**6.92**	**236**	Pn	**Pn**	**06 04 48.8**	**-2.0**
GIRL	**Giralia**	**6.92**	**236**	P	Pn	06 04 54.5	+3.7
GIRL				S	**Sn**	**06 06 08.6**	**-0.6**
MEEK	**Meekatharra**	**7.92**	**192**	P	Pn	06 05 13.2	+8.7
	comp=Z,323nm,2.0s,comp=Z,1.3nm						
MEEK	**Meekatharra**	**7.92**	**192**	S	**Sn**	**06 06 40.2**	**+6.6**
CVQOZ	**Cooralya Stati**	**8.12**	**226**	P	**Pn**	**06 05 07.1**	**0.0**
CVQOZ				S	**Sn**	**06 06 38.9**	**+0.4**
KNRA	**Kununurra**	**8.55**	**69**	Pn	**Pn**	**06 05 14.2**	**+1.0**
KNRA	**Kununurra**	**8.55**	**69**	P	**Pn**	**06 05 16.6**	**+3.4**
	comp=Z,225nm,0.7s,comp=Z,1.1nm						
KNRA				S	**Sn**	**06 06 44.2**	**-5.1**
WRKA	**Warakurna**	**9.52**	**132**	S	**Sn**	**06 07 20.0**	**+6.8**
SOEI	**Soe**	**9.79**	**23**	Pn	**Pn**	**06 05 29.1**	**-1.1**
SOEI	**Soe**	**9.79**	**23**	P	**Pn**	**06 05 34.1**	**+3.9**
	comp=Z,149nm,2.2s,comp=Z,0.9nm						
PLAI	**Plampang**	**10.31**	**345**	S	Sn	06 07 06.8	-26
TWSI	**Taliwang, Sumb**	**10.65**	**341**	S	Sn	06 07 16.4	-24
MORW	**Morawa**	**10.92**	**201**	Pn	**Pn**	**06 05 42.0**	**-3.7**
MORW	**Morawa**	**10.92**	**201**	S	**Sn**	**06 07 47.8**	**+0.3**
DPH	**Darwin Parliam**	**11.86**	**59**	P	Pn	06 05 45.9	-13
DPH				S	Sn	06 07 58.6	-12
JAGI	**Jajag, Banyuwa**	**12.01**	**329**	S	Sn	06 07 49.5	-25
BLDU	**Ballidu**	**12.18**	**195**	S	**Sn**	**06 08 18.3**	**+0.1**
KLBR	**Kellerberrin**	**12.90**	**190**	P	Pn	06 06 20.4	+7.7
	comp=E,178nm,0.8s						
WRA	**Warramunga Arr**	**13.15**	**97**	Pn	**Pn**	**06 06 18.5**	**+2.4**
	comp=Z,1.4nm,0.3s,baz=274,slow=14,SNR=2.1						
WRA				Sn	Sn	06 08 35.5	-6.6
	comp=Z,1.6nm,0.3s,baz=280,slow=25,SNR=2.1 comp=Z,4.3nm,0.5s						
WRAB	**Tennant Creek**	**13.16**	**97**	P	Pn	06 06 09.2	-7.1
WB2	**Warramunga Arr**	**13.16**	**97**	Pn	**Pn**	**06 06 16.1**	**-0.3**
WB0	**Warramunga Arr**	**13.20**	**96**	Pn	**Pn**	**06 06 17.9**	**+1.1**
WR8	**Warramunga Arr**	**13.30**	**97**	Pn	**Pn**	**06 06 19.7**	**+1.5**
WR0	**Warramunga Arr**	**13.34**	**97**	Pn	**Pn**	**06 06 19.1**	**+0.3**
ASAR	**Alice Springs**	**13.42**	**113**	Pn	**Pn**	**06 06 21.6**	**+1.7**
ASAR	**Alice Springs**	**13.42**	**113**	Pn	**Pn**	**06 06 23.2**	**+3.4**
	comp=Z,2.1nm,0.3s,baz=294,slow=12,SNR=5.2						
ASAR				Sn	**Sn**	**06 08 47.4**	**-1.4**
	comp=Z,2.4nm,0.3s,baz=289,slow=22,SNR=2.1 comp=Z,6.6nm,0.6s						
AS31	**Alice Springs**	**13.42**	**113**	Pn	**Pn**	**06 06 21.7**	**+1.8**
FORT	**Forrest**	**13.72**	**151**	Pn	**Pn**	**06 06 24.6**	**+0.7**
FORT	**Forrest**	**13.72**	**151**	P	**P**	**06 06 30.8**	**-1.7**
	comp=Z,66nm,1.0s						
NWAO	**Narrogin (SRO)**	**14.29**	**191**	Pn	**Pn**	**06 06 32.4**	**+0.7**
NWAO	**Narrogin (SRO)**	**14.29**	**191**	Pn	**P**	**06 06 36.0**	**-2.8**
	comp=Z,8.5nm,0.3s,baz=19,slow=13,SNR=6.4						
NWAO				Sn	**Sn**	**06 09 06.1**	**-3.8**
	comp=Z,10nm,0.3s,baz=99,slow=23,SNR=2.8 comp=Z,23nm,0.4s						
COEN	**Coen**	**22.33**	**81**	P	**P**	**06 08 05.7**	**-1.5**
COEN				IAmb	IAmb	06 08 19.8	
	comp=Z,10nm,0.9s						
SBUM	**Sibu**	**22.68**	**338**	P	**P**	**06 08 07.1**	**-3.8**
SBUM				IAmb	IAmb	06 08 14.5	
	comp=Z,5.5nm,1.0s						
STKA	**Stephens Creek**	**23.03**	**128**	P	**P**	**06 08 15.2**	**+0.8**
STKA	**Stephens Creek**	**23.03**	**128**	P	**P**	**06 08 18.4**	**+4.0**
	comp=Z,19nm,1.1s,baz=312,slow=12,SNR=6.1 comp=Z,19nm,1.1s						
MANU	**Manus Island**	**31.22**	**61**	P	**P**	**06 09 28.4**	**-0.5**
VNDA	**Vanda**	**62.08**	**171**	P	**P**	**06 13 29.3**	**-0.1**
SBA	**Scott Base**	**63.08**	**170**	P	**P**	**06 13 34.9**	**-1.2**
SBA				IAmb	IAmb	06 13 54.1	
	comp=Z,2.0nm,1.1s						
SONM	**Songino Array**	**67.58**	**350**	P	**P**	**06 14 08.7**	**+3.0**
	comp=Z,1.5nm,0.9s,baz=153,slow=4.9,SNR=4.4 comp=Z,1.5nm,0.9s						
QSPA	**South Pole Qui**	**71.18**	**180**	P	**P**	**06 14 29.1**	**+1.3**
QSPA				IAmb	IAmb	06 14 43.8	
	comp=Z,1.8nm,0.9s						
MKAR	**Makanchi Array**	**73.86**	**334**	P	**P**	**06 14 47.5**	**+3.7**
	comp=Z,0.3nm,0.5s,baz=130,slow=6.7,SNR=1.8 comp=Z,0.3nm,0.5s						
AB31	**Akbulak array**	**86.41**	**325**	P	**P**	**06 15 50.2**	**-1.2**
AB31				IAmb	IAmb	06 15 50.5	
	comp=Z,1.8nm,0.9s						
ABKAR	**Akbulak array**	**86.41**	**325**	P	**P**	**06 15 50.6**	**-0.8**

*NEIC **14** 06:03:16.8±1.9, 35°.977N±0°.010×117°.67W±0°.01, h2km±2km, Error ellipse: s-maj=1.3km s-min=1.2km az=125.0*

PAS 14 06:03:17.3±1.7, 35°.979N±0°.010×117°.67W±0°.01, h2km±1km, ML3.5/16, ML3.2/110(NEIC), Error ellipse: s-maj=1.4km s-min=1.4km az=178.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCSM	**Coso Springs S**	**0.09**	**302**		Pg	06 03 20.9	+1.8
JRC2	**Joshua Ridge**	**0.11**	**272**		Pg	06 03 19.8	+0.3
WVPM	**Volcano Peak E**	**0.12**	**256**		Sg	06 03 22.1	+0.8
MPMC	**Manual Prospec**	**0.17**	**62**		Pg	06 03 20.8	+0.2
MPMC				Sg	Sg	06 03 23.5	+0.7
MPMC				IAML		06 03 23.6	
	comp=E,7μm,0.2s						
MPMC				IAML		06 03 23.6	
	comp=N,7μm,0.4s						
TOW	**Tower One**	**0.18**	**204**		Pg	06 03 21.4	+0.6
TOW					Sg	06 03 25.0	+1.7
MFS	**McCloud Flat S**	**0.20**	**313**		Pg	06 03 21.4	+0.1
MFS					Sg	06 03 24.7	+0.7
WNMM	**Nine Mile Cany**	**0.23**	**234**		Pg	06 03 22.1	+0.3
WNMM					Sg	06 03 25.6	+0.8
WSHM	**Spangler Hills**	**0.41**	**159**		Pg	06 03 24.9	-0.1
LRMC	**Laurel Mtn Rad**	**0.50**	**181**		Pg	06 03 26.6	-0.3
LRMC				IAML		06 03 34.2	
	comp=E,3μm,0.2s						
CCCA	**Chr Cany lake**	**0.52**	**151**		Pg	06 03 27.4	+0.1
WORM	**Onyx Ranch**	**0.54**	**239**		Pg	06 03 27.6	-0.1
WORM					Sg	06 03 34.9	+0.2
CWC	**Cottonwood Cre**	**0.57**	**324**		Pg	06 03 28.2	0.0
CWC				IAML		06 03 36.5	
	comp=E,1μm,0.3s						
CGO	**Cerro Gordo**	**0.58**	**350**		Pg	06 03 28.6	+0.1
CGO					Sg	06 03 37.2	+1.2
WBSM	**Bird Springs**	**0.58**	**221**		Pg	06 03 28.4	0.0
WHFM	**Hanning Flat**	**0.62**	**243**		Pg	06 03 29.1	-0.1
QSM	**Queen of Sheba**	**0.65**	**91**		Pg	06 03 29.6	-0.1
QSM				IAML		06 03 42.7	
	comp=E,1μm,0.2s						
QSM				IAML		06 03 44.2	
	comp=N,1μm,0.4s						
DTP	**Desert Tortois**	**0.72**	**191**		Pg	06 03 30.8	-0.4
DTP					Sg	06 03 40.8	+0.3
ISA	**Isabella, Lake**	**0.72**	**244**		Sg	06 03 40.9	+0.3
ISA	**Isabella, Lake**	**0.72**	**244**		Pg	06 03 31.1	-0.1
ISA				IAML		06 03 41.2	
	comp=N,3μm,0.3s						
ISA				IAML		06 03 41.8	
	comp=E,2μm,0.3s						
WASM	**Alta Sierra Ca**	**0.76**	**252**		Pg	06 03 31.8	-0.1
WASM					Sg	06 03 42.0	+0.4
GWY	**Greenwater Val**	**0.84**	**75**		Pg	06 03 33.2	-0.2
GWY				IAML		06 03 50.8	
	comp=N,797nm,0.6s						
GWY				IAML		06 03 51.8	
	comp=E,1μm,0.3s						
CCAC	**Calif City Air**	**0.87**	**199**		Pg	06 03 33.6	-0.4
SPG2	**Springville 2**	**0.91**	**284**		Pg	06 03 34.1	-0.7
SPG2					Sg	06 03 46.8	+0.1
GSC	**Goldstone, Bar**	**0.98**	**134**		Sg	06 03 49.0	+0.3
GSC	**Goldstone, Bar**	**0.98**	**134**		Pg	06 03 35.6	-0.4
GSC				IAML		06 03 51.4	
	comp=N,1μm,0.3s						
GRAC	**Grapevine Rang**	**1.04**	**14**		Pg	06 03 36.8	-0.6
GRAC				IAML		06 03 57.8	
	comp=N,577nm,0.6s						
GRAC				IAML		06 04 01.0	
	comp=E,583nm,0.6s						
HYS	**Haystack Butte**	**1.12**	**176**		Pg	06 03 37.9	-0.8
TEJ	**El Tejon**	**1.12**	**228**		Pg	06 03 37.9	-0.8
TEJ					Sg	06 03 52.7	-0.4
SGV	**South Grapevin**	**1.12**	**27**		Pg	06 03 38.7	-0.2
SGV					Sg	06 03 53.7	+0.2
EDW2	**Edwards Air Fo**	**1.13**	**194**		Pg	06 03 37.9	-1.0
SHOC	**Shoshone, Teco**	**1.14**	**94**		Pg	06 03 39.3	+0.3
VES	**Vestal, Richgr**	**1.16**	**264**		Pg	06 03 39.1	-0.3
WCT	**Wildcat Mounta**	**1.17**	**46**		Pg	06 03 39.2	-0.6
WCT					Sg	06 03 54.7	-0.3
WCT				IAML		06 03 56.7	
	comp=E,492nm,0.4s						
WCT				IAML		06 03 57.5	
	comp=N,326nm,0.8s						
TPO	**Tropico Hills**	**1.19**	**203**	Pg	Pg	06 03 39.3	-0.8
TPO				IAML		06 03 58.3	
	comp=N,728nm,0.6s						
TPO				IAML		06 03 58.4	
	comp=E,478nm,0.4s						
AMDNV	**Amargosa**	**1.22**	**67**		Pg	06 03 40.0	-0.7
RRX	**Edison Barstow**	**1.23**	**153**		Pb	06 03 41.2	-0.1
ARVC	**Arvin**	**1.27**	**228**		Pn	06 03 42.5	+0.4
ARVC					Sg	06 03 58.1	0.0
TJR	**Tejon Ranch**	**1.29**	**223**		Pg	06 03 41.1	-1.0
TJR					Sg	06 03 58.1	-0.7
SBB	**Saddle Back Bu**	**1.29**	**186**		Pg	06 03 41.0	-1.1
BAKC	**Calstate**	**1.33**	**242**		Pg	06 03 42.5	-0.2
BAKC					Sb	06 04 00.7	+0.3
THC	**Tehachapi Micr**	**1.34**	**217**		Pg	06 03 41.8	-1.2
GMN	**Gold Mountain**	**1.36**	**14**		Pg	06 03 42.6	-0.8
DSP	**Deep Springs**	**1.41**	**350**		Pn	06 03 43.4	-0.6
DSP					Sg	06 04 02.0	-0.6
VOG	**Valley Oaks Go**	**1.43**	**284**		Pn	06 03 43.9	-0.3
ADO	**Adelanto Recei**	**1.44**	**172**		Pn	06 03 44.6	+0.1
LEOC	**Leona Valley**	**1.44**	**201**		Pn	06 03 43.4	-1.1
BHPR	**Bishop**	**1.47**	**334**		Pg	06 03 45.3	-0.2
LRRC	**Littlerock Res**	**1.48**	**191**		Pn	06 03 45.2	+0.2
TPNV	**Topopah Spring**	**1.50**	**49**		Pn	06 03 44.8	-0.6
TPNV				IAML		06 04 08.6	
	comp=E,438nm,0.8s						
TPNV				IAML		06 04 11.8	
	comp=E,389nm,0.8s						
TUQ	**Turquoise Moun**	**1.52**	**110**		Pn	06 03 44.2	-1.5
HOLC	**Holcomb Ridge**	**1.52**	**185**		Pg	06 03 46.6	+0.1
JNH	**Juniper Hills**	**1.54**	**189**		Pn	06 03 44.9	-1.1
HEC	**Hector,Ludlow**	**1.58**	**136**		Pn	06 03 46.6	+0.1
HEC					Sg	06 04 08.1	-0.1
CHFC	**Chilao Flat St**	**1.67**	**190**		Pb	06 03 48.8	0.0
MZP	**Montezuma Peak**	**1.73**	**8**		Pn	06 03 48.6	-0.2
BFSC	**Mount Baldy Ra**	**1.74**	**180**		Pn	06 03 47.8	-0.8
BFSC				IAML		06 04 14.8	
	comp=E,185nm,0.2s						
BFSC				IAML		06 04 15.0	
	comp=N,206nm,0.3s						
SSK	**Sunset Peak**	**1.76**	**181**		Pb	06 03 50.8	+0.3
SIL	**Silver Peak**	**1.77**	**157**		Pb	06 03 50.8	+0.2
MWC	**Mount Wilson**	**1.78**	**190**		Pn	06 03 48.8	-0.5
MWC				IAML		06 04 16.5	
	comp=N,348nm,0.5s						
MWC				IAML		06 04 17.1	
	comp=E,260nm,0.5s						
MTPC	**Mountain Pass**	**1.79**	**105**		Pn	06 03 48.0	-1.4
MTPC				IAML		06 04 16.6	
	comp=N,177nm,0.3s						
MTPC				IAML		06 04 16.6	
	comp=E,213nm,0.3s						
BBRC	**Big Bear Solar**	**1.82**	**160**		Pb	06 03 51.4	-0.1
CRGC	**Crocker Grade**	**1.83**	**247**		Pb	06 03 51.2	-0.3
PASC	**Pasadena Art C**	**1.85**	**193**		Pn	06 03 49.8	-0.3
PSRC	**Puddingstone R**	**1.89**	**183**		Pg	06 03 53.1	-0.3
MLAC	**Mammoth, Mammo**	**1.90**	**331**		Pb	06 03 52.8	0.0
BLCC	**Black Canyon**	**1.92**	**206**		Pn	06 03 50.6	-0.4
MCSM	**Casa Diablo Ho**	**1.94**	**330**		Pb	06 03 53.5	-0.1
GMRC	**Granite Mounta**	**2.03**	**125**		Pn	06 03 50.7	-2.0
SHPR	**Sheep Range**	**2.10**	**75**		Pn	06 03 53.2	-0.4
S11A	**Rachel**	**2.27**	**42**		Pn	06 03 55.7	-0.3
S11A				IAML		06 04 30.9	
	comp=N,303nm,0.6s						
TPC	**Twentynine Pal**	**2.29**	**144**		Pn	06 03 55.3	-0.9
V12A	**Nelson**	**2.31**	**95**	Pn	Pn	06 03 55.2	-1.2
V12A				IAML		06 04 36.4	
	comp=N,75nm,1.4s						
ELS	**Elsinore Mount**	**2.33**	**175**		Pn	06 03 56.3	-0.5
ELS				IAML		06 04 34.2	
	comp=N,74nm,0.7s						
ELS				IAML		06 04 37.4	
	comp=E,75nm,1.1s						
POB	**Polly Butte**	**2.37**	**165**		Pn	06 03 56.9	-0.4
CRY	**Cary Ranch**	**2.53**	**162**		Pn	06 03 59.0	-0.5
PRN	**Pahroc Range**	**2.54**	**55**	Pn	Pn	06 03 59.6	-0.2
PRN				IAML		06 04

WNMM	Nine Mile Cany	0.15	253			Pg	06 06 42.5	+0.2
WRVM	Rose V. Centra	0.18	311			Pg	06 06 43.2	+0.3
MFS	McCloud Flat S	0.25	335			Sg	06 06 48.1	+0.5
MPMC	Manual Prospec	0.26	48			Pg	06 06 44.2	-0.1
MPMC					Sg	Sg	06 06 48.0	+0.4
MPMC					IAML		06 06 48.3	
	comp=N,7µm,0.5s							
MPMC					IAML		06 06 48.7	
	comp=E,4µm,0.2s							
WSHM	Spangler Hills	0.34	147			Pg	06 06 45.7	-0.3
LRMC	Laurel Mtn Rad	0.41	175			Pg	06 06 46.9	-0.3
LRMC						Sg	06 06 52.9	+0.3
LRMC					IAML		06 06 53.7	
	comp=N,2µm,0.5s							
LRMC					IAML		06 06 54.2	
	comp=E,2µm,0.2s							
WORM	Onyx Ranch	0.46	246			Sg	06 06 54.3	0.0
CCCA	Chr Cany lake	0.47	141			Pg	06 06 48.4	+0.1
CCCA						Sg	06 06 55.4	+1.1
WBSM	Bird Springs	0.49	224			Pg	06 06 48.6	-0.1
WBSM						Sg	06 06 55.6	+0.6
CWC	Cottonwood Cre	0.62	332			Pg	06 06 51.4	+0.1
CWC					IAML		06 07 00.9	
	comp=E,835nm,0.2s							
CWC					IAML		06 07 06.0	
	comp=N,909nm,0.2s							
DTP	Desert Tortois	0.63	189			Pg	06 06 51.0	-0.4
ISA	Isabella, Lake	0.65	250			Pg	06 06 51.5	-0.3
ISA					IAML		06 07 01.4	
	comp=E,617nm,0.3s							
ISA					IAML		06 07 02.7	
	comp=N,859nm,0.3s							
CGO	Cerro Gordo	0.66	354			Pg	06 06 51.7	-0.4
WASM	Alta Sierra Ca	0.69	258			Pg	06 06 52.5	-0.2
QSM	Queen of Sheba	0.70	83			Pg	06 06 52.3	-0.4
QSM					IAML		06 07 05.7	
	comp=E,1µm,0.3s							
CCAC	Calif City Air	0.77	198			Pg	06 06 53.7	-0.4
SPG2	Springville 2	0.90	291			Pg	06 06 55.9	-0.7
GWY	Greenwater Val	0.91	71			Pg	06 06 56.4	-0.3
GWY						Sg	06 07 08.5	+0.1
GWY					IAML		06 07 12.4	
	comp=E,721nm,0.3s							
GWY					IAML		06 07 13.6	
	comp=N,609nm,0.4s							
GSC	Goldstone, Bar	0.95	128			Sg	06 07 09.9	+0.1
GSC	Goldstone, Bar	0.95	128			Pg	06 06 57.0	-0.5
GSC					IAML		06 07 10.2	
	comp=N,650nm,0.3s							
TEJ	El Tejon	1.03	230			Pg	06 06 58.0	-1.0
EDW2	Edwards Air Fo	1.03	192			Pg	06 06 58.0	-1.0
HYS	Haystack Butte	1.03	173			Pg	06 06 58.3	-0.8
TPO	Tropico Hills	1.09	202			Pg	06 06 59.3	-0.9
TPO					IAML		06 07 16.9	
	comp=N,502nm,0.5s							
VES	Vestal, Richgr	1.11	268			Pg	06 07 00.0	-0.5
VES						Sg	06 07 15.2	+0.3
GRAC	Grapevine Rang	1.14	15			Pg	06 07 00.7	-0.6
GRAC					IAML		06 07 17.5	
	comp=E,726nm,0.4s							
GRAC					IAML		06 07 18.6	
	comp=N,678nm,0.5s							
RRX	Edison Barstow	1.17	149			Pg	06 07 01.1	-0.7
ARVC	Arvin	1.18	230			Pg	06 07 01.4	-0.6
TJR	Tejon Ranch	1.20	224			Pg	06 07 01.2	-1.0
TJR						Sg	06 07 17.2	-0.6
SBB	Saddle Back Bu	1.20	184			Pg	06 07 01.2	-1.1
SGV	South Grapevin	1.22	27			Pg	06 07 02.4	-0.4
SGV						Sg	06 07 18.6	-0.1
TIN	Tinemaha, Big	1.23	341			Pg	06 07 02.9	-0.1
THC	Tehachapi Micr	1.24	218			Pg	06 07 02.0	-1.2
BAKC	Calstate	1.25	245			Sb	06 07 20.1	+0.1
WCT	Wildcat Mounta	1.27	44			Pg	06 07 03.1	-0.5
WCT					IAML		06 07 21.1	
	comp=N,218nm,0.5s							
WCT					IAML		06 07 24.2	
	comp=E,410nm,0.5s							
AMDNV	Amargosa	1.30	64			Pg	06 07 02.7	-1.5
AMDNV						Sg	06 07 20.6	-0.4
LEOC	Leona Valley	1.34	201			Pn	06 07 04.5	-0.4
LCH	Last Change Ra	1.34	3			Pn	06 07 04.3	-0.7
LRRC	Littlerock Res	1.38	190			Pn	06 07 04.2	-1.3
LRRC						Sg	06 07 23.2	-0.5
CJV	Casa Juvan	1.40	194			Sb	06 07 24.3	-0.1
VOG	Valley Oaks Go	1.41	288			Pn	06 07 05.3	-0.5
VOG						Sb	06 07 24.4	-0.2
HOLC	Holcomb Ridge	1.43	184			Pn	06 07 04.8	-1.4
HOLC						Sb	06 07 25.2	-0.1
JNH	Juniper Hills	1.45	188			Pn	06 07 05.2	-1.3
JNH						Sb	06 07 25.8	-0.1
GMN	Gold Mountain	1.46	15			Pn	06 07 06.3	-0.4
DSP	Deep Springs	1.49	352			Pn	06 07 06.5	-0.4
OSI	Osito Audit: C	1.51	213			Pb	06 07 07.7	-0.3
OSI					IAML		06 07 30.2	
	comp=E,362nm,0.7s							
OSI					IAML		06 07 34.7	
	comp=N,218nm,0.8s							
DSCC	Desert Studies	1.52	119			Sb	06 07 27.8	+0.1
TUQ	Turquoise Moun	1.53	107			Pn	06 07 06.3	-1.4
BHPR	Bishop	1.54	337			Pn	06 07 08.1	+0.3
HEC	Hector,Ludlow	1.55	133			Sg	06 07 29.1	-0.1
CHFC	Chilao Flat St	1.57	189			Pb	06 07 08.9	-0.2
CHFC						Sn	06 07 29.2	+0.1
TPNV	Topopah Spring	1.59	48			Pn	06 07 07.9	-0.6
TPNV					IAML		06 07 34.7	
	comp=N,176nm,0.7s							
TPNV					IAML		06 07 37.7	
	comp=N,227nm,0.7s							
BFSC	Mount Baldy Ra	1.65	178			Pn	06 07 08.1	-1.1
BFSC					IAML		06 07 34.3	
	comp=E,132nm,0.7s							
BFSC					IAML		06 07 37.4	
	comp=N,155nm,0.4s							
BCW	Bitter Crk WRg	1.67	236			Pb	06 07 10.5	-0.3
SSK	Sunset Peak	1.67	179			Pn	06 07 08.7	-1.0
MWC	Mount Wilson	1.68	189			Pn	06 07 09.3	-0.5
MWC					IAML		06 07 34.4	
	comp=N,444nm,0.5s							
MWC					IAML		06 07 35.5	
	comp=E,391nm,0.5s							
SIL	Silver Peak	1.70	154			Pb	06 07 11.3	-0.1
DECC	Green Verdugo	1.71	197			Sg	06 07 33.8	-0.4
BBRC	Big Bear Solar	1.75	158			Pb	06 07 11.6	-0.6
CRGC	Crocker Grade	1.75	249			Pn	06 07 11.3	+0.6
PASC	Pasadena Art C	1.75	193			Pn	06 07 09.9	-0.7
MTPC	Mountain Pass	1.81	102			Pn	06 07 10.0	-1.5
MTPC					IAML		06 07 38.5	
	comp=N,255nm,0.4s							
MTPC					IAML		06 07 41.8	
	comp=E,194nm,0.5s							
BLCC	Black Canyon	1.82	206			Pn	06 07 11.0	-0.5
SVD	Seven Oaks Dam	1.85	164			Pb	06 07 14.2	+0.4
DJJ	Donna J Jenkin	1.88	199			Pn	06 07 12.2	0.0
RVR	Riverside	1.91	171			Pb	06 07 15.0	+0.2
KCC	Kaiser Creek	1.92	319			Pb	06 07 14.5	-0.5
SMMC	Simmler	1.94	253			Pn	06 07 13.6	+0.5
BENR	Benton	1.95	340			Pb	06 07 15.4	-0.2
MLAC	Mammoth, Mammo	1.95	333			Pb	06 07 15.8	+0.2
MCSM	Casa Diablo Ho	2.00	332			Pb	06 07 16.7	+0.2
GMRC	Granite Mounta	2.02	123			Pn	06 07 12.1	-2.2
BLAC	Blackrock camp	2.12	148			Pn	06 07 14.7	-1.0
SHPR	Sheep Range	2.16	73			Pn	06 07 16.1	-0.3
TSCN	Private Proper	2.16	262			Pn	06 07 17.5	+1.3
EW2	E Wide Canyon	2.22	151			Pn	06 07 16.1	-1.0
TPC	Twentynine Pal	2.25	142			Pn	06 07 16.0	-1.4
ELS	Elsinore Mount	2.25	174			Pn	06 07 16.5	-0.9
POB	Polly Butte	2.29	163			Pn	06 07 17.2	-0.8
PSMM	Smith Mountain	2.34	275			Pb	06 07 20.8	-1.3
V12A	Nelson	2.34	93			Pn	06 07 17.5	-1.2
V12A					IAML		06 07 56.2	
	comp=N,77nm,0.5s							
V12A					IAML		06 08 00.9	
	comp=E,62nm,0.6s							
CRY	Cary Ranch	2.46	160			Pn	06 07 19.6	-0.8
PMD	Palm Desert	2.50	153			Pn	06 07 19.3	-1.5
PMD	Palm Desert	2.50	153			Pn	06 07 19.5	-1.2
PMD					IAML		06 07 59.8	
	comp=N,34nm,0.3s							
PMD					IAML		06 08 00.6	
	comp=E,55nm,0.5s							
PFO	Pinyon Flats O	2.50	155			Pn	06 07 19.9	-1.1
XPFO	Pinon Flat	2.50	155			Pn	06 07 19.7	-1.3
SNDA	J Saunders Pla	2.50	158			Pn	06 07 20.2	-0.8
FRD	Ford Ranch, An	2.56	159			Pn	06 07 20.9	-0.9
RAMR	Ramage Ranch	2.57	265			Pn	06 07 23.1	+1.3
RAMR	Ramage Ranch	2.57	265		IAML		06 07 58.7	
	comp=N,170nm,0.5s							
PRN	Pahroc Range	2.63	54		Pn	Pn	06 07 22.7	0.0
PRN					IAML		06 08 14.2	
	comp=N,138nm,0.8s							
PRN					IAML		06 08 20.0	
	comp=E,83nm,0.9s							
MYLM	Yosemite Lake	2.63	305			Pb	06 07 25.8	-1.3
GORC	Green Oak Ranc	2.76	171			Pn	06 07 23.0	-1.3
BBGB	Big Mountain B	2.77	285			Pn	06 07 26.2	+1.6
NEE2	Needles Airpor	2.77	113			Pn	06 07 23.4	-1.2
NEE2					IAML		06 08 13.3	
	comp=E,140nm,0.6s							
RYN	Ryan	2.81	347			Pn	06 07 23.9	-1.3
MATG	Mataguay Scout	2.83	161			Pn	06 07 24.7	-0.7
BORC	Borrego Spring	2.83	157			Pn	06 07 24.4	-1.0
BORC					IAML		06 08 12.2	
	comp=E,87nm,0.7s							
BORC					IAML		06 08 17.3	
	comp=N,40nm,0.9s							
DPP	Dos Picos Cty	2.95	167			Pn	06 07 26.4	-0.7
W13A	Hualapai Mount	3.23	103			Pn	06 07 30.1	-1.0
W13A					IAML		06 08 24.7	
	comp=N,30nm,0.9s							
W13A					IAML		06 08 25.0	
	comp=E,30nm,0.8s							
BAR	Barrett	3.32	164		IAML		06 08 22.3	
	comp=E,52nm,0.3s							
BAR					IAML		06 08 24.2	
	comp=N,38nm,0.5s							
YUH	Yuha Desert	3.56	155			Pn	06 07 33.9	-1.5
CBX	Cerro Bola	3.67	166			Pn	06 07 36.8	-0.3
CBX					IAML		06 08 48.6	
	comp=N,56nm,0.8s							
GLA	Glamis	3.71	139			Pn	06 07 35.5	-2.0
CCUT	Cedar City	3.88	63			Pn	06 07 39.7	-0.2
PSUT	Pine Spring	4.06	48			Pn	06 07 42.4	-0.1
PSUT					IAML		06 08 49.6	
	comp=E,26nm,1.0s							
PSUT					IAML		06 08 51.6	
	comp=N,21nm,1.4s							
KNB	Kanab	4.11	73			Pn	06 07 43.6	+0.5
Y14A	Wickenburg	4.34	115			Pn	06 07 45.0	-1.2
Y14A					IAML		06 09 02.4	
	comp=E,25nm,0.8s							
Y14A					IAML		06 09 03.9	
	comp=N,27nm,1.0s							
WUAZ	Wupatki	5.18	92		Pn	Pn	06 07 56.0	-1.8
WUAZ					IAML		06 09 25.7	
	comp=N,15nm,1.1s							
WUAZ					IAML		06 09 31.3	
	comp=N,16nm,1.2s							

AUST 14 06:15:25.6±0.5,19°S±4°×12°1E±°,h10km,mb4.3/12,
ML3.7/7,ML4.0/2,Error ellipse: s-maj=9.3km
s-min=4.9km az=143.1,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	Marble Bar	2.63	202	P	Pn	06 16 09.3	+1.2
MBWA				S	Sn	06 16 39.7	-0.4
PSAC1	Pilbara Seismi	2.95	198	P	Pn	06 16 14.6	+2.0
PSAC1				S	Sn	06 16 47.8	-0.3
PSA00	Pilbara Seismi	2.98	197	P	Pn	06 16 14.0	+1.1
PSA00				S	Sn	06 16 48.1	-0.7
GIRL	Giralia	7.28	236	P	Pn	06 17 05.9	-6.2
GIRL				S	Sn	06 18 19.4	-16
MEEK	Meekatharra	8.14	194	P	Pn	06 17 23.5	-0.4
	comp=Z,50nm,2.8s,comp=Z,0.5nm						
MEEK	Meekatharra	8.14	194	S	Sn	06 18 51.1	-4.9
KNRA	Kununurra	8.19	70	P	Pn	06 17 23.9	-0.6
	comp=Z,26nm,1.1s,comp=Z,0.4nm						
KNRA				S	Sn	06 18 49.9	-7.3
CVQOZ	Cooralya Stati	8.46	226	P	Pn	06 17 23.5	-4.7
CVQOZ				S	Sn	06 18 48.9	-15
WRKA	Warakurna	9.38	133	P	Pn	06 17 42.8	+1.9
	comp=Z,24nm,2.4s,comp=Z,0.3nm						
WRKA				S	Sn	06 19 27.9	+1.4
SOEI	Soe	9.52	21	P	Pn	06 17 30.7	-12
	comp=Z,37nm,2.4s						
SOEI	Soe	9.52	21	S	Sn	06 19 09.6	-21
EDFI	Ende, Flores	9.95	5	P	Pn	06 17 29.3	-19
	comp=Z,14nm,1.0s,comp=Z,0.1nm						
EDFI	Ende, Flores	9.95	5	S	Sn	06 19 11.6	-29
MORW	Morawa	11.19	202	P	Pn	06 18 03.4	-2.2
	comp=Z,46nm,3.0s						
MORW	Morawa	11.19	202	S	Sn	06 19 59.7	-11
BLDU	Ballidu	12.41	197	S	Sn	06 20 29.0	-12
BLDU	Ballidu	12.41	197	P	Pn	06 18 25.1	+2.7
KMBL	Kambalda	12.63	176	P	Pn	06 18 21.7	-3.8
	comp=Z,17nm,1.1s						
KMBL				S	Sn	06 20 39.0	-7.2
KDU	Kakadu	12.73	64	P	Pn	06 18 26.0	-0.9
	comp=Z,29nm,1.8s						
KDU	Kakadu	12.73	64	S	Sn	06 20 33.0	-16
WRAB	Tennant Creek	12.85	98	P	Pn	06 18 27.5	-0.9
	comp=Z,34nm,2.7s						
WRAB				S	Sn	06 20 45.4	-6.2
KLBR	Kellerberrin	13.11	192	P	Pn	06 18 32.0	+0.1
	comp=Z,15nm,0.8s						
KLBR	Kellerberrin	13.11	192	S	Sn	06 20 46.6	-11
AS31	Alice Springs	13.18	114	P	Pn	06 18 32.7	-0.2
AS31	Alice Springs	13.18	114	S	Sn	06 20 59.6	0.0
FORT	Forrest	13.69	153	P	Pn	06 18 41.2	+1.3
	comp=Z,10nm,2.0s						
FORT				S	Sn	06 21 13.8	+1.7
MUN	Mundaring	13.84	197	P	Pn	06 18 41.0	-0.9
	comp=Z,32nm,1.9s						
MUN	Mundaring	13.84	197	S	Sn	06 21 04.5	-11

IDC 14 06:20:58.0±9.7,18°.75S×120°.74E,h0km,mb3.6/1,
mbtmp4.1/4,ML3.9/3,Error ellipse: s-maj=135.7km
s-min=49.7km az=153.0,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	4.70	83	Sn	Sn	06 23 05.3	0.0
	14nm,0.3s,baz=22,slow=14,SNR=5.2						
WRA	Warramunga Arr	12.89	98	Pn	Pn	06 24 02.7	+0.1
	1.8nm,0.3s,baz=276,slow=14,SNR=6.0						
WRA				Sn	Sn	06 26 23.8	-3.1
	2.9nm,0.3s,baz=283,slow=13,SNR=5.9						
	1.1nm,0.4s						
ASAR	Alice Springs	13.21	114	Pn	Pn	06 24 08.1	+1.1
	0.5nm,0.3s,baz=295,slow=12,SNR=4.5						
ASAR				Sn	Sn	06 26 33.8	-0.9
	2.5nm,0.3s,baz=303,slow=24,SNR=16						
	2.0nm,0.6s						
NWAO	Narrogin (SRO)	14.46	192	Pn	Pn	06 24 23.4	-0.6
	5.3nm,0.3s,baz=15,slow=13,SNR=7.6						
	9.7nm,0.4s						
STKA	Stephens Creek	22.89	129	P	P	06 26 03.3	0.0
	1.7nm,0.7s,baz=301,slow=13,SNR=3.1						
	1.7nm,0.7s						

AUST 14 06:23:17.8±1.4,19°S±7°×12°1E±°,h15km±14km,mb4.8/11,
ML3.9/7,ML4.3/2,Error ellipse: s-maj=19.1km
s-min=4.8km az=144.4,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	Marble Bar	2.70	201	P	Pn	06 24 00.6	-0.2
MBWA				S	Sn	06 24 33.1	-0.1
PSAC2	Pilbara Seismi	3.04	195	P	Pn	06 24 05.4	+0.1
PSAC2				S	Sn	06 24 43.2	+1.8
PSA00	Pilbara Seismi	3.06	196	P	Pn	06 24 05.7	0.0
PSA00				S	Sn	06 24 43.3	+1.3
FITZ	Fitzroy Crossi	4.66	84	P	Pn	06 24 28.6	+0.9
FITZ	Fitzroy Crossi	4.66	84	S	Sn	06 25 23.0	+1.4
GIRL	Giralia	7.30	236	P	Pn	06 24 58.6	-5.3
GIRL				S	Sn	06 26 14.3	-12
KNRA	Kununurra	8.19	70	P	Pn	06 25 14.9	-1.3
	comp=Z,122nm,0.6s,comp=Z,0.5nm						
KNRA				S	Sn	06 26 46.4	-2.2
MEEK	Meekatharra	8.22	194	P	Pn	06 25 16.6	0.0
	comp=Z,146nm,1.0s,comp=Z,0.3nm						
MEEK	Meekatharra	8.22	194	S	Sn	06 26 43.1	-6.2
CVQOZ	Cooralya Stati	8.50	226	S	Sn	06 26 41.9	-14
CVQOZ				P	Sn	06 26 45.8	-10
SOEI	Soe	9.45	22	P	Sn	06 27 18.7	-0.9
	comp=Z,43nm,0.9s						
WRKA	Warakurna	9.47	134	S	Sn	06 27 23.4	+3.3
	comp=Z,20nm,0.9s,comp=Z,0.2nm						
MORW	Morawa	11.26	202	S	Sn	06 27 51.9	-12
	comp=Z,33nm,0.6s						
BLDU	Ballidu	12.49	196	S	Sn	06 28 22.2	-12
	comp=Z,26nm,0.7s						
KDU	Kakadu	12.73	64	S	Sn	06 28 32.9	-7.0
	comp=Z,44nm,0.9s						
WRAB	Tennant Creek	12.90	98	S	Sn	06 28 39.5	-4.6
	comp=Z,56nm,2.2s						
KLBR	Kellerberrin	13.20	191	S	Sn	06 28 40.1	-11
	comp=Z,92nm,0.6s						
AS31	Alice Springs	13.25	115	S	Sn	06 28 52.7	0.0
FORT	Forrest	13.80	153	S	Sn	06 29 04.6	-1.2
	comp=Z,14nm,1.7s						

AUST 14 06:35:23.9±1.8,18°S±6°×12°0E±°,h10km±16km,mb4.3/8,
ML3.9/5,Error ellipse: s-maj=16.4km s-min=6.5km
az=141.9,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	Marble Bar	2.92	191	P	Pn	06 36 11.1	+0.7
PSA00	Pilbara Seismi	3.31	188	P	Pn	06 36 16.4	+0.7
PSA00				S	Sn	06 36 56.0	+0.9
FITZ	Fitzroy Crossi	5.03	89	P	Pn	06 36 41.1	+1.7
GIRL	Giralia	7.19	232	P	Pn	06 37 09.8	+0.7
	comp=Z,75nm,1.9s						
GIRL				S	Sn	06 38 26.9	-3.9
KNRA	Kununurra	8.46	73	P	Pn	06 37 26.3	-0.1
	comp=Z,23nm,2.7s,comp=Z,0.3nm						
KNRA				S	Sn	06 38 56.8	-5.2
MEEK	Meekatharra	8.47	191	P	Pn	06 37 27.6	+0.9
CVQOZ	Cooralya Stati	8.47	223	P	Pn	06 37 27.4	+0.8
WRKA	Warakurna	9.98	134	P	Pn	06 37 48.7	+1.3
MORW	Morawa	11.44	199	P	Pn	06 38 06.2	-1.1
	comp=Z,10nm,0.6s						
MORW	Morawa	11.44	199	S	Sn	06 40 07.5	-7.6
MTN	Manton Dam	11.71	64	P	Pn	06 38 09.5	-1.6
	comp=Z,34nm,1.6s						
BLDU	Ballidu	12.71	194	P	Pn	06 38 23.7	-1.1
	comp=Z,11nm,1.4s						
KMBL	Kambalda	13.10	174	P	Pn	06 38 28.0	-2.1
	comp=Z,7.7nm,2.8s						
KLBR	Kellerberrin	13.46	190	P	Pn	06 38 34.8	-0.1
	comp=Z,24nm,0.4s						
MUN	Mundaring	14.14	195	P	Pn	06 38 43.4	-0.9
FORT	Forrest	14.27	152	P	Pn	06 38 45.6	-0.4
	comp=Z,4.7nm,0.7s						

KRSC ***14*** *06:36:55.2±3.1,48°.01N×154°.80E,h173km±63km,Ml4.7*
SKHL ***14*** *06:36:56.3±0.4,48°.60N×153°.30E,h144km±4km,mb5.0/4,*
msha5.6/4
MOS ***14*** *06:36:57.5±0.9,48°.81N×153°.02E,h168km,mb4.0/16,*
Error ellipse: s-maj=12.7km s-min=4.2km az=59.4
NEIC ***14*** *06:36:58.2±1.0,48°.8N±0°.1×152°.9E±0°.1,h154km±6km,*
mb4.3/130,Error ellipse: s-maj=23.1km s-min=10.0km
az=151.0
IDC ***14*** *06:37:00.3±1.8,48°.94N×152°.95E,h173km±15km,*
mb3.5/13,mbtmp4.1/17,Error ellipse: s-maj=21.4km
s-min=9.2km az=157.0

ISC 14 06:36:56.9±0.5,48°.60N±0°.07×153°.32E±0°.06,h150km,
n455,σ1§60/476,mb4.2/83,3C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	2.77	40	ePN	Pn	06 37 42.7	+1.5
SKR				eS	Sn	06 38 16.5	+1.0
SKR				pmax	pmax		
	comp=Z,248nm,0.6s						
SKR				smax	smax		
	comp=E,384nm,0.2s						
SKR				smax	smax		
	comp=N,297nm,0.3s						
SKR				MLR	MLR		
	comp=Z,4µm,17.0s						
SKR	Severo-Kuril's	2.77	40	eP	Pn	06 37 42.5	+1.2
SKR				eS	Sn	06 38 17.6	+2.1
SKR	Severo-Kuril's	2.77	40	eP	Pn	06 37 42.3	+1.1
SKR				AMB	AMB	06 37 43.0	
	comp=Z,100nm,0.4s						
SKR				eS	Sn	06 38 16.5	+1.0
SKR				A	A	06 38 19.5	
	comp=Z,210nm,0.3s						
SKR				A	A	06 38 19.5	
	comp=Z,380nm,0.3s						
PAU	Pauzhetka	3.65	37	PN	Pn	06 37 53.2	+0.8
PAU				S	Sn	06 38 36.4	+0.8
PAU	Pauzhetka	3.65	37	eP	Pn	06 37 53.3	+0.8
PAU				eS	Sn	06 38 36.4	+0.8
PAU	Pauzhetka	3.65	37	eP	Pn	06 37 53.3	+0.8
PAU				AMB	AMB	06 37 54.1	
	comp=Z,160nm,0.2s						
PAU				eS	Sn	06 38 36.4	+0.8
PAU				A	A	06 38 39.3	
	comp=Z,700nm,0.3s						
PAU				A	A	06 38 39.3	
	comp=Z,600nm,0.3s						
MIPR	Malaya Ipel'ka	4.29	30	PN	Pn	06 38 02.1	+1.3
MIPR	Malaya Ipel'ka	4.29	30	eP	Pn	06 38 02.2	+1.3
ASAK	Asacha	4.78	36	PN	Pn	06 38 08.3	+0.9
ASAK				S	Sn	06 39 04.8	+2.4
ASAK	Asacha	4.78	36	eP	Pn	06 38 08.3	+0.9
ASAK				eS	Sn	06 39 04.8	+2.4
APC	Apacha	4.97	28	PN	Pn	06 38 10.7	+0.9
APC	Apacha	4.97	28	eP	Pn	06 38 10.8	+0.9
MTVR	Mutnovka	4.97	37	PN	Pn	06 38 11.4	+1.4
MTVR				S	Sn	06 39 05.5	-1.4
MTVR	Mutnovka	4.97	37	eP	Pn	06 38 11.4	+1.4
MTVR				eS	Sn	06 39 05.6	-1.4
GRL	Gorelyy	4.98	36	PN	Pn	06 38 11.4	+1.3
GRL				S	Sn	06 39 08.7	+1.5
GRL	Gorelyy	4.98	36	eP	Pn	06 38 11.4	+1.3
GRL				eS	Sn	06 39 08.7	+1.5
KUR	Kuril'sk	5.03	230	ePN	Pn	06 38 14.6	+3.9
KUR				eS	Sn	06 39 15.5	+7.3
KUR				pmax	pmax		
	comp=N,50nm,0.6s						
KUR				pmax	pmax		
	comp=Z,53nm,0.6s						
KUR				pmax	pmax		
	comp=E,19nm,0.3s						

UGLR **Uglovaya** 5.78 35 PN Pn 06 38 22.0 +1.4
UGLR **Uglovaya** 5.78 35 eP Pn 06 38 22.0 +1.4
AVH **Avacha** 5.79 34 PN Pn 06 38 22.4 +1.6
AVH S Sn 06 39 29.5 +3.2
AVH **Avacha** 5.79 34 eP Pn 06 38 22.4 +1.6
AVH eS Sn 06 39 29.6 +3.2
AVH **Avacha** 5.79 34 eP Pn 06 38 22.4 +1.6
SMAR **Somma** 5.81 34 PN Pn 06 38 23.1 +1.9
SMAR **Somma** 5.81 34 eP Pn 06 38 23.1 +1.9
KRER **Koryakskii** 5.83 34 PN Pn 06 38 23.5 +2.1
KRER S Sn 06 39 28.3 +0.9
KRER **Koryakskii** 5.83 34 eP Pn 06 38 23.5 +2.1
KRER eS Sn 06 39 28.3 +0.9
KRX **Arik** 5.83 33 PN Pn 06 38 22.9 +1.5
KRX **Arik** 5.83 33 eP Pn 06 38 22.9 +1.5
SDLR **Sedlovina** 5.86 35 PN Pn 06 38 22.4 +0.7
SDLR **Sedlovina** 5.86 35 eP Pn 06 38 22.4 +0.7
GNL **Ganaly** 5.87 28 PN Pn 06 38 23.2 +1.3
GNL **Ganaly** 5.87 28 eP Pn 06 38 23.2 +1.3
NLC **Nalytchevo** 5.96 38 eS Sn 06 39 24.5 -5.6
SPN **Mys Shipunski** 6.19 41 PN Pn 06 38 25.0 -1.0
SPN **Mys Shipunski** 6.19 41 eP Pn 06 38 25.0 -1.0
SPN eS Sn 06 39 28.6 -7.0
SHO **Shikotan** 6.53 226 ePN Pn 06 38 29.7 -0.9
SHO pmax pmax
comp=Z,37nm,0.4s
SHO pmax pmax
comp=N,6.0nm,0.3s
SHO pmax pmax
comp=E,15nm,0.4s
SHO **Shikotan** 6.53 226 eP Pn 06 38 30.4 -0.2
SHO AMB AMB 06 38 37.4
comp=E,40nm,0.4s
SHO eS Sn 06 39 41.4 -2.6
SHO A A 06 39 45.7
comp=E,30nm,0.4s
SHO A A 06 39 45.7
comp=E,40nm,0.4s
YUK **Yuzh-Kuril'sk** 6.89 231 ePN Pn 06 38 35.9 +0.4
YUK **Yuzh-Kuril'sk** 6.89 231 eP Pn 06 38 35.9 +0.4
RUSJ **Misakicho** 7.17 234 ‖ i PN Pn 06 38 40.6 +1.4
YSS **Yuzhno-Sakhali** 7.31 261 i PN Pn 06 38 41.4 +0.4
YSS **Yuzhno-Sakhali** 7.31 261 erx rx 06 38 41.4
NMR **Nemuro--Hokkai** 7.44 228 ePN Pn 06 38 39.9 -2.8
NMR **Nemuro--Hokkai** 7.44 228 eP Pn 06 38 40.7 -2.0
MKZ **Mys Kozlova** 7.93 38 PN Pn 06 38 48.0 -1.2
MKZ **Mys Kozlova** 7.93 38 eP Pn 06 38 48.0 -1.2
JKA **Kamikawa-asahi** 8.66 243 Pn 06 39 01.4 +2.3
JKA **Kamikawa-asahi** 8.66 243 eP Pn 06 39 01.8 +2.7
ASAJ **Asahikawa** 8.66 243 P Pn 06 39 01.8 +2.7
comp=E,107nm,0.8s,baz=69,slow=12,SNR=52
JEM **Erimo** 9.72 231 P Pn 06 39 12.4 -0.7
ERM **Erimo** 9.72 231 Pn 06 39 12.6 -0.5
ERM **Erimo** 9.72 231 P Pn 06 39 11.9 -1.2
ERM **Erimo** 9.72 231 PN Pn 06 39 12.6 -0.5
JTM **Tenmabayashi** 11.70 233 Pn Pn 06 39 35.0 -4.1
JTM **Tenmabayashi** 11.70 233 P Pn 06 39 34.1 -5.0
comp=E,33nm,0.7s
SHEM **Shemya Is, Ala** 13.80 65 P P 06 40 10.7 +1.1
comp=E,18nm,0.8s,baz=270,slow=17,SNR=1.9
SHEM S Sn 06 42 32.2 -6.4
comp=E,18nm,0.5s,baz=268,slow=12,SNR=6.8
SMY **Shemya** 13.80 65 Pn P 06 40 08.9 -0.6
SMY **Shemya** 13.80 65 P P 06 40 08.9 -0.6
JMM **Marumori** 14.07 225 Pn Pn 06 40 07.5 -2.1
JMM **Marumori** 14.07 225 P P 06 40 13.5 +0.8
USRK **Ussuriysk Ar.** 15.35 261 Pn Pn 06 40 22.9 -2.5
USRK **Ussuriysk Ar.** 15.35 261 P Pn 06 40 24.8 -0.7
comp=E,6.2nm,0.7s,baz=78,slow=9.8,SNR=6.7
MJA0 **Matsu Arr-Jizo** 16.35 228 eP P 06 40 40.1 +2.1
MJA0 pmax pmax
comp=Z,5.0nm,0.8s
MJB9 **Matsu-Tunnel** 16.37 228 P P 06 40 38.1 0.0
MJB9 IAmb IAmb 06 40 40.7
comp=Z,8.9nm,0.8s
MAJO **Matsushiro** 16.37 228 P P 06 40 38.1 0.0
MAJO IAmb IAmb 06 40 40.7
comp=Z,9.2nm,0.8s
MAJO **Matsushiro** 16.37 228 P P 06 40 38.1 0.0
MAJO **Matsushiro** 16.37 228 P P 06 40 38.2 0.0
MAJO pmax pmax
comp=Z,9.0nm,0.8s
MJAR **Matsushiro Arr** 16.37 228 Pn 06 40 38.0 -0.1
MJAR **Matsushiro Arr** 16.37 228 P Pn 06 40 36.9 -1.2
comp=Z,5.3nm,0.8s,baz=31,slow=11,SNR=18
MJAR **Matsushiro Arr** 16.37 228 P Pn 06 40 38.0 -0.1
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MSHR **Mys Shultsa** 16.61 257 i P P 06 40 38.6 -2.2
MSHR pmax pmax
comp=Z,13nm,1.1s
HEH **HeiHe** 16.91 285 eP Pn 06 40 45.3 +0.8
HEH pmax pmax
comp=Z,17nm,0.8s
JGF **Kuroka** 17.53 228 P P 06 40 51.1 +0.1
JGF **Kuroka** 17.53 228 P Pn 06 40 55.0 +2.9
comp=Z,13nm,1.0s
INU **Inuyama** 17.90 228 P P 06 40 54.9 -0.1
INU IAmb IAmb 06 40 57.2
comp=Z,14nm,0.9s
KIWB **Kanaga Island** 19.11 69 P P 06 41 08.9 +0.9
KIWB IAmb IAmb 06 41 09.3
comp=Z,13nm,0.8s
ADK **Adak** 19.39 69 P P 06 41 11.6 +0.5
ADK **Adak** 19.39 69 P P 06 41 11.6 +0.5
ADK pmax pmax
comp=Z,25nm,1.3s
GSTR **Great Sitkin T** 19.77 68 P 06 41 16.1 +0.9
BILL **Bilibino** 20.56 14 i P P 06 41 22.6 -0.8
BILL pmax pmax
comp=Z,2.0nm,0.9s
BILL **Bilibino** 20.56 14 eP P 06 41 22.6 -0.8
KSRS **Korea Array** 21.55 248 P P 06 41 34.7 +0.4
comp=Z,3.2nm,0.7s,baz=47,slow=10,SNR=17
comp=Z,3.2nm,0.7s
KS19 **Wonju Array Si** 21.55 248 P P 06 41 32.5 -1.9
KSAR **Wonju Array Be** 21.58 248 P P 06 41 32.5 -2.1
KSAR **Wonju Array Be** 21.58 248 P P 06 41 32.5 -2.1
JNU **Nakatsue** 22.84 236 P P 06 41 46.7 -0.4
JNU IAmb IAmb 06 41 50.9
comp=Z,14nm,0.9s
SPIA **Saint Paul Isl** 23.35 55 P 06 41 53.2 +1.7
P08K **Saint George I** 23.68 56 P P 06 41 55.6 +1.1
GAMB **Gambell** 24.26 38 P P 06 41 59.4 +2.3
M13K **Dall Lake** 27.26 48 P P 06 42 28.2 +1.6
J14K **Nanvaranak Lak** 27.50 43 P P 06 42 24.7 -4.2
baz=260
L14K **Kuka Creek** 27.69 46 P P 06 42 31.0 +0.5
L14K **Kuka Creek** 27.69 46 P P 06 42 28.8 -1.7
baz=264
G15K **Niukluk** 27.81 38 P P 06 42 27.3 -4.2
baz=254
M14K **Bethel** 27.98 47 P P 06 42 34.2 +1.1
M14K IAmb IAmb 06 42 35.0
comp=Z,4.4nm,0.8s
M14K **Bethel** 27.98 47 P P 06 42 30.5 -2.6
baz=267
N14K **Kuskokwak Cree** 28.05 49 P P 06 42 31.8 -1.9
baz=269
O14K **Tigyukauivet M** 28.23 51 P P 06 42 36.7 +1.3
O14K IAmb IAmb 06 42 36.9
comp=Z,4.9nm,0.8s
O14K **Tigyukauivet M** 28.23 51 P P 06 42 33.9 -1.5
baz=271
L15K **Ungalak Mounta** 28.30 46 P P 06 42 33.9 -2.1
baz=265
K15K **Wolf Creek Mou** 28.36 44 P P 06 42 37.9 +1.4
K15K IAmb IAmb 06 42 52.2
comp=Z,11nm,1.4s
K15K **Wolf Creek Mou** 28.36 44 P P 06 42 33.2 -3.3
baz=263
M15K **Kasigluk River** 28.59 48 P P 06 42 37.1 -1.5
baz=268
G16K **Koyuk River** 28.60 38 P P 06 42 35.8 -2.7
baz=255
SDPT **Sand Point** 28.80 59 P P 06 42 42.4 +2.0
baz=281
N15K **Kwethluk River** 28.86 49 P P 06 42 42.3 +1.4
N15K **Kwethluk River** 28.86 49 P P 06 42 41.0 +0.1
baz=270
J16K **Anvik River** 28.92 42 P P 06 42 40.7 -0.7
baz=262
I17K **Unalakleet** 28.98 41 P P 06 42 41.2 -0.7
baz=260

D17K **Noatak River** 28.98 33 P P 06 42 41.5 -0.4
baz=248
C17K **DeLong Mountai** 29.21 31 P P 06 42 43.8 -0.2
baz=246
E17K **Hotham Inlet** 29.25 34 P P 06 42 44.2 -0.1
baz=251
L16K **Owhat River** 29.26 46 P P 06 42 43.8 -0.6
baz=267
F17K **Baldwin Pennin** 29.30 36 P P 06 42 44.0 -0.7
baz=253
G17K **Kiwalik Mounta** 29.31 38 P P 06 42 44.0 -0.9
baz=256
M16K **Timber Creek** 29.46 47 P P 06 42 47.4 +1.1
M16K IAmb IAmb 06 42 49.4
comp=Z,4.6nm,1.1s
M16K **Timber Creek** 29.46 47 P P 06 42 46.1 -0.1
baz=269
H17K **Granite Mounta** 29.50 39 P P 06 42 46.6 0.0
baz=258
N16K **Nishlik Lake** 29.53 48 P P 06 42 47.5 +0.6
baz=270
J17K **VABM Dome** 29.62 42 P P 06 42 47.0 -0.6
baz=263
E18K **Tukpahlearik C** 29.81 34 P P 06 42 49.1 -0.1
baz=252
L17K **Donlin** 29.85 45 P P 06 42 49.3 -0.3
baz=267
O16K **Kokwok River B** 29.86 50 P P 06 42 50.8 +1.1
O16K IAmb IAmb 06 42 58.9
comp=Z,6.2nm,1.1s
K17K **Iditarod** 29.89 44 P P 06 42 51.6 +1.5
K17K IAmb IAmb 06 43 08.3
comp=Z,4.7nm,1.1s
K17K **Iditarod** 29.89 44 P P 06 42 50.0 -0.1
baz=265
P16K **Nushagak River** 29.92 51 P P 06 42 51.0 +0.8
P16K **Nushagak River** 29.92 51 P P 06 42 50.9 +0.6
baz=274
C18K **Utukok River** 29.96 32 P P 06 42 50.8 +0.2
H18K **Honhosa River** 30.19 39 P P 06 42 53.5 +0.9
H18K **Honhosa River** 30.19 39 P P 06 42 53.0 +0.4
baz=260
G18K **Tagagawik** 30.20 37 P P 06 42 53.5 +0.7
G18K **Tagagawik** 30.20 37 P P 06 42 53.5 +0.7
baz=258,SNR=5.5
M17K **Holitna River** 30.21 46 P P 06 42 53.9 +1.0
M17K IAmb IAmb 06 42 55.0
comp=Z,6.8nm,0.8s
M17K **Holitna River** 30.21 46 P P 06 42 54.4 +1.5
baz=269
N17K **Nushagak Hills** 30.31 48 P P 06 42 55.0 +1.2
baz=271
L18K **Granite Mounta** 30.61 45 P P 06 42 57.3 +0.9
baz=268
C19K **Lookout Ridge** 30.66 31 P P 06 42 58.2 +1.5
baz=250
J18K **Innoko River** 30.68 42 P P 06 42 57.6 +0.6
J18K **Innoko River** 30.68 42 P P 06 42 57.5 +0.6
baz=265
P17K **Kvichak River** 30.71 51 P P 06 42 58.0 +0.8
baz=275
F19K **Shaleruckik Mo** 30.74 36 P P 06 42 57.6 +0.2
F19K **Shaleruckik Mo** 30.74 36 P P 06 42 57.3 -0.1
baz=256
G19K **Purcell Mounta** 30.88 37 P P 06 42 59.5 +0.8
baz=259
SONM **Songino Array** 30.90 287 P P 06 42 57.8 -1.4
comp=Z,0.6nm,0.6s,baz=79,slow=7.8,SNR=4.3
comp=Z,0.6nm,0.6s
N18K **Kilae Creek** 30.95 48 P P 06 43 00.8 +1.3
baz=272
M18K **Stony River** 30.99 46 P P 06 43 00.9 +1.2
baz=270
D19K **Kuna River** 31.00 32 P P 06 43 00.8 +1.0
baz=253
H19K **Roundabout Mou** 31.04 38 P P 06 43 01.0 +1.0
H19K IAmb IAmb 06 43 01.7
comp=Z,5.4nm,0.7s
H19K **Roundabout Mou** 31.04 38 P P 06 43 00.3 +0.3
baz=261
Q17K **Contact Creek** 31.05 53 P P 06 43 01.5 +1.1
baz=278
E19K **Redstone River** 31.08 35 P P 06 43 01.4 +0.9
baz=256
J19K **Poorman** 31.21 41 P P 06 43 02.4 +0.7
baz=265
CHIR **Chirikof Islan** 31.47 57 P P 06 43 05.9 +2.0
baz=283
Q18K **Katmai Hardscr** 31.48 52 P P 06 43 05.2 +1.0
baz=277
F20K **Avaraart Lake** 31.57 36 P P 06 43 05.7 +1.0
baz=258
D20K **Etivluk River** 31.59 32 P 06 43 05.6 +0.7
D20K **Etivluk River** 31.59 32 P P 06 43 05.8 +0.9
baz=254,SNR=5.3
E20K **Nigu River** 31.64 33 P P 06 43 06.4 +1.0
baz=255
N19K **Bonanza Creek** 31.64 48 P P 06 43 06.4 +0.9
baz=273
M19K **Big River Lodg** 31.68 45 P P 06 43 06.5 +0.7
baz=271
H20K **Anotleneega Mo** 31.68 39 P P 06 43 05.8 +0.1
baz=263
B20K **Meade River** 31.74 30 P P 06 43 08.0 +1.9
baz=251
K20K **Telida** 31.86 43 P P 06 43 08.0 +0.6
baz=268
J20K **Nowinta River** 31.87 41 P P 06 43 08.3 +0.9
baz=266
R18K **Karluk** 31.88 54 P P 06 43 10.5 +3.0
baz=280
H11S1 **WAKE ISLAND Hy** 31.92 155 T T 07 16 41.1
baz=345,slow=76,SNR=18
L20K **Farewell, AK** 31.93 44 P P 06 43 08.6 +0.6
baz=270
H11S3 **WAKE ISLAND Hy** 31.93 155 T T 07 16 49.9
baz=345,slow=76,SNR=28
H11S2 **WAKE ISLAND Hy** 31.94 155 T T 07 16 48.9
baz=345,slow=76,SNR=14
IMAR **Indian Mountai** 32.20 38 P P 06 43 10.9 +0.6
M20K **Styx River** 32.27 46 P P 06 43 11.6 +0.5
baz=272
A21K **Barrow** 32.29 28 P P 06 43 12.9 +1.9
baz=249
C21K **Knifeblade Rid** 32.33 32 P P 06 43 12.7 +1.3
baz=255
G21K **Allakaket** 32.36 37 P P 06 43 12.4 +0.7
baz=262
F21K **Alatna River** 32.47 36 P P 06 43 13.5 +0.9
baz=260
E21K **Killik River** 32.48 33 P P 06 43 12.9 +0.2
baz=257
B21K **Ikpikpuk River** 32.49 31 P P 06 43 13.5 +0.7
baz=254
OHAK **Old Harbor** 32.55 54 P P 06 43 14.4 +1.0
baz=281
H21K **Melozitna Rive** 32.56 38 P P 06 43 14.3 +0.9
baz=264
PPLA **Purkeypile** 32.71 44 P P 06 43 15.1 +0.2
baz=271
KDAK **Kodiak Island** 32.85 53 P P 06 43 16.3 +0.3
KDAK **Kodiak Island** 32.85 53 P P 06 43 16.3 +0.3
KDAK pmax pmax
comp=Z,16nm,1.2s
KDAK **Kodiak Island** 32.85 53 P P 06 43 15.7 -0.3
baz=281
SYI **Shuyak Island** 32.85 52 P P 06 43 16.3 +0.4
D22K **Ayikyak River** 33.02 33 P P 06 43 18.7 +1.3
baz=258
SKT **Skwentna** 33.03 45 P P 06 43 18.4 +0.8
baz=273
H22K **Ishtalitna Cre** 33.16 38 P P 06 43 20.0 +1.4
baz=265,SNR=5.1
G22K **Bettles** 33.20 36 P P 06 43 19.7 +0.8
baz=263
E22K **Anaktuvuk Pass** 33.22 34 P P 06 43 19.9 +0.7
E22K IAmb IAmb 06 43 20.6
comp=Z,3.6nm,0.6s
E22K **Anaktuvuk Pass** 33.22 34 P P 06 43 19.1 -0.1
baz=260
CAPN **Captain Cook N** 33.28 48 P P 06 43 20.6 +0.9
baz=276
KTH **Kantishna Hill** 33.28 42 P P 06 43 20.5 +0.7
KTH IAmb IAmb 06 43 21.9
comp=Z,8.0nm,1.0s
CNPM **China Poot** 33.34 50 P 06 43 20.5 +0.2
MLY **Manley** 33.39 40 P P 06 43 21.4 +0.8
baz=268
TRF **Thorofare Moun** 33.57 43 P P 06 43 23.4 +1.0
TRF IAmb IAmb 06 43 24.8
comp=Z,5.9nm,1.2s
TRF **Thorofare Moun** 33.57 43 P P 06 43 23.1 +0.8
baz=271,SNR=5.6
COLD **Coldfoot** 33.73 36 P P 06 43 24.6 +1.0
baz=264
D23K **Nanushuk River** 33.75 33 P P 06 43 24.9 +1.3
baz=260
G23K **Bananza Creek** 33.77 37 P P 06 43 25.0 +1.1
baz=265
C23K **Itkillik River** 33.90 31 P P 06 43 25.6 +0.6
C23K IAmb IAmb 06 43 26.6
comp=Z,6.9nm,1.0s
C23K **Itkillik River** 33.90 31 P P 06 43 25.8 +0.8
baz=258
H23K **Yukon River** 33.91 38 P P 06 43 26.4 +1.2
H23K IAmb IAmb 06 43 27.2
comp=Z,4.5nm,0.9s
H23K **Yukon River** 33.91 38 P P 06 43 26.5 +1.3
baz=267,SNR=6.2
RC01 **Rabbit Creek A** 33.94 47 P P 06 43 26.6 +1.2
RC01 **Rabbit Creek A** 33.94 47 P P 06 43 26.1 +0.7
baz=276
I23K **Minto, Yukon-K** 33.97 40 P P 06 43 26.7 +1.1
baz=269
E23K **Chandalar** 34.03 34 P P 06 43 27.1 +0.8
E23K IAmb IAmb 06 43 28.4
comp=Z,8.8nm,1.4s
E23K **Chandalar** 34.03 34 P P 06 43 27.7 +1.5
baz=263
NEA2 **Nenana** 34.09 41 P P 06 43 27.6 +0.9
NEA2 IAmb IAmb 06 43 29.0
comp=Z,4.7nm,0.7s
NEA2 **Nenana** 34.09 41 P P 06 43 27.7 +1.0
baz=270,SNR=6.9
TOLK **Toolik Lake Re** 34.11 33 P P 06 43 27.6 +0.8
TOLK IAmb IAmb 06 43 28.1
comp=Z,3.6nm,0.6s
TOLK **Toolik Lake Re** 34.11 33 P P 06 43 28.3 +1.5
baz=262
MCK **McKinley** 34.16 42 P P 06 43 28.4 +1.0
baz=272
SEW **Seward** 34.18 49 P P 06 43 30.8 +3.3
baz=278
PMR **Palmer** 34.19 46 P P 06 43 28.0 +0.5
baz=276
RND **Reindeer** 34.21 43 P P 06 43 27.9 +0.2
RND IAmb IAmb 06 43 28.7
comp=Z,4.0nm,0.8s
RND **Reindeer** 34.21 43 P P 06 43 28.0 +0.2
RND pmax pmax
comp=Z,4.0nm,0.8s
D24K **Happy Valley** 34.44 32 P P 06 43 30.3 +0.7
D24K **Happy Valley** 34.44 32 P P 06 43 30.0 +0.4
baz=262
E24K **Your Creek** 34.46 34 P P 06 43 30.9 +1.1
E24K IAmb IAmb 06 43 31.6
comp=Z,4.4nm,0.8s
E24K **Your Creek** 34.46 34 P P 06 43 30.9 +1.1
baz=264
KNK **Knik Glacier** 34.53 46 P P 06 43 31.3 +0.8
baz=277
H24K **Noodor Dome** 34.60 38 P 06 43 32.0 +0.9
H24K **Noodor Dome** 34.60 38 P P 06 43 32.4 +1.3
baz=269,SNR=5.7
COLA **College** 34.61 40 P P 06 43 32.0 +0.9
baz=270
CCB **Clear Creek Bu** 34.64 40 P 06 43 32.1 +0.8
CCB IAmb IAmb 06 43 32.9
comp=Z,3.0nm,0.6s
PWL **Port Wells** 34.64 47 P P 06 43 31.8 +0.3
PWL **Port Wells** 34.64 47 P P 06 43 31.6 +0.1
baz=278
F24K **Squaw Lake** 34.65 35 P P 06 43 31.9 +0.4
F24K **Squaw Lake** 34.65 35 P P 06 43 31.9 +0.4
baz=266
G24K **Hadweenzic Riv** 34.78 37 P P 06 43 33.8 +1.3
G24K IAmb IAmb 06 43 34.3
comp=Z,3.4nm,0.7s
G24K **Hadweenzic Riv** 34.78 37 P P 06 43 33.9 +1.3
baz=267,SNR=5.8
M23K **Glacier View** 34.84 45 P P 06 43 33.7 +0.6
baz=276
HDA **Harding Lake** 35.02 41 P P 06 43 35.2 +0.6
HDA **Harding Lake** 35.02 41 P P 06 43 35.2 +0.6
baz=272,SNR=7.2
SCM **Sheep Creek Mo** 35.02 45 P P 06 43 35.6 +0.8
baz=277
IL31 35.03 40 P P 06 43 35.2 +0.5
ILAR **Eielson Array** 35.03 40 P P 06 43 35.4 +0.7
ILAR **Eielson Array** 35.03 40 P P 06 43 34.7 0.0
comp=Z,1.5nm,0.6s,baz=262,slow=5.8,SNR=24
comp=Z,1.5nm,0.6s
P23K **Montague Islan** 35.21 49 P P 06 43 37.7 +1.4
baz=280
GLI **Glacier Island** 35.24 47 P P 06 43 37.7 +1.1
baz=279
D25K **Kavik River** 35.32 32 P P 06 43 38.1 +0.9
D25K **Kavik River** 35.32 32 P P 06 43 37.3 0.0
baz=264
G25K **Bearman Lake** 35.32 37 P P 06 43 38.3 +1.1
baz=269
H25L **Birch Creek** 35.44 38 P P 06 43 39.0 +0.8
baz=270
F25K **Christian Rive** 35.51 35 P P 06 43 40.4 +1.5
F25K **Christian Rive** 35.51 35 P P 06 43 39.9 +1.0
baz=268
M24K **Tolsona, Glenn** 35.54 45 P P 06 43 39.8 +0.7
baz=277
FID **Port Fidalgo** 35.56 47 P P 06 43 39.5 +0.1
K24K **Donnelly Dome** 35.56 42 P P 06 43 39.7 +0.3
K24K **Donnelly Dome** 35.56 42 P P 06 43 38.9 -0.4
baz=274,SNR=5.1
PRP **Porcupine Dome** 35.58 39 P P 06 43 39.6 0.0
baz=271
HIN **Hinchinbrook I** 35.60 48 P P 06 43 40.6 +0.9
J25K **Salcha River,** 35.69 40 P P 06 43 39.6 -0.8
baz=273
KLU **Klutina** 35.73 46 P P 06 43 41.9 +1.0
KLU IAmb IAmb 06 43 42.9
comp=Z,3.6nm,0.6s
KLU **Klutina** 35.73 46 P P 06 43 41.3 +0.5
baz=278
PAX **Paxson** 35.77 43 P P 06 43 41.3 +0.1
baz=276
DIV **Divide** 35.85 46 P P 06 43 42.8 +0.9
BMAR **Burnt Mountain** 35.92 36 P P 06 43 44.1 +1.7
RIDG **Independent Ri** 35.98 42 P P 06 43 42.8 -0.1
baz=275
F26K **Sheenjek River** 36.09 35 P P 06 43 45.2 +1.4
F26K **Sheenjek River** 36.09 35 P P 06 43 44.7 +0.9
baz=269
G26K **Porcupine Rive** 36.24 36 P P 06 43 46.5 +1.5
G26K IAmb IAmb 06 43 46.9
comp=Z,3.5nm,0.6s
G26K **Porcupine Rive** 36.24 36 P P 06 43 46.4 +1.5
baz=270
C27K **Jago River** 36.27 32 P P 06 43 46.3 +1.0
C27K IAmb IAmb 06 43 46.6
comp=Z,4.2nm,0.9s
C27K **Jago River** 36.27 32 P P 06 43 46.3 +1.0
baz=266
DOT **Dot Lake** 36.34 42 P P 06 43 45.6 -0.3
DOT IAmb IAmb 06 43 46.7
comp=Z,3.2nm,0.7s
SCRK **Sand Creek** 36.34 41 P 06 43 46.1 0.0
SCRK IAmb IAmb 06 43 46.6
comp=Z,7.5nm,1.5s
SCRK **Sand Creek** 36.34 41 P P 06 43 46.2 +0.2
baz=276,SNR=7.0
N25K **Chitina, Valde** 36.34 45 P 06 43 47.6 +1.5
N25K **Chitina, Valde** 36.34 45 P P 06 43 47.5 +1.4
baz=279,SNR=6.4
BMRM **Bremner River** 36.44 47 P P 06 43 48.0 +1.2
BMRM IAmb IAmb 06 43 48.5
comp=Z,8.0nm,1.0s
BMRM **Bremner River** 36.44 47 P P 06 43 47.6 +0.8
baz=280
J26L **Joseph Creek** 36.47 40 P P 06 43 48.0 +0.8
baz=275
I26K **Coal Creek Min** 36.58 39 P P 06 43 49.2 +1.3
baz=274
KAIM **Kayak Island** 36.70 48 P P 06 43 50.6 +1.6
KAIM **Kayak Island** 36.70 48 P P 06 43 50.2 +1.2
baz=282

L26K Log Cabin Wild 36.73 43 P P 06 43 50.6 +1.4
L26K IAmb IAmb 06 43 52.1
comp=Z,2.9nm,0.7s
L26K Log Cabin Wild 36.73 43 P P 06 43 50.4 +1.2
baz=278,SNR=5.8
GLB Gilahina Butte 36.74 46 P P 06 43 50.5 +1.1
VRDI Verde Repeater 36.95 46 P P 06 43 52.5 +1.2
VRDI IAmb IAmb 06 43 52.7
comp=Z,3.4nm,0.6s
BERG Berg Lake 36.97 47 P P 06 43 53.0 +1.7
BERG IAmb IAmb 06 44 03.2
comp=Z,4.5nm,0.8s
M26K Nabesna, AK 36.98 44 P P 06 43 52.9 +1.6
M26K IAmb IAmb 06 43 53.8
comp=Z,7.5nm,0.8s
M26K Nabesna, AK 36.98 44 P P 06 43 53.1 +1.7
baz=279,SNR=8.2
E27K Coleen River 37.04 34 P P 06 43 53.3 +1.5
E27K Coleen River 37.04 34 P P 06 43 53.5 +1.7
baz=270
G27K Doyon Strip 37.08 37 P P 06 43 54.7 +2.5
baz=273
K27K Chicken 37.17 41 P P 06 43 54.1 +1.2
K27K IAmb IAmb 06 43 54.7
comp=Z,6.1nm,0.8s
K27K Chicken 37.17 41 P P 06 43 54.1 +1.2
baz=277
CRQM Cirque 37.18 47 P P 06 43 54.8 +1.5
H27K Steamboat Moun 37.18 37 P P 06 43 54.7 +1.7
H27K Steamboat Moun 37.18 37 P P 06 43 55.0 +2.0
baz=274,SNR=5.9
I27K Kandik River 37.20 39 P P 06 43 52.4 -0.8
baz=275
CRQE Cirque 37.20 47 P P 06 43 54.8 +1.4
baz=282,SNR=5.8
D27M Malcolm River 37.24 32 P P 06 43 54.7 +1.1
D27M IAmb IAmb 06 43 55.3
comp=Z,4.5nm,0.8s
D27M Malcolm River 37.24 32 P P 06 43 53.6 0.0
baz=269
WAX Waxell Ridge 37.37 47 P P 06 43 56.4 +1.6
L27K Beaver Creek, 37.41 43 P P 06 43 56.2 +1.2
L27K Beaver Creek, 37.41 43 P P 06 43 56.6 +1.6
baz=279,SNR=16
BCAR Beaver Creek A 37.43 43 P P 06 43 56.4 +1.2
M27K Edge Creek, AK 37.50 44 P P 06 43 57.6 +1.8
M27K IAmb IAmb 06 43 58.4
comp=Z,6.6nm,0.8s
M27K Edge Creek, AK 37.50 44 P P 06 43 57.7 +1.8
baz=280,SNR=8.7
F28M Old Crow 37.72 35 P P 06 43 58.9 +1.3
F28M IAmb IAmb 06 43 59.7
comp=Z,3.3nm,0.7s
F28M Old Crow 37.72 35 P P 06 43 59.0 +1.5
baz=273,SNR=5.3
E28M Babbage River 37.78 33 P P 06 43 59.3 +1.3
E28M IAmb IAmb 06 43 59.5
comp=Z,6.8nm,1.5s
E28M Babbage River 37.78 33 P P 06 43 59.0 +0.9
baz=272
I28M Miner Creek 37.91 39 P P 06 44 00.5 +1.3
I28M IAmb IAmb 06 44 01.4
comp=Z,5.3nm,1.0s
I28M Miner Creek 37.91 39 P P 06 44 00.5 +1.3
baz=276,SNR=8.4
BVCY Beaver Creek 37.95 44 P P 06 44 01.2 +1.6
baz=281,SNR=5.6
CTG Chitna Glacier 38.00 46 P P 06 44 01.8 +1.7
baz=283
TABL Table Mountain 38.21 47 P P 06 44 03.2 +1.3
YUK3 Moose Creek 38.26 45 P P 06 44 03.7 +1.4
baz=282,SNR=5.4
DAWY Dawson 38.33 41 P P 06 44 03.8 +1.0
DAWY Dawson 38.33 41 P P 06 44 04.0 +1.3
baz=279
E29M Blow River 38.40 34 P P 06 44 04.6 +1.5
E29M IAmb IAmb 06 44 05.4
comp=Z,5.1nm,0.9s
E29M Blow River 38.40 34 P P 06 44 04.7 +1.5
baz=273,SNR=5.2
H29M Whitestone 38.45 37 P P 06 44 04.6 +1.0
baz=276
G29M Pine Creek 38.50 36 P P 06 44 05.9 +1.8
G29M IAmb IAmb 06 44 06.6
comp=Z,5.3nm,0.8s
G29M Pine Creek 38.50 36 P P 06 44 05.8 +1.7
baz=276
O28M Mount Upton 38.59 46 P P 06 44 06.5 +1.3
baz=284
I29M Ogilvie Camp, 38.59 39 P P 06 44 06.1 +1.2
I29M IAmb IAmb 06 44 06.6
comp=Z,4.6nm,0.8s
I29M Ogilvie Camp, 38.59 39 P P 06 44 06.5 +1.7
baz=278,SNR=6.9
PINM Pinnacle 38.72 47 P P 06 44 06.6 +0.6
baz=285
M29M Somme Creek 39.04 43 P P 06 44 10.4 +1.6
M29M IAmb IAmb 06 44 11.1
comp=Z,3.1nm,0.7s
M29M Somme Creek 39.04 43 P P 06 44 10.5 +1.8
baz=282,SNR=7.4
L29M L29M 39.06 42 P 06 44 10.8 +2.0
L29M IAmb IAmb 06 44 11.6
comp=Z,7.8nm,0.9s
L29M L29M 39.06 42 P P 06 44 10.9 +2.1
baz=282,SNR=8.8
K29M Barlow Dome 39.19 41 P 06 44 11.2 +1.3
K29M IAmb IAmb 06 44 12.8
comp=Z,3.2nm,0.8s
K29M Barlow Dome 39.19 41 P P 06 44 10.9 +1.0
baz=281
YUK4 Talbot Arm 39.20 45 P P 06 44 11.1 +0.9
baz=284
G30M tAoh Zraii Nji 39.20 36 P P 06 44 11.3 +1.4
baz=277
PNL Peninsula 39.24 48 P P 06 44 10.6 +0.4
baz=286
F30M Barrier River 39.28 35 P P 06 44 12.9 +2.4
baz=276,SNR=8.0
I30M Mount Dempster 39.42 39 P 06 44 13.0 +1.2
I30M IAmb IAmb 06 44 13.6
comp=Z,6.9nm,0.8s
I30M Mount Dempster 39.42 39 P P 06 44 13.2 +1.3
baz=280,SNR=16
YUK6 Outpost Mounta 39.42 46 P P 06 44 13.2 +1.1
baz=285
J30M Hart River 39.56 40 P P 06 44 14.7 +1.7
baz=281
M30M Minto, Yukon 39.77 43 P P 06 44 16.8 +2.1
baz=283
N30M Aishikik Lake 39.90 45 P P 06 44 18.3 +2.5
baz=285
MAYO Mayo, Yukon 39.95 41 P P 06 44 18.6 +2.5
baz=282
G31M Satah River 39.97 36 P P 06 44 17.0 +0.9
G31M Satah River 39.97 36 P P 06 44 17.7 +1.5
baz=279
INK Inuvik 40.02 34 P P 06 44 17.6 +1.0
INK IAmb IAmb 06 44 17.9
comp=Z,3.0nm,0.6s
INK Inuvik 40.02 34 P P 06 44 17.6 +1.0
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 40.02 34 P P 06 44 17.6 +1.0
baz=277,SNR=5.6
P29M Windy Craggy 40.06 47 P P 06 44 19.4 +2.4
baz=287
F31M Tsiigehtchic 40.08 35 P P 06 44 17.9 +0.9
baz=278
H31M Peel River 40.14 38 P P 06 44 19.2 +1.5
H31M Peel River 40.14 38 P P 06 44 19.0 +1.3
baz=280
P30M Million Dollar 40.30 47 P P 06 44 21.4 +2.3
baz=287
N31M Braeburn, Yuko 40.50 44 P 06 44 23.2 +2.5
N31M IAmb IAmb 06 44 23.6
comp=Z,6.9nm,0.9s
N31M Braeburn, Yuko 40.50 44 P P 06 44 22.9 +2.3
baz=286
O30N Mendenhall 40.55 45 P P 06 44 23.2 +2.1
O30N IAmb IAmb 06 44 23.8
comp=Z,4.9nm,0.7s
O30N Mendenhall 40.55 45 P P 06 44 23.0 +1.9
baz=286,SNR=9.0
PLBC Pleasant Camp 40.78 47 P P 06 44 24.5 +1.6
baz=288
M31M Drury Creek, Y 40.95 43 P P 06 44 26.4 +2.0
M31M IAmb IAmb 06 44 26.8
comp=Z,3.4nm,0.6s
M31M Drury Creek, Y 40.95 43 P P 06 44 26.5 +2.2
baz=286,SNR=6.8
WHY Whitehorse 41.15 45 P P 06 44 28.5 +2.4
WHY IAmb IAmb 06 44 28.8
comp=Z,6.0nm,0.7s
WHY Whitehorse 41.15 45 P P 06 44 28.3 +2.2
baz=287
S31K Pelican 41.30 50 P P 06 44 29.9 +2.7
baz=290
FARO Faro, Yukon 41.41 43 P P 06 44 29.8 +1.6
FARO Faro, Yukon 41.41 43 P P 06 44 29.7 +1.6
baz=286,SNR=6.6
R32K Eaglecrest 42.06 49 P P 06 44 36.0 +2.6
baz=291
SIT Sitka 42.07 51 P P 06 44 36.7 +3.3
baz=292
MMPY Sheldon Lake, 42.23 42 P 06 44 36.7 +1.9
MMPY Sheldon Lake, 42.23 42 P P 06 44 36.9 +2.1
baz=287,SNR=5.0
P33M Teslin, Yukon 42.26 46 P P 06 44 37.3 +2.2
baz=289
S32K Killisnoo 42.31 50 P P 06 44 38.8 +3.5
baz=292
R33M Jennings River 43.41 46 P P 06 44 47.0 +2.6
R33M Jennings River 43.41 46 P P 06 44 47.0 +2.6
baz=292,SNR=6.0
DLBC Dease Lake 44.22 47 P P 06 44 53.8 +3.0
baz=293
T35M Bob Quinn 44.67 49 P P 06 44 57.9 +3.6
baz=295
HG4B Hotspring 46.18 55 P P 06 45 08.0 +1.8
HG4B IAmb IAmb 06 45 21.5
comp=Z,10nm,1.4s
MK31 Makanchi Array 46.24 296 P P 06 45 05.6 -1.2
MK31 Makanchi Array 46.24 296 P P 06 45 05.6 -1.2
MK31 pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 46.24 296 P P 06 45 05.0 -1.8
MKAR Makanchi Array 46.24 296 P P 06 45 04.7 -2.1
comp=Z,1.4nm,0.8s,baz=63,slow=7.6,SNR=12
comp=Z,1.4nm,0.8s
MKAR Makanchi Array 46.24 296 *e*P P 06 45 05.2 -1.6
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 46.24 296 *e*P P 06 45 05.2 -1.6
TOAD Toad River Com 46.35 45 P P 06 45 10.3 +2.8
baz=296
MAKZ Makanchi 46.42 296 P P 06 45 04.9 -3.3
MAKZ Makanchi 46.42 296 P P 06 45 04.9 -3.3
MAKZ pmax pmax
comp=Z,2.0nm,1.0s
KURK Kurchatov 46.48 302 P 06 45 06.3 -2.2
KURK Kurchatov 46.48 302 *ce*P P 06 45 06.6 -1.9
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 46.48 302 *e*P P 06 45 06.6 -1.9
KURBB Kurchatov Arra 46.57 302 P P 06 45 07.3 -1.9
comp=Z,1.7nm,0.6s,baz=68,slow=8.4,SNR=12
comp=Z,1.7nm,0.6s
HOLB Holberg 48.65 56 P P 06 45 26.7 +1.3
YKAW3 Yellowknife Wh 49.33 38 P P 06 45 31.3 +1.0
YKAW3 IAmb IAmb 06 45 32.0
comp=Z,3.7nm,0.8s
YKA Yellowknife Ar 49.37 38 P P 06 45 30.2 -0.4
YKA Yellowknife Ar 49.37 38 P P 06 45 31.2 +0.7
comp=Z,1.7nm,0.7s,baz=304,slow=7.8,SNR=14
comp=Z,1.7nm,0.7s
YKAW1 Yellowknife Wh 49.42 38 P P 06 45 31.8 +0.8
YKAW1 IAmb IAmb 06 45 32.8
comp=Z,4.7nm,1.0s
BRVK Borovoye 49.84 308 P P 06 45 32.7 -1.6
BRVK Borovoye 49.84 308 *i* P P 06 45 32.2 -2.1
BRVK pmax pmax
comp=Z,1.0nm,0.7s
BRVK Borovoye 49.84 308 *e*P P 06 45 32.2 -2.1
NLWA Neilton Lookou 52.76 58 P P 06 45 57.7 +1.6
CMAR Chiang Mai Arr 52.96 255 P P 06 45 58.6 +0.6
comp=Z,3.1nm,0.8s,baz=32,slow=7.1,SNR=13
comp=Z,3.1nm,0.8s
ARTI Arti 53.86 317 *c i*P P 06 46 02.0 -2.0
ARTI 06 47 06.3
ARTI S S 06 53 24.5 -2.5
ARTI pmax pmax
comp=Z,6.0nm,2.2s
LON Longmire 54.28 58 P P 06 46 08.5 +1.2
LON Longmire 54.28 58 P P 06 46 08.5 +1.2
LON pmax pmax
comp=Z,4.0nm,1.5s
LTY Liberty 54.62 56 P P 06 46 10.9 +1.2
B08A Colville Reser 54.71 55 P P 06 46 11.6 +1.3
B08A IAmb IAmb 06 46 12.2
comp=Z,2.9nm,0.8s
BLKN Baker Lake 55.18 30 P P 06 46 13.2 -0.1
BLKN IAmb IAmb 06 46 14.0
comp=Z,5.5nm,0.8s
I03D Drain, OR 55.20 61 P P 06 46 16.2 +2.4
I03D IAmb IAmb 06 46 16.8
comp=Z,3.9nm,0.7s
KKAR Karatay Array 55.24 298 P P 06 46 12.3 -2.0
KKAR Karatay Array 55.24 298 P P 06 46 12.3 -2.0
NEW Newport 55.95 54 P P 06 46 20.2 +1.0
NEW IAmb IAmb 06 46 21.1
comp=Z,3.7nm,1.1s
NEW Newport 55.95 54 P P 06 46 20.2 +1.0
NEW pmax pmax
comp=Z,4.0nm,1.2s
PINE Pine Mountain 56.53 60 P 06 46 26.6 +3.0
I07A Izee 57.17 59 P P 06 46 29.9 +1.8
I07A IAmb IAmb 06 46 30.7
comp=Z,2.8nm,1.0s
K05A Summer Lake 57.21 61 P P 06 46 30.8 +2.4
ABKAR Akbulak array 57.36 309 P P 06 46 26.7 -2.3
J08A Circle Bar Ran 58.21 59 P 06 46 37.2 +2.0
J08A IAmb IAmb 06 46 38.4
comp=Z,2.3nm,0.7s
PLID Pearl Lake 58.51 56 P 06 46 39.0 +1.6
MSO Missoula 58.54 54 P 06 46 38.7 +1.2
MSO IAmb IAmb 06 46 39.5
comp=Z,4.7nm,1.0s
KLMR Klimovskoe 58.60 328 *e*P P 06 46 33.4 -4.1
KLMR pmax pmax
comp=Z,14nm,1.8s
SUMG Summit 58.84 4 *i* P P 06 46 43.0 +3.5
OVMT Ovando 58.89 53 P P 06 46 41.4 +1.4
HLID Hailey 60.36 57 P P 06 46 51.7 +1.6
MCMT McKenzie Canyo 60.40 55 P P 06 46 51.8 +1.3
BOZ Bozeman (W) 60.56 53 P P 06 46 52.6 +1.3
BOZ IAmb IAmb 06 46 53.7
comp=Z,3.8nm,0.8s
BOZ Bozeman (W) 60.56 53 P P 06 46 52.7 +1.3
BOZ pmax pmax
comp=Z,4.0nm,0.9s
NVAR Mina Array Bea 61.46 63 P P 06 46 59.2 +1.5
comp=Z,2.2nm,0.6s,baz=293,slow=7.4,SNR=20
comp=Z,2.2nm,0.6s
TPH Tonopah 62.34 63 P P 06 47 04.9 +1.4
TPH IAmb IAmb 06 47 05.6
comp=Z,3.9nm,0.8s
TPH Tonopah 62.34 63 P P 06 47 04.9 +1.4
TPH pmax pmax
comp=Z,4.0nm,0.8s
FIA1 FINESS Array S 62.43 334 P P 06 47 01.7 -1.7
FINES FINESS Array B 62.43 334 P P 06 47 01.8 -1.6
FINES FINESS Array B 62.43 334 P P 06 47 01.5 -1.9
comp=Z,0.4nm,0.4s,baz=46,slow=8.2,SNR=7.5
comp=Z,0.4nm,0.4s
PDAR Pinedale Array 63.55 55 P P 06 47 12.5 +1.0
comp=Z,1.0nm,0.6s,baz=254,slow=1.4,SNR=14
comp=Z,1.0nm,0.6s
HFS Hagfors 66.77 339 P P 06 47 29.6 -2.0
comp=Z,0.4nm,0.4s,baz=57,slow=5.5,SNR=7.3
comp=Z,0.4nm,0.4s
KIV Kislovodsk 69.61 314 *e*P P 06 47 48.6 -1.1
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV Kislovodsk 69.61 314 *e*P P 06 47 48.6 -1.1
KBZ Khabaz 69.68 314 *i* P P 06 47 49.3 -0.7
KBZ pmax pmax
comp=Z,2.0nm,1.3s
KBZ Khabaz 69.68 314 *e*P P 06 47 49.3 -0.7
ANMO Albuquerque 70.75 59 *ce*P P 06 47 58.6 +1.7
ANMO pmax pmax
comp=Z,4.0nm,2.5s
EKA Eskdalemuir Ar 74.57 346 P P 06 48 17.5 -1.4
comp=Z,0.4nm,0.4s,baz=16,slow=5.8,SNR=5.9
comp=Z,0.4nm,0.4s
TXAR Lajitas Array 76.47 61 P P 06 48 31.1 +0.9
comp=Z,3.3nm,0.6s,baz=297,slow=4.3,SNR=61
comp=Z,3.3nm,0.6s
CPUP Villa Florida 147.40 58 PKPbc PKPbc 06 56 22.1 -0.7
comp=Z,0.1nm,0.3s,baz=100,slow=4.3,SNR=2.9
PLCA Paso Flores 148.19 92 PKPbc PKPbc 06 56 24.6 0.0
comp=Z,2.1nm,0.8s,baz=256,slow=3.5,SNR=5.2

AUST 14 06:41:06.4±1.8,18°S±4°×12°0E±°,h13km±15km,mb4.3/14, ML3.8/6,Error ellipse: s-maj=11.6km s-min=5.2km az=130.7,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**2.95**	**193**	P	Pn	06 41 55.3	+2.2
PSAC1	**Pilbara Seismi**	**3.30**	**190**	P	Pn	06 42 00.2	+2.2
PSA00	**Pilbara Seismi**	**3.34**	**189**	P	Pn	06 42 00.7	+2.3
PSA00				S	Sn	06 42 38.8	+0.9
FITZ	**Fitzroy Crossi**	**4.96**	**89**	P	Pn	06 42 22.0	+1.2
FITZ	**Fitzroy Crossi**	**4.96**	**89**	S	Sn	06 43 17.0	-1.1
GIRL	**Giralia**	**7.25**	**232**	P	Pn	06 42 52.9	+0.7
GIRL				S	Sn	06 44 09.2	-5.3
KNRA	**Kununurra**	**8.39**	**73**	P	Pn	06 43 09.2	+1.4
	comp=Z,24nm,0.8s,comp=Z,0.2nm						
KNRA				S	Sn	06 44 41.2	-1.2
MEEK	**Meekatharra**	**8.50**	**191**	P	Pn	06 43 10.4	+1.1
	comp=Z,27nm,0.5s,comp=Z,0.3nm						
MEEK	**Meekatharra**	**8.50**	**191**	S	Sn	06 44 42.9	-2.3
CVQOZ	**Cooralya Stati**	**8.53**	**223**	P	Pn	06 43 10.7	+0.9
CVQOZ				S	Sn	06 44 42.9	-3.0
EDFI	**Ende, Flores**	**9.54**	**8**	P	Pn	06 43 21.3	-2.4
	comp=Z,13nm,1.5s,comp=Z,0.1nm						
EDFI	**Ende, Flores**	**9.54**	**8**	S	Sn	06 44 58.9	-12
WRKA	**Warakurna**	**9.95**	**134**	P	Pn	06 43 27.3	-2.0
	comp=Z,5.4nm,1.1s,comp=Z,0.1nm						
WRKA				S	Sn	06 45 18.1	-2.9
MORW	**Morawa**	**11.48**	**200**	P	Pn	06 43 49.5	-0.6
	comp=Z,22nm,2.6s						
MORW	**Morawa**	**11.48**	**200**	S	Sn	06 45 49.1	-9.2
MTN	**Manton Dam**	**11.64**	**64**	P	Pn	06 43 52.4	-0.1
	comp=Z,37nm,0.8s						
DRS	**Darwin Rock St**	**11.65**	**62**	P	Pn	06 43 53.7	+1.1
	comp=Z,14nm,0.9s						
BLDU	**Ballidu**	**12.75**	**195**	P	Pn	06 44 07.1	-0.5
	comp=Z,21nm,1.7s						
KDU	**Kakadu**	**12.87**	**66**	P	Pn	06 44 09.4	+0.1
	comp=Z,34nm,2.8s						
KMBL	**Kambalda**	**13.11**	**174**	P	Pn	06 44 09.0	-3.5
	comp=Z,16nm,1.4s						
KMBL				S	Sn	06 46 26.4	-12
KLBR	**Kellerberrin**	**13.49**	**190**	P	Pn	06 44 17.9	+0.3
	comp=Z,24nm,0.9s						
MUN	**Mundaring**	**14.18**	**195**	P	Pn	06 44 26.1	-1.0
	comp=Z,19nm,2.1s						
FORT	**Forrest**	**14.26**	**152**	P	Pn	06 44 26.5	-1.7
	comp=Z,8.5nm,0.7s						
NWAO	**Narrogin (SRO)**	**14.88**	**190**	P	Pn	06 44 35.2	-1.4
	comp=Z,40nm,1.8s						

ROM ***14*** *06:42:28.4±0.3,45°.11N±0°.02×6°.45E±0°.02,h6km±1km, ML1.2/6,Error ellipse: s-maj=2.6km s-min=0.9km az=17.0*
LDG ***14*** *06:42:29.3±0.1,45°.14N×6°.49E,h2km,Md1.9/3,Ml2.1/7, Error ellipse: s-maj=1.0km s-min=0.8km az=70.0*
STR 14 06:42:29.2±0.2,45°N±1°×1°,h2km,MLv1.6/11,LOCSAT earthModelID alpes_taup-2.11 preliminary,France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNI	**Bardonecchia**	**0.16**	**120**	P	Pg	06 42 32.4	+0.2
BNI				S	Sg	06 42 35.0	+0.6
BNI				AML	AML		
	comp=E,59μm,1.4s						
BNI				AML	AML		
	comp=N,65μm,0.3s						
OGMO	**Fort Saint-Gob**	**0.16**	**62**	Pg	Pg	06 42 32.5	+0.1
OGMO				Sg	Sg	06 42 34.7	+0.2
RRL	**Rocca Remolon**	**0.30**	**134**	P	Pg	06 42 35.2	+0.2
RRL				S	Sg	06 42 40.1	+1.2
RRL				AML	AML		
	comp=E,60μm,1.5s						
RRL				AML	AML		
	comp=N,70μm,0.7s						
RRL				AML	AML		
	comp=E,60μm,0.5s						
RRL	**Rocca Remolon**	**0.30**	**134**	Pg	Pg	06 42 35.2	+0.2
RRL				Sg	Sg	06 42 39.8	+0.8
LPG	**La Plagne**	**0.41**	**27**	*e*Pg	Pg	06 42 36.7	-0.4
LPG				*e*Sg	Sg	06 42 42.2	-0.3
	comp=E,9.5nm,0.2s						
LPL	**La Plagne**	**0.42**	**24**	*e*Pg	Pg	06 42 36.8	-0.5
LPL				*e*Sg	Sg	06 42 42.3	-0.5
	comp=E,8.7nm,0.2s						
MBDF	**Montbardon**	**0.45**	**153**	*e*Pg	Pg	06 42 37.7	-0.1
MBDF				*e*Sg	Sg	06 42 44.2	+0.5
	comp=E,8.4nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.48**	**244**	*e*Pg	Pg	06 42 38.2	-0.1
ORIF				*e*Sg	Sg	06 42 43.4	-1.1
	comp=E,8.4nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.48**	**244**	P	Pg	06 42 38.5	+0.2
ORIF				S	Sg	06 42 44.7	+0.2
ORIF	**Oris-en-Rattie**	**0.48**	**244**	Pg	Pg	06 42 38.3	0.0
ORIF				Sg	Sg	06 42 44.6	+0.1
GRN	**Grenoble**	**0.53**	**282**	Pg	Pg	06 42 40.0	+0.6
GRN				Sg	Sg	06 42 47.6	+1.3
RSL	**Roselend**	**0.57**	**10**	Pg	Pg	06 42 40.0	0.0
RSL				Sg	Sg	06 42 47.8	+0.4
CREF	**Crivoux**	**0.59**	**170**	Pg	Pg	06 42 40.4	-0.1
CREF				Sg	Sg	06 42 48.8	+0.7
BHB	**Bricherasio**	**0.62**	**117**	P	Pg	06 42 41.0	-0.1
BHB	**Bricherasio**	**0.62**	**117**	Pg	Pg	06 42 41.1	0.0
BHB				Sg	Sg	06 42 49.6	+0.4
OGAG	**Argentiere**	**0.68**	**177**	Pg	Pg	06 42 36.0	-6.2
OGAG				Sg	Sg	06 42 41.1	-10
JAUF	**Jausiers**	**0.73**	**165**	Pg	Pg	06 42 43.0	-0.1
JAUF				Sg	Sg	06 42 53.2	+0.7
OGSM	**Saint Maurice**	**0.73**	**311**	Pg	Pg	06 42 43.3	+0.1
OGSM				Sg	Sg	06 42 53.4	+0.7
PZZ	**Stroppo**	**0.77**	**144**	P	Pg	06 42 43.7	-0.2
PZZ				S	Sg	06 42 54.8	+0.9
PZZ				AML	AML		
	comp=E,58μm,0.9s						
PZZ				AML	AML		
	comp=N,34μm,0.2s						
PZZ				AML	AML		
	comp=E,58μm,1.1s						
PZZ				AML	AML		
	comp=N,34μm,1.8s						
PZZ	**Stroppo**	**0.77**	**144**	Pg	Pg	06 42 43.7	-0.2
PZZ				Sg	Sg	06 42 54.6	+0.7
REMY	**Saint-Rhmy-en**	**0.85**	**34**	Pg	Pg	06 42 45.1	-0.3
OGMY	**Moye**	**0.86**	**331**	Pg	Pg	06 42 45.5	-0.1
OGMY				Sg	Sg	06 42 57.5	+0.8
CIRO	**Champorcher**	**0.90**	**58**	Pg	Pg	06 42 46.1	-0.2
CIRO				Sg	Sg	06 42 58.4	+0.4
OGSI	**Sixt**	**0.95**	**11**	Pg	Pg	06 42 47.3	-0.2
OGSI				Sg	Sg	06 43 00.4	+0.5
TRAV	**Traversella**	**0.97**	**66**	Pg	Pg	06 42 47.6	-0.2
TRAV				Sg	Sg	06 43 00.0	-0.3
OGDI	**Digne**	**1.03**	**187**	Pg	Pg	06 42 48.9	0.0
ISO	**Isola**	**1.03**	**157**	Pg	Pg	06 42 48.6	-0.3
ISO				Sg	Sg	06 43 02.2	0.0
ENAUX	**Enaux**	**1.04**	**168**	Pg	Pg	06 42 49.1	0.0
ENAUX				Sg	Sg	06 43 03.3	+0.7
STV	**Sant Anna di V**	**1.07**	**146**	Pg	Pg	06 42 49.5	-0.2
STV				Sg	Sg	06 43 04.2	+0.7
OG35	**Corcelles**	**1.11**	**325**	Pg	Pg	06 42 50.5	0.0
OG35				Sg	Sg	06 43 05.0	0.0
MLYF	**Mely**	**1.25**	**204**	Pg	Pg	06 42 53.2	0.0
VIVF	**Saint-Julien-l**	**1.31**	**259**	*e*Pg	Pb	06 42 54.9	+0.3
VIVF				*e*Sg	Sb	06 43 12.0	+0.1
	comp=N,7.7nm,0.4s						
SMRF	**Simiane la Rot**	**1.33**	**210**	*e*P	Pb	06 42 55.4	+0.6
SMRF				*e*Sg	Sg	06 43 11.8	+0.1
	comp=N,1.0nm,0.2s						
SBF	**Sospel**	**1.44**	**151**	*e*P	Pg	06 42 57.5	+0.8
SBF				*e*Sg	Sn	06 43 16.2	+0.4
	comp=N,6.0nm,0.4s						
CABF	**La Chapelle**	**1.50**	**350**	*e*Pg	Pb	06 42 57.9	0.0
CABF				*e*Sg	Sg	06 43 18.6	+1.1

	comp=N,4.5nm,0.3s							
LMR	**La Mourre**	**1.80**	**179**	*e*Pg		Pb	06 43 03.0	+0.2
LMR				*e*Sg		Sb	06 43 26.1	+0.4
	comp=N,1.0nm,0.2s							

*IDC **14** 06:59:40.7±1.3,25˚.05N×109˚.60W, h0km, mb3.4/2, mbtmp3.6/7, ML3.7/4, Error ellipse: s-maj=32.0km s-min=9.9km az=119.0*
*MEX **14** 06:59:44.4±0.7,25˚.25N×109˚.81W, h12km±8km, MD4.1*
ISC 14 06:59:41.3±1.7, 25˚22N±0˚.03×109˚83W±0˚.05, h7km±12km, n24, σ2§07/33, 1C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.81**	**62**	*i* P	**Pg**	**06 59 57.2**	**+0.3**
TSIG				*e*S	**Sg**	**07 00 06.8**	**-0.7**
LPIG	**La Paz**	**1.20**	**201**	Pg	**Pn**	**07 00 03.4**	**-1.0**
	57nm,0.3s,baz=9.4,slow=3.0,SNR=35						
LPIG				Lg	Lg	07 00 17.1	
	205nm,0.3s,baz=149,slow=17,SNR=13						
LPIG	**La Paz**	**1.20**	**201**	*e*P	**Pn**	**07 00 03.1**	**-1.3**
LPIG				*e*S	**Sb**	**07 00 19.2**	**-0.8**
UAGRB	**Rancho Ultima**	**1.33**	**285**	*e*P	**Pn**	**07 00 04.7**	**-1.7**
SLBS	**Sierra La Lagu**	**1.53**	**184**	*e*P	**Pn**	**07 00 08.1**	**-1.1**
SLBS				*e*S	**Sn**	**07 00 25.8**	**-3.5**
SLBS				⇑*e*		07 00 34.5	
SLBS				IAML		07 00 34.5	
	comp=Z,416nm,0.2s						
SLBS	**Sierra La Lagu**	**1.53**	**184**	*e*P	**Pn**	**07 00 08.1**	**-1.1**
SLBS				*e*S	**Sn**	**07 00 28.7**	**-0.6**
NE77	**Loreto B.C.S**	**1.59**	**300**	*e*P	**Pn**	**07 00 08.3**	**-1.6**
NE77				*e*S	**Sn**	**07 00 26.9**	**-3.8**
NE80	**Navojoa**	**1.77**	**18**	*e*P	**Pn**	**07 00 11.7**	**-0.7**
NE80				*e*S	**Sn**	**07 00 32.2**	**-3.0**
NE80				IAML		07 00 37.2	
	comp=E,3μm,0.1s						
NE80				⇓*e*		07 00 37.2	
NE80				IAML		07 00 37.4	
	comp=N,3μm,0.1s						
NE80				⇓*e*		07 00 37.4	
SNIRB	**San Nicol¡s**	**2.03**	**311**	*e*P	**Pn**	**07 00 14.7**	**-1.3**
SNIRB				*e*S	**Sn**	**07 00 37.6**	**-4.0**
CSIG	**Choix**	**2.07**	**39**	*e*P	**Pn**	**07 00 15.8**	**-0.8**
CSIG				*e*S	**Sn**	**07 00 39.0**	**-3.6**
GUYB	**Guaymas**	**2.83**	**341**	*e*P	**Pn**	**07 00 26.0**	**-0.9**
GUYB	**Guaymas**	**2.83**	**341**	*e*P	**Pn**	**07 00 25.9**	**-0.9**
GUYB				*e*S	**Sn**	**07 01 01.3**	**+0.1**
HSIG		**3.91**	**346**	*e*P	**Pn**	**07 00 41.4**	**-0.5**
BCIG	**La Boquilla**	**4.59**	**59**	*e*P	**Pn**	**07 00 51.4**	**+0.1**
BCIG				*e*S	**Sn**	**07 01 41.0**	**-4.0**
TXAR	**Lajitas Array**	**6.85**	**52**	Pn	**Pn**	**07 01 21.7**	**-0.6**
	comp=N,1.1nm,0.3s,baz=228,slow=13,SNR=100						
TXAR				Pg	**Pb**	**07 01 39.7**	**-1.0**
	comp=N,0.4nm,0.3s,baz=239,slow=14,SNR=5.8						
TXAR				Sn	**Sn**	**07 02 38.4**	**-2.1**
	comp=N,2.6nm,0.3s,baz=233,slow=23,SNR=12						
TXAR				Lg	Lg	07 03 10.2	
	comp=N,1.1nm,0.3s,baz=233,slow=28,SNR=4.0						
	comp=N,1.4nm,0.3s						
ANMO	**Albuquerque**	**10.12**	**16**	Pn	**Pn**	**07 02 07.9**	**+0.6**
	comp=N,0.1nm,0.3s,baz=277,slow=15,SNR=5.7						
ANMO				Lg	Lg	07 04 55.8	
	comp=N,0.1nm,0.3s,baz=117,slow=5.0,SNR=3.8						
	comp=N,1.5nm,0.8s						
NVAR	**Mina Array Bea**	**15.00**	**333**	Pn	**P**	**07 03 20.6**	**+1.1**
	comp=N,2.4nm,0.8s,baz=138,slow=13,SNR=5.6						
ELK	**Elko**	**16.13**	**345**	Pn	**P**	**07 03 33.4**	**+1.3**
	comp=N,0.1nm,0.3s,baz=169,slow=7.9,SNR=4.7						
	comp=N,1.9nm,1.0s						
PDAR	**Pinedale Array**	**17.50**	**1**	P	**P**	**07 03 49.3**	**+2.0**
	comp=N,0.1nm,0.3s,baz=189,slow=9.4,SNR=15						
	comp=N,1.3nm,0.7s						
YKA	**Yellowknife Ar**	**37.40**	**356**	P	**P**	**07 06 56.2**	**+1.6**
	comp=N,0.4nm,0.8s,baz=180,slow=7.4,SNR=4.0						
	comp=N,0.4nm,0.8s						
ILAR	**Eielson Array**	**46.16**	**339**	P	**P**	**07 08 09.7**	**+3.4**
	comp=N,0.3nm,0.7s,baz=129,slow=7.6,SNR=5.7						
	comp=N,0.3nm,0.7s						
H03N2	**Juan Fernandez**	**65.34**	**152**	T	T	08 21 28.7	
	baz=331,slow=77,SNR=8.6						
H03N1	**Juan Fernandez**	**65.34**	**152**	T	T	08 21 29.3	
	baz=331,slow=77,SNR=6.4						
H03N3	**Juan Fernandez**	**65.34**	**152**	T	T	08 21 25.5	
	baz=331,slow=77,SNR=7.0						

AUST 14 07:00:24.5±1.1, 19˚S±3˚×12˚1E±˚, h16km±8km, mb4.1/9, ML3.4/7, Error ellipse: s-maj=8.6km s-min=4.1km az=132.3, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.59**	**199**	P	Pn	07 01 08.2	+2.3
PSAA1	**Pilbara Seismi**	**2.96**	**195**	P	Pn	07 01 11.6	+0.7
PSAA1				S	Sb	07 01 49.7	-3.3
FITZ	**Fitzroy Crossi**	**4.79**	**84**	P	Pn	07 01 37.4	+1.4
FITZ	**Fitzroy Crossi**	**4.79**	**84**	S	Sn	07 02 31.3	+0.2
GIRL	**Giralia**	**7.17**	**236**	P	Pn	07 02 05.9	-2.8
MEEK	**Meekatharra**	**8.12**	**193**	P	Pn	07 02 23.3	+1.5
	comp=Z,14nm,0.9s,comp=Z,0.2nm						
MEEK	**Meekatharra**	**8.12**	**193**	S	Sn	07 03 53.3	-0.1
KNRA	**Kununurra**	**8.33**	**70**	P	Pn	07 02 24.9	+0.3
	comp=Z,17nm,1.8s,comp=Z,0.1nm						
KNRA				S	Sn	07 03 58.6	+0.2
WRKA	**Warakurna**	**9.51**	**133**	P	Pn	07 02 45.7	+4.9
	comp=Z,3.2nm,2.8s,comp=Z,0.0nm						
MMRI	**Maumere**	**10.12**	**9**	P	Pn	07 02 51.6	+2.3
MORW	**Morawa**	**11.15**	**201**	P	Pn	07 03 01.8	-1.4
	comp=Z,20nm,3.0s						
BLDU	**Ballidu**	**12.39**	**196**	P	Pn	07 03 20.1	-0.1
	comp=Z,17nm,1.6s						
KMBL	**Kambalda**	**12.67**	**175**	P	Pn	07 03 21.0	-3.0
	comp=Z,3.5nm,1.1s						
WB5	**Warramunga Arr**	**13.02**	**97**	P	Pn	07 03 28.5	-0.4
WC2	**Warramunga Arr**	**13.02**	**98**	P	Pn	07 03 28.4	-0.5
KLBR	**Kellerberrin**	**13.10**	**191**	P	Pn	07 03 29.9	-0.1
	comp=Z,11nm,0.8s						
FORT	**Forrest**	**13.79**	**152**	P	Pn	07 03 39.9	+0.6
	comp=Z,8.4nm,2.0s						
MUN	**Mundaring**	**13.82**	**196**	P	Pn	07 03 39.2	-0.6
	comp=Z,18nm,2.0s						
SMRI	**Semarang**	**15.25**	**318**	P	Pn	07 03 58.4	-0.9
	comp=Z,31nm,0.8s						

RSNC 14 07:04:10.0±0.0, 7˚N±1˚×7˚3W±˚, h147km±1km, M2.8, mb3.5, ML2.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**186**	P	Pn	07 04 29.5	-0.8
BARC				S	Sn	07 04 44.7	-1.0
BRJC	**Barrancabermej**	**0.60**	**285**	P	Pn	07 04 31.2	-0.3
BRJC				S	Sn	07 04 48.3	+0.4
PAMC	**Pamplona, Colo**	**0.69**	**41**	P	Pn	07 04 32.6	-0.1
PAMC				S	Sn	07 04 49.1	-0.8
RUSC	**La Rusia**	**0.93**	**175**	P	Pn	07 04 33.5	-1.0
RUSC				S	Sn	07 04 52.8	-0.2
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	P	Pn	07 04 35.9	-1.6
PTBC				S	Sn	07 04 57.5	-0.9
TAMC	**Tame, Arauca**	**1.41**	**106**	P	Pn	07 04 38.0	-0.5
TAMC				S	Sn	07 04 59.9	-0.3
OCAC	**Ocana**	**1.42**	**354**	P	Pn	07 04 37.8	-0.9
OCAC				S	Sn	07 05 00.6	0.0
ZARC	**Zaragoza, Cauc**	**1.81**	**292**	P	Pn	07 04 42.6	-0.2
ZARC				S	Sn	07 05 08.4	+0.5
NORC	**Norcasia**	**2.11**	**234**	P	Pn	07 04 45.8	-0.5
NORC				S	Sn	07 05 14.0	-0.2
CHIC	**Chingaza**	**2.25**	**195**	P	Pn	07 04 47.9	-0.5
CHIC				S	Sn	07 05 17.4	-0.4
ROSC	**El Rosal**	**2.28**	**210**	P	Pn	07 04 49.3	+0.6
ROSC				S	Sn	07 05 19.2	+0.8
HELC	**Santa Helena**	**2.44**	**255**	P	Pn	07 04 50.0	-0.6
HELC				S	Sn	07 05 21.7	0.0
UREC	**San Jos de Ur**	**2.53**	**292**	P	Pn	07 04 49.5	-1.9
UREC				S	Sn	07 05 21.3	-1.9
GUY2C	**Guyana, Caldas**	**2.71**	**234**	P	Pn	07 04 54.7	+0.7
GUY2C				S	Sn	07 05 29.5	+1.6
VILC	**Villavicencio,**	**2.74**	**191**	P	Pn	07 04 53.0	-1.2
VILC				S	Sn	07 05 28.3	+0.1
RECRC	**Villamaria, Ca**	**2.86**	**230**	P	Pn	07 04 55.7	-0.3
RECRC				S	Sn	07 05 33.1	+1.7
NIZA	**Niza - Manizal**	**2.89**	**233**	P	Pn	07 05 00.3	+4.2
NIZA				S	Sn	07 05 35.2	+3.5
CBOC	**Ciudad Bolivar**	**2.99**	**252**	P	Pn	07 04 57.1	-0.2
CBOC				S	Sn	07 05 33.9	+0.1
DBBC	**Dabeiba**	**3.03**	**274**	P	Pn	07 04 56.9	-0.9
DBBC				S	Sn	07 05 33.2	-1.5
ARGC	**Ariguani, Magd**	**3.20**	**340**	P	Pn	07 04 59.7	-0.2
ARGC				S	Sn	07 05 38.2	-0.3
ANIL	**Santa Ana**	**3.21**	**224**	P	Pn	07 05 00.8	+0.5
ANIL				S	Sn	07 05 41.2	+2.0
PRAC	**Prado**	**3.53**	**209**	P	Pn	07 05 03.6	-0.6
PRAC				S	Sn	07 05 45.3	-0.9
APAC	**Apartado, Choc**	**3.56**	**288**	P	Pn	07 05 03.0	-1.4
APAC				S	Sn	07 05 46.3	-0.3
ORTC	**Ortega, Tolima**	**3.56**	**216**	P	Pn	07 05 03.8	-0.7
ORTC				S	Sn	07 05 47.3	+0.5
PLMC	**San Jos del P**	**3.64**	**239**	P	Pn	07 05 05.2	-0.4
PLMC				S	Sn	07 05 48.1	-0.6
SJCC	**San Jacinto, C**	**3.65**	**327**	P	Pn	07 05 03.2	-2.5
SJCC				S	Sn	07 05 45.2	-3.8
URMC	**La Uribe, Meta**	**3.75**	**199**	P	Pn	07 05 06.5	-0.6
URMC				S	Sn	07 05 50.2	-1.1
CRJC	**Cerrejon, Guaj**	**4.18**	**4**	P	Pn	07 05 09.8	-2.9
CRJC				S	Sn	07 05 58.6	-2.8
YOTC	**Yotoco, Valle**	**4.24**	**229**	P	Pn	07 05 13.0	-0.5
YOTC				S	Sn	07 06 04.1	+1.2
GUVC	**San Jose del G**	**4.28**	**173**	P	Pn	07 05 12.1	-1.8
GUVC				S	Sn	07 05 59.5	-4.1
SMRC	**Santa Marta, M**	**4.44**	**346**	P	Pn	07 05 15.0	-1.0
SMRC				S	Sn	07 06 02.6	-4.8
MACC	**Macarena, Meta**	**4.69**	**188**	P	Pn	07 05 16.8	-2.6
MACC				S	Sn	07 06 07.9	-5.6
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	07 05 19.8	-3.4
URIC				S	Sn	07 06 16.3	-4.0
JAMC	**Jamundi, Valle**	**5.01**	**225**	P	Pn	07 05 25.6	+1.9
	5.1nm,1.1s						
JAMC				S	Sn	07 06 22.6	+1.4
	5.1nm,1.1s						
GARC	**Garzon, Huila**	**5.16**	**207**	P	Pn	07 05 24.2	-1.5
GARC				S	Sn	07 06 20.3	-4.5
POPC	**Popayan, Colom**	**5.51**	**220**	P	Pn	07 05 32.0	+1.6
	4.7nm,0.5s						
POPC				S	Sn	07 06 32.1	-1.0
	4.7nm,0.5s						
FLOC	**Florencia**	**5.77**	**206**	P	Pn	07 05 32.2	-1.4
	5.1nm,0.4s						
FLOC				S	Sn	07 06 39.0	0.0
	5.1nm,0.4s						
BBAC	**Balboa, Cauca**	**6.27**	**221**	P	Pn	07 05 40.5	0.0
BBAC				S	Sn	07 06 50.1	-1.2

*SGS **14** 07:04:43.6, 28˚.24N×34˚.63E, h6km, Ml2.3*
*HLW **14** 07:04:44.1, 28˚.26N×34˚.58E, h7km±1km, Md2.2, Ml2.5*
ISC 14 07:04:43.0±1.0, 28˚22N±0˚.04×34˚63E±0˚.03, h15km, n25, σ0§49/25, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAYS	**Tayyib Ism**	**0.39**	**32**	S	**Sg**	**07 04 56.1**	**-0.3**
TAYS	**Tayyib Ism**	**0.39**	**32**	P	**Pg**	**07 04 50.8**	**-0.2**
BDAS	**Al Bad`**	**0.46**	**63**	P	**Pg**	**07 04 52.5**	**+0.2**
BDAS	**Al Bad`**	**0.46**	**63**	S	**Sg**	**07 04 59.1**	**+0.5**
HDHB	**Dhahab**	**0.50**	**359**	P	**Pg**	**07 04 53.6**	**+0.6**
KRABS	**KRABS**	**0.56**	**102**	S	**Sg**	**07 05 02.3**	**+0.7**
KRABS	**KRABS**	**0.56**	**102**	P	**Pg**	**07 04 54.4**	**+0.3**
AYUS	**`Aynunah**	**0.56**	**93**	S	**Sg**	**07 05 02.1**	**+0.5**
AYUS	**`Aynunah**	**0.56**	**93**	P	**Pg**	**07 04 54.1**	**+0.1**
TR1	**Tor 1**	**0.64**	**251**	P	**Pg**	**07 04 55.8**	**+0.3**
HKAT	**Jabal Katrina**	**0.64**	**298**	P	**Pg**	**07 04 55.3**	**+0.3**
HKAT				S	**Sg**	**07 05 03.8**	**-0.4**
NUB	**Nuweibaa**	**0.81**	**1**	P	**Pg**	**07 04 57.9**	**-0.8**
TR2	**Tor 2**	**0.82**	**282**	P	**Pg**	**07 04 58.8**	**-0.1**
HAQS	**Haql**	**0.87**	**17**	P	**Pb**	**07 04 59.3**	**-0.5**
MWLHS	**Almuwaylih**	**0.91**	**121**	P	**Pb**	**07 04 59.6**	**-0.9**
JLOS		**0.92**	**56**	P	Pn	07 05 08.2	+6.7
HBST	**Basata**	**1.00**	**5**	P	**Pb**	**07 05 02.5**	**+0.4**
JMOS	**Jabal al Moall**	**1.03**	**24**	P	**Pb**	**07 05 02.3**	**-0.4**
WTBKS	**WTBKS**	**1.14**	**96**	P	**Pn**	**07 05 03.8**	**-0.7**
HQLS		**1.14**	**19**	P	**Pb**	**07 05 04.4**	**-0.1**
HRDS	**Abu Rudays**	**1.27**	**293**	P	**Pn**	**07 05 07.0**	**+0.7**
GRB	**Gharib**	**1.63**	**272**	P	**Pn**	**07 05 11.4**	**+0.2**
TBKS	**Tabuk**	**1.68**	**89**	P	**Pn**	**07 05 12.3**	**+0.4**
URD06	**Shuwaq**	**2.03**	**112**	P	**Pn**	**07 05 17.2**	**+0.3**
BIDS	**Bi'r al Bayda'**	**2.46**	**123**	P	**Pn**	**07 05 22.5**	**-0.1**

*AEIC **14** 07:26:09.8±0.6, 53˚.73N±0˚.05×166˚.22W±0˚.07, h72km±5km, Error ellipse: s-maj=8.3km s-min=4.4km az=149.0*
NEIC 14 07:26:10.0±0.7, 53˚7N±0˚.1×166˚2W±0˚.1, h76km±6km, ML3.0/12, ML2.8(AEIC), Error ellipse: s-maj=16.8km s-min=4.4km az=151.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Vale**	**0.24**	**309**		Pn	07 26 21.2	-0.3
UNV					Sn	07 26 29.7	-0.3
UNV				IAML		07 26 32.5	
	comp=E,575nm,0.4s						
MREP	**Makushin Rep't**	**0.35**	**290**		Pn	07 26 22.1	-0.1
MTBL	**Makushin Table**	**0.40**	**314**		Pn	07 26 22.4	-0.2
MTBL					Sn	07 26 32.2	+0.3
AKMO	**Akutan Morgan**	**0.41**	**15**		Pn	07 26 22.4	-0.2
AKMO					Sn	07 26 32.0	0.0
ZRO	**Akutan Zero**	**0.42**	**17**		Pn	07 26 22.4	-0.3
ZRO					Sn	07 26 32.0	-0.1
MGOD	**Makushin Gods**	**0.42**	**284**		Pn	07 26 22.6	-0.1
MGOD					Sn	07 26 32.2	+0.1
AKBBA	**Akutan Broad B**	**0.43**	**20**		Pn	07 26 22.3	-0.5
AKRB	**Akutan Reef Bi**	**0.44**	**9**		Pn	07 26 22.5	-0.4
AKRB					Sn	07 26 32.8	+0.4
AKV	**Akutan Volcano**	**0.45**	**17**		Pn	07 26 22.6	-0.4
MAPS	**Pakushin South**	**0.46**	**285**		Pn	07 26 22.7	-0.4
MAPS					Sn	07 26 32.8	+0.2
AHB	**Akutan Harbor**	**0.48**	**27**		Pn	07 26 22.9	-0.3
LVA	**Lava Point**	**0.48**	**11**		Pn	07 26 22.9	-0.3
LVA					Sn	07 26 32.9	0.0
LVA				IAML		07 26 37.2	
	comp=E,575nm,0.5s						
LVA				IAML		07 26 37.4	
	comp=N,902nm,0.6s						
AKUT	**Akutan**	**0.51**	**29**		Pn	07 26 23.1	-0.3
AKGG	**Akutan Green G**	**0.52**	**13**		Pn	07 26 23.2	-0.3
AKGG					Sn	07 26 33.5	-0.1
OKFG	**Magazine Ridge**	**1.07**	**255**		Pn	07 26 29.7	+0.1
OKTU	**Okmok Mt. Tuli**	**1.15**	**255**		Pn	07 26 30.9	+0.2
OKNC	**Okmok New Cone**	**1.18**	**259**		Pn	07 26 30.9	-0.1
OKNC					Sn	07 26 46.8	0.0
OKCE	**Okmok Cone E**	**1.21**	**258**		Pn	07 26 31.7	+0.3
WEBT	**Westdahl Beart**	**1.23**	**43**		Pn	07 26 31.8	0.0
OKSP	**Okmok Steeple**	**1.33**	**251**		Pn	07 26 33.0	-0.1
SSBA	**Shishaldin**	**1.62**	**47**		Pn	07 26 36.9	0.0
NIKH	**Nikolski High**	**1.75**	**247**		Pn	07 26 38.8	+0.3
NIKH				IAML		07 27 01.4	
	comp=E,127nm,0.5s						
ISLZ	**Isanotski Laza**	**1.79**	**54**		Pn	07 26 39.1	+0.2
ISNN	**Isanotski Nort**	**1.82**	**50**		Pn	07 26 40.0	+0.6
P08K	**Saint George I**	**3.49**	**328**	Pn	Pn	07 27 00.8	-1.1
SDPT	**Sand Point**	**3.72**	**61**	Pn	Pn	07 27 05.1	+0.1
SDPT				IAML		07 28 05.8	
	comp=E,25nm,0.8s						
SDPT				IAML		07 28 09.7	
	comp=N,24nm,1.1s						
CNBA	**Chernabura Isl**	**4.03**	**71**	Pn	Pn	07 27 08.1	-1.1
SPIA	**Saint Paul Isl**	**4.19**	**328**	Pn	Pn	07 27 11.2	-0.2
O14K	**Tigyukauivet M**	**6.20**	**24**	Pn	Pn	07 27 39.9	+1.1
N14K	**Kuskokwak Cree**	**6.72**	**20**	Pn	Pn	07 27 46.7	+0.9
N15K	**Kwethluk River**	**7.29**	**25**	Pn	Pn	07 27 55.3	+1.6
O16K	**Kokwok River B**	**7.41**	**34**	Pn	Pn	07 27 56.8	+1.6
M16K	**Timber Creek**	**8.32**	**25**	Pn	Pn	07 28 08.9	+1.2

*BJI **14** 07:26:34.3, 18˚.47S×120˚.82E, h22km, mb4.7/28, Ms5.2/2, Ms7 5.2/3*
*NOU **14** 07:26:34.4, 18˚.17S×120˚.31E, h0km, mb5.2/23, Western Australia*
*IDC **14** 07:26:35.9±0.5, 18˚.10S×120˚.51E, h0km, mb4.2/16, mbtmp4.4/21, ML4.7/5, Error ellipse: s-maj=17.2km s-min=11.0km az=65.0*
*NEIC **14** 07:26:36.1±1.6, 18˚.01S±0˚.07×120˚.48E±0˚.08, h10km±1km, mb4.9/31, Error ellipse: s-maj=13.2km s-min=10.9km az=105.0*
*AUST **14** 07:26:37.3±0.9, 18˚S±2˚×12˚0E±˚, h16km±7km, mb5.2/44, ML4.5/8, Error ellipse: s-maj=4.7km s-min=3.3km az=107.0*
ISC 14 07:26:36.1±0.3, 18˚18S±0˚.04×120˚45E±0˚.05, h10km, n185, σ1§75/185, mb4.8/50, 1C-4D, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**3.04**	**193**		Pn	**07 27 25.6**	**+1.3**
MBWA	**Marble Bar**	**3.04**	**193**	P	Pn	**07 27 26.2**	**+1.9**
MBWA				S	Sn	**07 27 59.9**	**-0.9**
MBWA	**Marble Bar**	**3.04**	**193**	P	Pn	**07 27 25.4**	**+1.1**
PSAC1	**Pilbara Seismi**	**3.39**	**190**	P	Pn	**07 27 30.9**	**+1.7**
PSAC1				S	Sn	**07 28 09.2**	**-0.3**
PSA00	**Pilbara Seismi**	**3.42**	**189**	P	Pn	**07 27 31.2**	**+1.6**
FITZ	**Fitzroy Crossi**	**4.94**	**90**	Pn	Pn	**07 27 52.4**	**+1.9**
	34nm,0.3s,baz=263,slow=11,SNR=49						
FITZ				Sn	Sn	**07 28 48.1**	**+0.5**
	60nm,0.3s,baz=284,slow=9.4,SNR=5.6						
FITZ				Lg	Lg	07 29 16.9	
	94nm,0.3s,baz=57,slow=20,SNR=3.7						
	165nm,0.6s						
GIRL	**Giralia**	**7.33**	**232**		Pn	**07 28 23.4**	**+0.2**
GIRL	**Giralia**	**7.33**	**232**	P	Pn	**07 28 23.8**	**+0.5**
GIRL				S	Sn	**07 29 40.8**	**-5.7**
KNRA	**Kununurra**	**8.34**	**74**		Pn	**07 28 37.2**	**0.0**
KNRA	**Kununurra**	**8.34**	**74**	P	Pn	**07 28 38.7**	**+1.6**
	comp=Z,0.8nmcomp=Z,155nm,0.6s						
KNRA				S	Sn	**07 30 10.4**	**-1.0**
BATI	**Baumata**	**8.52**	**22**	Pn	Pn	**07 28 39.6**	**-0.1**
	comp=Z,8.1nm,0.3s,baz=212,slow=19,SNR=1.9						
BATI				Sn	Sn	**07 30 15.4**	**-0.5**
	comp=Z,19nm,0.3s,baz=153,slow=13,SNR=2.2						
	comp=Z,30nm,0.3s						
MEEK	**Meekatharra**	**8.59**	**191**	P	Pn	**07 28 41.2**	**+0.6**
	comp=Z,1.5nmcomp=Z,91nm,0.6s						
MEEK	**Meekatharra**	**8.59**	**191**	S	Sn	**07 30 12.1**	**-5.5**
MEEK	**Meekatharra**	**8.59**	**191**	P	Pn	**07 28 40.9**	**+0.3**
CVQOZ	**Cooralya Stati**	**8.61**	**223**	P	Pn	**07 28 40.3**	**-0.5**
SOEI	**Soe**	**9.16**	**24**		Pn	07 28 41.1	-7.4
SOEI	**Soe**	**9.16**	**24**	P	Pn	**07 28 51.9**	**+3.4**
	comp=Z,158nm,0.9s						
PLAI	**Plampang**	**9.65**	**344**	P	Pn	**07 28 54.5**	**-0.7**
	comp=Z,0.2nmcomp=Z,55nm,0.6s						
PLAI	**Plampang**	**9.65**	**344**	P	Pn	**07 28 54.1**	**-1.1**
PLAI	**Plampang**	**9.65**	**344**	P	Pn	**07 28 55.0**	**-0.2**
WRKA	**Warakurna**	**9.99**	**134**	P	Pn	**07 29 01.1**	**+1.3**
	comp=Z,0.3nmcomp=Z,35nm,0.5s						
WRKA				S	Sn	**07 30 49.9**	**-2.1**
TWSI	**Taliwang, Sumb**	**10.01**	**339**	P	Pn	**07 28 59.5**	**-0.6**
	comp=Z,0.2nmcomp=Z,68nm,0.6s						
TWSI	**Taliwang, Sumb**	**10.01**	**339**	P	Pn	**07 29 00.0**	**-0.1**
	comp=Z,69nm,0.7s						
JAGI	**Jajag, Banyuwa**	**11.43**	**327**		Pn	**07 29 17.2**	**-2.4**
JAGI	**Jajag, Banyuwa**	**11.43**	**327**	P	Pn	**07 29 17.1**	**-2.4**
	comp=Z,140nm,0.9s						
JAGI	**Jajag, Banyuwa**	**11.43**	**327**	P	Pn	**07 29 17.1**	**-2.5**
JAGI	**Jajag, Banyuwa**	**11.43**	**327**	P	Pn	**07 29 17.0**	**-2.5**
DPH	**Darwin Parliam**	**11.52**	**62**	P	Pn	**07 29 22.7**	**+1.9**
	comp=Z,50nm,0.8s						
MORW	**Morawa**	**11.56**	**200**		Pn	**07 29 20.0**	**-1.4**
MORW	**Morawa**	**11.56**	**200**	P	Pn	**07 29 19.8**	**-1.5**
	comp=Z,59nm,0.6s						
MORW	**Morawa**	**11.56**	**200**	P	Pn	**07 29 19.7**	**-1.7**
MTN	**Manton Dam**	**11.58**	**64**		Pn	**07 29 22.0**	**+0.3**
MTN	**Manton Dam**	**11.58**	**64**	P	Pn	**07 29 22.0**	**+0.3**
	comp=Z,192nm,0.4s						
MTN	**Manton Dam**	**11.58**	**64**	P	Pn	**07 29 22.6**	**+1.0**
DRS	**Darwin Rock St**	**11.59**	**62**	P	Pn	**07 29 22.2**	**+0.5**
	comp=Z,57nm,0.6s						
DRS	**Darwin Rock St**	**11.59**	**62**	P	Pn	**07 29 22.2**	**+0.5**
GMJI	**Gumukmas**	**11.97**	**324**	P	Pn	**07 29 26.5**	**-0.5**
	comp=Z,61nm,0.8s						
BKSI	**Bulukumba**	**12.79**	**359**	P	Pn	**07 29 38.6**	**+0.5**
	comp=Z,19nm,1.1s						
KDU	**Kakadu**	**12.81**	**66**	P	Pn	**07 29 38.4**	**-0.1**
	comp=Z,87nm,0.8s						
KDU	**Kakadu**	**12.81**	**66**	P	Pn	**07 29 38.2**	**-0.3**
BLDU	**Ballidu**	**12.84**	**195**	P	Pn	**07 29 37.4**	**-1.4**
	comp=Z,116nm,0.6s						
BLDU	**Ballidu**	**12.84**	**195**	P	Pn	**07 29 37.4**	**-1.4**
KAPI	**Kappang**	**13.10**	**357**	Pn

NAPP	**Napperby**	**21.80**	**137**	P		**P**	**07 31 31.2**	**+2.8**
	comp=Z,164nm,0.7s								
LHSI	**Lahat**	**21.86**	**309**	P		**P**	**07 31 31.0**	**+1.8**
	comp=Z,90nm,0.8s								
MNAI	**Manna**	**21.94**	**307**	P		**P**	**07 31 28.4**	**-1.8**
SBUM	**Sibu**	**22.05**	**338**	P		**P**	**07 31 29.9**	**-1.3**
SBUM	**Sibu**	**22.05**	**338**	P		**P**	**07 31 32.4**	**+1.2**
	comp=Z,15nm,1.1s								
COEN	**Coen**	**22.23**	**82**	P		**P**	**07 31 32.7**	**-0.5**
COEN				IAmb		IAmb	07 31 46.6		
	comp=Z,74nm,1.2s								
COEN	**Coen**	**22.23**	**82**	P		**P**	**07 31 36.0**	**+2.7**
	comp=Z,40nm,0.9s								
COEN	**Coen**	**22.23**	**82**	P		**P**	**07 31 35.3**	**+2.1**
HTT	**Hallett**	**22.46**	**136**	P		**P**	**07 31 37.6**	**+2.0**
	comp=Z,0.0nmcomp=Z,28nm,0.9s								
HTT	**Hallett**	**22.46**	**136**	P		**P**	**07 31 37.8**	**+2.2**
KSI	**Kapahiang**	**22.68**	**307**	P		**P**	**07 31 39.4**	**+1.4**
MTSU	**Mount Surprise**	**22.68**	**94**	P		**P**	**07 31 41.4**	**+3.4**
	comp=Z,24nm,0.9s								
MYLDM	**Lahad Datu**	**23.29**	**355**			**P**	**07 31 42.7**	**-1.6**
MYLDM	**Lahad Datu**	**23.29**	**355**	P		**P**	**07 31 43.9**	**-0.3**
	comp=Z,40nm,1.2s								
MYLDM	**Lahad Datu**	**23.29**	**355**	P		**P**	**07 31 44.0**	**-0.3**
SDAN	**Sedan**	**23.41**	**138**	P		**P**	**07 31 47.5**	**+2.2**
	comp=Z,20nm,1.4s								
STKA	**Stephens Creek**	**23.46**	**130**			**P**	**07 31 47.8**	**+1.9**
STKA	**Stephens Creek**	**23.46**	**130**	P		**P**	**07 31 47.8**	**+1.9**
	comp=Z,174nm,0.8s								
STKA	**Stephens Creek**	**23.46**	**130**	P		**P**	**07 31 47.9**	**+1.9**
	comp=Z,9.6nm,0.6s,baz=305,slow=10,SNR=22								
STKA				S		**S**	**07 36 01.7**	**+2.2**	
	comp=Z,32nm,0.9s,baz=223,slow=6.7,SNR=6.3								
	comp=Z,9.6nm,0.6s								
STKA	**Stephens Creek**	**23.46**	**130**	P		**P**	**07 31 47.8**	**+1.9**
QLP	**Quilpie**	**23.50**	**115**	P		**P**	**07 31 48.8**	**+2.4**
	comp=Z,83nm,0.7s								
QLP	**Quilpie**	**23.50**	**115**	P		**P**	**07 31 48.7**	**+2.4**
CTAO	**Charters Tower**	**24.45**	**99**	P		**P**	**07 31 55.0**	**-0.4**
MYKOM	**Kota Tinggi**	**25.71**	**319**	P		**P**	**07 32 06.0**	**-0.8**
MYKOM				IAmb		IAmb	07 32 15.9		
	comp=Z,17nm,1.0s								
CMSA	**Cobar Meteorol**	**26.41**	**125**	P		**P**	**07 32 15.8**	**+2.8**
	comp=Z,28nm,0.7s								
TOO	**Toolangi**	**29.23**	**136**	P		**P**	**07 32 38.5**	**+0.2**
TOO				IAmb		IAmb	07 33 02.0		
	comp=Z,26nm,1.4s								
ARMA	**Armidale**	**30.81**	**119**	P		**P**	**07 32 50.9**	**-1.5**
ARMA				IAmb		IAmb	07 33 06.6		
	comp=Z,18nm,1.4s								
LHMI	**Lhok Sumawe**	**32.84**	**313**	P		**P**	**07 33 09.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**42.10**	**329**	P		**P**	**07 34 29.3**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=165,slow=4.4,SNR=7.9								
	comp=Z,0.6nm,0.3s								
H08S2	**Diego Garcia H**	**47.77**	**276**	T		T	08 25 26.6		
	baz=106,slow=75,SNR=8.5								
H08S3	**Diego Garcia H**	**47.79**	**276**	T		T	08 25 09.7		
	baz=106,slow=75,SNR=22								
H08S1	**Diego Carcia H**	**47.79**	**276**	T		T	08 25 16.7		
	baz=106,slow=75,SNR=7.1								
PZH	**PanZhiHua**	**47.99**	**337**	P		**P**	**07 35 18.1**	**+2.6**
NJ2	**Nanjing**	**49.97**	**358**	*eP*		**P**	**07 35 30.8**	**+0.4**
NJ2				pmax		pmax			
	comp=Z,12nm,0.5s								
SHL	**Shillong**	**51.61**	**327**			**P**	**07 35 44.3**	**+1.1**
SHL				IAmb		IAmb	07 35 51.9		
	comp=Z,22nm,1.1s								
BFZ	**Birch Farm**	**52.57**	**128**	P		**P**	**07 35 46.0**	**-4.1**
	comp=Z,108nm,0.8s								
XAN	**Xi'an**	**53.08**	**348**	P		**P**	**07 35 54.6**	**+0.8**
XAN				pmax		pmax			
	comp=Z,39nm,1.0s								
KSRS	**Korea Array**	**55.78**	**7**	P		**P**	**07 36 14.7**	**+1.4**
	comp=Z,2.3nm,0.8s,baz=186,slow=8.0,SNR=13								
	comp=Z,2.3nm,0.8s								
LZH	**Lanzhou**	**56.22**	**344**	*eP*		**P**	**07 36 18.4**	**+1.7**
LZH				sP		sP	07 36 25.6	+4.5	
LZH				pmax		pmax			
	comp=Z,37nm,1.1s								
EVN	**Everest**	**56.25**	**324**	P		**P**	**07 36 16.2**	**-1.5**
EVN				IAmb		IAmb	07 36 27.2		
	comp=Z,22nm,1.3s								
MJAR	**Matsushiro Arr**	**56.96**	**17**	P		**P**	**07 36 22.5**	**+0.7**
	comp=Z,2.0nm,1.1s,baz=190,slow=9.0,SNR=5.0								
	comp=Z,2.0nm,1.1s								
CCD	**Concordia, Ant**	**56.96**	**179**	P		**P**	**07 36 22.7**	**+0.9**
HHC	**Hu-ho-hao-te**	**59.30**	**352**	*eP*		**P**	**07 36 40.3**	**+2.1**
HHC				pmax		pmax			
	comp=Z,11nm,0.8s								
GTA	**Gaotai**	**60.45**	**342**	*eP*		**P**	**07 36 48.6**	**+2.4**
GTA				sP		sP	07 36 56.3	+5.7	
GTA				pmax		pmax			
	comp=Z,5.0nm,0.9s								
MAW	**Mawson**	**61.20**	**202**	P		**P**	**07 36 51.1**	**+0.3**
MAW	**Mawson**	**61.20**	**202**	P		**P**	**07 36 53.0**	**+2.3**
	comp=Z,1.0nm,0.7s,baz=70,slow=8.0,SNR=5.9								
	comp=Z,1.0nm,0.7s								
VNDA	**Vanda**	**62.75**	**171**			**P**	**07 37 02.1**	**+0.9**
VNDA				IAmb		IAmb	07 37 11.3		
	comp=Z,4.6nm,0.8s								
VNDA	**Vanda**	**62.75**	**171**	P		**P**	**07 37 03.5**	**+2.4**
	comp=Z,2.5nm,0.8s,baz=313,slow=5.9,SNR=16								
	comp=Z,2.5nm,0.8s								
USRK	**Ussuriysk Ar.**	**62.97**	**9**	P		**P**	**07 37 04.0**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=143,slow=6.7,SNR=4.1								
	comp=Z,1.3nm,0.6s								
ERM	**Erimo**	**63.47**	**19**	P		**P**	**07 37 04.4**	**-1.8**
BNX	**BinXian**	**63.93**	**5**	⇑P		**P**	**07 37 10.5**	**+1.3**
BNX				pmax		pmax			
	comp=Z,3.0nm,0.4s								
SONM	**Songino Array**	**66.91**	**350**			**P**	**07 37 28.1**	**-0.5**
SONM				IAmb		IAmb	07 37 38.4		
	comp=Z,9.2nm,1.2s								
SONM	**Songino Array**	**66.91**	**350**	P		**P**	**07 37 29.6**	**+1.0**
	comp=Z,2.8nm,0.8s,baz=173,slow=6.9,SNR=14								
	comp=Z,2.8nm,0.8s								
HEH	**HeiHe**	**68.41**	**5**	*eP*		**P**	**07 37 38.8**	**+0.9**
WMQ	**Urumqi**	**68.61**	**335**	*eP*		**P**	**07 37 40.6**	**+1.2**
KSH	**Kashi**	**70.84**	**325**	P		**P**	**07 37 54.6**	**+1.3**
KSH				sP		sP	07 38 02.3	+4.5	
KSH				pmax		pmax			
	comp=Z,14nm,0.8s								
QSPA	**South Pole Qui**	**71.87**	**180**	P		**P**	**07 38 01.3**	**+2.1**
	comp=Z,7.7nm,1.1s,baz=330,slow=3.8,SNR=12								
	comp=Z,7.7nm,1.1s								
KDJ	**Kajisay**	**72.08**	**328**		IAmb	IAmb	07 38 11.5		
	comp=Z,6.8nm,1.0s								
BOOM	**Boomskoye usch**	**72.98**	**327**		IAmb	IAmb	07 38 16.0		
	comp=Z,13nm,1.3s								
MK31	**Makanchi Array**	**73.25**	**334**	P		**P**	**07 38 06.5**	**-1.0**
MKAR	**Makanchi Array**	**73.25**	**334**			**P**	**07 38 05.7**	**-1.8**
MKAR	**Makanchi Array**	**73.25**	**334**	P		**P**	**07 38 08.7**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=146,slow=7.3,SNR=6.9								
	comp=Z,1.4nm,0.6s								
GAR	**Garm**	**73.71**	**321**	P		**P**	**07 38 09.3**	**-1.2**
GAR				IAmb		IAmb	07 38 19.9		
	comp=Z,17nm,0.9s								
KURBB	**Kurchatov Arra**	**77.79**	**334**	P		**P**	**07 38 34.2**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=148,slow=5.0,SNR=11								
	comp=Z,1.6nm,0.8s								
KURK	**Kurchatov**	**77.82**	**334**			**P**	**07 38 31.7**	**-1.9**
KURK				IAmb		IAmb	07 38 42.7		
	comp=Z,8.6nm,1.1s								
PETK	**Petropavlovsk-**	**77.95**	**22**	P		**P**	**07 38 34.9**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=200,slow=7.1,SNR=3.8								
	comp=Z,0.5nm,0.5s								
ZAA0	**Zalesovo Array**	**78.08**	**339**	P		**P**	**07 38 33.8**	**-1.1**
ZALV	**Zalesovo Beam**	**78.08**	**339**	P		**P**	**07 38 33.4**	**-1.5**
ZALV	**Zalesovo Beam**	**78.08**	**339**	P		**P**	**07 38 35.3**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=115,slow=7.0,SNR=7.2								
	comp=Z,1.3nm,0.5s								
TROLL	**Troll, Antarti**	**81.00**	**196**	⇓P		**P**	**07 38 53.0**	**+2.1**
	comp=Z,265nm,0.8s								
SNAA	**Sanae**	**82.58**	**195**	⇓P		**P**	**07 39 01.2**	**+2.1**
	comp=Z,122nm,0.8s								
SNAA	**Sanae**	**82.58**	**195**			**P**	**07 38 59.3**	**+0.1**
SNAA				IAmb		IAmb	07 39 09.4		
	comp=Z,8.7nm,1.0s								
SNAA	**Sanae**	**82.58**	**195**	P		**P**	**07 39 01.1**	**+1.9**
	comp=Z,3.3nm,1.1s,baz=92,slow=6.4,SNR=5.6								
	comp=Z,3.3nm,1.1s								
BELA	**Belgrano 2**	**83.06**	**185**	P		**P**	**07 39 01.8**	**+0.3**
BELA				IAmb		IAmb	07 39 10.9		
	comp=Z,7.8nm,0.8s								
RAYN	**Ar Rayn**	**84.06**	**297**			**P**	**07 39 07.3**	**-0.3**
RAYN				IAmb		IAmb	07 39 16.8		
	comp=Z,6.4nm,0.8s								

VNA2	**Neumayer--Watz**	**84.19**	**195**	⇓P		**P**	**07 39 09.6**	**+2.2**
	comp=Z,5.2nm,0.9s,baz=132,slow=3.8								
VNA1	**Neumayer--Stat**	**84.59**	**195**	⇓P		**P**	**07 39 12.5**	**+3.1**
	comp=Z,7.3nm,0.9s								
AB31	**Akbulak array**	**85.85**	**325**	P		**P**	**07 39 14.9**	**-1.0**
BOSA	**Boshof**	**85.86**	**241**			**P**	**07 39 16.8**	**0.0**
BOSA				IAmb		IAmb	07 39 26.4		
	comp=Z,9.3nm,0.9s								
BOSA	**Boshof**	**85.86**	**241**	P		**P**	**07 39 18.2**	**+1.4**
	comp=Z,6.4nm,0.9s,baz=105,slow=3.3,SNR=13								
	comp=Z,6.4nm,0.9s								
AMKA	**Amchitka**	**86.19**	**33**	P		**P**	**07 39 16.3**	**-1.2**
LSZ	**Lusaka**	**87.42**	**255**			**P**	**07 39 24.4**	**-0.2**
LSZ				IAmb		IAmb	07 39 26.8		
	comp=Z,7.8nm,0.9s								
NRIK	**Noril'sk**	**90.38**	**349**	P		**P**	**07 39 37.6**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=100,slow=5.7,SNR=5.2								
	comp=Z,0.9nm,0.3s								
YKA	**Yellowknife Ar**	**121.84**	**27**	PKP		**PKiKP**	**07 45 31.0**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=84,slow=17,SNR=4.0								
NVAR	**Mina Array Bea**	**125.40**	**55**	PKP		**PKiKP**	**07 45 39.8**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=288,slow=1.9,SNR=2.1								
PDAR	**Pinedale Array**	**131.28**	**49**	PKP		**PKiKP**	**07 45 49.9**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=329,slow=2.8,SNR=1.8								
TXAR	**Lajitas Array**	**138.34**	**66**	PKP		**PKiKP**	**07 46 03.4**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=188,slow=3.5,SNR=4.1								
TUL3	**Leonard**	**143.47**	**54**			**PKPdf**	**07 46 10.4**	**-1.0**
P38A	**Dawn**	**143.69**	**47**			PKPbc	07 46 10.1	+0.9	
L40A	**Anamosa**	**144.05**	**42**			**PKPdf**	**07 46 11.5**	**-0.7**
JFWS	**Jewell Farm**	**144.19**	**40**			**PKPdf**	**07 46 11.4**	**-1.0**
U38A	**Gravette**	**144.36**	**52**			**PKPdf**	**07 46 12.6**	**-0.4**
BDFB	**Brasilia**	**144.52**	**199**	PKP		**PKPdf**	**07 46 14.8**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=145,slow=2.5,SNR=5.4								
H43A	**Windswept, Lux**	**144.71**	**36**			**PKPdf**	**07 46 13.9**	**+0.5**
LPAZ	**La Paz**	**144.72**	**166**			**PKPdf**	**07 46 16.2**	**+1.2**
LPAZ	**La Paz**	**144.72**	**166**	PKP		**PKPdf**	**07 46 15.5**	**+0.6**
	comp=Z,9.9nm,0.8s,baz=194,slow=2.1,SNR=34								
P40A	**Paris**	**144.76**	**46**			**PKPdf**	**07 46 13.6**	**0.0**
J59A	**Piesco**	**151.81**	**23**			**PKiKP**	**07 46 32.7**	**+0.9**

IDC **14** *07:37:57.4±0.6,27˚.46N×140˚.10E, h468km±7km, mb3.2/14, mbtmp4.1/17, Error ellipse: s-maj=17.3km s-min=13.7km az=60.0*
JMA **14** *07:37:59.9±0.2,28˚N±2˚×14˚1E±˚, h487km, MV4.0/23, W OFF OGASAWARA*
ISC 14 07:37:58.4±0.6, 27˚53N±0˚.08×140˚2E±0˚.1, h479km, n35, σ1°74/46, mb3.5/14, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.80**	**103**	P	**P**	**07 39 02.1**	**+1.5**
CBIJ				S	**S**	**07 39 50.8**	**-0.3**
JCJ	**Chichijima**	**1.80**	**103**	P	**P**	**07 39 00.4**	**-0.3**
JCJ				S	**S**	**07 39 48.5**	**-2.5**
JHH2	**Haha-jima-NKT2**	**1.96**	**117**	P	**P**	**07 39 03.4**	**+1.9**
JHH2				S	**S**	**07 39 54.0**	**+1.6**
BSO1	**Boso 1**	**7.13**	**5**	*eP*	**P**	**07 39 46.5**	**+2.0**
BSO1				*eS*	**S**	**07 41 12.2**	**+0.4**
BSO3	**Boso 3**	**7.26**	**2**	*eP*	**P**	**07 39 47.3**	**+1.2**
BSO3				S	**S**	**07 41 13.7**	**-0.8**
JIE	**Ise**	**7.48**	**337**	P	**P**	**07 39 51.9**	**+3.2**
JKN2	**Miekihoku**	**7.50**	**334**	P	**P**	**07 39 51.9**	**+3.0**
HMMJ	**Hamamatsu 2**	**7.61**	**344**	*eP*	**P**	**07 39 52.5**	**+2.3**
JOD2	**Odawara 2**	**7.77**	**353**	*eP*	**P**	**07 39 53.4**	**+1.6**
JNY	**Yasuok**	**8.06**	**346**	P	**P**	**07 39 56.9**	**+2.0**
JAO	**Obara**	**8.12**	**343**	P	**P**	**07 39 59.2**	**+3.7**
JYT	**Yasato**	**8.68**	**360**	*eP*	**P**	**07 40 02.3**	**+1.0**
JYT				*eS*	**S**	**07 41 39.6**	**-2.7**
JAG	**Ashikaga**	**8.90**	**356**	P	**P**	**07 40 03.5**	**-0.2**
JAG				S	**S**	**07 41 42.8**	**-3.9**
MJAR	**Matsushiro Arr**	**9.15**	**350**	P	**P**	**07 40 06.9**	**+0.6**
	2.5nm,0.3s,baz=183,slow=7.8,SNR=20						
MJAR				S	**S**	**07 41 50.9**	**-0.7**
	1.9nm,0.6s,baz=162,slow=13,SNR=4.7						
JHS	**Saijyo**	**9.61**	**323**	P	**P**	**07 40 13.9**	**+2.5**
JAMN	**Amaminishikomi**	**9.80**	**277**	*eP*	**P**	**07 40 15.2**	**+1.7**
KSRS	**Korea Array**	**14.33**	**317**	P	**P**	**07 41 05.3**	**+3.6**
	0.9nm,0.6s,baz=141,slow=9.0,SNR=5.4						
ASAJ	**Asahikawa**	**16.66**	**6**	P	**P**	**07 41 28.1**	**+1.9**
	6.4nm,0.8s,baz=128,slow=6.6,SNR=5.7						
USRK	**Ussuriysk Ar.**	**17.91**	**340**	P	**P**	**07 41 39.8**	**+1.1**
	2.2nm,0.6s,baz=154,slow=7.8,SNR=5.8						
SONM	**Songino Array**	**33.20**	**317**	P	**P**	**07 43 54.5**	**+0.1**
	0.3nm,0.5s,baz=122,slow=7.9,SNR=2.0						
	0.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**38.91**	**266**	P	**P**	**07 44 41.4**	**-0.7**
	1.4nm,0.3s,baz=53,slow=8.8,SNR=6.6						
	1.4nm,0.3s						
WRA	**Warramunga Arr**	**47.53**	**188**	P	**P**	**07 45 49.0**	**-0.6**
	2.4nm,0.6s,baz=5.7,slow=7.6,SNR=6.1						
	2.4nm,0.6s						
ZALV	**Zalesovo Beam**	**48.02**	**319**	P	**P**	**07 45 52.2**	**-0.5**
	0.9nm,0.5s,baz=107,slow=7.7,SNR=4.1						
ZALV				PcP	**PcP**	**07 47 10.9**	**-0.8**
	0.6nm,0.4s,baz=72,slow=4.7,SNR=2.7						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**48.85**	**309**	P	**P**	**07 45 59.0**	**-0.2**
	1.0nm,0.4s,baz=90,slow=11,SNR=7.1						
MKAR				PcP	**PcP**	**07 47 14.1**	**-0.9**
	0.3nm,0.4s,baz=66,slow=4.9,SNR=2.1						
	1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**51.49**	**314**	P	**P**	**07 46 18.2**	**-0.3**
	6.0nm,0.6s,baz=92,slow=8.1,SNR=52						
KURBB				PcP	**PcP**	**07 47 23.8**	**-0.8**
	0.3nm,0.3s,baz=98,slow=2.8,SNR=1.8						
	6.0nm,0.6s						
BVAR	**Borovoye Array**	**56.54**	**317**	P	**P**	**07 46 54.1**	**-0.1**
	5.4nm,0.4s,baz=89,slow=7.7,SNR=24						
	5.4nm,0.4s						
ILAR	**Eielson Array**	**58.17**	**29**	P	**P**	**07 47 06.0**	**+0.8**
	0.4nm,0.4s,baz=252,slow=5.7,SNR=7.5						
	0.4nm,0.4s						
YKA	**Yellowknife Ar**	**72.59**	**28**	P	**P**	**07 48 37.1**	**+1.2**
	0.7nm,0.7s,baz=68,slow=7.3,SNR=6.8						
	0.7nm,0.7s						
FINES	**FINESS Array B**	**76.78**	**333**	P	**P**	**07 48 59.2**	**-0.4**
	1.5nm,0.4s,baz=69,slow=5.2,SNR=28						
	1.5nm,0.4s						
AKASG	**Malin Array Be**	**81.23**	**323**	P	**P**	**07 49 22.3**	**-1.2**
	0.2nm,0.2s,baz=299,slow=27,SNR=4.7						
	0.2nm,0.2s						
HFS	**Hagfors**	**82.33**	**336**	P	**P**	**07 49 27.9**	**-1.0**
	1.8nm,0.9s,baz=90,slow=3.0,SNR=8.1						
	1.8nm,0.9s						
NOA	**NORSAR Array B**	**82.56**	**338**	P	**P**	**07 49 29.1**	**-1.1**
	0.5nm,0.6s,baz=56,slow=5.9,SNR=2.3						
	0.5nm,0.6s						
BRTR	**Keskin Array B**	**84.42**	**312**	P	**P**	**07 49 38.4**	**-1.7**
	0.6nm,0.7s,baz=41,slow=6.1,SNR=3.0						
	0.6nm,0.7s						
PLCA	**Paso Flores**	**151.48**	**125**	PKPbc	**PKiKP**	**07 56 58.8**	**+0.7**
	0.8nm,0.9s,baz=200,slow=5.6,SNR=4.8						
LPAZ	**La Paz**	**151.48**	**73**	PKPbc	**PKiKP**	**07 57 00.2**	**+0.8**
	0.8nm,0.8s,baz=194,slow=1.8,SNR=3.9						

GII **14** *07:38:14.5±0.0,35˚.50N±0˚.02×31˚.869E±0˚.007, h4km, Mws3.3, confirmed*
ISK **14** *07:38:17.1,35˚.66N×31˚.94E, h19km, ML3.5/37*
IDC **14** *07:38:18.1±1.6,35˚.56N×31˚.80E, h73km±25km, mb3.2/2, mbtmp3.4/8, Error ellipse: s-maj=21.7km s-min=10.5km az=73.0*
AFAD **14** *07:38:18.8,35˚.68N×32˚.09E, h34km±1km, ML3.1*
NIC **14** *07:38:19.7,35˚.73N×32˚.26E, h20km, Ml3.2/11*
ISC 14 07:38:18.2±1.0, 35˚60N±0˚.02×31˚92E±0˚.03, h48km±13km, n114, σ1°60/143, 3C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKMS	**Akamas**	**0.68**	**149**	⇑*i*P	**Pn**	**07 38 33.0**	**+1.4**
AKMS				S	**Sn**	**07 38 43.9**	**+2.6**
AKMS				AML	AML	07 38 49.4	
	4.3nm,0.4s						
AKMS				AML	AML	07 38 50.8	
	6.0nm,0.3s						
GAZI	**Gazipasa**	**0.71**	**27**	Pg	**Pn**	**07 38 30.9**	**-1.1**
GAZI				Sg	**Sn**	**07 38 39.9**	**-2.1**
GAZI	**Gazipasa**	**0.71**	**27**	P	**Pn**	**07 38 30.9**	**-1.1**
GAZI				*i* IAML		07 38 40.0	
	comp=E,2μm,0.4s						
GAZI				S	**Sn**	**07 38 40.1**	**-1.9**
GAZI				*i* IAML		07 38 42.0	
	comp=N,1μm,0.5s						
ALFC	**Alefka**	**0.71**	**128**	⇑*i*P	**Pn**	**07 38 32.9**	**+0.8**
ALFC				S	**Sn**	**07 38 42.3**	**+0.2**
ALFC				AML	AML	07 38 44.1	
	6.0nm,0.2s						
ALFC				AML	AML	07 38 46.1	
	6.3nm,0.2s						
AKDN	**Akdeniz- Kıbrı**	**0.91**	**109**	Pg	**Pn**	**07 38 35.3**	**+0.7**
ALAN	**Alanya-ANTALYA**	**0.96**	**6**	Pg	**Pn**	**07 38 34.0**	**-1.3**
NATA	**Nata**	**0.98**	**147**	P	**Pn**	**07 38 37.9**	**+2.3**
NATA				S	**Sn**	**07 38 53.1**	**+4.7**
NATA				AML	AML	07 39 04.2	
	8.3nm,0.7s						
NATA				AML	AML	07 39 08.4	
	9.9nm,0.7s						
BOZY	**Bozyazi-Mersin**	**1.00**	**59**	Pg	**Pn**	**07 38 35.6**	**-0.2**
TROD	**Troodos**	**1.02**	**130**	P	**Pn**	**07 38 37.1**	**+0.8**
TROD				S	**Sn**	**07 38 51.2**	**+1.6**
TROD				AML	AML	07 38 59.4	
	1.9nm,0.4s						
TROD				AML	AML	07 39 05.7	
	1.4nm,0.6s						
XYLS	**Xyliatos**	**1.10**	**122**	⇓*e*P	**Pn**	**07 38 37.8**	**+0.6**
XYLS				S	**Sn**	**07 38 51.3**	**0.0**
XYLS				AML	AML	07 38 53.2	
	3.0nm,0.3s						
XYLS				AML	AML	07 39 02.7	
	2.1nm,0.3s						
TEKE	**Tekeli-Mersin**	**1.11**	**61**	Pg	**Pn**	**07 38 37.3**	**-0.1**
TEKE				Sg	**Sn**	**07 38 51.8**	**+0.2**
APOL	**The Sanctuary**	**1.21**	**140**	P	**Pn**	**07 38 40.7**	**+2.0**
APOL				S	**Sn**	**07 38 57.8**	**+3.8**
APOL				AML	AML	07 39 08.0	
	1.7nm,0.5s						
APOL				AML	AML	07 39 10.1	
	1.0nm,0.4s						
MNVG	**Manavgat-Antal**	**1.25**	**341**	Pn	**Pn**	**07 38 39.5**	**+0.2**
BERE	**Bereket-Mersin**	**1.29**	**55**	Pn	**Pn**	**07 38 40.2**	**+0.2**
ATHAL	**Athalassa**	**1.29**	**110**	P	**Pn**	**07 38 40.6**	**+0.7**
ATHAL				S	**Sn**	**07 38 55.4**	**-0.6**
ATHAL				AML	AML	07 38 58.7	
	2.9nm,0.3s						
ATHAL				AML	AML	07 39 15.6	
	1.9nm,0.7s						
ERMK	**Ermenek**	**1.31**	**38**	P	**Pn**	**07 38 41.5**	**+1.1**
ERMK				S	**Sn**	**07 38 59.2**	**+2.4**
ERMK				*i* IAML		07 39 01.0	
	comp=N,1μm,0.7s						
ERMK				*i* IAML		07 39 01.0	
	comp=E,1μm,0.4s						
CSS	**Mathiatis**	**1.32**	**119**	Pn	**Pn**	**07 38 41.4**	**+1.1**
CSS	**Mathiatis**	**1.32**	**119**	P	**Pn**	**07 38 39.5**	**-0.7**
CSS	**Mathiatis**	**1.32**	**119**	P	**Pn**	**07 38 40.8**	**+0.5**
CSS				S	**Sn**	**07 38 57.2**	**+0.4**
CSS				AML	AML	07 39 09.3	
	0.9nm,0.3s						
CSS				AML	AML	07 39 12.7	
	0.9nm,0.4s						
YORU	**Yoruktepe-Mers**	**1.33**	**65**	Pn	**Pn**	**07 38 40.8**	**+0.5**
LFK	**Lefkose**	**1.36**	**103**	Pn	**Pn**	**07 38 41.7**	**+0.9**
ASGA	**Asgata**	**1.36**	**126**	⇑*i*P	**Pn**	**07 38 43.0**	**+2.2**
ASGA				S	**Sn**	**07 39 00.4**	**+2.7**
ASGA				AML	AML	07 39 10.1	
	1.2nm,0.5s						
ASGA				AML	AML	07 39 15.5	
	1.2nm,0.7s						
OREN	**Orenkoy-Mersin**	**1.39**	**64**	Pn	**Pn**	**07 38 41.2**	**+0.1**
OREN				Sn	**Sn**	**07 38 59.4**	**+1.1**
AKIN	**Akıncılar- Kıb**	**1.40**	**114**	Pn	**Pn**	**07 38 42.4**	**+1.1**
AKK1	**Akkuyu-Mersin**	**1.43**	**67**	Pn	**Pn**	**07 38 42.2**	**+0.6**
AKK1				Sn	**Sn**	**07 39 00.4**	**+1.2**
HDMB	**Hadim**	**1

MMA0B	**Mount Meron ar**	**3.87**	**131**	S	**Sn**	07 40 00.6	**+1.1**
MMA0B	**Mount Meron ar**	**3.87**	**131**	P	**Pn**	07 39 14.8	**-0.5**
MMAI	**Mount Meron Ar**	**3.87**	**131**	P	**Pn**	07 39 16.4	**+1.1**
	4.5nm,0.3s,baz=319,slow=12,SNR=17						
MMAI				S	**Sn**	07 40 01.1	**+1.5**
	6.0nm,0.3s,baz=302,slow=25,SNR=2.5						
GEM	**Giv'at Ha'Em**	**3.91**	**127**	S	**Sn**	07 40 00.8	**+0.5**
GEM	**Giv'at Ha'Em**	**3.91**	**127**	P	**Pn**	07 39 14.6	**-1.2**
OFRI	**`Ofer**	**3.92**	**139**	S	**Sn**	07 40 00.1	**-0.4**
OFRI	**`Ofer**	**3.92**	**139**	P	**Pn**	07 39 14.6	**-1.3**
NATI	**Neve Ativ**	**3.93**	**125**	S	**Sn**	07 40 02.3	**+1.6**
NATI	**Neve Ativ**	**3.93**	**125**	P	**Pn**	07 39 15.8	**-0.1**
BLGI	**Bet Lehem HaGe**	**3.95**	**136**	S	**Sn**	07 40 02.1	**+0.9**
BLGI	**Bet Lehem HaGe**	**3.95**	**136**	P	**Pn**	07 39 15.1	**-1.1**
SLTI	**Sal'it**	**4.24**	**141**	S	**Sn**	07 40 08.6	**+0.1**
SLTI	**Sal'it**	**4.24**	**141**	P	**Pn**	07 39 19.1	**-1.2**
MMLI	**Mount Malkishu**	**4.29**	**136**	S	**Sn**	07 40 10.4	**+0.5**
MMLI	**Mount Malkishu**	**4.29**	**136**	P	**Pn**	07 39 20.1	**-1.0**
BRTR	**Keskin Array B**	**4.33**	**18**	P	**Pn**	07 39 21.9	**+0.3**
	1.7nm,0.6s,baz=198,slow=14,SNR=9.0						
BRTR				S	**Sn**	07 40 13.2	**+2.2**
	1.0nm,0.3s,baz=199,slow=22,SNR=5.8						
HMDT	**Nahal Hemdat**	**4.49**	**137**	S	**Sn**	07 40 15.6	**+1.0**
HMDT	**Nahal Hemdat**	**4.49**	**137**	P	**Pn**	07 39 22.6	**-1.1**
UJAP	**Al Uja**	**4.69**	**140**	S	**Sn**	07 40 20.1	**+0.7**
UJAP	**Al Uja**	**4.69**	**140**	P	**Pn**	07 39 25.6	**-0.8**
AMAZ	**Amatzia**	**4.77**	**147**	S	**Sn**	07 40 21.9	**+0.3**
AMAZ	**Amatzia**	**4.77**	**147**	P	**Pn**	07 39 26.3	**-1.2**
DSI	**Dead Sea**	**4.95**	**143**	S	**Sn**	07 40 25.9	**-0.2**
DSI	**Dead Sea**	**4.95**	**143**	P	**Pn**	07 39 28.8	**-1.2**
YTIR	**Yattir**	**5.00**	**147**	S	**Sn**	07 40 27.4	**0.0**
YTIR	**Yattir**	**5.00**	**147**	P	**Pn**	07 39 29.6	**-1.2**
KZIT	**Kziot**	**5.12**	**155**	S	**Sn**	07 40 30.4	**+0.1**
KZIT	**Kziot**	**5.12**	**155**	P	**Pn**	07 39 30.8	**-1.6**
MDBI	**Mazsada**	**5.16**	**145**	S	**Sn**	07 40 30.1	**-0.8**
MDBI	**Mazsada**	**5.16**	**145**	P	**Pn**	07 39 30.6	**-2.2**
MSBI	**Mazada**	**5.16**	**145**	S	**Sn**	07 40 31.1	**+0.2**
MSBI	**Mazada**	**5.16**	**145**	P	**Pn**	07 39 31.8	**-0.9**
APE	**Apeiranthos**	**5.36**	**288**	S	**Sn**	07 40 38.6	**+2.6**
APE	**Apeiranthos**	**5.36**	**288**	P	**Pn**	07 39 35.3	**-0.3**
ASF	**Jabal al Asfar**	**5.37**	**128**	P	**Pn**	07 39 38.3	**+2.4**
	2.1nm,0.3s,baz=321,slow=3.7,SNR=1.4						
ASF				S	**Sn**	07 40 38.0	**+1.6**
	3.8nm,0.3s,baz=16,slow=22,SNR=1.6						
IDI	**Anoyia**	**5.74**	**269**	P	**Pn**	07 39 39.3	**-1.6**
	4.5nm,0.4s,baz=83,slow=12,SNR=8.8						
IDI				S	**Sn**	07 40 40.3	**-5.2**
	7.3nm,0.3s,baz=49,slow=20,SNR=8.1						
PRNI	**Paran**	**5.84**	**153**	S	**Sn**	07 40 47.9	**-0.1**
PRNI	**Paran**	**5.84**	**153**	P	**Pn**	07 39 41.6	**-0.7**
KRMI	**Paran Flat**	**5.96**	**156**	S	**Sn**	07 40 50.4	**-0.4**
KRMI	**Paran Flat**	**5.96**	**156**	P	**Pn**	07 39 43.1	**-0.8**
MBRI	**Mt Berech**	**6.32**	**156**	S	**Sn**	07 40 59.9	**+0.1**
MBRI	**Mt Berech**	**6.32**	**156**	P	**Pn**	07 39 48.3	**-0.5**
EIL	**Elat**	**6.45**	**156**	P	**Pn**	07 39 51.2	**+0.7**
	2.9nm,0.6s,baz=351,slow=4.5,SNR=11						
EIL				S	**Sn**	07 41 02.1	**-0.6**
	5.4nm,0.3s,baz=330,slow=20,SNR=6.6						
EIL	**Elat**	**6.45**	**156**	S	**Sn**	07 41 03.2	**+0.4**
EIL	**Elat**	**6.45**	**156**	P	**Pn**	07 39 49.8	**-0.7**
AKASG	**Malin Array Be**	**15.22**	**353**	P	**Pn**	07 41 50.0	**+0.3**
	0.3nm,0.5s,baz=178,slow=9.4,SNR=9.9						
FINES	**FINESS Array B**	**26.13**	**354**	P	**P**	07 43 44.7	**-2.6**
	0.6nm,0.7s,baz=160,slow=12,SNR=5.2						
	0.6nm,0.7s						
ARCES	**ARCESS Array B**	**34.17**	**356**	P	**P**	07 44 56.6	**-1.8**
	0.2nm,0.4s,baz=169,slow=8.3,SNR=1.6						
	0.2nm,0.4s						

mbtmp4.1/24,MS3.6/1,Error ellipse: s-maj=26.9km s-min=8.7km az=81.0
*DJA **14** 08:13:02.6±0.5,4.7°N±4.4°×12.6°E±0.9°,h93km±5km,M4.8/14, mB5.3/7,mb4.9/7,MLv4.8/14,Mw(mB)4.7/7*
ISC 14 08:13:00.7±0.4,4.9°N±0.5°×126.3°E±0.7°,h100km,n81,
σ1°40/89,mb4.2/37,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.98**	**239**	P	**Pn**	**08 13 21.8**	**+0.9**
SGSI				S	**Sn**	**08 13 37.2**	**+1.0**
DAV	**Davao City (W)**	**2.97**	**345**	Pn	**Pn**	**08 13 47.3**	**+1.2**
DAV	**Davao City (W)**	**2.97**	**345**	P	**Pn**	**08 13 49.0**	**+3.0**
	106nm,0.3s,baz=224,slow=23,SNR=1.5						
DAV				S	**Sn**	**08 14 24.1**	**+3.2**
	227nm,0.5s,baz=160,slow=21,SNR=1.4						
TNTI	**Ternate**	**3.54**	**164**		**Pn**	**08 13 54.4**	**+0.7**
TNTI	**Ternate**	**3.54**	**164**	P	**Pn**	**08 13 54.1**	**+0.4**
KMSI	**Cibinong**	**4.32**	**214**	P	**Pn**	**08 14 05.6**	**+1.4**
MRSI	**Marisa**	**5.76**	**230**	P	**Pn**	**08 14 25.5**	**+1.7**
SANI	**Sanana**	**6.21**	**184**	P	**Pn**	**08 14 28.2**	**-1.7**
	0.8nm5µm115nm,0.6s						
LUWI	**Luwuk**	**6.32**	**215**	P	**Pn**	**08 14 35.5**	**+4.1**
	0.7nm3µm192nm,1.1s						
TOLI2	**Tolitoli**	**6.37**	**241**		**Pn**	**08 14 32.6**	**+0.6**
APSI	**Ampana**	**6.93**	**223**	P	**Pn**	**08 14 43.9**	**+4.3**
	0.5nm2µm102nm,0.6s						
NLAI	**Namlea**	**7.42**	**174**	P	**Pn**	**08 14 46.3**	**0.0**
	275nm,0.5s						
MPSI	**Mapaga**	**7.52**	**240**	P	**Pn**	**08 14 47.6**	**-0.1**
MYLDM	**Lahad Datu**	**7.91**	**277**	Pn	**Pn**	**08 14 53.8**	**+0.8**
TGY	**Tagaytay City**	**11.21**	**332**	LR	LR	08 20 41.8	
	comp=Z,368nm,22.0s,baz=10.0,slow=41						
KAPI	**Kappang**	**11.29**	**216**	P	**Pn**	**08 15 39.5**	**+0.6**
	6.6nm,0.5s,baz=42,slow=12,SNR=3.6						
SBUM	**Sibu**	**14.24**	**263**	P	**P**	**08 16 23.8**	**+1.7**
BATI	**Baumata**	**14.56**	**191**	P	**Pn**	**08 16 24.4**	**+2.5**
	36nm,0.4s,baz=68,slow=5.4,SNR=4.1						
KSM	**Kuching**	**16.27**	**261**		**Pn**	**08 16 43.4**	**-0.1**
KSM				IAmb	IAmb	08 16 46.6	
	comp=Z,10.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.16**	**182**	P	**P**	**08 17 48.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**22.16**	**182**	P	**P**	**08 17 48.7**	**+0.1**
	comp=Z,5.4nm,0.4s,baz=17,slow=7.2,SNR=3.8						
	comp=Z,5.4nm,0.4s						
WB0	**Warramunga Arr**	**25.08**	**162**	P	**P**	**08 18 15.4**	**-0.7**
WRA	**Warramunga Arr**	**25.23**	**162**	P	**P**	**08 18 17.8**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=342,slow=10,SNR=9.6						
	comp=Z,1.8nm,0.7s						
WR8	**Warramunga Arr**	**25.29**	**162**	P	**P**	**08 18 16.8**	**-1.3**
WR8				IAmb	IAmb	08 18 44.3	
	comp=Z,9.9nm,1.1s						
WR0	**Warramunga Arr**	**25.31**	**162**	P	**P**	**08 18 17.9**	**-0.2**
WR0				IAmb	IAmb	08 18 31.0	
	comp=Z,9.3nm,1.1s						
ASAR	**Alice Springs**	**28.65**	**165**	P	**P**	**08 18 48.2**	**+0.1**
ASAR	**Alice Springs**	**28.65**	**165**	P	**P**	**08 18 48.8**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=341,slow=6.8,SNR=14						
ASAR				PcP	**PcP**	**08 21 56.4**	**-0.4**
	comp=Z,0.6nm,1.0s,baz=339,slow=3.1,SNR=2.0						
ASAR				ScP	**ScP**	**08 25 27.0**	**-2.2**
	comp=Z,0.2nm,0.7s,baz=338,slow=3.6,SNR=1.3						
	comp=Z,0.6nm,0.4s						
JNU	**Nakatsue**	**29.09**	**8**	P	**P**	**08 18 51.6**	**-0.3**
JMN	**Monobe**	**30.21**	**12**	P	**P**	**08 19 02.5**	**+0.7**
CTAO	**Charters Tower**	**31.05**	**142**	P	**P**	**08 19 08.5**	**-0.8**
CTAO				IAmb	IAmb	08 19 20.3	
	comp=Z,19nm,1.4s						
JGF	**Kuroka**	**32.86**	**17**	P	**P**	**08 19 25.6**	**+0.5**
JGF				IAmb	IAmb	08 20 06.2	
	comp=Z,17nm,1.3s						
KSRS	**Korea Array**	**33.13**	**2**	P	**P**	**08 19 27.9**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=186,slow=10.0,SNR=6.8						
	comp=Z,0.8nm,0.6s						
MJAR	**Matsushiro Arr**	**33.98**	**17**	P	**P**	**08 19 34.0**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=204,slow=8.3,SNR=4.3						
	comp=Z,0.7nm,0.4s						
MORW	**Morawa**	**34.53**	**196**	P	**P**	**08 19 39.4**	**-0.2**
FORT	**Forrest**	**34.81**	**177**	P	**P**	**08 19 42.6**	**+0.6**
FORT				IAmb	IAmb	08 19 44.8	
	comp=Z,7.2nm,1.0s						
NWAO	**Narrogin (SRO)**	**37.92**	**193**	P	**P**	**08 20 08.5**	**+0.1**
STKA	**Stephens Creek**	**38.69**	**159**	P	**P**	**08 20 16.0**	**+1.1**
	comp=Z,3.9nm,0.6s,baz=328,slow=7.1,SNR=6.5						
	comp=Z,3.9nm,0.6s						
USRK	**Ussuriysk Ar.**	**40.15**	**6**	P	**P**	**08 20 27.2**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=188,slow=7.4,SNR=3.4						
	comp=Z,1.2nm,0.4s						
ARMA	**Armidale**	**42.05**	**147**	P	**P**	**08 20 43.5**	**+0.7**
ARMA				IAmb	IAmb	08 21 20.5	
	comp=Z,13nm,1.1s						
JKA	**Kamikawa-asahi**	**42.26**	**17**	P	**P**	**08 20 44.7**	**+0.6**
EVN	**Everest**	**44.43**	**306**	P	**P**	**08 21 01.4**	**-1.2**
EVN				IAmb	IAmb	08 21 35.8	
	comp=Z,4.7nm,0.6s						
KLR	**Kul'dur**	**45.11**	**5**	P	**P**	**08 21 06.6**	**-0.3**
SONM	**Songino Array**	**46.75**	**342**	P	**P**	**08 21 20.4**	**+0.4**
SONM				pP	**pwP**	**08 21 46.7**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=165,slow=9.5,SNR=6.1						
	comp=Z,0.4nm,0.4s,baz=138,slow=7.6,SNR=2.2						
	comp=Z,0.9nm,0.6s						
PETK	**Petropavlovsk-**	**55.14**	**22**	P	**P**	**08 22 23.2**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=186,slow=3.5,SNR=1.8						
	comp=Z,0.7nm,0.7s						
MKAR	**Makanchi Array**	**56.98**	**325**	P	**P**	**08 22 34.8**	**-1.1**
MKAR	**Makanchi Array**	**56.98**	**325**	P	**P**	**08 22 34.2**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=118,slow=7.9,SNR=14						
MKAR				pP	**pwP**	**08 23 04.0**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=120,slow=8.5,SNR=6.3						
MKAR				ScP	**ScP**	**08 27 17.5**	**-3.2**
	comp=Z,0.2nm,0.5s,baz=129,slow=3.9,SNR=2.2						
	comp=Z,0.9nm,0.4s						
MAKZ	**Makanchi**	**57.16**	**325**	P	**P**	**08 22 36.3**	**-0.8**
MAKZ				IAmb	IAmb	08 23 07.7	
	comp=Z,2.5nm,0.7s						
NIL	**Nilore**	**57.36**	**308**	P	**P**	**08 22 38.1**	**-0.7**
NIL				IAmb	IAmb	08 22 41.4	
	comp=Z,7.3nm,1.1s						
ZALV	**Zalesovo Beam**	**60.02**	**333**	P	**P**	**08 22 56.0**	**-0.8**
ZALV	**Zalesovo Beam**	**60.02**	**333**	P	**P**	**08 22 56.1**	**-0.7**
	comp=Z,4.4nm,0.3s,baz=189,slow=5.5,SNR=1.6						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**61.16**	**327**	P	**P**	**08 23 04.4**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=127,slow=6.3,SNR=10						
KURBB				pP	**pP**	**08 23 31.6**	**+3.1**
	comp=Z,1.7nm,0.6s,baz=125,slow=6.2,SNR=3.7						
	comp=Z,1.2nm,0.6s						
KURK	**Kurchatov**	**61.16**	**328**	P	**P**	**08 23 04.4**	**-0.2**
KURK				IAmb	IAmb	08 23 33.3	
	comp=Z,2.4nm,0.6s						
KKAR	**Karatay Array**	**62.65**	**317**	P	**P**	**08 23 14.6**	**-0.2**
BVAR	**Borovoye Array**	**66.74**	**327**	P	**P**	**08 23 40.7**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=101,slow=7.6,SNR=2.1						
BVAR				pP	**pwP**	**08 24 09.8**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=113,slow=3.9,SNR=2.8						
	comp=Z,0.7nm,0.3s						
BRVK	**Borovoye**	**66.81**	**327**	P	**P**	**08 23 40.9**	**-0.7**
TIXI	**Tiksi**	**67.39**	**1**	P	**P**	**08 23 42.6**	**-2.2**
NRIK	**Noril'sk**	**69.90**	**346**	P	**P**	**08 24 00.7**	**+0.2**
ABKAR	**Akbulak array**	**71.57**	**321**	P	**P**	**08 24 10.0**	**-1.0**
L16K	**Owhat River**	**78.84**	**28**	P	**P**	**08 24 53.2**	**+0.7**
M16K	**Timber Creek**	**78.94**	**29**	P	**P**	**08 24 54.3**	**+1.2**
M16K				IAmb	IAmb	08 25 22.9	
	comp=Z,8.2nm,1.2s						
J17K	**VABM Dome**	**79.37**	**26**	P	**P**	**08 24 56.9**	**+1.5**
J17K				IAmb	IAmb	08 24 57.2	
	comp=Z,5.8nm,1.4s						
G19K	**Purcell Mounta**	**80.75**	**24**	P	**P**	**08 25 04.2**	**+1.4**
H19K	**Roundabout Mou**	**80.90**	**24**	P	**P**	**08 25 05.4**	**+1.9**
IMAR	**Indian Mountai**	**82.07**	**24**	P	**P**	**08 25 11.1**	**+1.3**
SKT	**Skwentna**	**82.60**	**28**	P	**P**	**08 25 12.9**	**+0.3**
SLKM	**Skilak Lake**	**83.12**	**30**	P	**P**	**08 25 15.6**	**+0.3**
SLKM				IAmb	IAmb	08 25 16.9	
	comp=Z,7.8nm,1.0s						
H23K	**Yukon River**	**83.77**	**24**	P	**P**	**08 25 19.9**	**+1.4**
H23K				IAmb	IAmb	08 25 20.8	
	comp=Z,2.8nm,0.8s						
I23K	**Minto, Yukon-K**	**83.80**	**25**	P	**P**	**08 25 20.1**	**+1.4**
I23K				IAmb	IAmb	08 25 20.7	
	comp=Z,3.8nm,1.1s						
VNDA	**Vanda**	**83.93**	**173**	P	**P**	**08 25 19.7**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=325,slow=5.6,SNR=6.1						
	comp=Z,0.5nm,0.6s						
ILAR	**Eielson Array**	**84.84**	**25**	P	**P**	**08 25 23.5**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=248,slow=4.6,SNR=4.6						
	comp=Z,0.2nm,0.5s						

BMAR	**Burnt Mountain**	**85.79**	**23**	P	**P**	**08 25 30.4**	**+1.7**
F28M	**Old Crow**	**87.59**	**22**	P	**P**	**08 25 37.7**	**+0.3**
ARCES	**ARCESS Array B**	**89.89**	**340**	P	**P**	**08 25 46.7**	**-1.5**
ARCES	**ARCESS Array B**	**89.89**	**340**	P	**P**	**08 25 46.2**	**-2.0**
	comp=Z,2.1nm,0.9s,baz=79,slow=6.3,SNR=7.6						
	comp=Z,2.1nm,0.9s						
SPITS	**Spitsberger An**	**89.96**	**349**	P	**P**	**08 25 47.6**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=82,slow=3.1,SNR=1.3						
	comp=Z,0.5nm,0.5s						
FINES	**FINESS Array B**	**91.26**	**332**	P	**P**	**08 25 52.8**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=92,slow=6.5,SNR=8.1						
	comp=Z,0.5nm,0.5s						
AKASG	**Malin Array Be**	**91.31**	**321**	P	**P**	**08 25 53.2**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=65,slow=4.9,SNR=1.8						
	comp=Z,0.3nm,0.5s						
QSPA	**South Pole Qui**	**94.10**	**180**	P	**P**	**08 26 08.8**	**+1.0**
	comp=Z,0.7nm,1.0s,baz=56,slow=3.6,SNR=1.1						
	comp=Z,0.7nm,1.0s						
HFS	**Hagfors**	**97.45**	**332**	P	**P**	**08 26 20.9**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=123,slow=5.5,SNR=4.1						
	comp=Z,0.5nm,0.5s						
NOA	**NORSAR Array B**	**98.22**	**334**	P	**P**	**08 26 24.6**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=72,slow=6.4,SNR=2.3						
	comp=Z,0.5nm,0.8s						
TXAR	**Lajitas Array**	**121.59**	**52**	PKP	**PKPdf**	**08 31 43.8**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=289,slow=1.2,SNR=3.0						

*JMA **14** 08:31:22.1±0.3,24.°N±2.°×12.°7E±.°,h101km,MV3.3/17, NEAR MIYAKOJIMA ISLAND*
*IDC **14** 08:31:42.4±15.0,23.°39N×125.°29E,h188km±151km, mb3.2/7,mbtmp3.7/7,Error ellipse: s-maj=137.5km s-min=17.6km az=67.0*
ISC 14 08:31:22.0±1.0,24.°24N±0.°08×127.°13E±0.°05,h31km,n33,
σ1°50/42,mb3.7/7,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.65**	**289**	*eP*	**Pn**	**08 31 48.8**	**-0.1**
JOGS				*eS*	**Sn**	**08 32 08.5**	**-0.6**
JMJ2	**Miyako jima3**	**1.72**	**287**	*eP*	**Pn**	**08 31 50.0**	**+0.2**
JMJ2				*eS*	**Sn**	**08 32 10.2**	**-0.4**
JMJ	**Miyako jima 2**	**1.77**	**289**	P	**Pn**	**08 31 50.1**	**-0.3**
JMJ	**Miyako jima 2**	**1.77**	**289**	S	**Sn**	**08 32 11.2**	**-0.7**
JIKM	**Ikemajima**	**1.84**	**292**	*eP*	**Pn**	**08 31 51.4**	**-0.1**
JIKM				*eS*	**Sn**	**08 32 13.6**	**-0.2**
JIRB	**Irabujima**	**1.88**	**289**	*eP*	**Pn**	**08 31 51.6**	**-0.3**
JIRB				*eS*	**Sn**	**08 32 13.2**	**-1.4**
JKE	**Kume jima 2**	**2.10**	**352**	*eP*	**Pn**	**08 31 54.8**	**-0.3**
JKE				*eS*	**Sn**	**08 32 18.1**	**-2.1**
JTJ	**Tarama**	**2.25**	**281**	*eP*	**Pn**	**08 31 56.7**	**-0.3**
JTJ				*eS*	**Sn**	**08 32 22.4**	**-1.3**
JAGN	**Aguni-jima**	**2.34**	**2**	*eP*	**Pn**	**08 31 58.2**	**-0.2**
JNTH	**Nagotoyohara**	**2.41**	**19**	*eP*	**Pn**	**08 31 58.8**	**-0.5**
JISG	**Ishigakijimahi**	**2.59**	**278**	*eP*	**Pn**	**08 32 01.1**	**-0.6**
JISG				*eS*	**Sn**	**08 32 30.0**	**-2.3**
JIJ	**Ishigaki jima**	**2.73**	**273**	*eP*	**Pn**	**08 32 03.0**	**-0.7**
JIJ				*eS*	**Sn**	**08 32 32.7**	**-2.9**
JOW	**Kunigami**	**2.79**	**22**	P	**Pn**	**08 32 04.9**	**+0.5**
JOW	**Kunigami**	**2.79**	**22**	S	**Sn**	**08 32 35.9**	**-1.1**
JOW	**Kunigami**	**2.79**	**22**	*eP*	**Pn**	**08 32 04.5**	**+0.1**
JKRS	**Kuro-shima**	**2.85**	**271**	*eP*	**Pn**	**08 32 04.7**	**-0.6**
JKRS				*eS*	**Sn**	**08 32 36.1**	**-2.5**
JYRO	**Yoronjima**	**3.02**	**23**	*eP*	**Pn**	**08 32 08.1**	**+0.4**
IRIF	**Iriomote-Funau**	**3.10**	**273**	*eP*	**Pn**	**08 32 08.4**	**-0.4**
IRIF				*eS*	**Sn**	**08 32 42.3**	**-2.6**
YOJ	**Yonaguni jima**	**3.76**	**274**	P	**Pn**	**08 32 19.5**	**+1.6**
YOJ	**Yonaguni jima**	**3.76**	**274**	S	**Sn**	**08 32 58.7**	**-2.4**
JKDJ	**Kitadaitoujima**	**4.15**	**65**	*eP*	Pn	08 32 20.1	-3.1
JKDJ				*eS*	**Sn**	**08 33 05.2**	**-5.3**
NACB	**Ninganchiao**	**5.05**	**270**	P	**Pn**	**08 32 34.6**	**-1.0**
YHNB	**Yeheng**	**5.26**	**276**	P	**Pn**	**08 32 38.9**	**+0.3**
YHNB	**Yeheng**	**5.26**	**276**	S	**Sn**	**08 33 36.6**	**-1.6**
TPUB	**Ta-pu**	**6.03**	**262**	P	**Pn**	**08 32 49.4**	**+0.3**
JNU	**Nakatsue**	**9.44**	**20**	P	**Pn**	**08 33 35.9**	**0.0**
SONM	**Songino Array**	**28.73**	**330**	P	P	08 37 22.1	+5.5
	0.6nm,0.4s,baz=156,slow=11,SNR=6.3						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**42.15**	**314**	P	**P**	**08 39 11.1**	**-0.6**
	0.4nm,0.5s,baz=100,slow=9.6,SNR=4.7						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**43.26**	**325**	P	**P**	**08 39 21.4**	**+1.0**
	0.5nm,0.3s,baz=142,slow=7.3,SNR=2.0						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**44.47**	**170**	P	**P**	**08 39 30.5**	**0.0**
	0.5nm,0.5s,baz=349,slow=8.4,SNR=2.7						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**45.63**	**318**	P	**P**	**08 39 40.6**	**+1.1**
	0.7nm,0.2s,baz=107,slow=8.3,SNR=4.7						
	0.7nm,0.2s						
ASAR	**Alice Springs**	**48.07**	**172**	P	**P**	**08 39 59.2**	**+0.5**
	0.3nm,0.7s,baz=352,slow=8.8,SNR=1.5						
	0.3nm,0.7s						
FINES	**FINESS Array B**	**74.10**	**331**	P	**P**	**08 42 57.1**	**+2.2**
	0.8nm,0.8s,baz=56,slow=6.1,SNR=3.4						
	0.8nm,0.8s						

*IDC **14** 08:35:10.0±0.7,0.°01S×125.°86E,h0km,mb4.1/16, mbtmp4.1/16,Error ellipse: s-maj=41.0km s-min=14.7km az=73.0*
*NEIC **14** 08:35:16.0±1.4,0.°07N±0.°07×125.°95E±0.°07,h35km±2km, mb4.4/14,Error ellipse: s-maj=14.7km s-min=6.9km az=224.0*
*DJA **14** 08:35:16.7±2.4,0.°5S±5.°×12.°6E±.°,h29km±27km,M4.0/8, mb4.3/1,MLv3.9/8*
ISC 14 08:35:16.3±0.5,0.°03S±0.°06×125.°93E±0.°06,h44km,n44,
σ1°03/45,mb4.2/24,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.65**	**61**	Pn	**Pn**	**08 35 40.3**	**-2.4**
TNTI	**Ternate**	**1.65**	**61**	P	**Pn**	**08 35 44.9**	**+2.2**
SANI	**Sanana**	**2.01**	**178**	P	**Pn**	**08 35 46.2**	**-1.5**
KMSI	**Cibinong**	**2.04**	**287**	P	**Pn**	**08 35 47.7**	**-0.4**
LUWI	**Luwuk**	**3.31**	**252**	P	**Pn**	**08 36 06.1**	**+0.5**
MRSI	**Marisa**	**4.02**	**277**	P	**Pn**	**08 36 15.6**	**+0.3**
APSI	**Ampana**	**4.37**	**258**	P	**Pn**	**08 36 22.2**	**+2.1**
TOLI2	**Tolitoli**	**5.27**	**282**	Pn	**Pn**	**08 36 29.6**	**-2.9**
WB0	**Warramunga Arr**	**21.30**	**158**	P	**P**	**08 39 58.8**	**-0.5**
WB0				IAmb	IAmb	08 40 10.7	
	comp=Z,18nm,1.2s						
WRA	**Warramunga Arr**	**21.44**	**158**	P	**P**	**08 39 59.8**	**-1.1**
WRA	**Warramunga Arr**	**21.44**	**158**	P	**P**	**08 39 59.7**	**-1.1**
	comp=Z,4.5nm,0.7s,baz=334,slow=11,SNR=11						
	comp=Z,4.5nm,0.7s						
WB2	**Warramunga Arr**	**21.44**	**158**	P	**P**	**08 39 60.0**	**-1.0**
WB2				IAmb	IAmb	08 40 23.4	
	comp=Z,18nm,1.4s						
WR8	**Warramunga Arr**	**21.51**	**158**	P	**P**	**08 40 00.4**	**-1.2**
WR0	**Warramunga Arr**	**21.53**	**157**	P	**P**	**08 40 01.5**	**-0.4**
WR0				IAmb	IAmb	08 40 23.1	
	comp=Z,13nm,1.2s						
COEN	**Coen**	**21.98**	**130**	P	**P**	**08 40 07.6**	**+0.9**
COEN				IAmb	IAmb	08 40 32.6	
	comp=Z,28nm,1.4s						
AS31	**Alice Springs**	**24.74**	**162**		**P**	**08 40 34.8**	**+0.9**
AS31				IAmb	IAmb	08 40 58.0	
	comp=Z,3.3nm,0.3s						
ASAR	**Alice Springs**	**24.74**	**162**	P	**P**	**08 40 35.4**	**+1.6**
ASAR	**Alice Springs**	**24.74**	**162**	P	**P**	**08 40 34.3**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=345,slow=10,SNR=13						
	comp=Z,1.1nm,0.4s				

MAKZ	**Makanchi**	**60.39 327**		**P**		08 45 20.7	-0.4
MAKZ			IAmb	IAmb		08 45 25.2	
	comp=Z,2.8nm,0.7s						
KBL	**Kabul**	**63.21 309**	P	**P**		08 45 40.5	-0.1
ZAA0	**Zalesovo Array**	**63.58 334**	P	**P**		08 45 42.1	-0.2
ZAA0			IAmb	IAmb		08 45 46.8	
	comp=Z,1.9nm,0.7s						
ZALV	**Zalesovo Beam**	**63.58 334**	P	**P**		08 45 42.1	-0.2
ZALV	**Zalesovo Beam**	**63.58 334**	P	**P**		08 45 42.0	-0.4
	comp=Z,1.2nm,0.6s,baz=132,slow=4.4,SNR=4.8						
	comp=Z,1.2nm,0.6s						
KURBB	**Kurchatov Array**	**64.48 329**	P	**P**		08 45 48.0	-0.3
	comp=Z,1.9nm,0.2s,baz=130,slow=6.1,SNR=12						
	comp=Z,1.9nm,0.2s						
KURK	**Kurchatov**	**64.49 329**		**P**		08 45 48.1	-0.3
KKAR	**Karatay Array**	**65.46 318**	P	**P**		08 45 54.5	-0.4
BVAR	**Borovoye Array**	**70.04 328**	P	**P**		08 46 23.6	+0.1
	comp=Z,0.9nm,0.4s,baz=122,slow=14,SNR=2.7						
	comp=Z,0.9nm,0.4s						
BRVK	**Borovoye**	**70.11 328**	P	**P**		08 46 23.2	-0.8
BRVK			IAmb	IAmb		08 46 33.7	
	comp=Z,2.4nm,0.6s						
NRIK	**Noril'sk**	**73.87 347**	P	**P**		08 46 46.8	+0.6
	comp=Z,1.4nm,0.5s,baz=108,slow=5.6,SNR=3.6						
	comp=Z,1.4nm,0.5s						
AB31	**Akbulak array**	**74.56 322**		**P**		08 46 50.0	-0.5
ABKAR	**Akbulak array**	**74.56 322**		**P**		08 46 49.8	-0.8
SDPT	**Sand Point**	**80.74 34**	P	**P**		08 47 26.1	+1.2
ILAR	**Eielson Array**	**88.82 25**	P	**P**		08 48 05.4	0.0
	comp=Z,0.2nm,0.6s,baz=225,slow=5.1,SNR=5.3						
	comp=Z,0.2nm,0.6s						
QSPA	**South Pole Qui**	**89.90 180**	P	**P**		08 48 10.5	0.0
	comp=Z,1.6nm,0.9s,baz=330,slow=1.1,SNR=5.7						
	comp=Z,1.6nm,0.9s						
BRTR	**Keskin Array B**	**91.78 310**	P	**P**		08 48 20.4	+0.5
	comp=Z,0.4nm,0.5s,baz=108,slow=4.6,SNR=2.8						
	comp=Z,0.4nm,0.5s						
ARCES	**ARCESS Array B**	**93.67 340**	P	**P**		08 48 27.4	-0.4
	comp=Z,2.0nm,1.1s,baz=32,slow=4.7,SNR=1.9						
	comp=Z,2.0nm,1.1s						
TXAR	**Lajitas Array**	**124.49 54**	PKP	**PKiKP**		08 54 13.0	+1.1
	comp=Z,0.2nm,0.7s,baz=282,slow=3.2,SNR=2.3						

NOU ***14*** *08:37:34.9, 18˚.30S×120˚.16E, h0km, mb4.7/13, Western Australia*

AUST ***14*** *08:37:36.8±0.9, 18˚S±2˚×12˚0E±˚, h17km±7km, mb4.5/29, ML3.9/10, Error ellipse: s-maj=6.2km s-min=3.5km az=112.0*

IDC ***14*** *08:37:38.9±4.5, 18˚.77S×120˚.62E, h0km, mb3.7/1, mbtmp4.1/5, ML3.8/4, Error ellipse: s-maj=50.5km s-min=26.8km az=145.0*

ISC 14 08:37:34.7±0.7**, 18˚.27S**±0˚.05×**120˚.25E**±0˚.05**, h10**km**, **n55, σ2s57**/64, mb4.1/4, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**2.91 190**		P	**Pb**	**08 38 24.6**	**-2.2**
MBWA	**Marble Bar**	**2.91 190**		P	**Pn**	**08 38 22.1**	**+0.9**
PSAC1	**Pilbara Seismi**	**3.27 187**		P	**Pn**	**08 38 29.1**	**+3.0**
PSAC1				S	**Sn**	**08 39 06.6**	**+1.5**
PSA00	**Pilbara Seismi**	**3.31 187**		P	**Pn**	**08 38 29.7**	**+3.1**
PSA00				S	**Sn**	**08 39 07.6**	**+1.7**
FITZ	**Fitzroy Crossi**	**5.12 89**		P	**Pn**	**08 38 53.5**	**+2.0**
	comp=Z,16nm,0.8s,comp=Z,0.1nm						
FITZ	**Fitzroy Crossi**	**5.12 89**		S	**Sn**	**08 39 49.2**	**-1.6**
FITZ	**Fitzroy Crossi**	**5.12 89**		Pn	**Pn**	**08 38 53.5**	**+2.0**
	comp=Z,3.5nm,0.3s,baz=263,slow=10.0,SNR=19						
FITZ				Sn	**Sn**	**08 39 48.3**	**-2.5**
	comp=Z,11nm,0.3s,baz=221,slow=20,SNR=5.4						
	comp=Z,20nm,0.6s						
FITZ	**Fitzroy Crossi**	**5.12 89**		P	**Pn**	**08 38 53.4**	**+1.8**
GIRL	**Giralia**	**7.12 231**		P	**Pn**	**08 39 22.0**	**+3.0**
GIRL				S	**Sn**	**08 40 36.8**	**-3.3**
CVQOZ	**Cooralya Stati**	**8.42 222**		P	**Pn**	**08 39 39.2**	**+2.4**
CVQOZ				S	**Sn**	**08 41 07.4**	**-4.5**
MEEK	**Meekatharra**	**8.46 190**		P	**Pn**	**08 39 39.8**	**+2.3**
	comp=Z,39nm,0.6s,comp=Z,0.7nm						
MEEK	**Meekatharra**	**8.46 190**		S	**Sn**	**08 41 09.4**	**-3.7**
MEEK	**Meekatharra**	**8.46 190**		P	**Pn**	**08 39 39.5**	**+2.0**
KNRA	**Kununurra**	**8.54 74**		P	**Pn**	**08 39 40.7**	**+2.2**
	comp=Z,56nm,0.7s,comp=Z,0.3nm						
KNRA				S	**Sn**	**08 41 13.4**	**-1.6**
SOEI	**Soe**	**9.32 25**		S	**Sn**	**08 41 37.4**	**+3.0**
	comp=Z,25nm,0.6s,comp=Z,0.1nm						
EDFI	**Ende, Flores**	**9.57 9**		P	**Pn**	**08 39 52.9**	**+0.1**
	comp=Z,11nm,0.8s,comp=Z,0.0nm						
EDFI	**Ende, Flores**	**9.57 9**		S	**Sn**	**08 41 36.2**	**-4.3**
PLAI	**Plampang**	**9.69 345**		P	**Pn**	**08 39 55.0**	**+0.7**
	comp=Z,37nm,1.4s,comp=Z,0.1nm						
PLAI	**Plampang**	**9.69 345**		S	**Sn**	**08 41 36.6**	**-6.8**
TWSI	**Taliwang, Sumb**	**10.03 340**		P	**Pn**	**08 40 00.3**	**+1.3**
	comp=Z,25nm,1.1s,comp=Z,0.1nm						
WRKA	**Warakurna**	**10.06 133**		P	**Pn**	**08 40 01.0**	**+1.6**
	comp=Z,8.9nm,0.6s,comp=Z,0.0nm						
JAGI	**Jajag, Banyuwa**	**11.41 328**		P	**Pn**	**08 40 18.8**	**+1.0**
	comp=Z,56nm,1.2s						
JAGI	**Jajag, Banyuwa**	**11.41 328**		P	**Pn**	**08 40 19.1**	**+1.3**
MORW	**Morawa**	**11.42 199**		P	**Pn**	**08 40 18.6**	**+0.6**
	comp=Z,9.4nm,1.0s						
MORW	**Morawa**	**11.42 199**		P	**Pn**	**08 40 18.3**	**+0.4**
MTN	**Manton Dam**	**11.79 64**		P	**Pn**	**08 40 24.0**	**+0.9**
	comp=Z,55nm,0.5s						
MTN	**Manton Dam**	**11.79 64**		P	**Pn**	**08 40 24.2**	**+1.1**
DRS	**Darwin Rock St**	**11.79 62**		P	**Pn**	**08 40 25.1**	**+2.0**
	comp=Z,15nm,0.7s						
DRS	**Darwin Rock St**	**11.79 62**		P	**Pn**	**08 40 26.5**	**+3.4**
BLDU	**Ballidu**	**12.70 194**		P	**Pn**	**08 40 36.2**	**+0.7**
	comp=Z,20nm,0.8s						
BLDU	**Ballidu**	**12.70 194**		P	**Pn**	**08 40 36.3**	**+0.8**
KDU	**Kakadu**	**13.02 66**		P	**Pn**	**08 40 40.3**	**+0.4**
	comp=Z,32nm,1.3s						
KMBL	**Kambalda**	**13.12 174**		P	**Pn**	**08 40 37.3**	**-3.9**
	comp=Z,12nm,1.6s						
WC1	**Warramunga Arr**	**13.42 99**		P	**Pn**	**08 40 45.7**	**+0.4**
	comp=Z,15nm,0.8s						
WRA	**Warramunga Arr**	**13.42 99**		Pn	**Pn**	**08 40 45.1**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=270,slow=13,SNR=12						
WRA				Sn	**Sn**	**08 43 09.2**	**-5.5**
	comp=Z,2.6nm,0.3s,baz=272,slow=24,SNR=6.1						
WRA				Lg	Lg	08 44 32.6	
	baz=274,slow=31						
	comp=Z,1.0nm,0.3s						
WB2	**Warramunga Arr**	**13.43 99**		P	**Pn**	**08 40 45.7**	**+0.2**
	comp=Z,12nm,1.9s						
KLBR	**Kellerberrin**	**13.45 189**		P	**Pn**	**08 40 47.1**	**+1.3**
	comp=Z,49nm,0.5s						
KLBR	**Kellerberrin**	**13.45 189**		P	**Pn**	**08 40 46.5**	**+0.7**
ASAR	**Alice Springs**	**13.83 115**		Pn	**Pn**	**08 40 48.9**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=291,slow=12,SNR=14						
ASAR				Sn	**Sn**	**08 43 17.5**	**-7.3**
	comp=Z,1.2nm,0.3s,baz=284,slow=23,SNR=10						
ASAR				Lg	Lg	08 44 45.5	
	baz=294,slow=28						
	comp=Z,2.1nm,0.5s						
AS01	**Alice Springs**	**13.87 115**		P	**Pn**	**08 40 55.0**	**+3.5**
MUN	**Mundaring**	**14.13 194**		P	**Pn**	**08 40 55.0**	**0.0**
	comp=Z,26nm,0.7s						
MUN	**Mundaring**	**14.13 194**		P	**Pn**	**08 40 55.0**	**0.0**
FORT	**Forrest**	**14.33 152**		P	**Pn**	**08 40 57.8**	**+0.1**
	comp=Z,14nm,0.6s						
DNDOZ	**Balladonia**	**14.50 168**		P	**Pn**	**08 40 59.1**	**-0.9**
	comp=Z,145nm,0.6s						
NWAO	**Narrogin (SRO)**	**14.84 190**		P	**Pn**	**08 41 03.8**	**-1.0**
	comp=Z,53nm,0.9s						
NWAO	**Narrogin (SRO)**	**14.84 190**		Pn	**Pn**	**08 41 03.8**	**-1.0**
	comp=Z,5.5nm,0.3s,baz=15,slow=12,SNR=32						
NWAO				Sn	Sn	08 43 35.5	-14
	comp=Z,5.1nm,0.3s,baz=39,slow=13,SNR=7.5						
NWAO				Lg	Lg	08 45 17.1	
	baz=90,slow=18						
	comp=Z,12nm,0.3s						
NWAO	**Narrogin (SRO)**	**14.84 190**		P	**Pn**	**08 41 04.4**	**-0.4**
NWAO	**Narrogin (SRO)**	**14.84 190**		P	**Pn**	**08 41 04.3**	**-0.5**
RKGY	**Rocky Gully**	**16.53 190**		P	**Pn**	**08 41 27.8**	**+1.1**
	comp=Z,11nm,1.9s						
MULG	**Mulgathing**	**17.34 136**		P	**P**	**08 41 38.6**	**+0.3**
	comp=Z,30nm,0.9s						
QIS	**Mount Isa**	**18.39 100**		P	**P**	**08 41 51.7**	**+1.7**
	comp=Z,8.2nm,0.6s						
YAPP	**Yappala Statio**	**21.19 133**		P	**P**	**08 42 22.4**	**+1.9**
	comp=Z,12nm,0.8s						
NAPP	**Napperby**	**21.87 136**		P	**P**	**08 42 30.2**	**+2.5**
	comp=Z,26nm,0.8s						
SDAN	**Sedan**	**23.46 137**		P	**P**	**08 42 46.8**	**+2.4**
	comp=Z,6.3nm,1.9s						

STKA	**Stephens Creek**	**23.55 129**		P	**P**	**08 42 45.3**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=287,slow=12,SNR=2.9						
STKA				S	**S**	**08 47 05.5**	**+6.0**
	comp=Z,5.3nm,0.8s,baz=280,slow=18,SNR=4.6						
	comp=Z,2.0nm,0.8s						

IDC ***14*** *08:44:17.8±3.5, 36˚.52S×177˚.93E, h136km±24km, mb3.8/6, mbtmp4.2/6, Error ellipse: s-maj=46.2km s-min=21.2km az=55.0*

NOU ***14*** *08:44:18.6, 36˚.94S×177˚.83E, h186km, MLv4.4/15, Off E. Coast of N. Island, N.Z.*

NEIC ***14*** *08:44:22.2±0.6, 37˚.31S±0˚.08×177˚.8E±0˚.1, h182km±7km, mb4.0/9, Error ellipse: s-maj=13.1km s-min=11.3km az=55.0*

WEL ***14*** *08:44:22.7±0.9, 37˚S±4˚×17˚8E±˚, h148km±8km, M3.9/24, ML4.2/19, MLv3.9/24, Error ellipse: s-maj=6.6km s-min=5.4km az=70.0, confirmed*

ISC 14 08:44:21.8±0.7**, 37˚.03S**±0˚.05×**177˚.69E**±0˚.05**, h181**km±5km**, n152, σ1s49**/167**, mb4.0**/10**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.64 219**		P	**Pn**	**08 44 45.8**	**-1.5**
MXZ	**Matakaoa Point**	**0.72 138**			**Pn**	**08 44 46.1**	**-1.7**
MXZ	**Matakaoa Point**	**0.72 138**		P	**Pn**	**08 44 46.0**	**-1.7**
MXZ	**Matakaoa Point**	**0.72 138**		S	**Sn**	**08 45 06.0**	**-1.9**
MXZ	**Matakaoa Point**	**0.72 138**		P	**Pn**	**08 44 46.0**	**-1.7**
MXZ				S	**Sn**	**08 45 05.1**	**-2.7**
HAZ	**Te Kaha**	**0.73 174**		P	**Pn**	**08 44 46.4**	**-1.4**
HAZ				S	**Sn**	**08 45 05.1**	**-2.9**
PKGZ	**Pakihiroa**	**0.89 160**		P	**Pn**	**08 44 48.2**	**-0.6**
RUGZ	**Raukumara Rang**	**0.94 181**		P	**Pn**	**08 44 47.8**	**-1.5**
WMGZ	**Waiomatatini S**	**0.98 144**		P	**Pn**	**08 44 48.5**	**-0.9**
WHRZ	**Whale Island**	**1.01 214**		P	**Pn**	**08 44 50.8**	**+1.1**
PUZ	**Puketiti**	**1.14 157**		P	**Pn**	**08 44 49.8**	**-0.8**
PUZ				S	**Sn**	**08 45 11.1**	**-2.0**
TWGZ	**Tauwhareparae**	**1.17 169**		P	**Pn**	**08 44 51.4**	**+0.4**
OPRZ	**Ohinepanea**	**1.22 228**		P	**Pn**	**08 44 51.8**	**+0.5**
MARZ	**Manawahe**	**1.25 220**		P	**Pn**	**08 44 51.9**	**+0.2**
MARZ				S	**Sn**	**08 45 15.3**	**+0.5**
MWZ	**Matawai**	**1.31 186**		P	**Pn**	**08 44 52.1**	**-0.1**
MWZ				S	**Sn**	**08 45 15.2**	**-0.6**
URZ	**Urewera**	**1.31 200**		P	**Pn**	**08 44 52.1**	**0.0**
	342nm,0.3s,baz=259,slow=4.5,SNR=1914						
URZ				S	**Sn**	**08 45 15.3**	**-0.3**
	365nm,0.3s,baz=258,slow=5.2,SNR=28						
URZ	**Urewera**	**1.31 200**		P	**Pn**	**08 44 52.1**	**0.0**
URZ	**Urewera**	**1.31 200**		P	**Pn**	**08 44 51.8**	**-0.3**
URZ				S	**Sn**	**08 45 15.2**	**-0.5**
EDRZ	**Edgecumbe**	**1.32 215**		P	**Pn**	**08 44 52.6**	**+0.4**
TGRZ	**Tauranga**	**1.34 235**		P	**Pn**	**08 44 52.0**	**-0.4**
TKGZ	**Te Karaka**	**1.42 175**		P	**Pn**	**08 44 53.3**	**+0.3**
TKGZ				S	**Sn**	**08 45 16.9**	**-0.4**
RAGZ	**Rawiri**	**1.48 188**		P	**Pn**	**08 44 54.5**	**+0.7**
RAGZ				S	**Sn**	**08 45 19.3**	**+0.6**
OMRZ	**Omania**	**1.51 224**		P	**Pn**	**08 44 54.5**	**+0.6**
CNGZ	**Carnagh Statio**	**1.51 165**		P	**Pn**	**08 44 54.6**	**+0.7**
KARZ	**Kaharoa**	**1.52 229**		P	**Pn**	**08 44 54.7**	**+0.6**
TARZ	**Mount Tarawera**	**1.53 218**		P	**Pn**	**08 44 56.1**	**+1.8**
KUZ	**Kuaotunu**	**1.61 279**		P	**Pn**	**08 44 52.7**	**-2.1**
KUZ	**Kuaotunu**	**1.61 279**		P	**Pn**	**08 44 52.8**	**-2.0**
KUZ				S	**Sn**	**08 45 16.7**	**-3.6**
RRRZ	**Republican Roa**	**1.61 215**		P	**Pn**	**08 44 55.6**	**+0.6**
KMRZ	**Kaimai**	**1.62 239**		P	**Pn**	**08 44 55.2**	**+0.2**
HLRZ	**Highlands Stat**	**1.62 221**		P	**Pn**	**08 44 54.6**	**-0.4**
MUGZ	**Murupara**	**1.62 207**		P	**Pn**	**08 44 55.3**	**+0.3**
UTU	**Utuhina**	**1.66 226**		P	**Pn**	**08 44 56.8**	**+1.5**
RIGZ	**Rimuhau**	**1.68 178**		P	**Pn**	**08 44 56.1**	**+0.5**
RTZ	**Ruatahuna**	**1.68 199**			**Pn**	**08 44 55.8**	**+0.1**
RTZ				Sn	**Sn**	**08 45 17.8**	**-4.4**
HSRZ	**Hossack Road**	**1.72 221**		P	**Pn**	**08 44 57.7**	**+1.6**
HRRZ	**Handcock Road**	**1.76 219**		P	**Pn**	**08 44 57.7**	**+1.3**
SNGZ	**Shannon Statio**	**1.77 189**		P	**Pn**	**08 44 57.0**	**+0.4**
PRRZ	**Plateau Road**	**1.80 215**		P	**Pn**	**08 44 57.4**	**+0.6**
GRRZ	**Galatos Road**	**1.82 223**		P	**Pn**	**08 44 58.4**	**+1.3**
ALRZ	**Allen Road**	**1.87 214**		P	**Pn**	**08 44 58.2**	**+0.7**
TOZ	**Tahuroa Road**	**1.88 247**			**Pn**	**08 44 58.0**	**+0.3**
TOZ	**Tahuroa Road**	**1.88 247**		P	**Pn**	**08 44 58.0**	**+0.3**
PRGZ	**Paritu Road**	**1.90 176**		P	**Pn**	**08 44 58.2**	**+0.3**
WPRZ	**Whakapapatarin**	**1.92 219**		P	**Pn**	**08 44 59.6**	**+1.5**
MTHZ	**Maungataniwha**	**1.94 200**		P	**Pn**	**08 44 58.5**	**+0.1**
RAHZ	**Arahi**	**1.95 194**		P	**Pn**	**08 44 59.1**	**+0.8**
GRZ	**Great Barrier**	**1.96 293**		P	**Pn**	**08 44 56.0**	**-2.5**
KNZ	**Kokohu**	**1.99 180**		P	**Pn**	**08 44 59.0**	**+0.3**
WIAZ	**Waiheke Island**	**2.06 276**		P	**Pn**	**08 44 58.6**	**-1.0**
MRHZ	**Matea Rd**	**2.07 205**		P	**Pn**	**08 44 60.0**	**+0.3**
WHHZ	**Waihua**	**2.08 190**		P	**Pn**	**08 44 59.5**	**+0.7**
KUTZ	**Kaahu Road**	**2.08 225**		P	**Pn**	**08 45 01.3**	**+1.5**
MHGZ	**Mahia Peninsul**	**2.13 176**		P	**Pn**	**08 45 01.1**	**+0.8**
TLZ	**Tolley Road**	**2.15 232**		P	**Pn**	**08 45 01.9**	**+1.3**
NMHZ	**Naumai**	**2.18 198**		P	**Pn**	**08 45 02.1**	**+1.1**
ETAZ	**East Tamaki Re**	**2.22 271**		P	**Pn**	**08 45 00.9**	**-0.4**
MBAZ	**Motutapu North**	**2.26 276**		P	**Pn**	**08 45 01.0**	**-0.7**
ARHZ	**Aropaoanui**	**2.30 194**		P	**Pn**	**08 45 03.0**	**+0.8**
ARHZ				S	**Sn**	**08 45 35.6**	**+1.9**
ABAZ	**Army Bay**	**2.33 280**		P	**Pn**	**08 45 01.8**	**-0.9**
BKZ	**Black Stump Fm**	**2.34 204**			**Pn**	**08 45 03.1**	**+0.3**
BKZ	**Black Stump Fm**	**2.34 204**		P	**Pn**	**08 45 03.0**	**+0.3**
BKZ	**Black Stump Fm**	**2.34 204**		P	**Sn**	**08 45 35.0**	**+0.4**
BKZ	**Black Stump Fm**	**2.34 204**		P	**Pn**	**08 45 02.7**	**0.0**
BKZ				S	**Sn**	**08 45 34.9**	**+0.3**
EPAZ	**Eden Park BICE**	**2.37 273**		P	**Pn**	**08 45 03.0**	**0.0**
HBAZ	**Herne Bay Bore**	**2.38 273**		P	**Pn**	**08 45 03.0**	**-0.1**
RATZ	**Rangitukua**	**2.38 219**		P	**Pn**	**08 45 05.0**	**+1.8**
AWAZ	**Awhitu Peninsu**	**2.44 268**		P	**Pn**	**08 45 03.8**	**0.0**
WTAZ	**Waiatarua**	**2.50 271**		P	**Pn**	**08 45 04.6**	**0.0**
KATZ	**Kakaramea**	**2.51 218**		P	**Pn**	**08 45 06.7**	**+1.9**
RVAZ	**Riverhead Bore**	**2.51 275**		P	**Pn**	**08 45 04.2**	**-0.4**
MCHZ	**McNeill Hill**	**2.54 198**		P	**Pn**	**08 45 05.6**	**+0.7**
KWHZ	**Kaweka Forest**	**2.59 202**		P	**Pn**	**08 45 06.0**	**+0.3**
NTVZ	**North Tongarir**	**2.61 217**		P	**Pn**	**08 45 07.0**	**+1.1**
TMVZ	**Te Maari**	**2.61 216**		P	**Pn**	**08 45 06.9**	**+0.9**
ETVZ	**East Tongariro**	**2.62 216**		P	**Pn**	**08 45 06.9**	**+0.8**
ETVZ				S	**Sn**	**08 45 41.8**	**+1.1**
KRVZ	**Karewarewa**	**2.62 217**		P	**Pn**	**08 45 07.2**	**+1.1**
WTVZ	**West Tongariro**	**2.67 218**		P	**Pn**	**08 45 07.6**	**+1.0**
NNVZ	**North Ngauruho**	**2.67 217**		P	**Pn**	**08 45 07.7**	**+1.1**
OTVZ	**Oturere**	**2.67 216**		P	**Pn**	**08 45 07.5**	**+0.9**
CKHZ	**Cape Kidnapper**	**2.67 190**		P	**Pn**	**08 45 06.8**	**+0.3**
CKHZ				S	**Sn**	**08 45 41.9**	**+0.5**
HIZ	**Hauiti**	**2.69 236**			**Pn**	**08 45 09.0**	**+2.2**
SNVZ	**South Ngauruho**	**2.70 216**		P	**Pn**	**08 45 08.0**	**+1.0**
SNVZ				S	**Sn**	**08 45 43.3**	**+1.1**
NGZ	**Ngauruhoe**	**2.71 217**		P	**Pn**	**08 45 08.2**	**+1.1**
TWVZ	**Taurewa**	**2.71 220**		P	**Pn**	**08 45 08.3**	**+1.2**
TWVZ				S	**Sn**	**08 45 43.8**	**+1.4**
TUVZ	**Tukino**	**2.76 215**		P	**Pn**	**08 45 08.6**	**+0.9**
FWVZ	**Far West T-bar**	**2.79 217**		P	**Pn**	**08 45 08.9**	**+0.7**
WHVZ	**Whangaehu Hut**	**2.80 216**		P	**Pn**	**08 45 08.8**	**+0.5**
MAVZ	**Matarangi**	**2.80 216**		P	**Pn**	**08 45 09.1**	**+0.7**
KRHZ	**Kereru**	**2.81 201**		P	**Pn**	**08 45 08.0**	**-0.2**
MOVZ	**Moawhango**	**2.83 212**		P	**Pn**	**08 45 08.4**	**-0.1**
TRVZ	**Turoa**	**2.83 216**		P	**Pn**	**08 45 09.3**	**+0.6**
WNVZ	**Wahianoa**	**2.83 215**		P	**Pn**	**08 45 09.0**	**+0.4**
KAHZ	**Kahuranaki**	**2.84 193**		P	**Pn**	**08 45 08.9**	**+0.4**
WCZ	**Waipu Caves**	**2.91 291**		P	**Pn**	**08 45 07.2**	**-2.1**
PXZ	**Pawanui**	**3.07 192**		P	**Pn**	**08 45 11.1**	**-0.2**
PNHZ	**Pukenui**	**3.11 202**		P	**Pn**	**08 45 11.4**	**-0.5**
KHEZ	**Kahui Hut**	**3.68 231**		P	**Pn**	**08 45 18.0**	**-0.9**
OUZ	**Omahuta**	**3.77 297**		P	**Pn**	**08 45 18.2**	**-1.9**
OUZ	**Omahuta**	**3.77 297**		P	**Pn**	**08 45 18.0**	**-2.1**
BFZ	**Birch Farm**	**3.82 197**			**Pn**	**08 45 20.0**	**-0.6**
BFZ	**Birch Farm**	**3.82 197**		P	**Pn**	**08 45 20.0**	**-0.6**
MRZ	**Mangatainoka R**	**3.99 204**			**Pn**	**08 45 21.8**	**-0.9**
MSWZ	**Moikau Station**	**4.78 203**		Pn	**Pn**	**08 45 31.3**	**-1.5**
MSWZ				Sn	**Sn**	**08 46 25.8**	**-2.9**
SNZO	**South Karori**	**4.87 208**		Pn	**Pn**	**08 45 32.1**	**-1.9**
SNZO				Sn	**Sn**	**08 46 27.8**	**-2.9**
SNZO	**South Karori**	**4.87 208**		P	**Pn**	**08 45 32.0**	**-1.9**
BHW	**Baring Head**	**4.89 206**		Pn	**Pn**	**08 45 32.4**	**-1.9**
BHW				Sn	**Sn**	**08 46 29.5**	**-1.9**
PLWZ	**Palliser**	**4.92 202**		Pn	**Pn**	**08 45 32.4**	**-2.3**
TCW	**Tory Channel**	**4.95 211**			**Pn**	**08 45 33.2**	**-1.9**
TUWZ	**Tuamarina**	**5.27 212**			**Pn**	**08 45 38.1**	**-1.1**
TKNZ	**Takaka Hill**	**5.44 221**		Pn	**Pn**	**08 45 39.9**	**-1.6**
QRZ	**Quartz Range**	**5.53 225**		Pn	**Pn**	**08 45 40.8**	**-1.9**
QRZ	**Quartz Range**	**5.53 225**		P	**Pn**	**08 45 40.7**	**-1.9**

MRNZ	**Matariki Terra**	**5.81 220**		Pn	**Pn**	**08 45 44.6**	**-1.7**
THZ	**Tophouse**	**6.01 217**		Pn	**Pn**	**08 45 47.4**	**-1.5**
KHZ	**Kahutara**	**6.26 209**		Pn	**Pn**	**08 45 50.1**	**-2.1**
KHZ	**Kahutara**	**6.26 209**		P	**Pn**	**08 45 49.8**	**-2.4**
GVZ	**Greta Valley S**	**6.93 210**		Pn	**Pn**	**08 45 58.1**	**-2.9**
LTZ	**Lake Taylor**	**7.10 214**		Pn	**Pn**	**08 46 00.8**	**-2.4**
MQZ	**McQueen's Vall**	**7.70 208**			**Pn**	**08 46 08.0**	**-3.0**
RPZ	**Rata Peaks**	**8.38 215**		P	**Pn**	**08 46 18.1**	**-1.9**
	5.6nm,0.3s,baz=230,slow=1.6,SNR=18						
RPZ				S	**Sn**	**08 47 47.7**	**-6.2**
	13nm,0.4s,baz=333,slow=20,SNR=11						
RPZ	**Rata Peaks**	**8.38 215**		P	**Pn**	**08 46 18.2**	**-1.9**
LBZ	**Lake Benmore**	**9.30 215**		Pn	**Pn**	**08 46 30.1**	**-2.0**
ODZ	**Otahua Downs**	**9.62 211**		Pn	**Pn**	**08 46 34.1**	**-2.1**
ODZ	**Otahua Downs**	**9.62 211**		P	**Pn**	**08 46 33.7**	**-2.5**
RAR	**Rarotonga**	**25.12 57**		P	**P**	**08 49 29.8**	**-0.4**
COEN	**Coen**	**38.38 298**		P	**P**	**08 51 27.2**	**+1.5**
AS31	**Alice Springs**	**39.73 277**		P	**P**	**08 51 38.0**	**+1.1**
AS31				IAmb	IAmb	08 51 42.8	
	comp=Z,1.4nm,0.9s						
ASAR	**Alice Springs**	**39.73 277**		P	**P**	**08 51 38.9**	**+1.9**
ASAR	**Alice Springs**	**39.73 277**		P	**P**	**08 51 38.6**	**+1.7**
	comp=Z,1.8nm,0.8s,baz=122,slow=8.3,SNR=8.5						
ASAR				PcP	**PcP**	**08 53 39.3**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=120,slow=3.6,SNR=2.0						
	comp=Z,1.8nm,0.8s						
SBA	**Scott Base**	**41.20 183**		P	**P**	**08 51 45.8**	**-2.4**
FORT	**Forrest**	**41.29 264**		P	**P**	**08 51 50.1**	**+0.6**
FORT				IAmb	IAmb	08 52 07.2	
	comp=Z,6.8nm,1.1s						
WRAB	**Tennant Creek**	**41.34 282**		P	**P**	**08 51 50.8**	**+0.7**
WRAB				IAmb	IAmb	08 52 14.4	
	comp=Z,10.0nm,1.1s						
WRA	**Warramunga Arr**	**41.34 282**		P	**P**	**08 51 51.5**	**+1.3**
WRA	**Warramunga Arr**	**41.34 282**		P	**P**	**08 51 51.1**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=120,slow=7.8,SNR=7.7						
WRA				PcP	**PcP**	**08 53 44.5**	**-0.5**
	comp=Z,1.1nm,1.1s,baz=130,slow=2.9,SNR=1.3				

λ7.60000°. NP2:φ$_s$32.10000°,δ82.70000°,λ163.90000°.
NEIC **14** 09:10:51.5±1.8,0.59S±0.07×128.03E±0.07,h19^{km}±3^{km}, mb6.5/197,Ms_20 7.4/885,Mwb7.1/57,Mww7.2/40 Error ellipse: s-maj=11.0km s-min=8.3km az=225.0,Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}0.19; $M_{\theta\theta}$5.31; $M_{\phi\phi}$-5.50; $M_{r\theta}$-0.14; $M_{r\phi}$ 1.62; $M_{\theta r}$-0.28; Fault plane solution: M_o5.65000×10^{19} NP1: φ$_s$306.66000°,δ86.88000°,λ-0.42000°. NP2:φ$_s$36.68000°, δ89.59000°,λ-176.88000°. Principal axes: T 5.5528, Plg2.0000°, Azm172.0000°; N 0.1982, Plg87.0000°, Azm44.0000°; P -5.7511, Plg2.0000°, Azm262.0000°;
NEIC **14** 09:10:51.8,0.53S×128.06E,h18^{km}
DJA **14** 09:10:51.2±0.5,1.1S±1.2×128.8E±.1,h17^{km}±4^{km},M7.1/144, mB7.1/140,mb6.4/144,MLv7.0/24,Mw7.2/69, Mw(mB)7.1/140,MwMwp7.0/134,Mwp6.8/134
MOS **14** 09:10:51.5±3.7,0.60S×128.00E,h10^{km},mb6.3/48, MS7.0/45,Error ellipse: s-maj=10.3km s-min=4.1km az=66.6 Broadband fault plane solution: P waves. NP1: φ$_s$138.00000°,δ65.00000°,λ9.00000°. NP2:φ$_s$44.00000°, δ82.00000°,λ155.00000°. Principal axes: T Plg23.0000°, Azm358.0000°; N Plg64.0000°, Azm207.0000°; P Plg11.0000°, Azm93.0000°;
GCMT **14** 09:11:04.6±0.1,0.72S×128.13E,h12^{km},MW7.2/175, Moment Tensor Solution. s175,c461; s175,c881; Duration: 96 Moment tensor: Scale 10^{20}Nm; M_{rr}-0.07±.00; $M_{\theta\theta}$0.73±.00; $M_{\phi\phi}$ -0.66±.00; $M_{r\theta}$0.06±.01; $M_{\theta\phi}$0.28±.00; $M_{r\phi}$0.06±.01; Best double couple: M_o0.75900×10^{20} NP1:φ$_s$124.00000°,δ84.00000°, λ0.00000°. NP2:φ$_s$34.00000°,δ90.00000°,λ174.00000°. Principal axes: T 0.7960, Plg5.0000°, Azm349.0000°; N -0.0740, Plg84.0000°, Azm211.0000°; P -0.7220, Plg4.0000°, Azm79.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s. Triangular moment-rate function
ISC 14 09:10:51.0±0.4,**0.61S**±0.02×**128.10E**±0.03,**h14**^{km}±2^{km}, **h14**^{km}:**pP-P,n2130,**σ2**31**/2018,**mb6.3**/289,**MS7.3**/608, **129C-68D,Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
TNTI	**Ternate**	**1.56**	**332**			**Pn**	**09 11 16.5**	**-1.8**
TNTI	**Ternate**	**1.56**	**332**	P		**Pn**	**09 11 16.8**	**-1.5**
TNTI	**Ternate**	**1.56**	**332**	↑P		**Pn**	**09 11 16.9**	**-1.4**
SANI	**Sanana**	**2.54**	**236**	P		**Pn**	**09 11 32.9**	**+1.0**
SANI	**Sanana**	**2.54**	**236**	P		**Pn**	**09 11 30.6**	**-1.3**
SANI	**Sanana**	**2.54**	**236**	P		**Pn**	**09 11 28.9**	**-3.0**
SANI	**Sanana**	**2.54**	**236**	↓P		**Pn**	**09 11 28.4**	**-3.5**
NLAI	**Namlea**	**2.79**	**201**	P		**Pn**	**09 11 33.1**	**-2.2**
MSAI	**Masohi**	**2.80**	**163**	P		**Pn**	**09 11 36.0**	**0.0**
AAI	**Ambon**	**3.06**	**178**	P		**Pn**	**09 11 38.2**	**-0.7**
SWI	**Sorong**	**3.17**	**95**	P		**Pn**	**09 11 39.7**	**-0.8**
KMSI	**Cibinong**	**4.28**	**286**	P		**Pn**	**09 11 53.8**	**-2.0**
BNDI	**Bandanaira**	**4.28**	**155**	P		**Pn**	**09 11 57.7**	**+1.9**
BNDI	**Bandanaira**	**4.28**	**155**	P		**Pn**	**09 11 56.8**	**+1.0**
BNDI	**Bandanaira**	**4.28**	**155**	↑P		**Pn**	**09 11 55.6**	**-0.2**
FAKI	**Fak Fak**	**4.74**	**119**	P		**Pn**	**09 12 01.2**	**-0.9**
FAKI	**Fak Fak**	**4.74**	**119**	P		**Pn**	**09 12 00.9**	**-1.2**
FAKI	**Fak Fak**	**4.74**	**119**	↓P		**Pn**	**09 12 00.5**	**-1.7**
SGSI	**Sangihe**	**4.98**	**329**	P		**Pn**	**09 12 04.2**	**-1.2**
LUWI	**Luwuk**	**5.34**	**265**	P		**Pn**	**09 12 08.1**	**-2.3**
	204nm256µm13µm,1.1s							
RKPI	**Ransiki, Papua**	**6.15**	**98**	P		**Pn**	**09 12 21.9**	**+0.4**
	152nm5µm,0.6s							
MRSI	**Marisa**	**6.25**	**280**	P		**Pn**	**09 12 19.8**	**-3.1**
	27nm108µm5µm,0.9s							
KMPI	**Kaimana, Papua**	**6.37**	**118**	P		**Pn**	**09 12 24.1**	**-0.4**
KDI	**Kendari**	**6.40**	**239**	P		**Pn**	**09 12 26.5**	**+1.5**
APSI	**Ampana**	**6.45**	**267**	P		**Pn**	**09 12 23.8**	**-1.9**
BBSI	**Bau Bau**	**7.34**	**229**	P		**Pn**	**09 12 39.8**	**+1.9**
	54nm228µm10µm,2.1s							
TOLI2	**Tolitoli**	**7.51**	**283**			**Pn**	**09 12 38.6**	**-1.6**
TOLI2	**Tolitoli**	**7.51**	**283**	P		**Pn**	**09 12 39.5**	**-0.7**
SAUI	**Saumlaki**	**7.99**	**157**			**Pn**	**09 12 46.1**	**-0.6**
SAUI	**Saumlaki**	**7.99**	**157**	P		**Pn**	**09 12 46.8**	**0.0**
SAUI	**Saumlaki**	**7.99**	**157**	P		**Pn**	**09 12 45.7**	**-1.1**
SAUI	**Saumlaki**	**7.99**	**157**	↑P		**Pn**	**09 12 46.3**	**-0.5**
BAKI	**Biak**	**8.03**	**94**	P		**Pn**	**09 12 48.8**	**+1.4**
	159µm3µm,1.6s							
DAV	**Davao City (W)**	**8.03**	**342**			**Pn**	**09 12 46.9**	**-0.5**
DAV	**Davao City (W)**	**8.03**	**342**	Pn		**Pn**	**09 12 48.8**	**+1.4**
	72nm,0.3s,baz=243,slow=5.0,SNR=12							
DAV				Sn		Sn	09 14 30.4	+12
	23nm,0.3s,baz=90,slow=22,SNR=1.4							
DAV	**Davao City (W)**	**8.03**	**342**	P		**Pn**	**09 12 50.0**	**+2.6**
DAV	**Davao City (W)**	**8.03**	**342**	P		**Pn**	**09 12 46.9**	**-0.5**
DAV				P		**Pn**	**09 12 46.9**	**-0.5**
DAV				P		**Pn**	**09 12 46.9**	**-0.5**
DAV	**Davao City (W)**	**8.03**	**342**	P		**Pn**	**09 12 47.9**	**+0.5**
DAV	**Davao City (W)**	**8.03**	**342**	↑P		**Pn**	**09 12 48.0**	**+0.6**
DAV	**Davao City (W)**	**8.03**	**342**	P		**Pn**	**09 12 47.8**	**+0.5**
SRPI	**Serui, Papua**	**8.24**	**99**	P		**Pn**	**09 12 50.5**	**+0.3**
	94µm1µm,0.8s							
MPSI	**Mapaga**	**8.25**	**277**	P		**Pn**	**09 12 49.5**	**-0.9**
	104µm2µm,1.6s							
PCI	**Palu**	**8.26**	**268**	P		**Pn**	**09 12 49.8**	**-0.8**
TTSI	**Tana Toraja**	**8.62**	**254**	P		**Pn**	**09 12 54.1**	**-1.3**
	99µm5µm,1.1s							
BNSI	**Bone**	**8.82**	**245**	P		**Pn**	**09 12 58.2**	**0.0**
	93µm3µm,1.2s							
SPSI	**Sidrap Palu**	**8.96**	**248**	P		**Pn**	**09 12 59.7**	**-0.4**
BKSI	**Bulukumba**	**9.23**	**239**	P		**Pn**	**09 13 03.7**	**-0.1**
BSSI	**Bau Bau, Buton**	**9.37**	**234**	P		**Pn**	**09 13 06.4**	**+0.7**
	146µm7µm,2.1s							
KAPI	**Kappang**	**9.41**	**242**			**Pn**	**09 13 08.1**	**+1.8**
KAPI	**Kappang**	**9.41**	**242**	Pn		**Pn**	**09 13 06.0**	**-0.3**
	72nm,0.3s,baz=54,slow=7.8,SNR=96							
KAPI				Sn		**Sn**	**09 14 52.6**	**+0.6**
	baz=242,slow=23							
KAPI				LR		LR	09 16 59.6	
	comp=Z,730µm,20.9s,baz=66,slow=41							
KAPI	**Kappang**	**9.41**	**242**	P		**Pn**	**09 13 08.8**	**+2.5**
KAPI				P		**Pn**	**09 13 08.8**	**+2.5**
KAPI				P		**Pn**	**09 13 08.8**	**+2.5**
KAPI	**Kappang**	**9.41**	**242**	P		**Pn**	**09 13 07.5**	**+1.2**
KAPI	**Kappang**	**9.41**	**242**	*i* P		**Pn**	**09 13 06.0**	**-0.3**
KAPI				MLR		MLR		
	comp=Z,467µm,16.0s							
KAPI	**Kappang**	**9.41**	**242**	↑P		**Pn**	**09 13 06.4**	**+0.1**
KAPI	**Kappang**	**9.41**	**242**	P		**Pn**	**09 13 04.8**	**-1.5**
KAPI				S		**Sn**	**09 14 50.9**	**-1.1**
SOEI	**Soe**	**9.85**	**203**	P		**Pn**	**09 13 15.1**	**+2.7**
SOEI	**Soe**	**9.85**	**203**			**Pn**	**09 13 15.5**	**+3.0**
SOEI	**Soe**	**9.85**	**203**	P		**Pn**	**09 13 13.7**	**+1.3**
SOEI	**Soe**	**9.85**	**203**	P		**Pn**	**09 13 14.2**	**+1.8**
	comp=Z,4µm,1.3s							
SOEI	**Soe**	**9.85**	**203**	↑P		**Pn**	**09 13 14.9**	**+2.5**
MMRI	**Maumere**	**9.88**	**216**			**Pn**	**09 13 14.3**	**+1.6**
MMRI	**Maumere**	**9.88**	**216**	P		**Pn**	**09 13 14.7**	**+2.0**
MMRI	**Maumere**	**9.88**	**216**	P		**Pn**	**09 13 13.6**	**+0.9**
	comp=Z,934µmcomp=Z,90µmcomp=Z,3µm,1.3s							
MMRI	**Maumere**	**9.88**	**216**	↑P		**Pn**	**09 13 13.2**	**+0.5**
EDFI	**Ende, Flores**	**10.30**	**218**	P		**Pn**	**09 13 19.2**	**+0.6**
	comp=Z,899µmcomp=Z,73µmcomp=Z,3µm,1.6s							
BATI	**Baumata**	**10.50**	**205**	Pn		**Pn**	**09 13 24.8**	**+3.6**
	comp=Z,8.9nm,0.3s,baz=225,slow=1.8,SNR=15							
BATI				LR		LR	09 17 35.0	
	comp=Z,2025µm,21.0s,baz=26,slow=40							
BATI	**Baumata**	**10.50**	**205**	P		**Pn**	**09 13 22.7**	**+1.4**
	comp=Z,87µmcomp=Z,2µm,1.0s							
SMPI	**Sarmi**	**10.70**	**97**	P		**Pn**	**09 13 25.0**	**+1.0**
	comp=Z,115µmcomp=Z,1µm,1.4s							
SMKI	**Samarinda**	**10.89**	**271**	P		**Pn**	**09 13 26.4**	**-0.2**
	comp=Z,77µmcomp=Z,2µm,1.2s							
MYLDM	**Lahad Datu**	**11.18**	**301**			**Pn**	**09 13 29.5**	**-1.0**
MYLDM	**Lahad Datu**	**11.18**	**301**	↑P		**Pn**	**09 13 30.4**	**-0.1**
BKB	**Balikpapan**	**11.22**	**267**	Pn		**Pn**	**09 13 31.6**	**+0.6**
BKB	**Balikpapan**	**11.22**	**267**	P		**Pn**	**09 13 30.5**	**-0.5**
BKB	**Balikpapan**	**11.22**	**267**	P		**Pn**	**09 13 31.4**	**+0.4**
	comp=Z,78µmcomp=Z,4µm,0.9s							
WSI	**Waingapu**	**11.88**	**221**	P		**Pn**	**09 13 42.1**	**+2.0**
DRS	**Darwin Rock St**	**12.07**	**167**	P		**Pn**	**09 13 39.9**	**-2.8**
BASI	**Baing, Sumba**	**12.12**	**218**	P		**Pn**	**09 13 45.4**	**+1.9**
GENI	**Genyem**	**12.23**	**99**	P		**Pn**	**09 13 46.7**	**+1.8**
GENI	**Genyem**	**12.23**	**99**	P		**Pn**	**09 13 45.6**	**+0.7**
	comp=Z,141µmcomp=Z,5µm,1.3s							
GENI	**Genyem**	**12.23**	**99**	↓P		**Pn**	**09 13 45.4**	**+0.5**
WBSI	**Waikabubak, Su**	**12.47**	**224**	P		**Pn**	**09 13 49.2**	**+1.0**
	comp=Z,101µmcomp=Z,4µm,1.5s							
MTN	**Manton Dam**	**12.52**	**166**			**Pn**	**09 13 46.0**	**-2.8**
MTN	**Manton Dam**	**12.52**	**166**	P		**Pn**	**09 13 46.3**	**-2.6**
MTN	**Manton Dam**	**12.52**	**166**	↓P		**Pn**	**09 13 46.6**	**-2.3**
JAY	**Jayapura**	**12.74**	**99**	Pn		**Pn**	**09 13 56.2**	**+4.2**
	comp=Z,3.0nm,0.3s,baz=240,slow=8.3,SNR=20							
JAY				Sn		Sn	09 16 24.0	+10
	comp=Z,2.4nm,0.3s,baz=332,slow=18,SNR=1.4							
JAY				LR		LR	09 20 04.3	
	comp=Z,4073µm,21.5s,baz=294,slow=43 comp=Z,65nm,1.1s							
JAY	**Jayapura**	**12.74**	**99**	P		**Pn**	**09 13 53.3**	**+1.3**
	comp=Z,56µmcomp=Z,966nm,1.1s							
KDU	**Kakadu**	**12.76**	**160**	P		**Pn**	**09 13 49.4**	**-2.7**
KDU	**Kakadu**	**12.76**	**160**	↑P		**Pn**	**09 13 47.9**	**-4.3**
PLAI	**Plampang**	**13.12**	**231**	P		**Pn**	**09 13 58.1**	**+1.0**
PLAI	**Plampang**	**13.12**	**231**	P		**Pn**	**09 14 00.7**	**+3.6**
	comp=Z,107µmcomp=Z,5µm,1.1s							
KKM	**Kota Kinabalu**	**13.58**	**299**			**Pn**	**09 14 00.7**	**-2.8**
KKM	**Kota Kinabalu**	**13.58**	**299**	P		**Pn**	**09 14 02.9**	**-0.6**
KKM	**Kota Kinabalu**	**13.58**	**299**	↑P		**Pn**	**09 14 01.6**	**-1.9**
TWSI	**Taliwang, Sumb**	**13.78**	**234**	P		**Pn**	**09 14 08.7**	**+2.6**
	comp=Z,68µmcomp=Z,2µm,1.0s							
SRBI	**Singaraja**	**14.83**	**240**	P		**Pn**	**09 14 21.7**	**+1.2**
	comp=Z,82µmcomp=Z,2µm,1.1s							
KNRA	**Kununurra**	**14.98**	**178**			**Pn**	**09 14 19.4**	**-3.2**
KNRA					IAmb	IAmb	09 14 28.2	
	comp=Z,1µm,0.9s							
KMMI	**Kalianget**	**15.47**	**245**	P		**Pn**	**09 14 30.5**	**+1.5**
	comp=Z,118µmcomp=Z,2µm,2.0s							
ABJI	**Asem Bagus**	**15.55**	**242**	P		**P**	**09 14 32.9**	**-1.4**
	comp=Z,110µmcomp=Z,3µm,1.6s							
JAGI	**Jajag, Banyuwa**	**15.93**	**240**			**Pn**	**09 14 36.4**	**+1.5**
JAGI	**Jajag, Banyuwa**	**15.93**	**240**	P		**Pn**	**09 14 36.6**	**+1.6**
JAGI	**Jajag, Banyuwa**	**15.93**	**240**	P		**P**	**09 14 37.2**	**-1.4**
	comp=Z,126µmcomp=Z,4µm,1.6s							
JAGI	**Jajag, Banyuwa**	**15.93**	**240**	↑P		**P**	**09 14 37.5**	**-1.0**
SBUM	**Sibu**	**16.16**	**281**	Pn		**Pn**	**09 14 34.9**	**-3.1**
SBUM	**Sibu**	**16.16**	**281**	P		**Pn**	**09 14 34.4**	**-3.5**
SBUM	**Sibu**	**16.16**	**281**	↑P		**Pn**	**09 14 34.5**	**-3.4**
TGY	**Tagaytay City**	**16.25**	**334**	Pn		**Pn**	**09 14 36.8**	**-2.2**
	comp=Z,58nm,0.3s,baz=250,slow=4.7,SNR=12 comp=Z,367nm,0.8s							
BWJI	**Bawean**	**16.26**	**251**	P		**Pn**	**09 14 40.3**	**+1.1**
	comp=Z,103µmcomp=Z,5µm,1.5s							
GMJI	**Gumukmas**	**16.46**	**242**	P		**P**	**09 14 44.2**	**-0.2**
	comp=Z,6µm,1.3s							
STKI	**Sintang**	**16.63**	**272**	P		**Pn**	**09 14 42.1**	**-1.8**
	comp=Z,902µmcomp=Z,65µmcomp=Z,2µm,1.4s							
GRJI	**Gresik**	**16.79**	**248**	P		**P**	**09 14 48.0**	**0.0**
	comp=Z,114µmcomp=Z,5µm,1.5s							
TBJI	**Tambak Boyo**	**17.34**	**249**	P		**P**	**09 14 55.9**	**+1.8**
	comp=Z,166µmcomp=Z,5µm,1.8s							
FITZ	**Fitzroy Crossi**	**17.54**	**188**	P		**Pn**	**09 14 54.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**17.54**	**188**	P		**Pn**	**09 14 52.4**	**-2.9**
	comp=Z,3.4nm,0.3s,baz=22,slow=9.4,SNR=25							
FITZ				S		**Sn**	**09 18 09.6**	**-1.1**
	comp=Z,200nm,0.9s,baz=94,slow=16,SNR=1.6							
FITZ				LR		LR	09 22 29.1	
	comp=Z,703µm,20.4s,baz=16,slow=40 comp=Z,123nm,0.8s							
FITZ	**Fitzroy Crossi**	**17.54**	**188**	P		**Pn**	**09 14 53.2**	**-2.1**
FITZ	**Fitzroy Crossi**	**17.54**	**188**	↑P		**Pn**	**09 14 50.6**	**-4.7**
NGJI	**Ngawi**	**17.89**	**248**	P		**P**	**09 15 02.4**	**+2.1**
	comp=Z,4µm,1.9s							
KSM	**Kuching**	**17.91**	**277**	P		**Pn**	**09 14 56.9**	**-3.0**
KSM	**Kuching**	**17.91**	**277**	P		**Pn**	**09 14 58.8**	**-1.1**
PCJI	**Pacitan**	**18.46**	**245**	P		**Pn**	**09 15 08.1**	**+1.4**
	comp=Z,876µmcomp=Z,124µmcomp=Z,4µm,1.7s							
WOJI	**Wonogiri, Jawa**	**18.56**	**247**	P		**Pn**	**09 15 08.9**	**+1.1**
	comp=Z,970µmcomp=Z,135µmcomp=Z,4µm,1.6s							
SMRI	**Semarang**	**18.73**	**250**	P		**Pn**	**09 15 11.0**	**+1.0**
SMRI	**Semarang**	**18.73**	**250**	P		**Pn**	**09 15 10.4**	**+0.4**
SMRI	**Semarang**	**18.73**	**250**	P		**Pn**	**09 15 11.5**	**+1.5**
	comp=Z,2µm,1.6s							
SMRI	**Semarang**	**18.73**	**250**	↑P		**Pn**	**09 15 11.4**	**+1.4**
UGM	**Wanagama**	**18.95**	**247**	P		**P**	**09 15 11.8**	**-0.2**
UGM					IAmb	IAmb	09 15 20.3	
	comp=Z,7µm,2.6s							
UGM	**Wanagama**	**18.95**	**247**	P		**Pn**	**09 15 12.7**	**0.0**
UGM	**Wanagama**	**18.95**	**247**	P		**Pn**	**09 15 13.7**	**+1.0**
	comp=Z,616µmcomp=Z,141µmcomp=Z,3µm,2.4s							
MANU	**Manus Island**	**19.32**	**94**	P		**P**	**09 15 16.1**	**+0.1**
MANU	**Manus Island**	**19.32**	**94**	↓P		**Pn**	**09 15 17.3**	**+0.3**
SZP	**Santa**	**19.55**	**338**	P		**Pn**	**09 15 19.3**	**-0.5**
COEN	**Coen**	**19.96**	**132**	P		**P**	**09 15 21.3**	**-1.8**
COEN					IAmb	IAmb	09 15 28.3	
	comp=Z,3µm,1.2s							
COEN	**Coen**	**19.96**	**132**	P		**P**	**09 15 22.1**	**-0.9**
COEN	**Coen**	**19.96**	**132**	↓P		**P**	**09 15 21.8**	**-1.3**
WRAB	**Tennant Creek**	**20.16**	**163**	*i* P		**P**	**09 15 23.4**	**-1.7**
WRAB					pmax	pmax		
	comp=Z,2µm,1.0s							
WRAB					MLR	MLR		
	comp=Z,1031µm,18.0s							
WRA	**Warramunga Arr**	**20.16**	**163**	P		**P**	**09 15 23.0**	**-2.1**
WRA	**Warramunga Arr**	**20.16**	**163**	P		**P**	**09 15 23.3**	**-1.9**
	comp=Z,264nm,0.8s,baz=349,slow=9.1,SNR=47							
WRA				S		**S**	**09 19 06.0**	**-5.3**
	comp=Z,513nm,1.1s,baz=341,slow=23,SNR=6.7							
WRA				LR		LR	09 24 33.5	
	comp=Z,1335µm,20.1s,baz=347,slow=41 comp=Z,264nm,0.8s							
TPI	**Tanjungpandan**	**20.54**	**264**	P		**P**	**09 15 28.4**	**-1.0**
	comp=Z,571µmcomp=Z,59µmcomp=Z,2µm,1.2s							
JCJI	**Jatiwangi**	**20.62**	**253**	P		Pn	09 15 33.8	+1.3
	comp=Z,624µmcomp=Z,7µm,2.3s							
CMJI	**Cimerak**	**20.84**	**249**	P		**P**	**09 15 32.1**	**-0.4**
	comp=Z,508µmcomp=Z,59µmcomp=Z,4µm,1.0s							
LEM	**Lembang**	**21.34**	**253**	P		**P**	**09 15 38.9**	**+0.8**
	comp=Z,648nm,0.8s,baz=60,slow=11,SNR=34							
LEM	**Lembang**	**21.34**	**253**	P		**P**	**09 15 39.0**	**+0.8**
	comp=Z,498µmcomp=Z,124µmcomp=Z,2µm,0.9s							
BBJI	**Bungbulang**	**21.49**	**251**	P		**P**	**09 15 39.6**	**0.0**
GUMO	**Guam**	**21.80**	**49**	P		**P**	**09 15 45.6**	**+2.7**
	comp=Z,429nm,1.0s,baz=183,slow=7.5,SNR=15 comp=Z,429nm,1.0s							
GUMO	**Guam**	**21.80**	**49**	P		**P**	**09 15 44.5**	**+1.6**
GUMO	**Guam**	**21.80**	**49**	P		**P**	**09 15 42.9**	**0.0**
GUMO					pmax	pmax		
	comp=Z,2µm,1.2s							
GUMO					MLR	MLR		
	comp=Z,468µm,20.0s							
GUMO	**Guam**	**21.80**	**49**	↓P		**P**	**09 15 47.6**	**+4.7**
CNJI	**Cibinong**	**21.94**	**252**	P		**P**	**09 15 44.0**	**-0.4**
	comp=Z,175µmcomp=Z,1µm,1.0s							
CBJI	**Citeko**	**21.97**	**254**	P		**P**	**09 15 45.1**	**+0.4**
	comp=Z,564µmcomp=Z,5µm,1.5s							
MBWA	**Marble Bar**	**21.99**	**201**	P		**P**	**09 15 43.0**	**-1.9**
MBWA					IAmb	IAmb	09 16 05.7	
	comp=Z,2µm,1.1s							
MBWA	**Marble Bar**	**21.99**	**201**	P		**P**	**09 15 43.9**	**-1.0**
MBWA				P		**P**	**09 15 43.9**	**-1.0**
MBWA				S		**S**	**09 19 50.4**	**+2.9**
MBWA				S		**S**	**09 19 50.4**	**+2.9**
MBWA	**Marble Bar**	**21.99**	**201**	↑P		**P**	**09 15 42.2**	**-2.7**
MBWA	**Marble Bar**	**21.99**	**201**	P		**P**	**09 15 43.5**	**-1.4**
PPBI	**Pangkal Pinang**	**22.01**	**266**	P		**P**	**09 15 44.5**	**-0.6**
DBJI	**Dramaga**	**22.10**	**254**	P		**P**	**09 15 46.8**	**+0.7**
	comp=Z,505µmcomp=Z,5µm,1.9s							
TNG	**Tangerang**	**22.10**	**255**	P		**P**	**09 15 47.0**	**+0.8**
	comp=Z,540µmcomp=Z,7µm,2.1s							
SKJI	**Sukabumi**	**22.40**	**253**	P		**P**	**09 15 50.3**	**+0.9**
	comp=Z,467µmcomp=Z,111µmcomp=Z,3µm,1.4s							
SBJI	**Serang**	**22.59**	**256**	P		**P**	**09 15 52.1**	**+0.7**
	comp=Z,497µmcomp=Z,8µm,1.7s							
QIS	**Mount Isa**	**22.80**	**151**	P		**P**	**09 15 51.8**	**-1.7**
CGJI	**Cibinong**	**23.13**	**255**	P		**P**	**09 15 55.1**	**-1.9**
	comp=Z,408µmcomp=Z,2µm,1.4s							
BLSI	**Bandar Lampung**	**23.30**	**258**	P		**P**	**09 15 59.1**	**+0.4**
	comp=Z,282µmcomp=Z,94µmcomp=Z,3µm,2.1s							
PMBI	**Palembang**	**23.42**	**264**	P		**P**	**09 15 60.0**	**0.0**
PMBI	**Palembang**	**23.42**	**264**	P		**P**	**09 16 02.3**	**+2.3**
PMBI	**Palembang**	**23.42**	**264**	P		**P**	**09 16 00.6**	**+0.6**
	comp=Z,411µmcomp=Z,87µmcomp=Z,5µm,1.1s							
KLI	**Kotabumi**	**23.59**	**259**	P		**P**	**09 16 01.4**	**-0.2**
AS31	**Alice Springs**	**23.60**	**167**	P		**P**	**09 15 58.6**	**-3.0**
ASAR	**Alice Springs**	**23.60**	**167**	P		**P**	**09 15 58.6**	**-3.1**
ASAR	**Alice Springs**	**23.60**	**167**	P		**P**	**09 16 00.1**	**-1.6**
	comp=Z,291nm,0.8s,baz=347,slow=11,SNR=128							
ASAR				S		**S**	**09 20 19.1**	**+3.2**
	comp=Z,333nm,1.1s,baz=348,slow=22,SNR=6.5 comp=Z,291nm,0.8s							
ASAR	**Alice Springs**	**23.60**	**167**	P		**P**	**09 15 58.6**	**-3.1**
MTSU	**Mount Surprise**	**23.61**	**138**	P		**P**	**09 16 01.5**	**-0.3**
AS01	**Alice Springs**	**23.61**	**166**	P		**P**	**09 15 59.3**	**-2.5**
KASI	**Kota Agung**	**24.06**	**258**	P		**P**	**09 16 05.2**	**-0.9**
	comp=Z,2µm,1.1s							
MDSI	**Maura Dua**	**24.20**	**260**	P		**P**	**09 16 06.6**	**-0.8**
TWGBT	**Beinan**	**24.27**	**344**	P		**P**	**09 16 05.0**	**-3.0**
TWG	**Pinlang**	**24.27**	**344**	P		**P**	**09 16 04.6**	**-3.4**
TWG					IAmb	IAmb	09 16 20.2	
	comp=Z,895nm,0.7s							
RABL	**Rabaul**	**24.30**	**99**	P		**P**	**09 16 08.7**	**+0.3**
RABL					IAMs_20	IAMs_20	09 25 44.2	
	comp=Z,994µm,20.0s							
RABL	**Rabaul**	**24.30**	**99**	↓P		**P**	**09 16 08.4**	**-0.1**
XMI	**Christmas Isla**	**24.32**	**246**	P		**P**	**09 16 08.1**	**-0.5**
MYKOM	**Kota Tinggi**	**24.36**	**276**	P		**P**	**09 16 07.7**	**-1.2**
MYKOM					IAmb	IAmb	09 16 35.9	
	comp=Z,2µm,1.3s							
MYKOM	**Kota Tinggi**	**24.36**	**276**	↑P		**P**	**09 16 06.6**	**-2.3**
LWLI	**Liwa**	**24.40**	**259**	P		**P**	**09 16 09.0**	**-0.4**
LHSI	**Lahat**	**24.76**	**262**	P		**P**	**09 16 12.5**	**0.0**
	comp=Z,381µmcomp=Z,108µmcomp=Z,4µm,2.5s							
YULB	**Yu-li**	**24.76**	**345**	P		**P**	**09 16 10.6**	**-1.8**
YULB	**Yu-li**	**24.76**	**345**	P		**P**	**09 16 11.1**	**-1.3**
TPUB	**Ta-pu**	**24.85**	**343**	P		**P**	**09 16 11.9**	**-1.4**
TPUB					IAmb	IAmb	09 16 32.9	
	comp=Z,1µm,0.8s							
TPUB	**Ta-pu**	**24.85**	**343**	P		**P**	**09 16 12.2**	**-1.1**
SSLB	**Suanglung**	**25.23**	**345**	P		**P**	**09 16 14.3**	**-2.4**
SSLB					IAmb	IAmb	09 16 45.0	
	comp=Z,1µm,1.0s							
SSLB	**Suanglung**	**25.23**	**345**	P		**P**	**09 16 15.4**	**-1.3**
MNAI	**Manna**	**25.39**	**261**	P		**P**	**09 16 18.1**	**-0.2**
MNAI	**Manna**	**25.39**	**261**	P		**P**	**09 16 18.9**	**+0.7**
MNAI	**Manna**	**25.39**	**261**	P		**P**	**09 16 17.4**	**-0.8**
MNAI	**Manna**	**25.39**	**261**	↑P		**P**	**09 16 17.7**	**-0.6**
YOJ	**Yonaguni jima**	**25.41**	**349**	P		**P**	**09 16 16.9**	**-1.3**
YOJ	**Yonaguni jima**	**25.41**	**349**	P		**P**	**09 16 18.7**	**+0.5**
YOJ	**Yonaguni jima**	**25.41**	**349**	↑P		**P**	**09 16 18.3**	**+0.1**
JMJ	**Miyako jima 2**	**25.42**	**354**	P		**P**	**09 16 20.0**	**+1.6**
NACB	**Ninganchiao**	**25.43**	**346**	P		**P**	**09 16 16.0**	**-2.5**
NACB					IAmb	IAmb	09 16 31.6	
	comp=

GSI	**Gunungsitoli**	**30.58**	**274**	P	**P**	**09 17 02.7**	**-2.0**
GSI				IAmb	IAmb	09 17 19.0	
	comp=Z,913nm,1.0s						
GSI	**Gunungsitoli**	**30.58**	**274**	P	**P**	**09 17 04.2**	**-0.5**
GSI	**Gunungsitoli**	**30.58**	**274**	P	**P**	**09 17 03.7**	**-1.0**
	comp=Z,223µmcomp=Z,30µmcomp=Z,863nm,1.1s						
GSI	**Gunungsitoli**	**30.58**	**274**	⇑P	**P**	**09 17 02.4**	**-2.3**
JCJ	**Chichijima**	**30.70**	**25**	P	**P**	**09 17 04.9**	**-0.8**
JCJ	**Chichijima**	**30.70**	**25**	P	**P**	**09 17 07.9**	**+2.2**
	comp=Z,103nm,0.9s						
	comp=Z,103nm,0.9s						
JCJ	**Chichijima**	**30.70**	**25**	P	**P**	**09 17 07.4**	**+1.8**
JCJ	**Chichijima**	**30.70**	**25**	⇑P	P	09 17 10.9	+5.3
GULI	**GuiLin**	**30.94**	**328**	P	**P**	**09 17 04.3**	**-3.4**
GULI				S	**S**	**09 22 07.5**	**-4.4**
GULI				pmax	pmax		
	comp=Z,71nm,1.2s						
GULI				LR	LR		
	comp=Z,134µm,17.9s						
GULI				LR	LR		
	comp=Z,194µm,21.7s						
GULI				LR	LR		
	comp=Z,257µm,20.1s						
PATS	**Pohnpei**	**31.05**	**76**	P	**P**	**09 17 09.5**	**+0.6**
PATS				IAmb	IAmb	09 17 25.4	
	comp=Z,2µm,1.5s						
PATS	**Pohnpei**	**31.05**	**76**	P	**P**	**09 17 10.3**	**+1.5**
LHMI	**Lhok Sumawe**	**31.65**	**281**	P	**P**	**09 17 13.8**	**-0.3**
LHMI	**Lhok Sumawe**	**31.65**	**281**	P	**P**	**09 17 14.7**	**+0.6**
LHMI	**Lhok Sumawe**	**31.65**	**281**	P	**P**	**09 17 13.5**	**-0.6**
	comp=Z,196µmcomp=Z,44µmcomp=Z,684nm,1.2s						
BLDU	**Ballidu**	**31.74**	**199**	P	**P**	**09 17 15.6**	**+0.9**
SNSI	**Sinabang, Aceh**	**31.90**	**276**	P	**P**	**09 17 14.7**	**-1.7**
	comp=Z,176µmcomp=Z,27µmcomp=Z,1µm,1.1s						
MLSI	**Meulaboh, Aceh**	**32.03**	**279**	P	**P**	**09 17 17.6**	**0.0**
CNSH	**ChangSha**	**32.11**	**334**	P	**P**	**09 17 17.6**	**-0.4**
CNSH				S	**S**	**09 22 31.8**	**+1.6**
CNSH				LR	LR		
	comp=Z,164µm,18.3s						
CNSH				LR	LR		
	comp=Z,168µm,19.6s						
CNSH				LR	LR		
	comp=Z,228µm,19.0s						
GD1S	**Gladstone Soft**	**32.15**	**138**	P	**P**	**09 17 19.7**	**+1.3**
SLVN	**Son La**	**32.16**	**314**	P	**P**	**09 17 17.6**	**-1.0**
SLVN	**Son La**	**32.16**	**314**	P	**P**	**09 17 18.7**	**+0.1**
SSE	**Sheshan**	**32.21**	**349**	P	**P**	**09 17 18.3**	**-0.5**
SSE				S	**S**	**09 22 34.3**	**+2.7**
SSE				pmax	pmax		
	comp=Z,61nm,1.0s						
SSE				pmax	pmax		
	comp=Z,3µm,10.2s						
KLBR	**Kellerberrin**	**32.33**	**197**	P	**P**	**09 17 19.6**	**-0.3**
RMQ	**Roma**	**32.52**	**144**	P	**P**	**09 17 23.7**	**+2.1**
TATA	**Tatamba Isabel**	**32.52**	**105**	P	**P**	**09 17 23.5**	**+1.7**
SAVO	**Savo Central**	**32.69**	**106**	P	**P**	**09 17 24.2**	**+0.9**
COCO	**West Island**	**33.07**	**248**	P	**P**	**09 17 25.4**	**-1.2**
COCO	**West Island**	**33.07**	**248**	P	**P**	**09 17 27.8**	**+1.2**
COCO				P	**P**	**09 17 27.8**	**+1.2**
COCO				S	**S**	**09 22 51.6**	**+6.1**
COCO				S	**S**	**09 22 51.6**	**+6.1**
COCO	**West Island**	**33.07**	**248**	P	**P**	**09 17 27.1**	**+0.5**
COCO	**West Island**	**33.07**	**248**	P	**P**	**09 17 25.4**	**-1.2**
COCO				pmax	pmax		
	comp=Z,1µm,1.1s						
COCO				MLR	MLR		
	comp=Z,88µm,20.0s						
EIDS	**Eidsvold**	**33.14**	**140**	P	**P**	**09 17 26.1**	**-1.0**
EIDS				IAmb	IAmb	09 17 42.0	
	comp=Z,1µm,1.4s						
EIDS				IAMs_20	IAMs_20	09 33 18.1	
	comp=Z,553µm,19.0s						
EIDS	**Eidsvold**	**33.14**	**140**	P	**P**	**09 17 27.9**	**+0.8**
EIDS	**Eidsvold**	**33.14**	**140**	⇓P	**P**	**09 17 27.2**	**+0.1**
MUN	**Mundaring**	**33.16**	**199**	P	**P**	**09 17 27.7**	**+0.5**
MTKN	**Mount Kenneth**	**33.26**	**199**	P	**P**	**09 17 29.5**	**+1.5**
ALEG	**Aligegeo Malai**	**33.45**	**105**	P	**P**	**09 17 30.7**	**+0.7**
WHYH	**Whyalla**	**33.46**	**165**	P	**P**	**09 17 29.0**	**-0.7**
NGOA	**Tingoa Renbel**	**33.55**	**110**	P	**P**	**09 17 32.8**	**+2.0**
STKA	**Stephens Creek**	**33.61**	**159**	P	**P**	**09 17 30.1**	**-1.0**
STKA	**Stephens Creek**	**33.61**	**159**	P	**P**	**09 17 29.9**	**-1.2**
	comp=Z,138nm,0.8s,baz=356,slow=8.7,SNR=51						
STKA				S	**S**	**09 22 53.4**	**0.0**
	comp=Z,23nm,0.7s,baz=41,slow=23,SNR=0.8						
STKA				LR	LR	09 32 43.2	
	comp=Z,776µm,19.5s,baz=338,slow=39						
	comp=Z,138nm,0.8s						
STKA	**Stephens Creek**	**33.61**	**159**	P	**P**	**09 17 29.9**	**-1.2**
STKA	**Stephens Creek**	**33.61**	**159**	P	**P**	**09 17 30.1**	**-1.0**
WHN	**Wuhan**	**33.63**	**338**	⇑P	**P**	**09 17 31.4**	**+0.1**
WHN				sP	**sP**	**09 17 36.9**	**-0.4**
WHN				PP	**PP**	**09 18 46.3**	**-1.2**
WHN				S	**S**	**09 22 54.9**	**+1.2**
WHN				pmax	pmax		
	comp=Z,37µm,5.0s						
WHN				LR	LR		
	comp=Z,329µm,12.2s						
WHN				LR	LR		
	comp=Z,177µm,16.5s						
WHN				LR	LR		
	comp=Z,685µm,19.6s						
NJ2	**Nanjing**	**33.64**	**346**	⇑P	**P**	**09 17 31.8**	**+0.4**
NJ2				pP	**pP**	**09 17 35.1**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,230nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,6µm,4.1s						
NJ2				LR	LR		
	comp=Z,196µm,18.0s						
NJ2				LR	LR		
	comp=Z,105µm,18.0s						
NJ2				LR	LR		
	comp=Z,161µm,18.8s						
JNU	**Nakatsue**	**33.66**	**4**	P	**P**	**09 17 30.4**	**-1.1**
JNU				IAmb	IAmb	09 18 28.6	
	comp=Z,826nm,1.3s						
JNU	**Nakatsue**	**33.66**	**4**	P	**P**	**09 17 31.5**	**0.0**
	comp=Z,50nm,0.9s,baz=332,slow=5.5,SNR=14						
JNU				S	**S**	**09 22 55.5**	**+1.4**
	comp=Z,12nm,0.9s,baz=158,slow=9.9,SNR=1.6						
JNU				LR	LR	09 30 01.6	
	comp=Z,300µm,20.0s,baz=177,slow=34						
	comp=Z,50nm,0.9s						
JNU	**Nakatsue**	**33.66**	**4**	P	**P**	**09 17 31.3**	**-0.2**
PTPS	**Port Pirie**	**33.70**	**165**	P	**P**	**09 17 34.3**	**+2.5**
NWAO	**Narrogin (SRO)**	**33.73**	**197**	P	**P**	**09 17 31.1**	**-1.1**
NWAO				IAmb	IAmb	09 17 49.8	
	comp=Z,529nm,1.0s						
NWAO	**Narrogin (SRO)**	**33.73**	**197**	P	**P**	**09 17 32.8**	**+0.6**
NWAO				P	**P**	**09 17 32.8**	**+0.6**
NWAO				P	**P**	**09 17 32.8**	**+0.6**
NWAO				S	**S**	**09 22 59.4**	**+4.2**
NWAO				S	**S**	**09 22 59.4**	**+4.2**
NWAO				S	**S**	**09 22 59.4**	**+4.2**
NWAO	**Narrogin (SRO)**	**33.73**	**197**	P	**P**	**09 17 33.2**	**+1.1**
NWAO	**Narrogin (SRO)**	**33.73**	**197**	P	**P**	**09 17 31.1**	**-1.1**
NWAO				pmax	pmax		
	comp=Z,529nm,1.0s						
NWAO				MLR	MLR		
	comp=Z,111µm,20.0s						
GYA	**Guiyang**	**33.93**	**324**	⇓P	**P**	**09 17 33.9**	**-0.2**
GYA				S	**S**	**09 22 56.8**	**-2.0**
GYA				pmax	pmax		
	comp=Z,66nm,1.0s						
GYA				pmax	pmax		
	comp=Z,16µm,11.2s						
GYA				LR	LR		
	comp=Z,85µm,11.6s						
GYA				LR	LR		
	comp=Z,133µm,20.8s						
GYA				LR	LR		
	comp=Z,149µm,20.0s						
HTT	**Hallett**	**34.19**	**164**	P	**P**	**09 17 36.7**	**+0.5**
HTT	**Hallett**	**34.19**	**164**	⇓P	**P**	**09 17 36.2**	**0.0**
CM31	**Chiang Mai Arr**	**34.35**	**305**	P	**P**	**09 17 36.1**	**-1.7**
CM31	**Chiang Mai Arr**	**34.35**	**305**	P	**P**	**09 17 37.8**	**0.0**
CM31				P	**P**	**09 17 37.8**	**0.0**
CM31				P	**P**	**09 17 37.8**	**0.0**
CM31				S	**S**	**09 23 12.8**	**+7.5**
CM31				S	**S**	**09 23 12.8**	**+7.5**
CM31				S	**S**	**09 23 12.8**	**+7.5**
CMAR	**Chiang Mai Arr**	**34.35**	**305**	P	**P**	**09 17 35.9**	**-1.8**
CMAR	**Chiang Mai Arr**	**34.35**	**305**	P	**P**	**09 17 36.6**	**-1.2**
	comp=Z,261nm,1.4s,baz=124,slow=6.2,SNR=68						
CMAR				S	**S**	**09 23 00.3**	**-4.9**
	comp=Z,1.4nm,0.3s,baz=259,slow=29,SNR=1.5						
CMAR	**Chiang Mai Arr**	**34.35**	**305**	*i* P	**P**	**09 17 36.5**	**-1.2**
CMAR				pmax	pmax		
	comp=Z,162nm,1.4s						
CHTO	**Chiang Mai**	**34.53**	**306**	P	**P**	**09 17 37.7**	**-1.6**
CHTO				IAmb	IAmb	09 17 55.5	
	comp=Z,4µm,2.6s						
CHTO	**Chiang Mai**	**34.53**	**306**	P	**P**	**09 17 38.4**	**-0.9**
CHTO				P	**P**	**09 17 38.4**	**-0.9**
CHTO				P	**P**	**09 17 38.4**	**-0.9**
CHTO				S	**S**	**09 23 14.0**	**+6.0**
CHTO				S	**S**	**09 23 14.0**	**+6.0**
CHTO				S	**S**	**09 23 14.0**	**+6.0**
CHTO	**Chiang Mai**	**34.53**	**306**	P	**P**	**09 17 37.7**	**-1.6**
CHTO				pmax	pmax		
	comp=Z,4µm,2.6s						
CHTO				MLR	MLR		
	comp=Z,95µm,19.0s						
CHTO	**Chiang Mai**	**34.53**	**306**	⇑P	**P**	**09 17 37.4**	**-1.9**
CHTO	**Chiang Mai**	**34.53**	**306**	P	**P**	**09 17 37.8**	**-1.6**
JMN	**Monobe**	**34.59**	**9**	P	**P**	**09 17 38.5**	**-1.2**
JMN				IAmb	IAmb	09 18 16.8	
	comp=Z,2µm,1.7s						
JMN	**Monobe**	**34.59**	**9**	P	**P**	**09 17 40.2**	**+0.6**
JMN	**Monobe**	**34.59**	**9**	⇑P	**P**	**09 17 40.4**	**+0.7**
CMBY	**CAMPBELL BAY**	**34.92**	**283**	*e*P	**P**	**09 17 42.0**	**-0.7**
CMBY				IAmb	IAmb	09 18 16.8	
	comp=Z,197nm,1.5s						
CMBY				IAMs_20	IAMs_20	09 35 27.7	
	comp=Z,98µm,17.6s						
JTU	**Tsushima**	**34.97**	**2**	P	**P**	**09 17 43.2**	**+0.3**
JTU	**Tsushima**	**34.97**	**2**	⇑P	**P**	**09 17 42.8**	**-0.1**
CMSA	**Cobar Meteorol**	**34.98**	**153**	P	**P**	**09 17 42.5**	**-0.5**
HURO	**Huro Makira**	**35.00**	**107**	P	**P**	**09 17 45.3**	**+1.9**
JHJ2	**Mitsune**	**35.32**	**17**	IAMs_20	IAMs_20	09 31 20.5	
	comp=Z,445µm,19.0s						
KMI	**Kunming**	**35.45**	**318**	⇑P	**P**	**09 17 47.3**	**-0.1**
KMI				S	**S**	**09 23 20.6**	**-1.8**
KMI				SS	**SnSn**	**09 25 37.8**	**-4.2**
KMI				pmax	pmax		
	comp=Z,750nm,1.6s						
KMI				pmax	pmax		
	comp=Z,14µm,6.9s						
KMI				LR	LR		
	comp=Z,79µm,17.4s						
KMI				LR	LR		
	comp=Z,128µm,19.8s						
KMI				LR	LR		
	comp=Z,187µm,22.0s						
ENH	**Enshi**	**35.46**	**332**	P	**P**	**09 17 46.4**	**-0.8**
GHSS	**Government Hou**	**35.51**	**165**	P	**P**	**09 17 48.1**	**+0.6**
JSG	**Sagara**	**36.35**	**14**	P	**P**	**09 17 52.2**	**-2.5**
JSG	**Sagara**	**36.35**	**14**	P	**P**	**09 17 56.0**	**+1.3**
H01W3	**Cape Leeuwin H**	**36.50**	**199**	P	**P**	**09 17 54.7**	**-1.1**
	baz=34,slow=8.7,SNR=10						
H01W1	**Cape Leeuwin H**	**36.51**	**199**	P	**P**	**09 17 54.0**	**-1.8**
	baz=34,slow=8.7,SNR=8.4						
H01W2	**Cape Leeuwin H**	**36.52**	**199**	P	**P**	**09 17 55.9**	**+0.1**
	baz=34,slow=8.7,SNR=16						
GC1S	**Gold Coast 1 S**	**36.64**	**141**	P	**P**	**09 17 58.3**	**+1.1**
INU	**Inuyama**	**36.73**	**12**	P	**P**	**09 17 57.0**	**-0.9**
INU				IAMs_20	IAMs_20	09 35 50.9	
	comp=Z,493µm,19.0s						
INU	**Inuyama**	**36.73**	**12**	P	**P**	**09 17 57.9**	**0.0**
INU	**Inuyama**	**36.73**	**12**	⇑P	**P**	**09 17 57.3**	**-0.7**
TJN	**Taejon**	**36.81**	**359**	P	**P**	**09 17 57.2**	**-1.4**
TJN	**Taejon**	**36.81**	**359**	P	**P**	**09 17 58.2**	**-0.3**
TJN	**Taejon**	**36.81**	**359**	P	**P**	**09 17 57.2**	**-1.4**
TJN				pmax	pmax		
	comp=Z,1µm,1.0s						
PZH	**PanZhiHua**	**37.04**	**319**	P	**P**	**09 17 58.9**	**-2.0**
PZH				S	**S**	**09 23 48.4**	**+1.9**
PZH				pmax	pmax		
	comp=Z,60nm,1.1s						
PZH				pmax	pmax		
	comp=Z,12µm,11.3s						
PZH				LR	LR		
	comp=Z,113µm,21.1s						
PZH				LR	LR		
	comp=Z,115µm,20.1s						
PZH				LR	LR		
	comp=Z,164µm,20.4s						
JGF	**Kuroka**	**37.05**	**13**	P	**P**	**09 17 59.2**	**-1.5**
JGF				IAmb	IAmb	09 18 32.8	
	comp=Z,2µm,1.8s						
JGF	**Kuroka**	**37.05**	**13**	P	**P**	**09 18 00.8**	**+0.1**
JGF	**Kuroka**	**37.05**	**13**	⇑P	**P**	**09 18 00.7**	**+0.1**
ARMA	**Armidale**	**37.13**	**145**	P	**P**	**09 18 01.8**	**+0.3**
ARMA				IAmb	IAmb	09 18 16.7	
	comp=Z,1µm,1.2s						
ARMA				IAMs_20	IAMs_20	09 35 40.9	
	comp=Z,617µm,19.0s						
ARMA	**Armidale**	**37.13**	**145**	P	**P**	**09 18 02.9**	**+1.3**
ARMA	**Armidale**	**37.13**	**145**	⇑P	**P**	**09 18 01.1**	**-0.5**
DGPR	**DIGLIPUR**	**37.46**	**293**	*e*P	**P**	**09 18 03.3**	**-1.1**
KSAR	**Wonju Array Be**	**37.87**	**360**	P	**P**	**09 18 06.9**	**-0.6**
KSAR	**Wonju Array Be**	**37.87**	**360**	P	**P**	**09 18 06.9**	**-0.6**
KSRS	**Korea Array**	**37.88**	**360**	P	**P**	**09 18 07.5**	**-0.1**
	comp=Z,31nm,1.0s,baz=179,slow=10,SNR=92						
KSRS				LR	LR	09 31 59.6	
	comp=Z,96513µm,21.8s,baz=180,slow=34						
KSRS				PKPPKP	**P'P'df**	**09 50 50.5**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=6.8,slow=0.8,SNR=4.7						
	comp=Z,31nm,1.0s						
LYN	**LuoYang**	**37.92**	**339**	⇑P	**P**	**09 18 07.3**	**-0.8**
LYN				S	**S**	**09 23 57.9**	**-1.6**
LYN				sS	sS	09 24 08.6	+2.1
LYN				pmax	pmax		
	comp=Z,150nm,1.1s						
LYN				pmax	pmax		
	comp=Z,16µm,6.2s						
LYN				LR	LR		
	comp=Z,129µm,16.2s						
LYN				LR	LR		
	comp=Z,112µm,23.7s						
LYN				LR	LR		
	comp=Z,257µm,18.2s						
KS19	**Wonju Array Si**	**37.92**	**360**	P	**P**	**09 18 06.4**	**-1.6**
INCN	**Inchon**	**37.93**	**358**	P	**P**	**09 18 07.0**	**-1.1**
INCN	**Inchon**	**37.93**	**358**	P	**P**	**09 18 08.9**	**+0.8**
INCN				P	**P**	**09 18 08.9**	**+0.8**
INCN				P	**P**	**09 18 08.9**	**+0.8**
INCN				S	**S**	**09 24 05.8**	**+6.2**
INCN				S	**S**	**09 24 05.8**	**+6.2**
INCN				S	**S**	**09 24 05.8**	**+6.2**
INCN	**Inchon**	**37.93**	**358**	P	**P**	**09 18 08.9**	**+0.8**
INCN	**Inchon**	**37.93**	**358**	P	**P**	**09 18 07.0**	**-1.1**
INCN				pmax	pmax		
	comp=Z,249nm,1.2s						
INCN				MLR	MLR		
	comp=Z,320µm,20.0s						
TIA	**Tai'an**	**38.03**	**346**	P	**P**	**09 18 07.3**	**-1.7**
TIA				pmax	pmax		
	comp=Z,37nm,0.9s						
TIA				pmax	pmax		
	comp=Z,5µm,4.5s						
TIA				LR	LR		
	comp=Z,82µm,17.5s						
TIA				LR	LR		
	comp=Z,124µm,18.9s						
TIA				LR	LR		
	comp=Z,175µm,19.6s						
MAJO	**Matsushiro**	**38.14**	**13**	P	**P**	**09 18 08.8**	**-1.1**
MAJO				IAmb	IAmb	09 18 21.7	
	comp=Z,799nm,1.2s						
MAJO	**Matsushiro**	**38.14**	**13**	P	**P**	**09 18 09.3**	**-0.7**
MAJO	**Matsushiro**	**38.14**	**13**	*i* P	**P**	**09 18 08.5**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,863nm,1.3s						
MAJO	**Matsushiro**	**38.14**	**13**	⇑P	**P**	**09 18 09.2**	**-0.7**
MAJO	**Matsushiro**	**38.14**	**13**	P	**P**	**09 18 09.4**	**-0.5**
MAJO				S	**S**	**09 24 05.4**	**+2.6**
MJAR	**Matsushiro Arr**	**38.14**	**13**	P	**P**	**09 18 08.7**	**-1.2**
MJAR	**Matsushiro Arr**	**38.14**	**13**	P	**P**	**09 18 09.5**	**-0.5**
	comp=Z,170nm,1.1s,baz=189,slow=8.1,SNR=80						
MJAR				ScP	**ScP**	**09 24 12.9**	**+0.5**
	comp=Z,10nm,1.1s,baz=186,slow=2.2,SNR=3.2						
MJAR				PKiKP	**PKiKP**	**09 27 40.0**	**0.0**
	comp=Z,0.9nm,0.3s,baz=172,slow=2.3,SNR=5.3						
MJAR				LR	LR	09 32 19.2	
	comp=Z,186µm,21.1s,baz=186,slow=34						
	comp=Z,170nm,1.1s						
MJB9	**Matsu-Tunnel**	**38.15**	**13**	P	**P**	**09 18 08.5**	**-1.4**
MJB9				IAmb	IAmb	09 18 21.6	
	comp=Z,820nm,1.2s						
TNCH	**TengChong**	**38.33**	**314**	P	**P**	**09 18 10.6**	**-1.3**
TNCH				S	**S**	**09 24 05.5**	**-0.8**
TNCH				SS	**SnSn**	**09 26 44.1**	**-7.6**
TNCH				pmax	pmax		
	comp=Z,1µm,2.0s						
TNCH				pmax	pmax		
	comp=Z,20µm,7.6s						
TNCH				LR	LR		
	comp=Z,42µm,14.2s						
TNCH				LR	LR		
	comp=Z,55µm,14.0s						
TNCH				LR	LR		
	comp=Z,113µm,17.8s						
HJU	**Haeju**	**38.53**	**357**	P	**P**	**09 18 13.2**	**+0.2**
HJU				S	**S**	**09 24 08.4**	**-0.1**
HJU				AmB			
	comp=Z,39µm,8.1s						
HJU				AMS	AMS		
	comp=Z,248µm,26.9s						
LUES	**Luesalemba Tem**	**38.88**	**106**	P	**P**	**09 18 18.4**	**+1.9**
XAN	**Xi'an**	**38.89**	**334**	⇑P	**P**	**09 18 14.8**	**-1.5**
XAN				S	**S**	**09 24 14.3**	**+0.1**
XAN				pmax	pmax		
	comp=Z,2µm,1.5s						
XAN				pmax	pmax		
	comp=Z,14µm,7.8s						
XAN				LR	LR		
	comp=Z,179µm,19.9s						
XAN				LR	LR		
	comp=Z,118µm,20.6s						
XAN				LR	LR		
	comp=Z,241µm,19.3s						
CD2	**Chengdu**	**38.95**	**326**	P	**P**	**09 18 15.8**	**-1.1**
CD2				sP	sP	09 18 23.3	+0.3
CD2				S	**S**	**09 24 16.5**	**+1.2**
CD2				pmax	pmax		
	comp=Z,970nm,1.2s						
CD2				pmax	pmax		
	comp=Z,18µm,6.5s						
CD2				LR	LR		
	comp=Z,201µm,15.7s						
CD2				LR	LR		
	comp=Z,358µm,19.6s						
CD2				LR	LR		
	comp=Z,211µm,16.7s						
MGCD	**Mangrove Creek**	**38.98**	**149**	P	**P**	**09 18 19.0**	**+2.0**
NTLH	**Newcastle Hard**	**39.05**	**148**	P	**P**	**09 18 21.1**	**+3.5**
SYDH	**Sydney Hard Ro**	**39.23**	**150**	P	**P**	**09 18 20.7**	**+1.7**
RIV	**Riverview**	**39.49**	**149**	P	**P**	**09 18 23.1**	**+1.9**
RIV	**Riverview**	**39.49**	**149**	⇓P	**P**	**09 18 23.9**	**+2.7**
PYAG	**Pyongyang**	**39.53**	**357**	P	**P**	**09 18 22.2**	**+0.7**
PYAG				S	**S**	**09 24 23.7**	**+0.2**
PYAG				AmB			
	comp=Z,30µm,7.5s						
PYAG				AMS	AMS		
	comp=Z,254µm,33.0s						
BRAT	**Ballarat**	**39.55**	**160**	P	**P**	**09 18 21.7**	**0.0**
JSD	**Sado**	**39.59**	**13**	P	**P**	**09 18 22.0**	**0.0**
JSD	**Sado**	**39.59**	**13**	⇑P	**P**	**09 18 21.7**	**-0.3**
CAN	**Canberra**	**39.65**	**153**	P	**P**	**09 18 23.4**	**+0.8**
CAN				IAMs_20	IAMs_20	09 37 19.5	
	comp=Z,462µm,20.0s						
CAN	**Canberra**	**39.65**	**153**	P	**P**	**09 18 24.1**	**+1.5**
CAN	**Canberra**	**39.65**	**153**	⇑P	**P**	**09 18 22.8**	**+0.2**
DL2	**Dalian**	**39.77**	**352**	P	**P**	**09 18 23.1**	**-0.4**
DL2				S	**S**	**09 24 30.6**	**+3.4**
DL2				pmax	pmax		
	comp=Z,340nm,1.3s						
DL2				pmax	pmax		
	comp=Z,12µm,10.0s						
DL2				LR	LR		
	comp=Z,235µm,15.7s						
DL2				LR	LR		
	comp=Z,166µm,16.5s						
DL2				LR	LR		
	comp=Z,307µm,19.2s						
HNS	**HongShan**	**39.80**	**343**	⇑P	**P**	**09 18 22.3**	**-1.4**
HNS				S	**S**	**09 24 30.3**	**+2.6**
HNS				pmax	pmax		
	comp=Z,67nm,0.9s						
HNS				pmax	pmax		
	comp=Z,10µm,9.3s						
HNS				LR	LR		
	comp=Z,158µm,17.0s						
HNS				LR	LR		
	comp=Z,126µm,17.1s						
HNS				LR	LR		
	comp=Z,186µm,20.6s						
CNB	**Canberra Magne**	**39.81**	**152**	P	**P**	**09 18 25.6**	**+1.6**
JMM	**Marumori**	**40.04**	**16**	P	**P**	**09 18 24.9**	**-0.9**
JMM				IAmb	IAmb	09 18 36.9	
	comp=Z,582nm,0.9s						
JMM	**Marumori**	**40.04**	**16**	P	**P**	**09 18 27.5**	**+1.7**
JMM	**Marumori**	**40.04**	**16**	⇑P	**P**	**09 18 26.4**	**+0.7**
TOO	**Toolangi**	**40.13**	**158**	P	**P**	**09 18 26.8**	**+0.3**
TOO	**Toolangi**	**40.13**	**158**	⇓P	**P**	**09 18 27.1**	**+0.6**
GEXS	**Deakin Univers**	**40.26**	**160**	P	**P**	**09 18 29.6**	**+2.0**
HHU	**Hamhung**	**40.35**	**359**	P	**P**	**09 18 27.4**	**-0.8**
KOUNC	**Koumac, New Ca**	**40.54**	**122**	P	**P**	**09 18 31.7**	**+1.6**
KOUNC	**Koumac, New Ca**	**40.54**	**122**	⇑P	**P**	**09 18 31.2**	**+1.1**
SUJ	**Sinuiju**	**40.66**	**356**	P	**P**	**09 18 29.9**	**-0.9**
SUJ				S	**S**	**09 24 40.4**	**+0.1**
SUJ				AmB			
	comp=Z,39µm,8.0s						
SUJ				AMS	AMS		
	comp=Z,228µm,31.5s						
TIY	**Taiyuan**	**40.79**	**341**	*e*P	**P**	**09 18 31.3**	**-0.8**
TIY				S	**S**	**09 24 51.6**	**+8.9**
TIY				SS	**SS**	**09 27 39.9**	**-4.0**
TIY				pmax	pmax		
	comp=Z,84nm,0.8s						
TIY				pmax	pmax		
	comp=Z,7µm,6.5s						
TIY				LR	LR		
	comp=Z,66µm,17.2s						
TIY				LR	LR		
	comp=Z,87µm,14.4s						
TIY				LR	LR		
	comp=Z,107µm,21.3s						
MILA	**Mila**	**41.16**	**154**	⇓P	**P**	**09 18 37.5**	**+2.4**
SANVU	**Saraoutou**	**41.32**	**113**	P	**P**	**09 18 37.6**	**+1.0**
SANVU				IAMs_20	IAMs_20	09 37 58.6	
	comp=Z,507µm,19.0s						
SANVU	**Saraoutou**	**41.32**	**113**	P	**P**	**09 18 38.6**	**+2.0**
SANVU	**Saraoutou**	**41.32**	**113**	⇓P	**P**	**09 18 37.8**	**+1.2**
IMP	**Imphal**	**41.63**	**310**	*e*P	**P**	**09 18 38.0**	**-1.1**
IMP				IAmb	IAmb	09 18 55.2	
	comp=Z,558nm,1.3s						
IMP				IAMs_20	IAMs_20	09 37 33.8	
	comp=Z,81µm,18.1s						
LKP	**Lekhapani**	**41.63**	**314**	IAMs_20	IAMs_20	09 37 41.7	
	comp=Z,99µm,18.9s						
VLAKA	**Lakatoro**	**41.72**	**114**	P	**P**	**09 18 41.8**	**+1.9**
BJT	**Baijiatuan**	**41.88**	**346**		**P**	**09 18 39.0**	**-1.9**
BJT				IAmb	IAmb	09 19 07.0	
	comp=Z,851

comp=Z,98μm,18.4s
H11S3 WAKE ISLAND Hy 42.41 61 P **P** **09 18 47.5 +2.1**
H11S3 T T 10 02 55.3
SNR=13
H11S2 WAKE ISLAND Hy 42.42 61 P **P** **09 18 47.6 +2.1**
H11S2 T T 10 03 13.2
SNR=9.1
H11S1 WAKE ISLAND Hy 42.42 61 P **P** **09 18 47.6 +2.1**
H11S1 T T 10 03 19.8
SNR=6.9
SNY Shenyang 42.44 355 ⇓P **P** **09 18 44.3 -1.1**
SNY S **S** **09 25 05.4 -1.4**
SNY pmax pmax
comp=Z,42nm,1.2s
SNY pmax pmax
comp=Z,5μm,10.8s
SNY LR LR
comp=Z,124μm,18.3s
SNY LR LR
comp=Z,116μm,18.0s
SNY LR LR
comp=Z,206μm,19.5s
JORH JORHAT 42.45 312 *e*P **P** **09 18 44.7 -1.0**
JORH IAmb IAmb 09 19 02.5
comp=Z,296nm,1.2s
JORH ⇓*ex* x 09 19 03.3
JORH IAMs_20 IAMs_20 09 38 59.3
comp=Z,99μm,19.5s
JTM Tenmabayashi 42.86 15 P **P** **09 18 48.4 -0.5**
JTM IAmb IAmb 09 19 12.3
comp=Z,1μm,1.3s
JTM Tenmabayashi 42.86 15 P **P** **09 18 50.5 +1.6**
JTM Tenmabayashi 42.86 15 ⇑P **P** **09 18 50.2 +1.3**
DVP Devils Point 42.92 116 P **P** **09 18 51.4 +1.7**
LZH Lanzhou 42.92 331 ⇑P **P** **09 18 49.3 -0.4**
LZH pP pP 09 18 53.9 -0.1
LZH S **S** **09 25 21.6 +7.1**
LZH pmax pmax
comp=Z,1μm,1.2s
LZH pmax pmax
comp=Z,14μm,5.3s
LZH LR LR
comp=Z,216μm,19.4s
LZH LR LR
comp=Z,209μm,19.6s
LZH LR LR
comp=Z,258μm,21.5s
DZM Mont Dzumac 43.00 122 P **P** **09 18 49.8 -0.7**
DZM IAmb IAmb 09 19 06.3
comp=Z,1μm,1.3s
DZM IAMs_20 IAMs_20 09 37 12.8
comp=Z,489μm,22.0s
DZM Mont Dzumac 43.00 122 *e*P **P** **09 18 50.8 +0.4**
comp=Z,2μm,1.4s
DZM *e*S **S** **09 25 14.8 -1.0**
comp=Z,149μm,30.0s
DZM *e*SS **SS** **09 28 22.4 -5.6**
comp=Z,884μm,29.3s
DZM *e*LR LR 09 30 47.8
comp=Z,1039μm,25.1s
DZM Mont Dzumac 43.00 122 P **P** **09 18 52.0 +1.6**
H11N1 WAKE ISLAND Hy 43.06 60 P **P** **09 18 53.4 +2.8**
baz=237,slow=11,SNR=4.7
H11N1 T T 10 03 20.3
baz=246,slow=75,SNR=58
H11N2 WAKE ISLAND Hy 43.07 60 P **P** **09 18 53.5 +2.8**
baz=237,slow=11,SNR=3.7
H11N2 T T 10 03 26.2
baz=246,slow=75,SNR=23
H11N3 WAKE ISLAND Hy 43.08 60 P **P** **09 18 53.5 +2.8**
baz=237,slow=11,SNR=4.0
H11N3 T T 10 03 21.3
baz=246,slow=75,SNR=96
MSHR Mys Shultsa 43.09 3*ce*P **P** **09 18 49.0 -1.6**
MSHR pmax pmax
comp=Z,577nm,1.2s
MSHR MLR MLR
comp=Z,144μm,19.0s
ONTNC Ouen Toro 43.10 123 P **P** **09 18 51.0 -0.1**
ONTNC IAmb IAmb 09 19 09.1
comp=Z,2μm,1.5s
ONTNC Ouen Toro 43.10 123 P **P** **09 18 52.9 +1.8**
ONTNC Ouen Toro 43.10 123 ⇓P **P** **09 18 52.6 +1.5**
ZIRO ZIRO 43.18 313 *e*P **P** **09 18 50.7 -1.2**
ZIRO IAmb IAmb 09 19 04.2
comp=Z,442nm,0.9s
ZIRO IAMs_20 IAMs_20 09 39 22.9
comp=Z,88μm,19.5s
AGT Agartala 43.26 307 *e*P **P** **09 18 51.5 -0.9**
AGT IAmb IAmb 09 19 10.7
comp=Z,554nm,1.2s
YATNC Mamie plateau, 43.37 122 P **P** **09 18 55.2 +1.9**
TEZP TEZPUR 43.46 311 *e*P **P** **09 18 52.9 -1.0**
TEZP IAMs_20 IAMs_20 09 37 00.4
comp=Z,88μm,19.7s
OUENC Ouen Island, N 43.48 123 P **P** **09 18 56.1 +2.0**
SHL Shillong 43.60 309 P **P** **09 18 53.3 -2.1**
SHL IAmb IAmb 09 19 21.7
comp=Z,830nm,0.7s
SHL Shillong 43.60 309 P **P** **09 18 53.7 -1.6**
SNR=228
SHL Shillong 43.60 309 *e*P **P** **09 18 53.5 -1.8**
SHL IAmb IAmb 09 19 07.0
comp=Z,479nm,1.0s
SHL Shillong 43.60 309 P **P** **09 18 53.3 -2.1**
SHL pmax pmax
comp=Z,830nm,0.7s
VLA Vladivostok 43.67 4 *i* P **P** **09 18 54.0 -1.3**
VLA pmax pmax
comp=Z,226nm,1.2s
VLA MLR MLR
comp=Z,158μm,18.0s
HHC Hu-ho-hao-te 43.92 342 ⇓*i*P **P** **09 18 56.8 -0.8**
HHC pP pP 09 19 01.8 -0.2
HHC S **S** **09 25 24.0 -4.9**
HHC sS sS 09 25 38.3 +2.2
HHC pmax pmax
comp=Z,54nm,1.0s
HHC pmax pmax
comp=Z,7μm,6.7s
HHC LR LR
comp=Z,131μm,18.7s
HHC LR LR
comp=Z,75μm,16.3s
HHC LR LR
comp=Z,170μm,19.7s
GLAD Gladstone 44.05 158 P **P** **09 19 00.3 +1.8**
PINNC Pines Island, 44.06 123 P **P** **09 18 59.0 +0.2**
PINNC IAMs_20 IAMs_20 09 38 31.1
comp=Z,446μm,22.0s
PINNC Pines Island, 44.06 123 P **P** **09 19 01.1 +2.2**
GUWA GUWAHATI 44.07 310 *e*P **P** **09 18 57.9 -1.0**
GUWA IAmb IAmb 09 19 15.5
comp=Z,243nm,2.1s
GUWA IAMs_20 IAMs_20 09 37 15.2
comp=Z,83μm,18.7s
CORO Coronation Par 44.15 159 P **P** **09 19 01.1 +1.9**
BTO Baotou 44.20 340 *e*P **P** **09 19 00.1 +0.3**
BTO pP **pP** **09 19 04.8 +0.6**
BTO sP **sP** **09 19 07.4 +1.6**
BTO PP **PcP** **09 20 45.3 +0.8**
BTO S **S** **09 25 35.0 +2.0**
BTO sS **sS** **09 25 42.3 +2.1**
BTO SS **SS** **09 28 45.3 -5.9**
BTO pmax pmax
comp=Z,37nm,0.9s
BTO pmax pmax
comp=Z,20μm,11.4s
BTO LR LR
comp=Z,160μm,14.0s
BTO LR LR
comp=Z,258μm,18.1s
BTO LR LR
comp=Z,302μm,17.3s
CN2 Changchun 44.28 357 ⇑P **P** **09 19 01.5 +1.2**
CN2 *es*P sP 09 19 08.0 +1.8
CN2 pmax pmax
comp=Z,2μm,7.0s
CN2 LR LR
comp=Z,48μm,15.0s
CN2 LR LR
comp=Z,38μm,15.0s
INH Isangel 44.49 118 P **P** **09 19 03.9 +1.5**
ERM Erimo 44.56 16 P **P** **09 19 02.2 -0.3**
ERM IAmb IAmb 09 19 24.6
comp=Z,500nm,1.1s

ERM Erimo 44.56 16 IAMs_20 IAMs_20 09 38 24.2
comp=Z,374μm,20.0s
ERM Erimo 44.56 16 *i* P **P** **09 19 01.2 -1.3**
ERM pmax pmax
comp=Z,296nm,1.0s
ERM Erimo 44.56 16 ⇑P **P** **09 19 04.8 +2.2**
ERM Erimo 44.56 16 P **P** **09 19 03.9 +1.3**
ERM S **S** **09 25 40.3 +2.4**
JEM Erimo 44.56 16 P **P** **09 19 03.7 +1.2**
TAWA Tawang 44.68 312 *e*P **P** **09 19 02.8 -1.4**
TAWA IAmb IAmb 09 19 22.0
comp=Z,780nm,2.0s
TAWA IAMs_20 IAMs_20 09 36 35.2
comp=Z,90μm,18.1s
USA0B Ussuriysk Arra 44.75 4 P **P** **09 19 03.1 -0.9**
USA0B Ussuriysk Arra 44.75 4 P **P** **09 19 03.1 -0.9**
USA0B pmax pmax
comp=Z,351nm,1.1s
USRK Ussuriysk Ar. 44.75 4 P **P** **09 19 03.6 -0.4**
comp=Z,38nm,0.7s,baz=188,slow=6.7,SNR=70
USRK S **S** **09 25 42.4 +1.9**
comp=Z,2.6nm,0.7s,baz=234,slow=49,SNR=1.1
USRK LR LR 09 35 26.6
comp=Z,126μm,22.0s,baz=163,slow=33
comp=Z,38nm,0.7s
MOO Moorlands 45.04 160 P **P** **09 19 08.3 +1.9**
CAL Calcutta 45.04 303 *e*P **P** **09 19 05.6 -1.1**
MDJ Mudanjiang 45.05 2 **P** **09 19 05.0 -1.4**
MDJ IAmb IAmb 09 19 32.6
comp=Z,486nm,1.1s
MDJ Mudanjiang 45.05 2 P **P** **09 19 05.9 -0.5**
MDJ S **S** **09 25 50.5 +5.6**
MDJ pmax pmax
comp=Z,100nm,1.0s
MDJ pmax pmax
comp=Z,7μm,10.0s
MDJ LR LR
comp=Z,151μm,21.3s
MDJ LR LR
comp=Z,67μm,19.9s
MDJ LR LR
comp=Z,268μm,17.2s
MDJ Mudanjiang 45.05 2 P **P** **09 19 06.6 +0.2**
TAU Tasmania Unive 45.50 160 P **P** **09 19 10.3 +0.3**
TAU IAmb IAmb 09 19 33.1
comp=Z,1μm,1.4s
TAU Tasmania Unive 45.50 160 IAMs_20 IAMs_20 09 41 42.8
comp=Z,502μm,18.0s
TAU Tasmania Unive 45.50 160 P **P** **09 19 11.6 +1.6**
TAU Tasmania Unive 45.50 160 P **P** **09 19 10.3 +0.3**
TAU pmax pmax
comp=Z,1μm,1.5s
TAU MLR MLR
comp=Z,502μm,18.0s
TAU Tasmania Unive 45.50 160 ⇓P **P** **09 19 14.4 +4.4**
XLT XiLinHaoTe 45.60 348 *e*P **P** **09 19 09.4 -1.5**
XLT pP pP 09 19 14.4 -0.8
XLT S **S** **09 25 55.3 +2.2**
XLT pmax pmax
comp=Z,210nm,1.3s
XLT pmax pmax
comp=Z,5μm,6.3s
XLT LR LR
comp=Z,143μm,19.7s
XLT LR LR
comp=Z,109μm,17.6s
BNX BinXian 46.16 359 ⇑P **P** **09 19 14.3 -0.8**
BNX pP **pP** **09 19 17.3 -2.1**
BNX S **S** **09 26 03.3 +2.4**
BNX pmax pmax
comp=Z,5μm,7.5s
BNX LR LR
comp=Z,155μm,18.4s
BNX LR LR
comp=Z,124μm,18.2s
BNX LR LR
comp=Z,170μm,19.2s
LSA Lhasa 46.36 314 P **P** **09 19 17.3 -0.3**
LSA S **S** **09 26 02.5 -2.8**
LSA LR LR
comp=Z,72μm,20.1s
LSA LR LR
comp=Z,35μm,18.7s
ASAJ Asahikawa 46.38 14 LR LR 09 38 46.3
comp=Z,191μm,19.8s,baz=202,slow=36
ASAJ Asahikawa 46.38 14 P **P** **09 19 15.9 -1.0**
ASAJ pmax pmax
comp=Z,860nm,1.3s
ASAJ MLR MLR
comp=Z,266μm,21.0s
JKA Kamikawa-asahi 46.38 14 P **P** **09 19 15.9 -1.0**
JKA IAmb IAmb 09 19 39.0
comp=Z,860nm,1.3s
JPG JALPAIGURI 46.56 308 *e*P **P** **09 19 17.6 -1.1**
JPG IAMs_20 IAMs_20 09 32 26.4
comp=Z,97μm,19.9s
GTK Tadong 47.02 309 *e*P **P** **09 19 21.2 -1.2**
GTK IAmb IAmb 09 19 27.7
comp=Z,898nm,1.1s
GTK IAMs_20 IAMs_20 09 32 13.0
comp=Z,89μm,19.6s
YUK Yuzh-Kuril'sk 47.20 17*d i*P **P** **09 19 24.0 +0.7**
YUK *i* 09 20 53.3
YUK *e* 09 21 12.6
YUK *e*PPP PPP 09 21 57.4
YUK *i* S **S** **09 26 16.8 +1.1**
YUK *e*SSS SSS 09 30 45.0
YUK pmax pmax
comp=Z,1μm,1.4s
YUK pmax pmax
comp=E,933nm,1.0s
YUK pmax pmax
comp=Z,3μm,4.5s
YUK MLR MLR
comp=Z,119μm,17.0s
YUK MLR MLR
comp=N,116μm,18.0s
YUK MLR MLR
comp=E,88μm,18.0s
GTA Gaotai 47.51 330 P **P** **09 19 25.4 -0.6**
GTA pP pP 09 19 29.6 -0.8
GTA S **S** **09 26 23.9 +3.2**
GTA SS **SS** **09 29 39.3 -9.5**
GTA pmax pmax
comp=E,170nm,1.3s
GTA pmax pmax
comp=E,12μm,8.7s
GTA LR LR
comp=E,128μm,20.7s
GTA LR LR
comp=E,148μm,20.4s
GTA LR LR
comp=E,178μm,22.5s
BOK Bokaro 47.61 304 IAMs_20 IAMs_20 09 38 56.6
comp=Z,81μm,19.7s
VIS Vishakhapatnam 47.66 295 *e*P **P** **09 19 26.2 -1.2**
VIS IAmb IAmb 09 19 44.4
comp=Z,354nm,1.7s
VIS IAMs_20 IAMs_20 09 37 52.8
comp=Z,78μm,19.1s
KNTI KHUNTI 47.82 302 *e*P **P** **09 19 29.1 +0.5**
KNTI IAmb IAmb 09 19 33.5
comp=Z,1μm,1.6s
PALK Pallekele 47.92 280 P **P** **09 19 27.1 -2.4**
PALK Pallekele 47.92 280 LR LR 09 40 57.9
comp=Z,110μm,21.3s,baz=104,slow=38
PALK Pallekele 47.92 280 P **P** **09 19 28.5 -1.0**
PALK P **P** **09 19 28.5 -1.0**
PALK P **P** **09 19 28.5 -1.0**
PALK S **S** **09 26 31.1 +4.1**
PALK S **S** **09 26 31.1 +4.1**
PALK S **S** **09 26 31.1 +4.1**
PALK Pallekele 47.92 280 P **P** **09 19 27.1 -2.4**
PALK pmax pmax
comp=Z,2μm,1.9s
PALK MLR MLR
comp=Z,158μm,22.0s
PALK Pallekele 47.92 280 P **P** **09 19 26.0 -3.5**
GOMU GeErMu 47.94 323 P **P** **09 19 28.8 -0.9**
GOMU pP sP 09 19 38.3 +2.5
GOMU sP pP 09 19 44.3 +10
GOMU S **S** **09 26 26.3 -1.1**
GOMU sS sS 09 26 43.0 +8.4
GOMU pmax pmax
comp=Z,47nm,1.6s

GOMU LR LR
comp=Z,73μm,17.9s
GOMU LR LR
comp=Z,80μm,19.8s
GOMU LR LR
comp=Z,108μm,20.6s
MALK Mahakanadarawa 48.23 282 P **P** **09 19 30.0 -1.8**
MALK Mahakanadarawa 48.23 282 ⇑P **P** **09 19 29.7 -2.2**
EVN Everest 48.72 309 P **P** **09 19 33.9 -2.3**
KUR Kuril'sk 48.90 18 *e*P **P** **09 19 36.4 0.0**
KUR *e* 09 21 01.5
KUR *i* S **S** **09 26 39.9 +0.1**
KUR *e* 09 29 32.2
KUR *e*SS **SS** **09 30 07.1 -3.7**
KUR *e*SSS SSS 09 31 24.4
KUR pmax pmax
comp=Z,1μm,1.8s
KUR pmax pmax
comp=N,614nm,1.5s
KUR pmax pmax
comp=E,214nm,0.5s
KUR pmax pmax
comp=Z,18μm,9.7s
KUR MLR MLR
comp=Z,116μm,20.0s
KUR MLR MLR
comp=E,49μm,16.0s
YSS Yuzhno-Sakhali 49.08 13 P **P** **09 19 37.5 -0.3**
YSS IAmb IAmb 09 19 48.5
comp=Z,1μm,1.6s
YSS Yuzhno-Sakhali 49.08 13*α i*P **P** **09 19 38.5 +0.6**
YSS *e* 09 21 29.8
YSS *e*S **S** **09 26 41.5 -0.9**
YSS *e*SS **SS** **09 30 11.0 -2.7**
YSS pmax pmax
comp=Z,80nm,0.7s
YSS pmax pmax
comp=N,2μm,5.5s
YSS pmax pmax
comp=Z,4μm,5.5s
YSS pmax pmax
comp=E,1μm,4.8s
YSS Yuzhno-Sakhali 49.08 13 ⇑P **P** **09 19 38.4 +0.6**
MDRS Chennai 49.34 288 *e*P **P** **09 19 39.5 -0.9**
MDRS IAmb IAmb 09 19 57.7
comp=Z,446nm,2.0s
VJD Vijayawada 49.78 292 *e*P **P** **09 19 42.5 -1.1**
VJD IAmb IAmb 09 20 07.3
comp=Z,966nm,2.1s
VJD IAMs_20 IAMs_20 09 29 52.1
comp=Z,82μm,18.3s
BLSP Bilaspur 50.17 300 *e*P **P** **09 19 45.1 -1.5**
BLSP IAmb IAmb 09 19 51.0
comp=Z,309nm,1.3s
BLSP IAMs_20 IAMs_20 09 28 42.8
comp=Z,80μm,18.5s
HIA Hailar 50.20 353 P **P** **09 19 47.3 +0.9**
HIA Hailar 50.20 353*c i*P **P** **09 19 44.0 -2.4**
HIA pmax pmax
comp=Z,26nm,1.2s
VAR Varanasi 50.61 304 *e*P **P** **09 19 48.8 -1.0**
VAR IAmb IAmb 09 20 06.2
comp=Z,844nm,0.8s
VAR IAMs_20 IAMs_20 09 29 01.4
comp=Z,92μm,18.4s
HEH HeiHe 50.67 359 *e*P **P** **09 19 48.3 -1.6**
HEH sP **pP** **09 19 54.8 +0.6**
HEH S **S** **09 27 05.9 +1.4**
HEH pmax pmax
comp=Z,65nm,1.3s
HEH LR LR
comp=Z,170μm,20.0s
HEH LR LR
comp=Z,100μm,20.8s
HEH LR LR
comp=Z,283μm,21.0s
SALM Salem 51.03 285 *e*P **P** **09 19 52.4 -0.7**
SALM IAmb IAmb 09 20 10.5
comp=Z,1μm,1.7s
SALM IAMs_20 IAMs_20 09 31 47.9
comp=Z,84μm,19.9s
YSA Yasawairara 51.27 111 P **P** **09 19 57.1 +2.1**
FUNA Funafuti 51.49 100 P **P** **09 19 56.6 -0.1**
FUNA Funafuti 51.49 100 P **P** **09 19 58.7 +2.0**
FUNA Funafuti 51.49 100 ⇓P **P** **09 19 58.0 +1.3**
KOD Kodaikanal 51.50 284 *e*P **P** **09 19 55.6 -1.5**
KOD IAmb IAmb 09 20 14.0
comp=Z,442nm,1.1s
KOD IAMs_20 IAMs_20 09 29 24.9
comp=Z,100μm,17.9s
ALBI Allahabad 51.62 303 *e*P **P** **09 19 56.4 -1.0**
ALBI IAmb IAmb 09 20 13.6
comp=Z,560nm,0.9s
ALBI IAMs_20 IAMs_20 09 31 36.9
comp=Z,93μm,17.8s
ULN Ulaanbaatar 51.64 342 P **P** **09 19 55.7 -1.7**
ULN IAmb IAmb 09 20 23.8
comp=Z,1μm,1.3s
ULN Ulaanbaatar 51.64 342 P **P** **09 19 57.3 -0.1**
ULN P **P** **09 19 57.3 -0.1**
ULN P **P** **09 19 57.3 -0.1**
ULN S **S** **09 27 23.9 +5.5**
ULN S **S** **09 27 23.9 +5.5**
ULN S **S** **09 27 23.9 +5.5**
ULN Ulaanbaatar 51.64 342*ce*P **P** **09 19 55.9 -1.5**
ULN pmax pmax
comp=Z,386nm,1.2s
ULN Ulaanbaatar 51.64 342 ⇑P **P** **09 19 56.0 -1.4**
GRNR Gornyy 51.68 7⇓*i*P **P** **09 19 57.5 0.0**
GRNR pmax pmax
comp=Z,50nm,1.0s
TRD Trivandrum 51.75 281 *e*P **P** **09 19 57.5 -1.2**
TRD IAmb IAmb 09 20 12.6
comp=Z,700nm,1.0s
TRD IAMs_20 IAMs_20 09 39 29.6
comp=Z,83μm,20.7s
SONM Songino Array 51.82 342 P **P** **09 19 57.1 -1.6**
SONM IAmb IAmb 09 20 25.0
comp=Z,701nm,1.4s
SONM Songino Array 51.82 342 P **P** **09 19 57.1 -1.6**
comp=Z,24nm,0.7s,baz=160,slow=8.1,SNR=138
SONM S **S** **09 27 17.1 -3.6**
comp=Z,3.9nm,1.1s,baz=286,slow=13,SNR=1.0
SONM PKP2bc 09 50 49.7
comp=Z,10nm,1.3s,baz=325,slow=2.3,SNR=7.4
comp=Z,24nm,0.7s
SONM Songino Array 51.82 342 P **P** **09 19 57.1 -1.6**
SONM pmax pmax
comp=Z,701nm,1.4s
MSVF Nonsavu 51.95 112 P **P** **09 20 01.2 +1.1**
MSVF IAmb IAmb 09 20 33.8
comp=Z,1μm,1.4s
MSVF Nonsavu 51.95 112 IAMs_20 IAMs_20 09 43 17.4
comp=Z,432μm,21.0s
MSVF Nonsavu 51.95 112 P **P** **09 20 01.8 +1.7**
MSVF Nonsavu 51.95 112 *i* P **P** **09 19 59.2 -0.9**
MSVF pmax pmax
comp=Z,646nm,1.4s
HYB Hyderabad 51.95 293⇑*e*P **P** **09 19 58.8 -1.4**
HYB IVmB_BB 09 20 08.9
comp=Z,12μm,4.0s
HYB *e*PcP **PcP** **09 21 10.6 -2.1**
HYB *e*ScP **ScP** **09 25 06.5 -3.0**
HYB *e*S **S** **09 27 20.9 -2.4**
HYB *e*ScS **ScS** **09 29 48.3 -2.4**
HYB *e*SS **SS** **09 31 00.4 -0.1**
HYB IVMs_BB IVMs_BB 09 51 16.6
comp=Z,16μm,20.2s
NGP Nagpur 52.55 297 *e*P **P** **09 20 03.4 -1.1**
BRCI Bahraich 52.70 306 *e*P **P** **09 20 04.1 -1.3**
BRCI IAmb IAmb 09 20 25.7
comp=Z,2μm,1.0s
TYV Tymovskoe 52.76 12 *e*P **P** **09 20 07.1 +1.6**
TYV *e*S **S** **09 27 36.3 +3.1**
TYV pmax pmax
comp=Z,214nm,1.3s
TYV pmax pmax
comp=Z,3μm,2.8s
TYV smax smax
comp=N,36nm,2.4s
TYV smax smax
comp=E,36nm,2.4s
TYV smax smax
comp=N,12μm,5.2s
TYV smax smax

TYV MLR MLR
comp=E,12µm,5.2s
comp=N,74µm,18.0s
LKN LUCKNOW 52.95 305 *e*P **P** **09 20 06.3 -1.0**
LKN IAmb IAmb 09 20 19.3
comp=Z,4µm,1.4s
LKN IAMs_20 IAMs_20 09 29 18.6
comp=Z,91µm,18.5s
DGTI Dogotuki 53.21 110 P **P** **09 20 10.7 +1.3**
TAVE Taveuni 53.63 110 P **P** **09 20 14.5 +2.0**
CIT Chita 53.86 349 *e*P **P** **09 20 12.6 -1.0**
CIT *e*S **S** **09 27 47.4 -0.9**
CIT *e* 09 33 23.8
CIT pmax pmax
comp=Z,2µm,3.0s
ZEA Zeya 54.17 359 *e*P **P** **09 20 14.4 -1.4**
ZEA *e* 09 21 31.0
ZEA *e*S **S** **09 27 54.8 +2.6**
ZEA *e*SS **SS** **09 31 32.5 -1.7**
ZEA pmax pmax
comp=N,60nm,1.6s
ZEA pmax pmax
comp=Z,110nm,1.2s
ZEA pmax pmax
comp=N,3µm,5.7s
ZEA pmax pmax
comp=Z,5µm,6.3s
ZEA smax smax
comp=E,6µm,15.7s
JHNI Jhansi 54.42 302 *e*P **P** **09 20 16.6 -1.5**
JHNI IAmb IAmb 09 20 32.8
comp=Z,5µm,2.7s
JHNI IAMs_20 IAMs_20 09 29 35.3
comp=Z,83µm,17.6s
MNGI Mangalore 54.51 286 *e*P **P** **09 20 17.4 -1.5**
MNGI IAmb IAmb 09 20 32.2
comp=Z,690nm,1.4s
MNGI IAMs_20 IAMs_20 09 29 50.5
comp=Z,98µm,18.3s
LGTI Lohaghat 54.54 307 *e*P **P** **09 20 18.8 -0.1**
LGTI IAmb IAmb 09 20 37.0
comp=Z,338nm,0.5s
LGTI IAMs_20 IAMs_20 09 29 10.7
comp=Z,91µm,19.1s
OUZ Omahuta 54.55 134 IAMs_20 IAMs_20 09 43 33.4
comp=Z,481µm,21.0s
OUZ Omahuta 54.55 134 P **P** **09 20 20.9 +1.9**
NKL Nikolayevsk 54.60 9 *e*P **P** **09 20 15.9 -3.0**
NKL *e*S **S** **09 27 55.3 -2.7**
NKL pmax pmax
comp=N,930nm,1.2s
NKL pmax pmax
comp=E,572nm,1.2s
NKL pmax pmax
comp=Z,3µm,1.1s
NKL smax smax
comp=E,4µm,4.9s
NKL smax smax
comp=N,8µm,9.7s
NKL MLR MLR
comp=E,213µm,23.0s
NKL MLR MLR
comp=N,340µm,20.0s
NKL MLR MLR
comp=Z,571µm,20.0s
PTH Pithoragarh 54.61 308 *e*P **P** **09 20 18.7 -1.0**
PTH IAmb IAmb 09 20 35.4
comp=Z,465nm,1.1s
PTH IAMs_20 IAMs_20 09 29 12.1
comp=Z,88µm,17.7s
BHPL Bhopal 54.64 299 *e*P **P** **09 20 18.7 -1.1**
BHPL IAmb IAmb 09 20 36.9
comp=Z,1µm,1.6s
BHPL IAMs_20 IAMs_20 09 38 31.1
comp=Z,96µm,20.2s
NRDN NARMADA NAGAR 54.70 299 *e*P **P** **09 20 19.2 -1.0**
NRDN IAmb IAmb 09 20 40.6
comp=Z,473nm,1.2s
FUTU Fugatoga 54.88 107 P **P** **09 20 24.2 +2.6**
LKBA Tubou, Lakemba 54.97 112 P **P** **09 20 24.1 +1.9**
KAAM Kaadhehdhoo 55.11 271 P **P** **09 20 22.5 -0.8**
KAAM IAmb IAmb 09 21 55.4
comp=Z,896nm,1.4s
GUNA GUNA 55.17 301 *e*P **P** **09 20 22.6 -1.0**
GUNA IAmb IAmb 09 20 39.3
comp=Z,2µm,1.6s
GUNA IAMs_20 IAMs_20 09 30 03.3
comp=Z,97µm,18.3s
HMDM Hanimaadhoo 55.28 279 P **P** **09 20 25.2 +0.7**
HMDM Hanimaadhoo 55.28 279 P **P** **09 20 26.7 +2.1**
SNR=12
WCZ Waipu Caves 55.44 135 P **P** **09 20 29.8 +4.5**
TKRD Thakurdwara 55.53 307 *e*P **P** **09 20 25.2 -0.9**
JOSI Joshimath 55.54 308 *e*P **P** **09 20 25.2 -1.2**
JOSI IAmb IAmb 09 20 44.2
comp=Z,2µm,1.4s
H08S2 Diego Garcia H 55.85 261 P **P** **09 20 29.8 +1.5**
SNR=5.5
H08S3 Diego Garcia H 55.86 261 P **P** **09 20 29.9 +1.5**
SNR=10
H08S1 Diego Carcia H 55.87 261 P **P** **09 20 30.0 +1.5**
SNR=2.8
DGAR Diego Garcia 55.87 262 P **P** **09 20 29.1 +0.3**
DGAR P **P** **09 20 29.1 +0.3**
DGAR P **P** **09 20 29.1 +0.3**
DGAR S **S** **09 28 21.6 +5.1**
DGAR S **S** **09 28 21.6 +5.1**
DGAR S **S** **09 28 21.6 +5.1**
DGAR Diego Garcia 55.87 262 *i*P **P** **09 20 27.7 -1.1**
DGAR pmax pmax
comp=Z,470nm,1.2s
KAD Karad 55.98 291 *e*P **P** **09 20 28.3 -1.2**
KAD IAmb IAmb 09 20 42.8
comp=Z,345nm,1.4s
KAD IAMs_20 IAMs_20 09 34 54.7
comp=Z,93µm,21.7s
UGON Onchagaon 55.98 305 *e*P **P** **09 20 28.4 -0.9**
UGON IAMs_20 IAMs_20 09 30 26.4
comp=Z,87µm,17.9s
ASOR Ausora 56.26 306 *e*P **P** **09 20 30.4 -1.0**
ASOR IAMs_20 IAMs_20 09 29 32.9
comp=Z,88µm,16.6s
MSZ Milford Sound 56.27 147 P **P** **09 20 35.0 +3.9**
IRK Irkutsk 56.35 343 *e*P **P** **09 20 28.5 -3.1**
IRK *e*S **S** **09 28 14.0 -7.6**
IRK pmax pmax
comp=Z,1µm,3.2s
DCZ Deep Cove 56.36 148 P **P** **09 20 32.5 +0.8**
DCZ IAmb IAmb 09 20 50.6
comp=Z,801nm,1.4s
DCZ IAMs_20 IAMs_20 09 45 41.0
comp=Z,300µm,20.0s
DCZ Deep Cove 56.36 148 P P 09 20 37.8 +6.0
JCZ Jackson Bay 56.37 146 P **P** **09 20 33.7 +1.7**
JCZ Jackson Bay 56.37 146 P **P** **09 20 31.5 -0.5**
MERT Meerut 56.37 306 *e*P **P** **09 20 31.2 -0.9**
MERT IAMs_20 IAMs_20 09 29 33.8
comp=Z,94µm,18.3s
GRZ Great Barrier 56.38 134 P **P** **09 20 33.7 +1.7**
SKR Severo-Kuril's 56.40 21 *e*P **P** **09 20 32.8 +0.9**
SKR *e* 09 22 42.0
SKR *e*S **S** **09 28 28.5 +6.3**
SKR pmax pmax
comp=Z,391nm,1.3s
SKR pmax pmax
comp=Z,8µm,5.0s
POO Poona 56.56 293 *e*P **P** **09 20 32.6 -1.2**
POO IAmb IAmb 09 20 47.0
comp=Z,162nm,0.4s
PYZ Puysegur Point 56.57 149 IAMs_20 IAMs_20 09 46 27.6
comp=Z,230µm,20.0s
FOZ Fox Glacier 56.63 145 IAMs_20 IAMs_20 09 46 20.1
comp=Z,253µm,20.0s
FOZ Fox Glacier 56.63 145 P P 09 20 39.8 +6.1
SONA Sohna 56.63 305 *e*P **P** **09 20 33.2 -0.8**
SONA IAmb IAmb 09 20 49.3
comp=Z,769nm,1.2s
SONA IAMs_20 IAMs_20 09 33 26.4
comp=Z,90µm,18.2s
DDI Dehra Dun 56.63 307 *e*P **P** **09 20 33.0 -1.1**
DDI IAmb IAmb 09 21 09.8
LDR Lodi Road 56.65 305 *e*P **P** **09 20 33.2 -0.9**
LDR IAMs_20 IAMs_20 09 28 45.6
comp=Z,88µm,17.7s
AYAN Aya Nagar 56.68 305 *e*P **P** **09 20 33.4 -0.9**
AYAN IAmb IAmb 09 20 51.6
comp=Z,9µm,1.9s
NDI New Delhi 56.68 305 *e*P **P** **09 20 33.5 -0.8**
NDI IAmb IAmb 09 20 49.5
comp=Z,2µm,1.8s
NDI IAMs_20 IAMs_20 09 29 38.5
comp=Z,97µm,17.3s
NPLP NPLP New Delhi 56.70 305 *e*P **P** **09 20 33.5 -1.0**
NPLP IAmb IAmb 09 20 49.2
comp=Z,143nm,0.6s
QRZ Quartz Range 56.72 141 P **P** **09 20 33.6 -0.8**
DSZ Denniston Nort 56.77 142 P **P** **09 20 35.5 +0.6**
KUZ Kuaotunu 56.80 135 P **P** **09 20 36.7 +1.7**
KUZ Kuaotunu 56.80 135 P **P** **09 20 36.2 +1.2**
MLZ Mavora Lakes 56.81 147 P **P** **09 20 36.0 +1.0**
MLZ IAmb IAmb 09 20 45.3
comp=Z,787nm,2.0s
MLZ IAMs_20 IAMs_20 09 46 41.0
comp=Z,300µm,19.0s
MLZ Mavora Lakes 56.81 147 P **P** **09 20 31.7 -3.3**
WVZ Waitaha Valley 56.89 144 P **P** **09 20 35.6 0.0**
MOY Mondy 56.90 340 *e*P **P** **09 20 34.5 -1.1**
MOY pmax pmax
comp=Z,722nm,2.0s
BHGR Bahadurgarh 56.91 305 *e*P **P** **09 20 35.0 -0.9**
BHGR IAmb IAmb 09 20 59.0
comp=Z,601nm,0.5s
BHGR IAMs_20 IAMs_20 09 29 49.1
comp=Z,72µm,18.4s
BHGR IAMs_20 IAMs_20 09 34 17.4
comp=Z,97µm,18.5s
HNLY HANLEY 56.94 311 *e*P **P** **09 20 35.3 -1.5**
HNLY IAmb IAmb 09 20 49.6
comp=Z,464nm,1.4s
HNLY IAMs_20 IAMs_20 09 29 20.5
comp=Z,87µm,17.8s
WKZ Wanaka 56.97 146 P **P** **09 20 35.1 -1.1**
WKZ IAMs_20 IAMs_20 09 45 33.1
comp=Z,284µm,21.0s
KLP Kalpa 56.97 309 *e*P **P** **09 20 35.4 -1.3**
KLP IAmb IAmb 09 20 53.5
comp=Z,1µm,1.4s
GNR GANAUR 57.01 306 *e*P **P** **09 20 35.7 -1.0**
GNR IAMs_20 IAMs_20 09 29 41.6
comp=Z,90µm,17.3s
HIZ Hauiti 57.05 137 P **P** **09 20 35.1 -1.7**
HIZ IAmb IAmb 09 21 23.4
comp=Z,902nm,1.3s
HIZ IAMs_20 IAMs_20 09 45 41.3
comp=Z,310µm,20.0s
HIZ Hauiti 57.05 137 P **P** **09 20 38.2 +1.4**
WMQ Urumqi 57.05 326 ⇑P **P** **09 20 36.0 -0.8**
WMQ S **S** **09 28 31.3 0.0**
WMQ pmax pmax
comp=Z,240nm,1.7s
WMQ pmax pmax
comp=Z,7µm,7.3s
WMQ LR LR
comp=Z,85µm,17.1s
WMQ LR LR
comp=Z,65µm,18.1s
WMQ LR LR
comp=Z,60µm,20.1s
WHZ Wether Hill Ro 57.06 148 P **P** **09 20 35.6 -1.1**
WHZ IAMs_20 IAMs_20 09 46 02.5
comp=Z,266µm,20.0s
WHZ Wether Hill Ro 57.06 148 P **P** **09 20 35.7 -1.1**
KUDL Kundal 57.08 304 *e*P **P** **09 20 36.3 -0.9**
KUDL IAmb IAmb 09 20 52.3
comp=Z,657nm,1.0s
KUDL IAMs_20 IAMs_20 09 29 41.6
comp=Z,81µm,18.8s
TOZ Tahuroa Road 57.11 136 P **P** **09 20 37.0 -0.2**
TOZ IAmb IAmb 09 20 59.4
comp=Z,648nm,1.4s
TOZ IAMs_20 IAMs_20 09 47 49.0
comp=Z,252µm,18.0s
TOZ Tahuroa Road 57.11 136 P **P** **09 20 40.4 +3.2**
INZ Inchbonnie 57.11 143 P **P** **09 20 36.0 -1.2**
INZ IAMs_20 IAMs_20 09 47 52.9
comp=Z,380µm,19.0s
INZ Inchbonnie 57.11 143 P **P** **09 20 39.4 +2.2**
VRZ Vera Road 57.28 138 P **P** **09 20 40.9 +2.5**
LBZ Lake Benmore 57.35 145 P **P** **09 20 38.2 -0.6**
LBZ Lake Benmore 57.35 145 P **P** **09 20 37.9 -0.9**
EAZ Earnscleugh 57.38 146 P **P** **09 20 38.2 -0.8**
RPZ Rata Peaks 57.46 144 P **P** **09 20 39.6 0.0**
RPZ IAMs_20 IAMs_20 09 49 12.0
comp=Z,379µm,20.0s
RPZ Rata Peaks 57.46 144 LR LR 09 47 45.7
comp=Z,281µm,18.1s,baz=306,slow=38
RPZ Rata Peaks 57.46 144 P **P** **09 20 40.0 +0.4**
THZ Tophouse 57.47 141 P **P** **09 20 39.6 -0.2**
THZ Tophouse 57.47 141 P **P** **09 20 39.9 +0.2**
NNZ Nelson 57.47 141 P **P** **09 20 40.7 +0.9**
LTZ Lake Taylor 57.64 143 P **P** **09 20 41.5 +0.6**
SMLA Simla 57.66 308 *e*P **P** **09 20 40.3 -0.9**
SMLA IAmb IAmb 09 20 52.3
comp=Z,873nm,2.4s
SMLA IAMs_20 IAMs_20 09 35 32.0
comp=Z,89µm,19.2s
OXZ Oxford 57.81 143 P **P** **09 20 42.1 0.0**
OXZ IAMs_20 IAMs_20 09 48 13.5
comp=Z,375µm,19.0s
OXZ Oxford 57.81 143 P **P** **09 20 42.1 0.0**
TMZ Timaru 57.82 145 P **P** **09 20 43.9 +1.8**
TUWZ Tuamarina 57.94 140 P **P** **09 20 42.5 -0.5**
TUZ Tuapeka 58.01 147 P **P** **09 20 46.0 +2.7**
ODZ Otahua Downs 58.01 146 P **P** **09 20 42.9 -0.6**
ODZ IAmb IAmb 09 20 54.9
comp=Z,2µm,2.5s
ODZ IAMs_20 IAMs_20 09 47 15.8
comp=Z,315µm,19.0s
ODZ Otahua Downs 58.01 146 P **P** **09 20 46.1 +2.7**
AJM Ajmer 58.06 302 *e*P **P** **09 20 43.2 -1.1**
AJM IAmb IAmb 09 21 08.2
comp=Z,172nm,0.8s
WIZ White Island 58.20 135 P **P** **09 20 49.5 +4.6**
GVZ Greta Valley S 58.21 142 P **P** **09 20 44.0 -0.9**
KHZ Kahutara 58.22 142 P **P** **09 20 43.5 -1.4**
BHK Bhakra 58.36 308 *e*P **P** **09 20 42.4 -3.8**
BHK IAmb IAmb 09 21 18.7
comp=Z,891nm,1.1s
SNZO South Karori 58.37 140 P **P** **09 20 48.1 +2.1**
SNZO South Karori 58.37 140 ⇓P **P** **09 20 46.4 +0.4**
SNZO South Karori 58.37 140 P **P** **09 20 47.1 +1.1**
SNZO S **S** **09 28 53.4 +5.0**
MQZ McQueen's Vall 58.40 143 IAMs_20 IAMs_20 09 48 41.0
comp=Z,286µm,18.0s
MQZ McQueen's Vall 58.40 143 P **P** **09 20 49.9 +3.8**
URZ Urewera 58.48 136 P **P** **09 20 46.6 -0.3**
comp=Z,335nm,1.3s,baz=97,slow=2.7,SNR=7.6
URZ LR LR 09 48 38.3
comp=Z,188µm,18.2s,baz=304,slow=39
comp=Z,335nm,1.3s
URZ Urewera 58.48 136 P **P** **09 20 45.9 -0.9**
BKZ Black Stump Fm 58.48 137 IAMs_20 IAMs_20 09 46 39.2
comp=Z,304µm,22.0s
BKZ Black Stump Fm 58.48 137 P **P** **09 20 46.2 -0.7**
BKZ Black Stump Fm 58.48 137 P **P** **09 20 46.4 -0.5**
HHSZ Highcliff Hill 58.50 146 P P 09 20 52.1 +5.2
BHW Baring Head 58.52 140 IAMs_20 IAMs_20 09 47 51.4
comp=Z,265µm,20.0s
RTZ Ruatahuna 58.55 136 IAMs_20 IAMs_20 09 45 24.5
comp=Z,240µm,21.0s
TSZ Takapari Road 58.55 138 P **P** **09 20 47.3 -0.1**
MRZ Mangatainoka R 58.60 139 P **P** **09 20 50.3 +2.7**
HAZ Te Kaha 58.72 135 P **P** **09 20 48.9 +0.4**
RAO Raoul Island 58.74 124 LR LR 09 45 42.5
comp=Z,133µm,21.4s,baz=294,slow=36
DHRM DHARAMSHALA 58.78 309 *e*P **P** **09 20 48.2 -1.1**
DHRM IAmb IAmb 09 21 15.7
comp=Z,2µm,1.1s
MWZ Matawai 58.80 136 P **P** **09 20 47.8 -1.4**
PEA0B Petropavlovsk- 58.96 20 *i*P **P** **09 20 48.9 -1.0**
PETK Petropavlovsk- 58.96 20 P **P** **09 20 52.0 +2.1**
comp=Z,110nm,1.0s,baz=189,slow=4.8,SNR=33
PETK S **S** **09 28 59.4 +3.7**
comp=Z,3.4nm,0.9s,baz=143,slow=5.2,SNR=1.8
PETK LR LR 09 44 34.3
comp=Z,111µm,20.9s,baz=207,slow=34
PETK PKPPKP **P'P'df** **09 50 22.9 -1.0**
comp=Z,3.8nm,1.0s,baz=56,slow=1.0,SNR=4.5
comp=Z,110nm,1.0s
MXZ Matakaoa Point 59.01 135 P **P** **09 20 52.7 +2.2**
MXZ Matakaoa Point 59.01 135 P P 09 20 55.7 +5.2
BFZ Birch Farm 59.05 139 P **P** **09 20 50.5 -0.3**
BFZ IAmb IAmb 09 21 09.6
comp=Z,766nm,1.6s
BFZ Birch Farm 59.05 139 P **P** **09 20 52.8 +2.0**
BFZ Birch Farm 59.05 139 P **P** **09 20 54.1 +3.3**
PXZ Pawanui 59.15 138 P **P** **09 20 54.5 +3.1**
PUZ Puketiti 59.20 135 P **P** **09 20 52.2 +0.3**
KNZ Kokohu 59.22 136 P **P** **09 20 52.4 +0.4**
PET Petropavlovsk 59.22 21 P **P** **09 20 52.8 +1.1**
PET Petropavlovsk 59.22 21 P **P** **09 20 53.6 +1.9**
PET Petropavlovsk 59.22 21 *e*P **P** **09 20 53.7 +2.0**
PET *e* 09 21 40.7
PET *e* 09 23 02.6
PET *e*S **S** **09 29 02.4 +3.3**
PET *e* 09 30 44.9
PET *e*SS **SS** **09 32 53.7 -0.1**
PET pmax pmax
comp=Z,4µm,10.3s
PET pmax pmax
comp=Z,3µm,15.8s
PET pmax pmax
comp=Z,774nm,1.3s
PET pmax pmax
comp=Z,8µm,14.4s
THN Thein Dam 59.30 309 *e*P **P** **09 20 51.4 -1.2**
THN IAmb IAmb 09 21 19.1
comp=Z,665nm,0.9s
BOD Bodaibo 59.33 351 *e*P **P** **09 20 51.0 -1.4**
BOD pmax pmax
comp=Z,647nm,1.8s
BKNR BIKANER 59.71 303 *e*P **P** **09 20 55.0 -0.6**
BKNR IAmb IAmb 09 21 19.9
comp=Z,2µm,1.4s
JMU Jammu 60.05 309 *e*P **P** **09 20 57.6 -0.2**
JMU IAmb IAmb 09 21 25.2
comp=Z,5µm,1.8s
JMU IAMs_20 IAMs_20 09 29 38.1
comp=Z,85µm,18.5s
ZSN Zaisan 60.88 328 *c i*P **P** **09 21 01.9 -1.3**
ZSN *e*S **S** **09 29 20.0 -0.7**
ZSN pmax pmax
comp=Z,314nm,2.2s
ZSN Zaisan 60.88 328 ⇑ *i*P **P** **09 21 02.0 -1.3**
comp=Z,314nm,2.2s
ZSN *e*S **S** **09 29 20.1 -0.7**
JASL Jaisalmer 61.38 301 *e*P **P** **09 21 06.0 -1.0**
JASL IAmb IAmb 09 21 32.3
comp=Z,716nm,1.5s
BHUJ Bhuj 61.50 297 *e*P **P** **09 21 06.8 -1.0**
BHUJ IAmb IAmb 09 21 33.3
comp=Z,228nm,0.8s
BHUJ IAMs_20 IAMs_20 09 39 15.2
comp=Z,82µm,19.4s
NIL Nilore 61.68 309 P **P** **09 21 09.0 0.0**
NIL P **P** **09 21 09.0 0.0**
UZB Uzynbulak 61.82 321 *c i*P **P** **09 21 08.2 -1.7**
UZB *e*S **S** **09 29 31.9 -1.3**
UZB pmax pmax
comp=Z,439nm,2.5s
UZB Uzynbulak 61.82 321 ⇑ *i*P **P** **09 21 08.3 -1.7**
comp=Z,439nm,2.5s
UZB *e*S **S** **09 29 31.9 -1.3**
MK31 Makanchi Array 61.89 326 *ce*P **P** **09 21 08.0 -2.1**
MKAR Makanchi Array 61.89 326 P **P** **09 21 08.0 -2.1**
MKAR Makanchi Array 61.89 326 P **P** **09 21 08.3 -1.7**
comp=Z,26nm,0.7s,baz=119,slow=8.6,SNR=91
MKAR LR LR 09 48 40.2
comp=Z,81µm,21.7s,baz=110,slow=37
MKAR PKPPKP **P'P'df** **09 50 12.9 -7.2**
comp=Z,5.8nm,1.1s,baz=322,slow=3.7,SNR=4.4
comp=Z,26nm,0.7s
MKAR Makanchi Array 61.89 326 *ce*P **P** **09 21 07.6 -2.5**
MKAR pmax pmax
comp=Z,26nm,0.7s
MAKZ Makanchi 62.07 326 P **P** **09 21 09.3 -2.0**
MAKZ IAmb IAmb 09 21 31.1
comp=Z,539nm,1.1s
MAKZ Makanchi 62.07 326 ⇑P **P** **09 21 10.4 -0.9**
KSH Kashi 62.08 316 P **P** **09 21 10.9 -0.8**
KSH sP sP 09 21 19.3 +1.5
KSH S **S** **09 29 36.8 +0.2**
KSH pmax pmax
comp=Z,220nm,1.4s
KSH pmax pmax
comp=Z,8µm,7.6s
KSH LR LR
comp=Z,63µm,16.8s
KSH LR LR
comp=Z,81µm,25.1s
KSH LR LR
comp=Z,103µm,19.2s
YAK Yakutsk 62.49 1 P **P** **09 21 12.7 -1.1**
YAK Yakutsk 62.49 1 IAMs_20 IAMs_20 09 48 50.5
comp=Z,193µm,20.0s
YAK Yakutsk 62.49 1 LR LR 09 48 35.1
comp=Z,128µm,21.6s,baz=173,slow=36
YAK Yakutsk 62.49 1 *e*P **P** **09 21 12.9 -0.9**
YAK *e* 09 21 52.1
YAK *e* 09 23 30.0
YAK *e*S **S** **09 29 40.5 0.0**
YAK *e**SS sS 09 30 03.8 +16
YAK *e* 09 31 05.0
YAK pmax pmax
comp=Z,282nm,0.8s
YAK pmax pmax
comp=N,563nm,1.6s
YAK pmax pmax
comp=E,116nm,1.1s
YAK pmax pmax
comp=Z,3µm,5.2s
YAK pmax pmax
comp=N,3µm,5.2s
YAK pmax pmax
comp=E,394nm,1.9s
YAK smax smax
comp=E,33µm,9.0s
YAK smax smax
comp=N,8µm,7.4s
YAK MLR MLR
comp=Z,175µm,26.0s
YAK MLR MLR
comp=N,141µm,23.0s
MA2 Magadan 62.58 13 P **P** **09 21 13.3 -1.1**
MA2 Magadan 62.58 13 P **P** **09 21 15.1 +0.7**
comp=N,108nm,0.8s,baz=195,slow=6.8,SNR=16
MA2 LR LR 09 46 10.5
comp=N,93µm,21.6s,baz=201,slow=34
comp=N,108nm,0.8s
MA2 Magadan 62.58 13 P **P** **09 21 16.1 +1.6**
MA2 Magadan 62.58 13 *ce*P **P** **09 21 14.9 +0.4**
MA2 pmax pmax
comp=Z,1µm,1.4s
MA2 MLR MLR
comp=Z,64µm,19.0s
TNSS Tian-Shan 63.08 320 *e*P **P** **09 21 16.7 -1.9**
TNSS Tian-Shan 63.08 320 *e*P **P** **09 21 16.7 -1.9**
ARXS Arharly 63.11 322 *i*P **P** **09 21 16.0 -2.4**
ULHL Ulahol 63.16 319 P **P** **09 21 22.0 +3.1**
SNR=23
TDK Taldyqorghan 63.16 323 *e*P **P** **09 21 17.2 -1.4**
TDK pmax pmax
comp=Z,251nm,1.4s
TDK Taldyqorghan 63.16 323 *e*P **P** **09 21 17.3 -1.4**
comp=Z,251nm,1.4s
TDK LR LR 09 51 09.0
comp=Z,41µm,19.3s
AAA Alma-Ata 63.19 320 *e*P **P** **09 21 17.5 -1.4**
AAA pmax pmax
comp=Z,271nm,1.4s
AAA Alma-Ata 63.19 320 *e*P **P** **09 21 17.6 -1.4**
comp=Z,271nm,1.4s
NIUE Niue 63.40 111 P **P** **09 21 20.6 0.0**
NIUE Niue 63.40 111 P **P** **09 21 23.2 +2.5**
JOHN Johnston Islan 63.82 71 P **P** **09 21 27.8 +4.4**
KUU Kurty 63.89 321 *e*P **P** **09 21 21.9 -1.5**
KUU pmax pmax
comp=Z,288nm,1.2s
KUU Kurty 63.89 321 *e*P **P** **09 21 21.9 -1.5**
comp=Z,288nm,1.2s
TKM2 Tokmak 2 63.90 320 P **P** **09 21 21.8 -2.0**
SNR=21
KBK Karagaybulak 64.20 319 P **P** **09 21 28.1 +2.4**
SNR=20
UCH Uchtor 64.29 318 P **P** **09 21 25.5 -1.2**

SNR=23
CHMS Chumysh 64.48 319 P **P** **09 21 30.0 +2.6**
SNR=12
AAK Ala-Archa 64.49 319 P **P** **09 21 30.7 +3.1**
SNR=22
AAK Ala-Archa 64.49 319 P **P** **09 21 25.9 -1.7**
AAK IAmb IAmb 09 22 10.0
comp=Z,539nm,1.4s
AAK Ala-Archa 64.49 319 P **P** **09 21 26.9 -0.7**
comp=Z,125nm,1.3s,baz=108,slow=5.3,SNR=14
comp=Z,125nm,1.3s
AAK Ala-Archa 64.49 319 P **P** **09 21 28.2 +0.6**
AAK P **P** **09 21 28.2 +0.6**
AAK P **P** **09 21 28.2 +0.6**
AAK S **S** **09 30 07.4 +0.8**
AAK S **S** **09 30 07.4 +0.8**
AAK S **S** **09 30 07.4 +0.8**
AAK Ala-Archa 64.49 319*ce*P **P** **09 21 26.3 -1.3**
AAK pmax pmax
comp=Z,125nm,1.7s
AAK MLR MLR
comp=Z,92µm,21.0s
AAK Ala-Archa 64.49 319 *i* P **P** **09 21 26.4 -1.3**
SNR=22
AAK Ala-Archa 64.49 319 P **P** **09 21 27.0 -0.7**
AAK S **S** **09 30 07.4 +0.8**
SGDS Sogindy 64.77 320 *e*P **P** **09 21 27.9 -1.4**
USP Ospenovka 64.77 319 P **P** **09 21 27.2 -2.1**
SNR=17
EKS2 Erkin-Say 64.97 319 P **P** **09 21 29.1 -1.7**
SNR=15
ZAA0 Zalesovo Array 65.05 333 P **P** **09 21 27.3 -3.5**
ZAA0 IAmb IAmb 09 22 02.4
comp=Z,462nm,1.4s
ZALV Zalesovo Beam 65.05 333 P **P** **09 21 27.5 -3.4**
ZALV Zalesovo Beam 65.05 333 P **P** **09 21 29.3 -1.6**
comp=Z,68nm,1.1s,baz=104,slow=4.7,SNR=38
ZALV PKPPKP **P'P'df** **09 50 13.1 -1.3**
comp=Z,3.2nm,0.9s,baz=325,slow=1.8,SNR=5.3
ZALV LR LR 09 52 31.0
comp=Z,40µm,18.9s,baz=137,slow=38
comp=Z,68nm,1.1s
CTZ Chatham Island 65.16 139 IAMs_20 IAMs_20 09 50 43.0
comp=Z,244µm,21.0s
CTZ Chatham Island 65.16 139 P **P** **09 21 34.1 +2.3**
CTZ Chatham Island 65.16 139 P **P** **09 21 35.6 +3.8**
KBU Kabul Universi 65.18 309 P **P** **09 21 30.1 -2.3**
KBL Kabul 65.26 309 P **P** **09 21 30.3 -2.6**
KBL IAmb IAmb 09 21 53.0
comp=Z,357nm,1.1s
KBL Kabul 65.26 309 P **P** **09 21 32.3 -0.6**
SNR=109
KBL P **P** **09 21 32.3 -0.6**
SNR=109
KBL P **P** **09 21 32.3 -0.6**
SNR=109
KBL Kabul 65.26 309 P **P** **09 21 30.3 -2.6**
KBL pmax pmax
comp=Z,357nm,1.2s
SHEM Shemya Is, Ala 65.55 29 P **P** **09 21 35.4 +1.4**
comp=Z,70nm,0.9s,baz=316,slow=5.5,SNR=8.2
SHEM LR LR 09 47 23.8
comp=Z,189µm,20.4s,baz=224,slow=33
comp=Z,70nm,0.9s
SMY Shemya 65.55 29 P **P** **09 21 33.0 -1.0**
SMY Shemya 65.55 29 P **P** **09 21 35.8 +1.8**
BTLS Baital 65.88 321*c i*P **P** **09 21 34.9 -1.4**
BTLS *e*S **S** **09 30 22.2 -0.9**
BTLS Baital 65.88 321 *i*P **P** **09 21 35.0 -1.4**
BTLS *e*S **S** **09 30 22.3 -0.9**
SEY Seymchan 65.95 12 P **P** **09 21 37.7 +1.2**
comp=Z,72nm,1.0s,baz=210,slow=6.6,SNR=32
SEY S **S** **09 30 27.2 +3.9**
comp=Z,2.2nm,1.0s,baz=58,slow=22,SNR=8.8
SEY LR LR 09 49 19.6
comp=Z,84µm,21.5s,baz=193,slow=35
comp=Z,72nm,1.0s
SEY Seymchan 65.95 12*c i*P **P** **09 21 35.5 -1.0**
SEY pmax pmax
comp=Z,43nm,1.0s
SEY MLR MLR
comp=Z,120µm,21.0s
KURBB Kurchatov Arra 66.11 328 P **P** **09 21 35.1 -2.6**
comp=Z,40nm,0.7s,baz=129,slow=6.0,SNR=64
KURBB PP **PP** **09 24 03.3 -0.1**
comp=Z,31nm,1.1s,baz=125,slow=7.8,SNR=0.9
KURBB S **S** **09 30 22.2 -3.6**
comp=Z,2.5nm,0.7s,baz=124,slow=5.9,SNR=2.1
KURBB PKPPKP **P'P'df** **09 50 11.3 -1.6**
comp=Z,7.6nm,1.1s,baz=287,slow=3.4,SNR=10
comp=Z,40nm,0.7s
KURBB Kurchatov Arra 66.11 328 P **P** **09 21 35.3 -2.5**
KURK Kurchatov 66.12 328 P **P** **09 21 36.1 -1.7**
KURK Kurchatov 66.12 328 P **P** **09 21 36.1 -1.7**
KURK P **P** **09 21 36.1 -1.7**
KURK P **P** **09 21 36.1 -1.7**
KURK Kurchatov 66.12 328*ce*P **P** **09 21 33.4 -4.4**
KURK pmax pmax
comp=Z,70nm,0.7s
KURK MLR MLR
comp=Z,46µm,22.0s
DZA Taraz 66.70 318 *e*P **P** **09 21 40.2 -1.5**
DZA pmax pmax
comp=Z,173nm,1.6s
DZA Taraz 66.70 318 *e*P **P** **09 21 40.3 -1.5**
comp=Z,173nm,1.6s
CASY Casey 66.71 188 P **P** **09 21 40.1 -1.2**
IUG luzhnay 67.28 317 *e*P **P** **09 21 44.2 -1.3**
IUG *e*S **S** **09 30 39.4 -1.1**
IUG pmax pmax
comp=Z,170nm,1.0s
IUG luzhnay 67.28 317 *e*P **P** **09 21 44.3 -1.3**
comp=Z,170nm,1.0s
IUG *e*S **S** **09 30 39.5 -1.1**
KK31 Karatay Array 67.33 318 P **P** **09 21 43.9 -1.9**
KK31 IAmb IAmb 09 22 20.8
comp=Z,331nm,1.1s
KK31 Karatay Array 67.33 318 P **P** **09 21 43.9 -1.9**
KK31 pmax pmax
comp=Z,331nm,1.1s
KKAR Karatay Array 67.33 318 P **P** **09 21 44.1 -1.6**
KKAR Karatay Array 67.33 318 P **P** **09 21 44.2 -1.6**
AMKA Amchitka 67.39 32 P **P** **09 21 46.5 +0.6**
CHM Chimkent 67.64 317 *e*P **P** **09 21 46.4 -1.3**
CHM *e*S **S** **09 30 43.6 -1.1**
CHM pmax pmax
comp=Z,97nm,1.2s
CHM MLR MLR
comp=Z,28µm,19.0s
CHM Chimkent 67.64 317 *e*P **P** **09 21 46.5 -1.3**
comp=Z,96nm,1.2s
CHM *e*S **S** **09 30 43.6 -1.1**
CHM LR LR 09 53 54.5
comp=Z,28µm,19.1s
BRLS Borolday 67.76 318 *e*P **P** **09 21 46.9 -1.6**
BRLS pmax pmax
comp=Z,506nm,2.6s
BRLS Borolday 67.76 318 *e*P **P** **09 21 46.9 -1.6**
comp=Z,506nm,2.6s
BRZS Berezniki 69.00 325 *e*P **P** **09 21 54.7 -1.4**
BRZS Berezniki 69.00 325 *e*P **P** **09 21 54.7 -1.4**
KIWB Kanaga Island 69.54 33 P **P** **09 21 58.7 -0.6**
KIWB IAmb IAmb 09 22 18.8
comp=Z,357nm,1.2s
NGCH Negor - Chabah 69.54 297 P **P** **09 21 59.6 -0.2**
ADK Adak 69.81 33 IAMs_20 IAMs_20 09 52 58.8
comp=Z,209µm,20.0s
ADK Adak 69.81 33 P **P** **09 22 02.2 +1.2**
ADK Adak 69.81 33 P **P** **09 22 00.6 -0.4**
ADK pmax pmax
comp=Z,672nm,1.5s
ADK MLR MLR
comp=Z,209µm,20.0s
JLN Jalan Bani Buh 70.55 294 P **P** **09 22 09.4 +3.3**
SNR=13
JLN P **P** **09 22 09.4 +3.3**
SNR=13
WBK Wadi Bani Khal 71.02 294 P **P** **09 22 08.9 -0.2**
SNR=7.3
WBK P **P** **09 22 08.9 -0.2**
SNR=7.3
ATKA Atka Island 71.31 33 P **P** **09 22 10.5 +0.4**
ATKA IAmb IAmb 09 22 17.9
comp=Z,334nm,0.9s
ATKA Atka Island 71.31 33 P **P** **09 22 11.7 +1.6**
BVAR Borovoye Array 71.69 327 P **P** **09 22 10.7 -1.7**
comp=Z,16nm,0.8s,baz=114,slow=9.9,SNR=25
BVAR S **S** **09 31 26.8 -5.1**
comp=Z,0.8nm,0.3s,baz=292,slow=43,SNR=1.6
comp=Z,16nm,0.8s
MHTO MHTO 71.71 292 P **P** **09 22 13.0 -0.1**
SNR=30
MHTO P **P** **09 22 13.0 -0.1**
SNR=30
BRVK Borovoye 71.76 327 P **P** **09 22 10.4 -2.4**
BRVK IAmb IAmb 09 22 39.9
comp=Z,833nm,1.6s
BRVK Borovoye 71.76 327 P **P** **09 22 11.6 -1.3**
BRVK P **P** **09 22 11.6 -1.3**
BRVK Borovoye 71.76 327*ce*P **P** **09 22 10.5 -2.4**
BRVK pmax pmax
comp=Z,65nm,1.7s
BRVK MLR MLR
comp=Z,68µm,17.0s
JMDO Jabal Madar 71.78 294 P **P** **09 22 13.3 -0.4**
SNR=18
JMDO P **P** **09 22 13.3 -0.4**
SNR=18
BIDO Bidbid 71.93 295 P **P** **09 22 14.0 -0.5**
SNR=30
BIDO P **P** **09 22 14.0 -0.5**
SNR=30
SMDO Samad 71.93 294 P **P** **09 22 14.5 -0.1**
SNR=20
SMDO P **P** **09 22 14.5 -0.1**
SNR=20
DQM DQM 71.97 291 P **P** **09 22 14.4 -0.4**
SNR=12
DQM P **P** **09 22 14.4 -0.4**
SNR=12
TIXI Tiksi 72.14 0 P **P** **09 22 13.1 -1.6**
TIXI IAmb IAmb 09 22 40.9
comp=Z,660nm,1.5s
TIXI IAMs_20 IAMs_20 09 55 23.2
comp=Z,172µm,19.0s
TIXI Tiksi 72.14 0 LR LR 09 54 54.4
comp=Z,122µm,21.5s,baz=190,slow=37
TIXI Tiksi 72.14 0*ce*P **P** **09 22 13.8 -1.0**
TIXI pmax pmax
comp=Z,270nm,1.7s
TIXI MLR MLR
comp=Z,168µm,18.0s
JASK Jask - Hormozg 72.53 297 P **P** **09 22 19.8 +1.8**
SNR=12
BSY Bisya 72.66 294 P **P** **09 22 18.6 -0.3**
SNR=22
BSY P **P** **09 22 18.6 -0.3**
SNR=22
HOQ Hoqain 72.68 295 P **P** **09 22 19.0 0.0**
SNR=47
RAR Rarotonga 73.14 112 P **P** **09 22 23.6 +1.9**
RER Riviere de l'E 73.33 248 P **P** **09 22 21.2 -1.8**
RER IAmb IAmb 09 22 42.5
comp=Z,396nm,1.1s
ARQ Araqi 73.36 294 P **P** **09 22 22.5 -0.5**
SNR=49
ARQ P **P** **09 22 22.5 -0.5**
SNR=49
BILL Bilibino 73.39 14*ce*P **P** **09 22 21.4 -0.9**
BILL pmax pmax
comp=Z,211nm,1.5s
BILL MLR MLR
comp=Z,104µm,20.0s
SOHO SOHO 73.46 295 P **P** **09 22 23.3 -0.3**
SOHO P **P** **09 22 23.3 -0.3**
SOHO SOHO 73.46 295 *i*P **P** **09 22 20.1 -3.5**
SNR=13
MDH Madha 73.84 296 P **P** **09 22 25.2 -0.6**
MDH P **P** **09 22 25.2 -0.6**
MDH Madha 73.84 296 P **P** **09 22 23.4 -2.4**
UOSS Minazif 73.88 296 P **P** **09 22 23.8 -2.2**
UOSS Minazif 73.88 296 P **P** **09 22 25.7 -0.3**
UOSS Minazif 73.88 296 *i*P **P** **09 22 23.6 -2.5**
SNR=6.9
UOSS Minazif 73.88 296 P **P** **09 22 24.6 -1.5**
HATD Hatta, Dubai 73.92 296 P **P** **09 22 26.0 -0.3**
SNR=23
HATD Hatta, Dubai 73.92 296 *i*P **P** **09 22 23.1 -3.2**
SNR=15
BANOM Banah 73.94 297 P **P** **09 22 25.9 -0.5**
BANOM P **P** **09 22 25.9 -0.5**
BANOM Banah 73.94 297 *i*P **P** **09 22 24.0 -2.4**
SNR=7.9
ASHO Ashiyiah 73.97 296 P **P** **09 22 31.0 +4.3**
SNR=19
ASHO P **P** **09 22 31.0 +4.3**
SNR=19
ASHO Ashiyiah 73.97 296 *i*P **P** **09 22 23.6 -3.1**
SNR=13
MSFE Esma-Masafi 73.98 297 *i*P **P** **09 22 23.3 -3.3**
SNR=16
MASF Masafi 73.98 297 P **P** **09 22 26.3 -0.4**
SNR=15
MASF P **P** **09 22 26.3 -0.4**
SNR=15
SHME Shamm 74.10 297 P **P** **09 22 27.0 -0.3**
SHME Shamm 74.10 297 *i*P **P** **09 22 24.7 -2.6**
SNR=6.5
DMTO DMTO 74.15 289 P **P** **09 22 27.5 -0.2**
ALNE Al Ain 74.16 295 P **P** **09 22 27.2 -0.5**
SNR=68
ALNE P **P** **09 22 27.2 -0.5**
SNR=68
ALNE Al Ain 74.16 295 *i*P **P** **09 22 24.7 -3.0**
SNR=48
NAZ Nazwa, Dubai 74.37 296 P **P** **09 22 28.6 -0.3**
SNR=19
NAZ Nazwa, Dubai 74.37 296 *i*P **P** **09 22 26.5 -2.4**
SNR=11
FAQ Al Faqa, Dubai 74.40 296 P **P** **09 22 28.4 -0.7**
SNR=24
FAQ Al Faqa, Dubai 74.40 296 *i*P **P** **09 22 25.4 -3.7**
SNR=9.9
UMQ Umm Al-Quwin 74.45 297 P **P** **09 22 28.2 -1.1**
UMZA Um Al Zommool 74.52 294 P **P** **09 22 29.7 -0.2**
UMZA P **P** **09 22 29.7 -0.2**
NIKH Nikolski High 74.59 34 P **P** **09 22 28.2 -1.4**
NIKH IAmb IAmb 09 22 48.0
comp=Z,388nm,1.1s
NIKH Nikolski High 74.59 34 P **P** **09 22 31.8 +2.2**
NIKH Nikolski High 74.59 34 P **P** **09 22 32.3 +2.6**
baz=248
ASUD Al Ashush, Dub 74.62 296 P **P** **09 22 32.1 +1.8**
SNR=33
ASUD P **P** **09 22 32.1 +1.8**
SNR=33
ASUD Al Ashush, Dub 74.62 296 *i*P **P** **09 22 26.9 -3.5**
SNR=39
RBK Rabkut 74.84 288 P **P** **09 22 31.0 -0.8**
RBK P **P** **09 22 31.0 -0.8**
AJN Ajban 74.92 296 P **P** **09 22 33.0 +0.9**
SNR=36
AJN P **P** **09 22 33.0 +0.9**
SNR=36
AJN Ajban 74.92 296 *i*P **P** **09 22 28.9 -3.2**
SNR=42
NRIK Noril'sk 74.94 346 P **P** **09 22 29.7 -1.6**
NRIK IAmb IAmb 09 22 59.8
comp=Z,896nm,1.4s
NRIK Noril'sk 74.94 346 P **P** **09 22 29.6 -1.6**
comp=Z,54nm,0.7s,baz=128,slow=5.7,SNR=68
NRIK S **S** **09 32 06.5 -1.6**
comp=Z,1.8nm,0.4s,baz=5.9,slow=23,SNR=1.0
NRIK LR LR 09 56 32.5
comp=Z,101µm,20.3s,baz=135,slow=37
comp=Z,54nm,0.7s
NRIK Noril'sk 74.94 346*c i*P **P** **09 22 29.1 -2.2**
NRIK pmax pmax
comp=Z,190nm,1.2s
NRIK MLR MLR
comp=Z,120µm,18.0s
DOK Doka 75.02 289 P **P** **09 22 32.0 -0.7**
SNR=14
DOK P **P** **09 22 32.0 -0.7**
SNR=14
KIP Kipapa 75.25 68 P **P** **09 22 36.8 +2.8**
KIP Kipapa 75.25 68 P **P** **09 22 37.0 +3.0**
KIP Kipapa 75.25 68 *i*P **P** **09 22 32.8 -1.2**
KIP pmax pmax
comp=Z,311nm,1.0s
WHFO Wadi Hawf 75.29 289 P **P** **09 22 34.3 -0.1**
WHFO P **P** **09 22 34.3 -0.1**
SPIA Saint Paul Isl 75.54 30 P **P** **09 22 37.4 +2.4**
baz=245,SNR=13
P08K Saint George I 75.66 30 IAMs_20 IAMs_20 09 53 04.4
comp=Z,258µm,21.0s
P08K Saint George I 75.66 30 P **P** **09 22 38.0 +2.4**
baz=246,SNR=19
ABTO Aybut 75.68 288 P **P** **09 22 36.2 -0.5**
ABTO P **P** **09 22 36.2 -0.5**
MZR Muzera 76.09 294 P **P** **09 22 39.4 +0.5**
SNR=23
MZR P **P** **09 22 39.4 +0.5**
SNR=23
MZR Muzera 76.09 294 *i*P **P** **09 22 36.2 -2.7**
SNR=14
UNV Unalaska Valle 76.22 34 IAMs_20 IAMs_20 09 52 31.7
comp=Z,232µm,22.0s
UNV Unalaska Valle 76.22 34 P **P** **09 22 41.3 +2.4**
baz=249,SNR=10
AB31 Akbulak array 76.36 321 P **P** **09 22 37.0 -2.8**
AB31 IAmb IAmb 09 23 06.5
comp=Z,592nm,1.6s
AB31 Akbulak array 76.36 321 P **P** **09 22 36.5 -3.3**
ABKAR Akbulak array 76.36 321 P **P** **09 22 37.7 -2.2**
LVA Lava Point 76.60 33 P **P** **09 22 39.8 -1.3**
AKUT Akutan 76.73 34 P **P** **09 22 41.6 -0.1**
AKUT Akutan 76.73 34 P **P** **09 22 43.3 +1.5**
JRN Qarnain Island 76.90 296 P **P** **09 22 43.2 -0.2**
SNR=14
JRN P **P** **09 22 43.2 -0.2**
SNR=14
HUH Hualalai 77.10 70 IAMs_20 IAMs_20 09 50 24.1
comp=Z,274µm,21.0s
KHU Kahuku 77.27 70 IAMs_20 IAMs_20 09 50 41.6
comp=Z,212µm,22.0s
MWH Mokuaweoweo 77.30 70 IAMs_20 IAMs_20 09 50 42.6
comp=Z,260µm,21.0s
POHA Pohakuloa 77.39 70 P **P** **09 22 48.1 +1.6**
AIN Ainahou 77.42 70 IAMs_20 IAMs_20 09 50 46.8
comp=Z,260µm,22.0s
MLH Mauna Loa 77.50 70 P **P** **09 22 45.4 -1.8**
MLH IAMs_20 IAMs_20 09 50 47.9
comp=Z,287µm,22.0s
HLP Hilina Pali 77.56 70 IAMs_20 IAMs_20 09 50 50.4
comp=Z,259µm,22.0s
UWE Uwekahuna 77.58 70 IAMs_20 IAMs_20 09 50 50.1
comp=Z,274µm,22.0s
BYL Byron's Ledge 77.61 70 IAMs_20 IAMs_20 09 50 51.8
comp=Z,271µm,22.0s
HATHI Halema'uma'u T 77.61 70 IAMs_20 IAMs_20 09 50 50.8
comp=Z,273µm,22.0s
PUH Pauahi 77.65 70 IAMs_20 IAMs_20 09 50 51.8
comp=Z,265µm,22.0s
STCH Steam Cracks 77.74 70 IAMs_20 IAMs_20 09 50 55.1
comp=Z,277µm,22.0s
GAMB Gambell 77.80 23 IAMs_20 IAMs_20 09 54 39.5
comp=Z,148µm,22.0s
GAMB Gambell 77.80 23 P **P** **09 22 49.1 +1.5**
baz=243
SLWR Sila 77.84 295 P **P** **09 22 48.6 -0.1**
SLWR P **P** **09 22 48.6 -0.1**
AKTO Aktyubinsk 77.89 322 P **P** **09 22 46.7 -1.8**
comp=Z,38nm,0.9s,baz=96,slow=5.5,SNR=35
AKTO S **S** **09 32 37.5 -3.8**
comp=Z,2.4nm,0.8s,baz=201,slow=22,SNR=1.4
AKTO PKPPKP **P'P'df** **09 49 50.0 -2.9**
comp=Z,1.0nm,0.8s,baz=188,slow=5.3,SNR=1.5
AKTO LR LR 10 02 06.4
comp=Z,70µm,18.0s,baz=102,slow=40
comp=Z,38nm,0.9s
AKTO Aktyubinsk 77.89 322 P **P** **09 22 45.8 -2.7**
TRNA Turayna 78.35 295 P **P** **09 22 53.1 +1.6**
SNR=9.2
SVE Sverdlovsk 78.35 329*de*P **P** **09 22 49.2 -1.6**
SVE *e*S **S** **09 32 41.9 -4.0**
SVE pmax pmax
comp=Z,488nm,1.3s
SBV Sambava 78.36 256 P **P** **09 22 52.0 +0.3**
SNR=8.1
SHMA Al-Shehemyia 78.69 296 P **P** **09 22 54.9 +1.6**
SNR=8.1
SMRA Abu-Samra 78.70 295 P **P** **09 22 53.1 -0.3**
SNR=21
M11K Mekoryuk 78.75 27 IAMs_20 IAMs_20 09 53 55.8
comp=Z,164µm,22.0s
M11K Mekoryuk 78.75 27 P **P** **09 22 56.3 +3.4**
baz=248
VNDA Vanda 78.98 173 P **P** **09 22 52.2 -1.7**
VNDA IAmb IAmb 09 23 09.7
comp=Z,1µm,2.0s
VNDA Vanda 78.98 173 P **P** **09 22 51.9 -2.0**
comp=Z,62nm,0.9s,baz=316,slow=6.0,SNR=99
VNDA S **S** **09 32 50.2 -1.7**
comp=Z,1.3nm,0.9s,baz=183,slow=23,SNR=1.2
VNDA PKPPKP 09 49 49.5
comp=Z,1.5nm,1.1s,baz=138,slow=6.3,SNR=3.5
VNDA LR LR 09 57 17.3
comp=Z,145µm,19.7s,baz=336,slow=35
comp=Z,62nm,0.9s
VNDA Vanda 78.98 173 P **P** **09 22 52.2 -1.7**
VNDA pmax pmax
comp=Z,1µm,2.1s
ARTI Arti 79.40 328 P **P** **09 22 53.3 -3.3**
ARTI IAmb IAmb 09 23 52.2
comp=Z,406nm,1.3s
ARTI Arti 79.40 328 P **P** **09 22 54.0 -2.6**
comp=Z,7.0nm,0.6s,baz=129,slow=4.3,SNR=4.7
ARTI PP **PP** **09 25 55.8 -0.9**
comp=Z,48nm,1.1s,baz=3.3,slow=6.4,SNR=1.9
ARTI S **S** **09 32 52.8 -4.2**
comp=Z,1.5nm,0.5s,baz=194,slow=22,SNR=0.9
comp=Z,7.0nm,0.6s
ARTI Arti 79.40 328*c i*P **P** **09 22 53.0 -3.6**
ARTI 09 25 56.7
ARTI S **S** **09 32 53.5 -3.6**
ARTI SS **SS** **09 38 01.6 -2.8**
ARTI SSS SSS 09 41 31.7
ARTI pmax pmax
comp=Z,45nm,1.9s
ARTI pmax pmax
comp=Z,2µm,7.9s
SBA Scott Base 79.88 172 P **P** **09 22 58.7 -0.1**
SBA Scott Base 79.88 172 IAMs_20 IAMs_20 09 58 00.8
comp=Z,133µm,20.0s
SBA Scott Base 79.88 172 P **P** **09 22 58.7 -0.1**
SBA MLR MLR
comp=Z,133µm,20.0s
K13K Kusilvak Mount 80.01 26 P **P** **09 22 59.7 0.0**
K13K IAmb IAmb 09 23 42.1
comp=Z,597nm,1.4s
K13K IAMs_20 IAMs_20 09 58 05.0
comp=Z,169µm,20.0s
K13K Kusilvak Mount 80.01 26 P **P** **09 23 01.8 +2.0**
baz=250
SDPT Sand Point 80.03 33 P **P** **09 22 59.5 -0.5**
SDPT Sand Point 80.03 33 P **P** **09 23 01.2 +1.2**
SDPT Sand Point 80.03 33 P **P** **09 23 01.0 +1.0**
baz=254,SNR=17
TNA Tin City 80.05 22 P **P** **09 23 01.7 +1.8**
baz=246
H04N2 CROZET ISLANDS 80.08 223 P P 09 23 05.3 +5.1
M13K Dall Lake 80.08 28 P **P** **09 23 00.3 +0.1**
M13K IAMs_20 IAMs_20 09 54 58.2
comp=Z,153µm,22.0s
M13K Dall Lake 80.08 28 P **P** **09 23 03.2 +3.0**
baz=251
H04N1 CROZET ISLANDS 80.09 223 P P 09 23 05.3 +5.0
H04N3 CROZET ISLANDS 80.09 223 P P 09 23 05.2 +4.9
MAW Mawson 80.19 201 P **P** **09 23 00.7 +0.1**
comp=Z,33nm,1.0s,baz=51,slow=6.0,SNR=46
MAW S **S** **09 33 03.5 -1.5**
comp=Z,1.4nm,0.2s,baz=135,slow=8.0,SNR=12
MAW PKPPKP **P'P'df** **09 49 46.6 -1.5**
comp=Z,1.7nm,0.8s,baz=251,slow=3.9,SNR=4.3
comp=Z,33nm,1.0s
CNBA Chernabura Isl 80.38 34 P **P** **09 23 00.7 -1.2**
CNBA IAmb IAmb 09 23 46.1
comp=Z,645nm,1.6s
CNBA IAMs_20 IAMs_20 09 55 10.7
comp=Z,131µm,22.0s
CHNA Chernabura Isl 80.38 34 P **P** **09 23 03.5 +1.6**
CHNA Chernabura Isl 80.38 34 P **P** **09 23 03.5 +1.6**
baz=255
F14K Arctic Creek 80.62 23 P **P** **09 23 06.1 +3.1**
baz=247,SNR=15
ANM Nome 80.65 24 IAMs_20 IAMs_20 09 59 02.9
comp=Z,126µm,21.0s
ANM Nome 80.65 24 P **P** **09 23 05.9 +2.7**
baz=248

L14K	**Kuka Creek**	**80.69**	**27**	P	**P**	**09 23 03.0**	**-0.4**
L14K				IAmb	IAmb	09 23 21.0		
	comp=Z,354nm,1.1s							
L14K				IAMs_20	IAMs_20	09 55 07.3		
	comp=Z,152µm,22.0s							
L14K	**Kuka Creek**	**80.69**	**27**	P	**P**	**09 23 05.8**	**+2.4**
	baz=251,SNR=48							
N14K	**Kuskokwak Cree**	**80.72**	**29**	P	**P**	**09 23 03.7**	**+0.1**
N14K				IAmb	IAmb	09 24 21.8		
	comp=Z,369nm,1.2s							
N14K	**Kuskokwak Cree**	**80.72**	**29**	P	**P**	**09 23 06.0**	**+2.4**
	baz=252,SNR=24							
O14K	**Tigyukauivet M**	**80.72**	**29**	P	**P**	**09 23 02.4**	**-1.3**
O14K	**Tigyukauivet M**	**80.72**	**29**	P	**P**	**09 23 06.6**	**+3.0**
	baz=253,SNR=25							
J14K	**Nanvaranak Lak**	**80.77**	**26**	P	**P**	**09 23 04.7**	**+0.8**
J14K	**Nanvaranak Lak**	**80.77**	**26**	P	**P**	**09 23 05.9**	**+2.1**
	baz=250							
S14K	**Fog Glacier**	**80.78**	**33**	P	**P**	**09 23 05.8**	**+1.6**
	baz=255,SNR=31							
M14K	**Bethel**	**80.84**	**28**	P	**P**	**09 23 04.0**	**-0.3**
M14K				IAmb	IAmb	09 23 24.4		
	comp=Z,554nm,1.3s							
M14K				IAMs_20	IAMs_20	09 55 09.3		
	comp=Z,158µm,21.0s							
M14K	**Bethel**	**80.84**	**28**	P	**P**	**09 23 06.5**	**+2.3**
	baz=252,SNR=80							
ABPO	**Ambohimpanom**	**81.17**	**251**	P	**P**	**09 23 05.1**	**-2.0**
ABPO				IAmb	IAmb	09 23 36.5		
	comp=Z,493nm,1.6s							
ABPO	**Ambohimpanom**	**81.17**	**251**	P	**P**	**09 23 05.1**	**-2.0**
ABPO				pmax	pmax			
	comp=Z,493nm,1.6s							
G15K	**Niukluk**	**81.34**	**23**	P	**P**	**09 23 10.5**	**+3.7**
	baz=250,SNR=25							
L15K	**Ungalak Mounta**	**81.34**	**27**	P	**P**	**09 23 10.6**	**+3.7**
	baz=252,SNR=59							
F15K	**North Star Dit**	**81.36**	**23**	P	**P**	**09 23 10.8**	**+3.8**
	baz=249,SNR=35							
CHGN	**Chignik**	**81.40**	**33**	P	**P**	**09 23 09.5**	**+2.2**
	baz=256,SNR=8.0							
O15K	**Ungalikthiuk R**	**81.41**	**30**	IAMs_20	IAMs_20	09 56 34.1		
	comp=Z,245µm,21.0s							
M15K	**Kasigluk River**	**81.42**	**28**	P	**P**	**09 23 10.3**	**+3.0**
	baz=253,SNR=43							
K15K	**Wolf Creek Mou**	**81.51**	**26**	IAMs_20	IAMs_20	09 59 10.9		
	comp=Z,165µm,20.0s							
K15K	**Wolf Creek Mou**	**81.51**	**26**	P	**P**	**09 23 10.5**	**+2.6**
	baz=252,SNR=97							
N15K	**Kwethluk River**	**81.56**	**29**	P	**P**	**09 23 10.7**	**+2.6**
	baz=254,SNR=45							
FOMA	**Nahampoana Res**	**81.69**	**245**	P	**P**	**09 23 09.8**	**+0.2**
FOMA				IAmb	IAmb	09 23 28.5		
	comp=Z,308nm,1.0s							
VOI	**Vohitsoka**	**81.70**	**248**	P	**P**	**09 23 09.7**	**-0.2**
VOI				IAmb	IAmb	09 23 28.1		
	comp=Z,390nm,1.1s							
VOI	**Vohitsoka**	**81.70**	**248**	P	**P**	**09 23 09.8**	**0.0**
	SNR=44							
KBD	**Kabd**	**81.91**	**299**	P	**P**	**09 23 10.0**	**-0.7**
H16K	**Elim**	**81.95**	**24**	P	**P**	**09 23 12.0**	**+1.9**
	baz=251,SNR=42							
C16K	**Lisburne Hills**	**82.05**	**20**	P	**P**	**09 23 12.4**	**+1.9**
	baz=248,SNR=42							
G16K	**Koyuk River**	**82.15**	**23**	IAMs_20	IAMs_20	09 57 32.3		
	comp=Z,118µm,20.0s							
G16K	**Koyuk River**	**82.15**	**23**	P	**P**	**09 23 13.5**	**+2.4**
	baz=251,SNR=80							
J16K	**Anvik River**	**82.22**	**26**	P	**P**	**09 23 13.8**	**+2.3**
	baz=253,SNR=68							
L16K	**Owhat River**	**82.27**	**27**	P	**P**	**09 23 11.7**	**-0.2**
L16K				IAmb	IAmb	09 23 29.3		
	comp=Z,1µm,1.9s							
L16K				IAMs_20	IAMs_20	09 56 06.0		
	comp=Z,182µm,22.0s							
L16K	**Owhat River**	**82.27**	**27**	P	**P**	**09 23 15.1**	**+3.3**
	baz=254							
N16K	**Nishlik Lake**	**82.27**	**29**	P	**P**	**09 23 14.1**	**+2.2**
	baz=255,SNR=47							
P16K	**Nushagak River**	**82.29**	**30**	IAMs_20	IAMs_20	09 58 10.7		
	comp=Z,229µm,21.0s							
P16K	**Nushagak River**	**82.29**	**30**	P	**P**	**09 23 14.3**	**+2.3**
	baz=256,SNR=11							
M16K	**Timber Creek**	**82.33**	**28**	P	**P**	**09 23 12.4**	**+0.2**
M16K				IAMs_20	IAMs_20	10 01 27.5		
	comp=Z,150µm,22.0s							
M16K	**Timber Creek**	**82.33**	**28**	P	**P**	**09 23 14.3**	**+2.2**
	baz=255,SNR=47							
I17K	**Unalakleet**	**82.36**	**25**	IAMs_20	IAMs_20	10 00 32.0		
	comp=Z,121µm,22.0s							
I17K	**Unalakleet**	**82.36**	**25**	P	**P**	**09 23 15.6**	**+3.4**
	baz=253,SNR=153							
O16K	**Kokwok River B**	**82.38**	**30**	P	**P**	**09 23 12.2**	**-0.2**
O16K				IAmb	IAmb	09 23 25.6		
	comp=Z,457nm,1.6s							
O16K				IAMs_20	IAMs_20	09 56 53.0		
	comp=Z,247µm,21.0s							
O16K	**Kokwok River B**	**82.38**	**30**	P	**P**	**09 23 15.0**	**+2.6**
	baz=256,SNR=33							
PAE	**Paea**	**82.50**	**108**	*e*P	**P**	**09 23 10.3**	**-3.6**
	comp=Z,129nm,1.4s							
PAE	**Paea**	**82.50**	**108**	*e*PP	**PP**	**09 26 22.7**	**-0.6**
	comp=Z,2µm,25.1s							
PAE				*e*S	**S**	**09 33 23.7**	**-7.2**
	comp=Z,4µm,22.3s							
PAE				*e*SS	**SS**	**09 38 45.4**	**-7.0**
	comp=Z,7µm,26.1s							
PAE	**Paea**	**82.50**	**108**	*e*LR	LR	09 48 58.5		
	comp=Z,53µm,21.8s							
PPT	**Papeete**	**82.50**	**108**	P	P	09 23 19.8	+5.8	
	comp=Z,17nm,0.6s,baz=211,slow=8.2,SNR=5.7							
PPT				LR	LR	09 56 40.9		
	comp=Z,174µm,21.8s,baz=268,slow=33							
PPT2	**Papeete2**	**82.50**	**108**	*e*P	**P**	**09 23 12.6**	**-1.5**
	comp=Z,351nm,1.3s							
PPT2	**Papeete2**	**82.50**	**108**	*e*PP	**PP**	**09 26 20.2**	**-3.2**
	comp=Z,13µm,26.0s							
PPT2				*e*S	**S**	**09 33 25.7**	**-5.4**
	comp=Z,21µm,22.8s							
PPT2				*e*SS	SS	09 38 37.3	-15	
	comp=Z,184µm,32.8s							
PPT2				*e*LQ	LQ	09 45 31.7		
	comp=Z,1001µm,38.8s							
PPT2				*e*LQ	LQ	09 45 33.6		
	comp=Z,476µm,39.5s							
PPT2				*e*LR	LR	09 49 01.2		
	comp=Z,301µm,22.2s							
PPT2				*e*LR	LR	09 49 06.1		
	comp=Z,270µm,35.2s							
PPTF	**Pamatai, Papee**	**82.51**	**108**	IAMs_20	IAMs_20	09 56 29.1		
	comp=Z,175µm,21.0s							
PPTF	**Pamatai, Papee**	**82.51**	**108**	P	**P**	**09 23 15.7**	**+1.6**
D17K	**Noatak River**	**82.64**	**21**	P	**P**	**09 23 16.5**	**+2.9**
	baz=250,SNR=197							
R17L	**Mt. Peulik Vol**	**82.80**	**32**	P	**P**	**09 23 16.8**	**+2.1**
	baz=257,SNR=11							
PLK4	**Peulik 4**	**82.80**	**32**	P	**P**	**09 23 15.1**	**+0.3**
PLK4				IAmb	IAmb	09 23 33.6		
	comp=Z,296nm,1.1s							
CHIR	**Chirikof Islan**	**82.82**	**34**	P	**P**	**09 23 16.6**	**+1.8**
CHIR	**Chirikof Islan**	**82.82**	**34**	P	**P**	**09 23 16.9**	**+2.1**
	baz=258							
TVO	**Taravao**	**82.82**	**108**	*e*P	**P**	**09 23 16.3**	**+0.6**
	comp=Z,211nm,1.3s							
TVO	**Taravao**	**82.82**	**108**	*e*PP	**PP**	**09 26 27.1**	**+1.1**
	comp=Z,2µm,26.5s							
TVO				*e*S	**S**	**09 33 30.7**	**-3.6**
	comp=Z,4µm,23.3s							
TVO				*e*SS	**SS**	**09 38 47.5**	**-10**
	comp=Z,9µm,25.7s							
TVO	**Taravao**	**82.82**	**108**	*e*LR	LR	09 49 06.3		
	comp=Z,51µm,21.6s							
TBI	**Tubuai**	**82.82**	**113**	*e*P	**P**	**09 23 19.5**	**+4.0**
	comp=Z,717nm,1.3s							
TBI	**Tubuai**	**82.82**	**113**	*e*PP	**PP**	**09 26 20.3**	**-5.5**
	comp=Z,38µm,27.0s							
TBI				*e*S	**S**	**09 33 34.5**	**+0.5**
	comp=Z,64µm,24.0s							
TBI				*e*SS	SS	09 38 45.0	-12	
	comp=Z,477µm,31.8s							
TBI	**Tubuai**	**82.82**	**113**	*e*LR	LR	09 49 10.2		
	comp=Z,1227µm,25.2s							
TBI				*e*LR	LR	09 49 15.9		
	comp=Z,300µm,25.2s							
RDOG	**Red Dog Mine**	**82.83**	**21**	P	**P**	**09 23 16.0**	**+1.4**
	baz=250,SNR=36							
G17K	**Kiwalik Mounta**	**82.86**	**23**	P	**P**	**09 23 16.6**	**+1.7**
	baz=253,SNR=252							
C17K	**DeLong Mountai**	**82.88**	**20**	P	**P**	**09 23 16.9**	**+2.0**
	baz=250,SNR=65							
Q16K	**King Salmon**	**82.88**	**31**	P	**P**	**09 23 16.9**	**+1.9**
	baz=257							
E17K	**Hotham Inlet**	**82.90**	**22**	P	**P**	**09 23 17.7**	**+2.7**
	baz=251,SNR=180							
J17K	**VABM Dome**	**82.91**	**26**	IAMs_20	IAMs_20	09 59 56.7		
	comp=Z,113µm,20.0s							
J17K	**VABM Dome**	**82.91**	**26**	P	**P**	**09 23 18.4**	**+3.3**
	baz=254,SNR=115							
F17K	**Baldwin Pennin**	**82.91**	**22**	P	**P**	**09 23 17.1**	**+2.1**
	baz=252							
O17K	**Koliganek Bris**	**82.91**	**29**	P	**P**	**09 23 17.8**	**+2.6**
	baz=256,SNR=40							
L17K	**Donlin**	**82.92**	**27**	P	**P**	**09 23 18.5**	**+3.3**
	baz=255,SNR=86							
H17K	**Granite Mounta**	**82.99**	**24**	P	**P**	**09 23 18.8**	**+3.3**
	baz=253,SNR=196							
N17K	**Nushagak Hills**	**83.04**	**29**	IAMs_20	IAMs_20	09 57 38.6		
	comp=Z,162µm,22.0s							
N17K	**Nushagak Hills**	**83.04**	**29**	P	**P**	**09 23 19.1**	**+3.2**
	baz=256,SNR=28							
K17K	**Iditarod**	**83.07**	**26**	IAMs_20	IAMs_20	09 59 59.0		
	comp=Z,142µm,20.0s							
K17K	**Iditarod**	**83.07**	**26**	P	**P**	**09 23 18.6**	**+2.6**
	baz=255,SNR=206							
P17K	**Kvichak River**	**83.11**	**30**	P	**P**	**09 23 18.0**	**+1.8**
	baz=257,SNR=13							
M17K	**Holitna River**	**83.13**	**28**	IAMs_20	IAMs_20	09 58 24.9		
	comp=Z,124µm,21.0s							
M17K	**Holitna River**	**83.13**	**28**	P	**P**	**09 23 19.3**	**+2.9**
	baz=256,SNR=40							
AKT	**Akhty**	**83.18**	**312**	*e*P	**P**	**09 23 14.7**	**-2.5**
AKT				*e*S	**S**	**09 33 31.5**	**-5.8**
AKT				pmax	pmax			
	comp=Z,238nm,1.1s							
AKT				pmax	pmax			
	comp=N,63nm,1.0s							
AKT				pmax	pmax			
	comp=E,138nm,1.5s							
AKT				pmax	pmax			
	comp=Z,4µm,5.2s							
AKT				smax	smax			
	comp=N,4304µm,5.3s							
Q17K	**Contact Creek**	**83.18**	**31**	P	**P**	**09 23 18.5**	**+1.7**
	baz=256,SNR=18							
RAYN	**Ar Rayn**	**83.45**	**294**	P	**P**	**09 23 15.7**	**-3.1**
RAYN	**Ar Rayn**	**83.45**	**294**	P	**P**	**09 23 18.7**	**-0.2**
RAYN	**Ar Rayn**	**83.45**	**294**	P	**P**	**09 23 15.7**	**-3.1**
RAYN				pmax	pmax			
	comp=Z,144nm,1.1s							
RAYN				MLR	MLR			
	comp=Z,56µm,21.0s							
RAYN	**Ar Rayn**	**83.45**	**294**	*i* P	**P**	**09 23 16.5**	**-2.3**
	SNR=41							
E18K	**Tukpahlearik C**	**83.45**	**22**	IAMs_20	IAMs_20	09 58 31.7		
	comp=Z,107µm,20.0s							
E18K	**Tukpahlearik C**	**83.45**	**22**	P	**P**	**09 23 20.5**	**+2.6**
	baz=252,SNR=160							
MAK	**Makhachkala**	**83.52**	**313**	*e*P	**P**	**09 23 14.3**	**-4.4**
MAK				*e*SS	SS	09 39 01.9	-4.6	
MAK				*e*SSS	SSS	09 42 37.5		
MAK				pmax	pmax			
	comp=Z,232nm,1.1s							
MAK				pmax	pmax			
	comp=Z,5µm,3.9s							
F18K	**Selawik**	**83.57**	**23**	P	**P**	**09 23 20.6**	**+2.2**
	baz=253,SNR=75							
C18K	**Utukok River**	**83.62**	**20**	P	**P**	**09 23 19.6**	**+0.8**
C18K	**Utukok River**	**83.62**	**20**	P	**P**	**09 23 20.7**	**+1.9**
	baz=252,SNR=62							
B18K	**Kokolik River**	**83.64**	**20**	P	**P**	**09 23 20.7**	**+1.9**
	baz=251,SNR=33							
L18K	**Granite Mounta**	**83.67**	**27**	IAMs_20	IAMs_20	09 57 00.1		
	comp=Z,187µm,22.0s							
L18K	**Granite Mounta**	**83.67**	**27**	P	**P**	**09 23 22.0**	**+2.9**
	baz=257,SNR=74							
H18K	**Honhosa River**	**83.68**	**24**	IAMs_20	IAMs_20	10 00 54.9		
	comp=Z,128µm,22.0s							
H18K	**Honhosa River**	**83.68**	**24**	P	**P**	**09 23 21.6**	**+2.5**
	baz=255,SNR=134							
N18K	**Kilae Creek**	**83.70**	**29**	IAMs_20	IAMs_20	09 57 48.0		
	comp=Z,195µm,22.0s							
N18K	**Kilae Creek**	**83.70**	**29**	P	**P**	**09 23 22.5**	**+3.2**
	baz=258,SNR=61							
Q18K	**Katmai Hardscr**	**83.71**	**31**	P	**P**	**09 23 20.9**	**+1.3**
	baz=258,SNR=19							
SII	**Sitkinak Islan**	**83.75**	**33**	P	**P**	**09 23 21.6**	**+2.0**
SII	**Sitkinak Islan**	**83.75**	**33**	P	**P**	**09 23 20.7**	**+1.1**
	baz=259							
P18K	**Big Mountain,**	**83.75**	**30**	P	**P**	**09 23 18.8**	**-0.8**
P18K				IAMs_20	IAMs_20	09 59 18.4		
	comp=Z,247µm,22.0s							
P18K	**Big Mountain,**	**83.75**	**30**	P	**P**	**09 23 21.8**	**+2.1**
	baz=258,SNR=12							
G18K	**Tagagawik**	**83.76**	**23**	P	**P**	**09 23 19.0**	**-0.5**
G18K				IAmb	IAmb	09 23 36.4		
	comp=Z,549nm,1.5s							
G18K				IAMs_20	IAMs_20	09 59 34.0		
	comp=Z,142µm,20.0s							
G18K	**Tagagawik**	**83.76**	**23**	P	**P**	**09 23 21.7**	**+2.2**
	baz=254,SNR=134							
R18K	**Karluk**	**83.79**	**32**	P	**P**	**09 23 21.6**	**+1.8**
	baz=259							
O18K	**Koktuh Hills**	**83.86**	**30**	P	**P**	**09 23 19.6**	**-0.5**
O18K				IAMs_20	IAMs_20	09 59 11.2		
	comp=Z,214µm,21.0s							
O18K	**Koktuh Hills**	**83.86**	**30**	P	**P**	**09 23 22.6**	**+2.5**
	baz=258,SNR=19							
M18K	**Stony River**	**83.91**	**28**	P	**P**	**09 23 21.9**	**+1.6**
	baz=258,SNR=68							
J18K	**Innoko River**	**83.95**	**26**	IAMs_20	IAMs_20	10 00 38.3		
	comp=Z,149µm,20.0s							
J18K	**Innoko River**	**83.95**	**26**	P	**P**	**09 23 23.3**	**+2.7**
	baz=256,SNR=123							
PMOR	**Pomariorio Ree**	**84.06**	**105**	*e*P	**P**	**09 23 24.7**	**+2.7**
	comp=Z,730nm,1.4s							
PMOR	**Pomariorio Ree**	**84.06**	**105**	*e*S	**SKSac**	**09 33 44.4**	**-1.2**
	comp=Z,14µm,21.6s							
PMOR	**Pomariorio Ree**	**84.06**	**105**	*e*LR	LR	09 49 44.5		
	comp=Z,272µm,24.5s							
A19K	**Wainwright**	**84.15**	**19**	P	**P**	**09 23 23.8**	**+2.4**
	baz=252,SNR=9.6							
GCSA	**Galena City Sc**	**84.19**	**25**	P	**P**	**09 23 24.6**	**+3.0**
	baz=256,SNR=108							
C19K	**Lookout Ridge**	**84.31**	**20**	P	**P**	**09 23 25.6**	**+3.3**
	baz=253,SNR=54							
VAH	**Vaihoa**	**84.32**	**105**	*e*P	**P**	**09 23 23.7**	**+0.4**
	comp=Z,170nm,1.3s							
VAH	**Vaihoa**	**84.32**	**105**	*e*PP	**PP**	**09 26 32.0**	**-6.3**
	comp=Z,11µm,27.5s							
VAH				*e*S	**SKSac**	**09 33 43.6**	**-3.7**
	comp=Z,11µm,24.1s							
VAH	**Vaihoa**	**84.32**	**105**	*e*LR	LR	09 49 49.0		
	comp=Z,153µm,24.6s							
OHAK	**Old Harbor**	**84.35**	**32**	P	**P**	**09 23 21.6**	**-1.0**
OHAK				IAmb	IAmb	09 23 31.0		
	comp=Z,590nm,1.6s							
OHAK	**Old Harbor**	**84.35**	**32**	P	**P**	**09 23 24.5**	**+1.9**
OHAK	**Old Harbor**	**84.35**	**32**	P	**P**	**09 23 24.1**	**+1.5**
	baz=260,SNR=17							
F19K	**Shaleruckik Mo**	**84.35**	**22**	P	**P**	**09 23 25.9**	**+3.5**
	baz=255,SNR=83							
O19K	**Port Alsworth**	**84.36**	**29**	IAMs_20	IAMs_20	10 01 13.5		
	comp=Z,177µm,21.0s							
O19K	**Port Alsworth**	**84.36**	**29**	P	**P**	**09 23 25.2**	**+2.5**
	baz=259,SNR=18							
N19K	**Bonanza Creek**	**84.41**	**29**	IAMs_20	IAMs_20	09 58 08.5		
	comp=Z,217µm,22.0s							
N19K	**Bonanza Creek**	**84.41**	**29**	P	**P**	**09 23 26.0**	**+3.0**
	baz=259,SNR=120							
G19K	**Purcell Mounta**	**84.44**	**23**	IAMs_20	IAMs_20	09 59 55.1		
	comp=Z,128µm,20.0s							
G19K	**Purcell Mounta**	**84.44**	**23**	P	**P**	**09 23 26.6**	**+3.6**
	baz=256,SNR=137							
Q19K	**Cape Douglas,**	**84.47**	**31**	IAMs_20	IAMs_20	09 56 56.3		
	comp=Z,158µm,22.0s							
Q19K	**Cape Douglas,**	**84.47**	**31**	P	**P**	**09 23 25.7**	**+2.4**
	baz=260,SNR=13							
L19K	**White Mountain**	**84.50**	**27**	IAMs_20	IAMs_20	09 59 18.1		
	comp=Z,150µm,20.0s							
L19K	**White Mountain**	**84.50**	**27**	P	**P**	**09 23 26.6**	**+3.2**
	baz=258,SNR=67							
J19K	**Poorman**	**84.55**	**25**	P	**P**	**09 23 23.9**	**+0.4**
J19K				IAmb	IAmb	09 23 40.8		
	comp=Z,720nm,1.6s							
J19K				IAMs_20	IAMs_20	10 00 48.0		
	comp=Z,127µm,20.0s							
J19K	**Poorman**	**84.55**	**25**	P	**P**	**09 23 26.4**	**+2.9**
	baz=257,SNR=54							
H19K	**Roundabout Mou**	**84.55**	**24**	P	**P**	**09 23 24.1**	**+0.6**
H19K				IAMs_20	IAMs_20	10 01 33.9		
	comp=Z,111µm,21.0s							
H19K	**Roundabout Mou**	**84.55**	**24**	P	**P**	**09 23 26.5**	**+3.1**
	baz=256,SNR=155							
KIRV	**Kirov**	**84.62**	**329**	P	**P**	**09 23 22.6**	**-1.4**
	comp=Z,85nm,1.0s,baz=88,slow=3.7,SNR=25							
KIRV				S	**SKSac**	**09 33 43.3**	**-4.3**
	comp=Z,6.5nm,0.4s,baz=14,slow=23,SNR=1.7							
KIRV				LR	LR	10 04 52.3		
	comp=Z,32µm,19.8s,baz=99,slow=38							
	comp=Z,85nm,1.0s							
KIRV	**Kirov**	**84.62**	**329**	*c i* P	**P**	**09 23 21.2**	**-2.7**
D19K	**Kuna River**	**84.66**	**21**	P	**P**	**09 23 25.6**	**+1.5**
	baz=255,SNR=48							
M19K	**Big River Lodg**	**84.66**	**28**	IAMs_20	IAMs_20	09 58 50.3		
	comp=Z,123µm,20.0s							
M19K	**Big River Lodg**	**84.66**	**28**	P	**P**	**09 23 27.3**	**+3.2**
	baz=259							
E19K	**Redstone River**	**84.71**	**22**	P	**P**	**09 23 27.3**	**+2.9**
	baz=256,SNR=82							
P19K	**Oil Pt**	**84.80**	**30**	P	**P**	**09 23 27.4**	**+2.4**
	baz=260							
KDAK	**Kodiak Island**	**84.82**	**32**	P	**P**	**09 23 23.8**	**-1.2**
KDAK	**Kodiak Island**	**84.82**	**32**	IAMs_20	IAMs_20	09 57 58.8		
	comp=Z,204µm,22.0s							
KDAK	**Kodiak Island**	**84.82**	**32**	P	**P**	**09 23 25.2**	**+0.2**
	comp=Z,77nm,1.1s,baz=132,slow=1.5,SNR=12							
KDAK				LR	LR	09 58 10.3		
	comp=Z,113µm,21.3s,baz=241,slow=33							
	comp=Z,77nm,1.1s							
KDAK	**Kodiak Island**	**84.82**	**32**	P	**P**	**09 23 23.8**	**-1.2**
KDAK				pmax	pmax			
	comp=Z,2µm,2.0s							
KDAK	**Kodiak Island**	**84.82**	**32**	P	**P**	**09 23 27.5**	**+2.5**
	baz=261							
L20K	**Farewell, AK**	**85.01**	**27**	P	**P**	**09 23 28.8**	**+2.8**
	baz=259,SNR=75							
Q20K	**Shuyak Island**	**85.05**	**31**	P	**P**	**09 23 27.6**	**+1.4**
	baz=261,SNR=7.9							
SYI	**Shuyak Island**	**85.05**	**31**	IAMs_20	IAMs_20	09 58 23.9		
	comp=Z,173µm,22.0s							
K20K	**Telida**	**85.09**	**26**	IAMs_20	IAMs_20	10 02 56.5		
	comp=Z,125µm,20.0s							
K20K	**Telida**	**85.09**	**26**	P	**P**	**09 23 28.8**	**+2.5**
	baz=259							
RED	**Redoubt Volcan**	**85.16**	**29**	P	**P**	**09 23 26.2**	**-0.6**
RED				IAmb	IAmb	09 23 46.8		
	comp=Z,333nm,1.2s							
O20K	**Slope Mountain**	**85.18**	**30**	P	**P**	**09 23 28.0**	**+1.1**
	baz=260,SNR=6.0							
H20K	**Anotleneega Mo**	**85.18**	**24**	P	**P**	**09 23 29.8**	**+3.1**
	baz=258,SNR=37							
F20K	**Avaraart Lake**	**85.19**	**22**	P	**P**	**09 23 28.6**	**+2.0**
	baz=257							
I20K	**Naaghedeneel**	**85.20**	**25**	P	**P**	**09 23 28.6**	**+1.8**
	baz=258,SNR=8.4							
J20K	**Nowinta River**	**85.22**	**25**	IAMs_20	IAMs_20	10 01 18.8		
	comp=Z,123µm,20.0s							
J20K	**Nowinta River**	**85.22**	**25**	P	**P**	**09 23 29.2**	**+2.3**
	baz=259,SNR=66							
M20K	**Styx River**	**85.25**	**28**	P	**P**	**09 23 30.6**	**+3.4**
	baz=260							
D20K	**Etivluk River**	**85.25**	**21**	P	**P**	**09 23 27.2**	**+0.2**
D20K				IAmb	IAmb	09 24 07.6		
	comp=Z,242nm,1.1s							
D20K	**Etivluk River**	**85.25**	**21**	P	**P**	**09 23 29.6**	**+2.6**
	baz=256,SNR=45							
E20K	**Nigu River**	**85.29**	**21**	P	**P**	**09 23 29.4**	**+2.1**
	baz=256,SNR=51							
GNI	**Garni**	**85.30**	**310**	P	**P**	**09 23 28.2**	**+0.1**
	comp=Z,4.4nm,0.5s,baz=191,slow=4.9,SNR=14							
	comp=Z,4.4nm,0.5s							
GNI	**Garni**	**85.30**	**310**	*c i* P	**P**	**09 23 26.2**	**-1.9**
GNI				pmax	pmax			
	comp=Z,30nm,1.4s							
GNI	**Garni**	**85.30**	**310**	P	**P**	**09 23 26.7**	**-1.3**
B20K	**Meade River**	**85.38**	**19**	P	**P**	**09 23 29.6**	**+2.0**
	baz=255							
ATD	**Arta Tunnel**	**85.47**	**282**	P	**P**	**09 23 31.3**	**+2.1**
SPCR	**Spurr Chakacha**	**85.56**	**29**	P	**P**	**09 23 30.5**	**+1.7**
	baz=261,SNR=6.3							
HOM	**Homer**	**85.60**	**30**	IAMs_20	IAMs_20	10 00 14.1		
	comp=Z,201µm,21.0s							
HOM	**Homer**	**85.60**	**30**	P	**P**	**09 23 29.6**	**+0.7**
	baz=261,SNR=19							
IMAR	**Indian Mountai**	**85.74**	**24**	P	**P**	**09 23 29.4**	**0.0**
OZAP	**Van, Ozalp-Mer**	**85.77**	**309**	⇓P	**P**	**09 23 32.8**	**+2.3**
CNPM	**China Poot**	**85.78**	**30**	IAMs_20	IAMs_20	10 00 31.1		
	comp=Z,191µm,22.0s							
PPLA	**Purkeypile**	**85.85**	**27**	IAMs_20	IAMs_20	09 59 50.6		
	comp=Z,184µm,21.0s							
PPLA	**Purkeypile**	**85.85**	**27**	P	**P**	**09 23 31.9**	**+1.6**
	baz=261,SNR=13							
A21K	**Barrow**	**85.88**	**18**	P	**P**	**09 23 32.7**	**+2.7**
	baz=256							
G21K	**Allakaket**	**85.94**	**23**	P	**P**	**09 23 31.4**	**+1.0**
G21K				IAmb	IAmb	09 23 55.2		
	comp=Z,526nm,2.0s							
G21K				IAMs_20	IAMs_20	10 00 51.5		

baz=261,SNR=70
D22K **Ayikyak River** 86.68 21 P P 09 23 36.0 +1.9
baz=260,SNR=10.0
B22K **Teshekpuk Lake** 86.70 19 P P 09 23 36.1 +2.0
baz=259
RC01 **Rabbit Creek A** 86.74 29 IAMs_20 IAMs_20 10 02 53.1
comp=Z,212µm,22.0s
RC01 **Rabbit Creek A** 86.74 29 P P 09 23 36.9 +2.4
baz=263,SNR=17
SEW **Seward** 86.75 30 IAMs_20 IAMs_20 10 01 02.8
comp=Z,230µm,22.0s
SEW **Seward** 86.75 30 P P 09 23 36.7 +2.1
baz=263,SNR=14
TRF **Thorofare Moun** 86.79 26 IAMs_20 IAMs_20 09 58 59.3
comp=Z,135µm,22.0s
TRF **Thorofare Moun** 86.79 26 P P 09 23 36.7 +1.8
baz=262,SNR=26
G22K **Bettles** 86.79 23 P P 09 23 37.1 +2.6
baz=261,SNR=27
MLY **Manley** 86.81 25 IAMs_20 IAMs_20 10 02 31.8
comp=Z,117µm,22.0s
MLY **Manley** 86.81 25 P P 09 23 37.4 +2.6
baz=262,SNR=38
E22K **Anaktuvuk Pass** 86.87 22 P P 09 23 36.9 +1.8
baz=261,SNR=55
GOF **Gofitskoye** 86.92 315*c* *i*P P 09 23 33.0 -2.8
GOF *e*S S 09 34 11.3 -2.7
KBZ **Khabaz** 86.94 314 P P 09 23 35.9 +0.1
comp=Z,51nm,1.3s,baz=112,slow=8.1,SNR=28
KBZ S SKSac 09 34 00.9 -1.9
comp=Z,1.9nm,0.9s,baz=185,slow=15,SNR=1.3
comp=Z,51nm,1.3s
PMR **Palmer** 87.09 28 P P 09 23 37.6 +1.5
PMR **Palmer** 87.09 28 P P 09 23 38.4 +2.3
baz=263,SNR=33
KIV **Kislovodsk** 87.11 314 ⇑P P 09 23 35.5 -1.3
KIV **Kislovodsk** 87.11 314 *e*P P 09 23 32.4 -4.4
KIV *e* 09 33 58.6
KIV **Kislovodsk** 87.11 314 *i* P P 09 23 35.7 -1.1
SNR=65
KIV **Kislovodsk** 87.11 314 P P 09 23 35.1 -1.7
KIV S S 09 34 12.0 -4.0
SHA1 **Shidzhatmaz** 87.11 314*c* *i*P P 09 23 34.4 -2.6
GHO **Glory Hole Cre** 87.20 28 IAMs_20 IAMs_20 09 59 38.5
comp=Z,152µm,22.0s
BWN **Browne** 87.24 26 IAMs_20 IAMs_20 10 04 06.2
comp=Z,114µm,20.0s
G23K **Bananza Creek** 87.34 23 IAMs_20 IAMs_20 10 03 12.6
comp=Z,130µm,21.0s
G23K **Bananza Creek** 87.34 23 P P 09 23 39.2 +1.8
baz=262,SNR=141
COLD **Coldfoot** 87.34 23 IAMs_20 IAMs_20 10 01 58.5
comp=Z,109µm,21.0s
COLD **Coldfoot** 87.34 23 P P 09 23 39.5 +2.2
baz=262,SNR=70
KNK **Knik Glacier** 87.39 29 IAMs_20 IAMs_20 10 01 18.4
comp=Z,195µm,22.0s
KNK **Knik Glacier** 87.39 29 P P 09 23 40.3 +2.7
baz=264,SNR=24
PWL **Port Wells** 87.39 29 IAMs_20 IAMs_20 10 00 15.5
comp=Z,194µm,22.0s
PWL **Port Wells** 87.39 29 P P 09 23 40.5 +2.9
baz=264,SNR=33
I23K **Minto, Yukon-K** 87.41 25 IAMs_20 IAMs_20 10 00 59.6
comp=Z,115µm,20.0s
I23K **Minto, Yukon-K** 87.41 25 P P 09 23 39.5 +1.9
baz=263,SNR=112
D23K **Nanushuk River** 87.41 21 P P 09 23 41.3 +3.7
baz=262,SNR=46
H23K **Yukon River** 87.42 24 IAMs_20 IAMs_20 10 03 18.7
comp=Z,118µm,22.0s
H23K **Yukon River** 87.42 24 P P 09 23 41.5 +3.8
baz=263,SNR=73
MCK **McKinley** 87.42 26 IAMs_20 IAMs_20 10 04 18.1
comp=Z,106µm,21.0s
MCK **McKinley** 87.42 26 P P 09 23 39.5 +1.7
baz=264,SNR=46
RND **Reindeer** 87.42 27 P P 09 23 37.8 -0.1
RND IAMs_20 IAMs_20 10 01 01.0
comp=Z,164µm,21.0s
RND **Reindeer** 87.42 27 P P 09 23 37.8 -0.1
RND pmax pmax
comp=Z,188nm,1.2s
NEA2 **Nenana** 87.47 25 P P 09 23 38.4 +0.4
NEA2 IAMs_20 IAMs_20 10 02 27.1
comp=Z,114µm,20.0s
NEA2 **Nenana** 87.47 25 P P 09 23 39.6 +1.6
baz=263,SNR=8.5
HOMI **Horasan** 87.47 310 ⇑P P 09 23 40.3 +1.5
C23K **Itkillik River** 87.56 20 IAMs_20 IAMs_20 10 01 38.2
comp=Z,123µm,22.0s
C23K **Itkillik River** 87.56 20 P P 09 23 39.9 +1.6
baz=262,SNR=32
E23K **Chandalar** 87.67 22 IAMs_20 IAMs_20 10 00 21.3
comp=Z,117µm,22.0s
E23K **Chandalar** 87.67 22 P P 09 23 39.7 +0.7
baz=263,SNR=87
TOLK **Toolik Lake Re** 87.77 21 P P 09 23 39.0 -0.4
TOLK IAmb IAmb 09 23 55.6
comp=Z,238nm,1.5s
TOLK **Toolik Lake Re** 87.77 21 P P 09 23 42.3 +2.9
baz=263,SNR=29
P23K **Montague Islan** 87.77 30 P P 09 23 40.5 +1.1
P23K IAmb IAmb 09 24 05.3
comp=Z,261nm,1.1s
P23K IAMs_20 IAMs_20 10 01 29.5
comp=Z,145µm,21.0s
P23K **Montague Islan** 87.77 30 P P 09 23 40.9 +1.4
baz=265,SNR=24
M23K **Glacier View** 87.77 28 P P 09 23 41.4 +1.9
baz=265,SNR=34
WRH **Wood River Hil** 87.87 26 IAMs_20 IAMs_20 10 04 14.9
comp=Z,117µm,20.0s
SCM **Sheep Creek Mo** 87.97 28 P P 09 23 42.5 +2.0
baz=265,SNR=42
GLI **Glacier Island** 87.99 29 IAMs_20 IAMs_20 10 00 46.5
comp=Z,202µm,22.0s
GLI **Glacier Island** 87.99 29 P P 09 23 42.6 +2.0
baz=265,SNR=16
CCB **Clear Creek Bu** 88.01 25 P P 09 23 39.1 -1.4
CCB IAMs_20 IAMs_20 10 03 02.6
comp=Z,116µm,20.0s
COLA **College** 88.02 25 IAMs_20 IAMs_20 10 03 05.5
comp=Z,120µm,21.0s
COLA **College** 88.02 25 P P 09 23 41.2 +0.7
COLA **College** 88.02 25*c* *i*P P 09 23 40.8 +0.3
COLA pmax pmax
comp=Z,14nm,0.8s
COLA **College** 88.02 25 P P 09 23 41.0 +0.5
baz=264
COLA **College** 88.02 25 P P 09 23 39.0 -1.5
D24K **Happy Valley** 88.10 21 P P 09 23 42.4 +1.5
baz=263,SNR=45
E24K **Your Creek** 88.10 22 IAMs_20 IAMs_20 10 00 45.5
comp=Z,131µm,22.0s
E24K **Your Creek** 88.10 22 P P 09 23 43.1 +2.1
baz=264
H24K **Noodor Dome** 88.10 24 IAMs_20 IAMs_20 10 03 47.8
comp=Z,103µm,20.0s
H24K **Noodor Dome** 88.10 24 P P 09 23 43.0 +1.9
baz=264,SNR=97
VRH **Novokhopyorsk** 88.19 321 *e*P P 09 23 42.1 +0.4
VRH pmax pmax
comp=Z,295nm,1.4s
VRH MLR MLR
comp=Z,41µm,21.0s
C24K **Franklin Bluff** 88.21 20 IAMs_20 IAMs_20 10 01 01.2
comp=Z,114µm,22.0s
C24K **Franklin Bluff** 88.21 20 P P 09 23 43.6 +2.2
baz=263
HIN **Hinchinbrook I** 88.25 30 IAMs_20 IAMs_20 10 01 58.2
comp=Z,206µm,21.0s
Q23K **Middleton Isla** 88.25 31 IAMs_20 IAMs_20 09 59 49.6
comp=Z,117µm,22.0s
Q23K **Middleton Isla** 88.25 31 P P 09 23 44.9 +3.1
baz=266
F24K **Squaw Lake** 88.26 22 IAMs_20 IAMs_20 10 03 46.0
comp=Z,136µm,22.0s
F24K **Squaw Lake** 88.26 22 P P 09 23 43.5 +1.8
baz=264,SNR=59
G24K **Hadweenzic Riv** 88.34 23 IAMs_20 IAMs_20 10 03 52.2
comp=Z,123µm,21.0s
G24K **Hadweenzic Riv** 88.34 23 P P 09 23 43.9 +1.8
baz=265,SNR=45
HDA **Harding Lake** 88.36 26 P P 09 23 41.7 -0.5
HDA IAMs_20 IAMs_20 10 02 42.8
comp=Z,109µm,22.0s
HDA **Harding Lake** 88.36 26 P P 09 23 43.2 +1.0
baz=265,SNR=40
ILAR **Eielson Array** 88.42 25 P P 09 23 42.1 -0.4
ILAR **Eielson Array** 88.42 25 P P 09 23 42.6 +0.2
comp=Z,16nm,1.0s,baz=277,slow=4.0,SNR=51
ILAR PP PP 09 27 12.8 +2.6
comp=Z,5.2nm,1.1s,baz=247,slow=3.9,SNR=2.2
ILAR S SKSac 09 34 08.8 -2.1
comp=Z,3.0nm,1.3s,baz=0.1,slow=1.2,SNR=1.5
ILAR PKKP PKKPdf 09 41 20.8 -1.5
comp=Z,1.2nm,1.1s,baz=76,slow=1.8,SNR=2.4
ILAR PKPPKP P'P'df 09 49 21.9 -11
comp=Z,1.1nm,1.0s,baz=355,slow=1.1,SNR=4.0
comp=Z,16nm,1.0s
ILAR **Eielson Array** 88.42 25 P P 09 23 42.1 -0.4
M24K **Tolsona, Glenn** 88.53 28 IAMs_20 IAMs_20 10 05 05.5
comp=Z,122µm,22.0s
M24K **Tolsona, Glenn** 88.53 28 P P 09 23 45.1 +2.0
baz=266,SNR=29
LABN **Labinsk** 88.55 314 *e*P P 09 23 40.9 -2.7
LABN *e**PP PcP 09 23 44.2 -1.0
LABN *e* 09 27 09.1
LABN *e*S SKSac 09 34 08.9 -3.7
LABN *e* 09 34 22.7
LABN *e*SP SPn 09 35 40.7 +10
LABN pmax pmax
comp=Z,68nm,1.0s
LABN MLR MLR
comp=N,27µm,15.0s
LABN MLR MLR
comp=Z,36µm,16.0s
KLU **Klutina** 88.61 29 IAMs_20 IAMs_20 10 00 32.6
comp=Z,194µm,22.0s
KLU **Klutina** 88.61 29 P P 09 23 45.7 +2.1
baz=266,SNR=28
EYAK **Cordova Ski Ar** 88.63 30 P P 09 23 45.4 +1.9
EYAK **Cordova Ski Ar** 88.63 30 P P 09 23 46.3 +2.7
baz=266,SNR=5.7
ERBR **Yeremizino-Bor** 88.76 316 *e*P P 09 23 41.7 -2.8
ERBR *e**PP PcP 09 23 44.7 -1.4
ERBR *e*S SKSac 09 34 08.7 -5.1
ERBR pmax pmax
comp=Z,86nm,1.0s
K24K **Donnelly Dome** 88.83 26 IAMs_20 IAMs_20 10 00 13.2
comp=Z,147µm,22.0s
K24K **Donnelly Dome** 88.83 26 P P 09 23 46.5 +2.0
baz=266,SNR=48
SYO **Syowa Base** 88.89 201 ⇓*i*P P 09 23 43.6 -1.0
SYO **Syowa Base** 88.89 201 ⇑*i*PcP PcP 09 23 45.4 -0.7
SYO **Syowa Base** 88.89 201 ⇑*i*pP pP 09 23 50.0 +0.8
SYO **Syowa Base** 88.89 201 ⇓*i*sP sP 09 23 53.2 +2.4
G25K **Bearman Lake** 88.89 23 P P 09 23 47.5 +2.9
baz=266,SNR=29
PAX **Paxson** 88.91 27 IAMs_20 IAMs_20 10 03 32.6
comp=Z,144µm,21.0s
PAX **Paxson** 88.91 27 P P 09 23 47.1 +2.1
baz=267,SNR=68
H25L **Birch Creek** 88.97 24 P P 09 23 47.5 +2.4
baz=266,SNR=71
D25K **Kavik River** 88.98 21 P P 09 23 44.8 -0.3
D25K **Kavik River** 88.98 21 P P 09 23 47.5 +2.4
baz=266,SNR=25
VSLR **Vesyoloye** 89.01 313 *i* P P 09 23 45.3 -0.4
VSLR pmax pmax
comp=Z,158nm,1.2s
VSLR MLR MLR
comp=Z,11µm,16.0s
HARP **HAARP** 89.02 28 P P 09 23 48.1 +2.7
baz=267,SNR=7.8
PRP **Porcupine Dome** 89.05 25 P P 09 23 45.6 0.0
PRP IAMs_20 IAMs_20 10 03 38.8
comp=Z,135µm,22.0s
PRP **Porcupine Dome** 89.05 25 P P 09 23 47.2 +1.6
baz=266
J25K **Salcha River,** 89.06 25 IAMs_20 IAMs_20 10 03 14.2
comp=Z,113µm,20.0s
J25K **Salcha River,** 89.06 25 P P 09 23 47.2 +1.7
baz=267,SNR=44
F25K **Christian Rive** 89.13 22 P P 09 23 44.4 -1.5
F25K IAMs_20 IAMs_20 10 02 53.8
comp=Z,137µm,22.0s
F25K **Christian Rive** 89.13 22 P P 09 23 47.2 +1.4
baz=266,SNR=34
RAGM **Ragged Mountai** 89.15 30 IAMs_20 IAMs_20 10 01 27.1
comp=Z,193µm,21.0s
BMRM **Bremner River** 89.21 29 P P 09 23 48.6 +2.2
baz=267,SNR=38
FYU **Fort Yukon** 89.23 24 IAMs_20 IAMs_20 10 04 27.5
comp=Z,116µm,20.0s
RIDG **Independent Ri** 89.24 26 IAMs_20 IAMs_20 10 01 59.0
comp=Z,173µm,22.0s
RIDG **Independent Ri** 89.24 26 P P 09 23 48.4 +2.0
baz=267,SNR=70
SOC **Sochi** 89.24 313 *e*P P 09 23 44.1 -2.7
SOC *e*S SKSac 09 34 13.8 -2.9
SOC *e*SSS SSS 09 44 00.3
SOC pmax pmax
comp=Z,37nm,0.9s
N25K **Chitina, Valde** 89.25 29 P P 09 23 45.9 -0.7
N25K IAMs_20 IAMs_20 10 01 27.5
comp=Z,173µm,22.0s
N25K **Chitina, Valde** 89.25 29 P P 09 23 48.7 +2.1
baz=267,SNR=34
KAIM **Kayak Island** 89.26 30 IAMs_20 IAMs_20 10 00 22.0
comp=Z,149µm,22.0s
KAIM **Kayak Island** 89.26 30 P P 09 23 48.9 +2.3
baz=268,SNR=15
QSPA **South Pole Qui** 89.32 180 P P 09 23 44.9 -1.9
QSPA **South Pole Qui** 89.32 180 IAMs_20 IAMs_20 10 10 23.1
comp=Z,189µm,20.0s
QSPA **South Pole Qui** 89.32 180 P P 09 23 45.4 -1.5
comp=Z,76nm,0.9s,baz=294,slow=0.8,SNR=62
QSPA S SKSac 09 34 16.3 -0.2
comp=Z,3.5nm,1.0s,baz=56,slow=12,SNR=2.1
QSPA PKPPKP P'P'df 09 49 27.2 -4.1
comp=Z,2.8nm,1.0s,baz=171,slow=3.5,SNR=3.6
comp=Z,76nm,0.9s
HMT **Hamilton** 89.36 30 P P 09 23 47.0 -0.1
HMT IAMs_20 IAMs_20 10 02 55.5
comp=Z,145µm,20.0s
C26K **Camden Bay** 89.53 20 P P 09 23 49.8 +2.2
baz=267
DOT **Dot Lake** 89.58 26 P P 09 23 48.1 +0.1
SUCK **Suckling Hills** 89.59 30 IAMs_20 IAMs_20 10 05 18.7
comp=Z,120µm,20.0s
SCRK **Sand Creek** 89.63 26 IAMs_20 IAMs_20 10 02 12.3
comp=Z,122µm,22.0s
SCRK **Sand Creek** 89.63 26 P P 09 23 49.8 +1.4
baz=268,SNR=34
BERG **Berg Lake** 89.64 30 IAMs_20 IAMs_20 10 03 12.9
comp=Z,98µm,20.0s
F26K **Sheenjek River** 89.71 22 IAMs_20 IAMs_20 10 03 24.1
comp=Z,124µm,21.0s
F26K **Sheenjek River** 89.71 22 P P 09 23 50.3 +1.7
baz=268,SNR=31
MENT **Mentasta** 89.71 27 P P 09 23 50.9 +2.3
VORR **Voronezh** 89.78 321 *e*P P 09 23 51.9 +2.8
VORR *e* 09 27 24.2
VORR pmax pmax
comp=Z,280nm,1.3s
VRDI **Verde Repeater** 89.78 29 IAMs_20 IAMs_20 10 03 23.7
comp=Z,199µm,22.0s
VSR **Storozhevoye** 89.80 321 *e*P P 09 23 49.8 +0.6
VSR pmax pmax
comp=Z,70nm,1.2s
G26K **Porcupine Rive** 89.82 23 IAMs_20 IAMs_20 10 04 36.1
comp=Z,103µm,21.0s
G26K **Porcupine Rive** 89.82 23 P P 09 23 50.8 +1.8
baz=268,SNR=42
J26L **Joseph Creek** 89.83 26 IAMs_20 IAMs_20 10 05 32.6
comp=Z,96µm,20.0s
J26L **Joseph Creek** 89.83 26 P P 09 23 50.1 +0.9
baz=268,SNR=99
KLMR **Klimovskoe** 89.83 331 *e*P P 09 23 47.2 -2.0
KLMR *e* 09 27 19.9
KLMR S SKSac 09 34 17.5 -1.9
KLMR pmax pmax
comp=Z,102nm,1.7s
BGLC **Bering Glacier** 89.84 30 P P 09 23 51.9 +2.7
baz=268
L26K **Log Cabin Wild** 89.88 27 IAMs_20 IAMs_20 10 02 39.2
comp=Z,147µm,21.0s
L26K **Log Cabin Wild** 89.88 27 P P 09 23 51.8 +2.3
baz=268,SNR=35
CRQM **Cirque** 89.92 29 IAMs_20 IAMs_20 10 01 55.1
comp=Z,164µm,22.0s
C27K **Jago River** 89.94 20 P P 09 23 50.5 +0.9
C27K IAmb IAmb 09 24 05.9
comp=Z,271nm,1.5s
C27K IAMs_20 IAMs_20 10 02 17.0
comp=Z,105µm,22.0s
C27K **Jago River** 89.94 20 P P 09 23 51.2 +1.7
baz=268,SNR=26
CRQE **Cirque** 89.95 29 P P 09 23 52.1 +2.2
baz=269,SNR=22
LPSR **Galich'ya Gora** 89.97 322 *e*P P 09 23 51.0 +1.0
LPSR pmax pmax
comp=Z,130nm,1.2s
MCARA **McCarthy VSAT** 89.99 29 IAMs_20 IAMs_20 10 03 21.3
comp=Z,155µm,20.0s
MCARA **McCarthy VSAT** 89.99 29 P P 09 23 52.4 +2.5
baz=269,SNR=11
KIBK **Kibwezi** 90.03 268 P P 09 23 51.7 +0.4
KIBK **Kibwezi** 90.03 268 P P 09 23 52.8 +1.6
SNR=19
I26K **Coal Creek Min** 90.03 25 IAMs_20 IAMs_20 10 04 06.8
comp=Z,96µm,20.0s
I26K **Coal Creek Min** 90.03 25 P P 09 23 50.1 +0.1
baz=269
M26K **Nabesna, AK** 90.03 28 P P 09 23 51.1 +0.9
M26K IAMs_20 IAMs_20 10 04 56.1
comp=Z,138µm,22.0s
M26K **Nabesna, AK** 90.03 28 P P 09 23 53.1 +2.9
baz=269,SNR=12
WAX **Waxell Ridge** 90.06 30 IAMs_20 IAMs_20 10 01 16.1
comp=Z,111µm,22.0s
TGL **Tana Glacier** 90.08 29 IAMs_20 IAMs_20 10 01 59.5
comp=Z,164µm,22.0s
ISLE **Juniper Island** 90.31 30 IAMs_20 IAMs_20 10 05 05.8
comp=Z,101µm,21.0s
K27K **Chicken** 90.47 26 IAMs_20 IAMs_20 10 02 48.3
comp=Z,151µm,21.0s
K27K **Chicken** 90.47 26 P P 09 23 55.5 +3.4
baz=270,SNR=182
MESA **MESA** 90.50 30 IAMs_20 IAMs_20 10 01 12.9
comp=Z,178µm,22.0s
MESA **MESA** 90.50 30 P P 09 23 54.7 +2.0
baz=270
M27K **Edge Creek, AK** 90.55 28 IAMs_20 IAMs_20 10 07 45.9
comp=Z,110µm,21.0s
M27K **Edge Creek, AK** 90.55 28 P P 09 23 55.2 +2.5
baz=270,SNR=32
L27K **Beaver Creek,** 90.58 27 IAMs_20 IAMs_20 10 03 08.5
comp=Z,146µm,20.0s
L27K **Beaver Creek,** 90.58 27 P P 09 23 55.1 +2.4
baz=270,SNR=63
BCAR **Beaver Creek A** 90.60 27 P P 09 23 52.1 -0.7
GRNC **Granite Creek** 90.60 29 P P 09 23 52.1 -1.0
GRNC IAmb IAmb 09 24 12.6
comp=Z,213nm,1.1s
GRNC IAMs_20 IAMs_20 10 05 15.4
comp=Z,118µm,21.0s
YAH **Yahtse** 90.61 30 IAMs_20 IAMs_20 10 01 30.5
comp=Z,176µm,22.0s
BARN **Barnard Glacie** 90.65 29 P P 09 23 52.0 -1.2
BARN IAmb IAmb 09 24 21.4
comp=Z,673nm,1.7s
BARN IAMs_20 IAMs_20 10 02 18.3
comp=Z,210µm,22.0s
G27K **Doyon Strip** 90.66 23 P P 09 23 52.6 -0.4
G27K IAmb IAmb 09 24 09.6
comp=Z,323nm,1.9s
G27K IAMs_20 IAMs_20 10 05 00.3
comp=Z,122µm,22.0s
G27K **Doyon Strip** 90.66 23 P P 09 23 55.8 +2.8
baz=270,SNR=52
I27K **Kandik River** 90.67 25 P P 09 23 55.1 +2.0
baz=270
E27K **Coleen River** 90.68 22 P P 09 23 52.6 -0.5
E27K IAmb IAmb 09 24 09.3
comp=Z,436nm,1.9s
E27K IAMs_20 IAMs_20 10 04 06.7
comp=Z,109µm,21.0s
E27K **Coleen River** 90.68 22 P P 09 23 55.7 +2.7
baz=270,SNR=44
H27K **Steamboat Moun** 90.71 24 P P 09 23 55.4 +2.2
baz=270,SNR=81
MOS **Moscow** 90.77 326 *e*P P 09 23 52.6 -1.0
MOS *e* 09 27 30.8
MOS *e*PPP PPP 09 29 31.0
MOS *e*S SKSac 09 34 22.5 -2.5
MOS *e*SP SPn 09 36 02.0 +5.3
MOS *e*SS SS 09 41 03.2 +11
MOS pmax pmax
comp=Z,237nm,1.6s
MOS pmax pmax
comp=Z,2µm,3.4s
MOS pmax pmax
comp=E,1µm,4.1s
MOS pmax pmax
comp=N,600nm,2.1s
CTG **Chitna Glacier** 90.81 29 P P 09 23 57.5 +3.6
baz=270,SNR=43
CTGM **Chitina Glacie** 90.81 29 IAMs_20 IAMs_20 10 03 44.8
comp=Z,141µm,20.0s
EGAK **Eagle** 90.87 25 IAMs_20 IAMs_20 10 04 39.8
comp=Z,116µm,20.0s
ANN **Anapa** 90.90 315 *e*P P 09 23 50.8 -3.7
ANN *e**PP PcP 09 23 53.6 -1.9
ANN *e* 09 27 29.3
ANN *e*S SKSac 09 34 22.2 -4.0
ANN pmax pmax
comp=E,16nm,1.3s
ANN pmax pmax
comp=N,35nm,1.4s
ANN pmax pmax
comp=Z,139nm,1.1s
D27M **Malcolm River** 90.90 21 IAMs_20 IAMs_20 10 06 58.5
comp=Z,119µm,22.0s
D27M **Malcolm River** 90.90 21 P P 09 23 57.2 +3.0
baz=271,SNR=22
TABL **Table Mountain** 90.91 30 IAMs_20 IAMs_20 10 01 28.5
comp=Z,201µm,22.0s
LOGN **Logan Glacier** 90.97 29 P P 09 23 54.4 -0.4
LOGN IAmb IAmb 09 24 22.8
comp=Z,377nm,1.6s
LOGN IAMs_20 IAMs_20 10 05 37.2
comp=Z,116µm,21.0s
BVCY **Beaver Creek** 91.02 28 P P 09 23 58.0 +3.3
baz=271
YUK3 **Moose Creek** 91.22 28 P P 09 23 59.4 +3.4
baz=271,SNR=37
ASF **Jabal al Asfar** 91.34 302 P P 09 23 55.0 -2.0
comp=Z,3.5nm,0.2s,baz=168,slow=0.9,SNR=17
ASF S SKSac 09 34 31.6 +2.1
comp=Z,1.4nm,0.3s,baz=152,slow=14,SNR=0.9
comp=Z,3.5nm,0.2s
ASF **Jabal al Asfar** 91.34 302 P P 09 23 55.0 -2.0
F28M **Old Crow** 91.34 23 P P 09 23 56.3 +0.2
F28M IAmb IAmb 09 24 12.1
comp=Z,199nm,1.4s
F28M IAMs_20 IAMs_20 10 05 59.3
comp=Z,109µm,21.0s
F28M **Old Crow** 91.34 23 P P 09 23 58.6 +2.5
baz=272,SNR=42
PCA **Pinnacle** 91.35 30 IAMs_20 IAMs_20 10 01 49.4
comp=Z,135µm,22.0s
PINM **Pinnacle** 91.35 30 P P 09 23 59.5 +3.1
baz=271,SNR=18
O28M **Mount Upton** 91.37 29 IAMs_20 IAMs_20 10 01 21.8
comp=Z,165µm,22.0s
O28M **Mount Upton** 91.37 29 P P 09 23 58.9 +2.1
baz=271,SNR=28
I28M **Miner Creek** 91.38 25 P P 09 23 55.5 -0.9
I28M IAMs_20 IAMs_20 10 06 35.4
comp=Z,112µm,21.0s
I28M **Miner Creek** 91.38 25 P P 09 23 58.4 +1.9
baz=272,SNR=152
OBN **Obninsk** 91.38 325 P P 09 23 56.7 +0.2
comp=Z,6.2nm,0.3s,baz=110,slow=21,SNR=15
OBN PP PP 09 27 33.2 -0.7
comp=Z,9.7nm,0.4s,baz=49,slow=14,SNR=1.7
comp=Z,6.2nm,0.3s
OBN **Obninsk** 91.38 325 ⇓P P 09 23 57.8 +1.3
OBN **Obninsk** 91.38 325*ce*P P 09 23 53.8 -2.7
OBN *e* 09 27 35.2
OBN *e*PPP PPP 09 29 34.2
OBN *i* S S 09 34 53.7 -1.5
OBN pmax pmax
comp=Z,39nm,1.0s
E28M **Babbage River** 91.44 22 IAMs_20 IAMs_20 10 05 50.7
comp=Z,114µm,22.0s
E28M **Babbage River** 91.44 22 P P 09 23 59.0 +2.5
baz=272,SNR=73

YUK8	Steele Glacier	91.57	29	P	P	09 24 00.6	+3.0				
	baz=272,SNR=26										
TAOE	Nuku Hiva Isla	91.64	99	IAMs_20	IAMs_20	09 58 48.0					
	comp=Z,193µm,21.0s										
TAOE	Nuku Hiva Isla	91.64	99	eP	P	09 24 00.7	+1.9				
	comp=Z,468nm,1.3s										
TAOE	Nuku Hiva Isla	91.64	99	ePP	PP	09 27 29.7	-7.6				
	comp=Z,6µm,26.2s										
TAOE				eS	S	09 34 55.2	-4.3				
	comp=Z,26µm,25.3s										
TAOE				eSS	SS	09 41 02.7	-4.0				
	comp=Z,57µm,27.9s										
TAOE				eLQ	LQ	09 49 29.0					
	comp=Z,170µm,29.2s										
TAOE				eLR	LR	09 53 18.3					
	comp=Z,285µm,21.9s										
DAWY	Dawson	91.65	26	P	P	09 23 59.6	+2.0				
	baz=272,SNR=131										
BCPM	Bancas Point	91.67	30	IAMs_20	IAMs_20	10 01 44.7					
	comp=Z,119µm,22.0s										
D28M	Stokes Point	91.69	21	P	P	09 23 59.4	+1.8				
	baz=273										
PNL	Peninsula	91.80	30	P	P	09 24 00.0	+1.6				
PNL	Peninsula	91.80	30	P	P	09 23 59.9	+1.6				
	baz=272,SNR=23										
LVZ	Lovozero	91.87	338	P	P	09 23 58.2	-0.3				
LVZ	Lovozero	91.87	338	i P	P	09 23 57.9	-0.7				
LVZ				pmax	pmax						
	comp=Z,77nm,1.2s										
H29M	Whitestone	91.99	24	IAMs_20	IAMs_20	10 04 49.5					
	comp=Z,97µm,21.0s										
H29M	Whitestone	91.99	24	P	P	09 24 00.5	+1.3				
	baz=273,SNR=45										
E29M	Blow River	92.05	22	IAMs_20	IAMs_20	10 06 17.9					
	comp=Z,100µm,21.0s										
E29M	Blow River	92.05	22	P	P	09 24 01.1	+1.7				
	baz=274,SNR=38										
I29M	Ogilvie Camp,	92.06	25	IAMs_20	IAMs_20	10 05 31.5					
	comp=Z,154µm,21.0s										
I29M	Ogilvie Camp,	92.06	25	P	P	09 24 00.8	+1.3				
	baz=273,SNR=104										
G29M	Pine Creek	92.09	23	P	P	09 23 58.7	-0.9				
G29M				IAMs_20	IAMs_20	10 06 16.1					
	comp=Z,107µm,20.0s										
G29M	Pine Creek	92.09	23	P	P	09 24 01.1	+1.4				
	baz=273,SNR=104										
YUK4	Talbot Arm	92.10	29	P	P	09 24 01.2	+1.2				
	baz=273										
M29M	Somme Creek	92.14	28	P	P	09 23 59.9	-0.1				
M29M				IAMs_20	IAMs_20	10 07 10.9					
	comp=Z,105µm,20.0s										
M29M	Somme Creek	92.14	28	P	P	09 24 01.5	+1.5				
	baz=273,SNR=62										
J29N	Klondike Camp	92.15	26	P	P	09 24 01.5	+1.5				
	baz=273,SNR=7.6										
O29M	Mount Kennedy	92.18	30	IAMs_20	IAMs_20	10 02 17.3					
	comp=Z,176µm,22.0s										
O29M	Mount Kennedy	92.18	30	P	P	09 24 00.7	+0.3				
	baz=273,SNR=9.0										
L29M	L29M	92.26	27	IAMs_20	IAMs_20	10 04 21.0					
	comp=Z,154µm,21.0s										
L29M	L29M	92.26	27	P	P	09 24 02.0	+1.5				
	baz=273,SNR=117										
YUK6	Outpost Mounta	92.26	29	P	P	09 24 01.7	+0.9				
	baz=273,SNR=25										
APA	Apatity	92.36	337	⇓P	P	09 24 07.4	+6.6				
APA				i		09 27 39.3					
APA				i S	S	09 35 01.5	-2.2				
APA				i SS	SS	09 41 17.2	+3.1				
K29M	Barlow Dome	92.49	26	IAMs_20	IAMs_20	10 03 46.9					
	comp=Z,180µm,22.0s										
K29M	Barlow Dome	92.49	26	P	P	09 24 04.4	+2.8				
	baz=274,SNR=36										
MMAI	Mount Meron Ar	92.59	303	P	P	09 24 02.1	-0.6				
	comp=Z,8.4nm,0.9s,baz=76,slow=11,SNR=3.7										
MMAI				S	SKSac	09 34 36.4	-0.1				
	comp=Z,0.7nm,0.3s,baz=187,slow=24,SNR=1.0										
	comp=Z,8.4nm,0.9s										
P29M	Windy Craggy	92.64	30	IAMs_20	IAMs_20	10 02 54.4					
	comp=Z,102µm,21.0s										
P29M	Windy Craggy	92.64	30	P	P	09 24 02.7	+0.4				
	baz=273,SNR=51										
EPYK	Eagle Plains	92.64	24	P	P	09 24 02.8	+0.6				
	baz=274,SNR=71										
HYT	Haines Junctio	92.69	29	P	P	09 24 03.3	+0.7				
	baz=274,SNR=43										
LODK	Lodwar	92.77	273	P	P	09 24 06.9	+3.0				
	SNR=14										
G30M	tAoh Zraii Nji	92.79	23	IAMs_20	IAMs_20	10 06 25.7					
	comp=Z,110µm,21.0s										
G30M	tAoh Zraii Nji	92.79	23	P	P	09 24 04.7	+1.8				
	baz=275,SNR=53										
N30M	Aishikik Lake	92.84	29	IAMs_20	IAMs_20	10 03 50.6					
	comp=Z,146µm,20.0s										
N30M	Aishikik Lake	92.84	29	P	P	09 24 05.4	+2.1				
	baz=274,SNR=44										
I30M	Mount Dempster	92.88	25	IAMs_20	IAMs_20	10 07 21.1					
	comp=Z,96µm,21.0s										
I30M	Mount Dempster	92.88	25	P	P	09 24 04.2	+0.8				
	baz=275,SNR=50										
F30M	Barrier River	92.90	22	IAMs_20	IAMs_20	10 06 36.5					
	comp=Z,98µm,21.0s										
F30M	Barrier River	92.90	22	P	P	09 24 05.6	+2.3				
	baz=276,SNR=56										
M30M	Minto, Yukon	92.90	28	IAMs_20	IAMs_20	10 03 51.1					
	comp=Z,149µm,22.0s										
M30M	Minto, Yukon	92.90	28	P	P	09 24 04.3	+0.8				
	baz=274,SNR=80										
J30M	Hart River	92.95	25	IAMs_20	IAMs_20	10 05 12.2					
	comp=Z,118µm,22.0s										
J30M	Hart River	92.95	25	P	P	09 24 05.9	+2.1				
	baz=275,SNR=103										
P30M	Million Dollar	93.00	30	P	P	09 24 05.1	+1.1				
	baz=274										
EIL	Elat	93.04	300	P	P	09 24 04.6	-0.2				
	comp=Z,7.7nm,1.0s,baz=329,slow=6.1,SNR=6.7										
	comp=Z,7.7nm,1.0s										
MAYO	Mayo, Yukon	93.23	26	P	P	09 24 04.8	-0.1				
	baz=275,SNR=29										
SIM	Simferopol'	93.25	315	eP	P	09 24 04.0	-1.4				
SIM				e		09 27 51.0					
SIM				eS	S	09 35 09.0	-3.5				
PLBC	Pleasant Camp	93.35	31	P	P	09 24 06.4	+0.9				
	baz=274,SNR=20										
O30N	Mendenhall	93.38	29	IAMs_20	IAMs_20	10 02 56.9					
	comp=Z,198µm,22.0s										
O30N	Mendenhall	93.38	29	P	P	09 24 06.5	+0.8				
	baz=275,SNR=42										
N31M	Braeburn, Yuko	93.47	29	IAMs_20	IAMs_20	10 04 00.1					
	comp=Z,161µm,21.0s										
N31M	Braeburn, Yuko	93.47	29	P	P	09 24 06.8	+0.7				
	baz=275,SNR=43										
S31K	Pelican	93.53	32	IAMs_20	IAMs_20	10 02 32.3					
	comp=Z,107µm,22.0s										
S31K	Pelican	93.53	32	P	P	09 24 07.6	+1.2				
	baz=274,SNR=17										
VADS	Vadso	93.55	340	eP	P	09 24 06.3	+0.1				
G31M	Satah River	93.56	23	P	P	09 24 06.8	+0.5				
	baz=277,SNR=78										
KIRS	Kirsehir-Merke	93.63	309	⇓P	P	09 24 09.6	+2.1				
HOPEN	Hopen	93.64	347	eP	P	09 24 08.2	+1.6				
HOPEN				e		09 35 13.4					
HOPEN				IVMs_BB	IVMs_BB	10 10 55.4					
	comp=Z,41µm,19.7s										
H31M	Peel River	93.66	24	IAMs_20	IAMs_20	10 06 20.8					
	comp=Z,150µm,21.0s										
H31M	Peel River	93.66	24	P	P	09 24 07.5	+0.6				
	baz=277,SNR=53										
INK	Inuvik	93.67	22	P	P	09 24 07.0	+0.3				
	comp=Z,15nm,1.0s,baz=289,slow=6.1,SNR=26										
INK				S	SKSac	09 34 41.4	+0.6				
	comp=Z,1.1nm,0.8s,baz=44,slow=7.0,SNR=0.9										
INK				LR	LR	10 11 15.8					
	comp=Z,56µm,19.1s,baz=256,slow=39										
	comp=Z,15nm,1.0s										
INK	Inuvik	93.67	22	P	P	09 24 06.2	-0.6				
	baz=278,SNR=60										
F31M	Tsiigehtchic	93.70	23	IAMs_20	IAMs_20	10 07 17.7					
	comp=Z,119µm,21.0s										
F31M	Tsiigehtchic	93.70	23	P	P	09 24 07.0	0.0				
	baz=277,SNR=65										
R31K	City Hall, Gus	93.76	32	P	P	09 24 06.6	-0.8				
	baz=275										
BR131	Keskin Array S	93.82	310	i P	P	09 24 07.0	-1.4				
BRTR	Keskin Array B	93.82	310	P	P	09 24 06.6	-1.8				
BRTR	Keskin Array B	93.82	310	P	P	09 24 08.2	-0.1				
	comp=Z,3.4nm,0.9s,baz=130,slow=5.0,SNR=11										
BRTR				PP	PP	09 27 52.2	-1.7				
	comp=Z,9.2nm,1.0s,baz=117,slow=4.3,SNR=3.7										
BRTR				PKKPbc	PKKPdf	09 41 12.4	+0.1				
	comp=Z,1.5nm,0.8s,baz=219,slow=1.8,SNR=6.4										
	comp=Z,3.4nm,0.9s										
SKAG	Skagway	93.88	31	P	P	09 24 06.4	-1.5				
SKAG				IAmb	IAmb	09 24 26.3					
	comp=Z,140nm,1.0s										
SKAG	Skagway	93.88	31	P	P	09 24 09.3	+1.4				
SKAG	Skagway	93.88	31	P	P	09 24 08.2	+0.3				
	baz=275,SNR=42										
WHY	Whitehorse	93.98	29	P	P	09 24 08.9	+0.3				
	baz=276,SNR=52										
M31M	Drury Creek, Y	94.05	28	IAMs_20	IAMs_20	10 04 34.5					
	comp=Z,175µm,22.0s										
M31M	Drury Creek, Y	94.05	28	P	P	09 24 09.3	+0.5				
	baz=276,SNR=54										
SIT	Sitka	94.10	33	P	P	09 24 10.7	+1.7				
SIT	Sitka	94.10	33	P	P	09 24 08.5	-0.5				
	baz=275,SNR=20										
KEV	Kevo	94.41	340	P	P	09 24 10.1	-0.1				
KEV	Kevo	94.41	340	P	P	09 24 10.1	-0.1				
KEV				pmax	pmax						
	comp=Z,161nm,1.6s										
KEV	Kevo	94.41	340	P	P	09 24 09.6	-0.6				
KEV				S	S	09 35 16.8	-4.8				
R32K	Eaglecrest	94.41	32	P	P	09 24 10.6	+0.1				
	baz=276,SNR=37										
S32K	Killisnoo	94.47	33	IAMs_20	IAMs_20	10 09 42.9					
	comp=Z,99µm,19.0s										
S32K	Killisnoo	94.47	33	P	P	09 24 11.2	+0.5				
	baz=276,SNR=12										
ANTO	Ankara	94.47	310	P	P	09 24 07.5	-3.7				
ANTO				S	S	09 35 22.7	-0.9				
JIS	Juneau Island	94.48	32	P	P	09 24 11.9	+1.2				
FARO	Faro, Yukon	94.53	28	P	P	09 24 11.8	+0.8				
	baz=277,SNR=106										
P32M	Atlin	94.68	30	IAMs_20	IAMs_20	10 04 37.4					
	comp=Z,100µm,22.0s										
P32M	Atlin	94.68	30	P	P	09 24 11.8	+0.1				
	baz=277,SNR=17										
N32M	Quiet Lake	94.80	29	IAMs_20	IAMs_20	10 08 43.3					
	comp=Z,151µm,22.0s										
N32M	Quiet Lake	94.80	29	P	P	09 24 12.3	+0.1				
	baz=278										
ARA0	ARCESS Array S	94.97	340	eP	P	09 24 10.1	-2.7				
ARA0				IVmB_BB		09 29 51.2					
	comp=Z,5µm,11.6s										
ARA0				IVMs_BB	IVMs_BB	10 17 59.5					
	comp=Z,28µm,19.5s										
ARCES	ARCESS Array B	94.97	340	P	P	09 24 11.7	-1.1				
	comp=Z,44nm,1.2s,baz=80,slow=7.5,SNR=22										
ARCES				LR	LR	10 14 15.6					
	comp=Z,66µm,18.4s,baz=76,slow=40										
	comp=Z,44nm,1.2s										
SPB2	Spitsbergen Ar	94.97	349	P	P	09 24 13.5	+0.8				
SPA0	Spitsbergen Ar	94.97	349	eP	P	09 24 12.1	-0.6				
SPITS	Spitsbergen Ar	94.97	349	P	P	09 24 11.8	-0.9				
	comp=Z,35nm,1.1s,baz=104,slow=7.1,SNR=12										
	comp=Z,35nm,1.1s										
P33M	Teslin, Yukon	95.05	30	P	P	09 24 13.0	-0.4				
P33M				IAMs_20	IAMs_20	10 04 58.1					
	comp=Z,127µm,22.0s										
P33M	Teslin, Yukon	95.05	30	P	P	09 24 14.4	+0.9				
	baz=278,SNR=37										
HAMF	Hammerfest	95.33	341	eP	P	09 24 15.4	+1.0				
HAMF				IVmB_BB		09 29 58.9					
	comp=Z,6µm,10.3s										
HAMF				IVMs_BB	IVMs_BB	10 18 36.5					
	comp=Z,33µm,19.5s										
U33K	Whale Pass	95.41	34	IAMs_20	IAMs_20	10 01 31.1					
	comp=Z,123µm,22.0s										
U33K	Whale Pass	95.41	34	P	P	09 24 16.9	+1.9				
	baz=277,SNR=18										
T33K	Petersburg	95.42	33	P	P	09 24 16.1	+1.1				
	baz=277										
MMPY	Sheldon Lake,	95.44	27	P	P	09 24 16.2	+1.1				
	baz=279,SNR=76										
KBS	Kingsbay	95.49	350	IAMs_20	IAMs_20	10 13 44.0					
	comp=Z,95µm,19.0s										
KBS	Kingsbay	95.49	350	eP	P	09 24 14.2	-0.8				
KBS				IVmB_BB		09 29 26.9					
	comp=Z,4µm,8.9s										
KBS	Kingsbay	95.49	350	i P	P	09 24 07.2	-7.8				
CRAG	Craig	95.49	34	P	P	09 24 17.1	+1.7				
CRAG	Craig	95.49	34	P	P	09 24 15.8	+0.4				
	baz=277,SNR=5.9										
Q32M	Nakina River	95.50	31	P	P	09 24 15.5	-0.2				
	baz=278,SNR=25										
A36M	Sachs Harbour	95.70	17	P	P	09 24 17.0	+1.0				
	baz=286										
WRAK	Wrangell Islan	95.80	33	IAMs_20	IAMs_20	10 02 08.4					
	comp=Z,102µm,22.0s										
WRAK	Wrangell Islan	95.80	33	P	P	09 24 17.9	+1.1				
	baz=278										
KTK1	Kautokeino	95.87	340	eP	P	09 24 16.1	-0.9				
KTK1				IVMs_BB	IVMs_BB	10 16 48.2					
	comp=Z,25µm,18.2s										
R33M	Jennings River	96.10	30	P	P	09 24 18.5	+0.2				
	baz=279,SNR=37										
AKASG	Malin Array Be	96.10	321	P	P	09 24 16.5	-1.8				
	comp=Z,1.0nm,0.7s,baz=71,slow=4.5,SNR=12										
AKASG				PP	PP	09 28 10.2	-0.8				
	comp=Z,43nm,1.2s,baz=70,slow=6.8,SNR=5.6										
AKASG	Malin Array Be	96.10	321	ceP	P	09 24 19.1	+0.8				
AKBB	Malin Array Si	96.10	321	ceP	P	09 24 17.9	-0.4				
AKBB				pmax	pmax						
	comp=Z,7.0nm,0.9s										
KIEV	Kiev	96.11	321	⇑P	P	09 24 19.6	+1.2				
KIEV	Kiev	96.11	321	⇑P	P	09 24 19.6	+1.2				
KIEV	Kiev	96.11	321	i P	P	09 24 15.2	-3.2				
	SNR=7.2										
H02S1	DAWSON INLET T	96.14	37	P	P	09 24 20.3	+1.9				
	SNR=12										
S34M	Telegraph Cree	96.24	32	IAMs_20	IAMs_20	10 11 36.8					
	comp=Z,86µm,20.0s										
S34M	Telegraph Cree	96.24	32	P	P	09 24 18.8	0.0				
	baz=279,SNR=16										
FINES	FINESS Array B	96.28	332	P	P	09 24 19.1	+0.2				
FINES	FINESS Array B	96.28	332	P	P	09 24 18.2	-0.6				
	comp=Z,0.9nm,0.5s,baz=63,slow=4.6,SNR=12										
FINES				PP	PP	09 28 12.9	+0.9				
	comp=Z,15nm,1.0s,baz=101,slow=5.8,SNR=1.8										
	comp=Z,0.9nm,0.5s										
FINES	FINESS Array B	96.28	332	ceP	P	09 24 20.1	+1.2				
V35K	Ketchikan	96.36	34	IAMs_20	IAMs_20	10 05 07.3					
	comp=Z,129µm,20.0s										
V35K	Ketchikan	96.36	34	P	P	09 24 20.7	+1.4				
	baz=278										
ISP	Isparta	96.36	308	ceP	P	09 24 20.2	+0.2				
ISP				pmax	pmax						
	comp=Z,22nm,2.5s										
MNK	Minsk	96.43	325	i P	P	09 24 17.7	-2.0				
MNK	comp=E,10.0nm,0.8s										
				i P	P	09 24 17.7	-2.0				
MNK	comp=N,11nm,1.0s										
				i P	P	09 24 17.7	-2.0				
MNK	comp=Z,17nm,0.9s,baz=82										
MNK				i PP	PP	09 28 11.3	-2.1				
MNK				i PPP	PPP	09 30 14.4					
MNK				i S	SKSac	09 34 54.2	-1.9				
MNK				i SS	SS	09 42 12.5	-0.3				
MNK				i SSS	SSS	09 45 56.9					
MNK				i LR	LR	10 08 59.1					
MNK				i LRM	MLR	10 09 33.5					
	comp=E,30µm,19.4s										
MNK	Minsk	96.43	325	i P	P	09 24 17.7	-2.0				
MNK				i		09 28 11.3					
MNK				i S	SKSac	09 34 54.2	-1.9				
MNK				i SS	SS	09 42 12.4	-0.3				
MNK				i SSS	SSS	09 45 56.9					
MNK				pmax	pmax						
	comp=E,10.0nm,0.8s										
MNK				pmax	pmax						
	comp=Z,17nm,0.9s										
MNK				pmax	pmax						
	comp=N,11nm,1.0s										
MNK				MLR	MLR						
	comp=E,30µm,19.0s										
MNK				MLR	MLR						
	comp=N,70µm,22.0s										
MNK				MLR	MLR						
	comp=Z,53µm,21.0s										
VSU	Vasula	96.46	329	i P	P	09 24 15.0	-4.8				
VSU				pmax	pmax						
	comp=Z,30nm,1.1s										
VSU				MLR	MLR						
	comp=Z,58µm,20.0s										
JETT	Jettan, Norway	96.70	340	eP	P	09 24 17.7	-3.0				
JETT				IVmB_BB		09 30 06.0					
	comp=Z,5µm,7.6s										
JETT				IVMs_BB	IVMs_BB	10 14 55.7					
	comp=Z,32µm,18.9s										
DLBC	Dease Lake	96.73	31	LR	LR	10 04 28.1					
	comp=Z,5µm,20.2s,baz=260,slow=33										
DLBC	Dease Lake	96.73	31	P	P	09 24 21.1	-0.1				
	baz=280,SNR=23										
KIS	Kishinev	96.78	317	eP	P	09 24 18.0	-3.5				
KIS	Kishinev	96.78	317	ePP	PP	09 28 15.0	-1.4				
KIS	Kishinev	96.78	317	ePS	PS	09 37 00.0	-5.4				
KIS				eL	L	09 59 06.0					
KIS				LQM		10 08 48.0					
	comp=Z,13µm,22.0s										
KIS				LRM	MLR	10 16 14.0					
	comp=Z,12µm,19.0s										
KIS	Kishinev	96.78	317	eP	P	09 24 18.0	-3.5				
KIS				e		09 28 15.0					
MILM	Milestii Mici	96.79	317	eP	P	09 24 17.0	-4.6				
	comp=Z,1µm,7.6s										
MILM	Milestii Mici	96.79	317	ePP	PP	09 28 19.0	+2.5				
MILM				eSKS	SKSac	09 34 55.0	-3.3				
MILM				eS	SKKSac	09 35 31.0	+6.5				
MILM				eL	L	10 01 21.0					
MILM				LQM		10 08 41.0					
	comp=Z,35µm,21.0s										
MILM				LRM	MLR	10 16 07.0					
	comp=Z,35µm,19.0s										
MILM	Milestii Mici	96.79	317	eP	P	09 24 17.0	-4.6				
MILM				e		09 28 19.0					
MILM				e		09 34 55.0					
MILM				pmax	pmax						
	comp=Z,1µm,7.6s										
T35M	Bob Quinn	96.86	33	IAMs_20	IAMs_20	10 05 26.3					
	comp=Z,139µm,22.0s										
T35M	Bob Quinn	96.86	33	P	P	09 24 21.6	-0.1				
	baz=280										
NACGM	Naroch	97.00	325	eP	P	09 24 21.6	-0.8				
	comp=Z,16nm,0.9s,baz=81										
TGTN	Hyland Airport	97.02	28	P	Pdif	09 24 23.1	+0.6				
	baz=282,SNR=7.2										
WTLY	Watson Lake, Y	97.05	29	P	Pdif	09 24 23.8	+1.2				
	baz=281,SNR=8.9										
U35K	Hyder	97.16	34	IAMs_20	IAMs_20	10 03 54.3					
	comp=Z,160µm,21.0s										
U35K	Hyder	97.16	34	P	Pdif	09 24 24.3	+1.2				
	baz=280										
TRO	Tromso	97.17	341	eP	P	09 24 18.1	-4.7				
TRO				IVmB_BB		09 29 14.5					
	comp=Z,3µm,4.9s										
TRO				IVMs_BB	IVMs_BB	10 16 42.6					
	comp=Z,22µm,19.8s										
TIRR	Tirgusor	97.34	315	⇓P	Pdif	09 24 24.9	+0.8				
TIRR	Tirgusor	97.34	315	⇓P	Pdif	09 24 24.9	+0.7				
MBAR	Mbarara	97.35	269	i P	P	09 24 23.2	-1.8				
MBAR				pmax	pmax						
	comp=Z,20nm,1.0s										
CFR	Carcaliu	97.46	315	⇑P	Pdif	09 24 25.9	+1.2				
CFR	Carcaliu	97.46	315	⇑P	Pdif	09 24 25.9	+1.2				
SCTR	Scanteiesti	97.50	316	⇑P	Pdif	09 24 27.6	+2.7				
NOR	Nord	97.50	355	i P	P	09 24 22.0	-2.1				
NOR				IAmb	IAmb	09 28 46.3					
	comp=Z,1µm,3.4s										
FETY	Fethiye	97.60	307	P	Pdif	09 24 27.8	+2.3				
PSN	Preselentsi	97.64	314	i P	Pdif	09 24 33.1	+7.6				
TESR	Tescani	98.32	317	⇑P	Pdif	09 24 30.1	+1.5				
VRI	Vrincioaia	98.36	316	⇓P	Pdif	09 24 30.5	+1.8				
VRI	Vrincioaia	98.36	316	⇓P	Pdif	09 24 30.5	+1.8				
PLOR	Plostina	98.41	316	⇑P	Pdif	09 24 31.7	+2.8				
PLOR	Plostina	98.41	316	⇑P	Pdif	09 24 31.7	+2.7				
ONER	Baraj Valea Uz	98.52	317	⇓P	Pdif	09 24 31.1	+1.7				
LIRD	Liard River Hi	98.53	30	Pdiff	Pdif	09 24 29.7	+0.5				
	baz=283										
ISR	Istrita	98.58	315	⇑P	Pdif	09 24 33.1	+3.3				
ISR	Istrita	98.58	315	⇑P	Pdif	09 24 33.1	+3.3				
COVR	Voineasa-Covas	98.72	316	⇑P	Pdif	09 24 30.4	+0.1				
MATP	Matopo	98.78	249	LR	LR	10 05 42.7					
	comp=Z,21µm,21.8s,baz=94,slow=34										
WRGLY	Wrigley	98.79	26	Pdiff	Pdif	09 24 30.8	+0.6				
	baz=286										
BBB	Bella Bella	98.92	37	IAMs_20	IAMs_

LOT Lotru 100.47 316 ⇑P Pdif 09 24 40.5 +2.2
THAS Thassos island 100.55 311 P Pdif 09 24 40.3 +1.8
KAVA Kavala 100.64 312 P Pdif 09 24 41.1 +2.2
PGB Panagyurishte 100.66 313 *i* P Pdif 09 24 45.9 +6.8
MARR Marisel-Cluj 100.70 317 ⇓P Pdif 09 24 41.4 +2.2
R9F13 Warsaw-Wawer 100.82 323 *e*P Pdif 09 24 42.8 +3.3
R9F13 *e*PP PP 09 28 52.1 +5.1
R9F13 *e*S SKSac 09 35 19.6 +1.3
KOLS Kolonicke sedl 100.82 320 *e*P Pdif 09 24 44.9 +5.3
KOLS *e* 09 28 56.3
KOLS Kolonicke sedl 100.82 320 *e*PDIFF Pdif 09 24 44.9 +5.3
KOLS *e*PP PP 09 28 56.2 +9.0
MPEP Malo Peshtene 100.84 314 *i* P Pdif 09 24 44.2 +4.4
DRGR 100.95 318 ⇑P Pdif 09 24 42.1 +1.8
DRGR 100.95 318 ⇑P Pdif 09 24 42.1 +1.8
BOSA Boshof 100.97 241 P Pdif 09 24 39.2 -1.7
comp=Z,7.2nm,1.0s,baz=96,slow=5.3,SNR=4.0
BOSA PP PP 09 28 49.2 0.0
comp=Z,10.0nm,1.0s,baz=120,slow=4.6,SNR=3.6
BOSA PKKPbc PKKPbc 09 40 53.2 0.0
comp=Z,5.0nm,1.0s,baz=270,slow=6.1,SNR=3.3
VALD Valchedram 101.00 314 P Pdif 09 24 42.6 +2.1
BEL Belsk 101.12 323 *e*Pdif Pdif 09 24 43.7 +2.8
BEL *e*SKSac SKSac 09 35 14.9 -4.9
BEL *e*L L 10 12 27.8
comp=Z,52µm,22.1s
IDI Anoyia 101.13 306 P Pdif 09 24 42.8 +1.5
IDI Anoyia 101.13 306 P Pdif 09 24 44.0 +2.7
IDI Anoyia 101.13 306 P Pdif 09 24 41.5 +0.2
comp=Z,8.7nm,1.1s,baz=301,slow=6.5,SNR=2.3
IDI PP PP 09 28 52.1 +2.1
comp=Z,12nm,0.8s,baz=70,slow=8.2,SNR=4.6
MMB Musomishta 101.13 312 *i* P Pdif 09 24 44.2 +3.0
MMB Musomishta 101.13 312 P Pdif 09 24 41.1 -0.1
OUR Ouranopolis 101.14 311 P Pdif 09 24 43.3 +2.1
GZR Gura Zlata 101.17 316 ⇑P Pdif 09 24 43.3 +2.0
GZR Gura Zlata 101.17 316 ⇑P Pdif 09 24 43.3 +2.0
PLNA Plana 101.22 313 *i* P Pdif 09 24 48.0 +6.4
KYMI Kymi, Euboea I 101.30 309 P Pdif 09 24 43.7 +1.7
SRS Serrai 101.31 312 P Pdif 09 24 43.9 +1.9
VTS Vitosha 101.33 313 *i* P Pdif 09 24 45.0 +2.8
VTS Vitosha 101.33 313 P Pdif 09 24 44.2 +2.0
SNAA Sanae 101.37 194 ⇓P Pdif 09 24 43.1 +1.5
comp=Z,121nm,0.6s
SNAA ⇓PKiKP PKiKP 09 29 07.1 +1.3
SNAA Sanae 101.37 194 ⇓SKSac SKSac 09 35 26.2 +5.7
SNAA Sanae 101.37 194 P Pdif 09 24 41.5 -0.1
comp=Z,4.8nm,1.0s,baz=185,slow=4.2,SNR=13
SNAA PP PP 09 28 53.0 +2.3
comp=Z,15nm,0.9s,baz=162,slow=7.7,SNR=4.6
SNAA PKKPbc PKKPbc 09 40 50.2 -3.2
comp=Z,5.6nm,1.0s,baz=302,slow=3.4,SNR=5.9
SNAA Sanae 101.37 194 *i* P Pdif 09 24 41.5 -0.1
SNAA pmax pmax
comp=Z,26nm,1.1s
STHS Stebnicka Huta 101.38 320 *e*P Pdif 09 24 49.7 +7.6
STHS Stebnicka Huta 101.38 320 *e*PDIFF Pdif 09 24 49.7 +7.6
AOS Alonnisos 101.39 310 P Pdif 09 24 44.6 +2.3
PAIG Paliouri 101.43 311 P Pdif 09 24 43.6 +1.1
DION Dionisos Attik 101.51 309 P Pdif 09 24 44.5 +1.6
HERR Herculane 101.51 316 ⇑P Pdif 09 24 44.0 +1.2
NSS Namsos 101.54 337 *e*Pdif Pdif 09 24 39.8 -2.5
NSS *e*PP PP 09 28 51.2 -0.8
KKB Krupnik 101.54 313 *i* P Pdif 09 24 48.1 +5.1
SOH Sokhos 101.54 311 P Pdif 09 24 43.4 +1.3
SURR Surduc 101.55 317 ⇓P Pdif 09 24 43.7 +0.8
PTL Penteli 101.57 309 P Pdif 09 24 44.5 +1.3
ATHU Athens Univers 101.64 309 P Pdif 09 24 43.5 0.0
DAG Danmarks Havn 101.71 353 P Pdif 09 24 46.5 +3.6
DAG Danmarks Havn 101.71 353 *i* P Pdif 09 24 40.6 -2.3
DAG IAmb IAmb 09 29 20.5
comp=Z,564nm,2.6s
HORT Hortiatis 101.77 311 P Pdif 09 24 45.1 +1.1
SIRR Siria 101.77 317 ⇑P Pdif 09 24 45.0 +1.2
BZS Buzias 101.92 317 ⇓P Pdif 09 24 46.2 +1.7
BZS Buzias 101.92 317 ⇓P Pdif 09 24 46.2 +1.7
NIE Niedzica 101.98 321 *e*Pdif Pdif 09 24 43.3 -1.5
NIE *e*PKiKP PP 09 29 01.3 +5.3
NIE *e*L L 10 23 29.8
comp=Z,39µm,22.0s
C03A Quillayute Air 102.02 41 IAMs_20 IAMs_20 10 05 27.9
comp=Z,155µm,20.0s
MDVR Moldovita 102.02 316 ⇓P Pdif 09 24 47.0 +1.9
OJC Ojcow 102.11 321 *e*Pdif Pdif 09 24 42.8 -2.4
LKR Lokris 102.15 309 P Pdif 09 24 46.2 +0.4
BOVS Bovan 102.25 315 ⇓P Pdif 09 24 47.5 +1.4
HFS Hagfors 102.47 332 P Pdif 09 24 45.7 -0.9
comp=Z,2.4nm,0.7s,baz=114,slow=1.8,SNR=6.5
HFS PP PP 09 28 59.6 +0.4
comp=Z,9.5nm,0.9s,baz=74,slow=11,SNR=1.8
LANS Liptovska Anna 102.58 320 *e*PDIFF Pdif 09 24 57.5 +10
PGC Sidney 102.58 40 IAMs_20 IAMs_20 10 05 48.8
comp=Z,152µm,20.0s
PSZ Piszkesteto 102.59 319 ⇑P Pdif 09 24 48.6 +1.0
PSZ Piszkesteto 102.59 319 ⇑P Pdif 09 24 48.6 +1.0
NLWA Neilton Lookou 102.60 41 IAMs_20 IAMs_20 10 12 51.4
comp=Z,97µm,20.0s
AGG Agios Georgios 102.61 310 P Pdif 09 24 48.8 +1.0
WISH Wishkah 102.73 42 IAMs_20 IAMs_20 10 12 53.8
comp=Z,97µm,20.0s
THL Klokotos Trika 102.76 310 P Pdif 09 24 47.4 -1.0
GUR Goura 102.78 309 P Pdif 09 24 49.0 +0.4
KZN Kozani 102.81 311 P Pdif 09 24 49.8 +1.0
YKA Yellowknife Ar 102.85 25 Pdiff Pdif 09 24 48.8 +0.5
comp=Z,6.4nm,1.1s,baz=300,slow=5.1,SNR=9.8
YKA PP PP 09 29 02.9 +1.0
comp=Z,14nm,1.3s,baz=303,slow=7.0,SNR=4.3
YKA PKKPbc PKKPbc 09 40 47.2 -1.5
comp=Z,3.5nm,0.9s,baz=109,slow=2.2,SNR=8.8
RADR Rader Ridge 102.86 42 IAMs_20 IAMs_20 10 09 35.5
comp=Z,109µm,20.0s
KLV Kalavryta, Ach 102.91 309 P Pdif 09 24 50.1 +0.9
VNA2 Neumayer--Watz 102.97 194 ⇓P Pdif 09 24 46.3 -2.4
comp=Z,1.1nm,0.2s,baz=130,slow=5.0
VNA2 ⇓PKiKP PKiKP 09 29 18.3 +10
baz=143,slow=5.5
VNA2 Neumayer--Watz 102.97 194 ⇑SKSac SKSac 09 35 36.7 +8.8
baz=163,slow=8.5
ANX Ano Chora 103.00 309 P Pdif 09 24 49.4 -0.3
E03A Lebam 103.00 42 IAMs_20 IAMs_20 10 09 42.0
comp=Z,97µm,20.0s
FNA Florina 103.02 312 P Pdif 09 24 50.0 +0.3
EVR Evrytania 103.03 310 P Pdif 09 24 52.6 +2.8
F03A Seaside 103.14 43 IAMs_20 IAMs_20 10 08 50.8
comp=Z,111µm,20.0s
VYHS Vyhne 103.14 320 *e*P Pdif 09 24 53.7 +3.8
VYHS *e* 09 29 13.1
VYHS *e*S Sdif 09 36 30.3 -6.3
VYHS *e*SS SS 09 43 56.0 +9.3
VYHS Vyhne 103.14 320 *e*PDIFF Pdif 09 24 53.7 +3.8
VYHS Vyhne 103.14 320 *e*PP PKiKP 09 29 13.1 +3.5
VYHS Vyhne 103.14 320 *e*SDIFF 09 36 30.3
VYHS Vyhne 103.14 320 *e*SS SS 09 43 56.0 +9.3
VYHS Vyhne 103.14 320 *e* 09 53 25.5
HEBO Mount Hebo 103.16 44 IAMs_20 IAMs_20 10 06 11.5
comp=Z,93µm,21.0s
OKC Ostrava-Krasne 103.24 321 *e*PDIFF Pdif 09 24 48.8 -1.5
OKC AMS AMS 10 28 10.0
comp=Z,40µm,20.2s
OKC Ostrava-Krasne 103.24 321 *e*P Pdif 09 24 48.8 -1.5
OKC MLR MLR
comp=Z,40µm,20.2s
NEEM North Greenlan 103.24 360 *i* P Pdif 09 24 47.4 -2.8
NEEM IAmb IAmb 09 29 44.8
comp=Z,2µm,3.4s
GNW Green Mountain 103.25 41 IAMs_20 IAMs_20 10 09 55.5
comp=Z,149µm,21.0s
NB2 NORSAR Subarra 103.26 334 P Pdif 09 24 51.1 +0.9
comp=Z,180nm,3.3s,baz=67,slow=4.4
NB2 NORSAR Subarra 103.26 334 P Pdif 09 24 51.1 +0.9
baz=67,slow=4.4
NOA NORSAR Array B 103.26 334 Pdiff Pdif 09 24 49.1 -1.1
comp=Z,2.1nm,0.7s,baz=68,slow=4.5,SNR=12
NOA PP PP 09 29 02.9 -2.2
comp=Z,5.5nm,1.0s,baz=88,slow=8.6,SNR=3.5
NOA PKKPbc PKKPbc 09 40 46.9 -0.7
comp=Z,1.6nm,1.0s,baz=246,slow=2.3,SNR=3.6
PVO Paravola 103.30 310 P Pdif 09 24 53.9 +3.1
I02E Swisshome, OR 103.33 45 IAMs_20 IAMs_20 10 04 24.3
comp=Z,96µm,22.0s
TETR Tetrakomo, Epi 103.36 310 P Pdif 09 24 53.4 +2.2
VNA1 Neumayer--Stat 103.37 194 ⇓P Pdif 09 24 51.9 +1.5
comp=Z,7.5nm,0.8s
VNA1 ⇑PKiKP PKiKP 09 29 23.6 +14

RLS Riolos of Patr 103.44 309 P Pdif 09 24 53.8 +2.3
KBO Bosley Butte 103.46 47 IAMs_20 IAMs_20 10 04 30.8
comp=Z,137µm,22.0s
F04D Rainier, OR 103.47 43 IAMs_20 IAMs_20 10 13 33.7
comp=Z,91µm,20.0s
AMPL Ampelaki 103.48 310 P Pdif 09 24 51.9 +0.3
AXS Araxos 103.48 309 P Pdif 09 24 53.2 +1.5
G03D McMinnville, O 103.50 44 IAMs_20 IAMs_20 10 06 10.5
comp=Z,121µm,22.0s
TULEG Thule 103.56 4 IAMs_20 IAMs_20 10 14 21.2
comp=Z,96µm,21.0s
MAUC Maruska 103.56 321 *e*PDIFF Pdif 09 24 51.3 -0.5
BSD Bornholm Skovb 103.58 327 *i* P Pdif 09 24 53.3 +1.6
BSD IAmb IAmb 09 29 18.0
comp=Z,130nm,1.9s
COR Corvallis 103.61 44 IAMs_20 IAMs_20 10 03 17.5
comp=Z,133µm,22.0s
MORC Moravsky Berou 103.63 321 *e*PDIFF Pdif 09 24 54.3 +2.2
MORC *e*PP PKiKP 09 29 13.9 +3.4
MORC Moravsky Berou 103.63 321 ⇑P Pdif 09 24 52.2 +0.1
MORC Moravsky Berou 103.63 321 ⇑P Pdif 09 24 52.2 +0.1
K02D Willamette Mer 103.76 46 IAMs_20 IAMs_20 10 06 59.8
comp=Z,146µm,20.0s
I03D Drain, OR 103.78 45 IAMs_20 IAMs_20 10 06 49.0
comp=Z,158µm,20.0s
KSXB Camp Six Broad 103.79 47 IAMs_20 IAMs_20 10 05 02.6
comp=Z,161µm,21.0s
JAVC Velka Javorina 103.79 320 *e*PP PKiKP 09 29 14.2 +3.4
JAVC Velka Javorina 103.79 320 *e*PDIFF Pdif 09 24 56.1 +3.2
MORH Mrgy, Hungar 103.82 318 ⇓P Pdif 09 24 53.1 +0.2
KRMB Red Mountain 103.83 47 IAMs_20 IAMs_20 10 09 17.7
comp=Z,160µm,20.0s
JCC Jacoby Creek, 103.88 48 IAMs_20 IAMs_20 10 07 01.1
comp=Z,129µm,20.0s
KMPM Mount Pierce 103.89 48 IAMs_20 IAMs_20 10 02 48.4
comp=Z,166µm,22.0s
D05A Enumclaw 103.89 41 IAMs_20 IAMs_20 10 07 33.6
comp=Z,113µm,20.0s
BUCK Buck Mountain 103.92 45 IAMs_20 IAMs_20 10 04 44.8
comp=Z,110µm,22.0s
DBG Daneborg 103.99 352 *i* P Pdif 09 24 53.4 +0.3
DBG IAmb IAmb 09 29 37.0
comp=Z,200nm,2.0s
KRLC Kraliky 104.02 322 *e*PDIFF Pdif 09 24 53.5 -0.4
KRLC AMS AMS 10 28 10.0
comp=Z,74µm,18.3s
KRLC Kraliky 104.02 322 *e*P Pdif 09 24 53.5 -0.4
KRLC MLR MLR
comp=Z,74µm,18.3s
IGT Igoumenitsa 104.04 311 P Pdif 09 24 55.7 +1.6
KHMM Horse Mountain 104.09 48 IAMs_20 IAMs_20 10 09 29.6
comp=Z,149µm,20.0s
KSP Ksiaz 104.10 323 *e*Pdif Pdif 09 24 52.9 -1.3
KSP *e*PKiKP PKiKP 09 29 10.7 -0.6
KSP *e*L L 10 28 12.3
comp=Z,80µm,19.0s
LON Longmire 104.12 42 IAMs_20 IAMs_20 10 06 59.7
comp=Z,112µm,22.0s
MOL Molde 104.17 336 *e*Pdif Pdif 09 24 54.4 +0.3
MODS Modra-Piesok 104.17 320 ⇑*e*P Pdif 09 25 00.2 +5.7
MODS *e* 09 29 12.0
MODS *e* 09 35 39.0
MODS *e*S Sdif 09 36 47.6 +2.3
MODS Modra-Piesok 104.17 320 *e*PP PKiKP 09 29 12.0 +0.5
MODS Modra-Piesok 104.17 320 *e*PDIFF Pdif 09 25 00.2 +5.7
DPC Dobruska-Polom 104.23 322 *e*PDIFF Pdif 09 24 54.0 -0.8
DPC AMS AMS 10 28 40.0
comp=Z,73µm,17.4s
DPC Dobruska-Polom 104.23 322 *e*P Pdif 09 24 54.0 -0.8
DPC MLR MLR
comp=Z,73µm,17.4s
OSTC Ostas 104.23 322 AMS AMS 10 27 40.0
comp=Z,85µm,17.7s
CHVC Chvalec 104.32 322 AMS AMS 10 27 30.0
comp=Z,84µm,18.0s
VRAC Vranov 104.35 321 *e*PDIFF Pdif 09 24 55.7 +0.4
VRAC *e*PP PP 09 29 14.6 +1.0
VRAC *e*SS SS 09 44 06.0 +2.7
VRAC Vranov 104.35 321 Pdiff Pdif 09 24 53.6 -1.7
comp=Z,2.5nm,0.4s,baz=131,slow=12,SNR=4.8
VRAC PP PKiKP 09 29 12.0 +0.2
comp=Z,12nm,1.1s,baz=55,slow=7.2,SNR=3.4
UPC Upice 104.37 322 *e*PDIFF Pdif 09 24 55.1 -0.2
UPC AMS AMS 10 27 50.0
comp=Z,99µm,18.1s
UPC Upice 104.37 322 *e*P Pdif 09 24 55.1 -0.2
UPC MLR MLR
comp=Z,99µm,18.1s
KRUC Moravsky 104.55 321 *e*PDIFF Pdif 09 24 55.8 -0.3
KRUC *e*PP PP 09 29 14.9 -0.2
KRUC *e*SS SS 09 44 07.3 +1.4
KONO Kongsberg 104.56 333 IAMs_20 IAMs_20 10 20 56.4
comp=Z,96µm,22.0s
KONO Kongsberg 104.56 333 *e*Pdif Pdif 09 24 55.5 -0.4
AKN Aaknes 104.58 335 *e*Pdif Pdif 09 24 55.5 -0.5
SKAR Skarslia 104.70 334 *e*Pdif Pdif 09 24 55.5 -1.1
RONA Rosalia, Austr 104.99 320 *e*Pdif Pdif 09 24 58.6 +0.3
comp=Z,1.7nm,0.9s
RONA *e*PP PP 09 29 20.2 +1.7
comp=Z,7.7nm,1.2s
TREC Trest 105.05 321 *e*PDIFF Pdif 09 24 57.7 -0.7
TREC AMS AMS 10 29 10.0
comp=Z,74µm,17.2s
TREC Trest 105.05 321 *e*P Pdif 09 24 57.7 -0.7
TREC MLR MLR
comp=Z,74µm,17.2s
CONA Conrad Observa 105.21 320 *e*pPdiff pPdif 09 25 02.3 -1.5
comp=Z,1.0nm,0.6s
CONA *e*PKiKP PKiKP 09 29 09.6 -3.9
comp=Z,9.5nm,1.6s
PVCC Panska Ves 105.24 323 *e*PDIFF Pdif 09 24 59.6 +0.4
PVCC AMS AMS 10 28 50.0
comp=Z,58µm,18.0s
PVCC Panska Ves 105.24 323 *e*P Pdif 09 24 59.6 +0.4
PVCC MLR MLR
comp=Z,58µm,18.0s
GOPC GO Pecny, Ondr 105.30 322 AMS AMS 10 28 30.0
comp=Z,87µm,18.7s
HYA Hoyanger 105.40 335 *e*Pdif Pdif 09 24 57.5 -2.1
PRU Pruhonice 105.43 322 *e*PDIFF Pdif 09 24 58.1 -1.9
PRU *e*PP PP 09 29 24.9 +3.4
PRU AMS AMS 10 29 00.0
comp=Z,66µm,17.9s
PRU Pruhonice 105.43 322 *e*P Pdif 09 24 58.1 -1.9
PRU *e* 09 29 24.9
PRU MLR MLR
comp=Z,66µm,17.9s
PRA Prague 105.47 322 *e*PDIFF Pdif 09 24 59.0 -1.2
PRA AMS AMS 10 29 00.0
comp=Z,61µm,17.7s
PRA Prague 105.47 322 *e*P Pdif 09 24 59.0 -1.2
PRA MLR MLR
comp=Z,61µm,17.7s
GRTLG Ghanzi 105.47 248 IAMs_20 IAMs_20 10 16 26.7
comp=Z,77µm,21.0s
BRG Berggiesshubel 105.51 323 Amp 09 25 05.8
comp=Z,3.7nm,0.9s
BRG ⇓*e*Pif Pdif 09 25 04.3 +3.9
BRG Berggiesshubel 105.51 323 P Pdif 09 25 15.3 +15
BRG Amp 09 25 17.7
comp=Z,7.9nm,1.1s
BRG Berggiesshubel 105.51 323 PP PKiKP 09 29 15.6 +1.7
BRG Amp 09 29 24.6
comp=Z,18nm,1.2s
BRG Berggiesshubel 105.51 323 PS PS 09 38 33.0 -5.3
BRG PKKP PKKPab 09 41 04.8 +8.4
BRG Amp 09 41 06.0
comp=Z,42nm,1.8s
RICC Richard 105.52 323 AMS AMS 10 29 10.0
comp=Z,44µm,16.4s
ARSA Arzberg 105.62 319 *e*pPdiff Pdif 09 25 02.5 +1.5
comp=Z,0.6nm,0.5s
ARSA *e*PKiKP PKiKP 09 29 15.4 +1.2
comp=Z,6.2nm,1.5s
O03E Paynes Creek 105.65 48 IAMs_20 IAMs_20 10 03 55.0
comp=Z,141µm,22.0s
HOMB Homborsund 105.66 331 *e*Pdif Pdif 09 25 00.5 -0.3
FOO Floro 105.67 335 *e*Pdif Pdif 09 25 00.5 -0.3
HAWA Hanford 105.73 42 IAMs_20 IAMs_20 10 10 28.6
comp=Z,107µm,20.0s
HATC Hat Creek Radi 105.78 48 IAMs_20 IAMs_20 10 04 37.8
comp=Z,101µm,22.0s
ODD1 Odda 105.79 333 *e*Pdif Pdif 09 25 00.5 -1.0
ZVC Zvikov 105.81 322 AMS AMS 10 29 00.0
comp=Z,85µm,18.6s

CLL Collm 105.93 324 IAMs_20 IAMs_20 10 22 56.3
comp=Z,79µm,20.0s
CLL Collm 105.93 324 *e*P Pdif 09 25 02.0 -0.2
CLL *e* 09 29 25.0
CLL *e* 09 35 42.0
CLL *e*S Sdif 09 37 00.0 +0.3
CLL MLR MLR
comp=Z,76µm,20.3s
CLL Collm 105.93 324 *e*Pdif Pdif 09 25 02.0 -0.2
CLL *e*Pdif(2) 09 25 14.0
comp=Z,19nm,1.6s
CLL *e*x x 09 28 18.0
CLL *e*x x 09 28 46.0
CLL *i* PKiKP PKiKP 09 29 12.9 -1.7
CLL *e*PP PP 09 29 25.0 -0.2
CLL *e*PP(2) 09 29 36.0
comp=Z,74nm,1.4s
CLL *i* PPmax 09 29 53.3
comp=Z,273nm,1.9s
CLL *e*x x 09 30 34.0
CLL *e*PPP PPP 09 31 40.0
CLL *e*PPPPmax 09 33 49.0
CLL *e*SKSac SKSac 09 35 42.0 -0.1
CLL *e*SKSacmax 09 36 06.0
CLL *e*Sdif Sdif 09 37 00.0 +0.3
CLL *e*Sdifmax 09 37 21.0
CLL *e*x x 09 37 54.0
CLL *e*PS PS 09 38 40.0 -2.6
CLL *e*PSmax 09 39 02.0
CLL *e*PPS PPS 09 39 39.0
CLL *e*PPSmax 09 39 57.0
CLL *e*(SS) 09 45 00.0
CLL *e*SSS SSS 09 48 29.0
CLL *e*x x 09 48 33.0
CLL *e*SSS SSS 09 48 43.0
CLL *e*x x 09 48 54.0
CLL *e*PKPPKPdf 09 49 01.0
CLL *e*SSSS 09 51 36.0
CLL *e*x x 09 51 51.0
CLL *e*x x 09 53 26.0
CLL AMS AMS 10 22 00.0
CLL AMS AMS 10 23 00.0
comp=N,61µm,20.0s
CLL AMS AMS 10 23 00.0
comp=E,34µm,20.5s
CLL AMS AMS 10 23 00.0
comp=Z,76µm,20.3s
CKRC Cesky Krumlov 105.93 321 *e*PDIFF Pdif 09 25 01.1 -1.2
CKRC *e*SKS SKSac 09 35 44.1 +1.7
CKRC AMS AMS 10 29 10.0
CKRC Cesky Krumlov 105.93 321 *e*P Pdif 09 25 01.1 -1.2
CKRC *e* 09 35 44.1
CKRC MLR MLR
comp=N,46µm,18.3s
RUSS Russell Ranch 105.98 50 IAMs_20 IAMs_20 10 12 04.0
comp=Z,142µm,20.0s
ORV Oroville 106.04 49 IAMs_20 IAMs_20 10 11 00.7
comp=Z,118µm,21.0s
SUE Sulen 106.06 335 *e*Pdif Pdif 09 25 02.5 0.0
BLS5 Blasjo 106.10 333 *e*Pdif Pdif 09 25 02.5 -0.3
MUD Monsted U'grnd 106.10 330 *i* P Pdif 09 25 06.8 +4.0
MUD IAmb IAmb 09 30 44.8
comp=Z,109nm,1.4s
SOKA Soboth 106.11 319 *e*pPdiff pPdif 09 25 05.6 -2.2
comp=Z,4.0nm,1.3s
SOKA *e*pPKiKP pPKiKP 09 29 21.1 +1.1
comp=Z,8.9nm,1.4s
BER Bergen 106.14 334 *e*Pdif Pdif 09 25 02.5 -0.4
ASK Askoy 106.15 334 *e*Pdif Pdif 09 25 02.5 -0.5
MOA Molln 106.26 320 *e*Pdiff Pdif 09 25 03.2 -0.6
comp=Z,2.4nm,1.3s
KHC Kasperske Hory 106.29 321 *e*PKP PKiKP 09 29 13.5 -1.9
GERES GERESS Array B 106.31 321 Pdiff Pdif 09 25 03.0 -1.1
comp=Z,0.1nm,0.3s,baz=95,slow=5.4,SNR=1.5
GERES PP PP 09 29 27.5 -0.7
comp=Z,7.3nm,1.0s,baz=63,slow=7.9,SNR=6.5
GERES PKKPbc PKKPbc 09 40 37.3 -0.7
comp=Z,1.1nm,0.8s,baz=258,slow=2.9,SNR=4.8
OBKA Obir 106.47 319 *e*pPdiff Pdif 09 25 06.6 +1.7
comp=Z,3.6nm,1.1s
OBKA PKiKP PKiKP 09 29 15.9 0.0
comp=Z,7.3nm,1.5s
BIOA Bad Ischl, Aus 106.71 320 *e*Pdiff Pdif 09 25 05.6 -0.2
comp=Z,0.5nm,0.3s
BIOA *e*PP PP 09 29 30.0 -1.1
comp=Z,8.3nm,1.2s
NEW Newport 106.74 39 IAMs_20 IAMs_20 10 08 29.9
comp=Z,126µm,21.0s
KMY Karmoy 106.75 333 *e*Pdif Pdif 09 25 05.0 -0.6
WELL Weller Preserv 106.88 50 IAMs_20 IAMs_20 10 12 42.8
comp=Z,147µm,20.0s
MYKA Terra Mystica 107.03 319 *e*pPdiff pPdif 09 25 09.8 -2.2
comp=Z,0.5nm,0.4s
MYKA *e*pPKiKP pPKiKP 09 29 20.5 -1.2
comp=Z,4.8nm,1.1s
KBA Koelnbreinsper 107.09 320 *e*pPdiff Pdif 09 25 08.9 +1.2
comp=Z,1.2nm,0.8s
KBA *e*pPKiKP PKiKP 09 29 18.9 +1.8
comp=Z,2.1nm,0.7s
LESA Schwarzleotal 107.41 320 *e*Pdiff Pdif 09 25 07.9 -1.2
comp=Z,0.6nm,0.5s
LESA *e*pPKiKP pPKiKP 09 29 21.9 -0.4
comp=Z,2.1nm,0.7s
WVOR Wild Horse Val 107.43 45 IAMs_20 IAMs_20 10 17 22.1
comp=Z,123µm,20.0s
SCO Scoresbysund 107.53 350 *i* P Pdif 09 25 06.3 -2.6
SCO IAmb IAmb 09 30 24.3
comp=Z,492nm,2.7s
BMO Blue Mountains 107.67 43 IAMs_20 IAMs_20 10 09 28.1
comp=Z,105µm,21.0s
ABTA Abfaltersbach 107.74 319 *e*Pdiff Pdif 09 25 10.9 +0.4
comp=Z,1.8nm,1.3s
ABTA *e*PKiKP PKiKP 09 29 17.8 -0.4
comp=Z,7.2nm,1.5s
WTTA Wattenberg 108.13 320 *e*Pdiff Pdif 09 25 11.1 -1.2
comp=Z,4.2nm,1.1s
WTTA *e*PKiKP PKiKP 09 29 19.1 0.0
comp=Z,8.2nm,1.3s
WATA Walderalm 108.15 320 *e*Pdiff Pdif 09 25 09.5 -2.9
comp=Z,0.8nm,0.5s
WATA *e*PKiKP PKiKP 09 29 18.0 -1.0
comp=Z,1.1nm,1.5s
SQTA Sankt Quirin 108.42 320 *e*Pdiff Pdif 09 25 11.1 -2.5
comp=Z,1.8nm,0.7s
SQTA *e*PKiKP PKiKP 09 29 17.9 -1.7
comp=Z,8.2nm,1.9s
MOTA Moosalm 108.45 320 *e*Pdiff Pdif 09 25 12.2 -1.5
comp=Z,0.7nm,0.5s
MOTA *e*PKiKP PKiKP 09 29 17.0 -2.6
comp=Z,4.3nm,1.1s
PLID Pearl Lake 108.48 42 IAMs_20 IAMs_20 10 15 57.4
comp=Z,105µm,20.0s
RETA Reutte 108.61 321 *e*Pdiff Pdif 09 25 13.5 -0.8
comp=Z,0.6nm,0.5s
RETA *e*pPKiKP PKiKP 09 29 22.0 +2.1
comp=Z,5.3nm,1.5s
NVAR Mina Array Bea 108.72 49 Pdiff Pdif 09 25 16.2 +1.0
comp=Z,2.8nm,0.9s,baz=274,slow=6.1,SNR=14
NVAR PKiKP PKiKP 09 29 20.7 +0.2
comp=Z,1.6nm,0.9s,baz=249,slow=1.7,SNR=4.3
NVAR PP PP 09 29 48.2 +1.7
comp=Z,13nm,1.2s,baz=261,slow=6.1,SNR=6.1
NVAR PKKPbc PKKPbc 09 40 32.2 +2.0
comp=Z,2.3nm,0.8s,baz=134,slow=3.3,SNR=4.3
FETA Feichten 108.80 320 *e*Pdiff Pdif 09 25 14.3 -1.1
comp=Z,1.7nm,1.0s
FETA *e*pPKiKP PKiKP 09 29 24.1 +3.8
comp=Z,3.9nm,1.2s
MFID Camas Ranch 109.12 44 IAMs_20 IAMs_20 10 13 45.6
comp=Z,98µm,20.0s
DAVA Damuels 109.25 321 *e*Pdiff Pdif 09 25 17.1 -0.2
comp=Z,2.3nm,0.8s
DAVA *e*PKiKP PKiKP 09 29 21.5 +0.4
comp=Z,5.2nm,1.1s
MSO Missoula 109.25 40 IAMs_20 IAMs_20 10 10 06.5
comp=Z,142µm,21.0s
HLID Hailey 110.05 43 IAMs_20 IAMs_20 10 11 18.1
comp=Z,143µm,20.0s
BTNL Ternell 110.22 325 *d*PP PP 09 30 09.2 +13
MEM Membach 110.28 325 *d*PP PP 09 29 56.2 -0.7
BEBN Eben Emael 110.39 325 *d*PKP PKiKP 09 29 07.0 -16
BEBN *d*PP PP 09 29 59.6 +1.9
WLF Walferdange 110.60 324 *d*PKP PKiKP 09 29 17.8 -5.6
WLF *d*PP PP 09 29 55.6 -3.6
DLMT Dillon 110.65 41 IAMs_20 IAMs_20 10 11 54.6
comp=Z,124µm,21.0s

BCLA Clavier 110.77 325 *d*PP PP 09 30 09.0 +8.6
BGES Gesves 110.91 325 *d*PKP PKiKP 09 29 15.3 -8.7
BGES *d*PP PP 09 30 10.8 +9.4
BOZ Bozeman (W) 111.19 41 IAMs_20 IAMs_20 10 11 07.0
comp=Z,93μm,21.0s
SENIN Lac Senin/Sane 111.23 320 IAMs_20 IAMs_20 10 23 54.0
comp=Z,91μm,21.0s
DOU Dourbes 111.32 325 *d*PP **PP 09 30 06.3 +1.9**
EGMT Eagleton 111.41 38 IAMs_20 IAMs_20 10 16 10.7
comp=Z,108μm,20.0s
DRUM Mains of Drumt 111.45 333 *e* **PP 09 30 06.6 +1.6**
DRUM IAMs_20 IAMs_20 10 17 59.7
comp=Z,75μm,24.5s
LINV Loch Inver, As 111.88 335 *e* **PP 09 30 13.4 +5.4**
LINV IAMs_20 IAMs_20 10 23 03.2
comp=Z,70μm,20.3s
GDLE Glaisdale, N Y 112.06 331 *e* **PP 09 30 12.4 +2.9**
GDLE IAMs_20 IAMs_20 10 23 47.1
comp=Z,74μm,21.3s
BNI Bardonecchia 112.14 319 IAMs_20 IAMs_20 10 24 49.3
comp=Z,80μm,21.0s
WACR West Acre 112.23 329 *e* **PP 09 30 11.1 +0.3**
WACR IAMs_20 IAMs_20 10 19 36.6
comp=Z,71μm,20.0s
DUG Dugway, Tooele 112.29 46 IAMs_20 IAMs_20 10 16 11.4
comp=Z,140μm,20.0s
FXWY Fox Creek 112.33 42 IAMs_20 IAMs_20 10 13 48.2
comp=Z,110μm,20.0s
LMK Market Rasen 112.34 330 *e* **PP 09 30 12.2 +0.7**
LMK IAMs_20 IAMs_20 10 29 13.5
comp=Z,52μm,18.3s
EDI Edinburgh 112.34 333 *e* **PP 09 30 13.5 +2.1**
EDI IAMs_20 IAMs_20 10 27 07.1
comp=Z,62μm,18.5s
ELMS Elmsett, Ipswi 112.37 328 *e* **PP 09 30 12.8 +1.1**
ELMS IAMs_20 IAMs_20 10 25 54.3
comp=Z,88μm,20.9s
FFC Flin Flon 112.39 29 IAMs_20 IAMs_20 10 16 33.4
comp=Z,105μm,20.0s
EDMD Edmundbyers 112.39 331 *e* **PP 09 30 14.7 +2.9**
EDMD IAMs_20 IAMs_20 10 25 29.1
comp=Z,48μm,20.9s
TPAW Teton Pass 112.43 42 IAMs_20 IAMs_20 10 18 15.0
comp=Z,82μm,20.0s
LEWI Lewis, Hebride 112.57 336 *e* **PP 09 30 16.9 +3.9**
LEWI IAMs_20 IAMs_20 10 25 14.8
comp=Z,40μm,18.2s
KPL Plockton 112.57 335 *e* **PP 09 30 17.6 +4.6**
KPL IAMs_20 IAMs_20 10 21 53.0
comp=Z,71μm,20.0s
SNOW Snow King Moun 112.58 42 IAMs_20 IAMs_20 10 18 28.9
comp=Z,92μm,20.0s
AHID Auburn Hatcher 112.60 43 IAMs_20 IAMs_20 10 09 36.6
comp=Z,100μm,22.0s
LOHW Long Hollow 112.62 42 IAMs_20 IAMs_20 10 13 58.0
comp=Z,116μm,20.0s
EKA Eskdalemuir Ar 112.67 332 PKiKP **PKiKP 09 29 26.4 -0.7**
comp=Z,2.4nm,0.8s,baz=32,slow=2.2,SNR=3.8
EKA PP **PP 09 30 14.7 +0.9**
comp=Z,9.3nm,1.0s,baz=61,slow=7.2,SNR=5.1
EKA PKKPbc **PKKPbc 09 40 15.3 -2.3**
comp=Z,1.9nm,0.8s,baz=230,slow=9.2,SNR=3.6
HWUT Hardware Ranch 112.69 45 IAMs_20 IAMs_20 10 12 35.3
comp=Z,127μm,20.0s
ESK Eskdalemuir 112.70 332 *e* **PP 09 30 16.5 +2.5**
ESK IAMs_20 IAMs_20 10 27 20.1
comp=Z,63μm,19.4s
HPK Haverah Park 112.72 330 *e* **PP 09 30 16.6 +2.4**
HPK IAMs_20 IAMs_20 10 27 35.6
comp=Z,47μm,22.3s
RLMT Red Lodge 112.91 40 IAMs_20 IAMs_20 10 12 43.4
comp=Z,79μm,21.0s
PGBU Glenifferbraes 113.00 333 *e* **PP 09 30 18.5 +2.4**
PGBU IAMs_20 IAMs_20 10 27 18.1
comp=Z,150μm,18.2s
LBWR Ladybower, Pea 113.07 330 *e* **PP 09 30 18.6 +1.8**
LBWR IAMs_20 IAMs_20 10 24 41.6
comp=Z,60μm,21.3s
CWF Charnwood Fore 113.23 329 *e* **PP 09 30 18.5 +0.7**
CWF IAMs_20 IAMs_20 10 29 52.0
comp=Z,47μm,17.8s
NEWG New Galloway 113.30 332 *e* **PP 09 30 21.9 +3.7**
NEWG IAMs_20 IAMs_20 10 29 58.6
comp=Z,65μm,20.4s
HMNX Herstmonceux 113.34 327 *e* **PP 09 30 18.8 +0.1**
HMNX IAMs_20 IAMs_20 10 25 54.4
comp=Z,97μm,18.6s
KEST Kesra 113.42 309 PKiKP **PKiKP 09 29 28.6 -0.6**
comp=Z,2.4nm,0.8s,baz=162,slow=3.2,SNR=1.6
KEST PP **PP 09 30 19.2 -0.9**
comp=Z,51nm,1.1s,baz=348,slow=5.3,SNR=7.6
STNC Stoke 113.49 330 *e* **PP 09 30 18.8 -0.9**
STNC IAMs_20 IAMs_20 10 28 01.1
comp=Z,56μm,20.2s
BW06 Boulder Array 113.65 43 IAMs_20 IAMs_20 10 20 20.3
comp=Z,90μm,19.0s
PDAR Pinedale Array 113.65 43 Pdiff **Pdif 09 25 38.9 +1.7**
comp=Z,0.2nm,0.6s,baz=107,slow=1.5,SNR=3.7
PDAR PKiKP **PKiKP 09 29 29.6 -0.1**
comp=Z,4.3nm,1.1s,baz=222,slow=2.0,SNR=6.0
PDAR PKKPbc **PKKPbc 09 40 12.3 -1.9**
comp=Z,2.8nm,0.8s,baz=116,slow=4.5,SNR=8.4
GAL1 Galloway 113.67 332 *e* **PP 09 30 26.0 +5.2**
GAL1 IAMs_20 IAMs_20 10 30 05.9
comp=Z,62μm,23.0s
SFJD Kangerlussuaq 113.75 359 IAMs_20 IAMs_20 10 21 15.1
comp=Z,81μm,21.0s
IOMK Kirk Michael 113.96 332 *e* **PP 09 30 28.0 +5.0**
IOMK IAMs_20 IAMs_20 10 30 33.9
comp=Z,30μm,20.3s
FOEL Foel Wylfa 114.10 330 *e* **PP 09 30 22.3 -1.7**
FOEL IAMs_20 IAMs_20 10 25 09.7
comp=Z,55μm,22.0s
HLM1 Long Mynd 114.15 330 *e* **PP 09 30 22.4 -2.0**
HLM1 IAMs_20 IAMs_20 10 25 26.9
comp=Z,55μm,21.2s
PMSA Palmer Station 114.16 174 IAMs_20 IAMs_20 10 18 01.7
comp=Z,114μm,21.0s
CLGH Cloghs, Cushen 114.18 333 *e* **PP 09 30 28.5 +4.0**
ANGG Ammassalik, Gr 114.33 354 IAMs_20 IAMs_20 10 21 32.7
comp=Z,74μm,21.0s
WPS Cemaes, Angles 114.44 331 *e* **PP 09 30 28.9 +2.5**
WPS IAMs_20 IAMs_20 10 21 46.1
comp=Z,40μm,19.4s
WLF1 Llynfaes 114.46 331 *e* **PP 09 30 22.8 -3.7**
WLF1 IAMs_20 IAMs_20 10 21 47.3
comp=Z,84μm,20.8s
DGMT Dagmar 114.52 35 IAMs_20 IAMs_20 10 14 04.5
comp=Z,82μm,20.0s
K22A Casper 115.74 42 IAMs_20 IAMs_20 10 12 07.5
comp=Z,108μm,22.0s
ESPZ Base Esperanza 116.03 177 IAMs_20 IAMs_20 10 21 49.1
comp=Z,107μm,21.0s
RSSD Black Hills 116.71 40 IAMs_20 IAMs_20 10 18 42.8
comp=Z,103μm,21.0s
MDND Maddock 117.46 34 IAMs_20 IAMs_20 10 15 42.3
comp=Z,126μm,22.0s
ISCO Idaho Springs 117.56 44 IAMs_20 IAMs_20 10 22 20.1
comp=Z,124μm,20.0s
ANMO Albuquerque 118.85 50 IAMs_20 IAMs_20 10 12 22.9
comp=Z,129μm,22.0s
AGMN Agassiz Nation 119.25 32 IAMs_20 IAMs_20 10 17 54.2
comp=Z,104μm,21.0s
NRS Narsarsuaq 119.41 356 IAMs_20 IAMs_20 10 29 08.7
comp=Z,62μm,19.0s
IVI Ivigtut 119.50 358 IAMs_20 IAMs_20 10 24 04.1
comp=Z,72μm,20.0s
SUSD Miller 119.70 37 IAMs_20 IAMs_20 10 16 22.9
comp=Z,119μm,22.0s
K30B Basset 120.22 39 IAMs_20 IAMs_20 10 23 43.8
comp=Z,85μm,19.0s
F33A 5 Mile Ranch, 120.47 35 IAMs_20 IAMs_20 10 22 41.0
comp=Z,94μm,20.0s
UCM Universidad Co 120.79 318 PKP **PKiKP 09 29 47.0 +3.6**
MNTX Cornudas Mount 120.85 53 IAMs_20 IAMs_20 10 14 31.5
comp=Z,117μm,20.0s
ECSD EROS Data Cent 121.50 37 IAMs_20 IAMs_20 10 22 00.4
comp=Z,121μm,20.0s
ESDC Sonseca Array 121.58 318 PKP **PKPdf 09 29 44.6 -0.2**
comp=Z,4.1nm,1.1s,baz=90,slow=1.3,SNR=9.4
ESDC PP **PP 09 31 16.1 -0.5**
comp=Z,27nm,1.2s,baz=55,slow=6.9,SNR=7.6
ESDC PKKPbc **PKKPbc 09 39 46.0 +0.4**
comp=Z,4.2nm,1.1s,baz=226,slow=4.8,SNR=5.6
EYMN Ely 121.73 30 IAMs_20 IAMs_20 10 20 19.6
comp=Z,94μm,21.0s
BGNE Belgrade 121.81 40 IAMs_20 IAMs_20 10 17 54.9
comp=Z,67μm,21.0s
PBRG Braganca 122.29 321 *e*PKPdf **PKiKP 09 29 52.0 +5.7**
EQTA Presa de Quent 122.40 315 PKP **PKiKP 09 29 49.7 +3.0**
E38A The Farm, Brul 122.58 31 IAMs_20 IAMs_20 10 21 21.4
comp=Z,65μm,21.0s
L34A Svendsen Farm, 122.63 38 IAMs_20 IAMs_20 10 23 05.7
comp=Z,92μm,20.0s
EADA Adamuz 122.73 316 PKP **PKiKP 09 29 51.9 +4.6**
SPMN Marine on St. 122.80 33 IAMs_20 IAMs_20 10 22 41.3
comp=Z,106μm,22.0s
MVO Moncorvo 122.82 321 *e*PKPdf **PKiKP 09 29 52.4 +5.0**
MVO *e*PP **PP 09 31 26.0 +1.2**
MVO *e*SS SS 09 48 21.1 +14
MVO *e*LQ LQ 10 06 10.8
MVO *e*LR LR 10 10 16.8
MVO *i* IAMs_20 IAMs_20 10 36 16.6
comp=Z,35μm,20.0s
EGOR Sierra Gorda, 122.91 315 PKP **PKiKP 09 29 51.5 +3.7**
TXAR Lajitas Array 123.06 55 PKP **PKiKP 09 29 48.3 0.0**
comp=Z,4.0nm,0.8s,baz=249,slow=1.2,SNR=20
TXAR PKKPbc **PKKPab 09 39 38.6 -0.8**
comp=Z,1.4nm,0.8s,baz=116,slow=3.7,SNR=4.7
PCAB Cabril 123.14 322 *e*PKPdf **PKiKP 09 29 53.0 +5.0**
PCAB *e*PP **PP 09 31 27.5 +0.6**
PGAV Gavieira, Arco 123.15 322 *e*PKPdf **PKiKP 09 29 53.0 +4.9**
PGAV *e*PP **PP 09 31 28.5 +1.5**
PGAV *e*SS SS 09 48 21.1 +10
PGAV *e*LQ LQ 10 07 12.9
PGAV *e*LR LR 10 11 20.5
PGAV *i* IAMs_20 IAMs_20 10 36 24.6
comp=Z,29μm,20.0s
MG01 Puerto William 123.15 169 IAMs_20 IAMs_20 10 23 40.5
comp=Z,74μm,19.0s
POLO Lamas de Olo 123.18 321 *e*PKPdf **PKiKP 09 29 53.3 +5.1**
POLO *e*PP **PP 09 31 29.5 +2.2**
PVRL Vila Real 123.19 321 *e*PKPdf **PKiKP 09 29 53.3 +5.2**
EMAL Malaga-Limoner 123.30 315 PKP **PKiKP 09 29 52.4 +4.0**
ECAB El Cabril 123.36 317 PKP **PKiKP 09 29 52.0 +3.5**
MTE Manteigas 123.56 320 *e*PKPdf **PKiKP 09 29 54.1 +5.2**
MTE *e*SS SS 09 48 27.6 +11
MTE *e*LQ LQ 10 06 48.0
MTE *e*LR LR 10 09 06.6
MTE *i* IAMs_20 IAMs_20 10 36 45.0
comp=Z,43μm,18.0s
PVIS Viseu 123.61 321 *e*PKPdf **PKiKP 09 29 54.1 +5.1**
PCBR Castelo Branco 123.82 320 *e*PKPdf **PKiKP 09 29 54.7 +5.4**
PMRV Marv??o 123.98 319 *e*PKPdf **PKiKP 09 29 54.7 +5.1**
PMRV *e*PP **PP 09 31 36.5 +3.8**
PMRV *e*SS SS 09 48 24.4 +2.1
PMRV *e*LR LR 10 08 45.8
PMRV *i* IAMs_20 IAMs_20 10 37 11.7
comp=Z,47μm,20.0s
EBAD Badajoz 124.09 318 PKP **PKiKP 09 29 54.2 +4.4**
COWI Conover 124.17 31 IAMs_20 IAMs_20 10 20 47.1
comp=Z,96μm,22.0s
MG04 Isla Riesco 124.23 166 IAMs_20 IAMs_20 10 22 51.3
comp=Z,79μm,20.0s
ESPR Espera 124.26 316 PKP **PKiKP 09 29 54.5 +4.3**
PCAS Casmilo, Conde 124.36 320 *e*PKPdf **PKiKP 09 29 55.1 +4.7**
PCAS *e*PP **PP 09 31 38.0 +2.9**
EMIN Mina Concepcio 124.37 317 PKP **PKiKP 09 29 55.2 +4.8**
ECEU Ceuta 124.39 314 PKP **PKiKP 09 29 55.0 +4.4**
PSARD Sardoal 124.39 320 *e*PKPdf **PKiKP 09 29 55.7 +5.2**
PSARD *e*PP **PP 09 31 38.5 +3.1**
PBAR Barrancos 124.41 318 PKP **PKiKP 09 29 55.2 +4.7**
PBAR Barrancos 124.41 318 *e*PKPdf **PKiKP 09 29 55.6 +5.0**
PBAR *e*PP **PP 09 31 40.0 +4.5**
PESTR Estremoz 124.41 319 PKP **PKiKP 09 29 54.0 +3.4**
PESTR Estremoz 124.41 319 *e*PKPdf **PKiKP 09 29 55.3 +4.8**
PESTR *e*PP **PP 09 31 39.5 +4.0**
SCHQ Schefferville 124.59 10 PKP **PKiKP 09 29 51.6 +1.2**
comp=Z,15nm,0.9s,baz=14,slow=1.6,SNR=7.3
SCHQ PP **PP 09 31 37.5 +1.7**
comp=Z,5.6nm,0.8s,baz=340,slow=5.8,SNR=0.9
SCIA State Center 124.59 37 IAMs_20 IAMs_20 10 21 11.3
comp=Z,103μm,21.0s
WMOK Wichita Mounta 124.68 47 IAMs_20 IAMs_20 10 18 56.8
comp=Z,108μm,20.0s
PMTG Montargil 124.72 319 *e*PKPdf **PKiKP 09 29 55.7 +4.6**
PMTG *e*PP **PP 09 31 42.0 +4.4**
EVO Evora 124.87 318 PKP **PKiKP 09 29 56.1 +4.7**
EVO Evora 124.87 318 *e*PKPdf **PKiKP 09 29 56.5 +5.1**
EVO *e*PP **PP 09 31 40.5 +1.9**
F42A Maple Grove Fa 124.91 30 IAMs_20 IAMs_20 10 22 27.8
comp=Z,96μm,22.0s
ABTX Abilene, Hawle 124.97 50 IAMs_20 IAMs_20 10 20 40.7
comp=Z,105μm,22.0s
EGRO El Granado 125.04 317 PKP **PKiKP 09 29 56.2 +4.4**
PBEJ Beja 125.04 318 *e*PKPdf **PKiKP 09 29 56.9 +5.1**
PBEJ *e*PP **PP 09 31 43.6 +3.7**
MG05 Puerto Natales 125.06 164 IAMs_20 IAMs_20 10 24 03.4
comp=Z,94μm,19.0s
N38A Joes South For 125.24 38 IAMs_20 IAMs_20 10 18 54.6
comp=Z,115μm,22.0s
PVAQ Vaqueiros 125.27 317 PKP **PKiKP 09 29 57.2 +4.9**
PVAQ Vaqueiros 125.27 317 IAMs_20 IAMs_20 10 34 59.8
comp=Z,58μm,20.0s
PVAQ Vaqueiros 125.27 317 *e*PKPdf **PKiKP 09 29 56.9 +4.7**
PVAQ *e*PP **PP 09 31 44.6 +3.2**
PVAQ *e*SS SS 09 48 34.2 -4.3
PVAQ *e*LR LR 10 12 57.2
PVAQ *i* IAMs_20 IAMs_20 10 35 26.8
comp=Z,34μm,20.0s
PCVE Castro Verde 125.37 318 PKP **PKiKP 09 29 56.8 +4.4**
PCVE Castro Verde 125.37 318 *e*PKPdf **PKiKP 09 29 57.1 +4.6**
PCVE *e*PP **PP 09 31 44.6 +2.6**
MESJ Messejana 125.38 318 *e*P **PKiKP 09 29 55.2 +2.7**
MESJ *e*PP **PP 09 31 45.4 +3.4**
MESJ IAMs_20 IAMs_20 10 38 00.2
comp=Z,50μm,17.0s
MESJ Messejana 125.38 318 *e*PKPdf **PKiKP 09 29 57.1 +4.6**
MESJ *e*PP **PP 09 31 43.6 +1.5**
MESJ Messejana 125.38 318 *e*PKIKP **PKiKP 09 29 55.2 +2.7**
MESJ *e* 09 31 45.4
PARRA Arraiolos 125.39 319 *e*PKPdf **PKiKP 09 29 56.0 +3.6**
PARRA *e*PP **PP 09 31 40.0 -2.1**
TOA0 Torodi Ar. Sit 125.48 286 P **PKPdf 09 29 52.6 -0.3**
SNR=9.0
TORD Torodi Ar. Bea 125.48 286 PKP **PKPdf 09 29 52.0 -0.9**
comp=Z,20nm,1.1s,baz=113,slow=2.2,SNR=12
TORD PP **PP 09 31 42.8 -1.1**
comp=Z,2μm,0.4s,baz=77,slow=3.2,SNR=4.0
PBDV Barranco-do-Ve 125.50 317 *e*PKPdf **PKiKP 09 29 57.5 +4.8**
PBDV *e*PP **PP 09 31 45.6 +2.6**
LIS Lisbon 125.52 319 *e*P **PKiKP 09 29 55.3 +2.6**
LIS *e*PP **PP 09 31 46.5 +3.5**
LIS *e*SS SS 09 48 46.8 +5.3
LIS IAMs_20 IAMs_20 10 33 29.3
comp=Z,48μm,20.3s
LIS Lisbon 125.52 319 *e*PP PP 09 31 51.1 +8.2
LIS Lisbon 125.52 319 *e*PKIKP **PKiKP 09 29 55.3 +2.6**
LIS *e* 09 31 46.5
LIS *e*SS SS 09 48 46.8 +5.3
L40A Anamosa 125.67 36 IAMs_20 IAMs_20 10 26 47.7
comp=Z,105μm,20.0s
JFWS Jewell Farm 125.69 34 IAMs_20 IAMs_20 10 25 12.9
comp=Z,110μm,20.0s
P38A Dawn 125.73 39 IAMs_20 IAMs_20 10 22 02.6
comp=Z,100μm,20.0s
PTEO Sao Teotonio 125.87 318 *e*PKPdf **PKiKP 09 29 58.2 +4.7**
PTEO *e*PP **PP 09 31 53.1 +7.7**
MORF Marmelete 125.95 318 *e*P **PKiKP 09 29 56.3 +2.6**
MORF IAMs_20 IAMs_20 10 25 53.4
comp=E,48μm,22.3s
MORF Marmelete 125.95 318 *e*PKPdf **PKiKP 09 29 58.3 +4.6**
MORF *e*PP PP 09 31 54.1 +8.1
MORF Marmelete 125.95 318 *e*PKIKP **PKiKP 09 29 56.3 +2.6**
PFVI Vila Bisbo 126.16 317 PKP **PKiKP 09 29 58.8 +4.7**
PFVI Vila Bisbo 126.16 317 IAMs_20 IAMs_20 10 34 43.5
comp=Z,93μm,21.0s
PFVI Vila Bisbo 126.16 317 *e*PKPdf **PKiKP 09 29 58.8 +4.7**
PFVI *e*PP **PP 09 31 52.6 +5.3**
L42A Oliver, Polo 126.60 35 IAMs_20 IAMs_20 10 23 13.2
comp=Z,107μm,21.0s
N41A Harden Midland 126.73 37 IAMs_20 IAMs_20 10 23 23.9
comp=Z,85μm,20.0s
K43A Burlington 126.89 33 IAMs_20 IAMs_20 10 19 20.5
comp=Z,114μm,22.0s
AVE Averines 127.10 313 PKP **PKiKP 09 29 59.7 +3.6**
GLMI Grayling 127.31 29 IAMs_20 IAMs_20 10 24 37.5
comp=Z,99μm,21.0s
L44A Lake County Fo 127.47 33 IAMs_20 IAMs_20 10 19 25.3
comp=Z,109μm,22.0s
HQIL Hanson Quary C 127.76 34 IAMs_20 IAMs_20 10 29 25.9
comp=Z,93μm,20.0s
TIO Tiouine 128.08 310 PKP **PKiKP 09 30 02.9 +4.7**
P43A Skaggs, Pawnee 128.19 37 IAMs_20 IAMs_20 10 23 39.0
comp=Z,101μm,20.0s
L46A Eue Claire 128.46 33 IAMs_20 IAMs_20 10 22 21.4
comp=Z,116μm,22.0s
AY03 Cochrane 129.01 162 IAMs_20 IAMs_20 10 22 35.2
comp=Z,100μm,20.0s
NATX Nacogdoches 129.12 48 IAMs_20 IAMs_20 10 28 04.4
comp=Z,92μm,20.0s
N47A Urbana 129.57 33 IAMs_20 IAMs_20 10 30 39.9
comp=Z,95μm,20.0s
K50A Casco 129.80 29 IAMs_20 IAMs_20 10 29 52.4
comp=Z,105μm,19.0s
M50A Fremont 130.60 31 IAMs_20 IAMs_20 10 27 12.9
comp=Z,107μm,22.0s
O49A Covington 130.80 33 IAMs_20 IAMs_20 10 26 37.2
comp=Z,107μm,20.0s
WCI Wyandotte Cave 131.03 36 IAMs_20 IAMs_20 10 23 19.8
comp=Z,114μm,21.0s
N51A Ashland 131.30 31 IAMs_20 IAMs_20 10 21 43.3
comp=Z,93μm,22.0s
ERPA Erie 131.56 28 IAMs_20 IAMs_20 10 29 06.8
comp=Z,68μm,21.0s
LONY Lake Ozonia 131.78 22 IAMs_20 IAMs_20 10 26 26.5
comp=Z,75μm,22.0s
Q51A Peebles 132.16 33 IAMs_20 IAMs_20 10 35 02.3
comp=Z,83μm,20.0s
O52A Adamsville 132.17 31 IAMs_20 IAMs_20 10 24 17.6
comp=Z,93μm,22.0s
J57A Williamstown 132.26 24 IAMs_20 IAMs_20 10 28 19.4
comp=Z,90μm,20.0s
G62A West of Eustis 132.63 18 IAMs_20 IAMs_20 10 30 49.3
comp=Z,85μm,22.0s
F64A Sherman 132.67 16 IAMs_20 IAMs_20 10 30 18.1
comp=Z,108μm,21.0s
VT1 Waterbury 132.69 20 IAMs_20 IAMs_20 10 26 10.5
comp=Z,118μm,22.0s
DBIC Dimbokro 132.69 278 PKP **PKPdf 09 30 05.7 -0.9**
comp=Z,15nm,0.9s,baz=214,slow=2.6,SNR=4.0
DBIC PP **PP 09 32 30.1 -1.1**
comp=Z,17nm,1.1s,baz=90,slow=9.1,SNR=2.5
DBIC Dimbokro 132.69 278 PKP **PKPdf 09 30 01.8 -4.9**
Q52A Bidwell 132.79 32 IAMs_20 IAMs_20 10 29 05.9
comp=Z,109μm,21.0s
LL02 Futaleuf 132.86 160 IAMs_20 IAMs_20 10 21 51.2
comp=Z,97μm,22.0s
O54A Avella 132.86 30 IAMs_20 IAMs_20 10 32 10.5
comp=Z,96μm,21.0s
P53A Whipple 132.87 31 IAMs_20 IAMs_20 10 27 50.9
comp=Z,92μm,21.0s
PKME Peaks-Kenny Pk 132.96 17 IAMs_20 IAMs_20 10 34 27.9
comp=Z,84μm,21.0s
H62A Milan 133.01 19 IAMs_20 IAMs_20 10 27 47.5
comp=Z,70μm,22.0s
LBNH Lisbon 133.05 20 IAMs_20 IAMs_20 10 26 57.8
comp=Z,115μm,22.0s
HNH Hanover 133.40 20 IAMs_20 IAMs_20 10 27 42.1
comp=Z,86μm,21.0s
WVL Waterville 133.48 17 IAMs_20 IAMs_20 10 29 30.9
comp=Z,85μm,20.0s
M57A Sunshine Farm, 133.49 26 IAMs_20 IAMs_20 10 31 39.2
comp=Z,77μm,20.0s
G65A Princeton 133.49 15 IAMs_20 IAMs_20 10 32 40.9
comp=Z,110μm,21.0s
Q54A Coxs Mills 133.53 31 IAMs_20 IAMs_20 10 23 06.1
comp=Z,67μm,21.0s
I62A Tamworth 133.57 19 IAMs_20 IAMs_20 10 27 13.5
comp=Z,105μm,21.0s
I63A Otisfield 133.66 19 IAMs_20 IAMs_20 10 37 16.8
comp=Z,64μm,20.0s
TRY Troy 133.74 22 IAMs_20 IAMs_20 10 29 38.4
comp=Z,104μm,21.0s
LRAL Lakeview Retre 133.87 42 IAMs_20 IAMs_20 10 26 29.8
comp=Z,92μm,20.0s
EMMW East Machias 133.98 15 IAMs_20 IAMs_20 10 29 55.7
comp=Z,86μm,21.0s
N58A Sunbury 134.07 26 IAMs_20 IAMs_20 10 31 04.7
comp=Z,75μm,21.0s
PMOZ Porto Moniz, M 134.26 318 PKP **PKiKP 09 30 14.8 +4.2**
PMOZ Porto Moniz, M 134.26 318 *e*LR LR 10 13 36.4
PMOZ *i* IAMs_20 IAMs_20 10 42 03.9
comp=Z,29μm,20.0s
X51A Calhoun 134.30 39 IAMs_20 IAMs_20 10 30 19.0
comp=Z,94μm,20.0s
K62A Royalston 134.33 21 IAMs_20 IAMs_20 10 29 50.7
comp=Z,94μm,21.0s
R55A Marlinton 134.43 31 IAMs_20 IAMs_20 10 39 32.1
comp=Z,86μm,18.0s
BCX Boston College 134.99 20 IAMs_20 IAMs_20 10 31 06.2
comp=Z,103μm,20.0s
LR04 Corral 135.16 156 IAMs_20 IAMs_20 10 27 26.2
comp=Z,57μm,20.0s
WSPT Westport, CT 135.21 23 IAMs_20 IAMs_20 10 30 21.1
comp=Z,105μm,21.0s
LR05 Currie 135.41 158 IAMs_20 IAMs_20 10 24 45.7
comp=Z,70μm,22.0s
S57A Dark Hollow, R 135.42 31 IAMs_20 IAMs_20 10 33 12.4
comp=Z,85μm,20.0s
L64A Middleborough 135.46 20 IAMs_20 IAMs_20 10 30 56.6
comp=Z,104μm,21.0s
PLCA Paso Flores 135.49 160 PKP **PKPdf 09 30 10.8 -0.5**
comp=Z,13nm,0.9s,baz=196,slow=7.6,SNR=8.6
PLCA PP **PP 09 32 48.2 +1.2**
comp=Z,6.1nm,1.1s,baz=209,slow=5.9,SNR=1.2
PLCA PKP2ab 09 45 30.8
comp=Z,2.3nm,1.1s,baz=8.2,slow=9.0,SNR=2.8
PLCA Paso Flores 135.49 160 PKP **PKPdf 09 30 10.4 -0.9**
BART Pico Bartolome 135.57 329 *e*PKP PKiKP 09 30 22.9 +10
BART *e*SKP 09 33 47.8
PGRON Lagoa das Cont 135.68 330 *e*PKP PKiKP 09 30 24.3 +11
PGRON *e*SKP 09 33 45.2
CMLA Cha da Macela 135.76 330 *e*PKP **PKiKP 09 30 15.9 +2.5**
CMLA *e*SKP 09 33 45.8
CMLA *e*LR LR 10 16 22.3
CMLA *i* IAMs_20 IAMs_20 10 23 04.3
comp=Z,9μm,22.0s
EOSO Osorio 135.78 311 PKP **PKiKP 09 30 19.2 +5.4**
PAGU Agualva, Azore 135.78 332 *e*PKP PKiKP 09 30 22.0 +8.6
PAGU *e*SKP 09 33 48.5
PAGU *e*LR LR 10 16 35.7
PAGU *i* IAMs_20 IAMs_20 10 22 19.4
comp=Z,4μm,20.0s
LR03 Panguipulli 135.79 157 IAMs_20 IAMs_20 10 25 32.1
comp=Z,92μm,20.0s
PSCM Serra do Cume 135.80 332 *e*PKP **PKiKP 09 30 19.4 +5.9**
PSCM *e*SKP 09 33 54.1
PSET Sete Cidades 135.81 330 *e*PKP **PKiKP 09 30 17.6 +4.0**
PSET *e*SKP 09 33 44.6
PSET *e*LR LR 10 16 33.5
PSET *i* IAMs_20 IAMs_20 10 18 29.2
comp=Z,4μm,20.0s
PSBA Serra de Santa 135.85 332 *e*PKP **PKiKP 09 30 19.7 +6.1**
P61A Hammonton 135.87 26 IAMs_20 IAMs_20 10 34 46.1
comp=Z,92μm,19.0s
ADH Angra Heroismo 135.90 332 *e*SKP 09 33 50.6
PGRA Graciosa 135.94 333 *e*PKP PKiKP 09 30 26.4 +13
SRBC Serra Branca 135.96 333 *e*PKP **PKiKP 09 30 15.9 +2.2**
SRBC *e*SKP 09 33 55.2
PSMN Pico do Norte, 136.11 329 *e*PKP **PKiKP 09 30 16.1 +2.0**
PSMN *e*SKP 09 33 44.8
PSMN *e*LR LR 10 17 13.5
PSMN *i* IAMs_20 IAMs_20 10 19 45.7
comp=Z,5μm,20.0s
PSMA Santa Maria 136.15 329 *e*PKP **PKiKP 09 30 14.6 +0.5**
PSMA *e*SKP 09 33 47.4
451A Vernon 136.17 44 IAMs_20 IAMs_20 10 34 49.2
comp=Z,93μm,21.0s
ROSA Rosais 136.31 333 *e*PKP PKiKP 09 30 25.5 +11
ROSA *e*SKP 09 33 41.0
ROSA *e*LR LR 10 16 22.4
ROSA *i* IAMs_20 IAMs_20 10 20 34.6
comp=Z,7μm,22.0s
PMAN Manadas 136.31 333 *e*PKP PKiKP 09 30 27.5 +13
PMAN *e*SKP 09 33 47.8
PID Ribeirinha 136.48 333 *e*PKP **PKiKP 09 30 21.7 +6.9**
PID *e*SKP 09 33 41.0
PPNO Prainha do Nor 136.52 333 *e*PKP PKiKP 09 30 26.8 +12
PPNO *e*SKP 09 33 57.1
PICO Pico 136.57 333 *e*PKP **PKiKP 09 30 21.7 +6.6**
PICO *e*SKP 09 33 43.4
PICO *e*LR LR 10 16 43.6
PICO *i* IAMs_20 IAMs_20 10 20 36.9
comp=Z,6μm,20.0s
PCED Cedros 136.59 333 *e*PKP **PKiKP 09 30 21.7 +6.7**

PCED				*e*PP		PP		09 33 05.5	+12
PCED				*e*SKP				09 33 56.8	
PCAN	**Candelaria**	**136.63**	**333**	*e*PKP		**PKiKP**		**09 30 20.9**	**+5.7**
PCAN				*e*SKP				09 33 56.1	
CALA	**Caldeira**	**136.63**	**333**	*e*PKP		PKiKP		09 30 23.6	+8.4
CALA				*e*SKP				09 33 52.4	
HOR	**Horta**	**136.64**	**333**	*e*SKP				09 33 51.6	
H07S1	**FLORES T-PHASE**	**137.03**	**336**	*e*PKP		**PKiKP**		**09 30 22.2**	**+6.3**
VA04	**Juan Fernndez**	**137.55**	**146**	IAMs_20		IAMs_20		10 24 44.8	
	comp=Z,89µm,22.0s								
BI05	**Punta Hualpn**	**137.91**	**154**	IAMs_20		IAMs_20		10 30 03.2	
	comp=Z,69µm,21.0s								
BI02	**San Fabin de**	**138.78**	**156**	IAMs_20		IAMs_20		10 32 04.3	
	comp=Z,50µm,19.0s								
PETF	**Flores**	**139.27**	**64**	P		PKiKP		09 30 50.4	+29
TRQA	**Tornquist**	**140.41**	**167**	IAMs_20		IAMs_20		10 34 25.5	
	comp=Z,91µm,19.0s								
BO02	**Sierra Bellavi**	**140.59**	**155**	IAMs_20		IAMs_20		10 27 41.3	
	comp=Z,60µm,22.0s								
DWPF	**Disney Wildern**	**140.67**	**43**	IAMs_20		IAMs_20		10 36 44.5	
	comp=Z,67µm,20.0s								
BO01	**Tunca**	**140.81**	**155**	IAMs_20		IAMs_20		10 35 27.1	
	comp=Z,64µm,18.0s								
MT01	**Popeta**	**141.19**	**154**	IAMs_20		IAMs_20		10 29 04.1	
	comp=Z,62µm,22.0s								
VA05	**Santo Domingo**	**141.20**	**153**	IAMs_20		IAMs_20		10 27 22.5	
	comp=Z,62µm,22.0s								
BO04	**La Punta**	**141.36**	**155**	IAMs_20		IAMs_20		10 34 46.6	
	comp=Z,56µm,19.0s								
MT09	**Talagante**	**141.37**	**154**	IAMs_20		IAMs_20		10 31 03.1	
	comp=Z,61µm,22.0s								
LMEL	**Las Melosas**	**141.65**	**155**	IAMs_20		IAMs_20		10 34 58.2	
	comp=Z,58µm,19.0s								
VA01	**Torpederas**	**141.72**	**153**	IAMs_20		IAMs_20		10 27 21.4	
	comp=Z,76µm,22.0s								
MT02	**Curacav**	**141.75**	**154**	IAMs_20		IAMs_20		10 27 38.0	
	comp=Z,88µm,22.0s								
MT05	**Renca**	**141.81**	**154**	IAMs_20		IAMs_20		10 37 46.6	
	comp=Z,57µm,21.0s								
MT03	**Universidad Ad**	**141.82**	**154**	IAMs_20		IAMs_20		10 31 14.9	
	comp=Z,54µm,22.0s								
MT16	**CCHEN**	**141.87**	**154**	IAMs_20		IAMs_20		10 31 17.2	
	comp=Z,52µm,22.0s								
PEL	**Peldehue**	**142.04**	**154**	IAMs_20		IAMs_20		10 27 39.0	
	comp=Z,63µm,21.0s								
MT08	**Bocatoma Ro**	**142.07**	**155**	IAMs_20		IAMs_20		10 36 09.5	
	comp=Z,59µm,21.0s								
060A	**Indiantown**	**142.09**	**44**	IAMs_20		IAMs_20		10 31 22.9	
	comp=Z,90µm,21.0s								
VA06	**Catapilco**	**142.26**	**153**	IAMs_20		IAMs_20		10 28 17.7	
	comp=Z,69µm,22.0s								
VA03	**San Esteban**	**142.43**	**154**	IAMs_20		IAMs_20		10 27 36.0	
	comp=Z,76µm,21.0s								
TGUH	**Tegucigalpa,Un**	**142.55**	**67**	IAMs_20		IAMs_20		10 21 33.7	
	comp=Z,102µm,22.0s								
CO02	**Combarbal**	**143.53**	**152**	IAMs_20		IAMs_20		10 29 49.5	
	comp=Z,56µm,22.0s								
CO06	**Fray Jorge**	**143.66**	**151**	IAMs_20		IAMs_20		10 30 33.1	
	comp=Z,63µm,20.0s								
CAMR	**Camarioca**	**143.71**	**50**	P		**PKPdf**		**09 30 28.1**	**+1.5**
APQ2	**Apoyeque**	**143.97**	**70**	P		PKiKP		09 30 39.5	+8.8
CO03	**El Pedregal**	**143.98**	**152**	IAMs_20		IAMs_20		10 32 14.4	
	comp=Z,59µm,22.0s								
ZON	**Zonda**	**144.28**	**155**	IAMs_20		IAMs_20		10 30 05.9	
	comp=Z,68µm,22.0s								
CO05	**La Serena**	**144.48**	**150**	IAMs_20		IAMs_20		10 31 13.7	
	comp=Z,88µm,20.0s								
GO04	**Tololo Observa**	**144.49**	**151**	IAMs_20		IAMs_20		10 31 10.8	
	comp=Z,58µm,20.0s								
BOAB	**BOACO BROADBAN**	**144.52**	**69**	PKP		**PKPab**		**09 30 26.6**	**0.0**
BOAB	**BOACO BROADBAN**	**144.52**	**69**	P		**PKPdf**		**09 30 27.9**	**-0.4**
SIUN	**Universidad Ur**	**144.96**	**67**	P		**PKPdf**		**09 30 29.7**	**+0.7**
CO01	**Juntas del Tor**	**144.98**	**152**	IAMs_20		IAMs_20		10 30 17.9	
	comp=Z,97µm,22.0s								
ACON	**Acoyapa**	**145.12**	**70**	P		**PKiKP**		**09 30 36.4**	**+3.3**
CAIB	**Caibarien**	**145.47**	**49**	P		**PKPab**		**09 30 30.3**	**+0.5**
JTS	**Las Juntas de**	**145.77**	**73**	PKPbc		**PKPab**		**09 30 31.3**	**+0.1**
	comp=Z,64nm,0.8s,baz=311,slow=4.3,SNR=18								
AC04	**Llanos de Chal**	**145.96**	**149**	IAMs_20		IAMs_20		10 32 29.0	
	comp=Z,64µm,20.0s								
BLUN	**Bluefields**	**146.41**	**69**	P		**PKiKP**		**09 30 36.4**	**+0.7**
GO03	**Copiapo**	**146.88**	**149**	IAMs_20		IAMs_20		10 31 17.5	
	comp=Z,79µm,22.0s								
AC06	**Mina Casimiro**	**147.01**	**149**	IAMs_20		IAMs_20		10 37 29.0	
	comp=Z,80µm,20.0s								
PLTB	**Pedras Altas**	**147.76**	**177**	PKP		**PKPdf**		**09 30 34.7**	**+1.3**
AC01	**Pan de Azucar**	**147.85**	**147**	IAMs_20		IAMs_20		10 30 31.5	
	comp=Z,86µm,21.0s								
AC02	**Maricunga**	**148.06**	**150**	IAMs_20		IAMs_20		10 39 00.7	
	comp=Z,76µm,20.0s								
CPSB	**Cacapava Do Su**	**149.12**	**177**	PKP		**PKPdf**		**09 30 37.0**	**+1.5**
PB14	**IPOC Station P**	**149.16**	**146**	IAMs_20		IAMs_20		10 30 58.3	
	comp=Z,59µm,21.0s								
GO02	**Mina Guanaco**	**149.19**	**147**	IAMs_20		IAMs_20		10 32 20.7	
	comp=Z,68µm,21.0s								
CHIV	**Chivirico**	**149.25**	**50**	IAMs_20		IAMs_20		10 27 19.6	
	comp=Z,110µm,22.0s								
ITQB	**Itaqui**	**149.55**	**172**	PKP		**PKPdf**		**09 30 37.6**	**+1.3**
NMDO	**Nuevo Mundo**	**149.97**	**47**	IAMs_20		IAMs_20		10 32 57.3	
	comp=Z,98µm,21.0s								
NMDO	**Nuevo Mundo**	**149.97**	**47**	P		**PKiKP**		**09 30 43.7**	**+0.7**
CNLB	**Canela**	**150.22**	**182**	PKP		**PKPdf**		**09 30 38.5**	**+1.0**
GTBY	**Guantanamo Bay**	**150.26**	**48**	IAMs_20		IAMs_20		10 28 16.2	
	comp=Z,82µm,22.0s								
PB05	**IPOC Station P**	**150.65**	**144**	IAMs_20		IAMs_20		10 34 42.6	
	comp=Z,76µm,21.0s								
PB06	**IPOC Station P**	**151.13**	**145**	IAMs_20		IAMs_20		10 35 53.3	
	comp=Z,56µm,21.0s								
PB03	**IPOC Station P**	**151.53**	**143**	IAMs_20		IAMs_20		10 31 20.0	
	comp=Z,91µm,22.0s								
PB02	**IPOC Station P**	**152.00**	**142**	IAMs_20		IAMs_20		10 34 16.4	
	comp=Z,61µm,20.0s								
GRTK	**Grand Turk**	**152.01**	**41**	IAMs_20		IAMs_20		10 32 37.4	
	comp=Z,83µm,22.0s								
MAJ01	**Sao Joao Batis**	**152.01**	**185**	PKP		**PKPbc**		**09 30 43.8**	**-2.9**
PB09	**IPOC Station P**	**152.03**	**144**	IAMs_20		IAMs_20		10 31 36.1	
	comp=Z,88µm,21.0s								
NNA	**Nana**	**152.25**	**118**	PKPbc		**PKiKP**		**09 30 48.0**	**+0.1**
	comp=Z,89nm,0.9s,baz=251,slow=4.7,SNR=9.9								
ITAB	**Concordia**	**152.31**	**180**	IAMs_20		IAMs_20		10 41 20.7	
	comp=Z,78µm,21.0s								
ITAB	**Concordia**	**152.31**	**180**	PKP		**PKPdf**		**09 30 40.9**	**+0.3**
TA01	**Diego Aracena**	**152.38**	**141**	IAMs_20		IAMs_20		10 31 41.7	
	comp=Z,80µm,22.0s								
PB01	**IPOC Station P**	**152.45**	**142**	IAMs_20		IAMs_20		10 33 13.5	
	comp=Z,72µm,22.0s								
ATAH	**Atahualpa**	**152.48**	**107**	PKP		**PKPdf**		**09 30 42.6**	**+0.9**
	comp=Z,20nm,0.9s,baz=209,slow=2.6,SNR=9.4								
ATAH				PKPbc		**PKiKP**		**09 30 49.8**	**+1.0**
	comp=Z,75nm,0.8s,baz=228,slow=2.2,SNR=24								
TA02	**Huaiquique**	**152.62**	**140**	IAMs_20		IAMs_20		10 35 27.3	
	comp=Z,83µm,20.0s								
CPUP	**Villa Florida**	**152.71**	**169**	PKPbc		**PKPbc**		**09 30 47.5**	**-0.7**
	comp=Z,7.7nm,1.0s,baz=33,slow=0.7,SNR=24								
CPUP	**Villa Florida**	**152.71**	**169**	PKP		**PKPdf**		**09 30 42.8**	**+1.6**
PB11	**IPOC Station P**	**153.30**	**140**	IAMs_20		IAMs_20		10 32 45.2	
	comp=Z,67µm,21.0s								
OTAV	**Otavalo**	**153.45**	**91**	PKP		**PKPdf**		**09 30 44.6**	**+1.4**
SDDR	**Presa de Saban**	**153.64**	**45**	IAMs_20		IAMs_20		10 44 48.2	
	comp=Z,75nm,20.0s								
GO01	**Chusmiza**	**153.66**	**141**	IAMs_20		IAMs_20		10 33 36.7	
	comp=Z,72µm,20.0s								
AP01	**Chacalluta**	**153.84**	**137**	IAMs_20		IAMs_20		10 32 59.9	
	comp=Z,60µm,21.0s								
TIJ01	**Guaruva-PR**	**154.06**	**186**	PKP		**PKPdf**		**09 30 43.3**	**0.0**
PB16	**IPOC Station P**	**154.42**	**138**	IAMs_20		IAMs_20		10 43 44.3	
	comp=Z,50µm,21.0s								
PTGB	**Pitanga**	**154.82**	**180**	PKP		**PKPdf**		**09 30 44.0**	**-0.4**
PET01	**Itanhaem-SP**	**154.84**	**190**	PKP		**PKPdf**		**09 30 41.1**	**-3.2**
MAN01	**Angra dos Reis**	**155.42**	**198**	PKP		**PKPdf**		**09 30 45.9**	**+0.7**
PARB	**Paraibuna**	**155.42**	**194**	PKP		**PKPdf**		**09 30 47.8**	**+2.6**
CAM01	**Campos-RJ**	**155.56**	**204**	PKP		**PKPdf**		**09 30 47.7**	**+2.3**
DUB01	**Friburgo-RJ**	**155.60**	**202**	PKP		**PKPdf**		**09 30 46.9**	**+1.4**
VAS01	**Vassouras-RJ**	**155.80**	**199**	PKP		**PKPdf**		**09 30 45.9**	**+0.3**
VABB	**Valinhos**	**156.04**	**191**	PKP		**PKPdf**		**09 30 44.5**	**-1.6**
FRTB	**Fartura**	**156.08**	**185**	PKP		**PKPdf**		**09 30 46.9**	**+0.8**
TRCB	**Terra Rica**	**156.72**	**178**	IAMs_20		IAMs_20		10 41 58.5	
	comp=Z,80µm,20.0s								
TRCB	**Terra Rica**	**156.72**	**178**	PKP		**PKPdf**		**09 30 48.5**	**+1.6**
LPAZ	**La Paz**	**156.79**	**137**	PKP		**PKPdf**		**09 30 47.8**	**-0.1**
	comp=Z,8.8nm,1.0s,baz=212,slow=0.2,SNR=22								
LPAZ				PP		**PP**		**09 34 57.8**	**+3.1**
	comp=Z,4.5nm,0.9s,baz=195,slow=5.5,SNR=1.3								
LPAZ	**La Paz**	**156.79**	**137**	PKP		**PKPdf**		**09 30 49.1**	**+1.3**
AGPR	**Aguadilla, PR**	**156.81**	**39**	IAMs_20		IAMs_20		10 43 10.1	
	comp=Z,49µm,21.0s								
PRSN	**Puerto Rico Se**	**156.97**	**40**	IAMs_20		IAMs_20		10 37 24.6	
	comp=Z,89µm,22.0s								
AOPR	**Arecibo Observ**	**157.12**	**39**	IAMs_20		IAMs_20		10 38 11.4	
	comp=Z,48µm,22.0s								
CRPR	**Cabo Rojo, PR**	**157.15**	**40**	IAMs_20		IAMs_20		10 35 47.3	
	comp=Z,55µm,22.0s								
RIB01	**Linhares ES**	**157.20**	**209**	PKP		**PKPdf**		**09 30 48.8**	**+1.3**
UUPR	**Utuado, UPR, P**	**157.22**	**39**	IAMs_20		IAMs_20		10 38 02.8	
	comp=Z,52µm,22.0s								
ROSC	**El Rosal**	**157.22**	**79**	PKP		**PKPdf**		**09 30 49.4**	**+1.2**
	comp=Z,16nm,0.8s,baz=152,slow=14,SNR=7.1								
BSCB	**Bom Sucesso**	**157.42**	**198**	PKP		**PKPdf**		**09 30 48.2**	**+0.3**
CELP	**Cerrillos**	**157.44**	**39**	IAMs_20		IAMs_20		10 38 07.7	
	comp=Z,55µm,22.0s								
OBIP	**Obispado Ponce**	**157.44**	**39**	IAMs_20		IAMs_20		10 40 53.9	
	comp=Z,48µm,20.0s								
CZSB	**Cruzeiro do Su**	**157.66**	**112**	IAMs_20		IAMs_20		10 40 16.0	
	comp=Z,66µm,20.0s								
CZSB	**Cruzeiro do Su**	**157.66**	**112**	PKP		**PKPdf**		**09 30 47.9**	**-0.4**
SJG	**San Juan**	**157.68**	**38**	IAMs_20		IAMs_20		10 38 23.0	
	comp=Z,83µm,22.0s								
SJG	**San Juan**	**157.68**	**38**	PKP		**PKPdf**		**09 30 48.9**	**+0.8**
	comp=Z,39nm,1.1s,baz=22,slow=2.3,SNR=7.8								
SJG				PP		**PP**		**09 35 00.5**	**+2.0**
	comp=Z,13nm,0.9s,baz=318,slow=7.9,SNR=3.4								
PDPR	**Patillas Dam,**	**157.82**	**38**	IAMs_20		IAMs_20		10 38 21.9	
	comp=Z,63µm,22.0s								
HUMP	**Col San Antoni**	**157.84**	**37**	IAMs_20		IAMs_20		10 38 26.1	
	comp=Z,57µm,21.0s								
PCMB	**Pacaembu**	**157.91**	**182**	PKP		**PKPdf**		**09 30 48.9**	**+0.6**
SJMB	**Sao Joao De Ma**	**158.10**	**208**	PKP		**PKPdf**		**09 30 48.2**	**-0.5**
BB19B	**Bebedouro**	**158.20**	**189**	PKP		**PKPdf**		**09 30 49.2**	**+0.4**
CANS	**Sao Roque de M**	**158.54**	**194**	PKP		**PKPdf**		**09 30 49.9**	**+0.6**
AQDB	**Aquidauana**	**158.72**	**170**	PKP		**PKPdf**		**09 30 49.8**	**+0.4**
GUA01	**Guaratinga, BA**	**159.16**	**214**	PKP		**PKPdf**		**09 30 49.5**	**-0.5**
DIAM	**Diamantina, MG**	**159.54**	**203**	PKP		**PKPdf**		**09 30 50.7**	**+0.2**
CAR01	**Carai MG**	**159.59**	**210**	PKP		**PKPdf**		**09 30 50.4**	**-0.1**
SDV	**Santo Domingo**	**159.62**	**66**	PKP		**PKPdf**		**09 30 52.3**	**+1.5**
	comp=Z,49nm,0.9s,baz=323,slow=1.4,SNR=17								
SDV	**Santo Domingo**	**159.62**	**66**	PKP		**PKPdf**		**09 30 52.2**	**+1.3**
ITRB	**Iturama**	**159.75**	**184**	PKP		**PKPdf**		**09 30 49.9**	**-0.7**
CMC01	**Camacan, BA**	**159.96**	**217**	PKP		**PKPdf**		**09 30 51.8**	**+0.9**
SEUS	**St. Eustatius**	**160.00**	**32**	IAMs_20		IAMs_20		10 39 30.5	
	comp=Z,69µm,22.0s								
PMNB	**Patos De Minas**	**160.23**	**195**	PKP		**PKPdf**		**09 30 52.0**	**+0.7**
ANWB	**Willy Bob**	**160.46**	**29**	*e*PP		**PKPdf**		**09 30 53.8**	**+2.4**
C2SB	**Chapadao do Su**	**160.72**	**177**	PKP		**PKPdf**		**09 30 52.2**	**+0.5**
JQT1	**Jequitai-MG**	**160.77**	**202**	PKP		**PKPdf**		**09 30 52.5**	**+0.6**
ANBD	**Bethesda, Anti**	**161.00**	**30**	*e*P		**PKPdf**		**09 30 55.2**	**+3.2**
MBFL	**Flemmings, Mon**	**161.02**	**32**	*e*P		**PKPdf**		**09 30 59.0**	**+6.9**
ITU3	**Corumbazu**	**161.05**	**189**	PKP		**PKPdf**		**09 30 51.2**	**-0.9**
SFA1	**Serra Facao**	**161.08**	**192**	PKP		**PKPdf**		**09 30 51.6**	**-0.6**
IPMB	**Ipameri, GO**	**161.17**	**191**	PKP		**PKPdf**		**09 30 51.7**	**-0.5**
SIV	**San Ignacio**	**161.18**	**152**	PKP		**PKPdf**		**09 30 52.2**	**-0.1**
	comp=Z,18nm,1.0s,baz=207,slow=1.8,SNR=38								
SIV				PP		**PP**		**09 35 18.3**	**+1.1**
	comp=Z,2.8nm,0.8s,baz=248,slow=12,SNR=0.9								
ANA01	**Lindo Horizont**	**161.34**	**216**	PKP		**PKPdf**		**09 30 51.7**	**-0.8**
NBAN	**Anadia - AL**	**161.39**	**236**	PKP		**PKPdf**		**09 30 52.7**	**+0.1**
TBTG	**Tabatinga, AM**	**161.39**	**105**	PKP		**PKPdf**		**09 30 52.2**	**-0.4**
BAT3	**Ipameri**	**161.59**	**193**	PKP		**PKPdf**		**09 30 52.2**	**-0.5**
MMLZ	**Guadeloupe Bro**	**161.89**	**32**	*e*P		**PKPdf**		**09 30 58.7**	**+5.7**
DSDZ	**La Diserade, G**	**161.97**	**30**	*e*P		**PKPdf**		**09 30 58.0**	**+5.0**
NBPV	**Pedro Velho**	**162.01**	**247**	PKP		**PKPdf**		**09 30 53.0**	**-0.2**
PTLB	**Pontes e Lacer**	**162.51**	**156**	PKP		**PKPdf**		**09 30 53.3**	**-0.3**
JANB	**Januaria**	**162.71**	**205**	PKP		**PKPdf**		**09 30 53.9**	**0.0**
RCBR	**Riachuelo**	**162.79**	**248**	PKP		**PKPdf**		**09 30 54.1**	**+0.1**
LABB	**Lıbrea**	**163.11**	**126**	PKP		**PKPdf**		**09 30 55.1**	**+0.8**
SALV	**Santo Antonio**	**163.17**	**167**	PKP		**PKPdf**		**09 30 53.8**	**-0.4**
BDFB	**Brasilia**	**163.40**	**193**	PKP		**PKPdf**		**09 30 54.9**	**+0.3**
	comp=Z,7.6nm,1.0s,baz=115,slow=1.4,SNR=10								
BDFB				PP		**PP**		**09 35 29.6**	**+0.9**
	comp=Z,63nm,1.2s,baz=172,slow=6.4,SNR=4.3								
BDFB	**Brasilia**	**163.40**	**193**	PKP		**PKPdf**		**09 30 55.5**	**+0.9**
NBPA	**Parau_RN**	**163.93**	**247**	PKP		**PKPdf**		**09 30 55.9**	**+0.8**
SLBI	**Saint Lucia, B**	**163.93**	**34**	*e*P		**PKPdf**		**09 30 58.7**	**+3.7**
PCRV	**Puerto La Cruz**	**164.17**	**53**	PKP		**PKPdf**		**09 30 55.3**	**0.0**
	comp=Z,12nm,1.1s,baz=351,slow=6.1,SNR=3.0								
VILB	**Vilhena**	**164.21**	**149**	PKP		**PKPdf**		**09 30 55.7**	**+0.4**
NBMA	**Muriti-CE**	**164.68**	**239**	PKP		**PKPdf**		**09 30 57.9**	**+2.1**
SGC2	**Sao Gabriel da**	**164.91**	**93**	PKP		**PKPdf**		**09 30 56.2**	**+0.3**
SDBA	**SAO DESIDERIO**	**165.31**	**208**	PKP		**PKPdf**		**09 30 56.9**	**+0.6**
NBCL	**Cascavel-CE**	**165.57**	**250**	PKP		**PKPdf**		**09 30 58.1**	**+1.6**
CAN3	**Cana Brava**	**165.91**	**195**	PKP		**PKPdf**		**09 30 57.8**	**+1.1**
SSV2	**Sao Salvador**	**166.13**	**195**	PKP		**PKPdf**		**09 30 59.2**	**+2.3**
NBPB	**Pedra_Branca-C**	**166.26**	**243**	PKP		**PKPdf**		**09 30 58.3**	**+1.3**
TRN	**Trinidad (W)**	**166.27**	**43**	*e*P		**PKPdf**		**09 31 02.0**	**+5.0**
TEFE	**Tefe**	**166.63**	**108**	PKP		**PKPdf**		**09 30 56.9**	**-0.5**
PDRB	**Porto dos Gac**	**166.94**	**159**	PKP		**PKPdf**		**09 30 56.6**	**-1.0**
SNDB	**Serra Nova Dou**	**167.48**	**183**	PKP		**PKPdf**		**09 30 59.1**	**+1.1**
NBMO	**Morrinhos-CE**	**167.52**	**252**	PKP		**PKPdf**		**09 30 58.7**	**+0.7**
CLDB	**Colider**	**167.95**	**161**	PKP		**PKPdf**		**09 30 59.7**	**+1.4**
LAJE	**UHE Lajeado**	**168.89**	**199**	PKP		**PKPdf**		**09 31 00.1**	**+1.2**
SMTB	**Santa Maria do**	**169.65**	**204**	PKP		**PKPdf**		**09 30 59.1**	**-0.3**
MACA	**Manacapuru-AM**	**170.46**	**113**	PKP		**PKPdf**		**09 30 59.5**	**-0.3**
NBBC	**Barra do Corda**	**171.01**	**227**	PKP		**PKPdf**		**09 30 59.8**	**-0.4**
BOAV	**Boa Vista**	**171.21**	**78**	PKP		**PKPdf**		**09 30 59.4**	**-0.9**
PAL2	**UHE Estreito -**	**171.38**	**212**	PKP		**PKPdf**		**09 31 01.7**	**+1.3**
PAL01	**Palmeiras do T**	**171.59**	**211**	PKP		**PKPdf**		**09 30 59.8**	**-0.7**
NPGB	**Novo Progresso**	**171.65**	**156**	PKP		**PKPdf**		**09 31 00.2**	**-0.3**
PRPB	**Itarauapepbas**	**172.94**	**197**	PKP		**PKPdf**		**09 30 59.6**	**-1.4**
ITTB	**Itaituba**	**173.75**	**142**	PKP		**PKPdf**		**09 31 00.9**	**-0.5**
TMAB	**Tom-Au,PA,Br**	**175.18**	**232**	PKP		**PKPdf**		**09 31 02.0**	**+0.2**
MDP	**Montagnes des**	**175.48**	**9**	PKP		**PKPdf**		**09 31 01.4**	**-0.5**
	comp=Z,17nm,1.1s,baz=80,slow=1.8,SNR=4.4								
MDP				PKPab		**PKPab**		**09 32 39.7**	**+1.2**
	comp=Z,54nm,1.2s,baz=346,slow=7.2,SNR=4.1								
MDP				PP		**PP**		**09 36 30.6**	**+1.2**
	comp=Z,32nm,1.2s,baz=8.0,slow=6.8,SNR=3.7								
BMO2	**UHE Belo Monte**	**176.07**	**179**	PKP		**PKPdf**		**09 31 01.5**	**-0.5**
ATM1	**UHE Belo Monte**	**176.11**	**175**	PKP		**PKPdf**		**09 31 01.5**	**-0.5**
MAL2	**Monte Alegre,**	**176.53**	**139**	PKP		**PKPdf**		**09 31 02.1**	**0.0**

TAP 14 09:14:46.3,23.05N×121.13E,h5km±1km,ML1.0,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ECS	**Chishang**	**0.10**	**61**	*e*S		Sg	09 14 51.9	+2.0
EHD	**Haiduan**	**0.13**	**36**	*i*P		Pg	09 14 49.7	+0.8
EHD				*i*S		Sg	09 14 51.7	+1.0
LONT	**Longtian**	**0.14**	**178**	P		Pg	09 14 49.8	+0.6
LONT				S		Sg	09 14 52.0	+1.0
ELDTW	**Lidau**	**0.17**	**325**	P		Pg	09 14 50.4	+0.6
ELDTW				S		Sg	09 14 52.8	+0.6
FULB	**Fuli**	**0.22**	**46**	*e*P		Pg	09 14 52.4	+1.8
FULB				*e*S		Sg	09 14 57.1	+3.6
TWG	**Pinlang**	**0.23**	**192**	P		Pg	09 14 51.2	+0.4
TWG				S		Sg	09 14 54.5	+0.6
TWGBT	**Beinan**	**0.23**	**190**	P		Pg	09 14 51.2	+0.3
TWGBT				*e*S		Sg	09 14 54.5	+0.6
TWF1	**Yuli**	**0.34**	**27**	*e*P		Pg	09 14 53.9	+0.9
TWF1				*e*S		Sg	09 14 58.5	+1.0
STYH	**Taoyuan**	**0.34**	**291**	*e*P		Pg	09 14 53.6	+0.6
STYH				*e*S		Sg	09 14 58.6	+1.1
YULB	**Yu-li**	**0.38**	**25**	*e*P		Pg	09 14 54.3	+0.6
YULB				*e*S		Sg	09 14 59.5	+0.8

JMA 14 09:15:34.9±0.1,37.1N±0.2×139.3E±0.2,h8km±1km, MV0.5/21,WESTERN FUKUSHIMA PREF,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JFY	**Yanaizu**	**0.42**	**49**	*e*S		Sg	09 15 48.3	-0.4
JIZZ	**Izumozaki**	**0.62**	**310**	*e*S		Sg	09 15 55.8	+0.6

*BER **14** 09:15:42.9±3.3, 72.03N×12.12W, h10km, mb(Pn)3.3, Confirmed Earthquake*

*DNK **14** 09:15:44.7±4.7, 71.93N×12.48W, h36km±31km, ML1.4*

ISC 14 09:15:39.5±2.3,71.81N±0.08×13.32W±0.07,h25km±25km, n17,σ2.9 17/26,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JMI	**Jan Mayen**	**1.72**	**119**	*e*P		**Pn**	**09 16 09.3**	**+1.5**
JMI				*e*S		**Sn**	**09 16 27.4**	**-1.5**
JMI				IAML			09 16 31.6	
	comp=Z,14nm,0.5s							
JMIC	**Jan Mayen**	**1.75**	**116**	*e*P		**Pn**	**09 16 09.1**	**+0.9**
JMIC				*e*S		**Sn**	**09 16 27.5**	**-2.2**
JMIC				IAML			09 16 30.9	
	comp=Z,16nm,0.6s							
JMIC	**Jan Mayen**	**1.75**	**116**	*i*P		**Pn**	**09 16 08.6**	**+0.4**
JMIC				*i*S		**Sn**	**09 16 26.1**	**-3.6**
JNW	**Jan Mayen West**	**1.75**	**114**	*e*P		**Pn**	**09 16 09.0**	**+0.8**
JNW				*e*S		**Sn**	**09 16 27.5**	**-2.2**
JNW				IAML			09 16 30.8	
	comp=Z,18nm,0.5s							
JNE	**Jan Mayen East**	**1.81**	**115**	*e*P		**Pn**	**09 16 09.9**	**+0.9**
JNE				*e*S		**Sn**	**09 16 28.2**	**-2.9**
JNE				IAML			09 16 32.6	
	comp=Z,18nm,0.5s							
SCO	**Scoresbysund**	**3.10**	**249**	*i*P		**Pb**	**09 16 33.5**	**-0.3**
SCO				*i*S		**Sb**	**09 17 09.4**	**-1.8**
SCO				IAML			09 17 13.6	
	comp=Z,1.4nm,0.4s							
DBG	**Daneborg**	**3.22**	**324**	*e*P		**Pn**	**09 16

OCAC		**1.41**	**354**	P		Pn	09 20 12.7	0.0
OCAC				S		Sn	09 20 33.8	-0.7
OCAC	**Ocana**	**1.41**	**354**	P		Pn	09 20 12.6	-0.1
TAMC	**Tame, Arauca**	**1.43**	**106**	P		Pn	09 20 12.3	-0.4
TAMC				S		Sn	09 20 34.1	-0.4
ZARC	**Zaragoza, Cauc**	**1.80**	**292**	P		Pn	09 20 16.6	-0.2
ZARC	**Zaragoza, Cauc**	**1.80**	**292**	P		Pn	09 20 16.6	-0.2
NORC	**Norcasia**	**2.11**	**233**	P		Pn	09 20 20.0	-0.4
NORC				S		Sn	09 20 48.2	0.0
CHIC	**Chingaza**	**2.26**	**194**	P		Pn	09 20 22.1	-0.5
CHIC				S		Sn	09 20 51.7	-0.4
ROSC	**El Rosal**	**2.28**	**210**	P		Pn	09 20 24.1	+1.2
ROSC				S		Sn	09 20 53.4	+0.8
HELC	**Santa Helena**	**2.43**	**255**	P		Pn	09 20 25.5	+0.9
HELC	**Santa Helena**	**2.43**	**255**	P		Pn	09 20 24.6	0.0
HELC				S		Sn	09 20 55.5	-0.1
UREC	**San Jos de Ur**	**2.52**	**291**	P		Pn	09 20 24.4	-1.0
UREC				S		Sn	09 20 54.5	-2.6
GUY2C	**Guyana, Caldas**	**2.70**	**234**	P		Pn	09 20 29.6	+1.5
GUY2C	**Guyana, Caldas**	**2.70**	**234**	P		Pn	09 20 28.9	+0.8
GUY2C				S		Sn	09 21 04.3	+2.3
GUY2C	**Guyana, Caldas**	**2.70**	**234**	P		Pn	09 20 29.9	+1.8
GUY2C	**Guyana, Caldas**	**2.70**	**234**	P		Pn	09 20 29.4	+1.3
VILC	**Villavicencio,**	**2.75**	**191**	P		Pn	09 20 27.7	-0.7
VILC				S		Sn	09 21 02.3	-0.2
CBOC	**Ciudad Bolivar**	**2.98**	**251**	P		Pn	09 20 31.5	+0.1
CBOC				S		Sn	09 21 07.3	-0.5
DBBC	**Dabeiba**	**3.02**	**274**	P		Pn	09 20 32.1	+0.3
DBBC	**Dabeiba**	**3.02**	**274**	P		Pn	09 20 31.5	-0.3
DBBC				S		Sn	09 21 06.9	-1.7
ARGC	**Ariguani, Magd**	**3.19**	**341**	P		Pn	09 20 32.5	-1.4
ARGC				S		Sn	09 21 12.8	+0.4
PRAC	**Prado**	**3.54**	**209**	P		Pn	09 20 38.7	+0.3
PRAC	**Prado**	**3.54**	**209**	P		Pn	09 20 37.5	-0.9
PRAC				S		Sn	09 21 19.0	-1.4
PRAC	**Prado**	**3.54**	**209**	S		Sn	09 21 21.8	+1.4
PRAC	**Prado**	**3.54**	**209**	P		Pn	09 20 38.6	+0.2
ORTC	**Ortega, Tolima**	**3.56**	**216**	P		Pn	09 20 37.9	-0.8
ORTC				S		Sn	09 21 21.4	+0.4
SJCC	**San Jacinto, C**	**3.64**	**327**	P		Pn	09 20 37.6	-2.1
SJCC				S		Sn	09 21 19.0	-3.8
PLMC	**San Jos del P**	**3.64**	**238**	P		Pn	09 20 39.1	-0.6
PLMC				S		Sn	09 21 22.0	-0.8
URMC	**La Uribe, Meta**	**3.76**	**199**	P		Pn	09 20 39.9	-1.4
URMC				S		Sn	09 21 24.2	-1.4
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	P		Pn	09 20 43.5	-3.2
CRJC				S		Sn	09 21 33.1	-2.3
SMRC	**Santa Marta, M**	**4.43**	**346**	P		Pn	09 20 48.8	-1.2
SMRC				S		Sn	09 21 36.9	-4.4

*IDC **14** 09:22:34.8±0.9,0°.85S×128°.02E, h0km, mb4.3/8, mbtmp4.3/9, ML4.2/1, Error ellipse: s-maj=61.5km s-min=18.9km az=79.0*
*NEIC **14** 09:22:37.9±2.0, 0°.69S±0°.06×128°.20E±0°.06, h10km±1km, mb4.9/25, Error ellipse: s-maj=13.7km s-min=7.2km az=225.0*
*DJA **14** 09:22:37.9±0.3, 1°S±3°×12°8E±°, h10km, M5.5/13, MLv5.5/13*

ISC 14 09:22:37.5±0.5,**0°.74S**±0°.06×**128°.13E**±0°.07,**h10km**,**n62,**
σ1⁋**34**/62,**mb4.8**/18,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.69**	**333**	Pn	**Pn**	**09 23 05.1**	**-2.0**
TNTI	**Ternate**	**1.69**	**333**	P	**Pn**	**09 23 04.9**	**-2.2**
SANI	**Sanana**	**2.50**	**239**	P	**Pn**	**09 23 17.8**	**-0.4**
NLAI	**Namlea**	**2.68**	**202**	P	**Pn**	**09 23 21.2**	**+0.4**
MSAI	**Masohi**	**2.71**	**163**	P	**Pn**	**09 23 22.4**	**+1.3**
AAI	**Ambon**	**2.92**	**179**	P	**Pn**	**09 23 25.2**	**+1.1**
SWI	**Sorong**	**3.14**	**92**	P	**Pn**	**09 23 29.4**	**+2.4**
FAKI	**Fak Fak**	**4.65**	**118**	Pn	**Pn**	**09 23 46.2**	**-1.7**
FAKI	**Fak Fak**	**4.65**	**118**	P	**Pn**	**09 23 48.1**	**+0.2**
APSI	**Ampana**	**6.48**	**268**	P	**Pn**	**09 24 14.0**	**+1.0**
TOLI2	**Tolitoli**	**7.57**	**284**	Pn	**Pn**	**09 24 29.4**	**+1.4**
KAPI	**Kappang**	**9.38**	**243**	Pn	**Pn**	**09 24 54.6**	**+1.8**
KAPI	**Kappang**	**9.38**	**243**	Pn	**Pn**	**09 24 55.7**	**+3.0**
	13nm,0.3s,baz=40,slow=10,SNR=5.2						
MMRI	**Maumere**	**9.79**	**217**	Pn	**Pn**	**09 25 00.1**	**+1.6**
BKB	**Balikpapan**	**11.24**	**267**	Pn	**Pn**	**09 25 19.8**	**+1.4**
KKM	**Kota Kinabalu**	**13.67**	**300**	Pn	**Pn**	**09 25 51.9**	**+0.2**
SBUM	**Sibu**	**16.21**	**281**	Pn	**Pn**	**09 26 26.9**	**+1.3**
KSM	**Kuching**	**17.95**	**277**		**Pn**	**09 26 48.8**	**+1.3**
COEN	**Coen**	**19.85**	**132**	P	**P**	**09 27 08.2**	**-0.7**
COEN				IAmb	IAmb	09 27 22.8	
	comp=Z,85nm,1.4s						
WB0	**Warramunga Arr**	**19.88**	**162**	P	**P**	**09 27 08.3**	**-0.8**
WRAB	**Tennant Creek**	**20.02**	**163**	P	**P**	**09 27 10.4**	**-0.2**
WRAB				IAmb	IAmb	09 27 12.0	
	comp=Z,74nm,1.1s						
WRA	**Warramunga Arr**	**20.03**	**163**	P	**P**	**09 27 07.8**	**-3.0**
	comp=Z,0.7nm,0.3s,baz=343,slow=12,SNR=2.3 comp=Z,13nm,0.8s						
WR8	**Warramunga Arr**	**20.09**	**162**	P	**P**	**09 27 10.9**	**-0.6**
WR8				IAmb	IAmb	09 27 17.5	
	comp=Z,106nm,1.2s						
AS31	**Alice Springs**	**23.46**	**167**	P	**P**	**09 27 47.1**	**-0.3**
ASAR	**Alice Springs**	**23.46**	**167**	P	**P**	**09 27 47.0**	**-0.5**
ASAR	**Alice Springs**	**23.46**	**167**	P	**P**	**09 27 45.6**	**-1.9**
	comp=Z,9.6nm,0.8s,baz=342,slow=10,SNR=6.7 comp=Z,9.6nm,0.8s						
YOJ	**Yonaguni jima**	**25.54**	**349**	P	**P**	**09 28 06.6**	**0.0**
LHMI	**Lhok Sumawe**	**31.70**	**281**	P	**P**	**09 29 01.4**	**-0.3**
NJ2	**Nanjing**	**33.78**	**346**	*e*P	**P**	**09 29 21.3**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PZH	**PanZhiHua**	**37.16**	**319**	P	**P**	**09 29 50.8**	**+1.8**
KSRS	**Korea Array**	**38.01**	**360**	P	**P**	**09 29 55.7**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=179,slow=9.4,SNR=4.5 comp=Z,1.0nm,0.7s						
MJAR	**Matsushiro Arr**	**38.26**	**13**	P	**P**	**09 29 57.6**	**-0.4**
	comp=Z,3.3nm,0.9s,baz=186,slow=9.9,SNR=5.4 comp=Z,3.3nm,0.9s						
MAJO	**Matsushiro**	**38.26**	**13**	P	**P**	**09 29 57.9**	**-0.1**
MJB9	**Matsu-Tunnel**	**38.27**	**13**	P	**P**	**09 29 57.8**	**-0.3**
ONTNC	**Ouen Toro**	**43.01**	**123**	P	**P**	**09 30 38.6**	**+1.2**
ONTNC				IAmb	IAmb	09 30 47.9	
	comp=Z,54nm,1.3s						
SHL	**Shillong**	**43.71**	**309**	P	**P**	**09 30 42.5**	**-0.8**
SHL				IAmb	IAmb	09 30 43.8	
	comp=Z,28nm,0.9s						
HHC	**Hu-ho-hao-te**	**44.06**	**342**	*e*P	**P**	**09 30 47.3**	**+1.5**
USA0B	**Ussuriysk Arra**	**44.88**	**4**	P	**P**	**09 30 51.9**	**-0.3**
USA0B				IAmb	IAmb	09 31 09.1	
	comp=Z,9.6nm,0.9s						
USRK	**Ussuriysk Ar.**	**44.88**	**4**	P	**P**	**09 30 52.3**	**+0.2**
WMQ	**Urumqi**	**57.18**	**326**	*e*P	**P**	**09 32 27.8**	**+3.0**
TUWZ	**Tuamarina**	**57.82**	**140**	P	**P**	**09 32 26.4**	**-2.9**
PETK	**Petropavlovsk-**	**59.07**	**20**	P	**P**	**09 32 38.6**	**+0.8**
MKAR	**Makanchi Array**	**62.01**	**326**	P	**P**	**09 32 56.0**	**-2.0**
MKAR	**Makanchi Array**	**62.01**	**326**	P	**P**	**09 32 57.5**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=114,slow=6.0,SNR=3.3 comp=Z,1.5nm,0.7s						
MAKZ	**Makanchi**	**62.20**	**326**	P	**P**	**09 32 57.7**	**-1.6**
MAKZ				IAmb	IAmb	09 33 04.4	
	comp=Z,16nm,1.3s						
KURBB	**Kurchatov Arra**	**66.24**	**328**	P	**P**	**09 33 24.4**	**-1.3**
	comp=Z,2.2nm,0.2s,baz=125,slow=6.1,SNR=4.4 comp=Z,2.2nm,0.2s						
TIXI	**Tiksi**	**72.28**	**0**	P	**P**	**09 34 03.0**	**+0.3**
MSEY	**Mahe Island**	**72.64**	**265**	P	**P**	**09 34 06.7**	**+0.5**
RER	**Riviere de l'E**	**73.31**	**248**	P	**P**	**09 34 08.8**	**-1.3**
NRIK	**Noril'sk**	**75.08**	**346**	P	**P**	**09 34 19.3**	**+0.1**
NRIK				IAmb	IAmb	09 34 23.6	
	comp=Z,11nm,0.8s						
NRIK	**Noril'sk**	**75.08**	**346**	P	**P**	**09 34 18.3**	**-1.0**
	comp=Z,7.3nm,0.8s,baz=90,slow=3.6,SNR=4.2 comp=Z,7.3nm,0.8s						
VNDA	**Vanda**	**78.84**	**173**	P	**P**	**09 34 40.4**	**0.0**
VNDA	**Vanda**	**78.84**	**173**	P	**P**	**09 34 39.4**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=256,slow=22,SNR=2.7 comp=Z,2.1nm,0.8s						
H17K	**Granite Mounta**	**83.10**	**24**	P	**P**	**09 35 03.3**	**0.0**
M17K	**Holitna River**	**83.24**	**28**	P	**P**	**09 35 04.4**	**+0.4**
M17K				IAmb	IAmb	09 35 16.9	
	comp=Z,9.9nm,1.1s						
E18K	**Tukpahlearik C**	**83.56**	**22**	P	**P**	**09 35 05.5**	**-0.1**
E18K				IAmb	IAmb	09 35 11.7	
	comp=Z,6.3nm,1.0s						
L18K	**Granite Mounta**	**83.78**	**27**	P	**P**	**09 35 07.3**	**+0.5**
G18K	**Tagagawik**	**83.87**	**23**	P	**P**	**09 35 06.3**	**-0.9**
G18K				IAmb	IAmb	09 35 23.2	
	comp=Z,5.6nm,1.3s						
E23K	**Chandalar**	**87.78**	**22**	P	**P**	**09 35 25.4**	**-1.3**
ILAR	**Eielson Array**	**88.52**	**25**	P	**P**	**09 35 29.8**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=249,slow=5.0,SNR=3.2 comp=Z,0.8nm,0.8s						
J26L	**Joseph Creek**	**89.94**	**26**	P	**P**	**09 35 35.2**	**-1.7**
J26L				IAmb	IAmb	09 36 01.3	
	comp=Z,13nm,1.4s						
I28M	**Miner Creek**	**91.48**	**25**	P	**P**	**09 35 43.8**	**-0.3**
I28M				IAmb	IAmb	09 35 48.1	
	comp=Z,7.8nm,1.1s						

RHSSO 14 09:23:46.3±0.3,**44°.23N**×**17°.86E**,**h5**km±3km,**ML1.5**/6,**5C,**
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.71**	**317**	⇑*i*Pg	Pg	09 23 59.1	-0.8
BLY				*e*Sg	Sg	09 24 09.8	+0.7
A050A	**Klekovaca**	**0.99**	**285**	⇑*i*Pg	Pg	09 24 03.4	-1.8
A050A				*e*Sg	Sg	09 24 17.4	-0.7
A051A	**Mrakovica**	**1.04**	**319**	⇑*i*Pg	Pg	09 24 05.0	-1.2
A051A				*e*Sg	Sg	09 24 19.6	0.0
KIJV	**Kijevo**	**1.07**	**258**	⇑*i*Pg	Pg	09 24 05.2	-1.7
KIJV				*e*Sg	Sg	09 24 20.2	-0.7
RUDO	**Rudo**	**1.25**	**119**	*e*Pg	Pg	09 24 08.1	-2.2
RUDO				*e*Sg	Sg	09 24 26.0	-0.5
STON	**Ston**	**1.37**	**185**	⇑*i*Pg	Pn	09 24 11.1	-0.9
STON				*e*Sg	Sg	09 24 30.3	+0.1
TREB	**Trebinje**	**1.56**	**167**	*e*Sn	Sb	09 24 35.7	+0.1
MOSL	**Moslavina**	**1.59**	**331**	*e*Pn	Pn	09 24 14.9	-0.2
MOSL				*e*Sn	Sb	09 24 36.3	-0.2

*NEIC **14** 09:25:15.6±1.3, 0°.87S±0°.10×128°.5E±0°.1, h10km±1km, mb4.5/11, Error ellipse: s-maj=22.5km s-min=8.4km az=227.0*
*IDC **14** 09:25:17.0±2.5, 0°.83S×128°.88E, h0km, mb4.2/3, mbtmp4.2/4, ML4.1/1, Error ellipse: s-maj=208.4km s-min=24.7km az=69.0*

ISC 14 09:25:16.5±0.6,**0°.93S**±0°.09×**128°.5E**±0°.1,**h17**km,**n22,**
σ1⁋**77**/22,**mb4.5**/9,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.02**	**326**	Pn	**Pn**	**09 25 48.6**	**-1.3**
FAKI	**Fak Fak**	**4.25**	**118**	Pn	**Pn**	**09 26 19.4**	**-1.1**
KNRA	**Kununurra**	**14.66**	**179**	Pn	**Pn**	**09 28 43.1**	**-0.1**
SBUM	**Sibu**	**16.60**	**282**	Pn	**Pn**	**09 29 07.5**	**-1.1**
WB0	**Warramunga Arr**	**19.60**	**163**	P	**P**	**09 29 43.1**	**-0.9**
WB0				IAmb	IAmb	09 30 04.1	
	comp=Z,7.1nm,0.8s						
WRA	**Warramunga Arr**	**19.75**	**164**	P	**Pn**	**09 29 48.7**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=345,slow=11,SNR=2.0 comp=Z,2.0nm,0.5s						
WR8	**Warramunga Arr**	**19.81**	**163**	P	**P**	**09 29 46.2**	**-0.1**
AS31	**Alice Springs**	**23.21**	**167**	P	**P**	**09 30 22.3**	**-0.6**
AS31				IAmb	IAmb	09 30 36.8	
	comp=Z,5.0nm,0.8s						
ASAR	**Alice Springs**	**23.21**	**167**	P	**P**	**09 30 25.7**	**+2.9**
	comp=Z,3.5nm,0.6s,baz=351,slow=12,SNR=6.6 comp=Z,3.5nm,0.6s						
MORW	**Morawa**	**30.40**	**202**	P	**P**	**09 31 27.8**	**-0.2**
DZM	**Mont Dzumac**	**42.50**	**122**	P	**P**	**09 33 11.1**	**-0.3**
DZM				IAmb	IAmb	09 33 39.2	
	comp=Z,11nm,1.1s						
PEA0B	**Petropavlovsk-**	**59.11**	**20**	P	**P**	**09 35 15.7**	**-0.2**
PEA0B				IAmb	IAmb	09 35 19.8	
	comp=Z,11nm,1.1s						
PETK	**Petropavlovsk-**	**59.11**	**20**	P	**P**	**09 35 15.9**	**-0.1**
MKAR	**Makanchi Array**	**62.36**	**326**	P	**P**	**09 35 42.4**	**+4.1**
	comp=Z,0.7nm,0.7s,baz=127,slow=7.5,SNR=4.0 comp=Z,0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**66.58**	**328**	P	**P**	**09 36 10.2**	**+4.4**
	comp=Z,2.5nm,0.2s,baz=124,slow=5.7,SNR=1.4 comp=Z,2.5nm,0.2s						
KURK	**Kurchatov**	**66.59**	**328**	P	**P**	**09 36 06.9**	**+1.1**
KURK				IAmb	IAmb	09 36 21.3	
	comp=Z,0.9nm,0.7s						
AMKA	**Amchitka**	**67.45**	**32**	P	**P**	**09 36 11.1**	**-0.1**
TIXI	**Tiksi**	**72.45**	**0**	P	**P**	**09 36 41.6**	**0.0**
TIXI				IAmb	IAmb	09 36 43.0	
	comp=Z,12nm,0.9s						
SPIA	**Saint Paul Isl**	**75.62**	**30**	P	**P**	**09 36 59.9**	**-0.5**
SPIA				IAmb	IAmb	09 37 23.1	
	comp=Z,8.9nm,0.8s						
AB31	**Akbulak array**	**76.85**	**321**	P	**P**	**09 37 06.2**	**-1.3**
ABKAR	**Akbulak array**	**76.85**	**321**	P	**P**	**09 37 05.4**	**-2.1**
SBA	**Scott Base**	**79.52**	**172**	P	**P**	**09 37 21.8**	**-0.1**

*IDC **14** 09:27:25.9±1.6, 0°.92S×127°.02E, h0km, mb4.3/6, mbtmp4.3/6, Error ellipse: s-maj=171.6km s-min=20.6km az=66.0*
*NEIC **14** 09:27:26.4±1.7, 0°.85S±0°.03×127°.43E±0°.09, h10km±1km, mb4.7/10, Error ellipse: s-maj=15.8km s-min=4.1km az=83.0*

ISC 14 09:27:28.9±0.6,**0°.85S**±0°.08×**127°.4E**±0°.1,**h31**km,**n25,**
σ1⁋**30**/24,**mb4.6**/11,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.61**	**359**		**Pn**	**09 27 53.7**	**-1.6**
FAKI	**Fak Fak**	**5.28**	**113**	Pn	**Pn**	**09 28 42.6**	**-3.1**
SAUI	**Saumlaki**	**8.09**	**151**	Pn	**Pn**	**09 29 23.7**	**-0.6**
KAPI	**Kappang**	**8.67**	**241**	Pn	**Pn**	**09 29 31.4**	**-0.9**
KKM	**Kota Kinabalu**	**13.09**	**302**	Pn	**Pn**	**09 30 30.8**	**-2.1**
WRA	**Warramunga Arr**	**20.16**	**161**	P	Pn	09 32 03.2	+0.3
	4.0nm,0.9s,baz=342,slow=12,SNR=3.7 4.0nm,0.9s						
AS31	**Alice Springs**	**23.55**	**165**	P	**P**	**09 32 36.7**	**-0.1**
ASAR	**Alice Springs**	**23.55**	**165**	P	**P**	**09 32 38.1**	**+1.4**
	3.5nm,0.7s,baz=343,slow=11,SNR=3.7 3.5nm,0.7s						
NACB	**Ninganchiao**	**25.50**	**348**	P	**P**	**09 32 54.3**	**-0.4**
NACB				IAmb	IAmb	09 33 15.5	
	comp=Z,20nm,1.2s						
FORT	**Forrest**	**29.77**	**179**	P	**P**	**09 33 33.6**	**+0.8**
FORT				IAmb	IAmb	09 33 44.2	
	comp=Z,18nm,1.1s						
NWAO	**Narrogin (SRO)**	**33.31**	**196**	P	**P**	**09 34 03.3**	**-0.7**
STKA	**Stephens Creek**	**33.66**	**158**	P	**P**	**09 34 06.3**	**-0.7**
STKA	**Stephens Creek**	**33.66**	**158**	P	**P**	**09 34 09.1**	**+2.0**
	comp=Z,4.9nm,0.9s,baz=340,slow=7.9,SNR=1.9 comp=Z,4.9nm,0.9s						
SONM	**Songino Array**	**51.82**	**342**		**P**	**09 36 35.0**	**+0.8**
MKAR	**Makanchi Array**	**61.69**	**326**	P	**P**	**09 37 44.7**	**+0.6**
MKAR	**Makanchi Array**	**61.69**	**326**	P	**P**	**09 37 45.2**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=121,slow=7.6,SNR=7.0 comp=Z,1.6nm,0.7s						
MAKZ	**Makanchi**	**61.87**	**326**	P	**P**	**09 37 45.5**	**+0.2**
MAKZ				IAmb	IAmb	09 37 47.1	
	comp=Z,6.2nm,1.2s						
KURBB	**Kurchatov Arra**	**65.94**	**328**	P	**P**	**09 38 12.7**	**+0.7**
	comp=Z,3.8nm,0.2s,baz=124,slow=5.8,SNR=5.8 comp=Z,3.8nm,0.2s						
ABKAR	**Akbulak array**	**76.10**	**321**	P	**P**	**09 39 13.6**	**-0.1**
SBA	**Scott Base**	**79.74**	**172**	P	**P**	**09 39 33.0**	**-0.4**
M16K	**Timber Creek**	**82.87**	**28**	P	**P**	**09 39 51.5**	**+1.3**
M16K				IAmb	IAmb	09 40 06.4	
	comp=Z,9.9nm,1.4s						
O16K	**Kokwok River B**	**82.93**	**30**	P	**P**	**09 39 51.0**	**+0.4**
O16K				IAmb	IAmb	09 40 03.6	
	comp=Z,12nm,1.4s						
OHAK	**Old Harbor**	**84.93**	**32**	P	**P**	**09 40 02.0**	**+1.2**
KTH	**Kantishna Hill**	**87.05**	**26**	P	**P**	**09 40 12.3**	**+1.0**
KTH				IAmb	IAmb	09 40 38.4	
	comp=Z,5.9nm,1.4s						
QSPA	**South Pole Qui**	**89.09**	**180**	P	**P**	**09 40 22.8**	**+1.7**
	comp=Z,3.7nm,1.0s,baz=297,slow=2.3,SNR=3.7 comp=Z,3.7nm,1.0s						

*BJI **14** 09:28:31.4, 1°.44S×128°.67E, h10km, mb5.0/31*
*IDC **14** 09:28:37.4±0.5, 0°.78S×128°.11E, h0km, mb4.8/23, mbtmp4.8/25, ML4.6/2, Error ellipse: s-maj=25.0km s-min=10.5km az=84.0*
*MOS **14** 09:28:37.1±0.9, 0°.77S×128°.14E, h10km, mb5.2/30, Error ellipse: s-maj=11.8km s-min=6.4km az=101.5*
*NEIC **14** 09:28:39.6±1.9, 0°.76S±0°.06×128°.21E±0°.07, h10km±1km, mb5.1/67, Error ellipse: s-maj=13.5km s-min=9.0km az=60.0*
*DJA **14** 09:28:41.0±0.2, 1°S±2°×12°8E±°, h10km, M5.5/23, mb5.4/20, MLv5.6/23, Mw5.6/8*

ISC 14 09:28:40.3±0.3,**0°.82S**±0°.03×**128°.16E**±0°.05,**h19**km,**n420,**
σ1⁋**29**/412,**mb5.0**/85,**14C-1D,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.77**	**333**		**Pb**	**09 29 09.8**	**-2.4**
TNTI	**Ternate**	**1.77**	**333**	P	**Pb**	**09 29 10.5**	**-1.7**
SANI	**Sanana**	**2.49**	**241**	P	**Pn**	**09 29 20.1**	**+0.3**
MSAI	**Masohi**	**2.62**	**163**	P	**Pb**	**09 29 25.2**	**-1.5**
NLAI	**Namlea**	**2.62**	**204**	P	**Pb**	**09 29 23.2**	**-3.5**
AAI	**Ambon**	**2.84**	**179**	P	**Pb**	**09 29 27.2**	**-3.3**
SWI	**Sorong**	**3.10**	**91**	P	Pb	09 29 29.1	-5.7
BNDI	**Bandanaira**	**4.07**	**155**	P	Pb	09 29 45.0	-6.3
KMSI	**Cibinong**	**4.40**	**288**	P	**Pn**	**09 29 47.7**	**+1.5**
FAKI	**Fak Fak**	**4.59**	**117**		**Pn**	**09 29 47.8**	**-0.8**
FAKI	**Fak Fak**	**4.59**	**117**	P	**Pn**	**09 29 48.9**	**+0.2**
SGSI	**Sangihe**	**5.19**	**330**	P	**Pn**	**09 29 58.3**	**+1.3**
LUWI	**Luwuk**	**5.39**	**268**	P	**Pn**	**09 30 00.1**	**+0.3**
RKPI	**Ransiki, Papua**	**6.05**	**97**	P	**Pn**	**09 30 10.4**	**+1.5**
	9.2nm316nm,0.6s						
KMPI	**Kaimana, Papua**	**6.21**	**117**	P	**Pn**	**09 30 13.2**	**+2.1**
	481nm,0.8s						
KDI	**Kendari**	**6.35**	**241**	P	**Pn**	**09 30 16.2**	**+3.2**
MRSI	**Marisa**	**6.35**	**282**	P	**Pn**	**09 30 13.9**	**+0.9**
	3.8nm159nm,0.8s						
APSI	**Ampana**	**6.51**	**269**	P	**Pn**	**09 30 16.4**	**+1.2**
BBSI	**Bau Bau**	**7.25**	**230**	P	Pn	09 30 29.3	+3.9
	392nm,1.1s						
TOLI2	**Tolitoli**	**7.62**	**285**		**Pn**	**09 30 31.7**	**+1.2**
SAUI	**Saumlaki**	**7.77**	**156**	Pn	**Pn**	**09 30 31.9**	**-0.6**
PCI	**Palu**	**8.32**	**269**	P	**Pn**	**09 30 42.6**	**+2.5**
	263nm,1.7s						
MPSI	**Mapaga**	**8.34**	**278**	P	**Pn**	**09 30 43.2**	**+2.9**
TTSI	**Tana Toraja**	**8.62**	**255**	P	**Pn**	**09 30 45.7**	**+1.5**
	127nm,0.9s						
BNSI	**Bone**	**8.79**	**246**	P	**Pn**	**09 30 49.3**	**+2.8**
SPSI	**Sidrap Palu**	**8.95**	**249**	P	**Pn**	**09 30 51.7**	**+3.1**
	313nm,1.0s						
BKSI	**Bulukumba**	**9.19**	**241**	P	**Pn**	**09 30 55.5**	**+3.6**
	268nm,0.9s						
BSSI	**Bau Bau, Buton**	**9.30**	**235**	P	Pn	09 30 57.4	+3.9
	154nm,1.1s						
KAPI	**Kappang**	**9.37**	**243**		**Pn**	**09 30 56.0**	**+1.6**
KAPI	**Kappang**	**9.37**	**243**	Pn	Pn	09 30 58.3	+3.9
	14nm,0.3s,baz=62,slow=4.6,SNR=15						
KAPI	**Kappang**	**9.37**	**243**	P	**Pn**	**09 30 56.0**	**+1.6**
SOEI	**Soe**	**9.68**	**203**	P	Pn	09 31 02.5	+3.7
MMRI	**Maumere**	**9.75**	**217**	Pn	**Pn**	**09 31 01.1**	**+1.5**
MMRI	**Maumere**	**9.75**	**217**	P	**Pn**	**09 31 02.7**	**+3.1**
	183nm,1.7s						
EDFI	**Ende, Flores**	**10.18**	**219**	P	Pn	09 31 09.7	+4.2
BATI	**Baumata**	**10.34**	**205**	Pn	Pn	09 31 12.2	+4.4
	4.5nm,0.3s,baz=321,slow=3.3,SNR=3.8						
BATI	**Baumata**	**10.34**	**205**	P	**Pn**	**09 31 11.2**	**+3.5**
	129nm,2.1s						
MYLDM	**Lahad Datu**	**11.34**	**302**	Pn	**Pn**	**09 31 22.3**	**+0.9**
WSI	**Waingapu**	**11.77**	**221**	P	Pn	09 31 31.1	+3.9
	399nm,1.2s						
BASI	**Baing, Sumba**	**12.00**	**219**	P	**Pn**	**09 31 33.9**	**+3.5**
	245nm,1.6s						
MTN	**Manton Dam**	**12.30**	**166**		**Pn**	**09 31 33.8**	**-0.8**
MTN	**Manton Dam**	**12.30**	**166**	P	**Pn**	**09 31 34.3**	**-0.2**
	comp=Z,51nm,0.6s						
KDU	**Kakadu**	**12.54**	**160**	P	**Pn**	**09 31 35.6**	**-2.2**
PLAI	**Plampang**	**13.04**	**232**	P	P	09 31 50.0	-5.0
KNRA	**Kununurra**	**14.77**	**178**		**Pn**	**09 32 06.0**	**-2.4**
JAGI	**Jajag, Banyuwa**	**15.89**	**241**	Pn	**P**	**09 32 25.0**	**-1.6**
JAGI				IAmb	IAmb	09 32 31.3	
	comp=Z,145nm,1.4s						
SBUM	**Sibu**	**16.27**	**282**		**Pn**	**09 32 27.4**	**-0.5**
GMJI	**Gumukmas**	**16.42**	**243**	P	**P**	**09 32 33.6**	**+1.0**
FITZ	**Fitzroy Crossi**	**17.34**	**188**	P	**Pn**	**09 32 40.3**	**-1.2**
FITZ	**Fitzroy Crossi**	**17.34**	**188**	P	**P**	**09 32

KMI Kunming 35.65 318 P P 09 35 39.8 +2.2
KMI sP sP 09 35 44.4 -1.4
KMI pmax pmax
comp=Z,46nm,1.5s
ARMA Armidale 36.92 145 P P 09 35 48.9 +0.6
INU Inuyama 36.92 12 P P 09 35 47.5 -0.6
ARPS Mount Arapiles 37.94 162 P P 09 35 57.3 +0.6
KSAR Wonju Array Be 38.08 360 P P 09 35 57.8 0.0
KSAR Wonju Array Be 38.08 360 P P 09 35 57.8 0.0
KSRS Korea Array 38.09 360 P P 09 35 57.8 -0.1
comp=Z,5.2nm,0.8s,baz=179,slow=10,SNR=20
comp=Z,5.2nm,0.8s
LYN LuoYang 38.14 339 P P 09 35 59.1 +0.7
LYN pmax pmax
comp=Z,22nm,0.8s
YNG Young 38.31 152 P P 09 36 00.7 +0.9
comp=Z,60nm,0.7s
MJAR Matsushiro Arr 38.33 13 P P 09 35 59.2 -0.8
MJAR Matsushiro Arr 38.33 13 P P 09 35 58.6 -1.5
comp=Z,15nm,0.9s,baz=188,slow=9.1,SNR=25
comp=Z,15nm,0.9s
MJAR Matsushiro Arr 38.33 13 P P 09 35 59.2 -0.8
MJAR pmax pmax
comp=Z,28nm,1.5s
MAJO Matsushiro 38.33 13 P P 09 35 58.4 -1.6
MAJO IAmb IAmb 09 36 01.1
comp=Z,30nm,1.0s
MAJO Matsushiro 38.33 13 *i* P **P 09 36 00.2 +0.2**
MAJO pmax pmax
comp=Z,24nm,1.0s
MJB9 Matsu-Tunnel 38.33 13 P P 09 35 58.7 -1.3
MJB9 IAmb IAmb 09 36 01.1
comp=Z,29nm,1.0s
XAN Xi'an 39.11 334 P P 09 36 06.6 0.0
XAN pmax pmax
comp=Z,46nm,0.9s
LZH Lanzhou 43.14 331 *e*P **P 09 36 41.3 +1.4**
LZH pP sP 09 36 46.3 -1.9
LZH pmax pmax
comp=Z,58nm,1.2s
MSHR Mys Shultsa 43.29 3*ce*P **P 09 36 40.0 -0.8**
MSHR pmax pmax
comp=Z,48nm,2.5s
SHL Shillong 43.79 309 P P 09 36 45.3 0.0
SHL Shillong 43.79 309 P P 09 36 45.3 0.0
SHL pmax pmax
comp=Z,65nm,0.8s
HHC Hu-ho-hao-te 44.14 342 *e*P P 09 36 50.8 +3.0
USA0B Ussuriysk Arra 44.95 4 P P 09 36 53.9 -0.2
USA0B IAmb IAmb 09 36 55.7
comp=Z,18nm,0.9s
USA0B Ussuriysk Arra 44.95 4 P P 09 36 53.9 -0.2
USA0B pmax pmax
comp=Z,18nm,1.0s
USRK Ussuriysk Ar. 44.95 4 P P 09 36 54.8 +0.6
comp=Z,7.5nm,0.8s,baz=182,slow=5.7,SNR=12
comp=Z,7.5nm,0.8s
MDJ Mudanjiang 45.26 1 P P 09 36 57.3 +0.8
MDJ pmax pmax
comp=Z,33nm,1.4s
ASAJ Asahikawa 46.56 14 P P 09 37 07.7 +0.9
comp=Z,20nm,1.0s,baz=236,slow=10,SNR=6.6
comp=Z,20nm,1.0s
GTA Gaotai 47.72 330 P P 09 37 16.8 +0.6
GTA pP pP 09 37 21.1 -1.0
GTA pmax pmax
comp=Z,25nm,1.0s
EVN Everest 48.90 309 P P 09 37 26.3 +0.3
YSS Yuzhno-Sakhali 49.27 13*ce*P **P 09 37 28.1 +0.3**
YSS pmax pmax
comp=Z,51nm,1.7s
HIA Hailar 50.42 353 *i* P **P 09 37 37.2 +0.7**
HIA pmax pmax
comp=Z,9.0nm,1.8s
HEH HeiHe 50.89 359 *e*P **P 09 37 39.4 -0.6**
HEH pmax pmax
comp=Z,28nm,1.3s
ULN Ulaanbaatar 51.86 342 P P 09 37 47.4 -0.2
ULN IAmb IAmb 09 37 48.8
comp=Z,42nm,1.3s
ULN Ulaanbaatar 51.86 342*ce*P **P 09 37 47.5 0.0**
ULN pmax pmax
comp=Z,75nm,2.5s
SONM Songino Array 52.04 342 P P 09 37 48.7 -0.1
SONM Songino Array 52.04 342 P P 09 37 48.7 -0.1
comp=Z,5.4nm,0.7s,baz=162,slow=8.7,SNR=18
comp=Z,5.4nm,0.7s
SONM Songino Array 52.04 342 P P 09 37 48.7 -0.1
SONM pmax pmax
comp=Z,16nm,1.2s
HYB Hyderabad 52.09 293 *e*P **P 09 37 49.2 -0.4**
ZEA Zeya 54.38 359 *e*P **P 09 38 05.7 -0.1**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
WMQ Urumqi 57.26 326 *e*P P 09 38 30.4 +3.6
LTZ Lake Taylor 57.44 143 P P 09 38 28.5 +0.5
TUWZ Tuamarina 57.74 140 P P 09 38 30.9 +0.8
PEA0B Petropavlovsk- 59.13 20 P 09 38 39.9 +0.3
PEA0B IAmb IAmb 09 38 42.0
comp=Z,26nm,1.1s
PEA0B Petropavlovsk- 59.13 20 P P 09 38 39.9 +0.3
PEA0B pmax pmax
comp=Z,26nm,1.1s
PETK Petropavlovsk- 59.13 20 P 09 38 39.1 -0.5
PETK Petropavlovsk- 59.13 20 P P 09 38 40.2 +0.6
comp=Z,17nm,1.0s,baz=197,slow=4.6,SNR=21
comp=Z,17nm,1.0s
PETK Petropavlovsk- 59.13 20 P P 09 38 39.1 -0.5
PET Petropavlovsk 59.40 21*ce*P **P 09 38 42.3 +0.9**
PET pmax pmax
comp=Z,50nm,2.5s
MK31 Makanchi Array 62.10 326*ce*P **P 09 38 59.5 -0.5**
MKAR Makanchi Array 62.10 326 P P 09 38 59.2 -0.8
MKAR Makanchi Array 62.10 326 P P 09 38 59.4 -0.5
comp=Z,4.3nm,0.4s,baz=113,slow=7.8,SNR=23
comp=Z,4.3nm,0.4s
MKAR Makanchi Array 62.10 326 P P 09 38 59.2 -0.8
MAKZ Makanchi 62.28 326 P P 09 39 00.4 -0.8
MAKZ IAmb IAmb 09 39 01.7
comp=Z,18nm,1.1s
MAKZ Makanchi 62.28 326 P P 09 39 00.4 -0.8
MAKZ pmax pmax
comp=Z,18nm,1.2s
YAK Yakutsk 62.70 1 P 09 39 03.6 0.0
YAK Yakutsk 62.70 1*ce*P **P 09 39 03.7 0.0**
YAK pmax pmax
comp=Z,61nm,1.0s
MA2 Magadan 62.77 13*ce*P **P 09 39 05.7 +1.5**
MA2 pmax pmax
comp=Z,43nm,1.3s
AAK Ala-Archa 64.69 319 P P 09 39 17.2 -0.2
comp=Z,1.7nm,0.3s,baz=336,slow=3.0,SNR=3.5
comp=Z,1.7nm,0.3s
AAK Ala-Archa 64.69 319*ce*P **P 09 39 17.6 +0.2**
AAK pmax pmax
comp=Z,34nm,2.5s
ZAA0 Zalesovo Array 65.27 333 P P 09 39 19.3 -1.4
ZAA0 IAmb IAmb 09 39 20.5
comp=Z,13nm,1.1s
ZALV Zalesovo Beam 65.27 333 P P 09 39 19.2 -1.5
ZALV Zalesovo Beam 65.27 333 P P 09 39 19.9 -0.8
comp=Z,9.5nm,1.0s,baz=129,slow=7.3,SNR=16
comp=Z,9.5nm,1.0s
ZALV Zalesovo Beam 65.27 333 *i* P **P 09 39 19.5 -1.2**
ZALV pmax pmax
comp=Z,10.0nm,1.0s
BTK Batken 66.11 315 P P 09 39 26.1 -0.5
BTK IAmb IAmb 09 39 37.7
comp=Z,22nm,1.4s
BTK Batken 66.11 315 P P 09 39 26.1 -0.5
BTK pmax pmax
comp=Z,22nm,1.4s
SEY Seymchan 66.14 12 *i* P **P 09 39 27.1 +0.9**
SEY pmax pmax
comp=Z,12nm,1.3s
KURBB Kurchatov Arra 66.33 328 P P 09 39 27.1 -0.4
comp=Z,8.7nm,0.7s,baz=126,slow=5.9,SNR=18
comp=Z,8.7nm,0.7s
KURK Kurchatov 66.33 328 P 09 39 26.9 -0.7
KURK IAmb IAmb 09 39 27.9
comp=Z,15nm,0.8s
KURK Kurchatov 66.33 328*ce*P **P 09 39 27.5 -0.1**
KURK pmax pmax
comp=Z,18nm,0.8s
KK31 Karatay Array 67.53 318 P 09 39 34.2 -1.3
KK31 IAmb IAmb 09 39 35.9
comp=Z,12nm,1.1s
KK31 Karatay Array 67.53 318 P P 09 39 34.2 -1.3
KK31 pmax pmax
comp=Z,13nm,1.2s
BVAR Borovoye Array 71.90 327 P P 09 40 01.5 -0.6
comp=Z,2.3nm,0.4s,baz=118,slow=6.1,SNR=11
comp=Z,2.3nm,0.4s
BRVK Borovoye 71.97 327*ce*P **P 09 40 02.1 -0.5**
BRVK pmax pmax
comp=Z,33nm,2.5s
TIXI Tiksi 72.35 0 *i* P **P 09 40 05.3 +0.8**
TIXI pmax pmax
comp=Z,15nm,1.0s
BILL Bilibino 73.58 14 *i* P **P 09 40 12.2 +0.4**
BILL pmax pmax
comp=Z,3.0nm,1.4s
NRIK Noril'sk 75.16 346 P 09 40 20.7 -0.3
NRIK Noril'sk 75.16 346 P P 09 40 20.2 -0.8
comp=Z,44nm,1.0s,baz=132,slow=6.1,SNR=35
comp=Z,44nm,1.0s
NRIK Noril'sk 75.16 346 P P 09 40 20.7 -0.3
NRIK pmax pmax
comp=Z,47nm,0.9s
P08K Saint George I 75.80 30 P P 09 40 21.8 -3.1
baz=246
UNV Unalaska Valle 76.36 34 P P 09 40 24.2 -4.0
baz=249
AB31 Akbulak array 76.57 321 P 09 40 27.9 -1.5
GAMB Gambell 77.97 23 P P 09 40 34.5 -2.5
baz=242
AKTO Aktyubinsk 78.10 322 P P 09 40 36.9 -1.1
comp=Z,5.7nm,0.8s,baz=105,slow=5.3,SNR=7.3
comp=Z,5.7nm,0.8s
VNDA Vanda 78.76 173 P 09 40 41.7 +0.5
VNDA Vanda 78.76 173 P P 09 40 42.0 +0.8
comp=Z,2.3nm,0.6s,baz=318,slow=7.0,SNR=12
comp=Z,2.3nm,0.6s
VNDA Vanda 78.76 173 P P 09 40 41.7 +0.5
VNDA pmax pmax
comp=Z,3.0nm,0.8s
ARTI Arti 79.61 328*c* *i* P **P 09 40 47.0 +0.8**
ARTI 09 43 42.4
ARTI S **S 09 50 50.3 +3.1**
ARTI SS **SS 09 55 54.3 -1.2**
ARTI pmax pmax
comp=Z,14nm,1.5s
MAW Mawson 80.02 201 P P 09 40 49.3 +1.1
comp=Z,4.1nm,0.6s,baz=60,slow=5.1,SNR=16
comp=Z,4.1nm,0.6s
K13K Kusilvak Mount 80.17 26 P P 09 40 50.1 +1.0
K13K IAmb IAmb 09 40 57.2
comp=Z,18nm,1.2s
K13K Kusilvak Mount 80.17 26 P P 09 40 50.8 +1.7
baz=249,SNR=5.6
SDPT Sand Point 80.17 33 P P 09 40 48.0 -1.2
baz=254
TNA Tin City 80.22 22 P P 09 40 50.8 +1.5
baz=246
M13K Dall Lake 80.24 28 P P 09 40 51.0 +1.6
baz=251
F14K Arctic Creek 80.79 23 P P 09 40 53.1 +0.7
baz=247
L14K Kuka Creek 80.85 27 P 09 40 53.6 +0.9
L14K IAmb IAmb 09 40 55.3
comp=Z,26nm,1.2s
L14K Kuka Creek 80.85 27 P P 09 40 54.1 +1.3
baz=251,SNR=7.6
N14K Kuskokwak Cree 80.87 29 P P 09 40 53.8 +1.0
baz=252
O14K Tigyukauivet M 80.87 29 P P 09 40 52.7 -0.3
baz=253
S14K Fog Glacier 80.92 33 P P 09 40 53.6 +0.3
baz=255
J14K Nanvaranak Lak 80.93 26 P P 09 40 54.2 +1.1
baz=250
M14K Bethel 81.00 28 P P 09 40 54.0 +0.5
M14K IAmb IAmb 09 40 55.5
comp=Z,40nm,1.5s
M14K Bethel 81.00 28 P P 09 40 54.5 +1.0
baz=252
L15K Ungalak Mounta 81.50 27 P P 09 40 57.2 +1.0
baz=252
G15K Niukluk 81.51 23 P P 09 40 58.2 +2.0
baz=249
F15K North Star Dit 81.53 23 P P 09 40 57.7 +1.5
baz=249
CHGN Chignik 81.54 33 P P 09 40 57.7 +1.2
baz=256
O15K Ungalikthiuk R 81.56 30 P P 09 40 58.0 +1.5
baz=254
M15K Kasigluk River 81.58 28 P P 09 40 57.0 +0.3
baz=253
K15K Wolf Creek Mou 81.67 26 P 09 40 56.9 -0.2
K15K IAmb IAmb 09 40 59.8
comp=Z,19nm,1.1s
K15K Wolf Creek Mou 81.67 26 P P 09 40 59.0 +1.9
baz=252,SNR=5.2
VOI Vohitsoka 81.68 248 P P 09 40 57.6 -0.6
VOI IAmb IAmb 09 40 60.0
comp=Z,9.8nm,0.7s
N15K Kwethluk River 81.71 29 P 09 40 56.5 -0.8
N15K IAmb IAmb 09 40 59.9
comp=Z,20nm,1.2s
N15K Kwethluk River 81.71 29 P P 09 40 58.6 +1.3
baz=254
H16K Elim 82.11 24 P P 09 41 00.0 +0.6
baz=251
C16K Lisburne Hills 82.23 20 P P 09 41 01.1 +1.2
baz=248
G16K Koyuk River 82.31 23 P P 09 41 02.2 +1.8
baz=251,SNR=9.9
J16K Anvik River 82.38 26 P 09 41 01.7 +0.9
J16K Anvik River 82.38 26 P P 09 41 03.0 +2.2
baz=253,SNR=8.0
N16K Nishlik Lake 82.42 29 P P 09 41 03.4 +2.2
baz=255
L16K Owhat River 82.43 27 P P 09 41 01.4 +0.3
L16K IAmb IAmb 09 41 09.1
comp=Z,11nm,1.1s
L16K Owhat River 82.43 27 P P 09 41 03.6 +2.5
baz=254
M16K Timber Creek 82.48 28 P P 09 41 03.1 +1.7
baz=254
I17K Unalakleet 82.52 25 P P 09 41 03.1 +1.7
I17K Unalakleet 82.52 25 P P 09 41 03.6 +2.1
baz=252,SNR=10
O16K Kokwok River B 82.53 30 P P 09 41 03.3 +1.6
baz=255
D17K Noatak River 82.81 21 P P 09 41 05.2 +2.2
baz=250,SNR=17
R17L Mt. Peulik Vol 82.94 32 P P 09 41 05.4 +1.5
baz=257
RDOG Red Dog Mine 83.00 21 P P 09 41 05.8 +1.9
baz=250
G17K Kiwalik Mounta 83.02 23 P P 09 41 06.5 +2.4
baz=252,SNR=14
C17K DeLong Mountai 83.05 20 P P 09 41 06.7 +2.4
baz=250,SNR=5.6
O17K Koliganek Bris 83.06 29 P P 09 41 06.2 +1.8
baz=256
E17K Hotham Inlet 83.07 22 P P 09 41 06.5 +2.2
baz=251,SNR=11
J17K VABM Dome 83.07 26 P P 09 41 06.4 +2.0
baz=254,SNR=12
F17K Baldwin Pennin 83.08 22 P P 09 41 05.3 +0.9
F17K Baldwin Pennin 83.08 22 P P 09 41 06.4 +2.1
baz=252,SNR=5.3
L17K Donlin 83.08 27 P P 09 41 06.8 +2.3
baz=255,SNR=7.7
H17K Granite Mounta 83.15 24 P 09 41 05.8 +1.0
H17K Granite Mounta 83.15 24 P P 09 41 06.3 +1.5
baz=253,SNR=18
N17K Nushagak Hills 83.20 29 P P 09 41 07.1 +2.0
baz=256
K17K Iditarod 83.23 26 P P 09 41 05.6 +0.3
K17K Iditarod 83.23 26 P P 09 41 07.5 +2.3
baz=255,SNR=12
M17K Holitna River 83.29 28 P P 09 41 07.8 +2.2
baz=256
Q17K Contact Creek 83.33 31 P P 09 41 06.4 +0.4
baz=258
E18K Tukpahlearik C 83.62 22 P 09 41 08.2 +1.0
E18K Tukpahlearik C 83.62 22 P P 09 41 08.9 +1.7
baz=252,SNR=17
F18K Selawik 83.74 22 P P 09 41 09.4 +1.6
baz=253
C18K Utukok River 83.80 20 P P 09 41 09.7 +1.6
baz=252
B18K Kokolik River 83.82 20 P P 09 41 10.0 +1.9
baz=251
L18K Granite Mounta 83.83 27 P P 09 41 09.9 +1.6
baz=256,SNR=14
H18K Honhosa River 83.84 24 P P 09 41 09.8 +1.4
baz=254,SNR=8.1
N18K Kilae Creek 83.85 29 P P 09 41 09.8 +1.3
baz=257,SNR=6.1
Q18K Katmai Hardscr 83.86 31 P P 09 41 09.1 +0.4
baz=258
SII Sitkinak Islan 83.89 33 P P 09 41 09.5 +0.7
baz=259
G18K Tagagawik 83.93 23 P P 09 41 09.1 +0.3
baz=254,SNR=7.9
O18K Koktuh Hills 84.01 30 P P 09 41 10.1 +0.8
baz=258
M18K Stony River 84.06 28 P P 09 41 11.5 +1.9
baz=257,SNR=9.7
J18K Innoko River 84.11 26 P P 09 41 09.3 -0.5
J18K IAmb IAmb 09 41 11.9
comp=Z,20nm,1.1s
J18K Innoko River 84.11 26 P P 09 41 11.1 +1.3
baz=256,SNR=8.7
GCSA Galena City Sc 84.35 25 P P 09 41 12.3 +1.4
baz=256,SNR=9.0
C19K Lookout Ridge 84.49 20 P P 09 41 12.4 +0.7
C19K IAmb IAmb 09 41 17.4
comp=Z,14nm,1.1s
C19K Lookout Ridge 84.49 20 P P 09 41 13.4 +1.8
baz=253
O19K Port Alsworth 84.52 29 P P 09 41 13.1 +1.2
baz=259
F19K Shaleruckik Mo 84.52 22 P P 09 41 12.9 +1.2
baz=255
N19K Bonanza Creek 84.56 29 P P 09 41 13.2 +1.0
N19K Bonanza Creek 84.56 29 P P 09 41 13.2 +1.0
baz=258,SNR=15
G19K Purcell Mounta 84.61 23 P P 09 41 13.9 +1.7
baz=256,SNR=7.9
L19K White Mountain 84.66 27 P 09 41 12.9 +0.3
L19K IAmb IAmb 09 41 15.2
comp=Z,21nm,1.1s
L19K White Mountain 84.66 27 P P 09 41 13.8 +1.2
baz=258,SNR=12
J19K Poorman 84.71 25 P P 09 41 14.3 +1.5
baz=257,SNR=6.1
H19K Roundabout Mou 84.72 24 P 09 41 13.2 +0.5
H19K IAmb IAmb 09 41 21.4
comp=Z,18nm,1.2s
H19K Roundabout Mou 84.72 24 P P 09 41 14.2 +1.5
baz=256,SNR=5.3
M19K Big River Lodg 84.82 28 P P 09 41 15.2 +1.8
baz=258,SNR=6.8
D19K Kuna River 84.83 21 P 09 41 13.4 +0.1
D19K IAmb IAmb 09 41 18.9
comp=Z,11nm,1.1s
D19K Kuna River 84.83 21 P P 09 41 14.7 +1.4
baz=254
E19K Redstone River 84.88 22 P P 09 41 14.8 +1.2
baz=255
KDAK Kodiak Island 84.96 32 P P 09 41 14.9 +0.7
baz=260
L20K Farewell, AK 85.17 27 P P 09 41 15.6 +0.4
baz=259
Q20K Shuyak Island 85.20 31 P P 09 41 15.3 0.0
baz=260
K20K Telida 85.25 26 P P 09 41 16.4 +0.8
baz=259
F20K Avaraart Lake 85.36 22 P P 09 41 17.1 +1.2
baz=257
I20K Naaghedeneel 85.37 25 P P 09 41 17.2 +1.1
baz=258
J20K Nowinta River 85.38 25 P P 09 41 17.2 +1.1
baz=258
M20K Styx River 85.40 28 P P 09 41 17.3 +0.9
baz=260
D20K Etivluk River 85.42 21 P P 09 41 16.0 -0.3
D20K IAmb IAmb 09 41 23.6
comp=Z,22nm,1.4s
D20K Etivluk River 85.42 21 P P 09 41 17.1 +0.8
baz=256
E20K Nigu River 85.46 21 P P 09 41 18.4 +1.9
baz=256,SNR=5.9
SPCR Spurr Chakacha 85.72 29 P P 09 41 18.9 +0.9
baz=260
PPLA Purkeypile 86.01 27 P P 09 41 20.9 +1.4
baz=260
G21K Allakaket 86.10 23 P P 09 41 20.8 +1.1
baz=259
CHUM Lake Minchumin 86.12 26 P P 09 41 21.3 +1.5
baz=260
CAPN Captain Cook N 86.16 29 P P 09 41 21.2 +1.2
baz=261
SKT Skwentna 86.16 28 P P 09 41 20.5 +0.4
baz=261
C21K Knifeblade Rid 86.17 20 P P 09 41 21.1 +1.2
baz=258
H21K Melozitna Rive 86.22 24 P P 09 41 21.6 +1.3
baz=260
F21K Alatna River 86.25 22 P P 09 41 21.9 +1.5
baz=259
E21K Killik River 86.31 21 P P 09 41 22.2 +1.5
baz=258
B21K Ikpikpuk River 86.33 20 P P 09 41 22.5 +1.8
baz=258
I21K Tanana 86.48 25 P P 09 41 23.4 +1.9
baz=260
BPAW Bear Paw Mtn. 86.73 26 P P 09 41 22.4 -0.5
BPAW IAmb IAmb 09 41 53.3
comp=Z,9.6nm,0.9s
BPAW Bear Paw Mtn. 86.73 26 P P 09 41 24.6 +1.8
baz=261
M22K Willow 86.79 28 P P 09 41 24.3 +1.2
baz=262
F22K John River 86.80 22 P P 09 41 24.4 +1.3
baz=260
O22K Cooper Landing 86.82 29 P P 09 41 24.4 +1.2
baz=263
H22K Ishtalitna Cre 86.84 24 P P 09 41 24.4 +1.0
baz=261
D22K Ayikyak River 86.85 21 P P 09 41 24.3 +0.9
baz=260
B22K Teshekpuk Lake 86.88 19 P P 09 41 24.6 +1.2
baz=259
RC01 Rabbit Creek A 86.89 29 P P 09 41 24.4 +0.7
baz=263
SEW Seward 86.90 30 P P 09 41 24.9 +1.2
baz=263
TRF Thorofare Moun 86.95 26 P P 09 41 25.1 +1.0
baz=262
G22K Bettles 86.96 23 P P 09 41 24.6 +0.7
baz=261
MLY Manley 86.98 25 P P 09 41 24.6 +0.6
baz=262
E22K Anaktuvuk Pass 87.04 22 P P 09 41 24.2 -0.1
E22K IAmb IAmb 09 41 26.2
comp=Z,12nm,0.9s
E22K Anaktuvuk Pass 87.04 22 P P 09 41 25.6 +1.3
baz=260
PMR Palmer 87.24 28 P P 09 41 26.3 +1.0
baz=263
KIV Kislovodsk 87.30 314 *e*P **P 09 41 27.1 +0.9**
KIV pmax pmax
comp=Z,5.0nm,1.1s
SHA1 Shidzhatmaz 87.31 314 *i* P **P 09 41 27.1 +0.7**
G23K Bananza Creek 87.51 23 P P 09 41 27.6 +1.0
baz=262
COLD Coldfoot 87.51 23 P P 09 41 27.0 +0.5
COLD IAmb IAmb 09 41 34.7
comp=Z,14nm,1.2s
COLD Coldfoot 87.51 23 P P 09 41 27.6 +1.1
baz=262
KNK Knik Glacier 87.54 29 P P 09 41 27.3 +0.5
baz=264
PWL Port Wells 87.54 29 P P 09 41 27.1 +0.3
baz=264
I23K Minto, Yukon-K 87.57 25 P P 09 41 27.7 +0.9
baz=263
H23K Yukon River 87.58 24 P P 09 41 28.3 +1.4
baz=263
D23K Nanushuk River 87.58 21 P P 09 41 28.4 +1.5
baz=261
MCK McKinley 87.58 26 P P 09 41 27.9 +0.9
baz=263
NEA2 Nenana 87.63 25 P P 09 41 28.7 +1.6
baz=263

C23K	Itkillik River	87.74	20	P	P	09 41 29.3	+1.8
	baz=261						
E23K	Chandalar	87.84	22	P	P	09 41 29.8	+1.6
	baz=262						
P23K	Montague Islan	87.92	30	P	P	09 41 30.1	+1.5
	baz=265						
M23K	Glacier View	87.93	28	P	P	09 41 30.0	+1.3
	baz=264						
TOLK	Toolik Lake Re	87.94	21	P	P	09 41 29.1	+0.4
	baz=262						
SCM	Sheep Creek Mo	88.12	28	P	P	09 41 29.6	-0.1
	baz=265						
H24K	Noodor Dome	88.26	24	P	P	09 41 31.4	+1.1
	baz=264						
E24K	Your Creek	88.27	22	P	P	09 41 31.6	+1.4
	baz=263						
D24K	Happy Valley	88.27	21	P	P	09 41 31.6	+1.5
	baz=263						
C24K	Franklin Bluff	88.38	20	P	P	09 41 31.6	+1.0
	baz=263						
F24K	Squaw Lake	88.43	22	P	P	09 41 30.6	-0.4
	baz=264						
G24K	Hadweenzic Riv	88.51	23	P	P	09 41 31.2	-0.2
	baz=264						
HDA	Harding Lake	88.52	26	P	P	09 41 31.0	-0.4
	baz=265						
ILAR	Eielson Array	88.58	25	P	P	09 41 30.2	-1.5
	comp=Z,4.6nm,1.0s,baz=253,slow=4.4,SNR=9.4						
	comp=Z,4.6nm,1.0s						
M24K	Tolsona, Glenn	88.68	28	P	P	09 41 32.9	+0.6
	baz=266						
SYO	Syowa Base	88.72	201⇓	*e*P	P	09 41 33.5	+1.3
SYO	Syowa Base	88.72	201⇑	*e*pP	pP	09 41 38.0	-0.6
KLU	Klutina	88.76	29	P	P	09 41 32.5	-0.2
	baz=266						
EYAK	Cordova Ski Ar	88.78	30	P	P	09 41 34.0	+1.3
	baz=266						
K24K	Donnelly Dome	88.99	26	P	P	09 41 33.8	+0.1
	baz=266						
G25K	Bearman Lake	89.06	23	P	P	09 41 34.9	+1.1
	baz=266						
PAX	Paxson	89.07	27	P	P	09 41 35.1	+1.0
	baz=266						
QSPA	South Pole Qui	89.11	180	P	P	09 41 34.7	+0.3
QSPA				IAmb	IAmb	09 41 46.7	
	comp=Z,18nm,0.9s						
QSPA	South Pole Qui	89.11	180	P	P	09 41 35.5	+1.2
	comp=Z,8.1nm,0.8s,baz=278,slow=2.0,SNR=8.6						
	comp=Z,8.1nm,0.8s						
H25L	Birch Creek	89.14	24	P	P	09 41 35.7	+1.4
	baz=266						
D25K	Kavik River	89.16	21	P	P	09 41 35.6	+1.2
	baz=265						
HARP	HAARP	89.18	28	P	P	09 41 36.0	+1.4
	baz=267						
PRP	Porcupine Dome	89.21	25	P	P	09 41 35.6	+0.8
	baz=266						
J25K	Salcha River,	89.22	25	P	P	09 41 35.4	+0.7
	baz=266						
F25K	Christian Rive	89.30	22	P	P	09 41 36.2	+1.1
	baz=266						
BMRM	Bremner River	89.36	29	P	P	09 41 36.5	+1.0
	baz=267						
RIDG	Independent Ri	89.39	26	P	P	09 41 36.3	+0.6
	baz=267						
N25K	Chitina, Valde	89.40	29	P	P	09 41 36.5	+0.8
	baz=267						
KAIM	Kayak Island	89.41	30	P	P	09 41 36.3	+0.6
	baz=267						
C26K	Camden Bay	89.71	20	P	P	09 41 37.9	+1.1
	baz=267						
SCRK	Sand Creek	89.79	26	P	P	09 41 38.1	+0.5
	baz=268						
F26K	Sheenjek River	89.88	22	P	P	09 41 38.9	+1.2
	baz=268						
BGLC	Bering Glacier	89.98	30	P	P	09 41 39.0	+0.7
	baz=268						
G26K	Porcupine Rive	89.98	23	P	P	09 41 38.8	+0.6
	baz=268						
J26L	Joseph Creek	89.99	26	P	P	09 41 38.8	+0.4
	baz=268						
L26K	Log Cabin Wild	90.04	27	P	P	09 41 39.1	+0.5
	baz=268						
KLMR	Klimovskoe	90.05	331	*e*P	P	09 41 36.7	-1.9
KLMR				pmax	pmax		
	comp=Z,25nm,1.4s						
CRQE	Cirque	90.10	29	P	P	09 41 39.3	+0.3
	baz=268						
C27K	Jago River	90.11	20	P	P	09 41 39.6	+0.8
	baz=268						
MCARA	McCarthy VSAT	90.15	29	P	P	09 41 39.7	+0.6
	baz=268						
M26K	Nabesna, AK	90.19	28	P	P	09 41 40.1	+0.8
	baz=268						
I26K	Coal Creek Min	90.19	25	P	P	09 41 40.2	+0.9
	baz=268						
K27K	Chicken	90.63	26	P	P	09 41 42.6	+1.3
	baz=269						
MESA	MESA	90.65	30	P	P	09 41 43.1	+1.3
	baz=269						
M27K	Edge Creek, AK	90.70	28	P	P	09 41 43.9	+2.0
	baz=270						
L27K	Beaver Creek,	90.73	27	P	P	09 41 44.0	+2.2
	baz=270						
I27K	Kandik River	90.84	25	P	P	09 41 44.1	+1.8
	baz=270						
E27K	Coleen River	90.85	22	P	P	09 41 44.0	+1.7
	baz=270						
H27K	Steamboat Moun	90.87	24	P	P	09 41 43.1	+0.7
	baz=270						
CTG	Chitna Glacier	90.96	29	P	P	09 41 43.1	0.0
	baz=270						
MOS	Moscow	90.98	326	*e*P	P	09 41 40.6	-2.4
D27M	Malcolm River	91.08	21	P	P	09 41 43.7	+0.3
	baz=270						
BVCY	Beaver Creek	91.18	28	P	P	09 41 44.3	+0.4
	baz=270						
YUK3	Moose Creek	91.38	28	P	P	09 41 45.2	+0.1
	baz=271						
PINM	Pinnacle	91.50	30	P	P	09 41 45.8	+0.3
	baz=271						
O28M	Mount Upton	91.52	29	P	P	09 41 46.3	+0.4
	baz=271						
I28M	Miner Creek	91.54	25	P	P	09 41 46.4	+0.8
	baz=271						
OBN	Obninsk	91.58	325⇑	*e*P	P	09 41 44.5	-1.4
OBN				*e*		09 45 22.3	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,47µm,18.0s						
E28M	Babbage River	91.61	22	P	P	09 41 46.7	+1.0
	baz=272						
YUK8	Steele Glacier	91.72	29	P	P	09 41 47.6	+0.8
	baz=271						
DAWY	Dawson	91.81	26	P	P	09 41 48.0	+1.2
	baz=272						
H29M	Whitestone	92.15	24	P	P	09 41 49.0	+0.7
	baz=273						
I29M	Ogilvie Camp,	92.22	25	P	P	09 41 50.1	+1.4
	baz=273						
YUK4	Talbot Arm	92.25	29	P	P	09 41 49.9	+0.7
	baz=272						
G29M	Pine Creek	92.26	23	P	P	09 41 50.3	+1.5
	baz=273						
M29M	Somme Creek	92.29	28	P	P	09 41 50.8	+1.6
	baz=272						
YUK6	Outpost Mounta	92.41	29	P	P	09 41 51.7	+1.8
	baz=273						
L29M	L29M	92.41	27	P	P	09 41 51.4	+1.7
	baz=273						
K29M	Barlow Dome	92.65	26	P	P	09 41 52.2	+1.4
	baz=273						
P29M	Windy Craggy	92.79	30	P	P	09 41 52.5	+1.0
	baz=273						
EPYK	Eagle Plains	92.81	24	P	P	09 41 51.8	+0.4
	baz=274						
HYT	Haines Junctio	92.84	29	P	P	09 41 52.5	+0.8
	baz=273						
G30M	tAoh Zraii Nji	92.96	23	P	P	09 41 53.1	+1.0
	baz=275						
N30M	Aishikik Lake	93.00	29	P	P	09 41 54.0	+1.6
	baz=274						
I30M	Mount Dempster	93.04	25	P	P	09 41 53.9	+1.3
	baz=274						
M30M	Minto, Yukon	93.06	28	P	P	09 41 54.1	+1.5
	baz=274						
F30M	Barrier River	93.07	22	P	P	09 41 53.6	+1.1
	baz=275						
J30M	Hart River	93.11	25	P	P	09 41 53.8	+0.8
	baz=275						
SIM	Simferopol'	93.45	315	*e*P	P	09 41 51.0	-3.8
SIM				*e*		09 45 34.0	
SIM				pmax	pmax		
	comp=Z,1µm,9.5s						
PLBC	Pleasant Camp	93.50	31	P	P	09 41 54.0	-0.7
	baz=274						
O30N	Mendenhall	93.53	29	P	P	09 41 53.5	-1.3
	baz=275						
N31M	Braeburn, Yuko	93.62	29	P	P	09 41 55.1	-0.1
	baz=275						
G31M	Satah River	93.73	23	P	P	09 41 55.4	-0.1
	baz=277						
H31M	Peel River	93.83	24	P	P	09 41 55.9	-0.2
	baz=276						
INK	Inuvik	93.84	22	P	P	09 41 56.5	+0.5
	baz=277						
F31M	Tsiigehtchic	93.87	23	P	P	09 41 56.9	+0.7
	baz=277						
SKAG	Skagway	94.02	31	P	P	09 41 58.1	+1.1
	baz=275						
WHY	Whitehorse	94.13	29	P	P	09 41 58.4	+0.7
	baz=276						
M31M	Drury Creek, Y	94.21	28	P	P	09 41 59.0	+1.1
	baz=276						
SIT	Sitka	94.24	33	P	P	09 41 59.1	+1.0
	baz=275						
FARO	Faro, Yukon	94.69	28	P	P	09 42 01.0	+0.8
	baz=277						
MMPY	Sheldon Lake,	95.60	27	P	P	09 42 05.7	+1.4
	baz=279						
AKBB	Malin Array Si	96.30	321	*i* P	P	09 42 08.7	+1.0
AKBB				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MNK	Minsk	96.64	325	*i* P	P	09 42 07.4	-1.7
MNK				*i*		09 46 01.9	
MNK				*i* PPP	PPP	09 48 05.4	
MNK				*i* S	SKSac	09 52 44.1	-0.9
MNK				*i* SS	SS	10 00 03.6	0.0
MNK				*i* SSS	SSS	10 03 49.8	
MNK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MNK				pmax	pmax		
	comp=E,9.0nm,0.7s						
MNK				pmax	pmax		
	comp=N,5.0nm,0.6s						
MNK				MLR	MLR		
	comp=N,18µm,17.0s						
MNK				MLR	MLR		
	comp=E,44µm,19.0s						
MNK				MLR	MLR		
	comp=Z,50µm,19.0s						
TXAR	Lajitas Array	123.13	55	PKP	PKiKP	09 47 36.9	+0.1
	comp=Z,0.5nm,0.8s,baz=298,slow=1.3,SNR=4.0						
TORD	Torodi Ar. Bea	125.60	286	PKP	PKiKP	09 47 41.8	-0.1
	comp=Z,2.8nm,0.9s,baz=90,slow=2.3,SNR=3.5						

BJI ***14*** *09:29:35.0,0˚.80S×128˚.20E,h10km,mb5.1/32*
IDC ***14*** *09:29:36.6±0.5,0˚.52S×127˚.84E,h0km,mb4.8/23,*
mbtmp4.8/24,ML4.6/1,Error ellipse: s-maj=27.5km
s-min=11.0km az=85.0
NEIC ***14*** *09:29:36.9±2.1,0˚.74S±0˚.06×128˚.25E±0˚.08,h10km±1km,*
mb5.1/57,Error ellipse: s-maj=13.8km s-min=9.5km
az=239.0

ISC 14 09:29:37.0±0.4,**0˚.66S**±0˚.05×**128˚.18E**±0˚.07,**h10**km,**n112,**
σ1§**29**/112,**mb5.1**/61,**1C-1D,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.64	330		Pn	09 30 05.1	-0.8
FAKI	Fak Fak	4.64	119	Pn	Pn	09 30 43.5	-3.8
TOLI2	Tolitoli	7.61	283	Pn	Pn	09 31 26.8	-1.2
SAUI	Saumlaki	7.91	157	Pn	Pn	09 31 28.8	-3.4
DAV	Davao City (W)	8.11	341	Pn	Pn	09 31 35.0	+0.2
KAPI	Kappang	9.46	243	Pn	Pn	09 31 53.5	0.0
KAPI	Kappang	9.46	243	Pn	Pn	09 31 54.4	+0.9
	8.9nm,0.3s,baz=84,slow=11,SNR=8.7						
MYLDM	Lahad Datu	11.28	301	Pn	Pn	09 32 18.3	0.0
KKM	Kota Kinabalu	13.68	299	Pn	Pn	09 32 50.8	-0.4
KNRA	Kununurra	14.93	178	Pn	Pn	09 33 05.3	-3.0
JAGI	Jajag, Banyuwa	15.98	241	Pn	Pn	09 33 20.0	-2.1
SBUM	Sibu	16.25	281	Pn	Pn	09 33 25.4	-0.2
FITZ	Fitzroy Crossi	17.51	188	P	P	09 33 43.4	+0.9
	1.7nm,0.3s,baz=17,slow=8.9,SNR=7.6						
	24nm,0.7s						
KSM	Kuching	18.00	277	P	Pn	09 33 47.2	-0.3
WBQ	Warramunga Arr	19.94	163	P	P	09 34 07.5	-1.8
WRA	Warramunga Arr	20.09	163	P	Pn	09 34 14.2	+1.4
	36nm,0.8s,baz=333,slow=13,SNR=10						
	36nm,0.8s						
WR8	Warramunga Arr	20.15	163		P	09 34 09.0	-2.6
LEM	Lembang	21.40	253	P	P	09 34 28.2	+2.8
	43nm,0.7s,baz=1.4,slow=11,SNR=4.0						
ASAR	Alice Springs	23.53	167	P	P	09 34 51.1	+3.5
	53nm,0.7s,baz=347,slow=11,SNR=9.7						
	53nm,0.7s						
MYKOM	Kota Tinggi	24.45	276	P	P	09 34 55.5	-0.8
MYKOM				IAmb	IAmb	09 35 02.2	
	comp=Z,25nm,0.8s						
TPUB	Ta-pu	24.92	343	P	P	09 34 59.4	-1.1
SSLB	Suanglung	25.30	344	P	P	09 35 03.6	-0.3
SSLB				IAmb	IAmb	09 35 14.2	
	comp=Z,39nm,0.6s						
MNAI	Manna	25.46	261	P	P	09 35 03.3	-2.2
NACB	Ninganchiao	25.50	346	P	P	09 35 05.4	-0.3
NACB				IAmb	IAmb	09 35 34.3	
	comp=Z,31nm,1.0s						
JOW	Kunigami	27.33	0	P	P	09 35 22.9	+0.7
JOW	Kunigami	27.33	0	P	P	09 35 23.5	+1.3
	comp=Z,53nm,0.8s,baz=186,slow=9.7,SNR=7.9						
	comp=Z,53nm,0.8s						
KULM	Kulim	28.12	282	P	P	09 35 28.2	-1.3
KULM				IAmb	IAmb	09 35 36.4	
	comp=Z,35nm,1.3s						
RPSI	Rantau Prapat	29.44	277	P	P	09 35 39.5	-1.7
RPSI				IAmb	IAmb	09 35 45.2	
	comp=Z,27nm,0.8s						
STKA	Stephens Creek	33.54	159	P	P	09 36 22.1	+5.0
	comp=Z,15nm,0.9s,baz=1.1,slow=7.8,SNR=5.1						
	comp=Z,15nm,0.9s						
JNU	Nakatsue	33.70	4		P	09 36 17.9	-0.6
JNU				IAmb	IAmb	09 36 19.5	
	comp=Z,42nm,1.1s						
JNU	Nakatsue	33.70	4	P	P	09 36 18.4	-0.1
	comp=Z,28nm,1.0s,baz=182,slow=6.4,SNR=5.8						
	comp=Z,28nm,1.0s						
WHN	Wuhan	33.71	338	⇑P	P	09 36 19.3	+0.8
WHN				sP	sP	09 36 25.1	+2.1
WHN				pmax	pmax		
	comp=Z,220nm,1.0s						
NWAO	Narrogin (SRO)	33.71	197	P	P	09 36 21.4	+2.8
	comp=Z,17nm,0.8s,baz=24,slow=6.6,SNR=6.3						
	comp=Z,17nm,0.8s						
NJ2	Nanjing	33.71	346	*e*P	P	09 36 20.3	+1.8
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
CMAR	Chiang Mai Arr	34.45	305	P	P	09 36 24.4	-0.8
	comp=Z,0.8nm,0.3s,baz=125,slow=6.5,SNR=6.2						
	comp=Z,0.8nm,0.3s						
JMN	Monobe	34.62	8	P	P	09 36 26.3	-0.2
INU	Inuyama	36.76	12	P	P	09 36 44.4	-0.4
JGF	Kuroka	37.08	12	P	P	09 36 47.7	+0.1
JGF				IAmb	IAmb	09 36 48.9	
	comp=Z,46nm,1.3s						
PZH	PanZhiHua	37.13	319	P	P	09 36 48.8	+0.6
KSRS	Korea Array	37.92	360	P	P	09 36 55.1	+0.5
	comp=Z,9.3nm,0.9s,baz=179,slow=10.0,SNR=11						
	comp=Z,9.3nm,0.9s						
LYN	LuoYang	38.00	339	P	P	09 36 55.5	+0.2
LYN				pmax	pmax		
	comp=Z,55nm,0.8s						
TIA	Tai'an	38.10	345	P	P	09 36 56.0	-0.2
TIA				pmax	pmax		
	comp=Z,24nm,0.6s						
MAJO	Matsushiro	38.17	13	P	P	09 36 55.8	-0.9
MAJO				IAmb	IAmb	09 36 58.6	
	comp=Z,61nm,1.1s						
MJAR	Matsushiro Arr	38.17	13		P	09 36 56.4	-0.3
MJAR	Matsushiro Arr	38.17	13	P	P	09 36 56.3	-0.5
	comp=Z,37nm,0.9s,baz=186,slow=9.4,SNR=23						
	comp=Z,37nm,0.9s						
MJB9	Matsu-Tunnel	38.17	13	P	P	09 36 56.0	-0.8
MJB9				IAmb	IAmb	09 36 58.5	
	comp=Z,60nm,1.1s						
XAN	Xi'an	38.97	334	P	P	09 37 02.8	-0.8
XAN				pmax	pmax		
	comp=Z,50nm,1.1s						
HNS	HongShan	39.87	343	⇓P	P	09 37 10.5	-0.4
HNS				pmax	pmax		
	comp=Z,19nm,0.9s						
JMM	Marumori	40.07	16	P	P	09 37 12.6	+0.1
BJI	Beijing	41.97	346	P	P	09 37 27.6	-0.6
BJI				pmax	pmax		
	comp=Z,11nm,1.1s						
JTM	Tenmabayashi	42.89	14	P	P	09 37 35.9	+0.2
LZH	Lanzhou	43.01	331	*e*P	P	09 37 38.1	+1.1
LZH				pmax	pmax		
	comp=Z,56nm,1.1s						
SHL	Shillong	43.70	309	P	P	09 37 41.1	-1.7
SHL				IAmb	IAmb	09 37 52.1	
	comp=Z,26nm,0.8s						
HHC	Hu-ho-hao-te	43.99	342	*e*P	P	09 37 46.3	+1.5
USRK	Ussuriysk Ar.	44.79	4	P	P	09 37 50.3	-0.6
USRK	Ussuriysk Ar.	44.79	4	P	P	09 37 51.4	+0.4
	comp=Z,19nm,0.9s,baz=188,slow=6.9,SNR=12						
	comp=Z,19nm,0.9s						
MDJ	Mudanjiang	45.10	1	P	P	09 37 53.1	-0.3
MDJ				IAmb	IAmb	09 37 54.9	
	comp=Z,38nm,1.2s						
MDJ	Mudanjiang	45.10	1	P	P	09 37 53.6	+0.2
MDJ				pmax	pmax		
	comp=Z,32nm,1.0s						
ASAJ	Asahikawa	46.40	14	P	P	09 38 05.1	+1.4
	comp=Z,30nm,0.9s,baz=252,slow=12,SNR=6.7						
	comp=Z,30nm,0.9s						
JKA	Kamikawa-asahi	46.40	14	P	P	09 38 04.5	+0.8
GTA	Gaotai	47.59	330	P	P	09 38 13.3	0.0
GTA				pmax	pmax		
	comp=Z,11nm,1.2s						
EVN	Everest	48.81	309	P	P	09 38 22.2	-1.3
YSS	Yuzhno-Sakhali	49.11	13	P	P	09 38 24.6	-0.1
YSS				IAmb	IAmb	09 38 26.5	
	comp=Z,20nm,0.7s						
HIA	Hailar	50.26	353	P	P	09 38 33.8	+0.3
HEH	HeiHe	50.72	359	*e*P	P	09 38 36.8	-0.1
SONM	Songino Array	51.89	341	P	P	09 38 45.7	-0.2
SONM	Songino Array	51.89	341	P	P	09 38 45.3	-0.6
	comp=Z,8.4nm,0.8s,baz=156,slow=7.9,SNR=10						
	comp=Z,8.4nm,0.8s						
WMQ	Urumqi	57.14	326	*e*P	P	09 39 27.9	+3.8
WMQ				pmax	pmax		
	comp=Z,32nm,1.1s						
PEA0B	Petropavlovsk-	58.97	20	P	P	09 39 37.2	+0.6
PETK	Petropavlovsk-	58.97	20		P	09 39 37.2	+0.6
PETK	Petropavlovsk-	58.97	20	P	P	09 39 38.5	+1.9
	comp=Z,8.3nm,0.6s,baz=188,slow=5.6,SNR=12						
	comp=Z,8.3nm,0.6s						
PET	Petropavlovsk	59.24	21	P	P	09 39 38.9	+0.5
	comp=Z,31nm,1.3s						
MKAR	Makanchi Array	61.97	326	P	P	09 39 56.2	-1.1
MKAR	Makanchi Array	61.97	326	P	P	09 39 56.9	-0.4
	comp=Z,5.2nm,0.7s,baz=114,slow=8.2,SNR=6.5						
	comp=Z,5.2nm,0.7s						
YAK	Yakutsk	62.54	1	P	P	09 40 00.8	+0.1
ZALV	Zalesovo Beam	65.14	333	P	P	09 40 17.0	-1.0
	comp=Z,4.5nm,0.8s,baz=126,slow=7.3,SNR=4.8						
	comp=Z,4.5nm,0.8s						
KBL	Kabul	65.36	309	P	P	09 40 19.0	-1.1
KBL				IAmb	IAmb	09 40 33.5	
	comp=Z,32nm,1.4s						
KURBB	Kurchatov Arra	66.20	328	P	P	09 40 23.4	-1.5
	comp=Z,6.5nm,0.8s,baz=126,slow=6.0,SNR=5.3						
	comp=Z,6.5nm,0.8s						
KIWB	Kanaga Island	69.53	33	P	P	09 40 46.0	0.0
KIWB				IAmb	IAmb	09 40 48.5	
	comp=Z,12nm,0.8s						
ATKA	Atka Island	71.31	33	P	P	09 40 57.2	+0.5
BVAR	Borovoye Array	71.77	327	P	P	09 40 58.5	-1.1
	comp=Z,5.7nm,0.8s,baz=114,slow=7.3,SNR=5.8						
	comp=Z,5.7nm,0.8s						
BRVK	Borovoye	71.84	327	P	P	09 40 58.8	-1.2
NRIK	Noril'sk	75.01	346	P	P	09 41 17.9	-0.4
	comp=Z,13nm,0.8s,baz=149,slow=6.3,SNR=6.3						
	comp=Z,13nm,0.8s						
AB31	Akbulak array	76.45	321	P	P	09 41 24.7	-2.3
AKTO	Aktyubinsk	77.98	322	P	P	09 41 34.1	-1.5
	comp=Z,3.9nm,0.6s,baz=119,slow=4.6,SNR=2.4						
	comp=Z,3.9nm,0.6s						
VNDA	Vanda	78.92	173	P	P	09 41 38.7	-1.5
VNDA	Vanda	78.92	173	P	P	09 41 40.8	+0.6
	comp=Z,3.1nm,0.8s,baz=319,slow=6.9,SNR=6.2						
	comp=Z,3.1nm,0.8s						
SDPT	Sand Point	80.02	33	P	P	09 41 46.8	+0.2
MAW	Mawson	80.17	201	P	P	09 41 47.9	+0.7
	comp=Z,5.8nm,0.9s,baz=8.2,slow=2.8,SNR=5.3						
	comp=Z,5.8nm,0.9s						
N14K	Kuskokwak Cree	80.72	29	P	P	09 41 50.7	+0.5
M14K	Bethel	80.84	28	P	P	09 41 51.7	+0.8
M14K				IAmb	IAmb	09 41 54.8	
	comp=Z,14nm,0.9s						
K15K	Wolf Creek Mou	81.52	26	P	P	09 41 54.7	+0.2
K15K				IAmb	IAmb	09 42 03.6	
	comp=Z,24nm,1.2s						
J16K	Anvik River	82.22	26	P	P	09 41 58.6	+0.4
J16K				IAmb	IAmb	09 42 02.5	
	comp=Z,17nm,1.1s						
M16K	Timber Creek	82.33	28	P	P	09 41 59.4	+0.6
I17K	Unalakleet	82.36	25	P	P	09 41 59.8	+0.9
I17K				IAmb	IAmb	09 42 02.6	
	comp=Z,28nm,1.1s						
J17K	VABM Dome	82.92	26	P	P	09 42 02.6	+0.8
J17K				IAmb	IAmb	09 42 14.2	
	comp=Z,23nm,1.1s						
H17K	Granite Mounta	83.00	24	P	P	09 42 03.7	+1.5
H17K				IAmb	IAmb	09 42 05.0	
	comp=Z,13nm,0.8s						
C18K	Utukok River	83.64	20	P	P	09 42 06.7	+1.2
C18K				IAmb	IAmb	09 42 22.3	
	comp=Z,16nm,1.1s						
N18K	Kilae Creek	83.70	29	P	P	09 42 07.1	+1.1
N18K				IAmb	IAmb	09 42 09.3	
	comp=Z,21nm,1.2s						
H19K	Roundabout Mou	84.56	24	P	P	09 42 10.6	+0.4
H19K				IAmb	IAmb	09 42 31.8	
	comp=Z,22nm,1.4s						
BRLK	Bradley Lake	85.99	30	P	P	09 42 17.5	0.0
SLKM	Skilak Lake	86.43	29	P	P	09 42 19.8	+0.2
E22K	Anaktuvuk Pass	86.88	22	P	P	09 42 22.2	+0.5
E22K				IAmb	IAmb	09 42 24.6	
	comp=Z,14nm,1.1s						
E23K	Chandalar	87.69	22	P	P	09 42 25.4	-0.3
E23K				IAmb	IAmb	09 42 30.6	
	comp=Z,21nm,1.4s						
H24K	Noodor Dome	88.11	24	P	P	09 42 28.1	+0.4
G24K	Hadweenzic Riv	88.36	23	P	P	09 42 28.9	+0.1
G24K				IAmb	IAmb	09 42 30.5	
	comp=Z,7.1nm,0.9s						
ILAR	Eielson Array	88.42	25	P	P	09 42 28.7	-0.5
	comp=Z,1.6nm,0.7s,baz=246,slow=5.6,SNR=6.2						
	comp=Z,1.6nm,0.7s						
QSPA	South Pole Qui	89.27	180	P	P	09 42 36.4	+3.1
	comp=Z,20nm,1.0s,baz=282,slow=1.3,SNR=6.3						
	comp=Z,20nm,1.0s						
J26L	Joseph Creek	89.84	26	P	P	09 42 35.6	-0.4
J26L				IAmb	IAmb	09 42 37.2	
	comp=Z,7.4nm,0.8s						
FARO	Faro, Yukon	94.54	28	P	P	09 42 57.9	+0.3
FARO				IAmb	IAmb	09 42 59.7	
	comp=Z,8.9nm,0.8s						
TXAR	Lajitas Array	123.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.81**	**333**	Pn	**Pn**	**09 35 41.0**	**-1.2**
TNTI	**Ternate**	**1.81**	**333**	P	**Pn**	**09 35 42.1**	**-0.1**
TNTI				S	**Sn**	**09 36 05.0**	**+0.4**
SANI	**Sanana**	**2.50**	**242**	P	**Pn**	**09 35 51.5**	**-0.2**
SANI				S	**Sn**	**09 36 22.2**	**+0.5**
MSAI	**Masohi**	**2.59**	**163**	P	Pn	09 35 48.5	-4.4
NLAI	**Namlea**	**2.61**	**205**	P	Pn	09 35 48.8	-4.4
SWI	**Sorong**	**3.07**	**90**	P	**Pn**	**09 36 00.4**	**+0.9**
FAKI	**Fak Fak**	**4.55**	**117**	Pn	**Pn**	**09 36 20.2**	**+0.3**
FAKI	**Fak Fak**	**4.55**	**117**	P	**Pn**	**09 36 21.2**	**+1.3**
LUWI	**Luwuk**	**5.42**	**268**	P	**Pn**	**09 36 31.3**	**-0.6**
APSI	**Ampana**	**6.54**	**269**	P	**Pn**	**09 36 47.3**	**0.0**
TOLI2	**Tolitoli**	**7.66**	**285**	Pn	**Pn**	**09 37 02.2**	**-0.5**
KAPI	**Kappang**	**9.38**	**244**	Pn	**Pn**	**09 37 27.1**	**+0.8**
KAPI	**Kappang**	**9.38**	**244**	Pn	**Pn**	**09 37 27.9**	**+1.6**
	2.5nm,0.3s,baz=57,slow=21,SNR=2.3						
KNRA	**Kununurra**	**14.74**	**178**	Pn	**Pn**	**09 38 37.9**	**-1.8**
WR8	**Warramunga Arr**	**19.97**	**162**	P	**P**	**09 39 42.5**	**-0.8**
MBWA	**Marble Bar**	**21.81**	**202**	P	**P**	**09 40 03.0**	**-0.2**
MBWA				IAmb	IAmb	09 40 03.0	
	comp=Z,26nm,1.4s						
AS31	**Alice Springs**	**23.35**	**167**	P	**P**	**09 40 18.2**	**-1.2**
ASAR	**Alice Springs**	**23.35**	**167**	P	**P**	**09 40 18.4**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=339,slow=8.7,SNR=4.7						
	comp=Z,1.9nm,0.5s						
NJ2	**Nanjing**	**33.90**	**346**	*e*P	**P**	**09 41 55.4**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
PZH	**PanZhiHua**	**37.28**	**319**	P	**P**	**09 42 25.8**	**+2.7**
KSRS	**Korea Array**	**38.11**	**360**	P	**P**	**09 42 30.2**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=180,slow=9.5,SNR=2.5						
	comp=Z,0.5nm,0.6s						
MJAR	**Matsushiro Arr**	**38.35**	**13**	P	**P**	**09 42 30.8**	**-1.1**
	comp=Z,1.8nm,0.9s,baz=185,slow=8.2,SNR=5.1						
	comp=Z,1.8nm,0.9s						
SHL	**Shillong**	**43.83**	**309**	P	**P**	**09 43 16.4**	**-1.0**
SHL				IAmb	IAmb	09 43 20.3	
	comp=Z,6.1nm,0.8s						
HHC	**Hu-ho-hao-te**	**44.18**	**342**	*e*P	**P**	**09 43 19.8**	**0.0**
GTA	**Gaotai**	**47.76**	**330**	*e*P	**P**	**09 43 49.1**	**+0.9**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**52.08**	**342**	P	**P**	**09 44 19.6**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=150,slow=7.9,SNR=2.8						
	comp=Z,0.6nm,0.7s						
PETK	**Petropavlovsk-**	**59.15**	**20**	P	**P**	**09 45 10.7**	**-0.6**
MKAR	**Makanchi Array**	**62.14**	**326**	P	**P**	**09 45 30.9**	**-1.0**
MKAR	**Makanchi Array**	**62.14**	**326**	P	**P**	**09 45 30.6**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=113,slow=7.7,SNR=4.2						
	comp=Z,1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**66.36**	**328**	P	**P**	**09 45 58.1**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=127,slow=6.0,SNR=5.3						
	comp=Z,0.9nm,0.6s						
NRIK	**Noril'sk**	**75.20**	**346**	P	**P**	**09 46 53.2**	**+0.2**
NRIK	**Noril'sk**	**75.20**	**346**	P	**P**	**09 46 52.2**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=157,slow=8.4,SNR=5.3						
	comp=Z,2.3nm,0.5s						
VNDA	**Vanda**	**78.73**	**173**	P	**P**	**09 47 13.4**	**+0.7**
VNDA				IAmb	IAmb	09 47 32.7	
	comp=Z,6.5nm,1.5s						
H17K	**Granite Mounta**	**83.17**	**24**	P	**P**	**09 47 38.0**	**+1.4**
H17K				IAmb	IAmb	09 48 11.0	
	comp=Z,3.8nm,1.1s						
K17K	**Iditarod**	**83.24**	**26**	P	**P**	**09 47 37.9**	**+0.8**
L18K	**Granite Mounta**	**83.84**	**27**	P	**P**	**09 47 39.1**	**-1.1**
L18K				IAmb	IAmb	09 48 19.2	
	comp=Z,4.6nm,1.4s						
J18K	**Innoko River**	**84.13**	**26**	P	**P**	**09 47 42.3**	**+0.7**
J18K				IAmb	IAmb	09 47 43.2	
	comp=Z,5.5nm,1.4s						
C19K	**Lookout Ridge**	**84.51**	**20**	P	**P**	**09 47 44.3**	**+0.9**
C19K				IAmb	IAmb	09 48 27.9	
	comp=Z,5.0nm,1.2s						
E19K	**Redstone River**	**84.90**	**22**	P	**P**	**09 47 47.1**	**+1.7**
E19K				IAmb	IAmb	09 48 11.7	
	comp=Z,4.6nm,1.4s						
QSPA	**South Pole Qui**	**89.08**	**180**	P	**P**	**09 48 06.9**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=313,slow=1.4,SNR=4.1						
	comp=Z,1.9nm,0.8s						
G26K	**Porcupine Rive**	**90.00**	**23**	P	**P**	**09 48 09.6**	**-0.4**
J26L	**Joseph Creek**	**90.00**	**26**	P	**P**	**09 48 09.7**	**-0.5**
MESA	**MESA**	**90.66**	**30**	P	**P**	**09 48 13.5**	**0.0**
I28M	**Miner Creek**	**91.55**	**25**	P	**P**	**09 48 17.5**	**+0.1**
I28M				IAmb	IAmb	09 48 22.4	
	comp=Z,2.0nm,1.0s						

*IDC **14** 09:36:56.1±2.0,0°.46S×128°.66E,h0km,mb3.9/6, mbtmp3.9/6,Error ellipse: s-maj=172.8km s-min=23.3km az=69.0*

ISC 14 09:36:58.1±0.9,**0°.6S**±0°.1×**128°.4E**±0°.1,**h10**km,**n8,**σ0**9**54**/8, **mb3.9/5,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.67**	**322**	P	**Pg**	**09 37 30.0**	**-0.1**
SWI	**Sorong**	**2.89**	**96**	P	**Pg**	**09 37 53.4**	**-0.1**
WRA	**Warramunga Arr**	**20.13**	**164**	P	**P**	**09 41 31.4**	**-1.0**
	2.7nm,0.9s,baz=344,slow=11,SNR=5.3						
	2.7nm,0.9s						
ASAR	**Alice Springs**	**23.59**	**167**	P	**P**	**09 42 09.1**	**-0.1**
	3.2nm,0.7s,baz=348,slow=10,SNR=4.9						
	3.2nm,0.7s						
MKAR	**Makanchi Array**	**62.01**	**326**	P	**P**	**09 47 18.8**	**+0.2**
	0.4nm,0.7s,baz=127,slow=7.5,SNR=2.1						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**66.22**	**328**	P	**P**	**09 47 45.9**	**-0.3**
	0.4nm,0.6s,baz=126,slow=5.9,SNR=1.9						
	0.4nm,0.6s						
VNDA	**Vanda**	**79.00**	**173**	P	**P**	**09 49 02.3**	**+0.5**
	0.9nm,0.8s,baz=316,slow=5.4,SNR=4.0						
	0.9nm,0.8s						
QSPA	**South Pole Qui**	**89.38**	**180**	P	**P**	**09 49 55.1**	**+0.2**
	4.5nm,0.9s,baz=340,slow=2.0,SNR=5.7						
	4.5nm,0.9s						

*DJA **14** 09:37:06.2±0.3,0°.3S±3°.3×12°.8E±°.3,h10km,M4.9/13, MLv4.9/13*

*IDC **14** 09:37:06.6±1.2,0°.79S×127°.94E,h0km,mb3.9/6, mbtmp3.9/6,Error ellipse: s-maj=62.6km s-min=21.3km az=77.0*

ISC 14 09:37:07.5±0.9,**0°.85S**±0°.09×**128°.01E**±0°.09,**h10**km,**n13,** σ0**°78/11,mb3.9/5,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**2.35**	**240**	P	**Pg**	**09 37 51.6**	**-0.9**
NLAI	**Namlea**	**2.54**	**201**	P	**Pb**	**09 37 54.1**	**+0.9**
MSAI	**Masohi**	**2.64**	**160**	P	**Pb**	**09 37 55.6**	**+0.7**
AAI	**Ambon**	**2.82**	**176**	P	**Pb**	**09 37 57.7**	**-0.3**
FAKI	**Fak Fak**	**4.71**	**116**	P	**Pn**	**09 38 17.8**	**-0.8**
APSI	**Ampana**	**6.36**	**269**	P	Pn	09 38 47.3	+5.9
KAPI	**Kappang**	**9.22**	**243**	Pn	Pn	09 39 28.1	+7.4
	2.4nm,0.3s,baz=68,slow=16,SNR=3.6						
WRA	**Warramunga Arr**	**19.96**	**162**	P	**Pn**	**09 41 41.6**	**-0.1**
	2.9nm,0.6s,baz=340,slow=12,SNR=7.0						
	2.9nm,0.6s						
ASAR	**Alice Springs**	**23.39**	**166**	P	**P**	**09 42 17.7**	**+1.0**
	4.6nm,0.4s,baz=343,slow=11,SNR=4.1						
	4.6nm,0.4s						
KSRS	**Korea Array**	**38.12**	**360**	P	**P**	**09 44 26.1**	**-0.6**
	1.0nm,0.8s,baz=177,slow=9.0,SNR=4.7						
	1.0nm,0.8s						
MJAR	**Matsushiro Arr**	**38.39**	**13**	P	**P**	**09 44 29.3**	**+0.1**
	1.3nm,0.7s,baz=186,slow=9.1,SNR=4.2						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**62.04**	**326**	P	**P**	**09 47 28.6**	**+0.4**
	0.4nm,0.4s,baz=113,slow=7.6,SNR=4.9						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**66.27**	**328**	P	**P**	**09 47 56.5**	**+0.7**
	0.5nm,0.6s,baz=124,slow=5.9,SNR=2.6						
	0.5nm,0.6s						

*NEIC **14** 09:38:21.3±1.1,0°.78S±0°.06×128°.2E±0°.1,h10km±1km, mb4.8/31,Error ellipse: s-maj=18.5km s-min=8.3km az=115.0*

*IDC **14** 09:38:22.4±0.6,0°.52S×127°.88E,h0km,mb4.4/18, mbtmp4.4/19,ML4.2/1,Error ellipse: s-maj=25.6km s-min=13.3km az=73.0*

*DJA **14** 09:38:25.3±0.3,1°.5S±3°.1×12°.8E±°.1,h10km,M5.1/9,mb5.5/1, MLv4.9/9*

ISC 14 09:38:22.2±0.5,**0°.76S**±0°.04×**128°.01E**±0°.07,**h10**km,**n75,** σ1**9**60/78,mb4.8/37,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.65**	**337**		**Pn**	**09 38 51.3**	**0.0**
TNTI	**Ternate**	**1.65**	**337**	P	**Pn**	**09 38 50.4**	**-0.9**
TNTI				S	**Sn**	**09 39 11.8**	**-0.7**
NLAI	**Namlea**	**2.63**	**200**	P	**Pb**	**09 39 10.1**	**+0.6**
MSAI	**Masohi**	**2.73**	**160**	P	**Pg**	**09 39 13.4**	**-1.2**
MSAI				S	**Sg**	**09 39 51.0**	**+0.9**
AAI	**Ambon**	**2.92**	**176**	P	**Pg**	**09 39 14.8**	**-3.4**
KMSI	**Cibinong**	**4.24**	**288**	P	Pn	09 39 23.8	-3.2
LUWI	**Luwuk**	**5.25**	**267**	P	Pn	09 39 31.7	-9.1
APSI	**Ampana**	**6.37**	**269**	P	**Pn**	**09 39 54.1**	**-2.1**
TOLI2	**Tolitoli**	**7.47**	**284**	Pn	**Pn**	**09 40 13.2**	**+1.9**
KAPI	**Kappang**	**9.27**	**243**		**Pn**	**09 40 36.9**	**+0.8**
KAPI	**Kappang**	**9.27**	**243**	Pn	**Pn**	**09 40 39.9**	**+3.9**
	2.9nm,0.3s,baz=64,slow=14,SNR=5.1						
KAPI				Sn	**Sn**	**09 42 17.9**	**-2.7**
	0.9nm,0.3s,baz=210,slow=19,SNR=0.9						
MYLDM	**Lahad Datu**	**11.18**	**302**	Pn	**Pn**	**09 41 03.2**	**+0.9**
MTN	**Manton Dam**	**12.40**	**166**	Pn	**Pn**	**09 41 14.6**	**-4.3**
SBUM	**Sibu**	**16.11**	**281**		**P**	**09 42 12.6**	**+0.3**
FITZ	**Fitzroy Crossi**	**17.39**	**188**	P	**P**	**09 42 30.2**	**+3.7**
	0.6nm,0.3s,baz=29,slow=9.4,SNR=3.4						
	7.8nm,0.8s						
WB0	**Warramunga Arr**	**19.90**	**162**	P	**P**	**09 42 49.6**	**-4.5**
WRA	**Warramunga Arr**	**20.05**	**162**	P	**Pn**	**09 43 00.9**	**+3.4**
	6.8nm,0.7s,baz=345,slow=11,SNR=5.7						
	6.8nm,0.7s						
ASAR	**Alice Springs**	**23.48**	**166**	P	**P**	**09 43 36.3**	**+4.0**
	14nm,1.0s,baz=343,slow=10,SNR=8.3						
ASAR				PcP	**PcP**	**09 47 19.8**	**+1.4**
	1.6nm,0.8s,baz=346,slow=2.1,SNR=2.3						
	14nm,1.0s						
MYKOM	**Kota Tinggi**	**24.29**	**276**	P	**P**	**09 43 40.8**	**+0.7**
MYKOM				IAmb	IAmb	09 43 42.6	
	comp=Z,25nm,0.8s						
RPSI	**Rantau Prapat**	**29.28**	**277**	P	**P**	**09 44 26.1**	**+1.0**
PSI	**Prapat**	**29.30**	**277**	P	**P**	**09 44 26.1**	**+0.7**
	comp=Z,27nm,0.9s,baz=130,slow=3.8,SNR=7.8						
	comp=Z,27nm,0.9s						
GSI	**Gunungsitoli**	**30.50**	**274**	P	**P**	**09 44 35.2**	**-0.7**
SLVN	**Son La**	**32.20**	**314**	P	**P**	**09 44 51.0**	**+0.2**
STKA	**Stephens Creek**	**33.51**	**159**	P	P	09 45 06.5	+4.5
	comp=Z,8.7nm,0.9s,baz=319,slow=6.4,SNR=6.2						
	comp=Z,8.7nm,0.9s						
CM31	**Chiang Mai Ar**	**34.37**	**305**	P	**P**	**09 45 09.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**34.37**	**305**	P	**P**	**09 45 09.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**34.37**	**305**	P	**P**	**09 45 10.8**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=124,slow=6.9,SNR=8.4						
CMAR				PcP	**PcP**	**09 47 47.5**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=188,slow=1.7,SNR=5.7						
	comp=Z,0.8nm,0.5s						
CHTO	**Chiang Mai**	**34.55**	**306**	P	**P**	**09 45 10.8**	**-0.5**
ENH	**Enshi**	**35.55**	**332**	P	**P**	**09 45 19.4**	**-0.4**
ENH				IAmb	IAmb	09 45 23.4	
	comp=Z,16nm,1.0s						
KSRS	**Korea Array**	**38.02**	**360**	P	**P**	**09 45 40.7**	**0.0**
	comp=Z,0.8nm,0.8s,baz=167,slow=8.2,SNR=2.2						
KSRS				PcP	**PcP**	**09 47 57.0**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=191,slow=4.9,SNR=5.1						
	comp=Z,0.8nm,0.8s						
MJAR	**Matsushiro Arr**	**38.30**	**13**	P	**P**	**09 45 42.8**	**-0.3**
	comp=Z,3.4nm,0.9s,baz=186,slow=8.5,SNR=6.5						
	comp=Z,3.4nm,0.9s						
BRDH	**Bariadhala**	**42.39**	**306**	P	**P**	**09 46 17.4**	**+0.3**
	comp=Z,97nm,0.3s,baz=243,slow=14,SNR=1.4						
LZH	**Lanzhou**	**43.01**	**331**	*e*P	**P**	**09 46 23.9**	**+1.7**
LZH				pP	sP	09 46 29.8	+3.3
LZH				pmax	pmax		
	comp=Z,41nm,1.3s						
SHL	**Shillong**	**43.63**	**309**		**P**	**09 46 26.5**	**-0.9**
SHL				IAmb	IAmb	09 46 29.1	
	comp=Z,14nm,0.7s						
GTA	**Gaotai**	**47.59**	**330**	*e*P	**P**	**09 47 00.0**	**+1.5**
GTA				pmax	pmax		
	comp=Z,17nm,1.1s						
EVN	**Everest**	**48.74**	**309**		**P**	**09 47 08.2**	**0.0**
SONM	**Songino Array**	**51.93**	**342**	P	**P**	**09 47 30.7**	**-0.7**
SONM	**Songino Array**	**51.93**	**342**	P	**P**	**09 47 31.8**	**+0.4**
	comp=Z,2.7nm,0.9s,baz=160,slow=8.7,SNR=10						
	comp=Z,2.7nm,0.9s						
PETK	**Petropavlovsk-**	**59.12**	**20**	P	**P**	**09 48 23.3**	**+0.4**
PETK	**Petropavlovsk-**	**59.12**	**20**	P	**P**	**09 48 25.1**	**+2.2**
	comp=Z,4.5nm,0.9s,baz=159,slow=4.6,SNR=7.1						
	comp=Z,4.5nm,0.9s						
NIL	**Nilore**	**61.70**	**309**	P	**P**	**09 48 40.4**	**-0.6**
NIL				IAmb	IAmb	09 48 41.6	
	comp=Z,7.9nm,0.8s						
PRZ	**Przheval'sk**	**61.94**	**320**	P	**P**	**09 48 42.4**	**-0.2**
MKAR	**Makanchi Array**	**61.96**	**326**	P	**P**	**09 48 41.6**	**-0.8**
MKAR	**Makanchi Array**	**61.96**	**326**	P	**P**	**09 48 42.4**	**0.0**
	comp=Z,4.7nm,0.8s,baz=127,slow=8.1,SNR=15						
	comp=Z,4.7nm,0.8s						
KSH	**Kashi**	**62.13**	**316**	P	**P**	**09 48 43.3**	**-0.6**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MAKZ	**Makanchi**	**62.14**	**326**		**P**	**09 48 42.8**	**-0.9**
MAKZ				IAmb	IAmb	09 48 44.5	
	comp=Z,9.6nm,1.0s						
KDJ	**Kajisay**	**62.55**	**319**		**P**	**09 48 46.1**	**-0.6**
KDJ				IAmb	IAmb	09 48 48.1	
	comp=Z,8.4nm,0.9s						
NRN	**Naryn**	**62.99**	**318**	P	**P**	**09 48 48.9**	**-0.9**
NRN				IAmb	IAmb	09 48 50.3	
	comp=Z,6.5nm,1.0s						
BOOM	**Boomskoye usch**	**63.53**	**319**		**P**	**09 48 53.2**	**0.0**
BOOM				IAmb	IAmb	09 48 54.6	
	comp=Z,11nm,1.2s						
ARSB	**Arslanbob**	**64.97**	**317**	P	**P**	**09 49 01.6**	**-1.1**
ZALV	**Zalesovo Beam**	**65.14**	**334**	P	**P**	**09 49 02.2**	**-1.1**
ZALV	**Zalesovo Beam**	**65.14**	**334**	P	**P**	**09 49 02.4**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=134,slow=7.4,SNR=4.6						
	comp=Z,1.2nm,0.5s						
KBL	**Kabul**	**65.28**	**309**	P	**P**	**09 49 04.1**	**-0.8**
KBL				IAmb	IAmb	09 49 05.4	
	comp=Z,11nm,1.1s						
GAR	**Garm**	**65.91**	**314**	P	**P**	**09 49 07.7**	**-1.0**
BTK	**Batken**	**65.96**	**315**	P	**P**	**09 49 08.8**	**-0.2**
BTK				IAmb	IAmb	09 49 11.2	
	comp=Z,9.1nm,1.1s						
KURBB	**Kurchatov Arra**	**66.19**	**328**	P	**P**	**09 49 09.8**	**-0.3**
	comp=Z,6.9nm,1.0s,baz=126,slow=5.8,SNR=16						
	comp=Z,6.9nm,1.0s						
KURK	**Kurchatov**	**66.19**	**328**		**P**	**09 49 09.7**	**-0.5**
KK31	**Karatay Array**	**67.38**	**318**		**P**	**09 49 17.0**	**-1.0**
KK31				IAmb	IAmb	09 49 18.6	
	comp=Z,7.9nm,0.9s						
KKAR	**Karatay Array**	**67.38**	**318**		**P**	**09 49 17.0**	**-0.9**
BVAR	**Borovoye Array**	**71.76**	**328**	P	**P**	**09 49 44.2**	**-0.6**
	comp=Z,3.4nm,0.8s,baz=118,slow=6.7,SNR=8.5						
	comp=Z,3.4nm,0.8s						
NRIK	**Noril'sk**	**75.06**	**346**	P	**P**	**09 50 03.2**	**-0.7**
NRIK				IAmb	IAmb	09 50 05.1	
	comp=Z,7.5nm,0.9s						
NRIK	**Noril'sk**	**75.06**	**346**	P	**P**	**09 50 03.5**	**-0.3**
	comp=Z,4.8nm,0.7s,baz=209,slow=1.4,SNR=5.3						
	comp=Z,4.8nm,0.7s						
AB31	**Akbulak array**	**76.42**	**321**	P	**P**	**09 50 10.7**	**-1.4**
AB31				IAmb	IAmb	09 50 13.8	
	comp=Z,6.8nm,1.1s						
ABKAR	**Akbulak array**	**76.42**	**321**	P	**P**	**09 50 11.1**	**-1.0**
AKTO	**Aktyubinsk**	**77.96**	**322**	P	**P**	**09 50 19.9**	**-0.8**
	comp=Z,6.7nm,0.9s,baz=111,slow=2.7,SNR=8.3						
	comp=Z,6.7nm,0.9s						
VNDA	**Vanda**	**78.85**	**173**	P	**P**	**09 50 27.9**	**+2.8**
	comp=Z,2.9nm,0.9s,baz=312,slow=5.2,SNR=6.1						
	comp=Z,2.9nm,0.9s						
M14K	**Bethel**	**81.00**	**28**	P	**P**	**09 50 35.4**	**-1.6**
M14K				IAmb	IAmb	09 50 51.4	
	comp=Z,6.1nm,0.9s						
F15K	**North Star Dit**	**81.52**	**23**	P	**P**	**09 50 37.5**	**-2.2**
J17K	**VABM Dome**	**83.07**	**26**	P	**P**	**09 50 46.6**	**-1.2**
J17K				IAmb	IAmb	09 50 53.0	
	comp=Z,7.7nm,1.0s						
C18K	**Utukok River**	**83.78**	**20**	P	**P**	**09 50 49.5**	**-2.0**
C18K				IAmb	IAmb	09 50 58.0	
	comp=Z,5.6nm,1.1s						
ILAR	**Eielson Array**	**88.58**	**25**	P	**P**	**09 51 15.6**	**+0.5**
	comp=Z,1.7nm,1.1s,baz=269,slow=3.7,SNR=4.3						
	comp=Z,1.7nm,1.1s						
DAWY	**Dawson**	**91.81**	**26**	P	**P**	**09 51 28.1**	**-2.2**
DAWY				IAmb	IAmb	09 51 37.7	
	comp=Z,4.9nm,1.2s						
BRTR	**Keskin Array B**	**93.85**	**310**	P	**P**	**09 51 39.9**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=113,slow=6.5,SNR=2.4						
	comp=Z,0.5nm,0.7s						
FARO	**Faro, Yukon**	**94.70**	**28**	P	**P**	**09 51 43.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**125.44**	**286**	PKP	**PKiKP**	**09 57 25.3**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=83,slow=2.3,SNR=1.6						

*IDC **14** 09:41:16.0±1.2,0°.68S×127°.53E,h0km,mb4.1/5, mbtmp4.1/5,Error ellipse: s-maj=64.9km s-min=23.2km az=72.0*

*NEIC **14** 09:41:17.7±1.9,0°.55S±0°.09×127°.73E±0°.03,h10km±1km, mb4.4/12,Error ellipse: s-maj=14.4km s-min=5.5km az=181.0*

ISC 14 09:41:17.2±0.6,**0°.61S**±0°.08×**127°.65E**±0°.10,**h10**km,**n24,** σ1**9**24/23,**mb4.4/9,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.40**	**348**	Pn	**Pn**	**09 41 42.0**	**-0.8**
TOLI2	**Tolitoli**	**7.07**	**284**	Pn	**Pn**	**09 43 01.0**	**+0.1**
KAPI	**Kappang**	**9.02**	**241**	Pn	**Pn**	**09 43 30.1**	**+2.5**
KAPI	**Kappang**	**9.02**	**241**	Pn	Pn	09 43 33.6	+6.1
	3.1nm,0.3s,baz=96,slow=3.1,SNR=6.6						
BOXOZ	**Borroloola**	**17.56**	**151**	P	**Pn**	**09 45 23.1**	**+0.8**
SMRI	**Semarang**	**18.31**	**249**	P	**P**	**09 45 28.3**	**-3.5**
SMRI				IAmb	IAmb	09 45 37.8	
	comp=Z,38nm,1.1s						
WRA	**Warramunga Arr**	**20.30**	**162**	P	**P**	**09 45 52.7**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=342,slow=10,SNR=3.0						
	comp=Z,1.1nm,0.5s						
AS31	**Alice Springs**	**23.71**	**166**	P	**P**	**09 46 28.7**	**-0.8**
ASAR	**Alice Springs**	**23.71**	**166**	P	**P**	**09 46 28.5**	**-1.1**
ASAR	**Alice Springs**	**23.71**	**166**	P	**P**	**09 46 29.9**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=345,slow=9.3,SNR=4.7						
	comp=Z,4.9nm,0.8s						
FORT	**Forrest**	**30.01**	**179**	P	**P**	**09 47 24.6**	**-1.6**
FORT				IAmb	IAmb	09 47 46.2	
	comp=Z,3.5nm,0.8s						
STKA	**Stephens Creek**	**33.78**	**158**	P	**P**	**09 47 59.5**	**+0.1**
STKA				IAmb	IAmb	09 48 16.3	
	comp=Z,4.8nm,1.1s						
MJAR	**Matsushiro Arr**	**38.24**	**14**	P	**P**	**09 48 37.0**	**-0.6**
SHL	**Shillong**	**43.25**	**310**	P	**P**	**09 49 18.6**	**-0.7**
SHL				IAmb	IAmb	09 49 21.9	
	comp=Z,6.2nm,0.7s						
EVN	**Everest**	**48.37**	**309**	P	**P**	**09 49 60.0**	**-0.3**
PETK	**Petropavlovsk-**	**59.11**	**21**	P	**P**	**09 51 19.2**	**+1.4**
	comp=Z,6.3nm,1.0s,baz=214,slow=7.4,SNR=4.4						
	comp=Z,6.3nm,1.0s						
MKAR	**Makanchi Array**	**61.63**	**326**	P	**P**	**09 51 35.8**	**+0.5**
MKAR	**Makanchi Array**	**61.63**	**326**	P	**P**	**09 51 35.4**	**+0.2**
	comp=Z,2.8nm,0.9s,baz=110,slow=8.1,SNR=7.0						
	comp=Z,2.8nm,0.9s						
KBL	**Kabul**	**64.91**	**309**	P	**P**	**09 51 57.2**	**-0.2**
KURBB	**Kurchatov Arra**	**65.87**	**328**	P	**P**	**09 52 03.5**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=132,slow=6.0,SNR=5.1						
	comp=Z,1.2nm,0.6s						
P08K	**Saint George I**	**75.88**	**30**	P	**P**	**09 53 03.6**	**-0.2**
P08K				IAmb	IAmb	09 53 18.5	
	comp=Z,36nm,1.1s						
ABKAR	**Akbulak array**	**76.08**	**321**	P	**P**	**09 53 05.1**	**0.0**
L18K	**Granite Mounta**	**83.88**	**27**	P	**P**	**09 53 48.1**	**+1.1**
L18K				IAmb	IAmb	09 53 58.8	
	comp=Z,2.5nm,1.1s						
C19K	**Lookout Ridge**	**84.47**	**20**	P	**P**	**09 53 51.0**	**+1.0**
C19K				IAmb	IAmb	09 54 02.1	
	comp=Z,5.4nm,1.1s						

*SDD **14** 09:41:29.5±1.0,18°.62N×72°.12W,h23km±9km,MD3.2, ML2.4,MW3.0*

*OSPL **14** 09:41:31.0±4.5,18°.64N×72°.01W,h0km±30km,ML2.2*

ISC 14 09:41:29.7±1.0,**18°.63N**±0°.04×**72°.03W**±0°.04,**h17**km±9km, **n11,**σ0**°60/20,1C-5D,Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIDR	**Jimani**	**0.22**	**128**	*e*Pg	**Pg**	**09 41 35.1**	**+0.2**
JIDR				IAML		09 41 40.2	
	comp=N,3μm,0.2s						
JIDR				*e*Sg	**Sb**	**09 41 40.3**	**+1.3**
PAPH	**Port-au-Prince**

DJA ***14*** *09:43:48.5±0.3,1°S±1°×12°8E±°, h25km±2km, M5.9/116, mB6.2/6, mb5.8/116, MLv6.0/25, Mw5.7/151, Mw(mB)5.9/6, MwMwp7.8/1, Mwp7.4/1*

ISC 14 09:43:47.0±0.5, 0°84S±0°03×127°65E±0°04, h18km±2km, n774, σ1§72/842, mb5.7/229, MS6.4/8, 28C-19D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
TNTI	**Ternate**	**1.62**	**350**		**Pn**	**09 44 14.6**		**-0.2**
TNTI	**Ternate**	**1.62**	**350**	P	**Pn**	**09 44 15.3**		**+0.6**
TNTI	**Ternate**	**1.62**	**350**	P	**Pn**	**09 44 14.9**		**+0.2**
SANI	**Sanana**	**2.05**	**234**	P	**Pn**	**09 44 21.9**		**+1.3**
SANI	**Sanana**	**2.05**	**234**	P	**Pn**	**09 44 20.3**		**-0.3**
NLAI	**Namlea**	**2.45**	**193**	P	**Pn**	**09 44 27.3**		**+1.2**
MSAI	**Masohi**	**2.80**	**153**	P	**Pn**	**09 44 33.1**		**+2.2**
AAI	**Ambon**	**2.88**	**169**	P	**Pn**	**09 44 33.7**		**+1.7**
SWI	**Sorong**	**3.61**	**90**	P	**Pn**	**09 44 42.5**		**+0.5**
KMSI	**Cibinong**	**3.93**	**291**	P	**Pn**	**09 44 47.4**		**+0.9**
BNDI	**Bandanaira**	**4.30**	**148**	P	**Pn**	**09 44 53.8**		**+2.3**
BNDI	**Bandanaira**	**4.30**	**148**	P	**Pn**	**09 44 53.1**		**+1.6**
LUWI	**Luwuk**	**4.88**	**268**	P	**Pn**	**09 44 59.4**		**-0.2**
SGSI	**Sangihe**	**4.97**	**335**	P	**Pn**	**09 45 02.5**		**+1.7**
FAKI	**Fak Fak**	**5.04**	**114**		**Pn**	**09 45 01.4**		**-0.3**
FAKI	**Fak Fak**	**5.04**	**114**	P	**Pn**	**09 45 02.4**		**+0.7**
FAKI	**Fak Fak**	**5.04**	**114**	P	**Pn**	**09 45 01.2**		**-0.5**
	8.7nm2μm,0.9s							
MRSI	**Marisa**	**5.86**	**283**	P	**Pn**	**09 45 14.4**		**+1.4**
	9.6nm1μm,1.2s							
KDI	**Kendari**	**5.91**	**238**	P	**Pn**	**09 45 15.2**		**+1.5**
APSI	**Ampana**	**6.00**	**269**	P	**Pn**	**09 45 14.6**		**-0.4**
RKPI	**Ransiki, Papua**	**6.56**	**96**	P	**Pn**	**09 45 23.5**		**+0.9**
	7.9nm1μm,1.4s							
KMPI	**Kaimana, Papua**	**6.67**	**115**	P	**Pn**	**09 45 24.5**		**+0.4**
	7.7nm2μm,1.1s							
BBSI	**Bau Bau**	**6.86**	**228**	P	**Pn**	**09 45 30.2**		**+3.4**
	5.4nm4?μm1μm,1.1s							
TOLI2	**Tolitoli**	**7.14**	**286**		**Pn**	**09 45 30.8**		**+0.2**
TOLI2	**Tolitoli**	**7.14**	**286**	P	**Pn**	**09 45 32.7**		**+2.1**
PCI	**Palu**	**7.81**	**269**	P	**Pn**	**09 45 40.2**		**+0.3**
MPSI	**Mapaga**	**7.84**	**279**	P	**Pn**	**09 45 41.7**		**+1.5**
	4.6nm377nm,0.7s							
SAUI	**Saumlaki**	**7.97**	**153**		**Pn**	**09 45 41.8**		**-0.3**
SAUI	**Saumlaki**	**7.97**	**153**	P	**Pn**	**09 45 44.1**		**+2.0**
	2μm,1.1s							
DAV	**Davao City (W)**	**8.12**	**345**	Pn	**Pn**	**09 45 44.1**		**0.0**
DAV	**Davao City (W)**	**8.12**	**345**	Pn	**Pn**	**09 45 47.5**		**+3.3**
	12nm,0.3s,baz=357,slow=1.6,SNR=4.8							
DAV				Sn	**Sn**	**09 47 19.4**		**+3.8**
	43nm,0.3s,baz=337,slow=17,SNR=1.1							
DAV	**Davao City (W)**	**8.12**	**345**	P	**Pn**	**09 45 47.0**		**+2.9**
DAV				S	**Sn**	**09 47 18.4**		**+2.9**
DAV	**Davao City (W)**	**8.12**	**345**	P	**Pn**	**09 45 45.0**		**+0.9**
TTSI	**Tana Toraja**	**8.13**	**254**	P	**Pn**	**09 45 45.4**		**+1.2**
	2μm,0.9s							
BNSI	**Bone**	**8.33**	**245**	P	**Pn**	**09 45 48.4**		**+1.5**
	561nm,1.1s							
BAKI	**Biak**	**8.46**	**92**	P	**Pn**	**09 45 51.0**		**+2.2**
	519nm,1.2s							
SPSI	**Sidrap Palu**	**8.47**	**248**	P	**Pn**	**09 45 51.4**		**+2.6**
SRPI	**Serui, Papua**	**8.65**	**97**	P	**Pn**	**09 45 51.3**		**0.0**
	181nm,0.7s							
BKSI	**Bulukumba**	**8.74**	**239**	P	**Pn**	**09 45 55.7**		**+3.1**
	698nm,0.6s							
BSSI	**Bau Bau, Buton**	**8.88**	**233**	P	**Pn**	**09 45 57.7**		**+3.2**
	1μm,0.8s							
KAPI	**Kappang**	**8.91**	**242**		**Pn**	**09 45 56.5**		**+1.5**
KAPI	**Kappang**	**8.91**	**242**	Pn	**Pn**	**09 45 58.2**		**+3.3**
	22nm,0.3s,baz=58,slow=7.4,SNR=86							
KAPI				Sn	**Sn**	**09 47 35.7**		**+0.7**
	5.3nm,0.3s,baz=100,slow=23,SNR=0.9							
KAPI	**Kappang**	**8.91**	**242**	P	**Pn**	**09 45 55.5**		**+0.6**
KAPI	**Kappang**	**8.91**	**242**	P	**Pn**	**09 45 58.0**		**+3.0**
KAPI	**Kappang**	**8.91**	**242**	*i* P	**Pn**	**09 45 56.3**		**+1.3**
KAPI				MLR	MLR			
	comp=Z,18μm,13.0s							
MMRI	**Maumere**	**9.44**	**215**		**Pn**	**09 46 05.6**		**+3.4**
MMRI	**Maumere**	**9.44**	**215**	P	**Pn**	**09 46 04.9**		**+2.7**
MMRI	**Maumere**	**9.44**	**215**	P	**Pn**	**09 46 05.5**		**+3.4**
	comp=Z,440nm,1.1s							
SOEI	**Soe**	**9.48**	**201**		**Pn**	**09 46 03.2**		**+0.3**
SOEI	**Soe**	**9.48**	**201**	P	**Pn**	**09 46 06.6**		**+3.8**
	comp=Z,790nm,1.2s							
EDFI	**Ende, Flores**	**9.85**	**217**	P	**Pn**	**09 46 11.7**		**+3.8**
	comp=Z,408nm,1.2s							
BATI	**Baumata**	**10.12**	**203**	Pn	Pn	09 46 17.4		+5.9
	comp=Z,5.4nm,0.3s,baz=196,slow=1.1,SNR=13							
BATI	**Baumata**	**10.12**	**203**	P	**Pn**	**09 46 14.4**		**+2.9**
	comp=Z,377nm,1.0s							
SMKI	**Samarinda**	**10.45**	**272**	P	**Pn**	**09 46 18.5**		**+2.4**
	comp=Z,280nm,0.7s							
BKB	**Balikpapan**	**10.76**	**268**		**Pn**	**09 46 21.2**		**+0.9**
BKB	**Balikpapan**	**10.76**	**268**	P	**Pn**	**09 46 22.3**		**+2.0**
BKB	**Balikpapan**	**10.76**	**268**	P	**Pn**	**09 46 22.6**		**+2.3**
	comp=Z,441nm,0.7s							
MYLDM	**Lahad Datu**	**10.92**	**303**		**Pn**	**09 46 25.2**		**+2.7**
SMPI	**Sarmi**	**11.11**	**96**	P	**Pn**	**09 46 28.3**		**+3.2**
WSI	**Waingapu**	**11.42**	**220**	P	**Pn**	**09 46 33.4**		**+4.0**
	comp=Z,957nm,1.3s							
BASI	**Baing, Sumba**	**11.68**	**217**	P	**Pn**	**09 46 36.0**		**+3.2**
	comp=Z,1μm,1.3s							
DRS	**Darwin Rock St**	**11.96**	**165**	P	**Pn**	**09 46 37.6**		**+0.9**
WBSI	**Waikabubak, Su**	**12.00**	**223**	P	**Pn**	**09 46 39.9**		**+2.6**
	comp=Z,280nm,0.9s							
MTN	**Manton Dam**	**12.42**	**164**		**Pn**	**09 46 42.2**		**-0.8**
MTN	**Manton Dam**	**12.42**	**164**	P	**Pn**	**09 46 42.2**		**-0.8**
	comp=Z,465nm,1.0s							
MTN	**Manton Dam**	**12.42**	**164**	P	**Pn**	**09 46 43.0**		**0.0**
GENI	**Genyem**	**12.63**	**98**	P	**Pn**	**09 46 47.0**		**+1.1**
GENI	**Genyem**	**12.63**	**98**	P	**Pn**	**09 46 47.0**		**+1.1**
	comp=Z,1μm,1.6s							
PLAI	**Plampang**	**12.64**	**231**	P	**Pn**	**09 46 49.8**		**+3.8**
PLAI	**Plampang**	**12.64**	**231**	P	Pn	09 46 51.1		+5.1
	comp=Z,365nm,0.8s							
KDU	**Kakadu**	**12.71**	**158**	P	**Pn**	**09 46 44.4**		**-2.5**
JAY	**Jayapura**	**13.15**	**97**	Pn	**Pn**	**09 46 53.5**		**+0.4**
	comp=Z,1.3nm,0.3s,baz=272,slow=12,SNR=16							
	comp=Z,70nm,0.9s							
JAY	**Jayapura**	**13.15**	**97**	P	**Pn**	**09 46 53.1**		**0.0**
TWSI	**Taliwang, Sumb**	**13.29**	**233**	P	**Pn**	**09 46 58.6**		**+3.7**
	comp=Z,224nm,1.0s							
KKM	**Kota Kinabalu**	**13.31**	**301**		**Pn**	**09 46 54.1**		**-1.1**
KKM	**Kota Kinabalu**	**13.31**	**301**	P	**Pn**	**09 46 56.7**		**+1.4**
SRBI	**Singaraja**	**14.33**	**239**	P	**Pn**	**09 47 12.4**		**+3.2**
	comp=Z,255nm,1.1s							
KNRA	**Kununurra**	**14.79**	**176**		**Pn**	**09 47 13.5**		**-1.8**
KNRA	**Kununurra**	**14.79**	**176**	P	**Pn**	**09 47 13.9**		**-1.4**
KMMI	**Kalianget**	**14.98**	**245**	P	**Pn**	**09 47 20.5**		**+2.6**
	comp=Z,273nm,1.1s							
JAGI	**Jajag, Banyuwa**	**15.44**	**240**		**Pn**	**09 47 25.2**		**+1.2**
JAGI	**Jajag, Banyuwa**	**15.44**	**240**	P	**Pn**	**09 47 25.9**		**+1.9**
JAGI	**Jajag, Banyuwa**	**15.44**	**240**	P	**Pn**	**09 47 26.1**		**+2.1**
	comp=Z,456nm,1.1s							
SBUM	**Sibu**	**15.77**	**282**		**Pn**	**09 47 27.3**		**-1.0**
SBUM	**Sibu**	**15.77**	**282**	P	**Pn**	**09 47 28.3**		**-0.1**
BWJI	**Bawean**	**15.77**	**251**	P	**P**	**09 47 31.2**		**-1.0**
	comp=Z,1μm,1.3s							
GMJI	**Gumukmas**	**15.96**	**242**	P	**P**	**09 47 33.5**		**-0.8**
	comp=Z,564nm,1.1s							
STKI	**Sintang**	**16.20**	**273**	P	**Pn**	**09 47 33.8**		**-0.1**
TGY	**Tagaytay City**	**16.27**	**336**	Pn	**Pn**	**09 47 34.5**		**-0.3**
	comp=Z,36nm,0.3s,baz=203,slow=13,SNR=12							
GRJI	**Gresik**	**16.29**	**248**	P	**P**	**09 47 37.2**		**-0.8**
	comp=Z,460nm,1.1s							
TBJI	**Tambak Boyo**	**16.84**	**249**	P	**P**	**09 47 45.1**		**+1.0**
	comp=Z,839nm,1.7s							
FITZ	**Fitzroy Crossi**	**17.27**	**186**	P	**Pn**	**09 47 47.9**		**+0.6**
FITZ	**Fitzroy Crossi**	**17.27**	**186**	P	**Pn**	**09 47 48.0**		**+0.7**
	comp=Z,54nm,2.2s							
FITZ	**Fitzroy Crossi**	**17.27**	**186**	P	**P**	**09 47 48.3**		**-0.4**
	comp=Z,2.5nm,0.3s,baz=15,slow=8.3,SNR=24							
	comp=Z,163nm,0.9s							
FITZ	**Fitzroy Crossi**	**17.27**	**186**	P	**Pn**	**09 47 48.1**		**+0.7**
NGJI	**Ngawi**	**17.40**	**248**	P	**P**	**09 47 52.4**		**+2.2**
	comp=Z,518nm,1.2s							
KSM	**Kuching**	**17.49**	**278**	P	**Pn**	**09 47 49.3**		**-0.9**
KSM	**Kuching**	**17.49**	**278**	P	**P**	**09 47 51.7**		**+0.4**
PCJI	**Pacitan**	**17.97**	**246**	P	**P**	**09 47 58.9**		**+2.4**
	comp=Z,399nm,1.0s							
WOJI	**Wonogiri, Jawa**	**18.06**	**247**	P	**P**	**09 47 59.9**		**+2.3**
	comp=Z,376nm,1.1s							
SMRI	**Semarang**	**18.24**	**250**	P	**P**	**09 48 00.1**		**+0.5**
SMRI	**Semarang**	**18.24**	**250**	P	**P**	**09 48 03.1**		**+3.6**
SMRI	**Semarang**	**18.24**	**250**	P	**P**	**09 48 01.6**		**+2.1**
	comp=Z,262nm,0.9s							
UGM	**Wanagama**	**18.46**	**247**	P	**P**	**09 48 02.1**		**+0.1**
UGM	**Wanagama**	**18.46**	**247**	P	**Pn**	**09 48 04.1**		**+2.0**
UGM	**Wanagama**	**18.46**	**247**	P	**Pn**	**09 48 02.9**		**+0.8**
	comp=Z,357nm,1.3s							
SZP	**Santa**	**19.60**	**339**	P	**Pn**	**09 48 16.7**		**+0.9**
SZP	**Santa**	**19.60**	**339**	S	**Sn**	**09 51 57.3**		**+1.7**
MANU	**Manus Island**	**19.74**	**94**	P	**P**	**09 48 15.6**		**-0.4**
WB0	**Warramunga Arr**	**19.94**	**161**	P	**P**	**09 48 16.6**		**-1.5**
WB0				IAmb	IAmb	09 48 20.0		
	comp=Z,311nm,0.9s							
TPI	**Tanjungpandan**	**20.08**	**264**	P	Pn	09 48 21.4		-0.2
	comp=Z,469nm,1.1s							
WRAB	**Tennant Creek**	**20.08**	**161**	P	**P**	**09 48 18.3**		**-1.4**
WRAB				IAmb	IAmb	09 48 19.7		
	comp=Z,401nm,1.1s							
WRAB	**Tennant Creek**	**20.08**	**161**	*i* P	**P**	**09 48 18.2**		**-1.5**
WRAB				pmax	pmax			
	comp=Z,319nm,1.0s							
WRAB				MLR	MLR			
	comp=Z,45μm,15.0s							
WRA	**Warramunga Arr**	**20.08**	**161**	P	**P**	**09 48 17.0**		**-2.7**
WRA	**Warramunga Arr**	**20.08**	**161**	P	**P**	**09 48 18.4**		**-1.3**
	comp=Z,173nm,1.0s,baz=345,slow=12,SNR=53							
WRA				S	**S**	**09 51 57.4**		**-7.5**
	comp=Z,13nm,0.9s,baz=342,slow=21,SNR=4.7							
WRA				PcP	**PcP**	**09 52 34.6**		**-0.5**
	comp=Z,6.4nm,0.7s,baz=322,slow=2.6,SNR=1.9							
WRA				ScP	**ScP**	**09 56 10.9**		**+0.1**
	comp=Z,5.9nm,1.0s,baz=318,slow=3.4,SNR=5.3							
	comp=Z,173nm,1.0s							
WRA	**Warramunga Arr**	**20.08**	**161**	P	**P**	**09 48 17.0**		**-2.7**
WRA				pmax	pmax			
	comp=Z,25nm,1.3s							
JCJI	**Jatiwangi**	**20.13**	**253**	P	Pn	09 48 23.1		+0.9
	comp=Z,1μm,1.2s							
COEN	**Coen**	**20.14**	**131**	P	**P**	**09 48 20.5**		**0.0**
COEN				IAmb	IAmb	09 48 22.4		
	comp=Z,456nm,1.1s							
COEN	**Coen**	**20.14**	**131**	P	**P**	**09 48 20.8**		**+0.4**
WR8	**Warramunga Arr**	**20.15**	**161**	P	**P**	**09 48 18.9**		**-1.5**
CMJI	**Cimerak**	**20.34**	**250**	P	**P**	**09 48 23.2**		**+0.6**
	comp=Z,831nm,1.1s							
LEM	**Lembang**	**20.85**	**253**	P	**P**	**09 48 29.4**		**+1.1**
	comp=Z,132nm,0.8s,baz=66,slow=9.8,SNR=12							
	comp=Z,132nm,0.8s							
LEM	**Lembang**	**20.85**	**253**	P	Pn	09 48 30.3		-0.4
	comp=Z,504nm,1.2s							
BBJI	**Bungbulang**	**21.00**	**251**	P	**P**	**09 48 30.9**		**+1.1**
CNJI	**Cibinong**	**21.45**	**252**	P	**P**	**09 48 35.3**		**+0.8**
	comp=Z,311nm,1.2s							
PPBI	**Pangkal Pinang**	**21.55**	**266**	P	**P**	**09 48 37.2**		**+1.6**
DBJI	**Dramaga**	**21.61**	**254**	P	**P**	**09 48 39.5**		**+3.2**
	comp=Z,678nm,1.3s							
TNG	**Tangerang**	**21.62**	**255**	P	**P**	**09 48 37.9**		**+1.5**
	comp=Z,1μm,1.2s							
MBWA	**Marble Bar**	**21.63**	**200**	P	**P**	**09 48 36.0**		**-0.4**
MBWA				IAmb	IAmb	09 48 47.1		
	comp=Z,554nm,1.2s							
MBWA	**Marble Bar**	**21.63**	**200**	P	**P**	**09 48 37.2**		**+0.9**
	comp=Z,425nm,1.2s							
MBWA	**Marble Bar**	**21.63**	**200**	P	**P**	**09 48 36.8**		**+0.5**
MBWA				S	**S**	**09 52 33.3**		**-2.0**
MBWA	**Marble Bar**	**21.63**	**200**	P	**P**	**09 48 36.9**		**+0.5**
MBWA	**Marble Bar**	**21.63**	**200**	S	**S**	**09 52 37.8**		**+2.4**
SKJI	**Sukabumi**	**21.91**	**253**	P	**P**	**09 48 41.8**		**+2.3**
	comp=Z,584nm,1.3s							
PSAC2	**Pilbara Seismi**	**21.94**	**200**	P	**P**	**09 48 39.2**		**-0.6**
	comp=Z,181nm,1.2s							
SBJI	**Serang**	**22.11**	**256**	P	**P**	**09 48 44.3**		**+2.7**
	comp=Z,751nm,1.3s							
GUMO	**Guam**	**22.29**	**49**	P	**P**	**09 48 42.9**		**-0.6**
GUMO				IAmb	IAmb	09 48 45.0		
	comp=Z,570nm,1.6s							
GUMO	**Guam**	**22.29**	**49**	P	**P**	**09 48 43.3**		**-0.2**
	comp=Z,108nm,1.0s,baz=212,slow=5.6,SNR=4.6							
	comp=Z,108nm,1.0s							
GUMO	**Guam**	**22.29**	**49**	P	**P**	**09 48 43.9**		**+0.4**
GUMO	**Guam**	**22.29**	**49**	P	**P**	**09 48 42.9**		**-0.6**
GUMO				pmax	pmax			
	comp=Z,570nm,1.6s							
CGJI	**Cibinong**	**22.64**	**255**	P	**P**	**09 48 47.8**		**+0.4**
	comp=Z,329nm,1.1s							
BLSI	**Bandar Lampung**	**22.82**	**258**	P	**P**	**09 48 51.1**		**+1.9**
	comp=Z,277nm,1.1s							
QIS	**Mount Isa**	**22.82**	**150**	P	**P**	**09 48 48.4**		**-0.7**
	comp=Z,339nm,0.8s							
QIS	**Mount Isa**	**22.82**	**150**	P	**P**	**09 48 48.4**		**-0.7**
PMBI	**Palembang**	**22.96**	**265**	P	**P**	**09 48 51.9**		**+1.2**
PMBI	**Palembang**	**22.96**	**265**	P	**P**	**09 48 52.9**		**+2.2**
	comp=Z,686nm,0.8s							
KLI	**Kotabumi**	**23.11**	**260**	P	**P**	**09 48 55.2**		**+3.0**
KLI	**Kotabumi**	**23.11**	**260**	P	**P**	**09 48 54.2**		**+1.9**
TPRI	**Tanjung Pinang**	**23.19**	**274**	P	**P**	**09 48 54.1**		**+1.0**
	comp=Z,264nm,1.0s							
AS15	**Alice Springs**	**23.46**	**165**	P	**P**	**09 48 55.0**		**-0.7**
	comp=Z,740nm,1.0s							
AS31	**Alice Springs**	**23.49**	**165**	P	**P**	**09 48 55.2**		**-0.7**
ASAR	**Alice Springs**	**23.49**	**165**	P	**P**	**09 48 55.3**		**-0.6**
ASAR	**Alice Springs**	**23.49**	**165**	P	**P**	**09 48 55.1**		**-0.9**
	comp=Z,383nm,0.9s,baz=344,slow=9.6,SNR=294							
ASAR				PcP	**PcP**	**09 52 42.0**		**+0.2**
	comp=Z,7.1nm,0.5s,baz=356,slow=1.9,SNR=6.6							
ASAR				S	**S**	**09 53 06.2**		**-2.9**
	comp=Z,105nm,1.1s,baz=347,slow=18,SNR=16							
ASAR				ScP	**ScP**	**09 56 19.4**		**0.0**
	comp=Z,5.4nm,1.0s,baz=0.0,slow=0.9,SNR=5.1							
	comp=Z,383nm,0.9s							
AS01	**Alice Springs**	**23.50**	**165**	P	**P**	**09 48 55.2**		**-0.9**
KASI	**Kota Agung**	**23.58**	**258**	P	**P**	**09 48 58.9**		**+2.0**
	comp=Z,3μmcomp=Z,450nm,1.0s							
MDSI	**Maura Dua**	**23.72**	**261**	P	**P**	**09 48 59.9**		**+1.6**
MDSI	**Maura Dua**	**23.72**	**261**	P	**P**	**09 49 00.4**		**+2.1**
	comp=Z,122nm,1.3s							
MTSU	**Mount Surprise**	**23.74**	**137**	P	**P**	**09 48 59.1**		**+0.6**
	comp=Z,116nm,1.0s							
MTSU	**Mount Surprise**	**23.74**	**137**	P	**P**	**09 48 59.2**		**+0.8**
LWLI	**Liwa**	**23.92**	**260**	P	**P**	**09 49 03.4**		**+3.1**
LWLI	**Liwa**	**23.92**	**260**	P	**P**	**09 49 02.0**		**+1.7**
MYKOM	**Kota Tinggi**	**23.94**	**276**	P	**P**	**09 49 01.2**		**+0.8**
MYKOM				IAmb	IAmb	09 49 04.7		
	comp=Z,180nm,0.7s							
MYKOM	**Kota Tinggi**	**23.94**	**276**	P	**P**	**09 49 02.1**		**+1.7**
WRKA	**Warakurna**	**24.07**	**179**	P	**P**	**09 49 02.0**		**+0.6**
	comp=Z,285nm,1.1s							
LHSI	**Lahat**	**24.29**	**263**	P	**P**	**09 49 05.0**		**+1.4**
	comp=Z,503nm,1.0s							
TWGBT	**Beinan**	**24.37**	**345**	P	**P**	**09 49 01.6**		**-2.6**
TWG	**Pinlang**	**24.37**	**345**	P	**P**	**09 49 01.8**		**-2.4**
TWG				IAmb	IAmb	09 49 17.2		
	comp=Z,208nm,0.7s							
RABL	**Rabaul**	**24.71**	**98**	P	**P**	**09 49 08.4**		**+0.9**
YULB	**Yu-li**	**24.86**	**346**	P	**P**	**09 49 08.8**		**+0.1**
YULB				IAmb	IAmb	09 49 15.2		
	comp=Z,587nm,1.6s							
YULB	**Yu-li**	**24.86**	**346**	P	**P**	**09 49 07.3**		**-1.4**
MNAI	**Manna**	**24.91**	**261**	P	**P**	**09 49 10.5**		**+1.2**
TPUB	**Ta-pu**	**24.95**	**345**	P	**P**	**09 48 08.3**		**-1.2**
TPUB	**Ta-pu**	**24.95**	**345**	P	**P**	**09 49 09.4**		**-0.1**
GIRL	**Giralia**	**25.30**	**210**	P	**P**	**09 49 13.5**		**+0.9**
GIRL				IAmb	IAmb	09 49 16.2		
	comp=Z,286nm,0.9s							
GIRL	**Giralia**	**25.30**	**210**	P	**P**	**09 49 13.7**		**+1.1**
	comp=Z,340nm,0.9s							
SSLB	**Suanglung**	**25.33**	**346**	P	**P**	**09 49 11.1**		**-1.9**
SSLB				IAmb	IAmb	09 49 22.7		
	comp=Z,384nm,1.0s							
SSLB	**Suanglung**	**25.33**	**346**	P	**P**	**09 49 11.8**		**-1.2**
NACB	**Ninganchiao**	**25.55**	**347**	P	**P**	**09 49 14.0**		**-0.9**
YOJ	**Yonaguni jima**	**25.55**	**350**	P	**P**	**09 49 14.6**		**-0.3**
YOJ				IAmb	IAmb	09 49 25.0		
	comp=Z,280nm,0.8s							
YOJ	**Yonaguni jima**	**25.55**	**350**	P	**P**	**09 49 14.9**		**0.0**
YOJ	**Yonaguni jima**	**25.55**	**350**	P	**P**	**09 49 14.6**		**-0.3**
YOJ				pmax	pmax			
	comp=Z,280nm,0.8s							
YHNB	**Yeheng**	**26.08**	**347**	P	**P**	**09 49 18.2**		**-1.6**
YHNB	**Yeheng**	**26.08**	**347**	P	**P**	**09 49 18.7**		**-1.1**
TATO	**Taipei**	**26.35**	**347**	P	**P**	**09 49 20.8**		**-1.3**
TATO	**Taipei**	**26.35**	**347**	P	**P**	**09 49 21.8**		**-0.3**
TATO	**Taipei**	**26.35**	**347**	P	**P**	**09 49 21.6**		**-0.5**
QIZ	**Qiongzhong**	**26.38**	**319**	P	**P**	**09 49 22.2**		**-0.3**
QIZ	**Qiongzhong**	**26.38**	**319**	P	**P**	**09 49 22.6**		**+0.1**
QIZ				S	**S**	**09 53 58.8**		**+3.6**
QIZ				pmax	pmax			
	comp=Z,120nm,1.4s							
QIZ	**Qiongzhong**	**26.38**	**319**	P	**P**	**09 49 23.5**		**+1.0**
CTAO	**Charters Tower**	**26.41**	**138**	P	**P**	**09 49 23.4**		**+0.6**
CTAO				IAmb	IAmb	09 49 27.0		
	comp=Z,172nm,1.1s							
CTAO	**Charters Tower**	**26.41**	**138**	P	**P**	**09 49 24.5**		**+1.7**
CTAO	**Charters Tower**	**26.41**	**138**	P	**P**	**09 49 23.4**		**+0.6**
CTAO				pmax	pmax			
	comp=Z,172nm,1.2s							
KNMB	**Chin-men Tao**	**26.71**	**341**	P	**P**	**09 49 24.3**		**-1.1**
KNMB				IAmb	IAmb	09 49 28.8		
	comp=Z,164nm,1.0s							
MEEK	**Meekatharra**	**27.09**	**198**	P	**P**	**09 49 28.0**		**-0.9**
	comp=Z,77nm,1.4s							
MEEK	**Meekatharra**	**27.09**	**198**	P	**P**	**09 49 28.0**		**-0.9**
QZH	**Quanzhou**	**27.09**	**342**	⇑*i* P	**P**	**09 49 29.5**		**+0.7**
QZH				S	**S**	**09 54 07.8**		**+1.6**
QZH				pmax	pmax			
	comp=Z,220nm,1.3s							
UBPT	**Khong Chiam**	**27.16**	**307**	P	**P**	**09 49 29.0**		**-0.5**
UBPT	**Khong Chiam**	**27.16**	**307**	P	**P**	**09 49 29.3**		**-0.2**
JOW	**Kunigami**	**27.52**	**1**	P	**P**	**09 49 32.1**		**-0.6**
JOW				IAmb	IAmb	09 49 37.4		
	comp=Z,197nm,1.0s							
JOW	**Kunigami**	**27.52**	**1**	P	**P**	**09 49 33.2**		**+0.5**
GZH	**Guangzhou**	**27.56**	**331**	P	**P**	**09 49 35.3**		**+2.2**
KULM	**Kulim**	**27.65**	**283**	P	**P**	**09 49 33.9**		**-0.2**
KULM				IAmb	IAmb	09 49 41.1		
	comp=Z,169nm,1.2s							
KULM	**Kulim**	**27.65**	**283**	P	**P**	**09 49 34.9**		**+0.9**
RPSI	**Rantau Prapat**	**28.93**	**277**	P	**P**	**09 49 45.9**		**+0.4**
RPSI	**Rantau Prapat**	**28.93**	**277**	P	**P**	**09 49 46.5**		**+1.0**
PSI	**Prapat**	**28.95**	**277**	P	**P**	**09 49 46.5**		**+0.8**
	comp=Z,277nm,0.8s,baz=104,slow=6.2,SNR=62							
PSI	**Prapat**	**28.95**	**277**	P	**P**	**09 49 46.8**		**+1.0**
PSI	**Prapat**	**28.95**	**277**	P	**P**	**09 49 45.9**		**+0.1**
PSI						09 49 46.4		
PSI				pmax	pmax			
	comp=Z,299nm,0.8s							
TSI	**Tuntungan**	**29.39**	**279**	P	**P**	**09 49 51.2**		**+1.6**
	comp=Z,386nm,0.9s							
SRIT	**Nakonsritamara**	**29.48**	**289**	P	**P**	**09 49 51.1**		**+0.7**
FORT	**Forrest**	**29.78**	**179**	P	**P**	**09 49 52.9**		**+0.1**
FORT				IAmb	IAmb	09 49 55.5		
	comp=Z,123nm,0.8s							
FORT	**Forrest**	**29.78**	**179**	P	**P**	**09 49 53.2**		**+0.4**
	comp=Z,174nm,0.8s							
GSI	**Gunungsitoli**	**30.15**	**274**	P	**P**	**09 49 55.5**		**-0.8**
GSI	**Gunungsitoli**	**30.15**	**274**	P	**P**	**09 49 56.4**		**+0.1**
QLP	**Quilpie**	**30.16**	**149**	P	**P**	**09 49 56.6**		**+0.4**
	comp=Z,140nm,0.9s							
QLP	**Quilpie**	**30

TJN pmax pmax
comp=Z,372nm,1.4s
INU Inuyama 37.05 13 P **P** **09 50 54.1 -1.9**
INU Inuyama 37.05 13 P **P** **09 50 55.8 -0.2**
ARMA Armidale 37.20 145 P **P** **09 50 57.3 -0.3**
ARMA IAmb IAmb 09 51 00.8
comp=Z,159nm,0.9s
ARMA Armidale 37.20 145 P **P** **09 50 58.5 +0.9**
comp=Z,215nm,1.1s
ARMA Armidale 37.20 145 P **P** **09 50 58.8 +1.3**
JGF Kuroka 37.37 13 P **P** **09 50 58.0 -0.8**
JGF Kuroka 37.37 13 P **P** **09 50 58.6 -0.2**
LYN LuoYang 37.97 339 ⇓P **P** **09 51 04.0 +0.2**
LYN pmax pmax
comp=Z,220nm,1.5s
ARPS Mount Arapiles 38.09 161 P **P** **09 51 06.1 +1.3**
comp=Z,141nm,1.2s
KSAR Wonju Array Be 38.09 0 P **P** **09 51 03.8 -1.0**
KSAR Wonju Array Be 38.09 0 P **P** **09 51 03.8 -1.0**
KSRS Korea Array 38.10 0 P **P** **09 51 04.5 -0.3**
comp=Z,15nm,0.8s,baz=179,slow=10.0,SNR=59
KSRS PcP **PcP** **09 53 20.1 +0.4**
comp=Z,5.5nm,1.0s,baz=186,slow=3.3,SNR=4.5
KSRS ScP **ScP** **09 57 07.5 +0.6**
comp=Z,0.3nm,0.6s,baz=194,slow=4.1,SNR=4.4
comp=Z,15nm,0.8s
INCN Inchon 38.14 359 P **P** **09 51 04.0 -1.2**
INCN Inchon 38.14 359 P **P** **09 51 05.5 +0.3**
INCN Inchon 38.14 359 P **P** **09 51 04.1 -1.2**
INCN pmax pmax
comp=Z,170nm,1.7s
TIA Tai'an 38.14 346 P **P** **09 51 04.4 -0.9**
TIA pmax pmax
comp=Z,48nm,0.8s
KS19 Wonju Array Si 38.15 0 P **P** **09 51 04.3 -1.0**
TNCH TengChong 38.17 314 P **P** **09 51 06.6 +0.7**
TNCH sP sP 09 51 13.3 -0.3
TNCH pmax pmax
comp=Z,210nm,1.9s
MJAR Matsushiro Arr 38.46 14 P **P** **09 51 06.5 -1.5**
MJAR Matsushiro Arr 38.46 14 P **P** **09 51 06.4 -1.5**
comp=Z,30nm,0.9s,baz=184,slow=9.2,SNR=38
comp=Z,30nm,0.9s
MJAR Matsushiro Arr 38.46 14 P **P** **09 51 06.5 -1.5**
MJAR pmax pmax
comp=Z,214nm,2.0s
MAJO Matsushiro 38.46 14 P **P** **09 51 06.3 -1.7**
MAJO IAmb IAmb 09 51 11.8
comp=Z,579nm,2.0s
MAJO Matsushiro 38.46 14 P **P** **09 51 06.5 -1.5**
MAJO Matsushiro 38.46 14 P **P** **09 51 06.3 -1.7**
MAJO pmax pmax
comp=Z,579nm,2.0s
MJB9 Matsu-Tunnel 38.47 14 P **P** **09 51 06.1 -1.9**
XAN Xi'an 38.90 335 P **P** **09 51 11.3 -0.4**
XAN S **S** **09 57 10.4 +1.1**
XAN pmax pmax
comp=Z,250nm,1.5s
MGCD Mangrove Creek 39.02 148 P **P** **09 51 14.6 +1.9**
LUES Luesalemba Tem 39.25 106 P **P** **09 51 16.4 +1.5**
SYDH Sydney Hard Ro 39.26 149 P **P** **09 51 16.4 +1.7**
BRAT Ballarat 39.50 159 P **P** **09 51 18.6 +2.0**
RIV Riverview 39.53 149 P **P** **09 51 18.1 +1.2**
comp=Z,205nm,1.9s
RIV Riverview 39.53 149 P **P** **09 51 18.8 +1.9**
CAN Canberra 39.65 152 P **P** **09 51 19.3 +1.2**
comp=Z,219nm,1.0s
CAN Canberra 39.65 152 P **P** **09 51 19.8 +1.8**
CNB Canberra Magne 39.82 152 P **P** **09 51 21.2 +1.7**
comp=Z,118nm,1.4s
CNB Canberra Magne 39.82 152 P **P** **09 51 21.8 +2.4**
HNS HongShan 39.89 344 ⇓P **P** **09 51 19.1 -0.7**
HNS pmax pmax
comp=Z,77nm,1.5s
JSD Sado 39.90 13 P **P** **09 51 19.3 -0.7**
DL2 Dalian 39.94 353 P **P** **09 51 19.9 -0.3**
DL2 pmax pmax
comp=Z,53nm,1.4s
TOO Toolangi 40.08 158 P **P** **09 51 22.5 +1.0**
TOO Toolangi 40.08 158 P **P** **09 51 23.4 +1.9**
comp=Z,53nm,1.4s
TOO Toolangi 40.08 158 P **P** **09 51 22.5 +1.0**
TOO pmax pmax
comp=Z,59nm,1.3s
GEXS Deakin Univers 40.20 160 P **P** **09 51 25.4 +2.9**
JMM Marumori 40.38 16 P **P** **09 51 22.0 -1.9**
JMM IAmb IAmb 09 51 26.1
comp=Z,481nm,1.7s
JMM Marumori 40.38 16 P **P** **09 51 24.4 +0.5**
KOUNC Koumac, New Ca 40.80 121 P **P** **09 51 29.7 +2.0**
TIY Taiyuan 40.86 341 *eP* **P** **09 51 27.8 -0.2**
TIY pmax pmax
comp=Z,84nm,0.8s
IMP Imphal 41.43 310 *eP* **P** **09 51 32.3 -0.6**
SANVU Saraoutou 41.64 112 P **P** **09 51 35.0 +0.4**
SANVU IAmb IAmb 09 51 48.0
comp=Z,161nm,1.1s
SANVU Saraoutou 41.64 112 P **P** **09 51 37.5 +2.9**
KOHI KOHIMA 41.80 312 *eP* **P** **09 51 35.6 -0.4**
AZL Aizawl 41.83 308 *eP* **P** **09 51 36.4 +0.1**
AZL IAmb IAmb 09 51 45.1
comp=Z,200nm,1.0s
BJT Baijiatuau 41.99 347 P **P** **09 51 35.8 -1.4**
BJT Baijiatuau 41.99 347 P **P** **09 51 36.2 -1.0**
BJT Baijiatuau 41.99 347 P **P** **09 51 35.8 -1.4**
BJT pmax pmax
comp=Z,94nm,1.2s
BJI Beijing 42.01 347 P **P** **09 51 36.3 -1.0**
BJI pP **pP** **09 51 40.5 -2.4**
BJI pmax pmax
comp=Z,32nm,1.5s
VLAKA Lakatoro 42.03 113 P **P** **09 51 40.9 +3.1**
BRDH Bariadhala 42.14 306 P **P** **09 51 40.1 +1.4**
comp=Z,106nm,0.3s,baz=120,slow=4.7,SNR=7.2
SNY Shenyang 42.63 356 ⇓P **P** **09 51 41.3 -1.0**
SNY pmax pmax
comp=Z,58nm,0.9s
LZH Lanzhou 42.91 331 *eP* **P** **09 51 45.8 +0.9**
LZH sP pP 09 51 50.9 +0.4
LZH S **S** **09 58 10.3 +1.2**
LZH pmax pmax
comp=Z,350nm,1.1s
ZIRO ZIRO 43.01 314 *eP* **P** **09 51 46.3 +0.4**
JTM Tenmabayashi 43.19 15 P **P** **09 51 46.2 -0.7**
JTM IAmb IAmb 09 51 48.1
comp=Z,264nm,1.2s
JTM Tenmabayashi 43.19 15 P **P** **09 51 47.4 +0.5**
DZM Mont Dzumac 43.25 122 P **P** **09 51 50.0 +2.2**
TEZP TEZPUR 43.27 312 *eP* **P** **09 51 47.7 -0.1**
TEZP IAmb IAmb 09 51 56.3
comp=Z,140nm,1.2s
MSHR Mys Shultsa 43.34 4 *ceP* **P** **09 51 47.0 -1.0**
MSHR pmax pmax
comp=Z,140nm,1.3s
MSHR MLR MLR
comp=Z,43μm,15.0s
PSTR Posyet 43.38 3 *i* P **P** **09 51 47.9 -0.5**
SHL Shillong 43.40 310 P **P** **09 51 48.3 -0.8**
SHL IAmb IAmb 09 51 57.3
comp=Z,154nm,0.8s
SHL Shillong 43.40 310 P **P** **09 51 49.5 +0.4**
SNR=14
SHL Shillong 43.40 310 *eP* **P** **09 51 49.1 0.0**
SHL IAmb IAmb 09 51 53.3
comp=Z,114nm,0.7s
SHL Shillong 43.40 310 P **P** **09 51 48.3 -0.8**
SHL pmax pmax
comp=Z,154nm,0.8s
GUWA GUWAHATI 43.88 310 *eP* **P** **09 51 52.5 -0.2**
VLA Vladivostok 43.92 4 *i* P **P** **09 51 52.2 -0.5**
VLA pmax pmax
comp=Z,70nm,1.5s
HHC Hu-ho-hao-te 44.00 342 ⇑ *i* P **P** **09 51 53.9 +0.3**
HHC pmax pmax
comp=Z,70nm,1.3s
BTO Baotou 44.27 341 *eP* **P** **09 51 56.6 +0.9**
BTO pP **pP** **09 52 01.3 0.0**
BTO sP **sP** **09 52 03.8 +0.6**
BTO PP **PcP** **09 53 41.8 +1.8**
BTO pmax pmax
comp=Z,74nm,1.9s
CN2 Changchun 44.48 358 *eP* **P** **09 51 57.8 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.8s

TAWA Tawang 44.50 312 *eP* **P** **09 51 59.0 +0.9**
TAWA IAmb IAmb 09 52 01.6
comp=Z,255nm,1.4s
ERM Erimo 44.90 16 *ceP* **P** **09 52 00.9 +0.3**
ERM pmax pmax
comp=Z,69nm,1.3s
USA0B Ussuriysk Arra 45.01 4 P **P** **09 52 00.3 -1.1**
USA0B IAmb IAmb 09 52 02.5
comp=Z,206nm,1.6s
USA0B Ussuriysk Arra 45.01 4 P **P** **09 52 00.3 -1.1**
USA0B pmax pmax
comp=Z,206nm,1.6s
USRK Ussuriysk Ar. 45.01 4 P **P** **09 52 01.0 -0.4**
comp=Z,20nm,0.7s,baz=186,slow=7.3,SNR=33
comp=Z,20nm,0.7s
USRK Ussuriysk Ar. 45.01 4 P **P** **09 52 01.0 -0.4**
MDJ Mudanjiang 45.29 2 P **P** **09 52 02.9 -0.8**
MDJ IAmb IAmb 09 52 04.9
comp=Z,162nm,1.3s
MDJ Mudanjiang 45.29 2 P **P** **09 52 02.8 -0.8**
MDJ pmax pmax
comp=Z,110nm,1.2s
MDJ Mudanjiang 45.29 2 P **P** **09 52 03.6 0.0**
XLT XiLinHaoTe 45.73 348 *eP* **P** **09 52 06.4 -0.8**
XLT pmax pmax
comp=Z,66nm,1.1s
LSA Lhasa 46.20 314 P **P** **09 52 13.0 +1.3**
LSA S **S** **09 58 59.4 +1.6**
LSA pmax pmax
comp=Z,220nm,1.5s
BNX BinXian 46.38 360 ⇑P **P** **09 52 11.3 -0.9**
BNX pmax pmax
comp=Z,40nm,1.8s
ASAJ Asahikawa 46.71 15 P **P** **09 52 15.2 +0.4**
comp=Z,66nm,1.0s,baz=228,slow=13,SNR=15
comp=Z,66nm,1.0s
ASAJ Asahikawa 46.71 15 P **P** **09 52 14.7 -0.1**
ASAJ pmax pmax
comp=Z,176nm,1.2s
JKA Kamikawa-asahi 46.71 15 P **P** **09 52 14.7 -0.1**
JKA IAmb IAmb 09 52 16.8
comp=Z,176nm,1.2s
GTK Tadong 46.82 310 *eP* **P** **09 52 17.0 +0.8**
VIS Vishakhapatnam 47.36 295 *eP* **P** **09 52 20.8 +0.5**
GTA Gaotai 47.48 331 P **P** **09 52 22.1 +0.9**
GTA pP pP 09 52 26.5 -0.4
GTA pmax pmax
comp=Z,140nm,1.2s
PALK Pallekele 47.52 281 P **P** **09 52 21.5 -0.3**
NFK Norfolk Island 47.55 130 P **P** **09 52 22.0 +0.3**
comp=Z,185nm,1.5s
KNTI KHUNTI 47.56 303 *eP* **P** **09 52 22.8 +0.9**
GOMU GeErMu 47.85 324 P **P** **09 52 25.9 +1.5**
GOMU pP sP 09 52 35.3 +3.5
GOMU pmax pmax
comp=Z,55nm,1.8s
EVN Everest 48.51 309 P **P** **09 52 29.9 0.0**
MDRS Chennai 48.99 288 *eP* **P** **09 52 33.7 +0.7**
MDRS IAmb IAmb 09 52 35.7
comp=Z,271nm,1.2s
YSS Yuzhno-Sakhali 49.40 14 P **P** **09 52 35.0 -0.6**
YSS Yuzhno-Sakhali 49.40 14 P **P** **09 52 35.6 0.0**
YSS Yuzhno-Sakhali 49.40 14 *ceP* **P** **09 52 35.3 -0.3**
YSS pmax pmax
comp=Z,252nm,2.5s
HIA Hailar 50.37 353 P **P** **09 52 42.4 -0.7**
HIA Hailar 50.37 353 P **P** **09 52 42.5 -0.5**
HIA Hailar 50.37 353 *i* P **P** **09 52 42.7 -0.3**
HIA pmax pmax
comp=Z,22nm,1.0s
SALM Salem 50.66 286 *eP* **P** **09 52 46.3 +0.5**
SALM IAmb IAmb 09 52 56.0
comp=Z,61nm,0.9s
HEH HeiHe 50.90 360 *eP* **P** **09 52 45.8 -1.1**
HEH pmax pmax
comp=Z,80nm,1.6s
KOD Kodaikanal 51.12 284 *eP* **P** **09 52 49.5 -0.1**
TRD Trivandrum 51.36 282 *eP* **P** **09 52 51.5 +0.5**
ALBI Allahabad 51.37 304 *eP* **P** **09 52 51.0 +0.1**
ALBI IAmb IAmb 09 52 59.6
comp=Z,273nm,1.2s
HYB Hyderabad 51.63 293 *eP* **P** **09 52 53.2 +0.2**
ULN Ulaanbaatar 51.72 342 P **P** **09 52 52.6 -0.7**
ULN IAmb IAmb 09 52 54.4
comp=Z,223nm,1.5s
ULN Ulaanbaatar 51.72 342 P **P** **09 52 53.0 -0.3**
ULN S **S** **10 00 16.2 +1.9**
ULN Ulaanbaatar 51.72 342 *ceP* **P** **09 52 53.4 0.0**
ULN pmax pmax
comp=Z,291nm,2.5s
SONM Songino Array 51.90 342 P **P** **09 52 54.4 -0.2**
SONM Songino Array 51.90 342 P **P** **09 52 54.1 -0.5**
comp=Z,30nm,0.9s,baz=152,slow=7.9,SNR=37
SONM PKPPKP **P'P'df** **10 23 29.7 +0.1**
comp=Z,1.4nm,1.1s,baz=290,slow=4.3,SNR=4.2
comp=Z,30nm,0.9s
SONM Songino Array 51.90 342 P **P** **09 52 54.4 -0.2**
SONM pmax pmax
comp=Z,86nm,1.2s
GRNR Gornyy 51.95 7 ⇓ *i* P **P** **09 52 55.1 +0.2**
GRNR pmax pmax
comp=N,30nm,1.2s
GRNR pmax pmax
comp=Z,60nm,1.1s
NGP Nagpur 52.27 298 *eP* **P** **09 52 57.8 +0.1**
MSVF Nonsavu 52.27 112 P **P** **09 52 56.9 -1.0**
MSVF Nonsavu 52.27 112 P **P** **09 53 01.1 +3.2**
MSVF Nonsavu 52.27 112 *i* P **P** **09 53 00.0 +2.1**
MSVF pmax pmax
comp=Z,32nm,1.3s
DGTI Dogotuki 53.55 110 P **P** **09 53 09.1 +1.8**
MNGI Mangalore 54.14 287 *eP* **P** **09 53 11.1 -0.5**
JHNI Jhansi 54.17 303 *eP* **P** **09 53 09.8 -1.8**
JHNI IAmb IAmb 09 53 16.5
comp=Z,156nm,1.2s
LGTI Lohaghat 54.33 308 *eP* **P** **09 53 12.2 -0.5**
LGTI IAmb IAmb 09 53 22.2
comp=Z,65nm,0.8s
BHPL Bhopal 54.36 300 *eP* **P** **09 53 13.1 -0.1**
BHPL IAmb IAmb 09 53 19.1
comp=Z,133nm,1.1s
ZEA Zeya 54.39 360 *eP* **P** **09 53 11.6 -1.1**
ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=Z,30nm,1.2s
PTH Pithoragarh 54.39 308 *eP* **P** **09 53 12.7 -0.7**
PTH IAmb IAmb 09 53 20.1
comp=Z,94nm,1.1s
NRDN NARMADA NAGAR 54.42 299 *eP* **P** **09 53 14.5 +1.0**
KAAM Kaadhehdhoo 54.67 271 P **P** **09 53 15.3 -0.2**
KAAM IAmb IAmb 09 54 11.6
comp=Z,167nm,1.2s
HMDM Hanimaadhoo 54.88 279 P **P** **09 53 17.4 +0.5**
GUNA GUNA 54.91 301 *eP* **P** **09 53 16.9 -0.2**
GUNA IAmb IAmb 09 53 22.9
comp=Z,141nm,1.0s
JOSI Joshimath 55.34 309 *eP* **P** **09 53 18.9 -1.4**
JOSI IAmb IAmb 09 53 35.8
comp=Z,121nm,1.2s
H08S2 Diego Garcia H 55.38 261 P **P** **09 53 22.2 +1.9**
baz=43,slow=8.6,SNR=3.3
H08S3 Diego Garcia H 55.39 261 P **P** **09 53 21.7 +1.3**
baz=43,slow=8.6,SNR=4.7
H08S1 Diego Garcia H 55.40 261 P **P** **09 53 22.1 +1.7**
baz=43,slow=8.6,SNR=2.8
DGAR Diego Garcia 55.40 262 *ceP* **P** **09 53 21.1 +0.3**
DGAR pmax pmax
comp=Z,650nm,1.7s
KAD Karad 55.65 292 *eP* **P** **09 53 21.6 -1.0**
POO Poona 56.24 293 *eP* **P** **09 53 25.7 -1.1**
SONA Sohna 56.40 305 *eP* **P** **09 53 26.6 -1.0**
SONA IAmb IAmb 09 53 38.9
comp=Z,130nm,0.8s
DDI Dehra Dun 56.42 308 *eP* **P** **09 53 27.9 0.0**
IRK Irkutsk 56.44 343 *eP* **P** **09 53 26.9 -0.6**
IRK *eS* **S** **10 01 15.0 -2.6**
IRK pmax pmax
comp=Z,249nm,2.6s
JCZ Jackson Bay 56.44 145 P **P** **09 53 30.5 +2.7**
AYAN Aya Nagar 56.45 305 *eP* **P** **09 53 26.9 -1.1**
NDI New Delhi 56.45 306 *eP* **P** **09 53 26.6 -1.5**
NPLP NPLP New Delhi 56.47 306 *eP* **P** **09 53 26.7 -1.5**
NPLP IAmb IAmb 09 53 32.4
comp=Z,49nm,0.7s

HNLY HANLEY 56.75 311 *eP* **P** **09 53 30.9 +0.1**
HNLY IAmb IAmb 09 53 41.2
comp=Z,172nm,1.2s
KLP Kalpa 56.77 309 *eP* **P** **09 53 30.5 -0.1**
KLP IAmb IAmb 09 53 42.2
comp=Z,120nm,1.0s
SKR Severo-Kuril's 56.77 21 *eP* **P** **09 53 29.7 -0.2**
SKR pmax pmax
comp=Z,105nm,1.6s
KUDL Kundal 56.84 305 *eP* **P** **09 53 29.6 -1.2**
KUDL IAmb IAmb 09 53 36.0
comp=Z,172nm,1.6s
MOY Mondy 56.96 341 *eP* **P** **09 53 30.4 -1.0**
MOY pmax pmax
comp=Z,230nm,3.5s
WMQ Urumqi 56.99 326 *eP* **P** **09 53 31.5 -0.2**
WMQ pP pP 09 53 35.0 -2.5
WMQ pmax pmax
comp=Z,100nm,1.5s
WHZ Wether Hill Ro 57.11 147 P **P** **09 53 31.2 -1.3**
TOZ Tahuroa Road 57.26 136 P **P** **09 53 33.6 0.0**
LBZ Lake Benmore 57.42 145 P **P** **09 53 34.5 -0.2**
LBZ IAmb IAmb 09 53 41.0
comp=Z,63nm,1.0s
SMLA Simla 57.45 308 *eP* **P** **09 53 35.0 0.0**
SMLA IAmb IAmb 09 53 45.4
comp=Z,104nm,1.1s
AJM Ajmer 57.81 302 *eP* **P** **09 53 36.6 -1.1**
BHK Bhakra 58.15 308 *eP* **P** **09 53 38.3 -1.7**
BHK IAmb IAmb 09 53 46.6
comp=Z,126nm,1.0s
DHRM DHARAMSHALA 58.57 309 *eP* **P** **09 53 42.9 -0.3**
DHRM IAmb IAmb 09 53 49.3
comp=Z,107nm,0.9s
BKZ Black Stump Fm 58.62 137 P **P** **09 53 44.9 +1.7**
THN Thein Dam 59.10 309 *eP* **P** **09 53 46.2 -0.4**
THN IAmb IAmb 09 53 52.5
comp=Z,186nm,1.0s
PEA0B Petropavlovsk- 59.32 21 P **P** **09 53 47.6 -0.1**
PEA0B Petropavlovsk- 59.32 21 P **P** **09 53 47.6 -0.1**
PEA0B pmax pmax
comp=Z,409nm,1.7s
PETK Petropavlovsk- 59.32 21 P **P** **09 53 47.9 +0.1**
comp=Z,29nm,0.7s,baz=151,slow=3.4,SNR=48
PETK PKP2bc 10 23 29.9
comp=Z,2.7nm,0.9s,baz=79,slow=7.7,SNR=5.2
comp=Z,29nm,0.7s
BOD Bodaibo 59.49 352 *eP* **P** **09 53 46.2 -2.6**
BOD pmax pmax
comp=Z,122nm,1.9s
PET Petropavlovsk 59.59 21 P **P** **09 53 49.1 -0.5**
PET Petropavlovsk 59.59 21 P **P** **09 53 50.3 +0.7**
PET Petropavlovsk 59.59 21 *ceP* **P** **09 53 50.0 +0.4**
PET pmax pmax
comp=Z,260nm,1.3s
JMU Jammu 59.84 309 *eP* **P** **09 53 53.5 +1.8**
ZSN Zaisan 60.83 328 *eP* **P** **09 53 56.9 -1.3**
ZSN Zaisan 60.83 328 *eP* **P** **09 53 57.0 -1.3**
NIL Nilore 61.48 309 P **P** **09 54 02.6 -0.3**
NIL Nilore 61.48 309 P **P** **09 54 03.5 +0.6**
NIL Nilore 61.48 309 P **P** **09 54 02.6 -0.3**
NIL pmax pmax
comp=Z,294nm,1.5s
PDGK Podgornoye 61.53 322 P **P** **09 54 02.0 -1.2**
UZB Uzynbulak 61.72 321 *eP* **P** **09 54 03.2 -1.3**
UZB pmax pmax
comp=Z,47nm,1.1s
UZB Uzynbulak 61.72 321 *eP* **P** **09 54 03.2 -1.3**
comp=Z,47nm,1.1s
PRZ Przheval'sk 61.77 321 P **P** **09 54 05.1 +0.2**
PRZ IAmb IAmb 09 54 15.1
comp=Z,109nm,0.9s
PRZ Przheval'sk 61.77 321 P **P** **09 54 05.1 +0.2**
PRZ pmax pmax
comp=Z,109nm,0.9s
TARG Taragay, Kyrgy 61.77 320 P **P** **09 54 04.4 -0.8**
TARG IAmb IAmb 09 54 15.9
comp=Z,54nm,0.9s
TARG Taragay, Kyrgy 61.77 320 P **P** **09 54 04.4 -0.8**
TARG pmax pmax
comp=Z,54nm,0.9s
MK31 Makanchi Array 61.83 326 *ceP* **P** **09 54 04.4 -0.6**
MKAR Makanchi Array 61.83 326 P **P** **09 54 04.3 -0.7**
MKAR Makanchi Array 61.83 326 P **P** **09 54 04.4 -0.6**
comp=Z,31nm,0.6s,baz=120,slow=8.4,SNR=114
MKAR S **S** **10 02 28.5 +0.8**
comp=Z,3.1nm,1.1s,baz=130,slow=15,SNR=5.3
MKAR PKP2bc 10 23 15.5
comp=Z,0.4nm,0.7s,baz=292,slow=3.9,SNR=2.0
comp=Z,31nm,0.6s
KSH Kashi 61.94 317 P **P** **09 54 07.5 +1.4**
KSH pmax pmax
comp=Z,76nm,1.9s
MAKZ Makanchi 62.01 326 P **P** **09 54 05.7 -0.6**
MAKZ IAmb IAmb 09 54 14.9
comp=Z,85nm,0.9s
MAKZ Makanchi 62.01 326 P **P** **09 54 05.7 -0.6**
MAKZ pmax pmax
comp=Z,85nm,1.0s
KDJ Kajisay 62.38 320 P **P** **09 54 07.7 -1.3**
KDJ IAmb IAmb 09 54 18.9
comp=Z,70nm,0.9s
KDJ Kajisay 62.38 320 P **P** **09 54 07.7 -1.3**
KDJ pmax pmax
comp=Z,70nm,0.9s
YAK Yakutsk 62.72 1 P **P** **09 54 09.5 -1.2**
YAK Yakutsk 62.72 1 *eP* **P** **09 54 09.4 -1.2**
YAK pmax pmax
comp=Z,181nm,0.6s
YAK pmax pmax
comp=N,124nm,1.9s
YAK pmax pmax
comp=E,47nm,1.9s
MA2 Magadan 62.90 13 P **P** **09 54 12.0 +0.1**
MA2 Magadan 62.90 13 P **P** **09 54 12.8 +0.9**
MA2 Magadan 62.90 13 P **P** **09 54 12.0 +0.1**
MA2 pmax pmax
comp=Z,255nm,1.2s
TNSS Tian-Shan 62.97 320 *eP* **P** **09 54 11.4 -1.8**
TNSS Tian-Shan 62.97 320 *eP* **P** **09 54 11.4 -1.8**
ULHL Ulahol 63.04 319 P **P** **09 54 13.4 -0.1**
SNR=5.3
TDK Taldyqorghan 63.07 323 *eP* **P** **09 54 12.2 -1.2**
TDK pmax pmax
comp=Z,43nm,1.0s
TDK Taldyqorghan 63.07 323 *eP* **P** **09 54 12.2 -1.2**
comp=Z,43nm,1.0s
AAA Alma-Ata 63.08 321 *eP* **P** **09 54 12.2 -1.3**
AAA pmax pmax
comp=Z,35nm,0.8s
AAA Alma-Ata 63.08 321 *eP* **P** **09 54 12.2 -1.3**
comp=Z,35nm,0.8s
BOOM Boomskoye usch 63.35 319 P **P** **09 54 14.5 -1.0**
BOOM Boomskoye usch 63.35 319 P **P** **09 54 14.5 -1.0**
BOOM pmax pmax
comp=Z,278nm,1.9s
TKM2 Tokmak 2 63.78 320 P **P** **09 54 18.2 -0.2**
SNR=28
UCH Uchtor 64.17 319 P **P** **09 54 21.5 +0.3**
SNR=23
AAK Ala-Archa 64.37 319 P **P** **09 54 22.9 +0.8**
SNR=7.5
AAK Ala-Archa 64.37 319 P **P** **09 54 22.2 0.0**
comp=Z,7.7nm,0.5s,baz=124,slow=6.4,SNR=14
comp=Z,7.7nm,0.5s
AAK Ala-Archa 64.37 319 P **P** **09 54 22.9 +0.8**
AAK S **S** **10 03 02.6 +2.7**
AAK Ala-Archa 64.37 319 *ceP* **P** **09 54 22.2 0.0**
AAK pmax pmax
comp=Z,142nm,2.5s
AAK Ala-Archa 64.37 319 *i* P **P** **09 54 22.3 +0.2**
SNR=11
USP Ospenovka 64.65 320 P **P** **09 54 23.5 -0.3**
SNR=29
SGDS Sogindy 64.66 320 *i* P **P** **09 54 24.8 +0.9**
SGDS Sogindy 64.66 320 *eP* **P** **09 54 22.6 -1.3**
EKS2 Erkin-Say 64.85 319 P **P** **09 54 25.1 -0.1**
SNR=19
KBL Kabul 65.06 309 P **P** **09 54 26.2 -0.7**
KBL IAmb IAmb 09 54 35.4
comp=Z,108nm,0.9s
KBL Kabul 65.06 309 P **P** **09 54 26.6 -0.2**
SNR=26
KBL S **S** **10 03 10.0 +1.2**
KBL Kabul 65.06 309 P **P** **09 54 26.2 -0.7**

KBL pmax pmax
comp=Z,108nm,0.9s
ZAA0 Zalesovo Array 65.06 334 P **P** 09 54 24.2 -2.0
ZAA0 IAmb IAmb 09 54 35.5
comp=Z,57nm,1.1s
ZALV Zalesovo Beam 65.06 334 P **P** 09 54 24.5 -1.7
ZALV Zalesovo Beam 65.06 334 P **P** 09 54 24.8 -1.4
comp=Z,16nm,0.8s,baz=107,slow=5.1,SNR=28
ZALV S **S** 10 03 04.0 -3.6
comp=Z,0.4nm,0.4s,baz=129,slow=13,SNR=1.5
ZALV PKPPKP **P'P'df** 10 23 08.7 -1.0
comp=Z,1.8nm,0.8s,baz=338,slow=3.2,SNR=5.3
comp=Z,16nm,0.8s
ZALV Zalesovo Beam 65.06 334 P **P** 09 54 24.5 -1.7
BTK Batken 65.76 315 P **P** 09 54 30.5 -0.7
BTK Batken 65.76 315 P **P** 09 54 30.5 -0.7
BTK pmax pmax
comp=Z,205nm,1.4s
BTLS Baital 65.77 321 *e*P **P** 09 54 29.7 -1.3
BTLS pmax pmax
comp=Z,25nm,1.2s
BTLS Baital 65.77 321 *e*P **P** 09 54 29.7 -1.3
comp=Z,25nm,1.2s
SHEM Shemya Is, Ala 65.95 29 P **P** 09 54 32.5 +0.5
comp=Z,82nm,1.0s,baz=92,slow=2.2,SNR=6.9
comp=Z,82nm,1.0s
SMY Shemya 65.95 29 P **P** 09 54 31.5 -0.5
SMY Shemya 65.95 29 P **P** 09 54 33.2 +1.2
SMY Shemya 65.95 29 P **P** 09 54 31.5 -0.5
SMY pmax pmax
comp=Z,287nm,1.3s
KURBB Kurchatov Arra 66.07 328 P **P** 09 54 31.8 -1.0
comp=Z,44nm,0.8s,baz=126,slow=6.0,SNR=128
KURBB PP **PP** 09 56 57.6 -0.8
comp=Z,27nm,1.3s,baz=130,slow=8.3,SNR=3.3
KURBB PKPPKP **P'P'df** 10 23 02.2 -6.0
comp=Z,1.3nm,1.0s,baz=274,slow=3.1,SNR=5.4
comp=Z,44nm,0.8s
KURK Kurchatov 66.08 328 P **P** 09 54 31.8 -1.1
KURK IAmb IAmb 09 54 37.5
comp=Z,111nm,0.9s
KURK Kurchatov 66.08 328 P **P** 09 54 31.7 -1.1
KURK Kurchatov 66.08 328 P **P** 09 54 31.8 -1.1
KURK pmax pmax
comp=Z,111nm,0.9s
SEY Seymchan 66.26 12 *i* P **P** 09 54 33.8 0.0
SEY pmax pmax
comp=Z,66nm,1.0s
SEY MLR MLR
comp=Z,17µm,16.0s
CASY Casey 66.43 187 P **P** 09 54 34.7 -0.1
SIMJ Simiganj 66.53 313 P **P** 09 54 34.8 -1.4
SIMJ IAmb IAmb 09 54 42.2
comp=Z,153nm,1.2s
DZA Taraz 66.57 318 *e*P **P** 09 54 34.8 -1.4
DZA pmax pmax
comp=Z,33nm,1.4s
DZA Taraz 66.57 318 *e*P **P** 09 54 34.9 -1.4
comp=Z,32nm,1.4s
IUG Iuzhnay 67.14 317 *i* P **P** 09 54 40.3 +0.3
KK31 Karatay Array 67.20 318 P **P** 09 54 39.1 -1.2
KK31 IAmb IAmb 09 54 49.5
comp=Z,99nm,1.1s
KK31 Karatay Array 67.20 318 P **P** 09 54 39.1 -1.2
KK31 pmax pmax
comp=Z,99nm,1.1s
KKAR Karatay Array 67.20 318 P **P** 09 54 38.7 -1.6
KKAR Karatay Array 67.20 318 P **P** 09 54 38.7 -1.6
CHM Chimkent 67.50 317 *e*P **P** 09 54 40.9 -1.3
CHM pmax pmax
comp=Z,58nm,1.3s
CHM Chimkent 67.50 317 *e*P **P** 09 54 40.9 -1.3
comp=Z,58nm,1.3s
BRLS Boroldaу 67.63 318 *e*P **P** 09 54 41.6 -1.3
BRLS pmax pmax
comp=Z,28nm,1.1s
BRLS Boroldaу 67.63 318 *e*P **P** 09 54 41.6 -1.3
comp=Z,28nm,1.1s
AMKA Amchitka 67.82 32 P **P** 09 54 43.5 -0.5
ADK Adak 70.23 33 P **P** 09 54 59.7 +0.8
JLN Jalan Bani Buh 70.23 294 P **P** 09 54 60.0 +0.4
SNR=8.9
GSTR Great Sitkin T 70.67 33 P **P** 09 55 02.2 +0.6
WBK Wadi Bani Khal 70.71 294 P **P** 09 55 02.8 +0.3
SNR=5.7
WBK S **S** 10 04 13.5 -3.1
WSAR Wadi Sarin 71.12 295 P **P** 09 55 04.4 -0.6
comp=Z,0.5nm,1.1s,baz=119,slow=23,SNR=15
MHTO MHTO 71.38 292 P **P** 09 55 07.0 +0.4
SNR=16
MHTO S **S** 10 04 26.4 +2.1
JMDO Jabal Madar 71.46 294 P **P** 09 55 07.2 +0.1
SNR=13
SMDO Samad 71.62 295 P **P** 09 55 08.3 +0.2
SNR=7.1
BIDO Bidbid 71.62 295 P **P** 09 55 08.0 0.0
SNR=21
DQM DQM 71.63 291 P **P** 09 55 08.5 +0.4
DQM S **S** 10 04 27.2 -0.1
BVAR Borovoye Array 71.64 328 P **P** 09 55 06.2 -1.2
comp=Z,21nm,0.8s,baz=120,slow=8.8,SNR=43
comp=Z,21nm,0.8s
BRVK Borovoye 71.71 328 P **P** 09 55 06.5 -1.3
BRVK IAmb IAmb 09 55 17.7
comp=Z,157nm,1.2s
BRVK Borovoye 71.71 328 P **P** 09 55 07.0 -0.9
BRVK S **S** 10 04 25.0 -2.0
BRVK Borovoye 71.71 328*ce*P **P** 09 55 07.1 -0.8
BRVK pmax pmax
comp=Z,159nm,2.5s
ATKA Atka Island 71.74 33 P **P** 09 55 07.6 -0.4
ATKA Atka Island 71.74 33 P **P** 09 55 08.5 +0.4
JASK Jask - Hormozg 72.24 297 P **P** 09 55 13.6 +1.9
SNR=7.2
BSY Bisya 72.35 294 P **P** 09 55 13.0 +0.6
SNR=14
TIXI Tiksi 72.37 0*ce*P **P** 09 55 10.7 -0.7
TIXI pmax pmax
comp=Z,134nm,2.5s
HOQ Hoqain 72.37 295 P **P** 09 55 13.0 +0.5
SNR=21
ARQ Araqi 73.05 295 P **P** 09 55 17.1 +0.6
SNR=22
SOHO SOHO 73.16 295 P **P** 09 55 17.0 -0.1
SOHO SOHO 73.16 295 *i* P **P** 09 55 16.6 -0.5
SNR=32
UOSS Minazif 73.58 296 P **P** 09 55 18.3 -1.4
UOSS IAmb IAmb 09 55 24.9
comp=Z,98nm,1.1s
UOSS Minazif 73.58 296 P **P** 09 55 19.6 0.0
UOSS Minazif 73.58 296 *i* P **P** 09 55 18.2 -1.4
SNR=15
HATD Hatta, Dubai 73.62 296 P **P** 09 55 21.0 +1.1
SNR=12
HATD Hatta, Dubai 73.62 296 *i* P **P** 09 55 19.4 -0.5
SNR=22
BANOM Banah 73.64 297 P **P** 09 55 20.5 +0.5
ASHO Ashiyiah 73.67 296 P **P** 09 55 21.0 +0.8
SNR=13
ASHO Ashiyiah 73.67 296 *i* P **P** 09 55 19.9 -0.3
SNR=23
MSFE Esma-Masafi 73.68 297 *i* P **P** 09 55 20.1 -0.1
SNR=20
MASF Masafi 73.68 297 P **P** 09 55 20.6 -0.3
BILL Bilibino 73.72 14*ce*P **P** 09 55 19.4 -0.1
BILL pmax pmax
comp=Z,75nm,2.5s
BILL MLR MLR
comp=Z,11µm,16.0s
DMTO DMTO 73.80 289 P **P** 09 55 21.2 +0.2
SHME Shamm 73.81 297 P **P** 09 55 20.6 -0.3
ALNE Al Ain 73.86 295 P **P** 09 55 21.0 -0.2
SNR=31
ALNE Al Ain 73.86 295 *i* P **P** 09 55 21.1 -0.2
SNR=40
NAZ Nazwa, Dubai 74.07 296 P **P** 09 55 23.0 +0.5
SNR=8.4
NAZ Nazwa, Dubai 74.07 296 *i* P **P** 09 55 23.0 +0.5
SNR=11
FAQ Al Faqa, Dubai 74.10 296 P **P** 09 55 23.0 +0.3
SNR=14
FAQ Al Faqa, Dubai 74.10 296 *i* P **P** 09 55 22.5 -0.2
SNR=10.0
ASUD Al Ashush, Dub 74.32 296 P **P** 09 55 25.0 +1.1
SNR=23
ASUD Al Ashush, Dub 74.32 296 *i* P **P** 09 55 24.2 +0.3
SNR=22
RBK Rabkut 74.48 288 P **P** 09 55 25.4 +0.3
AJN Ajban 74.62 296 P **P** 09 55 26.2 +0.5
SNR=19
AJN Ajban 74.62 296 *i* P **P** 09 55 25.3 -0.3
SNR=12
DOK Doka 74.67 289 P **P** 09 55 25.5 -0.6
WHFO Wadi Hawf 74.94 289 P **P** 09 55 26.8 -0.9
NIKH Nikolski High 75.03 34 P **P** 09 55 27.4 0.0
NIKH IAmb IAmb 09 55 28.4
comp=Z,108nm,1.2s
NIKH Nikolski High 75.03 34 P **P** 09 55 28.2 +0.8
NRIK Noril'sk 75.06 346 P **P** 09 55 26.2 -1.0
NRIK Noril'sk 75.06 346 P **P** 09 55 26.5 -0.8
comp=Z,33nm,0.8s,baz=132,slow=6.2,SNR=32
comp=Z,33nm,0.8s
NRIK Noril'sk 75.06 346 *i* P **P** 09 55 26.7 -0.6
NRIK pmax pmax
comp=Z,54nm,1.0s
NRIK MLR MLR
comp=Z,22µm,17.0s
ABTO Aybut 75.33 288 P **P** 09 55 29.5 -0.5
MZR Muzera 75.78 294 P **P** 09 55 32.0 -0.4
SNR=18
MZR Muzera 75.78 294 *i* P **P** 09 55 32.0 -0.4
SNR=7.9
SPIA Saint Paul Isl 75.96 30 P **P** 09 55 33.1 +0.4
P08K Saint George I 76.07 30 P **P** 09 55 34.1 +0.8
P08K IAmb IAmb 09 55 36.0
comp=Z,148nm,1.1s
AB31 Akbulak array 76.26 321 P **P** 09 55 32.6 -2.0
ABKAR Akbulak array 76.26 321 P **P** 09 55 33.1 -1.5
GHWR Ruwais 76.45 295 P **P** 09 55 36.8 +0.6
JRN Qarnain Island 76.59 296 P **P** 09 55 36.9 0.0
SNR=12
UNV Unalaska Valle 76.66 34 P **P** 09 55 36.6 -0.1
AKUT Akutan 77.16 34 P **P** 09 55 40.5 +1.0
SLWR Sila 77.54 295 P **P** 09 55 43.0 +0.7
AKTO Aktyubinsk 77.80 322 P **P** 09 55 42.0 -1.2
comp=Z,26nm,0.8s,baz=108,slow=4.6,SNR=55
comp=Z,26nm,0.8s
TRNA Turayna 78.05 295 P **P** 09 55 46.0 +0.9
SNR=8.9
GAMB Gambell 78.18 23 P **P** 09 55 44.4 -0.7
GAMB IAmb IAmb 09 55 47.5
comp=Z,163nm,1.6s
SVE Sverdlovsk 78.32 329 *e*P **P** 09 55 44.5 -1.4
SVE pmax pmax
comp=Z,175nm,1.1s
SHMA Al-Shehemyia 78.40 296 P **P** 09 55 48.0 +0.9
SNR=5.4
SMRA Abu-Samra 78.40 295 P **P** 09 55 48.0 +0.9
SNR=13
VNDA Vanda 78.81 173 P **P** 09 55 47.9 -0.4
VNDA Vanda 78.81 173 P **P** 09 55 48.7 +0.4
comp=Z,19nm,0.8s,baz=318,slow=6.0,SNR=62
comp=Z,19nm,0.8s
VNDA Vanda 78.81 173 P **P** 09 55 47.9 -0.4
VNDA pmax pmax
comp=Z,26nm,0.9s
ARTI Arti 79.35 328 P **P** 09 55 50.8 -0.9
comp=Z,17nm,0.7s,baz=114,slow=2.2,SNR=18
comp=Z,17nm,0.7s
ARTI Arti 79.35 328*d* *i* P **P** 09 55 49.8 -1.8
ARTI 09 58 46.3
ARTI S **S** 10 05 51.5 +0.1
ARTI pmax pmax
comp=Z,83nm,1.9s
SBA Scott Base 79.72 172 P **P** 09 55 54.5 +1.3
SBA Scott Base 79.72 172 P **P** 09 55 54.6 +1.3
SBA pmax pmax
comp=Z,58nm,1.2s
MAW Mawson 79.82 201 P **P** 09 55 54.6 +0.6
comp=Z,14nm,0.9s,baz=63,slow=6.6,SNR=27
comp=Z,14nm,0.9s
K13K Kusilvak Mount 80.40 26 P **P** 09 55 57.7 +0.5
K13K IAmb IAmb 09 56 00.1
comp=Z,90nm,1.1s
SDPT Sand Point 80.46 33 P **P** 09 55 58.2 +0.6
ABPO Ambohimpanom 80.67 251 P **P** 09 55 59.1 -0.7
ABPO Ambohimpanom 80.67 251 P **P** 09 55 59.1 -0.7
ABPO pmax pmax
comp=Z,65nm,1.2s
L14K Kuka Creek 81.10 27 P **P** 09 56 01.1 +0.2
L14K IAmb IAmb 09 56 03.6
comp=Z,90nm,1.1s
N14K Kuskokwak Cree 81.13 29 P **P** 09 56 00.9 -0.2
N14K IAmb IAmb 09 56 03.5
comp=Z,68nm,0.9s
O14K Tigyukauivet M 81.14 29 P **P** 09 56 00.9 -0.2
O14K IAmb IAmb 09 56 03.5
comp=Z,67nm,1.1s
J14K Nanvaranak Lak 81.17 26 P **P** 09 56 00.8 -0.4
J14K IAmb IAmb 09 56 03.2
comp=Z,131nm,1.8s
VOI Vohitsoka 81.20 248 P **P** 09 56 03.1 +0.6
SNR=6.7
KBD Kabd 81.64 299 P **P** 09 56 05.4 +0.9
J16K Anvik River 82.61 26 P **P** 09 56 09.4 +0.5
L16K Owhat River 82.67 27 P **P** 09 56 08.9 -0.3
M16K Timber Creek 82.73 28 P **P** 09 56 09.6 0.0
M16K IAmb IAmb 09 56 20.6
comp=Z,53nm,1.0s
I17K Unalakleet 82.75 25 P **P** 09 56 10.1 +0.6
O16K Kokwok River B 82.79 30 P **P** 09 56 09.9 0.0
O16K IAmb IAmb 09 56 12.3
comp=Z,48nm,0.9s
AKT Akhty 83.00 312 *e*P **P** 09 56 09.4 -2.2
AKT *e* 09 59 20.1
AKT *e*S **S** 10 06 28.7 -1.6
AKT pmax pmax
comp=Z,137nm,1.1s
RAYN Ar Rayn 83.13 294 P **P** 09 56 12.4 -0.1
RAYN Ar Rayn 83.13 294 P **P** 09 56 12.0 -0.5
RAYN Ar Rayn 83.13 294 *i* P **P** 09 56 11.7 -0.8
SNR=29
RDOG Red Dog Mine 83.19 21 P **P** 09 56 12.3 +0.5
RDOG IAmb IAmb 09 56 22.7
comp=Z,89nm,1.1s
MAK Makhachkala 83.35 313 *e*P **P** 09 56 10.5 -2.7
MAK *e*S **S** 10 06 29.6 -3.9
MAK pmax pmax
comp=Z,125nm,1.0s
N17K Nushagak Hills 83.45 29 P **P** 09 56 14.0 +0.7
K17K Iditarod 83.47 26 P **P** 09 56 14.0 +0.6
E18K Tukpahlearik C 83.83 22 P **P** 09 56 14.6 -0.5
E18K IAmb IAmb 09 56 18.0
comp=Z,86nm,1.1s
ACHA Angle Creek He 83.88 31 P **P** 09 56 14.9 -0.8
ACHA IAmb IAmb 09 56 16.9
comp=Z,231nm,2.0s
KIRV Kirov 84.58 329 P **P** 09 56 17.9 -1.1
comp=Z,33nm,0.7s,baz=95,slow=1.8,SNR=8.3
comp=Z,33nm,0.7s
KIRV Kirov 84.58 329 *i* P **P** 09 56 18.5 -0.6
OHAK Old Harbor 84.78 32 P **P** 09 56 21.2 +1.1
M19K Big River Lodg 85.07 28 P **P** 09 56 21.3 -0.2
M19K IAmb IAmb 09 56 24.3
comp=Z,104nm,1.2s
ATD Arta Tunnel 85.08 282 P **P** 09 56 23.2 +0.6
GNI Garni 85.11 310 P **P** 09 56 20.8 -1.6
GNI IAmb IAmb 09 56 49.8
comp=Z,57nm,1.1s
GNI Garni 85.11 310 P **P** 09 56 22.1 -0.3
comp=Z,6.7nm,0.5s,baz=104,slow=4.2,SNR=7.7
comp=Z,6.7nm,0.5s
GNI Garni 85.11 310 P **P** 09 56 20.8 -1.6
GNI pmax pmax
comp=Z,57nm,1.1s
P19K Oil Pt 85.22 30 P **P** 09 56 21.5 -0.8
KDAK Kodiak Island 85.24 32 *i* P **P** 09 56 22.3 -0.1
KDAK pmax pmax
comp=Z,70nm,1.0s
NCK Nalchik 86.25 314 *i* P **P** 09 56 27.9 +0.1
NCK pmax pmax
comp=Z,81nm,1.1s
GOF Gofitskoye 86.77 315*ce*P **P** 09 56 28.5 -1.8
KBZ Khabaz 86.78 314 P **P** 09 56 29.1 -1.2
comp=Z,14nm,1.1s,baz=110,slow=6.0,SNR=14
KBZ PP **PP** 09 59 52.4 -0.5
comp=Z,8.8nm,1.2s,baz=96,slow=8.4,SNR=1.9
comp=Z,14nm,1.1s
KBZ Khabaz 86.78 314 *i* P **P** 09 56 29.5 -0.8
KBZ pmax pmax
comp=Z,33nm,1.2s
KIV Kislovodsk 86.94 314 *e*P **P** 09 56 29.2 -2.1
KIV pmax pmax
comp=Z,28nm,1.0s
KIV Kislovodsk 86.94 314 *i* P **P** 09 56 30.0 -1.3
SNR=13
SHA1 Shidzhatmaz 86.95 314*c* *i*P **P** 09 56 31.0 -0.5
HOMI Horasan 87.27 310 ⇑P **P** 09 56 32.8 -0.4
PMR Palmer 87.49 28 P **P** 09 56 33.6 +0.2
VRH Novokhopyorsk 88.09 321 *e*P **P** 09 56 32.9 -3.6
VRH pmax pmax
comp=Z,40nm,1.0s
LABN Labinsk 88.39 315 *e*P **P** 09 56 35.7 -2.4
LABN *e* 10 07 12.6
LABN pmax pmax
comp=Z,26nm,0.6s
COLA College 88.41 25 P **P** 09 56 37.3 -0.4
COLA College 88.41 25 P **P** 09 56 36.9 -0.8
ERBR Yeremizino-Bor 88.61 316 *e*P **P** 09 56 36.2 -2.9
ERBR *e*S **SKSac** 10 07 05.1 -2.6
ERBR pmax pmax
comp=Z,22nm,0.9s
ILAR Eielson Array 88.81 25 P **P** 09 56 37.6 -2.0
comp=Z,3.7nm,0.8s,baz=270,slow=2.7,SNR=45
ILAR PP **PP** 10 00 04.8 -3.9
comp=Z,5.4nm,1.2s,baz=251,slow=6.1,SNR=9.2
ILAR PKKPbc **PKKPdf** 10 14 19.6 +2.7
comp=Z,1.9nm,0.8s,baz=86,slow=1.2,SNR=6.4
ILAR PKPPKP **P'P'df** 10 22 21.1 -6.5
comp=Z,0.7nm,1.0s,baz=116,slow=2.1,SNR=4.3
comp=Z,3.7nm,0.8s
SOC Sochi 89.07 313 *e*P **P** 09 56 38.9 -2.4
SOC *e* 10 00 08.3
SOC *e*PPP PPP 10 02 04.6
SOC *e*S **SKSac** 10 07 08.4 -2.1
SOC pmax pmax
comp=Z,23nm,0.8s
SOC MLR MLR
comp=Z,19µm,20.0s
QSPA South Pole Qui 89.10 180 P **P** 09 56 41.5 +0.4
comp=Z,40nm,0.9s,baz=328,slow=2.2,SNR=65
comp=Z,40nm,0.9s
KIBK Kibwezi 89.57 268 P **P** 09 56 45.4 +0.9
SNR=7.5
VORR Voronezh 89.68 322 *e*P **P** 09 56 41.8 -2.2
VORR pmax pmax
comp=Z,60nm,1.1s
VSR Storozhevoye 89.69 321 *e*P **P** 09 56 41.2 -2.9
VSR pmax pmax
comp=Z,20nm,1.1s
KLMR Klimovskoe 89.81 331 *e*P **P** 09 56 41.8 -2.6
KLMR *e* 10 00 14.4
KLMR pmax pmax
comp=Z,62nm,1.4s
LPSR Galich'ya Gora 89.88 322 *e*P **P** 09 56 42.8 -2.1
LPSR pmax pmax
comp=Z,50nm,1.0s
MOS Moscow 90.70 326 *e*P P 09 56 43.2 -5.4
MOS *e* 10 00 17.3
MOS *e*PPP PPP 10 02 20.8
MOS *e*S **SKSac** **10 07 11.5 -7.9**
MOS *e*PS PS 10 08 47.1 -6.3
MOS *e*SS **SS** **10 13 52.9 +7.2**
MOS *e*SSS SSS 10 17 16.1
MOS pmax pmax
comp=Z,29nm,0.7s
ANN Anapa 90.74 315 *e*P **P** 09 56 47.1 -2.0
ANN pmax pmax
comp=Z,56nm,1.3s
ASF Jabal al Asfar 91.08 302 P **P** 09 56 50.3 -0.8
comp=Z,9.2nm,0.8s,baz=120,slow=1.1,SNR=13
comp=Z,9.2nm,0.8s
OBN Obninsk 91.30 325 P **P** 09 56 49.2 -2.2
comp=Z,7.9nm,0.4s,baz=3.8,slow=2.5,SNR=9.1
comp=Z,7.9nm,0.4s
OBN Obninsk 91.30 325⇑ *e*P **P** 09 56 49.1 -2.3
OBN *e* 10 00 32.5
OBN *e*PPP PPP 10 02 22.6
OBN pmax pmax
comp=Z,30nm,1.1s
OBN MLR MLR
comp=Z,15µm,16.0s
LVZ Lovozero 91.91 338 *i* P **P** 09 56 54.4 +0.3
LVZ pmax pmax
comp=Z,10.0nm,1.2s
PNL Peninsula 92.21 30 P **P** 09 56 56.8 +1.2
LODK Lodwar 92.34 273 P **P** 09 56 57.5 +0.3
SNR=6.0
MMAI Mount Meron Ar 92.34 303 P **P** 09 56 56.8 -0.1
comp=Z,1.3nm,0.4s,baz=66,slow=23,SNR=7.1
comp=Z,1.3nm,0.4s
APA Apatity 92.40 337⇓ *i*P **P** 09 56 59.9 +3.6
APA *i*S **S** 10 08 01.6 +2.8
APA *i*SS **SS** 10 14 09.0 -0.5
EIL Elat 92.76 300 P **P** 09 56 58.4 -0.4
comp=Z,8.4nm,1.1s,baz=106,slow=4.3,SNR=4.3
comp=Z,8.4nm,1.1s
SIM Simferopol' 93.10 315 *e*P **P** 09 56 57.1 -2.9
SIM *e* 10 00 41.0
SIM pmax pmax
comp=Z,28nm,1.1s
SIM MLR MLR
comp=Z,10µm,17.8s
KIRS Kirsehir-Merke 93.43 309 ⇑P **P** 09 56 59.9 -1.9
BR131 Keskin Array S 93.62 310 *i* P **P** 09 57 02.5 -0.3
BRTR Keskin Array B 93.62 310 P **P** 09 57 00.8 -2.0
comp=Z,3.7nm,1.1s,baz=86,slow=4.6,SNR=12
BRTR PP **PP** 10 00 46.6 -1.1
comp=Z,3.9nm,0.9s,baz=102,slow=4.5,SNR=5.3
comp=Z,3.7nm,1.1s
BRTR Keskin Array B 93.62 310 *i* P **P** 09 57 03.2 +0.4
BRTR pmax pmax
comp=Z,5.0nm,1.0s
SKAG Skagway 94.30 31 P **P** 09 57 05.9 +0.7
SIT Sitka 94.53 33 P **P** 09 57 07.1 +0.8
JIS Juneau Island 94.91 32 P **P** 09 57 08.9 +0.9
ARCES ARCESS Array B 95.03 340 P **P** 09 57 06.0 -2.3
comp=Z,2.9nm,0.8s,baz=87,slow=7.4,SNR=10
ARCES PP **PP** 10 00 57.0 -0.6
comp=Z,1.9nm,0.8s,baz=84,slow=8.5,SNR=4.0
ARCES PKKP **PKKPbc** 10 14 07.0 +0.7
comp=Z,1.8nm,1.0s,baz=221,slow=3.5,SNR=3.5
comp=Z,2.9nm,0.8s
SPITS Spitsbergen Ar 95.11 349 P **P** 09 57 07.2 -1.4
comp=Z,2.6nm,0.8s,baz=69,slow=5.5,SNR=2.3
comp=Z,2.6nm,0.8s
AKASG Malin Array Be 95.99 321 P **P** 09 57 11.8 -1.3
comp=Z,1.1nm,0.7s,baz=71,slow=4.5,SNR=8.1
AKASG PP **PP** 10 01 04.8 -0.8
comp=Z,0.4nm,0.4s,baz=81,slow=7.8,SNR=2.6
AKASG Malin Array Be 95.99 321 *i* P **P** 09 57 10.6 -2.5
AKASG pmax pmax
comp=Z,3.0nm,1.1s
AKBB Malin Array Si 95.99 321 *i* P **P** 09 57 13.2 +0.1
AKBB pmax pmax
comp=Z,6.0nm,1.3s
KIEV Kiev 96.00 321 ⇓P **P** 09 57 11.8 -1.4
KIEV Kiev 96.00 321 P **P** 09 57 11.8 -1.4
ISP Isparta 96.15 308*ce*P **P** 09 57 13.5 -0.8
ISP pmax pmax
comp=Z,13nm,1.7s
FINES FINESS Array B 96.27 332 P **P** 09 57 14.1 -0.1
comp=Z,3.1nm,1.0s,baz=83,slow=4.4,SNR=7.0
FINES PP **PP** 10 01 07.0 -0.2
comp=Z,3.3nm,0.9s,baz=77,slow=8.4,SNR=5.3
comp=Z,3.1nm,1.0s
FINES FINESS Array B 96.27 332 *i* P **P** 09 57 17.1 +3.0
FINES pmax pmax
comp=Z,3.0nm,1.0s
SORM Soroca 96.84 318 ⇑P **P** 09 57 15.2 -1.8
SORM Soroca 96.84 318 P **P** 09 57 15.2 -1.8
MBAR Mbarara 96.90 269 P **P** 09 57 18.3 -0.1
MBAR Mbarara 96.90 269 *i* P **P** 09 57 17.7 -0.6
MBAR pmax pmax
comp=Z,8.0nm,1.0s
NACGM Naroch 96.94 325 *e*P **P** 09 57 21.7 +4.4
comp=Z,11nm,0.9s,baz=81
TPGR Topolog 97.14 315 ⇓P **P** 09 57 16.8 -1.8
CFR Carcaliu 97.31 315 ⇑P **P** 09 57 18.9 -0.4
CFR Carcaliu 97.31 315 P **P** 09 57 18.8 -0.4
TESR Tescani 98.18 317 ⇑P **P** 09 57 21.3 -1.8
VRI Vrincioaia 98.21 316 ⇓P **P** 09 57 22.4 -1.0
VRI Vrincioaia 98.21 316 P **P** 09 57 22.3 -1.0
NEHR Nehoiu 98.57 316 ⇓P **P** 09 57 23.8 -1.2
MLR Muntele Rosu 98.80 316 P **P** 09 57 25.8 -0.3
comp=Z,10nm,1.1s,baz=4.6,slow=3.7,SNR=5.9

MLR				PP	**PP**	**10 01 26.9**	**-0.6**
	comp=Z,18nm,1.1s,baz=163,slow=3.1,SNR=5.5						
	comp=Z,10nm,1.1s						
MLR	**Muntele Rosu**	**98.80**	**316**	⇑P	**P**	**09 57 24.6**	**-1.6**
BURAR	**Bucovina Array**	**99.00**	**318**	⇑P	**P**	**09 57 25.5**	**-1.4**
BURAR	**Bucovina Array**	**99.00**	**318**	P	**P**	**09 57 25.5**	**-1.4**
VOIR		**99.43**	**316**	⇓P	**Pdif**	**09 57 27.7**	**-1.3**
VOIR		**99.43**	**316**	P	**Pdif**	**09 57 27.6**	**-1.3**
TROLL	**Troll, Antarti**	**99.50**	**195**	⇓P	**Pdif**	**09 57 29.1**	**+0.4**
	comp=Z,147nm,0.8s						
BOSA	**Boshof**	**100.47**	**241**	P	**Pdif**	**09 57 33.5**	**-0.5**
	comp=Z,3.4nm,1.0s,baz=167,slow=16,SNR=3.0						
KOLS	**Kolonicke sedl**	**100.71**	**320**	*e*P	**Pdif**	**09 57 38.9**	**+4.5**
KOLS	**Kolonicke sedl**	**100.71**	**320**	*e*PDIFF	**Pdif**	**09 57 38.9**	**+4.5**
DRGR		**100.82**	**317**	⇑P	**Pdif**	**09 57 32.7**	**-2.3**
DRGR		**100.82**	**317**	P	**Pdif**	**09 57 32.7**	**-2.3**
GZR	**Gura Zlata**	**101.02**	**316**	⇓P	**Pdif**	**09 57 34.7**	**-1.3**
GZR	**Gura Zlata**	**101.02**	**316**	P	**Pdif**	**09 57 34.6**	**-1.3**
SNAA	**Sanae**	**101.05**	**194**	⇓P	**Pdif**	**09 57 35.2**	**-0.3**
	comp=Z,73nm,1.2s						
SNAA	**Sanae**	**101.05**	**194**	P	**Pdif**	**09 57 35.2**	**-0.3**
	comp=Z,4.0nm,1.1s,baz=148,slow=6.0,SNR=6.7						
SNAA				PP	**PP**	**10 01 43.1**	**-0.4**
	comp=Z,2.9nm,0.9s,baz=150,slow=7.9,SNR=5.5						
SIRR	**Siria**	**101.63**	**317**	⇓P	**Pdif**	**09 57 37.7**	**-0.9**
MDVR	**Moldovita**	**101.87**	**316**	⇑P	**Pdif**	**09 57 38.1**	**-1.7**
HFS	**Hagfors**	**102.46**	**332**	P	**Pdif**	**09 57 41.4**	**-0.5**
	comp=Z,3.1nm,1.1s,baz=72,slow=4.7,SNR=2.9						
HFS				PKKPbc	**PKKPbc**	**10 13 43.5**	**-1.6**
	comp=Z,1.2nm,0.6s,baz=232,slow=7.0,SNR=4.7						
VYHS	**Vyhne**	**103.02**	**320**	*e*P	**Pdif**	**09 57 48.2**	**+3.5**
VYHS				*e*		10 02 01.9	
VYHS	**Vyhne**	**103.02**	**320**	*e*PP	**PKiKP**	**10 02 01.9**	**-2.8**
VYHS	**Vyhne**	**103.02**	**320**	*e*PDIFF	**Pdif**	**09 57 48.2**	**+3.5**
YKA	**Yellowknife Ar**	**103.24**	**25**	Pdiff	**Pdif**	**09 57 45.2**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=305,slow=4.9,SNR=5.8						
YKA				PP	**PP**	**10 02 00.1**	**0.0**
	comp=Z,2.1nm,1.0s,baz=301,slow=7.9,SNR=5.6						
YKA				PKKPbc	**PKKPbc**	**10 13 40.0**	**-2.9**
	comp=Z,1.8nm,0.8s,baz=105,slow=2.3,SNR=11						
NOA	**NORSAR Array B**	**103.26**	**333**	Pdiff	**Pdif**	**09 57 42.2**	**-3.3**
	comp=Z,1.6nm,1.0s,baz=77,slow=4.3,SNR=4.1						
MORC	**Moravsky Berou**	**103.53**	**321**	*e*PP	**PKiKP**	**10 02 04.4**	**-1.2**
VRAC	**Vranov**	**104.25**	**321**	*e*PP	**PKiKP**	**10 02 07.4**	**+0.5**
VRAC	**Vranov**	**104.25**	**321**	PP	**PKiKP**	**10 02 06.9**	**0.0**
	comp=Z,3.9nm,1.0s,baz=91,slow=8.9,SNR=2.2						
KRUC	**Moravsky**	**104.44**	**321**	*e*PDIFF	**Pdif**	**09 57 49.7**	**-1.3**
KRUC				*e*PP	**PKiKP**	**10 02 08.0**	**+0.8**
BRG	**Berggiesshubel**	**105.42**	**323**	P	**Pdif**	**09 58 00.3**	**+5.1**
BRG				Amp		09 58 01.3	
	comp=Z,6.0nm,1.1s						
BRG	**Berggiesshubel**	**105.42**	**323**	P	**PKiKP**	**10 02 08.5**	**-0.5**
BRG				Amp		10 02 09.4	
	comp=Z,3.5nm,0.9s						
CLL	**Collm**	**105.85**	**324**	*e*PKiKP	**PKiKP**	**10 02 09.0**	**-0.7**
	comp=Z,11nm,1.3s						
CLL				*e*PP	**PP**	**10 02 22.0**	**+2.1**
CLL				*i* PPmax		10 02 30.3	
	comp=Z,12nm,1.1s						
GERES	**GERESS Array B**	**106.20**	**321**	Pdiff	**Pdif**	**09 57 58.9**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=263,slow=6.6,SNR=4.4						
GERES				PP	**PP**	**10 02 21.0**	**-1.8**
	comp=Z,1.6nm,0.9s,baz=73,slow=11,SNR=4.2						
SUMG	**Summit**	**107.83**	**356**	*i* P	**PKiKP**	**10 02 21.0**	**+7.6**
NVAR	**Mina Array Bea**	**109.21**	**49**	Pdiff	**Pdif**	**09 58 13.7**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=297,slow=4.4,SNR=5.4						
NVAR				PKiKP	**PKiKP**	**10 02 17.6**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=282,slow=1.4,SNR=3.6						
NVAR				PP	**PP**	**10 02 43.9**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=286,slow=4.5,SNR=5.1						
MEM	**Membach**	**110.21**	**325**	*d*PP	**PP**	**10 02 52.0**	**+0.3**
WLF	**Walferdange**	**110.52**	**324**	*d*PP	**PP**	**10 02 56.9**	**+2.9**
EKA	**Eskdalemuir Ar**	**112.66**	**332**	PP	**PP**	**10 03 08.8**	**-0.3**
	comp=Z,2.3nm,1.0s,baz=55,slow=7.2,SNR=3.6						
KEST	**Kesra**	**113.22**	**309**	PP	**PP**	**10 03 07.1**	**-6.9**
	comp=Z,5.9nm,0.9s,baz=66,slow=7.1,SNR=4.2						
PDAR	**Pinedale Array**	**114.12**	**43**	PKiKP	PKPdf	10 02 25.7	-0.2
	comp=Z,1.0nm,1.1s,baz=149,slow=0.9,SNR=7.5						
PDAR				PP	**PP**	**10 03 17.8**	**-2.5**
	comp=Z,3.1nm,1.1s,baz=277,slow=3.7,SNR=5.5						
PDAR				PKKPbc	**PKKPbc**	**10 13 06.3**	**-1.7**
	comp=Z,1.4nm,0.7s,baz=118,slow=5.2,SNR=15						
ESDC	**Sonseca Array**	**121.45**	**317**	PKP	**PKiKP**	**10 02 40.0**	**0.0**
	comp=Z,1.9nm,1.1s,baz=39,slow=2.9,SNR=8.3						
ESDC				PP	**PP**	**10 04 08.4**	**-2.6**
	comp=Z,2.5nm,1.1s,baz=61,slow=8.2,SNR=5.0						
MVO	**Moncorvo**	**122.71**	**320**	*e*PKP	**PKiKP**	**10 02 48.7**	**+6.2**
PGAV	**Gavieira, Arco**	**123.05**	**322**	*e*PKP	**PKiKP**	**10 02 49.1**	**+6.0**
POLO	**Lamas de Olo**	**123.08**	**321**	*e*PKP	**PKiKP**	**10 02 49.3**	**+6.1**
PVRL	**Vila Real**	**123.08**	**321**	*e*PKP	**PKiKP**	**10 02 49.5**	**+6.3**
MTE	**Manteigas**	**123.45**	**320**	*e*PKP	**PKiKP**	**10 02 49.8**	**+5.8**
TXAR	**Lajitas Array**	**123.56**	**55**	PKP	**PKiKP**	**10 02 44.4**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=270,slow=2.0,SNR=8.5						
TXAR				PP	**PP**	**10 04 25.0**	**-0.8**
	comp=Z,1.1nm,1.0s,baz=222,slow=1.7,SNR=2.2						
TXAR				PKKPbc	**PKKPab**	**10 12 32.1**	**-0.5**
	comp=Z,1.2nm,1.1s,baz=134,slow=5.4,SNR=6.3						
PCBR	**Castelo Branco**	**123.70**	**319**	*e*PKP	**PKiKP**	**10 02 50.5**	**+6.1**
PMRV	**Marv??o**	**123.86**	**319**	*e*PKP	**PKiKP**	**10 02 50.3**	**+5.6**
PCAS	**Casmilo, Conde**	**124.25**	**320**	*e*PKP	**PKiKP**	**10 02 50.4**	**+5.0**
PBAR	**Barrancos**	**124.28**	**317**	*e*PKP	**PKiKP**	**10 02 51.1**	**+5.6**
PSARD	**Sardoal**	**124.28**	**319**	*e*PKP	**PKiKP**	**10 02 51.4**	**+5.8**
SCHQ	**Schefferville**	**124.89**	**10**	PKP	**PKPdf**	**10 02 45.6**	**-0.3**
	comp=Z,7.4nm,0.9s,baz=6.7,slow=3.8,SNR=9.5						
PBEJ	**Beja**	**124.91**	**318**	*e*PKP	**PKiKP**	**10 02 52.6**	**+5.8**
TORD	**Torodi Ar. Bea**	**125.11**	**285**	PKP	**PKPdf**	**10 02 46.7**	**-0.8**
	comp=Z,3.1nm,0.6s,baz=84,slow=2.9,SNR=6.3						
TORD				PP	**PP**	**10 04 35.3**	**-1.5**
	comp=Z,8.3nm,1.1s,baz=22,slow=8.5,SNR=2.3						
PCVE	**Castro Verde**	**125.23**	**317**	*e*PKP	**PKiKP**	**10 02 53.9**	**+6.4**
MESJ	**Messejana**	**125.25**	**318**	*e*PKP	**PKiKP**	**10 02 53.6**	**+6.2**
PBDV	**Barranco-do-Ve**	**125.36**	**317**	*e*PKP	**PKiKP**	**10 02 53.9**	**+6.2**
MORF	**Marmelete**	**125.82**	**317**	*e*PKP	**PKiKP**	**10 02 55.1**	**+6.4**
PFVI	**Vila Bisbo**	**126.03**	**317**	*e*PKP	**PKiKP**	**10 02 54.9**	**+5.8**
DBIC	**Dimbokro**	**132.28**	**278**	PKP	**PKPdf**	**10 03 00.7**	**-0.5**
	comp=Z,9.5nm,1.1s,baz=152,slow=3.2,SNR=3.5						
PLCA	**Paso Flores**	**135.43**	**160**	PKP	**PKiKP**	**10 03 07.4**	**-0.6**
	comp=Z,4.6nm,0.8s,baz=252,slow=2.0,SNR=12						
CPUP	**Villa Florida**	**152.56**	**170**	PKP	**PKPdf**	**10 03 36.8**	**+0.5**
	comp=Z,3.8nm,1.1s,baz=4.1,slow=0.9,SNR=18						
LPAZ	**La Paz**	**156.93**	**138**	PKP	**PKPdf**	**10 03 43.9**	**+0.6**
	comp=Z,13nm,1.2s,baz=341,slow=0.9,SNR=17						
ROSC	**El Rosal**	**157.70**	**79**	PKP	**PKPdf**	**10 03 43.6**	**-0.5**
	comp=Z,2.4nm,0.4s,baz=85,slow=4.1,SNR=5.9						
BDFB	**Brasilia**	**163.07**	**194**	PKP	**PKPdf**	**10 03 49.3**	**-0.3**
	comp=Z,9.9nm,0.9s,baz=36,slow=2.0,SNR=16						
BDFB				PP	**PP**	**10 08 22.1**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=76,slow=6.7,SNR=3.9						

*NEIC **14** 09:48:07.1±1.4,2°.27S±0°.06×100°.82E±0°.06,h59km±7km, mb4.8/15, Error ellipse: s-maj=9.7km s-min=7.9km az=118.0*
*DJA **14** 09:48:07.0±0.5,2°S±3°×10°1E±°,h21km±5km,M4.8/12, mb4.9/1,MLv4.7/12*
*IDC **14** 09:48:11.2±3.6,2°.21S×100°.93E,h96km±30km,mb4.0/18, mbtmp4.3/19,Error ellipse: s-maj=31.0km s-min=14.6km az=51.0*

ISC 14 09:48:07.3±0.5,2°.23S±0°.05×100°.78E±0°.05,h62km,n69, σ1§16/58,mb4.6/26,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.94**	**235**	P	**Pn**	**09 48 23.6**	**-1.0**
PPSI				S	**Sn**	**09 48 40.5**	**+3.1**
SISI	**Saibi**	**1.91**	**298**	P	**Pn**	**09 48 37.6**	**0.0**
KSI	**Kapahiang**	**2.30**	**128**	P	**Pn**	**09 48 46.1**	**+3.1**
BKNI	**Bangkinang**	**2.55**	**6**	Pn	**Pn**	**09 48 46.1**	**-0.2**
BKNI	**Bangkinang**	**2.55**	**6**	P	**Pn**	**09 48 46.7**	**+0.4**
MNAI	**Manna**	**3.04**	**134**	Pn	**Pn**	**09 48 51.8**	**-1.2**
MNAI	**Manna**	**3.04**	**134**	P	**Pn**	**09 48 54.9**	**+1.9**
LHSI	**Lahat**	**3.17**	**120**	P	**Pn**	**09 48 56.8**	**+2.0**
GSI	**Gunungsitoli**	**4.75**	**318**		**Pn**	**09 49 16.0**	**-0.4**
GSI	**Gunungsitoli**	**4.75**	**318**	P	**Pn**	**09 49 16.8**	**+0.4**
KASI	**Kota Agung**	**4.95**	**132**	P	**Pn**	**09 49 18.3**	**-0.8**
MYKOM	**Kota Tinggi**	**5.03**	**38**	Pn	**Pn**	**09 49 20.0**	**-0.3**
RPSI	**Rantau Prapat**	**5.23**	**339**	Pn	**Pn**	**09 49 24.0**	**+1.0**
PSI	**Prapat**	**5.33**	**340**	P	**Pn**	**09 49 28.2**	**+3.8**
	11nm,0.3s,baz=160,slow=11,SNR=9.2						
JAGI	**Jajag, Banyuwa**	**14.68**	**115**	Pn	**Pn**	**09 51 29.6**	**-2.1**
CMAR	**Chiang Mai Arr**	**20.63**	**355**	P	**P**	**09 52 42.8**	**+1.0**
	2.8nm,0.8s,baz=183,slow=10,SNR=4.3						
CMAR				PcP	**PcP**	**09 56 50.6**	**+0.1**
	3.0nm,0.9s,baz=174,slow=2.1,SNR=4.6						
	2.8nm,0.8s						
H08S2	**Diego Garcia H**	**28.68**	**258**	T	T	10 23 14.4	
	baz=81,slow=75,SNR=19						
H08S3	**Diego Garcia H**	**28.69**	**258**	T	T	10 23 15.0	
	baz=81,slow=75,SNR=142						
H08S1	**Diego Garcia H**	**28.70**	**258**	T	T	10 23 15.4	
	baz=81,slow=75,SNR=9.4						
H01W3	**Cape Leeuwin H**	**34.79**	**161**	T	T	10 31 25.4	
	baz=336						
H01W2	**Cape Leeuwin H**	**34.80**	**161**	T	T	10 31 24.5	
	baz=336,slow=74,SNR=3.5						
H01W1	**Cape Leeuwin H**	**34.80**	**161**	T	T	10 31 23.5	
	baz=336,slow=74,SNR=3.9						
WRA	**Warramunga Arr**	**37.21**	**121**	P	**P**	**09 55 11.7**	**-1.3**
	4.2nm,0.7s,baz=302,slow=9.2,SNR=2.5						
	4.2nm,0.7s						
WR8	**Warramunga Ar**	**37.35**	**121**	P	**P**	**09 55 12.3**	**-1.9**
ASAR	**Alice Springs**	**38.49**	**126**	P	**P**	**09 55 23.3**	**-0.5**
	6.3nm,0.7s,baz=303,slow=7.8,SNR=7.2						
	6.3nm,0.7s						
KSRS	**Korea Array**	**46.82**	**30**	P	**P**	**09 56 31.5**	**+0.5**
	2.5nm,1.1s,baz=208,slow=9.2,SNR=3.6						
	2.5nm,1.1s						
STKA	**Stephens Creek**	**48.42**	**132**	P	**P**	**09 56 42.3**	**-1.2**
STKA	**Stephens Creek**	**48.42**	**132**	P	**P**	**09 56 43.5**	**-0.1**
	6.9nm,0.9s,baz=320,slow=7.4,SNR=4.1						
	6.9nm,0.9s						
TARG	**Taragay, Kyrgy**	**48.47**	**337**	P	**P**	**09 56 46.2**	**+1.9**
TARG				IAmb	IAmb	09 57 03.8	
	comp=Z,10nm,0.9s						
KDJ	**Kajisay**	**49.05**	**337**	P	**P**	**09 56 50.2**	**+1.7**
KDJ				IAmb	IAmb	09 56 50.4	
	comp=Z,18nm,1.0s						
SONM	**Songino Array**	**50.09**	**5**	P	**P**	**09 56 56.5**	**+0.3**
SONM	**Songino Array**	**50.09**	**5**	P	**P**	**09 56 56.7**	**+0.5**
	comp=Z,2.9nm,0.7s,baz=181,slow=7.6,SNR=4.0						
	comp=Z,2.9nm,0.7s						
MKAR	**Makanchi Array**	**51.46**	**344**	P	**P**	**09 57 06.2**	**-0.2**
MKAR	**Makanchi Array**	**51.46**	**344**	P	**P**	**09 57 06.7**	**+0.3**
	comp=Z,9.3nm,0.6s,baz=153,slow=9.0,SNR=9.9						
	comp=Z,9.3nm,0.6s						
MJAR	**Matsushiro Arr**	**51.96**	**38**	P	**P**	**09 57 09.0**	**-1.3**
	comp=Z,2.2nm,0.9s,baz=214,slow=7.3,SNR=4.3						
	comp=Z,2.2nm,0.9s						
USRK	**Ussuriysk Ar.**	**53.99**	**27**	P	**P**	**09 57 25.0**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=223,slow=7.4,SNR=4.4						
	comp=Z,3.9nm,0.8s						
KURBB	**Kurchatov Arra**	**55.99**	**343**	P	**P**	**09 57 39.5**	**+0.2**
	comp=Z,5.0nm,0.9s,baz=165,slow=7.2,SNR=2.0						
	comp=Z,5.0nm,0.9s						
ZAA0	**Zalesovo Array**	**57.54**	**349**	P	**P**	**09 57 49.5**	**-0.7**
ZAA0				IAmb	IAmb	09 57 51.4	
	comp=Z,13nm,0.9s						
ZALV	**Zalesovo Beam**	**57.54**	**349**	P	**P**	**09 57 49.7**	**-0.6**
ZALV	**Zalesovo Beam**	**57.54**	**349**	P	**P**	**09 57 50.0**	**-0.2**
	comp=Z,14nm,0.8s,baz=158,slow=8.3,SNR=8.4						
	comp=Z,14nm,0.8s						
BVAR	**Borovoye Array**	**60.66**	**339**	P	**P**	**09 58 11.9**	**0.0**
	comp=Z,5.5nm,0.9s,baz=123,slow=11,SNR=2.5						
	comp=Z,5.5nm,0.9s						
H04N2	**CROZET ISLANDS**	**61.08**	**217**	T	T	11 03 30.0	
	baz=58,slow=75,SNR=172						
H04N1	**CROZET ISLANDS**	**61.09**	**217**	T	T	11 03 30.5	
	baz=58,slow=75,SNR=181						
H04N3	**CROZET ISLANDS**	**61.10**	**217**	T	T	11 03 32.4	
	baz=58,slow=75,SNR=169						
H04S1	**CROZET ISLANDS**	**61.36**	**216**	T	T	11 04 00.7	
	baz=58,slow=75,SNR=25						
H04S3	**CROZET ISLANDS**	**61.37**	**216**	T	T	11 04 00.4	
	baz=58,slow=75,SNR=65						
H04S2	**CROZET ISLANDS**	**61.38**	**216**	T	T	11 04 01.7	
	baz=58,slow=75,SNR=32						
AB31	**Akbulak array**	**62.21**	**331**	P	**P**	**09 58 22.0**	**-0.5**
AB31				IAmb	IAmb	09 58 34.9	
	comp=Z,13nm,1.1s						
ABKAR	**Akbulak array**	**62.21**	**331**	P	**P**	**09 58 21.6**	**-0.9**
KARS	**Kars**	**67.58**	**316**	P	**P**	**09 58 57.8**	**+0.1**
MMAI	**Mount Meron Ar**	**70.80**	**306**	P	**P**	**09 59 19.3**	**+1.6**
	comp=Z,0.6nm,0.2s,baz=102,slow=6.2,SNR=1.4						
	comp=Z,0.6nm,0.2s						
BRTR	**Keskin Array B**	**74.05**	**312**	P	**P**	**09 59 36.3**	**-0.8**
BRTR	**Keskin Array B**	**74.05**	**312**	P	**P**	**09 59 36.7**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=117,slow=7.0,SNR=3.2						
	comp=Z,0.9nm,0.5s						
VNDA	**Vanda**	**81.79**	**169**	P	**P**	**10 00 19.1**	**0.0**
BURAR	**Bucovina Array**	**81.94**	**319**	P	**P**	**10 00 21.2**	**+0.6**
BUR08	**Bucovina Ar. S**	**81.96**	**319**	P	**P**	**10 00 21.1**	**+0.4**
BUR08				IAmb	IAmb	10 00 22.9	
	comp=Z,4.1nm,0.9s						
FINES	**FINESS Array B**	**84.67**	**332**	P	**P**	**10 00 34.3**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=104,slow=8.0,SNR=4.0						
	comp=Z,1.3nm,0.7s						
ARCES	**ARCESS Array B**	**86.95**	**340**	P	**P**	**10 00 45.4**	**0.0**
ARCES	**ARCESS Array B**	**86.95**	**340**	P	**P**	**10 00 45.5**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=100,slow=5.0,SNR=5.5						
	comp=Z,0.6nm,0.6s						
GERES	**GERESS Array B**	**89.73**	**319**	P	**P**	**10 00 59.3**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=102,slow=6.9,SNR=3.7						
	comp=Z,0.6nm,0.7s						
HFS	**Hagfors**	**90.46**	**330**	P	**P**	**10 01 02.3**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=118,slow=5.5,SNR=3.7						
	comp=Z,3.5nm,0.9s						
G16K	**Koyuk River**	**94.88**	**25**	P	**P**	**10 01 22.1**	**-0.2**
G16K				IAmb	IAmb	10 01 29.2	
	comp=Z,4.1nm,1.1s						
J16K	**Anvik River**	**95.86**	**27**	P	**P**	**10 01 26.7**	**-0.1**
J17K	**VABM Dome**	**96.53**	**26**	P	**P**	**10 01 29.9**	**0.0**
J17K				IAmb	IAmb	10 01 43.8	
	comp=Z,2.5nm,1.1s						
D20K	**Etivluk River**	**96.64**	**21**	P	**P**	**10 01 29.8**	**-0.6**
F20K	**Avaraart Lake**	**97.29**	**23**	P	**P**	**10 01 32.8**	**-0.4**
F20K				IAmb	IAmb	10 01 53.1	
	comp=Z,1.6nm,1.1s						
H19K	**Roundabout Mou**	**97.30**	**24**	P	**P**	**10 01 32.7**	**-0.6**
H19K				IAmb	IAmb	10 01 35.3	
	comp=Z,1.5nm,0.7s						
BDFB	**Brasilia**	**144.40**	**239**	PKP	**PKPdf**	**10 07 37.5**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=96,slow=5.3,SNR=3.9						
TXAR	**Lajitas Array**	**144.40**	**38**	PKP	PKPbc	10 07 36.4	+0.4
	comp=Z,3.9nm,0.7s,baz=310,slow=1.2,SNR=26						

*NSSP **14** 09:48:08.5,38°.05N×47°.93E,h15km,Ms3.1*
*AZER **14** 09:48:09.9,38°.18N×48°.06E,h6km,ml3.3*
*TEH **14** 09:48:09.6,38°.07N×47°.95E,h6km±37km*

ISC 14 09:48:09.4±1.1,38°.07N±0°.03×47°.88E±0°.02,h15km±10km, n42,σ1§64/72,Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRK	**Lerik**	**0.67**	**32**	P	**Pg**	**09 48 21.5**	**-1.2**
LRK				S	**Sg**	**09 48 30.7**	**-0.9**
IHRS	**Heris**	**0.71**	**291**	Pg	**Pn**	**09 48 20.8**	**-1.3**
IHRS				Sg	**Sn**	**09 48 35.3**	**-0.5**
GRMI	**Germi**	**0.73**	**1**	Pg	**Pg**	**09 48 23.6**	**-0.1**
GAS1	**Astara - Iran**	**0.82**	**67**	Pg	**Pb**	**09 48 24.0**	**-1.2**
ASTR	**Astara**	**0.86**	**56**	P	**Pb**	**09 48 24.6**	**-1.5**
ASTR				S	**Sb**	**09 48 36.4**	**-1.0**
YRD	**Yardimli**	**0.89**	**18**	P	**Pb**	**09 48 25.9**	**-0.7**
YRD				S	**Sb**	**09 48 38.1**	**-0.2**
IHSH	**Hashtrud**	**0.91**	**213**	Pg	**Pn**	**09 48 27.4**	**-0.5**
LKRN	**Lenkeran, Azer**	**0.95**	**48**	P	**Pb**	**09 48 26.2**	**-1.3**
LKRN				S	**Sb**	**09 48 39.8**	**-0.1**
CSN1	**Caspian**	**1.09**	**118**	Pg	**Pb**	**09 48 29.1**	**-0.8**
GLBA	**Clilabad**	**1.23**	**19**	P	**Pg**	**09 48 33.0**	**-0.2**
GLBA				S	**Sg**	**09 48 49.9**	**+0.6**
ITBZ	**Tabriz**	**1.38**	**277**	Pg	**Pg**	**09 48 36.5**	**+0.6**
QRD	**Qoradiz**	**1.45**	**343**	Pn	**Pg**	**09 48 37.8**	**+0.4**
QRD				Sn	**Sg**	**09 48 59.7**	**+3.4**
IAZR	**Azarshahr**	**1.56**	**256**	Pg	**Pg**	**09 48 39.8**	**+0.4**
BLQ	**Beylaqan**	**1.66**	**351**	Pn	**Pg**	**09 48 41.0**	**-0.4**
BLQ				Sn	**Sg**	**09 49 04.4**	**+1.3**
ORD	**Ordubad**	**1.71**	**301**	Pn	**Pg**	**09 48 42.2**	**-0.1**
ORD				Sn	**Sg**	**09 49 05.5**	**+1.0**
ISHB	**Shabestar**	**1.80**	**277**	Pn	**Pg**	**09 48 43.7**	**-0.2**
ALIB	**&Aumlli-Bayram**	**2.08**	**25**	Pn	**Pg**	**09 48 48.8**	**-0.5**
ALIB				Sn	**Sg**	**09 49 19.4**	**+3.2**
AGDM	**Agdam**	**2.12**	**344**	Pn	**Pg**	**09 48 48.5**	**-1.5**
AGDM				Sn	**Sg**	**09 49 18.1**	**+0.5**
MAHB	**Mahabad**	**2.17**	**234**	Pn	**Pg**	**09 48 49.1**	**-2.0**
NAX	**Nakhchivan**	**2.17**	**301**	Pn	**Pg**	**09 48 50.7**	**-0.3**
NAX				S	**Sg**	**09 49 22.6**	**+3.5**
ZRD	**Zardab**	**2.21**	**356**	Pn	**Pb**	**09 48 49.6**	**+0.6**
ZRD				Sn	**Sg**	**09 49 19.4**	**-1.1**
SBZ	**Shahbuz**	**2.25**	**307**	Pn	**Pg**	**09 48 52.1**	**-0.5**
SBZ				Sn	**Sg**	**09 49 23.3**	**+1.5**
BRDA	**Brd**	**2.25**	**346**	Pn	**Pb**	**09 48 49.8**	**0.0**
BRDA				Sn	**Sg**	**09 49 21.1**	**-0.7**
KDMR	**Kurdemir**	**2.31**	**6**	Pn	**Pb**	**09 48 50.4**	**-0.4**
KDMR				Sn	**Sg**	**09 49 21.6**	**-2.1**
IGZV	**Ghazvin**	**2.51**	**131**	Pn	**Pb**	**09 48 52.8**	**-1.5**
GBS	**Qobustan**	**2.59**	**18**	Pn	**Pb**	**09 48 54.9**	**-0.7**
GBS				Sn	**Sb**	**09 49 29.2**	**+1.9**
AYRK	**Ayrk**	**2.61**	**322**	*e*P	**Pg**	**09 48 57.8**	**-1.7**
AYRK				*e*S	**Sg**	**09 49 33.8**	**+0.5**
HGHA	**Hamedan- Ghaye**	**2.70**	**163**	Pn	**Pb**	**09 48 56.1**	**-1.3**
IML	**Ismayilli**	**2.73**	**5**	Pn	**Pb**	**09 48 55.8**	**-2.1**
IML				Sn	**Sb**	**09 49 32.1**	**+1.0**
PQL	**Pirkuli**	**2.77**	**11**	Pn	**Pb**	**09 48 56.6**	**-2.0**
PQL				Sn	**Sb**	**09 49 32.7**	**+0.3**
GANJ	**Ganja**	**2.84**	**335**	Pn	**Pb**	**09 48 58.6**	**-1.2**
GANJ				Sn	**Sb**	**09 49 35.1**	**+0.7**
QBL	**Gabala**	**2.87**	**359**	Pn	**Pb**	**09 48 58.5**	**-1.8**
QBL				Sn	**Sb**	**09 49 34.6**	**-0.6**
HYR	**Heyderabad**	**2.88**	**306**	Pn	**Pb**	**09 49 02.0**	**+1.5**
HYR				Sn	**Sg**	**09 49 40.7**	**-1.2**
SIZA	**Siyzn**	**3.10**	**14**	Pn	**Pb**	**09 49 04.6**	**+0.3**
SIZA				Sn	**Sb**	**09 49 42.3**	**+0.4**
GDB	**GEDABAY**	**3.12**	**329**	Pn	**Pb**	**09 49 04.9**	**+0.3**
GDB				Sn	**Sb**	**09 49 43.2**	**+0.7**
SEKA	**Sheki**	**3.18**	**351**	Pn	**Pb**	**09 49 02.5**	**-3.0**
SEKA				Sn	**Sb**	**09 49 42.1**	**-2.0**
QUBA	**Quba, Azerbaij**	**3.31**	**8**	Pn	**Pb**	**09 49 04.6**	**-3.2**
QUBA				Sn	**Sb**	**09 49 46.9**	**-1.1**
HAGD	**Aghdareh**	**3.40**	**162**	Pn	**Pn**	**09 49 04.8**	**+2.7**
QSAR	**Qusar**	**3.45**	**5**	Pn	**Pb**	**09 49 08.1**	**-2.1**
QSAR				Sn	**Sb**	**09 49 52.2**	**+0.3**
QZX	**Qazax, Azerbai**	**3.56**	**328**	Pn	**Pb**	**09 49 09.2**	**-2.8**
QZX				Sn	**Sb**	**09 49 53.0**	**-2.0**
**ZK

CTAO					IAmb	IAmb	10 00 27.2	
	comp=Z,21nm,1.1s							
RPSI	**Rantau Prapat**	**29.67**	**277**	P		**P**	**10 00 53.3**	**-0.7**
RPSI					IAmb	IAmb	10 00 54.8	
	comp=Z,24nm,1.0s							
RPSI	**Rantau Prapat**	**29.67**	**277**	P		**P**	**10 00 52.6**	**-1.4**
PSI	**Prapat**	**29.68**	**277**	P		**P**	**10 00 52.6**	**-1.7**
	comp=Z,12nm,0.7s,baz=282,slow=18,SNR=1.8							
	comp=Z,12nm,0.7s							
FORT	**Forrest**	**29.69**	**181**	P		**P**	**10 00 54.0**	**0.0**
GSI	**Gunungsitoli**	**30.89**	**274**	P		**P**	**10 01 03.4**	**-1.4**
STKA	**Stephens Creek**	**33.22**	**159**	P		**P**	**10 01 25.8**	**+0.7**
STKA	**Stephens Creek**	**33.22**	**159**	P		**P**	**10 01 25.9**	**+0.9**
	comp=Z,8.5nm,0.9s,baz=330,slow=8.2,SNR=5.4							
	comp=Z,8.5nm,0.9s							
NWAO	**Narrogin (SRO)**	**33.52**	**197**	P		**P**	**10 01 27.4**	**-0.2**
	comp=Z,7.8nm,0.8s,baz=28,slow=12,SNR=4.2							
	comp=Z,7.8nm,0.8s							
NJ2	**Nanjing**	**34.02**	**345**	*e*P		**P**	**10 01 33.3**	**+1.3**
NJ2					pmax	pmax		
	comp=Z,6.0nm,0.5s							
WHN	**Wuhan**	**34.03**	**338**	P		P	10 01 40.5	+8.4
CMAR	**Chiang Mai Arr**	**34.77**	**305**	P		**P**	**10 01 38.9**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=120,slow=8.8,SNR=6.5							
	comp=Z,1.2nm,0.7s							
ARMA	**Armidale**	**36.71**	**145**	P		**P**	**10 01 56.5**	**+1.1**
PZH	**PanZhiHua**	**37.47**	**319**	P		**P**	**10 02 04.6**	**+2.7**
KSRS	**Korea Array**	**38.19**	**359**	P		**P**	**10 02 08.0**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=179,slow=8.8,SNR=7.0							
	comp=Z,1.3nm,0.8s							
LYN	**LuoYang**	**38.32**	**339**	P		**P**	**10 02 11.8**	**+3.0**
LYN					pmax	pmax		
	comp=Z,23nm,0.6s							
MJAR	**Matsushiro Arr**	**38.38**	**13**	P		**P**	**10 02 11.3**	**+2.0**
	comp=Z,7.2nm,0.8s,baz=182,slow=9.4,SNR=16							
	comp=Z,7.2nm,0.8s							
MAJO	**Matsushiro**	**38.38**	**13**	P		**P**	**10 02 09.6**	**+0.2**
MAJO					IAmb	IAmb	10 02 16.3	
	comp=Z,16nm,0.9s							
CAN	**Canberra**	**39.23**	**153**	P		**P**	**10 02 17.5**	**+0.9**
XAN	**Xi'an**	**39.30**	**334**	*e*P		**P**	**10 02 17.3**	**+0.2**
LZH	**Lanzhou**	**43.34**	**331**	*e*P		P	10 02 58.5	+8.1
LZH					sP	sP	10 03 04.6	+6.8
LZH					pmax	pmax		
	comp=Z,17nm,1.1s							
SHL	**Shillong**	**44.02**	**309**	P		**P**	**10 02 55.7**	**-0.4**
SHL					IAmb	IAmb	10 02 56.9	
	comp=Z,18nm,0.7s							
HHC	**Hu-ho-hao-te**	**44.31**	**342**	*e*P		**P**	**10 02 59.8**	**+1.7**
HHC					pmax	pmax		
	comp=Z,13nm,0.7s							
GTA	**Gaotai**	**47.92**	**330**	*e*P		**P**	**10 03 27.8**	**+1.2**
GTA					pmax	pmax		
	comp=Z,8.0nm,0.9s							
EVN	**Everest**	**49.14**	**309**	P		**P**	**10 03 35.8**	**-1.0**
ULN	**Ulaanbaatar**	**52.03**	**342**	P		**P**	**10 03 57.0**	**-0.7**
SONM	**Songino Array**	**52.21**	**341**	P		**P**	**10 03 58.9**	**-0.1**
SONM	**Songino Array**	**52.21**	**341**	P		**P**	**10 03 58.8**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=159,slow=8.4,SNR=6.2							
	comp=Z,1.9nm,0.8s							
DGAR	**Diego Garcia**	**56.11**	**262**	P		**P**	**10 04 27.9**	**0.0**
WMQ	**Urumqi**	**57.48**	**326**	*e*P		**P**	**10 04 39.8**	**+2.6**
TUWZ	**Tuamarina**	**57.52**	**140**	P		**P**	**10 04 38.5**	**+1.1**
PEA0B	**Petropavlovsk-**	**59.15**	**20**	P		**P**	**10 04 48.1**	**-0.5**
PEA0B					IAmb	IAmb	10 05 04.9	
	comp=Z,16nm,1.1s							
PETK	**Petropavlovsk-**	**59.15**	**20**	P		**P**	**10 04 48.1**	**-0.5**
PETK	**Petropavlovsk-**	**59.15**	**20**	P		**P**	**10 04 48.8**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=172,slow=4.5,SNR=7.2							
	comp=Z,3.0nm,0.8s							
MKAR	**Makanchi Array**	**62.31**	**326**	P		**P**	**10 05 09.3**	**-1.0**
MKAR	**Makanchi Array**	**62.31**	**326**	P		**P**	**10 05 09.5**	**-0.8**
	comp=Z,4.1nm,0.8s,baz=122,slow=8.0,SNR=16							
	comp=Z,4.1nm,0.8s							
ZALV	**Zalesovo Beam**	**65.46**	**333**	P		**P**	**10 05 29.4**	**-1.4**
	comp=Z,2.1nm,0.8s,baz=128,slow=6.9,SNR=5.2							
	comp=Z,2.1nm,0.8s							
SHEM	**Shemya Is, Ala**	**65.68**	**29**	P		**P**	**10 05 32.8**	**+0.5**
	comp=Z,17nm,1.0s,baz=294,slow=5.8,SNR=1.7							
	comp=Z,17nm,1.0s							
CASY	**Casey**	**66.44**	**188**	P		**P**	**10 05 37.2**	**+0.3**
CASY					IAmb	IAmb	10 05 59.0	
	comp=Z,6.8nm,1.2s							
KURBB	**Kurchatov Arra**	**66.53**	**328**	P		**P**	**10 05 36.8**	**-1.0**
	comp=Z,6.4nm,0.8s,baz=128,slow=5.9,SNR=24							
	comp=Z,6.4nm,0.8s							
KURK	**Kurchatov**	**66.54**	**328**	P		**P**	**10 05 36.5**	**-1.3**
KURK					IAmb	IAmb	10 05 37.9	
	comp=Z,11nm,0.9s							
KKAR	**Karatay Array**	**67.76**	**318**	P		**P**	**10 05 44.4**	**-1.4**
BVAR	**Borovoye Array**	**72.11**	**327**	P		**P**	**10 06 11.4**	**-0.9**
	comp=Z,1.3nm,0.4s							
	comp=Z,1.3nm,0.4s							
RER	**Riviere de l'E**	**73.49**	**248**	P		**P**	**10 06 21.2**	**-0.1**
NRIK	**Noril'sk**	**75.32**	**346**	P		**P**	**10 06 30.6**	**-0.2**
	comp=Z,5.0nm,0.7s,baz=188,slow=7.1,SNR=3.9							
	comp=Z,5.0nm,0.7s							
AKTO	**Aktyubinsk**	**78.32**	**322**	P		**P**	**10 06 47.0**	**-1.1**
	comp=Z,4.2nm,0.6s,baz=113,slow=4.3,SNR=5.5							
	comp=Z,4.2nm,0.6s							
VNDA	**Vanda**	**78.63**	**173**	P		**P**	**10 06 49.1**	**-0.2**
VNDA	**Vanda**	**78.63**	**173**	P		**P**	**10 06 49.6**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=320,slow=5.4,SNR=11							
	comp=Z,2.8nm,0.8s							
MAW	**Mawson**	**80.00**	**201**	P		**P**	**10 06 57.4**	**+0.4**
	comp=Z,6.3nm,1.0s,baz=43,slow=5.6,SNR=8.3							
	comp=Z,6.3nm,1.0s							
VOI	**Vohitsoka**	**81.85**	**248**	P		**P**	**10 07 07.2**	**-0.8**
VOI					IAmb	IAmb	10 07 08.6	
	comp=Z,10nm,0.8s							
H17K	**Granite Mounta**	**83.16**	**24**	P		**P**	**10 07 13.6**	**-0.1**
H17K					IAmb	IAmb	10 07 20.1	
	comp=Z,4.5nm,0.8s							
C18K	**Utukok River**	**83.81**	**20**	P		**P**	**10 07 16.8**	**-0.3**
C18K					IAmb	IAmb	10 07 47.0	
	comp=Z,11nm,1.2s							
L18K	**Granite Mounta**	**83.82**	**27**	P		**P**	**10 07 17.3**	**+0.1**
G18K	**Tagagawik**	**83.93**	**23**	P		**P**	**10 07 18.3**	**+0.5**
N19K	**Bonanza Creek**	**84.54**	**29**	P		**P**	**10 07 21.5**	**+0.5**
N19K					IAmb	IAmb	10 07 27.1	
	comp=Z,8.1nm,0.9s							
G19K	**Purcell Mounta**	**84.62**	**23**	P		**P**	**10 07 22.2**	**+1.0**
H19K	**Roundabout Mou**	**84.72**	**24**	P		**P**	**10 07 22.6**	**+0.9**
H19K					IAmb	IAmb	10 08 05.8	
	comp=Z,10nm,1.4s							
E19K	**Redstone River**	**84.90**	**22**	P		**P**	**10 07 23.3**	**+0.7**
E19K					IAmb	IAmb	10 07 24.8	
	comp=Z,15nm,1.4s							
KIRV	**Kirov**	**85.04**	**329**	P		**P**	**10 07 23.4**	**0.0**
	comp=Z,10nm,0.6s,baz=126,slow=23,SNR=2.3							
	comp=Z,10nm,0.6s							
RED	**Redoubt Volcan**	**85.29**	**29**	P		**P**	**10 07 23.8**	**-1.0**
RED					IAmb	IAmb	10 07 32.6	
	comp=Z,7.1nm,0.7s							
D20K	**Etivluk River**	**85.44**	**21**	P		**P**	**10 07 25.1**	**-0.2**
D20K					IAmb	IAmb	10 07 36.7	
	comp=Z,7.3nm,1.2s							
PPLA	**Purkeypile**	**86.00**	**27**	P		**P**	**10 07 28.1**	**-0.2**
PPLA					IAmb	IAmb	10 07 41.2	
	comp=Z,8.0nm,0.9s							
SKT	**Skwentna**	**86.15**	**28**	P		**P**	**10 07 27.1**	**-1.9**
SKT					IAmb	IAmb	10 08 08.6	
	comp=Z,9.0nm,1.5s							
E23K	**Chandalar**	**87.86**	**22**	P		**P**	**10 07 37.5**	**+0.2**
E23K					IAmb	IAmb	10 08 02.8	
	comp=Z,10.0nm,1.4s							
ILAR	**Eielson Array**	**88.58**	**25**	P		**P**	**10 07 39.9**	**-0.7**
	comp=Z,0.6nm,1.0s,baz=255,slow=3.5,SNR=4.2							
	comp=Z,0.6nm,1.0s							
QSPA	**South Pole Qui**	**89.01**	**180**	P		**P**	**10 07 42.7**	**0.0**
D25K	**Kavik River**	**89.17**	**21**	P		**P**	**10 07 43.0**	**-0.4**
D25K					IAmb	IAmb	10 08 20.6	
	comp=Z,6.6nm,1.4s							
BMAR	**Burnt Mountain**	**89.71**	**23**	P		**P**	**10 07 46.8**	**+0.9**
K27K	**Chicken**	**90.62**	**26**	P		**P**	**10 07 49.9**	**-0.3**
K27K					IAmb	IAmb	10 07 58.6	
	comp=Z,8.4nm,1.4s							
BCAR	**Beaver Creek A**	**90.74**	**27**	P		**P**	**10 07 49.6**	**-1.2**
I28M	**Miner Creek**	**91.54**	**25**	P		**P**	**10 07 54.0**	**-0.6**
I28M					IAmb	IAmb	10 08 03.8	
	comp=Z,3.8nm,1.1s							
DAWY	**Dawson**	**91.81**	**26**	P		**P**	**10 07 55.0**	**-0.7**
DAWY					IAmb	IAmb	10 08 05.5	
	comp=Z,6.9nm,1.5s							
LVZ	**Lovozero**	**92.27**	**338**	P		**P**	**10 07 57.3**	**-0.5**
	comp=Z,19nm,2.1s							
DIKM	**Dikmen**	**92.95**	**311**	P		**P**	**10 08 01.9**	**+0.4**
TXAR	**Lajitas Array**	**123.01**	**55**	PKP		**PKPdf**	**10 13 45.4**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=151,slow=2.9,SNR=3.5							

RSNC 14 09:55:12.4±0.0, 7°N±1′×7°3W±°, h149km±1km, M3.1, mb3.3, ML3.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**185**	P		Pn	09 55 32.5	-0.5
BARC	**Barichara**	**0.24**	**185**	P		Pn	09 55 32.4	-0.6
BARC				S		Sn	09 55 47.5	-1.1
BRJC	**Barrancabermej**	**0.60**	**284**	P		Pn	09 55 34.0	-0.2
BRJC				S		Sn	09 55 51.1	+0.4
PAMC	**Pamplona, Colo**	**0.68**	**42**	P		Pn	09 55 35.1	-0.2
PAMC				S		Sn	09 55 52.3	-0.4
RUSC	**La Rusia**	**0.94**	**175**	P		Pn	09 55 36.3	-0.8
RUSC				S		Sn	09 55 54.9	-1.1
PTBC	**PUERTO BERRIO,**	**1.32**	**257**	P		Pn	09 55 39.0	-1.1
PTBC				P			09 55 39.1	
PTBC	**PUERTO BERRIO,**	**1.32**	**257**	P		Pn	09 55 38.8	-1.3
PTBC				S		Sn	09 55 59.9	-1.3
OCAC	**Ocana**	**1.41**	**354**	P		Pn	09 55 40.3	-0.8
OCAC				S		Sn	09 56 03.1	0.0
TAMC	**Tame, Arauca**	**1.42**	**106**	P		Pn	09 55 40.8	-0.3
TAMC				S		Sn	09 56 02.4	-0.5
ZARC	**Zaragoza, Cauc**	**1.81**	**291**	P		Pn	09 55 45.0	-0.3
ZARC				P		Pn	09 55 45.0	-0.3
ZARC	**Zaragoza, Cauc**	**1.81**	**291**	P		Pn	09 55 44.5	-0.8
ZARC				S		Sn	09 56 10.3	-0.2
NORC	**Norcasia**	**2.11**	**234**	P		Pn	09 55 48.7	-0.2
NORC				P			09 55 49.1	
NORC	**Norcasia**	**2.11**	**234**	P		Pn	09 55 48.6	-0.3
NORC				S		Sn	09 56 16.5	-0.4
CHIC	**Chingaza**	**2.26**	**195**	P		Pn	09 55 50.1	-0.9
CHIC				P			09 55 51.0	
CHIC	**Chingaza**	**2.26**	**195**	P		Pn	09 55 50.7	-0.3
CHIC				S		Sn	09 56 19.7	-0.9
ROSC	**El Rosal**	**2.29**	**210**	P		Pn	09 55 52.1	+0.8
ROSC				S		Sn	09 56 22.5	+1.3
BOG	**Bogota**	**2.37**	**202**	P		Pn	09 55 51.6	-0.7
BOG				S		Sn	09 56 22.8	-0.1
HELC	**Santa Helena**	**2.44**	**255**	P		Pn	09 55 54.0	+0.9
HELC	**Santa Helena**	**2.44**	**255**	P		Pn	09 55 53.0	-0.1
HELC				S		Sn	09 56 24.2	-0.1
CVER	**Cruz Verde, Cu**	**2.47**	**202**	P		Pn	09 55 53.9	+0.3
CVER				S		Sn	09 56 25.9	+0.7
UREC	**San Jos de Ur**	**2.53**	**291**	P		Pn	09 55 52.2	-1.6
UREC				P		P	09 55 52.5	-1.3
UREC				P		P	09 55 52.5	-1.3
UREC				S		Sn	09 56 24.1	-1.6
UREC	**San Jos de Ur**	**2.53**	**291**	P		Pn	09 55 52.0	-1.8
UREC				S		Sn	09 56 23.7	-2.0
GUY2C	**Guyana, Caldas**	**2.71**	**234**	P		Pn	09 55 57.4	+0.8
GUY2C	**Guyana, Caldas**	**2.71**	**234**	P		Pn	09 55 57.5	+0.9
GUY2C				S		Sn	09 56 43.6	+3.0
VILC	**Villavicencio,**	**2.75**	**191**	P		Pn	09 55 56.1	-0.7
VILC				P			09 55 56.3	
VILC				P			09 55 56.8	
VILC	**Villavicencio,**	**2.75**	**191**	P		Pn	09 55 55.6	-1.2
VILC				S		Sn	09 56 30.6	-0.4
RECRC	**Villamaria, Ca**	**2.87**	**230**	P		Pn	09 56 00.4	+1.8
RECRC				S		Sn	09 56 36.9	+2.8
NIZA	**Niza - Manizal**	**2.90**	**233**	P		Pn	09 56 00.3	+1.6
NIZA				S		Sn	09 56 36.2	+1.8
CBOC	**Ciudad Bolivar**	**2.99**	**251**	P		Pn	09 55 59.7	-0.1
CBOC				S		Sn	09 56 35.8	-0.6
DBBC	**Dabeiba**	**3.03**	**274**	P		Pn	09 56 00.4	+0.2
DBBC				P		P	09 56 00.7	
DBBC				S		Sn	09 56 37.3	+0.1
DBBC	**Dabeiba**	**3.03**	**274**	P		Pn	09 56 00.0	-0.2
DBBC				S		Sn	09 56 35.5	-1.7
ARGC	**Ariguani, Magd**	**3.19**	**340**	P		Pn	09 56 03.1	+0.9
ARGC	**Ariguani, Magd**	**3.19**	**340**	P		Pn	09 56 02.1	-0.1
ARGC				S		Sn	09 56 41.0	+0.1
ANIL	**Santa Ana**	**3.22**	**224**	P		Pn	09 56 03.8	+0.9
ANIL				S		Sn	09 56 41.9	0.0
SDV	**Santo Domingo**	**3.23**	**51**	P		Pn	09 56 01.2	-1.7
SDV				S		Sn	09 56 41.6	-0.3
PRAC	**Prado**	**3.54**	**209**	P		Pn	09 56 06.6	-0.1
PRAC				P			09 56 06.8	
PRAC				S		Sn	09 56 48.8	-0.1
PRAC	**Prado**	**3.54**	**209**	P		Pn	09 56 05.7	-1.1
PRAC				S		Sn	09 56 48.3	-0.6
APAC	**Apartado, Choc**	**3.56**	**288**	P		Pn	09 56 05.9	-1.0
APAC				S		Sn	09 56 49.0	-0.1
ORTC	**Ortega, Tolima**	**3.57**	**216**	P		Pn	09 56 05.6	-1.5
ORTC				P		Pn	09 56 05.6	-1.5
ORTC				P		Pn	09 56 05.6	-1.5
ORTC	**Ortega, Tolima**	**3.57**	**216**	P		Pn	09 56 06.0	-1.1
ORTC				S		Sn	09 56 49.7	+0.2
SJCC	**San Jacinto, C**	**3.64**	**327**	P		Pn	09 56 06.1	-2.0
SJCC				S		Sn	09 56 48.2	-3.1
SJCC	**San Jacinto, C**	**3.64**	**327**	P		Pn	09 56 06.0	-2.1
SJCC				S		Sn	09 56 47.1	-4.2
PLMC	**San Jos del P**	**3.65**	**239**	P		Pn	09 56 08.1	0.0
PLMC				P			09 56 08.3	
PLMC	**San Jos del P**	**3.65**	**239**	P		Pn	09 56 08.0	-0.1
PLMC				S		Sn	09 56 50.4	-1.0
URMC	**La Uribe, Meta**	**3.76**	**199**	P		Pn	09 56 09.6	0.0
URMC				S		Sn	09 56 52.8	-1.3
LCBC	**Los crdobas,**	**3.76**	**303**	P		Pn	09 56 10.1	+0.5
LCBC				S		Sn	09 56 54.8	+0.9
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	P		Pn	09 56 12.8	-2.2
CRJC				P			09 56 13.0	
CRJC				P			09 56 13.1	
CRJC				S		Sn	09 57 00.3	-3.4
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	P		Pn	09 56 12.4	-2.2
CRJC				S		Sn	09 57 00.5	-3.2
YOTC	**Yotoco, Valle**	**4.25**	**228**	P		Pn	09 56 16.0	0.0
YOTC				S		Sn	09 57 07.2	+1.7
GUVC	**San Jose del G**	**4.29**	**173**	P		Pn	09 56 14.8	-1.7
GUVC				S		Sn	09 57 04.0	-2.4
SMRC	**Santa Marta, M**	**4.43**	**346**	P		Pn	09 56 17.7	-0.6
SMRC				P		P	09 56 17.8	-0.5
SMRC				P		P	09 56 17.8	-0.5
SMRC	**Santa Marta, M**	**4.43**	**346**	P		Pn	09 56 17.0	-1.3
SMRC				S		Sn	09 57 05.5	-4.2
MACC	**Macarena, Meta**	**4.70**	**188**	P		Pn	09 56 19.4	-2.6
MACC				S		Sn	09 57 10.4	-5.8
URIC	**Uribia, Colomb**	**4.98**	**13**	P		Pn	09 56 23.0	-2.5
URIC				S		Sn	09 57 18.9	-3.7
MALC	**Bahia Malaga**	**5.01**	**236**	P		Pn	09 56 25.7	-0.3
MALC				S		Sn	09 57 24.1	+0.7
JAMC	**Jamundi, Valle**	**5.01**	**224**	P		Pn	09 56 26.2	-0.1
	10nm,1.4s							
JAMC				S		Sn	09 57 21.1	-2.7
	10nm,1.4s							
GARC	**Garzon, Huila**	**5.17**	**207**	P		Pn	09 56 26.5	-1.8
GARC				S		Sn	09 57 23.7	-3.8
POPC	**Popayan, Colom**	**5.52**	**220**	P		Pn	09 56 33.1	+0.2
POPC				S		Sn	09 57 35.1	-0.7

IDC ***14*** *09:55:32.2±0.8, 0.°87S×128.°40E, h0km, mb4.4/10, mbtmp4.4/12, ML4.6/2, Error ellipse: s-maj=37.5km s-min=14.7km az=81.0*

NEIC ***14*** *09:55:33.8±1.7, 0.°91S±0.°07×128.°36E±0.°08, h10km±1km, mb4.8/27, Error ellipse: s-maj=15.5km s-min=9.7km az=60.0*

ISC 14 09:55:34.4±0.5, 0.°90S±0.°06×128.°42E±0.°07, h17km, n49, σ1§05/49, mb4.6/23, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.96**	**328**	Pn		**Pn**	**09 56 06.1**	**-0.9**
FAKI	**Fak Fak**	**4.33**	**118**	Pn		**Pn**	**09 56 39.5**	**0.0**
KAPI	**Kappang**	**9.57**	**245**	Pn		**Pn**	**09 57 55.3**	**+3.8**
	7.3nm,0.3s,baz=143,slow=3.6,SNR=5.6							
MTN	**Manton Dam**	**12.17**	**167**	Pn		**Pn**	**09 58 25.4**	**-1.8**
KNRA	**Kununurra**	**14.69**	**179**	Pn		**Pn**	**09 58 59.9**	**-1.7**
FITZ	**Fitzroy Crossi**	**17.31**	**189**	Pn		**Pn**	**09 59 33.9**	**-1.6**
FITZ	**Fitzroy Crossi**	**17.31**	**189**	P		**P**	**09 59 36.1**	**-0.7**
	0.9nm,0.3s,baz=69,slow=4.5,SNR=3.6							
	11nm,0.8s							
KSM	**Kuching**	**18.26**	**277**	P		**Pn**	**09 59 45.6**	**-1.7**
UGM	**Wanagama**	**19.14**	**248**	P		**P**	**09 59 56.2**	**-0.8**
UGM					IAmb	IAmb	10 00 10.2	
	comp=Z,131nm,1.2s							

COEN	**Coen**	**19.54**	**132**	P		**P**	**10 00 01.5**	**+0.1**
WRAB	**Tennant Creek**	**19.79**	**163**	P		**P**	**10 00 02.5**	**-1.6**
WRAB					IAmb	IAmb	10 00 19.9	
	comp=Z,22nm,0.9s							
WRA	**Warramunga Arr**	**19.80**	**163**	P		**P**	**10 00 03.5**	**-0.7**
	comp=Z,2.3nm,0.3s,baz=354,slow=12,SNR=6.2							
	comp=Z,8.4nm,0.5s							
GUMO	**Guam**	**21.75**	**48**	P		**P**	**10 00 27.2**	**+1.8**
AS31	**Alice Springs**	**23.25**	**167**	P		**P**	**10 00 40.6**	**-0.6**
AS31					IAmb	IAmb	10 00 48.7	
	comp=Z,23nm,0.6s							
ASAR	**Alice Springs**	**23.25**	**167**	P		**P**	**10 00 42.1**	**+0.9**
	comp=Z,13nm,0.6s,baz=349,slow=12,SNR=5.6							
	comp=Z,13nm,0.6s							
MYKOM	**Kota Tinggi**	**24.71**	**276**	P		**P**	**10 00 54.8**	**-0.3**
MYKOM					IAmb	IAmb	10 01 05.8	
	comp=Z,49nm,1.3s							
RPSI	**Rantau Prapat**	**29.70**	**277**	P		**P**	**10 01 40.1**	**+0.2**
RPSI	**Rantau Prapat**	**29.70**	**277**	P		**P**	**10 01 39.7**	**-0.2**
RPSI					IAmb	IAmb	10 01 45.6	
	comp=Z,15nm,1.1s							
PSI	**Prapat**	**29.71**	**277**	P		**P**	**10 01 40.1**	**-0.1**
	comp=Z,8.5nm,0.8s,baz=142,slow=9.3,SNR=1.3							
	comp=Z,8.5nm,0.8s							
STKA	**Stephens Creek**	**33.23**	**159**	P		**P**	**10 02 10.7**	**-0.1**
STKA	**Stephens Creek**	**33.23**	**159**	P		**P**	**10 02 10.7**	**-0.1**
	comp=Z,5.2nm,0.7s,baz=320,slow=12,SNR=4.7							
	comp=Z,5.2nm,0.7s							
NWAO	**Narrogin (SRO)**	**33.55**	**197**	P		**P**	**10 02 14.6**	**+1.0**
	comp=Z,7.7nm,0.7s,baz=49,slow=6.1,SNR=3.9							
	comp=Z,7.7nm,0.7s							
CHTO	**Chiang Mai**	**34.96**	**306**	P		**P**	**10 02 25.9**	**-0.1**
CHTO					IAmb	IAmb	10 02 34.4	
	comp=Z,4.4nm,0.7s							
KSRS	**Korea Array**	**38.16**	**359**	P		**P**	**10 02 53.0**	**0.0**
	comp=Z,1.7nm,1.0s,baz=176,slow=9.3,SNR=5.2							
	comp=Z,1.7nm,1.0s							
MJAR	**Matsushiro Arr**	**38.35**	**13**	P		**P**	**10 02 55.1**	**+0.5**
	comp=Z,6.2nm,0.7s,baz=179,slow=9.8,SNR=9.4							
	comp=Z,6.2nm,0.7s							
CAN	**Canberra**	**39.25**	**153**	P		**P**	**10 03 01.5**	**-0.7**
SONM	**Songino Array**	**52.19**	**341**	P		**P**	**10 04 44.3**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=158,slow=9.4,SNR=3.8							
	comp=Z,2.2nm,0.9s							
PEA0B	**Petropavlovsk-**	**59.11**	**20**	P		**P**	**10 05 33.6**	**-0.3**
PETK	**Petropavlovsk-**	**59.11**	**20**	P		**P**	**10 05 34.6**	**+0.7**
MKAR	**Makanchi Array**	**62.30**	**326**	P		**P**	**10 05 56.0**	**+0.2**
ZAA0	**Zalesovo Array**	**65.45**	**333**	P		**P**	**10 06 15.8**	**-0.5**
ZAA0					IAmb	IAmb	10 06 34.0	
	comp=Z,3.6nm,0.9s							
ZALV	**Zalesovo Beam**	**65.45**	**333**	P		**P**	**10 06 15.4**	**-1.0**
ZALV	**Zalesovo Beam**	**65.45**	**333**	P		**P**	**10 06 16.8**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=130,slow=6.7,SNR=2.0							
	comp=Z,0.7nm,0.3s							
KURBB	**Kurchatov Arra**	**66.52**	**328**	P		**P**	**10 06 23.4**	**+0.1**
	comp=Z,3.5nm,0.6s,baz=130,slow=6.1,SNR=6.9							
	comp=Z,3.5nm,0.6s							
KURK	**Kurchatov**	**66.53**	**328**	P		**P**	**10 06 22.6**	**-0.7**
KURK					IAmb	IAmb	10 06 23.5	
	comp=Z,15nm,1.2s							
KKAR	**Karatay Array**	**67.76**	**318**	P		**P**	**10 06 30.4**	**-0.9**
ATKA	**Atka Island**	**71.38**	**33**	P		**P**	**10 06 53.4**	**0.0**
VNDA	**Vanda**	**78.66**	**173**	P		**P**	**10 07 35.7**	**+0.6**
VNDA	**Vanda**	**78.66**	**173**	P		**P**	**10 07 36.5**	**+1.4**
	comp=Z,2.1nm,0.9s,baz=280,slow=7.3,SNR=3.6							
	comp=Z,2.1nm,0.9s							
K13K	**Kusilvak Mount**	**80.12**	**26**	P		**P**	**10 07 43.7**	**+0.4**
L14K	**Ouka Creek**	**80.80**	**27**	P		**P**	**10 07 45.3

SONM	**Songino Array**	**51.63**	**342**	P	**P**	**10**	**10**	**19.7 +0.3**
	comp=Z,0.2nm,0.3s,baz=165,slow=7.1,SNR=2.4							
	comp=Z,0.2nm,0.3s							
PETK	**Petropavlovsk-**	**58.93**	**21**	P	**P**	**10**	**11**	**11.9 +0.1**
	comp=Z,3.0nm,1.0s,baz=186,slow=6.8,SNR=4.6							
	comp=Z,3.0nm,1.0s							
MKAR	**Makanchi Array**	**61.65**	**326**	P	**P**	**10**	**11**	**30.8 +0.2**
	comp=Z,1.2nm,0.8s,baz=122,slow=6.9,SNR=4.2							
	comp=Z,1.2nm,0.8s							
KURBB	**Kurchatov Arra**	**65.89**	**328**	P	**P**	**10**	**11**	**57.9 -0.5**
	comp=Z,1.3nm,0.8s,baz=126,slow=6.2,SNR=6.8							
	comp=Z,1.3nm,0.8s							
KURK	**Kurchatov**	**65.89**	**328**	P	**P**	**10**	**12**	**00.1 +1.6**
KURK				IAmb	IAmb	10	12	18.0
	comp=Z,3.3nm,0.8s							
KKAR	**Karatay Array**	**67.08**	**318**	P	**P**	**10**	**12**	**08.9 +2.6**
ABKAR	**Akbulak array**	**76.12**	**321**	P	**P**	**10**	**13**	**00.5 -0.1**
VNDA	**Vanda**	**79.12**	**173**	P	**P**	**10**	**13**	**15.8 -1.1**
	comp=Z,0.7nm,0.9s,baz=312,slow=5.3,SNR=2.2							
	comp=Z,0.7nm,0.9s							
O15K	**Ungalikthiuk R**	**81.43**	**30**	P	**P**	**10**	**13**	**28.8 -0.8**
L16K	**Owhat River**	**82.28**	**27**	P	**P**	**10**	**13**	**34.5 +0.5**
L16K				IAmb	IAmb	10	13	45.9
	comp=Z,3.6nm,1.1s							
L18K	**Granite Mounta**	**83.68**	**27**	P	**P**	**10**	**13**	**42.2 +0.9**
J26L	**Joseph Creek**	**89.83**	**26**	P	**P**	**10**	**14**	**11.8 +0.5**
J26L				IAmb	IAmb	10	14	23.4
	comp=Z,2.4nm,0.9s							
I26K	**Coal Creek Min**	**90.02**	**25**	P	**P**	**10**	**14**	**12.8 +0.7**
I26K				IAmb	IAmb	10	14	16.8
	comp=Z,4.3nm,1.0s							
K27K	**Chicken**	**90.47**	**26**	P	**P**	**10**	**14**	**14.0 -0.3**
K27K				IAmb	IAmb	10	14	15.9
	comp=Z,3.6nm,0.9s							
M27K	**Edge Creek, AK**	**90.56**	**28**	P	**P**	**10**	**14**	**13.8 -1.0**
L27K	**Beaver Creek,**	**90.58**	**27**	P	**P**	**10**	**14**	**14.6 -0.2**
BCAR	**Beaver Creek A**	**90.60**	**27**	P	**P**	**10**	**14**	**14.7 -0.2**
H27K	**Steamboat Moun**	**90.70**	**24**	P	**P**	**10**	**14**	**13.7 -1.6**

NOU 14 10:03:57.8, 14°.97S × 167°.07E, **h57**km, **MLv5.0**/17,
Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.49**	**165**	P	Pn	10 04 10.4	+0.9
SANVU	**Saraoutou**	**0.49**	**165**	S	Sn	10 04 21.6	+3.7
VLAKA	**Lakatoro**	**1.18**	**163**	P	Pn	10 04 18.7	+0.6
DVP	**Devils Point**	**2.94**	**159**	P	Pn	10 04 43.1	+1.0
LUES	**Luesalemba Tem**	**4.43**	**345**	P	Pn	10 05 03.3	+0.8
KOUNC	**Koumac, New Ca**	**6.15**	**205**	P	Pn	10 05 26.7	+0.6
YATNC	**Mamie plateau,**	**7.05**	**181**	P	Pn	10 05 36.5	-2.0
DZM	**Mont Dzumac**	**7.09**	**185**	P	Pn	10 05 38.4	-0.6
ONTNC	**Ouen Toro**	**7.32**	**184**	P	Pn	10 05 42.4	+0.3
OUENC	**Ouen Island, N**	**7.41**	**182**	P	Pn	10 05 43.2	-0.2
PINNC	**Pines Island,**	**7.61**	**177**	P	Pn	10 05 46.0	-0.1
NGOA	**Tingoa Renbel**	**7.62**	**296**	P	Pn	10 05 45.7	-0.5
	109nm,1.9s						

IDC ***14*** *10:04:54.1±0.7, 1°.56S × 135°.71E, h0km, mb4.4/11, mbtmp4.3/13, ML3.7/2, Error ellipse: s-maj=33.0km s-min=14.1km az=84.0*
MOS ***14*** *10:04:56.1±1.2, 1°.60S × 135°.60E, h30km, mb5.2/17, Error ellipse: s-maj=17.8km s-min=8.0km az=99.7*
DJA ***14*** *10:04:57.0±0.5, 2°.5S × 13°.6E±°, h11km±5km, M4.9/7, mb5.0/1, MLv4.9/7*
BJI ***14*** *10:04:58.0, 1°.60S × 135°.70E, h28km, mb5.0/18*
NEIC ***14*** *10:04:59.3±1.2, 1°.61S±0°.10 × 135°.71E±0°.08, h30km±5km, mb5.1/54, Error ellipse: s-maj=14.8km s-min=11.3km az=156.0*

ISC 14 10:04:57.4±0.4, **1°.62S**±0°.05 × **135°.68E**±0°.05, **h21**km, **n310,**
σ1s **20**/310, **mb5.0**/52, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAKI	**Biak**	**0.61**	**45**	P	**Pb**	**10 05 07.9**	**-1.6**
SRPI	**Serui, Papua**	**0.62**	**114**	P	**Pb**	**10 05 09.3**	**-0.3**
RKPI	**Ransiki, Papua**	**1.50**	**274**	P	**Pn**	**10 05 23.7**	**+0.6**
SMPI	**Sarmi**	**3.06**	**97**	P	**Pn**	**10 05 44.8**	**+0.3**
FAKI	**Fak Fak**	**3.66**	**249**	Pn	**Pn**	**10 05 53.5**	**+0.6**
FAKI	**Fak Fak**	**3.66**	**249**	P	**Pn**	**10 05 54.0**	**+1.1**
SWI	**Sorong**	**4.48**	**280**	P	**Pn**	**10 06 05.7**	**+1.6**
JAY	**Jayapura**	**5.10**	**100**	Pn	**Pn**	**10 06 11.6**	**-1.1**
	0.9nm,0.3s,baz=266,slow=14,SNR=1.7						
JAY				Sn	**Sn**	10 07 12.4	+1.2
	1.0nm,0.3s,baz=197,slow=19,SNR=4.3						
	5.9nm,0.5s						
JAY	**Jayapura**	**5.10**	**100**	P	**Pn**	**10 06 13.7**	**+0.9**
SAUI	**Saumlaki**	**7.68**	**214**	Pn	**Pn**	**10 06 47.9**	**-0.2**
MTN	**Manton Dam**	**12.02**	**202**	Pn	**Pn**	**10 07 47.7**	**0.0**
COEN	**Coen**	**14.33**	**149**	Pn	**Pn**	**10 08 16.6**	**-2.6**
TOLI2	**Tolitoli**	**15.14**	**280**	Pn	**Pn**	**10 08 28.6**	**-1.6**
TOLI2				IAmb	IAmb	10 08 38.2	
	comp=Z,79nm,0.9s						
KNRA	**Kununurra**	**15.54**	**206**	Pn	**Pn**	**10 08 34.1**	**-1.4**
WB0	**Warramunga Arr**	**18.08**	**184**		**Pn**	**10 09 04.5**	**-3.0**
WRAB	**Tennant Creek**	**18.25**	**184**	P	**Pn**	**10 09 07.9**	**-1.6**
WRAB	**Tennant Creek**	**18.25**	**184**	P	**Pn**	**10 09 07.9**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**18.26**	**184**	P	**Pn**	**10 09 07.9**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=3.7,slow=12,SNR=9.6						
	comp=Z,4.9nm,0.9s						
AS31	**Alice Springs**	**21.98**	**184**		**P**	**10 09 50.3**	**0.0**
ASAR	**Alice Springs**	**21.98**	**184**		**P**	**10 09 49.8**	**-0.5**
ASAR	**Alice Springs**	**21.98**	**184**	P	**P**	**10 09 51.4**	**+1.1**
	comp=Z,14nm,0.8s,baz=7.8,slow=10,SNR=41						
	comp=Z,14nm,0.8s						
ASAR	**Alice Springs**	**21.98**	**184**	P	**P**	**10 09 49.8**	**-0.5**
JAGI	**Jajag, Banyuwa**	**22.48**	**252**	P	**P**	**10 09 54.1**	**-1.5**
JAGI				IAmb	IAmb	10 10 00.2	
	comp=Z,111nm,1.4s						
JOW	**Kunigami**	**29.17**	**346**	P	**P**	**10 10 55.6**	**-1.9**
FORT	**Forrest**	**29.89**	**193**	P	**P**	**10 11 05.2**	**+1.5**
STKA	**Stephens Creek**	**30.61**	**170**	P	**P**	**10 11 10.8**	**+0.6**
	comp=Z,2.9nm,0.5s,baz=336,slow=11,SNR=4.2						
	comp=Z,2.9nm,0.5s						
STKA	**Stephens Creek**	**30.61**	**170**	*e*P	**P**	**10 11 12.3**	**+2.2**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
JNU	**Nakatsue**	**34.85**	**353**	P	**P**	**10 11 46.5**	**-0.8**
	comp=Z,13nm,0.9s,baz=155,slow=8.0,SNR=6.1						
	comp=Z,13nm,0.9s						
NJ2	**Nanjing**	**37.09**	**336**	*e*P	**P**	**10 12 08.8**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MJAR	**Matsushiro Arr**	**38.04**	**3**	P	**P**	**10 12 12.6**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=181,slow=9.6,SNR=6.7						
	comp=Z,0.4nm,0.4s						
MJA0	**Matsu Arr-Jizo**	**38.04**	**3**	*e*P	**P**	**10 12 13.9**	**-0.6**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KSRS	**Korea Array**	**39.54**	**350**	P	**P**	**10 12 27.0**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=169,slow=7.7,SNR=5.8						
	comp=Z,1.1nm,0.8s						
KSRS	**Korea Array**	**39.54**	**350**	*e*P	**P**	**10 12 27.3**	**+0.4**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LYN	**LuoYang**	**42.06**	**331**	P	P	10 12 52.9	+5.1
LYN				pmax	pmax		
	comp=Z,38nm,0.9s						
PZH	**PanZhiHua**	**43.05**	**313**	P	**P**	**10 12 58.6**	**+2.4**
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
XAN	**Xi'an**	**43.48**	**327**	P	**P**	**10 12 59.9**	**+0.5**
XAN				pmax	pmax		
	comp=Z,37nm,0.9s						
BJT	**Baijiatuao**	**45.12**	**339**	P	**P**	**10 13 10.7**	**-1.7**
BJT				IAmb	IAmb	10 13 13.0	
	comp=Z,13nm,0.8s						
BJT	**Baijiatuao**	**45.12**	**339**	P	**P**	**10 13 10.7**	**-1.7**
BJT				pmax	pmax		
	comp=Z,13nm,0.8s						
BJI	**Beijing**	**45.14**	**339**	P	**P**	**10 13 14.8**	**+2.3**
BJI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
USA0B	**Ussuriysk Arra**	**45.74**	**356**	P	**P**	**10 13 17.2**	**0.0**
USA0B	**Ussuriysk Arra**	**45.74**	**356**	P	**P**	**10 13 17.2**	**0.0**
USA0B				pmax	pmax		
	comp=Z,37nm,1.2s						
USRK	**Ussuriysk Ar.**	**45.74**	**356**	P	**P**	**10 13 16.8**	**-0.4**
USRK	**Ussuriysk Ar.**	**45.74**	**356**	P	**P**	**10 13 17.2**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=170,slow=8.8,SNR=4.6						
	comp=Z,2.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**45.74**	**356**	P	**P**	**10 13 16.8**	**-0.4**
CN2	**Changchun**	**46.14**	**350**	*e*P	**P**	**10 13 24.5**	**+4.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MDJ	**Mudanjiang**	**46.35**	**354**	P	**P**	**10 13 21.5**	**-0.5**
MDJ	**Mudanjiang**	**46.35**	**354**	P	**P**	**10 13 22.3**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC	**Hu-ho-hao-te**	**47.64**	**335**	*e*P	**P**	**10 13 36.3**	**+4.0**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
YSS	**Yuzhno-Sakhali**	**48.77**	**6**	*i* P	**P**	**10 13 37.5**	**-3.3**
YSS				pmax	pmax		
	comp=Z,13nm,1.2s						
HEH	**HeiHe**	**52.16**	**353**	*e*P	**P**	**10 14 05.8**	**-0.5**
ZEA	**Zeya**	**55.61**	**354**	*e*P	**P**	**10 14 31.1**	**-0.4**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PETK	**Petropavlovsk-**	**57.57**	**16**	P	**P**	**10 14 45.6**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=212,slow=7.5,SNR=7.5						
	comp=Z,3.5nm,0.8s						
IRK	**Irkutsk**	**59.84**	**338**	*e*P	**P**	**10 15 00.8**	**-0.5**
IRK				pmax	pmax		
	comp=Z,24nm,1.5s						
MOY	**Mondy**	**60.66**	**336**	*e*P	**P**	**10 15 05.6**	**-1.5**
MOY				pmax	pmax		
	comp=Z,26nm,1.7s						
WMQ	**Urumqi**	**62.29**	**323**	*e*P	**P**	**10 15 21.6**	**+3.4**
WMQ				pmax	pmax		
	comp=Z,28nm,0.9s						
YAK	**Yakutsk**	**63.65**	**357**	*i* P	**P**	**10 15 26.8**	**0.0**
YAK				pmax	pmax		
	comp=Z,58nm,0.8s						
YAK	**Yakutsk**	**63.65**	**357**	P	**P**	**10 15 26.7**	**0.0**
SEY	**Seymchan**	**65.61**	**8**	*i* P	**P**	**10 15 39.6**	**+0.1**
SEY				pmax	pmax		
	comp=Z,16nm,1.1s						
KIWB	**Kanaga Island**	**66.46**	**30**	P	**P**	**10 15 46.0**	**+0.8**
MK31	**Makanchi Array**	**67.09**	**323**	*i* P	**P**	**10 15 48.2**	**-1.3**
ATKA	**Atka Island**	**68.15**	**31**	P	**P**	**10 15 56.0**	**0.0**
AAK	**Ala-Archa**	**70.33**	**317**	*i* P	**P**	**10 16 09.2**	**-0.7**
AAK				pmax	pmax		
	comp=Z,11nm,1.2s						
KURK	**Kurchatov**	**71.10**	**326**	*i* P	**P**	**10 16 13.9**	**-0.3**
KURK				pmax	pmax		
	comp=Z,29nm,0.9s						
BILL	**Bilibino**	**72.69**	**12**	*i* P	**P**	**10 16 23.1**	**-0.3**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SPIA	**Saint Paul Isl**	**72.79**	**27**	P	**P**	**10 16 25.6**	**+1.4**
	baz=238						
P08K	**Saint George I**	**72.82**	**28**	P	**P**	**10 16 26.3**	**+2.0**
	baz=239						
UNV	**Unalaska Valle**	**72.97**	**32**	P	**P**	**10 16 26.7**	**+1.3**
	baz=242						
TIXI	**Tiksi**	**73.28**	**358**	P	**P**	**10 16 25.8**	**-1.0**
TIXI	**Tiksi**	**73.28**	**358**	P	**P**	**10 16 25.8**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,27nm,0.8s						
BRVK	**Borovoye**	**76.77**	**326**	*i* P	**P**	**10 16 46.7**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,13nm,1.1s						
CHNA	**Chernabura Isl**	**77.06**	**32**	P	**P**	**10 16 50.4**	**+1.5**
	baz=248						
VNDA	**Vanda**	**77.14**	**174**	P	**P**	**10 16 49.7**	**+0.7**
VNDA	**Vanda**	**77.14**	**174**	P	**P**	**10 16 49.6**	**+0.6**
	comp=Z,3.3nm,0.9s,baz=332,slow=7.1,SNR=10						
	comp=Z,3.3nm,0.9s						
VNDA	**Vanda**	**77.14**	**174**	P	**P**	**10 16 49.7**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
M13K	**Dall Lake**	**77.51**	**26**	P	**P**	**10 16 51.9**	**+0.6**
M13K				IAmb	IAmb	10 16 53.9	
	comp=Z,16nm,1.0s						
M13K	**Dall Lake**	**77.51**	**26**	P	**P**	**10 16 52.9**	**+1.6**
	baz=244						
K13K	**Kusilvak Mount**	**77.64**	**25**	P	**P**	**10 16 53.1**	**+1.0**
K13K				IAmb	IAmb	10 17 40.9	
	comp=Z,15nm,1.1s						
K13K	**Kusilvak Mount**	**77.64**	**25**	P	**P**	**10 16 53.8**	**+1.7**
	baz=242						
NRIK	**Noril'sk**	**77.84**	**344**	P	**P**	**10 16 52.8**	**-0.3**
	comp=Z,4.5nm,0.5s,baz=134,slow=6.1,SNR=9.4						
	comp=Z,4.5nm,0.5s						
NRIK	**Noril'sk**	**77.84**	**344**	*i* P	**P**	**10 16 52.7**	**-0.3**
NRIK				pmax	pmax		
	comp=Z,11nm,1.0s						
O14K	**Tigyukauivet M**	**77.96**	**28**	P	**P**	**10 16 55.0**	**+1.2**
	baz=246						
N14K	**Kuskokwak Cree**	**78.05**	**27**	P	**P**	**10 16 55.1**	**+0.8**
	baz=245						
L14K	**Kuka Creek**	**78.21**	**26**	P	**P**	**10 16 55.7**	**+0.5**
L14K	**Kuka Creek**	**78.21**	**26**	P	**P**	**10 16 56.4**	**+1.2**
	baz=244						
CHGN	**Chignik**	**78.22**	**31**	P	**P**	**10 16 55.7**	**+0.3**
	baz=249						
M14K	**Bethel**	**78.27**	**26**	P	**P**	**10 16 56.2**	**+0.6**
M14K	**Bethel**	**78.27**	**26**	P	**P**	**10 16 57.2**	**+1.7**
	baz=245						
J14K	**Nanvaranak Lak**	**78.48**	**24**	P	**P**	**10 16 58.5**	**+1.8**
	baz=243						
M15K	**Kasigluk River**	**78.82**	**27**	P	**P**	**10 16 59.2**	**+0.6**
	baz=246						
L15K	**Ungalak Mounta**	**78.88**	**26**	P	**P**	**10 16 59.7**	**+0.9**
	baz=245						
N15K	**Kwethluk River**	**78.88**	**27**	P	**P**	**10 16 58.8**	**-0.1**
N15K	**Kwethluk River**	**78.88**	**27**	P	**P**	**10 17 00.2**	**+1.2**
	baz=247						
K15K	**Wolf Creek Mou**	**79.12**	**25**	P	**P**	**10 17 00.3**	**+0.1**
K15K				IAmb	IAmb	10 17 49.2	
	comp=Z,14nm,0.9s						
K15K	**Wolf Creek Mou**	**79.12**	**25**	P	**P**	**10 17 01.6**	**+1.4**
	baz=245						
G15K	**Niukluk**	**79.33**	**22**	P	**P**	**10 17 01.8**	**+0.5**
	baz=242						
P16K	**Nushagak River**	**79.43**	**29**	P	**P**	**10 17 03.1**	**+1.1**
	baz=249						
F15K	**North Star Dit**	**79.44**	**21**	P	**P**	**10 17 02.9**	**+1.0**
	baz=241						
N16K	**Nishlik Lake**	**79.60**	**27**	P	**P**	**10 17 04.3**	**+1.4**
	baz=248						
M16K	**Timer Creek**	**79.73**	**27**	P	**P**	**10 17 04.3**	**+0.8**
	baz=247						
L16K	**Owhat River**	**79.77**	**26**	P	**P**	**10 17 04.9**	**+1.2**
	baz=247						
H16K	**Elim**	**79.85**	**23**	P	**P**	**10 17 05.3**	**+1.1**
	baz=244						
J16K	**Anvik River**	**79.92**	**24**	P	**P**	**10 17 04.9**	**+0.3**
J16K	**Anvik River**	**79.92**	**24**	P	**P**	**10 17 06.0**	**+1.4**
	baz=246						
O17K	**Koliganek Bris**	**80.12**	**28**	P	**P**	**10 17 06.5**	**+0.8**
	baz=249						
I17K	**Unalakleet**	**80.14**	**24**	P	**P**	**10 17 07.5**	**+1.8**
	baz=245						
G16K	**Koyuk River**	**80.14**	**22**	P	**P**	**10 17 06.8**	**+1.1**
	baz=244						
Q17K	**Contact Creek**	**80.19**	**30**	P	**P**	**10 17 06.3**	**0.0**
	baz=251						
N17K	**Nushagak Hills**	**80.35**	**28**	P	**P**	**10 17 08.1**	**+1.2**
	baz=249						
L17K	**Donlin**	**80.44**	**26**	P	**P**	**10 17 08.6**	**+1.2**
	baz=248						
SII	**Sitkinak Islan**	**80.53**	**32**	P	**P**	**10 17 09.3**	**+1.3**
	baz=252						
M17K	**Holitna River**	**80.55**	**27**	P	**P**	**10 17 09.4**	**+1.4**
	baz=249						
J17K	**VABM Dome**	**80.60**	**24**		**P**	**10 17 09.9**	**+1.6**
J17K	**VABM Dome**	**80.60**	**24**	P	**P**	**10 17 09.8**	**+1.6**
	baz=247						
K17K	**Iditarod**	**80.66**	**25**	P	**P**	**10 17 09.9**	**+1.4**
K17K	**Iditarod**	**80.66**	**25**	P	**P**	**10 17 10.4**	**+1.8**
	baz=248						
G17K	**Kiwalik Mounta**	**80.83**	**22**	P	**P**	**10 17 10.7**	**+1.3**
	baz=245						
H17K	**Granite Mounta**	**80.88**	**23**	P	**P**	**10 17 11.3**	**+1.6**
	baz=246						
D17K	**Noatak River**	**80.93**	**20**	P	**P**	**10 17 11.6**	**+1.7**
	baz=243						
N18K	**Kilae Creek**	**81.00**	**28**	P	**P**	**10 17 11.4**	**+0.9**
	baz=250						
F17K	**Baldwin Pennin**	**81.01**	**21**	P	**P**	**10 17 11.4**	**+1.1**
	baz=244						
E17K	**Hotham Inlet**	**81.09**	**21**	P	**P**	**10 17 12.1**	**+1.3**
	baz=244						
L18K	**Granite Mounta**	**81.18**	**26**	P	**P**	**10 17 12.3**	**+1.0**
	baz=249						
M18K	**Stony River**	**81.31**	**27**	P	**P**	**10 17 13.0**	**+1.0**
	baz=250						
Q19K	**Cape Douglas,**	**81.52**	**30**	P	**P**	**10 17 14.0**	**+0.7**
	baz=252						
H18K	**Honhosa River**	**81.57**	**23**	P	**P**	**10 17 14.5**	**+1.1**
	baz=247						
J18K	**Innoko River**	**81.61**	**25**	P	**P**	**10 17 14.9**	**+1.3**
	baz=249						
E18K	**Tukpahlearik C**	**81.66**	**20**	P	**P**	**10 17 15.0**	**+1.2**
	baz=245						
N19K	**Bonanza Creek**	**81.70**	**28**	P	**P**	**10 17 15.5**	**+1.2**
	baz=252						
KDAK	**Kodiak Island**	**81.72**	**31**	P	**P**	**10 17 15.2**	**+1.0**
	baz=254						
G18K	**Tagagawik**	**81.75**	**22**	P	**P**	**10 17 14.2**	**-0.1**
G18K	**Tagagawik**	**81.75**	**22**	P	**P**	**10 17 15.3**	**+1.0**
	baz=247						
P19K	**Oil Pt**	**81.94**	**29**	P	**P**	**10 17 15.4**	**-0.1**
	baz=253						
L19K	**White Mountain**	**81.97**	**26**	P	**P**	**10 17 16.8**	**+1.2**
	baz=251						
C18K	**Utukok River**	**81.99**	**19**	P	**P**	**10 17 16.4**	**+0.8**
	baz=244						
GCSA	**Galena City Sc**	**82.00**	**24**	P	**P**	**10 17 16.8**	**+1.2**
	baz=249						
Q20K	**Shuyak Island**	**82.05**	**30**	P	**P**	**10 17 17.5**	**+1.6**
	baz=254						
B18K	**Kokolik River**	**82.11**	**19**	P	**P**	**10 17 17.4**	**+1.3**
	baz=244						
J19K	**Poorman**	**82.25**	**24**	P	**P**	**10 17 16.1**	**-0.9**
J19K	**Poorman**	**82.25**	**24**	P	**P**	**10 17 17.9**	**+1.0**
	baz=250						
G19K	**Purcell Mounta**	**82.44**	**22**		**P**	**10 17 18.1**	**+0.2**
G19K	**Purcell Mounta**	**82.44**	**22**	P	**P**	**10 17 19.2**	**+1.4**
	baz=248,SNR=12						
H19K	**Roundabout Mou**	**82.46**	**23**		**P**	**10 17 18.8**	**+0.8**
H19K	**Roundabout Mou**	**82.46**	**23**	P	**P**	**10 17 19.4**	**+1.4**
	baz=249,SNR=11						
L20K	**Farewell, AK**	**82.50**	**26**	P	**P**	**10 17 19.9**	**+1.5**
	baz=252						
M20K	**Styx River**	**82.65**	**27**	P	**P**	**10 17 20.6**	**+1.3**
	baz=253						
K20K	**Telida**	**82.69**	**25**	P	**P**	**10 17 20.9**	**+1.6**
	baz=252						
C19K	**Lookout Ridge**	**82.71**	**19**	P	**P**	**10 17 20.7**	**+1.3**
	baz=246,SNR=5.1						
E19K	**Redstone River**	**82.87**	**21**	P	**P**	**10 17 20.4**	**+0.2**
E19K	**Redstone River**	**82.87**	**21**	P	**P**	**10 17 21.6**	**+1.4**
	baz=248,SNR=6.1						
J20K	**Nowinta River**	**82.92**	**25**	P	**P**	**10 17 22.6**	**+2.1**
J20K	**Nowinta River**	**82.92**	**25**	P	**P**	**10 17 21.6**	**+1.2**
	baz=251,SNR=9.7						
D19K	**Kuna River**	**82.96**	**20**	P	**P**	**10 17 21.1**	**+0.4**
D19K				IAmb	IAmb	10 17 22.4	
	comp=Z,15nm,0.8s						
D19K	**Kuna River**	**82.96**	**20**	P	**P**	**10 17 22.2**	**+1.5**
	baz=247						
I20K	**Naaghedeneel**	**82.99**	**24**	P	**P**	**10 17 22.2**	**+1.4**
	baz=251						
H20K	**Anotleneega Mo**	**83.06**	**23**	P	**P**	**10 17 22.8**	**+1.6**
	baz=251						
F20K	**Avaraart Lake**	**83.27**	**22**	P	**P**	**10 17 23.0**	**+0.8**
F20K				IAmb	IAmb	10 17 59.4	
	comp=Z,29nm,1.9s						
F20K	**Avaraart Lake**	**83.27**	**22**	P	**P**	**10 17 23.8**	**+1.6**
	baz=250,SNR=5.5						
PPLA	**Purkeypile**	**83.37**	**26**	P	**P**	**10 17 23.9**	**+0.9**
	baz=253						
SKT	**Skwentna**	**83.40**	**27**	P	**P**	**10 17 23.5**	**+0.5**
	baz=254						
E20K	**Nigu River**	**83.53**	**20**	P	**P**	**10 17 25.0**	**+1.4**
	baz=249,SNR=16						
D20K	**Etivluk River**	**83.55**	**20**	P	**P**	**10 17 24.9**	**+1.2**
	baz=249,SNR=9.2						
CHUM	**Lake Minchumin**	**83.60**	**25**	P	**P**	**10 17 25.0**	**+1.1**
	baz=253,SNR=15						
B20K	**Meade River**	**83.86**	**19**	P	**P**	**10 17 26.4**	**+1.3**
	baz=248						
SEW	**Seward**	**83.89**	**29**	P	**P**	**10 17 27.1**	**+1.6**
	baz=256						
G21K	**Allakaket**	**83.92**	**22**		**P**	**10 17 26.3**	**+0.8**
G21K	**Allakaket**	**83.92**	**22**	P	**P**	**10 17 26.6**	**+1.0**
	baz=252						
H21K	**Melozitna Rive**	**83.93**	**23**	P	**P**	**10 17 26.5**	**+0.9**
	baz=252						
M22K	**Willow**	**83.99**	**27**	P	**P**	**10 17 26.1**	**+0.2**
	baz=255						
RC01	**Rabbit Creek A**	**84.00**	**28**	P	**P**	**10 17 26.8**	**+0.7**
	baz=256						
KTH	**Kantishna Hill**	**84.10**	**26**	P	**P**	**10 17 26.2**	**-0.5**
F21K	**Alatna River**	**84.15**	**22**	P	**P**	**10 17 27.6**	**+0.8**
	baz=252						
BPAW	**Bear Paw Mtn.**	**84.22**	**25**	P	**P**	**10 17 28.0**	**+0.8**
	baz=254						
C21K	**Knifeblade Rid**	**84.33**	**20**	P	**P**	**10 17 28.9**	**+1.3**
	baz=250						
TRF	**Thorofare Moun**	**84.35**	**26**	P	**P**	**10 17 28.4**	**+0.4**
	baz=255						
E21K	**Killik River**	**84.37**	**20**	P	**P**	**10 17 29.0**	**+1.1**
	baz=251						
PMR	**Palmer**	**84.41**	**28**	P	**P**	**10 17 28.9**	**+0.9**
	baz=256						
A21K	**Barrow**	**84.52**	**17**	P	**P**	**10 17 29.7**	**+1.3**
	baz=248						
**B

comp=Z,16nm,1.1s
H24K **Noodor Dome** 85.94 24 P P 10 17 36.6 +0.8
baz=257,SNR=18
TOLK **Toolik Lake Re** 85.98 21 P P 10 17 37.0 +1.0
baz=255
HDA **Harding Lake** 86.01 25 P P 10 17 35.8 -0.3
baz=258,SNR=5.8
ILAR **Eielson Array** 86.11 25 P P 10 17 36.0 -0.6
ILAR **Eielson Array** 86.11 25 P P 10 17 35.7 -0.9
comp=Z,5.3nm,0.9s,baz=262,slow=5.2,SNR=40
comp=Z,5.3nm,0.9s
E24K **Your Creek** 86.23 21 P P 10 17 38.1 +0.9
baz=256
G24K **Hadweenzic Riv** 86.29 23 P P 10 17 39.0 +1.6
baz=257,SNR=9.3
F24K **Squaw Lake** 86.32 22 P P 10 17 39.2 +1.6
baz=257,SNR=8.8
D24K **Happy Valley** 86.37 20 P P 10 17 39.1 +1.3
baz=256
PAX **Paxson** 86.37 27 P 10 17 38.1 +0.1
PAX **Paxson** 86.37 27 P P 10 17 38.1 +0.1
PAX pmax pmax
comp=Z,9.0nm,1.1s
PAX **Paxson** 86.37 27 P P 10 17 38.8 +0.7
baz=259
K24K **Donnelly Dome** 86.39 26 P P 10 17 38.8 +0.7
baz=259,SNR=5.4
BMRM **Bremner River** 86.42 29 P P 10 17 37.5 -0.7
BMRM IAmb IAmb 10 18 23.9
comp=Z,16nm,1.1s
BMRM **Bremner River** 86.42 29 P P 10 17 38.9 +0.6
baz=260
N25K **Chitina, Valde** 86.53 28 P P 10 17 40.2 +1.4
baz=260
J25K **Salcha River,** 86.72 25 P P 10 17 39.4 -0.3
baz=259,SNR=7.5
RIDG **Independent Ri** 86.79 26 P P 10 17 40.0 0.0
RIDG **Independent Ri** 86.79 26 P P 10 17 40.3 +0.3
baz=260,SNR=5.9
PRP **Porcupine Dome** 86.83 24 P P 10 17 39.7 -0.5
baz=259
G25K **Bearman Lake** 86.84 23 P P 10 17 41.4 +1.3
baz=259
H25L **Birch Creek** 86.85 23 P P 10 17 41.9 +1.7
baz=259,SNR=10
BGLC **Bering Glacier** 86.93 30 P P 10 17 42.0 +1.4
baz=261
CRQE **Cirque** 87.11 29 P P 10 17 43.7 +2.0
baz=262,SNR=6.2
FYU **Fort Yukon** 87.14 23 P P 10 17 42.5 +0.9
F25K **Christian Rive** 87.18 22 P P 10 17 43.8 +2.0
baz=259,SNR=6.7
SCRK **Sand Creek** 87.20 26 P P 10 17 42.7 +0.6
baz=261,SNR=6.8
L26K **Log Cabin Wild** 87.33 27 P P 10 17 43.7 +1.1
baz=261,SNR=8.0
M26K **Nabesna, AK** 87.40 27 P P 10 17 43.2 +0.2
M26K **Nabesna, AK** 87.40 27 P P 10 17 44.3 +1.3
baz=262
J26L **Joseph Creek** 87.47 25 P P 10 17 43.3 -0.1
J26L IAmb IAmb 10 17 44.8
comp=Z,11nm,0.9s
J26L **Joseph Creek** 87.47 25 P P 10 17 44.3 +0.9
baz=261,SNR=18
F26K **Sheenjek River** 87.76 22 P P 10 17 45.8 +1.2
baz=260
I26K **Coal Creek Min** 87.77 25 P P 10 17 45.3 +0.6
baz=261
M27K **Edge Creek, AK** 87.91 28 P P 10 17 45.8 +0.3
M27K IAmb IAmb 10 17 47.6
comp=Z,8.6nm,0.9s
M27K **Edge Creek, AK** 87.91 28 P P 10 17 47.1 +1.5
baz=263,SNR=10
CTG **Chitna Glacier** 87.99 29 P P 10 17 48.0 +2.0
baz=263,SNR=7.2
L27K **Beaver Creek,** 88.03 27 P 10 17 47.2 +1.2
L27K IAmb IAmb 10 17 48.5
comp=Z,10nm,1.0s
L27K **Beaver Creek,** 88.03 27 P P 10 17 47.1 +1.1
baz=263,SNR=16
K27K **Chicken** 88.04 26 P P 10 17 47.0 +1.0
K27K **Chicken** 88.04 26 P P 10 17 47.8 +1.8
baz=262
BCAR **Beaver Creek A** 88.05 27 P 10 17 46.5 +0.4
C27K **Jago River** 88.24 20 P P 10 17 47.1 +0.3
baz=261
BVCY **Beaver Creek** 88.39 28 P P 10 17 49.2 +1.5
baz=264,SNR=6.5
PINM **Pinnacle** 88.43 30 P P 10 17 48.7 +0.7
baz=264
I27K **Kandik River** 88.44 24 P P 10 17 49.5 +1.5
baz=263,SNR=16
YUK3 **Moose Creek** 88.51 28 P P 10 17 49.8 +1.3
baz=264,SNR=12
O28M **Mount Upton** 88.53 29 P P 10 17 50.1 +1.4
baz=264,SNR=5.4
H27K **Steamboat Moun** 88.56 24 P 10 17 49.6 +1.1
H27K **Steamboat Moun** 88.56 24 P P 10 17 49.9 +1.4
baz=263,SNR=7.8
G27K **Doyon Strip** 88.58 23 P P 10 17 49.3 +0.8
baz=263
E27K **Coleen River** 88.78 22 P P 10 17 50.0 +0.6
baz=263
YUK8 **Steele Glacier** 88.79 29 P P 10 17 51.1 +1.2
baz=264
PNL **Peninsula** 88.82 30 P P 10 17 51.0 +1.2
baz=265
I28M **Miner Creek** 89.12 25 P P 10 17 51.7 +0.5
I28M **Miner Creek** 89.12 25 P P 10 17 52.2 +1.0
baz=264,SNR=8.0
DAWY **Dawson** 89.22 26 P P 10 17 52.7 +1.1
baz=265,SNR=9.9
YUK6 **Outpost Mounta** 89.44 29 P P 10 17 53.5 +0.6
baz=266
M29M **Somme Creek** 89.50 28 P P 10 17 53.5 +0.4
M29M IAmb IAmb 10 17 55.2
comp=Z,7.6nm,1.0s
M29M **Somme Creek** 89.50 28 P P 10 17 54.7 +1.7
baz=266,SNR=12
P29M **Windy Craggy** 89.65 30 P P 10 17 55.1 +1.4
baz=266
L29M **L29M** 89.71 27 P P 10 17 56.2 +2.3
baz=266,SNR=8.6
I29M **Ogilvie Camp,** 89.79 25 P P 10 17 54.4 +0.2
H29M **Whitestone** 89.83 24 P P 10 17 55.7 +1.3
baz=266
HYT **Haines Junctio** 89.85 29 P P 10 17 56.1 +1.4
baz=266,SNR=7.1
G29M **Pine Creek** 90.02 23 P P 10 17 56.2 +1.0
baz=266
K29M **Barlow Dome** 90.03 26 P P 10 17 57.4 +1.9
baz=266,SNR=6.6
P30M **Million Dollar** 90.08 30 P P 10 17 57.1 +1.4
baz=267
N30M **Aishikik Lake** 90.08 29 P P 10 17 57.3 +1.6
baz=267
M30M **Minto, Yukon** 90.28 28 P P 10 17 57.8 +1.2
baz=267
PLBC **Pleasant Camp** 90.34 31 P P 10 17 57.6 +0.8
baz=267
S31K **Pelican** 90.35 32 P P 10 17 58.0 +1.1
baz=268
O30N **Mendenhall** 90.54 29 P P 10 17 59.4 +1.6
baz=268
J30M **Hart River** 90.59 26 P P 10 17 58.9 +0.8
baz=268
I30M **Mount Dempster** 90.59 25 P P 10 17 58.9 +0.8
baz=268
N31M **Braeburn, Yuko** 90.71 29 P P 10 17 59.6 +0.9
baz=268
G30M **tAoh Zraii Nji** 90.73 23 P P 10 17 59.0 +0.4
baz=268
SKAG **Skagway** 90.87 31 P P 10 18 00.5 +1.2
baz=268
F30M **Barrier River** 90.93 23 P P 10 17 59.5 +0.1
baz=268
WHY **Whitehorse** 91.13 30 P P 10 18 01.6 +0.9
baz=269
S32K **Killisnoo** 91.22 33 P P 10 18 02.2 +1.3
baz=269
R32K **Eaglecrest** 91.26 32 P P 10 18 02.6 +1.4
baz=269
H31M **Peel River** 91.46 24 P P 10 18 01.7 -0.2
baz=269
G31M **Satah River** 91.50 23 P P 10 18 02.2 +0.1
baz=269
P32M **Atlin** 91.70 31 P P 10 18 03.6 +0.4
baz=270

F31M **Tsiigehtchic** 91.71 23 P P 10 18 03.0 0.0
baz=270
INK **Inuvik** 91.79 22 P P 10 18 03.3 -0.1
baz=270
FARO **Faro, Yukon** 91.88 28 P P 10 18 04.1 +0.1
baz=270
U33K **Whale Pass** 92.01 34 P P 10 18 05.5 +0.9
baz=270
N32M **Quiet Lake** 92.01 29 P P 10 18 05.3 +0.6
baz=270
P33M **Teslin, Yukon** 92.15 30 P P 10 18 05.6 +0.2
baz=270
WRAK **Wrangell Islan** 92.44 34 P P 10 18 07.3 +0.7
baz=271
MMPY **Sheldon Lake,** 92.84 28 P P 10 18 08.3 -0.2
baz=272
S34M **Telegraph Cree** 93.07 32 P P 10 18 09.8 +0.3
baz=272
R33M **Jennings River** 93.10 31 P P 10 18 11.2 +1.4
baz=272
KIV **Kislovodsk** 93.27 314 *e*P P 10 18 10.1 -0.8
KIV pmax pmax
comp=Z,6.0nm,1.0s
T35M **Bob Quinn** 93.58 33 P P 10 18 13.3 +1.3
baz=273
DLBC **Dease Lake** 93.63 32 P P 10 18 13.1 +0.8
baz=273
A36M **Sachs Harbour** 94.34 18 P P 10 18 15.5 +0.4
baz=278
ARCES **ACCESS Array B** 98.48 341 P P 10 18 33.1 -0.8
comp=Z,0.8nm,0.5s,baz=78,slow=8.5,SNR=12
comp=Z,0.8nm,0.5s
CPUP **Villa Florida** 149.50 157 PKPbc PKPbc 10 24 46.5 +0.5
comp=Z,0.5nm,0.6s,baz=195,slow=3.8,SNR=4.6
ROSC **El Rosal** 149.89 83 PKPbc PKPbc 10 24 47.7 -0.1
comp=Z,5.1nm,0.5s,baz=286,slow=18,SNR=4.4
LPAZ **La Paz** 150.51 128 PKPbc PKPbc 10 24 48.9 -0.6
comp=Z,1.3nm,0.7s,baz=236,slow=3.6,SNR=6.3

IDC ***14*** *10:05:18.8±0.4,0.˚60S×127.˚89E,h0km,mb4.8/27, mbtmp4.8/27,Error ellipse: s-maj=17.3km s-min=10.4km az=80.0*
MOS ***14*** *10:05:18.9±0.9,0.˚54S×127.˚88E,h13km,mb5.3/45,Error ellipse: s-maj=9.1km s-min=5.6km az=107.4*
NEIC ***14*** *10:05:21.0±1.4,0.˚55S±0.˚06×127.˚97E±0.˚08,h10km±1km, mb5.2/114,Error ellipse: s-maj=14.0km s-min=9.2km az=73.0*
DJA ***14*** *10:05:21.0±0.2,1.˚3S±2.˚×12.˚8E±.˚,h10km,M5.5/54, mb5.4/54,mB6.0/5,MLv5.4/20,Mw(mB)5.7/5*
ISC 14 10:05:20.5±0.3,0.˚63S±0.˚04×127.˚93E±0.˚05,h10km,n542,
σ1s20/549,mb5.2/134,15C-1D,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
TNTI	**Ternate**	1.50	338		Pn	10 05 47.0	-0.5
TNTI	**Ternate**	1.50	338	P	Pb	10 05 47.7	-0.8
SANI	**Sanana**	2.40	234	P	Pn	10 05 59.8	0.0
NLAI	**Namlea**	2.72	198	P	Pn	10 06 05.6	+1.4
MSAI	**Masohi**	2.88	160	P	Pn	10 06 08.7	+2.3
AAI	**Ambon**	3.05	175	P	Pn	10 06 10.3	+1.5
SWI	**Sorong**	3.34	94	P	Pn	10 06 10.3	-2.5
KMSI	**Cibinong**	4.12	287	P	Pn	10 06 25.2	+1.6
BNDI	**Bandanaira**	4.34	153	P	Pn	10 06 27.2	+0.6
FAKI	**Fak Fak**	4.88	118	P	Pn	10 06 33.8	-0.2
SGSI	**Sangihe**	4.92	331	P	Pn	10 06 35.3	+0.8
LUWI	**Luwuk**	5.17	265	P	Pn	10 06 40.0	+2.0
	6.7nm867nm,1.0s						
MRSI	**Marisa**	6.09	280	P	Pn	10 06 50.9	+0.3
	1.1nm250nm,0.9s						
APSI	**Ampana**	6.29	267	P	Pn	10 06 54.3	+1.0
BBSI	**Bau Bau**	7.20	228	P	Pn	10 07 08.2	+2.3
	1.4nm449nm,0.9s						
TOLI2	**Tolitoli**	7.35	284		Pn	10 07 08.5	+0.5
SAUI	**Saumlaki**	8.04	155	Pn	Pn	10 07 17.5	+0.1
MPSI	**Mapaga**	8.09	277	P	Pn	10 07 20.7	+2.6
	109nm,0.9s						
PCI	**Palu**	8.10	268	P	Pn	10 07 19.7	+1.5
	401nm,0.9s						
TTSI	**Tana Toraja**	8.45	253	P	Pn	10 07 24.7	+1.6
BNSI	**Bone**	8.66	244	P	Pn	10 07 27.9	+1.9
	287nm,1.1s						
SPSI	**Sidrap Palu**	8.80	248	P	Pn	10 07 30.3	+2.5
BKSI	**Bukukumba**	9.08	239	P	Pn	10 07 34.8	+3.1
	273nm,0.7s						
BSSI	**Bau Bau, Buton**	9.22	233	P	Pn	10 07 36.5	+2.8
	393nm,0.7s						
KAPI	**Kappang**	9.25	242		Pn	10 07 36.4	+2.3
KAPI	**Kappang**	9.25	242	Pn	Pn	10 07 37.7	+3.6
	9.8nm,0.3s,baz=57,slow=8.2,SNR=117						
KAPI				Sn	Sn	10 09 16.4	-2.0
	0.5nm,0.3s,baz=115,slow=17,SNR=0.9						
KAPI	**Kappang**	9.25	242	P	Pn	10 07 36.4	+2.3
MMRI	**Maumere**	9.76	215	P	Pn	10 07 43.0	+1.9
	128nm,1.1s						
SOEI	**Soe**	9.77	202		Pn	10 07 43.5	+2.3
SOEI	**Soe**	9.77	202	P	Pn	10 07 42.3	+1.0
	280nm,1.0s						
EDFI	**Ende, Flores**	10.18	217	P	Pn	10 07 49.9	+3.0
	184nm,1.1s						
BATI	**Baumata**	10.41	204	Pn	Pn	10 07 54.1	+4.1
	5.5nm,0.3s,baz=15,slow=19,SNR=12						
BATI	**Baumata**	10.41	204	P	Pn	10 07 52.7	+2.6
	182nm,1.1s						
SMKI	**Samarinda**	10.72	271	P	Pn	10 07 56.6	+2.4
	69nm,0.9s						
WSI	**Waingapu**	11.76	220	P	Pn	10 08 11.1	+2.7
	404nm,1.2s						
BASI	**Baing, Sumba**	12.01	217	P	Pn	10 08 14.8	+3.0
	294nm,0.8s						
MTN	**Manton Dam**	12.54	165	P	Pn	10 08 18.7	-0.4
	comp=Z,163nm,0.7s						
PLAI	**Playang**	12.98	231	P	Pn	10 08 28.5	+3.3
	comp=Z,275nm,0.9s						
TWSI	**Taliwang, Sumb**	13.63	233	P	Pn	10 08 37.3	+3.2
	comp=Z,142nm,0.9s						
JAGI	**Jajag, Banyuwa**	15.78	240	P	Pn	10 09 05.0	+2.1
JAGI	**Jajag, Banyuwa**	15.78	240	P	Pn	10 09 05.5	+2.5
	comp=Z,116nm,0.9s						
SBUM	**Sibu**	16.00	281		Pn	10 09 03.9	-2.0
GMJI	**Gumukmas**	16.30	242	P	Pn	10 09 11.2	+1.5
	comp=Z,232nm,1.2s						
NGJI	**Ngawi**	17.73	247	P	P	10 09 30.4	+1.9
	comp=Z,179nm,0.9s						
KSM	**Kuching**	17.74	277		Pn	10 09 28.0	+0.2
PCJI	**Pacitan**	18.30	245	P	Pn	10 09 36.1	+1.4
	comp=Z,297nm,1.2s						
WOJI	**Wonogiri, Jawa**	18.40	247	P	Pn	10 09 38.1	+2.2
	comp=Z,169nm,1.1s						
SMRI	**Semarang**	18.57	249	P	P	10 09 38.5	+0.7
SMRI	**Semarang**	18.57	249	P	Pn	10 09 40.1	+2.1
	comp=Z,123nm,1.0s						
UGM	**Wanagama**	18.79	247	P	Pn	10 09 43.2	+2.4
	comp=Z,112nm,1.1s						
WB0	**Warramunga Arr**	20.04	162		P	10 09 52.3	-1.6
COEN	**Coen**	20.07	132		P	10 09 54.5	+0.2
COEN				IAmb	IAmb	10 10 01.0	
	comp=Z,91nm,1.0s						
COEN	**Coen**	20.07	132	P	P	10 09 54.8	+0.5
	comp=Z,118nm,1.1s						
WRAB	**Tennant Creek**	20.19	162	P	P	10 09 54.6	-0.9
WRAB	**Tennant Creek**	20.19	162	*i* P	P	10 09 55.4	-0.1
WRAB				pmax	pmax		
	comp=Z,75nm,1.0s						
WRA	**Warramunga Arr**	20.19	162	P	P	10 09 54.7	-0.9
	comp=Z,34nm,0.8s,baz=341,slow=12,SNR=24						
WRA				S	S	10 13 38.1	-4.2
	comp=Z,12nm,0.9s,baz=340,slow=19,SNR=4.5						
	comp=Z,34nm,0.8s						
WR8	**Warramunga Arr**	20.25	162		P	10 09 54.6	-1.6
TPI	**Tanjungpandan**	20.37	264	P	P	10 09 59.3	+1.7
	comp=Z,200nm,1.2s						
CMJI	**Cimerak**	20.67	249	P	P	10 10 00.8	0.0
	comp=Z,318nm,1.0s						
LEM	**Lembang**	21.17	253	P	P	10 10 06.9	+0.5
	comp=Z,81nm,0.9s,baz=86,slow=14,SNR=10						
LEM				S	S	10 13 54.9	-7.3
	comp=Z,13nm,0.4s,baz=74,slow=15,SNR=3.5						
	comp=Z,81nm,0.9s						
LEM	**Lembang**	21.17	253	P	P	10 10 08.2	+1.8
	comp=Z,181nm,0.9s						
CNJI	**Cibinong**	21.77	252	P	P	10 10 13.3	+0.6
	comp=Z,161nm,0.9s						
PPBI	**Pangkal Pinang**	21.84	266	P	P	10 10 14.5	+1.1
MBWA	**Marble Bar**	21.91	201	P	P	10 10 14.8	+0.7

MBWA IAmb IAmb 10 10 21.7
comp=Z,82nm,0.8s
GUMO **Guam** 21.94 49 P P 10 10 14.5 0.0
comp=Z,65nm,0.9s,baz=239,slow=5.9,SNR=3.8
comp=Z,65nm,0.9s
QIS **Mount Isa** 22.86 151 P P 10 10 24.0 -0.3
comp=Z,101nm,0.9s
CGJI **Cibinong** 22.96 254 P P 10 10 25.6 +0.2
comp=Z,245nm,0.7s
PMBI **Palembang** 23.25 264 P P 10 10 29.6 +1.2
KLI **Kotabumi** 23.42 259 P P 10 10 32.1 +2.1
AS31 **Alice Springs** 23.62 166 P P 10 10 32.5 +0.6
ASAR **Alice Springs** 23.62 166 P P 10 10 32.3 +0.4
ASAR **Alice Springs** 23.62 166 P P 10 10 33.6 +1.6
comp=Z,82nm,0.8s,baz=348,slow=11,SNR=18
ASAR S S 10 14 41.1 -5.6
comp=Z,22nm,1.0s,baz=350,slow=20,SNR=11
comp=Z,82nm,0.8s
MTSU **Mount Surprise** 23.70 138 P P 10 10 37.2 +4.4
KASI **Kota Agung** 23.89 258 P P 10 10 35.3 +0.7
comp=Z,228nm,1.1s
MDSI **Maura Dua** 24.03 260 P P 10 10 36.5 +0.6
MYKOM **Kota Tinggi** 24.20 276 P 10 10 36.9 -0.6
LWLI **Liwa** 24.23 259 P P 10 10 39.7 +1.8
comp=Z,595nm,1.2s
TWG **Pinlang** 24.25 344 P P 10 10 35.4 -2.4
TWG IAmb IAmb 10 10 41.7
comp=Z,45nm,0.8s
WRKA **Warakurna** 24.26 179 P P 10 10 38.6 +0.5
comp=Z,39nm,0.8s
LHSI **Lahat** 24.59 262 P P 10 10 43.0 +1.9
comp=Z,169nm,1.0s
TPUB **Ta-pu** 24.83 344 P P 10 10 42.0 -1.2
SSLB **Suanglung** 25.20 345 P P 10 10 45.9 -0.6
SSLB IAmb IAmb 10 11 08.5
comp=Z,56nm,0.8s
MNAI **Manna** 25.22 261 P 10 10 46.3 -0.5
MNAI **Manna** 25.22 261 P P 10 10 47.5 +0.7
CTAO **Charters Tower** 26.37 138 P P 10 11 01.0 +3.8
CTAO **Charters Tower** 26.37 138 P P 10 11 01.0 +3.8
CTAO pmax pmax
comp=Z,30nm,1.0s
BKNI **Bangkinang** 26.91 272 P P 10 11 01.5 -0.6
JOW **Kunigami** 27.31 1 P P 10 11 04.2 -1.4
JOW IAmb IAmb 10 11 15.1
comp=Z,86nm,1.2s
JOW **Kunigami** 27.31 1 P P 10 11 05.7 +0.2
comp=Z,38nm,0.8s,baz=187,slow=12,SNR=6.1
comp=Z,38nm,0.8s
RPSI **Rantau Prapat** 29.18 277 P P 10 11 21.5 -1.0
RPSI IAmb IAmb 10 11 33.6
comp=Z,40nm,0.8s
PSI **Prapat** 29.19 277 P P 10 11 21.5 -1.2
PSI pmax pmax
comp=Z,40nm,0.8s
FORT **Forrest** 29.98 180 P P 10 11 29.4 +0.1
FORT IAmb IAmb 10 11 39.7
comp=Z,34nm,0.8s
QLP **Quilpie** 30.20 150 P P 10 11 35.9 +4.7
GSI **Gunungsitoli** 30.41 274 P P 10 11 32.0 -1.4
GSI **Gunungsitoli** 30.41 274 P P 10 11 32.3 -1.1
comp=Z,78nm,1.0s
WHN **Wuhan** 33.59 339 ⇑P P 10 12 02.6 +1.6
WHN sP **sP** 10 12 07.5 +2.2
WHN pmax pmax
comp=Z,200nm,0.9s
NJ2 **Nanjing** 33.62 346 *e*P P 10 12 02.8 +1.5
NJ2 pmax pmax
comp=Z,13nm,0.6s
STKA **Stephens Creek** 33.65 159 P P 10 12 02.6 +1.0
STKA **Stephens Creek** 33.65 159 P P 10 12 01.6 0.0
comp=Z,104nm,0.9s
STKA **Stephens Creek** 33.65 159 P P 10 12 01.2 -0.4
comp=Z,7.3nm,0.7s,baz=333,slow=10,SNR=7.1
comp=Z,7.3nm,0.7s
STKA **Stephens Creek** 33.65 159 P P 10 12 02.6 +1.0
STKA pmax pmax
comp=Z,96nm,1.0s
NWAO **Narrogin (SRO)** 33.66 196 P P 10 12 02.9 +1.2
NWAO IAmb IAmb 10 12 08.7
comp=Z,59nm,1.4s
NWAO **Narrogin (SRO)** 33.66 196 P P 10 12 00.4 -1.3
comp=Z,10nm,0.8s,baz=11,slow=9.3,SNR=3.8
comp=Z,10nm,0.8s
NWAO **Narrogin (SRO)** 33.66 196 P P 10 12 00.4 -1.3
NWAO **Narrogin (SRO)** 33.66 196 P P 10 12 02.9 +1.2
NWAO pmax pmax
comp=Z,59nm,1.5s
JNU **Nakatsue** 33.69 4 P P 10 12 01.4 -0.5
comp=Z,17nm,1.0s,baz=197,slow=11,SNR=3.6
comp=Z,17nm,1.0s
HTT **Hallett** 34.22 164 P P 10 12 10.2 +3.6
CM31 **Chiang Mai Arr** 34.23 305 P P 10 12 06.6 -0.2
CMAR **Chiang Mai Arr** 34.23 305 P P 10 12 06.8 +0.1
CMAR **Chiang Mai Arr** 34.23 305 P P 10 12 07.5 +0.8
comp=Z,1.3nm,0.4s,baz=122,slow=8.7,SNR=16
CMAR PcP **PcP** 10 14 43.4 -0.1
comp=Z,1.8nm,0.8s,baz=130,slow=3.1,SNR=5.0
CMAR ScP **ScP** 10 18 29.3 +0.3
comp=Z,0.4nm,0.3s,baz=125,slow=4.4,SNR=1.4
comp=Z,1.3nm,0.4s
CMAR **Chiang Mai Arr** 34.23 305 *i* P P 10 12 08.1 +1.3
CMAR pmax pmax
comp=Z,4.0nm,1.0s
CHTO **Chiang Mai** 34.41 306 P P 10 12 07.7 -0.6
CHTO **Chiang Mai** 34.41 306 P P 10 12 07.7 -0.6
CHTO pmax pmax
comp=Z,15nm,1.0s
JMN **Monobe** 34.63 9 P P 10 12 09.4 -0.7
JMN IAmb IAmb 10 12 14.6
comp=Z,66nm,1.2s
CMSA **Cobar Meteorol** 35.03 153 P P 10 12 16.7 +3.2
KMI **Kunming** 35.35 318 P P 10 12 19.4 +2.7
KMI pmax pmax
comp=Z,11nm,0.9s
ENH **Enshi** 35.40 332 P P 10 12 16.1 -0.7
ENH IAmb IAmb 10 12 18.5
comp=Z,47nm,0.9s
INU **Inuyama** 36.79 12 P P 10 12 27.4 -1.2
INU IAmb IAmb 10 12 29.6
comp=Z,54nm,1.0s
JGF **Kuroka** 37.11 13 P P 10 12 30.4 -0.9
JGF IAmb IAmb 10 12 32.2
comp=Z,58nm,1.3s
ARMA **Armidale** 37.21 145 P P 10 12 33.0 +0.6
ARMA IAmb IAmb 10 12 38.7
comp=Z,28nm,0.8s
LYN **LuoYang** 37.88 339 P P 10 12 38.8 +1.0
LYN pmax pmax
comp=Z,61nm,0.7s
KSRS **Korea Array** 37.90 360 P P 10 12 37.8 -0.1
comp=Z,12nm,0.9s,baz=179,slow=9.9,SNR=4.2
KSRS PcP **PcP** 10 14 54.0 -0.1
comp=Z,1.9nm,0.9s,baz=181,slow=3.1,SNR=4.6
comp=Z,12nm,0.9s
KS19 **Wonju Array Si** 37.95 360 P P 10 12 37.4 -0.9
TIA **Tai'an** 38.01 346 P P 10 12 38.6 -0.3
TIA pmax pmax
comp=Z,17nm,0.8s
MAJO **Matsushiro** 38.20 13 P P 10 12 39.1 -1.4
MAJO IAmb IAmb 10 12 41.5
comp=Z,57nm,0.9s
MAJO **Matsushiro** 38.20 13 P P 10 12 39.1 -1.4
MAJO pmax pmax
comp=Z,57nm,1.0s
MJAR **Matsushiro Arr** 38.20 13 P 10 12 38.9 -1.6
MJAR **Matsushiro Arr** 38.20 13 P P 10 12 39.3 -1.3
comp=Z,30nm,0.8s,baz=190,slow=9.1,SNR=67
MJAR PcP **PcP** 10 14 55.7 +0.6
comp=Z,3.2nm,0.9s,baz=195,slow=3.8,SNR=3.4
comp=Z,30nm,0.8s
MJB9 **Matsu-Tunnel** 38.20 13 P P 10 12 40.2 -0.3
MJB9 IAmb IAmb 10 12 42.5
comp=Z,54nm,0.9s
XAN **Xi'an** 38.84 334 P P 10 12 46.1 +0.2
XAN pmax pmax
comp=Z,61nm,0.9s
HNS **HongShan** 39.77 343 ⇑P P 10 12 53.4 -0.2
HNS pmax pmax
comp=Z,18nm,0.9s
JMM **Marumori** 40.11 16 P P 10 12 55.3 -1.2
JMM IAmb IAmb 10 13 00.7
comp=Z,72nm,0.8s
TOO **Toolangi** 40.17 158 P P 10 12 56.7 -0.3
TOO **Toolangi** 40.17 158 P P 10 12 56.7 -0.3
TOO pmax pmax

BJI **Beijing** 41.88 346 P P 10 13 10.0 -1.0
BJI pmax pmax
comp=Z,9.0nm,1.1s
LZH **Lanzhou** 42.86 331 *e*P P 10 13 20.9 +1.6
LZH sP sP 10 13 31.3 +7.7
LZH pmax pmax
comp=Z,44nm,1.1s
JTM **Tenmabayashi** 42.92 15 P P 10 13 18.9 -0.6
MSHR **Mys Shultsa** 43.12 3*ce*P P 10 13 21.2 +0.2
MSHR pmax pmax
comp=Z,36nm,1.0s
DZM **Mont Dzumac** 43.13 122 P P 10 13 20.3 -1.3
DZM IAmb IAmb 10 13 30.6
comp=Z,45nm,1.1s
DZM **Mont Dzumac** 43.13 122 P P 10 13 21.8 +0.2
comp=Z,15nm,1.1s,baz=292,slow=11,SNR=7.2
comp=Z,15nm,1.1s
SHL **Shillong** 43.49 309 P P 10 13 24.3 -0.2
SHL IAmb IAmb 10 13 36.5
comp=Z,55nm,0.8s
SHL **Shillong** 43.49 309 P P 10 13 24.3 -0.2
SHL pmax pmax
comp=Z,55nm,0.8s
HHC **Hu-ho-hao-te** 43.89 342 *e*P P 10 13 28.6 +1.2
HHC pmax pmax
comp=Z,16nm,0.6s
CN2 **Changchun** 44.29 357 *e*P P 10 13 32.5 +2.0
CN2 pmax pmax
comp=Z,10.0nm,0.7s
USA0B **Ussuriysk Arra** 44.78 4 P P 10 13 34.0 -0.4
USA0B IAmb IAmb 10 13 35.6
comp=Z,37nm,1.2s
USA0B **Ussuriysk Arra** 44.78 4 P P 10 13 34.0 -0.4
USA0B pmax pmax
comp=Z,37nm,1.2s
USRK **Ussuriysk Ar.** 44.78 4 P 10 13 34.0 -0.4
USRK **Ussuriysk Ar.** 44.78 4 P P 10 13 34.3 0.0
comp=Z,25nm,1.0s,baz=186,slow=6.2,SNR=15
comp=Z,25nm,1.0s
MDJ **Mudanjiang** 45.08 2 P P 10 13 37.0 +0.3
MDJ pmax pmax
comp=Z,29nm,1.0s
XLT **XiLinHaoTe** 45.59 348 *e*P P 10 13 40.4 -0.5
XLT pmax pmax
comp=Z,15nm,0.8s
BNX **BinXian** 46.18 359 ⇑P P 10 13 45.3 -0.1
BNX pmax pmax
comp=Z,7.0nm,1.0s
LSA **Lhasa** 46.26 314 P P 10 13 48.1 +1.2
LSA pmax pmax
comp=Z,36nm,0.7s
ASAJ **Asahikawa** 46.44 15 P P 10 13 48.3 +0.8
comp=Z,18nm,0.9s,baz=218,slow=12,SNR=5.9
comp=Z,18nm,0.9s
ASAJ **Asahikawa** 46.44 15 P P 10 13 46.1 -1.4
ASAJ pmax pmax
comp=Z,114nm,1.6s
JKA **Kamikawa-asahi** 46.44 15 P P 10 13 46.1 -1.4
GTA **Gaotai** 47.44 330 P P 10 13 56.8 +1.2
GTA sP sP 10 14 05.4 +5.4
GTA pmax pmax
comp=Z,30nm,1.0s
PALK **Pallekele** 47.76 280 P P 10 13 58.2 -0.2
comp=Z,9.0nm,1.1s,baz=96,slow=12,SNR=4.9
comp=Z,9.0nm,1.1s
GOMU **GeErMu** 47.85 323 P P 10 14 01.4 +2.2
GOMU pP sP 10 14 10.4 +6.9
GOMU pmax pmax
comp=Z,5.0nm,0.8s
EVN **Everest** 48.60 309 P P 10 14 05.3 -0.1
YSS **Yuzhno-Sakhali** 49.14 13*ce*P P 10 14 07.2 -1.2
YSS pmax pmax
comp=Z,39nm,1.3s
HIA **Hailar** 50.20 353 *i*P P 10 14 15.0 -1.5
HIA pmax pmax
comp=Z,7.0nm,1.0s
HEH **HeiHe** 50.70 360 *e*P P 10 14 19.8 -0.4
UGL **Uglegorsk** 51.00 12 *e*P P 10 14 14.0 -8.5
UGL pmax pmax
comp=Z,100nm,1.4s
ULN **Ulaanbaatar** 51.61 342 P P 10 14 26.6 -0.7
ULN IAmb IAmb 10 14 28.4
comp=Z,28nm,1.1s
ULN **Ulaanbaatar** 51.61 342*ce*P P 10 14 27.5 +0.2
ULN pmax pmax
comp=Z,27nm,1.0s
ULN **Ulaanbaatar** 51.61 342 P P 10 14 27.7 +0.4
GRNR **Gornyy** 51.72 7⇓*i*P P 10 14 28.1 +0.2
GRNR pmax pmax
comp=Z,20nm,1.2s
SONM **Songino Array** 51.79 342 P P 10 14 27.5 -1.1
SONM **Songino Array** 51.79 342 P P 10 14 28.3 -0.3
comp=Z,13nm,1.0s,baz=157,slow=8.1,SNR=43
comp=Z,13nm,1.0s
SONM **Songino Array** 51.79 342 *e*P P 10 14 28.4 -0.2
HYB **Hyderabad** 51.81 293 *e*P P 10 14 29.2 0.0
HYB *e* 10 14 33.5
MSVF **Nonsavu** 52.09 112 *i*P P 10 14 31.8 +0.5
MSVF pmax pmax
comp=Z,11nm,0.9s
ZEA **Zeya** 54.19 360 *e*P P 10 14 47.2 +1.2
ZEA pmax pmax
comp=Z,10.0nm,1.3s
DGAR **Diego Garcia** 55.70 262 P P 10 14 57.5 -0.2
DGAR **Diego Garcia** 55.70 262 P P 10 14 57.6 -0.2
DGAR pmax pmax
comp=Z,257nm,1.0s
WMQ **Urumqi** 56.98 326 *e*P P 10 15 06.1 -0.3
WMQ pmax pmax
comp=Z,28nm,1.1s
TUWZ **Tuamarina** 58.03 140 P P 10 15 13.5 -0.3
URZ **Urewera** 58.58 136 P P 10 15 19.5 +1.8
comp=Z,22nm,1.0s,baz=270,slow=1.0,SNR=2.5
comp=Z,22nm,1.0s
PEA0B **Petropavlovsk-** 59.03 20 P P 10 15 20.3 -0.3
PEA0B **Petropavlovsk-** 59.03 20 P P 10 15 20.3 -0.3
PEA0B pmax pmax
comp=Z,54nm,1.5s
PETK **Petropavlovsk-** 59.03 20 P P 10 15 20.7 +0.2
PETK **Petropavlovsk-** 59.03 20 P P 10 15 20.3 -0.3
comp=Z,14nm,0.8s,baz=215,slow=7.4,SNR=21
comp=Z,14nm,0.8s
PET **Petropavlovsk** 59.30 21*ce*P P 10 15 22.4 +0.1
PET pmax pmax
comp=Z,42nm,1.7s
PET **Petropavlovsk** 59.30 21 P P 10 15 22.5 +0.1
comp=Z,29nm,1.4s
ZSN **Zaisan** 60.80 328 *e*P P 10 15 31.8 -1.0
ZSN **Zaisan** 60.80 328 *e*P P 10 15 31.9 -1.0
PDGK **Podgornoye** 61.54 322 P P 10 15 36.2 -1.9
UZB **Uzynbulak** 61.73 321 *i*P P 10 15 38.6 -0.8
UZB pmax pmax
comp=Z,146nm,9.8s
UZB **Uzynbulak** 61.73 321 *e*P P 10 15 38.1 -1.3
MK31 **Makanchi Array** 61.81 326*ce*P P 10 15 38.8 -0.9
MKAR **Makanchi Array** 61.81 326 P P 10 15 38.4 -1.3
MKAR **Makanchi Array** 61.81 326 P P 10 15 38.9 -0.7
comp=Z,10nm,0.8s,baz=123,slow=7.9,SNR=54
comp=Z,10nm,0.8s
MKAR **Makanchi Array** 61.81 326 *i*P P 10 15 39.0 -0.7
MKAR pmax pmax
comp=Z,10.0nm,0.8s
KSH **Kashi** 61.98 316 P P 10 15 41.8 +0.6
KSH pmax pmax
comp=Z,10.0nm,1.0s
MAKZ **Makanchi** 61.99 326 P P 10 15 40.0 -0.9
MAKZ IAmb IAmb 10 15 57.9
comp=Z,25nm,1.1s
MAKZ **Makanchi** 61.99 326 P P 10 15 40.0 -0.9
MAKZ pmax pmax
comp=Z,25nm,1.2s
KDJ **Kajisay** 62.40 319 P 10 15 43.8 -0.2
KDJ IAmb IAmb 10 15 60.0
comp=Z,15nm,0.9s
KDJ **Kajisay** 62.40 319 P P 10 15 43.8 -0.2
KDJ pmax pmax
comp=Z,15nm,0.9s
YAK **Yakutsk** 62.51 1 P P 10 15 43.7 -0.3
YAK **Yakutsk** 62.51 1*ce*P P 10 15 44.8 +0.8
YAK pmax pmax
comp=Z,114nm,0.8s
MA2 **Magadan** 62.64 13 P P 10 15 45.5 +0.6
MA2 **Magadan** 62.64 13*ce*P P 10 15 45.6 +0.6
MA2 pmax pmax
comp=Z,45nm,1.0s
TDK **Taldyqorghan** 63.08 323 *e*P P 10 15 47.1 -1.1
TDK pmax pmax
comp=Z,5.0nm,0.4s
TDK **Taldyqorghan** 63.08 323 *e*P P 10 15 47.2 -1.1
comp=Z,4.6nm,0.4s
AAA **Alma-Ata** 63.10 320 *e*P P 10 15 47.2 -1.2
AAA **Alma-Ata** 63.10 320 *e*P P 10 15 47.3 -1.2
BOOM **Boomskoye usch** 63.38 319 P 10 15 50.0 -0.5
BOOM IAmb IAmb 10 16 04.2
comp=Z,36nm,1.6s
BOOM **Boomskoye usch** 63.38 319 P P 10 15 50.0 -0.5
BOOM pmax pmax
comp=Z,36nm,1.6s
AAK **Ala-Archa** 64.39 319 *i*P P 10 15 56.8 -0.3
AAK pmax pmax
comp=Z,5.0nm,1.2s
SGDS **Sogindy** 64.68 320 *e*P P 10 15 57.6 -1.3
ARSB **Arslanbob** 64.83 317 P P 10 15 58.8 -1.2
ARSB IAmb IAmb 10 16 18.8
comp=Z,15nm,0.9s
ARSB **Arslanbob** 64.83 317 P P 10 15 58.8 -1.2
ARSB pmax pmax
comp=Z,15nm,0.9s
ZALV **Zalesovo Beam** 65.00 334 P 10 15 58.7 -1.9
ZALV **Zalesovo Beam** 65.00 334 P P 10 15 58.9 -1.7
comp=Z,9.5nm,1.0s,baz=124,slow=3.2,SNR=17
comp=Z,9.5nm,1.0s
ZALV **Zalesovo Beam** 65.00 334 *i*P P 10 15 59.2 -1.4
ZALV pmax pmax
comp=Z,10.0nm,1.0s
KBL **Kabul** 65.14 309 P P 10 16 00.6 -1.7
KBL **Kabul** 65.14 309 P P 10 16 00.6 -1.7
KBL pmax pmax
comp=Z,10.0nm,0.9s
GAR **Garm** 65.77 314 P P 10 16 04.6 -1.5
BTLS **Baital** 65.79 321 *i*P P 10 16 05.0 -0.9
BTLS pmax pmax
comp=Z,104nm,6.3s
BTLS **Baital** 65.79 321 *e*P P 10 16 04.6 -1.3
BTK **Batken** 65.81 315 P P 10 16 05.4 -0.9
BTK **Batken** 65.81 315 P P 10 16 05.4 -0.9
BTK pmax pmax
comp=Z,70nm,1.7s
SEY **Seymchan** 66.01 12 *i*P P 10 16 07.1 +0.1
SEY pmax pmax
comp=Z,40nm,1.3s
KURBB **Kurchatov Arra** 66.04 328 P P 10 16 06.4 -1.0
comp=Z,11nm,0.7s,baz=128,slow=6.0,SNR=74
comp=Z,11nm,0.7s
KURK **Kurchatov** 66.05 328 P P 10 16 06.5 -1.0
KURK **Kurchatov** 66.05 328 P P 10 16 05.8 -1.6
SIMJ **Simiganj** 66.59 313 P P 10 16 09.8 -1.6
SIMJ IAmb IAmb 10 16 24.3
comp=Z,23nm,1.1s
CASY **Casey** 66.67 188 P P 10 16 10.9 -0.2
CASY IAmb IAmb 10 16 18.8
comp=Z,17nm,1.0s
IUG **Iuzhnay** 67.18 317 *i*P P 10 16 16.4 +1.3
KK31 **Karatay Array** 67.24 318 P P 10 16 14.4 -0.9
KK31 **Karatay Array** 67.24 318 P P 10 16 14.4 -0.9
KK31 pmax pmax
comp=Z,10.0nm,1.0s
KKAR **Karatay Array** 67.24 318 P 10 16 14.3 -1.0
KKAR **Karatay Array** 67.24 318 P P 10 16 14.3 -1.0
BRLS **Borolday** 67.66 318 *i*P P 10 16 16.5 -1.5
BRLS pmax pmax
comp=Z,756nm,10.8s
BRLS **Borolday** 67.66 318 *e*P P 10 16 16.8 -1.2
BRZS **Berezniki** 68.93 325 *i*P P 10 16 24.0 -1.8
BRZS pmax pmax
comp=Z,28nm,6.9s
BRZS **Berezniki** 68.93 325 *e*P P 10 16 24.4 -1.4
KIWB **Kanaga Island** 69.64 33 P P 10 16 29.6 -0.6
ATKA **Atka Island** 71.42 33 P P 10 16 40.3 -0.6
BVAR **Borovoye Array** 71.61 328 P P 10 16 40.9 -1.2
comp=Z,7.1nm,0.8s,baz=128,slow=12,SNR=12
comp=Z,7.1nm,0.8s
BRVK **Borovoye** 71.69 328 P 10 16 41.3 -1.2
BRVK **Borovoye** 71.69 328*ce*P P 10 16 41.8 -0.7
BRVK pmax pmax
comp=Z,14nm,1.3s
TIXI **Tiksi** 72.17 0 P 10 16 44.3 -0.7
TIXI **Tiksi** 72.17 0*ce*P P 10 16 45.5 +0.5
TIXI pmax pmax
comp=Z,20nm,0.8s
BILL **Bilibino** 73.45 14 *i*P P 10 16 53.0 +0.2
BILL pmax pmax
comp=Z,2.0nm,0.9s
NIKH **Nikolski High** 74.71 34 P P 10 17 00.4 0.0
baz=248
NRIK **Noril'sk** 74.92 346 P P 10 17 01.3 0.0
comp=Z,27nm,0.8s,baz=137,slow=7.8,SNR=29
comp=Z,27nm,0.8s
NRIK **Noril'sk** 74.92 346 *i*P P 10 17 01.7 +0.4
NRIK pmax pmax
comp=Z,26nm,0.9s
SPIA **Saint Paul Isl** 75.64 30 P P 10 17 06.1 +0.4
baz=246
P08K **Saint George I** 75.76 30 P P 10 17 06.1 -0.2
baz=246
AB31 **Akbulak array** 76.27 321 P 10 17 08.1 -1.4
AB31 **Akbulak array** 76.27 321 P P 10 17 07.2 -2.3
ABKAR **Akbulak array** 76.27 321 P 10 17 07.8 -1.6
UNV **Unalaska Valle** 76.33 34 P P 10 17 10.2 +0.5
baz=250
AKTO **Aktyubinsk** 77.81 322 P P 10 17 15.7 -2.4
GAMB **Gambell** 77.89 23 P P 10 17 18.7 +0.5
baz=243
M11K **Mekoryuk** 78.84 28 P P 10 17 24.3 +0.7
baz=248
VNDA **Vanda** 78.98 173 P 10 17 23.8 -0.2
VNDA **Vanda** 78.98 173 P P 10 17 23.9 -0.2
comp=Z,6.9nm,0.8s,baz=314,slow=8.8,SNR=18
comp=Z,6.9nm,0.8s
VNDA **Vanda** 78.98 173 P P 10 17 23.8 -0.2
VNDA pmax pmax
comp=Z,7.0nm,0.7s
ARTI **Arti** 79.33 328*c i*P P 10 17 24.8 -1.5
ARTI 10 20 25.3
ARTI S S 10 27 27.7 +0.8
ARTI SS SS 10 32 37.6 +3.8
ARTI pmax pmax
comp=Z,5.0nm,0.8s
K13K **Kusilvak Mount** 80.10 26 P P 10 17 31.0 +0.6
K13K **Kusilvak Mount** 80.10 26 P P 10 17 31.3 +0.9
baz=250
MAW **Mawson** 80.11 201 P P 10 17 30.4 0.0
comp=Z,1.8nm,0.3s,baz=82,slow=9.9,SNR=7.8
comp=Z,1.8nm,0.3s
TNA **Tin City** 80.13 22 P P 10 17 31.0 +0.5
baz=246
SDPT **Sand Point** 80.14 33 P P 10 17 31.4 +0.6
baz=254
M13K **Dall Lake** 80.18 28 P P 10 17 30.9 +0.1
baz=251
CHNA **Chernabura Isl** 80.49 34 P P 10 17 32.2 -0.4
baz=255
ANM **Nome** 80.74 24 P P 10 17 33.6 -0.2
baz=248
L14K **Kuka Creek** 80.79 27 P P 10 17 33.9 -0.2
L14K IAmb IAmb 10 17 37.2
comp=Z,22nm,1.0s
L14K **Kuka Creek** 80.79 27 P P 10 17 34.9 +0.8
baz=252,SNR=6.7
N14K **Kuskokwak Cree** 80.82 29 P P 10 17 35.1 +0.9
baz=253
O14K **Tigyukauivet M** 80.82 29 P P 10 17 34.9 +0.6
baz=253
J14K **Nanvaranak Lak** 80.86 26 P P 10 17 35.4 +0.9
baz=250
S14K **Fog Glacier** 80.89 33 P P 10 17 35.4 +0.5
baz=255
M14K **Bethel** 80.94 28 P 10 17 34.8 -0.1
M14K IAmb IAmb 10 17 37.8
comp=Z,20nm,1.0s
M14K **Bethel** 80.94 28 P P 10 17 35.9 +1.0
baz=252,SNR=6.1
G15K **Niuluk** 81.43 23 P P 10 17 38.2 +0.7
baz=250
L15K **Ungalak Mounta** 81.44 27 P P 10 17 38.4 +0.8
baz=252
F15K **North Star Dit** 81.44 23 P P 10 17 37.1 -0.5
F15K **North Star Dit** 81.44 23 P P 10 17 38.7 +1.1
baz=249
CHGN **Chignik** 81.50 33 P P 10 17 37.6 -0.4
baz=256
O15K **Ungalikthiuk R** 81.51 30 P P 10 17 38.4 +0.3
baz=254
M15K **Kasigluk River** 81.52 28 P P 10 17 38.6 +0.6
baz=253
K15K **Wolf Creek Mou** 81.61 26 P 10 17 39.0 +0.6
K15K **Wolf Creek Mou** 81.61 26 P P 10 17 39.5 +1.1
baz=252
N15K **Kwethluk River** 81.65 29 P P 10 17 39.0 +0.2
N15K IAmb IAmb 10 17 47.4
comp=Z,20nm,1.1s
N15K **Kwethluk River** 81.65 29 P P 10 17 39.6 +0.8
baz=254
H16K **Elim** 82.03 24 P P 10 17 41.1 +0.4
baz=251
C16K **Lisburne Hills** 82.13 20 P P 10 17 42.1 +1.0
baz=248
G16K **Koyuk River** 82.23 23 P P 10 17 41.7 0.0
G16K IAmb IAmb 10 17 49.4
comp=Z,18nm,1.1s
G16K **Koyuk River** 82.23 23 P P 10 17 42.8 +1.1
baz=251
J16K **Anvik River** 82.31 26 P P 10 17 42.0 -0.2
J16K IAmb IAmb 10 17 50.3
comp=Z,21nm,1.1s
J16K **Anvik River** 82.31 26 P P 10 17 43.3 +1.2
baz=253,SNR=13
L16K **Owhat River** 82.37 27 P P 10 17 43.0 +0.6
L16K IAmb IAmb 10 17 44.9
comp=Z,20nm,1.2s
L16K **Owhat River** 82.37 27 P P 10 17 43.1 +0.6
baz=254
N16K **Nishlik Lake** 82.37 29 P P 10 17 43.4 +0.8
baz=255,SNR=7.1
P16K **Nushagak River** 82.39 30 P P 10 17 43.2 +0.5
baz=256
M16K **Timber Creek** 82.42 28 P P 10 17 43.7 +0.9
baz=255
I17K **Unalakleet** 82.44 25 P P 10 17 43.3 +0.5
I17K IAmb IAmb 10 17 51.1
comp=Z,40nm,1.2s
I17K **Unalakleet** 82.44 25 P P 10 17 44.2 +1.3
baz=253,SNR=10
O16K **Kokwok River B** 82.48 30 P P 10 17 44.1 +1.0
baz=256,SNR=5.7
D17K **Noatak River** 82.72 21 P P 10 17 45.7 +1.5
baz=250,SNR=16
RDOG **Red Dog Mine** 82.90 21 P P 10 17 45.1 0.0
RDOG **Red Dog Mine** 82.90 21 P P 10 17 46.4 +1.2
baz=250
R17L **Mt. Peulik Vol** 82.91 32 P P 10 17 45.5 +0.1
baz=258
G17K **Kiwalik Mounta** 82.94 23 P P 10 17 46.8 +1.4
baz=253,SNR=17
C17K **DeLong Mountai** 82.95 20 P P 10 17 46.8 +1.3
baz=250
E17K **Hotham Inlet** 82.98 22 P P 10 17 47.0 +1.5
baz=252,SNR=14
F17K **Baldwin Pennin** 82.99 22 P P 10 17 46.3 +0.7
F17K IAmb IAmb 10 17 57.8
comp=Z,18nm,1.0s
F17K **Baldwin Pennin** 82.99 22 P P 10 17 46.8 +1.2
baz=252
J17K **VABM Dome** 83.00 26 P P 10 17 46.5 +0.7
J17K IAmb IAmb 10 17 54.8
comp=Z,29nm,1.1s
J17K **VABM Dome** 83.00 26 P P 10 17 47.0 +1.3
baz=254,SNR=14
O17K **Koliganek Bris** 83.01 29 P P 10 17 47.0 +1.1
baz=257
L17K **Donlin** 83.02 27 P P 10 17 47.2 +1.4
baz=255,SNR=8.8
H17K **Granite Mounta** 83.08 24 P P 10 17 45.8 -0.4
H17K IAmb IAmb 10 17 53.3
comp=Z,22nm,0.9s
H17K **Granite Mounta** 83.08 24 P P 10 17 47.7 +1.5
baz=254,SNR=18
N17K **Nushagak Hills** 83.14 29 P P 10 17 46.1 -0.4
N17K IAmb IAmb 10 17 53.3
comp=Z,50nm,1.8s
N17K **Nushagak Hills** 83.14 29 P P 10 17 47.9 +1.3
baz=256
K17K **Iditarod** 83.16 26 P P 10 17 47.0 +0.4
K17K **Iditarod** 83.16 26 P P 10 17 48.2 +1.6
baz=255,SNR=23
M17K **Holitna River** 83.23 28 P P 10 17 47.0 0.0
M17K IAmb IAmb 10 17 54.6
comp=Z,27nm,1.2s
M17K **Holitna River** 83.23 28 P P 10 17 49.0 +2.1
baz=256,SNR=8.0
Q17K **Contact Creek** 83.29 31 P P 10 17 47.8 +0.3
baz=258
E18K **Tukpahlearik C** 83.53 22 P P 10 17 49.4 +0.9
E18K IAmb IAmb 10 17 55.6
comp=Z,23nm,0.8s
E18K **Tukpahlearik C** 83.53 22 P P 10 17 49.5 +1.1
baz=253,SNR=13
F18K **Selawik** 83.65 23 P P 10 17 49.6 +0.6
baz=254
C18K **Utukok River** 83.70 20 P P 10 17 49.0 -0.4
C18K IAmb IAmb 10 17 51.3
comp=Z,24nm,1.3s
C18K **Utukok River** 83.70 20 P P 10 17 50.4 +1.0
baz=252
B18K **Kokolik River** 83.72 20 P P 10 17 50.4 +1.0
baz=251
H18K **Honhosa River** 83.77 24 P P 10 17 49.0 -0.6
H18K IAmb IAmb 10 17 56.3
comp=Z,15nm,1.1s
H18K **Honhosa River** 83.77 24 P P 10 17 50.4 +0.7
baz=255,SNR=9.1
L18K **Granite Mounta** 83.77 27 P P 10 17 49.9 +0.1
L18K **Granite Mounta** 83.77 27 P P 10 17 51.2 +1.5
baz=257,SNR=16
N18K **Kilae Creek** 83.80 29 P P 10 17 51.8 +1.8
baz=258,SNR=5.5
Q18K **Katmai Hardscr** 83.82 31 P P 10 17 50.2 0.0
baz=259
G18K **Tagagawik** 83.85 23 P P 10 17 50.1 0.0
G18K IAmb IAmb 10 17 51.9
comp=Z,32nm,1.6s
G18K **Tagagawik** 83.85 23 P P 10 17 51.0 +0.9
baz=255,SNR=8.3
SII **Sitkinak Islan** 83.86 33 P P 10 17 50.8 +0.5
baz=260
R18K **Karluk** 83.90 32 P P 10 17 51.3 +0.8
baz=259
O18K **Koktuh Hills** 83.96 30 P P 10 17 51.1 +0.3
baz=258
M18K **Stony River** 84.01 28 P P 10 17 52.3 +1.4
baz=258,SNR=14
J18K **Innoko River** 84.05 26 P 10 17 51.3 +0.2
J18K IAmb IAmb 10 17 57.7
comp=Z,16nm,1.1s
J18K **Innoko River** 84.05 26 P P 10 17 52.0 +0.9
baz=257
A19K **Wainwright** 84.23 19 P P 10 17 53.1 +1.2
baz=252
GCSA **Galena City Sc** 84.28 25 P P 10 17 53.5 +1.3
baz=256,SNR=8.9
C19K **Lookout Ridge** 84.39 20 P P 10 17 54.0 +1.1
baz=253
F19K **Shaleruckik Mo** 84.43 22 P P 10 17 51.6 -1.4
F19K **Shaleruckik Mo** 84.43 22 P P 10 17 54.1 +1.1
baz=255
OHAK **Old Harbor** 84.46 32 P P 10 17 53.3 0.0
baz=260
O19K **Port Alsworth** 84.46 29 P P 10 17 54.5 +1.2
baz=259
N19K **Bonanza Creek** 84.50 29 P P 10 17 53.2 -0.4
N19K **Bonanza Creek** 84.50 29 P P 10 17 54.7 +1.0
baz=259,SNR=20
G19K **Purcell Mounta** 84.53 23 P P 10 17 53.8 +0.2
G19K IAmb IAmb 10 17 55.6
comp=Z,14nm,1.0s
G19K **Purcell Mounta** 84.53 23 P P 10 17 54.8 +1.3
baz=256,SNR=7.5
L19K **White Mountain** 84.60 27 P P 10 17 54.9 +0.9
L19K **White Mountain** 84.60 27 P P 10 17 55.2 +1.1
baz=258,SNR=16
H19K **Roundabout Mou** 84.64 24 P P 10 17 54.6 +0.5
H19K IAmb IAmb 10 18 04.6
comp=Z,12nm,1.1s
H19K **Roundabout Mou** 84.64 24 P P 10 17 54.8 +0.7
baz=257
J19K **Poorman** 84.64 25 P P 10 17 54.5 +0.3
J19K IAmb IAmb 10 17 57.2

comp=Z,36nm,1.8s
J19K **Poorman** 84.64 25 P P 10 17 54.9 +0.8
baz=258
D19K **Kuna River** 84.74 21 P P 10 17 55.3 +0.7
baz=255
M19K **Big River Lodg** 84.76 28 P P 10 17 54.6 -0.2
M19K IAmb IAmb 10 18 01.9
comp=Z,29nm,1.2s
M19K **Big River Lodg** 84.76 28 P P 10 17 56.2 +1.4
baz=259,SNR=12
E19K **Redstone River** 84.80 22 P P 10 17 54.8 0.0
E19K **Redstone River** 84.80 22 P P 10 17 55.9 +1.0
baz=256
KDAK **Kodiak Island** 84.92 32 P P 10 17 56.2 +0.5
baz=261
L20K **Farewell, AK** 85.11 27 P P 10 17 57.1 +0.5
baz=259,SNR=7.2
Q20K **Shuyak Island** 85.16 31 P P 10 17 57.1 +0.3
baz=261
K20K **Telida** 85.19 26 P P 10 17 57.2 +0.2
baz=259
H20K **Anotleneega Mo** 85.27 24 P P 10 17 58.0 +0.7
baz=258
F20K **Avaraart Lake** 85.27 22 P P 10 17 57.9 +0.7
baz=257
I20K **Naaghedeneel** 85.29 25 P P 10 17 57.9 +0.6
baz=258
J20K **Nowinta River** 85.31 25 P P 10 17 58.0 +0.5
baz=259
D20K **Etivluk River** 85.33 21 P 10 17 57.8 +0.2
D20K IAmb IAmb 10 18 35.6
comp=Z,17nm,1.2s
D20K **Etivluk River** 85.33 21 P P 10 17 57.8 +0.2
baz=256
M20K **Styx River** 85.34 28 P P 10 17 57.9 0.0
M20K IAmb IAmb 10 18 06.8
comp=Z,18nm,1.2s
M20K **Styx River** 85.34 28 P P 10 17 58.3 +0.5
baz=260,SNR=8.1
E20K **Nigu River** 85.37 21 P P 10 17 58.8 +1.0
baz=257
CNPM **China Poot** 85.89 30 P 10 18 00.6 +0.1
CNPM IAmb IAmb 10 18 06.3
comp=Z,22nm,0.9s
PPLA **Purkeypile** 85.95 27 P P 10 18 01.5 +0.6
baz=261
G21K **Aliakaket** 86.02 23 P P 10 18 01.5 +0.5
baz=259
CHUM **Lake Minchumin** 86.05 26 P P 10 18 01.8 +0.6
baz=260
C21K **Knifeblade Rid** 86.07 20 P P 10 18 01.8 +0.6
baz=258
BRLK **Bradley Lake** 86.10 30 P P 10 18 00.9 -0.7
SKT **Skwentna** 86.10 28 P 10 18 00.4 -1.1
SKT **Skwentna** 86.10 28 P P 10 18 01.7 +0.2
baz=261
CAPN **Captain Cook N** 86.11 29 P P 10 18 01.8 +0.3
baz=262
H21K **Melozitna Rive** 86.15 24 P P 10 18 02.3 +0.6
baz=260
E21K **Killik River** 86.22 21 P P 10 18 02.4 +0.4
baz=259
B21K **Ikpikpuk River** 86.23 20 P P 10 18 02.2 +0.3
baz=258
BPAW **Bear Paw Mtn.** 86.66 26 P P 10 18 04.9 +0.6
baz=262
F22K **John River** 86.71 22 P P 10 18 05.0 +0.6
baz=260
M22K **Willow** 86.73 28 P P 10 18 05.1 +0.6
baz=263
CUT **Chulitna** 86.75 27 P P 10 18 05.6 +0.9
baz=262
D22K **Ayikyak River** 86.76 21 P P 10 18 05.3 +0.6
baz=260
H22K **Ishtalitna Cre** 86.77 24 P P 10 18 05.4 +0.7
baz=261
KBZ **Khabaz** 86.83 314 P P 10 18 06.0 +0.6
KBZ **Khabaz** 86.83 314 P P 10 18 06.0 +0.6
comp=Z,1.0nm,0.7s,baz=76,slow=14,SNR=3.5
comp=Z,1.0nm,0.7s
KBZ **Khabaz** 86.83 314 P P 10 18 06.0 +0.6
SEW **Seward** 86.86 30 P P 10 18 05.8 +0.6
baz=263
G22K **Bettles** 86.87 23 P P 10 18 05.4 +0.3
baz=261
TRF **Thorofare Moun** 86.88 26 P P 10 18 05.9 +0.4
baz=262
MLY **Manley** 86.90 25 P P 10 18 05.9 +0.4
baz=262
E22K **Anaktuvuk Pass** 86.95 22 P P 10 18 06.1 +0.5
baz=261
PMR **Palmer** 87.18 28 P P 10 18 07.5 +0.8
baz=264
COLD **Coldfoot** 87.42 23 P P 10 18 08.3 +0.4
baz=262
G23K **Bananza Creek** 87.42 23 P P 10 18 08.6 +0.7
baz=262
KNK **Knik Glacier** 87.48 29 P P 10 18 08.6 +0.3
baz=264
PWL **Port Wells** 87.49 29 P P 10 18 08.6 +0.3
PWL IAmb IAmb 10 18 17.0
comp=Z,13nm,1.1s
PWL **Port Wells** 87.49 29 P P 10 18 08.7 +0.3
baz=264
D23K **Nanushuk River** 87.49 21 P P 10 18 08.8 +0.6
baz=262
I23K **Minto, Yukon-K** 87.50 25 P P 10 18 08.4 +0.2
baz=263
H23K **Yukon River** 87.50 24 P P 10 18 08.3 0.0
baz=263
MCK **McKinley** 87.52 26 P P 10 18 08.4 0.0
baz=264
RND **Reindeer** 87.52 27 P 10 18 07.2 -1.3
RND IAmb IAmb 10 18 15.1
comp=Z,11nm,1.0s
RND **Reindeer** 87.52 27 P P 10 18 07.2 -1.3
RND pmax pmax
comp=Z,11nm,1.0s
NEA2 **Nenana** 87.56 25 P P 10 18 08.5 -0.1
baz=263
C23K **Itkillik River** 87.64 20 P P 10 18 09.5 +0.7
baz=262
E23K **Chandalar** 87.75 22 P P 10 18 10.1 +0.6
baz=263
TOLK **Toolik Lake Re** 87.84 21 P P 10 18 10.3 +0.4
baz=263
P23K **Montague Islan** 87.87 30 P P 10 18 10.1 -0.1
baz=265
M23K **Glacier View** 87.87 28 P P 10 18 10.1 -0.1
baz=265
SCM **Sheep Creek Mo** 88.06 28 P P 10 18 11.7 +0.6
baz=265
GLI **Glacier Island** 88.09 29 P P 10 18 11.6 +0.4
baz=265
D24K **Happy Valley** 88.18 21 P P 10 18 11.8 +0.4
baz=264
E24K **Your Creek** 88.18 22 P P 10 18 12.1 +0.5
baz=264
H24K **Noodor Dome** 88.19 24 P P 10 18 12.3 +0.7
baz=264
C24K **Franklin Bluff** 88.28 20 P P 10 18 12.9 +1.0
baz=264
F24K **Squaw Lake** 88.35 23 P P 10 18 12.6 +0.3
baz=264
G24K **Hadweenzic Riv** 88.43 23 P P 10 18 12.9 +0.2
baz=265
HDA **Harding Lake** 88.45 26 P P 10 18 12.5 -0.3
baz=265
ILAR **Eielson Array** 88.51 25 P P 10 18 11.3 -1.7
comp=Z,1.6nm,1.0s,baz=262,slow=5.5,SNR=10
comp=Z,1.6nm,1.0s
M24K **Tolsona, Glenn** 88.63 28 P P 10 18 13.7 0.0
baz=266
KLU **Klutina** 88.70 29 P P 10 18 14.4 +0.2
baz=266
EYAK **Cordova Ski Ar** 88.73 30 P P 10 18 14.6 +0.5
baz=266
K24K **Donnelly Dome** 88.92 26 P P 10 18 15.3 +0.2
baz=266
PAX **Paxson** 89.01 27 P P 10 18 15.8 +0.2
baz=267
H25L **Birch Creek** 89.06 24 P P 10 18 15.9 +0.3
baz=266
D25K **Kavik River** 89.06 21 P P 10 18 15.8 +0.2
baz=266
PRP **Porcupine Dome** 89.13 25 P P 10 18 15.9 -0.2
baz=267
F25K **Christian Rive** 89.21 22 P P 10 18 16.6 +0.2
baz=266
QSPA **South Pole Qui** 89.30 180 P P 10 18 16.8 -0.1
QSPA IAmb IAmb 10 18 22.4
comp=Z,13nm,0.7s
BMRM **Bremner River** 89.31 29 P P 10 18 17.3 +0.3
baz=268
RIDG **Independent Ri** 89.33 26 P P 10 18 17.5 +0.5
baz=267
N25K **Chitina, Valde** 89.34 29 P P 10 18 17.6 +0.4
baz=268
KAIM **Kayak Island** 89.36 30 P P 10 18 17.7 +0.5
baz=268
BMAR **Burnt Mountain** 89.61 23 P 10 18 17.9 -0.3
SCRK **Sand Creek** 89.72 26 P P 10 18 19.1 +0.2
baz=268
F26K **Sheenjek River** 89.79 22 P P 10 18 19.4 +0.4
baz=268
G26K **Porcupine Rive** 89.90 23 P P 10 18 19.9 +0.3
baz=268
J26L **Joseph Creek** 89.92 26 P P 10 18 19.7 -0.1
baz=268
L26K **Log Cabin Wild** 89.98 27 P P 10 18 20.0 -0.1
baz=269
C27K **Jago River** 90.02 20 P P 10 18 20.3 +0.2
baz=268
CRQE **Cirque** 90.05 29 P P 10 18 20.5 0.0
baz=269
MCARA **McCarthy VSAT** 90.09 29 P P 10 18 20.6 0.0
baz=269
I26K **Coal Creek Min** 90.12 25 P P 10 18 20.8 +0.3
baz=269
M26K **Nabesna, AK** 90.13 28 P P 10 18 19.9 -0.9
baz=269
K27K **Chicken** 90.56 26 P P 10 18 22.5 -0.2
baz=270
M27K **Edge Creek, AK** 90.65 28 P P 10 18 22.8 -0.5
baz=270
L27K **Beaver Creek,** 90.67 27 P P 10 18 23.2 0.0
baz=270
G27K **Doyon Strip** 90.74 23 P P 10 18 24.1 +0.5
baz=270
E27K **Coleen River** 90.76 22 P P 10 18 24.2 +0.6
baz=270
I27K **Kandik River** 90.76 25 P P 10 18 24.5 +0.8
baz=270
H27K **Steamboat Moun** 90.80 24 P P 10 18 24.6 +0.7
baz=270
CTG **Chitna Glacier** 90.91 29 P P 10 18 25.5 +1.0
baz=270
D27M **Malcolm River** 90.98 21 P P 10 18 25.0 +0.4
baz=271
OBN **Obninsk** 91.30 325⇑ *e*P P 10 18 27.3 +1.1
OBN *e* 10 22 01.6
OBN pmax pmax
comp=Z,6.0nm,1.1s
OBN MLR MLR
comp=Z,6μm,20.0s
OBN **Obninsk** 91.30 325⇑ *e*P P 10 18 26.8 +0.6
YUK3 **Moose Creek** 91.32 28 P P 10 18 27.2 +0.6
baz=271
F28M **Old Crow** 91.42 23 P P 10 18 27.0 +0.4
baz=272
PINM **Pinnacle** 91.46 30 P P 10 18 27.6 +0.6
baz=271
I28M **Miner Creek** 91.46 25 P 10 18 26.7 -0.3
I28M IAmb IAmb 10 18 33.0
comp=Z,12nm,0.8s
I28M **Miner Creek** 91.46 25 P P 10 18 27.1 +0.1
baz=272,SNR=13
O28M **Mount Upton** 91.47 29 P P 10 18 27.3 -0.1
O28M **Mount Upton** 91.47 29 P P 10 18 27.7 +0.3
baz=271
E28M **Babbage River** 91.52 22 P P 10 18 27.9 +0.8
baz=272
YUK8 **Steele Glacier** 91.67 29 P P 10 18 28.6 +0.3
baz=272
DAWY **Dawson** 91.74 26 P P 10 18 28.3 0.0
baz=272,SNR=11
PNL **Peninsula** 91.90 30 P P 10 18 29.4 +0.4
baz=272
H29M **Whitestone** 92.08 24 P P 10 18 30.3 +0.6
baz=273
E29M **Blow River** 92.13 22 P P 10 18 30.5 +0.6
baz=274
I29M **Ogilvie Camp,** 92.15 25 P P 10 18 30.2 +0.1
baz=273
G29M **Pine Creek** 92.17 23 P P 10 18 30.4 +0.3
baz=274,SNR=9.9
YUK4 **Talbot Arm** 92.20 29 P P 10 18 30.7 +0.1
baz=273
M29M **Somme Creek** 92.23 28 P P 10 18 31.3 +0.7
baz=273
L29M **L29M** 92.35 27 P P 10 18 31.6 +0.5
baz=273
YUK6 **Outpost Mounta** 92.36 29 P P 10 18 31.4 0.0
baz=273
K29M **Barlow Dome** 92.58 26 P 10 18 31.6 -0.6
K29M IAmb IAmb 10 18 39.1
comp=Z,8.5nm,0.9s
K29M **Barlow Dome** 92.58 26 P P 10 18 32.3 +0.1
baz=274,SNR=11
EPYK **Eagle Plains** 92.73 24 P P 10 18 33.1 +0.3
baz=275
P29M **Windy Craggy** 92.74 30 P 10 18 32.6 -0.3
P29M IAmb IAmb 10 18 40.1
comp=Z,14nm,1.0s
P29M **Windy Craggy** 92.74 30 P P 10 18 33.3 +0.3
baz=273
HYT **Haines Junctio** 92.78 29 P 10 18 33.1 -0.2
HYT IAmb IAmb 10 18 39.4
comp=Z,9.1nm,1.0s
HYT **Haines Junctio** 92.78 29 P P 10 18 33.7 +0.5
baz=274
G30M **tAoh Zraii Nji** 92.88 23 P P 10 18 33.6 +0.2
baz=275
N30M **Aishikik Lake** 92.94 29 P P 10 18 33.8 -0.1
N30M IAmb IAmb 10 18 41.3
comp=Z,9.4nm,1.1s
N30M **Aishikik Lake** 92.94 29 P P 10 18 34.9 +1.0
baz=274,SNR=11
I30M **Mount Dempster** 92.97 25 P P 10 18 34.1 +0.1
baz=275
F30M **Barrier River** 92.98 22 P P 10 18 33.7 -0.2
baz=276
M30M **Minto, Yukon** 93.00 27 P P 10 18 34.3 +0.2
baz=274,SNR=10
J30M **Hart River** 93.04 25 P P 10 18 35.0 +0.6
baz=275,SNR=12
P30M **Million Dollar** 93.10 30 P P 10 18 35.3 +0.6
baz=274
SIM **Simferopol'** 93.15 315 *e*P P 10 18 28.2 -6.9
SIM pmax pmax
comp=Z,10.0nm,0.8s
SIM MLR MLR
comp=Z,3μm,15.0s
MAYO **Mayo, Yukon** 93.32 26 P P 10 18 36.0 +0.5
MAYO **Mayo, Yukon** 93.32 26 P P 10 18 36.3 +0.8
baz=275
PLBC **Pleasant Camp** 93.45 31 P P 10 18 36.9 +0.7
baz=275
O30N **Mendenhall** 93.48 29 P P 10 18 37.2 +0.9
baz=276
N31M **Braeburn, Yuko** 93.57 29 P P 10 18 37.4 +0.6
baz=275,SNR=9.9
S31K **Pelican** 93.64 32 P P 10 18 37.5 +0.5
baz=275
G31M **Satah River** 93.65 23 P P 10 18 36.3 -0.5
baz=277
H31M **Peel River** 93.75 24 P P 10 18 37.8 +0.3
baz=277
INK **Inuvik** 93.75 22 P P 10 18 37.6 +0.3
baz=278
F31M **Tsiigehtchic** 93.78 22 P P 10 18 37.4 -0.1
baz=278,SNR=7.1
SKAG **Skagway** 93.98 31 P P 10 18 39.3 +0.7
baz=276
WHY **Whitehorse** 94.08 29 P 10 18 39.1 -0.1
WHY **Whitehorse** 94.08 29 P P 10 18 39.7 +0.5
baz=276
M31M **Drury Creek, Y** 94.15 28 P P 10 18 40.0 +0.7
baz=276
SIT **Sitka** 94.21 33 P P 10 18 40.4 +0.8
baz=275
R32K **Eaglecrest** 94.52 32 P P 10 18 41.4 +0.3
baz=276
S32K **Killisnoo** 94.57 33 P P 10 18 41.8 +0.4
baz=276
FARO **Faro, Yukon** 94.63 28 P P 10 18 41.9 +0.3
baz=277,SNR=16
P32M **Atlin** 94.78 30 P P 10 18 42.8 +0.5
baz=277
N32M **Quiet Lake** 94.90 29 P P 10 18 43.6 +0.7
baz=278
P33M **Teslin, Yukon** 95.15 30 P P 10 18 44.7 +0.6
baz=278
U33K **Whale Pass** 95.52 34 P P 10 18 46.3 +0.6
baz=277
MMPY **Sheldon Lake,** 95.53 27 P P 10 18 46.2 +0.5
baz=279,SNR=16
CRAG **Craig** 95.60 34 P P 10 18 46.5 +0.5
baz=277
Q32M **Nakina River** 95.60 31 P P 10 18 46.5 +0.2
baz=278
WRAK **Wrangell Islan** 95.91 33 P P 10 18 47.3 -0.2
baz=276
R33M **Jennings River** 96.20 30 P P 10 18 49.5 +0.6
baz=279
S34M **Telegraph Cree** 96.35 32 P P 10 18 50.2 +0.8
baz=279
DLBC **Dease Lake** 96.84 31 P P 10 18 52.4 +0.6
baz=280
TGTN **Hyland Airport** 97.12 28 P Pdif 10 18 54.0 +1.0
baz=282
WTLY **Watson Lake, Y** 97.15 29 P Pdif 10 18 54.1 +1.0
baz=281
YKA **Yellowknife Ar** 102.94 25 P **Pdif** 10 19 18.2 -0.6
comp=Z,0.9nm,1.0s,baz=296,slow=5.0,SNR=4.7
PDAR **Pinedale Array** 113.78 43 PKKPbc PKKPbc 10 34 41.6 -2.4
comp=Z,0.5nm,0.7s,baz=104,slow=1.3,SNR=6.1
TXAR **Lajitas Array** 123.21 55 PKP **PKPdf** 10 24 18.3 -0.2
comp=Z,0.6nm,0.7s,baz=331,slow=2.4,SNR=9.1
TXAR PKKPab **PKKPab** 10 34 06.6 -2.3
comp=Z,0.2nm,0.6s,baz=115,slow=3.5,SNR=3.7
SCHQ **Schefferville** 124.64 10 PKP **PKPdf** 10 24 19.5 -0.9
comp=Z,3.1nm,0.9s,baz=281,slow=5.2,SNR=3.7
TORD **Torodi Ar. Bea** 125.33 286 PKP **PKPdf** 10 24 22.9 +0.1
comp=Z,1μm,0.4s,baz=54,slow=1.9,SNR=3.7
DBIC **Dimbokro** 132.53 278 PKP **PKPdf** 10 24 35.8 -0.7
comp=Z,1.4nm,0.6s,baz=131,slow=2.1,SNR=1.5
CPUP **Villa Florida** 152.72 170 PKPbc **PKPbc** 10 25 17.5 -0.9
comp=Z,1.0nm,0.8s,baz=145,slow=1.1,SNR=5.7

NEIC ***14*** *10:06:49.7±1.3,23°.5S±0°.1×179°.7W±0°.1,h523km±7km, mb4.2/15, Error ellipse: s-maj=23.8km s-min=13.9km az=134.0*

IDC ***14*** *10:06:51.0±3.5,23°.53S×179°.98W,h553km±39km, mb3.3/7, mbtmp4.3/9, Error ellipse: s-maj=28.1km s-min=19.7km az=83.0*

ISC 14 10:06:49.7±0.4,23°.46S±0°.07×179°.79W±0°.08,h532km, n76,σ1°61/77,mb4.0/16,2C-1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.05	340	P	P	10 08 27.2	-0.9
NIUE	Niue	10.18	66	P	P	10 09 07.9	-1.4
NIUE	Niue	10.18	66	P	P	10 09 08.3	-1.0
NIUE				S	S	10 11 07.4	+3.2
PINNC	Pines Island,	11.78	272	P	P	10 09 26.5	+0.6
DZM	Mont Dzumac	12.77	274	P	P	10 09 39.6	+3.2
DZM	Mont Dzumac	12.77	274	P	P	10 09 36.9	+0.4
	6.1nm,0.8s,baz=114,slow=12,SNR=2.7						
OUZ	Omahuta	13.05	205	P	P	10 09 41.8	+2.8
WCZ	Waipu Caves	13.43	201	P	P	10 09 45.5	+2.6
KUZ	Kuaotunu	13.79	195	P	P	10 09 48.2	+1.5
MBAZ	Motutapu North	14.03	198	P	P	10 09 57.4	+8.3
ETAZ	East Tamaki Re	14.19	197	P	P	10 09 53.1	+2.2
AWAZ	Awhitu Peninsu	14.38	198	P	P	10 09 54.0	+1.3
HAZ	Te Kaha	14.40	188	P	P	10 09 55.1	+2.1
HAZ				S	S	10 12 23.0	-1.1
PUZ	Puketiti	14.66	186	P	P	10 09 56.3	+0.6
PUZ				S	S	10 12 27.9	-1.2
TOZ	Tahuroa Road	14.78	195	P	P	10 09 58.3	+1.3
URZ	Urewera	14.98	189	P	P	10 09 57.0	-2.1
	26nm,0.5s,baz=26,slow=16,SNR=20						
URZ				S	S	10 12 33.2	-2.0
	11nm,0.8s,baz=204,slow=23,SNR=8.7						
URZ	Urewera	14.98	189	P	P	10 09 57.4	-1.7
MWZ	Matawai	15.00	188	P	P	10 09 58.8	-0.5
TLZ	Tolley Road	15.35	194	P	P	10 10 03.8	+0.8
KNZ	Kokohu	15.66	187	P	P	10 10 06.5	+0.5
HIZ	Hauiti	15.68	196	P	P	10 10 10.7	+4.4
NMHZ	Naumai	15.85	190	P	P	10 10 07.1	-1.0
BKZ	Black Stump Fm	15.97	191	P	P	10 10 06.9	-2.4
BKZ				S	S	10 12 50.7	-2.1
NGZ	Ngauruhoe	16.14	193	P	P	10 10 04.7	-6.5
MCHZ	McNeill Hill	16.21	190	P	P	10 10 09.9	-1.7
TSZ	Takapari Road	16.93	191	P	P	10 10 17.9	-0.6
MRZ	Mangatainoka R	17.58	192	P	P	10 10 22.8	-1.7
QRZ	Quartz Range	18.48	199	P	P	10 10 34.0	+1.4
NNZ	Nelson	18.61	196	P	P	10 10 34.2	+0.5
THZ	Tophouse	19.24	197	P	P	10 10 40.3	+0.7
KHZ	Kahutara	19.70	195	P	P	10 10 44.7	+1.0
GVZ	Greta Valley S	20.34	195	P	P	10 10 48.9	-0.6
LTZ	Lake Taylor	20.36	197	P	P	10 10 49.6	-0.2
INZ	Inchbonnie	20.54	199	P	P	10 10 51.3	0.0
OXZ	Oxford	20.93	197	P	P	10 10 55.3	+0.4
TMZ	Timaru	22.19	198	P	P	10 11 07.1	+0.8
JCZ	Jackson Bay	22.60	202	P	P	10 11 10.4	+0.4
MLZ	Mavora Lakes	23.96	201	P	P	10 11 22.4	+0.3
MLZ	Mavora Lakes	23.96	201	P	P	10 11 23.8	+1.7
ARMA	Armidale	26.35	249	P	P	10 11 44.7	+1.2
ARMA				IAmb	IAmb	10 11 48.9	
	comp=Z,23nm,1.4s						
CAN	Canberra	29.52	239	P	P	10 12 12.1	+1.0
CTAO	Charters Tower	31.66	269	P	P	10 12 29.1	-0.5
CTAO				IAmb	IAmb	10 13 09.9	
	comp=Z,24nm,1.2s						
WRA	Warramunga Arr	42.63	266	P	P	10 13 58.6	-0.9
	comp=Z,2.2nm,0.4s,baz=96,slow=8.2,SNR=2.1						
	comp=Z,2.2nm,0.4s						
VNDA	Vanda	54.83	185	P	P	10 15 31.4	+2.4
QSPA	South Pole Qui	66.62	180	P	P	10 16 47.1	0.0
QSPA				IAmb	IAmb	10 16 51.9	
	comp=Z,9.0nm,1.0s						
QSPA	South Pole Qui	66.62	180	P	P	10 16 46.2	-0.9
	comp=Z,6.0nm,0.6s,baz=32,slow=0.5,SNR=18						
	comp=Z,6.0nm,0.6s						
SMAI	San Martin Ant	76.44	159	P	P	10 17 45.5	+1.3
SMAI				IAmb	IAmb	10 17 47.1	
	comp=Z,6.1nm,0.8s						
BELA	Belgrano 2	76.84	173	P	P	10 17 46.2	-0.1
BELA				IAmb	IAmb	10 17 47.6	
	comp=Z,3.7nm,0.7s						
PETK	Petropavlovsk-	78.72	346	P	P	10 17 55.5	-1.1
	comp=Z,1.2nm,0.8s,baz=150,slow=5.4,SNR=1.9						
	comp=Z,1.2nm,0.8s						
PMPB	Monarch Peak	81.39	45	P	P	10 18 11.7	+0.6
MG03	Isla Dawson	82.02	146	P	P	10 18 14.2	+0.2
MG03				IAmb	IAmb	10 18 35.2	
	comp=Z,31nm,1.4s						
DPP	Dos Picos Cty	82.10	49	P	P	10 18 14.4	-0.3
DPP				IAmb	IAmb	10 18 16.1	
	comp=Z,2.4nm,0.7s						
BORC	Borrego Spring	82.61	49	P	P	10 18 17.5	+0.3
BORC				IAmb	IAmb	10 18 43.4	
	comp=Z,1.4nm,1.1s						
NVAR	Mina Array Bea	84.31	44	P	P	10 18 26.5	+0.6
	comp=Z,0.3nm,0.5s,baz=236,slow=4.3,SNR=3.7						
	comp=Z,0.3nm,0.5s						
TROLL	Troll, Antarti	84.77	181	⇓P	P	10 18 26.9	-0.7
	comp=Z,198nm,0.3s						
SNAA	Sanae	85.10	179	⇑P	P	10 18 28.8	-0.3
	comp=Z,26nm,0.4s						
SNAA	Sanae	85.10	179	P	P	10 18 28.4	-0.7
SNAA	Sanae	85.10	179	P	P	10 18 28.6	-0.5
	comp=Z,1.1nm,0.4s,baz=184,slow=14,SNR=22						
	comp=Z,1.1nm,0.4s						
K05A	Summer Lake	85.31	39	P	P	10 18 31.2	+0.6
VNA2	Neumayer--Watz	85.72	178	⇑P	P	10 18 32.0	0.0
	comp=Z,1.4nm,0.3s,baz=180,slow=5.1						
PINE	Pine Mountain	85.93	38	P	P	10 18 33.5	-0.1
U15A	North Rim	87.17	48	P	P	10 18 40.0	+0.2
U15A				IAmb	IAmb	10 18 41.6	
	comp=Z,2.9nm,0.8s						
TXAR	Lajitas Array	90.04	58	P	P	10 18 54.3	+1.2
	comp=Z,0.9nm,0.7s,baz=244,slow=4.5,SNR=12						
	comp=Z,0.9nm,0.7s						
PDAR	Pinedale Array	92.25	44	P	P	10 19 03.0	0.0
	comp=Z,0.4nm,0.6s,baz=260,slow=6.9,SNR=6.1						
	comp=Z,0.4nm,0.6s						
BVAR	Borovoye Array	120.24	319	PKP	**PKPdf**	10 24 38.6	-1.4
	comp=Z,0.9nm,0.4s,baz=122,slow=1.9,SNR=4.0						

SPITS	**Spitsbergen Ar**	**124.70**	**356**	PKP	**PKPdf**	**10 24 47.4**	**-0.5**
	comp=Z,4.9nm,0.9s,baz=20,slow=4.6,SNR=2.7						
ARCES	**ARCESS Array B**	**131.50**	**348**	PKP	**PKPdf**	**10 24 59.7**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=28,slow=1.7,SNR=7.1						
FINES	**FINESS Array B**	**138.09**	**342**	PKP	**PKPdf**	**10 25 12.2**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=48,slow=2.1,SNR=4.5						
NB2	**NORSAR Subarra**	**141.68**	**351**	PKP	PKPpre	10 25 14.4	
	comp=Z,0.5nm,0.5s,baz=13,slow=3.1						
NOA	**NORSAR Array B**	**141.68**	**351**	PKhKP	PKPpre	10 25 14.3	
	comp=Z,0.8nm,0.7s,baz=15,slow=3.0,SNR=5.7						
HFS	**Hagfors**	**142.16**	**349**	PKhKP	PKPpre	10 25 16.0	
	comp=Z,3.5nm,0.3s,baz=55,slow=3.6,SNR=64						
AKASG	**Malin Array Be**	**144.71**	**328**	PKP	**PKPdf**	**10 25 24.2**	**-1.4**
	comp=Z,3.5nm,0.5s,baz=46,slow=4.4,SNR=26						
BRTR	**Keskin Array B**	**147.46**	**308**	PKPbc	**PKPdf**	**10 25 31.7**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=130,slow=5.8,SNR=4.1						
MMAI	**Mount Meron Ar**	**147.69**	**295**	PKPbc	**PKPbc**	**10 25 34.9**	**0.0**
	comp=Z,2.1nm,0.4s,baz=88,slow=4.6,SNR=5.3						
EKA	**Eskdalemuir Ar**	**148.07**	**4**	PKPbc	**PKPdf**	**10 25 32.9**	**+1.8**
	comp=Z,0.8nm,0.4s,baz=358,slow=2.5,SNR=6.1						
GERES	**GERESS Array B**	**152.51**	**340**	PKPbc	**PKPbc**	**10 25 43.2**	**-2.6**
	comp=Z,0.7nm,0.8s,baz=12,slow=4.5,SNR=3.9						

AUST ***14*** *10:07:18.3±1.1, 18°S±8°×12°1E±°, h18km±13km, mb4.3/11, ML3.8/7, Error ellipse: s-maj=20.8km s-min=5.0km az=142.8*

NOU ***14*** *10:07:18.2, 18°17S×120°01E, h110km, mb4.3/8, Western Australia*

ISC 14 10:07:12.6±1.4, 18°25S±0°1×120°36E±0°08, h10km, n27, σ2ˢ48/33, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**3.02**	**191**	P		**Pn**	**10 08 04.0**	**+3.4**
MBWA				S		**Sn**	**10 08 38.9**	**+2.1**
MBWA	**Marble Bar**	**3.02**	**191**	P		**Pn**	**10 08 04.0**	**+3.4**
PSAC1	**Pilbara Seismi**	**3.38**	**189**	P		**Pn**	**10 08 08.4**	**+3.0**
PSAC1				S		**Sn**	**10 08 45.5**	**-0.1**
PSA00	**Pilbara Seismi**	**3.41**	**188**	P		**Pn**	**10 08 09.3**	**+3.4**
PSA00				S		**Sn**	**10 08 45.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**5.02**	**90**	P		**Pn**	**10 08 30.9**	**+2.9**
FITZ	**Fitzroy Crossi**	**5.02**	**90**	S		**Sn**	**10 09 24.8**	**-1.3**
GIRL	**Giralia**	**7.26**	**231**	P		**Pn**	**10 09 00.6**	**+1.7**
GIRL				S		**Sn**	**10 10 15.0**	**-6.4**
KNRA	**Kununurra**	**8.41**	**74**	P		**Pn**	**10 09 17.2**	**+2.5**
	comp=Z,80nm,1.1s,comp=Z,0.3nm							
KNRA				S		**Sn**	**10 10 47.2**	**-2.6**
CVQOZ	**Cooralya Stati**	**8.55**	**222**	P		**Pn**	**10 09 18.1**	**+1.6**
CVQOZ				S		Sn	10 10 42.9	-10
MEEK	**Meekatharra**	**8.57**	**191**	P		**Pn**	**10 09 19.0**	**+2.2**
	comp=Z,22nm,1.6s,comp=Z,0.5nm							
MEEK	**Meekatharra**	**8.57**	**191**	S		**Sn**	**10 10 50.1**	**-3.6**
MEEK	**Meekatharra**	**8.57**	**191**	P		**Pn**	**10 09 18.8**	**+2.0**
WRKA	**Warakurna**	**10.05**	**134**	P		**Pn**	**10 09 38.9**	**+1.8**
	comp=Z,4.6nm,2.3s,comp=Z,0.1nm							
WRKA				S		**Sn**	**10 11 25.3**	**-4.6**
MORW	**Morawa**	**11.54**	**199**	P		**Pn**	**10 09 58.0**	**+0.5**
	comp=Z,21nm,2.7s							
MORW	**Morawa**	**11.54**	**199**	P		**Pn**	**10 09 58.0**	**+0.5**
BLDU	**Ballidu**	**12.82**	**194**	P		**Pn**	**10 10 15.9**	**+1.0**
	comp=Z,21nm,2.1s							
BLDU	**Ballidu**	**12.82**	**194**	P		**Pn**	**10 10 15.4**	**+0.4**
KMBL	**Kambalda**	**13.20**	**174**	P		**Pn**	**10 10 16.5**	**-3.7**
	comp=Z,6.0nm,2.5s							
KLBR	**Kellerberrin**	**13.56**	**190**	P		**Pn**	**10 10 26.0**	**+0.9**
	comp=Z,21nm,0.9s							
KLBR	**Kellerberrin**	**13.56**	**190**	P		**Pn**	**10 10 25.4**	**+0.3**
MUN	**Mundaring**	**14.24**	**194**	P		**Pn**	**10 10 34.3**	**-0.1**
	comp=Z,34nm,2.5s							
MUN	**Mundaring**	**14.24**	**194**	P		**Pn**	**10 10 34.0**	**-0.4**
FORT	**Forrest**	**14.36**	**152**	P		**Pn**	**10 10 37.0**	**+1.0**
	comp=Z,15nm,1.2s							
DNDOZ	**Balladonia**	**14.57**	**168**	P		**Pn**	**10 10 38.5**	**-0.4**
NWAO	**Narrogin (SRO)**	**14.95**	**190**	P		**Pn**	**10 10 44.0**	**-0.1**
	comp=Z,40nm,1.5s							
NWAO	**Narrogin (SRO)**	**14.95**	**190**	P		**Pn**	**10 10 43.2**	**-0.9**
MULG	**Mulgathing**	**17.33**	**137**	P		**P**	**10 11 17.4**	**+1.3**
	comp=Z,33nm,2.3s							

IDC ***14*** *10:13:46.8±0.9, 0°48S×127°90E, h0km, mb4.0/8, mbtmp4.0/9, ML4.0/1, Error ellipse: s-maj=42.9km s-min=17.3km az=73.0*

NEIC ***14*** *10:13:49.0±2.4, 0°45S±0°06×127°85E±0°04, h10km±1km, mb4.6/15, Error ellipse: s-maj=10.9km s-min=6.1km az=193.0*

DJA ***14*** *10:13:50.1±0.2, 0°S±2°×12°8E±°, h10km, M4.5/17, mb4.5/10, MLv4.5/17*

ISC 14 10:13:48.6±0.5, 0°46S±0°05×127°77E±0°07, h10km, n55, σ1ᵍ72/57, mb4.4/15, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.28**	**342**			**Pn**	**10 14 13.0**	**+0.4**
TNTI	**Ternate**	**1.28**	**342**	P		**Pn**	**10 14 13.1**	**+0.5**
TNTI				S		**Sb**	**10 14 30.2**	**+0.8**
SANI	**Sanana**	**2.38**	**228**	P		**Pn**	**10 14 26.5**	**-1.2**
NLAI	**Namlea**	**2.84**	**194**	P		**Pn**	**10 14 34.6**	**+0.5**
MSAI	**Masohi**	**3.10**	**158**	P		**Pn**	**10 14 39.7**	**+2.1**
MSAI				S		**Sn**	**10 15 17.1**	**+2.4**
AAI	**Ambon**	**3.24**	**172**	P		**Pn**	**10 14 41.4**	**+1.9**
SWI	**Sorong**	**3.52**	**97**	P		**Pn**	**10 14 46.2**	**+2.9**
SWI				S		**Sn**	**10 15 26.1**	**+1.1**
KMSI	**Cibinong**	**3.92**	**285**	P		**Pn**	**10 14 49.8**	**+0.9**
BNDI	**Bandanaira**	**4.57**	**152**	P		**Pn**	**10 14 58.8**	**+1.0**
SGSI	**Sangihe**	**4.68**	**331**	P		**Pb**	**10 15 07.0**	**-3.9**
FAKI	**Fak Fak**	**5.10**	**119**	Pn		**Pn**	**10 15 05.2**	**0.0**
FAKI	**Fak Fak**	**5.10**	**119**	P		**Pn**	**10 15 05.2**	**0.0**
	0.8nm53nm,1.3s							
MRSI	**Marisa**	**5.90**	**279**	P		**Pn**	**10 15 19.5**	**+3.4**
	0.3nm45nm,0.5s							
APSI	**Ampana**	**6.13**	**266**	P		**Pn**	**10 15 18.6**	**-0.8**
TOLI2	**Tolitoli**	**7.16**	**283**	Pn		**Pn**	**10 15 35.0**	**+1.5**
BBSI	**Bau Bau**	**7.20**	**226**	P		**Pn**	**10 15 36.3**	**+2.2**
	29nm,1.0s							
MPSI	**Mapaga**	**7.91**	**276**	P		**Pn**	**10 15 46.4**	**+2.7**
	0.3nm20nm,0.7s							
PCI	**Palu**	**7.94**	**267**	P		**Pn**	**10 15 48.4**	**+4.2**
TTSI	**Tana Toraja**	**8.35**	**252**	P		**Pn**	**10 15 52.1**	**+2.3**
	27nm,0.6s							
SPSI	**Sidrap Palu**	**8.72**	**246**	P		**Pn**	**10 15 56.3**	**+1.5**
BKSI	**Bulukumba**	**9.04**	**238**	P		**Pn**	**10 16 01.6**	**+2.4**
	20nm,0.6s							
KAPI	**Kappang**	**9.20**	**240**	Pn		**Pn**	**10 16 04.2**	**+2.8**
	1.6nm,0.3s,baz=86,slow=14,SNR=5.0							
	7.1nm,0.5s							
BSSI	**Bau Bau, Buton**	**9.20**	**232**	P		**Pn**	**10 16 03.4**	**+1.9**
	42nm,1.0s							
EDFI	**Ende, Flores**	**10.22**	**216**	P		**Pn**	**10 16 17.4**	**+1.8**
MTN	**Manton Dam**	**12.75**	**165**	Pn		**Pn**	**10 16 49.0**	**-1.1**
KNRA	**Kununurra**	**15.16**	**176**	Pn		**Pn**	**10 17 21.5**	**-1.4**
KNRA				IAmb		IAmb	10 17 40.4	
	comp=Z,17nm,1.1s							
COEN	**Coen**	**20.31**	**132**	P		Pn	10 18 26.0	-1.0
COEN				IAmb		IAmb	10 18 26.7	
	comp=Z,24nm,1.1s							
WRA	**Warramunga Arr**	**20.41**	**162**	P		**P**	**10 18 23.9**	**-2.1**
	comp=Z,1.7nm,0.6s,baz=338,slow=11,SNR=4.9							
	comp=Z,1.7nm,0.6s							
WR8	**Warramunga Arr**	**20.47**	**162**	P		**P**	**10 18 24.7**	**-1.9**
AS31	**Alice Springs**	**23.83**	**166**	P		**P**	**10 19 00.5**	**-1.6**
ASAR	**Alice Springs**	**23.83**	**166**	P		**P**	**10 19 00.8**	**-1.3**
	comp=Z,9.1nm,0.8s,baz=343,slow=11,SNR=17							
	comp=Z,9.1nm,0.8s							
YULB	**Yu-li**	**24.53**	**346**	P		**P**	**10 19 07.2**	**-1.3**
YULB				IAmb		IAmb	10 19 40.0	
	comp=Z,8.6nm,1.0s							
TPUB	**Ta-pu**	**24.61**	**344**	P		**P**	**10 19 09.2**	**-0.1**
TPUB				IAmb		IAmb	10 19 21.4	
	comp=Z,15nm,0.7s							
FORT	**Forrest**	**30.16**	**180**	P		**P**	**10 19 58.5**	**-0.5**
FORT				IAmb		IAmb	10 20 00.3	
	comp=Z,9.5nm,0.9s							
NJ2	**Nanjing**	**33.41**	**346**	*eP*		**P**	**10 20 29.8**	**+2.3**
NJ2				pmax		pmax		
	comp=Z,15nm,0.6s							
STKA	**Stephens Creek**	**33.88**	**159**	P		**P**	**10 20 31.3**	**-0.3**
STKA	**Stephens Creek**	**33.88**	**159**	P		**P**	**10 20 31.5**	**-0.1**
	comp=Z,8.5nm,0.8s,baz=334,slow=9.3,SNR=6.4							
	comp=Z,8.5nm,0.8s							
PZH	**PanZhiHua**	**36.71**	**319**	P		**P**	**10 20 59.5**	**+3.3**
MJAR	**Matsushiro Arr**	**38.07**	**14**	P		**P**	**10 21 08.2**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=189,slow=9.2,SNR=2.1							
	comp=Z,0.5nm,0.5s							
CAN	**Canberra**	**39.94**	**153**	P		**P**	**10 21 23.2**	**0.0**
JMM	**Marumori**	**39.98**	**16**	P		**P**	**10 21 24.6**	**+1.2**
JMM				IAmb		IAmb	10 21 49.7	
	comp=Z,26nm,1.1s							
LBZ	**Lake Benmore**	**57.67**	**145**	P		**P**	**10 23 38.9**	**-0.5**
PETK	**Petropavlovsk-**	**58.92**	**21**	P		**P**	**10 23 48.6**	**+0.7**
TARG	**Taragay, Kyrgy**	**61.56**	**319**	P		**P**	**10 24 07.1**	**+0.4**
TARG				IAmb		IAmb	10 24 21.4	
	comp=Z,3.0nm,1.0s							
MKAR	**Makanchi Array**	**61.58**	**326**	P		**P**	**10 24 06.6**	**+0.4**
MKAR	**Makanchi Array**	**61.58**	**326**	P		**P**	**10 24 06.4**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=122,slow=8.7,SNR=6.7							
	comp=Z,0.7nm,0.5s							
ZALV	**Zalesovo Beam**	**64.77**	**334**	P		**P**	**10 24 27.8**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=127,slow=9.2,SNR=1.3							
	comp=Z,0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**65.81**	**328**	P		**P**	**10 24 33.5**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=126,slow=6.3,SNR=6.0							
	comp=Z,1.1nm,0.8s							
BVAR	**Borovoye Array**	**71.38**	**328**	P		**P**	**10 25 08.8**	**0.0**
	comp=Z,0.5nm,0.3s,baz=126,slow=7.4,SNR=2.6							
	comp=Z,0.5nm,0.3s							
ABKAR	**Akbulak array**	**76.03**	**321**	P		**P**	**10 25 35.5**	**-0.7**
SBA	**Scott Base**	**80.08**	**172**	P		**P**	**10 25 57.6**	**-0.5**
K24K	**Donnelly Dome**	**88.83**	**26**	P		**P**	**10 26 42.9**	**+0.2**
K24K				IAmb		IAmb	10 26 58.7	
	comp=Z,6.0nm,0.7s							
PAX	**Paxson**	**88.92**	**27**	P		**P**	**10 26 41.0**	**-2.3**
QSPA	**South Pole Qui**	**89.48**	**180**	P		**P**	**10 26 44.9**	**-0.9**
U33K	**Whale Pass**	**95.47**	**34**	P		**P**	**10 27 12.7**	**-0.8**
U33K				IAmb		IAmb	10 27 19.6	
	comp=Z,2.8nm,1.1s							

TAP 14 10:16:33.6, 23°10N×120°51E, h16km, ML1.7, 1C, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.07**	**104**	*eP*		Pg	10 16 36.2	-0.6
SGST				*eS*		Sg	10 16 38.8	-0.1
CHN1	**Nanshi**	**0.09**	**13**	P		Pg	10 16 37.2	+0.3
CHN1				*i* S		Sg	10 16 40.2	+1.0
SNST	**Tainan City**	**0.12**	**356**	P		Pb	10 16 37.8	+0.2
SNST				S		Sb	10 16 40.6	+0.5
CHN3	**Shinhua**	**0.13**	**260**	*i* P		Pb	10 16 38.2	+0.5
CHN3				S		Sb	10 16 41.4	+1.0
SHHT	**Tainan City**	**0.17**	**242**	*i* P		Pb	10 16 38.8	+0.5
SHHT				*eS*		Sb	10 16 41.4	0.0
WTP	**Ta-pu**	**0.18**	**34**	*i* P		Pb	10 16 38.8	+0.3
WTP				S		Sb	10 16 43.0	+1.2
SCST	**Cishan**	**0.21**	**183**	*eP*		Pb	10 16 39.6	+0.6
SCST				*eS*		Sb	10 16 44.4	+1.7
TPUB	**Ta-pu**	**0.23**	**29**	*eP*		Pb	10 16 39.5	+0.1
TPUB				S		Sb	10 16 44.2	+0.9
STYT	**Tauyuan**	**0.24**	**74**	P		Pb	10 16 39.9	+0.3
STYT				S		Sb	10 16 44.7	+1.1
STYH	**Taoyuan**	**0.26**	**74**	*i* P		Pb	10 16 40.5	+0.6
STYH				*i* S		Sb	10 16 45.1	+1.1
CHN4	**Tsaushan**	**0.26**	**17**	*i* P		Pb	10 16 40.2	+0.3
CHN4				S		Sb	10 16 45.2	+0.9
TWM1	**Shoushan**	**0.28**	**196**	*eP*		Pn	10 16 42.0	-1.1
ICHU	**Yijhu**	**0.33**	**321**	P		Pb	10 16 41.6	+0.5
ICHU				*eS*		Sb	10 16 47.5	+1.2
WCKO	**Fanlu**	**0.35**	**15**	P		Pb	10 16 41.5	0.0
WCKO				*eS*		Sb	10 16 47.4	+0.6
SSD	**Sandimen**	**0.37**	**162**	*eP*		Pb	10 16 41.7	0.0
SSD				S		Sb	10 16 48.1	+0.8
TSCK	**Chigu Township**	**0.39**	**277**	*eP*		Pb	10 16 42.2	+0.1
TSCK				*eS*		Sb	10 16 49.0	+1.2
TSMG	**Majia**	**0.41**	**162**	P		Pb	10 16 42.6	+0.2
TSMG				S		Sb	10 16 49.3	+0.8
ELDTW	**Lidau**	**0.48**	**79**	*i* P		Pb	10 16 44.1	+0.5
ELDTW				S		Sb	10 16 51.5	+1.0
ALS	**Alishan**	**0.49**	**34**	P		Pb	10 16 44.0	0.0
ALS				S		Sb	10 16 52.1	+1.0
MASBT	**Mashibuluo**	**0.50**	**167**	*i* P		Pb	10 16 44.4	+0.4
MASBT				S		Sb	10 16 51.9	+0.9
CHN5	**Tsauling**	**0.52**	**18**	*eP*		Pb	10 16 44.2	-0.2
CHN5				*eS*		Sn	10 16 53.4	-1.6
YUS	**Yu-Shan**	**0.56**	**46**	P		Pb	10 16 45.7	+0.4
YUS				*eS*		Sb	10 16 54.9	+1.5
TWG	**Pinlang**	**0.59**	**118**	P		Pn	10 16 46.6	-0.7
TWG				S		Sn	10 16 55.2	-1.3
TWGBT	**Beinan**	**0.60**	**118**	*eP*		Pn	10 16 46.7	-0.7
TWGBT				*eS*		Sn	10 16 56.8	0.0
EHD	**Haiduan**	**0.65**	**85**	P		Pb	10 16 46.6	+0.1
EHD				S		Sn	10 16 56.8	-1.2
WHYT	**Xinyi Township**	**0.67**	**28**	P		Pb	10 16 47.7	+0.7
WHYT				S		Sn	10 16 57.4	-1.3
SCZT	**Fangliau**	**0.73**	**172**	*eP*		Pn	10 16 49.1	-0.1
SCZT				*eS*		Sn	10 17 00.1	+0.1
TWF1	**Yuli**	**0.77**	**71**	*eP*		Pg	10 16 49.0	+0.4
TWF1				*eS*		Sn	10 16 60.0	-1.0
EAST	**Anshuo**	**0.78**	**156**	P		Pg	10 16 49.0	+0.2
EAST				*i* S		Sn	10 17 00.6	-0.7
YULB	**Yu-li**	**0.78**	**68**	P		Pg	10 16 49.1	+0.3
YULB				*eS*		Sn	10 17 00.9	-0.5
SSLB	**Suanglung**	**0.80**	**31**	P		Pg	10 16 49.2	0.0
SSLB				S		Sn	10 17 00.9	-0.9
EHY	**Hungye**	**0.85**	**61**	P		Pg	10 16 50.3	+0.2
EHY				*eS*		Sn	10 17 02.4	-0.6
HGSD	**Ruisui**	**0.93**	**65**	*eP*		Pn	10 16 53.4	+1.5
VCHM	**Qimei**	**1.00**	**276**	*eP*		Pb	10 16 52.3	-0.2
VCHM				*eS*		Sg	10 17 05.8	-0.2

IDC ***14*** *10:22:05.8±1.2, 0°87S×128°05E, h0km, mb3.6/4, mbtmp3.6/6, ML3.6/2, Error ellipse: s-maj=63.1km s-min=21.2km az=79.0*

ISC 14 10:22:06.9±1.1, 0°9S±0°1×128°2E±0°4, h10km, n7, σ0ᵍ22/6, mb3.6/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.33**	**244**	Pn		Pn	10 24 24.7	+3.1
	1.2nm,0.3s,baz=70,slow=14,SNR=4.2							
FITZ	**Fitzroy Crossi**	**17.26**	**188**	P		**P**	**10 26 09.5**	**-0.2**
	0.2nm,0.3s,baz=11,slow=10,SNR=1.7							
	2.1nm,0.7s							
WRA	**Warramunga Arr**	**19.86**	**163**	P		**Pn**	**10 26 40.0**	**+0.1**
	0.2nm,0.3s,baz=340,slow=12,SNR=3.3							
	0.5nm,0.5s							
ASAR	**Alice Springs**	**23.30**	**167**	P		**P**	**10 27 15.3**	**+0.1**
	0.7nm,0.5s,baz=342,slow=10,SNR=5.0							
	0.7nm,0.5s							
MJAR	**Matsushiro Arr**	**38.41**	**13**	P		**P**	**10 29 28.6**	**-0.1**
	1.7nm,0.9s,baz=186,slow=9.3,SNR=5.4							
	1.7nm,0.9s							
MKAR	**Makanchi Array**	**62.16**	**326**	P		**P**	**10 32 28.7**	**+0.2**
	0.2nm,0.4s,baz=114,slow=9.3,SNR=2.0							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**66.39**	**328**	P		**P**	**10 32 56.1**	**-0.1**
	0.3nm,0.6s,baz=130,slow=6.2,SNR=1.0							
	0.3nm,0.6s							

IDC ***14*** *10:23:34.1±0.6, 0°85S×128°13E, h0km, mb4.1/17, mbtmp4.1/19, ML4.0/2, Error ellipse: s-maj=31.5km s-min=13.0km az=77.0*

NEIC ***14*** *10:23:36.3±2.5, 0°78S±0°07×128°33E±0°08, h10km±1km, mb4.5/37, Error ellipse: s-maj=14.4km s-min=9.6km az=53.0*

DJA ***14*** *10:23:38.8±1.6, 1°S±3°×12°8E±°, h22km±14km, M4.5/13, mb4.6/6, MLv4.5/13*

ISC 14 10:23:37.3±0.4, 0°81S±0°04×128°20E±0°06, h19km, n90, σ1ᵍ22/95, mb4.4/39, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.78**	**332**			**Pb**	**10 24 08.2**	**-1.2**
TNTI	**Ternate**	**1.78**	**332**	P		**Pb**	**10 24 08.1**	**-1.2**
TNTI				S		**Sg**	**10 24 33.4**	**-1.3**
SANI	**Sanana**	**2.53**	**241**	P		**Pn**	**10 24 16.5**	**-0.9**
MSAI	**Masohi**	**2.62**	**164**	P		**Pb**	**10 24 22.4**	**-1.4**
MSAI				S		**Sn**	**10 24 52.9**	**+2.8**
NLAI	**Namlea**	**2.65**	**204**	P		**Pn**	**10 24 20.0**	**+0.9**
AAI	**Ambon**	**2.86**	**180**	P		**Pn**	**10 24 23.6**	**+1.6**
SWI	**Sorong**	**3.06**	**91**	P		**Pn**	**10 24 25.4**	**+0.7**
BNDI	**Bandanaira**	**4.07**	**155**	P		**Pn**	**10 24 40.5**	**+2.0**
FAKI	**Fak Fak**	**4.56**	**117**	Pn		**Pn**	**10 24 45.2**	**-0.1**
FAKI	**Fak Fak**	**4.56**	**117**	P		**Pn**	**10 24 44.7**	**-0.6**
RKPI	**Ransiki, Papua**	**6.02**	**97**	P		**Pn**	**10 25 07.0**	**+1.6**
	46nm,0.9s							
APSI	**Ampana**	**6.55**	**269**	P		**Pn**	**10 25 13.6**	**+0.9**
BBSI	**Bau Bau**	**7.29**	**230**	P		**Pn**	**10 25 23.8**	**+0.9**
	0.3nm40nm,0.9s							
TOLI2	**Tolitoli**	**7.66**	**284**	Pn		**Pn**	**10 25 30.6**	**+2.6**
TTSI	**Tana Toraja**	**8.66**	**255**	P		**Pn**	**10 25 42.9**	**+1.1**
KAPI	**Kappang**	**9.41**	**243**	Pn		**Pn**	**10 25 54.6**	**+2.6**
KAPI	**Kappang**	**9.41**	**243**	Pn		**Pn**	**10 25 56.0**	**+4.0**
	2.6nm,0.3s,baz=57,slow=18,SNR=7.7							
KAPI				Sn		**Sn**	**10 27 39.0**	**+1.5**
	0.2nm,0.3s,baz=60,slow=20,SNR=1.2							
MTN	**Manton Dam**	**12.31**	**166**	Pn		**Pn**	**10 26 30.8**	**-0.9**
KNRA	**Kununurra**	**14.79**	**178**	Pn		**Pn**	**10 27 03.5**	**-2.0**
SBUM	**Sibu**	**16.30**	**281**	Pn		**Pn**	**10 27 25.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**17.37**	**188**	P		**Pn**	**10 27 36.4**	**-2.4**
	0.2nm,0.3s,baz=7.6,slow=19,SNR=1.8							
	6.2nm,1.1s							
KSM	**Kuching**	**18.03**	**277**	P		**P**	**10 27 47.3**	**-0.1**
WB0	**Warramunga Arr**	**19.80**	**163**	P		**P**	**10 28 05.3**	**-1.4**
WRA	**Warramunga Arr**	**19.95**	**163**	P		**P**	**10 28 06.2**	**-2.2**
	0.6nm,0.3s,baz=341,slow=12,SNR=21							
	1.9nm,0.5s							
MBWA	**Marble Bar**	**21.85**	**202**	P		**P**	**10 28 28.5**	**-0.4**
MBWA				IAmb		IAmb	10 28 47.2	
	comp=Z,38nm,1.4s							
AS31	**Alice Springs**	**23.39**	**167**	P		**P**	**10 28 43.7**	**-1.4**
ASAR	**Alice Springs**	**23.39**	**167**	P		**P**	**10 28 44.6**	**-0.5**
ASAR	**Alice Springs**	**23.39**	**167**	P		**P**	**10 28 44.2**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=347,slow=12,SNR=13							
	comp=Z,2.2nm,0.5s							
TPUB	**Ta-pu**	**25.07**	**343**	P		**P**	**10 29 01.1**	**+0.3**
GIRL	**Giralia**	**25.61**	**211**	P		**P**	**10 29 05.4**	**-0.2**
RPSI	**Rantau Prapat**	**29.47**	**277**	P		**P**	**10 29 40.2**	**-0.3**
RPSI				IAmb		IAmb	10 29 42.0	
	comp=Z,11nm,0.9s							
STKA	**Stephens Creek**	**33.40**	**159**	P		**P**	**10 30 14.3**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=345,slow=12,SNR=3.7							
	comp=Z,3.2nm,0.8s							
NJ2	**Nanjing**	**33.86**	**346**	*eP*		**P**	**10 30 19.9**	**+1.1**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
CM31	**Chiang Mai Arr**	**34.55**	**305**	P		**P**	**10 30 26.2**	**+1.2**
CM31				IAmb		IAmb	10 30 27.6	
	comp=Z,8.7nm,1.3s							
CMAR	**Chiang Mai Arr**	**34.55**	**305**	P		**P**	**10 30 25.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**34.55**	**305**	P		**P**	**10 30 24.8**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=124,slow=9.0,SNR=12							
	comp=Z,1.6nm,0.8s							
CHTO	**Chiang Mai**	**34.73**	**306**	P		**P**	**10 30 26.6**	**0.0**
CHTO				IAmb		IAmb	10 30 28.5	
	comp=Z,5.1nm,0.8s							
ENH	**Enshi**	**35.68**	**332**	P		**P**	**10 30 34.3**	**-0.3**
PZH	**PanZhiHua**	**37.25**	**319**	P		**P**	**10 30 50.9**	**+2.7**
KSAR	**Wonju Array Be**	**38.06**	**360**	P		**P**	**10 30 54.3**	**-0.4**
KSRS	**Korea Array**	**38.07**	**360**	P		**P**	**10 30 55.5**	**+0.8**
	comp=Z,1.5nm,0.9s,baz=178,slow=9.7,SNR=4.2							
	comp=Z,1.5nm,0.9s							
MJAR	**Matsushiro Arr**	**38.31**	**13**	P		**P**	**10 30 56.3**	**-0.6**
MJAR	**Matsushiro Arr**	**38.31**	**13**	P		**P**	**10 30 55.6**	**-1.2**
	comp=Z,3.7nm,0.8s,baz=188,slow=9.4,SNR=15							
	comp=Z,3.7nm,0.8s							
MJB9	**Matsu-Tunnel**	**38.31**	**13**	P		**P**	**10

G26K	**Porcupine Rive**	**89.96**	**23**	P	**P**	**10 36 35.5 +0.4**
J26L	**Joseph Creek**	**89.96**	**26**	P	**P**	**10 36 35.0 -0.3**
J26L				IAmb	IAmb	10 36 36.8
	comp=Z,1.6nm,0.7s					
I28M	**Miner Creek**	**91.51**	**25**	P	**P**	**10 36 42.9 +0.4**
I28M				IAmb	IAmb	10 36 44.3
	comp=Z,2.8nm,0.7s					

IDC ***14*** *10:26:55.3±0.3,0.˙62S×127.˙54E, h0km, mb5.1/39, mbtmp5.1/42, ML5.0/3, MS5.5/13, Error ellipse: s-maj=15.0km s-min=6.7km az=75.0*

MOS ***14*** *10:26:55.8±1.1,0.˙52S×127.˙68E, h10km, mb5.6/82, MS6.0/4, Error ellipse: s-maj=7.5km s-min=4.4km az=112.3*

NEIC ***14*** *10:26:58,0.˙59S×127.˙71E, h12km, Moment Tensor Solution. Duration: 4s3 Moment tensor: Scale 10^{17}Nm; M_{rr}=5.48; $M_{\theta\theta}$=1.95; $M_{\phi\phi}$=3.53; $M_{r\theta}$=1.51; $M_{\theta\phi}$=1.79; $M_{r\phi}$=1.19; Fault plane solution: $M_0$5.48000×10^{17} NP1:ϕ_s28.39000°, δ35.31000°, λ-98.51000°. NP2:ϕ_s218.79000°, δ55.13000°, λ-84.01000°. Principal axes: T 5.0151, Plg10.0000°, Azm304.0000°; N 0.8365, Plg5.0000°, Azm35.0000°; P -5.8516, Plg79.0000°, Azm151.0000°;*

DJA ***14*** *10:26:58.5±0.1,1˚S±1˚×12˚8E±˚, h10km, M6.0/84, mb5.7/84, mB6.3/42, MLv5.7/25, Mw(mB)6.0/42, MwMwp4.7/1, Mwp5.1/1*

NEIC ***14*** *10:26:58, 0.˙49S×127.˙81E, h12km*

NEIC ***14*** *10:26:58.1±1.7, 0.˙48S±0.˙05×127.˙85E±0.˙07, h10km±1km, mb5.7/168, Ms_20 6.2/76, Mww5.8/14, Error ellipse: s-maj=11.7km s-min=8.5km az=67.0*

ISC 14 10:26:59.1±0.4, 0.˙58S±0.˙03×127.˙71E±0.˙04, h18km±1km, h19km:pP-P, n993, σ1§46/1008, mb5.6/232, MS6.2/56, 27C-3D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.38**	**346**		**Pn**	**10 27 22.6**	**-0.8**
TNTI	**Ternate**	**1.38**	**346**	P	**Pn**	**10 27 23.3**	**-0.2**
TNTI	**Ternate**	**1.38**	**346**	S	**Sg**	**10 27 44.1**	**+0.2**
TNTI	**Ternate**	**1.38**	**346**	P	**Pn**	**10 27 22.4**	**-1.1**
SANI	**Sanana**	**2.26**	**230**	P	**Pn**	**10 27 36.0**	**+0.5**
SANI	**Sanana**	**2.26**	**230**	P	**Pn**	**10 27 34.8**	**-0.7**
NLAI	**Namlea**	**2.71**	**193**	P	**Pn**	**10 27 48.2**	**+1.0**
MSAI	**Masohi**	**3.01**	**156**	P	**Pn**	**10 27 46.6**	**+0.7**
AAI	**Ambon**	**3.13**	**171**	P	**Pn**	**10 27 48.6**	**+1.1**
SWI	**Sorong**	**3.56**	**95**	P	**Pn**	**10 27 52.4**	**-1.1**
KMSI	**Cibinong**	**3.90**	**287**	P	**Pn**	**10 28 00.4**	**+2.3**
BNDI	**Bandanaira**	**4.49**	**151**	P	**Pn**	**10 28 07.0**	**+0.7**
BNDI	**Bandanaira**	**4.49**	**151**	S	**Sn**	**10 29 00.2**	**+2.1**
BNDI	**Bandanaira**	**4.49**	**151**	P	**Pn**	**10 28 06.3**	**0.0**
SGSI	**Sangihe**	**4.76**	**333**	P	**Pn**	**10 28 11.3**	**+1.3**
FAKI	**Fak Fak**	**5.10**	**117**		**Pn**	**10 28 12.4**	**-2.3**
FAKI	**Fak Fak**	**5.10**	**117**	P	**Pn**	**10 28 12.7**	**-2.0**
FAKI	**Fak Fak**	**5.10**	**117**	P	**Pn**	**10 28 12.4**	**-2.3**
	5.3nm753nm,0.9s						
MRSI	**Marisa**	**5.86**	**280**	P	**Pn**	**10 28 27.6**	**+2.5**
	3.0nm1µm,0.9s						
APSI	**Ampana**	**6.07**	**267**	P	**Pn**	**10 28 29.8**	**+1.8**
KDI	**Kendari**	**6.09**	**236**	P	**Pn**	**10 28 30.8**	**+2.5**
RKPI	**Ransiki, Papua**	**6.54**	**98**	P	**Pn**	**10 28 33.6**	**-0.8**
	3.9nm719nm,0.9s						
KMPI	**Kaimana, Papua**	**6.73**	**117**	P	**Pn**	**10 28 35.4**	**-1.7**
	5.3nm802nm,0.7s						
BBSI	**Bau Bau**	**7.08**	**226**	P	**Pn**	**10 28 45.7**	**+3.8**
	2.5nm806nm,1.3s						
TOLI2	**Tolitoli**	**7.13**	**284**		**Pn**	**10 28 44.0**	**+1.5**
TOLI2	**Tolitoli**	**7.13**	**284**	P	**Pn**	**10 28 44.5**	**+2.0**
MPSI	**Mapaga**	**7.86**	**277**	P	**Pn**	**10 28 54.0**	**+1.4**
	2.0nm529nm,1.4s						
PCI	**Palu**	**7.88**	**268**	P	**Pn**	**10 28 54.5**	**+1.6**
	13µm582nm,1.0s						
DAV	**Davao City (W)**	**7.89**	**344**	Pn	**Pn**	**10 28 51.5**	**-1.4**
DAV	**Davao City (W)**	**7.89**	**344**	Pn	**Pn**	**10 28 57.5**	**+4.5**
	27nm,0.3s,baz=243,slow=4.5,SNR=4.8						
DAV				LR	LR	10 31 22.3	
	comp=Z,17µm,18.6s,baz=186,slow=34						
SAUI	**Saumlaki**	**8.18**	**154**		**Pn**	**10 28 57.4**	**+0.4**
SAUI	**Saumlaki**	**8.18**	**154**	P	**Pn**	**10 28 58.2**	**+1.2**
SAUI	**Saumlaki**	**8.18**	**154**	P	**Pn**	**10 28 57.6**	**+0.6**
TTSI	**Tana Toraja**	**8.26**	**253**	P	**Pn**	**10 28 59.7**	**+1.7**
	9µm834nm,1.0s						
BAKI	**Biak**	**8.42**	**94**	P	**Pn**	**10 28 59.3**	**-1.0**
	284nm,1.4s						
BNSI	**Bone**	**8.49**	**243**	P	**Pn**	**10 29 03.4**	**+2.1**
	506nm,0.8s						
SPSI	**Sidrap Palu**	**8.62**	**247**	P	**Pn**	**10 29 05.6**	**+2.6**
BKSI	**Bulukumba**	**8.92**	**238**	P	**Pn**	**10 29 09.9**	**+2.7**
	14µm834nm,0.9s						
BSSI	**Bau Bau Buton**	**9.08**	**232**	P	**Pn**	**10 29 12.5**	**+3.1**
	839nm,0.8s						
KAPI	**Kappang**	**9.09**	**241**		**Pn**	**10 29 12.2**	**+2.8**
KAPI	**Kappang**	**9.09**	**241**	Pn	**Pn**	**10 29 12.6**	**+3.1**
	28nm,0.3s,baz=60,slow=6.7,SNR=82						
KAPI				Sn	**Sn**	**10 30 52.0**	**+0.7**
	baz=65,slow=19						
KAPI	**Kappang**	**9.09**	**241**	P	**Pn**	**10 29 12.9**	**+3.5**
KAPI	**Kappang**	**9.09**	**241**	P	**Pn**	**10 29 12.2**	**+2.8**
MMRI	**Maumere**	**9.69**	**214**		**Pn**	**10 29 20.4**	**+2.7**
MMRI	**Maumere**	**9.69**	**214**	P	**Pn**	**10 29 20.3**	**+2.7**
	556nm,1.8s						
SOEI	**Soe**	**9.74**	**200**		**Pn**	**10 29 20.6**	**+2.1**
SOEI	**Soe**	**9.74**	**200**	P	**Pn**	**10 29 18.2**	**-0.3**
SOEI	**Soe**	**9.74**	**200**	P	**Pn**	**10 29 20.7**	**+2.2**
EDFI	**Ende, Flores**	**10.09**	**216**	P	**Pn**	**10 29 26.6**	**+3.3**
	376nm,1.8s						
BATI	**Baumata**	**10.38**	**203**	Pn	**Pn**	**10 29 30.5**	**+3.3**
	3.3nm,0.3s,baz=61,slow=0.8,SNR=8.4						
BATI				LR	LR	10 33 43.8	
	comp=Z,60µm,19.5s,baz=10.0,slow=40						
BATI	**Baumata**	**10.38**	**203**	P	**Pn**	**10 29 29.5**	**+2.3**
	356nm,1.1s						
BKB	**Balikpapan**	**10.83**	**266**	P	**Pn**	**10 29 37.0**	**+3.6**
	333nm,0.7s						
SMPI	**Sarmi**	**11.09**	**97**	P	**Pn**	**10 29 36.3**	**-0.6**
WSI	**Waingapu**	**11.66**	**219**	P	**Pn**	**10 29 47.4**	**+2.7**
	1µm,2.3s						
BASI	**Baing, Sumba**	**11.92**	**216**	P	**Pn**	**10 29 50.5**	**+2.2**
	674nm,2.0s						
DRS	**Darwin Rock St**	**12.20**	**165**	P	**Pn**	**10 29 50.4**	**-1.6**
WBSI	**Waikabubak, Su**	**12.23**	**222**	P	**Pn**	**10 29 54.4**	**+1.8**
	309nm,0.9s						
GENI	**Genyem**	**12.62**	**99**	P	**Pn**	**10 29 58.7**	**+0.9**
GENI	**Genyem**	**12.62**	**99**	P	**Pn**	**10 29 57.2**	**-0.6**
	384nm,1.6s						
MTN	**Manton Dam**	**12.65**	**165**		**Pn**	**10 29 56.0**	**-2.3**
MTN	**Manton Dam**	**12.65**	**165**	P	**Pn**	**10 29 55.1**	**-3.2**
MTN	**Manton Dam**	**12.65**	**165**	P	**Pn**	**10 29 55.9**	**-2.4**
PLAI	**Plampang**	**12.85**	**230**	P	**Pn**	**10 30 01.3**	**+0.4**
PLAI	**Plampang**	**12.85**	**230**	P	**Pn**	**10 30 03.3**	**+2.4**
	224nm,1.9s						
KDU	**Kakadu**	**12.93**	**159**	P	**Pn**	**10 29 57.6**	**-4.5**
JAY	**Jayapura**	**13.13**	**99**	Pn	**Pn**	**10 30 07.0**	**+2.1**
	2.0nm,0.3s,baz=270,slow=20,SNR=8.1						
JAY				LR	LR	10 35 59.2	
	comp=Z,29µm,20.0s,baz=273,slow=41						
	20nm,0.7s						
JAY	**Jayapura**	**13.13**	**99**	P	**Pn**	**10 30 04.9**	**0.0**
JAY	**Jayapura**	**13.13**	**99**	P	**Pn**	**10 30 07.0**	**+2.1**
KKM	**Kota Kinabalu**	**13.22**	**300**		**Pn**	**10 30 08.4**	**+2.2**
KKM	**Kota Kinabalu**	**13.22**	**300**	P	**Pn**	**10 30 07.2**	**+1.0**
TWSI	**Taliwang, Sumb**	**13.49**	**233**	P	**Pn**	**10 30 12.5**	**+2.8**
	192nm,1.3s						
SRBI	**Singaraja**	**14.52**	**239**	P	**Pn**	**10 30 26.3**	**+2.5**
	180nm,1.3s						
KNRA	**Kununurra**	**15.04**	**176**	Pn	**Pn**	**10 30 28.7**	**-2.2**
KNRA				IAmb	IAmb	10 30 39.3	
	comp=Z,223nm,0.8s						
KMMI	**Kalianget**	**15.14**	**245**	P	**P**	**10 30 36.6**	**-0.6**
	comp=Z,446nm,1.3s						
JAGI	**Jajag, Banyuwa**	**15.62**	**239**	P	**Pn**	**10 30 40.5**	**+2.0**
JAGI	**Jajag, Banyuwa**	**15.62**	**239**	P	**Pn**	**10 30 38.7**	**+0.2**
JAGI	**Jajag, Banyuwa**	**15.62**	**239**	P	**Pn**	**10 30 41.3**	**+2.8**
	comp=Z,8µmcomp=Z,464nm,1.2s						
SBUM	**Sibu**	**15.77**	**281**	P	**Pn**	**10 30 40.5**	**0.0**
BWJI	**Bawean**	**15.91**	**250**	P	**Pn**	**10 30 45.8**	**+3.6**
TGY	**Tagaytay City**	**16.05**	**336**	Pn	**Pn**	**10 30 43.0**	**-1.0**
	comp=Z,27nm,0.3s,baz=164,slow=7.4,SNR=1.6						
	comp=Z,100nm,0.3s						
GMJI	**Gumukmas**	**16.14**	**241**	P	**Pn**	**10 30 46.9**	**+1.7**
	comp=Z,562nm,1.7s						
STKI	**Sintang**	**16.24**	**272**	P	**Pn**	**10 30 46.8**	**+0.3**
GRJI	**Gresik**	**16.44**	**247**	P	**Pn**	**10 30 49.8**	**+0.7**
	comp=Z,11µmcomp=Z,542nm,1.4s						
TBJI	**Tambak Boyo**	**16.99**	**248**	P	**P**	**10 31 00.5**	**+2.7**
	comp=Z,20µmcomp=Z,985nm,1.4s						
KSM	**Kuching**	**17.52**	**277**	P	**Pn**	**10 31 03.7**	**+1.1**
KSM	**Kuching**	**17.52**	**277**	P	**Pn**	**10 31 03.5**	**+0.9**
FITZ	**Fitzroy Crossi**	**17.53**	**187**	P	**Pn**	**10 31 02.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**17.53**	**187**	P	**Pn**	**10 31 00.7**	**-2.0**
	comp=Z,3.9nm,0.3s,baz=14,slow=16,SNR=28						
FITZ				S	**Sn**	**10 34 16.8**	**-0.8**
	comp=Z,14nm,0.9s,baz=315,slow=10.0,SNR=1.4						
FITZ				LR	LR	10 38 45.1	
	comp=Z,12µm,18.0s,baz=12,slow=41						
	comp=Z,50nm,0.8s						
FITZ	**Fitzroy Crossi**	**17.53**	**187**	P	**Pn**	**10 31 02.5**	**-0.2**
NGJI	**Ngawi**	**17.55**	**247**	P	**P**	**10 31 06.0**	**+2.0**
	comp=Z,26µmcomp=Z,500nm,1.4s						
PCJI	**Pacitan**	**18.13**	**245**	P	**Pn**	**10 31 11.9**	**+1.8**
	comp=Z,21µmcomp=Z,708nm,1.7s						
WOJI	**Wonogiri, Jawa**	**18.22**	**246**	P	**P**	**10 31 14.0**	**+2.6**
	comp=Z,23µmcomp=Z,707nm,2.1s						
SMRI	**Semarang**	**18.38**	**249**	P	**Pn**	**10 31 15.8**	**+2.6**
SMRI	**Semarang**	**18.38**	**249**	P	**Pn**	**10 31 16.3**	**+3.0**
	comp=Z,1µmcomp=Z,208nm,0.9s						
UGM	**Wanagama**	**18.61**	**246**	P	**Pn**	**10 31 19.3**	**+3.3**
UGM				IAmb	IAmb	10 31 29.3	
	comp=Z,475nm,1.3s						
UGM	**Wanagama**	**18.61**	**246**	P	**Pn**	**10 31 19.1**	**+3.0**
MANU	**Manus Island**	**19.71**	**94**	P	**P**	**10 31 25.0**	**-2.7**
TPI	**Tanjungpandan**	**20.16**	**264**	P	**P**	**10 31 34.5**	**+1.8**
WB0	**Warramunga Arr**	**20.17**	**161**	P	**P**	**10 31 30.0**	**-2.7**
JCJI	**Jatiwangi**	**20.26**	**253**	P	**P**	**10 31 36.0**	**+2.2**
	comp=Z,24µmcomp=Z,986nm,1.5s						
COEN	**Coen**	**20.28**	**132**	P	**P**	**10 31 32.5**	**-1.4**
COEN				IAmb	IAmb	10 31 38.9	
	comp=Z,645nm,1.4s						
COEN	**Coen**	**20.28**	**132**	P	**P**	**10 31 33.4**	**-0.5**
WRAB	**Tennant Creek**	**20.31**	**162**	P	**P**	**10 31 31.5**	**-2.8**
WRAB	**Tennant Creek**	**20.31**	**162**	*i* P	**P**	**10 31 33.5**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,143nm,1.2s						
WRA	**Warramunga Arr**	**20.31**	**162**	P	**P**	**10 31 30.9**	**-3.4**
WRA	**Warramunga Arr**	**20.31**	**162**	P	**P**	**10 31 32.0**	**-2.3**
	comp=Z,40nm,0.7s,baz=342,slow=11,SNR=51						
WRA				S	**S**	**10 35 13.7**	**-7.8**
	comp=Z,14nm,1.1s,baz=344,slow=15,SNR=3.2						
WRA				LR	LR	10 39 58.1	
	comp=Z,19µm,20.4s,baz=340,slow=38						
	comp=Z,40nm,0.7s						
WRA	**Warramunga Arr**	**20.31**	**162**	*i* P	**P**	**10 31 31.8**	**-2.5**
WRA				pmax	pmax		
	comp=Z,40nm,0.6s						
WR8	**Warramunga Arr**	**20.38**	**161**	P	**P**	**10 31 32.6**	**-2.4**
CMJI	**Cimerak**	**20.49**	**249**	P	**P**	**10 31 37.2**	**+1.0**
	comp=Z,11µmcomp=Z,360nm,1.4s						
CMJI				pP	Pn	10 31 40.2	+1.8
	comp=Z,11µmcomp=Z,360nm,1.4s						
LEM	**Lembang**	**20.98**	**252**	P	**P**	**10 31 43.0**	**+1.3**
	comp=Z,252nm,0.8s,baz=61,slow=9.0,SNR=18						
LEM				S	Sn	10 35 43.5	+2.3
	comp=Z,9.0nm,0.3s,baz=127,slow=20,SNR=1.3						
LEM	**Lembang**	**20.98**	**252**	P	**P**	**10 31 44.0**	**+2.3**
	comp=Z,11µmcomp=Z,330nm,1.2s						
BBJI	**Bungbulang**	**21.14**	**251**	P	**P**	**10 31 45.0**	**+1.7**
CNJI	**Cibinong**	**21.58**	**251**	P	**P**	**10 31 50.1**	**+2.1**
	comp=Z,185nm,1.0s						
PPBI	**Pangkal Pinang**	**21.62**	**266**	P	**P**	**10 31 50.2**	**+1.7**
DBJI	**Dramaga**	**21.74**	**254**	P	**P**	**10 31 53.4**	**+3.7**
	comp=Z,14µmcomp=Z,737nm,1.5s						
TNG	**Tangerang**	**21.74**	**255**	P	**P**	**10 31 51.9**	**+2.2**
	comp=Z,22µmcomp=Z,768nm,1.1s						
MBWA	**Marble Bar**	**21.89**	**200**	P	**P**	**10 31 52.0**	**+0.7**
MBWA				IAmb	IAmb	10 31 56.4	
	comp=Z,336nm,1.4s						
MBWA	**Marble Bar**	**21.89**	**200**	P	**P**	**10 31 54.6**	**+3.3**
MBWA	**Marble Bar**	**21.89**	**200**	P	**P**	**10 31 52.0**	**+0.7**
SKJI	**Sukabumi**	**22.04**	**253**	P	**P**	**10 31 54.2**	**+1.2**
	comp=Z,9µmcomp=Z,440nm,1.4s						
GUMO	**Guam**	**22.07**	**50**	P	**P**	**10 31 49.6**	**-3.7**
GUMO				IAmb	IAmb	10 32 08.3	
	comp=Z,408nm,1.4s						
GUMO	**Guam**	**22.07**	**50**	P	**P**	**10 31 54.9**	**+1.6**
	comp=Z,41nm,0.8s,baz=176,slow=19,SNR=5.1						
	comp=Z,41nm,0.8s						
GUMO	**Guam**	**22.07**	**50**	P	**P**	**10 31 55.2**	**+1.9**
GUMO	**Guam**	**22.07**	**50**	P	**P**	**10 31 49.6**	**-3.7**
GUMO				pmax	pmax		
	comp=Z,408nm,1.4s						
SBJI	**Serang**	**22.23**	**255**	P	**P**	**10 31 58.5**	**+3.5**
	comp=Z,979nm,1.7s						
CGJI	**Cibinong**	**22.77**	**254**	P	**P**	**10 32 00.6**	**-0.1**
	comp=Z,10µmcomp=Z,247nm,1.3s						
BLSI	**Bandar Lampung**	**22.93**	**258**	P	**P**	**10 32 03.7**	**+1.3**
	comp=Z,8µmcomp=Z,312nm,1.6s						
QIS	**Mount Isa**	**23.02**	**150**	P	**P**	**10 32 01.9**	**-1.4**
PMBI	**Palembang**	**23.04**	**264**	P	**P**	**10 32 05.7**	**+2.1**
PMBI	**Palembang**	**23.04**	**264**	P	**P**	**10 32 05.7**	**+2.1**
	comp=Z,592nm,1.4s						
KLI	**Kotabumi**	**23.21**	**259**	P	**P**	**10 32 06.5**	**+1.1**
KASI	**Kota Agung**	**23.69**	**258**	P	**P**	**10 32 12.4**	**+2.4**
	comp=Z,368nm,1.1s						
AS31	**Alice Springs**	**23.73**	**166**	P	**P**	**10 32 09.4**	**-1.0**
ASAR	**Alice Springs**	**23.73**	**166**	P	**P**	**10 32 09.2**	**-1.2**
ASAR	**Alice Springs**	**23.73**	**166**	P	**P**	**10 32 08.8**	**-1.5**
	comp=Z,63nm,0.8s,baz=345,slow=12,SNR=113						
ASAR				PcP	**PcP**	**10 35 54.1**	**-0.2**
	comp=Z,4.5nm,0.9s,baz=339,slow=3.1,SNR=5.1						
ASAR				S	**S**	**10 36 22.6**	**-2.3**
	comp=Z,25nm,1.0s,baz=345,slow=17,SNR=8.5						
ASAR				LR	LR	10 42 09.6	
	comp=Z,11µm,21.6s,baz=20,slow=38						
	comp=Z,63nm,0.8s						
AS01	**Alice Springs**	**23.74**	**166**	P	**P**	**10 32 09.2**	**-1.3**
MDSI	**Maura Dua**	**23.82**	**260**	P	**P**	**10 32 13.1**	**+1.8**
	comp=Z,12µmcomp=Z,772nm,1.1s						
MTSU	**Mount Surprise**	**23.89**	**138**	P	**P**	**10 32 12.4**	**+0.4**
MYKOM	**Kota Tinggi**	**23.97**	**276**	P	**P**	**10 32 13.4**	**+0.6**
MYKOM				IAmb	IAmb	10 32 19.8	
	comp=Z,233nm,0.9s						
MYKOM	**Kota Tinggi**	**23.97**	**276**	P	**P**	**10 32 14.9**	**+2.1**
LWLI	**Liwa**	**24.02**	**259**	P	**P**	**10 32 15.7**	**+2.3**
TWGBT	**Beinan**	**24.13**	**345**	P	**P**	**10 32 12.9**	**-1.2**
TWG	**Pinlang**	**24.14**	**345**	P	**P**	**10 32 12.1**	**-2.1**
TWG				IAmb	IAmb	10 32 28.2	
	comp=Z,158nm,1.0s						
LHSI	**Lahat**	**24.38**	**262**	P	**P**	**10 32 18.7**	**+2.2**
	comp=Z,11µmcomp=Z,267nm,0.8s						
YULB	**Yu-li**	**24.63**	**346**	P	**P**	**10 32 17.0**	**-1.7**
YULB	**Yu-li**	**24.63**	**346**	P	**P**	**10 32 19.1**	**+0.4**
TPUB	**Ta-pu**	**24.71**	**344**	P	**P**	**10 32 18.6**	**-0.8**
TPUB	**Ta-pu**	**24.71**	**344**	P	**P**	**10 32 20.6**	**+1.2**
MNAI	**Manna**	**25.01**	**261**	P	**P**	**10 32 23.2**	**+0.9**
MNAI	**Manna**	**25.01**	**261**	P	**P**	**10 32 23.8**	**+1.5**
MNAI	**Manna**	**25.01**	**261**	P	**P**	**10 32 23.4**	**+1.1**
SSLB	**Suanglung**	**25.09**	**345**	P	**P**	**10 32 20.8**	**-2.0**
SSLB				IAmb	IAmb	10 32 40.5	
	comp=Z,212nm,1.0s						
SSLB	**Suanglung**	**25.09**	**345**	P	**P**	**10 32 23.1**	**+0.2**
KSI	**Kapahiang**	**25.28**	**263**	P	**P**	**10 32 26.5**	**+1.7**
YOJ	**Yonaguni jima**	**25.30**	**350**	P	**P**	**10 32 24.4**	**-0.3**
YOJ	**Yonaguni jima**	**25.30**	**350**	P	**P**	**10 32 27.7**	**+3.0**
YOJ	**Yonaguni jima**	**25.30**	**350**	P	**P**	**10 32 24.4**	**-0.3**
YOJ				pmax	pmax		
	comp=Z,634nm,1.4s						
NACB	**Ninganchiao**	**25.31**	**347**	P	**P**	**10 32 22.4**	**-2.3**
NACB	**Ninganchiao**	**25.31**	**347**	P	**P**	**10 32 27.3**	**+2.5**
GIRL	**Giralia**	**25.55**	**210**	P	**P**	**10 32 26.8**	**-0.3**
GIRL				IAmb	IAmb	10 32 30.5	
	comp=Z,142nm,1.0s						
YHNB	**Yeheng**	**25.84**	**347**	P	**P**	**10 32 29.4**	**-0.3**
YHNB	**Yeheng**	**25.84**	**347**	P	**P**	**10 32 31.6**	**+1.9**
TATO	**Taipei**	**26.10**	**347**	P	**P**	**10 32 31.5**	**-0.5**
TATO	**Taipei**	**26.10**	**347**	P	**P**	**10 32 35.2**	**+3.2**
QIZ	**Qiongzhong**	**26.22**	**319**	P	**P**	**10 32 34.8**	**+1.7**
QIZ				sP	**sP**	**10 32 39.8**	**-1.1**
QIZ				S	**S**	**10 37 07.3**	**+2.6**
QIZ				pmax	pmax		
	comp=Z,61nm,1.5s						
QIZ				LR	LR		
	comp=Z,8µm,13.8s						
QIZ				LR	LR		
	comp=Z,6µm,14.0s						
QIZ				LR	LR		
	comp=Z,24µm,21.1s						
QIZ	**Qiongzhong**	**26.22**	**319**	P	**P**	**10 32 35.5**	**+2.4**
CTAO	**Charters Tower**	**26.56**	**138**	P	**P**	**10 32 35.3**	**-1.0**
CTAO				IAmb	IAmb	10 32 43.8	
	comp=Z,335nm,1.4s						
CTAO	**Charters Tower**	**26.56**	**138**	P	**P**	**10 32 37.7**	**+1.4**
CTAO	**Charters Tower**	**26.56**	**138**	P	**P**	**10 32 35.3**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,335nm,1.4s						
BKNI	**Bangkinang**	**26.68**	**272**	P	**P**	**10 32 38.7**	**+1.3**
BKNI	**Bangkinang**	**26.68**	**272**	P	**P**	**10 32 39.6**	**+2.2**
BKNI	**Bangkinang**	**26.68**	**272**	P	**P**	**10 32 39.3**	**+1.9**
	comp=Z,410nm,1.2s						
QZH	**Quanzhou**	**26.86**	**341**	⇑*i* P	**P**	**10 32 45.0**	**+6.2**
QZH				pmax	pmax		
	comp=Z,300nm,1.6s						
UBPT	**Khong Chiam**	**27.04**	**307**	P	**P**	**10 32 39.9**	**-0.7**
UBPT	**Khong Chiam**	**27.04**	**307**	P	**P**	**10 32 40.7**	**+0.1**
JOW	**Kunigami**	**27.25**	**1**	P	**P**	**10 32 41.0**	**-1.4**
JOW				IAmb	IAmb	10 32 51.5	
	comp=Z,222nm,1.3s						
JOW	**Kunigami**	**27.25**	**1**	P	**P**	**10 32 42.2**	**-0.1**
	comp=Z,61nm,1.0s,baz=186,slow=9.3,SNR=5.8						
JOW				LR	LR	10 43 19.0	
	comp=Z,3µm,21.4s,baz=188,slow=36						
	comp=Z,61nm,1.0s						
JOW	**Kunigami**	**27.25**	**1**	P	**P**	**10 32 45.0**	**+2.6**
MEEK	**Meekatharra**	**27.35**	**198**	P	**P**	**10 32 43.3**	**0.0**
KULM	**Kulim**	**27.64**	**282**	P	**P**	**10 32 45.1**	**-0.9**
KULM	**Kulim**	**27.64**	**282**	P	**P**	**10 32 47.0**	**+0.9**
PPSI	**Pulau Pagai**	**27.77**	**265**	P	**P**	**10 32 49.1**	**+1.9**
	comp=Z,9µmcomp=Z,533nm,1.6s						
MNSI	**Mandailing Nat**	**28.16**	**273**	P	**P**	**10 32 52.2**	**+1.5**
SISI	**Saibi**	**28.62**	**268**	P	**P**	**10 32 57.0**	**+2.2**
	comp=Z,278nm,1.0s						
RPSI	**Rantau Prapat**	**28.96**	**277**	P	**P**	**10 32 58.4**	**+0.6**
RPSI				IAmb	IAmb	10 33 03.6	
	comp=Z,148nm,0.9s						
PSI	**Prapat**	**28.97**	**277**	P	**P**	**10 32 58.4**	**+0.4**
PSI	**Prapat**	**28.97**	**277**	P	**P**	**10 32 58.4**	**+0.4**
PSI				pmax	pmax		
	comp=Z,148nm,0.9s						
TSI	**Tuntungan**	**29.41**	**278**	P	**P**	**10 33 02.8**	**+1.0**
	comp=Z,195nm,0.9s						
SRIT	**Nakonsritamara**	**29.45**	**289**	P	**P**	**10 33 04.7**	**+2.5**
FORT	**Forrest**	**30.04**	**179**	P	**P**	**10 33 06.3**	**-0.8**
FORT				IAmb	IAmb	10 33 08.9	
	comp=Z,108nm,0.8s						
GSI	**Gunungsitoli**	**30.19**	**274**	P	**P**	**10 33 08.7**	**-0.1**
GSI	**Gunungsitoli**	**30.19**	**274**	P	**P**	**10 33 08.8**	**+0.1**
GSI	**Gunungsitoli**	**30.19**	**274**	P	**P**	**10 33 08.3**	**-0.4**
QLP	**Quilpie**	**30.36**	**150**	P	**P**	**10 33 10.1**	**+0.1**
MORW	**Morawa**	**30.45**	**200**	P	**P**	**10 33 10.1**	**-0.7**
MORW	**Morawa**	**30.45**	**200**	P	**P**	**10 33 12.5**	**+1.7**
PATS	**Pohnpei**	**31.41**	**76**	P	**P**	**10 33 22.8**	**+3.3**
SNSI	**Sinabang, Aceh**	**31.51**	**276**	P	**P**	**10 33 20.8**	**+0.4**
	comp=Z,221nm,1.3s						
MLSI	**Meulaboh, Aceh**	**31.65**	**279**	P	**P**	**10 33 22.2**	**+0.6**
BLDU	**Balidu**	**31.65**	**198**	P	**P**	**10 33 22.0**	**+0.6**
SLVN	**Son La**	**31.86**	**315**	P	**P**	**10 33 25.4**	**+2.0**
KLBR	**Kellerberrin**	**32.26**	**196**	P	**P**	**10 33 25.5**	**-1.2**
GD1S	**Gladstone Soft**	**32.44**	**137**	P	**P**	**10 33 30.2**	**+1.8**
TATA	**Tatamba Isabel**	**32.90**	**105**	P	**P**	**10 33 35.4**	**+2.8**
SAVO	**Savo Central**	**33.07**	**106**	P	**P**	**10 33 35.2**	**+1.1**
EIDS	**E

KSRS LR LR 10 48 08.3
comp=Z,1585µm,21.2s,baz=0.0,slow=34
comp=Z,11nm,1.1s
INCN Inchon 37.88 359 P **P** **10 34 17.3 +2.2**
KS19 Wonju Array Si 37.89 0 P **P** **10 34 12.5 -2.7**
TIA Tai'an 37.90 346 P **P** **10 34 14.8 -0.5**
TIA pmax pmax
comp=Z,14nm,1.0s
TNCH TengChong 38.02 314 *e*P **P** **10 34 18.4 +1.7**
TNCH sP sP 10 34 23.8 -0.8
TNCH pmax pmax
comp=Z,59nm,1.1s
MAJO Matsushiro 38.20 14 P **P** **10 34 15.3 -2.5**
MAJO IAmb IAmb 10 34 36.5
comp=Z,119nm,1.2s
MAJO Matsushiro 38.20 14 P **P** **10 34 16.8 -1.1**
MAJO Matsushiro 38.20 14 *i* P **P** **10 34 16.7 -1.1**
MAJO pmax pmax
comp=Z,66nm,1.1s
MJAR Matsushiro Arr 38.20 14 P **P** **10 34 15.8 -2.0**
MJAR Matsushiro Arr 38.20 14 P **P** **10 34 16.2 -1.6**
comp=Z,27nm,0.9s,baz=192,slow=8.7,SNR=23
MJAR LR LR 10 49 01.7
comp=Z,5µm,20.4s,baz=230,slow=35
comp=Z,27nm,0.9s
MJAR Matsushiro Arr 38.20 14 P **P** **10 34 15.8 -2.0**
MJAR pmax pmax
comp=Z,76nm,1.5s
MJB9 Matsu-Tunnel 38.20 14 P **P** **10 34 15.8 -2.0**
MJB9 IAmb IAmb 10 34 37.5
comp=Z,122nm,1.3s
XAN Xi'an 38.69 335 P **P** **10 34 21.0 -1.0**
XAN S **S** **10 40 16.9 -1.3**
XAN pmax pmax
comp=Z,170nm,1.5s
LUES Luesalemba Tem 39.27 106 P **P** **10 34 29.8 +2.7**
SYDH Sydney Hard Ro 39.45 149 P **P** **10 34 30.2 +1.8**
JSD Sado 39.64 13 P **P** **10 34 29.6 -0.2**
HNS HongShan 39.66 344 ⇑P **P** **10 34 30.6 +0.6**
HNS pmax pmax
comp=Z,24nm,1.0s
DL2 Dalian 39.69 353 P **P** **10 34 33.9 +3.7**
DL2 S **S** **10 40 38.6 +5.8**
DL2 pmax pmax
comp=Z,63nm,1.4s
DL2 LR LR
comp=Z,14µm,17.3s
DL2 LR LR
comp=Z,11µm,14.8s
DL2 LR LR
comp=Z,13µm,18.2s
BRAT Ballarat 39.72 160 P **P** **10 34 32.2 +1.7**
RIV Riverview 39.72 149 P **P** **10 34 32.8 +2.2**
CAN Canberra 39.86 152 P **P** **10 34 32.1 +0.3**
CAN IAmb IAmb 10 34 38.0
comp=Z,169nm,1.0s
CAN Canberra 39.86 152 P **P** **10 34 33.0 +1.2**
CAN Canberra 39.86 152 P **P** **10 34 32.1 +0.3**
CAN pmax pmax
comp=Z,169nm,1.0s
CNB Canberra Magne 40.02 152 P **P** **10 34 35.0 +1.8**
JMM Marumori 40.12 16 P **P** **10 34 31.1 -2.6**
JMM IAmb IAmb 10 34 48.1
comp=Z,376nm,1.5s
JMM Marumori 40.12 16 P **P** **10 34 35.4 +1.6**
TOO Toolangi 40.30 158 P **P** **10 34 35.2 -0.3**
TOO Toolangi 40.30 158 P **P** **10 34 35.2 -0.3**
TOO pmax pmax
comp=Z,47nm,1.0s
TIY Taiyuan 40.63 341 *e*P **P** **10 34 38.5 +0.3**
TIY pmax pmax
comp=Z,31nm,0.8s
TIY LR LR
comp=Z,5µm,13.1s
TIY LR LR
comp=Z,4µm,15.1s
TIY LR LR
comp=Z,4µm,19.9s
KOUNC Koumac, New Ca 40.89 121 P **P** **10 34 42.5 +2.0**
IMP Imphal 41.31 310 *e*P **P** **10 34 43.9 -0.1**
IMP IAmb IAmb 10 34 56.2
comp=Z,63nm,1.4s
KOHI KOHIMA 41.67 311 *e*P **P** **10 34 46.1 -0.9**
KOHI IAmb IAmb 10 34 53.4
comp=Z,77nm,0.9s
SANVU Saraoutou 41.69 113 P **P** **10 34 46.7 -0.4**
SANVU Saraoutou 41.69 113 P **P** **10 34 49.3 +2.2**
AZL Aizawl 41.72 308 *e*P **P** **10 34 47.7 +0.3**
AZL IAmb IAmb 10 35 03.3
comp=Z,149nm,1.3s
BJT Baijiatuau 41.75 347 P **P** **10 34 47.8 +0.5**
BJI Beijing 41.77 347 P **P** **10 34 47.1 -0.3**
BJI pP **sP** **10 34 51.6 -3.8**
BJI sP **pP** **10 34 54.3 +1.2**
BJI pmax pmax
comp=Z,19nm,1.1s
VLAKA Lakatoro 42.09 114 P **P** **10 34 52.7 +2.4**
SNY Shenyang 42.37 355 ⇓P **P** **10 34 51.8 -0.5**
SNY pmax pmax
comp=Z,9.0nm,0.8s
LZH Lanzhou 42.70 331 *e*P **P** **10 34 56.5 +1.2**
LZH pP sP 10 35 00.9 -2.4
LZH pmax pmax
comp=Z,160nm,1.1s
ZIRO ZIRO 42.88 313 *e*P **P** **10 34 58.1 +1.3**
MSHR Mys Shultsa 43.07 4 *ce*P **P** **10 34 55.0 -2.9**
MSHR pmax pmax
comp=Z,113nm,1.7s
TEZP TEZPUR 43.14 311 *e*P **P** **10 34 59.0 +0.2**
SHL Shillong 43.28 310 P **P** **10 34 59.8 -0.4**
SHL IAmb IAmb 10 35 02.8
comp=Z,80nm,0.7s
SHL Shillong 43.28 310 P **P** **10 35 01.3 +1.1**
SNR=22
SHL Shillong 43.28 310 *e*P **P** **10 35 00.2 +0.1**
SHL IAmb IAmb 10 35 02.6
comp=Z,64nm,0.6s
SHL Shillong 43.28 310 P **P** **10 34 59.8 -0.4**
SHL pmax pmax
comp=Z,80nm,0.7s
DZM Mont Dzumac 43.34 122 P **P** **10 35 00.1 -0.5**
DZM IAmb IAmb 10 35 07.1
comp=Z,149nm,1.4s
DZM Mont Dzumac 43.34 122 P **P** **10 35 01.8 +1.2**
ONTNC Ouen Toro 43.45 123 P **P** **10 35 01.2 -0.1**
ONTNC Ouen Toro 43.45 123 P **P** **10 35 03.8 +2.4**
VLA Vladivostok 43.66 4 *i* P **P** **10 35 01.9 -0.8**
GUWA GUWAHATI 43.75 310 *e*P **P** **10 35 04.5 +0.7**
HHC Hu-ho-hao-te 43.77 342 ⇑*i*P **P** **10 35 06.5 +2.7**
HHC sP sP 10 35 12.9 +1.2
HHC pmax pmax
comp=Z,35nm,1.6s
BTO Baotou 44.04 341 *e*P **P** **10 35 08.9 +3.0**
BTO pP **sP** **10 35 13.4 -0.5**
BTO sP **pP** **10 35 16.0 +4.4**
BTO PP **PcP** **10 36 53.8 +2.5**
BTO pmax pmax
comp=Z,35nm,1.0s
CN2 Changchun 44.23 358 *e*P **P** **10 35 09.0 +1.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
TAWA Tawang 44.37 312 *e*P **P** **10 35 10.9 +1.8**
PINNC Pines Island, 44.41 122 P **P** **10 35 11.7 +2.6**
ERM Erimo 44.64 16 P **P** **10 35 10.3 -0.2**
ERM IAmb IAmb 10 35 20.8
comp=Z,187nm,1.6s
ERM Erimo 44.64 16 P **P** **10 35 10.3 -0.2**
ERM pmax pmax
comp=Z,187nm,1.6s
USA0B Ussuriysk Arra 44.74 4 P **P** **10 35 10.8 -0.5**
USA0B Ussuriysk Arra 44.74 4 P **P** **10 35 10.8 -0.5**
USA0B pmax pmax
comp=Z,84nm,1.4s
USRK Ussuriysk Ar. 44.74 4 P **P** **10 35 10.2 -1.2**
USRK Ussuriysk Ar. 44.74 4 P **P** **10 35 10.9 -0.5**
comp=Z,17nm,1.0s,baz=189,slow=5.6,SNR=14
comp=Z,17nm,1.0s
MDJ Mudanjiang 45.03 2 P **P** **10 35 13.0 -0.6**
MDJ IAmb IAmb 10 35 23.5
comp=Z,117nm,1.3s
MDJ Mudanjiang 45.03 2 P **P** **10 35 14.0 +0.4**
MDJ pmax pmax
comp=Z,40nm,1.0s
MDJ Mudanjiang 45.03 2 P **P** **10 35 14.0 +0.4**

XLT XiLinHaoTe 45.48 348 *e*P **P** **10 35 16.8 -0.6**
XLT pP pP 10 35 21.1 -2.1
XLT pmax pmax
comp=Z,17nm,0.9s
LSA Lhasa 46.06 314 P **P** **10 35 23.8 +1.2**
LSA pmax pmax
comp=Z,120nm,0.8s
LSA LR LR
comp=Z,3µm,15.1s
LSA LR LR
comp=Z,5µm,16.5s
BNX BinXian 46.12 360 ⇑P **P** **10 35 21.9 -0.4**
BNX pmax pmax
comp=Z,7.0nm,1.1s
ASAJ Asahikawa 46.44 15 P **P** **10 35 25.1 +0.3**
comp=Z,79nm,1.2s,baz=224,slow=10,SNR=6.1
comp=Z,79nm,1.2s
ASAJ Asahikawa 46.44 15 P **P** **10 35 23.1 -1.7**
ASAJ pmax pmax
comp=Z,140nm,1.3s
JKA Kamikawa-asahi 46.44 15 P **P** **10 35 23.1 -1.7**
JKA IAmb IAmb 10 35 34.8
comp=Z,140nm,1.3s
GTK Tadong 46.70 310 *e*P **P** **10 35 27.7 +0.4**
GTK IAmb IAmb 10 35 33.0
comp=Z,73nm,0.9s
GTA Gaotai 47.28 330 P **P** **10 35 32.8 +1.1**
GTA pP sP 10 35 37.0 -2.7
GTA sP pP 10 35 41.0 +3.6
GTA pmax pmax
comp=Z,57nm,1.1s
VIS Vishakhapatnam 47.30 295 *e*P **P** **10 35 32.3 +0.4**
VIS IAmb IAmb 10 35 39.6
comp=Z,171nm,1.3s
PALK Pallekele 47.53 280 P **P** **10 35 33.7 -0.2**
PALK IAmb IAmb 10 35 36.6
comp=Z,53nm,1.1s
PALK Pallekele 47.53 280 P **P** **10 35 34.9 +1.0**
PALK Pallekele 47.53 280 P **P** **10 35 33.7 -0.2**
PALK pmax pmax
comp=Z,53nm,1.1s
GOMU GeErMu 47.68 324 P **P** **10 35 36.0 +0.9**
GOMU pP sP 10 35 45.3 +2.2
GOMU pmax pmax
comp=Z,16nm,1.1s
MDRS Chennai 48.97 288 *e*P **P** **10 35 45.7 +0.9**
YSS Yuzhno-Sakhali 49.14 14 P **P** **10 35 43.4 -2.2**
YSS IAmb IAmb 10 35 50.9
comp=Z,121nm,1.5s
YSS Yuzhno-Sakhali 49.14 14 P **P** **10 35 48.0 +2.3**
YSS Yuzhno-Sakhali 49.14 14 *i* P **P** **10 35 44.4 -1.3**
YSS pmax pmax
comp=Z,50nm,1.2s
VJD Vijayawada 49.41 292 IAmb IAmb 10 36 00.0
comp=Z,200nm,1.6s
BLSP Bilaspur 49.82 300 *e*P **P** **10 35 51.2 -0.2**
BLSP IAmb IAmb 10 35 57.9
comp=Z,213nm,1.3s
HIA Hailar 50.12 353 *i* P **P** **10 35 54.2 +1.0**
HIA pmax pmax
comp=Z,29nm,1.3s
HEH HeiHe 50.64 360 *e*P **P** **10 35 56.1 -0.9**
HEH pmax pmax
comp=Z,11nm,1.2s
SALM Salem 50.65 286 *e*P **P** **10 35 58.3 +0.6**
SALM IAmb IAmb 10 36 03.2
comp=Z,72nm,1.1s
UGL Uglegorsk 50.99 12 *e*P P 10 35 51.3 -8.4
UGL pmax pmax
comp=Z,130nm,1.3s
KOD Kodaikanal 51.12 284 *e*P **P** **10 36 01.9 +0.3**
KOD IAmb IAmb 10 36 06.5
comp=Z,49nm,0.9s
ALBI Allahabad 51.27 304 *e*P **P** **10 36 02.4 +0.1**
ALBI IAmb IAmb 10 36 07.2
comp=Z,82nm,0.9s
TRD Trivandrum 51.37 281 *e*P **P** **10 36 03.4 +0.2**
TRD IAmb IAmb 10 36 08.1
comp=Z,204nm,1.1s
ULN Ulaanbaatar 51.49 342 P **P** **10 36 02.9 -0.8**
ULN Ulaanbaatar 51.49 342 P **P** **10 36 03.9 +0.2**
ULN Ulaanbaatar 51.49 342 *ce*P **P** **10 36 03.4 -0.3**
ULN pmax pmax
comp=Z,45nm,1.0s
HYB Hyderabad 51.58 293 *e*P **P** **10 36 04.9 +0.2**
HYB IVmB_BB 10 36 09.2
comp=Z,1µm,1.5s
SONM Songino Array 51.66 342 P **P** **10 36 04.3 -0.7**
SONM Songino Array 51.66 342 P **P** **10 36 04.5 -0.5**
comp=Z,11nm,0.8s,baz=155,slow=7.2,SNR=54
comp=Z,11nm,0.8s
SONM Songino Array 51.66 342 P **P** **10 36 04.3 -0.7**
SONM pmax pmax
comp=Z,39nm,1.1s
GRNR Gornyy 51.69 7 ⇑*i*P **P** **10 36 05.1 +0.2**
GRNR pmax pmax
comp=Z,8.0nm,1.0s
FUNA Funafuti 51.88 100 P **P** **10 36 09.7 +2.7**
NGP Nagpur 52.19 298 *e*P **P** **10 36 09.5 +0.2**
MSVF Nonsavu 52.32 112 P **P** **10 36 10.5 +0.2**
MSVF IAmb IAmb 10 36 23.9
comp=Z,108nm,1.1s
MSVF Nonsavu 52.32 112 P **P** **10 36 12.8 +2.5**
MSVF Nonsavu 52.32 112 P **P** **10 36 10.5 +0.2**
MSVF pmax pmax
comp=Z,108nm,1.2s
TYV Tymovskoe 52.80 12 *e*P **P** **10 36 14.3 +1.1**
TYV pmax pmax
comp=Z,900nm,6.1s
TYV pmax pmax
comp=Z,23nm,1.2s
DGTI Dogotuki 53.59 110 P **P** **10 36 21.5 +1.9**
TAVE Taveuni 54.01 110 P **P** **10 36 25.5 +2.9**
JHNI Jhansi 54.07 302 *e*P **P** **10 36 21.7 -1.4**
MNGI Mangalore 54.12 286 *e*P **P** **10 36 23.3 -0.2**
MNGI IAmb IAmb 10 36 29.1
comp=Z,35nm,0.7s
ZEA Zeya 54.13 360 *e*P **P** **10 36 24.7 +1.8**
ZEA pmax pmax
comp=Z,20nm,1.5s
LGTI Lohaghat 54.21 308 *e*P **P** **10 36 24.0 0.0**
LGTI IAmb IAmb 10 36 26.4
comp=Z,49nm,0.6s
PTH Pithoragarh 54.28 308 *e*P **P** **10 36 25.2 +0.5**
BHPL Bhopal 54.28 299 *e*P **P** **10 36 24.5 -0.1**
BHPL IAmb IAmb 10 36 36.4
comp=Z,52nm,0.7s
NRDN NARMADA NAGAR 54.34 299 *e*P **P** **10 36 28.1 +3.1**
NRDN IAmb IAmb 10 36 34.4
comp=Z,47nm,0.6s
GUNA GUNA 54.82 301 *e*P **P** **10 36 28.2 -0.3**
GUNA IAmb IAmb 10 36 34.5
comp=Z,166nm,1.0s
ZAK Zakamensk 54.89 341 *e*P **P** **10 36 28.1 -0.5**
JOSI Joshimath 55.22 309 *e*P **P** **10 36 31.7 +0.2**
JOSI IAmb IAmb 10 36 37.6
comp=Z,132nm,0.6s
DGAR Diego Garcia 55.50 261 *i* P **P** **10 36 33.8 +0.3**
KAD Karad 55.60 291 *e*P **P** **10 36 33.5 -0.8**
IRK Irkutsk 56.20 343 *e*P **P** **10 36 34.7 -3.2**
IRK *e*S **S** **10 44 20.4 -6.1**
IRK pmax pmax
comp=Z,83nm,1.9s
SONA Sohna 56.29 305 *e*P **P** **10 36 38.2 -0.8**
SONA IAmb IAmb 10 36 40.5
comp=Z,97nm,0.8s
AYAN Aya Nagar 56.34 305 *e*P **P** **10 36 38.5 -0.9**
NDI New Delhi 56.34 305 *e*P **P** **10 36 37.6 -1.8**
NDI IAmb IAmb 10 36 40.2
comp=Z,31nm,0.6s
NPLP NPLP New Delhi 56.37 305 *e*P **P** **10 36 38.4 -1.1**
SKR Severo-Kuril's 56.51 21 *e*P **P** **10 36 42.7 +2.6**
SKR pmax pmax
comp=Z,81nm,1.0s
DCZ Deep Cove 56.60 148 P **P** **10 36 41.6 +0.8**
DCZ IAmb IAmb 10 36 46.2
comp=Z,69nm,1.1s
JCZ Jackson Bay 56.62 145 P **P** **10 36 43.7 +2.5**
HNLY HANLEY 56.62 311 *e*P **P** **10 36 42.1 +0.2**
HNLY IAmb IAmb 10 36 53.0
comp=Z,32nm,0.8s
KLP Kalpa 56.65 309 *e*P **P** **10 36 42.4 +0.5**
KLP IAmb IAmb 10 36 54.9
comp=Z,98nm,1.0s
MOY Mondy 56.74 340 *e*P **P** **10 36 41.6 -0.3**

MOY pmax pmax
comp=Z,106nm,2.1s
KUDL Kundal 56.74 305 *e*P **P** **10 36 40.5 -1.6**
KUDL IAmb IAmb 10 36 47.5
comp=Z,60nm,0.9s
WMQ Urumqi 56.81 326 *e*P **P** **10 36 43.3 +0.8**
WMQ sP sP 10 36 51.3 +0.7
WMQ pmax pmax
comp=Z,66nm,1.5s
WHZ Wether Hill Ro 57.30 148 P **P** **10 36 46.2 +0.3**
WHZ IAmb IAmb 10 36 50.9
comp=Z,99nm,1.1s
SMLA Simla 57.33 308 *e*P **P** **10 36 46.5 +0.2**
SMLA IAmb IAmb 10 36 51.5
comp=Z,123nm,0.9s
LBZ Lake Benmore 57.60 145 P **P** **10 36 47.5 -0.5**
LBZ IAmb IAmb 10 36 53.0
comp=Z,120nm,1.0s
RPZ Rata Peaks 57.71 144 LR LR 11 02 16.0
comp=Z,5µm,18.7s,baz=286,slow=37
AJM Ajmer 57.72 302 *e*P **P** **10 36 47.7 -1.5**
AJM IAmb IAmb 10 36 50.5
comp=Z,31nm,0.5s
BHK Bhakra 58.03 308 *e*P **P** **10 36 48.8 -2.5**
BHK IAmb IAmb 10 36 58.6
comp=Z,137nm,1.0s
TUWZ Tuamarina 58.22 140 P **P** **10 36 51.9 -0.5**
TCW Tory Channel 58.32 140 P **P** **10 36 52.0 -1.1**
DHRM DHARAMSHALA 58.45 309 *e*P **P** **10 36 53.7 -0.8**
DHRM IAmb IAmb 10 36 59.0
comp=Z,109nm,0.6s
BKZ Black Stump Fm 58.77 137 P **P** **10 36 55.0 -1.4**
BKZ IAmb IAmb 10 37 00.9
comp=Z,74nm,1.1s
BKZ Black Stump Fm 58.77 137 P **P** **10 36 57.1 +0.7**
RTZ Ruatahuna 58.85 136 P **P** **10 36 55.4 -1.5**
THN Thein Dam 58.98 309 *e*P **P** **10 36 57.4 -0.4**
THN IAmb IAmb 10 37 05.3
comp=Z,112nm,0.6s
PEA0B Petropavlovsk- 59.06 21 *i* P **P** **10 36 57.3 -0.7**
PETK Petropavlovsk- 59.06 21 P **P** **10 36 57.5 -0.5**
PETK Petropavlovsk- 59.06 21 P **P** **10 36 57.7 -0.3**
comp=Z,26nm,0.9s,baz=224,slow=6.6,SNR=31
comp=Z,26nm,0.9s
PET Petropavlovsk 59.33 21 P **P** **10 36 58.8 -1.0**
PET Petropavlovsk 59.33 21 P **P** **10 37 01.1 +1.3**
PET Petropavlovsk 59.33 21 *ce*P **P** **10 37 01.7 +1.9**
PET pmax pmax
comp=Z,168nm,1.3s
JMU Jammu 59.72 309 *e*P **P** **10 37 03.6 +0.6**
ZSN Zaisan 60.64 328 *e*P **P** **10 37 08.5 -0.5**
ZSN Zaisan 60.64 328 *e*P **P** **10 37 08.5 -0.5**
PDGK Podgornoye 61.36 322 P **P** **10 37 13.1 -1.0**
UZB Uzynbulak 61.55 321 *e*P **P** **10 37 14.7 -0.7**
UZB pmax pmax
comp=Z,27nm,1.1s
UZB Uzynbulak 61.55 321 *e*P **P** **10 37 14.8 -0.7**
comp=Z,27nm,1.1s
TARG Taragay, Kyrgy 61.61 319 P **P** **10 37 14.7 -1.5**
TARG IAmb IAmb 10 37 31.3
comp=Z,59nm,1.1s
TARG Taragay, Kyrgy 61.61 319 P **P** **10 37 14.7 -1.5**
TARG pmax pmax
comp=Z,59nm,1.1s
MK31 Makanchi Array 61.64 326 *ce*P **P** **10 37 13.7 -2.1**
MKAR Makanchi Array 61.64 326 P **P** **10 37 15.1 -0.7**
comp=Z,22nm,0.7s,baz=123,slow=7.0,SNR=119
MKAR ScP **ScP** **10 41 58.1 -0.3**
comp=Z,1.5nm,0.8s,baz=137,slow=4.2,SNR=3.7
MKAR S **S** **10 45 34.7 -2.7**
comp=Z,0.1nm,0.3s,baz=128,slow=11,SNR=1.3
MKAR PKP2bc 11 06 35.5
comp=Z,1.3nm,0.9s,baz=300,slow=3.2,SNR=3.6
comp=Z,22nm,0.7s
KSH Kashi 61.79 316 P **P** **10 37 18.0 +0.9**
KSH pP sP 10 37 22.5 -2.8
KSH pmax pmax
comp=Z,40nm,0.9s
MAKZ Makanchi 61.82 326 P **P** **10 37 16.8 -0.3**
MAKZ IAmb IAmb 10 37 30.7
comp=Z,54nm,1.0s
MAKZ Makanchi 61.82 326 P **P** **10 37 16.8 -0.3**
MAKZ pmax pmax
comp=Z,54nm,1.0s
KDJ Kajisay 62.21 320 P **P** **10 37 19.9 -0.1**
KDJ IAmb IAmb 10 37 25.4
comp=Z,65nm,1.0s
KDJ Kajisay 62.21 320 P **P** **10 37 19.9 -0.1**
KDJ pmax pmax
comp=Z,65nm,1.0s
YAK Yakutsk 62.46 1 P **P** **10 37 20.3 -0.7**
YAK Yakutsk 62.46 1 P **P** **10 37 21.0 +0.1**
comp=Z,93nm,0.7s,baz=180,slow=4.1,SNR=23
YAK S **S** **10 45 46.7 -0.3**
comp=Z,6.3nm,0.4s,baz=183,slow=1.5,SNR=1.1
comp=Z,93nm,0.7s
YAK Yakutsk 62.46 1 *e*P **P** **10 37 21.3 +0.3**
YAK *e**PP **sP** **10 37 28.4 -0.7**
YAK *e* 10 38 00.9
YAK *e* 10 39 38.1
YAK *e*PPP PPP 10 41 04.6
YAK *e*S **S** **10 45 48.2 +1.1**
YAK *e* 10 47 12.8
YAK *e*SS **SS** **10 49 52.6 +1.4**
YAK pmax pmax
comp=Z,87nm,0.8s
YAK pmax pmax
comp=N,25nm,1.0s
YAK pmax pmax
comp=E,15nm,1.9s
YAK pmax pmax
comp=Z,6µm,9.3s
YAK pmax pmax
comp=N,2µm,10.0s
YAK pmax pmax
comp=E,4µm,11.9s
YAK smax smax
comp=N,4µm,14.1s
YAK smax smax
comp=E,4µm,17.1s
MA2 Magadan 62.63 13 P **P** **10 37 23.6 +1.4**
MA2 Magadan 62.63 13 *ce*P **P** **10 37 23.4 +1.2**
MA2 pmax pmax
comp=Z,186nm,1.7s
NRN Naryn 62.66 318 P **P** **10 37 22.8 -0.3**
NRN Naryn 62.66 318 P **P** **10 37 22.8 -0.3**
NRN pmax pmax
comp=Z,27nm,0.9s
TNSS Tian-Shan 62.81 320 *e*P **P** **10 37 23.4 -0.8**
TNSS Tian-Shan 62.81 320 *e*P **P** **10 37 23.5 -0.8**
TDK Taldyqorghan 62.90 323 *e*P **P** **10 37 23.5 -0.8**
TDK pmax pmax
comp=Z,16nm,0.7s
TDK Taldyqorghan 62.90 323 *e*P **P** **10 37 23.5 -0.8**
comp=Z,16nm,0.7s
AAA Alma-Ata 62.91 320 *i* P **P** **10 37 24.2 -0.3**
AAA Alma-Ata 62.91 320 *e*P **P** **10 37 23.8 -0.7**
AAK Ala-Archa 64.21 319 P **P** **10 37 33.6 +0.4**
comp=Z,2.9nm,0.3s,baz=106,slow=6.5,SNR=18
AAK S **S** **10 46 10.0 0.0**
comp=Z,2.2nm,0.5s,baz=201,slow=12,SNR=1.6
comp=Z,2.9nm,0.3s
AAK Ala-Archa 64.21 319 *ce*P **P** **10 37 33.8 +0.6**
AAK pmax pmax
comp=Z,72nm,2.5s
SGDS Sogindy 64.49 320 *e*P **P** **10 37 34.4 -0.5**
ARSB Arslanbob 64.64 317 P **P** **10 37 35.1 -0.9**
ARSB Arslanbob 64.64 317 P **P** **10 37 35.1 -0.9**
ARSB pmax pmax
comp=Z,261nm,1.6s
ZALV Zalesovo Beam 64.85 334 P **P** **10 37 34.8 -2.1**
comp=Z,8.2nm,0.8s,baz=129,slow=4.6,SNR=24
ZALV S **S** **10 46 14.6 -2.5**
comp=Z,0.5nm,0.5s,baz=177,slow=2.5,SNR=1.5
ZALV PKP2bc 11 06 26.2
comp=Z,2.1nm,0.9s,baz=276,slow=2.8,SNR=4.9
ZALV PKP2ab 11 06 30.5
comp=Z,2.1nm,0.9s,baz=310,slow=5.4,SNR=3.0
comp=Z,8.2nm,0.8s
ZALV Zalesovo Beam 64.85 334 *i* P **P** **10 37 35.0 -1.9**
ZALV pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 64.94 309 P **P** **10 37 37.5 -0.7**
KBL IAmb IAmb 10 37 45.7
comp=Z,39nm,0.9s

KBL Kabul 64.94 309 P P 10 37 37.8 -0.3
SNR=22
KBL Kabul 64.94 309 P P 10 37 37.5 -0.7
KBL pmax pmax
comp=Z,39nm,1.0s
GAR Garm 65.57 314 P P 10 37 41.5 -0.6
BTLS Baital 65.60 321 eP P 10 37 41.5 -0.5
BTLS pmax pmax
comp=Z,16nm,1.1s
BTLS Baital 65.60 321 eP P 10 37 41.6 -0.5
comp=Z,16nm,1.1s
SMY Shemya 65.70 29 P P 10 37 44.7 +2.3
KURBB Kurchatov Arra 65.88 328 P P 10 37 42.7 -0.9
comp=Z,46nm,0.9s,baz=127,slow=5.8,SNR=100
KURBB PP PP 10 40 09.5 +0.7
comp=Z,4.5nm,1.0s,baz=124,slow=7.5,SNR=4.9
KURBB S S 10 46 28.3 -1.5
comp=Z,0.2nm,0.2s,baz=135,slow=10,SNR=4.1
KURBB PKPPKP P'P'df 11 06 18.9 -1.8
comp=Z,0.3nm,0.3s,baz=292,slow=3.8,SNR=7.7
KURBB PKP2bc 11 06 23.6
comp=Z,0.4nm,0.3s,baz=301,slow=3.0,SNR=5.0
comp=Z,46nm,0.9s
KURK Kurchatov 65.88 328 P P 10 37 43.1 -0.5
KURK Kurchatov 65.88 328 P P 10 37 42.6 -1.0
KURK Kurchatov 65.88 328 ceP P 10 37 42.7 -1.0
KURK pmax pmax
comp=Z,88nm,1.3s
SEY Seymchan 66.00 12 i P P 10 37 43.8 -0.3
SEY pmax pmax
comp=Z,167nm,1.5s
DZA Taraz 66.41 318 eP P 10 37 46.6 -0.7
DZA pmax pmax
comp=Z,16nm,0.9s
DZA Taraz 66.41 318 eP P 10 37 46.6 -0.7
comp=Z,16nm,0.9s
CASY Casey 66.70 187 P P 10 37 48.5 -0.1
CASY IAmb IAmb 10 37 53.9
comp=Z,49nm,1.2s
IUG Iuzhnay 66.99 317 i P P 10 37 52.2 +1.1
KK31 Karatay Array 67.05 318 P P 10 37 50.8 -0.6
KK31 IAmb IAmb 10 37 55.9
comp=Z,64nm,1.1s
KK31 Karatay Array 67.05 318 P P 10 37 50.8 -0.6
KK31 pmax pmax
comp=Z,64nm,1.1s
KKAR Karatay Array 67.05 318 P P 10 37 50.5 -0.8
KKAR Karatay Array 67.05 318 P P 10 37 50.5 -0.8
CHM Chimkent 67.35 317 eP P 10 37 52.8 -0.5
CHM pmax pmax
comp=Z,12nm,0.6s
CHM Chimkent 67.35 317 eP P 10 37 52.8 -0.5
comp=Z,12nm,0.6s
BRLS Boroldaу 67.47 318 eP P 10 37 53.5 -0.5
BRLS pmax pmax
comp=Z,12nm,0.8s
BRLS Boroldaу 67.47 318 eP P 10 37 53.6 -0.5
comp=Z,12nm,0.8s
BRZS Berezniki 68.75 325 eP P 10 38 01.3 -0.6
BRZS Berezniki 68.75 325 eP P 10 38 01.4 -0.6
KIWB Kanaga Island 69.72 33 P P 10 38 07.7 -0.1
KIWB IAmb IAmb 10 38 16.8
comp=Z,73nm,1.1s
ADK Adak 69.98 33 P P 10 38 08.6 -0.8
ADK IAmb IAmb 10 38 15.8
comp=Z,108nm,1.2s
ADK Adak 69.98 33 P P 10 38 11.6 +2.2
ADK Adak 69.98 33 P P 10 38 08.6 -0.8
ADK pmax pmax
comp=Z,108nm,1.3s
GSTR Great Sitkin T 70.42 33 P P 10 38 12.2 -0.1
GSTR IAmb IAmb 10 38 21.1
comp=Z,110nm,1.2s
WSAR Wadi Sarin 71.06 295 P P 10 38 15.5 -1.2
comp=Z,0.1nm,0.6s,baz=108,slow=20,SNR=8.0
MHTO MHTO 71.34 292 P P 10 38 17.4 -0.9
SNR=5.7
JMDO Jabal Madar 71.41 294 P P 10 38 18.1 -0.7
BVA0 Borovoye Array 71.45 328 P P 10 38 16.3 -2.1
BVAR Borovoye Array 71.45 328 P P 10 38 17.0 -1.4
comp=Z,14nm,0.8s,baz=121,slow=5.6,SNR=65
BVAR S S 10 47 34.9 -1.1
comp=Z,0.3nm,0.3s,baz=98,slow=10,SNR=1.6
comp=Z,14nm,0.8s
ATKA Atka Island 71.50 33 P P 10 38 17.6 -1.1
ATKA Atka Island 71.50 33 P P 10 38 19.7 +1.1
BRVK Borovoye 71.52 328 P P 10 38 17.0 -1.8
BRVK IAmb IAmb 10 38 23.0
comp=Z,58nm,1.1s
BRVK Borovoye 71.52 328 P P 10 38 17.9 -0.9
BRVK Borovoye 71.52 328 ceP P 10 38 18.1 -0.7
BRVK pmax pmax
comp=Z,80nm,1.3s
BIDO Bidbid 71.56 295 P P 10 38 19.2 -0.5
SNR=5.5
SMDO Samad 71.56 294 P P 10 38 19.2 -0.6
TIXI Tiksi 72.11 0 P P 10 38 21.0 -1.0
TIXI IAmb IAmb 10 38 30.3
comp=Z,54nm,1.1s
TIXI Tiksi 72.11 0 ceP P 10 38 22.6 +0.6
TIXI pmax pmax
comp=Z,82nm,1.7s
BSY Bisya 72.29 294 P P 10 38 23.7 -0.4
HOQ Hoqain 72.31 295 P P 10 38 24.1 -0.1
SNR=8.9
ARQ Araqi 72.99 295 P P 10 38 28.3 0.0
SOHO SOHO 73.10 295 P P 10 38 28.8 0.0
BILL Bilibino 73.45 14 ceP P 10 38 31.0 +1.0
BILL pmax pmax
comp=Z,42nm,2.5s
BILL MLR MLR
comp=Z,4μm,18.0s
MDH Madha 73.48 297 P P 10 38 29.5 -1.6
UOSS Minazif 73.51 296 P P 10 38 29.7 -1.6
UOSS Minazif 73.51 296 P P 10 38 30.9 -0.4
HATD Hatta, Dubai 73.56 296 P P 10 38 32.2 +0.6
BANOM Banah 73.58 297 P P 10 38 31.7 0.0
ASHO Ashiyiah 73.61 296 P P 10 38 31.7 -0.2
MASF Masafi 73.62 297 P P 10 38 32.0 0.0
SHME Shamm 73.73 297 P P 10 38 33.4 +0.9
ALNE Al Ain 73.79 295 P P 10 38 32.2 -0.7
SNR=20
FAQ Al Faqa, Dubai 74.03 296 P P 10 38 34.1 -0.2
ASUD Al Ashush, Dub 74.25 296 P P 10 38 36.4 +0.8
SNR=8.4
DOK Doka 74.64 289 P P 10 38 36.3 -1.6
NIKH Nikolski High 74.78 34 P P 10 38 38.2 +0.2
baz=248
NRIK Noril'sk 74.81 346 P P 10 38 37.3 -0.6
NRIK IAmb IAmb 10 38 46.3
comp=Z,103nm,1.4s
NRIK Noril'sk 74.81 346 P P 10 38 37.1 -0.9
comp=Z,32nm,0.7s,baz=140,slow=6.1,SNR=46
comp=Z,32nm,0.7s
NRIK Noril'sk 74.81 346 i P P 10 38 38.2 +0.2
NRIK pmax pmax
comp=Z,35nm,0.9s
WHFO Wadi Hawf 74.91 289 P P 10 38 38.2 -1.3
SPIA Saint Paul Isl 75.70 30 P P 10 38 43.8 +0.5
baz=246
P08K Saint George I 75.82 30 P P 10 38 42.6 -1.4
P08K Saint George I 75.82 30 P P 10 38 44.7 +0.8
baz=246
AB31 Akbulak array 76.09 321 P P 10 38 44.4 -1.3
AB31 IAmb IAmb 10 38 49.7
comp=Z,67nm,1.2s
AB31 Akbulak array 76.09 321 i P P 10 38 44.1 -1.6
ABKAR Akbulak array 76.09 321 P P 10 38 44.7 -1.0
UNV Unalaska Valle 76.41 34 P P 10 38 45.6 -1.7
UNV Unalaska Valle 76.41 34 P P 10 38 48.3 +1.0
baz=250
JRN Qarnain Island 76.53 296 P P 10 38 47.8 -0.9
AKUT Akutan 76.92 34 P P 10 38 50.1 -0.1
AKUT Akutan 76.92 34 P P 10 38 53.8 +3.6
AKTO Aktyubinsk 77.63 322 P P 10 38 53.1 -1.2
comp=Z,51nm,1.1s,baz=105,slow=4.0,SNR=44
comp=Z,51nm,1.1s
GAMB Gambell 77.92 23 P P 10 38 56.7 +1.1
baz=243
SVE Sverdlovsk 78.12 329 eP P 10 38 55.5 -1.4
SVE pmax pmax
comp=Z,74nm,1.3s
SHMA Al-Shehemyia 78.33 296 P P 10 38 57.6 -1.2
SMRA Abu-Samra 78.34 295 P P 10 38 58.4 -0.4
M11K Mekoryuk 78.89 28 P P 10 39 01.9 +0.8
baz=249
VNDA Vanda 79.06 173 P P 10 39 01.2 -0.5
VNDA Vanda 79.06 173 P P 10 39 01.0 -0.8
comp=Z,14nm,0.8s,baz=326,slow=6.4,SNR=27
comp=Z,14nm,0.8s
VNDA Vanda 79.06 173 P P 10 39 01.2 -0.5
VNDA pmax pmax
comp=Z,35nm,1.1s
ARTI Arti 79.16 328 P P 10 39 01.7 -1.0
ARTI Arti 79.16 328 P P 10 39 01.5 -1.2
comp=Z,16nm,0.7s,baz=110,slow=4.6,SNR=17
comp=Z,16nm,0.7s
ARTI Arti 79.16 328 d iP P 10 39 01.3 -1.4
ARTI 10 41 56.5
ARTI S S 10 49 03.4 +2.0
ARTI pmax pmax
comp=Z,44nm,1.2s
SBA Scott Base 79.97 172 P P 10 39 07.1 +0.4
SBA IAmb IAmb 10 39 12.3
comp=Z,84nm,1.4s
SBA Scott Base 79.97 172 P P 10 39 07.1 +0.4
SBA pmax pmax
comp=Z,84nm,1.5s
MAW Mawson 80.09 201 P P 10 39 07.1 -0.4
comp=Z,23nm,1.0s,baz=66,slow=9.5,SNR=14
comp=Z,23nm,1.0s
K13K Kusilvak Mount 80.14 26 P P 10 39 08.0 +0.1
K13K IAmb IAmb 10 39 15.3
comp=Z,141nm,1.6s
K13K Kusilvak Mount 80.14 26 P P 10 39 08.9 +1.0
baz=250
TNA Tin City 80.16 22 P P 10 39 08.4 +0.6
baz=246
SDPT Sand Point 80.21 33 P P 10 39 07.7 -0.7
SDPT Sand Point 80.21 33 P P 10 39 11.6 +3.2
SDPT Sand Point 80.21 33 P P 10 39 08.8 +0.5
baz=254
M13K Dall Lake 80.23 28 P P 10 39 08.9 +0.6
M13K IAmb IAmb 10 39 18.6
comp=Z,82nm,1.2s
M13K Dall Lake 80.23 28 P P 10 39 09.1 +0.8
baz=251
CHNA Chernabura Isl 80.57 34 P P 10 39 11.1 +0.8
baz=255
F14K Arctic Creek 80.74 23 P P 10 39 11.9 +0.9
baz=248
ANM Nome 80.78 24 P P 10 39 12.0 +0.7
baz=249
ABPO Ambohimpanom 80.81 251 P P 10 39 12.6 0.0
ABPO IAmb IAmb 10 39 17.9
comp=Z,176nm,1.9s
ABPO Ambohimpanom 80.81 251 P P 10 39 12.6 0.0
ABPO pmax pmax
comp=Z,176nm,2.0s
L14K Kuka Creek 80.84 27 P P 10 39 11.9 +0.3
L14K IAmb IAmb 10 39 18.0
comp=Z,124nm,1.4s
L14K Kuka Creek 80.84 27 P P 10 39 12.1 +0.5
baz=252
N14K Kuskokwak Cree 80.87 29 P P 10 39 11.5 -0.3
N14K IAmb IAmb 10 39 18.7
comp=Z,154nm,1.6s
N14K Kuskokwak Cree 80.87 29 P P 10 39 12.7 +0.8
baz=253,SNR=9.0
O14K Tigyukauivet M 80.88 29 P P 10 39 12.6 +0.7
baz=253,SNR=5.4
J14K Nanvaranak Lak 80.91 26 P P 10 39 12.0 +0.1
J14K Nanvaranak Lak 80.91 26 P P 10 39 12.6 +0.7
baz=251
S14K Fox Glacier 80.96 33 P P 10 39 12.9 +0.4
baz=255,SNR=5.2
M14K Bethel 80.99 28 P P 10 39 12.8 +0.4
M14K IAmb IAmb 10 39 18.7
comp=Z,182nm,1.6s
M14K Bethel 80.99 28 P P 10 39 13.1 +0.6
baz=252,SNR=24
FOMA Nahampoana Res 81.35 245 P P 10 39 15.7 +0.6
FOMA IAmb IAmb 10 39 20.2
comp=Z,90nm,1.2s
VOI Vohitsoka 81.35 248 P P 10 39 14.9 -0.5
VOI IAmb IAmb 10 39 20.4
comp=Z,72nm,0.9s
VOI Vohitsoka 81.35 248 P P 10 39 16.1 +0.7
SNR=8.7
G15K Niukluk 81.46 24 P P 10 39 15.8 +0.9
baz=250
F15K North Star Dit 81.47 23 P P 10 39 15.8 +0.8
baz=249,SNR=18
L15K Ungalak Mounta 81.49 27 P P 10 39 15.8 +0.7
baz=253,SNR=16
M15K Kasigluk River 81.57 28 P P 10 39 16.5 +0.9
baz=254
O15K Ungalikthiuk R 81.57 30 P P 10 39 16.3 +0.7
baz=254
CHGN Chignik 81.58 33 P P 10 39 16.0 +0.4
baz=256
K15K Wolf Creek Mou 81.65 26 P P 10 39 15.8 -0.1
K15K IAmb IAmb 10 39 25.4
comp=Z,184nm,1.9s
K15K Wolf Creek Mou 81.65 26 P P 10 39 16.4 +0.5
baz=252,SNR=15
N15K Kwethluk River 81.71 29 P P 10 39 16.8 +0.5
baz=254,SNR=9.1
H16K Elim 82.07 24 P P 10 39 18.9 +0.8
baz=252,SNR=7.0
C16K Lisburne Hills 82.15 20 P P 10 39 18.3 -0.2
C16K Lisburne Hills 82.15 20 P P 10 39 19.6 +1.1
baz=248
G16K Koyuk River 82.27 23 P P 10 39 19.5 +0.4
G16K IAmb IAmb 10 39 29.8
comp=Z,127nm,1.4s
G16K Koyuk River 82.27 23 P P 10 39 20.5 +1.4
baz=251,SNR=31
J16K Anvik River 82.35 26 P P 10 39 20.5 +0.9
J16K Anvik River 82.35 26 P P 10 39 21.0 +1.4
baz=253,SNR=47
L16K Owhat River 82.42 27 P P 10 39 20.9 +0.9
baz=254
N16K Nishlik Lake 82.42 29 P P 10 39 20.7 +0.6
baz=255,SNR=21
P16K Nushagak River 82.45 30 P P 10 39 20.7 +0.5
baz=256
M16K Timber Creek 82.47 28 P P 10 39 20.3 0.0
M16K IAmb IAmb 10 39 30.3
comp=Z,61nm,1.1s
M16K Timber Creek 82.47 28 P P 10 39 20.6 +0.3
baz=255,SNR=8.0
I17K Unalakleet 82.49 25 P P 10 39 20.1 -0.2
I17K Unalakleet 82.49 25 P P 10 39 21.0 +0.8
baz=253,SNR=57
O16K Kokwok River B 82.53 30 P P 10 39 20.4 -0.2
O16K IAmb IAmb 10 39 30.4
comp=Z,56nm,1.2s
O16K Kokwok River B 82.53 30 P P 10 39 21.0 +0.4
baz=256,SNR=8.0
D17K Noatak River 82.75 21 P P 10 39 22.5 +1.0
baz=250,SNR=71
AKT Akhty 82.87 312 eP P 10 39 20.9 -2.0
AKT e 10 39 25.2
AKT e 10 42 32.5
AKT pmax pmax
comp=Z,23nm,0.9s
RDOG Red Dog Mine 82.93 21 P P 10 39 23.3 +0.7
baz=250,SNR=6.4
R17L Mt. Peulik Vol 82.97 32 P P 10 39 23.5 +0.5
baz=258
PLK4 Peulik 4 82.97 32 P P 10 39 23.3 +0.2
C17K DeLong Mountai 82.98 20 P P 10 39 24.3 +1.5
baz=250,SNR=14
G17K Kiwalik Mounta 82.98 24 P P 10 39 23.9 +1.0
baz=253,SNR=86
CHIR Chirikof Islan 83.00 34 P P 10 39 23.9 +0.7
baz=259
E17K Hotham Inlet 83.01 22 P P 10 39 24.1 +1.2
baz=252,SNR=47
F17K Baldwin Pennin 83.03 23 P P 10 39 24.3 +1.3
baz=252,SNR=18
J17K VABM Dome 83.04 26 P P 10 39 23.8 +0.6
J17K VABM Dome 83.04 26 P P 10 39 24.5 +1.3
baz=255,SNR=67
Q16K King Salmon 83.05 31 P P 10 39 24.2 +1.0
baz=257
L17K Donlin 83.06 27 P P 10 39 24.4 +1.0
baz=255,SNR=33
O17K Koliganek Bris 83.07 30 P P 10 39 24.7 +1.3
baz=257,SNR=12
RAYN Ar Rayn 83.08 294 P P 10 39 23.3 -1.0
RAYN Ar Rayn 83.08 294 P P 10 39 23.8 -0.6
RAYN Ar Rayn 83.08 294 P P 10 39 23.3 -1.0
RAYN pmax pmax
comp=Z,23nm,1.0s
H17K Granite Mounta 83.11 24 P P 10 39 24.1 +0.5
H17K Granite Mounta 83.11 24 P P 10 39 24.8 +1.2
baz=254,SNR=78
N17K Nushagak Hills 83.20 29 P P 10 39 23.9 -0.2
N17K Nushagak Hills 83.20 29 P P 10 39 25.3 +1.2
baz=257,SNR=20
K17K Iditarod 83.21 26 P P 10 39 25.3 +1.2
baz=255,SNR=78
P17K Kvichak River 83.27 30 P P 10 39 25.6 +1.2
baz=257
M17K Holitna River 83.28 28 P P 10 39 25.8 +1.3
baz=256,SNR=22
Q17K Contact Creek 83.35 31 P P 10 39 25.6 +0.5
baz=258
E18K Tukpahlearik C 83.56 22 P P 10 39 26.8 +0.9
baz=253,SNR=52
F18K Selawik 83.68 23 P P 10 39 27.5 +1.1
baz=254,SNR=25
C18K Utukok River 83.72 20 P P 10 39 26.9 +0.3
C18K Utukok River 83.72 20 P P 10 39 27.8 +1.1
baz=252,SNR=16
B18K Kokolik River 83.74 20 P P 10 39 27.4 +0.8
baz=251
H18K Honhosa River 83.80 24 P P 10 39 27.5 +0.4
H18K Honhosa River 83.80 24 P P 10 39 28.1 +1.0
baz=255,SNR=39
L18K Granite Mounta 83.82 27 P P 10 39 27.8 +0.6
L18K Granite Mounta 83.82 27 P P 10 39 28.1 +0.8
baz=257,SNR=49
N18K Kilae Creek 83.86 29 IAMs_20 IAMs_20 11 05 02.9
comp=Z,9μm,20.0s
N18K Kilae Creek 83.86 29 P P 10 39 28.2 +0.7
baz=258,SNR=30
G18K Tagagawik 83.88 23 P P 10 39 28.3 +0.8
G18K IAmb IAmb 10 39 33.4
comp=Z,104nm,1.6s
G18K Tagagawik 83.88 23 P P 10 39 27.9 +0.4
baz=255,SNR=46
Q18K Katmai Hardscr 83.88 31 P P 10 39 28.0 +0.3
baz=259,SNR=9.2
P18K Big Mountain, 83.92 30 P P 10 39 28.3 +0.5
baz=258
SII Sitkinak Islan 83.93 33 P P 10 39 28.5 +0.6
baz=260
R18K Karluk 83.97 32 P P 10 39 28.8 +0.8
baz=259
O18K Koktuh Hills 84.02 30 P P 10 39 29.2 +0.9
baz=258
M18K Stony River 84.06 28 P P 10 39 29.5 +1.1
baz=258,SNR=60
J18K Innoko River 84.09 26 P P 10 39 29.1 +0.5
baz=257,SNR=64
A19K Wainwright 84.24 19 P P 10 39 30.4 +1.2
baz=252
GCSA Galena City Sc 84.32 25 P P 10 39 30.8 +1.2
baz=256,SNR=37
KIRV Kirov 84.39 329 i P P 10 39 29.8 -0.3
C19K Lookout Ridge 84.41 20 P P 10 39 31.6 +1.4
baz=254,SNR=13
F19K Shaleruckik Mo 84.47 23 P P 10 39 31.5 +1.1
baz=255,SNR=27
O19K Port Alsworth 84.52 29 P P 10 39 31.5 +0.7
baz=259
OHAK Old Harbor 84.53 32 P P 10 39 34.2 +3.3
OHAK Old Harbor 84.53 32 P P 10 39 31.4 +0.5
baz=260
N19K Bonanza Creek 84.56 29 P P 10 39 31.9 +0.8
baz=259,SNR=51
G19K Purcell Mounta 84.56 23 P P 10 39 31.7 +0.7
baz=256,SNR=44
Q19K Cape Douglas, 84.63 31 P P 10 39 31.2 -0.3
baz=260
L19K White Mountain 84.65 27 P P 10 39 32.4 +0.9
baz=258,SNR=42
H19K Roundabout Mou 84.67 24 P P 10 39 32.2 +0.8
baz=257,SNR=31
J19K Poorman 84.68 26 P P 10 39 32.5 +0.9
baz=258,SNR=60
D19K Kuna River 84.76 21 P P 10 39 32.5 +0.5
baz=255
M19K Big River Lodg 84.81 28 P P 10 39 33.2 +0.9
baz=259
E19K Redstone River 84.83 22 P P 10 39 32.3 0.0
E19K Redstone River 84.83 22 P P 10 39 33.2 +0.9
baz=256,SNR=24
P19K Oil Pt 84.97 30 P P 10 39 33.6 +0.5
baz=260
GNI Garni 84.98 310 P P 10 39 34.3 +0.5
comp=Z,5.3nm,0.3s,baz=91,slow=8.1,SNR=6.9
comp=Z,5.3nm,0.3s
GNI Garni 84.98 310 i P P 10 39 33.7 -0.1
GNI pmax pmax
comp=Z,15nm,1.0s
KDAK Kodiak Island 84.99 32 P P 10 39 32.0 -1.3
KDAK Kodiak Island 84.99 32 i P P 10 39 32.9 -0.3
KDAK pmax pmax
comp=Z,116nm,1.4s
KDAK Kodiak Island 84.99 32 P P 10 39 33.6 +0.4
baz=261
L20K Farewell, AK 85.15 27 P P 10 39 34.6 +0.6
baz=259,SNR=27
Q20K Shuyak Island 85.22 31 P P 10 39 34.8 +0.4
baz=261
K20K Telida 85.23 26 P P 10 39 33.8 -0.6
K20K Telida 85.23 26 P P 10 39 35.4 +1.1
baz=259,SNR=34
F20K Avaraart Lake 85.30 23 P P 10 39 35.5 +0.9
baz=257,SNR=18
H20K Anotleneega Mo 85.31 24 P P 10 39 35.7 +1.0
baz=258,SNR=5.4
I20K Naaghedeneel 85.33 25 P P 10 39 35.5 +0.7
baz=259
O20K Slope Mountain 85.34 30 P P 10 39 35.5 +0.4
baz=261
D20K Etivluk River 85.35 21 P P 10 39 34.9 0.0
D20K IAmb IAmb 10 39 43.4
comp=Z,112nm,1.8s
D20K Etivluk River 85.35 21 P P 10 39 35.7 +0.8
baz=256,SNR=9.2
J20K Nowinta River 85.35 25 P P 10 39 34.8 -0.2
J20K IAmb IAmb 10 39 44.5
comp=Z,76nm,1.4s
J20K Nowinta River 85.35 25 P P 10 39 35.7 +0.8
baz=259,SNR=30
M20K Styx River 85.39 28 P P 10 39 34.1 -1.2
M20K Styx River 85.39 28 P P 10 39 36.2 +0.9
baz=260,SNR=23
E20K Nigu River 85.40 21 P P 10 39 35.5 +0.3
baz=257,SNR=21
B20K Meade River 85.48 19 P P 10 39 36.1 +0.7
baz=256
SPCR Spurr Chakacha 85.72 29 P P 10 39 36.8 -0.1
baz=261
HOM Homer 85.76 30 P P 10 39 37.2 +0.2
baz=262
IMAR Indian Mountai 85.86 24 P P 10 39 36.7 -0.7
CNPM China Poot 85.95 30 P P 10 39 37.4 -0.6
PPLA Purkeypile 85.99 27 P P 10 39 39.5 +1.1
PPLA Purkeypile 85.99 27 P P 10 39 38.3 -0.1
baz=261
G21K Allakaket 86.06 23 P P 10 39 38.6 +0.2
baz=259
C21K Knifeblade Rid 86.09 21 P P 10 39 39.0 +0.4
baz=258
CHUM Lake Minchumin 86.10 26 P P 10 39 38.7 +0.1
baz=261
NCK Nalchik 86.11 313 i P P 10 39 39.2 0.0
NCK pmax pmax
comp=Z,27nm,1.0s
GEVA Gevas 86.15 308 IAMs_20 IAMs_20 11 21 27.8
comp=Z,11μm,22.0s
SKT Skwentna 86.16 28 P P 10 39 39.1 +0.1
baz=262,SNR=20
CAPN Captain Cook N 86.16 29 P P 10 39 39.0 0.0
baz=262
H21K Melozitna Rive 86.18 24 P P 10 39 38.9 -0.2
baz=260
F21K Alatna River 86.19 23 P P 10 39 39.2 +0.1
baz=259
E21K Killik River 86.24 21 P P 10 39 39.7 +0.3
baz=259
B21K Ikpikpuk River 86.25 20 P P 10 39 39.3 0.0
baz=258

I21K	**Tanana**	86.44	25	P		P		10 39 40.8	+0.4	
	baz=261,SNR=11									
GOF	**Gofitskoye**	86.63	315	*ce*P		P		10 39 42.4	+0.7	
KBZ	**Khabaz**	86.64	314	P		P		10 39 41.4	-0.3	
	comp=Z,7.4nm,1.0s,baz=90,slow=3.6,SNR=11									
	comp=Z,7.4nm,1.0s									
KBZ	**Khabaz**	86.64	314	*i* P		P		10 39 41.8	+0.1	
KBZ				pmax		pmax				
	comp=Z,19nm,1.3s									
KTH	**Kantishna Hill**	86.66	26	IAMs_20		IAMs_20		11 10 04.9		
	comp=Z,10µm,21.0s									
BPAW	**Bear Paw Mtn.**	86.71	26	IAMs_20		IAMs_20		11 11 52.2		
	comp=Z,10µm,19.0s									
BPAW	**Bear Paw Mtn.**	86.71	26	P		P		10 39 42.1	+0.5	
	baz=262									
F22K	**John River**	86.74	22	P		P		10 39 42.3	+0.5	
	baz=261									
D22K	**Ayikyak River**	86.79	21	P		P		10 39 43.0	+1.0	
	baz=260									
M22K	**Willow**	86.79	28	P		P		10 39 43.1	+1.0	
	baz=263,SNR=10									
KVAR	**Kislovodsk Arr**	86.80	314	P		P		10 39 42.1	-0.6	
	comp=Z,1.9nm,0.5s,baz=73,slow=19,SNR=1.6									
	comp=Z,1.9nm,0.5s									
CUT	**Chulitna**	86.80	28	P		P		10 39 43.1	+0.9	
	baz=263									
KIV	**Kislovodsk**	86.80	314	*e*P		P		10 39 40.6	-2.1	
KIV				pmax		pmax				
	comp=Z,17nm,1.0s									
H22K	**Ishtalitna Cre**	86.80	24	P		P		10 39 42.8	+0.7	
	baz=261,SNR=8.8									
SHA1	**Shidzhatmaz**	86.81	314	*i* P		P		10 39 42.6	-0.3	
RC01	**Rabbit Creek A**	86.89	29	P		P		10 39 43.0	+0.4	
	baz=263									
G22K	**Bettles**	86.91	23	P		P		10 39 42.9	+0.4	
	baz=261									
SEW	**Seward**	86.92	30	P		P		10 39 43.2	+0.5	
	baz=263									
TRF	**Thorofare Moun**	86.93	26	P		P		10 39 42.7	-0.2	
	baz=262									
MLY	**Manley**	86.94	25	P		P		10 39 43.3	+0.5	
	baz=262,SNR=12									
GURO	**Guroymak-BITLI**	86.97	308	P		P		10 39 43.6	-0.1	
GURO				IAmb		IAmb		10 39 48.5		
	comp=Z,49nm,1.1s									
E22K	**Anaktuvuk Pass**	86.98	22	P		P		10 39 43.6	+0.6	
	baz=261,SNR=18									
PMR	**Palmer**	87.24	28	P		P		10 39 43.5	-0.7	
PMR				IAmb		IAmb		10 39 50.6		
	comp=Z,71nm,1.6s									
PMR	**Palmer**	87.24	28	P		P		10 39 44.4	+0.2	
PMR	**Palmer**	87.24	28	P		P		10 39 43.5	-0.7	
PMR	**Palmer**	87.24	28	P		P		10 39 44.1	-0.1	
	baz=264,SNR=5.0									
COLD	**Coldfoot**	87.46	23	P		P		10 39 45.4	+0.1	
	baz=262,SNR=24									
G23K	**Bananza Creek**	87.46	23	P		P		10 39 45.5	+0.2	
	baz=263,SNR=32									
D23K	**Nanushuk River**	87.51	21	P		P		10 39 45.7	+0.2	
D23K				IAmb		IAmb		10 39 51.2		
	comp=Z,46nm,1.4s									
D23K	**Nanushuk River**	87.51	21	P		P		10 39 46.5	+1.0	
	baz=262,SNR=6.0									
I23K	**Minto, Yukon-K**	87.54	25	P		P		10 39 44.8	-0.8	
I23K				IAmb		IAmb		10 39 50.6		
	comp=Z,74nm,1.3s									
I23K	**Minto, Yukon-K**	87.54	25	P		P		10 39 45.7	+0.1	
	baz=263,SNR=58									
KNK	**Knik Glacier**	87.54	29	P		P		10 39 45.0	-0.8	
KNK	**Knik Glacier**	87.54	29	P		P		10 39 46.1	+0.4	
	baz=264									
H23K	**Yukon River**	87.54	24	P		P		10 39 45.5	-0.2	
H23K	**Yukon River**	87.54	24	P		P		10 39 46.1	+0.4	
	baz=263,SNR=18									
PWL	**Port Wells**	87.55	29	P		P		10 39 45.5	-0.3	
PWL				IAmb		IAmb		10 39 52.8		
	comp=Z,111nm,1.9s									
PWL	**Port Wells**	87.55	29	P		P		10 39 45.9	+0.1	
	baz=264									
MCK	**McKinley**	87.56	26	P		P		10 39 44.1	-1.7	
MCK				IAmb		IAmb		10 39 56.8		
	comp=Z,46nm,1.4s									
MCK	**McKinley**	87.56	26	P		P		10 39 44.1	-1.7	
MCK				pmax		pmax				
	comp=Z,46nm,1.4s									
MCK	**McKinley**	87.56	26	P		P		10 39 45.8	0.0	
	baz=264									
NEA2	**Nenana**	87.60	25	P		P		10 39 46.0	0.0	
	baz=264									
C23K	**Itkillik River**	87.66	20	P		P		10 39 46.5	+0.4	
	baz=262									
E23K	**Chandalar**	87.78	22	P		P		10 39 47.5	+0.6	
	baz=263,SNR=22									
TOLK	**Toolik Lake Re**	87.87	21	P		P		10 39 47.3	0.0	
TOLK	**Toolik Lake Re**	87.87	21	P		P		10 39 47.8	+0.5	
	baz=263,SNR=8.1									
VRH	**Novokhopyorsk**	87.92	321	*e*P		P		10 39 44.6	-3.2	
VRH				pmax		pmax				
	comp=Z,47nm,1.6s									
M23K	**Glacier View**	87.92	28	P		P		10 39 48.0	+0.4	
	baz=265									
P23K	**Montague Islan**	87.93	30	P		P		10 39 48.1	+0.5	
	baz=265									
SCM	**Sheep Creek Mo**	88.12	28	P		P		10 39 49.0	+0.4	
	baz=265									
CCB	**Clear Creek Bu**	88.14	25	P		P		10 39 47.1	-1.5	
CCB				IAmb		IAmb		10 39 52.9		
	comp=Z,44nm,1.4s									
COLA	**College**	88.15	25	P		P		10 39 51.0	+2.5	
COLA	**College**	88.15	25	*i* P		P		10 39 48.3	-0.2	
COLA				pmax		pmax				
	comp=Z,5.0nm,0.9s									
COLA	**College**	88.15	25	P		P		10 39 48.7	+0.2	
	baz=265									
GLI	**Glacier Island**	88.15	29	P		P		10 39 48.8	+0.1	
	baz=266									
D24K	**Happy Valley**	88.20	21	P		P		10 39 49.2	+0.5	
	baz=264									
E24K	**Your Creek**	88.21	22	P		P		10 39 48.0	-0.9	
E24K	**Your Creek**	88.21	22	P		P		10 39 49.5	+0.6	
	baz=264,SNR=7.9									
H24K	**Noodor Dome**	88.22	24	P		P		10 39 48.6	-0.4	
H24K				IAmb		IAmb		10 39 54.2		
	comp=Z,41nm,1.2s									
H24K	**Noodor Dome**	88.22	24	P		P		10 39 49.4	+0.4	
	baz=265,SNR=30									
LABN	**Labinsk**	88.25	315	*e*P		P		10 39 49.3	-0.2	
LABN				pmax		pmax				
	comp=Z,20nm,0.5s									
C24K	**Franklin Bluff**	88.31	20	P		P		10 39 49.1	-0.1	
	baz=264									
F24K	**Squaw Lake**	88.38	23	P		P		10 39 49.7	0.0	
F24K	**Squaw Lake**	88.38	23	P		P		10 39 50.4	+0.7	
	baz=264,SNR=22									
ERBR	**Yeremizino-Bor**	88.46	316	*e*P		P		10 39 47.7	-2.8	
ERBR				*e*				10 43 16.2		
ERBR				*e*				10 50 27.5		
ERBR				pmax		pmax				
	comp=Z,11nm,0.5s									
G24K	**Hadweenzic Riv**	88.47	23	P		P		10 39 50.2	+0.2	
G24K				IAmb		IAmb		10 39 58.9		
	comp=Z,84nm,1.7s									
G24K	**Hadweenzic Riv**	88.47	23	P		P		10 39 50.6	+0.5	
	baz=265,SNR=17									
HDA	**Harding Lake**	88.50	26	P		P		10 39 49.2	-1.0	
	baz=266,SNR=7.9									
ILAR	**Eielson Array**	88.55	25	P		P		10 39 48.3	-2.2	
ILAR	**Eielson Array**	88.55	25	P		P		10 39 48.6	-1.8	
	comp=Z,4.7nm,0.9s,baz=266,slow=5.5,SNR=16									
ILAR				PP		PP		10 43 19.3	+0.6	
	comp=Z,4.5nm,1.3s,baz=268,slow=7.4,SNR=5.3									
ILAR				PKKPbc		PKKPdf		10 57 32.0	+2.6	
	comp=Z,1.0nm,0.8s,baz=51,slow=0.7,SNR=4.9									
	comp=Z,4.7nm,0.9s									
M24K	**Tolsona, Glenn**	88.68	28	P		P		10 39 50.1	-1.1	
M24K				IAmb		IAmb		10 39 56.5		
	comp=Z,58nm,1.2s									
M24K	**Tolsona, Glenn**	88.68	28	P		P		10 39 51.0	-0.3	
	baz=266									
KLU	**Klutina**	88.76	29	P		P		10 39 51.6	0.0	
KLU	**Klutina**	88.76	29	P		P		10 39 51.7	0.0	
	baz=266									
SYO	**Syowa Base**	88.79	201	*i* sP		sP		10 40 00.0	+0.2	
EYAK	**Cordova Ski Ar**	88.79	30	P		P		10 39 55.1	+3.5	
EYAK	**Cordova Ski Ar**	88.79	30	P		P		10 39 51.9	+0.3	
	baz=267									
DIV	**Divide**	88.81	29	P		P		10 39 50.9	-1.0	
DIV				IAmb		IAmb		10 40 02.4		
	comp=Z,30nm,1.0s									
SOC	**Sochi**	88.93	313	*e*P		P		10 39 50.5	-2.2	
SOC				*e*				10 43 18.5		
SOC				*e*S		SKSac		10 50 20.4	-1.3	
SOC				*e*SS		SS		10 56 24.8	-8.0	
SOC				pmax		pmax				
	comp=Z,13nm,0.7s									
K24K	**Donnelly Dome**	88.97	26	P		P		10 39 51.4	-1.2	
K24K	**Donnelly Dome**	88.97	26	P		P		10 39 52.9	+0.4	
	baz=267									
G25K	**Bearman Lake**	89.01	23	P		P		10 39 53.3	+0.8	
	baz=266									
PAX	**Paxson**	89.06	27	P		P		10 39 52.3	-0.7	
PAX				IAmb		IAmb		10 39 58.7		
	comp=Z,57nm,1.5s									
PAX				IAMs_20		IAMs_20		11 08 59.3		
	comp=Z,8µm,20.0s									
PAX	**Paxson**	89.06	27	P		P		10 39 52.3	-0.7	
PAX				pmax		pmax				
	comp=Z,57nm,1.5s									
PAX	**Paxson**	89.06	27	P		P		10 39 53.3	+0.3	
	baz=267									
D25K	**Kavik River**	89.08	21	P		P		10 39 52.6	-0.3	
D25K	**Kavik River**	89.08	21	P		P		10 39 53.1	+0.1	
	baz=266									
H25L	**Birch Creek**	89.10	24	P		P		10 39 53.7	+0.7	
	baz=266,SNR=22									
FURI	**Furi**	89.13	279	IAMs_20		IAMs_20		11 13 46.5		
	comp=Z,11µm,20.0s									
HARP	**HAARP**	89.17	28	P		P		10 39 53.9	+0.5	
	baz=267									
PRP	**Porcupine Dome**	89.17	25	P		P		10 39 53.9	+0.3	
J25K	**Salcha River,**	89.19	26	P		P		10 39 53.4	-0.2	
	baz=267,SNR=7.5									
F25K	**Christian Rive**	89.24	23	P		P		10 39 54.3	+0.5	
	baz=267									
QSPA	**South Pole Qui**	89.36	180	P		P		10 39 53.7	-0.7	
	comp=Z,18nm,0.8s,baz=314,slow=2.4,SNR=27									
	comp=Z,18nm,0.8s									
BMRM	**Bremner River**	89.37	29	P		P		10 39 54.9	+0.4	
	baz=268									
RIDG	**Independent Ri**	89.38	26	P		P		10 39 53.7	-0.8	
RIDG				IAmb		IAmb		10 40 02.5		
	comp=Z,114nm,1.8s									
RIDG	**Independent Ri**	89.38	26	P		P		10 39 54.1	-0.4	
	baz=267,SNR=16									
N25K	**Chitina, Valde**	89.40	29	IAMs_20		IAMs_20		11 06 58.4		
	comp=Z,11µm,20.0s									
N25K	**Chitina, Valde**	89.40	29	P		P		10 39 54.4	-0.2	
	baz=268,SNR=6.8									
KAIM	**Kayak Island**	89.42	30	P		P		10 39 54.6	0.0	
	baz=268									
VORR	**Voronezh**	89.51	321	*e*P		P		10 39 54.7	-0.6	
VORR				pmax		pmax				
	comp=Z,30nm,1.4s									
VSR	**Storozhevoye**	89.53	321	*e*P		P		10 39 50.9	-4.4	
VSR				pmax		pmax				
	comp=Z,30nm,1.6s									
KLMR	**Klimovskoe**	89.61	331	*e*P		P		10 39 53.6	-1.9	
KLMR				*e*				10 43 24.5		
KLMR				pmax		pmax				
	comp=Z,33nm,1.6s									
KIBK	**Kibwezi**	89.64	268	P		P		10 39 56.1	-0.7	
KIBK				IAmb		IAmb		10 40 04.8		
	comp=Z,61nm,1.6s									
KIBK	**Kibwezi**	89.64	268	P		P		10 39 58.9	+2.1	
	SNR=5.3									
BMAR	**Burnt Mountain**	89.64	23	P		P		10 39 54.7	-1.0	
LPSR	**Galich'ya Gora**	89.71	322	*e*P		P		10 39 55.9	-0.2	
LPSR				pmax		pmax				
	comp=Z,43nm,1.6s									
DOT	**Dot Lake**	89.72	26	P		P		10 39 55.2	-0.9	
DOT				IAmb		IAmb		10 40 04.3		
	comp=Z,54nm,1.7s									
SCRK	**Sand Creek**	89.77	26	P		P		10 39 55.8	-0.6	
SCRK	**Sand Creek**	89.77	26	P		P		10 39 57.2	+0.8	
	baz=268,SNR=14									
BERG	**Berg Lake**	89.80	30	P		P		10 39 55.9	-0.5	
BERG				IAmb		IAmb		10 40 02.6		
	comp=Z,73nm,1.4s									
F26K	**Sheenjek River**	89.82	22	P		P		10 39 56.2	-0.2	
F26K				IAMs_20		IAMs_20		11 09 17.4		
	comp=Z,8µm,19.0s									
F26K	**Sheenjek River**	89.82	22	P		P		10 39 57.0	+0.5	
	baz=268,SNR=6.3									
G26K	**Porcupine Rive**	89.94	23	P		P		10 39 57.8	+0.8	
	baz=268,SNR=8.3									
VRDI	**Verde Repeater**	89.94	29	IAMs_20		IAMs_20		11 12 26.6		
	comp=Z,10µm,22.0s									
J26L	**Joseph Creek**	89.97	26	P		P		10 39 56.6	-0.7	
J26L				IAmb		IAmb		10 40 05.6		
	comp=Z,96nm,1.9s									
J26L	**Joseph Creek**	89.97	26	P		P		10 39 57.1	-0.2	
	baz=268,SNR=35									
L26K	**Log Cabin Wild**	90.03	27	P		P		10 39 57.7	+0.2	
	baz=269,SNR=8.0									
C27K	**Jago River**	90.04	20	IAMs_20		IAMs_20		11 16 49.3		
	comp=Z,9µm,20.0s									
C27K	**Jago River**	90.04	20	P		P		10 39 58.0	+0.6	
	baz=268									
CRQE	**Cirque**	90.11	29	P		P		10 39 58.2	+0.1	
	baz=269									
MCARA	**McCarthy VSAT**	90.15	29	P		P		10 39 58.8	+0.8	
	baz=269									
I26K	**Coal Creek Min**	90.16	25	P		P		10 39 58.4	+0.4	
	baz=269									
M26K	**Nabesna, AK**	90.18	28	P		P		10 39 58.6	+0.4	
	baz=269,SNR=5.9									
MOS	**Moscow**	90.52	326	*e*P		P		10 40 01.2	+1.4	
MOS				*e*				10 43 39.3		
ANN	**Anapa**	90.60	315	*e*P		P		10 40 00.2	-0.3	
ANN				*e*				10 50 46.9		
ANN				pmax		pmax				
	comp=Z,36nm,0.9s									
K27K	**Chicken**	90.61	26	IAMs_20		IAMs_20		11 14 41.2		
	comp=Z,9µm,21.0s									
K27K	**Chicken**	90.61	26	P		P		10 40 00.7	+0.6	
	baz=270									
MESA	**MESA**	90.67	30	P		P		10 40 01.0	+0.2	
	baz=270									
M27K	**Edge Creek, AK**	90.70	28	P		P		10 40 01.0	+0.2	
	baz=270									
L27K	**Beaver Creek,**	90.72	27	IAMs_20		IAMs_20		11 07 42.3		
	comp=Z,11µm,20.0s									
L27K	**Beaver Creek,**	90.72	27	P		P		10 40 01.1	+0.4	
	baz=270,SNR=22									
BCAR	**Beaver Creek A**	90.74	27	P		P		10 40 00.2	-0.7	
G27K	**Doyon Strip**	90.78	23	P		P		10 40 01.5	+0.6	
	baz=270,SNR=13									
E27K	**Coleen River**	90.79	22	P		P		10 40 01.3	+0.4	
	baz=270,SNR=18									
I27K	**Kandik River**	90.80	25	P		P		10 40 01.7	+0.6	
	baz=270,SNR=31									
H27K	**Steamboat Moun**	90.83	24	P		P		10 40 01.5	+0.3	
	baz=270,SNR=31									
CTG	**Chitna Glacier**	90.96	29	P		P		10 40 02.7	+0.7	
	baz=270,SNR=8.7									
ASF	**Jabal al Asfar**	90.99	302	P		P		10 40 02.8	0.0	
	comp=Z,6.4nm,0.9s,baz=113,slow=2.4,SNR=5.5									
	comp=Z,6.4nm,0.9s									
D27M	**Malcolm River**	91.01	21	P		P		10 40 02.3	+0.3	
	baz=271									
OBN	**Obninsk**	91.12	325	P		P		10 40 00.9	-1.7	
	comp=Z,11nm,0.3s,baz=90,slow=11,SNR=1.6									
	comp=Z,11nm,0.3s									
OBN	**Obninsk**	91.12	325	*ce*P		P		10 40 02.3	-0.4	
OBN				*e*				10 43 43.7		
OBN				pmax		pmax				
	comp=Z,20nm,1.4s									
OBN				MLR		MLR				
	comp=Z,7µm,19.0s									
BVCY	**Beaver Creek**	91.17	28	P		P		10 40 03.6	+0.8	
	baz=271,SNR=18									
YUK3	**Moose Creek**	91.37	28	P		P		10 40 04.1	+0.1	
	baz=271,SNR=8.1									
F28M	**Old Crow**	91.45	23	P		P		10 40 03.9	-0.2	
	baz=272									
I28M	**Miner Creek**	91.50	25	P		P		10 40 03.6	-0.8	
I28M	**Miner Creek**	91.50	25	P		P		10 40 04.3	-0.1	
	baz=272,SNR=55									
PCA	**Pinnacle**	91.51	30	IAMs_20		IAMs_20		11 25 11.4		
	comp=Z,8µm,19.0s									
PINM	**Pinnacle**	91.52	30	P		P		10 40 04.6	0.0	
	baz=271									
O28M	**Mount Upton**	91.53	29	P		P		10 40 03.5	-1.3	
O28M				IAmb		IAmb		10 40 10.6		
	comp=Z,31nm,1.1s									
O28M	**Mount Upton**	91.53	29	P		P		10 40 05.1	+0.2	
	baz=272,SNR=14									
E28M	**Babbage River**	91.54	22	P		P		10 40 04.7	+0.3	
	baz=272									
YUK8	**Steele Glacier**	91.72	29	P		P		10 40 05.7	0.0	
	baz=272									
DAWY	**Dawson**	91.79	26	P		P		10 40 05.9	+0.2	
DAWY				IAmb		IAmb		10 40 10.9		
	comp=Z,46nm,1.3s									
DAWY	**Dawson**	91.79	26	P		P		10 40 06.1	+0.4	
	baz=272,SNR=41									
PNL	**Peninsula**	91.96	30	P		P		10 40 09.6	+3.1	
H29M	**Whitestone**	92.11	24	P		P		10 40 07.6	+0.5	
	baz=273,SNR=16									
E29M	**Blow River**	92.16	22	P		P		10 40 07.4	+0.2	
	baz=274									
APA	**Apatity**	92.18	337	*e*P		P		10 40 10.4	+3.1	
I29M	**Ogilvie Camp,**	92.19	25	IAMs_20		IAMs_20		11 09 13.0		
	comp=Z,9µm,19.0s									
I29M	**Ogilvie Camp,**	92.19	25	P		P		10 40 07.0	-0.5	
	baz=273,SNR=48									
G29M	**Pine Creek**	92.21	23	P		P		10 40 07.7	+0.2	
	baz=274,SNR=28									
MMAI	**Mount Meron Ar**	92.25	303	P		P		10 40 07.1	-1.4	
	comp=Z,3.4nm,0.7s,baz=57,slow=2.5,SNR=1.5									
	comp=Z,3.4nm,0.7s									
YUK4	**Talbot Arm**	92.26	29	P		P		10 40 08.7	+0.6	
	baz=273									
J29N	**Klondike Camp**	92.28	26	P		P		10 40 08.4	+0.5	
	baz=273									
M29M	**Somme Creek**	92.29	28	IAMs_20		IAMs_20		11 21 39.7		
	comp=Z,11µm,21.0s									
M29M	**Somme Creek**	92.29	28	P		P		10 40 08.8	+0.7	
	baz=273,SNR=25									
O29M	**Mount Kennedy**	92.34	30	P		P		10 40 08.7	+0.3	
	baz=273									
L29M	**L29M**	92.40	27	IAMs_20		IAMs_20		11 08 55.7		
	comp=Z,8µm,18.0s									
L29M	**L29M**	92.40	27	P		P		10 40 09.1	+0.6	
	baz=273,SNR=57									
YUK6	**Outpost Mounta**	92.42	29	P		P		10 40 09.2	+0.3	
	baz=273									
K29M	**Barlow Dome**	92.62	26	P		P		10 40 09.8	+0.2	
	baz=274,SNR=47									
EPYK	**Eagle Plains**	92.77	24	IAMs_20		IAMs_20		11 09 33.3		
	comp=Z,8µm,21.0s									
EPYK	**Eagle Plains**	92.77	24	P		P		10 40 10.3	+0.2	
	baz=275,SNR=25									
P29M	**Windy Craggy**	92.80	30	IAMs_20		IAMs_20		11 24 32.5		
	comp=Z,11µm,22.0s									
P29M	**Windy Craggy**	92.80	30	P		P		10 40 10.9	+0.5	
	baz=274									
HYT	**Haines Junctio**	92.84	29	P		P		10 40 11.0	+0.3	
	baz=274,SNR=21									
G30M	**tAoh Zraii Nji**	92.91	23	IAMs_20		IAMs_20		11 13 12.0		
	comp=Z,10µm,21.0s									
G30M	**tAoh Zraii Nji**	92.91	23	P		P		10 40 10.6	-0.2	
	baz=275,SNR=18									
SIM	**Simferopol'**	92.95	315	*e*P		P		10 40 05.7	-5.7	
SIM				*e*				10 43 49.0		
SIM				pmax		pmax				
	comp=Z,18nm,0.9s									
SIM				MLR		MLR				
	comp=Z,5µm,16.0s									
N30M	**Aishikik Lake**	93.00	29	IAMs_20		IAMs_20		11 23 36.5		
	comp=Z,11µm,22.0s									
N30M	**Aishikik Lake**	93.00	29	P		P		10 40 11.1	-0.2	
	baz=274,SNR=11									
I30M	**Mount Dempster**	93.01	25	P		P		10 40 11.0	-0.4	
	baz=275,SNR=16									
F30M	**Barrier River**	93.02	22	IAMs_20		IAMs_20		11 14 50.8		
	comp=Z,10µm,19.0s									
F30M	**Barrier River**	93.02	22	P		P		10 40 11.4	+0.1	
	baz=276,SNR=5.8									
M30M	**Minto, Yukon**	93.05	27	P		P		10 40 11.5	0.0	
	baz=275,SNR=34									
J30M	**Hart River**	93.09	25	P		P		10 40 11.8	+0.1	
	baz=275,SNR=40									
P30M	**Million Dollar**	93.16	30	P		P		10 40 12.0	-0.1	
	baz=274									
MAYO	**Mayo, Yukon**	93.37	26	P		P		10 40 13.1	+0.1	
	baz=275,SNR=11									
BRTR	**Keskin Array B**	93.50	310	P		P		10 40 11.9	-2.4	
	comp=Z,1.7nm,0.9s,baz=114,slow=5.2,SNR=7.6									
BRTR				PP		PP		10 43 58.0	-0.8	
	comp=Z,2.5nm,1.0s,baz=120,slow=11,SNR=6.0									
	comp=Z,1.7nm,0.9s									
BRTR	**Keskin Array B**	93.50	310	*ce*P		P		10 40 12.1	-2.2	
BRTR				pmax		pmax				
	comp=Z,2.0nm,0.9s									
PLBC	**Pleasant Camp**	93.52	31	P		P		10 40 13.5	-0.2	
	baz=275									
O30N	**Mendenhall**	93.54	29	P		P		10 40 13.6	-0.2	
	baz=275									
N31M	**Braeburn, Yuko**	93.62	29	P		P		10 40 14.2	0.0	
	baz=275,SNR=19									
G31M	**Satah River**	93.68	23	IAMs_20		IAMs_20		11 12 37.4		
	comp=Z,9µm,19.0s									
G31M	**Satah River**	93.68	23	P		P		10 40 13.7	-0.5	

AKASG PP **PP** **10 44 16.8 +0.5**
comp=Z,0.3nm,0.4s,baz=72,slow=6.9,SNR=6.9
AKBB Malin Array Si 95.83 321 *i* P **P** **10 40 24.4 0.0**
AKBB pmax pmax
comp=Z,3.0nm,1.1s
FINES FINESS Array B 96.06 332 P **P** **10 40 23.5 -1.7**
FINES FINESS Array B 96.06 332 P **P** **10 40 22.7 -2.6**
comp=Z,1.8nm,0.8s,baz=65,slow=4.7,SNR=6.3
comp=Z,1.8nm,0.8s
FINES FINESS Array B 96.06 332 *ce*P **P** **10 40 26.0 +0.7**
FINES pmax pmax
comp=Z,2.0nm,0.7s
MNK Minsk 96.18 325 *i* P **P** **10 40 21.8 -4.2**
MNK *i* 10 44 15.0
MNK *i* PPP PPP 10 46 18.0
MNK *i* S **SKSac** **10 50 58.2 -3.4**
MNK *i* SS **SS** **10 58 15.5 -0.6**
MNK *i* SSS SSS 11 01 59.8
MNK pmax pmax
comp=Z,9.0nm,0.7s
MNK pmax pmax
comp=N,12nm,0.7s
MNK pmax pmax
comp=E,17nm,0.8s
MNK MLR MLR
comp=Z,10µm,19.0s
MNK MLR MLR
comp=E,5µm,19.0s
MNK MLR MLR
comp=N,3µm,17.0s
VSU Vasula 96.23 329 *ce*P **P** **10 40 26.6 +0.5**
VSU pmax pmax
comp=Z,9.0nm,1.2s
R33M Jennings River 96.26 30 IAMs_20 IAMs_20 11 10 37.8
comp=Z,10µm,20.0s
R33M Jennings River 96.26 30 P **P** **10 40 26.8 +0.4**
baz=279,SNR=5.9
DIB Dawson Inlet, 96.34 37 IAMs_20 IAMs_20 11 10 33.4
comp=Z,10µm,19.0s
S34M Telegraph Cree 96.42 32 IAMs_20 IAMs_20 11 13 22.0
comp=Z,10µm,19.0s
S34M Telegraph Cree 96.42 32 P **P** **10 40 27.0 0.0**
baz=279
V35K Ketchikan 96.55 34 IAMs_20 IAMs_20 11 32 53.7
comp=Z,11µm,21.0s
DLBC Dease Lake 96.90 31 P **P** **10 40 29.4 +0.1**
baz=280
MBAR Mbarara 96.96 269 *i* P **P** **10 40 30.0 -0.7**
MBAR pmax pmax
comp=Z,3.0nm,1.0s
TGTN Hyland Airport 97.17 28 P Pdif 10 40 30.5 0.0
baz=282
WTLY Watson Lake, Y 97.21 29 IAMs_20 IAMs_20 11 12 57.9
comp=E,8µm,18.0s
WTLY Watson Lake, Y 97.21 29 P Pdif 10 40 30.8 +0.1
baz=281,SNR=7.2
MLR Muntele Rosu 98.66 316 P **P** **10 40 35.5 -2.1**
comp=E,2.7nm,0.8s,baz=77,slow=3.8,SNR=4.7
MLR PP **PP** **10 44 37.0 -1.4**
comp=E,3.3nm,0.8s,baz=92,slow=11,SNR=3.6
comp=E,2.7nm,0.8s
LIRD Liard River Hi 98.70 30 P Pdif 10 40 37.4 +0.1
baz=284
WRGLY Wrigley 98.92 26 IAMs_20 IAMs_20 11 11 20.0
comp=E,7µm,20.0s
WRGLY Wrigley 98.92 26 P Pdif 10 40 38.2 +0.1
baz=287
LSZ Lusaka 99.03 255 LR LR 11 22 16.7
comp=E,13µm,21.3s,baz=295,slow=34
BBB Bella Bella 99.13 37 P **Pdif** **10 40 39.1 -0.1**
comp=E,1.4nm,0.8s,baz=289,slow=6.6,SNR=3.1
comp=E,1.4nm,0.8s
TOAD Toad River Com 99.27 30 P **Pdif** **10 40 39.6 -0.2**
baz=284
TROLL Troll, Antarti 99.76 195 ⇑P **Pdif** **10 40 42.0 +0.1**
comp=Z,139nm,0.8s
KOLS Kolonicke sedl 100.54 320 *e*P **Pdif** **10 40 46.9 +1.2**
KOLS Kolonicke sedl 100.54 320 *e*PDIFF **Pdif** **10 40 46.9 +1.2**
SNAA Sanae 101.31 194 ⇑P **Pdif** **10 40 48.6 -0.2**
comp=Z,49nm,1.1s
SNAA Sanae 101.31 194 P **Pdif** **10 40 48.7 0.0**
comp=Z,3.4nm,1.1s,baz=137,slow=7.5,SNR=6.8
RES Resolute Bay 101.84 11 IAMs_20 IAMs_20 11 31 36.9
comp=Z,8µm,20.0s
HFS Hagfors 102.26 332 P **Pdif** **10 40 51.3 -1.8**
comp=Z,1.6nm,0.9s,baz=111,slow=7.9,SNR=2.8
VYHS Vyhne 102.86 320 *e*PP **PKiKP** **10 45 15.9 -0.5**
YKA Yellowknife Ar 102.98 25 Pdiff **Pdif** **10 40 56.3 +0.1**
comp=Z,2.7nm,1.2s,baz=294,slow=4.7,SNR=7.9
YKA PP **PP** **10 45 04.4 -5.8**
comp=Z,0.5nm,0.8s,baz=298,slow=7.4,SNR=4.4
YKA PKKPbc **PKKPbc** **10 56 52.7 -3.0**
comp=Z,1.5nm,0.8s,baz=99,slow=2.9,SNR=8.5
NOA NORSAR Array B 103.05 333 Pdiff **Pdif** **10 40 51.1 -5.6**
comp=Z,0.6nm,0.9s,baz=66,slow=4.5,SNR=2.1
NOA PP **PP** **10 45 07.9 -3.1**
comp=Z,0.5nm,0.8s,baz=64,slow=6.3,SNR=3.4
YBH Yreka Blue Hor 104.92 47 Pdiff **Pdif** **10 41 04.3 -1.2**
baz=311,slow=11,SNR=3.2
CLL Collm 105.67 324 *e*PP PKiKP 10 45 31.0 +10
CLL *i* PPmax 10 45 38.5
comp=Z,7.0nm,1.0s
GERES GERESS Array B 106.03 321 PKiKP **PKiKP** **10 45 22.2 -0.2**
comp=Z,0.3nm,0.6s,baz=98,slow=2.0,SNR=2.3
GERES PP **PP** **10 45 31.8 -1.8**
comp=Z,0.6nm,0.7s,baz=68,slow=5.7,SNR=3.6
NEW Newport 106.95 39 PP **PP** **10 45 38.7 -1.6**
comp=Z,2.9nm,0.9s,baz=315,slow=2.9,SNR=4.1
NVAR Mina Array Bea 108.99 49 Pdiff **Pdif** **10 41 25.0 +1.2**
comp=Z,0.3nm,0.6s,baz=309,slow=4.5,SNR=4.8
NVAR PKiKP **PKiKP** **10 45 28.9 +0.6**
comp=Z,0.5nm,0.9s,baz=319,slow=2.9,SNR=3.8
NVAR PKKPbc **PKKPbc** **10 56 35.2 -1.6**
comp=Z,0.3nm,0.6s,baz=94,slow=4.5,SNR=3.5
NVAR PKKP **PKKPab** **10 56 50.2 +1.5**
comp=Z,0.3nm,0.6s,baz=94,slow=4.5,SNR=4.4
KEST Kesra 113.10 309 PP **PP** **10 46 22.9 -2.3**
comp=Z,4.6nm,0.6s,baz=63,slow=6.8,SNR=8.5
PDAR Pinedale Array 113.89 43 PKP **PKiKP** **10 45 37.5 -0.1**
comp=Z,1.2nm,1.0s,baz=289,slow=4.5,SNR=7.7
PDAR PP **PP** **10 46 33.0 +2.3**
comp=Z,0.3nm,0.7s,baz=286,slow=9.0,SNR=1.7
PDAR PKKPbc **PKKPbc** **10 56 15.9 -5.0**
comp=Z,0.5nm,0.7s,baz=132,slow=2.9,SNR=5.9
ANMO Albuquerque 119.12 50 *c* PKiKP **PKiKP** **10 45 49.4 +1.6**
ANMO pmax pmax
comp=Z,10.0nm,1.7s
ESDC Sonseca Array 121.30 318 PKP **PKPdf** **10 45 51.3 -0.3**
comp=Z,1.1nm,0.9s,baz=58,slow=0.7,SNR=7.0
ESDC PP **PP** **10 47 22.7 +0.7**
comp=Z,2.3nm,1.1s,baz=69,slow=6.9,SNR=6.3
PGAV Gavieira, Arco 122.88 322 *e*PKP **PKPdf** **10 45 54.8 +0.2**
POLO Lamas de Olo 122.91 321 *e*PKP **PKPdf** **10 45 55.0 +0.3**
PVRL Vila Real 122.92 321 *e*PKP **PKPdf** **10 45 55.0 +0.3**
MTE Manteigas 123.28 320 *e*PKP **PKPdf** **10 45 55.7 +0.2**
PVIS Viseu 123.34 320 *e*PKP **PKPdf** **10 45 55.6 +0.1**
TXAR Lajitas Array 123.36 55 PKP **PKPdf** **10 45 56.1 +0.2**
comp=Z,2.0nm,0.9s,baz=312,slow=2.8,SNR=13
PCBR Castelo Branco 123.54 319 *e*PKP **PKPdf** **10 45 56.4 +0.5**
PMRV Marv??o 123.70 319 *e*PKP **PKPdf** **10 45 56.5 +0.3**
PCAS Casmilo, Conde 124.08 320 *e*PKP **PKPdf** **10 45 56.8 -0.1**
PESTR Estremoz 124.13 318 *e*PKP **PKPdf** **10 45 57.6 +0.6**
SCHQ Schefferville 124.62 10 PKP **PKPdf** **10 45 57.3 -0.2**
comp=Z,2.8nm,0.7s,baz=351,slow=3.6,SNR=6.1
PCVE Castro Verde 125.08 317 *e*PKP **PKPdf** **10 45 58.8 -0.1**
MESJ Messejana 125.09 318 *e*PKP **PKiKP** **10 46 00.0 +0.8**
TOA0 Torodi Ar. Sit 125.10 286 P **PKiKP** **10 46 00.4 +0.6**
SNR=8.8
TORD Torodi Ar. Bea 125.10 286 PKP **PKPdf** **10 45 58.8 -0.7**
comp=Z,5.8nm,0.7s,baz=92,slow=1.8,SNR=6.1
PARRA Arraiolos 125.11 319 *e*PKP **PKPdf** **10 45 58.0 -0.9**
MORF Marmelete 125.67 317 *e*PKP **PKiKP** **10 46 01.0 +0.5**
EFI East Falkland 127.71 175 *c* PKIKP **PKiKP** **10 46 06.6 +2.6**
EFI pmax pmax
comp=Z,118nm,2.5s
DBIC Dimbokro 132.30 278 PKP **PKPdf** **10 46 13.0 -0.2**
comp=Z,5.7nm,1.1s,baz=144,slow=2.5,SNR=3.8
TKL Tuckaleechee C 134.45 37 PKP **PKPdf** **10 46 16.2 -0.5**
comp=Z,5.2nm,0.9s,baz=276,slow=2.4,SNR=4.9
CMIG Matias Romero 134.99 66 PKP **PKPdf** **10 46 18.2 0.0**
comp=Z,4.9nm,1.0s,baz=339,slow=4.1,SNR=4.2
CMIG PP **PP** **10 48 55.4 +2.5**
comp=Z,2.3nm,0.6s,baz=251,slow=7.5,SNR=3.5
PLCA Paso Flores 135.66 160 PKP **PKPdf** **10 46 18.6 -0.4**
comp=Z,11nm,1.0s,baz=214,slow=7.3,SNR=6.3
HDC Heredia 147.00 72 *e*P **PKPbc** **10 46 41.7 -0.3**
CPUP Villa Florida 152.81 170 PKP **PKPdf** **10 46 48.0 -0.6**
comp=Z,2.5nm,1.0s,baz=235,slow=1.6,SNR=5.8
CPUP PKPbc **sPKPdf** **10 46 54.9 -2.3**
comp=Z,2.7nm,1.1s,baz=127,slow=5.1,SNR=6.5
OTAV Otavalo 153.84 91 *e*P **PKPdf** **10 46 52.8 +1.6**
SJPY San Joaquin 154.31 172 *e*P **PKPdf** **10 46 52.5 +1.6**
SPB Sao Paulo 155.52 191 *e*P **PKPdf** **10 46 53.8 +1.2**
LPAZ La Paz 157.09 138 PKP **PKPdf** **10 46 56.2 +0.7**
comp=Z,11nm,1.1s,baz=295,slow=1.1,SNR=16
LPAZ PP **PP** **10 51 05.6 +2.0**
comp=Z,2.3nm,1.1s,baz=214,slow=9.7,SNR=3.8
ROSC El Rosal 157.60 79 PKP **PKPdf** **10 46 55.9 -0.1**
comp=Z,8.4nm,0.9s,baz=220,slow=7.9,SNR=5.2
ROSC PKPab **PKPab** **10 47 28.9 +0.8**
comp=Z,13nm,0.8s,baz=329,slow=7.9,SNR=4.9
SIV San Ignacio 161.40 153 PKP **PKPdf** **10 47 00.1 +0.3**
comp=Z,10nm,0.9s,baz=238,slow=2.8,SNR=13
SIV PKPab **PKPab** **10 47 43.1 -0.6**
comp=Z,5.6nm,0.8s,baz=205,slow=5.7,SNR=6.4
SIV PP **PP** **10 51 22.1 -3.6**
comp=Z,0.2nm,0.3s,baz=228,slow=11,SNR=1.9
BDFB Brasilia 163.34 195 PKP **PKPdf** **10 47 01.1 -0.8**
comp=Z,1.8nm,0.6s,baz=99,slow=1.6,SNR=3.6
BDFB PKPab **PKPab** **10 47 51.1 -1.2**
comp=Z,7.6nm,0.9s,baz=151,slow=10,SNR=7.2
BDFB PP **PP** **10 51 37.2 +1.4**
comp=Z,4.1nm,1.0s,baz=155,slow=7.6,SNR=7.1
ARAG Araguaiana, MT 163.82 162 *e*P **PKPdf** **10 47 03.7 +1.5**
PDRB Porto dos Gac 167.11 160 *e*P **PKPdf** **10 47 08.3 +3.3**
SMTB Santa Maria do 169.52 206 *e*P **PKPdf** **10 47 07.6 +0.9**
ITTB Itaituba 174.01 145 *e*P **PKPdf** **10 47 09.0 +0.2**

IDC 14 10:34:06.5±2.1, 0.93S×127.83E, h0km, mb3.7/3, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=187.4km s-min=24.5km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.94**	**162**	P	P	10 38 39.4	-0.8
	0.3nm,0.3s,baz=340,slow=11,SNR=2.2						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**23.36**	**166**	P	P	10 39 17.3	+0.5
	2.7nm,0.7s,baz=346,slow=11,SNR=9.3						
	2.7nm,0.7s						
MKAR	**Makanchi Array**	**62.00**	**326**	P	P	10 44 29.9	+1.3
	0.8nm,0.8s,baz=125,slow=7.0,SNR=2.0						
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**66.24**	**328**	P	P	10 44 55.0	-1.3
	0.4nm,0.6s,baz=125,slow=6.4,SNR=3.0						
	0.4nm,0.6s						

*IDC **14** 10:36:06.1±1.5, 0.56S×128.07E, h0km, mb3.7/4, mbtmp3.9/6, ML3.8/2, Error ellipse: s-maj=54.0km s-min=22.0km az=73.0*
*NEIC **14** 10:36:10.1±1.9, 0.51S±0.07×127.82E±0.08, h10km±1km, mb4.5/11, Error ellipse: s-maj=13.3km s-min=10.8km az=64.0*
*DJA **14** 10:36:11.0±0.2, 1°S±2°×12°8E±°, h10km, M4.0/12, mb3.7/1, MLv4.2/12*

ISC 14 10:36:09.7±0.6, 0.56S±0.05×127.77E±0.07, h10km, n33, σ1§32/36, mb4.1/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.39**	**343**		**Pn**	**10 36 35.1**	**0.0**
TNTI	**Ternate**	**1.39**	**343**	P	**Pb**	**10 36 35.6**	**-0.2**
TNTI				S	**Sg**	**10 36 55.2**	**+0.8**
SANI	**Sanana**	**2.32**	**230**	P	**Pn**	**10 36 48.0**	**+0.1**
NLAI	**Namlea**	**2.74**	**194**	P	**Pn**	**10 36 54.0**	**+0.2**
NLAI				S	**Sn**	**10 37 27.8**	**+0.8**
MSAI	**Masohi**	**3.00**	**157**	P	**Pn**	**10 36 58.3**	**+1.0**
MSAI				S	**Sn**	**10 37 34.7**	**+1.4**
AAI	**Ambon**	**3.13**	**172**	P	**Pn**	**10 36 59.9**	**+0.7**
SWI	**Sorong**	**3.50**	**95**	P	**Pn**	**10 37 06.2**	**+2.0**
KMSI	**Cibinong**	**3.96**	**287**	P	**Pn**	**10 37 11.6**	**+1.1**
SGSI	**Sangihe**	**4.78**	**332**	P	**Pn**	**10 37 23.0**	**+1.1**
FAKI	**Fak Fak**	**5.05**	**118**	Pn	**Pn**	**10 37 25.0**	**-0.6**
DAV	**Davao City (W)**	**7.89**	**344**	Pn	**Pn**	**10 38 04.6**	**0.0**
KAPI	**Kappang**	**9.15**	**241**	Pn	**Pn**	**10 38 23.7**	**+1.8**
	1.4nm,0.3s,baz=54,slow=18,SNR=4.2						
	8.3nm,0.5s						
MTN	**Manton Dam**	**12.65**	**165**	Pn	**Pn**	**10 39 08.9**	**-0.9**
KNRA	**Kununurra**	**15.05**	**176**	Pn	**Pn**	**10 39 42.8**	**+0.2**
KNRA				IAmb	IAmb	10 40 11.2	
	comp=Z,30nm,1.4s						
SBUM	**Sibu**	**15.84**	**281**	Pn	**Pn**	**10 39 53.6**	**+0.7**
FITZ	**Fitzroy Crossi**	**17.55**	**187**	P	**Pn**	**10 40 13.4**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=25,slow=14,SNR=2.0						
	comp=Z,8.9nm,1.1s						
COEN	**Coen**	**20.23**	**132**	P	**P**	**10 40 46.0**	**+0.8**
COEN				IAmb	IAmb	10 41 28.9	
	comp=Z,29nm,1.3s						
WRA	**Warramunga Arr**	**20.30**	**162**	P	**P**	**10 40 44.4**	**-1.6**
WRA	**Warramunga Arr**	**20.30**	**162**	P	**P**	**10 40 44.6**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=341,slow=10.0,SNR=3.1						
	comp=Z,1.3nm,0.8s						
AS31	**Alice Springs**	**23.72**	**166**	P	**P**	**10 41 21.1**	**-1.0**
AS31				IAmb	IAmb	10 41 28.8	
	comp=Z,2.6nm,1.0s						
ASAR	**Alice Springs**	**23.72**	**166**	P	**P**	**10 41 21.2**	**-1.0**
ASAR	**Alice Springs**	**23.72**	**166**	P	**P**	**10 41 18.3**	**-3.9**
	comp=Z,1.4nm,0.8s,baz=340,slow=10.0,SNR=5.8						
	comp=Z,1.4nm,0.8s						
FORT	**Forrest**	**30.05**	**180**	P	**P**	**10 42 20.0**	**+0.8**
FORT				IAmb	IAmb	10 43 03.0	
	comp=Z,8.0nm,0.9s						
JMM	**Marumori**	**40.09**	**16**	P	**P**	**10 43 45.1**	**-0.3**
JMM				IAmb	IAmb	10 44 03.3	
	comp=Z,35nm,1.3s						
LHI	**Lord Howe Isla**	**42.71**	**139**	P	**P**	**10 44 07.0**	**-0.1**
HHC	**Hu-ho-hao-te**	**43.78**	**342**	*e*P	**P**	**10 44 18.6**	**+2.8**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MKAR	**Makanchi Array**	**61.67**	**326**	P	**P**	**10 46 27.6**	**-0.3**
MKAR	**Makanchi Array**	**61.67**	**326**	P	**P**	**10 46 26.9**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=132,slow=7.6,SNR=5.6						
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**65.90**	**328**	P	**P**	**10 46 54.9**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=129,slow=4.8,SNR=5.7						
	comp=Z,1.1nm,0.8s						
KKAR	**Karatay Array**	**67.08**	**318**	P	**P**	**10 47 03.0**	**-0.5**
AB31	**Akbulak array**	**76.12**	**321**	P	**P**	**10 47 56.2**	**-1.6**
AB31				IAmb	IAmb	10 48 09.9	
	comp=Z,1.0nm,0.8s						
ABKAR	**Akbulak array**	**76.12**	**321**	P	**P**	**10 47 55.9**	**-1.9**
SUCK	**Suckling Hills**	**89.71**	**30**	P	**P**	**10 49 07.6**	**-0.4**

IDC 14 10:37:24.5±2.2, 1.11S×127.09E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=243.1km s-min=24.5km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.01**	**160**	P	P	10 41 57.6	-1.5
	1.0nm,0.6s,baz=341,slow=12,SNR=5.9						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**23.37**	**164**	P	P	10 42 36.2	+1.1
	1.0nm,0.5s,baz=344,slow=12,SNR=5.8						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**61.74**	**327**	P	P	10 47 45.5	+0.6
	0.3nm,0.5s,baz=134,slow=6.2,SNR=1.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**66.01**	**328**	P	P	10 48 12.2	-0.7
	0.6nm,0.6s,baz=127,slow=6.7,SNR=1.7						
	0.6nm,0.6s						

*IDC **14** 10:38:32.1±0.8, 0.67S×127.53E, h0km, mb4.0/11, mbtmp4.0/12, ML3.4/1, Error ellipse: s-maj=45.4km s-min=17.5km az=78.0*
*NEIC **14** 10:38:33.2±1.9, 0.83S±0.08×127.7E±0.1, h7km±3km, mb4.5/10, Error ellipse: s-maj=16.4km s-min=9.9km az=58.0*
*DJA **14** 10:38:42.7±0.3, 0°S±2°×12°7E±°, h10km, M4.5/10, mb4.6/5, MLv4.4/10*

ISC 14 10:38:33.7±0.5, 0.70S±0.06×127.68E±0.07, h10km, n42, σ1§38/34, mb4.3/17, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.49**	**348**		**Pn**	**10 39 00.9**	**+0.4**
TNTI	**Ternate**	**1.49**	**348**	P	**Pn**	**10 39 00.1**	**-0.4**
TNTI				S	Sn	10 39 11.8	-8.3
SANI	**Sanana**	**2.16**	**231**	P	Pg	10 39 27.1	+12
NLAI	**Namlea**	**2.59**	**193**	P	Pg	10 39 36.7	+13
MSAI	**Masohi**	**2.91**	**155**	P	Pg	10 39 38.0	+8.4
AAI	**Ambon**	**3.02**	**170**	P	Pg	10 39 41.6	+10
KMSI	**Cibinong**	**3.90**	**289**	P	**Pb**	**10 39 41.2**	**-1.4**
FAKI	**Fak Fak**	**5.08**	**116**	Pn	**Pn**	**10 39 49.2**	**-0.7**
APSI	**Ampana**	**6.03**	**268**	P	**Pn**	**10 40 06.3**	**+3.3**
BBSI	**Bau Bau**	**6.97**	**227**	P	Pb	10 40 23.8	-11
	0.3nm40nm,0.9s						
TOLI2	**Tolitoli**	**7.12**	**285**	Pn	**Pn**	**10 40 17.6**	**-0.5**
TTSI	**Tana Toraja**	**8.19**	**253**	P	Pn	10 40 37.7	+5.0
	32nm,1.1s						
BAKI	**Biak**	**8.45**	**93**	P	**Pg**	**10 41 16.6**	**+1.1**
SPSI	**Sidrap Palu**	**8.54**	**248**	P	Pn	10 40 41.6	+4.1
BKSI	**Bulukumba**	**8.83**	**238**	P	Pn	10 40 47.4	+5.9
KAPI	**Kappang**	**9.00**	**241**	Pn	Pn	10 40 49.2	+5.5
	1.4nm,0.3s,baz=64,slow=5.6,SNR=6.8						
FITZ	**Fitzroy Crossi**	**17.41**	**186**	P	**P**	**10 42 38.0**	**-0.1**
	0.1nm,0.3s,baz=14,slow=8.3,SNR=2.3						
	5.7nm,1.0s						
WRA	**Warramunga Arr**	**20.21**	**162**	P	Pn	10 43 09.5	-1.3
	1.2nm,0.6s,baz=340,slow=10,SNR=6.3						
	1.2nm,0.6s						
WR8	**Warramunga Arr**	**20.27**	**161**	P	**P**	**10 43 07.5**	**-2.1**
AS31	**Alice Springs**	**23.62**	**166**	P	**P**	**10 43 42.6**	**-2.5**
ASAR	**Alice Springs**	**23.62**	**166**	P	**P**	**10 43 45.7**	**+0.6**
	3.8nm,0.8s,baz=342,slow=8.8,SNR=6.7						
ASAR				PcP	**PcP**	**10 47 29.3**	**-0.8**
	0.5nm,0.8s,baz=344,slow=2.2,SNR=2.2						
	3.8nm,0.8s						
FORT	**Forrest**	**29.92**	**179**	P	**P**	**10 44 39.3**	**-2.6**
FORT				IAmb	IAmb	10 45 19.0	
	comp=Z,6.0nm,1.0s						
KSRS	**Korea Array**	**37.96**	**0**	P	**P**	**10 45 52.2**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=177,slow=9.0,SNR=2.8						
	comp=Z,0.6nm,0.7s						
MJAR	**Matsushiro Arr**	**38.32**	**14**	P	**P**	**10 45 54.0**	**-0.7**
	comp=Z,1.8nm,1.0s,baz=195,slow=8.8,SNR=4.5						
	comp=Z,1.8nm,1.0s						
GTA	**Gaotai**	**47.37**	**331**	*e*P	**P**	**10 47 09.9**	**+1.6**
GTA				pP	sP	10 47 13.6	+0.9
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
EVN	**Everest**	**48.44**	**309**	P	**P**	**10 47 18.9**	**+1.5**
SONM	**Songino Array**	**51.77**	**342**	P	**P**	**10 47 41.6**	**0.0**
	comp=Z,0.7nm,0.7s,baz=159,slow=9.1,SNR=3.7						
SONM				PcP	**PcP**	**10 48 55.5**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=160,slow=4.6,SNR=2.1						
	comp=Z,0.7nm,0.7s						
PETK	**Petropavlovsk-**	**59.18**	**21**	P	**P**	**10 48 35.0**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=230,slow=7.8,SNR=4.6						
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**61.72**	**326**	P	**P**	**10 48 50.8**	**-1.5**
MKAR	**Makanchi Array**	**61.72**	**326**	P	**P**	**10 48 51.1**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=124,slow=8.0,SNR=9.1						
	comp=Z,1.6nm,0.7s						
MAKZ	**Makanchi**	**61.91**	**326**	P	**P**	**10 48 53.0**	**-0.5**
MAKZ				IAmb	IAmb	10 48 58.6	
	comp=Z,4.3nm,1.2s						
KURBB	**Kurchatov Arra**	**65.96**	**328**	P	**P**	**10 49 19.8**	**-0.3**
	comp=Z,2.6nm,0.9s,baz=125,slow=5.8,SNR=8.7						
	comp=Z,2.6nm,0.9s						
KKAR	**Karatay Array**	**67.11**	**318**	P	**P**	**10 49 28.2**	**+0.5**
BVAR	**Borovoye Array**	**71.53**	**328**	P	**P**	**10 49 53.6**	**-1.2**
	comp=Z,2.0nm,0.9s,baz=123,slow=5.3,SNR=4.8						
	comp=Z,2.0nm,0.9s						
NRIK	**Noril'sk**	**74.92**	**346**	P	**P**	**10 50 14.3**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=141,slow=9.3,SNR=4.0						
	comp=Z,2.2nm,0.5s						
AB31	**Akbulak array**	**76.16**	**321**	P	**P**	**10 50 20.6**	**-1.4**
AB31				IAmb	IAmb	10 50 25.4	
	comp=Z,2.5nm,1.1s						
ABKAR	**Akbulak array**	**76.16**	**321**	P	**P**	**10 50 19.8**	**-2.2**
AKTO	**Aktyubinsk**	**77.70**	**322**	P	**P**	**10 50 30.3**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=87,slow=5.6,SNR=2.9						
	comp=Z,1.1nm,0.4s						
VNDA	**Vanda**	**78.94**	**173**	P	**P**	**10 50 37.3**	**+0.2**
VNDA				IAmb	IAmb	10 51 12.0	
	comp=Z,2.9nm,1.4s						
C18K	**Utukok River**	**83.85**	**20**	P	**P**	**10 51 04.5**	**+1.2**
L18K	**Granite Mounta**	**83.94**	**27**	P	**P**	**10 51 04.3**	**+0.5**
L18K				IAmb	IAmb	10 51 10.0	
	comp=Z,6.8nm,1.1s						
N19K	**Bonanza Creek**	**84.68**	**29**	P	**P**	**10 51 09.5**	**+1.8**
N19K				IAmb	IAmb	10 51 14.2	
	comp=Z,8.2nm,1.0s						

*IDC **14** 10:42:07.6±3.5, 53.67N×89.60E, h0km, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=28.7km s-min=22.1km az=55.0*

ASRS 14 10:41:59.0±1.7, 53.71N×90.12E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVINFRA**	**3.15**	**276**	I	I	11 00 20.0	
	0.1nm,0.9s,baz=93,slow=311,SNR=19						
ZALV	**Zalesovo Beam**	**3.15**	**276**	Pn	Pb	10 42 55.8	0.0
	1.6nm,0.3s,baz=93,slow=13,SNR=23						
ZALV				Lg	Lg	10 43 36.9	
	1.8nm,0.3s,baz=91,slow=29,SNR=7.8						
	6.1nm,0.5s						
KURBB	**Kurchatov Arra**	**7.77**	**251**	Pn	Pn	10 43 57.9	+4.7
	0.1nm,0.3s,baz=65,slow=14,SNR=6.7						
KURBB				Sn	Sn	10 45 21.7	-0.1
	baz=66,slow=25,SNR=1.4						
KURBB				Lg	Lg	10 46 02.6	
	baz=66,slow=34,SNR=2.5						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**8.55**	**219**	Pn	Pn	10 44 09.6	+5.7
	0.1nm,0.3s,baz=31,slow=17,SNR=3.0						
MKAR				Sn	Sn	10 45 44.6	+3.6
	0.2nm,0.3s,baz=39,slow=26,SNR=3.7						
	0.3nm,0.5s						
I31KZ	**AKTYUBINSK INF**	**19.91**	**274**	I	I	12 38 25.1	
	baz=69,slow=315,SNR=1.3						

*IDC **14** 10:44:22.9±0.8, 0.60S×127.73E, h0km, mb4.0/12, mbtmp4.0/13, ML3.8/1, Error ellipse: s-maj=38.1km s-min=17.4km az=75.0*
*NEIC **14** 10:44:25.2±1.5, 0.58S±0.06×127.91E±0.08, h10km±1km, mb4.6/20, Error ellipse: s-maj=14.9km s-min=9.9km az=64.0*
*DJA **14** 10:44:27.3±0.2, 1°S±2°×12°8E±°, h10km, M4.4/16, mB5.7/1, mb4.6/6, MLv4.3/16, Mw(mB)5.3/1*

ISC 14 10:44:24.9±0.5, 0.61S±0.05×127.90E±0.06, h10km, n61, σ1§30/62, mb4.5/23, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.47**

comp=Z,3.2nm,1.1s
AS31 Alice Springs 23.65 166 P **P** **10 49 37.2 +0.6**
ASAR Alice Springs 23.65 166 P **P** **10 49 36.8 +0.1**
comp=Z,6.6nm,1.1s,baz=345,slow=10.0,SNR=14
comp=Z,6.6nm,1.1s
TPUB Ta-pu 24.80 344 P **P** **10 49 47.8 +0.5**
RPSI Rantau Prapat 29.16 277 P **P** **10 50 26.4 -0.3**
RPSI IAmb IAmb 10 50 31.6
comp=Z,7.5nm,0.9s
NJ2 Nanjing 33.60 346 *e*P **P** **10 51 06.3 +0.8**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
CMAR Chiang Mai Arr 34.20 305 P **P** **10 51 07.6 -3.3**
comp=Z,0.2nm,0.4s,baz=122,slow=9.4,SNR=1.9
comp=Z,0.2nm,0.4s
ENH Enshi 35.37 332 P **P** **10 51 21.5 +0.6**
ENH IAmb IAmb 10 51 26.1
comp=Z,18nm,1.3s
PZH PanZhiHua 36.91 319 P **P** **10 51 35.8 +1.5**
PZH PanZhiHua 36.91 319 P **PKiKP** **11 01 16.4 +2.3**
MJAR Matsushiro Arr 38.19 13 P **P** **10 51 44.6 -0.2**
comp=Z,1.0nm,0.7s,baz=184,slow=8.5,SNR=4.7
comp=Z,1.0nm,0.7s
LZH Lanzhou 42.83 331 *e*P **P** **10 52 26.4 +2.9**
LZH pP sP 10 52 30.8 +3.1
LZH pmax pmax
comp=Z,16nm,1.0s
HHC Hu-ho-hao-te 43.86 342 *e*P **P** **10 52 33.6 +1.9**
HHC pmax pmax
comp=Z,16nm,0.6s
BNX BinXian 46.16 360 ⇑P **P** **10 52 50.9 +1.2**
BNX pmax pmax
comp=Z,6.0nm,0.4s
SONM Songino Array 51.76 342 P **P** **10 53 32.5 -0.4**
comp=Z,1.9nm,0.9s,baz=158,slow=8.5,SNR=7.9
comp=Z,1.9nm,0.9s
PETK Petropavlovsk- **59.02 20** P **P** **10 54 25.4 +0.5**
comp=Z,2.1nm,0.9s,baz=189,slow=7.1,SNR=4.3
comp=Z,2.1nm,0.9s
MKAR Makanchi Array 61.78 326 **P** **10 54 43.8 -0.1**
MKAR Makanchi Array 61.78 326 P **P** **10 54 43.5 -0.5**
comp=Z,3.0nm,0.8s,baz=124,slow=7.8,SNR=9.2
comp=Z,3.0nm,0.8s
MAKZ Makanchi 61.96 326 P **P** **10 54 45.2 0.0**
MAKZ IAmb IAmb 10 54 49.9
comp=Z,6.0nm,1.1s
KDJ Kajisay 62.37 319 P **P** **10 54 47.7 -0.5**
KDJ IAmb IAmb 10 54 52.5
comp=Z,3.5nm,0.9s
ARSB Arslanbob 64.80 317 P **P** **10 55 04.3 +0.1**
ARSB IAmb IAmb 10 55 11.9
comp=Z,3.4nm,0.8s
ZALV Zalesovo Beam 64.97 334 P **P** **10 55 03.6 -1.3**
ZALV Zalesovo Beam 64.97 334 P **P** **10 55 04.1 -0.8**
comp=Z,0.3nm,0.3s,baz=90,slow=1.9,SNR=3.9
comp=Z,0.3nm,0.3s
KBL Kabul 65.11 309 P **P** **10 55 05.3 -1.2**
KBL IAmb IAmb 10 55 12.4
comp=Z,4.3nm,0.7s
GAR Garm 65.73 314 P **P** **10 55 09.5 -0.8**
BTK Batken 65.78 315 P **P** **10 55 10.4 -0.2**
KURBB Kurchatov Arra 66.01 328 P **P** **10 55 10.8 -0.9**
comp=Z,3.5nm,0.9s,baz=125,slow=6.2,SNR=9.0
comp=Z,3.5nm,0.9s
KURK Kurchatov 66.02 328 P **P** **10 55 11.1 -0.6**
KURK IAmb IAmb 10 55 16.1
comp=Z,6.8nm,1.0s
KK31 Karatay Array 67.20 318 P **P** **10 55 19.3 -0.2**
KK31 IAmb IAmb 10 55 23.4
comp=Z,3.6nm,0.9s
KKAR Karatay Array 67.20 318 P **P** **10 55 18.9 -0.6**
BVAR Borovoye Array 71.58 328 P **P** **10 55 44.8 -1.6**
comp=Z,1.3nm,0.7s,baz=108,slow=3.3,SNR=6.4
comp=Z,1.3nm,0.7s
NIKH Nikolski High 74.70 34 P **P** **10 56 05.8 +1.0**
NRIK Noril'sk 74.90 346 P **P** **10 56 05.0 -0.6**
NRIK IAmb IAmb 10 56 10.1
comp=Z,2.5nm,0.7s
NRIK Noril'sk 74.90 346 P **P** **10 56 05.5 -0.2**
comp=Z,2.3nm,0.7s,baz=127,slow=5.1,SNR=3.8
comp=Z,2.3nm,0.7s
SBA Scott Base 79.90 172 P **P** **10 56 33.6 0.0**
ILAR Eielson Array 88.50 25 P **P** **10 57 15.6 -1.9**
comp=Z,0.6nm,1.1s,baz=275,slow=7.5,SNR=5.0
comp=Z,0.6nm,1.1s
L27K Beaver Creek, 90.66 27 P **P** **10 57 27.3 -0.4**
BCAR Beaver Creek A 90.68 27 P **P** **10 57 27.1 -0.7**

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*CRAAG **14** 10:45:24.1, 36˚.52N×5˚.19E, Ml2.4, Algerie 08km NE Bouandas*
*MDD **14** 10:45:29.1±1.4, 36˚.80N×4˚.98E, h0km, Mb3.6/6, M_mb2.8/7, Error ellipse: s-maj=14.4km s-min=10.6km az=64.0*
ISC 14 10:45:25.2±1.1**, 36˚.68N**±0˚.07×**5˚.15E**±0˚.05**, h13**km**, n9,** σ**2**ᵖ**21**/12**, 3C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTCHA	**Tamokra**	**0.47**	**238**	P	**Pg**	**10 45 34.3**	**-0.2**
CAZD	**Ain Tagrout**	**0.50**	**179**	P	**Pg**	**10 45 33.4**	**-1.7**
DFRA	**Djebel Bou Aff**	**0.60**	**103**	P	**Pg**	**10 45 37.4**	**+0.4**
ATKB	**Taksebt**	**0.83**	**270**	P	**Pn**	**10 45 44.9**	**+2.3**
AKET	**Djebel Ketaf**	**1.20**	**239**	P	**Pg**	**10 45 48.8**	**+0.4**
AKED	**El Kharrouba**	**1.40**	**269**	P	**Pb**	**10 45 51.0**	**-0.1**
ETOS	**Mallorca**	**3.59**	**330**	Pn	**Pn**	**10 46 22.1**	**+1.5**
ETOS				⇑*i*Vmb_VC		10 46 24.5	
	115nm,SNR=8.1						
ETOS				Sn	**Sn**	**10 46 59.7**	**-3.2**
EIBI	**Ibiza**	**3.82**	**309**	Pn	**Pn**	**10 46 26.6**	**+3.0**
EIBI				⇑*i*IVmb_VC		10 46 29.3	
	77nm,SNR=2.6						
EIBI				Sn	**Sn**	**10 47 06.5**	**-2.0**
EPOB	**Poblet**	**5.64**	**327**	Pn	**Pn**	**10 46 50.2**	**+1.4**
EPOB				⇑*i*IVmb_VC		10 46 52.0	
	34nm,SNR=3.7						
EPOB				Sn	**Sn**	**10 47 50.6**	**-2.9**

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*IDC **14** 10:45:33.7±1.1, 0˚.53S×127˚.90E, h0km, mb3.7/6, mbtmp3.8/7, ML3.9/1, MS4.5/1, Error ellipse: s-maj=43.6km s-min=20.8km az=79.0*
*NEIC **14** 10:45:35.7±1.3, 0˚.58S±0˚.07×127˚.87E±0˚.03, h10km±1km, mb4.2/10, Error ellipse: s-maj=11.5km s-min=4.1km az=188.0*
ISC 14 10:45:35.1±0.6**, 0˚.55S**±0˚.07×**127˚.9E**±0˚.1**, h10**km**, n28,** σ**0**ᵖ**85**/**27, mb4.1**/8**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.42**	**338**	Pn	**Pb**	**10 46 02.6**	**+0.8**
FAKI	**Fak Fak**	**4.94**	**118**	Pn	**Pn**	**10 46 50.0**	**+0.6**
TOLI2	**Tolitoli**	**7.31**	**283**	Pn	**Pn**	**10 47 20.7**	**-1.3**
KAPI	**Kappang**	**9.27**	**241**	Pn	**Pn**	**10 47 49.5**	**+0.6**
KAPI	**Kappang**	**9.27**	**241**	Pn	**Pn**	**10 47 50.5**	**+1.6**
	1.2nm,0.3s,baz=67,slow=6.9,SNR=4.7						
	6.9nm,0.5s						
MTN	**Manton Dam**	**12.62**	**165**	Pn	**Pn**	**10 48 34.8**	**-0.1**
KNRA	**Kununurra**	**15.05**	**177**	Pn	**Pn**	**10 49 07.8**	**-0.2**
KNRA				IAmb	IAmb	10 49 26.4	
	comp=Z,11nm,1.0s						
WB0	**Warramunga Arr**	**20.12**	**162**	P	**P**	**10 50 09.4**	**0.0**
WB0				IAmb	IAmb	10 50 13.9	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**20.27**	**162**	P	**P**	**10 50 10.2**	**-0.8**
WRA	**Warramunga Arr**	**20.27**	**162**	P	**P**	**10 50 10.6**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=341,slow=12,SNR=5.4						
	comp=Z,1.2nm,0.7s						
AS31	**Alice Springs**	**23.70**	**166**	P	**P**	**10 50 47.1**	**-0.2**
ASAR	**Alice Springs**	**23.70**	**166**	P	**P**	**10 50 46.7**	**-0.6**
ASAR	**Alice Springs**	**23.70**	**166**	P	**P**	**10 50 47.8**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=344,slow=11,SNR=8.9						
	comp=Z,2.6nm,0.7s						
FORT	**Forrest**	**30.06**	**180**	P	**P**	**10 51 43.5**	**-1.1**
JCJ	**Chichijima**	**30.73**	**25**	LR	LR	11 04 39.3	
	comp=Z,737nm,18.4s,baz=314,slow=37						
MJAR	**Matsushiro Arr**	**38.13**	**13**	P	**P**	**10 52 55.2**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=186,slow=13,SNR=1.4						
	comp=Z,0.5nm,0.8s						
USA0B	**Ussuriysk Arra**	**44.71**	**4**	P	**P**	**10 53 47.6**	**-0.7**
USA0B				IAmb	IAmb	10 53 55.7	
	comp=Z,5.5nm,0.9s						
USRK	**Ussuriysk Ar.**	**44.71**	**4**	P	**P**	**10 53 47.5**	**-0.9**
ULN	**Ulaanbaatar**	**51.53**	**342**	P	**P**	**10 54 41.7**	**+0.4**
ULN				IAmb	IAmb	10 54 54.5	
	comp=Z,4.2nm,1.1s						
SONM	**Songino Array**	**51.71**	**342**	P	**P**	**10 54 43.2**	**+0.7**
SONM				IAmb	IAmb	10 54 53.7	
	comp=Z,0.8nm,0.9s						
SONM	**Songino Array**	**51.71**	**342**	P	**P**	**10 54 41.1**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=157,slow=9.4,SNR=1.8						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**61.73**	**326**	P	**P**	**10 55 54.8**	**+1.0**
MKAR	**Makanchi Array**	**61.73**	**326**	P	**P**	**10 55 55.2**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=125,slow=8.2,SNR=2.8						
	comp=Z,0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**64.92**	**334**	P	**P**	**10 56 14.5**	**-0.2**
KURBB	**Kurchatov Arra**	**65.96**	**328**	P	**P**	**10 56 20.7**	**-0.8**
	comp=Z,1.9nm,1.0s,baz=125,slow=6.0,SNR=4.1						
	comp=Z,1.9nm,1.0s						
KURK	**Kurchatov**	**65.97**	**328**	P	**P**	**10 56 21.2**	**-0.3**
KK31	**Karatay Array**	**67.16**	**318**	P	**P**	**10 56 29.3**	**-0.1**
KK31				IAmb	IAmb	10 56 36.4	
	comp=Z,1.1nm,0.8s						
KKAR	**Karatay Array**	**67.16**	**318**	P	**P**	**10 56 29.7**	**+0.3**

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*DJA **14** 10:48:01.9±0.3, 1˚.S±2˚×12˚.8E±˚, h10km, M4.2/11, mB5.8/1, mb4.7/2, MLv4.0/11, Mw(mB)5.4/1*
*IDC **14** 10:48:05.5±1.6, 1˚.28S×128˚.01E, h0km, mb3.7/2, mbtmp3.8/5, ML3.7/3, Error ellipse: s-maj=46.3km s-min=24.6km az=93.0*
ISC 14 10:48:00.3±1.1**, 0˚.58S**±0˚.06×**127˚.99E**±0˚.07**, h10**km**, n15,** σ**1**ᵖ**71**/**16, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.48**	**335**	P	Pn	10 48 26.2	-0.9
TNTI				S	**Sn**	**10 48 46.3**	**-0.3**
SANI	**Sanana**	**2.48**	**234**	P	**Pb**	**10 48 44.9**	**-0.1**
SANI				S	**Sn**	**10 49 11.9**	**+0.8**
NLAI	**Namlea**	**2.79**	**199**	P	**Pn**	**10 48 45.9**	**+0.9**
NLAI				S	**Sn**	**10 49 18.7**	**0.0**
MSAI	**Masohi**	**2.90**	**161**	P	**Pb**	**10 48 49.8**	**-2.4**
AAI	**Ambon**	**3.09**	**176**	P	**Pn**	**10 48 51.3**	**+2.1**
SWI	**Sorong**	**3.28**	**95**	P	**Pn**	**10 48 55.5**	**+3.7**
KMSI	**Cibinong**	**4.17**	**286**	P	**Pn**	**10 49 04.0**	**-0.1**
FAKI	**Fak Fak**	**4.84**	**119**	P	**Pn**	**10 49 15.3**	**+1.9**
SPSI	**Sidrap Palu**	**8.88**	**248**	P	**Pn**	**10 50 09.1**	**+0.3**
	48nm,0.7s						
BKSI	**Bulukumba**	**9.16**	**239**	P	**Pn**	**10 50 13.8**	**+1.1**
KAPI	**Kappang**	**9.33**	**242**	Pn	**Pn**	**10 50 17.3**	**+2.3**
	1.4nm,0.3s,baz=75,slow=14,SNR=4.2						
	6.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**17.56**	**187**	Pn	**Pn**	**10 52 04.0**	**-1.3**
	0.2nm,0.3s,baz=9.4,slow=18,SNR=1.4						
	3.2nm,0.8s						
WRA	**Warramunga Arr**	**20.22**	**162**	P	**P**	**10 52 34.8**	**-0.8**
	0.3nm,0.3s,baz=340,slow=11,SNR=5.3						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**23.65**	**166**	P	**P**	**10 53 11.7**	**-0.4**
	2.0nm,0.7s,baz=343,slow=12,SNR=14						
	2.0nm,0.7s						
MJAR	**Matsushiro Arr**	**38.14**	**13**	P	P	10 55 32.1	+12
	0.5nm,0.4s,baz=193,slow=9.8,SNR=5.1						
	0.5nm,0.4s						

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*DJA **14** 10:48:49.9±0.4, 0˚.S±4˚×12˚.8E±˚, h10km, M4.3/9, MLv4.3/9*
*IDC **14** 10:48:56.6±1.7, 1˚.02S×128˚.62E, h0km, mb3.7/2, mbtmp3.8/5, ML3.6/3, Error ellipse: s-maj=49.0km s-min=26.2km az=93.0*
ISC 14 10:48:58.2±1.1**, 1˚.16S**±0˚.08×**128˚.64E**±0˚.10**, h10**km**, n10,** σ**1**ᵖ**22**/**10, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**2.19**	**172**	P	**Pg**	**10 49 40.9**	**+0.6**
AAI	**Ambon**	**2.55**	**190**	P	**Pb**	**10 49 43.1**	**-1.0**
NLAI	**Namlea**	**2.58**	**217**	P	**Pn**	**10 49 40.2**	**+0.2**
SWI	**Sorong**	**2.64**	**84**	P	**Pb**	**10 49 45.6**	**0.0**
BNDI	**Bandanaira**	**3.57**	**159**	P	**Pb**	**10 49 59.9**	**-1.6**
KAPI	**Kappang**	**9.66**	**246**	Pn	**Pn**	**10 51 18.5**	**+1.0**
	0.2nm,0.3s,baz=66,slow=20,SNR=1.4						
	5.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**17.09**	**190**	P	**Pn**	**10 52 58.0**	**+0.6**
	0.1nm,0.3s,baz=7.6,slow=15,SNR=1.4						
	2.0nm,0.7s						
WRA	**Warramunga Arr**	**19.48**	**164**	P	**Pn**	**10 53 26.9**	**+0.1**
	0.4nm,0.3s,baz=343,slow=12,SNR=7.2						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**22.95**	**168**	P	**P**	**10 54 04.4**	**+1.5**
	1.1nm,0.3s,baz=344,slow=10,SNR=7.7						
	1.1nm,0.3s						
MJAR	**Matsushiro Arr**	**38.55**	**12**	P	**P**	**10 56 19.6**	**-1.6**
	0.9nm,0.8s,baz=192,slow=9.8,SNR=2.1						
	0.9nm,0.8s						

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*NAO **14** 10:49:59.0, 38˚.82N×21˚.61E, h10km, mb4.6*
*BGS **14** 10:50:09.9±1.6, 40˚.24N×22˚.33E, h10km, mb4.8*
*MOS **14** 10:50:10.8±0.9, 40˚.12N×21˚.67E, h9km, mb4.8/28, MS4.7/4, Error ellipse: s-maj=4.8km s-min=2.8km az=91.4*
*SKO **14** 10:50:11.1, 39˚.94N×21˚.69E, h15km, ML4.8*
*IDC **14** 10:50:11.2±0.5, 40˚.14N×21˚.69E, h0km, mb4.4/23, mbtmp4.4/40, ML4.0/15, Error ellipse: s-maj=8.6km s-min=7.6km az=43.0*
*BJI **14** 10:50:11.0, 40˚.20N×21˚.80E, h16km, mb4.7/37*
*SOF **14** 10:50:11.9, 40˚.05N±0˚.04×21˚.74E±0˚.04, h14km±9km, MD4.2/11*
*ATH **14** 10:50:13.7, 40˚.21N×21˚.77E, h11km, Mw4.6, Moment Tensor Solution. s6 Moment tensor: Mrr-9.53; Mθθ0.38; Mφφ9.15; Mrθ0.98; Mrφ4.16; Mθφ5.20; Fault plane solution: NP1:ϕs28.00000°, δ32.00000°, λ-80.00000°. NP2: ϕs196.00000°, δ59.00000°, λ-96.00000°.*
*NEIC **14** 10:50:13.5±1.5, 40˚.22N±0˚.04×21˚.87E±0˚.06, h10km±1km, mb4.9/57 Error ellipse: s-maj=8.4km s-min=6.5km az=46.0*
*PDG **14** 10:50:13.9±0.6, 40˚.22N×21˚.78E, h16km±1km, MD4.9/8, ML4.8/12, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
*THE **14** 10:50:14.0, 40˚.2N±0˚.8×21˚.8E±0˚.8, h16km±1km, M4.7/14, MLh4.7/14*
*BEO **14** 10:50:15.4±0.6, 40˚.24N×21˚.79E, h12km±4km, ML4.6/36*
*HLW **14** 10:50:18.2, 39˚.43N×21˚.31E, h12km±3km, Ml4.9*
ISC 14 10:50:14.1±0.8**, 40˚.18N**±0˚.01×**21˚.76E**±0˚.01**, h17**km±5km**, n855,** σ**1**ᵖ**33**/948**, mb4.7**/83**, 53C-44D, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.13**	**3**	P	**Pb**	**10 50 17.9**	**-0.3**
KZN				S	**Sg**	**10 50 20.8**	**+0.1**
PENT	**Pentalofos**	**0.48**	**272**	P	**Pg**	**10 50 23.5**	**-0.2**
PENT				S	**Sb**	**10 50 31.3**	**+0.4**
PENT	**Pentalofos**	**0.48**	**272**	P	**Pg**	**10 50 23.3**	**-0.4**
PENT				S	**Sg**	**10 50 29.4**	**-0.9**
NASA	**Naoussa**	**0.51**	**27**	P	**Pg**	**10 50 23.5**	**-0.7**
NASA				S	**Sg**	**10 50 29.4**	**-1.7**
TYRN	**Tyrnavos**	**0.59**	**142**	P	**Pg**	**10 50 25.5**	**-0.4**
TYRN				S	**Sb**	**10 50 34.1**	**+0.1**
TYRN	**Tyrnavos**	**0.59**	**142**	P	**Pg**	**10 50 25.4**	**-0.4**
TYRN				S	**Sb**	**10 50 34.2**	**+0.2**
NEST	**Nestorio**	**0.59**	**293**	P	**Pg**	**10 50 25.3**	**-0.6**
NEST				S	**Sb**	**10 50 34.9**	**+0.7**
NEST	**Nestorio**	**0.59**	**293**	P	**Pg**	**10 50 25.1**	**-0.7**
NEST				S	**Sg**	**10 50 32.5**	**-1.3**
MSVA	**Metsovo**	**0.60**	**228**	P	**Pg**	**10 50 26.1**	**0.0**
MSVA				S	**Sb**	**10 50 34.8**	**+0.2**
TRKA	**Trikala**	**0.63**	**180**	P	**Pg**	**10 50 26.5**	**+0.1**
TRKA				S	**Sb**	**10 50 35.6**	**+0.6**
THL	**Klokotos Trika**	**0.65**	**162**	P	**Pg**	**10 50 26.2**	**-0.6**
THL				S	**Sb**	**10 50 35.9**	**+0.3**
THL	**Klokotos Trika**	**0.65**	**162**	P	**Pg**	**10 50 26.2**	**-0.6**
THL				S	**Sb**	**10 50 36.3**	**+0.7**
FNA	**Florina**	**0.67**	**334**		**Pb**	**10 50 26.4**	**-1.0**
FNA					**Sg**	**10 50 35.7**	**-0.5**
FNA	**Florina**	**0.67**	**334**	P	**Pb**	**10 50 26.4**	**-1.0**
FNA				S	**Sb**	**10 50 36.5**	**+0.1**
FNA	**Florina**	**0.67**	**334**	⇑*i*Pg	**Pb**	**10 50 26.5**	**-0.9**
FNA				*i* Sg	**Sn**	**10 50 38.0**	**-1.0**
FNA	**Florina**	**0.67**	**334**	P	**Pb**	**10 50 26.4**	**-1.0**
FNA						10 50 35.7	
FNA	**Florina**	**0.67**	**334**	*e*Pg	**Pb**	**10 50 26.8**	**-0.6**
FNA				*e*Sg	**Sb**	**10 50 36.7**	**+0.3**
FNA	**Florina**	**0.67**	**334**	P	**Pb**	**10 50 26.2**	**-1.2**
FNA				S	**Sg**	**10 50 35.2**	**-1.1**
LRSO	**Larissa Observ**	**0.70**	**136**	P	**Pb**	**10 50 27.5**	**-0.3**
LRSO				S	**Sg**	**10 50 38.2**	**+1.0**
LRSO	**Larissa Observ**	**0.70**	**136**	P	**Pb**	**10 50 27.6**	**-0.2**
LRSO				S	**Sg**	**10 50 37.7**	**+0.6**
GINA	**Giannouli**	**0.70**	**136**	P	**Pb**	**10 50 27.7**	**-0.1**
GINA				S	**Sb**	**10 50 37.1**	**-0.1**
KBN	**Korca**	**0.87**	**301**	P	**Pb**	**10 50 30.0**	**-0.7**
KBN				S	**Sg**	**10 50 42.5**	**+0.1**
JAN	**Janina**	**0.88**	**234**	P	**Pb**	**10 50 30.2**	**-0.7**
JAN				S	**Sn**	**10 50 43.6**	**-0.4**
JAN	**Janina**	**0.88**	**234**	P	**Pb**	**10 50 30.9**	**+0.1**
JAN				S	**Sg**	**10 50 43.0**	**+0.3**
SOFA	**Sofades**	**0.88**	**163**	P	**Pb**	**10 50 31.1**	**+0.2**
SOFA				S	**Sg**	**10 50 43.5**	**+0.7**
TETR	**Tetrakomo, Epi**	**0.92**	**204**	P	**Pb**	**10 50 30.5**	**-1.0**
TETR				S	**Sg**	**10 50 44.4**	**+0.5**
TETR	**Tetrakomo, Epi**	**0.92**	**204**	P	**Pb**	**10 50 31.8**	**+0.2**
TETR				S	**Sg**	**10 50 44.4**	**+0.5**
THE	**Thessaloniki**	**1.02**	**63**	P	**Pb**	**10 50 33.0**	**-0.3**
THE				S	**Sn**	**10 50 48.0**	**+0.4**
THE	**Thessaloniki**	**1.02**	**63**	*e*Pg	**Pb**	**10 50 33.2**	**-0.2**
THE				*i* Sg	**Sn**	**10 50 49.6**	**+2.0**
THE	**Thessaloniki**	**1.02**	**63**	P	**Pb**	**10 50 33.0**	**-0.3**
THE				S	**Sb**	**10 50 46.9**	**+0.4**
HORT	**Hortiatis**	**1.10**	**67**	P	**Pb**	**10 50 34.5**	**-0.2**
HORT	**Hortiatis**	**1.10**	**67**	P	**Pn**	**10 50 34.8**	**0.0**
HORT				S	**Sn**	**10 50 49.5**	**-0.2**
OHR	**Ohrid**	**1.18**	**322**	*e*Pg	**Pn**	**10 50 36.0**	**0.0**
OHR				*i* Sg	**Sg**	**10 50 55.0**	**+2.6**
OHR				*e*Lg	Lg	10 50 57.0	
	comp=E,19μm,0.4s						
OHR				*e*Lg	Lg	10 50 57.8	
	comp=N,16μm,0.6s						
ARTB	**Arta**	**1.19**	**211**	P	**Pb**	**10 50 36.5**	**+0.4**
ARTB				S	**Sg**	**10 50 52.7**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.20**	**166**	P	**Pb**	**10 50 36.3**	**-0.1**
MAKR				S	**Sn**	**10 50 51.9**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.20**	**166**	P	**Pb**	**10 50 36.9**	**+0.5**
MAKR				S	**Sg**	**10 50 53.4**	**+0.4**
AGG	**Agios Georgios**	**1.24**	**159**	P	**Pb**	**10 50 36.9**	**-0.2**
AGG				S	**Sb**	**10 50 52.8**	**+0.1**
AGG	**Agios Georgios**	**1.24**	**159**	P	**Pb**	**10 50 37.2**	**+0.2**
AGG				S	**Sg**	**10 50 54.5**	**+0.3**
EVR	**Evrytania**	**1.26**	**178**	P	**Pn**	**10 50 37.1**	**0.0**
EVR				S	**Sn**	**10 50 54.0**	**+0.3**
EVR	**Evrytania**	**1.26**	**178**	P	**Pb**	**10 50 37.2**	**+0.4**
EVR				S	**Sg**	**10 50 55.2**	**+0.2**
IGT	**Igoumenitsa**	**1.28**	**240**	P	**Pn**	**10 50 37.2**	**0.0**
IGT	**Igoumenitsa**	**1.28**	**240**	*e*Pg	**Pb**	**10 50 38.0**	**+0.3**
IGT				*e*Sg	**Sg**	**10 50 58.7**	**+3.3**
IGT	**Igoumenitsa**	**1.28**	**240**	P	**Pb**	**10 50 37.6**	**-0.1**
IGT				S	**Sg**	**10 50 54.8**	**-0.5**
VAY	**Valandovo**	**1.29**	**28**	⇓*i*Pg	**Pb**	**10 50 38.0**	**0.0**
VAY				*i* Sg	**Sg**	**10 50 59.6**	**+3.7**
VAY				*e*Lg	Lg	10 51 01.6	
	comp=N,8μm,0.9s						
VAY				*e*Lg	Lg	10 51 02.2	
	comp=E,9μm,0.8s						
KNT	**Kendrikon**	**1.31**	**41**	P	**Pn**	**10 50 37.6**	**0.0**
KNT	**Kendrikon**	**1.31**	**41**	⇑*i*Pg	**Pn**	**10 50 37.6**	**0.0**
KNT				*i* Sg	**Sg**	**10 51 00.0**	**+3.7**
KNT	**Kendrikon**	**1.31**	**41**	P	**Pb**	**10 50 38.0**	**-0.2**
KNT				S	**Sb**	**10 50 55.0**	**+0.3**
AMPL	**Ampelaki**	**1.33**	**199**	P	**Pn**	**10 50 37.4**	**-0.4**
SOH	**Sokhos**	**1.37**	**62**	P	**Pn**	**10 50 38.5**	**+0.1**
SOH	**Sokhos**	**1.37**	**62**	*e*Pg	**Pn**	**10 50 38.6**	**+0.1**
SOH				*i* Sg	**Sg**	**10 50 57.6**	**-0.8**
SRN	**Sarande**	**1.39**	**258**	P	**Pb**	**10 50 39.9**	**+0.4**
NEO	**Neokhori**	**1.43**	**127**	P	**Pn**	**10 50 39.3**	**+0.1**
NEO	**Neokhori**	**1.43**	**127**	P	**Pn**	**10 50 39.3**	**+0.1**
NEO				S	**Sb**	**10 50 58.6**	**+0.5**
PAIG	**Paliouri**	**1.49**	**99**	P	**Pn**	**10 50 39.6**	**-0.5**
PAIG	**Paliouri**	**1.49**	**99**	P	**Pn**	**10 50 40.0**	**-0.1**
PVO	**Paravola**	**1.57**	**187**	P	**Pn**	**10 50 41.9**	**+0.7**
PVO	**Paravola**	**1.57**	**187**	P	**Pb**	**10 50 42.3**	**-0.4**
AXAR	**Agios Charalam**	**1.57**	**154**	P	**Pn**	**10 50 41.7**	**+0.4**
AXAR	**Agios Charalam**	**1.57**	**154**	P	**Pn**	**10 50 41.9**	**+0.6**
KEK	**Kerkira**	**1.58**	**253**		**Pg**	**10 50 45.5**	**+1.0**
KEK	**Kerkira**	**1.58**	**253**	P	**Pg**	**10 50 45.4**	**+1.0**
ANX	**Ano Chora**	**1.59**	**176**	P	**Pb**	**10 50 42.6**	**-0.4**
ANX	**Ano Chora**	**1.59**	**176**	P	**Pb**	**10 50 42.4**	**-0.6**
TSLK	**Tsoukalades, L**	**1.60**	**213**	P	**Pg**	**10 50 44.5**	**-0.4**
LKD2	**Lefkada island**	**1.63**	**212**	P	**Pb**	**10 50 44.4**	**+0.7**
AIDA	**Aidipsos**	**1.66**	**143**	P	**Pn**	**10 50 42.9**	**+0.5**
SRS	**Serrai**	**1.68**	**56**	P	**Pn**	**10 50 42.4**	**-0.3**
SRS	**Serrai**	**1.68**	**56**	⇑*i*Pg	**Pn**	**10 50 42.8**	**+0.1**
SRS				*e*Sn	**Sb**	**10 51 04.8**	**-0.6**
SRS	**Serrai**	**1.68**	**56**	*e*Pn	**Pn**	**10 50 42.9**	**+0.2**
SRS	**Serrai**	**1.68**	**56**	P	**Pn**	**10 50 42.5**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.68**	**210**	P	**Pb**	**10 50 44.8**	**+0.3**
OUR	**Ouranopolis**	**1.71**	**84**	P	**Pn**	**10 50 42.9**	**-0.1**
OUR	**Ouranopolis**	**1.71**	**84**	P	**Pn**	**10 50 43.1**	**0.0**
OUR				S	**Sb**	**10 51 05.4**	**-0.7**
EFP	**Efpalio**	**1.75**	**176**	P	**Pn**	**10 50 44.7**	**+1.0**
EFP	**Efpalio**	**1.75**	**176**	P	**Pb**	**10 50 44.8**	**-1.0**
SERG	**Sergoula**	**1.78**	**173**	P	**Pn**	**10 50 44.9**	**+0.8**
SERG	**Sergoula**	**1.78**	**173**	P	**Pn**	**10 50 44.8**	**+0.8**
DLFA	**Delphi**	**1.79**	**161**	P	**Pn**	**10 50 44.9**	**+0.6**
LKR	**Lokris**	**1.80**	**148**	P	**Pn**	**10 50 45.0**	**+0.6**
LKR	**Lokris**	**1.80**	**148**	P	**Pn**	**10 50 45.0**	**+0.6**
PHP	**Peshkopia**	**1.81**	**327**	P	**Pn**	**10 50 45.4**	**+0.9**
SKO	**Skopje**	**1.81

PTL Penteli 2.68 142 P Pn 10 50 57.5 +1.0
DION Dionisos Attik 2.69 141 P Pn 10 50 57.3 +0.6
ATHU Athens Univers 2.71 144 P Pn 10 50 57.9 +0.9
RZN Rozhen 2.71 55 *i* P Pn 10 50 57.8 +0.7
RZN Rozhen 2.71 55 P Pn 10 50 57.5 +0.4
TRAN Tran 2.73 14 *i* P Pn 10 50 59.5 +2.2
PVY Plav 2.77 331 *e*Pn Pn 10 50 58.6 +0.8
PVY *i* Sn Sn 10 51 31.8 +0.9
DRME Dracevica, Mon 2.79 317 *e*Pn Pn 10 50 59.1 +1.1
DRME *i* Sn Sn 10 51 32.7 +1.4
SMTH Samothraki Isl 2.90 83 P Pn 10 50 59.0 -0.4
SMTH Samothraki Isl 2.90 83 P Pn 10 50 59.4 0.0
PDG Podgorica 2.94 321 P Pn 10 51 01.1 +1.1
PDG Podgorica 2.94 321 ⇑P Pn 10 51 01.0 +2.1
PDG ⇑S Sn 10 51 36.7 +1.9
PDG Podgorica 2.94 321 *e*Pn Pn 10 51 02.2 +2.3
PDG Podgorica 2.94 321 *e*Pn Pn 10 51 01.0 +1.1
PDG *i* Sn Sn 10 51 36.2 +1.4
PGB Panagyurishte 2.95 37 *i* P Pn 10 51 02.3 +2.0
KARY Karystos 2.99 135 P Pn 10 51 01.4 +0.8
PLD Plovdiv 2.99 48 *i* P Pn 10 51 01.4 +0.7
PLD Plovdiv 2.99 48 *e*Pn Pn 10 51 02.0 +1.3
ITM Ithomi 3.00 177 Pn 10 51 03.5 +2.6
ITM Ithomi 3.00 177 P Pn 10 51 01.5 +0.7
RDO Rodhopi 3.03 70 Pn 10 51 00.8 -0.4
RDO Rodhopi 3.03 70 P Pn 10 51 00.8 -0.4
IVA Berane 3.03 333 *e*Pn Pn 10 51 02.3 +0.9
IVA *i* Sn Sn 10 51 38.4 +1.0
SELS Selova 3.08 351 *e*Pn Pn 10 51 03.1 +1.2
KOME Kolasin 3.16 328 *e*Pn Pn 10 51 04.0 +0.9
KOME *i* Sn Sn 10 51 41.5 +1.1
ZAPS Zavoj 3.16 12 *e*Pn Pn 10 51 04.6 +1.5
GADA Gvkgeada 3.17 88 P Pn 10 51 03.7 +0.5
CEME Cevo 3.19 319 *e*Pn Pn 10 51 04.5 +1.0
CEME *i* Sn Sn 10 51 42.4 +1.2
NKME Niksic 3.34 322 *e*Pn Pn 10 51 06.7 +1.2
NKME *i* Sn Sn 10 51 46.0 +1.2
ALN Alexandroupoli 3.34 76 Pn 10 51 05.4 -0.1
ALN Alexandroupoli 3.34 76 P Pn 10 51 05.4 -0.1
ALN Alexandroupoli 3.34 76 P Pn 10 51 05.4 -0.1
HCY Herceg Novi 3.34 314 *e*Pn Pn 10 51 06.8 +1.2
HCY *i* Sn Sn 10 51 46.3 +1.4
SJES Sjenica 3.36 337 *e*Pn Pn 10 51 07.4 +1.5
ENEZ Enez 3.40 79 P Pn 10 51 06.6 +0.4
DIM Dimitrovgrad 3.43 56 *i* P Pn 10 51 07.6 +0.8
DIM Dimitrovgrad 3.43 56 P Pn 10 51 07.4 +0.6
GOCS Kraljevo Serbi 3.44 349 *e*Pn Pn 10 51 08.2 +1.2
BOVS Bovan 3.45 359 ⇑P Pn 10 51 07.7 +0.7
BOVS Bovan 3.45 359 *e*Pn Pn 10 51 07.9 +0.8
MPEP Malo Peshtene 3.50 24 *i* P Pn 10 51 09.5 +1.8
EZN Ezine 3.52 94 P Pn 10 51 08.6 +0.6
EZN Ezine 3.52 94 ⇓P Pn 10 51 08.6 +0.6
EZN Ezine 3.52 94 P Pn 10 51 08.6 +0.6
VLI Veliai 3.58 165 P Pn 10 51 08.6 -0.2
IVAS Ivanjica 3.60 341 *e*Pn Pn 10 51 09.7 +0.5
TREB Trebinje 3.60 316 ⇑*i*Pn Pn 10 51 09.6 +0.4
TREB Trebinje 3.60 316 *e*Pn Pn 10 51 10.3 +1.1
PLE Pljevlja 3.61 331 *e*Pn Pn 10 51 10.4 +1.0
PLE *i* Sn Sn 10 51 52.6 +0.9
BRY Bratogost 3.64 319 *e*Pn Pn 10 51 10.9 +1.1
BRY *i* Sn Sn 10 51 53.4 +1.0
ZAGS Zajecar 3.65 5 *e*Pn Pn 10 51 11.0 +1.3
UPM Unac-Piva 3.70 326 *e*Pn Pn 10 51 11.6 +0.9
UPM *i* Sn Sn 10 51 54.8 +0.8
VALD Valchedram 3.72 19 *i* P Pn 10 51 12.5 +1.8
CHOS Chios island 3.78 117 P Pn 10 51 12.1 +0.4
GRUS Gruza 3.79 348 *e*Pn Pn 10 51 12.6 +0.9
PLVB Pleven 3.85 33 ⇑P Pn 10 51 15.1 +2.5
RUDO Rudo 3.87 333 *e*Pn Pn 10 51 13.4 +0.6
RUDO Rudo 3.87 333 *e*Pn Pn 10 51 13.3 +0.5
MATE Matera 3.89 279 ⇑P Pn 10 51 14.0 +0.9
BORS2 Bor- Borsko je 3.91 3 *e*Pn Pn 10 51 13.7 +0.3
TIP Timpagrande 3.99 257 Pn 10 51 15.7 +1.2
TIP Timpagrande 3.99 257 ⇑P Pn 10 51 15.5 +1.0
TIP ⇓S Sn 10 52 02.4 +1.5
STON Ston 4.07 313 ⇑*i*Pn Pn 10 51 15.2 -0.3
STON Ston 4.07 313 *e*Pn Pn 10 51 16.3 +0.8
BBLS Lazi&#263i 4.08 335 *e*Pn Pn 10 51 16.8 +1.0
SVIS Svilajnac 4.10 354 *e*Pn Pn 10 51 18.1 +2.1
ELND Elena 4.13 47 ⇑P Pn 10 51 17.6 +1.2
TRUS Trudelj 4.16 346 *e*Pn Pn 10 51 17.9 +1.1
PUNG Punghina 4.19 12 *e*Pn Pn 10 51 17.5 +0.4
KUBS Kucevo 4.23 359 *e*Pn Pn 10 51 17.6 -0.2
JMB Yambol 4.27 56 *i* P Pn 10 51 20.0 +1.7
APE Apeiranthos 4.29 135 P Pn 10 51 19.8 +0.7
APE Apeiranthos 4.29 135 ⇑P Pn 10 51 19.8 +1.2
APE Apeiranthos 4.29 135 *i* P Pn 10 51 19.3 +0.7
VLAD Vladila 4.29 26 ⇓P Pn 10 51 20.4 +1.9
SZH Strazhitsa 4.41 44 *i* P Pn 10 51 21.9 +1.7
SZH Strazhitsa 4.41 44 P Pn 10 51 20.7 +0.5
ACER Acerenza 4.48 280 Pn 10 51 21.2 0.0
CUC Castrocucco 4.56 270 Pn 10 51 24.6 +2.2
MDVR Moldovita 4.60 360 ⇑P Pn 10 51 23.5 +0.6
MDVR Moldovita 4.60 360 *e*Pn Pn 10 51 24.0 +1.1
PHSR Pinarhisar 4.60 70 ⇑P Pn 10 51 24.3 +1.5
SRE Strehaia 4.60 13 ⇓P Pn 10 51 24.2 +1.2
SRE Strehaia 4.60 13 P Pn 10 51 24.1 +1.2
AVAS Avala Beograd 4.61 349 *e*Pn Pn 10 51 23.8 +0.9
TEKS Tekeris 4.67 340 *e*Pn Pn 10 51 24.7 +0.9
COPA Copaceanca 4.71 32 ⇓P Pn 10 51 26.7 +2.4
HERR Herculane 4.72 6 ⇓P Pn 10 51 25.5 +1.0
LOZB Loznitsa 4.82 47 ⇓P Pn 10 51 26.9 +1.1
SGRT San Giovanni R 4.82 291 Pn 10 51 26.2 +0.3
BAND Balkesir-Ban 4.85 86 ⇑P Pn 10 51 27.5 +1.3
RAZG Razgrad 4.90 45 ⇓P Pn 10 51 28.9 +2.0
CEL Celeste 4.94 249 Pn 10 51 28.5 +0.9
VRSS Vrsac 4.95 356 *e*Pn Pn 10 51 28.1 +0.5
HUMR Humele 4.96 28 ⇑P Pn 10 51 30.0 +2.3
CTYL Yalikoy Yolu 5.12 73 ⇓P Pn 10 51 30.7 +0.8
NEF NEVSHA 5.15 51 *i* P Pn 10 51 33.3 +2.9
FRGS Fruska Gora 5.18 345 *e*Pn Pn 10 51 31.5 +0.7
GZR Gura Zlata 5.26 8 ⇑P Pn 10 51 32.8 +0.8
GZR Gura Zlata 5.26 8 P Pn 10 51 32.8 +0.8
GZR Gura Zlata 5.26 8 *e*Pn Pn 10 51 32.7 +0.7
DOB Doboj 5.29 330 *e*Pn Pn 10 51 33.8 +1.5
BODT Bodrum 5.34 124 P Pn 10 51 34.3 +1.2
BDRM Kayabasi 5.43 123 ⇓P Pn 10 51 36.4 +2.1
BZS Buzias 5.43 359 *e*Pn Pn 10 51 34.1 -0.2
LOT Lotru 5.47 15 ⇑P Pn 10 51 36.1 +1.2
IDI Anoyia 5.48 152 Pn 10 51 36.0 +1.5
IDI Anoyia 5.48 152 P Pn 10 51 36.0 +1.0
IDI Anoyia 5.48 152 Pn Pn 10 51 35.8 +0.9
comp=E,50nm,0.5s,baz=332,slow=14,SNR=49
IDI Sn Sn 10 52 39.1 +1.5
comp=E,16nm,0.3s,baz=321,slow=14,SNR=5.2
MANT Manisa 5.53 106 Pn 10 51 37.5 +1.6
PAOL Paolisi 5.54 281 Pn 10 51 37.0 +1.1
SURR Surduc 5.58 3 ⇓P Pn 10 51 38.7 +2.4
MTUR Matau 5.60 25 ⇑P Pn 10 51 38.9 +2.3
MTUR Matau 5.60 25 P Pn 10 51 38.9 +2.3
KLYT Kilyos 5.63 77 ⇓P Pn 10 51 38.5 +1.4
BLY Banja Luka 5.68 325 ⇑*i*Pn Pn 10 51 38.6 +0.9
BLY Banja Luka 5.68 325 ⇑P Pn 10 51 38.7 +1.0
BLY Banja Luka 5.68 325 *e*Pn Pn 10 51 39.1 +1.4
LEHL Lehliu 5.70 39 ⇑P Pn 10 51 40.9 +3.0
DEV Deva 5.76 8 ⇓P Pn 10 51 41.0 +2.2
DEV Deva 5.76 8 P Pn 10 51 40.9 +2.2
TNR Turnu Rosu 5.77 18 ⇓P Pn 10 51 41.3 +2.4
TNR Turnu Rosu 5.77 18 P Pn 10 51 41.3 +2.4
VOIR 5.78 24 ⇑P Pn 10 51 40.8 +1.6
VOIR 5.78 24 P Pn 10 51 40.7 +1.6
A050A Klekovaca 5.79 320 ⇑*i*Pn Pn 10 51 40.4 +1.2
A051A Mrakovica 6.01 325 ⇑*i*Pn Pn 10 51 43.1 +0.8
ISR Istrita 6.06 34 ⇓P Pn 10 51 45.4 +2.3
ISR Istrita 6.06 34 P Pn 10 51 45.3 +2.3
SILT Sile 6.07 78 ⇑P Pn 10 51 44.5 +1.5
SIRR Siria 6.08 359 ⇓P Pn 10 51 45.4 +2.2
SIRR Siria 6.08 359 *e*Pn Pn 10 51 44.3 +1.1
MLR Muntele Rosu 6.13 29 Pn 10 51 44.4 +0.4
MLR Muntele Rosu 6.13 29 Pn Pn 10 51 46.2 +2.2
comp=E,4.5nm,0.3s,baz=212,slow=9.9,SNR=37
MLR Sn Sn 10 52 59.7 +5.9
baz=183,slow=19
MLR Lg Lg 10 53 39.4
baz=204,slow=12
comp=E,94nm,0.8s
MLR Muntele Rosu 6.13 29 ⇑P Pn 10 51 46.5 +2.5
MLR Muntele Rosu 6.13 29 P Pn 10 51 44.4 +0.4
MLR Muntele Rosu 6.13 29 *e*Pn Pn 10 51 46.3 +2.3
TAVA DENIZLI_Tavas 6.21 114 ⇓P Pn 10 51 47.4 +2.4

NEHR Nehoiu 6.21 31 ⇑P Pn 10 51 47.6 +2.6
MDB Medias 6.26 17 ⇑P Pn 10 51 48.2 +2.5
MDB Medias 6.26 17 P Pn 10 51 48.1 +2.5
KARP Karpathos 6.29 136 10 51 47.4 +1.3
KARP Karpathos 6.29 136 P Pn 10 51 47.4 +1.3
VAE Valguarnera 6.34 247 Pn Pn 10 51 46.2 -0.6
comp=E,9.3nm,0.4s,baz=90,slow=6.1,SNR=3.9
VAE Sn Sn 10 52 56.0 -2.9
comp=E,7.7nm,0.3s,baz=66,slow=10.0,SNR=3.1
DOPR Dopca 6.36 23 ⇑P Pn 10 51 48.7 +1.7
TLBR Topalu 6.38 45 ⇑P Pn 10 51 49.6 +2.3
ARG Arkhangelos 6.38 126 Pn Pn 10 51 49.0 +1.6
ARG Arkhangelos 6.38 126 P Pn 10 51 49.0 +1.6
HARR Harsova 6.41 43 ⇑P Pn 10 51 50.7 +3.0
HARR Harsova 6.41 43 P Pn 10 51 50.7 +3.0
MORH Mrgy, Hungar 6.45 340 ⇓P Pn 10 51 48.8 +0.6
RAFF Raffo Rosso 6.50 245 Pn 10 51 49.0 +0.1
TIRR Tirgusor 6.52 47 ⇑P Pn 10 51 52.0 +2.7
TIRR Tirgusor 6.52 47 P Pn 10 51 51.9 +2.7
COVR Voineasa-Covas 6.53 28 ⇓P Pn 10 51 52.1 +2.8
BOSR Bodos 6.54 25 ⇓P Pn 10 51 52.0 +2.4
MARR Marisel-Cluj 6.57 8 ⇓P Pn 10 51 52.6 +2.6
OZUR 6.60 25 ⇓P Pn 10 51 52.4 +2.0
DRGR 6.64 6 ⇑P Pn 10 51 52.8 +1.8
DRGR 6.64 6 P Pn 10 51 52.8 +1.8
DRGR 6.64 6 *e*Pn Pn 10 51 52.1 +1.1
PLOR Plostina 6.70 31 ⇓P Pn 10 51 54.2 +2.5
PLOR Plostina 6.70 31 P Pn 10 51 54.2 +2.5
CAMP Campolosto 6.71 293 Pn 10 51 52.1 +0.2
VRI Vrincioaia 6.75 31 ⇓P Pn 10 51 54.7 +2.3
VRI Vrincioaia 6.75 31 P Pn 10 51 54.6 +2.3
TPGR Topolog 6.78 44 ⇑P Pn 10 51 55.7 +2.8
ODBI Odobesti 6.80 33 ⇓P Pn 10 51 55.7 +2.7
CFR Carcaliu 6.85 41 ⇓P Pn 10 51 56.6 +2.8
CFR Carcaliu 6.85 41 P Pn 10 51 56.5 +2.8
PANC Panciu 6.92 33 ⇓P Pn 10 51 56.7 +2.0
GUMA Gualdo di Mace 6.94 297 Pn 10 51 55.1 +0.2
SAHE Sakarya_HENDEK 6.96 82 ⇑P Pn 10 51 57.0 +1.8
NRCA Norcia 7.01 295 Pn 10 51 56.3 +0.3
ONER Baraj Valea Uz 7.02 27 ⇑P Pn 10 51 58.2 +2.1
BOJS Bojanci 7.15 320 *e*Pn Pn 10 51 58.1 +0.3
BOJS Bojanci 7.15 320 *e*Pn Pn 10 51 58.3 +0.4
WDD Wied Dalam 7.17 235 Pn Pn 10 51 59.9 +1.7
MDUB Mudurnu 7.22 85 Pn Pn 10 51 59.3 +0.5
ISP Isparta 7.22 106 Pn Pn 10 52 00.2 +1.4
ISP Isparta 7.22 106 *i* P Pn 10 51 58.8 -0.1
ELL Elmali 7.25 116 Pn Pn 10 52 00.8 +1.4
ELL Elmali 7.25 116 P Pn 10 52 00.8 +1.4
TESR Tescani 7.26 28 ⇓P Pn 10 52 01.9 +2.6
BEHE Becsehely 7.26 332 Pn 10 51 59.2 -0.1
CRES Cresnjevec Ost 7.29 323 *i* Pn Pn 10 52 00.0 +0.2
VLDR Vladesti 7.31 37 ⇑P Pn 10 52 02.9 +2.9
CESX Cesi 7.32 292 Pn Pn 10 52 01.0 +0.8
AKAS Kas 7.32 120 Pn Pn 10 52 02.6 +2.2
CEY Cerknica 7.73 318 *i*Pn Pn 10 52 05.8 -0.1
CEY *e*Sn Sn 10 53 31.2 -1.7
CEY IAML 10 53 33.0
comp=Z,520nm,1.4s
CEY Cerknica 7.73 318 *e*Pn Pn 10 52 05.8 -0.1
GROS Grobnik 7.76 326 ⇑*i*Pn Pn 10 52 06.3 +0.1
SKDS Skadanscina 7.82 316 *e*Pn Pn 10 52 06.5 -0.5
BURAR Bucovina Array 7.84 17 Pn Pn 10 52 09.4 +0.4
BURAR Bucovina Array 7.84 17 ⇓P Pn 10 52 09.5 +2.1
BURAR Bucovina Array 7.84 17 P Pn 10 52 09.4 +2.1
PSZ Piszkesteto 7.85 351 Pn Pn 10 52 07.6 +0.1
PSZ Piszkesteto 7.85 351 ⇓P Pn 10 52 08.6 +1.1
PSZ Piszkesteto 7.85 351 P Pn 10 52 07.6 +0.1
BUR08 Bucovina Ar. S 7.86 17 Pn Pn 10 52 08.2 +0.5
SRO Srobarova 8.02 343 *e*P Pn 10 52 12.9 +3.1
SRO *e* 10 53 42.7
SRO Srobarova 8.02 343 *e*PN Pn 10 52 12.9 +3.1
SRO *e*SN Sn 10 53 42.7 +2.6
TRI Trieste 8.06 316 Pn Pn 10 52 09.0 -1.3
TRI Trieste 8.06 316 P Pn 10 52 09.0 -1.3
PERS Pernice 8.06 325 ⇑*i*Pn Pn 10 52 10.6 +0.2
SOKA Soboth 8.13 325 *e*Pn Pn 10 52 11.4 0.0
comp=Z,66nm,1.0s,SNR=52
VOJS Vojsko 8.21 318 *i* Pn Pn 10 52 12.4 0.0
OBKA Obir 8.22 323 *e*Pn Pn 10 52 12.4 -0.2
comp=Z,9.6nm,0.8s,SNR=14
SABO M.te Sabotino 8.32 317 Pn Pn 10 52 12.9 -1.0
KECS Kecovo 8.35 354 *e*P Pn 10 52 17.2 +2.9
KECS *e* 10 53 51.2
KECS Kecovo 8.35 354 *e*PN Pn 10 52 17.2 +2.9
KECS *e*SN Sn 10 53 51.2 +3.0
ARSA Arzberg 8.38 329 Pn Pn 10 52 14.1 -0.7
ARSA Arzberg 8.38 329 *e*Pn Pn 10 52 14.9 +0.1
comp=Z,26nm,0.8s,SNR=23
ARSA Arzberg 8.38 329 *e*Pn Pn 10 52 15.2 +0.4
RONA Rosalia, Austr 8.49 334 *e*Pn Pn 10 52 16.5 +0.3
comp=Z,7.2nm,0.5s,SNR=10
OSSC Osservatorio P 8.53 296 Pn Pn 10 52 17.0 +0.2
VYHS Vyhne 8.57 347 *e*P Pn 10 52 19.3 +2.0
VYHS *e* 10 53 55.7
VYHS Vyhne 8.57 347 *e*PN Pn 10 52 19.3 +2.0
VYHS *e*SN Sn 10 53 55.7 +2.1
PRED Cave del Predi 8.65 319 Pn Pn 10 52 18.3 -0.2
MYKA Terra Mystica 8.74 320 *e*Pn Pn 10 52 19.9 +0.2
comp=Z,4.0nm,0.5s
KOLS Kolonicke sedl 8.76 2 *e*P Pn 10 52 23.8 +3.9
KOLS Kolonicke sedl 8.76 2 *e*PN Pn 10 52 23.8 +3.9
MODS Modra-Piesok 8.80 340 *e*P Pn 10 52 21.1 +0.6
MODS *e* 10 53 58.1
MODS Modra-Piesok 8.80 340 *e*PN Pn 10 52 21.0 +0.6
MODS *e*SN Sn 10 53 58.0 -1.2
CONA Conrad Observa 8.83 333 *e*Pn Pn 10 52 20.9 -0.1
comp=Z,5.1nm,0.8s,SNR=11
SMOL Smolenice 8.89 341 *e*P Pn 10 52 24.2 +2.5
STAL STALIGIAL 8.97 316 Pn Pn 10 52 22.2 -0.6
ZCCA Zocca 9.02 301 Pn 10 52 24.7 +1.2
TEOL Teolo 9.05 308 Pn 10 52 22.2 -1.6
SLUM Salum 9.11 161 P Pn 10 52 22.5 -2.3
SLUM S Sn 10 53 54.9 -12
LANS Liptovska Anna 9.12 350 *e*P Pn 10 52 28.9 +4.1
LANS Liptovska Anna 9.12 350 *e*PN Pn 10 52 28.9 +4.1
BR131 Keskin Array S 9.13 89 Pn 10 52 25.6 +0.4
BR131 Keskin Array S 9.13 89 *i* P Pn 10 52 25.4 +0.2
BRTR Keskin Array B 9.13 89 Pn 10 52 25.1 -0.1
BRTR Keskin Array B 9.13 89 Pn Pn 10 52 26.9 +1.7
comp=Z,1.3nm,0.3s,baz=266,slow=11,SNR=27
BRTR Sn Sn 10 54 09.3 +1.6
comp=Z,0.2nm,0.3s,baz=277,slow=20,SNR=2.3
BRTR Lg Lg 10 55 01.3
baz=276,slow=26
comp=Z,4.6nm,0.5s
BRTR Keskin Array B 9.13 89 *i* P Pn 10 52 27.0 +1.8
BRTR pmax pmax
comp=Z,5.0nm,0.5s
JAVC Velka Javorina 9.15 343 *e*PN Pn 10 52 27.7 +2.3
KBA Koelnbresper 9.20 321 *e*Pn Pn 10 52 25.6 -0.5
comp=Z,7.6nm,0.6s
STHS Stebnicka Huta 9.24 358 *e*P Pn 10 52 31.1 +4.6
STHS Stebnicka Huta 9.24 358 *e*PN Pn 10 52 31.1 +4.6
NIE Niedzica 9.29 354 *e*P Pn 10 52 31.3 +4.1
MOA Molln 9.37 327 *i* Pn Pn 10 52 29.2 +0.8
comp=Z,12nm,0.7s,SNR=31
MOA Molln 9.37 327 *e*Pn Pn 10 52 29.3 +1.0
ABTA Abfaltersbach 9.39 317 *i* Pn Pn 10 52 28.0 -0.7
comp=Z,13nm,0.6s,SNR=15
CTI Castel Tesino 9.43 312 Pn 10 52 28.2 -1.0
CTI Castel Tesino 9.43 312 P Pn 10 52 28.3 -1.0
KIRS Kirsehir-Merke 9.43 92 ⇓P Pn 10 52 31.8 +2.6
BIOA Bad Ischl, Aus 9.52 325 *e*Pn Pn 10 52 29.9 -0.4
comp=Z,13nm,0.6s,SNR=20
VSL Villasalto 9.55 270 Pn 10 52 30.9 +0.1
MAUC Maruska 9.60 344 *e*PN Pn 10 52 32.5 +1.1
MAUC *e*SN Sn 10 54 19.4 +0.5
KRUC Moravsky 9.67 339 *e*PN Pn 10 52 32.4 +0.1
LESA Schwarzleotal 9.77 321 *e*Pn Pn 10 52 34.1 +0.3
comp=Z,8.4nm,0.6s,SNR=17
VRAC Vranov 9.84 340 *e*PN Pn 10 52 35.3 +0.7
VRAC Vranov 9.84 340 Pn Pn 10 52 35.4 +0.7
comp=Z,0.9nm,0.3s,baz=159,slow=14,SNR=55
VRAC Sn Sn 10 54 23.0 -1.7
comp=Z,0.4nm,0.3s,baz=158,slow=16,SNR=1.6
VRAC Lg Lg 10 55 23.5
baz=177,slow=18
comp=Z,43nm,0.9s
VRAC Vranov 9.84 340 ⇓P Pn 10 52 35.8 +1.1
OKC Ostrava-Krasne 9.99 346 *e*Pn Pn 10 52 39.1 +2.4
OKC *e*SN Sn 10 54 27.1 -1.2
OKC Ostrava-Krasne 9.99 346 *e*P Pn 10 52 39.1 +2.4

OKC *e* 10 54 27.1
MORC Moravsky Berou 10.05 344 *e*PN Pn 10 52 37.1 -0.5
MORC Moravsky Berou 10.05 344 *e*PN Pn 10 52 38.3 +0.7
MORC Moravsky Berou 10.05 344 ⇑P Pn 10 52 39.6 +2.0
MORC Moravsky Berou 10.05 344 P Pn 10 52 39.6 +2.0
OJC Ojcow 10.13 353 Pn 10 52 37.6 -1.1
OJC Ojcow 10.13 353 P Pn 10 52 37.6 -1.1
CKRC Cesky Krumlov 10.14 331 *e*PN Pn 10 52 40.3 +1.5
CKRC Cesky Krumlov 10.14 331 *e*P Pn 10 52 40.3 +1.5
TREC Trest 10.14 336 *e*PN Pn 10 52 39.5 +0.6
TREC Trest 10.14 336 *e*P Pn 10 52 39.5 +0.6
WTTA Wattenberg 10.18 317 *e*Pn Pn 10 52 39.8 +0.2
comp=Z,9.5nm,0.5s,SNR=8.8
WTTA Sn Sn 10 54 30.4 -3.0
comp=Z,48nm,0.8s
WATA Walderalm 10.26 318 *e*Pn Pn 10 52 41.5 +0.9
comp=Z,9.7nm,0.4s,SNR=24
SIM Simferopol' 10.28 58 *e*P Pn 10 52 38.3 -2.5
SIM pmax pmax
comp=Z,19nm,1.4s
SIM MLR MLR
comp=Z,4μm,17.1s
SQTA Sankt Quirin 10.38 316 *e*Pn Pn 10 52 42.6 +0.4
comp=Z,8.7nm,0.5s,SNR=14
GEC2 GERESS Array S 10.39 329 Pn 10 52 42.8 +0.4
GERES GERESS Array B 10.39 329 Pn 10 52 42.3 -0.1
GERES GERESS Array B 10.39 329 Pn Pn 10 52 41.9 -0.5
comp=Z,0.1nm,0.3s,baz=144,slow=14,SNR=35
GERES Sn Sn 10 54 38.7 +0.3
comp=Z,0.1nm,0.3s,baz=150,slow=24,SNR=1.3
GERES Lg Lg 10 55 34.4
baz=148,slow=25,SNR=1.9
comp=Z,5.7nm,0.9s
MOTA Moosalm 10.52 316 *e*Pn Pn 10 52 44.0 -0.1
comp=Z,11nm,0.8s,SNR=15
FETA Feichten 10.52 314 *e*Pn Pn 10 52 44.0 -0.1
comp=Z,4.5nm,0.5s
FUORN Ofenpass-Fuorn 10.55 311 Pn 10 52 43.3 -1.4
CSS Mathiatis 10.55 116 Pn 10 52 45.3 +0.7
KHC Kasperske Hory 10.67 330 *e*PN Pn 10 52 46.0 -0.1
KHC Kasperske Hory 10.67 330 *e*P Pn 10 52 46.0 -0.1
KEST Kesra 10.76 250 Pn 10 52 49.4 +1.9
KEST Kesra 10.76 250 Pn Pn 10 52 47.0 -0.4
comp=Z,0.5nm,0.3s,baz=124,slow=3.5,SNR=22
KEST Sn Sn 10 54 48.9 +1.4
comp=Z,0.2nm,0.3s,baz=74,slow=18,SNR=0.8
comp=Z,20nm,0.9s
RETA Reutte 10.79 316 *e*Pn Pn 10 52 46.4 -1.3
comp=Z,4.3nm,0.5s
DAVOX Davos/Dischmat 10.86 311 Pn Pn 10 52 49.7 +0.9
comp=Z,0.8nm,0.3s,baz=122,slow=19,SNR=15
DAVOX Sn Sn 10 54 47.8 -2.2
comp=Z,1.5nm,0.3s,baz=144,slow=19,SNR=1.9
DAVOX Lg Lg 10 55 59.1
baz=144,slow=19
comp=Z,5.4nm,0.6s
DPC Dobruska-Polom 10.86 341 *e*PN Pn 10 52 49.3 +0.5
DPC Dobruska-Polom 10.86 341 *e*P Pn 10 52 49.3 +0.5
GOPC GO Pecny, Ondr 10.91 335 *e*PN Pn 10 52 49.9 +0.6
GOPC GO Pecny, Ondr 10.91 335 *e*P Pn 10 52 49.9 +0.6
TUE Stuetta 11.01 309 Pn 10 52 49.6 -1.3
PRU Pruhonice 11.05 335 *e*PN Pn 10 52 51.8 +0.6
PRU Pruhonice 11.05 335 *e*P Pn 10 52 51.8 +0.6
OSTC Ostas 11.08 341 *e*PN Pn 10 52 52.9 +1.2
OSTC Ostas 11.08 341 *e*P Pn 10 52 52.9 +1.2
UPC Upice 11.09 341 *e*PN Pn 10 52 53.1 +1.3
UPC Upice 11.09 341 *e*P Pn 10 52 53.1 +1.3
DAVA Damuels 11.14 314 *e*Pn Pn 10 52 50.8 -1.9
comp=Z,7.8nm,0.5s,SNR=6.5
CHVC Chvalec 11.15 341 *e*PN Pn 10 52 54.3 +1.6
CHVC Chvalec 11.15 341 *e*P Pn 10 52 54.3 +1.6
SWA2 11.32 163 P Pn 10 52 52.1 -3.0
KIEV Kiev 11.73 24 Pn 10 52 59.6 -1.0
KIEV Kiev 11.73 24 ⇓P Pn 10 53 02.6 +2.0
KIEV Kiev 11.73 24 P Pn 10 53 02.6 +2.0
AKASG Malin Array Be 11.75 24 Pn Pn 10 53 00.9 +0.2
comp=Z,0.6nm,0.3s,baz=211,slow=12,SNR=15
AKASG Lg Lg 10 56 30.7
baz=193,slow=25
comp=Z,2.9nm,0.7s
AKASG Malin Array Be 11.75 24 *i* P Pn 10 53 03.4 +2.7
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 11.75 24 Pn 10 53 00.0 -0.7
AKBB Malin Array Si 11.75 24 *ce*P Pn 10 53 00.1 -0.7
AKBB pmax pmax
comp=Z,6.0nm,0.9s
BRG Berggiesshubel 12.01 336 ⇓*i*P Pn 10 53 04.3 0.0
BRG Amp 10 53 12.5
comp=Z,8.0nm,0.9s
GRFO Grafenberg 12.08 325 Pn Pn 10 53 05.7 +0.4
GRFO Grafenberg 12.08 325 P Pn 10 53 05.7 +0.4
GRA1 Grafenberg Arr 12.08 325 Pn Pn 10 53 06.0 +0.7
GRF Grafenberg Arr 12.08 325 P Pn 10 53 06.0 +0.7
BNI Bardonecchia 12.13 299 Pn 10 53 07.0 +0.8
BNI Bardonecchia 12.13 299 P Pn 10 53 07.0 +0.8
SENIN Lac Senin/Sane 12.21 305 Pn 10 53 06.5 -0.9
STU Stuttgart 12.41 318 Pn 10 53 08.2 -1.7
STU Stuttgart 12.41 318 P Pn 10 53 08.2 -1.7
BFO Black Forest 12.60 315 Pn 10 53 10.0 -2.5
BFO Black Forest 12.60 315 P Pn 10 53 10.0 -2.5
CLL Collm 12.69 334 Pn 10 53 12.9 -0.6
CLL Collm 12.69 334 P Pn 10 53 13.0 -0.6
CLL Collm 12.69 334 *e*Pn Pn 10 53 13.0 -0.6
CLL *ex* x 10 53 28.0
CLL *e*Sb Sn 10 56 02.0 +28
CLL *e*Sg 10 56 56.0
MMAI Mount Meron Ar 13.08 119 Pn Pn 10 53 19.6 +0.5
comp=Z,1.4nm,0.3s,baz=307,slow=12,SNR=13
comp=Z,23nm,0.9s
ECH Echery 13.19 312 Pn 10 53 19.6 -0.9
ECH Echery 13.19 312 P Pn 10 53 19.6 -0.9
SUW Suwalki 13.87 3 *e*P P 10 53 37.2 -0.7
SUW Suwalki 13.87 3 Pn 10 53 26.9 -2.9
SUW Suwalki 13.87 3 P Pn 10 53 26.9 -2.9
GHAJ Ghor Haditha 14.27 124 Pn Pn 10 53 35.8 +0.4
WLF Walferdange 14.54 316 Pn 10 53 38.5 -0.5
WLF Walferdange 14.54 316 P Pn 10 53 38.5 -0.5
WLF Walferdange 14.54 316 *d*P P 10 53 46.4 +0.9
comp=Z,22nm,1.0s
ASF Jabal al Asfar 14.59 118 Pn Pn 10 53 39.0 -0.8
comp=Z,0.9nm,0.3s,baz=313,slow=19,SNR=5.8
comp=Z,2.2nm,0.3s
ASF Jabal al Asfar 14.59 118 P Pn 10 53 39.0 -0.8
MNK Minsk 14.91 14 *i* P Pn 10 53 39.9 -4.0
comp=E,10.0nm,0.6s
MNK *i* P Pn 10 53 39.9 -4.0
comp=N,9.0nm,0.7s
MNK *i* P Pn 10 53 39.9 -4.0
comp=Z,15nm,0.7s,baz=198
MNK *i* PP P 10 53 47.9 -1.6
MNK *i* PPP PPP 10 53 55.6
MNK *i* S Sn 10 56 24.6 -3.9
MNK *i* SS SnSn 10 56 38.4 -2.7
MNK *i* SSS SSS 10 56 51.1
MNK *i* LQ LQ 10 58 00.1
MNK *i* LR LR 10 59 07.5
MNK *i* LRM MLR 11 00 36.3
MNK *i* LRM MLR 11 01 30.5
comp=Z,12μm,18.1s
MNK *i* LRM MLR 11 01 39.2
comp=E,5μm,17.1s
MNK Minsk 14.91 14 *i* P Pn 10 53 39.9 -4.0
comp=N,8μm,17.0s
MNK *i* S Sn 10 56 24.6 -3.9
MNK pmax pmax
comp=N,9.0nm,0.7s
MNK pmax pmax
comp=E,10.0nm,0.6s
MNK pmax pmax
comp=Z,15nm,0.7s
MNK MLR MLR
comp=Z,12μm,18.0s
MNK MLR MLR
comp=E,5μm,17.0s
MNK MLR MLR
comp=N,8μm,17.0s
BHOU Houvegnez 15.02 318 *d*P P 10 53 53.1 +2.3
comp=Z,11nm,0.9s
EIL Elat 15.05 130 Pn Pn 10 53 45.0 -0.9
comp=Z,0.6nm,0.3s,baz=323,slow=9.3,SNR=6.5
EIL Sn Sn 10 56 27.2 -5.0
comp=Z,1.1nm,0.3s,baz=307,slow=19,SNR=4.1
comp=Z,5.7nm,0.6s

BTNL Ternell 15.10 319 *d*P P 10 53 53.1 +1.5
comp=Z,19nm,0.9s
NACGM Naroch 15.11 11 *e*P Pn 10 53 46.5 0.0
MEM Membach 15.17 319 *d*P P 10 53 53.8 +1.3
comp=Z,39nm,0.9s
BSTI Sart Tilman 15.38 318 *d*P P 10 53 56.7 +2.0
comp=Z,7.2nm,1.0s
PABE Paberze 15.40 5 Pn 10 53 49.1 -1.3
BCLA Clavier 15.42 317 *d*P P 10 53 56.3 +1.1
comp=Z,18nm,1.0s
BGES Gesves 15.52 317 *d*Pn Pn 10 53 52.8 +0.8
comp=Z,12nm,0.9s
DOU Dourbes 15.62 315 *d*P P 10 53 58.0 +0.6
comp=Z,26nm,0.8s
BSD Bornholm Skovb 15.62 345 *i* P P 10 53 56.2 -1.2
BSD IAmb IAmb 10 54 01.5
comp=Z,17nm,0.7s
GURO Guroymak-BITLI 15.76 89 Pn 10 53 55.2 -0.1
SHA1 Shidzhatmaz 15.94 70 *i* P Pn 10 53 56.3 -1.4
KIV Kislovodsk 15.98 70 Pn Pn 10 53 58.0 -0.1
KIV IAmb IAmb 10 54 00.8
comp=Z,22nm,0.4s
KIV Kislovodsk 15.98 70 *e*P Pn 10 53 57.5 -0.6
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,3µm,14.0s
KVAR Kislovodsk Arr 15.99 70 Pn Pn 10 53 59.3 +1.1
baz=260,slow=19
comp=Z,18nm,0.3s
KBZ Khabaz 16.11 70 Pn P 10 54 03.5 +0.6
comp=Z,0.1nm,0.3s,baz=267,slow=11,SNR=8.9
comp=Z,5.9nm,0.9s
UCC Uccle 16.13 317 Pn 10 54 01.3 +1.4
UCC IAmb IAmb 10 54 05.8
comp=Z,44nm,0.9s
UCC Uccle 16.13 317 P Pn 10 54 01.3 +1.4
UCC pmax pmax
comp=Z,44nm,0.9s
UCC Uccle 16.13 317 *d*P P 10 54 04.4 +1.3
comp=Z,36nm,0.9s
KARS Kars 16.25 82 Pn Pn 10 54 01.9 +0.3
KARS Kars 16.25 82 P Pn 10 54 01.9 +0.3
KARS pmax pmax
comp=Z,12nm,0.5s
VSR Storozhevoye 16.37 42 *e*P Pn 10 54 03.0 0.0
VSR pmax pmax
comp=Z,20nm,1.6s
GOF Gofitskoye 16.39 66 *ce*P P 10 54 10.1 +4.1
LUNU Lund 16.41 343 *i* P P 10 54 06.0 -0.2
BLEU Blekinge 16.60 348 *i* P Pn 10 54 06.3 +0.5
VORR Voronezh 16.66 41 *e*P P 10 54 07.9 -1.1
VORR pmax pmax
comp=Z,40nm,1.3s
BJUU Bjuv 16.92 343 *i* P P 10 54 11.4 -0.3
DEL Delary 17.11 345 *i* P Pn 10 54 12.7 +0.6
LPSR Galich'ya Gora 17.11 38 *e*P Pn 10 54 10.8 -1.4
LPSR pmax pmax
comp=Z,52nm,1.7s
GNI Garni 17.56 83 P P 10 54 20.2 +1.0
comp=Z,0.9nm,0.3s,baz=258,slow=16,SNR=6.6
comp=Z,4.7nm,0.4s
GNI Garni 17.56 83 *i* P Pn 10 54 17.9 -0.2
GNI pmax pmax
comp=Z,18nm,1.0s
VRH Novokhopyorsk 17.71 45 *e*P P 10 54 20.3 -0.2
VRH pmax pmax
comp=Z,54nm,1.5s
FABU Falkenberg 17.84 344 *i* P Pn 10 54 21.3 +0.1
OBN Obninsk 17.91 29 P Pn 10 54 20.4 -1.7
OBN IAmb IAmb 10 54 32.2
comp=Z,59nm,0.4s
OBN Obninsk 17.91 29 P Pn 10 54 21.4 -0.7
comp=Z,2.6nm,0.3s,baz=330,slow=14,SNR=4.8
comp=Z,14nm,0.4s
OBN Obninsk 17.91 29 *e*P Pn 10 54 21.4 -0.7
OBN *e*S S 10 57 46.6 -0.9
OBN pmax pmax
comp=Z,29nm,1.3s
OBN MLR MLR
comp=Z,6µm,18.0s
NAX Nakhchivan 18.29 85 P P 10 54 31.0 +3.9
ONAU Onsala 18.38 343 *e*P P 10 54 27.0 -0.7
ONAU *i* P P 10 54 27.1 -0.7
VSU Vasula 18.57 8 *ce*P P 10 54 29.6 -0.4
VSU pmax pmax
comp=Z,50nm,0.8s
ELMS Elmsett, Ipswi 18.61 317 *e*P Pn 10 54 30.7 0.0
GANJ Ganja 18.70 81 P Pn 10 54 35.6 +3.6
MOS Moscow 18.77 29 *e*P P 10 54 25.4 -6.8
MOS *e* 10 57 57.4
JSA Saint Aubin 19.19 306 *e*P P 10 54 36.4 -0.4
JSA IAmb IAmb 10 54 37.5
comp=Z,14nm,0.7s
MNGR Mingechevir, A 19.26 80 P Pn 10 54 41.7 +3.0
SEKA Sheki 19.30 79 P Pn 10 54 42.9 +3.7
AKT Akhty 19.67 78 *e*P Pn 10 54 44.5 +0.7
AKT pmax pmax
comp=Z,63nm,1.4s
ESBB Sonseca Array 19.72 277 P P 10 54 42.9 +0.2
ESDC Sonseca Array 19.72 277 P P 10 54 42.9 +0.1
ESDC Sonseca Array 19.72 277 P P 10 54 42.7 0.0
comp=Z,0.2nm,0.3s,baz=80,slow=10,SNR=23
comp=Z,3.6nm,1.0s
HOMB Homborsund 20.00 339 *i* P P 10 54 44.3 -1.3
STRU Stroemstad 20.03 344 *i* P P 10 54 45.4 -0.5
PAB San Pablo 20.04 277 P P 10 54 47.0 +0.8
PAB San Pablo 20.04 277 P P 10 54 47.0 +0.8
PAB pmax pmax
comp=Z,13nm,1.1s
CWF Charnwood Fore 20.15 316 *e*P P 10 54 47.0 -0.2
CWF IAmb IAmb 10 54 48.2
comp=Z,28nm,0.7s
STRD Stroud 20.17 313 *e*P P 10 54 47.7 +0.2
STRD IAmb IAmb 10 54 49.2
comp=Z,103nm,0.8s
SNART Snartemo 20.42 338 *e*P P 10 54 48.8 -1.4
HFS Hagfors 20.60 348 P P 10 54 50.9 -1.3
comp=Z,16nm,0.5s,baz=163,slow=12,SNR=69
comp=Z,16nm,0.5s
DYA Yadsworthy 20.68 308 *e*P P 10 54 52.6 -0.4
DYA IAmb IAmb 10 54 54.5
comp=Z,20nm,0.8s
LBWR Ladybower, Pea 20.70 318 *e*P P 10 54 52.9 -0.4
LBWR IAmb IAmb 10 54 54.5
comp=Z,38nm,0.8s
MCH1 Michaelchurch 20.73 313 *e*P P 10 54 53.4 -0.2
MCH1 IAmb IAmb 10 54 55.0
comp=Z,58nm,0.7s
LKRN Lenkeran, Azer 20.89 85 P Pn 10 54 59.5 +1.5
HLM1 Long Mynd 20.89 314 *e*P P 10 54 55.5 +0.1
HLM1 IAmb IAmb 10 54 57.1
comp=Z,23nm,0.8s
HPK Haverah Park 20.93 319 *e*P P 10 54 55.1 -0.6
HPK IAmb IAmb 10 54 56.8
comp=Z,36nm,0.8s
KONO Kongsberg 20.94 343 P P 10 54 54.1 -1.7
KONO Kongsberg 20.94 343 *ce*P P 10 54 55.5 -0.2
KONO pmax pmax
comp=Z,19nm,1.0s
HTL Hartland 21.20 309 *e*P P 10 54 59.3 +0.7
FOEL Foel Wylfa 21.23 315 *e*P P 10 54 58.9 -0.1
FOEL IAmb IAmb 10 55 00.3
comp=Z,40nm,0.7s
FINES FINESS Array B 21.45 6 P P 10 55 00.3 -1.0
FINES FINESS Array B 21.45 6 P P 10 55 00.6 -0.6
comp=Z,22nm,0.9s,baz=188,slow=10,SNR=44
FINES PcP PcP 10 59 06.5 +2.7
comp=Z,0.8nm,0.6s,baz=177,slow=2.8,SNR=1.4
comp=Z,22nm,0.9s
FINES FINESS Array B 21.45 6 *i* P P 10 55 00.8 -0.5
FINES pmax pmax
comp=Z,22nm,0.9s
FIA1 FINESS Array S 21.46 6 P P 10 55 00.8 -0.4
FIA1 IAmb IAmb 10 55 09.7
comp=Z,68nm,0.9s
BELG Belogornoye 21.51 47 P P 10 55 03.2 +1.2
baz=251,slow=18
PBRG Braganca 21.54 284 *e*P P 10 55 02.4 -0.1
EDMD Edmundbyers 21.57 321 *e*P P 10 55 01.9 -0.7
EDMD IAmb IAmb 10 55 05.6
comp=Z,29nm,0.8s
RSBS Rosebush, Pemb 21.70 312 *e*P P 10 55 03.7 -0.3
RSBS IAmb IAmb 10 55 06.8
comp=Z,14nm,0.6s

MVO Moncorvo 21.82 282 *e*P P 10 55 06.8 +1.3
MVO *i* IAmb IAmb 10 55 08.6
comp=Z,28nm,1.5s
NB2 NORSAR Subarra 21.88 346 P P 10 55 04.4 -1.5
comp=Z,12nm,0.5s,baz=159,slow=10
NOA NORSAR Array B 21.88 346 P P 10 55 05.0 -0.8
comp=Z,25nm,0.8s,baz=161,slow=11,SNR=88
NOA S S 10 59 02.7 -4.0
comp=Z,1.2nm,1.0s,baz=157,slow=20,SNR=2.0
comp=Z,25nm,0.8s
KESW Keswick, Cumbr 22.00 319 *e*P P 10 55 06.5 -0.7
KESW IAmb IAmb 10 55 08.5
comp=Z,25nm,0.7s
TAM Tamanrasset 22.12 223 P P 10 55 09.8 +0.9
TAM IAmb IAmb 10 55 13.2
comp=Z,29nm,0.8s
TAM Tamanrasset 22.12 223 P P 10 55 09.8 +0.9
TAM pmax pmax
comp=Z,29nm,0.8s
MTE Manteigas 22.32 280 *e*P P 10 55 11.9 +1.1
MTE *i* IAmb IAmb 10 55 22.6
comp=Z,35nm,2.3s
PVRL Vila Real 22.32 282 *e*P P 10 55 11.8 +0.9
PCBR Castelo Branco 22.36 279 *e*P P 10 55 12.2 +1.0
PMRV Marv??o 22.37 278 *e*P P 10 55 11.7 +0.3
PMRV *i* IAmb IAmb 10 55 26.4
comp=Z,31nm,2.9s
EKA Eskdalemuir Ar 22.42 321 P P 10 55 10.6 -1.1
comp=Z,32nm,0.6s,baz=121,slow=10,SNR=140
comp=Z,32nm,0.6s
EKA Eskdalemuir Ar 22.42 321 P P 10 55 10.6 -1.1
EKA pmax pmax
comp=Z,42nm,0.8s
ESK Eskdalemuir 22.43 321 P P 10 55 10.3 -1.5
ESK IAmb IAmb 10 55 12.1
comp=Z,55nm,0.8s
ESK Eskdalemuir 22.43 321 *e*P P 10 55 10.8 -1.0
ESK IAmb IAmb 10 55 12.4
comp=Z,49nm,0.8s
ESK Eskdalemuir 22.43 321 P P 10 55 10.3 -1.5
ESK pmax pmax
comp=Z,55nm,0.8s
IOMK Kirk Michael 22.59 317 *e*P P 10 55 13.1 -0.3
IOMK IAmb IAmb 10 55 14.1
comp=Z,11nm,0.7s
PESTR Estremoz 22.64 276 *e*P P 10 55 14.5 +0.3
PESTR *i* IAmb IAmb 10 55 31.6
comp=Z,26nm,1.8s
PGAV Gavieira, Arco 22.66 284 *e*P P 10 55 15.1 +0.6
EDI Edinburgh 22.75 322 *e*P P 10 55 14.1 -1.1
EDI IAmb IAmb 10 55 15.5
comp=Z,22nm,0.6s
NEWG New Galloway 22.83 320 *e*P P 10 55 14.5 -1.5
NEWG IAmb IAmb 10 55 17.8
comp=Z,15nm,0.7s
PSARD Sardoal 22.92 278 *e*P P 10 55 17.3 +0.1
PSARD *i* IAmb IAmb 10 55 26.1
comp=Z,32nm,2.0s
GAL1 Galloway 22.95 319 *e*P P 10 55 15.9 -1.3
GAL1 IAmb IAmb 10 55 17.2
comp=Z,14nm,0.7s
IWEX Carrickbyrne, 23.02 312 P P 10 55 18.1 +0.1
PBEJ Beja 23.05 274 *e*P P 10 55 19.1 +0.6
PMTG Montargil 23.08 277 *e*P P 10 55 19.1 +0.3
PCAS Casmilo, Conde 23.09 280 *e*P P 10 55 19.6 +0.7
DSB Dublin 23.12 314 P P 10 55 17.9 -1.1
DSB Dublin 23.12 314 P P 10 55 19.4 +0.3
PCVE Castro Verde 23.28 273 *e*P P 10 55 22.3 +1.4
PCVE *i* IAmb IAmb 10 55 37.7
comp=Z,34nm,1.2s
PBDV Barranco-do-Ve 23.31 272 *e*P P 10 55 21.6 +0.4
PBDV *i* IAmb IAmb 10 55 39.6
comp=Z,42nm,1.5s
ILTH Belurgan, Co L 23.42 316 P P 10 55 24.2 +2.2
KLMR Klimovskoe 23.43 22 *e*P P 10 55 19.9 -2.1
KLMR pmax pmax
comp=Z,41nm,1.1s
CLGH Cloghs, Cushen 23.76 318 *e*P P 10 55 24.8 -0.6
IDGL Inch Island, C 24.48 317 P P 10 55 31.3 -0.7
IDGL Inch Island, C 24.48 317 *e*P P 10 55 31.4 -0.6
BIGH Upper Bighouse 24.56 327 *e*P P 10 55 31.3 -1.4
BIGH IAmb IAmb 10 55 32.9
comp=Z,16nm,0.8s
KPL Plockton 24.66 323 *e*P P 10 55 32.0 -1.6
KPL IAmb IAmb 10 55 35.9
comp=Z,5.9nm,0.6s
IGLA Glengowla, Co 24.86 313 P P 10 55 38.0 +2.5
LINV Loch Inver, As 24.91 325 *e*P P 10 55 34.7 -1.2
LINV IAmb IAmb 10 55 36.4
comp=Z,14nm,0.8s
VAL Valentia 24.92 309 P P 10 55 35.1 -0.9
KIRV Kirov 25.46 34 *i* P P 10 55 41.3 +0.5
LEWI Lewis, Hebride 25.65 324 *e*P P 10 55 41.6 -1.0
LEWI IAmb IAmb 10 55 42.6
comp=Z,7.6nm,0.7s
RAYN Ar Rayn 26.00 123 P P 10 55 46.6 +0.4
RAYN Ar Rayn 26.00 123 P P 10 55 46.6 +0.4
RAYN pmax pmax
comp=Z,6.0nm,0.9s
AB31 Akbulak array 28.35 59 P P 10 56 06.4 -0.6
ABKAR Akbulak array 28.35 59 P P 10 56 06.3 -0.6
ARTI Arti 28.83 43 P P 10 56 10.5 -0.7
ARTI IAmb IAmb 10 56 28.5
comp=Z,9.2nm,0.9s
ARTI Arti 28.83 43 P P 10 56 10.7 -0.5
ARTI S S 11 01 00.3 +0.2
ARCES ARCESS Array B 29.48 3 P P 10 56 15.7 -1.2
ARCES IAmb IAmb 10 56 23.6
comp=Z,36nm,1.8s
ARCES ARCESS Array B 29.48 3 P P 10 56 15.7 -1.2
comp=Z,5.7nm,0.7s,baz=185,slow=8.8,SNR=27
comp=Z,5.7nm,0.7s
ARCES ARCESS Array B 29.48 3 P P 10 56 15.7 -1.2
ARCES pmax pmax
comp=Z,36nm,1.8s
TORD Torodi Ar. Bea 32.19 219 P P 10 56 41.3 +0.1
comp=Z,7.2nm,0.7s,baz=32,slow=10,SNR=4.4
TORD PcP PcP 10 59 31.2 +1.4
comp=Z,1.7nm,0.5s,baz=27,slow=3.4,SNR=1.6
BRVK Borovoye 35.05 52 *ce*P P 10 57 05.7 0.0
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BVAR Borovoye Array 35.11 52 P P 10 57 07.0 +0.7
comp=Z,3.3nm,0.9s,baz=284,slow=5.8,SNR=8.1
comp=Z,3.3nm,0.9s
DZET Dzherino 36.02 77 P P 10 57 14.8 +0.4
KK31 Karatay Array 36.14 69 P P 10 57 15.5 +0.2
KK31 IAmb IAmb 10 57 17.7
comp=Z,6.8nm,0.7s
KK31 Karatay Array 36.14 69 P P 10 57 15.5 +0.2
KK31 pmax pmax
comp=Z,7.0nm,0.7s
SIMJ Simiganj 36.20 77 P P 10 57 15.7 -0.3
TRKS Terek-Say 36.97 71 P P 10 57 23.4 +0.9
GAR Garm 37.06 76 P P 10 57 23.1 -0.3
BTK Batken 37.12 74 P 10 57 24.1 +0.3
BTK IAmb IAmb 10 57 25.3
comp=Z,10nm,0.8s
BTK Batken 37.12 74 P P 10 57 24.1 +0.3
BTK pmax pmax
comp=Z,10.0nm,0.8s
ARSB Arslanbob 38.35 71 P P 10 57 33.4 -0.9
ARSB IAmb IAmb 10 57 42.4
comp=Z,21nm,1.2s
ARSB Arslanbob 38.35 71 P P 10 57 33.4 -0.9
ARSB pmax pmax
comp=Z,21nm,1.2s
AAK Ala-Archa 39.10 69 *ce*P P 10 57 39.9 -0.6
AAK pmax pmax
comp=Z,14nm,1.7s
KURBB Kurchatov Arra 40.28 55 P P 10 57 48.6 -1.4
comp=Z,0.5nm,0.2s,baz=280,slow=8.7,SNR=9.2
comp=Z,0.5nm,0.2s
KURK Kurchatov 40.33 55 *i* P P 10 57 50.7 +0.3
KURK pmax pmax
comp=Z,5.0nm,1.2s
DBIC Dimbokro 41.02 223 P P 10 57 56.1 -0.3
DBIC IAmb IAmb 10 57 57.5
comp=Z,20nm,0.9s
DBIC Dimbokro 41.02 223 P P 10 57 54.8 -1.6
comp=Z,15nm,0.9s,baz=50,slow=9.3,SNR=14
comp=Z,15nm,0.9s
DBIC Dimbokro 41.02 223 P P 10 57 56.1 -0.3
DBIC pmax pmax
comp=Z,20nm,1.0s

KSH Kashi 41.07 73 P P 10 57 56.4 -0.5
KSH sP sP 10 58 04.8 +0.2
KSH pmax pmax
comp=Z,8.0nm,1.1s
NIL Nilore 41.20 82 P 10 57 56.9 -1.0
NIL IAmb IAmb 10 57 60.0
comp=Z,47nm,1.5s
NIL Nilore 41.20 82 P P 10 57 56.9 -1.0
NIL pmax pmax
comp=Z,47nm,1.5s
MBAR Mbarara 41.41 166 *i* P P 10 57 59.3 -0.5
MBAR pmax pmax
comp=Z,5.0nm,1.1s
MAKZ Makanchi 43.24 60 P P 10 58 13.7 -0.7
MAKZ Makanchi 43.24 60 P P 10 58 13.7 -0.7
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
SUMG Summit 43.33 338 P P 10 58 14.9 -0.2
SUMG Summit 43.33 338 P P 10 58 14.9 -0.2
SUMG pmax pmax
comp=Z,10.0nm,0.9s
SUMG Summit 43.33 338 *i* P P 10 58 14.8 -0.3
SUMG IAmb IAmb 10 58 16.2
comp=Z,8.8nm,0.8s
MK31 Makanchi Array 43.45 60 *ce*P P 10 58 16.6 +0.5
MKAR Makanchi Array 43.45 60 P P 10 58 16.0 -0.1
MKAR Makanchi Array 43.45 60 P P 10 58 16.3 +0.2
comp=Z,6.0nm,0.6s,baz=280,slow=7.0,SNR=53
comp=Z,6.0nm,0.6s
ZAA0 Zalesovo Array 43.65 50 P 10 58 16.8 -0.7
ZALV Zalesovo Beam 43.65 50 P 10 58 16.8 -0.7
ZALV Zalesovo Beam 43.65 50 P P 10 58 17.0 -0.5
comp=Z,4.0nm,0.6s,baz=286,slow=10,SNR=12
comp=Z,4.0nm,0.6s
ZALV Zalesovo Beam 43.65 50 P P 10 58 17.0 -0.5
NRIK Noril'sk 44.58 27 P P 10 58 25.0 +0.3
comp=Z,0.9nm,0.4s,baz=252,slow=5.8,SNR=5.2
comp=Z,0.9nm,0.4s
NRIK Noril'sk 44.58 27 *i* P P 10 58 25.4 +0.7
NRIK pmax pmax
comp=Z,4.0nm,1.0s
WMQ Urumqi 47.97 63 *e*P P 10 58 53.4 +1.6
WMQ pmax pmax
comp=Z,30nm,0.7s
EVN Everest 54.16 82 P P 10 59 38.2 -1.1
SCHQ Schefferville 57.65 317 P P 11 00 02.9 -0.2
comp=Z,6.6nm,0.5s,baz=67,slow=7.2,SNR=11
comp=Z,6.6nm,0.5s
GTA Gaotai 58.05 63 P P 11 00 05.8 -0.5
GTA pP pP 11 00 11.8 -0.2
GTA pmax pmax
comp=Z,8.0nm,1.3s
SONM Songino Array 58.45 52 P P 11 00 08.9 -0.1
comp=Z,0.5nm,0.5s,baz=298,slow=9.7,SNR=5.8
comp=Z,0.5nm,0.5s
LZH Lanzhou 62.46 65 *e*P P 11 00 36.9 +0.3
LZH pP pP 11 00 41.0 -1.3
LZH pmax pmax
comp=Z,22nm,1.1s
D62A Allapoint, All 62.50 310 P P 11 00 37.0 +0.5
D62A IAmb IAmb 11 00 42.7
comp=Z,12nm,0.8s
MREMI Moremi 62.65 174 P P 11 00 38.4 +0.7
KGCAE Kacgae 62.71 180 P P 11 00 38.4 +0.3
YAK Yakutsk 62.90 30 *i* P P 11 00 39.7 +0.9
YAK pmax pmax
comp=Z,5.0nm,0.8s
LPHEP Lephephe 63.33 176 P P 11 00 42.6 +0.4
LBTB Lobatse 64.96 176 P P 11 00 53.6 +0.7
LBTB Lobatse 64.96 176 P P 11 00 53.6 +0.7
LBTB pmax pmax
comp=Z,27nm,1.4s
HHC Hu-ho-hao-te 65.12 57 *e*P P 11 00 53.4 -0.6
HHC pmax pmax
comp=Z,13nm,0.7s
A36M Sachs Harbour 65.74 349 P P 11 00 57.4 +0.1
A36M Sachs Harbour 65.74 349 P P 11 00 57.9 +0.5
baz=27
PZH PanZhiHua 66.13 75 P P 11 01 00.0 -0.7
PZH pmax pmax
comp=Z,10.0nm,0.7s
TRQ Mont Tremblant 66.17 311 P P 11 01 00.9 +0.3
XAN Xi'an 67.07 64 P P 11 01 06.3 -0.3
XAN pmax pmax
comp=Z,24nm,1.2s
BOSA Boshof 68.52 177 P P 11 01 15.8 +0.2
BOSA Boshof 68.52 177 P P 11 01 15.3 -0.2
comp=Z,5.0nm,0.7s,baz=359,slow=8.6,SNR=20
comp=Z,5.0nm,0.7s
BOSA Boshof 68.52 177 P P 11 01 15.8 +0.2
BOSA pmax pmax
comp=Z,71nm,1.9s
CMAR Chiang Mai Arr 68.68 83 P P 11 01 15.8 -1.0
comp=Z,1.4nm,0.8s,baz=307,slow=4.6,SNR=7.1
comp=Z,1.4nm,0.8s
CMAR Chiang Mai Arr 68.68 83 *i* P P 11 01 16.5 -0.3
CMAR pmax pmax
comp=Z,1.0nm,0.7s
L59A Walton 68.74 308 P P 11 01 18.0 +1.1
L59A IAmb IAmb 11 01 24.0
comp=Z,13nm,0.9s
BILL Bilibino 68.85 14 *i* P P 11 01 17.1 0.0
BILL pmax pmax
comp=Z,5.0nm,0.9s
HEH HeiHe 68.89 41 *e*P P 11 01 17.6 -0.1
BINY Binghamton 69.31 308 P P 11 01 20.6 +0.2
SADO Sadowa 69.64 312 P P 11 01 23.6 +1.1
comp=Z,8.7nm,0.7s,baz=62,slow=5.2,SNR=8.9
comp=Z,8.7nm,0.7s
C27K Jago River 69.99 355 P P 11 01 24.9 +0.8
C27K IAmb IAmb 11 01 26.2
comp=Z,11nm,0.9s
C27K Jago River 69.99 355 P P 11 01 24.5 +0.4
baz=12,SNR=6.2
D27M Malcolm River 70.14 354 P P 11 01 25.3 +0.1
baz=14
C23K Itkillik River 70.16 357 P P 11 01 25.4 +0.3
baz=6.1
C24K Franklin Bluff 70.19 356 P P 11 01 25.1 -0.3
baz=7.7
INK Inuvik 70.25 350 P P 11 01 25.5 -0.2
INK IAmb IAmb 11 01 31.1
comp=Z,20nm,1.7s
INK Inuvik 70.25 350 P P 11 01 25.5 -0.2
INK pmax pmax
comp=Z,20nm,1.7s
INK Inuvik 70.25 350 P P 11 01 25.6 -0.1
baz=20
D25K Kavik River 70.46 356 P P 11 01 27.5 +0.4
baz=9.5
B21K Ikpikpuk River 70.48 359 P P 11 01 27.3 +0.2
baz=2.9
M57A Sunshine Farm, 70.51 308 P P 11 01 28.6 +0.9
M57A IAmb IAmb 11 01 34.8
comp=Z,18nm,1.1s
E28M Babbage River 70.64 353 P P 11 01 29.2 +1.1
baz=15,SNR=9.9
E29M Blow River 70.68 352 P P 11 01 28.9 +0.5
E29M Blow River 70.68 352 P P 11 01 29.5 +1.1
baz=16,SNR=28
D24K Happy Valley 70.76 356 P P 11 01 29.5 +0.6
baz=7.5
C21K Knifeblade Rid 70.95 359 P P 11 01 30.7 +0.7
baz=2.7
D23K Nanushuk River 71.03 357 P P 11 01 32.3 +1.8
baz=6.0,SNR=8.4
C19K Lookout Ridge 71.03 1 P P 11 01 32.1 +1.5
baz=359
F31M Tsiigehtchic 71.10 350 P P 11 01 31.4 +0.5
baz=20,SNR=30
D22K Ayikyak River 71.18 358 P P 11 01 31.9 +0.4
baz=4.4
F30M Barrier River 71.19 351 P P 11 01 31.5 -0.1
baz=18
E27K Coleen River 71.23 354 P 11 01 31.3 -0.5
E27K IAmb IAmb 11 01 38.4
comp=Z,9.5nm,1.0s
E27K Coleen River 71.23 354 P P 11 01 32.2 +0.5
baz=13,SNR=9.7
TOLK Toolik Lake Re 71.31 357 P P 11 01 32.9 +0.6
baz=6.9
TIA Tai'an 71.33 58 P P 11 01 31.6 -1.3
TIA pmax pmax
comp=Z,10.0nm,0.9s
D20K Etivluk River 71.42 359 P 11 01 33.7 +0.8
D20K IAmb IAmb 11 02 00.0

	comp=Z,22nm,1.6s							
D20K	**Etivluk River**	71.42	359	P		**P**	11 01 33.5	+0.7
	baz=1.2							
C18K	**Utukok River**	71.47	1	P		**P**	11 01 33.5	+0.3
	baz=358							
E46A	**Sault Ste Mari**	71.53	315	P		**P**	11 01 34.8	+0.9
E46A				IAmb		IAmb	11 01 35.7	
	comp=Z,10nm,0.9s							
C17K	**DeLong Mountai**	71.60	2	P		P	11 01 34.3	+0.3
	baz=356							
F28M	**Old Crow**	71.63	353	P		**P**	11 01 35.0	+0.8
	baz=15,SNR=13							
D19K	**Kuna River**	71.65	360	P		**P**	11 01 34.5	+0.2
	baz=0.0							
E21K	**Killik River**	71.65	358	P		**P**	11 01 34.5	+0.2
	baz=3.4							
G31M	**Satah River**	71.66	350	P		**P**	11 01 34.5	+0.2
	baz=19,SNR=14							
YKAW3	**Yellowknife Wh**	71.78	340	P		**P**	11 01 35.4	+0.3
YKAW3				IAmb		IAmb	11 01 36.2	
	comp=Z,7.4nm,0.9s							
E24K	**Your Creek**	71.82	356	P		**P**	11 01 35.6	+0.3
	baz=7.8							
YKA	**Yellowknife Ar**	71.84	340	P		**P**	11 01 34.8	-0.6
	comp=Z,2.9nm,0.8s,baz=28,slow=5.5,SNR=21							
	comp=Z,2.9nm,0.8s							
YKA	**Yellowknife Ar**	71.84	340	*i* P		**P**	11 01 35.2	-0.2
YKA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
G30M	**tAoh Zraii Nji**	71.85	351	P		**P**	11 01 35.7	+0.2
	baz=18							
E20K	**Nigu River**	71.87	359	P		**P**	11 01 35.7	0.0
	baz=1.6							
E23K	**Chandalar**	71.89	357	P		**P**	11 01 36.4	+0.6
	baz=6.9							
E22K	**Anaktuvuk Pass**	71.90	357	P		**P**	11 01 36.6	+0.7
	baz=5.1							
F26K	**Sheenjek River**	71.92	354	P		**P**	11 01 37.1	+1.1
	baz=11,SNR=9.3							
G29M	**Pine Creek**	72.12	352	P		**P**	11 01 37.3	+0.2
G29M	**Pine Creek**	72.12	352	P		**P**	11 01 37.8	+0.7
	baz=16,SNR=18							
F25K	**Christian Rive**	72.13	355	P		**P**	11 01 37.8	+0.6
	baz=10.0							
F24K	**Squaw Lake**	72.34	356	P		**P**	11 01 39.4	+1.0
	baz=8.2,SNR=11							
D17K	**Noatak River**	72.38	2	P		**P**	11 01 39.8	+1.1
	baz=356							
EPYK	**Eagle Plains**	72.49	351	P		**P**	11 01 39.7	+0.3
	baz=17,SNR=13							
F22K	**John River**	72.54	358	P		**P**	11 01 40.3	+0.7
	baz=4.8							
G27K	**Doyon Strip**	72.58	353	P		**P**	11 01 40.8	+0.9
	baz=13,SNR=18							
G26K	**Porcupine Rive**	72.63	354	P		**P**	11 01 41.9	+1.8
	baz=12,SNR=12							
E19K	**Redstone River**	72.69	360	P		**P**	11 01 41.7	+1.2
	baz=0.7							
E18K	**Tukpahlearik C**	72.71	1	P		**P**	11 01 41.7	+1.1
	baz=358							
H31M	**Peel River**	72.73	350	P		**P**	11 01 41.4	+0.6
	baz=19							
COLD	**Coldfoot**	72.74	357	P		**P**	11 01 41.8	+1.0
	baz=6.4							
H29M	**Whitestone**	72.83	352	P		**P**	11 01 41.6	+0.3
	baz=16,SNR=22							
F21K	**Alatna River**	72.86	358	P		**P**	11 01 42.2	+0.6
	baz=3.7							
G25K	**Bearman Lake**	72.98	355	P		**P**	11 01 43.4	+1.2
	baz=9.6							
E17K	**Hotham Inlet**	73.03	1	P		**P**	11 01 43.5	+1.0
	baz=357							
F20K	**Avaraart Lake**	73.08	359	P		**P**	11 01 43.7	+0.9
	baz=1.9							
G22K	**Bettles**	73.10	357	P		**P**	11 01 43.9	+0.9
	baz=5.3							
G24K	**Hadweenzic Riv**	73.13	356	P		**P**	11 01 43.7	+0.6
	baz=8.5							
H27K	**Steamboat Moun**	73.14	353	P		**P**	11 01 44.5	+1.2
	baz=13,SNR=19							
G23K	**Bananza Creek**	73.25	357	P		**P**	11 01 44.6	+0.7
	baz=6.5							
WRGLY	**Wrigley**	73.26	344	P		**P**	11 01 44.7	+0.8
	baz=27							
F19K	**Shaleruckik Mo**	73.31	360	P		**P**	11 01 44.5	+0.4
	baz=0.3							
H25L	**Birch Creek**	73.45	355	P		**P**	11 01 46.5	+1.5
	baz=9.8							
F18K	**Selawik**	73.54	1	P		**P**	11 01 46.8	+1.3
	baz=359							
I30M	**Mount Dempster**	73.55	351			**P**	11 01 46.0	+0.2
I30M	**Mount Dempster**	73.55	351	P		**P**	11 01 46.5	+0.7
	baz=17,SNR=32							
G21K	**Allakaket**	73.57	358	P		**P**	11 01 46.8	+1.1
	baz=3.7							
I29M	**Ogilvie Camp,**	73.65	351	P		**P**	11 01 46.6	+0.4
	baz=16,SNR=30							
I28M	**Miner Creek**	73.74	352			**P**	11 01 46.8	0.0
I28M				IAmb		IAmb	11 01 54.8	
	comp=Z,40nm,1.9s							
I28M	**Miner Creek**	73.74	352	P		**P**	11 01 47.3	+0.5
	baz=14							
I27K	**Kandik River**	73.76	353	P		**P**	11 01 48.1	+1.2
	baz=13,SNR=11							
FFC	**Flin Flon**	73.94	330			**P**	11 01 48.3	+0.2
FFC				IAmb		IAmb	11 01 54.1	
	comp=Z,20nm,1.7s							
FFC	**Flin Flon**	73.94	330	P		**P**	11 01 48.3	+0.2
FFC				pmax		pmax		
	comp=Z,20nm,1.7s							
G19K	**Purcell Mounta**	74.00	360	P		**P**	11 01 49.4	+1.1
	baz=0.8							
H24K	**Noodor Dome**	74.01	356	P		**P**	11 01 49.0	+0.6
	baz=8.2							
H23K	**Yukon River**	74.11	356	P		**P**	11 01 50.5	+1.6
	baz=6.8,SNR=8.7							
H22K	**Ishtalitna Cre**	74.12	357	P		**P**	11 01 50.6	+1.6
	baz=5.4							
J30M	**Hart River**	74.17	350	P		**P**	11 01 50.6	+1.3
	baz=17,SNR=44							
PRP	**Porcupine Dome**	74.17	355	P		**P**	11 01 50.4	+1.0
	baz=10.0							
I26K	**Coal Creek Min**	74.19	353	P		**P**	11 01 50.5	+1.2
	baz=12							
G18K	**Tagagawik**	74.26	0	P		**P**	11 01 50.4	+0.6
	baz=360							
H21K	**Melozitna Rive**	74.41	358	P		**P**	11 01 51.9	+1.2
	baz=4.2							
F14K	**Arctic Creek**	74.49	3	P		**P**	11 01 52.0	+0.9
	baz=354							
H19K	**Roundabout Mou**	74.62	359	P		**P**	11 01 52.7	+0.9
	baz=1.4							
H20K	**Anotleneega Mo**	74.63	359	P		**P**	11 01 52.9	+1.0
	baz=2.6							
G17K	**Kiwalik Mounta**	74.64	1	P		**P**	11 01 52.8	+0.9
	baz=358							
G16K	**Koyuk River**	74.71	2	P		**P**	11 01 53.0	+0.7
	baz=357							
I23K	**Minto, Yukon-K**	74.78	356	P		**P**	11 01 53.5	+0.7
	baz=7.0							
I21K	**Tanana**	74.86	357	P		**P**	11 01 54.2	+0.9
	baz=4.9							
MLY	**Manley**	74.96	357	P		**P**	11 01 54.6	+0.7
	baz=5.9							
NJ2	**Nanjing**	74.98	61	*e*P		**P**	11 01 53.6	-0.9
NJ2				pmax		pmax		
	comp=Z,12nm,0.5s							
H18K	**Honhosa River**	75.00	0	P		**P**	11 01 55.1	+1.0
	baz=360							
ILAR	**Eielson Array**	75.01	355	P		**P**	11 01 54.1	0.0
	comp=Z,0.7nm,0.9s,baz=11,slow=6.0,SNR=12							
	comp=Z,0.7nm,0.9s							
J26L	**Joseph Creek**	75.02	353	P		**P**	11 01 55.1	+0.9
	baz=12,SNR=14							
K29M	**Barlow Dome**	75.02	351	P		**P**	11 01 55.2	+0.9
	baz=16							
DAWY	**Dawson**	75.03	352	P		**P**	11 01 55.4	+1.1
	baz=15,SNR=21							
MAYO	**Mayo, Yukon**	75.05	350	P		**P**	11 01 56.1	+1.7
	baz=17							
G15K	**Niukluk**	75.06	3	P		**P**	11 01 55.6	+1.2
	baz=355							
MMPY	**Sheldon Lake,**	75.28	347	P		**P**	11 01 57.4	+1.7
	baz=21,SNR=16							
NEA2	**Nenana**	75.32	356	P		**P**	11 01 57.1	+1.2
	baz=7.2							
I20K	**Naaghedeneel**	75.32	358	P		**P**	11 01 57.4	+1.5
	baz=2.9							
K27K	**Chicken**	75.34	353	P		**P**	11 01 57.5	+1.5
	baz=13							
HDA	**Harding Lake**	75.37	355	P		**P**	11 01 57.0	+0.8
	baz=8.8							
GCSA	**Galena City Sc**	75.41	359	P		**P**	11 01 56.7	+0.4
	baz=1.0							
SCRK	**Sand Creek**	75.57	354	P		**P**	11 01 58.4	+0.9
	baz=11							
L29M	**L29M**	75.80	351	P		**P**	11 01 59.9	+1.1
	baz=16							
RIDG	**Independent Ri**	75.88	354	P		**P**	11 01 59.7	+0.5
	baz=10							
K24K	**Donnelly Dome**	75.89	354	P		**P**	11 01 59.3	+0.1
	baz=9.7							
BPAW	**Bear Paw Mtn.**	75.90	357	P		**P**	11 01 59.2	0.0
	baz=5.6							
J20K	**Nowinta River**	75.93	358	P		**P**	11 02 00.1	+0.7
	baz=3.2							
FARO	**Faro, Yukon**	75.98	348	P		**P**	11 02 00.8	+1.0
	baz=19,SNR=12							
J19K	**Poorman**	76.15	359	P		**P**	11 02 01.1	+0.4
	baz=2.0							
M30M	**Minto, Yukon**	76.15	350	P		**P**	11 02 01.5	+0.8
	baz=17							
M31M	**Drury Creek, Y**	76.16	349	P		**P**	11 02 01.9	+1.1
	baz=18,SNR=11							
MCK	**McKinley**	76.17	356	P		**P**	11 02 01.3	+0.5
	baz=7.2							
CHUM	**Lake Minchumin**	76.17	357	P		**P**	11 02 01.6	+0.8
	baz=4.6							
I17K	**Unalakleet**	76.26	1	P		**P**	11 02 02.4	+1.1
	baz=358							
L27K	**Beaver Creek,**	76.27	352	P		**P**	11 02 02.6	+1.2
	baz=13							
L26K	**Log Cabin Wild**	76.45	353	P		**P**	11 02 03.2	+0.8
	baz=12							
M29M	**Somme Creek**	76.49	351	P		**P**	11 02 04.1	+1.3
	baz=15,SNR=27							
TRF	**Thorofare Moun**	76.52	356	P		**P**	11 02 03.3	+0.3
	baz=6.2							
PAX	**Paxson**	76.69	354	P		**P**	11 02 04.4	+0.6
	baz=9.9							
J18K	**Innoko River**	76.69	359	P		**P**	11 02 04.7	+1.0
	baz=1.1							
K20K	**Telida**	76.75	358	P		**P**	11 02 05.0	+0.9
	baz=3.2							
J17K	**VABM Dome**	76.77	0	P		**P**	11 02 04.9	+0.8
	baz=359							
BVCY	**Beaver Creek**	76.80	352	P		**P**	11 02 05.4	+1.0
	baz=14,SNR=13							
J16K	**Anvik River**	76.86	1	P		**P**	11 02 05.6	+0.9
	baz=358							
N32M	**Quiet Lake**	76.96	348	P		**P**	11 02 06.1	+0.8
	baz=19							
M27K	**Edge Creek, AK**	76.96	352	P		**P**	11 02 06.4	+1.0
	baz=13							
M26K	**Nabesna, AK**	77.03	353	P		**P**	11 02 06.5	+0.7
	baz=12							
N31M	**Braeburn, Yuko**	77.05	349	P		**P**	11 02 07.0	+1.1
	baz=17							
PPLA	**Purkeypile**	77.16	357	P		**P**	11 02 07.4	+0.8
	baz=4.7							
WTLY	**Watson Lake, Y**	77.17	345	P		**P**	11 02 07.8	+1.3
	baz=23							
N30M	**Aishikik Lake**	77.26	350	P		**P**	11 02 08.3	+1.2
	baz=16							
LIRD	**Liard River Hi**	77.26	344	P		**P**	11 02 08.1	+1.1
	baz=25							
KSRS	**Korea Array**	77.32	52	P		**P**	11 02 07.1	-0.6
	comp=Z,4.3nm,0.8s,baz=313,slow=5.1,SNR=24							
	comp=Z,4.3nm,0.8s							
YUK3	**Mose Creek**	77.38	351	P		**P**	11 02 09.1	+1.2
	baz=14,SNR=9.3							
K17K	**Iditarod**	77.45	0	P		**P**	11 02 08.8	+0.8
	baz=360							
YUK4	**Talbot Arm**	77.58	350	P		**P**	11 02 09.0	0.0
	baz=15							
TOAD	**Toad River Com**	77.58	343	P		**P**	11 02 10.3	+1.4
	baz=25,SNR=10							
M24K	**Tolsona, Glenn**	77.60	354	P		**P**	11 02 09.7	+0.8
	baz=9.3							
WHY	**Whitehorse**	77.71	348	P		**P**	11 02 10.4	+0.8
	baz=18							
YUK8	**Steele Glacier**	77.77	351	P		**P**	11 02 10.3	+0.1
	baz=14							
O30N	**Mendenhall**	77.78	349	P		**P**	11 02 10.7	+0.8
	baz=17							
P33M	**Teslin, Yukon**	77.80	347	P		**P**	11 02 11.1	+1.0
	baz=20							
K15K	**Wolf Creek Mou**	77.84	2	P		**P**	11 02 11.0	+0.9
	baz=357							
HYT	**Haines Junctio**	77.93	350	P		**P**	11 02 12.0	+1.1
	baz=16							
YUK6	**Outpost Mounta**	77.93	350	P		**P**	11 02 12.3	+1.3
	baz=15,SNR=5.1							
L18K	**Granite Mounta**	77.94	359	P		**P**	11 02 12.0	+1.2
	baz=1.1							
L19K	**White Mountain**	77.95	358	P		**P**	11 02 11.8	+0.9
	baz=2.6							
SCM	**Sheep Creek Mo**	77.95	355	P		**P**	11 02 11.7	+0.8
	baz=8.4							
N25K	**Chitina, Valde**	77.96	353	P		**P**	11 02 11.9	+0.9
	baz=11							
M23K	**Glacier View**	78.02	355	P		**P**	11 02 12.1	+0.9
	baz=8.1							
MCARA	**McCarthy VSAT**	78.03	353	P		**P**	11 02 12.8	+1.5
	baz=12							
L17K	**Donlin**	78.03	0	P		**P**	11 02 12.5	+1.2
	baz=360							
SKT	**Skwentna**	78.04	357	P		**P**	11 02 11.9	+0.5
	baz=5.2							
KLU	**Klutina**	78.18	354	P		**P**	11 02 12.6	+0.3
	baz=9.5							
M20K	**Styx River**	78.20	358	P		**P**	11 02 12.8	+0.4
	baz=3.9							
M19K	**Big River Lodg**	78.22	358	P		**P**	11 02 13.2	+0.9
	baz=2.9							
R33M	**Jennings River**	78.24	346	P		**P**	11 02 14.0	+1.4
	baz=21,SNR=12							
CTG	**Chitna Glacier**	78.27	352	P		**P**	11 02 13.3	+0.5
	baz=13							
L15K	**Ungalak Mounta**	78.46	2	P		**P**	11 02 15.1	+1.4
	baz=357							
P30M	**Million Dollar**	78.53	349	P		**P**	11 02 15.6	+1.4
	baz=16							
P32M	**Atlin**	78.54	348	P		**P**	11 02 15.1	+0.9
	baz=19							
O29M	**Mount Kennedy**	78.58	350	P		**P**	11 02 15.0	+0.5
	baz=15							
YSS	**Yuzhno-Sakhali**	78.58	37	*ce*P		**P**	11 02 14.2	-0.4
YSS				pmax		pmax		
	comp=Z,42nm,1.7s							
BMRM	**Bremner River**	78.59	353	P		**P**	11 02 15.3	+0.8
	baz=10							
M18K	**Stony River**	78.66	359	P		**P**	11 02 15.5	+0.8
	baz=1.8							
M17K	**Holitna River**	78.77	360	P		**P**	11 02 16.9	+1.5
	baz=0.6							
Q32M	**Nakina River**	78.89	347	P		**P**	11 02 17.5	+1.1
	baz=20							
SKAG	**Skagway**	78.92	348	P		**P**	11 02 18.0	+1.8
	baz=18							
PLBC	**Pleasant Camp**	79.08	349	P		**P**	11 02 18.3	+1.2
	baz=17							
P29M	**Windy Craggy**	79.11	350	P		**P**	11 02 18.8	+1.4
	baz=16							
M16K	**Timber Creek**	79.15	0	P		**P**	11 02 19.1	+1.6
	baz=359							
W50A	**Signal Mountai**	79.36	307	P		**P**	11 02 19.7	+0.6
W50A				IAmb		IAmb	11 02 25.9	
	comp=Z,18nm,1.0s							
CLTN	**Cedars of Leba**	79.39	308	P		**P**	11 02 18.9	-0.3
KAIM	**Kayak Island**	79.60	353	P		**P**	11 02 21.7	+1.8
	baz=11							
N17K	**Nushagak Hills**	79.64	359	P		**P**	11 02 21.8	+1.7
	baz=0.8							
PET	**Petropavlovsk**	79.96	25	*i* P		**P**	11 02 22.9	+0.9
PET				pmax		pmax		
	comp=Z,6.0nm,0.9s							
MJAR	**Matsushiro Arr**	83.90	46	P		**P**	11 02 42.4	-0.7
	comp=Z,2.7nm,0.9s,baz=312,slow=6.1,SNR=4.4							
	comp=Z,2.7nm,0.9s							
BDFB	**Brasilia**	85.24	245	P		**P**	11 02 49.3	-0.8
	comp=Z,1.4nm,0.7s,baz=54,slow=6.4,SNR=7.5							
	comp=Z,1.4nm,0.7s							
PDAR	**Pinedale Array**	86.43	326	P		**P**	11 02 55.5	-0.4
	comp=Z,0.5nm,0.7s,baz=34,slow=2.3,SNR=6.0							
	comp=Z,0.5nm,0.7s							
TXAR	**Lajitas Array**	94.28	314	P		**P**	11 03 33.3	+0.5
	comp=Z,2.1nm,1.0s,baz=30,slow=4.5,SNR=14							
	comp=Z,2.1nm,1.0s							
ASAR	**Alice Springs**	121.42	96	PKP		**PKPdf**	11 09 04.8	-1.9
	comp=Z,2.2nm,0.8s,baz=333,slow=2.3,SNR=4.2							
QSPA	**South Pole Qui**	130.03	180	PKP		**PKPdf**	11 09 21.2	-0.6
	comp=Z,1.3nm,0.8s,baz=242,slow=1.8,SNR=3.2							
QSPA	**South Pole Qui**	130.03	180	P		**PKPdf**	11 09 21.0	-0.9

IDC ***14*** *10:54:03.5±0.6,0˚.69S×127˚.69E,h0km,mb4.1/16, mbtmp4.1/17,ML4.2/1,MS5.0/1,Error ellipse: s-maj=34.0km s-min=10.1km az=75.0*
NEIC ***14*** *10:54:05.5±2.2,0˚.54S±0˚.05×127˚.88E±0˚.07,h10km±1km, mb4.7/31,Error ellipse: s-maj=14.2km s-min=5.9km az=238.0*
DJA ***14*** *10:54:07.4±0.2,1˚S±2˚×12˚8E±˚,h10km,M4.8/23, mb4.9/16,mB5.5/2,MLv4.8/23,Mw(mB)5.0/2*
ISC 14 10:54:05.3±0.4,0.57S±0.04×127.86E±0.05,h10km,n102,
σ1§56/103,mb4.6/37,1D,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	1.42	340		**Pn**	**10 54 31.2**	**+0.1**
TNTI	**Ternate**	1.42	340	P	**Pg**	**10 54 32.2**	**-0.3**
TNTI	**Ternate**	1.42	340	S	**Sg**	**10 54 53.5**	**+2.6**
TNTI	**Ternate**	1.42	340	P	**Pb**	**10 54 32.0**	**+0.2**
TNTI				S	**Sg**	**10 54 51.4**	**+0.5**
SANI	**Sanana**	2.38	232	P	**Pn**	**10 54 43.8**	**-0.6**
SANI				S	**Sn**	**10 55 14.8**	**+1.1**
NLAI	**Namlea**	2.76	196	P	**Pn**	**10 54 50.6**	**+1.0**
NLAI				S	**Sn**	**10 55 23.9**	**+0.8**
MSAI	**Masohi**	2.96	159	P	**Pn**	**10 54 55.3**	**+2.9**
AAI	**Ambon**	3.12	174	P	**Pn**	**10 54 57.2**	**+2.6**
SWI	**Sorong**	3.42	95	P	**Pn**	**10 55 00.8**	**+2.2**
KMSI	**Cibinong**	4.04	286	P	**Pn**	**10 55 08.7**	**+1.5**
BNDI	**Bandanaira**	4.43	153	P	**Pn**	**10 55 15.3**	**+2.7**
FAKI	**Fak Fak**	4.97	118		**Pn**	**10 55 20.8**	**+0.7**
FAKI	**Fak Fak**	4.97	118	P	**Pn**	**10 55 21.3**	**+1.2**
FAKI	**Fak Fak**	4.97	118	S	**Sn**	**10 56 18.8**	**+1.1**
FAKI	**Fak Fak**	4.97	118	P	**Pn**	**10 55 20.9**	**+0.8**
	0.7nm80nm,1.4s						
LUWI	**Luwuk**	5.11	265	P	**Pn**	**10 55 22.1**	**+0.2**
	1.6nm4µm163nm,0.7s						
MRSI	**Marisa**	6.00	280	P	Pn	10 55 39.6	+5.3
	0.4nm115nm,0.9s						
APSI	**Ampana**	6.22	267	P	**Pn**	**10 55 39.4**	**+2.2**
KDI	**Kendari**	6.22	237	P	**Pn**	**10 55 40.0**	**+2.7**
RKPI	**Ransiki, Papua**	6.39	99	P	Pn	10 55 44.6	+5.0
	0.8nm92nm,1.5s						
BBSI	**Bau Bau**	7.19	227	P	**Pn**	**10 55 52.0**	**+1.4**
	0.3nm89nm,0.8s						
TOLI2	**Tolitoli**	7.27	283	Pn	**Pn**	**10 55 52.1**	**+0.5**
TOLI2	**Tolitoli**	7.27	283	P	**Pn**	**10 55 55.3**	**+3.7**
MPSI	**Mapaga**	8.01	276	P	**Pn**	**10 56 04.3**	**+2.5**
PCI	**Palu**	8.03	268	P	**Pn**	**10 56 03.6**	**+1.5**
	95nm,0.9s						
TTSI	**Tana Toraja**	8.40	253	P	**Pn**	**10 56 08.8**	**+1.6**
	62nm,0.6s						
BNSI	**Bone**	8.63	244	P	**Pn**	**10 56 11.5**	**+1.2**
	45nm,0.9s						
SPSI	**Sidrap Palu**	8.76	247	P	**Pn**	**10 56 14.3**	**+2.2**
BKSI	**Bulukumba**	9.05	238	P	**Pn**	**10 56 18.4**	**+2.3**
	65nm,0.6s						
BSSI	**Bau Bau, Buton**	9.21	233	P	**Pn**	**10 56 20.1**	**+1.9**
	2µm55nm,0.7s						
KAPI	**Kappang**	9.22	241	Pn	**Pn**	**10 56 20.4**	**+1.9**
KAPI	**Kappang**	9.22	241	Pn	**Pn**	**10 56 19.1**	**+0.7**
	7.8nm,0.3s,baz=68,slow=8.3,SNR=16						
KAPI				Sn	**Sn**	**10 58 00.2**	**-2.2**
	1.2nm,0.3s,baz=76,slow=17,SNR=1.2						
KAPI	**Kappang**	9.22	241	P	**Pn**	**10 56 22.2**	**+3.7**
EDFI	**Ende, Flores**	10.19	217	P	**Pn**	**10 56 34.4**	**+2.6**
DRS	**Darwin Rock St**	12.17	166	P	**Pn**	**10 56 59.3**	**+0.4**
MTN	**Manton Dam**	12.62	165	Pn	**Pn**	**10 57 05.1**	**0.0**
JAY	**Jayapura**	12.99	99	LR	LR	11 03 31.1	
	comp=Z,6µm,18.3s,baz=244,slow=43						
KNRA	**Kununurra**	15.04	177	Pn	**Pn**	**10 57 36.5**	**-1.6**
KNRA				IAmb	IAmb	10 57 44.8	
	comp=Z,15nm,0.7s						
FITZ	**Fitzroy Crossi**	17.56	187		**Pn**	**10 58 11.0**	**+0.7**
FITZ	**Fitzroy Crossi**	17.56	187	P	**Pn**	**10 58 09.5**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=14,slow=12,SNR=6.0						
	comp=Z,4.6nm,0.5s						
WB0	**Warramunga Arr**	20.13	162	P	**P**	**10 58 38.1**	**-1.5**
COEN	**Coen**	20.17	132	P	**P**	**10 58 40.9**	**+0.7**
COEN				IAmb	IAmb	10 58 45.0	
	comp=Z,59nm,1.4s						
COEN	**Coen**	20.17	132	P	Pn	10 58 41.6	-0.4
WRA	**Warramunga Arr**	20.28	162	P	**P**	**10 58 39.0**	**-2.3**
WRA	**Warramunga Arr**	20.28	162	P	**P**	**10 58 39.6**	**-1.7**
	comp=Z,1.7nm,0.4s,baz=342,slow=11,SNR=24						
WRA				S	**S**	**11 02 28.8**	**-0.1**
	comp=Z,7.2nm,0.7s,baz=344,slow=11,SNR=5.6						
	comp=Z,1.7nm,0.4s						
QIS	**Mount Isa**	22.95	151	P	**P**	**10 59 11.0**	**+1.0**
AS31	**Alice Springs**	23.70	166		**P**	**10 59 16.7**	**-0.8**
ASAR	**Alice Springs**	23.70	166		**P**	**10 59 16.6**	**-1.0**
ASAR	**Alice Springs**	23.70	166	P	**P**	**10 59 16.4**	**-1.2**
	comp=Z,4.4nm,0.4s,baz=346,slow=11,SNR=57						
	comp=Z,4.4nm,0.4s						
MYKOM	**Kota Tinggi**	24.12	276	P	**P**	**10 59 22.6**	**+1.1**
MYKOM				IAmb	IAmb	10 59 31.4	
	comp=Z,24nm,1.1s						
TPUB	**Ta-pu**	24.74	344	P	**P**	**10 59 26.8**	**-0.3**
GIRL	**Giralia**	25.64	210	P	**P**	**10 59 35.9**	**+0.6**
JMZ	**Minamidaito 2**	26.43	7	P	**P**	**10 59 41.2**	**-1.2**
KNMB	**Chin-men Tao**	26.52	340	P	**P**	**10 59 41.6**	**-1.6**
FORT	**Forrest**	30.05	180	P	**P**	**11 00 14.8**	**+0.1**
FORT		

PEA0B	**Petropavlovsk-**	**59.00**	**20**	P	**P**	**11 04 04.9**	**-0.2**
PEA0B				IAmb	IAmb	11 04 27.5	
	comp=Z,12nm,1.1s						
PETK	**Petropavlovsk-**	**59.00**	**20**	P	**P**	**11 04 03.9**	**-1.1**
PETK	**Petropavlovsk-**	**59.00**	**20**	P	**P**	**11 04 07.3**	**+2.2**
	comp=Z,3.8nm,0.8s,baz=215,slow=7.7,SNR=7.9						
	comp=Z,3.8nm,0.8s						
MKAR	**Makanchi Array**	**61.71**	**326**	P	**P**	**11 04 22.1**	**-1.8**
MKAR	**Makanchi Array**	**61.71**	**326**	P	**P**	**11 04 23.5**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=125,slow=7.5,SNR=10						
	comp=Z,1.1nm,0.5s						
KDJ	**Kajisay**	**62.30**	**319**	P	**P**	**11 04 28.3**	**+0.2**
KDJ				IAmb	IAmb	11 04 53.0	
	comp=Z,6.1nm,1.1s						
ZALV	**Zalesovo Beam**	**64.91**	**334**	P	**P**	**11 04 44.2**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=116,slow=9.8,SNR=1.7						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**65.95**	**328**	P	**P**	**11 04 51.1**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=125,slow=6.1,SNR=11						
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**65.95**	**328**		**P**	**11 04 50.7**	**-1.0**
KURK				IAmb	IAmb	11 05 09.0	
	comp=Z,5.7nm,0.9s						
CASY	**Casey**	**66.72**	**188**	P	**P**	**11 04 56.3**	**0.0**
CASY				IAmb	IAmb	11 05 31.7	
	comp=Z,6.9nm,1.2s						
KKAR	**Karatay Array**	**67.14**	**318**		**P**	**11 04 58.2**	**-1.3**
BVAR	**Borovoye Array**	**71.52**	**328**	P	**P**	**11 05 25.3**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=123,slow=5.3,SNR=6.6						
	comp=Z,1.3nm,0.7s						
NRIK	**Noril'sk**	**74.84**	**346**	P	**P**	**11 05 46.0**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=135,slow=7.1,SNR=4.3						
	comp=Z,0.9nm,0.3s						
ABKAR	**Akbulak array**	**76.17**	**321**	P	**P**	**11 05 52.0**	**-1.7**
VNDA	**Vanda**	**79.05**	**173**	P	**P**	**11 06 08.4**	**-0.9**
VNDA	**Vanda**	**79.05**	**173**	P	**P**	**11 06 08.2**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=333,slow=3.8,SNR=4.5						
	comp=Z,0.4nm,0.3s						
VOI	**Vohitsoka**	**81.50**	**248**	P	**P**	**11 06 21.9**	**-1.8**
VOI				IAmb	IAmb	11 06 24.5	
	comp=Z,22nm,1.5s						
K15K	**Wolf Creek Mou**	**81.58**	**26**	P	**P**	**11 06 23.1**	**0.0**
K15K				IAmb	IAmb	11 06 36.4	
	comp=Z,5.0nm,1.1s						
J17K	**VABM Dome**	**82.97**	**26**	P	**P**	**11 06 30.3**	**-0.1**
H17K	**Granite Mounta**	**83.04**	**24**	P	**P**	**11 06 30.5**	**-0.2**
H17K				IAmb	IAmb	11 06 34.0	
	comp=Z,6.1nm,1.1s						
K17K	**Iditarod**	**83.13**	**26**	P	**P**	**11 06 31.2**	**-0.1**
K17K				IAmb	IAmb	11 06 37.6	
	comp=Z,7.0nm,0.9s						
L18K	**Granite Mounta**	**83.74**	**27**	P	**P**	**11 06 34.0**	**-0.4**
L18K				IAmb	IAmb	11 06 39.7	
	comp=Z,5.4nm,1.0s						
N19K	**Bonanza Creek**	**84.48**	**29**	P	**P**	**11 06 38.7**	**+0.4**
N19K				IAmb	IAmb	11 06 44.3	
	comp=Z,7.5nm,0.9s						
ILAR	**Eielson Array**	**88.48**	**25**	P	**P**	**11 06 56.4**	**-1.3**
	comp=Z,1.0nm,1.2s,baz=259,slow=5.3,SNR=2.8						
	comp=Z,1.0nm,1.2s						
QSPA	**South Pole Qui**	**89.37**	**180**	P	**P**	**11 07 02.0**	**0.0**
	comp=Z,1.9nm,0.8s,baz=336,slow=8.1,SNR=8.3						
	comp=Z,1.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**125.24**	**286**	PKP	**PKPdf**	**11 13 06.7**	**-0.7**
	comp=Z,13nm,0.9s,baz=78,slow=1.6,SNR=3.3						
CPUP	**Villa Florida**	**152.80**	**170**	PKPbc	**PKPbc**	**11 14 02.7**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=207,slow=2.3,SNR=3.0						

BER 14 10:54:59.0±2.2, 60°81N×11°46E, h0km, ML0.9,
Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NC602	**NORSAR Array S**	**0.08**	**153**	*eP*	Pg	10 55 00.8	+0.2
NC602	**NORSAR Array S**	**0.08**	**153**	P	Pg	10 55 00.4	-0.2
NB201	**NORSAR Array S**	**0.26**	**341**	*eP*	Pg	10 55 04.9	+1.0
NB201				IAML		10 55 16.0	
	comp=Z,11nm,0.6s						
NAO01	**NORSAR Array S**	**0.28**	**277**	*eP*	Pg	10 55 02.5	-1.9
NAO01				*eS*	Sg	10 55 09.1	+0.9
NAO01				IAML		10 55 09.1	
	comp=Z,12nm,0.7s						
NBO00	**NORSAR Array S**	**0.40**	**304**	*eP*	Pg	10 55 05.9	-0.8
NBO00				IAML		10 55 10.3	
	comp=Z,7.2nm,0.6s						
NC303	**NORSAR Array S**	**0.42**	**354**	*eP*	Pg	10 55 06.4	-0.7
NC204	**NORSAR Array S**	**0.58**	**324**	*eP*	Pg	10 55 08.3	-1.8
NC204				IAML		10 55 17.6	
	comp=Z,15nm,0.5s						

*IDC **14** 10:57:56.1±0.7, 0°65S×127°87E, h0km, mb4.0/13, mbtmp4.0/13, Error ellipse: s-maj=38.1km s-min=16.2km az=78.0*
*NEIC **14** 10:57:57.6±1.4, 0°77S±0°06×127°83E±0°07, h10km±1km, mb4.6/24, Error ellipse: s-maj=11.3km s-min=10.0km az=87.0*
*DJA **14** 10:58:00.1±0.2, 1°S±2°×12°8E±°, h10km, M4.6/16, mB5.6/2, mb4.8/6, MLv4.5/16, Mw(mB)5.1/2*

ISC 14 10:57:57.3±0.4, 0.77S±0.05×127.90E±0.05, h10km, n69,
σ1§38/65, mb4.4/26, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.62**	**341**		**Pn**	**10 58 25.4**	**-0.5**
TNTI	**Ternate**	**1.62**	**341**	P	**Pn**	**10 58 25.5**	**-0.4**
TNTI				S	**Sn**	**10 58 46.9**	**0.0**
SANI	**Sanana**	**2.29**	**236**	P	**Pg**	**10 58 41.7**	**+0.3**
NLAI	**Namlea**	**2.58**	**198**	P	**Pb**	**10 58 42.8**	**-0.9**
MSAI	**Masohi**	**2.76**	**158**	P	**Pb**	**10 58 45.9**	**-0.9**
AAI	**Ambon**	**2.92**	**174**	P	**Pb**	**10 58 48.6**	**-0.8**
SWI	**Sorong**	**3.36**	**92**	P	**Pn**	**10 58 52.3**	**+2.4**
KMSI	**Cibinong**	**4.14**	**289**	P	**Pn**	**10 59 02.6**	**+2.0**
BNDI	**Bandanaira**	**4.23**	**152**	P	**Pb**	**10 59 08.5**	**-3.4**
FAKI	**Fak Fak**	**4.84**	**116**	Pn	**Pn**	**10 59 10.2**	**-0.2**
FAKI	**Fak Fak**	**4.84**	**116**	P	**Pn**	**10 59 10.7**	**+0.3**
APSI	**Ampana**	**6.25**	**269**	P	**Pn**	**10 59 31.6**	**+1.9**
	0.5nm148nm,0.7s						
TOLI2	**Tolitoli**	**7.36**	**285**	Pn	**Pn**	**10 59 43.4**	**-1.5**
TTSI	**Tana Toraja**	**8.38**	**254**	P	Pn	11 00 03.7	+4.7
	4um39nm,0.7s						
SPSI	**Sidrap Palu**	**8.72**	**249**	P	Pn	11 00 08.9	+5.3
BKSI	**Bulukumba**	**8.98**	**240**	P	Pn	11 00 13.9	+6.7
BSSI	**Bau Bau, Buton**	**9.12**	**234**	P	Pn	11 00 15.9	+6.8
KAPI	**Kappang**	**9.16**	**242**	Pn	Pn	11 00 15.0	+5.3
	6.5nm,0.3s,baz=57,slow=17,SNR=5.0						
KAPI				Sn	**Sn**	**11 01 52.3**	**-0.7**
	1.5nm,0.3s,baz=61,slow=18,SNR=1.1						
KNRA	**Kununurra**	**14.84**	**177**	Pn	**Pn**	**11 01 27.0**	**-0.4**
JAGI	**Jajag, Banyuwa**	**15.69**	**240**	Pn	**Pn**	**11 01 37.4**	**-1.2**
JAGI				IAmb	IAmb	11 01 56.3	
	comp=Z,24nm,0.8s						
BOXOZ	**Borroloola**	**17.30**	**152**		**P**	**11 02 00.9**	**+0.3**
COEN	**Coen**	**20.01**	**132**	P	**P**	**11 02 30.0**	**-0.4**
COEN				IAmb	IAmb	11 02 32.5	
	comp=Z,19nm,0.8s						
WRAB	**Tennant Creek**	**20.07**	**162**	P	**P**	**11 02 31.0**	**0.0**
WRAB				IAmb	IAmb	11 02 36.4	
	comp=Z,21nm,0.9s						
WRA	**Warramunga Arr**	**20.07**	**162**	P	**P**	**11 02 30.3**	**-0.8**
WRA	**Warramunga Arr**	**20.07**	**162**	P	Pn	11 02 33.1	+0.3
	comp=Z,7.8nm,0.8s,baz=344,slow=11,SNR=4.6						
	comp=Z,7.8nm,0.8s						
WR8	**Warramunga Arr**	**20.14**	**162**	P	**P**	**11 02 31.3**	**-0.5**
AS31	**Alice Springs**	**23.50**	**166**	P	**P**	**11 03 07.2**	**-0.3**
AS31				IAmb	IAmb	11 03 18.7	
	comp=Z,6.1nm,0.5s						
ASAR	**Alice Springs**	**23.50**	**166**	P	**P**	**11 03 07.4**	**-0.2**
ASAR	**Alice Springs**	**23.50**	**166**	P	**P**	**11 03 08.7**	**+1.2**
	comp=Z,11nm,0.8s,baz=347,slow=11,SNR=10						
	comp=Z,11nm,0.8s						
YULB	**Yu-li**	**24.86**	**345**	P	**P**	**11 03 18.7**	**-1.5**
YULB				IAmb	IAmb	11 03 23.7	
	comp=Z,16nm,1.0s						
TPUB	**Ta-pu**	**24.95**	**344**	P	**P**	**11 03 19.8**	**-1.3**
TPUB				IAmb	IAmb	11 03 21.9	
	comp=Z,22nm,0.9s						
YHNB	**Yeheng**	**26.07**	**346**	P	**P**	**11 03 30.9**	**-0.3**
KULM	**Kulim**	**27.87**	**283**	P	**P**	**11 03 45.0**	**-2.6**
KULM				IAmb	IAmb	11 04 00.8	
	comp=Z,9.5nm,1.1s						
FORT	**Forrest**	**29.85**	**180**	P	**P**	**11 04 04.4**	**-0.5**
NJ2	**Nanjing**	**33.75**	**346**	*eP*	**P**	**11 04 41.8**	**+2.6**
NJ2				pmax	pmax		

	comp=Z,8.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**34.28**	**305**	P	**P**	**11 04 45.0**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=117,slow=9.3,SNR=1.8						
	comp=Z,0.4nm,0.3s						
PZH	**PanZhiHua**	**37.03**	**319**	P	**P**	**11 05 08.5**	**+0.8**
KSRS	**Korea Array**	**38.03**	**0**	P	**P**	**11 05 15.2**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=181,slow=12,SNR=4.5						
	comp=Z,0.9nm,0.8s						
MJAR	**Matsushiro Arr**	**38.34**	**13**	P	**P**	**11 05 17.2**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=187,slow=8.8,SNR=5.5						
	comp=Z,1.8nm,0.7s						
XAN	**Xi'an**	**38.94**	**335**	P	**P**	**11 05 24.0**	**+0.4**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
JMM	**Marumori**	**40.24**	**16**	P	**P**	**11 05 33.6**	**-0.8**
LZH	**Lanzhou**	**42.96**	**331**	*eP*	**P**	**11 05 57.3**	**+0.4**
LZH				pP	sP	11 06 04.3	+3.0
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
SHL	**Shillong**	**43.55**	**310**	P	**P**	**11 06 01.5**	**-0.3**
SHL				IAmb	IAmb	11 06 03.2	
	comp=Z,7.4nm,0.7s						
HHC	**Hu-ho-hao-te**	**44.01**	**342**	*eP*	**P**	**11 06 07.3**	**+2.1**
HHC				pmax	pmax		
	comp=Z,19nm,0.7s						
BNX	**BinXian**	**46.31**	**360**	⇓P	**P**	**11 06 24.4**	**+1.1**
BNX				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HEH	**HeiHe**	**50.83**	**360**	*eP*	**P**	**11 06 55.3**	**-2.7**
SONM	**Songino Array**	**51.91**	**342**	P	**P**	**11 07 05.5**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=159,slow=4.3,SNR=3.6						
	comp=Z,0.8nm,0.7s						
LBZ	**Lake Benmore**	**57.34**	**145**	P	**P**	**11 07 47.1**	**+1.4**
TUWZ	**Tuamarina**	**57.95**	**140**	P	**P**	**11 07 51.0**	**+1.0**
PEA0B	**Petropavlovsk-**	**59.17**	**20**	P	**P**	**11 07 58.3**	**0.0**
PEA0B				IAmb	IAmb	11 08 13.8	
	comp=Z,9.8nm,1.1s						
PETK	**Petropavlovsk-**	**59.17**	**20**	P	**P**	**11 07 58.1**	**-0.2**
PETK	**Petropavlovsk-**	**59.17**	**20**	P	**P**	**11 07 58.9**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=218,slow=6.7,SNR=10						
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**61.90**	**326**	P	**P**	**11 08 15.6**	**-1.6**
MKAR	**Makanchi Array**	**61.90**	**326**	P	**P**	**11 08 16.7**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=125,slow=7.6,SNR=5.3						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**66.14**	**328**	P	**P**	**11 08 43.7**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=125,slow=6.2,SNR=8.4						
	comp=Z,0.9nm,0.5s						
KIWB	**Kanaga Island**	**69.77**	**33**	P	**P**	**11 09 08.4**	**+0.7**
BVAR	**Borovoye Array**	**71.71**	**328**	P	**P**	**11 09 18.4**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=111,slow=7.9,SNR=1.3						
	comp=Z,0.3nm,0.4s						
ABKAR	**Akbulak array**	**76.36**	**321**	P	**P**	**11 09 44.8**	**-2.0**
VNDA	**Vanda**	**78.85**	**173**	P	**P**	**11 10 02.3**	**+2.1**
VNDA	**Vanda**	**78.85**	**173**	P	**P**	**11 10 01.6**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=317,slow=7.9,SNR=2.3						
	comp=Z,0.6nm,0.6s						
J17K	**VABM Dome**	**83.13**	**26**	P	**P**	**11 10 26.5**	**+3.2**
J17K				IAmb	IAmb	11 10 28.7	
	comp=Z,3.3nm,1.1s						
H17K	**Granite Mounta**	**83.21**	**24**	P	**P**	**11 10 25.6**	**+2.0**
M17K	**Holitna River**	**83.36**	**28**	P	**P**	**11 10 26.6**	**+2.1**
M17K				IAmb	IAmb	11 10 31.4	
	comp=Z,2.7nm,1.1s						
L18K	**Granite Mounta**	**83.90**	**27**	P	**P**	**11 10 28.4**	**+1.2**
C19K	**Lookout Ridge**	**84.53**	**20**	P	**P**	**11 10 31.5**	**+1.1**
C19K				IAmb	IAmb	11 10 36.6	
	comp=Z,6.2nm,1.1s						
Q19K	**Cape Douglas**	**84.70**	**31**	P	**P**	**11 10 33.1**	**+1.7**
QSPA	**South Pole Qui**	**89.17**	**180**	P	**P**	**11 10 53.7**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=348,slow=3.5,SNR=6.7						
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**93.77**	**310**	P	**P**	**11 11 16.5**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=116,slow=3.4,SNR=1.6						
	comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**125.33**	**286**	PKP	**PKPdf**	**11 16 59.8**	**+0.2**
	comp=Z,7.7nm,0.7s,baz=47,slow=1.4,SNR=2.5						

*NOU **14** 10:57:51.2, 17°44S×119°11E, h44km, mb4.9/11, Northwest of Australia*
*AUST **14** 10:57:58.8±1.3, 18°S±3°×12°0E±°, h21km±11km, mb4.7/22, ML4.1/9, Error ellipse: s-maj=8.1km s-min=4.8km az=118.2*
*NEIC **14** 10:58:00.2±1.9, 18°41S±0°09×120°42E±0°09, h10km±1km, mb4.6/14, Error ellipse: s-maj=16.2km s-min=13.2km az=311.0*
*IDC **14** 10:58:01.3±0.9, 18°79S×120°57E, h0km, mb3.9/9, mbtmp4.1/13, ML4.1/4, Error ellipse: s-maj=26.6km s-min=18.2km az=49.0*

ISC 14 10:57:59.7±0.4, 18°50S±0°04×120°47E±0°05, h10km, n96,
σ2§50/90, mb4.3/19, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**2.74**	**195**		**Pb**	**10 58 46.1**	**-2.8**
MBWA	**Marble Bar**	**2.74**	**195**	P	**Pb**	**10 58 46.5**	**-2.4**
MBWA				S	**Sb**	**10 59 20.2**	**-2.3**
MBWA	**Marble Bar**	**2.74**	**195**	P	**Pb**	**10 58 46.4**	**-2.4**
PSAC1	**Pilbara Seismi**	**3.09**	**192**	P	**Pb**	**10 58 51.3**	**-3.5**
PSAC1				S	**Sn**	**10 59 27.8**	**+2.3**
PSA00	**Pilbara Seismi**	**3.12**	**191**	P	**Pb**	**10 58 51.8**	**-3.5**
PSA00				S	**Sn**	**10 59 28.6**	**+2.2**
FITZ	**Fitzroy Crossi**	**4.93**	**86**		**Pn**	**10 59 14.4**	**+0.6**
FITZ	**Fitzroy Crossi**	**4.93**	**86**	P	**Pn**	**10 59 15.7**	**+1.8**
	comp=Z,19nm,0.8s,comp=Z,0.1nm						
FITZ	**Fitzroy Crossi**	**4.93**	**86**	S	**Sn**	**11 00 14.0**	**+3.0**
FITZ	**Fitzroy Crossi**	**4.93**	**86**	Pn	**Pn**	**10 59 15.6**	**+1.8**
	comp=Z,9.1nm,0.3s,baz=280,slow=11,SNR=33						
FITZ				Sn	**Sn**	**11 00 12.6**	**+1.6**
	comp=Z,17nm,0.3s,baz=352,slow=19,SNR=6.7						
	comp=Z,20nm,0.3s						
GIRL	**Giralia**	**7.15**	**234**		**Pn**	**10 59 43.9**	**-0.5**
MEEK	**Meekatharra**	**8.28**	**192**	P	**Pn**	**11 00 01.5**	**+1.5**
	comp=Z,39nm,0.6s,comp=Z,0.5nm						
MEEK	**Meekatharra**	**8.28**	**192**	S	**Sn**	**11 01 30.1**	**-3.6**
MEEK	**Meekatharra**	**8.28**	**192**	P	**Pn**	**11 00 01.6**	**+1.6**
KNRA	**Kununurra**	**8.41**	**72**		**Pn**	**11 00 01.7**	**0.0**
KNRA	**Kununurra**	**8.41**	**72**	P	**Pn**	**11 00 02.2**	**+0.4**
KNRA				S	**Sn**	**11 01 33.6**	**-3.2**
BATI	**Baumata**	**8.80**	**21**	Pn	**Pn**	**11 00 07.3**	**+0.1**
	comp=Z,3.5nm,0.3s,baz=163,slow=20,SNR=1.7						
BATI				Sn	**Sn**	**11 01 38.1**	**-8.4**
	comp=Z,4.3nm,0.3s,baz=207,slow=6.8,SNR=1.1						
SOEI	**Soe**	**9.44**	**23**	Pn	**Pn**	**11 00 15.0**	**-1.0**
WRKA	**Warakurna**	**9.76**	**133**	P	**Pn**	**11 00 23.3**	**+3.0**
	comp=Z,8.2nm,0.7s,comp=Z,0.1nm						
WRKA				S	**Sn**	**11 02 10.8**	**+0.8**
EDFI	**Ende, Flores**	**9.76**	**7**	P	Pn	11 00 14.1	-6.2
	comp=Z,14nm,1.4s,comp=Z,0.1nm						
EDFI	**Ende, Flores**	**9.76**	**7**	S	Sn	11 01 53.9	-16
MMRI	**Maumere**	**9.95**	**10**	Pn	**Pn**	**11 00 21.1**	**-1.8**
PLAI	**Plampang**	**9.96**	**344**	P	Pn	11 00 16.1	-6.9
	comp=Z,30nm,1.1s,comp=Z,0.1nm						
MORW	**Morawa**	**11.28**	**200**		**Pn**	**11 00 39.5**	**-1.5**
MORW	**Morawa**	**11.28**	**200**	P	**Pn**	**11 00 39.2**	**-1.8**
	comp=Z,27nm,0.8s						
MORW	**Morawa**	**11.28**	**200**	P	**Pn**	**11 00 39.7**	**-1.3**
DPH	**Darwin Parliam**	**11.65**	**61**	P	**Pn**	**11 00 48.0**	**+1.8**
	comp=Z,23nm,0.4s						
MTN	**Manton Dam**	**11.70**	**63**		**Pn**	**11 00 44.8**	**-2.0**
MTN	**Manton Dam**	**11.70**	**63**	P	**Pn**	**11 00 45.0**	**-1.9**
MTN	**Manton Dam**	**11.70**	**63**	P	**Pn**	**11 00 45.5**	**-1.4**
JAGI	**Jajag, Banyuwa**	**11.70**	**328**		**Pn**	**11 00 44.2**	**-2.8**
JAGI	**Jajag, Banyuwa**	**11.70**	**328**	P	Pn	11 00 39.8	-7.1
	comp=Z,46nm,0.9s						
DRS	**Darwin Rock St**	**11.72**	**61**	P	**Pn**	**11 00 46.4**	**-0.7**
	comp=Z,41nm,0.7s						
DRS	**Darwin Rock St**	**11.72**	**61**	P	**Pn**	**11 00 46.2**	**-0.9**
BLDU	**Ballidu**	**12.54**	**195**	P	**Pn**	**11 00 57.0**	**-1.3**
	comp=Z,35nm,0.6s						
BLDU	**Ballidu**	**12.54**	**195**	P	**Pn**	**11 00 57.3**	**-1.0**
KMBL	**Kambalda**	**12.88**	**175**	P	**Pn**	**11 00 59.4**	**-3.6**
	comp=Z,22nm,0.8s						
KDU	**Kakadu**	**12.92**	**65**	P	Pn	11 00 56.8	-6.7
WRA	**Warramunga Arr**	**13.18**	**99**		**Pn**	**11 01 05.5**	**-1.6**
WRA	**Warramunga Arr**	**13.18**	**99**	Pn	**Pn**	**11 01 07.0**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=272,slow=14,SNR=18						
WRA				Sn	**Sn**	**11 03 26.1**	**-7.8**
	comp=Z,4.2nm,0.3s,baz=281,slow=25,SNR=6.9						
	comp=Z,3.1nm,0.4s						
WRAB	**Tennant Creek**	**13.19**	**98**	Pn	**Pn**	**11 01 06.4**	**-0.9**
WRAB	**Tennant Creek**	**13.19**	**98**	P	**Pn**	**11 01 09.3**	**+2.1**
	comp=Z,14nm,0.8s						

WB0	**Warramunga Arr**	**13.22**	**98**		**Pn**	**11 01 05.4**	**-2.3**
KLBR	**Kellerberrin**	**13.27**	**190**	P	**Pn**	**11 01 07.8**	**-0.5**
	comp=Z,56nm,0.5s						
KLBR	**Kellerberrin**	**13.27**	**190**	P	**Pn**	**11 01 08.3**	**0.0**
WR8	**Warramunga Arr**	**13.33**	**99**		**Pn**	**11 01 05.8**	**-3.3**
ASAR	**Alice Springs**	**13.55**	**115**	Pn	**Pn**	**11 01 13.1**	**+1.0**
ASAR	**Alice Springs**	**13.55**	**115**	Pn	**Pn**	**11 01 12.2**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=295,slow=13,SNR=16						
ASAR				Sn	**Sn**	**11 03 37.0**	**-5.9**
	comp=Z,2.6nm,0.3s,baz=284,slow=23,SNR=11						
	comp=Z,3.6nm,0.4s						
AS31	**Alice Springs**	**13.55**	**115**		**Pn**	**11 01 11.8**	**-0.4**
MUN	**Mundaring**	**13.97**	**195**	P	**Pn**	**11 01 16.5**	**-1.3**
	comp=Z,32nm,0.7s						
MUN	**Mundaring**	**13.97**	**195**	P	**Pn**	**11 01 16.4**	**-1.3**
FORT	**Forrest**	**14.03**	**152**		**Pn**	**11 01 17.8**	**-0.9**
FORT	**Forrest**	**14.03**	**152**	P	**Pn**	**11 01 18.2**	**-0.5**
	comp=Z,33nm,0.7s						
DNDOZ	**Balladonia**	**14.24**	**168**	P	**Pn**	**11 01 20.8**	**-0.7**
UGM	**Wanagama**	**14.29**	**316**	Pn	**Pn**	**11 01 21.7**	**-0.6**
NWAO	**Narrogin (SRO)**	**14.66**	**191**		**Pn**	**11 01 26.1**	**-1.2**
NWAO	**Narrogin (SRO)**	**14.66**	**191**	Pn	**Pn**	**11 01 25.3**	**-2.0**
	comp=Z,10nm,0.3s,baz=11,slow=12,SNR=51						
NWAO				Sn	Sn	11 03 57.5	-12
	comp=Z,6.3nm,0.3s,baz=53,slow=5.1,SNR=5.2						
	comp=Z,24nm,0.3s						
NWAO	**Narrogin (SRO)**	**14.66**	**191**	P	**Pn**	**11 01 25.3**	**-2.0**
RKGY	**Rocky Gully**	**16.35**	**190**	P	**Pn**	**11 01 48.5**	**-0.9**
	comp=Z,13nm,1.2s						
MULG	**Mulgathing**	**17.04**	**136**	P	**P**	**11 02 03.4**	**+3.5**
	comp=Z,74nm,0.9s						
LCRK	**Leigh Creek**	**20.03**	**130**	P	Pn	11 02 35.8	+1.2
	comp=Z,12nm,1.8s						
INKA	**Innaminka**	**20.77**	**120**	P	Pn	11 02 44.3	+0.9
	comp=Z,8.0nm,0.7s						
YAPP	**Yappala Statio**	**20.89**	**133**	P	Pn	11 02 45.4	+0.7
	comp=Z,19nm,0.7s						
NAPP	**Napperby**	**21.56**	**136**	P	**P**	**11 02 52.1**	**+2.7**
	comp=Z,36nm,0.6s						
KSM	**Kuching**	**22.22**	**332**	P	**P**	**11 02 55.8**	**-0.8**
HTT	**Hallett**	**22.23**	**136**	P	**P**	**11 03 00.2**	**+3.6**
	comp=Z,7.0nm,1.5s						
HTT	**Hallett**	**22.23**	**136**	P	**P**	**11 03 00.5**	**+3.8**
SBUM	**Sibu**	**22.34**	**338**	P	**P**	**11 02 57.1**	**-0.8**
STKA	**Stephens Creek**	**23.25**	**129**	P	**P**	**11 03 07.0**	**-0.3**
STKA				IAmb	IAmb	11 03 25.5	
	comp=Z,76nm,1.2s						
STKA	**Stephens Creek**	**23.25**	**129**	P	**P**	**11 03 09.5**	**+2.2**
	comp=Z,2.3nm,0.4s,baz=299,slow=10,SNR=7.3						
STKA				S	**S**	**11 07 26.7**	**+7.1**
	comp=Z,2.8nm,0.5s,baz=354,slow=7.6,SNR=2.0						
	comp=Z,2.3nm,0.4s						
STKA	**Stephens Creek**	**23.25**	**129**	P	**P**	**11 03 11.2**	**+3.9**
CTAO	**Charters Tower**	**24.38**	**98**	P	**P**	**11 03 17.7**	**-0.7**
CTAO				IAmb	IAmb	11 03 41.5	
	comp=Z,20nm,1.3s						
QIZ	**Qiongzhong**	**38.72**	**344**	P	**P**	**11 05 23.0**	**-1.2**
QIZ				IAmb	IAmb	11 05 34.9	
	comp=Z,28nm,1.4s						
HKPS	**Hong Kong Po S**	**40.99**	**351**	P	**P**	**11 05 42.1**	**-1.0**
CMAR	**Chiang Mai Arr**	**42.38**	**329**	P	P	11 05 58.7	+4.2
	comp=Z,0.9nm,0.7s,baz=148,slow=8.2,SNR=2.2						
	comp=Z,0.9nm,0.7s						
WHZ	**Wether Hill Ro**	**47.65**	**136**	P	**P**	**11 06 37.9**	**+1.7**
PZH	**PanZhiHua**	**48.29**	**337**	P	**P**	**11 06 44.8**	**+3.4**
RPZ	**Rata Peaks**	**

FNA	Florina	0.66	334		Pg	10 59 30.2 -1.4
FNA				Sg	Sg	10 59 40.4 +0.1
FNA	Florina	0.66	334	P	Pg	10 59 30.6 -1.0
FNA				S	Sg	10 59 40.5 +0.1
FNA	Florina	0.66	334	*i* Pg	Pg	10 59 30.6 -1.0
FNA				*i* Sg	Sb	10 59 40.8 -0.3
FNA	Florina	0.66	334	*eP*g	Pg	10 59 30.9 -0.7
FNA				*eS*g	Sb	10 59 41.8 +0.7
FNA	Florina	0.66	334	P	Pg	10 59 30.9 -0.7
FNA				S	Sg	10 59 40.0 -0.5
LRSO	Larissa Observ	0.71	136	P	Pg	10 59 32.0 -0.4
LRSO				S	Sb	10 59 43.4 +1.1
LRSO	Larissa Observ	0.71	136	P	Pg	10 59 32.1 -0.4
GINA	Giannouli	0.71	136	P	Pg	10 59 32.2 -0.3
KBN	Korca	0.86	301	P	Pg	10 59 34.5 -0.8
KBN				S	Sb	10 59 46.9 +0.3
JAN	Janina	0.87	233	P	Pb	10 59 34.8 -0.7
JAN	Janina	0.87	233	P	Pb	10 59 34.7 -0.8
SOFA	Sofades	0.89	162	P	Pb	10 59 34.9 -0.8
TETR	Tetrakomo, Epi	0.92	204	P	Pb	10 59 35.0 -1.3
TETR				S	Sg	10 59 49.1 +0.7
TETR	Tetrakomo, Epi	0.92	204	P	Pb	10 59 35.4 -0.8
THE	Thessaloniki	1.03	64	P	Pb	10 59 37.8 -0.3
THE				S	Sn	10 59 52.2 -0.5
THE	Thessaloniki	1.03	64	⇓*i* Pg	Pb	10 59 38.0 -0.2
THE				*i* Sg	Sn	10 59 52.8 +0.1
THE	Thessaloniki	1.03	64	P	Pb	10 59 37.7 -0.5
HORT	Hortiatis	1.11	68	P	Pb	10 59 38.6 -0.9
OHR	Ohrid	1.18	322	⇓*i* Pg	Pn	10 59 40.2 -0.4
OHR				*i* Sg	Sg	11 00 00.5 +3.8
OHR				*e*Lg	Lg	11 00 01.4
	comp=N,3μm,0.5s					
OHR				*e*Lg	Lg	11 00 01.7
	comp=E,4μm,0.5s					
MAKR	Makrakomi, Fth	1.21	166	P	Pn	10 59 40.6 -0.4
MAKR	Makrakomi, Fth	1.21	166	P	Pb	10 59 41.2 +0.1
AGG	Agios Georgios	1.24	159	P	Pn	10 59 41.4 -0.2
AGG				S	Sg	10 59 59.1 +0.3
AGG	Agios Georgios	1.24	159	P	Pb	10 59 41.9 0.0
EVR	Evrytania	1.27	178	P	Pb	10 59 42.7 +0.4
EVR	Evrytania	1.27	178	P	Pb	10 59 42.8 +0.5
IGT	Igoumenitsa	1.27	240	P	Pn	10 59 41.0 -0.9
IGT	Igoumenitsa	1.27	240	*eP*g	Pb	10 59 42.5 +0.2
IGT				*eS*g	Sg	11 00 03.4 +3.7
IGT	Igoumenitsa	1.27	240	P	Pn	10 59 42.2 +0.3
VAY	Valandovo	1.29	28	*eP*g	Pn	10 59 41.2 -0.3
VAY				*i* Sg	Sg	11 00 02.3 +1.9
VAY				*e*Lg	Lg	11 00 05.5
	comp=N,2μm,0.5s					
VAY				*e*Lg	Lg	11 00 05.7
	comp=E,1μm,0.6s					
KNT	Kendrikon	1.31	41	P	Pn	10 59 42.2 -0.2
KNT	Kendrikon	1.31	41	*i* Pg	Pn	10 59 42.3 -0.1
KNT				*i* Sg	Sg	11 00 04.4 +3.6
KNT	Kendrikon	1.31	41	P	Pn	10 59 42.5 +0.1
AMPL	Ampelaki	1.33	198	P	Pb	10 59 43.3 0.0
SOH	Sokhos	1.38	62	P	Pn	10 59 43.2 -0.2
SOH	Sokhos	1.38	62	⇓*i* Pg	Pn	10 59 43.4 0.0
SOH				*i* Sg	Sg	11 00 04.1 +1.1
SOH	Sokhos	1.38	62	P	Pn	10 59 43.2 -0.2
SRN	Sarande	1.38	258	P	Pb	10 59 44.6 +0.5
NEO	Neokhori	1.43	127	P	Pn	10 59 43.8 -0.4
NEO	Neokhori	1.43	127	P	Pn	10 59 43.8 -0.4
PAIG	Paliouri	1.50	99	P	Pn	10 59 44.4 -0.6
KEK	Kerkira	1.57	253		Pb	10 59 47.2 -0.2
PVO	Paravola	1.58	186	P	Pb	10 59 47.3 -0.2
PVO	Paravola	1.58	186	P	Pb	10 59 47.2 -0.2
AXAR	Agios Charalam	1.58	153	P	Pb	10 59 47.2 -0.4
AXAR	Agios Charalam	1.58	153	P	Pn	10 59 46.7 +0.5
ANX	Ano Chora	1.59	175	P	Pn	10 59 47.6 -0.3
ANX	Ano Chora	1.59	175	P	Pb	10 59 47.4 -0.4
TSLK	Tsoukalades, L	1.60	212	P	Pg	10 59 49.3 -0.1
TSLK	Tsoukalades, L	1.60	212	P	Pb	10 59 47.6 -0.3
LKD2	Lefkada island	1.63	212	P	Pb	10 59 49.2 +0.7
LKD2	Lefkada island	1.63	212	P	Pb	10 59 48.5 +0.1
NYDR	Nydri-Lefkada	1.68	209	P	Pb	10 59 49.8 +0.5
NYDR	Nydri-Lefkada	1.68	209	P	Pb	10 59 48.7 -0.6
SRS	Serrai	1.68	56	P	Pn	10 59 46.9 -0.6
SRS	Serrai	1.68	56	*eP*n	Pn	10 59 47.0 -0.6
SRS	Serrai	1.68	56	*eP*n	Pn	10 59 47.3 -0.2
SRS	Serrai	1.68	56	P	Pn	10 59 46.9 -0.6
OUR	Ouranopolis	1.71	84	P	Pn	10 59 47.7 -0.2
OUR	Ouranopolis	1.71	84	P	Pn	10 59 47.5 -0.4
EFP	Efpalio	1.76	176	P	Pn	10 59 49.6 +1.0
SERG	Sergoula	1.79	172	P	Pn	10 59 49.6 +0.7
SERG	Sergoula	1.79	172	P	Pn	10 59 49.3 +0.3
PHP	Peshkopia	1.80	327	P	Pn	10 59 49.9 +0.7
SKO	Skopje	1.80	353	*i* Pn	Pb	10 59 50.6 -0.7
SKO				*i* Sg	Sg	11 00 20.0 +3.4
LKR	Lokris	1.81	147	P	Pn	10 59 49.6 +0.3
AOS	Alonnisos	1.93	121	P	Pn	10 59 50.1 -0.8
FSK	Fiskardo	1.96	209	P	Pn	10 59 51.8 +0.5
KKB	Krupnik	1.96	32	*i* P	Pn	10 59 52.0 +0.7
KKB	Krupnik	1.96	32	P	Pn	10 59 51.2 -0.1
KKB	Krupnik	1.96	32	*eP*n	Pn	10 59 51.8 +0.5
AXS	Araxos	2.01	188	P	Pn	10 59 53.8 -1.0
MMB	Musomishta	2.04	47	P	Pn	10 59 52.5 +0.1
MMB	Musomishta	2.04	47	*eP*n	Pn	10 59 52.4 -0.1
RLS	Riolos of Patr	2.14	186	P	Pb	10 59 56.5 -0.5
RLS	Riolos of Patr	2.14	186	P	Pn	10 59 54.7 +0.9
KLV	Kalavryta, Ach	2.16	172	P	Pn	10 59 55.0 +0.8
KLV	Kalavryta, Ach	2.16	172	P	Pn	10 59 54.7 +0.6
KAVA	Kavala	2.25	68	P	Pn	10 59 54.4 -1.0
KAVA	Kavala	2.25	68	P	Pn	10 59 54.2 -1.2
VIL2	Platees	2.29	149	P	Pn	10 59 56.7 +0.7
THAS	Thassos island	2.30	79	P	Pn	10 59 54.5 -1.6
THAS	Thassos island	2.30	79	P	Pn	10 59 54.4 -1.7
LTK	Loutraki	2.36	156	P	Pn	10 59 56.7 -0.2
BOSS	Bosilegrad	2.37	13	*eP*n	Pn	10 59 57.6 +0.5
KYMI	Kymi, Euboea I	2.39	130	P	Pn	10 59 56.7 -0.5
SCTE	Santa Cesarea	2.52	268		Pn	11 00 00.2 +1.1
SCTE	Santa Cesarea	2.52	268	P	Pn	10 59 59.7 +0.6
SKY	Skiros Island	2.53	120	P	Pn	10 59 58.0 -0.3
ULC	Ulcinj	2.60	314	*eP*n	Pn	11 00 01.0 +0.8
ULC				*i* Sn	Sn	11 00 32.7 +1.2
PLNA	Plana	2.61	28	*i* P	Pn	11 00 01.9 +1.4
BARS	Barje	2.63	1	⇑*i* Pn	Pn	11 00 00.9 +0.3
BARS	Barje	2.63	1	*eP*n	Pn	11 00 01.1 +0.5
LIA	Limnos Island	2.65	95	P	Pn	11 00 00.2 -0.6
VTS	Vitosha	2.67	24	*i* P	Pn	11 00 02.2 +0.9
VTS	Vitosha	2.67	24	*eP*n	Pn	11 00 01.6 +0.3
PTL	Penteli	2.69	142	P	Pn	11 00 02.0 +0.5
RZN	Rozhen	2.72	55	*i* P	Pn	11 00 02.4 +0.4
ATHU	Athens Univers	2.72	144	P	Pn	11 00 02.3 +0.4
PVY	Plav	2.76	331	*eP*n	Pn	11 00 03.0 +0.5
PVY				*i* Sn	Sn	11 00 36.2 +0.6
DRME	Dracevica, Mon	2.79	317	*eP*n	Pn	11 00 03.6 +0.9
DRME				*i* Sn	Sn	11 00 38.6 +2.5
MET4	Agioi Theodoro	2.86	153	P	Pn	11 00 04.1 +0.3
MET6	Megalochori,Me	2.88	154	P	Pn	11 00 04.2 +0.3
PDG	Podgorica	2.93	321		Pn	11 00 05.7 +1.1
PDG	Podgorica	2.93	321	⇑P	Pn	11 00 06.2 +1.6
PDG				⇓S	Sn	11 00 41.9 +2.4
PDG	Podgorica	2.93	321	*eP*n	Pn	11 00 06.7 +2.1
PDG	Podgorica	2.93	321	*eP*n	Pn	11 00 05.3 +0.7
PDG				*i* Sn	Sn	11 00 41.7 +2.2
PLD	Plovdiv	2.99	48	*i* P	Pb	11 00 12.5 +0.9
PLD	Plovdiv	2.99	48	*eP*n	Pn	11 00 06.8 +1.3
KARY	Karystos	3.00	135	P	Pn	11 00 05.7 +0.1
ITM	Ithomi	3.00	177		Pn	11 00 08.5 +2.7
IVA	Berane	3.03	333	*eP*n	Pn	11 00 06.7 +0.6
IVA				*i* Sn	Sn	11 00 42.7 +0.6
RDO	Rodhopi	3.04	70		Pn	11 00 05.3 -0.8
RDO	Rodhopi	3.04	70	P	Pn	11 00 05.1 -1.0
RDO	Rodhopi	3.04	70	P	Pn	11 00 05.3 -0.8
SELS	Selova	3.07	351	*eP*n	Pn	11 00 07.1 +0.5
KOME	Kolasin	3.15	328	*eP*n	Pn	11 00 08.4 +0.6
KOME				*i* Sn	Sn	11 00 46.8 +1.6
ZAPS	Zavoj	3.16	12	*eP*n	Pn	11 00 08.6 +0.8
CEME	Cevo	3.18	319	*eP*n	Pn	11 00 09.1 +0.9
CEME				*i* Sn	Sn	11 00 47.3 +1.4
NKME	Niksic	3.33	322	*eP*n	Pn	11 00 11.0 +0.8
NKME				*i* Sn	Sn	11 00 51.4 +1.9
HCY	Herceg Novi	3.34	314	*eP*n	Pn	11 00 11.1 +0.8
HCY				*i* Sn	Sn	11 00 50.8 +1.1
ALN	Alexandroupoli	3.35	76		Pn	11 00 10.0 -0.4
ALN	Alexandroupoli	3.35	76	P	Pn	11 00 09.7 -0.7
SJES	Sjenica	3.35	337	*eP*n	Pn	11 00 11.9 +1.3
CAVK	Edirne/Enez-Ca	3.41	80	⇑P	Pn	11 00 12.2 +0.9
DIM	Dimitrovgrad	3.44	56	*i* P	Pn	11 00 13.0 +1.4
GOCS	Kraljevo Serbi	3.44	349	*eP*n	Pn	11 00 12.3 +0.5
BOVS	Bovan	3.45	359	⇓P	Pn	11 00 12.2 +0.4
BOVS	Bovan	3.45	359	*eP*n	Pn	11 00 12.2 +0.4
MPEP	Malo Peshtene	3.50	24	*i* P	Pn	11 00 13.9 +1.4
EZN	Ezine	3.53	94	P	Pn	11 00 13.1 +0.2
EZN	Ezine	3.53	94	⇑P	Pn	11 00 13.6 +0.7
IVAS	Ivanjica	3.59	341	*eP*n	Pn	11 00 14.0 +0.1
TREB	Trebinje	3.60	316	*eP*n	Pn	11 00 14.7 +0.8
TREB	Trebinje	3.60	316	*eP*n	Pn	11 00 15.0 +1.1
PLE	Pljevlja	3.61	331	*eP*n	Pn	11 00 14.7 +0.6
PLE				*i* Sn	Sn	11 00 56.9 +0.4
BRY	Bratogost	3.63	319	*eP*n	Pn	11 00 15.2 +0.7
BRY				*i* Sn	Sn	11 00 57.8 +0.7
ZAGS	Zajecar	3.64	5	*eP*n	Pn	11 00 15.0 +0.5
UPM	Unac-Piva	3.69	326	*eP*n	Pn	11 00 16.1 +0.7
UPM				*i* Sn	Sn	11 00 59.1 +0.4
GRUS	Gruza	3.78	349	*eP*n	Pn	11 00 16.8 +0.4
CHOS	Chios island	3.79	117	P	Pn	11 00 17.0 +0.4
PLVB	Pleven	3.85	33	⇓P	Pn	11 00 19.0 +1.6
RUDO	Rudo	3.86	333	*eP*n	Pn	11 00 16.6 -0.9
RUDO	Rudo	3.86	333	*eP*n	Pn	11 00 16.7 -0.8
MATE	Matera	3.88	278	⇓P	Pn	11 00 18.5 +0.8
BORS2	Bor- Borsko je	3.91	3	*eP*n	Pn	11 00 18.1 0.0
TIP	Timpagrande	3.98	257		Pn	11 00 20.0 +0.7
TIP	Timpagrande	3.98	257	⇑P	Pn	11 00 20.2 +1.0
STON	Ston	4.06	313	*eP*n	Pn	11 00 20.4 +0.3
STON	Ston	4.06	313	*eP*n	Pn	11 00 21.3 +1.2
BBLS	Lazi&#263i	4.07	335	*eP*n	Pn	11 00 21.0 +0.5
SVIS	Svilajnac	4.10	355	*eP*n	Pn	11 00 22.2 +1.5
ELND	Elena	4.13	47	⇑P	Pn	11 00 21.8 +0.6
TRUS	Trudelj	4.16	347	*eP*n	Pn	11 00 22.0 +0.4
KUBS	Kucevo	4.22	359	*eP*n	Pn	11 00 22.3 -0.2
APE	Appiranthos	4.29	135	⇑P	Pn	11 00 24.2 +0.7
ACER	Acerenza	4.47	280		Pn	11 00 26.6 +0.7
CUC	Castrocucco	4.56	269		Pn	11 00 28.2 +1.1
MDVR	Moldovita	4.59	360	*eP*n	Pn	11 00 28.7 +1.1
AVAS	Avala Beograd	4.60	349	*eP*n	Pn	11 00 27.4 -0.3
TEKS	Tekeris	4.66	340	*eP*n	Pn	11 00 28.9 +0.4
HERR	Herculane	4.72	6	⇑P	Pn	11 00 31.3 +2.0
SGRT	San Giovanni R	4.81	291		Pn	11 00 30.7 +0.1
LOZB	Loznitsa	4.82	47	⇑P	Pn	11 00 32.6 +1.9
CEL	Celeste	4.94	249		Pn	11 00 33.5 +1.1
VRSS	Vrsac	4.95	356	*eP*n	Pn	11 00 32.8 +0.4
FRGS	Fruska Gora	5.17	345	*eP*n	Pn	11 00 35.9 +0.4
GZR	Gura Zlata	5.26	8	⇑P	Pn	11 00 37.6 +0.8
GZR	Gura Zlata	5.26	8	*eP*n	Pn	11 00 37.1 +0.3
BZS	Buzias	5.43	359	⇑P	Pn	11 00 40.8 +1.8
BZS	Buzias	5.43	359	*eP*n	Pn	11 00 40.1 +1.1
IDI	Anoyia	5.48	152	Pn	Pn	11 00 42.1 +2.3
IDI	Anoyia	5.48	152	Pn	Pn	11 00 41.7 +1.8
	comp=E,10nm,0.6s,baz=332,slow=14,SNR=10					
IDI				Sn	Sn	11 01 43.6 +0.9
	comp=E,3.2nm,0.3s,baz=322,slow=17,SNR=2.6					
PAOL	Paolisi	5.53	281		Pn	11 00 40.8 +0.2
MANT	Manisa	5.54	106	Pn	Pn	11 00 40.9 +0.1
SURR	Surduc	5.57	3	⇑P	Pn	11 00 43.2 +2.2
BLY	Banja Luka	5.67	325	*eP*n	Pn	11 00 43.5 +1.1
BLY	Banja Luka	5.67	325	⇑P	Pn	11 00 43.4 +1.1
BLY	Banja Luka	5.67	325	*eP*n	Pn	11 00 43.5 +1.1
A050A	Klekovaca	5.78	320	*eP*n	Pn	11 00 44.3 +0.4
VOIR		5.78	24	⇑P	Pn	11 00 45.5 +1.6
A051A	Mrakovica	6.00	325	*eP*n	Pn	11 00 46.9 -0.1
SILT	Sile	6.08	78	⇑P	Pn	11 00 48.7 +0.8
SIRR	Siria	6.08	359	⇑P	Pn	11 00 49.5 +1.6
MLR	Muntele Rosu	6.13	29		Pn	11 00 50.3 +1.5
MLR	Muntele Rosu	6.13	29	Pn	Pn	11 00 51.0 +2.2
	comp=E,3.4nm,0.3s,baz=259,slow=19,SNR=28					
MLR				Sn	Sn	11 02 01.0 +2.2
	comp=E,1.2nm,0.3s,baz=252,slow=20,SNR=1.3					
MLR				Lg	Lg	11 02 40.7
	comp=E,0.4nm,0.3s,baz=216,slow=19,SNR=3.5					
	comp=E,12nm,0.4s					
MLR	Muntele Rosu	6.13	29	⇓P	Pn	11 00 50.0 +1.1
MLR	Muntele Rosu	6.13	29	*eP*n	Pn	11 00 51.0 +2.2
NEHR	Nehoiu	6.21	31	⇓P	Pn	11 00 52.2 +2.4
TAVA	DENIZLI_Tavas	6.21	114	⇓P	Pn	11 00 51.9 +1.9
KARP	Karpathos	6.30	136	Pn	Pn	11 00 53.1 +2.0
VAE	Valguarnera	6.34	247	Pn	Pn	11 00 51.9 +0.3
	comp=E,4.0nm,0.5s,baz=120,slow=20,SNR=2.0					
VAE				Sn	Sn	11 02 04.2 +0.5
	comp=E,1.1nm,0.3s,baz=68,slow=16,SNR=1.9					
DOPR	Dopca	6.36	24	⇑P	Pn	11 00 52.9 +1.0
MORH	Mrgy, Hungar	6.44	340	⇓P	Pn	11 00 53.1 +0.3
COVR	Voineasa-Covas	6.53	28	⇑P	Pn	11 00 56.6 +2.5
MARR	Marisel-Cluj	6.56	8	⇓P	Pn	11 00 57.1 +2.4
DRGR		6.64	6	⇑P	Pn	11 00 57.0 +1.2
DRGR		6.64	6	*eP*n	Pn	11 00 56.3 +0.6
CAMP	Campotosto	6.70	293		Pn	11 00 58.4 -0.2
PLOR	Plostina	6.70	31	⇓P	Pn	11 00 58.1 +1.6
VRI	Vrincioaia	6.75	31	⇑P	Pn	11 00 59.2 +2.1
CFR	Carcaliu	6.86	41	⇓P	Pn	11 01 00.8 +2.3
GUMA	Gualdo di Mace	6.93	297		Pn	11 00 58.4 -1.2
NRCA	Norcia	7.00	295		Pn	11 01 00.9 +0.2
ONER	Baraj Valea Uz	7.02	27	⇑P	Pn	11 01 03.1 +2.3
BOJS	Bojanci	7.14	320	*eP*n	Pn	11 01 02.4 -0.1
BOJS	Bojanci	7.14	320	*eP*n	Pn	11 01 02.5 -0.1
TESR	Tescani	7.26	28	⇓P	Pn	11 01 06.4 +2.2
CRES	Cresnjevec Ost	7.28	323	*eP*n	Pn	11 01 04.4 -0.1
CESX	Cesi	7.31	292	Pn	Pn	11 01 06.2 +1.4
CEY	Cerknica	7.72	318	*i* Pn	Pn	11 01 10.8 +0.2
CEY	Cerknica	7.72	318	*eP*n	Pn	11 01 10.7 +0.2
SKDS	Skadanscina	7.81	316	*eP*n	Pn	11 01 10.9 -0.8
BURAR	Bucovina Array	7.84	17	Pn	Pn	11 01 11.9 -0.3
BURAR	Bucovina Array	7.84	17	⇑P	Pn	11 01 14.1 +2.0
PSZ	Piszkesteto	7.85	351		Pn	11 01 11.8 -0.5
PSZ	Piszkesteto	7.85	351	⇓P	Pn	11 01 13.0 +0.7
BUR08	Bucovina Ar. S	7.86	17		Pn	11 01 12.4 -0.1
SRO	Srobarova	8.02	343	*eP*N	Pn	11 01 17.0 +2.5
SRO				*eS*N	Sn	11 02 43.6 -1.3
TRI	Trieste	8.05	316	Pn	Pn	11 01 14.7 -0.2
SOKA	Soboth	8.12	325	*i* Pn	Pn	11 01 15.9 -0.2
	comp=E,3.9nm,0.4s,SNR=7.8					
OBKA	Obir	8.21	323	*eP*n	Pn	11 01 16.2 -1.1
	comp=E,2.6nm,0.4s					
SABO	M.te Sabotino	8.31	317		Pn	11 01 18.3 -0.3
KECS	Kecovo	8.35	354	*eP*N	Pn	11 01 23.0 +4.0
KECS				*eS*N	Sn	11 02 54.1 +1.1
ARSA	Arzberg	8.38	330		Pn	11 01 18.8 -0.7
ARSA	Arzberg	8.38	330	*eP*n	Pn	11 01 18.6 -1.0
	comp=E,2.9nm,0.5s,SNR=8.4					
ARSA	Arzberg	8.38	330	*eP*n	Pn	11 01 19.9 +0.4
RONA	Rosalia, Austr	8.48	334	*eP*n	Pn	11 01 20.6 -0.3
	comp=E,2.1nm,0.4s,SNR=4.7					
VYHS	Vyhne	8.56	347	*eP*N	Pn	11 01 23.5 +1.4
VYHS				*eS*N	Sn	11 02 53.6 -4.8
PRED	Cave del Predi	8.64	319		Pn	11 01 22.8 -0.4
KOLS	Kolonicke sedl	8.76	2	*eP*N	Pn	11 01 28.7 +4.0
MODS	Modra-Piesok	8.79	340	*eP*N	Pn	11 01 25.3 +0.1
MODS				*eS*N	Sn	11 02 58.9 -5.1
CONA	Conrad Observa	8.82	333	*i* Pn	Pn	11 01 25.1 -0.5
	comp=E,0.3nm,0.2s					
TEOL	Teolo	9.04	308	Pn	Pn	11 01 27.1 -1.5
BR131	Keskin Array S	9.14	89		Pn	11 01 30.4 +0.3
BRTR	Keskin Array B	9.14	89	Pn	Pn	11 01 31.5 +1.4
	comp=E,0.4nm,0.3s,baz=271,slow=12,SNR=5.7					
BRTR				Sn	Sn	11 03 15.3 +2.5
	comp=E,0.1nm,0.3s,baz=295,slow=17,SNR=1.6					
	comp=E,1.0nm,0.4s					
ILGA	Ilgaz	9.14	81	Pn	Pn	11 01 32.2 +2.0
JAVC	Velka Javorina	9.15	343	*eP*N	Pn	11 01 34.9 +4.8
MOA	Molln	9.37	327	*eP*n	Pn	11 01 32.9 -0.1
	comp=E,3.5nm,0.7s,SNR=5.3					
MOA	Molln	9.37	327	*eP*n	Pn	11 01 32.8 -0.2
ABTA	Abfaltersbach	9.38	317	*eP*n	Pn	11 01 32.6 -0.8
	comp=E,0.8nm,0.2s					
CTI	Castel Tesino	9.43	312		Pn	11 01 32.7 -1.3
BIOA	Bad Ischl, Aus	9.51	325	*eP*n	Pn	11 01 34.3 -0.8
	comp=E,2.2nm,0.4s					
KRUC	Moravsky	9.66	339	*eP*N	Pn	11 01 40.0 +3.0
LESA	Schwarzleotal	9.76	321	*eP*n	Pn	11 01 38.5 0.0
	comp=E,1.3nm,0.4s					
VRAC	Vranov	9.83	340	*eP*N	Pn	11 01 39.6 +0.2
VRAC	Vranov	9.83	340	Pn	Pn	11 01 39.2 -0.2
	comp=E,0.3nm,0.3s,baz=157,slow=13,SNR=12					
VRAC				Sn	Sn	11 03 28.9 -0.5
	comp=E,0.2nm,0.3s,baz=138,slow=16,SNR=1.9					
	comp=E,8.9nm,0.9s					
VRAC	Vranov	9.83	340	⇑P	Pn	11 01 40.5 +1.1
MORC	Moravsky Berou	10.04	344	*eP*N	Pn	11 01 42.5 +0.2
MORC	Moravsky Berou	10.04	344	⇑P	Pn	11 01 44.0 +1.6
WTTA	Wattenberg	10.18	317	*eP*n	Pn	11 01 44.4 +0.1
	comp=E,1.0nm,0.3s					
WATA	Walderalm	10.25	318	*eP*n	Pn	11 01 45.5 +0.1
	comp=E,2.0nm,0.3s					
SQTA	Sankt Quirin	10.37	316	*eP*n	Pn	11 01 46.9 0.0
	comp=E,1.4nm,0.3s					
GERES	GERESS Array B	10.39	329	Pn	Pn	11 01 46.4 -0.7
	comp=E,1.0nm,0.8s,baz=141,slow=13,SNR=8.3					
GERES				Sn	Sn	11 03 40.4 -2.8
	baz=144,slow=26,SNR=1.4					
MOTA	Moosalm	10.51	316	*eP*n	Pn	11 01 47.4 -1.4
	comp=E,0.9nm,0.3s					
FETA	Feichten	10.51	314	*eP*n	Pn	11 01 48.8 -0.1
	comp=E,1.0nm,0.6s					
KEST	Kesra	10.76	250	Pn	Pn	11 01 52.0 -0.1
	comp=E,0.2nm,0.3s,baz=67,slow=7.7,SNR=3.6					
	comp=E,1.1nm,0.7s					
RETA	Reutte	10.78	316	*eP*n	Pn	11 01 52.2 -0.2
	comp=E,1.4nm,0.4s					
DAVOX	Davos/Dischmat	10.85	311	Pn	Pn	11 01 53.8 +0.3
	comp=E,0.7nm,0.3s,baz=122,slow=17,SNR=6.3					
DAVOX				Sn	Sn	11 03 50.3 -4.4
	comp=E,0.5nm,0.3s,baz=75,slow=20,SNR=4.1					
	comp=E,1.8nm,0.4s					
DAVA	Damuels	11.13	314	*eP*n	Pn	11 01 57.8 +0.5
	comp=E,1.1nm,0.4s					
AKASG	Malin Array Be	11.74	24	Pn	Pn	11 02 06.0 +0.4
	comp=E,0.3nm,0.3s,baz=213,slow=12,SNR=1.8					
	comp=E,0.5nm,0.5s					
BFO	Black Forest	12.59	315	Pn	Pn	11 02 17.4 +0.2
MMAI	Mount Meron Ar	13.09	119	Pn	Pn	11 02 24.1 +0.1
	comp=E,1.1nm,0.3s,baz=300,slow=12,SNR=2.0					
	comp=E,3.0nm,0.7s					
WLF	Walferdange	14.53	316	*d*P	Pn	11 02 43.3 -0.3
MEM	Membach	15.16	319	*d*P	P	11 02 58.5 +1.3
	comp=Z,6.9nm,1.0s					
PABE	Paberze	15.40	5	Pn	Pn	11 02 54.9 -0.3
PABE				IAmb	IAmb	11 03 05.2
	comp=Z,35nm,1.0s					
BCLA	Clavier	15.41	317	*d*P	P	11 03 00.6 +0.6
	comp=Z,4.4nm,1.0s					
DOU	Dourbes	15.61	315	*d*P	P	11 03 01.4 -0.8
	comp=Z,4.3nm,0.9s					
ESDC	Sonseca Array	19.71	277	P	P	11 03 47.7 +0.2
	comp=Z,0.1nm,0.3s,baz=87,slow=11,SNR=6.7					
	comp=Z,1.0nm,0.9s					
HFS	Hagfors	20.60	348	P	P	11 03 55.5 -1.4
	comp=Z,3.2nm,0.6s,baz=165,slow=12,SNR=12					
	comp=Z,3.2nm,0.6s					
FINES	FINESS Array B	21.45	6	P	P	11 04 04.8 -1.3
FINES	FINESS Array B	21.45	6	P	P	11 04 05.4 -0.7
	comp=Z,3.0nm,0.8s,baz=189,slow=10.0,SNR=9.5					
	comp=Z,3.0nm,0.8s					
FIA1	FINESS Array S	21.45	6	P	P	11 04 05.1 -1.0
FIA1				IAmb	IAmb	11 04 10.9
	comp=Z,18nm,1.1s					
NC602

	comp=N,774nm,0.2s								
WSHM					IAML			11 00 31.7	
	comp=N,840nm,0.3s								
WBSM	**Bird Springs**	**0.69**	**198**			Sg		11 00 31.4	+0.9
WASM	**Alta Sierra Ca**	**0.71**	**231**			Pg		11 00 22.4	+0.3
ISA	**Isabella, Lake**	**0.71**	**223**			Sg		11 00 31.9	+0.4
ISA	**Isabella, Lake**	**0.71**	**223**		Pg	Pg		11 00 22.2	0.0
ISA					IAML			11 00 33.6	
	comp=E,645nm,0.2s								
ISA					IAML			11 00 36.3	
	comp=N,534nm,0.2s								
SPG2	**Springville 2**	**0.72**	**271**			Pg		11 00 22.1	-0.2
SPG2						Sg		11 00 31.6	0.0
LRMC	**Laurel Mtn Rad**	**0.73**	**167**			Pg		11 00 22.6	+0.1
LRMC					IAML			11 00 33.2	
	comp=N,1μm,0.2s								
LRMC					IAML			11 00 33.3	
	comp=E,1μm,0.5s								
CCCA	**Chr Cany lake**	**0.79**	**148**			Pg		11 00 24.0	+0.4
QSM	**Queen of Sheba**	**0.85**	**105**			Pg		11 00 25.1	+0.3
QSM						Sg		11 00 36.8	+1.0
QSM	**Queen of Sheba**	**0.85**	**105**		IAML			11 00 40.2	
	comp=E,690nm,0.8s								
QSM					IAML			11 00 44.5	
	comp=N,469nm,0.7s								
FURC	**Furnace Creek,**	**0.87**	**71**			Sb		11 00 37.7	-0.6
GRAC	**Grapevine Rang**	**0.90**	**27**		Pg	Pg		11 00 25.9	+0.1
GRAC					IAML			11 00 42.3	
	comp=N,716nm,0.5s								
GRAC					IAML			11 00 42.7	
	comp=E,868nm,0.4s								
TIN	**Tinemaha, Big**	**0.91**	**342**			Pg		11 00 25.9	-0.1
TIN						Sb		11 00 38.8	-0.8
DTP	**Desert Tortois**	**0.92**	**178**			Pg		11 00 26.1	-0.1
DTP						Sg		11 00 38.7	+0.6
GWY	**Greenwater Val**	**0.98**	**90**			Pg		11 00 27.6	+0.3
GWY						Sb		11 00 41.1	-0.7
GWY	**Greenwater Val**	**0.98**	**90**		IAML			11 00 45.7	
	comp=E,756nm,0.3s								
VES	**Vestal, Richgr**	**1.04**	**251**			Pg		11 00 28.3	-0.1
VES						Sg		11 00 42.4	+0.6
CCAC	**Calif City Air**	**1.04**	**186**			Pg		11 00 28.3	-0.1
CCAC						Sg		11 00 42.5	+0.5
SGV	**South Grapevin**	**1.04**	**41**			Pg		11 00 28.9	+0.4
LCH	**Last Change Ra**	**1.06**	**10**			Pg		11 00 28.6	-0.2
TEJ	**El Tejon**	**1.16**	**215**			Pg		11 00 30.2	-0.6
WCT	**Wildcat Mounta**	**1.18**	**59**			Pb		11 00 31.4	-0.2
WCT	**Wildcat Mounta**	**1.18**	**59**		IAML			11 00 49.5	
	comp=N,302nm,0.6s								
WCT					IAML			11 00 49.7	
	comp=E,517nm,0.5s								
DSP	**Deep Springs**	**1.18**	**357**			Pg		11 00 30.4	-0.7
DSP						Sg		11 00 46.5	0.0
DSP	**Deep Springs**	**1.18**	**357**		IAML			11 00 46.6	
	comp=N,222nm,0.3s								
DSP					IAML			11 00 47.9	
	comp=E,227nm,0.5s								
BHPR	**Bishop**	**1.21**	**336**			Pg		11 00 31.2	-0.5
POCCA	**Poleta Canyon**	**1.21**	**345**			Pg		11 00 31.3	-0.5
GMN	**Gold Mountain**	**1.22**	**24**			Pg		11 00 31.4	-0.4
GMN					IAML			11 00 52.4	
	comp=E,181nm,0.5s								
GMN					IAML			11 00 53.5	
	comp=N,252nm,0.6s								
VOG	**Valley Oaks Go**	**1.22**	**277**			Pg		11 00 31.5	-0.4
GSC	**Goldstone, Bar**	**1.25**	**135**			Pb		11 00 32.9	+0.1
GSC	**Goldstone, Bar**	**1.25**	**135**		Pg	Pg		11 00 32.1	-0.3
GSC					IAML			11 00 51.5	
	comp=E,304nm,0.5s								
GSC					IAML			11 00 53.1	
	comp=N,219nm,0.4s								
BAKC	**Calstate**	**1.31**	**230**			Pg		11 00 33.6	0.0
BAKC						Sn		11 00 51.5	-0.3
EDW2	**Edwards Air Fo**	**1.31**	**184**			Sg		11 00 50.3	-0.3
ARVC	**Arvin**	**1.31**	**216**			Pg		11 00 33.3	-0.3
ARVC						Sg		11 00 50.9	+0.2
AMDNV	**Amargosa**	**1.32**	**78**			Pg		11 00 33.7	0.0
AMDNV						Sg		11 00 50.9	0.0
TPO	**Tropico Hills**	**1.34**	**192**			Pg		11 00 33.8	-0.4
TPO						Sg		11 00 51.7	+0.2
TPO	**Tropico Hills**	**1.34**	**192**		IAML			11 00 54.8	
	comp=N,240nm,0.6s								
TPO					IAML			11 00 57.1	
	comp=E,310nm,0.8s								
TJR	**Tejon Ranch**	**1.36**	**211**			Pn		11 00 33.9	-0.6
THC	**Tehachapi Micr**	**1.43**	**207**			Pn		11 00 35.0	-0.7
SBB	**Saddle Back Bu**	**1.50**	**178**			Pb		11 00 37.0	-0.2
TPNV	**Topopah Spring**	**1.52**	**60**			Pn		11 00 37.0	+0.1
TPNV					IAML			11 01 00.4	
	comp=E,205nm,0.7s								
TPNV					IAML			11 01 00.8	
	comp=E,289nm,0.7s								
MZP	**Montezuma Peak**	**1.56**	**15**			Pn		11 00 37.7	+0.2
KCC	**Kaiser Creek**	**1.62**	**315**			Pn		11 00 38.2	0.0
KCC						Sn		11 00 58.9	-0.8
BENR	**Benton**	**1.62**	**340**			Pn		11 00 38.5	+0.1
MLAC	**Mammoth, Mammo**	**1.63**	**332**			Pb		11 00 39.0	-0.5
MLAC						Sg		11 01 01.1	+0.2
MCSM	**Casa Diablo Ho**	**1.68**	**331**			Pb		11 00 39.9	-0.4
OSI	**Osito Audit: C**	**1.72**	**204**			Pn		11 00 39.3	-0.2
OSI					IAML			11 01 08.7	
	comp=E,241nm,0.7s								
OSI					IAML			11 01 10.1	
	comp=N,219nm,0.6s								
HOLC	**Holcomb Ridge**	**1.73**	**179**			Pg		11 00 41.4	-0.2
CRGC	**Crocker Grade**	**1.77**	**238**			Pb		11 00 41.6	-0.2
CRGC						Sg		11 01 05.4	-0.2
PASC	**Pasadena Art C**	**2.03**	**187**			Pn		11 00 43.8	0.0
PASC					IAML			11 01 16.7	
	comp=E,84nm,0.9s								
TSCN	**Private Proper**	**2.11**	**253**			Pb		11 00 47.2	-0.3
PSMM	**Smith Mountain**	**2.20**	**268**			Pb		11 00 48.2	-0.9
SHPR	**Sheep Range**	**2.22**	**81**		Pn	Pn		11 00 46.1	-0.4
NV11	**Mina Array Sit**	**2.25**	**354**		Pn	Pn		11 00 47.2	+0.3
GMRC	**Granite Mounta**	**2.29**	**127**			Pn		11 00 46.3	-1.2
MYLM	**Yosemite Lake**	**2.36**	**301**			Pb		11 00 50.5	-1.2
PMPB	**Monarch Peak**	**2.36**	**271**			Pn		11 00 48.5	+0.1
PSAM	**San Ardo**	**2.44**	**267**			Pn		11 00 50.9	+1.5
RAMR	**Ramage Ranch**	**2.49**	**258**			Pn		11 00 51.5	+1.4
ELS	**Elsinore Mount**	**2.56**	**172**			Pn		11 00 50.6	-0.6
BBGB	**Big Mountain B**	**2.58**	**280**			Pn		11 00 49.8	-1.6
Q09A	**Carvers**	**2.70**	**12**		Pn	Pn		11 00 52.3	-0.8
Q09A					IAML			11 01 51.4	
	comp=E,92nm,0.9s								
PMD	**Palm Desert**	**2.82**	**154**			Pn		11 00 53.5	-1.1
DPP	**Dos Picos Cty**	**3.28**	**166**			Pn		11 01 00.1	-0.8
W13A	**Hualapai Mount**	**3.43**	**107**		Pn	Pn		11 01 02.8	-0.4
BLYC	**Blythe**	**3.68**	**130**		Pn	Pn		11 01 05.4	-1.0
BLYC					IAML			11 02 16.3	
	comp=N,22nm,2.0s								
LCMT	**Little Creek M**	**3.82**	**76**			Pn		11 01 08.5	0.0
CCUT	**Cedar City**	**3.87**	**68**			Pn		11 01 10.2	+1.0
CBX	**Cerro Bola**	**4.00**	**165**			Pn		11 01 12.5	+1.6
KNB	**Kanab**	**4.15**	**77**			Pn		11 01 11.8	-1.3
KNB					IAML			11 02 26.2	
	comp=E,18nm,1.6s								
KNB					IAML			11 02 27.3	
	comp=N,19nm,1.7s								
ESJX	**Sierra Juarez**	**4.47**	**158**			Pn		11 01 17.1	-0.4
ESJX					IAML			11 03 40.0	
	comp=N,23nm,0.1s								
U15A	**North Rim**	**4.52**	**85**			Pn		11 01 18.5	+0.3
U15A					IAML			11 02 41.8	
	comp=E,21nm,1.1s								
U15A					IAML			11 02 44.3	
	comp=N,16nm,1.4s								
ELK	**Elko**	**5.00**	**24**			Pn		11 01 24.6	-0.1
WUAZ	**Wupatki**	**5.33**	**95**		Pn	Pn		11 01 31.0	+1.7
WUAZ					IAML			11 03 04.7	
	comp=N,5.3nm,0.8s								
WUAZ					IAML			11 03 07.2	
	comp=N,10nm,1.9s								
X16A	**Lo Mia Camp, P**	**5.55**	**107**		Pn	Pn		11 01 33.0	+0.6

AUST 14 11:05:26.6±1.2,18°S±11″×12°1E±°,h21km±15km,mb4.4/11, ML3.5/9,Error ellipse: s-maj=30.6km s-min=5.3km az=139.3,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.75**	**195**	P	Pn	11 06 10.6	+1.1
PSAC1	**Pilbara Seismi**	**3.09**	**192**	P	Pn	11 06 15.2	+1.0
PSAC1				S	Sn	11 06 51.9	+1.3
PSA00	**Pilbara Seismi**	**3.12**	**191**	P	Pn	11 06 15.7	+1.0
PSA00				S	Sn	11 06 52.3	+0.9
FITZ	**Fitzroy Crossi**	**4.89**	**86**	P	Pn	11 06 39.9	+0.8
FITZ	**Fitzroy Crossi**	**4.89**	**86**	S	Sn	11 07 35.5	+0.4
GIRL	**Giralia**	**7.18**	**234**	P	Pn	11 07 07.8	-2.6
GIRL				S	Sn	11 08 22.1	-9.2
MEEK	**Meekatharra**	**8.29**	**192**	P	Pn	11 07 25.8	+0.1
	comp=Z,17nm,0.4s,comp=Z,0.2nm						
MEEK	**Meekatharra**	**8.29**	**192**	S	Sn	11 08 55.7	-3.0
KNRA	**Kununurra**	**8.38**	**72**	P	Pn	11 07 27.1	+0.2
	comp=Z,26nm,1.0s,comp=Z,0.1nm						
KNRA				S	Sn	11 08 58.1	-2.9
CVQOZ	**Cooralya Stati**	**8.42**	**224**	P	Pn	11 07 25.4	-2.0
CVQOZ				S	Sn	11 08 52.6	-9.2
WRKA	**Warakurna**	**9.73**	**133**	P	Pn	11 07 47.2	+1.6
	comp=Z,5.3nm,1.4s,comp=Z,0.0nm						
EDFI	**Ende, Flores**	**9.76**	**7**	P	Pn	11 07 37.9	-8.0
	comp=Z,11nm,1.3s,comp=Z,0.0nm						
PLAI	**Plampang**	**9.97**	**344**	P	Pn	11 07 41.8	-6.9
	comp=Z,25nm,1.1s,comp=Z,0.1nm						
MORW	**Morawa**	**11.29**	**200**	P	Pn	11 08 03.6	-3.1
	comp=Z,14nm,0.8s						
BLDU	**Ballidu**	**12.55**	**195**	P	Pn	11 08 22.2	-1.8
	comp=Z,25nm,1.9s						
KMBL	**Kambalda**	**12.88**	**175**	P	Pn	11 08 23.9	-4.6
	comp=Z,11nm,2.7s						
WB2	**Warramunga Arr**	**13.16**	**99**	P	Pn	11 08 32.0	-0.4
	comp=Z,11nm,1.7s						
KLBR	**Kellerberrin**	**13.27**	**190**	P	Pn	11 08 31.7	-2.2
	comp=Z,39nm,1.0s						
MUN	**Mundaring**	**13.97**	**195**	P	Pn	11 08 40.3	-3.1
FORT	**Forrest**	**14.02**	**152**	P	Pn	11 08 42.5	-1.6
	comp=Z,16nm,0.8s						

*IDC **14** 11:08:31.2±0.6,0.°58S×127.°65E,h0km,mb4.4/19, mbtmp4.4/20,ML4.1/1,Error ellipse: s-maj=28.9km s-min=12.7km az=78.0*

*BJI **14** 11:08:33.0,0.°50S×127.°80E,h20km,mb4.7/42*

*NEIC **14** 11:08:33.8±1.7,0.°50S±0.°06×127.°80E±0.°05,h10km±1km, mb4.8/60,Error ellipse: s-maj=11.9km s-min=6.6km az=38.0*

*DJA **14** 11:08:34.9±0.2,1.°3S±3.°×12.°8E±°,h10km,M4.7/17,mB5.5/3, mb4.9/12,MLv4.6/17,Mw(mB)5.0/3*

ISC 14 11:08:33.5±0.4,0.°53S±0.°05×127.78E±0.°06,h10km,n285, σ1°50/289,mb4.8/59,1C-1D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.36**	**342**		**Pn**	**11 08 58.2**	**-0.4**
TNTI	**Ternate**	**1.36**	**342**	P	**Pb**	**11 08 59.1**	**+0.1**
TNTI	**Ternate**	**1.36**	**342**	P	**Pb**	**11 08 58.7**	**-0.3**
SANI	**Sanana**	**2.34**	**230**	P	**Pn**	**11 09 11.1**	**-1.0**
SANI	**Sanana**	**2.34**	**230**	P	**Pn**	**11 09 10.5**	**-1.6**
NLAI	**Namlea**	**2.77**	**194**	P	**Pn**	**11 09 18.5**	**+0.4**
MSAI	**Masohi**	**3.02**	**158**	P	**Pn**	**11 09 23.3**	**+1.8**
AAI	**Ambon**	**3.16**	**172**	P	**Pn**	**11 09 25.1**	**+1.7**
SWI	**Sorong**	**3.50**	**95**	P	**Pn**	**11 09 30.6**	**+2.6**
KMSI	**Cibinong**	**3.95**	**286**	P	**Pn**	**11 09 35.6**	**+1.3**
LUWI	**Luwuk**	**5.03**	**264**	P	**Pn**	**11 09 49.0**	**-0.1**
FAKI	**Fak Fak**	**5.06**	**118**	Pn	**Pn**	**11 09 48.5**	**-1.1**
FAKI	**Fak Fak**	**5.06**	**118**	P	**Pn**	**11 09 49.4**	**-0.1**
	0.4nm60nm,0.9s						
MRSI	**Marisa**	**5.92**	**280**	P	**Pn**	**11 10 01.9**	**+0.5**
	0.3nm93nm,0.7s						
APSI	**Ampana**	**6.14**	**266**	P	**Pn**	**11 10 05.4**	**+1.0**
	3μm170nm,1.1s						
BBSI	**Bau Bau**	**7.16**	**226**	P	**Pn**	**11 10 23.2**	**+4.8**
TOLI2	**Tolitoli**	**7.18**	**283**		**Pn**	**11 10 18.6**	**-0.1**
TOLI2	**Tolitoli**	**7.18**	**283**	P	**Pn**	**11 10 21.3**	**+2.6**
MPSI	**Mapaga**	**7.93**	**276**	P	**Pn**	**11 10 30.8**	**+1.9**
TTSI	**Tana Toraja**	**8.34**	**252**	P	**Pn**	**11 10 34.9**	**+0.3**
	123nm,1.1s						
BNSI	**Bone**	**8.57**	**243**	P	**Pn**	**11 10 38.7**	**+0.9**
	71nm,1.0s						
SPSI	**Sidrap Palu**	**8.70**	**247**	P	**Pn**	**11 10 40.7**	**+1.2**
BKSI	**Bulukumba**	**9.00**	**238**	P	**Pn**	**11 10 45.9**	**+2.2**
	99nm,0.6s						
BSSI	**Bau Bau, Buton**	**9.16**	**232**	P	**Pn**	**11 10 46.8**	**+0.9**
	67nm,0.9s						
KAPI	**Kappang**	**9.17**	**241**		**Pn**	**11 10 46.8**	**+0.8**
KAPI	**Kappang**	**9.17**	**241**	Pn	**Pn**	**11 10 47.6**	**+1.6**
	5.0nm,0.3s,baz=73,slow=4.1,SNR=16						
KAPI					Sn	**Sn**	**11 12 29.6**	**+0.3**
	0.7nm,0.3s,baz=94,slow=21,SNR=0.9						
KAPI	**Kappang**	**9.17**	**241**	P	**Pn**	**11 10 48.5**	**+2.5**
MMRI	**Maumere**	**9.76**	**214**	Pn	**Pn**	**11 10 56.0**	**+1.8**
EDFI	**Ende, Flores**	**10.17**	**216**	P	**Pn**	**11 11 01.8**	**+2.0**
DRS	**Darwin Rock St**	**12.22**	**165**	P	**Pn**	**11 11 28.3**	**+0.5**
KNRA	**Kununurra**	**15.08**	**176**	Pn	**Pn**	**11 12 05.1**	**-1.7**
KNRA				IAmb	IAmb	11 12 06.3	
	comp=Z,48nm,1.2s						
JAGI	**Jajag, Banyuwa**	**15.70**	**239**	Pn	**Pn**	**11 12 15.8**	**+0.8**
SBUM	**Sibu**	**15.83**	**281**	Pn	**Pn**	**11 12 15.6**	**-1.1**
SBUM	**Sibu**	**15.83**	**281**	P	**Pn**	**11 12 16.6**	**-0.1**
KSM	**Kuching**	**17.58**	**277**	Pn	**Pn**	**11 12 38.1**	**-0.8**
KSM	**Kuching**	**17.58**	**277**	P	**P**	**11 12 42.0**	**+2.1**
FITZ	**Fitzroy Crossi**	**17.59**	**187**	P	**Pn**	**11 12 38.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=20,slow=14,SNR=2.8 comp=Z,6.6nm,0.7s						
WB0	**Warramunga Arr**	**20.19**	**162**	P	**P**	**11 13 07.8**	**-0.7**
COEN	**Coen**	**20.25**	**132**	P	**P**	**11 13 09.2**	**-0.1**
WRA	**Warramunga Arr**	**20.34**	**162**	P	**P**	**11 13 08.3**	**-1.9**
WRA	**Warramunga Arr**	**20.34**	**162**	P	**P**	**11 13 08.4**	**-1.8**
	comp=Z,6.4nm,0.6s,baz=341,slow=12,SNR=8.9 comp=Z,6.4nm,0.6s						
QIS	**Mount Isa**	**23.02**	**151**	P	**P**	**11 13 39.3**	**+0.3**
AS31	**Alice Springs**	**23.75**	**166**	P	**P**	**11 13 45.4**	**-0.9**
ASAR	**Alice Springs**	**23.75**	**166**		**P**	**11 13 44.9**	**-1.4**
ASAR	**Alice Springs**	**23.75**	**166**	P	**P**	**11 13 45.1**	**-1.2**
	comp=Z,10nm,0.6s,baz=343,slow=9.3,SNR=20 comp=Z,10nm,0.6s						
AS01	**Alice Springs**	**23.77**	**166**	P	**P**	**11 13 47.7**	**+1.3**
TWG	**Pinlang**	**24.11**	**345**	P	**P**	**11 13 47.7**	**-1.9**
TWG				IAmb	IAmb	11 13 48.2	
	comp=Z,27nm,0.8s						
YULB	**Yu-li**	**24.60**	**346**	P	**P**	**11 13 52.5**	**-1.6**
YULB				IAmb	IAmb	11 13 57.1	
	comp=Z,36nm,1.4s						
TPUB	**Ta-pu**	**24.69**	**344**	P	**P**	**11 13 54.2**	**-0.7**
TPUB	**Ta-pu**	**24.69**	**344**	P	**P**	**11 13 56.9**	**+2.0**
SSLB	**Suanglung**	**25.06**	**345**		**P**	**11 13 56.2**	**-2.1**
SSLB	**Suanglung**	**25.06**	**345**	P	**P**	**11 13 59.9**	**+1.6**
YHNB	**Yeheng**	**25.81**	**347**	P	**P**	**11 14 07.3**	**+2.2**
JMZ	**Minamidaito 2**	**26.41**	**7**	P	**P**	**11 14 10.3**	**-0.1**
CTAO	**Charters Tower**	**26.55**	**138**	P	**P**	**11 14 11.3**	**-0.5**
UBPT	**Khong Chiam**	**27.07**	**306**		**P**	**11 14 15.6**	**-0.9**
UBPT	**Khong Chiam**	**27.07**	**306**	P	**P**	**11 14 17.5**	**+0.9**
JOW	**Kunigami**	**27.21**	**1**	P	**P**	**11 14 15.8**	**-1.8**
RPSI	**Rantau Prapat**	**29.02**	**276**	P	**P**	**11 14 33.3**	**-0.7**
RPSI				IAmb	IAmb	11 14 35.3	
	comp=Z,16nm,1.1s						
PSI	**Prapat**	**29.03**	**277**	P	**P**	**11 14 34.6**	**+0.3**
FORT	**Forrest**	**30.09**	**180**	P	**P**	**11 14 43.3**	**+0.1**
FORT				IAmb	IAmb	11 14 45.8	
	comp=Z,9.8nm,0.8s						
WHN	**Wuhan**	**33.44**	**339**	⇓P	**P**	**11 15 14.6**	**+1.9**
NJ2	**Nanjing**	**33.49**	**346**	eP	**P**	**11 15 14.8**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
STKA	**Stephens Creek**	**33.80**	**159**		**P**	**11 15 15.5**	**-0.5**
STKA	**Stephens Creek**	**33.80**	**159**	P	**P**	**11 15 15.6**	**-0.3**
	comp=Z,8.3nm,0.9s,baz=328,slow=7.8,SNR=5.7 comp=Z,8.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**34.05**	**305**		**P**	**11 15 17.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**34.05**	**305**	P	**P**	**11 15 17.6**	**-0.6**
	comp=Z,3.1nm,1.1s,baz=122,slow=6.4,SNR=10						
CMAR				PcP	**PcP**	**11 17 55.7**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=22,slow=0.4,SNR=4.8 comp=Z,3.1nm,1.1s						
CHTO	**Chiang Mai**	**34.23**	**306**		**P**	**11 15 19.1**	**-0.7**
KMI	**Kunming**	**35.17**	**318**	P	**P**	**11 15 30.6**	**+2.4**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ENH	**Enshi**	**35.24**	**332**		**P**	**11 15 28.5**	**+0.1**
PZH	**PanZhiHua**	**36.77**	**319**	P	**P**	**11 15 43.5**	**+1.8**
LYN	**LuoYang**	**37.73**	**339**	eP	**P**	**11 15 50.5**	**+0.9**
LYN				pmax	pmax		
	comp=Z,26nm,0.6s						
KSRS	**Korea Array**	**37.80**	**0**	P	**P**	**11 15 50.5**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=174,slow=9.9,SNR=12						
KSRS				PcP	**PcP**	**11 18 06.9**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=188,slow=3.4,SNR=4.2 comp=Z,2.4nm,0.9s						
TIA	**Tai'an**	**37.88**	**346**	P	**P**	**11 15 50.8**	**0.0**
TIA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MJAR	**Matsushiro Arr**	**38.14**	**14**		**P**	**11 15 51.6**	**-1.5**
MJAR	**Matsushiro Arr**	**38.14**	**14**	P	**P**	**11 15 52.3**	**-0.8**
	comp=Z,6.4nm,1.1s,baz=182,slow=9.1,SNR=7.9 comp=Z,6.4nm,1.1s						
XAN	**Xi'an**	**38.68**	**335**	P	**P**	**11 15 57.9**	**+0.3**
XAN				pmax	pmax		
	comp=Z,21nm,0.6s						
BJI	**Beijing**	**41.74**	**347**	P	**P**	**11 16 22.3**	**-0.6**
BJI				pP	**sP**	**11 16 26.8**	**-0.4**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
LZH	**Lanzhou**	**42.70**	**331**	eP	**P**	**11 16 32.0**	**+1.0**
LZH				pP	sP	11 16 40.5	+5.2
LZH				pmax	pmax		
	comp=Z,28nm,1.1s						
SHL	**Shillong**	**43.30**	**309**		**P**	**11 16 35.6**	**-0.5**
SHL				IAmb	IAmb	11 16 37.4	
	comp=Z,15nm,0.7s						
HHC	**Hu-ho-hao-te**	**43.75**	**342**	eP	**P**	**11 16 40.1**	**+0.8**
HHC				pmax	pmax		
	comp=Z,24nm,0.7s						
USRK	**Ussuriysk Ar.**	**44.69**	**4**	P	**P**	**11 16 46.9**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=195,slow=7.6,SNR=3.1 comp=Z,1.5nm,0.6s						
MDJ	**Mudanjiang**	**44.98**	**2**	P	**P**	**11 16 48.8**	**-0.2**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XLT	**XiLinHaoTe**	**45.45**	**348**	eP	**P**	**11 16 52.4**	**-0.5**
XLT				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BNX	**BinXian**	**46.07**	**360**	⇑P	**P**	**11 16 58.3**	**+0.7**
BNX				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA	**Gaotai**	**47.28**	**330**	P	**P**	**11 17 08.5**	**+1.1**
GTA				pmax	pmax		
	comp=Z,16nm,1.0s						
GOMU	**GeErMu**	**47.68**	**323**	P	**P**	**11 17 11.4**	**+0.5**
GOMU				pP	sP	11 17 15.5	+0.3
GOMU				sP	pP	11 17 20.1	+6.1
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HEH	**HeiHe**	**50.59**	**360**	eP	**P**	**11 17 32.3**	**-0.1**
ULN	**Ulaanbaatar**	**51.47**	**342**		**P**	**11 17 39.0**	**-0.3**
SONM	**Songino Array**	**51.64**	**342**	P	**P**	**11 17 40.5**	**0.0**
SONM	**Songino Array**	**51.64**	**342**	P	**P**	**11 17 40.1**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=158,slow=7.5,SNR=10 comp=Z,2.5nm,0.6s						
WMQ	**Urumqi**	**56.81**	**326**	eP	**P**	**11 18 20.9**	**+2.7**
PETK	**Petropavlovsk-**	**58.99**	**21**	P	**P**	**11 18 33.7**	**+0.4**
PETK	**Petropavlovsk-**	**58.99**	**21**	P	**P**	**11 18 33.5**	**+0.2**
	comp=Z,2.8nm,0.6s,baz=189,slow=4.6,SNR=23 comp=Z,2.8nm,0.6s						
MKAR	**Makanchi Array**	**61.64**	**326**	P	**P**	**11 18 50.6**	**-1.1**
	comp=Z,2.4nm,0.5s,baz=120,slow=8.6,SNR=24 comp=Z,2.4nm,0.5s						
KSH	**Kashi**	**61.80**	**316**	P	**P**	**11 18 53.9**	**+0.9**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MAKZ	**Makanchi**	**61.82**	**326**		**P**	**11 18 52.0**	**-0.8**
MAKZ				IAmb	IAmb	11 18 55.0	
	comp=Z,6.2nm,0.9s						
KDJ	**Kajisay**	**62.22**	**319**		**P**	**11 18 55.8**	**0.0**
KDJ				IAmb	IAmb	11 18 58.7	
	comp=Z,10nm,1.2s						
MA2	**Magadan**	**62.58**	**13**	P	**P**	**11 18 57.9**	**+0.4**
	comp=Z,15nm,0.9s,baz=174,slow=9.2,SNR=3.7 comp=Z,15nm,0.9s						
BOOM	**Boomskoye usch**	**63.20**	**319**		**P**	**11 19 02.0**	**-0.3**
BOOM				IAmb	IAmb	11 19 06.3	
	comp=Z,13nm,1.4s						
ARSB	**Arslanbob**	**64.65**	**317**	P	**P**	**11 19 11.3**	**-0.6**
ZALV	**Zalesovo Beam**	**64.84**	**334**		**P**	**11 19 11.2**	**-1.4**
ZALV	**Zalesovo Beam**	**64.84**	**334**	P	**P**	**11 19 10.6**	**-2.0**
	comp=Z,4.4nm,1.0s,baz=72,slow=4.8,SNR=10 comp=Z,4.4nm,1.0s						
GAR	**Garm**	**65.58**	**314**		**P**	**11 19 16.8**	**-1.2**
KURBB	**Kurchatov Arra**	**65.

J16K	**Anvik River**	**82.28**	**26**	P	**P**	**11 20 56.1 +1.0**
J16K				IAmb	IAmb	11 20 59.9
	comp=Z,9.9nm,1.1s					
J16K	**Anvik River**	**82.28**	**26**	P	**P**	**11 20 57.0 +1.9**
	baz=253,SNR=6.8					
L16K	**Owhat River**	**82.34**	**27**		**P**	**11 20 55.0 -0.4**
L16K				IAmb	IAmb	11 21 00.5
	comp=Z,7.6nm,1.2s					
L16K	**Owhat River**	**82.34**	**27**	P	**P**	**11 20 56.6 +1.2**
	baz=254					
N16K	**Nishlik Lake**	**82.35**	**29**	P	**P**	**11 20 56.6 +1.1**
	baz=255					
M16K	**Timber Creek**	**82.40**	**28**	P	**P**	**11 20 57.0 +1.2**
	baz=255					
I17K	**Unalakleet**	**82.42**	**25**	P	**P**	**11 20 55.4 -0.3**
I17K	**Unalakleet**	**82.42**	**25**	P	**P**	**11 20 57.3 +1.6**
	baz=253,SNR=8.4					
O16K	**Kokwok River B**	**82.46**	**30**	P	**P**	**11 20 57.1 +1.0**
	baz=256					
D17K	**Noatak River**	**82.68**	**21**	P	**P**	**11 20 59.0 +2.0**
	baz=250,SNR=7.9					
RDOG	**Red Dog Mine**	**82.86**	**21**	P	**P**	**11 20 59.7 +1.7**
	baz=250					
G17K	**Kiwalik Mounta**	**82.91**	**23**	P	**P**	**11 21 00.4 +2.1**
	baz=253,SNR=8.8					
C17K	**DeLong Mountai**	**82.91**	**20**	P	**P**	**11 21 00.2 +2.0**
	baz=250					
CHIR	**Chirikof Islan**	**82.92**	**34**	P	**P**	**11 21 00.3 +1.7**
	baz=259					
E17K	**Hotham Inlet**	**82.94**	**22**	P	**P**	**11 21 00.4 +2.0**
	baz=252,SNR=6.4					
F17K	**Baldwin Pennin**	**82.96**	**23**	P	**P**	**11 21 00.5 +2.1**
	baz=252					
J17K	**VABM Dome**	**82.97**	**26**		**P**	**11 20 58.7 0.0**
J17K	**VABM Dome**	**82.97**	**26**	P	**P**	**11 21 00.8 +2.1**
	baz=255,SNR=10					
L17K	**Donlin**	**82.99**	**27**	P	**P**	**11 21 00.9 +2.1**
	baz=256					
O17K	**Koliganek Bris**	**83.00**	**30**	P	**P**	**11 21 00.4 +1.6**
	baz=257					
H17K	**Granite Mounta**	**83.04**	**24**		**P**	**11 21 00.4 +1.4**
H17K				IAmb	IAmb	11 21 03.6
	comp=Z,11nm,1.1s					
H17K	**Granite Mounta**	**83.04**	**24**	P	**P**	**11 21 00.9 +1.9**
	baz=254,SNR=9.7					
N17K	**Nushagak Hills**	**83.12**	**29**	P	**P**	**11 21 01.3 +1.8**
	baz=257					
K17K	**Iditarod**	**83.14**	**26**	P	**P**	**11 21 00.4 +0.8**
K17K	**Iditarod**	**83.14**	**26**	P	**P**	**11 21 02.4 +2.8**
	baz=255,SNR=6.5					
M17K	**Holitna River**	**83.21**	**28**	P	**P**	**11 21 02.6 +2.7**
	baz=256					
E18K	**Tukpahlearik C**	**83.50**	**22**		**P**	**11 21 02.8 +1.5**
E18K	**Tukpahlearik C**	**83.50**	**22**	P	**P**	**11 21 03.6 +2.4**
	baz=253,SNR=6.4					
F18K	**Selawik**	**83.61**	**23**	P	**P**	**11 21 04.3 +2.5**
	baz=254					
H18K	**Honhosa River**	**83.73**	**24**	P	**P**	**11 21 04.4 +1.9**
	baz=255					
L18K	**Granite Mounta**	**83.75**	**27**		**P**	**11 21 03.8 +1.1**
L18K	**Granite Mounta**	**83.75**	**27**	P	**P**	**11 21 05.0 +2.3**
	baz=257					
N18K	**Kilae Creek**	**83.78**	**29**	P	**P**	**11 21 05.2 +2.3**
	baz=258					
G18K	**Tagagawik**	**83.81**	**23**	P	**P**	**11 21 02.9 -0.1**
G18K				IAmb	IAmb	11 21 17.9
	comp=Z,9.1nm,1.5s					
G18K	**Tagagawik**	**83.81**	**23**	P	**P**	**11 21 04.3 +1.3**
	baz=255					
M18K	**Stony River**	**83.99**	**28**	P	**P**	**11 21 06.1 +2.2**
	baz=258,SNR=5.6					
J18K	**Innoko River**	**84.02**	**26**	P	**P**	**11 21 04.9 +0.8**
J18K				IAmb	IAmb	11 21 10.3
	comp=Z,14nm,1.4s					
J18K	**Innoko River**	**84.02**	**26**	P	**P**	**11 21 05.8 +1.8**
	baz=257,SNR=9.5					
GCSA	**Galena City Sc**	**84.25**	**25**	P	**P**	**11 21 06.9 +1.8**
	baz=256					
C19K	**Lookout Ridge**	**84.35**	**20**	P	**P**	**11 21 06.5 +0.8**
	baz=254					
F19K	**Shaleruckik Mo**	**84.40**	**23**	P	**P**	**11 21 07.0 +1.1**
	baz=255					
N19K	**Bonanza Creek**	**84.49**	**29**	P	**P**	**11 21 08.3 +1.7**
	baz=259,SNR=8.3					
G19K	**Purcell Mounta**	**84.49**	**23**	P	**P**	**11 21 08.3 +1.9**
	baz=256					
L19K	**White Mountain**	**84.58**	**27**		**P**	**11 21 07.7 +0.8**
L19K				IAmb	IAmb	11 21 10.7
	comp=Z,10nm,1.1s					
L19K	**White Mountain**	**84.58**	**27**	P	**P**	**11 21 09.5 +2.5**
	baz=259,SNR=7.3					
H19K	**Roundabout Mou**	**84.61**	**24**	P	**P**	**11 21 10.1 +3.2**
	baz=257					
J19K	**Poorman**	**84.61**	**26**	P	**P**	**11 21 09.4 +2.3**
	baz=258					
D19K	**Kuna River**	**84.70**	**21**	P	**P**	**11 21 09.8 +2.4**
	baz=255					
M19K	**Big River Lodg**	**84.74**	**28**	P	**P**	**11 21 09.7 +2.0**
	baz=259					
E19K	**Redstone River**	**84.76**	**22**	P	**P**	**11 21 10.1 +2.4**
	baz=256					
L20K	**Farewell, AK**	**85.08**	**27**	P	**P**	**11 21 12.0 +2.5**
	baz=259					
Q20K	**Shuyak Island**	**85.15**	**31**	P	**P**	**11 21 12.8 +3.0**
	baz=261					
K20K	**Telida**	**85.16**	**26**	P	**P**	**11 21 11.9 +2.0**
	baz=259					
F20K	**Avaraart Lake**	**85.23**	**22**	P	**P**	**11 21 12.8 +2.8**
	baz=257					
H20K	**Anotleneega Mo**	**85.24**	**24**	P	**P**	**11 21 13.0 +2.8**
	baz=258					
J20K	**Nowinta River**	**85.28**	**25**	P	**P**	**11 21 12.7 +2.3**
	baz=259					
D20K	**Etivluk River**	**85.28**	**21**	P	**P**	**11 21 12.0 +1.6**
	baz=256					
M20K	**Styx River**	**85.32**	**28**	P	**P**	**11 21 12.4 +1.6**
	baz=260					
E20K	**Nigu River**	**85.33**	**21**	P	**P**	**11 21 12.2 +1.5**
	baz=257					
A21K	**Barrow**	**85.91**	**18**	P	**P**	**11 21 15.0 +1.7**
	baz=256					
SKT	**Skwentna**	**86.08**	**28**	P	**P**	**11 21 15.8 +1.3**
	baz=262					
H21K	**Melozitna Rive**	**86.11**	**24**	P	**P**	**11 21 16.1 +1.5**
	baz=260					
E21K	**Killik River**	**86.17**	**21**	P	**P**	**11 21 16.5 +1.7**
	baz=259					
B21K	**Ikpikpuk River**	**86.18**	**20**	P	**P**	**11 21 16.3 +1.5**
	baz=258					
A22K	**Sinclair Lake**	**86.35**	**19**	P	**P**	**11 21 16.5 +0.9**
	baz=258					
I21K	**Tanana**	**86.38**	**25**	P	**P**	**11 21 16.3 +0.5**
	baz=261					
MLY	**Manley**	**86.87**	**25**	P	**P**	**11 21 19.7 +1.4**
	baz=262					
E22K	**Anaktuvuk Pass**	**86.91**	**22**	P	**P**	**11 21 19.9 +1.5**
	baz=261					
PMR	**Palmer**	**87.17**	**28**	P	**P**	**11 21 20.9 +1.2**
	baz=264					
COLD	**Coldfoot**	**87.39**	**23**	P	**P**	**11 21 22.0 +1.3**
	baz=262					
G23K	**Bananza Creek**	**87.39**	**23**	P	**P**	**11 21 22.0 +1.2**
	baz=263					
D23K	**Nanushuk River**	**87.45**	**21**	P	**P**	**11 21 22.6 +1.7**
	baz=262					
I23K	**Minto, Yukon-K**	**87.47**	**25**	P	**P**	**11 21 20.9 -0.2**
I23K				IAmb	IAmb	11 21 24.2
	comp=Z,9.4nm,1.4s					
I23K	**Minto, Yukon-K**	**87.47**	**25**	P	**P**	**11 21 22.6 +1.5**
	baz=263					
H23K	**Yukon River**	**87.47**	**24**	P	**P**	**11 21 23.4 +2.2**
	baz=263					
E23K	**Chandalar**	**87.72**	**22**	P	**P**	**11 21 23.1 +0.7**
E23K				IAmb	IAmb	11 21 26.5
	comp=Z,6.7nm,1.2s					
E23K	**Chandalar**	**87.72**	**22**	P	**P**	**11 21 23.9 +1.5**
	baz=263					
P23K	**Montague Islan**	**87.86**	**30**	P	**P**	**11 21 24.6 +1.5**
	baz=265					
SCM	**Sheep Creek Mo**	**88.04**	**28**	P	**P**	**11 21 25.6 +1.5**
	baz=265					
CCB	**Clear Creek Bu**	**88.08**	**25**		**P**	**11 21 23.7 -0.3**
CCB				IAmb	IAmb	11 21 27.0
	comp=Z,12nm,1.8s					
D24K	**Happy Valley**	**88.13**	**21**	P	**P**	**11 21 25.8 +1.5**
	baz=264					
H24K	**Noodor Dome**	**88.16**	**24**	P	**P**	**11 21 26.4 +1.9**
	baz=265					
C24K	**Franklin Bluff**	**88.24**	**20**	P	**P**	**11 21 25.7 +1.0**
	baz=264					
F24K	**Squaw Lake**	**88.31**	**23**	P	**P**	**11 21 26.3 +1.2**
	baz=265					
G24K	**Hadweenzic Riv**	**88.40**	**23**	P	**P**	**11 21 27.3 +1.7**
	baz=265					
ILAR	**Eielson Array**	**88.48**	**25**	P	**P**	**11 21 24.6 -1.3**
	comp=Z,1.1nm,1.1s,baz=265,slow=5.5,SNR=7.2					
	comp=Z,1.1nm,1.1s					
G25K	**Bearman Lake**	**88.94**	**23**	P	**P**	**11 21 30.4 +2.3**
	baz=266					
PAX	**Paxson**	**88.98**	**27**	P	**P**	**11 21 30.0 +1.5**
	baz=267					
D25K	**Kavik River**	**89.02**	**21**	P	**P**	**11 21 30.2 +1.7**
	baz=266					
H25L	**Birch Creek**	**89.03**	**24**	P	**P**	**11 21 30.0 +1.5**
	baz=266					
BMRM	**Bremner River**	**89.30**	**29**	P	**P**	**11 21 31.3 +1.4**
	baz=268					
QSPA	**South Pole Qui**	**89.41**	**180**	P	**P**	**11 21 30.0 -0.4**
	comp=Z,2.8nm,1.1s,baz=324,slow=2.7,SNR=4.2					
	comp=Z,2.8nm,1.1s					
G26K	**Porcupine Rive**	**89.87**	**23**	P	**P**	**11 21 33.8 +1.3**
	baz=268					
J26L	**Joseph Creek**	**89.89**	**26**	P	**P**	**11 21 34.0 +1.3**
	baz=269					
C27K	**Jago River**	**89.97**	**20**	P	**P**	**11 21 34.6 +1.7**
	baz=268					
MCARA	**McCarthy VSAT**	**90.08**	**29**	P	**P**	**11 21 34.8 +1.3**
	baz=269					
I26K	**Coal Creek Min**	**90.09**	**25**	P	**P**	**11 21 35.0 +1.5**
	baz=269					
K27K	**Chicken**	**90.54**	**26**	P	**P**	**11 21 37.2 +1.6**
	baz=270					
M27K	**Edge Creek, AK**	**90.63**	**28**	P	**P**	**11 21 36.7 +0.4**
	baz=270					
L27K	**Beaver Creek,**	**90.65**	**27**	P	**P**	**11 21 37.5 +1.3**
	baz=270					
G27K	**Doyon Strip**	**90.71**	**23**	P	**P**	**11 21 39.5 +3.1**
	baz=270					
E27K	**Coleen River**	**90.72**	**22**	P	**P**	**11 21 38.6 +2.2**
	baz=270					
I27K	**Kandik River**	**90.73**	**25**	P	**P**	**11 21 38.9 +2.3**
	baz=270					
H27K	**Steamboat Moun**	**90.76**	**24**	P	**P**	**11 21 38.6 +1.9**
	baz=270					
CTG	**Chitna Glacier**	**90.89**	**29**	P	**P**	**11 21 39.4 +1.9**
	baz=270					
D27M	**Malcolm River**	**90.94**	**21**	P	**P**	**11 21 39.6 +2.1**
	baz=271					
YUK3	**Moose Creek**	**91.30**	**28**	P	**P**	**11 21 40.5 +1.0**
	baz=271					
I28M	**Miner Creek**	**91.43**	**25**	P	**P**	**11 21 41.6 +1.7**
	baz=272					
DAWY	**Dawson**	**91.72**	**26**	P	**P**	**11 21 41.9 +0.7**
DAWY				IAmb	IAmb	11 21 45.7
	comp=Z,6.5nm,1.3s					
DAWY	**Dawson**	**91.72**	**26**	P	**P**	**11 21 42.7 +1.5**
	baz=272					
I29M	**Ogilvie Camp,**	**92.12**	**25**	P	**P**	**11 21 44.4 +1.4**
	baz=273					
G29M	**Pine Creek**	**92.14**	**23**	P	**P**	**11 21 44.5 +1.4**
	baz=274					
M29M	**Somme Creek**	**92.21**	**28**	P	**P**	**11 21 45.2 +1.6**
	baz=273					
L29M	**L29M**	**92.33**	**27**	P	**P**	**11 21 46.1 +2.1**
	baz=273					
YUK6	**Outpost Mounta**	**92.34**	**29**	P	**P**	**11 21 46.3 +2.0**
	baz=273					
K29M	**Barlow Dome**	**92.55**	**26**		**P**	**11 21 45.8 +0.7**
K29M				IAmb	IAmb	11 21 51.0
	comp=Z,7.0nm,1.4s					
K29M	**Barlow Dome**	**92.55**	**26**	P	**P**	**11 21 46.8 +1.6**
	baz=274					
EPYK	**Eagle Plains**	**92.70**	**24**	P	**P**	**11 21 46.9 +1.3**
	baz=275					
P29M	**Windy Craggy**	**92.73**	**30**		**P**	**11 21 47.8 +1.9**
P29M	**Windy Craggy**	**92.73**	**30**	P	**P**	**11 21 48.4 +2.4**
	baz=274					
HYT	**Haines Junctio**	**92.77**	**29**	P	**P**	**11 21 48.3 +2.1**
	baz=274					
G30M	**tAoh Zraii Nji**	**92.84**	**23**	P	**P**	**11 21 48.1 +1.8**
	baz=275					
N30M	**Aishikik Lake**	**92.92**	**29**	P	**P**	**11 21 48.7 +1.9**
	baz=274					
I30M	**Mount Dempster**	**92.94**	**25**	P	**P**	**11 21 48.0 +1.1**
	baz=275					
F30M	**Barrier River**	**92.95**	**22**	P	**P**	**11 21 48.3 +1.6**
	baz=276					
M30M	**Minto, Yukon**	**92.98**	**27**	P	**P**	**11 21 48.5 +1.4**
	baz=275					
J30M	**Hart River**	**93.02**	**25**	P	**P**	**11 21 48.6 +1.4**
	baz=275					
O30N	**Mendenhall**	**93.46**	**29**	P	**P**	**11 21 50.0 +0.7**
	baz=275					
N31M	**Braeburn, Yuko**	**93.55**	**29**	P	**P**	**11 21 51.6 +1.9**
	baz=275					
G31M	**Satah River**	**93.61**	**23**	P	**P**	**11 21 50.3 +0.6**
	baz=277					
F31M	**Tsiigehtchic**	**93.75**	**22**	P	**P**	**11 21 50.9 +0.6**
	baz=278					
SKAG	**Skagway**	**93.97**	**31**	P	**P**	**11 21 52.7 +1.2**
	baz=276					
WHY	**Whitehorse**	**94.07**	**29**		**P**	**11 21 52.6 +0.5**
WHY				IAmb	IAmb	11 21 58.8
	comp=Z,7.0nm,1.0s					
WHY	**Whitehorse**	**94.07**	**29**	P	**P**	**11 21 53.2 +1.0**
	baz=276					
M31M	**Drury Creek, Y**	**94.13**	**28**	P	**P**	**11 21 53.4 +1.1**
	baz=277					
R32K	**Eaglecrest**	**94.51**	**32**	P	**P**	**11 21 55.7 +1.6**
	baz=276					
FARO	**Faro, Yukon**	**94.61**	**28**	P	**P**	**11 21 54.4 -0.1**
FARO				IAmb	IAmb	11 22 07.6
	comp=E,4.2nm,1.3s					
FARO	**Faro, Yukon**	**94.61**	**28**	P	**P**	**11 21 55.9 +1.4**
	baz=278					
N32M	**Quiet Lake**	**94.88**	**29**	P	**P**	**11 21 57.1 +1.3**
	baz=278					
P33M	**Teslin, Yukon**	**95.14**	**30**	P	**P**	**11 21 59.1 +2.0**
	baz=278					
MMPY	**Sheldon Lake,**	**95.51**	**27**	P	**P**	**11 22 00.2 +1.6**
	baz=280					
R33M	**Jennings River**	**96.19**	**30**	P	**P**	**11 22 03.0 +1.1**
	baz=280					

*IDC **14** 11:10:49.4±7.7, 17.60S×178.31W, h579km±84km, mb3.1/7, mbtmp4.1/7, Error ellipse: s-maj=71.4km s-min=30.1km az=135.0*

ISC 14 11:10:47.2±1.6, 17.5S±0.4×178.3W±0.3, h550km, n9, σ1§21/10, mb3.8/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.88**	**241**	P	**P**	**11 17 25.9**	**+0.1**
	2.3nm,0.7s,baz=58,slow=10,SNR=1.8						
	2.3nm,0.7s						
WRA	**Warramunga Arr**	**44.78**	**259**	P	**P**	**11 18 12.7**	**+0.2**
	1.6nm,0.5s,baz=95,slow=7.2,SNR=16						
	1.6nm,0.5s						
ASAR	**Alice Springs**	**44.97**	**254**	P	**P**	**11 18 14.2**	**+0.2**
	5.8nm,0.6s,baz=88,slow=8.6,SNR=32						
ASAR				PcP	**PcP**	**11 19 41.9**	**-1.6**
	0.5nm,0.5s,baz=95,slow=3.4,SNR=1.6						
	5.8nm,0.6s						
PETK	**Petropavlovsk-**	**73.34**	**345**	P	**P**	**11 21 23.0**	**0.0**
	0.6nm,0.5s,baz=155,slow=5.8,SNR=1.8						
	0.6nm,0.5s						
NVAR	**Mina Array Bea**	**79.11**	**44**	P	**P**	**11 21 55.4**	**+0.1**
	0.3nm,0.6s,baz=237,slow=8.3,SNR=3.2						
	0.3nm,0.6s						
SEY	**Seymchan**	**83.44**	**347**	P	**P**	**11 22 16.8**	**+0.2**
	2.0nm,0.7s,baz=131,slow=9.3,SNR=2.5						
	2.0nm,0.7s						
ILAR	**Eielson Array**	**85.51**	**13**	P	**P**	**11 22 26.1**	**-0.7**
	0.2nm,0.4s,baz=207,slow=5.0,SNR=7.1						
	0.2nm,0.4s						
BRTR	**Keskin Array B**	**144.58**	**315**	PKP	**PKPdf**	**11 29 21.0**	**-0.8**
	0.6nm,0.5s,baz=36,slow=2.6,SNR=3.1						
GERES	**GERESS Array B**	**147.28**	**345**	PKPbc	**PKPdf**	**11 29 28.5**	**+2.5**
	0.7nm,0.5s,baz=20,slow=3.8,SNR=7.1						

IDC 14 11:11:40.3±1.6, 0.50S×128.08E, h0km, mb3.4/4, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=57.7km s-min=25.3km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.45**	**242**	Pn	Pn	11 13 57.8	+0.1
	1.2nm,0.3s,baz=124,slow=8.4,SNR=1.9						
	4.7nm,0.4s						
WRA	**Warramunga Arr**	**20.27**	**163**	P	P	11 16 17.5	-0.1
	1.3nm,1.0s,baz=346,slow=13,SNR=2.4						
	1.3nm,1.0s						
ASAR	**Alice Springs**	**23.71**	**167**	P	P	11 16 54.1	0.0
	1.3nm,0.8s,baz=339,slow=9.5,SNR=4.2						
	1.3nm,0.8s						
MKAR	**Makanchi Array**	**61.79**	**326**	P	P	11 22 00.9	-0.1
	0.3nm,0.5s,baz=118,slow=8.5,SNR=2.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**66.01**	**328**	P	P	11 22 28.7	0.0
	0.2nm,0.4s,baz=132,slow=7.0,SNR=3.1						
	0.2nm,0.4s						

IDC 14 11:12:23.5±1.6, 0.56S×127.98E, h0km, mb3.5/4, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=57.2km s-min=25.1km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.33**	**242**	Pn	Pn	11 14 40.2	+0.8
	1.3nm,0.3s,baz=60,slow=6.8,SNR=2.2						
	7.3nm,0.5s						
WRA	**Warramunga Arr**	**20.24**	**162**	P	P	11 17 00.6	0.0
	1.2nm,0.7s,baz=342,slow=13,SNR=3.9						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**23.68**	**166**	P	P	11 17 36.9	-0.1
	1.0nm,0.8s,baz=344,slow=11,SNR=4.4						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**61.78**	**326**	P	P	11 22 44.0	-0.2
	0.3nm,0.6s,baz=133,slow=8.1,SNR=1.9						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**66.01**	**328**	P	P	11 23 11.9	0.0
	0.3nm,0.4s,baz=119,slow=8.2,SNR=1.3						
	0.3nm,0.4s						

*IDC **14** 11:13:20.0±0.7, 0.58S×127.67E, h0km, mb4.0/15, mbtmp4.0/15, Error ellipse: s-maj=36.8km s-min=14.3km az=74.0*

*NEIC **14** 11:13:22.0±1.6, 0.62S±0.03×127.68E±0.08, h10km±1km, mb4.7/26, Error ellipse: s-maj=13.8km s-min=4.4km az=90.0*

*DJA **14** 11:13:23.5±1.3, 1°S±12°×12°8E±°, h10km, M4.5/6, mb4.9/3, MLv4.3/6*

ISC 14 11:13:21.6±0.5, 0.57S±0.06×127.72E±0.08, h10km, n60, σ1§21/60, mb4.5/27, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.38**	**345**	Pn	**Pn**	**11 13 46.8**	**0.0**
TNTI	**Ternate**	**1.38**	**345**	P	**Pn**	**11 13 48.0**	**+1.2**
SANI	**Sanana**	**2.27**	**230**	P	**Pn**	**11 13 59.5**	**+0.3**
MSAI	**Masohi**	**3.02**	**156**	P	**Pb**	**11 14 13.4**	**-2.0**
AAI	**Ambon**	**3.14**	**171**	P	**Pn**	**11 14 13.7**	**+2.6**
KMSI	**Cibinong**	**3.91**	**287**	P	**Pn**	**11 14 21.1**	**-0.6**
FAKI	**Fak Fak**	**5.10**	**117**	Pn	**Pn**	**11 14 38.2**	**+0.1**
TOLI2	**Tolitoli**	**7.13**	**284**	Pn	**Pn**	**11 15 05.9**	**-0.2**
SPSI	**Sidrap Palu**	**8.63**	**247**	P	**Pn**	**11 15 29.6**	**+3.0**
	226nm,0.6s						
BKSI	**Bulukumba**	**8.93**	**238**	P	**Pn**	**11 15 34.7**	**+3.9**
KAPI	**Kappang**	**9.10**	**241**		**Pn**	**11 15 32.2**	**-0.9**
KAPI	**Kappang**	**9.10**	**241**	Pn	**Pn**	**11 15 36.6**	**+3.5**
	5.8nm,0.3s,baz=81,slow=6.2,SNR=8.2						
MTN	**Manton Dam**	**12.66**	**165**	Pn	**Pn**	**11 16 20.5**	**-1.3**
KNRA	**Kununurra**	**15.05**	**176**	Pn	**Pn**	**11 16 52.9**	**-1.6**
WB0	**Warramunga Arr**	**20.17**	**161**	P	**P**	**11 17 54.5**	**-1.9**
COEN	**Coen**	**20.27**	**132**	P	**P**	**11 17 57.7**	**+0.2**
COEN				IAmb	IAmb	11 18 34.8	
	comp=Z,37nm,1.4s						
WRA	**Warramunga Arr**	**20.32**	**162**	P	**P**	**11 17 56.7**	**-1.3**
WRA	**Warramunga Arr**	**20.32**	**162**	P	**P**	**11 17 57.7**	**-0.3**
	comp=Z,4.9nm,0.8s,baz=345,slow=12,SNR=8.9						
	comp=Z,4.9nm,0.8s						
AS31	**Alice Springs**	**23.73**	**166**		**P**	**11 18 33.5**	**-0.7**
ASAR	**Alice Springs**	**23.73**	**166**		**P**	**11 18 34.3**	**+0.1**
ASAR	**Alice Springs**	**23.73**	**166**	P	**P**	**11 18 34.1**	**0.0**
	comp=Z,9.6nm,0.9s,baz=340,slow=8.6,SNR=16						
	comp=Z,9.6nm,0.9s						
YULB	**Yu-li**	**24.62**	**346**	P	**P**	**11 18 42.9**	**+0.5**
YULB				IAmb	IAmb	11 18 57.1	
	comp=Z,31nm,1.5s						
FORT	**Forrest**	**30.05**	**179**	P	**P**	**11 19 31.0**	**0.0**
FORT				IAmb	IAmb	11 19 34.1	
	comp=Z,6.0nm,0.7s						
STKA	**Stephens Creek**	**33.79**	**158**	P	**P**	**11 20 03.5**	**-0.3**
STKA	**Stephens Creek**	**33.79**	**158**	P	**P**	**11 20 04.5**	**+0.6**
	comp=Z,4.3nm,0.8s,baz=335,slow=12,SNR=4.0						
	comp=Z,4.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**34.02**	**305**	P	**P**	**11 20 06.7**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=106,slow=10.0,SNR=4.5						
	comp=Z,0.4nm,0.4s						
JHJ2	**Mitsune**	**35.39**	**18**	P	**P**	**11 20 18.6**	**+1.0**
KSRS	**Korea Array**	**37.83**	**0**	P	**P**	**11 20 39.1**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=175,slow=10,SNR=7.1						
	comp=Z,1.3nm,0.9s						
MJAR	**Matsushiro Arr**	**38.19**	**14**	P	**P**	**11 20 40.8**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=181,slow=8.8,SNR=2.6						
	comp=Z,1.4nm,0.6s						
JKA	**Kamikawa-asahi**	**46.43**	**15**	P	**P**	**11 21 49.5**	**+1.0**
SONM	**Songino Array**	**51.66**	**342**	P	**P**	**11 22 28.8**	**0.0**
	comp=Z,1.0nm,0.6s,baz=145,slow=7.6,SNR=5.3						
	comp=Z,1.0nm,0.6s						
OXZ	**Oxford**	**58.08**	**143**	P	**P**	**11 23 14.8**	**-0.4**
PETK	**Petropavlovsk-**	**59.05**	**21**	P	**P**	**11 23 23.0**	**+1.3**
	comp=Z,3.7nm,0.9s,baz=197,slow=4.6,SNR=6.8						
	comp=Z,3.7nm,0.9s						
MKAR	**Makanchi Array**	**61.64**	**326**	P	**P**	**11 23 39.0**	**-0.6**
MKAR	**Makanchi Array**	**61.64**	**326**	P	**P**	**11 23 39.5**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=117,slow=7.8,SNR=9.6						
	comp=Z,1.0nm,0.5s						
MAKZ	**Makanchi**	**61.82**	**326**	P	**P**	**11 23 40.5**	**-0.3**
MAKZ				IAmb	IAmb	11 23 42.5	
	comp=Z,5.3nm,1.1s						
KDJ	**Kajisay**	**62.21**	**320**	P	**P**	**11 23 43.1**	**-0.6**
KDJ				IAmb	IAmb	11 23 53.4	
	comp=Z,4.3nm,1.0s						
MA2	**Magadan**	**62.62**	**13**	P	**P**	**11 23 46.7**	**+0.7**
ARSB	**Arslanbob**	**64.64**	**317**	P	**P**	**11 23 58.7**	**-1.1**
ARSB				IAmb	IAmb	11 24 01.9	
	comp=Z,4.3nm,0.8s						
ZAA0	**Zalesovo Array**	**64.84**	**334**	P	**P**	**11 24 00.6**	**0.0**
ZALV	**Zalesovo Beam**	**64.84**	**334**	P	**P**	**11 23 59.8**	**-0.8**
ZALV	**Zalesovo Beam**	**64.84**	**334**	P	**P**	**11 24 00.1**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=82,slow=3.1,SNR=3.9						
	comp=Z,1.5nm,0.8s						
**G

comp=Z,0.5nm,0.9s,baz=252,slow=4.9,SNR=3.6
comp=Z,0.5nm,0.9s
QSPA South Pole Qui 89.37 180 P **P** **11 26 19.2 +0.9**
comp=Z,1.5nm,0.9s,baz=358,slow=5.3,SNR=4.0
comp=Z,1.5nm,0.9s
J26L Joseph Creek 89.95 26 P **P** **11 26 20.6 -0.4**
FARO Faro, Yukon 94.67 28 P **P** **11 26 43.0 +0.1**
FARO IAmb IAmb 11 26 44.8
comp=Z,2.7nm,0.9s

*IDC **14** 11:17:07.3±0.9,6.°53S×144.°12E,h0km,mb4.0/9, mbtmp4.0/11,ML3.8/2,Error ellipse: s-maj=38.4km s-min=19.4km az=79.0*
*NEIC **14** 11:17:09.6±1.2,6.°67S±0.°08×143.°8E±0.°1,h10km±1km, mb4.5/18,Error ellipse: s-maj=17.1km s-min=13.0km az=264.0*
ISC 14 11:17:08.7±0.5,**6.°75S**±0.°06×**143.°79E**±0.°08,**h10**km,**n37, σ1s87/38,mb4.3/16,New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**5.21**	**324**	Pn	**Pn**	**11 18 27.2**	**+0.4**
	1.7nm,0.3s,baz=168,slow=12,SNR=7.2						
JAY				Sn	**Sn**	**11 19 29.5**	**+2.5**
	2.0nm,0.3s,baz=72,slow=20,SNR=5.1						
	8.7nm,0.8s						
MANU	**Manus Island**	**5.88**	**37**	Pn	**Pn**	**11 18 34.9**	**-1.0**
COEN	**Coen**	**7.19**	**185**	Pn	**Pn**	**11 18 55.7**	**+1.7**
MTN	**Manton Dam**	**13.86**	**243**	Pn	**Pn**	**11 20 24.5**	**-1.0**
WB0	**Warramunga Arr**	**15.84**	**214**	Pn	**Pn**	**11 20 53.3**	**+1.3**
WR8	**Warramunga Arr**	**15.93**	**214**	Pn	**Pn**	**11 20 53.9**	**+0.7**
WRA	**Warramunga Arr**	**16.01**	**214**	Pn	**Pn**	**11 20 54.6**	**+0.5**
WRA	**Warramunga Arr**	**16.01**	**214**	Pn	**Pn**	**11 20 55.2**	**+1.0**
	0.3nm,0.3s,baz=29,slow=13,SNR=9.0						
WRA				Lg	Lg	11 25 33.0	
	baz=34,slow=30						
TNTI	**Ternate**	**18.01**	**294**	Pn	**Pn**	**11 21 14.5**	**-4.9**
TNTI				IAmb	IAmb	11 21 47.1	
	comp=Z,77nm,1.1s						
AS31	**Alice Springs**	**19.32**	**208**	P	**P**	**11 21 30.5**	**-3.7**
ASAR	**Alice Springs**	**19.32**	**208**	P	**P**	**11 21 30.1**	**-4.2**
ASAR	**Alice Springs**	**19.32**	**208**	P	**Pn**	**11 21 39.1**	**+3.8**
	comp=Z,0.6nm,0.3s,baz=38,slow=8.9,SNR=21						
ASAR				Lg	Lg	11 27 18.9	
	baz=33,slow=28						
	comp=Z,6.3nm,0.9s						
TOLI2	**Tolitoli**	**24.25**	**288**	P	**P**	**11 22 25.9**	**-0.4**
TOLI2				IAmb	IAmb	11 22 52.1	
	comp=Z,12nm,1.1s						
SANVU	**Saraoutou**	**24.52**	**113**	P	**P**	**11 22 26.8**	**-1.9**
ONTNC	**Ouen Toro**	**26.78**	**128**	P	**P**	**11 22 47.8**	**-1.2**
ONTNC				IAmb	IAmb	11 23 14.4	
	comp=Z,38nm,1.1s						
NWAO	**Narrogin (SRO)**	**35.88**	**220**	P	**P**	**11 24 09.0**	**0.0**
KSRS	**Korea Array**	**46.40**	**343**	P	**P**	**11 25 35.5**	**0.0**
	comp=Z,1.6nm,1.0s,baz=166,slow=8.3,SNR=8.6						
	comp=Z,1.6nm,1.0s						
NIUE	**Niue**	**46.60**	**110**	P	**P**	**11 25 36.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**50.83**	**300**	P	**P**	**11 26 09.9**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=127,slow=8.2,SNR=2.6						
	comp=Z,0.6nm,0.3s						
PETK	**Petropavlovsk-**	**60.78**	**10**	P	**P**	**11 27 21.3**	**+0.5**
PETK	**Petropavlovsk-**	**60.78**	**10**	P	**P**	**11 27 19.5**	**-1.3**
	comp=Z,1.7nm,0.7s,baz=180,slow=7.0,SNR=4.6						
	comp=Z,1.7nm,0.7s						
VNDA	**Vanda**	**71.38**	**176**	P	**P**	**11 28 29.8**	**+1.2**
VNDA				IAmb	IAmb	11 28 43.3	
	comp=Z,2.7nm,1.2s						
VNDA	**Vanda**	**71.38**	**176**	P	**P**	**11 28 29.6**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=328,slow=6.1,SNR=6.2						
	comp=Z,0.8nm,0.8s						
SPIA	**Saint Paul Isl**	**73.85**	**24**	P	**P**	**11 28 43.5**	**+0.1**
MKAR	**Makanchi Array**	**76.07**	**322**	P	**P**	**11 28 56.9**	**+0.4**
MKAR	**Makanchi Array**	**76.07**	**322**	P	**P**	**11 28 57.2**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=106,slow=8.9,SNR=4.2						
	comp=Z,0.7nm,0.7s						
MAKZ	**Makanchi**	**76.27**	**321**	P	**P**	**11 28 57.8**	**+0.1**
MAKZ				IAmb	IAmb	11 29 17.6	
	comp=Z,2.2nm,0.6s						
M14K	**Bethel**	**79.44**	**24**	P	**P**	**11 29 17.0**	**+2.1**
M14K				IAmb	IAmb	11 29 21.1	
	comp=Z,7.7nm,1.2s						
L14K	**Kuka Creek**	**79.49**	**23**	P	**P**	**11 29 17.1**	**+1.8**
L14K				IAmb	IAmb	11 29 33.3	
	comp=Z,5.1nm,1.4s						
KURBB	**Kurchatov Arra**	**79.93**	**324**	P	**P**	**11 29 18.3**	**+0.3**
	comp=Z,1.6nm,0.2s,baz=106,slow=5.9,SNR=3.8						
	comp=Z,1.6nm,0.2s						
K15K	**Wolf Creek Mou**	**80.49**	**23**	P	**P**	**11 29 22.5**	**+1.8**
K15K				IAmb	IAmb	11 29 46.4	
	comp=Z,6.6nm,1.4s						
L16K	**Owhat River**	**80.97**	**24**	P	**P**	**11 29 25.2**	**+1.9**
L16K				IAmb	IAmb	11 29 39.8	
	comp=Z,6.0nm,1.4s						
J17K	**VABM Dome**	**82.04**	**22**	P	**P**	**11 29 30.9**	**+2.0**
QSPA	**South Pole Qui**	**83.23**	**180**	P	**P**	**11 29 36.3**	**+1.0**
QSPA				IAmb	IAmb	11 29 42.8	
	comp=Z,9.3nm,1.5s						
QSPA	**South Pole Qui**	**83.23**	**180**	P	**P**	**11 29 36.8**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=329,slow=5.9,SNR=2.9						
	comp=Z,0.8nm,0.8s						
BVAR	**Borovoye Array**	**85.50**	**325**	P	**P**	**11 29 47.4**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=111,slow=11,SNR=3.6						
	comp=Z,1.5nm,0.7s						
ILAR	**Eielson Array**	**87.43**	**24**	P	**P**	**11 29 53.9**	**-2.2**
	comp=Z,0.6nm,0.9s,baz=247,slow=5.9,SNR=4.8						
	comp=Z,0.6nm,0.9s						

DJA 14 11:17:35.9±0.3,**1.°S**±2.°×**12.°8E**±.°,**h10**km,**M4.0/11,mb4.5/2, MLv3.7/11,Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.91**	**330**	P	Pn	11 18 09.0	+0.4
TNTI				S	Sn	11 18 33.7	+1.0
MSAI	**Masohi**	**2.51**	**166**	P	Pn	11 18 18.9	+2.1
MSAI				S	Sn	11 18 48.1	+0.6
SANI	**Sanana**	**2.61**	**244**	P	Pn	11 18 17.1	-1.1
NLAI	**Namlea**	**2.64**	**208**	P	Pn	11 18 18.7	+0.2
AAI	**Ambon**	**2.78**	**183**	P	Pn	11 18 20.9	+0.4
SWI	**Sorong**	**2.93**	**89**	P	Pn	11 18 22.5	-0.1
FAKI	**Fak Fak**	**4.41**	**117**	P	Pn	11 18 42.0	-0.9
APSI	**Ampana**	**6.68**	**270**	P	Pn	11 19 14.1	-0.1
	54nm,0.6s						

AUST 14 11:18:20.3±1.2,**19.°S**±8.°×**12.°1E**±.°,**h18**km±13km,**mb4.3**/10, **ML3.5**/8,**Error ellipse: s-maj=20.6km s-min=5.3km az=141.0,Western Australia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**2.65**	**197**	P	Pn	11 19 03.3	+1.2
PSAC1	**Pilbara Seismi**	**2.99**	**194**	P	Pn	11 19 07.8	+1.0
PSAC1				S	Sn	11 19 45.6	+3.4
PSA00	**Pilbara Seismi**	**3.02**	**193**	P	Pn	11 19 08.3	+1.1
FITZ	**Fitzroy Crossi**	**4.83**	**85**	P	Pn	11 19 33.8	+1.7
FITZ	**Fitzroy Crossi**	**4.83**	**85**	S	Sn	11 20 28.4	+0.6
GIRL	**Giralia**	**7.17**	**235**	P	Pn	11 19 59.8	-4.4
GIRL				S	Sn	11 21 15.1	-10
MEEK	**Meekatharra**	**8.19**	**192**	P	Pn	11 20 18.6	+0.4
	comp=Z,20nm,0.6s,comp=Z,0.2nm						
MEEK	**Meekatharra**	**8.19**	**192**	S	Sn	11 21 49.2	-1.1
KNRA	**Kununurra**	**8.35**	**71**	P	Pn	11 20 19.6	-0.9
	comp=Z,19nm,0.4s,comp=Z,0.1nm						
CVQOZ	**Cooralya Stati**	**8.38**	**225**	P	Pn	11 20 17.5	-3.4
CVQOZ				S	Sn	11 21 45.1	-10
WRKA	**Warakurna**	**9.60**	**133**	P	Pn	11 20 38.2	+0.6
	comp=Z,5.8nm,1.7s,comp=Z,0.0nm						
WRKA				S	Sn	11 22 26.0	+0.9
PLAI	**Plampang**	**10.11**	**344**	P	Pn	11 20 35.0	-10
	comp=Z,23nm,1.1s,comp=Z,0.1nm						
BLDU	**Ballidu**	**12.45**	**196**	P	Pn	11 21 14.5	-2.2
	comp=Z,14nm,2.3s						
BLDU	**Ballidu**	**12.45**	**196**	S	Sn	11 23 24.0	-11
KMBL	**Kambalda**	**12.75**	**175**	P	Pn	11 21 18.0	-2.8
	comp=Z,12nm,2.0s						
KLBR	**Kellerberrin**	**13.17**	**191**	P	Pn	11 21 24.2	-2.2
	comp=Z,18nm,0.5s						
MUN	**Mundaring**	**13.88**	**196**	P	Pn	11 21 33.0	-3.1
	comp=Z,20nm,1.9s						
FORT	**Forrest**	**13.88**	**152**	P	Pn	11 21 35.3	-0.8
	comp=Z,5.9nm,0.8s						
NWAO	**Narrogin (SRO)**	**14.56**	**191**	P	Pn	11 21 42.2	-3.3
	comp=Z,36nm,1.9s						

*SLM **14** 11:21:19.6±2.8,35.°40N±0.°01×90.°82W±0.°01,h0km±5km, Error ellipse: s-maj=2.0km s-min=1.6km az=152.0*
NEIC 14 11:21:20.8±1.9,**35.°39N**±0.°01×**90.°84W**±0.°01,**h2**km±4km, **ML2.4**/16,**Md2.5**/17(SLM),**Error ellipse: s-maj=1.9km s-min=0.7km az=140.0,Arkansas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HBAR	**Harrisburg**	**0.22**	**42**		Pg	11 21 24.3	-0.9
HBAR					Sg	11 21 28.4	+0.3
HBAR	**Harrisburg**	**0.22**	**42**	IAML		11 21 28.4	
	comp=N,645nm,0.1s						
HBAR				IAML		11 21 28.5	
	comp=E,723nm,0.1s						
TWAR	**Twist**	**0.23**	**96**		Pg	11 21 24.5	-0.7
TWAR					Sg	11 21 29.4	+1.1
QUAR	**Qualls**	**0.30**	**31**		Pg	11 21 25.8	-0.8
QUAR					Sg	11 21 31.0	+0.5
V43A	**Jonesboro**	**0.47**	**31**		Pg	11 21 28.8	-1.0
V43A					Sg	11 21 36.5	+0.7
LPAR	**Lepanto**	**0.49**	**64**		Pg	11 21 30.2	0.0
LPAR					Sg	11 21 37.0	+0.4
LCAR	**Lake Charles**	**0.73**	**339**		Pg	11 21 33.9	-0.9
GNAR	**Gosnell**	**0.88**	**49**		Pg	11 21 37.3	-0.5
GNAR	**Gosnell**	**0.88**	**49**	IAML		11 21 54.8	
	comp=N,138nm,0.6s						
GNAR				IAML		11 22 08.0	
	comp=E,89nm,0.6s						
CHNM	**Channel**	**0.99**	**48**		Pg	11 21 39.2	-0.5
PEBM	**Pemiscott Bayo**	**1.07**	**47**		Pg	11 21 41.0	-0.5
BRGM	**Braggadocio**	**1.14**	**44**		Pg	11 21 41.9	-0.8
BRGM					Sb	11 21 58.6	+0.1
EDIT	**Edith**	**1.15**	**65**		Pg	11 21 42.2	-0.7
FCAR	**Ozark Folk Cen**	**1.16**	**296**		Pg	11 21 41.8	-1.3
FCAR	**Ozark Folk Cen**	**1.16**	**296**	IAML		11 22 02.8	
	comp=E,72nm,0.1s						
FCAR				IAML		11 22 03.5	
	comp=N,74nm,0.2s						
WHAR	**Wooly Hollow**	**1.19**	**266**		Pg	11 21 43.1	-0.5
EBZ	**Ebenezer Churc**	**1.24**	**101**		Pg	11 21 43.7	-1.0
FPST	**Four Points**	**1.27**	**62**		Pg	11 21 44.2	-1.0
LNXT	**Lenox**	**1.31**	**57**	Pg	Pg	11 21 44.2	-1.7
HALT	**Halls**	**1.33**	**66**	Pg	Pg	11 21 44.0	-2.3
HALT				IAML		11 22 04.3	
	comp=N,72nm,0.8s						
HALT				IAML		11 22 06.6	
	comp=E,54nm,0.6s						
UALR	**University of**	**1.38**	**244**		Pn	11 21 45.1	-1.9
PBMO	**Poplar Bluff**	**1.43**	**13**		Pn	11 21 45.6	-2.1
OXF	**Oxford**	**1.46**	**126**		Pn	11 21 46.2	-2.0
PARMO	**Parma**	**1.55**	**34**		Pn	11 21 47.8	-1.6
HICK	**Hickman**	**1.74**	**48**	Pn	Pn	11 21 49.8	-2.3
X40A	**Basin Creek Fa**	**1.87**	**242**		Pn	11 21 52.1	-1.7
CGM3	**Cape Girardeau**	**2.13**	**26**	Pn	Pn	11 21 55.7	-1.7
PLAL	**Pickwick Lake**	**2.30**	**99**	Pn	Pn	11 21 58.1	-1.6
T45A	**Paducah**	**2.41**	**47**	Pn	Pn	11 21 59.0	-2.2
WVT	**Waverly**	**2.56**	**72**	Pn	Pn	11 22 01.6	-1.7
S44A	**Carbondale**	**2.63**	**29**		Pn	11 22 02.8	-1.5
HHAR	**Hobbs**	**2.67**	**290**	Pn	Pn	11 22 03.1	-1.8
CCM	**Cathedral Cave**	**2.68**	**353**	Pn	Pn	11 22 03.6	-1.4

*NEIC **14** 11:21:28.0±1.3,26.°1S±0.°1×179.°55E±0.°10,h509km±8km, mb4.5/14,Error ellipse: s-maj=20.5km s-min=12.2km az=195.0*
*NOU **14** 11:21:27.1,25.°99S×179.°71E,h515km,mb4.1/16,South of Fiji Islands*
*IDC **14** 11:21:27.7±1.2,26.°05S×179.°56E,h511km±14km,mb3.6/9, mbtmp4.4/11,Error ellipse: s-maj=24.8km s-min=13.8km az=175.0*
ISC 14 11:21:27.1±0.5,**26.°03S**±0.°07×**179.°54E**±0.°09,**h503**km,**n60, σ0s98/57,mb4.4/17,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.92**	**146**	P	**P**	**11 22 45.4**	**+0.5**
RAO	**Raoul Island**	**3.92**	**146**	P	**P**	**11 22 46.4**	**+1.4**
	584nm,0.2s,baz=258,slow=20,SNR=15						
RAO				S	**S**	**11 23 49.8**	**+1.3**
	410nm,0.3s,baz=285,slow=20,SNR=5.3						
RAO	**Raoul Island**	**3.92**	**146**	P	**P**	**11 22 46.7**	**+1.7**
DGTI	**Dogotuki**	**9.68**	**1**	P	**P**	**11 23 40.4**	**-0.8**
PINNC	**Pines Island,**	**11.54**	**285**	P	**P**	**11 24 01.7**	**+0.9**
TOZ	**Tahuroa Road**	**12.16**	**195**	P	**P**	**11 24 07.8**	**+0.7**
URZ	**Urewera**	**12.37**	**189**	P	**P**	**11 24 06.9**	**-2.4**
	8.2nm,0.5s,baz=339,slow=8.6,SNR=8.2						
URZ				S	**S**	**11 26 19.5**	**-3.5**
	8.6nm,0.8s,baz=328,slow=8.1,SNR=1.4						
URZ	**Urewera**	**12.37**	**189**	P	**P**	**11 24 09.4**	**+0.1**
DZM	**Mont Dzumac**	**12.60**	**285**	P	**P**	**11 24 12.6**	**+0.5**
DZM	**Mont Dzumac**	**12.60**	**285**	P	**P**	**11 24 13.1**	**+1.0**
	9.2nm,0.7s,baz=96,slow=11,SNR=11						
DZM	**Mont Dzumac**	**12.60**	**285**	P	**P**	**11 24 12.7**	**+0.6**
BKZ	**Black Stump Fm**	**13.35**	**190**	P	**P**	**11 24 19.8**	**+0.1**
TCW	**Tory Channel**	**15.76**	**195**	P	**P**	**11 24 42.7**	**-2.2**
SNZO	**South Karori**	**15.76**	**194**	P	**P**	**11 24 45.3**	**+0.4**
QRZ	**Quartz Range**	**15.87**	**200**	P	**P**	**11 24 46.1**	**+0.1**
KHZ	**Kahutara**	**17.08**	**195**	P	**P**	**11 24 57.3**	**-1.1**
RPZ	**Rata Peaks**	**18.95**	**199**	P	**P**	**11 25 15.1**	**-0.7**
	6.3nm,0.4s,baz=330,slow=2.4,SNR=8.8						
RPZ	**Rata Peaks**	**18.95**	**199**	P	**P**	**11 25 15.7**	**-0.1**
JCZ	**Jackson Bay**	**20.01**	**203**	P	**P**	**11 25 26.4**	**+0.9**
EIDS	**Eidsvold**	**25.64**	**265**	P	**P**	**11 26 15.8**	**-0.3**
EIDS				IAmb	IAmb	11 26 17.8	
	comp=Z,18nm,1.2s						
EIDS	**Eidsvold**	**25.64**	**265**	P	**P**	**11 26 16.8**	**+0.7**
CAN	**Canberra**	**27.76**	**243**	P	**P**	**11 26 36.3**	**+1.5**
CMSA	**Cobar Meteorol**	**30.09**	**252**	P	**P**	**11 26 55.6**	**+0.5**
CTAO	**Charters Tower**	**31.14**	**274**	P	**P**	**11 27 04.2**	**0.0**
CTAO				IAmb	IAmb	11 27 07.0	
	comp=Z,24nm,1.4s						
CTAO	**Charters Tower**	**31.14**	**274**	P	**P**	**11 27 05.4**	**+1.2**
QLP	**Quilpie**	**31.60**	**261**	P	**P**	**11 27 08.8**	**+0.7**
MTSU	**Mount Surprise**	**33.49**	**276**	P	**P**	**11 27 24.9**	**+0.6**
STKA	**Stephens Creek**	**33.59**	**251**	P	**P**	**11 27 25.3**	**+0.4**
STKA	**Stephens Creek**	**33.59**	**251**	P	**P**	**11 27 25.6**	**+0.6**
	comp=Z,5.6nm,0.5s,baz=98,slow=11,SNR=15						
	comp=Z,5.6nm,0.5s						
STKA	**Stephens Creek**	**33.59**	**251**	P	**P**	**11 27 25.9**	**+0.9**
AS31	**Alice Springs**	**41.32**	**263**	P	**P**	**11 28 28.3**	**-0.2**
AS31				IAmb	IAmb	11 28 29.9	
	comp=Z,5.9nm,0.5s						
ASAR	**Alice Springs**	**41.32**	**263**	P	**P**	**11 28 28.1**	**-0.5**
ASAR	**Alice Springs**	**41.32**	**263**	P	**P**	**11 28 28.7**	**+0.2**
	comp=Z,7.7nm,0.4s,baz=89,slow=7.5,SNR=51						
	comp=Z,7.7nm,0.4s						
WR8	**Warramunga Arr**	**41.74**	**269**	P	**P**	**11 28 31.0**	**-0.9**
WR8				IAmb	IAmb	11 28 32.3	
	comp=Z,11nm,0.9s						
WRA	**Warramunga Arr**	**41.89**	**269**	P	**P**	**11 28 32.4**	**-0.6**
WRA	**Warramunga Arr**	**41.89**	**269**	P	**P**	**11 28 32.8**	**-0.3**
	comp=Z,10nm,0.5s,baz=103,slow=7.8,SNR=32						
	comp=Z,10nm,0.5s						
FORT	**Forrest**	**45.21**	**252**	P	**P**	**11 28 58.0**	**-0.8**
FORT				IAmb	IAmb	11 28 59.3	
	comp=Z,11nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.29**	**268**	P	**P**	**11 29 36.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**50.29**	**268**	P	**P**	**11 29 37.5**	**+0.5**
	comp=Z,7.7nm,0.5s,baz=114,slow=9.1,SNR=5.3						
	comp=Z,7.7nm,0.5s						
SMAI	**San Martin Ant**	**74.28**	**159**	P	**P**	**11 32 12.3**	**+0.3**
SMAI				IAmb	IAmb	11 32 38.1	
	comp=Z,8.0nm,0.4s						
KIWB	**Kanaga Island**	**77.60**	**2**	P	**P**	**11 32 29.4**	**-1.0**
KIWB				IAmb	IAmb	11 32 34.5	
	comp=Z,27nm,1.4s						
ADK	**Adak**	**77.64**	**2**	P	**P**	**11 32 29.6**	**-1.1**
ADK				IAmb	IAmb	11 32 34.4	
	comp=Z,28nm,1.4s						
NIKH	**Nikolski High**	**79.31**	**7**	P	**P**	**11 32 38.9**	**-0.7**
ESPZ	**Base Esperanza**	**80.42**	**158**	P	**P**	**11 32 46.3**	**+0.8**
PETK	**Petropavlovsk-**	**81.07**	**347**	P	**P**	**11 32 48.6**	**-0.3**
PETK	**Petropavlovsk-**	**81.07**	**347**	P	**P**	**11 32 49.0**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=152,slow=6.7,SNR=4.2						
	comp=Z,1.7nm,0.8s						
SNAA	**Sanae**	**82.55**	**179**	P	**P**	**11 32 56.0**	**-0.4**
	comp=Z,1.4nm,1.0s,baz=194,slow=4.2,SNR=2.9						
	comp=Z,1.4nm,1.0s						
NVAR	**Mina Array Bea**	**86.56**	**44**	P	**P**	**11 33 16.5**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=228,slow=8.0,SNR=6.6						
	comp=Z,0.7nm,0.7s						
PLCA	**Paso Flores**	**87.08**	**134**	P	**P**	**11 33 20.3**	**+1.1**
	comp=Z,1.9nm,1.0s,baz=216,slow=8.7,SNR=1.7						
	comp=Z,1.9nm,1.0s						
PINE	**Pine Mountain**	**88.31**	**39**	P	**P**	**11 33 24.9**	**+0.1**
TXAR	**Lajitas Array**	**91.90**	**58**	P	**P**	**11 33 41.8**	**+0.1**
	comp=Z,0.8nm,1.0s,baz=205,slow=5.3,SNR=5.9						
	comp=Z,0.8nm,1.0s						
FINES	**FINESS Array B**	**140.31**	**340**	PKhKP	PKPpre	11 39 50.4	
	comp=Z,1.0nm,0.8s,baz=15,slow=5.8,SNR=2.0						
NC303	**NORSAR Array S**	**143.91**	**350**		PKPbc	11 40 02.8	-0.5
NB2	**NORSAR Subarra**	**144.10**	**350**	PKP	PKPbc	11 40 03.2	-0.8
	comp=Z,0.9nm,0.5s,baz=14,slow=3.1						
NOA	**NORSAR Array B**	**144.10**	**350**	PKP	PKPbc	11 40 03.4	-0.6
	comp=Z,1.7nm,0.6s,baz=20,slow=2.5,SNR=13						
NA001	**NORSAR Array S**	**144.34**	**350**	PKPbc	PKPbc	11 40 04.5	-0.2
HFS	**Hagfors**	**144.54**	**348**	PKP	**PKPdf**	**11 40 04.5**	**-0.8**
	comp=Z,2.0nm,0.4s,baz=64,slow=3.4,SNR=18						
AKASG	**Malin Array Be**	**146.50**	**325**	PKPbc	**PKPbc**	**11 40 10.6**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=53,slow=3.7,SNR=5.1						
BRTR	**Keskin Array B**	**148.48**	**304**	PKPbc	**PKPbc**	**11 40 16.6**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=98,slow=5.1,SNR=3.0						
EKA	**Eskdalemuir Ar**	**150.66**	**3**	PKPbc	**PKPbc**	**11 40 20.9**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=341,slow=2.6,SNR=12						

*IDC **14** 11:26:52.4±3.0,24.°18S×67.°02W,h161km±34km,mb3.3/2, mbtmp3.9/6,Error ellipse: s-maj=42.4km s-min=22.5km az=118.0*
*NEIC **14** 11:26:52.9±2.0,24.°18S±0.°07×67.°3W±0.°1,h188km±13km, mb4.2/4,ML3.8(GUC),Error ellipse: s-maj=18.5km s-min=8.5km az=106.0*
*GUC **14** 11:26:52.0±0.8,24.°30S×67.°20W,h188km±5km,ML3.8*
*SJA **14** 11:26:52.1±0.6,24.°13S×67.°25W,h192km±5km,ML3.6, MW3.5*
ISC 14 11:26:52.7±0.7,**24.°17S**±0.°04×**67.°29W**±0.°04,**h179**km±7km, **n60,σ1s16/73,4C-1D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALTA		**0.87**	**94**	*e*P	**Pn**	**11 27 20.0**	**-0.1**
SALTA				*e*S	**Sn**	**11 27 40.7**	**-0.3**
AF01	**San Pedro de A**	**1.46**	**326**		**Pn**	**11 27 25.9**	**+1.3**
AF01	**San Pedro de A**	**1.46**	**326**	*i* S	**Sn**	**11 27 51.2**	**+2.0**
AF01				IAML		11 27 53.4	
	comp=E,400nm,0.3s						
SLA	**San Lorenzo**	**1.72**	**109**	*e*P	**Pn**	**11 27 27.7**	**+0.8**
SLA				*e*S	**Sn**	**11 27 54.3**	**+0.8**
FSA	**Cafayete**	**2.27**	**149**	*e*P	**Pn**	**11 27 32.9**	**-0.1**
FSA				*e*S	**Sn**	**11 28 04.2**	**-0.1**
GO02	**Mina Guanaco**	**2.31**	**244**		**Pn**	**11 27 34.3**	**+0.8**
GO02	**Mina Guanaco**	**2.31**	**244**	↑*i*P	**Pn**	**11 27 34.5**	**+1.0**
GO02				*e*S	**Sn**	**11 28 05.9**	**+0.7**
PB06	**IPOC Station P**	**2.55**	**304**		**Pn**	**11 27 37.1**	**+0.9**
PB06	**IPOC Station P**	**2.55**	**304**	↑*e*P	**Pn**	**11 27 37.4**	**+1.2**
PB06				IAML		11 28 11.8	
	comp=N,447nm,0.3s						
PB06	**IPOC Station P**	**2.55**	**304**	*e*P	**Pn**	**11 27 36.7**	**+0.6**
PB06				*e*S	**Sn**	**11 28 10.0**	**+0.2**
PB06				IAML		11 28 11.5	
	comp=Z,244nm,0.3s						
YJA	**Yavi**	**2.57**	**40**	↑*i*P	**Pn**	**11 27 37.1**	**+0.4**
YJA	**Yavi**	**2.57**	**40**	*e*P	**Pn**	**11 27 37.4**	**+0.7**
YJA				*e*S	**Sn**	**11 28 10.8**	**0.0**
PB14	**IPOC Station P**	**2.87**	**260**		**Pn**	**11 27 40.5**	**+0.3**
PB09	**IPOC Station P**	**2.97**	**322**		**Pn**	**11 27 42.8**	**+1.7**
PB09	**IPOC Station P**	**2.97**	**322**	*e*P	**Pn**	**11 27 42.8**	**+1.7**
PB09				IAML		11 28 22.2	
	comp=N,108nm,0.3s						
PB09	**IPOC Station P**	**2.97**	**322**	*e*P	**Pn**	**11 27 42.4**	**+1.3**
PB05	**IPOC Station P**	**2.97**	**296**		**Pn**	**11 27 41.5**	**+0.3**
PB05	**IPOC Station P**	**2.97**	**296**	↓*i*P	**Pn**	**11 27 41.9**	**+0.8**
PB05				IAML		11 28 22.0	
	comp=E,128nm,0.3s						
PB05	**IPOC Station P**	**2.97**	**296**	*e*P	**Pn**	**11 27 41.9**	**+0.8**
PB05				*e*S	**Sn**	**11 28 19.3**	**+0.5**
PB05				IAML		11 28 22.8	
	comp=Z,84nm,0.4s						
PB10	**IPOC Station P**	**3.06**	**282**	Pn	**Pn**	**11 27 42.5**	**+0.5**
PB10	**IPOC Station P

QUIS				*i*	S		**Sb**	**11 27 10.3**	**+0.2**
QUIS					IAML			11 27 13.2	
	comp=N,1μm,0.4s								
HUEH	**Huehuetenango**	**0.56**	**239**	*i*	S		**Sb**	**11 27 17.5**	**+0.7**
HUEH	**Huehuetenango**	**0.56**	**239**		P		**Pg**	**11 27 07.3**	**-0.3**
AVCB	**Coban**	**0.59**	**104**	*i*	S		**Sb**	**11 27 17.3**	**-0.4**
STG2	**El Palmar, Qui**	**1.22**	**197**	*i*	P		**Pn**	**11 27 17.1**	**-2.7**
RTAL	**Retalhuleu**	**1.27**	**212**		P		**Pg**	**11 27 22.1**	**+1.1**
CCIG	**Comitan**	**1.28**	**302**	*eP*			**Pn**	**11 27 20.3**	**-0.4**
CCIG					IAML			11 27 40.6	
	comp=N,138nm,0.6s								
CCIG	**Comitan**	**1.28**	**302**		P		**Pn**	**11 27 20.2**	**-0.4**
CCIG	**Comitan**	**1.28**	**302**		S		**Sb**	**11 27 36.4**	**-1.0**
PETF	**Flores**	**1.69**	**40**	*i*	P		**Pn**	**11 27 25.5**	**-0.8**
PETF				*i*	S		**Sn**	**11 27 47.7**	**-0.3**
PETF					IAML			11 27 52.3	
	comp=E,524nm,0.5s								
ESQI	**Esquipulas**	**1.92**	**123**		P		**Pg**	**11 27 32.8**	**-0.6**
MTO3	**Montecristo**	**2.00**	**127**		P		**Pb**	**11 27 33.4**	**+0.3**
MTO3	**Montecristo**	**2.00**	**127**		S		**Sg**	**11 28 02.9**	**+2.2**
NUBE	**Las Nubes**	**2.07**	**145**		P		**Pb**	**11 27 35.4**	**+1.1**
NUBE	**Las Nubes**	**2.07**	**145**		S		**Sg**	**11 28 01.9**	**-1.3**
SARH	**Santa Rosa de**	**2.32**	**111**	*i*	S		**Sg**	**11 28 13.0**	**+1.8**

*IDC **14** 11:31:02.3±4.1,36°.41N×69°.99E,h154^{km}±32^{km},mb3.3/13, mbtmp3.8/18,Error ellipse: s-maj=33.9km s-min=15.5km az=172.0*

*NEIC **14** 11:31:04.4±1.3,36°.60N±0°.07×69°.79E±0°.09,h170^{km}±9^{km}, mb4.1/15,Error ellipse: s-maj=11.7km s-min=8.6km az=48.0*

*NNC **14** 11:31:08.0±8.2,36°.99N×69°.38E,h105^{km}±165^{km},mb3.4, mpv4.1,Error ellipse: s-maj=62.0km s-min=47.5km az=21.0*

ISC 14 11:31:02.6±0.6,**36°.59N**±0°.06×**69°.87E**±0°.06,**h150**^{km},**n74,** σ1§**94**/80,**mb3.9**/19,**6C-1D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KBL	**Kabul**	**2.15**	**198**			**Pn**	**11 31 42.0**	**+2.2**
SIMJ	**Simiganj**	**2.18**	**342**	Pn		**Pn**	**11 31 42.5**	**+2.6**
GAR	**Garm**	**2.43**	**8**			**Pn**	**11 31 45.8**	**+2.9**
BTK	**Batken**	**3.54**	**12**			**Pn**	**11 32 00.3**	**+3.4**
NIL	**Nilore**	**4.04**	**136**			**Pn**	**11 32 06.6**	**+3.3**
ARSB	**Arslanbob**	**5.31**	**26**			**Pn**	**11 32 22.0**	**+1.8**
KSH	**Kashi**	**5.63**	**57**	Pn		**Pn**	**11 32 22.8**	**-1.7**
KSH				Sn		Sn	11 33 21.0	-7.5
KSH				smax		smax		
	comp=N,87nm,0.6s							
KSH				smax		smax		
	comp=E,76nm,0.9s							
JMU	**Jammu**	**5.67**	**132**	*e*S		**Sn**	**11 33 27.0**	**-2.0**
JMU					IAML		11 33 29.9	
	comp=N,258nm,0.4s							
JMU					IAML		11 33 34.0	
	comp=E,154nm,0.5s							
THN	**Thein Dam**	**6.36**	**129**	*e*P		**Pn**	**11 32 34.2**	**+0.1**
THN				*e*S		**Sn**	**11 33 43.3**	**-2.4**
THN					IAML		11 33 46.6	
	comp=N,67nm,0.7s							
THN					IAML		11 33 48.8	
	comp=E,83nm,0.4s							
KK31	**Karatay Array**	**6.53**	**4**			**Pn**	**11 32 37.5**	**+1.3**
KK31	**Karatay Array**	**6.53**	**4**	P		**Pn**	**11 32 38.1**	**+1.9**
	comp=E,5.3nm,0.3s,baz=199,slow=13,SNR=67							
KK31				⇑S		**Sn**	**11 33 47.4**	**-2.1**
	comp=E,7.1nm,0.3s,baz=192,slow=23,SNR=14							
KKAR	**Karatay Array**	**6.53**	**4**			**Pn**	**11 32 38.0**	**+1.8**
UCH	**Uchtor**	**6.68**	**31**	P		**Pn**	**11 32 40.5**	**+1.8**
	SNR=27							
EKS2	**Erkin-Say**	**6.77**	**25**	P		**Pn**	**11 32 41.8**	**+2.2**
	SNR=13							
DHRM	**DHARAMSHALA**	**6.85**	**127**	*e*P		**Pn**	**11 32 44.1**	**+3.2**
DHRM				*e*S		**Sn**	**11 33 54.5**	**-3.4**
DHRM					IAML		11 33 56.1	
	comp=E,163nm,0.6s							
DHRM					IAML		11 33 57.9	
	comp=N,149nm,0.6s							
AAK	**Ala-Archa**	**7.02**	**29**	P		**Pn**	**11 32 45.1**	**+2.3**
	SNR=15							
AAK	**Ala-Archa**	**7.02**	**29**			**Pn**	**11 32 44.7**	**+1.9**
AAK	**Ala-Archa**	**7.02**	**29**	⇓P		**Pn**	**11 32 44.8**	**+1.9**
	comp=N,6.9nm,0.5s							
AAK				⇑S		**Sn**	**11 34 01.4**	**-0.1**
	comp=N,4.2nm,0.5s							
AAK	**Ala-Archa**	**7.02**	**29**	P		**Pn**	**11 32 45.3**	**+2.5**
	comp=N,20nm,0.5s,baz=210,slow=7.1,SNR=24							
AAK				S		**Sn**	**11 34 01.7**	**+0.1**
	comp=N,7.3nm,0.4s,baz=158,slow=11,SNR=10.0							
FRU1	**Bishkek**	**7.21**	**29**			**Pn**	**11 32 47.4**	**+1.9**
CHMS	**Chumuysh**	**7.42**	**29**	P		**Pn**	**11 32 50.1**	**+2.0**
	SNR=8.6							
BOOM	**Boomskoye usch**	**7.53**	**37**	Pn		**Pn**	**11 32 50.2**	**+0.4**
USP	**Ospenovka**	**7.56**	**27**	P		**Pn**	**11 32 51.5**	**+1.5**
	SNR=18							
TKM2	**Tokmak 2**	**7.71**	**33**	P		**Pn**	**11 32 53.7**	**+1.6**
	SNR=13							
SMLA	**Simla**	**8.15**	**130**	*e*P		**Pn**	**11 32 57.5**	**-0.4**
SMLA				*e*S		**Sn**	**11 34 24.0**	**-4.8**
SMLA					IAML		11 34 30.4	
	comp=E,38nm,0.6s							
SMLA					IAML		11 34 32.1	
	comp=N,40nm,0.7s							
HNLY	**HANLEY**	**8.41**	**114**	*e*P		**Pn**	**11 33 03.2**	**+1.3**
HNLY				*e*S		**Sn**	**11 34 32.5**	**-3.1**
HNLY					IAML		11 34 41.2	
	comp=E,5.3nm,1.0s							
KLP	**Kalpa**	**8.59**	**124**	*e*S		Sn	11 34 33.3	-6.4
KLP					IAML		11 34 36.6	
	comp=E,60nm,0.5s							
KLP					IAML		11 34 43.0	
	comp=N,58nm,0.6s							
NDI	**New Delhi**	**10.02**	**140**	*e*S		Sn	11 35 05.6	-8.3
KUDL	**Kundal**	**10.11**	**145**	*e*P		**Pn**	**11 33 22.9**	**-1.1**
KUDL				*e*S		Sn	11 35 06.2	-10
KUDL					IAML		11 35 14.3	
	comp=N,14nm,0.6s							
KUDL					IAML		11 35 16.7	
	comp=E,17nm,0.6s							
SONA	**Sohna**	**10.31**	**142**	*e*S		Sn	11 35 11.1	-10
SONA					IAML		11 35 19.9	
	comp=N,34nm,0.3s							
SONA					IAML		11 35 23.4	
	comp=E,49nm,0.4s							
MKAR	**Makanchi Array**	**13.77**	**38**	P		**Pn**	**11 34 13.3**	**+1.9**
	comp=E,0.4nm,0.6s,baz=191,slow=18,SNR=2.0							
AB31	**Akbulak array**	**14.58**	**333**			**Pn**	**11 34 21.4**	**-0.1**
AB31	**Akbulak array**	**14.58**	**333**	⇑P		**Pn**	**11 34 22.2**	**+0.7**
	comp=E,0.5nm,0.3s,baz=150,slow=12,SNR=23							
AB31				⇑S		**Sn**	**11 36 57.2**	**-6.0**
	comp=E,1.6nm,0.5s,baz=148,slow=24,SNR=8.3							
ABKAR	**Akbulak array**	**14.58**	**333**	Pn		**Pn**	**11 34 21.9**	**+0.3**
KURBB	**Kurchatov Arra**	**15.35**	**21**	P		**Pn**	**11 34 33.1**	**+2.0**
	comp=E,0.2nm,0.3s,baz=221,slow=12,SNR=1.6							
WMQ	**Urumqi**	**15.40**	**57**	*e*P		**Pn**	**11 34 34.8**	**+2.9**
WMQ				pmax		pmax		
	comp=Z,32nm,0.7s							
AKTO	**Aktyubinsk**	**16.26**	**332**	⇑P		**P**	**11 34 43.9**	**+1.4**
	comp=Z,2.2nm,0.9s							
AKTO				⇑S		**S**	**11 37 37.8**	**-5.0**
	comp=Z,2.0nm,0.8s							
AKTO	**Aktyubinsk**	**16.26**	**332**	P		**Pn**	**11 34 43.5**	**+1.3**
	comp=Z,2.2nm,0.5s,baz=159,slow=7.6,SNR=7.1							
BVAR	**Borovoye Array**	**16.44**	**1**	P		**Pn**	**11 34 46.1**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=180,slow=7.9,SNR=6.1							
BRVK	**Borovoye**	**16.47**	**1**	P		**P**	**11 34 43.7**	**-1.1**
EVN	**Everest**	**16.70**	**116**	P		**P**	**11 34 47.4**	**-0.9**
EVN					IAmb	IAmb	11 35 00.6	
	comp=Z,5.6nm,0.7s							
GNI	**Garni**	**20.00**	**288**	P		**P**	**11 35 21.1**	**-2.5**
GNI	**Garni**	**20.00**	**288**	P		**P**	**11 35 24.1**	**+0.6**
	comp=Z,9.8nm,0.5s,baz=142,slow=10,SNR=4.0							
	comp=Z,9.8nm,0.5s							
ZAA0	**Zalesovo Array**	**20.23**	**26**	P		**P**	**11 35 25.7**	**+0.1**
ZALV	**Zalesovo Beam**	**20.23**	**26**	P		**P**	**11 35 25.6**	**0.0**
ZALV	**Zalesovo Beam**	**20.23**	**26**	P		**P**	**11 35 26.0**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=223,slow=11,SNR=6.6							
	comp=Z,1.7nm,0.5s							
ARTI	**Arti**	**21.27**	**342**	P		**P**	**11 35 35.8**	**-1.0**
ARTI					IAmb	IAmb	11 35 41.0	
	comp=Z,4.9nm,0.6s							
ARTI	**Arti**	**21.27**	**342**	P		**P**	**11 35 37.8**	**+1.1**
	comp=Z,3.1nm,0.6s,baz=147,slow=6.8,SNR=5.0							
	comp=Z,3.1nm,0.6s							
KBZ	**Khabaz**	**21.75**	**297**	P		**P**	**11 35 42.9**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=126,slow=8.7,SNR=1.3							
	comp=Z,1.7nm,0.8s							
BRTR	**Keskin Array B**	**28.54**	**287**	P		**P**	**11 36 46.3**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=85,slow=9.0,SNR=3.0							
	comp=Z,0.5nm,0.6s							
PZH	**PanZhiHua**	**28.85**	**101**	P		**P**	**11 36 48.5**	**+1.4**
SONM	**Songino Array**	**29.04**	**56**	P		**P**	**11 36 49.8**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=270,slow=8.6,SNR=2.7							
	comp=Z,0.4nm,0.5s							
HHC	**Hu-ho-hao-te**	**32.59**	**70**	*e*P		**P**	**11 37 20.8**	**+1.0**
HHC				pmax		pmax		
	comp=Z,20nm,0.7s							
FIA1	**FINESS Array S**	**36.90**	**326**	P		**P**	**11 37 56.4**	**0.0**
FINES	**FINESS Array B**	**36.90**	**326**	P		**P**	**11 37 56.8**	**+0.4**
FINES	**FINESS Array B**	**36.90**	**326**	P		**P**	**11 37 57.4**	**+1.1**
	comp=Z,1.9nm,0.9s,baz=112,slow=10,SNR=10							
	comp=Z,1.9nm,0.9s							
ARCES	**ARCESS Array B**	**40.72**	**338**	P		**P**	**11 38 30.0**	**+2.0**
	comp=Z,0.5nm,0.4s,baz=113,slow=7.5,SNR=22							
	comp=Z,0.5nm,0.4s							
HFS	**Hagfors**	**42.44**	**322**	P		**P**	**11 38 43.3**	**+1.2**
	comp=Z,1.8nm,0.5s,baz=98,slow=11,SNR=17							
	comp=Z,1.8nm,0.5s							
NB2	**NORSAR Subarra**	**43.76**	**323**	P		**P**	**11 38 53.6**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=98,slow=7.9							
NOA	**NORSAR Array B**	**43.76**	**323**	P		**P**	**11 38 53.6**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=99,slow=7.9,SNR=6.1							
	comp=Z,0.8nm,0.5s							
KSRS	**Korea Array**	**45.71**	**71**	P		**P**	**11 39 06.9**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=297,slow=8.0,SNR=2.9							
	comp=Z,0.5nm,0.8s							
ESDC	**Sonseca Array**	**56.61**	**297**	P		**P**	**11 40 30.2**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=69,slow=7.2,SNR=2.7							
	comp=Z,0.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**64.81**	**268**	P		**P**	**11 41 24.0**	**-1.5**
	comp=Z,1.8nm,0.3s,baz=63,slow=5.5,SNR=1.4							
C18K	**Utukok River**	**68.47**	**18**	P		**P**	**11 41 48.5**	**+0.6**
C18K					IAmb	IAmb	11 42 24.2	
	comp=Z,12nm,1.4s							
C19K	**Lookout Ridge**	**68.51**	**17**	P		**P**	**11 41 48.5**	**+0.3**
E18K	**Tukpahlearik C**	**69.53**	**19**	P		**P**	**11 41 54.7**	**+0.2**
F20K	**Avaraart Lake**	**71.03**	**17**	P		**P**	**11 42 03.1**	**-0.5**
F20K					IAmb	IAmb	11 42 30.4	
	comp=Z,3.0nm,1.4s							
TOLK	**Toolik Lake Re**	**71.06**	**14**	P		**P**	**11 42 02.6**	**-1.3**
TOLK					IAmb	IAmb	11 42 45.7	
	comp=Z,10nm,1.5s							
A36M	**Sachs Harbour**	**71.20**	**5**	P		**P**	**11 42 05.3**	**+0.9**
A36M					IAmb	IAmb	11 42 13.2	
	comp=Z,4.4nm,1.2s							
F21K	**Alatna River**	**71.41**	**16**	P		**P**	**11 42 05.8**	**-0.2**
F21K					IAmb	IAmb	11 42 14.8	
	comp=Z,4.5nm,1.5s							
G19K	**Purcell Mounta**	**71.41**	**18**	P		**P**	**11 42 06.1**	**+0.1**
G19K					IAmb	IAmb	11 42 06.8	
	comp=Z,4.9nm,1.5s							
E23K	**Chandalar**	**71.55**	**15**	P		**P**	**11 42 07.1**	**+0.3**
E23K					IAmb	IAmb	11 42 40.2	
	comp=Z,6.2nm,1.4s							
IMAR	**Indian Mountai**	**72.36**	**17**	P		**P**	**11 42 11.4**	**-0.2**
ILAR	**Eielson Array**	**74.94**	**15**	P		**P**	**11 42 25.2**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=327,slow=5.9,SNR=4.1							
	comp=Z,0.2nm,0.5s							

*IDC **14** 11:33:47.9±0.9,0°.47S×127°.93E,h0^{km},mb3.9/9, mbtmp4.0/11,ML4.1/2,Error ellipse: s-maj=41.1km s-min=15.8km az=76.0*

*NEIC **14** 11:33:50.8±1.9,0°.59S±0°.04×127°.92E±0°.08,h10^{km}±1^{km}, mb4.4/15,Error ellipse: s-maj=14.6km s-min=5.9km az=75.0*

*DJA **14** 11:33:51.4±0.2,1°.S±2°×12°.8E±°,h10^{km},M4.3/12,mb4.7/4, MLv4.2/12*

ISC 14 11:33:50.0±0.5,**0°.57S**±0°.05×**127°.84E**±0°.07,**h10**^{km},**n42,** σ1§**54**/45,**mb4.3**/14,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
TNTI	**Ternate**	**1.41**	**341**			**Pn**	**11 34 16.2**	**+0.4**
TNTI	**Ternate**	**1.41**	**341**	P		**Pn**	**11 34 16.3**	**+0.5**
TNTI				S		**Sn**	**11 34 35.4**	**+0.9**
SANI	**Sanana**	**2.36**	**231**	P		**Pn**	**11 34 29.1**	**+0.2**
NLAI	**Namlea**	**2.75**	**195**	P		**Pn**	**11 34 35.9**	**+1.6**
MSAI	**Masohi**	**2.97**	**158**	P		**Pb**	**11 34 40.8**	**-2.2**
AAI	**Ambon**	**3.12**	**173**	P		**Pn**	**11 34 41.9**	**+2.6**
AAI				S		**Sn**	**11 35 18.7**	**+2.0**
SWI	**Sorong**	**3.44**	**95**	P		**Pn**	**11 34 45.8**	**+2.1**
SWI				S		**Sn**	**11 35 27.1**	**+2.6**
FAKI	**Fak Fak**	**4.99**	**118**	Pn		**Pn**	**11 35 04.6**	**-0.5**
FAKI	**Fak Fak**	**4.99**	**118**	P		**Pn**	**11 35 05.9**	**+0.8**
	0.2nm46nm,0.8s							
LUWI	**Luwuk**	**5.08**	**265**	P		**Pn**	**11 35 07.2**	**+0.8**
	73nm,0.7s							
APSI	**Ampana**	**6.20**	**267**	P		**Pn**	**11 35 22.6**	**+1.0**
	61nm,0.4s							
TOLI2	**Tolitoli**	**7.25**	**283**	Pn		**Pn**	**11 35 37.5**	**+1.4**
KAPI	**Kappang**	**9.20**	**241**			**Pn**	**11 36 04.1**	**+1.2**
KAPI	**Kappang**	**9.20**	**241**	Pn		**Pn**	**11 36 05.7**	**+2.7**
	2.3nm,0.0s,baz=56,slow=11,SNR=3.7							
	8.6nm,0.5s							
MTN	**Manton Dam**	**12.63**	**165**	Pn		**Pn**	**11 36 48.1**	**-1.7**
KNRA	**Kununurra**	**15.04**	**177**	Pn		**Pn**	**11 37 19.5**	**-3.3**
KNRA					IAmb	IAmb	11 37 37.7	
	comp=Z,27nm,1.2s							
FITZ	**Fitzroy Crossi**	**17.55**	**187**	P		**Pn**	**11 37 55.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**17.55**	**187**	P		**Pn**	**11 37 55.6**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=10,slow=7.0,SNR=5.7							
	comp=Z,4.1nm,0.8s							
WB0	**Warramunga Arr**	**20.13**	**162**	P		**P**	**11 38 22.5**	**-1.9**
WB0					IAmb	IAmb	11 38 26.3	
	comp=Z,8.1nm,0.9s							
WRA	**Warramunga Arr**	**20.28**	**162**	P		**P**	**11 38 24.0**	**-2.0**
WRA	**Warramunga Arr**	**20.28**	**162**	P		**P**	**11 38 24.8**	**-1.2**
	comp=Z,1.9nm,0.5s,baz=345,slow=13,SNR=27							
	comp=Z,1.9nm,0.5s							
AS31	**Alice Springs**	**23.70**	**166**	P		**P**	**11 39 01.7**	**-0.6**
AS31					IAmb	IAmb	11 39 19.8	
	comp=Z,2.7nm,0.6s							
ASAR	**Alice Springs**	**23.70**	**166**	P		**P**	**11 39 01.9**	**-0.4**
	comp=Z,4.2nm,0.4s,baz=345,slow=11,SNR=86							
	comp=Z,4.2nm,0.4s							
GIRL	**Giralia**	**25.62**	**210**	P		**P**	**11 39 20.6**	**+0.7**
STKA	**Stephens Creek**	**33.75**	**159**	P		**P**	**11 40 32.4**	**+0.4**
STKA	**Stephens Creek**	**33.75**	**159**	P		**P**	**11 40 32.4**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=342,slow=9.8,SNR=4.7							
	comp=Z,3.0nm,0.7s							
MJAR	**Matsushiro Arr**	**38.16**	**14**	P		**P**	**11 41 09.2**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=188,slow=9.8,SNR=4.5							
	comp=Z,0.7nm,0.4s							
TOO	**Toolangi**	**40.26**	**158**	P		**P**	**11 41 26.7**	**-0.6**
TOO					IAmb	IAmb	11 41 46.7	
	comp=Z,14nm,1.2s							
SONM	**Songino Array**	**51.70**	**342**	P		**P**	**11 42 56.2**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=156,slow=8.1,SNR=4.3							
	comp=Z,0.1nm,0.3s							
PEA0B	**Petropavlovsk-**	**59.01**	**20**	P		**P**	**11 43 51.3**	**+1.4**
PEA0B					IAmb	IAmb	11 44 00.8	
	comp=Z,17nm,1.4s							
MKAR	**Makanchi Array**	**61.71**	**326**	P		**P**	**11 44 08.3**	**-0.3**
MKAR	**Makanchi Array**	**61.71**	**326**	P		**P**	**11 44 08.1**	**-0.5**
	comp=Z,1.5nm,1.1s,baz=113,slow=9.1,SNR=4.7							
	comp=Z,1.5nm,1.1s							
MAKZ	**Makanchi**	**61.89**	**326**	P		**P**	**11 44 10.3**	**+0.6**
MAKZ					IAmb	IAmb	11 44 13.3	
	comp=Z,3.7nm,1.4s							
KURBB	**Kurchatov Arra**	**65.94**	**328**	P		**P**	**11 44 34.0**	**-2.3**
	comp=Z,0.2nm,0.4s,baz=127,slow=5.6,SNR=6.0							
	comp=Z,0.2nm,0.4s							
CASY	**Casey**	**66.72**	**188**	P		**P**	**11 44 42.1**	**+1.1**
CASY					IAmb	IAmb	11 44 54.6	
	comp=Z,6.9nm,1.4s							
BVAR	**Borovoye Array**	**71.51**	**328**	P		**P**	**11 45 10.6**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=84,slow=5.5,SNR=2.0							
	comp=Z,0.4nm,0.4s							
AB31	**Akbulak array**	**76.17**	**321**	P		**P**	**11 45 40.9**	**+2.5**
ABKAR	**Akbulak array**	**76.17**	**321**	P		**P**	**11 45 40.5**	**+2.1**
KHLU	**Kahalu`u**	**77.26**	**70**	P		**P**	**11 45 42.7**	**-2.6**
L18K	**Granite Mounta**	**83.75**	**27**	P		**P**	**11 46 20.0**	**+0.8**
L18K					IAmb	IAmb	11 46 44.6	
	comp=Z,3.5nm,1.2s							
QSPA	**South Pole Qui**	**89.37**	**180**	P		**P**	**11 46 46.6**	**-0.2**
QSPA					IAmb	IAmb	11 47 09.8	
	comp=Z,2.8nm,1.2s							
QSPA	**South Pole Qui**	**89.37**	**180**	P		**P**	**11 46 47.2**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=319,slow=1.4,SNR=1.9							
	comp=Z,1.0nm,0.9s							

*IDC **14** 11:37:42.9±1.3,0°.72S×128°.23E,h0^{km},mb3.5/5, mbtmp3.7/6,ML4.7/1,Error ellipse: s-maj=52.5km s-min=21.7km az=72.0*

*DJA **14** 11:37:47.5±0.3,1°.S±3°×12°.8E±°,h10^{km},M4.1/9,MLv4.1/9*

ISC 14 11:37:46.0±0.8,**0°.95S**±0°.05×**128°.06E**±0°.07,**h19**^{km},**n13,** σ1§**21**/13,**mb3.5/4,Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
TNTI	**Ternate**	**1.84**	**338**	P		**Pb**	**11 38 19.6**	**+0.5**
SANI	**Sanana**	**2.34**	**242**	P		**Pb**	**11 38 27.9**	**+0.2**
NLAI	**Namlea**	**2.47**	**203**	P		**Pb**	**11 38 29.5**	**-0.3**
MSAI	**Masohi**	**2.53**	**160**	P		**Pb**	**11 38 31.0**	**+0.1**
AAI	**Ambon**	**2.72**	**177**	P		**Pb**	**11 38 33.1**	**-1.1**
SWI	**Sorong**	**3.20**	**89**	P		**Pn**	**11 38 35.8**	**+0.5**
FAKI	**Fak Fak**	**4.62**	**115**	P		**Pn**	**11 38 55.8**	**+1.0**
KAPI	**Kappang**	**9.23**	**244**	Pn		**Pn**	**11 39 58.9**	**+0.8**
	6.6nm,0.3s,baz=132,slow=12,SNR=2.2							
	13nm,0.3s							
WRA	**Warramunga Arr**	**19.85**	**162**	P		**Pn**	**11 42 18.0**	**+0.3**
	1.0nm,0.4s,baz=345,slow=12,SNR=8.7							
	1.0nm,0.4s							
ASAR	**Alice Springs**	**23.28**	**166**	P		**P**	**11 42 54.1**	**+1.3**
	1.5nm,0.4s,baz=346,slow=12,SNR=14							
	1.5nm,0.4s							
SONM	**Songino Array**	**52.13**	**342**	P		**P**	**11 46 52.3**	**-2.9**
	0.2nm,0.3s,baz=157,slow=7.8,SNR=1.7							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**62.15**	**326**	P		**P**	**11 48 06.9**	**+0.9**
	0.4nm,0.9s,baz=110,slow=7.8,SNR=2.5							
	0.4nm,0.9s							
KURBB	**Kurchatov Arra**	**66.38**	**328**	P		**P**	**11 48 33.0**	**-0.6**
	0.1nm,0.4s,baz=138,slow=6.4,SNR=1.7							
	0.1nm,0.4s							

*IDC **14** 11:38:09.4±1.0,0°.48S×127°.62E,h0^{km},mb3.7/8, mbtmp3.8/9,ML4.3/1,Error ellipse: s-maj=38.6km s-min=19.4km az=82.0*

ISC 14 11:38:11.0±1.2,**0°.5S**±0°.2×**127°.6E**±0°.2,**h10**^{km},**n10,** σ1§**07**/8,**mb4.0**/8,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KAPI	**Kappang**	**9.07**	**240**	Pn		**Pn**	**11 40 22.5**	**+0.4**
	3.1nm,0.3s,baz=78,slow=17,SNR=3.6							
	4.7nm,0.3s							
WRA	**Warramunga Arr**	**20.46**	**162**	P		Pn	11 42 48.2	-2.9
	3.7nm,1.0s,baz=347,slow=12,SNR=5.8							
	3.7nm,1.0s							
ASAR	**Alice Springs**	**23.87**	**166**	P		**P**	**11 43 24.4**	**-0.5**
	5.0nm,0.8s,baz=344,slow=9.4,SNR=7.4							
	5.0nm,0.8s							
KSRS	**Korea Array**	**37.71**	**0**	P		**P**	**11 45 27.1**	**+0.3**
	0.3nm,0.5s,baz=177,slow=7.3,SNR=2.0							
	0.3nm,0.5s							
MJAR	**Matsushiro Arr**	**38.09**	**14**	P		**P**	**11 45 30.8**	**+0.7**
	1.0nm,0.9s,baz=184,slow=9.2,SNR=2.1							
	1.0nm,0.9s							
GTA	**Gaotai**	**47.13**	**330**	*e*P		P	11 46 48.3	+4.6
GTA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
SONM	**Songino Array**	**51.52**	**342**	P		**P**	**11 47 15.5**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=158,slow=6.6,SNR=3.6							
	comp=Z,0.4nm,0.8s							
PETK	**Petropavlovsk-**	**58.97**	**21**	P		**P**	**11 48 11.0**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=245,slow=9.4,SNR=1.5							
	comp=Z,1.2nm,0.9s							
MKAR	**Makanchi Array**	**61.49**	**326**	P		**P**	**11 48 27.3**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=124,slow=6.5,SNR=7.2							
	comp=Z,0.4nm,0.4s							
KURBB

J17K IAmb IAmb 11 51 16.5
comp=Z,3.4nm,0.9s
K17K Iditarod 83.32 27 P **P** 11 51 16.0 +0.5
L18K Granite Mounta 83.93 27 P **P** 11 51 18.6 0.0
L18K IAmb IAmb 11 51 19.9
comp=Z,2.4nm,0.7s

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*IDC **14** 11:44:52.2±1.4,0.°79S×128.°19E,h0km,mb3.6/4, mbtmp3.6/6,ML3.7/2,Error ellipse: s-maj=53.5km s-min=22.2km az=73.0*
*DJA **14** 11:44:55.0±0.6,1.°S±2.°×12.°8E±.°,h12km±4km,M3.8/10, MLv3.8/10*
ISC 14 11:44:55.2±0.9,**0.°80S**±0.°06×**128.°23E**±0.°07,**h19km,n13,** σ0°69/16,**mb3.6/4,Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.78**	**331**	P		**Pb**	**11 45 27.1**	**-0.2**
TNTI				S		**Sb**	**11 45 50.2**	**+0.9**
SANI	**Sanana**	**2.56**	**241**	P		**Pn**	**11 45 36.1**	**+0.3**
SANI				S		**Sn**	**11 46 06.2**	**-0.3**
NLAI	**Namlea**	**2.67**	**205**	P		**Pn**	**11 45 38.1**	**+0.8**
NLAI				S		**Sn**	**11 46 08.8**	**-0.4**
AAI	**Ambon**	**2.87**	**181**	P		**Pn**	**11 45 41.6**	**+1.6**
SWI	**Sorong**	**3.03**	**91**	P		**Pn**	**11 45 42.4**	**+0.2**
BNDI	**Bandanaira**	**4.06**	**156**	P		**Pn**	**11 45 56.5**	**+0.1**
FAKI	**Fak Fak**	**4.53**	**118**	P		**Pn**	**11 46 01.7**	**-1.2**
KAPI	**Kappang**	**9.45**	**244**	Pn		**Pn**	**11 47 10.2**	**-0.2**
	0.5nm,0.3s,baz=86,slow=19,SNR=3.9							
	5.2nm,0.5s							
WRA	**Warramunga Arr**	**19.94**	**163**	P		**P**	**11 49 25.9**	**-0.4**
	0.3nm,0.3s,baz=340,slow=12,SNR=5.0							
	0.7nm,0.6s							
ASAR	**Alice Springs**	**23.39**	**167**	P		**P**	**11 50 03.0**	**0.0**
	0.8nm,0.5s,baz=345,slow=12,SNR=6.8							
	0.8nm,0.5s							
SONM	**Songino Array**	**52.04**	**341**	P		**P**	**11 54 03.9**	**+0.1**
	0.2nm,0.3s,baz=165,slow=6.0,SNR=1.5							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**62.12**	**326**	P		**P**	**11 55 14.9**	**-0.2**
	0.2nm,0.4s,baz=116,slow=6.6,SNR=3.5							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**66.34**	**328**	P		**P**	**11 55 42.3**	**-0.4**
	0.3nm,0.2s,baz=140,slow=6.9,SNR=4.2							
	0.3nm,0.2s							

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*IDC **14** 11:51:29.4±1.3,1.°14S×127.°69E,h0km,mb3.6/4, mbtmp3.7/6,ML3.6/2,Error ellipse: s-maj=53.2km s-min=21.6km az=71.0*
*DJA **14** 11:51:33.3±0.3,1.°S±3.°×12.°8E±.°,h10km,M4.6/8,MLv4.6/8*
ISC 14 11:51:31.2±0.8,**1.°09S**±0.°05×**127.°90E**±0.°08,**h19km,n12,** σ1°16/12,**mb3.7/4,Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.93**	**344**	P		**Pb**	**11 52 06.1**	**+0.4**
SANI	**Sanana**	**2.13**	**243**	P		**Pg**	**11 52 12.8**	**+0.6**
NLAI	**Namlea**	**2.27**	**200**	P		**Pg**	**11 52 14.9**	**0.0**
MSAI	**Masohi**	**2.46**	**155**	P		**Pb**	**11 52 15.5**	**+0.6**
AAI	**Ambon**	**2.59**	**173**	P		**Pb**	**11 52 18.0**	**+0.9**
SWI	**Sorong**	**3.37**	**86**	P		**Pn**	**11 52 21.9**	**-1.0**
KAPI	**Kappang**	**9.02**	**244**	Pn		**Pn**	**11 53 38.3**	**-2.2**
	0.6nm,0.3s,baz=94,slow=16,SNR=2.2							
	2.4nm,0.3s							
WRA	**Warramunga Arr**	**19.77**	**162**	P		**Pn**	**11 56 01.2**	**-0.7**
	0.2nm,0.3s,baz=342,slow=12,SNR=12							
	2.2nm,0.7s							
ASAR	**Alice Springs**	**23.18**	**166**	P		**P**	**11 56 38.2**	**+1.2**
	3.2nm,0.8s,baz=342,slow=11,SNR=17							
	3.2nm,0.8s							
SONM	**Songino Array**	**52.21**	**342**	P		**P**	**12 00 41.0**	**0.0**
	0.2nm,0.4s,baz=165,slow=6.0,SNR=1.9							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**62.17**	**326**	P		**P**	**12 01 52.1**	**+0.7**
	0.5nm,0.7s,baz=120,slow=5.5,SNR=1.8							
	0.5nm,0.7s							
KURBB	**Kurchatov Arra**	**66.41**	**328**	P		**P**	**12 02 20.6**	**+1.5**
	0.2nm,0.4s,baz=128,slow=7.2,SNR=2.8							
	0.2nm,0.4s							

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*BJI **14** 11:52:23.3,1.°13S×128.°32E,h40km,mb4.9/49*
*IDC **14** 11:52:24.4±0.5,0.°57S×127.°77E,h0km,mb4.6/27, mbtmp4.6/29,ML4.2/2,Error ellipse: s-maj=22.8km s-min=10.3km az=84.0*
*MOS **14** 11:52:25.1±1.0,0.°47S×127.°88E,h14km,mb5.0/30,Error ellipse: s-maj=9.7km s-min=6.3km az=102.2*
*NEIC **14** 11:52:26.9±2.0,0.°48S±0.°04×127.°99E±0.°07,h10km±1km, mb5.0/81,Error ellipse: s-maj=13.0km s-min=4.3km az=67.0*
*DJA **14** 11:52:29.3±1.7,0.°S±2.°×12.°8E±.°,h17km±15km,M5.0/20, mB5.5/7,mb5.2/16,MLv5.0/20,Mw(mB)5.0/7,MwMwp6.2/1, Mwp6.2/1*
ISC 14 11:52:26.5±0.3,**0.°52S**±0.°04×**127.°89E**±0.°05,**h10km,n463,** σ1°29/470,**mb4.9**/101,**3C-3D,Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.38**	**338**	Pn		**Pn**	**11 52 52.4**	**+0.5**
TNTI	**Ternate**	**1.38**	**338**	P		**Pb**	**11 52 52.8**	**+0.3**
TNTI				S		**Sg**	**11 53 11.7**	**+0.6**
NLAI	**Namlea**	**2.82**	**196**	P		**Pn**	**11 53 12.5**	**+0.9**
NLAI				S		**Sn**	**11 53 46.2**	**+0.6**
MSAI	**Masohi**	**3.00**	**160**	P		**Pn**	**11 53 16.5**	**+2.4**
AAI	**Ambon**	**3.16**	**174**	P		**Pn**	**11 53 19.0**	**+2.6**
SWI	**Sorong**	**3.39**	**96**	P		**Pn**	**11 53 21.2**	**+1.8**
KMSI	**Cibinong**	**4.06**	**286**	P		**Pn**	**11 53 29.7**	**+1.0**
BNDI	**Bandanaira**	**4.46**	**153**	P		**Pn**	**11 53 36.1**	**+1.9**
BNDI				S		**Sn**	**11 54 27.7**	**+1.5**
SGSI	**Sangihe**	**4.80**	**331**	P		**Pn**	**11 53 41.0**	**+2.1**
FAKI	**Fak Fak**	**4.97**	**119**			**Pn**	**11 53 40.5**	**-0.7**
FAKI	**Fak Fak**	**4.97**	**119**	S		**Sn**	**11 54 37.3**	**-1.5**
FAKI	**Fak Fak**	**4.97**	**119**	P		**Pn**	**11 53 41.1**	**-0.1**
LUWI	**Luwuk**	**5.14**	**264**	P		**Pn**	**11 53 45.0**	**+1.4**
	2.3nm3µm333nm,0.8s							
MRSI	**Marisa**	**6.03**	**279**	P		**Pn**	**11 53 57.0**	**+1.2**
	0.6nm115nm,0.8s							
APSI	**Ampana**	**6.25**	**266**	P		**Pn**	**11 54 01.0**	**+2.1**
	4µm243nm,0.7s							
KDI	**Kendari**	**6.28**	**237**	P		**Pn**	**11 54 01.1**	**+1.9**
RKPI	**Ransiki, Papua**	**6.36**	**99**	P		**Pn**	**11 54 03.3**	**+2.9**
	0.9nm8µm83nm,0.6s							
BBSI	**Bau Bau**	**7.25**	**227**	P		**Pn**	**11 54 16.1**	**+3.5**
	0.5nm143nm,1.1s							
TOLI2	**Tolitoli**	**7.29**	**283**			**Pn**	**11 54 14.4**	**+1.2**
TOLI2	**Tolitoli**	**7.29**	**283**	P		**Pn**	**11 54 15.4**	**+2.3**
MPSI	**Mapaga**	**8.04**	**276**	P		**Pn**	**11 54 26.2**	**+2.8**
PCI	**Palu**	**8.06**	**267**	P		**Pn**	**11 54 26.1**	**+2.3**
	122µm119nm,0.8s							
SAUI	**Saumlaki**	**8.16**	**155**	Pn		**Pn**	**11 54 25.6**	**+0.6**
BAKI	**Biak**	**8.24**	**95**	P		**Pn**	**11 54 30.1**	**+3.9**
TTSI	**Tana Toraja**	**8.45**	**253**	P		**Pn**	**11 54 31.0**	**+2.0**
	155nm,0.9s							
BNSI	**Bone**	**8.68**	**243**	P		**Pn**	**11 54 34.3**	**+2.1**
	73nm,1.1s							
SPSI	**Sidrap Palu**	**8.81**	**247**	P		**Pn**	**11 54 36.5**	**+2.5**
BKSI	**Bukukumba**	**9.11**	**238**	P		**Pn**	**11 54 41.2**	**+3.1**
	3µm251nm,0.6s							
BSSI	**Bau Bau, Buton**	**9.26**	**233**	P		**Pn**	**11 54 43.5**	**+3.3**
	147nm,0.7s							
KAPI	**Kappang**	**9.27**	**241**			**Pn**	**11 54 42.9**	**+2.5**
KAPI	**Kappang**	**9.27**	**241**	Pn		**Pn**	**11 54 43.3**	**+3.0**
	13nm,0.3s,baz=66,slow=4.9,SNR=44							
KAPI				Sn		**Sn**	**11 56 23.5**	**-1.4**
	3.2nm,0.3s,baz=351,slow=14,SNR=5.8							
KAPI	**Kappang**	**9.27**	**241**	P		**Pn**	**11 54 43.8**	**+3.4**
KAPI	**Kappang**	**9.27**	**241**	P		**Pn**	**11 54 42.9**	**+2.5**
EDFI	**Ende, Flores**	**10.25**	**217**	P		**Pn**	**11 54 57.9**	**+4.1**
BATI	**Baumata**	**10.50**	**203**	Pn		**Pn**	**11 54 59.7**	**+2.5**
	3.3nm,0.3s,baz=30,slow=8.1,SNR=1.5							
DRS	**Darwin Rock St**	**12.21**	**166**	P		**Pn**	**11 55 20.9**	**+0.3**
MTN	**Manton Dam**	**12.66**	**165**			**Pn**	**11 55 25.4**	**-1.3**
MTN	**Manton Dam**	**12.66**	**165**	P		**Pn**	**11 55 25.6**	**-1.2**
MTN	**Manton Dam**	**12.66**	**165**	P		**Pn**	**11 55 26.1**	**-0.7**
KDU	**Kakadu**	**12.92**	**160**	P		**Pn**	**11 55 27.1**	**-3.1**
JAY	**Jayapura**	**12.96**	**99**	Pn		**Pn**	**11 55 29.7**	**-1.2**
	0.5nm,0.3s,baz=319,slow=23,SNR=1.7							
	7.3nm,0.9s							
KKM	**Kota Kinabalu**	**13.35**	**299**	Pn		**Pn**	**11 55 40.7**	**+4.4**
KNRA	**Kununurra**	**15.09**	**177**			**Pn**	**11 55 58.8**	**-1.1**
KNRA				IAmb		IAmb	11 56 05.0	
	comp=Z,42nm,0.7s							
KNRA	**Kununurra**	**15.09**	**177**	P		**Pn**	**11 55 59.0**	**-0.8**
SBUM	**Sibu**	**15.94**	**281**	P		**P**	**11 56 15.6**	**+0.9**
FITZ	**Fitzroy Crossi**	**17.61**	**187**			**Pn**	**11 56 31.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**17.61**	**187**	P		**Pn**	**11 56 33.0**	**+0.9**
	comp=Z,4.0nm,1.1s							
FITZ	**Fitzroy Crossi**	**17.61**	**187**	P		**Pn**	**11 56 31.1**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=0.3,slow=7.7,SNR=8.5							
	comp=Z,3.8nm,0.5s							
FITZ	**Fitzroy Crossi**	**17.61**	**187**	P		**P**	**11 56 33.9**	**+0.7**
KSM	**Kuching**	**17.69**	**276**			**Pn**	**11 56 33.5**	**+0.3**
WB0	**Warramunga Arr**	**20.16**	**162**	P		**P**	**11 56 59.8**	**-1.4**
COEN	**Coen**	**20.18**	**132**	P		**P**	**11 57 01.6**	**+0.1**
COEN	**Coen**	**20.18**	**132**	P		Pn	11 57 03.5	+0.2
COEN	**Coen**	**20.18**	**132**	P		Pn	11 57 02.6	-0.7
WRAB	**Tennant Creek**	**20.31**	**162**	P		**P**	**11 57 02.1**	**-0.7**
WRAB	**Tennant Creek**	**20.31**	**162**	P		**P**	**11 57 02.1**	**-0.7**
WRAB				pmax		pmax		
	comp=Z,31nm,1.2s							
WRA	**Warramunga Arr**	**20.31**	**162**			**P**	**11 57 01.1**	**-1.8**
WRA	**Warramunga Arr**	**20.31**	**162**	P		**P**	**11 57 01.4**	**-1.4**
	comp=Z,6.0nm,0.6s,baz=345,slow=13,SNR=19							
WRA				S		S	12 00 36.4	-14
	comp=Z,0.6nm,0.6s,baz=358,slow=23,SNR=1.6							
	comp=Z,6.0nm,0.6s							
WRA	**Warramunga Arr**	**20.31**	**162**	*e*P		**P**	**11 57 04.2**	**+1.4**
WRA				pmax		pmax		
	comp=Z,7.0nm,0.5s							
WR8	**Warramunga Arr**	**20.37**	**162**			**P**	**11 57 02.8**	**-0.7**
LEM	**Lembang**	**21.17**	**252**	P		**P**	**11 57 12.9**	**+0.5**
	comp=Z,37nm,0.8s,baz=126,slow=9.7,SNR=5.9							
BBJI	**Bungbulang**	**21.32**	**251**	P		**P**	**11 57 15.1**	**+1.2**
MBWA	**Marble Bar**	**22.01**	**201**	P		**P**	**11 57 19.9**	**-1.2**
QIS	**Mount Isa**	**22.98**	**151**	P		**P**	**11 57 31.2**	**-0.2**
	comp=Z,36nm,1.0s							
QIS	**Mount Isa**	**22.98**	**151**	P		**P**	**11 57 31.8**	**+0.3**
AS31	**Alice Springs**	**23.74**	**166**			**P**	**11 57 38.6**	**-0.5**
ASAR	**Alice Springs**	**23.74**	**166**			**P**	**11 57 38.1**	**-1.0**
ASAR	**Alice Springs**	**23.74**	**166**	P		**P**	**11 57 38.3**	**-0.8**
	comp=Z,8.3nm,0.6s,baz=347,slow=11,SNR=31							
ASAR				PcP		**PcP**	**12 01 22.8**	**-0.4**
	comp=Z,0.8nm,1.0s,baz=340,slow=2.5,SNR=1.4							
ASAR				S		**S**	**12 01 52.8**	**-1.7**
	comp=Z,1.8nm,0.9s,baz=344,slow=22,SNR=4.4							
	comp=Z,8.3nm,0.6s							
AS01	**Alice Springs**	**23.75**	**166**	P		**P**	**11 57 40.2**	**+1.0**
TWG	**Pinlang**	**24.13**	**344**	P		**P**	**11 57 40.8**	**-1.9**
MYKOM	**Kota Tinggi**	**24.15**	**276**	P		**P**	**11 57 42.8**	**-0.2**
MYKOM				IAmb		IAmb	11 57 52.7	
	comp=Z,22nm,0.8s							
WRKA	**Warakurna**	**24.38**	**179**	P		**P**	**11 57 43.8**	**-1.3**
	comp=Z,16nm,0.9s							
TPUB	**Ta-pu**	**24.71**	**344**	P		**P**	**11 57 47.9**	**-0.1**
SSLB	**Suanglung**	**25.08**	**345**	P		**P**	**11 57 51.3**	**-0.1**
SSLB				IAmb		IAmb	11 57 59.8	
	comp=Z,24nm,0.8s							
GIRL	**Giralia**	**25.69**	**210**	P		**P**	**11 57 56.5**	**-0.5**
KNMB	**Chin-men Tao**	**26.49**	**340**	P		**P**	**11 58 06.0**	**+1.9**
UBPT	**Khong Chiam**	**27.16**	**306**			**P**	**11 58 10.1**	**-0.2**
UBPT				IAmb		IAmb	11 58 19.5	
	comp=Z,35nm,1.4s							
JOW	**Kunigami**	**27.19**	**1**	P		**P**	**11 58 11.6**	**+1.1**
	comp=Z,21nm,0.8s,baz=127,slow=3.2,SNR=3.7							
	comp=Z,21nm,0.8s							
RPSI	**Rantau Prapat**	**29.13**	**276**	P		**P**	**11 58 27.7**	**-0.3**
RPSI				IAmb		IAmb	11 58 37.0	
	comp=Z,18nm,1.0s							
PSI	**Prapat**	**29.14**	**277**	P		**P**	**11 58 27.7**	**-0.5**
PSI				pmax		pmax		
	comp=Z,18nm,1.0s							
FORT	**Forrest**	**30.10**	**180**	P		**P**	**11 58 35.5**	**-0.8**
FORT	**Forrest**	**30.10**	**180**	P		**P**	**11 58 36.0**	**-0.3**
	comp=Z,15nm,0.8s							
WHN	**Wuhan**	**33.47**	**339**	⇓P		**P**	**11 59 08.1**	**+2.2**
WHN				pmax		pmax		
	comp=Z,78nm,0.7s							
NJ2	**Nanjing**	**33.50**	**346**	*e*P		**P**	**11 59 08.8**	**+2.6**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
JNU	**Nakatsue**	**33.58**	**5**	P		**P**	**11 59 06.5**	**-0.5**
	comp=Z,8.7nm,0.9s,baz=147,slow=7.5,SNR=4.0							
	comp=Z,8.7nm,0.9s							
NWAO	**Narrogin (SRO)**	**33.76**	**196**	P		**P**	**11 59 10.0**	**+1.5**
NWAO				IAmb		IAmb	11 59 52.5	
	comp=Z,22nm,1.2s							
NWAO	**Narrogin (SRO)**	**33.76**	**196**	P		**P**	**11 59 08.1**	**-0.4**
	comp=Z,6.0nm,0.8s,baz=14,slow=9.1,SNR=2.3							
	comp=Z,6.0nm,0.8s							
NWAO	**Narrogin (SRO)**	**33.76**	**196**	P		**P**	**11 59 10.0**	**+1.5**
NWAO				pmax		pmax		
	comp=Z,22nm,1.3s							
STKA	**Stephens Creek**	**33.77**	**159**	P		**P**	**11 59 07.9**	**-0.7**
STKA	**Stephens Creek**	**33.77**	**159**	P		**P**	**11 59 07.4**	**-1.2**
	comp=Z,80nm,2.0s							
STKA	**Stephens Creek**	**33.77**	**159**	P		**P**	**11 59 08.8**	**+0.1**
	comp=Z,6.9nm,0.7s,baz=347,slow=7.3,SNR=8.9							
	comp=Z,6.9nm,0.7s							
STKA	**Stephens Creek**	**33.77**	**159**	*e*P		**P**	**11 59 09.0**	**+0.4**
STKA				pmax		pmax		
	comp=Z,7.0nm,0.7s							
CM31	**Chiang Mai Arr**	**34.13**	**305**	P		**P**	**11 59 12.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**34.13**	**305**	P		**P**	**11 59 11.9**	**0.0**
CMAR	**Chiang Mai Arr**	**34.13**	**305**	P		**P**	**11 59 12.6**	**+0.7**
	comp=Z,2.1nm,0.9s,baz=133,slow=7.2,SNR=12							
CMAR				PcP		**PcP**	**12 01 48.1**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=124,slow=3.1,SNR=2.4							
	comp=Z,2.1nm,0.9s							
CMAR	**Chiang Mai Arr**	**34.13**	**305**	*e*P		**P**	**11 59 13.3**	**+1.4**
CMAR				pmax		pmax		
	comp=Z,3.0nm,1.0s							
CHTO	**Chiang Mai**	**34.31**	**306**	P		**P**	**11 59 13.2**	**-0.3**
CHTO	**Chiang Mai**	**34.31**	**306**	P		**P**	**11 59 13.2**	**-0.3**
CHTO				pmax		pmax		
	comp=Z,11nm,1.1s							
INU	**Inuyama**	**36.69**	**13**	P		**P**	**11 59 32.8**	**-0.8**
INU				IAmb		IAmb	11 59 35.4	
	comp=Z,28nm,0.9s							
PZH	**PanZhiHua**	**36.83**	**319**	P		**P**	**11 59 36.1**	**+0.9**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.9s							
JGF	**Kuroka**	**37.00**	**13**	P		**P**	**11 59 36.6**	**+0.2**
JGF				IAmb		IAmb	11 59 37.8	
	comp=Z,39nm,1.5s							
ARMA	**Armidale**	**37.32**	**145**	P		**P**	**11 59 38.6**	**-0.7**
ARMA				IAmb		IAmb	11 59 48.7	
	comp=Z,23nm,1.1s							
LYN	**LuoYang**	**37.76**	**339**	P		**P**	**11 59 43.8**	**+1.0**
LYN				pmax		pmax		
	comp=Z,33nm,0.8s							
KSRS	**Korea Array**	**37.78**	**0**	P		**P**	**11 59 43.5**	**+0.6**
	comp=Z,3.2nm,0.7s,baz=178,slow=10.0,SNR=25							
	comp=Z,3.2nm,0.7s							
TIA	**Tai'an**	**37.89**	**346**	P		**P**	**11 59 44.1**	**+0.2**
TIA				pmax		pmax		
	comp=Z,11nm,0.7s							
MJAR	**Matsushiro Arr**	**38.10**	**14**			**P**	**11 59 44.7**	**-0.9**
MJAR				IAmb		IAmb	11 59 47.4	
	comp=Z,22nm,0.9s							
MJAR	**Matsushiro Arr**	**38.10**	**14**	P		**P**	**11 59 45.1**	**-0.6**
	comp=Z,24nm,0.9s,baz=185,slow=9.3,SNR=52							
	comp=Z,24nm,0.9s							
MJAR	**Matsushiro Arr**	**38.10**	**14**	P		**P**	**11 59 44.7**	**-0.9**
MJAR				pmax		pmax		
	comp=Z,22nm,0.9s							
MAJO	**Matsushiro**	**38.10**	**14**	P		**P**	**11 59 44.5**	**-1.2**
MAJO				IAmb		IAmb	11 59 47.4	
	comp=Z,33nm,0.9s							
MAJO	**Matsushiro**	**38.10**	**14**	P		**P**	**11 59 44.5**	**-1.2**
MAJO				pmax		pmax		
	comp=Z,33nm,0.9s							
MJB9	**Matsu-Tunnel**	**38.10**	**14**	P		**P**	**11 59 45.8**	**+0.1**
MJB9				IAmb		IAmb	11 59 48.3	
	comp=Z,32nm,0.9s							
MJA0	**Matsu Arr-Jizo**	**38.11**	**14**	*e*P		**P**	**11 59 45.0**	**-0.8**
MJA0				pmax		pmax		
	comp=Z,27nm,0.9s							
XAN	**Xi'an**	**38.72**	**334**	P		**P**	**11 59 51.3**	**+0.4**
XAN				pmax		pmax		
	comp=Z,34nm,0.7s							
HNS	**HongShan**	**39.65**	**343**	⇑P		**P**	**11 59 58.9**	**+0.3**
HNS				pmax		pmax		
	comp=Z,12nm,0.7s							
CAN	**Canberra**	**39.82**	**153**	P		**P**	**12 00 02.5**	**+2.3**
CAN				IAmb		IAmb	12 00 16.6	
	comp=Z,49nm,1.3s							
CAN	**Canberra**	**39.82**	**153**	P		**P**	**12 00 02.5**	**+2.3**
CAN				pmax		pmax		
	comp=Z,49nm,1.3s							
JMM	**Marumori**	**40.01**	**16**	P		**P**	**12 00 00.6**	**-1.0**
JMM				IAmb		IAmb	12 00 04.5	
	comp=Z,41nm,0.7s							
BJI	**Beijing**	**41.76**	**346**	P		**P**	**12 00 15.6**	**-0.4**
BJI				pmax		pmax		
	comp=Z,5.0nm,1.2s							
LZH	**Lanzhou**	**42.74**	**331**	*e*P		**P**	**12 00 25.1**	**+0.8**
LZH				pmax		pmax		
	comp=Z,21nm,1.2s							
SHL	**Shillong**	**43.38**	**309**	P		**P**	**12 00 28.9**	**-0.7**
SHL				IAmb		IAmb	12 00 30.6	
	comp=Z,27nm,1.0s							
SHL	**Shillong**	**43.38**	**309**	P		**P**	**12 00 29.0**	**-0.7**
SHL				pmax		pmax		
	comp=Z,27nm,1.0s							
HHC	**Hu-ho-hao-te**	**43.77**	**342**	*e*P		**P**	**12 00 34.5**	**+2.0**
HHC				pmax		pmax		
	comp=Z,10.0nm,0.8s							
USRK	**Ussuriysk Ar.**	**44.67**	**4**	P		**P**	**12 00 40.0**	**+0.5**
	comp=Z,5.2nm,0.6s,baz=174,slow=7.8,SNR=7.6							
	comp=Z,5.2nm,0.6s							
MDJ	**Mudanjiang**	**44.96**	**2**	P		**P**	**12 00 42.5**	**+0.7**
MDJ				pmax		pmax		
	comp=Z,11nm,1.1s							
BNX	**BinXian**	**46.06**	**360**	⇑P		**P**	**12 00 51.0**	**+0.5**
BNX				pmax		pmax		
	comp=Z,4.0nm,0.6s							
ASAJ	**Asahikawa**	**46.34**	**15**	P		**P**	**12 00 53.3**	**+0.6**
	comp=Z,15nm,0.9s,baz=216,slow=6.7,SNR=6.0							
	comp=Z,15nm,0.9s							
GTA	**Gaotai**	**47.33**	**330**	P		**P**	**12 01 02.0**	**+1.3**
GTA				pmax		pmax		
	comp=Z,12nm,0.9s							
GOMU	**GeErMu**	**47.74**	**323**	P		P	12 01 13.8	+10
GOMU				pP		sP	12 01 19.9	+11
GOMU				sP		pP	12 01 23.0	+16
GOMU				pmax		pmax		
	comp=Z,6.0nm,0.9s							
EVN	**Everest**	**48.50**	**309**	P		**P**	**12 01 10.8**	**+0.2**
YSS	**Yuzhno-Sakhali**	**49.04**	**13**	*i* P		**P**	**12 01 13.9**	**+0.3**
YSS				pmax		pmax		
	comp=Z,15nm,0.9s							
HEH	**HeiHe**	**50.58**	**360**	*e*P		**P**	**12 01 24.4**	**-0.9**
HEH				pmax		pmax		
	comp=Z,7.0nm,1.2s							
ULN	**Ulaanbaatar**	**51.49**	**342**	P		**P**	**12 01 31.9**	**-0.5**
ULN				IAmb		IAmb	12 01 33.6	
	comp=Z,16nm,1.1s							
ULN	**Ulaanbaatar**	**51.49**	**342**	P		**P**	**12 01 31.9**	**-0.5**
ULN				pmax		pmax		
	comp=Z,16nm,1.1s							
SONM	**Songino Array**	**51.67**	**342**	P		**P**	**12 01 33.2**	**-0.5**
SONM	**Songino Array**	**51.67**	**342**	P		**P**	**12 01 33.6**	**-0.1**
	comp=Z,5.4nm,0.9s,baz=159,slow=8.3,SNR=21							
	comp=Z,5.4nm,0.9s							
SONM	**Songino Array**	**51.67**	**342**	*e*P		**P**	**12 01 33.9**	**+0.2**
SONM				pmax		pmax		
	comp=Z,6.0nm,0.9s							
HYB	**Hyderabad**	**51.73**	**293**	*e*P		**P**	**12 01 34.5**	**0.0**
TYV	**Tymovskoe**	**52.71**	**12**	*e*P		**P**	**12 01 42.7**	**+1.5**
TYV				pmax		pmax		
	comp=Z,10.0nm,0.8s							
TYV				pmax		pmax		
	comp=Z,700nm,5.9s							
ZEA	**Zeya**	**54.07**	**360**	*e*P		**P**	**12 01 51.1**	**-0.1**
ZAK	**Zakamensk**	**54.89**	**341**	*e*P		**P**	**12 01 56.3**	**-1.1**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.5s							
MOY	**Mondy**	**56.74**	**340**	*e*P		**P**	**12 02 10.1**	**-0.5**
MOY				pmax		pmax		
	comp=Z,16nm,2.3s							
WMQ	**Urumqi**	**56.86**	**326**	*e*P		**PKiKP**	**12 09 34.3**	**-0.6**
WMQ				pmax		pmax		
	comp=Z,26nm,1.1s							
WMQ	**Urumqi**	**56.86**	**326**	*e*P		**P**	**12 02 14.6**	**+3.0**
LBZ	**Lake Benmore**	**57.55**	**145**	P		**P**	**12 02 16.1**	**-0.2**
PEA0B	**Petropavlovsk-**	**58.94**	**20**	P		**P**	**12 02 26.4**	**+0.5**
PEA0B	**Petropavlovsk-**	**58.94**	**20**	P		**P**	**12 02 26.4**	**+0.5**
PEA0B				pmax		pmax		
	comp=Z,28nm,0.9s							
PETK	**Petropavlovsk-**	**58.94**	**20**	P		**P**	**12 02 26.0**	**+0.1**
PETK	**Petropavlovsk-**	**58.94**	**20**	P		**P**	**12 02 26.8**	**+0.8**
	comp=Z,1

NRIK Noril'sk 74.80 346 P P 12 04 05.9 -0.7
comp=Z,6.1nm,0.5s,baz=129,slow=6.2,SNR=12
comp=Z,6.1nm,0.5s
NRIK Noril'sk 74.80 346 *e*P P 12 04 06.4 -0.2
NRIK pmax pmax
comp=Z,6.0nm,0.5s
SPIA Saint Paul Isl 75.56 30 P P 12 04 12.0 +0.8
baz=246
AB31 Akbulak array 76.16 321 P P 12 04 12.7 -2.1
ABKAR Akbulak array 76.16 321 P P 12 04 13.3 -1.6
GAMB Gambell 77.80 23 P P 12 04 24.8 +1.1
baz=243
VNDA Vanda 79.09 173 P P 12 04 30.2 -0.5
VNDA Vanda 79.09 173 P P 12 04 29.8 -0.9
comp=Z,2.1nm,0.9s,baz=314,slow=5.1,SNR=9.4
comp=Z,2.1nm,0.9s
VNDA Vanda 79.09 173 P P 12 04 30.2 -0.5
VNDA pmax pmax
comp=Z,3.0nm,0.9s
ARTI Arti 79.21 328 *d i*P P 12 04 30.0 -1.7
ARTI 12 07 29.9
ARTI S S 12 14 30.8 -0.8
ARTI SS SS 12 19 35.6 -2.4
ARTI pmax pmax
comp=Z,4.0nm,1.0s
K13K Kusilvak Mount 80.01 26 P P 12 04 37.7 +1.8
baz=250
TNA Tin City 80.04 22 P P 12 04 36.8 +0.8
baz=246
SDPT Sand Point 80.06 33 P P 12 04 37.4 +1.1
baz=254
M13K Dall Lake 80.10 28 P P 12 04 38.1 +1.7
baz=251
MAW Mawson 80.20 201 P P 12 04 36.1 -0.7
comp=Z,2.2nm,0.8s,baz=57,slow=6.3,SNR=5.3
comp=Z,2.2nm,0.8s
CHNA Chernabura Isl 80.42 34 P P 12 04 39.5 +1.3
baz=255
F14K Arctic Creek 80.61 23 P P 12 04 40.4 +1.3
baz=248
ANM Nome 80.65 24 P P 12 04 41.3 +1.9
baz=248
L14K Kuka Creek 80.70 27 P P 12 04 40.0 +0.3
L14K IAmb IAmb 12 04 42.4
comp=Z,13nm,0.8s
L14K Kuka Creek 80.70 27 P P 12 04 41.6 +1.9
baz=252,SNR=10.0
N14K Kuskokwak Cree 80.74 29 P P 12 04 41.4 +1.5
baz=253
J14K Nanvaranak Lak 80.78 26 P P 12 04 41.2 +1.3
baz=250
S14K Fog Glacier 80.81 33 P P 12 04 41.7 +1.2
baz=255
M14K Bethel 80.86 28 P P 12 04 41.3 +0.9
M14K IAmb IAmb 12 04 44.5
comp=Z,19nm,0.9s
M14K Bethel 80.86 28 P P 12 04 42.3 +1.9
baz=252,SNR=8.5
G15K Niukluk 81.34 24 P P 12 04 44.6 +1.6
baz=250
F15K North Star Dit 81.35 23 P P 12 04 44.8 +1.7
baz=249
L15K Ungalak Mounta 81.35 27 P P 12 04 44.6 +1.4
baz=252,SNR=8.8
M15K Kasigluk River 81.44 28 P P 12 04 45.1 +1.5
baz=253,SNR=5.1
K15K Wolf Creek Mou 81.52 26 P P 12 04 45.4 +1.3
K15K IAmb IAmb 12 04 46.9
comp=Z,14nm,0.8s
K15K Wolf Creek Mou 81.52 26 P P 12 04 45.5 +1.5
baz=252,SNR=8.9
N15K Kwethluk River 81.57 29 P P 12 04 45.9 +1.5
baz=254
H16K Elim 81.95 24 P P 12 04 48.0 +1.8
baz=251
C16K Lisburne Hills 82.04 20 P P 12 04 48.2 +1.6
baz=248
G16K Koyuk River 82.14 23 P P 12 04 49.3 +2.1
baz=251,SNR=5.5
J16K Anvik River 82.22 26 P P 12 04 48.4 +0.7
J16K IAmb IAmb 12 04 50.9
comp=Z,19nm,1.1s
J16K Anvik River 82.22 26 P P 12 04 50.0 +2.3
baz=253,SNR=12
L16K Owhat River 82.28 27 P P 12 04 49.6 +1.6
baz=254,SNR=7.7
N16K Nishlik Lake 82.29 29 P P 12 04 50.1 +1.9
baz=255,SNR=7.0
P16K Nushagak River 82.31 30 P P 12 04 50.0 +1.8
baz=256
M16K Timber Creek 82.34 28 P P 12 04 49.2 +0.8
M16K IAmb IAmb 12 04 51.0
comp=Z,8.7nm,0.8s
M16K Timber Creek 82.34 28 P P 12 04 50.2 +1.9
baz=255
I17K Unalakleet 82.36 25 P P 12 04 49.4 +1.1
I17K Unalakleet 82.36 25 P P 12 04 50.7 +2.3
baz=253,SNR=13
O16K Kokwok River B 82.40 30 P P 12 04 50.3 +1.6
baz=256
D17K Noatak River 82.63 21 P P 12 04 51.9 +2.1
baz=250,SNR=19
RDOG Red Dog Mine 82.81 21 P P 12 04 52.5 +1.8
baz=250
R17L Mt. Peulik Vol 82.83 32 P P 12 04 52.5 +1.5
baz=258
CHIR Chirikof Islan 82.85 34 P P 12 04 52.9 +1.7
baz=258
G17K Kiwalik Mounta 82.85 23 P P 12 04 52.5 +1.6
baz=253,SNR=20
C17K DeLong Mountai 82.86 20 P P 12 04 52.9 +1.9
baz=250
E17K Hotham Inlet 82.89 22 P P 12 04 53.1 +2.1
baz=252,SNR=14
F17K Baldwin Pennin 82.90 22 P P 12 04 51.9 +0.7
F17K IAmb IAmb 12 04 53.9
comp=Z,14nm,0.8s
F17K Baldwin Pennin 82.90 22 P P 12 04 53.0 +1.8
baz=252
Q16K King Salmon 82.90 31 P P 12 04 52.1 +0.8
baz=257
J17K VABM Dome 82.91 26 P P 12 04 52.3 +1.0
J17K VABM Dome 82.91 26 P P 12 04 53.3 +2.0
baz=254,SNR=28
O17K Koliganek Bris 82.93 30 P P 12 04 53.2 +1.8
baz=257,SNR=5.3
L17K Donlin 82.93 27 P P 12 04 53.5 +2.1
baz=255,SNR=6.7
H17K Granite Mounta 82.99 24 P P 12 04 53.6 +1.9
baz=254,SNR=25
N17K Nushagak Hills 83.06 29 P P 12 04 53.9 +1.7
baz=256
K17K Iditarod 83.08 26 P P 12 04 53.0 +0.9
K17K Iditarod 83.08 26 P P 12 04 54.3 +2.2
baz=255,SNR=24
M17K Holitna River 83.15 28 P P 12 04 55.1 +2.5
baz=256,SNR=6.6
Q17K Contact Creek 83.21 31 P P 12 04 53.9 +0.8
baz=258
E18K Tukpahlearik C 83.44 22 P P 12 04 54.6 +0.6
E18K Tukpahlearik C 83.44 22 P P 12 04 55.8 +1.8
baz=253,SNR=20
F18K Selawik 83.56 23 P P 12 04 56.0 +1.5
baz=254
C18K Utukok River 83.61 20 P P 12 04 56.3 +1.5
baz=252
B18K Kokolik River 83.62 20 P P 12 04 56.7 +1.8
baz=251
H18K Honhosa River 83.68 24 P P 12 04 56.7 +1.5
baz=255
L18K Granite Mounta 83.69 27 P P 12 04 56.8 +1.5
baz=257,SNR=26
N18K Kilae Creek 83.72 29 P P 12 04 57.3 +1.8
baz=258
Q18K Katmai Hardscr 83.74 31 P P 12 04 56.4 +0.6
baz=259
G18K Tagagawik 83.76 23 P 12 04 56.4 +0.8
G18K IAmb IAmb 12 04 57.8
comp=Z,7.8nm,0.9s
G18K Tagagawik 83.76 23 P P 12 04 56.9 +1.2
baz=255,SNR=8.1
O18K Koktuh Hills 83.88 30 P P 12 04 57.7 +1.3
baz=258
M18K Stony River 83.92 28 P P 12 04 58.5 +2.0
baz=258,SNR=20
J18K Innoko River 83.96 26 P P 12 04 57.7 +1.0
J18K Innoko River 83.96 26 P P 12 04 58.0 +1.2
baz=257,SNR=18
A19K Wainwright 84.13 19 P P 12 04 59.0 +1.6
baz=252
GCSA Galena City Sc 84.19 25 P P 12 04 59.7 +1.9
baz=256,SNR=7.7
C19K Lookout Ridge 84.30 20 P P 12 04 60.0 +1.6
baz=253
F19K Shaleruckik Mo 84.34 23 P P 12 04 59.7 +1.2
baz=255
OHAK Old Harbor 84.38 32 P P 12 05 00.2 +1.3
baz=260
O19K Port Alsworth 84.38 29 P P 12 04 59.9 +1.0
baz=259
N19K Bonanza Creek 84.42 29 P P 12 05 00.8 +1.6
baz=259,SNR=26
G19K Purcell Mounta 84.44 23 P P 12 05 00.4 +1.3
G19K IAmb IAmb 12 05 01.6
comp=Z,13nm,1.0s
G19K Purcell Mounta 84.44 23 P P 12 05 00.8 +1.7
baz=256,SNR=15
Q19K Cape Douglas, 84.49 31 P P 12 05 00.3 +0.8
baz=260
L19K White Mountain 84.52 27 P P 12 05 01.0 +1.4
baz=258,SNR=14
H19K Roundabout Mou 84.55 24 P P 12 05 01.4 +1.7
baz=257,SNR=10.0
J19K Poorman 84.55 26 P P 12 05 01.4 +1.7
baz=258,SNR=8.8
D19K Kuna River 84.65 21 P P 12 05 01.5 +1.4
baz=255
M19K Big River Lodg 84.68 28 P P 12 05 02.1 +1.7
baz=259
E19K Redstone River 84.70 22 P P 12 05 02.2 +1.8
baz=256
KDAK Kodiak Island 84.85 32 P P 12 05 02.7 +1.4
baz=261
L20K Farewell, AK 85.02 27 P P 12 05 04.0 +1.8
baz=259,SNR=8.7
Q20K Shuyak Island 85.08 31 P P 12 05 03.5 +1.1
baz=261
K20K Telida 85.10 26 P P 12 05 03.7 +1.2
baz=259
F20K Avaraart Lake 85.18 22 P P 12 05 04.1 +1.4
baz=257
H20K Anotleneega Mo 85.18 24 P P 12 05 04.0 +1.2
baz=258
RED Redoubt Volcan 85.18 29 P P 12 05 02.6 -0.4
J20K Nowinta River 85.22 25 P P 12 05 04.5 +1.4
baz=259
D20K Etivluk River 85.23 21 P P 12 05 04.1 +1.0
baz=256
M20K Styx River 85.26 28 P P 12 05 03.9 +0.4
M20K IAmb IAmb 12 05 05.9
comp=Z,9.2nm,0.9s
M20K Styx River 85.26 28 P P 12 05 05.0 +1.6
baz=260,SNR=7.4
E20K Nigu River 85.28 21 P P 12 05 04.6 +1.3
baz=257
HOM Homer 85.62 30 P P 12 05 06.3 +1.2
baz=262
CNPM China Poot 85.81 30 P P 12 05 06.3 +0.2
A21K Barrow 85.86 18 P P 12 05 07.3 +1.2
baz=256
PPLA Purkeypile 85.86 27 P P 12 05 07.6 +1.1
baz=261
G21K Allakaket 85.93 23 P P 12 05 07.5 +1.0
baz=259
CHUM Lake Minchumin 85.97 26 P P 12 05 08.2 +1.5
baz=261
C21K Knifeblade Rid 85.98 20 P P 12 05 08.1 +1.4
baz=258
BRLK Bradley Lake 86.02 30 P P 12 05 07.2 0.0
SKT Skwentna 86.02 28 P P 12 05 06.7 -0.4
SKT Skwentna 86.02 28 P P 12 05 07.0 -0.1
baz=261,SNR=6.2
H21K Melozitna Rive 86.06 24 P P 12 05 08.1 +0.9
baz=260
F21K Alatna River 86.07 22 P P 12 05 08.0 +0.7
baz=259
E21K Killik River 86.12 21 P P 12 05 08.6 +1.1
baz=259
B21K Ikpikpuk River 86.13 20 P P 12 05 08.9 +1.4
baz=258
BPAW Bear Paw Mtn. 86.58 26 P P 12 05 10.8 +1.0
baz=262
F22K John River 86.62 22 P P 12 05 11.3 +1.4
baz=260
M22K Willow 86.65 28 P P 12 05 10.5 +0.3
M22K Willow 86.65 28 P P 12 05 11.5 +1.3
baz=263
D22K Ayikyak River 86.67 21 P P 12 05 11.2 +1.1
baz=260
H22K Ishtalitna Cre 86.68 24 P P 12 05 11.4 +1.1
baz=261
B22K Teshekpuk Lake 86.68 19 P P 12 05 11.2 +1.1
baz=259
RC01 Rabbit Creek A 86.75 29 P P 12 05 11.5 +0.8
baz=263
SEW Seward 86.78 30 P P 12 05 11.7 +0.9
baz=263
G22K Bettles 86.78 23 P P 12 05 11.6 +0.9
baz=261
TRF Thorofare Moun 86.80 26 P P 12 05 11.8 +0.7
baz=262
MLY Manley 86.81 25 P P 12 05 11.3 +0.3
baz=262,SNR=5.4
E22K Anaktuvuk Pass 86.86 22 P P 12 05 12.3 +1.1
baz=261,SNR=10.0
KIV Kislovodsk 86.89 314 *e*P P 12 05 11.4 -0.5
KIV pmax pmax
comp=Z,4.0nm,1.0s
PMR Palmer 87.10 28 P P 12 05 13.0 +0.6
baz=264
COLD Coldfoot 87.33 23 P P 12 05 13.8 +0.4
COLD IAmb IAmb 12 05 15.7
comp=Z,6.9nm,0.9s
COLD Coldfoot 87.33 23 P P 12 05 14.6 +1.2
baz=262,SNR=11
G23K Bananza Creek 87.33 23 P P 12 05 13.9 +0.5
G23K IAmb IAmb 12 05 15.3
comp=Z,7.3nm,1.0s
G23K Bananza Creek 87.33 23 P P 12 05 14.3 +0.8
baz=262,SNR=10
D23K Nanushuk River 87.40 21 P P 12 05 14.7 +1.0
baz=262,SNR=6.2
KNK Knik Glacier 87.40 29 P P 12 05 14.6 +0.7
baz=264
PWL Port Wells 87.41 29 P P 12 05 13.6 -0.3
PWL IAmb IAmb 12 05 41.2
comp=Z,17nm,1.3s
PWL Port Wells 87.41 29 P P 12 05 14.4 +0.5
baz=264
I23K Minto, Yukon-K 87.41 25 P P 12 05 14.2 +0.5
baz=263,SNR=14
H23K Yukon River 87.42 24 P P 12 05 14.6 +0.7
baz=263
MCK McKinley 87.43 26 P P 12 05 13.4 -0.6
MCK IAmb IAmb 12 05 14.4
comp=Z,4.7nm,0.8s
MCK McKinley 87.43 26 P P 12 05 13.4 -0.6
MCK pmax pmax
comp=Z,5.0nm,0.8s
MCK McKinley 87.43 26 P P 12 05 14.0 0.0
baz=264
RND Reindeer 87.43 27 P P 12 05 13.1 -0.9
RND IAmb IAmb 12 05 14.7
comp=Z,7.0nm,0.8s
RND Reindeer 87.43 27 P P 12 05 13.1 -0.9
RND pmax pmax
comp=Z,7.0nm,0.8s
NEA2 Nenana 87.47 25 P P 12 05 14.5 +0.4
baz=264
C23K Itkillik River 87.54 20 P P 12 05 15.8 +1.5
baz=262
E23K Chandalar 87.66 22 P P 12 05 14.8 -0.2
E23K IAmb IAmb 12 05 22.8
comp=Z,10nm,1.0s
E23K Chandalar 87.66 22 P P 12 05 16.2 +1.1
baz=263
TOLK Toolik Lake Re 87.75 21 P P 12 05 16.4 +1.0
baz=263
M23K Glacier View 87.79 28 P P 12 05 16.6 +0.9
baz=265
P23K Montague Islan 87.79 30 P P 12 05 16.2 +0.5
baz=265
SCM Sheep Creek Mo 87.98 28 P P 12 05 16.7 0.0
SCM IAmb IAmb 12 05 19.0
comp=Z,12nm,1.1s
SCM Sheep Creek Mo 87.98 28 P P 12 05 16.7 0.0
SCM pmax pmax
comp=Z,12nm,1.1s
SCM Sheep Creek Mo 87.98 28 P P 12 05 17.8 +1.1
baz=265
GLI Glacier Island 88.01 29 P P 12 05 17.6 +0.8
baz=265
CCB Clear Creek Bu 88.02 25 P P 12 05 15.6 -1.1
CCB IAmb IAmb 12 05 17.3
comp=Z,6.4nm,1.0s
COLA College 88.02 25 *i* P P 12 05 16.7 0.0
COLA pmax pmax
comp=Z,2.0nm,1.0s
D24K Happy Valley 88.08 21 P P 12 05 17.9 +0.9
baz=264
E24K Your Creek 88.09 22 P P 12 05 17.7 +0.6
baz=264
H24K Noodor Dome 88.10 24 P P 12 05 18.2 +1.0
baz=264
C24K Franklin Bluff 88.19 20 P P 12 05 17.9 +0.5
baz=264
F24K Squaw Lake 88.26 23 P P 12 05 19.1 +1.2
baz=264,SNR=6.3
Q23K Middleton Isla 88.28 31 P P 12 05 19.0 +1.0
baz=266
G24K Hadweenzic Riv 88.34 23 P P 12 05 18.1 -0.2
G24K Hadweenzic Riv 88.34 23 P P 12 05 19.3 +1.0
baz=265,SNR=5.9
HDA Harding Lake 88.36 26 P P 12 05 16.5 -1.9
HDA IAmb IAmb 12 05 19.0
comp=Z,5.3nm,1.0s
HDA Harding Lake 88.36 26 P P 12 05 18.3 -0.1
baz=265,SNR=5.3
ILAR Eielson Array 88.42 25 P P 12 05 17.9 -0.7
ILAR Eielson Array 88.42 25 P P 12 05 17.1 -1.6
comp=Z,3.7nm,1.1s,baz=271,slow=4.0,SNR=19
comp=Z,3.7nm,1.1s
ILAR Eielson Array 88.42 25 *e*P P 12 05 17.6 -1.0
ILAR pmax pmax
comp=Z,4.0nm,1.1s
M24K Tolsona, Glenn 88.54 28 P P 12 05 19.8 +0.4
baz=266
KLU Klutina 88.62 29 P P 12 05 19.8 +0.1
baz=266
K24K Donnelly Dome 88.83 26 P P 12 05 20.0 -0.7
K24K IAmb IAmb 12 05 22.9
comp=Z,9.6nm,0.9s
K24K Donnelly Dome 88.83 26 P P 12 05 20.6 -0.1
baz=266,SNR=6.7
G25K Bearman Lake 88.89 23 P P 12 05 21.5 +0.8
baz=266
SYO Syowa Base 88.91 201 ⇓ *e*pP pP 12 05 26.4 +2.3
PAX Paxson 88.92 27 P P 12 05 21.9 +0.7
baz=267
D25K Kavik River 88.97 21 P P 12 05 22.1 +0.9
baz=266
H25L Birch Creek 88.97 24 P P 12 05 22.4 +1.3
baz=266,SNR=9.1
J25K Salcha River, 89.06 25 P P 12 05 21.8 0.0
baz=267
F25K Christian Rive 89.12 22 P P 12 05 23.0 +1.0
baz=266
BMRM Bremner River 89.23 29 P P 12 05 23.0 +0.4
baz=268
RIDG Independent Ri 89.24 26 P P 12 05 22.9 +0.2
baz=267,SNR=7.6
N25K Chitina, Valde 89.26 29 P P 12 05 23.4 +0.6
baz=268
KAIM Kayak Island 89.28 30 P P 12 05 23.6 +0.8
baz=268
QSPA South Pole Qui 89.42 180 P P 12 05 23.0 -0.5
comp=Z,2.8nm,0.8s,baz=247,slow=1.2,SNR=12
comp=Z,2.8nm,0.8s
C26K Camden Bay 89.52 20 P P 12 05 24.6 +0.9
baz=267
BMAR Burnt Mountain 89.52 23 P P 12 05 24.1 +0.3
DOT Dot Lake 89.59 26 P P 12 05 23.5 -0.7
GLB Gilahina Butte 89.63 29 P P 12 05 24.7 +0.2
GLB IAmb IAmb 12 05 27.7
comp=Z,6.2nm,1.0s
SCRK Sand Creek 89.63 26 P P 12 05 25.3 +0.8
baz=268
F26K Sheenjek River 89.70 22 P P 12 05 25.7 +1.0
baz=268
G26K Porcupine Rive 89.81 23 P P 12 05 26.3 +1.2
baz=268
J26L Joseph Creek 89.83 26 P P 12 05 25.6 +0.2
baz=268,SNR=17
L26K Log Cabin Wild 89.89 27 P P 12 05 26.7 +1.0
baz=269
C27K Jago River 89.92 20 P P 12 05 26.5 +0.9
baz=268
I26K Coal Creek Min 90.03 25 P P 12 05 26.8 +0.7
baz=269
M26K Nabesna, AK 90.04 28 P P 12 05 27.4 +1.0
baz=269
K27K Chicken 90.48 26 P P 12 05 29.8 +1.5
baz=270
MESA MESA 90.53 30 P P 12 05 29.8 +1.0
baz=270
M27K Edge Creek, AK 90.56 28 P P 12 05 29.5 +0.6
baz=270
L27K Beaver Creek, 90.59 27 P P 12 05 29.9 +1.0
baz=270,SNR=8.8
BCAR Beaver Creek A 90.61 27 P P 12 05 29.2 +0.2
G27K Doyon Strip 90.65 23 P P 12 05 30.0 +0.8
baz=270
E27K Coleen River 90.67 22 P P 12 05 30.2 +1.0
baz=270
I27K Kandik River 90.67 25 P P 12 05 30.5 +1.2
baz=270,SNR=14
H27K Steamboat Moun 90.71 24 P P 12 05 30.8 +1.4
baz=270,SNR=6.2
CTG Chitna Glacier 90.83 29 P P 12 05 31.7 +1.5
baz=270
D27M Malcolm River 90.89 21 P P 12 05 31.1 +0.9
baz=271
TABL Table Mountain 90.93 30 P P 12 05 30.7 -0.1
TABL IAmb IAmb 12 05 32.7
comp=Z,9.0nm,0.9s
BVCY Beaver Creek 91.04 28 P P 12 05 31.8 +0.8
baz=271
OBN Obninsk 91.18 325 ⇑ *e*P P 12 05 31.5 -0.2
OBN *e* 12 09 09.7
OBN *e*S S 12 16 19.2 -11
OBN pmax pmax
comp=Z,9.0nm,0.4s
OBN MLR MLR
comp=Z,641nm,18.0s
YUK3 Moose Creek 91.24 28 P P 12 05 33.4 +1.3
baz=271
F28M Old Crow 91.33 23 P P 12 05 33.1 +0.9
baz=272
I28M Miner Creek 91.38 25 P P 12 05 33.5 +0.9
baz=272,SNR=18
PINM Pinnacle 91.38 30 P P 12 05 33.3 +0.6
baz=271
O28M Mount Upton 91.39 29 P P 12 05 33.6 +0.6
baz=271
E28M Babbage River 91.42 22 P P 12 05 33.4 +0.8
baz=272
DAWY Dawson 91.66 26 P P 12 05 34.6 +0.8
baz=272,SNR=13
H29M Whitestone 91.99 24 P P 12 05 36.2 +0.9
baz=273
E29M Blow River 92.04 22 P P 12 05 36.7 +1.2
baz=274
I29M Ogilvie Camp, 92.06 25 P P 12 05 36.5 +0.9
baz=273,SNR=6.9
G29M Pine Creek 92.08 23 P P 12 05 36.4 +0.7
baz=274,SNR=8.7
YUK4 Talbot Arm 92.12 29 P P 12 05 37.5 +1.2
baz=273
M29M Somme Creek 92.15 28 P P 12 05 37.5 +1.2
baz=273,SNR=8.2
O29M Mount Kennedy 92.20 30 P P 12 05 37.7 +1.1
baz=273
L29M L29M 92.27 27 P P 12 05 38.2 +1.5
baz=273,SNR=11
YUK6 Outpost Mounta 92.28 29 P P 12 05 37.2 +0.2
baz=273
K29M Barlow Dome 92.49 26 P P 12 05 39.0 +1.2
baz=274,SNR=11
EPYK Eagle Plains 92.64 24 P P 12 05 38.6 +0.3
baz=275,SNR=6.0
P29M Windy Craggy 92.66 30 P P 12 05 40.2 +1.7
baz=274,SNR=5.1
HYT Haines Junctio 92.70 29 P P 12 05 39.8 +1.0

	baz=274,SNR=10								
G30M	**tAoh Zraii Nji**	**92.79**	**23**	P		**P**		**12 05 39.0**	**0.0**
	baz=275								
N30M	**Aishikik Lake**	**92.86**	**29**	P		**P**		**12 05 40.9**	**+1.4**
	baz=274,SNR=8.9								
I30M	**Mount Dempster**	**92.88**	**25**	P		**P**		**12 05 39.8**	**+0.2**
	baz=275,SNR=6.4								
F30M	**Barrier River**	**92.89**	**22**	P		**P**		**12 05 39.9**	**+0.5**
	baz=276								
M30M	**Minto, Yukon**	**92.92**	**27**	P		**P**		**12 05 40.8**	**+1.1**
	baz=274,SNR=9.4								
J30M	**Hart River**	**92.96**	**25**	P		**P**		**12 05 41.0**	**+1.1**
	baz=275,SNR=8.0								
P30M	**Million Dollar**	**93.02**	**30**	P		**P**		**12 05 41.4**	**+1.1**
	baz=274								
MAYO	**Mayo, Yukon**	**93.24**	**26**	P		**P**		**12 05 42.6**	**+1.5**
	baz=275,SNR=5.1								
PLBC	**Pleasant Camp**	**93.37**	**31**	P		**P**		**12 05 42.3**	**+0.5**
	baz=275								
O30N	**Mendenhall**	**93.40**	**29**	P		**P**		**12 05 43.3**	**+1.3**
	baz=275,SNR=5.8								
N31M	**Braeburn, Yuko**	**93.48**	**29**	P		**P**		**12 05 43.8**	**+1.4**
	baz=275,SNR=7.6								
G31M	**Satah River**	**93.56**	**23**	P		**P**		**12 05 42.4**	**0.0**
	baz=277,SNR=6.4								
S31K	**Pelican**	**93.56**	**32**	P		**P**		**12 05 43.3**	**+0.7**
	baz=275								
BR131	**Keskin Array S**	**93.61**	**310**	*i* P		**P**		**12 05 42.1**	**-1.4**
BRTR	**Keskin Array B**	**93.61**	**310**	P		**P**		**12 05 42.2**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=85,slow=6.1,SNR=2.1								
	comp=Z,0.3nm,0.6s								
INK	**Inuvik**	**93.66**	**22**	P		**P**		**12 05 42.4**	**-0.5**
	baz=278,SNR=6.7								
H31M	**Peel River**	**93.66**	**24**	P		**P**		**12 05 43.5**	**+0.5**
	baz=277								
F31M	**Tsiigehtchic**	**93.69**	**22**	P		**P**		**12 05 43.0**	**0.0**
	baz=278,SNR=5.6								
SKAG	**Skagway**	**93.90**	**31**	P		**P**		**12 05 45.7**	**+1.5**
	baz=276,SNR=6.2								
WHY	**Whitehorse**	**94.00**	**29**	P		**P**		**12 05 45.9**	**+1.1**
	baz=276,SNR=7.7								
M31M	**Drury Creek, Y**	**94.07**	**28**	P		**P**		**12 05 45.9**	**+1.0**
	baz=277								
SIT	**Sitka**	**94.13**	**33**	P		**P**		**12 05 46.2**	**+1.0**
	baz=275								
R32K	**Eaglecrest**	**94.44**	**32**	P		**P**		**12 05 47.6**	**+0.9**
	baz=276								
FARO	**Faro, Yukon**	**94.55**	**28**	P		**P**		**12 05 48.1**	**+0.9**
	baz=278								
P32M	**Atlin**	**94.70**	**30**	P		**P**		**12 05 48.8**	**+0.9**
	baz=277								
ARCES	**ARCESS Array B**	**94.81**	**340**	P		**P**		**12 05 45.9**	**-2.3**
	comp=Z,2.1nm,1.0s,baz=71,slow=5.1,SNR=5.0								
	comp=Z,2.1nm,1.0s								
N32M	**Quiet Lake**	**94.82**	**29**	P		**P**		**12 05 49.7**	**+1.2**
	baz=278								
P33M	**Teslin, Yukon**	**95.07**	**30**	P		**P**		**12 05 50.5**	**+0.8**
	baz=278								
MMPY	**Sheldon Lake,**	**95.45**	**27**	P		**P**		**12 05 52.4**	**+1.1**
	baz=279								
Q32M	**Nakina River**	**95.52**	**31**	P		**P**		**12 05 52.2**	**+0.3**
	baz=278								
WRAK	**Wrangell Islan**	**95.84**	**33**	P		**P**		**12 05 53.8**	**+0.7**
	baz=278								
AKBB	**Malin Array Si**	**95.90**	**321**	*i* P		**P**		**12 05 53.8**	**+0.3**
R33M	**Jennings River**	**96.12**	**30**	P		**P**		**12 05 55.2**	**+0.7**
	baz=279								
MNK	**Minsk**	**96.24**	**325**	*i* P		**P**		**12 05 51.9**	**-3.1**
MNK				*i*				12 09 45.0	
MNK				*i* PPP		PPP		12 11 48.0	
MNK				*i* S		**SKSac**		**12 16 28.3**	**-3.4**
MNK				*i* SS		**SS**		**12 23 45.3**	**-1.1**
MNK				*i* SSS		SSS		12 27 25.1	
MNK					pmax	pmax			
	comp=N,8.0nm,0.8s								
MNK					pmax	pmax			
	comp=E,12nm,0.9s								
MNK					pmax	pmax			
	comp=Z,6.0nm,0.6s								
MNK					MLR	MLR			
	comp=N,646nm,21.0s								
MNK					MLR	MLR			
	comp=Z,1μm,19.0s								
MNK					MLR	MLR			
	comp=E,726nm,20.0s								
V35K	**Ketchikan**	**96.40**	**34**	P		**P**		**12 05 57.1**	**+1.4**
	baz=278								
DLBC	**Dease Lake**	**96.76**	**31**	P		**P**		**12 05 58.7**	**+1.3**
	baz=280								
WTLY	**Watson Lake, Y**	**97.07**	**29**	P		**P**		**12 06 00.1**	**+1.3**
	baz=281								
MBAR	**Mbarara**	**97.15**	**269**	*i* P		**P**		**12 05 59.5**	**-0.8**
TOAD	**Toad River Com**	**99.12**	**30**	P		**Pdif**		**12 06 09.1**	**+1.1**
	baz=284								
FFC	**Flin Flon**	**112.41**	**29**	*i* PKIKP		**PKiKP**		**12 11 02.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**125.26**	**286**	PKP		**PKPdf**		**12 11 26.9**	**-1.7**
	comp=E,1μm,0.3s,baz=108,slow=4.7,SNR=5.1								
CPUP	**Villa Florida**	**152.84**	**170**	PKPbc		**PKPbc**		**12 12 24.6**	**-0.1**
	comp=E,0.5nm,0.9s,baz=223,slow=4.0,SNR=3.1								

*IDC **14** 11:53:04.0±1.1,69°.14N×15°.48W,h0km,mb3.5/4, mbtmp3.5/9,ML2.6/4,MS4.0/1,Error ellipse: s-maj=24.2km s-min=18.1km az=171.0*

*NEIC **14** 11:53:06.5±2.2,69°.14N±0°.08×16°.1W±0°.3,h10km±2km, mb4.0/9,Error ellipse: s-maj=18.2km s-min=12.1km az=238.0*

ISC 14 11:53:05.1±0.6,69°.14N±0°.06×15°.70W±0°.06,h10km,n29, σ1s57/30,mb3.8/9,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.55**	**305**		**Pn**	**11 53 45.6**	**-0.9**
SCO	**Scoresbysund**	**2.55**	**305**	*i* P	**Pn**	**11 53 44.0**	**-2.5**
JMIC	**Jan Mayen**	**3.08**	**50**	Pn	**Pn**	**11 53 53.1**	**-0.7**
	1.4nm,0.3s,baz=317,slow=23,SNR=16						
JMIC				Sn	**Sn**	**11 54 29.1**	**-1.6**
	2.5nm,0.3s,baz=260,slow=11,SNR=1.8						
JMIC				LR	LR	11 54 47.5	
	comp=Z,3μm,20.0s,baz=144,slow=34						
	17nm,0.5s						
BORG	**Borgarnes**	**4.93**	**209**		**Pn**	**11 54 19.3**	**+0.2**
BORG	**Borgarnes**	**4.93**	**209**	Pn	**Pn**	**11 54 19.5**	**+0.4**
	41nm,0.6s,baz=14,slow=6.3,SNR=47						
BORG				Sn	**Sn**	**11 55 17.2**	**+1.0**
	baz=348,slow=14						
SUMG	**Summit**	**8.20**	**305**	Pn	**Pn**	**11 55 02.7**	**-1.5**
SPB2	**Spitsbergen Ar**	**12.53**	**30**	Pn	**Pn**	**11 56 06.0**	**+2.9**
SPITS	**Spitsbergen Ar**	**12.53**	**30**	Pn	**Pn**	**11 56 06.3**	**+3.2**
	baz=223,slow=16						
NOA	**NORSAR Array B**	**13.82**	**113**	Pn	**Pn**	**11 56 19.6**	**-1.2**
	baz=309,slow=9.2,SNR=1.4						
	0.3nm,0.8s						
ARCES	**ARCESS Array B**	**14.36**	**69**	Pn	**Pn**	**11 56 27.6**	**-0.5**
	baz=292,slow=9.5,SNR=1.1						
	0.8nm,0.9s						
NRS	**Narsarsuaq**	**14.67**	**252**	Pn	**Pn**	**11 56 29.0**	**-3.4**
HFS	**Hagfors**	**15.32**	**112**	Pn	**Pn**	**11 56 42.5**	**+1.4**
	0.1nm,0.3s,baz=329,slow=7.6,SNR=4.5						
FINES	**FINESS Array B**	**18.71**	**94**	P	**P**	**11 57 22.5**	**-0.8**
	0.1nm,0.3s,baz=303,slow=10,SNR=9.1						
	0.9nm,0.7s						
CLL	**Collm**	**22.48**	**128**	*i* Px	Px	11 58 10.4	
	comp=Z,9.0nm,1.5s						
CLL				*ex*	x	11 58 19.0	
GERES	**GERESS Array B**	**24.90**	**130**	P	**P**	**11 58 27.8**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=339,slow=10,SNR=5.9						
	comp=Z,0.6nm,0.7s						
AKBB	**Malin Array Si**	**28.14**	**108**	P	**P**	**11 58 57.1**	**+0.2**
AKBB				IAmb	IAmb	11 59 25.5	
	comp=Z,1.9nm,0.6s						
KIEV	**Kiev**	**28.14**	**108**	P	**P**	**11 58 56.9**	**0.0**
KIEV				IAmb	IAmb	11 59 25.5	
	comp=Z,1.7nm,0.5s						
YKA	**Yellowknife Ar**	**36.76**	**310**	P	**P**	**12 00 13.5**	**+1.4**
	comp=Z,0.8nm,0.9s,baz=34,slow=8.4,SNR=5.4						
	comp=Z,0.8nm,0.9s						
G31M	**Satah River**	**37.77**	**326**	P	**P**	**12 00 21.6**	**+1.1**
G31M				IAmb	IAmb	12 00 22.2	
	comp=Z,1.5nm,0.8s						
C24K	**Franklin Bluff**	**37.82**	**335**	P	**P**	**12 00 22.4**	**+1.3**
E23K	**Chandalar**	**39.48**	**335**	P	**P**	**12 00 36.8**	**+1.7**
I30M	**Mount Dempster**	**39.67**	**325**	P	**P**	**12 00 37.4**	**+0.6**
IMAR	**Indian Mountai**	**42.02**	**336**	P	**P**	**12 00 57.1**	**+1.2**
BCAR	**Beaver Creek A**	**42.68**	**327**	P	**P**	**12 01 02.8**	**+1.4**
L27K	**Beaver Creek,**	**42.69**	**327**	P	**P**	**12 01 02.9**	**+1.5**
L27K				IAmb	IAmb	12 01 06.3	
	comp=Z,3.4nm,1.1s						
I17K	**Unalakleet**	**44.97**	**339**	P	**P**	**12 01 21.1**	**+1.4**
J17K	**VABM Dome**	**45.23**	**338**	P	**P**	**12 01 21.9**	**+0.1**
J17K				IAmb	IAmb	12 01 22.3	
	comp=Z,1.4nm,1.1s						
KURBB	**Kurchatov Arra**	**45.34**	**63**	P	**P**	**12 01 21.4**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=330,slow=6.9,SNR=1.7						
	comp=Z,0.4nm,0.6s						
PDAR	**Pinedale Array**	**52.13**	**291**	P	**P**	**12 02 16.1**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=14,slow=5.4,SNR=5.3						
	comp=Z,0.2nm,0.4s						

*INMG **14** 11:58:10.0±5.5,53°.35N×37°.84W,h10km,M4.3,mb4.6, #DIST_RANGE: DISTANT*

*IDC **14** 11:58:15.1±0.5,54°.11N×35°.14W,h0km,mb3.9/27, mbtmp3.9/29,ML3.1/2,Error ellipse: s-maj=15.8km s-min=10.4km az=173.0*

*NEIC **14** 11:58:17.9±1.3,54°.4N±0°.1×35°.2W±0°.1,h10km±1km, mb4.5/42,Error ellipse: s-maj=19.8km s-min=13.3km az=190.0*

ISC 14 11:58:17.7±0.4,54°.19N±0°.07×35°.20W±0°.05,h14km,n270, σ1s15/274,mb4.4/64,1D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**8.87**	**326**	Pn	**Pn**	**12 00 22.9**	**-2.3**
BORG	**Borgarnes**	**12.68**	**28**	Pn	**Pn**	**12 01 21.7**	**+4.5**
	0.2nm,0.3s,baz=143,slow=20,SNR=1.5						
DRLN	**Deer Lake**	**14.66**	**259**	Pn	**Pn**	**12 01 47.0**	**+2.6**
DSB	**Dublin**	**17.04**	**81**	Pn	**Pn**	**12 02 15.6**	**+0.4**
SCHQ	**Schefferville**	**18.30**	**285**	P	**Pn**	**12 02 30.7**	**-0.2**
	0.2nm,0.3s,baz=68,slow=10,SNR=4.7						
	4.2nm,0.9s						
EKA	**Eskdalemuir Ar**	**18.44**	**73**	P	**P**	**12 02 32.0**	**-0.4**
	baz=277,slow=10.0						
	3.0nm,0.9s						
SUMG	**Summit**	**18.51**	**357**	P	**P**	**12 02 32.0**	**-1.5**
SUMG	**Summit**	**18.51**	**357**	*i* P	**P**	**12 02 32.0**	**-1.5**
POLO	**Lamas de Olo**	**22.27**	**114**	*eP*	**P**	**12 03 19.5**	**+5.4**
POLO				*i* IAmb	IAmb	12 04 28.7	
	11nm,1.7s						
D62A	**Allapoint, All**	**22.45**	**265**		**P**	**12 03 17.0**	**+1.0**
D62A				IAmb	IAmb	12 03 22.3	
	comp=Z,24nm,1.3s						
PVIS	**Viseu**	**22.68**	**115**	*eP*	**P**	**12 03 23.5**	**+4.9**
MVO	**Moncorvo**	**22.82**	**113**	*eP*	**P**	**12 03 21.7**	**+1.6**
MVO				*i* IAmb	IAmb	12 03 25.7	
	comp=Z,22nm,1.5s						
EMMW	**East Machias**	**22.84**	**259**	P	**P**	**12 03 20.9**	**+0.8**
PCAS	**Casmilo, Conde**	**22.84**	**117**	*eP*	**P**	**12 03 24.4**	**+4.2**
PSARD	**Sardoal**	**23.35**	**118**	*eP*	**P**	**12 03 26.1**	**+0.7**
PSARD				*i* IAmb	IAmb	12 03 31.7	
	comp=Z,38nm,1.6s						
PARRA	**Arraiolos**	**23.48**	**120**	*eP*	P	12 03 34.8	+8.0
PARRA				*i* IAmb	IAmb	12 03 36.8	
	comp=Z,20nm,1.8s						
PCBR	**Castelo Branco**	**23.53**	**116**	*eP*	**P**	**12 03 27.7**	**+0.5**
PCBR				*i* IAmb	IAmb	12 03 34.4	
	comp=Z,39nm,1.6s						
PMTG	**Montargil**	**23.71**	**119**	*eP*	**P**	**12 03 34.0**	**+5.1**
PMTG				*i* IAmb	IAmb	12 03 39.1	
	comp=Z,19nm,1.3s						
PMRV	**Marv??o**	**23.88**	**117**	*eP*	**P**	**12 03 31.8**	**+1.3**
PMRV				*i* IAmb	IAmb	12 03 55.9	
	comp=Z,20nm,1.6s						
PESTR	**Estremoz**	**24.19**	**118**	P	**P**	**12 03 33.4**	**-0.1**
PESTR				IAmb	IAmb	12 03 34.1	
	comp=Z,11nm,1.1s						
PESTR	**Estremoz**	**24.19**	**118**	*eP*	**P**	**12 03 33.4**	**-0.1**
PESTR				*i* IAmb	IAmb	12 03 39.1	
	comp=Z,23nm,1.8s						
KONO	**Kongsberg**	**24.66**	**59**	P	**P**	**12 03 37.5**	**-0.1**
KONO				IAmb	IAmb	12 03 53.0	
	comp=Z,12nm,1.0s						
PBAR	**Barrancos**	**24.99**	**118**	*eP*	**P**	**12 03 41.8**	**+1.1**
PBAR				*i* IAmb	IAmb	12 03 47.4	
	comp=Z,28nm,1.7s						
MEM	**Membach**	**25.13**	**81**	*dP*	**P**	**12 03 43.1**	**+1.2**
	comp=Z,5.7nm,1.2s						
PVAQ	**Vaqueiros**	**25.23**	**120**	P	**P**	**12 03 44.9**	**+2.0**
NB2	**NORAR Subarra**	**25.31**	**56**	P	**P**	**12 03 43.2**	**-0.3**
	comp=Z,6.9nm,1.2s,baz=276,slow=10						
NOA	**NORSAR Array B**	**25.31**	**56**	P	**P**	**12 03 43.0**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=277,slow=9.9,SNR=4.0						
	comp=Z,1.5nm,0.9s						
PAB	**San Pablo**	**25.42**	**113**	P	**P**	**12 03 44.9**	**+0.2**
PAB				IAmb	IAmb	12 03 51.0	
	comp=Z,7.8nm,1.1s						
ESBB	**Sonseca Array**	**25.54**	**112**		**P**	**12 03 46.3**	**+0.6**
ESBB				IAmb	IAmb	12 03 51.5	
	comp=Z,14nm,1.3s						
ESDC	**Sonseca Array**	**25.54**	**112**		**P**	**12 03 47.3**	**+1.6**
ESDC	**Sonseca Array**	**25.54**	**112**	P	**P**	**12 03 45.1**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=315,slow=8.9,SNR=19						
	comp=Z,2.4nm,0.8s						
TRQ	**Mont Tremblant**	**26.13**	**269**	P	**P**	**12 03 51.3**	**+0.2**
TRQ				IAmb	IAmb	12 03 56.5	
	comp=Z,18nm,1.2s						
CEST	**Esterri de Car**	**26.53**	**101**		**P**	**12 03 57.0**	**+2.2**
HFS	**Hagfors**	**26.64**	**57**	P	**P**	**12 03 55.5**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=248,slow=15,SNR=3.8						
	comp=Z,1.1nm,0.8s						
GRFO	**Grafenberg**	**28.55**	**80**	P	**P**	**12 04 13.2**	**+0.5**
GRFO				IAmb	IAmb	12 04 23.5	
	comp=Z,15nm,1.5s						
GRA1	**Grafenberg Arr**	**28.55**	**80**	P	**P**	**12 04 12.8**	**+0.1**
GRA1				IAmb	IAmb	12 04 23.6	
	comp=Z,15nm,1.5s						
CLL	**Collm**	**28.87**	**76**	P	**P**	**12 04 15.3**	**-0.2**
CLL	**Collm**	**28.87**	**76**	*i* P	**P**	**12 04 15.2**	**-0.2**
	comp=Z,5.0nm,1.0s						
CLL				*i* x	x	12 04 20.1	
	comp=Z,9.0nm,1.3s						
BRG	**Berggiesshubel**	**29.59**	**76**	*eP*	**P**	**12 04 26.4**	**+4.5**
BRG				Amp		12 04 27.3	
	comp=Z,4.0nm,1.2s						
GERES	**GERESS Array B**	**30.39**	**80**	P	**P**	**12 04 28.9**	**-0.1**
GERES	**GERESS Array B**	**30.39**	**80**	P	**P**	**12 04 29.3**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=295,slow=4.1,SNR=5.0						
	comp=Z,0.1nm,0.4s						
ARCES	**ARCESS Array B**	**30.84**	**37**	P	**P**	**12 04 32.0**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=252,slow=6.3,SNR=5.4						
	comp=Z,0.6nm,0.6s						
VRAC	**Vranov**	**31.83**	**77**	*eP*	**P**	**12 04 40.4**	**-1.3**
MORC	**Moravsky Berou**	**32.14**	**76**	P	**P**	**12 04 44.9**	**+0.4**
MORC	**Moravsky Berou**	**32.14**	**76**	*eP*	P	12 04 35.0	-9.5
FINES	**FINESS Array B**	**32.30**	**52**	P	**P**	**12 04 43.9**	**-1.7**
FINES	**FINESS Array B**	**32.30**	**52**	P	**P**	**12 04 45.3**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=286,slow=7.5,SNR=7.1						
	comp=Z,1.9nm,0.8s						
OJC	**Ojcow**	**33.21**	**74**	P	**P**	**12 04 53.2**	**-0.5**
LANS	**Liptovska Anna**	**33.55**	**76**	*eP*	P	12 05 01.9	+5.2
PSZ	**Piszkesteto**	**34.42**	**77**	P	**P**	**12 05 04.2**	**-0.2**
PSZ				IAmb	IAmb	12 05 21.1	
	comp=Z,4.4nm,0.9s						
COWI	**Conover**	**34.73**	**279**	P	**P**	**12 05 07.5**	**+0.5**
COWI				IAmb	IAmb	12 05 12.4	
	comp=Z,9.8nm,1.2s						
EYMN	**Ely**	**35.10**	**283**		**P**	**12 05 10.0**	**-0.2**
MNK	**Minsk**	**35.67**	**63**	*i* P	**P**	**12 05 13.9**	**-1.0**
	comp=E,8.0nm,0.7s						
MNK				*i* P	**P**	**12 05 13.9**	**-1.0**
	comp=N,14nm,0.9s						
MNK				*i* P	**P**	**12 05 13.9**	**-1.0**
	comp=Z,9.0nm,0.8s,baz=296						
MNK				*i* PP	**PnPn**	**12 06 32.8**	**-1.5**
MNK				*i* PPP	PPP	12 06 46.0	
MNK				*i* S	**S**	**12 10 50.0**	**-0.6**
MNK				*i* SS	**SnSn**	**12 13 11.0**	**-0.8**
MNK				*i* SSS	SSS	12 13 27.2	
MNK				*i* LQ	LQ	12 17 04.6	
MNK				*i* LR	LR	12 19 55.6	
MNK				*i* LRM	MLR	12 20 54.9	
MNK							
	comp=E,1μm,17.1s						
MNK				*i* LRM	MLR	12 21 06.5	
	comp=Z,1μm,16.5s						
MNK				*i* LRM	MLR	12 21 16.0	
	comp=N,807nm,18.3s						
TZTN	**Tazewell**	**37.42**	**262**	P	**P**	**12 05 30.8**	**+0.7**
BUR08	**Bucovina Ar. S**	**37.59**	**75**	P	**P**	**12 05 31.6**	**+0.1**
BUR08				IAmb	IAmb	12 05 38.1	
	comp=Z,8.9nm,1.2s						
V53A	**Saluda**	**37.60**	**260**	P	**P**	**12 05 32.3**	**+0.5**
V53A				IAmb	IAmb	12 05 33.9	
	comp=Z,8.5nm,1.2s						
BURAR	**Bucovina Array**	**37.62**	**75**		**P**	**12 05 32.5**	**+0.8**
KIEV	**Kiev**	**38.20**	**68**	P	**P**	**12 05 35.6**	**-0.9**
AKASG	**Malin Array Be**	**38.20**	**68**	P	**P**	**12 05 35.5**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=301,slow=8.6,SNR=9.0						
	comp=Z,1.2nm,0.6s						
AKBB	**Malin Array Si**	**38.20**	**68**	P	**P**	**12 05 35.2**	**-1.3**
A36M	**Sachs Harbour**	**39.75**	**331**	P	**P**	**12 05 49.9**	**+0.7**
	baz=67						
V48A	**Smith Brothers**	**39.89**	**264**	P	**P**	**12 05 51.7**	**+0.9**
V48A				IAmb	IAmb	12 05 56.7	
	comp=Z,19nm,1.4s						
YKA	**Yellowknife Ar**	**39.94**	**315**	P	**P**	**12 05 50.4**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=61,slow=8.9,SNR=4.7						
YKA				PcP	**PcP**	**12 07 55.5**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=56,slow=3.7,SNR=5.3						
	comp=Z,0.7nm,0.7s						
S44A	**Carbondale**	**39.98**	**268**	P	**P**	**12 05 51.7**	**+0.2**
S44A				IAmb	IAmb	12 05 57.2	
	comp=Z,18nm,1.1s						
WVT	**Waverly**	**40.21**	**265**		**P**	**12 05 54.4**	**+0.9**
WVT				IAmb	IAmb	12 05 58.9	
	comp=Z,15nm,1.4s						
ECSD	**EROS Data Cent**	**40.43**	**281**		**P**	**12 05 55.6**	**+0.3**
ECSD				IAmb	IAmb	12 05 57.7	
	comp=Z,9.8nm,1.1s						
PBMO	**Poplar Bluff**	**41.29**	**268**	P	**P**	**12 06 02.8**	**+0.4**
PBMO				IAmb	IAmb	12 06 04.2	
	comp=Z,24nm,1.5s						
Z47A	**Carrollton**	**42.41**	**262**	P	**P**	**12 06 11.6**	**0.0**
Z47A				IAmb	IAmb	12 06 13.4	
	comp=Z,12nm,0.9s						
TAM	**Tamanrasset**	**43.72**	**119**	P	**P**	**12 06 23.2**	**+0.7**
INK	**Inuvik**	**43.99**	**328**	P	**P**	**12 06 23.9**	**0.0**
	baz=57						
F31M	**Tsiigehtchic**	**44.54**	**327**	P	**P**	**12 06 28.6**	**+0.3**
	baz=56,SNR=9.5						
G31M	**Satah River**	**45.00**	**327**	P	**P**	**12 06 32.0**	**0.0**
	baz=55,SNR=6.3						
F30M	**Barrier River**	**45.09**	**328**	P	**P**	**12 06 33.0**	**+0.2**
	baz=54						
E29M	**Blow River**	**45.28**	**329**	P	**P**	**12 06 34.3**	**+0.1**
	baz=54						
G30M	**tAoh Zraii Nji**	**45.60**	**327**	P	**P**	**12 06 36.3**	**-0.5**
	baz=54						
E28M	**Babbage River**	**45.63**	**330**	P	**P**	**12 06 36.8**	**-0.3**
	baz=53						
D27M	**Malcolm River**	**45.65**	**331**	P	**P**	**12 06 36.9**	**-0.3**
	baz=52						
H31M	**Peel River**	**45.68**	**325**	P	**P**	**12 06 37.8**	**+0.4**
	baz=54						
EPYK	**Eagle Plains**	**46.12**	**327**	P	**P**	**12 06 40.5**	**-0.5**
	baz=53						
C27K	**Jago River**	**46.17**	**333**	P	**P**	**12 06 41.2**	**-0.1**
	baz=50						
G29M	**Pine Creek**	**46.20**	**328**	P	**P**	**12 06 41.7**	**+0.1**
	baz=52						
TOAD	**Toad River Com**	**46.29**	**314**	P	**P**	**12 06 42.4**	**0.0**
	baz=54						
C26K	**Camden Bay**	**46.30**	**333**	P	**P**	**12 06 42.3**	**+0.1**
	baz=50						
F28M	**Old Crow**	**46.34**	**329**	P	**P**	**12 06 42.0**	**-0.6**
	baz=52						
MMPY	**Sheldon Lake,**	**46.47**	**321**	P	**P**	**12 06 43.9**	**+0.2**
	baz=54						
E27K	**Coleen River**	**46.49**	**330**	P	**P**	**12 06 43.7**	**-0.1**
	baz=51						
I30M	**Mount Dempster**	**46.71**	**325**	P	**P**	**12 06 45.7**	**0.0**
	baz=52						
H29M	**Whitestone**	**46.74**	**327**		**P**	**12 06 45.6**	**-0.2**
H29M	**Whitestone**	**46.74**	**327**	P	**P**	**12 06 46.0**	**+0.2**
	baz=52,SNR=5.9						
WTLY	**Watson Lake, Y**	**47.01**	**317**	P	**P**	**12 06 48.3**	**+0.3**
	baz=53						
D25K	**Kavik River**	**47.08**	**333**	P	**P**	**12 06 48.8**	**+0.3**
	baz=48						
J30M	**Hart River**	**47.09**	**325**	P	**P**	**12 06 49.1**	**+0.5**
	baz=52,SNR=5.8						
BR131	**Keskin Array S**	**47.26**	**78**	P	**P**	**12 06 50.5**	**+0.2**
BR131				IAmb	IAmb	12 07 00.7	
	comp=Z,5.3nm,0.9s						
BRTR	**Keskin Array B**	**47.26**	**78**		**P**	**12 06 50.7**	**+0.4**
BRTR	**Keskin Array B**	**47.26**	**78**	P	**P**	**12 06 50.9**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=308,slow=6.0,SNR=13						
	comp=Z,2.9nm,0.9s						
G27K	**Doyon Strip**	**47.39**	**329**	P	**P**	**12 06 51.0**	**+0.2**
	baz=50						
C24K	**Franklin Bluff**	**47.42**	**334**	P	**P**	**12 06 51.3**	**+0.3**
	baz=47						
FARO	**Faro, Yukon**	**47.48**	**321**	P	**P**	**12 06 52.0**	**+0.4**
	baz=52						
F26K	**Sheenjek River**	**47.55**	**331**	P	**P**	**12 06 52.3**	**+0.3**
	baz=49						
MAYO	**Mayo, Yukon**	**47.55**	**323**	P	**P**	**12 06 52.7**	**+0.6**
	baz=51						
H27K	**Steamboat Moun**	**47.73**	**328**	P	**P**	**12 06 54.2**	**+0.7**
	baz=50						
I28M	**Miner Creek**	**47.73**	**327**	P	**P**	**12 06 53.7**	**+0.1**
	baz=50

baz=50
C21K **Knifeblade Rid** 49.33 336 P P 12 07 06.5 +0.8
baz=42
E22K **Anaktuvuk Pass** 49.34 334 P P 12 07 07.0 +1.1
baz=44
N30M **Aishikik Lake** 49.34 322 P P 12 07 06.8 +0.8
baz=49
K27K **Chicken** 49.36 326 P P 12 07 06.9 +0.9
baz=48
O30N **Mendenhall** 49.43 321 P P 12 07 07.9 +1.3
baz=49,SNR=6.5
J26L **Joseph Creek** 49.52 327 P P 12 07 08.2 +0.9
baz=47
T35M **Bob Quinn** 49.55 314 P P 12 07 08.9 +1.3
baz=50
COLD **Coldfoot** 49.56 332 P P 12 07 08.3 +0.7
baz=44
E21K **Killik River** 49.66 335 P P 12 07 09.0 +0.7
baz=42
KBZ **Khabaz** 49.82 68 P P 12 07 10.2 +0.5
comp=Z,1.7nm,0.7s,baz=319,slow=8.8,SNR=2.3
comp=Z,1.7nm,0.7s
G23K **Bananza Creek** 49.89 332 P P 12 07 11.0 +0.9
baz=44,SNR=5.3
H24K **Noodor Dome** 49.90 330 P P 12 07 10.9 +0.7
baz=45
HYT **Haines Junctio** 49.91 321 P P 12 07 11.3 +0.9
baz=48
L27K **Beaver Creek,** 49.93 325 P P 12 07 11.4 +1.0
baz=47
NRIK **Noril'sk** 49.94 23 P P 12 07 11.2 +0.8
comp=Z,0.9nm,0.3s,baz=329,slow=5.1,SNR=4.0
comp=Z,0.9nm,0.3s
A19K **Wainwright** 49.95 339 P P 12 07 10.9 +0.5
baz=38
SKAG **Skagway** 49.99 319 P P 12 07 12.0 +1.1
baz=49
J25K **Salcha River,** 50.01 328 P P 12 07 11.8 +0.8
baz=46
SCRK **Sand Creek** 50.01 327 P P 12 07 12.4 +1.3
baz=46,SNR=7.0
BVCY **Beaver Creek** 50.04 324 P P 12 07 12.4 +1.2
baz=47
D20K **Etivluk River** 50.10 336 P P 12 07 12.2 +0.5
baz=41
G22K **Bettles** 50.14 333 P P 12 07 13.1 +1.2
baz=43
YUK6 **Outpost Mounta** 50.15 322 P P 12 07 13.5 +1.2
baz=48
TORD **Torodi Ar. Bea** 50.16 130 P P 12 07 11.2 -1.4
comp=Z,3.9nm,0.5s,baz=337,slow=9.0,SNR=2.3
P30M **Million Dollar** 50.18 320 P P 12 07 13.1 +0.7
baz=48
YUK3 **Moose Creek** 50.34 323 P P 12 07 14.8 +1.1
baz=47
E20K **Nigu River** 50.35 335 P P 12 07 14.6 +1.1
baz=41
ILAR **Eielson Array** 50.36 329 P P 12 07 13.3 -0.3
ILAR **Eielson Array** 50.36 329 P P 12 07 14.3 +0.7
comp=Z,1.1nm,0.9s,baz=41,slow=4.9,SNR=9.6
ILAR PcP PcP 12 08 31.3 -0.7
comp=Z,0.9nm,1.0s,baz=7.1,slow=2.9,SNR=4.6
comp=Z,1.1nm,0.9s
H23K **Yukon River** 50.39 331 P P 12 07 15.0 +1.2
baz=44
PLBC **Pleasant Camp** 50.40 319 P P 12 07 15.5 +1.6
baz=48
M27K **Edge Creek, AK** 50.43 325 P P 12 07 15.1 +0.8
baz=47
F21K **Alatna River** 50.45 334 P P 12 07 15.2 +0.9
baz=42
RIDG **Independent Ri** 50.45 327 P P 12 07 15.5 +1.1
baz=46
R32K **Eaglecrest** 50.46 317 P P 12 07 15.6 +1.1
baz=48
L26K **Log Cabin Wild** 50.46 326 P P 12 07 15.6 +1.1
baz=46
C19K **Lookout Ridge** 50.49 337 P P 12 07 15.6 +0.9
baz=39
D19K **Kuna River** 50.63 336 P P 12 07 16.4 +0.7
baz=40
HDA **Harding Lake** 50.64 329 P P 12 07 16.6 +0.9
baz=45
O29M **Mount Kennedy** 50.66 321 P P 12 07 16.9 +0.9
baz=47
K24K **Donnelly Dome** 50.70 328 P P 12 07 16.9 +0.6
K24K **Donnelly Dome** 50.70 328 P P 12 07 17.0 +0.7
baz=45
CCB **Clear Creek Bu** 50.73 329 P P 12 07 16.2 -0.1
B18K **Kokolik River** 50.78 338 P P 12 07 17.6 +0.9
baz=37
M26K **Nabesna, AK** 50.78 325 P P 12 07 18.3 +1.4
baz=46
P29M **Windy Craggy** 50.80 320 P P 12 07 18.3 +1.2
baz=48
I23K **Minto, Yukon-K** 50.83 330 P P 12 07 18.4 +1.3
baz=44,SNR=5.3
H22K **Ishtalitna Cre** 50.86 332 P P 12 07 18.4 +1.0
baz=43
G21K **Allakaket** 50.98 333 P P 12 07 19.0 +0.7
baz=42
S32K **Killisnoo** 51.02 317 P P 12 07 19.7 +1.1
baz=48
GAZ **Gaziantep** 51.05 78 P P 12 07 19.9 +0.6
NEA2 **Nenana** 51.15 330 P P 12 07 20.6 +1.1
baz=44
F20K **Avaraart Lake** 51.15 334 P P 12 07 20.8 +1.3
baz=40
PAX **Paxson** 51.19 327 P P 12 07 20.9 +0.9
baz=45
E19K **Redstone River** 51.22 335 P P 12 07 21.2 +1.1
baz=40
MLY **Manley** 51.31 331 P P 12 07 21.9 +1.0
baz=43
U33K **Whale Pass** 51.33 315 P P 12 07 22.4 +1.5
baz=48
S31K **Pelican** 51.35 318 P P 12 07 22.5 +1.4
baz=47
PNL **Peninsula** 51.39 321 P P 12 07 22.6 +1.1
baz=47
H21K **Melozitna Rive** 51.43 332 P P 12 07 22.5 +0.8
baz=42
CRAG **Craig** 51.76 314 P P 12 07 25.1 +0.9
baz=48
F19K **Shaleruckik Mo** 51.84 335 P P 12 07 25.0 +0.4
baz=39
N25K **Chitina, Valde** 51.88 325 P P 12 07 26.0 +0.8
baz=45
ANMO **Albuquerque** 51.94 279 P P 12 07 27.5 +1.4
comp=Z,2.2nm,1.0s,baz=20,slow=12,SNR=5.1
comp=Z,2.2nm,1.0s
CRQE **Cirque** 51.97 324 P P 12 07 27.3 +1.4
baz=45
E18K **Tukpahlearik C** 52.06 336 P P 12 07 27.3 +1.0
baz=37
BPAW **Bear Paw Mtn.** 52.08 330 P P 12 07 27.5 +1.0
baz=42
H20K **Anotleneega Mo** 52.12 333 P P 12 07 27.8 +0.9
baz=40,SNR=8.0
G19K **Purcell Mounta** 52.20 334 P P 12 07 27.6 +0.2
baz=39
BMRM **Bremner River** 52.33 324 P P 12 07 29.5 +1.0
baz=44
TRF **Thorofare Moun** 52.35 329 P P 12 07 29.2 +0.5
baz=42
D17K **Noatak River** 52.40 338 P P 12 07 28.9 +0.1
baz=36
KLU **Klutina** 52.40 326 P P 12 07 30.2 +1.2
baz=44
C16K **Lisburne Hills** 52.42 339 P P 12 07 29.7 +0.8
baz=34
H19K **Roundabout Mou** 52.51 333 P P 12 07 30.5 +0.9
baz=39
I20K **Naaghedeneel** 52.55 332 P P 12 07 30.9 +1.0
baz=40
E17K **Hotham Inlet** 52.62 337 P P 12 07 31.2 +0.8
baz=36
SCM **Sheep Creek Mo** 52.62 326 P P 12 07 31.5 +0.8
baz=43
G18K **Tagagawik** 52.80 335 P P 12 07 32.7 +0.9
baz=38
ELK **Elko** 52.90 290 P 12 07 32.7 -0.5
ELK **Elko** 52.90 290 P P 12 07 32.0 -1.2
comp=Z,0.4nm,0.8s,baz=68,slow=7.6,SNR=4.2
comp=Z,0.4nm,0.8s
J20K **Nowinta River** 52.93 331 P P 12 07 33.8 +1.0
baz=40
GLI **Glacier Island** 53.24 325 P P 12 07 35.8 +0.7
baz=43
GCSA **Galena City Sc** 53.24 333 P P 12 07 35.8 +0.8
baz=38
DBIC **Dimbokro** 53.33 141 P P 12 07 34.4 -1.9
comp=Z,3.9nm,0.8s,baz=355,slow=6.3,SNR=5.6
comp=Z,3.9nm,0.8s
PPLA **Purkeypile** 53.34 329 P P 12 07 36.5 +0.5
baz=41
J19K **Poorman** 53.48 332 P P 12 07 37.5 +0.6
baz=39
K20K **Telida** 53.54 331 P P 12 07 37.4 0.0
baz=40
M22K **Willow** 53.57 328 P P 12 07 37.8 +0.3
baz=41
G17K **Kiwalik Mounta** 53.61 335 P P 12 07 37.7 -0.1
baz=36
SKT **Skwentna** 53.84 328 P P 12 07 40.1 +0.5
baz=40
H17K **Granite Mounta** 53.88 334 P P 12 07 40.2 +0.5
baz=37
G16K **Koyuk River** 54.12 336 P P 12 07 41.8 +0.4
baz=35
L20K **Farewell, AK** 54.16 330 P P 12 07 42.2 +0.3
baz=39
J18K **Innoko River** 54.20 332 P P 12 07 43.1 +0.9
baz=38
TX31 **Lajitas Ar. Si** 54.36 272 P P 12 07 44.6 +0.7
TX31 IAmb IAmb 12 07 49.6
comp=Z,5.1nm,1.2s
TXAR **Lajitas Array** 54.36 272 P P 12 07 43.5 -0.4
comp=Z,0.7nm,0.9s,baz=57,slow=9.1,SNR=7.5
comp=Z,0.7nm,0.9s
F15K **North Star Dit** 54.40 337 P P 12 07 44.7 +1.1
baz=34
M19K **Big River Lodg** 54.76 330 P P 12 07 46.3 +0.1
baz=39
ABKAR **Akbulak array** 54.78 53 P P 12 07 46.7 +0.2
G15K **Niukluk** 54.85 336 P P 12 07 48.8 +2.0
baz=34
J17K **VABM Dome** 54.90 333 P P 12 07 47.5 +0.3
baz=36
L18K **Granite Mounta** 55.18 331 P P 12 07 50.0 +0.8
baz=37
K17K **Iditarod** 55.24 332 P P 12 07 50.3 +0.7
baz=37
J16K **Anvil River** 55.40 333 P P 12 07 51.0 +0.2
baz=35
M18K **Stony River** 55.51 330 P P 12 07 52.2 +0.6
baz=38
L17K **Donlin** 55.71 332 P P 12 07 53.4 +0.4
baz=36
M17K **Holitna River** 56.05 331 P P 12 07 56.2 +0.7
baz=37
NVAR **Mina Array Bea** 56.21 290 P P 12 07 57.9 +0.6
comp=Z,0.2nm,0.6s,baz=59,slow=10,SNR=1.7
comp=Z,0.2nm,0.6s
BVAR **Borovoye Array** 56.67 44 P P 12 08 00.2 +0.2
comp=Z,2.4nm,0.8s,baz=309,slow=9.4,SNR=8.9
comp=Z,2.4nm,0.8s
L15K **Ungalak Mounta** 56.95 333 P P 12 08 02.8 +0.9
baz=34
N16K **Nishlik Lake** 57.19 331 P P 12 08 05.7 +2.0
baz=36
O17K **Koliganek Bris** 57.26 329 P P 12 08 06.2 +2.1
baz=36
M15K **Kasigluk River** 57.55 332 P P 12 08 05.7 -0.4
baz=34
L14K **Kuka Creek** 57.55 333 P P 12 08 06.8 +0.7
baz=33
Q17K **Contact Creek** 58.11 328 P P 12 08 10.7 +0.5
baz=36
ROSC **El Rosal** 58.53 227 P P 12 08 15.2 +1.2
comp=Z,38nm,1.0s,baz=46,slow=5.8,SNR=8.9
PFO **Pinyon Flats O** 58.65 285 P P 12 08 14.0 -0.4
PFO IAmb IAmb 12 08 17.4
comp=Z,3.3nm,1.0s
PFO **Pinyon Flats O** 58.65 285 P P 12 08 15.3 +0.9
comp=Z,2.1nm,0.9s,baz=72,slow=1.0,SNR=4.9
comp=Z,2.1nm,0.9s
ZALV **Zalesovo Beam** 61.39 36 P P 12 08 32.4 -0.3
comp=Z,0.7nm,0.6s,baz=355,slow=7.4,SNR=3.8
comp=Z,0.7nm,0.6s
KURBB **Kurchatov Array** 61.76 41 P P 12 08 35.2 -0.1
comp=Z,2.5nm,0.8s,baz=323,slow=7.1,SNR=15
comp=Z,2.5nm,0.8s
SEY **Seymchan** 63.06 356 P P 12 08 43.2 -0.5
comp=Z,3.6nm,1.0s,baz=25,slow=14,SNR=3.4
comp=Z,3.6nm,1.0s
MKAR **Makanchi Array** 66.32 42 P 12 09 04.1 -1.3
KSH **Kashi** 69.60 50 P P 12 09 28.8 +2.6
KSH pmax pmax
comp=Z,6.0nm,1.4s
BDFB **Brasilia** 70.41 193 P P 12 09 29.1 -2.2
comp=Z,0.6nm,0.3s,baz=45,slow=2.9,SNR=1.7
comp=Z,0.6nm,0.3s
SONM **Songino Array** 73.28 26 P P 12 09 47.2 -1.1
comp=Z,1.4nm,0.9s,baz=329,slow=6.1,SNR=8.1
comp=Z,1.4nm,0.9s
LPAZ **La Paz** 75.63 213 P P 12 10 01.6 -1.2
comp=Z,1.1nm,0.9s,baz=32,slow=15,SNR=2.9
comp=Z,1.1nm,0.9s
GTA **Gaotai** 79.07 34 P P 12 10 20.8 -0.6
GTA sP PcP 12 10 29.4 -0.4
GTA pmax pmax
comp=Z,6.0nm,1.3s
HHC **Hu-ho-hao-te** 81.12 25 eP P 12 10 30.6 -1.8
HHC pmax pmax
comp=Z,9.0nm,0.6s
NJ2 **Nanjing** 91.22 22 eP P 12 11 20.3 -1.9
NJ2 pmax pmax
comp=Z,12nm,0.6s
PZH **PanZhiHua** 91.47 38 P P 12 11 23.6 0.0
PZH pmax pmax
comp=Z,10.0nm,1.1s
SNAA **Sanae** 127.62 168 PKP PKPdf 12 17 19.5 -1.2
comp=Z,0.4nm,0.8s,baz=354,slow=11,SNR=1.4
QSPA **South Pole Qui** 144.08 180 PKP PKPab 12 17 48.4 -0.6
comp=Z,0.9nm,0.8s,baz=205,slow=2.5,SNR=6.2
ASAR **Alice Springs** 148.44 19 PKPbc PKPbc 12 18 03.0 -0.6
comp=Z,4.6nm,0.7s,baz=344,slow=2.2,SNR=29

*IDC **14** 12:02:54.8±2.6,37°.12N×5°.94E,h0km,mb3.3/2,*
mbtmp3.4/4,ML3.5/2,Error ellipse: s-maj=53.5km
s-min=19.7km az=31.0
*MDD **14** 12:02:56.2±0.9,37°.19N×5°.91E,h0km,Mb4.2/15,*
M_mb3.6/17,Error ellipse: s-maj=11.7km s-min=6.6km
az=72.0
*CRAAG **14** 12:02:56.8,36°.96N×5°.84E,Ml3.1,Algerie 18km NE Jijel*
ISC 14 12:02:55.0±0.8,37°.10N±0°.09×5°.80E±0°.08,h10km,n21,
σ1§64/26,7C,Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBOS	Bilal Ibnou Ra	0.52	127	P	Pg	12 03 05.7	+0.6
CBHR	Beni Haroun da	0.66	145	P	Pg	12 03 08.3	+0.5
CASM	Ain Smara	1.01	146	P	Pg	12 03 14.0	-0.5
CKFL	Kef-Lekhel	1.02	133	P	Pg	12 03 14.7	0.0
CTEI	Djebel Teioual	1.15	155	P	Pb	12 03 16.3	-0.8
CBST	Bordj Sabath	1.26	123	P	Pn	12 03 19.0	+0.3
CMAH	Djebel Manchou	1.39	110	P	Pn	12 03 21.6	+1.1
KEST	Kesra	3.17	115	Pn	Pn	12 03 45.0	-0.1
	1.7nm,0.3s,baz=304,slow=7.0,SNR=17						
KEST				Sn	Sn	12 04 21.8	-1.3
	1.4nm,0.3s,baz=119,slow=16,SNR=4.8						
KEST				Lg	Lg	12 04 32.8	
	1.0nm,0.3s,baz=124,slow=15,SNR=1.8						
	5.1nm,0.4s						
ETOS	Mallorca	3.54	320	Pn	Pn	12 03 50.8	+0.6
ETOS				⇑*i*Vmb_VC		12 03 52.7	
	354nm,SNR=1.4						
ETOS				Sn	Sn	12 04 30.8	-1.3
EIBI	Ibiza	4.00	300	Pn	Pn	12 03 58.0	+1.5
EIBI				⇑*i*Vmb_VC		12 03 58.1	
	1μm,SNR=3.0						
EIBI				Sn	Sn	12 04 41.1	-2.3
EPOB	Poblet	5.61	321	Pn	Pn	12 04 18.9	+0.4
EPOB				⇑*i*Vmb_VC		12 04 20.4	
	105nm,SNR=1.1						
EPOB				Sn	Sn	12 05 19.5	-3.5
ECHE	Chera	5.87	297	Pn	Pn	12 04 23.9	+1.8
EMOS	Mosqueruela	5.88	306	Pn	Pn	12 04 23.7	+1.3
ESAC	San Caprasio	6.69	315	Pn	Pn	12 04 35.4	+1.9
ESAC				⇑*i*Vmb_VC		12 04 36.5	
	525nm,SNR=2.5						
ESAC				Sn	Sn	12 05 47.9	-1.9
ETOR	Torete	7.15	304	Pn	Pn	12 04 42.1	+2.3
ETOR				⇑*i*Vmb_VC		12 04 42.4	
	75nm,SNR=1.1						
EORO	Oroz-Betelu	7.95	319	Pn	Pn	12 04 52.7	+2.1
ESDC	Sonseca Array	8.08	291	Pn	Pn	12 04 54.7	+2.2
	0.3nm,0.3s,baz=104,slow=13,SNR=16						
	1.5nm,0.6s						
EALK	Alkurruntz	8.28	320	Pn	Pn	12 04 57.6	+2.4
EALK				⇑*i*Vmb_VC		12 04 58.9	
	72nm,SNR=0.6						
ECAL	Calabor	10.82	300	Pn	Pn	12 05 31.7	+1.7
ECAL				⇑*i*Vmb_VC		12 05 32.9	
	134nm,SNR=1.5						
AKASG	Malin Array Be	21.55	43	P	P	12 07 44.7	+0.3
	0.9nm,0.6s,baz=241,slow=11,SNR=4.1						
	0.9nm,0.6s						
MKAR	Makanchi Array	55.62	54	P	P	12 12 31.4	+0.5
	0.3nm,0.7s,baz=300,slow=7.1,SNR=2.4						
	0.3nm,0.7s						

*IDC **14** 12:05:42.7±0.7,0°.70S×127°.89E,h0km,mb4.1/12,*
mbtmp4.1/13,ML3.9/1,Error ellipse: s-maj=44.2km
s-min=13.5km az=79.0
*NEIC **14** 12:05:44.4±1.9,0°.69S±0°.06×128°.18E±0°.07,h10km±1km,*
mb4.6/17,Error ellipse: s-maj=11.1km s-min=9.4km
az=265.0
*DJA **14** 12:05:48.0±2.7,1°.S±2°.×12°.8E±°,h26km±28km,M4.6/15,*
mB5.6/1,mb4.8/6,MLv4.5/15,Mw(mB)5.1/1
ISC 14 12:05:43.9±0.4,0°.67S±0°.04×128°.15E±0°.06,h10km,n58,
σ1§95/62,mb4.5/22,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.64	331		Pn	12 06 12.3	-0.5
TNTI	Ternate	1.64	331	P	Pn	12 06 13.0	+0.2
TNTI				S	Sn	12 06 33.1	-0.8
NLAI	Namlea	2.76	202	P	Pn	12 06 29.8	+1.6
MSAI	Masohi	2.77	164	P	Pb	12 06 32.8	-0.7
AAI	Ambon	2.99	179	P	Pn	12 06 34.4	+2.9
SWI	Sorong	3.11	94	P	Pb	12 06 36.7	-2.6
BNDI	Bandanaira	4.21	155	P	Pn	12 06 52.5	+4.4
FAKI	Fak Fak	4.66	119	Pn	Pn	12 06 54.3	-0.1
FAKI	Fak Fak	4.66	119	P	Pn	12 06 57.1	+2.7
APSI	Ampana	6.51	268	P	Pn	12 07 19.9	+0.1
	77nm,0.5s						
TOLI2	Tolitoli	7.58	284	Pn	Pn	12 07 35.5	+1.0
TTSI	Tana Toraja	8.66	254	P	Pn	12 07 51.0	+1.7
	49nm,1.0s						
SPSI	Sidrap Palu	8.99	249	P	Pn	12 07 56.4	+2.5
BKSI	Bulukumba	9.25	240	P	Pn	12 08 00.2	+2.7
	30nm,0.7s						
BSSI	Bau Bau, Buton	9.38	234	P	Pn	12 08 02.2	+3.0
KAPI	Kappang	9.43	243		Pn	12 08 00.3	+0.3
KAPI	Kappang	9.43	243	Pn	Pn	12 07 59.5	-0.5
	1.8nm,0.3s,baz=202,slow=11,SNR=6.5						
KAPI				Sn	Sn	12 09 43.7	-2.5
	0.4nm,0.3s,baz=210,slow=14,SNR=1.2						
MTN	Manton Dam	12.45	166	Pn	Pn	12 08 41.0	-0.3
KNRA	Kununurra	14.92	178	Pn	Pn	12 09 14.1	-1.0
FITZ	Fitzroy Crossi	17.49	188	P	Pn	12 09 47.9	-0.2
FITZ	Fitzroy Crossi	17.49	188	P	Pn	12 09 47.8	-0.2
	0.3nm,0.3s,baz=22,slow=10,SNR=7.1						
	5.1nm,0.8s						
WB0	Warramunga Arr	19.94	163	P	P	12 10 15.1	-1.0
WRA	Warramunga Arr	20.09	163	P	P	12 10 17.1	-0.6
WRA	Warramunga Arr	20.09	163	P	P	12 10 16.7	-1.1
	5.9nm,0.8s,baz=341,slow=11,SNR=25						
WRA				S	S	12 13 54.8	-8.8
	0.7nm,0.8s,baz=341,slow=21,SNR=2.4						
	5.9nm,0.8s						
AS31	Alice Springs	23.53	167	P	P	12 10 54.3	-0.1
ASAR	Alice Springs	23.53	167	P	P	12 10 54.2	-0.3
ASAR	Alice Springs	23.53	167	P	P	12 10 54.8	+0.3
	6.3nm,0.6s,baz=344,slow=11,SNR=33						
ASAR				S	S	12 15 06.1	-2.4
	1.7nm,1.0s,baz=345,slow=21,SNR=5.3						
	6.3nm,0.6s						
TPUB	Ta-pu	24.93	343	P	P	12 11 06.9	-0.5
YHNB	Yeheng	26.04	346	P	P	12 11 18.6	+1.1
YHNB				IAmb	IAmb	12 11 57.1	
	comp=Z,62nm,1.5s						
STKA	Stephens Creek	33.54	159	P	P	12 12 25.2	+1.3
STKA	Stephens Creek	33.54	159	P	P	12 12 25.0	+1.1
	comp=Z,7.9nm,1.2s,baz=336,slow=9.0,SNR=5.4						
	comp=Z,7.9nm,1.2s						
KSRS	Korea Array	37.94	360	P	P	12 13 03.2	+1.6
	comp=Z,1.1nm,0.7s,baz=184,slow=9.6,SNR=7.6						
	comp=Z,1.1nm,0.7s						
MJAR	Matsushiro Arr	38.19	13	P	P	12 13 03.3	-0.5
	comp=Z,2.6nm,0.8s,baz=186,slow=9.5,SNR=8.3						
	comp=Z,2.6nm,0.8s						
XAN	Xi'an	38.97	334	P	P	12 13 10.8	+0.4
XAN				pmax	pmax		
	comp=Z,14nm,0.8s						
LZH	Lanzhou	43.01	331	eP	P	12 13 44.5	+0.7
LZH				pP	sP	12 13 49.8	+1.5
LZH				pmax	pmax		
	comp=Z,22nm,1.3s						
SHL	Shillong	43.69	309	P	P	12 13 49.1	-0.4
SHL				IAmb	IAmb	12 13 50.5	
	comp=Z,13nm,0.8s						
MDJ	Mudanjiang	45.11	1	P	P	12 14 01.2	+0.8
MDJ				IAmb	IAmb	12 14 03.4	
	comp=Z,10nm,1.2s						
GTA	Gaotai	47.59	330	eP	P	12 14 21.9	+1.8
GTA				pP	sP	12 14 26.8	+2.2
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
EVN	Everest	48.80	309	P	P	12 14 30.1	-0.1
SONM	Songino Array	51.90	341	P	P	12 14 52.5	-0.3
	comp=Z,1.3nm,0.8s,baz=161,slow=9.2,SNR=6.7						
	comp=Z,1.3nm,0.8s						
PEA0B	Petropavlovsk-	58.99	20	P	P	12 15 47.9	+4.3
PEA0B				IAmb	IAmb	12 16 21.5	
	comp=Z,19nm,1.4s						
PETK	Petropavlovsk-	58.99	20	P	P	12 15 46.3	+2.7
PETK	Petropavlovsk-	58.99	20	P	P	12 15 46.1	+2.5
	comp=Z,1.2nm,0.8s,baz=224,slow=6.9,SNR=2.5						
	comp=Z,1.2nm,0.8s						
MKAR	Makanchi Array	61.97	326	P	P	12 16 02.4	-1.8
MKAR	Makanchi Array	61.97	326	P	P	12 16 03.9	-0.2
	comp=Z,0.8nm,0.5s,baz=127,slow=7.8,SNR=9.6						
	comp=Z,0.8nm,0.5s						
YAK	Yakutsk	62.55	1	P	P	12 16 08.4	+0.7
	comp=Z,13nm,0.4s,baz=208,slow=0.4,SNR=5.1						
KURBB	Kurchatov Arra	66.19	328	P	P	12 16 31.1	-0.8
	comp=Z,1.4nm,0.7s,baz=127,slow=6.0,SNR=12						
	comp=Z,1.4nm,0.7s						
KURK	Kurchatov	66.20	328	P	P	12 16 30.8	-1.0
KURK				IAmb	IAmb	12 16 35.0	
	comp=Z,2.6nm,0.7s						
KK31	Karatay Array	67.42	318	P	P	12 16 38.5	-1.3
KK31				IAmb	IAmb	12 16 40.4	
	comp=Z,3.4nm,1.1s						
KKAR	Karatay Array	67.42	318	P	P	12 16 38.7	-1.2
BVAR	Borovoye Array	71.77	327	P	P	12 17 05.8	-0.6
	comp=Z,0.8nm,0.6s,baz=110,slow=6.3,SNR=4.8						
	comp=Z,0.8nm,0.6s						
NRIK	Noril'sk	75.02	346	P	P	12 17 25.2	0.0
NRIK				IAmb	IAmb	12 17 26.7	
	comp=Z,3.1nm,0.8s						
ABKAR	Akbulak array	76.44	321	P	P	12 17 32.9	-1.0
VNDA	Vanda	78.91	173	P	P	12 17 47.5	+0.4
VNDA				IAmb	IAmb	12 18 19.1	
	comp=Z,2.7nm,1.3s						
VNDA	Vanda	78.91	173	P	P	12 17 48.4	+1.3
	comp=Z,0.5nm,0.6s,baz=322,slow=4.1,SNR=3.7						
	comp=Z,0.5nm,0.6s						
Q19K	Cape Douglas,	84.49	31	P	P	12 18 15.7	-1.2
QSPA	South Pole Qui	89.26	180	P	P	12 18 40.9	+0.8
QSPA				IAmb	IAmb	12 18 41.5	
	comp=Z,8.7nm,1.4s						
QSPA	South Pole Qui	89.26	180	P	P	12 18 41.4	+1.2
	comp=Z,1.0nm,0.5s,baz=322,slow=3.7,SNR=5.9						
	comp=Z,1.0nm,0.5s						

*DJA **14** 12:11:29.9±0.3,1°.S±2°.×12°.8E±°,h10km,M3.9/10,mb4.3/2,*
MLv3.7/10
*IDC **14** 12:11:30.3±1.5,0°.89S×127°.88E,h0km,mb3.7/3,*
mbtmp3.7/5,ML3.4/2,Error ellipse: s-maj=54.8km
s-min=24.2km az=69.0
ISC 14 12:11:30.8±1.0,0°.64S±0°.06×127°.86E±0°.07,h10km,n11,
σ1§92/14,mb3.9/3,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.48**	**341**	P	**Pn**	**12 11 55.5**	**-2.1**
TNTI				S	**Sn**	**12 12 16.1**	**-1.0**
SANI	**Sanana**	**2.33**	**233**	P	**Pn**	**12 12 08.5**	**-0.8**
SANI				S	**Sn**	**12 12 36.1**	**-2.0**
NLAI	**Namlea**	**2.69**	**196**	P	**Pn**	**12 12 12.7**	**-1.5**
AAI	**Ambon**	**3.05**	**174**	P	**Pn**	**12 12 18.2**	**-0.9**
FAKI	**Fak Fak**	**4.94**	**117**	P	**Pn**	**12 12 44.1**	**-1.1**
FAKI				S	**Sn**	**12 13 41.8**	**-0.6**
APSI	**Ampana** 40nm,1.0s	**6.21**	**267**	P	**Pn**	**12 13 05.4**	**+2.7**
KAPI	**Kappang** 0.9nm,0.3s,baz=96,slow=9.2,SNR=4.3 5.7nm,0.6s	**9.19**	**242**	Pn	**Pn**	**12 13 43.5**	**0.0**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=339,slow=13,SNR=2.6 1.0nm,1.0s	**20.21**	**162**	P	**P**	**12 16 04.7**	**-1.3**
ASAR	**Alice Springs** 1.8nm,0.9s,baz=344,slow=11,SNR=5.3 1.8nm,0.9s	**23.63**	**166**	P	**P**	**12 16 40.6**	**-1.8**
MKAR	**Makanchi Array** 0.6nm,0.6s,baz=124,slow=7.8,SNR=6.5 0.6nm,0.6s	**61.78**	**326**	P	**P**	**12 21 52.1**	**+2.2**
KURBB	**Kurchatov Arra** 1.0nm,1.0s,baz=131,slow=6.2,SNR=3.1 1.0nm,1.0s	**66.01**	**328**	P	**P**	**12 22 20.4**	**+2.9**

*IDC **14** 12:14:43.1±2.0,0.°89S×128.°07E, h0km, mb3.6/3, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=177.0km s-min=24.1km az=68.0*
*DJA **14** 12:14:46.5±0.5,1.°5S×12.°8E±.°, h10km, M3.7/7, MLv3.7/7*
ISC 14 12:14:45.6±1.3,**1.2S**±0.1°×**127.9E**±0.1°,**h19**km,**n8**,σ1§**64**/8, **mb3.8**/3,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**2.20**	**202**	P	**Pg**	**12 15 27.5**	**-0.4**
MSAI	**Masohi**	**2.37**	**155**	P	**Pg**	**12 15 30.9**	**-0.3**
AAI	**Ambon**	**2.50**	**174**	P	**Pg**	**12 15 32.0**	**-1.6**
FAKI	**Fak Fak**	**4.65**	**112**	P	**Pn**	**12 15 54.4**	**-0.5**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=344,slow=12,SNR=6.6 0.7nm,0.6s	**19.67**	**162**	P	**Pn**	**12 19 15.2**	**0.0**
ASAR	**Alice Springs** 1.3nm,0.7s,baz=340,slow=7.6,SNR=7.1 1.3nm,0.7s	**23.09**	**166**	P	**P**	**12 19 53.5**	**+3.1**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=120,slow=8.0,SNR=3.1 0.3nm,0.4s	**62.26**	**326**	P	**P**	**12 25 05.8**	**-0.7**
KURBB	**Kurchatov Arra** 0.3nm,0.4s,baz=121,slow=5.7,SNR=1.9 0.3nm,0.4s	**66.51**	**328**	P	**P**	**12 25 33.9**	**-0.2**

*IDC **14** 12:15:31.8±1.4,0.°59S×127.°69E, h0km, mb4.0/4, mbtmp4.0/5, ML3.8/1, Error ellipse: s-maj=56.4km s-min=21.5km az=69.0*
*NEIC **14** 12:15:33.8±1.0,0.°75S±0.°03×127.°56E±0.°10, h10km±1km, mb4.6/12, Error ellipse: s-maj=16.3km s-min=6.1km az=265.0*
ISC 14 12:15:33.2±0.7,**0.69S**±0.°09×**127.6E**±0.°1,**h10**km,**n26**, σ0§**95**/26,**mb4.6**/8,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.47**	**351**	Pn	**Pn**	**12 16 00.7**	**+0.9**
FAKI	**Fak Fak**	**5.14**	**116**	Pn	**Pn**	**12 16 49.8**	**-0.5**
TOLI2	**Tolitoli**	**7.05**	**285**	Pn	**Pn**	**12 17 16.8**	**+0.1**
KAPI	**Kappang** 1.0nm,0.3s,baz=64,slow=17,SNR=1.9 7.1nm,0.7s	**8.94**	**241**	Pn	**Pn**	**12 17 43.8**	**+1.2**
MTN	**Manton Dam**	**12.57**	**164**	Pn	**Pn**	**12 18 31.6**	**-0.7**
WB0	**Warramunga Arr**	**20.09**	**161**	P	**P**	**12 20 06.6**	**-0.6**
WB0	comp=Z,8.2nm,1.1s			IAmb	IAmb	12 20 09.1	
WRA	**Warramunga Arr**	**20.24**	**161**	P	**P**	**12 20 07.6**	**-1.2**
WRA	**Warramunga Arr** comp=Z,2.3nm,0.7s,baz=341,slow=12,SNR=20 comp=Z,2.3nm,0.7s	**20.24**	**161**	P	**P**	**12 20 09.0**	**+0.2**
WR8	**Warramunga Arr**	**20.30**	**161**	P	**P**	**12 20 09.1**	**-0.4**
AS31	**Alice Springs**	**23.64**	**165**	P	**P**	**12 20 45.0**	**+0.1**
ASAR	**Alice Springs**	**23.65**	**165**	P	**P**	**12 20 44.5**	**-0.5**
ASAR	**Alice Springs** comp=Z,6.9nm,0.8s,baz=345,slow=10,SNR=16 comp=Z,6.9nm,0.8s	**23.65**	**165**	P	**P**	**12 20 46.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**34.00**	**305**	P	**P**	**12 22 16.6**	**-1.0**
MKAR	**Makanchi Array**	**61.68**	**326**	P	**P**	**12 25 50.9**	**-0.7**
MKAR	**Makanchi Array** comp=Z,0.7nm,0.4s,baz=118,slow=8.0,SNR=7.5 comp=Z,0.7nm,0.4s	**61.68**	**326**	P	**P**	**12 25 51.9**	**+0.3**
MAKZ	**Makanchi**	**61.86**	**326**	P	**P**	**12 25 52.0**	**-0.8**
KURBB	**Kurchatov Arra** comp=Z,1.3nm,0.7s,baz=128,slow=5.9,SNR=7.6 comp=Z,1.3nm,0.7s	**65.92**	**328**	P	**P**	**12 26 18.9**	**-0.4**
KURK	**Kurchatov**	**65.92**	**328**	P	**P**	**12 26 19.2**	**-0.2**
KURK	comp=Z,2.6nm,0.8s			IAmb	IAmb	12 26 22.8	
ABKAR	**Akbulak array**	**76.11**	**321**	P	**P**	**12 27 19.6**	**-1.8**
VNDA	**Vanda**	**78.96**	**173**	P	**P**	**12 27 38.1**	**+1.4**
K17K	**Iditarod**	**83.36**	**26**	P	**P**	**12 28 01.4**	**+1.0**
K17K	comp=Z,6.4nm,1.4s			IAmb	IAmb	12 28 35.2	
C18K	**Utukok River**	**83.86**	**20**	P	**P**	**12 28 04.2**	**+1.3**
C18K	comp=Z,11nm,1.4s			IAmb	IAmb	12 28 29.9	
L18K	**Granite Mounta**	**83.96**	**27**	P	**P**	**12 28 04.3**	**+0.8**
L18K	comp=Z,6.1nm,1.4s			IAmb	IAmb	12 28 19.7	
C19K	**Lookout Ridge**	**84.55**	**20**	P	**P**	**12 28 07.6**	**+1.2**
C19K	comp=Z,9.1nm,1.4s			IAmb	IAmb	12 28 33.6	
SYI	**Shuyak Island**	**85.37**	**31**	P	**P**	**12 28 11.5**	**+0.9**
B22K	**Teshekpuk Lake**	**86.93**	**19**	P	**P**	**12 28 19.2**	**+1.1**

*IDC **14** 12:18:50.8±1.0,53.°85N×34.°93W, h0km, mb3.6/12, mbtmp3.6/13, ML3.7/1, Error ellipse: s-maj=29.1km s-min=19.3km az=7.0*
ISC 14 12:18:52.9±0.9,**53.8N**±0.°2×**35.0W**±0.°1,**h14**km,**n14**, σ0§**82**/14,**mb3.7**/12,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar** baz=279,slow=11 0.6nm,0.6s	**18.41**	**72**	P	**Pn**	**12 23 08.5**	**+1.1**
ESDC	**Sonseca Array** 0.4nm,0.6s,baz=309,slow=8.5,SNR=8.3 0.4nm,0.6s	**25.28**	**111**	P	**P**	**12 24 18.2**	**-0.5**
NOA	**NORSAR Array B** 0.5nm,0.8s,baz=274,slow=9.4,SNR=2.6 0.5nm,0.8s	**25.40**	**55**	P	**P**	**12 24 19.3**	**-0.2**
FINES	**FINESS Array B** 1.1nm,0.8s,baz=256,slow=5.6,SNR=3.2 1.1nm,0.8s	**32.41**	**52**	P	**P**	**12 25 21.2**	**-0.7**
BRTR	**Keskin Array B** 1.0nm,0.8s,baz=298,slow=6.4,SNR=4.6 1.0nm,0.8s	**47.20**	**78**	P	**P**	**12 27 24.5**	**-0.6**
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=46,slow=7.6,SNR=2.0 0.2nm,0.5s	**48.63**	**289**	P	**P**	**12 27 35.4**	**-0.9**
ILAR	**Eielson Array** 0.5nm,0.8s,baz=59,slow=7.1,SNR=5.6 0.5nm,0.8s	**50.73**	**329**	P	**P**	**12 27 53.3**	**+1.6**
DBIC	**Dimbokro** 4.0nm,1.0s,baz=343,slow=6.4,SNR=3.5 4.0nm,1.0s	**52.98**	**141**	P	**P**	**12 28 09.8**	**+0.9**
TXAR	**Lajitas Array** 0.4nm,0.8s,baz=44,slow=8.0,SNR=3.4 0.4nm,0.8s	**54.51**	**272**	P	**P**	**12 28 20.1**	**-0.2**
BVAR	**Borovoye Array** 0.6nm,0.5s,baz=317,slow=9.9,SNR=2.2 0.6nm,0.5s	**56.83**	**44**	P	**P**	**12 28 36.4**	**0.0**
KURBB	**Kurchatov Arra** 0.4nm,0.3s,baz=325,slow=7.1,SNR=5.4 0.4nm,0.3s	**61.94**	**41**	P	**P**	**12 29 11.6**	**-0.2**
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=319,slow=6.4,SNR=4.5 0.6nm,0.7s	**66.50**	**42**	P	**P**	**12 29 40.9**	**-0.8**
SONM	**Songino Array** 0.3nm,0.6s,baz=338,slow=2.3,SNR=1.6 0.3nm,0.6s	**73.54**	**26**	P	**P**	**12 30 25.2**	**+0.1**
ASAR	**Alice Springs** 1.3nm,0.7s,baz=349,slow=3.9,SNR=6.6	**148.72**	**20**	PKPbc	**PKPbc**	**12 38 39.4**	**-0.2**

*IDC **14** 12:22:55.5±0.6,0.°56S×127.°69E, h0km, mb4.3/18, mbtmp4.3/20, ML4.2/2, Error ellipse: s-maj=26.8km s-min=12.1km az=79.0*
*NEIC **14** 12:22:58.1±1.3,0.°61S±0.°02×127.°61E±0.°08, h10km±1km, mb4.7/51, Error ellipse: s-maj=12.8km s-min=3.0km az=83.0*
*DJA **14** 12:22:59.1±0.2,1.°S±2.°×12.°8E±.°, h10km, M4.7/17, mb5.0/7, MLv4.6/17*
ISC 14 12:22:57.6±0.4,**0.62S**±0.°04×**127.58E**±0.°06,**h10**km,**n109**, σ1§**17**/109,**mb4.6**/52,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.40**	**351**		**Pn**	**12 23 23.8**	**+0.6**
TNTI	**Ternate**	**1.40**	**351**	P	**Pb**	**12 23 24.4**	**+0.6**
SANI	**Sanana**	**2.13**	**228**	P	**Pn**	**12 23 32.3**	**-1.0**
NLAI	**Namlea**	**2.65**	**190**	P	**Pn**	**12 23 41.5**	**+1.2**
NLAI				S	**Sn**	**12 24 12.1**	**-0.4**
MSAI	**Masohi**	**3.02**	**154**	P	**Pn**	**12 23 48.0**	**+2.5**
AAI	**Ambon**	**3.11**	**169**	P	**Pn**	**12 23 48.8**	**+2.1**
SWI	**Sorong**	**3.69**	**94**	P	**Pn**	**12 23 55.9**	**+1.2**
KMSI	**Cibinong**	**3.79**	**288**	P	**Pn**	**12 23 57.0**	**+0.9**
BNDI	**Bandanaira**	**4.52**	**149**	P	**Pn**	**12 24 08.6**	**+2.5**
LUWI	**Luwuk**	**4.83**	**265**	P	**Pn**	**12 24 09.8**	**-0.5**
FAKI	**Fak Fak**	**5.20**	**116**		**Pn**	**12 24 15.5**	**+0.1**
FAKI	**Fak Fak** 0.8nm246nm,0.9s	**5.20**	**116**	P	**Pn**	**12 24 16.1**	**+0.7**
APSI	**Ampana**	**5.94**	**267**	P	**Pn**	**12 24 25.6**	**0.0**
TOLI2	**Tolitoli**	**7.01**	**284**		**Pn**	**12 24 41.5**	**+1.1**
TTSI	**Tana Toraja** 55nm,0.9s	**8.12**	**253**	P	**Pn**	**12 24 57.4**	**+1.7**
BNSI	**Bone**	**8.36**	**243**	P	**Pn**	**12 24 59.7**	**+0.8**
BKSI	**Bulukumba**	**8.79**	**238**	P	**Pn**	**12 25 07.9**	**+3.1**
KAPI	**Kappang**	**8.95**	**241**	Pn	**Pn**	**12 25 08.3**	**+1.3**
KAPI	**Kappang** 4.1nm,0.3s,baz=56,slow=11,SNR=8.3 12nm,0.4s	**8.95**	**241**	Pn	**Pn**	**12 25 08.7**	**+1.6**
MTN	**Manton Dam**	**12.64**	**164**		**Pn**	**12 25 56.7**	**-1.0**
KNRA	**Kununurra**	**15.01**	**176**	Pn	**Pn**	**12 26 28.8**	**-1.1**
KNRA	comp=Z,26nm,0.9s			IAmb	IAmb	12 26 31.8	
SBUM	**Sibu**	**15.66**	**281**	Pn	**Pn**	**12 26 38.3**	**-0.2**
KSM	**Kuching**	**17.40**	**277**		**Pn**	**12 27 00.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**17.47**	**186**		**Pn**	**12 27 02.1**	**+0.6**
FITZ	**Fitzroy Crossi** comp=Z,0.4nm,0.3s,baz=47,slow=8.6,SNR=6.1 comp=Z,4.3nm,0.6s	**17.47**	**186**	P	**Pn**	**12 27 02.0**	**+0.5**
WB0	**Warramunga Arr**	**20.16**	**161**		**P**	**12 27 31.0**	**-1.3**
WB0	comp=Z,31nm,1.1s			IAmb	IAmb	12 27 48.1	
WRA	**Warramunga Arr**	**20.31**	**161**		**P**	**12 27 31.5**	**-2.4**
WRA	**Warramunga Arr** comp=Z,10nm,0.8s,baz=342,slow=11,SNR=26 comp=Z,10nm,0.8s	**20.31**	**161**	P	**P**	**12 27 32.6**	**-1.3**
COEN	**Coen**	**20.34**	**131**	P	**P**	**12 27 34.1**	**-0.2**
COEN	comp=Z,26nm,1.2s			IAmb	IAmb	12 27 54.2	
WR8	**Warramunga Arr**	**20.38**	**161**		**P**	**12 27 33.9**	**-0.7**
AS31	**Alice Springs**	**23.72**	**165**		**P**	**12 28 09.1**	**-0.9**
ASAR	**Alice Springs** comp=Z,24nm,0.8s,baz=344,slow=9.8,SNR=143	**23.72**	**165**	P	**P**	**12 28 09.2**	**-0.7**
ASAR	comp=Z,10.0nm,1.3s,baz=344,slow=19,SNR=5.7 comp=Z,24nm,0.8s			S	**S**	**12 32 22.5**	**-2.7**
TWG	**Pinlang**	**24.15**	**345**	P	**P**	**12 28 13.8**	**-0.2**
TWG	comp=Z,30nm,1.3s			IAmb	IAmb	12 28 49.0	
YULB	**Yu-li**	**24.64**	**346**	P	**P**	**12 28 17.2**	**-1.3**
YULB	comp=Z,14nm,0.9s			IAmb	IAmb	12 28 23.1	
TPUB	**Ta-pu**	**24.72**	**345**	P	**P**	**12 28 18.7**	**-0.6**
TPUB	comp=Z,34nm,1.0s			IAmb	IAmb	12 28 34.7	
MNAI	**Manna**	**24.88**	**261**	P	**P**	**12 28 21.8**	**+1.0**
RPSI	**Rantau Prapat**	**28.84**	**277**		**P**	**12 28 56.3**	**-0.1**
RPSI	comp=Z,10nm,0.8s			IAmb	IAmb	12 28 59.1	
FORT	**Forrest**	**30.00**	**179**	P	**P**	**12 29 06.1**	**-0.4**
WHN	**Wuhan**	**33.45**	**339**	P	**P**	12 29 43.0	+6.1
NJ2	**Nanjing**	**33.53**	**347**	*eP*	**P**	**12 29 39.3**	**+1.8**
NJ2	comp=Z,16nm,0.5s			pmax	pmax		
STKA	**Stephens Creek**	**33.79**	**158**	P	**P**	**12 29 39.8**	**0.0**
STKA	**Stephens Creek** comp=Z,4.3nm,0.8s,baz=336,slow=8.7,SNR=6.5 comp=Z,4.3nm,0.8s	**33.79**	**158**	P	**P**	**12 29 40.1**	**+0.2**
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.8s,baz=129,slow=7.5,SNR=4.8 comp=Z,0.8nm,0.8s	**33.94**	**305**	P	**P**	**12 29 42.2**	**+0.9**
KMI	**Kunming**	**35.11**	**319**	P	**P**	**12 29 55.4**	**+3.7**
KMI	comp=Z,7.0nm,1.3s			pmax	pmax		
PZH	**PanZhiHua**	**36.71**	**319**	P	**P**	**12 30 08.6**	**+3.4**
ARMA	**Armidale**	**37.42**	**145**	P	**P**	**12 30 12.1**	**+0.9**
LYN	**LuoYang**	**37.75**	**339**	P	**P**	12 30 19.0	+5.2
LYN	comp=Z,19nm,0.6s			pmax	pmax		
KSRS	**Korea Array** comp=Z,1.3nm,0.6s,baz=179,slow=9.6,SNR=9.8 comp=Z,1.3nm,0.6s	**37.89**	**0**	P	**P**	**12 30 14.6**	**-0.3**
TIA	**Tai'an**	**37.91**	**346**	P	**P**	**12 30 15.6**	**+0.4**
TIA	comp=Z,5.0nm,0.7s			pmax	pmax		
MJAR	**Matsushiro Ar** comp=Z,2.0nm,0.6s,baz=194,slow=8.6,SNR=12 comp=Z,2.0nm,0.6s	**38.27**	**14**	P	**P**	**12 30 16.2**	**-1.9**
XAN	**Xi'an**	**38.67**	**335**	P	**P**	**12 30 22.0**	**+0.3**
XAN	comp=Z,22nm,0.8s			pmax	pmax		
JMM	**Marumori**	**40.19**	**16**	P	**P**	**12 30 34.9**	**+0.7**
BJI	**Beijing**	**41.79**	**347**	P	**P**	**12 30 47.1**	**-0.2**
BJI	comp=Z,3.0nm,0.8s			pmax	pmax		
LZH	**Lanzhou**	**42.68**	**331**	*eP*	**P**	**12 30 56.8**	**+1.9**
LZH				sP	sP	12 31 04.3	+4.9
LZH	comp=Z,19nm,1.1s			pmax	pmax		
SHL	**Shillong**	**43.21**	**310**	P	**P**	**12 30 59.0**	**-0.4**
SHL	comp=Z,21nm,0.9s			IAmb	IAmb	12 31 32.5	
HHC	**Hu-ho-hao-te**	**43.77**	**342**	*eP*	**P**	**12 31 06.6**	**+3.0**
HHC	comp=Z,9.0nm,0.6s			pmax	pmax		
GTA	**Gaotai**	**47.26**	**331**	*eP*	**P**	**12 31 33.0**	**+1.7**
GTA				pP	sP	12 31 38.9	+3.1
GTA	comp=Z,12nm,0.7s			pmax	pmax		
EVN	**Everest**	**48.32**	**309**	P	**P**	**12 31 41.5**	**+1.1**
HEH	**HeiHe**	**50.68**	**360**	*eP*	**P**	**12 31 57.0**	**-0.1**
HEH	comp=Z,4.0nm,0.9s			pmax	pmax		
ULN	**Ulaanbaatar**	**51.49**	**342**	P	**P**	**12 32 03.7**	**+0.2**
SONM	**Songino Array**	**51.67**	**342**		**P**	**12 32 05.1**	**+0.3**
SONM	**Songino Array** comp=Z,1.8nm,0.8s,baz=161,slow=8.2,SNR=11 comp=Z,1.8nm,0.8s	**51.67**	**342**	P	**P**	**12 32 04.0**	**-0.7**
TUWZ	**Tuamarina**	**58.27**	**140**	P	**P**	**12 32 52.7**	**+0.2**
PETK	**Petropavlovsk-**	**59.14**	**21**		**P**	**12 32 58.1**	**-0.3**
PETK	**Petropavlovsk-** comp=Z,4.0nm,0.8s,baz=196,slow=6.4,SNR=11 comp=Z,4.0nm,0.8s	**59.14**	**21**	P	**P**	**12 32 58.4**	**0.0**
TARG	**Taragay, Kyrgy**	**61.56**	**319**		**P**	**12 33 15.7**	**0.0**
TARG	comp=Z,4.5nm,0.9s			IAmb	IAmb	12 33 23.6	
MKAR	**Makanchi Array** comp=Z,4.3nm,0.7s,baz=122,slow=8.3,SNR=37 comp=Z,4.3nm,0.7s	**61.61**	**326**	P	**P**	**12 33 15.2**	**-0.2**
KSH	**Kashi**	**61.73**	**316**	P	**P**	**12 33 17.8**	**+1.2**
KSH	comp=Z,4.0nm,0.8s			pmax	pmax		
YAK	**Yakutsk**	**62.51**	**1**	P	**P**	**12 33 20.8**	**-0.2**
YAK	**Yakutsk** comp=Z,32nm,0.7s,baz=167,slow=1.1,SNR=8.7	**62.51**	**1**	P	**P**	**12 33 20.1**	**-1.0**
ZAA0	**Zalesovo Array**	**64.83**	**334**	P	**P**	**12 33 35.5**	**-1.1**
ZAA0	comp=Z,4.0nm,1.1s			IAmb	IAmb	12 33 36.4	
ZALV	**Zalesovo Beam** comp=Z,1.8nm,0.7s,baz=115,slow=6.7,SNR=7.7 comp=Z,1.8nm,0.7s	**64.83**	**334**	P	**P**	**12 33 35.5**	**-1.2**
KBL	**Kabul**	**64.86**	**309**	P	**P**	**12 33 36.8**	**-0.7**
KBL	comp=Z,6.4nm,0.7s			IAmb	IAmb	12 33 43.3	
GAR	**Garm**	**65.51**	**314**	P	**P**	**12 33 41.3**	**-0.2**
SMY	**Shemya**	**65.80**	**29**	P	**P**	**12 33 43.1**	**+0.2**
KURBB	**Kurchatov Arra** comp=Z,4.7nm,0.6s,baz=129,slow=5.9,SNR=27 comp=Z,4.7nm,0.6s	**65.85**	**328**	P	**P**	**12 33 42.5**	**-0.7**
KURK	**Kurchatov**	**65.85**	**328**	P	**P**	**12 33 42.7**	**-0.6**
KK31	**Karatay Array**	**67.00**	**318**	P	**P**	**12 33 50.7**	**-0.1**
KK31	comp=Z,9.7nm,1.4s			IAmb	IAmb	12 33 56.5	
BVAR	**Borovoye Array** comp=Z,3.3nm,0.8s,baz=125,slow=9.3,SNR=12 comp=Z,3.3nm,0.8s	**71.42**	**328**	P	**P**	**12 34 17.1**	**-1.0**
BRVK	**Borovoye**	**71.49**	**328**	P	**P**	**12 34 17.1**	**-1.4**
BRVK	comp=Z,4.9nm,0.9s			IAmb	IAmb	12 34 18.7	
MSEY	**Mahe Island**	**72.11**	**265**	P	**P**	**12 34 22.8**	**-0.3**
TIXI	**Tiksi** comp=Z,4.6nm,0.5s,baz=181,slow=3.6,SNR=2.4 comp=Z,4.6nm,0.5s	**72.16**	**0**	P	**P**	**12 34 20.7**	**-1.4**
NRIK	**Noril'sk**	**74.83**	**346**	P	**P**	**12 34 37.4**	**-0.4**
NRIK	comp=Z,7.7nm,1.2s			IAmb	IAmb	12 34 38.5	
NRIK	**Noril'sk** comp=Z,2.6nm,0.5s,baz=149,slow=2.7,SNR=4.0 comp=Z,2.6nm,0.5s	**74.83**	**346**	P	**P**	**12 34 37.3**	**-0.6**
AB31	**Akbulak array**	**76.05**	**321**	P	**P**	**12 34 43.8**	**-1.5**
AB31	comp=Z,5.7nm,1.1s			IAmb	IAmb	12 34 45.3	
ABKAR	**Akbulak array**	**76.05**	**321**	P	**P**	**12 34 44.1**	**-1.2**
AKTO	**Aktyubinsk** comp=Z,4.0nm,0.7s,baz=108,slow=7.5,SNR=9.2 comp=Z,4.0nm,0.7s	**77.58**	**322**	P	**P**	**12 34 53.4**	**-0.5**
VNDA	**Vanda**	**79.03**	**173**	P	**P**	**12 35 02.1**	**+0.6**
VNDA	**Vanda** comp=Z,1.6nm,0.9s,baz=312,slow=6.2,SNR=6.7 comp=Z,1.6nm,0.9s	**79.03**	**173**	P	**P**	**12 35 02.2**	**+0.8**
J16K	**Anvik River**	**82.45**	**26**	P	**P**	**12 35 20.4**	**+0.4**
J16K	comp=Z,4.9nm,0.8s			IAmb	IAmb	12 35 22.6	
L16K	**Owhat River**	**82.52**	**27**	P	**P**	**12 35 20.6**	**+0.2**
L16K	comp=Z,5.2nm,1.2s			IAmb	IAmb	12 35 28.0	
O16K	**Kokwok River B**	**82.64**	**30**	P	**P**	**12 35 20.7**	**-0.3**
O16K	comp=Z,7.1nm,1.1s			IAmb	IAmb	12 35 46.7	
J17K	**VABM Dome**	**83.14**	**26**	P	**P**	**12 35 24.6**	**+1.1**
J17K	comp=Z,5.3nm,1.0s			IAmb	IAmb	12 35 26.9	
H17K	**Granite Mounta**	**83.21**	**24**	P	**P**	**12 35 25.1**	**+1.3**
H17K	comp=Z,4.3nm,0.8s			IAmb	IAmb	12 35 26.2	
K17K	**Iditarod**	**83.31**	**27**	P	**P**	**12 35 25.1**	**+0.7**
L18K	**Granite Mounta**	**83.92**	**27**	P	**P**	**12 35 28.1**	**+0.5**
L18K	comp=Z,5.2nm,0.8s			IAmb	IAmb	12 35 29.8	
C19K	**Lookout Ridge**	**84.50**	**20**	P	**P**	**12 35 31.1**	**+0.6**
C19K	comp=Z,7.5nm,0.8s			IAmb	IAmb	12 35 33.0	
N19K	**Bonanza Creek**	**84.66**	**29**	P	**P**	**12 35 31.9**	**+0.4**
N19K	comp=Z,8.6nm,0.9s			IAmb	IAmb	12 35 33.6	
H19K	**Roundabout Mou**	**84.77**	**24**	P	**P**	**12 35 31.6**	**-0.2**
H19K	comp=Z,4.4nm,1.3s			IAmb	IAmb	12 35 35.7	
IMAR	**Indian Mountai**	**85.95**	**24**	P	**P**	**12 35 38.1**	**+0.4**
E22K	**Anaktuvuk Pass**	**87.07**	**22**	P	**P**	**12 35 42.9**	**-0.4**
E22K	comp=Z,5.1nm,1.4s			IAmb	IAmb	12 36 06.3	
ILAR	**Eielson Array** comp=Z,0.4nm,0.8s,baz=262,slow=5.1,SNR=4.3 comp=Z,0.4nm,0.8s	**88.64**	**25**	P	**P**	**12 35 48.9**	**-1.9**
QSPA	**South Pole Qui** comp=Z,4.1nm,1.0s,baz=326,slow=4.2,SNR=8.2 comp=Z,4.1nm,1.0s	**89.31**	**180**	P	**P**	**12 35 53.1**	**-1.0**
J26L	**Joseph Creek**	**90.06**	**26**	P	**P**	**12 35 57.0**	**-0.6**
L27K	**Beaver Creek,**	**90.82**	**27**	P	**P**	**12 36 00.7**	**-0.4**
BCAR	**Beaver Creek A**	**90.84**	**27**	P	**P**	**12 36 01.3**	**+0.2**
I28M	**Miner Creek**	**91.60**	**25**	P	**P**	**12 36 04.9**	**+0.2**
I28M	comp=Z,1.8nm,0.8s			IAmb	IAmb	12 36 09.2	
FARO	**Faro, Yukon**	**94.78**	**28**	P	**P**	**12 36 19.4**	**0.0**
FARO	comp=Z,2.2nm,0.8s			IAmb	IAmb	12 36 20.5	
CPUP	**Villa Florida** comp=Z,0.9nm,0.9s,baz=222,slow=4.6,SNR=3.9	**152.79**	**170**	PKPbc	**PKPbc**	**12 42 55.3**	**-0.3**

IDC 14 12:24:09.0±3.5,**54.°23N**×**35.°20W**,**h0**km,**mb3.5**/3, **mbtmp3.5**/3,**Error ellipse: s-maj=85.8km s-min=46.2km az=64.0**,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array** 0.5nm,0.7s,baz=316,slow=10,SNR=4.3 0.5nm,0.7s	**25.55**	**112**	P	P	12 29 39.3	0.0
ARCES	**ARCESS Array B** 0.8nm,0.8s,baz=259,slow=8.2,SNR=5.3 0.8nm,0.8s	**30.81**	**37**	P	P	12 30 25.9	0.0
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=330,slow=5.5,SNR=2.4 0.5nm,0.7s	**66.29**	**42**	P	P	12 34 58.9	+0.1
ASAR	**Alice Springs** 0.7nm,0.6s,baz=351,slow=3.1,SNR=4.8	**148.40**	**19**	PKPbc	PKPbc	12 43 56.4	-0.7

*IDC **14** 12:25:51.1±0.7,0.°73S×127.°58E, h0km, mb4.1/14, mbtmp4.1/15, ML3.5/1, Error ellipse: s-maj=36.9km s-min=14.1km az=76.0*
*NEIC **14** 12:25:53.7±2.4,0.°74S±0.°04×127.°73E±0.°10, h10km±1km, mb4.5/23, Error ellipse: s-maj=17.3km s-min=6.7km az=254.0*
*DJA **14** 12:25:56.9±1.3,1.°S±2.°×12.°8E±.°, h27km±12km, M4.5/13, mb4.7/5, MLv4.5/13*
ISC 14 12:25:53.2±0.5,**0.75S**±0.°04×**127.67E**±0.°08,**h10**km,**n59**, σ1§**27**/61,**mb4.5**/27,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.54**	**349**	Pn	**Pn**	**12 26 21.3**	**+0.6**
TNTI	**Ternate**	**1.54**	**349**	P	**Pn**	**12 26 21.1**	**+0.4**
TNTI				S	**Sn**	**12 26 41.3**	**+0.6**
SANI	**Sanana**	**2.12**	**232**	P	**Pn**	**12 26 30.3**	**+1.6**
NLAI	**Namlea**	**2.54**	**193**	P	**Pn**	**12 26 36.2**	**+1.7**
NLAI				S	**Sn**	**12 27 07.5**	**+2.0**
AAI	**Ambon**	**2.97**	**170**	P	**Pb**	**12 26 44.0**	**-2.2**
SWI	**Sorong**	**3.60**	**92**	P	**Pn**	**12 26 51.9**	**+2.9**
KMSI	**Cibinong**	**3.91**	**290**	P	**Pn**	**12 26 55.1**	**+1.7**
BNDI	**Bandanaira**	**4.37**	**149**	P	**Pn**	**12 27 02.2**	**+2.6**
FAKI	**Fak Fak**	**5.06**	**115**		**Pn**	**12 27 09.2**	**-0.1**
FAKI	**Fak Fak** 0.6nm182nm,0.9s	**5.06**	**115**	P	**Pn**	**12 27 11.1**	**+1.9**
APSI	**Amp

KSRS	Korea Array	38.01	0	P	P	12 33 11.1	-0.4		
	comp=Z,0.9nm,0.7s,baz=182,slow=11,SNR=5.9								
	comp=Z,0.9nm,0.7s								
MJAR	Matsushiro Arr	38.37	14	P	P	12 33 13.9	-0.7		
	comp=Z,1.6nm,0.8s,baz=182,slow=8.7,SNR=5.4								
	comp=Z,1.6nm,0.8s								
JMM	Marumori	40.29	16	P	P	12 33 31.5	+0.9		
LZH	Lanzhou	42.83	331	eP	P	12 33 52.8	+1.1		
LZH				pP	sP	12 33 59.3	+3.0		
LZH				pmax	pmax				
	comp=Z,22nm,1.3s								
GTA	Gaotai	47.41	331	eP	P	12 34 29.3	+1.2		
GTA				pP	sP	12 34 33.0	+0.4		
GTA				pmax	pmax				
	comp=Z,6.0nm,1.0s								
EVN	Everest	48.47	309		P	12 34 37.4	+0.3		
SONM	Songino Array	51.81	342	P	P	12 35 01.2	-0.3		
SONM				IAmb	IAmb	12 35 07.0			
	comp=Z,4.5nm,1.4s								
SONM	Songino Array	51.81	342	P	P	12 35 00.3	-1.2		
	comp=Z,1.1nm,0.7s,baz=169,slow=8.6,SNR=4.9								
	comp=Z,1.1nm,0.7s								
PEA0B	Petropavlovsk-	59.23	21	P	P	12 35 55.7	+1.1		
PETK	Petropavlovsk-	59.23	21	P	P	12 35 55.0	+0.4		
PETK	Petropavlovsk-	59.23	21	P	P	12 35 55.3	+0.7		
	comp=Z,1.4nm,0.7s,baz=185,slow=5.4,SNR=4.1								
	comp=Z,1.4nm,0.7s								
MKAR	Makanchi Array	61.76	326	P	P	12 36 11.3	-0.7		
	comp=Z,1.7nm,0.6s,baz=124,slow=8.1,SNR=8.8								
	comp=Z,1.7nm,0.6s								
YAK	Yakutsk	62.63	1	P	P	12 36 16.8	-0.7		
	comp=Z,20nm,0.6s,baz=115,slow=2.1,SNR=4.6								
ZALV	Zalesovo Beam	64.98	334	P	P	12 36 31.3	-1.9		
	comp=Z,0.4nm,0.3s,baz=114,slow=6.5,SNR=3.7								
	comp=Z,0.4nm,0.3s								
BTK	Batken	65.71	315	P	P	12 36 37.5	-0.8		
BTK				IAmb	IAmb	12 36 44.7			
	comp=Z,5.1nm,1.1s								
KURBB	Kurchatov Arra	66.00	328	P	P	12 36 38.5	-1.4		
	comp=Z,0.9nm,0.3s,baz=126,slow=5.9,SNR=10								
	comp=Z,0.9nm,0.3s								
KURK	Kurchatov	66.00	328	P	P	12 36 39.4	-0.5		
KURK				IAmb	IAmb	12 36 39.7			
	comp=Z,4.4nm,0.8s								
KK31	Karatay Array	67.14	318	P	P	12 36 46.0	-1.4		
KK31				IAmb	IAmb	12 36 47.5			
	comp=Z,1.7nm,0.8s								
KKAR	Karatay Array	67.14	318	P	P	12 36 46.4	-0.9		
BVAR	Borovoye Array	71.57	328	P	P	12 37 13.2	-1.4		
	comp=Z,1.5nm,0.8s,baz=108,slow=9.5,SNR=5.2								
	comp=Z,1.5nm,0.8s								
BRVK	Borovoye	71.64	328	P	P	12 37 13.5	-1.5		
BRVK				IAmb	IAmb	12 37 18.9			
	comp=Z,2.9nm,0.9s								
NRIK	Noril'sk	74.97	346	P	P	12 37 33.4	-0.9		
	comp=Z,1.8nm,0.4s,baz=98,slow=9.5,SNR=3.6								
	comp=Z,1.8nm,0.4s								
AB31	Akbulak array	76.20	321	P	P	12 37 40.0	-1.7		
ABKAR	Akbulak array	76.20	321	P	P	12 37 40.0	-1.7		
J16K	Anvik River	82.52	26	P	P	12 38 17.7	+1.7		
J16K				IAmb	IAmb	12 38 22.3			
	comp=Z,6.7nm,1.4s								
L16K	Owhat River	82.59	27	P	P	12 38 17.5	+1.2		
L16K				IAmb	IAmb	12 38 20.5			
	comp=Z,5.5nm,1.4s								
H17K	Granite Mounta	83.29	24	P	P	12 38 20.6	+0.7		
H17K				IAmb	IAmb	12 38 22.5			
	comp=Z,2.8nm,0.9s								
K17K	Iditarod	83.38	26	P	P	12 38 21.3	+0.9		
K17K				IAmb	IAmb	12 38 22.8			
	comp=Z,3.9nm,0.9s								
L18K	Granite Mounta	83.99	27	P	P	12 38 25.0	+1.4		
L18K				IAmb	IAmb	12 38 45.6			
	comp=Z,7.3nm,1.4s								
C19K	Lookout Ridge	84.59	20	P	P	12 38 26.8	+0.3		
C19K				IAmb	IAmb	12 38 29.6			
	comp=Z,7.9nm,1.2s								
QSPA	South Pole Qui	89.19	180	P	P	12 38 49.5	+0.4		
	comp=Z,0.8nm,0.7s,baz=294,slow=1.8,SNR=2.0								
	comp=Z,0.8nm,0.7s								

*PAS **14** 12:27:03.6±1.2,35°.657N±0°.004×117°.49W±0°.01, h-0km±1km, ML3.0/22, ML2.8/126(NEIC), Error ellipse: s-maj=1.3km s-min=0.6km az=76.0*

NEIC 14 12:27:03.5±1.2, 35°.669N±0°.009×117°.49W±0°.01, h5km±2km, Error ellipse: s-maj=1.3km s-min=1.2km az=201.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	Spangler Hills	0.07	183		Pg	12 27 05.2	+0.1
CCCA	Chr Cany lake	0.18	145		Pg	12 27 07.7	+0.7
SRTC	Snort	0.21	276		Pg	12 27 08.6	+0.9
LRMC	Laurel Mtn Rad	0.25	220		Pg	12 27 08.6	+0.2
TOW	Tower One	0.26	302		Pg	12 27 09.7	+0.9
TOW					Sb	12 27 14.6	-1.2
WNMM	Nine Mile Cany	0.38	297		Pg	12 27 11.5	+0.6
WVPM	Volcano Peak E	0.39	316		Pg	12 27 11.6	+0.5
MPMC	Manual Prospec	0.39	360		Pg	12 27 11.3	+0.2
MPMC				IAML		12 27 17.6	
	comp=N,1μm,0.5s						
MPMC				IAML		12 27 17.6	
	comp=E,1μm,0.3s						
JRC2	Joshua Ridge	0.41	320		Pg	12 27 12.1	+0.6
WRVM	Rose V. Centra	0.47	316		Pg	12 27 13.1	+0.4
WRVM					Sg	12 27 20.0	+1.2
DTP	Desert Tortois	0.50	216		Pg	12 27 13.1	0.0
MFS	McCloud Flat S	0.54	326		Pg	12 27 14.4	+0.5
MFS					Sb	12 27 22.4	-1.4
WBSM	Bird Springs	0.55	256		Pg	12 27 14.4	+0.3
WBSM					Sg	12 27 22.1	+0.9
QSM	Queen of Sheba	0.58	59		Pg	12 27 15.1	+0.3
QSM				IAML		12 27 24.7	
	comp=N,995nm,0.5s						
WORM	Onyx Ranch	0.61	273		Pg	12 27 15.3	0.0
WORM					Sg	12 27 23.8	+0.4
GSC	Goldstone, Bar	0.67	123		Pg	12 27 16.5	+0.2
GSC				IAML		12 27 26.0	
	comp=E,546nm,0.5s						
GSC				IAML		12 27 26.0	
	comp=N,526nm,0.4s						
GSC	Goldstone, Bar	0.67	123		Sg	12 27 25.8	+0.8
CCAC	Calif City Air	0.67	220		Pg	12 27 16.5	0.0
WHFM	Hanning Flat	0.70	272		Pg	12 27 17.1	+0.1
WHFM					Sg	12 27 26.5	+0.3
ISA	Isabella, Lake	0.80	270		Sg	12 27 30.0	+0.6
ISA	Isabella, Lake	0.80	270		Pg	12 27 18.7	-0.3
ISA				IAML		12 27 30.1	
	comp=N,258nm,0.6s						
ISA				IAML		12 27 30.2	
	comp=E,276nm,0.2s						
HYS	Haystack Butte	0.81	185		Pg	12 27 18.7	-0.3
HYS					Sg	12 27 29.7	+0.2
GWY	Greenwater Val	0.84	52		Sg	12 27 31.3	+0.6
GWY	Greenwater Val	0.84	52		Pg	12 27 19.6	-0.1
GWY				IAML		12 27 35.4	
	comp=N,558nm,0.3s						
WASM	Alta Sierra Ca	0.87	275		Pg	12 27 20.4	+0.1
WASM					Sg	12 27 32.1	+0.4
EDW2	Edwards Air Fo	0.89	208		Pg	12 27 20.1	-0.5
CWC	Cottonwood Cre	0.91	328		Pg	12 27 21.1	+0.2
CWC				IAML		12 27 34.5	
	comp=N,270nm,0.2s						
CWC				IAML		12 27 34.8	
	comp=E,182nm,0.2s						
FURC	Furnace Creek,	0.94	32		Sb	12 27 35.3	0.0
TPO	Tropico Hills	0.99	218		Pg	12 27 22.1	-0.5
SBB	Saddle Back Bu	1.02	196		Pg	12 27 22.5	-0.5
VTV	Victorville	1.11	173		Sb	12 27 40.9	+0.7
ADO	Adelanto Recei	1.12	178		Pn	12 27 25.9	-0.1
SPG2	Springville 2	1.17	297		Pg	12 27 25.5	-0.4
SPG2					Sg	12 27 40.8	-0.2
LRRC	Littlerock Res	1.22	201		Pg	12 27 26.3	-0.7
LRRC					Sn	12 27 44.1	-0.1
THC	Tehachapi Micr	1.23	232		Pg	12 27 26.7	-0.4
LEOC	Leona Valley	1.23	213		Pn	12 27 27.6	0.0
HOLC	Holcomb Ridge	1.24	194		Pg	12 27 26.7	-0.7
HOLC					Sb	12 27 44.4	+0.4
AMDNV	Amargosa	1.25	51		Pg	12 27 27.0	-0.6
HEC	Hector,Ludlow	1.26	131		Sg	12 27 44.0	-0.1
JNH	Juniper Hills	1.28	198		Pg	12 27 27.3	-0.7
TUQ	Turquoise Moun	1.30	100		Pg	12 27 28.0	-0.4
TUQ					Sn	12 27 46.5	+0.2
VES	Vestal, Richgr	1.31	278		Sb	12 27 45.9	+0.1
WCT	Wildcat Mounta	1.32	32		Pn	12 27 28.4	-0.4
WCT					Sb	12 27 46.2	0.0
WCT				IAML		12 27 48.4	
	comp=N,154nm,0.4s						
WCT				IAML		12 27 49.5	
	comp=E,169nm,0.3s						
GRAC	Grapevine Rang	1.33	4		Pn	12 27 28.6	-0.2
GRAC				IAML		12 27 51.8	
	comp=E,236nm,0.9s						
SGV	South Grapevin	1.36	16		Pn	12 27 29.1	-0.3
CHFC	Chilao Flat St	1.40	198		Pn	12 27 29.4	-0.6
SIL	Silver Peak	1.43	157		Pg	12 27 31.0	+0.2
BFSC	Mount Baldy Ra	1.43	186		Pn	12 27 29.9	-0.5
BFSC				IAML		12 27 51.0	
	comp=N,132nm,0.5s						
BFSC				IAML		12 27 53.2	
	comp=E,105nm,0.3s						
OSI	Osito Audit: C	1.46	224		Pb	12 27 31.1	-0.2
OSI				IAML		12 27 53.2	
	comp=E,157nm,0.8s						
OSI				IAML		12 27 56.0	
	comp=N,165nm,0.6s						
SSK	Sunset Peak	1.47	187		Pn	12 27 30.4	-0.5
BBRC	Big Bear Solar	1.48	161		Pb	12 27 31.4	-0.3
MWC	Mount Wilson	1.52	198		Pn	12 27 31.7	+0.1
MWC				IAML		12 27 55.0	
	comp=E,173nm,0.6s						
LCH	Last Change Ra	1.57	355		Pn	12 27 32.5	+0.3
LCH					Sg	12 27 54.6	+0.7
MTPC	Mountain Pass	1.59	96		Pn	12 27 31.5	-1.0
MTPC				IAML		12 27 56.4	
	comp=N,80nm,0.5s						
MTPC				IAML		12 27 57.1	
	comp=E,88nm,0.2s						
SVD	Seven Oaks Dam	1.59	168		Pg	12 27 34.3	+0.2
SVD					Sg	12 27 54.4	-0.3
PSRC	Puddingstone R	1.59	190		Pg	12 27 34.2	+0.1
PASC	Pasadena Art C	1.60	201		Pn	12 27 32.3	-0.3
PASC				IAML		12 27 55.7	
	comp=E,84nm,0.5s						
PASC				IAML		12 28 00.5	
	comp=N,90nm,0.7s						
OAT	Oat Mountain	1.61	215		Pg	12 27 34.6	+0.1
TPNV	Topopah Spring	1.62	38		Pn	12 27 32.9	-0.1
TPNV				IAML		12 27 59.4	
	comp=N,136nm,0.6s						
TPNV				IAML		12 28 03.3	
	comp=N,131nm,0.5s						
GMN	Gold Mountain	1.64	6		Pn	12 27 33.6	+0.3
GTM	Goat Mountain	1.66	146		Pb	12 27 35.0	+0.3
RVR	Riverside	1.68	177		Pb	12 27 35.1	+0.2
GMRC	Granite Mounta	1.74	120		Pn	12 27 33.0	-1.6
DSP	Deep Springs	1.74	347		Pn	12 27 34.8	+0.4
DSP				IAML		12 28 00.8	
	comp=E,78nm,0.4s						
BHPR	Bishop	1.81	334		Pg	12 27 38.1	-0.3
TPC	Twentynine Pal	1.96	142		Pn	12 27 37.0	-0.5
HMTC	Hemet	2.00	168		Pn	12 27 38.0	0.0
ELS	Elsinore Mount	2.02	179		Pn	12 27 37.9	-0.5
ELS				IAML		12 28 10.3	
	comp=E,69nm,0.4s						
ELS				IAML		12 28 16.1	
	comp=N,87nm,0.6s						
MZP	Montezuma Peak	2.03	2		Pn	12 27 39.4	+0.7
POB	Polly Butte	2.03	167		Pn	12 27 38.6	0.0
SHPR	Sheep Range	2.06	65		Pn	12 27 39.3	+0.3
V12A	Nelson	2.15	88		Pn	12 27 39.5	-0.7
PMD	Palm Desert	2.21	155		Pn	12 27 40.0	-1.0
PMD				IAML		12 28 16.0	
	comp=E,40nm,0.7s						
PFO	Pinyon Flats O	2.22	157		Pn	12 27 40.7	-0.5
TPH	Tonopah	2.41	5		Pn	12 27 44.2	+0.3
NEE2	Needles Airpor	2.52	110		Pn	12 27 44.0	-1.1
NEE2				IAML		12 28 33.0	
	comp=E,51nm,0.5s						
NEE2				IAML		12 28 35.5	
	comp=N,63nm,0.6s						
PRN	Pahroc Range	2.62	48		Pn	12 27 47.5	+0.9
PRN				IAML		12 28 35.7	
	comp=E,53nm,0.7s						
PRN				IAML		12 28 37.0	
	comp=N,64nm,0.7s						
DPP	Dos Picos Cty	2.70	170		Pn	12 27 47.6	-0.2
DPP				IAML		12 28 28.5	
	comp=E,31nm,0.4s						
LHV	Little Huntoon	2.70	343		Pn	12 27 48.9	+1.2
LHV				IAML		12 28 35.5	
	comp=E,40nm,0.7s						
LHV				IAML		12 28 36.5	
	comp=N,23nm,0.7s						
PMPB	Monarch Peak	2.74	282	Pn	Pn	12 27 48.0	-0.3
PMPB				IAML		12 28 37.4	
	comp=E,46nm,0.9s						
PMPB				IAML		12 28 41.5	
	comp=N,48nm,2.0s						
NV11	Mina Array Sit	2.81	349	Pn	Pn	12 27 49.0	-0.3
NVAR	Mina Array Bea	2.83	347		Pn	12 27 51.1	+1.4
W13A	Hualapai Mount	3.00	100		Pn	12 27 51.3	-0.7
RYN	Ryan	3.07	345		Pn	12 27 53.9	+1.0
BLYC	Blythe	3.10	127	Pn	Pn	12 27 51.4	-1.8
BLYC				IAML		12 28 45.1	
	comp=N,24nm,0.6s						
BLYC				IAML		12 28 48.3	
	comp=E,21nm,0.7s						
TKX	Tecate	3.18	166		Pn	12 27 54.2	-0.1
TKX				IAML		12 29 35.7	
	comp=E,32nm,0.1s						
YUH	Yuha Desert	3.28	156		Pn	12 27 55.5	-0.2
SAO	San Andreas Ge	3.38	290	Pn	Pn	12 27 56.7	-0.4
GLA	Glamis	3.42	139	Pn	Pn	12 27 56.4	-1.2
GLA				IAML		12 28 56.2	
	comp=N,34nm,0.6s						
CBX	Cerro Bola	3.42	168		Pn	12 27 57.6	-0.1
ESJX	Sierra Juarez	3.87	160		Pn	12 28 03.6	-0.4
ESJX				IAML		12 28 48.9	
	comp=E,12nm,0.1s						
Y14A	Wickenburg	4.07	114		Pn	12 28 06.4	-0.2
Y14A				IAML		12 29 19.8	
	comp=E,8.9nm,0.7s						
Y14A				IAML		12 29 23.9	
	comp=N,11nm,0.7s						
MPK	Martis Peak	4.15	332	Pn	Pn	12 28 08.1	+0.2
MPK				IAML		12 29 37.9	
	comp=N,14nm,0.9s						
MPK				IAML		12 29 46.2	
	comp=E,13nm,1.2s						
PAHR	Pah Rah Range	4.30	340		Pn	12 28 11.2	+1.4
WUAZ	Wupatki	4.98	90	Pn	Pn	12 28 17.9	-1.3
WUAZ				IAML		12 31 20.6	
	comp=E,7.4nm,2.3s						
WUAZ				IAML		12 31 22.8	
	comp=E,6.3nm,1.5s						
ELK	Elko	5.37	19		Pn	12 28 24.7	+0.2
HATC	Hat Creek Radi	6.01	330	Pn	Pn	12 28 32.0	-1.3

*NOU **14** 12:27:31.6, 43°.54S×172°.79E, h2km, MLv4.1/9, South Island, New Zealand*

*WEL **14** 12:27:33.4±0.7, 43°.52S±2°×17°.3E±°, h4km±3km, M3.4/8, ML3.7/8, MLv3.4/8, Error ellipse: s-maj=5.0km s-min=2.9km az=86.5, confirmed*

ISC 14 12:27:31.7±1.0, 43°.50S±0°.03×172°.85E±0°.03, h15km±8km, n61, σ1s21/66, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MENS	Menlo Terrace	0.12	238	P	Pb	12 27 35.4	-0.4
DHSS	Diamond Harbou	0.16	213	P	Pb	12 27 36.5	+0.1
DHSS				S	Sg	12 27 39.0	+0.4
MQZ	McQueen's Vall	0.26	214	P	Pb	12 27 37.9	-0.2
MQZ				S	Sg	12 27 41.3	+0.3
OKCZ	Okains Bay	0.28	146	P	Pn	12 27 40.3	-1.0
TOKS	Te Oka Bay Roa	0.33	189	P	Pb	12 27 40.3	+0.9
AMCZ	Amberley	0.35	336	P	Pb	12 27 39.9	+0.3
AMCZ				S	Sb	12 27 44.5	-0.4
AKCZ	Akaroa Harbour	0.38	173	P	Pn	12 27 41.5	-1.2
GVZ	Greta Valley S	0.54	14	P	Pn	12 27 44.7	-0.2
GVZ				S	Sn	12 27 53.2	-0.6
RACZ	Rakaia	0.57	246	P	Pb	12 27 43.3	-0.1
OXZ	Oxford	0.61	286	P	Pg	12 27 43.5	-0.3
OXZ				S	Sg	12 27 51.0	-1.0
LTZ	Lake Taylor	0.83	329	P	Pn	12 27 48.5	-0.4
WACZ	Wakanui South	0.86	238	P	Pb	12 27 49.0	+0.6
MHCZ	Mount Hutt	0.93	267	P	Pb	12 27 49.7	+0.1
KHZ	Kahutara	1.19	25	P	Pg	12 27 54.9	+0.2
KHZ	Kahutara	1.19	25	P	Pg	12 27 54.6	-0.1
INZ	Inchbonnie	1.28	306	P	Pn	12 27 55.0	-0.2
ARCZ	Arundel	1.29	249	P	Pn	12 27 54.9	-0.4
RPZ	Rata Peaks	1.32	260	P	Pn	12 27 55.1	-0.6
RPZ	Rata Peaks	1.32	260	P	Pn	12 27 55.3	-0.4
WVZ	Waitaha Valley	1.60	285	P	Pn	12 27 59.8	+0.4
TMZ	Timaru	1.60	236	P	Pn	12 27 59.6	+0.1
THZ	Tophouse	1.73	1	P	Pb	12 28 02.3	-1.0
GCSZ	Gaunt Creek Bo	1.85	275	P	Pn	12 28 04.0	+1.2
DSZ	Denniston Nort	1.91	336	P	Pn	12 28 04.7	+0.9
BSWZ	Blackbirch Sta	1.93	23	P	Pn	12 28 05.6	-1.1
MRNZ	Matariki Terra	2.10	358	P	Pb	12 28 07.9	-1.5
LBZ	Lake Benmore	2.12	244	P	Pn	12 28 07.2	+0.5
FOZ	Fox Glacier	2.21	268	P	Pn	12 28 09.1	+1.3
ODZ	Otahua Downs	2.21	225	P	Pn	12 28 08.0	+0.1
ODZ	Otahua Downs	2.21	225	P	Pn	12 28 08.1	+0.1
TUWZ	Tuamarina	2.22	22	P	Pb	12 28 09.6	-1.8
NNZ	Nelson	2.31	10	P	Pb	12 28 10.7	-2.3
TKNZ	Takaka Hill	2.46	2	P	Pn	12 28 12.9	+1.6
TCW	Tory Channel	2.52	25	P	Pn	12 28 12.6	+0.6
BHW	Baring Head	2.57	36	P	Pn	12 28 13.5	+0.8
QRZ	Quartz Range	2.68	355	P	Pn	12 28 16.2	+1.9
QRZ	Quartz Range	2.68	355	P	Pn	12 28 16.1	+1.8
MSWZ	Moikau Station	2.73	41	P	Pn	12 28 15.8	+0.7
DUWZ	D'Urville Isla	2.81	17	P	Pn	12 28 18.0	+1.9
HHSZ	Highcliff Hill	2.88	213	P	Pn	12 28 17.4	+0.3
CAW	Cannon Point	2.90	35	P	Pn	12 28 17.8	+0.5
JCZ	Jackson Bay	3.00	257	P	Pn	12 28 19.4	+0.6
JCZ	Jackson Bay	3.00	257	P	Pn	12 28 19.7	+0.9
WKZ	Wanaka	3.06	243	P	Pn	12 28 20.1	+0.5
EAZ	Earnscleugh	3.08	234	P	Pn	12 28 19.8	+0.1
OGWZ	Otaki Gorge	3.18	34	P	Pn	12 28 22.0	+0.7
TUZ	Tuapeka	3.36	222	P	Pn	12 28 23.9	+0.3
MRZ	Mangatainoka R	3.48	37	P	Pn	12 28 26.1	+0.7
BFZ	Birch Farm	3.78	43	P	Pn	12 28 31.5	+2.1
BFZ	Birch Farm	3.78	43	P	Pn	12 28 31.2	+1.8
MLZ	Mavora Lakes	3.87	239	P	Pn	12 28 30.3	-0.4
SYZ	Scrubby Hill	4.02	220	P	Pn	12 28 33.7	+1.0
SYZ	Scrubby Hill	4.02	220	P	Pn	12 28 33.6	+0.8
WHZ	Wether Hill Ro	4.24	234	P	Pn	12 28 34.7	-1.0
VRZ	Vera Road	4.60	19	P	Pn	12 28 43.7	+3.0
MOVZ	Moawhango	4.63	29	P	Pn	12 28 42.8	+1.6
WNVZ	Wahianoa	4.65	27	P	Pn	12 28 44.2	+2.7
FWVZ	Far West T-bar	4.70	27	P	Pn	12 28 44.7	+2.5
NNVZ	North Ngauruho	4.83	26	P	Pn	12 28 46.2	+2.1
HIZ	Hauiti	5.20	18	P	Pn	12 28 51.2	+2.2
URZ	Urewera	6.15	33	P	Pn	12 29 04.1	+2.2

*NEIC **14** 12:29:32.9±1.5, 35°.348N±0°.008×117°.93W±0°.01, h2km, Error ellipse: s-maj=1.4km s-min=1.1km az=119.0*

PAS 14 12:29:33.8±1.5, 35°.336N±0°.008×117°.92W±0°.01, h6km±3km, ML3.0/22, ML2.9/127(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=120.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DTP	Desert Tortois	0.09	140		Pg	12 29 35.9	+0.1
CCAC	Calif City Air	0.20	204		Pg	12 29 38.0	+0.2
CCAC					Sg	12 29 41.2	+0.8
LRMC	Laurel Mtn Rad	0.24	53		Pg	12 29 38.2	-0.3
LRMC				IAML		12 29 42.1	
	comp=E,3μm,0.3s						
WBSM	Bird Springs	0.27	318		Pg	12 29 39.2	0.0
SRTC	Snort	0.38	21		Pg	12 29 41.5	+0.3
SRTC					Sg	12 29 46.7	+0.5
WSHM	Spangler Hills	0.43	53	Pg	Pg	12 29 41.8	-0.4
WSHM				IAML		12 29 48.7	
	comp=E,1μm,0.2s						
WORM	Onyx Ranch	0.45	324		Pg	12 29 42.0	-0.5
EDW2	Edwards Air Fo	0.46	188		Pg	12 29 42.2	-0.3
CCCA	Chr Cany lake	0.49	67		Pg	12 29 42.9	-0.3
CCCA				IAML		12 29 51.1	
	comp=N,1μm,0.6s						
CCCA				IAML		12 29 53.0	
	comp=E,1μm,0.3s						
TOW	Tower One	0.49	15		Pg	12 29 43.7	+0.5
WHFM	Hanning Flat	0.51	316		Pg	12 29 43.1	-0.4
WHFM					Sg	12 29 50.0	-0.1
WNMM	Nine Mile Cany	0.51	1		Pg	12 29 43.4	-0.1
WNMM					Sg	12 29 49.9	-0.2
TPO	Tropico Hills	0.52	209		Pg	12 29 43.3	-0.5
TPO				IAML		12 29 51.9	
	comp=E,924nm,0.8s						
TPO				IAML		12 29 52.1	
	comp=N,641nm,0.6s						
HYS	Haystack Butte	0.55	149		Pg	12 29 43.8	-0.5
ISA	Isabella, Lake	0.56	306		Sg	12 29 52.2	+0.3
ISA	Isabella, Lake	0.56	306		Pg	12 29 43.9	-0.6
ISA				IAML		12 29 52.3	
	comp=E,872nm,0.2s						
ISA				IAML		12 29 52.7	
	comp=N,483nm,0.3s						
WVPM	Volcano Peak E	0.62	7		Pg	12 29 45.5	-0.2
WVPM					Sg	12 29 54.3	+0.5
TEJ	El Tejon	0.64	261		Pg	12 29 45.4	-0.7
TEJ					Sb	12 29 55.6	-1.1
SBB	Saddle Back Bu	0.65	173		Pg	12 29 45.7	-0.6
JRC2	Joshua Ridge	0.65	8		Pg	12 29 46.1	-0.2
WASM	Alta Sierra Ca	0.66	308		Pg	12 29 46.1	-0.4
WASM					Sg	12 29 55.2	+0.1
WRVM	Rose V. Centra	0.67	2		Pg	12 29 46.6	-0.1
TJR	Tejon Ranch	0.74	246		Pg	12 29 47.3	-0.7
THC	Tehachapi Micr	0.75	235		Pg	12 29 47.6	-0.5
LEOC	Leona Valley	0.77	205		Pg	12 29 48.1	-0.5
ARVC	Arvin	0.78	255		Pg	12 29 48.1	-0.5
MFS	McCloud Flat S	0.78	4	

comp=E,319nm,0.5s
SIL Silver Peak 1.33 137 Pn 12 29 58.7 -0.4
SIL Sn 12 30 17.1 -0.2
BBRC Big Bear Solar 1.35 142 Pn 12 29 58.9 -0.4
BBRC Sg 12 30 16.5 -0.6
HEC Hector,Ludlow 1.39 111 Pn 12 30 00.0 +0.2
HEC Sb 12 30 18.3 0.0
SVD Seven Oaks Dam 1.40 151 Sg 12 30 18.9 +0.2
CRGC Crocker Grade 1.48 267 Pn 12 30 00.9 -0.2
VOG Valley Oaks Go 1.54 310 Pn 12 30 01.8 0.0
PKM Mcpherson Peak 1.62 255 Pb 12 30 03.8 -0.4
GTM Goat Mountain 1.65 129 Pb 12 30 04.7 +0.1
SMMC Simmler 1.70 270 Pn 12 30 04.0 0.0
GRAC Grapevine Rang 1.72 15 Pn 12 30 03.7 -0.6
GRAC IAML 12 30 39.9
comp=N,83nm,0.8s
GRAC IAML 12 30 40.1
comp=E,77nm,0.7s
ELS Elsinore Mount 1.73 166 Pn 12 30 03.4 -1.1
ELS IAML 12 30 29.1
comp=E,100nm,0.4s
ELS IAML 12 30 30.7
comp=N,97nm,0.6s
BLAC Blackrock camp 1.78 135 Pb 12 30 07.1 +0.2
SGV South Grapevin 1.79 23 Pn 12 30 04.8 -0.6
WCT Wildcat Mounta 1.79 35 Pn 12 30 04.2 -1.1
POB Polly Butte 1.84 153 Pb 12 30 07.5 -0.4
DGR Domenigoni Val 1.84 156 Pn 12 30 03.2 -2.7
EW2 E Wide Canyon 1.87 138 Pb 12 30 08.5 +0.2
GMRC Granite Mounta 1.93 106 Pn 12 30 05.5 -1.8
MTPC Mountain Pass 1.94 85 Pn 12 30 06.1 -1.3
MTPC IAML 12 30 35.6
comp=N,136nm,0.4s
MTPC IAML 12 30 37.1
comp=E,129nm,0.3s
TPC Twentynine Pal 1.97 128 Pn 12 30 06.2 -1.5
BHPR Bishop 2.01 347 Pb 12 30 10.7 -0.3
GMN Gold Mountain 2.03 15 Pn 12 30 08.5 -0.3
PFO Pinyon Flats O 2.10 145 Pn 12 30 08.4 -1.2
PFO IAML 12 30 44.0
comp=E,50nm,0.8s
TPNV Topopah Spring 2.10 39 Pn 12 30 08.8 -0.9
TPNV IAML 12 30 44.1
comp=E,76nm,0.9s
TPNV IAML 12 30 47.0
comp=E,75nm,0.6s
PMD Palm Desert 2.11 143 Pn 12 30 08.0 -1.6
PMD IAML 12 30 41.0
comp=E,91nm,0.5s
PMD IAML 12 30 46.5
comp=N,52nm,0.4s
FRD Ford Ranch, An 2.13 149 Pb 12 30 12.8 -0.1
PSMM Smith Mountain 2.30 289 Pn 12 30 13.6 +1.3
MLAC Mammoth, Mammo 2.41 342 Pb 12 30 17.7 +0.1
DPP Dos Picos Cty 2.47 161 Pn 12 30 13.3 -1.2
DPP IAML 12 30 52.5
comp=E,68nm,0.6s
PMPB Monarch Peak 2.51 291 Pn 12 30 14.7 -0.5
PMPB IAML 12 31 04.4
comp=E,91nm,0.7s
PMPB IAML 12 31 05.4
comp=N,64nm,1.1s
SHPR Sheep Range 2.52 62 Pn 12 30 14.8 -0.7
V12A Nelson 2.53 80 Pn 12 30 14.2 -1.3
V12A IAML 12 30 56.2
comp=N,45nm,0.5s
V12A IAML 12 30 56.8
comp=E,52nm,0.4s
NEE2 Needles Airpor 2.76 101 Pn 12 30 18.6 -0.1
TPH Tonopah 2.79 11 Pn 12 30 18.6 -0.6
TPH IAML 12 30 38.7
comp=N,32nm,0.7s
TPH IAML 12 31 17.1
comp=E,38nm,1.2s
BBGB Big Mountain B 2.82 297 Pn 12 30 18.0 -1.5
LHV Little Huntoon 2.95 351 Pn 12 30 21.8 +0.6
LHV IAML 12 31 14.4
comp=N,24nm,0.6s
LHV IAML 12 31 17.0
comp=E,32nm,0.6s
NV11 Mina Array Sit 3.10 357 Pn 12 30 22.0 -1.3
PRN Pahroc Range 3.10 47 Pn 12 30 22.4 -1.0
PRN IAML 12 31 15.2
comp=E,58nm,0.7s
PRN IAML 12 31 21.6
comp=N,58nm,0.5s
YUH Yuha Desert 3.15 148 Pn 12 30 23.1 -0.9
CBX Cerro Bola 3.19 161 Pn 12 30 24.0 -0.6
CBX IAML 12 31 22.6
comp=N,52nm,0.5s
W13A Hualapai Mount 3.31 93 Pn 12 30 24.6 -1.7
W13A IAML 12 31 20.6
comp=N,31nm,0.9s
W13A IAML 12 31 30.3
comp=E,21nm,0.8s
RYN Ryan 3.32 352 Pn 12 30 25.9 -0.5
CMB Columbia Colle 3.35 324 Pn 12 30 27.4 +0.7
CMB IAML 12 31 23.7
comp=N,24nm,0.7s
CMB IAML 12 31 25.0
comp=E,21nm,0.7s
ESJX Sierra Juarez 3.71 153 Pn Pn 12 30 30.9 -0.8
ESJX IAML 12 31 21.1
comp=N,31nm,0.1s
LCMT Little Creek M 4.13 65 Pn Pn 12 30 38.5 +0.9
Y14A Wickenburg 4.28 108 Pn 12 30 37.6 -1.9
Y14A IAML 12 31 58.6
comp=E,21nm,0.6s
CCUT Cedar City 4.29 58 Pn 12 30 39.5 -0.3
KNB Kanab 4.45 66 Pn Pn 12 30 41.8 -0.1
KNB IAML 12 32 06.9
comp=E,7.9nm,2.8s
KNB IAML 12 32 09.8
comp=N,6.9nm,1.0s
SZCU Shurtz Canyon 4.50 58 Pn Pn 12 30 41.7 -1.0
PAHR Pah Rah Range 4.52 345 Pn Pn 12 30 43.0 +0.1
U15A North Rim 4.70 75 Pn 12 30 45.2 -0.2
U15A IAML 12 32 07.0
comp=E,9.0nm,0.8s
U15A IAML 12 32 08.4
comp=N,9.0nm,0.9s
WUAZ Wupatki 5.34 86 Pn Pn 12 30 56.3 +2.1
WUAZ IAML 12 32 29.8
comp=N,10nm,2.1s
WUAZ IAML 12 32 38.1
comp=N,11nm,0.8s

*UCR **14** 12:33:21.9±1.3, 10°.65N×86°.53W, h0^km±7^km, MW4.4*
*CATAC **14** 12:33:26.3±1.1, 11°.N±10°×8°.6W±°, h34^km±36^km, M3.7/15, MLv3.7/15, Error ellipse: s-maj=25.3km s-min=7.0km az=30.1, confirmed*
ISC 14 12:33:23.1±1.8, **10°.56N**±0°.05×**86°.51W**±0°.06, **h14**km±11km, **n73**, σ0**84**/80, **17C**, **Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ELI1	Hacienda Flor	0.94	85	iP	eP	Pn	12 33 42.2	+0.3
ALIBA	Liberia Airpor	0.94	88	eP	eP	Pg	12 33 41.4	0.0
ALIBA				eS		Sn	12 33 55.9	+0.6
LCRUZ	La Cruz	1.00	59	eP	eP	Pg	12 33 42.2	-0.3
LCRUZ				eS		Sn	12 33 57.6	+0.8
ERIA	Liberia	1.05	86	eP	eP	Pn	12 33 43.4	-0.1
LAPC	Finca la Perla	1.07	79	iP	eP	Pb	12 33 43.4	-0.2
ARIN	Rivas	1.11	36	P	eP	Pg	12 33 44.9	+0.3
NICO	Nicoya	1.12	112	eP	eP	Pn	12 33 44.7	+0.3
PG27	Guanacaste Pro	1.13	76	eP	eP	Pb	12 33 44.1	-0.4
GPS3	Bodega del ICE	1.14	80	iP	eP	Pn	12 33 44.8	+0.1
GPS2	Hotel Rincn d	1.15	80	iP	eP	Pb	12 33 44.5	-0.3
CARN	Rivas	1.15	57	eP	eP	Pg	12 33 44.9	-0.4
CARN	Rivas	1.15	57	iP	P	Pg	12 33 45.1	-0.3
CARN				S		Sg	12 34 01.6	+1.2
PLVR	Palo Verde	1.15	100	eP	eP	Pn	12 33 45.3	+0.2
GPS1	Guardaparques	1.16	79	iP	eP	Pb	12 33 44.7	-0.3
GPS1				eS		Sg	12 34 02.7	+2.1
VORI	VORI	1.17	77	eP	eP	Pg	12 33 46.6	+0.9
BUAI	Buenos Aires	1.20	74	eP	eP	Pn	12 33 45.3	-0.2
PEJA	Penjamo Buenos	1.22	74	eP	eP	Pg	12 33 46.2	-0.5
JAPN	AI SSO del Vol	1.26	40	iP	eP	Pg	12 33 47.3	-0.1
JAPN	AI SSO del Vol	1.26	40	iP	P	Pg	12 33 47.4	-0.1
COLC	Colonia	1.28	85	iP	eP	Pn	12 33 46.2	-0.5
MORN	AI O del Volca	1.29	40	iP	P	Pb	12 33 47.4	+0.1
MESS	Mesas	1.30	82	eP	eP	Pn	12 33 46.0	-1.0
HORNC	Hornillas	1.31	83	iP	eP	Pn	12 33 46.9	-0.2
CUI	Cuipilapa	1.32	86	eP	eP	Pn	12 33 46.9	-0.4
NYURE	Nandayure	1.35	114	eP	eP	Pn	12 33 47.7	+0.1
VMAR	Armenia, Volca	1.39	79	iP	eP	Pb	12 33 48.4	-0.6
VMAR				eS		Sg	12 34 07.2	-0.9
CNAS	Canas	1.40	95	eP	eP	Pg	12 33 49.8	-0.2
MOTZ	Rio Naranjo	1.41	85	eP	eP	Pn	12 33 48.6	+0.1
INVE	Universidad In	1.42	93	eP	eP	Pb	12 33 49.3	-0.2
NANN	Nandasmo	1.42	15	iP	P	Pg	12 33 50.4	-0.2
SABN	Sabanita	1.43	14	P	P	Pb	12 33 49.6	0.0
TIMP	Tierras Morena	1.46	89	eP	eP	Pn	12 33 49.1	-0.1
UPAL	Upala	1.50	77	eP	eP	Pb	12 33 50.7	-0.2
UPAL				eS		Sg	12 34 11.2	-0.5
TENO	El Achiote	1.51	84	eP	eP	Pn	12 33 49.1	-0.7
TILA	Tilaran	1.51	93	eP	eP	Pb	12 33 50.9	-0.1
JTS	Las Juntas de	1.55	100	eP	eP	Pn	12 33 50.1	-0.2
JTS	Las Juntas de	1.55	100	iP	P	Pn	12 33 50.0	-0.3
UNAN	Cigeo UNAN	1.56	8	P	P	Pb	12 33 51.8	-0.1
QUEB	Quebradon, Cot	1.58	87	eP	eP	Pn	12 33 51.1	+0.2
TISN	Laguna Tiscapa	1.59	8	P	P	Pb	12 33 52.6	+0.2
SAPS	Ciudad Sandino	1.61	3	P	P	Pb	12 33 52.4	-0.3
COPN	Copaltepe	1.62	357	eP	eP	Pn	12 33 49.8	-1.4
COPN	Copaltepe	1.62	357	iP	P	Pn	12 33 51.9	+0.6
TABAC	Tabacon	1.71	92	eP	eP	Pg	12 33 55.6	-0.4
VARE2	V. Arenal	1.76	93	eP	eP	Pb	12 33 54.4	-0.9
CEDE	Laguna Cedeo	1.77	92	eP	eP	Pb	12 33 55.0	-0.5
FORC	Fortuna	1.81	93	eP	eP	Pn	12 33 54.4	+0.5
LCHIL	Los Chiles	1.82	75	eP	eP	Pn	12 33 53.8	-0.3
MOMN	Momotombo	1.84	359	P	P	Pn	12 33 55.1	+0.7
SOCE	Pocosol	1.86	95	eP	eP	Pb	12 33 56.7	-0.3
MOM2	El Cardon	1.87	1	iP	P	Pn	12 33 55.7	+0.9
MOM2				S		Sb	12 34 18.8	-1.5
ARZA	Esparza	1.89	107	eP	eP	Pn	12 33 56.2	+1.1
ACON	Acoyapa	1.92	43	eP	eP	Pn	12 33 55.1	-0.2
ACON	Acoyapa	1.92	43	P	P	Pn	12 33 55.5	+0.1
CNGN	Cerro Negro	1.94	354	P	P	Pb	12 33 57.9	-0.5
CNGN	Cerro Negro	1.94	354	S	S	Sb	12 34 22.4	-0.1
SRA1	San Ramn	2.05	103	eP	eP	Pb	12 33 59.6	-0.6
QUEU	Ciudad Quesada	2.05	96	eP	eP	Pg	12 34 01.8	-0.7
BOAB	BOACO BROADBAN	2.05	24	iP	P	Pn	12 33 57.7	+0.4
RAMO	San Ramon	2.06	103	eP	eP	Pb	12 34 00.8	+0.4
PKGN	Cerro Pekin	2.15	348	P	P	Pb	12 34 01.0	-0.9
BELE	Belen	2.35	104	eP	eP	Pb	12 34 06.0	+0.7
PAR1A	Puntarenas Pro	2.41	113	eP	eP	Pn	12 34 04.1	+1.9
ACOS	Acosta	2.42	108	eP	eP	Pb	12 34 05.7	-1.0
PICV	PH. Pirrs	2.46	112	eP	eP	Pn	12 34 04.3	+1.4
ABE2	San Pablo	2.56	109	eP	eP	Pn	12 34 06.0	+1.6
LCR2	La Lucha 2	2.59	108	eP	eP	Pn	12 34 06.0	+1.2
PIEC	Cerro El Cedra	2.67	110	eP	eP	Pn	12 34 06.9	+0.9
CVTR	Volcan Turrial	2.75	101	eP	eP	Pb	12 34 10.2	-2.3
VINA	Juan Vinas	2.79	103	eP	eP	Pn	12 34 05.6	-2.6
VERB	Verbena	2.83	102	eP	eP	Pn	12 34 10.6	+2.5
RCPN	Sur Rio San Ju	2.98	8	P	P	Pn	12 34 11.0	+0.9
EDPE	Pejibaye, P	3.21	115	eP	eP	Pb	12 34 18.7	-1.2

*IDC **14** 12:35:32.9±0.6, 0°.59S×127°.71E, h0^km, mb4.3/16, mbtmp4.3/18, ML4.0/2, Error ellipse: s-maj=26.9km s-min=12.1km az=79.0*
*NEIC **14** 12:35:35.0±1.6, 0°.68S±0°.06×127°.60E±0°.08, h10^km±1^km, mb4.7/46, Error ellipse: s-maj=13.8km s-min=9.9km az=73.0*
*DJA **14** 12:35:37.4±0.9, 1°.S±2°.×12°.8E±°, h14^km±7^km, M4.7/16, mB5.3/1, mb5.0/6, MLv4.6/16, Mw(mB)4.8/1*
ISC 14 12:35:34.7±0.4, **0°.70S**±0°.03×**127°.61E**±0°.05, **h10**km, **n113**, σ1**54**/121, **mb4.7**/42, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	Ternate	1.49	351			Pb	12 36 01.9	-0.6
TNTI	Ternate	1.49	351	P		Pb	12 36 02.4	0.0
TNTI	Ternate	1.49	351	S		Sg	12 36 23.0	+0.4
TNTI	Ternate	1.49	351	P		Pb	12 36 02.1	-0.3
TNTI				S		Sg	12 36 22.4	-0.2
SANI	Sanana	2.10	230	P		Pn	12 36 10.3	+0.3
SANI	Sanana	2.10	230	S		Sb	12 36 39.2	+0.1
NLAI	Namlea	2.57	191	P		Pn	12 36 18.7	+2.3
NLAI				S		Sn	12 36 49.4	+1.7
MSAI	Masohi	2.94	153	P		Pb	12 36 25.5	-1.7
MSAI				S		Sb	12 37 01.9	-1.3
AAI	Ambon	3.02	169	P		Pb	12 36 26.7	-1.9
SWI	Sorong	3.65	92	P		Pn	12 36 33.9	+2.5
KMSI	Cibinong	3.84	289	P		Pn	12 36 36.0	+2.0
KMSI				S		Sn	12 37 19.2	0.0
BNDI	Bandanaira	4.43	149	P		Pn	12 36 45.8	+3.7
FAKI	Fak Fak	5.13	115			Pn	12 36 52.6	+0.9
FAKI	Fak Fak	5.13	115	P		Pn	12 36 54.0	+2.3
FAKI	Fak Fak	5.13	115	P		Pn	12 36 53.0	+1.3
	0.6nm192nm,0.9s							
MRSI	Marisa	5.79	282	P		Pn	12 37 02.0	+1.3
	0.4nm70nm,0.7s							
APSI	Ampana	5.96	268	P		Pn	12 37 03.5	+0.4
TOLI2	Tolitoli	7.06	285			Pn	12 37 17.7	-0.5
KAPI	Kappang	8.94	241			Pn	12 37 45.4	+1.4
KAPI	Kappang	8.94	241	Pn		Pn	12 37 46.6	+2.6
	2.7nm,0.3s,baz=67,slow=8.0,SNR=6.7							
KAPI				Sn		Sn	12 39 26.1	+1.3
	0.6nm,0.3s,baz=288,slow=20,SNR=1.2							
	14nm,0.6s							
KAPI	Kappang	8.94	241	P		Pn	12 37 46.6	+2.6
DRS	Darwin Rock St	12.10	164	P		Pn	12 38 29.4	+2.1
MTN	Manton Dam	12.56	164			Pn	12 38 34.6	+1.1
GENI	Genyem	12.69	99	P		Pn	12 38 37.6	+2.1
KNRA	Kununurra	14.92	176	Pn		Pn	12 39 06.0	+0.2
JAGI	Jajag, Banyuwa	15.46	240	Pn		Pn	12 39 12.5	-0.7
JAGI				IAmb		IAmb	12 39 25.1	
	comp=Z,51nm,1.0s							
SBUM	Sibu	15.70	282	Pn		Pn	12 39 15.9	-0.3
FITZ	Fitzroy Crossi	17.39	186	P		P	12 39 39.8	+0.8
FITZ	Fitzroy Crossi	17.39	186	P		Pn	12 39 39.0	+1.3
	comp=Z,0.3nm,0.3s,baz=8.0,slow=12,SNR=5.1							
	comp=Z,7.4nm,0.9s							
FITZ	Fitzroy Crossi	17.39	186	P		P	12 39 40.0	+1.0
KSM	Kuching	17.43	277			Pn	12 39 37.0	-1.3
KSM	Kuching	17.43	277	P		P	12 39 39.1	-0.4
WB0	Warramunga Arr	20.08	161			P	12 40 08.2	-0.3
WB0				IAmb		IAmb	12 40 25.1	
	comp=Z,26nm,1.0s							
WRAB	Tennant Creek	20.22	161	P		P	12 40 10.1	0.0
WRAB				IAmb		IAmb	12 40 12.8	
	comp=Z,44nm,1.4s							
WRA	Warramunga Arr	20.22	161			P	12 40 08.2	-1.9
WRA	Warramunga Arr	20.22	161	P		P	12 40 08.8	-1.3
	comp=Z,16nm,1.0s,baz=342,slow=10,SNR=25							
WRA				Sn		S	12 43 48.0	-9.2
	comp=Z,0.1nm,0.3s,baz=338,slow=24,SNR=2.6							
	comp=Z,16nm,1.0s							
QIS	Mount Isa	22.95	150	P		P	12 40 40.9	+1.4
AS31	Alice Springs	23.63	165			P	12 40 46.1	-0.2
ASAR	Alice Springs	23.63	165	P		P	12 40 46.8	+0.5
	comp=Z,27nm,0.8s,baz=345,slow=10.0,SNR=86							
ASAR				PcP		PcP	12 44 31.6	+0.4
	comp=Z,0.9nm,0.9s,baz=3.8,slow=2.8,SNR=3.0							
	comp=Z,27nm,0.8s							
AS01	Alice Springs	23.64	165	P		P	12 40 47.4	+1.0
YULB	Yu-li	24.73	346	P		P	12 40 56.3	-0.1
YULB				IAmb		IAmb	12 41 16.0	
	comp=Z,15nm,1.0s							
TPUB	Ta-pu	24.81	345	P		P	12 40 56.8	-0.4
TPUB	Ta-pu	24.81	345	P		P	12 40 57.8	+0.6
SSLB	Suanglung	25.19	346	P		P	12 41 02.0	+1.4
YHNB	Yeheng	25.94	347	P		P	12 41 07.5	0.0
UBPT	Khong Chiam	27.04	307	P		P	12 41 17.2	-0.3
UBPT				IAmb		IAmb	12 41 45.2	
	comp=Z,13nm,1.2s							
RPSI	Rantau Prapat	28.87	277			P	12 41 33.7	-0.2
RPSI				IAmb		IAmb	12 41 36.8	
	comp=Z,12nm,0.8s							
PSI	Prapat	28.89	277	P		P	12 41 35.3	+1.1
GSI	Gunungsitoli	30.10	274	P		P	12 41 44.3	-0.5
MORW	Morawa	30.29	200	P		P	12 41 47.4	+1.1
MORW				IAmb		IAmb	12 41 48.2	
	comp=Z,20nm,1.4s							
QLP	Quilpie	30.30	149	P		P	12 41 49.7	+3.3
RK1H	Rockhampton Ha	31.65	137	P		P	12 42 00.9	+2.5
WHN	Wuhan	33.54	339	P		P	12 42 16.9	+2.1
NJ2	Nanjing	33.62	346	eP		P	12 42 17.8	+2.4
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
STKA	Stephens Creek	33.71	158	P		P	12 42 17.1	+0.8
	comp=Z,6.0nm,0.8s,baz=337,slow=7.5,SNR=6.6							
	comp=Z,6.0nm,0.8s							
CMAR	Chiang Mai Arr	34.01	306	P		P	12 42 19.6	+0.5
	comp=Z,0.6nm,0.4s,baz=134,slow=8.4,SNR=6.6							
	comp=Z,0.6nm,0.4s							
ENH	Enshi	35.31	332	P		P	12 42 30.5	+0.3
ENH	Enshi	35.31	332	P		P	12 42 32.0	+1.8
PZH	PanZhiHua	36.79	319	P		P	12 42 45.9	+2.8
KSRS	Korea Array	37.97	0	P		P	12 42 51.9	-0.8
	comp=Z,1.0nm,0.6s,baz=180,slow=10.0,SNR=7.2							
	comp=Z,1.0nm,0.6s							
MJAR	Matsushiro Arr	38.34	14	P		P	12 42 54.8	-1.2
	comp=Z,1.7nm,0.7s,baz=189,slow=9.3,SNR=7.2							
	comp=Z,1.7nm,0.7s							
XAN	Xi'an	38.76	335	P		P	12 42 59.8	+0.3
XAN				pmax		pmax		
	comp=Z,14nm,0.6s							
LZH	Lanzhou	42.77	331	eP		P	12 43 33.6	+0.9
LZH				sP		sP	12 43 41.3	+4.1
LZH				pmax		pmax		
	comp=Z,15nm,1.2s							
SHL	Shillong	43.28	310			P	12 43 36.9	-0.2
SHL				IAmb		IAmb	12 43 42.6	
	comp=Z,9.7nm,0.7s							
HHC	Hu-ho-hao-te	43.86	342	eP		P	12 43 43.8	+2.4
HHC				pmax		pmax		
	comp=Z,12nm,0.7s							
GTA	Gaotai	47.35	331	eP		P	12 44 10.3	+1.2
GTA				sP		sP	12 44 16.6	+3.1
GTA				pmax		pmax		
	comp=Z,11nm,0.9s							
EVN	Everest	48.40	309	P		P	12 44 17.1	-0.9
ULN	Ulaanbaatar	51.58	342	P		P	12 44 40.3	-1.0
ULN				IAmb		IAmb	12 44 42.4	
	comp=Z,6.3nm,1.1s							
SONM	Songino Array	51.76	342	P		P	12 44 41.9	-0.6
SONM	Songino Array	51.76	342	P		P	12 44 42.0	-0.6
	comp=Z,1.4nm,0.8s,baz=164,slow=7.7,SNR=9.8							
	comp=Z,1.4nm,0.8s							
PETK	Petropavlovsk-	59.21	21	P		P	12 45 36.6	+0.5
PETK	Petropavlovsk-	59.21	21	P		P	12 45 36.1	+0.1
	comp=Z,3.1nm,0.7s,baz=227,slow=9.0,SNR=5.3							
	comp=Z,3.1nm,0.7s							
NIL	Nilore	61.36	309	P		P	12 45 50.3	-0.8
NIL				IAmb		IAmb	12 45 51.5	
	comp=Z,7.0nm,1.0s							
MKAR	Makanchi Array	61.69	326			P	12 45 52.6	-0.6
MKAR	Makanchi Array	61.69	326	P		P	12 45 53.0	-0.1
	comp=Z,1.9nm,0.3s,baz=121,slow=8.6,SNR=29							
MKAR				PcP		PcP	12 46 33.3	-1.2
	comp=Z,1.3nm,0.7s,baz=125,slow=5.8,SNR=3.6							
	comp=Z,1.9nm,0.3s							
KSH	Kashi	61.81	317	P		P	12 45 55.9	+1.7
MAKZ	Makanchi	61.87	326	P		P	12 45 53.0	-1.4
MAKZ				IAmb		IAmb	12 46 00.1	
	comp=Z,6.1nm,0.8s							
KDJ	Kajisay	62.25	320			P	12 45 55.5	-1.6
YAK	Yakutsk	62.59	1			P	12 45 58.1	-0.7
YAK	Yakutsk	62.59	1	P		P	12 45 57.5	-1.3
	comp=Z,26nm,0.6s,baz=61,slow=1.1,SNR=9.2							
NRN	Naryn	62.69	318			P	12 45 59.1	-1.2
NRN				IAmb		IAmb	12 46 06.4	
	comp=Z,4.8nm,0.9s							
AAK	Ala-Archa	64.24	319	P		P	12 46 09.1	-1.3
AAK				IAmb		IAmb	12 46 15.3	
	comp=Z,6.5nm,1.1s							
ARSB	Arslanbob	64.66	317	P		P	12 46 12.8	-0.3
ZAA0	Zalesovo Array	64.92	334	P		P	12 46 13.2	-1.1
ZAA0				IAmb		IAmb	12 46 13.9	
	comp=Z,3.1nm,1.0s							
ZALV	Zalesovo Beam	64.92	334			P	12 46 12.9	-1.4
ZALV	Zalesovo Beam	64.92	334	P		P	12 46 12.7	-1.6
	comp=Z,7.0nm,0.9s,baz=96,slow=6.6,SNR=6.9							
	comp=Z,2.7nm,0.9s							
KBL	Kabul	64.94	309	P		P	12 46 13.1	-2.1
KBL				IAmb		IAmb	12 46 16.6	
	comp=Z,6.3nm,0.8s							
GAR	Garm	65.58	314	P		P	12 46 18.4	-0.8
BTK	Batken	65.64	315	P		P	12 46 19.1	-0.3
BTK				IAmb		IAmb	12 46 39.5	
	comp=Z,7.2nm,1.1s							
KURBB	Kurchatov Arra	65.93	328	P		P	12 46 20.2	-0.8
	comp=Z,6.7nm,0.9s,baz=128,slow=5.9,SNR=36							
	comp=Z,6.7nm,0.9s							
KURK	Kurchatov	65.94	328			P	12 46 20.6	-0.4
SEY	Seymchan	66.14	12	P		P	12 46 20.8	-1.3
	comp=Z,5.6nm,1.0s,baz=207,slow=4.5,SNR=6.8							
	comp=Z,5.6nm,1.0s							
KK31	Karatay Array	67.08	318			P	12 46 27.7	-0.8
KK31				IAmb		IAmb	12 46 34.1	
	comp=Z,7.5nm,1.3s							
KKAR	Karatay Array	67.08	318			P	12 46 28.0	-0.5
BVAR	Borovoye Array	71.50	328	P		P	12 46 54.8	-0.9
	comp=Z,3.7nm,0.8s,baz=119,slow=8.6,SNR=11							
	comp=Z,3.7nm,0.8s							
BRVK	Borovoye	71.57	328	P		P	12 46 55.3	-0.8
BRVK				IAmb		IAmb	12 46 56.4	
	comp=Z,7.4nm,1.1s							
NRIK	Noril'sk	74.92	346	P		P	12 47 15.0	-0.5
AB31	Akbulak array	76.13	321	P		P	12 47 21.0	-1.9
ABKAR	Akbulak array	76.13	321			P	12 47 21.3	-1.6
VNDA	Vanda	78.95	173	P		P	12 47 38.2	+0.1
VNDA	Vanda	78.95	173	P		P	12 47 38.6	+0.5
	comp=Z,1.1nm,0.8s,baz=304,slow=5.0,SNR=6.2							
	comp=Z,1.1nm,0.8s							
G16K	Koyuk River	82.42	23	P		P	12 47 56.3	-0.6
G16K				IAmb		IAmb	12 47 59.2	
	comp=Z,3.2nm,0.8s							
J17K	VABM Dome	83.20	26	P		P	12 48 02.3	+1.3
J17K				IAmb		IAmb	12 48 03.6	
	comp=Z,6.1nm,0.9s							
H17K	Granite Mounta	83.27	24	P		P	12 48 02.2	+0.9
H17K				IAmb		IAmb	12 48 03.8	
	comp=Z,4.1nm,0.8s							
C18K	Utukok River	83.88	20	P		P	12 48 05.5	+1.0
L18K	Granite Mounta	83.98	27	P		P	12 48 05.2	+0.2
L18K				IAmb		IAmb	12 48 07.5	
	comp=Z,4.5nm,0.8s							
C19K	Lookout Ridge	84.57	20	P		P	12 48 08.3	+0.3
C19K				IAmb		IAmb	12 48 11.2	
	comp=Z,5.3nm,0.8s							
G19K	Purcell Mounta	84.72	23	P		P	12 48 08.4	-0.3
E19K	Redstone River	84.98	22	P		P	12 48 10.5	+0.5
D20K	Etivluk River	85.51	21	P		P	12 48 13.2	+0.5
D20K				IAmb		IAmb	12 48 25.9	
	comp=Z,9.9nm,1.4s							
ILAR	Eielson Array	88.71	25	P		P	12 48 26.5	-1.7
	comp=Z,0.3nm,0.7s,baz=252,slow=5.

LCO					*e*S		**Sb**	**12 37 16.4**	**-2.4**
VA03	**San Esteban**	**2.31**	**153**		*e*P		**Pn**	**12 36 58.4**	**+2.0**
VA03					IAML			12 37 35.9	
	comp=N,254nm,0.4s								
ACCO	**Cerro Coronel**	**2.35**	**88**		*e*P		**Pb**	**12 37 00.5**	**-1.6**
ACCO					*e*S		**Sb**	**12 37 32.4**	**+1.5**
RTLS	**Leoncito**	**2.40**	**118**		*e*P		**Pb**	**12 37 01.3**	**-1.7**
RTLS					*e*S		**Sb**	**12 37 32.8**	**+0.5**
RTLS					IAML			12 37 35.8	
	comp=Z,214nm,0.7s								
AUSP	**Uspallata**	**2.55**	**127**		*e*P		**Pb**	**12 37 03.8**	**-1.8**
AUSP					*e*S		**Sb**	**12 37 36.1**	**-0.6**
RTLL	**Cerro Villicun**	**2.91**	**103**		*e*P		**Pn**	**12 37 08.0**	**+3.4**
RTLL					*e*S		**Sb**	**12 37 44.5**	**-2.3**
AGUA	**GUANDACOL**	**3.10**	**68**		*e*P		**Pb**	**12 37 12.3**	**-2.5**
AGUA					*e*S		**Sb**	**12 37 49.6**	**-2.7**
AGUA					IAML			12 38 02.6	
	comp=Z,56nm,0.5s								
ASAL	**Salagasta**	**3.15**	**128**		*e*P		**Pb**	**12 37 12.7**	**-2.9**
ASAL					*e*S		**Sb**	**12 37 49.8**	**-3.7**
VCA	**Vinchina**	**3.68**	**59**		*e*P		**Pn**	**12 37 19.6**	**+4.3**
VCA					*e*S		**Sb**	**12 38 07.6**	**-1.3**
VCA					IAML			12 38 20.2	
	comp=Z,51nm,0.3s								
AVFE	**Valle Fertil**	**3.73**	**90**		*e*P		**Pn**	**12 37 18.3**	**+2.4**
AVFE					*e*S		**Sb**	**12 38 05.3**	**-5.1**
AVFE					IAML			12 38 14.4	
	comp=Z,33nm,0.4s								
ACAN	**Cantantal**	**4.23**	**113**		*e*P		Pn	12 37 27.5	+4.7
ACLC	**CERRO LA CRUZ**	**4.38**	**74**		*e*P		**Pn**	**12 37 28.6**	**+3.6**
ACLC					*e*S		**Sn**	**12 38 20.8**	**+5.8**
ACLC					IAML			12 38 29.9	
	comp=Z,27nm,0.6s								
ACHE	**Chepes**	**4.43**	**97**		*e*P		**Pn**	**12 37 27.9**	**+2.4**
ACHE					*e*S		**Sn**	**12 38 20.8**	**+4.7**
APLL	**PUNTA DE LOS L**	**4.55**	**87**		*e*P		**Pn**	**12 37 29.5**	**+2.4**
APLL					*e*S		**Sn**	**12 38 24.3**	**+5.3**

CATAC ***14*** *12:41:59.1±1.6, 11˚N±9˚×8˚6W±˚, h28km±22km, M2.8/8, MLv2.8/8, Error ellipse: s-maj=23.8km s-min=10.6km az=36.1, confirmed*
UCR ***14*** *12:42:00.0±0.8, 10˚.61N×86˚.31W, h17km±216km, MW3.8*
ISC 14 12:41:52.7±4.6,**10˚.5N**±0˚.2×**86˚.9W**±0˚.2,**h35km, n27,**
σ0s80/20, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
ALIBA	**Liberia Airpor**	**1.32**	**85**		*e*P		**Pn**	**12 42 15.0**	**+0.3**
LCRUZ	**La Cruz**	**1.37**	**64**		*e*P		**Pn**	**12 42 16.2**	**+0.8**
ERIA	**Liberia**	**1.43**	**83**		*e*P		Pn	12 42 17.3	+1.1
LAPC	**Finca la Perla**	**1.46**	**78**		*e*P		**Pn**	**12 42 16.2**	**-0.4**
PLVR	**Palo Verde**	**1.52**	**95**		*e*P		Pn	12 42 21.6	+4.1
CARN	**Rivas**	**1.52**	**62**		P		**Pn**	**12 42 17.7**	**+0.4**
CARN					S		**Sn**	**12 42 35.0**	**-0.8**
NADN	**Granada**	**1.52**	**33**		P		**Pn**	**12 42 15.9**	**-1.5**
GPS2	**Hotel Rincn d**	**1.53**	**79**		*e*P		**Pn**	**12 42 17.5**	**-0.2**
GPS1	**Guardaparques**	**1.54**	**79**		*e*P		**Pn**	**12 42 17.7**	**0.0**
BUAI	**Buenos Aires**	**1.58**	**75**		*e*P		**Pn**	**12 42 18.8**	**+0.6**
JAPN	**Al SSO del Vol**	**1.58**	**48**		*e*P		**Pn**	**12 42 20.1**	**+1.9**
JAPN	**Al SSO del Vol**	**1.58**	**48**		P		**Pn**	**12 42 18.7**	**+0.4**
PEJA	**Penjamo Buenos**	**1.60**	**75**		*e*P		**Pn**	**12 42 19.4**	**+0.9**
MORN	**Al O del Volca**	**1.62**	**49**		P		**Pn**	**12 42 18.4**	**-0.4**
NANN	**Nandasmo**	**1.64**	**27**		P		Pn	12 42 23.2	+4.2
COLC	**Colonia**	**1.67**	**83**		*e*P		**Pn**	**12 42 19.1**	**-0.3**
MESS	**Mesas**	**1.68**	**81**		*e*P		**Pn**	**12 42 20.0**	**+0.3**
HORNC	**Hornillas**	**1.69**	**82**		*e*P		**Pn**	**12 42 20.0**	**+0.1**
COPN	**Copaltepe**	**1.72**	**10**		P		Pn	12 42 25.0	+4.8
VMAR	**Armenia, Volca**	**1.77**	**79**		*e*P		**Pn**	**12 42 21.5**	**+0.6**
MOTZ	**Rio Naranjo**	**1.79**	**83**		*e*P		Pn	12 42 22.0	+0.8
TENO	**El Achiote**	**1.89**	**83**		*e*P		**Pn**	**12 42 22.5**	**0.0**
JTS	**Las Juntas de**	**1.91**	**95**		P		Pn	12 42 22.9	+0.1
QUEB	**Quebradon, Cot**	**1.96**	**85**		*e*P		Pn	12 42 25.2	+1.7
MOM2	**El Cardon**	**1.99**	**11**		P		Pn	12 42 28.4	+4.5
ACON	**Acoyapa**	**2.24**	**48**		P		**Pn**	**12 42 28.2**	**+0.8**
BOAB	**BOACO BROADBAN**	**2.30**	**31**		P		**Pn**	**12 42 29.0**	**+0.8**

MOS ***14*** *12:42:01.9±1.0, 44˚.54N×148˚.37E, h66km, mb4.4/8, Error ellipse: s-maj=9.1km s-min=6.7km az=63.5*
SKHL ***14*** *12:42:02.1±0.0, 44˚.50N×148˚.60E, h64km±6km, mb5.0/4*
JMA ***14*** *12:42:02.4±0.4, 44˚N±2˚×14˚8E±˚, h0km, MV4.4/28, SE OFF ETOROFU*
IDC ***14*** *12:42:03.0±0.7, 44˚.65N×148˚.31E, h54km±5km, mb3.5/15, mbtmp3.8/20, MS3.9/1, Error ellipse: s-maj=18.2km s-min=10.3km az=159.0*
NEIC ***14*** *12:42:04.7±1.9, 44˚.62N±0˚.10×148˚.2E±0˚.1, h70km±9km, mb4.2/19, Error ellipse: s-maj=14.9km s-min=13.0km az=131.0*
ISC 14 12:42:02.9±0.6,**44˚.51N**±0˚.04×**148˚.40E**±0˚.06,**h54km**±5km**,**
n126,σ1s08/144,mb4.0/32,3C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KUR	**Kuril'sk**	**0.82**	**333**	*c*	*i*	PN	**Pn**	**12 42 17.2**	**-1.1**
KUR					*e*S		**Sn**	**12 42 28.3**	**-1.3**
KUR					pmax		pmax		
	comp=Z,1μm,0.4s								
KUR					pmax		pmax		
	comp=E,516nm,0.3s								
KUR					pmax		pmax		
	comp=N,297nm,0.4s								
KUR					smax		smax		
	comp=E,17μm,1.6s								
KUR					smax		smax		
	comp=N,10μm,1.5s								
KUR					smax		smax		
	comp=E,10μm,0.2s								
KUR					smax		smax		
	comp=N,7μm,0.4s								
KUR	**Kuril'sk**	**0.82**	**333**	*e*	P		**Pn**	**12 42 18.0**	**-0.3**
KUR					AMB		AMB	12 42 18.9	
	comp=N,1μm,0.3s								
KUR					*e*S		**Sn**	**12 42 29.2**	**-0.4**
KUR					A		A	12 42 30.8	
	comp=N,9μm,0.3s								
KUR					A		A	12 42 30.8	
	comp=N,4μm,0.3s								
SHO	**Shikotan**	**1.30**	**241**	*d*	*i*	PN	**Pn**	**12 42 25.8**	**+1.1**
SHO					*e*S		**Sn**	**12 42 39.2**	**-1.8**
SHO					pmax		pmax		
	comp=Z,121nm,0.4s								
SHO					pmax		pmax		
	comp=N,37nm,0.2s								
SHO					pmax		pmax		
	comp=E,80nm,0.2s								
SHO					smax		smax		
	comp=N,678nm,0.4s								
SHO					smax		smax		
	comp=E,1μm,0.2s								
SHO	**Shikotan**	**1.30**	**241**	*i*	P		**Pn**	**12 42 25.0**	**+0.3**
SHO					AMB		AMB	12 42 27.6	
	comp=E,110nm,0.3s								
SHO					*e*S		**Sn**	**12 42 40.9**	**-0.1**
SHO					A		A	12 42 44.5	
	comp=E,870nm,0.5s								
SHO					A		A	12 42 44.5	
	comp=E,1μm,0.5s								
YUK	**Yuzh-Kuril'sk**	**1.88**	**256**	*d*	*i*	PN	**Pn**	**12 42 32.8**	**+0.2**
YUK					*e*S		**Sn**	**12 42 55.8**	**+0.6**
YUK					pmax		pmax		
	comp=N,90nm,0.2s								
YUK					pmax		pmax		
	comp=Z,418nm,0.2s								
YUK					smax		smax		
	comp=N,2μm,0.5s								
YUK					smax		smax		
	comp=E,2μm,0.4s								
YUK	**Yuzh-Kuril'sk**	**1.88**	**256**	*i*	P		**Pn**	**12 42 32.8**	**+0.2**
YUK					AMB		AMB	12 42 34.5	
	comp=E,420nm,0.2s								
YUK					*e*S		**Sn**	**12 42 55.8**	**+0.6**
YUK					A		A	12 42 59.7	
	comp=E,2μm,0.4s								
YUK					A		A	12 42 59.7	
	comp=E,2μm,0.4s								
GLVR	**Golovnino**	**2.21**	**251**	*e*	PN		**Pn**	**12 42 37.5**	**+0.4**
GLVR					*e*S		**Sn**	**12 43 04.1**	**+0.8**
GLVR					pmax		pmax		
	comp=Z,115nm,0.1s								
GLVR					pmax		pmax		
	comp=E,49nm,0.2s								
GLVR					smax		smax		
	comp=E,1μm,0.3s								
GLVR					smax		smax		
	comp=N,2μm,0.2s								
GLVR	**Golovnino**	**2.21**	**251**	*e*	P		**Pn**	**12 42 37.5**	**+0.4**
GLVR					AMB		AMB	12 42 39.3	
	comp=N,120nm,0.1s								
GLVR					*e*S		**Sn**	**12 43 04.1**	**+0.8**
GLVR					A		A	12 43 11.1	
	comp=N,2μm,0.2s								
GLVR					A		A	12 43 11.1	
	comp=N,1μm,0.2s								
NEM2	**Nemuro 2**	**2.23**	**240**		P		**Pn**	**12 42 36.9**	**-0.5**
NEM2					*e*S		**Sn**	**12 43 02.0**	**-1.8**
NMR	**Nemuro--Hokkai**	**2.24**	**240**	‖	*i*	PN	**Pn**	**12 42 36.9**	**-0.6**
NMR					*e*S		**Sn**	**12 43 02.0**	**-2.0**
NMR	**Nemuro--Hokkai**	**2.24**	**240**		*i*	P	**Pn**	**12 42 36.9**	**-0.6**
NMR					*e*S		**Sn**	**12 43 02.0**	**-2.0**
RUSJ	**Misakicho**	**2.30**	**261**	‖	*i*	PN	**Pn**	**12 42 39.9**	**+1.6**
RUSJ					*e*S		**Sn**	**12 43 08.2**	**+2.8**
JRA	**Rausu**	**2.42**	**258**		P		**Pn**	**12 42 41.3**	**+1.3**
JRA					*e*S		**Sn**	**12 43 10.3**	**+1.8**
JNSB	**Nemuroshibetsu**	**2.55**	**254**		P		**Pn**	**12 42 43.1**	**+1.3**
JKHN	**Kushirohamanak**	**2.75**	**240**		*e*S		**Sn**	**12 43 15.6**	**-0.7**
JNK	**Nakash**	**2.81**	**252**		P		**Pn**	**12 42 46.3**	**+1.0**
JNK					*e*S		**Sn**	**12 43 18.7**	**+0.7**
AKK	**Akkeshi**	**2.98**	**241**		*e*P		**Pn**	**12 42 47.9**	**+0.3**
JAK	**Akkeshi**	**3.08**	**242**		P		**Pn**	**12 42 49.1**	**+0.1**
JTKR	**Abashiri--Toko**	**3.27**	**262**		*e*P		**Pn**	**12 42 53.0**	**+1.3**
JAR	**Ashorobuto**	**3.56**	**252**		P		**Pn**	**12 42 57.4**	**+1.8**
JKK2	**Kamakawa 2**	**4.11**	**263**		*e*P		**Pn**	**12 43 05.6**	**+2.4**
JCH	**Churui**	**4.12**	**244**		*e*P		**Pn**	**12 43 04.5**	**+1.2**
JCH					*e*S		**Sn**	**12 43 49.4**	**-0.8**
JKA	**Kamikawa-asahi**	**4.18**	**267**				**Pn**	**12 43 05.6**	**+1.5**
JKA	**Kamikawa-asahi**	**4.18**	**267**		*e*P		**Pn**	**12 43 05.2**	**+1.1**
ASAJ	**Asahikawa**	**4.18**	**267**		P		**Pn**	**12 43 05.2**	**+1.1**
	comp=N,7.9nm,0.4s,baz=30,slow=8.7,SNR=24								
ASAJ					S		**Sn**	**12 43 51.3**	**-0.4**
	comp=N,29nm,0.8s,baz=9.5,slow=18,SNR=2.1								
ERM	**Erimo**	**4.57**	**239**				**Pn**	**12 43 11.8**	**+2.4**
ERM	**Erimo**	**4.57**	**239**		PN		**Pn**	**12 43 11.8**	**+2.4**
YSS	**Yuzhno-Sakhali**	**4.65**	**304**		Pn		**Pn**	**12 43 10.9**	**+0.4**
YSS	**Yuzhno-Sakhali**	**4.65**	**304**	*e*	PN		**Pn**	**12 43 11.4**	**+0.9**
YSS					*e*S		**Sn**	**12 44 03.0**	**-0.1**
YSS					pmax		pmax		
	comp=Z,30nm,1.3s								
YSS					smax		smax		
	comp=N,50nm,1.1s								
YSS					smax		smax		
	comp=E,50nm,0.9s								
YSS	**Yuzhno-Sakhali**	**4.65**	**304**	*e*	P		**Pn**	**12 43 11.4**	**+0.9**
YSS					*e*S		**Sn**	**12 44 03.0**	**-0.1**
JNBK	**Urakawa-nobuka**	**4.68**	**244**		P		**Pn**	**12 43 12.5**	**+1.5**
JTM	**Tenmabayashi**	**6.56**	**238**		Pn		**Pn**	**12 43 36.6**	**-0.2**
TYV	**Tymovskoe**	**7.44**	**331**	*e*	PN		**Pn**	**12 43 51.8**	**+3.1**
TYV					*e*S		**Sn**	**12 45 13.5**	**+1.8**
TYV					pmax		pmax		
	comp=Z,6.0nm,0.7s								
TYV					smax		smax		
	comp=N,5.0nm,0.9s								
TYV					smax		smax		
	comp=E,4.0nm,0.9s								
TYV	**Tymovskoe**	**7.44**	**331**	*e*	P		**Pn**	**12 43 51.0**	**+2.3**
TYV					*e*S		**Sn**	**12 45 12.2**	**+0.5**
SKR	**Severo-Kuril's**	**8.08**	**37**	*i*	PN		**Pn**	**12 43 58.1**	**+0.6**
SKR	**Severo-Kuril's**	**8.08**	**37**	*e*	P		**Pn**	**12 43 58.1**	**+0.6**
PEA0B	**Petropavlovsk-**	**10.56**	**32**		Pn		**Pn**	**12 44 31.9**	**+0.6**
PEA0B	**Petropavlovsk-**	**10.56**	**32**		PN		**Pn**	**12 44 31.9**	**+0.6**
PETK	**Petropavlovsk-**	**10.56**	**32**		Pn		**Pn**	**12 44 32.2**	**+0.9**
PETK	**Petropavlovsk-**	**10.56**	**32**		P		**Pn**	**12 44 31.3**	**0.0**
	comp=E,1.4nm,0.5s,baz=206,slow=11,SNR=19								
PETK	**Petropavlovsk-**	**10.56**	**32**		PN		**Pn**	**12 44 32.3**	**+0.9**
MJA0	**Matsu Arr-Jizo**	**11.08**	**228**	*e*	PN		**Pn**	**12 44 38.3**	**-0.4**
MAJO	**Matsushiro**	**11.11**	**228**		Pn		**Pn**	**12 44 37.0**	**-1.9**
MAJO	**Matsushiro**	**11.11**	**228**		PN		**Pn**	**12 44 37.1**	**-1.9**
MJAR	**Matsushiro Arr**	**11.11**	**228**		P		**Pn**	**12 44 38.6**	**-0.3**
	comp=E,2.3nm,0.9s,baz=24,slow=14,SNR=8.4								
USRK	**Ussuriysk Ar.**	**11.76**	**274**		P		**Pn**	**12 44 48.3**	**+0.5**
	comp=E,5.6nm,0.9s,baz=88,slow=12,SNR=5.0								
JGF	**Kuroka**	**12.27**	**227**		Pn		**Pn**	**12 44 54.9**	**0.0**
MSHR	**Mys Shultsa**	**12.66**	**267**	*i*	PN		**Pn**	**12 44 58.2**	**-1.9**
MSHR					pmax		pmax		
	comp=Z,11nm,1.1s								
KSRS	**Korea Array**	**16.97**	**253**		P		**Pn**	**12 45 55.7**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=61,slow=11,SNR=5.6								
KSRS	**Korea Array**	**16.97**	**253**	*e*	P		**P**	**12 45 59.1**	**+1.5**
SEY	**Seymchan**	**18.60**	**6**	*i*	P		**P**	**12 46 15.4**	**0.0**
SEY					pmax		pmax		
	comp=Z,11nm,1.9s								
SEY	**Seymchan**	**18.60**	**6**	*e*	P		**P**	**12 46 15.4**	**0.0**
YAK	**Yakutsk**	**20.68**	**335**	*i*	P		**P**	**12 46 38.1**	**+0.1**
YAK					pmax		pmax		
	comp=Z,7.0nm,0.8s								
YAK	**Yakutsk**	**20.68**	**335**	*e*	P		**P**	**12 46 38.1**	**+0.1**
BILL	**Bilibino**	**25.38**	**16**	*i*	P		**P**	**12 47 24.9**	**+0.2**
BILL					pmax		pmax		
	comp=Z,4.0nm,1.1s								
BILL	**Bilibino**	**25.38**	**16**	*e*	P		**P**	**12 47 24.9**	**+0.2**
SONM	**Songino Array**	**29.02**	**292**		P		**P**	**12 47 57.8**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=76,slow=7.6,SNR=2.6								
	comp=Z,0.3nm,0.5s								
H11N2	**WAKE ISLAND Hy**	**29.12**	**142**		T		T	13 18 41.1	
	baz=333,slow=76								
H11N1	**WAKE ISLAND Hy**	**29.13**	**142**		T		T	13 18 43.4	
	baz=333,slow=76								
H11N3	**WAKE ISLAND Hy**	**29.13**	**142**		T		T	13 18 47.2	
	baz=333,slow=76								
H11S1	**WAKE ISLAND Hy**	**30.11**	**144**		T		T	13 20 03.6	
	baz=334,slow=76								
H11S3	**WAKE ISLAND Hy**	**30.12**	**144**		T		T	13 20 02.2	
	baz=334,slow=76								
H11S2	**WAKE ISLAND Hy**	**30.13**	**144**		T		T	13 19 58.5	
	baz=334,slow=76								
C18K	**Utukok River**	**35.20**	**29**		P		**P**	**12 48 50.7**	**-0.8**
H18K	**Honhosa River**	**35.50**	**36**		P		**P**	**12 48 53.7**	**-0.2**
H18K					IAmb		IAmb	12 49 08.4	
	comp=Z,2.1nm,0.8s								
G18K	**Tagagawik**	**35.51**	**34**		P		**P**	**12 48 53.6**	**-0.4**
G18K					IAmb		IAmb	12 49 32.8	
	comp=Z,4.0nm,1.3s								
C19K	**Lookout Ridge**	**35.89**	**29**		P		**P**	**12 48 56.6**	**-0.8**
D19K	**Kuna River**	**36.26**	**30**		P		**P**	**12 49 00.6**	**+0.1**
D19K					IAmb		IAmb	12 49 04.6	
	comp=Z,6.5nm,1.1s								
J19K	**Poorman**	**36.53**	**38**		P		**P**	**12 49 01.9**	**-0.9**
J19K					IAmb		IAmb	12 49 03.9	
	comp=Z,3.5nm,1.1s								
IMAR	**Indian Mountai**	**37.51**	**35**		P		**P**	**12 49 11.1**	**0.0**
D22K	**Ayikyak River**	**38.28**	**30**		P		**P**	**12 49 16.8**	**-0.8**
H23K	**Yukon River**	**39.22**	**35**		P		**P**	**12 49 25.9**	**+0.4**
H23K					IAmb		IAmb	12 49 42.3	
	comp=Z,2.9nm,1.2s								
NEA2	**Nenana**	**39.41**	**37**		P		**P**	**12 49 27.3**	**+0.3**
ILAR	**Eielson Array**	**40.34**	**37**		P		**P**	**12 49 35.0**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=268,slow=8.4,SNR=7.3								
ILAR					pP		**pP**	**12 49 48.6**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=266,slow=8.6,SNR=2.6								
	comp=Z,0.2nm,0.4s								
D25K	**Kavik River**	**40.57**	**30**		P		**P**	**12 49 36.3**	**-0.4**
D25K					IAmb		IAmb	12 49 57.2	
	comp=Z,2.5nm,0.9s								
F25K	**Christian Rive**	**40.80**	**32**		P		**P**	**12 49 39.5**	**+1.0**
F25K					IAmb		IAmb	12 50 02.6	
	comp=Z,3.8nm,1.4s								
ZALV	**Zalesovo Beam**	**41.26**	**307**		PcP		**PcP**	**12 51 40.2**	**0.0**
	comp=Z,0.5nm,0.5s,baz=94,slow=4.3,SNR=2.2								
K27K	**Chicken**	**42.48**	**38**		P		**P**	**12 49 52.8**	**+0.5**
L27K	**Beaver Creek,**	**42.72**	**39**				**P**	**12 49 55.4**	**+1.1**
L27K					IAmb		IAmb	12 49 56.3	
	comp=Z,2.0nm,0.6s								
BCAR	**Beaver Creek A**	**42.74**	**39**		P		**P**	**12 49 55.1**	**+0.6**
I30M	**Mount Dempster**	**44.73**	**35**		P		**P**	**12 50 11.0**	**+0.5**
MKAR	**Makanchi Array**	**45.03**	**297**		P		**P**	**12 50 12.1**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=75,slow=7.8,SNR=2.0								
MKAR					PcP		**PcP**	**12 51 52.7**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=62,slow=4.1,SNR=4.2								
	comp=Z,0.2nm,0.4s								
F31M	**Tsiigehtchic**	**45.36**	**32**		P		**P**	**12 50 15.3**	**0.0**
F31M					IAmb		IAmb	12 50 32.9	
	comp=Z,6.8nm,1.5s								
KURK	**Kurchatov**	**45.85**	**304**		P		**P**	**12 50 19.3**	**-0.1**
KURK								12 51 55.5	
KURK	**Kurchatov**	**45.85**	**304**	*e*	P		**P**	**12 50 19.3**	**-0.1**
KURBB	**Kurchatov Arra**	**45.94**	**304**		P		**P**	**12 50 19.3**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=68,slow=7.9,SNR=2.1								
KURBB					PcP		**PcP**	**12 51 55.5**	**-0.6**
	comp=Z,0.2nm,0.2s,baz=77,slow=4.3,SNR=4.2								
	comp=Z,0.3nm,0.5s								
FARO	**Faro, Yukon**	**46.73**	**39**		P		**P**	**12 50 26.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**48.60**	**254**		P		**P**	**12 50 42.1**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=46,slow=7.6,SNR=2.8								
	comp=Z,0.3nm,0.3s								
DLBC	**Dease Lake**	**49.51**	**43**		LR		LR	13 11 56.4	
	comp=Z,124nm,21.3s,baz=262,slow=36								
BRVK	**Borovoye**	**49.76**	**309**	*i*	P		**P**	**12 50 49.7**	**+0.1**
BRVK					pmax		pmax		
	comp=Z,1.0nm,0.8s								
BRVK	**Borovoye**	**49.76**	**309**	*e*	P		**P**	**12 50 49.7**	**+0.1**
YKA	**Yellowknife Ar**	**54.67**	**34**		P		**P**	**12 51 25.8**	**0.0**
	comp=Z,0.7nm,0.7s,baz=304,slow=7.2,SNR=4.6								
	comp=Z,0.7nm,0.7s								
YKA	**Yellowknife Ar**	**54.67**	**34**	*e*	P		**P**	**12 51 26.2**	**+0.4**
YKA					pmax		pmax		
	comp=Z,1.0nm,0.7s								
AB31	**Akbulak array**	**57.29**	**309**		P		**P**	**12 51 43.9**	**-0.8**
AB31					IAmb		IAmb	12 52 24.9	
	comp=Z,3.0nm,1.4s								
ABKAR	**Akbulak array**	**57.29**	**309**		P		**P**	**12 51 43.9**	**-0.8**
FFC	**Flin Flon**	**64.55**	**37**		P		**P**	**12 52 33.9**	**0.0**
FFC					IAmb		IAmb	12 52 35.1	
	comp=Z,2.7nm,0.7s								
FFC	**Flin Flon**	**64.55**	**37**		P		**P**	**12 52 33.9**	**0.0**
FFC					pmax		pmax		
	comp=Z,3.0nm,0.7s								
FINES	**FINESS Array B**	**64.60**	**333**		P		**P**	**12 52 32.5**	**-1.7**
FINES	**FINESS Array B**	**64.60**	**333**		P		**P**	**12 52 32.0**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=34,slow=12,SNR=5.9								
	comp=Z,0.6nm,0.5s								
FINES	**FINESS Array B**	**64.60**	**333**	*e*	P		**P**	**12 52 32.6**	**-1.6**
FINES					pmax		pmax		
	comp=Z,1.0nm,0.5s								
LRM	**Limekiln Ridge**	**65.17**	**50**		P		**P**	**12 52 38.8**	**+0.4**
OBN	**Obninsk**	**65.23**	**324**	*ce*	P		**P**	**12 52 37.7**	**-0.6**
OBN					*e*			12 55 00.1	
OBN					*e*S		S	13 01 30.8	+14
OBN					pmax		pmax		
	comp=Z,4.0nm,0.9s								
OBN	**Obninsk**	**65.23**	**324**	*e*	P		**P**	**12 52 37.7**	**-0.6**
WRA	**Warramunga Arr**	**65.41**	**195**		P		**P**	**12 52 40.2**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=12,slow=6.2,SNR=5.8								
	comp=Z,1.4nm,0.7s								
WRA	**Warramunga Arr**	**65.41**	**195**	*e*	P		**P**	**12 52 40.2**	**+0.4**
WRA					pmax		pmax		
	comp=Z,2.0nm,0.7s								
FUTU	**Fugatoga**	**65.99**	**144**		P		**P**	**12 52 46.8**	**+3.1**
NVAR	**Mina Array Bea**	**66.41**	**59**		P		**P**	**12 52 46.7**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=294,slow=8.2,SNR=3.9								
NVAR					pP		**pP**	**12 53 01.9**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=295,slow=7.9,SNR=2.4								
	comp=Z,0.5nm,0.5s								
VSU	**Vasula**	**66.61**	**331**	*i*	P		**P**	**12 52 46.5**	**-0.6**
VSU					pmax		pmax		
	comp=Z,4.0nm,1.1s								
PDAR	**Pinedale Array**	**68.73**	**51**		P		**P**	**12 53 00.9**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=214,slow=1.4,SNR=7.4								
PDAR					pP		**pP**	**12 53 15.6**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=298,slow=3.2,SNR=5.3								
	comp=Z,0.7nm,0.8s								
ASAR	**Alice Springs**	**69.13**	**194**		P		**P**	**12 53 04.2**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=14,slow=5.1,SNR=7.6								
	comp=Z,1.1nm,0.8s								
NB2	**NORSAR Subarra**	**69.22**	**339**		P		**P**	**12 53 02.4**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=30,slow=6.5								
NOA	**NORSAR Array B**	**69.22**	**339**		P		**P**	**12 53 01.7**	**-1.8**
	comp=Z,0.7nm,0.7s,baz=32,

3.4nm,0.5s,baz=337,slow=11,SNR=23
3.4nm,0.5s
ASAR Alice Springs 25.04 164 P **P** **12 53 30.9 +0.8**
4.1nm,0.8s,baz=343,slow=10,SNR=18
4.1nm,0.8s
STKA Stephens Creek 35.21 157 P **P** **12 54 60.0 -0.2**
2.1nm,0.7s,baz=332,slow=15,SNR=3.4
2.1nm,0.7s
PETK Petropavlovsk- 58.60 22 P **P** **12 58 01.9 -0.8**
0.8nm,0.6s,baz=189,slow=8.4,SNR=5.7
0.8nm,0.6s
MKAR Makanchi Array 60.08 327 P **P** 12 58 10.7 -2.4
0.6nm,0.4s,baz=122,slow=7.7,SNR=9.0
0.6nm,0.4s
ZALV Zalesovo Beam 63.37 334 P **P** 12 58 33.3 -1.8
0.3nm,0.3s,baz=140,slow=8.7,SNR=2.2
0.3nm,0.3s
KURBB Kurchatov Arra 64.34 328 P **P** 12 58 38.8 -2.8
1.2nm,0.7s,baz=133,slow=6.0,SNR=12
1.2nm,0.7s

IDC 14 12:51:02.2±2.0, 0°69S×127°66E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=181.3km s-min=24.8km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.22**	**162**	P	P	12 55 39.1	+0.1
	0.7nm,0.7s,baz=340,slow=11,SNR=2.5						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**23.63**	**166**	P	P	12 56 15.1	-0.1
	1.3nm,0.7s,baz=344,slow=9.5,SNR=4.9						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**61.71**	**326**	P	P	13 01 22.6	+0.2
	0.1nm,0.4s,baz=114,slow=6.8,SNR=2.5						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**65.95**	**328**	P	P	13 01 49.9	-0.2
	0.2nm,0.3s,baz=128,slow=6.6,SNR=4.2						
	0.2nm,0.3s						

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*IDC **14** 12:52:07.5±1.1, 0°59S×127°67E, h0km, mb3.6/7, mbtmp3.7/7, Error ellipse: s-maj=54.6km s-min=20.2km az=77.0*
*DJA **14** 12:52:11.0±0.3, 1°S±2°×12°8E±°, h10km, M3.8/9, MLv3.8/9*
ISC 14 12:52:09.9±0.8, 0°50S±0°05×127°92E±0°07, h10km, n14, σ1°34/17, mb3.8/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.38**	**336**	P	**Pn**	**12 52 35.9**	**+0.7**
TNTI				S	**Sb**	12 52 55.2	+1.7
SANI	**Sanana**	**2.47**	**231**	P	**Pn**	**12 52 49.7**	**-0.5**
SANI				S	**Sn**	12 53 19.5	-1.0
NLAI	**Namlea**	**2.84**	**197**	P	**Pn**	**12 52 56.4**	**+1.1**
NLAI				S	**Sn**	12 53 29.9	+0.3
MSAI	**Masohi**	**3.00**	**160**	P	**Pn**	**12 52 58.9**	**+1.4**
SWI	**Sorong**	**3.36**	**96**	P	**Pn**	**12 53 04.0**	**+1.5**
FAKI	**Fak Fak**	**4.95**	**119**	P	**Pn**	**12 53 24.2**	**-0.2**
KAPI	**Kappang**	**9.31**	**241**	Pn	**Pn**	**12 54 26.8**	**+2.6**
	1.8nm,0.3s,baz=78,slow=3.9,SNR=7.7						
WRA	**Warramunga Arr**	**20.32**	**162**	P	**P**	**12 56 44.9**	**-1.5**
	0.7nm,0.3s,baz=340,slow=12,SNR=11						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**23.75**	**166**	P	**P**	**12 57 21.6**	**-1.0**
	0.5nm,0.4s,baz=346,slow=11,SNR=7.5						
	0.5nm,0.4s						
MJAR	**Matsushiro Arr**	**38.08**	**13**	P	**P**	**12 59 28.2**	**-0.6**
	2.2nm,0.9s,baz=186,slow=8.6,SNR=7.9						
	2.2nm,0.9s						
SONM	**Songino Array**	**51.66**	**342**	P	**P**	**13 01 16.5**	**-0.6**
	0.5nm,0.8s,baz=168,slow=7.4,SNR=2.6						
	0.5nm,0.8s						
PETK	**Petropavlovsk-**	**58.91**	**20**	P	**P**	**13 02 10.5**	**+1.4**
	1.9nm,0.9s,baz=225,slow=7.4,SNR=4.7						
	1.9nm,0.9s						
MKAR	**Makanchi Array**	**61.70**	**326**	P	**P**	**13 02 27.5**	**-0.9**
	0.3nm,0.5s,baz=117,slow=6.7,SNR=2.7						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**65.93**	**328**	P	**P**	**13 02 54.8**	**-1.3**
	0.3nm,0.4s,baz=128,slow=6.2,SNR=6.9						
	0.3nm,0.4s						

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*IDC **14** 12:53:48.9±5.3, 22°07S×179°23W, h464km±59km, mb3.2/9, mbtmp4.1/10, Error ellipse: s-maj=26.7km s-min=21.7km az=27.0*
ISC 14 12:53:47.5±0.8, 22°1S±0°1×179°2W±0°2, h450km, n13, σ1°06/12, mb3.7/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.39**	**190**	P	**P**	**12 57 13.4**	**+0.2**
	18nm,1.1s,baz=206,slow=20,SNR=6.3						
URZ				S	**S**	13 00 01.8	-1.4
	12nm,1.0s,baz=37,slow=5.1,SNR=1.6						
STKA	**Stephens Creek**	**36.09**	**246**	P	**P**	**13 00 11.0**	**+1.1**
	1.6nm,0.6s,baz=94,slow=14,SNR=3.0						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**43.08**	**259**	P	**P**	**13 01 07.0**	**+0.3**
	4.2nm,0.7s,baz=102,slow=7.8,SNR=42						
ASAR				PcP	**PcP**	13 02 44.8	-2.2
	0.4nm,0.6s,baz=106,slow=3.6,SNR=4.6						
	4.2nm,0.7s						
WRA	**Warramunga Arr**	**43.29**	**264**	P	**P**	**13 01 08.2**	**-0.1**
	2.5nm,0.6s,baz=98,slow=7.0,SNR=24						
	2.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.72**	**264**	P	**P**	**13 02 12.0**	**-0.1**
	2.2nm,0.6s,baz=110,slow=9.4,SNR=5.9						
	2.2nm,0.6s						
QSPA	**South Pole Qui**	**67.95**	**180**	P	**P**	**13 04 00.9**	**+0.8**
	1.4nm,0.8s,baz=41,slow=0.7,SNR=10						
	1.4nm,0.8s						
PETK	**Petropavlovsk-**	**77.56**	**346**	P	**P**	**13 04 54.8**	**-0.8**
	2.3nm,1.0s,baz=178,slow=5.5,SNR=5.6						
	2.3nm,1.0s						
NVAR	**Mina Array Bea**	**82.97**	**44**	P	**P**	**13 05 25.5**	**+0.9**
	0.2nm,0.5s,baz=240,slow=4.1,SNR=3.1						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**88.87**	**58**	P	**P**	**13 05 52.8**	**-0.3**
	0.4nm,0.9s,baz=243,slow=4.8,SNR=3.6						
	0.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**89.61**	**290**	P	**P**	**13 05 56.9**	**+0.2**
	0.7nm,0.7s,baz=119,slow=5.0,SNR=5.3						
	0.7nm,0.7s						
NRIK	**Noril'sk**	**111.64**	**338**	PKP	PKiKP	13 11 45.8	+17
	2.6nm,0.5s,baz=102,slow=3.9,SNR=5.7						
HFS	**Hagfors**	**140.95**	**350**	PKhKP	PKPpre	13 12 17.1	
	0.5nm,0.5s,baz=48,slow=2.1,SNR=6.0						
AKASG	**Malin Array Be**	**143.86**	**329**	PKhKP	PKPpre	13 12 25.3	
	0.5nm,0.3s,baz=44,slow=3.8,SNR=5.4						

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*CRAAG **14** 12:55:40.1, 36°54N×5°18E, MI3.1, Algerie 09km NE Bouandas*
*MDD **14** 12:55:41.9±0.7, 36°68N×5°35E, h2km±8km, Mb4.3/34, M_mb3.7/34, Error ellipse: s-maj=8.4km s-min=3.9km az=152.0*
ISC 14 12:55:40.6±0.8, 36°70N±0°06×5°23E±0°04, h10km, n28, σ2°09/38, 15C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAZD	**Ain Tagrout**	**0.52**	**187**	P	**Pg**	**12 55 48.7**	**-2.1**
CTCHA	**Tamokra**	**0.54**	**241**	P	**Pg**	**12 55 49.5**	**-1.5**
DFRA	**Djebel Bou Aff**	**0.54**	**106**	P	**Pg**	**12 55 52.4**	**+1.3**
CBOS	**Bilal Ibnou Ra**	**0.88**	**83**	P	**Pb**	**12 55 58.7**	**+0.9**
ATKB	**Taksebt**	**0.89**	**269**	P	**Pg**	**12 55 57.1**	**-0.7**
CASM	**Ain Smara**	**1.10**	**113**	P	**Pn**	**12 56 03.6**	**+1.5**
CTEI	**Djebel Teioual**	**1.14**	**123**	P	**Pb**	**12 56 03.5**	**+1.1**
CKFL	**Kef-Lekhel**	**1.23**	**103**	P	**Pb**	**12 56 04.8**	**+0.8**
CMAH	**Djebel Manchou**	**1.76**	**92**	P	**Pn**	**12 56 11.4**	**+0.2**
ETOS	**Mallorca**	**3.61**	**329**	Pn	**Pn**	**12 56 37.9**	**+1.4**
ETOS				⇑*i*Vmb_VC		12 56 41.3	
	345nm,SNR=1.4						
ETOS				Sn	**Sn**	**12 57 20.2**	**+1.0**
EIBI	**Ibiza**	**3.86**	**308**	Pn	**Pn**	**12 56 42.8**	**+2.9**
EIBI				⇑*i*Vmb_VC		12 56 42.9	
	442nm,SNR=1.4						
EIBI				Sn	**Sn**	**12 57 25.5**	**+0.2**
VSL	**Villasalto**	**4.30**	**48**	Pn	**Pn**	**12 56 46.2**	**+0.2**
EBEN2	**Beniarda presa**	**4.73**	**296**	Pn	**Pn**	**12 56 53.3**	**+1.3**
EBEN2				⇑*i*Vmb_VC		12 56 59.5	
	506nm,SNR=0.9						
DGI	**Dorgali Grotta**	**4.98**	**42**	Pn	**Pn**	**12 56 54.3**	**-1.1**
DGI				Sn	**Sn**	**12 57 46.5**	**-6.6**

EPOB	**Poblet**	**5.66**	**326**	Pn	**Pn**	**12 57 06.4**	**+1.6**
EPOB				⇑*i*Vmb_VC		12 57 10.5	
	149nm,SNR=1.8						
EPOB				Sn	**Sn**	**12 58 06.2**	**-3.7**
ECHE	**Chera**	**5.68**	**302**	Pn	**Pn**	**12 57 06.7**	**+1.7**
ECHE				⇑*i*Vmb_VC		12 57 07.7	
	112nm,SNR=0.8						
ERTA	**Horta de San J**	**5.72**	**320**	Pn	**Pn**	**12 57 07.7**	**+2.2**
ERTA				⇑*i*Vmb_VC		12 57 10.3	
	129nm,SNR=1.3						
ERTA				Sn	**Sn**	**12 58 09.9**	**-1.3**
EMOS	**Mosqueruela**	**5.78**	**311**	Pn	**Pn**	**12 57 08.2**	**+1.7**
EMOS				⇑*i*Vmb_VC		12 57 14.1	
	167nm,SNR=1.5						
EMOS				Sn	**Sn**	**12 58 12.0**	**-1.0**
EJON	**La Jonquera**	**6.02**	**343**	Pn	**Pn**	**12 57 10.4**	**+0.7**
EJON				⇑*i*Vmb_VC		12 57 15.8	
	221nm,SNR=1.7						
EJON				Sn	**Sn**	**12 58 16.7**	**-2.1**
ESAC	**San Caprasio**	**6.69**	**320**	Pn	**Pn**	**12 57 21.2**	**+2.3**
ESAC				⇑*i*Vmb_VC		12 57 29.2	
	284nm,SNR=1.6						
ESAC				Sn	**Sn**	**12 58 33.2**	**-2.0**
EQES	**Quesada**	**6.71**	**282**	Pn	**Pn**	**12 57 21.2**	**+1.9**
EQES				⇑*i*Vmb_VC		12 57 28.1	
	110nm,SNR=1.8						
EQES				Sn	**Sn**	**12 58 35.1**	**-0.8**
ECHI	**Chisagues Biel**	**7.11**	**328**	⇑*i*Vmb_VC		12 57 26.2	
	62nm,SNR=1.7						
ECHI				Pn	**Pn**	**12 57 27.1**	**+2.3**
EORO	**Oroz-Betelu**	**7.98**	**323**	Pn	**Pn**	**12 57 38.5**	**+2.0**
EORO				⇑*i*Vmb_VC		12 57 44.7	
	127nm,SNR=1.7						
EMIJ	**Mijas**	**8.05**	**272**	Pn	**Pn**	**12 57 40.2**	**+2.8**
EMIJ				⇑*i*Vmb_VC		12 57 42.0	
	185nm,SNR=1.6						
PAB	**San Pablo**	**8.07**	**294**	Pn	**Pn**	**12 57 39.0**	**+1.2**
PAB				⇑*i*Vmb_VC		12 57 45.2	
	42nm,SNR=1.0						
PCP	**Piancastagn**	**8.23**	**17**	Pn	**Pn**	**12 57 41.4**	**+1.3**
EALK	**Alkurruntz**	**8.32**	**324**	Pn	**Pn**	**12 57 43.4**	**+2.1**
EALK				⇑*i*Vmb_VC		12 57 51.6	
	196nm,SNR=1.4						
EALK				Sn	**Sn**	**12 59 12.3**	**-3.0**
CEL	**Celeste**	**8.62**	**76**	Pn	**Pn**	**12 57 45.5**	**+0.1**

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*IDC **14** 13:01:15.3±1.1, 0°47S×128°16E, h0km, mb3.6/7, mbtmp3.8/9, ML3.8/2, Error ellipse: s-maj=48.2km s-min=18.2km az=73.0*
*NEIC **14** 13:01:16.4±2.3, 0°45S±0°08×128°30E±0°06, h10km±1km, mb4.4/10, Error ellipse: s-maj=14.6km s-min=8.2km az=29.0*
*DJA **14** 13:01:21.0±1.3, 1°S±2°×12°8E±°, h27km±13km, M4.3/15, mB5.4/2, mb4.4/8, MLv4.2/15, Mw(mB)4.8/2*
ISC 14 13:01:15.8±0.6, 0°49S±0°05×128°16E±0°06, h10km, n39, σ1°59/41, mb3.9/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.48**	**327**		**Pn**	**13 01 43.5**	**+0.9**
TNTI	**Ternate**	**1.48**	**327**	P	**Pn**	**13 01 43.9**	**+1.3**
TNTI				S	**Sn**	**13 02 03.5**	**+1.5**
SANI	**Sanana**	**2.67**	**234**	P	Pn	13 01 55.9	-3.1
SANI				S	Sn	13 02 25.7	-5.7
NLAI	**Namlea**	**2.94**	**201**	P	**Pn**	**13 02 03.1**	**+0.5**
NLAI				S	**Sn**	**13 02 36.6**	**-1.3**
MSAI	**Masohi**	**2.94**	**165**	P	**Pb**	**13 02 07.1**	**-1.3**
SWI	**Sorong**	**3.12**	**97**	P	**Pg**	**13 02 12.4**	**-3.2**
AAI	**Ambon**	**3.18**	**179**	P	**Pn**	**13 02 08.9**	**+3.0**
KMSI	**Cibinong**	**4.31**	**284**	P	**Pn**	**13 02 19.6**	**-1.9**
FAKI	**Fak Fak**	**4.74**	**121**	Pn	**Pn**	**13 02 26.3**	**-1.2**
LUWI	**Luwuk**	**5.42**	**264**	P	**Pn**	**13 02 35.2**	**-1.6**
	0.5nm52nm,0.7s						
MRSI	**Marisa**	**6.30**	**279**	P	**Pn**	**13 02 48.0**	**-0.8**
	0.1nm14nm,0.9s						
APSI	**Ampana**	**6.53**	**266**	P	**Pn**	**13 02 50.5**	**-1.5**
	70nm,1.1s						
TOLI2	**Tolitoli**	**7.55**	**282**	Pn	**Pn**	**13 03 07.1**	**+1.0**
MPSI	**Mapaga**	**8.31**	**276**	P	**Pn**	**13 03 15.4**	**-1.0**
	0.1nm11nm,0.9s						
TTSI	**Tana Toraja**	**8.72**	**253**	P	**Pn**	**13 03 20.2**	**-1.9**
	2µm19nm,0.5s						
SPSI	**Sidrap Palu**	**9.07**	**247**	P	**Pn**	**13 03 25.8**	**-1.1**
BSSI	**Bau Bau, Buton**	**9.50**	**234**	P	**Pn**	**13 03 33.1**	**+0.3**
	38nm,1.2s						
KAPI	**Kappang**	**9.53**	**242**	Pn	**Pn**	**13 03 33.9**	**+0.6**
KAPI	**Kappang**	**9.53**	**242**	Pn	**Pn**	**13 03 33.1**	**-0.1**
	2.1nm,0.3s,baz=67,slow=9.5,SNR=8.2						
KAPI				Sn	**Sn**	**13 05 15.4**	**-5.1**
	0.7nm,0.3s,baz=72,slow=22,SNR=2.6						
	10nm,0.5s						
MTN	**Manton Dam**	**12.63**	**167**	Pn	**Pn**	**13 04 16.9**	**+1.3**
KNRA	**Kununurra**	**15.11**	**178**	Pn	**Pn**	**13 04 49.2**	**-0.3**
KNRA				IAmb	IAmb	13 05 04.5	
	comp=Z,18nm,1.1s						
FITZ	**Fitzroy Crossi**	**17.68**	**188**	P	**Pn**	**13 05 23.5**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=349,slow=10,SNR=1.9						
	comp=Z,3.2nm,0.9s						
WB0	**Warramunga Arr**	**20.11**	**163**	P	**P**	**13 05 50.4**	**+0.4**
WB0				IAmb	IAmb	13 06 12.1	
	comp=Z,8.6nm,1.1s						
WRA	**Warramunga Arr**	**20.26**	**163**	P	**P**	**13 05 52.7**	**+1.1**
	comp=Z,2.7nm,0.9s,baz=344,slow=12,SNR=8.6						
	comp=Z,2.7nm,0.9s						
WR8	**Warramunga Arr**	**20.32**	**163**	P	**P**	**13 05 53.3**	**+1.0**
AS31	**Alice Springs**	**23.71**	**167**	P	**P**	**13 06 29.3**	**+1.2**
ASAR	**Alice Springs**	**23.71**	**167**	P	**P**	**13 06 29.5**	**+1.4**
ASAR	**Alice Springs**	**23.71**	**167**	P	**P**	**13 06 29.2**	**+1.1**
	comp=Z,2.7nm,0.8s,baz=346,slow=12,SNR=14						
	comp=Z,2.7nm,0.8s						
GIRL	**Giralia**	**25.86**	**211**	P	**P**	**13 06 48.8**	**+1.0**
RPSI	**Rantau Prapat**	**29.40**	**276**	P	**P**	**13 07 21.4**	**+1.6**
RPSI				IAmb	IAmb	13 07 31.3	
	comp=Z,7.3nm,1.2s						
LHMI	**Lhok Sumawe**	**31.69**	**281**	P	**P**	**13 07 40.5**	**+0.6**
KS19	**Wonju Array Si**	**37.80**	**360**	P	**P**	**13 08 31.0**	**-1.4**
KS19				IAmb	IAmb	13 08 31.5	
	comp=Z,11nm,1.3s						
SONM	**Songino Array**	**51.72**	**341**	P	**P**	**13 10 24.2**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=159,slow=8.8,SNR=1.6						
	comp=Z,0.2nm,0.4s						
MSVF	**Nonsavu**	**51.93**	**112**	P	**P**	**13 10 24.1**	**-1.4**
MSVF				IAmb	IAmb	13 11 04.9	
	comp=Z,27nm,1.4s						
MKAR	**Makanchi Array**	**61.82**	**326**	P	**P**	**13 11 35.5**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=126,slow=8.0,SNR=5.2						
	comp=Z,0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**66.04**	**328**	P	**P**	**13 12 04.2**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=126,slow=5.8,SNR=6.3						
	comp=Z,0.4nm,0.5s						
CASY	**Casey**	**66.84**	**188**	P	**P**	**13 12 08.3**	**+0.7**
CASY				IAmb	IAmb	13 12 50.3	
	comp=Z,4.2nm,1.2s						
VNDA	**Vanda**	**79.09**	**173**	P	**P**	**13 13 21.5**	**+1.5**
	comp=Z,0.5nm,1.0s,baz=270,slow=16,SNR=6.8						
	comp=Z,0.5nm,1.0s						
QSPA	**South Pole Qui**	**89.45**	**180**	P	**P**	**13 14 14.1**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=157,slow=14,SNR=1.8						
	comp=Z,0.6nm,0.7s						

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*IDC **14** 13:07:49.2±1.5, 0°80S×128°06E, h0km, mb3.5/4, mbtmp3.7/7, ML3.6/3, Error ellipse: s-maj=52.5km s-min=22.9km az=71.0*
*DJA **14** 13:07:50.5±0.3, 1°S±2°×12°8E±°, h10km, M3.9/12, mb4.0/1, MLv3.8/12*
ISC 14 13:07:53.5±0.9, 0°60S±0°05×127°80E±0°08, h35km, n14, σ2°05/16, mb3.6/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.43**	**342**	P	**Pn**	**13 08 15.3**	**-1.7**
TNTI				S	**Sn**	**13 08 34.6**	**0.0**
SANI	**Sanana**	**2.32**	**232**	P	**Pn**	**13 08 27.1**	**-2.1**
NLAI	**Namlea**	**2.72**	**195**	P	**Pn**	**13 08 33.9**	**-0.8**
NLAI				S	**Sn**	**13 09 07.4**	**+1.0**
MSAI	**Masohi**	**2.95**	**158**	P	**Pn**	**13 08 38.5**	**+0.5**
AAI	**Ambon**	**3.09**	**173**	P	**Pn**	**13 08 40.0**	**+0.1**
SWI	**Sorong**	**3.47**	**94**	P	**Pn**	**13 08 46.3**	**+1.3**
FAKI	**Fak Fak**	**5.01**	**117**	P	**Pn**	**13 09 02.9**	**-3.3**
KAPI	**Kappang**	**9.16**	**241**	Pn	**Pn**	**13 10 04.9**	**+1.6**
	1.4nm,0.3s,baz=54,slow=8.7,SNR=5.7						
	9.0nm,0.6s						

FITZ	**Fitzroy Crossi**	**17.52**	**187**	P	**Pn**	**13 11 54.2**	**-0.9**
	0.1nm,0.3s,baz=357,slow=18,SNR=1.5						
	4.2nm,1.0s						
WRA	**Warramunga Arr**	**20.26**	**162**	P	**P**	**13 12 24.1**	**-2.1**
	0.1nm,0.3s,baz=340,slow=12,SNR=4.5						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**23.68**	**166**	P	**P**	**13 13 00.4**	**-1.8**
	0.7nm,0.5s,baz=344,slow=11,SNR=6.4						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**61.71**	**326**	P	**P**	**13 18 11.4**	**+3.1**
	0.1nm,0.4s,baz=108,slow=6.4,SNR=2.0						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**65.95**	**328**	P	**P**	**13 18 39.4**	**+3.3**
	0.3nm,0.4s,baz=123,slow=6.7,SNR=2.1						
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**89.34**	**180**	P	**P**	**13 20 45.4**	**-0.9**
	0.6nm,0.8s,baz=11,slow=3.7,SNR=3.2						
	0.6nm,0.8s						

AUST 14 13:10:46.2±1.2, 18°S±7°×12°0E±°, h18km±13km, mb4.0/9, ML3.0/7, Error ellipse: s-maj=21.1km s-min=4.2km az=135.8, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.94**	**194**	P	Pn	13 11 33.7	+1.7
MBWA				S	Sn	13 12 09.3	+2.4
PSAC1	**Pilbara Seismi**	**3.29**	**191**	P	Pn	13 11 38.3	+1.5
PSAC1				S	Sn	13 12 16.3	+0.9
PSAA2	**Pilbara Seismi**	**3.31**	**191**	P	Pn	13 11 38.7	+1.5
PSAA2				S	Sn	13 12 17.1	+1.1
FITZ	**Fitzroy Crossi**	**4.89**	**88**	P	Pn	13 12 00.4	+1.5
FITZ	**Fitzroy Crossi**	**4.89**	**88**	S	Sn	13 12 57.0	+1.9
GIRL	**Giralia**	**7.29**	**233**	P	Pn	13 12 30.8	-1.1
GIRL				S	Sn	13 13 47.6	-6.6
KNRA	**Kununurra**	**8.32**	**73**	P	Pn	13 12 47.6	+1.5
	comp=Z,19nm,1.9s,comp=Z,0.1nm						
KNRA				S	Sn	13 14 19.4	-0.3
MEEK	**Meekatharra**	**8.48**	**192**	P	Pn	13 12 48.5	+0.2
	comp=Z,17nm,2.6s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.48**	**192**	S	Sn	13 14 20.4	-3.2
CVQOZ	**Cooralya Stati**	**8.56**	**223**	P	Pn	13 12 48.3	-0.9
WRKA	**Warakurna**	**9.88**	**134**	P	Pn	13 13 10.2	+2.8
	comp=Z,3.3nm,2.4s,comp=Z,0.0nm						
WRKA				S	Sn	13 14 57.5	-0.4
MORW	**Morawa**	**11.47**	**200**	P	Pn	13 13 27.1	-2.1
	comp=Z,11nm,2.9s						
MTN	**Manton Dam**	**11.59**	**64**	P	Pn	13 13 30.1	-0.7
	comp=Z,23nm,2.1s						
BLDU	**Ballidu**	**12.74**	**195**	P	Pn	13 13 45.2	-1.3
	comp=Z,17nm,1.8s						
KLBR	**Kellerberrin**	**13.47**	**190**	P	Pn	13 13 55.1	-1.4
	comp=Z,11nm,1.1s						
MUN	**Mundaring**	**14.16**	**195**	P	Pn	13 14 03.3	-2.6
	comp=Z,20nm,1.9s						
FORT	**Forrest**	**14.20**	**153**	P	Pn	13 14 06.0	-0.4
	comp=Z,7.6nm,1.7s						

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*NEIC **14** 13:11:06.7±1.0, 0°65S±0°07×128°03E±0°09, h10km±1km, mb4.1/6, Error ellipse: s-maj=17.1km s-min=10.1km az=60.0*
*IDC **14** 13:11:06.9±1.4, 0°77S×128°04E, h0km, mb3.7/5, mbtmp3.8/6, ML3.9/1, Error ellipse: s-maj=55.9km s-min=23.6km az=68.0*
*DJA **14** 13:11:08.4±0.2, 1°S±2°×12°8E±°, h10km, M4.1/15, mb4.2/4, MLv4.1/15*
ISC 14 13:11:06.6±0.7, 0°61S±0°05×127°98E±0°07, h10km, n30, σ1°65/31, mb4.0/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.51**	**336**		**Pn**	**13 11 32.8**	**-0.9**
TNTI	**Ternate**	**1.51**	**336**	P	**Pn**	**13 11 33.3**	**-0.4**
TNTI				S	**Sn**	**13 11 53.3**	**-0.1**
SANI	**Sanana**	**2.45**	**234**	P	**Pn**	**13 11 45.8**	**-0.9**
SANI				S	**Sn**	**13 12 14.5**	**-2.2**
NLAI	**Namlea**	**2.75**	**199**	P	**Pn**	**13 11 52.5**	**+1.6**
NLAI				S	**Sn**	**13 12 25.9**	**+1.7**
MSAI	**Masohi**	**2.88**	**161**	P	**Pb**	**13 11 56.4**	**-1.7**
AAI	**Ambon**	**3.06**	**176**	P	**Pb**	**13 11 58.4**	**-2.8**
SWI	**Sorong**	**3.29**	**94**	P	**Pb**	**13 12 02.9**	**-2.2**
KMSI	**Cibinong**	**4.17**	**286**	P	**Pn**	**13 12 09.4**	**-1.0**
FAKI	**Fak Fak**	**4.84**	**118**	Pn	**Pn**	**13 12 18.9**	**-0.8**
FAKI	**Fak Fak**	**4.84**	**118**	P	Pb	13 12 25.4	-6.2
	0.2nm47nm,1.3s						
LUWI	**Luwuk**	**5.22**	**265**	P	**Pn**	**13 12 23.3**	**-1.6**
APSI	**Ampana**	**6.34**	**267**	P	**Pn**	**13 12 38.5**	**-1.7**
	57nm,1.0s						
TOLI2	**Tolitoli**	**7.40**	**283**	Pn	**Pn**	**13 12 55.9**	**+1.1**
SPSI	**Sidrap Palu**	**8.85**	**248**	P	**Pn**	**13 13 16.2**	**+1.5**
BKSI	**Bulukumba**	**9.13**	**239**	P	**Pn**	**13 13 21.5**	**+2.9**
KAPI	**Kappang**	**9.31**	**242**	Pn	**Pn**	**13 13 20.4**	**-0.6**
KAPI	**Kappang**	**9.31**	**242**	Pn	**Pn**	**13 13 22.2**	**+1.2**
	1.2nm,0.3s,baz=58,slow=15,SNR=4.9						
	6.5nm,0.5s						
WRA	**Warramunga Arr**	**20.19**	**162**	P	Pn	13 15 42.2	-1.4
	1.4nm,0.6s,baz=347,slow=12,SNR=5.4						
	1.4nm,0.6s						
WR8	**Warramunga Arr**	**20.25**	**162**	P	**P**	**13 15 40.7**	**-1.6**
WR8				IAmb	IAmb	13 16 24.1	
	comp=Z,5.9nm,1.1s						

IACM	**Heraklion**	**0.69**	**323**	P		**Pn**	**13 12 40.8**	**+2.0**
IACM	**Heraklion**	**0.69**	**323**	P		**Pn**	**13 12 40.8**	**+2.0**
IACM				S		**Sn**	**13 12 48.3**	**+0.1**
TMBK	**Timbaki Herakl**	**0.74**	**296**	P		**Pn**	**13 12 41.8**	**+2.5**
IDI	**Anoyia**	**0.78**	**314**	Pg		P	**13 12 41.6**	**+1.6**
IDI				Sg		**Sn**	**13 12 49.9**	**-0.5**
IDI	**Anoyia**	**0.78**	**314**	P		**Pn**	**13 12 41.5**	**+1.5**
IDI				S		**Sn**	**13 12 51.3**	**+0.9**
IDI	**Anoyia**	**0.78**	**314**	P		**Pn**	**13 12 41.4**	**+1.5**
	910nm,0.3s,baz=133,slow=12,SNR=831							
IDI				S		**Sn**	**13 12 51.8**	**+1.4**
	7µm,0.5s,baz=315,slow=22,SNR=40							
IDI	**Anoyia**	**0.78**	**314**	P		**Pn**	**13 12 42.6**	**+2.6**
IDI				S		**Sn**	**13 12 51.9**	**+1.4**
PRNS	**Prines Rethymn**	**1.07**	**305**	P		**Pn**	**13 12 47.2**	**+3.3**
GVD	**Gavdhos**	**1.23**	**274**	Pn		**Pn**	**13 12 49.9**	**+3.8**
GVD				Sn		**Sn**	**13 13 05.3**	**+3.9**
GVD	**Gavdhos**	**1.23**	**274**	P		**Pn**	**13 12 48.8**	**+2.7**
GVD	**Gavdhos**	**1.23**	**274**	P		**Pn**	**13 12 50.8**	**+4.7**
CHNB	**Souda**	**1.44**	**301**	P		**Pn**	**13 12 51.4**	**+2.4**
CHAN	**Chania**	**1.47**	**302**	P		**Pn**	**13 12 52.8**	**+3.4**
CHAN				S		**Sn**	**13 13 08.4**	**+1.0**
KARP	**Karpathos**	**1.52**	**58**	Pn		**Pn**	**13 12 54.2**	**+4.0**
KARP	**Karpathos**	**1.52**	**58**			**Pn**	**13 12 54.8**	**+4.6**
KARP	**Karpathos**	**1.52**	**58**	P		**Pn**	**13 12 54.7**	**+4.6**
KARP				S		**Sn**	**13 13 13.7**	**+4.9**
KARP	**Karpathos**	**1.52**	**58**	P		**Pn**	**13 12 54.8**	**+4.6**
KARP				S		**Sn**	**13 13 12.1**	**+3.4**
THERA	**Ancient Thera,**	**1.61**	**357**	P		**Pn**	**13 12 53.0**	**+1.6**
THERA				S		**Sn**	**13 13 11.0**	**0.0**
THERA	**Ancient Thera,**	**1.61**	**357**	P		**Pn**	**13 12 52.7**	**+1.3**
THERA				S		**Sn**	**13 13 09.9**	**-1.1**
THR8	**Santorini-Mono**	**1.65**	**357**	P		**Pn**	**13 12 53.5**	**+1.5**
SNT5	**Nea Kammeni, S**	**1.65**	**355**	P		**Pn**	**13 12 53.1**	**+1.2**
THR5	**Thira Island,**	**1.67**	**354**	P		**Pn**	**13 12 53.7**	**+1.5**
SAP3	**Santorini-Thir**	**1.69**	**354**	P		**Pn**	**13 12 53.9**	**+1.5**
SAP3	**Santorini-Thir**	**1.69**	**354**	P		**Pn**	**13 12 53.9**	**+1.5**
SAP3				S		**Sn**	**13 13 12.1**	**-0.8**
CMBO	**Columbo, Santo**	**1.72**	**355**	P		**Pn**	**13 12 54.6**	**+1.8**
CMBO	**Columbo, Santo**	**1.72**	**355**	P		**Pn**	**13 12 54.1**	**+1.2**
CMBO				S		**Sn**	**13 13 13.6**	**+0.1**
ASTA	**Astypalaia**	**1.90**	**19**	P		**Pn**	**13 12 56.8**	**+1.5**
ASTA				S		**Sn**	**13 13 17.8**	**-0.2**
AMGA	**Amorgos Island**	**2.09**	**7**	P		**Pn**	**13 12 59.3**	**+1.3**
AMGA				S		**Sn**	**13 13 21.9**	**-0.8**
MHLO	**Agia Marina, M**	**2.16**	**334**	P		**Pn**	**13 13 00.3**	**+1.5**
MHLO				S		**Sn**	**13 13 23.2**	**-1.1**
MHLO	**Agia Marina, M**	**2.16**	**334**	P		**Pn**	**13 13 00.4**	**+1.5**
MHLO				S		**Sn**	**13 13 23.8**	**-0.6**
ANKY	**Antikythira Is**	**2.17**	**302**	P		**Pn**	**13 13 01.8**	**+2.8**
ANKY	**Antikythira Is**	**2.17**	**302**	P		**Pn**	**13 13 01.7**	**+2.8**
ANKY				S		**Sn**	**13 13 25.0**	**+0.4**
APE	**Apeiranthos**	**2.31**	**359**	Pn		**Pn**	**13 13 01.9**	**+0.8**
APE	**Apeiranthos**	**2.31**	**359**	P		**Pn**	**13 13 02.2**	**+1.2**
APE	**Apeiranthos**	**2.31**	**359**	⇑P		**Pn**	**13 13 02.3**	**+1.2**
APE	**Apeiranthos**	**2.31**	**359**	*i* P		**Pn**	**13 13 02.2**	**+1.2**
APE	**Apeiranthos**	**2.31**	**359**	P		**Pn**	**13 13 02.4**	**+1.2**
APE				S		**Sn**	**13 13 27.3**	**-1.0**
YAZI	**Mula-Dat§a-**	**2.46**	**38**	P		**Pn**	**13 13 05.4**	**+2.4**
YAZI				*i* IAML			13 13 53.0	
	comp=N,132nm,1.0s							
YAZI				*i* IAML			13 14 04.0	
	comp=E,95nm,1.1s							
KLNA	**Kalymnos**	**2.48**	**27**	P		**Pn**	**13 13 04.9**	**+1.6**
KLNA				S		**Sn**	**13 13 32.6**	**+0.4**
KTHA	**Kythira Island**	**2.54**	**307**	Pn		**Pn**	**13 13 06.2**	**+2.0**
ARG	**Arkhangelos**	**2.54**	**54**	Pn		**Pn**	**13 13 07.7**	**+3.5**
ARG	**Arkhangelos**	**2.54**	**54**			**Pn**	**13 13 07.7**	**+3.5**
ARG	**Arkhangelos**	**2.54**	**54**	P		**Pn**	**13 13 07.8**	**+3.7**
ARG	**Arkhangelos**	**2.54**	**54**	P		**Pn**	**13 13 07.7**	**+3.5**
ARG	**Arkhangelos**	**2.54**	**54**	P		**Pn**	**13 13 08.1**	**+3.9**
ARG				S		**Sn**	**13 13 36.7**	**+2.8**
DAT	**Datca**	**2.56**	**39**	Pn		**Pn**	**13 13 06.8**	**+2.3**
BODT	**Bodrum**	**2.70**	**31**	Pn		**Pn**	**13 13 08.3**	**+1.9**
BODT	**Bodrum**	**2.70**	**31**	P		**Pn**	**13 13 08.5**	**+2.1**
BDRM	**Kayabasi**	**2.76**	**33**	P		**Pn**	**13 13 09.8**	**+2.6**
BDRM				*i* IAML			13 13 41.0	
	comp=N,0.1nm,0.5s							
BDRM				*i* IAML			13 14 04.0	
	comp=E,94nm,1.1s							
BDRM	**Kayabasi**	**2.76**	**33**	⇓P		**Pn**	**13 13 10.6**	**+3.4**
VLI	**Veliai**	**2.91**	**313**	P		**Pn**	**13 13 10.0**	**+0.8**
VLI				S		**Sn**	**13 13 43.6**	**+0.7**
TURN	**Turunc**	**2.96**	**46**	Pn		**Pn**	**13 13 12.9**	**+2.9**
TURN	**Turunc**	**2.96**	**46**	P		**Pn**	**13 13 12.8**	**+2.9**
TURN				S		**Sn**	**13 13 46.4**	**+2.1**
TURN				*i* IAML			13 14 02.0	
	comp=N,100nm,0.7s							
TURN				*i* IAML			13 14 03.0	
	comp=E,87nm,0.6s							
MLSB	**Milas**	**3.10**	**34**	Pn		**Pn**	**13 13 14.3**	**+2.4**
GCAM	**G?zelcaml?**	**3.23**	**24**	Pn		**Pn**	**13 13 15.9**	**+2.3**
DALY	**Dalyan (Mula)**	**3.24**	**50**	Pn		**Pn**	**13 13 17.1**	**+3.3**
SLUM	**Salum**	**3.27**	**185**	P		**Pn**	**13 13 16.9**	**+2.8**
MULA	**Mugla, Merkez-**	**3.35**	**41**	P		**Pn**	**13 13 18.5**	**+3.2**
MULA				*i* IAML			13 14 12.0	
	comp=N,77nm,0.8s							
MULA				*i* IAML			13 14 12.0	
	comp=E,109nm,1.1s							
MET6	**Megalochori,Me**	**3.35**	**328**	P		**Pn**	**13 13 16.3**	**+1.0**
MET6				S		**Sn**	**13 13 53.4**	**-0.5**
MET4	**Agioi Theodoro**	**3.36**	**329**	P		**Pn**	**13 13 16.9**	**+1.5**
MET4				S		**Sn**	**13 13 53.1**	**-1.0**
MET5	**Makryloggos,Me**	**3.38**	**329**	P		**Pn**	**13 13 16.8**	**+1.1**
KARY	**Karystos**	**3.40**	**345**	P		**Pn**	**13 13 17.5**	**+1.5**
KARY	**Karystos**	**3.40**	**345**	P		**Pn**	**13 13 17.4**	**+1.5**
IZZE	**Mula-Seydike**	**3.42**	**59**	P		**Pn**	**13 13 18.9**	**+2.7**
IZZE				S		**Sn**	**13 13 56.2**	**+0.8**
IZZE				*i* IAML			13 14 03.0	
	comp=N,190nm,0.6s							
IZZE				*i* IAML			13 14 22.0	
	comp=E,96nm,0.5s							
FETY	**Fethiye**	**3.42**	**56**	Pn		**Pn**	**13 13 18.8**	**+2.6**
SABU	**Mula-Dalaman**	**3.45**	**52**	P		**Pn**	**13 13 20.0**	**+3.4**
SABU				*i* IAML			13 14 21.0	
	comp=E,113nm,0.9s							
SABU				*i* IAML			13 14 28.0	
	comp=N,71nm,0.7s							
ATHU	**Athens Univers**	**3.52**	**336**	P		**Pn**	**13 13 19.2**	**+1.6**
ATH	**Athens Observa**	**3.55**	**336**	P		**Pn**	**13 13 18.8**	**+0.8**
ATHP	**Athens-Neo Psi**	**3.55**	**336**	P		**Pn**	**13 13 19.8**	**+1.7**
PTL	**Penteli**	**3.57**	**338**	P		**Pn**	**13 13 19.9**	**+1.6**
DION	**Dionisos Attik**	**3.57**	**339**	P		**Pn**	**13 13 20.1**	**+1.7**
AKAS	**Kas**	**3.60**	**65**	Pn		**Pn**	**13 13 21.8**	**+2.9**
AKAS	**Kas**	**3.60**	**65**			**Pn**	**13 13 21.6**	**+2.7**
AKAS	**Kas**	**3.60**	**65**	P		**Pn**	**13 13 21.8**	**+2.9**
AKAS				S		**Sn**	**13 13 59.0**	**-1.3**
AKAS				*i* IAML			13 14 10.0	
	comp=N,238nm,0.7s							
AKAS				*i* IAML			13 14 53.0	
	comp=E,138nm,1.3s							
CHOS	**Chios island**	**3.65**	**6**	P		**Pn**	**13 13 20.9**	**+1.5**
CHOS	**Chios island**	**3.65**	**6**	P		**Pn**	**13 13 21.3**	**+1.9**
VLX	**Vlachokerasia**	**3.68**	**316**	P		**Pn**	**13 13 21.0**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**3.69**	**30**	Pn		**Pn**	**13 13 22.6**	**+2.5**
CAME	**Cameli-Denizli**	**3.73**	**53**	Pn		**Pn**	**13 13 22.9**	**+2.2**
DNZT	**Denizli-Tavas-**	**3.77**	**47**	P		**Pn**	**13 13 24.2**	**+3.1**
DNZT				S		**Sn**	**13 14 06.3**	**+2.2**
DNZT				*i* IAML			13 14 23.0	
	comp=E,94nm,0.9s							
DNZT				*i* IAML			13 14 34.0	
	comp=N,79nm,1.2s							
ESEN	**Aydn-Nazilli**	**3.78**	**36**	P		**Pn**	**13 13 24.6**	**+3.4**
ESEN				*i* IAML			13 14 23.0	
	comp=N,40nm,1.6s							
ESEN				*i* IAML			13 14 24.0	
	comp=E,48nm,1.0s							
BLCB	**Balcova**	**3.81**	**18**	Pn		**Pn**	**13 13 23.6**	**+2.0**
ITM	**Ithomi**	**3.82**	**310**	Pn		**Pn**	**13 13 23.1**	**+1.3**
ITM	**Ithomi**	**3.82**	**310**			**Pn**	**13 13 22.9**	**+1.1**
ITM	**Ithomi**	**3.82**	**310**	P		**Pn**	**13 13 22.9**	**+1.1**
ITM	**Ithomi**	**3.82**	**310**	P		**Pn**	**13 13 23.1**	**+1.3**
TAVA	**DENIZLI_Tavas**	**3.83**	**44**	P		**Pn**	**13 13 25.8**	**+3.9**
TAVA				*i* IAML			13 14 52.0	
	comp=E,56nm,1.7s							
TAVA				*i* IAML			13 14 58.0	
	comp=N,55nm,0.9s							
TAVA	**DENIZLI_Tavas**	**3.83**	**44**	⇓P		**Pn**	**13 13 26.0**	**+4.0**
LOUT	**Loutraki**	**3.85**	**328**	P		**Pn**	**13 13 23.9**	**+1.7**
KNIK	**Mula-Seydike**	**3.86**	**56**	P		**Pn**	**13 13 25.8**	**+3.3**
KNIK				*i* IAML			13 14 48.0	
	comp=N,49nm,1.1s							
KNIK				*i* IAML			13 14 48.0	
	comp=E,49nm,0.7s							
LTK	**Loutraki**	**3.88**	**328**	P		**Pn**	**13 13 23.3**	**+0.7**
NAZL	**Nazilli-Aydin**	**3.88**	**34**	Pn		**Pn**	**13 13 25.7**	**+3.1**
VIL2	**Platees**	**3.92**	**332**	P		**Pn**	**13 13 23.4**	**+0.2**
DNIZ	**Denizli-Tavas-**	**4.01**	**43**	P		**Pn**	**13 13 27.4**	**+3.0**
DNIZ				*i* IAML			13 14 23.0	
	comp=N,89nm,0.5s							
DNIZ				*i* IAML			13 14 25.0	
	comp=E,89nm,0.5s							
ELL	**Elmali**	**4.05**	**59**	Pn		**Pn**	**13 13 28.5**	**+3.5**
ELL	**Elmali**	**4.05**	**59**			**Pn**	**13 13 27.7**	**+2.7**
ELL	**Elmali**	**4.05**	**59**	P		**Pn**	**13 13 27.7**	**+2.7**
KYMI	**Kymi, Euboea I**	**4.05**	**343**	P		**Pn**	**13 13 26.6**	**+1.7**
APMY	**Acipayam-Deniz**	**4.06**	**47**	Pn		**Pn**	**13 13 27.5**	**+2.4**
GOLH	**Golhisar**	**4.07**	**51**	P		**Pn**	**13 13 28.8**	**+3.5**
GOLH				*i* IAML			13 14 56.0	
	comp=E,86nm,1.1s							
GOLH				*i* IAML			13 15 04.0	
	comp=N,159nm,1.1s							
GUR	**Goura**	**4.11**	**322**	P		**Pn**	**13 13 27.4**	**+1.6**
AMT	**Artemida-Makis**	**4.18**	**313**	P		**Pn**	**13 13 28.0**	**+1.3**
AKUM	**Antalya-Kumluc**	**4.19**	**67**	P		**Pn**	**13 13 29.7**	**+2.9**
AKUM				S		**Sn**	**13 14 17.9**	**+3.4**
AKUM				*i* IAML			13 14 30.0	
	comp=E,58nm,0.8s							
AKUM				*i* IAML			13 14 41.0	
	comp=N,46nm,0.5s							
SKY	**Skiros Island**	**4.20**	**349**	P		**Pn**	**13 13 28.4**	**+1.4**
KLV	**Kalavryta, Ach**	**4.29**	**321**	P		**Pn**	**13 13 29.3**	**+1.0**
INCE	**Denizli-Bozkur**	**4.38**	**46**	P		**Pn**	**13 13 32.2**	**+2.7**
INCE				S		**Sn**	**13 14 20.4**	**+1.1**
INCE				*i* IAML			13 15 16.0	
	comp=N,63nm,1.4s							
INCE				*i* IAML			13 15 23.0	
	comp=E,55nm,2.0s							
LKR	**Lokris**	**4.41**	**333**	P		**Pn**	**13 13 30.9**	**+1.1**
MANT	**Manisa**	**4.44**	**32**			**Pn**	**13 13 33.7**	**+3.3**
SIGR	**SIGRI**	**4.46**	**3**	P		**Pn**	**13 13 32.3**	**+1.9**
KORT	**Korkueli**	**4.48**	**59**	Pn		**Pn**	**13 13 35.3**	**+4.4**
KORT	**Korkueli**	**4.48**	**59**	P		**Pn**	**13 13 35.6**	**+4.6**
KORT				S		**Sn**	**13 14 26.9**	**+5.0**
KORT				*i* IAML			13 14 29.0	
	comp=E,70nm,0.8s							
KORT				*i* IAML			13 14 56.0	
	comp=N,74nm,0.8s							
KULA	**Kula-Manisa**	**4.50**	**33**	Pn		**Pn**	**13 13 33.9**	**+2.7**
SERG	**Sergoula**	**4.62**	**323**	P		**Pn**	**13 13 34.6**	**+1.8**
AXAR	**Agios Charalam**	**4.64**	**331**	P		**Pn**	**13 13 34.2**	**+1.1**
ANTB	**Antalya**	**4.65**	**61**	Pn		**Pn**	**13 13 37.9**	**+4.8**
EFP	**Efpalio**	**4.71**	**322**	P		**Pn**	**13 13 34.7**	**+0.8**
BUCA	**Burdur, Bucak-**	**4.79**	**56**	P		**Pn**	**13 13 38.4**	**+3.3**
BUCA				*i* IAML			13 14 48.0	
	comp=E,49nm,1.2s							
BUCA				*i* IAML			13 14 55.0	
	comp=N,38nm,1.0s							
ANX	**Ano Chora**	**4.83**	**324**	P		**Pn**	**13 13 36.7**	**+1.0**
BCK	**Bucak**	**4.88**	**55**	Pn		**Pn**	**13 13 39.9**	**+3.6**
AGG	**Agios Georgios**	**4.99**	**330**	P		**Pn**	**13 13 39.0**	**+1.2**
ISP	**Isparta**	**5.04**	**51**	*e*P		**Pn**	**13 13 41.8**	**+3.3**
ISP				pmax		pmax		
	comp=Z,9.0nm,0.8s							
MAKR	**Makrakomi, Fth**	**5.07**	**328**	P		**Pn**	**13 13 40.3**	**+1.3**
EZN	**Ezine**	**5.10**	**7**	⇑P		**Pn**	**13 13 41.0**	**+1.7**
EZN	**Ezine**	**5.10**	**7**	P		**Pn**	**13 13 40.9**	**+1.6**
SIMA	**Simav-Kutahya**	**5.11**	**31**	Pn		**Pn**	**13 13 42.6**	**+3.0**
PSDA	**Pessada-Kefalo**	**5.24**	**311**	P		**Pn**	**13 13 43.2**	**+2.0**
SWA2		**5.49**	**181**	P		**Pn**	**13 13 46.9**	**+2.2**
SWA2				S		**Sn**	**13 14 47.1**	**+0.4**
NYDR	**Nydri-Lefkada**	**5.56**	**317**	P		**Pn**	**13 13 46.9**	**+1.3**
LKD2	**Lefkada island**	**5.64**	**317**	P		**Pn**	**13 13 47.6**	**+0.8**
THAS	**Thassos island**	**5.88**	**354**	P		**Pn**	**13 13 50.8**	**+0.7**
BAND	**Balkesir-Ban**	**5.94**	**19**	⇓P		**Pn**	**13 13 53.7**	**+2.8**
CAVK	**Edirne/Enez-Ca**	**5.95**	**4**	⇓P		**Pn**	**13 13 52.6**	**+1.7**
ALN	**Alexandroupoli**	**6.15**	**3**	Pn		**Pn**	**13 13 54.9**	**+1.2**
ALN	**Alexandroupoli**	**6.15**	**3**	P		**Pn**	**13 13 54.9**	**+1.2**
HORT	**Hortiatis**	**6.16**	**342**	P		**Pn**	**13 13 55.0**	**+1.1**
CSS	**Mathiatis**	**6.38**	**86**	Pn		**Pn**	**13 13 58.6**	**+1.6**
CSS	**Mathiatis**	**6.38**	**86**	S		**Sn**	**13 15 06.9**	**-1.6**
CSS	**Mathiatis**	**6.38**	**86**	P		**Pn**	**13 13 59.8**	**+2.9**
RDO	**Rodhopi**	**6.38**	**360**			**Pn**	**13 13 59.6**	**+2.7**
HNAT	**Natroun**	**6.66**	**139**	P		**Pn**	**13 14 03.1**	**+2.4**
HNAT				S		**Sn**	**13 15 15.4**	**+0.1**
FNA	**Florina**	**6.88**	**332**			**Pn**	**13 14 04.4**	**+0.6**
FNA	**Florina**	**6.88**	**332**	P		**Pn**	**13 14 04.4**	**+0.6**
RYAN	**Fayoum**	**6.92**	**143**	P		**Pn**	**13 14 06.5**	**+2.1**
KOT	**Kottamia**	**7.15**	**131**	S		**Sn**	**13 15 26.2**	**-1.3**
SCTE	**Santa Cesarea**	**7.76**	**315**	Pn		**Pn**	**13 14 15.1**	**-0.6**
NBNS	**Bani Suef**	**7.81**	**140**	P		**Pn**	**13 14 18.9**	**+2.2**
HFRF	**Wahat Farafira**	**7.94**	**162**	P		**Pn**	**13 14 20.8**	**+2.5**
BR131	**Keskin Array S**	**8.12**	**50**	*i* P		**Pn**	**13 14 23.3**	**+2.3**
BRTR	**Keskin Array B**	**8.12**	**50**	Pn		**Pn**	**13 14 22.6**	**+1.6**
BRTR	**Keskin Array B**	**8.12**	**50**	P		**Pn**	**13 14 22.7**	**+1.8**
	comp=Z,2.9nm,0.8s,baz=225,slow=14,SNR=14							
BRTR	**Keskin Array B**	**8.12**	**50**	*i* P		**Pn**	**13 14 23.2**	**+2.3**
BRTR				pmax		pmax		
	comp=Z,3.0nm,0.8s							
ELND	**Elena**	**8.17**	**2**	⇓P		**Pn**	**13 14 23.6**	**+2.1**
SLTI	**Sal'it**	**8.29**	**105**	S		**Sn**	**13 15 51.4**	**-4.1**
SLTI	**Sal'it**	**8.29**	**105**	P		**Pn**	**13 14 25.5**	**+2.4**
TIP	**Timpagrande**	**8.32**	**305**			**Pn**	**13 14 23.1**	**-0.5**
TIP	**Timpagrande**	**8.32**	**305**	⇓P		**Pn**	**13 14 23.3**	**-0.3**
MMA0B	**Mount Meron ar**	**8.35**	**99**	S		**Sn**	**13 15 53.7**	**-3.5**
MMA0B	**Mount Meron ar**	**8.35**	**99**	P		**Pn**	**13 14 26.5**	**+2.4**
MMAI	**Mount Meron Ar**	**8.35**	**99**	P		**Pn**	**13 14 25.2**	**+1.1**
	comp=Z,1.4nm,0.2s,baz=285,slow=16,SNR=8.7							
MMAI				S		**Sn**	**13 15 54.1**	**-3.1**
	comp=Z,2.0nm,0.3s,baz=298,slow=22,SNR=5.5							
KZIT	**Kziot**	**8.36**	**115**	S		**Sn**	**13 15 52.2**	**-4.9**
KZIT	**Kziot**	**8.36**	**115**	P		**Pn**	**13 14 26.1**	**+2.1**
TAMRE	**El Minia**	**8.40**	**146**	P		**Pn**	**13 14 26.7**	**+2.0**
AMAZ	**Amatzia**	**8.46**	**110**	S		**Sn**	**13 15 55.5**	**-4.4**
AMAZ	**Amatzia**	**8.46**	**110**	P		**Pn**	**13 14 28.0**	**+2.4**
GEM	**Giv'at Ha'Em**	**8.52**	**98**	S		**Sn**	**13 15 58.0**	**-3.2**
GEM	**Giv'at Ha'Em**	**8.52**	**98**	P		**Pn**	**13 14 28.5**	**+2.2**
CEL	**Celeste**	**8.54**	**297**			**Pn**	**13 14 26.1**	**-0.6**
NATI	**Neve Ativ**	**8.57**	**97**	S		**Sn**	**13 15 59.5**	**-2.8**
NATI	**Neve Ativ**	**8.57**	**97**	P		**Pn**	**13 14 29.4**	**+2.5**
PLVB	**Pleven**	**8.65**	**355**	⇓P		**Pn**	**13 14 29.8**	**+1.7**
HMDT	**Nahal Hemdat**	**8.68**	**104**	S		**Sn**	**13 16 00.7**	**-4.3**
HMDT	**Nahal Hemdat**	**8.68**	**104**	P		**Pn**	**13 14 30.5**	**+2.0**
YTIR	**Yattir**	**8.69**	**110**	S		**Sn**	**13 16 00.7**	**-4.8**
YTIR	**Yattir**	**8.69**	**110**	P		**Pn**	**13 14 30.7**	**+2.0**
UJAP	**Al Uja**	**8.73**	**106**	S		**Sn**	**13 16 02.0**	**-4.3**
UJAP	**Al Uja**	**8.73**	**106**	P		**Pn**	**13 14 31.0**	**+1.9**
DSI	**Dead Sea**	**8.81**	**108**	S		**Sn**	**13 16 04.0**	**-4.4**
DSI	**Dead Sea**	**8.81**	**108**	P		**Pn**	**13 14 32.2**	**+1.9**
MDBI	**Mazsada**	**8.90**	**110**	S		**Sn**	**13 16 05.5**	**-5.0**
MDBI	**Mazsada**	**8.90**	**110**	P		**Pn**	**13 14 33.2**	**+1.7**
MSBI	**Mazada**	**8.90**	**110**	S		**Sn**	**13 16 06.2**	**-4.2**
MSBI	**Mazada**	**8.90**	**110**	P		**Pn**	**13 14 33.5**	**+2.0**
KRMI	**Paran Flat**	**9.01**	**118**	S		**Sn**	**13 16 08.5**	**-4.7**
KRMI	**Paran Flat**	**9.01**	**118**	P		**Pn**	**13 14 34.9**	**+1.8**
PRNI	**Paran**	**9.09**	**116**	S		**Sn**	**13 16 10.2**	**-4.9**
PRNI	**Paran**	**9.09**	**116**	P		**Pn**	**13 14 36.2**	**+2.1**
PDG	**Podgorica**	**9.12**	**329**	⇓P		**Pn**	**13 14 34.9**	**+0.5**
PDG				⇓S		**Sn**	**13 16 10.6**	**-5.2**
MATE	**Matera**	**9.16**	**313**	⇑P		**Pn**	**13 14 34.3**	**-0.8**
MATE				⇓S		**Sn**	**13 16 11.9**	**-5.0**
HRFI	**Mount Harif**	**9.28**	**118**	S		**Sn**	**13 16 14.7**	**-5.1**
HRFI	**Mount Harif**	**9.28**	**118**	P		**Pn**	**13 14 38.8**	**+2.1**
MBRI	**Mt Berech**	**9.32**	**119**	S		**Sn**	**13 16 16.2**	**-4.8**
MBRI	**Mt Berech**	**9.32**	**119**	P		**Pn**	**13 14 39.5**	**+2.1**
CUC	**Castrocucco**	**9.36**	**307**			**Pn**	**13 14 37.6**	**-0.2**
RAFF	**Raffo Rosso**	**9.41**	**288**			**Pn**	**13 14 37.9**	**-0.6**
EIL	**Elat**	**9.42**	**120**	P		**Pn**	**13 14 42.3**	**+3.6**
	comp=Z,6.8nm,0.6s,baz=325,slow=5.3,SNR=6.2							
EIL				S		**Sn**	**13 16 16.2**	**-7.1**
	comp=Z,23nm,0.7s,baz=143,slow=1.9,SNR=8.5							
EIL	**Elat**	**9.42**	**120**	S		**Sn**	**13 16 18.7**	**-4.6**
EIL	**Elat**	**9.42**	**120**	P		**Pn**	**13 14 40.6**	**+2.0**
VAE	**Valguarnera**	**9.43**	**290**	P		**Pn**	**13 14 40.0**	**+1.2**
	comp=Z,32nm,0.5s,baz=148,slow=5.2,SNR=22							
VAE				S		Sn	13 16 13.0	-11
	comp=Z,12nm,0.5s,baz=222,slow=23,SNR=2.1							
HDK1	**Dakhla**	**9.76**	**159**	P		**Pn**	**13 14 45.0**	**+1.6**
ASF	**Jabal al Asfar**	**9.80**	**102**	P		Pn	13 14 50.8	+6.8
	comp=Z,1.9nm,0.2s,baz=235,slow=11,SNR=1.9							
ASF				S		**Sn**	**13 16 36.5**	**+3.7**
	comp=Z,2.4nm,0.4s,baz=326,slow=20,SNR=1.5							
ISR	**Istrita**	**10.38**	**4**	⇓P		**Pn**	**13 14 53.0**	**+1.2**
ISR	**Istrita**	**10.38**	**4**	P		**Pn**	**13 14 53.0**	**+1.2**
CFR	**Carcaliu**	**10.60**	**10**	⇓P		**Pn**	**13 14 56.4**	**+1.7**
CFR	**Carcaliu**	**10.60**	**10**	P		**Pn**	**13 14 56.3**	**+1.7**
VOIR		**10.68**	**358**	⇑P		**Pn**	**13 14 56.7**	**+0.8**
VOIR		**10.68**	**358**	P		**Pn**	**13 14 56.7**	**+0.8**
MLR	**Muntele Rosu**	**10.73**	**1**	P		**Pn**	**13 14 58.1**	**+1.5**
	comp=Z,3.3nm,0.7s,baz=128,slow=6.0,SNR=4.8							
MLR	**Muntele Rosu**	**10.73**	**1**	⇑P		**Pn**	**13 14 58.3**	**+1.7**
MLR	**Muntele Rosu**	**10.73**	**1**	P		**Pn**	**13 14 58.3**	**+1.7**
GZR	**Gura Zlata**	**10.84**	**349**	⇑P		**Pn**	**13 14 58.8**	**+0.6**
GZR	**Gura Zlata**	**10.84**	**349**	P		**Pn**	**13 14 58.7**	**+0.6**
PLOR	**Plostina**	**11.12**	**4**	⇓P		**Pn**	**13 15 03.8**	**+1.9**
PLOR	**Plostina**	**11.12**	**4**	P		**Pn**	**13 15 03.7**	**+1.9**
VRI	**Vrincioaia**	**11.14**	**4**	⇓P		**Pn**	**13 15 04.0**	**+1.9**
VRI	**Vrincioaia**	**11.14**	**4**	P		**Pn**	**13 15 03.9**	**+1.9**
SURR	**Surduc**	**11.30**	**348**	⇓P		**Pn**	**13 15 04.5**	**+0.3**
SIRR	**Siria**	**11.88**	**347**	⇑P		**Pn**	**13 15 12.7**	**+0.4**
SIM	**Simferopol'**	**12.11**	**30**	*e*P		**Pn**	**13 15 17.3**	**+2.0**
SIM				*e*S		**Sn**	**13 17 31.0**	**+2.0**
SIM				pmax		pmax		
	comp=Z,5.0nm,0.6s							
SIM				MLR		MLR		
	comp=Z,200nm,17.1s							
DRGR		**12.22**	**351**	⇓P		**Pn**	**13 15 17.7**	**+0.7**
DRGR		**12.22**	**351**	P		**Pn**	**13 15 17.6**	**+0.7**
NRCA	**Norcia**	**12.62**	**313

MNK				*i* LRM		MLR	13 25 45.5		
	comp=E,443nm,21.0s								
MNK				*i* LRM		MLR	13 25 45.5		
	comp=N,395nm,19.6s								
MNK				*i* LRM		MLR	13 25 45.5		
	comp=Z,608nm,18.6s								
MNK	**Minsk**	**19.81**	**4**	*i* P		**P**	**13 16 50.7**	**-2.0**	
MNK				*i* S		**S**	**13 20 31.1**	**-2.7**	
MNK				pmax	pmax				
	comp=E,16nm,0.8s								
MNK				pmax	pmax				
	comp=N,11nm,0.8s								
MNK				pmax	pmax				
	comp=Z,11nm,0.7s								
MNK				MLR	MLR				
	comp=E,443nm,21.0s								
MNK				MLR	MLR				
	comp=N,395nm,20.0s								
MNK				MLR	MLR				
	comp=Z,608nm,19.0s								
NACGM	**Naroch**	**20.17**	**2**	*e*P		**P**	**13 16 55.3**	**-1.3**	
	comp=Z,9.0nm,0.9s,baz=184								
VRH	**Novokhopyorsk**	**20.17**	**30**	*e*P		**P**	**13 16 55.3**	**-1.3**	
VRH				pmax	pmax				
	comp=Z,7.0nm,0.9s								
LPSR	**Galich'ya Gora**	**20.23**	**24**	*e*P		**P**	**13 16 57.0**	**-0.2**	
LPSR				pmax	pmax				
	comp=Z,8.0nm,1.3s								
CEST	**Esterri de Car**	**20.49**	**300**			Pn	13 17 02.0	-0.7	
CEST				IAmb	IAmb		13 17 02.9		
	comp=Z,15nm,0.7s								
WLF	**Walferdange**	**20.62**	**322**			**P**	**13 16 58.6**	**-3.0**	
WLF				IAmb	IAmb		13 17 05.2		
	comp=Z,8.5nm,0.8s								
WLF	**Walferdange**	**20.62**	**322**	P		**P**	**13 16 58.6**	**-3.0**	
WLF				pmax	pmax				
	comp=Z,9.0nm,0.8s								
PABE	**Paberze**	**20.78**	**357**	*e*P		**P**	**13 17 01.8**	**-1.4**	
ISAL	**Salakas**	**20.82**	**1**	*e*P		**P**	**13 17 03.6**	**0.0**	
BHOU	**Houvegnez**	**21.14**	**323**	*d*P		**P**	**13 17 06.8**	**-0.3**	
	comp=Z,6.9nm,0.7s								
BTNL	**Ternell**	**21.23**	**324**	*d*P		**P**	**13 17 08.2**	**+0.2**	
	comp=Z,14nm,0.8s								
MEM	**Membach**	**21.30**	**324**	*d*P		**P**	**13 17 08.8**	**-0.1**	
	comp=Z,21nm,0.7s								
BSTI	**Sart Tilman**	**21.50**	**323**	*d*P		**P**	**13 17 11.4**	**+0.4**	
	comp=Z,4.7nm,0.8s								
BCLA	**Clavier**	**21.52**	**323**	*d*P		**P**	**13 17 11.0**	**-0.2**	
	comp=Z,4.6nm,0.7s								
BGES	**Gesves**	**21.61**	**323**	*d*P		**P**	**13 17 11.5**	**-0.7**	
	comp=Z,5.6nm,0.6s								
DOU	**Dourbes**	**21.68**	**321**	*d*P		**P**	**13 17 12.3**	**-0.7**	
	comp=Z,13nm,0.9s								
BMRD	**Maredsous**	**21.72**	**322**	*d*P		**P**	**13 17 11.3**	**-2.1**	
	comp=Z,6.8nm,0.9s								
OBN	**Obninsk**	**21.75**	**17**	P		**P**	**13 17 12.0**	**-1.5**	
	comp=Z,13nm,0.4s,baz=314,slow=20,SNR=5.9								
	comp=Z,13nm,0.4s								
OBN	**Obninsk**	**21.75**	**17⇑**	*e*P		**P**	**13 17 13.2**	**-0.3**	
OBN				*e*			13 17 37.7		
OBN				pmax	pmax				
	comp=Z,17nm,1.0s								
OBN				MLR	MLR				
	comp=Z,447nm,19.0s								
UCC	**Uccle**	**22.23**	**323**	*d*P		**P**	**13 17 18.2**	**-0.6**	
	comp=Z,14nm,0.8s								
BLEU	**Blekinge**	**22.57**	**346**	*i* P		**P**	**13 17 18.0**	**-4.4**	
MOS	**Moscow**	**22.57**	**18**	*e*P		**P**	**13 17 20.8**	**-1.6**	
MOS				*e*			13 17 43.0		
DEL	**Delary**	**23.15**	**343**	*i* P		**P**	**13 17 23.5**	**-4.8**	
VSU	**Vasula**	**23.73**	**2**	*e*P		**P**	**13 17 34.0**	**0.0**	
ESBB	**Sonseca Array**	**23.97**	**291**	P		**P**	**13 17 36.3**	**-0.3**	
ESDC	**Sonseca Array**	**23.97**	**291**	P		**P**	**13 17 36.0**	**-0.5**	
ESDC	**Sonseca Array**	**23.97**	**291**	P		**P**	**13 17 36.1**	**-0.4**	
	comp=Z,2.0nm,0.5s,baz=78,slow=9.5,SNR=52								
ESDC				PcP		**PcP**	**13 21 18.5**	**+0.4**	
	comp=Z,0.4nm,0.7s,baz=37,slow=2.5,SNR=2.5								
	comp=Z,2.0nm,0.5s								
PAB	**San Pablo**	**24.27**	**290**	P		**P**	**13 17 38.0**	**-1.3**	
PAB				IAmb	IAmb		13 17 40.2		
	comp=Z,4.2nm,0.8s								
PAB	**San Pablo**	**24.27**	**290**	P		**P**	**13 17 38.0**	**-1.3**	
PAB				pmax	pmax				
	comp=Z,4.0nm,0.8s								
MUD	**Monsted U'grnd**	**24.43**	**338**	*i* P		**P**	**13 17 37.6**	**-2.8**	
ONAU	**Onsala**	**24.46**	**342**	*i* P		**P**	**13 17 37.2**	**-3.5**	
BORU	**Boraas**	**24.46**	**343**	*i* P		**P**	**13 17 36.9**	**-3.9**	
MEF	**Metsahovi**	**25.49**	**359**	*e*P		**P**	**13 17 48.2**	**-1.8**	
PBRG	**Braganca**	**26.22**	**295**	*e*P		**P**	**13 17 58.6**	**+1.7**	
PBAR	**Barrancos**	**26.38**	**287**	*e*P		**P**	**13 17 58.4**	**+0.1**	
MVO	**Moncorvo**	**26.39**	**294**	*e*P		**P**	**13 18 00.3**	**+1.8**	
RAF	**Rauma**	**26.40**	**356**	*e*P		**P**	**13 17 56.1**	**-2.1**	
HFS	**Hagfors**	**26.55**	**347**	P		**P**	**13 17 57.9**	**-1.8**	
	comp=Z,1.7nm,0.5s,baz=152,slow=11,SNR=14								
	comp=Z,1.7nm,0.5s								
PMRV	**Marv??o**	**26.62**	**290**	*e*P		**P**	**13 18 00.4**	**-0.2**	
FINES	**FINESS Array B**	**26.71**	**1**			**P**	**13 17 58.8**	**-2.2**	
FINES	**FINESS Array B**	**26.71**	**1**	P		**P**	**13 17 59.0**	**-2.0**	
FINES	comp=Z,3.8nm,0.5s,baz=154,slow=12,SNR=37			PcP		**PcP**	**13 21 23.8**	**+0.2**	
	comp=Z,1.2nm,0.5s,baz=139,slow=3.4,SNR=10								
	comp=Z,3.8nm,0.5s								
FIA1	**FINESS Array S**	**26.71**	**1**			**P**	**13 17 58.8**	**-2.3**	
PESTR	**Estremoz**	**26.78**	**289**	*e*P		**P**	**13 18 04.6**	**+2.6**	
PVRL	**Vila Real**	**26.91**	**294**	*e*P		**P**	**13 18 05.1**	**+1.9**	
PMTG	**Montargil**	**27.27**	**289**	*e*P		**P**	**13 18 09.8**	**+3.4**	
MESJ	**Messejana**	**27.33**	**286**	*e*P		**P**	**13 18 10.4**	**+3.5**	
KEF	**Keuruu**	**27.44**	**359**	*e*P		**P**	**13 18 05.4**	**-2.2**	
NC602	**NORSAR Array S**	**27.54**	**345**	P		**P**	**13 18 05.7**	**-2.8**	
NC602				IAmb	IAmb		13 18 09.3		
	comp=Z,4.4nm,0.8s								
KLMR	**Klimovskoe**	**27.62**	**15**	*e*P		**P**	**13 18 06.6**	**-2.7**	
KLMR				pmax	pmax				
	comp=Z,21nm,0.8s								
NB2	**NORSAR Subarra**	**27.88**	**345**	P		**P**	**13 18 09.3**	**-2.3**	
	comp=Z,0.8nm,0.5s,baz=157,slow=11								
NOA	**NORSAR Array B**	**27.88**	**345**	P		**P**	**13 18 08.7**	**-3.0**	
	comp=Z,1.0nm,0.9s,baz=156,slow=8.9,SNR=6.3								
	comp=Z,1.0nm,0.9s								
PARRA	**Arraiolos**	**27.92**	**289**	*e*P		**P**	**13 18 07.8**	**-4.4**	
NBO00	**NORSAR Array S**	**27.96**	**345**	P		**P**	**13 18 10.0**	**-2.4**	
NBO00				IAmb	IAmb		13 18 51.8		
	comp=Z,6.3nm,1.1s								
AKTO	**Aktyubinsk**	**28.28**	**46**	P		**P**	**13 18 15.5**	**+0.2**	
EKA	**Eskdalemuir Ar**	**28.57**	**325**	P		**P**	**13 18 16.9**	**-0.9**	
	comp=Z,1.9nm,0.5s,baz=122,slow=8.7,SNR=14								
	comp=Z,1.9nm,0.5s								
EKA	**Eskdalemuir Ar**	**28.57**	**325**	P		**P**	**13 18 13.9**	**-3.9**	
EKA				pmax	pmax				
	comp=Z,6.0nm,1.3s								
AB31	**Akbulak array**	**29.07**	**50**			**P**	**13 18 23.0**	**+0.7**	
AB31				IAmb	IAmb		13 18 46.2		
	comp=Z,3.5nm,0.7s								
AB31	**Akbulak array**	**29.07**	**50**	*i* P		**P**	**13 18 23.0**	**+0.7**	
ABKAR	**Akbulak array**	**29.07**	**50**			**P**	**13 18 22.1**	**-0.2**	
TORD	**Torodi Ar. Bea**	**30.49**	**231**	P		**P**	**13 18 36.5**	**+1.3**	
	comp=Z,8.2nm,0.3s,baz=35,slow=9.2,SNR=8.7								
	comp=Z,8.2nm,0.3s								
ARTI	**Arti**	**31.08**	**36**	*d* iP		**P**	**13 18 40.1**	**+0.1**	
ARTI							13 19 43.1		
ARTI				S		**S**	**13 23 43.1**	**+0.4**	
ARTI				SS		**SnSn**	**13 25 26.6**	**+1.2**	
ARTI				pmax	pmax				
	comp=Z,11nm,1.0s								
SVE	**Sverdlovsk**	**32.38**	**36**	*e*P		**P**	**13 18 51.6**	**+0.2**	
SVE				pmax	pmax				
	comp=Z,14nm,1.0s								
LVZ	**Lovozero**	**33.60**	**6**	P		**P**	**13 18 59.5**	**-2.4**	
LVZ	**Lovozero**	**33.60**	**6**	P		**P**	**13 18 59.5**	**-2.4**	
LVZ				pmax	pmax				
	comp=Z,35nm,1.4s								
ARCES	**ARCESS Array B**	**34.84**	**360**			**P**	**13 19 10.5**	**-2.1**	
ARCES	**ARCESS Array B**	**34.84**	**360**	P		**P**	**13 19 10.6**	**-2.1**	
	comp=Z,5.2nm,0.7s,baz=177,slow=9.0,SNR=35								
ARCES				PcP		**PcP**	**13 21 44.9**	**-0.1**	
	comp=Z,1.8nm,1.0s,baz=188,slow=1.8,SNR=1.7								
	comp=Z,5.2nm,0.7s								
ARCES	**ARCESS Array B**	**34.84**	**360**	P		**P**	**13 19 10.5**	**-2.1**	
ARCES				pmax	pmax				
	comp=Z,8.0nm,1.0s								
KEV	**Kevo**	**35.07**	**1**	P		**P**	**13 19 12.9**	**-1.7**	
KEV	**Kevo**	**35.07**	**1**	P		**P**	**13 19 12.9**	**-1.7**	
KEV				pmax	pmax				
	comp=Z,15nm,1.3s								
KK31	**Karatay Array**	**35.58**	**63**	P		**P**	**13 19 21.0**	**+1.6**	
KKAR	**Karatay Array**	**35.58**	**63**			**P**	**13 19 18.3**	**-1.1**	
KKAR	**Karatay Array**	**35.58**	**63**			**P**	**13 19 18.3**	**-1.1**	
BRVK	**Borovoye**	**36.33**	**46**	P		**P**	**13 19 25.4**	**-0.2**	
BRVK				IAmb	IAmb		13 19 27.6		
	comp=Z,5.0nm,1.1s								
BRVK	**Borovoye**	**36.33**	**46**	*ce*P		**P**	**13 19 27.2**	**+1.6**	
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BVAR	**Borovoye Array**	**36.38**	**46**	P		**P**	**13 19 26.7**	**+0.6**	
	comp=Z,4.3nm,0.8s,baz=260,slow=7.1,SNR=17								
	comp=Z,4.3nm,0.8s								
ARSB	**Arslanbob**	**37.53**	**66**	P		**P**	**13 19 36.1**	**-0.1**	
ARSB	**Arslanbob**	**37.53**	**66**	P		**P**	**13 19 36.1**	**-0.1**	
ARSB				pmax	pmax				
	comp=Z,7.0nm,0.6s								
AAK	**Ala-Archa**	**38.53**	**63**	*ce*P		**P**	**13 19 47.3**	**+2.6**	
AAK				pmax	pmax				
	comp=Z,4.0nm,0.8s								
KIBK	**Kibwezi**	**38.71**	**160**	P		**P**	**13 19 44.1**	**-2.2**	
KIBK				IAmb	IAmb		13 19 58.3		
	comp=Z,5.8nm,0.6s								
DBIC	**Dimbokro**	**39.58**	**232**	P		**P**	**13 19 53.7**	**+0.3**	
	comp=Z,1.3nm,0.4s,baz=57,slow=8.4,SNR=5.6								
	comp=Z,1.3nm,0.4s								
NRN	**Naryn**	**39.78**	**65**	P		**P**	**13 19 57.8**	**+2.5**	
NRN				pmax	pmax				
	comp=Z,8.0nm,0.9s								
KDJ	**Kajisay**	**40.57**	**64**			**P**	**13 20 02.2**	**+0.6**	
KDJ				IAmb	IAmb		13 20 04.8		
	comp=Z,5.8nm,0.8s								
KDJ	**Kajisay**	**40.57**	**64**	P		**P**	**13 20 02.2**	**+0.6**	
KDJ				pmax	pmax				
	comp=Z,6.0nm,0.8s								
KURBB	**Kurchatov Arra**	**41.11**	**51**	P		**P**	**13 20 06.5**	**+0.8**	
	comp=Z,8.9nm,0.6s,baz=277,slow=8.7,SNR=96								
	comp=Z,8.9nm,0.6s								
KURK	**Kurchatov**	**41.17**	**51**			**P**	**13 20 06.8**	**+0.5**	
KURK				IAmb	IAmb		13 20 08.0		
	comp=Z,8.6nm,0.7s								
KURK	**Kurchatov**	**41.17**	**51**	P		**P**	**13 20 06.8**	**+0.5**	
KURK				pmax	pmax				
	comp=Z,9.0nm,0.7s								
PDGK	**Podgornoye**	**42.11**	**62**	P		**P**	**13 20 14.9**	**+0.7**	
SPITS	**Spitsbergen Ar**	**43.71**	**357**	P		**P**	**13 20 25.2**	**-1.3**	
	comp=Z,1.6nm,0.5s,baz=154,slow=16,SNR=5.6								
	comp=Z,1.6nm,0.5s								
SPITS	**Spitsbergen Ar**	**43.71**	**357**	P		**P**	**13 20 23.9**	**-2.6**	
SPITS				pmax	pmax				
	comp=Z,18nm,1.4s								
MK31	**Makanchi Array**	**43.72**	**56**	*ce*P		**P**	**13 20 28.7**	**+1.7**	
MKAR	**Makanchi Array**	**43.72**	**56**	P		**P**	**13 20 27.8**	**+0.8**	
MKAR	**Makanchi Array**	**43.72**	**56**	P		**P**	**13 20 28.3**	**+1.3**	
	comp=Z,4.8nm,0.8s,baz=280,slow=6.4,SNR=27								
	comp=Z,4.8nm,0.8s								
MKAR	**Makanchi Array**	**43.72**	**56**	*i* P		**P**	**13 20 28.2**	**+1.2**	
MKAR				pmax	pmax				
	comp=Z,5.0nm,0.8s								
SCO	**Scoresbysund**	**43.84**	**339**	P		**P**	**13 20 24.5**	**-3.1**	
SCO				IAmb	IAmb		13 20 49.4		
	comp=Z,5.7nm,1.0s								
SCO	**Scoresbysund**	**43.84**	**339**	P		**P**	**13 20 24.5**	**-3.1**	
SCO				pmax	pmax				
	comp=Z,6.0nm,1.0s								
KBS	**Kingsbay**	**44.65**	**356**	*i* P		**P**	**13 20 31.4**	**-2.6**	
ZALV	**Zalesovo Beam**	**45.04**	**46**			**P**	**13 20 37.4**	**-0.1**	
ZALV	**Zalesovo Beam**	**45.04**	**46**	P		**P**	**13 20 37.7**	**+0.2**	
	comp=Z,5.9nm,0.5s,baz=272,slow=8.8,SNR=29								
	comp=Z,5.9nm,0.5s								
NRIK	**Noril'sk**	**48.10**	**25**	P		**P**	**13 21 01.6**	**+0.4**	
	comp=Z,5.4nm,0.6s,baz=231,slow=4.3,SNR=12								
	comp=Z,5.4nm,0.6s								
NRIK	**Noril'sk**	**48.10**	**25**	*i* P		**P**	**13 21 02.8**	**+1.6**	
NRIK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
ISOG	**Isortoq, Green**	**48.45**	**330**	*i* P		**P**	**13 21 05.6**	**+1.6**	
ISOG				IAmb	IAmb		13 21 10.2		
	comp=Z,99nm,1.9s								
SUMG	**Summit**	**49.48**	**339**	P		**P**	**13 21 11.2**	**-1.0**	
SUMG				IAmb	IAmb		13 21 13.0		
	comp=Z,4.7nm,0.8s								
SUMG	**Summit**	**49.48**	**339**	P		**P**	**13 21 11.2**	**-1.0**	
SUMG				pmax	pmax				
	comp=Z,5.0nm,0.8s								
SUMG	**Summit**	**49.48**	**339**	*i* P		**P**	**13 21 11.0**	**-1.3**	
SUMG				IAmb	IAmb		13 21 12.6		
	comp=Z,16nm,1.5s								
NEEM	**North Greenlan**	**53.46**	**345**	*i* P		**P**	**13 21 40.0**	**-1.8**	
NEEM				IAmb	IAmb		13 21 44.7		
	comp=Z,33nm,1.9s								
KULLO	**Kullorsuaq**	**54.94**	**341**	*i* P		**P**	**13 21 56.4**	**+4.2**	
KULLO				IAmb	IAmb		13 21 58.0		
	comp=Z,10nm,0.6s								
ZAK	**Zakamensk**	**56.76**	**48**	*e*P		**P**	**13 22 06.8**	**+1.0**	
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.0s								
SONM	**Songino Array**	**59.48**	**51**	P		**P**	**13 22 26.1**	**+1.2**	
	comp=Z,4.9nm,0.5s,baz=289,slow=7.3,SNR=40								
	comp=Z,4.9nm,0.5s								
ULN	**Ulaanbaatar**	**59.89**	**50**			**P**	**13 22 28.0**	**+0.2**	
ULN	**Ulaanbaatar**	**59.89**	**50**	*ce*P		**P**	**13 22 28.4**	**+0.6**	
ULN				pmax	pmax				
	comp=Z,5.0nm,0.6s								
SCHQ	**Schefferville**	**63.72**	**320**	P		**P**	**13 22 53.0**	**-0.3**	
	comp=Z,10nm,0.5s,baz=69,slow=4.7,SNR=43								
	comp=Z,10nm,0.5s								
PZH	**PanZhiHua**	**64.64**	**74**	P		**P**	**13 22 59.8**	**-0.1**	
HHC	**Hu-ho-hao-te**	**65.58**	**56**	*e*P		**P**	**13 23 05.8**	**+0.1**	
YAK	**Yakutsk**	**66.06**	**30**	*i* P		**P**	**13 23 10.0**	**+1.8**	
YAK				pmax	pmax				
	comp=Z,4.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**66.28**	**83**	P		**P**	**13 23 10.8**	**+0.4**	
	comp=Z,0.7nm,0.5s,baz=296,slow=5.6,SNR=6.2								
	comp=Z,0.7nm,0.5s								
CMAR	**Chiang Mai Arr**	**66.28**	**83**	*i* P		**P**	**13 23 11.8**	**+1.4**	
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
HEH	**HeiHe**	**70.93**	**42**	*e*P		**P**	**13 23 39.3**	**+0.4**	
BLKN	**Baker Lake**	**71.16**	**337**	P		**P**	**13 23 38.5**	**-1.6**	
BLKN				IAmb	IAmb		13 23 39.9		
	comp=Z,4.7nm,0.6s								
A36M	**Sachs Harbour**	**71.60**	**351**	P		**P**	**13 23 42.9**	**+0.3**	
A36M				IAmb	IAmb		13 23 43.5		
	comp=Z,4.4nm,0.8s								
BILL	**Bilibino**	**73.38**	**14**	*i* P		**P**	**13 23 55.0**	**+1.8**	
BILL				pmax	pmax				
	comp=Z,3.0nm,1.1s								
SEY	**Seymchan**	**73.81**	**22**	P		**P**	**13 23 56.0**	**+0.2**	
	comp=Z,1.8nm,0.7s,baz=282,slow=14,SNR=2.8								
	comp=Z,1.8nm,0.7s								
KLR	**Kul'dur**	**73.85**	**41**	P		**P**	**13 23 56.4**	**0.0**	
	baz=319,slow=7.3								
USRK	**Ussuriysk Ar.**	**76.89**	**45**	P		**P**	**13 24 14.3**	**+0.4**	
	comp=Z,8.8nm,0.6s,baz=312,slow=4.4,SNR=5.9								
	comp=Z,2.8nm,0.6s								
YKA	**Yellowknife Ar**	**77.94**	**342**	P		**P**	**13 24 19.0**	**-0.4**	
	comp=Z,1.2nm,0.7s,baz=113,slow=3.5,SNR=11								
	comp=Z,1.2nm,0.7s								
KSRS	**Korea Array**	**78.26**	**53**	P		**P**	**13 24 22.3**	**+0.7**	
	comp=Z,1.7nm,0.6s,baz=313,slow=4.5,SNR=12								
	comp=Z,1.7nm,0.6s								
ILAR	**Eielson Array**	**80.63**	**357**	P		**P**	**13 24 33.8**	**-0.2**	
	comp=Z,0.4nm,0.7s,baz=335,slow=3.9,SNR=5.3								
	comp=Z,0.4nm,0.7s								
LEM	**Lembang**	**87.35**	**100**	P		**P**	**13 25 10.4**	**+1.0**	
	comp=Z,14nm,0.4s,baz=4.8,slow=12,SNR=5.7								
PDAR	**Pinedale Array**	**92.63**	**329**	P		**P**	**13 25 31.9**	**-1.9**	
	comp=Z,0.3nm,0.6s,baz=24,slow=3.6,SNR=4.1								
	comp=Z,0.3nm,0.6s								
WRA	**Warramunga Arr**	**116.20**	**97**	PKP		**PKPdf**	**13 31 03.9**	**-1.4**	
	comp=Z,0.3nm,0.6s,baz=245,slow=1.3,SNR=1.4								
ASAR	**Alice Springs**	**117.64**	**101**	PKP		**PKiKP**	**13 31 08.0**	**-0.1**	
	comp=Z,0.3nm,0.5s,baz=286,slow=1.3,SNR=2.2								
QSPA	**South Pole Qui**	**124.61**	**180**	PKP		**PKiKP**	**13 31 20.9**	**+0.5**	
	comp=Z,0.7nm,0.5s,baz=252,slow=1.6,SNR=16								

DJA 14 13:21:08.0±0.4, 1°S±4′×12°8E±°, h10km, M3.8/8, mB5.1/1, mb4.4/3, MLv3.5/8, Mw(mB)4.5/1, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.76**	**338**	P	Pn	13 21 39.5	+0.9
SANI	**Sanana**	**2.36**	**240**	P	Pn	13 21 45.9	-1.0
NLAI	**Namlea**	**2.53**	**202**	P	Pn	13 21 49.0	-0.2
SWI	**Sorong**	**3.22**	**90**	P	Pn	13 21 59.5	+0.8
LUWI	**Luwuk**	**5.27**	**268**	P	Pn	13 22 26.7	-0.2
	0.1nm32nm,0.5s						
APSI	**Ampana**	**6.39**	**270**	P	Pn	13 22 43.3	+1.0
	2μm67nm,0.5s						

TAP 14 13:21:56.4, 24°57N×121°67E, h33km, ML1.5, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDS	**Dongshan**	**0.07**	**36**	*e*P	Pb	13 22 01.6	-0.4
NDS				*e*S	Sb	13 22 06.3	+0.4
ENTT	**Nioudou**	**0.11**	**305**	P	Pb	13 22 02.7	+0.4
LATG	**Datong**	**0.14**	**254**	P	Pb	13 22 02.9	+0.4
LATG				*e*S	Sb	13 22 08.2	+1.5
TWE	**Neicheng**	**0.15**	**359**	P	Pb	13 22 03.0	+0.6
ENA	**Nanau**	**0.16**	**156**	*e*P	Pb	13 22 02.9	+0.4
ESAO	**Su ao**	**0.16**	**89**	*e*P	Pb	13 22 02.9	+0.4
ESAO				*i* S	Sb	13 22 07.5	+0.7
EWUT	**Wuta**	**0.16**	**142**	*e*P	Pb	13 22 02.7	+0.1
EWUT				*e*S	Sb	13 22 07.5	+0.7
TWC	**Suao**	**0.17**	**78**	*e*P	Pb	13 22 03.0	+0.4
TWC				S	Sb	13 22 07.9	+1.0
FUSB	**Fushanzhiwuyua**	**0.20**	**338**	P	Pb	13 22 03.3	+0.2
FUSB				S	Sb	13 22 08.6	+1.0
NWLT	**Wulai**	**0.25**	**323**	*e*P	Pb	13 22 04.0	+0.4
NWLT				*i* S	Sb	13 22 09.2	+0.7
YHNB	**Yeheng**	**0.28**	**290**	P	Pb	13 22 04.0	0.0
YHNB				*i* S	Sb	13 22 09.6	+0.4
NNSB	**Datong**	**0.30**	**241**	*i* P	Pn	13 22 04.5	+0.1
NNSB				*i* S	Sb	13 22 10.3	+0.8
NNS	**Nan Shan**	**0.30**	**244**	*i* P	Pn	13 22 04.7	+0.2
ETLH	**Xiulin Townshi**	**0.40**	**205**	*e*P	Pb	13 22 05.3	-0.3
ETLH				*e*S	Sb	13 22 12.1	+0.2
TIPB	**Shuangxi**	**0.42**	**20**	*e*P	Pb	13 22 06.0	+0.1
TIPB				*e*S	Sn	13 22 12.9	+0.1
KSHI	**Guanxi Townshi**	**0.49**	**294**	*e*P	Pn	13 22 07.4	+0.4
KSHI				*e*S	Sn	13 22 15.6	+1.1
NFF	**Wufeng Townshi**	**0.51**	**277**	*e*P	Pn	13 22 07.3	0.0
NFF				*e*S	Sn	13 22 14.9	0.0
LIOB	**Emei**	**0.60**	**277**	*i* P	Pb	13 22 08.8	+0.2
LIOB				*e*S	Sn	13 22 17.6	+0.5
NSTT	**Nanjuang**	**0.61**	**275**	*e*P	Pb	13 22 08.8	+0.1
WHP	**Taichung City**	**0.72**	**246**	*e*P	Pb	13 22 11.4	+0.8
OWD	**Renai**	**0.76**	**216**	*e*S	Sn	13 22 21.3	0.0
WUSB	**Renai**	**0.77**	**221**	*e*P	Pb	13 22 11.6	+0.2
WUSB				*e*S	Sb	13 22 22.2	+0.6

JMA 14 13:21:57.2±0.1, 24°3N±0°3×123°8E±0°4, h18km±1km, MV0.6/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.09**	**334**	P	Pg	13 22 00.7	0.0
IRIF				*e*S	Sg	13 22 03.2	+0.1
HATJ	**Hateruma jima**	**0.20**	**172**	P	Pg	13 22 01.8	-0.2
HATJ				*e*S	Sg	13 22 05.0	-0.2
JKRS	**Kuro-shima**	**0.21**	**93**	*i* P	Pg	13 22 02.3	0.0
JKRS				*e*S	Sb	13 22 06.2	0.0
JIJ	**Ishigaki jima**	**0.35**	**71**	P	Pg	13 22 04.4	-0.2
JIJ				*e*S	Sg	13 22 09.3	-0.4
JISG	**Ishigakijimahi**	**0.59**	**55**	P	Pg	13 22 08.9	-0.1
JISG				*e*S	Sb	13 22 17.1	0.0
JTJ	**Tarama**	**0.93**	**65**	*e*P	Pg	13 22 15.2	-0.1
JTJ				*e*S	Sn	13 22 28.0	-0.3

*MOS **14** 13:23:16.1±1.2, 42°.79N×143°.48E, h122km, mb4.4/23, Error ellipse: s-maj=8.9km s-min=5.7km az=82.5*
*IDC **14** 13:23:16.9±0.7, 42°.79N×143°.48E, h114km±5km, mb3.9/25, mbtmp4.3/27, MS4.1/2, Error ellipse: s-maj=11.0km s-

NEM2 Nemuro 2 1.77 70 A A 13 23 48.5
comp=N,3.0nm,3.9s,comp=E,3.0nm,0.7s
GLVR Golovnino 1.78 57 ⇓*i*PN **Pn 13 23 47.9 +1.1**
GLVR *e*S **Sn 13 24 10.9 +1.0**
GLVR pmax pmax
comp=Z,949nm,0.3s
GLVR pmax pmax
comp=N,30nm,0.1s
GLVR pmax pmax
comp=E,172nm,0.1s
GLVR smax smax
comp=N,6µm,0.3s
GLVR smax smax
comp=E,4µm,0.3s
GLVR Golovnino 1.78 57 *i*P **Pn 13 23 47.9 +1.1**
GLVR AMB AMB 13 23 48.7
comp=E,950nm,0.3s
GLVR *e*S **Sn 13 24 10.9 +1.0**
GLVR A A 13 24 11.6
comp=E,6µm,0.3s
GLVR A A 13 24 11.6
comp=E,4µm,0.3s
RUSJ Misakicho 1.85 44 ⇓*i*PN **Pn 13 23 49.2 +1.4**
RUSJ *e*S **Sn 13 24 16.6 +5.0**
JKB Kayabe 2.01 244 A A 13 23 50.6
comp=N,5.0nm,0.9s,comp=E,4.0nm,3.8s
YUK Yuzh-Kuril'sk 2.15 54*d i*PN **Pn 13 23 53.0 +1.5**
YUK *i*S **Sn 13 24 19.3 +1.1**
YUK pmax pmax
comp=Z,1µm,0.2s
YUK pmax pmax
comp=N,151nm,0.1s
YUK pmax pmax
comp=E,57nm,0.2s
YUK smax smax
comp=E,4µm,0.5s
YUK smax smax
comp=N,6µm,0.3s
YUK Yuzh-Kuril'sk 2.15 54 *i*P **Pn 13 23 52.8 +1.3**
YUK AMB AMB 13 23 53.6
comp=N,1µm,0.2s
YUK *i*S **Sn 13 24 19.4 +1.2**
YUK A A 13 24 20.9
comp=N,8µm,0.4s
YUK A A 13 24 20.9
comp=N,7µm,0.4s
JAHD Aomorihigashid 2.19 227 A A 13 23 53.0
comp=N,8.0nm,1.1s,comp=E,8.0nm,0.8s
JTM Tenmabayashi 2.68 223 Pn 13 23 57.9 -0.6
JTM Tenmabayashi 2.68 223 P **Pn 13 23 57.6 -0.8**
SHO Shikotan 2.69 65 *e*PN **Pn 13 24 30.3 -0.3**
SHO *e*S **Sn**
SHO pmax pmax
comp=E,63nm,0.1s
SHO pmax pmax
comp=Z,153nm,0.1s
SHO smax smax
comp=E,1µm,0.2s
SHO smax smax
comp=N,2µm,0.4s
SHO Shikotan 2.69 65 *e*P **Pn 13 24 00.4 +2.0**
SHO AMB AMB 13 24 01.9
comp=N,150nm,0.1s
SHO *e*S **Sn 13 24 30.7 +0.1**
SHO A A 13 24 32.6
comp=N,2µm,0.3s
SHO A A 13 24 32.6
comp=N,1µm,0.3s
KUR Kuril'sk 4.01 51 *e*PN **Pn 13 24 17.3 +1.3**
KUR *e*S **Sn 13 25 03.2 +1.1**
KUR pmax pmax
comp=Z,204nm,0.3s
KUR pmax pmax
comp=N,69nm,0.2s
KUR pmax pmax
comp=E,61nm,0.4s
KUR smax smax
comp=N,380nm,0.2s
KUR smax smax
comp=E,279nm,0.4s
KUR Kuril'sk 4.01 51 *e*P **Pn 13 24 17.9 +1.9**
KUR AMB AMB 13 24 18.3
comp=E,200nm,0.3s
KUR *e*S **Sn 13 25 03.2 +1.1**
KUR A A 13 25 07.4
comp=E,380nm,0.3s
KUR A A 13 25 07.4
comp=E,280nm,0.3s
YSS Yuzhno-Sakhali 4.20 353 Pn 13 24 19.8 +1.3
YSS Yuzhno-Sakhali 4.20 353 P **Pn 13 24 19.7 +1.1**
YSS Yuzhno-Sakhali 4.20 353*ce*PN **Pn 13 24 19.9 +1.3**
YSS *e*S **Sn 13 25 08.5 +1.8**
YSS pmax pmax
comp=Z,200nm,4.9s
YSS pmax pmax
comp=Z,80nm,1.0s
YSS smax smax
comp=N,90nm,0.9s
YSS smax smax
comp=E,110nm,0.7s
YSS smax smax
comp=N,400nm,2.3s
YSS smax smax
comp=E,300nm,3.6s
YSS Yuzhno-Sakhali 4.20 353 *e*P **Pn 13 24 19.9 +1.3**
YSS *e*S **Sn 13 25 08.5 +1.8**
JMM Marumori 5.32 203 Pn 13 24 31.9 -1.8
JMM Marumori 5.32 203 P **Pn 13 24 32.2 -1.5**
JSD Sado 6.18 222 P **Pn 13 24 45.5 +0.1**
MJB9 Matsu-Tunnel 7.43 215 Pn 13 25 02.8 +0.5
MAJO Matsushiro 7.43 215 Pn 13 25 01.9 -0.5
MAJO Matsushiro 7.43 215 P **Pn 13 25 01.9 -0.5**
MAJO Matsushiro 7.43 215 *i*PN **Pn 13 25 02.1 -0.3**
MJAR Matsushiro Arr 7.43 215 Pn 13 25 01.5 -0.9
MJAR Matsushiro Arr 7.43 215 P **Pn 13 25 01.9 -0.5**
comp=E,12nm,0.6s,baz=28,slow=12,SNR=34
MJAR S **Sn 13 26 23.4 -1.8**
comp=E,4.1nm,0.6s,baz=16,slow=17,SNR=4.8
TYV Tymovskoe 8.10 356 *e*PN **Pn 13 25 11.9 +0.6**
TYV *e*S **Sn 13 26 38.6 -2.5**
TYV pmax pmax
comp=Z,13nm,0.8s
TYV pmax pmax
comp=Z,100nm,3.8s
TYV smax smax
comp=N,5.0nm,1.2s
TYV smax smax
comp=E,5.0nm,1.2s
USRK Ussuriysk Ar. 8.46 284 P **Pn 13 25 16.9 +0.6**
comp=E,2.5nm,0.7s,baz=91,slow=12,SNR=4.6
JGF Kuroka 8.60 215 Pn 13 25 17.3 -0.8
JGF Kuroka 8.60 215 P **Pn 13 25 17.7 -0.5**
INU Inuyama 8.96 216 Pn 13 25 23.1 +0.1
INU Inuyama 8.96 216 P **Pn 13 25 23.5 +0.5**
JSG Sagara 9.08 209 P **Pn 13 25 25.4 +0.7**
GRNR Gornyy 9.33 331 ⇑*i*PN **Pn 13 25 28.9 +0.9**
GRNR pmax pmax
comp=Z,8.0nm,0.8s
GRNR MLR MLR
comp=E,100nm,14.0s
GRNR MLR MLR
comp=N,320nm,19.0s
GRNR MLR MLR
comp=Z,200nm,21.0s
GRNR Gornyy 9.33 331 *e*P **Pn 13 25 28.9 +0.9**
JHJ2 Mitsune 10.07 198 P **Pn 13 25 36.2 -1.9**
KLR Kul'dur 10.38 312 LR LR 13 29 52.9
comp=Z,613nm,20.6s,baz=241,slow=38
SKR Severo-Kuril's 11.73 43 *i*PN **Pn 13 25 59.8 -0.4**
SKR Severo-Kuril's 11.73 43 *e*P **Pn 13 26 00.4 +0.2**
KSRS Korea Array 13.03 251 P **Pn 13 26 16.7 -0.6**
comp=Z,0.5nm,0.7s,baz=67,slow=12,SNR=2.9
KSRS S **S 13 28 50.1 -7.9**
comp=Z,3.2nm,0.8s,baz=67,slow=24,SNR=9.3
PEA0B Petropavlovsk- 14.03 38 P **Pn 13 26 27.7 -2.6**
PEA0B Petropavlovsk- 14.03 38 P **Pn 13 26 27.7 -2.6**
PETK Petropavlovsk- 14.03 38 Pn 13 26 26.7 -3.6
PETK Petropavlovsk- 14.03 38 P **Pn 13 26 27.2 -3.1**
comp=Z,4.9nm,0.4s,baz=221,slow=10,SNR=53
PETK Petropavlovsk- 14.03 38 P **Pn 13 26 26.7 -3.6**
PET Petropavlovsk 14.42 39 Pn **Pn 13 26 34.6 -0.5**
PET Petropavlovsk 14.42 39 P **Pn 13 26 34.9 -0.2**
ZEA Zeya 15.35 321 *e*P **Pn 13 26 45.9 -1.0**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.6s
ZEA Zeya 15.35 321 *e*P **Pn 13 26 46.1 -0.8**
JCJ Chichijima 15.69 184 P **Pn 13 26 50.0 -1.3**
comp=Z,20nm,0.4s
JCJ Chichijima 15.69 184 P **P 13 26 52.6 -0.4**
MA2 Magadan 17.41 12 P **P 13 27 09.4 -2.4**
MA2 IAmb IAmb 13 27 12.7
comp=Z,23nm,0.7s
MA2 Magadan 17.41 12 P **P 13 27 09.0 -2.7**
comp=Z,15nm,0.6s,baz=183,slow=16,SNR=7.1
MA2 Magadan 17.41 12 P **P 13 27 12.1 +0.3**
MA2 Magadan 17.41 12 P **P 13 27 09.4 -2.4**
MA2 pmax pmax
comp=Z,23nm,0.7s
SEY Seymchan 20.85 11 P **P 13 27 47.2 -1.9**
comp=Z,40nm,0.7s,baz=186,slow=8.8,SNR=96
comp=Z,40nm,0.7s
SEY Seymchan 20.85 11 *i*P **P 13 27 47.5 -1.6**
SEY pmax pmax
comp=Z,34nm,0.6s
YAK Yakutsk 20.95 342 P **P 13 27 47.0 -3.2**
comp=Z,30nm,0.3s,baz=128,slow=3.7,SNR=25
YAK Yakutsk 20.95 342 *e*P **P 13 27 46.6 -3.5**
YAK *e*S **S 13 31 31.0 -6.0**
YAK *e**SS Sn 13 32 01.5 +11
YAK pmax pmax
comp=Z,22nm,0.6s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax smax
comp=E,36nm,1.6s
YAK smax smax
comp=N,26nm,2.3s
TIA Tai'an 21.31 261 P **P 13 27 55.6 +1.3**
TIA pmax pmax
comp=Z,5.0nm,0.3s
HHC Hu-ho-hao-te 23.78 276 *e*P **P 13 28 20.4 +1.4**
HHC pmax pmax
comp=Z,17nm,0.7s
ULN Ulaanbaatar 25.94 294 P 13 28 38.9 +0.5
ULN Ulaanbaatar 25.94 294*ce*P **P 13 28 39.8 +1.4**
ULN pmax pmax
comp=Z,5.0nm,1.3s
ULN Ulaanbaatar 25.94 294 *e*P **P 13 28 39.8 +1.4**
SONM Songino Array 26.38 294 P **P 13 28 43.3 +0.9**
comp=Z,5.3nm,0.6s,baz=85,slow=9.1,SNR=28
comp=Z,5.3nm,0.6s
BILL Bilibino 28.08 18 *i*P **P 13 28 56.3 -0.8**
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL Bilibino 28.08 18 *e*P **P 13 28 56.3 -0.8**
ZAK Zakamensk 28.36 300 *e*P **P 13 28 59.9 -0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
ZAK Zakamensk 28.36 300 *e*P **P 13 28 59.9 -0.1**
GSTR Great Sitkin T 28.58 57 P **P 13 28 59.7 -2.2**
ATKA Atka Island 29.74 57 P **P 13 29 13.1 +1.1**
TIXI Tiksi 29.82 351 *i*P **P 13 29 15.3 +2.8**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
H11N2 WAKE ISLAND Hy 30.29 132 T T 14 00 48.6
baz=326,slow=75,SNR=154
H11N1 WAKE ISLAND Hy 30.30 132 T T 14 00 53.3
baz=326,slow=75,SNR=181
H11N3 WAKE ISLAND Hy 30.31 132 T T 14 01 03.9
baz=326,slow=75,SNR=174
H11S1 WAKE ISLAND Hy 31.19 134 T T 14 02 01.2
baz=328,slow=76,SNR=296
H11S3 WAKE ISLAND Hy 31.19 134 T T 14 02 00.4
baz=328,slow=76,SNR=272
H11S2 WAKE ISLAND Hy 31.20 134 T T 14 02 06.9
baz=328,slow=76,SNR=165
F14K Arctic Creek 35.74 33 P P 13 30 04.9 +0.8
baz=256
K13K Kusilvak Mount 35.78 40 P **P 13 30 02.9 -1.7**
K13K IAmb IAmb 13 30 06.6
comp=Z,6.0nm,1.2s
K13K Kusilvak Mount 35.78 40 P **P 13 30 04.9 +0.4**
baz=262
J14K Nanvaranak Lak 36.41 38 P P 13 30 10.1 +0.4
baz=262
F15K North Star Dit 36.48 33 P P 13 30 11.1 +0.7
baz=257
G15K Niukluk 36.57 34 P P 13 30 12.1 +0.9
baz=258
M14K Bethel 36.96 42 P P 13 30 15.5 +1.0
baz=266
H16K Elim 37.27 35 P P 13 30 18.2 +1.2
baz=261
K15K Wolf Creek Mou 37.28 39 P P 13 30 18.8 +1.5
baz=264
G16K Koyuk River 37.35 34 P 13 30 17.5 -0.3
G16K IAmb IAmb 13 30 20.8
comp=Z,5.7nm,0.8s
G16K Koyuk River 37.35 34 P P 13 30 18.1 +0.4
baz=260
D17K Noatak River 37.55 30 P P 13 30 19.7 +0.3
baz=256
PZH PanZhiHua 37.55 258 P P 13 30 21.6 +1.5
M15K Kasigluk River 37.58 42 P P 13 30 20.7 +0.9
baz=267
KMI Kunming 37.67 255 P P 13 30 22.8 +1.6
KMI pmax pmax
comp=Z,13nm,0.5s
C17K DeLong Mountai 37.71 29 P P 13 30 21.5 +0.7
baz=255
N15K Kwethluk River 37.85 43 P P 13 30 24.1 +2.0
baz=269,SNR=5.3
E17K Hotham Inlet 37.88 31 P P 13 30 23.1 +0.9
baz=258
F17K Baldwin Pennin 37.98 32 P P 13 30 24.6 +1.5
baz=259
G17K Kiwalik Mounta 38.07 34 P P 13 30 25.6 +1.8
baz=261
L16K Owhat River 38.21 40 P P 13 30 24.9 -0.2
L16K IAmb IAmb 13 30 28.9
comp=Z,5.5nm,0.7s
L16K Owhat River 38.21 40 P P 13 30 26.9 +1.9
baz=267
H17K Granite Mounta 38.30 35 P P 13 30 27.8 +2.0
baz=263
E18K Tukpahlearik C 38.42 31 P P 13 30 27.1 +0.5
E18K IAmb IAmb 13 30 28.6
comp=Z,4.9nm,0.8s
E18K Tukpahlearik C 38.42 31 P P 13 30 27.2 +0.5
baz=259
B18K Kokolik River 38.42 28 P P 13 30 27.7 +1.0
baz=255
M16K Timber Creek 38.43 41 P P 13 30 28.2 +1.2
baz=268
C18K Utukok River 38.46 29 P P 13 30 26.7 -0.5
C18K IAmb IAmb 13 30 28.2
comp=Z,5.9nm,0.9s
C18K Utukok River 38.46 29 P P 13 30 27.1 0.0
baz=257
J17K VABM Dome 38.50 38 P P 13 30 29.0 +1.5
baz=265
N16K Nishlik Lake 38.52 42 P P 13 30 29.4 +1.8
baz=269
F18K Selawik 38.64 32 P P 13 30 30.4 +1.9
baz=261
L17K Donlin 38.79 40 P P 13 30 31.2 +1.4
baz=268
K17K Iditarod 38.81 39 P P 13 30 31.5 +1.5
baz=267
NRIK Noril'sk 38.82 332 P **P 13 30 28.3 -1.7**
comp=Z,1.8nm,0.4s,baz=109,slow=12,SNR=2.4
comp=Z,1.8nm,0.4s
NRIK Noril'sk 38.82 332 *i*P **P 13 30 29.2 -0.8**
NRIK pmax pmax
comp=Z,4.0nm,1.1s
O16K Kokwok River B 38.86 44 P P 13 30 31.8 +1.3
baz=271
CHGN Chignik 38.87 49 P P 13 30 29.4 -1.2
G18K Tagagawik 38.94 34 P 13 30 31.4 +0.3
G18K IAmb IAmb 13 30 33.5
comp=Z,7.5nm,0.7s
G18K Tagagawik 38.94 34 P P 13 30 31.4 +0.3
baz=263,SNR=8.5
H18K Honhosa River 38.97 35 P P 13 30 31.9 +0.5
baz=264
C19K Lookout Ridge 39.13 28 P P 13 30 32.8 +0.1
baz=258
M17K Holitna River 39.18 41 P P 13 30 34.9 +1.8
baz=269
N17K Nushagak Hills 39.30 42 P P 13 30 34.7 +0.5
baz=271
O17K Koliganek Bris 39.36 43 P P 13 30 36.1 +1.4
baz=272
F19K Shaleruckik Mo 39.41 32 P 13 30 34.4 -0.6
F19K IAmb IAmb 13 30 37.4
comp=Z,6.1nm,0.8s
F19K Shaleruckik Mo 39.41 32 P P 13 30 36.0 +1.0
baz=262,SNR=8.2
ZAA0 Zalesovo Array 39.44 307 P 13 30 35.9 +0.5
ZAA0 IAmb IAmb 13 30 37.1
comp=Z,6.2nm,0.8s
ZALV Zalesovo Beam 39.44 307 P 13 30 35.0 -0.4
ZALV Zalesovo Beam 39.44 307 P **P 13 30 35.6 +0.3**
comp=Z,3.5nm,0.4s,baz=76,slow=7.7,SNR=21
comp=Z,3.5nm,0.4s
D19K Kuna River 39.53 30 IAmb IAmb 13 30 37.4
comp=Z,8.3nm,0.9s
D19K Kuna River 39.53 30 P **P 13 30 35.9 -0.2**
baz=260
L18K Granite Mounta 39.54 40 P **P 13 30 37.6 +1.5**
baz=269
J18K Innoko River 39.57 38 P **P 13 30 36.9 +0.5**
baz=268
GCSA Galena City Sc 39.57 36 P **P 13 30 36.4 +0.1**
baz=266
G19K Purcell Mounta 39.60 33 P **P 13 30 37.4 +0.7**
baz=264
E19K Redstone River 39.70 31 P **P 13 30 38.2 +0.8**
baz=262
H19K Roundabout Mou 39.81 34 P **P 13 30 39.3 +1.0**
baz=265,SNR=7.2
N18K Kilae Creek 39.94 42 P **P 13 30 41.2 +1.7**
baz=272
M18K Stony River 39.95 41 P **P 13 30 41.1 +1.6**
baz=271
Q17K Contact Creek 40.07 46 P **P 13 30 41.3 +0.6**
baz=274
J19K Poorman 40.07 37 P **P 13 30 41.2 +0.7**
baz=268
D20K Etivluk River 40.11 29 P **P 13 30 41.0 +0.2**
baz=261
B20K Meade River 40.14 27 P **P 13 30 40.9 -0.1**
baz=259
E20K Nigu River 40.20 30 P **P 13 30 42.5 +0.9**
baz=262
F20K Avaraart Lake 40.24 32 P **P 13 30 42.8 +1.0**
baz=264
H20K Anotleneega Mo 40.46 34 P **P 13 30 44.8 +1.1**
baz=267
CHIR Chirikof Islan 40.48 49 P **P 13 30 44.6 +0.7**
CHIR Chirikof Islan 40.48 49 P **P 13 30 45.0 +1.1**
M19K Big River Lodg 40.63 40 P **P 13 30 46.3 +1.2**
baz=272
J20K Nowinta River 40.73 36 P **P 13 30 46.7 +0.8**
baz=269
K20K Telida 40.75 38 P **P 13 30 47.5 +1.3**
baz=270
C21K Knifeblade Rid 40.83 29 P **P 13 30 47.7 +1.0**
baz=263
L20K Farewell, AK 40.85 39 P **P 13 30 47.8 +0.8**
baz=271
IMAR Indian Mountai 40.95 34 P **P 13 30 48.1 +0.4**
B21K Ikpikpuk River 40.95 28 P **P 13 30 47.9 +0.2**
baz=282
E21K Killik River 41.04 30 P **P 13 30 48.5 0.0**
baz=264
G21K Allakaket 41.08 33 P **P 13 30 50.9 +2.2**
baz=267
F21K Alatna River 41.13 32 P **P 13 30 49.8 +0.7**
baz=266
H21K Melozitna Rive 41.33 34 P **P 13 30 51.7 +0.9**
baz=268
CHUM Lake Minchumin 41.53 37 P **P 13 30 53.6 +1.1**
baz=271
D22K Ayikyak River 41.55 29 P **P 13 30 53.0 +0.4**
baz=265,SNR=5.0
O20K Slope Mountain 41.59 43 P **P 13 30 55.1 +1.9**
baz=275
PPLA Purkeypile 41.62 38 P **P 13 30 55.5 +2.1**
baz=272
F22K John River 41.65 31 P **P 13 30 54.9 +1.5**
baz=267,SNR=5.0
E22K Anaktuvuk Pass 41.82 31 P **P 13 30 55.5 +0.7**
baz=267,SNR=24
G22K Bettles 41.88 32 P **P 13 30 56.2 +0.9**
baz=268
H22K Ishtalitna Cre 41.92 34 P **P 13 30 57.5 +1.9**
baz=270,SNR=7.2
SKT Skwentna 41.97 40 P **P 13 30 57.4 +1.2**
baz=274
BPAW Bear Paw Mtn. 42.11 37 P **P 13 30 58.3 +1.0**
baz=272
KTH Kantishna Hill 42.16 37 IAmb IAmb 13 31 02.6
comp=Z,8.2nm,0.7s
MLY Manley 42.19 35 P **P 13 30 59.4 +1.5**
baz=271
CAPN Captain Cook N 42.26 42 P **P 13 30 59.4 +1.1**
baz=276
D23K Nanushuk River 42.28 29 P **P 13 30 59.2 +0.7**
baz=267
C23K Itkillik River 42.36 28 P **P 13 30 59.9 +0.8**
baz=266
COLD Coldfoot 42.40 32 P **P 13 31 00.4 +0.9**
baz=269
TRF Thorofare Moun 42.45 38 P **P 13 31 00.6 +0.4**
baz=273
G23K Bananza Creek 42.47 33 IAmb IAmb 13 31 03.0
comp=Z,5.8nm,0.7s
G23K Bananza Creek 42.47 33 P **P 13 31 00.5 +0.4**
baz=270,SNR=8.5
E23K Chandalar 42.64 31 P **P 13 31 02.1 +0.6**
baz=269,SNR=10
MKAR Makanchi Array 42.64 297 P **P 13 31 02.3 +0.5**
MKAR Makanchi Array 42.64 297 P **P 13 31 02.2 +0.4**
comp=Z,2.7nm,0.6s,baz=84,slow=12,SNR=17
comp=Z,2.7nm,0.6s
MKAR Makanchi Array 42.64 297 P **P 13 31 02.3 +0.5**
MKAR Makanchi Array 42.64 297 *eP* **P 13 31 02.3 +0.5**
TOLK Toolik Lake Re 42.67 30 IAmb IAmb 13 31 04.3
comp=Z,6.1nm,0.5s
TOLK Toolik Lake Re 42.67 30 P **P 13 31 02.8 +1.1**
baz=268,SNR=7.6
H23K Yukon River 42.67 34 P **P 13 31 02.8 +1.1**
baz=271
I23K Minto, Yukon-K 42.77 35 P **P 13 31 03.6 +1.1**
baz=272
NEA2 Nenana 42.92 36 P **P 13 31 04.8 +1.0**
baz=273,SNR=12
D24K Happy Valley 42.96 29 P **P 13 31 04.1 +0.1**
baz=268,SNR=11
C24K Franklin Bluff 43.02 28 P **P 13 31 04.9 +0.5**
baz=268
MCK McKinley 43.04 37 P **P 13 31 05.2 +0.5**
MCK IAmb IAmb 13 31 09.3
comp=Z,5.4nm,0.6s
MCK McKinley 43.04 37 P **P 13 31 05.2 +0.5**
MCK pmax pmax
comp=Z,5.0nm,0.6s
MCK McKinley 43.04 37 P **P 13 31 05.6 +0.9**
baz=274
E24K Your Creek 43.06 31 IAmb IAmb 13 31 10.8
comp=Z,3.3nm,0.6s
E24K Your Creek 43.06 31 P **P 13 31 05.7 +0.8**
baz=270
PMR Palmer 43.14 40 P **P 13 31 07.2 +1.7**
PMR Palmer 43.14 40 P **P 13 31 07.6 +2.1**
baz=276
SEW Seward 43.17 42 P **P 13 31 06.9 +1.1**
baz=278
F24K Squaw Lake 43.30 31 P **P 13 31 07.7 +0.9**
baz=271,SNR=12
H24K Noodor Dome 43.36 34 P **P 13 31 08.2 +0.9**
baz=273
COLA College 43.43 35 P **P 13 31 09.2 +1.4**
COLA College 43.43 35 *i*P **P 13 31 08.3 +0.5**
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA College 43.43 35 P **P 13 31 09.4 +1.6**
baz=274
G24K Hadweenzic Riv 43.48 33 IAmb IAmb 13 31 12.5
comp=Z,3.9nm,0.6s
G24K Hadweenzic Riv 43.48 33 P **P 13 31 09.3 +1.1**
baz=272
KNK Knik Glacier 43.48 40 P **P 13 31 10.3 +2.0**
baz=277
PWL Port Wells 43.62 41 P **P 13 31 10.8 +1.4**

baz=278
M23K Glacier View 43.78 40 P P 13 31 12.6 +1.9
baz=277
D25K Kavik River 43.83 29 IAmb IAmb 13 31 13.4
comp=Z,5.2nm,0.5s
D25K Kavik River 43.83 29 P P 13 31 10.5 -0.5
baz=270,SNR=6.0
KURK Kurchatov 43.84 304 P 13 31 12.2 +0.9
KURK Kurchatov 43.84 304 *ce*P P 13 31 13.5 +2.3
KURK pmax pmax
comp=Z,8.0nm,0.6s
KURK Kurchatov 43.84 304 *e*P P 13 31 13.5 +2.3
IL31 43.85 35 IAmb IAmb 13 31 13.4
comp=Z,9.4nm,1.1s
ILAR Eielson Array 43.85 35 P P 13 31 10.2 -1.0
ILAR Eielson Array 43.85 35 P P 13 31 10.8 -0.4
comp=Z,3.7nm,0.8s,baz=257,slow=5.3,SNR=54
ILAR PcP PP 13 32 55.6 +0.5
comp=Z,0.3nm,0.8s,baz=274,slow=5.3,SNR=1.3
comp=Z,3.7nm,0.8s
HDA Harding Lake 43.85 36 P P 13 31 11.4 +0.2
baz=275,SNR=6.7
KURBB Kurchatov Arra 43.91 304 P P 13 31 12.8 +0.9
comp=Z,11nm,0.5s,baz=71,slow=8.8,SNR=63
comp=Z,11nm,0.5s
G25K Bearman Lake 44.02 33 P P 13 31 13.1 +0.5
baz=273
F25K Christian Rive 44.16 31 P P 13 31 14.8 +1.1
baz=273
H25L Birch Creek 44.17 33 P P 13 31 14.6 +0.9
baz=274
PRP Porcupine Dome 44.35 34 P 13 31 15.7 +0.3
PRP IAmb IAmb 13 31 17.1
comp=Z,9.8nm,1.1s
PRP Porcupine Dome 44.35 34 P P 13 31 16.2 +0.9
baz=275,SNR=5.3
FYU Fort Yukon 44.38 33 IAmb IAmb 13 31 19.4
comp=Z,6.0nm,0.9s
K24K Donnelly Dome 44.43 37 P P 13 31 16.0 +0.2
baz=277
J25K Salcha River, 44.51 36 P P 13 31 16.0 -0.6
baz=276
CMAR Chiang Mai Arr 44.67 251 P P 13 31 19.2 +0.9
comp=Z,1.2nm,0.7s,baz=41,slow=6.2,SNR=8.4
comp=Z,1.2nm,0.7s
CMAR Chiang Mai Arr 44.67 251 *ce*P P 13 31 19.7 +1.4
CMAR pmax pmax
comp=Z,1.0nm,0.5s
KLU Klutina 44.68 40 P P 13 31 18.2 +0.3
baz=279
F26K Sheenjek River 44.72 31 IAmb IAmb 13 31 21.9
comp=Z,3.5nm,0.6s
F26K Sheenjek River 44.72 31 P P 13 31 19.2 +1.0
baz=274,SNR=11
C27K Jago River 44.76 28 P P 13 31 18.8 +0.4
baz=273
Q23K Middleton Isla 44.83 43 P P 13 31 19.6 +0.7
baz=281
RIDG Independent Ri 44.85 37 P P 13 31 19.5 +0.3
baz=278
HARP HAARP 44.90 39 P P 13 31 20.4 +0.8
baz=279
EYAK Cordova Ski Ar 44.92 41 P P 13 31 20.7 +1.0
baz=280
G26K Porcupine Rive 44.92 32 P P 13 31 21.2 +1.6
baz=275,SNR=6.3
SCRK Sand Creek 45.19 36 IAmb IAmb 13 31 25.2
comp=Z,5.7nm,0.6s
SCRK Sand Creek 45.19 36 P P 13 31 22.2 +0.2
baz=278,SNR=12
N25K Chitina, Valde 45.29 40 P P 13 31 23.4 +0.6
baz=280
J26L Joseph Creek 45.30 36 P P 13 31 23.1 +0.3
baz=278
I26K Coal Creek Min 45.36 34 P P 13 31 23.1 -0.1
baz=278
BMRM Bremner River 45.40 41 P P 13 31 24.2 +0.6
baz=281
L26K Log Cabin Wild 45.62 38 P P 13 31 27.0 +1.7
baz=280,SNR=5.3
E27K Coleen River 45.64 30 P P 13 31 26.0 +0.7
baz=276
G27K Doyon Strip 45.77 32 P P 13 31 27.3 +0.9
baz=277
M26K Nabesna, AK 45.89 38 P P 13 31 28.8 +1.3
baz=280
VRDI Verde Repeater 45.90 40 P P 13 31 27.1 -0.6
VRDI IAmb IAmb 13 31 32.2
comp=Z,6.9nm,1.2s
H27K Steamboat Moun 45.90 33 P P 13 31 28.7 +1.2
baz=278
I27K Kandik River 45.96 34 P P 13 31 28.6 +0.7
baz=278
K27K Chicken 46.01 36 IAmb IAmb 13 31 32.0
comp=Z,4.5nm,0.6s
K27K Chicken 46.01 36 P P 13 31 29.3 +1.0
baz=280
MCARA McCarthy VSAT 46.07 40 P P 13 31 30.3 +1.5
baz=281
CRQE Cirque 46.17 41 P P 13 31 31.4 +1.7
baz=282
L27K Beaver Creek, 46.30 37 IAmb IAmb 13 31 59.8
comp=Z,4.2nm,0.8s
L27K Beaver Creek, 46.30 37 P P 13 31 31.6 +1.0
baz=281,SNR=8.1
BCAR Beaver Creek A 46.31 37 P P 13 31 31.2 +0.5
E28M Babbage River 46.34 30 P P 13 31 31.2 +0.3
baz=277
F28M Old Crow 46.35 31 P P 13 31 31.4 +0.4
baz=278
M27K Edge Creek, AK 46.41 38 IAmb IAmb 13 31 36.5
comp=Z,9.7nm,1.1s
M27K Edge Creek, AK 46.41 38 P P 13 31 32.5 +0.9
baz=281,SNR=11
I28M Miner Creek 46.67 34 IAmb IAmb 13 31 37.6
comp=Z,4.3nm,0.8s
I28M Miner Creek 46.67 34 P P 13 31 34.9 +1.3
baz=280,SNR=8.9
BVCY Beaver Creek 46.86 38 P P 13 31 35.7 +0.6
baz=282
CTG Chitna Glacier 46.96 40 P P 13 31 36.7 +0.8
baz=283
E29M Blow River 46.97 30 P P 13 31 36.6 +0.8
baz=279
DAWY Dawson 47.17 36 P P 13 31 38.0 +0.6
baz=282
H29M Whitestone 47.17 33 P P 13 31 38.3 +1.0
baz=281
G29M Pine Creek 47.18 32 P P 13 31 38.4 +1.0
baz=280
YUK3 Moose Creek 47.19 39 P P 13 31 38.6 +0.9
baz=283
I29M Ogilvie Camp, 47.36 34 P P 13 31 40.1 +1.3
baz=282
YUK8 Steele Glacier 47.62 40 P P 13 31 42.5 +1.3
baz=284
EPYK Eagle Plains 47.79 32 IAmb IAmb 13 31 44.2
comp=Z,8.1nm,1.1s
EPYK Eagle Plains 47.79 32 P P 13 31 43.4 +1.2
baz=282,SNR=10
G30M tAoh Zraii Nji 47.86 32 P P 13 31 43.3 +0.6
baz=282
F30M Barrier River 47.90 31 IAmb IAmb 13 31 46.4
comp=Z,6.9nm,0.8s
F30M Barrier River 47.90 31 P P 13 31 44.1 +1.2
baz=282,SNR=8.9
L29M L29M 47.93 37 P P 13 31 45.3 +2.0
baz=284,SNR=6.4
M29M Somme Creek 47.94 38 P P 13 31 44.6 +1.1
baz=284
K29M Barlow Dome 48.02 36 IAmb IAmb 13 31 46.2
comp=Z,6.6nm,1.2s
K29M Barlow Dome 48.02 36 P P 13 31 45.3 +1.2
baz=284,SNR=5.3
BVAR Borovoye Array 48.03 309 P P 13 31 44.2 +0.1
comp=Z,7.4nm,0.5s,baz=72,slow=9.8,SNR=31
comp=Z,7.4nm,0.5s
BRVK Borovoye 48.08 309 P 13 31 43.8 -0.7
BRVK IAmb IAmb 13 31 47.3
comp=Z,6.0nm,0.7s
BRVK Borovoye 48.08 309 *ce*P P 13 31 45.8 +1.3
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 48.08 309 *e*P P 13 31 45.8 +1.3
YUK4 Talbot Arm 48.13 39 P P 13 31 45.6 +0.6
baz=285
I30M Mount Dempster 48.18 34 IAmb IAmb 13 31 47.3
comp=Z,8.3nm,0.8s
I30M Mount Dempster 48.18 34 P P 13 31 46.0 +0.7
baz=283,SNR=19
J30M Hart River 48.35 35 P P 13 31 47.7 +1.1
baz=284
YUK6 Outpost Mounta 48.37 40 P P 13 31 48.1 +1.2
baz=285
INK Inuvik 48.58 29 IAmb IAmb 13 31 51.3
comp=Z,4.5nm,0.5s
INK Inuvik 48.58 29 P P 13 31 48.5 +0.5
baz=283,SNR=7.3
G31M Satah River 48.62 31 IAmb IAmb 13 31 51.9
comp=Z,3.7nm,0.6s
G31M Satah River 48.62 31 P P 13 31 49.0 +0.6
baz=284
M30M Minto, Yukon 48.66 37 P P 13 31 49.8 +1.0
baz=285
F31M Tsiigehtchic 48.70 31 P P 13 31 49.6 +0.6
baz=284
MAYO Mayo, Yukon 48.79 36 P P 13 31 51.5 +1.7
baz=285
HYT Haines Junctio 48.81 40 P P 13 31 52.0 +1.8
baz=286,SNR=16
N30M Aishikik Lake 48.83 39 P P 13 31 51.2 +1.0
baz=286
H31M Peel River 48.87 33 P P 13 31 51.5 +1.1
baz=284,SNR=11
P29M Windy Craggy 49.04 41 P 13 31 53.7 +1.9
P29M Windy Craggy 49.04 41 P P 13 31 54.1 +2.3
baz=287,SNR=15
P30M Million Dollar 49.27 41 P P 13 31 55.1 +1.6
baz=287
N31M Braeburn, Yuko 49.42 39 IAmb IAmb 13 31 57.0
comp=Z,4.6nm,0.7s
N31M Braeburn, Yuko 49.42 39 P P 13 31 56.6 +2.0
baz=287
O30N Mendenhall 49.49 40 P P 13 31 56.9 +1.7
baz=287
PLBC Pleasant Camp 49.76 41 P P 13 31 58.6 +1.4
baz=287
M31M Drury Creek, Y 49.84 37 P P 13 31 58.9 +1.1
baz=287
WHY Whitehorse 50.09 39 P P 13 32 01.0 +1.2
baz=288
SKAG Skagway 50.26 41 P P 13 32 02.6 +1.7
baz=289
S31K Pelican 50.30 43 P P 13 32 01.8 +0.5
baz=289
A36M Sachs Harbour 50.35 24 P P 13 32 02.5 +1.0
baz=287
N32M Quiet Lake 50.76 38 P P 13 32 05.9 +1.1
baz=289
P32M Atlin 50.99 41 P P 13 32 07.9 +1.3
baz=290
R32K Eaglecrest 51.05 42 P P 13 32 07.6 +0.6
R32K Eaglecrest 51.05 42 P P 13 32 08.4 +1.4
baz=290
SIT Sitka 51.08 44 P P 13 32 09.1 +2.0
baz=291
MMPY Sheldon Lake, 51.09 36 P P 13 32 08.7 +1.5
baz=289
P33M Teslin, Yukon 51.20 40 IAmb IAmb 13 32 14.2
comp=Z,4.8nm,0.7s
P33M Teslin, Yukon 51.20 40 P P 13 32 09.9 +1.7
baz=290,SNR=11
Q32M Nakina River 51.91 41 P P 13 32 14.9 +1.4
baz=291
SVE Sverdlovsk 51.99 316 *e*P P 13 32 14.4 +0.5
SVE pmax pmax
comp=Z,17nm,0.8s
R33M Jennings River 52.37 40 P P 13 32 18.6 +1.7
baz=292
CRAG Craig 52.81 45 P P 13 32 22.0 +2.0
baz=293
S34M Telegraph Cree 52.86 42 P P 13 32 23.2 +2.8
baz=293
WTLY Watson Lake, Y 53.11 39 P P 13 32 24.8 +2.6
baz=293
DLBC Dease Lake 53.19 41 P P 13 32 24.7 +1.8
baz=293
ARTI Arti 53.31 316 P 13 32 23.8 +0.1
ARTI Arti 53.31 316 *d i*P P 13 32 24.0 +0.3
ARTI *PP pP 13 32 49.5 -1.0
ARTI 13 34 20.9
ARTI S S 13 39 50.0 +3.7
ARTI SS SKiKP 13 43 29.9 +1.7
ARTI pmax pmax
comp=Z,10.0nm,0.8s
T35M Bob Quinn 53.67 43 P P 13 32 28.2 +1.9
baz=294
LIRD Liard River Hi 54.64 39 P P 13 32 35.5 +2.1
baz=296
SPITS Spitsbergen Ar 55.20 348 P P 13 32 36.6 -0.6
comp=Z,1.8nm,0.5s,baz=74,slow=9.6,SNR=5.6
comp=Z,1.8nm,0.5s
TOAD Toad River Com 55.29 39 P P 13 32 39.8 +1.7
baz=296
ABKAR Akbulak array 55.55 308 P 13 32 40.0 0.0
YKA Yellowknife Ar 58.08 32 P P 13 32 58.2 +0.6
comp=Z,1.4nm,0.8s,baz=305,slow=7.7,SNR=11
YKA pP pP 13 33 25.4 +0.6
comp=Z,0.6nm,0.7s,baz=306,slow=7.0,SNR=2.5
comp=Z,1.4nm,0.8s
YKA Yellowknife Ar 58.08 32 *ce*P P 13 32 58.5 +0.9
LEM Lembang 59.16 223 LR LR 13 58 38.2
comp=Z,354nm,21.9s,baz=150,slow=36
ARCES ARCESS Array B 59.20 339 P P 13 33 04.8 -0.5
comp=Z,1.6nm,0.6s,baz=45,slow=7.6,SNR=16
comp=Z,1.6nm,0.6s
KLMR Klimovskoe 59.78 327 *e*P P 13 33 08.1 -1.3
KLMR pmax pmax
comp=Z,13nm,1.4s
WRA Warramunga Arr 62.98 190 P P 13 33 31.3 0.0
comp=Z,1.7nm,0.6s,baz=8.8,slow=6.8,SNR=6.5
comp=Z,1.7nm,0.6s
WRA Warramunga Arr 62.98 190 *ce*P P 13 33 32.7 +1.4
WRA pmax pmax
comp=Z,2.0nm,0.6s
OBN Obninsk 64.47 322 *i e*P P 13 33 42.0 +1.2
OBN 13 36 06.8
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN MLR MLR
comp=Z,275nm,20.0s
OBN Obninsk 64.47 322 *e*P P 13 33 42.0 +1.2
FIA1 FINESS Array S 64.48 332 P 13 33 40.1 -0.6
FINES FINESS Array B 64.48 332 P P 13 33 40.2 -0.5
comp=Z,3.8nm,0.5s,baz=36,slow=8.2,SNR=56
comp=Z,3.8nm,0.5s
FINES FINESS Array B 64.48 332 *ce*P P 13 33 40.2 -0.5
FINES pmax pmax
comp=Z,3.0nm,0.4s
SUMG Summit 64.94 1 *i*P P 13 33 43.0 -1.0
ASAR Alice Springs 66.70 190 P P 13 33 55.5 0.0
comp=Z,1.0nm,0.7s,baz=16,slow=7.0,SNR=4.2
comp=Z,1.0nm,0.7s
KIV Kislovodsk 68.37 310 *e*P P 13 34 07.9 +2.0
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV Kislovodsk 68.37 310 *e*P P 13 34 07.9 +2.0
KBZ Khabaz 68.39 310 P P 13 34 07.4 +1.5
comp=Z,2.1nm,0.6s,baz=44,slow=5.0,SNR=5.7
comp=Z,2.1nm,0.6s
SHA1 Shidzhatmaz 68.52 310 *i*P P 13 34 07.8 +0.7
EGMT Eagleton 68.97 44 P P 13 34 09.3 -0.3
EGMT IAmb IAmb 13 34 10.7
comp=Z,4.0nm,0.5s
NB2 NORSAR Subarra 69.50 337 P P 13 34 12.4 -0.2
comp=Z,0.9nm,0.6s,baz=34,slow=6.5
NOA NORSAR Array B 69.50 337 P P 13 34 12.0 -0.6
comp=Z,1.5nm,0.7s,baz=51,slow=7.1,SNR=9.9
comp=Z,1.5nm,0.7s
HFS Hagfors 69.50 336 P P 13 34 12.2 -0.3
comp=Z,1.9nm,0.4s,baz=60,slow=7.0,SNR=25
comp=Z,1.9nm,0.4s
BOZ Bozeman (W) 69.58 46 P P 13 34 13.0 -0.5
BOZ IAmb IAmb 13 34 15.2
comp=Z,3.2nm,0.6s
BOZ Bozeman (W) 69.58 46 P P 13 34 13.0 -0.5
BOZ pmax pmax
comp=Z,3.0nm,0.6s
NVAR Mina Array Bea 70.36 56 P P 13 34 19.3 +0.8
comp=Z,0.5nm,0.6s,baz=314,slow=6.7,SNR=4.3
NVAR pP pP 13 34 46.8 +0.3
comp=Z,0.3nm,0.5s,baz=298,slow=7.2,SNR=2.9
comp=Z,0.5nm,0.6s
AKASG Malin Array Be 70.73 322 P P 13 34 19.6 -0.5
comp=Z,0.8nm,0.3s,baz=44,slow=6.0,SNR=10
AKASG pP pP 13 34 48.0 -0.3
comp=Z,0.9nm,0.6s,baz=44,slow=5.6,SNR=3.0
comp=Z,0.8nm,0.3s
AKASG Malin Array Be 70.73 322 *i*P P 13 34 23.3 +3.1
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 70.73 322 *i*P P 13 34 22.3 +2.1
AKBB pmax pmax
comp=Z,3.0nm,0.9s
KONO Kongsberg 71.10 337 *ce*P P 13 34 20.4 -1.9
KONO pmax pmax
comp=Z,21nm,2.5s
PDAR Pinedale Array 72.57 48 P P 13 34 31.9 +0.3
comp=Z,0.8nm,0.5s,baz=266,slow=1.7,SNR=12
comp=Z,0.8nm,0.5s
BUR08 Bucovina Ar. S 74.76 322 P 13 34 43.8 -0.5
CLL Collm 76.88 331 *e*P P 13 34 59.0 +2.9
CLL pmax pmax
comp=Z,4.0nm,0.6s
CLL Collm 76.88 331 *e*P P 13 34 59.0 +2.9
comp=Z,4.0nm,0.6s
EKA Eskdalemuir Ar 78.22 341 P P 13 35 02.0 -1.4
comp=Z,0.4nm,0.5s,baz=22,slow=5.6,SNR=8.5
EKA pP pP 13 35 32.3 +0.3
comp=Z,0.6nm,0.6s,baz=27,slow=5.6,SNR=2.3
comp=Z,0.4nm,0.5s
GERES GERESS Array B 78.64 329 P P 13 35 05.1 -0.9
comp=Z,0.2nm,0.3s,baz=23,slow=7.2,SNR=4.0
comp=Z,0.2nm,0.3s
TXAR Lajitas Array 85.41 54 P P 13 35 42.7 +1.0
comp=Z,0.8nm,0.6s,baz=290,slow=3.3,SNR=12
comp=Z,0.8nm,0.6s
ESDC Sonseca Array 92.78 335 P P 13 36 15.7 -0.7
comp=Z,0.3nm,0.8s,baz=26,slow=3.2,SNR=2.3
comp=Z,0.3nm,0.8s
QSPA South Pole Qui 132.52 180 PKP PKPdf 13 42 17.0 +0.3
comp=Z,2.6nm,1.2s,baz=13,slow=2.9,SNR=2.6
TROLL Troll, Antarti 145.17 200 ⇑P PKPab 13 42 40.5 +0.7
comp=Z,189nm,0.5s
H03N2 Juan Fernandez 145.67 89 T T 16 25 44.7
baz=300,slow=77,SNR=2.9
H03N3 Juan Fernandez 145.68 89 T T 16 25 46.5
baz=300,slow=77,SNR=3.0
H03N1 Juan Fernandez 145.68 89 T T 16 25 46.2
baz=300,slow=77,SNR=2.8
SNAA Sanae 146.70 199 ⇑P PKPab 13 42 45.5 0.0
comp=Z,53nm,0.5s
SNAA Sanae 146.70 199 PKPbc PKPbc 13 42 44.3 +0.2
comp=Z,1.9nm,0.5s,baz=180,slow=2.0,SNR=42
VNA2 Neumayer--Watz 148.27 198 ⇑P PKPbc 13 42 47.1 -1.2
comp=Z,1.8nm,0.4s,baz=116,slow=3.2
VNA1 Neumayer--Stat 148.67 198 ⇑P PKPbc 13 42 50.1 +0.8
comp=Z,2.6nm,0.7s

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*IDC **14** 13:27:47.4±0.9,0.°41S×128.°00E, h0km, mb3.8/8, mbtmp3.9/10, ML4.1/2, MS3.9/1, Error ellipse: s-maj=38.0km s-min=16.9km az=82.0*
*NEIC **14** 13:27:48.4±1.6,0.°41S±0.°08×128.°03E±0.°10, h10km±1km, mb4.2/9, Error ellipse: s-maj=18.7km s-min=10.4km az=236.0*
*DJA **14** 13:27:51.7±0.2,1.°S±3.°×12.°8E±.°, h10km, M4.5/17, mB5.2/3, mb4.7/6, MLv4.3/17, Mw(mB)4.5/3*
ISC 14 13:27:48.7±0.6, 0.°47S±0.°06×128.°00E±0.°07, h10km, n40, σ1§55/39, mb4.0/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.39**	**333**	Pn	**Pn**	**13 28 13.0**	**-1.1**
TNTI	**Ternate**	**1.39**	**333**	P	**Pg**	**13 28 15.6**	**+0.2**
SANI	**Sanana**	**2.55**	**232**	P	**Pn**	**13 28 28.6**	**-1.6**
NLAI	**Namlea**	**2.90**	**198**	P	**Pn**	**13 28 35.1**	**+0.2**
MSAI	**Masohi**	**3.00**	**162**	P	**Pn**	**13 28 38.9**	**+2.4**
AAI	**Ambon**	**3.20**	**177**	P	**Pn**	**13 28 41.6**	**+2.4**
SWI	**Sorong**	**3.28**	**97**	P	**Pb**	**13 28 45.1**	**-2.0**
KMSI	**Cibinong**	**4.15**	**284**	P	**Pn**	**13 28 53.8**	**+1.6**
BNDI	**Bandanaira**	**4.45**	**155**	P	**Pn**	**13 28 58.9**	**+2.5**
FAKI	**Fak Fak**	**4.89**	**120**	Pn	**Pn**	**13 29 04.7**	**+2.2**
FAKI	**Fak Fak**	**4.89**	**120**	P	**Pn**	**13 29 05.4**	**+2.9**
LUWI	**Luwuk**	**5.26**	**264**	P	**Pn**	**13 29 09.6**	**+2.1**
	0.5nm4µm56nm,0.7s						
APSI	**Ampana**	**6.37**	**266**	P	**Pn**	**13 29 22.8**	**+0.1**
	66nm,0.6s						
TOLI2	**Tolitoli**	**7.39**	**282**	Pn	**Pn**	**13 29 36.2**	**-0.6**
TTSI	**Tana Toraja**	**8.57**	**253**	P	**Pn**	**13 29 54.1**	**+1.2**
	23nm,0.6s						
SPSI	**Sidrap Palu**	**8.93**	**247**	P	**Pn**	**13 29 59.2**	**+1.3**
BKSI	**Bulukumba**	**9.22**	**238**	P	**Pn**	**13 30 04.0**	**+2.0**
KAPI	**Kappang**	**9.39**	**241**	Pn	**Pn**	**13 30 05.8**	**+1.5**
	3.5nm,0.3s,baz=84,slow=9.2,SNR=3.7						
	10nm,0.4s						
SOEI	**Soe**	**9.95**	**202**	Pn	**Pn**	**13 30 11.6**	**-0.4**
MTN	**Manton Dam**	**12.68**	**166**	Pn	**Pn**	**13 30 48.5**	**-0.8**
TGY	**Tagaytay City**	**16.08**	**334**	LR	LR	13 38 00.2	
	comp=Z,404nm,20.1s,baz=196,slow=38						
FITZ	**Fitzroy Crossi**	**17.67**	**187**	P	**Pn**	**13 31 55.6**	**+0.5**
	0.3nm,0.3s,baz=336,slow=10.0,SNR=2.2						
	3.0nm,0.6s						
COEN	**Coen**	**20.13**	**132**	P	**P**	**13 32 22.4**	**-0.7**
COEN				IAmb	IAmb	13 33 01.2	
	comp=Z,26nm,1.3s						
WB0	**Warramunga Arr**	**20.18**	**162**	P	**P**	**13 32 23.7**	**+0.1**
WB0				IAmb	IAmb	13 32 32.6	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**20.32**	**163**	P	**P**	**13 32 24.9**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=341,slow=12,SNR=8.4						
	comp=Z,1.1nm,0.5s						
WR8	**Warramunga Arr**	**20.39**	**162**	P	**P**	**13 32 25.5**	**-0.4**
WR8				IAmb	IAmb	13 32 46.1	
	comp=Z,7.3nm,1.1s						
AS31	**Alice Springs**	**23.76**	**166**	P	**P**	**13 33 01.9**	**+0.3**
ASAR	**Alice Springs**	**23.76**	**166**	P	**P**	**13 33 01.8**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=346,slow=12,SNR=21						
	comp=Z,1.2nm,0.4s						
GIRL	**Giralia**	**25.79**	**210**	P	**P**	**13 33 19.1**	**-1.0**
FORT	**Forrest**	**30.14**	**180**	P	**P**	**13 33 56.7**	**-2.2**
STKA	**Stephens Creek**	**33.78**	**159**	P	**P**	**13 34 32.5**	**+1.5**
	comp=Z,1.0nm,0.5s,baz=327,slow=13,SNR=3.8						
	comp=Z,1.0nm,0.5s						
KSRS	**Korea Array**	**37.73**	**360**	P	**P**	**13 35 08.6**	**+3.9**
	comp=Z,0.5nm,0.6s,baz=180,slow=10,SNR=4.5						
MJAR	**Matsushiro Arr**	**38.03**	**13**	P	**P**	**13 35 08.0**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=180,slow=8.5,SNR=2.4						
	comp=Z,1.1nm,0.9s						
PETK	**Petropavlovsk-**	**58.86**	**20**	P	**P**	**13 37 47.2**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=220,slow=7.5,SNR=4.4						
	comp=Z,1.6nm,0.9s						
MKAR	**Makanchi Array**	**61.72**	**326**	P	**P**	**13 38 06.7**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=121,slow=7.2,SNR=4.3						
	comp=Z,0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**65.94**	**328**	P	**P**	**13 38 34.8**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=128,slow=6.0,SNR=5.6						
	comp=Z,1.0nm,0.9s						
F15K	**North Star Dit**	**81.26**	**23**	P	**P**	**13 40 03.4**	**-1.5**
F15K				IAmb	IAmb	13 40 19.9	
	comp=Z,4.2nm,1.1s						
G18K	**Tagagawik**	**83.67**	**23**	P	**P**	**13 40 16.6**	**-0.9**
G18K				IAmb	IAmb	13 40 55.0	
	comp=Z,3.4nm,1.4s						
QSPA	**South Pole Qui**	**89.46**	**180**	P	**P**	**13 40 46.5**	**+0.6**
QSPA	**South Pole Qui**	**89.46**	**180**	P	**P**	**13 40 46.8**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=292,slow=2.3,SNR=11						
	comp=Z,0.3nm,0.4s						

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*IDC **14** 13:31:48.8±2.2,3.°25N×127.°18E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=191.4km s-min=26.4km az=66.0*
*DJA **14** 13:31:53.7±2.4,3.°N±15.°×12.°7E±1.°0, h13km±35km, M3.3/5, MLv3.3/5*
ISC 14 13:31:50.3±1.7, 3.°3N±0.°3×127.°3E±0.°3, h10km, n5, σ0§70/5, mb3.6/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.82**	**283**	P	**Pn**	**13 32 21.6**	**0.0**
WRA	**Warramunga Arr**	**24.08**	**164**	P	**P**	**13 37 05.5**	**-0.7**
	0.6nm,0.4s,baz=342,slow=9.8,SNR=7.8						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**27.54**	**167**	P	**P**	**13 37 38.1**	**+0.7**
	0.2nm,0.3s,baz=345,slow=12,SNR=5.9						
	0.2nm,0.3s						
STKA	**Stephens Creek**	**37.50**	**160**	P	**P**	**13 39 04.5**	**0.0**
	4.5nm,1.0s,baz=358,slow=10.0,SNR=2.4						
	4.5nm,1.0s						
MKAR	**Makanchi Array**	**58.25**	**325**	P	**P**	**13 41 45.1**	**0.0**
	0.3nm,0.4s,baz=115,slow=7.6,SNR=1.8						

AUST 14 13:35:12.7±1.5,18°S±10″×12°0E±°,h20km±19km,mb4.1/6, ML3.4/6,Error ellipse: s-maj=26.1km s-min=7.0km az=146.9,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**2.84**	**194**	P	Pn	13 35 57.2	+0.2
MBWA				S	Sn	13 36 33.2	+2.5
PSAC1	**Pilbara Seismi**	**3.19**	**191**	P	Pn	13 36 01.8	+0.1
PSAC1				S	Sn	13 36 39.9	+0.6
PSAA2	**Pilbara Seismi**	**3.21**	**191**	P	Pn	13 36 02.3	+0.2
PSAA2				S	Sn	13 36 39.7	0.0
FITZ	**Fitzroy Crossi**	**4.91**	**87**	P	Pn	13 36 26.0	+0.6
GIRL	**Giralia**	**7.22**	**233**	P	Pn	13 36 54.8	-2.5
GIRL				S	Sn	13 38 09.6	-9.1
KNRA	**Kununurra** comp=Z,19nm,0.7s,comp=Z,0.1nm	**8.37**	**72**	P	Pn	13 37 12.6	-0.3
KNRA				S	Sn	13 38 43.6	-3.3
MEEK	**Meekatharra** comp=Z,4.3nm,0.4s,comp=Z,0.1nm	**8.38**	**192**	P	Pn	13 37 13.3	+0.1
MEEK	**Meekatharra**	**8.38**	**192**	S	Sn	13 38 42.2	-5.2
CVQOZ	**Cooralya Stati**	**8.48**	**224**	P	Pn	13 37 12.2	-2.3
CVQOZ				S	Sn	13 38 38.7	-11
WRKA	**Warakurna** comp=Z,3.3nm,1.2s,comp=Z,0.0nm	**9.81**	**134**	P	Pn	13 37 33.8	+0.9
WRKA				S	Sn	13 39 23.0	+0.4
MORW	**Morawa** comp=Z,12nm,2.3s	**11.38**	**200**	P	Pn	13 37 50.3	-3.9
MTN	**Manton Dam** comp=Z,24nm,1.0s	**11.64**	**63**	P	Pn	13 37 56.2	-1.7
BLDU	**Ballidu** comp=Z,12nm,1.5s	**12.64**	**195**	P	Pn	13 38 09.8	-1.7

*IDC **14** 13:40:06.8±0.8,56.88N×157.74W,h81km±6km,mb3.7/25, mbtmp4.1/28,Error ellipse: s-maj=13.5km s-min=8.3km az=176.0*

*NEIC **14** 13:40:07.1±1.4,56.62N±0.05×157.65W±0.09,h88km±6km, mb4.4/20,ML4.0/74,ML3.9(AEIC),Error ellipse: s-maj=8.2km s-min=6.5km az=155.0*

*AEIC **14** 13:40:08.6±2.1,56.61N±0.06×157.60W±0.09,h75km±6km, Error ellipse: s-maj=9.2km s-min=6.6km az=145.0*

ISC 14 13:40:06.9±0.5,56.69N±0.04×157.65W±0.04,h87km±5km, n459,σ1§27/460,mb4.0/30,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANPK	**Aniakchak Peak**	**0.30**	**300**		**Pn**	**13 40 20.5**	**+0.4**
ANPB	**Aniakchak Plen**	**0.36**	**288**		**Pn**	**13 40 20.7**	**+0.3**
ANNW	**Aniakchak Nort**	**0.41**	**312**		**Pn**	**13 40 21.3**	**+0.5**
CHGN	**Chignik**	**0.58**	**227**		**Pn**	**13 40 21.8**	**-0.1**
CHGN	**Chignik**	**0.58**	**227**		**Sn**	**13 40 32.2**	**-1.0**
CHGN	**Chignik** baz=56,SNR=207	**0.58**	**227**	P	**Pn**	**13 40 21.9**	**-0.1**
VNHG	**Veniaminof 1**	**0.96**	**241**		**Pn**	**13 40 26.6**	**+0.6**
VNSG	**Veniaminof 6**	**0.98**	**235**		**Pn**	**13 40 26.3**	**+0.1**
PLBL	**Peulik Blue Cr**	**1.11**	**24**		**Pn**	**13 40 28.9**	**+1.2**
PLBL					**Sn**	**13 40 44.4**	**+1.1**
S14K	**Fog Glacier** baz=73,SNR=49	**1.13**	**250**	P	**Pn**	**13 40 28.5**	**+0.5**
VNFG	**Fog Glacier, M**	**1.13**	**250**		**Pn**	**13 40 28.4**	**+0.4**
VNFG	**Fog Glacier, M**	**1.13**	**250**		**Pn**	**13 40 28.4**	**+0.4**
VNFG					**Sn**	**13 40 43.8**	**-0.1**
R17L	**Mt. Peulik Vol** baz=214,SNR=149	**1.18**	**36**	P	**Pn**	**13 40 30.0**	**+1.5**
PLK4	**Peulik 4**	**1.18**	**36**		**Sn**	**13 40 46.5**	**+1.6**
PLK4	**Peulik 4**	**1.18**	**36**		**Pn**	**13 40 29.9**	**+1.3**
PLK1	**Peulik 1**	**1.25**	**27**		**Pn**	**13 40 30.6**	**+1.2**
PLK1					**Sn**	**13 40 48.2**	**+2.0**
PLK3	**Peulik 3**	**1.25**	**37**		**Pn**	**13 40 31.0**	**+1.6**
PLK2	**Peulik 2**	**1.29**	**33**		**Pn**	**13 40 31.3**	**+1.4**
PLK5	**Peulik 5**	**1.38**	**18**		**Pn**	**13 40 32.2**	**+1.3**
PLK5					**Sn**	**13 40 51.1**	**+2.1**
CHIR	**Chirikof Islan**	**1.43**	**127**		**Sn**	**13 40 49.1**	**-1.2**
CHIR	**Chirikof Islan**	**1.43**	**127**		**Pn**	**13 40 31.0**	**-0.6**
CHIR	comp=N,3μm,0.5s			IAML		13 40 49.8	
CHIR	comp=E,2μm,0.4s			IAML		13 40 49.8	
CHIR	**Chirikof Islan**	**1.43**	**127**	P	**Pn**	**13 40 30.8**	**-0.8**
CHIR	**Chirikof Islan**	**1.43**	**127**	S	**Sn**	**13 40 49.4**	**-0.9**
CHIR	**Chirikof Islan** baz=306,SNR=14	**1.43**	**127**	P	**Pn**	**13 40 31.0**	**-0.6**
KJL	**Kejulik**	**1.77**	**39**		**Pn**	**13 40 37.0**	**+1.0**
Q17K	**Contact Creek** baz=210,SNR=75	**1.84**	**30**	P	**Pn**	**13 40 38.0**	**+0.9**
CNTC	**Contact Creek**	**1.84**	**31**		**Sn**	**13 41 00.5**	**+0.6**
CAHL	**Cahill**	**1.87**	**42**		**Pn**	**13 40 38.3**	**+1.0**
ANCK	**Angle Creek**	**1.91**	**37**		**Pn**	**13 40 39.1**	**+1.3**
ANCK					**Sn**	**13 41 02.4**	**+1.0**
SII	**Sitkinak Islan**	**1.92**	**93**		**Pn**	**13 40 37.7**	**-0.2**
SII	**Sitkinak Islan**	**1.92**	**93**	P	**Pn**	**13 40 37.9**	**-0.1**
SII	**Sitkinak Islan**	**1.92**	**93**	S	**Sn**	**13 41 01.9**	**+0.3**
SII	**Sitkinak Islan** baz=273,SNR=8.6	**1.92**	**93**	P	**Pn**	**13 40 37.7**	**-0.2**
R18K	**Karluk**	**1.95**	**62**		**Pn**	**13 40 38.9**	**+0.6**
R18K	**Karluk** comp=E,1μm,0.6s	**1.95**	**62**	IAML		13 41 09.9	
R18K	**Karluk** baz=242	**1.95**	**62**	P	**Pn**	**13 40 38.9**	**+0.6**
ACHA	**Angle Creek He**	**1.98**	**39**		**Pn**	**13 40 39.8**	**+1.1**
Q16K	**King Salmon** baz=194,SNR=22	**2.06**	**15**	P	**Pn**	**13 40 41.0**	**+1.2**
SDPT	**Sand Point**	**2.08**	**231**		**Sn**	**13 41 05.1**	**-0.1**
SDPT	**Sand Point**	**2.08**	**231**		**Pn**	**13 40 39.9**	**-0.1**
SDPT	comp=N,1μm,0.4s			IAML		13 41 08.0	
SDPT	comp=E,939nm,0.7s			IAML		13 41 08.1	
SDPT	**Sand Point**	**2.08**	**231**	P	**Pn**	**13 40 39.9**	**-0.1**
SDPT	**Sand Point** baz=51,SNR=18	**2.08**	**231**	P	**Pn**	**13 40 40.0**	**-0.1**
CHNA	**Chernabura Isl**	**2.16**	**211**	P	**Pn**	**13 40 40.1**	**-1.0**
CHNA	**Chernabura Isl**	**2.16**	**211**	S	**Sn**	**13 41 07.0**	**-0.2**
CHNA	**Chernabura Isl** baz=32,SNR=20	**2.16**	**211**	P	**Pn**	**13 40 40.6**	**-0.6**
CNBA	**Chernabura Isl**	**2.17**	**211**		**Pn**	**13 40 40.3**	**-0.9**
CNBA	comp=E,1μm,0.7s			IAML		13 41 10.5	
CNBA	comp=N,949nm,0.6s			IAML		13 41 11.4	
P16K	**Nushagak River**	**2.35**	**356**		**Pn**	**13 40 44.9**	**+1.4**
P16K	**Nushagak River** baz=175,SNR=94	**2.35**	**356**	P	**Pn**	**13 40 45.0**	**+1.4**
KAHC	**Katmai Hardscr**	**2.42**	**35**		**Pn**	**13 40 45.8**	**+1.1**
Q18K	**Katmai Hardscr** baz=215,SNR=28	**2.42**	**35**	P	**Pn**	**13 40 45.8**	**+1.1**
OHAK	**Old Harbor**	**2.45**	**76**		**Pn**	**13 40 45.0**	**0.0**
OHAK	**Old Harbor**	**2.45**	**76**	P	**Pn**	**13 40 44.8**	**-0.1**
OHAK	**Old Harbor**	**2.45**	**76**	S	**Sn**	**13 41 12.8**	**-1.2**
OHAK	**Old Harbor** baz=257,SNR=19	**2.45**	**76**	P	**Pn**	**13 40 44.9**	**0.0**
P17K	**Kvichak River** baz=194,SNR=64	**2.59**	**14**	P	**Pn**	**13 40 48.1**	**+1.3**
O15K	**Ungalikthiuk R**	**2.75**	**336**		**Pn**	**13 40 50.2**	**+1.3**
O15K	comp=N,464nm,0.8s			IAML		13 41 23.1	
O15K	comp=E,540nm,0.9s			IAML		13 41 23.9	
O15K	**Ungalikthiuk R** baz=154	**2.75**	**336**	P	**Pn**	**13 40 50.2**	**+1.3**
HAG	**Hague Volcano**	**2.76**	**242**		**Pn**	**13 40 49.6**	**+0.6**
O16K	**Kokwok River B**	**2.92**	**356**		**Pn**	**13 40 52.1**	**+0.9**
O16K	comp=N,310nm,0.6s			IAML		13 41 43.1	
O16K	**Kokwok River B** baz=175,SNR=195	**2.92**	**356**	P	**Pn**	**13 40 52.2**	**+0.9**
KDAK	**Kodiak Island**	**2.96**	**66**		**Pn**	**13 40 52.1**	**+0.3**
KDAK	comp=N,439nm,0.5s			IAML		13 41 26.8	
KDAK	**Kodiak Island** comp=N,90nm,0.3s,baz=152,slow=1.8,SNR=566	**2.96**	**66**	P	**Pn**	**13 40 52.0**	**+0.3**
KDAK	comp=N,224nm,0.3s,baz=53,slow=20,SNR=31			S	**Sn**	**13 41 24.8**	**-1.6**
KDAK	**Kodiak Island** baz=249	**2.96**	**66**	P	**Pn**	**13 40 52.0**	**+0.3**
P18K	**Big Mountain,**	**3.00**	**24**		**Pn**	**13 40 53.6**	**+1.3**
P18K	**Big Mountain,** baz=205,SNR=19	**3.00**	**24**	P	**Pn**	**13 40 53.6**	**+1.3**
Q19K	**Cape Douglas,**	**3.10**	**42**		**Pn**	**13 40 55.2**	**+1.5**
Q19K	comp=E,603nm,0.8s			IAML		13 41 36.7	
Q19K	**Cape Douglas,** baz=224,SNR=39	**3.10**	**42**	P	**Pn**	**13 40 55.2**	**+1.5**
O17K	**Koliganek Bris** baz=185,SNR=166	**3.10**	**5**	P	**Pn**	**13 40 54.8**	**+1.1**
O14K	**Tigyukauivet M**	**3.21**	**325**		**Pn**	**13 40 56.5**	**+1.4**
O14K	comp=N,308nm,1.0s			IAML		13 41 59.6	
O14K	**Tigyukauivet M** baz=142,SNR=106	**3.21**	**325**	P	**Pn**	**13 40 56.6**	**+1.5**
Q20K	**Shuyak Island** baz=236,SNR=15	**3.42**	**54**	P	**Pn**	**13 40 59.3**	**+1.4**
SYI	**Shuyak Island**	**3.42**	**54**		**Pn**	**13 40 59.2**	**+1.3**
SYI	comp=N,244nm,0.7s			IAML		13 41 47.0	
SYI	comp=E,215nm,0.6s			IAML		13 41 49.9	
O18K	**Koktuh Hills** comp=E,256nm,1.1s	**3.42**	**21**	IAML		13 41 51.8	
O18K	**Koktuh Hills** baz=202,SNR=65	**3.42**	**21**	P	**Pn**	**13 40 59.5**	**+1.5**
AUCH	**Augustine Cone**	**3.49**	**38**		**Pn**	**13 41 00.2**	**+1.3**
AU22	**Augustine Moun**	**3.52**	**39**		**Pn**	**13 41 01.3**	**+1.9**
N15K	**Kwethluk River** comp=N,227nm,0.9s	**3.71**	**341**	IAML		13 41 48.4	
N15K	comp=E,252nm,0.5s			IAML		13 42 14.1	
N15K	**Kwethluk River** baz=159,SNR=197	**3.71**	**341**	P	**Pn**	**13 41 03.6**	**+1.6**
P19K	**Oil Pt** comp=N,177nm,0.5s	**3.78**	**36**	IAML		13 42 28.9	
P19K	comp=E,181nm,0.7s			IAML		13 42 29.1	
P19K	**Oil Pt** baz=219,SNR=12	**3.78**	**36**	P	**Pn**	**13 41 04.7**	**+1.9**
N16K	**Nishlik Lake** baz=170,SNR=138	**3.84**	**352**	P	**Pn**	**13 41 05.0**	**+1.3**
N17K	**Nushagak Hills** comp=E,138nm,1.0s	**3.85**	**3**	IAML		13 42 19.4	
N17K	**Nushagak Hills** baz=183,SNR=91	**3.85**	**3**	P	**Pn**	**13 41 04.9**	**+1.1**
N14K	**Kuskokwak Cree** comp=E,304nm,0.8s	**3.88**	**328**	IAML		13 41 51.8	
N14K	comp=N,269nm,1.0s			IAML		13 42 19.7	
N14K	**Kuskokwak Cree** baz=145,SNR=107	**3.88**	**328**	P	**Pn**	**13 41 05.7**	**+1.6**
O19K	**Port Alsworth** baz=207,SNR=46	**3.92**	**25**	P	**Pn**	**13 41 06.4**	**+1.7**
ISNN	**Isanotski Nort**	**3.93**	**244**		**Pn**	**13 41 05.5**	**+0.5**
ISLZ	**Isanotski Laza**	**3.95**	**243**		**Pn**	**13 41 05.6**	**+0.3**
ILSW	**Iliamna Southw**	**4.07**	**34**		**Pn**	**13 41 08.4**	**+1.6**
N18K	**Kilae Creek**	**4.10**	**12**		**Pn**	**13 41 08.5**	**+1.2**
N18K	comp=E,119nm,0.7s			IAML		13 41 57.9	
N18K	**Kilae Creek** baz=193,SNR=71	**4.10**	**12**	P	**Pn**	**13 41 08.4**	**+1.2**
O20K	**Slope Mountain** baz=219,SNR=44	**4.31**	**36**	P	**Pn**	**13 41 11.8**	**+1.8**
M15K	**Kasigluk River** baz=157,SNR=79	**4.31**	**340**	P	**Pn**	**13 41 11.1**	**+1.1**
HOM	**Homer** baz=228,SNR=11	**4.36**	**44**	P	**Pn**	**13 41 12.0**	**+1.4**
M16K	**Timber Creek** comp=E,133nm,0.9s	**4.39**	**352**	IAML		13 42 37.7	
M16K	**Timber Creek** baz=170,SNR=85	**4.39**	**352**	P	**Pn**	**13 41 12.4**	**+1.3**
CNPM	**China Poot** comp=N,220nm,0.6s	**4.43**	**47**	IAML		13 42 02.3	
CNPM	comp=E,132nm,0.6s			IAML		13 42 06.9	
N19K	**Bonanza Creek** comp=N,106nm,0.8s	**4.45**	**20**	IAML		13 42 20.0	
N19K	comp=E,134nm,1.0s			IAML		13 42 29.0	
N19K	**Bonanza Creek** baz=202,SNR=80	**4.45**	**20**	P	**Pn**	**13 41 14.0**	**+2.0**
RED	**Redoubt Volcan**	**4.53**	**32**		**Pn**	**13 41 14.5**	**+1.5**
M14K	**Bethel** comp=N,173nm,1.1s	**4.65**	**333**	IAML		13 42 48.9	
M14K	comp=E,94nm,1.1s			IAML		13 43 03.0	
M14K	**Bethel** baz=149,SNR=233	**4.65**	**333**	P	**Pn**	**13 41 15.8**	**+1.3**
RDJH	**Redoubt Jeurge**	**4.66**	**31**		**Pn**	**13 41 16.3**	**+1.5**
DFR	**Drift River**	**4.69**	**31**		**Pn**	**13 41 16.5**	**+1.2**
BRLK	**Bradley Lake**	**4.72**	**46**	Pn	**Pn**	**13 41 16.2**	**+0.6**
BRLK	comp=N,154nm,0.7s			IAML		13 42 07.4	
M17K	**Holitna River** baz=181,SNR=52	**4.72**	**1**	P	**Pn**	**13 41 16.9**	**+1.3**
M13K	**Dall Lake** comp=N,101nm,0.9s	**4.78**	**324**	IAML		13 42 13.3	
M13K	**Dall Lake** baz=139,SNR=90	**4.78**	**324**	P	**Pn**	**13 41 17.8**	**+1.5**
M18K	**Stony River** baz=191,SNR=64	**4.90**	**10**	P	**Pn**	**13 41 19.3**	**+1.2**
L16K	**Owhat River** comp=N,60nm,0.9s	**5.12**	**350**	IAML		13 42 55.9	
L16K	**Owhat River** baz=168,SNR=17	**5.12**	**350**	P	**Pn**	**13 41 21.6**	**+0.7**
AKUT	**Akutan**	**5.29**	**244**	Pn	**Pn**	**13 41 23.7**	**+0.4**
AKUT	comp=N,59nm,0.5s			IAML		13 42 29.5	
AKUT	comp=E,53nm,1.2s			IAML		13 42 43.5	
AKUT	**Akutan**	**5.29**	**244**	P	**Pn**	**13 41 23.4**	**+0.1**
CAPN	**Captain Cook N** baz=222	**5.31**	**37**	P	**Pn**	**13 41 24.0**	**+0.5**
SPCR	**Spurr Chakacha**	**5.33**	**30**		**Pn**	**13 41 25.6**	**+1.8**
SPCR	**Spurr Chakacha** baz=214,SNR=7.8	**5.33**	**30**	P	**Pn**	**13 41 25.7**	**+1.8**
SPBG	**Spurr Blockage**	**5.33**	**29**		**Pn**	**13 41 26.3**	**+2.3**
L14K	**Kuka Creek** baz=149,SNR=168	**5.34**	**333**	P	**Pn**	**13 41 24.9**	**+1.0**
AKGG	**Akutan Green G**	**5.36**	**246**		**Pn**	**13 41 24.7**	**+0.4**
L15K	**Ungalak Mounta** baz=157,SNR=29	**5.37**	**340**	P	**Pn**	**13 41 25.0**	**+0.6**
LVA	**Lava Point**	**5.40**	**246**	Pn	**Pn**	**13 41 25.2**	**+0.3**
LVA	comp=N,112nm,0.8s			IAML		13 42 50.5	
LVA	comp=E,68nm,1.2s			IAML		13 44 58.9	
AKMO	**Akutan Morgan**	**5.43**	**245**		**Pn**	**13 41 25.7**	**+0.4**
L17K	**Donlin** baz=176,SNR=50	**5.47**	**357**	P	**Pn**	**13 41 26.6**	**+0.9**
M19K	**Big River Lodg** baz=198,SNR=140	**5.49**	**16**	P	**Pn**	**13 41 27.8**	**+1.8**
SEW	**Seward**	**5.50**	**48**		**Pn**	**13 41 25.9**	**-0.3**
SEW	**Seward** baz=234,SNR=6.6	**5.50**	**48**	P	**Pn**	**13 41 26.5**	**+0.3**
L18K	**Granite Mounta** baz=185,SNR=44	**5.57**	**5**	P	**Pn**	**13 41 28.2**	**+1.1**
O22K	**Cooper Landing**	**5.62**	**44**		**Pn**	**13 41 28.6**	**+0.8**
O22K	**Cooper Landing** baz=230	**5.62**	**44**	P	**Pn**	**13 41 28.6**	**+0.8**
L19K	**White Mountain** baz=195,SNR=179	**5.69**	**13**	P	**Pn**	**13 41 30.2**	**+1.4**
M20K	**Styx River** baz=205,SNR=48	**5.70**	**22**	P	**Pn**	**13 41 31.4**	**+2.5**
M11K	**Mekoryuk**	**5.81**	**313**		**Pn**	**13 41 30.9**	**+0.6**
M11K	**Mekoryuk** baz=126,SNR=7.0	**5.81**	**313**	P	**Pn**	**13 41 30.9**	**+0.6**
UNV	**Unalaska Valle**	**5.81**	**244**		**Pn**	**13 41 30.2**	**-0.1**
UNV	**Unalaska Valle** baz=58,SNR=9.4	**5.81**	**244**	P	**Pn**	**13 41 30.1**	**-0.2**
MTBL	**Makushin Table**	**5.83**	**246**		**Pn**	**13 41 31.5**	**+0.7**
MREP	**Makushin Rep't**	**5.95**	**245**		**Pn**	**13 41 32.3**	**0.0**
K15K	**Wolf Creek Mou** baz=159,SNR=38	**5.95**	**342**	P	**Pn**	**13 41 33.7**	**+1.4**
RC01	**Rabbit Creek A**	**6.02**	**40**		**Pn**	**13 41 33.5**	**+0.3**
RC01	**Rabbit Creek A** baz=226	**6.02**	**40**	P	**Pn**	**13 41 33.6**	**+0.3**
MAPS	**Pakushin South**	**6.05**	**245**		**Pn**	**13 41 33.7**	**+0.1**
K17K	**Iditarod**	**6.05**	**357**		**Pn**	**13 41 34.7**	**+1.0**
K17K	**Iditarod** baz=176	**6.05**	**357**	P	**Pn**	**13 41 34.8**	**+1.1**
L20K	**Farewell, AK** baz=199,SNR=111	**6.11**	**17**	P	**Pn**	**13 41 36.5**	**+2.0**
SKT	**Skwentna**	**6.16**	**28**		**Pn**	**13 41 36.4**	**+1.2**
SKT	**Skwentna** baz=213,SNR=22	**6.16**	**28**	P	**Pn**	**13 41 36.6**	**+1.5**
P23K	**Montague Islan**	**6.33**	**54**		**Pn**	**13 41 37.4**	**-0.1**
P23K	**Montague Islan** baz=242	**6.33**	**54**	P	**Pn**	**13 41 37.6**	**+0.1**
K13K	**Kusilvak Mount**	**6.36**	**329**		**Pn**	**13 41 39.0**	**+1.1**
K13K	**Kusilvak Mount** baz=143,SNR=84	**6.36**	**329**	P	**Pn**	**13 41 38.9**	**+1.0**
M22K	**Willow** baz=220,SNR=13	**6.38**	**34**	P	**Pn**	**13 41 38.3**	**+0.2**
PWL	**Port Wells** baz=232,SNR=17	**6.39**	**45**	P	**Pn**	**13 41 38.2**	**-0.2**
PMR	**Palmer**	**6.58**	**38**		**Pn**	**13 41 40.1**	**-0.8**
PMR	**Palmer**	**6.58**	**38**	P	**Pn**	**13 41 39.9**	**-1.0**
PMR	**Palmer** baz=225,SNR=10	**6.58**	**38**	P	**Pn**	**13 41 40.3**	**-0.6**
Q23K	**Middleton Isla** baz=250	**6.59**	**61**	P	**Pn**	**13 41 40.9**	**-0.2**
KNK	**Knik Glacier** baz=228	**6.70**	**41**	P	**Pn**	**13 41 42.4**	**-0.1**
OKFG	**Magazine Ridge**	**6.75**	**245**		**Pn**	**13 41 42.9**	**-0.3**
J17K	**VABM Dome**	**6.76**	**355**		**Pn**	**13 41 44.3**	**+0.9**
J17K	**VABM Dome** baz=173,SNR=17	**6.76**	**355**	P	**Pn**	**13 41 44.3**	**+0.9**
J14K	**Nanvaranak Lak**	**6.77**	**336**		**Pn**	**13 41 44.0**	**+0.7**
J14K	**Nanvaranak Lak** baz=151	**6.77**	**336**	P	**Pn**	**13 41 44.1**	**+0.7**
J16K	**Anvik River**	**6.78**	**349**		**Pn**	**13 41 44.3**	**+0.8**
J16K	**Anvik River** baz=166,SNR=30	**6.78**	**349**	P	**Pn**	**13 41 44.2**	**+0.6**
PPLA	**Purkeypile** baz=206,SNR=40	**6.80**	**22**	P	**Pn**	**13 41 46.9**	**+2.8**
J18K	**Innoko River** baz=184,SNR=68	**6.81**	**4**	P	**Pn**	**13 41 45.1**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**6.83**	**245**		**Pn**	**13 41 44.2**	**-0.1**
CUT	**Chulitna**	**6.84**	**30**		**Pn**	**13 41 44.7**	**+0.3**
CUT	**Chulitna** baz=216,SNR=7.1	**6.84**	**30**	P	**Pn**	**13 41 45.1**	**+0.6**
GLI	**Glacier Island**	**6.91**	**48**	Pn	**Pn**	**13 41 44.6**	**-0.7**
GLI	**Glacier Island** baz=236	**6.91**	**48**	P	**Pn**	**13 41 44.6**	**-0.7**
SPIA	**Saint Paul Isl** baz=89	**6.91**	**279**	P	**Pn**	**13 41 47.3**	**+1.9**
HIN	**Hinchinbrook I**	**6.92**	**53**		**Pn**	**13 41 45.5**	**0.0**
K20K	**Telida** baz=196,SNR=47	**6.92**	**14**	P	**Pn**	**13 41 46.6**	**+1.1**
FID	**Port Fidalgo**	**7.10**	**50**	Pn	**Pn**	**13 41 46.9**	**-1.1**
M23K	**Glacier View** baz=229,SNR=12	**7.21**	**41**	P	**Pn**	**13 41 48.9**	**-0.6**
EYAK	**Cordova Ski Ar**	**7.32**	**53**	P	**Pn**	**13 41 50.6**	**-0.3**
EYAK	**Cordova Ski Ar** baz=243,SNR=9.2	**7.32**	**53**	P	**Pn**	**13 41 50.7**	**-0.1**
I17K	**Unalakleet**	**7.37**	**349**		**Pn**	**13 41 52.9**	**+1.2**
I17K	**Unalakleet** baz=167,SNR=8.0	**7.37**	**349**	P	**Pn**	**13 41 52.7**	**+1.1**
SCM	**Sheep Creek Mo** baz=230,SNR=20	**7.38**	**41**	P	**Pn**	**13 41 51.4**	**-0.5**
J19K	**Poorman** baz=188,SNR=62	**7.39**	**7**	P	**Pn**	**13 41 53.2**	**+1.2**
NIKH	**Nikolski High**	**7.46**	**245**		**Pn**	**13 41 52.5**	**-0.5**
NIKH	**Nikolski High**	**7.46**	**245**	P	**Pn**	**13 41 52.7**	**-0.2**
NIKH	**Nikolski High** baz=56	**7.46**	**245**	P	**Pn**	**13 41 52.5**	**-0.5**
KTH	**Kantishna Hill**	**7.66**	**23**		**Pn**	**13 41 56.4**	**+0.8**
CHUM	**Lake Minchumin**	**7.68**	**18**		**Pn**	**13 41 57.9**	**+2.0**
CHUM	**Lake Minchumin** baz=202,SNR=80	**7.68**	**18**	P	**Pn**	**13 41 58.0**	**+2.2**
KAIM	**Kayak Island**	**7.69**	**60**		**Pn**	**13 41 56.2**	**+0.2**
KAIM	**Kayak Island** baz=250	**7.69**	**60**	P	**Pn**	**13 41 56.3**	**+0.4**
J20K	**Nowinta River** baz=194,SNR=33	**7.71**	**12**	P	**Pn**	**13 41 57.0**	**+0.8**
TRF	**Thorofare Moun**	**7.71**	**25**		**Pn**	**13 41 56.8**	**+0.4**
TRF	**Thorofare Moun** baz=211,SNR=17	**7.71**	**25**	P	**Pn**	**13 41 56.9**	**+0.4**
KLU	**Klutina**	**7.72**	**47**		**Pn**	**13 41 55.9**	**-0.6**
KLU	**Klutina** baz=236,SNR=32	**7.72**	**47**	P	**Pn**	**13 41 56.4**	**-0.1**
GOAT	**Goat Mountain**	**7.79**	**55**		**Pn**	**13 41 57.4**	**0.0**
HMT	**Hamilton**	**7.90**	**57**		**Pn**	**13 41 59.1**	**+0.2**
M24K	**Tolsona, Glenn** baz=232,SNR=10	**7.98**	**42**	P	**Pn**	**13 41 59.9**	**-0.1**
NICHA	**Nichawak Mount**	**8.00**	**58**		**Pn**	**13 42 00.4**	**+0.1**
BMRM	**Bremner River**	**8.01**	**52**		**Pn**	**13 42 00.0**	**-0.3**
BMRM	**Bremner River** baz=243,SNR=7.1	**8.01**	**52**	P	**Pn**	**13 42 00.2**	**-0.2**
RND	**Reindeer**	**8.04**	**30**		**Pn**	**13 41 59.9**	**-0.9**
GCSA	**Galena City Sc** baz=183,SNR=34	**8.09**	**2**	P	**Pn**	**13 42 02.5**	**+1.1**
BPAW	**Bear Paw Mtn.**	**8.13**	**21**		**Pn**	**13 42 01.8**	**-0.1**
BPAW	**Bear Paw Mtn.** baz=206,SNR=16	**8.13**	**21**	P	**Pn**	**13 42 01.9**	**0.0**
I20K	**Naaghedeneel**	**8.28**	**9**		**Pn**	**13 42 05.0**	**+1.1**
I20K	**Naaghedeneel** baz=192,SNR=8.5	**8.28**	**9**	P	**Pn**	**13 42 05.1**	**+1.1**
H16K	**Elim** baz=162,SNR=12	**8.28**	**346**	P	**Pn**	**13 42 05.6**	**+1.6**
MCK	**McKinley**	**8.28**	**28**		**Pn**	**13 42 03.7**	**-0.3**
MCK	**McKinley** baz=215,SNR=11	**8.28**	**28**	P	**Pn**	**13 42 03.8**	**-0.3**
N25K	**Chitina, Valde** baz=239,SNR=19	**8.32**	**48**	P	**Pn**	**13 42 04.6**	**0.0**
GRIN	**Grindle Hills**	**8.32**	**58**		**Pn**	**13 42 04.7**	**0.0**
H17K	**Granite Mounta** baz=171,SNR=29	**8.35**	**353**	P	**Pn**	**13 42 06.6**	**+1.7**
H18K	**Honhosa River** baz=177	**8.50**	**358**	P	**Pn**	**13 42 08.6**	**+1.7**
HARP	**HAARP**	**8.54**	**43**		**Pn**	**13 42 07.5**	**0.0**
HARP	**HAARP** baz=233	**8.54**	**43**	P	**Pn**	**13 42 07.5**	**0.0**
GLB	**Gilahina Butte**	**8.57**	**51**		**Pn**	**13 42 07.9**	**-0.1**
CRQE	**Cirque** baz=248,SNR=6.6	**8.59**	**56**	P	**Pn**	**13 42 07.3**	**-1.2**
VRDI	**Verde Repeater**	**8.62**	**52**		**Pn**	**13 42 08.9**	**0.0**
ANM	**Nome** baz=151,SNR=6.7	**8.75**	**338**	P	**Pn**	**13 42 11.9**	**+1.5**
PAX	**Paxson**	**8.78**	**39**		**Pn**	**13 42 10.0**	**-0.9**
PAX	**Paxson** baz=229,SNR=26	**8.78**	**39**	P	**Pn**	**13 42 10.2**	**-0.7**
MCARA	**McCarthy VSAT**	**8.88**	**52**		**Pn**	**13 42 12.6**	**+0.4**
MCARA	**McCarthy VSAT** baz=244	**8.88**	**52**	P	**Pn**	**13 42 13.1**	**+1.0**
H19K	**Roundabout Mou** baz=184,SNR=41	**8.88**	**3**	P	**Pn**	**13 42 13.2**	**+1.0**
G15K	**Niukluk**	**8.89**	**342**		**Pn**	**13 42 14.1**	**+1.9**
G15K	**Niukluk** baz=157,SNR=6.9	**8.89**	**342**	P	**Pn**	**13 42 13.6**	**+1.4**
H20K	**Anotleneega Mo** baz=190,SNR=15	**8.93**	**7**	P	**Pn

COLA	College	9.49	26	P		Pn	13 42 19.3	-1.2	
	baz=214								
SAMH	Samovar Hills	9.49	62			Pn	13 42 20.3	-0.4	
RIDG	Independent Ri	9.50	37			Pn	13 42 20.1	-0.6	
RIDG	Independent Ri	9.50	37	P		Pn	13 42 20.5	-0.2	
	baz=227,SNR=16								
IMAR	Indian Mountai	9.51	10			Pn	13 42 21.4	+0.7	
L26K	Log Cabin Wild	9.58	43	P		Pn	13 42 22.5	+0.8	
	baz=234,SNR=13								
LOGN	Logan Glacier	9.58	58			Pn	13 42 21.7	-0.2	
F15K	North Star Dit	9.65	343			Pn	13 42 24.9	+2.3	
F15K	North Star Dit	9.65	343	P		Pn	13 42 24.9	+2.3	
	baz=156,SNR=11								
IL31		9.65	29			Pn	13 42 20.6	-2.0	
ILAR	Eielson Array	9.65	29			Pn	13 42 20.4	-2.3	
ILAR	Eielson Array	9.65	29	P		Pn	13 42 20.9	-1.8	
	comp=E,13nm,0.4s,baz=217,slow=13,SNR=242								
ILAR				S		Sn	13 44 02.8	-6.4	
	comp=E,1.3nm,0.5s,baz=212,slow=27,SNR=5.9								
H22K	Ishtalitna Cre	9.71	15	P		Pn	13 42 24.5	+1.1	
	baz=201,SNR=17								
PINM	Pinnacle	9.74	62	P		Pn	13 42 23.8	-0.2	
	baz=256								
F14K	Arctic Creek	9.75	338	P		Pn	13 42 25.7	+1.7	
	baz=151								
M27K	Edge Creek, AK	9.81	48			Pn	13 42 25.1	+0.3	
M27K	Edge Creek, AK	9.81	48	P		Pn	13 42 25.2	+0.3	
	baz=241,SNR=12								
F17K	Baldwin Pennin	9.93	352	P		Pn	13 42 29.2	+2.7	
	baz=168								
GAMB	Gambell	9.94	321	P		Pn	13 42 28.4	+1.8	
	baz=129								
SCRK	Sand Creek	9.94	37			Pn	13 42 25.0	-1.8	
SCRK	Sand Creek	9.94	37	P		Pn	13 42 25.3	-1.5	
	baz=228,SNR=8.2								
O28M	Mount Upton	9.95	59	P		Pn	13 42 27.5	+0.5	
	baz=253,SNR=16								
H23K	Yukon River	9.95	20			Pn	13 42 25.0	-1.7	
H23K	Yukon River	9.95	20	P		Pn	13 42 25.1	-1.7	
	baz=206,SNR=36								
J25K	Salcha River,	9.95	32			Pn	13 42 24.8	-2.1	
J25K	Salcha River,	9.95	32	P		Pn	13 42 25.2	-1.6	
	baz=222,SNR=31								
F18K	Selawik	9.99	355	P		Pn	13 42 30.2	+3.0	
	baz=174,SNR=11								
BCPM	Bancas Point	10.02	63	Pn		Pn	13 42 28.0	+0.3	
G21K	Allakaket	10.05	10	Pn		Pn	13 42 29.4	+1.3	
G21K	Allakaket	10.05	10	P		Pn	13 42 29.5	+1.4	
	baz=193								
PNL	Peninsula	10.09	65	P		Pn	13 42 28.8	+0.1	
PNL	Peninsula	10.09	65	P		Pn	13 42 28.7	+0.1	
	baz=260,SNR=5.7								
YUK3	Moose Creek	10.16	53	P		Pn	13 42 30.3	+0.5	
	baz=247,SNR=15								
TNA	Tin City	10.17	335	P		Pn	13 42 31.5	+1.8	
	baz=146								
F19K	Shaleruckik Mo	10.18	360			Pn	13 42 31.6	+1.8	
F19K	Shaleruckik Mo	10.18	360	P		Pn	13 42 31.5	+1.8	
	baz=179,SNR=21								
L27K	Beaver Creek,	10.18	45	P		Pn	13 42 30.3	+0.4	
	baz=238,SNR=15								
BCAR	Beaver Creek A	10.20	45			Pn	13 42 30.2	+0.1	
BVCY	Beaver Creek	10.25	49	P		Pn	13 42 31.7	+0.8	
	baz=243,SNR=11								
H24K	Noodor Dome	10.29	23			Pn	13 42 29.8	-1.7	
H24K	Noodor Dome	10.29	23	P		Pn	13 42 29.8	-1.7	
	baz=211								
YUK8	Steele Glacier	10.30	56	P		Pn	13 42 32.9	+1.2	
	baz=251,SNR=11								
J26L	Joseph Creek	10.43	36	P		Pn	13 42 31.6	-1.8	
	baz=227,SNR=15								
F20K	Avaraart Lake	10.43	4	P		Pn	13 42 35.1	+1.8	
	baz=186,SNR=25								
PRP	Porcupine Dome	10.60	28			Pn	13 42 33.9	-1.8	
PRP	Porcupine Dome	10.60	28	P		Pn	13 42 34.2	-1.5	
	baz=219,SNR=5.2								
E17K	Hotham Inlet	10.61	351	P		Pn	13 42 38.1	+2.5	
	baz=167								
O29M	Mount Kennedy	10.61	62	P		Pn	13 42 36.5	+0.7	
	baz=258,SNR=13								
ATKA	Atka Island	10.62	252	P		Pn	13 42 34.1	-1.8	
K27K	Chicken	10.63	40	P		Pn	13 42 35.2	-0.8	
	baz=233								
G22K	Bettles	10.66	13	P		Pn	13 42 37.7	+1.4	
	baz=198								
G23K	Bananza Creek	10.67	17	P		Pn	13 42 37.5	+0.9	
	baz=203,SNR=12								
F21K	Alatna River	10.74	9	P		Pn	13 42 39.1	+1.5	
	baz=192,SNR=14								
E19K	Redstone River	10.81	1	P		Pn	13 42 40.9	+2.5	
	baz=181								
YUK4	Talbot Arm	10.83	57	P		Pn	13 42 40.9	+1.9	
	baz=252								
YUK6	Outpost Mounta	10.85	59	P		Pn	13 42 40.4	+1.1	
	baz=255								
E18K	Tukpahlearik C	10.86	354			Pn	13 42 41.6	+2.6	
E18K	Tukpahlearik C	10.86	354	P		Pn	13 42 40.6	+1.5	
	baz=171								
P29M	Windy Craggy	10.91	66	P		Pn	13 42 41.1	+1.2	
	baz=262								
I26K	Coal Creek Min	11.11	33	Pn		Pn	13 42 40.5	-2.0	
I26K	Coal Creek Min	11.11	33	P		Pn	13 42 40.8	-1.7	
	baz=225								
H25L	Birch Creek	11.12	25	P		Pn	13 42 41.1	-1.5	
	baz=216								
G24K	Hadweenzic Riv	11.12	21	P		Pn	13 42 40.5	-2.2	
	baz=210								
COLD	Coldfoot	11.13	15	P		Pn	13 42 41.1	-1.6	
	baz=201								
F22K	John River	11.15	11	P		Pn	13 42 45.1	+2.1	
	baz=196								
HYT	Haines Junctio	11.23	60	P		Pn	13 42 45.3	+0.9	
	baz=257								
M29M	Somme Creek	11.28	51	P		Pn	13 42 45.6	+0.6	
	baz=248,SNR=53								
P30M	Million Dollar	11.37	64	P		Pn	13 42 46.9	+0.7	
	baz=261								
N30M	Aishikik Lake	11.58	57	P		Pn	13 42 48.9	-0.1	
	baz=254								
PLBC	Pleasant Camp	11.59	67	P		Pn	13 42 49.3	+0.2	
	baz=265,SNR=7.9								
E20K	Nigu River	11.63	3	P		Pn	13 42 52.3	+2.7	
	baz=184								
DAWY	Dawson	11.63	43			Pn	13 42 49.2	-0.4	
DAWY	Dawson	11.63	43	P		Pn	13 42 49.4	-0.2	
	baz=239,SNR=18								
S31K	Pelican	11.64	75	P		Pn	13 42 49.3	-0.4	
	baz=272								
L29M	L29M	11.69	49			Pn	13 42 50.9	+0.5	
L29M	L29M	11.69	49	P		Pn	13 42 50.7	+0.3	
	baz=245,SNR=5.5								
F24K	Squaw Lake	11.77	19	P		Pn	13 42 52.1	+0.7	
	baz=207,SNR=5.2								
I27K	Kandik River	11.78	34	P		Pn	13 42 50.5	-1.1	
	baz=228								
E22K	Anaktuvuk Pass	11.79	11	P		Pn	13 42 53.5	+1.8	
	baz=196								
D19K	Kuna River	11.85	359	Pn		Pn	13 42 55.6	+3.1	
D19K	Kuna River	11.85	359	P		Pn	13 42 55.3	+2.8	
	baz=179								
O30N	Mendenhall	11.90	61	P		Pn	13 42 54.3	+1.0	
	baz=259								
E21K	Killik River	11.91	7	P		Pn	13 42 55.8	+2.5	
	baz=190								
E23K	Chandalar	11.98	15	P		Pn	13 42 54.7	+0.3	
	baz=202								
M30M	Minto, Yukon	12.05	52	P		Pn	13 42 55.9	+0.6	
	baz=250,SNR=11								
D20K	Etivluk River	12.08	2	P		Pn	13 42 57.0	+1.4	
	baz=183								
C17K	DeLong Mountai	12.09	350	P		Pn	13 42 57.2	+1.5	
	baz=165								
ADK	Adak	12.10	255	Pn		Pn	13 42 54.7	-1.3	
ADK	Adak	12.10	255	P		Pn	13 42 54.4	-1.6	
C18K	Utukok River	12.11	354	P		Pn	13 42 57.8	+1.7	
	baz=170								
C16K	Lisburne Hills	12.14	346	P		Pn	13 42 58.3	+1.9	
	baz=159								
G26K	Porcupine Rive	12.16	27	P		Pn	13 42 55.0	-1.6	
	baz=218								
E24K	Your Creek	12.17	16	P		Pn	13 42 58.1	+1.3	
	baz=204								
N31M	Braeburn, Yuko	12.20	58	P		Pn	13 42 58.1	+0.9	
	baz=256								
I28M	Miner Creek	12.22	37			Pn	13 42 56.0	-1.6	
I28M	Miner Creek	12.22	37	P		Pn	13 42 58.4	+0.8	
	baz=232,SNR=7.1								
H27K	Steamboat Moun	12.24	32	P		Pn	13 42 55.3	-2.4	
	baz=226								
K29M	Barlow Dome	12.25	46			Pn	13 42 59.1	+1.0	
K29M	Barlow Dome	12.25	46	P		Pn	13 42 58.6	+0.6	
	baz=243								
F25K	Christian Rive	12.26	22	P		Pn	13 42 56.4	-1.7	
	baz=212								
BMAR	Burnt Mountain	12.35	24	Pn		Pn	13 42 54.9	-4.4	
D22K	Ayikyak River	12.44	8	P		Pn	13 43 03.0	+2.6	
	baz=193								
WHY	Whitehorse	12.47	62	P		Pn	13 43 01.8	+0.9	
	baz=261								
C19K	Lookout Ridge	12.49	357	P		Pn	13 43 03.7	+2.6	
	baz=175								
TOLK	Toolik Lake Re	12.54	14	P		Pn	13 43 03.8	+2.1	
	baz=201								
C21K	Knifeblade Rid	12.58	5	P		Pn	13 43 05.7	+3.4	
	baz=187,SNR=5.8								
F26K	Sheenjek River	12.67	24	P		Pn	13 43 04.3	+0.8	
	baz=216								
D23K	Nanushuk River	12.71	11	P		Pn	13 43 06.7	+2.6	
	baz=198								
I29M	Ogilvie Camp,	12.73	39	P		Pn	13 43 06.9	+2.6	
	baz=236,SNR=18								
MAYO	Mayo, Yukon	12.81	48	P		Pn	13 43 06.4	+1.0	
	baz=247								
M31M	Drury Creek, Y	13.01	55	P		Pn	13 43 08.7	+0.6	
	baz=255								
B21K	Ikpikpuk River	13.05	5	P		Pn	13 43 10.8	+2.3	
	baz=187								
J30M	Hart River	13.05	44	P		Pn	13 43 09.7	+1.1	
	baz=242,SNR=16								
H29M	Whitestone	13.21	36	P		Pn	13 43 12.4	+1.8	
	baz=232,SNR=29								
I30M	Mount Dempster	13.34	42	P		Pn	13 43 13.1	+0.5	
	baz=240,SNR=5.1								
B20K	Meade River	13.37	1	P		Pn	13 43 14.9	+2.2	
	baz=181								
N32M	Quiet Lake	13.41	60	P		Pn	13 43 14.2	+0.8	
	baz=261								
P33M	Teslin, Yukon	13.44	64	P		Pn	13 43 14.6	+0.9	
	baz=265								
C23K	Itkillik River	13.55	10	Pn		Pn	13 43 15.6	+0.4	
C23K	Itkillik River	13.55	10	P		Pn	13 43 16.6	+1.5	
	baz=197								
U33K	Whale Pass	13.58	82	Pn		Pn	13 43 14.7	-0.9	
U33K	Whale Pass	13.58	82	P		Pn	13 43 15.5	0.0	
	baz=282								
D25K	Kavik River	13.63	17	P		Pn	13 43 17.4	+1.2	
	baz=207								
E27K	Coleen River	13.65	26	P		Pn	13 43 17.7	+1.3	
	baz=220								
F28M	Old Crow	13.67	30	P		Pn	13 43 15.1	-1.6	
	baz=225								
Q32M	Nakina River	13.69	70	P		Pn	13 43 17.0	-0.2	
	baz=271								
CRAG	Craig	13.73	85	P		Pn	13 43 19.5	+2.0	
CRAG	Craig	13.73	85	P		Pn	13 43 17.6	0.0	
	baz=285								
G29M	Pine Creek	13.74	34	P		Pn	13 43 15.6	-2.1	
	baz=231,SNR=18								
EPYK	Eagle Plains	13.84	37	P		Pn	13 43 19.6	+0.7	
	baz=235,SNR=14								
G30M	tAoh Zraii Nji	14.35	35	P		Pn	13 43 23.0	-2.5	
	baz=234,SNR=23								
C27K	Jago River	14.36	20	P		Pn	13 43 27.8	+2.2	
	baz=212								
H31M	Peel River	14.37	41	P		Pn	13 43 25.8	+0.1	
	baz=241,SNR=7.9								
A22K	Sinclair Lake	14.41	4	P		Pn	13 43 27.6	+1.4	
	baz=186								
E28M	Babbage River	14.47	27	P		Pn	13 43 28.2	+1.1	
	baz=223								
MMPY	Sheldon Lake,	14.53	55	P		Pn	13 43 28.8	+1.0	
	baz=258,SNR=8.8								
V35K	Ketchikan	14.60	84	P		Pn	13 43 30.0	+1.3	
	baz=286								
E29M	Blow River	14.75	29	P		Pn	13 43 31.7	+1.0	
	baz=227								
F30M	Barrier River	14.86	34	P		P	13 43 36.6	+1.0	
F30M	Barrier River	14.86	34	P		P	13 43 35.3	-0.4	
	baz=233,SNR=18								
DLBC	Dease Lake	14.88	72	P		Pn	13 43 33.8	+1.3	
	comp=E,11nm,0.6s,baz=268,slow=17,SNR=0.9								
G31M	Satah River	14.96	37	P		P	13 43 37.6	+1.0	
G31M	Satah River	14.96	37	P		Pn	13 43 32.4	-0.8	
	baz=238,SNR=7.6								
U35K	Hyder	15.31	81	P		Pn	13 43 38.9	+1.0	
	baz=284								
F31M	Tsiigehtchic	15.41	36	P		Pn	13 43 37.4	-1.6	
	baz=237,SNR=5.8								
WTLY	Watson Lake, Y	15.44	65	P		Pn	13 43 40.4	+0.9	
	baz=270								
INK	Inuvik	15.96	34	P		Pn	13 43 48.0	+2.1	
INK				IAmb		IAmb	13 43 48.5		
	comp=Z,14nm,0.5s								
INK	Inuvik	15.96	34	P		Pn	13 43 45.6	-0.3	
	comp=Z,11nm,0.4s,baz=216,slow=8.9,SNR=20								
INK				S		Sn	13 46 39.9	-2.1	
	comp=Z,1.8nm,0.6s,baz=218,slow=33,SNR=5.5								
INK	Inuvik	15.96	34	P		Pn	13 43 46.3	+0.4	
	baz=235,SNR=12								
TOAD	Toad River Com	17.33	69	P		Pn	13 44 03.4	+0.5	
	baz=277								
BBB	Bella Bella	17.69	92	P		Pn	13 44 10.5	+3.3	
	comp=Z,2.5nm,1.0s,baz=301,slow=11,SNR=2.9								
WRGLY	Wrigley	18.15	55	IAmb		IAmb	13 44 16.1		
	comp=Z,12nm,1.0s								
WRGLY	Wrigley	18.15	55	P		P	13 44 12.0	+0.1	
	baz=264								
A36M	Sachs Harbour	20.35	29	P		P	13 44 35.0	-0.8	
A36M				IAmb		IAmb	13 44 37.6		
	comp=Z,8.3nm,0.6s								
A36M	Sachs Harbour	20.35	29	P		P	13 44 35.2	-0.6	
	baz=238,SNR=7.8								
YKAW3	Yellowknife Wh	22.19	57	P		P	13 44 56.1	+0.6	
YKAW3				IAmb		IAmb	13 45 22.1		
	comp=Z,7.8nm,1.4s								
YKA	Yellowknife Ar	22.20	57	P		P	13 44 57.2	+1.6	
YKA	Yellowknife Ar	22.20	57	P		P	13 44 56.9	+1.3	
	comp=Z,0.8nm,0.6s,baz=277,slow=9.9,SNR=16								
	comp=Z,0.8nm,0.6s								
PEA0B	Petropavlovsk-	25.57	281	P		P	13 45 27.0	-0.4	
PEA0B				IAmb		IAmb	13 45 53.8		
	comp=Z,20nm,1.4s								
PETK	Petropavlovsk-	25.57	281	P		P	13 45 27.1	-0.3	
	comp=Z,1.0nm,0.4s,baz=72,slow=13,SNR=14								
PETK				pP		pP	13 45 45.2	-1.9	
	comp=Z,0.9nm,0.5s,baz=70,slow=11,SNR=2.2								
	comp=Z,1.0nm,0.4s								
MCCM	Marconi Confer	29.50	114	P		P	13 46 01.1	-1.5	
NVAR	Mina Array Bea	31.64	108	P		P	13 46 24.2	+2.5	
	comp=Z,1.0nm,0.6s,baz=313,slow=8.2,SNR=8.1								
NVAR				PcP		PcP	13 49 12.6	+0.9	
	comp=Z,0.5nm,0.6s,baz=332,slow=3.8,SNR=3.5								
	comp=Z,1.0nm,0.6s								
PDAR	Pinedale Array	33.32	94	P		P	13 46 37.2	+0.8	
PDAR	Pinedale Array	33.32	94	P		P	13 46 38.0	+1.6	
	comp=Z,0.4nm,0.6s,baz=316,slow=3.9,SNR=7.4								
	comp=Z,0.4nm,0.6s								
WCT	Wildcat Mounta	33.75	108	P		P	13 46 40.4	+0.5	
ILON	Iglulik, Nuna	34.13	38	P		P	13 46 42.6	-0.1	
SRU	San Rafael Swe	35.31	99	P		P	13 46 55.8	+2.2	
V12A	Nelson	35.49	108	P		P	13 46 57.2	+2.2	
V12A				IAmb		IAmb	13 46 59.5		
	comp=Z,4.6nm,1.1s								
EYMN	Ely	39.88	74	P		P	13 47 32.5	+0.8	
EYMN				IAmb		IAmb	13 47 33.5		
	comp=Z,3.6nm,1.1s								
DAG	Danmarks Havn	44.30	12	*i* P		P	13 48 06.0	-1.2	
SUMG	Summit	44.42	22	P		P	13 48 08.7	-0.1	
SUMG				IAmb		IAmb	13 48 09.6		
	comp=Z,4.8nm,0.9s								
SPITS	Spitsbergen Ar	45.33	2	P		P	13 48 15.0	-0.5	
	comp=Z,1.3nm,0.4s,baz=19,slow=5.3,SNR=21								
	comp=Z,1.3nm,0.4s								
SPB2	Spitsbergen Ar	45.34	2	P		P	13 48 15.5	0.0	
SPB2				IAmb		IAmb	13 48 37.7		
	comp=Z,11nm,1.0s								
NRIK	Noril'sk	45.76	333			P	13 48 18.4	-0.6	
NRIK	Noril'sk	45.76	333	P		P	13 48 18.3	-0.6	
	comp=Z,6.9nm,0.5s,baz=51,slow=6.4,SNR=12								
	comp=Z,6.9nm,0.5s								
TXAR	Lajitas Array	46.39	103	P		P	13 48 25.3	+0.9	
TXAR	Lajitas Array	46.39	103	P		P	13 48 26.1	+1.6	
	comp=Z,1.2nm,0.7s,baz=313,slow=5.2,SNR=18								
TXAR				pP		pP	13 48 45.7	+0.3	
	comp=Z,1.0nm,0.9s,baz=322,slow=8.9,SNR=4.3								
TXAR				PcP		PcP	13 49 58.2	+0.2	
	comp=Z,0.3nm,0.5s,baz=209,slow=2.9,SNR=4.3								
	comp=Z,1.2nm,0.7s								
MJAR	Matsushiro Arr	46.51	273	P		P	13 48 24.8	-0.4	
	comp=Z,0.3nm,0.4s,baz=45,slow=6.5,SNR=2.3								
	comp=Z,0.3nm,0.4s								
OZNA	Ozona	46.53	99			P	13 48 26.5	+1.0	
KSRS	Korea Array	51.47	281	P		P	13 49 03.6	+0.5	
	comp=Z,0.3nm,0.5s,baz=42,slow=6.9,SNR=3.1								
	comp=Z,0.3nm,0.5s								
ARCES	ARCESS Array B	54.05	359	P		P	13 49 20.7	-1.0	
	comp=Z,1.9nm,0.4s,baz=15,slow=6.9,SNR=58								
	comp=Z,1.9nm,0.4s								
SONM	Songino Array	54.70	305	P		P	13 49 26.4	-0.4	
	comp=Z,0.7nm,0.4s,baz=35,slow=6.0,SNR=6.2								
SONM				PcP		PcP	13 50 29.0	+0.5	
	comp=Z,0.9nm,0.6s,baz=50,slow=1.9,SNR=3.8								
	comp=Z,0.7nm,0.4s								
ZALV	Zalesovo Beam	58.53	322	P		P	13 49 52.7	-1.0	
	comp=Z,0.5nm,0.4s,baz=77,slow=6.4,SNR=2.5								
	comp=Z,0.5nm,0.4s								
FINES	FINESS Array B	62.17	358	P		P	13 50 17.4	-0.9	
	comp=Z,3.1nm,0.4s,baz=3.4,slow=9.2,SNR=53								
	comp=Z,3.1nm,0.4s								
NB2	NORSAR Subarra	62.28	6	P		P	13 50 18.3	-0.8	
	comp=Z,1.5nm,0.7s,baz=354,slow=6.9								
NOA	NORSAR Array B	62.28	6	P		P	13 50 18.6	-0.6	
	comp=Z,1.5nm,0.7s,baz=354,slow=6.8,SNR=12								
	comp=Z,1.5nm,0.7s								
HFS	Hagfors	63.32	5	P		P	13 50 25.0	-1.0	
	comp=Z,3.1nm,0.5s,baz=20,slow=4.7,SNR=31								
	comp=Z,3.1nm,0.5s								
KURBB	Kurchatov Arra	63.42	324	P		P	13 50 25.8	-1.0	
	comp=Z,0.5nm,0.2s,baz=28,slow=7.7,SNR=1.4								
	comp=Z,0.5nm,0.2s								
BVAR	Borovoye Array	63.78	330	P		P	13 50 28.2	-0.9	
	comp=Z,0.6nm,0.4s,baz=327,slow=7.6,SNR=4.1								
	comp=Z,0.6nm,0.4s								
MKAR	Makanchi Array	65.41	319	P		P	13 50 39.5	-0.4	
	comp=Z,0.5nm,0.5s,baz=25,slow=3.2,SNR=1.9								
	comp=Z,0.5nm,0.5s								
EKA	Eskdalemuir Ar	66.42	16	P		P	13 50 46.0	-0.2	
	comp=Z,1.4nm,0.5s,baz=340,slow=4.6,SNR=17								
	comp=Z,1.4nm,0.5s								
AB31	Akbulak array	69.90	335	P		P	13 51 07.4	-0.6	
ABKAR	Akbulak array	69.90	335	P		P	13 51 07.1	-0.9	
AKASG	Malin Array Be	72.82	355	P		P	13 51 24.4	-1.1	
	comp=Z,2.3nm,0.4s,baz=9.2,slow=5.7,SNR=20								
	comp=Z,2.3nm,0.4s								
GERES	GERESS Array B	74.58	6	P		P	13 51 36.1	+0.1	
	comp=Z,1.0nm,0.6s,baz=345,slow=4.7,SNR=14								
	comp=Z,1.0nm,0.6s								
KBZ	Khabaz	78.46	345	P		P	13 51 57.8	-0.1	
	comp=Z,2.0nm,0.8s,baz=14,slow=8.3,SNR=3.6								
	comp=Z,2.0nm,0.8s								
ESDC	Sonseca Array	81.45	20	P		P	13 52 15.0	+0.9	
	comp=Z,1.2nm,0.7s,baz=343,slow=4.9,SNR=12								
ESDC				pP		pP	13 52 36.1	-1.1	
	comp=Z,0.4nm,0.6s,baz=340,slow=4.6,SNR=2.6								
	comp=Z,1.2nm,0.7s								
CMAR	Chiang Mai Arr	81.89	291	P		P	13 52 15.8	-0.9	
	comp=Z,1.2nm,0.8s,baz=13,slow=5.6,SNR=7.3								
CMAR				pP		pP	13 52 38.1	-1.6	
	comp=Z,0.6nm,0.5s,baz=38,slow=4.7,SNR=1.8								
	comp=Z,1.2nm,0.8s								
BRTR	Keskin Array B	83.47	351	P		P	13 52 24.6	-0.2	
	comp=Z,1.3nm,0.8s,baz=354,slow=1.2,SNR=4.9								
	comp=Z,1.3nm,0.8s								
QSPA	South Pole Qui	146.48	180	PKPbc		PKPdf	13 59 36.2	+1.4	
	comp=Z,3.8nm,0.6s,baz=258,slow=0.4,SNR=54								
BOSA	Boshof	151.86	355	PKPbc		PKPbc	13 59 50.9	-0.4	
	comp=Z,1.8nm,0.7s,baz=346,slow=2.2,SNR=3.6								
SNAA	Sanae	161.65	155	PKPab		PKPab	14 00 40.3	-1.3	
	comp=Z,0.5nm,0.7s,baz=256,slow=8.3,SNR=6.2								

IDC ***14*** *13:40:59.0±2.3,2°39S±100°37E, h0km, mb3.9/8, mbtmp4.0/8, MS4.3/2, Error ellipse: s-maj=107.6km s-min=19.3km az=56.0*
NEIC ***14*** *13:41:04.3±2.4,2°39S±0°06×100°37E±0°08, h35km±1km, mb4.5/8, Error ellipse: s-maj=13.5km s-min=10.6km az=83.0*
DJA ***14*** *13:41:05.5±0.3,2°S±2°×10°1E±°, h10km, M4.1/10, MLv4.1/10*

ISC 14 13:41:02.6±0.6,**2°08S**±0°05×**100°60E**±0°06,**h10km**,**n44,**
σ**2s12/33,mb4.3/11,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PPSI	Pulau Pagai	0.90	221	P		Pn	13 41 23.1	+1.8
PPSI				S		Sn	13 41 37.2	+2.8
SISI	Saibi	1.68	296	P		Pn	13 41 34.3	+0.6
BKNI	Bangkinang	2.43	10	Pn		Pn	13 41 43.6	+1.3
BKNI	Bangk

comp=Z,1.4nm,0.9s
SNAA Sanae 92.25 198 LR LR 14 30 39.5
TXAR Lajitas Array 144.40 38 PKP **PKPab 14 00 37.5 -0.7**
comp=Z,1.2nm,0.7s,baz=328,slow=3.8,SNR=18

*IDC **14** 13:44:12.0±0.5,0.˝61S×127.˝56E, h0km, mb4.1/17, mbtmp4.1/19, ML4.1/2, MS4.0/6, Error ellipse: s-maj=25.1km s-min=12.7km az=76.0*
*NEIC **14** 13:44:13.2±1.9, 0.˝56S±0.˝06×127.˝87E±0.˝08, h10km±1km, mb4.6/24, Error ellipse: s-maj=14.6km s-min=9.0km az=62.0*
*DJA **14** 13:44:15.4±0.2, 1˚S±2˚×12˚8E±˚, h10km, M4.6/19, mB5.0/6, mb4.8/12, ML4.7/19, Mw(mB)4.4/6*
ISC 14 13:44:13.3±0.4,**0.˝61S**±0.˝04×**127.˝74E**±0.˝06,**h10km, n85,** σ1§**85**/89,**mb4.5**/33,**MS4.1**/4,**1C, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.42**	**345**			**Pb**	**13 44 39.6**	**-0.3**
TNTI	**Ternate**	**1.42**	**345**	P		**Pb**	**13 44 39.4**	**-0.5**
TNTI				S		**Sg**	**13 44 58.5**	**-0.5**
SANI	**Sanana**	**2.27**	**231**	P		**Pn**	**13 44 53.1**	**+2.3**
NLAI	**Namlea**	**2.69**	**194**	P		**Pn**	**13 44 58.5**	**+1.8**
MSAI	**Masohi**	**2.97**	**157**	P		**Pn**	**13 45 03.3**	**+2.8**
MSAI				S		**Sb**	**13 45 40.4**	**-2.3**
AAI	**Ambon**	**3.09**	**172**	P		**Pn**	**13 45 05.1**	**+2.9**
SWI	**Sorong**	**3.52**	**94**	P		**Pn**	**13 45 10.0**	**+1.9**
KMSI	**Cibinong**	**3.94**	**287**	P		**Pn**	**13 45 16.4**	**+2.5**
BNDI	**Bandanaira**	**4.45**	**151**	P		**Pn**	**13 45 24.6**	**+3.7**
LUWI	**Luwuk**	**4.99**	**265**	P		**Pn**	**13 45 29.8**	**+1.5**
	0.9nm125nm,0.7s							
FAKI	**Fak Fak**	**5.05**	**117**	Pn		**Pn**	**13 45 28.4**	**-0.8**
FAKI	**Fak Fak**	**5.05**	**117**	P		**Pn**	**13 45 30.3**	**+1.1**
	0.5nm91nm,1.3s							
MRSI	**Marisa**	**5.90**	**280**	P		**Pn**	**13 45 42.8**	**+2.0**
	0.2nm713nm57nm,1.1s							
APSI	**Ampana**	**6.10**	**267**	P		**Pn**	**13 45 46.1**	**+2.5**
	0.8nm1µm98nm,0.6s							
TOLI2	**Tolitoli**	**7.17**	**284**			**Pn**	**13 45 58.5**	**+0.3**
PCI	**Palu**	**7.91**	**268**	P		**Pn**	**13 46 11.2**	**+2.7**
	46nm,0.5s							
TTSI	**Tana Toraja**	**8.28**	**253**	P		**Pn**	**13 46 16.4**	**+2.8**
	1µm55nm,1.1s							
BNSI	**Bone**	**8.51**	**244**	P		**Pn**	**13 46 20.3**	**+3.6**
SPSI	**Sidrap Palu**	**8.64**	**247**	P		**Pn**	**13 46 21.9**	**+3.5**
BKSI	**Bulukumba**	**8.94**	**238**	P		Pn	13 46 27.6	+5.1
	777nm61nm,0.7s							
BSSI	**Bau Bau, Buton**	**9.09**	**233**	P		**Pn**	**13 46 28.6**	**+3.9**
	1µm63nm,1.5s							
KAPI	**Kappang**	**9.10**	**241**			**Pn**	**13 46 26.8**	**+2.0**
KAPI	**Kappang**	**9.10**	**241**	Pn		**Pn**	**13 46 29.1**	**+4.3**
	1.5nm,0.3s,baz=58,slow=6.2,SNR=11							
KAPI				Sn		**Sn**	**13 48 03.5**	**-4.0**
	1.6nm,0.3s,baz=163,slow=18,SNR=1.4							
KAPI				LR		LR	13 50 09.0	
	comp=Z,535nm,20.4s,baz=70,slow=40							
EDFI	**Ende, Flores**	**10.09**	**217**	P		**Pn**	**13 46 42.4**	**+3.9**
MTN	**Manton Dam**	**12.61**	**165**	Pn		**Pn**	**13 47 13.5**	**+0.6**
JAY	**Jayapura**	**13.09**	**98**	Pn		**Pn**	**13 47 22.1**	**+2.6**
	0.4nm,0.3s,baz=192,slow=4.7,SNR=4.5							
JAY				LR		LR	13 53 59.1	
	comp=Z,798nm,18.4s,baz=268,slow=44							
	8.5nm,1.1s							
KNRA	**Kununurra**	**15.01**	**176**	Pn		**Pn**	**13 47 45.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**17.50**	**187**	P		**P**	**13 48 19.1**	**+0.3**
	0.9nm,0.3s,baz=15,slow=7.6,SNR=14							
FITZ				LR		LR	13 55 51.3	
	comp=Z,486nm,19.5s,baz=46,slow=40							
	4.4nm,0.5s							
MANU	**Manus Island**	**19.67**	**94**	P		**P**	**13 48 40.3**	**-2.4**
WB0	**Warramunga Arr**	**20.13**	**162**	P		**P**	**13 48 47.5**	**-0.1**
WRA	**Warramunga Arr**	**20.27**	**162**	P		**P**	**13 48 49.4**	**+0.2**
	1.8nm,0.5s,baz=342,slow=12,SNR=14							
WRA				LR		LR	13 57 50.3	
	comp=Z,456nm,18.6s,baz=328,slow=40							
	1.8nm,0.5s							
LEM	**Lembang**	**21.00**	**252**	P		**P**	**13 48 54.8**	**-2.6**
	71nm,1.1s,baz=194,slow=9.7,SNR=4.2							
	71nm,1.1s							
AS31	**Alice Springs**	**23.69**	**166**			**P**	**13 49 25.5**	**+0.1**
ASAR	**Alice Springs**	**23.69**	**166**			**P**	**13 49 25.0**	**-0.4**
ASAR	**Alice Springs**	**23.69**	**166**	P		**P**	**13 49 25.1**	**-0.3**
	6.1nm,0.9s,baz=344,slow=8.9,SNR=25							
ASAR				PcP		**PcP**	**13 53 09.4**	**-0.4**
	0.7nm,0.6s,baz=351,slow=2.4,SNR=4.2							
	6.1nm,0.9s							
YULB	**Yu-li**	**24.66**	**346**	P		**P**	**13 49 32.9**	**-1.5**
YULB				IAmb		IAmb	13 49 53.0	
	comp=Z,24nm,1.4s							
FORT	**Forrest**	**30.01**	**179**			**P**	**13 50 23.1**	**+0.8**
FORT				IAmb		IAmb	13 50 29.1	
	comp=Z,9.8nm,0.8s							
GSI	**Gunungsitoli**	**30.23**	**274**	P		**P**	**13 50 24.8**	**+0.3**
NJ2	**Nanjing**	**33.55**	**346**	*e*P		**P**	**13 50 54.4**	**+1.0**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.6s							
STKA	**Stephens Creek**	**33.75**	**158**	P		**P**	**13 50 55.8**	**+0.7**
STKA	**Stephens Creek**	**33.75**	**158**	P		**P**	**13 50 57.2**	**+2.0**
	comp=Z,4.5nm,1.0s,baz=312,slow=12,SNR=4.1							
STKA				LR		LR	14 06 01.4	
	comp=Z,384nm,18.8s,baz=353,slow=39							
	comp=Z,4.5nm,1.0s							
CMAR	**Chiang Mai Arr**	**34.06**	**305**	P		**P**	**13 50 58.6**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=120,slow=8.4,SNR=5.2							
CMAR				PcP		**PcP**	**13 53 36.1**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=140,slow=2.6,SNR=4.3							
	comp=Z,0.5nm,0.4s							
INU	**Inuyama**	**36.80**	**13**	P		**P**	**13 51 20.4**	**-1.0**
PZH	**PanZhiHua**	**36.80**	**319**	P		**P**	**13 51 24.1**	**+2.4**
KSRS	**Korea Array**	**37.87**	**0**	P		**P**	**13 51 31.5**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=180,slow=9.3,SNR=4.1							
	comp=Z,0.5nm,0.7s							
MJAR	**Matsushiro Arr**	**38.22**	**14**	P		**P**	**13 51 32.9**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=184,slow=9.4,SNR=3.6							
	comp=Z,1.0nm,0.6s							
XAN	**Xi'an**	**38.73**	**335**	P		**P**	**13 51 38.8**	**+1.0**
XAN				pmax		pmax		
	comp=Z,10.0nm,0.7s							
CAN	**Canberra**	**39.81**	**152**	P		**P**	**13 51 45.7**	**-1.2**
CAN				IAmb		IAmb	13 51 52.0	
	comp=Z,13nm,1.0s							
LZH	**Lanzhou**	**42.75**	**331**	*e*P		**P**	**13 52 14.8**	**+3.7**
LZH				sP		sP	13 52 23.8	+8.3
LZH				pmax		pmax		
	comp=Z,14nm,1.0s							
SHL	**Shillong**	**43.33**	**310**			**P**	**13 52 16.5**	**+0.5**
SHL				IAmb		IAmb	13 52 21.6	
	comp=Z,7.7nm,0.6s							
HHC	**Hu-ho-hao-te**	**43.81**	**342**	*e*P		**P**	**13 52 21.8**	**+2.2**
HHC				pmax		pmax		
	comp=Z,17nm,0.6s							
BNX	**BinXian**	**46.15**	**360**	⇑P		**P**	**13 52 38.0**	**0.0**
BNX				pmax		pmax		
	comp=Z,4.0nm,2.2s							
GTA	**Gaotai**	**47.33**	**330**	*e*P		**P**	**13 52 49.4**	**+1.9**
GTA				sP		sP	13 52 56.5	+4.6
GTA				pmax		pmax		
	comp=Z,4.0nm,1.2s							
SONM	**Songino Array**	**51.70**	**342**	P		**P**	**13 53 20.4**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=159,slow=7.7,SNR=5.0							
SONM				PcP		**PcP**	**13 54 33.8**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=141,slow=3.0,SNR=1.9							
	comp=Z,0.4nm,0.3s							
WMQ	**Urumqi**	**56.85**	**326**	*e*P		**P**	**13 53 59.9**	**+1.6**
WMQ				LR		LR		
	comp=Z,190nm,19.3s							
URZ	**Urewera**	**58.73**	**136**	LR		LR	14 20 39.4	
	comp=Z,151nm,19.7s,baz=330,slow=37							
PETK	**Petropavlovsk-**	**59.07**	**21**	P		**P**	**13 54 14.8**	**+1.2**
	comp=Z,1.8nm,0.9s,baz=194,slow=5.7,SNR=11							
	comp=Z,1.8nm,0.9s							
TARG	**Taragay, Kyrgy**	**61.66**	**319**	P		**P**	**13 54 31.8**	**-0.3**
TARG				IAmb		IAmb	13 54 45.2	
	comp=Z,2.5nm,0.7s							
MKAR	**Makanchi Array**	**61.69**	**326**			**P**	**13 54 31.9**	**+0.2**
MKAR	**Makanchi Array**	**61.69**	**326**	P		**P**	**13 54 32.3**	**+0.7**
	comp=Z,3.1nm,0.8s,baz=121,slow=8.3,SNR=12							
	comp=Z,3.1nm,0.8s							
KSH	**Kashi**	**61.84**	**316**	P		**P**	**13 54 35.4**	**+2.5**
ZALV	**Zalesovo Beam**	**64.89**	**334**	P		**P**	**13 54 51.7**	**-1.0**
ZALV	**Zalesovo Beam**	**64.89**	**334**	P		**P**	**13 54 51.5**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=94,slow=4.6,SNR=4.4							
	comp=Z,0.4nm,0.3s							
KBL	**Kabul**	**64.98**	**309**	P		**P**	**13 54 52.4**	**-1.6**
GAR	**Garm**	**65.61**	**314**	P		**P**	**13 54 56.8**	**-1.1**
KURBB	**Kurchatov Arra**	**65.92**	**328**	P		**P**	**13 54 58.6**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=125,slow=5.8,SNR=9.9							
	comp=Z,1.0nm,0.3s							
KURK	**Kurchatov**	**65.93**	**328**			**P**	**13 54 58.7**	**-0.7**
KURK				IAmb		IAmb	13 55 04.1	
	comp=Z,4.9nm,0.9s							
KK31	**Karatay Array**	**67.09**	**318**	P		**P**	**13 55 06.2**	**-1.0**
KK31				IAmb		IAmb	13 55 11.5	
	comp=Z,2.9nm,1.0s							
KKAR	**Karatay Array**	**67.09**	**318**	P		**P**	**13 55 06.6**	**-0.6**
BVAR	**Borovoye Array**	**71.49**	**328**	P		**P**	**13 55 33.5**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=110,slow=6.0,SNR=5.9							
	comp=Z,1.1nm,0.5s							
BRVK	**Borovoye**	**71.56**	**328**	P		**P**	**13 55 34.9**	**+0.3**
BRVK				IAmb		IAmb	13 55 36.2	
	comp=Z,3.9nm,0.8s							
NRIK	**Noril'sk**	**74.85**	**346**			**P**	**13 55 53.0**	**-0.7**
NRIK				IAmb		IAmb	13 55 55.8	
	comp=Z,3.7nm,0.7s							
NRIK	**Noril'sk**	**74.85**	**346**	P		**P**	**13 55 53.3**	**-0.4**
	comp=Z,3.2nm,0.6s,baz=127,slow=8.9,SNR=6.6							
	comp=Z,3.2nm,0.6s							
AB31	**Akbulak array**	**76.14**	**321**			**P**	**13 56 00.5**	**-1.0**
ABKAR	**Akbulak array**	**76.14**	**321**			**P**	**13 56 00.3**	**-1.1**
VNDA	**Vanda**	**79.03**	**173**	P		**P**	**13 56 12.8**	**-4.3**
VNDA	**Vanda**	**79.03**	**173**	P		**P**	**13 56 18.1**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=318,slow=6.2,SNR=5.2							
	comp=Z,1.2nm,0.9s							
ARTI	**Arti**	**79.20**	**328**	P		**P**	**13 56 17.8**	**-0.6**
ARTI				IAmb		IAmb	13 56 23.4	
	comp=Z,4.2nm,0.8s							
L14K	**Kuka Creek**	**80.85**	**27**	P		**P**	**13 56 24.8**	**-2.4**
L14K				IAmb		IAmb	13 56 46.7	
	comp=Z,8.3nm,1.2s							
L18K	**Granite Mounta**	**83.83**	**27**	P		**P**	**13 56 41.3**	**-1.5**
L18K				IAmb		IAmb	13 56 51.0	
	comp=Z,5.5nm,1.0s							
ILAR	**Eielson Array**	**88.56**	**25**	P		**P**	**13 57 07.7**	**+1.6**
	comp=Z,0.8nm,1.1s,baz=284,slow=3.6,SNR=5.7							
	comp=Z,0.8nm,1.1s							
QSPA	**South Pole Qui**	**89.33**	**180**	P		**P**	**13 57 09.5**	**-0.4**
QSPA	**South Pole Qui**	**89.33**	**180**	P		**P**	**13 57 10.3**	**+0.5**
	comp=Z,4.0nm,1.0s,baz=252,slow=3.2,SNR=7.4							
	comp=Z,4.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**125.14**	**286**	PKP		**PKPdf**	**14 03 14.3**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=64,slow=1.5,SNR=5.3							
CPUP	**Villa Florida**	**152.78**	**170**	PKPbc		**PKPbc**	**14 04 11.4**	**0.0**
	comp=Z,0.6nm,0.9s,baz=89,slow=1.4,SNR=3.8							

*ISK **14** 13:49:40.4, 36˚07N×31˚36E, h10km, ML2.9/25*
*AFAD **14** 13:49:44.9, 36˚25N×31˚24E, h10km±4km, ML2.2*
*NIC **14** 13:49:45.0, 36˚03N×31˚88E, h17km±11km, Ml2.5/8*
ISC 14 13:49:41.4±1.1,**36˚03N**±0˚03×**31˚46E**±0˚02,**h22**km±6km**, n42,** σ1§**20**/59**, Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ALAN	**Alanya-ANTALYA**	**0.70**	**41**	Pg		**Pb**	**13 49 55.4**	**+0.4**
GAZI	**Gazipasa**	**0.72**	**73**	Pg		**Pn**	**13 49 56.2**	**-0.2**
GAZI				Sg		**Sn**	**13 50 07.3**	**+0.5**
AKUM	**Antalya-Kumluc**	**0.95**	**288**	P		**Pn**	**13 50 00.7**	**+1.3**
AKUM				S		**Sn**	**13 50 16.1**	**+3.8**
AKUM				*i* IAML			13 50 17.0	
	comp=N,249nm,0.3s							
AKUM				*i* IAML			13 50 17.0	
	comp=E,252nm,0.6s							
ANTB	**Antalya**	**1.08**	**324**	Pg		**Pn**	**13 49 59.7**	**-1.6**
BOZY	**Bozyazi-Mersin**	**1.23**	**86**	Pn		**Pb**	**13 50 05.1**	**+1.1**
AKMS	**Akamas**	**1.24**	**144**	P		**Pb**	**13 50 05.0**	**+0.9**
AKMS				S		**Sn**	**13 50 21.5**	**+2.1**
AKMS				AML		AML	13 50 32.7	
	0.4nm,0.5s							
AKMS				AML		AML	13 50 34.6	
	0.2nm,0.5s							
HDMB	**Hadim**	**1.25**	**41**	Pn		**Pb**	**13 50 04.0**	**-0.4**
HDMB				Sn		**Sn**	**13 50 23.1**	**+3.0**
ALFC	**Alefka**	**1.27**	**133**	P		**Pb**	**13 50 04.8**	**0.0**
ALFC				S		**Sb**	**13 50 20.4**	**-0.3**
ALFC				AML		AML	13 50 21.6	
	0.3nm,0.1s							
ALFC				AML		AML	13 50 29.7	
	0.4nm,0.3s							
KORT	**Korkueli**	**1.32**	**318**	Pn		**Pn**	**13 50 03.7**	**-1.0**
KORT	**Korkueli**	**1.32**	**318**	P		**Pn**	**13 50 03.7**	**-1.0**
KORT				*i* IAML			13 50 29.0	
	comp=N,80nm,0.6s							
KORT				*i* IAML			13 50 34.0	
	comp=E,80nm,0.4s							
TEKE	**Tekeli-Mersin**	**1.35**	**85**	Pn		**Pb**	**13 50 06.9**	**+0.9**
SEYD	**Seydisehir-KON**	**1.41**	**12**	Pn		**Pn**	**13 50 05.6**	**-0.3**
AKDN	**Akdeniz- Kıbrı**	**1.43**	**120**	Pn		**Pb**	**13 50 08.4**	**+1.0**
BERE	**Bereket-Mersin**	**1.46**	**77**	Pn		**Pb**	**13 50 08.2**	**+0.2**
AKAS	**Kas**	**1.51**	**278**	Pn		**Pn**	**13 50 07.6**	**+0.3**
AKAS				Sn		**Sn**	**13 50 26.9**	**+0.5**
AKAS	**Kas**	**1.51**	**278**	P		**Pn**	**13 50 07.6**	**+0.3**
AKAS				S		**Sn**	**13 50 27.2**	**+0.8**
AKAS				*i* IAML			13 50 45.0	
	comp=E,58nm,0.5s							
AKAS				*i* IAML			13 50 47.0	
	comp=N,139nm,1.1s							
TROD	**Troodos**	**1.58**	**133**	P		**Pb**	**13 50 08.9**	**-1.1**
TROD				S		**Sn**	**13 50 27.6**	**-0.5**
TROD				AML		AML	13 50 47.0	
	0.2nm,0.5s							
TROD				AML		AML	13 50 49.7	
	0.1nm,0.5s							
YORU	**Yoruktepe-Mers**	**1.58**	**85**	Pn		**Pb**	**13 50 10.5**	**+0.5**
BCK	**Bucak**	**1.59**	**334**	Pn		**Pn**	**13 50 08.2**	**-0.2**
XYLS	**Xyliatos**	**1.65**	**127**	P		**Pb**	**13 50 09.6**	**-1.5**
XYLS				S		**Sn**	**13 50 28.5**	**-1.1**
XYLS				AML		AML	13 50 30.2	
	0.2nm,0.2s							
XYLS				AML		AML	13 50 37.0	
	0.2nm,0.3s							
AKK1	**Akkuyu-Mersin**	**1.69**	**85**	Pn		**Pb**	**13 50 11.6**	**-0.2**
AKK1				Sn		**Sb**	**13 50 34.6**	**+1.9**
KNIK	**Mula-Seydike**	**1.72**	**299**	P		**Pb**	**13 50 11.9**	**-0.6**
KNIK				*i* IAML			13 51 11.0	
	comp=N,41nm,1.7s							
KNIK				*i* IAML			13 51 11.0	
	comp=E,17nm,1.1s							
TISA	**Tisan-Mersin**	**1.81**	**85**	Pn		**Pb**	**13 50 13.5**	**-0.3**
ATHAL	**Athalassa**	**1.81**	**119**	S		**Sn**	**13 50 32.1**	**-1.5**
ATHAL				AML		AML	13 50 46.4	
	0.4nm,0.6s							
ATHAL				AML		AML	13 50 52.4	
	0.4nm,0.7s							
IKL	**Isikli**	**1.82**	**83**	Pn		**Pb**	**13 50 13.4**	**-0.6**
LFK	**Lefkose**	**1.85**	**113**	Pn		**Pb**	**13 50 13.9**	**-0.6**
IZZE	**Mula-Seydike**	**1.85**	**283**	P		**Pn**	**13 50 12.4**	**+0.6**
IZZE				S		**Sn**	**13 50 34.5**	**-0.1**
IZZE				*i* IAML			13 50 36.0	
	comp=E,38nm,0.4s							
IZZE				*i* IAML			13 50 38.0	
	comp=N,74nm,0.4s							
KRMN	**Karaman**	**1.85**	**51**	Pn		**Pb**	**13 50 13.9**	**-0.7**
CSS	**Mathiatis**	**1.86**	**124**	Pn		**Pn**	**13 50 12.6**	**+0.6**
CSS	**Mathiatis**	**1.86**	**124**	P		**Pn**	**13 50 12.3**	**+0.3**
CSS				S		**Sn**	**13 50 33.7**	**-1.2**
CSS				AML		AML	13 50 49.9	
	0.1nm,0.4s							
CSS				AML		AML	13 50 50.1	
	0.1nm,0.6s							
KEBE	**Keben-Mersin**	**1.87**	**76**	Pn		**Pb**	**13 50 14.4**	**-0.5**
ASGA	**Asgata**	**1.92**	**130**	P		**Pb**	**13 50 14.3**	**-1.4**
ASGA				AML		AML	13 50 49.4	
	0.2nm,0.5s							
ASGA				AML		AML	13 50 50.1	
	0.2nm,0.6s							
ISP	**Isparta**	**1.94**	**338**	Pn		**Pn**	**13 50 13.4**	**+0.2**
GOLH	**Golhisar**	**1.94**	**309**	P		**Pb**	**13 50 14.9**	**-1.3**
GOLH				S		**Sb**	**13 50 40.0**	**-0.1**
GOLH				*i* IAML			13 50 51.0	
	comp=E,40nm,0.4s							
GOLH				*i* IAML			13 50 53.0	
	comp=N,45nm,0.8s							
SILI	**Silifke-Mersin**	**2.02**	**80**	Pn		**Pb**	**13 50 16.2**	**-1.3**
MVOU	**Mavrovouni**	**2.04**	**119**	P		**Pn**	**13 50 14.7**	**+0.2**
MVOU				S		**Sn**	**13 50 37.5**	**-1.8**
MVOU				AML		AML	13 50 46.7	
	0.1nm,0.4s							
MVOU				AML		AML	13 50 53.3	
	0.1nm,0.6s							
KONT	**Konya--Tatoy**	**2.05**	**20**	Pn		**Pn**	**13 50 15.8**	**+1.2**
SABU	**Mula-Dalaman**	**2.16**	**292**	P		**Pn**	**13 50 16.4**	**+0.3**
SABU				S		**Sn**	**13 50 41.2**	**-1.1**
SABU				*i* IAML			13 51 05.0	
	comp=N,29nm,0.9s							
SABU				*i* IAML			13 51 25.0	
	comp=E,19nm,1.1s							
KIZK	**Mersin**	**2.22**	**77**	Pn		**Pb**	**13 50 19.4**	**-1.4**
DNZT	**Denizli-Tavas-**	**2.32**	**303**	P		**Pn**	**13 50 19.4**	**+1.0**
DNZT				S		**Sn**	**13 50 45.8**	**-0.5**
DNZT				*i* IAML			13 51 01.0	
	comp=N,14nm,0.7s							
DNZT				*i* IAML			13 51 03.0	
	comp=E,11nm,0.9s							
TAVA	**DENIZLI_Tavas**	**2.50**	**306**	P		**Pn**	**13 50 21.7**	**+0.8**
TAVA				S		**Sn**	**13 50 49.7**	**-0.9**
TAVA				*i* IAML			13 51 01.0	
	comp=E,25nm,0.6s							
TAVA				*i* IAML			13 51 03.0	
	comp=N,28nm,0.7s							
MERS	**Mersin**	**2.61**	**70**	Pn		**Pb**	**13 50 24.7**	**-2.8**

*IDC **14** 13:56:08.1±0.7,0.˝88S×128.˝30E, h0km, mb4.1/13, mbtmp4.1/15, ML4.3/2, Error ellipse: s-maj=36.1km s-min=14.3km az=79.0*
*NEIC **14** 13:56:10.4±1.8, 0.˝79S±0.˝07×128.˝37E±0.˝08, h10km±1km, mb4.5/22, Error ellipse: s-maj=15.7km s-min=9.6km az=52.0*
*DJA **14** 13:56:11.8±0.2, 1˚S±2˚×12˚8E±˚, h10km, M4.6/19, mB5.1/5, mb4.8/11, MLv4.5/19, Mw(mB)4.5/5*
ISC 14 13:56:11.1±0.4,**0.˝88S**±0.˝04×**128.˝34E**±0.˝06,**h17km, n89,** σ1§**78**/96**, mb4.4**/26**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.91**	**329**			**Pn**	**13 56 41.9**	**-0.9**
TNTI	**Ternate**	**1.91**	**329**	P		**Pn**	**13 56 43.0**	**+0.2**
TNTI	**Ternate**	**1.91**	**329**	S		**Sb**	**13 57 08.7**	**-0.2**
TNTI	**Ternate**	**1.91**	**329**	P		**Pn**	**13 56 42.7**	**-0.1**
TNTI				S		**Sb**	**13 57 07.4**	**-1.5**
MSAI	**Masohi**	**2.52**	**167**	P		**Pb**	**13 56 54.6**	**-1.4**
SANI	**Sanana**	**2.63**	**244**	P		**Pn**	**13 56 51.7**	**-1.0**
SANI				S		**Sn**	**13 57 23.2**	**-1.0**
NLAI	**Namlea**	**2.66**	**208**	P		**Pn**	**13 56 54.0**	**+0.9**
NLAI				S		**Sn**	**13 57 26.2**	**+1.2**
AAI	**Ambon**	**2.80**	**183**	P		**Pn**	**13 56 57.0**	**+1.9**
AAI				S		**Sn**	**13 57 31.1**	**+2.6**
SWI	**Sorong**	**2.92**	**90**	P		**Pn**	**13 56 59.0**	**+2.3**
BNDI	**Bandanaira**	**3.94**	**157**	P		**Pn**	**13 57 12.7**	**+1.8**
FAKI	**Fak Fak**	**4.40**	**118**			**Pn**	**13 57 17.5**	**+0.4**
FAKI	**Fak Fak**	**4.40**	**118**	P		**Pn**	**13 57 18.4**	**+1.2**
KMSI	**Cibinong**	**4.59**	**288**	P		**Pn**	**13 57 20.2**	**+0.4**
KMSI				S		**Sn**	**13 58 12.4**	**-0.4**
SGSI	**Sangihe**	**5.33**	**328**	P		**Pn**	**13 57 30.4**	**+0.4**
LUWI	**Luwuk**	**5.57**	**268**	P		**Pn**	**13 57 33.6**	**+0.3**
	1.1nm2µm212nm,0.7s							
RKPI	**Ransiki, Papua**	**5.87**	**96**	P		**Pn**	**13 57 40.6**	**+3.3**
	0.3nm32nm,0.5s							
KDI	**Kendari**	**6.49**	**242**	P		**Pn**	**13 57 45.8**	**0.0**
MRSI	**Marisa**	**6.54**	**282**	P		**Pn**	**13 57 45.8**	**-0.8**
	0.2nm43nm,0.6s							
APSI	**Ampana**	**6.69**	**270**	P		**Pn**	**13 57 49.5**	**+0.8**
TOLI2	**Tolitoli**	**7.81**	**285**			**Pn**	**13 58 04.9**	**+0.9**
TOLI2	**Tolitoli**	**7.81**	**285**	P		**Pn**	**13 58 07.1**	**+3.0**
PCI	**Palu**	**8.51**	**270**	P		**Pn**	**13 58 13.7**	**+0.1**
	83nm,0.6s							
MPSI	**Mapaga**	**8.53**	**278**	P		**Pn**	**13 58 15.4**	**+1.5**
	25nm,0.6s							
TTSI	**Tana Toraja**	**8.79**	**256**	P		**Pn**	**13 58 18.6**	**+1.2**
	774nm51nm,0.9s							
BNSI	**Bone**	**8.94**	**247**	P		**Pn**	**13 58 21.0**	**+1.5**
SPSI	**Sidrap Palu**	**9.10**	**250**	P		**Pn**	**13 58 23.8**	**+2.1**
BKSI	**Bulukumba**	**9.32**	**242**	P		**Pn**	**13 58 28.0**	**+3.3**
KAPI	**Kappang**	**9.51**	**244**			**Pn**	**13 58 29.8**	**+2.4**
KAPI	**Kappang**	**9.51**	**244**	Pn		**Pn**	**13 58 29.4**	**+2.0**
	3.7nm,0.3s,baz=221,slow=1.4,SNR=9.6							
KAPI				Sn		**Sn**	**14 00 13.3**	**-0.7**
	0.9nm,0.3s,baz=306,slow=18,SNR=4.2							
KAPI	**

GTA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
EVN	**Everest**	**49.07**	**309**	P	**P**	**14 04 58.5**	**0.0**
HEH	**HeiHe**	**50.94**	**359**	*e*P	**P**	**14 05 11.3**	**-0.2**
HEH				pmax	pmax			
	comp=Z,3.0nm,1.2s							
ULN	**Ulaanbaatar**	**51.97**	**342**		**P**	**14 05 18.8**	**-0.6**
SONM	**Songino Array**	**52.15**	**341**	P	**P**	**14 05 19.9**	**-0.9**
SONM	**Songino Array**	**52.15**	**341**	P	**P**	**14 05 20.7**	**0.0**
	comp=Z,2.3nm,1.1s,baz=159,slow=8.1,SNR=8.3							
	comp=Z,2.3nm,1.1s							
PETK	**Petropavlovsk-**	**59.12**	**20**	P	**P**	**14 06 11.8**	**+1.2**
	comp=Z,2.0nm,0.9s,baz=224,slow=7.3,SNR=3.8							
	comp=Z,2.0nm,0.9s							
KSH	**Kashi**	**62.44**	**316**	P	**P**	**14 06 34.4**	**+0.7**
ZALV	**Zalesovo Beam**	**65.40**	**333**	P	**P**	**14 06 51.5**	**-1.1**
ZALV	**Zalesovo Beam**	**65.40**	**333**	P	**P**	**14 06 50.9**	**-1.7**
	comp=Z,1.7nm,0.8s,baz=87,slow=3.1,SNR=4.9							
	comp=Z,1.7nm,0.8s							
KURBB	**Kurchatov Arra**	**66.47**	**328**	P	**P**	**14 06 58.6**	**-1.0**
	comp=Z,2.6nm,0.7s,baz=126,slow=5.9,SNR=15							
	comp=Z,2.6nm,0.7s							
KURK	**Kurchatov**	**66.47**	**328**	P	**P**	**14 06 58.7**	**-0.9**
KURK				IAmb	IAmb	14 06 59.9		
	comp=Z,4.4nm,0.8s							
BVAR	**Borovoye Array**	**72.04**	**327**	P	**P**	**14 07 33.6**	**-0.5**
	comp=Z,2.3nm,1.0s,baz=199,slow=12,SNR=4.2							
	comp=Z,2.3nm,1.0s							
NRIK	**Noril'sk**	**75.26**	**346**		**P**	**14 07 52.6**	**-0.1**
NRIK	**Noril'sk**	**75.26**	**346**	P	**P**	**14 07 53.0**	**+0.3**
	comp=Z,5.8nm,0.7s,baz=118,slow=6.2,SNR=8.8							
	comp=Z,5.8nm,0.7s							
VNDA	**Vanda**	**78.69**	**173**	P	**P**	**14 08 12.4**	**+0.5**
VNDA	**Vanda**	**78.69**	**173**	P	**P**	**14 08 12.4**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=296,slow=7.2,SNR=4.4							
	comp=Z,0.7nm,0.9s							
ILAR	**Eielson Array**	**88.55**	**25**	P	**P**	**14 09 01.0**	**-1.6**
	comp=Z,0.5nm,1.0s,baz=256,slow=3.6,SNR=3.0							
	comp=Z,0.5nm,1.0s							
QSPA	**South Pole Qui**	**89.06**	**180**	P	**P**	**14 09 06.3**	**+1.1**
QSPA				IAmb	IAmb	14 09 09.1		
	comp=Z,1.8nm,0.7s							
QSPA	**South Pole Qui**	**89.06**	**180**	P	**P**	**14 09 04.9**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=292,slow=1.1,SNR=16							
	comp=Z,1.5nm,0.6s							
TORD	**Torodi Ar. Bea**	**125.79**	**286**	PKP	**PKPdf**	**14 15 12.0**	**-1.0**	
	comp=Z,0.6nm,0.9s,baz=93,slow=2.9,SNR=2.5							

*MDD **14** 13:58:57.3±0.6,36°.17N×6°.17W,h2km±3km,mb_Lg2.5/22, Error ellipse: s-maj=4.5km s-min=2.6km az=15.0*
*INMG **14** 13:59:00.9±2.7,36°.35N×6°.12W,h13km±7km,ML2.1, Error ellipse: s-maj=6.5km s-min=4.3km az=6.0,*
#DIST_RANGE: LOCAL #IPMA_REGION: Golfo de Cadiz
*SFS **14** 13:59:03.2,36°.52N×6°.01W,h9km,ML2.4/7,ML2.3/11, MLv2.3/11*
*CNRM **14** 13:59:05.8,36°.20N×6°.00W,h51km,ML2.1*
*IGIL **14** 13:59:05.2,36°.45N×6°.08W,h26km*

ISC 14 13:59:01.5±0.8,36°.35N±0°.02×6°.03W±0°.02,h12km,n61,
σ1°98/94,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNIL	**Conil**	**0.03**	**311**	Pg	**Pg**	**13 59 04.8**	**+1.1**
CNIL				Sg	**Sg**	**13 59 08.0**	**+2.8**
SFS	**San Fernando**	**0.18**	**309**	Pg	**Pb**	**13 59 07.5**	**+0.6**
SFS				Sg	**Sg**	**13 59 10.2**	**+1.7**
EJIF	**Jimena Fronter**	**0.46**	**77**	Pg	**Pg**	**13 59 09.8**	**-0.8**
EJIF				Sg	**Sg**	**13 59 17.5**	**+0.7**
ESPR	**Espera**	**0.54**	**15**	Pg	**Pg**	**13 59 11.0**	**-1.0**
ESPR				Sg	**Sg**	**13 59 20.7**	**+1.6**
ECEU	**Ceuta**	**0.69**	**130**	Pg	**Pb**	**13 59 18.1**	**+2.5**
ECEU				Sg	**Sn**	**13 59 30.1**	**+2.3**
ECEU	**Ceuta**	**0.69**	**130**	Sg	**Sg**	**13 59 18.4**	**-5.7**
ECEU				*i* lVmb_Lg		13 59 22.3	
SMIR	**Smir Dam**	**0.85**	**142**	P	**Pb**	**13 59 20.2**	**+2.0**
SMIR	**Smir Dam**	**0.85**	**142**	S	**Sg**	**13 59 29.7**	**+0.7**
EMIJ	**Mijas**	**1.03**	**78**	Sg	**Sb**	**13 59 34.6**	**-0.4**
EMIJ				Pg	**Pb**	**13 59 20.2**	**-1.2**
EMIJ	**Mijas**	**1.03**	**78**	Pg	**Pb**	**13 59 20.0**	**-1.4**
EMIJ				Sg	**Sb**	**13 59 36.1**	**+1.2**
EMIJ				*i* lVmb_Lg		13 59 42.6	
EMAL	**Malaga-Limoner**	**1.35**	**72**	Pn	**Pn**	**13 59 25.7**	**-0.5**
EMIN	**Mina Concepcio**	**1.50**	**340**	Sn	**Sn**	**13 59 44.3**	**-3.6**
EMIN				Pn	**Pn**	**13 59 27.1**	**-1.3**
EMIN	**Mina Concepcio**	**1.50**	**340**	Pg	**Pn**	**13 59 26.6**	**-1.7**
EMIN				Sg	**Sg**	**13 59 50.5**	**+0.5**
EMIN				*i* lVmb_Lg		13 59 52.4	
EGRO	**El Granado**	**1.66**	**316**	Pn	**Pn**	**13 59 30.1**	**-0.4**
EGRO				Sn	**Sn**	**13 59 48.2**	**-3.5**
EGRO	**El Granado**	**1.66**	**316**	Pg	**Pn**	**13 59 28.5**	**-1.9**
EGRO				Sg	**Sn**	**13 59 52.8**	**+1.1**
EGRO				*i* lVmb_Lg		14 00 02.5	
PVAQ	**Vaqueiros**	**1.71**	**308**	Pn	**Pn**	**13 59 30.8**	**-0.4**
PVAQ	**Vaqueiros**	**1.71**	**308**	*e*Pg	**Pn**	**13 59 30.8**	**-0.4**
PVAQ				*e*Sg	**Sn**	**13 59 52.8**	**-0.3**
PVAQ				*i* IAML		13 59 55.6	
PVAQ				*i* IAML		13 59 55.9	
PVAQ				*i* IAML		14 00 02.2	
EGOR	**Sierra Gorda,**	**1.72**	**63**	Pn	**Pn**	**13 59 31.9**	**+0.5**
EGOR	**Sierra Gorda,**	**1.72**	**63**	Pg	**Pn**	**13 59 32.2**	**+0.8**
EGOR				*i* lVmb_Lg		14 00 06.0	
PBDV	**Barranco-do-Ve**	**1.77**	**301**	*e*Pg	**Pn**	**13 59 31.8**	**-0.2**
PBDV				*e*Sg	**Sn**	**13 59 54.9**	**+0.4**
PBDV				*i* IAML		13 59 57.4	
PBDV				*i* IAML		13 59 57.8	
PBDV				*i* IAML		13 59 58.3	
ECAB	**El Cabril**	**1.79**	**16**	Pn	**Pn**	**13 59 32.3**	**0.0**
ECAB				Sn	**Sn**	**13 59 51.6**	**-3.4**
ECAB	**El Cabril**	**1.79**	**16**	Pg	**Pn**	**13 59 32.5**	**+0.2**
ECAB				Sn	**Sn**	**13 59 55.9**	**+0.9**
ECAB				*i* lVmb_Lg		14 00 02.2	
PBAR	**Barrancos**	**1.99**	**336**	*e*Pn	**Pn**	**13 59 33.1**	**-2.0**
PBAR				*e*Pg	**Pb**	**13 59 36.5**	**-1.2**
ELGU	**Los Guajares,**	**2.00**	**74**	Pg	**Pn**	**13 59 37.5**	**+2.3**
ELGU				*i* lVmb_Lg		14 00 16.6	
PALE	**Palemas**	**2.04**	**123**	P	**Pn**	**13 59 36.1**	**+0.4**
PALE	**Palemas**	**2.04**	**123**	S	**Sn**	**13 59 59.6**	**-1.5**
PCVE	**Castro Verde**	**2.06**	**309**	Pn	**Pn**	**13 59 35.5**	**-0.4**
PCVE				Sn	**Sn**	**13 59 59.2**	**-2.3**
PCVE	**Castro Verde**	**2.06**	**309**	*e*Pg	**Pn**	**13 59 35.6**	**-0.4**
EADA	**Adamuz**	**2.15**	**32**	Pn	**Pn**	**13 59 35.9**	**-1.4**
EADA				Pg	**Pb**	**13 59 39.9**	**-0.5**
EADA				Sn	**Sn**	**14 00 04.3**	**+0.4**
EADA				Sg	**Sg**	**14 00 12.6**	**+1.9**
EADA				*i* lVmb_Lg		14 00 15.7	
PBEJ	**Beja**	**2.23**	**319**	*e*Pg	**Pn**	**13 59 38.5**	**+0.3**
EQUE	**Quentar**	**2.25**	**67**	Pg	**Pn**	**13 59 41.9**	**+3.3**
EQUE				*i* lVmb_Lg		14 00 20.1	
MESJ	**Messejana**	**2.30**	**311**	*e*P	**Pn**	**13 59 38.8**	**-0.4**
MESJ	**Messejana**	**2.30**	**311**	*e*Pg	**Pn**	**13 59 38.9**	**-0.4**
MESJ				*i* IAML		14 00 15.5	
MESJ				*i* IAML		14 00 15.5	
MESJ				*i* IAML		14 00 21.5	
MORF	**Marmelete**	**2.31**	**295**	*e*P	**Pn**	**13 59 39.1**	**-0.4**
MORF	**Marmelete**	**2.31**	**295**	*e*Pn	**Pn**	**13 59 36.8**	**-2.7**
MORF				*e*Pg	**Pb**	**13 59 40.1**	**-3.1**
MORF				*e*Sg	**Sn**	**14 00 09.5**	**+1.6**
MORF				*i* IAML		14 00 10.5	
MORF				*i* IAML		14 00 15.1	
MORF				*i* IAML		14 00 18.6	
PTEO	**Sao Teotonio**	**2.47**	**300**	*e*Pg	**Pn**	**13 59 42.6**	**+1.1**
EBAD	**Badajoz**	**2.52**	**342**	Pn	**Pn**	**13 59 40.1**	**-2.3**
EBAD				*i* lVmb_Lg		14 00 26.9	
AKLM	**AKL**	**2.55**	**135**	P	**Pn**	**13 59 41.3**	**-1.5**
AKLM	**AKL**	**2.55**	**135**	S	**Sn**	**14 00 09.9**	**-3.9**
EVO	**Evora**	**2.69**	**325**	*e*Pg	**Pn**	**13 59 43.8**	**-0.9**
EVO				*e*Pn	**Pn**	**13 59 43.8**	**-0.9**
EQES	**Quesada**	**2.77**	**58**	Pn	**Pn**	**13 59 44.2**	**-1.7**
EQES				Sn	**Sn**	**14 00 19.1**	**-0.3**
EQES				*i* lVmb_Lg		14 00 24.1	
PESTR	**Estremoz**	**2.80**	**334**	P	**Pb**	**13 59 50.5**	**-1.0**
PESTR	**Estremoz**	**2.80**	**334**	S	**Sb**	**14 00 25.1**	**-0.7**
PSIM	**Granatula de C**	**3.05**	**36**	Pn	**Pn**	**13 59 48.5**	**-1.3**
PSIM				Sn	**Sn**	**14 00 27.0**	**+0.8**
PMTG	**Montargil**	**3.23**	**328**	*e*Pn	**Pn**	**13 59 52.2**	**+0.2**
PMTG				*i* IAML		14 00 53.0	
PMTG				*i* IAML		14 00 54.2	
PMTG				*i* IAML		14 00 54.2	
PMRV	**Marv??o**	**3.26**	**341**	*e*rx	rx	13 59 52.5	
PMRV				*i* IAML		14 00 48.5	
PMRV				*i* IAML		14 00 49.9	
PMRV				*i* IAML		14 00 55.4	
PARRA	**Arraiolos**	**3.43**	**317**	*e*Pn	Pn	13 59 47.3	-7.5
PARRA				*e*Sn	Sn	14 00 19.5	-16
PARRA				*i* IAML		14 00 45.2	
PARRA				*i* IAML		14 00 47.5	
PARRA				*i* IAML		14 00 50.6	
PAB	**San Pablo**	**3.45**	**22**	Pn	**Pn**	**13 59 54.1**	**-1.2**
PAB				Sg	**Sg**	**14 00 54.0**	**+1.5**
PAB				*i* lVmb_Lg		14 00 55.7	
JBK	**JBK**	**3.47**	**124**	P	**Pn**	**13 59 54.3**	**-1.2**
JBK	**JBK**	**3.47**	**124**	S	**Sn**	**14 00 33.8**	**-2.9**
MD31	**MD31**	**3.63**	**163**	P	**Pn**	**13 59 58.4**	**+0.7**
PSARD	**Sardoal**	**3.66**	**333**	*e*rx	rx	13 59 57.6	
PSARD				*e*rx	rx	14 00 40.2	
PSARD				*e*Sg	**Sb**	**14 00 54.9**	**+4.5**
PSARD				*i* IAML		14 01 06.9	
PSARD				*i* IAML		14 01 09.6	
PSARD				*i* IAML		14 01 11.0	
PCBR	**Castelo Branco**	**3.67**	**342**	*e*Pn	**Pn**	**13 59 58.2**	**+0.1**
PCBR				*e*Sg	**Sb**	**14 00 53.6**	**+3.0**
PCBR				*i* IAML		14 01 06.5	
PCBR				*i* IAML		14 01 06.7	
ESDC	**Sonseca Array**	**3.70**	**26**	Pn	**Pn**	**13 59 56.5**	**-2.0**
ESDC				Sg	**Sb**	**14 00 56.0**	**+4.4**
ESDC				*i* lVmb_Lg		14 01 07.8	
ESBB	**Sonseca Array**	**3.70**	**26**	Pn	**Pn**	**13 59 57.3**	**-1.3**
ESBB				Sg	**Sb**	**14 00 56.5**	**+4.8**
EPLA	**Plasencia**	**3.71**	**359**	Pn	**Pn**	**13 59 57.8**	**-0.9**
EPLA				Sn	**Sn**	**14 00 40.9**	**-1.4**
EPLA				Sg	**Sg**	**14 00 58.2**	**-2.4**
EPLA				*i* lVmb_Lg		14 01 01.7	
MDT	**Midelt**	**3.72**	**161**	P	**Pn**	**13 59 58.1**	**-0.7**
GUD	**Guadarrama**	**4.53**	**18**	Pn	**Pn**	**14 00 09.0**	**-1.1**
GUD				Sn	**Sn**	**14 01 01.4**	**-1.4**
GUD				Sg	**Sb**	**14 01 20.9**	**+5.2**
GUD				*i* lVmb_Lg		14 02 20.0	
ETOR	**Torete**	**5.44**	**34**	Pn	**Pn**	**14 00 21.0**	**-1.5**
ETOR				Sn	**Sn**	**14 01 21.9**	**-3.2**
ETOR				Sg	**Sg**	**14 01 54.9**	**-1.3**
ETOR				*i* lVmb_Lg		14 02 06.2	
TIO	**Tiouine**	**5.51**	**191**	P	**Pn**	**14 00 23.4**	**-0.1**
TIO	**Tiouine**	**5.51**	**191**	S	**Sn**	**14 01 24.8**	**-2.0**

*NEIC **14** 14:00:16.6±1.3,35°.587N±0°.010×117°.35W±0°.01, h5km±1km,Error ellipse: s-maj=2.4km s-min=2.0km az=104.0*

PAS 14 14:00:16.9±1.4,35°.588N±0°.007×117°.39W±0°.02, h1km±1km,ML3.0/24,ML2.7/108(NEIC),Error ellipse: s-maj=1.9km s-min=1.0km az=87.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCCA	**Chr Cany lake**	**0.07**	**164**		Pg	14 00 19.4	+1.2
CCCA					IAML	14 00 19.6	
	comp=N,8μm,0.1s						
CCCA					IAML	14 00 19.6	
	comp=E,12μm,0.1s						
WSHM	**Spangler Hills**	**0.09**	**278**		Pg	14 00 19.3	+0.7
LRMC	**Laurel Mtn Rad**	**0.26**	**246**		Pg	14 00 22.5	+0.5
LRMC					IAML	14 00 23.4	
	comp=E,2μm,0.1s						
LRMC					IAML	14 00 27.7	
	comp=N,2μm,0.2s						
SRTC	**Snort**	**0.31**	**289**		Pg	14 00 23.6	+0.8
TOW	**Tower One**	**0.38**	**306**		Pg	14 00 24.9	+0.7
MPMC	**Manual Prospec**	**0.48**	**350**	Pg	Pg	14 00 26.1	0.0
MPMC					IAML	14 00 33.0	
	comp=E,540nm,0.2s						
MPMC					IAML	14 00 34.7	
	comp=N,651nm,0.2s						
DTP	**Desert Tortois**	**0.49**	**230**		Pg	14 00 26.5	+0.2
GSC	**Goldstone, Bar**	**0.55**	**121**		Pg	14 00 27.8	+0.2
GSC					IAML	14 00 35.6	
	comp=N,1μm,0.4s						
QSM	**Queen of Sheba**	**0.56**	**48**		Pg	14 00 28.0	+0.2
QSM					IAML	14 00 36.8	
	comp=E,507nm,0.1s						
QSM					IAML	14 00 39.5	
	comp=N,561nm,0.6s						
GWY	**Greenwater Val**	**0.83**	**44**		Pg	14 00 32.8	-0.1
GWY					IAML	14 00 46.8	
	comp=N,572nm,0.4s						
GWY					IAML	14 00 49.1	
	comp=E,542nm,0.4s						
ISA	**Isabella, Lake**	**0.89**	**275**		Pg	14 00 33.6	-0.3
ISA					IAML	14 00 46.8	
	comp=E,363nm,0.1s						
ISA					IAML	14 00 48.3	
	comp=N,414nm,0.4s						
TPO	**Tropico Hills**	**0.99**	**224**		Pg	14 00 35.8	0.0
CWC	**Cottonwood Cre**	**1.02**	**327**		Pg	14 00 36.1	-0.3
CWC					IAML	14 00 53.2	
	comp=E,124nm,0.2s						
CWC					IAML	14 00 56.7	
	comp=N,124nm,0.2s						
TUQ	**Turquoise Moun**	**1.20**	**97**		Pg	14 00 39.4	-0.6
AMDNV	**Amargosa**	**1.24**	**46**		Pg	14 00 39.5	-1.3
WCT	**Wildcat Mounta**	**1.35**	**27**		Pg	14 00 41.5	-1.3
WCT					IAML	14 01 02.1	
	comp=N,93nm,0.5s						
WCT					IAML	14 01 02.9	
	comp=E,104nm,0.4s						
BFSC	**Mount Baldy Ra**	**1.36**	**189**		Pg	14 00 42.9	-0.2
BFSC					IAML	14 01 01.8	
	comp=E,216nm,0.7s						
BFSC					IAML	14 01 02.0	
	comp=N,117nm,0.2s						
VES	**Vestal, Richgr**	**1.40**	**281**		Pn	14 00 43.5	-0.2
GRAC	**Grapevine Rang**	**1.41**	**1**		IAML	14 01 05.5	
	comp=E,170nm,0.4s						
GRAC					IAML	14 01 05.6	
	comp=N,221nm,0.5s						
MWC	**Mount Wilson**	**1.47**	**202**		Pn	14 00 44.9	+0.2
MWC					IAML	14 01 05.6	
	comp=E,153nm,0.4s						
MTPC	**Mountain Pass**	**1.50**	**93**		Pn	14 00 43.7	-1.4
MTPC					IAML	14 01 04.9	
	comp=E,181nm,0.2s						
MTPC					IAML	14 01 06.1	
	comp=N,178nm,0.4s						
PASC	**Pasadena Art C**	**1.56**	**205**		Pn	14 00 45.3	-0.5
PASC					IAML	14 01 09.4	
	comp=N,107nm,0.4s						
PASC					IAML	14 01 13.3	
	comp=E,84nm,0.6s						
GMRC	**Granite Mounta**	**1.63**	**119**		Pn	14 00 44.3	-2.5
TPNV	**Topopah Spring**	**1.64**	**34**		Pn	14 00 45.7	-1.4
TPNV					IAML	14 01 11.3	
	comp=E,89nm,0.5s						
TPNV					IAML	14 01 12.5	
	comp=E,177nm,0.6s						
GMN	**Gold Mountain**	**1.71**	**3**		Pb	14 00 49.0	-0.4
GMN					IAML	14 01 13.7	
	comp=E,68nm,0.4s						
DSP	**Deep Springs**	**1.84**	**345**		Pn	14 00 48.8	-0.9
ELS	**Elsinore Mount**	**1.94**	**181**		Pn	14 00 49.9	-1.1
ELS					IAML	14 01 20.1	
	comp=E,42nm,0.3s						
ELS					IAML	14 01 20.8	
	comp=N,36nm,0.3s						
SHPR	**Sheep Range**	**2.02**	**62**		Pn	14 00 51.2	-1.1
V12A	**Nelson**	**2.07**	**85**		Pn	14 00 51.1	-1.8
V12A					IAML	14 01 23.2	
	comp=N,45nm,1.0s						
V12A					IAML	14 01 25.4	
	comp=E,54nm,0.4s						
PMD	**Palm Desert**	**2.11**	**156**		Pn	14 00 51.5	-1.8
PFO	**Pinyon Flats O**	**2.12**	**159**		Pb	14 00 56.8	+0.6
BORC	**Borrego Spring**	**2.45**	**161**		Pg	14 01 02.8	-1.0
BORC					IAML	14 02 08.6	
	comp=N,27nm,0.1s						
BORC					IAML	14 02 08.7	
	comp=E,37nm,0.1s						
TPH	**Tonopah**	**2.49**	**3**		Pn	14 00 57.6	-1.1
DPP	**Dos Picos Cty**	**2.61**	**172**		Pn	14 00 59.1	-1.2
DPP					IAML	14 01 39.3	
	comp=E,32nm,0.4s						
PRN	**Pahroc Range**	**2.62**	**45**		Pg	14 01 06.6	-0.4
PRN					IAML	14 01 42.1	
	comp=E,34nm,0.5s						
PRN					IAML	14 01 46.2	
	comp=N,56nm,0.5s						
LHV	**Little Huntoon**	**2.81**	**342**		Pg	14 01 10.2	-0.5
W13A	**Hualapai Mount**	**2.90**	**99**		Pn	14 01 02.7	-1.8
W13A				IAML		14 01 51.1	
	comp=E,23nm,0.4s						
W13A				IAML		14 01 52.4	
	comp=N,21nm,0.4s						
NV11	**Mina Array Sit**	**2.91**	**348**		Pg	14 01 11.3	-1.3
NVAR	**Mina Array Bea**	**2.93**	**346**		Pg	14 01 11.6	-1.5
RYN	**Ryan**	**3.17**	**344**		Pn	14 01 07.8	-0.3
CBX	**Cerro Bola**	**3.32**	**169**		Pn	14 01 09.8	-0.4
KNB	**Kanab**	**3.95**	**68**	IAML		14 02 38.8	
	comp=E,6.2nm,3.8s						
Y14A	**Wickenburg**	**3.96**	**113**	IAML		14 02 22.0	
	comp=E,18nm,0.7s						
PSUT	**Pine Spring**	**4.08**	**43**	IAML		14 02 30.5	
	comp=E,6.5nm,0.8s						
PSUT				IAML		14 02 33.7	
	comp=N,6.8nm,0.9s						

DJA 14 14:08:45.6±1.0,10°S±5°×11°8E±°,h24km±8km,M3.8/12, mb3.8/1,MLv3.8/12,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.77**	**341**	P	Pn	14 09 00.9	-0.1
WBSI	**Waikabubak, Su**	**1.34**	**94**	P	Pn	14 09 08.6	-0.3
TWSI	**Taliwang, Sumb**	**1.40**	**306**	P	Pn	14 09 10.0	+0.4
TWSI				S	Sn	14 09 27.5	+0.2
WSI	**Waingapu**	**2.24**	**93**	P	Pn	14 09 20.9	-0.3
WSI				S	Sn	14 09 48.5	+0.4
BASI	**Baing, Sumba**	**2.59**	**105**	P	Pn	14 09 26.4	+0.3
SRBI	**Singaraja**	**3.15**	**298**	P	Pn	14 09 33.6	-0.1
EDFI	**Ende, Flores**	**3.70**	**78**	P	Pn	14 09 41.4	-0.1
JAGI	**Jajag, Banyuwa**	**3.98**	**285**	P	Pn	14 09 44.3	-0.9
BSSI	**Bau Bau, Buton**	**4.18**	**36**	P	Pn	14 09 47.4	-0.5
MMRI	**Maumere**	**4.26**	**78**	P	Pn	14 09 50.7	+1.7
BKSI	**Bulukumba**	**4.69**	**26**	P	Pn	14 09 54.5	-0.5
GMJI	**Gumukmas**	**4.71**	**285**	P	Pn	14 09 54.0	-1.2
BNSI	**Bone**	**5.53**	**22**	P	Pn	14 10 06.8	+0.4

*IDC **14** 14:14:09.8±6.0, 18°.21S×120°.15E, h0km, mb3.5/1, mbtmp3.7/5, ML3.4/4, MS3.5/1, Error ellipse: s-maj=89.9km s-min=30.1km az=158.0*
*AUST **14** 14:14:11.0±1.4, 18°S±4'×12°0E±°, h17km±12km, mb4.1/12, ML3.4/8, Error ellipse: s-maj=12.8km s-min=5.4km az=125.9*

ISC 14 14:14:09.9±0.8,18°.28S±0°.05×120°.33E±0°.06,h10km,n26, σ2°84/33,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**2.92**	**191**	P	**Pn**	**14 14 58.0**	**+1.5**
PSAC1	**Pilbara Seismi**	**3.27**	**189**	P	**Pb**	**14 15 05.9**	**-2.2**
PSAC1				S	**Sn**	**14 15 42.5**	**+2.2**
FITZ	**Fitzroy Crossi**	**5.05**	**89**	P	**Pn**	**14 15 23.1**	**-2.6**
FITZ	**Fitzroy Crossi**	**5.05**	**89**	S	**Sn**	**14 16 21.7**	**-2.4**
FITZ	**Fitzroy Crossi**	**5.05**	**89**	Pn	**Pn**	**14 15 29.2**	**+3.5**
	1.3nm,0.3s,baz=273,slow=13,SNR=11						
FITZ				Sn	**Sn**	**14 16 24.3**	**+0.2**
	2.5nm,0.3s,baz=353,slow=20,SNR=8.2						
FITZ				Lg	Lg	14 16 56.4	
	7.7nm,0.3s,baz=304,slow=7.7,SNR=4.4						
	2.3nm,0.3s						
GIRL	**Giralia**	**7.18**	**232**	P	**Pn**	**14 15 58.5**	**+3.6**
GIRL				S	**Sn**	**14 17 13.4**	**-3.2**
CVQOZ	**Cooralya Stati**	**8.46**	**222**	P	**Pn**	**14 16 15.7**	**+3.1**
CVQOZ				S	**Sn**	**14 17 42.4**	**-5.7**
MEEK	**Meekatharra**	**8.47**	**191**	P	**Pn**	**14 16 16.1**	**+3.4**
	comp=Z,11nm,2.3s,comp=Z,0.2nm						
MEEK	**Meekatharra**	**8.47**	**191**	S	**Sn**	**14 17 45.1**	**-3.3**
KNRA	**Kununurra**	**8.47**	**73**	P	**Pn**	**14 16 16.2**	**+3.4**
	comp=Z,20nm,0.5s,comp=Z,0.1nm						
KNRA				S	**Sn**	**14 17 47.2**	**-1.3**
EDFI	**Ende, Flores**	**9.57**	**8**	P	**Pn**	**14 16 27.5**	**-0.4**
	comp=Z,10nm,2.2s,comp=Z,0.0nm						
EDFI	**Ende, Flores**	**9.57**	**8**	S	**Sn**	**14 18 11.1**	**-4.5**
WRKA	**Warakurna**	**10.00**	**134**	P	**Pn**	**14 16 37.9**	**+4.1**
	comp=Z,3.0nm,2.0s,comp=Z,0.0nm						
WRKA				S	**Sn**	**14 18 26.2**	**+0.1**
TWSI	**Taliwang, Sumb**	**10.06**	**340**	P	**Pn**	**14 16 37.1**	**+2.5**
	comp=Z,20nm,1.0s,comp=Z,0.1nm						
MORW	**Morawa**	**11.43**	**199**	P	**Pn**	**14 16 55.0**	**+1.7**
	comp=Z,12nm,1.1s						
BLDU	**Ballidu**	**12.71**	**194**	P	**Pn**	**14 17 11.3**	**+0.5**
	comp=Z,12nm,1.7s						
WRA	**Warramunga Arr**	**13.34**	**99**	Pn	**Pn**	**14 17 21.6**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=276,slow=14,SNR=6.3						
WRA				Sn	**Sn**	**14 19 45.5**	**-2.5**
	comp=Z,0.9nm,0.3s,baz=269,slow=23,SNR=6.2						
WRA				Lg	Lg	14 21 18.6	
	baz=276,slow=28						
	comp=Z,0.3nm,0.3s						
KLBR	**Kellerberrin**	**13.46**	**189**	P	**Pn**	**14 17 22.3**	**+1.3**
	comp=Z,19nm,0.5s						
ASAR	**Alice Springs**	**13.76**	**115**	Pn	**P

PRAC	**Prado**	**1.97**	**217**	P	**Pn**	**14 22 17.8**	**+0.4**
PRAC	**Prado**	**1.97**	**217**	P	**Pn**	**14 22 18.0**	**+0.7**
PRAC				S	**Sn**	**14 22 44.1**	**-0.7**
HELC	**Santa Helena**	**2.03**	**296**	P	**Pn**	**14 22 19.2**	**+0.8**
HELC	**Santa Helena**	**2.03**	**296**	P	**Pn**	**14 22 19.1**	**+0.8**
HELC				S	**Sn**	**14 22 45.7**	**-0.8**
ORTC	**Ortega, Tolima**	**2.07**	**228**	P	**Pn**	**14 22 18.8**	**+0.3**
ORTC				S	**Sn**	**14 22 45.4**	**-1.4**
URMC	**La Uribe, Meta**	**2.15**	**199**	P	**Pn**	**14 22 20.4**	**+1.0**
URMC				S	**Sn**	**14 22 48.7**	**+0.2**
TAMC	**Tame, Arauca**	**2.21**	**59**	P	**Pn**	**14 22 22.0**	**+1.9**
TAMC				S	**Sn**	**14 22 49.6**	**0.0**
PAMC	**Pamplona, Colo**	**2.26**	**26**	P	**Pn**	**14 22 23.5**	**+2.4**
PAMC				S	**Sn**	**14 22 52.6**	**+1.1**
CBOC	**Ciudad Bolivar**	**2.37**	**284**	P	**Pn**	**14 22 22.7**	**+0.6**
CBOC				S	**Sn**	**14 22 52.5**	**-0.8**
ZARC	**Zaragoza, Cauc**	**2.47**	**332**	P	**Pn**	**14 22 22.7**	**-0.4**
ZARC				S	**Sn**	**14 22 54.0**	**-1.2**
PLMC	**San Jos del P**	**2.60**	**262**	P	**Pn**	**14 22 26.3**	**+1.5**
PLMC				S	**Sn**	**14 22 59.2**	**+1.1**
GUVC	**San Jose del G**	**2.93**	**159**	P	**Pn**	**14 22 29.3**	**+0.5**
GUVC				S	**Sn**	**14 23 04.2**	**-1.2**
YOTC	**Yotoco, Valle**	**2.94**	**244**	P	**Pn**	**14 22 29.1**	**0.0**
OCAC	**Ocana**	**2.95**	**7**	P	**Pn**	**14 22 30.6**	**+1.5**
OCAC				S	**Sn**	**14 23 07.1**	**+1.2**
DBBC	**Dabeiba**	**3.03**	**305**	P	**Pn**	**14 22 31.0**	**+0.9**
DBBC				S	**Sn**	**14 23 07.8**	**+0.3**
UREC	**San Jos de Ur**	**3.05**	**323**	P	**Pn**	**14 22 29.3**	**-0.9**
UREC				S	**Sn**	**14 23 05.3**	**-2.6**
BETC	**Betania**	**3.13**	**214**	P	**Pn**	**14 22 31.1**	**-0.2**
MACC	**Macarena, Meta**	**3.13**	**183**	P	**Pn**	**14 22 30.9**	**-0.4**
MACC				S	**Sn**	**14 23 07.2**	**-2.7**
GARC	**Garzon, Huila**	**3.57**	**210**	P	**Pn**	**14 22 37.1**	**0.0**
GARC				S	**Sn**	**14 23 18.3**	**-1.8**
JAMC	**Jamundi, Valle**	**3.62**	**235**	P	**Pn**	**14 22 37.9**	**+0.2**
MALC	**Bahia Malaga**	**3.84**	**251**	P	**Pn**	**14 22 42.0**	**+1.7**
MALC				S	**Sn**	**14 23 28.9**	**+3.0**
APAC	**Apartado, Choc**	**3.86**	**312**	P	**Pn**	**14 22 41.5**	**+1.0**
APAC				S	**Sn**	**14 23 25.7**	**-0.6**
POPC	**Popayan, Colom**	**4.04**	**227**	P	**Pn**	**14 22 44.2**	**+1.1**
POPC				S	**Sn**	**14 23 36.2**	**+5.3**
FLOC	**Florencia**	**4.17**	**208**	P	**Pn**	**14 22 45.8**	**+1.1**
FLOC	**Florencia**	**4.17**	**208**	P	**Pn**	**14 22 45.5**	**+0.8**
FLOC				S	**Sn**	**14 23 30.5**	**-3.2**
ARGC	**Ariguani, Magd**	**4.56**	**353**	P	**Pn**	**14 22 50.0**	**+0.3**
ARGC				S	**Sn**	**14 23 43.0**	**+0.2**
SJCC	**San Jacinto, C**	**4.80**	**342**	P	**Pn**	**14 22 51.9**	**-1.0**
SJCC	**San Jacinto, C**	**4.80**	**342**	P	**Pn**	**14 22 51.7**	**-1.2**
CRJC	**Cerrejon, Guaj**	**5.74**	**8**	P	**Pn**	**14 23 04.9**	**-0.4**
	1µm21nm,0.8s						
CRJC				S	**Sn**	**14 24 07.2**	**-3.6**
	1µm21nm,0.8s						
SMRC	**Santa Marta, M**	**5.85**	**355**	P	**Pn**	**14 23 06.6**	**-0.1**
	1µm27nm,1.4s						
SMRC				S	**Sn**	**14 24 08.4**	**-4.9**
	1µm27nm,1.4s						
URIC	**Uribia, Colomb**	**6.58**	**15**	P	**Pn**	**14 23 15.9**	**-0.5**
	11nm,0.7s						
SGC2	**Sao Gabriel da**	**8.62**	**129**	P	Pn	14 23 40.0	-3.4

*IDC **14** 14:24:50.8±0.6, 45°.87**N**×142°.48**E**, h323km±8km, mb3.1/14, mbtmp3.8/19, Error ellipse: s-maj=16.2km s-min=12.2km az=165.0*
*JMA **14** 14:24:50.4±0.3, 46°.**N**±1°×14°.**3E**±°, h334km±2km, MV3.5/33, NE OFF HOKKAIDO*
*SKHL **14** 14:24:50.8±0.4, 45°.70**N**×142°.70**E**, h331km±3km, mb4.4/11, msha5.0/10*

ISC 14 14:24:50.8±0.6,**45°.74N**±0°.05×**142°.63E**±0°.06,**h327**km±6km, **n44,**σ1§**19**/61,**mb3.3**/14,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWK2	**Keihoku**	**0.67**	**231**	P	**Pn**	**14 25 33.5**	**+0.7**
JWK2				S	**S**	**14 26 06.4**	**-0.2**
JSE	**Soyaes**	**0.78**	**183**	*e*P	**Pn**	**14 25 33.6**	**+0.3**
JSE				S	**S**	**14 26 07.7**	**+0.4**
NEVR	**Nevel`sk**	**1.08**	**330**	*e*P	**Pn**	**14 25 34.5**	**+0.2**
NEVR				AMB	AMB	14 25 34.9	
	90nm,0.5s						
NEVR				*e*S	**S**	**14 26 08.6**	**-0.5**
NEVR				A	A	14 26 10.9	
	90nm,0.4s						
NEVR				A	A	14 26 10.9	
	100nm,0.4s						
JRR	**Rishiri**	**1.11**	**238**	P	**Pn**	**14 25 35.1**	**+0.6**
JRBN	**Rebuntou**	**1.15**	**255**	P	**Pn**	**14 25 34.6**	**0.0**
YSS	**Yuzhno-Sakhali**	**1.22**	**4**	*e*P	**Pn**	**14 25 35.2**	**+0.3**
YSS				AMB	AMB	14 25 35.3	
	80nm,0.3s						
YSS				*e*S	**S**	**14 26 09.2**	**-1.1**
YSS				A	A	14 26 10.3	
	140nm,0.7s						
YSS				A	A	14 26 10.3	
	50nm,0.7s						
KHLM	**Kholmsk**	**1.38**	**343**	*e*P	**Pn**	**14 25 35.9**	**+0.1**
KHLM				AMB	AMB	14 25 36.0	
	120nm,0.2s						
KHLM				*e*S	**S**	**14 26 11.2**	**-0.6**
KHLM				A	A	14 26 12.4	
	110nm,0.4s						
JSS	**Shosan**	**1.45**	**203**	P	**Pn**	**14 25 36.3**	**0.0**
JYG	**Yagishiri**	**1.56**	**214**	P	**Pn**	**14 25 37.5**	**+0.5**
ASAJ	**Asahikawa**	**1.62**	**181**	P	**Pn**	**14 25 38.1**	**+0.7**
	33nm,0.6s,baz=39,slow=6.5,SNR=47						
ASAJ				S	**S**	**14 26 15.6**	**+0.8**
	14nm,0.8s,baz=68,slow=32,SNR=6.6						
ASAJ	**Asahikawa**	**1.62**	**181**	P	**Pn**	**14 25 38.1**	**+0.7**
ASAJ				*e*S	**S**	**14 26 14.8**	**0.0**
JMP	**Maruseppu**	**1.81**	**163**	P	**Pn**	**14 25 39.4**	**+0.7**
JKK2	**Kamakawa 2**	**1.87**	**177**	P	**Pn**	**14 25 39.7**	**+0.6**
JKK2				*e*S	**S**	**14 26 17.4**	**-0.3**
JTKR	**Abashiri--Toko**	**1.99**	**152**	P	**Pn**	**14 25 40.8**	**+0.9**
JTKR				*e*S	**S**	**14 26 19.7**	**+0.5**
JRA	**Rausu**	**2.52**	**135**	P	**Pn**	**14 25 45.4**	**+1.2**
JAR	**Ashorobuto**	**2.57**	**161**	P	**Pn**	**14 25 45.5**	**+0.9**
JAR				S	**S**	**14 26 28.8**	**+1.0**
JEW	**Eniwo**	**3.02**	**197**	P	**Pn**	**14 25 49.6**	**+1.0**
JAK	**Akkeshi**	**3.11**	**151**	P	**Pn**	**14 25 49.3**	**-0.3**
JAK				S	**S**	**14 26 35.4**	**-1.3**
AKK	**Akkeshi**	**3.15**	**149**	*e*P	**Pn**	**14 25 49.0**	**-0.9**
AKK				*e*S	**S**	**14 26 34.5**	**-2.8**
JCH	**Churui**	**3.17**	**170**	*e*P	**Pn**	**14 25 49.1**	**-1.0**
JCH				*e*S	**S**	**14 26 33.5**	**-4.1**
NMR	**Nemuro--Hokkai**	**3.24**	**136**	*e*P	**Pn**	**14 25 50.3**	**-0.4**
NMR				*e*S	**S**	**14 26 35.6**	**-3.2**
NEM2	**Nemuro 2**	**3.25**	**136**	P	**Pn**	**14 25 51.2**	**+0.4**
NEM2				S	**S**	**14 26 35.9**	**-3.1**
JNBK	**Urakawa-nobuka**	**3.46**	**179**	P	**Pn**	**14 25 53.8**	**+0.8**
JNBK				*e*S	**S**	**14 26 42.5**	**-0.3**
SHO	**Shikotan**	**3.52**	**121**	*e*P	**Pn**	**14 25 54.9**	**+1.4**
SHO				AMB	AMB	14 25 55.1	
	10.0nm,0.3s						
SHO				*e*S	**S**	**14 26 42.7**	**-1.2**
SHO				A	A	14 26 44.4	
	20nm,0.2s						
SHO				A	A	14 26 44.4	
	370nm,0.2s						
TYV	**Tymovskoe**	**5.13**	**0**	*e*P	**Pn**	**14 26 10.7**	**+0.1**
TYV				AMB	AMB	14 26 10.9	
	20nm,0.5s						
USRK	**Ussuriysk Ar.**	**7.70**	**262**	P	**Pn**	**14 26 40.6**	**-0.3**
	8.1nm,0.5s,baz=72,slow=12,SNR=31						
MJAR	**Matsushiro Arr**	**9.77**	**201**	P	**Pn**	**14 27 05.5**	**-0.5**
	4.5nm,0.7s,baz=351,slow=4.2,SNR=34						
PETK	**Petropavlovsk-**	**12.26**	**48**	P	**P**	**14 27 37.4**	**+1.4**
	0.7nm,0.8s,baz=218,slow=7.7,SNR=5.0						
KSRS	**Korea Array**	**13.76**	**238**	P	**Pn**	**14 27 54.1**	**+0.4**
	0.5nm,0.5s,baz=50,slow=10.0,SNR=6.2						
SEY	**Seymchan**	**18.11**	**14**	P	**P**	**14 28 39.4**	**-0.3**
	2.1nm,0.4s,baz=199,slow=24,SNR=3.0						
SONM	**Songino Array**	**24.76**	**288**	P	**P**	**14 29 43.4**	**-0.1**
	3.2nm,0.6s,baz=81,slow=8.1,SNR=14						
	3.2nm,0.6s						
ZALV	**Zalesovo Beam**	**37.23**	**304**	P	**P**	**14 31 30.2**	**-1.2**
	0.5nm,0.3s,baz=46,slow=8.3,SNR=2.7						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**40.82**	**294**	P	**P**	**14 32 00.5**	**-0.6**
	0.5nm,0.6s,baz=81,slow=8.9,SNR=5.1						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**41.82**	**37**	P	**P**	**14 32 08.6**	**-0.3**
	0.6nm,0.6s,baz=279,slow=8.9,SNR=13						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**41.83**	**301**	P	**P**	**14 32 07.9**	**-1.3**
	0.8nm,0.2s,baz=70,slow=8.8,SNR=2.5						
	0.8nm,0.2s						
BVAR	**Borovoye Array**	**45.74**	**307**	P	**P**	**14 32 38.9**	**-1.1**
	0.7nm,0.4s,baz=96,slow=13,SNR=3.8						
	0.7nm,0.4s						
YKA	**Yellowknife Ar**	**55.92**	**33**	P	**P**	**14 33 55.0**	**0.0**
	0.6nm,0.7s,baz=312,slow=8.4,SNR=4.6						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**61.60**	**331**	P	**P**	**14 34 32.3**	**-1.5**
	0.9nm,0.8s,baz=56,slow=7.4,SNR=5.4						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**65.80**	**189**	P	**P**	**14 35 02.9**	**+1.5**
	0.3nm,0.5s,baz=5.7,slow=6.5,SNR=1.7						
	0.3nm,0.5s						
HFS	**Hagfors**	**66.57**	**335**	P	**P**	**14 35 04.6**	**-1.3**
	0.6nm,0.5s,baz=71,slow=9.6,SNR=6.0						
	0.6nm,0.5s						
NVAR	**Mina Array Bea**	**69.20**	**56**	P	**P**	**14 35 23.5**	**+0.7**
	0.7nm,0.6s,baz=316,slow=6.2,SNR=4.9						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**69.53**	**189**	P	**P**	**14 35 25.9**	**+1.3**
	0.5nm,0.8s,baz=6.2,slow=5.1,SNR=3.1						
	0.5nm,0.8s						
PDAR	**Pinedale Array**	**71.02**	**48**	P	**P**	**14 35 34.5**	**+0.7**
	0.4nm,0.6s,baz=310,slow=3.0,SNR=6.6						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**84.14**	**53**	P	**P**	**14 36 46.9**	**+1.1**
	0.2nm,0.5s,baz=296,slow=3.2,SNR=5.8						
	0.2nm,0.5s						

IDC 14 14:40:04.1±1.6,**4°.88S**×**133°.76E**,**h0**km,**mb3.9**/1, **mbtmp3.7**/5,**ML3.6**/4,**MS3.4**/2,**Error ellipse: s-maj=41.5km s-min=29.2km az=93.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**7.32**	**72**	Pn	Pn	14 41 52.2	-0.2
	0.6nm,0.3s,baz=266,slow=14,SNR=5.7						
	1.6nm,0.3s						
DAV	**Davao City (W)**	**14.40**	**325**	LR	LR	14 48 58.2	
	comp=Z,131nm,21.5s,baz=200,slow=37						
WRA	**Warramunga Arr**	**14.98**	**178**	Pn	Pn	14 43 37.1	-0.3
	0.2nm,0.3s,baz=355,slow=13,SNR=2.6						
WRA				Sn	Sn	14 46 08.9	-15
	0.4nm,0.3s,baz=351,slow=24,SNR=6.6						
	0.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.35**	**210**	Pn	Pn	14 43 41.7	-0.5
	0.6nm,0.3s,baz=34,slow=9.1,SNR=11						
FITZ				Sn	Sn	14 46 18.9	-14
	0.8nm,0.3s,baz=184,slow=11,SNR=8.1						
	3.8nm,0.6s						
ASAR	**Alice Springs**	**18.68**	**180**	P	Pn	14 44 24.3	0.0
	0.2nm,0.3s,baz=4.9,slow=11,SNR=13						
ASAR				S	Sn	14 47 38.5	-15
	0.5nm,0.4s,baz=357,slow=29,SNR=6.6						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**68.59**	**325**	P	P	14 51 09.0	0.0
	0.9nm,0.8s,baz=113,slow=8.3,SNR=6.0						
	0.9nm,0.8s						
AAK	**Ala-Archa**	**71.41**	**318**	LR	LR	15 26 28.8	
	comp=Z,31nm,19.1s,baz=20,slow=39						

*IDC **14** 15:13:24.9±0.7, 0°.73S×128°.25E, h0km, mb3.8/13, mbtmp3.8/14, ML4.0/1, Error ellipse: s-maj=31.8km s-min=15.7km az=81.0*
*NEIC **14** 15:13:25.2±1.1, 0°.73S±0°.09×128°.23E±0°.09, h10km±1km, mb4.3/8, Error ellipse: s-maj=21.5km s-min=3.9km az=226.0*
*DJA **14** 15:13:28.0±1.3, 1°S±3°×12°8E±°, h11km±10km, M4.3/15, mB5.0/2, mb4.5/4, MLv4.1/15, Mw(mB)4.3/2*

ISC 14 15:13:25.6±0.5,**0.73S**±0°.04×**128°.23E**±0°.06,**h10**km,**n41,** σ1§**34**/43,**mb3.9**/14,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.72**	**330**		**Pn**	**15 13 54.8**	**-0.8**
TNTI	**Ternate**	**1.72**	**330**	P	**Pb**	**15 13 56.4**	**-0.9**
SANI	**Sanana**	**2.60**	**240**	P	**Pn**	**15 14 07.4**	**-0.2**
SANI				S	**Sn**	**15 14 37.6**	**-1.6**
MSAI	**Masohi**	**2.69**	**165**	P	**Pb**	**15 14 11.9**	**-1.9**
MSAI				S	**Sb**	**15 14 46.3**	**-0.7**
NLAI	**Namlea**	**2.74**	**204**	P	**Pn**	**15 14 10.5**	**+0.9**
NLAI				S	**Sn**	**15 14 43.0**	**+0.3**
AAI	**Ambon**	**2.94**	**181**	P	**Pn**	**15 14 14.5**	**+2.2**
SWI	**Sorong**	**3.03**	**93**	P	**Pb**	**15 14 17.9**	**-1.8**
BNDI	**Bandanaira**	**4.12**	**156**	P	**Pn**	**15 14 30.0**	**+1.4**
KMSI	**Cibinong**	**4.44**	**287**	P	**Pn**	**15 14 32.9**	**-0.1**
FAKI	**Fak Fak**	**4.57**	**118**	P	Pb	15 14 40.3	-5.6
LUWI	**Luwuk**	**5.46**	**267**	P	**Pn**	**15 14 46.8**	**-0.3**
APSI	**Ampana**	**6.58**	**268**	P	**Pn**	**15 15 03.5**	**+1.0**
	0.3nm50nm,0.7s						
TOLI2	**Tolitoli**	**7.67**	**284**	Pn	**Pn**	**15 15 16.4**	**-1.0**
TTSI	**Tana Toraja**	**8.71**	**255**	P	**Pn**	**15 15 31.2**	**-0.6**
SPSI	**Sidrap Palu**	**9.04**	**249**	P	**Pn**	**15 15 38.4**	**+2.1**
KAPI	**Kappang**	**9.47**	**243**	Pn	**Pn**	**15 15 45.0**	**+2.8**
	1.4nm,0.3s,baz=197,slow=5.7,SNR=3.9						
	4.5nm,0.4s						
MTN	**Manton Dam**	**12.38**	**167**	Pn	**Pn**	**15 16 21.1**	**-0.9**
KNRA	**Kununurra**	**14.86**	**178**	Pn	**Pn**	**15 16 55.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**17.45**	**188**	Pn	**Pn**	**15 17 26.8**	**-2.4**
WB0	**Warramunga Arr**	**19.86**	**163**	P	**P**	**15 17 56.3**	**-0.7**
WB0				IAmb	IAmb	15 18 04.0	
	comp=Z,7.4nm,0.9s						
WRA	**Warramunga Arr**	**20.01**	**163**	P	**P**	**15 17 59.0**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=340,slow=12,SNR=11						
	comp=Z,2.0nm,0.8s						
WR8	**Warramunga Arr**	**20.07**	**163**	P	**P**	**15 17 58.1**	**-1.2**
WR8				IAmb	IAmb	15 18 16.7	
	comp=Z,14nm,1.2s						
AS31	**Alice Springs**	**23.45**	**167**	P	**P**	**15 18 34.2**	**-1.2**
ASAR	**Alice Springs**	**23.46**	**167**	P	**P**	**15 18 34.4**	**-1.0**
ASAR	**Alice Springs**	**23.46**	**167**	P	**P**	**15 18 35.6**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=347,slow=12,SNR=31						
	comp=Z,2.6nm,0.7s						
FORT	**Forrest**	**29.89**	**180**	P	**P**	**15 19 32.6**	**-0.9**
FORT				IAmb	IAmb	15 20 10.0	
	comp=Z,10nm,1.1s						
CMAR	**Chiang Mai Arr**	**34.53**	**305**	P	**P**	**15 20 15.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=120,slow=7.2,SNR=4.3						
	comp=Z,0.2nm,0.3s						
KSRS	**Korea Array**	**37.99**	**360**	P	**P**	**15 20 45.0**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=179,slow=9.7,SNR=6.1						
	comp=Z,0.6nm,0.7s						
MJAR	**Matsushiro Arr**	**38.23**	**13**	P	**P**	**15 20 46.0**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=181,slow=9.5,SNR=5.4						
	comp=Z,1.5nm,0.8s						
DZM	**Mont Dzumac**	**42.82**	**122**	P	**P**	**15 21 22.2**	**-1.9**
SONM	**Songino Array**	**51.98**	**341**	P	**P**	**15 22 36.6**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=148,slow=8.1,SNR=3.6						
	comp=Z,0.6nm,0.6s						
PETK	**Petropavlovsk-**	**59.02**	**20**	P	**P**	**15 23 28.1**	**+2.6**
	comp=Z,1.0nm,0.6s,baz=224,slow=7.5,SNR=3.5						
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**62.06**	**326**	P	**P**	**15 23 45.8**	**-0.7**
MKAR	**Makanchi Array**	**62.06**	**326**	P	**P**	**15 23 46.6**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=120,slow=9.5,SNR=5.9						
	comp=Z,0.7nm,0.7s						
YAK	**Yakutsk**	**62.61**	**1**	P	**P**	**15 23 47.5**	**-2.2**
KURBB	**Kurchatov Arra**	**66.28**	**328**	P	**P**	**15 24 14.3**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=128,slow=5.9,SNR=11						
	comp=Z,0.8nm,0.6s						
KURK	**Kurchatov**	**66.29**	**328**	P	**P**	**15 24 13.6**	**-0.5**
KURK				IAmb	IAmb	15 24 15.0	
	comp=Z,1.7nm,0.8s						
NRIK	**Noril'sk**	**75.09**	**346**	P	**P**	**15 25 08.2**	**+0.9**
	comp=Z,2.6nm,0.5s,baz=131,slow=5.9,SNR=5.7						
	comp=Z,2.6nm,0.5s						
VNDA	**Vanda**	**78.84**	**173**	P	**P**	**15 25 29.7**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=20,slow=2.9,SNR=3.7						
	comp=Z,0.4nm,0.6s						
ILAR	**Eielson Array**	**88.47**	**25**	P	**P**	**15 26 17.8**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=257,slow=5.5,SNR=2.7						
	comp=Z,0.2nm,0.7s						
QSPA	**South Pole Qui**	**89.20**	**180**	P	**P**	**15 26 23.0**	**+1.5**
	comp=Z,1.2nm,0.8s,baz=76,slow=1.7,SNR=3.8						
	comp=Z,1.2nm,0.8s						

*TEH **14** 15:21:19.1,34°.65N×45°.31E, h13km±34km*
*ISN **14** 15:21:22.7±2.6, 34°.52N×45°.33E, h22km±24km, ML2.7*

ISC 14 15:21:19.5±1.2,**34°.70N**±0°.06×**45°.32E**±0°.06,**h18**km,**n13,** σ1§**01**/16,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.30**	**131**	Pg	**Pg**	**15 21 24.8**	**-1.2**
GLG1	**Gilan-e-Gharb**	**0.76**	**140**	Pg	**Pb**	**15 21 33.3**	**-1.0**
IDHR	**Dehrash**	**0.88**	**90**	Pg	**Pb**	**15 21 36.0**	**-0.3**
IDHR				Sg	**Sn**	**15 21 49.0**	**-0.7**
IGHG	**Ghaleghazi**	**1.10**	**109**	Pg	**Pb**	**15 21 40.2**	**+0.1**
ILBA	**Ilam Banvizeh**	**1.30**	**145**	Pg	**Pn**	**15 21 42.9**	**0.0**
ILIN	**Lien**	**1.37**	**80**	Pg	**Pb**	**15 21 45.1**	**+0.3**
BHD	**Baghdad**	**1.63**	**209**	*e*Pg	**Pn**	**15 21 48.0**	**+0.8**
	baz=32						
BHD				*e*Sg	**Sb**	**15 22 10.0**	**+0.9**
IBDR	**Badra**	**1.67**	**162**	*e*Pn	**Pn**	**15 21 49.0**	**+1.2**
IBDR				*e*Sn	**Sb**	**15 22 11.0**	**+0.7**
IBDR				AML	AML	15 22 14.6	
	comp=E,158nm,0.6s						
IBDR				AML	AML	15 22 16.4	
	comp=N,116nm,0.4s						
SNQR	**Sonqor, Kerman**	**1.91**	**85**	Pn	**Pb**	**15 21 54.3**	**+0.3**
MAHB	**Mahabad**	**2.08**	**9**	Pn	**Pb**	**15 21 56.2**	**-0.7**
IBZA	**Bozab**	**2.11**	**96**	Pn	**Pb**	**15 21 56.1**	**-1.3**
IKFM	**Kafar-mosalman**	**2.41**	**119**	Pn	**Pn**	**15 21 59.6**	**+1.7**
IDOB	**Doab**	**2.54**	**110**	Pn	**Pn**	**15 22 01.2**	**+1.2**

*KOLA **14** 15:31:50.3, 67°.66N×34°.16E, h0km, ML2.1, Error ellipse: s-maj=4.1km s-min=1.8km az=130.0, Khibiny, mines Koashva, Nyurkpakh*
*BER **14** 15:31:50.6±1.2, 67°.51N×34°.14E, h0km, ML1.8, Suspected explosion*
*IDC **14** 15:31:53.2±2.8, 67°.66N×33°.45E, h0km, mbtmp2.8/2, ML1.9/2, Error ellipse: s-maj=31.7km s-min=11.4km az=73.0*

ISC 14 15:31:48.7±1.1,**67°.61N**±0°.04×**34°.20E**±0°.05,**h0**km,**n15,** σ1§**58**/25,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.31**	**262**	P	**Pg**	**15 31 55.5**	**+1.0**
APA				S	**Sg**	**15 31 59.8**	**+1.3**
LVZ	**Lovozero**	**0.34**	**31**	P	**Pg**	**15 31 55.3**	**+0.2**
LVZ				S	**Sg**	**15 31 59.8**	**+0.3**
APA0	**Apatity Array**	**0.46**	**270**	P	**Pg**	**15 31 58.1**	**+0.6**
APA0				S	**Sg**	**15 32 03.6**	**+0.1**
KVDA	**Kovda**	**1.06**	**210**	P	**Pg**	**15 32 09.7**	**+0.8**
KVDA				S	**Sb**	**15 32 24.7**	**+0.5**
TERR	**Teriberka**	**1.63**	**12**	P	**Pn**	**15 32 18.6**	**0.0**
TERR				S	**Sn**	**15 32 39.2**	**-1.0**
VADS	**Vadso**	**3.07**	**327**	P	**Pn**	**15 32 38.9**	**+0.6**
VADS				S	**Sn**	**15 33 15.8**	**+0.1**
VADS	**Vadso**	**3.07**	**327**	*e*P	**Pn**	**15 32 38.9**	**+0.6**
VADS				*e*S	**Sn**	**15 33 15.9**	**+0.2**
VADS				IAML		15 33 29.2	
	comp=Z,7.0nm,0.4s						
KEV	**Kevo**	**3.40**	**313**	*e*P	**Pn**	**15 32 43.8**	**+1.0**
KEV				*e*S	**Sn**	**15 33 21.9**	**-1.8**
ARA0	**ARCESS Array S**	**3.73**	**305**	*e*P	**Pn**	**15 32 48.3**	**+0.9**
ARA0				IAML		15 33 44.9	
	comp=Z,6.3nm,0.2s						
ARCES	**ARCESS Array B**	**3.73**	**305**	Pn	**Pn**	**15 32 47.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=121,slow=14,SNR=65						
ARCES				Sn	**Sn**	**15 33 29.9**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=115,slow=27,SNR=13						
ARCES				Lg	Lg	15 33 41.4	
	comp=Z,0.9nm,0.3s,baz=123,slow=28,SNR=5.2						
	comp=Z,0.9nm,0.2s						
ARCES	**ARCESS Array B**	**3.73**	**305**	P	**Pn**	**15 32 47.8**	**+0.4**
ARCES				S	**Sn**	**15 33 31.9**	**-0.1**
HAMF	**Hammerfest**	**4.83**	**314**	*e*S	**Sn**	**15 33 57.5**	**-1.6**
HAMF				IAML		15 34 30.1	
	comp=Z,3.5nm,0.5s						
I37NO	**I37NO**	**5.95**	**291**	I	I	16 05 30.0	
	baz=97,slow=322,SNR=4.2						
FINES	**FINESS Array B**	**7.11**	**213**	Pn	**Pn**	**15 33 34.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=28,slow=16,SNR=3.6						
FINES				Sn	**Sn**	**15 34 52.3**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=32,slow=22,SNR=2.3						
FINES				Lg	Lg	15 35 24.4	
	comp=Z,0.1nm,0.3s,baz=33,slow=29,SNR=1.9						
	comp=Z,0.3nm,0.3s						
**

mB4.9/2,mb4.5/6,MLv4.1/12,Mw(mB)4.2/2
ISC 14 15:39:06.7±0.6,**0°59S**±0°06×**127°77E**±0°08,**h10**km,**n34,**
σ1ᵖ73/34,mb4.0/8,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.41**	**343**		**Pn**	**15 39 32.7**	**+0.3**
TNTI	**Ternate**	**1.41**	**343**	P	**Pn**	**15 39 32.7**	**+0.3**
SANI	**Sanana**	**2.30**	**231**	P	**Pb**	**15 39 46.4**	**-1.9**
NLAI	**Namlea**	**2.72**	**194**	P	**Pn**	**15 39 52.3**	**+1.8**
NLAI				S	**Sb**	**15 40 26.9**	**-2.0**
MSAI	**Masohi**	**2.98**	**157**	P	**Pn**	**15 39 56.9**	**+2.9**
AAI	**Ambon**	**3.11**	**172**	P	**Pn**	**15 39 58.3**	**+2.5**
SWI	**Sorong**	**3.50**	**95**	P	**Pn**	**15 40 03.5**	**+2.4**
KMSI	**Cibinong**	**3.96**	**287**	P	**Pn**	**15 40 10.0**	**+2.4**
FAKI	**Fak Fak**	**5.04**	**117**	Pn	**Pn**	**15 40 23.4**	**+1.1**
FAKI	**Fak Fak** 0.3nm72nm,1.5s	**5.04**	**117**	P	**Pn**	**15 40 23.5**	**+1.1**
APSI	**Ampana** 40nm,1.1s	**6.13**	**267**	P	**Pn**	**15 40 40.6**	**+3.2**
SAUI	**Saumlaki**	**8.15**	**155**	Pn	**Pn**	**15 41 05.4**	**+0.3**
TTSI	**Tana Toraja** 20nm,0.9s	**8.32**	**253**	P	**Pn**	**15 41 08.9**	**+1.5**
SPSI	**Sidrap Palu**	**8.67**	**247**	P	**Pn**	**15 41 16.6**	**+4.3**
BKSI	**Bulukumba**	**8.97**	**238**	P	Pn	15 41 21.4	+5.0
KAPI	**Kappang** 4.6nm,0.3s,baz=159,slow=11,SNR=5.1 8.4nm,0.3s	**9.14**	**241**	Pn	**Pn**	**15 41 21.8**	**+3.1**
KNRA	**Kununurra**	**15.03**	**176**	Pn	**Pn**	**15 42 39.3**	**0.0**
WB0	**Warramunga Arr**	**20.14**	**162**	P	**P**	**15 43 41.1**	**0.0**
COEN	**Coen**	**20.22**	**132**	P	**P**	**15 43 41.9**	**-0.2**
COEN	comp=Z,35nm,1.3s			IAmb	IAmb	15 43 46.0	
WRA	**Warramunga Arr** comp=Z,0.6nm,0.6s,baz=343,slow=13,SNR=4.8 comp=Z,0.6nm,0.6s	**20.28**	**162**	P	**P**	**15 43 44.0**	**+1.3**
WR8	**Warramunga Arr**	**20.35**	**162**	P	**P**	**15 43 42.8**	**-0.6**
WR8	comp=Z,23nm,1.5s			IAmb	IAmb	15 43 57.5	
ASAR	**Alice Springs** comp=Z,0.9nm,0.6s,baz=346,slow=12,SNR=9.9 comp=Z,0.9nm,0.6s	**23.70**	**166**	P	**P**	**15 44 20.1**	**+1.2**
MJAR	**Matsushiro Arr** comp=Z,2.6nm,1.0s,baz=180,slow=9.9,SNR=7.2 comp=Z,2.6nm,1.0s	**38.19**	**14**	P	**P**	**15 46 25.2**	**-1.4**
PETK	**Petropavlovsk-** comp=Z,1.4nm,0.8s,baz=188,slow=7.1,SNR=3.6 comp=Z,1.4nm,0.8s	**59.04**	**21**	P	**P**	**15 49 06.6**	**-0.2**
MKAR	**Makanchi Array**	**61.69**	**326**	P	**P**	**15 49 25.2**	**+0.2**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.6s,baz=119,slow=8.8,SNR=4.8 comp=Z,0.2nm,0.6s	**61.69**	**326**	P	**P**	**15 49 25.1**	**0.0**
KURBB	**Kurchatov Arra** comp=Z,0.5nm,0.7s,baz=128,slow=5.9,SNR=5.0 comp=Z,0.5nm,0.7s	**65.92**	**328**	P	**P**	**15 49 52.2**	**-0.6**
KK31	**Karatay Array**	**67.10**	**318**	P	**P**	**15 49 59.9**	**-0.7**
KKAR	**Karatay Array**	**67.10**	**318**	P	**P**	**15 50 00.5**	**-0.1**
J17K	**VABM Dome**	**83.02**	**26**	P	**P**	**15 51 32.9**	**+0.8**
J17K	comp=Z,6.5nm,1.4s			IAmb	IAmb	15 51 56.9	
H17K	**Granite Mounta**	**83.09**	**24**	P	**P**	**15 51 33.7**	**+1.3**
H17K	comp=Z,3.6nm,0.9s			IAmb	IAmb	15 51 34.6	
K17K	**Iditarod**	**83.19**	**26**	P	**P**	**15 51 34.3**	**+1.3**
K17K	comp=Z,4.6nm,1.0s			IAmb	IAmb	15 51 35.3	
L18K	**Granite Mounta**	**83.80**	**27**	P	**P**	**15 51 36.8**	**+0.7**
QSPA	**South Pole Qui**	**89.35**	**180**	P	**P**	**15 52 01.7**	**-1.6**

*IDC **14** 15:39:39.9±1.2,0°43S×127°91E,h0km,mb3.5/5, mbtmp3.7/6,ML4.4/1,Error ellipse: s-maj=41.9km s-min=21.5km az=81.0*
*NEIC **14** 15:39:41.8±1.3,0°51S±0°05×127°9E±0°1,h10km±2km, mb4.2/11,Error ellipse: s-maj=19.1km s-min=5.1km az=70.0*
ISC 14 15:39:41.2±0.7,**0°47S**±0°08×**127°9E**±0°1,**h10**km,**n20,**
σ0ˢ89/20,mb3.8/8,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.35**	**335**	Pn	**Pn**	**15 40 07.2**	**+1.1**
FAKI	**Fak Fak**	**4.96**	**119**	Pn	**Pn**	**15 40 56.5**	**+0.8**
TOLI2	**Tolitoli**	**7.32**	**282**	Pn	**Pn**	**15 41 28.2**	**0.0**
KAPI	**Kappang** 3.9nm,0.3s,baz=71,slow=5.1,SNR=7.6 20nm,0.5s	**9.33**	**241**	Pn	**Pn**	**15 41 56.9**	**+1.0**
KNRA	**Kununurra**	**15.14**	**177**	Pn	**Pn**	**15 43 13.9**	**-1.4**
KNRA	comp=Z,21nm,1.2s			IAmb	IAmb	15 43 44.5	
BOXOZ	**Borroloola**	**17.55**	**152**	Pn	**Pn**	**15 43 45.1**	**-1.0**
FITZ	**Fitzroy Crossi**	**17.66**	**187**	P	**Pn**	**15 43 47.6**	**+0.1**
WB0	**Warramunga Arr**	**20.20**	**162**	P	**P**	**15 44 15.4**	**-0.8**
WB0	comp=Z,9.7nm,1.1s			IAmb	IAmb	15 44 34.2	
WRA	**Warramunga Arr** comp=Z,0.9nm,0.6s,baz=343,slow=12,SNR=5.4 comp=Z,0.9nm,0.6s	**20.35**	**162**	P	**P**	**15 44 18.1**	**+0.2**
WR8	**Warramunga Arr**	**20.41**	**162**	P	**P**	**15 44 18.1**	**-0.5**
WR8	comp=Z,8.0nm,1.2s			IAmb	IAmb	15 44 29.7	
AS31	**Alice Springs**	**23.78**	**166**	P	**P**	**15 44 54.5**	**+0.3**
AS31	comp=Z,2.0nm,1.2s			IAmb	IAmb	15 45 07.3	
ASAR	**Alice Springs** comp=Z,1.4nm,0.9s,baz=345,slow=11,SNR=7.7 comp=Z,1.4nm,0.9s	**23.78**	**166**	P	**P**	**15 44 55.0**	**+0.8**
TWG	**Pinlang**	**24.09**	**344**	P	**P**	**15 44 56.0**	**-1.1**
TWG	comp=Z,19nm,1.3s			IAmb	IAmb	15 45 26.9	
FORT	**Forrest**	**30.15**	**180**	P	**P**	**15 45 52.3**	**+0.9**
FORT	comp=Z,6.3nm,1.1s			IAmb	IAmb	15 46 02.9	
MORW	**Morawa**	**30.62**	**201**	P	**P**	**15 45 54.9**	**-0.7**
MJAR	**Matsushiro Arr** comp=Z,1.8nm,0.8s,baz=184,slow=9.2,SNR=5.6 comp=Z,1.8nm,0.8s	**38.04**	**13**	P	**P**	**15 47 00.1**	**+0.3**
CAN	**Canberra**	**39.85**	**153**	P	**P**	**15 47 14.7**	**-0.4**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.4s,baz=111,slow=7.9,SNR=4.9 comp=Z,0.2nm,0.4s	**61.67**	**326**	P	**P**	**15 50 00.3**	**+0.8**
KURBB	**Kurchatov Arra** comp=Z,0.4nm,0.6s,baz=132,slow=6.2,SNR=2.2 comp=Z,0.4nm,0.6s	**65.90**	**328**	P	**P**	**15 50 25.8**	**-1.4**
CASY	**Casey**	**66.83**	**188**	P	**P**	**15 50 33.5**	**+0.7**
CASY	comp=Z,5.6nm,1.2s			IAmb	IAmb	15 50 48.7	

*NORS **14** 15:40:55.6,43°17N×46°29E,h8km,MPVA4.0*
*MOS **14** 15:40:55.1,43°22N×46°33E,h11km,MPVA3.9*
*DRS **14** 15:40:57.5,43°21N×46°34E,h9km*
ISC 14 15:40:57.1±1.0,**43°21N**±0°03×**46°32E**±0°02,**h9**km±7km,
n63,σ0ˢ85/122,1C-3D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.27**	**121**	*e*Pg	**Pg**	**15 41 02.1**	**-0.3**
DLMR				*e*Sg	**Sg**	**15 41 06.3**	**+0.3**
DLMR	**Dylym**	**0.27**	**121**	*e*PG	**Pg**	**15 41 02.1**	**-0.3**
DLMR				*e*S	**Sg**	**15 41 06.3**	**+0.3**
DLMR	comp=Z,148nm,0.2s			pmax	pmax		
GROC	**Groznyy**	**0.38**	**269**	*e*Pg	**Pg**	**15 41 05.0**	**+0.5**
GROC				*e*Sg	**Sg**	**15 41 10.8**	**+1.3**
GROC	**Groznyy**	**0.38**	**269**	*e*PG	**Pg**	**15 41 04.7**	**+0.2**
GROC				*e*S	**Sb**	**15 41 11.2**	**-0.8**
BTLR	**Botlikh**	**0.55**	**187**	*i* Pg	**Pg**	**15 41 07.4**	**-0.4**
BTLR				*e*Sg	**Sg**	**15 41 15.6**	**+0.7**
BTLR	**Botlikh**	**0.55**	**187**	⇓*i*PG	**Pg**	**15 41 07.3**	**-0.4**
BTLR				*e*S	**Sg**	**15 41 15.6**	**+0.7**
BTLR	comp=Z,154nm,0.1s			pmax	pmax		
KRNR	**Karanay**	**0.58**	**131**	*i* Pg	**Pg**	**15 41 07.8**	**-0.4**
KRNR				*e*Sg	**Sg**	**15 41 16.2**	**+0.3**
KRNR	**Karanay**	**0.58**	**131**	⇓*i*PG	**Pg**	**15 41 07.8**	**-0.4**
KRNR				*e*S	**Sg**	**15 41 16.1**	**+0.3**
KRNR	comp=Z,41nm,0.3s			pmax	pmax		
UNCR	**Uncukul**	**0.61**	**144**	*i* Pg	**Pg**	**15 41 08.7**	**-0.2**
UNCR				*e*Sg	**Sg**	**15 41 17.5**	**+0.7**
UNCR	**Uncukul**	**0.61**	**144**	⇓*i*PG	**Pg**	**15 41 08.6**	**-0.2**
UNCR				*e*S	**Sg**	**15 41 17.4**	**+0.7**
UNCR	comp=Z,70nm,0.2s			pmax	pmax		
BUJR	**Buynaksk**	**0.70**	**123**	*e*Pg	**Pb**	**15 41 12.1**	**+0.7**
BUJR				*e*Sg	**Sb**	**15 41 22.3**	**+1.2**
BUJR	**Buynaksk**	**0.70**	**123**	*e*PG	**Pb**	**15 41 11.0**	**-0.4**
BUJR				*e*S	**Sb**	**15 41 21.4**	**+0.3**
BUJR	comp=Z,43nm,0.2s			pmax	pmax		
HNZR	**Khunzah**	**0.71**	**155**	*e*PG	**Pg**	**15 41 11.0**	**+0.2**
HNZR				*e*S	**Sb**	**15 41 22.1**	**+0.3**
XNZR	**Khunzakh**	**0.73**	**157**	*e*Pg	**Pg**	**15 41 11.1**	**0.0**
XNZR				*e*Sg	**Sb**	**15 41 21.7**	**-0.4**
ARKR	**Arakani**	**0.79**	**140**	*i* Pg	**Pg**	**15 41 12.1**	**0.0**
ARKR				*e*Sg	**Sb**	**15 41 23.3**	**-0.4**
ARKR	**Arakani**	**0.79**	**140**	⇓*i*PG	**Pg**	**15 41 12.1**	**0.0**
ARKR				*e*S	**Sb**	**15 41 23.3**	**-0.4**
ARKR	comp=Z,45nm,0.2s			pmax	pmax		
KANR	**Karaman**	**0.86**	**90**	*e*Pg	**Pg**	**15 41 13.2**	**-0.4**
KANR				*e*Sg	**Sb**	**15 41 25.1**	**-0.7**
KANR	**Karaman**	**0.86**	**90**	*e*PG	**Pg**	**15 41 13.1**	**-0.4**
KANR				*e*S	**Sb**	**15 41 25.0**	**-0.7**
KANR	comp=Z,189nm,0.4s			pmax	pmax		
MAK	**Makhachkala**	**0.91**	**105**	*e*Pg	**Pb**	**15 41 14.5**	**-0.4**
MAK				*e*Sg	**Sb**	**15 41 27.6**	**+0.5**
MAK	**Makhachkala**	**0.91**	**105**	*e*PG	**Pn**	**15 41 16.2**	**+0.2**
MAK				*e*S	**Sn**	**15 41 32.1**	**+2.9**
MAK	comp=Z,64nm,0.2s			pmax	pmax		
MAK	comp=N,234nm,0.3s			smax	smax		
MAK	comp=N,193nm,0.3s			smax	smax		
GNBR	**Gunib**	**0.95**	**150**	*e*Pg	**Pb**	**15 41 15.5**	**-0.2**
GNBR				*e*Sg	**Sb**	**15 41 29.1**	**+0.7**
GNBR	**Gunib**	**0.95**	**150**	*e*PG	**Pb**	**15 41 15.5**	**-0.2**
GNBR				*e*S	**Sb**	**15 41 29.1**	**+0.7**
GNBR	comp=Z,36nm,0.2s			pmax	pmax		
SHTL	**Shatili**	**1.02**	**237**	PG	**Pg**	**15 41 15.3**	**-1.3**
TLTR	**Tlyarata**	**1.10**	**179**	*e*PG	**Pg**	**15 41 17.5**	**-0.7**
TLTR				*e*S	**Sb**	**15 41 33.1**	**+0.2**
TLTR	comp=Z,1.0nm,0.6s			pmax	pmax		
VLKR	**Vladikavkaz**	**1.21**	**263**	*e*Pg	**Pn**	**15 41 20.0**	**-0.2**
VLKR				*e*Sg	**Sn**	**15 41 38.2**	**+1.5**
VLKR	**Vladikavkaz**	**1.21**	**263**	*e*PG	**Pn**	**15 41 20.1**	**-0.1**
VLKR				*e*S	**Sn**	**15 41 38.3**	**+1.5**
KMKR	**Kumukh**	**1.22**	**152**	*e*Pg	**Pn**	**15 41 20.4**	**-0.1**
KMKR				*e*Sg	**Sn**	**15 41 37.9**	**+0.6**
KMKR	**Kumukh**	**1.22**	**152**	*e*PG	**Pn**	**15 41 20.4**	**-0.1**
KMKR				*e*S	**Sn**	**15 41 37.9**	**+0.6**
KMKR	comp=Z,74nm,0.2s			pmax	pmax		
TRKR	**Terskaya**	**1.26**	**295**	*e*Pg	**Pn**	**15 41 20.7**	**-0.2**
TRKR				*e*Sg	**Sn**	**15 41 38.3**	**+0.3**
TRKR	**Terskaya**	**1.26**	**295**	*e*PG	**Pn**	**15 41 20.7**	**-0.2**
TRKR				*e*S	**Sn**	**15 41 38.3**	**+0.3**
BTKR	**Batakoyurt**	**1.30**	**278**	*e*Pg	**Pg**	**15 41 22.9**	**+0.8**
BTKR				*i* Sg	**Sg**	**15 41 40.3**	**+1.3**
BTKR	**Batakoyurt**	**1.30**	**278**	*e*PG	**Pn**	**15 41 21.5**	**0.0**
BTKR				*e*S	**Sg**	**15 41 40.8**	**+1.8**
URKR	**Urkarakh**	**1.43**	**137**	*e*Pg	**Pg**	**15 41 24.5**	**+0.1**
URKR				*e*Sg	**Sg**	**15 41 44.1**	**+1.2**
URKR	**Urkarakh**	**1.43**	**137**	*e*PG	**Pn**	**15 41 22.3**	**-1.0**
URKR				*i* S	**Sb**	**15 41 42.0**	**-0.2**
URKR	comp=Z,38nm,0.4s			pmax	pmax		
ARNR	**Ardon**	**1.49**	**270**	*e*Pg	**Pn**	**15 41 23.7**	**-0.3**
ARNR				*e*Sg	**Sg**	**15 41 45.2**	**+0.4**
ARNR	**Ardon**	**1.49**	**270**	*e*PG	**Pn**	**15 41 23.7**	**-0.3**
ARNR				*e*S	**Sg**	**15 41 45.2**	**+0.4**
LACR	**Lac**	**1.53**	**256**	*e*Pg	**Pn**	**15 41 23.2**	**-1.5**
LACR				*e*Sg	**Sn**	**15 41 44.0**	**-0.8**
LACR	**Lac**	**1.53**	**256**	*e*PG	**Pn**	**15 41 23.2**	**-1.5**
LACR				*e*S	**Sn**	**15 41 44.0**	**-0.8**
PRTR	**Priterechnaya**	**1.58**	**291**	*e*Pg	**Pb**	**15 41 25.9**	**-0.4**
PRTR				*e*Sg	**Sb**	**15 41 46.9**	**+0.5**
PRTR	**Priterechnaya**	**1.58**	**291**	*e*PG	**Pb**	**15 41 26.1**	**-0.3**
PRTR				*e*S	**Sg**	**15 41 48.2**	**+0.5**
KORR	**Kora**	**1.65**	**266**	*e*Pg	**Pb**	**15 41 27.1**	**-0.6**
KORR				*e*Sg	**Sb**	**15 41 49.0**	**+0.4**
KORR	**Kora**	**1.65**	**266**	*e*PN	**Pb**	**15 41 27.1**	**-0.6**
KORR				*e*S	**Sb**	**15 41 49.5**	**+0.9**
STDR	**Stavd-Durt**	**1.65**	**276**	*e*PN	**Pb**	**15 41 28.1**	**+0.4**
STDR				*e*S	**Sg**	**15 41 50.1**	**-0.1**
LSNR	**Lesken**	**1.82**	**273**	*e*Pg	**Pn**	**15 41 28.4**	**-0.2**
LSNR				*e*Sg	**Sb**	**15 41 53.7**	**+0.2**
AKT	**Akhty**	**2.02**	**148**	*e*Pg	**Pb**	**15 41 33.0**	**-1.0**
AKT				*e*Sg	**Sb**	**15 41 58.5**	**-0.8**
AKT	**Akhty**	**2.02**	**148**	*e*PN	**Pb**	**15 41 34.2**	**+0.2**
AKT				*e*S	**Sg**	**15 42 02.1**	**+0.1**
AKT	comp=Z,37nm,0.3s			pmax	pmax		
AKT	comp=E,113nm,0.3s			smax	smax		
AKT	comp=E,91nm,0.3s			smax	smax		
AKT	comp=N,76nm,0.3s			smax	smax		
KSMR	**Kasumkent**	**2.09**	**139**	*e*Pg	**Pn**	**15 41 33.1**	**+0.7**
KSMR				*e*Sg	**Sb**	**15 42 01.0**	**-0.3**
KSMR	**Kasumkent**	**2.09**	**139**	*e*PN	**Pn**	**15 41 33.1**	**+0.7**
KSMR				*e*S	**Sb**	**15 42 01.0**	**-0.3**
KSMR	comp=Z,32nm,0.4s			pmax	pmax		
KBTC	**Kuba-Taba**	**2.20**	**287**	*e*Pg	**Pn**	**15 41 34.0**	**+0.1**
KBTC				*e*Sg	**Sn**	**15 42 02.8**	**+1.6**
KBZ	**Khabaz**	**2.54**	**283**	*e*Pn	**Pn**	**15 41 38.1**	**-0.4**
KBZ				*e*Sn	**Sn**	**15 42 11.0**	**+1.5**
KBZ	**Khabaz**	**2.54**	**283**	*i* PN	**Pn**	**15 41 38.4**	**0.0**
SHA1	**Shidzhatmaz**	**2.71**	**282**	*e*Pn	**Pn**	**15 41 39.1**	**-2.0**
SHA1				*e*Sn	**Sn**	**15 42 11.1**	**-3.0**
SHA1	**Shidzhatmaz**	**2.71**	**282**	*i* PN	**Pn**	**15 41 39.2**	**-1.9**
KIV	**Kislovodsk**	**2.74**	**287**	*e*Pn	**Pn**	**15 41 42.0**	**+0.7**
KIV				*e*Sn	**Sn**	**15 42 12.5**	**-2.1**
KIV	**Kislovodsk**	**2.74**	**287**	*i* PN	**Pn**	**15 41 42.3**	**+1.0**
KIV	comp=Z,9.0nm,1.6s			pmax	pmax		
AKH	**Akhalkalaki**	**2.76**	**230**	*e*Pn	**Pn**	**15 41 43.6**	**+1.9**
AKH				*e*Sn	**Sn**	**15 42 16.0**	**+0.8**
GNI	**Garni**	**3.28**	**202**	*i* PN	**Pn**	**15 41 48.3**	**-0.4**
GRYR	**Gornoye**	**3.90**	**285**	*e*Pn	**Pn**	**15 41 56.5**	**-0.6**
GRYR				*i* Sn	**Sn**	**15 42 43.6**	**+0.6**
OBN	**Obninsk**	**13.49**	**335**	*i* P	**Pn**	**15 44 07.4**	**-1.1**
OBN	comp=Z,16nm,0.4s			pmax	pmax		
OBN	comp=Z,23nm,17.0s			MLR	MLR		
MNK	**Minsk** comp=E,58nm,0.8s	**16.52**	**320**	*i* P	**Pn**	**15 44 48.3**	**-0.5**
MNK	comp=N,29nm,0.9s			*i* P	**Pn**	**15 44 48.3**	**-0.5**
MNK	comp=Z,6.0nm,0.6s,baz=125			*i* P	**Pn**	**15 44 48.3**	**-0.5**
MNK				*i* PP	**PnPn**	**15 44 57.4**	**-0.4**
MNK				*i* PPP	PPP	15 45 05.1	
MNK				*i* S	**Sn**	**15 47 52.4**	**+0.2**
MNK				*i* SS	**SnSn**	**15 48 06.8**	**+1.8**
MNK				*i* SSS	SSS	15 48 18.3	
MNK				*i* LQ	LQ	15 49 15.0	
MNK				*i* LR	LR	15 50 56.1	
MNK	comp=Z,16nm,15.8s			*i* LRM	MLR	15 52 19.1	
MNK	comp=E,24nm,20.4s			*i* LRM	MLR	15 52 29.8	
MNK	comp=N,25nm,16.1s			*i* LRM	MLR	15 52 34.6	
MNK	**Minsk** comp=N,29nm,0.9s	**16.52**	**320**	*i* P	**Pn**	**15 44 48.2**	**-0.5**
MNK	comp=E,58nm,0.8s			*i* S	**Sn**	**15 47 52.3**	**+0.2**
MNK	comp=Z,6.0nm,0.6s			pmax	pmax		
MNK	comp=Z,16nm,16.0s			pmax	pmax		
MNK	comp=E,24nm,20.0s			MLR	MLR		
MNK	comp=N,25nm,16.0s			MLR	MLR		
BRVK	**Borovoye**	**18.70**	**50**	*i* P	**Pn**	**15 45 15.5**	**-0.4**
BRVK	comp=Z,1.0nm,1.0s			pmax	pmax		
KURK	**Kurchatov**	**23.15**	**60**	*i* P	**P**	**15 46 03.6**	**+0.1**

*BJI **14** 15:44:12.4,1°05S×128°26E,h5km,mB5.2/43,mb4.8/69, Ms4.5/54,Ms7 4.3/56*
*IDC **14** 15:44:17.7±0.5,0°55S×127°70E,h0km,mb4.5/21, mbtmp4.5/23,ML4.2/2,MS4.2/42,Error ellipse: s-maj=22.0km s-min=11.2km az=79.0*
*MOS **14** 15:44:17.9±0.9,0°52S×127°77E,h13km,mb5.1/35, MS4.3/4,Error ellipse: s-maj=10.2km s-min=5.8km az=105.0*
*NEIC **14** 15:44:20.0±1.7,0°51S±0°03×127°95E±0°07,h10km±1km, mb5.1/175,Error ellipse: s-maj=13.1km s-min=3.0km az=72.0*
*DJA **14** 15:44:22.3±0.3,0°S±2°×12°8E±°,h19km±2km,M5.1/70, mb5.1/70,mB5.5/37,MLv5.3/22,Mw(mB)5.0/37*
ISC 14 15:44:21.6±0.5,**0°64S**±0°03×**127°88E**±0°04,**h22**km±3km,
h22km**:pP-P,n549,σ1ᵖ77/496,mb5.1/160,MS4.2/63,**
12C-2D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.49**	**340**		**Pn**	**15 44 45.8**	**-1.3**
TNTI	**Ternate**	**1.49**	**340**	P	**Pn**	**15 44 45.4**	**-1.6**
SANI	**Sanana**	**2.35**	**233**	P	**Pn**	**15 44 59.5**	**+0.7**
NLAI	**Namlea**	**2.69**	**197**	P	**Pn**	**15 45 05.9**	**+2.3**
MSAI	**Masohi**	**2.89**	**159**	P	**Pb**	**15 45 09.9**	**-2.5**
AAI	**Ambon**	**3.04**	**174**	P	**Pn**	**15 45 11.9**	**+3.5**
SWI	**Sorong**	**3.39**	**94**	P	**Pn**	**15 45 13.9**	**+0.7**
KMSI	**Cibinong**	**4.08**	**287**	P	**Pn**	**15 45 23.8**	**+1.2**
BNDI	**Bandanaira**	**4.36**	**152**	P	**Pn**	**15 45 30.7**	**+4.2**
SGSI	**Sangihe**	**4.90**	**331**	P	**Pn**	**15 45 34.3**	**+0.4**
FAKI	**Fak Fak**	**4.92**	**117**		**Pn**	**15 45 34.1**	**-0.2**
FAKI	**Fak Fak**	**4.92**	**117**	P	**Pn**	**15 45 34.7**	**+0.4**
MRSI	**Marisa** 1.0nm2µm223nm,0.6s	**6.04**	**281**	P	**Pn**	**15 45 51.8**	**+2.2**
KDI	**Kendari**	**6.20**	**238**	P	**Pn**	**15 45 54.8**	**+3.0**
APSI	**Ampana**	**6.23**	**267**	P	**Pn**	**15 45 53.7**	**+1.5**
RKPI	**Ransiki, Papua** 1.6nm176nm,0.8s	**6.36**	**98**	P	**Pn**	**15 45 55.7**	**+1.7**
KMPI	**Kaimana, Papua** 2.0nm294nm,0.8s	**6.55**	**117**	P	**Pn**	**15 45 58.4**	**+1.7**
BBSI	**Bau Bau** 1.0nm4µm282nm,1.1s	**7.16**	**228**	P	**Pn**	**15 46 08.2**	**+3.2**
TOLI2	**Tolitoli**	**7.30**	**284**		**Pn**	**15 46 07.6**	**+0.6**
DAV	**Davao City (W)** 16nm,0.3s,baz=50,slow=7.1,SNR=3.5	**7.99**	**343**	Pn	**Pn**	**15 46 19.4**	**+2.9**
MPSI	**Mapaga** 109nm,0.9s	**8.04**	**277**	P	**Pn**	**15 46 19.1**	**+2.1**
PCI	**Palu** 3µm206nm,0.7s	**8.04**	**268**	P	**Pn**	**15 46 18.7**	**+1.6**
BAKI	**Biak** 61nm,0.8s	**8.25**	**94**	P	**Pn**	**15 46 21.8**	**+1.8**
TTSI	**Tana Toraja** 3µm298nm,0.9s	**8.40**	**253**	P	**Pn**	**15 46 24.1**	**+2.1**
BNSI	**Bone** 2µm143nm,0.7s	**8.61**	**244**	P	**Pn**	**15 46 28.4**	**+3.5**
SPSI	**Sidrap Palu**	**8.75**	**248**	P	**Pn**	**15 46 30.2**	**+3.4**
BKSI	**Bulukumba**	**9.03**	**239**	P	**Pn**	**15 46 34.9**	**+4.2**
BSSI	**Bau Bau, Buton**	**9.18**	**233**	P	**Pn**	**15 46 37.2**	**+4.5**
KAPI	**Kappang**	**9.20**	**242**		**Pn**	**15 46 34.6**	**+1.5**
KAPI	**Kappang** 40nm,0.3s,baz=60,slow=5.1,SNR=64	**9.20**	**242**	Pn	**Pn**	**15 46 36.0**	**+3.0**
KAPI	baz=141,slow=23			Sn	**Sn**	**15 48 08.5**	**-7.5**
KAPI	comp=Z,2µm,21.6s,baz=62,slow=42			LR	LR	15 50 34.7	
KAPI	**Kappang**	**9.20**	**242**	P	**Pn**	**15 46 34.6**	**+1.5**
MMRI	**Maumere**	**9.73**	**215**	Pn	**Pn**	**15 46 42.1**	**+1.9**
MMRI	**Maumere** 2µm105nm,1.6s	**9.73**	**215**	P	**Pn**	**15 46 44.6**	**+4.3**
SOEI	**Soe**	**9.74**	**202**	Pn	**Pn**	**15 46 42.5**	**+1.9**
EDFI	**Ende, Flores** 2µm119nm,1.5s	**10.14**	**217**	P	Pn	15 46 51.1	+5.1
BATI	**Baumata** 2.1nm,0.3s,baz=141,slow=12,SNR=1.7	**10.38**	**204**	Pn	**Pn**	**15 46 52.0**	**+2.7**
BATI	comp=Z,4µm,19.4s,baz=21,slow=40			LR	LR	15 51 15.0	
SMPI	**Sarmi**	**10.91**	**97**	P	**Pn**	**15 46 59.6**	**+3.1**
BKB	**Balikpapan**	**10.99**	**267**	Pn	**Pn**	**15 46 58.2**	**+0.6**
WSI	**Waingapu**	**11.72**	**220**	P	**Pn**	**15 47 10.2**	**+2.7**
BASI	**Baing, Sumba** 355nm,1.4s	**11.97**	**217**	P	Pn	15 47 17.4	+6.5
WBSI	**Waikabubak, Su** 2µm123nm,1.4s	**12.30**	**223**	P	**Pn**	**15 47 20.1**	**+4.6**
GENI	**Genyem** 53nm,1.3s	**12.44**	**99**	P	**Pn**	**15 47 18.3**	**+0.9**
MTN	**Manton Dam**	**12.55**	**165**		**Pn**	**15 47 18.8**	**-0.1**
MTN	**Manton Dam**	**12.55**	**165**	P	**Pn**	**15 47 19.4**	**+0.6**
PLAI	**Plampang** 1µm95nm,0.9s	**12.93**	**231**	P	Pn	15 47 29.4	+5.2
JAY	**Jayapura** 0.6nm,0.3s,baz=225,slow=14,SNR=4.8	**12.96**	**98**	Pn	**Pn**	**15 47 26.5**	**+1.9**
JAY	comp=Z,3µm,19.7s,baz=276,slow=41 9.5nm,1.0s			LR	LR	15 53 15.5	
KKM	**Kota Kinabalu**	**13.40**	**300**	Pn	**Pn**	**15 47 29.3**	**-1.3**
KNRA	**Kununurra**	**14.97**	**177**		**Pn**	**15 47 51.8**	**0.0**
JAGI	**Jajag, Banyuwa** 2µm88nm,0.9s	**15.73**	**240**	P	**P**	**15 48 06.6**	**+0.9**
GMJI	**Gumukmas** 2µm76nm,0.9s	**16.25**	**242**	P	**P**	**15 48 12.5**	**+0.9**
STKI	**Sintang**	**16.41**	**272**	P	**Pn**	**15 48 11.5**	**+0.8**
FITZ	**Fitzroy Crossi** 1.1nm,0.3s,baz=351,slow=19,SNR=6.6	**17.49**	**187**	P	**Pn**	**15 48 23.6**	**-0.6**
FITZ	comp=Z,1µm,18.5s,baz=15,slow=42 7.0nm,0.6s			LR	LR	15 56 26.4	
NGJI	**Ngawi** 73nm,1.3s	**17.68**	**247**	P	**P**	**15 48 31.4**	**+4.1**
KSM	**Kuching**	**17.69**	**277**	P	**P**	**15 48 28.0**	**+0.5**
PCJI	**Pacitan** 115nm,1.3s	**18.25**

ASAR S **S** **15 53 39.5 -5.3**
comp=Z,4.9nm,0.9s,baz=350,slow=20,SNR=5.5
ASAR LR LR 16 00 16.2
comp=Z,846nm,18.1s,baz=346,slow=40
comp=Z,20nm,0.8s
KASI Kota Agung 23.84 258 P **P** **15 49 36.1 +2.7**
comp=Z,69nm,0.6s
MDSI Maura Dua 23.98 260 P **P** **15 49 36.3 +1.6**
comp=Z,2μmcomp=Z,149nm,2.0s
MYKOM Kota Tinggi 24.14 276 P **P** **15 49 37.2 +0.9**
LWLI Liwa 24.18 259 P **P** **15 49 38.8 +2.1**
TWG Pinlang 24.24 345 P **P** **15 49 34.3 -2.8**
RABL Rabaul 24.52 99 P **P** **15 49 38.2 -1.6**
LHSI Lahat 24.54 262 P **P** **15 49 43.8 +4.0**
comp=Z,3μmcomp=Z,54nm,0.8s
YULB Yu-li 24.73 345 **P** **15 49 38.5 -3.0**
YULB IAmb IAmb 15 49 53.6
comp=Z,107nm,1.7s
TPUB Ta-pu 24.82 344 P **P** **15 49 40.7 -1.6**
MNAI Manna 25.16 261 P **P** **15 49 46.6 +1.0**
comp=Z,206nm,1.1s
SSLB Suanglung 25.20 345 **P** **15 49 44.4 -1.4**
YOJ Yonaguni jima 25.39 350 P **P** **15 49 46.4 -1.1**
YOJ Yonaguni jima 25.39 350 P **P** **15 49 46.4 -1.1**
YOJ pmax pmax
comp=Z,345nm,1.8s
NACB Ninganchiao 25.41 347 IAmb IAmb 15 49 59.1
comp=Z,23nm,0.7s
GIRL Giralia 25.58 210 P **P** **15 49 51.4 +2.2**
TATO Taipei 26.20 347 P **P** **15 49 53.7 -1.1**
QIZ Qiongzhong 26.38 319 P **P** **15 49 56.4 -0.1**
QIZ S **S** **15 54 28.1 -0.6**
QIZ pmax pmax
comp=Z,580nm,6.3s
QIZ LR LR
comp=Z,400nm,14.0s
QIZ LR LR
comp=Z,450nm,19.3s
QIZ LR LR
comp=Z,720nm,14.4s
CTAO Charters Tower 26.40 138 P **P** **15 49 57.1 +0.4**
CTAO IAmb IAmb 15 50 08.4
comp=Z,52nm,1.2s
CTAO Charters Tower 26.40 138 P **P** **15 49 57.1 +0.4**
CTAO pmax pmax
comp=Z,52nm,1.3s
QZH Quanzhou 26.98 341 P **P** **15 50 01.8 0.0**
QZH S **S** **15 54 38.0 0.0**
QZH pmax pmax
comp=Z,65nm,0.6s
QZH LR LR
comp=Z,490nm,10.6s
UBPT Khong Chiam 27.22 306 **P** **15 50 03.1 -1.0**
PSI Prapat 29.14 277 LR LR 16 03 55.0
comp=Z,586nm,18.1s,baz=118,slow=41
FORT Forrest 29.97 180 **P** **15 50 30.3 +1.9**
FORT IAmb IAmb 15 50 34.0
comp=Z,18nm,0.8s
GSI Gunungsitoli 30.36 274 P **P** **15 50 32.2 +0.1**
GSI Gunungsitoli 30.36 274 P **P** **15 50 32.2 +0.1**
comp=Z,33nm,1.8s
GSI pP **pP** **15 50 39.9 +1.1**
comp=Z,33nm,1.8s
MLSI Meulaboh, Aceh 31.82 279 P **P** **15 50 46.3 +1.3**
comp=Z,64nm,1.1s
WHN Wuhan 33.58 339 ⇑P **P** **15 51 01.0 +0.9**
WHN sP **pP** **15 51 08.3 +1.4**
WHN S **S** **15 56 23.3 +1.9**
WHN pmax pmax
comp=Z,920nm,3.4s
WHN LR LR
comp=Z,1μm,17.1s
NJ2 Nanjing 33.62 346 *e*P **P** **15 51 01.5 +1.1**
NJ2 pmax pmax
comp=Z,13nm,0.5s
NWAO Narrogin (SRO) 33.64 196 P **P** **15 51 02.0 +1.3**
NWAO Narrogin (SRO) 33.64 196 LR LR 16 06 11.4
comp=Z,545nm,18.8s,baz=358,slow=39
NWAO Narrogin (SRO) 33.64 196 P **P** **15 51 02.0 +1.3**
NWAO pmax pmax
comp=Z,91nm,1.8s
STKA Stephens Creek 33.67 159 P **P** **15 51 02.6 +1.7**
STKA Stephens Creek 33.67 159 P **P** **15 51 02.0 +1.1**
comp=Z,6.3nm,0.7s,baz=335,slow=8.3,SNR=12
STKA LR LR 16 06 07.5
comp=Z,446nm,18.5s,baz=338,slow=39
comp=Z,6.3nm,0.7s
STKA Stephens Creek 33.67 159 P **P** **15 51 02.6 +1.7**
STKA pmax pmax
comp=Z,51nm,0.8s
JNU Nakatsue 33.70 5 LR LR 16 04 08.5
comp=Z,634nm,19.7s,baz=186,slow=35
CMAR Chiang Mai Arr 34.19 305 P **P** **15 51 05.4 -0.3**
CMAR Chiang Mai Arr 34.19 305 P **P** **15 51 03.8 -1.9**
comp=Z,2.3nm,1.0s,baz=130,slow=7.1,SNR=14
comp=Z,2.3nm,1.0s
CMAR Chiang Mai Arr 34.19 305 *i*P **P** **15 51 05.6 -0.1**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CHTO Chiang Mai 34.37 306 P **P** **15 51 06.5 -0.7**
CHTO IAmb IAmb 15 51 22.3
comp=Z,50nm,1.9s
CHTO Chiang Mai 34.37 306 P **P** **15 51 06.5 -0.7**
CHTO pmax pmax
comp=Z,50nm,2.0s
KMI Kunming 35.32 318 P **P** **15 51 16.5 +0.9**
KMI S **S** **15 56 50.6 +1.6**
KMI pmax pmax
comp=Z,8.0nm,1.0s
KMI pmax pmax
comp=Z,140nm,5.8s
KMI LR LR
comp=Z,230nm,18.9s
KMI LR LR
comp=Z,170nm,20.6s
KMI LR LR
comp=Z,240nm,19.4s
ENH Enshi 35.38 332 IAmb IAmb 15 51 17.9
comp=Z,21nm,0.7s
INU Inuyama 36.81 13 **P** **15 51 27.5 -0.4**
INU IAmb IAmb 15 51 31.2
comp=Z,24nm,0.7s
PZH PanZhiHua 36.92 319 P **P** **15 51 28.9 -0.2**
PZH S **S** **15 57 12.1 -1.0**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,160nm,5.9s
PZH LR LR
comp=Z,200nm,18.2s
PZH LR LR
comp=Z,230nm,15.9s
PZH LR LR
comp=Z,360nm,20.1s
LYN LuoYang 37.87 339 ⇓P **P** **15 51 37.3 +0.4**
LYN PP **PnPn** **15 53 07.6 +2.6**
LYN S **S** **15 57 24.8 -2.3**
LYN SS **SS** **16 00 15.5 +1.5**
LYN pmax pmax
comp=Z,71nm,0.6s
LYN pmax pmax
comp=Z,310nm,4.4s
LYN LR LR
comp=Z,400nm,17.9s
LYN LR LR
comp=Z,210nm,23.7s
LYN LR LR
comp=Z,420nm,17.9s
KSAR Wonju Array Be 37.89 0 **P** **15 51 36.4 -0.7**
KSAR Wonju Array Be 37.89 0 P **P** **15 51 36.4 -0.7**
KSRS Korea Array 37.90 0 P **P** **15 51 36.2 -0.9**
comp=Z,3.5nm,0.7s,baz=178,slow=9.5,SNR=31
KSRS PcP **PcP** **15 53 51.5 -1.6**
comp=Z,0.6nm,0.7s,baz=189,slow=3.9,SNR=3.0
comp=Z,3.5nm,0.7s
TIA Tai'an 38.01 346 P **P** **15 51 37.0 -1.1**
TIA pmax pmax
comp=Z,8.0nm,0.7s
TNCH TengChong 38.19 314 P **P** **15 51 39.1 -0.9**
TNCH PP **PnPn** **15 53 14.8 +5.6**
TNCH S **S** **15 57 34.3 +1.7**
TNCH pmax pmax
comp=Z,21nm,2.7s
TNCH pmax pmax
comp=Z,210nm,4.7s
TNCH LR LR
comp=Z,320nm,26.7s
MJAR Matsushiro Arr 38.22 14 P **P** **15 51 38.2 -1.7**
comp=Z,16nm,0.7s,baz=192,slow=8.6,SNR=97
MJAR LR LR 16 05 13.3
comp=Z,602nm,20.7s,baz=186,slow=33
comp=Z,16nm,0.7s
MAJO Matsushiro 38.22 14 P **P** **15 51 38.5 -1.4**
MAJO IAmb IAmb 15 51 42.2
comp=Z,25nm,0.7s
MAJO Matsushiro 38.22 14 *i*P **P** **15 51 37.9 -2.0**
MAJO pmax pmax
comp=Z,20nm,0.9s
MJB9 Matsu-Tunnel 38.22 13 P **P** **15 51 39.1 -0.8**
MJB9 IAmb IAmb 15 51 43.2
comp=Z,24nm,0.7s
XAN Xi'an 38.82 335 P **P** **15 51 44.5 -0.5**
XAN S **S** **15 57 41.0 -0.6**
XAN pmax pmax
comp=Z,62nm,0.6s
XAN pmax pmax
comp=Z,200nm,4.2s
XAN LR LR
comp=Z,140nm,16.5s
XAN LR LR
comp=Z,340nm,15.8s
XAN LR LR
comp=Z,300nm,22.0s
HNS HongShan 39.76 344 ⇑P **P** **15 51 51.9 -0.8**
HNS PP **PnPn** **15 53 30.8 +3.2**
HNS S **S** **15 57 55.3 -0.3**
HNS pmax pmax
comp=Z,11nm,0.8s
HNS LR LR
comp=Z,180nm,14.9s
HNS LR LR
comp=Z,160nm,15.3s
HNS LR LR
comp=Z,350nm,16.7s
DL2 Dalian 39.77 352 P **P** **15 51 48.9 -3.9**
DL2 pmax pmax
comp=Z,9.0nm,1.3s
DL2 pmax pmax
comp=Z,210nm,6.0s
DL2 LR LR
comp=Z,200nm,18.4s
DL2 LR LR
comp=Z,500nm,20.2s
DL2 LR LR
comp=Z,510nm,18.2s
JMM Marumori 40.13 16 **P** **15 51 55.9 +0.1**
JMM IAmb IAmb 15 51 58.0
comp=Z,45nm,0.6s
TIY Taiyuan 40.74 341 *e*P **P** **15 52 02.0 +1.0**
TIY S **S** **15 58 12.0 +1.6**
TIY SS **SS** **16 01 11.3 -0.4**
TIY pmax pmax
comp=Z,140nm,4.7s
TIY LR LR
comp=Z,150nm,15.8s
TIY LR LR
comp=Z,260nm,14.4s
TIY LR LR
comp=Z,250nm,18.5s
BJT Baijiatuau 41.86 346 **P** **15 52 08.9 -1.1**
BJT Baijiatuau 41.86 346 P **P** **15 52 08.9 -1.1**
BJT pmax pmax
comp=Z,13nm,0.6s
BJI Beijing 41.88 347 P **P** **15 52 08.8 -1.3**
BJI pP **pP** **15 52 13.3 -3.7**
BJI sP **sP** **15 52 15.8 -3.9**
BJI PP **PnPn** **15 53 51.4 -1.0**
BJI S **S** **15 58 26.4 -0.6**
BJI pmax pmax
comp=Z,9.0nm,0.6s
BJI pmax pmax
comp=Z,47nm,5.7s
BJI LR LR
comp=Z,69nm,17.6s
BJI LR LR
comp=Z,77nm,19.5s
BJI LR LR
comp=Z,98nm,19.2s
LZH Lanzhou 42.84 331 ⇑P **P** **15 52 18.8 +0.5**
LZH sP sP 15 52 28.6 +0.7
LZH PP **PP** **15 54 03.3 +5.3**
LZH S **S** **15 58 39.9 -1.8**
LZH pmax pmax
comp=Z,29nm,1.0s
LZH pmax pmax
comp=Z,290nm,4.8s
LZH LR LR
comp=Z,300nm,17.2s
LZH LR LR
comp=Z,250nm,15.8s
LZH LR LR
comp=Z,450nm,18.0s
MSHR Mys Shultsa 43.13 4 *i*P **P** **15 52 19.0 -1.3**
MSHR pmax pmax
comp=Z,14nm,0.9s
DZM Mont Dzumac 43.17 122 *e*P **P** **15 52 16.9 -4.2**
comp=Z,88nm,1.4s
DZM *e*S **S** **15 58 42.2 -4.6**
comp=Z,167nm,23.8s
DZM *e*SS **SS** **16 02 06.6 +6.5**
comp=Z,406nm,28.9s
DZM *e*LR LR 16 04 20.4
comp=Z,751nm,25.0s
DZM Mont Dzumac 43.17 122 LR LR 16 11 55.9
comp=Z,316nm,18.5s,baz=312,slow=38
SHL Shillong 43.45 309 **P** **15 52 21.9 -1.5**
SHL IAmb IAmb 15 52 33.8
comp=Z,21nm,0.7s
SHL Shillong 43.45 309 P **P** **15 52 21.9 -1.5**
SHL pmax pmax
comp=Z,21nm,0.7s
HHC Hu-ho-hao-te 43.88 342 *e*P **P** **15 52 28.6 +2.1**
HHC pmax pmax
comp=Z,17nm,0.7s
BTO Baotou 44.16 340 *e*P P 15 52 35.5 +6.7
BTO pP sP 15 52 40.1 +1.8
BTO sP pP 15 52 42.4 +6.8
BTO PP **PcP** **15 54 20.0 +6.5**
BTO S S 15 59 12.8 +12
BTO sS sS 15 59 17.9 +5.9
BTO SS **SS** **16 02 17.6 -1.4**
BTO pmax pmax
comp=Z,17nm,0.8s
BTO pmax pmax
comp=Z,360nm,4.8s
CN2 Changchun 44.30 357 *e*P **P** **15 52 29.4 -0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
USRK Ussuriysk Ar. 44.79 4 P **P** **15 52 33.1 -0.5**
comp=Z,7.4nm,0.5s,baz=182,slow=7.2,SNR=26
USRK LR LR 16 11 52.2
comp=Z,200nm,18.8s,baz=189,slow=37
comp=Z,7.4nm,0.5s
USA0B Ussuriysk Arra 44.80 4 **P** **15 52 31.5 -2.1**
USA0B Ussuriysk Arra 44.80 4 P **P** **15 52 31.5 -2.1**
USA0B pmax pmax
comp=Z,15nm,1.1s
MDJ Mudanjiang 45.09 2 P **P** **15 52 36.1 +0.1**
MDJ PP **PP** **15 54 23.3 +1.6**
MDJ S **S** **15 59 17.6 +3.7**
MDJ pmax pmax
comp=Z,11nm,1.3s
MDJ pmax pmax
comp=Z,250nm,11.0s
MDJ LR LR
comp=Z,340nm,20.6s
MDJ LR LR
comp=Z,270nm,13.1s
MDJ LR LR
comp=Z,520nm,18.5s
XLT XiLinHaoTe 45.58 348 *e*P **P** **15 52 38.6 -1.4**
XLT S **S** **15 59 21.6 +0.4**
XLT ScS **ScS** **16 02 31.6 -3.7**
XLT pmax pmax
comp=Z,8.0nm,0.6s
XLT pmax pmax
comp=Z,160nm,4.2s
XLT LR LR
comp=Z,200nm,14.9s
XLT LR LR
comp=Z,220nm,16.9s
BNX BinXian 46.19 360 ⇑P **P** **15 52 44.9 +0.3**
BNX S **S** **15 59 38.0 +8.3**
BNX pmax pmax
comp=Z,6.0nm,1.1s
BNX pmax pmax
comp=Z,59nm,3.2s
BNX LR LR
comp=Z,180nm,14.1s
BNX LR LR
comp=Z,150nm,14.4s
BNX LR LR
comp=Z,110nm,11.6s
LSA Lhasa 46.22 314 P **P** **15 52 46.5 +0.7**
LSA pmax pmax
comp=Z,35nm,0.7s
ASAJ Asahikawa 46.46 15 LR LR 16 13 49.9
comp=Z,463nm,18.1s,baz=208,slow=38
GTA Gaotai 47.42 330 P **P** **15 52 55.3 +0.7**
GTA sP pP 15 53 02.3 +0.8
GTA S **S** **15 59 47.8 -0.1**
GTA pmax pmax
comp=Z,12nm,0.7s
GTA pmax pmax
comp=Z,170nm,8.0s
GTA LR LR
comp=Z,290nm,18.9s
GTA LR LR
comp=Z,210nm,18.5s
GTA LR LR
comp=Z,380nm,21.4s
PALK Pallekele 47.70 280 LR LR 16 14 43.4
comp=Z,237nm,20.3s,baz=108,slow=38
GOMU GeErMu 47.83 323 P **P** **15 53 00.6 +2.5**
GOMU pP sP 15 53 08.6 +0.8
GOMU sP pP 15 53 11.1 +6.1
GOMU S **S** **15 59 51.0 -3.3**
GOMU pmax pmax
comp=Z,4.0nm,0.8s
GOMU LR LR
comp=Z,180nm,15.7s
GOMU LR LR
comp=Z,110nm,15.7s
GOMU LR LR
comp=Z,180nm,17.6s
EVN Everest 48.56 309 P **P** **15 53 03.2 -1.1**
YSS Yuzhno-Sakhali 49.16 13 **P** **15 53 06.7 -1.0**
YSS Yuzhno-Sakhali 49.16 13 *e*P **P** **15 53 07.7 0.0**
YSS *e* 15 55 00.8
YSS *e*S **S** **16 00 11.7 -0.2**
YSS pmax pmax
comp=Z,200nm,3.5s
YSS pmax pmax
comp=N,100nm,4.7s
YSS pmax pmax
comp=E,100nm,4.7s
YSS pmax pmax
comp=Z,40nm,0.6s
YSS smax smax
comp=N,100nm,2.6s
YSS smax smax
comp=E,100nm,2.3s
YSS MLR MLR
comp=Z,300nm,18.0s
YSS MLR MLR
comp=N,300nm,16.0s
YSS MLR MLR
comp=E,200nm,15.0s
HEH HeiHe 50.70 360 *e*P **P** **15 53 18.1 -1.3**
HEH sP **pP** **15 53 22.6 -3.7**
HEH PP **PP** **15 55 19.8 +4.2**
HEH S **S** **16 00 32.3 -1.0**
HEH pmax pmax
comp=E,13nm,1.3s
HEH pmax pmax
comp=E,180nm,5.4s
HEH LR LR
comp=E,400nm,21.9s
HEH LR LR
comp=E,180nm,21.5s
HEH LR LR
comp=E,640nm,20.2s
ULN Ulaanbaatar 51.60 342 **P** **15 53 24.9 -1.5**
ULN Ulaanbaatar 51.60 342 *ce*P **P** **15 53 25.6 -0.8**
ULN pmax pmax
comp=Z,13nm,1.3s
GRNR Gornyy 51.73 7 ⇑*i*P **P** **15 53 27.3 +0.2**
GRNR pmax pmax
comp=Z,4.0nm,0.7s
HYB Hyderabad 51.76 293 *e*P **P** **15 53 27.6 -0.4**
SONM Songino Array 51.78 342 P **P** **15 53 25.8 -1.9**
SONM Songino Array 51.78 342 P **P** **15 53 26.9 -0.8**
comp=Z,4.1nm,0.7s,baz=159,slow=8.0,SNR=30
SONM LR LR 16 18 32.7
comp=Z,163nm,18.8s,baz=148,slow=40
comp=Z,4.1nm,0.7s
SONM Songino Array 51.78 342 P **P** **15 53 25.8 -1.9**
SONM pmax pmax
comp=Z,7.0nm,0.8s
TYV Tymovskoe 52.83 12 *e*P **P** **15 53 35.1 -0.2**
TYV pmax pmax
comp=Z,11nm,0.8s
TYV pmax pmax
comp=Z,100nm,2.7s
ZEA Zeya 54.19 360 *e*P **P** **15 53 44.4 -0.8**
ZEA *e* 16 01 22.3
IRK Irkutsk 56.31 343 *e*P **P** **15 53 59.5 -1.1**
IRK pmax pmax
comp=Z,24nm,2.3s
MOY Mondy 56.85 340 *e*P **P** **15 54 04.1 -0.5**
MOY pmax pmax
comp=Z,28nm,2.1s
WMQ Urumqi 56.95 326 *e*P **P** **15 54 08.9 +3.5**
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ LR LR
comp=Z,340nm,17.9s
WMQ LR LR
comp=Z,240nm,22.3s
WMQ LR LR
comp=Z,190nm,23.5s
URZ Urewera 58.61 136 LR LR 16 20 19.9
comp=Z,107nm,19.6s,baz=305,slow=37
RAO Raoul Island 58.91 124 LR LR 16 19 53.1
comp=Z,158nm,18.8s,baz=26,slow=36
PEA0B Petropavlovsk- 59.06 20 P **P** **15 54 19.6 -0.2**
PEA0B IAmb IAmb 15 54 22.6
comp=Z,19nm,0.8s
PEA0B Petropavlovsk- 59.06 20 P **P** **15 54 19.6 -0.2**
PEA0B pmax pmax
comp=Z,19nm,0.8s
PETK Petropavlovsk- 59.06 20 P **P** **15 54 19.4 -0.5**
PETK Petropavlovsk- 59.06 20 P **P** **15 54 20.1 +0.2**
comp=Z,12nm,0.7s,baz=188,slow=4.5,SNR=70
PETK LR LR 16 18 20.6
comp=Z,183nm,20.8s,baz=208,slow=35
comp=Z,12nm,0.7s
PET Petropavlovsk 59.33 21 *e*P **P** **15 54 18.6 -3.1**
PET *e*S **S** **16 02 30.2 +1.3**
PET pmax pmax
comp=Z,300nm,7.1s
PET pmax pmax
comp=Z,200nm,6.7s
PET pmax pmax
comp=Z,32nm,1.0s
PET pmax pmax
comp=Z,100nm,13.4s
NIL Nilore 61.52 309 P **P** **15 54 36.6 -0.6**
NIL IAmb IAmb 15 54 54.5
comp=Z,9.4nm,0.6s
NIL Nilore 61.52 309 P **P** **15 54 36.6 -0.6**
NIL pmax pmax
comp=Z,9.0nm,0.6s
MK31 Makanchi Array 61.79 326 P **P** **15 54 37.6 -1.1**
MK31 IAmb IAmb 15 54 47.4
comp=Z,6.8nm,0.6s
MK31 Makanchi Array 61.79 326 P **P** **15 54 37.6 -1.1**
MK31 pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 61.79 326 P **P** **15 54 37.5 -1.2**
MKAR Makanchi Array 61.79 326 P **P** **15 54 37.8 -0.9**
comp=Z,5.7nm,0.6s,baz=118,slow=8.5,SNR=50
comp=Z,5.7nm,0.6s
KSH Kashi 61.95 316 P **P** **15 54 40.8 +0.7**
KSH pmax pmax
comp=Z,11nm,0.7s
MAKZ Makanchi 61.97 326 P **P** **15 54 38.8 -1.1**
MAKZ IAmb IAmb 15 54 48.5

comp=Z,11nm,0.6s
MAKZ Makanchi 61.97 326 P **P** **15 54 38.8 -1.1**
MAKZ pmax pmax
comp=Z,11nm,0.6s
YAK Yakutsk 62.52 1 P **P** **15 54 42.2 -1.0**
YAK Yakutsk 62.52 1 *e*P **P** **15 54 42.2 -1.0**
YAK *e**PP **pP** **15 54 46.4 -3.9**
YAK *e* 15 55 22.9
YAK *e* 15 56 58.6
YAK *e*S **S** **16 03 07.5 -1.8**
YAK *e**SS **sS** **16 03 28.0 +7.1**
YAK *e* 16 04 35.3
YAK *e*SSS SSS 16 10 00.2
YAK pmax pmax
comp=Z,40nm,1.0s
YAK pmax pmax
comp=N,2.0nm,0.6s
YAK pmax pmax
comp=E,1.0nm,0.4s
YAK pmax pmax
comp=Z,54nm,4.2s
YAK pmax pmax
comp=N,30nm,2.5s
YAK pmax pmax
comp=E,30nm,4.3s
YAK smax smax
comp=E,42nm,2.3s
YAK smax smax
comp=N,56nm,3.5s
YAK MLR MLR
comp=Z,277nm,16.0s
YAK MLR MLR
comp=N,195nm,16.0s
YAK MLR MLR
comp=E,32nm,17.0s
MA2 Magadan 62.66 13 P **P** **15 54 43.0 -1.2**
MA2 Magadan 62.66 13 LR LR 16 19 57.2
comp=E,188nm,20.8s,baz=215,slow=34
MA2 Magadan 62.66 13 *ce*P **P** **15 54 44.8 +0.6**
MA2 pmax pmax
comp=Z,71nm,2.5s
NRN Naryn 62.81 318 P **P** **15 54 45.2 -0.8**
NRN Naryn 62.81 318 P **P** **15 54 45.2 -0.8**
BOOM Boomskoye usch 63.35 319 P **P** **15 54 48.7 -0.7**
BOOM Boomskoye usch 63.35 319 P **P** **15 54 48.7 -0.7**
AAK Ala-Archa 64.36 319 LR LR 16 26 16.1
comp=Z,154nm,20.9s,baz=106,slow=39
ZAA0 Zalesovo Array 64.98 334 P **P** **15 54 57.8 -1.8**
ZALV Zalesovo Beam 64.98 334 **P** **15 54 57.4 -2.2**
ZALV Zalesovo Beam 64.98 334 P **P** **15 54 57.8 -1.8**
comp=Z,1.9nm,0.5s,baz=83,slow=4.8,SNR=10
comp=Z,1.9nm,0.5s
KBL Kabul 65.11 309 P **P** **15 54 60.0 -1.1**
KBL IAmb IAmb 15 55 10.1
comp=Z,9.2nm,0.7s
KBL Kabul 65.11 309 P **P** **15 55 00.0 -1.1**
KBL pmax pmax
comp=Z,9.0nm,0.7s
SHEM Shemya Is, Ala 65.67 29 LR LR 16 20 41.7
comp=Z,132nm,19.4s,baz=140,slow=33
KURBB Kurchatov Arra 66.02 328 P **P** **15 55 05.0 -1.4**
comp=Z,9.0nm,0.5s,baz=126,slow=6.0,SNR=133
comp=Z,9.0nm,0.5s
SEY Seymchan 66.02 12 *i* P **P** **15 55 06.3 +0.1**
SEY pmax pmax
comp=Z,43nm,2.0s
KURK Kurchatov 66.03 328 **P** **15 55 05.1 -1.3**
KURK IAmb IAmb 15 55 13.3
comp=Z,13nm,0.7s
KURK Kurchatov 66.03 328 *ce*P **P** **15 55 04.6 -1.8**
KURK pmax pmax
comp=Z,10.0nm,0.6s
KK31 Karatay Array 67.21 318 P **P** **15 55 12.9 -1.3**
KK31 Karatay Array 67.21 318 P **P** **15 55 12.9 -1.3**
KK31 pmax pmax
comp=Z,8.0nm,1.1s
KKAR Karatay Array 67.21 318 **P** **15 55 11.9 -2.3**
KKAR Karatay Array 67.21 318 P **P** **15 55 11.9 -2.3**
BVAR Borovoye Array 71.59 328 P **P** **15 55 39.5 -1.6**
comp=Z,3.2nm,0.6s,baz=148,slow=8.6,SNR=13
comp=Z,3.2nm,0.6s
BRVK Borovoye 71.66 328 **P** **15 55 39.8 -1.6**
BRVK Borovoye 71.66 328 *ce*P **P** **15 55 39.9 -1.6**
BRVK pmax pmax
comp=Z,19nm,2.5s
TIXI Tiksi 72.17 0 **P** **15 55 43.1 -1.1**
TIXI Tiksi 72.17 0 *ce*P **P** **15 55 43.5 -0.7**
TIXI pmax pmax
comp=Z,17nm,1.3s
RAR Rarotonga 73.33 112 LR LR 16 28 01.2
comp=Z,56nm,20.1s,baz=260,slow=36
BILL Bilibino 73.47 14 *i* P **P** **15 55 52.0 0.0**
BILL pmax pmax
comp=Z,4.0nm,1.4s
NIKH Nikolski High 74.74 34 P **P** **15 56 00.3 +0.6**
baz=248
NRIK Noril'sk 74.92 346 IAmb IAmb 15 56 00.8
comp=Z,12nm,0.6s
NRIK Noril'sk 74.92 346 P **P** **15 55 59.6 -0.7**
comp=Z,12nm,0.5s,baz=122,slow=5.7,SNR=28
NRIK LR LR 16 30 10.6
comp=Z,215nm,20.5s,baz=144,slow=37
comp=Z,12nm,0.5s
NRIK Noril'sk 74.92 346 *i* P **P** **15 55 59.7 -0.7**
NRIK pmax pmax
comp=Z,6.0nm,0.7s
SPIA Saint Paul Isl 75.68 30 P **P** **15 56 05.5 +0.5**
baz=246
P08K Saint George I 75.79 30 P **P** **15 56 05.8 +0.2**
baz=246
ABKAR Akbulak array 76.25 321 **P** **15 56 06.4 -2.0**
UNV Unalaska Valle 76.37 34 P **P** **15 56 09.3 +0.3**
baz=250
AKTO Aktyubinsk 77.78 322 LR LR 16 35 14.0
comp=Z,148nm,18.7s,baz=104,slow=39
GAMB Gambell 77.92 23 P **P** **15 56 17.5 +0.1**
baz=243
SVE Sverdlovsk 78.26 329 *e*P **P** **15 56 18.5 -1.1**
VNDA Vanda 78.98 173 P **P** **15 56 23.6 +0.5**
VNDA Vanda 78.98 173 P **P** **15 56 23.6 +0.5**
comp=Z,1.1nm,0.5s,baz=315,slow=5.9,SNR=9.2
VNDA LR LR 16 31 42.9
comp=Z,153nm,18.2s,baz=332,slow=36
comp=Z,1.1nm,0.5s
VNDA Vanda 78.98 173 P **P** **15 56 23.6 +0.5**
VNDA pmax pmax
comp=Z,4.0nm,0.9s
ARTI Arti 79.30 328 P **P** **15 56 23.7 -1.6**
ARTI Arti 79.30 328 LR LR 16 33 39.1
comp=Z,47nm,20.6s,baz=108,slow=37
ARTI Arti 79.30 328 *d i* P **P** **15 56 22.6 -2.7**
ARTI S **S** **16 06 23.8 -0.6**
ARTI SS **SS** **16 11 26.6 -4.9**
ARTI pmax pmax
comp=Z,3.0nm,0.7s
MAW Mawson 80.09 201 P **P** **15 56 29.4 +0.1**
comp=Z,0.7nm,0.5s,baz=82,slow=11,SNR=4.2
comp=Z,0.7nm,0.5s
K13K Kusilvak Mount 80.13 26 P **P** **15 56 30.4 +0.8**
baz=250
SDPT Sand Point 80.17 33 P **P** **15 56 30.6 +0.6**
baz=254
M13K Dall Lake 80.21 28 P **P** **15 56 31.5 +1.4**
baz=251
CHNA Chernabura Isl 80.53 34 P **P** **15 56 32.9 +1.0**
baz=255
F14K Arctic Creek 80.73 23 P **P** **15 56 33.2 +0.4**
baz=248
ANM Nome 80.77 24 P **P** **15 56 33.9 +0.9**
baz=248
L14K Kuka Creek 80.82 27 IAmb IAmb 15 56 37.2
comp=Z,12nm,0.8s
L14K Kuka Creek 80.82 27 P **P** **15 56 34.3 +1.0**
baz=252
N14K Kuskokwak Cree 80.85 29 P **P** **15 56 34.5 +0.9**
baz=253
O14K Tigyukauivet M 80.86 29 P **P** **15 56 34.4 +0.8**
baz=253
J14K Nanvaranak Lak 80.89 26 P **P** **15 56 34.6 +0.9**
baz=250
S14K Fog Glacier 80.92 33 P **P** **15 56 34.7 +0.6**
baz=255
M14K Bethel 80.97 28 IAmb IAmb 15 56 36.8
comp=Z,20nm,0.7s
M14K Bethel 80.97 28 P **P** **15 56 35.2 +1.1**
baz=252,SNR=7.7

G15K Niukluk 81.46 24 P **P** **15 56 37.5 +0.8**
baz=250
F15K North Star Dit 81.47 23 IAmb IAmb 15 56 41.3
comp=Z,53nm,1.9s
F15K North Star Dit 81.47 23 P **P** **15 56 37.9 +1.1**
baz=249
L15K Ungalak Mounta 81.47 27 P **P** **15 56 37.9 +1.0**
baz=252,SNR=7.8
CHGN Chignik 81.54 33 P **P** **15 56 38.2 +0.9**
baz=256
O15K Ungalikthiuk R 81.55 30 P **P** **15 56 38.4 +1.1**
baz=254
M15K Kasigluk River 81.55 28 P **P** **15 56 38.2 +0.9**
baz=253,SNR=5.3
K15K Wolf Creek Mou 81.64 26 IAmb IAmb 15 56 40.8
comp=Z,8.6nm,0.7s
K15K Wolf Creek Mou 81.64 26 P **P** **15 56 39.0 +1.3**
baz=252
N15K Kwethluk River 81.69 29 IAmb IAmb 15 56 52.3
comp=Z,32nm,1.4s
N15K Kwethluk River 81.69 29 P **P** **15 56 39.0 +1.0**
baz=254
H16K Elim 82.06 24 P **P** **15 56 41.1 +1.2**
baz=251,SNR=8.1
C16K Lisburne Hills 82.16 20 P **P** **15 56 41.6 +1.3**
baz=248
G16K Koyuk River 82.26 23 IAmb IAmb 15 56 44.9
comp=Z,33nm,1.6s
G16K Koyuk River 82.26 23 P **P** **15 56 41.8 +0.9**
baz=251
J16K Anvik River 82.34 26 P **P** **15 56 42.7 +1.3**
baz=253
L16K Owhat River 82.40 27 IAmb IAmb 15 56 43.9
comp=Z,10nm,0.6s
L16K Owhat River 82.40 27 P **P** **15 56 43.0 +1.3**
baz=254,SNR=9.1
N16K Nishlik Lake 82.40 29 P **P** **15 56 42.9 +1.1**
baz=255
P16K Nushagak River 82.42 30 P **P** **15 56 42.9 +1.0**
baz=256
M16K Timber Creek 82.45 28 IAmb IAmb 15 56 45.4
comp=Z,9.8nm,0.7s
M16K Timber Creek 82.45 28 P **P** **15 56 43.7 +1.7**
baz=255,SNR=7.5
I17K Unalakleet 82.47 25 P **P** **15 56 43.9 +1.9**
baz=253
O16K Kokwok River B 82.51 30 P **P** **15 56 43.1 +0.7**
baz=256
PPT Papeete 82.70 108 LR LR 16 34 14.9
comp=Z,72nm,18.2s,baz=260,slow=36
PPT2 Papeete2 82.70 108 *e*LQ LQ 16 18 59.6
comp=Z,2µm,44.2s
PPT2 *e*LQ LQ 16 19 11.9
comp=Z,949nm,37.8s
PPT2 *e*LR LR 16 22 34.6
comp=Z,189nm,25.0s
PPT2 *e*LR LR 16 22 39.3
comp=Z,147nm,25.0s
D17K Noatak River 82.75 21 P **P** **15 56 45.3 +1.9**
baz=250
RDOG Red Dog Mine 82.93 21 P **P** **15 56 46.0 +1.6**
baz=250
R17L Mt. Peulik Vol 82.94 32 P **P** **15 56 45.3 +0.6**
baz=255
G17K Kiwalik Mounta 82.97 23 P **P** **15 56 46.1 +1.4**
baz=253,SNR=13
C17K DeLong Mountai 82.98 20 P **P** **15 56 46.2 +1.6**
baz=250
E17K Hotham Inlet 83.00 22 P **P** **15 56 46.1 +1.4**
baz=252
TBI Tubuai 83.01 113 *e*LR LR 16 22 45.9
comp=Z,788nm,28.5s
Q16K King Salmon 83.02 31 P **P** **15 56 46.0 +1.1**
baz=257
F17K Baldwin Pennin 83.02 22 IAmb IAmb 15 56 48.1
comp=Z,10nm,0.7s
F17K Baldwin Pennin 83.02 22 P **P** **15 56 46.1 +1.3**
baz=252
J17K VABM Dome 83.03 26 IAmb IAmb 15 56 59.5
comp=Z,19nm,0.9s
J17K VABM Dome 83.03 26 P **P** **15 56 46.6 +1.6**
baz=254
O17K Koliganek Bris 83.04 29 P **P** **15 56 46.4 +1.3**
baz=257
L17K Donlin 83.05 27 P **P** **15 56 47.2 +2.1**
baz=255,SNR=5.5
H17K Granite Mounta 83.10 24 P **P** **15 56 46.9 +1.5**
baz=254,SNR=18
N17K Nushagak Hills 83.17 29 IAmb IAmb 15 57 39.2
comp=Z,33nm,1.9s
N17K Nushagak Hills 83.17 29 P **P** **15 56 47.0 +1.2**
baz=256
K17K Iditarod 83.19 26 P **P** **15 56 47.3 +1.5**
baz=255
P17K Kvichak River 83.24 30 P **P** **15 56 47.8 +1.6**
baz=257
M17K Holitna River 83.26 28 P **P** **15 56 47.9 +1.7**
baz=256
Q17K Contact Creek 83.32 31 P **P** **15 56 47.4 +0.6**
baz=256
E18K Tukpahlearik C 83.56 22 P **P** **15 56 49.0 +1.4**
baz=253
F18K Selawik 83.68 23 P **P** **15 56 49.5 +1.3**
baz=254,SNR=5.7
C18K Utukok River 83.72 20 IAmb IAmb 15 56 50.9
comp=Z,11nm,0.6s
C18K Utukok River 83.72 20 P **P** **15 56 49.9 +1.4**
baz=252
H18K Honhosa River 83.80 24 P **P** **15 56 50.2 +1.3**
baz=255
L18K Granite Mounta 83.80 27 P **P** **15 56 50.5 +1.6**
baz=257,SNR=28
N18K Kilae Creek 83.83 29 P **P** **15 56 50.5 +1.3**
baz=258
Q18K Katmai Hardscr 83.85 31 P **P** **15 56 49.9 +0.4**
baz=259
G18K Tagagawik 83.87 23 IAmb IAmb 15 56 52.9
comp=Z,33nm,1.6s
G18K Tagagawik 83.87 23 P **P** **15 56 50.5 +1.2**
baz=255,SNR=7.7
P18K Big Mountain, 83.89 30 P **P** **15 56 50.7 +1.2**
baz=258
SII Sitkinak Islan 83.89 33 P **P** **15 56 50.7 +1.2**
baz=260
O18K Koktuh Hills 83.99 30 P **P** **15 56 51.3 +1.2**
baz=258
M18K Stony River 84.04 28 P **P** **15 56 51.7 +1.5**
baz=258,SNR=14
J18K Innoko River 84.08 26 P **P** **15 56 51.3 +0.9**
baz=257,SNR=16
GCSA Galena City Sc 84.31 25 P **P** **15 56 52.9 +1.4**
baz=256,SNR=8.5
C19K Lookout Ridge 84.42 20 P **P** **15 56 53.6 +1.5**
baz=253
F19K Shaleruckik Mo 84.46 23 P **P** **15 56 53.9 +1.7**
baz=255
OHAK Old Harbor 84.49 32 P **P** **15 56 54.2 +1.7**
baz=260
KIRV Kirov 84.53 329 LR LR 16 38 19.1
comp=Z,59nm,19.6s,baz=112,slow=38
N19K Bonanza Creek 84.54 29 P **P** **15 56 54.5 +1.6**
baz=259
G19K Purcell Mounta 84.56 23 P **P** **15 56 54.6 +1.8**
baz=256,SNR=11
L19K White Mountain 84.63 27 P **P** **15 56 54.5 +1.3**
baz=258,SNR=9.6
H19K Roundabout Mou 84.67 24 P **P** **15 56 54.3 +1.1**
baz=257,SNR=12
J19K Poorman 84.67 26 IAmb IAmb 15 57 08.2
comp=Z,34nm,1.7s
J19K Poorman 84.67 26 P **P** **15 56 54.8 +1.4**
baz=258,SNR=6.4
D19K Kuna River 84.77 21 IAmb IAmb 15 57 00.3
comp=Z,7.6nm,0.7s
D19K Kuna River 84.77 21 P **P** **15 56 54.4 +0.6**
baz=255
M19K Big River Lodg 84.79 28 P **P** **15 56 54.8 +0.8**
baz=259
E19K Redstone River 84.82 22 P **P** **15 56 55.1 +1.1**
baz=256
KDAK Kodiak Island 84.96 32 LR LR 16 29 12.3
comp=Z,193nm,20.9s,baz=241,slow=32
KDAK Kodiak Island 84.96 32 P **P** **15 56 56.0 +1.1**
baz=261
L20K Farewell, AK 85.14 27 P **P** **15 56 57.0 +1.2**
baz=259,SNR=7.4
Q20K Shuyak Island 85.19 31 P **P** **15 56 57.2 +1.1**
baz=261

K20K Telida 85.22 26 IAmb IAmb 15 57 11.2
comp=Z,24nm,1.7s
K20K Telida 85.22 26 P **P** **15 56 57.2 +1.1**
baz=259
F20K Avaraart Lake 85.30 22 IAmb IAmb 15 56 59.2
comp=Z,24nm,1.8s
F20K Avaraart Lake 85.30 22 P **P** **15 56 57.2 +0.8**
baz=257
H20K Anotleneega Mo 85.30 24 P **P** **15 56 57.8 +1.3**
baz=258,SNR=5.1
O20K Slope Mountain 85.31 30 P **P** **15 56 56.9 +0.1**
baz=261
I20K Naaghedeneel 85.32 25 P **P** **15 56 57.6 +1.1**
baz=258
J20K Nowinta River 85.34 25 IAmb IAmb 15 57 11.1
comp=Z,25nm,1.9s
J20K Nowinta River 85.34 25 P **P** **15 56 57.7 +1.0**
baz=259
D20K Etivluk River 85.35 21 IAmb IAmb 15 57 06.6
comp=Z,22nm,1.6s
D20K Etivluk River 85.35 21 P **P** **15 56 57.7 +0.9**
baz=256
M20K Styx River 85.37 28 IAmb IAmb 15 56 58.8
comp=Z,30nm,1.5s
M20K Styx River 85.37 28 P **P** **15 56 58.4 +1.4**
baz=260,SNR=12
E20K Nigu River 85.40 21 P **P** **15 56 58.4 +1.3**
baz=257
IMAR Indian Mountai 85.85 24 P **P** **15 56 58.4 -0.8**
PPLA Purkeypile 85.98 27 IAmb IAmb 15 57 02.0
comp=Z,8.2nm,0.6s
PPLA Purkeypile 85.98 27 P **P** **15 57 00.7 +0.6**
baz=261,SNR=6.3
G21K Allakaket 86.05 23 P **P** **15 57 00.9 +0.7**
baz=259
C21K Knifeblade Rid 86.10 20 P **P** **15 57 01.0 +0.6**
baz=258
BRLK Bradley Lake 86.13 30 IAmb IAmb 15 57 13.6
comp=Z,21nm,1.0s
SKT Skwentna 86.14 28 IAmb IAmb 15 57 01.3
comp=Z,7.1nm,0.6s
SKT Skwentna 86.14 28 P **P** **15 57 00.3 -0.4**
baz=261,SNR=9.7
H21K Melozitna Rive 86.17 24 P **P** **15 57 01.7 +0.9**
baz=260
F21K Alatna River 86.19 22 P **P** **15 57 01.5 +0.5**
baz=259
E21K Killik River 86.24 21 IAmb IAmb 15 59 34.2
comp=Z,24nm,1.9s
E21K Killik River 86.24 21 P **P** **15 57 01.6 +0.4**
baz=259
B21K Ikpikpuk River 86.25 20 P **P** **15 57 01.8 +0.7**
baz=258
SLKM Skilak Lake 86.56 29 IAmb IAmb 15 57 15.7
comp=Z,22nm,1.0s
BPAW Bear Paw Mtn. 86.69 26 IAmb IAmb 15 57 15.8
comp=Z,19nm,2.0s
BPAW Bear Paw Mtn. 86.69 26 P **P** **15 57 04.3 +0.8**
baz=262
F22K John River 86.74 22 P **P** **15 57 04.4 +0.8**
baz=260
M22K Willow 86.77 28 IAmb IAmb 15 57 17.6
comp=Z,20nm,0.9s
M22K Willow 86.77 28 P **P** **15 57 04.3 +0.5**
baz=263
H22K Ishtalitna Cre 86.80 24 P **P** **15 57 04.3 +0.4**
baz=261
O22K Cooper Landing 86.80 29 P **P** **15 57 04.4 +0.5**
baz=263
RC01 Rabbit Creek A 86.87 29 P **P** **15 57 04.4 +0.1**
baz=263
SEW Seward 86.89 30 P **P** **15 57 04.6 +0.2**
baz=263
G22K Bettles 86.90 23 P **P** **15 57 04.1 -0.2**
baz=261
TRF Thorofare Moun 86.91 26 P **P** **15 57 04.2 -0.5**
baz=262
MLY Manley 86.93 25 P **P** **15 57 04.9 +0.3**
baz=262,SNR=8.1
KIV Kislovodsk 86.97 314 *e*P **P** **15 57 03.2 -2.1**
KIV pmax pmax
comp=Z,5.0nm,1.0s
E22K Anaktuvuk Pass 86.98 22 P **P** **15 57 04.8 +0.1**
baz=261
PMR Palmer 87.22 28 P **P** **15 57 06.0 0.0**
baz=264
GHO Glory Hole Cre 87.33 28 IAmb IAmb 15 57 09.0
comp=Z,7.0nm,0.7s
COLD Coldfoot 87.45 23 P **P** **15 57 07.5 +0.4**
baz=262
G23K Bananza Creek 87.45 23 IAmb IAmb 15 57 20.5
comp=Z,17nm,1.7s
G23K Bananza Creek 87.45 23 P **P** **15 57 07.5 +0.4**
baz=262
D23K Nanushuk River 87.52 21 P **P** **15 57 07.7 +0.4**
baz=262
KNK Knik Glacier 87.52 29 IAmb IAmb 15 57 08.8
comp=Z,11nm,0.7s
KNK Knik Glacier 87.52 29 P **P** **15 57 07.7 +0.2**
baz=264
PWL Port Wells 87.52 29 P **P** **15 57 07.3 -0.2**
baz=264
I23K Minto, Yukon-K 87.53 25 IAmb IAmb 15 57 10.4
comp=Z,7.2nm,0.6s
I23K Minto, Yukon-K 87.53 25 P **P** **15 57 07.5 +0.1**
baz=263,SNR=16
H23K Yukon River 87.53 24 IAmb IAmb 15 57 12.4
comp=Z,14nm,1.6s
H23K Yukon River 87.53 24 P **P** **15 57 07.9 +0.4**
baz=263
MCK McKinley 87.55 26 P **P** **15 57 07.1 -0.5**
baz=264
NEA2 Nenana 87.58 25 P **P** **15 57 08.1 +0.4**
baz=263
C23K Itkillik River 87.66 20 P **P** **15 57 08.5 +0.5**
baz=262
E23K Chandalar 87.78 22 IAmb IAmb 15 57 11.7
comp=Z,6.9nm,0.8s
E23K Chandalar 87.78 22 P **P** **15 57 09.3 +0.6**
baz=263
TOLK Toolik Lake Re 87.87 21 P **P** **15 57 09.3 +0.2**
baz=263
P23K Montague Islan 87.90 30 P **P** **15 57 09.5 +0.2**
baz=265
M23K Glacier View 87.90 28 P **P** **15 57 09.6 +0.3**
baz=265
WRH Wood River Hil 87.99 26 IAmb IAmb 15 57 22.2
comp=Z,14nm,1.4s
SCM Sheep Creek Mo 88.09 28 IAmb IAmb 15 57 13.6
comp=Z,23nm,1.4s
SCM Sheep Creek Mo 88.09 28 P **P** **15 57 10.5 +0.2**
baz=265
GLI Glacier Island 88.13 29 P **P** **15 57 10.8 +0.4**
baz=265
COLA College 88.13 25 P **P** **15 57 10.9 +0.6**
baz=264
D24K Happy Valley 88.20 21 IAmb IAmb 15 57 16.5
comp=Z,6.6nm,0.6s
D24K Happy Valley 88.20 21 P **P** **15 57 10.8 +0.2**
baz=264
E24K Your Creek 88.20 22 P **P** **15 57 11.1 +0.4**
baz=264
H24K Noodor Dome 88.22 24 IAmb IAmb 15 57 24.0
comp=Z,9.4nm,1.3s
H24K Noodor Dome 88.22 24 P **P** **15 57 11.2 +0.4**
baz=264,SNR=8.3
F24K Squaw Lake 88.38 23 P **P** **15 57 12.2 +0.7**
baz=264
G24K Hadweenzic Riv 88.46 23 P **P** **15 57 12.4 +0.5**
baz=265
HDA Harding Lake 88.48 26 P **P** **15 57 11.0 -1.0**
baz=265
ILAR Eielson Array 88.54 25 P **P** **15 57 11.3 -1.0**
comp=Z,1.6nm,0.6s,baz=241,slow=5.4,SNR=31
comp=Z,1.6nm,0.6s
M24K Tolsona, Glenn 88.66 28 P **P** **15 57 12.4 -0.6**
baz=266
KLU Klutina 88.74 29 IAmb IAmb 15 59 30.0
comp=Z,9.9nm,0.9s
KLU Klutina 88.74 29 P **P** **15 57 13.7 +0.3**
baz=266
EYAK Cordova Ski Ar 88.76 30 P **P** **15 57 14.0 +0.6**
baz=266
DIV Divide 88.79 29 P **P** **15 57 12.6 -1.0**
DIV IAmb IAmb 15 59 18.4
comp=Z,12nm,1.0s
SYO Syowa Base 88.79 201 ⇑ *es*P sP 15 57 20.0 -3.3
K24K Donnelly Dome 88.95 26 IAmb IAmb 15 57 16.1

	comp=Z,8.8nm,0.7s							
K24K	**Donnelly Dome**	88.95	26	P		P	15 57 14.1	-0.2
	baz=266,SNR=7.4							
G25K	**Bearman Lake**	89.01	23	P		P	15 57 14.5	+0.1
	baz=266							
PAX	**Paxson**	89.04	27	P		P	15 57 14.8	+0.1
	baz=267							
D25K	**Kavik River**	89.09	21	P		P	15 57 15.1	+0.3
	baz=266							
H25L	**Birch Creek**	89.09	24	P		P	15 57 15.4	+0.6
	baz=266							
J25K	**Salcha River,**	89.18	25	P		P	15 57 15.1	-0.2
	baz=267,SNR=6.8							
F25K	**Christian River**	89.24	22	P		P	15 57 15.9	+0.3
	baz=266							
QSPA	**South Pole Qui**	89.30	180	P		P	15 57 17.2	+1.2
QSPA				IAmb		IAmb	15 57 33.2	
	comp=Z,12nm,1.1s							
QSPA	**South Pole Qui**	89.30	180	P		P	15 57 16.0	0.0
	comp=Z,2.1nm,0.7s,baz=319,slow=0.5,SNR=30							
QSPA				LR		LR	16 37 32.7	
	comp=Z,181nm,18.9s,baz=5.0,slow=36							
	comp=Z,2.1nm,0.7s							
BMRM	**Bremner River**	89.35	29	P		P	15 57 16.9	+0.7
	baz=268							
RIDG	**Independent Ri**	89.36	26	IAmb		IAmb	15 57 16.9	
	comp=Z,6.8nm,0.6s							
RIDG	**Independent Ri**	89.36	26	P		P	15 57 16.0	-0.2
	baz=267,SNR=8.0							
N25K	**Chitina, Valde**	89.38	29	P		P	15 57 16.8	+0.4
	baz=268							
KAIM	**Kayak Island**	89.39	30	P		P	15 57 17.1	+0.7
	baz=268							
BMAR	**Burnt Mountain**	89.64	23	P		P	15 57 18.0	+0.5
DOT	**Dot Lake**	89.70	26	IAmb		IAmb	15 57 18.9	
	comp=Z,5.2nm,0.6s							
SCRK	**Sand Creek**	89.75	26	P		P	15 57 18.5	+0.4
	baz=268							
F26K	**Sheenjek River**	89.82	22	IAmb		IAmb	15 57 23.9	
	comp=Z,16nm,1.8s							
F26K	**Sheenjek River**	89.82	22	P		P	15 57 19.3	+1.0
	baz=268							
G26K	**Porcupine Rive**	89.93	23	P		P	15 57 19.6	+0.9
	baz=268							
J26L	**Joseph Creek**	89.95	26	IAmb		IAmb	15 57 20.2	
	comp=Z,9.2nm,0.6s							
J26L	**Joseph Creek**	89.95	26	P		P	15 57 18.9	-0.1
	baz=268,SNR=19							
BGLC	**Bering Glacier**	89.97	30	P		P	15 57 19.5	+0.5
	baz=269							
L26K	**Log Cabin Wild**	90.01	27	P		P	15 57 19.8	+0.6
	baz=269							
I26K	**Coal Creek Min**	90.14	25	P		P	15 57 20.4	+0.7
	baz=269							
M26K	**Nabesna, AK**	90.16	28	P		P	15 57 20.0	+0.1
	baz=269							
K27K	**Chicken**	90.59	26	IAmb		IAmb	15 57 36.5	
	comp=Z,9.0nm,1.0s							
K27K	**Chicken**	90.59	26	P		P	15 57 23.3	+1.4
	baz=270							
MOS	**Moscow**	90.67	326	*e*P		P	15 57 24.1	+1.7
M27K	**Edge Creek, AK**	90.68	28	P		P	15 57 23.7	+1.2
	baz=270							
L27K	**Beaver Creek,**	90.70	27	IAmb		IAmb	15 57 24.2	
	comp=Z,5.1nm,0.6s							
L27K	**Beaver Creek,**	90.70	27	P		P	15 57 23.1	+0.6
	baz=270,SNR=15							
BCAR	**Beaver Creek A**	90.72	27	P		P	15 57 21.1	-1.5
G27K	**Doyon Strip**	90.77	23	P		P	15 57 24.1	+1.4
	baz=270							
BARN	**Barnard Glacie**	90.78	29	IAmb		IAmb	15 57 25.4	
	comp=Z,8.9nm,0.6s							
E27K	**Coleen River**	90.79	22	P		P	15 57 24.1	+1.3
	baz=270							
I27K	**Kandik River**	90.79	25	P		P	15 57 23.5	+0.6
	baz=270,SNR=16							
H27K	**Steamboat Moun**	90.82	24	IAmb		IAmb	15 57 37.5	
	comp=Z,15nm,1.6s							
H27K	**Steamboat Moun**	90.82	24	P		P	15 57 24.0	+1.0
	baz=270,SNR=5.9							
CTG	**Chitina Glacier**	90.94	29	P		P	15 57 24.9	+1.2
	baz=270							
CTGM	**Chitina Glacie**	90.94	29	IAmb		IAmb	15 57 26.1	
	comp=Z,6.6nm,0.6s							
BVCY	**Beaver Creek**	91.15	28	P		P	15 57 25.8	+1.2
	baz=271							
ASF	**Jabal al Asfar**	91.17	302	LR		LR	16 45 34.4	
	comp=Z,57nm,18.4s,baz=130,slow=40							
OBN	**Obninsk**	91.27	325‖	*e*P		P	15 57 24.6	-0.6
OBN				*e*			16 00 58.3	
OBN				*i* S		S	16 08 11.6	-11
OBN				pmax		pmax		
	comp=Z,3.0nm,0.8s							
OBN				MLR		MLR		
	comp=Z,107nm,22.0s							
I28M	**Miner Creek**	91.49	25	IAmb		IAmb	15 57 28.1	
	comp=Z,8.0nm,0.6s							
I28M	**Miner Creek**	91.49	25	P		P	15 57 26.3	+0.1
	baz=272,SNR=15							
O28M	**Mount Upton**	91.50	29	P		P	15 57 26.7	+0.2
	baz=271							
E28M	**Babbage River**	91.54	22	P		P	15 57 26.8	+0.6
	baz=272							
YUK8	**Steele Glacier**	91.70	29	P		P	15 57 27.4	0.0
	baz=272							
DAWY	**Dawson**	91.77	26	IAmb		IAmb	15 57 28.7	
	comp=Z,4.5nm,0.6s							
DAWY	**Dawson**	91.77	26	P		P	15 57 27.5	+0.1
	baz=272,SNR=11							
PNL	**Peninsula**	91.93	30	P		P	15 57 28.6	+0.3
	baz=272							
H29M	**Whitestone**	92.10	24	P		P	15 57 29.0	+0.1
	baz=273							
E29M	**Blow River**	92.16	22	P		P	15 57 29.0	0.0
	baz=274							
I29M	**Ogilvie Camp,**	92.18	25	IAmb		IAmb	15 57 42.9	
	comp=Z,7.4nm,1.1s							
I29M	**Ogilvie Camp,**	92.18	25	P		P	15 57 29.2	0.0
	baz=273,SNR=6.7							
G29M	**Pine Creek**	92.20	23	IAmb		IAmb	15 57 33.5	
	comp=Z,22nm,1.6s							
G29M	**Pine Creek**	92.20	23	P		P	15 57 29.5	+0.1
	baz=274,SNR=5.7							
YUK4	**Talbot Arm**	92.23	29	P		P	15 57 30.2	+0.3
	baz=273							
M29M	**Somme Creek**	92.27	28	IAmb		IAmb	15 57 32.7	
	comp=Z,20nm,1.8s							
M29M	**Somme Creek**	92.27	28	P		P	15 57 30.4	+0.6
	baz=273,SNR=7.0							
J29N	**Klondike Camp**	92.27	26	P		P	15 57 30.0	+0.3
	baz=273							
L29M	**L29M**	92.38	27	IAmb		IAmb	15 57 44.3	
	comp=Z,17nm,1.4s							
L29M	**L29M**	92.38	27	P		P	15 57 31.5	+1.2
	baz=273,SNR=6.9							
YUK6	**Outpost Mounta**	92.39	29	P		P	15 57 31.4	+0.8
	baz=273							
K29M	**Barlow Dome**	92.61	26	IAmb		IAmb	15 57 45.7	
	comp=Z,11nm,1.3s							
K29M	**Barlow Dome**	92.61	26	P		P	15 57 32.4	+1.0
	baz=274,SNR=10							
EPYK	**Eagle Plains**	92.76	24	P		P	15 57 32.7	+0.8
	baz=275							
P29M	**Windy Craggy**	92.78	30	IAmb		IAmb	15 57 50.3	
	comp=Z,8.0nm,1.1s							
P29M	**Windy Craggy**	92.78	30	P		P	15 57 32.9	+0.8
	baz=274							
HYT	**Haines Junctio**	92.82	29	P		P	15 57 32.6	+0.2
	baz=274,SNR=7.4							
EIL	**Elat**	92.86	300	LR		LR	16 42 49.9	
	comp=Z,52nm,22.0s,baz=67,slow=38							
G30M	**tAoh Zraii Nji**	92.90	23	IAmb		IAmb	15 57 44.9	
	comp=Z,20nm,1.9s							
G30M	**tAoh Zraii Nji**	92.90	23	P		P	15 57 32.3	-0.3
	baz=275							
N30M	**Aishikik Lake**	92.97	29	IAmb		IAmb	15 57 46.9	
	comp=Z,17nm,1.6s							
N30M	**Aishikik Lake**	92.97	29	P		P	15 57 33.6	+0.5
	baz=274							
I30M	**Mount Dempster**	93.00	25	IAmb		IAmb	15 57 34.8	
	comp=Z,11nm,1.7s							
I30M	**Mount Dempster**	93.00	25	P		P	15 57 33.3	+0.2
	baz=275							
F30M	**Barrier River**	93.01	22	P		P	15 57 33.1	0.0
	baz=276							
M30M	**Minto, Yukon**	93.03	27	IAmb		IAmb	15 57 47.0	
	comp=Z,15nm,1.6s							
M30M	**Minto, Yukon**	93.03	27	P		P	15 57 34.1	+0.8
	baz=274,SNR=9.4							
J30M	**Hart River**	93.07	25	IAmb		IAmb	15 57 41.5	
	comp=Z,24nm,1.9s							
J30M	**Hart River**	93.07	25	P		P	15 57 33.9	+0.4
	baz=275							
P30M	**Million Dollar**	93.14	30	P		P	15 57 34.0	+0.1
	baz=274							
PLBC	**Pleasant Camp**	93.49	31	P		P	15 57 35.6	+0.2
	baz=275							
O30N	**Mendenhall**	93.51	29	P		P	15 57 35.4	-0.2
	baz=275							
N31M	**Braeburn, Yuko**	93.60	29	P		P	15 57 36.3	+0.4
	baz=275							
G31M	**Satah River**	93.67	23	P		P	15 57 35.9	-0.2
	baz=277							
S31K	**Pelican**	93.68	32	P		P	15 57 36.5	+0.2
	baz=275							
INK	**Inuvik**	93.78	22	LR		LR	16 42 35.2	
	comp=Z,56nm,19.5s,baz=242,slow=37							
H31M	**Peel River**	93.78	24	P		P	15 57 36.9	+0.3
	baz=277							
F31M	**Tsiigehtchic**	93.81	22	IAmb		IAmb	15 58 49.9	
	comp=Z,6.8nm,0.7s							
SKAG	**Skagway**	94.01	31	P		P	15 57 38.4	+0.7
	baz=276							
WHY	**Whitehorse**	94.11	29	P		P	15 57 39.2	+0.8
	baz=276,SNR=8.5							
M31M	**Drury Creek, Y**	94.18	28	IAmb		IAmb	15 57 51.0	
	comp=Z,17nm,1.8s							
M31M	**Drury Creek, Y**	94.18	28	P		P	15 57 39.0	+0.4
	baz=276							
SIT	**Sitka**	94.24	33	P		P	15 57 39.4	+0.5
	baz=275							
R32K	**Eaglecrest**	94.55	32	P		P	15 57 40.7	+0.4
	baz=276							
S32K	**Kilisnoo**	94.61	33	P		P	15 57 41.0	+0.5
	baz=276							
FARO	**Faro, Yukon**	94.66	28	IAmb		IAmb	15 57 43.8	
	comp=E,19nm,1.8s							
FARO	**Faro, Yukon**	94.66	28	P		P	15 57 41.3	+0.5
	baz=278,SNR=14							
P32M	**Atlin**	94.82	30	P		P	15 57 42.1	+0.5
	baz=277							
ARCES	**ARCESS Array B**	94.92	340	P		P	15 57 39.7	-2.0
	comp=E,0.5nm,0.5s,baz=97,slow=4.7,SNR=5.0							
ARCES				LR		LR	16 47 34.1	
	comp=E,98nm,18.3s,baz=90,slow=40							
	comp=E,0.5nm,0.5s							
N32M	**Quiet Lake**	94.93	29	IAmb		IAmb	15 57 55.5	
	comp=Z,13nm,1.2s							
N32M	**Quiet Lake**	94.93	29	P		P	15 57 42.5	+0.4
	baz=278							
SPITS	**Spitsbergen Ar**	94.96	349	LR		LR	16 48 00.3	
	comp=Z,101nm,18.2s,baz=47,slow=40							
P33M	**Teslin, Yukon**	95.19	30	P		P	15 57 43.3	0.0
	baz=278							
MMPY	**Sheldon Lake,**	95.56	27	P		P	15 57 45.8	+0.9
	baz=279,SNR=6.3							
Q32M	**Nakina River**	95.64	31	P		P	15 57 46.1	+0.6
	baz=278							
CRAG	**Craig**	95.64	34	P		P	15 57 46.4	+1.1
	baz=277							
A36M	**Sachs Harbour**	95.79	17	P		P	15 57 47.1	+1.4
	baz=286							
AKBB	**Malin Array Si**	95.98	321	*i* P		P	15 57 46.8	-0.2
AKBB				pmax		pmax		
	comp=Z,1.0nm,0.9s							
FINES	**FINESS Array B**	96.20	332	P		P	15 57 44.8	-2.9
	comp=Z,0.6nm,0.7s,baz=58,slow=4.7,SNR=4.8							
	comp=Z,0.6nm,0.7s							
MNK	**Minsk**	96.33	325	*i* P		P	15 57 45.1	-3.4
MNK				*i*			16 01 38.1	
MNK					*i* PPP	PPP	16 03 41.0	
MNK					*i* S	**SKSac**	**16 08 21.5**	**-2.3**
MNK					*i* SS	**SS**	**16 15 47.8**	**+8.1**
MNK					*i* SSS	SSS	16 19 22.4	
MNK					pmax	pmax		
	comp=E,16nm,0.9s							
MNK					pmax	pmax		
	comp=N,9.0nm,1.0s							
MNK					pmax	pmax		
	comp=Z,5.0nm,0.7s							
MNK					MLR	MLR		
	comp=E,87nm,21.0s							
MNK					MLR	MLR		
	comp=Z,103nm,20.0s							
MNK					MLR	MLR		
	comp=N,100nm,20.0s							
VSU	**Vasula**	96.37	329	*i* P		P	15 57 49.1	+0.5
VSU				pmax		pmax		
	comp=Z,8.0nm,1.1s							
V35K	**Ketchikan**	96.51	34	P		P	15 57 49.1	-0.2
	baz=278							
DLBC	**Dease Lake**	96.87	31	LR		LR	16 34 54.8	
	comp=Z,8.6nm,21.7s,baz=248,slow=31							
MATP	**Matopo**	98.56	249	LR		LR	16 42 52.4	
	comp=Z,34nm,18.3s,baz=94,slow=36							
MLR	**Muntele Rosu**	98.82	316	LR		LR	16 49 01.9	
	comp=Z,132nm,21.2s,baz=72,slow=39							
BBB	**Bella Bella**	99.08	37	LR		LR	16 37 18.5	
	comp=Z,122nm,19.6s,baz=220,slow=32							
LSZ	**Lusaka**	99.18	255	LR		LR	16 37 24.4	
	comp=Z,212nm,20.9s,baz=141,slow=32							
TOAD	**Toad River Com**	99.24	30	P		**Pdif**	**15 58 00.6**	**-0.9**
	baz=284							
HFS	**Hagfors**	102.39	332	P		**Pdif**	**15 58 13.8**	**-1.7**
	comp=Z,1.9nm,1.0s,baz=100,slow=4.4,SNR=2.1							
YKA	**Yellowknife Ar**	102.97	25	P		**Pdif**	**15 58 18.0**	**0.0**
	comp=Z,0.6nm,0.8s,baz=294,slow=7.5,SNR=2.9							
TXAR	**Lajitas Array**	123.26	55	PKP		**PKiKP**	**16 03 18.0**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=338,slow=1.3,SNR=4.0							
TXAR	**Lajitas Array**	123.26	55	PKIKP		**PKiKP**	**16 03 18.0**	**+0.2**
TORD	**Torodi Ar. Bea**	125.28	286	PKP		**PKPdf**	**16 03 20.8**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=40,slow=0.5,SNR=1.4							
CO03	**El Pedregal**	144.06	152	PKPdf		**PKPdf**	**16 03 55.4**	**-0.9**
LCO	**Las Campanas**	145.57	150			**PKiKP**	**16 04 01.7**	**-1.5**
LCO	**Las Campanas**	145.57	150	PKP2		**PKiKP**	**16 04 01.7**	**-1.5**
SIV	**San Ignacio**	161.26	152	PKP		**PKPdf**	**16 04 21.9**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=225,slow=4.4,SNR=3.4							
SIV				PKPab		**PKPab**	**16 05 06.1**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=229,slow=9.3,SNR=2.2							

IDC ***14*** *15:49:31.8±1.2,0.°47N×126.°18E,h0km,mb3.8/5, mbtmp3.8/5,Error ellipse: s-maj=69.8km s-min=23.0km az=71.0*
NEIC ***14*** *15:49:35.6±1.4,0.°42N±0.°09×126.°13E±0.°06,h35km±2km, mb4.5/6,Error ellipse: s-maj=16.0km s-min=10.0km az=183.0*

AUST 14 15:46:07.8±1.0,19°S±6°×12°1E±°,h16km±10km,mb4.0/7, ML2.8/5,Error ellipse: s-maj=18.6km s-min=4.8km az=136.9,Western Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	2.72	202	P			Pn	15 46 51.3	+0.5
MBWA				S			Sb	15 47 27.1	-2.2
PSAC1	**Pilbara Seismi**	3.04	198	P			Pn	15 46 55.9	+0.6
PSAC1				S			Sn	15 47 33.7	+2.2
PSA00	**Pilbara Seismi**	3.07	197	P			Pn	15 46 56.6	+1.0
PSA00				S			Sn	15 47 33.6	+1.5
FITZ	**Fitzroy Crossi**	4.61	84	P			Pn	15 47 18.3	+1.5
GIRL	**Giralia**	7.35	236	P			Pn	15 47 48.7	-5.8
GIRL				S			Sn	15 49 04.4	-13
KNRA	**Kununurra**	8.14	70	P			Pn	15 48 05.8	+0.4
	comp=Z,100nm,1.6s,comp=Z,0.1nm								
KNRA				S			Sn	15 49 37.2	+0.1
MEEK	**Meekatharra**	8.23	194	P			Pn	15 48 06.6	0.0
	comp=Z,8.0nm,1.1s,comp=Z,0.1nm								
MEEK	**Meekatharra**	8.23	194	S			Sn	15 49 37.0	-2.3
MORW	**Morawa**	11.27	202	P			Pn	15 48 45.4	-2.9
	comp=Z,9.7nm,2.8s								
MORW	**Morawa**	11.27	202	S			Sn	15 50 42.6	-11
BLDU	**Ballidu**	12.51	197	P			Pn	15 49 04.9	-0.3
	comp=Z,14nm,2.1s								
BLDU	**Ballidu**	12.51	197	S			Sn	15 51 13.8	-10
KLBR	**Kellerberrin**	13.20	192	P			Pn	15 49 13.4	-1.3
	comp=Z,11nm,1.7s								
KLBR	**Kellerberrin**	13.20	192	S			Sn	15 51 32.0	-9.2
FORT	**Forrest**	13.77	153	P			Pn	15 49 24.1	+1.8
	comp=Z,6.9nm,1.0s								
FORT				S			Sn	15 51 55.4	+0.5
NWAO	**Narrogin (SRO)**	14.60	192	P			Pn	15 49 32.0	-1.8
	comp=Z,22nm,1.8s								
NWAO	**Narrogin (SRO)**	14.60	192	S			Sn	15 52 04.3	-11

VAO ***14*** *15:56:26.2±2.7,33.°78S×70.°74W,h10km,mb4.4*
SJA ***14*** *15:56:38.5±0.8,33.°12S×70.°65W,h97km±2km, ML4.2, MW4.1*
NEIC ***14*** *15:56:39.8±1.1,33.°13S±0.°04×70.°57W±0.°03,h92km±5km, mb4.3/11,ML4.5(GUC),Error ellipse: s-maj=6.6km s-min=3.7km az=197.0*
GUC ***14*** *15:56:39.9±0.7,33.°13S×70.°56W,h97km±1km,ML4.5*
IDC ***14*** *15:56:40.4±0.6,33.°11S×70.°20W,h96km±5km,mb3.8/11, mbtmp4.1/15,Error ellipse: s-maj=21.9km s-min=12.7km az=86.0*

ISC 14 15:56:39.3±0.5,33°15S±0.°02×70°57W±0.°03,h93km±3km, n142,σ1s23/177,mb4.1/15,3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PEL	**Peldehue**	0.10	275				Pn	15 56 52.4	0.0
PEL	**Peldehue**	0.10	275	*e*P			Pn	15 56 52.9	+0.6
PEL				*e* S			Sn	15 57 02.5	+0.4
PEL				IAML				15 57 03.1	
	comp=E,68μm,0.4s								
PEL	**Peldehue**	0.10	275	*e*P			Pn	15 56 52.4	0.0
PEL				*e*S			Sn	15 57 03.1	+1.0
MT10	**Hacienda Santa**	0.12	167	*e*P			Pn	15 56 52.9	+0.4
MT10				*i* S			Sn	15 57 03.2	+0.7
MT10				IAML				15 57 06.8	
	comp=E,58μm,0.4s								
MT14	**Cerro Calȷn**	0.25	173	*e*P			Pn	15 56 53.3	+0.4
MT14				*i* S			Sn	15 57 04.2	+1.2
MT14				IAML				15 57 05.6	
	comp=E,33μm,0.3s								
MT05	**Renca**	0.28	210				Pn	15 56 53.5	+0.5
MT05	**Renca**	0.28	210	*e*P			Pn	15 56 53.7	+0.7
MT05				*i* S			Sn	15 57 04.4	+1.2
MT05	**Renca**	0.28	210	*e*P			Pn	15 56 53.7	+0.7
MT05				*e*S			Sn	15 57 04.5	+1.3
MT16	**CCHEN**	0.28	172				Pn	15 56 53.5	+0.5
MT16	**CCHEN**	0.28	172	*e*P			Pn	15 56 53.6	+0.5
MT16				*i* S			Sn	15 57 04.0	+0.8
MT16				IAML				15 57 06.0	
	comp=N,13μm,0.2s								
FCH	**Farellones**	0.29	127	*e*P			Pn	15 56 53.7	+0.3
FCH				*i* S			Sn	15 57 04.3	+0.4
FCH				IAML				15 57 07.9	
	comp=N,32μm,0.2s								
MT03	**Universidad Ad**	0.34	172				Pn	15 56 53.8	+0.4
MT03	**Universidad Ad**	0.34	172	*e*P			Pn	15 56 54.0	+0.6
MT03				*i* S			Sn	15 57 04.9	+1.1
MT03	**Universidad Ad**	0.34	172	*e*P			Pn	15 56 54.0	+0.6
MT03				*e*S			Sn	15 57 05.0	+1.1
VA03	**San Esteban**	0.39	2				Pn	15 56 53.8	+0.1
VA03	**San Esteban**	0.39	2	*e*P			Pn	15 56 53.9	+0.1
VA03				*i* S			Sn	15 57 04.7	+0.4
VA03				IAML				15 57 06.5	
	comp=E,42μm,0.3s								
VA03	**San Esteban**	0.39	2	*e*P			Pn	15 56 53.7	+0.1
VA03				*e*S			Sn	15 57 04.7	+0.4
VA03				IAML				15 57 06.1	
	comp=Z,12μm,0.2s								
ROCH	**El Roble**	0.41	296	*e*P			Pn	15 56 54.5	+0.6
ROCH				*e*P			Pn	15 56 54.5	+0.6
ROCH				*i* S			Sn	15 57 05.6	+0.8
ROCH				*i* S				15 57 05.7	
ROCH				IAML				15 57 07.3	
	comp=N,37μm,0.4s								
ROC1	**El Roble**	0.41	295	*e*P			Pn	15 57 06.0	+12
MT04	**Ro Olivares**	0.44	125	*e*P			Pn	15 56 54.5	+0.3
MT04				*i* S			Sn	15 57 05.8	+0.6
MT04	**Ro Olivares**	0.44	125	*e*P			Pn	15 56 54.2	0.0
MT04				*e*S			Sn	15 57 08.2	+3.0
MT04				IAML				15 57 10.1	
	comp=Z,8μm,0.2s								
MT15	**Las Vizcachas**	0.45	173	*e*P			Pn	15 56 54.6	+0.6
MT15				*i* S			Sn	15 57 06.0	+1.0
MT15				IAML				15 57 07.4	
	comp=E,44μm,0.2s								
MT02	**Curacav**	0.49	257				Pn	15 56 54.7	+0.6
MT02	**Curacav**	0.49	257	*e*P			Pn	15 56 54.9	+0.7
MT02				*i* S			Sn	15 57 06.1	+0.7
MT02	**Curacav**	0.49	257	*e*P			Pn	15 56 54.0	-0.2
MT02				IAML				15 57 08.0	
	comp=Z,5μm,0.6s								
MT08	**Bocatoma Ro**	0.55	122					15 56 55.5	+0.6
MT08	**Bocatoma Ro**	0.55	122	*e*P			Pn	15 56 55.5	+0.6
MT08				*i* S			Sn	15 57 07.7	+1.1
MT08	**Bocatoma Ro**	0.55	122	*e*P			Pn	15 56 55.6	+0.6
MT08				*e*S			Sn	15 57 09.3	+2.7
MT08				IAML				15 57 12.9	
	comp=Z,5μm,0.6s								
MT09	**Talagante**	0.71	209				Pn	15 56 56.8	+0.6
MT09	**Talagante**	0.71	209	*e*P			Pn	15 56 56.9	+0.6
MT09				*i* S			Sn	15 57 10.3	+1.2
MT09				IAML				15 57 12.1	
	comp=E,14μm,0.1s								
LMEL	**Las Melosas**	0.76	156				Pn	15 56 57.5	+0.7
LMEL	**Las Melosas**	0.76	156	*e*P			Pn	15 56 57.5	+0.7
LMEL				*i* S			Sn	15 57 11.1	+1.2
LMEL	**Las Melosas**	0.76	156	*e*P			Pn	15 56 56.9	+0.2
LMEL				*e*S			Sn	15 57 12.1	+2.2
BO04	**La Punta**	0.84	182				Pn	15 56 58.1	+0.7
BO04	**La Punta**	0.84	182	*e*P			Pn	15 56 58.1	+0.7
BO04				*i* S			Sn	15 57 12.1	+1.1
BO04				IAML				15 57 12.8	
	comp=N,11μm,0.3s								
VA06	**Catapilco**	0.85	314				Pn	15 56 58.0	+0.5
VA06	**Catapilco**	0.85	314	*e*P			Pn	15 56 58.1	+0.7
VA06				*i* S			Sn	15 57 11.6	+0.5
MT01	**Popeta**	0.91	218				Pn	15 56 58.6	+0.4
MT01	**Popeta**	0.91	218	*e*P			Pn	15 56 58.7	+0.6
MT01				*i* S			Sn	15 57 13.1	+0.7
MT01				IAML				15 57 13.6	
	comp=N,13μm,0.2s								
MT01	**Popeta**

VA01 IAML 15 57 18.1
comp=N,10µm,0.5s
VA01 Torpederas 0.91 278 *eP* **Pn 15 56 58.5 +0.4**
VA01 IAML 15 57 18.9
comp=Z,3µm,0.4s
VA05 Santo Domingo 1.01 240 *eP* **Pn 15 57 00.2 +1.0**
VA05 Santo Domingo 1.01 240 *eP* **Pn 15 57 00.0 +0.8**
VA05 *i* S **Sn 15 57 15.8 +1.7**
VA05 IAML 15 57 17.8
comp=E,19µm,0.5s
BO01 Tunca 1.31 199 Pn 15 57 03.5 +0.7
BO01 Tunca 1.31 199 *eP* **Pn 15 57 03.5 +0.7**
BO01 *i* S **Sn 15 57 21.7 +1.2**
BO01 IAML 15 57 22.2
comp=N,5µm,0.2s
BO01 Tunca 1.31 199 *eP* **Pn 15 57 03.2 +0.5**
BO01 *e*S **Sn 15 57 21.6 +1.2**
BO01 IAML 15 57 22.0
comp=Z,2µm,0.2s
ASAL Salagasta 1.56 70 *eP* **Pn 15 57 07.2 +1.2**
BO02 Sierra Bellavi 1.65 186 Pn 15 57 08.1 +1.1
BO02 Sierra Bellavi 1.65 186 *eP* **Pn 15 57 08.2 +1.1**
BO02 *i* S **Sn 15 57 29.6 +1.5**
BO02 IAML 15 57 30.7
comp=N,7µm,0.3s
BO02 Sierra Bellavi 1.65 186 *eP* **Pn 15 57 08.3 +1.2**
BO02 *e*S **Sn 15 57 30.0 +1.9**
BO02 IAML 15 57 33.4
comp=Z,5µm,0.2s
RTLS Leoncito 1.73 39 *eP* **Pn 15 57 10.0 +1.7**
RTLS *e*S **Sn 15 57 33.5 +3.2**
RTLS IAML 15 57 35.3
comp=Z,1µm,1.0s
CO02 Combarbal 1.98 349 Pn 15 57 11.7 +0.3
CO02 Combarbal 1.98 349 *eP* **Pn 15 57 11.7 +0.3**
CO02 *i* S **Sn 15 57 35.7 -0.2**
CO02 IAML 15 57 41.0
CO02 Combarbal 1.98 349 *eP* **Pn 15 57 11.5 +0.1**
CO02 *e*S **Sn 15 57 42.1 +6.3**
CO02 IAML 15 57 42.7
comp=Z,1µm,0.3s
GO05 Hualane 2.17 211 *eP* **Pn 15 57 13.6 -0.2**
GO05 *i* S **Sn 15 57 39.1 -1.1**
ZON Zonda 2.27 46 Pn 15 57 15.8 +0.7
ZON Zonda 2.27 46 *eP* **Pn 15 57 16.0 +0.9**
ZON *e*S **Sn 15 57 45.3 +2.8**
ZON IAML 15 57 50.8
comp=Z,334nm,0.7s
CO03 El Pedregal 2.31 357 Pn 15 57 16.6 +0.9
CO03 El Pedregal 2.31 357 *eP* **Pn 15 57 16.7 +0.9**
CO03 *i* S **Sn 15 57 43.8 +0.2**
CO03 IAML 15 57 46.2
comp=E,3µm,0.3s
CO03 El Pedregal 2.31 357 *eP* **Pn 15 57 16.7 +0.9**
CO03 *e*S **Sn 15 57 44.7 +1.1**
CO03 IAML 15 57 47.4
comp=Z,1µm,0.5s
SJA San Juan 2.35 47 *eP* Pn 15 57 00.0 -16
SJA *e*S **Sn 15 57 48.4 +3.9**
RFA San Rafael 2.38 133 *eP* **Pn 15 57 17.2 +0.6**
RFA *e*S **Sn 15 57 47.3 +2.0**
RTLL Cerro Villicun 2.54 45 *eP* Pn 15 57 04.0 -15
RTLL *e*S **Sn 15 57 50.5 +1.4**
ML02 Panimavida 2.70 195 Pn 15 57 21.3 +0.5
ML02 Panimavida 2.70 195 *eP* **Pn 15 57 21.6 +0.8**
ML02 *e*S **Sn 15 57 53.1 +0.4**
ML02 IAML 15 58 00.3
comp=Z,580nm,0.6s
ACCO Cerro Coronel 2.86 27 *eP* **Pn 15 57 24.3 +1.1**
GO04 Tololo Observa 2.98 356 Pn 15 57 24.8 0.0
GO04 Tololo Observa 2.98 356 *eP* **Pn 15 57 24.8 0.0**
GO04 *e*S Sn 15 57 46.0 -14
ACAN Cantantal 2.98 74 *eP* **Pn 15 57 24.2 -0.5**
ACAN IAML 15 58 02.7
comp=Z,2µm,0.6s
AROD Rodeo 3.12 18 *eP* **Pn 15 57 28.6 +1.8**
AROD *e*S Sn 15 57 53.0 -10
CO01 Juntas del Tor 3.19 7 Pn 15 57 29.1 +1.4
CO05 La Serena 3.27 350 Pn 15 57 28.3 -0.2
BI02 San Fabin de 3.55 189 Pn 15 57 33.0 +0.7
AGUA GUANDACOL 4.06 27 *eP* **Pn 15 57 40.0 +0.6**
AGUA IAML 15 59 09.3
comp=Z,252nm,0.7s
LCO Las Campanas 4.13 358 Pn 15 57 39.6 -0.7
BI05 Punta Hualpn 4.18 210 *eP* **Pn 15 57 39.9 -0.9**
BI05 IAML 15 58 29.4
comp=Z,172nm,0.2s
APLL PUNTA DE LOS L 4.41 52 *eP* **Pn 15 57 43.0 -0.9**
APLL *e*P **Pn 15 57 43.0 -0.9**
ACLC CERRO LA CRUZ 4.84 41 *eP* **Pn 15 57 48.6 -1.3**
ACLC IAML 15 59 12.2
comp=Z,105nm,0.5s
AC04 Llanos de Chal 4.95 355 Pn **Pn 15 57 50.7 -0.6**
GO03 Copiapo 5.55 3 Pn **Pn 15 57 58.3 -1.1**
AC06 Mina Casimiro 5.78 2 Pn **Pn 15 58 01.0 -1.5**
AC02 Maricunga 6.42 12 Pn **Pn 15 58 11.2 -0.4**
H03N1 Juan Fernandez 6.99 265 T T 16 05 19.1
baz=86,slow=73,SNR=182
H03S1 Juan Fernandez 7.00 262 T T 16 04 43.1
baz=85,slow=75,SNR=154
H03S3 Juan Fernandez 7.00 262 T T 16 04 45.1
baz=85,slow=75,SNR=138
H03N3 Juan Fernandez 7.00 265 T T 16 05 10.2
baz=86,slow=73,SNR=140
H03N2 Juan Fernandez 7.01 265 T T 16 05 13.9
baz=86,slow=73,SNR=223
H03S2 Juan Fernandez 7.01 262 T T 16 04 44.4
baz=85,slow=75,SNR=274
PLCA Paso Flores 7.57 180 P **Pn 15 58 27.3 +0.5**
comp=Z,1.5nm,0.3s,baz=351,slow=12,SNR=14
TRQA Tornquist 8.54 127 Pn 15 58 39.1 -0.9
CPUP Villa Florida 13.36 63 P **Pn 15 59 42.0 -3.1**
comp=Z,0.3nm,0.3s,baz=97,slow=8.4,SNR=6.8
CPUP S Sn 16 02 02.0 -10
comp=Z,0.4nm,0.6s,baz=354,slow=18,SNR=1.1
PLTB Pedras Altas 14.39 89 Pn **Pn 15 59 56.8 -1.8**
LPAZ La Paz 16.93 8 P **P 16 00 32.9 +1.2**
LPAZ La Paz 16.93 8 P **P 16 00 31.8 +0.1**
comp=Z,1.9nm,0.7s,baz=214,slow=3.6,SNR=7.7
LPAZ La Paz 16.93 8 *eP* **P 16 00 32.6 +1.0**
ITAB Concordia 16.99 75 P **P 16 00 32.2 +0.7**
ITAB IAmb IAmb 16 01 12.3
comp=Z,32nm,1.4s
PTGB Pitanga 18.23 67 *eP* **P 16 00 45.0 -0.3**
AQDB Aquidauana 18.29 50 P **P 16 00 45.1 -0.9**
SIV San Ignacio 19.13 29 P **P 16 00 54.2 -0.9**
comp=Z,1.9nm,0.6s,baz=199,slow=7.6,SNR=15
MAJ01 Sao Joao Batis 19.47 79 *eP* **P 16 00 56.5 -2.3**
RPRD Ribas do Rio P 19.61 54 *eP* **P 16 01 00.1 -0.3**
LDASE Londrina, Braz 19.67 65 *eP* **P 16 00 59.8 -1.3**
PTLB Pontes e Lacer 20.45 33 *eP* **P 16 01 09.1 -0.3**
PCMB Pacaembu 20.61 61 *eP* **P 16 01 09.7 -1.4**
EFI East Falkland 20.63 158 P **P 16 01 11.3 +0.2**
USHA Ushuaia 21.73 177 P **P 16 01 23.4 +0.7**
comp=Z,3.7nm,0.5s,baz=44,slow=5.5,SNR=6.4
comp=Z,3.7nm,0.5s
ITRB Iturama 22.46 58 *eP* **P 16 01 28.5 -2.4**
BB19B Bebedouro 22.97 64 *eP* **P 16 01 34.9 -1.1**
BDFB Brasilia 26.84 55 P **P 16 02 08.3 -3.0**
comp=Z,1.7nm,0.6s,baz=235,slow=8.8,SNR=4.9
comp=Z,1.7nm,0.6s
RIB01 Linhares ES 30.25 70 *eP* **P 16 02 39.8 -1.7**
BOAV Boa Vista 36.61 17 P **P 16 03 34.6 -2.0**
BOAV IAmb IAmb 16 03 57.2
comp=Z,5.1nm,1.3s
BELA Belgrano 2 47.50 170 P **P 16 05 05.8 +1.3**
BELA IAmb IAmb 16 05 07.0
comp=Z,4.0nm,0.7s
VNA2 Neumayer--Watz 50.32 158 ⇓P **P 16 05 26.4 +0.3**
comp=Z,3.3nm,0.4s,baz=278,slow=7.8
SNAA Sanae 51.91 158 ⇓P **P 16 05 38.7 +0.6**
comp=Z,43nm,0.4s
SNAA Sanae 51.91 158 P **P 16 05 38.7 +0.6**
SNAA IAmb IAmb 16 05 39.7
comp=Z,2.7nm,0.6s
SNAA Sanae 51.91 158 P **P 16 05 38.4 +0.4**
comp=Z,2.4nm,0.6s,baz=282,slow=7.4,SNR=38
comp=Z,2.4nm,0.6s
TROLL Troll, Antarti 53.62 158 ⇓P **P 16 05 51.5 +0.8**
comp=Z,205nm,0.7s
QSPA South Pole Qui 57.08 180 P **P 16 06 17.2 +1.6**
QSPA IAmb IAmb 16 06 18.2
comp=Z,3.3nm,0.9s
QSPA South Pole Qui 57.08 180 P **P 16 06 17.4 +1.7**
comp=Z,2.9nm,0.8s,baz=169,slow=0.4,SNR=14
comp=Z,2.9nm,0.8s
SBA Scott Base 64.15 191 P **P 16 07 02.7 -0.6**
SBA IAmb IAmb 16 07 20.9
comp=Z,2.6nm,1.4s
TXAR Lajitas Array 69.61 329 P **P 16 07 40.2 +1.6**
comp=Z,1.0nm,0.6s,baz=155,slow=8.5,SNR=16
comp=Z,1.0nm,0.6s
WVT Waverly 70.79 345 P 16 07 46.1 +0.6
MNTX Cornudas Mount 72.39 329 P **P 16 07 55.4 +0.1**
MNTX IAmb IAmb 16 07 56.3
comp=Z,2.0nm,0.8s
MAW Mawson 73.64 163 P **P 16 08 02.6 +0.5**
comp=Z,2.1nm,0.7s,baz=181,slow=8.8,SNR=5.7
comp=Z,2.1nm,0.7s
BOSA Boshof 79.37 117 P **P 16 08 35.2 -0.2**
comp=Z,1.4nm,0.7s,baz=225,slow=5.7,SNR=19
comp=Z,1.4nm,0.7s
TORD Torodi Ar. Bea 82.77 69 P **P 16 08 52.2 -1.2**
comp=Z,1.1nm,0.3s,baz=211,slow=4.3,SNR=2.3
TORD pP **pP 16 09 17.3 -1.6**
comp=Z,1.0nm,0.3s,baz=244,slow=5.9,SNR=1.8
comp=Z,1.1nm,0.3s
PDAR Pinedale Array 83.57 332 P **P 16 08 57.2 0.0**
comp=Z,0.5nm,0.6s,baz=126,slow=7.6,SNR=6.9
comp=Z,0.5nm,0.6s
NVAR Mina Array Bea 83.90 324 P **P 16 09 01.0 +2.1**
comp=Z,1.4nm,0.8s,baz=162,slow=6.0,SNR=7.3
NVAR pP **pP 16 09 26.6 +3.0**
comp=Z,0.2nm,0.4s,baz=116,slow=2.0,SNR=1.4
comp=Z,1.4nm,0.8s
SCHQ Schefferville 87.69 2 P **P 16 09 17.4 +0.4**
comp=Z,2.0nm,0.7s,baz=166,slow=4.2,SNR=2.5
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 122.09 208 PKP **PKPdf 16 15 23.4 -0.3**
comp=Z,0.6nm,0.4s,baz=162,slow=1.7,SNR=7.2
ARCES ARCESS Array B 122.73 25 PKP **PKPdf 16 15 21.8 -1.5**
comp=Z,1.9nm,1.2s,baz=242,slow=1.7,SNR=4.3
H11S2 WAKE ISLAND Hyl 27.01 269 T T 18 35 03.2
baz=118,slow=75,SNR=19
H11S1 WAKE ISLAND Hyl 27.02 269 T T 18 35 02.2
baz=118,slow=75,SNR=15
H11S3 WAKE ISLAND Hyl 27.03 269 T T 18 35 04.2
baz=118,slow=75,SNR=14
H11N3 WAKE ISLAND Hyl 27.40 270 T T 18 35 31.5
baz=118
H11N1 WAKE ISLAND Hyl 27.42 270 T T 18 35 26.2
baz=118
H11N2 WAKE ISLAND Hyl 27.42 270 T T 18 35 25.6
baz=118
BVAR Borovoye Array 145.83 43 PKPbc **PKPab 16 16 08.3 +0.4**
comp=Z,2.5nm,0.6s,baz=336,slow=3.3,SNR=10.0
BVAR pPKPbc **pPKPdf 16 16 32.2 -1.1**
comp=Z,1.1nm,0.6s,baz=341,slow=3.1,SNR=3.1
KURBB Kurchatov Arra 151.41 43 PKPbc **PKiKP 16 16 22.4 +0.2**
comp=Z,2.9nm,0.8s,baz=303,slow=3.0,SNR=14
KURBB pPKPbc **pPKPbc 16 16 48.5 +0.2**
comp=Z,0.7nm,0.7s,baz=307,slow=3.4,SNR=3.6
ZALV Zalesovo Beam 152.85 33 PKPbc **PKiKP 16 16 25.6 +0.5**
comp=Z,5.5nm,0.4s,baz=318,slow=2.7,SNR=23
ZALV pPKPbc **pPKPbc 16 16 51.0 -0.6**
comp=Z,1.2nm,0.5s,baz=316,slow=4.1,SNR=3.7

*NEIC **14** 15:58:32.6±1.9, 18°.17S±0°.07×120°.33E±0°.06, h10km±1km, mb4.5/7, Error ellipse: s-maj=12.5km s-min=8.6km az=333.0*
*NOU **14** 15:58:32.4, 18°.27S×120°.24E, h0km, mb4.8/17, Western Australia*
*AUST **14** 15:58:34.4±1.4, 18°.S±2°×12°0E±°, h18km±12km, mb4.8/22, ML4.1/11, Error ellipse: s-maj=8.3km s-min=4.2km az=106.4*
*IDC **14** 15:58:35.2±0.8, 18°.36S×120°.49E, h0km, mb4.0/9, mbtmp4.1/13, ML4.2/4, Error ellipse: s-maj=20.9km s-min=15.0km az=44.0*
ISC 14 15:58:33.2±0.4, 18°.40S±0°.04×120°.38E±0°.05, h10km, n107, σ2s69/109, mb4.4/16, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
MBWA	**Marble Bar**	**2.81**	**192**		**Pb**	**15 59 22.3**	**-1.2**
MBWA	**Marble Bar**	**2.81**	**192**	P	**Pb**	**15 59 22.7**	**-0.8**
PSAC1	**Pilbara Seismi**	**3.16**	**190**	P	**Pb**	**15 59 27.4**	**-2.2**
PSAC1				S	**Sn**	**16 00 05.0**	**+4.0**
PSA00	**Pilbara Seismi**	**3.20**	**189**	P	**Pb**	**15 59 27.8**	**-2.3**
PSA00				S	**Sn**	**16 00 05.4**	**+3.7**
FITZ	**Fitzroy Crossi**	**5.01**	**87**	Pn	**Pn**	**15 59 50.0**	**+1.5**
FITZ	**Fitzroy Crossi**	**5.01**	**87**	P	**Pn**	**15 59 51.2**	**+2.7**
FITZ	**Fitzroy Crossi**	**5.01**	**87**	Pn	**Pn**	**15 59 50.9**	**+2.4**
	8.1nm,0.3s,baz=288,slow=10.0,SNR=36						
FITZ				Sn	**Sn**	**16 00 44.9**	**-1.7**
	41nm,0.3s,baz=344,slow=22,SNR=8.5						
FITZ				Lg	Lg	16 01 11.4	
	57nm,0.3s,baz=116,slow=10,SNR=3.4						
	39nm,0.4s						
GIRL	**Giralia**	**7.14**	**233**	Pn	**Pn**	**16 00 19.9**	**+2.2**
GIRL	**Giralia**	**7.14**	**233**	P	**Pn**	**16 00 20.4**	**+2.7**
	comp=Z,63nm,1.6s						
GIRL				S	**Sn**	**16 01 35.7**	**-3.1**
MEEK	**Meekatharra**	**8.36**	**191**	P	**Pn**	**16 00 38.0**	**+3.5**
MEEK	**Meekatharra**	**8.36**	**191**	S	**Sn**	**16 02 08.2**	**-0.8**
MEEK	**Meekatharra**	**8.36**	**191**	P	**Pn**	**16 00 37.5**	**+3.0**
CVQOZ	**Cooralya Stati**	**8.40**	**223**	P	**Pn**	**16 00 37.9**	**+2.9**
	comp=Z,255nm,1.0s						
CVQOZ				S	**Sn**	**16 02 04.1**	**-5.9**
KNRA	**Kununurra**	**8.47**	**73**		**Pn**	**16 00 34.4**	**-1.6**
KNRA	**Kununurra**	**8.47**	**73**	P	**Pn**	**16 00 37.2**	**+1.2**
	comp=Z,99nm,0.6s,comp=Z,0.5nm						
KNRA				S	**Sn**	**16 02 07.6**	**-4.1**
WSI	**Waingapu**	**8.68**	**359**	P	**Pn**	**16 00 38.9**	**0.0**
BATI	**Baumata**	**8.74**	**22**	Pn	**Pn**	**16 00 40.3**	**+0.5**
	comp=Z,2.4nm,0.3s,baz=268,slow=21,SNR=2.1						
BATI				Sn	**Sn**	**16 02 14.8**	**-3.8**
	comp=Z,4.6nm,0.3s,baz=178,slow=18,SNR=1.7						
	comp=Z,30nm,0.8s						
BATI	**Baumata**	**8.74**	**22**	P	Pn	16 00 34.7	-5.1
WBSI	**Waikabubak, Su**	**8.76**	**354**	P	Pn	16 00 33.5	-6.5
SOEI	**Soe**	**9.38**	**24**	Pn	**Pn**	**16 00 46.5**	**-2.2**
SOEI	**Soe**	**9.38**	**24**	P	**Pn**	**16 00 51.1**	**+2.4**
	comp=Z,49nm,1.1s,comp=Z,0.2nm						
SOEI	**Soe**	**9.38**	**24**	P	**Pn**	**16 00 47.8**	**-0.9**
SOEI	**Soe**	**9.38**	**24**	P	**Pn**	**16 00 47.5**	**-1.2**
	comp=Z,68nm,1.3s						
EDFI	**Ende, Flores**	**9.68**	**8**	P	**Pn**	**16 00 50.0**	**-2.6**
	comp=Z,13nm,0.9s,comp=Z,0.1nm						
EDFI	**Ende, Flores**	**9.68**	**8**	S	Sn	16 02 30.0	-12
EDFI	**Ende, Flores**	**9.68**	**8**	P	**Pn**	**16 00 50.6**	**-2.1**
	comp=Z,11nm,0.7s						
PLAI	**Plampang**	**9.84**	**345**	P	**Pn**	**16 00 52.2**	**-2.6**
	comp=Z,44nm,1.3s,comp=Z,0.1nm						
PLAI	**Plampang**	**9.84**	**345**	S	Sn	16 02 32.2	-13
PLAI	**Plampang**	**9.84**	**345**	P	**Pn**	**16 00 53.4**	**-1.5**
PLAI	**Plampang**	**9.84**	**345**	P	**Pn**	**16 00 54.1**	**-0.8**
	comp=Z,44nm,1.3s						
MMRI	**Maumere**	**9.87**	**11**	Pn	**Pn**	**16 00 51.9**	**-3.4**
MMRI	**Maumere**	**9.87**	**11**	P	**Pn**	**16 00 54.1**	**-1.2**
	comp=Z,36nm,1.2s,comp=Z,0.1nm						
MMRI	**Maumere**	**9.87**	**11**	P	**Pn**	**16 00 53.7**	**-1.6**
	comp=Z,36nm,1.2s						
WRKA	**Warakurna**	**9.89**	**133**	P	**Pn**	**16 00 58.5**	**+3.0**
	comp=Z,9.3nm,0.6s,comp=Z,0.1nm						
MORW	**Morawa**	**11.34**	**200**		**Pn**	**16 01 16.2**	**+0.9**
MORW	**Morawa**	**11.34**	**200**	P	**Pn**	**16 01 15.8**	**+0.6**
	comp=Z,36nm,0.4s						
MORW	**Morawa**	**11.34**	**200**	P	**Pn**	**16 01 15.9**	**+0.6**
JAGI	**Jajag, Banyuwa**	**11.57**	**328**		**Pn**	**16 01 15.1**	**-3.5**
JAGI	**Jajag, Banyuwa**	**11.57**	**328**	P	**Pn**	**16 01 15.2**	**-3.4**
	comp=Z,46nm,0.9s						
JAGI	**Jajag, Banyuwa**	**11.57**	**328**	P	**Pn**	**16 01 16.6**	**-2.0**
JAGI	**Jajag, Banyuwa**	**11.57**	**328**	P	**Pn**	**16 01 16.6**	**-2.0**
	comp=Z,50nm,0.9s						
MTN	**Manton Dam**	**11.74**	**63**		**Pn**	**16 01 20.8**	**0.0**
MTN	**Manton Dam**	**11.74**	**63**	P	**Pn**	**16 01 20.6**	**-0.3**
	comp=Z,107nm,0.5s						
MTN	**Manton Dam**	**11.74**	**63**	P	**Pn**	**16 01 21.2**	**+0.3**
DRS	**Darwin Rock St**	**11.75**	**61**	P	**Pn**	**16 01 22.2**	**+1.2**
	comp=Z,27nm,0.8s						
DRS	**Darwin Rock St**	**11.75**	**61**	P	**Pn**	**16 01 22.4**	**+1.4**
GMJI	**Gumukmas**	**12.11**	**325**	P	**Pn**	**16 01 21.9**	**-4.0**
	comp=Z,31nm,1.4s						
BLDU	**Ballidu**	**12.61**	**195**	P	**Pn**	**16 01 33.6**	**+0.9**
	comp=Z,54nm,0.7s						
BLDU	**Ballidu**	**12.61**	**195**	P	**Pn**	**16 01 34.6**	**+1.9**
KDU	**Kakadu**	**12.96**	**66**	P	**Pn**	**16 01 37.3**	**-0.3**
	comp=Z,40nm,0.9s						
KDU	**Kakadu**	**12.96**	**66**	P	**Pn**	**16 01 37.5**	**-0.1**
BKSI	**Bulukumba**	**13.00**	**359**	P	**Pn**	**16 01 36.8**	**-1.3**
WRA	**Warramunga Arr**	**13.28**	**99**		**Pn**	**16 01 43.5**	**+1.5**
WRA	**Warramunga Arr**	**13.28**	**99**	Pn	**Pn**	**16 01 42.6**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=281,slow=14,SNR=30						
WRA				Sn	**Sn**	**16 04 01.9**	**-8.0**
	comp=Z,6.4nm,0.3s,baz=275,slow=24,SNR=9.8						
WRA				Lg	Lg	16 05 35.3	
	baz=276,slow=30						
	comp=Z,4.0nm,0.4s						
KAPI	**Kappang**	**13.32**	**357**	Pn	**Pn**	**16 01 38.2**	**-4.2**
WB0	**Warramunga Arr**	**13.32**	**98**		**Pn**	**16 01 42.3**	**-0.2**
KLBR	**Kellerberrin**	**13.35**	**190**	P	**Pn**	**16 01 44.3**	**+1.5**
	comp=Z,213nm,0.6s						
KLBR	**Kellerberrin**	**13.35**	**190**	P	**Pn**	**16 01 44.4**	**+1.6**
WR8	**Warramunga Arr**	**13.44**	**99**		**Pn**	**16 01 44.1**	**0.0**
ASAR	**Alice Springs**	**13.67**	**115**		**Pn**	**16 01 48.5**	**+1.3**
ASAR	**Alice Springs**	**13.67**	**115**	Pn	**Pn**	**16 01 47.8**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=293,slow=12,SNR=31						
ASAR				Sn	**Sn**	**16 04 13.3**	**-6.0**
	comp=Z,4.7nm,0.3s,baz=291,slow=22,SNR=11						
ASAR				Lg	Lg	16 05 43.6	
	baz=305,slow=22						
	comp=Z,2.1nm,0.4s						
AS31	**Alice Springs**	**13.67**	**115**		**Pn**	**16 01 48.1**	**+0.8**
MUN	**Mundaring**	**14.04**	**195**	P	**Pn**	**16 01 52.8**	**+0.7**
	comp=Z,46nm,0.6s						
MUN	**Mundaring**	**14.04**	**195**	P	**Pn**	**16 01 53.1**	**+0.9**
UGM	**Wanagama**	**14.16**	**316**	Pn	**Pn**	**16 01 49.8**	**-4.2**
FORT	**Forrest**	**14.16**	**152**		**Pn**	**16 01 54.1**	**+0.2**
FORT	**Forrest**	**14.16**	**152**	P	**Pn**	**16 01 55.2**	**+1.3**
	comp=Z,24nm,0.7s						
DNDOZ	**Balladonia**	**14.35**	**168**	P	**Pn**	**16 01 57.0**	**+0.5**
	comp=Z,250nm,0.7s						
NWAO	**Narrogin (SRO)**	**14.74**	**190**		**Pn**	**16 02 02.3**	**+0.5**
NWAO	**Narrogin (SRO)**	**14.74**	**190**	P	**Pn**	**16 02 02.1**	**+0.3**
	comp=Z,79nm,0.6s						
NWAO	**Narrogin (SRO)**	**14.74**	**190**	Pn	**Pn**	**16 02 01.6**	**-0.2**
	comp=Z,26nm,0.3s,baz=11,slow=12,SNR=188						
NWAO				Sn	Sn	16 04 33.0	-12
	comp=Z,11nm,0.3s,baz=275,slow=15,SNR=5.3						
NWAO				Lg	Lg	16 06 17.1	
	comp=Z,6.3nm,0.3s,baz=95,slow=21,SNR=5.5						
NWAO	**Narrogin (SRO)**	**14.74**	**190**	P	**Pn**	**16 02 02.5**	**+0.7**
RKGY	**Rocky Gully**	**16.43**	**190**	P	**Pn**	**16 02 24.7**	**+0.8**
	comp=Z,13nm,0.6s						
KRAI	**Karang Ratu**	**16.92**	**29**	P	Pn	16 02 08.6	-22
	comp=Z,39nm,0.8s						
H01W3	**Cape Leeuwin H**	**17.33**	**197**	P	**P**	**16 02 36.9**	**+0.5**
	baz=32,slow=8.9,SNR=5.5						
H01W3				S	**Sn**	**16 05 40.1**	**-7.7**
H01W1	**Cape Leeuwin H**	**17.34**	**197**	P	**P**	**16 02 36.8**	**+0.4**
	baz=32,slow=8.9,SNR=6.8						
H01W1				S	**Sn**	**16 05 40.2**	**-7.8**
H01W2	**Cape Leeuwin H**	**17.35**	**197**	P	**P**	**16 02 37.0**	**+0.4**
	baz=32,slow=8.9,SNR=5.2						
H01W2				S	**Sn**	**16 05 40.3**	**-7.9**
	SNR=3.4						
QIS	**Mount Isa**	**18.26**	**100**	P	**P**	**16 02 49.6**	**+2.6**
TOLI2	**Tolitoli**	**19.39**	**1**	P	**P**	**16 02 58.9**	**-0.5**
COEN	**Coen**	**22.33**	**82**	P	**P**	**16 03 32.8**	**+1.5**
HTT	**Hallett**	**22.36**	**136**	P	**P**	**16 03 34.5**	**+3.0**
STKA	**Stephens Creek**	**23.38**	**129**	P	**P**	**16 03 43.5**	**+1.4**
STKA	**Stephens Creek**	**23.38**	**129**	P	**P**	**16 03 45.4**	**+3.2**
	comp=Z,8.2nm,0.8s,baz=308,slow=12,SNR=9.2						
STKA				S	**S**	**16 07 56.3**	**+1.1**
	comp=Z,5.3nm,0.8s,baz=350,slow=11,SNR=2.4						
STKA				Lg	Lg	16 10 56.3	
	comp=Z,0.2nm,0.3s,baz=159,slow=21,SNR=1.0						
	comp=Z,8.2nm,0.8s						
STKA	**Stephens Creek**	**23.38**	**129**	P	**P**	**16 03 46.1**	**+4.0**
CTAO	**Charters Tower**	**24.48**	**98**	P	**P**	**16 03 51.3**	**-1.5**
CTAO				IAmb	IAmb	16 03 53.9	
	comp=Z,16nm,1.4s						
KKM	**Kota Kinabalu**	**24.63**	**350**	P	**P**	**16 03 50.8**	**-3.3**
KKM				IAmb	IAmb	16 03 53.1	
	comp=Z,49nm,1.2s						
CMAR	**Chiang Mai Arr**	**42.25**	**329**	P	**P**	**16 06 30.4**	**+3.5**
	comp=Z,0.8nm,0.7s,baz=148,slow=9.2,SNR=7.8						
	comp=Z,0.8nm,0.7s						
PINNC	**Pines Island,**	**44.15**	**104**	P	**P**	**16 06 41.0**	**-1.3**
H08S2	**Diego Garcia H**	**47.73**	**276**	T	T	16 57 21.1	
	baz=106,slow=75,SNR=19						
H08S3	**Diego Garcia H**	**47.74**	**276**	T	T	16 57 26.4	
	baz=106,slow=75,SNR=16						
H08S1	**Diego Carcia H**	**47.74**	**276**	T	T	16 57 28.7	
	baz=106,slow=75,SNR=12						
PZH	**PanZhiHua**	**48.16**	**337**	P	**P**	**16 07 14.9**	**+1.0**
CASY	**Casey**	**48.29**	**185**	P	**P**	**16 07 15.9**	**+1.7**
NJ2	**Nanjing**	**50.18**	**358**	*eP*	**P**	**16 07 29.0**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	**Xi'an**	**53.28**	**348**	P	P	16 07 58.4	+6.1
XAN				pmax	pmax		
	comp=Z,16nm,0.9s						
KSRS	**Korea Array**	**56.01**	**7**	P	**P**	**16 08 14.7**	**+2.8**
	comp=Z,1.4nm,0.7s,baz=186,slow=7.0,SNR=12						
	comp=Z,1.4nm,0.7s						
LZH	**Lanzhou**	**56.40**	**344**	*eP*	**P**	**16 08 13.9**	**-1.1**
LZH				sP	sP	16 08 20.3	+0.9
LZH				pmax	pmax		
	comp=Z,13nm,1.1s						
MJAR	**Matsushiro Arr**	**57.18**	**17**	P	**P**	**16 08 23.4**	**+3.0**
	comp=Z,0.8nm,0.8s,baz=179,slow=8.2,SNR=2.6						
	comp=Z,0.8nm,0.8s						
HHC	**Hu-ho-hao-te**	**59.51**	**352**	*eP*	**P**	**16 08 37.8**	**+1.1**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SONM	**Songino Array**	**67.11**	**350**	P	P	16 09 32.1	+5.2
	comp=Z,1.8nm,1.0s,baz=167,slow=7.2,SNR=7.1						
	comp=Z,1.8nm,1.0s						
QSPA	**South Pole Qui**	**71.65**	**180**	P	**P**	**16 09 59.2**	**+4.3**
	comp=Z,2.7nm,0.8s,baz=304,slow=0.4,SNR=11						
	comp=Z,2.7nm,0.8s						
MKAR	**Makanchi Array**	**73.41**	**334**	P	**P**	**16 10 07.4**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=156,slow=8.3,SNR=5.0						
	comp=Z,0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**77.95**	**334**	P	P	16 10 36.3	+5.0
	comp=Z,0.9nm,0.2s,baz=142,slow=3.4,SNR=5.9						
	comp=Z,0.9nm,0.2s						
SNAA	**Sanae**	**82.35**	**195**	P	**P**	**16 10 55.6**	**+0.5**
SNAA				IAmb	IAmb	16 11 06.1	
	comp=Z,4.6nm,1.3s						
SNAA	**Sanae**	**82.35**	**195**	P	**P**	**16 10 58.5**	**+3.5**
	comp=Z,1.5nm,1.0s,baz=134,slow=6.1,SNR=4.8						
	comp=Z,1.5nm,1.0s						
BELA	**Belgrano 2**	**82.84**	**185**	P	**P**	**16 10 57.3**	**0.0**
BELA				IAmb	IA

ROSC El Rosal 1.66 221 P **Pn** **16 22 15.9 +1.1**
211nm,0.6s,baz=49,slow=4.3,SNR=84
ROSC S **Sn** **16 22 42.1 +1.6**
107nm,0.3s,baz=55,slow=18,SNR=7.9
ROSC El Rosal 1.66 221 P **Pn** **16 22 16.2 +1.4**
ROSC S **Sn** **16 22 41.2 +0.7**
NORC Norcasia 1.72 252 P **Pn** **16 22 15.2 +0.1**
NORC S **Sn** **16 22 39.9 -1.1**
CVER Cruz Verde, Cu 1.78 209 P **Pn** **16 22 16.9 +0.7**
CVER S **Sn** **16 22 42.7 -0.2**
VILC Villavicencio, 2.02 194 P **Pn** **16 22 18.5 0.0**
VILC S **Sn** **16 22 46.0 -1.1**
OCAC Ocana 2.13 357 P **Pn** **16 22 20.3 +0.6**
OCAC S **Sn** **16 22 49.4 0.0**
ZARC Zaragoza, Cauc 2.14 311 P **Pn** **16 22 18.8 -0.8**
ZARC S **Sn** **16 22 47.8 -1.4**
PTGC Puerto Gaitan, 2.17 150 P **Pn** **16 22 20.6 +0.6**
PTGC S **Sn** **16 22 49.0 -0.8**
HELC Santa Helena 2.30 273 P **Pn** **16 22 21.9 +0.1**
HELC Santa Helena 2.30 273 P **Pn** **16 22 21.9 +0.1**
HELC S **Sn** **16 22 51.9 -1.0**
GUY2C Guyana, Caldas 2.30 248 P **Pn** **16 22 23.3 +1.3**
GUY2C S **Sn** **16 22 53.7 +0.5**
RECRC Villamaria, Ca 2.40 242 P **Pn** **16 22 25.1 +1.9**
RECRC S **Sn** **16 22 57.3 +1.9**
NIZA Niza - Manizal 2.46 245 P **Pn** **16 22 25.9 +2.2**
NIZA S **Sn** **16 22 58.6 +2.3**
ANIL Santa Ana 2.69 234 P **Pn** **16 22 27.0 +0.6**
ANIL S **Sn** **16 23 01.5 +0.3**
CBOC Ciudad Bolivar 2.79 265 P **Pn** **16 22 27.9 +0.5**
CBOC S **Sn** **16 23 01.8 -1.2**
UREC San Jos de Ur 2.83 306 P **Pn** **16 22 26.4 -1.3**
UREC S **Sn** **16 23 00.1 -3.5**
PRAC Prado 2.89 215 P **Pn** **16 22 28.9 +0.4**
PRAC Prado 2.89 215 P **Pn** **16 22 28.8 +0.3**
PRAC S **Sn** **16 23 03.4 -1.7**
ORTC Ortega, Tolima 2.96 223 P **Pn** **16 22 29.2 -0.3**
ORTC S **Sn** **16 23 05.4 -1.3**
URMC La Uribe, Meta 3.05 202 P **Pn** **16 22 31.4 +0.8**
URMC S **Sn** **16 23 07.8 -1.0**
DBBC Dabeiba 3.11 287 P **Pn** **16 22 31.3 0.0**
DBBC S **Sn** **16 23 08.0 -1.9**
PLMC San Jos del P 3.27 249 P **Pn** **16 22 33.7 +0.4**
PLMC S **Sn** **16 23 12.7 -0.8**
GUVC San Jose del G 3.57 170 P **Pn** **16 22 37.1 0.0**
GUVC S **Sn** **16 23 11.6 -1.3**
YOTC Yotoco, Valle 3.75 236 P **Pn** **16 22 39.4 0.0**
SDV Santo Domingo 3.78 43 **Pn** **16 22 41.2 +1.4**
SDV Santo Domingo 3.78 43 P **Pn** **16 22 40.5 +0.7**
149nm,0.7s,baz=228,slow=11,SNR=36
SDV S **Sn** **16 23 26.1 +0.8**
126nm,0.6s,baz=292,slow=23,SNR=20
SDV Santo Domingo 3.78 43 *eP* **Pn** **16 22 40.0 +0.2**
SDV *eS* **Sn** **16 23 26.0 +0.8**
SDV Santo Domingo 3.78 43 P **Pn** **16 22 41.0 +1.2**
SDV S **Sn** **16 23 24.8 -0.4**
APAC Apartado, Choc 3.79 298 P **Pn** **16 22 39.5 -0.2**
APAC S **Sn** **16 23 25.0 -0.1**
ARGC Ariguani, Magd 3.88 345 P **Pn** **16 22 41.4 +0.5**
ARGC S **Sn** **16 22 26.8 -0.4**
BETC Betania 4.05 213 P **Pn** **16 22 41.8 -1.4**
LCBC Los crdobas, 4.16 312 P **Pn** **16 22 43.7 -0.8**
LCBC S **Sn** **16 23 34.2 +0.6**
SJCC San Jacinto, C 4.25 333 P **Pn** **16 22 44.0 -1.6**
SJCC San Jacinto, C 4.25 333 P **Pn** **16 22 44.1 -1.6**
SJCC S **Sn** **16 23 31.7 -4.2**
JAMC Jamundi, Valle 4.47 230 P **Pn** **16 22 49.0 +0.2**
JAMC S **Sn** **16 23 40.8 -0.5**
GARC Garzon, Huila 4.49 210 P **Pn** **16 22 49.0 -0.1**
MALC Bahia Malaga 4.59 243 P **Pn** **16 22 51.9 +1.8**
MALC S **Sn** **16 23 43.9 +0.2**
CRJC Cerrejon, Guaj 4.91 4 P **Pn** **16 22 53.6 -0.7**
CRJC S **Sn** **16 23 47.5 -3.8**
POPC Popayan, Colom 4.93 224 P **Pn** **16 22 55.9 +1.1**
POPC S **Sn** **16 23 52.2 +0.1**
FLOC Florencia 5.10 209 **Pn** **16 22 56.8 +0.1**
FLOC Florencia 5.10 209 P **Pn** **16 22 57.8 +1.1**
SMRC Santa Marta, M 5.13 349 **Pn** **16 22 57.0 -0.2**
SMRC Santa Marta, M 5.13 349 P **Pn** **16 22 56.9 -0.2**
SMRC S **Sn** **16 23 51.0 -5.5**
BBAC Balboa, Cauca 5.70 225 P **Pn** **16 23 06.2 +1.4**
BBAC S **Sn** **16 24 09.6 -0.5**
URI Uribia 5.70 12 P **Pn** **16 23 03.9 -0.7**
URIC Uribia, Colomb 5.70 12 P **Pn** **16 23 03.6 -1.0**
URIC S **Sn** **16 24 06.4 -3.5**
BAUV El Baul 5.86 61 **Pn** **16 23 05.8 -0.9**
BCIP Isla Barro Col 7.24 295 **Pn** **16 23 24.4 -0.5**
OTAV Otavalo 7.82 222 Pn **Pn** **16 23 29.5 -3.5**
OTAV Otavalo 7.82 222 *eP* **Pn** **16 23 32.1 -0.8**
OTAV *eS* **Sn** **16 25 00.9 +0.1**
PCRV Puerto La Cruz 9.41 64 P **Pn** **16 23 53.8 +0.1**
5.8nm,0.7s,baz=192,slow=22,SNR=1.9
PRVC Isla de Provid 10.80 313 Pn **Pn** **16 24 11.9 +0.1**
MTDJ Mount Denham 12.77 341 Pn **Pn** **16 24 40.3 +2.9**
TEFE Tefe 12.82 138 *eP* **Pn** **16 24 36.7 -1.2**
TEFE *eS* **Sn** **16 26 58.3 -2.1**
DR12 Loma Pena Alta 13.16 16 Pn **Pn** **16 24 41.9 -0.3**
BOAV Boa Vista 13.18 106 Pn **Pn** **16 24 40.6 -1.9**
BOAV Boa Vista 13.18 106 *eP* **Pn** **16 24 40.9 -1.6**
MACA Manacapuru-AM 15.53 126 *eP* **Pn** **16 25 10.8 -0.9**
MACA *eS* **Sn** **16 28 02.9 -2.4**
MTO3 Montecristo 17.89 299 P **P** **16 25 38.9 +0.4**
MTO3 IAmb IAmb 16 25 40.8
comp=Z,9.7nm,0.7s
ITTB Itaituba 20.32 120 *eP* **P** **16 26 03.7 -0.9**
MDP Montagnes des 20.50 92 P **P** **16 26 07.0 +0.4**
comp=Z,6.1nm,0.9s,baz=209,slow=0.8,SNR=6.4
comp=Z,6.1nm,0.9s
NPGB Novo Progresso 22.09 126 *eP* **P** **16 26 22.0 -1.2**
LPAZ La Paz 22.80 167 **P** **16 26 29.8 -0.7**
LPAZ La Paz 22.80 167 P **P** **16 26 30.1 -0.4**
comp=Z,0.7nm,0.3s,baz=326,slow=4.4,SNR=6.8
comp=Z,0.7nm,0.3s
LPAZ La Paz 22.80 167 *eP* **P** **16 26 29.0 -1.5**
VILB Vilhena 22.92 146 **P** **16 26 29.7 -1.2**
VILB IAmb IAmb 16 26 32.0
comp=Z,12nm,0.8s
VILB Vilhena 22.92 146 *eP* **P** **16 26 29.2 -1.8**
PDRB Porto dos Gac 24.05 137 *eP* **P** **16 26 40.9 -0.4**
CLDB Colider 24.18 134 *eP* **P** **16 26 41.7 -0.7**
CLDB *epP* **pP** **16 27 15.8 -0.4**
VBST Vila Bela da S 24.32 148 *eP* **P** **16 26 43.0 -0.6**
VBST *epP* **pP** **16 27 16.4 -1.1**
PTLB Pontes e Lacer 25.55 147 *eP* **P** **16 26 53.6 -1.1**
PTLB *epP* **pP** **16 27 29.5 -0.4**
BBSD Serra de San D 26.27 152 *eP* **P** **16 26 59.5 -1.8**
BBSD *epP* **pP** **16 27 35.2 -1.4**
BBSD *eS* **S** **16 31 20.3 -1.0**
SNDB Serra Nova Dou 28.24 129 *eP* **P** **16 27 18.2 -0.7**
SNDB *eS* **S** **16 31 51.0 -1.3**
Z47A Carrollton 30.30 335 **P** **16 27 38.7 +1.9**
PB14 IPOC Station P 30.66 175 P **P** **16 27 39.0 -1.4**
X48A Hartselle 30.98 337 P **P** **16 27 44.4 +1.6**
X48A IAmb IAmb 16 27 45.6
comp=Z,12nm,1.1s
CPCT Cooper Cave 31.01 342 P **P** **16 27 45.3 +2.2**
CPCT IAmb IAmb 16 27 46.2
comp=Z,6.1nm,0.8s
W50A Signal Mountai 31.04 341 P **P** **16 27 45.5 +2.2**
W50A IAmb IAmb 16 27 46.0
comp=Z,6.5nm,0.6s
T57A Hurt 31.25 351 P **P** **16 27 46.6 +1.4**
T57A IAmb IAmb 16 27 47.5
comp=Z,3.2nm,0.8s
PLAL Pickwick Lake 31.85 336 P **P** **16 27 52.0 +1.5**
PLAL IAmb IAmb 16 27 53.0
comp=Z,9.7nm,1.0s
HBVL Hebbronville 31.96 314 P **P** **16 27 52.4 +0.9**
HBVL IAmb IAmb 16 27 52.8
comp=Z,7.6nm,0.7s
OXF Oxford 32.00 334 P **P** **16 27 52.8 +1.1**
V48A Smith Brothers 32.05 339 P **P** **16 27 53.8 +1.7**
CLTN Cedars of Leba 32.19 340 IAmb IAmb 16 27 55.8
comp=Z,2.4nm,0.5s
WVT Waverly 32.76 338 **P** **16 27 58.7 +0.4**
WVT IAmb IAmb 16 28 00.5
comp=Z,11nm,1.0s
BDFB Brasilia 33.01 131 P **P** **16 28 00.4 -0.5**
comp=Z,2.6nm,0.6s,baz=282,slow=14,SNR=5.0
comp=Z,2.6nm,0.6s
T47A Sharon Grove 33.27 339 IAmb IAmb 16 28 05.1
comp=Z,8.7nm,0.7s

X40A Basin Creek Fa 33.57 330 IAmb IAmb 16 28 05.8
comp=Z,6.0nm,0.6s
R50A Paris 33.59 344 IAmb IAmb 16 28 08.7
comp=Z,7.4nm,0.8s
WHAR Wooly Hollow 33.95 331 IAmb IAmb 16 28 11.3
comp=Z,6.0nm,0.8s
LCAR Lake Charles 34.07 334 IAmb IAmb 16 28 11.6
comp=Z,5.1nm,1.1s
P52A Corning 34.35 348 IAmb IAmb 16 28 14.8
comp=Z,7.4nm,0.7s
FCAR Ozark Folk Cen 34.36 332 P **P** **16 28 12.8 +0.6**
BRDY Brady 34.80 319 **P** **16 28 16.1 0.0**
BRDY IAmb IAmb 16 28 17.2
comp=Z,10nm,1.1s
FVM French Village 35.39 336 P **P** **16 28 22.2 +1.2**
PLPT Palo Pinto 35.39 322 **P** **16 28 21.8 +0.7**
CCM Cathedral Cave 35.78 335 P **P** **16 28 24.4 0.0**
U38A Gravette 35.89 330 P **P** **16 28 25.4 0.0**
U38A IAmb IAmb 16 28 25.9
comp=Z,4.9nm,0.9s
ABTX Abilene, Hawle 36.09 320 P **P** **16 28 28.0 +0.9**
ABTX IAmb IAmb 16 28 28.5
comp=Z,9.2nm,0.9s
TUL3 Leonard 36.20 328 **P** **16 28 28.2 +0.4**
SFIN Lafayette 36.34 342 P **P** **16 28 30.4 +1.4**
APMT Aspermont 36.86 321 **P** **16 28 34.2 +0.6**
APMT IAmb IAmb 16 28 36.1
comp=Z,3.8nm,0.7s
TXAR Lajitas Array 36.87 312 P **P** **16 28 34.5 +0.7**
comp=Z,1.2nm,0.6s,baz=124,slow=9.4,SNR=22
TXAR PcP **PcP** **16 30 53.3 +1.4**
comp=Z,0.5nm,0.6s,baz=134,slow=5.3,SNR=7.2
comp=Z,1.2nm,0.6s
WMOK Wichita Mounta 37.00 324 P **P** **16 28 34.8 0.0**
WMOK IAmb IAmb 16 28 35.4
comp=Z,7.0nm,0.6s
OK051 E0350 and S346 37.20 328 P **P** **16 28 36.6 +0.3**
DKNS Dickens 37.59 321 IAmb IAmb 16 28 41.2
comp=Z,6.1nm,0.8s
VHRN Van Horn 38.62 313 IAmb IAmb 16 28 49.9
comp=Z,4.2nm,0.9s
MSTX Muleshoe 38.96 319 IAmb IAmb 16 28 52.4
comp=Z,12nm,1.3s
MNTX Cornudas Mount 39.40 314 **P** **16 28 55.1 +0.2**
MNTX IAmb IAmb 16 28 56.6
comp=Z,6.8nm,1.1s
JFWS Jewell Farm 39.64 340 IAmb IAmb 16 28 57.7
comp=Z,9.8nm,0.7s
RTBA Rita Blanca 40.52 322 IAmb IAmb 16 29 05.8
comp=Z,16nm,1.3s
COWI Conover 42.17 343 IAmb IAmb 16 29 19.1
comp=Z,11nm,1.5s
ECSD EROS Data Cent 42.76 335 IAmb IAmb 16 29 22.5
comp=Z,5.3nm,0.5s
SDCO Great Sand Dun 43.05 322 IAmb IAmb 16 29 27.6
comp=Z,4.1nm,0.7s
K30B Basset 43.27 331 P **P** **16 29 25.5 -0.8**
EYMN Ely 44.53 343 **P** **16 29 36.3 +0.2**
EYMN IAmb IAmb 16 29 37.2
comp=Z,8.5nm,0.6s
PV15 Paradox Valley 45.28 320 P **P** **16 29 42.9 +0.3**
PV15 IAmb IAmb 16 29 45.0
comp=Z,12nm,0.8s
PV02 Paradox Valley 45.37 320 IAmb IAmb 16 29 45.4
comp=Z,13nm,0.7s
PV13 Radium Mtn., P 45.39 320 IAmb IAmb 16 29 45.5
comp=Z,9.1nm,0.7s
PV12 Saucer Basin, 45.47 320 IAmb IAmb 16 29 46.6
comp=Z,11nm,0.7s
PV18 Skein Mesa, Pa 45.50 320 IAmb IAmb 16 29 46.1
comp=Z,9.9nm,0.8s
PV05 Paradox Valley 45.52 320 P **P** **16 29 44.2 -0.2**
PV05 IAmb IAmb 16 29 45.9
comp=Z,6.0nm,0.7s
PV19 Morning Glory 45.58 320 IAmb IAmb 16 29 49.1
comp=Z,7.5nm,1.1s
PV22 Blue Mesa, Par 45.59 320 IAmb IAmb 16 29 46.8
comp=Z,5.1nm,0.7s
PV23 Carpenter Ridg 45.68 320 IAmb IAmb 16 29 48.3
comp=Z,7.0nm,1.0s
AGMN Agassiz Nation 46.26 339 IAmb IAmb 16 29 50.5
comp=Z,5.1nm,0.6s
HMU Henry Mountain 46.52 318 IAmb IAmb 16 29 55.0
comp=Z,11nm,1.1s
EPLO Experimental L 46.74 342 IAmb IAmb 16 29 54.5
comp=Z,5.3nm,0.6s
TMUT Trail Mountain 47.57 320 **P** **16 30 01.2 +0.7**
LCMT Little Creek M 47.72 316 P **P** **16 30 01.9 +0.5**
BSUT Blindstream Ca 47.99 321 IAmb IAmb 16 30 05.7
comp=Z,5.6nm,0.8s
MPU Mae Canyon 48.25 320 IAmb IAmb 16 30 07.2
comp=Z,4.7nm,0.7s
PDAR Pinedale Array 48.61 324 **P** **16 30 08.3 +0.1**
PDAR Pinedale Array 48.61 324 P **P** **16 30 08.8 +0.5**
comp=Z,1.1nm,0.6s,baz=133,slow=8.7,SNR=14
PDAR PcP **PcP** **16 31 30.7 -0.5**
comp=Z,0.3nm,0.7s,baz=79,slow=3.1,SNR=2.8
comp=Z,1.1nm,0.6s
TCUT Toone Canyon 48.73 322 IAmb IAmb 16 30 11.0
comp=Z,9.8nm,0.7s
SCHQ Schefferville 48.87 5 P **P** **16 30 10.4 +0.7**
comp=Z,2.7nm,0.6s,baz=194,slow=8.7,SNR=7.8
comp=Z,2.7nm,0.6s
BGU Big Grassy Mou 49.64 320 IAmb IAmb 16 30 17.5
comp=Z,6.0nm,0.7s
TPAW Teton Pass 49.86 324 IAmb IAmb 16 30 19.3
comp=Z,4.9nm,0.8s
YHL Hebgen Lake 50.82 326 IAmb IAmb 16 30 27.6
comp=Z,9.4nm,1.2s
NVAR Mina Array Bea 51.92 315 P **P** **16 30 34.1 +0.9**
comp=Z,1.1nm,0.5s,baz=114,slow=8.0,SNR=9.3
comp=Z,1.1nm,0.5s
MFID Camas Ranch 52.73 322 IAmb IAmb 16 30 40.5
comp=Z,4.1nm,0.9s
FFC Flin Flon 53.73 340 **P** **16 30 45.6 -0.3**
G08A Pilot Rock 55.63 322 IAmb IAmb 16 31 01.3
comp=Z,4.6nm,0.9s
J05D Fort Rock, OR 56.10 319 IAmb IAmb 16 31 04.9
comp=Z,3.7nm,0.9s
PINE Pine Mountain 56.14 320 IAmb IAmb 16 31 05.7
comp=Z,4.4nm,0.9s
LTY Liberty 57.64 324 IAmb IAmb 16 31 15.6
comp=Z,4.1nm,1.1s
YKA Yellowknife Ar 63.91 340 P **P** **16 31 56.0 +0.1**
comp=Z,3.2nm,0.6s,baz=138,slow=5.7,SNR=28
comp=Z,3.2nm,0.6s
TOAD Toad River Com 65.91 333 P **P** **16 32 09.0 +0.1**
baz=121
T35M Bob Quinn 67.39 330 P **P** **16 32 19.6 +1.3**
baz=115
V35K Ketchikan 67.40 328 P **P** **16 32 19.1 +0.8**
baz=114
WRGLY Wrigley 67.54 338 P **P** **16 32 19.9 +0.8**
baz=124
DLBC Dease Lake 67.91 332 P **P** **16 32 22.7 +1.1**
baz=116
WTLY Watson Lake, Y 68.11 334 P **P** **16 32 23.9 +1.1**
baz=118
S34M Telegraph Cree 68.21 331 IAmb IAmb 16 32 25.5
comp=Z,4.1nm,0.8s
S34M Telegraph Cree 68.21 331 P **P** **16 32 24.5 +1.0**
baz=115
U33K Whale Pass 68.49 329 P **P** **16 32 26.5 +1.4**
baz=112
R33M Jennings River 68.77 332 P **P** **16 32 28.1 +1.0**
baz=116
Q32M Nakina River 69.19 332 P **P** **16 32 30.9 +1.2**
baz=114
S32K Killisnoo 69.74 330 P **P** **16 32 34.0 +1.2**
baz=112
P33M Teslin, Yukon 69.96 333 P **P** **16 32 35.3 +1.0**
baz=114
SIT Sitka 69.97 329 P **P** **16 32 35.6 +1.3**
baz=111
R32K Eaglecrest 70.01 330 P **P** **16 32 35.7 +1.2**
baz=112
P32M Atlin 70.13 332 P **P** **16 32 36.4 +1.2**
baz=113
MMPY Sheldon Lake, 70.32 335 P **P** **16 32 37.6 +1.3**
baz=116
WHY Whitehorse 71.08 333 P **P** **16 32 42.0 +1.0**
baz=112
PLBC Pleasant Camp 71.33 331 P **P** **16 32 43.4 +1.0**
baz=111
M31M Drury Creek, Y 71.46 334 P **P** **16 32 44.3 +1.1**
baz=113
O30N Mendenhall 71.67 333 P **P** **16 32 45.6 +1.0**
baz=111,SNR=7.0

N31M Braeburn, Yuko 71.80 333 P **P** **16 32 46.4 +1.1**
baz=112
P30M Million Dollar 71.85 332 P **P** **16 32 46.9 +1.3**
baz=110
P29M Windy Craggy 72.05 331 P **P** **16 32 48.0 +1.2**
baz=109
HYT Haines Junctio 72.34 332 P **P** **16 32 49.6 +1.0**
baz=110
N30M Aishikik Lake 72.37 333 P **P** **16 32 50.1 +1.4**
baz=110,SNR=7.2
M30M Minto, Yukon 72.64 334 IAmb IAmb 16 32 51.6
comp=Z,3.7nm,0.6s
M30M Minto, Yukon 72.64 334 P **P** **16 32 51.2 +1.0**
baz=111,SNR=12
O29M Mount Kennedy 72.67 332 P **P** **16 32 51.9 +1.3**
baz=109
YUK6 Outpost Mounta 72.78 332 P **P** **16 32 52.3 +1.0**
baz=109
H31M Peel River 72.90 338 P **P** **16 32 53.0 +1.2**
baz=114
YUK4 Talbot Arm 73.04 333 P **P** **16 32 53.9 +1.0**
baz=109
A36M Sachs Harbour 73.11 345 P **P** **16 32 53.0 +0.2**
baz=125,SNR=8.4
J30M Hart River 73.19 336 P **P** **16 32 54.5 +1.0**
baz=112
M29M Somme Creek 73.32 334 P **P** **16 32 55.2 +0.9**
baz=110
G31M Satah River 73.34 339 P **P** **16 32 55.4 +1.3**
baz=115
F31M Tsiigehtchic 73.38 339 IAmb IAmb 16 32 55.5
comp=Z,3.4nm,0.5s
F31M Tsiigehtchic 73.38 339 P **P** **16 32 55.2 +0.8**
baz=115
PINM Pinnacle 73.40 331 P **P** **16 32 55.2 +0.4**
baz=107
K29M Barlow Dome 73.40 335 P **P** **16 32 55.5 +0.7**
baz=111
L29M L29M 73.40 335 P **P** **16 32 55.7 +1.0**
baz=110
I30M Mount Dempster 73.45 337 P **P** **16 32 55.8 +0.7**
baz=112
YUK8 Steele Glacier 73.53 332 P **P** **16 32 57.1 +1.4**
baz=108
O28M Mount Upton 73.57 332 P **P** **16 32 57.4 +1.3**
baz=108
YUK3 Moose Creek 74.00 333 P **P** **16 32 59.6 +1.2**
baz=108,SNR=6.9
EPYK Eagle Plains 74.02 338 P **P** **16 32 59.0 +0.8**
baz=112
G30M tAoh Zraii Nji 74.07 339 P **P** **16 33 00.1 +1.6**
baz=113
F30M Barrier River 74.16 339 P **P** **16 32 59.7 +0.7**
baz=114
CTG Chitna Glacier 74.17 332 P **P** **16 33 00.9 +1.5**
baz=106
DAWY Dawson 74.25 335 P **P** **16 33 00.1 +0.4**
baz=109
I29M Ogilvie Camp, 74.26 337 P **P** **16 33 00.4 +0.8**
baz=110
BVCY Beaver Creek 74.37 333 P **P** **16 33 01.4 +1.1**
baz=107
H29M Whitestone 74.58 338 P **P** **16 33 02.5 +1.1**
baz=111,SNR=5.0
G29M Pine Creek 74.70 338 P **P** **16 33 03.0 +0.8**
baz=111
M27K Edge Creek, AK 74.81 333 P **P** **16 33 04.4 +1.4**
baz=106,SNR=7.6
I28M Miner Creek 74.93 337 P **P** **16 33 04.4 +0.8**
baz=109
BCAR Beaver Creek A 74.97 334 **P** **16 33 04.5 +0.8**
L27K Beaver Creek, 74.98 334 P **P** **16 33 05.3 +1.4**
baz=107,SNR=8.4
E29M Blow River 75.20 340 **P** **16 33 05.5 +0.5**
E29M IAmb IAmb 16 33 06.4
comp=Z,6.0nm,1.1s
E29M Blow River 75.20 340 P **P** **16 33 05.4 +0.5**
baz=112,SNR=7.0
M26K Nabesna, AK 75.32 333 P **P** **16 33 07.0 +1.1**
baz=105
K27K Chicken 75.37 335 P **P** **16 33 07.1 +1.1**
baz=107
I27K Kandik River 75.64 337 P **P** **16 33 08.3 +0.7**
baz=107
L26K Log Cabin Wild 75.64 334 P **P** **16 33 08.9 +1.3**
baz=105
BMRM Bremner River 75.71 332 P **P** **16 33 09.1 +1.1**
baz=104
H27K Steamboat Moun 75.80 337 P **P** **16 33 09.3 +0.9**
baz=108
D28M Stokes Point 75.82 341 P **P** **16 33 09.3 +0.9**
baz=111
E28M Babbage River 75.84 340 P **P** **16 33 09.3 +0.7**
baz=110
N25K Chitina, Valde 75.85 332 P **P** **16 33 09.6 +0.7**
baz=104
G27K Doyon Strip 76.02 338 P **P** **16 33 10.4 +0.7**
baz=108
J26L Joseph Creek 76.12 335 P **P** **16 33 11.8 +1.5**
baz=105
EYAK Cordova Ski Ar 76.16 331 P **P** **16 33 11.4 +0.9**
baz=102
SCRK Sand Creek 76.17 335 IAmb IAmb 16 33 12.7
comp=Z,6.3nm,1.3s
SCRK Sand Creek 76.17 335 P **P** **16 33 11.6 +1.0**
baz=105,SNR=5.2
I26K Coal Creek Min 76.17 336 P **P** **16 33 11.6 +1.1**
baz=106
E27K Coleen River 76.42 339 P **P** **16 33 12.7 +0.8**
baz=108
KLU Klutina 76.45 332 P **P** **16 33 12.9 +0.7**
baz=102
RIDG Independent Ri 76.47 334 P **P** **16 33 13.2 +0.9**
baz=104
PAX Paxson 76.57 333 IAmb IAmb 16 33 15.1
comp=Z,5.3nm,1.2s
PAX Paxson 76.57 333 P **P** **16 33 13.7 +0.7**
baz=103
M24K Tolsona, Glenn 76.69 332 P **P** **16 33 14.4 +0.8**
baz=102
P23K Montague Islan 76.86 330 P **P** **16 33 15.2 +0.8**
baz=101
J25K Salcha River, 76.91 335 P **P** **16 33 15.3 +0.6**
baz=104
SCM Sheep Creek Mo 77.17 332 P **P** **16 33 16.8 +0.5**
baz=101
PRP Porcupine Dome 77.19 336 P **P** **16 33 16.9 +0.5**
baz=104
M23K Glacier View 77.35 332 P **P** **16 33 18.2 +1.0**
baz=101
HDA Harding Lake 77.53 335 P **P** **16 33 18.8 +0.7**
baz=102
ILAR Eielson Array 77.58 335 P **P** **16 33 18.6 +0.2**
comp=Z,1.2nm,0.7s,baz=108,slow=4.2,SNR=14
comp=Z,1.2nm,0.7s
KNK Knik Glacier 77.62 332 P **P** **16 33 19.3 +0.6**
baz=100
G25K Bearman Lake 77.71 337 P **P** **16 33 20.0 +0.9**
baz=104
F25K Christian Rive 77.73 338 P **P** **16 33 20.4 +1.1**
baz=104
RND Reindeer 78.16 334 IAmb IAmb 16 33 23.7
comp=Z,9.7nm,1.0s
H24K Noodor Dome 78.21 336 P **P** **16 33 22.8 +0.8**
baz=102
G24K Hadweenzic Riv 78.22 337 P **P** **16 33 23.0 +1.0**
baz=102
MCK McKinley 78.25 334 P **P** **16 33 23.1 +1.0**
baz=100
D25K Kavik River 78.41 340 P **P** **16 33 23.7 +0.7**
baz=104
NEA2 Nenana 78.46 335 P **P** **16 33 23.8 +0.5**
baz=100
M22K Willow 78.47 332 P **P** **16 33 24.0 +0.7**
baz=99
F24K Squaw Lake 78.55 338 P **P** **16 33 24.0 +0.2**
baz=102
I23K Minto, Yukon-K 78.68 335 P **P** **16 33 25.0 +0.6**
baz=100
H23K Yukon River 78.88 336 P **P** **16 33 26.3 +0.7**
baz=100
E24K Your Creek 78.89 338 P **P** **16 33 26.5 +0.9**
baz=102
SKT Skwentna 79.16 332 P **P** **16 33 27.5 +0.4**
baz=98
BPAW Bear Paw Mtn. 79.21 334 P **P** **16 33 27.8 +0.4**
baz=98
G23K Bananza Creek 79.22 337 **P** **16 33 28.5 +1.1**

G23K				IAmb	IAmb	16 33 29.6
	comp=Z,4.3nm,0.9s					
G23K	**Bananza Creek**	**79.22 337**		P	**P**	**16 33 28.5 +1.1**
	baz=100					
MLY	**Manley**	**79.24 335**		P	**P**	**16 33 27.9 +0.3**
MLY	**Manley**	**79.24 335**		P	**P**	**16 33 28.3 +0.7**
	baz=99					
C24K	**Franklin Bluff**	**79.30 340**		P	**P**	**16 33 28.5 +0.8**
	baz=102					
E23K	**Chandalar**	**79.30 338**		P	**P**	**16 33 28.6 +0.7**
	baz=100					
COLD	**Coldfoot**	**79.38 337**		P	**P**	**16 33 29.5 +1.2**
	baz=100					
TOLK	**Toolik Lake Re**	**79.39 339**		P	**P**	**16 33 28.7 +0.4**
	baz=100					
O20K	**Slope Mountain**	**79.46 330**		P	**P**	**16 33 29.1 +0.2**
	baz=96					
PPLA	**Purkeypile**	**79.58 333**		P	**P**	**16 33 29.9 +0.3**
	baz=97					
H22K	**Ishtalitna Cre**	**79.63 336**		P	**P**	**16 33 30.4 +0.7**
	baz=98					
P19K	**Oil Pt**	**79.72 329**		P	**P**	**16 33 30.7 +0.4**
	baz=96					
M20K	**Styx River**	**79.90 332**		P	**P**	**16 33 31.5 +0.3**
	baz=96					
E22K	**Anaktuvuk Pass**	**80.13 338**		P	**P**	**16 33 32.9 +0.6**
	baz=98					
H21K	**Meloziтna Rive**	**80.19 336**		P	**P**	**16 33 33.0 +0.3**
	baz=97					
L20K	**Farewell, AK**	**80.31 332**		P	**P**	**16 33 33.4 0.0**
	baz=96					
K20K	**Telida**	**80.48 333**		P	**P**	**16 33 34.5 +0.2**
	baz=96					
D22K	**Ayikyak River**	**80.55 339**		P	**P**	**16 33 35.0 +0.5**
D22K				IAmb	IAmb	16 33 38.7
	comp=Z,8.4nm,1.4s					
D22K	**Ayikyak River**	**80.55 339**		P	**P**	**16 33 35.0 +0.5**
	baz=98					
G21K	**Allakaket**	**80.57 336**		P	**P**	**16 33 35.3 +0.7**
	baz=96					
J20K	**Nowinta River**	**80.59 334**		P	**P**	**16 33 35.0 +0.3**
J20K				IAmb	IAmb	16 33 35.4
	comp=Z,2.9nm,0.7s					
J20K	**Nowinta River**	**80.59 334**		P	**P**	**16 33 35.1 +0.4**
	baz=96					
F21K	**Alatna River**	**80.64 337**		P	**P**	**16 33 35.2 +0.1**
	baz=97					
L19K	**White Mountain**	**80.74 332**		P	**P**	**16 33 35.9 +0.2**
	baz=95					
O18K	**Koktuh Hills**	**80.74 330**		P	**P**	**16 33 35.8 +0.2**
	baz=94					
E21K	**Killik River**	**80.97 338**		P	**P**	**16 33 37.3 +0.6**
	baz=96					
Q17K	**Contact Creek**	**80.99 328**		P	**P**	**16 33 37.4 +0.3**
	baz=93					
H20K	**Anotleneega Mo**	**81.03 335**		P	**P**	**16 33 37.4 +0.4**
	baz=95					
N18K	**Kilae Creek**	**81.13 330**		P	**P**	**16 33 37.6 -0.1**
	baz=93					
M18K	**Stony River**	**81.15 331**		P	**P**	**16 33 38.1 +0.4**
	baz=94					
J19K	**Poorman**	**81.22 334**		P	**P**	**16 33 38.9 +0.7**
	baz=94					
B21K	**Ikpikpuk River**	**81.32 339**		P	**P**	**16 33 39.5 +1.0**
	baz=96					
P17K	**Kvichak River**	**81.33 329**		P	**P**	**16 33 39.2 +0.5**
	baz=93					
F20K	**Avaraart Lake**	**81.50 337**		P	**P**	**16 33 40.4 +0.9**
	baz=94					
A22K	**Sinclair Lake**	**81.59 341**		P	**P**	**16 33 40.7 +0.9**
	baz=96					
L18K	**Granite Mounta**	**81.60 332**		P	**P**	**16 33 41.2 +1.0**
	baz=93					
J18K	**Innoko River**	**81.67 333**		P	**P**	**16 33 41.8 +1.3**
	baz=93					
E20K	**Nigu River**	**81.77 338**		P	**P**	**16 33 42.2 +1.2**
	baz=94					
D20K	**Etivluk River**	**81.96 339**		P	**P**	**16 33 43.0 +1.1**
	baz=94					
G19K	**Purcell Mounta**	**81.98 336**		P	**P**	**16 33 43.4 +1.3**
	baz=93					
E19K	**Redstone River**	**82.11 337**		P	**P**	**16 33 43.6 +0.9**
	baz=93					
O16K	**Kokwok River B**	**82.19 329**		P	**P**	**16 33 44.3 +1.1**
	baz=91					
B20K	**Meade River**	**82.23 340**		P	**P**	**16 33 43.6 +0.3**
	baz=94					
F19K	**Shaleruckik Mo**	**82.29 337**		P	**P**	**16 33 43.5 -0.1**
	baz=93					
L17K	**Donlin**	**82.35 332**		P	**P**	**16 33 44.6 +0.6**
	baz=92					
K17K	**Iditarod**	**82.36 332**		P	**P**	**16 33 44.7 +0.6**
	baz=92					
H18K	**Honhosa River**	**82.47 335**		P	**P**	**16 33 45.7 +1.1**
	baz=92					
D19K	**Kuna River**	**82.49 338**		P	**P**	**16 33 45.7 +1.0**
	baz=92					
N16K	**Nishlik Lake**	**82.54 330**		P	**P**	**16 33 46.1 +1.0**
	baz=91					
G18K	**Tagagawik**	**82.61 336**		P	**P**	**16 33 46.4 +1.0**
	baz=92					
J17K	**VABM Dome**	**82.73 333**		P	**P**	**16 33 47.4 +1.4**
	baz=91					
L16K	**Owhat River**	**82.90 331**		P	**P**	**16 33 48.3 +1.4**
	baz=90					
CHNA	**Chernabura Isl**	**82.97 324**		P	**P**	**16 33 48.6 +1.3**
	baz=90					
F18K	**Selawik**	**83.03 336**		P	**P**	**16 33 49.0 +1.6**
	baz=91					
C19K	**Lookout Ridge**	**83.05 339**		P	**P**	**16 33 49.0 +1.4**
	baz=91					
H17K	**Granite Mounta**	**83.12 335**		P	**P**	**16 33 48.9 +1.0**
	baz=90					
E18K	**Tukpahlearik C**	**83.41 337**		P	**P**	**16 33 50.2 +0.9**
	baz=90					
E17K	**Hotham Inlet**	**83.89 337**		P	**P**	**16 33 52.8 +0.9**
	baz=89					
ARCES	**ARCESS Array B**	**87.38 20**		P	**P**	**16 34 09.2 +0.1**
ARCES	**ARCESS Array B**	**87.38 20**		P	**P**	**16 34 09.1 +0.1**
	comp=Z,1.4nm,0.8s,baz=289,slow=3.7,SNR=9.4					
	comp=Z,1.4nm,0.8s					
ASAR	**Alice Springs**	**148.60 233**		PKPbc	**PKPbc**	**16 41 08.1 -1.2**
	comp=Z,0.8nm,0.4s,baz=113,slow=3.9,SNR=12					
WRA	**Warramunga Arr**	**149.90 240**		PKPbc	**PKPbc**	**16 41 11.8 -0.8**
	comp=Z,1.8nm,0.5s,baz=108,slow=2.7,SNR=9.6					

*NEIC **14** 16:22:48.9±1.2,22°.8S±0°.1×179°.3W±0°.2,h548km±8km, mb4.3/20,Error ellipse: s-maj=23.3km s-min=16.4km az=94.0*
*IDC **14** 16:22:51.6±10.0,22°.80S×179°.37W,h575km±112km, mb3.1/6,mbtmp3.9/6,Error ellipse: s-maj=49.2km s-min=24.0km az=87.0*

ISC 14 16:22:49.0±0.5,22°.78S±0°.08×179°.4W±0°.1,h550km,n37, σ0s74/35,mb4.2/15,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.56**	**334**	P	**P**	**16 24 23.2**	**-0.8**
RAO	**Raoul Island**	**6.58**	**169**	P	**P**	**16 24 33.1**	**+0.2**
FUTU	**Fugatoga**	**8.52**	**8**	P	**P**	**16 24 50.5**	**-1.6**
PINNC	**Pines Island,**	**12.14**	**268**	P	**P**	**16 25 28.7**	**-0.4**
DZM	**Mont Dzumac**	**13.11**	**270**	P	**P**	**16 25 40.0**	**+0.8**
THZ	**Tophouse**	**19.99**	**197**	P	**P**	**16 26 44.4**	**-0.6**
LTZ	**Lake Taylor**	**21.11**	**197**	P	**P**	**16 26 54.3**	**-0.7**
WHZ	**Wether Hill Ro**	**25.25**	**201**	P	**P**	**16 27 31.7**	**0.0**
KNRA	**Kununurra**	**49.25**	**269**	P	**P**	**16 30 48.2**	**+0.2**
SOEI	**Soe**	**55.31**	**274**	P	**P**	**16 31 31.5**	**0.0**
VNDA	**Vanda**	**55.53**	**185**	P	**P**	**16 31 32.7**	**+0.8**
MBWA	**Marble Bar**	**56.11**	**259**	P	**P**	**16 31 36.3**	**-0.6**
MBWA				IAmb	IAmb	16 31 47.9	
	comp=Z,17nm,1.1s						
CASY	**Casey**	**61.35**	**206**	P	**P**	**16 32 10.8**	**-0.4**
QSPA	**South Pole Qui**	**67.30**	**180**	P	**P**	**16 32 49.5**	**+0.4**
QSPA	**South Pole Qui**	**67.30**	**180**	P	**P**	**16 32 49.8**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=339,slow=0.6,SNR=14						
	comp=Z,1.2nm,0.6s						
KIWB	**Kanaga Island**	**74.34**	**1**	P	**P**	**16 33 30.6**	**+0.3**
KIWB				IAmb	IAmb	16 34 04.5	
	comp=Z,21nm,1.1s						
ADK	**Adak**	**74.38**	**2**	P	**P**	**16 33 30.6**	**0.0**
ADK				IAmb	IAmb	16 33 38.6	
	comp=Z,17nm,1.1s						
BELA	**Belgrano 2**	**77.47**	**173**	P	**P**	**16 33 47.0**	**-0.5**
PEA0B	**Petropavlovsk-**	**78.15**	**346**	P	**P**	**16 33 51.2**	**-0.1**
PEA0B				IAmb	IAmb	16 34 34.3	
	comp=Z,14nm,1.3s						
PETK	**Petropavlovsk-**	**78.15**	**346**	P	**P**	**16 33 51.2**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=108,slow=8.6,SNR=8.4						
	comp=Z,1.6nm,0.7s						
N15K	**Kwethluk River**	**84.15**	**10**	P	**P**	**16 34 23.0**	**+1.0**
N15K				IAmb	IAmb	16 34 31.3	
	comp=Z,19nm,1.5s						
O18K	**Koktuh Hills**	**84.69**	**12**	P	**P**	**16 34 25.3**	**+0.6**
O18K				IAmb	IAmb	16 35 07.8	
	comp=Z,15nm,1.3s						
SNAA	**Sanae**	**85.77**	**179**	P	**P**	**16 34 29.1**	**-0.9**
SNAA				IAmb	IAmb	16 34 58.3	
	comp=Z,8.3nm,1.5s						
SNAA	**Sanae**	**85.77**	**179**	P	**P**	**16 34 28.4**	**-1.6**
	comp=Z,1.6nm,1.1s,baz=233,slow=5.1,SNR=2.8						
	comp=Z,1.6nm,1.1s						
L18K	**Granite Mounta**	**86.63**	**10**	P	**P**	**16 34 34.4**	**+0.4**
L18K				IAmb	IAmb	16 34 46.7	
	comp=Z,8.2nm,1.5s						
M19K	**Big River Lodg**	**86.74**	**12**	P	**P**	**16 34 34.6**	**+0.1**
M19K				IAmb	IAmb	16 35 03.8	
	comp=Z,3.3nm,1.0s						
J17K	**VABM Dome**	**87.37**	**9**	P	**P**	**16 34 37.9**	**+0.5**
J17K				IAmb	IAmb	16 34 56.4	
	comp=Z,5.8nm,1.4s						
K20K	**Telida**	**88.14**	**11**	P	**P**	**16 34 41.3**	**+0.3**
TXAR	**Lajitas Array**	**89.38**	**58**	P	**P**	**16 34 49.2**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=260,slow=7.4,SNR=2.5						
	comp=Z,0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.66**	**290**	P	**P**	**16 34 50.7**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=112,slow=5.9,SNR=4.4						
	comp=Z,0.6nm,0.7s						
ILAR	**Eielson Array**	**90.82**	**13**	P	**P**	**16 34 53.4**	**0.0**
	comp=Z,0.3nm,0.8s,baz=208,slow=5.1,SNR=3.3						
	comp=Z,0.3nm,0.8s						
ARCES	**ARCESS Array B**	**130.91**	**349**	PKP	**PKPdf**	**16 40 57.2**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=343,slow=2.8,SNR=9.7						
HFS	**Hagfors**	**141.56**	**349**	PKhKP	PKPpre	16 41 12.7	
	comp=Z,0.8nm,0.3s,baz=67,slow=5.0,SNR=14						
AKASG	**Malin Array Be**	**144.32**	**329**	PKP	PKPbc	16 41 21.8	-0.5
	comp=Z,0.8nm,0.3s,baz=44,slow=4.2,SNR=15						
BRTR	**Keskin Array B**	**147.33**	**309**	PKPbc	**PKPbc**	**16 41 31.4**	**0.0**
	comp=Z,0.8nm,0.9s,baz=75,slow=1.6,SNR=2.5						
EKA	**Eskdalemuir Ar**	**147.37**	**4**	PKPbc	**PKPbc**	**16 41 30.5**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=355,slow=2.4,SNR=6.1						
GERES	**GERESS Array B**	**151.99**	**341**	PKPbc	**PKPbc**	**16 41 41.6**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=339,slow=3.4,SNR=3.5						

*NOU **14** 16:23:14.7,15°.80S×120°.38E,h0km,mb4.0/6,Northwest of Australia*
*AUST **14** 16:23:50.7±1.2,18°.5±6°×121°.1E±°,h11km±10km,mb4.0/10, ML3.1/6,Error ellipse: s-maj=18.6km s-min=4.7km az=135.8*

ISC 14 16:23:48.5±1.5,18°.3S±0°.1×120°.50E±0°.09,h10km,n23, σ1s57/27,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**2.96**	**194**	P	**Pn**	**16 24 36.3**	**+0.8**
MBWA				S	Sn	16 25 13.3	+2.2
PSAC1	**Pilbara Seismi**	**3.30**	**191**	P	**Pn**	**16 24 40.1**	**-0.2**
PSAC1				S	Sn	16 25 21.1	+1.4
FITZ	**Fitzroy Crossi**	**4.89**	**89**	P	**Pn**	**16 25 04.6**	**+2.5**
FITZ	**Fitzroy Crossi**	**4.89**	**89**	S	**Sn**	**16 25 58.6**	**-0.3**
GIRL	**Giralia**	**7.30**	**232**	P	**Pn**	**16 25 34.7**	**-0.6**
GIRL				S	Sn	16 26 52.1	-6.2
KNRA	**Kununurra**	**8.32**	**73**	P	**Pn**	**16 25 51.0**	**+1.7**
	comp=Z,17nm,2.6s,comp=Z,0.1nm						
KNRA				S	**Sn**	**16 27 23.4**	**+0.1**
MEEK	**Meekatharra**	**8.50**	**191**	P	**Pn**	**16 25 52.1**	**+0.4**
	comp=Z,18nm,2.8s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.50**	**191**	S	**Sn**	**16 27 24.8**	**-3.0**
MEEK	**Meekatharra**	**8.50**	**191**	P	**Pn**	**16 25 52.3**	**+0.5**
CVOOZ	**Cooralya Stati**	**8.57**	**223**	P	**Pn**	**16 25 52.8**	**+0.1**
WRKA	**Warakurna**	**9.89**	**134**	P	**Pn**	**16 26 13.5**	**+2.7**
	comp=Z,4.7nm,2.3s,comp=Z,0.0nm						
WRKA				S	**Sn**	**16 28 00.2**	**-1.7**
MORW	**Morawa**	**11.49**	**200**	P	**Pn**	**16 26 30.4**	**-2.2**
	comp=Z,13nm,2.3s						
MORW	**Morawa**	**11.49**	**200**	P	**Pn**	**16 26 31.6**	**-1.1**
MTN	**Manton Dam**	**11.58**	**64**	P	**Pn**	**16 26 32.6**	**-1.4**
	comp=Z,30nm,2.8s						
BLDU	**Ballidu**	**12.76**	**195**	P	**Pn**	**16 26 48.3**	**-1.7**
	comp=Z,12nm,1.2s						
BLDU	**Ballidu**	**12.76**	**195**	P	**Pn**	**16 26 49.3**	**-0.7**
KDU	**Kakadu**	**12.81**	**66**	P	**Pn**	**16 26 50.6**	**-0.1**
	comp=Z,13nm,2.2s						
KLBR	**Kellerberrin**	**13.49**	**190**	P	**Pn**	**16 26 58.7**	**-1.3**
	comp=Z,15nm,1.2s						
KLBR	**Kellerberrin**	**13.49**	**190**	P	**Pn**	**16 26 59.5**	**-0.5**
MUN	**Mundaring**	**14.18**	**195**	P	**Pn**	**16 27 07.1**	**-2.4**
	comp=Z,17nm,2.6s						
MUN	**Mundaring**	**14.18**	**195**	P	**Pn**	**16 27 08.2**	**-1.3**
	comp=Z,17nm,2.6s						
FORT	**Forest**	**14.21**	**153**	P	**Pn**	**16 27 10.0**	**+0.1**
	comp=Z,10nm,1.2s						
NWAO	**Narrogin (SRO)**	**14.88**	**191**	P	**Pn**	**16 27 17.7**	**-1.3**

*IDC **14** 16:26:07.2±8.6,33°.03N×76°.30E,h0km,mb3.6/6, mbtmp3.6/8,ML3.1/2,MS3.7/1,Error ellipse: s-maj=156.4km s-min=37.6km az=138.0*
*NDI **14** 16:26:10.3±1.3,33°.13N×76°.17E,h10km,ML3.3,MW3.2*

ISC 14 16:26:09.5±0.7,33°.19N±0°.05×76°.24E±0°.06,h10km,n16, σ1s68/22,mb3.5/5,Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMU	**Jammu**	**1.23**	**248**	*eP*	**Pn**	**16 26 32.6**	**-0.1**
JMU				*eS*	**Sb**	**16 26 49.4**	**+0.8**
JMU				IAML		16 26 59.1	
	comp=N,349nm,0.4s						
JMU				IAML		16 27 00.7	
	comp=E,437nm,0.6s						
BHK	**Bhakra**	**1.78**	**175**	*eP*	**Pn**	**16 26 42.3**	**+2.0**
BHK				IAML		16 27 04.5	
	comp=E,308nm,0.3s						
BHK				*eS*	**Sb**	**16 27 05.8**	**+1.3**
BHK				IAML		16 27 06.7	
	comp=N,612nm,0.7s						
SMLA	**Simla**	**2.20**	**159**	*eP*	**Pn**	**16 26 46.3**	**+0.2**
SMLA				*eS*	**Sn**	**16 27 13.3**	**-0.2**
SMLA				IAML		16 27 16.9	
	comp=E,389nm,0.6s						
SMLA				IAML		16 27 21.4	
	comp=N,300nm,0.4s						
KLP	**Kalpa**	**2.37**	**134**	*eP*	**Pn**	**16 26 50.8**	**+2.0**
KLP				*eS*	**Sn**	**16 27 19.3**	**+1.2**
KLP				IAML		16 27 24.6	
	comp=N,248nm,0.3s						
KLP				IAML		16 27 24.8	
	comp=E,328nm,0.3s						
DDI	**Dehra Dun**	**3.25**	**151**	*eP*	**Pn**	**16 27 00.9**	**+0.3**
DDI				IAML		16 27 51.4	
	comp=N,206nm,0.4s						
DDI				IAML		16 27 51.5	
	comp=E,204nm,0.3s						
KUDL	**Kundal**	**5.04**	**178**	*eP*	**Pn**	**16 27 24.7**	**-0.4**
KUDL				*eS*	**Sn**	**16 28 20.4**	**-3.1**
LGTI	**Lohaghat**	**5.07**	**136**	*eP*	**Pn**	**16 27 25.1**	**-0.4**
LGTI				*eS*	**Sn**	**16 28 19.8**	**-4.3**
LGTI				IAML		16 28 22.6	
	comp=E,16nm,0.3s						
MKAR	**Makanchi Array**	**14.35**	**17**	Pn	**Pn**	**16 29 33.5**	**+0.8**
	comp=E,0.1nm,0.3s,baz=201,slow=13,SNR=7.3						
MKAR				Sn	**Sn**	**16 32 09.1**	**-2.7**
	comp=E,0.1nm,0.3s,baz=164,slow=41,SNR=1.8						
	comp=E,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**17.50**	**5**	P	**Pn**	**16 30 13.2**	**-0.3**
	baz=186,slow=11,SNR=4.6						
	comp=E,0.4nm,0.6s						
BVAR	**Borovoye Array**	**20.26**	**350**	P	**P**	**16 30 46.9**	**+1.9**
	comp=E,2.1nm,0.6s,baz=150,slow=9.9,SNR=15						
	comp=E,2.1nm,0.6s						
ZALV	**Zalesovo Beam**	**21.63**	**14**	P	**P**	**16 31 00.2**	**+0.5**
	comp=E,1.0nm,0.5s,baz=204,slow=11,SNR=5.6						
	comp=E,1.0nm,0.5s						
AKASG	**Malin Array Be**	**38.37**	**311**	P	**P**	**16 33 30.3**	**-0.4**
	comp=E,0.3nm,0.4s,baz=82,slow=8.5,SNR=1.6						
	comp=E,0.3nm,0.4s						
FINES	**FINESS Array B**	**42.61**	**327**	P	**P**	**16 34 06.7**	**+1.1**
	comp=E,0.8nm,0.5s,baz=111,slow=8.5,SNR=6.4						
	comp=E,0.8nm,0.5s						
ARCES	**ARCESS Array B**	**45.84**	**338**	P	**P**	**16 34 32.3**	**+0.9**
	comp=E,1.0nm,0.9s,baz=109,slow=11,SNR=4.6						
	comp=E,1.0nm,0.9s						
GERES	**GERESS Array B**	**48.36**	**308**	LR	LR	17 00 00.9	
	comp=E,76nm,18.0s,baz=61,slow=42						
NOA	**NORSAR Array B**	**49.59**	**325**	P	**P**	**16 34 60.0**	**-0.7**
	comp=E,0.4nm,0.7s,baz=95,slow=7.6,SNR=2.0						
	comp=E,0.4nm,0.7s						

DJA 14 16:28:36.6±0.3,1°S±3°×12°9E±°,h10km,M4.1/13,mb4.4/6, MLv3.9/13,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.17**	**322**	P	Pn	16 29 13.1	+0.3
MSAI	**Masohi**	**2.38**	**174**	P	Pb	16 29 17.7	-1.9
SWI	**Sorong**	**2.57**	**88**	P	Pn	16 29 18.1	-0.2
AAI	**Ambon**	**2.75**	**190**	P	Pn	16 29 20.9	0.0
NLAI	**Namlea**	**2.77**	**215**	P	Pn	16 29 21.0	0.0
SANI	**Sanana**	**2.91**	**248**	P	Pn	16 29 22.3	-0.7
FAKI	**Fak Fak**	**4.05**	**119**	P	Pn	16 29 38.4	-0.4
LUWI	**Luwuk**	**5.92**	**269**	P	Pn	16 30 04.6	+0.2
	26nm,0.7s						
APSI	**Ampana**	**7.04**	**270**	P	Pn	16 30 19.8	0.0
TTSI	**Tana Toraja**	**9.10**	**257**	P	Pn	16 30 48.9	+0.7
	9.4nm,0.8s						
SPSI	**Sidrap Palu**	**9.40**	**251**	P	Pn	16 30 53.1	+0.9
	24nm,0.8s						
BKSI	**Bulukumba**	**9.59**	**243**	P	Pn	16 30 55.2	+0.4

*JMA **14** 16:30:41.1±0.2,35°.6N±0°.6×140°.7E±0°.8,h50km±1km, MV3.6/31,NEAR CHOSHI CITY*
JMA Felt II J1 at NEAR CHOSHI CITY .
*NIED **14** 16:30:41.1,35°.64N×140°.67E,h50km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr3.53; Mθθ-0.68; Mφφ-2.85; Mrθ0.14; Mφθ-0.79; Mφr3.98; Fault plane solution: M₀5.18000×10¹⁵ NP1: φs205.00000°,δ21.00000°,λ108.00000°. NP2:φs6.00000°, δ70.00000°,λ83.00000°.*
*NEIC **14** 16:30:41.6±1.7,35°.56N±0°.06×140°.78E±0°.10,h52km±9km, mb4.4/9 Error ellipse: s-maj=11.5km s-min=7.9km az=105.0*
*IDC **14** 16:30:43.6±2.5,35°.53N×140°.57E,h68km±21km,mb3.6/22, mbtmp3.9/25,MS3.4/14,Error ellipse: s-maj=17.9km s-min=15.1km az=92.0*

ISC 14 16:30:41.5±0.8,35°.58N±0°.06×140°.64E±0°.06,h49km±6km, n96,σ1s35/85,mb4.0/28,MS3.5/10,6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.17**	**291**	⇓*iP*	**Pn**	**16 30 49.6**	**0.0**
JSMT				⇓S	**Sn**	**16 30 56.5**	**+1.2**
JIHU	**Itakohorinouch**	**0.40**	**346**	⇓*iP*	**Pn**	**16 30 51.4**	**-0.2**
JIHU				⇓S	**Sn**	**16 30 59.2**	**+0.5**
BSO4	**Boso 4**	**0.64**	**203**	*eP*	**Pn**	**16 30 55.2**	**+0.8**
JYT	**Yasato**	**0.74**	**331**	⇓P	**Pn**	**16 30 54.7**	**-1.1**
JYT				⇓*eS*	**Sn**	**16 31 04.3**	**-1.8**
BSO3	**Boso 3**	**0.79**	**188**	*iP*	**Pn**	**16 30 57.0**	**+0.9**
BSO1	**Boso 1**	**0.96**	**163**	*eP*	**Pn**	**16 30 58.9**	**+0.6**
MJAR	**Matsushiro Arr**	**2.19**	**297**	P	**Pn**	**16 31 16.4**	**+0.9**
	30nm,0.4s,baz=102,slow=15,SNR=283						
MJAR				S	**Sn**	**16 31 39.8**	**-1.7**
	25nm,0.4s,baz=300,slow=33,SNR=2.8						
MJAR				LR	LR	16 32 19.8	
	comp=Z,934nm,21.6s,baz=167,slow=44						
MAJO	**Matsushiro**	**2.19**	**297**		**Pn**	**16 31 16.9**	**+1.4**
MAJO	**Matsushiro**	**2.19**	**297**	P	**Pn**	**16 31 16.9**	**+1.4**
MJB9	**Matsu-Tunnel**	**2.20**	**297**	Pn	**Pn**	**16 31 17.8**	**+2.2**
JSG	**Sagara**	**2.21**	**247**		**Pn**	**16 31 17.2**	**+1.5**
JSG	**Sagara**	**2.21**	**247**	P	**Pn**	**16 31 18.7**	**+3.0**
JMM	**Marumori**	**2.28**	**3**		**Pn**	**16 31 17.1**	**+0.4**
JMM	**Marumori**	**2.28**	**3**	P	**Pn**	**16 31 17.2**	**+0.4**
JHJ2	**Mitsune**	**2.56**	**196**		**Pn**	**16 31 21.4**	**+0.9**
JHJ2	**Mitsune**	**2.56**	**196**	P	**Pn**	**16 31 21.4**	**+0.9**
JGF	**Kuroka**	**2.68**	**271**		**Pn**	**16 31 24.1**	**+1.9**
JGF	**Kuroka**	**2.68**	**271**	P	**Pn**	**16 31 24.3**	**+2.1**
INU	**Inuyama**	**2.97**	**267**		**Pn**	**16 31 26.9**	**+0.7**
INU	**Inuyama**	**2.97**	**267**	P	**Pn**	**16 31 27.9**	**+1.8**
JSD	**Sado**	**3.11**	**323**	P	**Pn**	**16 31 29.7**	**+1.7**
JTM	**Tenmabayashi**	**5.21**	**4**	Pn	**Pn**	**16 31 57.6**	**+0.8**
JTM	**Tenmabayashi**	**5.21**	**4**	P	**Pn**	**16 31 57.3**	**+0.5**
JMN	**Monobe**	**5.87**	**254**	Pn	**Pn**	**16 32 09.1**	**+3.1**
JMN	**Monobe**	**5.87**	**254**	P	**Pn**	**16 32 09.2**	**+3.1**
ERM	**Erimo**	**6.72**	**16**	Pn	**Pn**	**16 32 15.8**	**-1.7**
ERM	**Erimo**	**6.72**	**16**	P	**Pn**	**16 32 16.9**	**-0.6**
JEM	**Erimo**	**6.72**	**16**	P	**Pn**	**16 32 18.1**	**+0.6**
JNU	**Nakatsue**	**8.44**	**256**	Pn	**Pn**	**16 32 39.4**	**-1.8**
JNU	**Nakatsue**	**8.44**	**256**	P	**Pn**	**16 32 37.3**	**-3.9**
	3.9nm,0.9s,baz=349,slow=3.4,SNR=1.9						
JNU				LR	LR	16 36 10.3	
	comp=Z,406nm,21.4s,baz=66,slow=39						
JCJ	**Chichijima**	**8.56**	**171**	Pn	**Pn**	**16 32 41.4**	**-1.5**
JCJ	**Chichijima**	**8.56**	**171**	P	**Pn**	**16 32 39.0**	**-3.8**
JCJ				S	Sn	16 34 07.4	-11
JCJ	**Chichijima**	**8.56**	**171**	P	**Pn**	**16 32 42.2**	**-0.7**
ASAJ	**Asahikawa**	**8.66**	**9**	P	**Pn**	**16 32 42.6**	**-1.5**
	6.1nm,0.5s,baz=246,slow=12,SNR=9.3						
ASAJ				S	Sn	16 34 11.3	-9.0
	4.8nm,0.8s,baz=124,slow=28,SNR=1.4						
ASAJ				LR	LR	16 37 11.7	
	comp=Z,88nm,18.9s,baz=198,slow=44						
JKA	**Kamikawa-asahi**	**8.66**	**9**	Pn	**Pn**	**16 32 43.1**	**-1.0**

NRIK					IAmb	IAmb	16 38 47.4	
	comp=Z,4.6nm,1.1s							
NRIK	**Noril'sk**	**44.33**	**336**	P	**P**		**16 38 46.8**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=114,slow=14,SNR=5.8							
	comp=Z,2.1nm,0.6s							
MKAR	**Makanchi Array**	**44.38**	**303**	P	**P**		**16 38 46.6**	**-0.5**
MKAR	**Makanchi Array**	**44.38**	**303**	P	**P**		**16 38 47.2**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=90,slow=9.7,SNR=13							
MKAR				PcP	**PcP**		**16 40 29.6**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=67,slow=4.8,SNR=2.8							
MKAR				LR	LR		16 57 43.0	
	comp=Z,71nm,20.1s,baz=100,slow=36							
	comp=Z,1.6nm,0.7s							
MAKZ	**Makanchi**	**44.59**	**303**	P	**P**		**16 38 49.4**	**+0.7**
MAKZ				IAmb	IAmb		16 39 10.1	
	comp=Z,2.7nm,0.9s							
KURK	**Kurchatov**	**46.35**	**309**		**P**		**16 39 02.4**	**-0.2**
KURBB	**Kurchatov Arra**	**46.42**	**309**	P	**P**		**16 39 03.0**	**0.0**
	comp=Z,5.3nm,0.9s,baz=84,slow=8.3,SNR=33							
	comp=Z,5.3nm,0.9s							
ILAR	**Eielson Array**	**51.05**	**32**	P	**P**		**16 39 39.5**	**+1.1**
	comp=Z,1.0nm,0.9s,baz=267,slow=6.3,SNR=13							
	comp=Z,1.0nm,0.9s							
BVAR	**Borovoye Array**	**51.10**	**313**	P	**P**		**16 39 38.8**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=96,slow=9.1,SNR=7.5							
	comp=Z,0.6nm,0.3s							
KKAR	**Karatay Array**	**53.32**	**301**	P	**P**		**16 39 55.7**	**+0.1**
WRA	**Warramunga Arr**	**55.54**	**187**	P	**P**		**16 40 10.9**	**-0.8**
WRA	**Warramunga Arr**	**55.54**	**187**	P	**P**		**16 40 11.0**	**-0.8**
	comp=Z,2.9nm,0.9s,baz=1.6,slow=7.8,SNR=18							
	comp=Z,2.9nm,0.9s							
ARTI	**Arti**	**57.15**	**319**		**P**		**16 40 22.8**	**-0.1**
A36M	**Sachs Harbour**	**57.84**	**22**	P	**P**		**16 40 28.6**	**+1.1**
A36M				IAmb	IAmb		16 40 30.7	
	comp=Z,6.3nm,0.9s							
AB31	**Akbulak array**	**58.40**	**311**	P	**P**		**16 40 31.6**	**-0.3**
AB31				IAmb	IAmb		16 40 50.4	
	comp=Z,3.2nm,1.0s							
ASAR	**Alice Springs**	**59.27**	**187**	P	**P**		**16 40 38.3**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=18,slow=10,SNR=9.9							
	comp=Z,0.9nm,0.9s							
KIRV	**Kirov**	**61.03**	**323**	LR	LR		17 09 16.4	
	comp=Z,56nm,18.5s,baz=74,slow=38							
ARCES	**ARCESS Array B**	**65.14**	**339**	P	**P**		**16 41 16.7**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=47,slow=7.3,SNR=2.2							
	comp=Z,1.4nm,0.9s							
YKA	**Yellowknife Ar**	**65.38**	**30**	P	**P**		**16 41 19.0**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=296,slow=7.1,SNR=2.2							
	comp=Z,0.4nm,0.7s							
FINES	**FINESS Array B**	**69.81**	**332**	P	**P**		**16 41 47.1**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=8.1,slow=4.0,SNR=7.5							
	comp=Z,2.0nm,0.8s							
KBZ	**Khabaz**	**71.38**	**311**	P	**P**		**16 41 55.0**	**-1.2**
	comp=Z,2.3nm,0.7s,baz=84,slow=2.6,SNR=6.4							
	comp=Z,2.3nm,0.7s							
AKASG	**Malin Array Be**	**75.06**	**322**	P	**P**		**16 42 17.9**	**0.0**
	comp=Z,1.5nm,0.7s,baz=50,slow=5.7,SNR=10							
	comp=Z,1.5nm,0.7s							
HFS	**Hagfors**	**75.15**	**336**	P	**P**		**16 42 18.7**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=29,slow=6.6,SNR=4.3							
	comp=Z,2.4nm,0.9s							
NB2	**NORSAR Subarra**	**75.28**	**337**	P	**P**		**16 42 19.3**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=42,slow=6.2							
NOA	**NORSAR Array B**	**75.28**	**337**	P	**P**		**16 42 19.3**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=39,slow=5.8,SNR=8.2							
	comp=Z,2.2nm,0.9s							
SFJD	**Kangerlussuaq**	**77.38**	**5**	LR	LR		17 18 18.1	
	comp=Z,29nm,19.7s,baz=310,slow=37							
PDAR	**Pinedale Array**	**79.13**	**45**	P	**P**		**16 42 42.0**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=320,slow=7.1,SNR=1.9							
	comp=Z,0.1nm,0.4s							
BRTR	**Keskin Array B**	**79.34**	**311**	P	**P**		**16 42 43.3**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=99,slow=7.6,SNR=5.1							
	comp=Z,1.1nm,0.9s							
RAR	**Rarotonga**	**79.82**	**125**	LR	LR		17 12 28.7	
	comp=Z,42nm,20.7s,baz=300,slow=31							
CLL	**Collm**	**82.04**	**330**	*i* P	**P**		**16 42 56.6**	**+0.3**
CLL				AMS	AMS		16 58 00.0	
	comp=Z,100nm,19.7s							
GERES	**GERESS Array B**	**83.61**	**328**	P	**P**		**16 43 04.3**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=67,slow=2.6,SNR=3.1							
	comp=Z,0.2nm,0.4s							
TXAR	**Lajitas Array**	**91.50**	**52**	P	**P**		**16 43 41.7**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=270,slow=3.5,SNR=4.4							
	comp=Z,0.3nm,0.7s							
H03N2	**Juan Fernandez**	**147.47**	**98**	T	T		19 35 07.8	
	baz=289,slow=76,SNR=3.9							
H03N3	**Juan Fernandez**	**147.48**	**98**	T	T		19 35 12.6	
	baz=289,slow=76,SNR=5.8							
H03N1	**Juan Fernandez**	**147.48**	**98**	T	T		19 35 08.5	
	baz=289,slow=76,SNR=5.0							
LPAZ	**La Paz**	**147.96**	**61**	PKPbc	**PKPbc**		**16 50 21.9**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=315,slow=5.7,SNR=4.5							

*SNET **14** 16:32:25.8±0.8, 12.°99N×88.°94W, h44km±19km, ML3.2*
*GCG **14** 16:32:25.3±0.8, 12.°94N×88.°97W, h38km±172km, MD3.7*
*CATAC **14** 16:32:25.1±0.6, 13.°N±4.°×8.°9W±.°, h31km±4km, M3.7/16, MLv3.7/16, Error ellipse: s-maj=8.5km s-min=3.2km az=20.4, confirmed*

ISC 14 16:32:25.0±1.8, 12.°90N±0.°08×88.°98W±0.°04, h33km±8km, n63, σ0^{s}44/73, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ALJI	**Alcalda de J**	**0.58**	**43**	P		**Pb**	**16 32 38.2**	**+1.3**
ALJI	**Alcalda de J**	**0.58**	**43**	S		**Sn**	**16 32 47.4**	**+2.0**
TECO	**Alcaldia de Te**	**0.66**	**17**	*e*P		**Pb**	**16 32 37.8**	**-0.5**
TECO				*e*S		**Sb**	**16 32 46.9**	**-0.4**
TECO	**Alcaldia de Te**	**0.66**	**17**	S		**Sb**	**16 32 47.0**	**-0.2**
TECO	**Alcaldia de Te**	**0.66**	**17**	P		**Pb**	**16 32 37.8**	**-0.5**
LALI	**Alcalda de L**	**0.67**	**331**	S		**Sb**	**16 32 47.3**	**-0.2**
COEG	**Centro de Oper**	**0.72**	**8**	*e*P		**Pn**	**16 32 38.6**	**-0.4**
COEG	**Centro de Oper**	**0.72**	**8**	P		**Pn**	**16 32 38.6**	**-0.4**
COEG	**Centro de Oper**	**0.72**	**8**	S		**Sb**	**16 32 48.9**	**0.0**
SNVI	**San Vicente**	**0.72**	**11**	*e*P		**Pn**	**16 32 38.8**	**-0.2**
SNVI				IAML			16 32 50.8	
	comp=Z,719nm,0.1s							
LFRS	**El Faro**	**0.72**	**354**	*e*P		**Pn**	**16 32 38.9**	**-0.1**
TECA	**Tecapa**	**0.75**	**38**	*i* P		**Pn**	**16 32 39.3**	**-0.2**
TECA				*i* P		**Pn**	**16 32 39.3**	**-0.2**
TECA				*e*S		**Sb**	**16 32 49.8**	**-0.2**
UESV	**Universidad de**	**0.75**	**15**	*e*P		**Pn**	**16 32 39.2**	**-0.2**
UESV	**Universidad de**	**0.75**	**15**	P		**Pn**	**16 32 39.1**	**-0.3**
UESV	**Universidad de**	**0.75**	**15**	S		**Sb**	**16 32 49.9**	**+0.1**
LOMA	**Loma Larga**	**0.76**	**346**	*e*P		**Pn**	**16 32 39.4**	**-0.2**
LOMA				*e*S		**Sb**	**16 32 49.3**	**-0.8**
LOMA				IAML			16 32 51.1	
	comp=Z,2μm,0.2s							
LOMA	**Loma Larga**	**0.76**	**346**	P		**Pn**	**16 32 39.3**	**-0.3**
LOMA	**Loma Larga**	**0.76**	**346**	S		**Sb**	**16 32 50.1**	**0.0**
PAVA	**Las Pavas**	**0.81**	**3**	*e*P		**Pn**	**16 32 40.1**	**-0.1**
PAVA				*e*S		**Sn**	**16 32 51.0**	**-0.1**
PAVA	**Las Pavas**	**0.81**	**3**	P		**Pn**	**16 32 40.2**	**0.0**
PQSS	**Presa 15 de Se**	**0.83**	**30**	P		**Pn**	**16 32 40.3**	**-0.1**
PQSS	**Presa 15 de Se**	**0.83**	**30**	S		**Sn**	**16 32 51.9**	**+0.5**
SCLA	**Alcaldia de Sa**	**0.83**	**17**	*e*P		**Pn**	**16 32 40.4**	**-0.1**
SCLA				*e*S		**Sn**	**16 32 51.8**	**+0.1**
SCLA	**Alcaldia de Sa**	**0.83**	**17**	P		**Pn**	**16 32 40.3**	**-0.2**
LCY	**Lacayo**	**0.85**	**52**	*i* P		**Pn**	**16 32 40.4**	**-0.4**
UEES	**Universidad Ev**	**0.85**	**343**	P		**Pn**	**16 32 40.7**	**-0.1**
LFU	**La Fuente**	**0.85**	**351**	*e*P		**Pn**	**16 32 40.7**	**-0.1**
VSM	**San Miguel**	**0.86**	**53**	*e*P		**Pn**	**16 32 40.9**	**-0.3**
PMON	**Piamonte**	**0.87**	**338**	*e*P		**Pn**	**16 32 41.0**	**-0.1**
PMON				*e*S		**Sn**	**16 32 52.7**	**+0.1**
PMON	**Piamonte**	**0.87**	**338**	P		**Pn**	**16 32 40.8**	**-0.3**
JAYA	**Jayaque - finc**	**0.88**	**329**	*e*P		**Pn**	**16 32 41.0**	**-0.2**
JAYA	**Jayaque - finc**	**0.88**	**329**	*i* P		**Pn**	**16 32 40.9**	**-0.2**
JAYA				*i* S		**Sn**	**16 32 52.1**	**-0.8**
JAYA	**Jayaque - finc**	**0.88**	**329**	P		**Pn**	**16 32 40.9**	**-0.2**
BOQS	**Boqueron**	**0.88**	**341**	*e*P		**Pn**	**16 32 41.2**	**-0.1**
PIC2	**El Picacho**	**0.88**	**342**	*e*P		**Pn**	**16 32 41.4**	**+0.1**
BLLM	**Bellamira**	**0.90**	**53**	*e*P		**Pn**	**16 32 41.1**	**-0.4**
CEDA	**San Andres**	**0.98**	**336**	S		**Sn**	**16 32 55.5**	**+0.1**
CEDA	**San Andres**	**0.98**	**336**	P		**Pn**	**16 32 42.5**	**0.0**
SBLS	**San Blas**	**1.12**	**326**	*e*P		**Pn**	**16 32 45.1**	**+0.5**
SBLS				*e*P			16 32 45.4	
SNJE	**San Jose**	**1.14**	**328**	*e*P		**Pn**	**16 32 45.0**	**+0.2**
SNJE				*e*P			16 32 45.0	
LCND	**La Caada**	**1.14**	**69**	*e*P		**Pn**	**16 32 44.3**	**-0.3**
LCND				*e*P			16 32 44.6	
LCND				IAML			16 32 50.7	
	comp=Z,315nm,0.2s							
LCND	**La Caada**	**1.14**	**69**	P		**Pn**	**16 32 44.5**	**-0.1**
CNCH	**Conchagua**	**1.18**	**71**	*e*P		**Pn**	**16 32 44.6**	**-0.7**
CNCH	**Conchagua**	**1.18**	**71**	P		**Pn**	**16 32 44.7**	**-0.7**
CNCH	**Conchagua**	**1.18**	**71**	S		**Sn**	**16 33 00.4**	**0.0**
RTR	**El Retiro**	**1.18**	**327**	*e*P		**Pn**	**16 32 46.0**	**+0.6**
UNIC	**Universidad Ca**	**1.21**	**333**	P		**Pn**	**16 32 46.0**	**+0.4**
UNIC	**Universidad Ca**	**1.21**	**333**	S		**Sn**	**16 33 01.1**	**+0.1**
NUBE	**Las Nubes**	**1.26**	**322**	*e*P		**Pn**	**16 32 46.7**	**+0.2**
NUBE	**Las Nubes**	**1.26**	**322**	*i* P		**Pn**	**16 32 46.7**	**+0.2**
NUBE				*i* S		**Sn**	**16 33 02.6**	**+0.1**
NUBE	**Las Nubes**	**1.26**	**322**	P		**Pn**	**16 32 46.6**	**+0.1**
FAME	**Alcaldia de Sa**	**1.37**	**313**	P		**Pn**	**16 32 48.5**	**+0.6**
FAME	**Alcaldia de Sa**	**1.37**	**313**	S		**Sn**	**16 33 04.7**	**-0.3**
POTN	**Potosi Cosigui**	**1.44**	**86**	P		**Pn**	**16 32 48.6**	**-0.2**
POTN				S		**Sn**	**16 33 06.9**	**+0.2**
MTO3	**Montecristo**	**1.53**	**346**	*i* P		**Pn**	**16 32 50.2**	**-0.1**
MTO3	**Montecristo**	**1.53**	**346**	*i* P		**Pn**	**16 32 50.2**	**-0.1**
MTO3	**Montecristo**	**1.53**	**346**	P		**Pn**	**16 32 50.3**	**-0.1**
MARCA	**Marcala la Paz**	**1.55**	**36**	*i* P		**Pn**	**16 32 50.2**	**-0.3**
MARCA	**Marcala la Paz**	**1.55**	**36**	P		**Pn**	**16 32 50.1**	**-0.3**
INTHN	**La Esperanza I**	**1.64**	**31**	P		**Pn**	**16 32 51.5**	**-0.3**
CHOHN	**Orocuina**	**1.87**	**72**	P		**Pn**	**16 32 54.0**	**-0.8**
SARH	**Santa Rosa de**	**1.88**	**7**	*i* P		**Pn**	**16 32 55.3**	**+0.4**
SARH	**Santa Rosa de**	**1.88**	**7**	P		**Pn**	**16 32 55.3**	**+0.4**

*IDC **14** 16:36:11.9±2.6, 35.°84N×141.°59E, h0km, mb3.5/4, mbtmp3.4/5, ML2.6/1, Error ellipse: s-maj=76.1km s-min=32.2km az=62.0*
*JMA **14** 16:36:22.2±0.2, 35.°6N±0.°6×140.°7E±0.°8, h50km±1km, MV2.7/36, NEAR CHOSHI CITY*

ISC 14 16:36:17.7±1.1, 35.°74N±0.°06×141.°24E±0.°08, h33km, n19, σ2^{s}05/17, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JIHU	**Itakohorinouch**	**0.62**	**291**	P		**Pb**	**16 36 32.5**	**+2.2**
JIHU				S		**Sb**	**16 36 40.1**	**+1.2**
JSMT	**Sammumatsuo**	**0.65**	**262**	*i* P		**Pn**	**16 36 30.7**	**+0.1**
JSMT				S		**Sn**	**16 36 37.6**	**-2.2**
JYT	**Yasato**	**0.98**	**300**	*i* P		**Pn**	**16 36 35.8**	**+0.7**
JYT				*e*S		**Sn**	**16 36 45.6**	**-2.2**
BSO1	**Boso 1**	**1.10**	**191**	P		**Pb**	**16 36 40.1**	**+2.1**
BSO3	**Boso 3**	**1.11**	**213**	P		**Pb**	**16 36 38.2**	**0.0**
JAG	**Ashikaga**	**1.60**	**296**	P		**Pn**	**16 36 43.6**	**-0.1**
JIM2	**Oshima 3**	**1.80**	**236**	P		**Pn**	**16 36 43.9**	**-2.5**
MJAR	**Matsushiro Arr**	**2.58**	**289**	Pn		**Pn**	**16 36 57.8**	**+0.6**
	1.0nm,0.3s,baz=103,slow=15,SNR=34							
	8.4nm,0.4s							
ASAJ	**Asahikawa**	**8.43**	**7**	Pn		**Pn**	**16 38 19.3**	**+1.8**
	0.1nm,0.3s,baz=52,slow=29,SNR=1.4							
ASAJ				Sn		**Sn**	**16 39 46.2**	**-5.3**
	baz=196,slow=31							
H11N2	**WAKE ISLAND Hy**	**27.63**	**118**	T		T	17 11 20.6	
	baz=312							
H11N1	**WAKE ISLAND Hy**	**27.64**	**118**	T		T	17 11 11.6	
	baz=312							
H11N3	**WAKE ISLAND Hy**	**27.65**	**118**	T		T	17 11 24.1	
	baz=312							
H11S1	**WAKE ISLAND Hy**	**28.30**	**121**	T		T	17 12 05.3	
	baz=315							
H11S3	**WAKE ISLAND Hy**	**28.30**	**121**	T		T	17 12 07.4	
	baz=315							
H11S2	**WAKE ISLAND Hy**	**28.31**	**121**	T		T	17 12 10.5	
	baz=315							
MKAR	**Makanchi Array**	**44.70**	**303**	P		**P**	**16 44 27.7**	**+0.2**
	0.3nm,0.6s,baz=96,slow=7.4,SNR=2.3							
	0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**46.70**	**309**	P		**P**	**16 44 43.7**	**+0.5**
	0.3nm,0.4s,baz=82,slow=8.1,SNR=5.6							
	0.3nm,0.4s							
BVAR	**Borovoye Array**	**51.35**	**313**	P		**P**	**16 45 18.8**	**0.0**
	0.4nm,0.6s,baz=100,slow=6.0,SNR=2.7							
	0.4nm,0.6s							
ASAR	**Alice Springs**	**59.49**	**188**	P		**P**	**16 46 17.7**	**+0.1**
	0.6nm,0.9s,baz=20,slow=11,SNR=2.1							
	0.6nm,0.9s							

*IDC **14** 16:36:54.9±0.6, 0.°56S×127.°79E, h0km, mb4.1/17, mbtmp4.1/19, ML3.8/2, Error ellipse: s-maj=25.1km s-min=12.6km az=83.0*
*NEIC **14** 16:36:58.1±1.7, 0.°53S±0.°06×127.°83E±0.°08, h10km±1km, mb4.7/56, Error ellipse: s-maj=14.7km s-min=10.0km az=65.0*
*DJA **14** 16:36:58.8±0.2, 1.°S±2.°×12.°8E±.°, h10km, M4.5/17, mB5.0/5, mb4.8/8, MLv4.4/17, Mw(mB)4.2/5*

ISC 14 16:36:57.5±0.4, 0.°55S±0.°04×127.°87E±0.°06, h10km, n102, σ1^{s}41/92, mb4.6/46, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.40**	**339**	Pn		**Pn**	**16 37 23.0**	**-0.2**
TNTI	**Ternate**	**1.40**	**339**	P		**Pn**	**16 37 23.2**	**0.0**
TNTI				S		**Sg**	**16 37 42.7**	**0.0**
SANI	**Sanana**	**2.40**	**232**	P		**Pn**	**16 37 36.4**	**-0.5**
SANI				S		**Sn**	**16 38 06.1**	**-0.2**
NLAI	**Namlea**	**2.78**	**196**	P		**Pn**	**16 37 42.9**	**+0.8**
MSAI	**Masohi**	**2.98**	**159**	P		**Pn**	**16 37 47.0**	**+2.2**
AAI	**Ambon**	**3.13**	**174**	P		**Pn**	**16 37 50.3**	**+3.3**
SWI	**Sorong**	**3.41**	**95**	P		**Pn**	**16 37 52.2**	**+1.4**
KMSI	**Cibinong**	**4.04**	**286**	P		**Pn**	**16 38 01.5**	**+2.0**
FAKI	**Fak Fak**	**4.97**	**118**	Pn		**Pn**	**16 38 12.1**	**-0.2**
FAKI	**Fak Fak**	**4.97**	**118**	P		**Pn**	**16 38 13.5**	**+1.2**
LUWI	**Luwuk**	**5.12**	**264**	P		**Pn**	**16 38 16.6**	**+2.3**
	0.8nm1μm121nm,0.7s							
MRSI	**Marisa**	**6.01**	**280**	P		**Pn**	**16 38 31.2**	**+4.6**
APSI	**Ampana**	**6.23**	**267**	P		**Pn**	**16 38 30.5**	**+1.0**
TOLI2	**Tolitoli**	**7.27**	**283**	Pn		**Pn**	**16 38 44.4**	**+0.5**
MPSI	**Mapaga**	**8.02**	**276**	P		**Pn**	**16 38 56.3**	**+2.2**
PCI	**Palu**	**8.04**	**267**	P		**Pn**	**16 38 56.0**	**+1.6**
	954nm51nm,0.8s							
TTSI	**Tana Toraja**	**8.42**	**253**	P		**Pn**	**16 39 01.0**	**+1.4**
	695nm63nm,0.9s							
BNSI	**Bone**	**8.64**	**244**	P		**Pn**	**16 39 04.2**	**+1.4**
	27nm,0.8s							
SPSI	**Sidrap Palu**	**8.77**	**247**	P		**Pn**	**16 39 07.5**	**+3.0**
BKSI	**Bulukumba**	**9.07**	**238**	P		**Pn**	**16 39 12.5**	**+3.9**
BSSI	**Bau Bau, Buton**	**9.22**	**233**	P		**Pn**	**16 39 12.3**	**+1.6**
KAPI	**Kappang**	**9.24**	**241**	Pn		**Pn**	**16 39 10.7**	**-0.2**
KAPI	**Kappang**	**9.24**	**241**	Pn		**Pn**	**16 39 09.7**	**-1.2**
	6.3nm,0.3s,baz=42,slow=4.9,SNR=13							
KAPI				Sn		**Sn**	**16 40 52.6**	**-2.4**
	1.0nm,0.3s,baz=164,slow=21,SNR=1.1							
	32nm,0.6s							
FITZ	**Fitzroy Crossi**	**17.58**	**187**	P		**Pn**	**16 41 02.4**	**-0.4**
	0.1nm,0.3s,baz=57,slow=6.7,SNR=2.2							
	4.9nm,0.9s							
WB0	**Warramunga Arr**	**20.14**	**162**	P		**P**	**16 41 33.0**	**+1.0**
COEN	**Coen**	**20.18**	**132**	P		**P**	**16 41 33.0**	**+0.6**
COEN				IAmb		IAmb	16 42 08.5	
	comp=Z,52nm,1.5s							
WRA	**Warramunga Arr**	**20.29**	**162**	P		**P**	**16 41 34.3**	**+0.7**
WRA	**Warramunga Arr**	**20.29**	**162**	P		**P**	**16 41 32.4**	**-1.2**
	comp=Z,3.2nm,0.7s,baz=341,slow=12,SNR=11							
	comp=Z,3.2nm,0.7s							
WR8	**Warramunga Arr**	**20.35**	**162**	P		**P**	**16 41 34.5**	**+0.1**
AS31	**Alice Springs**	**23.71**	**166**			**P**	**16 42 09.3**	**-0.6**
ASAR	**Alice Springs**	**23.72**	**166**	P		**P**	**16 42 10.6**	**+0.6**
ASAR	**Alice Springs**	**23.72**	**166**	P		**P**	**16 42 08.6**	**-1.3**
	comp=Z,2.5nm,0.6s,baz=348,slow=12,SNR=16							
	comp=Z,2.5nm,0.6s							
TWG	**Pinlang**	**24.15**	**345**	P		**P**	**16 42 11.7**	**-2.3**
TWG				IAmb		IAmb	16 42 12.5	
	comp=Z,18nm,0.7s							
TPUB	**Ta-pu**	**24.73**	**344**	P		**P**	**16 42 18.8**	**-0.5**
TPUB				IAmb		IAmb	16 42 27.3	
	comp=Z,19nm,0.8s							
FORT	**Forrest**	**30.07**	**180**	P		**P**	**16 43 07.5**	**+0.4**
WHN	**Wuhan**	**33.49**	**339**	P		**P**	**16 43 38.3**	**+1.2**
NWAO	**Narrogin (SRO)**	**33.73**	**196**	P		**P**	**16 43 40.5**	**+1.3**
STKA	**Stephens Creek**	**33.76**	**159**	P		**P**	**16 43 39.1**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=340,slow=8.2,SNR=3.5							
	comp=Z,2.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**34.13**	**305**	P		**P**	**16 43 42.2**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=123,slow=7.8,SNR=2.0							
	comp=Z,0.6nm,0.9s							
KSRS	**Korea Array**	**37.81**	**0**	P		**P**	**16 44 14.1**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=176,slow=11,SNR=11							
	comp=Z,1.1nm,0.8s							
MJAR	**Matsushiro Arr**	**38.13**	**14**			**P**	**16 44 14.9**	**-2.1**
MJAR	**Matsushiro Arr**	**38.13**	**14**	P		**P**	**16 44 15.7**	**-1.3**
	comp=Z,7.4nm,0.9s,baz=182,slow=9.4,SNR=20							
	comp=Z,7.4nm,0.9s							
MAJO	**Matsushiro**	**38.13**	**14**	P		**P**	**16 44 15.8**	**-1.2**
MAJO				IAmb		IAmb	16 44 45.3	
	comp=Z,15nm,1.4s							
JMM	**Marumori**	**40.05**	**16**	P		**P**	**16 44 33.0**	**+0.1**
JMM				IAmb		IAmb	16 44 36.1	
	comp=Z,17nm,0.9s							
LZH	**Lanzhou**	**42.76**	**331**	*e*P		**P**	**16 44 59.8**	**+4.4**
LZH				pP		sP	16 45 06.8	+7.0
LZH				pmax		pmax		
	comp=Z,19nm,1.3s							
USA0B	**Ussuriysk Arra**	**44.70**	**4**	P		**P**	**16 45 10.7**	**-0.1**
USA0B				IAmb		IAmb	16 45 17.0	
	comp=Z,8.3nm,1.3s							
USRK	**Ussuriysk Ar.**	**44.70**	**4**	P		**P**	**16 45 10.2**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=197,slow=6.6,SNR=6.7							
	comp=Z,1.8nm,0.6s							
LSA	**Lhasa**	**46.15**	**314**	P		**P**	**16 45 23.5**	**+0.4**
LSA				pmax		pmax		
	comp=Z,12nm,0.7s							
GTA	**Gaotai**	**47.34**	**330**	*e*P		**P**	**16 45 32.3**	**+0.5**
GTA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
EVN	**Everest**	**48.50**	**309**			**P**	**16 45 41.5**	**-0.1**
YSS	**Yuzhno-Sakhali**	**49.07**	**13**	P		**P**	**16 45 45.4**	**+0.5**
ULN	**Ulaanbaatar**	**51.51**	**342**			**P**	**16 46 02.7**	**-0.9**
SONM	**Songino Array**	**51.69**	**342**	P		**P**	**16 46 04.0**	**-0.8**
SONM	**Songino Array**	**51.69**	**342**	P		**P**	**16 46 04.2**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=155,slow=7.3,SNR=8.8							
	comp=Z,1.5nm,0.7s							
PEA0B	**Petropavlovsk-**	**58.98**	**20**	P		**P**	**16 46 57.9**	**+0.7**
PETK	**Petropavlovsk-**	**58.98**	**20**	P		**P**	**16 46 57.5**	**+0.3**
PETK	**Petropavlovsk-**	**58.98**	**20**	P		**P**	**16 46 57.0**	**-0.2**
	comp=Z,4.6nm,0.7s,baz=186,slow=5.8,SNR=14							
	comp=Z,4.6nm,0.7s							
MKAR	**Makanchi Array**	**61.71**	**326**	P		**P**	**16 47 14.4**	**-1.7**
MKAR	**Makanchi Array**	**61.71**	**326**	P		**P**	**16 47 14.9**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=118,slow=7.0,SNR=11							
	comp=Z,1.2nm,0.7s							
MAKZ	**Makanchi**	**61.89**	**326**	P		**P**	**16 47 16.1**	**-1.2**
MAKZ				IAmb		IAmb	16 47 17.9	
	comp=Z,3.4nm,1.0s							
KDJ	**Kajisay**	**62.30**	**319**	P		**P**	**16 47 19.2**	**-1.1**
YAK	**Yakutsk**	**62.43**	**1**	P		**P**	**16 47 21.3**	**+0.8**
ZALV	**Zalesovo Beam**	**64.89**	**334**	P		**P**	**16 47 34.7**	**-2.3**
	comp=Z,0.8nm,0.5s,baz=123,slow=5.3,SNR=4.4							
	comp=Z,0.8nm,0.5s							
KURBB	**Kurchatov Arra**	**65.94**	**328**	P		**P**	**16 47 42.5**	**-1.3**
	comp=Z,2.3nm,0.7s,baz=128,slow=6.0,SNR=28							
	comp=Z,2.3nm,0.7s							
KURK	**Kurchatov**	**65.94

GAZI	**Gazipasa**	**1.55**	**42**	Pn	**Pn**	**16 46 35.6**	**-0.4**
GAZI				Sn	**Sn**	**16 46 54.3**	**-1.7**
XYLS	**Xyliatos**	**1.66**	**92**	P	**Pn**	**16 46 37.8**	**+0.4**
XYLS				S	**Sb**	**16 46 59.1**	**-0.7**
XYLS				AML	AML	16 47 03.3	
	0.1nm,0.3s						
XYLS				AML	AML	16 47 04.2	
	0.1nm,0.5s						
ASGA	**Asgata**	**1.84**	**99**	P	**Pn**	**16 46 40.2**	**+0.3**
ASGA				S	**Sn**	**16 47 03.4**	**+0.3**
ASGA				AML	AML	16 47 05.4	
	0.1nm,0.7s						
ASGA				AML	AML	16 47 15.6	
	0.1nm,0.5s						
CSS	**Mathiatis**	**1.89**	**93**	P	**Pn**	**16 46 40.8**	**+0.2**
CSS				S	**Sb**	**16 47 05.0**	**-1.5**
TEKE	**Tekeli-Mersin**	**2.00**	**57**	Pn	**Pn**	**16 46 42.8**	**+0.7**
TEKE				Sn	**Sn**	**16 47 07.5**	**+0.5**
BERE	**Bereket-Mersin**	**2.18**	**54**	Pn	**Pn**	**16 46 45.3**	**+0.5**
BERE				Sn	**Sn**	**16 47 11.9**	**+0.1**
IKL	**Isikli**	**2.45**	**61**	Pn	**Pn**	**16 46 49.8**	**+1.6**
IKL				Sn	**Sn**	**16 47 19.5**	**+1.4**
KEBE	**Keben-Mersin**	**2.57**	**57**	Pn	**Pn**	**16 46 50.8**	**+0.8**
DAT	**Datca**	**3.25**	**301**	Pn	**Pn**	**16 46 59.8**	**+0.4**
BODT	**Bodrum**	**3.61**	**304**	Pn	**Pn**	**16 47 04.7**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**3.82**	**319**	Pn	**Pn**	**16 47 06.7**	**-0.5**

BJI ***14*** *16:46:54.3,2˝.97S×99˝.90E, h36km, mB4.9/13, mb4.8/45, Ms4.4/15, Ms7 4.0/14*
IDC ***14*** *16:46:56.1±0.6, 2˝.22S×99˝.86E, h0km, mb4.6/26, mbtmp4.5/28, ML3.9/2, MS3.7/13, Error ellipse: s-maj=21.3km s-min=12.0km az=50.0*
NEIC ***14*** *16:46:59.3±1.4, 2˝.23S±0˝.08×99˝.83E±0˝.08, h17km±4km, mb4.9/39, Error ellipse: s-maj=14.6km s-min=7.9km az=48.0*
DJA ***14*** *16:47:00.4±0.4, 2˚S±3˝×10˚0E±˚, h32km±5km, M5.0/26, mb4.8/26, mB5.6/9, MLv4.9/18, Mw(mB)5.0/9, Mwp9.2/1*
ISC 14 16:47:01.3±0.5,**2˚21S**±0˚06×**99˚85E**±0˚06,**h34**km,**n169,**
σ1§**10**/153,**mb4.8**/56,**MS3.8**/18,**1C,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.58**	**164**	P	**Pn**	**16 47 12.6**	**-0.4**
SISI	**Saibi**	**1.16**	**319**	P	**Pn**	**16 47 21.2**	**+0.2**
BKNI	**Bangkinang**	**2.78**	**25**		**Pn**	**16 47 43.4**	**-0.1**
BKNI	**Bangkinang**	**2.78**	**25**	P	**Pb**	**16 47 46.4**	**-4.0**
BKNI	**Bangkinang**	**2.78**	**25**	P	**Pn**	**16 47 45.5**	**+2.0**
MNSI	**Mandailing Nat**	**2.99**	**355**	P	**Pn**	**16 47 46.9**	**+0.6**
KSI	**Kapahiang**	**3.10**	**118**	P	**Pn**	**16 47 48.4**	**+0.6**
MNAI	**Manna**	**3.77**	**125**		**Pn**	**16 47 57.7**	**+0.6**
MNAI	**Manna**	**3.77**	**125**	P	**Pn**	**16 47 57.5**	**+0.4**
MNAI	**Manna**	**3.77**	**125**	S	**Sn**	**16 48 40.6**	**+0.3**
MNAI	**Manna**	**3.77**	**125**	P	**Pn**	**16 47 57.5**	**+0.4**
LHSI	**Lahat**	**4.01**	**114**	P	**Pn**	**16 48 01.4**	**+1.1**
GSI	**Gunungsitoli**	**4.16**	**327**		**Pn**	**16 48 01.8**	**-0.6**
GSI	**Gunungsitoli**	**4.16**	**327**	P	**Pn**	**16 48 01.5**	**-0.9**
GSI	**Gunungsitoli**	**4.16**	**327**	P	**Pn**	**16 48 01.8**	**-0.6**
MDSI	**Maura Dua**	**4.88**	**118**	P	**Pn**	**16 48 13.9**	**+1.6**
RPSI	**Rantau Prapat**	**4.95**	**349**		**Pn**	**16 48 12.8**	**-0.5**
RPSI	**Rantau Prapat**	**4.95**	**349**		**Pn**	**16 48 12.1**	**-1.2**
LWLI	**Liwa**	**5.05**	**124**	P	**Pn**	**16 48 16.0**	**+1.3**
PSI	**Prapat**	**5.06**	**349**	Pn	**Pn**	**16 48 12.1**	**-2.8**
	2.0nm,0.3s,baz=164,slow=15,SNR=3.7						
MYKOM	7.0nm,0.5s **Kota Tinggi**	**5.64**	**45**		**Pn**	**16 48 24.3**	**+1.6**
MYKOM	**Kota Tinggi**	**5.64**	**45**	P	**Pn**	**16 48 25.0**	**+2.3**
KASI	**Kota Agung**	**5.69**	**126**	P	**Pn**	**16 48 23.8**	**+0.3**
	0.6nm1µm86nm,0.6s						
CGJI	**Cibinong**	**7.29**	**127**	P	**Pn**	**16 48 44.1**	**-1.3**
	0.5nm91nm,0.9s						
MLSI	**Meulaboh, Aceh**	**7.29**	**332**	P	**Pn**	**16 48 45.0**	**-0.5**
	0.4nm97nm,1.1s						
KULM	**Kulim**	**7.49**	**6**		**Pn**	**16 48 48.2**	**0.0**
KULM	**Kulim**	**7.49**	**6**	P	**Pn**	**16 48 49.5**	**+1.3**
TPI	**Tanjungpandan**	**7.82**	**94**	P	**Pn**	**16 48 53.2**	**+0.5**
CNJI	**Cibinong**	**8.85**	**125**	P	**Pn**	**16 49 06.1**	**-0.8**
	53nm,1.2s						
LEM	**Lembang**	**9.00**	**121**	Pn	**Pn**	**16 49 07.2**	**-1.9**
	2.4nm,0.3s,baz=237,slow=12,SNR=4.5						
LEM				Sn	**Sn**	**16 50 51.1**	**+1.6**
	2.3nm,0.3s,baz=131,slow=23,SNR=1.4						
LEM				LR	LR	16 53 17.6	
	comp=Z,292nm,18.2s,baz=240,slow=42						
	9.6nm,0.6s						
LEM	**Lembang**	**9.00**	**121**	P	**Pn**	**16 49 08.6**	**-0.5**
	83nm,1.1s						
BBJI	**Bungbulang**	**9.37**	**124**	P	**Pn**	**16 49 12.1**	**-1.9**
CMJI	**Cimerak**	**10.20**	**123**	P	**Pn**	**16 49 24.0**	**-1.4**
	77nm,0.9s						
UGM	**Wanagama**	**12.05**	**118**	Pn	**Pn**	**16 49 49.1**	**-1.6**
UGM	**Wanagama**	**12.05**	**118**	P	**Pn**	**16 49 49.9**	**-0.8**
JAGI	**Jajag, Banyuwa**	**15.54**	**114**	P	**Pn**	**16 50 35.8**	**-2.2**
UBPT	**Khong Chiam**	**18.24**	**18**		**P**	**16 51 11.4**	**-0.4**
UBPT	**Khong Chiam**	**18.24**	**18**	P	**P**	**16 51 12.1**	**+0.2**
KKM	**Kota Kinabalu**	**18.28**	**63**	P	**Pn**	**16 51 12.5**	**-0.1**
KKM	**Kota Kinabalu**	**18.28**	**63**	P	**Pn**	**16 51 14.7**	**+2.1**
TTSI	**Tana Toraja**	**19.97**	**93**	P	**Pn**	**16 51 32.1**	**-0.6**
	29nm,0.9s						
PCI	**Palu**	**20.02**	**87**	P	**Pn**	**16 51 32.2**	**-1.2**
	5µm49nm,1.4s						
KAPI	**Kappang**	**20.06**	**99**		**P**	**16 51 31.8**	**0.0**
KAPI				IAmb	IAmb	16 51 36.4	
	comp=Z,32nm,0.9s						
KAPI	**Kappang**	**20.06**	**99**	P	**P**	**16 51 30.9**	**-1.0**
	comp=Z,9.2nm,0.3s,baz=266,slow=9.8,SNR=9.5						
	comp=Z,9.2nm,0.3s						
MPSI	**Mapaga**	**20.21**	**83**	P	Pn	16 51 34.2	-1.3
	comp=Z,499nmcomp=Z,59nm,1.1s						
BNSI	**Bone**	**20.34**	**97**	P	**P**	**16 51 35.2**	**+0.3**
	comp=Z,48nm,1.2s						
BKSI	**Bulukumba**	**20.46**	**99**	P	**P**	**16 51 36.5**	**+0.2**
	comp=Z,48nm,0.8s						
CM31	**Chiang Mai Arr**	**20.55**	**358**	P	**P**	**16 51 36.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**20.55**	**358**		**P**	**16 51 35.6**	**-1.6**
CMAR	**Chiang Mai Arr**	**20.55**	**358**	P	**P**	**16 51 36.6**	**-0.5**
	comp=Z,10nm,0.8s,baz=186,slow=10,SNR=68						
	comp=Z,10nm,0.8s						
CHTO	**Chiang Mai**	**20.91**	**358**		**P**	**16 51 39.9**	**-1.1**
TOLI2	**Tolitoli**	**21.19**	**81**		**P**	**16 51 44.1**	**0.0**
TOLI2				IAmb	IAmb	16 51 50.1	
	comp=Z,27nm,0.8s						
TOLI2	**Tolitoli**	**21.19**	**81**	P	**P**	**16 51 44.2**	**+0.1**
PALK	**Pallekele**	**21.30**	**296**	LR	LR	16 59 45.5	
	comp=Z,188nm,18.8s,baz=115,slow=36						
SLVN	**Son La**	**23.73**	**9**		**P**	**16 52 10.1**	**-0.4**
TGY	**Tagaytay City**	**26.45**	**52**	LR	LR	17 03 32.8	
	comp=Z,163nm,18.9s,baz=251,slow=38						
TNCH	**TengChong**	**27.10**	**357**	P	**P**	**16 52 43.9**	**+2.6**
TNCH				S	**S**	**16 57 15.6**	**-2.0**
TNCH				pmax	pmax		
	comp=Z,15nm,0.9s						
TNCH				LR	LR		
	comp=Z,190nm,6.8s						
TNCH				LR	LR		
	comp=Z,220nm,11.0s						
TNCH				LR	LR		
	comp=Z,200nm,10.6s						
H08S2	**Diego Garcia H**	**27.77**	**258**	T	T	17 21 26.3	
	baz=80,slow=75,SNR=490						
H08S3	**Diego Garcia H**	**27.78**	**258**	T	T	17 21 28.6	
	baz=80,slow=75,SNR=426						
H08S1	**Diego Carcia H**	**27.79**	**258**	T	T	17 21 28.6	
	baz=80,slow=75,SNR=425						
PZH	**PanZhiHua**	**28.60**	**4**	P	**P**	**16 52 57.3**	**+2.7**
SHL	**Shillong**	**28.66**	**345**	P	**P**	**16 52 53.9**	**-1.4**
SHL				IAmb	IAmb	16 53 03.3	
	comp=Z,15nm,0.9s						
LSA	**Lhasa**	**32.80**	**346**	P	**P**	**16 53 32.9**	**+0.8**
LSA				pmax	pmax		
	comp=Z,12nm,0.8s						
NWAO	**Narrogin (SRO)**	**34.65**	**154**	LR	LR	17 07 16.1	
	comp=Z,105nm,19.8s,baz=9.0,slow=35						
H01W3	**Cape Leeuwin H**	**35.13**	**159**	T	T	17 30 54.9	
	baz=335,slow=76,SNR=11						
H01W2	**Cape Leeuwin H**	**35.14**	**159**	T	T	17 30 57.2	
	baz=335,slow=76,SNR=12						
H01W1	**Cape Leeuwin H**	**35.14**	**159**	T	T	17 30 56.0	
	baz=335,slow=76,SNR=10						
XAN	**Xi'an**	**37.05**	**13**	P	**P**	**16 54 07.4**	**-0.8**
XAN				pmax	pmax		
	comp=Z,15nm,0.7s						
XAN				LR	LR		
	comp=Z,300nm,14.4s						
XAN				LR	LR		
	comp=Z,160nm,16.9s						
XAN				LR	LR		
	comp=Z,280nm,14.4s						
WB0	**Warramunga Arr**	**38.00**	**120**	P	**P**	**16 54 16.3**	**-0.2**
WB0				IAmb	IAmb	16 54 16.6	
	comp=Z,21nm,0.8s						
WRA	**Warramunga Arr**	**38.02**	**120**	P	**P**	**16 54 15.6**	**-1.1**
	comp=Z,11nm,0.8s,baz=298,slow=9.5,SNR=24						
WRA				PcP	**PcP**	**16 56 32.4**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=297,slow=3.0,SNR=2.4						
	comp=Z,11nm,0.8s						
WR8	**Warramunga Arr**	**38.17**	**120**	P	**P**	**16 54 16.8**	**-1.0**
WR8				IAmb	IAmb	16 54 18.2	
	comp=Z,22nm,0.9s						
LYN	**LuoYang**	**38.44**	**17**	P	**P**	**16 54 21.3**	**+1.4**
LYN				pmax	pmax		
	comp=Z,84nm,0.5s						
LYN				pmax	pmax		
	comp=Z,150nm,6.2s						
LYN				LR	LR		
	comp=Z,240nm,22.3s						
LYN				LR	LR		
	comp=Z,270nm,17.5s						
LYN				LR	LR		
	comp=Z,180nm,22.3s						
GOMU	**GeErMu**	**38.49**	**353**	P	**P**	**16 54 21.3**	**+0.6**
GOMU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NJ2	**Nanjing**	**38.55**	**26**	*e*P	**P**	**16 54 23.8**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ASAR	**Alice Springs**	**39.26**	**126**	P	**P**	**16 54 26.9**	**-0.1**
	comp=Z,5.2nm,0.7s,baz=302,slow=7.7,SNR=17						
ASAR				PcP	**PcP**	**16 56 35.6**	**0.0**
	comp=Z,2.0nm,0.8s,baz=301,slow=2.5,SNR=4.4						
ASAR				S	**S**	**17 00 21.9**	**-3.8**
	comp=Z,1.9nm,0.9s,baz=300,slow=16,SNR=7.9						
ASAR				LR	LR	17 12 00.8	
	comp=Z,128nm,19.4s,baz=287,slow=38						
	comp=Z,5.2nm,0.7s						
GTA	**Gaotai**	**41.41**	**360**	P	**P**	**16 54 45.8**	**+1.1**
GTA				pP	pP	16 54 52.8	-1.4
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GTA				LR	LR		
	comp=Z,78nm,14.9s						
GTA				LR	LR		
	comp=Z,170nm,14.9s						
GTA				LR	LR		
	comp=Z,170nm,16.4s						
TIA	**Tai'an**	**41.48**	**21**	P	**P**	**16 54 45.4**	**+0.3**
TIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TIA				LR	LR		
	comp=Z,340nm,13.7s						
TIA				LR	LR		
	comp=Z,260nm,12.4s						
TIA				LR	LR		
	comp=Z,540nm,14.4s						
HHC	**Hu-ho-hao-te**	**44.16**	**13**	*e*P	**P**	**16 55 10.3**	**+3.4**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
BJI	**Beijing**	**44.62**	**18**	P	**P**	**16 55 11.4**	**+0.9**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
JNU	**Nakatsue**	**45.75**	**37**	IAmb	IAmb	16 55 20.7	
	comp=Z,16nm,0.8s						
JNU	**Nakatsue**	**45.75**	**37**	P	**P**	**16 55 19.8**	**+0.2**
	comp=Z,16nm,0.8s,baz=169,slow=3.8,SNR=11						
JNU				LR	LR	17 14 00.4	
	comp=Z,82nm,21.4s,baz=218,slow=36						
	comp=Z,16nm,0.8s						
KSH	**Kashi**	**46.95**	**335**	P	**P**	**16 55 28.6**	**-0.5**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
WMQ	**Urumqi**	**47.10**	**348**	*e*P	**P**	**16 55 32.1**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,38nm,0.9s						
KSAR	**Wonju Array Be**	**47.24**	**31**	P	**P**	**16 55 31.5**	**+0.3**
KSRS	**Korea Array**	**47.27**	**31**	P	**P**	**16 55 31.4**	**+0.1**
	comp=Z,8.0nm,0.7s,baz=224,slow=8.5,SNR=75						
	comp=Z,8.0nm,0.7s						
KS19	**Wonju Array Si**	**47.28**	**31**	P	**P**	**16 55 30.9**	**-0.6**
KS19				IAmb	IAmb	16 55 32.5	
	comp=Z,11nm,0.8s						
CTAO	**Charters Tower**	**48.65**	**115**	P	**P**	**16 55 42.0**	**-0.4**
CTAO				IAmb	IAmb	16 55 42.5	
	comp=Z,27nm,1.4s						
STKA	**Stephens Creek**	**49.13**	**131**	P	**P**	**16 55 45.1**	**-0.8**
STKA	**Stephens Creek**	**49.13**	**131**	P	**P**	**16 55 45.8**	**-0.1**
	comp=Z,5.9nm,0.8s,baz=313,slow=9.9,SNR=5.5						
	comp=Z,5.9nm,0.8s						
SONM	**Songino Array**	**50.16**	**6**	P	**P**	**16 55 54.4**	**+0.8**
SONM	**Songino Array**	**50.16**	**6**	P	**P**	**16 55 54.5**	**+0.8**
	comp=Z,26nm,0.7s,baz=188,slow=8.9,SNR=183						
SONM				PcP	**PcP**	**16 57 13.0**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=192,slow=4.3,SNR=2.5						
	comp=Z,26nm,0.7s						
AAK	**Ala-Archa**	**50.17**	**336**	LR	LR	17 19 38.2	
	comp=Z,78nm,19.9s,baz=144,slow=39						
ULN	**Ulaanbaatar**	**50.26**	**6**	P	**P**	**16 55 55.2**	**+0.8**
INU	**Inuyama**	**51.03**	**39**	P	**P**	**16 56 00.3**	**+0.1**
INU				IAmb	IAmb	16 56 26.0	
	comp=Z,27nm,1.5s						
MKAR	**Makanchi Array**	**51.18**	**345**		**P**	**16 56 01.8**	**+0.5**
MKAR	**Makanchi Array**	**51.18**	**345**	P	**P**	**16 56 02.0**	**+0.8**
	comp=Z,16nm,0.7s,baz=148,slow=8.1,SNR=132						
	comp=Z,16nm,0.7s						
MAKZ	**Makanchi**	**51.28**	**344**	P	**P**	**16 56 02.5**	**+0.6**
MAKZ				IAmb	IAmb	16 56 03.6	
	comp=Z,8.9nm,0.8s						
JGF	**Kuroka**	**51.41**	**39**	P	**P**	**16 56 02.9**	**-0.2**
JGF				IAmb	IAmb	16 56 07.7	
	comp=Z,15nm,1.1s						
KKAR	**Karatay Array**	**52.27**	**333**	P	**P**	**16 56 09.0**	**-0.3**
MAJO	**Matsushiro**	**52.53**	**39**	P	**P**	**16 56 11.0**	**-0.4**
MAJO				IAmb	IAmb	16 56 14.3	
	comp=Z,20nm,1.4s						
MJAR	**Matsushiro Arr**	**52.53**	**39**	P	**P**	**16 56 10.7**	**-0.8**
	comp=Z,7.2nm,0.9s,baz=219,slow=6.9,SNR=20						
	comp=Z,7.2nm,0.9s						
BNX	**BinXian**	**53.62**	**24**	⇑P	**P**	**16 56 19.3**	**0.0**
BNX				pmax	pmax		
	comp=Z,13nm,0.8s						
MDJ	**Mudanjiang**	**53.64**	**26**	P	**P**	**16 56 20.3**	**+0.9**
MDJ				pmax	pmax		
	comp=Z,11nm,0.9s						
USA0B	**Ussuriysk Arra**	**54.41**	**28**	P	**P**	**16 56 24.8**	**-0.2**
USRK	**Ussuriysk Ar.**	**54.41**	**28**		**P**	**16 56 25.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**54.41**	**28**	P	**P**	**16 56 25.5**	**+0.5**
	comp=Z,32nm,0.7s,baz=220,slow=6.2,SNR=54						
USRK				LR	LR	17 23 01.5	
	comp=Z,83nm,18.2s,baz=209,slow=40						
	comp=Z,32nm,0.7s						
KURBB	**Kurchatov Arra**	**55.70**	**344**	P	**P**	**16 56 34.8**	**+0.5**
	comp=Z,5.6nm,0.8s,baz=166,slow=6.9,SNR=43						
KURBB				LR	LR	17 25 17.3	
	comp=Z,58nm,19.4s,baz=168,slow=41						
	comp=Z,5.6nm,0.8s						
KURK	**Kurchatov**	**55.76**	**344**	P	**P**	**16 56 35.0**	**+0.3**
KURK				IAmb	IAmb	16 56 36.2	
	comp=Z,14nm,0.9s						
ZAA0	**Zalesovo Array**	**57.34**	**350**	P	**P**	**16 56 46.0**	**+0.2**
ZAA0				IAmb	IAmb	16 57 02.0	
	comp=Z,18nm,0.9s						
ZALV	**Zalesovo Beam**	**57.34**	**350**	P	**P**	**16 56 46.1**	**+0.3**
	comp=Z,14nm,0.8s,baz=164,slow=6.0,SNR=51						
	comp=Z,14nm,0.8s						
HEH	**HeiHe**	**57.36**	**21**	*e*P	**P**	**16 56 46.4**	**+0.3**
HEH				pmax	pmax		
	comp=Z,12nm,1.1s						
HEH				pmax	pmax		
	comp=Z,90nm,4.6s						
HEH				LR	LR		
	comp=Z,130nm,12.3s						
HEH				LR	LR		
	comp=Z,78nm,13.4s						
HEH				LR	LR		
	comp=Z,250nm,15.7s						
ASAJ	**Asahikawa**	**59.87**	**34**	P	**P**	**16 57 04.0**	**+0.3**
	comp=Z,4.9nm,0.4s,baz=242,slow=8.4,SNR=20						
	comp=Z,4.9nm,0.4s						
BVAR	**Borovoye Array**	**60.32**	**340**	P	**P**	**16 57 06.5**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=134,slow=11,SNR=9.7						
BVAR				LR	LR	17 29 17.2	
	comp=Z,35nm,18.6s,baz=169,slow=42						
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**60.39**	**340**	P	**P**	**16 57 06.2**	**-0.8**
BRVK				IAmb	IAmb	16 57 18.6	
	comp=Z,4.0nm,0.8s						
H04N2	**CROZET ISLANDS**	**60.54**	**216**	T	T	18 02 33.3	
	baz=57,slow=75,SNR=3663						
H04N1	**CROZET ISLANDS**	**60.55**	**216**	T	T	18 02 33.7	
	baz=57,slow=75,SNR=32						
H04N3	**CROZET ISLANDS**	**60.56**	**216**	T	T	18 02 32.5	
	baz=57,slow=75,SNR=4236						
H04S1	**CROZET ISLANDS**	**60.83**	**216**	T	T	18 02 52.5	
	baz=58,slow=75,SNR=469						
H04S3	**CROZET ISLANDS**	**60.84**	**216**	T	T	18 02 53.9	
	baz=58,slow=75,SNR=1014						
H04S2	**CROZET ISLANDS**	**60.85**	**216**	T	T	18 02 53.5	
	baz=58,slow=75,SNR=328						
YSS	**Yuzhno-Sakhali**	**61.74**	**32**	P	**P**	**16 57 16.0**	**-0.3**
AB31	**Akbulak array**	**61.75**	**332**	P	**P**	**16 57 15.6**	**-0.8**
AB31				IAmb	IAmb	16 57 17.0	
	comp=Z,7.0nm,0.8s						
ABKAR	**Akbulak array**	**61.75**	**332**	P	**P**	**16 57 15.4**	**-0.9**
ARTI	**Arti**	**67.37**	**336**	P	**P**	**16 57 52.5**	**-0.5**
ARTI				IAmb	IAmb	16 57 53.4	
	comp=Z,7.8nm,0.7s						
YAK	**Yakutsk**	**67.98**	**15**	P	**P**	**16 57 56.3**	**-0.3**
KBZ	**Khabaz**	**68.36**	**319**	P	**P**	**16 57 60.0**	**+0.5**
	comp=Z,3.4nm,0.9s,baz=118,slow=7.7,SNR=6.4						
	comp=Z,3.4nm,0.9s						
ASF	**Jabal al Asfar**	**68.58**	**306**	LR	LR	17 29 38.5	
	comp=Z,52nm,18.0s,baz=134,slow=37						
NRIK	**Noril'sk**	**71.89**	**355**	P	**P**	**16 58 20.4**	**-0.1**
NRIK				IAmb	IAmb	16 58 40.3	
	comp=Z,8.3nm,1.1s						
NRIK	**Noril'sk**	**71.89**	**355**	P	**P**	**16 58 19.3**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=148,slow=8.5,SNR=3.8						
	comp=Z,1.6nm,0.6s						
PEA0B	**Petropavlovsk-**	**73.14**	**32**	P	**P**	**16 58 28.3**	**0.0**
PEA0B				IAmb	IAmb	16 58 35.6	
	comp=Z,14nm,1.2s						
PETK	**Petropavlovsk-**	**73.14**	**32**	P	**P**	**16 58 28.1**	**-0.2**
PETK	**Petropavlovsk-**	**73.14**	**32**	P	**P**	**16 58 27.0**	**-1.3**
	comp=Z,3.2nm,0.7s,baz=204,slow=3.3,SNR=9.5						
	comp=Z,3.2nm,0.7s						
BRTR	**Keskin Array B**	**73.35**	**313**	P	**P**	**16 58 30.1**	**+0.1**
BRTR	**Keskin Array B**	**73.35**	**313**	P	**P**	**16 58 29.6**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=125,slow=7.2,SNR=9.1						
	comp=Z,1.5nm,0.8s						
PET	**Petropavlovsk**	**73.61**	**33**	P	**P**	**16 58 31.2**	**+0.2**
TIXI	**Tiksi**	**76.08**	**9**	LR	LR	17 35 22.2	
	comp=Z,107nm,20.4s,baz=219,slow=38						
BAL3X	**Bal3x, Balta**	**78.53**	**320**	P	**P**	**16 59 00.2**	**+1.0**
AK06	**Malin Array Si**	**79.53**	**322**	P	**P**	**16 59 04.8**	**+0.1**
AK05	**Malin Array Si**	**79.54**	**322**	P	**P**	**16 59 05.0**	**+0.3**
AKASG	**Malin Array Be**	**79.55**	**322**	P	**P**	**16 59 03.4**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=91,slow=5.0,SNR=2.2						
	comp=Z,0.5nm,0.5s						
AKBB	**Malin Array Si**	**79.55**	**322**	P	**P**	**16 59 05.5**	**+0.8**
VRI	**Vrincioaia**	**79.90**	**317**	P	**P**	**16 59 07.5**	**+0.7**
	comp=Z,7.0nm,1.1s						
TESR	**Tescani**	**80.10**	**318**	P	**P**	**16 59 08.6**	**+0.7**
NDNU	**Novodnistrovsk**	**80.15**	**320**	P	**P**	**16 59 08.2**	**+0.2**
LUBAR	**Lubar, Ukraine**	**80.24**	**321**	P	**P**	**16 59 08.7**	**+0.2**
BURAR	**Bucovina Array**	**81.31**	**319**	P	**P**	**16 59 15.7**	**+1.2**
BUR08	**Bucovina Ar. S**	**81.33**	**319**	P	**P**	**16 59 15.7**	**+1.1**
KOLS	**Kolonicke sedl**	**83.51**	**320**	*e*P	**P**	**16 59 27.5**	**+1.7**
SUW	**Suwalki**	**83.96**	**325**	P	**P**	**16 59 27.7**	**-0.2**
FINES	**FINESS Array B**	**84.22**	**332**	P	**P**	**16 59 29.8**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=103,slow=7.2,SNR=16						
	comp=Z,2.9nm,0.7s						
STHS	**Stebnicka Huta**	**84.26**	**320**	*e*P	**P**	**16 59 30.8**	**+1.2**
ARCES	**ARCESS Array B**	**86.61**	**340**	P	**P**	**16 59 41.4**	**+0.5**
ARCES				IAmb	IAmb	16 59 59.8	
	comp=Z,9.2nm,1.3s						
ARCES	**ARCESS Array B**	**86.61**	**340**	P	**P**	**16 59 41.6**	**+0.7**
	comp=Z,4.1nm,0.8s,baz=107,slow=6.5,SNR=15						
	comp=Z,4.1nm,0.8s						
QSPA	**South Pole Qui**	**87.76**	**180**	P	**P**	**16 59 47.5**	**+0.8**
QSPA	**South Pole Qui**	**87.76**	**180**	P	**P**	**16 59 47.8**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=129,slow=17,SNR=1.7						
	comp=Z,0.6nm,0.8s						
GERES	**GERESS Array B**	**89.10**	**319**	P	**P**	**16 59 54.0**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=76,slow=5.6,SNR=9.7						
	comp=Z,0.8nm,0.7s						
BRG	**Berggiesshubel**	**89.10**	**321**	*e*P	**P**	**16 59 54.0**	**+0.8**
BRG				Amp		16 59 55.0	
	comp=Z,2.7nm,1.1s						
HFS	**Hagfors**	**89.97**	**330**	P	**P**	**16 59 58.0**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=69,slow=5.2,SNR=3.0						
	comp=Z,1.5nm,0.8s						
SPITS	**Spitsbergen Ar**	**90.80**	**348**	P	**P**	**16 59 59.9**	**-0.7**
	comp=Z,4.9nm,0.8s,baz=121,slow=5.6,SNR=4.3						

TNTI	Ternate	1.82	331	P	Pn	16 58 09.6	-0.1
SANI	Sanana	2.57	242	P	Pn	16 58 19.8	-0.2
SANI				S	Sn	16 58 50.5	-0.9
MSAI	Masohi	2.59	165	P	Pb	16 58 23.3	-1.4
MSAI				S	Sb	16 58 57.8	+1.2
NLAI	Namlea	2.66	206	P	Pn	16 58 22.3	+1.1
NLAI				S	Sn	16 58 53.7	+0.2
AAI	Ambon	2.84	181	P	Pb	16 58 26.9	-2.1
SWI	Sorong	3.00	91	P	Pn	16 58 28.0	+2.2
FAKI	Fak Fak	4.50	118	Pn	Pn	16 58 47.2	+0.8
FAKI	Fak Fak	4.50	118	P	Pn	16 58 47.5	+1.1
KMSI	Cibinong	4.50	288	P	Pn	16 58 46.7	+0.2
LUWI	Luwuk	5.49	268	P	Pn	16 58 59.6	-0.5
	0.4nm993nm64nm,0.7s						
APSI	Ampana	6.61	269	P	Pn	16 59 16.6	+1.1
TOLI2	Tolitoli	7.72	284	Pn	Pn	16 59 31.8	+1.0
TTSI	Tana Toraja	8.72	255	P	Pn	16 59 46.0	+1.5
BNSI	Bone	8.88	246	P	Pn	16 59 47.8	+1.1
SPSI	Sidrap Palu	9.04	250	P	Pn	16 59 51.2	+2.4
BKSI	Bulukumba	9.27	241	P	Pn	16 59 55.2	+3.2
KAPI	Kappang	9.46	244	Pn	Pn	16 59 58.0	+3.4
	2.9nm,0.3s,baz=33,slow=5.7,SNR=7.4						
	10nm,0.4s						
MTN	Manton Dam	12.27	167	Pn	Pn	17 00 32.4	-0.8
KNRA	Kununurra	14.76	178	Pn	Pn	17 01 05.5	-1.7
FITZ	Fitzroy Crossi	17.35	188	P	P	17 01 41.5	-0.6
	0.2nm,0.3s,baz=268,slow=20,SNR=1.4						
	2.0nm,0.6s						
WB0	Warramunga Arr	19.76	163	P	P	17 02 07.6	-0.9
WB0				IAmb	IAmb	17 02 49.8	
	comp=Z,19nm,1.4s						
WRA	Warramunga Arr	19.91	163	P	P	17 02 09.3	-0.8
	comp=Z,0.3nm,0.3s,baz=344,slow=12,SNR=7.4						
	comp=Z,0.9nm,0.5s						
WR8	Warramunga Arr	19.97	163	P	P	17 02 09.9	-0.9
MBWA	Marble Bar	21.85	202	P	P	17 02 31.1	0.0
MBWA				IAmb	IAmb	17 02 59.6	
	comp=Z,35nm,1.4s						
AS31	Alice Springs	23.35	167		P	17 02 44.9	-2.1
ASAR	Alice Springs	23.35	167	P	P	17 02 44.3	-2.7
ASAR	Alice Springs	23.35	167	P	P	17 02 46.8	-0.3
	comp=Z,3.1nm,0.8s,baz=339,slow=7.1,SNR=20						
	comp=Z,3.1nm,0.8s						
TPUB	Ta-pu	25.11	343	P	P	17 03 02.3	-1.1
MORW	Morawa	30.41	201	P	P	17 03 50.7	-0.1
MORW				IAmb	IAmb	17 04 08.6	
	comp=Z,14nm,1.3s						
CMAR	Chiang Mai Arr	34.61	305	P	P	17 04 28.6	+0.8
	comp=Z,0.4nm,0.4s,baz=121,slow=8.5,SNR=5.8						
	comp=Z,0.4nm,0.4s						
ENH	Enshi	35.73	332	P	P	17 04 37.1	-0.2
KSRS	Korea Array	38.09	360	P	P	17 04 57.8	+0.5
	comp=Z,0.9nm,0.9s,baz=187,slow=9.8,SNR=5.8						
	comp=Z,0.9nm,0.9s						
MJAR	Matsushiro Arr	38.31	13	P	P	17 04 59.0	-0.2
	comp=Z,2.3nm,0.8s,baz=196,slow=9.3,SNR=9.3						
	comp=Z,2.3nm,0.8s						
GTA	Gaotai	47.78	330	*e*P	P	17 06 17.4	+1.5
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM	Songino Array	52.08	341	P	P	17 06 48.1	-0.4
	comp=Z,0.8nm,0.6s,baz=154,slow=7.0,SNR=5.7						
	comp=Z,0.8nm,0.6s						
PETK	Petropavlovsk-	59.10	20	P	P	17 07 39.4	+0.7
MKAR	Makanchi Array	62.16	326	P	P	17 07 59.9	+0.1
	comp=Z,0.8nm,0.5s,baz=115,slow=7.8,SNR=9.8						
	comp=Z,0.8nm,0.5s						
ZALV	Zalesovo Beam	65.32	333	P	P	17 08 19.5	-0.9
	comp=Z,1.2nm,0.8s,baz=72,slow=4.8,SNR=4.1						
	comp=Z,1.2nm,0.8s						
KURBB	Kurchatov Arra	66.38	328	P	P	17 08 27.0	-0.3
	comp=Z,1.2nm,0.7s,baz=124,slow=6.1,SNR=11						
	comp=Z,1.2nm,0.7s						
KURK	Kurchatov	66.39	328		P	17 08 26.3	-1.1
KURK				IAmb	IAmb	17 08 27.7	
	comp=Z,4.0nm,1.1s						
BVAR	Borovoye Array	71.96	327	P	P	17 09 01.2	-0.7
	comp=Z,0.6nm,0.6s,baz=165,slow=6.0,SNR=4.0						
	comp=Z,0.6nm,0.6s						
NRIK	Noril'sk	75.19	346	P	P	17 09 21.1	+0.6
	comp=Z,5.1nm,0.7s,baz=139,slow=5.5,SNR=13						
	comp=Z,5.1nm,0.7s						
VNDA	Vanda	78.74	173	P	P	17 09 40.8	+0.3
VNDA				IAmb	IAmb	17 09 43.6	
	comp=Z,2.7nm,1.3s						
VNDA	Vanda	78.74	173	P	P	17 09 41.1	+0.6
	comp=Z,0.6nm,0.9s,baz=315,slow=6.8,SNR=3.8						
	comp=Z,0.6nm,0.9s						
QSPA	South Pole Qui	89.11	180	P	P	17 10 34.4	+0.7
QSPA				IAmb	IAmb	17 11 12.5	
	comp=Z,5.5nm,1.4s						
QSPA	South Pole Qui	89.11	180	P	P	17 10 34.8	+1.1
	comp=Z,1.5nm,0.7s,baz=278,slow=2.6,SNR=14						
	comp=Z,1.5nm,0.7s						

IDC 14 17:11:56.2±1.9, 0.79N×126.39E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=190.4km s-min=23.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.02	160	P	P	17 16 51.0	-1.5
	0.3nm,0.5s,baz=338,slow=10,SNR=2.1						
	0.3nm,0.5s						
ASAR	Alice Springs	25.38	164	P	P	17 17 26.3	+0.9
	0.3nm,0.5s,baz=303,slow=13,SNR=6.5						
	0.3nm,0.5s						
MKAR	Makanchi Array	59.79	326	P	P	17 22 02.4	-0.8
	0.2nm,0.4s,baz=120,slow=7.4,SNR=4.1						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	64.04	328	P	P	17 22 32.5	+0.7
	0.2nm,0.5s,baz=122,slow=5.8,SNR=2.5						
	0.2nm,0.5s						

IDC 14 17:12:16.6±1.9, 0.65N×126.30E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=206.2km s-min=23.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.93	159	P	P	17 17 11.1	-0.7
	0.9nm,0.5s,baz=338,slow=11,SNR=5.1						
	0.9nm,0.5s						
ASAR	Alice Springs	25.27	163	P	P	17 17 45.3	+0.6
	0.4nm,0.5s,baz=345,slow=12,SNR=4.8						
	0.4nm,0.5s						
MKAR	Makanchi Array	59.85	326	P	P	17 22 23.9	-0.2
	0.3nm,0.4s,baz=125,slow=7.6,SNR=5.6						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	64.11	328	P	P	17 22 52.7	+0.1
	0.2nm,0.6s,baz=119,slow=5.4,SNR=2.9						
	0.2nm,0.6s						

*NOU **14** 17:25:49.7, 18˚.20S×120˚.12E, h0km, mb4.2/14, Western Australia*
*IDC **14** 17:25:52.5±4.7, 18˚.55S×120˚.36E, h0km, mb3.6/1, mbtmp4.0/5, ML3.7/4, Error ellipse: s-maj=56.9km s-min=25.4km az=150.0*
*AUST **14** 17:25:57.0±1.4, 19˚S±6˚×12˚1E±˚, h18km±14km, mb4.2/14, ML3.5/7, Error ellipse: s-maj=17.8km s-min=5.3km az=134.3*

ISC 14 17:25:52.9±1.1, 18˚.59S±0˚.08×120˚.43E±0˚.07, h10km, n41, σ2s49/48, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	Marble Bar	2.64	194	P	Pb	17 26 40.5	+0.2
MBWA	Marble Bar	2.64	194	P	Pb	17 26 39.9	-0.4
PSAC1	Pilbara Seismi	2.99	191	P	Pb	17 26 45.1	-1.1
PSAC1				S	Sb	17 27 21.5	-1.3
FITZ	Fitzroy Crossi	4.98	85	P	Pn	17 27 09.3	+1.6
FITZ	Fitzroy Crossi	4.98	85	S	Sn	17 28 04.8	-0.6
FITZ	Fitzroy Crossi	4.98	85	Pn	Pn	17 27 09.4	+1.6
	4.1nm,0.3s,baz=263,slow=8.6,SNR=57						
FITZ				Sn	Sn	17 28 04.1	-1.2
	5.3nm,0.3s,baz=27,slow=12,SNR=4.6						
FITZ				Lg	Lg	17 28 32.0	
	8.3nm,0.3s,baz=49,slow=22,SNR=3.5						
	8.4nm,0.3s						
FITZ	Fitzroy Crossi	4.98	85	P	Pn	17 27 09.1	+1.4
GIRL	Giralia	7.06	234	P	Pn	17 27 37.7	+1.3
GIRL				S	Sn	17 28 52.6	-4.2
MEEK	Meekatharra	8.18	191	P	Pn	17 27 55.4	+3.6
	comp=Z,26nm,1.7s,comp=Z,0.2nm						
MEEK	Meekatharra	8.18	191	S	Sn	17 29 24.1	-0.3
MEEK	Meekatharra	8.18	191	P	Pn	17 27 55.3	+3.5
CVQOZ	Cooralya Stati	8.30	224	P	Pn	17 27 55.4	+2.1
CVQOZ				S	Sn	17 29 20.5	-6.6
KNRA	Kununurra	8.48	71	P	Pn	17 27 55.9	0.0
	comp=Z,26nm,2.0s,comp=Z,0.1nm						
KNRA				S	Sn	17 29 27.2	-4.5
WRKA	Warakurna	9.72	133	P	Pn	17 28 16.3	+3.4
	comp=Z,7.7nm,0.5s,comp=Z,0.0nm						
WRKA				S	Sn	17 30 02.2	-0.1
EDFI	Ende, Flores	9.86	7	S	Sn	17 29 48.7	-17
	comp=Z,10.0nm,1.6s,comp=Z,0.0nm						
MORW	Morawa	11.18	200	P	Pn	17 28 33.6	+0.8
	comp=Z,10nm,0.5s						
MORW	Morawa	11.18	200	P	Pn	17 28 33.6	+0.8
MTN	Manton Dam	11.78	63	P	Pn	17 28 39.3	-1.9
	comp=Z,36nm,1.4s						
MTN	Manton Dam	11.78	63	P	Pn	17 28 39.6	-1.5
DRS	Darwin Rock St	11.80	60	P	Pn	17 28 42.7	+1.3
	comp=Z,12nm,0.9s						
DRS	Darwin Rock St	11.80	60	P	Pn	17 28 40.9	-0.5
BLDU	Ballidu	12.44	195	P	Pn	17 28 51.6	+1.5
BLDU	Ballidu	12.44	195	P	Pn	17 28 51.3	+1.2
KDU	Kakadu	13.00	65	P	Pn	17 28 56.9	-0.9
	comp=Z,22nm,2.7s						
KDU	Kakadu	13.00	65	P	Pn	17 28 57.5	-0.3
KLBR	Kellerberrin	13.17	190	P	Pn	17 29 02.2	+2.1
	comp=Z,19nm,0.5s						
KLBR	Kellerberrin	13.17	190	P	Pn	17 29 02.4	+2.3
WRA	Warramunga Arr	13.21	98	Pn	Pn	17 29 00.4	-0.2
	comp=Z,0.6nm,0.3s,baz=276,slow=14,SNR=15						
WRA				Sn	Sn	17 31 21.6	-6.1
	comp=Z,1.3nm,0.3s,baz=282,slow=25,SNR=6.0						
WRA				Lg	Lg	17 32 55.3	
	baz=283,slow=29						
	comp=Z,1.0nm,0.4s						
ASAR	Alice Springs	13.55	114	Pn	Pn	17 29 06.2	+0.9
	comp=Z,0.3nm,0.3s,baz=294,slow=12,SNR=22						
ASAR				Sn	Sn	17 31 30.9	-5.2
	comp=Z,0.8nm,0.3s,baz=307,slow=24,SNR=9.4						
ASAR				Lg	Lg	17 33 05.5	
	baz=116,slow=44						
	comp=Z,0.6nm,0.4s						
AS01	Alice Springs	13.59	114	P	Pn	17 29 08.2	+2.3
MUN	Mundaring	13.87	195	P	Pn	17 29 10.6	+1.0
	comp=Z,13nm,1.8s						
MUN	Mundaring	13.87	195	P	Pn	17 29 11.4	+1.9
FORT	Forrest	13.97	152	P	Pn	17 29 11.6	+0.6
	comp=Z,13nm,0.8s						
NWAO	Narrogin (SRO)	14.56	191	Pn	Pn	17 29 19.1	0.0
	comp=Z,3.7nm,0.3s,baz=16,slow=13,SNR=40						
NWAO				Sn	Sn	17 31 51.7	-8.9
	comp=Z,1.7nm,0.3s,baz=97,slow=18,SNR=2.3						
NWAO				Lg	Lg	17 33 34.4	
	comp=Z,0.7nm,0.3s,baz=100,slow=23,SNR=1.1						
	comp=Z,8.0nm,0.3s						
NWAO	Narrogin (SRO)	14.56	191	P	Pn	17 29 19.8	+0.7
RKGY	Rocky Gully	16.25	190	P	Pn	17 29 42.8	+1.5
	comp=Z,14nm,1.1s						
MULG	Mulgathing	17.00	136	P	P	17 29 53.0	+0.3
	comp=Z,17nm,1.8s						
QIS	Mount Isa	18.18	99	P	P	17 30 08.0	+2.1
	comp=Z,6.5nm,0.9s						
QIS	Mount Isa	18.18	99	P	P	17 30 08.3	+2.4
HTT	Hallett	22.19	135	P	P	17 30 53.9	+4.5
STKA	Stephens Creek	23.22	129	P	P	17 31 03.5	+3.2
	comp=Z,2.3nm,1.0s,baz=322,slow=10.0,SNR=3.2						
	comp=Z,2.3nm,1.0s						

*IDC **14** 17:33:24.4±0.9, 4˚.04N×32˚.54W, h0km, mb3.6/10, mbtmp3.6/10, MS3.6/23, Error ellipse: s-maj=33.2km s-min=22.6km az=135.0*

ISC 14 17:33:27.4±0.8, 4.0N±0˚.2×32˚.5W±0˚.2, h19km, n37, σ0s90/10, mb3.5/9, MS3.7/21, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	10.36	199	LR	LR	17 39 02.1	
	comp=Z,101nm,19.1s,baz=64,slow=33						
BBTS	Batate	18.96	55	LR	LR	17 43 47.1	
	comp=Z,107nm,18.9s,baz=127,slow=33						
H10N3	ASCENSION HYDR	21.49	123	T	T	18 00 23.3	
	baz=302,slow=74,SNR=90						
H10N2	ASCENSION HYDR	21.49	123	T	T	18 00 27.8	
	baz=302,slow=74,SNR=90						
H10N1	ASCENSION HYDR	21.51	123	T	T	18 00 27.3	
	baz=302,slow=74,SNR=80						
H10S3	ASCENSION HYDR	21.97	126	T	T	18 01 00.7	
	baz=303,slow=74,SNR=74						
H10S2	ASCENSION HYDR	21.99	126	T	T	18 01 03.4	
	baz=277,slow=74,SNR=32						
BDFB	Brasilia	24.84	218	LR	LR	17 47 37.9	
	comp=Z,70nm,19.4s,baz=340,slow=34						
DBIC	Dimbokro	27.66	83	LR	LR	17 48 17.1	
	comp=Z,115nm,19.1s,baz=327,slow=32						
PCRV	Puerto La Cruz	32.44	283	LR	LR	17 53 36.1	
	comp=Z,59nm,18.2s,slow=37						
SIV	San Ignacio	34.55	234	LR	LR	17 53 54.6	
	comp=Z,254nm,18.9s,baz=112,slow=36						
TORD	Torodi Ar. Bea	34.97	73	P	P	17 40 18.2	-0.6
	1.8nm,0.3s,baz=252,slow=8.5,SNR=1.9						
	1.8nm,0.3s						
SDV	Santo Domingo	38.17	279	LR	LR	17 57 27.9	
	comp=Z,60nm,19.1s,baz=76,slow=38						
CPUP	Villa Florida	38.57	217	P	P	17 40 49.0	-0.3
	0.4nm,0.6s,baz=230,slow=6.6,SNR=4.0						
CPUP				LR	LR	17 56 33.4	
	comp=Z,30nm,18.7s,baz=278,slow=36						
	0.4nm,0.6s						
MDT	Midelt	38.74	39	LR	LR	17 55 14.7	
	comp=Z,136nm,18.8s,baz=230,slow=34						
LPAZ	La Paz	40.59	239	LR	LR	17 57 12.8	
	comp=Z,118nm,18.7s,baz=52,slow=35						
ROSC	El Rosal	41.69	273	LR	LR	17 57 08.5	
	comp=Z,113nm,20.8s,baz=102,slow=34						
ESDC	Sonseca Array	43.89	32	P	P	17 41 34.0	+1.0
	0.7nm,0.7s,baz=235,slow=8.5,SNR=6.2						
	0.7nm,0.7s						
ATAH	Atahualpa	47.12	256	LR	LR	18 02 07.7	
	comp=Z,80nm,18.4s,baz=93,slow=37						
JTS	Las Juntas de	52.35	280	LR	LR	18 06 41.3	
	comp=Z,43nm,18.5s,baz=104,slow=38						
VAE	Valguarnera	54.25	46	LR	LR	18 06 10.3	
	comp=Z,111nm,18.3s,baz=242,slow=36						
TKL	Tuckaleechee C	56.72	311	LR	LR	18 01 36.3	
	comp=Z,40nm,21.7s,baz=106,slow=30						
GERES	GERESS Array B	59.45	34	P	P	17 43 27.5	-1.6
	0.3nm,0.8s,baz=231,slow=8.7,SNR=4.2						
	0.3nm,0.8s						
BOSA	Boshof	64.24	124	LR	LR	18 08 56.0	
	comp=Z,72nm,18.3s,baz=162,slow=33						
MLR	Muntele Rosu	65.38	41	LR	LR	18 13 02.3	
	comp=Z,60nm,18.9s,baz=278,slow=36						
NOA	NORSAR Array B	65.69	22	LR	LR	18 11 23.3	
	comp=Z,18nm,18.6s,baz=235,slow=35						
BRTR	Keskin Array B	69.18	49	P	P	17 44 34.4	+1.2
	0.6nm,0.8s,baz=251,slow=4.4,SNR=3.6						
	0.6nm,0.8s						
AKASG	Malin Array Be	69.26	37	LR	LR	18 12 59.8	
	comp=Z,22nm,20.9s,baz=135,slow=34						
ASF	Jabal al Asfar	70.46	57	LR	LR	18 16 13.3	
	comp=Z,53nm,18.4s,baz=213,slow=36						
TXAR	Lajitas Array	71.62	299	P	P	17 44 48.2	0.0
	0.3nm,0.7s,baz=80,slow=2.9,SNR=3.6						
	0.3nm,0.7s						
FINES	FINESS Array B	71.88	26	LR	LR	18 12 29.0	
	comp=Z,21nm,21.6s,baz=138,slow=33						
ANMO	Albuquerque	74.55	305	LR	LR	18 13 47.9	
	comp=Z,82nm,21.5s,baz=158,slow=32						
ARCES	ARCESS Array B	75.46	18	P	P	17 45 09.7	-0.2
	0.2nm,0.5s,baz=262,slow=6.3,SNR=4.1						
	0.2nm,0.5s						
PDAR	Pinedale Array	77.77	313	P	P	17 45 23.8	0.0
	0.2nm,0.5s,baz=102,slow=4.3,SNR=3.4						
	0.2nm,0.5s						
SNAA	Sanae	77.99	171	P	P	17 45 24.6	+0.4
	0.8nm,0.9s,baz=321,slow=6.5,SNR=2.1						
	0.8nm,0.9s						
ELK	Elko	81.88	310	LR	LR	18 17 39.9	
	comp=Z,40nm,21.0s,baz=98,slow=32						
YKA	Yellowknife Ar	82.79	332	P	P	17 45 50.3	+0.2
	0.3nm,0.7s,baz=112,slow=4.9,SNR=2.7						
	0.3nm,0.7s						

IDC 14 17:37:21.0±63.0, 15˚.81S×174˚.57W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=1205.0km s-min=187.8km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.86	240	P	P	17 45 21.8	+0.6
	1.8nm,0.5s,baz=69,slow=8.6,SNR=5.0						
	1.8nm,0.5s						
WRA	Warramunga Arr	48.66	257	P	P	17 46 07.2	0.0
	0.4nm,0.4s,baz=94,slow=7.3,SNR=5.8						
	0.4nm,0.4s						
ASAR	Alice Springs	48.91	252	P	P	17 46 08.5	-0.7
	3.6nm,0.5s,baz=93,slow=7.5,SNR=72						
	3.6nm,0.5s						

*IDC **14** 17:39:40.5±1.1, 30˚.22S×179˚.07W, h0km, mb4.2/5, mbtmp4.2/6, ML3.6/1, MS3.5/1, Error ellipse: s-maj=28.2km s-min=24.1km az=149.0*

ISC 14 17:39:45.1±0.8, 30˚2S±0˚.1×179˚.0W±0˚.1, h35km, n20, σ0s97/14, mb4.3/7, 4C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.33	46	Pn	Pn	17 40 06.9	-0.2
	7.8nm,0.3s,baz=107,slow=23,SNR=1.3						
RAO				Sn	Sn	17 40 22.5	-1.1
	121nm,0.3s,baz=89,slow=23,SNR=5.6						
URZ	Urewera	8.68	201	Pn	Pn	17 41 46.6	-1.5
	0.8nm,0.3s,baz=84,slow=6.0,SNR=3.4						
	7.6nm,0.7s						
STKA	Stephens Creek	33.67	257	P	P	17 46 21.5	-1.2
	3.4nm,0.8s,baz=98,slow=7.1,SNR=3.5						
	3.4nm,0.8s						
ASAR	Alice Springs	42.24	267	P	P	17 47 35.5	+0.3
	1.3nm,0.8s,baz=112,slow=8.5,SNR=8.5						
	1.3nm,0.8s						
WRA	Warramunga Arr	43.21	272	P	P	17 47 43.6	+0.6
	1.6nm,0.9s,baz=113,slow=7.9,SNR=4.4						
	1.6nm,0.9s						
GUMO	Guam	55.70	316	LR	LR	18 10 40.4	
	comp=Z,43nm,21.6s,baz=232,slow=33						
QSPA	South Pole Qui	59.94	180	P	P	17 49 48.7	+1.1
	10nm,0.9s,baz=27,slow=1.5,SNR=45						
	10nm,0.9s						
TROLL	Troll, Antarti	78.09	180	⇑P	P	17 51 40.6	+0.5
	comp=Z,286nm,0.8s						
SNAA	Sanae	78.40	179	⇑P	P	17 51 42.0	+0.3
	comp=Z,56nm,0.8s						
SNAA	Sanae	78.40	179	P	P	17 51 41.7	0.0
	comp=Z,2.9nm,0.9s,baz=207,slow=6.9,SNR=10						
	comp=Z,2.9nm,0.9s						
VNA2	Neumayer--Watz	79.01	177	⇑P	P	17 51 45.5	+0.5
	comp=Z,4.5nm,0.7s,baz=163,slow=5.2						
VNA1	Neumayer--Stat	79.25	177	⇑P	P	17 51 47.0	+0.7
	comp=Z,3.9nm,0.8s						
H03S2	Juan Fernandez	81.32	124	T	T	19 21 33.8	
	baz=238,slow=74,SNR=63						
H03S1	Juan Fernandez	81.33	124	T	T	19 21 35.1	
	baz=238,slow=74,SNR=39						
H03S3	Juan Fernandez	81.34	124	T	T	19 21 45.0	
	baz=238,slow=74,SNR=40						
H03N3	Juan Fernandez	81.52	124	T	T	19 21 48.7	
	baz=241,slow=72,SNR=3.4						
H03N2	Juan Fernandez	81.52	124	T	T	19 21 50.5	
	baz=241,slow=72,SNR=3.3						
H03N1	Juan Fernandez	81.53	124	T	T	19 21 51.7	
	baz=241,slow=72,SNR=4.4						
FINES	FINESS Array B	144.63	339	PKP	PKPdf	17 59 18.8	+1.6
	comp=Z,1.6nm,0.9s,baz=60,slow=3.7,SNR=5.6						
TORD	Torodi Ar. Bea	163.04	182	PKPab	PKPab	18 00 34.1	+0.2
	comp=Z,2.0nm,0.4s,baz=167,slow=5.7,SNR=1.4						

*NEIC **14** 17:44:44.6±2.3, 47˚.86N±0˚.03×122˚.07W±0˚.05, h30km±2km, Error ellipse: s-maj=4.7km s-min=4.3km az=222.0*

SEA 14 17:44:44.8±2.5, 47˚.86N±0˚.04×122˚.02W±0˚.05, h30km±7km, ML2.5/23, mL2.4/28(NEIC), Error ellipse: s-maj=5.2km s-min=4.3km az=208.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLH	Bald Hill	0.02	195		Pb	17 44 49.4	-0.4
EVGW	Everett Gatewa	0.09	269		Pb	17 44 49.8	-0.2
EVGW					Sb	17 44 54.0	+0.4
LEOT	Leota Junior H	0.11	215		Pb	17 44 50.2	+0.1
LEOT					Sb	17 44 54.8	+1.0
EARN	East Ridge Ele	0.12	185		Pb	17 44 50.2	+0.1
EARN					Sb	17 44 54.8	+0.9
NIHS	Ingelmoor High	0.18	229		Pb	17 44 51.0	+0.3
NIHS					Sb	17 44 56.4	+1.6
BEVT	Boeing Everett	0.18	291		Pb	17 44 50.8	0.0
BEVT					Sb	17 44 56.2	+1.4
HTW	Haystack Looko	0.18	107		Pb	17 44 50.5	-0.4
LYNC	Lynnwood City	0.18	261		Pb	17 44 50.7	-0.1
FINN	Finn Hill Juni	0.20	226		Sb	17 44 56.9	+1.8
BRKS	Brookside Elem	0.20	241		Sb	17 44 56.5	+1.2
ALCT	Alcott Element	0.21	182		Pb	17 44 51.3	+0.3
SCCW	Shoreline CC	0.25	245		Pb	17 44 51.7	+0.1
SCCW					Sn	17 44 57.6	+0.3
TTW	Tolt Reservoir	0.28	126		Pb	17 44 51.5	-0.4
TTW					Sb	17 44 56.5	-0.3
C05A	Tolt Reservoir	0.28	125		Pb	17 44 51.5	-0.5
C05A					Sb	17 44 56.5	-0.4
SWID	South Whidbey	0.30	300		Pb	17 44 52.0	-0.2
SWID					Sn	17 44 58.1	-0.5
SP2	Seward Park 2	0.34	207		Pb	17 44 52.9	+0.2
JCW	Jim Creek	0.34	11		Pb	17 44 52.5	-0.5
JCW					Sb	17 44 58.0	-0.4
ELW	Echo Lake	0.38	164		Pb	17 44 53.0	-0.3
HOLY	Holy Rosary Sc	0.38	220		Pn	17 44 53.9	-0.3
HOLY					Sn	17 45 01.7	+1.2
B05A	Bryant	0.41

E03A	**Lebam**	**1.68 219**		Pn	17 45 13.0	+0.9
E03A			IAML		17 45 35.5	
	comp=N,53nm,0.5s					
CLRS	**Cowichan Lake**	**1.71 305**		Pn	17 45 12.3	-0.1
RADR	**Rader Ridge**	**1.88 221**		Pn	17 45 15.7	+0.8
RADR			IAML		17 45 42.3	
	comp=E,30nm,0.6s					
RADR			IAML		17 45 52.6	
	comp=N,27nm,0.7s					
B023	**Clatskanie**	**1.89 203**		Pn	17 45 16.4	+1.4
WAH2	**Wahluke Slope**	**2.00 122**	Pn	Pn	17 45 16.5	-0.1
SHB	**Sechelt**	**2.13 326**		Pn	17 45 19.3	+0.8
SNIWA	**Snively Ranch**	**2.13 130**		Pb	17 45 22.7	0.0
HAWA	**Hanford**	**2.24 130**		Pb	17 45 22.6	-2.0
HAWA			IAML		17 45 59.1	
	comp=N,18nm,0.8s					
PABB	**Port Alberni**	**2.30 307**		Pn	17 45 22.6	+2.0

*IDC **14** 17:46:09.8±1.8, 1°.57S×135°.74E, h0km, mb3.3/2, mbtmp3.4/4, ML2.9/2, Error ellipse: s-maj=43.7km s-min=30.2km az=72.0*
*DJA **14** 17:46:11.4±0.4,2°.5±4°×13°.6E±°, h12km±6km, M3.7/6, MLv3.7/6*
ISC 14 17:46:12.3±0.9, 1°.57S±0°.07×135°.71E±0°.04, h21km, n9, σ1$27/13, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**0.55**	**46**	P	**Pb**	**17 46 23.0**	**-0.2**
BAKI				S	**Sb**	**17 46 31.0**	**+0.3**
SRPI	**Serui, Papua**	**0.61**	**120**	P	**Pb**	**17 46 24.0**	**-0.3**
SRPI				S	**Sb**	**17 46 34.1**	**+1.6**
RKPI	**Ransiki, Papua**	**1.54**	**272**	P	**Pn**	**17 46 37.3**	**-1.2**
RKPI				S	**Sn**	**17 46 58.6**	**+0.8**
SMPI	**Sarmi**	**3.03**	**98**	P	**Pn**	**17 46 59.3**	**+0.3**
FAKI	**Fak Fak**	**3.71**	**249**	P	**Pn**	**17 47 07.9**	**-0.5**
JAY	**Jayapura**	**5.08**	**101**	Pn	**Pn**	**17 47 26.9**	**-0.3**
	0.2nm,0.3s,baz=127,slow=22,SNR=2.1						
JAY				Sn	**Sn**	**17 48 23.1**	**-2.2**
	0.1nm,0.3s,baz=147,slow=21,SNR=1.8						
	6.1nm,0.9s						
WRA	**Warramunga Arr**	**18.31**	**184**	P	**P**	**17 50 23.5**	**-1.7**
	0.1nm,0.3s,baz=6.2,slow=12,SNR=2.0						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**22.04**	**184**	P	**P**	**17 51 07.0**	**+1.4**
	0.7nm,0.7s,baz=7.8,slow=12,SNR=8.1						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**67.08**	**323**	P	**P**	**17 57 05.2**	**+1.0**
	0.3nm,0.7s,baz=100,slow=7.5,SNR=2.5						
	0.3nm,0.7s						

*IDC **14** 18:07:23.1±1.5, 0°.59S×127°.98E, h0km, mb3.4/4, mbtmp3.7/5, ML4.1/1, Error ellipse: s-maj=54.5km s-min=23.0km az=69.0*
*DJA **14** 18:07:25.1±0.2, 1°S±2°×12°8E±°, h10km, M4.1/14, mb4.5/3, MLv3.9/14*
ISC 14 18:07:24.7±1.0, 0°.55S±0°.07×127°.91E±0°.09, h10km, n15, σ0$93/16, mb3.6/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.42**	**337**	P	**Pn**	**18 07 50.0**	**-0.7**
TNTI				S	**Sn**	**18 08 10.1**	**+0.6**
SANI	**Sanana**	**2.43**	**232**	P	**Pn**	**18 08 03.1**	**-1.5**
NLAI	**Namlea**	**2.79**	**197**	P	**Pn**	**18 08 09.1**	**-0.4**
MSAI	**Masohi**	**2.96**	**160**	P	**Pn**	**18 08 12.8**	**+1.1**
AAI	**Ambon**	**3.13**	**175**	P	**Pn**	**18 08 13.5**	**-0.6**
SWI	**Sorong**	**3.36**	**95**	P	**Pn**	**18 08 18.5**	**+1.2**
KMSI	**Cibinong**	**4.09**	**286**	P	**Pn**	**18 08 27.7**	**+0.4**
FAKI	**Fak Fak**	**4.93**	**119**	P	**Pn**	**18 08 38.9**	**0.0**
LUWI	**Luwuk**	**5.16**	**265**	P	**Pn**	**18 08 41.7**	**-0.4**
	0.2nm38nm,0.8s						
APSI	**Ampana**	**6.28**	**267**	P	**Pn**	**18 08 58.3**	**+0.9**
	58nm,0.9s						
KAPI	**Kappang**	**9.28**	**241**	Pn	**Pn**	**18 09 39.8**	**+1.1**
	2.1nm,0.3s,baz=173,slow=4.3,SNR=4.3						
	12nm,0.5s						
WRA	**Warramunga Arr**	**20.27**	**162**	P	**P**	**18 11 59.4**	**-1.3**
	0.6nm,0.6s,baz=339,slow=13,SNR=4.6						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**23.70**	**166**	P	**P**	**18 12 36.4**	**-0.6**
	0.7nm,0.5s,baz=344,slow=11,SNR=22						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**61.73**	**326**	P	**P**	**18 17 44.4**	**+1.0**
	0.3nm,0.7s,baz=112,slow=7.4,SNR=4.2						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**65.97**	**328**	P	**P**	**18 18 11.0**	**-0.2**
	0.4nm,0.3s,baz=119,slow=8.1,SNR=4.7						
	0.4nm,0.3s						

*IDC **14** 18:15:59.3±1.1, 0°.78S×128°.49E, h0km, mb3.9/7, mbtmp3.9/10, ML3.7/3, Error ellipse: s-maj=50.2km s-min=17.8km az=75.0*
*DJA **14** 18:16:03.6±0.2, 1°S±2°×12°8E±°, h10km, M4.3/16, mB5.0/4, mb4.5/6, MLv4.2/16, Mw(mB)4.4/4*
ISC 14 18:16:00.8±3.0, 0°.81S±0°.04×128°.40E±0°.06, h8km±21km, n26, σ1$68/31, mb3.9/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.88**	**327**	P	**Pb**	**18 16 35.4**	**0.0**
TNTI				S	**Sb**	**18 16 59.2**	**+0.2**
MSAI	**Masohi**	**2.58**	**168**	P	**Pb**	**18 16 46.0**	**-1.4**
MSAI				S	**Sb**	**18 17 19.3**	**0.0**
SANI	**Sanana**	**2.71**	**243**	P	**Pn**	**18 16 44.1**	**-0.6**
SANI				S	**Sn**	**18 17 14.4**	**-3.4**
NLAI	**Namlea**	**2.75**	**208**	P	**Pn**	**18 16 46.0**	**+0.8**
NLAI				S	**Sn**	**18 17 18.5**	**-0.1**
SWI	**Sorong**	**2.86**	**91**	P	**Pb**	**18 16 50.4**	**-1.8**
AAI	**Ambon**	**2.87**	**184**	P	**Pn**	**18 16 49.2**	**+2.3**
AAI				S	**Sn**	**18 17 23.3**	**+1.6**
FAKI	**Fak Fak**	**4.38**	**119**	P	**Pn**	**18 17 11.9**	**+4.1**
KMSI	**Cibinong**	**4.63**	**287**	P	**Pn**	**18 17 12.0**	**+0.9**
LUWI	**Luwuk**	**5.63**	**268**	P	**Pn**	**18 17 25.0**	**0.0**
MRSI	**Marisa**	**6.58**	**281**	P	**Pn**	**18 17 38.9**	**+0.9**
	0.2nm22nm,0.6s						
APSI	**Ampana**	**6.75**	**269**	P	**Pn**	**18 17 40.9**	**+0.6**
PCI	**Palu**	**8.56**	**269**	P	**Pn**	**18 18 05.3**	**+0.1**
	1µm26nm,0.6s						
MPSI	**Mapaga**	**8.58**	**278**	P	**Pn**	**18 18 07.9**	**+2.5**
	11nm,0.4s						
TTSI	**Tana Toraja**	**8.86**	**255**	P	**Pn**	**18 18 10.7**	**+1.4**
	15nm,0.6s						
SPSI	**Sidrap Palu**	**9.18**	**250**	P	**Pn**	**18 18 16.4**	**+2.8**
BKSI	**Bulukumba**	**9.40**	**241**	P	**Pn**	**18 18 20.3**	**+3.5**
KAPI	**Kappang**	**9.59**	**244**	Pn	**Pn**	**18 18 19.8**	**+0.4**
	2.2nm,0.3s,baz=39,slow=7.4,SNR=6.9						
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**17.40**	**189**	P	**Pn**	**18 20 03.1**	**-1.0**
	0.1nm,0.3s,baz=3.8,slow=15,SNR=1.7						
	5.7nm,1.1s						
WRA	**Warramunga Arr**	**19.89**	**163**	P	**P**	**18 20 31.6**	**-1.2**
	0.3nm,0.3s,baz=349,slow=12,SNR=9.2						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**23.34**	**167**	P	**P**	**18 21 10.2**	**+0.3**
	2.2nm,0.5s,baz=345,slow=11,SNR=14						
	2.2nm,0.5s						
SONM	**Songino Array**	**52.10**	**341**	P	**P**	**18 25 11.6**	**-0.1**
	0.8nm,0.8s,baz=164,slow=7.4,SNR=5.7						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**62.22**	**326**	P	**P**	**18 26 23.1**	**0.0**
	0.8nm,0.7s,baz=137,slow=8.4,SNR=6.4						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**66.44**	**328**	P	**P**	**18 26 50.3**	**-0.4**
	1.2nm,0.6s,baz=113,slow=5.2,SNR=8.8						
	1.2nm,0.6s						
BVAR	**Borovoye Array**	**72.01**	**327**	P	**P**	**18 27 25.2**	**-0.1**
	0.7nm,0.7s,baz=119,slow=12,SNR=3.8						
	0.7nm,0.7s						
QSPA	**South Pole Qui**	**89.13**	**180**	P	**P**	**18 28 57.7**	**+0.8**
	0.7nm,1.0s,baz=286,slow=11,SNR=1.4						
	0.7nm,1.0s						
ARCES	**ARCESS Array B**	**95.25**	**340**	P	**P**	**18 29 24.3**	**-0.6**
	0.5nm,0.7s,baz=76,slow=4.9,SNR=4.5						
	0.5nm,0.7s						

IDC 14 18:16:44.4±1.8, 0°.62S×127°.88E, h0km, mb3.7/4, mbtmp3.8/4, MS3.2/1, Error ellipse: s-maj=149.0km s-min=23.9km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.21**	**242**	LR	LR	18 23 17.5	
	comp=Z,159nm,21.8s,baz=68,slow=43						
WRA	**Warramunga Arr**	**20.22**	**162**	P	**P**	18 21 21.2	0.0
	0.7nm,0.5s,baz=342,slow=10,SNR=2.2						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**23.64**	**166**	P	**P**	18 21 57.6	0.0
	1.0nm,0.5s,baz=340,slow=10.0,SNR=4.7						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**61.77**	**326**	P	**P**	18 27 05.1	+0.1
	1.0nm,0.6s,baz=119,slow=7.5,SNR=5.7						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**66.01**	**328**	P	**P**	18 27 32.7	-0.1
	1.1nm,0.6s,baz=126,slow=5.8,SNR=6.3						
	1.1nm,0.6s						

*IDC **14** 18:18:20.4±2.0, 49°.23S×108°.91E, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=79.1km s-min=20.4km az=115.0*
ISC 14 18:18:21.4±1.9, 49°.2S±0°.3×108°.7E±0°.5, h10km, n11, σ0$16/8, mb4.0/6, 3C, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**14.82**	**18**	T	T	18 36 57.5	
	baz=194,slow=74,SNR=244						
H01W1	**Cape Leeuwin H**	**14.83**	**18**	T	T	18 36 57.1	
	baz=194,slow=74,SNR=195						
H01W3	**Cape Leeuwin H**	**14.84**	**18**	T	T	18 37 01.5	
	baz=194,slow=74,SNR=187						
ASAR	**Alice Springs**	**32.25**	**47**	P	**P**	**18 24 50.0**	**-0.1**
	1.2nm,0.7s,baz=209,slow=8.5,SNR=8.7						
	1.2nm,0.7s						
VNDA	**Vanda**	**34.69**	**162**	P	**P**	**18 25 10.6**	**-0.1**
	1.3nm,0.6s,baz=298,slow=9.4,SNR=14						
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**35.66**	**44**	P	**P**	**18 25 19.7**	**+0.1**
	2.1nm,0.8s,baz=207,slow=8.3,SNR=5.5						
	2.1nm,0.8s						
QSPA	**South Pole Qui**	**40.94**	**180**	P	**P**	**18 26 04.0**	**+0.2**
	2.3nm,0.7s,baz=310,slow=2.4,SNR=18						
	2.3nm,0.7s						
TROLL	**Troll, Antarti**	**48.67**	**203**	⇑P	**P**	**18 27 05.0**	**-0.2**
	comp=Z,54nm,0.2s						
SNAA	**Sanae**	**50.24**	**203**	⇑P	**P**	**18 27 17.1**	**-0.1**
	comp=Z,32nm,0.6s						
SNAA	**Sanae**	**50.24**	**203**	P	**P**	**18 27 17.3**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=137,slow=11,SNR=16						
	comp=Z,1.3nm,0.7s						
VNA2	**Neumayer--Watz**	**51.85**	**202**	⇑P	**P**	**18 27 29.1**	**0.0**
	comp=Z,1.7nm,0.6s,baz=130,slow=7.4						

DJA 14 18:18:56.1±0.2, 8°S±3°×11°5E±°, h11km±2km, M4.0/18, mb4.1/5, MLv3.9/18, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**0.43**	**79**	P	**Pb**	18 19 05.1	-0.6
SRBI				S	**Sb**	18 19 12.4	+0.3
JAGI	**Jajag, Banyuwa**	**0.70**	**245**	P	**Pg**	18 19 08.6	-1.1
GMJI	**Gumukmas**	**1.34**	**266**	P	**Pn**	18 19 19.7	-1.0
GMJI				S	**Sn**	18 19 38.7	+0.2
KMMI	**Kalianget**	**1.38**	**324**	P	**Pn**	18 19 21.1	-0.2
KMMI				S	**Sg**	18 19 40.4	-0.2
GRJI	**Gresik**	**2.61**	**298**	P	**Pn**	18 19 37.6	-0.6
PLAI	**Plampang**	**3.02**	**103**	P	**Pn**	18 19 43.9	-0.1
BWJI	**Bawean**	**3.13**	**317**	P	**Pn**	18 19 44.5	-0.9
TBJI	**Tambak Boyo**	**3.21**	**295**	P	**Pn**	18 19 45.9	-0.6
PCJI	**Pacitan**	**3.58**	**269**	P	**Pn**	18 19 52.1	+0.5
WOJI	**Wonogiri, Jawa**	**3.84**	**275**	P	**Pn**	18 19 55.5	+0.3
UGM	**Wanagama**	**4.23**	**273**	P	**Pn**	18 20 00.7	+0.1
WBSI	**Waikabubak, Su**	**4.78**	**108**	P	**Pn**	18 20 07.7	-0.4
BKSI	**Bulukumba**	**6.00**	**62**	P	**Pn**	18 20 24.2	-0.7
	0.1nm15nm,0.5s						
BSSI	**Bau Bau, Buton**	**6.00**	**71**	P	**Pn**	18 20 24.4	-0.6
BNSI	**Bone**	**6.48**	**55**	P	**Pn**	18 20 32.7	+1.3
	0.1nm17nm,1.3s						
EDFI	**Ende, Flores**	**6.85**	**95**	P	**Pn**	18 20 36.8	+0.1

*GCG **14** 18:26:00.7±2.0, 15°.09N×93°.71W, h35km±99km, MD4.0, ML3.8*
*MEX **14** 18:26:00.1±0.5, 15°.05N×93°.88W, h16km±6km, MD4.1*
*CATAC **14** 18:26:01.6±0.7, 15°N±3°×9°.4W±°, h28km±4km, M3.9/11, MLv3.9/11, Error ellipse: s-maj=8.0km s-min=4.1km az=51.3, confirmed*
ISC 14 18:25:55.6±1.3, 14°.94N±0°.04×93°.80W±0°.03, h32km±11km, n36, σ2$12/58, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.95**	**36**	*e*P	**Pb**	**18 26 14.4**	**+0.8**
PCIG				*e*S	**Sb**	**18 26 25.2**	**-0.6**
THIG		**1.48**	**91**	*e*P	**Pb**	**18 26 25.2**	**+2.7**
THIG				*e*S	**Sb**	**18 26 41.2**	**+0.2**
THIG		**1.48**	**91**	*i*P	**Pb**	**18 26 22.6**	**0.0**
THIG				*i*S	**Sb**	**18 26 40.7**	**-0.3**
THIG				IAML		18 26 43.7	
	comp=E,1µm,0.3s						
SMCA	**Catarina**	**1.67**	**92**	*i*P	**Pb**	**18 26 26.0**	**+0.3**
SMCA				*i*S	**Sn**	**18 26 45.0**	**+2.1**
SMCA				IAML		18 26 48.4	
	comp=E,903nm,0.2s						
NILT	**Santiago Nilte**	**1.80**	**334**	*i*P	**Pn**	**18 26 25.8**	**+1.3**
NILT				*i*S	**Sn**	**18 26 45.3**	**-0.9**
TGIG		**1.94**	**19**	*e*P	**Pn**	**18 26 27.8**	**+1.4**
TGIG				*e*S	**Sn**	**18 26 49.7**	**-0.1**
TGIG		**1.94**	**19**	*i*P	**Pb**	**18 26 28.6**	**-1.9**
TGIG				*i*S	**Sb**	**18 26 49.9**	**-4.4**
TGIG				IAML		18 26 56.0	
	comp=E,495nm,0.9s						
RTAL	**Retalhuleu**	**2.07**	**101**	S	**Sb**	**18 26 58.7**	**+0.7**
RTAL	**Retalhuleu**	**2.07**	**101**	P	**Pb**	**18 26 33.6**	**+1.0**
CCIG	**Comitan**	**2.08**	**50**	*e*P	**Pb**	**18 26 32.4**	**-0.6**
CCIG				*e*S	**Sb**	**18 26 57.5**	**-1.0**
CCIG	**Comitan**	**2.08**	**50**	*i*P	**Pb**	**18 26 32.7**	**-0.3**
CCIG				*i*S	**Sb**	**18 26 57.7**	**-0.8**
CCIG				IAML		18 27 01.1	
	comp=N,570nm,0.7s						
CCIG		**2.08**	**50**	P	**Pb**	**18 26 32.1**	**-0.8**
CCIG	**Comitan**	**2.08**	**50**	S	**Sb**	**18 26 56.9**	**-1.6**
HUEH	**Huehuetenango**	**2.25**	**80**	S	**Sb**	**18 27 03.8**	**+0.6**
HUEH	**Huehuetenango**	**2.25**	**80**	P	**Pb**	**18 26 36.0**	**+0.3**
HUIG	**Huatulco**	**2.38**	**291**	*e*P	**Pn**	**18 26 33.7**	**+1.3**
HUIG				*e*S	**Sn**	**18 26 58.0**	**-2.5**
CMIG	**Matias Romero**	**2.38**	**334**	*e*P	**Pn**	**18 26 34.1**	**+1.6**
CMIG				*e*S	**Sn**	**18 26 59.5**	**-1.1**
UXUV	**UXUV**	**2.39**	**352**	*e*P	**Pn**	**18 26 35.2**	**+2.6**
UXUV				*e*S	**Sn**	**18 27 00.6**	**-0.2**
STG2	**El Palmar, Qui**	**2.40**	**102**	*i*P	**Pn**	**18 26 31.4**	**-1.3**
STG2				*i*S	**Sn**	**18 26 56.9**	**-4.1**
STG0	**El Palmar, Qui**	**2.43**	**102**	*i*P	**Pn**	**18 26 33.6**	**+0.4**
STG0				*i*S	**Sn**	**18 26 58.0**	**-3.9**
STG0				IAML		18 27 04.0	
	comp=E,2µm,0.3s						
FG16	**Alotenango, Sa**	**3.25**	**101**	*i*P	**Pn**	**18 26 45.2**	**+0.7**
FG16				*i*S	**Sn**	**18 27 20.1**	**-2.1**
NEUV	**Arroyo Zacate**	**3.37**	**325**	*e*P	**Pn**	**18 26 47.5**	**+1.6**
NEUV				*e*S	**Sn**	**18 27 23.1**	**-1.8**
PEIG	**Puerto Escondi**	**3.40**	**289**	*e*P	**Pn**	**18 26 48.1**	**+1.6**
PEIG				*e*S	**Sn**	**18 27 22.1**	**-3.6**
VHO	**Vista Hermosa**	**3.53**	**307**	*e*P	**Pn**	**18 26 51.4**	**+3.0**
VHO				*e*S	**Sn**	**18 27 29.2**	**-0.1**
FAME	**Alcaldia de Sa**	**3.82**	**106**	P	Pb	18 26 59.2	-3.2
FAME	**Alcaldia de Sa**	**3.82**	**106**	S	**Sn**	**18 27 40.0**	**+3.9**
YOIG	**Yosondua**	**4.08**	**298**	*e*P	**Pn**	**18 26 58.8**	**+2.7**
YOIG				*e*S	**Sn**	**18 27 41.4**	**-1.5**
JAYA	**Jayaque - finc**	**4.40**	**106**	P	**Pb**	**18 27 09.9**	**-2.5**
PNIG	**Pinotepa**	**4.42**	**290**	*e*P	**Pn**	**18 27 03.4**	**+3.0**
PNIG				*e*S	**Sn**	**18 27 46.6**	**-4.1**
TOIG	**Toxpalan**	**4.44**	**316**	*e*P	**Pn**	**18 27 05.1**	**+4.3**
TOIG				*e*S	**Sn**	**18 27 52.8**	**+1.3**
TXIG	**Tlaxiaco**	**4.46**	**302**	*e*P	**Pn**	**18 27 04.6**	**+3.3**
TXIG				*e*S	**Sn**	**18 27 50.0**	**-2.2**
SCIG	**Sabancuy**	**4.72**	**32**	*e*S	**Sn**	**18 27 58.7**	**+0.4**
SCIG	**Sabancuy**	**4.72**	**32**	S	**Sn**	**18 27 59.2**	**+0.9**
HLIG	**Huajuapan de L**	**4.80**	**307**	*e*P	**Pn**	**18 27 08.8**	**+2.9**
HLIG				*e*S	**Sn**	**18 28 01.9**	**+1.2**
TPIG	**Tehuac#an**	**4.87**	**316**	*e*S	**Sn**	**18 28 01.9**	**-0.2**
LVIG	**Laguna Verde**	**5.38**	**333**	*e*S	**Sn**	**18 28 12.5**	**-2.0**

AUST 14 18:26:58.8±1.2, 18°S±7°×12°1E±°, h11km±9km, mb3.9/7, ML3.0/6, Error ellipse: s-maj=18.8km s-min=5.1km az=139.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.90**	**197**	P	Pn	18 27 45.1	+0.2
MBWA				S	Sn	18 28 22.2	+2.4
PSA00	**Pilbara Seismi**	**3.27**	**193**	P	Pn	18 27 50.3	+0.2
PSA00				S	Sn	18 28 29.2	+0.3
FITZ	**Fitzroy Crossi**	**4.78**	**88**	P	Pn	18 28 10.8	0.0
FITZ	**Fitzroy Crossi**	**4.78**	**88**	S	Sn	18 29 08.2	+2.0
GIRL	**Giralia**	**7.34**	**234**	P	Pn	18 28 42.1	-3.9
GIRL				S	Sn	18 29 57.9	-11
KNRA	**Kununurra**	**8.24**	**72**	P	Pn	18 29 00.5	+2.2
	comp=Z,24nm,2.0s,comp=Z,0.1nm						
KNRA				S	Sn	18 30 31.8	+0.3
MEEK	**Meekatharra**	**8.43**	**192**	P	Pn	18 29 00.3	-0.7
	comp=Z,1nm,1.9s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.43**	**192**	S	Sn	18 30 31.4	-5.0
CVQOZ	**Cooralya Stati**	**8.58**	**224**	P	Pn	18 28 59.9	-3.1
CVQOZ				S	Sn	18 30 28.9	-11
WRKA	**Warakurna**	**9.74**	**134**	P	Pn	18 29 21.3	+2.3
	comp=Z,2.6nm,1.2s,comp=Z,0.0nm						
WRKA				S	Sn	18 31 08.4	-0.1
MORW	**Morawa**	**11.44**	**201**	P	Pn	18 29 38.3	-4.0
	comp=Z,16nm,2.3s						
BLDU	**Ballidu**	**12.70**	**196**	P	Pn	18 29 56.9	-2.5
	comp=Z,14nm,2.6s						
BLDU	**Ballidu**	**12.70**	**196**	S	Sn	18 32 08.9	-12
KLBR	**Kellerberrin**	**13.42**	**191**	P	Pn	18 30 07.7	-1.5
	comp=Z,18nm,1.6s						
KLBR	**Kellerberrin**	**13.42**	**191**	S	Sn	18 32 26.3	-12
FORT	**Forrest**	**14.08**	**153**	P	Pn	18 30 17.5	-0.8
	comp=Z,7.2nm,1.7s						
FORT				S	Sn	18 32 49.2	-5.3

*TEH **14** 18:31:55.9, 34°.64N×45°.81E, h8km±61km*
*ISN **14** 18:31:58.6±0.6, 34°.63N×45°.81E, h32km±4km, ML2.6*
ISC 14 18:31:55.9±1.3, 34°.65N±0°.07×45°.80E±0°.05, h10km, n12, σ0$49/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e Shirin**	**0.22**	**232**	Pg	**Pg**	**18 32 00.2**	**-0.4**
KGS1				Sg	**Sg**	**18 32 04.3**	**+0.6**
IDHR	**Dehrash**	**0.49**	**83**	Pg	**Pg**	**18 32 06.0**	**+0.5**
GLG1	**Gilan-e-Gharb**	**0.54**	**170**	Pg	**Pg**	**18 32 06.2**	**-0.2**
IGHG	**Ghaleghazi**	**0.71**	**116**	Pg	**Pb**	**18 32 10.1**	**-0.4**
ILIN	**Lien**	**0.99**	**74**	Pg	**Pg**	**18 32 15.2**	**+0.1**
ILBA	**Ilam Banvizeh**	**1.07**	**162**	Pg	**Pn**	**18 32 16.7**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.09**	**109**	Pg	**Pg**	**18 32 16.1**	**-0.7**
SNQR	**Sonqor, Kerman**	**1.52**	**81**	Pg	**Pg**	**18 32 25.4**	**+0.3**
IBDR	**Badra**	**1.54**	**176**	*e*Pg	**Pg**	**18 32 26.0**	**+0.6**
	baz=356						
IBDR				*e*Sg	**Sg**	**18 32 46.0**	**+0.7**
IBDR				AML	AML	18 32 51.8	
	comp=N,92nm,0.4s						
IBDR				AML	AML	18 33 05.8	
	comp=E,80nm,0.5s						
IBZA	**Bozab**	**1.71**	**95**	Pg	**Pb**	**18 32 27.2**	**-0.4**
BHD	**Baghdad**	**1.81**	**221**	*e*Pn	**Pb**	**18 32 29.0**	**-0.1**
BHD				*e*Sn	**Sb**	**18 32 52.0**	**+0.1**
IKFM	**Kafar-mosalman**	**2.03**	**123**	Pn	**Pb**	**18 32 32.8**	**-0.1**

*NNC **14** 18:34:46.7±11.0, 36°.84N×70°.69E, h133km±177km, mb3.4, mpv3.9, Error ellipse: s-maj=92.5km s-min=64.1km az=22.0*
*NEIC **14** 18:34:46.1±1.7, 36°.70N±0°.07×71°.2E±0°.1, h230km±7km, mb4.2/7, Error ellipse: s-maj=13.1km s-min=9.9km az=72.0*
*IDC **14** 18:34:46.7±4.7, 36°.68N×71°.33E, h234km±43km, mb3.4/8, mbtmp4.1/14, Error ellipse: s-maj=40.7km s-min=13.9km az=40.0*
ISC 14 18:34:45.8±0.6, 36°.68N±0°.06×71°.31E±0°.07, h230km, n66, σ1$90/73, mb3.8/10, 3C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.45**	**342**		**Pn**	**18 35 30.9**	**-0.2**
SIMJ	**Simiganj**	**2.69**	**318**		**Pn**	**18 35 32.7**	**-1.1**
KBL	**Kabul**	**2.82**	**222**		**Pn**	**18 35 34.8**	**-0.6**
BTK	**Batken**	**3.40**	**354**		**Pn**	**18 35 42.4**	**+0.8**
NIL	**Nilore**	**3.42**	**152**		**Pn**	**18 35 43.6**	**+1.7**
SRNI	**Srinagar**	**3.87**	**131**	*e*S	**S**	**18 36 34.9**	**-0.6**
SRNI				IAML		18 36 38.1	
	comp=E,2µm,0.3s						
SRNI				IAML		18 36 43.6	
	comp=E,1µm,0.3s						
KSH	**Kashi**	**4.64**	**51**	Pn	Pn	18 35 52.8	-3.8
KSH				Sn	S	18 36 43.4	-9.2
KSH				smax	smax		
	comp=N,120nm,0.7s						
KSH				smax	smax		
	comp=E,71nm,0.8s						
ARSB	**Arslanbob**	**4.82**	**15**		**Pn**	**18 35 58.6**	**-0.1**
JMU	**Jammu**	**4.94**	**142**	*e*P	**Pn**	**18 36 00.0**	**-0.2**
JMU				*e*S	**S**	**18 36 56.6**	**-2.5**
JMU				IAML		18 37 01.2	

PTH	**Pithoragarh**	**10.31**	**131**	*e*P		**Pn**	**18 37 08.5**	**-0.2**
PTH				*e*S		S	18 38 57.6	-6.9
MAKZ	**Makanchi**	**12.87**	**35**			**Pn**	**18 37 40.4**	**-0.1**
MKAR	**Makanchi Array**	**13.00**	**36**			**Pn**	**18 37 43.1**	**+1.0**
MKAR	**Makanchi Array**	**13.00**	**36**	P		**Pn**	**18 37 42.0**	**-0.1**
	comp=E,2.4nm,0.6s,baz=222,slow=17,SNR=15							
WMQ	**Urumqi**	**14.39**	**55**	*e*P		**P**	**18 38 01.0**	**+1.0**
WMQ				pmax	pmax			
	comp=Z,31nm,0.9s							
KURBB	**Kurchatov Arra**	**14.88**	**18**	P		**Pn**	**18 38 04.3**	**-0.7**
	comp=Z,1.8nm,0.4s,baz=211,slow=10.0,SNR=4.8							
AB31	**Akbulak array**	**15.05**	**330**			**Pn**	**18 38 05.3**	**-1.8**
AB31	**Akbulak array**	**15.05**	**330**	⇓P		**P**	**18 38 07.3**	**+0.2**
	comp=Z,2.6nm,0.6s,baz=137,slow=13,SNR=60							
AB31				⇑S		**S**	**18 40 51.4**	**-1.8**
	comp=Z,0.9nm,0.5s,baz=146,slow=23,SNR=3.3							
ABKAR	**Akbulak array**	**15.05**	**330**			**Pn**	**18 38 05.9**	**-1.3**
EVN	**Everest**	**15.72**	**119**	P		**P**	**18 38 15.6**	**+0.2**
BVAR	**Borovoye Array**	**16.36**	**358**	P		**Pn**	**18 38 22.6**	**-0.1**
	comp=Z,7.3nm,0.5s,baz=149,slow=13,SNR=50							
BRVK	**Borovoye**	**16.39**	**358**			**Pn**	**18 38 23.7**	**+0.6**
BRVK				IAmb	IAmb		18 38 25.5	
	comp=Z,6.9nm,0.5s							
AKTO	**Aktyubinsk**	**16.75**	**329**	⇓P		**Pn**	**18 38 26.5**	**-0.9**
	comp=Z,7.8nm,0.8s							
AKTO				⇑S		**S**	**18 41 33.9**	**+5.1**
	comp=Z,1.6nm,0.8s							
AKTO	**Aktyubinsk**	**16.75**	**329**	P		**Pn**	**18 38 26.7**	**-0.7**
	comp=Z,11nm,0.6s,baz=136,slow=8.9,SNR=29							
ZAA0	**Zalesovo Array**	**19.65**	**24**			**P**	**18 38 57.8**	**+0.8**
ZAA0				IAmb	IAmb		18 38 59.8	
	comp=Z,4.7nm,0.5s							
ZALV	**Zalesovo Beam**	**19.65**	**24**			**P**	**18 38 57.7**	**+0.6**
ZALV	**Zalesovo Beam**	**19.65**	**24**	P		**P**	**18 38 57.9**	**+0.8**
	comp=Z,4.5nm,0.4s,baz=214,slow=11,SNR=21							
ARTI	**Arti**	**21.56**	**340**	P		**P**	**18 39 16.8**	**-0.2**
ARTI				IAmb	IAmb		18 39 24.8	
	comp=Z,4.4nm,0.5s							
ARTI	**Arti**	**21.56**	**340**	P		**P**	**18 39 17.6**	**+0.7**
	comp=Z,1.6nm,0.4s,baz=131,slow=11,SNR=3.6							
	comp=Z,1.6nm,0.4s							
PZH	**PanZhiHua**	**27.74**	**103**	P		**P**	**18 40 13.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**30.32**	**119**	P		**P**	**18 40 37.8**	**+1.7**
	comp=Z,1.3nm,0.3s,baz=303,slow=6.4,SNR=5.7							
	comp=Z,1.3nm,0.3s							
XAN	**Xi'an**	**30.66**	**84**	P		P	18 40 32.1	-6.8
XAN				pmax	pmax			
	comp=Z,11nm,0.6s							
HHC	**Hu-ho-hao-te**	**31.47**	**70**	*e*P		**P**	**18 40 47.1**	**+1.1**
HHC				pmax	pmax			
	comp=Z,15nm,0.6s							
FIA1	**FINESS Array S**	**37.47**	**326**	P		**P**	**18 41 36.6**	**-0.3**
FINES	**FINESS Array B**	**37.47**	**326**	P		**P**	**18 41 37.2**	**+0.2**
FINES	**FINESS Array B**	**37.47**	**326**	P		**P**	**18 41 37.7**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=122,slow=9.4,SNR=14							
	comp=Z,1.1nm,0.5s							
VYHS	**Vyhne**	**39.66**	**304**	*e*P		**P**	**18 41 57.4**	**+2.1**
ARCES	**ARCESS Array B**	**41.07**	**337**	P		**P**	**18 42 07.6**	**+1.1**
ARCES				IAmb	IAmb		18 42 11.0	
	comp=Z,7.1nm,1.4s							
ARCES	**ARCESS Array B**	**41.07**	**337**	P		**P**	**18 42 07.7**	**+1.1**
	comp=Z,1.3nm,0.5s,baz=113,slow=8.0,SNR=30							
	comp=Z,1.3nm,0.5s							
HFS	**Hagfors**	**43.08**	**322**	P		**P**	**18 42 23.3**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=102,slow=11,SNR=22							
	comp=Z,1.8nm,0.5s							
NC303	**NORSAR Array S**	**44.33**	**323**	P		**P**	**18 42 33.0**	**+0.2**
NB2	**NORSAR Subarra**	**44.39**	**323**	P		**P**	**18 42 33.4**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.39**	**323**	P		**P**	**18 42 33.5**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=96,slow=7.7,SNR=6.5							
	comp=Z,0.6nm,0.5s							
WRA	**Warramunga Arr**	**81.88**	**122**	P		**P**	**18 46 39.1**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=318,slow=5.2,SNR=1.7							
	comp=Z,0.3nm,0.4s							
ASAR	**Alice Springs**	**84.15**	**125**	P		**P**	**18 46 51.0**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=315,slow=5.2,SNR=6.8							
	comp=Z,0.3nm,0.6s							

IDC ***14*** *18:42:20.5±0.7, 0.˚70S×127.˚79E, h0km, mb3.9/14, mbtmp3.9/15, ML4.0/1, Error ellipse: s-maj=31.9km s-min=13.6km az=75.0*

DJA ***14*** *18:42:24.5±0.2, 1.˚5S×12.˚8E±.˚, h10km, M4.3/16, mB5.1/2, mb4.7/5, MLv4.2/16, Mw(mB)4.5/2*

ISC 14 18:42:22.8±0.6**, 0.˚78S**±0.˚06×**127.˚67E**±0.˚07**, h10**km**, n37,** σ1§**39**/37**, mb4.1**/15**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.57**	**349**	P	**Pn**	**18 42 51.6**	**+0.9**
TNTI	**Ternate**	**1.57**	**349**	P	**Pn**	**18 42 51.6**	**+0.9**
SANI	**Sanana**	**2.10**	**233**	P	**Pn**	**18 42 58.4**	**+0.3**
SANI	**Sanana**	**2.10**	**233**	P	**Pn**	**18 42 58.2**	**+0.1**
NLAI	**Namlea**	**2.51**	**193**	P	**Pn**	**18 43 03.9**	**+0.2**
MSAI	**Masohi**	**2.85**	**154**	P	**Pn**	**18 43 10.0**	**+1.6**
AAI	**Ambon**	**2.94**	**170**	P	**Pn**	**18 43 11.9**	**+2.3**
SWI	**Sorong**	**3.59**	**91**	P	**Pn**	**18 43 21.2**	**+2.5**
KMSI	**Cibinong**	**3.92**	**290**	P	**Pn**	**18 43 24.4**	**+1.3**
LUWI	**Luwuk**	**4.90**	**267**	P	**Pn**	**18 43 37.9**	**+1.3**
FAKI	**Fak Fak**	**5.05**	**115**	P	**Pn**	**18 43 38.8**	**+0.1**
FAKI	**Fak Fak**	**5.05**	**115**	P	**Pn**	**18 43 40.2**	**+1.5**
	0.3nm72nm,1.6s						
APSI	**Ampana**	**6.02**	**269**	P	**Pn**	**18 43 53.4**	**+1.4**
TOLI2	**Tolitoli**	**7.13**	**285**	P	**Pn**	**18 44 09.7**	**+2.4**
PCI	**Palu**	**7.83**	**269**	P	**Pn**	**18 44 19.1**	**+2.2**
	1µm52nm,0.6s						
TTSI	**Tana Toraja**	**8.16**	**254**	P	**Pn**	**18 44 21.6**	**+0.2**
KAPI	**Kappang**	**8.95**	**242**	Pn	**Pn**	**18 44 34.8**	**+2.5**
	1.5nm,0.3s,baz=51,slow=4.5,SNR=7.0						
KAPI				Sn	**Sn**	**18 46 13.2**	**-0.1**
	0.7nm,0.3s,baz=228,slow=16,SNR=2.0						
	15nm,0.8s						
KAPI	**Kappang**	**8.95**	**242**	P	**Pn**	**18 44 34.6**	**+2.3**
KDU	**Kakadu**	**12.76**	**158**	P	Pn	18 45 21.4	-3.0
WRA	**Warramunga Arr**	**20.14**	**161**	P	**P**	**18 46 55.4**	**-1.9**
	1.0nm,0.4s,baz=336,slow=12,SNR=8.0						
	1.0nm,0.4s						
QIS	**Mount Isa**	**22.86**	**150**	P	**P**	**18 47 25.8**	**-0.8**
ASAR	**Alice Springs**	**23.55**	**166**	P	**P**	**18 47 32.5**	**-1.0**
	3.3nm,0.7s,baz=347,slow=12,SNR=36						
ASAR				PcP	**PcP**	**18 51 19.0**	**-0.1**
	0.5nm,0.7s,baz=356,slow=2.4,SNR=6.1						
	3.3nm,0.7s						
AS01	**Alice Springs**	**23.55**	**165**	P	**P**	**18 47 32.9**	**-0.7**
STKA	**Stephens Creek**	**33.62**	**158**	P	**P**	**18 49 04.1**	**+0.5**
	5.6nm,0.8s,baz=333,slow=10.0,SNR=5.0						
	5.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**34.10**	**306**	P	**P**	**18 49 08.4**	**+0.5**
	0.4nm,0.7s,baz=126,slow=8.1,SNR=4.3						
	0.4nm,0.7s						
KSRS	**Korea Array**	**38.04**	**0**	P	**P**	**18 49 40.9**	**-0.5**
	0.8nm,0.8s,baz=182,slow=11,SNR=3.7						
	0.8nm,0.8s						
MJAR	**Matsushiro Arr**	**38.40**	**14**	P	P	18 49 42.1	-2.5
	0.7nm,0.6s,baz=197,slow=8.5,SNR=2.1						
	0.7nm,0.6s						
XAN	**Xi'an**	**38.85**	**335**	P	**P**	**18 49 50.1**	**+1.7**
XAN				pmax	pmax		
	comp=Z,14nm,0.7s						
GTA	**Gaotai**	**47.44**	**331**	*e*P	**P**	**18 50 59.1**	**+1.2**
GTA				pP	sP	18 51 04.6	+2.1
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**51.84**	**342**	P	**P**	**18 51 29.7**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=157,slow=7.8,SNR=5.4						
	comp=Z,0.8nm,0.8s						
PETK	**Petropavlovsk-**	**59.26**	**21**	P	**P**	**18 52 24.1**	**-0.3**
	comp=Z,1.8nm,1.0s,baz=222,slow=7.1,SNR=4.2						
	comp=Z,1.8nm,1.0s						
MKAR	**Makanchi Array**	**61.78**	**326**	P	**P**	**18 52 41.2**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=114,slow=8.3,SNR=13						
	comp=Z,1.4nm,0.7s						
ZALV	**Zalesovo Beam**	**65.01**	**334**	P	**P**	**18 53 01.5**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=126,slow=7.3,SNR=4.0						
	comp=Z,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**66.03**	**328**	P	**P**	**18 53 08.8**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=128,slow=6.0,SNR=15						
	comp=Z,1.7nm,0.8s						
BVAR	**Borovoye Array**	**71.59**	**328**	P	**P**	**18 53 42.6**	**-1.7**
	comp=Z,1.0nm,0.6s,baz=119,slow=5.2,SNR=5.4						
	comp=Z,1.0nm,0.6s						
VNDA	**Vanda**	**78.87**	**173**	P	**P**	**18 54 25.4**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=318,slow=7.7,SNR=7.2						
	comp=Z,0.8nm,0.7s						
QSPA	**South Pole Qui**	**89.16**	**180**	P	**P**	**18 55 18.2**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=321,slow=1.1,SNR=7.7						
	comp=Z,1.0nm,0.8s						

AUST 14 18:48:48.7±1.5**, 18.˚S**±9.˚×**12.˚1E**±.˚**, h10**km±15**km, mb3.8**/3**, ML2.9**/6**, Error ellipse: s-maj=23.4km s-min=6.2km az=140.0, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.82**	**198**	P	Pn	18 49 35.2	+1.3
PSA00	**Pilbara Seismi**	**3.18**	**194**	P	Pn	18 49 38.6	-0.3
PSA00				S	Sn	18 50 17.7	+0.8
FITZ	**Fitzroy Crossi**	**4.72**	**86**	P	Pn	18 50 00.4	+0.4
FITZ	**Fitzroy Crossi**	**4.72**	**86**	S	Sn	18 50 56.1	+1.3
GIRL	**Giralia**	**7.33**	**234**	P	Pn	18 50 32.4	-3.5
GIRL				S	Sn	18 51 46.3	-13
KNRA	**Kununurra**	**8.21**	**71**	P	Pn	18 50 47.2	-0.7
	comp=Z,23nm,2.0s,comp=Z,0.1nm						
KNRA				S	Sn	18 52 18.4	-2.4
MEEK	**Meekatharra**	**8.35**	**193**	P	Pn	18 50 48.9	-1.0
	comp=Z,9.0nm,1.7s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.35**	**193**	S	Sn	18 52 18.9	-5.4
CVQOZ	**Cooralya Stati**	**8.55**	**225**	S	Sn	18 52 18.7	-11
WRKA	**Warakurna**	**9.62**	**134**	P	Pn	18 51 07.5	+0.1
	comp=Z,4.0nm,2.3s,comp=Z,0.0nm						
WRKA				S	Sn	18 52 56.6	+0.9

AUST 14 18:54:18.2±1.4**, 18.˚S**±6.˚×**12.˚1E**±.˚**, h21**km±15**km, mb4.0**/8**, ML2.9**/6**, Error ellipse: s-maj=17.3km s-min=5.1km az=141.6, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.90**	**196**	P	Pn	18 55 04.2	+1.0
MBWA				S	Sn	18 55 39.4	+1.9
PSA00	**Pilbara Seismi**	**3.28**	**192**	P	Pn	18 55 09.2	+0.9
PSA00				S	Sn	18 55 47.9	+1.2
FITZ	**Fitzroy Crossi**	**4.83**	**88**	P	Pn	18 55 30.9	+1.3
FITZ	**Fitzroy Crossi**	**4.83**	**88**	S	Sn	18 56 25.6	+0.7
GIRL	**Giralia**	**7.31**	**233**	P	Pn	18 56 01.8	-2.0
GIRL				S	Sn	18 57 17.9	-8.3
KNRA	**Kununurra**	**8.28**	**72**	P	Pn	18 56 18.0	+0.9
	comp=Z,18nm,1.6s,comp=Z,0.1nm						
KNRA				S	Sn	18 57 47.8	-2.3
MEEK	**Meekatharra**	**8.44**	**192**	P	Pn	18 56 19.3	-0.1
	comp=Z,12nm,2.5s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.44**	**192**	S	Sn	18 57 49.3	-4.8
CVQOZ	**Cooralya Stati**	**8.56**	**224**	P	Pn	18 56 19.8	-1.2
CVQOZ				S	Sn	18 57 47.6	-9.3
WRKA	**Warakurna**	**9.79**	**134**	P	Pn	18 56 40.4	+2.6
	comp=Z,4.8nm,2.4s,comp=Z,0.0nm						
WRKA				S	Sn	18 58 27.0	-0.2
MORW	**Morawa**	**11.44**	**200**	P	Pn	18 56 57.7	-2.7
	comp=Z,13nm,2.2s						
MORW	**Morawa**	**11.44**	**200**	S	Sn	18 58 57.3	-10
MTN	**Manton Dam**	**11.55**	**63**	P	Pn	18 57 01.8	-0.2
	comp=Z,37nm,2.2s						
MTN	**Manton Dam**	**11.55**	**63**	S	Sn	18 59 05.2	-5.3
BLDU	**Ballidu**	**12.70**	**195**	P	Pn	18 57 17.1	-0.5
	comp=Z,16nm,1.8s						
BLDU	**Ballidu**	**12.70**	**195**	S	Sn	18 59 27.2	-11
FORT	**Forrest**	**14.12**	**153**	P	Pn	18 57 36.0	-1.1
	comp=Z,5.9nm,1.5s						
FORT				S	Sn	19 00 08.1	-5.0
MUN	**Mundaring**	**14.13**	**195**	P	Pn	18 57 34.8	-2.4
	comp=Z,16nm,2.4s						
MUN	**Mundaring**	**14.13**	**195**	S	Sn	19 00 01.1	-12

IDC ***14*** *18:55:22.3±1.9, 13.˚06N×50.˚42E, h0km, mb3.6/9, mbtmp3.6/9, MS2.7/2, Error ellipse: s-maj=52.9km s-min=26.6km az=47.0*

ISC 14 18:55:24.7±2.0**, 13.˚1N**±0.˚3×**50.˚5E**±0.˚3**, h15**km**, n11,** σ1§**14**/9**, mb3.8**/9**, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**7.59**	**259**	LR	LR	18 59 31.0	
	comp=Z,11nm,18.8s,baz=80,slow=33						
GNI	**Garni**	**27.44**	**350**	LR	LR	19 13 52.3	
	comp=Z,83nm,19.7s,baz=186,slow=40						
AKASG	**Malin Array Be**	**41.33**	**340**	P	**P**	**19 03 09.9**	**+0.2**
	0.1nm,0.3s,baz=144,slow=7.5,SNR=5.0						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**42.94**	**32**	P	**P**	**19 03 23.4**	**+0.3**
	0.2nm,0.5s,baz=221,slow=7.6,SNR=4.5						
	0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**46.86**	**77**	P	**P**	**19 03 52.9**	**-1.7**
	0.3nm,0.5s,baz=264,slow=6.7,SNR=2.2						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**48.95**	**26**	P	**P**	**19 04 10.4**	**+0.1**
	0.3nm,0.3s,baz=248,slow=7.6,SNR=2.5						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**51.43**	**345**	P	**P**	**19 04 28.4**	**-0.6**
	0.9nm,0.8s,baz=125,slow=7.3,SNR=3.9						
	0.9nm,0.8s						
HFS	**Hagfors**	**54.18**	**338**	P	**P**	**19 04 48.5**	**-0.8**
	0.7nm,0.6s,baz=133,slow=12,SNR=5.3						
	0.7nm,0.6s						
SONM	**Songino Array**	**57.74**	**41**	P	**P**	**19 05 16.6**	**+1.3**
	0.2nm,0.5s,baz=244,slow=9.5,SNR=4.0						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**88.76**	**111**	P	**P**	**19 08 19.9**	**+1.4**
	0.8nm,0.8s,baz=302,slow=3.7,SNR=4.7						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**89.29**	**114**	P	**P**	**19 08 20.9**	**-0.1**
	0.6nm,0.8s,baz=291,slow=3.9,SNR=5.3						
	0.6nm,0.8s						

BJI ***14*** *19:12:17.2, 12.˚84N×49.˚93E, h10km, mB5.2/27, mb4.7/64, Ms4.5/48, Ms7 4.4/48*

IDC ***14*** *19:12:21.7±0.5, 13.˚30N×50.˚45E, h0km, mb4.3/29, mbtmp4.3/30, ML2.8/2, MS4.3/58, Error ellipse: s-maj=12.6km s-min=11.5km az=47.0*

GCMT ***14*** *19:12:22.4±0.2, 13.˚32N±0.˚01×50.˚24E±0.˚02, h12km, MW5.1/114, Moment Tensor Solution. s49,c64; s114,c219; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=4.78±.12; Mθθ4.92±.09; Mϕϕ-0.14±.12; Mrθ1.47±.32; Mθϕ-1.26±.09; Mϕr2.63±.43; Best double couple: M₀5.78600×10¹⁶ NP1:ϕ₁126.00000°, δ46.00000°, λ-52.00000°. NP2:ϕ₂258.00000°, δ56.00000°, λ-122.00000°. Principal axes: T 5.2960, Plg5.0000°, Azm10.0000°; N 0.9800, Plg26.0000°, Azm278.0000°; P -6.2770, Plg63.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

OMAN ***14*** *19:12:22.4±0.1, 13.˚36N×50.˚56E, h9km, mb4.3/34, ml4.4/1, ms4.5/17 Error ellipse: s-maj=0.9km s-min=0.4km az=303.0*

NEIC ***14*** *19:12:24.4±2.5, 13.˚35N±0.˚10×50.˚45E±0.˚09, h10km±1km, mb5.1/66, Error ellipse: s-maj=17.8km s-min=13.5km az=139.0*

ISC 14 19:12:25.6±0.5**, 13.˚27N**±0.˚04×**50.˚46E**±0.˚04**, h24**km±2**km, n341,** σ1§**90**/375**, mb4.9**/125**, MS4.3**/91**, 21C-25D, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**4.90**	**34**	P	**Pn**	**19 13 34.6**	**-3.3**
ABTO	SNR=12			P	**Pn**	**19 13 34.6**	**-3.3**
ABTO	SNR=12			P	**Pn**	**19 13 34.6**	**-3.3**
ABTO	SNR=12			S	**Sn**	**19 14 31.3**	**-2.6**
ABTO				S	**Sn**	**19 14 31.3**	**-2.6**
RBK	**Rabkut**	**5.55**	**40**	P	**Pn**	**19 13 44.2**	**-2.6**
	SNR=28						
RBK				S	**Sn**	**19 14 46.8**	**-3.1**
WHFO	**Wadi Hawf**	**5.62**	**34**	P	**Pn**	**19 13 44.4**	**-3.4**
	SNR=10						
WHFO				S	**Sn**	**19 14 49.1**	**-2.6**
DMTO	**DMTO**	**6.19**	**44**	P	**Pn**	**19 13 53.1**	**-2.4**
	SNR=5.6						
DMTO				S	**Sn**	**19 15 03.1**	**-2.5**
DMTO				S	**Sn**	**19 15 03.2**	**-2.5**
DOK	**Doka**	**6.38**	**33**	P	**Pn**	**19 13 55.1**	**-3.1**
	SNR=10						
DOK				S	**Sn**	**19 15 06.7**	**-3.8**
ATD	**Arta Tunnel**	**7.63**	**258**		**Pn**	**19 14 15.3**	**-0.2**

ATD	**Arta Tunnel**	**7.63**	**258**	Pn		**Pn**	**19 14 14.8**	**-0.7**
	1.0nm,0.3s,baz=19,slow=2.8,SNR=33							
ATD				Sn		**Sn**	**19 15 43.1**	**+1.7**
	baz=114,slow=20							
ATD				Lg	Lg		19 16 17.7	
	baz=163,slow=22,SNR=1.2							
	1.9nm,0.3s							
ATD	**Arta Tunnel**	**7.63**	**258**	P		**Pn**	**19 14 15.4**	**-0.2**
	SNR=5.9							
ATD				S		**Sn**	**19 15 44.4**	**+3.0**
DQM	**DQM**	**9.48**	**45**	P		**Pn**	**19 14 37.3**	**-3.5**
DQM				S		**Sn**	**19 16 24.9**	**-1.8**
MZR	**Muzera**	**10.10**	**16**	P		**Pn**	**19 14 45.5**	**-3.8**
MZR				S		**Sn**	**19 16 40.8**	**-1.1**
UMZA	**Um Al Zommool**	**10.40**	**25**	P		**Pn**	**19 14 50.8**	**-2.6**
UMZA				P		**Pn**	**19 14 50.8**	**-2.6**
MHTO	**MHTO**	**10.51**	**42**	P		**Pn**	**19 14 51.8**	**-3.1**
MHTO				P		**Pn**	**19 14 51.8**	**-3.1**
MHTO				S		**Sn**	**19 16 50.0**	**-1.8**
MHTO				S		**Sn**	**19 16 50.0**	**-1.8**
GHWR	**Ruwais**	**10.88**	**12**	P		**Pn**	**19 14 57.3**	**-2.7**
GHWR				S		**Sn**	**19 16 59.8**	**-1.3**
RAYN	**Ar Rayn**	**11.23**	**336**	P		**Pn**	**19 15 03.3**	**-1.5**
RAYN				S		**Sn**	**19 17 10.6**	**+0.9**
BSY	**Bisya**	**11.39**	**33**	P		**Pn**	**19 15 04.4**	**-2.6**
BSY				S		**Sn**	**19 17 12.0**	**-1.7**
SMRA	**Abu-Samra**	**11.42**	**2**	P		**Pn**	**19 15 05.6**	**-1.7**
TRNA	**Turayna**	**11.43**	**3**	P		**Pn**	**19 15 05.4**	**-2.0**
ARQ	**Araqi**	**11.55**	**29**	P		**Pn**	**19 15 06.5**	**-2.7**
	SNR=8.0							
ARQ				S		**Sn**	**19 17 14.4**	**-3.0**
JMDO	**Jabal Madar**	**11.61**	**38**	P		**Pn**	**19 15 07.1**	**-2.9**
JMDO				P		**Pn**	**19 15 07.1**	**-2.9**
JRN	**Qarnain Island**	**11.83**	**11**	P		**Pn**	**19 15 10.7**	**-2.2**
JRN				S		**Sn**	**19 17 23.5**	**-0.8**
ALNE	**Al Ain**	**11.84**	**24**	P		**Pn**	**19 15 11.1**	**-2.0**
AJN	**Ajban**	**12.02**	**20**	P		**Pn**	**19 15 13.3**	**-2.3**
SMDO	**Samad**	**12.11**	**35**	P		**Pn**	**19 15 14.2**	**-2.9**
SMDO				P		**Pn**	**19 15 14.0**	**-2.9**
HOQ	**Hoqain**	**12.14**	**31**	P		**Pn**	**19 15 13.6**	**-3.7**
HOQ				P		**Pn**	**19 15 13.6**	**-3.7**
ASUD	**Al Ashush, Dub**	**12.20**	**21**	P		**Pn**	**19 15 15.3**	**-2.7**
SOHO	**SOHO**	**12.24**	**27**	P		**Pn**	**19 15 15.2**	**-3.4**
SOHO				P		**Pn**	**19 15 15.2**	**-3.4**
SOHO				S		**Sn**	**19 17 33.4**	**-0.9**
SOHO				S		**Sn**	**19 17 33.4**	**-0.9**
JLN	**Jalan Bani Buh**	**12.27**	**43**	P		**Pn**	**19 15 16.6**	**-2.5**
FAQ	**Al Faqa, Dubai**	**12.40**	**22**	P		**Pn**	**19 15 18.2**	**-2.6**
BIDO	**Bidbid**	**12.52**	**34**	P		**Pn**	**19 15 19.5**	**-2.9**
	SNR=5.4							
BIDO				P		**Pn**	**19 15 19.5**	**-2.9**
	SNR=5.4							
BIDO				S		**Sn**	**19 17 39.3**	**-2.0**
BIDO				S		**Sn**	**19 17 39.3**	**-2.0**
ASHO	**Ashiyiah**	**12.53**	**24**	P		**Pn**	**19 15 19.9**	**-2.6**
ASHO				P		**Pn**	**19 15 19.9**	**-2.6**
WSAR	**Wadi Sarin**	**12.59**	**37**	Pn		**Pn**	**19 15 20.1**	**-3.2**
	baz=255,slow=24,SNR=5.3							
WSAR				Sn		**Sn**	**19 17 42.5**	**-0.3**
	baz=232,slow=19,SNR=1.8							
WSAR				LR	LR		19 20 04.8	
	comp=Z,17nm,19.6s,baz=236,slow=37							
SAKB	**Bahrain**	**12.64**	**0**	P		**Pn**	**19 15 22.4**	**-1.7**
NAZ	**Nazwa, Dubai**	**12.65**	**22**	P		**Pn**	**19 15 21.8**	**-2.4**
NAZ				P		**Pn**	**19 15 21.8**	**-2.4**
HATD	**Hatta, Dubai**	**12.68**	**24**	P		**Pn**	**19 15 22.2**	**-2.4**
HATD				P		**Pn**	**19 15 22.2**	**-2.4**
UOSS	**Minazif**	**12.82**	**24**			**Pn**	**19 15 24.6**	**-1.9**
UOSS	**Minazif**	**12.82**	**24**	P		**Pn**	**19 15 23.6**	**-2.8**
UOSS				S		**Sn**	**19 17 47.4**	**-1.1**
MDH	**Madha**	**13.17**	**24**	P		**Pn**	**19 15 28.8**	**-2.5**
MASF	**Masafi**	**13.18**	**23**	P		**Pn**	**19 15 28.6**	**-2.9**
MASF				P		**Pn**	**19 15 28.6**	**-2.9**
SHME	**Shamm**	**13.79**	**22**	P		**Pn**	**19 15 37.2**	**-2.5**
JASK	**Jask - Hormozg**	**14.34**	**28**	P		**Pn**	**19 15 44.4**	**-2.9**
NGCH	**Negor - Chabah**	**15.68**	**38**	P		**Pn**	**19 16 02.3**	**-2.8**
KBD	**Kabd**	**16.04**	**351**	P		**Pn**	**19 16 08.2**	**-1.5**
LODK	**Lodwar**	**17.84**	**238**	P		**Pn**	**19 16 32.6**	**+0.1**
	SNR=12					

comp=Z,233nm,21.1s,baz=114,slow=36
CHM Chimkent 33.37 26 *e*P **P 19 19 02.8 +0.7**
IUG Iuzhnay 33.42 27⇑*i*P **P 19 19 03.2 +0.5**
comp=Z,14nm,1.3s
BRLS Boroldaу 34.05 26 *e*P **P 19 19 06.3 -1.8**
ARSB Arslanbob 34.17 31 P **P 19 19 09.8 +0.5**
ARSB IAmb IAmb 19 19 34.3
comp=Z,39nm,1.5s
KKAR Karatay Array 34.40 26 P **P 19 19 12.1 +1.1**
KKAR *e*PP **PP 19 21 47.2 +0.7**
KSH Kashi 34.49 36 P **P 19 19 11.0 -1.0**
KSH S **S 19 24 35.8 -3.6**
KSH pmax pmax
comp=Z,6.0nm,1.3s
KSH LR LR
comp=Z,300nm,24.0s
KSH LR LR
comp=Z,390nm,24.7s
KSH LR LR
comp=Z,640nm,24.0s
DZA Taraz 34.59 27 *e*P **P 19 19 13.3 +0.5**
ALN Alexandroupoli 34.83 327 P **P 19 19 12.9 -1.9**
VOI Vohitsoka 35.14 186 P **P 19 19 20.1 +2.3**
AAK Ala-Archa 35.90 31 P **P 19 19 25.2 +1.1**
AAK Ala-Archa 35.90 31 LR LR 19 36 18.3
comp=Z,684nm,20.1s,baz=230,slow=40
LSZ Lusaka 35.92 219 P **P 19 19 25.2 +0.6**
LSZ P **P 19 19 25.2 +0.6**
BOOM Boomskoye usch 36.53 32 P **P 19 19 30.1 +0.5**
BOOM IAmb IAmb 19 19 42.6
comp=Z,26nm,1.2s
EVN Everest 36.87 61 P **P 19 19 31.9 -1.4**
TARG Taragay, Kyrgy 37.01 35 IAmb IAmb 19 19 41.7
comp=Z,27nm,1.1s
CFR Carcaliu 37.04 334⇑P **P 19 19 34.2 +0.6**
TNSS Tian-Shan 37.44 33 *e*P **P 19 19 37.7 +0.1**
BTLS Baital 37.49 28⇑*i*P **P 19 19 38.1 +0.6**
AAA Alma-Ata 37.54 32 *e*P **P 19 19 38.6 +0.5**
comp=Z,24nm,1.4s
AKTO Aktyubinsk 37.57 8 LR LR 19 38 24.5
comp=Z,917nm,19.5s,baz=153,slow=42
MILM Milestii Mici 38.15 336⇓*i*P **P 19 19 42.0 -1.0**
comp=Z,150nm,2.3s
MILM Milestii Mici 38.15 336 *e*PP PP 19 21 12.0 +1.6
VRI Vrincioaia 38.19 333⇓P **P 19 19 43.9 +0.5**
PLOR Plostina 38.22 333⇓P **P 19 19 44.5 +0.8**
MLR Muntele Rosu 38.26 332 IAmb IAmb 19 19 53.1
comp=Z,47nm,1.7s
MLR Muntele Rosu 38.26 332 LR LR 19 37 36.3
comp=Z,694nm,18.1s,baz=150,slow=40
MLR Muntele Rosu 38.26 332⇓P **P 19 19 44.1 0.0**
UZB Uzynbulak 38.62 34 *e*P **P 19 19 47.8 +0.5**
VOIR 38.63 331⇑P **P 19 19 47.9 +0.7**
TESR Tescani 38.73 334⇑P **P 19 19 48.6 +0.7**
SHLS Shalkode 38.87 34 *e*P **P 19 19 51.7 +2.3**
BOVS Bovan 39.05 326⇑P **P 19 19 50.7 0.0**
LOT Lotru 39.26 330⇑P **P 19 19 52.1 -0.3**
SORM Soroca 39.32 337⇓P **P 19 19 52.8 -0.1**
HERR Herculane 39.53 328⇑P **P 19 19 55.0 +0.4**
TDK Taldyqorghan 39.56 31 *e*P **P 19 19 55.6 +0.7**
comp=Z,14nm,1.0s
PRAR RASCA 39.57 334⇑P **P 19 19 55.5 +0.5**
GZR Gura Zlata 39.70 329⇓P **P 19 19 56.5 +0.4**
MDVR Moldovita 39.82 328⇓P **P 19 19 56.9 -0.3**
VAE Valguarnera 40.14 313 LR LR 19 36 30.8
comp=Z,236nm,20.2s,baz=125,slow=36
BRDH Bariadhala 40.16 71 LR LR 19 35 43.6
comp=Z,779nm,21.1s,baz=288,slow=35
ARCR ARCALIA 40.18 332⇓P **P 19 19 59.6 -0.4**
MATE Matera 40.19 319⇑P **P 19 19 59.2 -0.9**
BURAR Bucovina Array 40.20 333 P **P 19 20 00.9 +0.6**
BURAR Bucovina Array 40.20 333⇑P **P 19 20 01.3 +1.0**
SURR Surduc 40.28 329⇓P **P 19 20 00.3 -0.6**
BZS Buzias 40.45 329⇓P **P 19 20 02.0 -0.2**
MARR Marisel-Cluj 40.46 331⇓P **P 19 20 02.6 +0.1**
DRGR 40.73 331⇑P **P 19 20 04.0 -0.7**
ACER Acerenza 40.75 319 P **P 19 20 04.3 -0.6**
SHL Shillong 40.77 66 P **P 19 20 04.0 -1.5**
SHL IAmb IAmb 19 20 11.0
comp=Z,47nm,1.5s
SHL Shillong 40.77 66 P **P 19 20 02.5 -3.0**
SIRR Siria 40.88 329⇓P **P 19 20 06.2 +0.4**
BRZS Berezniki 40.88 22 *e*P **P 19 20 06.4 +0.6**
LSA Lhasa 41.00 60 P **P 19 20 06.8 -0.8**
AKASG Malin Array Be 41.14 340 P **P 19 20 07.5 -0.4**
comp=Z,3.9nm,0.8s,baz=151,slow=7.3,SNR=21
AKASG PP **PP 19 21 41.1 -1.9**
comp=Z,0.5nm,0.6s,baz=149,slow=10,SNR=8.3
AKASG PcP **PcP 19 22 06.4 -0.6**
comp=Z,1.4nm,0.7s,baz=162,slow=3.0,SNR=5.2
comp=Z,3.9nm,0.8s
AKBB Malin Array Si 41.14 340 IAmb IAmb 19 20 14.7
comp=Z,63nm,1.4s
KIEV Kiev 41.14 339 P **P 19 20 07.7 -0.1**
KIEV IAmb IAmb 19 20 14.7
comp=Z,56nm,1.4s
KIEV Kiev 41.14 339⇓P **P 19 20 08.5 +0.6**
MORH Mrgy, Hungar 42.39 327⇑P **P 19 20 17.7 -0.4**
KOLS Kolonicke sedl 42.49 333 *e*P **P 19 20 19.7 +0.7**
MAKZ Makanchi 42.62 32 P **P 19 20 19.9 -0.2**
MAKZ IAmb IAmb 19 20 31.8
comp=Z,49nm,1.7s
BRVK Borovoye 42.72 18 P **P 19 20 20.4 -0.3**
BRVK Borovoye 42.72 18 P **P 19 20 19.4 -1.4**
BVAR Borovoye Array 42.72 18 P **P 19 20 20.4 -0.4**
comp=Z,1.3nm,0.5s,baz=210,slow=8.6,SNR=9.6
BVAR PcP **PcP 19 22 12.4 +0.3**
comp=Z,5.3nm,0.8s,baz=294,slow=1.5,SNR=9.4
BVAR LR LR 19 40 48.9
comp=Z,612nm,20.1s,baz=212,slow=40
comp=Z,1.3nm,0.5s
MKAR Makanchi Array 42.77 32 P **P 19 20 20.7 -0.7**
MKAR Makanchi Array 42.77 32 P **P 19 20 21.9 +0.5**
comp=Z,1.7nm,0.5s,baz=223,slow=8.5,SNR=33
MKAR PcP **PcP 19 22 11.4 -1.2**
comp=Z,0.4nm,0.7s,baz=224,slow=3.3,SNR=1.3
MKAR LR LR 19 40 53.5
comp=Z,218nm,21.4s,baz=234,slow=40
comp=Z,1.7nm,0.5s
PSZ Piszkesteto 42.89 330⇓P **P 19 20 21.7 -0.6**
KEST Kesra 43.16 309 P **P 19 20 24.6 -0.1**
comp=Z,12nm,1.2s,baz=93,slow=7.1,SNR=3.8
KEST PcP **PcP 19 22 13.1 -1.1**
comp=Z,5.1nm,0.9s,baz=102,slow=3.3,SNR=3.9
KEST LR LR 19 38 17.3
comp=Z,280nm,21.3s,baz=84,slow=36
comp=Z,12nm,1.2s
STHS Stebnicka Huta 43.31 332 *e*P **P 19 20 25.2 -0.4**
ARTI Arti 43.46 6 LR LR 19 41 58.2
comp=Z,590nm,18.5s,baz=180,slow=41
SRO Srobarova 43.60 329 *e*P **P 19 20 31.0 +3.0**
TAM Tamanrasset 43.62 289 P **P 19 20 28.8 +0.1**
TAM IAmb IAmb 19 20 29.8
comp=Z,18nm,0.5s
KURBB Kurchatov Arra 43.70 26 P **P 19 20 28.8 +0.1**
comp=Z,4.5nm,1.0s,baz=225,slow=8.3,SNR=22
KURBB PcP **PcP 19 22 15.9 +0.5**
comp=Z,0.6nm,0.2s,baz=228,slow=5.0,SNR=4.4
KURBB LR LR 19 41 09.6
comp=Z,347nm,21.0s,baz=196,slow=40
comp=Z,4.5nm,1.0s
VYHS Vyhne 43.80 330 *e*P **P 19 20 29.5 -0.1**
VYHS *e* 19 22 21.5
KURK Kurchatov 43.80 26 P **P 19 20 29.7 +0.2**
KURK IAmb IAmb 19 20 41.1
comp=Z,33nm,1.6s
KURK Kurchatov 43.80 26 P **P 19 20 28.0 -1.5**
GOLS Golise 43.90 325 *e*P **P 19 20 30.8 +0.3**
WMQ Urumqi 44.07 39 *e*P **P 19 20 34.1 +2.2**
WMQ LR LR
comp=Z,380nm,23.9s
VNDS Vrh nad Dolski 44.48 325 *e*P **P 19 20 35.5 +0.4**
MODS Modra-Piesok 44.50 329 *e*P **P 19 20 36.0 +0.8**
OJC Ojcow 44.54 332 *e*P **P 19 20 36.8 +1.4**
OJC Ojcow 44.54 332 P **P 19 20 34.8 -0.7**
ZSN Zaisan 44.55 33 *e*P **P 19 20 36.3 +0.7**
RONA Rosalia, Austr 44.57 327 *e*P **P 19 20 36.0 +0.2**
comp=Z,1.2nm,0.6s
JAVC Velka Javorina 44.62 329 *e*P **P 19 20 36.0 -0.2**
SOKA Soboth 44.63 325 *e*P **P 19 20 36.4 +0.1**
comp=Z,14nm,1.4s,SNR=5.9
ARSA Arzberg 44.71 326 *e*P **P 19 20 36.7 -0.2**
comp=Z,0.3nm,0.2s
MOZS Mozjanca 44.73 325 *e*P **P 19 20 37.6 +0.5**
MNK Minsk 44.80 341 *i* P **P 19 20 36.4 -1.0**
comp=E,8.0nm,0.7s
MNK *i* P **P 19 20 36.4 -1.0**
comp=N,9.0nm,0.8s
MNK *i* P **P 19 20 36.4 -1.0**
comp=Z,12nm,0.9s,baz=148
MNK *i* PP **PP 19 22 21.1 -1.1**
MNK *i* PPP PPP 19 22 58.4
MNK *i* S **S 19 27 14.5 +1.3**
MNK *i* SS **SS 19 30 36.9 +2.4**
MNK *i* SSS SSS 19 31 28.1
MNK *i* LQ LQ 19 36 06.1
MNK *i* LR LR 19 40 06.8
MNK *i* LRM MLR 19 41 15.2
comp=E,297nm,18.8s
MNK *i* LRM MLR 19 41 15.2
comp=N,285nm,20.3s
MNK *i* LRM MLR 19 42 14.0
comp=Z,417nm,20.7s
OBKA Obir 44.80 325 *e*P **P 19 20 38.2 +0.4**
comp=Z,21nm,2.2s
CONA Conrad Observa 44.94 327 *e*P **P 19 20 38.8 0.0**
comp=Z,22nm,1.3s,SNR=6.0
OKC Ostrava-Krasne 45.04 331 *e*S **S 19 27 22.6 +5.7**
OKC AMS AMS 19 41 30.0
comp=Z,300nm,23.4s
LBTB Lobatse 45.12 213 LR LR 19 39 13.7
comp=Z,859nm,20.1s,baz=50,slow=36
KIRV Kirov 45.24 359 LR LR 19 43 53.2
comp=Z,548nm,18.9s,baz=187,slow=42
STEB Steborice 45.28 331 *e*P **P 19 20 41.0 -0.4**
MORC Moravsky Berou 45.29 330 IAmb IAmb 19 20 48.7
comp=Z,30nm,1.5s
MORC Moravsky Berou 45.29 330 *e*P **P 19 20 41.0 -0.5**
MORC Moravsky Berou 45.29 330⇑P **P 19 20 41.4 -0.1**
MYKA Terra Mystica 45.38 325 *e*P **P 19 20 42.5 +0.2**
comp=Z,30nm,1.7s,SNR=6.3
KRUC Moravsky 45.39 329 *e*P **P 19 20 42.0 -0.2**
R9F13 Warsaw-Wawer 45.41 335 *e*P **P 19 20 45.1 +2.8**
R9F13 *e*S **S 19 27 28.8 +6.7**
VRAC Vranov 45.45 329 *e*P **P 19 20 44.6 +1.9**
VRAC Vranov 45.45 329 LR LR 19 42 38.0
comp=Z,123nm,20.2s,baz=124,slow=40
VRAC Vranov 45.45 329⇓P **P 19 20 41.7 -1.0**
NACGM Naroch 45.48 341 *e*P **P 19 20 43.1 +0.3**
comp=Z,11nm,0.9s,baz=147
TSUM Tsumeb 45.72 226 LR LR 19 40 21.5
comp=Z,898nm,18.8s,baz=44,slow=37
MOA Molln 45.75 326 *e*P **P 19 20 44.3 -0.9**
comp=Z,14nm,1.6s
GOMU GeErMu 45.80 52 P **P 19 20 49.8 +3.7**
GOMU pP pwP 19 20 57.0 +0.8
GOMU S **S 19 27 35.3 +6.3**
GOMU pmax pmax
comp=Z,9.0nm,1.1s
GOMU LR LR
comp=Z,160nm,19.6s
GOMU LR LR
comp=Z,170nm,18.8s
GOMU LR LR
comp=Z,250nm,18.6s
KBA Koelnbreinsper 45.80 325 *e*P **P 19 20 45.6 -0.2**
comp=Z,10nm,1.1s
KRLC Kraliky 45.86 330 *e*P **P 19 20 46.1 +0.1**
KRLC AMS AMS 19 41 50.0
comp=Z,300nm,21.6s
TREC Trest 45.99 329 AMS AMS 19 40 20.0
comp=Z,300nm,24.1s
BIOA Bad Ischl, Aus 46.00 326 *e*P **P 19 20 46.1 -1.0**
comp=Z,14nm,1.2s
ABTA Abfaltersbach 46.09 324 *e*P **P 19 20 48.6 +0.7**
comp=Z,13nm,1.5s
CTI Castel Tesino 46.21 323 IAmb IAmb 19 20 56.2
comp=Z,16nm,1.2s
DPC Dobruska-Polom 46.26 330 *e*P **P 19 20 48.7 -0.5**
DPC *e*S **S 19 27 37.0 +2.4**
DPC AMS AMS 19 43 20.0
comp=Z,300nm,22.1s
CKRC Cesky Krumlov 46.31 327 *e*P **P 19 20 49.1 -0.5**
CKRC *e*S **S 19 27 34.8 -0.5**
CKRC AMS AMS 19 42 10.0
comp=Z,200nm,13.8s
LESA Schwarzleotal 46.38 325 *e*P **P 19 20 50.9 +0.7**
comp=Z,12nm,1.3s
OSTC Ostas 46.45 330 *e*P **P 19 20 50.4 -0.2**
OSTC AMS AMS 19 42 10.0
comp=Z,200nm,20.0s
UPC Upice 46.51 330 AMS AMS 19 42 00.0
comp=Z,300nm,21.5s
CHVC Chvalec 46.55 330 *e*P **P 19 20 51.1 -0.3**
CHVC AMS AMS 19 42 20.0
comp=Z,200nm,19.1s
KSP Ksiaz 46.60 331 *e*P **P 19 20 51.2 -0.5**
GEC2 GERESS Array S 46.65 327 IAmb IAmb 19 20 58.9
comp=Z,23nm,1.6s
GERES GERESS Array B 46.65 327 **P 19 20 50.5 -1.7**
GERES GERESS Array B 46.65 327 P **P 19 20 50.9 -1.4**
comp=Z,1.7nm,0.9s,baz=145,slow=4.9,SNR=13
GERES PcP **PcP 19 22 25.0 -0.9**
comp=Z,1.5nm,0.8s,baz=152,slow=3.9,SNR=6.4
GERES LR LR 19 42 49.4
comp=Z,168nm,19.8s,baz=126,slow=39
comp=Z,1.7nm,0.9s
TNCH TengChong 46.66 68 P **P 19 20 55.4 +2.5**
TNCH pP pP 19 20 57.6 -1.7
TNCH sP sP 19 21 00.1 -1.7
TNCH PP **PP 19 22 43.0 +0.2**
TNCH S **S 19 27 41.4 0.0**
TNCH pmax pmax
comp=Z,11nm,2.3s
TNCH pmax pmax
comp=Z,120nm,3.1s
TNCH LR LR
comp=Z,220nm,14.5s
TNCH LR LR
comp=Z,240nm,17.4s
TNCH LR LR
comp=Z,400nm,23.8s
ZVC Zvikov 46.75 328 *e*P **P 19 20 49.7 -3.3**
ZVC AMS AMS 19 46 50.0
comp=Z,200nm,19.9s
CM31 Chiang Mai Arr 46.82 77 IAmb IAmb 19 21 10.3
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 46.82 77 P **P 19 20 52.8 -1.2**
CMAR Chiang Mai Arr 46.82 77 P **P 19 20 53.5 -0.5**
comp=Z,3.7nm,1.0s,baz=273,slow=8.9,SNR=16
CMAR PcP **PcP 19 22 26.9 -0.1**
comp=Z,2.2nm,0.9s,baz=263,slow=4.4,SNR=4.9
CMAR LR LR 19 41 24.7
comp=Z,88nm,18.0s,baz=275,slow=37
comp=Z,3.7nm,1.0s
WTTA Wattenberg 46.87 324 *e*P **P 19 20 53.7 -0.5**
comp=Z,25nm,1.4s,SNR=7.3
KHC Kasperske Hory 46.88 327 *e*P **P 19 20 57.0 +2.9**
KHC *ex* x 19 21 30.0
PABE Paberze 46.90 340 P **P 19 20 53.4 -0.6**
PRU Pruhonice 46.91 329 *e*S **S 19 27 46.6 +2.8**
PRU AMS AMS 19 45 10.0
comp=Z,200nm,17.5s
WATA Walderalm 46.95 324 *e*P **P 19 20 53.8 -0.9**
comp=Z,16nm,1.1s
PRA Prague 47.02 329 AMS AMS 19 45 20.0
comp=Z,200nm,18.8s
SQTA Sankt Quirin 47.09 324 *e*P **P 19 20 55.0 -0.9**
comp=Z,21nm,2.0s,SNR=5.2
MOTA Moosalm 47.22 324 *e*P **P 19 20 55.5 -1.4**
comp=Z,11nm,1.2s
PVCC Panska Ves 47.23 329 *e*P **P 19 20 56.6 -0.1**
PVCC AMS AMS 19 46 20.0
comp=Z,200nm,17.6s
FETA Feichten 47.26 323 *e*P **P 19 20 56.6 -0.6**
comp=Z,3.0nm,1.1s
TORD Torodi Ar. Bea 47.41 276 P **P 19 20 57.8 -0.9**
TORD Torodi Ar. Bea 47.41 276 P **P 19 20 57.8 -0.9**
comp=Z,5.1nm,0.6s,baz=82,slow=7.8,SNR=7.1
comp=Z,5.1nm,0.6s
RETA Reutte 47.49 324 *e*P **P 19 20 58.1 -0.8**
comp=Z,17nm,1.4s,SNR=5.0
DAVOX Davos/Dischmat 47.63 323 LR LR 19 42 43.9
comp=Z,122nm,21.4s,baz=84,slow=38
BRG Berggiesshubel 47.76 329 *e*P **P 19 21 00.4 -0.4**
BRG Amp 19 21 03.1
comp=Z,7.0nm,1.1s
BRG Berggiesshubel 47.76 329 P P 19 21 06.3 +5.5
BRG Amp 19 21 07.6
comp=Z,12nm,1.3s
BRG Berggiesshubel 47.76 329 S **S 19 28 02.0 +6.1**
DAVA Damuels 47.90 323 *e*P **P 19 21 01.3 -0.8**
comp=Z,5.7nm,1.0s
BOSA Boshof 48.25 210 P **P 19 21 04.1 -0.9**
comp=Z,3.7nm,0.8s,baz=95,slow=7.4,SNR=5.1
BOSA LR LR 19 40 09.1
comp=Z,587nm,21.7s,baz=36,slow=34
comp=Z,3.7nm,0.8s
CLL Collm 48.50 329 IAmb IAmb 19 21 13.3
comp=Z,29nm,1.6s
CLL Collm 48.50 329 *i* P **P 19 21 05.3 -1.2**
comp=Z,6.0nm,1.1s
CLL *i* x x 19 21 11.4
comp=Z,35nm,1.7s
CLL *i* x x 19 21 16.2
CLL *i* x x 19 21 31.0
CLL *e*PP **PP 19 23 02.0 +2.7**
CLL *e*S **S 19 28 06.0 -0.3**
CLL *e*SS SS 19 31 49.0 +13
CLL *e*SSS SSS 19 33 11.0
ZAA0 Zalesovo Array 48.77 26 IAmb IAmb 19 21 13.9
comp=Z,14nm,1.1s
ZALV Zalesovo Beam 48.77 26 **P 19 21 07.8 -0.8**
ZALV Zalesovo Beam 48.77 26 P **P 19 21 08.1 -0.4**
comp=Z,3.4nm,0.6s,baz=243,slow=6.5,SNR=13
ZALV LR LR 19 45 18.0
comp=Z,194nm,18.8s,baz=272,slow=40
comp=Z,3.4nm,0.6s
PSI Prapat 49.01 98 LR LR 19 38 00.8
comp=Z,214nm,21.9s,baz=250,slow=31
BFO Black Forest 49.33 324 P **P 19 21 09.5 -3.5**
BFO IAmb IAmb 19 21 19.7
comp=Z,43nm,1.6s
PZH PanZhiHua 49.69 66 P **P 19 21 15.3 -0.9**
PZH S **S 19 28 26.4 +2.4**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH LR LR
comp=Z,160nm,15.3s
PZH LR LR
comp=Z,60nm,8.2s
PZH LR LR
comp=Z,210nm,20.1s
SSB Saint Sauveur 50.23 319 IAmb IAmb 19 21 26.5
comp=Z,35nm,1.6s
KMI Kunming 50.49 68 P P 19 21 27.8 +5.4
KMI S **S 19 28 37.3 +1.9**
KMI pmax pmax
comp=Z,17nm,1.2s
KMI LR LR
comp=Z,220nm,23.3s
KMI LR LR
comp=Z,300nm,24.5s
KMI LR LR
comp=Z,440nm,19.2s
GTA Gaotai 50.54 50 P **P 19 21 22.1 -0.4**
GTA pP pP 19 21 28.3 -0.6
GTA S **S 19 28 40.0 +4.4**
GTA pmax pmax
comp=Z,6.0nm,1.7s
GTA LR LR
comp=Z,200nm,19.6s
GTA LR LR
comp=Z,220nm,22.9s
GTA LR LR
comp=Z,280nm,20.4s
FINES FINESS Array B 51.24 345 P **P 19 21 26.2 -0.9**
comp=Z,9.9nm,0.7s,baz=132,slow=10,SNR=49
FINES LR LR 19 46 24.0
comp=Z,390nm,18.0s,baz=145,slow=40
comp=Z,9.9nm,0.7s
WLF Walferdange 51.24 324 IAmb IAmb 19 21 34.4
comp=Z,41nm,1.4s
WLF Walferdange 51.24 324 *d*P **P 19 21 27.1 -0.3**
comp=Z,10.0nm,1.4s
BTNL Ternell 51.71 325 *d*P **P 19 21 31.1 +0.2**
MEM Membach 51.78 325 *d*P **P 19 21 32.2 +0.8**
comp=Z,5.1nm,1.2s
BCLA Clavier 52.08 325 *dx* P 19 21 39.7 +6.1
comp=Z,8.4nm,1.5s
BGES Gesves 52.19 325 *d*P **P 19 21 34.6 +0.2**
comp=Z,7.8nm,1.5s
BMRD Maredsous 52.33 325 *d*P **P 19 21 35.1 -0.3**
comp=Z,9.2nm,1.4s
DOU Dourbes 52.33 324 *d*P **P 19 21 37.2 +1.7**
comp=Z,8.8nm,1.4s
LZH Lanzhou 52.83 55 *e*P **P 19 21 39.1 -0.6**
LZH sP pP 19 21 45.1 -1.1
LZH S **S 19 29 08.9 +1.6**
LZH SS **SS 19 32 46.8 +0.5**
LZH pmax pmax
comp=Z,11nm,1.0s
LZH pmax pmax
comp=Z,120nm,4.0s
LZH LR LR
comp=Z,230nm,18.7s
LZH LR LR
comp=Z,330nm,17.2s
LZH LR LR
comp=Z,470nm,20.4s
MDT Midelt 53.67 301 LR LR 19 46 12.1
comp=Z,187nm,19.1s,baz=66,slow=38
HFS Hagfors 54.00 338 P **P 19 21 47.0 -0.7**
comp=Z,9.3nm,0.7s,baz=134,slow=8.5,SNR=25
HFS LR LR 19 48 23.6
comp=Z,305nm,19.4s,baz=124,slow=40
comp=Z,9.3nm,0.7s
ESBB Sonseca Array 54.39 309 IAmb IAmb 19 21 59.6
comp=Z,38nm,1.7s
ESDC Sonseca Array 54.39 309 **P 19 21 50.5 -0.5**
ESDC IAmb IAmb 19 21 59.6
comp=Z,42nm,2.0s
ESDC Sonseca Array 54.39 309 P **P 19 21 50.9 -0.1**
comp=Z,2.4nm,0.7s,baz=93,slow=6.3,SNR=18
ESDC LR LR 19 47 44.2
comp=Z,83nm,18.0s,baz=89,slow=39
comp=Z,2.4nm,0.7s
PAB San Pablo 54.66 309 P **P 19 21 52.0 -0.8**
PAB IAmb IAmb 19 22 06.4
comp=Z,32nm,1.6s
DBIC Dimbokro 54.78 269 P **P 19 21 54.0 -0.1**
comp=Z,5.1nm,0.8s,baz=103,slow=7.8,SNR=6.7
DBIC LR LR 19 44 16.5
comp=Z,156nm,18.9s,baz=104,slow=35
comp=Z,5.1nm,0.8s
NC602 NORSAR Array S 55.19 338 *e*P **P 19 21 55.3 -1.0**
NC602 IAmb IAmb 19 21 56.1
comp=Z,14nm,1.2s
KONO Kongsberg 55.22 336 *e*P **P 19 21 55.7 -0.8**
KONO IAmb IAmb 19 22 02.4
comp=Z,26nm,1.5s
NAO01 NORSAR Array S 55.50 338 IAmb IAmb 19 22 05.7
comp=Z,26nm,1.2s
NB2 NORSAR Subarra 55.51 338 P **P 19 21 57.0 -1.6**
comp=Z,26nm,1.4s,baz=124,slow=7.4
NB2 NORSAR Subarra 55.51 338 P **P 19 21 57.0 -1.6**
baz=124,slow=7.4
NOA NORSAR Array B 55.51 338 P **P 19 21 57.5 -1.2**
comp=Z,3.5nm,0.8s,baz=127,slow=7.4,SNR=9.6
NOA LR LR 19 49 09.9
comp=Z,316nm,20.1s,baz=145,slow=40
comp=Z,3.5nm,0.8s
MDSI Maura Dua 56.17 105 P P 19 22 11.9 +7.8
XAN Xi'an 56.63 58 P **P 19 22 06.9 -0.3**
XAN S **S 19 29 58.8 +0.5**
XAN SS **SS 19 33 50.8 +4.7**
XAN pmax pmax
comp=Z,24nm,1.2s
XAN pmax pmax
comp=Z,190nm,3.5s
XAN LR LR
comp=Z,140nm,17.6s
XAN LR LR
comp=Z,230nm,17.0s
XAN LR LR
comp=Z,240nm,16.9s
DOMB Dombas 56.95 338 *e*P **P 19 22 08.3 -0.5**
DOMB IAmb IAmb 19 22 08.6
comp=Z,8.9nm,1.0s
QIZ Qiongzhong 57.11 76 P **P 19 22 11.3 +0.6**
QIZ S **S 19 30 05.3 +0.5**
QIZ pmax pmax
comp=Z,54nm,1.5s
QIZ pmax pmax
comp=Z,430nm,3.0s
QIZ LR LR
comp=Z,170nm,13.0s
QIZ LR LR

comp=Z,170nm,13.4s
QIZ LR LR
comp=Z,370nm,19.9s
SONM Songino Array 57.59 41 P **P** **19 22 14.5 +0.7**
SONM Songino Array 57.59 41 P **P** **19 22 13.6 -0.1**
comp=Z,1.3nm,0.6s,baz=252,slow=6.5,SNR=27
SONM LR LR 19 50 22.9
comp=Z,278nm,21.1s,baz=259,slow=40
comp=Z,1.3nm,0.6s
MOL Molde 57.83 338 *e*P **P** **19 22 14.2 -0.8**
MOL IAmb IAmb 19 22 14.8
comp=Z,4.7nm,0.4s
ULN Ulaanbaatar 58.02 42 P **P** **19 22 17.1 +0.2**
MOR8 Moi Rana 58.11 344 *e*P **P** **19 22 17.4 +0.5**
MOR8 IAmb IAmb 19 22 22.6
comp=Z,15nm,1.3s
VADS Vadso 58.33 352 *e*P **P** **19 22 18.6 +0.2**
VADS IAmb IAmb 19 22 23.1
comp=Z,24nm,1.3s
KEV Kevo 58.35 351 P **P** **19 22 18.0 -0.6**
KTK1 Kautokeino 58.35 349 *e*P **P** **19 22 18.2 -0.4**
KTK1 IAmb IAmb 19 22 23.8
comp=Z,19nm,1.2s
ARA0 ARCESS Array S 58.40 350 *e*P **P** **19 22 18.3 -0.6**
ARA0 IAmb IAmb 19 22 24.9
comp=Z,72nm,2.0s
ARCES ARCESS Array B 58.40 350 P **P** **19 22 17.5 -1.4**
ARCES IAmb IAmb 19 22 24.7
comp=Z,16nm,1.2s
ARCES ARCESS Array B 58.40 350 P **P** **19 22 18.2 -0.7**
comp=Z,5.1nm,0.8s,baz=131,slow=5.0,SNR=20
ARCES LR LR 19 50 04.8
comp=Z,586nm,20.4s,baz=138,slow=39
comp=Z,5.1nm,0.8s
LEIR Leirfjorden 58.43 343 *e*P **P** **19 22 18.2 -1.0**
LEIR IAmb IAmb 19 22 18.3
comp=Z,4.9nm,0.8s
BTO Baotou 58.44 50 *e*P **P** **19 22 20.0 +0.2**
BTO pP **pwP** **19 22 30.3 +0.3**
BTO sP **sP** **19 22 34.0 +5.1**
BTO S **S** **19 30 19.0 -2.9**
BTO sS **sS** **19 30 36.8 +4.0**
BTO pmax pmax
comp=Z,22nm,0.8s
BTO pmax pmax
comp=Z,300nm,5.0s
BTO LR LR
comp=Z,880nm,23.7s
BTO LR LR
comp=Z,290nm,16.9s
BTO LR LR
comp=Z,650nm,22.8s
KONS Konsvik 58.71 343 *e*P **P** **19 22 21.5 +0.4**
KONS IAmb IAmb 19 22 22.7
comp=Z,5.0nm,0.9s
VAGH Vaagaholmen 58.84 344 *e*P **P** **19 22 21.4 -0.5**
VAGH IAmb IAmb 19 22 22.0
comp=Z,7.5nm,0.8s
EKA Eskdalemuir Ar 58.86 327 P **P** **19 22 20.8 -1.5**
comp=Z,5.6nm,1.0s,baz=114,slow=7.2,SNR=6.8
comp=Z,5.6nm,1.0s
STEI Steigen 59.22 345 *e*P **P** **19 22 23.3 -1.3**
STEI IAmb IAmb 19 22 24.7
comp=Z,5.3nm,0.7s
JETT Jettan, Norway 59.36 348 *e*P **P** **19 22 25.0 -0.6**
JETT IAmb IAmb 19 22 25.9
comp=Z,17nm,0.7s
HHC Hu-ho-hao-te 59.64 50 *e*P **P** **19 22 29.8 +1.7**
HHC sP sP 19 22 35.8 -1.4
HHC S **S** **19 30 41.9 +4.5**
HHC pmax pmax
comp=Z,36nm,0.7s
HHC pmax pmax
comp=Z,250nm,5.9s
HHC LR LR
comp=Z,140nm,16.8s
HHC LR LR
comp=Z,180nm,15.1s
HHC LR LR
comp=Z,320nm,21.0s
HAMF Hammerfest 59.68 350 *e*P **P** **19 22 27.5 -0.2**
HAMF IAmb IAmb 19 22 33.0
comp=Z,76nm,1.8s
TRO Tromso 59.72 348 *e*P **P** **19 22 27.3 -0.7**
TRO IAmb IAmb 19 22 27.6
comp=Z,16nm,0.8s
TIY Taiyuan 59.89 54 *e*P **P** **19 22 31.0 +1.1**
TIY S **S** **19 30 40.8 +0.2**
TIY SS **SS** **19 34 43.8 +6.7**
TIY pmax pmax
comp=Z,150nm,3.9s
TIY LR LR
comp=Z,280nm,20.6s
TIY LR LR
comp=Z,300nm,19.9s
TIY LR LR
comp=Z,420nm,19.9s
LEM Lembang 60.17 106 LR LR 19 46 08.6
comp=Z,180nm,18.7s,baz=242,slow=34
WHN Wuhan 60.99 62 ⇓P P 19 22 43.5 +6.1
WHN LR LR
comp=Z,870nm,19.4s
HNS HongShan 61.65 55 ⇑P P 19 22 47.5 +5.7
HNS S **S** **19 31 06.6 +3.6**
HNS SS **SS** **19 35 10.8 +6.2**
HNS pmax pmax
comp=Z,25nm,1.3s
HNS LR LR
comp=Z,160nm,12.7s
HNS LR LR
comp=Z,180nm,14.7s
HNS LR LR
comp=Z,230nm,19.2s
SBUM Sibu 61.97 94 P **P** **19 22 44.4 +0.1**
SBUM IAmb IAmb 19 22 51.8
comp=Z,11nm,1.1s
BJI Beijing 63.03 52 P **P** **19 22 52.1 +1.2**
BJI pP **pP** **19 22 57.1 -0.4**
BJI S **S** **19 31 21.0 +0.7**
BJI pmax pmax
comp=Z,3.0nm,0.7s
BJI LR LR
comp=Z,110nm,17.9s
BJI LR LR
comp=Z,90nm,18.4s
BJI LR LR
comp=Z,150nm,20.9s
XLT XiLinHaoTe 63.38 47 *e*P **P** **19 22 55.9 +2.6**
XLT pP pwP 19 23 04.9 +1.3
XLT S **S** **19 31 29.8 +5.0**
XLT pmax pmax
comp=Z,20nm,1.4s
XLT LR LR
comp=Z,18nm,19.2s
XLT LR LR
comp=Z,89nm,20.1s
XLT LR LR
comp=Z,190nm,22.9s
TIA Tai'an 63.51 56 P **P** **19 22 54.3 0.0**
TIA pmax pmax
comp=Z,10.0nm,0.9s
BBTS Babate 64.81 280 LR LR 19 52 42.3
comp=Z,166nm,18.4s,baz=334,slow=37
NJ2 Nanjing 64.86 61 *e*P **P** **19 23 02.6 -0.5**
NJ2 sP **pP** **19 23 08.8 -0.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
SPA0 Spitsbergen Ar 67.08 353 *e*P **P** **19 23 17.9 +1.2**
SPA0 IAmb IAmb 19 23 20.0
comp=Z,14nm,1.2s
SPITS Spitsbergen Ar 67.08 353 P **P** **19 23 16.8 +0.1**
comp=Z,8.0nm,0.9s,baz=172,slow=13,SNR=7.7
SPITS LR LR 19 56 05.4
comp=Z,301nm,21.3s,baz=139,slow=39
comp=Z,8.0nm,0.9s
DL2 Dalian 67.18 53 P **P** **19 23 17.8 -0.1**
DL2 S **S** **19 32 13.4 +2.1**
DL2 pmax pmax
comp=Z,16nm,0.8s
DL2 pmax pmax
comp=Z,140nm,8.6s
DL2 LR LR
comp=Z,170nm,18.2s
DL2 LR LR
comp=Z,130nm,21.4s
DL2 LR LR
comp=Z,290nm,22.3s
JMIC Jan Mayen 67.67 342 LR LR 19 56 34.6
comp=Z,103nm,19.2s,baz=110,slow=39
TGY Tagaytay City 68.23 80 LR LR 19 50 59.3
comp=Z,78nm,21.8s,baz=114,slow=34
CN2 Changchun 70.13 48 *e*P **P** **19 23 38.0 +1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
BORG Borgarnes 70.33 334 LR LR 19 55 38.6
comp=Z,118nm,21.0s,baz=99,slow=37
BNX BinXian 71.53 46 ⇑P **P** **19 23 44.4 -0.4**
BNX pP **sP** **19 23 53.9 +0.1**
BNX PcP **PcP** **19 24 04.0 -0.1**
BNX S **S** **19 33 05.4 +3.0**
BNX pmax pmax
comp=Z,6.0nm,0.8s
BNX LR LR
comp=Z,140nm,22.8s
BNX LR LR
comp=Z,190nm,25.7s
BNX LR LR
comp=Z,250nm,21.6s
HEH HeiHe 71.58 41 *e*P **P** **19 23 44.4 -0.6**
HEH pP **pP** **19 23 48.6 -3.0**
HEH S **S** **19 33 04.6 +1.8**
HEH sS **sS** **19 33 15.3 +1.3**
HEH pmax pmax
comp=Z,12nm,1.0s
HEH pmax pmax
comp=Z,180nm,6.2s
HEH LR LR
comp=Z,240nm,13.1s
HEH LR LR
comp=Z,88nm,11.2s
HEH LR LR
comp=Z,260nm,19.0s
KSAR Wonju Array Be 72.14 55 P **P** **19 23 47.9 -0.7**
KSRS Korea Array 72.17 55 P **P** **19 23 47.5 -1.2**
comp=Z,1.9nm,0.8s,baz=268,slow=7.3,SNR=14
comp=Z,1.9nm,0.8s
DAG Danmarks Havn 72.43 347 *i*P **P** **19 23 48.0 -1.6**
MDJ Mudanjiang 73.10 47 P **P** **19 23 58.6 +4.4**
MDJ pmax pmax
comp=Z,10.0nm,1.4s
YAK Yakutsk 73.32 29 P **P** **19 23 53.8 -1.3**
YAK IAmb IAmb 19 24 00.3
comp=Z,14nm,0.7s
JOW Kunigami 73.38 66 LR LR 19 56 54.3
comp=Z,135nm,20.4s,baz=288,slow=36
TIXI Tiksi 73.84 19 LR LR 20 01 23.2
comp=Z,233nm,19.3s,baz=294,slow=40
USRK Ussuriysk Ar. 74.83 47 P **P** **19 24 04.2 -0.1**
comp=Z,2.2nm,0.8s,baz=280,slow=3.5,SNR=4.9
comp=Z,2.2nm,0.8s
JNU Nakatsue 74.93 59 LR LR 19 59 10.1
comp=Z,136nm,19.4s,baz=280,slow=38
MBWA Marble Bar 76.12 116 P **P** **19 24 11.2 -0.9**
NWAO Narrogin (SRO) 78.49 128 LR LR 19 54 06.3
comp=Z,208nm,18.4s,baz=288,slow=32
NWAO Narrogin (SRO) 78.49 128 P **P** **19 24 24.5 -0.6**
MJAR Matsushiro Arr 80.45 55 P **P** **19 24 34.0 -1.8**
MJAR Matsushiro Arr 80.45 55 P **P** **19 24 35.7 -0.2**
comp=Z,2.4nm,0.9s,baz=279,slow=3.3,SNR=9.3
comp=Z,2.4nm,0.9s
MAW Mawson 81.16 175 P **P** **19 24 39.2 +0.4**
comp=Z,4.2nm,0.8s,baz=341,slow=5.5,SNR=8.4
MAW LR LR 19 55 24.2
comp=Z,425nm,19.7s,baz=344,slow=32
comp=Z,4.2nm,0.8s
SYO Syowa Base 82.43 184⇓ *e*P **P** **19 24 46.8 +1.4**
SYO Syowa Base 82.43 184⇓ *e*pP pP 19 24 49.2 -3.0
SEY Seymchan 83.64 27 LR LR 20 07 46.0
comp=Z,265nm,18.2s,baz=292,slow=40
MA2 Magadan 83.82 30 LR LR 20 05 17.8
comp=Z,105nm,19.7s,baz=297,slow=38
WRA Warramunga Arr 88.83 111 P **P** **19 25 14.3 -4.1**
WRA Warramunga Arr 88.83 111 P **P** **19 25 17.8 -0.6**
comp=Z,11nm,0.8s,baz=299,slow=3.8,SNR=41
ASAR Alice Springs 89.38 114 P **P** **19 25 18.5 -2.4**
ASAR Alice Springs 89.38 114 P **P** **19 25 20.6 -0.3**
comp=Z,7.3nm,0.9s,baz=290,slow=4.7,SNR=41
ASAR LR LR 20 00 01.4
comp=Z,131nm,20.4s,baz=308,slow=32
comp=Z,7.3nm,0.9s
AS31 Alice Springs 89.38 114 P **P** **19 25 17.2 -3.8**
PETK Petropavlovsk- 89.54 35 LR LR 20 09 23.3
comp=Z,144nm,21.8s,baz=293,slow=38
RES Resolute Bay 89.60 351 LR LR 20 09 36.7
comp=Z,119nm,19.4s,baz=16,slow=38
FRB Frobisher Bay 90.33 337 LR LR 20 09 32.5
comp=Z,130nm,18.7s,baz=61,slow=38
SNAA Sanae 91.85 195 P **P** **19 25 31.4 +0.1**
comp=Z,1.7nm,0.9s,baz=90,slow=5.6,SNR=4.9
SNAA LR LR 20 01 32.5
comp=Z,197nm,20.1s,baz=57,slow=32
comp=Z,1.7nm,0.9s
SCHQ Scheffervile 94.15 329 LR LR 20 12 24.4
comp=Z,43nm,19.1s,baz=48,slow=38
STKA Stephens Creek 97.83 121 LR LR 20 03 44.1
comp=Z,152nm,20.0s,baz=234,slow=32
INK Inuvik 98.59 1 LR LR 20 17 28.1
comp=Z,174nm,21.0s,baz=37,slow=40
DZM Mont Dzumac 118.74 108 *e*LR LR 20 07 28.0
comp=Z,178nm,21.8s
NVAR Mina Array Bea 127.51 349 PKP **PKiKP** **19 31 30.1 +0.1**
comp=Z,2.7nm,0.8s,baz=61,slow=1.3,SNR=16
TXAR Lajitas Array 130.83 330 PKP **PKPdf** **19 31 35.3 -0.6**
comp=Z,1.0nm,1.0s,baz=81,slow=3.9,SNR=7.3
TBI Tubuai 158.62 121 *e*LR LR 20 25 49.7
comp=Z,557nm,26.8s
TBI *e*LR LR 20 25 49.9
comp=Z,783nm,28.0s
PPT2 Papeete2 160.22 105 *e*LR LR 20 26 32.8
comp=Z,166nm,24.0s
PPT2 *e*LR LR 20 26 33.2
comp=Z,131nm,24.0s
TAOE Nuku Hiva Isla 168.70 68 *e*LR LR 20 30 28.7
comp=Z,204nm,26.4s

*IDC **14** 19:15:46.7±1.7, 13˚.30N×50˚.41E, h0km, mb3.8/9, mbtmp3.7/10, ML2.8/1, Error ellipse: s-maj=37.5km s-min=27.4km az=10.0*
ISC 14 19:15:48.5±1.1, 13˚.4N±0˚.2×50˚.5E±0˚.1, h10km, n10, σ0s92/10, mb3.7/9, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**7.66**	**257**		**Pn**	**19 17 40.9**	**+0.6**
	0.2nm,0.3s,baz=71,slow=22,SNR=3.2						
	0.3nm,0.3s						
AKASG	**Malin Array Be**	**41.07**	**339**	P	**P**	**19 23 31.1**	**-1.2**
	0.4nm,0.6s,baz=159,slow=7.5,SNR=1.7						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**42.65**	**18**	P	**P**	**19 23 45.1**	**0.0**
	0.7nm,0.7s,baz=210,slow=14,SNR=2.1						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**42.70**	**32**	P	**P**	**19 23 46.8**	**+1.0**
	0.6nm,0.5s,baz=222,slow=7.6,SNR=9.2						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**43.62**	**26**	P	**P**	**19 23 53.7**	**+0.7**
	1.0nm,0.2s,baz=224,slow=7.7,SNR=1.8						
	1.0nm,0.2s						
CMAR	**Chiang Mai Arr**	**46.80**	**77**	P	**P**	**19 24 18.2**	**-0.5**
	0.4nm,0.6s,baz=256,slow=9.1,SNR=1.8						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**51.16**	**345**	P	**P**	**19 24 51.6**	**+0.1**
	1.5nm,0.6s,baz=143,slow=10,SNR=8.8						
	1.5nm,0.6s						
HFS	**Hagfors**	**53.93**	**338**	P	**P**	**19 25 11.3**	**-0.8**
	1.5nm,0.6s,baz=147,slow=8.8,SNR=6.9						
	1.5nm,0.6s						
SONM	**Songino Array**	**57.53**	**41**	P	**P**	**19 25 39.6**	**+1.2**
	0.5nm,0.7s,baz=257,slow=5.8,SNR=2.5						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**89.41**	**114**	P	**P**	**19 28 45.5**	**-0.7**
	0.3nm,0.8s,baz=335,slow=8.7,SNR=2.0						
	0.3nm,0.8s						

*BJI **14** 19:15:50.2, 12˚.47N×50˚.13E, h10km, mB5.0/12, mb4.7/48, Ms4.6/11, Ms7 4.4/12*
*IDC **14** 19:15:56.0±0.6, 13˚.30N×50˚.45E, h0km, mb4.2/24, mbtmp4.2/25, ML2.7/2, Error ellipse: s-maj=17.5km s-min=13.8km az=17.0*
*NEIC **14** 19:15:57.7±2.1, 13˚.1N±0˚.1×50˚.50E±0˚.09, h10km±1km, mb4.8/44, Error ellipse: s-maj=20.7km s-min=14.7km az=174.0*
*GCMT **14** 19:15:58.7±0.4, 13˚.11N±0˚.03×50˚.29E±0˚.04, h33km, MW5.2/85, Moment Tensor Solution. s19,c21; s85,c106; Duration: 1ŝ0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.97±.07; $M_{\theta\theta}$0.68±.04; $M_{\phi\phi}$0.28±.04; $M_{r\theta}$-0.15±.03; $M_{\theta\phi}$-0.02±.02; $M_{r\phi}$0.13±.04; Best double couple: M_o0.85100×10^{17} NP1:ϕs269.00000°, δ40.00000°, λ-98.00000°. NP2:ϕs100.00000°, δ51.00000°, λ-83.00000°. Principal axes: T 0.7010, Plg6.0000°, Azm185.0000°; N 0.2990, Plg5.0000°, Azm276.0000°; P -1.0000, Plg82.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 14 19:15:58.4±2.8, 13˚.17N±0˚.08×50˚.47E±0˚.06, h18km±16km, n134, σ1s06/145, mb4.7/81, MS4.3/8, 4D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**7.62**	**258**		**Pn**	**19 17 49.7**	**+0.9**
ATD	**Arta Tunnel**	**7.62**	**258**	Pn	**Pn**	**19 17 49.2**	**+0.5**
	0.9nm,0.3s,baz=350,slow=6.4,SNR=17						
	1.9nm,0.3s						
WSAR	**Wadi Sarin**	**12.66**	**37**	Pn	**Pn**	**19 18 56.5**	**-1.2**
	baz=289,slow=24,SNR=2.6						
WSAR				Sn	Sn	19 21 05.7	-13
	baz=140,slow=24,SNR=1.6						
LODK	**Lodwar**	**17.80**	**238**		**Pn**	**19 20 05.5**	**-0.1**
KIBK	**Kibwezi**	**19.73**	**220**	P	**P**	**19 20 25.7**	**-1.9**
EIL	**Elat**	**21.83**	**321**	P	**P**	**19 20 47.2**	**-2.7**
	2.7nm,0.9s,baz=84,slow=4.5,SNR=7.1						
	2.7nm,0.9s						
GHAJ	**Ghor Haditha**	**22.67**	**325**	P	**P**	**19 21 01.9**	**+2.9**
GHAJ				IAmb	IAmb	19 21 12.9	
	comp=Z,42nm,1.1s						
MMAI	**Mount Meron Ar**	**24.07**	**328**	P	**P**	**19 21 10.6**	**-2.5**
	comp=Z,2.5nm,0.8s,baz=139,slow=11,SNR=1.9						
MMAI				S	S	19 25 12.3	-18
	comp=Z,0.6nm,0.4s,baz=102,slow=32,SNR=1.4						
	comp=Z,2.5nm,0.8s						
GEVA	**Gevas**	**25.89**	**347**		**P**	**19 21 30.7**	**+1.1**
GEVA				IAmb	IAmb	19 21 43.1	
	comp=Z,34nm,1.1s						
KBL	**Kabul**	**27.13**	**35**		**P**	**19 21 41.9**	**+0.9**
KBL				IAmb	IAmb	19 22 02.9	
	comp=Z,23nm,1.3s						
GNI	**Garni**	**27.34**	**350**	P	**P**	**19 21 45.0**	**+2.3**
KOPT	**Kop Dagi**	**28.15**	**344**	P	**P**	**19 21 51.2**	**+1.1**
KOPT				IAmb	IAmb	19 22 46.2	
	comp=Z,23nm,1.4s						
SIMJ	**Simiganj**	**30.25**	**30**	P	**P**	**19 22 07.7**	**-0.8**
BRTR	**Keskin Array B**	**30.33**	**334**	P	**P**	**19 22 08.4**	**-0.8**
	comp=Z,1.0nm,1.0s,baz=136,slow=18,SNR=2.0						
BRTR				PcP	**PcP**	**19 25 09.6**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=134,slow=7.1,SNR=4.5						
	comp=Z,1.0nm,1.0s						
MANT	**Manisa**	**31.84**	**326**	P	**P**	**19 22 23.4**	**+0.7**
MANT				IAmb	IAmb	19 22 31.5	
	comp=Z,26nm,1.6s						
BTK	**Batken**	**32.22**	**30**	P	**P**	**19 22 26.5**	**+0.7**
BTK				IAmb	IAmb	19 22 39.5	
	comp=Z,20nm,1.2s						
ARSB	**Arslanbob**	**34.24**	**31**	P	**P**	**19 22 43.3**	**-0.3**
ARSB				IAmb	IAmb	19 23 07.9	
	comp=Z,14nm,1.2s						
KK31	**Karatay Array**	**34.48**	**26**		**P**	**19 22 46.6**	**+1.2**
KKAR	**Karatay Array**	**34.48**	**26**	P	**P**	**19 22 46.4**	**+1.0**
KSH	**Kashi**	**34.56**	**36**	P	**P**	**19 22 46.0**	**-0.3**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.2s						
NRN	**Naryn**	**35.89**	**34**	P	**P**	**19 22 57.5**	**-0.5**
NRN				IAmb	IAmb	19 23 11.7	
	comp=Z,36nm,1.6s						
BOOM	**Boomskoye usch**	**36.60**	**32**	P	**P**	**19 23 03.8**	**-0.1**
BOOM				IAmb	IAmb	19 23 17.7	
	comp=Z,17nm,1.2s						
AB31	**Akbulak array**	**36.82**	**10**		**P**	**19 23 06.1**	**+0.7**
AB31				IAmb	IAmb	19 23 17.0	
	comp=Z,23nm,1.5s						
ABKAR	**Akbulak array**	**36.82**	**10**		**P**	**19 23 05.4**	**0.0**
TARG	**Taragay, Kyrgy**	**37.08**	**35**	P	**P**	**19 23 08.6**	**+0.4**
TARG				IAmb	IAmb	19 23 17.0	
	comp=Z,37nm,1.6s						
PRZ	**Przheval'sk**	**37.91**	**34**	P	**P**	**19 23 16.0**	**+1.0**
PRZ				IAmb	IAmb	19 23 28.9	
	comp=Z,33nm,1.5s						
BURAR	**Bucovina Array**	**40.29**	**333**	P	**P**	**19 23 34.9**	**+0.2**
BUR08	**Bucovina Ar. S**	**40.32**	**334**	P	**P**	**19 23 36.4**	**+1.4**
SHL	**Shillong**	**40.81**	**66**	P	**P**	**19 23 38.8**	**-0.7**
AKASG	**Malin Array Be**	**41.23**	**340**	P	**P**	**19 23 42.6**	**+0.4**
	comp=Z,4.6nm,0.8s,baz=151,slow=7.0,SNR=9.4						
AKASG				PcP	**PcP**	**19 25 40.8**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=131,slow=2.1,SNR=5.4						
	comp=Z,4.6nm,0.8s						
AKBB	**Malin Array Si**	**41.23**	**340**		**P**	**19 23 42.9**	**+0.6**
AKBB				IAmb	IAmb	19 23 49.2	
	comp=Z,22nm,1.1s						
KIEV	**Kiev**	**41.23**	**340**		**P**	**19 23 43.0**	**+0.7**
KIEV				IAmb	IAmb	19 23 49.2	
	comp=Z,20nm,1.1s						
KOLS	**Kolonicke sedl**	**42.58**	**333**	*e*P	**P**	**19 23 56.2**	**+2.8**
MAKZ	**Makanchi**	**42.70**	**32**		**P**	**19 23 54.7**	**+0.3**
MAKZ				IAmb	IAmb	19 24 01.3	
	comp=Z,17nm,1.2s						
BVAR	**Borovoye Array**	**42.81**	**18**	P	**P**	**19 23 55.9**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=197,slow=7.7,SNR=3.6						
BVAR				PcP	**PcP**	**19 25 46.7**	**+0.5**
	comp=Z,4.1nm,0.7s,baz=188,slow=3.0,SNR=9.7						
	comp=Z,1.6nm,0.6s						
MKAR	**Makanchi Array**	**42.85**	**32**	P	**P**	**19 23 55.8**	**+0.2**
MKAR	**Makanchi Array**	**42.85**	**32**	P	**P**	**19 23 56.0**	**+0.4**
	comp=Z,2.1nm,0.5s,baz=222,slow=8.3,SNR=17						
MKAR				PcP	**PcP**	**19 25 46.0**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=197,slow=1.3,SNR=1.8						
	comp=Z,2.1nm,0.5s						
PSZ	**Piszkesteto**	**42.98**	**330**	P	**P**	**19 23 56.7**	**0.0**
KEST	**Kesra**	**43.23**	**309**	PcP	**PcP**	**19 25 48.2**	**+0.1**
	comp=Z,7.9nm,1.1s,baz=206,slow=0.8,SNR=4.0						
STHS	**Stebnicka Huta**	**43.40**	**332**	*e*P	**P**	**19 24 00.7**	**+0.7**
TAM	**Tamanrasset**	**43.66**	**289**		**P**	**19 24 03.0**	**+0.3**
KURBB	**Kurchatov Arra**	**43.78**	**26**	P	**P**	**19 24 03.1**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=226,slow=8.0,SNR=10						
KURBB				PcP	**PcP**	**19 25 49.9**	**+0.4**
	comp=Z,0.3nm,0.2s,baz=238,slow=4.2,SNR=3.0						
	comp=Z,1.3nm,0.3s						
KURK	**Kurchatov**	**43.89**	**26**		**P**	**19 24 03.6**	**-0.3**
VYHS	**Vyhne**	**43.89**	**330**	*e*P	**P**	**19 24 04.9**	**+0.9**
WMQ	**Urumqi**	**44.15**	**39**	*e*P	**P**	**19 24 08.9**	**+2.7**
WMQ				LR	LR		
	comp=Z,380nm,24.0s						
MODS	**Modra-Piesok**	**44.58**	**329**	*e*P	**P**	**19 24 10.3**	**+0.7**
OJC	**Ojcow**	**44.63**	**332**	P	**P**	**19 24 08.8**	**-1.0**
RONA	**Rosalia, Austr**	**44.66**	**327**	*e*P	**P**	**19 24 11.6**	**+1.4**
	comp=Z,12nm,1.5s						
JAVC	**Velka Javorina**	**44.71**	**329**	*e*P	**P**	**19 24 11.1**	**+0.5**
SOKA	**Soboth**	**44.72**	**325**	*e*P	**P**	**19 24 11.7**	**+1.0**
	comp=Z,5.6nm,1.4s						
ARSA	**Arzberg**	**44.79**	**326**	P	**P**	**19 24 11.1**	**-0.2**
ARSA	**Arzberg**	**44.79**	**326**	*e*P	**P**	**19 24 11.9**	**+0.6**
	comp=Z,3.7nm,0.9s						
OBKA	**Obir**	**44.88**	**325**	*e*P	**P**	**19 24 12.3**	**+0.2**
	comp=Z,11nm,1.7s						
MNK	**Minsk**	**44.89**	**341**	*i*P	**P**	**19 24 10.3**	**-1.6**
	comp=N,7.0nm,0.7s						
MNK				*i*P	**P**	**19 24 10.3**	**-1.6**
	comp=Z,10.0nm,0.7s,baz=148						
MNK				*i*PP	**PP**	**19 25 55.5**	**-1.4**
MNK				*i*PPP	PPP	19 26 33.2	
MNK				*i*S	**S**	**19 30 49.4**	**+0.6**
MNK				*i*SS	**SS**	**19 34 12.6**	**+2.3**
MNK				*i*SSS	SSS	19 34 56.6	
MNK				*i*LQ	LQ	19 38 15.8	
MNK				*i*LR	LR	19 44 28.7	
MNK				*i*LRM	MLR	19 45 46.1	
	comp=E,96nm,16.2s						
MNK				*i*LRM	MLR	19 45 55.7	
	comp=Z,229nm,17.6s						
MNK				*i*LRM	MLR	19 45 59.5	
	comp=N,104nm,16.0s						
CONA	**Conrad Observa**	**45.03**	**327**	*e*P	**P**	**19 24 13.8**	**+0.6**
	comp=N,9.2nm,1.2s						
MORC	**Moravsky Berou**	**45.38**	**330**	P	**P**	**19 24 15.3**	**-0.6**
MORC				IAmb	IAmb	19 24 23.2	

comp=Z,27nm,1.9s
MORC Moravsky Berou 45.38 330 *e*P **P** **19 24 15.5 -0.4**
MYKA Terra Mystica 45.46 325 *e*P **P** **19 24 17.5 +0.9**
comp=Z,14nm,1.5s
KRUC Moravsky 45.48 329 *e*P **P** **19 24 16.3 -0.3**
R9F13 Warsaw-Wawer 45.50 335 *e*P P 19 24 21.7 +5.0
VRAC Vranov 45.53 329 *e*P **P** **19 24 17.0 -0.1**
NACGM Naroch 45.58 341 *e*P **P** **19 24 17.6 +0.3**
comp=Z,9.0nm,0.9s,baz=147
STAL STALIGIAL 45.79 324 P **P** **19 24 19.9 +0.7**
STAL IAmb IAmb 19 24 31.4
comp=Z,27nm,1.5s
MOA Molln 45.83 326 *e*P **P** **19 24 19.8 +0.3**
comp=Z,6.1nm,1.0s
KBA Koelnbreinsper 45.89 325 *e*P **P** **19 24 19.8 -0.3**
comp=Z,7.2nm,1.2s
SUW Suwalki 46.08 338 P **P** **19 24 22.4 +1.1**
BIOA Bad Ischl, Aus 46.08 326 *e*P **P** **19 24 21.6 +0.2**
comp=Z,4.1nm,1.1s
ABTA Abfaltersbach 46.17 324 *e*P **P** **19 24 22.5 +0.3**
comp=Z,6.2nm,1.4s
LESA Schwarzleotal 46.46 325 *e*P **P** **19 24 24.2 -0.3**
comp=Z,3.7nm,0.8s
TNCH TengChong 46.69 68 P **P** **19 24 27.4 +0.6**
TNCH pmax pmax
comp=Z,12nm,2.1s
GERES GERESS Array B 46.73 327 P **P** **19 24 26.7 +0.1**
comp=Z,0.5nm,0.6s,baz=152,slow=6.0,SNR=5.1
GERES PcP **PcP** **19 26 00.1 +0.2**
comp=Z,1.5nm,1.0s,baz=222,slow=1.8,SNR=5.4
comp=Z,0.5nm,0.6s
CM31 Chiang Mai Arr 46.83 77 P **P** **19 24 28.1 +0.4**
CMAR Chiang Mai Arr 46.83 77 **P** **19 24 27.9 +0.1**
CMAR Chiang Mai Arr 46.83 77 P **P** **19 24 27.4 -0.4**
comp=Z,5.3nm,0.8s,baz=272,slow=8.6,SNR=17
CMAR PcP **PcP** **19 26 01.2 +0.5**
comp=Z,1.2nm,0.7s,baz=277,slow=5.3,SNR=4.6
comp=Z,5.3nm,0.8s
WTTA Wattenberg 46.96 324 *e*P **P** **19 24 28.7 +0.2**
comp=Z,11nm,1.4s
WATA Walderalm 47.03 324 *e*P **P** **19 24 28.5 -0.6**
comp=Z,14nm,1.5s
SQTA Sankt Quirin 47.18 324 *e*P **P** **19 24 29.8 -0.4**
comp=Z,7.1nm,1.3s
MOTA Moosalm 47.30 324 *e*P **P** **19 24 30.6 -0.6**
comp=Z,9.8nm,1.2s
FETA Feichten 47.35 324 *e*P **P** **19 24 33.0 +1.4**
comp=Z,4.8nm,1.3s
TORD Torodi Ar. Bea 47.43 276 P **P** **19 24 31.4 -1.1**
TORD Torodi Ar. Bea 47.43 276 P **P** **19 24 32.1 -0.4**
comp=Z,2.3nm,0.5s,baz=78,slow=9.2,SNR=4.4
comp=Z,2.3nm,0.5s
RETA Reutte 47.58 324 *e*P **P** **19 24 34.6 +1.4**
comp=Z,9.8nm,1.6s
BRG Berggiesshubel 47.85 329 *e*P **P** **19 24 35.1 -0.1**
BRG Amp 19 24 35.9
comp=Z,2.5nm,0.9s
BRG Berggiesshubel 47.85 329 P P 19 24 41.0 +5.8
BRG Amp 19 24 41.9
comp=Z,3.3nm,0.9s
BRG Berggiesshubel 47.85 329 SS S 19 31 42.0 +11
DAVA Damuels 47.98 323 *e*P **P** **19 24 37.2 +0.7**
comp=Z,4.4nm,0.8s
CLL Collm 48.58 329 *i* P **P** **19 24 42.2 +1.4**
comp=Z,4.0nm,1.2s
CLL *i* x x 19 24 46.2
comp=Z,38nm,2.3s
CLL *i* x x 19 24 51.0
ZAA0 Zalesovo Array 48.86 26 P **P** **19 24 42.2 -0.7**
ZAA0 IAmb IAmb 19 24 42.9
comp=Z,7.3nm,0.8s
ZALV Zalesovo Beam 48.86 26 P **P** **19 24 41.7 -1.1**
ZALV Zalesovo Beam 48.86 26 P **P** **19 24 42.2 -0.6**
comp=Z,5.4nm,0.7s,baz=243,slow=8.3,SNR=13
comp=Z,5.4nm,0.7s
BFO Black Forest 49.41 324 P **P** **19 24 47.0 -0.3**
BFO IAmb IAmb 19 24 59.1
comp=Z,26nm,1.6s
PZH PanZhiHua 49.72 66 P **P** **19 24 49.8 -0.3**
KMI Kunming 50.52 68 P **P** **19 24 56.3 0.0**
KMI pmax pmax
comp=Z,12nm,0.9s
KMI LR LR
comp=Z,220nm,21.4s
KMI LR LR
comp=Z,310nm,17.4s
KMI LR LR
comp=Z,440nm,19.2s
GTA Gaotai 50.60 50 P **P** **19 24 57.3 +0.7**
GTA sP sP 19 25 03.3 +0.1
GTA PcP **PcP** **19 26 15.5 +1.3**
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA LR LR
comp=Z,200nm,20.0s
GTA LR LR
comp=Z,200nm,19.3s
GTA LR LR
comp=Z,400nm,24.4s
WLF Walferdange 51.32 324 *d*P **P** **19 25 01.7 0.0**
comp=Z,7.8nm,1.0s
FINES FINESS Array B 51.33 345 **P** **19 25 01.3 -0.2**
FINES FINESS Array B 51.33 345 P **P** **19 25 01.0 -0.5**
comp=Z,6.8nm,0.7s,baz=134,slow=11,SNR=17
comp=Z,6.8nm,0.7s
FIA1 FINESS Array S 51.33 345 **P** **19 25 01.1 -0.4**
MEM Membach 51.87 325 *d*P **P** **19 25 06.2 +0.5**
BGES Gesves 52.27 325 *d*P **P** **19 25 08.7 -0.1**
comp=Z,4.3nm,1.1s
HFS Hagfors 54.09 338 P **P** **19 25 20.7 -1.3**
comp=Z,7.1nm,0.6s,baz=140,slow=7.8,SNR=17
comp=Z,7.1nm,0.6s
ESDC Sonseca Array 54.46 310 P **P** **19 25 24.5 -0.6**
comp=Z,1.9nm,1.0s,baz=91,slow=6.6,SNR=7.2
comp=Z,1.9nm,1.0s
DBIC Dimbokro 54.79 269 P **P** **19 25 29.2 +1.4**
comp=Z,4.4nm,1.0s,baz=124,slow=8.2,SNR=4.0
comp=Z,4.4nm,1.0s
NB2 NORSAR Subarra 55.61 338 P **P** **19 25 32.0 -1.0**
comp=Z,147nm,5.0s,baz=129,slow=7.4
NB2 NORSAR Subarra 55.61 338 P **P** **19 25 32.0 -1.0**
baz=129,slow=7.4
NOA NORSAR Array B 55.61 338 P **P** **19 25 32.1 -1.0**
comp=Z,2.5nm,0.8s,baz=129,slow=7.3,SNR=8.6
comp=Z,2.5nm,0.8s
XAN Xi'an 56.68 58 P **P** **19 25 41.3 +0.1**
XAN sP pP 19 25 46.3 +0.3
XAN pmax pmax
comp=Z,16nm,0.9s
XAN LR LR
comp=Z,170nm,16.5s
XAN LR LR
comp=Z,240nm,16.9s
XAN LR LR
comp=Z,240nm,21.3s
SONM Songino Array 57.66 41 P **P** **19 25 47.6 -0.3**
SONM IAmb IAmb 19 25 55.3
comp=Z,13nm,1.3s
SONM Songino Array 57.66 41 P **P** **19 25 47.0 -1.0**
comp=Z,2.6nm,0.7s,baz=248,slow=7.0,SNR=10.0
comp=Z,2.6nm,0.7s
BTO Baotou 58.49 50 *e*P **P** **19 25 54.4 +0.5**
BTO PP **PP** **19 28 08.0 +4.6**
BTO pmax pmax
comp=Z,32nm,0.9s
BTO pmax pmax
comp=Z,380nm,5.8s
BTO LR LR
comp=Z,380nm,20.3s
BTO LR LR
comp=Z,430nm,18.2s
BTO LR LR
comp=Z,710nm,20.7s
ARCES ARCESS Array B 58.50 350 P **P** **19 25 54.0 +0.7**
ARCES ARCESS Array B 58.50 350 P **P** **19 25 51.5 -1.8**
comp=Z,2.0nm,0.7s,baz=123,slow=4.5,SNR=6.5
comp=Z,2.0nm,0.7s
EKA Eskdalemuir Ar 58.95 328 P **P** **19 25 55.2 -1.4**
comp=Z,1.0nm,0.7s,baz=118,slow=6.6,SNR=7.4
comp=Z,1.0nm,0.7s
HHC Hu-ho-hao-te 59.69 50 *e*P **P** **19 26 04.0 +1.8**
HHC pmax pmax
comp=Z,19nm,0.8s
SBUM Sibu 61.95 94 P **P** **19 26 16.8 -1.1**
SBUM IAmb IAmb 19 26 19.9
comp=Z,9.4nm,1.0s
BJI Beijing 63.08 52 P **P** **19 26 25.9 +0.9**
BJI pmax pmax
comp=Z,4.0nm,0.8s
XLT XiLinHaoTe 63.44 47 *e*P **P** **19 26 29.1 +1.7**
XLT pmax pmax
comp=Z,13nm,1.3s
XLT LR LR
comp=Z,18nm,19.5s
XLT LR LR
comp=Z,89nm,14.9s
XLT LR LR
comp=Z,190nm,15.9s
TIA Tai'an 63.56 56 P **P** **19 26 28.8 +0.5**
TIA pmax pmax
comp=Z,14nm,0.8s
NJ2 Nanjing 64.90 61 *e*P **P** **19 26 37.3 +0.2**
NJ2 pmax pmax
comp=Z,11nm,0.6s
SPITS Spitsbergen Ar 67.18 353 P **P** **19 26 50.8 -0.2**
comp=Z,2.8nm,0.9s,baz=140,slow=14,SNR=1.7
comp=Z,2.8nm,0.9s
DL2 Dalian 67.23 53 P **P** **19 26 52.1 +0.1**
DL2 S **S** **19 35 43.9 -2.3**
DL2 pmax pmax
comp=Z,24nm,0.9s
DL2 pmax pmax
comp=Z,90nm,8.8s
DL2 LR LR
comp=Z,150nm,23.1s
DL2 LR LR
comp=Z,210nm,20.2s
DL2 LR LR
comp=Z,340nm,24.7s
BNX BinXian 71.59 46 ⇓P **P** **19 27 17.3 -1.5**
BNX pmax pmax
comp=Z,6.0nm,0.9s
HEH HeiHe 71.65 41 *e*P **P** **19 27 19.0 -0.1**
HEH pmax pmax
comp=Z,14nm,1.1s
KSRS Korea Array 72.21 55 P **P** **19 27 22.5 -0.2**
comp=Z,2.5nm,0.9s,baz=267,slow=7.1,SNR=13
comp=Z,2.5nm,0.9s
YAK Yakutsk 73.41 29 **P** **19 27 28.1 -1.2**
MJAR Matsushiro Arr 80.50 55 P **P** **19 28 09.8 0.0**
comp=Z,2.8nm,0.9s,baz=272,slow=5.1,SNR=7.1
comp=Z,2.8nm,0.9s
MAW Mawson 81.06 175 P **P** **19 28 13.3 +1.3**
comp=Z,2.6nm,0.8s,baz=334,slow=9.8,SNR=4.9
comp=Z,2.6nm,0.8s
WRA Warramunga Arr 88.79 111 **P** **19 28 52.5 +0.6**
WRA Warramunga Arr 88.79 111 P **P** **19 28 51.9 0.0**
comp=Z,11nm,0.9s,baz=300,slow=3.6,SNR=23
WR8 Warramunga Arr 88.94 111 **P** **19 28 51.9 -0.8**
ASAR Alice Springs 89.33 114 P **P** **19 28 55.0 +0.6**
comp=Z,6.7nm,1.0s,baz=290,slow=4.3,SNR=19
comp=Z,6.7nm,1.0s
PDAR Pinedale Array 121.40 343 PKP **PKPdf** **19 34 50.9 -0.5**
comp=Z,2.5nm,0.7s,baz=74,slow=5.3,SNR=4.3
NVAR Mina Array Bea 127.61 349 PKP **PKiKP** **19 35 04.3 +0.3**
comp=Z,1.9nm,0.7s,baz=19,slow=0.4,SNR=12
TXAR Lajitas Array 130.92 330 PKP **PKPdf** **19 35 09.9 +0.1**
comp=Z,0.5nm,0.7s,baz=96,slow=2.5,SNR=6.4

*IDC **14** 19:30:33.3±1.3, 13°.26N×50°.49E, h0km, mb3.8/10, mbtmp3.8/11, ML2.9/1, MS2.9/2, Error ellipse: s-maj=33.3km s-min=24.5km az=31.0*
ISC 14 19:30:36.5±1.1, 13°.3N±0°.2×50°.5E±0°.1, h21km, n12, σ0s84/11, mb3.9/10, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**7.66**	**258**	Pn	**Pn**	**19 32 26.9**	**0.0**
	0.2nm,0.3s,baz=62,slow=18,SNR=5.5						
ATD				LR	LR	19 34 40.8	
	comp=Z,11nm,20.8s,baz=148,slow=32						
	0.4nm,0.3s						
AKASG	**Malin Array Be**	**41.16**	**339**	P	**P**	**19 38 19.4**	**+0.2**
	0.5nm,0.6s,baz=153,slow=7.2,SNR=2.0						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**42.77**	**32**	P	**P**	**19 38 33.5**	**+1.0**
	0.4nm,0.5s,baz=227,slow=6.9,SNR=3.6						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**43.70**	**26**	P	**P**	**19 38 41.1**	**+1.2**
	2.6nm,0.2s,baz=230,slow=7.2,SNR=1.5						
	2.6nm,0.2s						
CMAR	**Chiang Mai Arr**	**46.79**	**77**	P	**P**	**19 39 03.8**	**-1.1**
	0.2nm,0.4s,baz=272,slow=8.1,SNR=4.2						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**48.77**	**26**	P	**P**	**19 39 19.2**	**-0.6**
	0.7nm,0.6s,baz=230,slow=9.0,SNR=4.0						
	0.7nm,0.6s						
FINES	**FINESS Array B**	**51.26**	**345**	P	**P**	**19 39 38.2**	**-0.2**
	0.9nm,0.6s,baz=132,slow=11,SNR=6.6						
	0.9nm,0.6s						
HFS	**Hagfors**	**54.02**	**338**	P	**P**	**19 39 58.6**	**-0.4**
	1.4nm,0.7s,baz=133,slow=8.7,SNR=4.3						
	1.4nm,0.7s						
NOA	**NORSAR Array B**	**55.54**	**338**	P	**P**	**19 40 09.3**	**-0.7**
	0.7nm,0.8s,baz=89,slow=6.9,SNR=2.5						
	0.7nm,0.8s						
DAV	**Davao City (W)**	**73.95**	**86**	LR	LR	20 15 12.0	
	comp=Z,62nm,20.5s,baz=72,slow=36						
WRA	**Warramunga Arr**	**88.80**	**111**	P	**P**	**19 43 30.3**	**+0.8**
	0.9nm,0.8s,baz=298,slow=4.3,SNR=4.6						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**89.34**	**114**	P	**P**	**19 43 32.3**	**+0.4**
	0.7nm,0.9s,baz=296,slow=4.9,SNR=4.8						
	0.7nm,0.9s						

*IDC **14** 19:50:32.0±1.1, 13°.05N×50°.50E, h0km, mb3.8/16, mbtmp3.8/17, ML3.0/1, MS3.4/17, Error ellipse: s-maj=28.9km s-min=19.8km az=14.0*
*NEIC **14** 19:50:32.2±1.6, 12°.8N±0°.1×50°.67E±0°.08, h10km±2km, mb4.2/7, Error ellipse: s-maj=26.8km s-min=8.3km az=157.0*
ISC 14 19:50:33.7±0.8, 12°.9N±0°.1×50°.6E±0°.1, h15km, n44, σ1s25/30, mb4.1/21, MS3.4/17, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**7.67**	**260**	Pn	**Pn**	**19 52 27.8**	**+2.7**
ATD	**Arta Tunnel**	**7.67**	**260**	Pn	**Pn**	**19 52 26.6**	**+1.5**
	0.2nm,0.3s,baz=357,slow=6.0,SNR=18						
ATD				LR	LR	19 54 33.5	
	comp=Z,9.8nm,18.2s,baz=122,slow=32						
	0.5nm,0.3s						
LODK	**Lodwar**	**17.75**	**239**	Pn	**Pn**	**19 54 37.2**	**-3.4**
EIL	**Elat**	**22.07**	**321**	LR	LR	20 04 03.4	
	comp=Z,68nm,20.5s,baz=65,slow=37						
ASF	**Jabal al Asfar**	**22.90**	**329**	LR	LR	20 04 43.6	
	comp=Z,74nm,18.8s,baz=166,slow=37						
MMAI	**Mount Meron Ar**	**24.33**	**328**	LR	LR	20 05 29.6	
	comp=Z,69nm,18.8s,baz=148,slow=37						
GEVA	**Gevas**	**26.15**	**347**	P	**P**	**19 56 09.3**	**+1.6**
GEVA				IAmb	IAmb	19 56 27.8	
	comp=Z,4.7nm,1.0s						
GNI	**Garni**	**27.60**	**350**	LR	LR	20 09 03.9	
	comp=Z,112nm,20.0s,baz=182,slow=40						
KBZ	**Khabaz**	**31.40**	**349**	LR	LR	20 11 41.2	
	comp=Z,72nm,20.6s,baz=159,slow=41						
KVAR	**Kislovodsk Arr**	**31.66**	**349**	LR	LR	20 11 18.6	
	comp=Z,94nm,21.9s,baz=51,slow=40						
AAK	**Ala-Archa**	**36.14**	**31**	LR	LR	20 15 02.0	
	comp=Z,69nm,19.8s,baz=214,slow=41						
AB31	**Akbulak array**	**37.05**	**10**	P	**P**	**19 57 42.9**	**-0.1**
AB31				IAmb	IAmb	19 57 55.4	
	comp=Z,5.5nm,1.3s						
ABKAR	**Akbulak array**	**37.05**	**10**	P	**P**	**19 57 42.9**	**-0.1**
AKTO	**Aktyubinsk**	**37.90**	**8**	LR	LR	20 16 36.8	
	comp=Z,68nm,18.7s,baz=3.0,slow=41						
MLR	**Muntele Rosu**	**38.61**	**332**	LR	LR	20 14 49.8	
	comp=Z,71nm,20.4s,baz=92,slow=38						
MATP	**Matopo**	**39.61**	**214**	LR	LR	20 14 29.0	
	comp=Z,51nm,18.6s,baz=62,slow=36						
AKASG	**Malin Array Be**	**41.49**	**340**	P	**P**	**19 58 19.6**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=151,slow=7.3,SNR=5.4						
AKASG				LR	LR	20 18 13.0	
	comp=Z,36nm,18.6s,baz=94,slow=40						
	comp=Z,0.8nm,0.7s						
AKBB	**Malin Array Si**	**41.49**	**340**	P	**P**	**19 58 20.3**	**+0.1**
AKBB				IAmb	IAmb	19 58 27.0	
	comp=Z,5.2nm,0.8s						
KIEV	**Kiev**	**41.49**	**340**	P	**P**	**19 58 20.7**	**+0.6**
KIEV				IAmb	IAmb	19 58 27.0	
	comp=Z,4.7nm,0.8s						
MKAR	**Makanchi Array**	**43.01**	**32**	P	**P**	**19 58 32.6**	**-0.1**
MKAR	**Makanchi Array**	**43.01**	**32**	P	**P**	**19 58 32.8**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=222,slow=16,SNR=8.0						
	comp=Z,0.3nm,0.5s						
BVAR	**Borovoye Array**	**43.02**	**17**	P	**P**	**19 58 32.5**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=202,slow=7.6,SNR=2.5						
BVAR				LR	LR	20 17 10.9	
	comp=Z,62nm,20.5s,baz=224,slow=37						
	comp=Z,0.4nm,0.6s						
ARTI	**Arti**	**43.79**	**6**	LR	LR	20 19 50.5	
	comp=Z,49nm,21.0s,baz=178,slow=40						
KURBB	**Kurchatov Arra**	**43.96**	**25**	P	**P**	**19 58 41.0**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=226,slow=8.3,SNR=6.0						
	comp=Z,0.6nm,0.3s						
CMAR	**Chiang Mai Arr**	**46.80**	**77**	P	**P**	**19 59 01.4**	**-1.8**
CMAR	**Chiang Mai Arr**	**46.80**	**77**	P	**P**	**19 59 04.9**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=268,slow=8.7,SNR=5.6						
	comp=Z,1.1nm,0.8s						
BOSA	**Boshof**	**48.00**	**210**	LR	LR	20 21 34.4	
	comp=Z,87nm,18.3s,baz=14,slow=39						
ZAA0	**Zalesovo Array**	**49.04**	**26**	P	**P**	**19 59 19.4**	**-0.6**
ZAA0				IAmb	IAmb	19 59 26.7	
	comp=Z,2.7nm,0.9s						
ZALV	**Zalesovo Beam**	**49.04**	**26**	P	**P**	**19 59 19.0**	**-1.0**
ZALV	**Zalesovo Beam**	**49.04**	**26**	P	**P**	**19 59 19.7**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=247,slow=7.6,SNR=6.1						
	comp=Z,1.3nm,0.7s						
FINES	**FINESS Array B**	**51.59**	**345**	P	**P**	**19 59 38.4**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=144,slow=11,SNR=8.6						
	comp=Z,1.3nm,0.6s						
HFS	**Hagfors**	**54.35**	**338**	P	**P**	**19 59 59.4**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=151,slow=9.4,SNR=12						
	comp=Z,2.1nm,0.7s						
ESDC	**Sonseca Array**	**54.69**	**310**	P	**P**	**20 00 01.8**	**-0.7**
	comp=Z,1.0nm,1.0s,baz=105,slow=8.1,SNR=4.3						
	comp=Z,1.0nm,1.0s						
NB2	**NORSAR Subarra**	**55.87**	**338**	P	P	20 00 15.5	+4.9
	comp=Z,2.2nm,0.8s,baz=132,slow=7.4						
NOA	**NORSAR Array B**	**55.87**	**338**	P	**P**	**20 00 09.9**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=122,slow=7.9,SNR=4.4						
NOA				LR	LR	20 27 22.1	
	comp=Z,17nm,18.5s,baz=155,slow=40						
	comp=Z,0.4nm,0.7s						
SONM	**Songino Array**	**57.78**	**41**	P	**P**	**20 00 25.2**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=234,slow=8.8,SNR=5.0						
	comp=Z,0.4nm,0.7s						
EKA	**Eskdalemuir Ar**	**59.20**	**328**	P	**P**	**20 00 34.8**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=100,slow=7.1,SNR=5.3						
	comp=Z,1.0nm,0.7s						
SPITS	**Spitsbergen Ar**	**67.44**	**353**	P	**P**	**20 01 26.5**	**-1.8**
	comp=Z,1.0nm,0.5s,baz=181,slow=12,SNR=1.9						
SPITS				LR	LR	20 34 19.3	
	comp=Z,31nm,20.3s,baz=113,slow=39						
	comp=Z,1.0nm,0.5s						
KSRS	**Korea Array**	**72.28**	**55**	P	**P**	**20 01 58.9**	**0.0**
	comp=Z,0.4nm,0.4s,baz=264,slow=4.7,SNR=4.6						
	comp=Z,0.4nm,0.4s						
TIXI	**Tiksi**	**74.14**	**19**	LR	LR	20 37 53.0	
	comp=Z,37nm,19.9s,baz=26,slow=38						
WRA	**Warramunga Arr**	**88.42**	**111**	P	**P**	**20 03 27.0**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=296,slow=3.8,SNR=2.9						
	comp=Z,2.1nm,0.9s						
ASAR	**Alice Springs**	**89.14**	**114**	P	**P**	**20 03 31.2**	**+1.8**
	comp=Z,1.2nm,0.9s,baz=304,slow=5.1,SNR=2.1						
	comp=Z,1.2nm,0.9s						
PDAR	**Pinedale Array**	**121.66**	**343**	PKP	**PKiKP**	**20 09 28.0**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=52,slow=7.4,SNR=1.7						
NVAR	**Mina Array Bea**	**127.86**	**349**	PKP	**PKPdf**	**20 09 39.3**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=101,slow=1.2,SNR=4.0						

*IDC **14** 19:50:59.5±1.1, 11°.68N×86°.37W, h0km, mb3.8/8, mbtmp3.8/9, ML4.0/1, MS4.0/1, Error ellipse: s-maj=49.2km s-min=16.2km az=46.0*
*UCR **14** 19:50:59.8±1.6, 10°.87N×86°.92W, h0km±7km, MB4.4(NEIC)*
*NEIC **14** 19:51:00.2±2.5, 10°.87N±0°.08×86°.97W±0°.07, h10km±2km, mb4.4/16, Error ellipse: s-maj=17.4km s-min=4.9km az=218.0*
*CATAC **14** 19:51:02.1±0.3, 11°.N±2°×8°.7W±°, h56km±13km, M4.4/42, MLv4.4/42, Error ellipse: s-maj=5.8km s-min=2.6km az=37.9, confirmed*
*SNET **14** 19:51:04.0±1.0, 10°.92N×87°.12W, h35km±393km, ML3.8*
ISC 14 19:50:59.6±1.5, 10°.81N±0°.03×87°.05W±0°.04, h15km±9km, n201, σ1s26/221, mb4.1/15, 7C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARIN	**Rivas**	**1.35**	**61**	P	**Pn**	**19 51 24.3**	**+0.4**
ARIN	**Rivas**	**1.35**	**61**	S	**Sg**	**19 51 43.0**	**-0.3**
LCRUZ	**La Cruz**	**1.42**	**79**	*e*P	**Pn**	**19 51 24.8**	**0.0**
LCRUZ				*e*S	**Sg**	**19 51 44.8**	**-0.6**
SABN	**Sabanita**	**1.44**	**37**	P	**Pn**	**19 51 25.1**	**0.0**
COPN	**Copaltepe**	**1.44**	**18**	*i*P	**Pb**	**19 51 25.8**	**-0.3**
COPN				*e*S	**Sb**	**19 51 44.8**	**+0.6**
COPN	**Copaltepe**	**1.44**	**18**	P	**Pb**	**19 51 25.8**	**-0.3**
NANN	**Nandasmo**	**1.45**	**39**	P	**Pg**	**19 51 27.2**	**-0.2**
NANN	**Nandasmo**	**1.45**	**39**	S	**Sg**	**19 51 47.1**	**+0.8**
ELI1	**Hacienda Flor**	**1.48**	**96**	*e*P	**Pn**	**19 51 26.1**	**+0.5**
ELI1				*e*S	**Sg**	**19 51 46.5**	**-0.8**
ALIBA	**Liberia Airpor**	**1.49**	**98**	*e*P	**Pn**	**19 51 26.1**	**+0.3**
ALIBA				*e*S	**Sb**	**19 51 46.6**	**+0.9**
ABCN	**Banco Central**	**1.49**	**29**	S	**Sg**	**19 51 47.8**	**0.0**
ABCN	**Banco Central**	**1.49**	**29**	P	**Pb**	**19 51 27.5**	**+0.4**
SAPS	**Ciudad Sandino**	**1.49**	**25**	S	**Sg**	**19 51 46.7**	**-1.1**
SAPS	**Ciudad Sandino**	**1.49**	**25**	P	**Pb**	**19 51 26.7**	**-0.3**
UNAN	**Cigeo UNAN**	**1.50**	**30**	P	**Pb**	**19 51 27.0**	**-0.2**
UNAN				S	**Sb**	**19 51 46.4**	**+0.3**
MAFN	**Magfor**	**1.50**	**32**	P	**Pb**	**19 51 27.4**	**+0.2**
USIM	**UNAN**	**1.51**	**30**	S	**Sg**	**19 51 48.1**	**-0.1**
USIM	**UNAN**	**1.51**	**30**	P	**Pb**	**19 51 27.4**	**+0.2**
ENAN	**Enatrel Managu**	**1.51**	**31**	P	**Pb**	**19 51 27.8**	**+0.4**
ENAN	**Enatrel Managu**	**1.51**	**31**	S	**Sg**	**19 51 47.5**	**-0.8**
JAPN	**AI SSO del Vol**	**1.52**	**62**	*e*P	**Pn**	**19 51 26.8**	**+0.6**
JAPN	**AI SSO del Vol**	**1.52**	**62**	P	**Pb**	**19 51 27.0**	**-0.5**
BC86	**Nagarote**	**1.52**	**18**	P	**Pb**	**19 51 28.2**	**+0.7**
TISN	**Laguna Tiscapa**	**1.53**	**30**	P	**Pb**	**19 51 27.2**	**-0.5**
ALLN	**Telcor Managua**	**1.54**	**29**	S	**Sg**	**19 51 48.1**	**-1.2**
ALLN	**Telcor Managua**	**1.54**	**29**	P	**Pb**	**19 51 28.2**	**+0.3**
AMTN	**Mateare**	**1.54**	**23**	P	**Pb**	**19 51 27.8**	**-0.1**
AMTN	**Mateare**	**1.54**	**23**	S	**Sb**	**19 51 48.0**	**+0.7**
CARN	**Rivas**	**1.54**	**76**	*e*P	**Pn**	**19 51 26.6**	**0.0**
CARN				*e*S	**Sg**	**19 51 48.6**	**-0.8**
CARN	**Rivas**	**1.54**	**76**	P	**Pb**	**19 51 27.4**	**-0.5**
CARN				S	**Sg**	**19 51 48.5**	**-0.9**
MGAN	**Managua**	**1.54**	**30**		**Pn**	**19 51 27.2**	**+0.6**
MGAN	**Managua**	**1.54**	**30**	*e*P	**Pb**	**19 51 27.3**	**-0.6**
MGAN	**Managua**	**1.54**	**30**	P	**Pb**	**19 51 27.8**	**-0.2**
MGAN	**Managua**	**1.54**	**30**	S	**Sb**	**19 51 47.8**	**+0.5**
MGAN	**Managua**	**1.54**	**30**	P	**Pb**	**19 51 28.2**	**+0.3**
MGAN	**Managua**	**1.54**	**30**	S	**Sb**	**19 51 48.1**	**+0.8**
APQ2	**Apoyeque**	**1.55**	**27**	P	**Pb**	**19 51 27.7**	**-0.3**
APQ2				S	**Sb**	**19 51 48.1**	**+0.6**
MORN	**AI O del Volca**	**1.56**	**62**	P	**Pn**	**19 51 27.2**	**+0.4**
AERN	**Aeropuerto Man**	**1.58**	**33**	S	**Sb**	**19 51 48.9**	**+0.5**
LAPC	**Finca la Perla**	**1.59**	**91**	*e*P	**Pn**	**19 51 26.8**	**-0.3**
WILN	**Americas 2**	**1.59**	**32**	P	**Pb**	**19 51 28.0**	**-0.6**
WILN				S	**Sb**	**19 51 49.1**	**+0.6**
APQ3	**Volcan Apoyequ**	**1.60**	**24**	P	**Pb**	**19 51 28.3**	**-0.6**
APQ3				S	**Sb**	**19 51 49.0**	**+0.1**
BC84	**Volcan Momotom**	**1.65**	**17**	P	**Pb**	**19 51 28.9**	**-0.8**
BC84	**Volcan Momotom**	**1.65**	**17**	S	**Sb**	**19 51 50.3**	**-0.2**
GPS2	**Hotel Rincn d**	**1.67**	**92**	*e*P	**Pn**	**19 51 28.2**	**-0.1**
GPS2				*e*S	**Sn**	**19 51 49.4**	**-0.1**
MOMN	**Momotombo**	**1.67**	**17**	P	**Pn**	**19 51 29.2**	**+0.8**
MOMN				S	**Sn**	**19 51 49.9**	**+0.4**
GPS1	**Guardaparques**	**1.67**	**91**	*e*P	**Pn**	**19 51 28.3**	**0.0**
GPS1				*e*S	**Sn**	**19 51 49.9**	**+0.4**
VORI	**VORI**	**1.67**	**89**	*e*P	**Pn**	**19 51 28.7**	**+0.2**
BUAI	**Buenos

MESS	**Mesas**	**1.82**	**92**	*eP*		**Pn**	19 51 30.2	-0.3
BC87	**San Francisco**	**1.84**	**24**	S		**Sb**	19 51 55.0	-0.9
BC87	**San Francisco**	**1.84**	**24**	P		**Pn**	19 51 31.0	+0.3
PKGN	**Cerro Pekin**	**1.85**	**2**	P		**Pb**	19 51 32.4	-0.8
PKGN				S		**Sb**	19 51 55.2	-0.9
CUI	**Cuipilapa**	**1.86**	**94**	*eP*		**Pn**	19 51 30.8	-0.1
CRIN	**San Cristobal**	**1.88**	**360**	Pn		**Pb**	19 51 32.7	-1.0
CRIN	**San Cristobal**	**1.88**	**360**	*iP*	⇑	**Pb**	19 51 32.5	-1.2
CRIN	**San Cristobal**	**1.88**	**360**	P		**Pn**	19 51 32.4	+1.1
CRIN	**San Cristobal**	**1.88**	**360**	S		**Sb**	19 51 56.5	-0.5
VMAR	**Armenia, Volca**	**1.90**	**90**	*eP*	⇑	**Pn**	19 51 32.2	+0.7
NYURE	**Nandayure**	**1.94**	**114**	*eP*		**Pn**	19 51 31.1	-0.9
MOTZ	**Rio Naranjo**	**1.94**	**93**	*eP*		**Pn**	19 51 32.4	+0.3
INVE	**Universidad In**	**1.98**	**99**	*eP*		**Pn**	19 51 32.6	0.0
UPAL	**Upala**	**2.00**	**87**	*iP*	⇑	**Pn**	19 51 34.0	+1.1
TIMP	**Tierras Morena**	**2.01**	**96**	*eP*		**Pn**	19 51 33.5	+0.5
TENO	**El Achiote**	**2.04**	**93**	*eP*		**Pn**	19 51 33.6	+0.2
TILA	**Tilaran**	**2.07**	**99**	*eP*		**Pn**	19 51 34.9	+1.1
BOAB	**BOACO BROADBAN**	**2.12**	**40**	Pn		**Pn**	19 51 32.2	-2.2
BOAB	**BOACO BROADBAN**	**2.12**	**40**	P		**Pn**	19 51 34.8	+0.3
BOAB	**BOACO BROADBAN**	**2.12**	**40**	S		**Sn**	19 52 01.4	+0.9
JTS	**Las Juntas de**	**2.12**	**104**			**Pn**	19 51 35.6	+1.0
JTS	**Las Juntas de**	**2.12**	**104**	Pn		**Pn**	19 51 34.5	0.0
	8.2nm,0.3s,baz=314,slow=16,SNR=26							
JTS				Sn		**Sn**	19 51 59.6	-1.1
	75nm,0.3s,baz=237,slow=20,SNR=11							
JTS				LR		LR	19 52 28.9	
	comp=Z,115nm,20.4s,baz=272,slow=46							
JTS	**Las Juntas de**	**2.12**	**104**	*eP*		**Pn**	19 51 34.6	0.0
JTS	**Las Juntas de**	**2.12**	**104**	P		**Pn**	19 51 34.3	-0.3
JTS				S		**Sn**	19 52 00.5	-0.1
QUEB	**Quebradon, Cot**	**2.12**	**95**	*eP*		**Pb**	19 51 36.3	-1.5
ACON	**Acoyapa**	**2.17**	**58**	Pn		**Pn**	19 51 35.0	-0.2
ACON	**Acoyapa**	**2.17**	**58**	*eP*		**Pn**	19 51 34.0	-1.2
ACON	**Acoyapa**	**2.17**	**58**	P		**Pn**	19 51 34.8	-0.4
ACON	**Acoyapa**	**2.17**	**58**	S		**Sn**	19 52 02.9	+1.1
POTN	**Potosi Cosigui**	**2.23**	**348**	*eP*		**Pn**	19 51 37.3	+1.3
POTN	**Potosi Cosigui**	**2.23**	**348**	P		**Pn**	19 51 37.2	+1.3
POTN				S		**Sn**	19 52 02.5	-0.7
TABAC	**Tabacon**	**2.26**	**98**	*eP*		**Pn**	19 51 37.6	+1.1
VARE2	**V. Arenal**	**2.31**	**98**	*eP*		**Pn**	19 51 38.3	+1.0
MATN	**Matagalpa**	**2.38**	**27**	P		**Pn**	19 51 38.1	0.0
MATN	**Matagalpa**	**2.38**	**27**	S		**Sn**	19 52 07.3	+0.2
SOCE	**Pocosol**	**2.42**	**100**			**Pn**	19 51 40.6	+1.9
SOCE	**Pocosol**	**2.42**	**100**	*eP*		**Pn**	19 51 40.1	+1.4
CNCH	**Conchagua**	**2.57**	**343**	*eP*		**Pn**	19 51 42.1	+1.2
CNCH	**Conchagua**	**2.57**	**343**	P		**Pn**	19 51 42.3	+1.5
CNCH	**Conchagua**	**2.57**	**343**	S		**Sn**	19 52 12.4	+0.5
LCND	**La Caada**	**2.62**	**342**	*eP*		**Pn**	19 51 42.2	+0.8
LCND				IAML			19 52 17.1	
	comp=Z,712nm,0.3s							
LCND	**La Caada**	**2.62**	**342**			**Pn**	19 51 42.8	+1.4
CHOHN	**Orocuina**	**2.66**	**358**	P		**Pn**	19 51 43.4	+1.4
CHOHN	**Orocuina**	**2.66**	**358**	S		**Sn**	19 52 15.1	+1.0
RCPN	**Sur Rio San Ju**	**2.86**	**19**	P		**Pn**	19 51 45.6	+0.8
OCON	**Estacion meteo**	**2.86**	**11**	P		**Pn**	19 51 46.5	+1.7
BLLM	**Bellamira**	**2.87**	**336**	*eP*		**Pn**	19 51 45.8	+1.0
LCY	**Lacayo**	**2.87**	**335**	*eP*		**Pn**	19 51 46.2	+1.2
RCVN	**Varillal2**	**2.88**	**17**	P		**Pn**	19 51 46.5	+1.4
RCVN	**Varillal2**	**2.88**	**17**	S		**Sn**	19 52 21.0	+1.4
ALJI	**Alcalda de J**	**2.92**	**329**	P		**Pn**	19 51 47.3	+1.9
ALJI	**Alcalda de J**	**2.92**	**329**	S		**Sn**	19 52 20.7	+0.5
BELE	**Belen**	**2.93**	**106**	*eP*		**Pn**	19 51 46.8	+1.0
HDC	**Heredia**	**2.99**	**105**	Pn		**Pn**	19 51 47.9	+1.2
PAR1A	**Puntarenas Pro**	**3.00**	**113**	*eP*		**Pn**	19 51 48.4	+1.8
ACOS	**Acosta**	**3.01**	**109**	*eP*		**Pn**	19 51 48.4	+1.6
ESPN	**Las Esperanzas**	**3.02**	**63**	Pn		**Pn**	19 51 46.5	-0.4
ESPN	**Las Esperanzas**	**3.02**	**63**	*eP*		**Pn**	19 51 46.9	-0.1
ESPN	**Las Esperanzas**	**3.02**	**63**	P		**Pn**	19 51 48.7	+1.8
ESPN	**Las Esperanzas**	**3.02**	**63**	S		**Sn**	19 52 24.8	+1.8
TECA	**Tecapa**	**3.03**	**332**	*eP*		**Pn**	19 51 48.0	+0.8
TECA				*eP*		Pb	19 51 48.1	-5.2
PICV	**PH. Pirrs**	**3.04**	**112**	*eP*		**Pn**	19 51 49.0	+1.8
LUJA	**Lujan**	**3.06**	**106**	*eP*		**Pn**	19 51 50.4	+2.9
SJS	**Escuela Geolog**	**3.07**	**106**	*eP*		**Pn**	19 51 50.6	+2.9
ECI	**Escuela Centro**	**3.07**	**106**	*iP*	⇓	**Pn**	19 51 50.7	+3.0
SJS3	**Mercedes San J**	**3.07**	**106**	*eP*		**Pn**	19 51 50.7	+3.0
AMPA	**Desamparados**	**3.07**	**107**	*eP*		**Pn**	19 51 50.4	+2.7
PISJ	**San Jermim**	**3.11**	**112**	*eP*		**Pn**	19 51 49.9	+1.6
YUSH	**Yuscaran**	**3.13**	**4**	P		**Pn**	19 51 50.3	+1.8
TRIO	**Tres Rios**	**3.13**	**106**	*eP*		**Pn**	19 51 50.9	+2.3
ABE2	**San Pablo**	**3.14**	**110**	*eP*		**Pn**	19 51 50.2	+1.4
PQSS	**Presa 15 de Se**	**3.17**	**332**	*eP*		**Pn**	19 51 50.6	+1.7
PQSS				IAML			19 52 30.5	
	comp=Z,109nm,0.2s							
PQSS	**Presa 15 de Se**	**3.17**	**332**	P		**Pn**	19 51 50.9	+2.0
PQSS	**Presa 15 de Se**	**3.17**	**332**	S		**Sn**	19 52 26.3	-0.2
LCR2	**La Lucha 2**	**3.17**	**109**			**Pn**	19 51 50.4	+1.2
LCR2	**La Lucha 2**	**3.17**	**109**	*eP*		**Pn**	19 51 50.4	+1.2
TGUH	**Tegucigalpa,Un**	**3.24**	**356**			**Pn**	19 51 51.7	+1.7
TGUH	**Tegucigalpa,Un**	**3.24**	**356**	P		**Pn**	19 51 51.9	+1.9
TGUH				S		**Sn**	19 52 29.0	+0.6
PIEC	**Cerro El Cedra**	**3.26**	**111**	*iP*	⇑	**Pn**	19 51 52.1	+1.9
REPA	**Paraso**	**3.27**	**107**	*eP*		**Pn**	19 51 52.7	+2.1
SCLA	**Alcaldia de Sa**	**3.31**	**330**	*eP*		**Pn**	19 51 52.4	+1.4
SCLA	**Alcaldia de Sa**	**3.31**	**330**	P		**Pn**	19 51 52.9	+1.9
SCLA	**Alcaldia de Sa**	**3.31**	**330**	S		**Sn**	19 52 30.3	+0.2
CVTR	**Volcan Turrial**	**3.33**	**103**	*eP*		**Pn**	19 51 54.4	+2.9
CVTV	**Tajo**	**3.34**	**104**	*eP*		**Pn**	19 51 54.6	+3.0
VINA	**Juan Vinas**	**3.37**	**105**	*eP*		**Pn**	19 51 55.2	+3.4
VERB	**Verbena**	**3.41**	**104**	*eP*		**Pn**	19 51 54.8	+2.4
BLUN	**Bluefields**	**3.42**	**69**	P		**Pn**	19 51 53.6	+1.2
BLUN				S		**Sn**	19 52 33.4	+0.7
LFRS	**El Faro**	**3.42**	**325**	*eP*		**Pn**	19 51 53.3	+0.8
PAVA	**Las Pavas**	**3.43**	**328**	*eP*		**Pn**	19 51 54.2	+1.6
PAVA				IAML			19 52 37.4	
	comp=Z,310nm,0.4s							
RESJ	**San Isidro (Tu**	**3.44**	**103**	*eP*		**Pn**	19 51 55.3	+2.6
LOMA	**Loma Larga**	**3.50**	**324**	*eP*		**Pn**	19 51 54.9	+1.2
LCOCO	**El Coco**	**3.51**	**102**	*eP*		**Pn**	19 51 54.8	+1.2
LFU	**La Fuente**	**3.55**	**326**	*eP*		**Pn**	19 51 55.2	+0.9
PMON	**Piamonte**	**3.64**	**323**	*eP*		**Pn**	19 51 57.6	+2.1
PMON				*eS*		**Sn**	19 52 37.9	-0.4
SIUN	**Universidad Ur**	**3.65**	**37**	P		**Pn**	19 51 57.8	+2.3
JAYA	**Jayaque - finc**	**3.68**	**321**	*eP*		**Pn**	19 51 57.0	+0.9
JAYA				IAML			19 52 42.2	
	comp=Z,201nm,0.3s							
JAYA	**Jayaque - finc**	**3.68**	**321**	P		**Pn**	19 51 57.4	+1.4
JAYA	**Jayaque - finc**	**3.68**	**321**	S		**Sn**	19 52 38.2	-1.0
SAJE	**San Jermim**	**3.77**	**112**	*eP*		**Pn**	19 51 58.5	+1.1
EDPE	**Pejibaye, P**	**3.79**	**115**	*eP*		**Pn**	19 52 00.4	+2.8
VERH	**Veragua Rainfo**	**3.89**	**103**	*eP*		**Pn**	19 52 00.4	+1.4
SBLS	**San Blas**	**3.93**	**320**	*eP*		**Pn**	19 52 00.7	+1.1
SNJE	**San Jose**	**3.94**	**321**	*eP*		**Pn**	19 52 01.0	+1.3
DRKO	**Durika**	**4.05**	**112**	*eP*		**Pn**	19 52 02.5	+1.3
NUBE	**Las Nubes**	**4.07**	**319**	*eP*		**Pn**	19 52 02.5	+1.0
MTO3	**Montecristo**	**4.22**	**328**			**Pn**	19 52 05.5	+1.9
ESQI	**Esquipulas**	**4.35**	**329**	Pn		Pn	19 52 00.3	-5.0
ALCO	**Alturas Coton,**	**4.54**	**114**	*eP*		**Pn**	19 52 09.2	+1.1
BRU2	**Volcan**	**4.74**	**115**	P		**Pn**	19 52 12.9	+2.3
BRU2	**Volcan**	**4.74**	**115**	S		**Sn**	19 53 04.8	-0.6
CMIG	**Matias Romero**	**9.84**	**310**	Pn		**Pn**	19 53 22.1	+1.5
	comp=Z,1.4nm,0.3s,baz=162,slow=11,SNR=15							
CMIG				Sn		**Sn**	19 55 10.8	-0.2
	comp=Z,0.1nm,0.3s,baz=62,slow=18,SNR=1.3							
	comp=Z,3.2nm,0.3s							
TLIG	**Tlapa**	**13.03**	**302**			**Pn**	19 54 08.5	+4.1
HBVL	**Hebbronville**	**19.53**	**327**			**Pn**	19 55 28.4	+0.5
HBVL				IAmb		IAmb	19 55 29.6	
	comp=Z,19nm,0.7s							
HNDO	**Hondo**	**21.85**	**330**	P		**P**	19 55 51.2	-0.5
GOGA	**Godfrey**	**22.74**	**8**			**P**	19 56 01.3	+0.2
GOGA				IAmb		IAmb	19 56 12.1	
	comp=Z,14nm,0.8s							
BRDY	**Brady**	**23.20**	**333**	P		**P**	19 56 03.4	-2.5
TXAR	**Lajitas Array**	**24.10**	**322**			**P**	19 56 15.0	+0.1
TXAR	**Lajitas Array**	**24.10**	**322**	P		**P**	19 56 15.8	+1.0
	comp=Z,3.1nm,0.8s,baz=140,slow=10,SNR=33							
	comp=Z,3.1nm,0.8s							
TX31	**Lajitas Ar. Si**	**24.10**	**322**	P		**P**	19 56 16.2	+1.3
W50A	**Signal Mountai**	**24.33**	**3**	P		**P**	19 56 16.9	0.0
W50A				IAmb		IAmb	19 56 28.1	
	comp=Z,9.1nm,0.9s							
BG3	**Lake Jocassee**	**24.37**	**8**	P		**P**	19 56 16.4	-0.7
BG3				IAmb		IAmb	19 56 27.6	
	comp=Z,9.4nm,0.8s							
MIAR	**Mount Ida**	**24.37**	**347**	P		**P**	19 56 15.7	-1.4
MIAR				IAmb		IAmb	19 56 27.5	
	comp=Z,5.7nm,1.0s							
CPCT	**Cooper Cave**	**24.64**	**5**			**P**	19 56 19.4	-0.2
SGCY	**Sterling City**	**24.71**	**330**	P		**P**	19 56 19.4	-1.0
SGCY				IAmb		IAmb	19 56 25.9	
	comp=Z,3.9nm,0.7s							
TKL	**Tuckaleechee C**	**24.92**	**6**	P		**P**	19 56 21.9	-0.3
TKL				IAmb		IAmb	19 56 33.5	
	comp=Z,7.3nm,0.8s							
V53A	**Saluda**	**25.05**	**8**	P		**P**	19 56 25.0	+1.6
MNHN	**Monahans**	**25.09**	**327**	P		**P**	19 56 23.9	+0.1
MNHN				IAmb		IAmb	19 56 25.8	
	comp=Z,8.9nm,0.9s							
PV18	**Skein Mesa, Pa**	**33.61**	**328**	P		**P**	19 57 40.6	+0.9
PDAR	**Pinedale Array**	**37.40**	**332**	P		**P**	19 58 10.9	-1.4
	comp=Z,0.4nm,0.6s,baz=122,slow=11,SNR=5.9							
	comp=Z,0.4nm,0.6s							
NVAR	**Mina Array Bea**	**39.20**	**320**	P		**P**	19 58 27.6	+0.2
	comp=Z,0.6nm,0.7s,baz=150,slow=8.3,SNR=4.4							
NVAR				PcP		**PcP**	**20 00 38.7**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=135,slow=5.0,SNR=5.0							
	comp=Z,0.6nm,0.7s							
BDFB	**Brasilia**	**46.73**	**124**	P		**P**	**19 59 30.5**	**+1.8**
	comp=Z,2.3nm,0.9s,baz=225,slow=10.0,SNR=2.1							
	comp=Z,2.3nm,0.9s							
SCHQ	**Schefferville**	**46.73**	**16**	P		P	19 59 22.4	-5.5
	comp=Z,1.5nm,0.8s,baz=240,slow=7.2,SNR=7.6							
	comp=Z,1.5nm,0.8s							
YKA	**Yellowknife Ar**	**55.29**	**345**	P		**P**	**20 00 29.7**	**-2.5**
	comp=Z,0.5nm,0.7s,baz=154,slow=5.2,SNR=4.4							
YKA				PcP		**PcP**	**20 01 32.8**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=153,slow=3.1,SNR=1.4							
	comp=Z,0.5nm,0.7s							
ILAR	**Eielson Array**	**67.67**	**336**	P		**P**	**20 01 53.7**	**-2.2**
	comp=Z,0.4nm,0.9s,baz=153,slow=4.4,SNR=5.7							
	comp=Z,0.4nm,0.9s							
PMSA	**Palmer Station**	**77.33**	**170**	LR		LR	20 32 40.1	
	comp=Z,74nm,18.8s,baz=225,slow=32							
HFS	**Hagfors**	**86.01**	**30**	P		**P**	**20 03 36.1**	**-3.2**
	comp=Z,1.9nm,0.9s,baz=220,slow=13,SNR=2.7							
	comp=Z,1.9nm,0.9s							
KSRS	**Korea Array**	**121.86**	**328**	PKP		**PKiKP**	**20 09 54.6**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=64,slow=2.3,SNR=1.9							
ASAR	**Alice Springs**	**139.00**	**246**	PKhKP		PKPpre	20 10 27.0	
	comp=Z,0.2nm,0.5s,baz=107,slow=1.7,SNR=4.6							
WRA	**Warramunga Arr**	**139.17**	**252**	PKhKP		PKPpre	20 10 27.3	
	comp=Z,0.8nm,0.8s,baz=86,slow=2.0,SNR=3.5							
CMAR	**Chiang Mai Arr**	**150.33**	**348**	PKPbc		**PKPbc**	**20 10 50.8**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=19,slow=2.8,SNR=4.2							

*IDC **14** 19:55:00.5±2.9, 18.˚55S×120.˚41E, h0km, mb3.6/1, mbtmp3.9/6, ML3.6/5, Error ellipse: s-maj=32.1km s-min=24.7km az=138.0*
*NOU **14** 19:55:02.2, 18.˚07S×119.˚66E, h101km, mb4.1/9, Northwest of Australia*
*AUST **14** 19:55:08.3±1.1, 19.˚5S×6.˚×12.˚1E±.˚, h15km±10km, mb4.2/21, ML3.3/5, Error ellipse: s-maj=14.9km s-min=5.0km az=142.8*

ISC 14 19:55:01.7±1.0, 18.˚68S±0.˚06×120.˚44E±0.˚06, h10km, n51, σ3.˚10/59, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBWA	**Marble Bar**	**2.55**	**195**	P		**Pb**	**19 55 48.8**	**+1.1**
MBWA				S		**Sg**	**19 56 22.5**	**-1.4**
MBWA	**Marble Bar**	**2.55**	**195**	P		**Pb**	**19 55 48.8**	**+1.1**
PSAC1	**Pilbara Seismi**	**2.90**	**192**	P		**Pb**	**19 55 53.3**	**-0.2**
PSAC1				S		**Sb**	**19 56 29.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**4.97**	**84**	P		**Pn**	**19 56 18.6**	**+2.1**
FITZ	**Fitzroy Crossi**	**4.97**	**84**	S		**Sn**	**19 57 13.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**4.97**	**84**	Pn		**Pn**	**19 56 16.4**	**-0.2**
	1.4nm,0.3s,baz=262,slow=13,SNR=42							
FITZ				Sn		**Sn**	**19 57 12.8**	**-1.4**
	4.8nm,0.3s,baz=354,slow=19,SNR=6.9							
FITZ				Lg		Lg	19 57 39.9	
	4.8nm,0.3s,baz=345,slow=19,SNR=4.5							
	3.6nm,0.4s							
GIRL	**Giralia**	**7.02**	**235**	P		**Pn**	**19 56 46.1**	**+1.5**
GIRL				S		**Sn**	**19 58 01.6**	**-3.0**
MEEK	**Meekatharra**	**8.10**	**192**	P		**Pn**	**19 57 03.9**	**+4.4**
	comp=Z,16nm,2.6s,comp=Z,0.1nm							
MEEK	**Meekatharra**	**8.10**	**192**	S		**Sn**	**19 58 33.3**	**+2.1**
MEEK	**Meekatharra**	**8.10**	**192**	P		**Pn**	**19 57 03.8**	**+4.4**
CVQOZ	**Cooralya Stati**	**8.24**	**225**	P		**Pn**	**19 57 03.6**	**+2.2**
CVQOZ				S		**Sn**	**19 58 31.3**	**-3.3**
KNRA	**Kununurra**	**8.50**	**71**	P		**Pn**	**19 57 05.1**	**+0.1**
	comp=Z,18nm,0.9s,comp=Z,0.1nm							
KNRA				S		**Sn**	**19 58 35.8**	**-5.3**
BATI	**Baumata**	**8.98**	**21**	Pn		**Pn**	**19 57 11.8**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=256,slow=4.2,SNR=1.7							
BATI				Sn		Sn	19 58 42.6	-10
	comp=Z,2.4nm,0.3s,baz=162,slow=20,SNR=1.4							
BATI				Lg		Lg	19 59 25.1	
	comp=Z,2.8nm,0.3s,baz=277,slow=19,SNR=1.4							
	comp=Z,12nm,0.7s							
WRKA	**Warakurna**	**9.65**	**132**	P		**Pn**	**19 57 25.1**	**+4.3**
	comp=Z,1.8nm,0.8s,comp=Z,0.0nm							
WRKA				S		**Sn**	**19 59 11.0**	**+1.6**
MORW	**Morawa**	**11.09**	**200**	P		**Pn**	**19 57 41.8**	**+1.3**
	comp=Z,17nm,2.2s							
MORW	**Morawa**	**11.09**	**200**	S		**Sn**	**19 59 41.4**	**-3.3**
MORW	**Morawa**	**11.09**	**200**	P		**Pn**	**19 57 42.0**	**+1.5**
MTN	**Manton Dam**	**11.82**	**62**	P		**Pn**	**19 57 48.5**	**-2.0**
	comp=Z,18nm,0.4s							
DRS	**Darwin Rock St**	**11.84**	**60**	P		**Pn**	**19 57 53.7**	**+2.9**
	comp=Z,11nm,1.1s							
DRS				S		Sn	19 59 53.6	-9.4
BLDU	**Ballidu**	**12.35**	**195**	P		**Pn**	**19 58 00.2**	**+2.4**
	comp=Z,19nm,2.1s							
BLDU	**Ballidu**	**12.35**	**195**	S		**Sn**	**20 00 09.7**	**-5.9**
BLDU	**Ballidu**	**12.35**	**195**	P		**Pn**	**19 58 00.3**	**+2.5**
KDU	**Kakadu**	**13.03**	**65**	P		**Pn**	**19 58 04.8**	**-2.3**
	comp=Z,31nm,1.9s							
KDU	**Kakadu**	**13.03**	**65**	S		Sn	20 00 21.5	-11
KDU	**Kakadu**	**13.03**	**65**	P		**Pn**	**19 58 09.2**	**+2.2**
KLBR	**Kellerberrin**	**13.08**	**190**	P		**Pn**	**19 58 10.6**	**+2.8**
	comp=Z,20nm,1.8s							
KLBR	**Kellerberrin**	**13.08**	**190**	P		**Pn**	**19 58 10.5**	**+2.8**
WRA	**Warramunga Arr**	**13.19**	**98**	Pn		**Pn**	**19 58 09.0**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=274,slow=14,SNR=8.6							
WRA				Sn		**Sn**	**20 00 31.3**	**-4.7**
	comp=Z,0.9nm,0.3s,baz=277,slow=24,SNR=6.1							
WRA				Lg		Lg	20 02 01.7	
	baz=280,slow=29							
	comp=Z,1.0nm,0.8s							
WRAB	**Tennant Creek**	**13.20**	**98**	P		**Pn**	**19 58 12.9**	**+3.6**
	comp=Z,9.4nm,1.1s							
WRAB				S		**Sn**	**20 00 30.2**	**-6.1**
AS31	**Alice Springs**	**13.50**	**114**	P		Pn	19 58 19.4	+5.9
AS31	**Alice Springs**	**13.50**	**114**	S		**Sn**	**20 00 44.2**	**+0.4**
ASAR	**Alice Springs**	**13.50**	**114**	Pn		**Pn**	**19 58 13.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=292,slow=12,SNR=16							
ASAR				Sn		**Sn**	**20 00 40.4**	**-3.4**
	comp=Z,0.5nm,0.3s,baz=299,slow=23,SNR=8.7							
ASAR				Lg		Lg	20 02 11.5	
	baz=291,slow=40							
	comp=Z,1.2nm,0.6s							
MUN	**Mundaring**	**13.78**	**195**	P		**Pn**	**19 58 19.4**	**+2.1**
	comp=Z,17nm,1.2s							
MUN	**Mundaring**	**13.78**	**195**	S		**Sn**	**20 00 44.5**	**-5.9**
MUN	**Mundaring**	**13.78**	**195**	P		**Pn**	**19 58 18.9**	**+1.7**
FORT	**Forrest**	**13.88**	**152**	P		**Pn**	**19 58 20.5**	**+1.8**
	comp=Z,8.0nm,0.8s							
FORT				S		**Sn**	**20 00 54.4**	**+1.4**
DNDOZ	**Balladonia**	**14.06**	**168**	P		**Pn**	**19 58 23.6**	**+2.5**
DNDOZ				S		**Sn**	**20 00 57.6**	**+0.3**
UGM	**Wanagama**	**14.40**	**317**	P		Pn	19 58 20.1	-5.8
	comp=Z,85nm,1.8s							
UGM	**Wanagama**	**14.40**	**317**	S		Sn	20 00 48.0	-18
NWAO	**Narrogin (SRO)**	**14.47**	**191**	P		**Pn**	**19 58 28.2**	**+1.4**
	comp=Z,25nm,1.0s							
NWAO	**Narrogin (SRO)**	**14.47**	**191**	S		**Sn**	**20 01 01.5**	**-5.9**
NWAO	**Narrogin (SRO)**	**14.47**	**191**	Pn		**Pn**	**19 58 27.7**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=16,slow=12,SNR=15							
NWAO				Sn		**Sn**	**20 01 00.5**	**-6.9**
	comp=Z,2.6nm,0.3s,baz=13,slow=18,SNR=7.1							
NWAO				Lg		Lg	20 02 44.5	
	comp=Z,0.6nm,0.3s,baz=319,slow=20,SNR=1.6							
	comp=Z,5.1nm,0.3s							
NWAO	**Narrogin (SRO)**	**14.47**	**191**	P		**Pn**	**19 58 28.1**	**+1.4**
NWAO	**Narrogin (SRO)**	**14.47**	**191**	P		**Pn**	**19 58 28.0**	**+1.2**
RKGY	**Rocky Gully**	**16.16**	**190**	P		**Pn**	**19 58 50.8**	**+1.8**
	comp=Z,17nm,1.2s							
RKGY				S		**Sn**	**20 01 41.7**	**-6.7**
MULG	**Mulgathing**	**16.92**	**136**	P		**P**	**19 59 02.3**	**+1.5**
	comp=Z,11nm,1.7s							
LCRK	**Leigh Creek**	**19.93**	**129**	P		**Pn**	**19 59 38.5**	**+2.9**
	comp=Z,7.0nm,1.4s							
INKA	**Innaminka**	**20.70**	**120**	P		Pn	19 59 47.6	+3.0
	comp=Z,4.3nm,2.9s							
YAPP	**Yappala Statio**	**20.78**	**133**	P		**Pn**	**19 59 48.1**	**+2.6**
	comp=Z,4.9nm,2.8s							
NAPP	**Napperby**	**21.45**	**136**	P		**P**	**19 59 55.3**	**+5.0**
	comp=Z,12nm,1.4s							
STKA	**Stephens Creek**	**23.15**	**129**	P		**P**	**20 00 09.3**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=319,slow=11,SNR=1.7							
	comp=Z,1.6nm,0.7s							

PGC 14 20:00:19.6±0.2, 52.˚69N×132.˚15W, h24km, ML2.2/11, 62km south of Village of Queen Charlotte, Bc Haida Gwaii Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HG1B	**Mitchell Dam**	**0.24**	**3**	P		**Pb**	20 00 25.3	-0.3
HG1B				S		**Sb**	20 00 28.9	-0.9
BAIB	**Barry Inlet**	**0.27**	**116**	P		**Pb**	20 00 26.0	-0.1
BAIB				S		**Sb**	20 00 29.9	-0.7
MOBC	**Moresby Island**	**0.47**	**14**	P		**Pb**	20 00 29.1	-0.1
MOBC				S		**Sb**	20 00 35.6	-0.2
MOBC	**Moresby Island**	**0.47**	**14**	P		**Pb**	20 00 28.9	-0.3
DI2B	**Dawson Inlet**	**0.55**	**339**	P		**Pb**	20 00 30.1	-0.5
DI2B				S		**Sb**	20 00 37.3	-0.7
JEDB	**Jedway, Haida**	**0.71**	**124**	P		**Pb**	20 00 32.9	-0.4
JEDB				S		**Sb**	20 00 42.0	-0.6
PCLB	**Port Clements**	**1.05**	**348**	P		**Pn**	20 00 38.5	-0.3
PCLB				S		**Sn**	20 00 52.9	+0.3
BNAB	**Bonilla**	**

TWT			*i* S		**Sn**	**20 24 59.8**	**-0.9**
WHF	**Hehuan Shan**	**0.93 226**	*i* P		**Pb**	**20 24 46.4**	**-0.3**
WHF			*i* S		**Sg**	**20 24 58.5**	**0.0**
TDCB	**Techi**	**0.93 235**	*i* P		**Pb**	**20 24 46.5**	**-0.2**
TDCB			S		**Sn**	**20 24 59.8**	**-1.2**
JYNG	**Yonagunijimaku**	**0.94 112**	*eP*		**Pb**	**20 24 46.3**	**-0.3**
JYNG			*eS*		**Sg**	**20 24 59.1**	**+0.6**
LXIB	**Xiulin Townshi**	**0.94 214**	*i* P		**Pb**	**20 24 46.0**	**-0.7**
LXIB			*i* S		**Sg**	**20 24 59.5**	**+0.8**
ETM	**Tongmen**	**0.95 209**	*i* P		**Pb**	**20 24 46.0**	**-0.8**
ETM			S		**Sb**	**20 24 59.2**	**-0.1**
YOJ	**Yonaguni jima**	**0.99 110**	*eP*		**Pb**	**20 24 47.4**	**-0.1**
YOJ			*eS*		**Sb**	**20 25 00.3**	**-0.2**
YOJ	**Yonaguni jima**	**0.99 110**	*i* P		**Pb**	**20 24 46.9**	**-0.6**
YOJ			*eS*		**Sg**	**20 25 00.9**	**+0.7**
TEYL	**Yanliau Villag**	**0.99 201**	*i* P		**Pg**	**20 24 47.7**	**+0.2**
TEYL			*eS*		**Sb**	**20 25 00.6**	**-0.1**
SHUL	**Shoufeng**	**1.08 201**	*i* P		**Pg**	**20 24 49.5**	**+0.3**
SHUL			*eS*		**Sn**	**20 25 04.1**	**-0.3**
WHP	**Taichung City**	**1.08 242**	*i* P		**Pg**	**20 24 49.6**	**+0.4**
WHP			*eS*		**Sn**	**20 25 04.4**	**-0.3**
ESL	**Shilin**	**1.10 208**	*i* P		**Pb**	**20 24 48.5**	**-1.0**
ESL			S		**Sb**	**20 25 03.4**	**-0.5**
NMLH	**Miaoli**	**1.12 257**	*i* P		**Pg**	**20 24 51.3**	**+1.3**
NMLH			*eS*		**Sn**	**20 25 06.4**	**+0.9**
OWD	**Renai**	**1.12 222**	*i* P		**Pb**	**20 24 49.7**	**-0.1**
OWD			*eS*		**Sb**	**20 25 03.7**	**-0.9**
WUSB	**Renai**	**1.13 225**	*i* P		**Pb**	**20 24 49.0**	**-1.0**
WUSB			S		**Sn**	**20 25 05.6**	**-0.3**
TWQ1	**Liyutan**	**1.20 248**	P		**Pb**	**20 24 51.2**	**+0.1**
TWQ1			*eS*		**Sg**	**20 25 09.7**	**+2.7**
WARBT	**Fenglin Townsh**	**1.21 207**	*i* P		**Pn**	**20 24 50.6**	**-0.8**
WARBT			*eS*		**Sg**	**20 25 08.1**	**+2.0**
WCS	**Beigang Elemen**	**1.23 233**	P		**Pg**	**20 24 52.2**	**+0.2**
WCS			*eS*		**Sb**	**20 25 07.2**	**-0.3**
EGFH	**Guangfu**	**1.24 205**	*i* P		**Pb**	**20 24 51.7**	**-0.1**
EGFH			*i* S		**Sg**	**20 25 09.3**	**+1.0**
VWDT	**VWDT**	**1.30 217**	*i* P		**Pb**	**20 24 52.5**	**-0.3**
VWDT			S		**Sg**	**20 25 10.0**	**-0.2**
SMLT	**Sun Moon Lake**	**1.35 228**	*i* P		**Pn**	**20 24 53.2**	**0.0**
SMLT			*eS*		**Sg**	**20 25 11.9**	**+0.1**
TYC	**Yuchr**	**1.37 229**	*i* P		**Pg**	**20 24 54.4**	**-0.2**
TYC			*eS*		**Sg**	**20 25 12.0**	**-0.3**
SSLB	**Suanglung**	**1.38 223**	*i* P		**Pn**	**20 24 53.7**	**+0.1**
SSLB			*eS*		**Sb**	**20 25 11.8**	**-0.2**
HGSD	**Ruisui**	**1.40 202**	*i* P		**Pb**	**20 24 54.6**	**+0.1**
HGSD			*eS*		**Sg**	**20 25 15.7**	**+2.3**
EHY	**Hungye**	**1.43 206**	*i* P		**Pn**	**20 24 54.1**	**-0.1**
EHY			*eS*		**Sb**	**20 25 13.7**	**+0.6**
EHYH	**Wanrong**	**1.43 205**	*i* P		**Pn**	**20 24 54.2**	**0.0**
EHYH			S		**Sg**	**20 25 14.6**	**+0.3**
WNT	**Mingjian**	**1.50 233**	P		**Pg**	**20 24 57.4**	**+0.1**
WNT			S		**Sg**	**20 25 18.2**	**+1.4**
WHYT	**Xinyi Township**	**1.51 224**	*i* P		**Pg**	**20 24 57.9**	**+0.5**
WHYT			S		**Sb**	**20 25 16.3**	**+0.7**
YULB	**Yu-li**	**1.54 204**	*i* P		**Pb**	**20 24 56.4**	**-0.5**
YULB			S		**Sg**	**20 25 18.0**	**+0.2**
TWF1	**Yuli**	**1.57 204**	*i* P		**Pn**	**20 24 56.7**	**+0.5**
TWF1			*eS*		**Sb**	**20 25 17.5**	**+0.1**
ALS	**Alishan**	**1.68 220**	*i* P		**Pg**	**20 25 00.3**	**-0.3**
ALS			*eS*		**Sg**	**20 25 22.6**	**+0.2**
CHKH	**Chenggong**	**1.69 199**	P		**Pb**	**20 24 59.6**	**+0.1**
CHKH			*eS*		**Sb**	**20 25 21.4**	**+0.6**
CHN5	**Tsauling**	**1.69 225**	*i* P		**Pg**	**20 25 01.1**	**+0.2**
CHN5			*i* S		**Sg**	**20 25 23.8**	**+0.9**
FULB	**Fuli**	**1.72 202**	*i* P		**Pb**	**20 24 59.2**	**-0.7**
FULB			*eS*		**Sb**	**20 25 21.5**	**+0.1**
EHD	**Haiduan**	**1.79 204**	*i* P		**Pb**	**20 25 01.0**	**-0.3**
EHD			*eS*		**Sb**	**20 25 23.3**	**-0.5**
ELDTW	**Lidau**	**1.83 209**	*i* P		**Pb**	**20 25 01.4**	**-0.6**
ELDTW			*eS*		**Sb**	**20 25 24.4**	**-0.6**
WCKO	**Fanlu**	**1.85 223**	*i* P		**Pg**	**20 25 03.9**	**0.0**
WCKO			*i* S		**Sg**	**20 25 28.6**	**+0.6**
EDH	**Donghe**	**1.92 199**	*eP*		**Pb**	**20 25 02.8**	**-0.6**
EDH			*eS*		**Sb**	**20 25 26.1**	**-1.4**
CHN4	**Tsaushan**	**1.93 222**	*i* P		**Pb**	**20 25 04.1**	**+0.6**
CHN4			*i* S		**Sg**	**20 25 30.9**	**+0.6**
TPUB	**Ta-pu**	**1.94 220**	*i* P		**Pb**	**20 25 03.9**	**+0.1**
TPUB			S		**Sg**	**20 25 30.6**	**-0.3**
STYH	**Taoyuan**	**1.97 215**	*i* P		**Pb**	**20 25 03.6**	**-0.6**
STYH			*eS*		**Sg**	**20 25 30.9**	**-0.7**
WTP	**Ta-pu**	**1.99 219**	*i* P		**Pb**	**20 25 05.4**	**+0.7**
WTP			S		**Sb**	**20 25 31.0**	**+1.5**
LONT	**Longtian**	**2.04 203**	*eP*		**Pn**	**20 25 03.8**	**+1.1**
LONT			*eS*		**Sb**	**20 25 29.6**	**-1.4**
WSL	**Shuilin Townsh**	**2.05 232**	*eP*		**Pb**	**20 25 04.9**	**+0.7**
WSL			*eS*		**Sb**	**20 25 32.0**	**+0.9**
SNST	**Tainan City**	**2.08 221**	*i* P		**Pb**	**20 25 06.4**	**+0.2**
SNST			S		**Sg**	**20 25 34.7**	**-0.6**
CHN1	**Nanshi**	**2.09 220**	P		**Pb**	**20 25 07.2**	**+0.9**
CHN1			*i* S		**Sg**	**20 25 35.1**	**-0.5**
MATB	**Ma-tsu**	**2.29 306**	*eP*		**Pn**	**20 25 07.5**	**+1.5**
MATB			*eS*		**Sn**	**20 25 34.5**	**+0.2**
ECL	**Taimali**	**2.39 204**	*eP*		**Pb**	**20 25 09.8**	**-1.6**
ECL			*eS*		**Sn**	**20 25 37.7**	**+0.9**
SSD	**Sandimen**	**2.39 212**	*i* P		**Pb**	**20 25 11.8**	**+0.3**
SSD			S		**Sb**	**20 25 42.9**	**+1.9**
MASBT	**Mashibuluo**	**2.51 210**	P		**Pb**	**20 25 12.2**	**-1.2**
MASBT			*eS*		**Sb**	**20 25 45.0**	**+0.6**
EAST	**Anshuo**	**2.62 204**	*eP*		**Pb**	**20 25 13.1**	**-2.4**
EAST			*eS*		**Sb**	**20 25 45.1**	**-2.6**

AUST 14 20:25:57.5±0.7,19°S±5′×12°1E±′,h10km,mb4.1/6, ML3.1/5,Error ellipse: s-maj=13.4km s-min=5.4km az=141.0,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.75**	**199**	P	Pn	20 26 42.1	+0.5
PSAC1	**Pilbara Seismi**	**3.08**	**195**	P	Pn	20 26 46.8	+0.5
PSAC1				S	Sn	20 27 23.5	+0.3
PSAC2	**Pilbara Seismi**	**3.09**	**193**	P	Pn	20 26 47.2	+0.8
PSAC2				S	Sn	20 27 24.2	+0.8
PSAB2	**Pilbara Seismi**	**3.09**	**194**	P	Pn	20 26 46.9	+0.5
PSAB1	**Pilbara Seismi**	**3.11**	**195**	P	Pn	20 26 47.4	+0.7
PSAA1	**Pilbara Seismi**	**3.12**	**194**	P	Pn	20 26 47.6	+0.8
PSAB3	**Pilbara Seismi**	**3.13**	**194**	P	Pn	20 26 47.6	+0.7
PSAB3				S	Sn	20 27 26.1	+1.7
FITZ	**Fitzroy Crossi**	**4.74**	**85**	P	Pn	20 27 09.9	+0.8
FITZ	**Fitzroy Crossi**	**4.74**	**85**	S	Sn	20 28 04.7	+0.5
GIRL	**Giralia**	**7.28**	**235**	P	Pn	20 27 39.8	-4.1
GIRL				S	Sn	20 28 54.3	-12
KNRA	**Kununurra** comp=Z,21nm,1.6s,comp=Z,0.1nm	**8.25**	**71**	P	Pn	20 27 56.5	-0.7
KNRA				S	Sn	20 29 28.7	-1.8
MEEK	**Meekatharra** comp=Z,12nm,2.1s,comp=Z,0.1nm	**8.28**	**193**	P	Pn	20 27 57.6	-0.1
MEEK	**Meekatharra**	**8.28**	**193**	P	Sn	20 29 27.5	-3.8
CVQOZ	**Cooralya Stati**	**8.49**	**225**	P	Pn	20 27 57.9	-2.7
CVQOZ				S	Sn	20 29 24.6	-12
WRKA	**Warakurna** comp=Z,2.9nm,3.0s,comp=Z,0.0nm	**9.59**	**134**	P	Pn	20 28 19.1	+3.5
WRKA				S	Sn	20 30 04.6	+1.0
MORW	**Morawa** comp=Z,12nm,1.8s	**11.30**	**201**	P	Pn	20 28 36.2	-2.9
MORW	**Morawa**	**11.30**	**201**	S	Sn	20 30 35.8	-10
BLDU	**Ballidu** comp=Z,16nm,2.1s	**12.55**	**196**	P	Pn	20 28 54.3	-1.8
BLDU	**Ballidu**	**12.55**	**196**	S	Sn	20 31 06.1	-10
FORT	**Forrest** comp=Z,7.5nm,1.0s	**13.90**	**153**	P	Pn	20 29 15.5	+0.8
MUN	**Mundaring** comp=Z,20nm,1.8s	**13.97**	**196**	P	Pn	20 29 13.3	-2.3
MUN	**Mundaring**	**13.97**	**196**	S	Sn	20 31 39.1	-12

*IDC **14** 20:29:55.6±1.0,24°.00N×122°.05E,h0km,mb3.7/9, mbtmp3.8/10,ML3.8/1,Error ellipse: s-maj=31.7km s-min=18.8km az=62.0*

*JMA **14** 20:30:01.9±0.1,23°.9N±0°.5×122°.1E±0°.4,h35km±2km, MV3.9/17,TAIWAN REGION*

*ASIES **14** 20:30:02.7,23°.90N×122°.09E,h43km,ML4.2,Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_n3.44; $M_{\theta\theta}$-0.45; $M_{\phi\phi}$-2.99; $M_{r\theta}$0.99; $M_{\theta\phi}$-0.38; $M_{\phi r}$1.33; Fault plane solution: $M_0$3.65384×10^{14} NP1: ϕ_s179.52000°,δ33.56000°,λ73.15000°. NP2:ϕ_s19.49000°, δ58.06000°,λ100.88000°. Principal axes: T Plg74.4400°, Azm319.3470°; N Plg9.2210°, Azm193.6850°; P*

Plg12.4230°, Azm101.6350°;
*TAP **14** 20:30:02.7,23°.90N×122°.09E,h43km,ML4.2,C*
ISC 14 20:30:01.6±0.9,23°.86N±0°.02×122°.15E±0°.02,h41km±8km, n186,σ1$69/307,mb3.8/9,4C-74D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.30**	**32**	⇑*iP*	**Pn**	**20 30 10.6**	**+1.1**
EOS4				*eS*	**Sn**	**20 30 16.9**	**+1.8**
EOS3	**EOS3**	**0.45**	**21**	⇑*iP*	**Pn**	**20 30 12.8**	**+1.2**
EOS3				*eS*	**Sn**	**20 30 20.2**	**+1.7**
TEYL	**Yanliau Villag**	**0.50**	**271**	⇓*iP*	**Pn**	**20 30 12.7**	**+0.4**
TEYL				*eS*	**Sn**	**20 30 20.9**	**+0.9**
HWA	**Hwalien**	**0.51**	**283**	⇓*iP*	**Pn**	**20 30 12.8**	**+0.4**
HWA				*eS*	**Sn**	**20 30 21.3**	**+1.2**
SHUL	**Shoufeng**	**0.54**	**262**	⇓P	**Pn**	**20 30 13.3**	**+0.5**
SHUL				*i* S	**Sn**	**20 30 22.5**	**+1.6**
TWD	**Chiawan**	**0.55**	**293**	⇓*eP*	**Pn**	**20 30 12.9**	**-0.1**
TWD				*i* S	**Sn**	**20 30 20.5**	**-0.5**
EOS2	**EOS2**	**0.56**	**8**	*eP*	**Pn**	**20 30 14.2**	**+1.2**
ETL	**Fush Village**	**0.56**	**302**	*eP*	**Pn**	**20 30 13.1**	**-0.1**
ETL				*eS*	**Sn**	**20 30 21.3**	**-0.1**
TEGC	**Jichi Village**	**0.57**	**255**	⇓*iP*	**Pn**	**20 30 13.8**	**+0.5**
TEGC				*eS*	**Sn**	**20 30 23.6**	**+2.0**
EHP	**Heping Village**	**0.58**	**320**	*eP*	**Pn**	**20 30 13.3**	**-0.1**
EHP				*eS*	**Sn**	**20 30 22.4**	**+0.6**
NACB	**Ninganchiao**	**0.59**	**302**	P	**Pn**	**20 30 13.2**	**-0.4**
NACB	**Ninganchiao**	**0.59**	**302**	⇓*iP*	**Pn**	**20 30 13.4**	**-0.2**
NACB				*i* S	**Sn**	**20 30 21.6**	**-0.4**
EAHA	**Aohua**	**0.59**	**321**	⇓*iP*	**Pn**	**20 30 13.9**	**+0.3**
EAHA				*eS*	**Sn**	**20 30 22.5**	**+0.4**
ETM	**Tongmen**	**0.60**	**280**	⇓*iP*	**Pn**	**20 30 13.7**	**0.0**
ETM				*eS*	**Sn**	**20 30 22.4**	**0.0**
ESL	**Shilin**	**0.65**	**266**	⇓*iP*	**Pn**	**20 30 14.3**	**-0.1**
ESL				*eS*	**Sn**	**20 30 23.3**	**-0.3**
EWUT	**Wuta**	**0.67**	**330**	⇓*iP*	**Pn**	**20 30 15.2**	**+0.6**
EWUT				*i* S	**Sn**	**20 30 24.7**	**+0.7**
ENA	**Nanau**	**0.67**	**327**	⇓*iP*	**Pn**	**20 30 15.0**	**+0.3**
ENA				*eS*	**Sn**	**20 30 24.9**	**+0.9**
EGFH	**Guangfu**	**0.69**	**254**	*eP*	**Pn**	**20 30 15.1**	**+0.3**
EGFH				*eS*	**Sn**	**20 30 24.8**	**+0.4**
LXIB	**Xiulin Townshi**	**0.69**	**283**	⇓*iP*	**Pn**	**20 30 15.0**	**0.0**
LXIB				S	**Sn**	**20 30 24.5**	**-0.2**
ETLH	**Xiulin Townshi**	**0.70**	**299**	⇓*iP*	**Pn**	**20 30 15.1**	**0.0**
ETLH				*eS*	**Sn**	**20 30 24.4**	**-0.4**
WARBT	**Fenglin Townsh**	**0.71**	**258**	⇓*iP*	**Pn**	**20 30 15.2**	**0.0**
WARBT				S	**Sn**	**20 30 24.8**	**-0.2**
HGSD	**Ruisui**	**0.76**	**241**	⇓*iP*	**Pn**	**20 30 16.0**	**+0.2**
HGSD				*eS*	**Sn**	**20 30 28.5**	**+2.4**
ESAO	**Su ao**	**0.76**	**339**	⇓P	**Pn**	**20 30 16.4**	**+0.6**
ESAO				S	**Sn**	**20 30 26.5**	**+0.4**
TWC	**Suao**	**0.79**	**340**	⇓*iP*	**Pn**	**20 30 16.8**	**+0.6**
TWC				*eS*	**Sn**	**20 30 27.6**	**+0.7**
EHYH	**Wanrong**	**0.82**	**243**	⇓P	**Pn**	**20 30 17.3**	**+0.6**
EHYH				*eS*	**Sn**	**20 30 28.3**	**+0.7**
EHY	**Hungye**	**0.83**	**245**	⇓*iP*	**Pn**	**20 30 17.2**	**+0.3**
EHY				*eS*	**Sn**	**20 30 28.1**	**+0.1**
ECBN	**Changbin**	**0.84**	**230**	⇓P	**Pn**	**20 30 17.4**	**+0.5**
ECBN				S	**Sn**	**20 30 28.4**	**+0.4**
WHF	**Hehuan Shan**	**0.85**	**289**	⇓*iP*	**Pn**	**20 30 17.5**	**0.0**
WHF				S	**Sn**	**20 30 28.8**	**-0.2**
NDS	**Dongshan**	**0.86**	**333**	*eP*	**Pn**	**20 30 17.0**	**-0.3**
NDS				*eS*	**Sn**	**20 30 28.8**	**+0.2**
LATG	**Datong**	**0.88**	**320**	⇓*iP*	**Pn**	**20 30 17.9**	**+0.3**
LATG				*eS*	**Sn**	**20 30 30.1**	**+0.9**
OWD	**Renai**	**0.89**	**276**	⇓*iP*	**Pn**	**20 30 18.1**	**+0.3**
OWD				*eS*	**Sn**	**20 30 29.6**	**0.0**
NNSB	**Datong**	**0.90**	**309**	⇓*iP*	**Pn**	**20 30 18.1**	**+0.3**
NNSB				*eS*	**Sn**	**20 30 30.1**	**+0.4**
YULB	**Yu-li**	**0.91**	**239**	P	**Pn**	**20 30 18.2**	**+0.3**
YULB	**Yu-li**	**0.91**	**239**	⇓*iP*	**Pn**	**20 30 18.5**	**+0.6**
YULB				*eS*	**Sn**	**20 30 29.9**	**+0.1**
NNS	**Nan Shan**	**0.91**	**309**	⇓*iP*	**Pn**	**20 30 18.3**	**+0.3**
NNS				*i* S	**Sn**	**20 30 30.3**	**+0.3**
EYUL	**Yuli**	**0.92**	**236**	*eP*	**Pn**	**20 30 19.0**	**+1.0**
YWDT	**VWDT**	**0.93**	**263**	⇓*iP*	**Pn**	**20 30 19.0**	**+0.9**
VWDT				*eS*	**Sn**	**20 30 30.6**	**+0.4**
TWF1	**Yuli**	**0.93**	**237**	⇓P	**Pn**	**20 30 18.8**	**+0.6**
TWF1				*eS*	**Sn**	**20 30 30.8**	**+0.4**
ENTT	**Nioudou**	**0.94**	**326**	⇓*iP*	**Pn**	**20 30 18.8**	**+0.6**
ENTT				*eS*	**Sn**	**20 30 31.5**	**+1.0**
JYNG	**Yonagunijimaku**	**0.94**	**51**	P	**Pn**	**20 30 19.6**	**+1.4**
JYNG				S	**Sn**	**20 30 32.0**	**+1.5**
WUSB	**Renai**	**0.95**	**278**	⇓*iP*	**Pn**	**20 30 19.2**	**+0.7**
WUSB				*i* S	**Sn**	**20 30 31.9**	**+0.9**
TWE	**Neicheng**	**0.96**	**333**	⇓*iP*	**Pn**	**20 30 19.4**	**+0.8**
TWE				S	**Sn**	**20 30 31.9**	**+0.9**
CHKH	**Chenggong**	**0.96**	**226**	⇓*eP*	**Pn**	**20 30 18.6**	**+0.1**
CHKH				*i* S	**Sn**	**20 30 30.1**	**-0.9**
TWT	**Tachien**	**0.97**	**294**	⇓*iP*	**Pn**	**20 30 19.7**	**+0.9**
TWT				*eS*	**Sn**	**20 30 33.2**	**+1.7**
ILA	**Ilan**	**0.97**	**338**	P	**Pn**	**20 30 20.0**	**+1.3**
ILA				*i* S	**Sn**	**20 30 31.9**	**+1.3**
TDCB	**Techi**	**0.98**	**293**	⇓*iP*	**Pn**	**20 30 19.8**	**+0.8**
YOJ	**Yonaguni jima**	**0.99**	**53**	P	**Pn**	**20 30 20.5**	**+1.5**
YOJ	**Yonaguni jima**	**0.99**	**53**	P	**Pn**	**20 30 20.5**	**+1.5**
YOJ				*eS*	**Sn**	**20 30 33.3**	**+1.5**
YOJ	**Yonaguni jima**	**0.99**	**53**	⇓*iP*	**Pn**	**20 30 20.4**	**+1.4**
YOJ				*eS*	**Sn**	**20 30 33.2**	**+1.4**
EGS		**0.99**	**349**	⇓*eP*	**Pn**	**20 30 20.4**	**+1.4**
EGS				*eS*	**Sn**	**20 30 32.5**	**+0.6**
FULB	**Fuli**	**1.02**	**230**	⇓*iP*	**Pn**	**20 30 19.7**	**+0.2**
FULB				*eS*	**Sn**	**20 30 33.0**	**+0.3**
FUSB	**Fushanzhiwuyua**	**1.03**	**330**	⇓P	**Pn**	**20 30 20.4**	**+0.8**
FUSB				*eS*	**Sn**	**20 30 34.4**	**+1.6**
CHKT	**Chengkung**	**1.04**	**223**	⇓*iP*	**Pn**	**20 30 19.7**	**0.0**
CHKT				*i* S	**Sn**	**20 30 32.1**	**-1.0**
YHNB	**Yeheng**	**1.07**	**319**	P	**Pn**	**20 30 20.9**	**+0.8**
YHNB	**Yeheng**	**1.07**	**319**	S	**Sn**	**20 30 34.4**	**+0.6**
YHNB	**Yeheng**	**1.07**	**319**	⇓*iP*	**Pn**	**20 30 20.9**	**+0.8**
YHNB				S	**Sn**	**20 30 33.9**	**+0.1**
NSN	**Sanguang**	**1.08**	**319**	⇓P	**Pn**	**20 30 21.0**	**+0.7**
NSK				*i* S	**Sn**	**20 30 34.3**	**+0.1**
NWLT	**Wulai**	**1.08**	**327**	*iP*	**Pn**	**20 30 21.1**	**+0.8**
NWLT				*eS*	**Sn**	**20 30 34.9**	**+0.8**
SSLB	**Suanglung**	**1.09**	**266**	P	**Pn**	**20 30 21.2**	**+0.7**
SSLB	**Suanglung**	**1.09**	**266**	⇓*iP*	**Pn**	**20 30 21.1**	**+0.7**
SSLB				*eS*	**Sn**	**20 30 34.6**	**+0.2**
EHD	**Haiduan**	**1.12**	**231**	⇓P	**Pn**	**20 30 21.0**	**+0.2**
EHD				S	**Sn**	**20 30 34.9**	**-0.1**
SMLT	**Sun Moon Lake**	**1.14**	**271**	⇓*iP*	**Pn**	**20 30 22.2**	**+1.1**
SMLT				*eS*	**Sn**	**20 30 36.3**	**+0.7**
TIPB	**Shuangxi**	**1.14**	**345**	⇓P	**Pn**	**20 30 22.7**	**+1.6**
TIPB				*i* S	**Sn**	**20 30 36.6**	**+1.0**
ECS	**Chishang**	**1.14**	**228**	*eP*	**Pn**	**20 30 22.0**	**+0.9**
ECS				*eS*	**Sn**	**20 30 37.1**	**+1.5**
WCS	**Beigang Elemen**	**1.15**	**280**	⇓*eP*	**Pn**	**20 30 22.4**	**+1.3**
TWB1	**Santiao Chiao**	**1.15**	**353**	*eP*	**Pn**	**20 30 21.8**	**+0.7**
TWB1				*eS*	**Sn**	**20 30 35.8**	**+0.1**
WHP	**Taichung City**	**1.17**	**291**	⇓*eP*	**Pn**	**20 30 22.8**	**+1.2**
WHP				*eS*	**Sn**	**20 30 37.4**	**+1.1**
EDH	**Donghe**	**1.18**	**221**	⇓*eP*	**Pn**	**20 30 21.7**	**+0.2**
EDH				*eS*	**Sn**	**20 30 36.5**	**+0.1**
TYC	**Yuchr**	**1.18**	**272**	⇓P	**Pn**	**20 30 22.7**	**+1.1**
WHYT	**Xinyi Township**	**1.20**	**262**	⇓P	**Pn**	**20 30 23.3**	**+1.4**
WHYT				S	**Sn**	**20 30 37.9**	**+0.9**
NFF	**Wufeng Townshi**	**1.21**	**309**	⇓*eP*	**Pn**	**20 30 23.4**	**+1.4**
NFF				S	**Sn**	**20 30 38.8**	**+1.5**
TWA	**Mucha**	**1.22**	**335**	⇓*eP*	**Pn**	**20 30 23.8**	**+1.6**
TWA				*eS*	**Sn**	**20 30 39.0**	**+1.5**
NHDH	**Xindian Distri**	**1.23**	**333**	*eP*	**Pn**	**20 30 23.9**	**+1.6**
NHDH				*eS*	**Sn**	**20 30 39.5**	**+1.8**
ELDTW	**Lidau**	**1.23**	**237**	⇓*iP*	**Pn**	**20 30 22.8**	**+0.3**
NWF	**Wu-fen Shan**	**1.25**	**345**	*eP*	**Pn**	**20 30 24.1**	**+1.5**
NWF				*i* S	**Sn**	**20 30 39.0**	**+0.8**
WFSB	**Wu-fen Shan**	**1.25**	**345**	*eP*	**Pn**	**20 30 23.9**	**+1.4**
WFSB				*eS*	**Sn**	**20 30 38.9**	**+0.8**
SXI1	**Grass Mountain**	**1.25**	**349**	⇓P	**Pn**	**20 30 23.7**	**+1.0**
SXI1				*eS*	**Sn**	**20 30 38.4**	**+0.1**
TATO	**Taipei**	**1.26**	**332**	P	**Pn**	**20 30 24.3**	**+1.6**
TATO	**Taipei**	**1.26**	**332**	S	**Sn**	**20 30 39.7**	**+1.3**
KSHI	**Guanxi Townshi**	**1.27**	**316**	⇓P	**Pn**	**20 30 24.8**	**+2.0**
KSHI				*eS*	**Sn**	**20 30 41.9**	**+3.3**
ALS	**Alishan**	**1.28**	**254**	P	**Pn**	**20 30 24.7**	**+1.5**
ALS				*i* S	**Sn**	**20 30 40.5**	**+1.1**
LIOB	**Emei**	**1.29**	**307**	⇓P	**Pn**	**20 30 25.1**	**+1.9**
LIOB				*eS*	**Sn**	**20 30 41.5**	**+2.2**
NSTT	**Nanjuang**	**1.29**	**306**	⇓*iP*	**Pn**	**20 30 25.1**	**+1.9**
NSTT				*eS*	**Sn**	**20 30 40.8**	**+1.5**
WJS	**Zhushan**	**1.30**	**268**	*iP*	**Pn**	**20 30 25.4**	**+2.2**
WJS				S	**Sn**	**20 30 42.7**	**+3.3**
TAP	**Taipei**	**1.31**	**334**	*eP*	**Pn**	**20 30 24.9**	**+1.6**
TAP				*eS*	**Sn**	**20 30 40.9**	**+1.3**
TNOU	**National Taiwa**	**1.32**	**345**	*eP*	**Pn**	**20 30 24.5**	**+1.0**
TNOU				*eS*	**Sn**	**20 30 40.5**	**+0.5**
LONT	**Longtian**	**1.33**	**225**	⇓*eP*	**Pn**	**20 30 24.2**	**+0.5**
LONT				*eS*	**Sn**	**20 30 41.0**	**+0.7**
WNT	**Mingjian**	**1.34**	**271**	⇓P	**Pn**	**20 30 26.1**	**+2.3**
WNT				S	**Sn**	**20 30 43.6**	**+3.3**
LDUT	**Ludao**	**1.34**	**208**	*eP*	**Pn**	**20 30 23.8**	**0.0**
LDUT				*eS*	**Sn**	**20 30 39.6**	**-0.7**
TWQ1	**Liyutan**	**1.34**	**291**	⇓*iP*	**Pn**	**20 30 26.0**	**+2.1**
TWQ1				*eS*	**Sn**	**20 30 43.2**	**+2.7**
CHN5	**Tsauling**	**1.37**	**259**	⇓*iP*	**Pn**	**20 30 26.2**	**+1.9**
CHN5				S	**Sn**	**20 30 43.9**	**+2.6**
TCU	**Taichung**	**1.37**	**282**	⇓*iP*	**Pn**	**20 30 26.8**	**+2.5**
TCU				*i* S	**Sn**	**20 30 44.4**	**+3.2**
NSY	**Sanyi**	**1.38**	**294**	⇓*iP*	**Pn**	**20 30 27.0**	**+2.7**
NSY				*eS*	**Sn**	**20 30 43.6**	**+2.2**
YM01	**YM01**	**1.38**	**338**	⇓*iP*	**Pn**	**20 30 25.6**	**+1.2**
YM01				*eS*	**Sn**	**20 30 42.6**	**+1.2**
TWS1	**Kuangyinshan**	**1.40**	**332**	*iP*	**Pn**	**20 30 26.2**	**+1.6**
TWS1				S	**Sn**	**20 30 43.6**	**+1.7**
ZUZH	**Zhuzihu**	**1.40**	**337**	⇓P	**Pn**	**20 30 25.9**	**+1.2**
ZUZH				*eS*	**Sn**	**20 30 43.2**	**+1.2**
SBCB	**Hsinchu**	**1.41**	**311**	*eP*	**Pn**	**20 30 26.7**	**+2.0**
SBCB				S	**Sn**	**20 30 44.3**	**+2.3**
NMLH	**Miaoli**	**1.41**	**299**	*eP*	**Pn**	**20 30 27.4**	**+2.7**
NMLH				*i* S	**Sn**	**20 30 44.7**	**+2.7**
YM08	**YM08**	**1.41**	**339**	*eP*	**Pn**	**20 30 25.1**	**+0.3**
YM08				S	**Sn**	**20 30 43.4**	**+1.2**
HSN	**Hsinchu**	**1.42**	**311**	*iP*	**Pn**	**20 30 26.9**	**+1.7**
HSN				*i* S	**Sn**	**20 30 44.5**	**+2.1**
TWGBT	**Beinan**	**1.43**	**223**	P	**Pn**	**20 30 25.3**	**+0.3**
TWGBT	**Beinan**	**1.43**	**223**	⇓P	**Pn**	**20 30 25.2**	**+0.1**
TWGBT				*eS*	**Sn**	**20 30 41.8**	**-0.9**
TWG	**Pinlang**	**1.43**	**224**	P	**Pn**	**

1.6nm,0.6s,baz=101,slow=7.7,SNR=7.8
1.6nm,0.6s
H11N1 WAKE ISLAND Hy 41.63 87 T T 21 23 12.6
baz=283
H11N2 WAKE ISLAND Hy 41.63 87 T T 21 23 13.8
baz=283
H11N3 WAKE ISLAND Hy 41.64 87 T T 21 23 11.4
baz=283
H11S3 WAKE ISLAND Hy 41.75 89 T T 21 23 22.3
baz=284,slow=74,SNR=6.4
H11S1 WAKE ISLAND Hy 41.76 89 T T 21 23 28.5
baz=284,slow=74,SNR=4.4
H11S2 WAKE ISLAND Hy 41.77 89 T T 21 23 27.3
baz=284,slow=74,SNR=4.5
KURBB Kurchatov Arra 42.92 320 P **P 20 37 54.2 -2.0**
0.7nm,0.8s,baz=111,slow=8.3,SNR=6.3
0.7nm,0.8s
WRA Warramunga Arr 45.13 164 P **P 20 38 14.7 +0.5**
1.0nm,0.8s,baz=346,slow=8.6,SNR=4.6
1.0nm,0.8s
BVAR Borovoye Array 48.48 321 P **P 20 38 39.7 -0.3**
1.0nm,0.5s,baz=100,slow=8.1,SNR=8.7
1.0nm,0.5s
ASAR Alice Springs 48.61 166 P **P 20 38 42.1 +0.8**
0.3nm,0.4s,baz=340,slow=6.7,SNR=4.9
0.3nm,0.4s
FINES FINESS Array B 72.16 330 P **P 20 41 20.9 -0.9**
0.7nm,0.6s,baz=46,slow=5.5,SNR=4.9
0.7nm,0.6s

*NEIC **14** 20:37:06.0±2.3,35°.80N±0°.01×117°.56W±0°.02,h5km±1km, Error ellipse: s-maj=2.9km s-min=2.4km az=211.0*
PAS 14 20:37:06.8±1.2,35°.77N±0°.01×117°.58W±0°.02,h6km±5km, ML3.0/20,ML2.9/102(NEIC),Error ellipse: s-maj=2.1km s-min=2.0km az=71.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTC	**Snort**	**0.15**	**242**		Pg	20 37 10.3	+0.3
TOW	**Tower One**	**0.15**	**286**		Pg	20 37 10.3	+0.4
WSHM	**Spangler Hills**	**0.18**	**156**		Pg	20 37 10.3	-0.1
WVPM	**Volcano Peak E**	**0.27**	**314**		Pg	20 37 11.9	-0.1
WVPM					Sg	20 37 16.1	+0.5
WNMM	**Nine Mile Cany**	**0.27**	**287**		Pg	20 37 12.1	0.0
WNMM					Sg	20 37 16.6	+0.9
JRC2	**Joshua Ridge**	**0.28**	**320**		Pg	20 37 12.4	0.0
LRMC	**Laurel Mtn Rad**	**0.30**	**196**		Pg	20 37 12.4	-0.2
CCCA	**Chr Cany lake**	**0.30**	**143**		Pg	20 37 12.9	+0.3
MPMC	**Manual Prospec**	**0.30**	**15**		Pg	20 37 12.5	-0.2
MPMC	comp=E,2μm,0.5s			IAML		20 37 17.1	
MPMC	comp=N,2μm,0.6s			IAML		20 37 17.5	
QSM	**Queen of Sheba**	**0.61**	**71**		Pg	20 37 18.1	-0.5
QSM	comp=E,570nm,0.4s			IAML		20 37 31.1	
QSM	comp=N,616nm,0.2s			IAML		20 37 31.7	
ISA	**Isabella, Lake**	**0.73**	**262**		Pg	20 37 20.3	-0.5
ISA	comp=N,285nm,0.4s			IAML		20 37 30.7	
ISA	comp=E,332nm,0.3s			IAML		20 37 31.0	
CWC	**Cottonwood Cre**	**0.78**	**329**		Pg	20 37 21.7	-0.1
CWC	comp=E,299nm,0.2s			IAML		20 37 37.1	
CWC	comp=N,248nm,0.3s			IAML		20 37 37.1	
GSC	**Goldstone, Bar**	**0.79**	**126**		Pg	20 37 21.2	-0.6
GSC	comp=N,794nm,0.4s			IAML		20 37 32.3	
GWY	**Greenwater Val**	**0.85**	**60**		Pg	20 37 22.5	-0.6
GWY	comp=N,538nm,0.5s			IAML		20 37 37.3	
TPO	**Tropico Hills**	**1.03**	**211**		Pg	20 37 25.8	-0.7
TPO	comp=N,327nm,0.6s			IAML		20 37 44.0	
TPO	comp=E,410nm,0.6s			IAML		20 37 46.2	
GRAC	**Grapevine Rang**	**1.24**	**8**		Pg	20 37 29.7	-0.9
GRAC	comp=N,284nm,0.6s			IAML		20 37 53.0	
GRAC	comp=E,302nm,0.4s			IAML		20 37 53.8	
WCT	**Wildcat Mounta**	**1.28**	**37**		Pn	20 37 29.9	-1.4
WCT	comp=N,158nm,0.5s			IAML		20 37 49.4	
WCT	comp=E,193nm,0.7s			IAML		20 37 51.0	
OSI	**Osito Audit: C**	**1.48**	**219**		Pn	20 37 33.3	-0.6
OSI	comp=E,144nm,0.6s			IAML		20 37 56.4	
OSI	comp=N,108nm,0.6s			IAML		20 37 56.5	
GMN	**Gold Mountain**	**1.55**	**10**		Pn	20 37 34.3	-0.8
GMN	comp=E,79nm,0.5s			IAML		20 37 58.5	
MWC	**Mount Wilson**	**1.59**	**194**		Pb	20 37 36.5	-0.1
MWC	comp=E,221nm,0.4s			IAML		20 37 59.1	
MWC	comp=N,177nm,0.5s			IAML		20 37 59.8	
TPNV	**Topopah Spring**	**1.60**	**42**		Pn	20 37 34.6	-1.1
TPNV	comp=N,163nm,0.3s			IAML		20 37 59.8	
TPNV	comp=N,182nm,0.6s			IAML		20 38 02.4	
DSP	**Deep Springs**	**1.63**	**349**		Pn	20 37 35.4	-0.6
DSP	comp=E,79nm,0.4s			IAML		20 37 59.7	
PASC	**Pasadena Art C**	**1.67**	**197**		Pn	20 37 36.5	0.0
PASC	comp=N,115nm,0.6s			IAML		20 38 01.4	
PASC	comp=E,156nm,0.8s			IAML		20 38 02.2	
SHPR	**Sheep Range**	**2.10**	**69**		Pn	20 37 41.7	-0.8
RPV	**Rancho Palos V**	**2.13**	**199**		Pb	20 37 44.6	-1.1
POB	**Polly Butte**	**2.14**	**165**		Pn	20 37 42.6	-0.5
V12A	**Nelson**	**2.22**	**90**		Pn	20 37 43.0	-1.2
PMD	**Palm Desert**	**2.33**	**154**		Pn	20 37 44.3	-1.4
PMD	comp=E,39nm,0.6s			IAML		20 38 22.1	
PFO	**Pinyon Flats O**	**2.34**	**156**		Pn	20 37 44.8	-1.1
LHV	**Little Huntoon**	**2.59**	**344**		Pg	20 37 55.5	-0.8
PRN	**Pahroc Range**	**2.61**	**50**		Pg	20 37 57.0	+0.2
PRN	comp=N,56nm,0.5s			IAML		20 38 34.9	
PRN	comp=E,46nm,0.8s			IAML		20 38 37.0	
NEE2	**Needles Airpor**	**2.62**	**111**		Pn	20 37 47.8	-1.8
NEE2	**Needles Airpor**	**2.62**	**111**	IAML		20 38 40.1	
	comp=E,87nm,0.8s						
PMPB	**Monarch Peak**	**2.65**	**281**		Pn	20 37 49.6	-0.4
PMPB	comp=N,78nm,1.1s			IAML		20 38 53.5	
BORC	**Borrego Spring**	**2.67**	**159**		Pn	20 37 49.0	-1.2
BORC	comp=E,43nm,0.4s			IAML		20 38 33.6	
NV11	**Mina Array Sit**	**2.70**	**350**		Pg	20 37 57.9	-0.7
NVAR	**Mina Array Bea**	**2.72**	**348**		Pg	20 37 58.0	-0.9
RYN	**Ryan**	**2.95**	**346**		Pn	20 37 52.5	-1.9
WAKR	**Walker**	**3.11**	**332**		Pg	20 38 05.2	-1.1
BLYC	**Blythe**	**3.22**	**128**		Pn	20 37 57.2	-0.7
BLYC	comp=N,34nm,0.5s			IAML		20 38 50.3	
BLYC	comp=E,30nm,0.7s			IAML		20 38 52.6	
LCMT	**Little Creek M**	**3.71**	**69**		Pn	20 38 04.6	-0.1
CCUT	**Cedar City**	**3.83**	**61**		Pg	20 38 18.3	-1.9
PSUT	**Pine Spring**	**4.06**	**46**		Pg	20 38 23.4	-1.2
PSUT	comp=E,12nm,0.7s			IAML		20 39 19.9	
PSUT	comp=N,10nm,0.9s			IAML		20 39 21.1	
Y14A	**Wickenburg**	**4.18**	**115**	Pn	Pn	20 38 09.8	-1.3
Y14A	comp=N,19nm,0.6s			IAML		20 39 24.1	
Y14A	comp=E,16nm,0.5s			IAML		20 39 25.9	
VTX	**Valle De La Tr**	**4.61**	**161**	Pg	Pg	20 38 35.0	-0.2

*NEIC **14** 20:40:15.4±0.8,36°.12N±0°.01×117°.88W±0°.02,h5km±1km, Error ellipse: s-maj=2.9km s-min=2.2km az=73.0*

PAS 14 20:40:15.7±1.0,36°.11N±0°.01×117°.88W±0°.02,h1km±1km, ML3.2/24,ML3.1/142(NEIC),Error ellipse: s-maj=1.9km s-min=1.7km az=216.0,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.02**	**71**		Pg	20 40 16.4	+0.2
WRVM	**Rose V. Centra**	**0.10**	**184**		Pg	20 40 17.9	+0.3
WCSM	**Coso Springs S**	**0.12**	**132**		Pg	20 40 18.4	+0.3
JRC2	**Joshua Ridge**	**0.14**	**155**		Pg	20 40 18.6	+0.2
WVPM	**Volcano Peak E**	**0.17**	**162**		Pg	20 40 19.2	+0.2
WNMM	**Nine Mile Cany**	**0.27**	**184**		Pg	20 40 21.0	+0.2
TOW	**Tower One**	**0.32**	**162**		Pg	20 40 22.4	+0.7
MPMC	**Manual Prospec**	**0.32**	**99**		Pg	20 40 22.1	+0.2
MPMC	comp=E,3μm,0.7s			IAML		20 40 28.6	
MPMC	comp=N,2μm,0.5s			IAML		20 40 29.7	
CWC	**Cottonwood Cre**	**0.37**	**334**		Pg	20 40 23.1	+0.4
CWC	comp=E,2μm,0.3s			IAML		20 40 29.0	
SRTC	**Snort**	**0.43**	**165**		Pg	20 40 24.6	+0.7
CGO	**Cerro Gordo**	**0.45**	**8**		Pg	20 40 24.9	+0.6
WORM	**Onyx Ranch**	**0.51**	**215**		Pg	20 40 25.4	0.0
WORM					Sg	20 40 32.5	+0.5
WSHM	**Spangler Hills**	**0.60**	**148**		Pg	20 40 27.2	0.0
LRMC	**Laurel Mtn Rad**	**0.65**	**165**		Pg	20 40 28.2	0.0
LRMC	comp=E,970nm,0.6s			IAML		20 40 37.7	
ISA	**Isabella, Lake**	**0.66**	**227**		Pg	20 40 28.2	-0.1
ISA	comp=N,922nm,0.5s			IAML		20 40 37.7	
ISA	comp=E,763nm,0.4s			IAML		20 40 39.0	
CCCA	**Chr Cany lake**	**0.72**	**144**		Pg	20 40 29.9	+0.4
CCCA	comp=E,1μm,0.8s			IAML		20 40 48.8	
QSM	**Queen of Sheba**	**0.83**	**100**		Pg	20 40 31.6	-0.1
GRAC	**Grapevine Rang**	**0.98**	**25**		Pg	20 40 34.4	0.0
GRAC	comp=E,871nm,0.9s			IAML		20 40 59.5	
GWY	**Greenwater Val**	**0.98**	**85**		Pg	20 40 34.5	-0.1
GWY	comp=N,631nm,1.0s			IAML		20 41 05.9	
VES	**Vestal, Richgr**	**1.01**	**255**		Pg	20 40 35.1	0.0
GSC	**Goldstone, Bar**	**1.19**	**132**	IAML		20 40 56.4	
	comp=N,282nm,0.9s						
GSC	comp=E,533nm,1.3s			IAML		20 40 58.1	
WCT	**Wildcat Mounta**	**1.22**	**56**		Pg	20 40 38.7	-0.4
WCT	comp=E,381nm,0.7s			IAML		20 41 02.5	
VOG	**Valley Oaks Go**	**1.23**	**280**		Pg	20 40 39.0	-0.3
DSP	**Deep Springs**	**1.26**	**357**		Pg	20 40 39.2	-0.7
DSP	comp=E,270nm,1.8s			IAML		20 41 03.7	
TPO	**Tropico Hills**	**1.26**	**193**		Pg	20 40 39.2	-0.6
TPO	comp=N,420nm,1.1s			IAML		20 40 59.6	
TPO	comp=E,426nm,0.8s			IAML		20 41 01.1	
GMN	**Gold Mountain**	**1.29**	**23**		Pg	20 40 40.1	-0.3
MTUM	**Tungsten Hills**	**1.36**	**336**		Pg	20 40 37.2	-4.5
TPNV	**Topopah Spring**	**1.56**	**57**		Pn	20 40 44.5	-0.3
TPNV	comp=E,326nm,0.9s			IAML		20 41 10.6	
TPNV	comp=E,308nm,0.7s			IAML		20 41 15.1	
MZP	**Montezuma Peak**	**1.64**	**14**		Pn	20 40 46.0	+0.1
OSI	**Osito Audit: C**	**1.64**	**205**		Pn	20 40 45.7	-0.1
OSI	comp=E,343nm,0.6s			IAML		20 41 12.0	
OSI	comp=N,244nm,1.0s			IAML		20 41 20.4	
BFSC	**Mount Baldy Ra**	**1.88**	**174**	IAML		20 41 21.7	
	comp=E,127nm,0.7s						
MWC	**Mount Wilson**	**1.89**	**184**		Pn	20 40 49.3	0.0
MWC	comp=N,256nm,0.5s			IAML		20 41 17.3	
MWC	comp=E,223nm,0.8s			IAML		20 41 18.0	
PASC	**Pasadena Art C**	**1.95**	**187**	IAML		20 41 19.4	
	comp=E,118nm,1.0s						
MTPC	**Mountain Pass**	**1.99**	**108**		Pn	20 40 49.9	-0.9
MTPC	comp=N,111nm,0.8s			IAML		20 41 22.8	
MTPC	comp=E,108nm,0.9s			IAML		20 41 23.0	
LHV	**Little Huntoon**	**2.19**	**347**		Pn	20 40 53.3	0.0
LHV	comp=N,171nm,1.4s			IAML		20 41 36.3	
LHV	comp=E,167nm,0.9s			IAML		20 41 36.9	
SHPR	**Sheep Range**	**2.23**	**79**		Pn	20 40 54.4	+0.3
S11A	**Rachel**	**2.30**	**48**		Pg	20 40 59.7	0.0
NV11	**Mina Array Sit**	**2.33**	**355**		Pn	20 40 55.5	+0.2
NVAR	**Mina Array Bea**	**2.34**	**352**		Pn	20 40 56.0	+0.4
PMPB	**Monarch Peak**	**2.37**	**273**		Pn	20 40 57.1	+1.3
ELS	**Elsinore Mount**	**2.48**	**171**		Pn	20 40 57.0	-0.4
ELS	comp=N,70nm,1.3s			IAML		20 41 42.6	
V12A	**Nelson**	**2.49**	**98**		Pg	20 41 03.1	-0.3
V12A	comp=N,95nm,1.7s			IAML		20 41 41.7	
RYN	**Ryan**	**2.56**	**349**	IAML		20 41 47.8	
	comp=E,78nm,1.7s						
RYN	comp=N,65nm,1.5s			IAML		20 41 49.7	
PRN	**Pahroc Range**	**2.62**	**60**		Pn	20 40 59.4	+0.1
WAKR	**Walker**	**2.69**	**333**		Pg	20 41 07.1	-0.2
WAKR	comp=N,91nm,0.6s			IAML		20 41 46.6	
WAKR	comp=E,115nm,1.4s			IAML		20 41 58.6	
PMD	**Palm Desert**	**2.75**	**153**		Pn	20 40 60.0	-1.0
PFO	**Pinyon Flats O**	**2.75**	**154**		Pn	20 41 00.6	-0.6
Q09A	**Carvers**	**2.78**	**11**		Pg	20 41 08.4	-0.5
BORC	**Borrego Spring**	**3.08**	**157**		Pg	20 41 14.1	-0.6
BORC	comp=E,56nm,0.9s			IAML		20 41 57.8	
W13A	**Hualapai Mount**	**3.41**	**106**	IAML		20 42 09.1	
	comp=E,39nm,0.8s						
W13A	comp=N,37nm,1.3s			IAML		20 42 10.8	
BLYC	**Blythe**	**3.63**	**129**	IAML		20 42 24.1	
	comp=N,31nm,1.2s						
PAHR	**Pah Rah Range**	**3.78**	**342**	IAML		20 42 49.5	
	comp=E,26nm,2.1s						
SPR3	**Spring Creek 3**	**4.04**	**43**	IAML		20 42 27.1	
	comp=N,24nm,1.0s						
SPR3	comp=E,25nm,1.3s			IAML		20 42 29.6	
SZCU	**Shurtz Canyon**	**4.12**	**67**	IAML		20 42 45.3	
	comp=N,20nm,1.7s						
KNB	**Kanab**	**4.17**	**76**	IAML		20 42 43.0	
	comp=E,32nm,1.7s						
KNB	comp=N,29nm,1.6s			IAML		20 42 49.4	
BEKR	**Beckworth**	**4.23**	**333**	IAML		20 42 42.7	
	comp=N,38nm,0.7s						
U15A	**North Rim**	**4.53**	**84**	IAML		20 42 50.8	
	comp=N,19nm,1.3s						
U15A	comp=E,23nm,1.5s			IAML		20 42 59.3	
Y14A	**Wickenburg**	**4.55**	**117**	IAML		20 42 46.7	
	comp=N,28nm,1.1s						
Y14A	comp=E,21nm,1.7s			IAML		20 42 57.9	
113A	**Mohawk Valley,**	**4.76**	**133**	IAML		20 43 04.6	
	comp=E,14nm,1.6s						
ELK	**Elko**	**5.07**	**23**	IAML		20 43 01.2	
	comp=E,9.6nm,0.8s						

AUST 14 20:41:39.8±1.4,19°S±7°×12°1E±°,h17km±15km,mb4.0/7, ML2.9/6,Error ellipse: s-maj=19.8km s-min=6.0km az=137.9,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.64**	**196**	P	Pn	20 42 21.9	+0.2
PSA00	**Pilbara Seismi**	**3.02**	**192**	P	Pn	20 42 27.0	+0.2
PSA00				S	Sn	20 43 04.2	+1.6
FITZ	**Fitzroy Crossi**	**4.89**	**85**	P	Pn	20 42 52.3	-0.2
FITZ	**Fitzroy Crossi**	**4.89**	**85**	S	Sn	20 43 50.3	+1.4
GIRL	**Giralia**	**7.12**	**235**	P	Pn	20 43 20.3	-2.9
GIRL				S	Sn	20 44 34.2	-10
MEEK	**Meekatharra**	**8.18**	**192**	P	Pn	20 43 38.2	+0.4
	comp=E,18nm,2.3s,comp=Z,0.1nm						
CVQOZ	**Cooralya Stati**	**8.35**	**225**	P	Pn	20 43 38.1	-1.9
KNRA	**Kununurra**	**8.40**	**71**	P	Pn	20 43 40.6	-0.3
	comp=Z,18nm,2.1s,comp=Z,0.1nm						
WRKA	**Warakurna**	**9.65**	**133**	P	Pn	20 43 58.9	+0.9
	comp=Z,3.9nm,2.6s,comp=Z,0.0nm						
WRKA				S	Sn	20 45 45.8	-0.3
MORW	**Morawa**	**11.19**	**201**	P	Pn	20 44 18.7	-0.3
	comp=Z,20nm,2.0s						
MORW	**Morawa**	**11.19**	**201**	S	Sn	20 46 15.3	-8.4
BLDU	**Ballidu**	**12.45**	**195**	P	Pn	20 44 33.4	-2.8
	comp=Z,17nm,1.8s						
BLDU	**Ballidu**	**12.45**	**195**	S	Sn	20 46 45.4	-9.0
KDU	**Kakadu**	**12.93**	**65**	P	Pn	20 44 37.7	-5.1
	comp=Z,24nm,1.7s						
KLBR	**Kellerberrin**	**13.17**	**190**	P	Pn	20 44 44.1	-1.9
	comp=Z,14nm,1.0s						
KLBR	**Kellerberrin**	**13.17**	**190**	S	Sn	20 47 04.1	-8.1
FORT	**Forrest**	**13.92**	**152**	P	Pn	20 44 57.5	+1.2
	comp=Z,9.5nm,1.8s						
FORT				S	Sn	20 47 31.5	+1.1

*IDC **14** 20:43:50.9±1.3,22°.10S×179°.50W,h580km±13km, mb3.6/15,mbtmp4.5/16,Error ellipse: s-maj=17.3km s-min=14.3km az=149.0*
*NEIC **14** 20:43:51.0±2.1,22°.2S±0°.1×179°.4W±0°.1,h593km±7km, mb4.5/32,Error ellipse: s-maj=20.1km s-min=15.8km az=69.0*
ISC 14 20:43:51.8±0.5,22°.28S±0°.07×179°.54W±0°.08,h600km, n90,σ1°33/99,mb4.4/29,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.06**	**333**		P	**20 45 24.6**	**-0.8**
RAO	**Raoul Island**	**7.10**	**168**	P	**P**	**20 45 42.3**	**-0.2**
RAO	**Raoul Island**	**7.10**	**168**	P	**P**	**20 45 42.6**	**+0.1**
	236nm,0.3s,baz=28,slow=20,SNR=1.9						
PINNC	**Pines Island,**	**12.04**	**266**	P	**P**	**20 46 30.4**	**-0.5**
DZM	**Mont Dzumac**	**12.99**	**268**	P	**P**	**20 46 41.5**	**+0.9**
DZM	**Mont Dzumac**	**12.99**	**268**	P	**P**	**20 46 39.9**	**-0.7**
	7.3nm,0.5s,baz=80,slow=18,SNR=11						
SANVU	**Saraoutou**	**14.26**	**296**	P	**P**	**20 46 54.6**	**+1.3**
TOZ	**Tahuroa Road**	**15.98**	**194**	P	**P**	**20 47 11.5**	**+2.8**
TOZ				IAmb	IAmb	20 47 13.1	
	comp=Z,15nm,0.8s						
URZ	**Urewera**	**16.19**	**189**	P	**P**	**20 47 09.6**	**-1.0**
	comp=Z,5.0nm,0.3s,baz=45,slow=1.4,SNR=13						
URZ				S	**S**	**20 49 46.1**	**-6.4**
	comp=Z,9.8nm,0.9s,baz=152,slow=17,SNR=6.7						
BKZ	**Black Stump Fm**	**17.17**	**190**	P	**P**	**20 47 17.9**	**-1.8**
BKZ				IAmb	IAmb	20 47 21.3	
	comp=Z,17nm,1.1s						
GVZ	**Greta Valley S**	**21.54**	**195**	P	**P**	**20 47 58.7**	**-0.4**
ARMA	**Armidale**	**27.02**	**246**	P	**P**	**20 48 49.0**	**+1.1**
ARMA				IAmb	IAmb	20 48 50.9	
	comp=Z,9.9nm,0.8s						
EIDS	**Eidsvold**	**27.03**	**258**	P	**P**	**20 48 48.5**	**+0.7**
EIDS				IAmb	IAmb	20 49 17.2	
	comp=Z,9.1nm,1.1s						
CTAO	**Charters Tower**	**31.93**	**267**	P	**P**	**20 49 30.7**	**+0.5**
CTAO				IAmb	IAmb	20 49 31.8	
	comp=Z,13nm,0.7s						
TOO	**Toolangi**	**33.70**	**235**	P	**P**	**20 49 45.0**	**+0.2**
TOO				IAmb	IAmb	20 49 46.4	
	comp=Z,14nm,1.3s						
STKA	**Stephens Creek**	**35.74**	**246**	P	**P**	**20 50 02.5**	**+0.7**
STKA	**Stephens Creek**	**35.74**	**246**	P	**P**	**20 50 03.2**	**+1.4**
	comp=Z,6.8nm,0.6s,baz=86,slow=11,SNR=13						
	comp=Z,6.8nm,0.6s						
PATS	**Pohnpei**	**36.17**	**321**	P	**P**	**20 50 04.7**	**-0.8**
AS31	**Alice Springs**	**42.74**	**259**		**P**	**20 50 58.7**	**+0.7**
AS31				IAmb	IAmb	20 50 59.3	
	comp=Z,5.1nm,0.7s						
ASAR	**Alice Springs**	**42.74**	**259**		**P**	**20 50 58.7**	**+0.7**
ASAR	**Alice Springs**	**42.74**	**259**	P	**P**	**20 50 58.5**	**+0.6**
	comp=Z,19nm,0.8s,baz=101,slow=7.8,SNR=152						
ASAR				PcP	**PcP**	**20 52 36.0**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=104,slow=4.3,SNR=6.1						
ASAR				ScP	**ScP**	**20 55 34.0**	**+4.0**
	comp=Z,0.8nm,1.0s,baz=88,slow=4.9,SNR=3.2						
ASAR				S	**S**	**20 56 38.3**	**-1.4**
	comp=Z,1.9nm,0.9s,baz=94,slow=16,SNR=7.0						
	comp=Z,19nm,0.8s						
WR8	**Warramunga Arr**	**42.81**	**264**	P	**P**	**20 50 58.1**	**-0.5**
WR8				IAmb	IAmb	20 50 59.4	
	comp=Z,25nm,1.4s						
WB0	**Warramunga Arr**	**42.95**	**265**		**P**	**20 50 59.4**	**-0.2**
WB0				IAmb	IAmb	20 51 00.3	
	comp=Z,19nm,0.7s						
WRA	**Warramunga Arr**	**42.96**	**264**		**P**	**20 50 59.4**	**-0.3**
WRA	**Warramunga Arr**	**42.96**	**264**	P	**P**	**20 50 59.9**	**+0.1**
	comp=Z,15nm,0.8s,baz=99,slow=6.1,SNR=60						
WRA				PcP	**PcP**	**20 52 35.7**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=96,slow=6.7,SNR=3.9						
WRA				ScP	**ScP**	**20 55 35.0**	**+4.0**
	comp=Z,1.4nm,0.9s,baz=85,slow=4.0,SNR=11						
WRA				S	**S**	**20 56 41.2**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=125,slow=8.3,SNR=2.3						
	comp=Z,15nm,0.8s						
FORT	**Forrest**	**47.29**	**248**	P	**P**	**20 51 31.4**	**-1.0**
FORT				IAmb	IAmb	20 51 33.8	
	comp=Z,7.1nm,0.7s						
MTN	**Manton Dam**	**47.78**	**273**	P	**P**	**20 51 35.8**	**-0.5**
KNRA	**Kununurra**	**49.14**	**268**	P	**P**	**20 51 46.4**	**0.0**
KNRA				IAmb	IAmb	20 51 47.5	
	comp=Z,21nm,0.9s						
FITZ	**Fitzroy Crossi**	**51.39**	**264**	P	**P**	**20 52 03.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**51.39**	**264**	P	**P**	**20 52 03.3**	**+0.5**
	comp=Z,4.9nm,0.6s,baz=160,slow=3.5,SNR=4.1						
	comp=Z,4.9nm,0.6s						
SOEI	**Soe**	**55.15**	**274**		**P**	**20 52 29.9**	**+0.4**
BATI	**Baumata**	**55.55**	**273**	P	**P**	**20 52 34.7**	**+2.5**
	comp=Z,21nm,0.5s,baz=135,slow=5.0,SNR=4.8						
	comp=Z,21nm,0.5s						
MBWA	**Marble Bar**	**56.08**	**259**	P	**P**	**20 52 35.7**	**0.0**
MBWA				IAmb	IAmb	20 52 36.6	
	comp=Z,16nm,0.8s						
MORW	**Morawa**	**57.84**	**249**	P	**P**	**20 52 47.6**	**0.0**
CASY	**Casey**	**61.75**	**206**	P	**P**	**20 53 13.2**	**+0.5**
QSPA	**South Pole Qui**	**67.80**	**180**	P	**P**	**20 53 53.1**	**+2.2**
QSPA	**South Pole Qui**	**67.80**	**180**	P	**P**	**20 53 52.8**	**+1.9**
	comp=Z,1.3nm,0.5s,baz=42,slow=2.8,SNR=14						
	comp=Z,1.3nm,0.5s						
UGM	**Wanagama**	**68.51**	**270**	P	**P**	**20 53 55.2**	**-0.8**
KKM	**Kota Kinabalu**	**68.85**	**286**	P	**P**	**20 53 57.6**	**-0.4**
KKM				IAmb	IAmb	20 54 26.8	
	comp=Z,39nm,1.2s						
MJAR	**Matsushiro Arr**	**70.81**	**325**	P	**P**	**20 54 08.1**	**-1.0**
MJAR	**Matsushiro Arr**	**70.81**	**325**	P	**P**	**20 54 08.1**	**-1.0**
	comp=Z,3.1nm,0.8s,baz=154,slow=5.7,SNR=7.3						
	comp=Z,3.1nm,0.8s						
LEM	**Lembang**	**71.59**	**270**	P	**P**	**20 54 14.8**	**+0.4**
	comp=Z,23nm,0.7s,baz=153,slow=18,SNR=4.3						
	comp=Z,23nm,0.7s						
YOJ	**Yonaguni jima**	**72.61**	**306**	P	**P**	**20 54 18.1**	**-1.6**
NACB	**Ninganchiao**	**73.51**	**305**	P	**P**	**20 54 24.3**	**-0.5**
NACB				IAmb	IAmb	20 54 25.2	
	comp=Z,18nm,0.9s						
TPUB	**Ta-pu**	**73.76**	**304**	P	**P**	**20 54 25.1**	**-1.3**
KSRS	**Korea Array**	**77.28**	**320**	P	**P**	**20 54 46.5**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=138,slow=6.9,SNR=7.3						
	comp=Z,1.1nm,0.8s						
SMAI	**San Martin Ant**	**77.46**	**159**	P	**P**	**20 54 46.9**	**+0.9**
PETK	**Petropavlovsk-**	**77.63**	**346**	P	**P**	**20 54 46.7**	**-0.2**
PETK	**Petropavlovsk-**	**77.63**	**346**	P	**P**	**20 54 47.0**	**0.0**
	comp=Z,4.4nm,0.7s,baz=124,slow=7.9,SNR=11						
	comp=Z,4.4nm,0.7s						
BELA	**Belgrano 2**	**77.98**	**173**	P	**P**	**20 54 49.0**	**+0.3**
USRK	**Uss

comp=Z,4.2nm,0.9s
CHTO **Chiang Mai 89.51 290** P **P** **20 55 48.2 +1.7**
CHTO IAmb IAmb 20 55 49.3
comp=Z,5.1nm,0.8s
PDAR Pinedale Array 91.23 44 P **P** **20 55 54.5 +0.1**
comp=Z,0.2nm,0.4s,baz=197,slow=4.6,SNR=4.1
comp=Z,0.2nm,0.4s
MKAR Makanchi Array 111.36 313 PKKPbc PKKPbc 21 12 14.1 -2.3
comp=Z,0.3nm,0.5s,baz=116,slow=7.7,SNR=4.9
BVAR Borovoye Array 119.50 319 PKP **PKiKP** **21 01 33.6 -0.4**
comp=Z,0.9nm,0.3s,baz=110,slow=3.7,SNR=12
ARCES ARCESS Array B 130.39 349 PKP **PKPdf** **21 01 53.3 -1.0**
comp=Z,0.5nm,0.6s,baz=51,slow=1.9,SNR=6.5
ARCES SKPbc **SKPab** **21 04 23.9 +0.9**
comp=Z,2.9nm,1.0s,baz=56,slow=4.5,SNR=5.8
FINES FINESS Array B 137.04 342 PKP **PKPdf** **21 02 06.4 -0.5**
comp=Z,0.3nm,0.4s,baz=48,slow=2.8,SNR=5.3
FINES SKPbc **SKPbc** **21 04 45.4 +1.0**
comp=Z,0.6nm,0.6s,baz=56,slow=4.8,SNR=5.7
NB2 NORSAR Subarra140.55 352 PKP **SKPbc** **21 04 55.7 +1.7**
comp=Z,0.5nm,0.7s,baz=19,slow=2.8
NOA NORSAR Array B 140.55 352 SKPbc **SKPbc** **21 04 54.1 +0.1**
comp=Z,0.9nm,0.8s,baz=15,slow=4.3,SNR=4.2
HFS Hagfors 141.04 350 PKhKP PKPpre 21 02 08.5
comp=Z,0.7nm,0.4s,baz=64,slow=3.8,SNR=19
HFS SKPbc **SKiKP** **21 04 55.6 -1.4**
comp=Z,1.5nm,0.8s,baz=96,slow=2.9,SNR=3.1
AKASG Malin Array Be 143.83 329 PKP PKPbc 21 02 17.8 -0.9
comp=Z,2.0nm,0.4s,baz=42,slow=4.4,SNR=32
AKASG SKPbc **SKiKP** **21 05 03.0 -0.1**
comp=Z,1.3nm,0.8s,baz=51,slow=2.1,SNR=5.2
BNN Bunyan 145.60 307 PKPab PKiKP 21 02 25.6 -0.8
EKA Eskdalemuir Ar 146.88 4 PKPbc **PKPbc** **21 02 26.6 -0.8**
comp=Z,0.8nm,0.6s,baz=349,slow=2.2,SNR=4.3
BRTR Keskin Array B 146.91 309 PKPbc **PKPbc** **21 02 27.9 -0.3**
comp=Z,1.6nm,0.7s,baz=134,slow=4.4,SNR=11
MMAI Mount Meron Ar 147.39 297 PKPbc **PKiKP** **21 02 30.5 -0.6**
comp=Z,2.8nm,0.5s,baz=61,slow=7.7,SNR=7.9
BURAR Bucovina Array 147.85 328 PKiKP 21 02 32.3 +0.6
STHS Stebnicka Huta 148.32 334 *e* **PKPbc 21 02 30.1 -1.2**
OSTC Ostas 149.19 340 *e*PKP **PKiKP 21 02 34.2 0.0**
STEB Steborice 149.21 338 *e*PKP **PKiKP 21 02 33.7 -0.6**
CHVC Chvalec 149.22 340 *e*PKP **PKiKP 21 02 34.3 0.0**
LANS Liptovska Anna 149.24 335 *e* **PKiKP 21 02 34.8 +0.4**
DPC Dobruska-Polom 149.34 340 *e*PKP **PKiKP 21 02 34.1 -0.5**
CLL Collm 149.42 344 *i* PKPbc **PKiKP 21 02 34.0 -0.6**
comp=Z,7.0nm,0.7s
CLL *i* PKPab **PKPab 21 02 41.0 -0.3**
comp=Z,4.0nm,0.7s
MORC Moravsky Berou 149.43 338 *e*PKP **PKiKP 21 02 34.6 -0.2**
KRLC Kraliky 149.43 339 *e*PKP **PKiKP 21 02 34.5 -0.3**
BRG Berggiesshubel 149.58 343 *i* P **PKiKP 21 02 34.9 -0.1**
BRG Berggiesshubel 149.58 343 P **PKPab 21 02 42.2 +0.2**
BRG Amp 21 02 43.1
comp=Z,1.9nm,0.8s
MAUC Maruska 149.67 337 *e*PKP **PKiKP 21 02 35.4 +0.1**
PVCC Panska Ves 149.71 342 *e*PKP **PKiKP 21 02 35.6 +0.3**
VYHS Vyhne 150.01 335 *e* **PKPab 21 02 44.2 +0.3**
VRAC Vranov 150.15 339 *e*PKP **PKiKP 21 02 36.3 +0.1**
JAVC Velka Javorina 150.15 337 *e*PKP **PKiKP 21 02 37.1 +0.8**
PRU Pruhonice 150.20 342 *e*PKP **PKiKP 21 02 35.7 -0.6**
KRIC Moravsky 150.43 339 *e*PKP **PKiKP 21 02 36.7 -0.1**
CKRC Cesky Krumlov 151.31 341 *e*PKP **PKiKP 21 02 38.4 -0.3**
GERES GERESS Array B 151.47 342 PKPbc **PKiKP** **21 02 38.4 -0.7**
comp=Z,0.4nm,0.5s,baz=58,slow=3.3,SNR=8.1

IDC 14 20:52:37.7±6.1,0°27N×122°37E,h210km±66km,mb2.9/3, mbtmp3.6/4,MS3.6/1,Error ellipse: s-maj=79.4km s-min=15.9km az=71.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**10.49 173**		LR	LR	20 59 51.8	
	comp=Z,289nm,18.3s,baz=88,slow=41						
FITZ	**Fitzroy Crossi**	**18.54 170**		P	P	20 56 38.3	-0.4
	4.3nm,0.7s,baz=341,slow=9.3,SNR=9.9						
FITZ				S	S	20 59 59.5	+0.5
	3.8nm,0.9s,baz=352,slow=18,SNR=2.0						
WRA	**Warramunga Arr**	**23.26 150**		P	P	20 57 26.2	-0.4
	0.6nm,0.5s,baz=330,slow=11,SNR=12						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**26.30 156**		P	P	20 57 55.1	+1.0
	0.3nm,0.5s,baz=331,slow=9.8,SNR=6.2						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**58.05 329**		P	P	21 02 08.7	-0.1
	0.3nm,0.5s,baz=134,slow=7.9,SNR=4.8						
	0.3nm,0.5s						

IDC 14 21:01:27.6±1.2, 13°.23N×50°.60E, h0km, mb3.7/8, mbtmp3.7/9, ML2.9/1, MS3.3/6, Error ellipse: s-maj=32.0km s-min=27.4km az=21.0

ISC 14 21:01:29.8±1.0, 13°.2N±0°.2×50°.6E±0°.1, h15km, n16, σ0s93/10, mb3.8/8, MS3.3/6, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**7.77 258**		Pn	**Pn**	**21 03 22.6**	**0.0**
	0.2nm,0.3s,baz=9.8,slow=4.0,SNR=11						
ATD				LR	LR	21 05 36.2	
	comp=Z,7.5nm,18.1s,baz=162,slow=32						
	0.4nm,0.3s						
GNI	**Garni**	**27.30 350**		LR	LR	21 19 57.4	
	comp=Z,62nm,18.4s,baz=154,slow=41						
KBZ	**Khabaz**	**31.10 349**		LR	LR	21 22 43.8	
	comp=Z,29nm,20.3s,baz=170,slow=41						
MKAR	**Makanchi Array**	**42.72 32**		P	**P**	**21 09 27.6**	**+1.2**
	0.2nm,0.4s,baz=225,slow=11,SNR=5.4						
	0.2nm,0.4s						
ARTI	**Arti**	**43.48 6**		LR	LR	21 29 47.8	
	comp=Z,34nm,19.2s,baz=134,slow=39						
KURBB	**Kurchatov Arra**	**43.66 26**		P	**P**	**21 09 34.9**	**+1.1**
	0.3nm,0.5s,baz=220,slow=7.1,SNR=2.8						
	0.3nm,0.5s						
KIRV	**Kirov**	**45.27 359**		LR	LR	21 34 37.0	
	comp=Z,38nm,18.6s,baz=152,slow=44						
CMAR	**Chiang Mai Arr**	**46.68 77**		P	**P**	**21 09 57.0**	**-1.4**
	0.5nm,0.7s,baz=271,slow=8.1,SNR=4.2						
	0.5nm,0.7s						
BOSA	**Boshof**	**48.30 210**		LR	LR	21 31 05.4	
	comp=Z,44nm,20.2s,baz=20,slow=37						
ZALV	**Zalesovo Beam**	**48.73 26**		P	**P**	**21 10 13.6**	**-0.2**
	0.6nm,0.6s,baz=212,slow=5.1,SNR=2.7						
	0.6nm,0.6s						
FINES	**FINESS Array B**	**51.31 345**		P	**P**	**21 10 32.8**	**-0.3**
	1.0nm,0.7s,baz=144,slow=13,SNR=4.5						
	1.0nm,0.7s						
HFS	**Hagfors**	**54.08 338**		P	**P**	**21 10 53.3**	**-0.4**
	0.8nm,0.6s,baz=138,slow=11,SNR=5.3						
	0.8nm,0.6s						
TIXI	**Tiksi**	**73.83 19**		LR	LR	21 48 35.2	
	comp=Z,34nm,18.8s,baz=178,slow=38						
WRA	**Warramunga Arr**	**88.68 111**		P	**P**	**21 14 23.8**	**+0.6**
	1.1nm,0.8s,baz=292,slow=4.0,SNR=6.0						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**89.23 114**		P	**P**	**21 14 26.6**	**+0.8**
	1.0nm,0.9s,baz=299,slow=4.3,SNR=4.6						
	1.0nm,0.9s						
TXAR	**Lajitas Array**	**130.93 330**		PKP	**PKPdf**	**21 20 41.3**	**-0.3**
	0.2nm,0.7s,baz=7.1,slow=6.8,SNR=2.6						

IDC 14 21:10:56.2±1.1, 11°.43N×125°.72E, h0km, mb3.6/10, mbtmp3.6/10, MS3.5/2, Error ellipse: s-maj=66.5km s-min=18.7km az=66.0

ISC 14 21:11:03.4±1.1, 11°.4N±0°.2×125°.7E±0°.4, h53km, n12, σ0s94/10, mb3.6/10, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**20.34 132**		LR	LR	21 23 04.2	
	comp=Z,141nm,21.6s,baz=231,slow=36						
CMAR	**Chiang Mai Arr**	**26.75 288**		P	**P**	**21 16 37.8**	**-0.6**
	0.3nm,0.7s,baz=93,slow=17,SNR=2.0						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**35.74 167**		P	**P**	**21 17 57.9**	**+0.5**
	0.2nm,0.3s,baz=344,slow=7.5,SNR=9.1						
	0.2nm,0.3s						
SONM	**Songino Array**	**39.79 340**		P	**P**	**21 18 32.2**	**+0.8**
	0.2nm,0.4s,baz=134,slow=6.2,SNR=1.5						
	0.2nm,0.4s						
STKA	**Stephens Creek**	**45.63 161**		P	**P**	**21 19 18.3**	**-0.4**
	0.8nm,0.4s,baz=327,slow=8.8,SNR=4.4						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**50.80 322**		P	**P**	**21 19 59.3**	**+0.8**
	0.4nm,0.3s,baz=116,slow=7.2,SNR=18						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**53.38 331**		P	**P**	**21 20 15.7**	**-1.8**
	0.3nm,0.3s,baz=123,slow=5.3,SNR=2.1						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**54.84 325**		P	**P**	**21 20 28.1**	**-0.1**
	0.3nm,0.3s,baz=125,slow=6.8,SNR=6.5						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**60.43 325**		P	**P**	**21 21 06.9**	**-0.6**
	0.3nm,0.6s,baz=115,slow=6.8,SNR=1.8						
	0.3nm,0.6s						
ARCES	**ARCESS Array B**	**82.96 340**		P	**P**	**21 23 22.6**	**+0.2**
	0.2nm,0.3s,baz=55,slow=6.4,SNR=7.5						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**84.65 332**		P	**P**	**21 23 30.4**	**-0.8**
	0.2nm,0.4s,baz=85,slow=5.9,SNR=7.9						
	0.2nm,0.4s						
JMIC	**Jan Mayen**	**92.23 346**		LR	LR	22 09 17.1	
	comp=Z,21nm,19.7s,baz=180,slow=38						

NEIC 14 21:33:50.9±1.7, 18°.08S±0°.08×120°.33E±0°.09, h10km±1km, mb4.7/8, Error ellipse: s-maj=15.0km s-min=12.0km az=308.0
IDC 14 21:33:54.4±0.7, 18°.95S×120°.53E, h0km, mb4.0/10, mbtmp4.3/15, ML4.4/4, MS3.5/6, Error ellipse: s-maj=23.8km s-min=13.3km az=54.0
AUST 14 21:33:54.9±1.3, 18°.S±4°×12°1E±°, h22km±13km, mb5.0/26, ML4.4/8, Error ellipse: s-maj=12.2km s-min=4.3km az=132.4

ISC 14 21:33:49.8±0.5, 18°.23S±0°.04×120°.39E±0°.05, h10km, n94, σ2s54/88, mb4.3/13, MS3.4/5, 1C, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.98 192**			**Pb**	**21 34 40.5**	**-2.5**
MBWA	**Marble Bar**	**2.98 192**		⇑P	**Pb**	**21 34 41.7**	**-1.3**
MBWA				S	**Sb**	**21 35 15.9**	**-3.5**
FITZ	**Fitzroy Crossi**	**5.00 89**			**Pn**	**21 35 06.5**	**+1.6**
FITZ	**Fitzroy Crossi**	**5.00 89**		P	**Pn**	**21 35 08.3**	**+3.4**
FITZ	**Fitzroy Crossi**	**5.00 89**		S	**Sn**	**21 36 03.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**5.00 89**		Pn	**Pn**	**21 35 07.8**	**+3.0**
	21nm,0.3s,baz=262,slow=10,SNR=108						
FITZ				Sn	**Sn**	**21 36 02.9**	**+0.1**
	50nm,0.3s,baz=160,slow=22,SNR=8.0						
FITZ				Lg	Lg	21 36 27.7	
	40nm,0.3s,baz=357,slow=15,SNR=4.3						
	63nm,0.2s						
GIRL	**Giralia**	**7.25 232**		Pn	**Pn**	**21 35 37.7**	**+1.8**
GIRL	**Giralia**	**7.25 232**		P	**Pn**	**21 35 39.2**	**+3.4**
GIRL				S	**Sn**	**21 36 55.7**	**-2.5**
KNRA	**Kununurra**	**8.41 74**			**Pn**	**21 35 52.8**	**+1.1**
KNRA	**Kununurra**	**8.41 74**		P	**Pn**	**21 35 55.0**	**+3.2**
	comp=Z,70nm,0.6s,comp=Z,0.6nm						
KNRA				S	**Sn**	**21 37 24.1**	**-2.7**
WSI	**Waingapu**	**8.51 359**		P	**Pn**	**21 35 54.6**	**+1.4**
	comp=Z,114nm,1.5s						
MEEK	**Meekatharra**	**8.53 191**		P	**Pn**	**21 35 56.7**	**+3.3**
	comp=Z,89nm,0.5s,comp=Z,0.8nm						
MEEK	**Meekatharra**	**8.53 191**		S	**Sn**	**21 37 27.2**	**-2.6**
CVQOZ	**Cooralya Stati**	**8.53 222**		P	**Pn**	**21 35 56.6**	**+3.2**
CVQOZ				S	**Sn**	**21 37 25.2**	**-4.6**
BATI	**Baumata**	**8.59 22**		Pn	Pn	21 35 43.2	-11
	comp=Z,4.6nm,0.3s,baz=153,slow=7.1,SNR=6.4						
BATI				Sn	**Sn**	**21 37 28.1**	**-3.1**
	comp=Z,9.4nm,0.3s,baz=111,slow=20,SNR=7.7						
WBSI	**Waikabubak, Su**	**8.59 353**		P	**Pn**	**21 35 54.4**	**+0.1**
	comp=Z,109nm,0.9s						
SOEI	**Soe**	**9.23 25**		P	Pn	21 36 09.0	+5.9
	comp=Z,62nm,1.3s,comp=Z,0.5nm						
SOEI	**Soe**	**9.23 25**		S	**Sn**	**21 37 49.2**	**+2.0**
SOEI	**Soe**	**9.23 25**		P	**Pn**	**21 36 04.9**	**+1.8**
EDFI	**Ende, Flores**	**9.51 8**		S	**Sn**	**21 37 46.4**	**-7.6**
EDFI	**Ende, Flores**	**9.51 8**		P	**Pn**	**21 36 06.3**	**-0.7**
	comp=Z,24nm,0.9s,comp=Z,0.1nm						
PLAI	**Plampang**	**9.68 344**		P	**Pn**	**21 36 10.7**	**+1.4**
	comp=Z,71nm,1.1s,comp=Z,0.2nm						
PLAI	**Plampang**	**9.68 344**		S	Sn	21 37 47.1	-11
PLAI	**Plampang**	**9.68 344**		P	**Pn**	**21 36 10.1**	**+0.8**
	comp=Z,71nm,1.1s						
MMRI	**Maumere**	**9.71 11**		S	**Sn**	**21 37 51.4**	**-7.3**
	comp=Z,52nm,0.9s,comp=Z,0.3nm						
WRKA	**Warakurna**	**10.00 134**		P	**Pn**	**21 36 17.0**	**+3.4**
	comp=Z,22nm,0.8s,comp=Z,0.1nm						
WRKA				S	**Sn**	**21 38 02.5**	**-3.5**
JAGI	**Jajag, Banyuwa**	**11.44 327**			**Pn**	**21 36 31.9**	**-1.5**
JAGI	**Jajag, Banyuwa**	**11.44 327**		P	**Pn**	**21 36 32.9**	**-0.5**
	comp=Z,78nm,0.6s						
JAGI	**Jajag, Banyuwa**	**11.44 327**		P	**Pn**	**21 36 33.2**	**-0.1**
	comp=Z,79nm,0.6s						
MORW	**Morawa**	**11.50 199**			**Pn**	**21 36 35.1**	**+1.0**
MORW	**Morawa**	**11.50 199**		P	**Pn**	**21 36 34.7**	**+0.6**
	comp=Z,67nm,0.5s						
DPH	**Darwin Parliam**	**11.60 62**		P	**Pn**	**21 36 37.2**	**+1.7**
	comp=Z,54nm,0.5s						
MTN	**Manton Dam**	**11.66 64**			**Pn**	**21 36 37.1**	**+0.8**
MTN	**Manton Dam**	**11.66 64**		P	**Pn**	**21 36 37.9**	**+1.6**
	comp=Z,235nm,0.5s						
DRS	**Darwin Rock St**	**11.66 62**		P	**Pn**	**21 36 37.4**	**+1.1**
	comp=Z,37nm,0.5s						
BLDU	**Ballidu**	**12.78 194**		P	**Pn**	**21 36 52.3**	**+0.7**
	comp=Z,98nm,0.7s						
BKSI	**Bulukumba**	**12.83 359**		P	**Pn**	**21 36 51.4**	**-1.0**
	comp=Z,18nm,0.7s						
KDU	**Kakadu**	**12.89 66**		P	**Pn**	**21 36 53.8**	**+0.6**
	comp=Z,47nm,1.4s						
KAPI	**Kappang**	**13.15 357**		P	**Pn**	**21 36 54.7**	**-2.0**
	comp=Z,9.1nm,0.8s						
KAPI	**Kappang**	**13.15 357**		Pn	P	21 37 14.3	+7.4
	comp=Z,1.7nm,0.3s,baz=196,slow=6.0,SNR=5.7						
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**13.30 100**			**Pn**	**21 36 59.8**	**+1.0**
WRA	**Warramunga Arr**	**13.30 100**		Pn	**Pn**	**21 37 00.3**	**+1.5**
	comp=Z,3.4nm,0.3s,baz=274,slow=14,SNR=54						
WRA				Sn	**Sn**	**21 39 20.6**	**-6.3**
	comp=Z,8.9nm,0.3s,baz=276,slow=25,SNR=8.7						
WRA				Lg	Lg	21 40 52.0	
	baz=351,slow=8.5						
	comp=Z,8.6nm,0.7s						
WRAB	**Tennant Creek**	**13.31 100**			Pn	21 36 55.3	-3.7
WRAB	**Tennant Creek**	**13.31 100**		P	**Pn**	**21 37 01.0**	**+2.1**
	comp=Z,26nm,0.5s						
WB2	**Warramunga Arr**	**13.31 100**		P	**Pn**	**21 36 59.8**	**+0.8**
WB0	**Warramunga Arr**	**13.34 99**			**Pn**	**21 37 00.8**	**+1.4**
WR8	**Warramunga Arr**	**13.45 100**			**Pn**	**21 37 01.6**	**+0.7**
KLBR	**Kellerberrin**	**13.52 190**		P	**Pn**	**21 37 02.3**	**+0.7**
	comp=Z,132nm,0.5s						
ASAR	**Alice Springs**	**13.73 115**			**Pn**	**21 37 06.6**	**+1.8**
ASAR	**Alice Springs**	**13.73 115**		Pn	**Pn**	**21 37 05.3**	**+0.5**
	comp=Z,3.4nm,0.4s,baz=295,slow=12,SNR=4.3						
ASAR				Sn	**Sn**	**21 39 33.6**	**-3.8**
	comp=Z,4.9nm,0.3s,baz=284,slow=21,SNR=22						
ASAR				Lg	Lg	21 41 01.0	
	baz=276,slow=25						
AS31	**Alice Springs**	**13.74 115**			**Pn**	**21 37 07.2**	**+2.4**
NGJI	**Ngawi**	**13.86 320**		P	**Pn**	**21 37 02.9**	**-3.5**
	comp=Z,21nm,1.6s						
UGM	**Wanagama**	**14.04 316**		Pn	**Pn**	**21 37 07.0**	**-2.0**
UGM	**Wanagama**	**14.04 316**		P	**Pn**	**21 37 09.0**	**0.0**
	comp=Z,59nm,1.1s						
MUN	**Mundaring**	**14.20 195**		P	**Pn**	**21 37 10.7**	**-0.3**
	comp=Z,81nm,0.7s						
MTKN	**Mount Kenneth**	**14.27 196**		P	**Pn**	**21 37 15.2**	**+3.3**
	comp=Z,222nm,0.6s						
CARL	**Carlisle**	**14.28 196**		P	**Pn**	**21 37 14.8**	**+2.8**
	comp=Z,130nm,0.6s						
FORT	**Forrest**	**14.30 152**		Pn	**Pn**	**21 37 12.0**	**-0.4**
FORT	**Forrest**	**14.30 152**		P	**Pn**	**21 37 13.1**	**+0.7**
	comp=Z,48nm,0.7s						
DNDOZ	**Balladonia**	**14.51 168**		P	**Pn**	**21 37 14.9**	**-0.4**
NWAO	**Narrogin (SRO)**	**14.91 190**		Pn	**Pn**	**21 37 20.4**	**-0.3**
NWAO	**Narrogin (SRO)**	**14.91 190**		P	**Pn**	**21 37 19.1**	**-1.5**
NWAO	**Narrogin (SRO)**	**14.91 190**		Pn	**Pn**	**21 37 19.4**	**-1.3**
	comp=Z,16nm,0.3s,baz=10,slow=12,SNR=76						
NWAO				Sn	Sn	21 39 52.8	-13
	comp=Z,16nm,0.3s,baz=220,slow=11,SNR=5.3						
NWAO				Lg	Lg	21 41 29.2	
	baz=58,slow=21						
NWAO				LR	LR	21 43 14.4	
	comp=Z,292nm,18.1s,baz=323,slow=39						
	comp=Z,44nm,0.4s						
TTSI	**Tana Toraja**	**15.10 358**		P	P	21 37 39.3	+11
RKGY	**Rocky Gully**	**16.59 190**		P	**Pn**	**21 37 42.6**	**0.0**
	comp=Z,28nm,0.6s						
MULG	**Mulgathing**	**17.28 137**		P	**P**	**21 37 52.9**	**+0.1**
	comp=Z,82nm,0.9s						
H01W3	**Cape Leeuwin H**	**17.50 197**		Pn	**P**	**21 37 56.0**	**+1.2**
	baz=23,slow=12						
H01W3				Sn	**Sn**	**21 41 00.4**	**-8.0**
H01W1	**Cape Leeuwin H**	**17.50 197**		Pn	**P**	**21 37 56.0**	**+1.2**
	baz=23,slow=12						
H01W2	**Cape Leeuwin H**	**17.51 197**		Pn	**P**	**21 37 56.2**	**+1.3**
	baz=23,slow=12						
QIS	**Mount Isa**	**18.28 100**		P	**Pn**	**21 38 03.8**	**+0.1**
	comp=Z,29nm,1.3s						
COEN	**Coen**	**22.30 82**		P	**P**	**21 38 48.9**	**+1.3**
COEN				IAmb	IAmb	21 39 03.6	
	comp=Z,41nm,1.1s						
STKA	**Stephens Creek**	**23.47 129**		P	**P**	**21 39 01.1**	**+1.5**
STKA	**Stephens Creek**	**23.47 129**		P	**P**	**21 39 00.3**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=311,slow=14,SNR=6.2						
STKA				S	**S**	**21 43 12.8**	**-0.7**
	comp=Z,5.6nm,0.5s,baz=202,slow=20,SNR=3.6						
	comp=Z,1.1nm,0.4s						
JAY	**Jayapura**	**25.31 54**		LR	LR	21 51 21.6	
	comp=Z,90nm,20.2s,baz=28,slow=41						
CMAR	**Chiang Mai Arr**	**42.11 329**		P	P	21 41 53.4	+11
	comp=Z,0.4nm,0.3s,baz=148,slow=7.9,SNR=0.9						
CMAR				LR	LR	22 02 39.3	
	comp=Z,44nm,18.9s,baz=195,slow=40						
	comp=Z,0.4nm,0.3s						
CASY	**Casey**	**48.46 185**		P	**P**	**21 42 35.4**	**+3.3**
CASY				IAmb	IAmb	21 42 37.1	
	comp=Z,3.8nm,0.8s						
KSRS	**Korea Array**	**55.84 7**		P	P	21 43 38.6	+11
	comp=Z,1.8nm,0.7s,baz=188,slow=7.7,SNR=13						
	comp=Z,1.8nm,0.7s						
USRK	**Ussuriysk Ar.**	**63.02 9**		P	P	21 44 27.6	+11
	comp=Z,1.8nm,0.8s,baz=197,slow=7.7,SNR=4.5						
	comp=Z,1.8nm,0.8s						
ASAJ	**Asahikawa**	**65.29 17**		LR	LR	22 18 08.3	
	comp=Z,20nm,19.2s,baz=170,slow=40						
SONM	**Songino Array**	**66.95 350**		P	P	21 44 53.6	+11
	comp=Z,3.9nm,1.1s,baz=166,slow=6.8,SNR=12						
	comp=Z,3.9nm,1.1s						
QSPA	**South Pole Qui**	**71.82 180**		P	**P**	**21 45 15.3**	**+2.8**
QSPA	**South Pole Qui**	**71.82 180**		P	**P**	**21 45 15.5**	**+3.0**
	comp=Z,3.5nm,1.1s,baz=314,slow=2.0,SNR=7.3						
	comp=Z,3.5nm,1.1s						
MKAR	**Makanchi Array**	**73.26 334**		P	P	21 45 32.7	+12
	comp=Z,0.6nm,0.5s,baz=139,slow=8.6,SNR=7.1						
	comp=Z,0.6nm,0.5s						
RAR	**Rarotonga**	**74.44 108**		LR	LR	22 16 58.1	
	comp=Z,26nm,20.2s,baz=280,slow=35						
KKAR	**Karatay Array**	**76.30 325**		P	**P**	**21 45 37.0**	**-1.8**
KURBB	**Kurchatov Arra**	**77.81 334**		P	P	21 45 57.4	+10
	comp=Z,0.6nm,0.8s,baz=148,slow=5.1,SNR=4.6						
	comp=Z,0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**78.10 339**		P	P	21 45 58.5	+10
	comp=Z,0.5nm,0.4s,baz=147,slow=3.4,SNR=2.3						
	comp=Z,0.5nm,0.4s						
SNAA	**Sanae**	**82.52 195**		P	**P**	**21 46 14.2**	**+1.8**
SNAA				IAmb	IAmb	21 46 26.1	
	comp=Z,5.3nm,1.3s						
BELA	**Belgrano 2**	**83.00 185**		P	**P**	**21 46 16.9**	**+2.0**
BOSA	**Boshof**	**85.79 241**		P	**P**	**21 46 30.2**	**+0.2**
BOSA				IAmb	IAmb	21 46 35.3	
	comp=Z,8.0nm,1.1s						
BOSA	**Boshof**	**85.79 241**		P	**P**	**21 46 33.5**	**+3.5**
	comp=Z,3.0nm,0.6s,baz=119,slow=4.9,SNR=8.5						
	comp=Z,3.0nm,0.6s						
ABKAR	**Akbulak array**	**85.86 325**		P	**P**	**21 46 30.6**	**+1.0**
ARTI	**Arti**	**90.59 331**		LR	LR	22 32 49.6	
	comp=Z,30nm,18.6s,baz=148,slow=39						
LPAZ	**La Paz**	**144.69 166**		PKP	**PKiKP**	**21 53 31.4**	**-0.9**
	comp=Z,6.3nm,0.6s,baz=157,slow=1.8,SNR=34						

IDC 14 21:42:04.8±1.3, 13°.90N×50°.10E, h0km, mb3.7/11, mbtmp3.6/12, ML2.9/1, MS3.2/4, Error ellipse: s-maj=31.1km s-min=26.3km az=23.0

ISC 14 21:42:06.2±1.2, 13°.9N±0°.2×50°.1E±0°.2, h10km, n16, σ0s96/12, mb3.7/11, MS3.1/4, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**7.42 252**		Pn	**Pn**	**21 43 54.3**	**-0.4**
	0.2nm,0.3s,baz=69,slow=14,SNR=12						
ATD				LR	LR	21 46 10.5	
	comp=Z,5.8nm,21.9s,baz=174,slow=33						
	0.4nm,0.3s						
MMAI	**Mount Meron Ar**	**23.27 327**		LR	LR	21 56 14.2	
	comp=Z,50nm,19.7s,baz=139,slow=36						
GNI	**Garni**	**26.58 351**		LR	LR	22 00 26.8	
	comp=Z,43nm,19.9s,baz=162,slow=42						
KBZ	**Khabaz**	**30.38 350**		LR	LR	22 02 41.7	
	comp=Z,62nm,20.5s,baz=152,slow=41						
IDI	**Anoyia**	**31.12 318**		LR	LR	22 03 07.3	
	comp=Z,58nm,19.1s,baz=300,slow=41						
AKASG	**Malin Array Be**	**40.44

WARBT				S		**Sg**	**21 44 49.0**	**-0.7**
TEYL	**Yanliau Villag**	**0.69**	**339**	*e*P		**Pn**	**21 44 43.6**	**-0.3**
TEYL				*e*S		**Sb**	**21 44 52.5**	**+0.7**
ESL	**Shilin**	**0.71**	**326**	*i* P		**Pg**	**21 44 42.3**	**+0.4**
ESL				S		**Sg**	**21 44 50.2**	**-1.1**
LONT	**Longtian**	**0.75**	**245**	*i* P		**Pn**	**21 44 44.5**	**-0.3**
ELDTW	**Lidau**	**0.79**	**268**	*i* P		**Pb**	**21 44 43.8**	**-0.2**
ELDTW				S		**Sg**	**21 44 52.1**	**-1.5**
HWA	**Hwalien**	**0.79**	**342**	*e*P		**Pb**	**21 44 44.9**	**+0.9**
HWA				*e*S		**Sg**	**21 44 54.7**	**+1.0**
TTN	**Taitung**	**0.81**	**235**	*e*P		**Pn**	**21 44 45.7**	**+0.1**
TTN				*e*S		**Sb**	**21 44 55.6**	**+0.2**
ETM	**Tongmen**	**0.81**	**335**	*e*P		**Pb**	**21 44 45.1**	**+0.7**
ETM				*e*S		**Sg**	**21 44 53.4**	**-1.2**
TWGBT	**Beinan**	**0.83**	**241**	P		**Pn**	**21 44 45.6**	**-0.3**
TWGBT	**Beinan**	**0.83**	**241**	*e*P		**Pn**	**21 44 45.7**	**-0.3**
TWGBT				*e*S		**Sb**	**21 44 55.6**	**-0.3**
TWG	**Pinlang**	**0.84**	**242**	*e*P		**Pn**	**21 44 45.5**	**-0.5**
TWG				S		**Sg**	**21 44 54.8**	**-0.5**
VWDT	**VWDT**	**0.85**	**308**	*e*P		**Pg**	**21 44 45.1**	**+0.5**
TWD	**Chiawan**	**0.89**	**344**	P		**Pg**	**21 44 45.6**	**+0.3**
TWD				S		**Sg**	**21 44 54.9**	**-2.0**
LXIB	**Xiulin Townshi**	**0.90**	**332**	*e*P		**Pg**	**21 44 45.8**	**+0.3**
OWD	**Renai**	**0.97**	**319**	*i* P		**Pg**	**21 44 46.8**	**-0.1**
OWD				*e*S		**Sg**	**21 44 56.4**	**-3.0**
NACB	**Ninganchiao**	**0.98**	**345**	P		**Pg**	**21 44 47.0**	**0.0**
NACB	**Ninganchiao**	**0.98**	**345**	S		**Sg**	**21 44 58.0**	**-1.8**
NACB	**Ninganchiao**	**0.98**	**345**	P		**Pg**	**21 44 47.1**	**0.0**
NACB				*e*S		**Sg**	**21 44 56.9**	**-2.9**
EOS4	**EOS4**	**0.98**	**25**	*e*P		**Pn**	**21 44 48.0**	**+0.4**
STYH	**Taoyuan**	**1.01**	**267**	*e*P		**Pb**	**21 44 47.7**	**0.0**
STYH				*e*S		**Sg**	**21 44 59.5**	**-1.2**
SSLB	**Suanglung**	**1.01**	**304**	P		**Pg**	**21 44 47.4**	**-0.2**
SSLB	**Suanglung**	**1.01**	**304**	*e*P		**Pg**	**21 44 47.6**	**0.0**
SSLB				*e*S		**Sg**	**21 44 57.4**	**-3.5**
ALS	**Alishan**	**1.02**	**286**	*i* P		**Pg**	**21 44 48.2**	**+0.3**
ALS				S		**Sg**	**21 44 59.9**	**-1.2**
WUSB	**Renai**	**1.03**	**318**	P		**Pg**	**21 44 48.0**	**-0.1**
WUSB				*e*S		**Sg**	**21 44 58.8**	**-2.7**
ETLH	**Xiulin Townshi**	**1.04**	**340**	*e*P		**Pg**	**21 44 48.0**	**-0.2**
ETLH				*e*S		**Sg**	**21 44 58.7**	**-3.1**
WHYT	**Xinyi Township**	**1.04**	**297**	*e*P		**Pg**	**21 44 48.5**	**+0.1**
ECL	**Taimali**	**1.05**	**234**	*e*P		**Pn**	**21 44 48.8**	**-0.2**
WHF	**Hehuan Shan**	**1.07**	**329**	*e*P		**Pg**	**21 44 49.0**	**+0.2**
SMLT	**Sun Moon Lake**	**1.11**	**307**	*e*P		**Pg**	**21 44 48.6**	**-0.8**
TPUB	**Ta-pu**	**1.14**	**274**	P		**Pn**	**21 44 50.8**	**+0.6**
TPUB	**Ta-pu**	**1.14**	**274**	P		**Pn**	**21 44 50.8**	**+0.6**
TPUB				*e*S		**Sb**	**21 45 04.9**	**-0.1**
TYC	**Yuchr**	**1.15**	**306**	*e*P		**Pb**	**21 44 50.0**	**-0.2**
CHN5	**Tsauling**	**1.16**	**289**	*i* P		**Pn**	**21 44 51.0**	**+0.6**
WTP	**Ta-pu**	**1.16**	**271**	*i* P		**Pn**	**21 44 50.8**	**+0.4**
FUSS	**Fushou**	**1.17**	**331**	*e*P		**Pb**	**21 44 49.9**	**-0.7**
CHN4	**Tsaushan**	**1.18**	**276**	*i* P		**Pg**	**21 44 51.7**	**+0.8**
WCKO	**Fanlu**	**1.18**	**281**	*e*P		**Pb**	**21 44 50.8**	**+0.1**
ENA	**Nanau**	**1.20**	**354**	*e*P		**Pn**	**21 44 50.7**	**-0.3**
WCS	**Beigang Elemen**	**1.21**	**314**	*e*P		**Pn**	**21 44 51.1**	**0.0**
TDCB	**Techi**	**1.21**	**328**	*e*P		**Pn**	**21 44 51.7**	**+0.4**
LAY	**Lan-yu**	**1.22**	**194**	*i* P		**Pg**	**21 44 52.0**	**+0.4**
LAY				*e*S		**Sn**	**21 45 07.0**	**-0.7**
CHN1	**Nanshi**	**1.23**	**268**	*i* P		**Pg**	**21 44 52.7**	**+0.8**
CHN1				*i* S		**Sg**	**21 45 08.2**	**+0.3**
SSD	**Sandimen**	**1.24**	**248**	*e*P		**Pg**	**21 44 52.4**	**+0.4**
TSMG	**Majia**	**1.24**	**246**	*e*P		**Pg**	**21 44 53.1**	**+1.1**
LYUB	**Lan-yu**	**1.25**	**192**	*e*P		**Pg**	**21 44 51.8**	**-0.3**
EAST	**Anshuo**	**1.26**	**229**	*e*P		**Pg**	**21 44 52.0**	**-0.4**
SNST	**Tainan City**	**1.26**	**270**	*e*P		**Pg**	**21 44 53.4**	**+0.9**
MNSB	**Datong**	**1.28**	**340**	*e*P		**Pn**	**21 44 52.5**	**+0.3**
MASBT	**Mashibuluo**	**1.29**	**242**	*e*P		**Pg**	**21 44 53.0**	**0.0**
SCST	**Cishan**	**1.31**	**255**	*e*P		**Pg**	**21 44 54.6**	**+1.2**
LATG	**Datong**	**1.34**	**347**	*e*P		**Pn**	**21 44 53.7**	**+0.6**
WHP	**Taichung City**	**1.35**	**321**	*e*P		**Pn**	**21 44 53.1**	**0.0**
CHY	**Chiayi**	**1.36**	**282**	*e*P		**Pg**	**21 44 54.4**	**+0.2**
TWC	**Suao**	**1.38**	**359**	*e*P		**Pb**	**21 44 54.3**	**+0.3**
SLIU	**Shizi**	**1.41**	**225**	*e*P		**Pg**	**21 44 55.0**	**-0.2**
SCZT	**Fangliau**	**1.43**	**234**	*e*P		**Pg**	**21 44 55.6**	**0.0**
YHNB	**Yeheng**	**1.51**	**343**	P		**Pg**	**21 44 58.3**	**+1.1**
YHNB	**Yeheng**	**1.51**	**343**	*e*P		**Pn**	**21 44 55.0**	**-0.4**
WSL	**Shuilin Townsh**	**1.54**	**281**	*e*P		**Pb**	**21 44 56.9**	**+0.2**
WSL				*i* S		**Sn**	**21 45 15.3**	**-0.3**
FUSB	**Fushanzhiwuyua**	**1.55**	**350**	*e*P		**Pn**	**21 44 56.8**	**+1.0**
NSY	**Sanyi**	**1.56**	**320**	*e*S		**Sn**	**21 45 17.2**	**+1.0**
JYNG	**Yonagunijimaku**	**1.57**	**39**	*e*P		**Pg**	**21 44 58.6**	**+0.3**
JYNG				*e*S		**Sb**	**21 45 17.7**	**+0.5**
YOJ	**Yonaguni jima**	**1.61**	**40**	*e*P		**Pg**	**21 44 59.6**	**+0.4**
YOJ				*e*S		**Sb**	**21 45 19.2**	**+0.7**
LJOB	**Emei**	**1.62**	**331**	*e*P		**Pn**	**21 44 57.5**	**+0.8**
TIPB	**Shuangxi**	**1.74**	**359**	P		**Pb**	**21 45 01.4**	**+1.2**
TIPB				*e*S		**Sn**	**21 45 21.2**	**+0.5**
HATJ	**Hateruma jima**	**1.96**	**65**	*e*P		**Pb**	**21 45 04.4**	**+0.5**
HATJ				*e*S		**Sb**	**21 45 28.2**	**-0.1**
IRIF	**Iriomote-Funau**	**2.03**	**57**	*e*P		**Pb**	**21 45 05.4**	**+0.3**
IRIF				*e*S		**Sb**	**21 45 30.7**	**+0.2**
PNG	**Penghu**	**2.15**	**280**	*i* P		**Pn**	**21 45 05.0**	**+1.0**
PNG				S		**Sn**	**21 45 29.1**	**-1.7**
JKRS	**Kuro-shima**	**2.21**	**62**	*e*P		**Pb**	**21 45 08.1**	**0.0**
JKRS				*e*S		**Sb**	**21 45 35.4**	**-0.1**
JIJ	**Ishigaki jima**	**2.37**	**61**	*e*P		**Pb**	**21 45 10.0**	**-1.0**
JIJ				*e*S		**Sn**	**21 45 38.3**	**+2.1**
JISG	**Ishigakijimahi**	**2.61**	**58**	*e*P		**Pb**	**21 45 13.0**	**-2.1**
JISG				*e*S		**Sn**	**21 45 43.4**	**+1.2**

IDC ***14*** *21:59:51.9±1.2,0.˚49S×127.˚86E, h0km, mb3.6/6, mbtmp3.8/8, ML3.8/2, MS3.1/3, Error ellipse: s-maj=50.9km s-min=19.2km az=75.0*

ISC 14 21:59:56.7±1.2,0.˚5S±0.˚1×128.˚0E±0.˚2, h35km, n11, σ0.˚77/8, mb3.7/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**7.92**	**343**	LR	LR	22 04 18.6	
	comp=Z,42nm,18.7s,baz=156,slow=34						
KAPI	**Kappang**	**9.32**	**241**	Pn	**Pn**	**22 02 09.0**	**+0.3**
	6.2nm,0.3s,baz=75,slow=5.8,SNR=5.3						
	11nm,0.2s						
FITZ	**Fitzroy Crossi**	**17.60**	**187**	P	**Pn**	**22 03 58.2**	**-1.2**
	0.1nm,0.3s,baz=3.8,slow=15,SNR=0.8						
	5.5nm,1.0s						
WRA	**Warramunga Arr**	**20.28**	**162**	P	**P**	**22 04 29.8**	**+0.3**
	0.7nm,0.5s,baz=337,slow=12,SNR=6.2						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**23.71**	**166**	P	**P**	**22 05 06.7**	**+1.1**
	1.4nm,0.7s,baz=344,slow=11,SNR=11						
	1.4nm,0.7s						
STKA	**Stephens Creek**	**33.74**	**159**	LR	LR	22 23 03.4	
	comp=Z,107nm,20.1s,baz=226,slow=41						
CMAR	**Chiang Mai Arr**	**34.19**	**305**	LR	LR	22 20 26.8	
	comp=Z,24nm,21.0s,baz=115,slow=36						
SONM	**Songino Array**	**51.70**	**342**	P	**P**	**22 09 00.4**	**-0.1**
	0.3nm,0.4s,baz=152,slow=6.5,SNR=3.2						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**61.74**	**326**	P	**P**	**22 10 11.6**	**-0.1**
	0.2nm,0.3s,baz=115,slow=8.3,SNR=5.6						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**65.97**	**328**	P	**P**	**22 10 39.2**	**-0.2**
	1.0nm,0.9s,baz=138,slow=6.4,SNR=5.0						
	1.0nm,0.9s						
BVAR	**Borovoye Array**	**71.54**	**327**	P	**P**	**22 11 14.4**	**+0.3**
	0.9nm,0.8s,baz=130,slow=7.5,SNR=1.5						
	0.9nm,0.8s						

IDC ***14*** *22:00:39.5±0.8, 13.˚13N×50.˚41E, h0km, mb4.0/24, mbtmp4.0/25, ML3.2/1, MS3.5/17, Error ellipse: s-maj=21.5km s-min=15.0km az=21.0*
NEIC ***14*** *22:00:42.2±1.3, 13.˚20N±0.˚07×50.˚41E±0.˚09, h10km±1km, mb4.5/39, Error ellipse: s-maj=18.4km s-min=6.8km az=128.0*

ISC 14 22:00:42.0±0.6, 13.˚2N±0.˚1×50.˚41E±0.˚08, h15km, n91, σ0.˚79/87, mb4.5/40, MS3.5/18, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**7.56**	**259**		**Pn**	**22 02 32.4**	**+0.6**
ATD	**Arta Tunnel**	**7.56**	**259**	Pn	**Pn**	**22 02 30.9**	**-1.0**
	0.3nm,0.3s,baz=70,slow=12,SNR=28						
ATD				Sn	Sn	22 03 47.7	-10
	baz=241,slow=19						
ATD				LR	LR	22 04 47.9	
	comp=Z,15nm,18.4s,baz=82,slow=33						
	1.1nm,0.5s						
RAYN	**Ar Rayn**	**11.32**	**336**	Pn	**Pn**	**22 03 22.6**	**-0.8**

EIL	**Elat**			**21.81**	**321**	P		**P**	**22 05 35.4**	**+1.6**
	3.3nm,0.8s,baz=102,slow=10.0,SNR=5.7									
EIL						LR		LR	22 13 50.2	
	comp=Z,138nm,19.7s,baz=68,slow=36									
	3.3nm,0.8s									
ASF	**Jabal al Asfar**			**22.63**	**329**	LR		LR	22 14 56.8	
	comp=Z,119nm,19.8s,baz=180,slow=38									
MMAI	**Mount Meron Ar**			**24.06**	**328**	P		**P**	**22 05 57.1**	**+0.2**
	0.7nm,0.6s,baz=138,slow=13,SNR=1.9									
MMAI						LR		LR	22 16 47.8	
	comp=Z,29nm,20.0s,baz=140,slow=40									
	0.7nm,0.6s									
GEVA	**Gevas**			**25.90**	**347**	P		**P**	**22 06 14.1**	**+0.4**
GEVA						IAmb		IAmb	22 06 28.6	
	comp=Z,13nm,1.1s									
GURO	**Guroymak-BITLI**			**26.37**	**345**	P		**P**	**22 06 18.7**	**+0.8**
KBL	**Kabul**			**27.18**	**35**	P		**P**	**22 06 24.7**	**-0.7**
GNI	**Garni**			**27.36**	**351**	LR		LR	22 19 09.5	
	comp=Z,155nm,18.9s,baz=167,slow=40									
KOPT	**Kop Dagi**			**28.16**	**344**	P		**P**	**22 06 34.3**	**+0.2**
KOPT						IAmb		IAmb	22 06 53.3	
	comp=Z,8.0nm,1.2s									
SIMJ	**Simiganj**			**30.30**	**30**	P		**P**	**22 06 52.8**	**-0.2**
SIMJ						IAmb		IAmb	22 07 10.3	
	comp=Z,13nm,1.4s									
BRTR	**Keskin Array B**			**30.32**	**334**	P		**P**	**22 06 52.1**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=148,slow=14,SNR=1.6									
BRTR						PcP		**PcP**	**22 09 50.9**	**-2.4**
	comp=Z,0.6nm,0.7s,baz=142,slow=6.3,SNR=3.9									
	comp=Z,0.6nm,0.9s									
KBZ	**Khabaz**			**31.15**	**349**	P		**P**	**22 07 01.1**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=183,slow=4.3,SNR=5.0									
KBZ						LR		LR	22 21 55.7	
	comp=Z,132nm,18.0s,baz=163,slow=41									
	comp=Z,1.4nm,0.8s									
KIV	**Kislovodsk**			**31.41**	**349**	P		**P**	**22 07 02.8**	**+0.1**
KIV						IAmb		IAmb	22 07 08.1	
	comp=Z,7.3nm,1.0s									
BTK	**Batken**			**32.26**	**30**			**P**	**22 07 09.7**	**-0.5**
ARSB	**Arslanbob**			**34.30**	**31**	P		**P**	**22 07 27.1**	**-0.9**
ARSB						IAmb		IAmb	22 07 40.1	
	comp=Z,9.7nm,1.4s									
KK31	**Karatay Array**			**34.53**	**26**	P		**P**	**22 07 29.2**	**-0.7**
KKAR	**Karatay Array**			**34.53**	**26**	P		**P**	**22 07 29.3**	**-0.6**
LSZ	**Lusaka**			**35.79**	**219**	LR		LR	22 23 25.1	
	comp=Z,138nm,19.4s,baz=146,slow=38									
NRN	**Naryn**			**35.94**	**34**	P		**P**	**22 07 42.4**	**-0.1**
NRN						IAmb		IAmb	22 07 51.7	
	comp=Z,6.9nm,1.1s									
AAK	**Ala-Archa**			**36.02**	**31**	P		**P**	**22 07 42.5**	**-0.5**
AB31	**Akbulak array**			**36.85**	**10**			**P**	**22 07 50.8**	**+1.1**
ABKAR	**Akbulak array**			**36.85**	**10**			**P**	**22 07 49.3**	**-0.4**
AKTO	**Aktyubinsk**			**37.70**	**8**	P		**P**	**22 07 56.9**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=225,slow=5.1,SNR=4.0									
AKTO						LR		LR	22 26 42.4	
	comp=Z,85nm,19.4s,baz=273,slow=41									
	comp=Z,1.1nm,0.7s									
MLR	**Muntele Rosu**			**38.34**	**332**	LR		LR	22 25 56.0	
	comp=Z,61nm,18.6s,baz=143,slow=40									
BURAR	**Bucovina Array**			**40.29**	**334**	P		**P**	**22 08 20.2**	**+1.5**
AKBB	**Malin Array Si**			**41.23**	**340**			**P**	**22 08 26.6**	**+0.3**
AKBB						IAmb		IAmb	22 08 32.6	
	comp=Z,8.6nm,0.8s									
KIEV	**Kiev**			**41.23**	**340**			**P**	**22 08 26.6**	**+0.3**
KIEV						IAmb		IAmb	22 08 32.6	
	comp=Z,7.7nm,0.8s									
AKASG	**Malin Array Be**			**41.24**	**340**	P		**P**	**22 08 26.7**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=153,slow=7.5,SNR=17									
AKASG						LR		LR	22 29 14.7	
	comp=Z,38nm,18.3s,baz=112,slow=42									
	comp=Z,2.5nm,0.7s									
KOLS	**Kolonicke sedl**			**42.58**	**333**	*e*P		**P**	**22 08 37.8**	**+0.4**
MAKZ	**Makanchi**			**42.75**	**32**	P		**P**	**22 08 39.2**	**+0.4**
BVAR	**Borovoye Array**			**42.85**	**18**	P		**P**	**22 08 39.5**	**0.0**
	comp=Z,1.0nm,0.7s,baz=229,slow=6.8,SNR=5.5									
BVAR						PcP		**PcP**	**22 10 30.9**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=272,slow=7.0,SNR=6.4									
BVAR						LR		LR	22 27 06.5	
	comp=Z,55nm,21.7s,baz=172,slow=37									
	comp=Z,1.0nm,0.7s									
MKAR	**Makanchi Array**			**42.90**	**32**	P		**P**	**22 08 40.0**	**-0.1**
MKAR	**Makanchi Array**			**42.90**	**32**	P		**P**	**22 08 40.1**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=220,slow=7.3,SNR=5.8									
	comp=Z,1.0nm,0.5s									
STHS	**Stebnicka Huta**			**43.39**	**332**	*e*P		**P**	**22 08 45.0**	**+1.0**
TAM	**Tamanrasset**			**43.62**	**289**			**P**	**22 08 46.6**	**+0.3**
SRO	**Srobarova**			**43.68**	**329**	*e*P		**P**	**22 08 47.5**	**+1.2**
KURBB	**Kurchatov Arra**			**43.83**	**26**	P		**P**	**22 08 47.9**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=227,slow=8.0,SNR=14									
	comp=Z,1.6nm,0.8s									
VYHS	**Vyhne**			**43.88**	**330**	*e*P		**P**	**22 08 48.6**	**+0.7**
MODS	**Modra-Piesok**			**44.58**	**329**	*e*P		**P**	**22 08 53.2**	**-0.3**
VSL	**Villasalto**			**44.62**	**314**	P		**P**	**22 08 56.0**	**+2.0**
VSL						IAmb		IAmb	22 08 58.6	
	comp=Z,11nm,1.1s									
JAVC	**Velka Javorina**			**44.70**	**329**	*e*P		**P**	**22 08 55.6**	**+1.1**
LBTB	**Lobatse**			**44.99**	**213**	LR		LR	22 26 35.0	
	comp=Z,140nm,18.9s,baz=76,slow=35									
MORC	**Moravsky Berou**			**45.37**	**330**	*e*P		**P**	**22 08 59.8**	**0.0**
KRUC	**Moravsky**			**45.47**	**329**	*e*P		**P**	**22 08 59.6**	**-0.9**
VRAC	**Vranov**			**45.53**	**329**	LR		LR	22 32 23.4	
	comp=Z,26nm,19.6s,baz=90,slow=42									
SUW	**Suwalki**			**46.08**	**338**	P		**P**	**22 09 05.7**	**+0.5**
GERES	**GERESS Array B**			**46.72**	**327**	P		**P**	**22 09 10.0**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=101,slow=4.2,SNR=5.5									
GERES						PcP		**PcP**	**22 10 44.3**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=152,slow=4.4,SNR=2.5									
	comp=Z,0.4nm,0.6s									
CMAR	**Chiang Mai Arr**			**46.89**	**77**	P		**P**	**22 09 12.2**	**0.0**
	comp=Z,1.4nm,0.3s,baz=274,slow=8.4,SNR=9.4									
CMAR						PcP		**PcP**	**22 10 45.7**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=265,slow=4.3,SNR=1.4									
	comp=Z,1.4nm,0.3s									
TORD	**Torodi Ar. Bea**			**47.38**	**276**	P		**P**	**22 09 15.9**	**-0.1**
TORD						IAmb		IAmb	22 09 23.4	
	comp=Z,5.3nm,1.3s									
TORD	**Torodi Ar. Bea**			**47.38**	**276**	P		**P**	**22 09 15.5**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=79,slow=9.0,SNR=3.7									
	comp=Z,2.4nm,0.5s									
BRG	**Berggiesshubel**			**47.84**	**329**	*e*P		**P**	**22 09 19.3**	**+0.2**
BRG						Amp			22 09 20.9	
	comp=Z,1.8nm,0.9s									
BOSA	**Boshof**			**48.12**	**210**	LR		LR	22 32 07.4	
	comp=Z,76nm,18.4s,baz=43,slow=39									
CLL	**Collm**			**48.58**	**329**	*i* P		**P**	**22 09 25.1**	**+0.3**
CLL						AMS		AMS	22 58 00.0	
	comp=Z,100nm,19.1s									
ZAA0	**Zalesovo Array**			**48.90**	**26**			**P**	**22 09 25.7**	**-1.6**
ZAA0						IAmb		IAmb	22 09 27.1	
	comp=Z,3.3nm,0.7s									
ZALV	**Zalesovo Beam**			**48.90**	**26**			**P**	**22 09 26.3**	**-1.0**
ZALV	**Zalesovo Beam**			**48.90**	**26**	P		**P**	**22 09 25.9**	**-1.3**
	comp=Z,3.6nm,0.7s,baz=235,slow=8.0,SNR=17									
	comp=Z,3.6nm,0.7s									
FIA1	**FINESS Array S**			**51.34**	**345**			**P**	**22 09 46.0**	**+0.4**
FINES	**FINESS Array B**			**51.34**	**345**			**P**	**22 09 45.7**	**+0.1**
FINES	**FINESS Array B**			**51.34**	**345**	P		**P**	**22 09 45.4**	**-0.2**
	comp=Z,4.4nm,0.7s,baz=134,slow=11,SNR=26									
FINES						LR		LR	22 33 19.2	
	comp=Z,34nm,19.6s,baz=114,slow=38									
	comp=Z,4.4nm,0.7s									
HFS	**Hagfors**			**54.09**	**338**	P		**P**	**22 10 05.9**	**-0.1**
	comp=Z,5.2nm,0.6s,baz=138,slow=9.6,SNR=33									
HFS						LR		LR	22 36 31.5	
	comp=Z,40nm,18.5s,baz=104,slow=40									
	comp=Z,5.2nm,0.6s									
ESDC	**Sonseca Array**			**54.43**	**310**			**P**	**22 10 08.7**	**-0.2**
ESDC						IAmb		IAmb	22 10 11.4	
	comp=Z,4.7nm,1.4s									
ESDC	**Sonseca Array**			**54.43**	**310**	P		**P**	**22 10 09.3**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=100,slow=6.4,SNR=10									
	comp=Z,1.5nm,0.9s									
NC602	**NORSAR Array S**			**55.28**	**338**	P		**P**	**22 10 14.1**	**-0.6**
NC602						IAmb		IAmb	22 10 23.8	
	comp=Z,8.8nm,1.1s									
KONO	**Kongsberg**			**55.31**	**336**	P		**P**	**22 10 15.3**	**+0.5**
KONO						IAmb		IAmb	22 10 19.4	
	comp=Z,5.5nm,0.9s									
NC405	**NORSAR Array S**			**55.48**	**338**	P		**P**	**22 10 15.0**	**-1.0**
NB2	**NORSAR Subarra**			**55.61**	**338**	P		**P**	**22 10 16.4**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=133,slow=7.4									
NOA	**NORSAR Array B**			**55.61**	**338**	P		**P**	**22 10 16.5**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=127,slow=7.4,SNR=8.8									
NOA						LR		LR	22 37 27.5	
	comp=Z,34nm,18.5s,baz=125,slow=40									
	comp=Z,1.2nm,0.6s									
SONM	**Songino Array**			**57.71**	**41**	P		**P**	**22 10 33.1**	**+0.7**

SONM						IAmb		IAmb	22 10 35.0	
	comp=Z,6.1nm,1.5s									
SONM	**Songino Array**			**57.71**	**41**	P		**P**	**22 10 32.6**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=252,slow=6.6,SNR=8.7									
	comp=Z,1.1nm,0.5s									
ULN	**Ulaanbaatar**			**58.15**	**41**	P		**P**	**22 10 35.3**	**-0.1**
ULN						IAmb		IAmb	22 10 36.9	
	comp=Z,5.3nm,1.5s									
KEV	**Kevo**			**58.46**	**351**	P		**P**	**22 10 37.0**	**0.0**
KEV						IAmb		IAmb	22 10 37.8	
	comp=Z,6.8nm,0.9s									
ARCES	**ARCESS Array B**			**58.51**	**350**	P		**P**	**22 10 37.2**	**-0.2**
ARCES						IAmb		IAmb	22 10 47.1	
	comp=Z,5.2nm,1.1s									
ARCES	**ARCESS Array B**			**58.51**	**350**	P		**P**	**22 10 37.2**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=127,slow=7.7,SNR=5.8									
	comp=Z,1.2nm,0.7s									
EKA	**Eskdalemuir Ar**			**58.94**	**328**	P		**P**	**22 10 39.7**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=126,slow=7.2,SNR=7.5									
	comp=Z,1.1nm,0.7s									
EKB	**Eskdalemuir**			**58.95**	**328**	P		**P**	**22 10 40.2**	**-0.5**
EKB						IAmb		IAmb	22 10 46.0	
	comp=Z,4.7nm,0.9s									
SPITS	**Spitsbergen Ar**			**67.20**	**353**	P		**P**	**22 11 34.2**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=195,slow=10,SNR=1.1									
	comp=Z,0.6nm,0.5s									
HEH	**HeiHe**			**71.70**	**41**	*e*P		**P**	**22 12 03.3**	**-0.1**
HEH						pmax		pmax		
	comp=Z,8.0nm,1.0s									
KSRS	**Korea Array**			**72.27**	**55**	P		**P**	**22 12 05.8**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=261,slow=7.0,SNR=6.8									
	comp=Z,1.2nm,0.5s									
JNU	**Nakatsue**			**75.03**	**59**	P		**P**	**22 12 26.1**	**+2.6**
MORW	**Morawa**			**75.96**	**125**	P		**P**	**22 12 28.7**	**0.0**
WRA	**Warramunga Arr**			**88.84**	**111**	P		**P**	**22 13 36.6**	**+0.4**
WRA	**Warramunga Arr**			**88.84**	**111**	P		**P**	**22 13 36.0**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=299,slow=

FAKI Fak Fak 4.79 120 P **Pn** **22 22 33.6 +1.6**
LUWI Luwuk 5.34 264 P **Pb** **22 22 56.3 +3.0**
MRSI Marisa 6.23 279 P **Pn** **22 22 51.9 0.0**
APSI Ampana 6.45 267 P **Pn** **22 22 54.2 -0.7**
0.8nm134nm,0.7s
TOLI2 Tolitoli 7.49 283 **Pn** **22 23 10.1 +0.9**
TOLI2 Tolitoli 7.49 283 P **Pn** **22 23 09.5 +0.3**
TTSI Tana Toraja 8.64 253 P **Pn** **22 23 26.5 +1.6**
0.2nm778nm41nm,0.7s
SPSI Sidrap Palu 8.99 248 P **Pn** **22 23 30.5 +0.8**
KAPI Kappang 9.45 242 **Pn** **22 23 36.8 +0.8**
KAPI Kappang 9.45 242 P **Pn** **22 23 36.2 +0.2**
2.9nm,0.3s,baz=56,slow=8.0,SNR=14
KAPI LR LR 22 27 16.4
comp=Z,181nm,18.7s,baz=89,slow=38
25nm,0.6s
KAPI Kappang 9.45 242 P **Pn** **22 23 37.4 +1.4**
MTN Manton Dam 12.60 166 Pn **Pn** **22 24 20.3 +1.0**
JAY Jayapura 12.76 99 P **Pn** **22 24 24.1 +2.6**
5.7nm,0.8s,baz=274,slow=10,SNR=2.6
JAY LR LR 22 30 03.9
comp=Z,140nm,20.5s,baz=290,slow=40
KNRA Kununurra 15.07 178 **Pn** **22 24 51.9 -1.1**
KNRA IAmb IAmb 22 24 53.5
comp=Z,24nm,0.8s
FITZ Fitzroy Crossi 17.63 188 **Pn** **22 25 26.3 +0.6**
FITZ Fitzroy Crossi 17.63 188 P **Pn** **22 25 24.7 -1.0**
comp=Z,0.3nm,0.3s,baz=21,slow=14,SNR=2.6
comp=Z,3.3nm,0.6s
WB0 Warramunga Arr 20.09 162 **P** **22 25 53.7 -0.1**
WRA Warramunga Arr 20.24 163 P **P** **22 25 55.9 +0.5**
WRA Warramunga Arr 20.24 163 P **P** **22 25 54.0 -1.3**
comp=Z,4.8nm,0.7s,baz=347,slow=13,SNR=14
comp=Z,4.8nm,0.7s
WR8 Warramunga Arr 20.30 162 P **P** **22 25 55.7 -0.4**
WR8 IAmb IAmb 22 26 13.1
comp=Z,22nm,1.4s
LEM Lembang 21.36 252 P **P** **22 26 07.2 -0.5**
comp=Z,14nm,0.6s,baz=348,slow=17,SNR=4.5
comp=Z,14nm,0.6s
AS31 Alice Springs 23.68 167 **P** **22 26 31.4 -0.5**
ASAR Alice Springs 23.68 167 P **P** **22 26 31.9 0.0**
ASAR Alice Springs 23.68 167 P **P** **22 26 30.0 -1.9**
comp=Z,4.0nm,0.6s,baz=344,slow=9.5,SNR=36
comp=Z,4.0nm,0.6s
TWG Pinlang 24.19 344 P **P** **22 26 35.5 -1.2**
TWG IAmb IAmb 22 26 35.7
comp=Z,17nm,0.8s
YULB Yu-li 24.68 345 P **P** **22 26 40.4 -0.7**
YULB IAmb IAmb 22 26 45.5
comp=Z,8.7nm,0.9s
TPUB Ta-pu 24.77 343 **P** **22 26 41.9 0.0**
NACB Ninganchiao 25.35 346 P **P** **22 26 46.9 -0.2**
NACB IAmb IAmb 22 26 58.7
comp=Z,11nm,0.8s
YHNB Yeheng 25.88 346 **P** **22 26 52.6 +0.6**
PSI Prapat 29.34 277 LR LR 22 42 33.1
comp=Z,227nm,18.4s,baz=126,slow=43
FORT Forrest 30.09 180 P **P** **22 27 29.5 0.0**
FORT IAmb IAmb 22 27 37.3
comp=Z,4.6nm,0.8s
WHN Wuhan 33.55 338 ⇑P **P** **22 28 01.8 +1.8**
WHN pmax pmax
comp=Z,64nm,0.8s
CMAR Chiang Mai Arr 34.30 305 P **P** **22 28 05.5 -1.3**
comp=Z,1.3nm,0.3s,baz=126,slow=9.4,SNR=4.6
comp=Z,1.3nm,0.3s
KSRS Korea Array 37.79 360 P **P** **22 28 37.2 +0.9**
comp=Z,2.0nm,0.8s,baz=182,slow=10,SNR=11
comp=Z,2.0nm,0.8s
MJAR Matsushiro Arr 38.06 13 **P** **22 28 40.1 +1.4**
MJAR Matsushiro Arr 38.06 13 P **P** **22 28 37.8 -0.9**
comp=Z,5.2nm,0.9s,baz=187,slow=8.9,SNR=12
comp=Z,5.2nm,0.9s
XAN Xi'an 38.81 334 P **P** **22 28 45.1 +0.1**
XAN pP sP 22 28 51.9 +2.5
XAN pmax pmax
comp=Z,18nm,0.7s
LZH Lanzhou 42.85 331 *e*P **P** **22 29 18.9 +0.4**
LZH pP sP 22 29 26.8 +3.9
LZH pmax pmax
comp=Z,23nm,1.4s
LZH LR LR
comp=N,150nm,14.8s
LZH LR LR
comp=E,160nm,13.7s
LZH LR LR
comp=Z,150nm,16.2s
USRK Ussuriysk Ar. 44.67 4 **P** **22 29 33.5 +0.7**
USRK Ussuriysk Ar. 44.67 4 P **P** **22 29 32.9 +0.2**
comp=Z,3.6nm,0.7s,baz=181,slow=5.4,SNR=12
comp=Z,3.6nm,0.7s
BNX BinXian 46.08 359 ⇑P **P** **22 29 47.6 +3.7**
BNX pmax pmax
comp=Z,5.0nm,1.5s
PALK Pallekele 47.90 280 LR LR 22 51 50.5
comp=Z,85nm,18.7s,baz=204,slow=38
ULN Ulaanbaatar 51.56 342 **P** **22 30 25.8 -0.5**
ULN IAmb IAmb 22 30 27.3
comp=Z,7.0nm,0.9s
SONM Songino Array 51.74 342 P **P** **22 30 27.2 -0.3**
comp=Z,2.9nm,0.8s,baz=158,slow=8.8,SNR=15
comp=Z,2.9nm,0.8s
PETK Petropavlovsk- 58.88 20 P **P** **22 31 20.2 +1.4**
comp=Z,1.9nm,0.6s,baz=225,slow=8.2,SNR=2.6
comp=Z,1.9nm,0.6s
MKAR Makanchi Array 61.81 326 P **P** **22 31 37.9 -1.1**
comp=Z,3.6nm,0.8s,baz=197,slow=6.1,SNR=3.6
comp=Z,3.6nm,0.8s
ZALV Zalesovo Beam 64.98 333 P **P** **22 31 57.8 -2.0**
comp=Z,1.1nm,0.7s,baz=62,slow=3.4,SNR=2.6
comp=Z,1.1nm,0.7s
KURBB Kurchatov Arra 66.04 328 P **P** **22 32 04.7 -2.0**
comp=Z,2.8nm,0.7s,baz=128,slow=6.0,SNR=14
comp=Z,2.8nm,0.7s
KURK Kurchatov 66.05 328 **P** **22 32 05.8 -0.9**
BVAR Borovoye Array 71.61 327 P **P** **22 32 39.3 -2.2**
comp=Z,1.9nm,0.8s,baz=124,slow=6.1,SNR=3.8
comp=Z,1.9nm,0.8s
VNDA Vanda 79.06 173 **P** **22 33 23.2 -0.6**
VNDA Vanda 79.06 173 P **P** **22 33 22.3 -1.5**
comp=Z,1.0nm,0.7s,baz=311,slow=6.6,SNR=10
comp=Z,1.0nm,0.7s
J16K Anvik River 82.14 26 P **P** **22 33 41.1 +0.6**
J16K IAmb IAmb 22 33 44.5
comp=Z,4.0nm,0.9s
H17K Granite Mounta 82.91 24 P **P** **22 33 44.3 -0.3**
H17K IAmb IAmb 22 33 47.6
comp=Z,4.9nm,0.9s
K17K Iditarod 83.00 26 P **P** **22 33 45.4 +0.3**
E18K Tukpahlearik C 83.38 22 P **P** **22 33 46.7 -0.3**
G18K Tagagawik 83.69 23 P **P** **22 33 47.8 -0.7**
G18K IAmb IAmb 22 33 50.2
comp=Z,3.9nm,1.2s
L19K White Mountain 84.43 27 P **P** **22 33 52.5 +0.1**
ILAR Eielson Array 88.34 25 P **P** **22 34 08.8 -2.8**
comp=Z,0.4nm,0.9s,baz=188,slow=8.0,SNR=2.4
comp=Z,0.4nm,0.9s
QSPA South Pole Qui 89.41 180 P **P** **22 34 16.2 -0.5**
QSPA IAmb IAmb 22 34 20.9
comp=Z,3.9nm,1.0s
QSPA South Pole Qui 89.41 180 P **P** **22 34 14.8 -1.9**
comp=Z,1.3nm,0.7s,baz=307,slow=1.3,SNR=13
comp=Z,1.3nm,0.7s
J26L Joseph Creek 89.76 26 P **P** **22 34 18.6 +0.3**
J26L IAmb IAmb 22 34 19.5
comp=Z,1.4nm,0.8s

IDC ***14*** *22:25:51.1±0.6,35˚.13N×81˚.21E,h0km,mb4.0/17, mbtmp4.0/22,ML3.0/5,MS3.4/21,Error ellipse: s-maj=22.3km s-min=13.1km az=58.0*
NEIC ***14*** *22:25:54.1±1.8,35˚.09N±0˚.07×81˚.13E±0˚.07,h10km±1km, mb4.3/18,Error ellipse: s-maj=15.8km s-min=5.0km az=38.0*
MOS ***14*** *22:25:54.3±1.8,35˚.25N×81˚.11E,h25km,mb4.2/10,Error ellipse: s-maj=11.2km s-min=5.4km az=110.7*
ISC 14 22:25:55.1±0.4,35˚24N±0˚.04×81˚22E±0˚.06,h16km,n114, σ1ᵍ**75**/114**,mb4.2**/27**,MS3.5**/19**,8C,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KLP	**Kalpa**	**4.46**	**215**	*e*P			**Pn**	**22 27 04.5**	**+2.2**
JOSI	**Joshimath**	**4.88**	**197**	*e*P			**Pn**	**22 27 10.8**	**+2.8**
SMLA	**Simla**	**5.33**	**221**	*e*P			**Pn**	**22 27 15.2**	**+1.3**
SMLA				*e*S			**Sn**	**22 28 16.6**	**+1.7**
SMLA						IAML		22 28 19.9	
	comp=E,181nm,0.9s								
SMLA						IAML		22 28 22.9	
	comp=E,176nm,0.6s								
BHK	**Bhakra**	**5.54**	**228**	*e*P			**Pn**	**22 27 17.5**	**+0.6**
BHK				*ex*			x	22 28 29.1	
PTH	**Pithoragarh**	**5.74**	**189**	*e*P			**Pn**	**22 27 17.9**	**-1.9**
PTH				*e*S			**Sn**	**22 28 25.4**	**-0.1**
PTH						IAML		22 28 30.9	
	comp=E,173nm,0.8s								
PTH						IAML		22 28 33.0	
	comp=E,162nm,0.8s								
JMU	**Jammu**	**5.82**	**246**	*e*P			**Pn**	**22 27 22.0**	**+1.3**
JMU				*e*S			**Sn**	**22 28 31.9**	**+4.8**
JMU						IAML		22 28 42.2	
	comp=E,158nm,0.8s								
JMU						IAML		22 28 44.4	
	comp=E,156nm,1.3s								
LGTI	**Lohaghat**	**5.83**	**188**	*e*P			**Pn**	**22 27 23.4**	**+2.4**
LGTI				*e*S			**Sn**	**22 28 30.8**	**+3.3**
LGTI						IAML		22 28 39.7	
	comp=E,176nm,0.8s								
LGTI						IAML		22 28 39.8	
	comp=E,143nm,0.9s								
NIL	**Nilore**	**6.77**	**259**				**Pn**	**22 27 32.7**	**-1.1**
NIL	**Nilore**	**6.77**	**259**	P			**Pn**	**22 27 32.7**	**-1.1**
TARG	**Taragay, Kyrgy**	**7.01**	**339**				**Pn**	**22 27 39.9**	**+2.5**
TARG					Sn		**Sn**	**22 28 59.5**	**+2.6**
TARG	**Taragay, Kyrgy**	**7.01**	**339**	P			**Pn**	**22 27 39.9**	**+2.5**
TARG								22 28 59.5	
NDI	**New Delhi**	**7.37**	**209**	*e*P			**Pn**	**22 27 43.3**	**+1.3**
UZB	**Uzynbulak**	**8.07**	**348**	P			**Pn**	**22 27 52.7**	**+0.9**
KUDL	**Kundal**	**8.14**	**211**	*e*P			**Pn**	**22 27 52.2**	**-0.4**
KUDL				*e*S			**Sn**	**22 29 22.9**	**-1.4**
KUDL						IAML		22 29 27.4	
	comp=E,169nm,0.7s								
KUDL						IAML		22 29 34.1	
	comp=E,170nm,0.5s								
AAK	**Ala-Archa**	**9.05**	**327**				**Pn**	**22 28 06.7**	**+1.6**
AAK	**Ala-Archa**	**9.05**	**327**	Pn			**Pn**	**22 28 06.1**	**+1.0**
	comp=E,0.7nm,0.3s,baz=156,slow=13,SNR=5.2								
AAK					Pg			22 28 35.4	
	comp=E,1.4nm,0.3s,baz=154,slow=12,SNR=4.8								
AAK					Lg	Lg		22 30 32.5	
	comp=E,0.7nm,0.3s,baz=204,slow=10.0,SNR=5.4								
AAK					LR	LR		22 32 00.7	
	comp=E,434nm,19.1s,baz=138,slow=40								
	comp=E,2.8nm,0.4s								
AAK	**Ala-Archa**	**9.05**	**327**	*ce*P			**Pn**	**22 28 04.5**	**-0.6**
AAK					pmax	pmax			
	comp=Z,9.0nm,1.3s								
ARXS	**Arharly**	**9.33**	**345**	*i* P			**Pn**	**22 28 08.8**	**-0.1**
GAR	**Garm**	**9.48**	**296**				**Pn**	**22 28 12.0**	**+1.0**
BTK	**Batken**	**9.54**	**303**				**Pn**	**22 28 12.1**	**+0.2**
BTK	**Batken**	**9.54**	**303**	P			**Pn**	**22 28 12.1**	**+0.2**
ALBI	**Allahabad**	**9.91**	**177**	*e*P			**Pn**	**22 28 15.2**	**-1.7**
WMQ	**Urumqi**	**9.92**	**28**	P			**Pn**	**22 28 16.9**	**0.0**
WMQ					LR	LR			
	comp=N,250nm,12.9s								
WMQ					LR	LR			
	comp=E,200nm,11.3s								
WMQ					LR	LR			
	comp=Z,190nm,15.9s								
JHNI	**Jhansi**	**10.02**	**194**	*e*P			**Pn**	**22 28 16.2**	**-2.1**
KBL	**Kabul**	**10.03**	**269**				**Pn**	**22 28 15.9**	**-2.7**
KBL	**Kabul**	**10.03**	**269**	P			**Pn**	**22 28 15.9**	**-2.7**
LSA	**Lhasa**	**10.04**	**121**	Pn			**Pn**	**22 28 22.4**	**+3.3**
LSA					Sn		Sn	22 29 46.8	-25
LSA					smax		smax		
	comp=N,6.0nm,0.7s								
SIMJ	**Simiganj**	**10.35**	**293**				**Pn**	**22 28 23.4**	**+0.5**
IUG	**Iuzhnay**	**11.12**	**312**	P			**Pn**	**22 28 32.4**	**-1.1**
KK31	**Karatay Array**	**11.42**	**317**				**Pn**	**22 28 39.1**	**+1.6**
KK31	**Karatay Array**	**11.42**	**317**	P			**Pn**	**22 28 39.1**	**+1.6**
KKAR	**Karatay Array**	**11.42**	**317**				**Pn**	**22 28 37.4**	**-0.1**
KKAR	**Karatay Array**	**11.42**	**317**	P			**Pn**	**22 28 37.4**	**-0.1**
MAKZ	**Makanchi**	**11.57**	**3**				**Pn**	**22 28 38.6**	**-0.9**
MAKZ	**Makanchi**	**11.57**	**3**	P			**Pn**	**22 28 38.6**	**-0.9**
MK31	**Makanchi Array**	**11.57**	**4**	Pn			**Pn**	**22 28 39.4**	**-0.1**
MK31	**Makanchi Array**	**11.57**	**4**	P			**Pn**	**22 28 39.4**	**-0.1**
MKAR	**Makanchi Array**	**11.57**	**4**				**Pn**	**22 28 39.1**	**-0.4**
MKAR	**Makanchi Array**	**11.57**	**4**	Pn			**Pn**	**22 28 38.5**	**-1.0**
	comp=N,0.5nm,0.3s,baz=184,slow=13,SNR=18								
MKAR					Sn		**Sn**	**22 30 44.3**	**-4.0**
	comp=N,0.4nm,0.3s,baz=199,slow=26,SNR=4.0								
MKAR					LR	LR		22 33 56.5	
	comp=N,110nm,19.1s,baz=182,slow=42								
	comp=N,2.0nm,0.5s								
MKAR	**Makanchi Array**	**11.57**	**4**	*e*P			**Pn**	**22 28 38.5**	**-1.0**
MKAR					pmax	pmax			
	comp=Z,500nm,0.3s								
BHPL	**Bhopal**	**12.41**	**196**	*e*P			**Pn**	**22 28 48.1**	**-3.0**
GTA	**Gaotai**	**15.37**	**69**	P			**P**	**22 29 38.3**	**+2.4**
GTA				pP			sP	22 29 52.6	+7.6
GTA					pmax	pmax			
	comp=Z,11nm,0.9s								
GTA					LR	LR			
	comp=N,200nm,14.5s								
GTA					LR	LR			
	comp=E,200nm,13.5s								
GTA					LR	LR			
	comp=Z,150nm,11.6s								
KURBB	**Kurchatov Arra**	**15.49**	**354**			Pn	**Pn**	**22 29 29.7**	**-3.1**
	baz=176,slow=12,SNR=18								
KURBB					Lg	Lg		22 34 05.5	
	baz=185,slow=30,SNR=4.9								
KURBB					LR	LR		22 35 59.9	
	comp=Z,107nm,18.1s,baz=176,slow=39								
	comp=Z,2.0nm,0.9s								
KURK	**Kurchatov**	**15.58**	**354**				**Pn**	**22 29 30.4**	**-3.4**
KURK	**Kurchatov**	**15.58**	**354**	*ce*P			**Pn**	**22 29 31.1**	**-2.8**
KURK					pmax	pmax			
	comp=Z,5.0nm,1.3s								
ZAA0	**Zalesovo Array**	**18.87**	**7**				**P**	**22 30 14.9**	**+0.5**
ZALV	**Zalesovo Beam**	**18.87**	**7**				**Pn**	**22 30 15.6**	**+0.6**
ZALV	**Zalesovo Beam**	**18.87**	**7**	P			**P**	**22 30 13.5**	**-0.9**
	baz=197,slow=9.6,SNR=5.7								
ZALV					LR	LR		22 38 40.3	
	comp=Z,50nm,18.3s,baz=248,slow=40								
	comp=Z,1.3nm,0.6s								
ZALV	**Zalesovo Beam**	**18.87**	**7**	P			**Pn**	**22 30 15.6**	**+0.6**
BVAR	**Borovoye Array**	**19.36**	**340**	P			**P**	**22 30 20.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=150,slow=12,SNR=13								
	comp=Z,2.7nm,0.6s								
BRVK	**Borovoye**	**19.42**	**340**				**P**	**22 30 21.1**	**+0.6**
BRVK	**Borovoye**	**19.42**	**340**	*ce*P			**P**	**22 30 19.4**	**-1.1**
BRVK					pmax	pmax			
	comp=Z,8.0nm,0.8s								
AB31	**Akbulak array**	**20.98**	**318**				**P**	**22 30 38.2**	**+0.8**
AB31					IAmb	IAmb		22 30 43.1	
	comp=Z,9.9nm,1.1s								
ABKAR	**Akbulak array**	**20.98**	**318**				**P**	**22 30 38.4**	**+1.1**
SONM	**Songino Array**	**22.54**	**48**				**P**	**22 30 57.5**	**+3.1**
SONM	**Songino Array**	**22.54**	**48**	P			**P**	**22 30 57.5**	**+3.1**
SONM					pmax	pmax			
	comp=Z,6.0nm,1.2s								
CHTO	**Chiang Mai**	**22.68**	**132**				**P**	**22 30 56.2**	**+0.3**
CHTO					IAmb	IAmb		22 30 56.7	
	comp=Z,6.8nm,0.8s								
CHTO	**Chiang Mai**	**22.68**	**132**	P			**P**	**22 30 56.2**	**+0.3**
CHTO					pmax	pmax			
	comp=Z,7.0nm,0.8s								
CM31	**Chiang Mai Arr**	**22.95**	**132**	P			**P**	**22 30 57.5**	**-1.3**
CM31					IAmb	IAmb		22 31 06.1	
	comp=Z,17nm,1.4s								
CMAR	**Chiang Mai Arr**	**22.95**	**132**	P			**P**	**22 30 57.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**22.95**	**132**	P			**P**	**22 30 57.3**	**-1.5**
	comp=Z,1.2nm,0.3s,baz=320,slow=10.0,SNR=12								
CMAR					LR	LR		22 41 41.6	
	comp=Z,33nm,21.2s,baz=225,slow=42								
	comp=Z,1.2nm,0.3s								
CMAR	**Chiang Mai Arr**	**22.95**	**132**	P			**P**	**22 30 57.4**	**-1.3**
ULN	**Ulaanbaatar**	**22.96**	**49**	P			**P**	**22 31 00.3**	**+1.5**
ULN					IAmb	IAmb		22 31 09.6	
	comp=Z,3.6nm,0.7s								
ULN	**Ulaanbaatar**	**22.96**	**49**	P			**P**	**22 31 00.3**	**+1.5**
ULN					pmax	pmax			
	comp=Z,4.0nm,0.7s								
SVE	**Sverdlovsk**	**25.69**	**334**	*e*P			**P**	**22 31 27.6**	**+3.4**
SVE					pmax	pmax			
	comp=Z,12nm,1.2s								
ARTI	**Arti**	**26.24**	**331**				**P**	**22 31 29.3**	**+0.2**
ARTI					IAmb	IAmb		22 31 32.4	
	comp=Z,8.6nm,1.0s								
ARTI	**Arti**	**26.24**	**331**	LR		LR		22 42 32.8	
	comp=Z,146nm,18.4s,baz=138,slow=38								
ARTI	**Arti**	**26.24**	**331**	*c i*P			**P**	**22 31 29.5**	**+0.4**
ARTI					pmax	pmax			
	comp=Z,10.0nm,1.1s								
GNI	**Garni**	**29.14**	**291**	LR		LR		22 45 29.3	
	comp=Z,46nm,18.2s,baz=127,slow=40								
OBN	**Obninsk**	**36.41**	**317**	*ei*P			**P**	**22 33 00.4**	**+1.8**
OBN				*e*				22 34 21.5	
OBN					pmax	pmax			
	comp=Z,2.0nm,0.8s								
OBN					MLR	MLR			
	comp=Z,117nm,17.0s								
ASF	**Jabal al Asfar**	**36.77**	**278**	LR		LR		22 51 30.6	
	comp=Z,62nm,18.9s,baz=131,slow=42								
GSI	**Gunungsitoli**	**37.04**	**152**	P			**P**	**22 33 03.8**	**-0.5**
BRTR	**Keskin Array B**	**37.67**	**291**	P			**P**	**22 33 07.7**	**-2.0**
	comp=Z,1.9nm,1.0s,baz=70,slow=11,SNR=6.2								
	comp=Z,1.9nm,1.0s								
BRTR	**Keskin Array B**	**37.67**	**291**	*ce*P			**P**	**22 33 13.6**	**+3.9**
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
MMAI	**Mount Meron Ar**	**37.73**	**280**	LR		LR		22 51 20.1	
	comp=Z,28nm,19.3s,baz=134,slow=40								
EIL	**Elat**	**39.16**	**275**	LR		LR		22 52 24.3	
	comp=Z,64nm,18.4s,baz=67,slow=41								
AKASG	**Malin Array Be**	**40.19**	**309**	P			**P**	**22 33 29.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=78,slow=7.9,SNR=1.9								
AKASG					LR		LR	22 52 14.5	
	comp=Z,91nm,18.6s,baz=78,slow=39								
	comp=Z,0.1nm,0.3s								
AKBB	**Malin Array Si**	**40.19**	**309**	*ce*P			**P**	**22 33 32.3**	**+1.8**
AKBB					pmax	pmax			
	comp=Z,3.0nm,1.1s								
MNK	**Minsk**	**41.26**	**315**	*i* P			**P**	**22 33 40.1**	**+0.9**
	comp=E,4.0nm,0.7s								
MNK				*i* P			**P**	**22 33 40.1**	**+0.9**
	comp=N,4.0nm,0.8s								
MNK				*i* P			**P**	**22 33 40.1**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=94								
MNK				*i* pP			sP	22 33 59.3	+11
MNK				*i* PP			**PP**	**22 35 13.3**	**-1.1**
MNK				*i* S			S	22 39 39.7	-13
MNK				*i* sS			sS	22 40 13.2	+9.4
MNK				*i* SS			SS	22 42 40.3	-15
MNK				*i* SSS			SSS	22 43 06.3	
MNK				*i* LQ			LQ	22 48 12.5	
MNK				*i* LR			LR	22 50 51.4	
MNK				*i* LRM			MLR	22 52 13.7	
	comp=N,83nm,15.8s								
MNK				*i* LRM			MLR	22 52 16.6	
	comp=Z,123nm,16.2s								
MNK				*i* LRM			MLR	22 52 35.1	
	comp=E,37nm,16.6s								
MNK	**Minsk**	**41.26**	**315**	*i* P			**P**	**22 33 40.1**	**+0.9**
MNK				*i*				22 35 13.3	
MNK					pmax	pmax			
	comp=Z,2.0nm,0.7s								
MNK					pmax	pmax			
	comp=N,4.0nm,0.8s								
MNK					pmax	pmax			
	comp=E,4.0nm,0.7s								
MNK					MLR	MLR			
	comp=N,83nm,16.0s								
MNK					MLR	MLR			
	comp=Z,123nm,16.0s								
MNK					MLR	MLR			
	comp=E,37nm,17.0s								
LVZ	**Lovozero**	**41.87**	**336**	*ce*P			**P**	**22 33 45.6**	**+1.5**
LVZ					pmax	pmax			
	comp=Z,11nm,1.0s								
MLR	**Muntele Rosu**	**42.58**	**301**	LR		LR		22 55 32.1	
	comp=Z,60nm,18.6s,baz=63,slow=42								
FIA1	**FINESS Array S**	**43.23**	**325**	P			**P**	**22 33 56.0**	**+0.9**
FINES	**FINESS Array B**	**43.23**	**325**	P			**P**	**22 33 55.2**	**0.0**
FINES	**FINESS Array B**	**43.23**	**325**	P			**P**	**22 33 54.4**	**-0.8**
	comp=Z,3.0nm,0.7s,baz=103,slow=8.6,SNR=17								
FINES					LR		LR	22 52 46.0	
	comp=Z,59nm,21.0s,baz=102,slow=37								
	comp=Z,3.0nm,0.7s								
FINES	**FINESS Array B**	**43.23**	**325**	*e*P			**P**	**22 33 57.9**	**+2.7**
FINES					pmax	pmax			
	comp=Z,3.0nm,0.7s								
IDI	**Anoyia**	**45.44**	**287**	LR		LR		22 57 45.5	
	comp=Z,81nm,18.9s,baz=129,slow=42								
ARCES	**ARCESS Array B**	**45.58**	**336**				**P**	**22 34 14.7**	**+0.8**
ARCES					IAmb	IAmb		22 34 18.0	
	comp=Z,8.3nm,1.1s								
ARCES	**ARCESS Array B**	**45.58**	**336**	P			**P**	**22 34 14.4**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=98,slow=8.7,SNR=14								
ARCES					LR	LR		22 54 24.3	
	comp=Z,78nm,18.9s,baz=112,slow=38								
	comp=Z,3.5nm,0.8s								
ARCES	**ARCESS Array B**	**45.58**	**336**	*e*P			**P**	**22 34 13.5**	**-0.4**
ARCES					pmax	pmax			
	comp=Z,4.0nm,0.8s								
VRAC	**Vranov**	**48.40**	**308**	LR		LR		22 57 53.6	
	comp=Z,47nm,18.0s,baz=72,slow=40								
HFS	**Hagfors**	**49.16**	**322**	P			**P**	**22 34 41.0**	**-0.9**
	comp=Z,2.3nm,0.9s,baz=96,slow=7.4,SNR=5.0								
HFS					LR		LR	22 56 42.8	
	comp=Z,96nm,18.4s,baz=91,slow=38								
	comp=Z,2.3nm,0.9s								
HFS	**Hagfors**	**49.16**	**322**	P			**P**	**22 34 41.0**	**-0.9**
NB2	**NORSAR Subarra**	**50.35**	**324**	P			**P**	**22 34 52.9**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=88,slow=7.9								
NOA	**NORSAR Array B**	**50.35**	**324**	P			**P**	**22 34 50.7**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=89,slow=7.5,SNR=4.8								
NOA					LR		LR	22 58 10.1	
	comp=Z,21nm,20.2s,baz=90,slow=38								
	comp=Z,1.6nm,0.9s								
NOA	**NORSAR Array B**	**50.35**	**324**	*e*P			**P**	**22 34 53.2**	**+2.2**
NOA					pmax	pmax			
	comp=Z,1.0nm,0.8s								
GERES	**GERESS Array B**	**50.35**	**308**	P			**P**	**22 34 49.8**	**-1.4**
GERES	**GERESS Array B**	**50.35**	**308**	P			**P**	**22 34 49.5**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=96,slow=5.5,SNR=6.0								
GERES					LR		LR	22 58 53.5	
	comp=Z,31nm,21.8s,baz=112,slow=39								
	comp=Z,0.6nm,0.8s								
GERES	**GERESS Array B**	**50.35**	**308**	*e*P			**P**	**22 34 54.2**	**+3.0**
GERES					pmax	pmax			
	comp=Z,1.0nm,0.9s								
SPB2	**Spitsbergen Ar**	**50.66**	**346**	P			**P**	**22 34 54.8**	**+1.8**
NRCA	**Norcia**	**52.14**	**300**	P			**P**	**22 35 03.6**	**-1.1**
NRCA					IAmb	IAmb		22 35 08.9	
	comp=Z,10nm,1.5s								
BILL	**Bilibino**	**56.02**	**27**	*i* P			P	22 35 41.7	+9.1
BILL					pmax	pmax			
	comp=Z,2.0nm,1.1s								
EKA	**Eskdalemuir Ar**	**58.85**	**318**	P			**P**	**22 35 53.1**	**+0.4**
	comp=Z,2.1nm,1

ML3.1/6, Error ellipse: s-maj=20.1km s-min=5.4km az=137.5, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.92**	**195**	P	Pn	22 28 47.9	+1.2
PSAC1	**Pilbara Seismi**	**3.27**	**192**	P	Pn	22 28 52.7	+1.2
PSAC1				S	Sn	22 29 31.9	+2.1
PSA00	**Pilbara Seismi**	**3.30**	**191**	P	Pn	22 28 52.8	+0.8
FITZ	**Fitzroy Crossi**	**4.87**	**88**	P	Pn	22 29 13.7	+0.2
FITZ	**Fitzroy Crossi**	**4.87**	**88**	S	Sn	22 30 10.4	+1.2
GIRL	**Giralia**	**7.30**	**233**	P	Pn	22 29 45.8	-1.1
GIRL				S	Sn	22 31 02.4	-6.8
KNRA	**Kununurra** comp=Z,17nm,0.6s,comp=Z,0.1nm	**8.31**	**73**	P	Pn	22 30 01.4	+0.7
MEEK	**Meekatharra** comp=Z,12nm,2.1s,comp=Z,0.1nm	**8.46**	**192**	P	Pn	22 30 03.1	+0.2
MEEK	**Meekatharra**	**8.46**	**192**	S	Sn	22 31 35.5	-2.4
CVQOZ	**Cooralya Stati**	**8.56**	**223**	P	Pn	22 30 04.1	-0.1
CVQOZ				S	Sn	22 31 30.4	-10
WRKA	**Warakurna** comp=Z,2.9nm,1.4s,comp=Z,0.0nm	**9.84**	**134**	P	Pn	22 30 23.2	+1.4
WRKA				S	Sn	22 32 11.4	-0.4
MORW	**Morawa** comp=Z,14nm,2.0s	**11.46**	**200**	P	Pn	22 30 41.9	-2.1
MTN	**Manton Dam** comp=Z,38nm,1.8s	**11.58**	**63**	P	Pn	22 30 45.1	-0.5
BLDU	**Balliduj** comp=Z,19nm,1.6s	**12.72**	**195**	P	Pn	22 30 59.8	-1.5
KLBR	**Kellerberrin** comp=Z,14nm,1.4s	**13.45**	**190**	P	Pn	22 31 09.7	-1.4
KLBR	**Kellerberrin**	**13.45**	**190**	S	Sn	22 33 30.0	-10
FORT	**Forrest** comp=Z,6.8nm,1.0s	**14.16**	**153**	P	Pn	22 31 21.0	0.0
FORT				S	Sn	22 33 52.2	-5.3

IDC ***14*** *22:29:29.4±0.7,0.75S×128.44E, h0km, mb4.0/11, mbtmp4.0/15, ML3.9/4, MS3.5/5, Error ellipse: s-maj=28.6km s-min=13.8km az=76.0*

NEIC ***14*** *22:29:31.6±0.8,0.72S±0.08×128.45E±0.09, h10km±1km, mb4.3/11, Error ellipse: s-maj=17.6km s-min=9.9km az=229.0*

DJA ***14*** *22:29:33.8±0.9,1°S±2°×12°8E±°, h18km±7km, M4.6/16, mB5.1/4, mb4.9/6, MLv4.5/16, Mw(mB)4.4/4*

ISC 14 22:29:31.0±0.5,0.75S±0.04×128.37E±0.05, h10km, n53, σ1§29/54, mb4.2/16, MS3.6/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.81**	**327**	Pn	**Pn**	**22 30 03.9**	**+1.6**
TNTI	**Ternate**	**1.81**	**327**	P	**Pn**	**22 30 02.6**	**+0.3**
TNTI				S	**Sb**	**22 30 28.6**	**+1.4**
MSAI	**Masohi**	**2.64**	**168**	P	**Pb**	**22 30 17.2**	**-1.2**
MSAI				S	**Sn**	**22 30 48.9**	**+3.2**
SANI	**Sanana**	**2.70**	**242**	P	**Pn**	**22 30 13.3**	**-1.2**
SANI				S	**Sn**	**22 30 44.3**	**-3.0**
NLAI	**Namlea**	**2.77**	**207**	P	**Pn**	**22 30 15.5**	**0.0**
NLAI				S	**Sn**	**22 30 47.6**	**-1.5**
SWI	**Sorong**	**2.90**	**92**	P	**Pb**	**22 30 20.9**	**-1.9**
SWI				S	**Sb**	**22 30 57.5**	**-0.8**
AAI	**Ambon**	**2.92**	**183**	P	**Pn**	**22 30 18.1**	**+0.6**
AAI				S	**Sn**	**22 30 54.4**	**+1.7**
BNDI	**Bandanaira**	**4.05**	**158**	P	**Pn**	**22 30 35.6**	**+2.5**
FAKI	**Fak Fak**	**4.44**	**119**	Pn	**Pn**	**22 30 38.9**	**+0.5**
FAKI	**Fak Fak**	**4.44**	**119**	P	**Pn**	**22 30 41.2**	**+2.7**
KMSI	**Cibinong**	**4.58**	**287**	P	**Pn**	**22 30 40.5**	**+0.1**
SGSI	**Sangihe**	**5.24**	**327**	P	**Pn**	**22 30 50.9**	**+1.4**
LUWI	**Luwuk** 0.5nm4μm120nm,0.9s	**5.60**	**267**	P	**Pn**	**22 30 54.3**	**-0.1**
MRSI	**Marisa** 0.1nm1μm28nm,0.5s	**6.54**	**281**	P	**Pn**	**22 31 07.8**	**+0.5**
APSI	**Ampana** 0.6nm2μm98nm,0.6s	**6.72**	**269**	P	**Pn**	**22 31 10.2**	**+0.4**
TOLI2	**Tolitoli**	**7.81**	**284**	Pn	**Pn**	**22 31 25.8**	**+1.0**
DAV	**Davao City (W)** comp=Z,131nm,18.5s,baz=286,slow=43	**8.25**	**340**	LR	LR	22 35 22.9	
KAPI	**Kappang** 1.1nm,0.3s,baz=55,slow=11,SNR=4.4 10nm,0.7s	**9.59**	**244**	Pn	**Pn**	**22 31 48.9**	**-0.3**
MTN	**Manton Dam**	**12.32**	**167**	Pn	**Pn**	**22 32 28.3**	**+1.7**
JAY	**Jayapura** 1.0nm,0.3s,baz=339,slow=17,SNR=7.8 2.3nm,0.3s	**12.46**	**98**	Pn	**Pn**	**22 32 25.4**	**-3.2**
KNRA	**Kununurra**	**14.83**	**179**	Pn	**Pn**	**22 32 59.0**	**-2.0**
FITZ	**Fitzroy Crossi**	**17.44**	**189**	Pn	**Pn**	**22 33 34.5**	**-0.1**
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=18,slow=19,SNR=2.3 4.3nm,0.8s	**17.44**	**189**	P	**Pn**	**22 33 34.0**	**-0.6**
WB0	**Warramunga Arr**	**19.80**	**163**	P	**P**	**22 34 01.7**	**0.0**
WB0	comp=Z,19nm,1.1s			IAmb	IAmb	22 34 05.8	
WRA	**Warramunga Arr** comp=Z,0.4nm,0.3s,baz=342,slow=13,SNR=8.1 comp=Z,2.6nm,0.7s	**19.95**	**163**	P	**P**	**22 34 02.0**	**-1.3**
GUMO	**Guam**	**21.69**	**48**	LR	LR	22 43 23.1	
AS31	**Alice Springs** comp=Z,48nm,18.8s,baz=208,slow=38	**23.40**	**167**		**P**	**22 34 40.6**	**+0.3**
AS31	comp=Z,6.7nm,0.8s			IAmb	IAmb	22 34 48.0	
ASAR	**Alice Springs**	**23.40**	**167**		**P**	**22 34 40.3**	**0.0**
ASAR	**Alice Springs** comp=Z,8.8nm,0.8s,baz=344,slow=9.9,SNR=32 comp=Z,8.8nm,0.8s	**23.40**	**167**	P	**P**	**22 34 40.5**	**+0.1**
GIRL	**Giralia**	**25.73**	**211**	P	**P**	**22 35 02.5**	**+0.6**
FORT	**Forrest**	**29.86**	**181**	P	**P**	**22 35 40.3**	**+1.6**
FORT	comp=Z,5.9nm,0.9s			IAmb	IAmb	22 36 02.3	
STKA	**Stephens Creek** comp=Z,2.5nm,0.8s,baz=360,slow=12,SNR=3.2 comp=Z,2.5nm,0.8s	**33.38**	**159**	P	**P**	**22 36 09.7**	**0.0**
JNU	**Nakatsue** comp=Z,51nm,18.6s,baz=176,slow=35	**33.78**	**4**	LR	LR	22 49 07.8	
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.3s,baz=116,slow=7.2,SNR=4.7 comp=Z,0.5nm,0.3s	**34.66**	**305**	P	**P**	**22 36 21.8**	**+0.8**
KSRS	**Korea Array** comp=Z,0.3nm,0.3s,baz=180,slow=9.0,SNR=4.6 comp=Z,0.3nm,0.3s	**38.02**	**359**	P	**P**	**22 36 49.4**	**0.0**
MJAR	**Matsushiro Arr** comp=Z,2.5nm,0.9s,baz=188,slow=9.0,SNR=7.2 comp=Z,2.5nm,0.9s	**38.22**	**13**	P	**P**	**22 36 51.3**	**+0.1**
TOO	**Toolangi**	**39.90**	**159**	P	**P**	**22 37 05.0**	**-0.3**
TOO	comp=Z,9.6nm,1.1s			IAmb	IAmb	22 37 34.4	
BRDH	**Bariadhala** comp=Z,149nm,18.5s,baz=210,slow=41	**42.67**	**305**	LR	LR	22 58 26.6	
SONM	**Songino Array**	**52.04**	**341**	P	**P**	**22 38 40.9**	**-0.1**
SONM	**Songino Array** comp=Z,0.5nm,0.5s,baz=156,slow=6.6,SNR=3.7 comp=Z,0.5nm,0.5s	**52.04**	**341**	P	**P**	**22 38 41.8**	**+0.8**
MKAR	**Makanchi Array**	**62.15**	**326**	P	**P**	**22 39 53.0**	**+0.4**
MKAR	**Makanchi Array** comp=Z,0.9nm,0.7s,baz=118,slow=7.9,SNR=8.3 comp=Z,0.9nm,0.7s	**62.15**	**326**	P	**P**	**22 39 52.7**	**+0.1**
MAKZ	**Makanchi** comp=Z,2.7nm,1.1s	**62.34**	**326**	P	**P**	**22 39 53.1**	**-0.6**
MAKZ				IAmb	IAmb	22 40 26.3	
KURBB	**Kurchatov Arra** comp=Z,0.7nm,0.6s,baz=127,slow=6.2,SNR=9.6 comp=Z,0.7nm,0.6s	**66.38**	**328**	P	**P**	**22 40 19.0**	**-1.1**
KURK	**Kurchatov**	**66.38**	**328**	P	**P**	**22 40 20.0**	**-0.1**
KURK	comp=Z,2.2nm,0.9s			IAmb	IAmb	22 40 21.6	
KKAR	**Karatay Array**	**67.62**	**318**	P	**P**	**22 40 28.2**	**0.0**
ABKAR	**Akbulak array**	**76.64**	**321**	P	**P**	**22 41 22.5**	**+0.4**
VNDA	**Vanda**	**78.80**	**173**	P	**P**	**22 41 34.5**	**+0.9**
VNDA	comp=Z,1.4nm,0.8s			IAmb	IAmb	22 41 36.8	
VNDA	**Vanda** comp=Z,1.1nm,0.8s,baz=308,slow=5.4,SNR=8.1 comp=Z,1.1nm,0.8s	**78.80**	**173**	P	**P**	**22 41 34.6**	**+1.0**
MAW	**Mawson** comp=Z,0.7nm,0.3s,baz=29,slow=10,SNR=3.5 comp=Z,0.7nm,0.3s	**80.15**	**201**	P	**P**	**22 41 42.4**	**+1.3**
N15K	**Kwethluk River**	**81.55**	**29**	P	**P**	**22 41 48.7**	**-0.1**
QSPA	**South Pole Qui** comp=Z,2.6nm,1.0s,baz=300,slow=1.2,SNR=7.9 comp=Z,2.6nm,1.0s	**89.18**	**180**	P	**P**	**22 42 25.9**	**-1.0**
OBN	**Obninsk** comp=Z,45nm,19.6s,baz=173,slow=37	**91.64**	**325**	LR	LR	23 26 21.6	

DNK ***14*** *22:31:18.5±5.1, 71°.04N×10°.24W, h9km±269km, ML1.3*

BER ***14*** *22:31:21.6±2.9, 71°.15N×9°.73W, h14km±51km, mb(Pn)3.6,*

ML2.7, Confirmed Earthquake

ISC 14 22:31:19.7±1.5, 71°.29N±0°.09×9°.6W±0°.1, h19km±4km, n12, σ1§85/21, 4C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**0.47**	**141**	⇑*i*P	**Pb**	**22 31 29.9**	**+0.6**
JMI				*e*S	**Sb**	**22 31 35.6**	**-0.3**
JMI	comp=Z,453nm,0.3s			IAML		22 31 36.0	
JNW	**Jan Mayen West**	**0.47**	**123**	⇑*i*P	**Pg**	**22 31 29.4**	**+0.2**
JNW				*e*S	**Sg**	**22 31 34.8**	**-0.9**
JNW	comp=Z,883nm,0.2s			IAML		22 31 36.4	
JMIC	**Jan Mayen**	**0.48**	**129**	⇑*i*P	**Pg**	**22 31 29.5**	**+0.1**
JMIC				*e*S	**Sg**	**22 31 34.9**	**-1.0**
JMIC	comp=Z,628nm,0.2s			IAML		22 31 35.6	
JMIC	**Jan Mayen**	**0.48**	**129**	*i*P	**Pg**	**22 31 29.3**	**-0.1**
JMIC				*i*S	**Sg**	**22 31 34.8**	**-1.1**
JNE	**Jan Mayen East**	**0.53**	**124**	⇑*i*P	**Pg**	**22 31 30.1**	**-0.2**
JNE				*e*S	**Sg**	**22 31 35.9**	**-1.6**
JNE	comp=Z,796nm,0.2s			IAML		22 31 36.4	
DBG	**Daneborg**	**4.36**	**319**	*e*P	**Pn**	**22 32 26.9**	**+2.0**
DBG				*e*S	**Sn**	**22 33 14.0**	**-1.1**
DBG	**Daneborg**	**4.36**	**319**	*i*P	**Pn**	**22 32 26.1**	**+1.3**
DBG				*i*S	**Sn**	**22 33 12.3**	**-2.7**
DBG	comp=Z,1.4nm,0.2s			IAML		22 33 14.9	
DAG	**Danmarks Havn**	**6.04**	**340**	*e*P	**Pn**	**22 32 50.0**	**+2.1**
DAG				*e*S	**Sn**	**22 33 53.4**	**-2.9**
DAG	**Danmarks Havn**	**6.04**	**340**	*i*P	**Pn**	**22 32 49.7**	**+1.8**
DAG				*i*S	**Sn**	**22 33 53.2**	**-3.1**
DAG	comp=Z,0.9nm,0.2s			IAML		22 33 57.4	
KBS	**Kingsbay**	**9.37**	**26**	*e*P	**Pn**	**22 33 35.5**	**+2.0**
KBS	comp=Z,6.8nm,0.6s			IAML		22 33 45.0	
KBS				*e*S	Sn	22 35 11.5	-6.6
SPA0	**Spitsbergen Ar**	**9.61**	**33**	*e*P	**Pn**	**22 33 38.7**	**+1.8**
SPA0	comp=Z,1.3nm,0.9s			IAML		22 33 40.5	
NOR	**Nord**	**10.49**	**354**	*e*P	**Pn**	**22 33 50.8**	**+2.1**
NOR				*e*S	Sn	22 35 41.7	-3.7

NEIC ***14*** *22:38:04.8±1.0, 35°.58N±0°.01×117°.35W±0°.02, h13km±3km, Error ellipse: s-maj=2.5km s-min=1.4km az=100.0*

PAS 14 22:38:05.8±1.3, 35°.594N±0°.005×117°.38W±0°.02, h7km±2km, ML3.4/128, ML3.0/144(NEIC), Error ellipse: s-maj=2.0km s-min=0.8km az=101.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.09**	**274**		Pg	22 38 08.0	0.0
WSHM					Sg	22 38 09.7	+0.2
WSHM	**Spangler Hills** 61μm,0.4s	**0.09**	**274**	IAML		22 38 09.8	
WSHM	25μm,0.2s			IAML		22 38 10.2	
SRTC	**Snort**	**0.32**	**288**		Pg	22 38 12.2	+0.2
SRTC					Sg	22 38 17.6	+1.4
TOW	**Tower One**	**0.38**	**305**		Pg	22 38 13.4	+0.2
TOW					Sg	22 38 19.6	+1.4
MPMC	**Manual Prospec**	**0.47**	**349**		Pg	22 38 14.6	-0.4
MPMC					Sg	22 38 21.2	0.0
MPMC	**Manual Prospec** comp=N,2μm,0.4s	**0.47**	**349**	IAML		22 38 21.7	
MPMC	comp=E,1μm,0.5s			IAML		22 38 23.5	
DTP	**Desert Tortois**	**0.50**	**230**		Pg	22 38 15.1	-0.3
DTP					Sg	22 38 21.9	-0.1
WVPM	**Volcano Peak E**	**0.50**	**315**		Pg	22 38 15.3	-0.2
WVPM					Sg	22 38 22.6	+0.5
JRC2	**Joshua Ridge**	**0.52**	**318**		Pg	22 38 15.7	-0.2
JRC2					Sg	22 38 23.0	+0.3
WCSM	**Coso Springs S**	**0.53**	**324**		Pg	22 38 15.7	-0.4
WCSM					Sg	22 38 23.1	0.0
GSC	**Goldstone, Bar**	**0.55**	**122**		Pg	22 38 16.2	-0.3
GSC	comp=E,2μm,0.3s			IAML		22 38 27.1	
GSC	**Goldstone, Bar**	**0.55**	**122**		Sg	22 38 23.8	+0.1
QSM	**Queen of Sheba**	**0.56**	**48**		Pg	22 38 16.4	-0.2
QSM	**Queen of Sheba** comp=N,749nm,0.4s	**0.56**	**48**	IAML		22 38 28.4	
QSM	comp=E,591nm,0.2s			IAML		22 38 28.9	
WRVM	**Rose V. Centra**	**0.58**	**315**		Pg	22 38 16.8	-0.3
WRVM					Sg	22 38 25.0	+0.2
WBSM	**Bird Springs**	**0.62**	**265**		Pg	22 38 25.9	0.0
MFS	**McCloud Flat S**	**0.65**	**324**		Pg	22 38 17.9	-0.5
WORM	**Onyx Ranch**	**0.71**	**279**		Pg	22 38 18.9	-0.6
WORM					Sg	22 38 28.2	-0.5
HYS	**Haystack Butte**	**0.74**	**192**		Pg	22 38 19.4	-0.7
HYS					Sg	22 38 29.4	-0.4
WHFM	**Hanning Flat**	**0.80**	**278**		Sg	22 38 31.0	-0.5
GWY	**Greenwater Val**	**0.83**	**44**		Pg	22 38 21.3	-0.4
GWY	**Greenwater Val** comp=N,628nm,0.4s	**0.83**	**44**	IAML		22 38 35.3	
GWY	comp=E,835nm,0.3s			IAML		22 38 36.2	
ISA	**Isabella, Lake**	**0.89**	**275**		Pg	22 38 22.3	-0.7
ISA	comp=E,645nm,0.3s			IAML		22 38 34.6	
ISA	comp=N,839nm,0.3s			IAML		22 38 37.0	
SHOC	**Shoshone, Teco**	**0.95**	**71**		Pg	22 38 23.5	-0.5
WASM	**Alta Sierra Ca**	**0.97**	**279**		Pg	22 38 23.6	-0.8
WASM					Sg	22 38 36.5	-0.5
SBB	**Saddle Back Bu**	**0.97**	**202**		Pg	22 38 23.7	-0.8
TPO	**Tropico Hills**	**0.99**	**224**		Pg	22 38 24.2	-0.7
CWC	**Cottonwood Cre**	**1.02**	**326**		Pg	22 38 24.6	-0.7
CWC	comp=E,234nm,0.3s			IAML		22 38 41.6	
CWC	comp=N,242nm,0.2s			IAML		22 38 44.7	
AMDNV	**Amargosa**	**1.24**	**46**		Pb	22 38 28.0	-1.5
SPG2	**Springville 2**	**1.28**	**299**		Pn	22 38 29.1	-1.1
WCT	**Wildcat Mounta**	**1.34**	**27**		Pn	22 38 29.8	-1.4
WCT	comp=N,161nm,0.5s			IAML		22 38 50.6	
WCT	comp=E,219nm,0.4s			IAML		22 38 51.4	
BFSC	**Mount Baldy Ra**	**1.37**	**190**		Pn	22 38 30.5	-1.0
BFSC	comp=E,466nm,0.6s			IAML		22 38 50.5	
BFSC	comp=N,272nm,0.3s			IAML		22 38 50.6	
GRAC	**Grapevine Rang**	**1.40**	**0**		Pn	22 38 31.2	-0.7
GRAC	comp=E,389nm,0.4s			IAML		22 38 54.0	
OSI	**Osito Audit: C**	**1.47**	**229**		Pn	22 38 32.6	-0.2
OSI	comp=E,281nm,0.5s			IAML		22 38 55.6	
OSI	comp=N,254nm,0.6s			IAML		22 38 56.0	
MWC	**Mount Wilson**	**1.48**	**202**		Pn	22 38 33.0	0.0
MTPC	**Mountain Pass**	**1.49**	**94**		Pn	22 38 31.9	-1.4
SVD	**Seven Oaks Dam**	**1.50**	**171**		Pn	22 38 33.3	+0.1
PASC	**Pasadena Art C**	**1.56**	**205**		Pn	22 38 33.3	-0.8
PASC	comp=N,221nm,0.4s			IAML		22 38 58.1	
PASC	comp=E,192nm,0.3s			IAML		22 38 59.1	
GMRC	**Granite Mounta**	**1.62**	**119**		Pn	22 38 32.9	-2.2
TPNV	**Topopah Spring**	**1.63**	**34**		Pn	22 38 34.2	-1.0
TPNV	comp=E,275nm,0.6s			IAML		22 39 01.0	
TPNV	comp=E,130nm,0.5s			IAML		22 39 06.2	
GMN	**Gold Mountain**	**1.71**	**3**		Pn	22 38 35.0	-1.3
GMN	comp=E,125nm,0.5s			IAML		22 39 02.2	
GMN	comp=N,112nm,0.5s			IAML		22 39 05.8	
DSP	**Deep Springs**	**1.83**	**345**	Pn	Pn	22 38 37.2	-0.6
DSP	comp=E,80nm,0.4s			IAML		22 39 05.7	
TPC	**Twentynine Pal**	**1.84**	**143**		Pn	22 38 36.7	-1.3
ELS	**Elsinore Mount**	**1.94**	**181**	Pn	Pn	22 38 38.4	-0.9
ELS	comp=E,109nm,0.3s			IAML		22 39 07.5	
ELS				IAML		22 39 09.9	
SHPR	**Sheep Range** comp=N,95nm,0.5s	**2.02**	**63**		Pn	22 38 39.5	-1.0
V12A	**Nelson**	**2.06**	**86**		Pn	22 38 39.6	-1.5
V12A	comp=N,149nm,0.9s			IAML		22 39 11.7	
V12A	comp=E,115nm,0.4s			IAML		22 39 13.9	
MZP	**Montezuma Peak**	**2.10**	**360**		Pn	22 38 41.3	-0.5
PMD	**Palm Desert**	**2.11**	**157**		Pn	22 38 40.1	-1.5
PFO	**Pinyon Flats O**	**2.12**	**159**		Pn	22 38 40.4	-1.5
S11A	**Rachel**	**2.43**	**32**		Pn	22 38 45.6	-0.5
S11A	comp=N,79nm,0.8s			IAML		22 39 29.5	
S11A	comp=E,102nm,0.9s			IAML		22 39 30.9	
BORC	**Borrego Spring**	**2.45**	**161**	Pn	Pn	22 38 45.5	-0.7
BORC	comp=E,57nm,0.9s			IAML		22 39 30.0	
TPH	**Tonopah**	**2.48**	**3**	Pn	Pn	22 38 46.5	-0.4
TPH	comp=E,56nm,0.9s			IAML		22 39 27.1	
TPH	comp=N,53nm,1.3s			IAML		22 39 28.2	
SALN	**Salton City**	**2.58**	**153**	Pn	Pn	22 38 47.8	-0.2
SALN	comp=E,127nm,0.5s			IAML		22 39 32.2	
PRN	**Pahroc Range**	**2.61**	**45**		Pn	22 38 48.2	-0.4
PRN	comp=E,54nm,0.5s			IAML		22 39 32.2	
PRN	comp=N,62nm,0.5s			IAML		22 39 39.3	
DPP	**Dos Picos Cty**	**2.61**	**172**		Pn	22 38 47.9	-0.7
DPP	comp=E,85nm,0.4s			IAML		22 39 28.2	
LHV	**Little Huntoon**	**2.80**	**342**	Pn	Pn	22 38 51.6	+0.5
LHV	comp=E,44nm,1.1s			IAML		22 39 41.8	
LHV	comp=N,38nm,1.4s			IAML		22 39 42.4	
PMPB	**Monarch Peak**	**2.84**	**284**	Pn	Pn	22 38 50.5	-1.2
PMPB	comp=N,97nm,0.9s			IAML		22 39 42.9	
NV11	**Mina Array Sit**	**2.90**	**348**		Pn	22 38 52.5	-0.1
W13A	**Hualapai Mount**	**2.90**	**99**	Pn	Pn	22 38 51.6	-1.1
W13A	comp=E,51nm,0.5s			IAML		22 39 39.6	
W13A	comp=N,51nm,0.7s			IAML		22 39 41.8	
NVAR	**Mina Array Bea**	**2.93**	**346**		Pn	22 38 52.6	-0.4
BLYC	**Blythe**	**2.99**	**127**		Pn	22 38 51.5	-2.1
BLYC	comp=E,49nm,0.4s			IAML		22 39 42.3	
BLYC	comp=N,51nm,0.7s			IAML		22 39 43.0	
GLA	**Glamis** comp=E,52nm,0.5s	**3.30**	**139**	IAML		22 39 53.6	
GLA	comp=N,34nm,0.5s			IAML		22 39 53.9	
CMB	**Columbia Colle** comp=E,24nm,0.9s	**3.43**	**316**	IAML		22 40 00.3	
CMB	comp=N,24nm,0.7s			IAML		22 40 00.4	
ESJX	**Sierra Juarez** comp=N,38nm,0.1s	**3.77**	**161**	IAML		22 39 35.7	
Y14A	**Wickenburg** comp=E,33nm,0.5s	**3.96**	**113**	IAML		22 40 13.6	
SPR3	**Spring Creek 3** comp=E,11nm,1.4s	**4.18**	**35**	IAML		22 40 19.9	
U15A	**North Rim** comp=N,12nm,0.9s	**4.21**	**77**	IAML		22 40 19.2	
U15A	comp=E,12nm,0.7s			IAML		22 40 29.1	
AFDM	**Forest Hills D** comp=N,10nm,1.0s	**4.41**	**321**	IAML		22 40 30.9	
AFDM	comp=E,13nm,1.0s			IAML		22 40 32.5	
WUAZ	**Wupatki** comp=E,13nm,0.5s	**4.90**	**89**	IAML		22 40 42.8	
WUAZ	comp=E,18nm,0.5s			IAML		22 40 44.3	

IDC ***14*** *22:47:08.9±6.5, 36°.07N×70°.45E, h118km±47km, mb3.3/8, mbtmp3.7/13, MS3.3/2, Error ellipse: s-maj=55.7km s-min=24.5km az=173.0*

ISC 14 22:47:08.8±1.7, 36°.1N±0°.1×70°.4E±0°.1, h110km, n16, σ0§70/18, mb3.5/6, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 2.4nm,0.3s,baz=186,slow=13,SNR=28	**6.95**	**1**	⇑P	**Pn**	**22 48 48.0**	**0.0**
KK31	6.1nm,0.5s,baz=188,slow=21,SNR=9.6			⇑S	**Sn**	**22 50 04.2**	**-1.3**
AAK	**Ala-Archa** 1.1nm,0.5s	**7.22**	**25**	⇑P	**Pn**	**22 48 51.8**	**0.0**
AAK	4.4nm,0.6s			⇓S	**Sn**	**22 50 11.8**	**-0.5**
AAK	**Ala-Archa** 3.3nm,0.3s,baz=177,slow=6.0,SNR=4.3	**7.22**	**25**	P	**Pn**	**22 48 52.4**	**+0.6**
AAK	7.5nm,0.6s,baz=156,slow=20,SNR=4.9			S	**Sn**	**22 50 13.3**	**+1.0**
MKAR	**Makanchi Array** 0.7nm,0.6s,baz=209,slow=10,SNR=12	**13.87**	**36**	P	**Pn**	**22 50 20.5**	**-0.1**
KURBB	**Kurchatov Arra** 0.5nm,0.5s,baz=210,slow=10,SNR=5.7	**15.62**	**20**	P	**Pn**	**22 50 43.2**	**+0.6**
AKTO	**Aktyubinsk** 1.5nm,0.5s,baz=198,slow=6.6,SNR=4.2	**16.85**	**332**	P	**P**	**22 50 58.9**	**+0.8**
BVAR	**Borovoye Array** 1.0nm,0.4s,baz=170,slow=8.8,SNR=4.1	**16.88**	**360**	P	**P**	**22 50 59.2**	**+0.8**
ZALV	**Zalesovo Beam** 5.5nm,0.5s,baz=222,slow=11,SNR=30	**20.44**	**25**	P	**P**	**22 51 37.5**	**+0.3**
ZALV	comp=Z,18nm,19.2s,baz=86,slow=36 5.5nm,0.5s			LR	LR	22 59 27.2	
GNI	**Garni** 6.4nm,0.9s,baz=191,slow=16,SNR=2.4 6.4nm,0.9s	**20.54**	**289**	P	**P**	**22 51 38.9**	**+0.3**
ARTI	**Arti** 1.7nm,0.7s,baz=241,slow=8.0,SNR=3.2 1.7nm,0.7s	**21.82**	**342**	P	**P**	**22 51 52.9**	**+0.9**
SONM	**Songino Array** 0.1nm,0.3s,baz=246,slow=11,SNR=1.8 0.1nm,0.3s	**28.94**	**55**	P	**P**	**22 52 57.0**	**-0.7**
FINES	**FINESS Array B** 0.4nm,0.6s,baz=112,slow=6.8,SNR=4.9 0.4nm,0.6s	**37.51**	**327**	P	**P**	**22 54 11.5**	**-0.1**
ARCES	**ARCESS Array B** 0.7nm,0.7s,baz=101,slow=6.4,SNR=5.8 0.7nm,0.7s	**41.29**	**338**	P	**P**	**22 54 42.7**	**-0.2**
HFS	**Hagfors** 1.5nm,0.9s,baz=105,slow=11,SNR=1.7 1.5nm,0.9s	**43.04**	**322**	P	**P**	**22 54 57.0**	**-0.2**
NOA	**NORSAR Array B** 0.4nm,0.8s,baz=84,slow=8.0,SNR=2.9 0.4nm,0.8s	**44.37**	**323**	P	**P**	**22 55 07.1**	**-0.8**
TGY	**Tagaytay City** comp=Z,170nm,20.4s,baz=198,slow=40	**50.12**	**102**	LR	LR	23 20 46.0	

BJI ***14*** *23:01:28.6, 19°.05S×120°.57E, h10km, mB5.2/27, mb4.9/60, Ms4.5/37, Ms7 4.3/39*

IDC ***14*** *23:01:33.7±0.3, 18°.23S×120°.28E, h0km, mb5.0/29, mbtmp5.1/34, ML5.1/5, MS4.2/44, Error ellipse: s-maj=14.0km s-min=10.6km az=78.0*

MOS ***14*** *23:01:34.3±0.9, 18°.17S×120°.37E, h10km, mb5.5/60, MS4.2/9, Error ellipse: s-maj=9.4km s-min=5.5km az=112.3*

NEIC ***14*** *23:01:36.5, 18°.27S×120°.29E, h30km*

NEIC ***14*** *23:01:36.5±1.5, 18°.28S±0°.05×120°.28E±0°.05, h10km±1km, mb5.4/112, Ms_20 4.6/101, Mww5.0/13, Error ellipse: s-maj=9.3km s-min=8.1km az=150.0*

NEIC ***14*** *23:01:36.5, 18°.37S×120°.39E, h30km, Moment Tensor Solution. Duration: 1§5 Moment tensor: Scale 10^{16}Nm; M_{rr}1.93; $M_{\theta\theta}$0.77; $M_{\phi\phi}$-2.70; $M_{r\theta}$-2.24; $M_{\theta\phi}$1.60; $M_{\phi r}$-1.38; Fault plane solution

ellipse: s-maj=3.3km s-min=2.4km az=67.9,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.19; $M_{\theta\theta}$0.88; $M_{\phi\phi}$-1.06; $M_{r\theta}$0.24; $M_{r\phi}$0.56; $M_{\theta\phi}$0.59; Fault plane solution: $M_0$1.29577×10^{16} NP1: ϕ_s120.00628°,δ59.94045°,λ3.54183°. NP2:ϕ_s28.23048°, δ86.93502°,λ149.89294°. Principal axes: T 1.1896, Plg23.0789°, Azm339.9072°; N 0.1911, Plg59.7519°, Azm202.9620°; P -1.3807, Plg18.4442°, Azm78.0772°;

NOU **14** *23:01:38.4,* 18˚.72S×120˚.44E,*h0km,mb5.6/65,Western Australia*

GCMT **14** *23:01:41.5±0.2,*18˚.21S±0˚.01×120˚.27E±0˚.01,*h31km±1km, MW5.0/106,Moment Tensor Solution. s47,c60; s106,c157; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.44±.17; $M_{\theta\theta}$1.82±.11; $M_{\phi\phi}$-4.26±.13; $M_{r\theta}$-2.25±.17; $M_{\theta\phi}$1.89±.08; $M_{\phi r}$-0.89±.16; Best double couple: $M_0$4.81000×10^{16} NP1:ϕ_s309.00000°,δ58.00000°, λ34.00000°. NP2:ϕ_s199.00000°,δ61.00000°,λ143.00000°. Principal axes: T 4.8110, Plg46.0000°, Azm163.0000°; N -0.0030, Plg44.0000°, Azm347.0000°; P -4.8080, Plg2.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 23:01:37.1±0.5,**18˚.33S**±0˚.03×**120˚.32E**±0˚.03,**h20**km,2km, **h20**km;**pP-P,n744,**σ1s**78**/672,**mb5.4**/192,**MS4.4**/94, **20C-3D,Western Australia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBWA	**Marble Bar**	**2.86**	**191**			**Pn**	**23 02 22.7**	**+1.0**
MBWA	**Marble Bar**	**2.86**	**191**			**Pn**	**23 02 23.3**	**+1.6**
MBWA	**Marble Bar**	**2.86**	**191**	P		**Pn**	**23 02 23.6**	**+1.9**
MBWA	**Marble Bar**	**2.86**	**191**	P		**Pn**	**23 02 21.3**	**-0.4**
PSA00	**Pilbara Seismi**	**3.25**	**188**	P		**Pn**	**23 02 28.9**	**+1.8**
PSA00				S		**Sn**	**23 03 07.2**	**+1.9**
FITZ	**Fitzroy Crossi**	**5.07**	**88**			**Pn**	**23 02 52.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**5.07**	**88**	P		**Pn**	**23 02 52.1**	**+0.2**
	comp=Z,489nm,0.6s,comp=Z,2.5nmcomp=Z,2799µm							
FITZ	**Fitzroy Crossi**	**5.07**	**88**	S		**Sn**	**23 03 50.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**5.07**	**88**	Pn		**Pn**	**23 02 51.7**	**-0.3**
	comp=Z,76nm,0.3s,baz=276,slow=8.7,SNR=1133							
FITZ				Sn		**Sn**	**23 03 46.6**	**-3.4**
	comp=Z,423nm,0.3s,baz=342,slow=19,SNR=7.5							
FITZ				Lg		Lg	23 04 16.1	
	comp=Z,256nm,0.3s,baz=228,slow=11,SNR=4.3							
FITZ				LR		LR	23 05 12.5	
	comp=Z,9µm,19.1s,baz=250,slow=43							
	comp=Z,396nm,0.5s							
FITZ	**Fitzroy Crossi**	**5.07**	**88**	P		**Pn**	**23 02 52.1**	**+0.2**
GIRL	**Giralia**	**7.13**	**232**			**Pn**	**23 03 20.9**	**+0.4**
GIRL	**Giralia**	**7.13**	**232**	P		**Pn**	**23 03 20.8**	**+0.4**
	comp=Z,0.0nmcomp=Z,16907µmcomp=Z,8.0nmcomp=Z,833nm,0.8s							
GIRL				S		**Sn**	**23 04 35.7**	**-5.2**
CVQOZ	**Cooralya Stati**	**8.41**	**223**	P		**Pn**	**23 03 38.3**	**+0.4**
	comp=Z,4µm,0.8s,comp=Z,44nm							
CVQOZ				S		**Sn**	**23 05 06.4**	**-5.9**
MEEK	**Meekatharra**	**8.41**	**190**	P		**Pn**	**23 03 38.2**	**+0.2**
	comp=Z,744nm,0.6s,comp=Z,5.7nm							
MEEK	**Meekatharra**	**8.41**	**190**	S		**Sn**	**23 05 08.6**	**-3.9**
MEEK	**Meekatharra**	**8.41**	**190**	P		**Pn**	**23 03 37.5**	**-0.5**
MEEK	**Meekatharra**	**8.41**	**190**	S		**Sn**	**23 05 08.5**	**-3.9**
KNRA	**Kununurra**	**8.50**	**73**	P		**Pn**	**23 03 38.7**	**-0.6**
KNRA	**Kununurra**	**8.50**	**73**	P		**Pn**	**23 03 38.6**	**-0.6**
	comp=Z,0.0nmcomp=Z,2µm,0.6s,comp=Z,6.1nm							
KNRA				S		**Sn**	**23 05 10.5**	**-4.2**
WSI	**Waingapu**	**8.61**	**360**	P		**Pn**	**23 03 44.5**	**+3.8**
WBSI	**Waikabubak, Su**	**8.69**	**354**	P		**Pn**	**23 03 41.3**	**-0.5**
BATI	**Baumata**	**8.71**	**22**	Pn		**Pn**	**23 03 40.5**	**-1.5**
	comp=Z,43nm,0.3s,baz=225,slow=3.6,SNR=27							
BATI				Sn		**Sn**	**23 05 15.5**	**-4.2**
	comp=Z,36nm,0.3s,baz=203,slow=20,SNR=1.3							
BATI				LR		LR	23 07 32.6	
	comp=Z,2µm,21.9s,baz=235,slow=42							
	comp=Z,216nm,0.5s							
BATI	**Baumata**	**8.71**	**22**	P		**Pn**	**23 03 42.5**	**+0.5**
	comp=Z,7µmcomp=Z,537nm,0.6s							
SOEI	**Soe**	**9.35**	**25**			**Pn**	**23 03 50.8**	**-0.2**
SOEI	**Soe**	**9.35**	**25**	P		**Pn**	**23 03 53.3**	**+2.4**
	comp=Z,726nm,0.8s,comp=Z,2.6nm							
SOEI	**Soe**	**9.35**	**25**	P		**Pn**	**23 03 55.5**	**+4.6**
SOEI	**Soe**	**9.35**	**25**	P		**Pn**	**23 03 51.5**	**+0.6**
	comp=Z,6µmcomp=Z,718nm,0.8s							
EDFI	**Ende, Flores**	**9.62**	**8**	P		**Pn**	**23 03 51.3**	**-3.4**
	comp=Z,0.0nmcomp=Z,144nm,0.7s,comp=Z,0.4nm							
EDFI	**Ende, Flores**	**9.62**	**8**	P		**Pn**	**23 03 52.9**	**-1.7**
	comp=Z,2µmcomp=Z,147nm,0.7s							
PLAI	**Plampang**	**9.77**	**345**	P		**Pn**	**23 03 54.8**	**-1.7**
	comp=Z,436nm,0.8s,comp=Z,0.8nm							
PLAI	**Plampang**	**9.77**	**345**	S		Sn	23 05 34.5	-11
PLAI	**Plampang**	**9.77**	**345**	P		**Pn**	**23 03 55.6**	**-1.0**
	comp=Z,4µmcomp=Z,430nm,0.9s							
MMRI	**Maumere**	**9.82**	**11**			**Pn**	**23 03 56.4**	**-0.9**
MMRI	**Maumere**	**9.82**	**11**	P		**Pn**	**23 03 56.7**	**-0.6**
	comp=Z,366nm,0.8s,comp=Z,1.1nm							
MMRI	**Maumere**	**9.82**	**11**	S		Sn	23 05 38.4	-8.7
MMRI	**Maumere**	**9.82**	**11**	P		**Pn**	**23 04 01.7**	**+4.4**
MMRI	**Maumere**	**9.82**	**11**	P		**Pn**	**23 03 56.7**	**-0.6**
	comp=Z,363nm,0.8s							
WRKA	**Warakurna**	**9.97**	**133**	P		**Pn**	**23 03 59.6**	**+0.2**
	comp=Z,201nm,0.6s,comp=Z,1.4nm							
WRKA				S		**Sn**	**23 05 48.3**	**-2.6**
SRBI	**Singaraja**	**11.33**	**333**	P		**Pn**	**23 04 19.7**	**+1.7**
	comp=Z,4µmcomp=Z,413nm,0.7s							
MORW	**Morawa**	**11.38**	**199**			**Pn**	**23 04 17.4**	**-1.2**
MORW	**Morawa**	**11.38**	**199**	P		**Pn**	**23 04 16.5**	**-2.0**
	comp=Z,730nm,0.9s							
MORW	**Morawa**	**11.38**	**199**	S		Sn	23 06 15.2	-10
MORW	**Morawa**	**11.38**	**199**	P		**Pn**	**23 04 16.6**	**-2.0**
JAGI	**Jajag, Banyuwa**	**11.49**	**328**			**Pn**	**23 04 17.7**	**-2.5**
JAGI	**Jajag, Banyuwa**	**11.49**	**328**	P		**Pn**	**23 04 16.4**	**-3.7**
	comp=Z,818nm,0.8s							
JAGI	**Jajag, Banyuwa**	**11.49**	**328**	S		Sn	23 06 14.9	-13
JAGI	**Jajag, Banyuwa**	**11.49**	**328**	P		**Pn**	**23 04 16.8**	**-3.4**
DPH	**Darwin Parliam**	**11.71**	**62**	P		**Pn**	**23 04 23.5**	**+0.4**
	comp=Z,462nm,0.7s							
MTN	**Manton Dam**	**11.76**	**64**			**Pn**	**23 04 22.0**	**-1.9**
MTN	**Manton Dam**	**11.76**	**64**	P		**Pn**	**23 04 22.5**	**-1.4**
	comp=Z,2µm,0.6s							
MTN	**Manton Dam**	**11.76**	**64**	S		**Sn**	**23 06 29.3**	**-5.4**
DRS	**Darwin Rock St**	**11.77**	**62**	P		**Pn**	**23 04 23.0**	**-1.0**
	comp=Z,400nm,0.6s							
DRS				S		**Sn**	**23 06 27.8**	**-7.1**
GMJI	**Gumukmas**	**12.03**	**325**	P		**Pn**	**23 04 24.8**	**-2.7**
BSSI	**Bau Bau, Buton**	**12.12**	**1**	P		**Pn**	**23 04 31.3**	**+2.5**
	comp=Z,263nm,0.7s							
BLDU	**Ballidu**	**12.66**	**194**	P		**Pn**	**23 04 34.3**	**-1.8**
	comp=Z,624nm,0.8s							
BLDU	**Ballidu**	**12.66**	**194**	S		Sn	23 06 45.8	-11
BLDU	**Ballidu**	**12.66**	**194**	P		**Pn**	**23 04 34.1**	**-2.0**
BKSI	**Bulukumba**	**12.93**	**359**	P		**Pn**	**23 04 41.9**	**+2.0**
	comp=Z,0.0nmcomp=Z,202nm,1.1s							
BKSI	**Bulukumba**	**12.93**	**359**	P		**Pn**	**23 04 41.5**	**+1.6**
	comp=Z,2µmcomp=Z,206nm,1.1s							
BBSI	**Bau Bau**	**12.96**	**10**	P		**Pn**	**23 04 40.1**	**-0.1**
	comp=Z,76nm,0.8s							
BBSI	**Bau Bau**	**12.96**	**10**	P		Pn	23 04 35.0	-5.2
KDU	**Kakadu**	**12.99**	**66**	P		**Pn**	**23 04 38.2**	**-2.5**
	comp=Z,542nm,0.7s							
KDU	**Kakadu**	**12.99**	**66**	S		**Sn**	**23 07 01.1**	**-3.6**
KAPI	**Kappang**	**13.25**	**358**			**Pn**	**23 04 43.0**	**-1.2**
KAPI	**Kappang**	**13.25**	**358**	P		**Pn**	**23 04 45.0**	**+0.8**
	comp=Z,58nm,1.1s							
KAPI	**Kappang**	**13.25**	**358**	Pn		**Pn**	**23 04 43.3**	**-0.9**
	comp=Z,2.0nm,0.3s,baz=199,slow=8.7,SNR=7.4							
KAPI				Sn		Sn	23 07 00.2	-11
	comp=Z,0.9nm,0.3s,baz=225,slow=20,SNR=1.3							
KAPI				LR		LR	23 10 34.1	
	comp=Z,1µm,18.0s,baz=173,slow=41							
	comp=Z,10.0nm,0.5s							
KAPI	**Kappang**	**13.25**	**358**	P		**Pn**	**23 04 43.0**	**-1.2**
WC1	**Warramunga Arr**	**13.35**	**99**	P		**Pn**	**23 04 43.9**	**-1.7**
WRA	**Warramunga Arr**	**13.35**	**99**			**Pn**	**23 04 44.5**	**-1.1**
WRA	**Warramunga Arr**	**13.35**	**99**	Pn		**Pn**	**23 04 44.1**	**-1.5**
	comp=Z,13nm,0.3s,baz=274,slow=14,SNR=135							
WRA				Sn		Sn	23 07 02.9	-11
	comp=Z,83nm,0.3s,baz=282,slow=25,SNR=12							
WRA				Lg		Lg	23 08 40.4	
	baz=308,slow=42							
WRA				LR		LR	23 09 55.6	
	comp=Z,2µm,18.2s,baz=284,slow=37							
	comp=Z,78nm,0.7s							
WRAB	**Tennant Creek**	**13.36**	**99**			**Pn**	**23 04 44.4**	**-1.4**
WRAB	**Tennant Creek**	**13.36**	**99**	P		**Pn**	**23 04 44.7**	**-1.1**
	comp=Z,274nm,0.6s							
WRAB				S		**Sn**	**23 07 06.2**	**-7.6**
WRAB	**Tennant Creek**	**13.36**	**99**	P		**Pn**	**23 04 44.4**	**-1.4**
WB2	**Warramunga Arr**	**13.36**	**99**	P		**Pn**	**23 04 44.4**	**-1.4**
WB0	**Warramunga Arr**	**13.39**	**98**			**Pn**	**23 04 44.5**	**-1.6**
KLBR	**Kellerberrin**	**13.40**	**189**	P		**Pn**	**23 04 45.0**	**-1.3**
	comp=Z,1µm,0.6s							
KLBR	**Kellerberrin**	**13.40**	**189**	S		Sn	23 07 02.9	-12
KLBR	**Kellerberrin**	**13.40**	**189**	P		**Pn**	**23 04 44.3**	**-2.0**
PCJI	**Pacitan**	**13.44**	**317**	P		**Pn**	**23 04 49.2**	**+2.4**
	comp=Z,179nm,0.8s							
WR8	**Warramunga Arr**	**13.50**	**99**			**Pn**	**23 04 46.1**	**-1.6**
WR0	**Warramunga Arr**	**13.54**	**99**	Pn		**Pn**	**23 04 47.4**	**-0.8**
AS31	**Alice Springs**	**13.75**	**115**			**Pn**	**23 04 49.2**	**-1.9**
AS31	**Alice Springs**	**13.75**	**115**	P		**Pn**	**23 04 50.7**	**-0.4**
ASAR	**Alice Springs**	**13.75**	**115**			**Pn**	**23 04 49.5**	**-1.6**
ASAR	**Alice Springs**	**13.75**	**115**	Pn		**Pn**	**23 04 49.0**	**-2.1**
	comp=Z,13nm,0.3s,baz=294,slow=12,SNR=238							
ASAR				Sn		Sn	23 07 14.0	-9.4
	comp=Z,51nm,0.3s,baz=304,slow=24,SNR=8.6							
ASAR				LR		LR	23 10 57.6	
	comp=Z,946nm,19.2s,baz=282,slow=41							
	comp=Z,89nm,0.6s							
AS01	**Alice Springs**	**13.79**	**115**	P		**Pn**	**23 04 50.9**	**-0.8**
	comp=Z,514nm,0.9s							
AS01	**Alice Springs**	**13.79**	**115**	P		**Pn**	**23 04 49.8**	**-1.9**
BNSI	**Bone**	**13.85**	**359**	P		**Pn**	**23 04 56.0**	**+3.6**
	comp=Z,2µmcomp=Z,115nm,0.9s							
WOJI	**Wonogiri, Jawa**	**13.87**	**318**	P		**Pn**	**23 04 55.9**	**+3.2**
	comp=Z,156nm,0.6s							
NGJI	**Ngawi**	**13.90**	**321**	P		**Pn**	**23 04 56.1**	**+3.1**
	comp=Z,229nm,0.9s							
NGJI	**Ngawi**	**13.90**	**321**	P		**Pn**	**23 04 56.5**	**+3.4**
	comp=Z,228nm,0.8s							
UGM	**Wanagama**	**14.07**	**316**			**Pn**	**23 04 53.2**	**-2.3**
UGM	**Wanagama**	**14.07**	**316**	P		**Pn**	**23 04 52.1**	**-3.4**
	comp=Z,307nm,0.7s							
UGM	**Wanagama**	**14.07**	**316**	S		Sn	23 07 16.4	-15
UGM	**Wanagama**	**14.07**	**316**	P		**P**	**23 05 03.6**	**+0.5**
UGM	**Wanagama**	**14.07**	**316**	P		**Pn**	**23 04 55.0**	**-0.5**
	comp=Z,304nm,0.6s							
MUN	**Mundaring**	**14.08**	**194**	P		**Pn**	**23 04 53.2**	**-2.3**
	comp=Z,529nm,0.6s							
MUN	**Mundaring**	**14.08**	**194**	S		Sn	23 07 21.8	-10
MUN	**Mundaring**	**14.08**	**194**	P		**Pn**	**23 04 53.0**	**-2.6**
MTKN	**Mount Kenneth**	**14.15**	**196**	P		**Pn**	**23 04 56.8**	**+0.4**
	comp=Z,2µm,0.9s							
MTKN				S		**Sn**	**23 07 27.2**	**-5.7**
MTKN	**Mount Kenneth**	**14.15**	**196**	P		**Pn**	**23 04 56.6**	**+0.2**
CARL	**Carlisle**	**14.16**	**195**	P		**Pn**	**23 04 56.7**	**+0.1**
	comp=Z,1µm,0.7s							
FORT	**Forrest**	**14.25**	**152**			**Pn**	**23 04 55.2**	**-2.6**
FORT	**Forrest**	**14.25**	**152**	P		**Pn**	**23 04 54.8**	**-3.0**
	comp=Z,665nm,0.7s							
SPSI	**Sidrap Palu**	**14.29**	**358**	P		**Pn**	**23 05 00.4**	**+1.9**
	comp=Z,112nm,1.4s							
DNDOZ	**Balladonia**	**14.43**	**168**	P		**Pn**	**23 04 57.7**	**-2.5**
	comp=Z,4µm,0.8s							
SMRI	**Semarang**	**14.78**	**318**	P		**P**	**23 05 10.9**	**0.0**
SMRI	**Semarang**	**14.78**	**318**	P		**Pn**	**23 05 04.0**	**-1.1**
	comp=Z,113nm,1.0s							
SMRI	**Semarang**	**14.78**	**318**	P		**P**	**23 05 13.9**	**+2.9**
SMRI	**Semarang**	**14.78**	**318**	P		**P**	**23 05 09.3**	**-1.7**
NWAO	**Narrogin (SRO)**	**14.79**	**190**			**Pn**	**23 05 02.1**	**-3.2**
NWAO	**Narrogin (SRO)**	**14.79**	**190**	P		**Pn**	**23 05 01.9**	**-3.4**
	comp=Z,1µm,0.6s							
NWAO	**Narrogin (SRO)**	**14.79**	**190**	Pn		**Pn**	**23 05 02.0**	**-3.2**
	comp=Z,81nm,0.3s,baz=15,slow=10,SNR=220							
NWAO				Sn		Sn	23 07 32.9	-16
	comp=Z,70nm,0.3s,baz=102,slow=15,SNR=8.5							
NWAO				Lg		Lg	23 09 19.6	
	comp=Z,48nm,0.3s,baz=104,slow=20,SNR=5.6							
NWAO	**Narrogin (SRO)**	**14.79**	**190**	P		**Pn**	**23 05 01.9**	**-3.4**
NWAO	**Narrogin (SRO)**	**14.79**	**190**	P		**Pn**	**23 05 01.7**	**-3.6**
NWAO	**Narrogin (SRO)**	**14.79**	**190**	P		**Pn**	**23 05 02.1**	**-3.2**
PMSI	**Majene**	**14.80**	**355**	P		**Pn**	**23 05 04.7**	**-0.8**
	comp=Z,200nm,0.8s							
TTSI	**Tana Toraja**	**15.20**	**358**	P		**Pn**	**23 05 12.0**	**+1.2**
	comp=Z,2µmcomp=Z,128nm,1.1s							
CTJI	**Waduk Cacaban**	**15.63**	**315**	P		P	23 05 31.5	+11
	comp=Z,135nm,1.4s							
AUBUS	**Georgiana Moll**	**15.89**	**195**	P		**Pn**	**23 05 18.9**	**-0.7**
	comp=Z,833nm,0.7s							
BBJI	**Bungbulang**	**16.39**	**310**	P		**P**	**23 05 31.3**	**+2.3**
NLAI	**Namlea**	**16.41**	**25**	P		**P**	**23 05 29.5**	**+0.4**
	comp=Z,2µmcomp=Z,215nm,0.9s							
RKGY	**Rocky Gully**	**16.48**	**190**	P		**Pn**	**23 05 24.5**	**-2.7**
	comp=Z,260nm,0.8s							
LEM	**Lembang**	**16.85**	**311**	Pn		**P**	**23 05 34.6**	**+0.5**
	baz=139,slow=13							
LEM				Sn		**Sn**	**23 08 33.0**	**-6.0**
	comp=Z,5.5nm,0.3s,baz=139,slow=20,SNR=1.9							
LEM				LR		LR	23 11 38.5	
	comp=Z,1µm,21.5s,baz=160,slow=36							
CNJI	**Cibinong**	**16.88**	**309**	P		**P**	**23 05 35.8**	**+1.5**
KRAI	**Karang Ratu**	**16.89**	**29**	P		**P**	**23 05 34.6**	**+0.1**
	comp=Z,58nm,1.0s							
SANI	**Sanana**	**17.11**	**20**	P		P	23 05 52.1	+15
	comp=Z,113nm,1.0s							
SANI	**Sanana**	**17.11**	**20**	P		**P**	**23 05 43.6**	**+6.7**
MULG	**Mulgathing**	**17.25**	**136**	P		**Pn**	**23 05 33.9**	**-3.1**
	comp=Z,2µm,0.8s							
PCI	**Palu**	**17.33**	**358**	P		P	23 05 47.4	+8.1
H01W3	**Cape Leeuwin H**	**17.38**	**197**	P		**Pn**	**23 05 38.0**	**-0.2**
	baz=25,slow=10,SNR=197							
H01W3				S		Sn	23 08 38.5	-13
	baz=28,slow=22,SNR=7.7							
H01W1	**Cape Leeuwin H**	**17.38**	**197**	P		**Pn**	**23 05 38.1**	**-0.2**
	baz=25,slow=10,SNR=180							
H01W1				S		Sn	23 08 38.8	-12
	baz=28,slow=22,SNR=7.7							
H01W2	**Cape Leeuwin H**	**17.39**	**197**	P		**Pn**	**23 05 38.1**	**-0.3**
	baz=25,slow=10,SNR=220							
H01W2				S		Sn	23 08 39.6	-12
	baz=28,slow=22,SNR=7.5							
QIS	**Mount Isa**	**18.33**	**100**	P		**Pn**	**23 05 48.9**	**-1.4**
	comp=Z,239nm,0.6s							
QIS	**Mount Isa**	**18.33**	**100**	P		**Pn**	**23 05 49.3**	**-1.0**
CGJI	**Cibinong**	**18.41**	**307**	P		**Pn**	**23 05 52.0**	**+0.7**
	comp=Z,3µmcomp=Z,111nm,0.8s							
MPSI	**Mapaga**	**18.56**	**359**	P		**Pn**	**23 05 54.8**	**+1.7**
MRSI	**Marisa**	**18.76**	**5**	P		**Pn**	**23 05 56.2**	**+0.6**
	comp=Z,2µmcomp=Z,176nm,1.0s							
KMSI	**Cibinong**	**19.13**	**11**	P		**Pn**	**23 06 00.6**	**+0.5**
	comp=Z,6µmcomp=Z,515nm,0.8s							
FAKI	**Fak Fak**	**19.27**	**39**			**P**	**23 05 59.7**	**-1.0**
FAKI	**Fak Fak**	**19.27**	**39**	P		**P**	**23 05 59.8**	**-0.9**
	comp=Z,181nm,0.8s							
FAKI	**Fak Fak**	**19.27**	**39**	P		**Pn**	**23 06 06.9**	**+5.1**
FAKI	**Fak Fak**	**19.27**	**39**	P		**P**	**23 05 59.7**	**-1.0**
	comp=Z,180nm,0.8s							
TOLI2	**Tolitoli**	**19.33**	**1**	P		**P**	**23 06 00.3**	**-1.0**
TOLI2	**Tolitoli**	**19.33**	**1**	P		**P**	**23 06 01.8**	**+0.5**
	comp=Z,76nm,0.8s							
TOLI2	**Tolitoli**	**19.33**	**1**	P		Pn	23 06 09.5	+7.1
BLSI	**Bandar Lampung**	**19.56**	**309**	P		**Pn**	**23 06 05.2**	**0.0**
	comp=Z,140nm,0.9s							
TPI	**Tanjungpandan**	**19.84**	**320**	P		**Pn**	**23 06 08.5**	**0.0**
	comp=Z,2µmcomp=Z,104nm,1.0s							
KASI	**Kota Agung**	**20.02**	**308**	P		**P**	**23 06 09.5**	**+0.7**
	comp=Z,55nm,0.9s							
KASI	**Kota Agung**	**20.02**	**308**	P		**P**	**23 06 10.1**	**+1.3**
TNTI	**Ternate**	**20.21**	**21**	P		**P**	**23 06 09.1**	**-1.8**
TNTI	**Ternate**	**20.21**	**21**	P		**P**	**23 06 11.1**	**+0.1**
	comp=Z,74nm,1.2s							
STKI	**Sintang**	**20.24**	**334**	P		Pn	23 06 12.8	-0.4
	comp=Z,0.0nmcomp=Z,214nm,0.9s							
STKI	**Sintang**	**20.24**	**334**	P		**P**	**23 06 12.4**	**+1.1**
	comp=Z,215nm,0.9s							
LCRK	**Leigh Creek**	**20.25**	**130**	P		**P**	**23 06 12.5**	**+1.2**
	comp=Z,266nm,1.0s							
SWI	**Sorong**	**20.42**	**33**	P		**P**	**23 06 13.4**	**+0.2**
	comp=Z,121nm,0.9s							
SWI	**Sorong**	**20.42**	**33**	P		**P**	**23 06 13.1**	**-0.1**
	comp=Z,121nm,0.9s							
LWLI	**Liwa**	**20.67**	**308**	P		**P**	**23 06 16.1**	**0.0**
	comp=Z,275nm,1.2s							
LWLI	**Liwa**	**20.67**	**308**	P		**P**	**23 06 16.6**	**+0.5**
	comp=Z,276nm,0.9s							
MDSI	**Maura Dua**	**20.94**	**309**	P		**P**	**23 06 19.7**	**+0.9**
	comp=Z,133nm,1.2s							
INKA	**Innaminka**	**20.98**	**120**	P		Pn	23 06 21.3	-0.5
	comp=Z,176nm,0.9s							
AUCAS	**Cummins Area S**	**20.99**	**142**	P		Pn	23 06 21.1	-0.8
	comp=Z,1µm,0.6s							
YAPP	**Yappala Statio**	**21.10**	**133**	P		**P**	**23 06 22.1**	**+1.6**
	comp=Z,451nm,0.9s							
WHYH	**Whyalla**	**21.31**	**137**	P		**P**	**23 06 24.0**	**+1.3**
	comp=Z,421nm,0.9s							
WHYH	**Whyalla**	**21.31**	**137**	P		**P**	**23 06 23.8**	**+1.1**
RKPI	**Ransiki, Papua**	**21.55**	**41**	P		**P**	**23 06 26.2**	**+0.7**
	comp=Z,312nm,0.7s							
PTPS	**Port Pirie**	**21.67**	**136**	P		**P**	**23 06 28.6**	**+1.9**
	comp=Z,915nm,0.9s							
PTPS	**Port Pirie**	**21.67**	**136**	P		**P**	**23 06 28.7**	**+2.1**
NAPP	**Napperby**	**21.78**	**136**	P		**P**	**23 06 29.3**	**+1.5**
	comp=Z,832nm,0.8s							
EGSI	**Enggano, Bengk**	**21.83**	**304**	P		**P**	**23 06 30.5**	**+2.0**
	comp=Z,223nm,0.8s							
LHSI	**Lahat**	**21.86**	**309**	P		**P**	**23 06 30.1**	**+1.3**
	comp=Z,4µmcomp=Z,435nm,0.9s							
KSM	**Kuching**	**22.01**	**332**	P		**P**	**23 06 29.8**	**-0.5**
KSM				IAmb		IAmb	23 06 40.5	
	comp=Z,125nm,0.8s							
KSM	**Kuching**	**22.01**	**332**	P		**P**	**23 06 30.4**	**+0.1**
	comp=Z,172nm,0.8s							
KSM	**Kuching**	**22.01**	**332**	P		P	23 06 38.8	+8.5
SBUM	**Sibu**	**22.14**	**338**	P		**P**	**23 06 31.2**	**-0.5**
SBUM	**Sibu**	**22.14**	**338**	P		**P**	**23 06 31.7**	**0.0**
	comp=Z,108nm,0.8s							
SBUM	**Sibu**	**22.14**	**338**	P		P	23 06 40.0	+8.3
COEN	**Coen**	**22.38**	**82**	P		**P**	**23 06 34.7**	**+0.3**
COEN				IAmb		IAmb	23 06 52.2	
	comp=Z,170nm,0.7s							
COEN	**Coen**	**22.38**	**82**	P		**P**	**23 06 35.8**	**+1.4**
	comp=Z,251nm,0.8s							
COEN	**Coen**	**22.38**	**82**	P		**P**	**23 06 36.3**	**+1.9**
HTT	**Hallett**	**22.45**	**136**	P		**P**	**23 06 36.1**	**+1.1**
	comp=Z,155nm,1.2s							
HTT	**Hallett**	**22.45**	**136**	P		**P**	**23 06 36.1**	**+1.1**
SGSI	**Sangihe**	**22.48**	**14**	P		**P**	**23 06 37.2**	**+1.9**
	comp=Z,375nm,1.2s							
KSI	**Kapahiang**	**22.67**	**308**	P		**P**	**23 06 38.7**	**+1.2**
	comp=Z,196nm,0.7s							
MTSU	**Mount Surprise**	**22.80**	**93**	P		**P**	**23 06 40.2**	**+1.4**
	comp=Z,135nm,0.8s							
MTSU	**Mount Surprise**	**22.80**	**93**	P		**P**	**23 06 40.7**	**+1.9**
KELC	**Kelly Hill Cav**	**22.89**	**143**	P		**P**	**23 06 41.8**	**+2.2**
	comp=Z,204nm,0.9s							
BAKI	**Biak**	**23.03**	**44**	P		**P**	**23 06 41.9**	**+0.7**
	comp=Z,3µmcomp=Z,265nm,1.0s							
SDAN	**Sedan**	**23.38**	**137**	P		**P**	**23 06 46.2**	**+1.6**
	comp=Z,113nm,1.0s							
STKA	**Stephens Creek**	**23.46**	**129**	P		**P**	**23 06 45.3**	**-0.2**
STKA	**Stephens Cre

comp=Z,67nm,18.1s,baz=222,slow=41
TWG Pinlang 40.91 1 P **P** **23 09 18.2 0.0**
TPUB Ta-pu 41.38 0 P **P** **23 09 23.1 +1.0**
comp=Z,48nm,1.6s
TPUB Ta-pu 41.38 0 P P 23 09 29.6 +7.5
KOUNC Koumac, New Ca 41.43 101 P **P** **23 09 24.1 +1.4**
comp=Z,31nm,1.0s
YULB Yu-li 41.48 1 P **P** **23 09 22.7 -0.2**
YULB Yu-li 41.48 1 P **P** **23 09 22.3 -0.6**
comp=Z,29nm,1.0s
YULB Yu-li 41.48 1 P P 23 09 29.6 +6.7
SSLB Suanglung 41.87 1 P P 23 09 33.6 +7.5
CM31 Chiang Mai Arr 42.16 329 P **P** **23 09 28.3 -0.3**
CMAR Chiang Mai Arr 42.16 329 **P** **23 09 27.8 -0.8**
CMAR Chiang Mai Arr 42.16 329 P **P** **23 09 27.9 -0.7**
comp=Z,1.7nm,0.3s,baz=160,slow=6.1,SNR=14
CMAR PcP **PcP** **23 11 23.2 +0.4**
comp=Z,6.1nm,0.8s,baz=174,slow=3.5,SNR=4.9
CMAR LR LR 23 29 39.5
comp=Z,223nm,19.3s,baz=150,slow=40
comp=Z,1.7nm,0.3s
NACB Ninganchiao 42.27 2 P **P** **23 09 29.3 -0.1**
NACB Ninganchiao 42.27 2 P P 23 09 37.1 +7.8
CHTO Chiang Mai 42.47 329 **P** **23 09 30.4 -0.7**
CHTO Chiang Mai 42.47 329 P **P** **23 09 30.0 -1.0**
comp=Z,26nm,1.1s
CHTO Chiang Mai 42.47 329 P P 23 09 38.9 +7.8
CHTO Chiang Mai 42.47 329 P **P** **23 09 30.4 -0.7**
CHTO pmax pmax
comp=Z,20nm,1.0s
SLVN Son La 42.57 337 P **P** **23 09 31.4 -0.5**
SLVN Son La 42.57 337 P P 23 09 40.3 +8.3
YHNB Yeheng 42.76 1 pP 23 09 41.1 +1.6
YHNB Yeheng 42.76 1 P **P** **23 09 32.0 -1.4**
comp=Z,68nm,2.0s
YHNB Yeheng 42.76 1 P P 23 09 40.9 +7.5
TATO Taipei 43.06 2 P **P** **23 09 35.7 0.0**
TATO IAmb IAmb 23 09 44.0
comp=Z,105nm,1.1s
DZM Mont Dzumac 43.33 103 *e*P **P** **23 09 34.9 -3.3**
comp=Z,72nm,28.9s
DZM Mont Dzumac 43.33 103 *e*PP **PP** **23 11 19.1 0.0**
comp=Z,114nm,24.4s
DZM *e*S **S** **23 16 04.5 -0.7**
comp=Z,365nm,29.4s
DZM *e*SS **SS** **23 19 20.5 +1.4**
comp=Z,537nm,27.0s
DZM *e*LR LR 23 21 41.9
comp=Z,751nm,23.4s
SANVU Saraoutou 44.87 94 P **P** **23 09 51.1 +0.6**
SANVU IAmb IAmb 23 10 04.2
comp=Z,47nm,1.0s
SANVU Saraoutou 44.87 94 P **P** **23 09 54.1 +3.6**
VLAKA Lakatoro 44.96 95 P **P** **23 09 53.5 +2.3**
JMZ Minamidaito 2 45.15 14 P **P** **23 09 52.7 +0.2**
JMZ Minamidaito 2 45.15 14 P P 23 09 58.9 +6.4
comp=Z,179nm,1.3s
JMZ Minamidaito 2 45.15 14 P P 23 09 59.3 +6.8
JOW Kunigami 45.56 10 P **P** **23 09 55.0 -0.7**
JOW IAmb IAmb 23 10 05.3
comp=Z,30nm,0.8s
JOW Kunigami 45.56 10 P P 23 10 02.6 +6.8
comp=Z,47nm,0.9s
JOW Kunigami 45.56 10 LR LR 23 30 59.2
comp=Z,137nm,20.3s,baz=225,slow=39
GYA Guiyang 46.46 343 ⇑P **P** **23 10 06.4 +3.4**
GYA S **S** **23 16 53.9 +3.6**
GYA pmax pmax
comp=Z,11nm,0.7s
GYA pmax pmax
comp=Z,210nm,5.4s
GYA LR LR
comp=Z,100nm,7.3s
GYA LR LR
comp=Z,110nm,6.7s
GYA LR LR
comp=Z,130nm,11.5s
KMI Kunming 46.46 338 P **P** **23 10 03.9 +0.7**
KMI S **S** **23 16 52.3 +1.7**
KMI pmax pmax
comp=Z,21nm,1.0s
KMI pmax pmax
comp=Z,190nm,4.6s
KMI LR LR
comp=Z,230nm,19.9s
KMI LR LR
comp=Z,300nm,20.8s
KMI LR LR
comp=Z,310nm,20.0s
PALK Pallekele 46.64 300 P **P** **23 10 04.1 -0.4**
PALK IAmb IAmb 23 10 16.3
comp=Z,54nm,0.9s
PALK Pallekele 46.64 300 P **P** **23 10 05.8 +1.2**
comp=Z,34nm,1.0s
PALK Pallekele 46.64 300 LR LR 23 26 55.4
comp=Z,221nm,21.4s,baz=129,slow=33
PALK Pallekele 46.64 300 P **P** **23 10 04.1 -0.4**
PALK pmax pmax
comp=Z,54nm,1.0s
CNSH ChangSha 46.79 351 P **P** **23 10 05.3 -0.1**
CNSH pmax pmax
comp=Z,22nm,0.9s
PYZ Puysegur Point 47.13 137 P **P** **23 10 10.5 +2.5**
DCZ Deep Cove 47.20 136 P **P** **23 10 10.3 +1.8**
DCZ Deep Cove 47.20 136 P **P** **23 10 10.4 +1.8**
comp=Z,87nm,1.7s
MALK Mahakanadarawa 47.39 301 P **P** **23 10 12.4 +2.0**
comp=Z,105nm,1.2s
H08S2 Diego Garcia H 47.66 276 T T 00 00 24.6
baz=106,slow=75,SNR=76
H08S3 Diego Garcia H 47.68 276 T T 00 00 25.6
baz=106,slow=75,SNR=86
H08S1 Diego Carcia H 47.68 276 T T 00 00 25.9
baz=106,slow=75,SNR=78
MLZ Mavora Lakes 47.82 135 **P** **23 10 14.8 +1.4**
WHZ Wether Hill Ro 47.87 136 **P** **23 10 15.4 +1.6**
JCZ Jackson Bay 47.88 133 P **P** **23 10 16.8 +2.8**
TNCH TengChong 48.04 333 ⇑P P 23 10 20.3 +4.8
TNCH sP sP 23 10 24.6 +0.6
TNCH S **S** **23 17 16.4 +3.3**
TNCH pmax pmax
comp=Z,34nm,1.2s
TNCH pmax pmax
comp=Z,76nm,2.8s
TNCH LR LR
comp=Z,230nm,8.6s
TNCH LR LR
comp=Z,190nm,10.6s
TNCH LR LR
comp=Z,460nm,23.1s
PZH PanZhiHua 48.08 337 P **P** **23 10 18.6 +2.9**
PZH S **S** **23 17 20.5 +7.1**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH LR LR
comp=Z,210nm,24.0s
PZH LR LR
comp=Z,200nm,22.1s
PZH LR LR
comp=Z,320nm,23.5s
WKZ Wanaka 48.26 134 **P** **23 10 17.8 +1.0**
CASY Casey 48.35 185 **P** **23 10 18.2 +1.2**
CASY IAmb IAmb 23 10 19.0
comp=Z,30nm,0.7s
CASY Casey 48.35 185 P **P** **23 10 18.3 +1.2**
comp=Z,59nm,1.8s
RPZ Rata Peaks 49.37 132 P **P** **23 10 26.3 +0.9**
RPZ Rata Peaks 49.37 132 P **P** **23 10 26.2 +0.9**
comp=Z,113nm,0.9s
RPZ Rata Peaks 49.37 132 LR LR 23 31 08.2
comp=Z,2µm,20.1s,baz=298,slow=36
BRDH Bariadhala 49.47 324 LR LR 23 34 27.9
comp=Z,306nm,19.8s,baz=174,slow=40
OXZ Oxford 49.97 132 P **P** **23 10 30.6 +0.7**
LTZ Lake Taylor 50.02 131 P **P** **23 10 32.0 +1.6**
LTZ IAmb IAmb 23 10 35.0
comp=Z,63nm,1.4s
NJ2 Nanjing 50.12 358 *e*P **P** **23 10 32.9 +1.9**
NJ2 sP **sP** **23 10 40.5 +0.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
THZ Tophouse 50.27 129 P **P** **23 10 32.9 +0.6**
THZ IAmb IAmb 23 10 37.4
comp=Z,94nm,1.4s
KHZ Kahutara 50.86 130 P **P** **23 10 38.1 +1.5**
TUWZ Tuamarina 50.97 129 P **P** **23 10 37.7 +0.2**
BSWZ Blackbirch Sta 50.97 129 P **P** **23 10 38.9 +1.4**
TCW Tory Channel 51.18 128 P **P** **23 10 39.6 +0.5**
CD2 Chengdu 51.48 342 P **P** **23 10 43.0 +1.6**
CD2 pmax pmax
comp=Z,20nm,0.5s
SHL Shillong 51.66 327 P **P** **23 10 42.4 -0.6**
SHL Shillong 51.66 327 P **P** **23 10 42.4 -0.6**
SHL pmax pmax
comp=Z,132nm,0.9s
MRZ Mangatainoka R 52.07 128 P **P** **23 10 45.2 -0.5**
MRZ IAmb IAmb 23 10 47.4
comp=Z,47nm,0.9s
JNU Nakatsue 52.15 11 P **P** **23 10 46.5 +0.1**
JNU IAmb IAmb 23 10 56.4
comp=Z,44nm,1.0s
JNU Nakatsue 52.15 11 P **P** **23 10 46.3 0.0**
comp=Z,46nm,1.0s
JNU Nakatsue 52.15 11 LR LR 23 35 50.0
comp=Z,128nm,19.6s,baz=186,slow=40
JNU Nakatsue 52.15 11 P P 23 10 54.1 +7.8
BKZ Black Stump Fm 52.58 126 P **P** **23 10 50.3 +0.7**
BKZ IAmb IAmb 23 10 52.6
comp=Z,44nm,1.0s
BKZ Black Stump Fm 52.58 126 P **P** **23 10 50.6 +1.0**
comp=Z,57nm,1.0s
BKZ Black Stump Fm 52.58 126 P **P** **23 10 51.2 +1.6**
URZ Urewera 52.97 124 LR LR 23 33 44.4
comp=Z,562nm,19.8s,baz=276,slow=36
XAN Xi'an 53.20 348 P **P** **23 10 53.5 -0.6**
XAN S **S** **23 18 24.3 +0.2**
XAN LR LR
comp=Z,340nm,22.7s
XAN LR LR
comp=Z,190nm,23.4s
XAN LR LR
comp=Z,510nm,24.5s
JTU Tsushima 53.27 9 P P 23 11 02.1 +7.6
JMN Monobe 53.36 14 P **P** **23 10 55.7 +0.5**
comp=Z,37nm,1.2s
JMN Monobe 53.36 14 P P 23 11 02.2 +6.9
HYB Hyderabad 54.31 308 *e*P **P** **23 11 02.5 0.0**
MSVF Nonsavu 54.70 99 P **P** **23 11 06.4 +0.9**
MSVF IAmb IAmb 23 11 25.7
comp=Z,25nm,0.9s
MSVF Nonsavu 54.70 99 IAMs_20 IAMs_20 23 33 05.8
comp=Z,682nm,20.0s
MSVF Nonsavu 54.70 99 P **P** **23 11 07.4 +1.9**
comp=Z,38nm,1.0s
MSVF Nonsavu 54.70 99 P **P** **23 11 08.0 +2.5**
MSVF Nonsavu 54.70 99 P **P** **23 11 06.4 +0.9**
MSVF pmax pmax
comp=Z,25nm,0.9s
MSVF MLR MLR
comp=Z,700nm,20.0s
TJN Taejon 54.82 7 P **P** **23 11 06.3 +0.5**
TJN Taejon 54.82 7 P P 23 11 14.0 +8.2
TJN Taejon 54.82 7 P **P** **23 11 06.3 +0.5**
TJN pmax pmax
comp=Z,299nm,0.9s
LSA Lhasa 55.42 329 P **P** **23 11 11.5 +0.6**
LSA S **S** **23 18 54.1 -1.0**
LSA pmax pmax
comp=Z,28nm,0.8s
LSA LR LR
comp=Z,110nm,15.8s
LSA LR LR
comp=Z,220nm,18.7s
KSAR Wonju Array Be 55.93 7 P **P** **23 11 14.3 +0.5**
KSAR Wonju Array Be 55.93 7 P **P** **23 11 14.3 +0.5**
KSRS Korea Array 55.95 7 P **P** **23 11 13.5 -0.4**
comp=Z,6.0nm,0.7s,baz=187,slow=7.9,SNR=29
KSRS LR LR 23 35 18.9
comp=Z,65µm,21.8s,baz=190,slow=36
comp=Z,6.0nm,0.7s
KS19 Wonju Array Si 55.99 7 P **P** **23 11 13.5 -0.7**
KS19 IAmb IAmb 23 11 24.8
comp=Z,34nm,0.8s
JGF Kuroka 56.02 17 P **P** **23 11 15.2 +0.6**
JGF IAmb IAmb 23 11 24.7
comp=Z,29nm,0.7s
JGF Kuroka 56.02 17 P P 23 11 21.6 +7.1
LZH Lanzhou 56.33 344 *e*P **P** **23 11 17.6 +0.7**
LZH sP sP 23 11 27.3 +1.8
LZH LR LR
comp=Z,220nm,17.0s
LZH LR LR
comp=Z,260nm,17.3s
LZH LR LR
comp=Z,290nm,18.4s
CCD Concordia, Ant 56.81 179 P **P** **23 11 22.5 +2.3**
comp=Z,138nm,0.8s
RAO Raoul Island 57.00 113 LR LR 23 35 25.8
comp=Z,502nm,19.7s,baz=228,slow=36
MAJO Matsushiro 57.14 17 P **P** **23 11 22.0 -0.5**
MAJO Matsushiro 57.14 17 P **P** **23 11 22.1 -0.3**
comp=Z,14nm,0.7s
MAJO Matsushiro 57.14 17 P P 23 11 29.6 +7.2
MAJO Matsushiro 57.14 17 P **P** **23 11 22.0 -0.5**
MAJO pmax pmax
comp=Z,20nm,1.2s
MJAR Matsushiro Arr 57.14 17 P **P** **23 11 23.6 +1.2**
MJAR Matsushiro Arr 57.14 17 P **P** **23 11 20.6 -1.8**
comp=Z,3.0nm,0.9s,baz=189,slow=6.6,SNR=7.9
MJAR LR LR 23 34 04.1
comp=Z,30nm,21.9s,baz=199,slow=34
comp=Z,3.0nm,0.9s
MJB9 Matsu-Tunnel 57.14 17 P **P** **23 11 21.8 -0.7**
MJA0 Matsu Arr-Jizo 57.15 17 *e*P **P** **23 11 20.6 -2.0**
MJA0 pmax pmax
comp=Z,3.0nm,0.9s
BJT Baijiatuau 58.18 356 pP 23 11 38.8 +2.9
BJI Beijing 58.20 356 P **P** **23 11 31.6 +1.8**
BJI sP **sP** **23 11 38.6 +0.2**
BJI S **S** **23 19 32.8 +2.4**
BJI pmax pmax
comp=Z,3.0nm,0.9s
BJI pmax pmax
comp=Z,65nm,7.5s
BJI LR LR
comp=Z,52nm,18.8s
BJI LR LR
comp=Z,51nm,19.9s
BJI LR LR
comp=Z,56nm,21.0s
JMM Marumori 59.13 19 **sP** **23 11 44.7 -0.2**
JMM IAmb IAmb 23 12 04.8
comp=Z,32nm,1.0s
HHC Hu-ho-hao-te 59.44 352 *e*P **P** **23 11 41.8 +3.2**
HHC sP sP 23 11 48.0 +0.8
HHC S **S** **23 19 42.3 -4.5**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,100nm,7.6s
HHC LR LR
comp=Z,150nm,17.7s
HHC LR LR
comp=Z,110nm,15.1s
HHC LR LR
comp=Z,230nm,16.0s
GTA Gaotai 60.56 342 P **P** **23 11 47.8 +1.5**
GTA sP sP 23 11 57.4 +2.4
GTA pmax pmax
comp=Z,10.0nm,0.9s
GTA pmax pmax
comp=Z,260nm,7.3s
GTA LR LR
comp=Z,130nm,17.8s
GTA LR LR
comp=Z,220nm,18.9s
GTA LR LR
comp=Z,150nm,20.0s
MAW Mawson 61.01 202 P **P** **23 11 50.6 +1.7**
comp=Z,9.1nm,1.1s
MAW Mawson 61.01 202 P **P** **23 11 50.0 +1.1**
comp=Z,29nm,0.9s,baz=71,slow=7.1,SNR=55
MAW LR LR 23 33 48.9
comp=Z,418nm,21.0s,baz=54,slow=32
MAW PKP2bc 23 41 13.2
comp=Z,0.3nm,0.3s,baz=244,slow=4.3,SNR=3.6
comp=Z,29nm,0.9s
MAW Mawson 61.01 202 P **P** **23 11 50.0 +1.1**
MSHR Mys Shultsa 61.43 9*c*eP **P** **23 11 55.3 +3.4**
MSHR pmax pmax
comp=Z,39nm,1.3s
CN2 Changchun 62.01 4 *e*P P 23 12 00.8 +5.0
CN2 pmax pmax
comp=Z,10.0nm,0.6s
XLT XiLinHaoTe 62.05 357 *e*P **P** **23 11 56.8 +0.6**
XLT sP sP 23 12 04.9 0.0
XLT pmax pmax
comp=Z,75nm,0.8s
VNDA Vanda 62.62 171 **P** **23 12 01.3 +1.7**
VNDA IAmb IAmb 23 12 02.6
comp=Z,40nm,1.0s
VNDA Vanda 62.62 171 P **P** **23 12 01.0 +1.4**
comp=Z,45nm,1.3s
VNDA Vanda 62.62 171 P **P** **23 12 01.0 +1.4**
comp=Z,29nm,0.9s,baz=312,slow=6.9,SNR=154
VNDA LR LR 23 38 08.1
comp=Z,404nm,18.1s,baz=330,slow=35
comp=Z,29nm,0.9s
VNDA Vanda 62.62 171 P **P** **23 12 01.3 +1.7**
VNDA pmax pmax
comp=Z,40nm,1.0s
USA0B Ussuriysk Arra 63.14 9 **P** **23 12 03.8 +0.4**
USA0B **sP** **23 12 12.8 +0.7**
USA0B IAmb IAmb 23 12 13.9
comp=Z,44nm,1.1s
USA0B Ussuriysk Arra 63.14 9 P **P** **23 12 03.8 +0.4**
USA0B *SP **sP** **23 12 12.8 +0.7**
USA0B pmax pmax
comp=Z,44nm,1.2s
USRK Ussuriysk Ar. 63.14 9 **P** **23 12 03.3 -0.1**
USRK Ussuriysk Ar. 63.14 9 P **P** **23 12 02.3 -1.1**
comp=Z,8.4nm,0.7s,baz=194,slow=5.2,SNR=16
USRK LR LR 23 41 12.6
comp=Z,52nm,20.1s,baz=183,slow=38
comp=Z,8.4nm,0.7s
USRK Ussuriysk Ar. 63.14 9 P **P** **23 12 03.3 -0.1**
MDJ Mudanjiang 63.21 7 pP 23 12 13.7 +3.5
MDJ Mudanjiang 63.21 7 P **P** **23 12 04.3 +0.4**
MDJ S **S** **23 20 36.5 +2.1**
MDJ pmax pmax
comp=Z,20nm,1.5s
MDJ pmax pmax
comp=Z,190nm,4.1s
SBA Scott Base 63.63 170 **P** **23 12 09.0 +2.7**
SBA IAmb IAmb 23 12 10.3
comp=Z,30nm,1.2s
SBA Scott Base 63.63 170 P **P** **23 12 08.7 +2.5**
comp=Z,28nm,1.4s
SBA Scott Base 63.63 170 P **P** **23 12 09.0 +2.7**
SBA pmax pmax
comp=Z,30nm,1.3s
BNX BinXian 64.09 6 ⇑P **P** **23 12 11.0 +1.4**
BNX PcP **PcP** **23 12 45.8 +1.1**
BNX S S 23 20 56.1 +11
BNX pmax pmax
comp=Z,6.0nm,1.2s
BNX pmax pmax
comp=Z,92nm,5.3s
BNX LR LR
comp=Z,88nm,19.0s
BNX LR LR
comp=Z,110nm,21.4s
BNX LR LR
comp=Z,160nm,20.6s
ASAJ Asahikawa 65.41 17 LR LR 23 41 57.1
comp=Z,47nm,21.2s,baz=184,slow=37
ULN Ulaanbaatar 66.96 350 P **P** **23 12 28.8 +0.4**
ULN **pP** **23 12 29.1 -5.6**
ULN Ulaanbaatar 66.96 350 P **P** **23 12 28.7 +0.4**
comp=Z,67nm,1.0s
ULN Ulaanbaatar 66.96 350 *i*P **P** **23 12 28.5 +0.1**
ULN pmax pmax
comp=Z,12nm,1.0s
SONM Songino Array 67.04 350 **P** **23 12 28.6 -0.3**
SONM Songino Array 67.04 350 P **P** **23 12 28.6 -0.3**
comp=Z,11nm,0.9s,baz=170,slow=6.7,SNR=55
SONM PKP2bc 23 40 59.8
comp=Z,1.0nm,0.9s,baz=343,slow=3.1,SNR=6.4
SONM LR LR 23 44 04.8
comp=Z,93nm,21.6s,baz=169,slow=38
comp=Z,11nm,0.9s
SONM Songino Array 67.04 350 *e*P **P** **23 12 29.1 +0.3**
SONM pmax pmax
comp=Z,11nm,0.9s
HIA Hailar 67.30 360 pP 23 12 40.3 +3.6
HIA Hailar 67.30 360 *i*P **P** **23 12 30.0 -0.3**
HIA pmax pmax
comp=Z,10.0nm,0.9s
KLR Kul'dur 68.02 8 P **P** **23 12 34.3 -0.6**
YSS Yuzhno-Sakhali 68.06 16 P **P** **23 12 34.8 -0.3**
YSS IAmb IAmb 23 12 45.5
comp=Z,34nm,0.7s
YSS Yuzhno-Sakhali 68.06 16 P P 23 12 42.0 +6.9
YSS Yuzhno-Sakhali 68.06 16 *e*P **P** **23 12 34.8 -0.3**
YSS *e*S **S** **23 21 29.0 -4.5**
YSS *e*SS **SS** **23 25 49.6 -7.0**
YSS pmax pmax
comp=Z,100nm,1.8s
YSS pmax pmax
comp=Z,30nm,0.5s
YSS smax smax
comp=E,100nm,1.8s
NIL Nilore 68.45 319 P **P** **23 12 37.2 -0.8**
NIL Nilore 68.45 319 P **P** **23 12 37.2 -0.8**
NIL pmax pmax
comp=Z,74nm,0.8s
VOI Vohitsoka 68.52 253 P **P** **23 12 39.0 +0.2**
VOI IAmb IAmb 23 12 50.6
comp=Z,20nm,0.7s
VOI Vohitsoka 68.52 253 P **P** **23 12 39.0 +0.2**
comp=Z,32nm,0.9s
HEH HeiHe 68.57 5 *e*P **P** **23 12 37.6 -0.7**
HEH pmax pmax
comp=Z,14nm,0.8s
WMQ Urumqi 68.69 335 *e*P **P** **23 12 39.9 +0.6**
WMQ sP sP 23 12 49.9 +1.9
WMQ pmax pmax
comp=Z,27nm,1.1s
WMQ LR LR
comp=Z,140nm,24.3s
SYO Syowa Base 69.71 202 ⇑*i*P **P** **23 12 46.2 +1.0**
SYO Syowa Base 69.71 202 ⇑*e*pP pP 23 12 49.0 -2.6
ZAK Zakamensk 70.05 348 *e*P **P** **23 12 46.8 -0.8**
ZAK pmax pmax
comp=Z,14nm,1.3s
GRNR Gornyy 70.25 11 ⇑*i*P **P** **23 12 49.2 +0.5**
GRNR pmax pmax
comp=Z,20nm,0.7s
KSH Kashi 70.89 325 P **P** **23 12 53.3 +0.3**
KSH sP sP 23 13 03.0 +1.2
KSH pmax pmax
comp=Z,22nm,0.9s
KSH pmax pmax
comp=Z,210nm,2.8s
IRK Irkutsk 71.65 350 *e*P **P** **23 12 54.5 -2.7**
IRK pmax pmax
comp=Z,50nm,2.5s
KBL Kabul 71.69 317 **P** **23 12 58.4 +0.3**
KBL Kabul 71.69 317 P **P** **23 12 58.0 -0.1**
comp=Z,114nm,0.8s
KBL Kabul 71.69 317 P **P** **23 12 58.4 +0.3**
KBL pmax pmax
comp=Z,76nm,0.8s
QSPA South Pole Qui 71.72 180 P **P** **23 12 59.1 +1.4**
comp=Z,68nm,0.9s,baz=325,slow=2.1,SNR=138
QSPA LR LR 23 42 56.0
comp=Z,386nm,19.5s,baz=336,slow=35
comp=Z,68nm,0.9s
MOY Mondy 71.72 347 *e*P **P** **23 12 57.8 +0.1**
MOY pmax pmax
comp=Z,62nm,2.4s
SHLS Shalkode 71.78 330 *e*P **P** **23 12 57.3 -1.0**
SHLS pmax pmax
comp=Z,11nm,1.2s
SHLS Shalkode 71.78 330 *e*P **P** **23 12 57.4 -1.0**
comp=Z,12nm,1.2s
PRZ Przheval'sk 71.79 329 P **P** **23 12 59.1 +0.6**
PRZ IAmb IAmb 23 13 10.0
comp=Z,29nm,0.9s
PRZ Przheval'sk 71.79 329 P **P** **23 12 59.1 +0.6**
PRZ pmax pmax
comp=Z,29nm,0.9s
PRZ MLR MLR
comp=Z,200nm,20.0s
UZB Uzynbulak 71.98 329 *e*P **P** **23 12 59.8 +0.3**
UZB pmax pmax
comp=Z,14nm,1.3s
UZB Uzynbulak 71.98 329 *e*P **P** **23 12 59.8 +0.3**

comp=Z,14nm,1.3s
ZEA Zeya 72.02 4 *e*P **P 23 12 59.7 +0.4**
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,30nm,0.8s
KDJ Kajisay 72.14 328 P **P 23 13 01.5 +0.9**
KDJ IAmb IAmb 23 13 11.6
comp=Z,35nm,0.9s
KDJ IAMs_20 IAMs_20 23 47 21.6
comp=Z,193nm,21.0s
KDJ Kajisay 72.14 328 P **P 23 13 01.5 +0.9**
KDJ pmax pmax
comp=Z,35nm,0.9s
KDJ MLR MLR
comp=Z,200nm,21.0s
NRN Naryn 72.25 327 P **P 23 13 01.6 +0.2**
NRN IAmb IAmb 23 13 12.4
comp=Z,49nm,0.8s
NRN Naryn 72.25 327 P **P 23 13 01.6 +0.2**
NRN pmax pmax
comp=Z,49nm,0.8s
NRN MLR MLR
comp=Z,100nm,21.0s
ZSN Zaisan 72.81 336 *e*P **P 23 13 04.7 +0.5**
ZSN Zaisan 72.81 336 *e*P **P 23 13 04.7 +0.5**
TNSS Tian-Shan 72.92 328 *e*P **P 23 13 05.3 -0.2**
TNSS Tian-Shan 72.92 328 *e*P **P 23 13 05.3 -0.2**
BOOM Boomskoye usch 73.04 327 P **P 23 13 06.3 +0.4**
BOOM IAmb IAmb 23 13 17.3
comp=Z,62nm,1.0s
BOOM Boomskoye usch 73.04 327 P **P 23 13 06.3 +0.4**
BOOM pmax pmax
comp=Z,62nm,1.0s
WSAR Wadi Sarin 73.04 302 P **P 23 13 05.9 -0.2**
baz=291,slow=24,SNR=4.8
AAA Alma-Ata 73.06 328 *e*P **P 23 13 06.0 +0.2**
AAA pmax pmax
comp=Z,14nm,0.8s
AAA Alma-Ata 73.06 328 *e*P **P 23 13 06.1 +0.2**
comp=Z,14nm,0.8s
MK31 Makanchi Array 73.33 334 P **P 23 13 07.4 +0.1**
MK31 IAmb IAmb 23 13 18.3
comp=Z,29nm,0.8s
MK31 Makanchi Array 73.33 334 *ce*P **P 23 13 06.8 -0.5**
MKAR Makanchi Array 73.33 334 **P 23 13 07.2 -0.1**
MKAR Makanchi Array 73.33 334 P **P 23 13 07.1 -0.2**
comp=Z,7.1nm,0.8s,baz=144,slow=7.3,SNR=69
comp=Z,7.1nm,0.8s
MKAR Makanchi Array 73.33 334 *e*P **P 23 13 07.4 +0.1**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
ARXS Arharly 73.36 330 *i* P **P 23 13 06.9 -0.7**
MAKZ Makanchi 73.47 334 **P 23 13 08.1 0.0**
MAKZ IAmb IAmb 23 13 19.2
comp=Z,35nm,1.4s
MAKZ Makanchi 73.47 334 P **P 23 13 08.1 0.0**
MAKZ pmax pmax
comp=Z,35nm,1.4s
MAKZ MLR MLR
comp=Z,100nm,21.0s
TDK Taldyqorghan 73.67 330 *e*P **P 23 13 09.5 +0.2**
TDK pmax pmax
comp=Z,14nm,0.6s
TDK Taldyqorghan 73.67 330 *e*P **P 23 13 09.6 +0.2**
comp=Z,14nm,0.6s
GAR Garm 73.75 322 IAMs_20 IAMs_20 23 47 27.6
comp=Z,240nm,19.0s
ARSB Arslanbob 73.79 325 P **P 23 13 10.9 +0.6**
ARSB Arslanbob 73.79 325 P **P 23 13 10.9 +0.6**
ARSB pmax pmax
comp=Z,110nm,0.8s
AAK Ala-Archa 73.89 327 P **P 23 13 11.1 +0.2**
AAK IAmb IAmb 23 13 22.5
comp=Z,42nm,0.8s
AAK Ala-Archa 73.89 327 IAMs_20 IAMs_20 23 46 31.1
comp=Z,189nm,22.0s
AAK Ala-Archa 73.89 327 P **P 23 13 11.5 +0.6**
comp=Z,69nm,0.9s
AAK Ala-Archa 73.89 327 P **P 23 13 11.4 +0.6**
comp=Z,7.6nm,0.7s,baz=120,slow=5.3,SNR=14
AAK LR LR 23 49 57.0
comp=Z,89nm,19.6s,baz=144,slow=39
comp=Z,7.6nm,0.7s
AAK Ala-Archa 73.89 327 *ce*P **P 23 13 11.2 +0.3**
AAK pmax pmax
comp=Z,51nm,0.9s
FRU1 Bishkek 73.94 327 P **P 23 13 11.9 +0.9**
FRU1 IAmb IAmb 23 13 22.6
comp=Z,34nm,0.8s
FRU1 Bishkek 73.94 327 P **P 23 13 11.9 +0.9**
FRU1 pmax pmax
comp=Z,34nm,0.8s
BTK Batken 74.15 323 P **P 23 13 12.6 +0.2**
BTK IAmb IAmb 23 13 23.3
comp=Z,26nm,0.9s
BTK Batken 74.15 323 P **P 23 13 12.6 +0.2**
BTK pmax pmax
comp=Z,26nm,0.9s
SGDS Sogindy 74.40 327 *e*P **P 23 13 13.7 0.0**
comp=Z,13nm,1.2s
RAR Rarotonga 74.47 108 LR LR 23 43 30.9
comp=Z,124nm,21.7s,baz=263,slow=34
UOSS Minazif 75.80 303 **P 23 13 21.3 -0.9**
UOSS Minazif 75.80 303 P **P 23 13 20.9 -1.3**
comp=Z,33nm,1.0s
IUG Iuzhnay 75.97 324 *e*P **P 23 13 23.1 +0.2**
IUG pmax pmax
comp=Z,19nm,0.9s
IUG Iuzhnay 75.97 324 *e*P **P 23 13 23.1 +0.2**
comp=Z,19nm,0.9s
BOD Bodaibo 76.05 357 *e*P **P 23 13 22.3 -0.4**
BOD pmax pmax
comp=Z,63nm,1.7s
KK31 Karatay Array 76.34 325 *i* P **P 23 13 24.4 -0.4**
KKAR Karatay Array 76.34 325 **P 23 13 24.4 -0.4**
KKAR Karatay Array 76.34 325 P **P 23 13 24.4 -0.4**
BRLS Borolday 76.66 324 *e*P **P 23 13 26.3 -0.3**
BRLS pmax pmax
comp=Z,15nm,1.4s
BRLS Borolday 76.66 324 *e*P **P 23 13 26.4 -0.3**
comp=Z,15nm,1.4s
KURBB Kurchatov Arra 77.87 334 P **P 23 13 32.9 -0.3**
comp=Z,9.4nm,0.8s,baz=148,slow=4.7,SNR=79
comp=Z,9.4nm,0.8s
KURK Kurchatov 77.90 334 **P 23 13 33.1 -0.3**
KURK IAmb IAmb 23 13 44.2
comp=Z,49nm,1.1s
KURK Kurchatov 77.90 334 P **P 23 13 32.9 -0.5**
comp=Z,54nm,1.0s
KURK Kurchatov 77.90 334 *ce*P **P 23 13 32.6 -0.8**
KURK pmax pmax
comp=Z,30nm,0.7s
PEA0B Petropavlovsk- 78.14 22 **P 23 13 35.1 +0.5**
PEA0B IAmb IAmb 23 13 45.8
comp=Z,30nm,0.8s
PEA0B Petropavlovsk- 78.14 22 P **P 23 13 35.1 +0.5**
PEA0B pmax pmax
comp=Z,30nm,0.9s
PETK Petropavlovsk- 78.14 22 **P 23 13 34.8 +0.1**
PETK Petropavlovsk- 78.14 22 P **P 23 13 34.5 -0.1**
comp=Z,11nm,0.7s,baz=199,slow=4.5,SNR=22
PETK LR LR 23 46 08.8
comp=Z,33nm,21.6s,baz=192,slow=34
comp=Z,11nm,0.7s
PETK Petropavlovsk- 78.14 22 P **P 23 13 34.8 +0.1**
ZAA0 Zalesovo Array 78.17 339 P **P 23 13 34.0 -0.8**
ZAA0 IAmb IAmb 23 13 44.3
comp=Z,25nm,0.8s
ZAA0 Zalesovo Array 78.17 339 P **P 23 13 33.5 -1.2**
comp=Z,41nm,1.1s
ZALV Zalesovo Beam 78.17 339 P **P 23 13 34.0 -0.8**
ZALV Zalesovo Beam 78.17 339 P **P 23 13 33.2 -1.6**
comp=Z,10nm,0.8s,baz=145,slow=3.6,SNR=42
ZALV PKKPbc **PKKPbc 23 32 34.0 -2.7**
comp=Z,1.3nm,0.8s,baz=270,slow=3.0,SNR=3.6
comp=Z,10nm,0.8s
ZALV Zalesovo Beam 78.17 339 *e*P **P 23 13 33.7 -1.1**
ZALV pmax pmax
comp=Z,10.0nm,0.8s
PET Petropavlovsk 78.41 22 P **P 23 13 36.7 +0.6**
PET IAmb IAmb 23 13 47.2
comp=Z,28nm,0.9s
PET Petropavlovsk 78.41 22 *ce*P **P 23 13 36.8 +0.6**
PET pmax pmax
comp=Z,61nm,2.5s

YAK Yakutsk 80.44 4 P **P 23 13 46.5 -0.4**
YAK Yakutsk 80.44 4 P P 23 13 56.1 +9.1
comp=Z,103nm,0.9s
YAK Yakutsk 80.44 4 P **P 23 13 46.3 -0.6**
comp=Z,11nm,0.3s,baz=247,slow=0.7,SNR=8.7
comp=Z,11nm,0.3s
YAK Yakutsk 80.44 4 *ce*P **P 23 13 45.9 -1.1**
YAK pmax pmax
comp=Z,43nm,0.7s
POGA Pongola 80.60 244 P **P 23 13 49.2 +0.4**
POGA IAmb IAmb 23 13 51.5
comp=Z,66nm,1.0s
POGA Pongola 80.60 244 P **P 23 13 50.0 +1.2**
comp=Z,71nm,1.6s
TROLL Troll, Antarti 80.82 196 ⇑P **P 23 13 50.8 +1.5**
comp=Z,1μm,0.8s
MA2 Magadan 81.51 15 P P 23 14 03.5 +11
comp=Z,0.0nmcomp=Z,65nm,0.9s
MA2 Magadan 81.51 15 P **P 23 13 52.8 0.0**
comp=Z,15nm,0.7s,baz=191,slow=1.0,SNR=4.9
MA2 LR LR 23 49 15.5
comp=Z,29nm,21.9s,baz=210,slow=35
comp=Z,15nm,0.7s
MA2 Magadan 81.51 15 *ce*P **P 23 13 53.9 +1.1**
MA2 pmax pmax
comp=Z,92nm,2.5s
KIBK Kibwezi 81.93 270 P **P 23 13 55.6 -0.6**
KIBK IAMs_20 IAMs_20 23 42 49.0
comp=Z,309nm,20.0s
KIBK Kibwezi 81.93 270 P **P 23 13 56.9 +0.6**
comp=Z,9.9nm,1.5s
ATD Arta Tunnel 81.96 285 P **P 23 13 57.0 +0.8**
ATD IAMs_20 IAMs_20 23 44 14.4
comp=Z,301nm,20.0s
ATD Arta Tunnel 81.96 285 P P 23 14 07.5 +11
comp=Z,17nm,1.0s
ATD Arta Tunnel 81.96 285 LR LR 23 44 14.6
comp=Z,12nm,20.8s,baz=131,slow=31
SNAA Sanae 82.40 195 ⇑P **P 23 13 58.9 +1.3**
comp=Z,543nm,0.9s
SNAA Sanae 82.40 195 **P 23 13 58.8 +1.3**
SNAA IAmb IAmb 23 14 00.3
comp=Z,40nm,1.0s
SNAA Sanae 82.40 195 P **P 23 13 58.9 +1.3**
comp=Z,47nm,1.3s
SNAA Sanae 82.40 195 P **P 23 13 57.5 -0.1**
comp=Z,35nm,1.1s,baz=141,slow=4.4,SNR=79
SNAA LR LR 23 47 15.6
comp=Z,661nm,20.7s,baz=86,slow=33
comp=Z,35nm,1.1s
SNAA Sanae 82.40 195 *c i*P **P 23 13 58.2 +0.6**
SNAA pmax pmax
comp=Z,37nm,1.1s
BELA Belgrano 2 82.89 185 **P 23 13 59.9 -0.1**
BELA IAmb IAmb 23 14 11.9
comp=Z,21nm,0.8s
BVA0 Borovoye Array 83.10 332 P **P 23 13 59.3 -1.9**
BVAR Borovoye Array 83.10 332 P **P 23 13 60.0 -1.3**
comp=Z,3.7nm,0.8s,baz=133,slow=8.3,SNR=20
comp=Z,3.7nm,0.8s
BVAR Borovoye Array 83.10 332 P **P 23 14 00.0 -1.3**
TBI Tubuai 83.12 112 *e*S S 23 24 13.5 -7.9
comp=Z,335nm,31.2s
TBI *e*SS **SS 23 29 48.7 +3.2**
comp=Z,415nm,30.5s
TBI *e*LQ LQ 23 36 28.3
comp=Z,1μm,35.2s
TBI *e*LR LR 23 40 00.6
comp=Z,1μm,27.8s
BRVK Borovoye 83.17 332 **P 23 14 00.8 -0.8**
BRVK Borovoye 83.17 332 P **P 23 14 01.4 -0.2**
comp=Z,14nm,1.2s
BRVK Borovoye 83.17 332 *ce*P **P 23 14 01.2 -0.4**
BRVK pmax pmax
comp=Z,33nm,2.5s
GRHM Grahamstown, E 83.33 237 P **P 23 14 04.0 +0.9**
GRHM Grahamstown, E 83.33 237 P **P 23 14 05.4 +2.2**
comp=Z,102nm,1.5s
RAYN Ar Rayn 84.01 297 **P 23 14 06.4 -0.3**
RAYN Ar Rayn 84.01 297 P **P 23 14 06.6 -0.1**
comp=Z,73nm,0.9s
RAYN Ar Rayn 84.01 297 P **P 23 14 06.4 -0.3**
RAYN pmax pmax
comp=Z,44nm,0.8s
VNA2 Neumayer--Watz 84.02 195 ⇑P **P 23 14 07.4 +1.5**
comp=Z,19nm,0.7s,baz=136,slow=5.5
VNA1 Neumayer--Stat 84.41 195 ⇑P **P 23 14 09.5 +1.7**
comp=Z,24nm,0.9s
SHEM Shemya Is, Ala 84.66 30 P **P 23 14 09.2 0.0**
comp=Z,37nm,0.9s,baz=294,slow=3.5,SNR=4.2
SHEM LR LR 23 47 51.4
comp=Z,114nm,20.8s,baz=278,slow=33
comp=Z,37nm,0.9s
SMY Shemya 84.66 30 P **P 23 14 09.2 +0.1**
SMY Shemya 84.66 30 P **P 23 14 09.3 +0.1**
SMY pmax pmax
comp=Z,44nm,0.8s
PPT2 Papeete2 84.71 107 *e*P P 23 14 02.5 -7.9
comp=Z,45nm,26.0s
PPT2 Papeete2 84.71 107 *e*SS SS 23 30 13.8 +4.4
comp=Z,103nm,29.8s
PPT2 *e*LQ LQ 23 37 12.6
comp=Z,588nm,36.2s
PPT2 *e*LR LR 23 40 50.8
comp=Z,137nm,29.2s
PPT2 *e*LR LR 23 40 51.5
comp=Z,112nm,22.5s
PPT Papeete 84.72 107 P **P 23 14 09.7 -0.7**
comp=Z,48nm,1.0s,baz=248,slow=11,SNR=7.0
PPT LR LR 23 48 23.3
comp=Z,70nm,21.4s,baz=206,slow=33
comp=Z,48nm,1.0s
PPTF Pamatai, Papee 84.72 107 P **P 23 14 10.7 +0.2**
PPTF Pamatai, Papee 84.72 107 P **P 23 14 13.7 +3.2**
comp=Z,115nm,1.0s
SEY Seymchan 84.82 14 P **P 23 14 09.8 0.0**
comp=Z,16nm,0.7s,baz=213,slow=5.1,SNR=26
SEY LR LR 23 52 02.9
comp=Z,33nm,21.7s,baz=201,slow=36
comp=Z,16nm,0.7s
SEY Seymchan 84.82 14 *i* P **P 23 14 11.0 +1.2**
SEY pmax pmax
comp=Z,21nm,0.9s
MATP Matopo 85.40 250 LR LR 23 46 10.0
comp=Z,141nm,21.8s,baz=86,slow=31
MREMI Moremi 85.68 248 P **P 23 14 15.7 +0.4**
MREMI IAmb IAmb 23 14 17.1
comp=Z,43nm,0.8s
MREMI Moremi 85.68 248 *i* P **P 23 14 16.2 +1.0**
BOSA Boshof 85.68 241 P **P 23 14 15.7 +0.5**
BOSA Boshof 85.68 241 P **P 23 14 16.5 +1.3**
comp=Z,67nm,1.3s
BOSA Boshof 85.68 241 P **P 23 14 15.7 +0.5**
comp=Z,44nm,0.8s,baz=108,slow=4.4,SNR=57
BOSA LR LR 23 47 13.2
comp=Z,136nm,19.9s,baz=188,slow=32
comp=Z,44nm,0.8s
AB31 Akbulak array 85.90 325 P **P 23 14 15.2 -0.3**
AB31 IAmb IAmb 23 14 26.2
comp=Z,59nm,1.4s
ABKAR Akbulak array 85.90 325 P **P 23 14 14.9 -0.6**
BROLN Tlhalogang 86.23 249 *i* P **P 23 14 18.6 +0.5**
LODK Lodwar 86.28 275 P **P 23 14 18.1 -0.3**
LODK Lodwar 86.28 275 P **P 23 14 19.5 +1.2**
comp=Z,22nm,0.9s
AMKA Amchitka 86.38 33 P **P 23 14 17.3 -0.5**
LBTB Lobatse 86.53 245 P **P 23 14 19.0 -0.4**
LBTB IAmb IAmb 23 14 31.5
comp=Z,20nm,0.9s
LBTB Lobatse 86.53 245 P **P 23 14 20.6 +1.1**
comp=Z,29nm,1.2s
LBTB Lobatse 86.53 245 LR LR 23 47 00.9
comp=Z,219nm,21.7s,baz=96,slow=32
LBTB Lobatse 86.53 245 P **P 23 14 19.0 -0.4**
LBTB pmax pmax
comp=Z,20nm,0.9s
LPHEP Lephephe 86.82 247 P **P 23 14 20.7 -0.2**
LPHEP IAmb IAmb 23 14 33.2
comp=Z,26nm,1.1s
LPHEP Lephephe 86.82 247 *i* P **P 23 14 21.3 +0.4**
LSZ Lusaka 87.26 255 P **P 23 14 23.2 +0.1**
LSZ Lusaka 87.26 255 P **P 23 14 24.1 +0.9**
comp=Z,57nm,0.9s
LSZ Lusaka 87.26 255 LR LR 23 48 10.7
comp=Z,227nm,20.7s,baz=142,slow=32
LSZ Lusaka 87.26 255 P **P 23 14 23.2 +0.1**
LSZ pmax pmax

comp=Z,45nm,0.9s
AKTO Aktyubinsk 87.59 325 P **P 23 14 22.8 -1.0**
comp=Z,19nm,0.7s,baz=117,slow=5.0,SNR=57
AKTO LR LR 23 58 54.2
comp=Z,82nm,19.0s,baz=138,slow=39
comp=Z,19nm,0.7s
KDWAN Kaudwane 87.86 246 *i* P **P 23 14 27.1 +1.2**
SUR Sutherland 88.06 237 P **P 23 14 29.4 +2.6**
comp=Z,28nm,1.0s
SKOMA Sekoma 88.12 245 *i* P **P 23 14 28.4 +1.2**
KIWB Kanaga Island 88.48 33 IAMs_20 IAMs_20 23 43 44.9
comp=Z,137nm,18.0s
PHDHD Phuduhudu 89.00 249 P **P 23 14 30.7 -0.7**
KSANE Kasane 89.21 252 P **P 23 14 32.2 -0.2**
MBAR Mbarara 89.41 270 P **P 23 14 33.5 0.0**
MBAR IAMs_20 IAMs_20 23 46 33.0
comp=Z,376nm,22.0s
MBAR Mbarara 89.41 270 P **P 23 14 34.4 +0.9**
comp=Z,7.2nm,1.4s
MBAR Mbarara 89.41 270 *i* P **P 23 14 33.7 +0.2**
MBAR pmax pmax
comp=Z,5.0nm,1.0s
AKT Akhty 89.58 314 *e*P **P 23 14 32.6 -0.9**
AKT *e* 23 18 01.0
AKT pmax pmax
comp=Z,14nm,0.9s
SVE Sverdlovsk 89.86 332 *e*P **P 23 14 33.4 -0.9**
SVE pmax pmax
comp=Z,19nm,0.9s
TIXI Tiksi 89.94 3 **P 23 14 33.9 -0.5**
TIXI IAmb IAmb 23 14 44.3
comp=Z,34nm,0.9s
TIXI Tiksi 89.94 3 P **P 23 14 32.2 -2.1**
comp=Z,4.8nm,0.7s,baz=168,slow=9.3,SNR=3.3
TIXI LR LR 23 58 01.6
comp=Z,74nm,21.3s,baz=183,slow=38
comp=Z,4.8nm,0.7s
TIXI Tiksi 89.94 3 P **P 23 14 33.9 -0.5**
TIXI pmax pmax
comp=Z,34nm,1.0s
KGCAE Kacgae 90.16 246 P **P 23 14 36.5 -0.2**
KGCAE IAmb IAmb 23 14 49.1
comp=Z,35nm,0.9s
KGCAE Kacgae 90.16 246 *i* P **P 23 14 38.0 +1.2**
MAK Makhachkala 90.36 315 *e*P P 23 14 31.9 -5.0
MAK *e* 23 18 07.5
MAK *e* 23 24 59.6
MAK *e*SS SS 23 31 26.0 -5.3
MAK *e*SSS SSS 23 35 03.8
MAK pmax pmax
comp=Z,168nm,1.4s
ARTI Arti 90.64 331 P **P 23 14 37.0 -1.0**
ARTI IAmb IAmb 23 14 47.7
comp=Z,16nm,0.7s
ARTI Arti 90.64 331 P **P 23 14 36.8 -1.1**
comp=Z,10nm,0.9s,baz=58,slow=1.5,SNR=17
comp=Z,10nm,0.9s
ARTI Arti 90.64 331 *d i*P **P 23 14 36.5 -1.5**
ARTI 23 18 10.3
ARTI S **SKSac 23 25 07.3 -1.0**
ARTI SP **SP 23 26 38.6 -1.1**
ARTI SS **SS 23 31 40.5 +5.6**
ARTI pmax pmax
comp=Z,11nm,0.9s
GNI Garni 91.11 312 *i* P **P 23 14 41.4 +0.6**
GNI pmax pmax
comp=Z,15nm,1.1s
GMARE Gumare 91.37 249 P **P 23 14 42.6 +0.1**
GMARE IAmb IAmb 23 14 44.5
comp=Z,20nm,0.9s
GRTLG Ghanzi 91.54 247 P **P 23 14 43.2 0.0**
GRTLG IAmb IAmb 23 14 55.1
comp=Z,17nm,0.9s
GRTLG Ghanzi 91.54 247 *i* P **P 23 14 44.0 +0.8**
GEVA Gevas 91.62 310 P **P 23 14 42.8 -0.4**
GEVA IAmb IAmb 23 14 54.5
comp=Z,20nm,1.3s
KOOLE Kule 91.86 245 P **P 23 14 45.1 +0.5**
KOOLE IAmb IAmb 23 14 46.8
comp=Z,20nm,1.0s
KOOLE Kule 91.86 245 *i* P **P 23 14 45.6 +0.9**
QNGWA Qangwa 92.20 249 P **P 23 14 46.1 -0.2**
QNGWA IAmb IAmb 23 14 58.3
comp=Z,16nm,0.8s
QNGWA Qangwa 92.20 249 *i* P **P 23 14 47.0 +0.7**
BILL Bilibino 92.37 16 IAMs_20 IAMs_20 23 58 53.3
comp=Z,331nm,21.0s
BILL Bilibino 92.37 16 *ce*P **P 23 14 45.2 -0.5**
BILL pmax pmax
comp=Z,14nm,1.7s
BILL MLR MLR
comp=Z,38nm,16.0s
GURO Guroymak-BITLI 92.45 310 P **P 23 14 47.1 +0.1**
GURO IAmb IAmb 23 14 58.4
comp=Z,13nm,1.0s
KARS Kars 92.47 312 P **P 23 14 47.4 +0.4**
KARS IAmb IAmb 23 14 58.1
comp=Z,15nm,0.9s
KARS Kars 92.47 312 P **P 23 14 47.4 +0.4**
KARS pmax pmax
comp=Z,15nm,0.9s
SMAI San Martin Ant 93.61 177 IAMs_20 IAMs_20 23 49 44.0
comp=Z,308nm,18.0s
KBZ Khabaz 93.75 315 P **P 23 14 51.6 -1.0**
comp=Z,3.7nm,0.8s,baz=162,slow=3.4,SNR=8.8
comp=Z,3.7nm,0.8s
KBZ Khabaz 93.75 315 *e*P **P 23 14 51.3 -1.3**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 93.97 315 *e*P **P 23 14 52.9 -0.9**
KIV pmax pmax
comp=Z,3.0nm,1.0s
ASF Jabal al Asfar 94.21 302 LR LR 23 56 57.8
comp=Z,110nm,19.2s,baz=70,slow=35
EIL Elat 95.00 299 LR LR 23 53 34.3
comp=Z,131nm,21.3s,baz=62,slow=33
TSUM Tsumeb 95.49 248 LR LR 23 53 38.4
comp=Z,241nm,20.0s,baz=129,slow=33
MMAI Mount Meron Ar 95.67 303 P **P 23 15 01.2 -0.6**
comp=Z,2.2nm,0.8s,baz=83,slow=4.9,SNR=2.1
MMAI LR LR 23 58 52.6
comp=Z,127nm,19.0s,baz=32,slow=36
comp=Z,2.2nm,0.8s
TAOE Nuku Hiva Isla 96.18 101 *e*LR LR 23 46 06.7
comp=Z,284nm,24.4s
PMSA Palmer Station 97.09 178 LR LR 23 58 02.4
comp=Z,142nm,20.4s,baz=187,slow=35
TOKA Tokat 97.10 310 P **P 23 15 07.5 -0.6**
TOKA IAmb IAmb 23 15 18.8
comp=Z,6.9nm,0.7s
VRH Novokhopyorsk 97.17 322 *e*P Pdif 23 15 11.6 +3.5
VRH pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 98.54 321 *e*P Pdif 23 15 15.3 +1.1
VORD pmax pmax
comp=Z,7.0nm,0.8s
VSR Storozhevoye 98.69 321 *e*P Pdif 23 15 15.7 +0.8
VSR pmax pmax
comp=Z,6.0nm,1.0s
VORR Voronezh 98.81 321 *e*P Pdif 23 15 16.1 +0.7
VORR pmax pmax
comp=Z,7.0nm,0.9s
BR131 Keskin Array S 99.01 309 *i* P **Pdif 23 15 16.7 -0.1**
BRTR Keskin Array B 99.01 309 P **Pdif 23 15 15.4 -1.4**
comp=Z,1.6nm,0.9s,baz=132,slow=5.5,SNR=8.5
comp=Z,1.6nm,0.9s
LPSR Galich'ya Gora 99.27 322 *e*P **Pdif 23 15 21.0 +3.6**
LPSR pmax pmax
comp=Z,7.0nm,0.9s
OBN Obninsk 101.33 324 IAMs_20 IAMs_20 23 55 45.1
comp=Z,149nm,20.0s
OBN Obninsk 101.33 324 *de*P **Pdif 23 15 25.8 -0.7**
OBN *e* 23 19 37.0
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,64nm,22.0s
KLMR Klimovskoe 101.44 330 *e*P **Pdif 23 15 24.1 -2.8**
KLMR pmax pmax
comp=Z,14nm,1.3s
AKASG Malin Array Be 104.64 319 PKiKP **PKiKP 23 19 57.2 +0.1**
comp=Z,0.6nm,0.5s,baz=91,slow=5.8,SNR=4.5
PPLA Purkeypile 105.00 28 IAMs_20 IAMs_20 23 59 32.5
comp=Z,133nm,21.0s
RDO Rodhopi 105.35 309 IAMs_20 IAMs_20 00 04 54.7
comp=Z,102nm,21.0s

MNK	**Minsk**	**106.11**	**323**	*i* P	**Pdif**	**23 15 45.8**	**-2.0**
MNK				*i*		23 20 09.3	
MNK				*i* PPP	PPP	23 22 23.2	
MNK				*i*		23 27 10.0	
MNK				*i* SS	SS	23 35 11.5	-0.5
MNK				*i* SSS	SSS	23 39 10.9	
MNK				pmax	pmax		
	comp=E,6.0nm,1.0s						
MNK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,2.0nm,0.5s						
MNK				MLR	MLR		
	comp=Z,46nm,19.0s						
ILAR	**Eielson Array**	**107.60**	**27**	Pdiff	**Pdif**	**23 15 53.0**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=322,slow=34,SNR=2.8						
ILAR				PKiKP	**PKiKP**	**23 19 57.5**	**-4.7**
	comp=Z,0.1nm,0.5s,baz=321,slow=33,SNR=2.2						
ILAR				PP	**PP**	**23 20 20.5**	**-2.1**
	comp=Z,0.1nm,0.4s,baz=268,slow=7.6,SNR=4.1						
ILAR				PKKPbc	**PKKPab**	**23 31 25.6**	**-4.2**
	comp=Z,0.3nm,0.7s,baz=89,slow=3.3,SNR=4.5						
FINES	**FINESS Array B**	**107.93**	**330**	Pdiff	**Pdif**	**23 15 55.9**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=96,slow=12,SNR=4.2						
FINES				PKiKP	**PKiKP**	**23 20 02.6**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=49,slow=5.8,SNR=3.3						
FINES				PP	**PP**	**23 20 23.9**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=111,slow=9.1,SNR=2.8						
PABE	**Paberze**	**108.47**	**323**		**PP**	**23 20 35.5**	**+6.3**
ARCES	**ARCESS Array B**	**108.70**	**338**	PKiKP	PKiKP	23 20 13.0	+8.9
	comp=Z,1.8nm,0.9s,baz=11,slow=1.2,SNR=4.3						
MENT	**Mentasta**	**108.86**	**29**	IAMs_20	IAMs_20	23 55 47.3	
	comp=Z,152nm,18.0s						
ISLE	**Juniper Island**	**109.38**	**31**	IAMs_20	IAMs_20	23 56 38.4	
	comp=Z,188nm,21.0s						
YAH	**Yahtse**	**109.66**	**32**	IAMs_20	IAMs_20	23 58 43.8	
	comp=Z,194nm,21.0s						
VYHS	**Vyhne**	**111.05**	**316**	*e*PP	PP	23 20 56.9	+8.8
VYHS				*e*		23 53 15.7	
HYT	**Haines Junctio**	**111.76**	**31**	IAMs_20	IAMs_20	00 00 34.3	
	comp=Z,179nm,20.0s						
MODS	**Modra-Piesok**	**112.08**	**315**	*e*PP	PP	23 21 05.4	+10
RAFF	**Raffo Rosso**	**113.37**	**303**	IAMs_20	IAMs_20	23 53 14.5	
	comp=Z,180nm,18.0s						
PAOL	**Paolisi**	**113.55**	**307**	IAMs_20	IAMs_20	23 55 32.7	
	comp=Z,85nm,20.0s						
HFS	**Hagfors**	**114.00**	**328**	PP	**PP**	**23 21 06.8**	**-1.9**
	comp=Z,1.7nm,0.8s,baz=95,slow=3.2,SNR=3.0						
GERES	**GERESS Array B**	**114.46**	**316**	PKP	PKPdf	23 20 15.6	-0.2
	comp=Z,0.1nm,0.3s,baz=72,slow=35,SNR=3.4						
GERES				PP	**PP**	**23 21 11.4**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=84,slow=9.3,SNR=2.4						
GERES				PKKPbc	**PKKPbc**	**23 30 55.3**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=267,slow=5.3,SNR=4.3						
A36M	**Sachs Harbour**	**114.80**	**18**	IAMs_20	IAMs_20	00 06 08.4	
	comp=Z,128nm,18.0s						
CLL	**Collm**	**114.89**	**319**	*e*PKiKP	PKPdf	23 20 17.0	+0.7
CLL	**Collm**	**114.89**	**319**	*e*PKiKP	PKPdf	23 20 17.0	+0.7
CLL				*e*PS	**PKKPbc**	**23 30 51.0**	**-3.5**
CLL				*e*SS	SS	23 36 54.0	-16
NOA	**NORSAR Array B**	**115.11**	**329**	PKP	**PKiKP**	**23 20 15.3**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=46,slow=25,SNR=3.5						
NOA				PP	**PP**	**23 21 16.8**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=110,slow=14,SNR=1.7						
NOA				PKKPbc	**PKKPbc**	**23 30 48.2**	**-5.9**
	comp=Z,0.3nm,0.7s,baz=257,slow=3.2,SNR=3.3						
HG4B	**Hotspring**	**115.58**	**40**	IAMs_20	IAMs_20	00 07 32.2	
	comp=Z,167nm,19.0s						
CASP	**Castiglione de**	**116.39**	**309**	IAMs_20	IAMs_20	00 06 47.8	
	comp=Z,81nm,19.0s						
WLF	**Walferdange**	**119.36**	**317**	*d*PKP	**PKiKP**	**23 20 25.9**	**+0.8**
CLRS	**Cowichan Lake**	**120.36**	**44**	IAMs_20	IAMs_20	00 17 42.1	
	comp=Z,167nm,19.0s						
NLWA	**Neilton Lookou**	**120.69**	**45**	P	**PKiKP**	**23 20 28.7**	**+0.9**
TORD	**Torodi Ar. Bea**	**120.92**	**275**	PKP	**PKPdf**	**23 20 26.7**	**-2.3**
	comp=Z,3.7nm,0.6s,baz=50,slow=4.3,SNR=4.2						
YKA	**Yellowknife Ar**	**122.03**	**27**	PKP	**PKPdf**	**23 20 28.9**	**-0.8**
	comp=Z,3.1nm,0.7s,baz=306,slow=2.5,SNR=19						
YKA				PKKPbc	**PKKPab**	**23 30 26.3**	**0.0**
	comp=Z,0.6nm,0.8s,baz=99,slow=4.1,SNR=3.6						
YKA	**Yellowknife Ar**	**122.03**	**27**	*e*PKiKP	**PKPdf**	**23 20 29.2**	**-0.5**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YKAW1	**Yellowknife Wh**	**122.09**	**27**		**PKPdf**	**23 20 29.5**	**-0.4**
AFDM	**Forest Hills D**	**123.47**	**55**	IAMs_20	IAMs_20	00 19 26.0	
	comp=Z,191nm,18.0s						
HAWA	**Hanford**	**123.77**	**46**	P	**PKiKP**	**23 20 34.6**	**+0.8**
EKA	**Eskdalemuir Ar**	**123.78**	**325**	PKP	**PKPdf**	**23 20 31.9**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=325,slow=49,SNR=3.3						
BEKR	**Beckworth**	**123.89**	**54**		**PKPdf**	**23 20 33.4**	**-0.9**
BEKR	**Beckworth**	**123.89**	**54**	P	**PKPdf**	**23 20 34.7**	**+0.4**
CMB	**Columbia Colle**	**123.98**	**56**	PKPdf	**PKPdf**	**23 20 34.1**	**-0.2**
CMB	**Columbia Colle**	**123.98**	**56**	PKIKP	**PKPdf**	**23 20 34.1**	**-0.2**
D08A	**Wollman Farm,**	**124.08**	**45**	PKPdf	**PKPdf**	**23 20 33.7**	**-0.5**
E08A	**Dider Farm, El**	**124.08**	**46**	PKPdf	**PKPdf**	**23 20 34.7**	**+0.5**
I07A	**Izee**	**124.12**	**49**	PKPdf	**PKPdf**	**23 20 33.6**	**-0.9**
DBIC	**Dimbokro**	**125.42**	**265**	PKP	**PKPdf**	**23 20 36.6**	**-1.1**
	comp=Z,2.9nm,0.8s,baz=146,slow=1.8,SNR=3.8						
BMO	**Blue Mountains**	**125.56**	**48**	P	**PKPdf**	**23 20 36.1**	**-1.1**
NVAR	**Mina Array Bea**	**125.59**	**56**	PKP	**PKPdf**	**23 20 38.1**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=250,slow=2.7,SNR=7.0						
CART	**Cartagena**	**125.60**	**303**	IAMs_20	IAMs_20	23 57 06.1	
	comp=Z,83nm,19.0s						
GSC	**Goldstone, Bar**	**126.99**	**59**	IAMs_20	IAMs_20	00 10 58.4	
	comp=Z,182nm,20.0s						
ESDC	**Sonseca Array**	**127.71**	**306**		**PKPdf**	**23 20 41.7**	**+0.3**
ESDC	**Sonseca Array**	**127.71**	**306**	PKP	**PKPdf**	**23 20 40.6**	**-0.9**
	comp=Z,1.9nm,1.0s,baz=67,slow=2.0,SNR=10						
VA06	**Catapilco**	**128.19**	**168**		**PKPdf**	**23 20 41.9**	**-0.7**
BOZ	**Bozeman (W)**	**129.32**	**46**	P	**PKPdf**	**23 20 45.3**	**+0.8**
LCMT	**Little Creek M**	**129.72**	**57**	IAMs_20	IAMs_20	00 28 09.4	
	comp=Z,192nm,20.0s						
SZCU	**Shurtz Canyon**	**129.77**	**56**	IAMs_20	IAMs_20	00 15 25.8	
	comp=Z,237nm,21.0s						
EGMT	**Eagleton**	**129.87**	**42**	P	**PKiKP**	**23 20 46.5**	**+0.4**
YNR	**Norris Junctio**	**130.20**	**47**	IAMs_20	IAMs_20	00 01 44.8	
	comp=Z,193nm,19.0s						
CTU	**Camp Tracy**	**130.32**	**52**	IAMs_20	IAMs_20	00 19 14.7	
	comp=Z,220nm,18.0s						
PCBR	**Castelo Branco**	**130.37**	**307**	*e*PKPdf	**PKPdf**	**23 20 47.0**	**+0.6**
LOHW	**Long Hollow**	**130.53**	**48**	IAMs_20	IAMs_20	00 15 36.7	
	comp=Z,164nm,21.0s						
JLU	**Jordanelle**	**130.56**	**52**	IAMs_20	IAMs_20	00 00 18.1	
	comp=Z,136nm,20.0s						
PESTR	**Estremoz**	**130.61**	**306**	P	**PKiKP**	**23 20 48.3**	**+0.4**
PESTR	**Estremoz**	**130.61**	**306**	*e*PKPdf	**PKiKP**	**23 20 48.2**	**+0.4**
PSARD	**Sardoal**	**130.93**	**307**	*e*PKPdf	**PKPdf**	**23 20 48.3**	**+0.8**
PVAQ	**Vaqueiros**	**130.93**	**304**	*e*PKPdf	**PKiKP**	**23 20 49.0**	**+0.6**
FFC	**Flin Flon**	**131.47**	**31**	P	PKiKP	23 20 59.5	+11
PDAR	**Pinedale Array**	**131.48**	**49**		**PKPdf**	**23 20 48.1**	**-0.6**
PDAR	**Pinedale Array**	**131.48**	**49**	PKP	**PKPdf**	**23 20 48.7**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=227,slow=1.1,SNR=21						
RSSD	**Black Hills**	**134.92**	**45**		**PKPdf**	**23 20 55.1**	**0.0**
RSSD	**Black Hills**	**134.92**	**45**	PKIKP	**PKPdf**	**23 20 55.1**	**0.0**
ANMO	**Albuquerque**	**135.46**	**59**		**PKPdf**	**23 20 57.7**	**+1.3**
ANMO	**Albuquerque**	**135.46**	**59**	P	**PKPdf**	**23 20 57.4**	**+1.0**
ANMO	**Albuquerque**	**135.46**	**59**	PKIKP	**PKPdf**	**23 20 57.7**	**+1.3**
CPUP	**Villa Florida**	**135.54**	**183**	Pdiff	**Pdif**	**23 17 57.5**	**-2.1**
	comp=Z,0.7nm,0.5s,baz=225,slow=17,SNR=6.1						
CPUP				PKP	**PKPdf**	**23 20 56.2**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=45,slow=3.0,SNR=5.4						
CPUP				PP	**PP**	**23 23 30.7**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=57,slow=7.8,SNR=4.0						
Q24A	**Divide**	**135.66**	**53**	IAMs_20	IAMs_20	00 23 28.1	
	comp=Z,112nm,20.0s						
EPT	**El Paso**	**135.84**	**63**	IAMs_20	IAMs_20	00 21 40.3	
	comp=Z,191nm,18.0s						
PTGB	**Pitanga**	**136.57**	**190**	*e*P	**PKPdf**	**23 20 59.0**	**+0.3**
LDASE	**Londrina, Braz**	**137.69**	**192**	*e*P	**PKPdf**	**23 21 00.7**	**-0.1**
TXAR	**Lajitas Array**	**138.52**	**66**	PKhKP	PKPpre	23 20 51.0	
	comp=Z,2.3nm,1.0s,baz=279,slow=2.2,SNR=16						
TXAR				PKP	**PKPdf**	**23 21 01.2**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=215,slow=1.8,SNR=9.8						
TRCB	**Terra Rica**	**138.55**	**190**	*e*P	**PKPdf**	**23 21 02.1**	**-0.3**
PCMB	**Pacaembu**	**139.46**	**192**	*e*P	**PKPdf**	**23 21 03.7**	**-0.3**
ECSD	**EROS Data Cent**	**139.98**	**43**	P	**PKPdf**	**23 20 57.7**	**-6.5**
GUA01	**Guaratinga, BA**	**140.16**	**211**	P	**PKPdf**	**23 21 06.2**	**+0.8**
GUA01	**Guaratinga, BA**	**140.16**	**211**	*e*P	**PKPdf**	**23 21 05.2**	**-0.2**
DIAM	**Diamantina, MG**	**140.34**	**204**	*e*P	**PKPdf**	**23 21 05.7**	**-0.2**
ITRB	**Iturama**	**141.11**	**194**	*e*P	**PKPdf**	**23 21 07.2**	**+0.1**
PMNB	**Patos De Minas**	**141.12**	**200**	*e*P	**PKPdf**	**23 21 04.0**	**-3.2**
BDQN	**Bodoquena, MS**	**141.35**	**184**	*e*P	**PKPdf**	**23 21 07.4**	**-0.1**
WMOK	**Wichita Mounta**	**141.67**	**57**	P	**PKPdf**	**23 21 02.5**	**-5.1**
IPMB	**Ipameri, GO**	**142.19**	**198**	*e*P	**PKPdf**	**23 21 03.5**	**-5.5**
FNO	**Franklin**	**142.62**	**56**	IAMs_20	IAMs_20	00 04 42.7	

	comp=Z,193nm,19.0s							
SCHQ	**Schefferville**	**143.16**	**7**	PKhKP	PKPpre	23 21 03.8		
	comp=Z,6.4nm,0.8s,baz=53,slow=3.6,SNR=7.9							
JANB	**Januaria**	**143.53**	**206**	*e*P	PKPab	23 21 08.5	+0.7	
BDFB	**Brasilia**	**144.34**	**200**	PKP	**PKPab**	**23 21 11.4**	**+0.5**	
	comp=Z,5.3nm,0.6s,baz=211,slow=7.1,SNR=10							
LPAZ	**La Paz**	**144.61**	**166**	P	**PKPdf**	**23 21 14.2**	**+0.1**	
LPAZ	**La Paz**	**144.61**	**166**	PKP	**PKPdf**	**23 21 14.0**	**0.0**	
	comp=Z,100nm,0.8s,baz=174,slow=1.8,SNR=100							
HKT	**Hockley**	**145.18**	**64**	P	**PKPdf**	**23 21 14.9**	**+1.1**	
ARAG	**Araguaiana, MT**	**145.30**	**193**	*e*P	**PKPdf**	**23 21 15.1**	**+0.7**	
NNA	**Nana**	**145.44**	**149**		**PKPab**	**23 21 15.7**	**+0.8**	
NNA	**Nana**	**145.44**	**149**	P	**PKPab**	**23 21 16.0**	**+1.1**	
NNA	**Nana**	**145.44**	**149**	PKPbc	**PKPbc**	**23 21 15.3**	**+0.6**	
	comp=Z,33nm,1.0s,baz=239,slow=3.9,SNR=7.6							
NNA	**Nana**	**145.44**	**149**	PKIKP	**PKPab**	**23 21 15.7**	**+0.8**	
SALV	**Santo Antonio**	**145.75**	**187**	*e*P	**PKPab**	**23 21 16.6**	**+0.6**	
SIV	**San Ignacio**	**145.86**	**178**	PKPbc	**PKPdf**	**23 21 15.7**	**+0.2**	
	comp=Z,28nm,1.0s,baz=181,slow=2.5,SNR=88							
ROSA	**Rosais**	**145.97**	**313**	P	PKiKP	23 21 27.0	+7.9	
SDBA	**SAO DESIDERIO**	**146.15**	**207**	*e*P	**PKPdf**	**23 21 16.6**	**+0.6**	
CCM	**Cathedral Cave**	**146.19**	**48**		**PKPdf**	**23 21 14.8**	**-0.5**	
CCM	**Cathedral Cave**	**146.19**	**48**	P	**PKPdf**	**23 21 15.4**	**0.0**	
CCM	**Cathedral Cave**	**146.19**	**48**	PKP2	**PKPdf**	**23 21 14.8**	**-0.5**	
PTLB	**Pontes e Lacer**	**146.43**	**181**	*e*P	**PKPdf**	**23 21 16.6**	**+0.2**	
RCBR	**Riachuelo**	**146.43**	**227**		**PKPbc**	**23 21 18.9**	**+1.0**	
RCBR	**Riachuelo**	**146.43**	**227**	P	**PKPab**	**23 21 19.2**	**+0.5**	
RCBR	**Riachuelo**	**146.43**	**227**	PKP2	**PKPbc**	**23 21 18.9**	**+1.0**	
RCBR	**Riachuelo**	**146.43**	**227**	*e*P	**PKPdf**	**23 21 17.5**	**+0.9**	
SIUC	**Southern Illin**	**147.76**	**47**	IAMs_20	IAMs_20	00 24 36.8		
	comp=Z,193nm,21.0s							
ATAH	**Atahualpa**	**148.67**	**142**	PKPbc	**PKPdf**	**23 21 22.8**	**+2.0**	
	comp=Z,12nm,0.6s,baz=169,slow=4.3,SNR=11							
SNDB	**Serra Nova Dou**	**148.77**	**196**	*e*P	**PKPdf**	**23 21 20.8**	**+0.4**	
VILB	**Vilhena**	**148.91**	**179**		**PKPdf**	**23 21 21.9**	**+1.3**	
VILB	**Vilhena**	**148.91**	**179**	*e*P	**PKPdf**	**23 21 21.4**	**+0.8**	
NBPB	**Pedra_Branca-C**	**149.08**	**222**	*e*P	**PKPdf**	**23 21 21.8**	**+0.9**	
NBCL	**Cascavel-CE**	**149.22**	**225**	*e*P	**PKPdf**	**23 21 22.0**	**+0.9**	
WCI	**Wyandotte Cave**	**149.49**	**44**		**PKPbc**	**23 21 24.9**	**-0.4**	
WCI	**Wyandotte Cave**	**149.49**	**44**	PKP2	**PKPbc**	**23 21 24.9**	**-0.4**	
WVT	**Waverly**	**149.50**	**49**		**PKPdf**	**23 21 20.6**	**-0.3**	
WVT	**Waverly**	**149.50**	**49**	PKIKP	**PKPdf**	**23 21 20.6**	**-0.3**	
PLAL	**Pickwick Lake**	**149.84**	**51**	IAMs_20	IAMs_20	00 18 32.2		
	comp=Z,131nm,18.0s							
PDRB	**Porto dos Gac**	**150.10**	**186**	*e*P	**PKPdf**	**23 21 23.0**	**+0.5**	
SMTB	**Santa Maria do**	**150.46**	**205**	*e*P	**PKPdf**	**23 21 23.8**	**+0.7**	
CLDB	**Colider**	**150.73**	**188**	*e*P	**PKPdf**	**23 21 23.9**	**+0.4**	
CZSB	**Cruzeiro do Su**	**151.09**	**152**	*e*P	**PKPdf**	**23 21 24.9**	**+0.9**	
G62A	**West of Eustis**	**151.71**	**16**		**PKPab**	**23 21 39.8**	**+0.8**	
SSPA	**Standing Stone**	**152.81**	**31**		**PKPbc**	**23 21 26.5**	**+0.7**	
SSPA	**Standing Stone**	**152.81**	**31**	P	**PKPbc**	**23 21 32.6**	**-0.3**	
TEIG	**Tepich**	**152.96**	**81**	P	**PKiKP**	**23 21 34.6**	**+0.6**	
OTAV	**Otavalo**	**154.24**	**132**	P	**PKiKP**	**23 21 38.7**	**+1.2**	
OTAV	**Otavalo**	**154.24**	**132**	*e*P	**PKPdf**	**23 21 29.8**	**+0.5**	
NPGB	**Novo Progresso**	**154.42**	**190**	*e*P	**PKPdf**	**23 21 29.1**	**+0.2**	
ITTB	**Itaituba**	**157.11**	**190**	*e*P	**PKPdf**	**23 21 33.2**	**+0.7**	
RUSC	**La Rusia**	**162.00**	**132**	P	**PKPdf**	**23 21 37.4**	**-1.3**	

NEIC ***14*** *23:15:54.7±0.9,36.086N±0.009×117.849W±0.007, h7km±4km, Error ellipse: s-maj=1.5km s-min=0.7km az=159.0*

PAS 14 23:15:55.1±1.1,36.091N±0.010×117.87W±0.02, h4km±4km, ML3.1/20, ML2.8/154(NEIC), Error ellipse: s-maj=2.1km s-min=1.4km az=81.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.03**	**18**		Pg	23 15 56.5	+0.3
WRVM	**Rose V. Centra**	**0.09**	**194**		Pg	23 15 57.1	+0.2
JRC2	**Joshua Ridge**	**0.12**	**157**		Pg	23 15 57.6	+0.1
WVPM	**Volcano Peak E**	**0.15**	**164**		Pg	23 15 58.1	0.0
WNMM	**Nine Mile Cany**	**0.25**	**187**		Pg	23 15 59.9	-0.1
WNMM					Sg	23 16 03.7	+0.5
MPMC	**Manual Prospec**	**0.31**	**96**	Pg	Pg	23 16 00.9	-0.2
MPMC				IAML		23 16 05.6	
	comp=E,928nm,0.5s						
CWC	**Cottonwood Cre**	**0.39**	**334**		Pg	23 16 02.4	-0.3
CWC					Sg	23 16 07.8	0.0
SRTC	**Snort**	**0.41**	**167**		Pg	23 16 03.4	+0.4
CGO	**Cerro Gordo**	**0.46**	**6**		Pg	23 16 03.8	-0.2
CGO					Sg	23 16 10.6	+0.5
WORM	**Onyx Ranch**	**0.50**	**218**		Pg	23 16 04.4	-0.3
WSHM	**Spangler Hills**	**0.58**	**148**		Pg	23 16 05.9	-0.3
WSHM				IAML		23 16 14.7	
	comp=E,427nm,0.3s						
WSHM				IAML		23 16 15.2	
	comp=E,380nm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.63**	**166**		Pg	23 16 06.9	-0.3
ISA	**Isabella, Lake**	**0.65**	**229**		Pg	23 16 07.3	-0.3
CCCA	**Chr Cany lake**	**0.70**	**144**		Pg	23 16 08.7	+0.2
SPG2	**Springville 2**	**0.74**	**279**		Pg	23 16 08.8	-0.5
QSM	**Queen of Sheba**	**0.82**	**99**		Pg	23 16 10.1	-0.7
QSM				IAML		23 16 22.4	
	comp=N,371nm,0.5s						
QSM				IAML		23 16 25.1	
	comp=E,517nm,0.7s						
DTP	**Desert Tortois**	**0.82**	**179**		Pg	23 16 10.3	-0.5
GWY	**Greenwater Val**	**0.97**	**84**		Pg	23 16 13.3	-0.5
GWY				IAML		23 16 29.5	
	comp=E,458nm,0.4s						
GWY				IAML		23 16 29.6	
	comp=N,398nm,0.7s						
GRAC	**Grapevine Rang**	**0.99**	**24**		Pg	23 16 13.4	-0.7
GRAC				IAML		23 16 30.8	
	comp=E,270nm,0.3s						
GRAC				IAML		23 16 32.0	
	comp=N,226nm,0.2s						
GSC	**Goldstone, Bar**	**1.17**	**132**	Pg	Pg	23 16 16.6	-0.9
GSC				IAML		23 16 37.3	
	comp=N,97nm,0.6s						
GSC				IAML		23 16 40.7	
	comp=E,161nm,0.9s						
WCT	**Wildcat Mounta**	**1.22**	**55**		Pg	23 16 17.8	-0.7
WCT				IAML		23 16 35.9	
	comp=N,125nm,0.4s						
WCT				IAML		23 16 36.6	
	comp=E,204nm,0.3s						
TPO	**Tropico Hills**	**1.25**	**194**	Pg	Pg	23 16 18.0	-1.0
TPO				IAML		23 16 40.1	
	comp=N,138nm,0.8s						
TPO				IAML		23 16 40.7	
	comp=E,156nm,0.8s						
VOG	**Valley Oaks Go**	**1.25**	**281**		Pg	23 16 18.2	-0.8
DSP	**Deep Springs**	**1.28**	**356**		Pg	23 16 18.2	-1.4
DSP					Pb	23 16 19.2	-0.6
DSP				IAML		23 16 36.9	
	comp=N,104nm,0.4s						
DSP				IAML		23 16 37.0	
	comp=E,93nm,0.5s						
GMN	**Gold Mountain**	**1.30**	**22**		Pg	23 16 19.6	-0.5
TPNV	**Topopah Spring**	**1.56**	**56**		Pn	23 16 23.2	-0.6
TPNV				IAML		23 16 46.5	
	comp=E,148nm,0.6s						
TPNV				IAML		23 16 48.2	
	comp=E,173nm,0.4s						
OSI	**Osito Audit: C**	**1.63**	**206**		Pn	23 16 25.0	+0.3
OSI				IAML		23 16 52.6	
	comp=N,85nm,0.5s						
OSI				IAML		23 16 56.8	
	comp=E,65nm,0.7s						
MZP	**Montezuma Peak**	**1.65**	**13**		Pb	23 16 25.8	-0.5
KCC	**Kaiser Creek**	**1.70**	**317**		Pn	23 16 25.9	+0.3
BENR	**Benton**	**1.72**	**341**		Pb	23 16 26.9	-0.5
CRGC	**Crocker Grade**	**1.73**	**241**		Pb	23 16 27.2	-0.5
MWC	**Mount Wilson**	**1.87**	**185**		Pn	23 16 28.0	-0.1
MWC				IAML		23 16 55.3	
	comp=E,46nm,0.3s						
MWC				IAML		23 16 57.8	
	comp=N,53nm,0.4s						
PASC	**Pasadena Art C**	**1.93**	**188**		Pn	23 16 27.4	-1.3
MTPC	**Mountain Pass**	**1.98**	**107**		Pn	23 16 28.1	-1.5
TPH	**Tonopah**	**2.05**	**14**		Pn	23 16 30.5	-0.1
TPH				IAML		23 17 07.1	
	comp=E,89nm,0.9s						
TPH				IAML		23 17 24.2	
	comp=N,91nm,1.0s						
MLSC	**Mira Loma**	**2.10**	**173**		Pn	23 16 31.4	+0.4
LHV	**Little Huntoon**	**2.22**	**347**		Pn	23 16 33.1	+0.4
LHV				IAML		23 17 11.1	
	comp=E,35nm,0.7s						
SHPR	**Sheep Range**	**2.22**	**78**		Pn	23 16 32.6	-0.4

S11A	**Rachel**	**2.30**	**47**		Pb	23 16 38.0	+0.7	
NV11	**Mina Array Sit**	**2.35**	**354**		Pn	23 16 34.3	-0.3	
NVAR	**Mina Array Bea**	**2.36**	**352**		Pn	23 16 35.1	+0.2	
PMPB	**Monarch Peak**	**2.38**	**274**		Pn	23 16 35.9	+0.9	
PMPB				IAML		23 17 11.8		
	comp=N,66nm,0.9s							
PMPB				IAML		23 17 16.4		
	comp=E,76nm,1.1s							
MYLM	**Yosemite Lake**	**2.42**	**303**		Pb	23 16 38.1	-1.2	
ELS	**Elsinore Mount**	**2.46**	**171**	Pn	Pn	23 16 35.2	-1.0	
V12A	**Nelson**	**2.47**	**98**		Pn	23 16 35.8	-0.6	
RAMR	**Ramage Ranch**	**2.48**	**260**		Pn	23 16 37.8	+1.4	
RYN	**Ryan**	**2.59**	**349**		Pn	23 16 37.8	-0.2	
BBGB	**Big Mountain B**	**2.61**	**282**		Pn	23 16 37.6	-0.6	
PRN	**Pahroc Range**	**2.61**	**59**		Pn	23 16 38.6	+0.3	
WAKR	**Walker**	**2.72**	**333**		Pb	23 16 45.2	+0.8	
WAKR				IAML		23 17 24.9		
	comp=N,21nm,0.5s							
WAKR				IAML		23 17 26.3		
	comp=E,25nm,0.6s							
PMD	**Palm Desert**	**2.73**	**153**	Pn	Pn	23 16 38.4	-1.3	
PMD					Pb	23 16 45.9	+1.4	
PFO	**Pinyon Flats O**	**2.73**	**155**		Pn	23 16 39.0	-0.8	
Q09A	**Carvers**	**2.79**	**11**	Pn	Pn	23 16 41.7	+1.0	
Q09A				IAML		23 17 14.9		
	comp=N,51nm,0.9s							
Q09A				IAML		23 17 36.6		
	comp=E,58nm,0.7s							
CMB	**Columbia Colle**	**2.80**	**315**		Pb	23 16 44.2	-1.6	
CMB				IAML		23 17 23.2		
	comp=E,44nm,0.4s							
R11B	**Troy Canyon, C**	**2.90**	**38**		Pb	23 16 47.4	-0.1	
R11B				IAML		23 17 28.4		
	comp=E,29nm,0.6s							
NEE2	**Needles Airpor**	**2.96**	**116**		Pb	23 16 49.6	+1.1	
NEE2				IAML		23 17 38.9		
	comp=N,33nm,0.5s							
NEE2				IAML		23 17 42.8		
	comp=E,30nm,0.7s							
SAO	**San Andreas Ge**	**2.97**	**284**	Pn	Pn	23 16 43.8	+0.8	
BORC	**Borrego Spring**	**3.06**	**157**	IAML		23 17 40.5		
	comp=E,13nm,1.1s							
DPP	**Dos Picos Cty**	**3.18**	**166**	Pg	Pb	23 16 52.3	+0.1	
DPP				IAML		23 17 43.3		
	comp=N,26nm,0.1s							
W13A	**Hualapai Mount**	**3.39**	**106**	

LOMA	**Loma Larga**	**2.00**	**104**	S		**Sn**	**23 47 50.0**	**+1.8**

IDC 14 23:51:32.4±2.2, 19°44S×178°31W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=81.1km s-min=31.4km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.47**	**261**	P	P	23 59 44.8	-0.9
	0.6nm,0.5s,baz=96,slow=7.3,SNR=1.9 0.6nm,0.5s						
ASAR	**Alice Springs**	**44.49**	**256**	P	P	23 59 46.1	+0.3
	2.2nm,0.5s,baz=93,slow=8.2,SNR=26 2.2nm,0.5s						
PETK	**Petropavlovsk-**	**75.18**	**345**	P	P	00 03 16.4	+0.1
	2.9nm,0.4s,baz=106,slow=7.5,SNR=18 2.9nm,0.4s						
TXAR	**Lajitas Array**	**86.73**	**57**	P	P	00 04 18.8	0.0
	0.1nm,0.5s,baz=239,slow=5.2,SNR=1.8 0.1nm,0.5s						

*NOU **15** 00:06:28.1, 42.50S×174.35E, h327km, MLv4.1/7, Off E. Coast of S. Island, N.Z.*
*WEL **15** 00:07:01.1±0.2, 41.5S±3.3°×17.5E±.°, h31km±4km, M3.6/30, ML4.0/29, MLv3.6/30, Error ellipse: s-maj=4.1km s-min=2.8km az=127.3, confirmed*

ISC 15 00:07:01.3±1.2, 40.75S±0.03°×174.84E±0.03, h50km±7km, n111, σ0.92/129, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.13**	**153**	P	**Pn**	**00 07 08.6**	**-0.6**
KIW				S	**Sn**	**00 07 14.0**	**-0.8**
PAPS	**Paraparaumu Pr**	**0.21**	**142**	P	**Pn**	**00 07 09.4**	**-0.2**
PAPS				S	**Sn**	**00 07 15.9**	**+0.3**
OGWZ	**Otaki Gorge**	**0.26**	**105**	P	**Pn**	**00 07 10.0**	**-0.1**
OGWZ				S	**Sn**	**00 07 16.5**	**+0.2**
PWES	**Porirua West**	**0.38**	**181**	P	**Pn**	**00 07 11.1**	**0.0**
PWES				S	**Sn**	**00 07 18.3**	**+0.1**
CAW	**Cannon Point**	**0.40**	**154**	P	**Pn**	**00 07 11.6**	**+0.2**
CAW				S	**Sn**	**00 07 19.3**	**+0.7**
UHCS	**Upper Hutt Col**	**0.41**	**158**	P	**Pn**	**00 07 11.7**	**+0.2**
UHCS				S	**Sn**	**00 07 19.5**	**+1.1**
BMTS	**Belmont**	**0.45**	**171**	P	**Pn**	**00 07 12.0**	**+0.1**
BMTS				S	**Sn**	**00 07 20.1**	**+0.6**
FAIS	**Fairfield**	**0.47**	**170**	P	**Pn**	**00 07 12.2**	**+0.1**
FAIS				S	**Sn**	**00 07 20.5**	**+0.7**
NEWS	**Newlands**	**0.48**	**181**	P	**Pn**	**00 07 12.4**	**+0.1**
NEWS				S	**Sn**	**00 07 20.9**	**+0.7**
WANS	**Wainuiomata Hi**	**0.49**	**171**	P	**Pn**	**00 07 12.8**	**+0.3**
MKBS	**Makara Bunker**	**0.49**	**192**	P	**Pn**	**00 07 12.5**	**+0.1**
MKBS				S	**Sn**	**00 07 20.6**	**+0.2**
INSS	**Lower Hutt GNS**	**0.49**	**172**	P	**Pn**	**00 07 12.5**	**+0.1**
PHHS	**Point Howard**	**0.51**	**174**	P	**Pn**	**00 07 12.8**	**+0.2**
HOWZ	**Holdsworth Sta**	**0.54**	**106**	P	**Pn**	**00 07 13.2**	**+0.2**
HOWZ				S	**Sn**	**00 07 22.5**	**+1.1**
WEL	**Wellington**	**0.54**	**185**	P	**Pn**	**00 07 13.1**	**+0.1**
WEL				S	**Sn**	**00 07 22.0**	**+0.6**
SNZO	**South Karori**	**0.57**	**190**	P	**Pn**	**00 07 13.2**	**-0.2**
MRZ	**Mangatainoka R**	**0.57**	**81**	P	**Pn**	**00 07 13.5**	**+0.1**
MRZ				S	**Sn**	**00 07 22.8**	**+0.7**
TCW	**Tory Channel**	**0.63**	**222**	P	**Pn**	**00 07 13.4**	**-0.7**
MTW	**Mount Morrison**	**0.65**	**129**	P	**Pn**	**00 07 14.5**	**+0.1**
OHWZ	**Ohakea**	**0.65**	**34**	P	**Pn**	**00 07 14.6**	**+0.2**
OHWZ				S	**Sn**	**00 07 24.7**	**+0.8**
BHW	**Baring Head**	**0.66**	**178**	P	**Pn**	**00 07 14.6**	**0.0**
BHW				S	**Sn**	**00 07 24.7**	**+0.7**
DUWZ	**D'Urville Isla**	**0.70**	**265**	P	**Pn**	**00 07 13.8**	**-1.2**
MSWZ	**Moikau Station**	**0.74**	**155**	P	**Pn**	**00 07 16.4**	**+0.8**
MSWZ				S	**Sn**	**00 07 28.2**	**+2.3**
PAWZ	**Paruwai Farm**	**0.78**	**145**	P	**Pn**	**00 07 16.0**	**0.0**
POWZ	**Post Office Ro**	**0.80**	**64**	P	**Pn**	**00 07 16.1**	**-0.1**
TIWZ	**Tintock**	**0.80**	**92**	P	**Pn**	**00 07 16.3**	**-0.1**
TIWZ				S	**Sn**	**00 07 28.0**	**+0.7**
WCDS	**Wanganui Civil**	**0.83**	**11**	P	**Pn**	**00 07 17.1**	**+0.4**
TMWZ	**Te Maipa**	**0.88**	**114**	P	**Pn**	**00 07 18.5**	**+1.1**
PLWZ	**Palliser**	**0.88**	**159**	P	**Pn**	**00 07 17.3**	**-0.1**
PRWZ	**Pori Road**	**0.89**	**78**	P	**Pn**	**00 07 17.5**	**+0.1**
TRWZ	**Traveller**	**0.92**	**135**	P	**Pn**	**00 07 18.4**	**+0.5**
HAVS	**Havelock**	**0.95**	**236**	P	**Pn**	**00 07 18.0**	**-0.3**
TUWZ	**Tuamarina**	**0.96**	**224**	P	**Pn**	**00 07 19.1**	**+0.7**
WAZ	**Wanganui**	**1.00**	**7**	P	**Pn**	**00 07 19.1**	**+0.1**
WAZ				S	**Sn**	**00 07 32.8**	**+0.7**
CPWZ	**Castlepoint**	**1.05**	**99**	P	**Pn**	**00 07 20.0**	**+0.3**
BFZ	**Birch Farm**	**1.07**	**87**	P	**Pn**	**00 07 19.6**	**-0.4**
BFZ	**Birch Farm**	**1.07**	**87**	P	**Pn**	**00 07 19.5**	**-0.4**
TSZ	**Takapari Road**	**1.10**	**52**	P	**Pn**	**00 07 20.0**	**-0.4**
CMWZ	**Cape Campbell**	**1.10**	**205**	P	**Pn**	**00 07 22.9**	**+2.5**
DVHZ	**Dannevirke**	**1.11**	**67**	P	**Pn**	**00 07 19.8**	**-0.7**
NNZ	**Nelson**	**1.20**	**246**	P	**Pn**	**00 07 21.2**	**-0.5**
BSWZ	**Blackbirch Sta**	**1.21**	**217**	P	**Pn**	**00 07 21.9**	**+0.1**
LREZ	**Lake Rotokare**	**1.33**	**345**	P	**Pn**	**00 07 23.5**	**+0.1**
LREZ				S	**Sn**	**00 07 41.1**	**+1.1**
PNHZ	**Pukenui**	**1.33**	**52**	P	**Pn**	**00 07 22.8**	**-0.8**
WPHZ	**Waipukurau**	**1.40**	**61**	P	**Pn**	**00 07 23.7**	**-0.8**
WHZ				S	**Sn**	**00 07 42.6**	**+0.6**
MTVZ	**Mangateitei**	**1.45**	**20**	P	**Pn**	**00 07 25.4**	**+0.2**
TKNZ	**Takaka Hill**	**1.45**	**258**	P	**Pn**	**00 07 24.6**	**-0.5**
PRHZ	**Porangahau**	**1.45**	**71**	P	**Pn**	**00 07 24.6**	**-0.5**
PREZ	**Palmer Road**	**1.50**	**339**	P	**Pn**	**00 07 26.0**	**+0.2**
MOVZ	**Moawhango**	**1.51**	**28**	P	**Pn**	**00 07 25.4**	**-0.6**
NMEZ	**Namu Road**	**1.52**	**331**	P	**Pn**	**00 07 26.4**	**+0.3**
WNVZ	**Wahianoa**	**1.54**	**23**	P	**Pn**	**00 07 26.5**	**+0.1**
TRVZ	**Turoa**	**1.55**	**21**	P	**Pn**	**00 07 26.8**	**+0.1**
WHVZ	**Whangaehu Hut**	**1.57**	**22**	P	**Pn**	**00 07 27.1**	**+0.1**
MAVZ	**Matarangi**	**1.58**	**21**	P	**Pn**	**00 07 27.3**	**+0.2**
NEZ	**North Egmont**	**1.58**	**339**	P	**Pn**	**00 07 26.9**	**-0.1**
KHEZ	**Kahui Hut**	**1.58**	**336**	P	**Pn**	**00 07 27.3**	**+0.3**
KHEZ	**Kahui Hut**	**1.58**	**336**	P	**Pn**	**00 07 27.0**	**0.0**
FWVZ	**Far West T-bar**	**1.59**	**21**	P	**Pn**	**00 07 27.1**	**-0.1**
TUVZ	**Tukino**	**1.61**	**23**	P	**Pn**	**00 07 27.6**	**+0.2**
KRHZ	**Kereru**	**1.61**	**47**	P	**Pn**	**00 07 26.3**	**-1.0**
VRZ	**Vera Road**	**1.62**	**358**	P	**Pn**	**00 07 27.4**	**-0.1**
DRZ	**Durham Road**	**1.63**	**342**	P	**Pn**	**00 07 28.9**	**+0.3**
COVZ	**Chateau Observ**	**1.64**	**20**	P	**Pn**	**00 07 28.1**	**+0.3**
NBEZ	**Newall Road No**	**1.65**	**333**	P	**Pn**	**00 07 27.7**	**-0.2**
NGZ	**Ngauruhoe**	**1.68**	**21**	P	**Pn**	**00 07 28.6**	**+0.3**
SNVZ	**South Ngauruho**	**1.68**	**22**	P	**Pn**	**00 07 29.1**	**+0.7**
PKE	**Pukeiti**	**1.68**	**337**	P	**Pn**	**00 07 28.3**	**-0.1**
MRNZ	**Matariki Terra**	**1.70**	**247**	P	**Pn**	**00 07 28.4**	**-0.1**
OTVZ	**Oturere**	**1.71**	**22**	P	**Pn**	**00 07 28.9**	**+0.1**
PXZ	**Pawanui**	**1.71**	**66**	P	**Pn**	**00 07 27.7**	**-0.8**
NNVZ	**North Ngauruho**	**1.72**	**21**	P	**Pn**	**00 07 29.3**	**+0.3**
WTVZ	**West Tongariro**	**1.73**	**20**	P	**Pn**	**00 07 29.2**	**+0.2**
TWVZ	**Taurewa**	**1.74**	**16**	P	**Pn**	**00 07 29.0**	**-0.1**
ETVZ	**East Tongariro**	**1.75**	**23**	P	**Pn**	**00 07 29.4**	**+0.2**
QRZ	**Quartz Range**	**1.75**	**267**	P	**Pn**	**00 07 28.2**	**-1.1**
TMVZ	**Te Maari**	**1.76**	**23**	P	**Pn**	**00 07 29.7**	**+0.2**
KRVZ	**Karewarewa**	**1.76**	**21**	P	**Pn**	**00 07 29.7**	**+0.2**
THZ	**Tophouse**	**1.77**	**235**	P	**Pn**	**00 07 29.5**	**-0.1**
KWHZ	**Kaweka Forest**	**1.80**	**43**	P	**Pn**	**00 07 29.4**	**-0.5**
KAHZ	**Kahuranaki**	**1.83**	**59**	P	**Pn**	**00 07 29.3**	**-1.0**
KATZ	**Kakaramea**	**1.89**	**21**	P	**Pn**	**00 07 32.6**	**+1.3**
MCHZ	**McNeill Hill**	**1.93**	**48**	P	Pn	00 07 36.6	+4.8
RITZ	**Rihia Road**	**1.94**	**24**	P	**Pn**	**00 07 33.2**	**+1.4**
RATZ	**Rangitukua**	**2.01**	**21**	P	**Pn**	**00 07 34.9**	**+2.0**
BKZ	**Black Stump Fm**	**2.03**	**39**	P	**Pn**	**00 07 32.0**	**-1.1**
BKZ	**Black Stump Fm**	**2.03**	**39**	P	**Pn**	**00 07 31.9**	**-1.2**
CKHZ	**Cape Kidnapper**	**2.03**	**58**	P	**Pn**	**00 07 31.7**	**-1.4**
HIZ	**Hauiti**	**2.23**	**0**	P	**Pn**	**00 07 36.5**	**+0.7**
HIZ	**Hauiti**	**2.23**	**0**	P	**Pn**	**00 07 36.4**	**+0.7**
NMHZ	**Naumai**	**2.24**	**43**	P	**Pn**	**00 07 35.0**	**-1.0**
MRHZ	**Matea Rd**	**2.27**	**33**	P	**Pn**	**00 07 34.8**	**-1.5**
MTHZ	**Maungataniwha**	**2.44**	**40**	P	**Pn**	**00 07 37.2**	**-1.5**
TLZ	**Tolley Road**	**2.48**	**13**	P	**Pn**	**00 07 39.5**	**+0.4**
DSZ	**Denniston Nort**	**2.49**	**245**	P	**Pn**	**00 07 39.0**	**-0.4**
GVZ	**Greta Valley S**	**2.59**	**211**	P	**Pn**	**00 07 39.6**	**-1.2**
LTZ	**Lake Taylor**	**2.79**	**223**	P	**Pn**	**00 07 42.4**	**-1.1**
URZ	**Urewera**	**3.04**	**36**	P	**Pn**	**00 07 44.5**	**-2.4**
URZ	**Urewera**	**3.04**	**36**	P	**Pn**	**00 07 44.3**	**-2.7**
TOZ	**Tahuroa Road**	**3.06**	**10**	P	**Pn**	**00 07 47.0**	**-0.1**
MWZ	**Matawai**	**3.19**	**42**	P	**Pn**	**00 07 46.0**	**-2.9**
TWGZ	**Tauwhareparae**	**3.54**	**44**	P	**Pn**	**00 07 51.7**	**-2.1**
RUGZ	**Raukumara Rang**	**3.55**	**39**	P	**Pn**	**00 07 51.0**	**-3.0**
AWAZ	**Awhitu Peninsu**	**3.68**	**358**	P	**Pn**	**00 07 58.1**	**+2.4**
WVZ	**Waitaha Valley**	**3.84**	**231**	P	**Pn**	**00 07 57.9**	**+0.1**
WIAZ	**Waiheke Island**	**3.96**	**3**	P	**Pn**	**00 07 59.8**	**+0.3**
RPZ	**Rata Peaks**	**4.08**	**222**	P	Pn	00 08 06.0	+4.8
GCSZ	**Gaunt Creek Bo**	**4.23**	**231**	P	**Pn**	**00 08 03.0**	**-0.2**
FOZ	**Fox Glacier**	**4.66**	**232**	P	**Pn**	**00 08 08.6**	**-0.4**
ODZ	**Otahua Downs**	**5.28**	**214**	P	**Pn**	**00 08 15.7**	**-1.9**
JCZ	**Jackson Bay**	**5.58**	**231**	P	**Pn**	**00 08 20.0**	**-1.7**

IDC 15 00:08:02.9±2.2, 1.07S×126.30E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=189.0km s-min=28.5km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.34**	**158**	P	P	00 12 41.0	-0.1
	0.7nm,0.8s,baz=336,slow=11,SNR=3.7 0.7nm,0.8s						
ASAR	**Alice Springs**	**23.64**	**162**	P	P	00 13 16.1	0.0
	3.6nm,0.9s,baz=340,slow=8.3,SNR=15 3.6nm,0.9s						
MKAR	**Makanchi Array**	**61.27**	**327**	P	P	00 18 20.2	0.0
	0.4nm,0.9s,baz=142,slow=5.4,SNR=2.4 0.4nm,0.9s						

*CATAC **15** 00:11:04.2±0.8, 13°N±4°×9°0W±°, h22km±4km, M3.1/9, MLv3.1/9, Error ellipse: s-maj=9.9km s-min=6.4km az=19.2, confirmed*
*SNET **15** 00:11:05.7±0.7, 13°19N×89°60W, h42km±8km, ML3.0*
*GCG **15** 00:11:06.3±0.6, 13°24N×89°63W, h41km±14km, MD3.7, ML2.5*

ISC 15 00:11:03.5±2.8, 13°0N±0°1×89°67W±0°08, h28km±12km, n44, σ0.43/50, 1C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.56**	**37**	*eP*	**Pb**	**00 11 15.4**	**+0.6**
LALI				*eS*	**Sb**	**00 11 22.4**	**0.0**
LALI	**Alcalda de L**	**0.56**	**37**	*eP*	**Pb**	**00 11 15.5**	**+0.7**
LALI				*eS*	**Sb**	**00 11 22.7**	**+0.2**
LALI				IAML		00 11 25.7	
	comp=E,304nm,0.2s						
LALI	**Alcalda de L**	**0.56**	**37**	P	**Pb**	**00 11 15.5**	**+0.7**
JAYA	**Jayaque - finc**	**0.64**	**19**	*eP*	**Pb**	**00 11 16.6**	**+0.3**
JAYA				IAML		00 11 26.4	
	comp=Z,1μm,0.1s						
JAYA	**Jayaque - finc**	**0.64**	**19**	*i* P	**Pb**	**00 11 16.7**	**+0.3**
JAYA	**Jayaque - finc**	**0.64**	**19**	P	**Pb**	**00 11 16.6**	**+0.3**
JAYA	**Jayaque - finc**	**0.64**	**19**	S	**Sb**	**00 11 25.0**	**-0.1**
PMON	**Piamonte**	**0.75**	**27**	*eP*	**Pb**	**00 11 17.9**	**-0.2**
PMON	**Piamonte**	**0.75**	**27**	P	**Pb**	**00 11 17.8**	**-0.2**
PMON	**Piamonte**	**0.75**	**27**	S	**Sb**	**00 11 28.4**	**+0.4**
LOMA	**Loma Larga**	**0.77**	**39**	*eP*	**Pb**	**00 11 18.2**	**-0.2**
LOMA				*eS*	**Sb**	**00 11 28.1**	**-0.5**
LOMA				IAML		00 11 30.4	
	comp=Z,608nm,0.2s						
LOMA	**Loma Larga**	**0.77**	**39**	P	**Pb**	**00 11 18.4**	**0.0**
CEVE	**Cerro Verde**	**0.78**	**3**	*eP*	**Pb**	**00 11 18.8**	**+0.1**
CEVE				IAML		00 11 34.2	
	comp=Z,532nm,0.3s						
CEVE	**Cerro Verde**	**0.78**	**3**	P	**Pb**	**00 11 19.0**	**+0.3**
CEVE	**Cerro Verde**	**0.78**	**3**	S	**Sn**	**00 11 30.7**	**+0.9**
BOQS	**Boqueron**	**0.78**	**29**	*eP*	**Pb**	**00 11 18.6**	**-0.1**
UEES	**Universidad Ev**	**0.79**	**32**	*eP*	**Pb**	**00 11 18.4**	**-0.3**
UEES				*eS*	**Sb**	**00 11 28.7**	**-0.4**
UEES				IAML		00 11 32.8	
	comp=Z,408nm,0.2s						
SBLS	**San Blas**	**0.79**	**3**	*eP*	**Pb**	**00 11 18.8**	**-0.1**
PIC2	**El Picacho**	**0.80**	**30**	*eP*	**Pb**	**00 11 19.1**	**0.0**
LFRS	**El Faro**	**0.82**	**45**	*eP*	**Pb**	**00 11 19.1**	**-0.2**
LFRS				*eS*	**Sb**	**00 11 29.2**	**-0.9**
RTR	**El Retiro**	**0.85**	**1**	*eP*	**Pb**	**00 11 19.9**	**0.0**
NUBE	**Las Nubes**	**0.86**	**353**	*i* P	**Pb**	**00 11 19.7**	**-0.3**
NUBE	**Las Nubes**	**0.86**	**353**	*eP*	**Pb**	**00 11 19.7**	**-0.3**
NUBE				*i* S	**Sb**	**00 11 30.5**	**-0.7**
NUBE	**Las Nubes**	**0.86**	**353**	P	**Pb**	**00 11 19.7**	**-0.3**
LFU	**La Fuente**	**0.88**	**37**	*eP*	**Pn**	**00 11 20.1**	**0.0**
LBRS	**Las Brisas**	**0.92**	**41**	*eP*	**Pn**	**00 11 20.7**	**+0.1**
PAVA	**Las Pavas**	**0.97**	**47**	*eP*	**Pn**	**00 11 21.6**	**+0.2**
PAVA	**Las Pavas**	**0.97**	**47**	P	**Pn**	**00 11 21.6**	**+0.2**
PAVA	**Las Pavas**	**0.97**	**47**	S	**Sb**	**00 11 34.4**	**0.0**
TECO	**Alcaldia de Te**	**0.99**	**60**	*eP*	**Pn**	**00 11 21.2**	**-0.4**
TECO	**Alcaldia de Te**	**0.99**	**60**	P	**Pn**	**00 11 21.2**	**-0.4**
TECO	**Alcaldia de Te**	**0.99**	**60**	S	**Sb**	**00 11 33.7**	**-1.1**
UESV	**Universidad de**	**1.04**	**55**	P	**Pn**	**00 11 22.1**	**-0.1**
UESV	**Universidad de**	**1.04**	**55**	S	**Sn**	**00 11 35.1**	**-0.8**
SCLA	**Alcaldia de Sa**	**1.12**	**54**	*eP*	**Pn**	**00 11 23.6**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.12**	**54**	P	**Pn**	**00 11 23.6**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.12**	**54**	S	**Sn**	**00 11 38.0**	**+0.1**
TECA	**Tecapa**	**1.22**	**68**	*eP*	**Pn**	**00 11 25.1**	**+0.3**
MTO3	**Montecristo**	**1.38**	**12**	*eP*	**Pn**	**00 11 27.1**	**0.0**
MTO3	**Montecristo**	**1.38**	**12**	*i* P	**Pn**	**00 11 27.1**	**0.0**
MTO3	**Montecristo**	**1.38**	**12**	P	**Pn**	**00 11 27.0**	**0.0**
MTO3	**Montecristo**	**1.38**	**12**	S	**Sn**	**00 11 44.9**	**+0.4**
LCY	**Lacayo**	**1.39**	**74**	*eP*	**Pn**	**00 11 27.6**	**+0.5**
BLLM	**Bellamira**	**1.45**	**74**	*eP*	**Pn**	**00 11 28.3**	**+0.5**

*IDC **15** 00:14:08.7±1.4, 6.59N×126.41E, h78km±10km, mb3.9/19, mbtmp4.2/21, MS3.1/8, Error ellipse: s-maj=29.4km s-min=9.9km az=67.0*
*NEIC **15** 00:14:10.8±1.2, 6.54N±0.07×126.09E±0.10, h86km±7km, mb4.7/27, Error ellipse: s-maj=15.1km s-min=8.5km az=63.0*
*DJA **15** 00:14:10.1±0.4, 6°N±3°×12°6E±°, h10km, M4.9/10, mb5.1/10, mB5.3/5, MLv4.9/10, Mw(mB)4.7/5, MwMwp4.8/1, Mwp5.2/1*

ISC 15 00:14:11.7±0.4, 6.48N±0.05×126.06E±0.08, h100km, n88, σ1.79/86, mb4.4/36, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.76**	**321**	Pn	**Pn**	**00 14 26.9**	**-2.7**
DAV				Sn	**Sn**	**00 14 39.3**	**-3.9**
DAV	**Davao City (W)**	**0.76**	**321**	P	**Pn**	**00 14 26.3**	**-3.5**
	4μm,0.4s,baz=229,slow=0.9,SNR=55						
DAV				S	**Sn**	**00 14 41.6**	**-1.6**
	4μm,0.5s,baz=83,slow=19,SNR=9.4						
DAV	**Davao City (W)**	**0.76**	**321**	*i* P	**Pn**	**00 14 27.0**	**-2.7**
SGSI	**Sangihe**	**2.83**	**191**	P	**Pn**	**00 14 54.5**	**-0.7**
TNTI	**Ternate**	**5.82**	**167**		**Pn**	**00 15 34.9**	**-0.8**
TNTI				Sn	**Sn**	**00 16 40.8**	**-0.2**
TNTI	**Ternate**	**5.82**	**167**	P	**Pn**	**00 15 33.7**	**-1.9**
	0.5nm2μm111nm,0.7s						
KMSI	**Cibinong**	**6.22**	**200**	P	**Pn**	**00 15 40.3**	**-0.8**
MRSI	**Marisa**	**7.24**	**215**	P	**Pn**	**00 15 55.6**	**+0.6**
	0.6nm2μm170nm,0.6s						
TOLI2	**Tolitoli**	**7.50**	**225**		**Pn**	**00 15 56.6**	**-1.9**
TOLI2				Sn	**Sn**	**00 17 16.9**	**-5.0**
LUWI	**Luwuk**	**8.16**	**204**	P	**Pn**	**00 16 06.2**	**-1.3**
	170nm,0.8s						
SANI	**Sanana**	**8.47**	**180**	P	**Pn**	**00 16 08.0**	**-3.7**
	2μm168nm,0.8s						
APSI	**Ampana**	**8.56**	**211**	P	**Pn**	**00 16 11.7**	**-1.2**
	104nm,0.8s						
MPSI	**Mapaga**	**8.66**	**225**	P	**Pn**	**00 16 11.9**	**-2.4**
NLAI	**Namlea**	**9.71**	**174**	P	**Pn**	**00 16 25.4**	**-3.2**
	126nm,0.7s						
FAKI	**Fak Fak**	**11.20**	**146**	Pn	**Pn**	**00 16 47.5**	**-1.3**
KAPI	**Kappang**	**13.04**	**209**		**Pn**	**00 17 14.0**	**+0.8**
KAPI	**Kappang**	**13.04**	**209**	P	**Pn**	**00 17 14.0**	**+0.8**
	32nm,1.0s,baz=39,slow=4.5,SNR=6.5						
SBUM	**Sibu**	**14.37**	**254**		**P**	**00 17 36.1**	**+1.6**
MMRI	**Maumere**	**15.49**	**194**	P	**P**	**00 17 47.2**	**+0.2**
MMRI				IAmb	IAmb	00 18 05.8	
	comp=Z,65nm,1.0s						
SOEI	**Soe**	**16.23**	**186**		**P**	**00 17 54.7**	**-0.6**
SOEI				IAmb	IAmb	00 18 17.9	
	comp=Z,64nm,1.0s						
BATI	**Baumata**	**16.75**	**188**	P	**P**	**00 18 00.8**	**-0.2**
	comp=Z,101nm,0.5s,baz=351,slow=1.7,SNR=12						
JAY	**Jayapura**	**17.13**	**121**	P	**Pn**	**00 18 01.0**	**-4.1**
	comp=Z,2.0nm,0.4s,baz=299,slow=19,SNR=2.0						
GUMO	**Guam**	**19.81**	**68**	LR	LR	00 25 12.6	
	comp=Z,29nm,20.2s,baz=280,slow=34						
MTN	**Manton Dam**	**19.85**	**165**	P	**P**	**00 18 35.3**	**+0.4**
MTN				IAmb	IAmb	00 18 48.4	
	comp=Z,69nm,1.4s						
JOW	**Kunigami**	**20.35**	**6**	LR	LR	00 26 47.5	
	comp=Z,30nm,19.6s,baz=284,slow=38						
KNRA	**Kununurra**	**22.18**	**173**		**P**	**00 18 59.5**	**-0.3**
KNRA				IAmb	IAmb	00 19 04.6	
	comp=Z,46nm,1.1s						
FITZ	**Fitzroy Crossi**	**24.43**	**181**		**P**	**00 19 21.3**	**+0.2**
	comp=Z,10nm,0.5s,baz=12,slow=7.0,SNR=22 comp=Z,10nm,0.5s						
NJ2	**Nanjing**	**26.32**	**346**	*e*P	**P**	**00 19 39.6**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
COEN	**Coen**	**26.47**	**140**	P	**P**	**00 19 39.2**	**-0.5**
COEN				IAmb	IAmb	00 19 39.6	
	comp=Z,25nm,1.2s						
JNU	**Nakatsue**	**26.89**	**9**	LR	LR	00 31 35.4	
	comp=Z,34nm,18.2s,baz=172,slow=39						
WB0	**Warramunga Arr**	**27.34**	**163**		**P**	**00 19 47.7**	**+0.2**
WB0				IAmb	IAmb	00 19 54.6	
	comp=Z,19nm,1.1s						
WRA	**Warramunga Arr**	**27.49**	**163**	P	**P**	**00 19 48.9**	**0.0**
WRA	**Warramunga Arr**	**27.49**	**163**	P	**P**	**00 19 46.6**	**-2.2**
	comp=Z,1.9nm,0.6s,baz=340,slow=11,SNR=10						
WRA				PcP	**PcP**	**00 23 05.5**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=345,slow=2.1,SNR=2.4						
WRA				ScP	**ScP**	**00 26 39.7**	**+3.0**
	comp=Z,0.5nm,0.6s,baz=348,slow=3.3,SNR=1.9 comp=Z,1.9nm,0.6s						
WR8	**Warramunga Arr**	**27.55**	**163**	P	**P**	**00 19 50.4**	**+1.0**
WR8				IAmb	IAmb	00 19 53.4	
	comp=Z,13nm,1.2s						
MBWA	**Marble Bar**	**28.16**	**193**	P	**P**	**00 19 56.3**	**+1.5**
PSA00	**Pilbara Seismi**	**28.54**	**192**	P	**P**	**00 19 58.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**28.98**	**297**	P	**P**	**00 20 03.4**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=114,slow=8.5,SNR=5.6						
CMAR				LR	LR	00 32 34.2	
	comp=Z,22nm,18.4s,baz=110,slow=38 comp=Z,0.5nm,0.3s						
PZH	**PanZhiHua**	**30.55**	**313**	P	**P**	**00 20 17.9**	**+1.8**
AS31	**Alice Springs**	**30.92**	**166**	P	**P**	**00 20 19.1**	**-0.1**
ASAR	**Alice Springs**	**30.93**	**166**	P	**P**	**00 20 19.1**	**-0.2**
ASAR	**Alice Springs**	**30.93**	**166**	P	**P**	**00 20 18.3**	**-1.0**
	comp=Z,1.9nm,0.4s,baz=335,slow=6.4,SNR=34						
ASAR				PcP	**PcP**	**00 23 14.0**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=0.0,slow=2.9,SNR=7.2						
ASAR				ScP	**ScP**	**00 26 48.7**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=354,slow=3.4,SNR=3.3 comp=Z,1.9nm,0.4s						
XAN	**Xi'an**	**31.68**	**332**	*e*P	P	00 20 20.4	-5.5
MJAR	**Matsushiro Arr**	**31.92**	**19**	LR	LR	00 33 49.3	
	comp=Z,27nm,19.7s,baz=212,slow=37						
TNCH	**TengChong**	**32.17**	**308**	*e*P	P	00 20 36.3	+5.9
TNCH				pmax	pmax		
	comp=Z,200nm,5.2s						
HNS	**HongShan**	**32.47**	**343**	P	**P**	**00 20 34.9**	**+2.3**
HNS				pmax	pmax		
	comp=Z,13nm,0.8s						
LZH	**Lanzhou**	**35.82**	**328**	*e*P	P	00 21 05.5	+3.7
LZH				pP	sP	00 21 33.3	-2.9
LZH				S	**S**	**00 26 26.3**	**-6.0**
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH				LR	LR		
	comp=N,130nm,16.0s						
LZH				LR	LR		
	comp=E,120nm,14.9s						
LZH				LR

NAO ***15*** *00:14:35.8,34˙.81N×45˙.11E,h33km,mb3.9*
ISK ***15*** *00:15:25.1,40˙.47N×41˙.76E,h2km,ML4.5/26*
IDC ***15*** *00:15:25.8±0.5,40˙.43N×41˙.79E,h0km,mb4.3/24, mbtmp4.3/36,ML3.9/12,MS3.5/28,Error ellipse: s-maj=8.3km s-min=6.5km az=168.0*
TIF ***15*** *00:15:25.3,40˙.45N×41˙.78E,h6km±1km*
MOS ***15*** *00:15:26.9±1.2,40˙.47N×41˙.68E,h17km,mb4.6/44, Error ellipse: s-maj=3.8km s-min=3.0km az=124.0*
AFAD ***15*** *00:15:26.7,40˙.43N×41˙.79E,h7km±3km,MW4.3*
NEIC ***15*** *00:15:27.8,40˙.40N×41˙.78E,h10km*
NEIC ***15*** *00:15:27.8±2.1,40˙.40N±0˙.05×41˙.78E±0˙.07,h10km±1km, mb4.5/75,Mwr4.4/20,Error ellipse: s-maj=9.8km s-min=8.9km az=63.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr3.78; Mθθ-2.89; Mϕϕ-0.89; Mrθ0.09; Mθϕ-2.39; Mϕr1.26; Fault plane solution: Mo4.37000×10¹⁵ NP1:ϕs41.08000°,δ52.45000°, λ69.71000°. NP2:ϕs252.32000°,δ41.96000°,λ114.28000°. Principal axes: T 4.1434, Plg73.0000°, Azm254.0000°; N 0.4151, Plg16.0000°, Azm54.0000°; P -4.5585, Plg5.0000°, Azm145.0000°;*
CFUSG ***15*** *00:15:31.8,40˙.46N×41˙.36E,h33km,mb4.0/4,Eastern Turkey Magtype MSH 3.5 from 7 stations*

ISC 15 00:15:27.1±0.6, 40˙.45N±0˙.02×41˙.74E±0˙.02, h8km±3km, n511, σ1s65/540, mb4.5/93, MS3.5/31, 49C-38D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOMI	**Horasan**	**0.42**	**163**	P		**Pg**	**00 15 34.1**	**-1.2**
HOMI				S		**Sg**	**00 15 41.4**	**+0.7**
HOMI				*i*	IAML		00 15 44.0	
	comp=N,5μm,0.4s							
HOMI				*i*	IAML		00 15 46.0	
	comp=E,6μm,0.9s							
HOMI	**Horasan**	**0.42**	**163**	⇓P		**Pg**	**00 15 34.1**	**-1.2**
DDEM	**Demirkent**	**0.45**	**1**	P		**Pg**	**00 15 35.3**	**-0.5**
DDEM				S		**Sg**	**00 15 42.5**	**+0.8**
DDEM				*i*	IAML		00 15 45.0	
	comp=E,15μm,0.4s							
DDEM				*i*	IAML		00 15 46.0	
	comp=N,16μm,0.5s							
KOPR	**Koprukoy-ERZUR**	**0.46**	**170**	Pg		**Pg**	**00 15 34.9**	**-1.1**
KOPR				Sg		**Sg**	**00 15 43.0**	**+0.9**
SENK	**Senkaya-Erzuru**	**0.48**	**76**	Pg		**Pg**	**00 15 35.2**	**-1.2**
SENK				Sg		**Sg**	**00 15 42.2**	**-0.4**
ERZM	**Erzurum**	**0.61**	**208**	P		**Pg**	**00 15 39.4**	**+0.5**
KRIK	**Erzurum-spir**	**0.63**	**261**	P		**Pg**	**00 15 39.9**	**+0.6**
KRIK				*i*	IAML		00 15 50.0	
	comp=N,5μm,0.3s							
KRIK				*i*	IAML		00 15 50.0	
	comp=E,4μm,0.3s							
KRIK				S		**Sb**	**00 15 50.1**	**+0.4**
DAGI	**Agillar**	**0.65**	**11**	P		**Pg**	**00 15 38.8**	**-0.7**
DAGI				*i*	IAML		00 15 48.0	
	comp=E,2μm,0.6s							
DAGI				S		**Sg**	**00 15 48.5**	**+0.5**
DAGI				*i*	IAML		00 15 53.0	
	comp=N,1μm,0.7s							
GOLE	**Ardahan-G¶le**	**0.76**	**59**	P		**Pg**	**00 15 41.1**	**-0.6**
GOLE				S		**Sb**	**00 15 52.8**	**-0.4**
GOLE				*i*	IAML		00 15 53.0	
	comp=E,1μm,0.5s							
GOLE				*i*	IAML		00 15 54.0	
	comp=N,1μm,0.4s							
EATA	**Eleskirt**	**0.82**	**135**	P		**Pg**	**00 15 41.4**	**-1.4**
EATA				*i*	IAML		00 16 05.0	
	comp=N,6μm,0.8s							
EATA				*i*	IAML		00 16 05.0	
	comp=E,5μm,0.9s							
DBOC	**Borcka**	**0.90**	**356**	P		**Pg**	**00 15 43.1**	**-1.3**
DBOC				S		**Sg**	**00 15 55.6**	**-0.5**
DBOC				*i*	IAML		00 15 57.0	
	comp=E,1μm,0.6s							
BOZK	**Kars-Merkez-Bo**	**0.95**	**81**	P		**Pg**	**00 15 44.2**	**-1.1**
BOZK				*i*	IAML		00 16 03.0	
	comp=E,5μm,0.7s							
BOZK				*i*	IAML		00 16 05.0	
	comp=N,5μm,0.9s							
IZDR	**Rize**	**0.96**	**291**	P		**Pg**	**00 15 44.8**	**-0.8**
IZDR				S		**Sg**	**00 15 58.3**	**+0.3**
IZDR				*i*	IAML		00 15 59.0	
	comp=N,9μm,0.3s							
IZDR				*i*	IAML		00 15 59.0	
	comp=E,8μm,0.4s							
HOPA	**Hopa-Artvin**	**0.97**	**347**	Pg		**Pg**	**00 15 44.3**	**-1.4**
HOPA				Sg		**Sg**	**00 15 57.6**	**-0.6**
AHAN	**Ardahan-Merkez**	**0.98**	**43**	P		**Pg**	**00 15 45.1**	**-0.8**
AHAN				S		**Sb**	**00 15 59.6**	**-0.1**
AHAN				*i*	IAML		00 16 03.0	
	comp=E,1μm,0.9s							
AHAN				*i*	IAML		00 16 04.0	
	comp=N,1μm,0.6s							
CHOM	**Cayeli-Rize**	**0.99**	**311**	Pg		**Pg**	**00 15 45.3**	**-0.8**
CHOM				Sg		**Sb**	**00 15 59.4**	**-0.3**
ECAT	**Cat-ERZURUM**	**1.02**	**215**	P		**Pg**	**00 15 46.5**	**-0.2**
ECAT				*i*	IAML		00 16 10.0	
	comp=N,1μm,1.3s							
ECAT				*i*	IAML		00 16 11.0	
	comp=E,10μm,0.7s							
KARS	**Kars**	**1.03**	**79**	Pg		**Pg**	**00 15 45.9**	**-1.0**
KARS				Sg		**Sb**	**00 16 00.7**	**-0.4**
KARS	**Kars**	**1.03**	**79**			**Pg**	**00 15 45.5**	**-1.4**
KARS	**Kars**	**1.03**	**79**	PG		**Pg**	**00 15 45.5**	**-1.4**
KOPT	**Kop Dagi**	**1.05**	**246**			**Pb**	**00 15 47.8**	**+0.2**
KOPT	**Kop Dagi**	**1.05**	**246**	P		**Pn**	**00 15 48.0**	**-0.3**
KOPT				*i*	IAML		00 16 08.0	
	comp=N,2μm,0.6s							
KOPT				*i*	IAML		00 16 08.0	
	comp=E,2μm,0.9s							
BATM	**Batumi**	**1.16**	**358**	P		**Pg**	**00 15 47.4**	**-1.9**
BATM				S		**Sg**	**00 16 04.0**	**-0.4**
BATM	**Batumi**	**1.16**	**358**	PG		**Pg**	**00 15 47.4**	**-1.9**
BATM				S		**Sg**	**00 16 04.0**	**-0.4**
DIGO	**Kars**	**1.24**	**91**	P		**Pg**	**00 15 48.8**	**-2.2**
DIGO				*i*	IAML		00 16 12.0	
	comp=N,1μm,0.7s							
DIGO				*i*	IAML		00 16 16.0	
	comp=E,1μm,0.7s							
KARO	**Karliova-Bingo**	**1.25**	**205**	Pn		**Pn**	**00 15 50.2**	**-0.9**
KOTA	**Agri, Merkez-K**	**1.29**	**119**	P		**Pn**	**00 15 50.1**	**-1.5**
KOTA				*i*	IAML		00 16 15.0	
	comp=E,3μm,1.0s							
KOTA				*i*	IAML		00 16 17.0	
	comp=N,2μm,1.0s							
AGRB	**Hanur-Agry**	**1.29**	**132**	Pn		**Pn**	**00 15 49.9**	**-1.7**
EPOS	**Posof**	**1.29**	**35**	P		**Pn**	**00 15 50.9**	**-0.7**
EPOS				S		**Sn**	**00 16 08.8**	**-0.4**
EPOS				*i*	IAML		00 16 20.0	
	comp=N,9μm,1.0s							
EPOS				*i*	IAML		00 16 20.0	
	comp=E,7μm,1.4s							
VRTB	**Varto-Mus**	**1.30**	**190**	Pn		**Pn**	**00 15 51.7**	**0.0**
YEDI	**Yedisu-Bingol**	**1.36**	**223**	Pn		**Pn**	**00 15 52.3**	**-0.3**
MLAZ	**Malazgirt-MUS**	**1.44**	**154**	Pn		**Pn**	**00 15 53.1**	**-0.5**
KTUT	**Trabzon**	**1.60**	**290**	Pn		**Pn**	**00 15 55.3**	**-0.3**
BGD	**Bogdanovka**	**1.63**	**59**	P		**Pn**	**00 15 56.5**	**+0.2**
BGD				S		**Sg**	**00 16 21.4**	**+2.0**
BGD	**Bogdanovka**	**1.63**	**59**	PN		**Pn**	**00 15 56.4**	**+0.2**
BGD				S		**Sg**	**00 16 21.4**	**+2.0**
AKH	**Akhalkalaki**	**1.64**	**53**	Pn		**Pn**	**00 15 55.7**	**-0.7**
AKH	**Akhalkalaki**	**1.64**	**53**	P		**Pn**	**00 15 56.7**	**+0.4**
AKH				S		**Sg**	**00 16 20.1**	**+0.3**
AKH	**Akhalkalaki**	**1.64**	**53**	PN		**Pn**	**00 15 56.7**	**+0.4**
AKH				S		**Sg**	**00 16 20.1**	**+0.3**
BNGB	**Bingl**	**1.67**	**210**	Pn		**Pn**	**00 15 56.9**	**+0.2**
ERCV	**ERCIS-VAN**	**1.88**	**139**	Pn		**Pn**	**00 15 59.3**	**-0.4**
GURO	**Guroymak-BITLI**	**1.90**	**173**	Pn		**Pn**	**00 15 59.9**	**-0.1**
GURO	**Guroymak-BITLI**	**1.90**	**173**	Pn		**Pn**	**00 16 00.3**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.96**	**103**	Pn		**Pn**	**00 16 00.5**	**-0.2**
TRLG	**Trialeti**	**2.09**	**58**	P		**Pn**	**00 16 03.3**	**+0.7**
TRLG	**Trialeti**	**2.09**	**58**	PN		**Pn**	**00 16 03.3**	**+0.7**
CLDR	**Caldiran**	**2.12**	**127**	Pn		**Pn**	**00 15 59.4**	**-3.6**
TKB	**Tkibuli**	**2.12**	**26**	P		**Pn**	**00 16 04.0**	**+1.1**
TKB				S		**Sb**	**00 16 32.9**	**+0.6**
TKB	**Tkibuli**	**2.12**	**26**	PN		**Pn**	**00 16 04.0**	**+1.1**
TKB				S		**Sb**	**00 16 32.9**	**+0.6**
ALIG	**Mtskhetisjvari**	**2.19**	**40**	P		**Pn**	**00 16 04.2**	**+0.4**
ALIG	**Mtskhetisjvari**	**2.19**	**40**	PN		**Pn**	**00 16 04.2**	**+0.4**
KZRT	**Kazreti**	**2.22**	**64**	PN		**Pn**	**00 16 03.2**	**-1.0**
VANB	**Van**	**2.24**	**145**	Pn		**Pn**	**00 16 05.9**	**+1.3**
GNI	**Garni**	**2.31**	**96**	Pn		**Pn**	**00 16 05.3**	**-0.3**
GNI	**Garni**	**2.31**	**96**	Pn		**Pn**	**00 16 06.7**	**+1.1**
	16nm,0.3s,baz=288,slow=4.2,SNR=94							
GNI				Lg		Lg	00 16 36.6	
	38nm,0.3s,baz=192,slow=22,SNR=7.5							
GNI				LR		LR	00 16 39.3	
	comp=Z,307nm,18.1s,baz=301,slow=32							
	532nm,0.7s							
GNI	**Garni**	**2.31**	**96**	*ce*	Pn	**Pn**	**00 16 06.3**	**+0.7**
GNI					pmax	pmax		
	comp=Z,1μm,1.3s							
GNI	**Garni**	**2.31**	**96**		P	**Pb**	**00 16 09.1**	**0.0**
AKDM	**Akdamar-Van**	**2.32**	**155**		Pn	**Pn**	**00 16 05.9**	**+0.2**
SVAN	**Silvan-Diyarba**	**2.33**	**191**		Pn	**Pn**	**00 16 06.1**	**+0.4**
ESPY	**Espiye-Giresun**	**2.34**	**283**		Pn	**Pn**	**00 16 06.1**	**+0.2**
GEVA	**Gevas**	**2.36**	**154**			**Pn**	**00 16 06.4**	**+0.1**
OZAP	**Van, Ozalp-Mer**	**2.49**	**135**		⇑P	**Pb**	**00 16 13.3**	**+1.1**
GARIG	**Gari**	**2.52**	**30**		P	**Pn**	**00 16 09.5**	**+1.2**
GARIG					S	**Sg**	**00 16 46.8**	**-1.1**
TBLG	**Delisi**	**2.60**	**59**		P	**Pn**	**00 16 10.1**	**+0.7**
TBLG					S	**Sg**	**00 16 51.1**	**+0.5**
TBLG	**Delisi**	**2.60**	**59**		PN	**Pn**	**00 16 10.1**	**+0.7**
TBLG					S	**Sg**	**00 16 51.1**	**+0.5**
ILIC	**ilic-Erzincan**	**2.63**	**249**		Pn	**Pn**	**00 16 10.1**	**+0.1**
GUDG	**Gudauri**	**2.88**	**45**		PN	**Pn**	**00 16 15.1**	**+1.7**
DGRG	**David-gareji**	**2.93**	**69**		P	**Pn**	**00 16 15.3**	**+1.3**
DGRG	**David-gareji**	**2.93**	**69**		PN	**Pn**	**00 16 15.2**	**+1.3**
ARPR	**Arapgir-MALATY**	**2.95**	**244**		Pn	**Pn**	**00 16 14.9**	**+0.5**
NAX	**Nakhchivan**	**3.15**	**113**		PN	**Pn**	**00 16 19.1**	**+2.0**
VSLR	**Vesyoloye**	**3.27**	**338**	*i*	PN	**Pn**	**00 16 20.0**	**+1.3**
NCK	**Nalchik**	**3.35**	**24**	*i*	PN	**Pn**	**00 16 20.7**	**+1.0**
RSDY	**Resadiye-TOKAT**	**3.37**	**271**		Pn	**Pn**	**00 16 21.1**	**+1.1**
SHTL	**Shatili**	**3.38**	**48**		PN	**Pn**	**00 16 21.5**	**+1.2**
KBZ	**Khabaz**	**3.39**	**14**		Pn	**Pn**	**00 16 22.2**	**+2.0**
	comp=Z,3.7nm,0.3s,baz=191,slow=8.2,SNR=32							
KBZ					Lg	Lg	00 17 14.2	
	comp=Z,8.8nm,0.3s,baz=12,slow=18,SNR=3.8							
KBZ					LR	LR	00 17 39.3	
	comp=Z,429nm,19.1s,baz=219,slow=39							
	comp=Z,22nm,0.5s							
KBZ	**Khabaz**	**3.39**	**14**	*i*	PN	**Pn**	**00 16 21.4**	**+1.2**
SOC	**Sochi**	**3.48**	**335**	*e*	PN	**Pn**	**00 16 19.9**	**-1.6**
SOC				*e*	PPP	PPP	00 16 31.6	
SOC				*e*			00 17 01.9	
SOC				*e*	SS	**Sb**	**00 17 13.4**	**+2.1**
SOC					pmax	pmax		
	comp=Z,477nm,0.8s							
SOC					MLR	MLR		
	comp=Z,522nm,12.0s							
GANJ	**Ganja**	**3.49**	**85**		PN	**Pn**	**00 16 23.6**	**+1.9**
CUKT	**Cukurca**	**3.51**	**155**		Pn	**Pn**	**00 16 22.8**	**+0.8**
KIV	**Kislovodsk**	**3.58**	**11**		Pn	**Pn**	**00 16 23.4**	**+0.5**
KIV	**Kislovodsk**	**3.58**	**11**			**Pn**	**00 16 24.5**	**+1.6**
KIV	**Kislovodsk**	**3.58**	**11**		⇑P	**Pn**	**00 16 24.4**	**+1.4**
KIV	**Kislovodsk**	**3.58**	**11**	*e*	PN	**Pn**	**00 16 23.8**	**+0.9**
KIV					pmax	pmax		
	comp=Z,312nm,1.0s							
KIV					MLR	MLR		
	comp=Z,52nm,8.0s							
KIV	**Kislovodsk**	**3.58**	**11**	*i*	P	**Pn**	**00 16 24.8**	**+1.8**
	SNR=5.7							
KVAR	**Kislovodsk Arr**	**3.58**	**11**		Pn	**Pn**	**00 16 25.1**	**+2.2**
	baz=270,slow=22							
KVAR					Lg	Lg	00 17 19.3	
	baz=269,slow=21							
	comp=Z,14nm,0.5s							
VSHL	**Vashlovani**	**3.62**	**76**		P	**Pn**	**00 16 25.5**	**+2.1**
TOKA	**Tokat**	**4.02**	**270**			**Pb**	**00 16 39.0**	**+0.8**
MNGR	**Mingechevir, A**	**4.08**	**84**		PN	**Pn**	**00 16 31.6**	**+1.9**
SEKA	**Sheki**	**4.21**	**78**		PN	**Pn**	**00 16 34.5**	**+2.9**
LABN	**Labinsk**	**4.26**	**350**	*e*	PN	**Pn**	**00 16 33.9**	**+1.7**
LABN				*e*	S	**Sn**	**00 17 27.3**	**+5.2**
LABN					pmax	pmax		
	comp=Z,175nm,0.8s							
LABN					MLR	MLR		
	comp=E,2μm,13.0s							
LABN					MLR	MLR		
	comp=N,2μm,13.0s							
LABN					MLR	MLR		
	comp=Z,894nm,12.0s							
AKT	**Akhty**	**4.65**	**75**	*e*	PN	**Pn**	**00 16 37.0**	**-0.7**
AKT				*e*			00 16 53.2	
AKT				*e*	S	**Sn**	**00 17 32.2**	**+1.3**
AKT				*e*			00 17 49.1	
AKT				*e*			00 18 01.9	
AKT					pmax	pmax		
	comp=Z,22nm,0.6s							
AKT					smax	smax		
	comp=E,47nm,0.8s							
AKT					smax	smax		
	comp=N,30nm,0.9s							
AKT					smax	smax		
	comp=E,53nm,0.8s							
GOF	**Gofitskoye**	**4.71**	**11**	*ce*	PN	**Pb**	**00 16 52.3**	**+2.5**
GOF				*e*	S	**Sb**	**00 17 50.8**	**+4.1**
GAZ	**Gaziantep**	**4.82**	**229**			**Pn**	**00 16 40.7**	**+0.8**
BNN	**Bunyan**	**4.82**	**253**			**Pn**	**00 16 42.1**	**+2.0**
MAK	**Makhachkala**	**4.99**	**58**	*c*	PN	**Pn**	**00 16 38.3**	**-3.9**
MAK					pmax	pmax		
	comp=Z,103nm,1.2s							
MAK					MLR	MLR		
	comp=Z,2μm,7.0s							
DIKM	**Dikmen**	**5.05**	**286**	⇓	P	**Pn**	**00 16 46.1**	**+3.0**
ERBR	**Yeremizino-Bor**	**5.35**	**350**	*e*	PN	**Pn**	**00 16 48.2**	**+1.1**
ERBR				*e*	S	**Sn**	**00 17 51.5**	**+2.6**
ERBR					pmax	pmax		
	comp=Z,175nm,1.0s							
ERBR					MLR	MLR		
	comp=Z,568nm,18.0s							
ANN	**Anapa**	**5.39**	**325**	*e*	P	**Pn**	**00 16 49.9**	**+2.2**
ANN				*e*	S	**Sn**	**00 17 54.1**	**+4.2**
ANN					pmax	pmax		
	comp=Z,155nm,0.8s							
ANN					MLR	MLR		
	comp=Z,693nm,15.0s							
LKRN	**Lenkeran, Azer**	**5.70**	**105**		P	**Pn**	**00 16 54.0**	**+2.0**
BZK	**Bozkurt**	**6.03**	**287**		Pn	**Pn**	**00 16 59.2**	**+2.7**
ILGA	**Ilgaz**	**6.13**	**278**			**Pn**	**00 16 59.6**	**+1.5**
KIRS	**Kirsehir-Merke**	**6.17**	**260**		⇑P	**Pb**	**00 17 17.5**	**+2.7**
BR131	**Keskin Array S**	**6.26**	**266**			**Pn**	**00 17 02.0**	**+2.2**
BR131	**Keskin Array S**	**6.26**	**266**	*i*	P	**Pn**	**00 17 00.6**	**+0.8**
BRTR	**Keskin Array B**	**6.26**	**266**			**Pn**	**00 17 01.7**	**+1.9**
BRTR	**Keskin Array B**	**6.26**	**266**		Pn	**Pn**	**00 17 03.6**	**+3.8**
	comp=Z,0.2nm,0.3s,baz=94,slow=13,SNR=13							
BRTR					Lg	Lg	00 18 44.8	
	baz=125,slow=41							
BRTR	**Keskin Array B**	**6.26**	**266**	*i*	P	**Pn**	**00 17 04.4**	**+4.6**
BRTR					pmax	pmax		
	comp=Z,2.0nm,0.8s							
FEO	**Feodosiya**	**6.54**	**316**	⇓	P	**Pn**	**00 17 04.1**	**+0.6**
FEO					pmax	pmax		
	comp=Z,27nm,0.3s							
FEO	**Feodosiya**	**6.54**	**316**	⇓	P	**Pn**	**00 17 04.1**	**+0.6**
FEO					Pm		00 17 05.1	
	comp=Z,27nm,0.2s							
SUDU	**Sudak**	**6.67**	**314**	⇑	P	**Pn**	**00 17 06.2**	**+1.0**
SUDU				*e*	S	**Sn**	**00 18 18.2**	**-3.1**
SUDU					pmax	pmax		
	comp=Z,50nm,0.5s							
SUDU					smax	smax		
	comp=N,145nm,0.7s							
SUDU					smax	smax		
	comp=E,38nm,0.6s							
SUDU	**Sudak**	**6.67**	**314**	⇑	P	**Pn**	**00 17 06.2**	**+1.0**
SUDU					Pm		00 17 07.9	
	comp=Z,50nm,0.5s							
SUDU				*e*	S	**Sn**	**00 18 18.2**	**-3.1**
SUDU					Sm		00 18 29.4	
	comp=N,145nm,0.7s							
SUDU					Sm		00 18 29.4	
	comp=E,38nm,0.6s							
ALU	**Alushta**	**6.88**	**310**	*e*	P	**Pn**	**00 17 08.9**	**+0.8**
ALU				*e*	S	**Sn**	**00 18 23.3**	**-3.2**
ALU					pmax	pmax		
	comp=Z,5.0nm,0.6s							
ALU					smax	smax		
	comp=N,157nm,0.8s							
ALU					smax	smax		
	comp=E,51nm,0.6s							
ALU	**Alushta**	**6.88**	**310**	*e*	P	**Pn**	**00 17 08.9**	**+0.8**
ALU					Pm		00 17 12.0	
	comp=Z,5.0nm,0.6s							
ALU				*e*	S	**Sn**	**00 18 23.3**	**-3.2**
ALU					Sm		00 18 33.0	
	comp=N,157nm,0.8s							
ALU					Sm		00 18 33.0	
	comp=E,51nm,0.6s							
ANTO	**Ankara**	**6.88**	**268**			**Pn**	**00 17 10.8**	**+2.5**
ANTO	**Ankara**	**6.88**	**268**	⇓	P	**Pn**	**00 17 11.5**	**+3.2**
ANTO	**Ankara**	**6.88**	**268**	⇓	P	**Pn**	**00 17 11.5**	**+3.2**
YAL	**Yalta**	**6.91**	**308**	*e*	P	**Pn**	**00 17 09.4**	**+0.8**
YAL				*e*	S	**Sn**	**00 18 24.0**	**-3.4**
YAL					pmax	pmax		
	comp=Z,55nm,0.4s							
YAL					smax	smax		
	comp=N,93nm,0.6s							
YAL					smax	smax		
	comp=E,24nm,0.6s							
YAL	**Yalta**	**6.91**	**308**	*e*	P	**Pn**	**00 17 09.4**	**+0.8**
YAL					Pm		00 17 12.2	
	comp=Z,55nm,0.4s							
YAL				*e*	S	**Sn**	**00 18 24.0**	**-3.4**
YAL					Sm		00 18 32.7	
	comp=N,93nm,0.6s							
YAL					Sm		00 18 32.7	
	comp=E,24nm,0.6s							
SIM	**Simferopol'**	**7.20**	**311**	*e*	P	**Pn**	**00 17 13.8**	**+1.2**
SIM				*e*	S	**Sn**	**00 18 34.4**	**-0.1**
SIM					pmax	pmax		
	comp=Z,87nm,0.7s							
SIM					smax	smax		
	comp=N,256nm,0.9s							
SIM					smax	smax		
	comp=E,225nm,1.1s							
SIM	**Simferopol'**	**7.20**	**311**	*e*	P	**Pn**	**00 17 13.8**	**+1.2**
SIM					Pm		00 17 23.0	
	comp=Z,87nm,0.7s							
SIM				*e*	S	**Sn**	**00 18 34.4**	**-0.1**
SIM					Sm		00 18 43.0	
	comp=N,256nm,0.8s							
SIM					Sm		00 18 43.1	
	comp=E,225nm,1.1s							
SEV	**Sevastopol'**	**7.24**	**307**	*e*	P	**Pn**	**00 17 13.3**	**+0.2**
SEV				*e*	S	**Sn**	**00 18 31.7**	**-3.7**
SEV					pmax	pmax		
	comp=Z,18nm,0.4s							
SEV					smax	smax		
	comp=N,41nm,0.7s							
SEV					smax	smax		
	comp=E,3.0nm,0.3s							
SEV	**Sevastopol'**	**7.24**	**307**	*e*	P	**Pn**	**00 17 13.3**	**+0.2**
SEV					Pm		00 17 20.9	
	comp=Z,18nm,0.4s							
SEV				*e*	S	**Sn**	**00 18 31.7**	**-3.7**
SEV					Sm		00 18 33.8	
	comp=N,41nm,0.7s							
SEV					Sm		00 18 33.8	
	comp=E,3.0nm,0.2s							
DNZ2	**Donuzlav2**	**7.96**	**311**	⇑	*i* P	**Pn**	**00 17 25.2**	**+2.2**
DNZ2					Pm		00 17 29.1	
	comp=Z,111nm,0.6s							
DNZ2				*e*	S	**Sn**	**00 18 51.8**	**-1.5**
DNZ2					Sm		00 18 59.5	
	comp=E,180nm,0.9s							
DNZ2					Sm		00 18 59.6	
	comp=N,43nm,0.6s							
MDUB	**Mudurnu**	**8.04**	**274**			**Pn**	**00 17 25.9**	**+1.6**
TARU	**Tarkhankut**	**8.37**	**309**	*e*	P	**Pn**	**00 17 30.1**	**+1.6**
TARU					Pm		00 17 31.5	
	comp=Z,182nm,0.9s							
TARU				*e*	S	**Sn**	**00 19 04.1**	**+1.0**
TARU					Sm		00 19 12.8	
	comp=N,114nm,1.0s							
TARU					Sm		00 19 12.9	
	comp=E,109nm,1.0s							
MMAI	**Mount Meron Ar**	**8.99**	**216**		Pn	**Pn**	**00 17 37.9**	**+0.6**
	comp=E,0.6nm,0.3s,baz=336,slow=14,SNR=3.6							
MMAI					Lg	Lg	00 20 11.1	
	comp=E,0.1nm,0.3s,baz=43,slow=22,SNR=1.1							
MMAI					LR	LR	00 21 06.5	
	comp=E,262nm,18.1s,baz=22,slow=38							
ISP	**Isparta**	**9.11**	**257**			**Pn**	**00 17 38.7**	**-0.2**
ISP	**Isparta**	**9.11**	**257**	*ce*	P	**Pn**	**00 17 41.5**	**+2.7**
ISP					pmax	pmax		
	comp=Z,15nm,2.5s							
ASF	**Jabal al Asfar**	**9.13**	**207**		Pn	**Pn**	**00 17 40.0**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=76,slow=6.0,SNR=4.7							
ASF					Lg	Lg	00 20 16.6	
	baz=239,slow=23							
ASF					LR	LR	00 21 09.2	
	comp=Z,164nm,20.6s,baz=54,slow=38							
	comp=Z,0.8nm,0.3s							
ELL	**Elmali**	**9.97**	**252**			**Pn**	**00 17 52.5**	**+1.8**
ELL	**Elmali**	**9.97**	**252**		P	**Pn**	**00 17 52.5**	**+1.8**
MANT	**Manisa**	**10.38**	**263**		Pn	**Pn**	**00 17 57.7**	**+1.2**
GHAJ	**Ghor Haditha**	**10.40**	**211**		Pn	**Pn**	**00 17 57.3**	**+0.8**
PURM	**Purcari**	**10.55**	**309**	⇓	P	**Pn**	**00 17 57.7**	**-0.7**
TLCR		**10.61**	**301**	⇓	P	**Pn**	**00 17 57.9**	**-1.4**
TLCR		**10.61**	**301**	⇓	P	**Pn**	**00 17 57.9**	**-1.4**
VORD	**Divnogorie**	**10.66**	**352**	*e*	P	**Pn**	**00 17 58.1**	**-1.9**
VORD					pmax	pmax		
	comp=Z,10.0nm,0.9s							
TPGR	**Topolog**	**10.76**	**299**	⇑	P	**Pn**	**00 18 00.4**	**-0.9**
VRH	**Novokhopyorsk**	**10.76**	**360**	*e*	P	**Pn**	**00 18 04.2**	**+2.9**
VRH					pmax	pmax		
	comp=Z,6.0nm,0.9s							
TLBR	**Topalu**	**10.91**	**297**	⇑	P	**Pn**	**00 18 02.2**	**-1.2**
VSR	**Storozhevoye**	**10.92**	**351**	*

OZUR 12.92 301 ⇓P Pn 00 18 30.2 -0.8
DOPR Dopca 13.14 300 ⇓P Pn 00 18 33.2 -0.7
PRAR RASCA 13.14 307 ⇓P Pn 00 18 33.0 -0.9
VOIR 13.21 298 ⇓P Pn 00 18 34.6 -0.3
VOIR 13.21 298 ⇓P Pn 00 18 34.6 -0.3
JOSR Joseni 13.32 303 ⇓P Pn 00 18 37.4 +1.0
AKASG Malin Array Be 13.47 324 Pn 00 18 37.0 -1.4
AKASG Malin Array Be 13.47 324 Pn 00 18 37.3 -1.1
comp=Z,9.2nm,0.4s,baz=133,slow=14,SNR=68
AKASG Sn **Sn** 00 21 01.2 -7.0
comp=Z,0.7nm,0.3s,baz=136,slow=24,SNR=11
AKASG LR LR 00 24 57.7
comp=Z,283nm,18.7s,baz=130,slow=42
AKASG Malin Array Be 13.47 324 *i* P Pn 00 18 36.7 -1.7
AKASG pmax pmax
comp=Z,10.0nm,0.4s
AKBB Malin Array Si 13.47 324 Pn 00 18 36.7 -1.7
AKBB Malin Array Si 13.47 324 *i* P Pn 00 18 37.3 -1.1
KIEV Kiev 13.48 324 Pn 00 18 36.7 -1.7
KIEV Kiev 13.48 324 ⇓P Pn 00 18 36.8 -1.7
KIEV Kiev 13.48 324 ⇓P Pn 00 18 36.8 -1.7
KIEV Kiev 13.48 324 *i* P Pn 00 18 36.6 -1.8
SNR=31
BURAR Bucovina Array 13.87 307 Pn 00 18 42.8 -1.2
BURAR Bucovina Array 13.87 307 ⇓P Pn 00 18 42.6 -1.3
BURAR Bucovina Array 13.87 307 ⇓P Pn 00 18 42.6 -1.3
BUR08 Bucovina Ar. S 13.89 307 Pn 00 18 42.9 -1.4
LOT Lotru 14.08 297 ⇓P Pn 00 18 47.7 +0.9
CJR Cluj-Napoca 14.55 301 ⇑P Pn 00 18 52.4 -0.9
CJR Cluj-Napoca 14.55 301 ⇑P Pn 00 18 52.4 -0.9
GZR Gura Zlata 14.74 296 ⇑P Pn 00 18 55.5 -0.4
GZR Gura Zlata 14.74 296 ⇑P Pn 00 18 55.5 -0.4
MARR Marisel-Cluj 14.86 301 ⇑P Pn 00 18 56.9 -0.5
HERR Herculane 14.89 294 ⇓P Pn 00 18 58.4 +0.6
OBN Obninsk 15.08 349 Pn Pn 00 18 57.9 -2.3
comp=Z,2.6nm,0.3s,baz=283,slow=12,SNR=3.1
comp=Z,9.5nm,0.5s
OBN Obninsk 15.08 349 *i* P Pn 00 18 59.7 -0.5
OBN pmax pmax
comp=Z,19nm,1.2s
OBN MLR MLR
comp=Z,195nm,17.0s
AKTO Aktyubinsk 15.14 43 Pn Pn 00 18 58.6 -2.5
comp=Z,0.3nm,0.3s,baz=235,slow=12,SNR=17
AKTO LR LR 00 26 42.5
comp=Z,149nm,18.1s,baz=248,slow=45
comp=Z,6.1nm,0.7s
DRGR 15.16 301 ⇑P Pn 00 19 00.5 -0.9
DRGR 15.16 301 ⇑P Pn 00 19 00.5 -0.9
BOVS Bovan 15.22 289 ⇓P P 00 19 06.2 -1.1
SURR Surduc 15.27 297 ⇓P Pn 00 19 02.0 -0.8
MDVR Moldovita 15.36 293 ⇑P Pn 00 19 04.2 0.0
FNA Florina 15.47 278 Pn 00 19 05.2 -0.4
FNA Florina 15.47 278 P Pn 00 19 05.2 -0.4
MOS Moscow 15.54 351 *e*P Pn 00 19 04.6 -1.8
MOS *e*S Sn 00 21 56.4 -2.2
MOS pmax pmax
comp=Z,26nm,0.9s
BZS Buzias 15.59 296 ⇓P Pn 00 19 08.7 +1.7
BZS Buzias 15.59 296 ⇓P Pn 00 19 08.7 +1.7
AB31 Akbulak array 15.59 50 Pn 00 19 05.5 -1.6
SIRR Siria 15.71 298 ⇑P Pn 00 19 09.7 +1.1
ITM Ithomi 15.79 264 Pn Pn 00 19 09.8 +0.1
KOLS Kolonicke sedl 16.21 308 *e*P Pn 00 19 09.6 -5.4
KOLS Kolonicke sedl 16.21 308 *e*PN Pn 00 19 09.6 -5.4
KOLS Kolonicke sedl 16.21 308 *e*P P 00 19 18.9 +0.7
KWP Kalwaria Pacla 16.25 311 *e*P P 00 19 21.3 +2.6
MNK Minsk 16.85 331 *i* P Pn 00 19 20.5 -2.6
comp=E,7.0nm,0.6s
MNK *i* P Pn 00 19 20.5 -2.6
comp=N,8.0nm,0.7s
MNK *i* P Pn 00 19 20.5 -2.6
comp=Z,16nm,0.7s,baz=140
MNK *i* PP sP 00 19 30.0 +0.5
MNK *i* PPP PPP 00 19 37.7
MNK *i* S Sn 00 22 28.4 -2.0
MNK *i* SS SnSn 00 22 42.9 -0.6
MNK *i* SSS SSS 00 22 55.7
MNK *i* LQ LQ 00 24 52.0
MNK *i* LR LR 00 25 22.1
MNK *i* LRM MLR 00 26 14.9
comp=E,137nm,14.2s
MNK *i* LRM MLR 00 26 34.8
comp=Z,133nm,15.6s
MNK *i* LRM MLR 00 26 38.6
comp=N,165nm,15.0s
MNK Minsk 16.85 331 *i* P Pn 00 19 20.5 -2.6
MNK *i* S Sn 00 22 28.3 -2.0
MNK pmax pmax
comp=N,8.0nm,0.7s
MNK pmax pmax
comp=E,7.0nm,0.6s
MNK pmax pmax
comp=Z,16nm,0.7s
MNK MLR MLR
comp=E,137nm,14.0s
MNK MLR MLR
comp=Z,133nm,16.0s
MNK MLR MLR
comp=N,165nm,15.0s
STHS Stebnicka Huta 17.02 309 *e*P P 00 19 27.7 +0.5
STHS Stebnicka Huta 17.02 309 *e*P P 00 19 27.7 +0.5
RAYN Ar Rayn 17.17 168 Pn 00 19 24.7 -2.7
RAYN Ar Rayn 17.17 168 ⇑P Pn 00 19 26.7 -0.7
RAYN Ar Rayn 17.17 168 P Pn 00 19 26.4 -0.9
PSZ Piszkesteto 17.32 303 Pn 00 19 29.0 -0.2
PSZ Piszkesteto 17.32 303 P Pn 00 19 29.0 -0.2
PSZ pmax pmax
comp=Z,9.0nm,0.9s
PSZ Piszkesteto 17.32 303 *e*P P 00 19 30.9 +0.2
NACGM Naroch 17.57 330 *e*P Pn 00 19 30.1 -2.1
comp=Z,37nm,0.9s,baz=139
NIE Niedzica 17.59 308 *e*P P 00 19 36.2 +2.8
NIE *e*S S 00 23 02.2 +6.0
MORH Mrgy, Hungar 17.74 297 ⇓P Pn 00 19 33.5 -0.8
IDID Didziasalis 17.90 331 *e*P Pn 00 19 31.6 -4.6
LANS Liptovska Anna 18.00 306 *e*P P 00 19 43.8 +5.8
LANS Liptovska Anna 18.00 306 *e*P P 00 19 43.8 +5.8
VYHS Vyhne 18.17 304 *e*P P 00 19 42.6 +2.6
VYHS Vyhne 18.17 304 *e*P P 00 19 42.6 +2.6
OJC Ojcow 18.20 310 *e*P P 00 19 41.4 +1.2
OJC Ojcow 18.20 310 Pn 00 19 39.3 -0.7
OJC Ojcow 18.20 310 P Pn 00 19 39.3 -0.7
SRO Srobarova 18.32 301 *e*P P 00 19 46.3 +4.8
SRO Srobarova 18.32 301 *e*P P 00 19 46.3 +4.8
ISAL Salakas 18.32 331 *e*P P 00 19 41.6 +0.1
BEL Belsk 18.38 315 *e*P P 00 19 45.0 +2.8
SUW Suwalki 18.45 324 *e*P Pn 00 19 43.3 +0.4
SUW Suwalki 18.45 324 *e*P P 00 19 41.6 -1.2
KIRV Kirov 18.80 13 P P 00 19 46.8 +0.1
comp=Z,1.2nm,0.3s,baz=197,slow=11,SNR=13
KIRV LR LR 00 27 36.8
comp=Z,111nm,21.8s,baz=201,slow=39
comp=Z,27nm,0.8s
KIRV Kirov 18.80 13 *i* P Pn 00 19 47.2 0.0
JAVC Velka Javorina 19.02 304 *e*P Pn 00 19 52.7 +2.7
PABE Paberze 19.11 328 P 00 19 50.3 +0.2
PABE IAmb IAmb 00 19 53.3
comp=Z,34nm,1.0s
PABE Paberze 19.11 328 *e*P Pn 00 19 50.7 -0.3
MODS Modra-Piesok 19.14 303 *e*P Pn 00 19 53.0 +1.7
MODS Modra-Piesok 19.14 303 *e*P Pn 00 19 53.0 +1.7
TIP Timpagrande 19.22 274 P P 00 19 51.3 -0.3
MSFE Esma-Masafi 19.27 137 P P 00 19 52.2 +0.1
ARTI Arti 19.32 29 P Pn 00 19 51.3 -1.1
ARTI Arti 19.32 29 P Pn 00 19 53.8 +0.4
comp=Z,0.4nm,0.3s,baz=231,slow=9.1,SNR=6.1
ARTI LR LR 00 29 21.2
comp=Z,77nm,19.2s,baz=236,slow=43
comp=Z,3.2nm,0.5s
ARTI Arti 19.32 29*c* *i*P P 00 19 52.2 -0.2
ARTI S S 00 23 32.5 +1.5
ARTI pmax pmax
comp=Z,8.0nm,1.4s
NAZ Nazwa, Dubai 19.32 139 *i* P Pn 00 19 53.3 -0.4
SNR=14
AJN Ajban 19.34 141 P Pn 00 19 54.1 +0.1
MORC Moravsky Berou 19.39 307 P P 00 19 53.5 +0.2
MORC Moravsky Berou 19.39 307 *e*P Pn 00 19 56.9 +2.5
MORC Moravsky Berou 19.39 307 ⇑P P 00 19 50.5 -2.8
MORC Moravsky Berou 19.39 307 P P 00 19 53.5 +0.2
MORC pmax pmax
comp=Z,4.0nm,1.0s

KOGS Kog 19.41 296 *i* P Pn 00 19 55.4 +0.7
ASUD Al Ashush, Dub 19.45 140 P Pn 00 19 55.4 +0.1
VSVD Vaisvydziai 19.47 329 *e*P P 00 19 53.2 -0.8
ACER Acerenza 19.57 279 P P 00 19 55.8 +0.4
ACER IAmb IAmb 00 19 58.5
comp=Z,22nm,1.0s
RONA Rosalia, Austr 19.61 300 *e*pP pP 00 19 58.5 -0.2
comp=Z,2.5nm,0.7s
SGRT San Giovanni R 19.62 282 P Pn 00 19 57.4 +0.2
SGRT IAmb IAmb 00 20 06.6
comp=Z,23nm,1.1s
UOSS Minazif 19.63 138 P 00 19 54.7 -1.3
UOSS IAmb IAmb 00 19 57.3
comp=Z,18nm,0.8s
UOSS Minazif 19.63 138 P P 00 19 56.4 +0.3
HATD Hatta, Dubai 19.69 138 *i* P P 00 19 57.2 +0.4
SNR=9.4
ASHO Ashiyiah 19.77 138 *i* P P 00 19 57.8 +0.2
SNR=10
CUC Castrocucco 19.79 277 P Pn 00 19 58.8 -0.4
CUC IAmb IAmb 00 20 03.5
comp=Z,23nm,1.0s
VRAC Vranov 19.83 305 *e*P Pn 00 20 01.5 +1.9
VRAC Vranov 19.83 305 P Pn 00 20 00.3 +0.7
comp=Z,0.1nm,0.3s,baz=108,slow=12,SNR=5.9
VRAC LR LR 00 29 46.7
comp=Z,100nm,18.6s,baz=104,slow=43
comp=Z,2.6nm,0.8s
KRUC Moravsky 19.89 304 *e*P Pn 00 20 00.3 0.0
CONA Conrad Observa 19.95 301 *i* Pn Pn 00 20 01.4 +0.3
comp=Z,18nm,1.1s,SNR=14
KRLC Kraliky 19.95 307 *e*P Pn 00 20 01.6 +0.5
KRLC *e*S Sn 00 23 46.3 +0.8
KRLC AMS AMS 00 30 50.0
comp=Z,100nm,11.2s
KRLC Kraliky 19.95 307 *e*P Pn 00 20 01.6 +0.5
KRLC *e*S Sn 00 23 46.3 +0.8
KRLC MLR MLR
comp=Z,100nm,11.2s
MZR Muzera 20.02 147 *i* P P 00 20 00.7 +0.4
SNR=7.0
ARSA Arzberg 20.04 299 P 00 20 00.9 +0.5
ARSA Arzberg 20.04 299 *e*P Pn 00 20 04.4 +2.3
comp=Z,0.2nm,0.4s
CEL Celeste 20.09 272 P 00 20 01.9 +0.9
ALNE Al Ain 20.14 140 *i* P P 00 20 01.8 +0.2
SNR=9.4
PERS Pernice 20.22 297 *i* P Pn 00 20 04.0 -0.3
SOKA Soboth 20.28 297 *e*pP pP 00 20 05.7 -0.3
comp=Z,0.3nm,0.3s
PBUR Paburge 20.31 327 *e*P Pn 00 20 07.6 +2.4
DPC Dobruska-Polom 20.32 308 *e*P Pn 00 20 05.3 -0.2
DPC *e*S Sn 00 23 58.9 +4.5
DPC AMS AMS 00 32 00.0
comp=Z,100nm,10.9s
DPC Dobruska-Polom 20.32 308 *e*P Pn 00 20 05.3 -0.2
DPC MLR MLR
comp=Z,100nm,10.9s
VSU Vasula 20.42 337 *ce*P P 00 20 04.7 +0.4
VSU pmax pmax
comp=Z,27nm,0.7s
VSU Vasula 20.42 337 *e*P P 00 20 03.5 -0.9
OSTC Ostas 20.46 308 *e*P Pn 00 20 06.8 -0.2
OSTC Ostas 20.46 308 *e*P Pn 00 20 06.8 -0.2
SOHO SOHO 20.46 138 *i* P P 00 20 05.4 +0.2
SNR=10
KLMR Klimovskoe 20.48 357 *e*P P 00 20 03.3 -1.7
KLMR pmax pmax
comp=Z,80nm,1.4s
SVE Sverdlovsk 20.49 31 *e*P P 00 20 05.5 +0.3
SVE pmax pmax
comp=Z,21nm,0.9s
SVE MLR MLR
comp=Z,143nm,12.0s
KSP Ksiaz 20.51 309 *e*P Pn 00 20 07.2 -0.4
TREC Trest 20.52 304 *e*P Pn 00 20 08.1 +0.3
TREC *e*S Sn 00 24 00.0 +0.8
TREC AMS AMS 00 29 50.0
comp=Z,100nm,14.4s
TREC Trest 20.52 304 *e*P Pn 00 20 08.1 +0.3
TREC MLR MLR
comp=Z,100nm,14.4s
UPC Upice 20.56 308 *e*P Pn 00 20 11.4 +3.1
UPC *e*S Sn 00 24 05.4 +5.3
UPC AMS AMS 00 30 30.0
comp=Z,100nm,10.4s
UPC Upice 20.56 308 *e*P Pn 00 20 11.4 +3.1
UPC MLR MLR
comp=Z,100nm,10.4s
CHVC Chvalec 20.56 308 *e*P Pn 00 20 07.9 -0.4
CHVC Chvalec 20.56 308 *e*P Pn 00 20 07.9 -0.4
PAOL Paolisi 20.58 281 P P 00 20 07.3 +0.9
PAOL IAmb IAmb 00 20 12.7
comp=Z,30nm,1.2s
OBKA Obir 20.59 296 *e*Pn Pn 00 20 08.7 +0.1
comp=Z,9.2nm,0.8s
GKP Gorka Klasztor 20.98 316 *e*P Pn 00 20 13.6 +0.5
GKP Gorka Klasztor 20.98 316 *e*P P 00 20 11.1 +0.6
MOA Molln 20.98 300 *e*Pn Pn 00 20 12.6 -0.7
comp=Z,1.9nm,0.6s
TRI Trieste 21.05 294 P 00 20 13.4 +2.1
TRI IAmb IAmb 00 20 15.7
comp=Z,30nm,1.1s
TRI Trieste 21.05 294 P P 00 20 13.4 +2.1
TRI pmax pmax
comp=Z,30nm,1.1s
BRLS Boroldav 21.08 74 *i* P P 00 20 10.4 -1.4
BRLS pmax pmax
comp=Z,10.0nm,1.3s
CADS Cadrg 21.11 295 *i* P P 00 20 13.3 +1.3
GOPC GO Pecny, Ondr 21.13 306 *e*P P 00 20 17.2 +5.0
GOPC *e*S Sn 00 24 12.3 -1.5
GOPC AMS AMS 00 31 00.0
comp=Z,100nm,14.0s
GOPC GO Pecny, Ondr 21.13 306 *e*P P 00 20 17.2 +5.0
GOPC *e*S Sn 00 24 12.3 -1.5
GOPC MLR MLR
comp=Z,100nm,14.0s
CKRC Cesky Krumlov 21.16 302 *e*P P 00 20 14.2 +1.7
CKRC *e*S Sn 00 24 19.6 +5.2
CKRC AMS AMS 00 32 00.0
comp=Z,100nm,17.2s
CKRC Cesky Krumlov 21.16 302 *e*P P 00 20 14.2 +1.7
CKRC *e*S Sn 00 24 19.6 +5.2
CKRC MLR MLR
comp=Z,100nm,17.2s
SABO M.te Sabotino 21.18 294 P P 00 20 12.6 -0.2
MYKA Terra Mystica 21.22 296 *e*Pn P 00 20 15.1 +1.8
comp=Z,6.9nm,0.9s
IUG Iuzhnay 21.29 76 *i* P P 00 20 13.8 -0.2
CAMP Campotosto 21.29 285 P P 00 20 14.5 +0.4
CAMP IAmb IAmb 00 20 19.7
comp=Z,24nm,1.1s
PRU Pruhonice 21.30 306 *e*P P 00 20 15.2 +1.2
PRU *e*S Sn 00 24 21.3 +3.4
PRU AMS AMS 00 30 50.0
comp=Z,100nm,14.2s
PRU Pruhonice 21.30 306 *e*P P 00 20 15.2 +1.2
PRU *e*S Sn 00 24 21.3 +3.4
PRU MLR MLR
comp=Z,100nm,14.2s
GUMA Gualdo di Mace 21.31 286 P P 00 20 15.1 +0.8
GUMA IAmb IAmb 00 20 20.5
comp=Z,15nm,0.8s
BIOA Bad Ischl, Aus 21.38 299 *e*P P 00 20 16.1 +1.2
comp=Z,3.9nm,0.5s,SNR=10
ZVC Zvikov 21.38 304 *e*P P 00 20 16.9 +2.1
ZVC *e*S Sn 00 24 23.3 +3.6
ZVC AMS AMS 00 30 20.0
comp=Z,100nm,11.7s
PRA Prague 21.39 306 *e*P P 00 20 16.5 +1.5
PRA AMS AMS 00 31 10.0
comp=Z,100nm,13.5s
PRA Prague 21.39 306 *e*P P 00 20 16.5 +1.5
PRA MLR MLR
comp=Z,100nm,13.5s
VAE Valguarnera 21.43 271 P P 00 20 18.0 +2.5
comp=Z,11nm,0.8s,baz=138,slow=7.1,SNR=5.6
comp=Z,11nm,0.8s
ARBE Arbavere 21.44 338 *e*P P 00 20 15.5 +0.1
PVCC Panska Ves 21.44 307 *e*P P 00 20 17.1 +1.6
PVCC Panska Ves 21.44 307 *e*P P 00 20 17.1 +1.6
PVCC MLR MLR
comp=Z,5μm,23.0s
KBA Koelnbreinsper 21.48 297 *i* pP pP 00 20 18.3 -0.8

comp=Z,15nm,0.9s
NRCA Norcia 21.49 286 P P 00 20 16.8 +0.7
GEC2 GERESS Array S 21.55 302 P P 00 20 17.1 +0.3
GEC2 IAmb IAmb 00 20 22.0
comp=Z,13nm,0.9s
GERES GERESS Array B 21.55 302 P P 00 20 17.5 +0.7
GERES GERESS Array B 21.55 302 P P 00 20 17.7 +0.9
comp=Z,6.9nm,0.8s,baz=106,slow=8.7,SNR=44
GERES LR LR 00 30 19.5
comp=Z,56nm,20.4s,baz=114,slow=41
comp=Z,6.9nm,0.8s
KK31 Karatay Array 21.57 73 P P 00 20 17.9 +0.9
KK31 IAmb IAmb 00 20 24.0
comp=Z,36nm,1.1s
KK31 Karatay Array 21.57 73 P P 00 20 17.9 +0.9
KK31 pmax pmax
comp=Z,36nm,1.2s
KKAR Karatay Array 21.57 73 P P 00 20 17.1 +0.1
KKAR Karatay Array 21.57 73 P P 00 20 17.2 +0.1
KHC Kasperske Hory 21.69 303 *e*P P 00 20 20.0 +1.7
KHC Kasperske Hory 21.69 303 *e*P P 00 20 20.0 +1.7
STAL STALIGIAL 21.83 295 P P 00 20 19.8 0.0
STAL IAmb IAmb 00 20 29.1
comp=Z,12nm,1.0s
CESX Cesi 21.90 285 P P 00 20 21.3 +0.8
CESX IAmb IAmb 00 20 40.3
comp=Z,13nm,1.1s
BRG Berggiesshubel 21.93 308 *e*P P 00 20 22.5 +1.8
BRG Amp 00 20 24.7
comp=Z,2.0nm,0.9s
BRG Berggiesshubel 21.93 308 P P 00 20 27.2 +6.5
BRG Amp 00 20 28.7
comp=Z,8.9nm,1.2s
BRG Berggiesshubel 21.93 308 S Sn 00 24 30.0 -2.8
LESA Schwarzleotal 21.98 298 *i* P P 00 20 22.5 +1.1
comp=Z,31nm,0.9s,SNR=22
GAR Garm 21.99 84 P P 00 20 22.2 +0.6
ABTA Abfaltersbach 22.01 296 *e*P P 00 20 23.3 +1.5
comp=Z,22nm,0.9s,SNR=8.8
BTK Batken 22.15 81 P P 00 20 23.0 -0.4
BTK IAmb IAmb 00 20 33.4
comp=Z,17nm,1.1s
BTK Batken 22.15 81 P P 00 20 23.0 -0.4
BTK pmax pmax
comp=Z,17nm,1.1s
KBL Kabul 22.40 97 P P 00 20 26.5 +0.3
KBL Kabul 22.40 97 P P 00 20 26.5 +0.3
KBL pmax pmax
comp=Z,7.0nm,1.1s
TEOL Teolo 22.50 293 P P 00 20 26.7 -0.3
CTI Castel Tesino 22.55 294 P 00 20 27.9 +0.4
CTI IAmb IAmb 00 20 33.5
comp=Z,18nm,1.0s
CTI Castel Tesino 22.55 294 P P 00 20 27.9 +0.4
CTI pmax pmax
comp=Z,18nm,1.0s
MEF Metsahovi 22.55 337 *e*P P 00 20 27.6 +0.3
RUE Ruedersdorf 22.56 312 *e*P P 00 20 27.4 0.0
CLL Collm 22.62 308 P P 00 20 30.0 +1.8
CLL IAmb IAmb 00 20 39.2
comp=Z,18nm,1.0s
CLL Collm 22.62 308 *i* P P 00 20 30.0 +1.8
CLL *i* 00 20 31.8
CLL *e*S S 00 24 34.0 -2.0
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 22.62 308 *i* P P 00 20 30.0 +1.8
comp=Z,8.0nm,0.9s
CLL *i* (pP) sP 00 20 31.8 -0.6
comp=Z,67nm,1.9s
CLL *i* x x 00 20 35.6
CLL *i* x x 00 20 38.1
CLL *e*S S 00 24 34.0 -2.0
CLL AMS AMS 00 30 00.0
comp=N,100nm,19.5s
CLL AMS AMS 00 30 00.0
comp=E,100nm,22.0s
WTTA Wattenberg 22.66 298 *e*P P 00 20 30.2 +1.4
comp=E,36nm,0.9s,SNR=21
WATA Walderalm 22.71 298 *i* P P 00 20 30.6 +1.3
comp=E,34nm,1.0s,SNR=17
OSSC Osservatorio P 22.82 288 P P 00 20 30.1 -0.2
OSSC IAmb IAmb 00 20 36.6
comp=Z,11nm,1.0s
SQTA Sankt Quirin 22.95 297 *e*P P 00 20 31.7 -0.1
comp=Z,39nm,1.3s,SNR=22
MOTA Moosalm 23.03 298 *e*P P 00 20 33.1 +0.4
comp=Z,23nm,1.0s,SNR=25
BSD Bornholm Skovb 23.05 319 *i* P P 00 20 42.6 +10
BSD IAmb IAmb 00 20 43.5
comp=Z,20nm,0.9s
BRVK Borovoye 23.09 47 P P 00 20 32.7 -0.4
BRVK Borovoye 23.09 47 *i* P P 00 20 33.1 0.0
BRVK pmax pmax
comp=Z,5.0nm,0.9s
FIA1 FINESS Array S 23.11 341 P P 00 20 32.7 -0.4
FINES FINESS Array B 23.11 341 P P 00 20 33.1 0.0
FINES FINESS Array B 23.11 341 P P 00 20 33.2 +0.1
comp=Z,6.8nm,0.7s,baz=147,slow=10,SNR=29
FINES LR LR 00 30 28.4
comp=Z,226nm,18.5s,baz=144,slow=39
comp=Z,6.8nm,0.7s
FINES FINESS Array B 23.11 341 *ce*P P 00 20 33.7 +0.6
FINES pmax pmax
comp=Z,11nm,0.7s
BVAR Borovoye Array 23.14 47 P P 00 20 32.8 -0.8
comp=Z,2.4nm,0.7s,baz=242,slow=12,SNR=8.0
BVAR LR LR 00 31 07.6
comp=Z,58nm,20.2s,baz=255,slow=41
comp=Z,2.4nm,0.7s
BLEU Blekinge 23.21 322 *i* P P 00 20 35.0 +0.8
FETA Feichten 23.25 297 *i* P P 00 20 35.1 +0.2
comp=Z,21nm,0.8s,SNR=13
RETA Reutte 23.28 298 *i* P P 00 20 35.5 +0.4
comp=Z,41nm,1.6s,SNR=12
MOX Moxa 23.29 306 P P 00 20 37.0 +1.9
MOX pmax pmax
comp=Z,4.0nm,1.3s
GRA1 Grafenberg Arr 23.32 304 P P 00 20 35.3 -0.1
GRA1 IAmb IAmb 00 20 49.8
comp=Z,20nm,1.1s
GRF Grafenberg Arr 23.32 304 P P 00 20 35.3 -0.1
GRF pmax pmax
comp=Z,20nm,1.1s
GRFO Grafenberg 23.32 304 P P 00 20 35.6 +0.2
GRFO IAmb IAmb 00 20 49.7
comp=Z,19nm,1.1s
GRFO Grafenberg 23.32 304 P P 00 20 35.6 +0.2
GRFO pmax pmax
comp=Z,19nm,1.1s
FUORN Ofenpass-Fuorn 23.54 296 P P 00 20 38.3 +0.4
FUORN IAmb IAmb 00 20 41.0
comp=Z,14nm,0.9s
ARSB Arslanbob 23.57 78 P P 00 20 38.8 +0.6
ARSB Arslanbob 23.57 78 P P 00 20 38.8 +0.6
ARSB pmax pmax
comp=Z,33nm,1.2s
BRZS Berezniki 23.64 56 *i* P P 00 20 40.9 +2.3
BRZS pmax pmax
comp=Z,7.0nm,2.7s
DAVOX Davos/Dischmat 23.82 296 P P 00 20 40.9 +0.4
comp=Z,12nm,0.6s,baz=110,slow=6.2,SNR=28
comp=Z,12nm,0.6s
DAVA Damuels 23.85 297 *e*P P 00 20 41.7 +0.8
comp=Z,35nm,0.7s,SNR=14
RAF Rauma 23.98 336 *e*P P 00 20 41.5 -0.3
KEF Keuruu 24.02 340 *e*P P 00 20 41.8 -0.3
LUNU Lund 24.03 319 *i* P P 00 20 50.1 +7.8
BTLS Baital 24.07 68 *i* P P 00 20 42.6 -0.1
BTLS pmax pmax
comp=Z,36nm,4.5s
TUE Stuetta 24.16 295 P P 00 20 43.9 0.0
TUE IAmb IAmb 00 20 49.9
comp=Z,18nm,0.9s
DEL Delary 24.23 321 *i* P P 00 20 43.4 -0.7
BJUU Bjuv 24.45 319 *i* P P 00 20 46.7 +0.6
STU Stuttgart 24.47 301 P P 00 20 45.8 -0.6
STU IAmb IAmb 00 20 54.4
comp=Z,19nm,1.0s
STU Stuttgart 24.47 301 P P 00 20 45.8 -0.6
STU pmax pmax
comp=Z,19nm,1.0s
AAK Ala-Archa 24.53 74 P P 00 20 47.7 +0.5
AAK Ala-Archa 24.53 74 *ce*P P 00 20 48.2 +1.0
AAK pmax pmax

	comp=Z,12nm,1.7s								
FRU1	**Bishkek**	**24.61**	**74**	P	**P**	**00 20 48.4**	**+0.6**		
FRU1	**Bishkek**	**24.61**	**74**	P	**P**	**00 20 48.4**	**+0.6**		
FRU1				pmax	pmax				
	comp=Z,21nm,0.8s								
VSL	**Villasalto**	**24.75**	**278**	P	**P**	**00 20 50.5**	**+1.4**		
VSL				IAmb	IAmb	00 20 54.4			
	comp=Z,14nm,1.1s								
BFO	**Black Forest**	**24.99**	**300**			**00 20 52.2**	**+1.1**		
BFO	**Black Forest**	**24.99**	**300**	P	**P**	**00 20 52.2**	**+1.1**		
BFO				pmax	pmax				
	comp=Z,7.0nm,1.1s								
FABU	**Falkenberg**	**25.04**	**321**	*i* P	**P**	**00 20 51.2**	**-0.2**		
BORU	**Boraas**	**25.33**	**322**	*i* P	**P**	**00 20 53.3**	**-0.7**		
SENIN	**Lac Senin/Sane**	**25.58**	**295**	P	**P**	**00 20 57.0**	**+0.3**		
SENIN				IAmb	IAmb	00 21 03.0			
	comp=Z,9.4nm,0.8s								
BOOM	**Boomskoye usch**	**25.61**	**74**	P	**P**	**00 20 58.1**	**+1.1**		
BOOM				IAmb	IAmb	00 21 05.7			
	comp=Z,19nm,1.2s								
BOOM	**Boomskoye usch**	**25.61**	**74**	P	**P**	**00 20 58.1**	**+1.1**		
BOOM				pmax	pmax				
	comp=Z,19nm,1.2s								
ECH	**Echery**	**25.76**	**299**	P	**P**	**00 20 57.6**	**-0.4**		
ECH				IAmb	IAmb	00 21 03.4			
	comp=Z,11nm,1.1s								
ECH	**Echery**	**25.76**	**299**	P	**P**	**00 20 57.7**	**-0.4**		
ECH				pmax	pmax				
	comp=Z,11nm,1.1s								
NRN	**Naryn**	**25.80**	**77**	P	**P**	**00 20 59.1**	**+0.2**		
NRN				IAmb	IAmb	00 21 04.5			
	comp=Z,9.1nm,1.0s								
NRN	**Naryn**	**25.80**	**77**	P	**P**	**00 20 59.1**	**+0.2**		
NRN				pmax	pmax				
	comp=Z,9.0nm,1.0s								
KEST	**Kesra**	**25.84**	**270**	P	**P**	**00 21 00.9**	**+1.9**		
KEST	**Kesra**	**25.84**	**270**	P	**P**	**00 21 00.2**	**+1.1**		
	comp=Z,32nm,0.8s,baz=331,slow=0.9,SNR=31								
KEST				LR	LR	00 32 08.1			
	comp=Z,127nm,20.7s,baz=31,slow=39								
	comp=Z,32nm,0.8s								
BNI	**Bardonecchia**	**26.03**	**292**	P	**P**	**00 21 00.7**	**0.0**		
BNI	**Bardonecchia**	**26.03**	**292**	P	**P**	**00 21 00.7**	**0.0**		
BNI				pmax	pmax				
	comp=Z,20nm,1.0s								
KSH	**Kashi**	**26.15**	**81**	P	**P**	**00 21 03.6**	**+1.7**		
KSH				pmax	pmax				
	comp=Z,7.0nm,0.9s								
HFS	**Hagfors**	**26.29**	**328**	P	**P**	**00 21 03.1**	**+0.4**		
	comp=Z,16nm,0.8s,baz=127,slow=9.8,SNR=32								
HFS				LR	LR	00 32 27.2			
	comp=Z,157nm,19.9s,baz=117,slow=39								
	comp=Z,16nm,0.8s								
WLF	**Walferdange**	**26.56**	**302**	P	**P**	**00 21 05.5**	**+0.2**		
WLF				IAmb	IAmb	00 21 07.2			
	comp=Z,7.9nm,0.8s								
WLF	**Walferdange**	**26.56**	**302**	P	**P**	**00 21 05.5**	**+0.2**		
WLF				pmax	pmax				
	comp=Z,8.0nm,0.8s								
ARXS	**Arharly**	**26.80**	**70**	*i* P	**P**	**00 21 07.6**	**0.0**		
PRZ	**Przheval'sk**	**27.41**	**74**	P	**P**	**00 21 14.2**	**+0.9**		
PRZ				IAmb	IAmb	00 21 18.4			
	comp=Z,16nm,1.1s								
PRZ	**Przheval'sk**	**27.41**	**74**	P	**P**	**00 21 14.2**	**+0.9**		
PRZ				pmax	pmax				
	comp=Z,16nm,1.1s								
KURBB	**Kurchatov Arra**	**27.44**	**56**	P	**P**	**00 21 13.6**	**+0.4**		
	comp=Z,3.1nm,0.7s,baz=266,slow=9.1,SNR=15								
KURBB				LR	LR	00 34 00.8			
	comp=Z,159nm,19.6s,baz=161,slow=41								
	comp=Z,3.1nm,0.7s								
KURK	**Kurchatov**	**27.51**	**56**	P	**P**	**00 21 13.6**	**-0.2**		
KURK				IAmb	IAmb	00 21 17.8			
	comp=Z,6.2nm,1.0s								
KURK	**Kurchatov**	**27.51**	**56**	*ce*P	**P**	**00 21 15.0**	**+1.2**		
KURK				pmax	pmax				
	comp=Z,8.0nm,1.0s								
NC405	**NORSAR Array S**	**27.66**	**328**	P	**P**	**00 21 17.5**	**+2.5**		
NC405				IAmb	IAmb	00 21 20.0			
	comp=Z,7.2nm,1.0s								
NB2	**NORSAR Subarra**	**27.82**	**328**	P	**P**	**00 21 16.2**	**-0.3**		
	comp=Z,1.1nm,0.6s,baz=125,slow=9.3								
NOA	**NORSAR Array B**	**27.82**	**328**	P	**P**	**00 21 16.2**	**-0.3**		
	comp=Z,1.4nm,0.7s,baz=126,slow=8.8,SNR=10.0								
NOA				LR	LR	00 33 24.3			
	comp=Z,127nm,19.4s,baz=125,slow=39								
	comp=Z,1.4nm,0.7s								
MAKZ	**Makanchi**	**29.56**	**64**	P	**P**	**00 21 32.0**	**-0.2**		
MAKZ	**Makanchi**	**29.56**	**64**	P	**P**	**00 21 32.0**	**-0.2**		
MAKZ				pmax	pmax				
	comp=Z,2.0nm,0.8s								
MK31	**Makanchi Array**	**29.78**	**64**	*ce*P	**P**	**00 21 35.1**	**+1.0**		
MKAR	**Makanchi Array**	**29.78**	**64**	P	**P**	**00 21 33.6**	**-0.5**		
MKAR	**Makanchi Array**	**29.78**	**64**	P	**P**	**00 21 34.7**	**+0.6**		
	comp=Z,3.9nm,0.9s,baz=278,slow=7.6,SNR=22								
	comp=Z,3.9nm,0.9s								
ARCES	**ARCESS Array B**	**30.39**	**349**	P	**P**	**00 21 39.3**	**+0.1**		
	comp=Z,1.7nm,0.7s,baz=156,slow=9.3,SNR=16								
ARCES				LR	LR	00 34 08.6			
	comp=Z,115nm,20.6s,baz=149,slow=37								
	comp=Z,1.7nm,0.7s								
ZALV	**Zalesovo Beam**	**31.71**	**50**	P	**P**	**00 21 52.9**	**+1.9**		
ZALV	**Zalesovo Beam**	**31.71**	**50**	P	**P**	**00 21 49.9**	**-1.1**		
	comp=Z,1.6nm,0.7s,baz=289,slow=9.0,SNR=6.5								
ZALV				LR	LR	00 37 02.7			
	comp=Z,58nm,18.4s,baz=250,slow=41								
	comp=Z,1.6nm,0.7s								
ZALV	**Zalesovo Beam**	**31.71**	**50**	P	**P**	**00 21 52.9**	**+1.9**		
EKA	**Eskdalemuir Ar**	**32.95**	**312**	P	**P**	**00 22 01.8**	**-0.1**		
	comp=Z,7.2nm,0.8s,baz=103,slow=8.7,SNR=21								
	comp=Z,7.2nm,0.8s								
ESK	**Eskdalemuir**	**32.97**	**312**	P	**P**	**00 22 02.7**	**+0.6**		
ESK	**Eskdalemuir**	**32.97**	**312**	P	**P**	**00 22 02.7**	**+0.6**		
ESK				pmax	pmax				
	comp=Z,12nm,1.0s								
WMQ	**Urumqi**	**33.91**	**69**	*e*P	**P**	**00 22 13.3**	**+2.8**		
WMQ				LR	LR				
	comp=Z,71nm,17.7s								
ESDC	**Sonseca Array**	**34.69**	**284**	P	**P**	**00 22 16.9**	**-0.5**		
ESDC	**Sonseca Array**	**34.69**	**284**	P	**P**	**00 22 16.8**	**-0.5**		
	comp=Z,5.1nm,0.8s,baz=66,slow=8.8,SNR=49								
	comp=Z,5.1nm,0.8s								
PAB	**San Pablo**	**35.01**	**284**	P	**P**	**00 22 18.9**	**-1.2**		
PAB				IAmb	IAmb	00 22 20.6			
	comp=Z,8.6nm,1.0s								
PAB	**San Pablo**	**35.01**	**284**	P	**P**	**00 22 18.9**	**-1.2**		
PAB				pmax	pmax				
	comp=Z,9.0nm,1.0s								
TAM	**Tamanrasset**	**35.21**	**251**		**P**	**00 22 21.9**	**-0.1**		
TAM				IAmb	IAmb	00 22 24.3			
	comp=Z,8.0nm,0.9s								
TAM	**Tamanrasset**	**35.21**	**251**	P	**P**	**00 22 21.9**	**-0.1**		
TAM				pmax	pmax				
	comp=Z,8.0nm,0.9s								
MTE	**Manteigas**	**37.12**	**286**	P	**P**	**00 22 37.9**	**-0.2**		
PESTR	**Estremoz**	**37.62**	**284**	P	**P**	**00 22 41.7**	**-0.6**		
PESTR				IAmb	IAmb	00 22 42.3			
	comp=Z,8.2nm,0.8s								
COI	**Coimbra**	**37.82**	**286**	P	**P**	**00 22 43.7**	**-0.2**		
COI	**Coimbra**	**37.82**	**286**	P	**P**	**00 22 43.7**	**-0.2**		
COI				pmax	pmax				
	comp=Z,12nm,0.8s								
SPITS	**Spitsbergen Ar**	**39.24**	**352**	P	**P**	**00 22 56.4**	**+1.0**		
	comp=Z,3.0nm,0.8s,baz=126,slow=11,SNR=2.9								
	comp=Z,3.0nm,0.8s								
SPITS	**Spitsbergen Ar**	**39.24**	**352**	P	**P**	**00 22 55.3**	**-0.2**		
SPITS				pmax	pmax				
	comp=Z,10.0nm,1.2s								
JMIC	**Jan Mayen**	**39.61**	**337**	LR	LR	00 39 43.1			
	comp=Z,147nm,19.7s,baz=110,slow=37								
MBAR	**Mbarara**	**42.07**	**197**	P	**P**	**00 23 18.3**	**-1.3**		
MBAR	**Mbarara**	**42.07**	**197**	P	**P**	**00 23 18.3**	**-1.3**		
MBAR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
BORG	**Borgarnes**	**42.95**	**326**	LR	LR	00 41 59.9			
	comp=Z,66nm,19.6s,baz=93,slow=37								
SCO	**Scoresbysund**	**43.76**	**334**	P	**P**	**00 23 30.3**	**-2.2**		
SCO				IAmb	IAmb	00 23 35.5			
	comp=Z,6.9nm,0.9s								
SCO	**Scoresbysund**	**43.76**	**334**	P	**P**	**00 23 30.3**	**-2.2**		
SCO				pmax	pmax				
	comp=Z,7.0nm,0.9s								
SCO	**Scoresbysund**	**43.76**	**334**	*i* P	**P**	**00 23 30.1**	**-2.4**		
SCO				IAmb	IAmb	00 23 35.2			
	comp=Z,6.9nm,0.9s								
GTA	**Gaotai**	**43.84**	**72**	*e*P	**P**	**00 23 34.3**	**+0.5**		
GTA				sP	sP	00 23 45.4	+7.3		
GTA				pmax	pmax				
	comp=Z,6.0nm,0.9s								
DAG	**Danmarks Havn**	**44.30**	**343**	*i* P	**P**	**00 23 33.8**	**-3.0**		
DAG				IAmb	IAmb	00 23 40.5			
	comp=Z,5.5nm,1.1s								
TORD	**Torodi Ar. Bea**	**44.35**	**244**	P	**P**	**00 23 37.3**	**-0.6**		
TORD	**Torodi Ar. Bea**	**44.35**	**244**	P	**P**	**00 23 37.4**	**-0.6**		
	comp=Z,3.6nm,0.7s,baz=49,slow=14,SNR=4.4								
	comp=Z,3.6nm,0.7s								
SONM	**Songino Array**	**45.76**	**58**	P	**P**	**00 23 49.0**	**0.0**		
SONM	**Songino Array**	**45.76**	**58**	LR	LR	00 45 20.0			
	comp=Z,252nm,18.5s,baz=269,slow=39								
SONM	**Songino Array**	**45.76**	**58**	P	**P**	**00 23 49.0**	**0.0**		
SONM				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ULN	**Ulaanbaatar**	**46.18**	**58**	P	**P**	**00 23 52.2**	**-0.1**		
ULN				IAmb	IAmb	00 23 58.6			
	comp=Z,5.3nm,0.9s								
ULN	**Ulaanbaatar**	**46.18**	**58**	*ce*P	**P**	**00 23 53.6**	**+1.3**		
ULN				pmax	pmax				
	comp=Z,6.0nm,1.0s								
SOEG	**Soedalen**	**46.98**	**331**	*i* P	**P**	**00 24 01.8**	**+3.6**		
SOEG				IAmb	IAmb	00 24 08.3			
	comp=Z,103nm,2.3s								
LZH	**Lanzhou**	**48.07**	**74**	*e*P	**P**	**00 24 08.8**	**+1.6**		
LZH				pP	sP	00 24 16.4	+4.8		
LZH				pmax	pmax				
	comp=Z,23nm,1.3s								
SUMG	**Summit**	**49.06**	**337**	P	**P**	**00 24 14.9**	**+0.4**		
SUMG	**Summit**	**49.06**	**337**	P	**P**	**00 24 15.0**	**+0.4**		
SUMG				pmax	pmax				
	comp=Z,9.0nm,0.9s								
SUMG	**Summit**	**49.06**	**337**	*i* P	**P**	**00 24 15.0**	**+0.4**		
SUMG				IAmb	IAmb	00 24 16.3			
	comp=Z,16nm,1.2s								
PZH	**PanZhiHua**	**51.04**	**86**	P	**P**	**00 24 30.9**	**+0.9**		
NEEM	**North Greenlan**	**51.51**	**344**	*i* P	**P**	**00 24 34.3**	**+1.3**		
NEEM				IAML		00 24 44.1			
	comp=Z,4.6nm,0.9s								
NEEM				IAmb	IAmb	00 24 44.1			
	comp=Z,4.6nm,0.9s								
HHC	**Hu-ho-hao-te**	**51.63**	**65**	*e*P	**P**	**00 24 33.1**	**-1.1**		
HHC				pmax	pmax				
	comp=Z,14nm,0.6s								
HHC				pmax	pmax				
	comp=Z,64nm,4.1s								
KMI	**Kunming**	**52.53**	**87**	P	**P**	**00 24 42.8**	**+1.6**		
KMI				pmax	pmax				
	comp=Z,11nm,0.4s								
XAN	**Xi'an**	**52.71**	**74**	P	**P**	**00 24 42.6**	**+0.4**		
XAN				pmax	pmax				
	comp=Z,14nm,1.0s								
CHTO	**Chiang Mai**	**53.22**	**96**	P	**P**	**00 24 45.6**	**-0.5**		
CHTO				IAmb	IAmb	00 24 46.4			
	comp=Z,5.7nm,0.7s								
CHTO	**Chiang Mai**	**53.22**	**96**	P	**P**	**00 24 45.6**	**-0.5**		
CHTO				pmax	pmax				
	comp=Z,6.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**53.43**	**97**	P	**P**	**00 24 46.6**	**-1.1**		
	comp=Z,2.1nm,0.7s,baz=300,slow=8.4,SNR=12								
	comp=Z,2.1nm,0.7s								
CMAR	**Chiang Mai Arr**	**53.43**	**97**	*ce*P	**P**	**00 24 47.2**	**-0.5**		
CMAR				pmax	pmax				
	comp=Z,2.0nm,0.5s								
DBIC	**Dimbokro**	**53.46**	**244**	P	**P**	**00 24 46.5**	**-1.3**		
	comp=Z,4.1nm,0.7s,baz=36,slow=3.8,SNR=8.8								
	comp=Z,4.1nm,0.7s								
YAK	**Yakutsk**	**54.35**	**35**	LR	LR	00 52 19.8			
	comp=Z,69nm,18.3s,baz=283,slow=41								
YAK	**Yakutsk**	**54.35**	**35**	*i* P	**P**	**00 24 54.0**	**+0.3**		
YAK				pmax	pmax				
	comp=Z,9.0nm,0.8s								
QNGWA	**Qangwa**	**62.66**	**202**	P	**P**	**00 25 52.8**	**+0.5**		
SEY	**Seymchan**	**63.16**	**29**	LR	LR	00 58 10.4			
	comp=Z,50nm,19.2s,baz=13,slow=41								
SEY	**Seymchan**	**63.16**	**29**	*i* P	**P**	**00 25 56.1**	**+1.1**		
SEY				pmax	pmax				
	comp=Z,9.0nm,1.1s								
BILL	**Bilibino**	**64.15**	**20**	*i* P	**P**	**00 26 01.8**	**+0.3**		
BILL				pmax	pmax				
	comp=Z,3.0nm,1.0s								
BILL				MLR	MLR				
	comp=Z,190nm,20.0s								
KSRS	**Korea Array**	**64.42**	**62**	P	**P**	**00 26 03.0**	**-0.7**		
	comp=Z,1.0nm,0.4s,baz=297,slow=5.6,SNR=6.9								
	comp=Z,1.0nm,0.4s								
KSRS	**Korea Array**	**64.42**	**62**	P	**P**	**00 26 03.0**	**-0.7**		
SCHQ	**Schefferville**	**67.27**	**324**	P	**P**	**00 26 20.6**	**-1.3**		
	comp=Z,3.2nm,0.9s,baz=49,slow=9.3,SNR=4.4								
	comp=Z,3.2nm,0.9s								
JNU	**Natsuse**	**68.83**	**64**	LR	LR	00 59 06.7			
	comp=Z,40nm,18.5s,baz=231,slow=38								
ASAJ	**Asahikawa**	**69.83**	**49**	LR	LR	01 03 04.0			
	comp=Z,52nm,18.2s,baz=352,slow=41								
BOSA	**Boshof**	**70.39**	**195**	P	**P**	**00 26 41.1**	**-0.5**		
	comp=Z,4.5nm,0.8s,baz=14,slow=9.4,SNR=5.8								
BOSA				LR	LR	00 58 00.2			
	comp=Z,69nm,18.0s,baz=64,slow=36								
	comp=Z,4.5nm,0.8s								
PETK	**Petropavlovsk-**	**71.69**	**35**	P	**P**	**00 26 49.7**	**+0.5**		
	comp=Z,1.0nm,0.6s,baz=330,slow=8.3,SNR=2.5								
PETK				LR	LR	01 02 26.9			
	comp=Z,43nm,18.1s,baz=322,slow=39								
	comp=Z,1.0nm,0.6s								
MJAR	**Matsushiro Arr**	**71.71**	**57**	P	**P**	**00 26 49.6**	**0.0**		
	comp=Z,2.0nm,0.8s,baz=300,slow=7.4,SNR=5.8								
	comp=Z,2.0nm,0.8s								
YKA	**Yellowknife Ar**	**75.66**	**349**	P	**P**	**00 27 12.5**	**+0.2**		
	comp=Z,1.7nm,0.8s,baz=16,slow=6.5,SNR=8.7								
	comp=Z,1.7nm,0.8s								
YKA	**Yellowknife Ar**	**75.66**	**349**	*ce*P	**P**	**00 27 13.8**	**+1.5**		
YKA				pmax	pmax				
	comp=Z,2.0nm,1.1s								

IDC 15 00:26:04.4±1.9, 0.89S×126.81E, h0km, mb3.3/4, mbtmp3.4/4, MS3.1/3, Error ellipse: s-maj=206.6km s-min=24.0km az=66.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**15.99**	**339**	LR	LR	00 37 00.3	
	comp=Z,103nm,21.1s,baz=212,slow=41						
WRA	**Warramunga Arr**	**20.32**	**159**	P	P	00 30 41.9	-0.4
	0.8nm,1.0s,baz=341,slow=12,SNR=1.3						
	0.8nm,1.0s						
GUMO	**Guam**	**22.96**	**51**	LR	LR	00 39 10.7	
	comp=Z,16nm,21.6s,baz=118,slow=34						
ASAR	**Alice Springs**	**23.67**	**164**	P	P	00 31 18.2	+0.4
	0.6nm,0.7s,baz=346,slow=11,SNR=5.0						
ASAR				LR	LR	00 40 54.5	
	comp=Z,86nm,20.2s,baz=240,slow=38						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**61.40**	**327**	P	P	00 36 22.7	+0.2
	0.4nm,0.6s,baz=116,slow=8.2,SNR=4.0						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**65.67**	**329**	P	P	00 36 50.3	-0.3
	0.6nm,0.8s,baz=129,slow=5.6,SNR=6.0						
	0.6nm,0.8s						

IDC 15 00:33:08.2±1.4, 0.65S×127.96E, h0km, mb3.7/6, mbtmp3.8/6, Error ellipse: s-maj=125.2km s-min=20.7km az=69.0

ISC 15 00:33:13.1±1.7, 0.6S±0.5×12.8E±, h35km, n6, σ0.9 71/6, mb3.7/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.12**	**163**	P	**P**	**00 37 43.8**	**-0.4**
	0.3nm,0.4s,baz=342,slow=11,SNR=1.9						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**23.56**	**167**	P	**P**	**00 38 21.2**	**+0.5**
	1.6nm,0.6s,baz=345,slow=9.6,SNR=9.3						
	1.6nm,0.6s						
SONM	**Songino Array**	**51.86**	**341**	P	**P**	**00 42 18.7**	**+0.6**
	0.8nm,0.9s,baz=148,slow=8.5,SNR=3.6						
	0.8nm,0.9s						
MKAR	**Makanchi Array**	**61.95**	**326**	P	**P**	**00 43 29.4**	**-0.2**
	1.9nm,0.8s,baz=119,slow=7.9,SNR=16						
	1.9nm,0.8s						
ZALV	**Zalesovo Beam**	**65.11**	**333**	P	**P**	**00 43 49.4**	**-0.8**
	0.2nm,0.3s,baz=134,slow=6.4,SNR=4.6						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**66.17**	**328**	P	**P**	**00 43 56.9**	**-0.3**
	2.2nm,0.8s,baz=126,slow=6.1,SNR=21						
	2.2nm,0.8s						

AUST 15 00:36:34.2±1.3, 19°S±8°×12°1E±, h17km±12km, mb3.9/5, ML2.9/6, Error ellipse: s-maj=21.4km s-min=4.7km az=137.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**2.70**	**196**	S	Sn	00 37 50.4	+1.1
PSAC1	**Pilbara Seismi**	**3.04**	**193**	P	Pn	00 37 22.8	+1.1
PSAC1				S	Sn	00 37 59.1	+1.4
PSA00	**Pilbara Seismi**	**3.08**	**192**	P	Pn	00 37 23.1	+1.0
PSA00				S	Sn	00 38 00.0	+1.6
FITZ	**Fitzroy Crossi**	**4.86**	**85**	P	Pn	00 37 48.6	+2.0
FITZ	**Fitzroy Crossi**	**4.86**	**85**	S	Sn	00 38 43.7	+1.2
GIRL	**Giralia**	**7.18**	**234**	P	Pn	00 38 15.9	-2.6
GIRL				S	Sn	00 39 31.1	-8.5
MEEK	**Meekatharra**	**8.24**	**192**	P	Pn	00 38 33.4	+0.3
	comp=Z,10nm,1.3s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.24**	**192**	S	Sn	00 40 02.6	-3.2
KNRA	**Kununurra**	**8.36**	**71**	S	Sn	00 40 09.0	+0.3
	comp=Z,26nm,2.0s,comp=Z,0.1nm						
WRKA	**Warakurna**	**9.66**	**133**	S	Sn	00 40 40.8	-0.1
	comp=Z,4.3nm,2.5s,comp=Z,0.0nm						
MORW	**Morawa**	**11.25**	**201**	P	Pn	00 39 11.3	-3.0
	comp=Z,14nm,2.6s						
MORW	**Morawa**	**11.25**	**201**	S	Sn	00 41 10.3	-9.4
BLDU	**Ballidu**	**12.50**	**195**	P	Pn	00 39 29.7	-1.7
	comp=Z,15nm,2.7s						
BLDU	**Ballidu**	**12.50**	**195**	S	Sn	00 41 40.2	-10

IDC 15 01:08:00.3±1.1, 28.05S×178.68W, h0km, mb4.1/3, mbtmp4.1/3, MS3.5/4, Error ellipse: s-maj=36.4km s-min=20.8km az=45.0

ISC 15 01:08:04.7±1.2, 28.0S±0.2×178.6W±0.2, h35km, n12, σ0.966/10, mb4.1/3, MS3.6/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.40**	**154**	Pn	**Pn**	**01 08 27.3**	**-0.5**
	166nm,0.3s,baz=268,slow=23,SNR=5.2						
RAO				Sn	**Sn**	**01 08 45.6**	**+0.6**
	245nm,0.3s,baz=316,slow=21,SNR=4.1						
RAR	**Rarotonga**	**18.41**	**73**	LR	LR	01 19 10.2	
	comp=Z,51nm,18.4s,baz=276,slow=36						
STKA	**Stephens Creek**	**34.56**	**254**	P	**P**	**01 14 50.0**	**-0.2**
	2.0nm,0.7s,baz=92,slow=9.6,SNR=2.0						
STKA				LR	LR	01 27 23.5	
	comp=Z,98nm,18.3s,baz=179,slow=34						
	2.0nm,0.7s						
ASAR	**Alice Springs**	**42.75**	**265**	P	**P**	**01 15 58.3**	**-0.6**
	2.4nm,0.7s,baz=106,slow=7.5,SNR=17						
	2.4nm,0.7s						
WRA	**Warramunga Arr**	**43.51**	**270**	P	**P**	**01 16 06.0**	**+0.9**
	2.0nm,0.6s,baz=113,slow=7.5,SNR=8.2						
	2.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.86**	**268**	LR	LR	01 37 26.8	
	comp=Z,149nm,18.4s,baz=240,slow=34						
TXAR	**Lajitas Array**	**91.55**	**58**	LR	LR	01 57 47.1	
	comp=Z,16nm,18.1s,baz=270,slow=33						
FINES	**FINESS Array B**	**142.71**	**341**	PKP	**PKPdf**	**01 27 33.0**	**-0.6**
	1.8nm,0.7s,baz=45,slow=4.7,SNR=12						
NOA	**NORSAR Array B**	**146.30**	**351**	PKPbc	**PKPdf**	**01 27 39.3**	**-0.6**
	0.5nm,0.9s,baz=15,slow=2.4,SNR=1.4						
HFS	**Hagfors**	**146.79**	**349**	PKPbc	**PKPab**	**01 27 43.9**	**+0.2**
	1.6nm,0.8s,baz=138,slow=6.9,SNR=4.3						
AKASG	**Malin Array Be**	**149.05**	**325**	PKPbc	**PKiKP**	**01 27 50.6**	**+0.5**
	2.4nm,0.7s,baz=54,slow=2.5,SNR=5.4						
BRTR	**Keskin Array B**	**150.92**	**302**	PKPbc	**PKiKP**	**01 27 55.0**	**+0.4**
	0.7nm,0.9s,baz=112,slow=6.6,SNR=2.7						

UPA 15 01:15:46.7±1.1, 8.34N×82.92W, h10km±2km, ML3.4, MW3.5
UCR 15 01:15:47.3±1.3, 8.27N×82.85W, h18km±5km, MW3.7
CATAC 15 01:15:50.1±0.6, 9°N±4°×8°W±°, h11km±2km, M4.4/12, mb5.1/2, MLv4.1/12, Error ellipse: s-maj=7.8km s-min=4.5km az=3.6, Moment Tensor Solution. Moment tensor: Scale 10^20Nm; Mrr0.15; Mθθ-0.38; Mφφ0.22; Mrθ-0.83; Mθφ0.96; Mφr0.17; Fault plane solution: M0 1.31960×10^20 NP1:φs174.11938°, δ50.65652°, λ179.30980°. NP2:φs264.55696°, δ89.46623°, λ39.34551°. Principal axes: T 1.1101, Plg27.0566°, Azm136.6753°; N 0.3489, Plg50.6515°, Azm265.2080°; P -1.4590, Plg26.2121°, Azm32.1111°; confirmed

ISC 15 01:15:47.1±1.1, 8.33N±0.05×82.91W±0.03, h13km±7km, n88, σ1.8 08/112, 1C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LESP3	**La Esperanza,**	**0.14**	**57**	*e*P	**Pg**	**01 15 50.0**	**-0.6**
LESP3				*e*S	**Sg**	**01 15 53.6**	**+0.4**
NELY	**Ciudad Neily**	**0.32**	**354**	*e*P	**Pb**	**01 15 55.6**	**+0.8**

ACOS	**Acosta**	**1.91**	**320**	*e*P		**Pn**	**01 16 20.4**	**+0.9**
HEME	**Heredia, Merce**	**2.05**	**324**	*e*P		**Pn**	**01 16 22.8**	**+1.4**
BELE	**Belen**	**2.07**	**323**	*e*P		**Pn**	**01 16 22.2**	**+0.5**
VBV1	**V. Barva**	**2.13**	**327**	*e*P		**Pn**	**01 16 22.8**	**+0.1**
ATEO	**Atenas**	**2.19**	**319**	*e*P		**Pb**	**01 16 26.0**	**-0.7**
TRT2	**Tortugero**	**2.36**	**340**	*e*P		**Pn**	**01 16 25.6**	**+0.1**
SOCE	**Pocosol**	**2.65**	**321**	*e*P		**Pn**	**01 16 32.0**	**+2.4**
AZU	**Azuero**	**2.67**	**101**	*e*P		**Pn**	**01 16 29.7**	**-0.1**
FORC	**Fortuna**	**2.74**	**321**	*e*P		**Pb**	**01 16 34.5**	**-1.5**
VARE2	**V. Arenal**	**2.77**	**320**	*e*P		**Pb**	**01 16 34.3**	**-2.3**
CEDE	**Laguna Cedeo**	**2.78**	**321**	*e*P		**Pn**	**01 16 33.9**	**+2.5**
JTS	**Las Juntas de**	**2.80**	**314**	*e*P		**Pn**	**01 16 32.0**	**+0.3**
JTS	**Las Juntas de**	**2.80**	**314**	P		**Pn**	**01 16 32.4**	**+0.7**
JTS				S		**Sn**	**01 17 05.2**	**-0.2**
INVE	**Universidad In**	**3.01**	**315**	*e*P		**Pn**	**01 16 37.0**	**+2.5**
BCIP	**Isla Barro Col**	**3.15**	**74**⇑	*e*P		**Pn**	**01 16 35.3**	**-1.2**
BCIP	**Isla Barro Col**	**3.15**	**74**	P		**Pn**	**01 16 39.7**	**+3.2**
BCIP				S		**Sn**	**01 17 18.0**	**+4.0**
CUI	**Cuipilapa**	**3.21**	**316**	*e*P		**Pn**	**01 16 39.4**	**+2.0**
VMAR	**Armenia, Volca**	**3.29**	**319**	*e*P		**Pn**	**01 16 39.7**	**+1.3**
MESS	**Mesas**	**3.29**	**317**	*e*P		**Pn**	**01 16 40.1**	**+1.7**
GPS2	**Hotel Rincn d**	**3.41**	**315**	*e*P		**Pn**	**01 16 42.3**	**+2.3**
ALIBA	**Liberia Airpor**	**3.44**	**311**	*e*P		**Pn**	**01 16 41.0**	**+0.6**
LAPC	**Finca la Perla**	**3.47**	**314**	*e*P		**Pn**	**01 16 43.0**	**+2.1**
BLUN	**Bluefields**	**3.75**	**347**	P		**Pn**	**01 16 44.8**	**+0.1**
BLUN				S		**Sn**	**01 17 27.5**	**-1.3**
CARN	**Rivas**	**3.83**	**318**	P		**Pn**	**01 16 46.8**	**+0.9**
CARN				S		**Sn**	**01 17 30.4**	**-0.4**
ESPN	**Las Esperanzas**	**4.08**	**341**	S		**Sn**	**01 17 35.9**	**-1.0**
ESPN	**Las Esperanzas**	**4.08**	**341**	P		**Pn**	**01 16 49.5**	**+0.3**
MORN	**Al O del Volca**	**4.18**	**320**	P		**Pn**	**01 16 51.2**	**+0.5**
ACON	**Acoyapa**	**4.25**	**329**	P		**Pn**	**01 16 51.7**	**+0.1**
ACON	**Acoyapa**	**4.25**	**329**	S		**Sn**	**01 17 40.3**	**-0.8**
NANN	**Nandasmo**	**4.78**	**319**	P		**Pn**	**01 16 59.7**	**+0.8**
NANN	**Nandasmo**	**4.78**	**319**	S		**Sn**	**01 17 53.8**	**-0.5**
BOAB	**BOACO BROADBAN**	**4.91**	**327**	P		**Pn**	**01 17 01.2**	**+0.6**
BOAB	**BOACO BROADBAN**	**4.91**	**327**	S		**Sn**	**01 17 56.9**	**-0.6**
MGAN	**Managua**	**5.02**	**319**	P		**Pn**	**01 17 03.0**	**+0.9**
MGAN	**Managua**	**5.02**	**319**	S		**Sn**	**01 18 00.0**	**-0.1**
PRVC	**Isla de Provid**	**5.24**	**17**	P		**Pn**	**01 17 05.7**	**+0.4**
PRVC				S		**Sn**	**01 18 05.1**	**-0.6**
CNGN	**Cerro Negro**	**5.57**	**318**	P		**Pn**	**01 17 10.5**	**+0.7**

*SJA **15** 01:20:53.0±0.7,21°.50S×70°.57W,h17km±2km, ML3.1, MW3.5*
*GUC **15** 01:20:56.4±0.7,21°.48S×70°.48W,h38km±3km, ML3.2*
ISC 15 01:20:54.5±1.3,**21°.49S**±0°.02×**70°.56W**±0°.06,**h29**km±12km,
n32,σ1°53/57,4C-5D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB02	**IPOC Station P**	**0.64**	**74**⇓	*e*P	**Pn**	**01 21 07.5**	**-0.2**
PB02				*e*S	**Sb**	**01 21 15.5**	**-0.4**
PB02	**IPOC Station P**	**0.64**	**74**	*e*P	**Pn**	**01 21 07.4**	**-0.4**
PB02				*e*S	**Sb**	**01 21 15.7**	**-0.3**
PATCX	**Punta Patache**	**0.77**	**29**⇑	*e*P	**Pn**	**01 21 09.6**	**0.0**
PATCX				*e*S	**Sb**	**01 21 19.5**	**-0.1**
PATCX				IAML		01 21 19.9	
	comp=E,2μm,0.5s						
PATCX	**Punta Patache**	**0.77**	**29**	*e*P	**Pn**	**01 21 09.6**	**0.0**
PATCX				*e*S	**Sn**	**01 21 19.8**	**-0.4**
PATCX				IAML		01 21 21.2	
	comp=Z,1μm,0.4s						
PB03	**IPOC Station P**	**0.93**	**127**⇓	*e*P	**Pb**	**01 21 12.4**	**+0.3**
PB03				*e*S	**Sn**	**01 21 24.1**	**-0.2**
PB03				IAML		01 21 25.4	
	comp=E,1μm,0.5s						
PB03	**IPOC Station P**	**0.93**	**127**	*e*P	**Pb**	**01 21 12.3**	**+0.2**
PB03				*e*S	**Sn**	**01 21 24.6**	**+0.4**
PB03				IAML		01 21 24.8	
	comp=Z,2μm,0.2s						
TA01	**Diego Aracena**	**0.99**	**21**⇑	*e*P	**Pn**	**01 21 12.6**	**+0.1**
TA01				*e*S	**Sb**	**01 21 25.2**	**-0.5**
TA01				IAML		01 21 26.4	
	comp=E,966nm,0.2s						
TA01	**Diego Aracena**	**0.99**	**21**	*e*P	**Pn**	**01 21 12.6**	**+0.1**
TA01				IAML		01 21 25.5	
	comp=Z,313nm,0.7s						
TA01				*e*S	**Sn**	**01 21 25.7**	**+0.2**
PB01	**IPOC Station P**	**1.09**	**66**⇓	*e*P	**Pb**	**01 21 14.4**	**-0.5**
PB01				*e*S	**Sn**	**01 21 27.2**	**-1.0**
PB01	**IPOC Station P**	**1.09**	**66**	*e*P	**Pb**	**01 21 14.3**	**-0.5**
PB01				*e*S	**Sn**	**01 21 27.8**	**-0.4**
PB09	**IPOC Station P**	**1.26**	**104**	*e*P	**Pb**	**01 21 17.7**	**0.0**
PB09				*e*S	**Sb**	**01 21 33.3**	**-0.3**
PB09	**IPOC Station P**	**1.26**	**104**	*e*P	**Pb**	**01 21 17.7**	**0.0**
PB09				*e*S	**Sb**	**01 21 34.4**	**+0.7**
PB09				IAML		01 21 34.4	
	comp=Z,1μm,0.7s						
TA02	**Huaiquique**	**1.28**	**18**	*e*P	**Pn**	**01 21 17.1**	**+0.6**
TA02				IAML		01 21 34.2	
	comp=N,690nm,0.3s						
TA02	**Huaiquique**	**1.28**	**18**	*e*P	**Pn**	**01 21 17.0**	**+0.5**
TA02				*e*S	**Sb**	**01 21 36.7**	**+2.6**
TA02				IAML		01 21 38.0	
	comp=Z,188nm,0.1s						
HMBC	**Humberstone**	**1.36**	**27**	*e*P	**Pn**	**01 21 18.0**	**+0.3**
HMBC				*i* S	**Sn**	**01 21 34.3**	**-0.6**
HMBC				IAML		01 21 37.0	
	comp=N,555nm,0.2s						
HMBC	**Humberstone**	**1.36**	**27**	*e*P	**Pn**	**01 21 17.9**	**+0.3**
HMBC				*e*S	**Sb**	**01 21 36.6**	**+0.1**
HMBC				IAML		01 21 39.1	
	comp=Z,366nm,0.4s						
PB05	**IPOC Station P**	**1.39**	**166**⇓	*e*P	**Pn**	**01 21 19.3**	**+1.1**
PB05				*e*S	**Sn**	**01 21 36.7**	**+1.1**
PB05	**IPOC Station P**	**1.39**	**166**	*e*P	**Pn**	**01 21 19.3**	**+1.1**
PB05				*e*S	**Sn**	**01 21 30.3**	**-5.3**
PB05				IAML		01 21 47.5	
	comp=Z,120nm,0.5s						
PB06	**IPOC Station P**	**1.51**	**143**⇓	*e*P	**Pn**	**01 21 21.0**	**+1.2**
PB06				*e*S	**Sb**	**01 21 40.2**	**-0.7**
PB06				IAML		01 21 44.9	
	comp=N,287nm,0.3s						
PB06	**IPOC Station P**	**1.51**	**143**	*e*P	**Pb**	**01 21 21.2**	**-0.9**
PB06				*e*S	**Sb**	**01 21 43.1**	**+2.2**
PB06				IAML		01 21 45.9	
	comp=Z,233nm,0.2s						
PB08	**IPOC Station P**	**1.88**	**45**⇑	*e*P	**Pn**	**01 21 26.4**	**+1.3**
PB08				*e*S	**Sn**	**01 21 49.0**	**+0.9**
PB08				IAML		01 21 51.7	
	comp=N,213nm,0.2s						
PB08	**IPOC Station P**	**1.88**	**45**	*e*P	**Pb**	**01 21 26.7**	**-1.7**
PB08				*e*S	**Sb**	**01 21 50.2**	**-1.5**
PB08				IAML		01 21 53.4	
	comp=Z,97nm,0.3s						
PB11	**IPOC Station P**	**1.92**	**26**	*e*P	**Pn**	**01 21 26.1**	**+0.7**
PB11				IAML		01 21 56.8	
PB11	**IPOC Station P**	**1.92**	**26**	*e*P	**Pn**	**01 21 26.4**	**+1.0**
PB11				*e*S	**Sb**	**01 21 53.1**	**+0.5**
PB11				IAML		01 22 05.7	
	comp=Z,120nm,0.9s						
PB10	**IPOC Station P**	**2.01**	**180**⇑	*e*P	**Pn**	**01 21 27.5**	**+0.9**
PB10	**IPOC Station P**	**2.01**	**180**	*e*P	**Pn**	**01 21 27.4**	**+0.9**
PB10				*e*S	Sn	01 21 39.6	-11
PB10				IAML		01 22 04.3	
	comp=Z,42nm,1.3s						
GO01	**Chusmiza**	**2.22**	**35**	*e*P	**Pb**	**01 21 32.2**	**-2.1**
GO01				IAML		01 22 06.2	
	comp=N,575nm,0.1s						
GO01	**Chusmiza**	**2.22**	**35**	*e*P	**Pb**	**01 21 32.4**	**-1.9**
GO01				*e*S	**Sb**	**01 22 01.2**	**-0.3**
AF01	**San Pedro de A**	**2.64**	**124**	*e*P	**Pn**	**01 21 38.1**	**+2.7**
AF01				*e*S	**Sb**	**01 22 13.2**	**-0.1**
PB14	**IPOC Station P**	**3.12**	**177**	*e*S	Sb	01 22 38.4	+11
PB14				IAML		01 22 45.5	
	comp=Z,45nm,4.0s						
PB16	**IPOC Station P**	**3.29**	**18**	*e*P	**Pn**	**01 21 45.8**	**+1.1**
PB16				*e*S	**Sb**	**01 22 38.9**	**+6.4**
PB16				IAML		01 22 49.1	
	comp=Z,24nm,2.2s						
AC01	**Pan de Azucar**	**4.63**	**180**	*e*P	**Pn**	**01 22 02.7**	**+0.1**
AC01				*e*S	**Sn**	**01 22 53.1**	**-2.4**
AC01				IAML		01 23 26.1	
	comp=Z,33nm,2.4s						

*LJU **15** 01:22:24.7,45°.24N×14°.75E,h16km,ML2.4*
*ROM **15** 01:22:24.7±0.1,45°.193N±0°.010×14°.796E±0°.008,h10km, ML2.9/48,Error ellipse: s-maj=1.2km s-min=0.4km*

az=338.0
*RHSSO **15** 01:22:25.7±0.4,45°.29N×14°.74E,h7km±2km,ML2.4/10*
*PRU **15** 01:22:25.5,45°.29N×14°.80E,h10km*
*VIE **15** 01:22:25.3±0.4,45°.25N×14°.76E,h2km,mb2.2/18, ml2.6/19,Error ellipse: s-maj=2.6km s-min=1.5km az=166.0 29 km ESE of Rijeka*
ISC 15 01:22:25.3±0.9,**45°.25N**±0°.01×**14°.76E**±0°.01,**h8**km±8km,
n113,σ0°88/185,8C-5D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIY	**Rijeka**	**0.21**	**292**	*e*Pg	**Pg**	**01 22 29.5**	**-0.1**
RIY				Sg	**Sg**	**01 22 32.4**	**0.0**
GBRS	**Gornja Briga**	**0.29**	**7**⇓	*i*Pg	**Pg**	**01 22 31.7**	**+0.7**
GBRS				*i* Sg	**Sb**	**01 22 36.4**	**-1.4**
GBRS				IAML		01 22 37.4	
	comp=Z,191nm,0.1s						
KNDS	**Knezji Dol**	**0.39**	**317**	*i* Pg	**Pg**	**01 22 32.6**	**-0.3**
KNDS				*i* Sg	**Sg**	**01 22 38.9**	**+0.8**
KNDS				IAML		01 22 39.3	
	comp=Z,191nm,0.2s						
BOJS	**Bojanci**	**0.43**	**53**⇑	*i*Pg	**Pg**	**01 22 34.0**	**+0.3**
BOJS				*i* Sg	**Sb**	**01 22 40.5**	**-1.4**
BOJS				IAML		01 22 42.1	
	comp=Z,168nm,0.1s						
BOJS	**Bojanci**	**0.43**	**53**	P	**Pg**	**01 22 34.0**	**+0.3**
BOJS				S	**Sb**	**01 22 40.5**	**-1.4**
RABC	**Rab**	**0.50**	**178**	*i* Pg	**Pg**	**01 22 34.6**	**-0.3**
RABC				Sg	**Sg**	**01 22 41.9**	**+0.5**
CEY	**Cerknica**	**0.55**	**335**	*i* Pg	**Pg**	**01 22 35.5**	**-0.3**
CEY				*i* Sg	**Sb**	**01 22 44.0**	**-1.2**
CEY				IAML		01 22 45.5	
	comp=Z,129nm,0.1s						
VISS	**Visnje**	**0.56**	**6**	*i* Pg	**Pg**	**01 22 36.1**	**-0.1**
VISS				*i* Sg	**Sg**	**01 22 44.0**	**+0.6**
VISS				IAML		01 22 47.3	
	comp=Z,48nm,0.1s						
SKDS	**Skadanscina**	**0.60**	**300**	*i* Pg	**Pg**	**01 22 36.0**	**-0.9**
SKDS				*i* Sg	**Sg**	**01 22 45.0**	**+0.1**
SKDS				IAML		01 22 47.6	
	comp=Z,54nm,0.1s						
OZLJ	**Ozalj**	**0.62**	**53**⇓	*i*Pg	**Pg**	**01 22 37.2**	**-0.1**
OZLJ				*e*Sg	**Sg**	**01 22 45.9**	**+0.5**
OZLJ	**Ozalj**	**0.62**	**53**	*e*Pg	**Pb**	**01 22 38.2**	**-0.2**
OZLJ				Sg	**Sg**	**01 22 45.6**	**+0.2**
NVLJ	**Novalja**	**0.69**	**173**	*e*Pg	**Pg**	**01 22 37.8**	**-0.7**
NVLJ				Sg	**Sg**	**01 22 48.4**	**+1.0**
PLIT	**Plitvice**	**0.71**	**121**	*e*Pg	**Pg**	**01 22 39.1**	**+0.1**
PLIT				Sg	**Sg**	**01 22 48.4**	**0.0**
GBAS	**Gorenja Brezov**	**0.72**	**342**	*i* Pg	**Pg**	**01 22 38.8**	**-0.4**
GBAS				*i* Sg	**Sb**	**01 22 49.5**	**-0.9**
GBAS				IAML		01 22 51.0	
	comp=Z,35nm,0.1s						
CRES	**Cresnjevec Ost**	**0.76**	**40**	*i* Pg	**Pb**	**01 22 40.2**	**-0.6**
CRES				*i* Sg	**Sb**	**01 22 50.3**	**-1.0**
CRES				IAML		01 22 54.4	
	comp=Z,116nm,0.2s						
BRJN	**Brijuni**	**0.79**	**245**⇑	*i*Pg	**Pg**	**01 22 40.1**	**-0.4**
BRJN				*e*Sg	**Sg**	**01 22 50.9**	**+0.1**
BRJN	**Brijuni**	**0.79**	**245**	P	**Pg**	**01 22 40.2**	**-0.3**
BRJN				S	**Sg**	**01 22 50.6**	**-0.2**
LEGS	**Legarje**	**0.81**	**29**	*i* Pg	**Pb**	**01 22 41.0**	**-0.5**
LEGS				*i* Sg	**Sb**	**01 22 51.7**	**-0.9**
JAVS	**Javornik**	**0.81**	**323**	*i* Pg	**Pg**	**01 22 39.8**	**-1.1**
JAVS				*i* Sg	**Sg**	**01 22 51.8**	**+0.3**
JAVS				IAML		01 22 53.5	
	comp=Z,74nm,0.1s						
LJU	**Ljubljana**	**0.81**	**349**	*i* Pg	**Pb**	**01 22 41.4**	**-0.3**
LJU				*i* Sg	**Sb**	**01 22 52.2**	**-0.7**
LJU				IAML		01 22 56.6	
	comp=Z,40nm,0.1s						
PDKS	**Podkum**	**0.83**	**12**	*i* Pg	**Pg**	**01 22 41.4**	**+0.1**
PDKS				*i* Sg	**Sb**	**01 22 52.6**	**-0.8**
PDKS				IAML		01 22 57.3	
	comp=Z,43nm,0.1s						
TRI	**Trieste**	**0.84**	**304**	P	**Pg**	**01 22 41.2**	**-0.3**
VNDS	**Vrh nad Dolski**	**0.86**	**357**	*i* Pg	**Pg**	**01 22 41.8**	**0.0**
VNDS				*i* Sg	**Sb**	**01 22 54.2**	**+0.1**
VNDS				IAML		01 22 57.7	
	comp=Z,21nm,0.1s						
GCIS	**Gornji Cirnik**	**0.87**	**44**	*i* Pg	**Pb**	**01 22 42.5**	**-0.2**
GCIS				*e*Sg	**Sb**	**01 22 53.7**	**-0.8**
GCIS				IAML		01 22 58.4	
	comp=Z,58nm,0.1s						
CESS	**Cesta pri Krsk**	**0.88**	**34**	*i* Pg	**Pb**	**01 22 42.7**	**-0.1**
CESS				*i* Sg	**Sb**	**01 22 54.2**	**-0.6**
CESS				IAML		01 22 57.5	
	comp=Z,84nm,0.2s						
CRNS	**Crni Vrh**	**0.91**	**337**	*i* Pg	**Pg**	**01 22 42.1**	**-0.6**
CRNS				*i* Sg	**Sb**	**01 22 55.1**	**-0.4**
CRNS				IAML		01 22 60.0	
	comp=Z,30nm,0.1s						
VIRC	**Vir**	**0.98**	**167**	*e*Pg	**Pg**	**01 22 43.2**	**-0.8**
VIRC				Sg	**Sg**	**01 22 56.8**	**+0.1**
GOLS	**Golise**	**0.98**	**38**	*i* Pg	**Pb**	**01 22 44.4**	**-0.1**
GOLS				*i* Sg	**Sb**	**01 22 57.8**	**+0.2**
GOLS				IAML		01 23 01.7	
	comp=Z,45nm,0.1s						
VOJS	**Vojsko**	**1.00**	**322**	*i* Pg	**Pg**	**01 22 43.1**	**-1.4**
VOJS				*i* Sg	**Sb**	**01 22 58.7**	**+0.4**
VOJS				IAML		01 23 04.3	
	comp=Z,36nm,0.1s						
UDBI	**Udbina**	**1.01**	**135**	*e*Pg	**Pg**	**01 22 44.8**	**0.0**
UDBI				Sg	**Sb**	**01 22 59.1**	**+0.5**
DOBS	**Dobrina**	**1.03**	**29**	*i* Pg	**Pg**	**01 22 45.0**	**-0.2**
DOBS				*i* Sg	**Sb**	**01 22 58.9**	**-0.2**
DOBS				IAML		01 23 05.0	
	comp=Z,26nm,0.1s						
ZAG	**Zagreb**	**1.04**	**56**	*i* Pg	**Pn**	**01 22 46.3**	**+0.1**
ZAG	**Zagreb**	**1.04**	**56**	P	**Pg**	**01 22 44.5**	**-0.8**
MOZS	**Mozjanca**	**1.07**	**348**	*i* Pg	**Pb**	**01 22 46.1**	**0.0**
MOZS				*i* Sg	**Sb**	**01 23 00.5**	**+0.2**
MOZS				IAML		01 23 06.4	
	comp=Z,25nm,0.1s						
PTJ	**Puntijarka**	**1.08**	**52**	*e*Pg	**Pn**	**01 22 46.5**	**-0.3**
PTJ				Sg	**Sn**	**01 23 01.1**	**-0.8**
SABO	**M.te Sabotino**	**1.10**	**312**	P	**Pg**	**01 22 45.5**	**-0.9**
SABO				AML	AML		
	comp=E,1395μm,1.6s						
SABO				AML	AML		
	comp=E,367μm,1.6s						
SABO				AML	AML		
	comp=N,498μm,0.7s						
SABO				AML	AML		
	comp=E,367μm,0.4s						
SABO				AML	AML		
	comp=E,1395μm,0.4s						
SABO				AML	AML		
	comp=N,1950μm,0.3s						
ZAVS	**Zavodnje**	**1.20**	**9**	*i* Pg	**Pb**	**01 22 48.1**	**-0.3**
ZAVS				*e*Sg	**Sn**	**01 23 05.1**	**0.0**
ZAVS				IAML		01 23 10.4	
	comp=Z,35nm,0.1s						
DRE	**Drenchia**	**1.21**	**320**	P	**Pb**	**01 22 47.5**	**-1.1**
CADS	**Cadrg**	**1.22**	**324**	*i* Sg	**Sn**	**01 23 05.0**	**-0.3**
CADS				IAML		01 23 10.0	
	comp=Z,95nm,0.3s						
DUGI	**Dugi Otok**	**1.27**	**170**	*e*Pg	**Pn**	**01 22 48.7**	**-0.7**
DUGI				Sg	**Sg**	**01 23 07.6**	**+1.5**
OBKA	**Obir**	**1.27**	**353**	*e*Pg	**Pg**	**01 22 49.9**	**+0.2**
	comp=Z,4.1nm,0.3s,SNR=65						
OBKA				*e*Sg	**Sn**	**01 23 08.0**	**+1.2**
	comp=Z,44nm,0.6s						
LOBO	**Lobor**	**1.29**	**45**	*e*Pg	**Pg**	**01 22 50.8**	**+0.7**
LOBO				Sg	**Sg**	**01 23 07.3**	**+0.5**
GROS	**Grobnik**	**1.32**	**23**	*i* Pg	**Pb**	**01 22 50.0**	**-0.4**
GROS				IAML		01 23 10.0	
	comp=Z,39nm,0.2s						
ROBS	**Robic**	**1.33**	**319**	*i* Pg	**Pg**	**01 22 50.5**	**-0.2**
ROBS				*i* Sg	**Sg**	**01 23 09.3**	**+1.3**
ROBS				IAML		01 23 10.7	
	comp=Z,47nm,0.2s						
PERS	**Pernice**	**1.41**	**10**	*i* Pg	**Pn**	**01 22 51.3**	**-0.1**
PERS				*i* Sg	**Sg**	**01 23 10.9**	**+0.2**
PERS				IAML		01 23 14.0	
	comp=Z,61nm,0.3s						
SOKA	**Soboth**	**1.45**	**7**	*e*Pg	**Pb**	**01 22 52.3**	**-0.2**
	comp=Z,3.2nm,0.4s						
SOKA				*e*Sg	**Sg**	**01 23 12.0**	**+0.3**
	comp=Z,4.5nm,0.3s						
VINO	**Villanova**	**1.45**	**315**	P	**Pb**	**01 22 52.2**	**-0.3**
BAD	**Bernadia**	**1.45**	**314**	P	**Pb**	**01 22 52.3**	**-0.3**
MOSL	**Moslavina**	**1.45**	**75**⇓	*i*Pg	**Pb**	**01 22 52.5**	**-0.1**
MOSL				*e*Sg	**Sg**	**01 23 11.6**	**-0.4**
MOSL	**Moslavina**	**1.45**	**75**	*e*Pg	**Pg**	**01 22 53.1**	**-0.1**
A050A	**Klekovaca**	**1.47**	**121**⇓	*i*Pg	**Pb**	**01 22 52.6**	**-0.4**
A050A				*e*Sg	**Sg**	**01 23 13.1**	**+0.4**
KALN	**Kalnik**	**1.48**	**53**	Sg	**Sg**	**01 23 14.2**	**+1.2**
PTCC	**Patocco-Chiusa**	**1.52**	**320**	⇑P	**Pb**	**01 22 53.5**	**-0.3**
PTCC				AML	AML		
	comp=E,176μm,0.3s						
PTCC				AML	AML		
	comp=N,158μm,0.4s						
GEPF	**Gemona**	**1.53**	**313**	⇑P	**Pb**	**01 22 53.3**	**-0.6**
GEPF				AML	AML		
	comp=E,378μm,0.5s						
GEPF				AML	AML		
	comp=E,378μm,1.5s						
GEPF				AML	AML		
	comp=N,420μm,0.5s						
MORI	**Morici**	**1.54**	**153**	*i* Pn	**Pb**	**01 22 53.6**	**-0.4**
MORI				Sg	**Sg**	**01 23 15.8**	**+1.1**
A051A	**Mrakovica**	**1.54**	**98**	*e*Pn	**Pn**	**01 22 53.2**	**+0.1**
A051A				*e*Sn	**Sg**	**01 23 14.2**	**-0.5**
ACOM	**Acomizza, Ital**	**1.57**	**327**	P	**Pb**	**01 22 54.2**	**-0.4**
ACOM				AML	AML		
	comp=E,390μm,0.3s						
ACOM				AML	AML		
	comp=N,436μm,0.3s						
ACOM				AML	AML		
	comp=N,428μm,0.5s						
ACOM				AML	AML		
	comp=N,428μm,1.5s						
ACOM				AML	AML		
	comp=E,385μm,0.4s						
ACOM				AML	AML		
	comp=N,436μm,1.7s						
BOO	**Bordano**	**1.58**	**313**	P	**Pn**	**01 22 53.7**	**+0.1**
MYKA	**Terra Mystica**	**1.59**	**331**	*e*Pn	**Pb**	**01 22 54.4**	**-0.6**
	comp=N,5.6nm,0.4s,SNR=14						
MYKA				*e*Sn	**Sg**	**01 23 16.0**	**-0.3**
	comp=N,40nm,0.5s						
MPRI	**Monte Prat**	**1.59**	**309**	⇑P	**Pb**	**01 22 54.6**	**-0.4**
MPRI				AML	AML		
	comp=E,178μm,0.6s						
MPRI				AML	AML		
	comp=N,390μm,0.5s						
MPRI				AML	AML		
	comp=E,228μm,0.6s						
MPRI				AML	AML		
	comp=N,519μm,0.5s						
KOGS	**Kog**	**1.59**	**40**	P	**Pn**	**01 22 53.7**	**-0.1**
FUSE	**Fusea**	**1.70**	**314**	⇑P	**Pb**	**01 22 56.1**	**-0.6**
KIJV	**Kijevo**	**1.71**	**136**	*e*Pn	**Pb**	**01 22 57.0**	**0.0**
KIJV				*e*Sn	**Sg**	**01 23 19.7**	**-0.5**
KIJV	**Kijevo**	**1.71**	**136**	*e*Pn	**Pb**	**01 22 57.5**	**+0.5**
KIJV				Sn	**Sg**	**01 23 21.3**	**+1.1**
ZIRJ	**Zirje**	**1.71**	**158**	*e*Pn	**Pb**	**01 22 56.7**	**-0.3**
ZIRJ				Sn	**Sg**	**01 23 20.9**	**+0.6**
PLRO	**Paularo**	**1.72**	**320**	P	**Pb**	**01 22 56.3**	**-0.9**
STAL	**STALIGIAL**	**1.76**	**306**	⇑P	**Pn**	**01 22 56.3**	**+0.2**
STAL				AML	AML		
	comp=E,344μm,1.0s						
STAL				AML	AML		
	comp=N,310μm,1.4s						
STAL				AML	AML		
	comp=E,408μm,0.9s						
STAL				AML	AML		
	comp=N,196μm,0.9s						
STAL				AML	AML		
	comp=N,310μm,0.6s						
STAL				AML	AML		
	comp=E,344μm,1.0s						
STAL				AML	AML		
	comp=N,196μm,1.1s						
CLUD	**Cludinico**	**1.79**	**313**	P	**Pn**	**01 22 56.9**	**+0.4**
CLUD				AML	AML		
	comp=E,142μm,0.8s						
CLUD				AML	AML		
	comp=N,126μm,0.6s						
BLY	**Banja Luka**	**1.79**	**105**	*e*Pn	**Pn**	**01 22 56.9**	**+0.4**
BLY				*e*Sn	**Sb**	**01 23 20.4**	**-0.6**
CAE	**Caneva**	**1.80**	**296**	P	**Pn**	**01 22 56.9**	**+0.2**
ZOU	**Zoufplan**	**1.81**	**317**	P	**Pn**	**01 22 57.5**	**+0.5**
ZOU				AML	AML		
	comp=N,122μm,0.7s						
ZOU				AML	AML		
	comp=N,110μm,0.4s						
ZOU				AML	AML		
	comp=E,168μm,0.6s						
ZOU				AML	AML		
	comp=E,195μm,0.6s						
ZOU				AML	AML		
	comp=N,122μm,1.3s						
ZOU				AML	AML		
	comp=N,110μm,1.6s						
FRE8	**Fregona**	**1.85**	**295**	P	**Pn**	**01 22 57.2**	**-0.2**
BEHE	**Becsehely**	**1.87**	**48**	*e*Pn	**Pn**	**01 22 57.2**	**-0.4**
BEHE				*e*Sn	**Sn**	**01 23 21.5**	**+0.2**
VINV	**Vinovac**	**1.90**	**150**	*e*Pn	**Pb**	**01 22 59.6**	**-0.6**
VINV				Sn	**Sg**	**01 23 26.2**	**-0.1**
CIMO	**Cimolais**	**1.94**	**304**	P	**Pn**	**01 22 58.5**	**-0.1**
CIMO				AML	AML		
	comp=E,68μm,1.6s						
CIMO				AML	AML

	comp=E,85µm,0.6s									
DOSS					AML	AML				
	comp=N,130µm,0.5s									
LESA	**Schwarzleotal**	**2.61**	**327**	*e*Pn	**Pn**		**01 23 09.2**	**+1.3**		
	comp=N,1.3nm,0.3s									
LESA				*e*Sn	**Sn**		**01 23 41.4**	**+1.5**		
	comp=N,1.5nm,0.2s									
MOA	**Mollin**	**2.63**	**353**	*e*Pn	**Pn**		**01 23 09.4**	**+1.4**		
	comp=N,0.1nm,0.1s									
MOA				*e*Sn	**Sn**		**01 23 41.0**	**+0.9**		
	comp=N,2.5nm,0.4s									
RONA	**Rosalia, Austr**	**2.67**	**23**	Pn	**Pn**		**01 23 09.9**	**+1.1**		
	comp=N,1.3nm,0.6s,SNR=11									
RONA				*e*Sn	**Sn**		**01 23 40.5**	**-0.8**		
	comp=N,0.6nm,0.5s									
LUSI	**Trento, Gardas**	**2.77**	**286**	P	**Pn**		**01 23 10.0**	**0.0**		
LUSI				AML	AML					
	comp=E,66µm,0.5s									
LUSI				AML	AML					
	comp=N,116µm,0.5s									
LUSI				AML	AML					
	comp=E,66µm,1.5s									
VARA	**Varagna**	**2.78**	**283**	⇑P	**Pn**		**01 23 10.2**	**0.0**		
VARA				AML	AML					
	comp=E,134µm,0.4s									
VARA				AML	AML					
	comp=N,101µm,0.7s									
MBAL	**Monte Baldo -**	**2.78**	**281**	P	**Pn**		**01 23 09.8**	**-0.5**		
CONA	**Conrad Observa**	**2.79**	**15**	*e*Pn	**Pn**		**01 23 10.5**	**+0.2**		
	comp=N,1.7nm,0.3s,SNR=12									
CONA				Sn	**Sn**		**01 23 44.1**	**-0.1**		
	comp=N,1.9nm,0.7s									
ROSI	**Rosskopf**	**2.87**	**307**	P	**Pn**		**01 23 12.1**	**+0.5**		
ROSI				AML	AML					
	comp=E,60µm,0.3s									
ROSI				AML	AML					
	comp=N,83µm,0.3s									
MORH	**Mrgy, Hungar**	**2.89**	**69**	*e*Pn	**Pn**		**01 23 11.8**	**+0.2**		
MORH				*e*Sn	**Sn**		**01 23 46.8**	**+0.3**		
WTTA	**Wattenberg**	**2.96**	**314**	*e*Pn	**Pn**		**01 23 13.8**	**+1.0**		
	comp=N,4.7nm,1.4s,SNR=4.1									
WTTA				*e*Sn	**Sb**		**01 23 52.3**	**-2.5**		
	comp=N,2.3nm,0.2s									
RONC	**Roncone**	**2.99**	**286**	P	**Pn**		**01 23 13.1**	**-0.1**		
WATA	**Walderalm**	**3.04**	**315**	*i* Pn	**Pn**		**01 23 15.0**	**+1.2**		
	comp=N,0.4nm,0.1s									
WATA				*i* Sn	**Sn**		**01 23 52.6**	**+2.1**		
	comp=N,0.2nm,0.1s									
SQTA	**Sankt Quirin**	**3.16**	**310**	*i* Pn	**Pn**		**01 23 16.7**	**+1.3**		
	comp=N,0.3nm,0.1s									
SQTA				*i* Sn	**Sn**		**01 23 55.4**	**+2.0**		
	comp=N,2.4nm,0.4s									
STON	**Ston**	**3.18**	**137**	*e*Pn	**Pn**		**01 23 17.2**	**+1.6**		
STON				*e*Sn	**Sn**		**01 23 54.9**	**+1.2**		
STON	**Ston**	**3.18**	**137**	*e*Pn	**Pn**		**01 23 17.8**	**+2.2**		
MOTA	**Moosalm**	**3.29**	**311**	*i* Pn	**Pn**		**01 23 17.9**	**+0.6**		
	comp=N,0.1nm,0.2s									
MOTA				*i* Sn	**Sn**		**01 23 59.4**	**+2.8**		
	comp=N,16nm,1.0s									
FETA	**Feichten**	**3.32**	**304**	*i* Pn	**Pn**		**01 23 18.7**	**+1.1**		
	comp=N,0.5nm,0.3s									
FETA				*i* Sn	**Sn**		**01 23 59.9**	**+2.5**		
	comp=N,1.0nm,0.3s									
RETA	**Reutte**	**3.56**	**310**	*i* Sn	**Sn**		**01 24 05.0**	**+1.8**		
	comp=N,2.6nm,0.3s									
CKRC	**Cesky Krumlov**	**3.59**	**355**	*e*SN	**Sn**		**01 24 01.8**	**-2.0**		
TREB	**Trebinje**	**3.62**	**133**	*e*Pn	**Pn**		**01 23 23.5**	**+1.8**		
TREB				*e*Sn	**Sn**		**01 24 05.2**	**+0.6**		
DAVA	**Damuels**	**3.95**	**303**	*e*Pn	**Pn**		**01 23 27.0**	**+0.6**		
	comp=N,2.4nm,0.8s									
DAVA				Sg	**Sg**		**01 24 31.8**	**-0.3**		
	comp=N,2.9nm,0.6s									
KHC	**Kasperske Hory**	**3.97**	**349**	*e*PN	**Pn**		**01 23 27.5**	**+1.0**		
KHC				*e*SN	**Sn**		**01 24 14.5**	**+1.3**		
KHC				*e*SG	**Sg**		**01 24 35.0**	**+2.3**		
KRUC	**Moravsky**	**3.98**	**16**	*e*PN	**Pn**		**01 23 26.6**	**0.0**		
KRUC				*e*SN	**Sn**		**01 24 11.2**	**-2.2**		
JAVC	**Velka Javorina**	**4.13**	**28**	*e*PN	**Pn**		**01 23 28.6**	**-0.1**		
VRAC	**Vranov**	**4.25**	**16**	*e*PN	**Pn**		**01 23 30.1**	**-0.3**		
VYHS	**Vyhne**	**4.29**	**39**	*e*PN	**Pn**		**01 23 32.2**	**+1.4**		
VYHS				*e*SN	**Sn**		**01 24 19.1**	**-1.9**		
MORC	**Moravsky Berou**	**4.91**	**22**	*e*PN	**Pn**		**01 23 39.1**	**-0.3**		

IDC 15 01:34:29.3±3.0, 31°.09S×177°.60W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=67.3km s-min=29.9km az=110.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.86**	**351**	Pn	Pn	01 35 02.3	-0.1
	40nm,0.3s,baz=118,slow=23,SNR=1.9						
RAO				Sn	Sb	01 35 27.6	-0.2
	180nm,0.3s,baz=133,slow=21,SNR=4.3						
ASAR	**Alice Springs**	**43.42**	**267**	P	P	01 42 34.1	0.0
	0.9nm,0.6s,baz=113,slow=7.8,SNR=6.9						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**44.47**	**273**	P	P	01 42 42.2	-0.3
	0.8nm,0.5s,baz=112,slow=8.0,SNR=6.3						
	0.8nm,0.5s						
FINES	**FINESS Array B**	**145.91**	**340**	PKPbc	PKPdf	01 54 09.2	-0.2
	1.2nm,0.6s,baz=65,slow=2.7,SNR=13						

IDC 15 01:41:05.1±1.9, 9°.40N×84°.50W, h0km, mb3.6/3, mbtmp3.6/3, MS2.9/2, Error ellipse: s-maj=56.9km s-min=15.6km az=54.0
NEIC 15 01:41:06.8±0.8, 9°.40N±0°.04×84°.66W±0°.03, h10km±2km, ML3.8/18, Error ellipse: s-maj=6.3km s-min=4.4km az=25.0
UCR 15 01:41:08.0±1.0, 9°.45N×84°.63W, h8km±4km, MW4.1
UPA 15 01:41:09.2±4.2, 10°.17N×84°.29W, h0km±32km, MD4.1
CATAC 15 01:41:09.9±0.5, 10°N±4°×8°.4W±°, h1km, M4.1/15, MLv4.1/15, Error ellipse: s-maj=8.2km s-min=4.9km az=29.9, confirmed

ISC 15 01:41:08.2±1.1, 9°.43N±0°.03×84°.60W±0°.02, h12km±8km, n142, σ1$27/155, mb3.5/3, 8D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAR1A	**Puntarenas Pro**	**0.38**	**64**	*e*P	**Pb**	**01 41 16.4**	**-0.4**
PAR1A				*e*S	**Sb**	**01 41 23.7**	**+1.0**
QUEP	**Quepos**	**0.43**	**89**	*e*P	**Pg**	**01 41 17.0**	**+0.3**
QUEP				*e*S	**Sb**	**01 41 24.5**	**+0.4**
PICV	**PH. Pirrs**	**0.44**	**63**	*e*P	**Pb**	**01 41 17.6**	**-0.4**
OROT	**Orotina**	**0.49**	**8**	*e*P	**Pg**	**01 41 17.4**	**-0.4**
PURI	**Puriscal**	**0.50**	**34**	*e*P	**Pg**	**01 41 18.4**	**+0.2**
PAQE	**Paquera**	**0.51**	**320**	*e*P	**Pg**	**01 41 17.6**	**-0.7**
PISJ	**San Jernim**	**0.51**	**67**	*e*P	**Pb**	**01 41 18.7**	**-0.5**
CBL1	**Cabuya**	**0.51**	**288**	*e*P	**Pg**	**01 41 17.8**	**-0.5**
CBL1				*e*S	**Sb**	**01 41 26.6**	**+0.1**
ACOS	**Acosta**	**0.56**	**49**	*e*P	**Pg**	**01 41 19.2**	**-0.1**
ARZA	**Esparza**	**0.56**	**353**	*e*P	**Pg**	**01 41 18.7**	**-0.6**
ATEO	**Atenas**	**0.59**	**21**	*e*P	**Pg**	**01 41 19.6**	**-0.2**
ENAS	**Puntarenas**	**0.59**	**337**	*e*P	**Pg**	**01 41 19.3**	**-0.5**
ABE2	**San Pablo**	**0.60**	**63**	*e*P	**Pg**	**01 41 20.1**	**0.0**
PITB	**Pirrs, San**	**0.61**	**68**	*e*P	**Pb**	**01 41 20.5**	**-0.4**
PALD	**Palmares**	**0.64**	**14**	*e*P	**Pg**	**01 41 20.4**	**-0.4**
SANTA	**Santa Ana**	**0.65**	**39**	*e*P	**Pg**	**01 41 20.4**	**-0.5**
PIEC	**Cerro El Cedra**	**0.66**	**73**	*e*P	**Pb**	**01 41 21.4**	**-0.4**
LCR2	**La Lucha 2**	**0.66**	**62**		**Pg**	**01 41 20.8**	**-0.4**
LCR2				Sg	**Sg**	**01 41 28.9**	**-1.1**
LCR2				IAML		01 41 33.5	
	comp=N,4µm,0.3s						
LCR2	**La Lucha 2**	**0.66**	**62**	*e*P	**Pg**	**01 41 20.8**	**-0.4**
SRA1	**San Ramn**	**0.66**	**10**	*e*P	**Pg**	**01 41 20.6**	**-0.5**
BELE	**Belen**	**0.68**	**36**	*e*P	**Pg**	**01 41 21.1**	**-0.4**
TCS1	**Tacares**	**0.68**	**26**	*e*P	**Pg**	**01 41 21.3**	**-0.1**
PAVB	**Pavas, San Jos**	**0.69**	**43**	*e*P	**Pg**	**01 41 21.3**	**-0.4**
GREC	**Grecia**	**0.70**	**24**	*e*P	**Pg**	**01 41 22.0**	**+0.1**
AMPA	**Desamparados**	**0.70**	**49**	*e*P	**Pg**	**01 41 21.5**	**-0.4**
CENT	**San Jose**	**0.71**	**46**	*e*P	**Pb**	**01 41 22.8**	**+0.1**
LUJA	**Lujan**	**0.72**	**46**	*e*P	**Pg**	**01 41 21.9**	**-0.3**
MEXI	**Barrio Mexico**	**0.72**	**45**	*e*P	**Pg**	**01 41 21.9**	**-0.2**
HEME	**Heredia, Merce**	**0.72**	**39**	*e*P	**Pg**	**01 41 22.1**	**-0.2**
SJS3	**Mercedes San J**	**0.74**	**47**	*e*P	**Pg**	**01 41 22.5**	**-0.1**
ECI	**Escuela Centro**	**0.74**	**47**	*e*P	**Pg**	**01 41 22.3**	**-0.3**
HDC	**Heredia**	**0.74**	**40**		**Pg**	**01 41 22.3**	**-0.3**
HDC				IAML		01 41 36.6	
	comp=N,4µm,0.5s						
HDC				IAML		01 41 36.9	
	comp=E,3µm,0.7s						
HDC	**Heredia**	**0.74**	**40**	*e*P	**Pg**	**01 41 22.5**	**-0.2**
DOMI	**Santo Domingo**	**0.74**	**42**	*e*P	**Pg**	**01 41 22.6**	**-0.1**
LUPE	**Guadalupe**	**0.74**	**46**	*e*P	**Pg**	**01 41 22.4**	**-0.3**
TRIO	**Tres Rios**	**0.76**	**51**	*e*P	**Pg**	**01 41 22.5**	**-0.5**
CORON	**Coronado**	**0.80**	**47**	*e*P	**Pg**	**01 41 23.6**	**-0.1**
REPA	**Paraso**	**0.82**	**61**	*e*P	**Pg**	**01 41 23.6**	**-0.5**
PCAYA	**Pacayas**	**0.92**	**58**	*e*P	**Pg**	**01 41 25.8**	**-0.2**
JUNT	**Juntas**	**0.92**	**337**	*e*P	**Pg**	**01 41 24.5**	**-1.6**
JTS	**Las Juntas de**	**0.93**	**338**	IAML		01 41 38.4	
	comp=E,3µm,0.3s						
JTS	**Las Juntas de**	**0.93**	**338**	Pg	**Pg**	**01 41 24.4**	**-1.8**
JTS	**Las Juntas de**	**0.93**	**338**	Pg	**Pg**	**01 41 24.2**	**-2.0**
	comp=E,183nm,0.3s,baz=4.6,slow=9.3,SNR=1161						
JTS				Lg	Lg	01 41 37.9	
	comp=E,254nm,0.3s,baz=191,slow=22,SNR=7.7						
JTS	**Las Juntas de**	**0.93**	**338**	*e*P	**Pg**	**01 41 24.3**	**-1.8**
JTS	**Las Juntas de**	**0.93**	**338**	*i* P	**Pg**	**01 41 24.3**	**-1.8**
JTS				*i* P	**Pg**	**01 41 24.4**	**-1.8**
JTS				*i* P	**Pg**	**01 41 24.4**	**-1.8**
JTS	**Las Juntas de**	**0.93**	**338**	P	**Pb**	**01 41 26.2**	**0.0**
JTS				S	**Sg**	**01 41 37.9**	**-0.4**
RAFA	**San Farael, Vo**	**0.94**	**56**	*e*P	**Pg**	**01 41 26.2**	**-0.2**
SOCE	**Pocosol**	**0.95**	**359**	Pg	**Pg**	**01 41 25.6**	**-1.0**
CVTQ	**Turrialba Volc**	**1.00**	**55**	*e*P	**Pg**	**01 41 27.4**	**-0.2**
CASO	**Castillo**	**1.01**	**352**	*e*P	**Pg**	**01 41 26.8**	**-0.9**
VTR0	**Volcan Turrial**	**1.01**	**55**	*e*P	**Pg**	**01 41 27.5**	**-0.3**
CVTV	**Tajo**	**1.01**	**56**	*e*P	**Pg**	**01 41 27.6**	**-0.3**
CVTR	**Volcan Turrial**	**1.01**	**54**	*e*P	**Pg**	**01 41 27.8**	**-0.1**
EDPE	**Pejibaye, P**	**1.05**	**105**	*e*P	**Pb**	**01 41 27.7**	**-0.6**
CEDE	**Laguna Cedeo**	**1.06**	**354**	*e*P	**Pb**	**01 41 27.6**	**-0.9**
ITAL	**Pital**	**1.07**	**17**	*e*P	**Pb**	**01 41 28.1**	**-0.5**
TABAC	**Tabacon**	**1.08**	**351**	*e*P	**Pb**	**01 41 27.9**	**-1.0**
NICO	**Nicoya**	**1.09**	**310**	*e*P	**Pb**	**01 41 28.2**	**-0.8**
TILA	**Tilaran**	**1.10**	**341**	*e*P	**Pb**	**01 41 28.1**	**-1.1**
CNAS	**Canas**	**1.11**	**334**	*e*P	**Pb**	**01 41 28.7**	**-0.6**
INVE	**Universidad In**	**1.14**	**336**	*e*P	**Pb**	**01 41 28.1**	**-1.7**
SARA	**Sarapiqu**	**1.17**	**29**	*e*P	**Pb**	**01 41 29.3**	**-1.0**
LCOCO	**El Coco**	**1.22**	**57**	*e*P	**Pn**	**01 41 30.5**	**-0.6**
CARI	**Cariari**	**1.26**	**42**	*e*P	**Pn**	**01 41 31.3**	**-0.3**
BURE	**Buenos Aires**	**1.27**	**101**	*e*P	**Pn**	**01 41 30.9**	**-0.8**
FIMO	**Fila Mora**	**1.30**	**109**	*e*P	**Pn**	**01 41 31.4**	**-0.9**
MOTZ	**Rio Naranjo**	**1.33**	**340**	*e*P	**Pn**	**01 41 31.9**	**-0.9**
CUI	**Cuipilapa**	**1.34**	**336**	*e*P	**Pn**	**01 41 31.7**	**-1.1**
DRK0	**Durika**	**1.34**	**97**	*e*P	**Pn**	**01 41 32.2**	**-0.8**
DRK0	**Durika**	**1.34**	**97**	*i* P	**Pn**	**01 41 32.2**	**-0.8**
DRK0				*e*S	**Sb**	**01 41 50.4**	**-0.3**
COLC	**Colonia**	**1.37**	**334**	*e*P	**Pn**	**01 41 31.9**	**-1.2**
TAAN	**Batan**	**1.40**	**62**	*e*P	**Pb**	**01 41 34.1**	**-0.1**
HORNC	**Hornillas**	**1.40**	**336**	*e*P	**Pn**	**01 41 32.9**	**-0.7**
TRT2	**Tortugero**	**1.41**	**37**	*e*P	**Pn**	**01 41 33.1**	**-0.5**
MESS	**Mesas**	**1.43**	**336**	*e*P	**Pn**	**01 41 33.0**	**-1.0**
VMAR	**Armenia, Volca**	**1.47**	**340**	*e*P	**Pn**	**01 41 33.8**	**-0.7**
ALIBA	**Liberia Airpor**	**1.49**	**321**	*e*P	**Pn**	**01 41 33.7**	**-1.1**
GPS2	**Hotel Rincn d**	**1.51**	**331**	*e*P	**Pn**	**01 41 34.4**	**-0.7**
UPAL	**Upala**	**1.52**	**344**	*e*P	**Pn**	**01 41 34.7**	**-0.4**
GPS3	**Bodega del ICE**	**1.52**	**330**	*e*P	**Pg**	**01 41 37.4**	**0.0**
ELI1	**Hacienda Flor**	**1.53**	**322**	*e*P	**Pn**	**01 41 35.2**	**-0.2**
LAPC	**Finca la Perla**	**1.56**	**328**	*e*P	**Pn**	**01 41 34.4**	**-1.4**
PG27	**Guanacaste Pro**	**1.60**	**331**	*e*P	**Pn**	**01 41 35.9**	**-0.6**
LCHIL	**Los Chiles**	**1.60**	**356**	*e*P	**Pn**	**01 41 36.3**	**-0.1**
EDAD	**Golfito**	**1.61**	**118**	*e*P	**Pn**	**01 41 36.0**	**-0.6**
PEJA	**Penjamo Buenos**	**1.62**	**334**	*e*P	**Pn**	**01 41 36.5**	**-0.1**
ALCO	**Alturas Coton,**	**1.81**	**105**	*e*P	**Pn**	**01 41 38.3**	**-1.0**
MLIR3	**Monte Lirio, C**	**1.86**	**110**	*e*P	**Pg**	**01 41 44.0**	**0.0**
MLIR3	**Monte Lirio, C**	**1.86**	**110**	*e*P	**Pg**	**01 41 43.4**	**-0.5**
LCRUZ	**La Cruz**	**1.93**	**328**	*e*P	**Pb**	**01 41 42.5**	**-0.8**
CARN	**Rivas**	**1.97**	**333**	*e*P	**Pn**	**01 41 42.5**	**+1.1**
CARN	**Rivas**	**1.97**	**333**	P	**Pb**	**01 41 43.0**	**-1.0**
CARN				S	**Sb**	**01 42 08.8**	**+0.2**
BRU2	**Volcan**	**1.98**	**108**	Pn	**Pn**	**01 41 40.4**	**-1.4**
BRU2				IAML		01 42 17.7	
	comp=N,630nm,0.4s						
BRU2				IAML		01 42 26.3	
	comp=E,780nm,0.5s						
BRU2	**Volcan**	**1.98**	**108**	*e*P	**Pb**	**01 41 44.1**	**-0.3**
BRU2	**Volcan**	**1.98**	**108**	*e*P	**Pg**	**01 41 45.9**	**-0.4**
BRU2				*i* S	**Sg**	**01 42 17.4**	**+5.3**
BRU2	**Volcan**	**1.98**	**108**	P	**Pb**	**01 41 43.2**	**-1.2**
BC3P	**Paso Ancho**	**2.05**	**107**	*i* P	**Pb**	**01 41 45.7**	**+0.1**
BC3P				*e*S	**Sg**	**01 42 15.4**	**+1.0**
BC3P	**Paso Ancho**	**2.05**	**107**	*i* P	**Pb**	**01 41 45.7**	**+0.1**
BC3P				*e*S		01 43 35.7	
LESP3	**La Esperanza,**	**2.05**	**119**	*i* P	**Sn**	**01 42 06.8**	**-1.3**
PTAR3	**Potrerillos Ar**	**2.20**	**109**	*e*P	**Pb**	**01 41 48.7**	**+0.7**
PTAR3	**Potrerillos Ar**	**2.20**	**109**	*e*P	**Pg**	**01 41 50.4**	**0.0**
BQSF3	**Alto Boquete,**	**2.24**	**107**	*e*P	**Pb**	**01 41 47.6**	**-1.2**
BQSF3				*e*S	**Sg**	**01 42 20.8**	**+0.4**
DVD	**David**	**2.34**	**115**	*e*P	**Pg**	**01 41 52.2**	**-0.9**
DVD				*e*S	**Sg**	**01 42 28.0**	**+4.5**
JAPN	**Al SSO del Vol**	**2.34**	**333**	P	**Pb**	**01 41 48.6**	**-1.7**
MORN	**Al O del Volca**	**2.35**	**334**	P	**Pb**	**01 41 48.6**	**-1.9**
CSTBL	**De las Acacias**	**2.36**	**115**	*e*P	**Pg**	**01 41 52.4**	**-1.0**
PSOM3	**Paja de Sombre**	**2.37**	**108**	*e*P	**Pb**	**01 41 48.8**	**-2.0**
LCOC0	**Loma Colorada,**	**2.38**	**115**	*i* P	**Pb**	**01 41 52.8**	**+1.0**
LCOC0				*e*S	**Sn**	**01 42 14.7**	**+1.4**
PEDE3	**Pedregal, Chir**	**2.39**	**116**	*e*P	**Pb**	**01 41 49.3**	**-1.8**
PEDE3	**Pedregal, Chir**	**2.39**	**116**	*e*P	**Pn**	**01 41 46.1**	**-1.0**
ACON	**Acoyapa**	**2.59**	**347**	Pn	**Pn**	**01 41 48.4**	**-1.5**
ACON	**Acoyapa**	**2.59**	**347**	*e*P	**Pn**	**01 41 49.1**	**-0.8**
ACON	**Acoyapa**	**2.59**	**347**	P	**Pn**	**01 41 50.8**	**+0.9**
BLUN	**Bluefields**	**2.69**	**17**	*e*P	**Pn**	**01 41 51.3**	**0.0**
BLUN	**Bluefields**	**2.69**	**17**	P	**Pn**	**01 41 51.3**	**0.0**
BLUN				S	**Sn**	**01 42 22.6**	**-1.1**
ESPN	**Las Esperanzas**	**2.77**	**6**	Pn	**Pn**	**01 41 52.0**	**-0.4**
ESPN				IAML		01 42 50.6	
	comp=E,266nm,0.9s						
ESPN	**Las Esperanzas**	**2.77**	**6**	*e*P	**Pn**	**01 41 52.4**	**0.0**
ESPN	**Las Esperanzas**	**2.77**	**6**	P	**Pn**	**01 41 52.6**	**+0.2**
NANN	**Nandasmo**	**2.91**	**329**	P	**Pn**	**01 41 56.9**	**+2.5**
NANN	**Nandasmo**	**2.91**	**329**	S	**Sn**	**01 42 32.2**	**+2.9**
UNAN	**Cigeo UNAN**	**3.13**	**329**	P	**Pn**	**01 42 00.1**	**+2.6**
UNAN				S	**Sn**	**01 42 37.7**	**+2.9**
BOAB	**BOACO BROADBAN**	**3.18**	**341**	Pn	**Pn**	**01 41 57.1**	**-1.0**
BOAB				IAML		01 42 45.9	
	comp=E,278nm,0.7s						
BOAB				IAML		01 43 02.0	
	comp=N,179nm,0.8s						
BOAB	**BOACO BROADBAN**	**3.18**	**341**	S	**Sn**	**01 42 37.7**	**+1.8**
BOAB	**BOACO BROADBAN**	**3.18**	**341**	P	**Pn**	**01 41 59.4**	**+1.3**
SAPS	**Ciudad Sandino**	**3.25**	**327**	P	**Pn**	**01 42 01.6**	**+2.5**
SAPS	**Ciudad Sandino**	**3.25**	**327**	S	**Sn**	**01 42 41.2**	**+3.5**
COPN	**Copaltepe**	**3.37**	**325**	P	**Pn**	**01 42 02.5**	**+1.9**
CNGN	**Cerro Negro**	**3.69**	**326**	Pn	**Pn**	**01 42 06.0**	**+1.0**
CNGN	**Cerro Negro**	**3.69**	**326**	P	**Pn**	**01 42 08.1**	**+3.0**
CNGN	**Cerro Negro**	**3.69**	**326**	S	**Sn**	**01 42 52.0**	**+3.5**
MATN	**Matagalpa**	**3.72**	**340**	P	**Pn**	**01 42 06.8**	**+1.3**
CRIN	**San Cristobal**	**4.05**	**324**	P	**Pn**	**01 42 12.7**	**+2.7**
CRIN	**San Cristobal**	**4.05**	**324**	S	**Sn**	**01 43 00.6**	**+3.1**
BCIP	**Isla Barro Col**	**4.71**	**93**	Pn	**Pn**	**01 42 18.7**	**-0.4**
BCIP				IAML		01 44 20.2	
	comp=N,40nm,2.0s						
BCIP	**Isla Barro Col**	**4.71**	**93**	*i* P	**Pn**	**01 42 19.4**	**+0.4**
BILN	**Bilwi Airport**	**4.75**	**14**	P	**Pn**	**01 42 19.6**	**0.0**
MTO3	**Montecristo**	**6.79**	**317**	Pn	**Pn**	**01 42 49.1**	**+1.2**
SJG	**San Juan**	**19.87**	**62**	LR	LR	01 52 23.8	
	comp=N,25nm,21.1s,baz=164,slow=34						
TKL	**Tuckaleechee C**	**26.12**	**2**	LR	LR	01 57 12.2	
	comp=N,38nm,19.2s,baz=360,slow=37						
TXAR	**Lajitas Array**	**26.67**	**321**	P	**P**	**01 46 46.5**	**-0.8**
	comp=N,0.3nm,0.4s,baz=142,slow=10,SNR=13						
	comp=N,0.3nm,0.4s						
NVAR	**Mina Array Bea**	**41.81**	**319**	P	**P**	**01 48 57.7**	**-0.4**
	comp=N,0.7nm,0.7s,baz=139,slow=5.6,SNR=4.2						
	comp=N,0.7nm,0.7s						
ESDC	**Sonseca Array**	**76.86**	**51**	P	**P**	**01 52 59.1**	**-1.4**
	comp=N,0.3nm,0.6s,baz=278,slow=5.8,SNR=8.6						
	comp=N,0.3nm,0.6s						

AUST 15 02:53:34.2±1.1, 18°S±8°×12°.0E±°, h18km±13km, mb4.1/12, ML3.6/5, Error ellipse: s-maj=21.4km s-min=5.2km az=143.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**2.88**	**194**	S	Sn	02 54 55.3	+1.8
PSAC1	**Pilbara Seismi**	**3.23**	**191**	P	Pn	02 54 25.4	+1.3
PSAC1				S	Sn	02 55 03.9	+1.7
PSA00	**Pilbara Seismi**	**3.27**	**190**	P	Pn	02 54 25.8	+1.3
PSA00				S	Sn	02 55 03.8	+0.9
FITZ	**Fitzroy Crossi**	**4.92**	**88**	S	Sn	02 55 44.8	+1.1
GIRL	**Giralia**	**7.24**	**233**	P	Pn	02 55 18.8	-0.4
GIRL				S	Sn	02 56 35.0	-6.0
KNRA	**Kununurra**	**8.36**	**73**	P	Pn	02 55 34.7	+0.2
	comp=Z,37nm,1.1s,comp=Z,0.1nm						
KNRA				S	Sn	02 57 06.5	-2.1
MEEK	**Meekatharra**	**8.43**	**191**	P	Pn	02 55 35.8	+0.3
	comp=Z,20nm,0.7s,comp=Z,0.2nm						
MEEK	**Meekatharra**	**8.43**	**191**	S	Sn	02 57 05.7	-4.6
CVQOZ	**Cooralya Stati**	**8.50**	**223**	P	Pn	02 55 36.1	-0.3
CVQOZ				S	Sn	02 57 04.9	-7.1
WRKA	**Warakurna**	**9.86**	**134**	P	Pn	02 55 56.8	+1.7
	comp=Z,3.0nm,0.5s,comp=Z,0.0nm						
WRKA				S	Sn	02 57 44.6	-0.8
MORW	**Morawa**	**11.42**	**200**	P	Pn	02 56 14.9	-1.6
	comp=Z,12nm,2.8s						
MORW	**Morawa**	**11.42**	**200**	S	Sn	02 58 14.9	-8.7
BLDU	**Ballidu**	**12.69**	**195**	P	Pn	02 56 32.6	-1.1
	comp=Z,22nm,1.5s						
BLDU	**Ballidu**	**12.69**	**195**	S	Sn	02 58 44.8	-10
WB2	**Warramunga Arr**	**13.21**	**99**	P	Pn	02 56 41.5	+0.5
KLBR	**Kellerberrin**	**13.42**	**190**	P	Pn	02 56 42.5	-1.3
	comp=Z,17nm,0.4s						
KLBR	**Kellerberrin**	**13.42**	**190**	S	Sn	02 59 01.4	-11
AS13	**Alice Springs**	**13.60**	**115**	P	Pn	02 56 49.4	+3.1
	comp=Z,7.5nm,0.8s						
MUN	**Mundaring**	**14.11**	**195**	P	Pn	02 56 51.5	-1.7
	comp=Z,15nm,0.7s						
MUN	**Mundaring**	**14.11**	**195**	S	Sn	02 59 19.0	-10
FORT	**Forrest**	**14.16**	**152**	P	Pn	02 56 53.9	-0.1
	comp=Z,10nm,1.4s						
FORT				S	Sn	02 59 23.7	-7.0
MTKN	**Mount Kenneth**	**14.18**	**197**	P	P	02 57 29.0	+27
DNDOZ	**Balladonia**	**14.38**	**168**	P	Pn	02 56 55.3	-1.6
RKGY	**Rocky Gully**	**16.50**	**190**	P	Pn	02 57 23.3	-1.4
	comp=Z,17nm,2.0s						
RKGY				S	Sn	03 00 15.1	-12
MULG	**Mulgathing**	**17.14**	**136**	P	P	02 57 36.8	+2.4
	comp=Z,9.5nm,1.5s						
QIS	**Mount Isa**	**18.18**	**100**	P	P	02 57 49.4	+3.5
	comp=Z,14nm,1.8s						

NEIC 15 02:54:38.8±1.5, 35°.664N±0°.008×117°.49W±0°.01, h15km±2km, Error ellipse: s-maj=1.3km s-min=1.1km az=134.0
**PAS 15 02

BBRC	**Big Bear Solar**	**1.48**	**161**			Pn	02 55 06.7	0.0
TIN	**Tinemaha, Big**	**1.51**	**337**			Pb	02 55 07.7	-0.1
MWC	**Mount Wilson**	**1.51**	**198**	Pn		Pn	02 55 05.7	-1.3
MWC				IAML			02 55 29.0	
	comp=E,592nm,0.5s							
MWC				IAML			02 55 30.4	
	comp=N,685nm,0.5s							
DECC	**Green Verdugo**	**1.56**	**206**			Pn	02 55 06.7	-0.9
LCH	**Last Change Ra**	**1.57**	**356**			Pn	02 55 07.1	-0.8
SVD	**Seven Oaks Dam**	**1.59**	**168**			Pb	02 55 09.2	0.0
PASC	**Pasadena Art C**	**1.59**	**201**	Pn		Pn	02 55 06.9	-1.1
MTPC	**Mountain Pass**	**1.60**	**96**	Pn		Pn	02 55 06.3	-2.0
MTPC				IAML			02 55 30.4	
	comp=N,1µm,0.3s							
MTPC				IAML			02 55 30.6	
	comp=E,1µm,0.3s							
OAT	**Oat Mountain**	**1.60**	**215**			Pn	02 55 07.5	-0.7
TPNV	**Topopah Spring**	**1.63**	**38**	Pn		Pn	02 55 07.6	-1.1
TPNV				IAML			02 55 33.3	
	comp=E,586nm,0.6s							
TPNV				IAML			02 55 34.7	
	comp=E,727nm,0.6s							
GMN	**Gold Mountain**	**1.64**	**7**	Pn		Pn	02 55 07.9	-1.1
GMN				IAML			02 55 37.6	
	comp=N,547nm,0.5s							
VOG	**Valley Oaks Go**	**1.66**	**294**			Pb	02 55 09.7	-0.7
GTM	**Goat Mountain**	**1.66**	**145**			Pb	02 55 10.1	-0.3
BLCC	**Black Canyon**	**1.71**	**214**			Pn	02 55 09.1	-0.6
RHC	**Rose Hills Cem**	**1.71**	**194**			Pn	02 55 08.9	-0.7
BCW	**Bitter Crk WRg**	**1.72**	**246**			Pn	02 55 08.5	-1.3
DJJ	**Donna J Jenkin**	**1.74**	**207**			Pn	02 55 08.9	-1.1
DSP	**Deep Springs**	**1.74**	**348**	Pn		Pn	02 55 09.4	-0.7
DSP				IAML			02 55 35.7	
	comp=N,406nm,0.5s							
DSP				IAML			02 55 36.4	
	comp=E,489nm,0.7s							
GMRC	**Granite Mounta**	**1.75**	**120**			Pn	02 55 07.9	-2.3
POCCA	**Poleta Canyon**	**1.81**	**340**			Pb	02 55 12.9	-0.1
BHPR	**Bishop**	**1.81**	**334**			Pn	02 55 10.8	-0.5
BLAC	**Blackrock camp**	**1.84**	**150**			Pn	02 55 10.6	-0.9
EW2	**E Wide Canyon**	**1.94**	**152**			Pn	02 55 12.0	-0.9
TPC	**Twentynine Pal**	**1.96**	**142**			Pn	02 55 11.7	-1.4
HMTC	**Hemet**	**1.99**	**168**			Pn	02 55 12.7	-0.9
ELS	**Elsinore Mount**	**2.01**	**178**	Pn		Pn	02 55 12.9	-1.0
ELS				IAML			02 55 49.6	
	comp=E,581nm,0.5s							
POB	**Polly Butte**	**2.03**	**166**			Pn	02 55 13.3	-0.8
MZP	**Montezuma Peak**	**2.04**	**3**	Pn		Pn	02 55 13.7	-0.6
DGR	**Domenigoni Val**	**2.05**	**168**			Pn	02 55 13.4	-0.9
SHPR	**Sheep Range**	**2.08**	**65**			Pn	02 55 14.1	-0.7
SHPR				IAML			02 55 46.8	
	comp=N,374nm,0.7s							
BACC	**Bachelor Mtn.**	**2.08**	**169**			Pn	02 55 13.8	-1.0
V12A	**Nelson**	**2.16**	**88**	Pn		Pn	02 55 14.2	-1.7
V12A				IAML			02 55 53.7	
	comp=E,422nm,0.6s							
V12A				IAML			02 55 54.5	
	comp=N,441nm,0.6s							
PMD	**Palm Desert**	**2.22**	**155**	Pn		Pn	02 55 15.1	-1.5
PMD				IAML			02 55 51.7	
	comp=E,500nm,0.6s							
PMD				IAML			02 55 51.7	
	comp=N,364nm,0.5s							
SNDA	**J Saunders Pla**	**2.23**	**161**			Pn	02 55 16.1	-0.8
BZNA	**Buzz No.'s Pla**	**2.27**	**162**			Pn	02 55 16.8	-0.8
CIAC	**Catalina I. Ai**	**2.38**	**199**			Pn	02 55 17.8	-1.0
S11A	**Rachel**	**2.43**	**35**	Pn		Pn	02 55 18.7	-1.0
S11A				IAML			02 56 03.7	
	comp=E,314nm,0.8s							
S11A				IAML			02 56 19.0	
	comp=N,318nm,0.7s							
GORC	**Green Oak Ranc**	**2.52**	**175**			Pn	02 55 19.9	-0.8
NEE2	**Needles Airpor**	**2.53**	**110**	Pn		Pn	02 55 18.7	-2.2
NEE2				IAML			02 56 11.4	
	comp=E,595nm,0.5s							
BORC	**Borrego Spring**	**2.55**	**159**	Pn		Pn	02 55 20.9	-0.3
BORC				IAML			02 56 02.4	
	comp=N,349nm,0.8s							
BORC				IAML			02 56 06.5	
	comp=E,445nm,0.8s							
PRN	**Pahroc Range**	**2.63**	**48**	Pn		Pn	02 55 21.8	-0.6
PRN				IAML			02 56 06.1	
	comp=E,339nm,0.8s							
PRN				IAML			02 56 12.6	
	comp=N,376nm,0.7s							
SALN	**Salton City**	**2.69**	**152**	Pn		Pn	02 55 22.0	-1.1
DPP	**Dos Picos Cty**	**2.70**	**170**	Pn		Pn	02 55 22.2	-1.0
DPP				IAML			02 56 04.4	
	comp=E,406nm,0.6s							
DPP				IAML			02 56 05.6	
	comp=N,176nm,0.6s							
LHV	**Little Huntoon**	**2.70**	**343**	Pn		Pn	02 55 22.8	-0.5
LHV				IAML			02 56 09.2	
	comp=E,334nm,0.6s							
LHV				IAML			02 56 10.3	
	comp=N,281nm,0.6s							
PMPB	**Monarch Peak**	**2.73**	**283**	Pn		Pn	02 55 23.3	-0.5
PMPB				IAML			02 56 09.4	
	comp=E,412nm,0.9s							
PMPB				IAML			02 56 12.4	
	comp=N,479nm,1.0s							
NV11	**Mina Array Sit**	**2.81**	**350**	Pn		Pn	02 55 24.4	-0.5
NVAR	**Mina Array Bea**	**2.83**	**347**	Pn		Pn	02 55 24.7	-0.6
W13A	**Hualapai Mount**	**3.01**	**100**	Pn		Pn	02 55 26.1	-1.6
W13A				IAML			02 56 17.7	
	comp=E,190nm,0.7s							
W13A				IAML			02 56 18.2	
	comp=N,169nm,1.2s							
RYN	**Ryan**	**3.07**	**345**	Pn		Pn	02 55 28.0	-0.5
R11B	**Troy Canyon, C**	**3.09**	**29**	Pn		Pn	02 55 27.5	-1.3
BLYC	**Blythe**	**3.11**	**127**	Pn		Pn	02 55 26.5	-2.4
BLYC				IAML			02 56 18.5	
	comp=N,295nm,0.6s							
BLYC				IAML			02 56 25.0	
	comp=E,201nm,0.6s							
TJX	**Tijuana**	**3.17**	**173**	Pn		Pn	02 55 28.2	-1.5
Q09A	**Carvers**	**3.17**	**5**	Pn		Pn	02 55 30.3	+0.3
Q09A				IAML			02 56 26.4	
	comp=E,320nm,0.8s							
WAKR	**Walker**	**3.23**	**332**	Pn		Pn	02 55 30.6	-0.1
YUH	**Yuha Desert**	**3.28**	**156**	Pn		Pn	02 55 29.7	-1.5
YUH				IAML			02 56 25.0	
	comp=N,95nm,0.6s							
CMB	**Columbia Colle**	**3.31**	**317**	Pn		Pn	02 55 31.6	-0.1
CMB				IAML			02 56 28.2	
	comp=N,97nm,0.6s							
SAO	**San Andreas Ge**	**3.37**	**290**	Pn		Pn	02 55 32.1	-0.4
CBX	**Cerro Bola**	**3.42**	**168**	Pn		Pn	02 55 32.5	-0.7
GLA	**Glamis**	**3.42**	**139**	Pn		Pn	02 55 30.6	-2.6
LCMT	**Little Creek M**	**3.69**	**67**	Pn		Pn	02 55 37.1	+0.1
CCUT	**Cedar City**	**3.83**	**59**	Pn		Pn	02 55 38.8	-0.2
CCX	**Cicese**	**3.85**	**169**	Pn		Pn	02 55 38.8	-0.3
CCX				IAML			02 56 43.7	
	comp=N,145nm,0.7s							
KNB	**Kanab**	**4.01**	**69**	Pn		Pn	02 55 41.2	-0.3
KNB				IAML			02 56 50.2	
	comp=E,74nm,0.7s							
KNB				IAML			02 56 59.0	
	comp=N,54nm,1.7s							
SZCU	**Shurtz Canyon**	**4.04**	**60**	Pn		Pn	02 55 42.2	+0.3
Y14A	**Wickenburg**	**4.08**	**114**	Pn		Pn	02 55 40.5	-1.8
Y14A				IAML			02 56 55.5	
	comp=E,121nm,0.7s							
Y14A				IAML			02 56 57.3	
	comp=N,121nm,0.7s							
PSUT	**Pine Spring**	**4.09**	**44**	Pn		Pn	02 55 41.8	-0.7
PSUT				IAML			02 56 58.9	
	comp=E,60nm,1.0s							
PSUT				IAML			02 57 04.8	
	comp=N,51nm,1.0s							
SPR3	**Spring Creek 3**	**4.18**	**36**	Pn		Pn	02 55 42.3	-1.6
SPR3				IAML			02 56 57.5	
	comp=E,69nm,1.0s							
U15A	**North Rim**	**4.29**	**78**	Pn		Pn	02 55 45.5	+0.1
U15A				IAML			02 56 56.0	
	comp=N,73nm,1.1s							
U15A				IAML			02 56 58.0	
	comp=E,113nm,0.8s							
PAHR	**Pah Rah Range**	**4.30**	**340**	Pn		Pn	02 55 45.1	-0.3
WUAZ	**Wupatki**	**5.00**	**90**	Pn		Pn	02 55 55.0	0.0
WUAZ				IAML			02 57 21.4	
	comp=E,71nm,1.0s							
ORV	**Oroville**	**5.01**	**322**	Pn		Pn	02 55 53.6	-1.4
X16A	**Lo Mia Camp, P**	**5.13**	**102**	Pn		Pn	02 55 55.8	-1.0
X16A				IAML			02 57 31.1	
	comp=N,25nm,1.2s							
PIX	**Pinacate**	**5.30**	**139**	Pn		Pn	02 55 57.0	-2.0
PIX				IAML			02 57 37.7	
	comp=E,22nm,1.0s							
ELK	**Elko**	**5.38**	**19**	Pn		Pn	02 55 59.9	-0.4
214A	**Organ Pipe Nat**	**5.38**	**132**	Pn		Pn	02 55 56.7	-3.4
214A				IAML			02 57 43.9	
	comp=E,37nm,1.2s							
214A				IAML			02 57 45.8	
	comp=N,25nm,1.1s							
HMU	**Henry Mountain**	**5.88**	**65**	Pn		Pn	02 56 05.9	-1.3
Q16A	**Castle Valley**	**6.00**	**55**	Pn		Pn	02 56 09.3	+0.5
HATC	**Hat Creek Radi**	**6.01**	**330**	Pn		Pn	02 56 06.8	-2.1
X18A	**Snowflake**	**6.29**	**98**	Pn		Pn	02 56 12.9	0.0
BGU	**Big Grassy Mou**	**6.32**	**32**	Pn		Pn	02 56 14.0	+0.8
MPU	**Maple Canyon**	**6.36**	**45**	Pn		Pn	02 56 13.6	-0.1
TUC	**Tucson**	**6.51**	**119**	Pn		Pn	02 56 13.7	-2.0
SRU	**San Rafael Swe**	**6.54**	**56**	Pn		Pn	02 56 15.3	-0.8
BSUT	**Blindstream Ca**	**7.20**	**46**	Pn		Pn	02 56 26.7	+1.2
PV16	**Nyswonger Mesa**	**7.36**	**66**	Pn		Pn	02 56 25.0	-2.5
MVCO	**Mesa Verde**	**7.42**	**75**	Pn		Pn	02 56 28.7	+0.4
PV12	**Saucer Basin,**	**7.45**	**67**	Pn		Pn	02 56 28.9	+0.2
PV02	**Paradox Valley**	**7.46**	**68**	Pn		Pn	02 56 29.4	+0.4

DJA 15 02:57:58.3±0.2, 0°S±3°×12°5E±°, h10km, M4.5/14, mB5.3/2, mb4.9/2, MLv4.3/14, Mw(mB)4.7/2, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.00**	**322**	P	Pg	02 58 17.1	-0.5
KMSI				S	Sg	02 58 30.5	-0.2
LUWI	**Luwuk**	**2.00**	**246**	P	Pb	02 58 33.8	-1.0
SANI	**Sanana**	**2.29**	**143**	P	Pn	02 58 33.6	-2.5
MRSI	**Marisa**	**2.75**	**285**	P	Pn	02 58 39.5	-3.0
TNTI	**Ternate**	**2.94**	**70**	P	Pn	02 58 46.0	+0.9
APSI	**Ampana**	**3.03**	**257**	P	Pn	02 58 48.2	+1.9
NLAI	**Namlea**	**3.90**	**140**	P	Pn	02 58 57.2	-1.2
KDI	**Kendari**	**4.21**	**208**	P	Pn	02 59 02.7	+0.1
MPSI	**Mapaga**	**4.73**	**277**	P	Pn	02 59 09.6	-0.2
PCI	**Palu**	**4.81**	**262**	P	Pn	02 59 02.9	-8.0
TTSI	**Tana Toraja** 0.4nm2µm85nm,0.6s	**5.54**	**240**	P	Pn	02 59 22.0	+1.1
SPSI	**Sidrap Palu**	**6.09**	**232**	P	Pn	02 59 29.7	+1.2

NOU 15 03:01:54.2, 38°54S×175°47E, h178km, MLv3.9/17, North Island, New Zealand
WEL 15 03:01:56.9±1.4, 38°S±8°×17°6E±°, h157km±14km, M3.3/62, ML2.8/21, MLv3.3/62, Error ellipse: s-maj=10.4km s-min=8.6km az=25.8, confirmed

ISC 15 03:01:52.8±1.7, 38°50S±0°05×175°55E±0°05, h193km±10km, n119, σ1°18/124, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	**Tolley Road**	**0.17**	**357**	P	**Pn**	**03 02 18.9**	**+0.6**
KUTZ	**Kaahu Road**	**0.22**	**88**	P	**Pn**	**03 02 19.1**	**+0.9**
WATZ	**Wairara**	**0.26**	**146**	P	**Pn**	**03 02 19.4**	**+1.1**
RATZ	**Rangitukua**	**0.41**	**155**	P	**Pn**	**03 02 19.4**	**+0.7**
GRRZ	**Galatos Road**	**0.47**	**72**	P	**Pn**	**03 02 19.7**	**+0.8**
WPRZ	**Whakapapatarin**	**0.48**	**93**	P	**Pn**	**03 02 19.6**	**+0.6**
KATZ	**Kakaramea**	**0.49**	**167**	P	**Pn**	**03 02 20.2**	**+1.1**
RITZ	**Rihia Road**	**0.54**	**153**	P	**Pn**	**03 02 20.2**	**+1.0**
HIZ	**Hauiti**	**0.54**	**268**	P	**Pn**	**03 02 19.9**	**+0.7**
HIZ	**Hauiti**	**0.54**	**268**	P	**Pn**	**03 02 20.1**	**+0.9**
HSRZ	**Hossack Road**	**0.58**	**72**	P	**Pn**	**03 02 20.1**	**+0.7**
TWVZ	**Taurewa**	**0.58**	**189**	P	**Pn**	**03 02 20.4**	**+0.9**
HRRZ	**Handcock Road**	**0.59**	**80**	P	**Pn**	**03 02 20.1**	**+0.6**
KRVZ	**Karewarewa**	**0.60**	**173**	P	**Pn**	**03 02 20.8**	**+1.2**
WTVZ	**West Tongariro**	**0.62**	**177**	P	**Pn**	**03 02 20.6**	**+1.0**
ALRZ	**Allen Road**	**0.63**	**96**	P	**Pn**	**03 02 20.1**	**+0.6**
TMVZ	**Te Maari**	**0.63**	**169**	P	**Pn**	**03 02 20.9**	**+1.2**
NNVZ	**North Ngauruho**	**0.64**	**175**	P	**Pn**	**03 02 20.9**	**+1.1**
ETVZ	**East Tongariro**	**0.65**	**169**	P	**Pn**	**03 02 20.9**	**+1.1**
OTVZ	**Oturere**	**0.67**	**172**	P	**Pn**	**03 02 21.3**	**+1.4**
NGZ	**Ngauruhoe**	**0.68**	**177**	P	**Pn**	**03 02 21.0**	**+1.0**
SNVZ	**South Ngauruho**	**0.69**	**174**	P	**Pn**	**03 02 21.4**	**+1.4**
COVZ	**Chateau Observ**	**0.70**	**180**	P	**Pn**	**03 02 21.2**	**+1.1**
KMRZ	**Kaimai**	**0.72**	**26**	P	**Pn**	**03 02 20.8**	**+0.7**
FWVZ	**Far West T-bar**	**0.76**	**180**	P	**Pn**	**03 02 21.6**	**+1.1**
MRHZ	**Matea Rd**	**0.76**	**117**	P	**Pn**	**03 02 20.8**	**+0.5**
TOZ	**Tahuroa Road**	**0.77**	**357**	P	**Pn**	**03 02 21.1**	**+0.8**
MAVZ	**Matarangi**	**0.77**	**179**	P	**Pn**	**03 02 21.8**	**+1.1**
TUVZ	**Turoa**	**0.78**	**174**	P	**Pn**	**03 02 21.8**	**+1.1**
WHVZ	**Whangaehu Hut**	**0.79**	**178**	P	**Pn**	**03 02 21.8**	**+1.1**
TRVZ	**Turoa**	**0.80**	**180**	P	**Pn**	**03 02 21.9**	**+1.1**
WNVZ	**Wahianoa**	**0.83**	**177**	P	**Pn**	**03 02 22.1**	**+1.2**
VRZ	**Vera Road**	**0.88**	**224**	P	**Pn**	**03 02 22.3**	**+1.4**
MTVZ	**Mangateitei**	**0.89**	**184**	P	**Pn**	**03 02 22.4**	**+1.3**
MOVZ	**Moawhango**	**0.92**	**170**	P	**Pn**	**03 02 22.1**	**+0.8**
MUGZ	**Murupara**	**0.96**	**89**	P	**Pn**	**03 02 22.0**	**+0.5**
BKZ	**Black Stump Fm**	**0.99**	**132**	P	**Pn**	**03 02 22.4**	**+0.6**
BKZ	**Black Stump Fm**	**0.99**	**132**	S	**Sn**	**03 02 42.7**	**-1.6**
BKZ	**Black Stump Fm**	**0.99**	**132**	P	**Pn**	**03 02 22.6**	**+0.8**
OPRZ	**Ohinepanea**	**1.03**	**51**	P	**Pn**	**03 02 22.6**	**+0.6**
MTHZ	**Maungataniwha**	**1.07**	**110**	P	**Pn**	**03 02 23.2**	**+0.9**
MTHZ				S	**Sn**	**03 02 43.5**	**-1.7**
RTZ	**Ruatahuna**	**1.13**	**97**	P	**Pn**	**03 02 23.5**	**+0.7**
RTZ				S	**Sn**	**03 02 44.0**	**-2.0**
KWHZ	**Kaweka Forest**	**1.15**	**144**	P	**Pn**	**03 02 24.2**	**+1.2**
KWHZ				S	**Sn**	**03 02 45.1**	**-1.3**
NMHZ	**Naumai**	**1.15**	**122**	P	**Pn**	**03 02 24.8**	**+1.8**
NMHZ				S	**Sn**	**03 02 46.5**	**+0.1**
URZ	**Urewera**	**1.25**	**80**	P	**Pn**	**03 02 23.8**	**+0.2**
URZ	**Urewera**	**1.25**	**80**	P	**Pn**	**03 02 24.0**	**+0.3**
RAHZ	**Arahi**	**1.27**	**110**	P	**Pn**	**03 02 25.4**	**+1.6**
RAHZ				S	**Sn**	**03 02 47.3**	**-0.7**
MCHZ	**McNeill Hill**	**1.30**	**137**	P	**Pn**	**03 02 26.2**	**+2.1**
KRHZ	**Kereru**	**1.31**	**151**	P	**Pn**	**03 02 25.6**	**+1.5**
LREZ	**Lake Rotokare**	**1.31**	**222**	P	**Pn**	**03 02 26.2**	**+2.1**
WAZ	**Wanganui**	**1.33**	**199**	P	**Pn**	**03 02 26.1**	**+1.8**
ARHZ	**Aropaoanui**	**1.36**	**125**	P	**Pn**	**03 02 26.3**	**+1.7**
NEZ	**North Egmont**	**1.37**	**235**	P	**Pn**	**03 02 26.8**	**+2.1**
PKE	**Pukeiti**	**1.41**	**240**	P	**Pn**	**03 02 26.9**	**+1.9**
SNGZ	**Shannon Statio**	**1.43**	**102**	P	**Pn**	**03 02 26.6**	**+1.4**
KHEZ	**Kahui Hut**	**1.44**	**236**	P	**Pn**	**03 02 27.2**	**+1.9**
RAGZ	**Rawiri**	**1.47**	**91**	P	**Pn**	**03 02 26.8**	**+1.2**
PNHZ	**Pukenui**	**1.50**	**161**	P	**Pn**	**03 02 27.2**	**+1.4**
MWZ	**Matawai**	**1.56**	**85**	P	**Pn**	**03 02 27.3**	**+0.9**
NMEZ	**Namu Road**	**1.59**	**234**	P	**Pn**	**03 02 28.8**	**+2.2**
TSZ	**Takapari Road**	**1.59**	**169**	P	**Pn**	**03 02 28.1**	**+1.4**
AWAZ	**Awhitu Peninsu**	**1.60**	**333**	P	**Pn**	**03 02 28.1**	**+1.3**
ETAZ	**East Tamaki Re**	**1.62**	**342**	P	**Pn**	**03 02 28.0**	**+1.1**
KAHZ	**Kahuranaki**	**1.66**	**142**	P	**Pn**	**03 02 29.2**	**+1.9**
CKHZ	**Cape Kidnapper**	**1.66**	**135**	P	**Pn**	**03 02 29.1**	**+1.8**
WPHZ	**Waipukurau**	**1.71**	**156**	P	**Pn**	**03 02 29.3**	**+1.5**
OHWZ	**Ohakea**	**1.72**	**186**	P	**Pn**	**03 02 29.8**	**+2.0**
WIAZ	**Waiheke Island**	**1.73**	**349**	P	**Pn**	**03 02 29.1**	**+1.0**
KNZ	**Kokohu**	**1.74**	**108**	P	**Pn**	**03 02 29.4**	**+1.3**
RIGZ	**Rimuhau**	**1.75**	**98**	P	**Pn**	**03 02 29.4**	**+1.3**
KUZ	**Kuaotunu**	**1.75**	**5**	P	**Pn**	**03 02 29.1**	**+0.9**
KUZ	**Kuaotunu**	**1.75**	**5**	P	**Pn**	**03 02 29.1**	**+0.9**
RUGZ	**Raukumara Rang**	**1.76**	**73**	P	**Pn**	**03 02 28.2**	**-0.2**
MBAZ	**Motutapu North**	**1.80**	**343**	P	**Pn**	**03 02 29.8**	**+1.1**
TKGZ	**Te Karaka**	**1.81**	**89**	P	**Pn**	**03 02 30.4**	**+1.7**
PXZ	**Pawanui**	**1.84**	**147**	P	**Pn**	**03 02 30.5**	**+1.5**
PVHZ	**Dannevirke**	**1.86**	**165**	P	**Pn**	**03 02 30.3**	**+1.3**
PRGZ	**Paritu Road**	**1.88**	**104**	P	**Pn**	**03 02 30.7**	**+1.3**
POWZ	**Post Office Ro**	**1.90**	**175**	P	**Pn**	**03 02 30.8**	**+1.1**
HAZ	**Te Kaha**	**1.91**	**68**	P	**Pn**	**03 02 29.9**	**+0.1**
TWGZ	**Tauwhareparae**	**1.94**	**81**	P	**Pn**	**03 02 31.6**	**+1.5**
MHGZ	**Mahia Peninsul**	**1.96**	**110**	P	**Pn**	**03 02 31.9**	**+1.6**
PRHZ	**Porangahau**	**1.96**	**155**	P	**Pn**	**03 02 31.7**	**+1.5**
PRWZ	**Pori Road**	**2.08**	**171**	P	**Pn**	**03 02 32.8**	**+1.3**
CNGZ	**Carnagh Statio**	**2.09**	**90**	P	**Pn**	**03 02 33.8**	**+2.2**
ANWZ	**Angora Road**	**2.09**	**160**	P	**Pn**	**03 02 33.1**	**+1.5**
PKGZ	**Pakihiroa**	**2.09**	**73**	P	**Pn**	**03 02 32.5**	**+0.8**
MRZ	**Mangatainoka R**	**2.16**	**179**	P	**Pn**	**03 02 33.3**	**+0.9**
PUZ	**Puketiti**	**2.17**	**80**	P	**Pn**	**03 02 33.4**	**+0.8**
GRZ	**Great Barrier**	**2.24**	**358**	P	**Pn**	**03 02 34.6**	**+1.2**
BFZ	**Birch Farm**	**2.25**	**166**	P	**Pn**	**03 02 34.3**	**+1.0**
BFZ	**Birch Farm**	**2.25**	**166**	S	**Sn**	**03 03 04.9**	**-0.2**
BFZ	**Birch Farm**	**2.25**	**166**	P	**Pn**	**03 02 34.4**	**+1.0**
TIWZ	**Tintock**	**2.29**	**174**	P	**Pn**	**03 02 35.0**	**+1.2**
OGWZ	**Otaki Gorge**	**2.34**	**187**	P	**Pn**	**03 02 35.3**	**+1.0**
WMGZ	**Waiomatatini S**	**2.36**	**74**	P	**Pn**	**03 02 35.3**	**+0.7**
MXZ	**Matakaoa Point**	**2.37**	**68**	P	**Pn**	**03 02 35.9**	**+1.2**
MXZ	**Matakaoa Point**	**2.37**	**68**	P	**Pn**	**03 02 35.7**	**+1.0**
HOWZ	**Holdsworth Sta**	**2.40**	**181**	P	**Pn**	**03 02 35.6**	**+0.6**
KIW	**Kapiti Island**	**2.41**	**192**	P	**Pn**	**03 02 35.8**	**+0.7**
CPWZ	**Castlepoint**	**2.46**	**168**	P	**Pn**	**03 02 37.1**	**+1.4**
TMWZ	**Te Maipa**	**2.62**	**174**	P	**Pn**	**03 02 38.3**	**+0.8**
DUWZ	**D'Urville Isla**	**2.62**	**208**	P	**Pn**	**03 02 38.1**	**+0.5**
MTW	**Mount Morrison**	**2.66**	**181**	P	**Pn**	**03 02 38.4**	**+0.4**
WEL	**Wellington**	**2.85**	**192**	P	**Pn**	**03 02 40.8**	**+0.7**
TCW	**Tory Channel**	**2.88**	**199**	P	**Pn**	**03 02 41.2**	**+0.7**
PAWZ	**Paruwai Farm**	**2.88**	**182**	P	**Pn**	**03 02 40.9**	**+0.3**
SNZO	**South Karori**	**2.88**	**193**	P	**Pn**	**03 02 40.9**	**+0.4**
SNZO	**South Karori**	**2.88**	**193**	P	**Sn**	**03 03 16.6**	**-1.5**
TRWZ	**Traveller**	**2.90**	**178**	P	**Pn**	**03 02 41.2**	**+0.4**
MSWZ	**Moikau Station**	**2.92**	**184**	P	**Pn**	**03 02 41.4**	**+0.3**
PLWZ	**Palliser**	**3.08**	**184**	P	**Pn**	**03 02 43.0**	**+0.1**
QRZ	**Quartz Range**	**3.29**	**224**	P	**Pn**	**03 02 45.5**	**0.0**
QRZ	**Quartz Range**	**3.29**	**224**	S	**Sn**	**03 03 25.8**	**-1.0**
KHZ	**Kahutara**	**4.21**	**201**	P	**Pn**	**03 02 57.0**	**+0.3**
KHZ	**Kahutara**	**4.21**	**201**	S	**Sn**	**03 03 46.1**	**-1.0**
RPZ	**Rata Peaks**	**6.22**	**212**	P	**Pn**	**03 03 23.0**	**+0.3**
ODZ	**Otahua Downs**	**7.50**	**208**	P	**Pn**	**03 03 39.2**	**-0.1**
JCZ	**Jackson Bay**	**7.55**	**220**	P	**Pn**	**03 03 40.2**	**+0.1**

BJI 15 03:05:13.0, 0°60S×127°70E, h10km, mB5.0/21, mb4.8/53, Ms4.2/11, Ms7 3.9/11
NEIC 15 03:05:13.7±1.2, 0°69S±0°06×127°72E±0°07, h10km±1km, mb5.0/83, Error ellipse: s-maj=12.8km s-min=9.5km az=65.0
GCMT 15 03:05:14.7±0.3, 0°63S±0°03×127°68E±0°02, h13km±1km, MW4.9/104, Moment Tensor Solution. s32,c36; s104,c136; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.21±.14; Mθθ=0.38±.08; Mφφ 1.84±.10; Mrθ=0.87±.29; Mrφ=0.49±.06; Mθφ=-1.14±.22; Best double couple: M=2.49100×10^16 NP1=φs212.00000°, δ36.00000°, λ=-57.00000°. NP2=φs354.00000°, δ60.00000°, λ=-112.00000°. Principal axes: T 2.1790, Plg13.0000°, Azm99.0000°; N 0.6280, Plg19.0000°, Azm5.0000°; P -2.8030, Plg67.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
DJA 15 03:05:15.5±0.4, 1°S±2°×12°8E±°, h12km±3km, M5.0/57, mb5.0/57, mB5.5/20, MLv5.0/18, Mw(mB)4.9/20, MwMwp4.6/1, Mwp5.0/1
IDC 15 03:05:17.9±2.2, 0°68S×127°67E, h43km±20km, mb4.2/20, mbtmp4.4/23, ML4.3/3, MS3.6/37, Error ellipse: s-maj=21.5km s-min=8.3km az=75.0

ISC 15 03:05:17.5±0.3, 0°70S±0°04×127°70E±0°05, h41km, n227, σ1867/216, mb4.9/94, MS3.6/39, 3C-2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.50**	**347**	Pn	**Pn**	**03 05 41.7**	**-0.2**
TNTI	**Ternate**	**1.50**	**347**	P	**Pn**	**03 05 41.4**	**-0.5**
SANI	**Sanana**	**2.18**	**232**	P	**Pn**	**03 05 48.1**	**-3.1**
NLAI	**Namlea**	**2.60**	**193**	P	**Pn**	**03 05 56.0**	**-1.0**
MSAI	**Masohi**	**2.90**	**155**	P	**Pn**	**03 06 02.1**	**+0.9**
AAI	**

KLI	Kotabumi	23.19	259	P		P		03 10 22.6	+1.7
AS31	Alice Springs	23.61	166	P		P		03 10 24.4	-0.5
AS04	Alice Springs	23.61	166	P		P		03 10 24.8	-0.2
	comp=Z,103nm,0.9s								
ASAR	Alice Springs	23.61	166	P		P		03 10 24.4	-0.6
ASAR	Alice Springs	23.61	166	P		P		03 10 25.0	0.0
	comp=Z,51nm,0.8s,baz=345,slow=10.0,SNR=186								
ASAR				PcP		PcP		03 14 09.8	+0.6
	comp=Z,2.0nm,0.7s,baz=348,slow=2.8,SNR=5.9								
ASAR				S		S		03 14 37.3	+0.6
	comp=Z,15nm,1.2s,baz=342,slow=19,SNR=15								
	comp=Z,51nm,0.8s								
KASI	Kota Agung	23.66	258	P		P		03 10 26.7	+1.3
	comp=Z,69nm,0.9s								
MDSI	Maura Dua	23.80	260	P		P		03 10 27.5	+0.8
	comp=Z,1µmcomp=Z,75nm,1.1s								
MTSU	Mount Surprise	23.80	138	P		P		03 10 31.1	+4.3
LWLI	Liwa	24.00	259	P		P		03 10 29.8	+1.1
	comp=Z,163nm,1.1s								
WRKA	Warakurna	24.20	179	P		P		03 10 30.8	+0.4
	comp=Z,20nm,1.2s								
TWG	Pinlang	24.25	345	P		P		03 10 28.6	-2.2
TWG				IAmb		IAmb		03 10 37.9	
	comp=Z,40nm,0.9s								
LHSI	Lahat	24.36	262	P		P		03 10 34.5	+2.6
	comp=Z,56nm,0.8s								
YULB	Yu-li	24.74	346	P		P		03 10 34.6	-0.7
YULB				IAmb		IAmb		03 10 49.4	
	comp=Z,22nm,0.8s								
TPUB	Ta-pu	24.83	344	P		P		03 10 35.0	-1.0
SSLB	Suanglung	25.21	345	P		P		03 10 38.7	-0.8
KSI	Kapahiang	25.26	263	P		P		03 10 43.7	+3.5
YOJ	Yonaguni jima	25.42	350	P		P		03 10 40.8	-0.6
JOW	Kunigami	27.38	1	P		P		03 10 59.9	+0.9
JOW				IAmb		IAmb		03 11 03.9	
	comp=Z,20nm,0.8s								
JOW	Kunigami	27.38	1	LR		LR		03 27 00.3	
	comp=Z,44nm,18.1s,baz=280,slow=48								
KULM	Kulim	27.67	283	P		P		03 11 03.1	+1.3
KULM				IAmb		IAmb		03 11 06.4	
	comp=Z,39nm,1.1s								
RPSI	Rantau Prapat	28.97	277	P		P		03 11 13.4	-0.1
RPSI				IAmb		IAmb		03 11 17.5	
	comp=Z,35nm,1.1s								
PSI	Prapat	28.98	277	LR		LR		03 24 49.5	
	comp=Z,250nm,19.0s,baz=101,slow=40								
SRIT	Nakonsritamara	29.49	289	P		P		03 11 17.1	-0.9
SRIT				IAmb		IAmb		03 11 22.8	
	comp=Z,20nm,0.9s								
FORT	Forrest	29.92	179	P		P		03 11 19.9	-1.7
FORT	Forrest	29.92	179	P		P		03 11 22.3	+0.7
	comp=Z,11nm,0.8s								
GSI	Gunungsitoli	30.19	274	P		P		03 11 23.5	-0.8
QLP	Quilpie	30.25	150	P		P		03 11 26.3	+1.6
	comp=Z,22nm,2.6s								
MLSI	Meulaboh, Aceh	31.66	279	P		P		03 11 37.9	+0.6
SLVN	Son La	31.94	315	P		P		03 11 39.3	-0.4
NWAO	Narrogin (SRO)	33.54	196	LR		LR		03 25 44.8	
	comp=Z,106nm,18.5s,baz=326,slow=37								
WHN	Wuhan	33.57	339	⇑P		P		03 11 55.9	+2.2
WHN				sP		pP		03 12 00.8	-4.2
WHN				pmax		pmax			
	comp=Z,130nm,1.2s								
NJ2	Nanjing	33.63	346	eP		P		03 11 55.1	+0.9
NJ2				pP		pP		03 12 00.4	-5.2
NJ2				pmax		pmax			
	comp=Z,11nm,0.5s								
STKA	Stephens Creek	33.68	158	P		P		03 11 54.3	-0.4
STKA	Stephens Creek	33.68	158	P		P		03 11 56.4	+1.7
	comp=Z,78nm,0.8s								
STKA	Stephens Creek	33.68	158	P		P		03 11 55.9	+1.2
	comp=Z,13nm,0.7s,baz=326,slow=9.3,SNR=20								
STKA				LR		LR		03 26 26.9	
	comp=Z,331nm,20.1s,baz=354,slow=38								
	comp=Z,13nm,0.7s								
JNU	Nakatsue	33.77	5	LR		LR		03 23 13.9	
	comp=Z,88nm,21.8s,baz=194,slow=32								
CM31	Chiang Mai Arr	34.08	305	P		P		03 11 57.9	-0.5
CM31				IAmb		IAmb		03 12 03.5	
	comp=Z,24nm,1.4s								
CMAR	Chiang Mai Arr	34.08	305	P		P		03 11 58.4	0.0
CMAR	Chiang Mai Arr	34.08	305	P		P		03 11 58.6	+0.3
	comp=Z,0.8nm,0.3s,baz=125,slow=6.5,SNR=15								
CMAR				PcP		PcP		03 14 36.3	+0.9
	comp=Z,2.3nm,0.7s,baz=125,slow=3.0,SNR=9.3								
CMAR				LR		LR		03 27 24.5	
	comp=Z,43nm,19.5s,baz=115,slow=39								
	comp=Z,0.8nm,0.3s								
HTT	Hallett	34.23	163	P		P		03 12 01.4	+1.9
	comp=Z,7.5nm,1.1s								
CHTO	Chiang Mai	34.27	306	P		P		03 11 59.3	-0.6
CHTO				IAmb		IAmb		03 12 04.8	
	comp=Z,26nm,1.3s								
CMSA	Cobar Meteorol	35.08	153	P		P		03 12 07.9	+1.1
	comp=Z,21nm,2.6s								
KMI	Kunming	35.25	318	P		P		03 12 10.6	+2.0
KMI				pmax		pmax			
	comp=Z,11nm,1.3s								
KMI				LR		LR			
	comp=Z,110nm,16.5s								
KMI				LR		LR			
	comp=Z,180nm,22.3s								
KMI				LR		LR			
	comp=Z,160nm,22.7s								
ENH	Enshi	35.35	332	P		P		03 12 08.6	-0.6
PZH	PanZhiHua	36.85	319	P		P		03 12 23.0	+0.8
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
LYN	LuoYang	37.86	339	⇑P		P		03 12 31.5	+1.0
LYN				sP		pP		03 12 36.1	-5.8
LYN				pmax		pmax			
	comp=Z,47nm,1.0s								
KSRS	Korea Array	37.96	0	P		P		03 12 31.5	+0.2
	comp=Z,2.7nm,0.8s,baz=178,slow=10,SNR=15								
	comp=Z,2.7nm,0.8s								
TIA	Tai'an	38.02	346	P		P		03 12 31.8	0.0
TIA				sP		pP		03 12 37.0	-6.3
TIA				pmax		pmax			
	comp=Z,7.0nm,0.8s								
TNCH	TengChong	38.11	314	P		P		03 12 34.1	+1.2
TNCH				PP		PnPn		03 14 02.9	+0.6
TNCH				pmax		pmax			
	comp=Z,280nm,4.4s								
ARPS	Mount Arapiles	38.20	162	P		P		03 12 35.8	+2.4
MJAR	Matsushiro Arr	38.31	14	P		P		03 12 34.3	0.0
MJAR	Matsushiro Arr	38.31	14	P		P		03 12 33.5	-0.8
	comp=Z,3.7nm,0.7s,baz=183,slow=9.4,SNR=13								
MJAR				LR		LR		03 26 43.0	
	comp=Z,101nm,19.2s,baz=194,slow=34								
	comp=Z,3.7nm,0.7s								
XAN	Xi'an	38.80	335	P		P		03 12 38.8	+0.4
XAN				S		S		03 18 39.3	+6.0
XAN				pmax		pmax			
	comp=Z,32nm,1.2s								
CD2	Chengdu	38.81	326	eP		P		03 12 39.0	+0.4
HNS	HongShan	39.77	344	⇓P		P		03 12 51.4	+5.0
HNS				S		S		03 18 50.0	+2.3
HNS				pmax		pmax			
	comp=Z,18nm,1.0s								
HNS				LR		LR			
	comp=Z,140nm,24.3s								
BJT	Baijiatuau	41.87	347	P		P		03 13 03.2	-0.5
BJI	Beijing	41.89	347	P		P		03 13 03.6	-0.2
BJI				pP		pP		03 13 08.3	-7.1
BJI				PP		PP		03 14 43.0	+1.6
BJI				S		S		03 19 21.0	+1.8
BJI				pmax		pmax			
	comp=Z,4.0nm,1.0s								
BJI				pmax		pmax			
	comp=Z,36nm,10.3s								
BJI				LR		LR			
	comp=Z,34nm,17.2s								
BJI				LR		LR			
	comp=Z,31nm,15.3s								
BJI				LR		LR			
	comp=Z,60nm,18.6s								
BRDH	Bariadhala	42.10	306	LR		LR		03 34 57.9	
	comp=Z,88nm,18.1s,baz=302,slow=42								
LZH	Lanzhou	42.81	331	eP		P		03 13 13.0	+1.4
LZH				pP		pP		03 13 17.9	-5.2
LZH				PcP		PcP		03 14 59.9	-2.5
LZH				S		S		03 19 41.3	+8.1
LZH				pmax		pmax			
	comp=Z,36nm,1.0s								
LZH				pmax		pmax			
	comp=Z,210nm,4.3s								
LZH				LR		LR			
	comp=Z,170nm,17.4s								
LZH				LR		LR			
	comp=Z,130nm,17.2s								
LZH				LR		LR			
	comp=Z,150nm,18.0s								
DZM	Mont Dzumac	43.28	122	eP		P		03 13 13.6	-2.0
	comp=Z,50nm,1.4s								
DZM				eS		S		03 19 38.3	-2.2
	comp=Z,91nm,30.6s								
DZM				eSS		SS		03 22 49.4	-5.6
	comp=Z,90nm,25.0s								
DZM				eLR		LR		03 25 13.4	
	comp=Z,301nm,23.8s								
SHL	Shillong	43.35	310	P		P		03 13 16.3	0.0
HHC	Hu-ho-hao-te	43.88	342	eP		P		03 13 21.5	+1.4
HHC				S		S		03 19 49.3	+0.6
HHC				pmax		pmax			
	comp=Z,11nm,0.5s								
HHC				pmax		pmax			
	comp=Z,86nm,6.3s								
HHC				LR		LR			
	comp=Z,93nm,10.1s								
HHC				LR		LR			
	comp=Z,100nm,11.8s								
HHC				LR		LR			
	comp=Z,120nm,17.7s								
USA0B	Ussuriysk Arra	44.86	4	P		P		03 13 27.1	-0.7
USA0B				IAmb		IAmb		03 13 34.9	
	comp=Z,37nm,1.9s								
USRK	Ussuriysk Ar.	44.86	4	P		P		03 13 27.1	-0.7
USRK	Ussuriysk Ar.	44.86	4	P		P		03 13 27.9	+0.1
	comp=Z,3.8nm,0.8s,baz=202,slow=7.9,SNR=6.5								
	comp=Z,3.8nm,0.8s								
XLT	XiLinHaoTe	45.60	348	eP		P		03 13 37.4	+3.6
XLT				pmax		pmax			
	comp=Z,13nm,1.2s								
BNX	BinXian	46.24	360	⇓P		P		03 13 40.1	+1.5
BNX				pmax		pmax			
	comp=Z,4.0nm,0.7s								
ASAJ	Asahikawa	46.56	15	LR		LR		03 32 05.5	
	comp=Z,52nm,19.1s,baz=217,slow=34								
GTA	Gaotai	47.39	331	P		P		03 13 49.3	+1.4
GTA				pP		pP		03 13 54.3	-5.3
GTA				pmax		pmax			
	comp=Z,17nm,0.9s								
GTA				LR		LR			
	comp=Z,80nm,16.4s								
GTA				LR		LR			
	comp=Z,84nm,14.9s								
GTA				LR		LR			
	comp=Z,130nm,19.3s								
HEH	HeiHe	50.76	360	eP		P		03 14 13.4	+0.1
HEH				pmax		pmax			
	comp=Z,9.0nm,0.9s								
ULN	Ulaanbaatar	51.60	342	P		P		03 14 19.7	-0.2
ULN				IAmb		IAmb		03 14 26.4	
	comp=Z,21nm,1.1s								
HYB	Hyderabad	51.62	293	eP		P		03 14 20.2	-0.3
HYB				IVmB_BB				03 14 24.6	
	comp=Z,759nm,1.0s								
SONM	Songino Array	51.78	342	P		P		03 14 21.1	-0.1
SONM	Songino Array	51.78	342	P		P		03 14 20.9	-0.3
	comp=Z,3.3nm,0.8s,baz=151,slow=5.7,SNR=19								
	comp=Z,3.3nm,0.8s								
WMQ	Urumqi	56.91	326	eP		P		03 15 01.6	+3.1
WMQ				LR		LR			
	comp=Z,120nm,20.3s								
LTZ	Lake Taylor	57.82	142	P		PKiKP		03 22 22.8	+0.5
GVZ	Greta Valley S	58.39	142	P		PKiKP		03 22 22.8	-0.1
URZ	Urewera	58.69	136	LR		LR		03 42 10.3	
	comp=Z,75nm,18.6s,baz=306,slow=38								
PETK	Petropavlovsk-	59.17	21	P		P		03 15 14.9	+0.8
PETK	Petropavlovsk-	59.17	21	P		P		03 15 15.4	+1.3
	comp=Z,3.3nm,0.5s,baz=193,slow=6.1,SNR=8.1								
PETK				LR		LR		03 40 15.1	
	comp=Z,22nm,20.0s,baz=186,slow=35								
	comp=Z,3.3nm,0.5s								
PET	Petropavlovsk	59.44	21	P		P		03 15 15.9	0.0
PET				IAmb		IAmb		03 15 23.1	
	comp=Z,23nm,1.0s								
NIL	Nilore	61.43	309	P		P		03 15 29.6	-0.4
NIL				IAmb		IAmb		03 15 44.4	
	comp=Z,8.1nm,0.8s								
PRZ	Przheval'sk	61.70	320	P		P		03 15 32.1	+0.3
TARG	Taragay, Kyrgy	61.70	319	P		P		03 15 31.6	-0.6
TARG				IAmb		IAmb		03 15 50.0	
	comp=Z,9.7nm,0.9s								
MKAR	Makanchi Array	61.74	326			P		03 15 31.7	-0.2
MKAR	Makanchi Array	61.74	326	P		P		03 15 31.8	0.0
	comp=Z,7.2nm,0.6s,baz=125,slow=8.2,SNR=48								
MKAR				LR		LR		03 45 18.0	
	comp=Z,56nm,18.1s,baz=135,slow=39								
	comp=Z,7.2nm,0.6s								
KSH	Kashi	61.88	316	P		P		03 15 34.8	+1.8
KSH				pmax		pmax			
	comp=Z,10.0nm,1.2s								
MAKZ	Makanchi	61.92	326	P		P		03 15 32.9	-0.1
KDJ	Kajisay	62.30	320	P		P		03 15 35.9	0.0
KDJ				IAmb		IAmb		03 15 43.4	
	comp=Z,14nm,0.8s								
YAK	Yakutsk	62.58	1	P		P		03 15 36.8	-0.2
NRN	Naryn	62.74	318	P		P		03 15 38.3	-0.7
NRN				IAmb		IAmb		03 15 45.6	
	comp=Z,8.9nm,1.0s								
MA2	Magadan	62.75	13	P		P		03 15 38.9	+0.6
MA2	Magadan	62.75	13	LR		LR		03 43 31.5	
	comp=Z,29nm,19.5s,baz=234,slow=37								
BOOM	Boomskoye usch	63.28	319	P		P		03 15 42.5	+0.1
BOOM				IAmb		IAmb		03 15 51.8	
	comp=Z,23nm,1.4s								
JOHN	Johnston Islan	64.22	71	P		P		03 15 47.9	-0.9
AAK	Ala-Archa	64.30	319	P		P		03 15 48.7	-0.4
AAK				IAmb		IAmb		03 15 60.0	
	comp=Z,7.8nm,0.9s								
AAK	Ala-Archa	64.30	319	LR		LR		03 47 16.6	
	comp=Z,60nm,19.2s,baz=109,slow=39								
ARSB	Arslanbob	64.72	317	P		P		03 15 51.7	-0.1
DRK	Karamyk	64.78	315	P		P		03 15 52.4	-0.1
ZAA0	Zalesovo Array	64.95	334	P		P		03 15 51.7	-1.2
ZAA0				IAmb		IAmb		03 15 57.7	
	comp=Z,15nm,0.9s								
ZALV	Zalesovo Beam	64.95	334	P		P		03 15 51.9	-1.0
	comp=Z,2.9nm,0.8s,baz=107,slow=4.7,SNR=17								
ZALV				LR		LR		03 46 55.9	
	comp=Z,22nm,18.6s,baz=102,slow=38								
	comp=Z,2.9nm,0.8s								
KBL	Kabul	65.01	309	P		P		03 15 53.9	-0.1
GAR	Garm	65.65	314	P		P		03 15 58.2	+0.3
BTK	Batken	65.70	315	P		P		03 15 58.1	-0.1
SHEM	Shemya Is, Ala	65.81	29	LR		LR		03 41 49.6	
	comp=Z,12nm,19.9s,baz=260,slow=33								
KURBB	Kurchatov Arra	65.98	328	P		P		03 15 59.2	-0.4
	comp=Z,9.5nm,0.8s,baz=128,slow=6.0,SNR=60								
	comp=Z,9.5nm,0.8s								
KURK	Kurchatov	65.98	328	P		P		03 15 58.8	-0.8
SEY	Seymchan	66.11	12	LR		LR		03 44 57.0	
	comp=Z,20nm,20.4s,baz=34,slow=36								
SIMJ	Simiganj	66.47	313	P		P		03 16 02.6	-0.6
KK31	Karatay Array	67.13	318	P		P		03 16 06.4	-0.8
KK31				IAmb		IAmb		03 16 16.5	
	comp=Z,12nm,1.1s								
KKAR	Karatay Array	67.13	318	P		P		03 16 06.7	-0.4
BVAR	Borovoye Array	71.55	328	P		P		03 16 33.9	-0.3
	comp=Z,5.5nm,0.9s,baz=124,slow=7.8,SNR=12								
	comp=Z,5.5nm,0.9s								
BRVK	Borovoye	71.62	328	P		P		03 16 33.9	-0.7
BRVK				IAmb		IAmb		03 16 40.1	
	comp=Z,17nm,0.8s								
RAR	Rarotonga	73.47	112	LR		LR		03 50 58.0	
	comp=Z,25nm,18.2s,baz=252,slow=37								
UOSS	Minazif	73.56	296	P		P		03 16 46.7	-0.1
UOSS				IAmb		IAmb		03 16 51.7	
	comp=Z,9.4nm,0.9s								
AB31	Akbulak array	76.18	321	P		P		03 17 00.2	-1.2
ABKAR	Akbulak array	76.18	321	P		P		03 17 00.0	-1.4
VNDA	Vanda	78.94	173	P		P		03 17 17.0	+0.7
VNDA	Vanda	78.94	173	P		P		03 17 16.8	+0.5
	comp=Z,1.3nm,0.7s,baz=312,slow=5.9,SNR=11								
	comp=Z,1.3nm,0.7s								
ARTI	Arti	79.26	328	P		P		03 17 17.0	-1.5
ARTI				IAmb		IAmb		03 17 22.9	
	comp=Z,11nm,0.6s								
ARTI	Arti	79.26	328	LR		LR		03 53 39.5	
	comp=Z,50nm,20.8s,baz=120,slow=37								
MAW	Mawson	79.97	201	P		P		03 17 23.4	+1.3
	comp=Z,1.9nm,0.7s,baz=51,slow=8.9,SNR=4.3								
	comp=Z,1.9nm,0.7s								
ABPO	Ambohimpanom	80.77	251	P		P		03 17 28.0	+0.5
ABPO				IAmb		IAmb		03 17 32.7	
	comp=Z,27nm,1.5s								
L14K	Kuka Creek	80.95	27	P		P		03 17 29.3	+1.9
L14K				IAmb		IAmb		03 17 33.6	
	comp=Z,22nm,1.6s								
VOI	Vohitsoka	81.31	248	P		P		03 17 29.7	-0.6
VOI				IAmb		IAmb		03 17 35.9	
	comp=Z,21nm,0.8s								
F15K	North Star Dit	81.59	23	P		P		03 17 31.4	+0.7
F15K				IAmb		IAmb		03 17 57.1	
	comp=Z,23nm,1.9s								
G16K	Koyuk River	82.38	23	P		P		03 17 35.0	+0.2
J16K	Anvik River	82.46	26	P		P		03 17 36.2	+0.8
I17K	Unalakleet	82.60	25	P		P		03 17 37.4	+1.3
I17K				IAmb		IAmb		03 17 45.1	
	comp=Z,12nm,1.1s								
PPT	Papeete	82.85	108	LR		LR		03 55 02.7	
	comp=Z,22nm,18.3s,baz=293,slow=36								
PPT2	Papeete2	82.85	108	eS		S		03 27 54.6	+0.1
	comp=Z,54nm,23.8s								
PPT2	Papeete2	82.85	108	eLR		LR		03 43 30.6	
	comp=Z,114nm,31.5s								
PPT2				eLR		LR		03 43 39.6	
	comp=Z,131nm,28.5s								
RAYN	Ar Rayn	83.12	294	P		P		03 17 39.7	-0.1
RAYN				IAmb		IAmb		03 17 45.2	
	comp=Z,15nm,0.9s								
TBI	Tubuai	83.14	113	eS		S		03 27 56.5	-0.7
	comp=Z,296nm,31.8s								
TBI	Tubuai	83.14	113	eLR		LR		03 43 47.3	
	comp=Z,422nm,28.8s								
J17K	VABM Dome	83.16	26	P		P		03 17 38.4	-0.6
J17K				IAmb		IAmb		03 17 47.8	
	comp=Z,6.8nm,0.8s								
H17K	Granite Mounta	83.22	24	P		P		03 17 39.6	+0.2
H17K				IAmb		IAmb		03 17 47.5	
	comp=Z,7.0nm,0.8s								
K17K	Iditarod	83.32	26	P		P		03 17 40.8	+0.9
K17K				IAmb		IAmb		03 17 43.7	
	comp=Z,9.0nm,0.8s								
E18K	Tukpahlearik C	83.68	22	P		P		03 17 42.0	+0.4
E18K				IAmb		IAmb		03 17 49.7	
	comp=Z,6.6nm,0.9s								
H18K	Honhosa River	83.92	24	P		P		03 17 43.5	+0.7
H18K				IAmb		IAmb		03 19 12.9	
	comp=Z,11nm,1.6s								
L18K	Granite Mounta	83.93	27	P		P		03 17 43.3	+0.4
L18K				IAmb		IAmb		03 17 50.1	
	comp=Z,19nm,1.5s								
N19K	Bonanza Creek	84.67	29	P		P		03 17 47.0	+0.2
N19K				IAmb		IAmb		03 17 53.2	
	comp=Z,27nm,1.6s								
G19K	Purcell Mounta	84.68	23	P		P		03 17 46.7	0.0
G19K				IAmb		IAmb		03 17 54.4	
	comp=Z,14nm,1.6s								
H19K	Roundabout Mou	84.79	24	P		P		03 17 48.3	+1.0
H19K				IAmb		IAmb		03 18 28.3	
	comp=Z,13nm,1.8s								
E19K	Redstone River	84.94	22	P		P		03 17 49.1	+1.1
GEVA	Gevas	86.22	308	P		P		03 17 55.2	0.0
GEVA				IAmb		IAmb		03 18 01.7	
	comp=Z,12nm,0.8s								
KBZ	Khabaz	86.72	314	P		P		03 17 58.0	+0.7
	comp=Z,1.7nm,0.8s,baz=99,slow=6.0,SNR=5.1								
	comp=Z,1.7nm,0.8s								
GURO	Guroymak-BITLI	87.04	308	P		P		03 17 58.0	-1.2
GURO				IAmb		IAmb		03 18 05.9	
	comp=Z,13nm,0.9s								
ILAR	Eielson Array	88.66	25	P		P		03 18 05.6	-0.6
	comp=Z,0.4nm,0.9s,baz=263,slow=5.0,SNR=5.1								
ILAR				LR		LR		03 55 18.3	
	comp=Z,16nm,21.2s,baz=272,slow=34								
	comp=Z,0.4nm,0.9s								
SYO	Syowa Base	88.67	201	⇑eP		cP		03 18 09.0	+1.3
QSPA	South Pole Qui	89.24	180	P		P		03 18 09.6	+0.6
	comp=Z,2.1nm,0.6s,baz=281,slow=0.9,SNR=22								
QSPA				LR		LR		03 59 28.9	
	comp=Z,40nm,19.5s,baz=358,slow=36								
	comp=Z,2.1nm,0.6s								
ASF	Jabal al Asfar	91.05	302	LR		LR		04 06 43.1	
	comp=Z,18nm,18.3s,baz=166,slow=40								
I28M	Miner Creek	91.61	25	P		P		03 18 19.9	-0.2
I28M				IAmb		IAmb		03 18 35.1	
	comp=Z,15nm,2.0s								
TAOE	Nuku Hiva Isla	92.02	99	eLR		LR		03 47 52.8	
	comp=Z,113nm,28.6s								
EIL	Elat	92.74	300	LR		LR		04 06 25.2	
	comp=Z,26nm,18.7s,baz=67,slow=40								
BRTR	Keskin Array B	93.58	310	P		P		03 18 29.6	-0.2
	comp=Z,0.3nm,0.7s,baz=104,slow=6.1,SNR=4.9								
	comp=Z,0.3nm,0.7s								
FARO	Faro, Yukon	94.79	28	P		P		03 18 35.5	+0.9
FARO				IAmb		IAmb		03 18 43.0	
	comp=Z,14nm,1.9s								
ARCES	ARCESS Array B	94.91	340	P		P		03 18 33.0	-2.1
	comp=Z,1.7nm,1.1s,baz=70,slow=3.9,SNR=4.5								
ARCES				LR		LR		04 05 28.7	
	comp=Z,38nm,19.0s,baz=94,slow=38								
	comp=Z,1.7nm,1.1s								
SPITS	Spitsbergen Ar	94.98	349	LR		LR		04 07 25.1	
	comp=Z,30nm,19.7s,baz=80,slow=39								
AKASG	Malin Array Be	95.92	321	LR		LR		04 05 57.6	
	comp=Z,19nm,19.8s,baz=56,slow=38								
R33M	Jennings River	96.37	30	P		P		03 18 42.1	+0.1
R33M				IAmb		IAmb		03 20 23.4	
	comp=Z,9.1nm,1.8s								
MATP	Matopo	98.39	249	LR		LR		04 01 44.1	
	comp=Z,20nm,20.8s,baz=84,slow=34								
MLR	Muntele Rosu	98.74	316	LR		LR		04 11 17.5	
	comp=Z,11nm,19.0s,baz=68,slow=40								
LSZ	Lusaka	99.00	255	LR		LR		03 58 56.9	
	comp=

TOZ	**Tahuroa Road**	**23.06**	**195**	P	**P**	**03 21 36.2**	**+0.4**	YBH				lAmb	lAmb	03 28 10.5		
TOZ				lAmb	lAmb	03 21 37.0			comp=Z,5.2nm,0.6s							
	comp=Z,23nm,0.9s							**Q18K**	**Katmai Hardscr**	**76.09**	**12**	P	**P**	**03 28 07.9**	**-0.4**
TOZ	**Tahuroa Road**	**23.06**	**195**	P	**P**	**03 21 36.1**	**+0.4**		baz=202							
KMRZ	**Kaimai**	**23.07**	**194**	P	**P**	**03 21 37.0**	**+1.1**	**N14K**	**Kuskokwak Cree**	**76.19**	**8**	P	**P**	**03 28 09.1**	**+0.4**
MWZ	**Matawai**	**23.22**	**190**	P	**P**	**03 21 34.6**	**-2.7**	**N14K**	**Kuskokwak Cree**	**76.19**	**8**	P	**P**	**03 28 08.8**	**0.0**
RAGZ	**Rawiri**	**23.40**	**190**	P	**P**	**03 21 37.1**	**-1.8**		baz=196							
TLZ	**Tolley Road**	**23.62**	**194**	P	**P**	**03 21 41.8**	**+0.9**	**P17K**	**Kvichak River**	**76.33**	**11**	P	**P**	**03 28 09.5**	**0.0**
KNZ	**Kokohu**	**23.87**	**190**	P	**P**	**03 21 42.1**	**-0.9**		baz=201							
BKZ	**Black Stump Fm**	**24.22**	**192**	P	**P**	**03 21 43.9**	**-2.4**	**BEKR**	**Beckworth**	**76.41**	**42**	P	**P**	**03 28 11.3**	**+0.6**
ETVZ	**East Tongariro**	**24.35**	**193**	P	**P**	**03 21 46.1**	**-1.4**	**O16K**	**Kokwok River B**	**76.42**	**10**		**P**	**03 28 09.4**	**-0.6**
PXZ	**Pawanui**	**24.99**	**191**	P	**P**	**03 21 51.0**	**-2.1**	O16K				lAmb	lAmb	03 28 10.1		
TSZ	**Takapari Road**	**25.19**	**192**	P	**P**	**03 21 53.6**	**-1.3**		comp=Z,12nm,0.8s							
BFZ	**Birch Farm**	**25.73**	**191**	P	**P**	**03 21 57.4**	**-2.3**	**O16K**	**Kokwok River B**	**76.42**	**10**	P	**P**	**03 28 09.4**	**-0.6**
QRZ	**Quartz Range**	**26.75**	**197**	P	**P**	**03 22 08.1**	**-0.6**		baz=199							
NNZ	**Nelson**	**26.89**	**196**	P	**P**	**03 22 08.5**	**-1.4**	**M13K**	**Dall Lake**	**76.46**	**7**	P	**P**	**03 28 11.2**	**+1.1**
THZ	**Tophouse**	**27.52**	**196**	P	**P**	**03 22 14.3**	**-1.3**	M13K				lAmb	lAmb	03 28 23.0		
THZ	**Tophouse**	**27.52**	**196**	P	**P**	**03 22 13.7**	**-1.8**		comp=Z,18nm,1.2s							
KHZ	**Kahutara**	**27.98**	**194**	P	**P**	**03 22 17.2**	**-2.3**	**M13K**	**Dall Lake**	**76.46**	**7**	P	**P**	**03 28 10.6**	**+0.4**
WVZ	**Waitaha Valley**	**29.34**	**198**	P	**P**	**03 22 30.0**	**-1.4**		baz=194							
MQZ	**McQueen's Vall**	**29.41**	**195**	P	**P**	**03 22 29.6**	**-2.5**	**DSP**	**Deep Springs**	**76.65**	**45**		**P**	**03 28 13.3**	**+1.5**
FOZ	**Fox Glacier**	**30.04**	**199**	P	**P**	**03 22 35.9**	**-1.7**	DSP				lAmb	lAmb	03 28 14.5		
LBZ	**Lake Benmore**	**30.70**	**198**	P	**P**	**03 22 40.9**	**-2.5**		comp=Z,7.0nm,0.9s							
JCZ	**Jackson Bay**	**30.85**	**200**	P	**P**	**03 22 43.8**	**-1.0**	**N15K**	**Kwethluk River**	**76.65**	**9**	P	**P**	**03 28 11.7**	**+0.3**
WKZ	**Wanaka**	**31.45**	**199**	P	**P**	**03 22 48.5**	**-1.4**	N15K				lAmb	lAmb	03 28 13.5		
MLZ	**Mavora Lakes**	**32.22**	**199**	P	**P**	**03 22 56.4**	**-0.1**		comp=Z,5.0nm,0.7s							
TUZ	**Tuapeka**	**32.30**	**197**	P	**P**	**03 22 56.3**	**-0.7**	**N15K**	**Kwethluk River**	**76.65**	**9**	P	**P**	**03 28 11.3**	**0.0**
WHZ	**Wether Hill Ro**	**32.74**	**199**	P	**P**	**03 23 00.6**	**-0.4**		baz=197							
COEN	**Coen**	**38.16**	**267**	P	**P**	**03 23 47.3**	**+0.4**	**BBOR**	**Butler Butte**	**76.70**	**38**	P	**P**	**03 28 13.2**	**+1.0**
COEN				lAmb	lAmb	03 23 48.4		**P18K**	**Big Mountain,**	**76.74**	**11**	P	**P**	**03 28 11.6**	**-0.2**
	comp=Z,25nm,0.8s							**P18K**	**Big Mountain,**	**76.74**	**11**	P	**P**	**03 28 11.9**	**0.0**
TOO	**Toolangi**	**39.50**	**229**	P	**P**	**03 23 58.6**	**+0.9**		baz=202							
STKA	**Stephens Creek**	**40.71**	**239**	P	**P**	**03 24 07.5**	**0.0**	**I02E**	**Swisshome, OR**	**76.75**	**37**	P	**P**	**03 28 13.4**	**+1.2**
STKA				lAmb	lAmb	03 24 09.3		**LHV**	**Little Huntoon**	**76.75**	**44**	P	**P**	**03 28 14.1**	**+1.7**
	comp=Z,24nm,0.8s							LHV				lAmb	lAmb	03 28 15.1		
STKA	**Stephens Creek**	**40.71**	**239**	P	**P**	**03 24 07.0**	**-0.5**		comp=Z,11nm,1.0s							
	comp=Z,2.6nm,0.3s,baz=120,slow=2.4,SNR=6.8							**O17K**	**Koliganek Bris**	**76.76**	**10**	P	**P**	**03 28 11.6**	**-0.3**
	comp=Z,2.6nm,0.3s								baz=200							
TAU	**Tasmania Unive**	**40.72**	**221**	P	**P**	**03 24 08.3**	**+0.9**	**I03D**	**Drain, OR**	**76.79**	**37**	P	**P**	**03 28 13.7**	**+1.2**
HMH	**Humu'ula Sheep**	**40.96**	**32**	P	**P**	**03 24 10.3**	**+0.3**	**GRAC**	**Grapevine Rang**	**76.87**	**45**	P	**P**	**03 28 15.2**	**+2.1**
WR8	**Warramunga Arr**	**45.95**	**257**	P	**P**	**03 24 48.0**	**-1.0**	GRAC				lAmb	lAmb	03 28 15.8		
WB0	**Warramunga Arr**	**46.06**	**257**		**P**	**03 24 48.9**	**-1.0**		comp=Z,11nm,0.8s							
WB0				lAmb	lAmb	03 24 49.8		**M14K**	**Bethel**	**76.96**	**8**		**P**	**03 28 13.6**	**+0.7**
	comp=Z,16nm,0.6s							**M14K**	**Bethel**	**76.96**	**8**	P	**P**	**03 28 13.1**	**+0.1**
WRA	**Warramunga Arr**	**46.10**	**257**		**P**	**03 24 48.5**	**-1.7**		baz=195							
WRA	**Warramunga Arr**	**46.10**	**257**	P	**P**	**03 24 49.3**	**-0.9**	**NVAR**	**Mina Array Bea**	**76.98**	**44**		**P**	**03 28 15.1**	**+1.2**
	comp=Z,6.1nm,0.7s,baz=170,slow=24,SNR=66							**NVAR**	**Mina Array Bea**	**76.98**	**44**	P	**P**	**03 28 15.4**	**+1.5**
WRA				PcP	**PcP**	**03 26 18.7**	**-0.1**		comp=Z,4.8nm,0.7s,baz=226,slow=9.2,SNR=35							
	comp=Z,2.4nm,0.8s,baz=87,slow=3.8,SNR=5.7								comp=Z,4.8nm,0.7s							
	comp=Z,6.1nm,0.7s							**PIX**	**Pinacate**	**77.06**	**52**	P	**P**	**03 28 15.1**	**+0.9**
AS31	**Alice Springs**	**46.45**	**252**		**P**	**03 24 52.6**	**-0.3**	**M15K**	**Kasigluk River**	**77.07**	**8**	P	**P**	**03 28 13.6**	**0.0**
ASAR	**Alice Springs**	**46.45**	**252**		**P**	**03 24 52.7**	**-0.2**		baz=196,SNR=8.6							
ASAR	**Alice Springs**	**46.45**	**252**	P	**P**	**03 24 52.5**	**-0.4**	**NV11**	**Mina Array Sit**	**77.08**	**44**		**P**	**03 28 15.5**	**+1.1**
	comp=Z,87nm,0.4s,baz=84,slow=8.5,SNR=1530							NV11				lAmb	lAmb	03 28 16.7		
ASAR				PcP	**PcP**	**03 26 20.3**	**+0.3**		comp=Z,7.0nm,1.0s							
	comp=Z,1.8nm,0.4s,baz=93,slow=3.4,SNR=3.2							**N16K**	**Nishlik Lake**	**77.15**	**9**	P	**P**	**03 28 14.1**	**0.0**
MTN	**Manton Dam**	**49.91**	**266**		**P**	**03 25 18.6**	**-0.5**		baz=198							
KNRA	**Kununurra**	**51.77**	**262**	P	**P**	**03 25 32.1**	**-0.5**	**O18K**	**Koktuh Hills**	**77.17**	**11**		**P**	**03 28 14.5**	**+0.3**
KNRA				lAmb	lAmb	03 26 01.6		**O18K**	**Koktuh Hills**	**77.17**	**11**	P	**P**	**03 28 13.9**	**-0.3**
	comp=Z,24nm,1.2s								baz=202							
FORT	**Forrest**	**51.98**	**243**		**P**	**03 25 33.5**	**-0.5**	**NJ2**	**Nanjing**	**77.18**	**309**	*eP*	**P**	**03 28 15.5**	**+0.6**
FORT				lAmb	lAmb	03 25 34.3		NJ2				pmax	pmax			
	comp=Z,19nm,0.7s								comp=Z,8.0nm,0.5s							
PSA00	**Pilbara Seismi**	**59.52**	**254**	P	**P**	**03 26 26.3**	**-0.7**	**L14K**	**Kuka Creek**	**77.44**	**7**	P	**P**	**03 28 15.8**	**+0.2**
PSA00				lAmb	lAmb	03 27 02.9		L14K				lAmb	lAmb	03 28 17.3		
	comp=Z,41nm,1.4s								comp=Z,6.7nm,0.8s							
MORW	**Morawa**	**62.39**	**245**	P	**P**	**03 26 45.4**	**-0.6**	**L14K**	**Kuka Creek**	**77.44**	**7**	P	**P**	**03 28 16.0**	**+0.5**
MORW				lAmb	lAmb	03 27 26.1			baz=194							
	comp=Z,24nm,1.4s							**N17K**	**Nushagak Hills**	**77.45**	**10**	P	**P**	**03 28 15.6**	**-0.1**
SBA	**Scott Base**	**62.91**	**184**	P	**P**	**03 26 50.8**	**+2.4**	**N17K**	**Nushagak Hills**	**77.45**	**10**	P	**P**	**03 28 16.3**	**+0.6**
SBA				lAmb	lAmb	03 26 52.2			baz=200							
	comp=Z,19nm,1.4s							**TPNV**	**Topopah Spring**	**77.61**	**46**	P	**P**	**03 28 18.8**	**+1.5**
VNDA	**Vanda**	**62.95**	**185**	P	**P**	**03 26 50.4**	**+1.6**	TPNV				lAmb	lAmb	03 28 19.6		
VNDA	**Vanda**	**62.95**	**185**	P	**P**	**03 26 50.4**	**+1.6**		comp=Z,6.7nm,0.8s							
	comp=Z,2.3nm,0.7s,baz=353,slow=8.4,SNR=22							**M16K**	**Timber Creek**	**77.64**	**9**	P	**P**	**03 28 17.6**	**+0.8**
	comp=Z,2.3nm,0.7s							**M16K**	**Timber Creek**	**77.64**	**9**	P	**P**	**03 28 17.5**	**+0.7**
JGF	**Kuroka**	**66.46**	**321**	P	**P**	**03 27 11.4**	**-0.5**		baz=198,SNR=8.4							
JGF				lAmb	lAmb	03 27 51.2		**O19K**	**Port Alsworth**	**77.66**	**12**	P	**P**	**03 28 16.3**	**-0.5**
	comp=Z,16nm,1.5s								baz=203							
MJAR	**Matsushiro Arr**	**66.58**	**322**	P	**P**	**03 27 12.3**	**-0.2**	**K05A**	**Summer Lake**	**77.68**	**39**	P	**P**	**03 28 19.1**	**+1.5**
MJAR	**Matsushiro Arr**	**66.58**	**322**	P	**P**	**03 27 11.5**	**-1.1**	K05A				lAmb	lAmb	03 28 19.6		
	comp=Z,3.8nm,0.9s,baz=156,slow=5.2,SNR=7.0								comp=Z,5.8nm,0.7s							
	comp=Z,3.8nm,0.9s							**ILSW**	**Iliana Southw**	**77.70**	**12**	P	**P**	**03 28 17.3**	**+0.1**
MAJO	**Matsushiro**	**66.58**	**322**	P	**P**	**03 27 12.4**	**-0.2**	**HOM**	**Homer**	**77.72**	**13**	P	**P**	**03 28 17.6**	**+0.5**
MAJO				lAmb	lAmb	03 27 12.8			baz=205							
	comp=Z,5.1nm,0.7s							**G03D**	**McMinnville, O**	**77.75**	**36**	P	**P**	**03 28 19.0**	**+1.3**
MJB9	**Matsu-Tunnel**	**66.58**	**322**	P	**P**	**03 27 12.9**	**+0.3**	G03D				lAmb	lAmb	03 28 19.5		
MJB9				lAmb	lAmb	03 27 13.7			comp=Z,12nm,0.8s							
	comp=Z,4.9nm,0.7s							**K13K**	**Kusilvak Mount**	**77.80**	**6**	P	**P**	**03 28 18.0**	**+0.5**
KIWB	**Kanaga Island**	**67.03**	**0**	P	**P**	**03 27 13.8**	**-1.2**	K13K				lAmb	lAmb	03 28 19.4		
KIWB				lAmb	lAmb	03 27 15.8			comp=Z,9.9nm,1.2s							
	comp=Z,15nm,1.2s							**K13K**	**Kusilvak Mount**	**77.80**	**6**	P	**P**	**03 28 17.8**	**+0.2**
ADK	**Adak**	**67.07**	**0**	P	**P**	**03 27 15.1**	**0.0**		baz=192							
GSTR	**Great Sitkin T**	**67.28**	**1**	P	**P**	**03 27 16.4**	**-0.2**	**J05D**	**Fort Rock, OR**	**77.80**	**38**		**P**	**03 28 19.6**	**+1.4**
ATKA	**Atka Island**	**67.44**	**2**	P	**P**	**03 27 16.9**	**-0.6**	**N18K**	**Kilae Creek**	**77.82**	**11**	P	**P**	**03 28 17.9**	**+0.2**
JMN	**Monobe**	**67.46**	**317**	P	**P**	**03 27 18.4**	**+0.3**	N18K				lAmb	lAmb	03 28 18.6		
JMN				lAmb	lAmb	03 27 19.6			comp=Z,6.6nm,0.9s							
	comp=Z,15nm,1.0s							**N18K**	**Kilae Creek**	**77.82**	**11**	P	**P**	**03 28 18.0**	**+0.2**
NIKH	**Nikolski High**	**68.55**	**6**	P	**P**	**03 27 23.9**	**-0.4**		baz=201							
NIKH	**Nikolski High**	**68.55**	**6**	P	**P**	**03 27 23.0**	**-1.3**	**O20K**	**Slope Mountain**	**77.90**	**12**	P	**P**	**03 28 18.2**	**0.0**
	baz=189								baz=204							
CASY	**Casey**	**68.76**	**204**	P	**P**	**03 27 25.3**	**-0.2**	**L15K**	**Ungalak Mounta**	**77.91**	**8**	P	**P**	**03 28 18.0**	**-0.1**
CASY				lAmb	lAmb	03 27 26.9			baz=196							
	comp=Z,10nm,1.1s							**H04A**	**Detroit Lake**	**78.05**	**37**		**P**	**03 28 20.0**	**+0.6**
JNU	**Nakatsue**	**69.10**	**315**	P	**P**	**03 27 28.0**	**-0.1**	H04A				lAmb	lAmb	03 28 21.0		
JNU				lAmb	lAmb	03 27 29.0			comp=Z,5.2nm,0.8s							
	comp=Z,12nm,0.9s							**SHPR**	**Sheep Range**	**78.15**	**47**		**P**	**03 28 21.8**	**+1.5**
JNU	**Nakatsue**	**69.10**	**315**	P	**P**	**03 27 27.6**	**-0.6**	**N19K**	**Bonanza Creek**	**78.20**	**11**	P	**P**	**03 28 19.7**	**-0.2**
	comp=Z,7.0nm,0.6s,baz=103,slow=5.6,SNR=7.4							**N19K**	**Bonanza Creek**	**78.20**	**11**	P	**P**	**03 28 19.9**	**0.0**
	comp=Z,7.0nm,0.6s								baz=202							
JKA	**Kamikawa-asahi**	**69.64**	**330**	P	**P**	**03 27 31.9**	**+0.8**	**L16K**	**Owhat River**	**78.22**	**9**	P	**P**	**03 28 20.8**	**+0.9**
JKA				lAmb	lAmb	03 27 33.2		L16K				lAmb	lAmb	03 28 21.7		
	comp=Z,16nm,1.0s								comp=Z,13nm,1.4s							
ASAJ	**Asahikawa**	**69.64**	**330**	P	**P**	**03 27 31.8**	**+0.7**	**L16K**	**Owhat River**	**78.22**	**9**	P	**P**	**03 28 20.4**	**+0.5**
	comp=Z,8.1nm,1.0s,baz=78,slow=5.4,SNR=4.2								baz=198							
	comp=Z,8.1nm,1.0s							**M17K**	**Holitna River**	**78.24**	**10**		**P**	**03 28 21.3**	**+1.3**
UNV	**Unalaska Valle**	**69.66**	**7**	P	**P**	**03 27 29.6**	**-1.4**	M17K				lAmb	lAmb	03 28 21.7		
	baz=191								comp=Z,12nm,0.8s							
PETK	**Petropavlovsk-**	**71.59**	**344**		**P**	**03 27 42.0**	**-0.6**	**M17K**	**Holitna River**	**78.24**	**10**	P	**P**	**03 28 20.3**	**+0.4**
PETK	**Petropavlovsk-**	**71.59**	**344**	P	**P**	**03 27 42.4**	**-0.2**		baz=200							
	comp=Z,12nm,0.9s,baz=120,slow=8.8,SNR=18							**PINE**	**Pine Mountain**	**78.26**	**38**		**P**	**03 28 21.6**	**+0.8**
	comp=Z,12nm,0.9s							PINE				lAmb	lAmb	03 28 23.2		
CHNA	**Chernabura Isl**	**71.63**	**11**	P	**P**	**03 27 41.2**	**-1.6**		comp=Z,12nm,0.8s							
	baz=198							**W13A**	**Hualapai Mount**	**78.39**	**49**	P	**P**	**03 28 21.6**	**-0.1**
SDPT	**Sand Point**	**71.97**	**10**	P	**P**	**03 27 43.5**	**-1.2**	**E03A**	**Lebam**	**78.39**	**35**	P	**P**	**03 28 21.5**	**+0.4**
	baz=197							E03A				lAmb	lAmb	03 28 23.3		
SPIA	**Saint Paul Isl**	**72.61**	**4**	P	**P**	**03 27 47.1**	**-1.3**		comp=Z,14nm,0.9s							
	baz=187							**HG4B**	**Hotspring**	**78.40**	**27**	P	**P**	**03 28 22.1**	**+1.0**
S14K	**Fog Glacier**	**73.02**	**10**	P	**P**	**03 27 49.9**	**-1.0**	HG4B				lAmb	lAmb	03 28 23.1		
	baz=198								comp=Z,5.9nm,0.9s							
CHGN	**Chignik**	**73.24**	**11**	P	**P**	**03 27 51.3**	**-0.8**	**K15K**	**Wolf Creek Mou**	**78.50**	**7**		**P**	**03 28 22.0**	**+0.6**
	baz=199							K15K				lAmb	lAmb	03 28 23.5		
CHIR	**Chirikof Islan**	**73.34**	**13**	P	**P**	**03 27 51.7**	**-0.9**		comp=Z,11nm,0.7s							
	baz=202							**K15K**	**Wolf Creek Mou**	**78.50**	**7**	P	**P**	**03 28 22.1**	**+0.7**
KSRS	**Korea Array**	**73.57**	**317**	P	**P**	**03 27 55.5**	**+1.0**		baz=196,SNR=8.2							
	comp=Z,1.6nm,0.8s,baz=140,slow=5.5,SNR=7.2							**M18K**	**Stony River**	**78.59**	**10**	P	**P**	**03 28 22.0**	**+0.1**
	comp=Z,1.6nm,0.8s								baz=201							
SII	**Sitkinak Islan**	**74.33**	**13**	P	**P**	**03 27 57.9**	**-0.5**	**SEW**	**Seward**	**78.61**	**14**	P	**P**	**03 28 22.3**	**+0.3**
SII	**Sitkinak Islan**	**74.33**	**13**	P	**P**	**03 27 57.6**	**-0.8**		baz=207							
	baz=203							**BNX**	**BinXian**	**78.70**	**324**	⇑P	**P**	**03 28 23.8**	**+1.0**
KMRM	**Mail Ridge**	**74.51**	**40**	P	**P**	**03 28 01.5**	**+1.6**	BNX				pmax	pmax			
QSPA	**South Pole Qui**	**74.58**	**180**		**P**	**03 28 01.7**	**+1.8**		comp=Z,8.0nm,0.7s							
QSPA	**South Pole Qui**	**74.58**	**180**	P	**P**	**03 28 01.3**	**+1.4**	**J14K**	**Nanvaranak Lak**	**78.71**	**6**	P	**P**	**03 28 22.6**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=5.3,slow=5.3,SNR=39								baz=194							
	comp=Z,2.6nm,0.6s							**HOOD**	**Mount Hood Mea**	**78.73**	**36**	P	**P**	**03 28 23.4**	**+0.2**
R17L	**Mt. Peulik Vol**	**74.88**	**12**	P	**P**	**03 28 01.2**	**-0.3**	HOOD				lAmb	lAmb	03 28 25.0		
	baz=201								comp=Z,11nm,1.2s							
PLK4	**Peulik 4**	**74.88**	**12**	P	**P**	**03 28 01.5**	**0.0**	**NLWA**	**Neilton Lookou**	**78.74**	**34**	P	**P**	**03 28 23.0**	**0.0**
OHAK	**Old Harbor**	**75.14**	**13**	P	**P**	**03 28 02.8**	**0.0**	NLWA				lAmb	lAmb	03 28 24.9		
	baz=204								comp=Z,6.5nm,0.8s							
R18K	**Karluk**	**75.20**	**13**	P	**P**	**03 28 02.9**	**-0.4**	**R11B**	**Troy Canyon, C**	**78.77**	**45**		**P**	**03 28 24.4**	**+0.8**
	baz=203							**L17K**	**Donlin**	**78.80**	**9**	P	**P**	**03 28 23.8**	**+0.8**
Q17K	**Contact Creek**	**75.56**	**12**	P	**P**	**03 28 04.9**	**-0.5**		baz=199,SNR=11							
	baz=201							**L18K**	**Granite Mounta**	**79.13**	**10**		**P**	**03 28 25.9**	**+1.2**
O14K	**Tigyukauivet M**	**75.60**	**8**	P	**P**	**03 28 05.0**	**-0.4**	**L18K**	**Granite Mounta**	**79.13**	**10**	P	**P**	**03 28 25.3**	**+0.6**
	baz=196								baz=200,SNR=16							
O15K	**Ungalikthiuk R**	**75.74**	**9**	P	**P**	**03 28 06.0**	**-0.2**	**M19K**	**Big River Lodg**	**79.23**	**11**	P	**P**	**03 28 26.0**	**+0.7**
	baz=197								baz=202							
Q16K	**King Salmon**	**75.81**	**11**	P	**P**	**03 28 06.4**	**-0.2**	**I07A**	**Izee**	**79.28**	**38**	P	**P**	**03 28 26.8**	**+0.7**
	baz=200							I07A				lAmb	lAmb	03 28 28.4		
KDAK	**Kodiak Island**	**75.81**	**13**	P	**P**	**03 28 06.7**	**0.0**		comp=Z,5.8nm,0.8s							
	baz=205							**K17K**	**Iditarod**	**79.35**	**9**	P	**P**	**03 28 26.7**	**+0.8**
P16K	**Nushagak River**	**75.90**	**10**	P	**P**	**03 28 06.7**	**-0.5**	**K17K**	**Iditarod**	**79.35**	**9**	P	**P**	**03 28 26.9**	**+0.9**
	baz=199								baz=199,SNR=10							
YBH	**Yreka Blue Hor**	**76.01**	**39**		**P**	**03 28 09.8**	**+1.5**	**L19K**	**White Mountain**	**79.41**	**11**	P	**P**	**03 28 27.5**	**+1.2**
									baz=202							
GNW	**Green Mountain**	**79.41**	**34**	P	**P**	**03 28 27.0**	**+0.5**									
GNW				lAmb	lAmb	03 28 28.1										
	comp=Z,4.7nm,0.7s															
RC01	**Rabbit Creek A**	**79.42**	**13**	P	**P**	**03 28 26.8**	**+0.4**									
	baz=207															
CLRS	**Cowichan Lake**	**79.48**	**33**	P	**P**	**03 28 26.9**	**-0.1**									
CLRS				lAmb	lAmb	03 28 28.5										
	comp=Z,5.6nm,0.8s															
J16K	**Anvik River**	**79.58**	**8**		**P**	**03 28 28.0**	**+0.9**									
J16K	**Anvik River**	**79.58**	**8**	P	**P**	**03 28 28.0**	**+0.9**									
	baz=196,SNR=12															
BBB	**Bella Bella**	**79.71**	**28**	P	**P**	**03 28 28.3**	**+0.3**									
BBB				lAmb	lAmb	03 28 29.8										
	comp=Z,8.5nm,0.7s															
PGC	**Sidney**	**79.73**	**33**	P	**P**	**03 28 28.3**	**+0.1**									
PGC				lAmb	lAmb	03 28 29.6										
	comp=Z,10nm,0.8s															
GLI	**Glacier Island**	**79.85**	**15**	P	**P**	**03 28 27.5**	**-1.2**									
GLI	**Glacier Island**	**79.85**	**15**	P	**P**	**03 28 29.0**	**+0.4**									
	baz=210															
L20K	**Farewell, AK**	**79.86**	**11**	P	**P**	**03 28 28.4**	**-0.3**									
	baz=203															
J17K	**VABM Dome**	**79.89**	**8**		**P**	**03 28 29.4**	**+0.7**									
J17K				lAmb	lAmb	03 28 30.4										
	comp=Z,9.6nm,0.7s															
J17K	**VABM Dome**	**79.89**	**8**	P	**P**	**03 28 29.5**	**+0.7**									
	baz=198,SNR=9.0															
CRAG	**Craig**	**79.89**	**24**	P	**P**	**03 28 28.6**	**-0.3**									
CRAG				lAmb	lAmb	03 28 35.4										
	comp=Z,8.3nm,0.9s															
CRAG	**Craig**	**79.89**	**24**	P	**P**	**03 28 29.3**	**+0.4**									
	baz=223															
M22K	**Willow**	**79.94**	**13**	P	**P**	**03 28 29.0**	**0.0**									
	baz=207															
PMR	**Palmer**	**80.01**	**13**	P	**P**	**03 28 29.8**	**+0.4**									
	baz=208															
PSUT	**Pine Spring**	**80.05**	**45**		**P**	**03 28 31.5**	**+1.0**									
I17K	**Unalakleet**	**80.14**	**7**	P	**P**	**03 28 31.1**	**+1.0**									
	baz=196															
ELK	**Elko**	**80.20**	**43**	P	**P**	**03 28 31.4**	**+0.1**									
SIT	**Sitka**	**80.25**	**22**	P	**P**	**03 28 31.1**	**+0.4**									
	baz=221															
G08A	**Pilot Rock**	**80.28**	**38**		**P**	**03 28 32.4**	**+1.0**									
G08A				lAmb	lAmb	03 28 33.5										
	comp=Z,7.8nm,1.0s															
J18K	**Innoko River**	**80.30**	**9**	P	**P**	**03 28 31.5**	**+0.5**									
J18K	**Innoko River**	**80.30**	**9**	P	**P**	**03 28 31.0**	**+0.1**									
	baz=200,SNR=22															
ANM	**Nome**	**80.31**	**5**	P	**P**	**03 28 30.8**	**-0.2**									
	baz=192															
TIA	**Tai'an**	**80.36**	**312**	P	**P**	**03 28 32.3**	**+0.4**									
TIA				pmax	pmax											
	comp=Z,9.0nm,0.9s															
U33K	**Whale Pass**	**80.36**	**23**	P	**P**	**03 28 31.4**	**0.0**									
	baz=223															
BMRM	**Bremner River**	**80.55**	**16**	P	**P**	**03 28 32.5**	**+0.1**									
	baz=212															
PPLA	**Purkeypile**	**80.55**	**11**	P	**P**	**03 28 33.0**	**+0.6**									
	baz=204															
HAWA	**Hanford**	**80.56**	**36**	P	**P**	**03 28 33.9**	**+1.2**									
HAWA				lAmb	lAmb	03 28 34.8										
	comp=Z,11nm,0.9s															
MESA	**MESA**	**80.61**	**17**	P	**P**	**03 28 33.3**	**+0.4**									
MESA	**MESA**	**80.61**	**17**	P	**P**	**03 28 32.9**	**0.0**									
	baz=214															
S31K	**Pelican**	**80.62**	**21**	P	**P**	**03 28 33.5**	**+0.8**									
S31K				lAmb	lAmb	03 28 34.5										
	comp=Z,6.3nm,0.9s															
S31K	**Pelican**	**80.62**	**21**	P	**P**	**03 28 33.3**	**+0.6**									
	baz=220															
SCM	**Sheep Creek Mo**	**80.63**	**14**	P	**P**	**03 28 32.9**	**+0.1**									
	baz=209															
K20K	**Telida**	**80.63**	**10**		**P**	**03 28 32.8**	**+0.1**									
K20K	**Telida**	**80.63**	**10**	P	**P**	**03 28 32.8**	**+0.1**									
	baz=203,SNR=9.9															
KLU	**Klutina**	**80.67**	**15**	P	**P**	**03 28 32.7**	**-0.3**									
	baz=211															
H16K	**Elim**	**80.69**	**7**	P	**P**	**03 28 33.0**	**+0.1**									
	baz=195,SNR=6.1					

I20K Naaghedeneel 81.90 10 P P 03 28 39.8 +0.6
baz=202
MCK McKinley 81.95 12 IAmb IAmb 03 28 40.3
comp=Z,14nm,0.9s
MCK McKinley 81.95 12 P P 03 28 39.6 0.0
baz=208,SNR=5.9
PAX Paxson 82.05 14 P P 03 28 39.9 -0.3
baz=211
P30M Million Dollar 82.06 19 P P 03 28 40.6 +0.4
baz=219
SKAG Skagway 82.08 20 P P 03 28 40.3 +0.1
baz=221
T35M Bob Quinn 82.10 24 P P 03 28 40.7 +0.3
baz=225
YUK8 Steele Glacier 82.13 17 P P 03 28 40.4 -0.4
baz=216
HLID Hailey 82.14 41 P P 03 28 42.6 +1.4
HLID IAmb IAmb 03 28 43.7
comp=Z,8.0nm,0.8s
M26K Nabesna, AK 82.17 15 P P 03 28 40.8 0.0
M26K IAmb IAmb 03 28 42.1
comp=Z,11nm,0.8s
M26K Nabesna, AK 82.17 15 P P 03 28 40.7 -0.1
baz=213,SNR=11
TMUT Trail Mountain 82.22 46 P P 03 28 43.9 +2.0
YUK6 Outpost Mounta 82.27 18 P P 03 28 41.6 0.0
baz=218
H19K Roundabout Mou 82.28 9 P P 03 28 41.9 +0.8
H19K IAmb IAmb 03 28 42.9
comp=Z,10.0nm,0.9s
H19K Roundabout Mou 82.28 9 P P 03 28 41.8 +0.7
baz=200,SNR=8.7
G18K Tagagawik 82.33 8 IAmb IAmb 03 28 42.6
comp=Z,8.3nm,0.9s
G18K Tagagawik 82.33 8 P P 03 28 41.2 -0.3
baz=198,SNR=8.6
YUK3 Moose Creek 82.33 17 P P 03 28 42.0 +0.2
baz=216,SNR=7.6
S34M Telegraph Cree 82.42 23 P P 03 28 42.4 +0.3
baz=225
M27K Edge Creek, AK 82.43 16 IAmb IAmb 03 28 43.9
comp=Z,13nm,1.1s
M27K Edge Creek, AK 82.43 16 P P 03 28 42.3 +0.1
baz=214,SNR=12
HYT Haines Junctio 82.44 18 P P 03 28 42.5 +0.3
baz=218,SNR=5.8
H20K Anotleneega Mo 82.48 9 P P 03 28 43.1 +0.8
baz=202,SNR=9.8
YUK4 Talbot Arm 82.50 18 P P 03 28 42.8 +0.1
baz=218
F17K Baldwin Pennin 82.55 6 P P 03 28 42.3 -0.1
F17K IAmb IAmb 03 28 44.1
comp=Z,11nm,0.9s
F17K Baldwin Pennin 82.55 6 P P 03 28 42.8 +0.4
baz=196
L26K Log Cabin Wild 82.61 15 P P 03 28 43.0 0.0
baz=213
SRU San Rafael Swe 82.62 46 P P 03 28 44.5 +0.7
SRU IAmb IAmb 03 28 45.9
comp=Z,11nm,0.7s
NEA2 Nenana 82.69 12 P P 03 28 42.6 -0.7
baz=207
K24K Donnelly Dome 82.70 14 P P 03 28 43.2 -0.2
baz=211,SNR=8.0
P32M Atlin 82.72 21 P P 03 28 43.6 0.0
baz=222
BVCY Beaver Creek 82.75 16 P P 03 28 44.1 +0.4
baz=215
Q32M Nakina River 82.76 22 P P 03 28 44.4 +0.4
Q32M Nakina River 82.76 22 P P 03 28 44.2 +0.2
baz=223,SNR=6.2
MLY Manley 82.77 11 IAmb IAmb 03 28 44.1
comp=Z,11nm,1.0s
MLY Manley 82.77 11 P P 03 28 44.0 +0.3
baz=206,SNR=9.4
BJI Beijing 82.77 315 P P 03 28 44.8 +0.6
BJI pmax pmax
comp=Z,5.0nm,0.7s
BJI pmax pmax
comp=Z,37nm,9.9s
G19K Purcell Mounta 82.77 8 P 03 28 43.9 +0.2
G19K IAmb IAmb 03 28 45.2
comp=Z,12nm,0.8s
G19K Purcell Mounta 82.77 8 P P 03 28 43.7 +0.1
baz=200,SNR=16
O30N Mendenhall 82.83 19 P P 03 28 44.3 +0.2
O30N IAmb IAmb 03 28 45.8
comp=Z,16nm,1.4s
O30N Mendenhall 82.83 19 P P 03 28 44.1 -0.1
baz=220,SNR=7.2
RIDG Independent Ri 82.86 14 P P 03 28 43.9 -0.3
baz=211,SNR=6.0
F18K Selawik 82.88 7 P P 03 28 44.1 -0.1
baz=197
TCUT Toone Canyon 82.92 44 P P 03 28 46.3 +0.9
NEW Newport 82.96 36 P P 03 28 44.9 -0.2
DOT Dot Lake 82.96 14 IAmb IAmb 03 28 45.8
comp=Z,12nm,0.8s
HDA Harding Lake 82.97 13 P P 03 28 44.7 -0.1
baz=209,SNR=18
H21K Melozitna Rive 82.97 10 IAmb IAmb 03 28 47.3
comp=Z,8.7nm,0.9s
H21K Melozitna Rive 82.97 10 P P 03 28 45.0 +0.2
baz=204,SNR=14
L27K Beaver Creek, 83.03 15 P P 03 28 45.5 +0.4
L27K Beaver Creek, 83.03 15 P P 03 28 45.2 +0.1
baz=214,SNR=8.9
BCAR Beaver Creek A 83.04 15 P 03 28 45.2 +0.1
P18A Preston Nutter 83.04 46 P P 03 28 46.2 +0.2
P18A IAmb IAmb 03 28 48.2
comp=Z,4.5nm,0.7s
HWUT Hardware Ranch 83.04 44 P P 03 28 45.8 -0.1
N30M Aishikik Lake 83.06 18 P P 03 28 45.0 -0.3
baz=219
BSUT Blindstream Ca 83.09 45 P 03 28 46.3 -0.1
BSUT IAmb IAmb 03 28 48.6
comp=Z,9.4nm,0.7s
LENM Lemitar 83.10 52 P P 03 28 46.2 -0.1
E17K Hotham Inlet 83.11 6 P P 03 28 45.3 0.0
baz=195
IMAR Indian Mountai 83.12 10 P P 03 28 45.5 +0.1
WHY Whitehorse 83.13 20 P P 03 28 46.2 +0.5
baz=221,SNR=6.1
PV05 Paradox Valley 83.17 48 P P 03 28 47.5 +0.9
PV05 IAmb IAmb 03 28 49.3
comp=Z,7.7nm,0.8s
COLA College 83.19 12 P P 03 28 45.6 -0.2
COLA College 83.19 12 P P 03 28 45.3 -0.4
baz=208
DLBC Dease Lake 83.20 23 P P 03 28 46.1 0.0
baz=226
SCRK Sand Creek 83.26 14 IAmb IAmb 03 28 47.5
comp=Z,9.4nm,0.8s
SCRK Sand Creek 83.26 14 P P 03 28 46.0 -0.3
baz=212,SNR=19
IL31 83.30 13 P P 03 28 45.9 -0.4
ILAR Eielson Array 83.30 13 P P 03 28 45.8 -0.6
comp=Z,13nm,1.0s,baz=226,slow=6.1,SNR=95
comp=Z,13nm,1.0s
VHRN Van Horn 83.33 56 IAmb IAmb 03 28 50.3
comp=Z,7.2nm,0.8s
F19K Shaleruckik Mo 83.34 8 IAmb IAmb 03 28 47.6
comp=Z,10nm,0.8s
F19K Shaleruckik Mo 83.34 8 P P 03 28 46.3 -0.1
baz=199,SNR=14
PV10 Paradox Valley 83.34 47 P P 03 28 47.9 +0.4
PV19 Morning Glory 83.35 47 P P 03 28 48.3 +0.8
PV19 IAmb IAmb 03 28 49.6
comp=Z,12nm,0.8s
PV18 Skein Mesa, Pa 83.37 48 P P 03 28 48.8 +1.1
PV18 IAmb IAmb 03 28 49.7
comp=Z,9.2nm,0.9s
PV23 Carpenter Ridg 83.39 47 P P 03 28 49.3 +1.5
H22K Ishtalitna Cre 83.43 10 P P 03 28 46.8 -0.3
baz=205,SNR=22
M29M Somme Creek 83.43 17 P P 03 28 47.1 -0.2
baz=218,SNR=5.9
N31M Braeburn, Yuko 83.48 19 P P 03 28 47.6 +0.2
baz=220
P33M Teslin, Yukon 83.48 21 P P 03 28 47.5 0.0
baz=223,SNR=5.1
J25K Salcha River, 83.49 13 P P 03 28 47.1 -0.4
baz=211,SNR=32
R33M Jennings River 83.54 22 P P 03 28 48.0 +0.2
baz=225
E18K Tukpahlearik C 83.56 6 P 03 28 47.8 +0.2
E18K IAmb IAmb 03 28 49.2
comp=Z,8.6nm,0.8s
E18K Tukpahlearik C 83.56 6 P P 03 28 48.2 +0.5
baz=196,SNR=6.8
D17K Noatak River 83.59 5 P P 03 28 48.2 +0.4
baz=194
G21K Allakaket 83.65 9 P P 03 28 48.7 +0.6
G21K IAmb IAmb 03 28 49.5
comp=Z,11nm,0.8s
G21K Allakaket 83.65 9 P P 03 28 48.1 0.0
baz=203,SNR=11
H23K Yukon River 83.70 11 P P 03 28 48.0 -0.4
baz=207
MCMT McKenzie Canyo 83.74 40 P P 03 28 50.4 +1.0
K27K Chicken 83.77 15 IAmb IAmb 03 28 50.6
comp=Z,9.9nm,1.1s
K27K Chicken 83.77 15 P P 03 28 49.1 +0.4
baz=214
ANMO Albuquerque 83.80 51 P 03 28 50.3 +0.4
J26L Joseph Creek 83.80 14 P 03 28 49.5 +0.5
J26L Joseph Creek 83.80 14 P P 03 28 49.5 +0.5
baz=213,SNR=41
F20K Avaraart Lake 83.81 8 IAmb IAmb 03 28 50.3
comp=Z,7.7nm,0.9s
F20K Avaraart Lake 83.81 8 P P 03 28 49.1 +0.2
baz=201
TX31 Lajitas Ar. Si 83.85 57 P P 03 28 52.1 +2.1
TX31 IAmb IAmb 03 28 53.4
comp=Z,7.7nm,1.1s
TXAR Lajitas Array 83.85 57 P P 03 28 51.9 +1.8
TXAR Lajitas Array 83.85 57 P P 03 28 52.2 +2.1
comp=Z,5.4nm,0.8s,baz=220,slow=6.9,SNR=58
comp=Z,5.4nm,0.8s
E19K Redstone River 84.00 8 IAmb IAmb 03 28 51.2
comp=Z,9.3nm,0.7s
E19K Redstone River 84.00 8 P P 03 28 50.1 +0.2
baz=199,SNR=10
M30M Minto, Yukon 84.02 18 IAmb IAmb 03 28 51.3
comp=Z,10nm,0.7s
M30M Minto, Yukon 84.02 18 P P 03 28 50.3 +0.2
baz=219,SNR=24
H24K Noodor Dome 84.03 12 P P 03 28 49.9 -0.2
baz=208
L29M L29M 84.05 17 P 03 28 50.7 +0.5
L29M L29M 84.05 17 P P 03 28 50.5 +0.3
baz=218,SNR=21
N32M Quiet Lake 84.09 20 P P 03 28 50.8 +0.3
baz=222
DLMT Dillon 84.16 40 P P 03 28 52.8 +1.5
DLMT IAmb IAmb 03 28 53.6
comp=Z,9.5nm,0.8s
BPMT Black Pine Rid 84.16 39 P P 03 28 51.9 +0.4
PRP Porcupine Dome 84.23 13 P P 03 28 51.5 +0.3
baz=211,SNR=12
F21K Alatna River 84.31 9 P 03 28 51.4 0.0
F21K IAmb IAmb 03 28 52.5
comp=Z,5.8nm,0.7s
F21K Alatna River 84.31 9 P P 03 28 51.4 0.0
baz=203,SNR=8.2
FXWY Fox Creek 84.33 42 P P 03 28 51.9 -0.5
C17K DeLong Mountai 84.34 5 P P 03 28 51.6 +0.1
baz=194
G22K Bettles 84.34 10 P P 03 28 51.9 +0.4
baz=205,SNR=9.3
G23K Bananza Creek 84.41 11 P 03 28 52.1 +0.1
G23K IAmb IAmb 03 28 53.4
comp=Z,7.8nm,1.0s
G23K Bananza Creek 84.41 11 P P 03 28 52.2 +0.3
baz=206,SNR=8.4
BELA Belgrano 2 84.45 173 P P 03 28 52.9 +0.8
M31M Drury Creek, Y 84.45 19 P P 03 28 51.9 -0.4
M31M Drury Creek, Y 84.45 19 P P 03 28 52.2 0.0
baz=221
DAWY Dawson 84.48 16 P P 03 28 52.7 +0.3
DAWY IAmb IAmb 03 28 53.7
comp=Z,9.7nm,0.8s
DAWY Dawson 84.48 16 P P 03 28 52.5 +0.1
baz=216,SNR=18
I26K Coal Creek Min 84.58 14 IAmb IAmb 03 28 54.3
comp=Z,12nm,0.9s
I26K Coal Creek Min 84.58 14 P P 03 28 52.9 +0.2
baz=213,SNR=13
XLT XiLinHaoTe 84.59 318 eP P 03 28 53.0 -0.4
XLT pmax pmax
comp=Z,8.0nm,0.8s
F22K John River 84.77 9 P P 03 28 54.1 +0.4
baz=204
YHL Hebgen Lake 84.80 41 P P 03 28 54.8 +0.1
FARO Faro, Yukon 84.80 19 P P 03 28 54.4 +0.5
baz=222,SNR=6.1
K29M Barlow Dome 84.80 17 P 03 28 54.3 +0.2
K29M IAmb IAmb 03 28 55.7
comp=Z,7.9nm,0.9s
K29M Barlow Dome 84.80 17 P P 03 28 54.3 +0.2
baz=218,SNR=13
H25L Birch Creek 84.82 12 P P 03 28 54.3 +0.4
baz=210
COLD Coldfoot 84.84 10 P P 03 28 54.2 +0.2
COLD IAmb IAmb 03 28 55.9
comp=Z,6.7nm,0.8s
COLD Coldfoot 84.84 10 P P 03 28 54.3 +0.3
baz=206,SNR=9.7
G24K Hadweenzic Riv 84.87 11 P P 03 28 53.9 -0.3
baz=209
D19K Kuna River 84.88 7 P P 03 28 54.3 +0.1
baz=199
E20K Nigu River 84.89 8 P P 03 28 54.7 +0.4
baz=200,SNR=7.5
BW06 Boulder Array 84.90 43 P P 03 28 55.0 -0.2
PDAR Pindale Array 84.90 43 P P 03 28 55.6 +0.4
PDAR Pinedale Array 84.90 43 P P 03 28 55.8 +0.6
comp=Z,1.4nm,0.6s,baz=210,slow=3.5,SNR=21
comp=Z,1.4nm,0.6s
MAYO Mayo, Yukon 85.07 17 P P 03 28 56.0 +0.8
MAYO Mayo, Yukon 85.07 17 P P 03 28 55.8 +0.6
baz=220
J29N Klondike Camp 85.10 16 P P 03 28 56.0 +0.6
baz=218
I27K Kandik River 85.18 14 P P 03 28 56.1 +0.3
baz=214
G25K Bearman Lake 85.20 12 P P 03 28 56.4 +0.7
baz=210
D20K Etivluk River 85.26 7 P P 03 28 56.3 +0.2
baz=200
C19K Lookout Ridge 85.29 6 P P 03 28 56.5 +0.3
baz=197
TOAD Toad River Com 85.34 24 P P 03 28 57.3 +0.6
baz=230,SNR=5.4
E21K Killik River 85.36 8 P P 03 28 57.0 +0.4
baz=202
LIRD Liard River Hi 85.36 24 P P 03 28 57.2 +0.5
baz=229
E22K Anaktuvuk Pass 85.40 9 IAmb IAmb 03 28 58.8
comp=Z,5.4nm,0.9s
E22K Anaktuvuk Pass 85.40 9 P P 03 28 57.3 +0.5
baz=205,SNR=6.8
I28M Miner Creek 85.46 15 P P 03 28 57.2 0.0
baz=216,SNR=10
F24K Squaw Lake 85.52 11 P P 03 28 57.8 +0.5
baz=208
XAN Xi'an 85.59 307 P P 03 28 57.8 -0.7
XAN pP pwP 03 30 33.1 +0.9
XAN pmax pmax
comp=Z,10.0nm,1.0s
E23K Chandalar 85.69 10 P P 03 28 58.7 +0.4
baz=207
J30M Hart River 85.70 17 P P 03 28 58.6 +0.1
J30M Hart River 85.70 17 P P 03 28 58.6 +0.1
baz=219
H27K Steamboat Moun 85.72 14 P 03 28 58.8 +0.4
H27K Steamboat Moun 85.72 14 P P 03 28 58.3 -0.1
baz=214
MMPY Sheldon Lake, 85.75 20 P 03 28 59.2 +0.6
MMPY Sheldon Lake, 85.75 20 P P 03 28 58.8 +0.1
baz=224,SNR=14
I29M Ogilvie Camp, 85.80 15 P P 03 28 59.0 +0.3
baz=218,SNR=5.4
G26K Porcupine Rive 85.83 13 IAmb IAmb 03 29 01.1
comp=Z,9.0nm,0.8s
G26K Porcupine Rive 85.83 13 P P 03 28 59.0 +0.2
baz=212,SNR=12
E24K Your Creek 85.90 10 P P 03 28 59.3 +0.1
baz=208
C21K Knifeblade Rid 85.92 8 P P 03 28 59.4 +0.2
baz=202
D22K Ayikyak River 85.95 9 IAmb IAmb 03 29 01.4
comp=Z,5.6nm,0.8s
D22K Ayikyak River 85.95 9 P P 03 28 59.7 +0.3
baz=204
TGTN Hyland Airport 85.99 21 P P 03 29 00.1 +0.3
baz=227
F25K Christian Rive 86.00 12 P P 03 29 00.0 +0.2
F25K Christian Rive 86.00 12 P P 03 29 00.1 +0.4
baz=210
BMAR Burnt Mountain 86.07 12 P P 03 29 00.7 +0.6
G27K Doyon Strip 86.17 13 P P 03 28 60.0 -0.6
G27K Doyon Strip 86.17 13 P P 03 29 00.9 +0.4
baz=214
I30M Mount Dempster 86.19 16 P P 03 29 01.2 +0.4
I30M IAmb IAmb 03 29 01.9
comp=Z,4.5nm,0.9s
I30M Mount Dempster 86.19 16 P P 03 29 00.7 -0.1
baz=219,SNR=7.7
TOLK Toolik Lake Re 86.22 10 P P 03 29 01.1 +0.3
baz=207
HHC Hu-ho-hao-te 86.29 314 eP P 03 29 04.9 +3.1
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,30nm,4.3s
D23K Nanushuk River 86.33 9 IAmb IAmb 03 29 03.5
comp=Z,4.7nm,0.8s
D23K Nanushuk River 86.33 9 P P 03 29 01.4 +0.1
baz=206
B21K Ikpikpuk River 86.37 8 P P 03 29 01.7 +0.3
baz=202
F26K Sheenjek River 86.39 12 P P 03 29 02.2 +0.6
baz=212
H29M Whitestone 86.47 15 P P 03 29 02.0 +0.1
H29M Whitestone 86.47 15 P P 03 29 02.2 +0.3
baz=217
MAW Mawson 86.48 199 P P 03 29 03.2 +1.1
comp=Z,2.7nm,0.6s,baz=140,slow=5.0,SNR=9.0
comp=Z,2.7nm,0.6s
D24K Happy Valley 86.80 10 P P 03 29 03.6 +0.1
baz=207
EPYK Eagle Plains 87.00 15 P P 03 29 04.1 -0.4
baz=219
G29M Pine Creek 87.10 14 P P 03 29 05.2 +0.2
baz=218
C23K Itkillik River 87.13 9 P P 03 29 04.9 -0.1
baz=206
H31M Peel River 87.19 16 P P 03 29 05.3 0.0
baz=221
F28M Old Crow 87.23 13 P P 03 29 06.0 +0.5
baz=216
C24K Franklin Bluff 87.33 10 IAmb IAmb 03 29 07.1
comp=Z,8.7nm,1.0s
C24K Franklin Bluff 87.33 10 P P 03 29 05.9 +0.1
baz=208
E27K Coleen River 87.33 13 P P 03 29 06.1 +0.1
baz=214
D25K Kavik River 87.37 11 P P 03 29 05.9 -0.3
baz=210
G30M tAoh Zraii Nji 87.60 15 IAmb IAmb 03 29 08.0
comp=Z,5.8nm,0.9s
G30M tAoh Zraii Nji 87.60 15 P P 03 29 07.2 -0.1
baz=219
G31M Satah River 88.05 16 IAmb IAmb 03 29 10.7
comp=Z,6.3nm,0.8s
G31M Satah River 88.05 16 P P 03 29 09.4 +0.1
baz=221
E28M Babbage River 88.11 13 P P 03 29 09.7 0.0
baz=216
C27K Jago River 88.12 11 P P 03 29 09.7 +0.1
baz=212
C26K Camden Bay 88.15 11 P P 03 29 10.2 +0.5
baz=211
F30M Barrier River 88.19 15 P P 03 29 10.7 +0.7
baz=220
E29M Blow River 88.30 14 P P 03 29 10.8 +0.3
baz=218
D27M Malcolm River 88.33 12 P P 03 29 11.1 +0.3
baz=215
F31M Tsiigehtchic 88.58 15 IAmb IAmb 03 29 13.9
comp=Z,5.8nm,0.8s
F31M Tsiigehtchic 88.58 15 P P 03 29 12.3 +0.5
baz=222
PZH PanZhiHua 88.90 298 P P 03 29 15.5 +1.1
CMAR Chiang Mai Arr 89.01 289 P P 03 29 16.4 +1.5
comp=Z,1.0nm,0.3s,baz=109,slow=2.9,SNR=10
comp=Z,1.0nm,0.3s
INK Inuvik 89.28 15 P P 03 29 14.3 -0.8
INK Inuvik 89.28 15 P P 03 29 15.2 +0.2
baz=222
YKA Yellowknife Ar 91.71 24 P P 03 29 26.2 -0.2
comp=Z,0.8nm,0.8s,baz=261,slow=4.7,SNR=5.0
comp=Z,0.8nm,0.8s
SONM Songino Array 92.36 319 P P 03 29 29.5 -0.5
comp=Z,0.9nm,0.6s,baz=130,slow=5.7,SNR=6.1
comp=Z,0.9nm,0.6s
SNAA Sanae 93.00 178 P P 03 29 32.3 -0.2
comp=Z,0.6nm,0.7s,baz=192,slow=9.3,SNR=6.2
comp=Z,0.6nm,0.7s
A36M Sachs Harbour 93.88 14 P 03 29 36.1 0.0
A36M Sachs Harbour 93.88 14 P P 03 29 36.4 +0.2
baz=230
ECSD EROS Data Cent 94.03 46 P 03 29 36.0 -1.6
ECSD IAmb IAmb 03 29 38.6
comp=Z,4.6nm,1.1s
GTA Gaotai 94.25 310 eP P 03 29 39.9 +1.0
GTA sP PcP 03 29 45.9 +6.8
GTA pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 108.15 315 PKiKP PKiKP 03 34 44.4 -0.5
comp=Z,0.7nm,0.7s,baz=99,slow=3.0,SNR=3.9
KURBB Kurchatov Arra 110.73 319 PKiKP PKiKP 03 34 48.7 -0.9
comp=Z,0.7nm,0.6s,baz=63,slow=2.1,SNR=6.6
BVAR Borovoye Array 115.57 322 PKP PKPdf 03 34 58.0 -0.8
comp=Z,2.1nm,0.5s,baz=116,slow=3.4,SNR=6.7
ARCES ARCESS Array B 124.09 350 PKP PKPdf 03 35 14.5 -0.2
comp=Z,2.6nm,0.6s,baz=22,slow=1.5,SNR=35
FINES FINESS Array B 131.11 345 PKP PKiKP 03 35 28.7 -0.5
comp=Z,1.0nm,0.6s,baz=54,slow=2.4,SNR=9.4
NB2 NORSAR Subarra 134.07 354 PKP PKiKP 03 35 35.1 -0.3
comp=Z,0.9nm,0.7s,baz=16,slow=4.0
NOA NORSAR Array B 134.07 354 PKP PKPdf 03 35 33.9 0.0
comp=Z,0.4nm,0.7s,baz=32,slow=2.0,SNR=4.3
HFS Hagfors 134.67 352 PKhKP PKPpre 03 35 31.7
comp=Z,0.8nm,0.7s,baz=90,slow=1.4,SNR=4.3
AKASG Malin Array Be 138.84 334 PKP PKiKP 03 35 44.8 -0.5
comp=Z,1.3nm,0.7s,baz=44,slow=1.7,SNR=5.1
EKA Eskdalemuir Ar 139.96 5 PKhKP PKPpre 03 35 40.3
comp=Z,0.2nm,0.5s,baz=335,slow=2.7,SNR=3.9
GHRR 143.11 331 ⇑P PKPab 03 35 45.4 -2.5
CLL Collm 143.29 349 i PKPdf PKPbc 03 35 48.3 -0.4
comp=Z,4.0nm,0.6s
OSTC Ostas 143.32 345 ePKP PKPdf 03 35 49.9 -1.2
CHVC Chvalec 143.32 346 ePKP PKPbc 03 35 49.1 +0.2
CFR Carcaliu 143.41 329 ⇑P PKPdf 03 35 50.2 -1.1
UPC Upice 143.41 346 ePKP PKPbc 03 35 49.8 +0.6
DPC Dobruska-Polom 143.48 345 ePKP PKPdf 03 35 50.3 -1.1
TPGR Topolog 143.49 329 ⇑P PKPdf 03 35 50.7 -0.9
BRG Berggiesshubel 143.52 348 ePKP PKPdf 03 35 51.4 0.0
BRG Amp 03 35 52.1
comp=Z,2.7nm,0.8s
KRLC Kraliky 143.62 345 ePKP PKPbc 03 35 50.2 +0.3
MORC Moravsky Berou 143.69 344 ePKP PKPbc 03 35 50.3 +0.1
MORC Moravsky Berou 143.69 344 ⇑P PKPbc 03 35 50.3 +0.1
LANS Liptovska Anna 143.69 341 ePKP PKPdf 03 35 51.6 -0.2
BRTR Keskin Array B 143.72 318 PKP PKPbc 03 35 51.1 +0.4
comp=Z,14nm,0.8s,baz=82,slow=2.2,SNR=64
HARR Harsova 143.86 329 ⇑P PKPdf 03 35 51.6 -0.6
TLBR Topalu 143.90 329 ⇓P PKPdf 03 35 51.8 -0.4
KECS Kecovo 143.95 340 ePKP PKPdf 03 35 51.7 -0.5
DOPR Dopca 144.10 333 ⇑P PKPdf 03 35 52.8 +0.2
MLR Muntele Rosu 144.22 332 PKPbc 03 35 51.4 -0.7
MLR Muntele Rosu 144.22 332 ⇓P PKPdf 03 35 52.3 -0.6
PRU Pruhonice 144.23 347 ePKP PKPdf 03 35 52.4 -0.3
GOPC GO Pecny, Ondr 144.25 347 ePKP PKPdf 03 35 52.6 -0.1
VRAC Vranov 144.37 344 ePKP PKPdf 03 35 52.8 -0.2
VRAC Vranov 144.37 344 ⇑P PKPdf 03 35 52.8 -0.2
VYHS Vyhne 144.47 341 ePKP PKPdf 03 35 53.3 +0.2
JAVC Velka Javorina 144.49 343 ePKP PKPdf 03 35 53.9 +0.7
MARR Marisel-Cluj 144.50 335 ⇑P PKPdf 03 35 53.2 -0.2
DRGR 144.57 336 ⇑P PKPdf 03 35 53.2 -0.2
PSZ Piszkesteto 144.63 340 ⇓P PKPdf 03 35 53.5 0.0
KRUC Moravsky 144.65 344 ePKP PKPdf 03 35 53.4 0.0
TREC Trest 144.66 345 ePKP PKPdf 03 35 53.7 +0.2
VOIR 144.66 332 ⇓P PKPdf 03 35 54.8 +1.2
UCC Uccle 144.73 358 dPKP PKPab 03 35 53.7 0.0
ZVC Zvikov 144.83 347 ePKP PKPab 03 35 54.5 +0.3
TNR Turnu Rosu 144.84 333 ⇓P PKPab 03 35 55.1 +0.7
MEM Membach 144.84 356 dPKP PKPab 03 35 53.8 -0.3

BTNL	Ternell	144.85	356	*d*PKP	PKPab	03 35 54.0	-0.3
BSTI	Sart Tilman	144.89	357	*d*PKP	PKPab	03 35 54.4	0.0
MODS	Modra-Piesok	145.04	343	*e*PKP	PKPdf	03 35 53.9	-0.2
BCLA	Clavier	145.07	357	*d*PKP	PKPbc	03 35 54.2	-0.3
BHOU	Houvegnez	145.09	356	*d*PKP	PKPbc	03 35 54.4	-0.2
BGES	Gesves	145.12	357	*d*PKP	PKPab	03 35 54.7	-0.5
BMRD	Maredsous	145.21	358	*d*PKP	PKPab	03 35 55.0	-0.5
LOT	Lotru	145.22	334	⇑P	PKPdf	03 35 53.7	-0.9
DEV	Deva	145.23	335	⇑P	PKPab	03 35 55.8	0.0
KHC	Kasperske Hory	145.25	347	*e*PKP	PKPab	03 35 55.5	-0.3
CKRC	Cesky Krumlov	145.38	346	*e*PKP	PKPab	03 35 56.0	-0.3
SIRR	Siria	145.41	337	⇑P	PKPab	03 35 56.2	-0.3
DOU	Dourbes	145.42	358	*d*PKP	PKPab	03 35 55.8	-0.5
GERES	GERESS Array B comp=Z,2.8nm,0.6s,baz=19,slow=3.4,SNR=33	145.50	347	PKPbc	PKPab	03 35 56.1	-0.7
MMAI	Mount Meron Ar comp=Z,11nm,0.6s,baz=64,slow=3.9,SNR=16	145.58	306	PKPbc	PKPab	03 35 57.6	-0.1
SURR	Surduc	145.65	336	⇑P	PKPab	03 35 56.5	-0.9
GZR	Gura Zlata	145.68	335	⇑P	PKPab	03 35 56.8	-0.9
WLF	Walferdange	145.77	356	*d*PKP	PKPab	03 35 57.6	-0.1
CONA	Conrad Observa comp=Z,9.5nm,0.9s	145.83	344	*i* PKP	PKPab	03 35 57.8	-0.4
RONA	Rosalia, Austr comp=Z,14nm,1.1s	145.93	343	*i* PKP	PKPab	03 35 58.0	-0.5
BZS	Buzias	145.97	336	⇑P	PKPbc	03 35 57.5	+0.2
HERR	Herculiane	146.25	334	⇑P	PKPbc	03 35 58.4	+0.3
MOA	Molln comp=Z,5.8nm,0.6s	146.31	346	*i* PKP	PKPbc	03 35 58.6	+0.4
MORH	Mrgy, Hungar	146.54	340	⇓P	PKPbc	03 35 59.0	+0.1
ARSA	Arzberg comp=Z,9.4nm,1.2s	146.55	344	*i* PKP	PKPab	03 36 00.0	-0.9
BIOA	Bad Ischl, Aus comp=Z,4.3nm,0.7s	146.60	346	*i* PKP	PKPbc	03 35 58.5	-0.6
BFO	Black Forest	146.89	353		PKPbc	03 35 59.4	-0.5
LESA	Schwarzleotal comp=Z,6.5nm,1.1s	147.06	347	*i* PKP	PKPbc	03 36 00.8	+0.4
SOKA	Soboth comp=Z,6.0nm,1.0s	147.20	344	*i* PKP	PKPbc	03 36 00.8	0.0
KBA	Koelnbreinsper comp=Z,5.9nm,0.7s	147.24	346	*i* PKP	PKPbc	03 36 00.5	-0.5
RETA	Reutte comp=Z,3.9nm,0.9s	147.37	350	*i* PKP	PKPbc	03 36 01.6	+0.4
WATA	Walderalm comp=Z,8.0nm,0.9s	147.37	349	*i* PKP	PKPbc	03 36 01.9	+0.6
WTTA	Wattenberg comp=Z,8.1nm,0.6s	147.42	349	*i* PKP	PKPbc	03 36 01.8	+0.3
MOTA	Moosalm comp=Z,14nm,1.1s	147.44	349	*i* PKiKP	PKiKP	03 36 02.4	-1.0
CLF	Chambon-Foret	147.53	0	PKPbc	PKiKP	03 36 02.4	-0.8
SQTA	Sankt Quirin comp=Z,9.7nm,1.1s	147.54	349	*i* PKP	PKPbc	03 36 01.8	+0.1
MYKA	Terra Mystica comp=Z,5.7nm,1.0s	147.60	346	*i* PKP	PKPbc	03 36 01.3	-0.5
DAVA	Damuels comp=Z,7.5nm,0.7s	147.71	351	*i* PKiKP	PKiKP	03 36 03.4	-0.4
ABTA	Abfaltersbach comp=Z,14nm,1.3s	147.74	347	*i* PKP	PKPbc	03 36 02.0	-0.2
FETA	Feichten comp=Z,7.1nm,1.0s	147.82	350	*i* PKP	PKPbc	03 36 01.8	-0.7
TAVA	DENIZLI_Tavas	148.04	318	⇑P	PKiKP	03 36 04.1	-0.7
EZN	Ezine	148.11	324	⇓P	PKPbc	03 36 03.3	+0.1
FUORN	Ofenpass-Fuorn	148.29	350	PKPbc	PKiKP	03 36 04.2	-1.0
NRCA	Norcia	151.28	344	PKPbc	PKPbc	03 36 10.4	-0.4
ESDC	Sonseca Array comp=Z,0.5nm,0.8s,baz=325,slow=5.3,SNR=4.3	155.20	12	PKPab	PKPab	03 36 37.5	+0.3

IDC 15 03:27:04.7±1.8,1°31.5×126.63E,h0km,mb3.8/3, mbtmp3.7/4,ML3.0/1,Error ellipse: s-maj=204.9km s-min=22.6km az=66.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 2.6nm,0.8s,baz=343,slow=10.0,SNR=16	19.99	158	P	P	03 31 38.6	-0.4
ASAR	Alice Springs 0.7nm,0.6s	23.31	163	P	P	03 32 14.8	+0.2
MKAR	Makanchi Array 1.1nm,0.7s,baz=133,slow=6.0,SNR=7.0 1.1nm,0.7s	61.66	327	P	P	03 37 23.9	-0.6
KURBB	Kurchatov Arra	65.94	329	P	P	03 37 53.1	+0.5

IDC 15 03:29:50.1±7.7,37.08N×71.66E,h109km±58km,mb3.7/5, mbtmp3.9/10,MS3.7/2,Error ellipse: s-maj=72.9km s-min=47.5km az=151.0
NNC 15 03:29:54.0±3.1,37.66N×71.32E,h0km,mb4.4,mpv4.4, Error ellipse: s-maj=25.3km s-min=20.2km az=166.0
ISC 15 03:29:50.0±1.7,37.1N±0.1×71.6E±0.1,h100km,n29, σ1°50/29,mb3.8/5,3C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay 59nm,0.2s	5.16	347	Pg	Pn	03 31 06.6	+1.8
IUG	83nm,0.3s			Lg	Lg	03 32 03.3	
UCH	Uchtor SNR=17	5.58	23	P	Pn	03 31 12.6	+1.6
EKS2	Erkin-Say SNR=10	5.79	16	P	Pn	03 31 15.4	+2.0
AAK	Ala-Archa SNR=28	5.95	21	P	Pn	03 31 17.6	+1.9
AAK	Ala-Archa 8.8nm,0.4s	5.95	21	⇓P	Pn	03 31 17.8	+2.1
AAK	4.2nm,0.4s			⇓S	Sn	03 32 23.2	+0.7
AAK	Ala-Archa 42nm,0.4s,baz=186,slow=6.1,SNR=50	5.95	21	P	Pn	03 31 17.4	+1.7
AAK	12nm,0.3s,baz=343,slow=20,SNR=12			S	Sn	03 32 23.6	+1.1
KK31	Karatay Array 10nm,0.2s,baz=177,slow=12,SNR=338	6.03	353	⇓P	Pn	03 31 17.1	+0.4
KK31	19nm,0.3s,baz=172,slow=23			⇑S	Sn	03 32 21.9	-2.3
KBK	Karagaybulak SNR=5.4	6.11	24	P	Pn	03 31 20.1	+2.2
CHMS	Chumysh SNR=8.0	6.36	22	P	Pn	03 31 22.9	+1.8
USP	Ospenovka SNR=15	6.54	19	P	Pn	03 31 24.8	+1.2
TKM2	Tokmak 2 SNR=7.6	6.56	27	P	Pn	03 31 26.0	+1.9
KST	Kastek 5.5nm,0.5s	6.81	28	Pg	Pn	03 31 29.1	+1.8
KST	10nm,0.9s			Lg	Lg	03 32 43.5	
MK31	Makanchi Array 0.4nm,0.5s,baz=206,slow=10,SNR=4.0	12.52	36	P	P	03 32 50.4	-1.7
MKAR	Makanchi Array 0.3nm,0.6s,baz=223,slow=9.1,SNR=3.5	12.52	36	P	Pn	03 32 43.0	-1.5
KURBB	Kurchatov Arra 0.1nm,0.4s,baz=217,slow=12,SNR=4.2	14.39	18	P	Pn	03 33 07.1	-1.7
AB31	Akbulak array 1.4nm,0.5s,baz=136,slow=14,SNR=56	14.77	329	P	P	03 33 16.1	-1.0
BVAR	Borovoye Array 0.7nm,0.4s,baz=171,slow=12,SNR=3.4	15.93	357	P	Pn	03 33 27.5	-0.6
AKTO	Aktyubinsk 1.4nm,0.5s	16.48	328	⇑P	P	03 33 37.7	+1.8
ZALV	Zalesovo Beam 1.2nm,0.4s,baz=217,slow=10,SNR=6.3	19.16	24	P	P	03 34 05.2	-0.1
KIRS	Kirsehir-Merke	29.55	286	⇓P	P	03 35 51.5	+6.3
ANTO	Ankara	30.31	287	⇑P	P	03 35 52.8	+0.9
AKASG	Malin Array Be 0.6nm,0.5s,baz=85,slow=6.9,SNR=5.3 0.6nm,0.5s	32.92	308	P	P	03 36 14.1	-0.4
FINES	FINESS Array B 1.4nm,0.3s,baz=121,slow=9.5,SNR=25 1.4nm,0.3s	37.23	325	P	P	03 36 51.4	0.0
ARCES	ARCESS Array B 1.3nm,0.9s,baz=115,slow=9.2,SNR=7.6 1.3nm,0.9s	40.75	337	P	P	03 37 20.8	+0.2
HFS	Hagfors 3.4nm,0.4s,baz=98,slow=11,SNR=42 3.4nm,0.4s	42.86	321	P	P	03 37 37.9	-0.1
NB2	NORSAR Subarra comp=Z,0.7nm,0.5s,baz=93,slow=7.9	44.16	323	P	P	03 37 48.1	-0.3
NOA	NORSAR Array B comp=Z,1.0nm,0.5s,baz=106,slow=7.2,SNR=8.7 comp=Z,1.0nm,0.5s	44.16	323	P	P	03 37 47.6	-0.8
TGY	Tagaytay City comp=Z,101nm,19.8s,baz=192,slow=38	49.42	104	LR	LR	04 01 12.9	
DBIC	Dimbokro comp=Z,36nm,19.3s,baz=170,slow=40	75.18	267	LR	LR	04 20 05.5	

IDC 15 03:32:58.6±1.1,0.63S×127.86E,h0km,mb3.8/7, mbtmp3.9/8,ML4.0/1,Error ellipse: s-maj=51.9km s-min=19.6km az=73.0
ISC 15 03:33:03.7±1.3,0.7S±0.1×127.9E±0.2,h35km,n8,σ0°56/8, mb4.0/6,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang 1.4nm,0.3s,baz=56,slow=11,SNR=4.3 8.5nm,0.5s	9.20	242	Pn	Pn	03 35 14.0	0.0
WRA	Warramunga Arr 1.5nm,0.7s,baz=338,slow=12,SNR=6.3 1.5nm,0.7s	20.17	162	P	P	03 37 34.9	-0.4
ASAR	Alice Springs 3.0nm,0.6s,baz=345,slow=9.8,SNR=25 3.0nm,0.6s	23.59	166	P	P	03 38 11.8	+0.3
SONM	Songino Array 0.3nm,0.6s,baz=165,slow=6.0,SNR=2.0 0.3nm,0.6s	51.81	342	P	P	03 42 08.2	0.0
MKAR	Makanchi Array 0.9nm,0.6s,baz=132,slow=8.0,SNR=7.8 0.9nm,0.6s	61.82	326	P	P	03 43 18.9	-0.3
ZALV	Zalesovo Beam 1.1nm,0.7s,baz=116,slow=6.7,SNR=2.2 1.1nm,0.7s	65.02	334	P	P	03 43 40.3	+0.2
KURBB	Kurchatov Arra 1.5nm,0.7s,baz=129,slow=6.1,SNR=14 1.5nm,0.7s	66.06	328	P	P	03 43 46.3	-0.6
BVAR	Borovoye Array 0.6nm,0.4s,baz=134,slow=4.2,SNR=3.5 0.6nm,0.4s	71.62	328	P	P	03 44 22.4	+0.9

IDC 15 03:38:30.1±1.5,50.90S×162.47E,h0km,mb4.2/3, mbtmp4.2/3,Error ellipse: s-maj=144.1km s-min=42.5km az=35.0
ISC 15 03:38:35.6±1.4,50.6S±0.8×162.8E±0.6,h35km,n22, σ0°78/10,mb4.2/3,Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs 1.6nm,0.9s,baz=146,slow=8.5,SNR=8.6 1.6nm,0.9s	34.99	309	P	P	03 45 24.5	0.0
WRA	Warramunga Arr 3.2nm,1.0s,baz=146,slow=8.1,SNR=5.1 3.2nm,1.0s	37.96	313	P	P	03 45 49.2	-0.7
H01W1	Cape Leeuwin H baz=130,slow=75,SNR=88	38.26	275	T	T	04 25 55.7	
H01W2	Cape Leeuwin H baz=130,slow=75,SNR=110	38.27	275	T	T	04 25 58.9	
H01W3	Cape Leeuwin H baz=130,slow=75,SNR=120	38.28	275	T	T	04 25 56.3	
H03S2	Juan Fernandez baz=213,slow=74,SNR=34	79.88	132	T	T	05 19 17.3	
H03S1	Juan Fernandez baz=213,slow=74,SNR=24	79.89	132	T	T	05 19 22.9	
H03S3	Juan Fernandez baz=213,slow=74,SNR=23	79.90	132	T	T	05 19 17.9	
H03N3	Juan Fernandez baz=217,slow=72,SNR=42	80.19	132	T	T	05 19 43.5	
H03N2	Juan Fernandez baz=217,slow=72,SNR=79	80.20	132	T	T	05 19 45.1	
H03N1	Juan Fernandez baz=217,slow=72,SNR=22	80.21	132	T	T	05 19 46.4	
H08S2	Diego Garcia H baz=140,slow=76,SNR=64	84.32	265	T	T	05 23 32.7	
H08S1	Diego Garcia H baz=140,slow=76,SNR=69	84.33	265	T	T	05 23 34.3	
H08S3	Diego Garcia H baz=140,slow=76,SNR=87	84.34	265	T	T	05 23 38.6	
CMAR	Chiang Mai Arr 1.2nm,0.3s,baz=173,slow=4.0,SNR=4.1 1.2nm,0.3s	88.61	302	P	P	03 51 26.0	+1.1
ILAR	Eielson Array 0.5nm,0.9s,baz=257,slow=3.2,SNR=3.9	121.48	23	PKP	PKPdf	03 57 24.2	+0.4
KURBB	Kurchatov Arra 0.2nm,0.3s,baz=128,slow=3.0,SNR=2.5	123.60	310	PKP	PKPdf	03 57 27.0	-1.3
BRTR	Keskin Array B 0.8nm,0.8s,baz=172,slow=1.5,SNR=3.1	143.19	273	PKP	PKPdf	03 58 05.3	-0.2
SPITS	Spitsbergen Ar 2.4nm,0.6s,baz=33,slow=3.4,SNR=4.2	149.73	347	PKPbc	PKiKP	03 58 21.0	+0.1
AKASG	Malin Array Be 0.4nm,0.3s,baz=85,slow=2.3,SNR=2.9	150.92	288	PKPbc	PKPbc	03 58 22.8	-0.7
ARCES	ARCESS Array B 1.9nm,0.8s,baz=82,slow=3.1,SNR=9.4	152.39	329	PKPbc	PKiKP	03 58 27.1	+0.5
FINES	FINESS Array B 1.0nm,0.6s,baz=103,slow=6.1,SNR=5.5	153.99	311	PKPbc	PKPbc	03 58 30.1	+0.1

NEIC 15 03:41:08.1±0.6,36.88N±0.01×97.43W±0.01,h8km±4km, Error ellipse: s-maj=2.3km s-min=1.3km az=208.0
NEIC 15 03:41:08.1±0.5,36.88N±0.01×97.43W±0.01,h6km±2km, mb_Lg2.8/75,ML3.1/48,ML2.8/38,Error ellipse: s-maj=2.1km s-min=1.4km az=215.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	South Haven SW	0.14	343		Pg	03 41 11.6	+0.6
KAN13				Sg	Sg	03 41 13.9	+0.9
KAN13	comp=N,9μm,0.3s			IAML		03 41 14.2	
BLOK	Blackwell	0.20	124		Pg	03 41 12.7	+0.6
BLOK					Sg	03 41 15.9	+1.0
KAN09	Caldwell North	0.30	329		Pg	03 41 14.5	+0.5
KAN09				Sg	Sg	03 41 18.8	+0.8
KAN17	Caldwell West	0.32	302	Pg	Pg	03 41 14.7	+0.3
KAN17				Sg	Sg	03 41 19.0	+0.5
KAN17	comp=N,4μm,0.2s			IAML		03 41 19.3	
KAN17	comp=E,4μm,0.3s			IAML		03 41 19.5	
GC02	Grant County #	0.35	266		Pg	03 41 15.1	+0.2
GC02					Sg	03 41 19.6	+0.1
KAN01	Argonia South	0.38	316		Pg	03 41 15.9	+0.3
KAN01					Sg	03 41 21.0	+0.4
KAN01	comp=E,2μm,0.3s			IAML		03 41 21.4	
KAN01	comp=N,2μm,0.1s			IAML		03 41 21.6	
KAN14	Manchester OK	0.44	281		Pn	03 41 22.1	+1.1
KAN14	comp=E,1μm,0.1s			IAML		03 41 24.6	
KAN08	Anthony NE Sta	0.56	309	Pg	Pg	03 41 19.1	+0.3
KAN08					Sg	03 41 26.6	+0.4
KAN08	comp=E,974nm,0.4s			IAML		03 41 26.9	
KAN08	comp=N,2μm,0.4s			IAML		03 41 28.5	
CROK	Carrier	0.58	231		Pg	03 41 19.4	0.0
CROK				Sg	Sg	03 41 27.2	+0.3
KAN10	Anthony SW Sta	0.59	295		Pg	03 41 19.7	+0.2
KAN10					Sg	03 41 27.5	+0.4
OK051	E0350 and S346	0.60	128	Pg	Pg	03 41 19.9	+0.3
OK051				Sg	Sg	03 41 27.9	+0.4
KAN12	Harper NE Stat	0.62	313	Pg	Pg	03 41 20.2	+0.2
KAN12				Sg	Sg	03 41 28.6	+0.4
T35A	Sooner Cattle	0.73	87		Pg	03 41 22.4	+0.2
QUOK	Quay	0.91	140		Pg	03 41 25.4	-0.1
QUOK					Sg	03 41 37.2	-0.2
QUOK	comp=E,450nm,0.2s			IAML		03 41 44.5	
OK052	Battle Ridge R	1.01	150		Pg	03 41 26.9	-0.6
OK052				Sg	Sg	03 41 40.8	+0.1
OK052	comp=E,678nm,0.2s			IAML		03 41 46.5	
OK052	comp=E,446nm,0.2s			IAML		03 41 47.0	
OK029	Liberty Lake	1.08	181		Pg	03 41 28.3	-0.5
OK029				Sg	Sg	03 41 42.9	+0.1
OK029	comp=E,336nm,0.4s			IAML		03 41 49.2	
OK038	West end E0370	1.13	250		Pg	03 41 29.1	-0.6
ADOK	Arcadia Dam	1.22	178	Pg	Pg	03 41 31.1	-0.5
BCOK	Bluff Creek, N	1.23	187		Pg	03 41 31.1	-0.6
BCOK					Sb	03 41 47.9	+0.1
DEOK	Depew	1.27	144		Pn	03 41 31.9	-0.6
DEOK	comp=E,464nm,0.2s			IAML		03 41 55.0	
DEOK	comp=N,313nm,0.4s			IAML		03 41 56.9	

OK004	Okla Sci Mus	1.35	182		Pn	03 41 33.4	-0.1
OK004					Sn	03 41 52.4	+0.6
OKCSW	OKLAHOMA CITY	1.47	180		Pn	03 41 35.2	0.0
CSTR	Hydro, Custer	1.60	220		Pn	03 41 37.3	+0.4
FNO	Franklin	1.62	179		Pn	03 41 37.5	+0.3
TUL3	Leonard	1.63	126		Pn	03 41 38.0	+0.6
ELIS	Ellis County	1.80	244	Pn	Pn	03 41 39.9	+0.1
R32A	Long Quarter,	1.85	327		Pb	03 41 41.5	-0.9
RLO	Rose Lookout	2.06	109	Pn	Pn	03 41 44.3	+1.0
WMOK	Wichita Mounta	2.40	208	Pn	Pn	03 41 48.3	+0.2
U38A	Gravette	2.48	99	Pn	Pn	03 41 50.0	+0.9
CBKS	Cedar Bluff	2.66	317	Pn	Pn	03 41 51.3	-0.3
HHAR	Hobbs	2.87	101	Pn	Pn	03 41 55.0	+0.6
SMWD	Samnorwood	2.89	233	Pn	Pn	03 41 54.8	+0.1
SMWD	Samnorwood	2.89	233	P	Pn	03 41 55.9	+1.2
WTFS	Witchita Falls	3.22	196	Pn	Pn	03 42 00.9	+1.6
Z35A	Perchaven, San	3.54	178	Pn	Pn	03 42 04.4	+0.8
Z35A	comp=Z,24nm,1.1s			IAmb_Lg		03 42 59.6	
FW03	Perrin-Whitt E comp=Z,12nm,0.7s	3.86	188	IAmb_Lg		03 43 17.4	
AMTX	Amarillo comp=Z,22nm,0.8s	3.99	241	IAmb_Lg		03 43 21.8	
P38A	Dawn	4.11	47	Pn	Pn	03 42 12.5	+1.0
PLPT	Palo Pinto	4.12	190	Pn	Pn	03 42 11.8	+0.1
Z38A	Mt. Pleasant comp=Z,24nm,0.8s	4.13	150	IAmb_Lg		03 43 22.8	
APMT	Aspermont	4.18	213	Pn	Pn	03 42 14.3	+1.9
N35A	Tabor	4.21	19	Pn	Pn	03 42 14.9	+2.0
RTBA	Rita Blanca	4.29	266	Pn	Pn	03 42 14.7	+0.6
RTBA	comp=Z,12nm,0.7s			IAmb_Lg		03 43 31.7	
RTBA	Rita Blanca	4.29	266	P	Pn	03 42 14.7	+0.6
DKNS	Dickens comp=Z,12nm,0.8s	4.29	223	IAmb_Lg		03 43 34.2	
DKNS	Dickens	4.29	223	P	Pn	03 42 16.1	+2.0
R40A	Maddies Statio comp=Z,11nm,0.9s	4.33	69	IAmb_Lg		03 43 28.0	
FCAR	Ozark Folk Cen	4.39	101	Pn	Pn	03 42 16.0	+0.7
X40A	Basin Creek Fa	4.43	121	Pn	Pn	03 42 17.0	+1.1
X40A	comp=Z,18nm,1.1s			IAmb_Lg		03 43 37.1	
WHAR	Wooly Hollow	4.45	109	Pn	Pn	03 42 16.6	+0.4
FW13	Cleburne comp=Z,16nm,0.9s	4.51	180	IAmb_Lg		03 43 37.3	
BGNE	Belgrade	4.56	353	Pn	Pn	03 42 18.4	+0.7
BGNE	comp=Z,25nm,0.8s			IAmb_Lg		03 43 36.3	
ABTX	Abilene, Hawle	4.62	204	Pn	Pn	03 42 20.2	+1.7
KSCO	Kaye Shedlock'	4.63	299	Pn	Pn	03 42 18.2	-0.5
KSCO	comp=Z,15nm,0.8s			IAmb_Lg		03 43 44.3	
UALR	University of comp=Z,13nm,1.0s	4.63	115	IAmb_Lg		03 43 40.0	
WLAR	White Oak Lake comp=Z,17nm,0.7s	4.75	131	IAmb_Lg		03 43 52.0	
P40A	Paris comp=Z,22nm,0.8s	5.00	56	IAmb_Lg		03 43 55.1	
237A	Washetta, Mont	5.04	164	Pn	Pn	03 42 23.7	-0.6
CCM	Cathedral Cave comp=Z,16nm,0.8s	5.06	75	IAmb_Lg		03 43 53.8	
POST	Post comp=Z,8.9nm,0.8s	5.06	223	IAmb_Lg		03 43 59.9	
N38A	Joes South For comp=Z,22nm,0.7s	5.10	39	IAmb_Lg		03 43 52.1	
LCAR	Lake Charles	5.12	97	Pn	Pn	03 42 26.7	+1.4
Z41A	Richland Creek comp=Z,17nm,0.7s	5.24	132	IAmb_Lg		03 44 05.0	
OGNE	Ogallala	5.42	320	Pn	Pn	03 42 29.8	+0.2
PBMO	Poplar Bluff comp=Z,8.9nm,0.7s	5.61	89	IAmb_Lg		03 44 16.5	
HBAR	Harrisburg comp=Z,19nm,0.9s	5.63	102	IAmb_Lg		03 44 19.5	
FVM	French Village comp=Z,22nm,0.9s	5.68	77	IAmb_Lg		03 44 09.6	
BRDY	Brady	5.73	194	Pn	Pn	03 42 32.5	-1.2
SGCY	Sterling City comp=Z,20nm,1.1s	5.82	213	IAmb_Lg		03 44 24.4	
SLM	Saint Louis comp=Z,17nm,0.7s	5.96	71	IAmb_Lg		03 44 21.1	
SCIA	State Center comp=Z,19nm,0.7s	5.99	32	IAmb_Lg		03 44 32.5	
K30B	Basset comp=Z,19nm,0.7s	6.03	344	IAmb_Lg		03 44 32.7	
435B	Jarrell comp=Z,12nm,0.7s	6.08	181	IAmb_Lg		03 44 30.1	
Q24A	Divide comp=Z,9.1nm,0.8s	6.45	291	IAmb_Lg		03 44 46.4	
SDCO	Great Sand Dun	6.50	280	Pn	Pn	03 42 45.2	+0.7
S44A	Carbondale comp=Z,19nm,0.8s	6.56	80	IAmb_Lg		03 44 36.0	
SIUC	Southern Illin comp=Z,16nm,0.8s	6.60	80	IAmb_Lg		03 44 36.8	
JCT	Junction City comp=Z,14nm,1.1s	6.68	198	IAmb_Lg		03 44 49.3	
OZNA	Ozona comp=Z,7.9nm,0.9s	6.69	208	IAmb_Lg		03 44 57.8	
ECSD	EROS Data Cent	6.88	5	Pn	Pn	03 42 49.4	-0.1
L40A	Anamosa comp=Z,13nm,1.1s	7.06	41	IAmb_Lg		03 44 57.9	
ISCO	Idaho Springs	7.07	297	Pn	Pn	03 42 52.6	+0.2
HNDO	Hondo comp=Z,7.0nm,0.8s	7.49	192	IAmb_Lg		03 45 17.8	
L42A	Oliver, Polo comp=Z,12nm,0.8s	7.89	47	IAmb_Lg		03 45 21.7	
SAND	Sanderson comp=Z,10nm,1.2s	7.94	211	IAmb_Lg		03 45 30.5	
I40A	Norwalk comp=Z,5.4nm,0.8s	8.72	34	IAmb_Lg		03 46 02.3	
K22A	Casper comp=Z,10nm,0.9s	9.07	312	IAmb_Lg		03 46 10.3	

IDC 15 03:49:54.2±1.1,6.82N×72.97W,h162km±10km,mb3.5/13, mbtmp4.1/17,MS2.7/1,Error ellipse: s-maj=12.5km s-min=11.4km az=160.0
NEIC 15 03:49:54.1±1.9,6.82N±0.03×73.01W±0.07,h149km±6km, mb4.4/139,Error ellipse: s-maj=11.5km s-min=1.8km az=112.0
RSNC 15 03:49:54.8±0.0,7°N±1°×7°3W±°,h148km±2km,M4.4,mb4.8, mB5.3,ML4.0,Mw(mB)4.7
ISC 15 03:49:53.5±0.6,6.85N±0.03×73.09W±0.03,h153km±5km, n224,σ1°46/255,mb4.4/76,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.27	199	P	Pn	03 50 14.9	+0.3
BARC				S	Sn	03 50 30.2	-0.5
PAMC	Pamplona, Colo	0.62	39	P	Pn	03 50 17.6	+1.2
PAMC				S	Sn	03 50 34.5	+0.6
BRJC	Barrancabermej	0.66	281	P	Pn	03 50 16.6	+0.6
BRJC				S	Sn	03 50 33.4	+0.2
RUSC	La Rusia	0.95	180		Pn	03 50 18.6	-0.2
RUSC				Sn	Sn	03 50 37.2	-0.7
RUSC	La Rusia	0.95	180	P	Pn	03 50 18.8	+0.1
RUSC				S	Sn	03 50 37.7	-0.2
TAMC	Tame, Arauca	1.35	108	P	Pn	03 50 23.2	+1.3
TAMC				S	Sn	03 50 44.7	+1.2
PTBC	PUERTO BERRIO,	1.39	257	P	Pn	03 50 21.4	-0.8
PTBC				S	Sn	03 50 42.5	-1.6
OCAC	Ocana	1.40	351	P	Pn	03 50 22.9	+0.5
OCAC				S	Sn	03 50 43.8	-0.8
ZARC	Zaragoza, Cauc	1.87	290	P	Pn	03 50 27.1	-0.2
ZARC				S	Sn	03 50 52.7	-0.5
NORC	Norcasia	2.18	234	P	Pn	03 50 30.2	-0.4
NORC				S	Sn	03 50 59.0	-0.8
CHIC	Chingaza	2.29	196	P	Pn	03 50 32.9	+0.2
CHIC				S	Sn	03 51 01.9	-1.0
ROSC	El Rosal 368nm,0.3s,baz=118,slow=23,SNR=302	2.34	212	P	Pn	03 50 34.9	+1.6
ROSC	252nm,0.3s,baz=228,slow=20,SNR=5.9			S	Sn	03 50 58.7	-5.1
ROSC	El Rosal	2.34	212	P	Pn	03 50 34.7	+1.4
ROSC				S	Sn	03 51 04.7	+0.9
HELC	Santa Helena	2.51	255	P	Pn	03 50 35.1	-0.1
HELC				S	S

VILC S Sn 03 51 12.2 -1.0
NIZA Niza - Manizal 2.96 233 P Pn 03 50 42.3 +1.5
NIZA S Sn 03 51 20.1 +2.8
CBOC Ciudad Bolivar 3.06 252 P Pn 03 50 42.4 +0.4
CBOC S Sn 03 51 18.4 -1.0
DBBC Dabeiba 3.10 273 P Pn 03 50 42.5 +0.1
DBBC S Sn 03 51 17.6 -2.5
SDV Santo Domingo 3.17 50 Pn 03 50 44.2 +0.9
SDV Santo Domingo 3.17 50 P Pn 03 50 44.4 +1.1
408nm,0.3s,baz=176,slow=3.1,SNR=84
SDV S Sn 03 51 21.6 -0.3
567nm,0.5s,baz=246,slow=9.9,SNR=3.4
SDV Santo Domingo 3.17 50 P Pn 03 50 44.2 +0.9
SDV S Sn 03 51 21.7 -0.1
ARGC Ariguani, Magd 3.20 339 P Pn 03 50 44.8 +1.2
ARGC S Sn 03 51 22.9 +0.5
PRAC Prado 3.59 210 P Pn 03 50 48.0 -0.6
PRAC S Sn 03 51 30.7 -0.7
APAC Apartado, Choc 3.61 287 P Pn 03 50 48.8 -0.1
APAC S Sn 03 51 30.0 -1.8
ORTC Ortega, Tolima 3.62 216 P Pn 03 50 48.9 -0.1
ORTC S Sn 03 51 32.6 +0.5
SJCC San Jacinto, C 3.67 326 P Pn 03 50 48.6 -1.0
SJCC S Sn 03 51 30.0 -3.1
PLMC San Jos del P 3.72 239 P Pn 03 50 50.4 +0.1
PLMC S Sn 03 51 31.1 -3.2
URMC La Uribe, Meta 3.80 200 P Pn 03 50 51.7 +0.3
URMC S Sn 03 51 36.0 -0.3
LCBC Los crdobas, 3.81 302 P Pn 03 50 51.7 +0.3
LCBC S Sn 03 51 31.7 -4.7
CRJC Cerrejon, Guaj 4.15 3 P Pn 03 50 55.1 -0.8
CRJC S Sn 03 51 40.8 -3.7
GUVC San Jose del G 4.30 174 P Pn 03 50 56.6 -1.3
GUVC S Sn 03 51 44.3 -3.6
YOTC Yotoco, Valle 4.31 229 P Pn 03 50 57.2 -0.9
SMRC Santa Marta, M 4.43 345 Pn 03 50 59.4 -0.1
SMRC Santa Marta, M 4.43 345 P Pn 03 50 59.2 -0.3
SMRC S Sn 03 51 47.9 -3.1
MACC Macarena, Meta 4.73 189 P Pn 03 51 01.6 -1.9
MACC S Sn 03 51 52.2 -5.9
BETC Betania 4.76 210 P Pn 03 51 02.8 -1.1
BETC S Sn 03 51 57.8 -0.9
URIC Uribia, Colomb 4.94 13 P Pn 03 51 05.1 -1.1
URIC S Sn 03 51 58.6 -4.4
JAMC Jamundi, Valle 5.08 225 P Pn 03 51 07.7 -0.5
2µm94nm,0.6s
JAMC S Sn 03 52 05.5 -1.0
2µm94nm,0.6s
MALC Bahia Malaga 5.08 237 P Pn 03 51 09.2 +1.1
MALC S Sn 03 52 06.7 +0.5
GARC Garzon, Huila 5.21 207 P Pn 03 51 09.2 -0.9
GARC S Sn 03 52 04.7 -5.2
BAUV El Baul 5.42 67 Pn 03 51 11.0 -1.6
POPC Popayan, Colom 5.58 220 P Pn 03 51 14.5 -0.4
926nm65nm,0.8s
POPC S Sn 03 52 19.7 +1.3
926nm65nm,0.8s
FLOC Florencia 5.82 206 Pn 03 51 17.5 -0.5
FLOC Florencia 5.82 206 P Pn 03 51 17.2 -0.8
2µm97nm,0.8s
BBAC Balboa, Cauca 6.34 221 P Pn 03 51 24.1 -0.9
3µm134nm,0.6s
CRUC La Cruz 6.51 216 P Pn 03 51 28.8 +1.4
BCIP Isla Barro Col 7.07 289 Pn Pn 03 51 33.0 -1.6
BCIP Isla Barro Col 7.07 289 P Pn 03 51 32.9 -1.6
28nm,1.4s
TULM Tulcn-Chalpat 7.68 218 P Pn 03 51 45.0 +1.8
OTAV Otavalo 8.47 219 Pn Pn 03 51 52.6 -1.1
PCRV Puerto La Cruz 8.99 68 P Pn 03 51 59.0 -1.3
14nm,0.5s,baz=252,slow=1.2,SNR=17
PCRV S Sn 03 53 40.2 0.0
11nm,0.5s,baz=228,slow=18,SNR=1.8
PCRV LR LR 03 56 19.0
comp=Z,46nm,21.9s,slow=43
LCR2 La Lucha 2 11.18 286 Pn Pn 03 52 29.6 +0.3
TBTG Tabatinga, AM 11.41 164 Pn 03 52 32.6 +0.5
MTDJ Mount Denham 12.11 339 Pn Pn 03 52 43.5 +2.2
JTS Las Juntas de 12.22 287 P P 03 52 46.0 -2.8
6.2nm,0.9s,baz=245,slow=2.2,SNR=9.3
DR12 Loma Pena Alta 12.40 17 Pn Pn 03 52 44.9 -0.2
CELP Cerrillos 12.84 29 Pn Pn 03 52 48.9 -1.8
UUPR Utuado, UPR, P 12.92 28 Pn Pn 03 52 49.2 -2.5
ACON Acoyapa 12.96 294 P P 03 52 58.3 +1.3
PDPR Patillas Dam, 13.07 31 Pn Pn 03 52 51.8 -1.7
SJG San Juan 13.08 31 Pn Pn 03 52 52.7 -1.0
SJG San Juan 13.08 31 P Pn 03 52 52.4 -1.3
9.6nm,0.4s,baz=204,slow=14,SNR=11
GTBY Guantanamo Bay 13.15 352 Pn Pn 03 52 55.0 +0.4
HUMP Col San Antoni 13.26 32 Pn Pn 03 52 54.8 -1.2
GCPR Guaynabo City 13.28 30 Pn Pn 03 52 55.6 -0.7
BOAV Boa Vista 13.28 109 Pn Pn 03 52 55.0 -1.4
MACA Manacapuru-AM 15.88 128 Pn 03 53 28.9 +0.1
MACA IAmb IAmb 03 53 44.9
comp=Z,14nm,0.6s
CAMR Camarioca 17.98 335 P Pn 03 53 53.6 -0.4
CAMR IAmb IAmb 03 53 56.6
comp=Z,189nm,1.1s
TEIG Tepich 19.84 314 P 03 54 14.3 +1.6
MDP Montagnes des 20.41 94 P P 03 54 18.9 0.0
comp=Z,5.9nm,0.7s,baz=297,slow=2.3,SNR=5.5
comp=Z,5.9nm,0.7s
MAL2 Monte Alegre, 20.83 114 P P 03 54 24.2 +0.8
CCIG Comitan 20.86 298 P P 03 54 25.9 +2.1
CCIG IAmb IAmb 03 54 27.9
comp=Z,8.8nm,0.7s
LPAZ La Paz 23.51 168 P P 03 54 49.9 -0.6
LPAZ La Paz 23.51 168 P P 03 54 50.2 -0.3
comp=Z,0.5nm,0.5s,baz=338,slow=6.0,SNR=5.2
comp=Z,0.5nm,0.5s
656A Willston 24.11 339 P P 03 54 57.4 +2.3
GO01 Chusmiza 26.63 172 P P 03 55 18.5 -0.1
GO01 IAmb IAmb 03 55 52.4
comp=Z,11nm,1.4s
352A Blakely 26.89 337 P P 03 55 22.1 +1.8
352A IAmb IAmb 03 55 23.2
comp=Z,15nm,1.0s
250A Grady 27.86 336 P P 03 55 31.1 +2.2
250A IAmb IAmb 03 55 31.9
comp=Z,7.1nm,0.6s
152A Waverly Hall 27.88 339 P P 03 55 31.3 +2.3
152A IAmb IAmb 03 55 31.9
comp=Z,7.5nm,0.8s
GOGA Godfrey 28.13 341 P P 03 55 33.1 +1.9
GOGA IAmb IAmb 03 55 34.1
comp=Z,4.6nm,0.8s
JSC Jenkinsville 28.32 346 P P 03 55 34.0 +1.1
HODGE Hodges 28.54 344 P P 03 55 37.0 +2.2
HODGE IAmb IAmb 03 55 37.5
comp=Z,4.1nm,0.6s
Y52A Lilburn 28.74 341 P P 03 55 38.4 +1.7
Y52A IAmb IAmb 03 55 39.4
comp=Z,3.6nm,0.6s
346A Big Creek Wild 28.82 330 P P 03 55 39.0 +1.6
LRAL Lakeview Retre 29.08 335 P P 03 55 41.4 +1.7
LRAL IAmb IAmb 03 55 42.2
comp=Z,4.1nm,0.7s
Y49A Blount Mountai 29.57 337 P P 03 55 45.5 +1.5
Y49A IAmb IAmb 03 55 46.7
comp=Z,7.0nm,0.7s
V55A Taylorsville 29.81 347 P P 03 55 48.3 +2.2
V55A IAmb IAmb 03 56 12.6
comp=Z,7.4nm,1.3s
W52A Murphy 29.83 342 P P 03 55 48.7 +2.3
W52A IAmb IAmb 03 55 49.3
comp=Z,4.6nm,0.8s
FPAL Fort Paine 29.88 339 P 03 55 48.3 +1.5
V53A Saluda 30.04 344 P P 03 55 50.4 +2.1
T59A Double "B" Far 30.26 353 P P 03 55 51.5 +1.5
X48A Hartselle 30.34 337 P 03 55 52.6 +1.7
X48A IAmb IAmb 03 55 53.5
comp=Z,7.7nm,0.7s
W50A Signal Mountai 30.37 340 P P 03 55 53.5 +2.3
W50A IAmb IAmb 03 55 54.1
comp=Z,6.5nm,0.9s
SWET Sewanee 30.60 339 P P 03 55 54.4 +1.2
TZTN Tazewell 31.06 344 P P 03 55 59.2 +2.0
TZTN IAmb IAmb 03 56 01.9
comp=Z,9.4nm,1.3s
PLAL Pickwick Lake 31.21 336 P P 03 55 59.7 +1.2
PLAL IAmb IAmb 03 56 01.0
comp=Z,8.7nm,0.8s
S57A Dark Hollow, R 31.23 351 P P 03 55 59.2 +0.6
HKT Hockley 31.39 320 P P 03 56 01.1 +1.0
HKT IAmb IAmb 03 56 26.3
comp=Z,5.6nm,1.1s
V48A Smith Brothers 31.39 338 P P 03 56 02.2 +2.1
CLTN Cedars of Leba 31.53 339 P P 03 56 03.4 +2.1
HBVL Hebbronville 31.54 313 P P 03 56 02.6 +1.1
U49A Red Boiling Sp 31.72 340 P P 03 56 03.8 +0.8
U49A IAmb IAmb 03 56 05.5
comp=Z,12nm,1.5s
R55A Marlinton 31.93 350 P P 03 56 07.4 +2.6
R55A IAmb IAmb 03 56 42.2
comp=Z,11nm,1.4s
WVT Waverly 32.12 337 P 03 56 07.9 +1.5
T47A Sharon Grove 32.61 339 P 03 56 12.3 +1.6
R50A Paris 32.91 344 P 03 56 15.2 +1.9
R50A IAmb IAmb 03 56 16.3
comp=Z,5.2nm,0.7s
X40A Basin Creek Fa 32.99 329 P P 03 56 14.4 +0.3
X40A IAmb IAmb 03 56 15.0
comp=Z,6.0nm,0.9s
WHAR Wooly Hollow 33.36 331 P P 03 56 18.0 +0.8
WHAR IAmb IAmb 03 56 18.8
comp=Z,6.9nm,1.0s
BDFB Brasilia 33.41 132 P P 03 56 17.6 -0.5
comp=Z,1.1nm,0.5s,baz=292,slow=14,SNR=3.1
comp=Z,1.1nm,0.5s
LCAR Lake Charles 33.46 333 P P 03 56 18.2 +0.1
LCAR IAmb IAmb 03 56 20.0
comp=Z,3.9nm,0.6s
P52A Corning 33.64 347 P P 03 56 21.4 +1.8
P52A IAmb IAmb 03 56 22.2
comp=Z,7.9nm,0.7s
PBMO Poplar Bluff 33.73 334 P P 03 56 21.7 +1.3
CGM3 Cape Girardeau 33.85 336 P P 03 56 22.2 +0.7
S44A Carbondale 34.04 337 P P 03 56 23.7 +0.6
BRDY Brady 34.32 318 IAmb IAmb 03 56 27.0
comp=Z,12nm,1.4s
BLO Bloomington 34.38 341 P P 03 56 27.5 +1.5
KSPA Keystone Colle 34.64 356 P P 03 56 29.6 +1.4
KSPA IAmb IAmb 03 56 31.2
comp=Z,5.9nm,0.6s
FVM French Village 34.76 336 P P 03 56 30.4 +1.1
PLPT Palo Pinto 34.88 321 IAmb IAmb 03 56 31.7
comp=Z,5.7nm,0.6s
P46A Rosedale 35.01 341 P P 03 56 32.7 +1.3
CCM Cathedral Cave 35.16 335 P P 03 56 33.5 +0.8
L56A Greenwood 35.36 354 P P 03 56 36.4 +1.9
L56A IAmb IAmb 03 56 46.6
comp=Z,15nm,1.4s
RLO Rose Lookout 35.42 329 P P 03 56 35.4 +0.5
RLO IAmb IAmb 03 56 35.8
comp=Z,6.1nm,0.7s
SFIN Lafayette 35.66 342 P 03 56 38.2 +1.2
WVNY West Valley, N 35.75 353 P P 03 56 39.6 +2.0
WVNY IAmb IAmb 03 56 42.3
comp=Z,16nm,1.4s
R40A Maddies Statio 35.80 334 P 03 56 38.7 +0.6
TXAR Lajitas Array 36.47 312 P P 03 56 44.4 +0.2
TXAR Lajitas Array 36.47 312 P P 03 56 44.9 +0.8
comp=Z,2.3nm,0.6s,baz=125,slow=9.3,SNR=63
TXAR PcP PcP 03 59 05.9 +1.1
comp=Z,0.7nm,0.6s,baz=132,slow=2.9,SNR=8.4
comp=Z,2.3nm,0.6s
TX31 Lajitas Ar. Si 36.47 312 P P 03 56 45.3 +1.2
WMOK Wichita Mounta 36.47 323 P P 03 56 44.2 +0.1
WMOK IAmb IAmb 03 56 44.6
comp=Z,3.5nm,0.7s
HDIL Hopedale 36.56 339 P P 03 56 44.9 +0.3
POST Post 37.09 319 IAmb IAmb 03 56 50.8
comp=Z,8.6nm,0.9s
AMTX Amarillo 38.35 321 P 03 57 01.4 +1.5
AMTX IAmb IAmb 03 57 01.6
comp=Z,11nm,1.0s
GGN Saint George 38.51 7 P P 03 57 02.7 +1.8
L40A Anamosa 38.58 338 P P 03 57 01.8 +0.2
L40A IAmb IAmb 03 57 02.1
comp=Z,5.7nm,0.7s
BUKO Buck Lake 38.83 353 P P 03 57 04.7 +1.0
BUKO IAmb IAmb 03 57 44.9
comp=Z,8.0nm,1.4s
MNTX Cornudas Mount 38.97 314 P 03 57 06.4 +1.3
MNTX IAmb IAmb 03 57 07.5
comp=Z,6.0nm,0.8s
LMN Caledonia Moun 39.51 9 P P 03 57 10.3 +1.0
I40A Norwalk 39.97 340 IAmb IAmb 03 57 14.1
comp=Z,7.7nm,0.9s
RTBA Rita Blanca 40.01 322 IAmb IAmb 03 57 15.2
comp=Z,5.2nm,0.9s
D62A Allapoint, All 40.24 4 P P 03 57 16.9 +1.7
D62A IAmb IAmb 03 57 28.6
comp=Z,14nm,1.4s
T25A Trinidad 41.49 321 P 03 57 27.6 +1.7
ECSD EROS Data Cent 42.13 334 P P 03 57 30.7 -0.1
ECSD IAmb IAmb 03 57 31.9
comp=Z,3.3nm,0.5s
SDCO Great Sand Dun 42.55 321 P P 03 57 36.4 +1.8
EYMN Ely 43.85 342 P P 03 57 44.8 +0.3
AGMN Agassiz Nation 45.61 339 P P 03 57 58.5 +0.1
AGMN IAmb IAmb 03 57 59.4
comp=Z,5.9nm,0.7s
EPLO Experimental L 46.07 341 P P 03 58 01.9 -0.2
EPLO IAmb IAmb 03 58 03.0
comp=Z,6.6nm,0.6s
U15A North Rim 46.32 315 P P 03 58 06.2 +1.6
KNB Kanab 46.98 316 P P 03 58 11.3 +1.8
KNB IAmb IAmb 03 58 12.2
comp=Z,6.9nm,0.9s
BSUT Blindstream Ca 47.49 321 P P 03 58 14.8 +1.1
BSUT IAmb IAmb 03 58 15.4
comp=Z,4.1nm,0.6s
PDAR Pinedale Array 48.07 324 P P 03 58 18.2 +0.3
PDAR Pinedale Array 48.07 324 P P 03 58 18.4 +0.4
comp=Z,1.6nm,0.6s,baz=127,slow=8.7,SNR=16
PDAR PcP PcP 03 59 43.0 -0.4
comp=Z,0.3nm,0.6s,baz=98,slow=2.2,SNR=3.0
comp=Z,1.6nm,0.6s
SCHQ Schefferville 48.11 5 P P 03 58 18.3 +0.6
comp=Z,5.9nm,0.5s,baz=187,slow=7.1,SNR=24
comp=Z,5.9nm,0.5s
PSUT Pine Spring 48.45 317 P P 03 58 22.4 +1.5
SPR3 Spring Creek 3 49.00 317 P P 03 58 26.0 +0.8
DGMT Dagmar 49.14 333 P P 03 58 26.7 +0.9
LOHW Log Hollow 49.19 324 IAmb IAmb 03 58 28.2
comp=Z,3.6nm,0.6s
R11B Troy Canyon, C 49.54 316 P 03 58 30.1 +0.9
ELK Elko 50.48 319 P P 03 58 37.0 +0.7
DSP Deep Springs 50.79 313 P P 03 58 39.7 +1.4
NVAR Mina Array Bea 51.48 315 P P 03 58 44.7 +0.9
comp=Z,1.4nm,0.7s,baz=116,slow=6.9,SNR=9.8
NVAR PcP PcP 03 59 56.2 +0.2
comp=Z,0.4nm,0.5s,baz=93,slow=4.2,SNR=4.8
comp=Z,1.4nm,0.7s
LRM Limekiln Ridge 51.57 326 P P 03 58 45.2 +0.9
OVMT Ovando 52.61 326 P P 03 58 52.8 +0.9
PLID Pearl Lake 53.21 323 P 03 58 56.3 -0.2
I07A Izee 54.87 320 IAmb IAmb 03 59 10.0
comp=Z,3.7nm,0.9s
LNOR Lincton Mounta 54.99 323 P P 03 59 09.9 +0.8
LNOR IAmb IAmb 03 59 10.3
comp=Z,3.8nm,0.6s
G08A Pilot Rock 55.11 322 P 03 59 10.8 +0.8
G08A IAmb IAmb 03 59 11.6
comp=Z,5.4nm,0.7s
PINE Pine Mountain 55.65 319 P 03 59 14.9 +0.9
YBH Yreka Blue Hor 55.94 317 IAmb IAmb 03 59 15.6
comp=Z,1.8nm,0.6s
YBH Yreka Blue Hor 55.94 317 P P 03 59 14.7 -1.3
comp=Z,0.1nm,0.5s,baz=150,slow=3.2,SNR=13
D08A Wollman Farm, 55.98 324 P P 03 59 16.0 -0.1
D08A IAmb IAmb 03 59 17.5
comp=Z,2.9nm,0.8s
KSXB Camp Six Broad 56.78 316 P P 03 59 22.3 +0.3
KSXB IAmb IAmb 03 59 23.3
comp=Z,4.4nm,0.8s
HOOD Mount Hood Mea 56.80 321 P P 03 59 23.3 +1.2
H04A Detroit Lake 56.85 320 P P 03 59 22.9 +0.6
H04A IAmb IAmb 03 59 25.9
comp=Z,4.8nm,0.8s
B08A Colville Reser 56.89 325 P P 03 59 22.6 +0.1
B08A IAmb IAmb 03 59 23.6
comp=Z,3.1nm,0.8s
LTY Liberty 57.11 323 P P 03 59 24.6 +0.4
LTY IAmb IAmb 03 59 25.8
comp=Z,3.7nm,0.7s
BLKN Baker Lake 59.66 349 IAmb IAmb 03 59 41.8
comp=Z,5.2nm,0.7s
YKAW1 Yellowknife Wh 63.20 340 P P 04 00 05.1 0.0
YKAW1 IAmb IAmb 04 00 05.8
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 63.25 340 P P 04 00 05.7 +0.2
comp=Z,3.8nm,0.7s,baz=135,slow=5.9,SNR=21
comp=Z,3.8nm,0.7s
YKAW3 Yellowknife Wh 63.30 340 P P 04 00 06.0 +0.2
YKAW3 IAmb IAmb 04 00 06.9
comp=Z,5.6nm,0.7s
HG4B Hotspring 65.44 325 P P 04 00 20.8 +0.8
HG4B IAmb IAmb 04 00 54.8
comp=Z,7.8nm,1.2s
S34M Telegraph Cree 67.62 331 P P 04 00 34.1 +0.5
S34M IAmb IAmb 04 00 35.8
comp=Z,5.0nm,0.9s
DBIC Dimbokro 67.70 86 P P 04 00 32.5 -2.6
comp=Z,1.5nm,0.6s,baz=268,slow=9.0,SNR=3.6
comp=Z,1.5nm,0.6s
MMPY Sheldon Lake, 69.69 335 P P 04 00 47.5 +1.0
N31M Braeburn, Yuko 71.18 333 P P 04 00 57.4 +1.8
N31M IAmb IAmb 04 00 57.9
comp=Z,10nm,1.1s
H31M Peel River 72.26 338 P P 04 01 02.5 +0.6
INK Inuvik 73.01 340 P P 04 01 06.3 +0.1
EKA Eskdalemuir Ar 73.03 34 P P 04 01 06.3 -0.3
comp=Z,0.1nm,0.3s,baz=243,slow=2.8,SNR=3.5
comp=Z,0.1nm,0.3s
H29M Whitestone 73.94 337 P P 04 01 12.5 +0.8
E29M Blow River 74.54 340 P P 04 01 15.6 +0.5
E29M IAmb IAmb 04 01 16.6
comp=Z,4.2nm,0.8s
DOT Dot Lake 75.49 334 P P 04 01 21.6 +0.8
DOT IAmb IAmb 04 01 22.8
comp=Z,4.0nm,0.6s
BMAR Burnt Mountain 76.64 338 P P 04 01 27.5 +0.3
ILAR Eielson Array 76.95 335 P P 04 01 29.1 +0.2
comp=Z,0.5nm,0.6s,baz=106,slow=4.3,SNR=7.1
comp=Z,0.5nm,0.6s
F25K Christian Rive 77.08 338 P P 04 01 31.0 +1.3
D25K Kavik River 77.75 340 P P 04 01 33.4 +0.1
E24K Your Creek 78.24 338 P P 04 01 37.6 +1.5
BPAW Bear Paw Mtn. 78.59 334 P P 04 01 37.9 -0.1
PPLA Purkeypile 78.97 333 P P 04 01 40.5 +0.2
PPLA IAmb IAmb 04 02 08.8
comp=Z,16nm,1.4s
K20K Telida 79.87 333 P P 04 01 44.9 -0.1
F21K Alatna River 80.00 337 P P 04 01 46.7 +1.1
N18K Kilae Creek 80.54 330 P P 04 01 48.5 -0.2
N18K IAmb IAmb 04 01 49.4
comp=Z,14nm,1.4s
L18K Granite Mounta 80.99 332 P P 04 01 51.1 +0.1
NOA NORSAR Array B 81.29 29 P P 04 01 53.1 +0.5
comp=Z,0.4nm,0.6s,baz=269,slow=5.2,SNR=3.7
comp=Z,0.4nm,0.6s
K17K Iditarod 81.76 332 P P 04 01 55.4 +0.3
C19K Lookout Ridge 82.39 339 P P 04 01 59.8 +1.5
C19K IAmb IAmb 04 02 00.3
comp=Z,14nm,1.2s
C18K Utukok River 82.98 338 P P 04 02 02.2 +0.9
C18K IAmb IAmb 04 02 04.4
comp=Z,14nm,1.4s
C16K Lisburne Hills 84.52 338 P P 04 02 09.5 +0.5
ARCES ARCESS Array B 86.64 20 P P 04 02 19.2 -0.3
comp=Z,0.3nm,0.5s,baz=273,slow=4.3,SNR=7.1
comp=Z,0.3nm,0.5s
BNN Bunyan 100.23 49 Pdif **Pdif** 04 03 20.7 -2.2
MKAR Makanchi Array 122.28 20 PKP **PKPdf** 04 08 29.7 -1.0
comp=Z,0.2nm,0.3s,baz=320,slow=2.7,SNR=5.6
SONM Songino Array 125.55 0 PKP **PKPdf** 04 08 35.9 -1.1
comp=Z,0.5nm,0.4s,baz=336,slow=3.2,SNR=2.9
HHC Hu-ho-hao-te 132.34 355 *eP* **PKPdf** 04 08 46.8 -3.3
HHC Hu-ho-hao-te 132.34 355 LR LR
comp=Z,160nm,19.3s
HHC Hu-ho-hao-te 132.34 355 LR LR
comp=E,120nm,15.1s
HHC Hu-ho-hao-te 132.34 355 LR LR
comp=N,97nm,17.7s
HHC Hu-ho-hao-te 132.34 355 pmax pmax
comp=Z,62nm,4.6s
HHC Hu-ho-hao-te 132.34 355 pmax pmax
comp=Z,8.0nm,0.6s
ASAR Alice Springs 149.15 234 PKPbc **PKPbc** 04 09 23.6 -1.3
ASAR Alice Springs 149.15 234 PKPbc **PKPbc** 04 09 23.4 -1.5
comp=Z,2.7nm,0.7s,baz=116,slow=3.6,SNR=17
WR8 Warramunga Arr 150.23 241 PKPbc **PKPbc** 04 09 25.9 -1.6
WRA Warramunga Arr 150.38 241 PKPbc **PKPbc** 04 09 26.6 -1.3
comp=Z,2.2nm,0.4s,baz=108,slow=2.6,SNR=26

GCG 15 03:53:23.3±0.9, 15°.65N×88°.44W, h6km±10km, MD3.5, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARH	**Santa Rosa de**	**0.92**	**200**	*i* P	Pg	03 53 41.1	+0.1
SARH				*i* S	Sb	03 53 53.8	-0.4
MTO3	**Montecristo**	**1.53**	**216**	*eP*	Pn	03 53 51.4	+0.1
MARCA	**Marcala la Paz**	**1.53**	**165**	*i* P	Pn	03 53 51.1	-0.2
MARCA				*i* S	Sb	03 54 11.8	-0.1
PETF	**Flores**	**1.86**	**313**	*i* P	Pn	03 53 55.2	-0.5

NIED ***15*** *03:57:02.8, 38°.49N×144°.59E, h41km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.77; Mθθ 0.67; Mφφ 1.10; Mrθ 1.31; Mθφ 0.51; Mφr 1.27; Fault plane solution: M₀2.43000×10¹⁴ NP1:ϕs30.00000°, δ21.00000°, λ-102.00000°. NP2:ϕs223.00000°, δ69.00000°, λ-85.00000°.*

JMA 15 03:57:02.8±0.2, 38°.5N±0°.8×144°.6E±1°.0, h41km, MV3.6/22, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.36**	**285**	P	Pn	03 57 40.6	+1.5
OFUJ				*eS*	Sn	03 58 08.9	+2.1
MIYJ	**Miyakonagasawa**	**2.42**	**298**	P	Pn	03 57 41.0	+1.2
MIYJ				*eS*	Sn	03 58 10.0	+1.8
JKMT	**Kesennumamotoy**	**2.46**	**278**	*eP*	Pn	03 57 41.9	+1.4
JKMT				*eS*	Sn	03 58 11.3	+2.0
JIKH	**Ishinomakikobu**	**2.46**	**267**	*eP*	Pn	03 57 41.6	+1.2
JIKH				*eS*	Sn	03 58 10.2	+0.9
JMK	**Ichinoseki**	**2.68**	**281**	P	Pn	03 57 45.4	+1.9
JMK				*eS*	Sn	03 58 16.8	+2.2
JANG	**Nango**	**3.04**	**309**	*eP*	Pn	03 57 49.4	+1.1
JYK	**Kaneyama**	**3.34**	**279**	*eP*	Sn	03 57 54.8	+2.3
JYK				*eS*	Sn	03 58 33.5	+2.5
JOTO	**OTAMA OYAMA**	**3.49**	**256**	*eP*	Pn	03 57 56.9	+2.3
JOTO				*eS*	Sn	03 58 37.0	+2.3
JOT	**Ohata**	**3.97**	**318**	*eP*	Pn	03 58 03.0	+1.8
JOT				*eS*	Sn	03 58 46.2	-0.2

WEL ***15*** *04:14:34.6±1.0, 32°.S±10°×18°.0W±1°.7, h393km±27km, M4.1/12, mB4.3/9, MLv4.9/12, Mw(mB)3.5/9, Error ellipse: s-maj=22.8km s-min=12.2km az=106.1, confirmed*
IDC ***15*** *04:15:00.5±16.0, 28°.43S×177°.86E, h622km±183km, mb2.7/3, mbtmp3.8/3, Error ellipse: s-maj=132.3km s-min=23.7km az=53.0*

ISC 15 04:14:32.9±1.1, 32.07S±0.09×179.8W±0.2, h400km, n56, σ1s30/69, mb3.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.71**	**196**	P	Pn	04 16 01.7	-0.5
MXZ				S	S	04 17 14.0	-1.0
WMGZ	**Waiomatatini S**	**5.93**	**194**	P	Pn	04 16 05.0	+0.4
WMGZ				S	S	04 17 19.9	+0.6
HAZ	**Te Kaha**	**6.02**	**199**	P	Pn	04 16 07.4	+1.8
HAZ				S	S	04 17 22.0	+0.8
PKGZ	**Pakihiroa**	**6.05**	**196**	P	Pn	04 16 06.8	+0.9
PKGZ				S	S	04 17 21.2	-0.6
PUZ	**Puketiti**	**6.21**	**195**	P	Pn	04 16 08.5	+0.9
PUZ				S	S	04 17 24.1	-0.8
WCZ	**Waipu Caves**	**6.23**	**230**	P	Pn	04 16 09.4	+1.4
RUGZ	**Raukumara Rang**	**6.25**	**199**	P	Pn	04 16 08.7	+0.5
RUGZ				S	S	04 17 25.1	-0.9
OUZ	**Omahuta**	**6.37**	**239**	P	Pn	04 16 09.2	-0.2
TWGZ	**Tauwhareparae**	**6.37**	**196**	P	Pn	04 16 11.0	+1.6
TWGZ				S	S	04 17 29.9	+1.7
CNGZ	**Carnagh Statio**	**6.61**	**194**	P	Pn	04 16 12.6	+0.5
TKGZ	**Te Karaka**	**6.65**	**196**	P	Pn	04 16 11.7	-0.7
TKGZ				S	S	04 17 32.8	-1.0
RAGZ	**Rawiri**	**6.81**	**199**	P	P	04 16 15.7	+0.7

RAGZ S **S** **04 17 37.8 +0.5**
RIGZ Rimuhau 6.92 196 P **P** **04 16 16.9 +0.8**
RIGZ S **S** **04 17 39.9 +0.3**
MUGZ Murupara 6.99 203 P **Pn** **04 16 16.4 +0.1**
SNGZ Shannon Statio 7.10 199 P **Pn** **04 16 17.1 -0.5**
MTHZ Maungataniwha 7.31 201 P **Pn** **04 16 20.5 +0.5**
MTHZ S **S** **04 17 47.7 +0.1**
MHGZ Mahia Peninsul 7.32 194 P **Pn** **04 16 20.4 +0.4**
WHHZ Waihua 7.41 198 P **P** **04 16 23.0 +1.5**
WHHZ S **S** **04 17 49.7 +0.3**
MRHZ Matea Rd 7.43 204 P **Pn** **04 16 21.6 +0.3**
MRHZ S **S** **04 17 49.1 -1.0**
NMHZ Naumai 7.55 201 P **P** **04 16 24.4 +1.2**
NMHZ S **S** **04 17 53.4 +0.9**
ARHZ Aropaoanui 7.65 199 P **Pn** **04 16 24.3 +0.7**
BKZ Black Stump Fm 7.71 202 P **Pn** **04 16 23.6 -0.9**
HIZ Hauiti 7.79 213 P **P** **04 16 28.0 +2.2**
MCHZ McNeill Hill 7.90 200 P **Pn** **04 16 27.4 +0.8**
MCHZ S **S** **04 17 59.9 +0.1**
ETVZ East Tongariro 7.96 206 P **Pn** **04 16 27.4 +0.1**
KWHZ Kaweka Forest 7.97 202 P **Pn** **04 16 27.6 +0.2**
KWHZ S **S** **04 18 00.5 -0.7**
TWVZ Taurewa 8.01 208 P **Pn** **04 16 28.2 +0.3**
SNVZ South Ngauruho 8.03 207 P **Pn** **04 16 28.3 +0.1**
TRVZ Turoa 8.16 207 P **Pn** **04 16 29.5 -0.2**
MOVZ Moawhango 8.18 205 P **Pn** **04 16 29.1 -0.7**
VRZ Vera Road 8.33 211 P **P** **04 16 32.9 +1.1**
PNHZ Pukenui 8.48 202 P **Pn** **04 16 32.2 -1.1**
TSZ Takapari Road 8.69 202 P **Pn** **04 16 34.0 -1.6**
DVHZ Dannevirke 8.85 201 P **Pn** **04 16 37.2 -0.3**
BFZ Birch Farm 9.18 199 P **P** **04 16 40.8 -0.3**
MRZ Mangatainoka R 9.36 202 P **P** **04 16 41.5 -1.6**
HOWZ Holdsworth Sta 9.59 202 P **P** **04 16 45.0 -0.8**
OGWZ Otaki Gorge 9.63 204 P **P** **04 16 44.4 -1.9**
TMWZ Te Maipa 9.67 200 P **P** **04 16 47.2 +0.5**
KIW Kapiti Island 9.76 205 P **P** **04 16 46.7 -1.0**
CAW Cannon Point 9.93 203 P **P** **04 16 48.3 -1.2**
TRWZ Traveller 10.00 200 P **P** **04 16 50.5 +0.2**
DUWZ D'Urville Isla 10.09 208 P **P** **04 16 49.1 -2.2**
MSWZ Moikau Station 10.15 202 P **P** **04 16 50.8 -1.2**
TCW Tory Channel 10.30 206 P **P** **04 16 51.5 -2.1**
ASAR Alice Springs 41.55 270 P P 04 21 39.6 -3.9
0.3nm,0.3s,baz=106,slow=8.0,SNR=2.1
0.3nm,0.3s
WRA Warramunga Arr 42.69 275 P P 04 21 47.5 -5.1
0.5nm,0.3s,baz=112,slow=7.6,SNR=9.1
0.5nm,0.3s
VNDA Vanda 46.29 185 P P 04 22 57.0 +37
1.0nm,0.6s,baz=45,slow=2.9,SNR=13
1.0nm,0.6s
KURBB Kurchatov Arra 121.14 313 PKP **PKPdf** **04 32 34.8 -3.5**
0.4nm,0.5s,baz=118,slow=2.0,SNR=4.1
ARCES ARCESS Array B 139.88 347 PKP **PKPdf** **04 33 10.3 -2.9**
0.2nm,0.4s,baz=83,slow=3.0,SNR=3.8
FINES FINESS Array B 146.16 338 PKP **PKPdf** **04 33 22.2 -2.1**
3.0nm,0.4s,baz=54,slow=3.9,SNR=40
NB2 NORSAR Subarra150.14 349 PKP **PKPdf** **04 33 33.0 +2.0**
comp=Z,0.4nm,0.5s,baz=12,slow=2.6
NOA NORSAR Array B 150.14 349 PKPbc **PKPdf** **04 33 30.9 -0.1**
comp=Z,0.3nm,0.6s,baz=30,slow=1.7,SNR=4.3
HFS Hagfors 150.54 346 PKPbc **PKPdf** **04 33 32.3 +0.7**
comp=Z,0.6nm,0.4s,baz=72,slow=0.5,SNR=7.5
AKASG Malin Array Be 151.65 320 PKPbc **PKPdf** **04 33 35.6 +2.1**
comp=Z,0.2nm,0.3s,baz=104,slow=3.9,SNR=1.8
BRTR Keskin Array B 152.00 295 PKPbc **PKPdf** **04 33 38.7 +4.1**
comp=Z,0.6nm,0.5s,baz=164,slow=4.1,SNR=3.0

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*ISK **15** 04:20:46.9, 40˚.47N×41˚.76E, h5km, ML3.7/19*
*TIF **15** 04:20:47.1, 40˚.45N×41˚.79E, h4km± 1km*
*IDC **15** 04:20:48.3±0.8, 40˚.50N×41˚.69E, h0km, mb3.7/10, mbtmp3.7/14, ML4.3/3, MS3.0/3, Error ellipse: s-maj=13.8km s-min=8.4km az=8.0*
*AFAD **15** 04:20:48.3, 40˚.44N×41˚.75E, h7km±3km, MW3.8*
*CFUSG **15** 04:20:51.6, 40˚.51N×41˚.60E, h33km, mb3.5/2, Eastern Turkey Magtype MSH 3.3 from 4 stations*
ISC 15 04:20:48.6±1.0, 40˚.47N±0˚.02×41˚.76E±0˚.02, h8km±8km, n67, σ1§46/93, mb3.6/10, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDEM	**Demirkent**	**0.43**	**359**	P	**Pg**	**04 20 57.2**	**+0.2**
DDEM				S	**Sb**	**04 21 04.1**	**-1.0**
DDEM				*i* IAML		04 21 06.0	
	comp=E,6μm,0.3s						
DDEM				*i* IAML		04 21 08.0	
	comp=N,4μm,0.3s						
HOMI	**Horasan**	**0.43**	**165**	P	**Pg**	**04 20 56.0**	**-1.2**
HOMI				S	**Sg**	**04 21 03.6**	**+0.7**
HOMI				*i* IAML		04 21 05.0	
	comp=N,10μm,0.3s						
HOMI				*i* IAML		04 21 08.0	
	comp=E,2μm,0.7s						
SENK	**Senkaya-Erzuru**	**0.46**	**78**	Pg	**Pg**	**04 20 56.7**	**-0.9**
SENK				Sg	**Sb**	**04 21 05.4**	**-0.7**
KOPR	**Koprukoy-ERZUR**	**0.48**	**172**	Pg	**Pg**	**04 20 56.9**	**-1.1**
KOPR				Sg	**Sb**	**04 21 05.6**	**-1.0**
DAGI	**Agillar**	**0.62**	**11**	P	**Pg**	**04 21 00.7**	**0.0**
DAGI				*i* IAML		04 21 10.0	
	comp=N,3μm,0.4s						
DAGI				*i* IAML		04 21 10.0	
	comp=E,3μm,0.7s						
DAGI				S	**Sb**	**04 21 10.0**	**-0.7**
ERZM	**Erzurum**	**0.64**	**209**	P	**Pg**	**04 21 01.2**	**+0.2**
KRIK	**Erzurum-spir**	**0.65**	**259**	P	**Pg**	**04 21 01.3**	**+0.1**
KRIK				S	**Sb**	**04 21 11.8**	**+0.1**
KRIK				*i* IAML		04 21 12.0	
	comp=N,2μm,0.5s						
KRIK				*i* IAML		04 21 16.0	
	comp=E,943nm,0.5s						
GOLE	**Ardahan-G¶le**	**0.73**	**60**	P	**Pg**	**04 21 02.8**	**0.0**
GOLE				*i* IAML		04 21 14.0	
	comp=N,5μm,0.3s						
GOLE				S	**Sb**	**04 21 14.1**	**+0.1**
GOLE				*i* IAML		04 21 15.0	
	comp=E,6μm,0.2s						
EATA	**Eleskirt**	**0.82**	**137**	P	**Pg**	**04 21 03.3**	**-1.2**
EATA				*i* IAML		04 21 26.0	
	comp=N,1μm,0.6s						
EATA				*i* IAML		04 21 29.0	
	comp=E,769nm,0.6s						
DBOC	**Borcka**	**0.88**	**355**	P	**Pg**	**04 21 05.0**	**-0.6**
DBOC				S	**Sg**	**04 21 17.0**	**0.0**
DBOC				*i* IAML		04 21 22.0	
	comp=E,2μm,0.4s						
BOZK	**Kars-Merkez-Bo**	**0.93**	**82**	P	**Pg**	**04 21 06.1**	**-0.5**
BOZK				S	**Sn**	**04 21 21.9**	**+0.1**
BOZK				*i* IAML		04 21 26.0	
	comp=N,755nm,0.4s						
BOZK				*i* IAML		04 21 29.0	
	comp=E,908nm,0.4s						
HOPA	**Hopa-Artvin**	**0.95**	**345**	Pg	**Pg**	**04 21 05.8**	**-1.1**
AHAN	**Ardahan-Merkez**	**0.95**	**43**	P	**Pg**	**04 21 06.9**	**-0.1**
AHAN				S	**Sb**	**04 21 20.8**	**+0.4**
AHAN				*i* IAML		04 21 25.0	
	comp=N,2μm,0.6s						
AHAN				*i* IAML		04 21 25.0	
	comp=E,3μm,0.4s						
IZDR	**Rize**	**0.97**	**290**	P	**Pg**	**04 21 06.5**	**-0.8**
IZDR				S	**Sb**	**04 21 19.9**	**-0.8**
IZDR				*i* IAML		04 21 20.0	
	comp=N,1μm,0.4s						
IZDR				*i* IAML		04 21 21.0	
	comp=E,2μm,0.3s						
CHOM	**Cayeli-Rize**	**0.99**	**310**	Pg	**Pg**	**04 21 06.9**	**-0.7**
CHOM				Sg	**Sb**	**04 21 21.8**	**+0.6**
KARS	**Kars**	**1.01**	**80**	Pg	**Pg**	**04 21 07.5**	**-0.7**
BATM	**Batumi**	**1.14**	**357**	P	**Pg**	**04 21 09.3**	**-1.2**
BATM				S	**Sg**	**04 21 25.0**	**-0.3**
DIGO	**Kars**	**1.23**	**92**	P	**Pg**	**04 21 10.7**	**-1.6**
DIGO				*i* IAML		04 21 35.0	
	comp=N,1μm,0.5s						
DIGO				*i* IAML		04 21 43.0	
	comp=E,2μm,0.8s						
EPOS	**Posof**	**1.27**	**35**	P	**Pg**	**04 21 12.6**	**-0.4**
EPOS				S	**Sn**	**04 21 30.3**	**+0.3**
EPOS				*i* IAML		04 21 42.0	
	comp=E,714nm,0.7s						
EPOS				*i* IAML		04 21 46.0	
	comp=N,1μm,0.8s						
KARO	**Karliova-Bingo**	**1.28**	**206**	Pn	**Pg**	**04 21 12.3**	**-0.9**
KARO				Sn	**Sn**	**04 21 31.4**	**+1.0**
AGRB	**Hanur-Agry**	**1.30**	**133**	Pn	**Pg**	**04 21 12.1**	**-1.4**
VRTB	**Varto-Mus**	**1.33**	**190**	Pn	**Pn**	**04 21 13.5**	**0.0**
VRTB				Sn	**Sn**	**04 21 33.3**	**+1.9**
YEDI	**Yedisu-Bingol**	**1.39**	**223**	Pn	**Pn**	**04 21 14.5**	**+0.1**
YEDI				Sn	**Sn**	**04 21 34.5**	**+1.5**
MLAZ	**Malazgirt-MUS**	**1.46**	**155**	Pn	**Pn**	**04 21 15.5**	**+0.2**
MLAZ				Sn	**Sg**	**04 21 36.6**	**+1.1**
BGD	**Bogdanovka**	**1.60**	**60**	P	**Pg**	**04 21 18.9**	**-0.6**
BGD				S	**Sg**	**04 21 42.2**	**+2.0**
KTUT	**Trabzon**	**1.60**	**290**	Pn	**Pn**	**04 21 17.0**	**-0.2**
AKH	**Akhalkalaki**	**1.61**	**54**	Pn	**Pn**	**04 21 17.7**	**+0.2**
AKH	**Akhalkalaki**	**1.61**	**54**	P	**Pb**	**04 21 18.4**	**-0.4**
AKH				S	**Sg**	**04 21 41.5**	**+1.0**
BNGB	**Bingl**	**1.69**	**210**	Pn	**Pn**	**04 21 18.8**	**+0.2**
GURO	**Guroymak-BITLI**	**1.92**	**174**	Pn	**Pn**	**04 21 22.3**	**+0.5**
TASB	**TASBURUN-IGDIR**	**1.96**	**103**	Pn	**Pn**	**04 21 22.6**	**+0.5**
TRLG	**Trialeti**	**2.07**	**58**	P	**Pn**	**04 21 25.1**	**+1.4**
TKB	**Tkibuli**	**2.10**	**26**	P	**Pb**	**04 21 26.1**	**-0.8**
TKB				S	**Sg**	**04 21 54.7**	**-1.3**
ALIG	**Mtskhetisjvari**	**2.17**	**40**	P	**Pb**	**04 21 26.8**	**-1.3**
KZRT	**Kazreti**	**2.20**	**64**	P	**Pn**	**04 21 25.4**	**-0.1**
VANB	**Van**	**2.25**	**146**	Pn	**Pn**	**04 21 27.9**	**+1.6**
GNI	**Garni**	**2.30**	**97**	Pn	**Pn**	**04 21 27.7**	**+0.8**
GNI	**Garni**	**2.30**	**97**	Pn	**Pb**	**04 21 30.2**	**-0.3**
	27nm,0.3s,baz=300,slow=5.1,SNR=36						
GNI				Sn	**Sg**	**04 22 00.9**	**-1.6**
	8.0nm,0.3s,baz=34,slow=22,SNR=3.5						
	79nm,0.4s						
AKDM	**Akdamar-Van**	**2.33**	**156**	Pn	**Pn**	**04 21 28.1**	**+0.7**
ESPY	**Espiye-Giresun**	**2.35**	**282**	Pn	**Pb**	**04 21 29.6**	**-1.6**
SVAN	**Silvan-Diyarba**	**2.35**	**191**	Pn	**Pn**	**04 21 28.2**	**+0.6**
TBLG	**Delisi**	**2.58**	**60**	P	**Pn**	**04 21 31.0**	**+0.3**
GUDG	**Gudauri**	**2.85**	**45**	P	**Pn**	**04 21 37.0**	**+2.4**
DGRG	**David-gareji**	**2.91**	**69**	P	**Pn**	**04 21 37.7**	**+2.5**
KBZ	**Khabaz**	**3.37**	**14**	Pn	**Pn**	**04 21 42.7**	**+1.3**
	1.3nm,0.5s,baz=186,slow=12,SNR=8.8						
KBZ				Sn	**Sb**	**04 22 25.8**	**-3.7**
	1.2nm,0.3s,baz=166,slow=13,SNR=3.7						
KBZ				LR	LR	04 23 12.1	
	comp=Z,64nm,21.1s,baz=202,slow=43						
VSHL	**Vashlovani**	**3.60**	**76**	P	**Pn**	**04 21 47.5**	**+2.8**
BRTR	**Keskin Array B**	**6.27**	**266**	Pn	**Pn**	**04 22 23.9**	**+2.4**
	0.1nm,0.3s,baz=96,slow=8.6,SNR=5.8						
BRTR				Lg	Lg	04 24 06.6	
	baz=80,slow=34,SNR=1.0						
SUDU	**Sudak**	**6.66**	**314**	*e*P	**Pn**	**04 22 28.4**	**+1.7**
SUDU				Pm		04 22 30.1	
	comp=Z,22nm,0.4s						
SUDU				*e*S	**Sn**	**04 23 43.7**	**+1.0**
SUDU				Sm		04 23 44.2	
	comp=N,15nm,0.5s						
SUDU				Sm		04 23 44.2	
	comp=E,2.0nm,0.4s						
YAL	**Yalta**	**6.91**	**308**	*e*P	**Pn**	**04 22 31.2**	**+1.1**
YAL				Pm		04 22 36.1	
	comp=Z,9.0nm,0.3s						
YAL				*e*S	**Sn**	**04 23 48.8**	**-0.1**
YAL				Sm		04 23 50.0	
	comp=N,4.0nm,0.4s						
YAL				Sm		04 23 50.0	
	comp=E,9.0nm,0.4s						
SEV	**Sevastopol'**	**7.24**	**307**	*e*P	**Pn**	**04 22 35.5**	**+0.9**
SEV				Pm		04 22 43.1	
	comp=Z,4.0nm,0.3s						
SEV				*e*S	**Sn**	**04 23 55.0**	**-1.9**
SEV				Sm		04 24 01.4	
	comp=N,3.0nm,0.4s						
SEV				Sm		04 24 01.4	
	comp=E,5.0nm,0.4s						
DNZ2	**Donuzlav2**	**7.96**	**311**	*e*P	**Pn**	**04 22 47.7**	**+3.2**
DNZ2				Pm		04 22 50.0	
	comp=Z,19nm,0.5s						
DNZ2				*e*S	**Sn**	**04 24 15.3**	**+0.6**
DNZ2				Sm		04 24 15.9	
	comp=E,14nm,0.5s						
DNZ2				Sm		04 24 16.0	
	comp=N,1.0nm,0.2s						
TARU	**Tarkhankut**	**8.36**	**309**	*e*P	**Pn**	**04 22 52.2**	**+2.2**
TARU				Pm		04 22 58.4	
	comp=Z,10.0nm,0.4s						
MLR	**Muntele Rosu**	**12.62**	**299**	Pn	**Pn**	**04 23 49.3**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=11,slow=17,SNR=1.7						
	comp=Z,1.2nm,0.4s						
AKASG	**Malin Array Be**	**13.46**	**324**	Pn	**Pn**	**04 24 00.3**	**+0.5**
	comp=Z,2.2nm,0.3s,baz=135,slow=14,SNR=15						
AKASG				Sn	**Sn**	**04 26 21.6**	**-7.9**
	baz=138,slow=24						
	comp=Z,2.3nm,0.4s						
AKTO	**Aktyubinsk**	**15.12**	**43**	Pn	**Pn**	**04 24 21.9**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=209,slow=5.0,SNR=5.1						
ARTI	**Arti**	**19.29**	**29**	LR	LR	04 33 46.5	
	comp=Z,44nm,19.0s,baz=166,slow=40						
GERES	**GERESS Array B**	**21.55**	**302**	P	**P**	**04 25 38.6**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=116,slow=9.1,SNR=7.3						
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**23.09**	**341**	P	**P**	**04 25 55.6**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=148,slow=11,SNR=6.3						
	comp=Z,1.8nm,0.7s						
BVAR	**Bovoye Array**	**23.11**	**47**	P	**P**	**04 25 56.5**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=259,slow=1.5,SNR=3.5						
	comp=Z,0.3nm,0.3s						
KEST	**Kesra**	**25.86**	**270**	P	**P**	**04 26 20.5**	**-0.2**
	comp=Z,6.4nm,0.9s,baz=156,slow=3.3,SNR=4.6						
	comp=Z,6.4nm,0.9s						
HFS	**Hagfors**	**26.28**	**328**	P	**P**	**04 26 24.9**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=126,slow=11,SNR=7.5						
	comp=Z,2.8nm,0.8s						
KURBB	**Kurchatov Arra**	**27.42**	**56**	P	**P**	**04 26 36.2**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=264,slow=9.2,SNR=2.6						
	comp=Z,0.5nm,0.7s						
NOA	**NORSAR Array B**	**27.81**	**328**	P	**P**	**04 26 37.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=136,slow=7.8,SNR=1.8						
	comp=Z,0.1nm,0.3s						
MKAR	**Makanchi Array**	**29.75**	**64**	P	**P**	**04 26 56.6**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=273,slow=7.4,SNR=4.8						
	comp=Z,0.5nm,0.6s						
ESDC	**Sonseca Array**	**34.70**	**284**	P	**P**	**04 27 38.0**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=69,slow=9.7,SNR=7.2						
	comp=Z,0.9nm,0.7s						
SPITS	**Spitsbergen Ar**	**39.22**	**352**	P	**P**	**04 28 17.1**	**+0.3**
	comp=Z,2.1nm,0.9s,baz=86,slow=7.4,SNR=2.0						
	comp=Z,2.1nm,0.9s						
MA2	**Magadan**	**64.53**	**32**	LR	LR	05 01 53.7	
	comp=Z,42nm,20.0s,baz=202,slow=38						

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*DJA **15** 04:26:24.4±4.1, 8˚.N±35˚.×12˚.5E±˚, h80km±37km, M5.1/8, mb5.2/6, mB5.4/5, MLv5.3/8, Mw(mB)4.8/5*
*IDC **15** 04:26:28.3±0.7, 6˚.72N×125˚.87E, h0km, mb4.2/16, mbtmp4.3/17, ML4.0/1, MS3.6/26, Error ellipse: s-maj=20.4km s-min=10.7km az=63.0*
*NEIC **15** 04:26:30.6±1.3, 6˚.58N±0˚.05×125˚.28E±0˚.08, h11km±4km, mb4.6/19, Error ellipse: s-maj=11.6km s-min=6.8km az=110.0*
ISC 15 04:26:29.7±0.4, 6˚.60N±0˚.05×125˚.23E±0˚.08, h10km, n77, σ1§42/55, mb4.2/33, MS3.7/24, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**0.58**	**36**	Pg	**Pg**	**04 26 41.8**	**+0.7**
DAV	**Davao City (W)**	**0.58**	**36**	Pn	**Pg**	**04 26 42.1**	**+1.0**
	3μm,0.3s,baz=255,slow=2.7,SNR=100						
DAV				Sn	**Sb**	**04 26 51.8**	**+1.4**
	5μm,0.3s,baz=331,slow=23,SNR=19						
DAV	**Davao City (W)**	**0.58**	**36**	Lj/P	**Pg**	**04 26 40.0**	**-1.1**
SGSI	**Sangihe**	**2.91**	**174**	P	**Pb**	**04 27 20.1**	**-1.6**
KMSI	**Cibinong**	**6.11**	**192**	P	**Pn**	**04 28 02.8**	**+2.6**
TNTI	**Ternate**	**6.17**	**160**	Pn	**Pn**	**04 27 59.7**	**-1.2**
MYLDM	**Lahad Datu**	**6.84**	**258**	Pn	**Pn**	**04 28 11.2**	**+1.0**
MRSI	**Marisa**	**6.91**	**209**	P	**Pn**	**04 28 12.1**	**+1.0**
	0.6nm170nm,0.7s						
TOLI2	**Tolitoli**	**7.03**	**219**	Pn	**Pn**	**04 28 11.4**	**-1.4**
LUWI	**Luwuk**	**7.97**	**198**	P	Pn	04 28 31.8	+6.0
	3μm149nm,1.2s						
SANI	**Sanana**	**8.62**	**175**	P	**Pn**	**04 28 37.0**	**+2.3**
KAPI	**Kappang**	**12.76**	**206**	Pn	Pn	04 29 37.5	+6.1
	0.7nm,0.3s,baz=41,slow=13,SNR=4.5						
KAPI				LR	LR	04 34 44.5	
	comp=Z,406nm,20.5s,baz=42,slow=38						
	13nm,0.7s						
YULB	**Yu-li**	**17.12**	**348**		**Pn**	**04 30 31.3**	**+1.9**
TPUB	**Ta-pu**	**17.19**	**346**	Pn	**Pn**	**04 30 29.4**	**-0.8**
TPUB				IAmb	IAmb	04 30 51.0	
	comp=Z,60nm,1.5s						
JAY	**Jayapura**	**17.90**	**120**	LR	LR	04 37 15.8	
	comp=Z,151nm,19.1s,baz=300,slow=37						
QIZ	**Qiongzhong**	**19.42**	**311**	P	**P**	**04 30 53.5**	**-2.8**
QIZ				S	Sn	04 34 25.8	-10
QIZ				pmax	pmax		
	comp=Z,45nm,1.7s						
QIZ				LR	LR		
	comp=N,210nm,9.9s						
QIZ				LR	LR		
	comp=E,220nm,14.8s						
QIZ				LR	LR		
	comp=Z,540nm,12.4s						
MTN	**Manton Dam**	**20.18**	**163**	P	Pn	04 31 06.4	-0.1
JOW	**Kunigami**	**20.33**	**8**	P	**P**	**04 31 04.8**	**-1.5**
	comp=Z,17nm,0.2s,baz=209,slow=8.1,SNR=12						
JOW				LR	LR	04 38 25.5	
	comp=Z,141nm,20.8s,baz=74,slow=36						
	comp=Z,17nm,0.2s						
GUMO	**Guam**	**20.53**	**69**	LR	LR	04 37 45.6	
	comp=Z,53nm,20.7s,baz=250,slow=34						
KNRA	**Kunuurra**	**22.40**	**171**	P	**P**	**04 31 30.7**	**+2.1**
FITZ	**Fitzroy Crossi**	**24.54**	**179**	P	**P**	**04 31 49.9**	**+0.2**
PSI	**Prapat**	**26.48**	**263**	LR	LR	04 45 41.2	
	comp=Z,242nm,18.4s,baz=104,slow=42						
JNU	**Nakatsue**	**26.91**	**11**	P	**P**	**04 32 09.6**	**-1.6**
	comp=Z,9.7nm,0.9s,baz=169,slow=9.3,SNR=4.1						
JNU				LR	LR	04 42 01.8	
	comp=Z,97nm,22.0s,baz=164,slow=35						
	comp=Z,9.7nm,0.9s						
WB0	**Warramunga Arr**	**27.71**	**161**	P	**P**	**04 32 18.6**	**+0.2**
WB0				IAmb	IAmb	04 32 37.1	
	comp=Z,17nm,1.0s						
WRA	**Warramunga Arr**	**27.85**	**161**	P	**P**	**04 32 19.1**	**-0.6**
WRA	**Warramunga Arr**	**27.85**	**161**	P	**P**	**04 32 19.1**	**-0.6**
	comp=Z,3.4nm,0.8s,baz=331,slow=11,SNR=11						
	comp=Z,3.4nm,0.8s						
WR8	**Warramunga Arr**	**27.92**	**161**	P	**P**	**04 32 21.0**	**+0.7**
WR8				IAmb	IAmb	04 32 35.5	
	comp=Z,10nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.19**	**297**	P	P	04 32 28.6	+5.8
	comp=Z,0.7nm,0.3s,baz=121,slow=8.7,SNR=5.0						
CMAR				LR	LR	04 43 02.6	
	comp=Z,71nm,21.4s,baz=120,slow=35						
	comp=Z,0.7nm,0.3s						
KSRS	**Korea Array**	**30.81**	**4**	P	**P**	**04 32 44.4**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=184,slow=9.2,SNR=5.9						
	comp=Z,1.6nm,0.8s						
ASAR	**Alice Springs**	**31.25**	**165**	P	**P**	**04 32 51.4**	**+1.6**
ASAR	**Alice Springs**	**31.25**	**165**	P	**P**	**04 32 49.9**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=348,slow=8.0,SNR=12						
	comp=Z,1.8nm,0.7s						
MJAR	**Matsushiro Art**	**32.08**	**20**	P	**P**	**04 32 54.4**	**-2.7**
	comp=Z,6.6nm,0.8s,baz=195,slow=9.0,SNR=14						
MJAR				LR	LR	04 45 31.9	
	comp=Z,107nm,19.5s,baz=208,slow=36						
	comp=Z,6.6nm,0.8s						
LZH	**Lanzhou**	**35.29**	**329**	*e*P	P	04 33 31.6	+6.4
LZH				pP	sP	04 33 39.1	+9.5
LZH				pmax	pmax		
	comp=Z,19nm,1.5s						
FORT	**Forrest**	**37.26**	**176**	P	**P**	**04 33 42.5**	**+0.7**
FORT				IAmb	IAmb	04 33 54.3	
	comp=Z,8.3nm,0.9s						
USRK	**Ussuriysk Ar.**	**37.92**	**8**	P	**P**	**04 33 46.5**	**-0.7**
	comp=Z,5.4nm,0.8s,baz=195,slow=12,SNR=18						
USRK				LR	LR	04 48 37.9	
	comp=Z,66nm,22.0s,baz=194,slow=35						
	comp=Z,5.4nm,0.8s						
XLT	**XiLinHaoTe**	**38.01**	**349**	*e*P	**P**	**04 33 51.8**	**+3.6**
XLT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BNX	**BinXian**	**39.04**	**2**	⇑P	**P**	**04 33 55.8**	**-0.9**
BNX				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA	**Gaotai**	**39.89**	**329**	*e*P	**P**	**04 34 04.1**	**+0.1**
GTA				pP	sP	04 34 09.1	+0.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
NWAO	**Narrogin (SRO)**	**40.03**	**190**	LR	LR	04 52 27.4	
	comp=Z,90nm,18.4s,baz=306,slow=39						
ASAJ	**Asahikawa**	**40.35**	**19**	P	**P**	**04 34 05.5**	**-2.1**
	comp=Z,4.4nm,0.9s,baz=198,slow=10,SNR=5.9						
	comp=Z,4.4nm,0.9s						
STKA	**Stephens Creek**	**41.32**	**159**	P	**P**	**04 34 15.7**	**-0.1**
STKA	**Stephens Creek**	**41.32**	**159**	P	**P**	**04 34 14.9**	**-0.8**
	comp=Z,6.1nm,0.8s,baz=316,slow=11,SNR=8.9						
STKA				LR	LR	04 52 19.0	
	comp=Z,100nm,21.4s,baz=259,slow=38						
	comp=Z,6.1nm,0.8s						
HEH	**HeiHe**	**43.55**	**2**	*e*P	**P**	**04 34 33.4**	**-0.3**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HEH				pmax	pmax		
	comp=Z,98nm,4.3s						
SONM	**Songino Array**	**44.13**	**342**	P	**P**	**04 34 39.4**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=157,slow=8.4,SNR=6.1						
SONM				LR	LR	04 53 43.1	
	comp=Z,141nm,21.5s,baz=153,slow=37						
	comp=Z,0.6nm,0.6s						
PETK	**Petropavlovsk-**	**53.39**	**24**	P	P	04 35 45.3	-4.2
	comp=Z,2.1nm,0.8s,baz=207,slow=9.5,SNR=6.5						
PETK				LR	LR	04 58 16.1	
	comp=Z,45nm,20.4s,baz=203,slow=36						
	comp=Z,2.1nm,0.8s						
MKAR	**Makanchi Array**	**54.37**	**325**	P	**P**	**04 35 57.8**	**+1.0**
MKAR	**Makanchi Array**	**54.37**	**325**	P	**P**	**04

comp=Z,23nm,18.7s,baz=80,slow=39
GERES GERESS Array B 98.93 322 LR LR 05 27 04.9
comp=Z,39nm,19.8s,baz=96,slow=37
TRQA Tornquist 148.00 169 PKPbc **PKPdf 04 46 14.7 +1.8**

*SKHL **15** 04:27:00.3±0.4, 46°.80N×152°.80E, h75km±5km, mb4.8/3*
*NEIC **15** 04:27:01.5±1.4, 46°.9N±0°.2×152°.5E±0°.2, h68km±12km, mb4.1/11, Error ellipse: s-maj=26.0km s-min=15.5km az=142.0*
*MOS **15** 04:27:01.9±1.2, 46°.93N×152°.52E, h88km, mb3.9/7, Error ellipse: s-maj=10.9km s-min=7.3km az=71.5*
*IDC **15** 04:27:02.6±2.1, 46°.93N×152°.65E, h80km±18km, mb3.5/20, mbtmp3.9/25, MS3.0/6, Error ellipse: s-maj=17.9km s-min=11.1km az=140.0*
ISC 15 04:27:00.4±0.5, 46.77N±0°.06×152°.69E±0°.06, h67km, n95, σ1s62/96, mb4.0/30, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**3.70**	**247**	PN		**Pn**	**04 27 56.2**	**+1.2**
KUR				*i* S		**Sn**	**04 28 41.0**	**+3.7**
KUR				pmax		pmax		
	comp=Z,118nm,0.4s							
KUR				smax		smax		
	comp=N,194nm,0.6s							
KUR				smax		smax		
	comp=E,299nm,0.6s							
KUR	**Kuril'sk**	**3.70**	**247**	*e*P		**Pn**	**04 27 56.4**	**+1.4**
KUR				AMB		AMB	04 27 57.1	
	comp=E,120nm,0.4s							
KUR				*i* S		**Sn**	**04 28 37.1**	**-0.2**
KUR				A		A	04 28 55.8	
	comp=E,200nm,0.5s							
KUR				A		A	04 28 55.8	
	comp=E,300nm,0.5s							
SKR	**Severo-Kuril's**	**4.53**	**29**	*e*PN		**Pn**	**04 28 10.1**	**+3.8**
SKR				*e*S		**Sn**	**04 28 52.7**	**-4.9**
SKR				pmax		pmax		
	comp=Z,101nm,0.6s							
SKR				smax		smax		
	comp=E,158nm,0.6s							
SKR				smax		smax		
	comp=N,86nm,0.6s							
SKR				MLR		MLR		
	comp=Z,300nm,16.0s							
SKR	**Severo-Kuril's**	**4.53**	**29**	*e*P		**Pn**	**04 28 06.2**	**-0.1**
SKR				AMB		AMB	04 28 11.7	
	comp=Z,80nm,0.4s							
SKR				*e*S		**Sn**	**04 28 55.9**	**-1.7**
SKR				A		A	04 29 03.8	
	comp=Z,130nm,0.5s							
SKR				A		A	04 29 03.8	
	comp=Z,160nm,0.5s							
SHO	**Shikotan**	**5.05**	**237**	*e*PN		**Pn**	**04 28 14.4**	**+0.9**
SHO				*i* S		**Sn**	**04 29 08.9**	**-1.5**
SHO				smax		smax		
	comp=N,59nm,0.2s							
SHO				smax		smax		
	comp=E,72nm,0.3s							
SHO	**Shikotan**	**5.05**	**237**	*e*P		**Pn**	**04 28 13.9**	**+0.4**
SHO				*i* S		**Sn**	**04 29 08.8**	**-1.6**
SHO				A		A	04 29 22.1	
	comp=E,60nm,0.2s							
SHO				A		A	04 29 22.1	
	comp=E,70nm,0.2s							
PAU	**Pauzhetka**	**5.42**	**28**	*e*P		**Pn**	**04 28 20.0**	**+1.4**
PAU				AMB		AMB	04 28 29.3	
	comp=E,30nm,0.3s							
PAU				*e*S		**Sn**	**04 29 17.5**	**-2.1**
PAU				A		A	04 29 21.8	
	comp=E,130nm,0.3s							
PAU				A		A	04 29 21.8	
	comp=E,100nm,0.3s							
NMR	**Nemuro--Hokkai**	**5.99**	**238**	*e*P		**Pn**	**04 28 25.2**	**-1.1**
NMR				*e*S		**Sn**	**04 29 30.5**	**-3.0**
AKK	**Akkeshi**	**6.72**	**239**	*e*P		**Pn**	**04 28 35.0**	**-1.3**
YSS	**Yuzhno-Sakhali**	**6.82**	**275**	*e*PN		Pn	04 28 41.6	+3.9
YSS				*e*S		**Sn**	**04 29 53.0**	**-0.8**
YSS				pmax		pmax		
	comp=Z,20nm,1.0s							
YSS				smax		smax		
	comp=N,20nm,1.0s							
YSS				MLR		MLR		
	comp=Z,200nm,16.0s							
YSS	**Yuzhno-Sakhali**	**6.82**	**275**	*e*P		**Pn**	**04 28 39.3**	**+1.6**
YSS				*e*S		**Sn**	**04 29 53.0**	**-0.8**
PEA0B	**Petropavlovsk-**	**7.12**	**25**	Pn		**Pn**	**04 28 44.9**	**+3.1**
PEA0B	**Petropavlovsk-**	**7.12**	**25**	PN		**Pn**	**04 28 44.9**	**+3.1**
PETK	**Petropavlovsk-**	**7.12**	**25**	Pn		**Pn**	**04 28 43.1**	**+1.3**
PETK	**Petropavlovsk-**	**7.12**	**25**	P		**Pn**	**04 28 42.5**	**+0.7**
	comp=Z,13nm,0.8s,baz=200,slow=13,SNR=15							
PETK				S		**Sn**	**04 30 00.9**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=258,slow=10,SNR=1.1							
JKA	**Kamikawa-asahi**	**7.58**	**253**	Pn		**Pn**	**04 28 51.7**	**+3.6**
JKA	**Kamikawa-asahi**	**7.58**	**253**	*e*P		**Pn**	**04 28 51.1**	**+3.0**
ASAJ	**Asahikawa**	**7.58**	**253**	P		**Pn**	**04 28 51.1**	**+3.0**
	comp=Z,38nm,1.0s,baz=89,slow=16,SNR=12							
ASAJ				S		**Sn**	**04 30 14.8**	**+2.3**
	comp=Z,1.7nm,0.4s,baz=108,slow=25,SNR=0.9							
ASAJ				LR		LR	04 31 38.6	
	comp=Z,72nm,20.3s,baz=14,slow=36							
TYV	**Tymovskoe**	**7.79**	**305**	*e*PN		**Pn**	**04 28 49.7**	**-1.2**
TYV				*e*S		**Sn**	**04 30 17.9**	**+0.4**
TYV				pmax		pmax		
	comp=Z,10.0nm,0.8s							
TYV				smax		smax		
	comp=N,9.0nm,1.7s							
TYV				smax		smax		
	comp=E,5.0nm,1.7s							
TYV	**Tymovskoe**	**7.79**	**305**	*e*P		**Pn**	**04 28 51.5**	**+0.6**
TYV				*e*S		**Sn**	**04 30 15.3**	**-2.2**
ERM	**Erimo**	**8.32**	**239**	Pn		**Pn**	**04 28 58.7**	**+0.5**
ERM	**Erimo**	**8.32**	**239**	*i* PN		**Pn**	**04 29 01.7**	**+3.5**
OKH	**Okha**	**9.23**	**321**	*e*P		**Pn**	**04 29 11.9**	**+1.3**
OKH				*e*S		**Sn**	**04 30 52.2**	**-0.5**
JTM	**Tenmabayashi**	**10.31**	**239**	Pn		**Pn**	**04 29 22.9**	**-2.5**
MA2	**Magadan**	**12.88**	**356**	P		**Pn**	**04 29 59.4**	**-0.9**
	comp=E,11nm,0.6s,baz=155,slow=6.2,SNR=3.8							
MA2				LR		LR	04 34 57.6	
	comp=E,43nm,19.4s,baz=100,slow=37							
USRK	**Ussuriysk Ar.**	**14.75**	**268**	P		**P**	**04 30 26.4**	**-3.1**
	comp=E,3.4nm,0.7s,baz=73,slow=11,SNR=2.3							
USRK				LR		LR	04 35 52.6	
	comp=E,70nm,19.1s,baz=29,slow=36							
MJAR	**Matsushiro Arr**	**14.86**	**232**	P		**P**	**04 30 29.1**	**-1.8**
	comp=E,2.7nm,0.8s,baz=34,slow=8.8,SNR=6.3							
SHEM	**Shemya Is, Ala**	**15.04**	**59**	LR		LR	04 34 46.3	
	comp=E,32nm,20.3s,baz=140,slow=31							
SEY	**Seymchan**	**16.20**	**359**	LR		LR	04 37 29.4	
	comp=E,46nm,19.9s,baz=72,slow=39							
HEH	**HeiHe**	**17.08**	**291**	*e*P		**P**	**04 30 57.3**	**+2.0**
HEH				pmax		pmax		
	comp=Z,12nm,1.0s							
KSRS	**Korea Array**	**20.53**	**252**	P		Pn	04 31 36.0	+0.2
	comp=Z,1.5nm,0.6s,baz=57,slow=9.8,SNR=7.8							
	comp=Z,1.5nm,0.6s							
BILL	**Bilibino**	**22.44**	**13**	*i* P		**P**	**04 31 55.6**	**+2.2**
BILL				pmax		pmax		
	comp=Z,3.0nm,1.1s							
BILL	**Bilibino**	**22.44**	**13**	*e*P		**P**	**04 31 55.6**	**+2.2**
H11N2	**WAKE ISLAND Hy**	**29.37**	**152**	T		T	05 04 24.3	
	baz=340,slow=76,SNR=1250							
H11N1	**WAKE ISLAND Hy**	**29.38**	**152**	T		T	05 04 29.6	
	baz=340,slow=76,SNR=1260							
H11N3	**WAKE ISLAND Hy**	**29.39**	**152**	T		T	05 04 23.0	
	baz=340,slow=76,SNR=664							
H11S1	**WAKE ISLAND Hy**	**30.45**	**153**	T		T	05 05 43.3	
	baz=340,slow=76,SNR=1342							
H11S3	**WAKE ISLAND Hy**	**30.46**	**153**	T		T	05 06 02.1	
	baz=340,slow=76,SNR=1185							
H11S2	**WAKE ISLAND Hy**	**30.47**	**153**	T		T	05 05 46.9	
	baz=340,slow=76,SNR=1058							
SONM	**Songino Array**	**31.05**	**289**	P		**P**	**04 33 12.5**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=90,slow=8.9,SNR=3.7							
	comp=Z,0.2nm,0.4s							
C18K	**Utukok River**	**31.75**	**30**	P		**P**	**04 33 17.3**	**-0.4**
C18K				IAmb		IAmb	04 33 36.1	
	comp=Z,3.2nm,0.9s							
H19K	**Roundabout Mou**	**32.75**	**37**	P		**P**	**04 33 27.0**	**+0.6**
J19K	**Poorman**	**32.88**	**40**	P		**P**	**04 33 27.7**	**+0.1**
J19K				IAmb		IAmb	04 33 28.5	
	comp=Z,1.7nm,0.7s							
D20K	**Etivluk River**	**33.37**	**31**	P		**P**	**04 33 32.3**	**+0.5**
IMAR	**Indian Mountai**	**33.92**	**36**	P		**P**	**04 33 37.0**	**+0.5**
D22K	**Ayikyak River**	**34.80**	**31**	P		**P**	**04 33 44.6**	**+0.5**
D22K				IAmb		IAmb	04 33 57.6	
	comp=Z,2.8nm,1.1s							
H24K	**Noodor Dome**	**36.31**	**37**	P		**P**	**04 33 57.2**	**+0.1**
H24K				IAmb		IAmb	04 33 58.9	
	comp=Z,2.4nm,1.1s							
ILAR	**Eielson Array**	**36.71**	**39**	P		**P**	**04 34 00.4**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=280,slow=10,SNR=7.3							
	comp=Z,0.5nm,0.8s							
D25K	**Kavik River**	**37.10**	**31**	P		**P**	**04 34 04.7**	**+0.9**
D25K				IAmb		IAmb	04 34 18.3	
	comp=Z,2.5nm,0.7s							
D27M	**Malcolm River**	**39.02**	**31**	P		**P**	**04 34 21.0**	**+1.0**
D27M				IAmb		IAmb	04 34 21.5	
	comp=Z,2.4nm,1.0s							
I28M	**Miner Creek**	**39.61**	**37**	P		**P**	**04 34 26.4**	**+1.4**
L29M	**L29M**	**40.72**	**41**	P		**P**	**04 34 35.6**	**+1.5**
L29M				IAmb		IAmb	04 34 37.3	
	comp=Z,2.2nm,0.8s							
INK	**Inuvik**	**41.79**	**32**	P		**P**	**04 34 43.4**	**+0.7**
INK	**Inuvik**	**41.79**	**32**	P		**P**	**04 34 43.4**	**+0.7**
INK				pmax		pmax		
	comp=Z,2.0nm,0.9s							
ZALV	**Zalesovo Beam**	**42.37**	**306**	LR		LR	04 53 35.4	
	comp=Z,59nm,18.5s,baz=94,slow=38							
MK31	**Makanchi Array**	**46.68**	**297**	*i* P		**P**	**04 35 21.8**	**-0.3**
MKAR	**Makanchi Array**	**46.68**	**297**	P		**P**	**04 35 21.9**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=66,slow=8.8,SNR=6.3							
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**46.68**	**297**	*i* P		**P**	**04 35 21.8**	**-0.3**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**46.68**	**297**	*e*P		**P**	**04 35 21.8**	**-0.3**
KURK	**Kurchatov**	**47.11**	**303**	*i* P		**P**	**04 35 25.2**	**-0.2**
KURK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
KURK	**Kurchatov**	**47.11**	**303**	*e*P		**P**	**04 35 25.2**	**-0.2**
KURBB	**Kurchatov Arra**	**47.20**	**303**	P		**P**	**04 35 26.1**	**0.0**
	comp=Z,0.6nm,0.5s,baz=69,slow=8.5,SNR=5.5							
	comp=Z,0.6nm,0.5s							
CMAR	**Chiang Mai Arr**	**52.09**	**256**	P		**P**	**04 36 05.6**	**+1.9**
	comp=Z,0.9nm,0.4s,baz=47,slow=7.6,SNR=2.2							
	comp=Z,0.9nm,0.4s							
SPITS	**Spitsbergen Ar**	**52.54**	**350**	P		**P**	**04 36 04.7**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=48,slow=1.2,SNR=1.4							
	comp=Z,0.6nm,0.5s							
NEEM	**North Greenlan**	**55.18**	**6**	*i* P		**P**	**04 36 23.2**	**-2.6**
ARCES	**ARCESS Array B**	**57.74**	**341**	P		**P**	**04 36 43.0**	**-0.7**
	comp=Z,1.1nm,1.0s,baz=21,slow=7.5,SNR=1.9							
	comp=Z,1.1nm,1.0s							
SUMG	**Summit**	**60.70**	**4**	*i* P		**P**	**04 37 03.0**	**-1.6**
NVAR	**Mina Array Bea**	**62.68**	**62**	P		**P**	**04 37 19.2**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=293,slow=5.8,SNR=3.9							
	comp=Z,0.3nm,0.6s							
FINES	**FINESS Array B**	**63.90**	**335**	P		**P**	**04 37 25.5**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=33,slow=7.6,SNR=16							
	comp=Z,2.1nm,0.6s							
PDAR	**Pinedale Array**	**64.97**	**54**	P		**P**	**04 37 33.8**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=278,slow=1.0,SNR=7.1							
	comp=Z,0.7nm,0.8s							
OBN	**Obninsk**	**65.13**	**325**	*i* P		**P**	**04 37 31.6**	**-2.1**
OBN				pmax		pmax		
	comp=Z,4.0nm,0.7s							
OBN	**Obninsk**	**65.13**	**325**	*e*P		**P**	**04 37 31.6**	**-2.1**
NB2	**NORSAR Subarra**	**68.12**	**341**	P		**P**	**04 37 52.6**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.12**	**341**	P		**P**	**04 37 52.9**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=28,slow=6.3,SNR=9.0							
	comp=Z,1.4nm,0.6s							
NOA	**NORSAR Array B**	**68.12**	**341**	*e*P		**P**	**04 37 52.8**	**+0.1**
NOA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
HFS	**Hagfors**	**68.34**	**339**	P		**P**	**04 37 54.0**	**-0.1**
	comp=Z,4.3nm,0.7s,baz=55,slow=5.6,SNR=21							
	comp=Z,4.3nm,0.7s							
HFS	**Hagfors**	**68.34**	**339**	P		**P**	**04 37 54.0**	**-0.1**
WRA	**Warramunga Arr**	**68.44**	**199**	P		**P**	**04 37 55.3**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=8.8,slow=7.2,SNR=1.9							
	comp=Z,1.3nm,0.9s							
KBZ	**Khabaz**	**70.64**	**314**	*i* P		**P**	**04 38 07.3**	**-1.2**
KBZ				pmax		pmax		
	comp=Z,2.0nm,1.0s							
KBZ	**Khabaz**	**70.64**	**314**	*e*P		**P**	**04 38 07.3**	**-1.2**
AKASG	**Malin Array Be**	**71.37**	**326**	P		**P**	**04 38 12.6**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=35,slow=6.1,SNR=12							
	comp=Z,0.9nm,0.3s							
ASAR	**Alice Springs**	**72.14**	**198**	P		**P**	**04 38 19.2**	**+1.6**
	comp=Z,1.0nm,0.6s,baz=12,slow=5.3,SNR=7.1							
	comp=Z,1.0nm,0.6s							
EKA	**Eskdalemuir Ar**	**76.25**	**346**	P		**P**	**04 38 41.4**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=20,slow=5.9,SNR=3.6							
	comp=Z,0.6nm,0.7s							
CLL	**Collm**	**76.33**	**335**	*i* P		**P**	**04 38 41.9**	**+0.1**
CLL	**Collm**	**76.33**	**335**	*i* P		**P**	**04 38 41.9**	**+0.1**
CLL				AMS		AMS	05 28 00.0	
	comp=Z,100nm,18.6s							
TXAR	**Lajitas Array**	**77.73**	**60**	P		**P**	**04 38 51.0**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=289,slow=4.7,SNR=6.1							
	comp=Z,0.2nm,0.6s							
BRTR	**Keskin Array B**	**78.18**	**316**	P		**P**	**04 38 52.6**	**+0.1**
	comp=Z,1.3nm,1.0s,baz=34,slow=7.6,SNR=3.7							
	comp=Z,1.3nm,1.0s							
BRTR	**Keskin Array B**	**78.18**	**316**	*i* P		**P**	**04 38 54.0**	**+1.5**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
GERES	**GERESS Array B**	**78.31**	**334**	P		**P**	**04 38 53.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=6.5,slow=6.7,SNR=2.4							
	comp=Z,0.2nm,0.3s							
QSPA	**South Pole Qui**	**136.50**	**180**	PKPdf		**PKiKP**	**04 46 15.1**	**0.0**
H03N2	**Juan Fernandez**	**139.04**	**90**	T		T	07 21 33.0	
	baz=308,slow=77,SNR=27							
H03N1	**Juan Fernandez**	**139.06**	**90**	T		T	07 21 37.8	
	baz=308,slow=77,SNR=29							
H03N3	**Juan Fernandez**	**139.06**	**90**	T		T	07 21 41.8	
	baz=308,slow=77,SNR=31							
BDFB	**Brasilia**	**144.50**	**36**	PKP		**PKPdf**	**04 46 28.7**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=304,slow=3.6,SNR=3.7							
PLCA	**Paso Flores**	**148.50**	**95**	PKPbc		**PKiKP**	**04 46 39.8**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=270,slow=3.0,SNR=3.5							

*NEIC **15** 04:50:45.9±0.9, 19°.34N±0°.01×155°.198W±0°.009, h10km±1km, Error ellipse: s-maj=2.1km s-min=1.0km az=157.0*
HVO 15 04:50:45.8±0.8, 19°.33N±0°.01×155°.177W±0°.005, h6km±2km, ML2.6, ML2.6/44(NEIC), Error ellipse: s-maj=1.6km s-min=0.7km az=182.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KNHH	**Kane Nui o Ham**	**0.05**	**9**			Pg	04 50 47.6	+0.3
PUH	**Pauahi**	**0.06**	**318**			Pg	04 50 47.8	+0.4
PUH				Sg		Sg	04 50 49.4	+0.8
PUH				IAML			04 50 49.8	
	comp=N,4μm,0.1s							
STCH	**Steam Cracks**	**0.07**	**43**			Pg	04 50 48.1	+0.4
STCH				Sg		Sg	04 50 49.8	+0.8
STCH				IAML			04 50 50.0	
	comp=N,3μm,0.2s							
JCUZ	**Jacuzzi**	**0.09**	**54**			Pg	04 50 48.2	+0.3
NPOC	**North of Pu'u**	**0.09**	**47**			Pg	04 50 48.3	+0.4
KKO	**Keanakako'i**	**0.11**	**308**			Pg	04 50 48.6	+0.4
BYL	**Byron's Ledge**	**0.11**	**315**			Pg	04 50 48.6	+0.3
BYL	**Byron's Ledge**	**0.11**	**315**	Sg		Sg	04 50 50.9	+1.0
BYL				IAML			04 50 51.2	
	comp=E,3μm,0.4s							
BYL				IAML			04 50 51.4	
	comp=N,2μm,0.3s							
RIM	**Rim**	**0.11**	**304**			Pg	04 50 48.7	+0.4
HATHI	**Halema'uma'u T**	**0.12**	**318**			Pg	04 50 48.6	+0.2
HATHI				Sg		Sg	04 50 51.1	+0.9
HATHI				IAML			04 50 51.2	
	comp=N,4μm,0.2s							
HATHI				IAML			04 50 51.2	
	comp=E,3μm,0.4s							
SDHHI	**Sand Hill**	**0.12**	**297**			Pg	04 50 48.8	+0.3
SBLHI	**Steaming Bluff**	**0.13**	**317**			Pg	04 50 48.9	+0.3
HLP	**Hilina Pali**	**0.13**	**254**			Pg	04 50 48.5	-0.1
HLP						Sg	04 50 50.6	+0.2
HLP				IAML			04 50 51.8	
	comp=N,2μm,0.2s							
OBL	**Observatory Le**	**0.13**	**310**			Pg	04 50 49.0	+0.4
UWB	**Uwekahuna Bluf**	**0.13**	**314**			Pg	04 50 48.9	+0.3
WRMHI	**West Rim**	**0.14**	**302**			Pg	04 50 49.1	+0.4
UWE	**Uwekahuna**	**0.14**	**309**			Pg	04 50 48.9	+0.1
RSD	**Rainshed**	**0.16**	**324**			Pg	04 50 48.0	-1.2
JOKA	**Jonika Flow**	**0.19**	**58**	Pg		Pg	04 50 50.0	+0.4
HTC	**Hot Caves**	**0.23**	**246**			Pg	04 50 51.1	+0.8
MLH	**Mauna Loa**	**0.26**	**309**			Pg	04 50 51.3	+0.4
MLH				IAML			04 50 57.6	
	comp=E,823nm,0.1s							
MLH				IAML			04 50 57.8	
	comp=N,755nm,0.2s							
AIN	**Ainahou**	**0.27**	**278**			Pg	04 50 51.9	+0.7
HMH	**Humu'ula Sheep**	**0.40**	**313**			Pg	04 50 54.0	+0.4
HMH				Sg		Sg	04 51 00.3	+1.5
KHU	**Kahuku**	**0.42**	**258**			Pg	04 50 53.4	-0.7
KHU						Sg	04 51 00.5	+0.8
KHU				IAML			04 51 02.1	
	comp=E,386nm,0.2s							
KHU				IAML			04 51 03.5	
	comp=N,350nm,1.1s							
MWH	**Mokuaweoweo**	**0.42**	**291**	Pg		Pg	04 50 54.1	-0.1
MWH				Sg		Sg	04 50 59.8	0.0
HPO	**Honuapo**	**0.43**	**236**			Pg	04 50 54.2	0.0
ALEP	**Alea Permanent**	**0.49**	**295**			Pg	04 50 55.0	-0.3
POHA	**Pohakuloa**	**0.54**	**322**	Pg		Pg	04 50 55.3	-1.0
POHA				Sg		Sg	04 51 03.0	-0.3
POHA				IAML			04 51 04.4	
	comp=N,629nm,0.5s							
HUH	**Hualalai**	**0.71**	**300**	Pg		Pg	04 50 58.7	-0.9
CPH	**Captain Cook**	**0.72**	**283**			Pg	04 50 58.1	-1.5
KHLU	**Kahalu`u**	**0.72**	**291**	Pg		Pg	04 50 59.1	-0.6
KHLU				IAML			04 51 11.2	
	comp=N,437nm,0.3s							
HPAH	**Hawaii Prepara**	**0.85**	**325**			Pg	04 51 00.4	-1.8
HPAH				IAML			04 51 13.2	
	comp=N,174nm,0.2s							
HPAH				IAML			04 51 13.3	
	comp=E,167nm,0.1s							

*NEIC **15** 04:55:55.8±1.6, 35°.62N±0°.01×117°.58W±0°.01, h13km±4km, Error ellipse: s-maj=1.7km s-min=1.6km az=48.0*
PAS 15 04:55:56.5±1.7, 35°.615N±0°.009×117°.603W±0°.007, h7km±4km, ML3.0/17, ML2.8/86(NEIC), Error ellipse: s-maj=1.4km s-min=0.6km az=206.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.09**	**100**	Pg		Pg	04 55 58.7	+0.1
SRTC	**Snort**	**0.14**	**303**			Pg	04 55 59.9	+0.4
LRMC	**Laurel Mtn Rad**	**0.15**	**206**			Pg	04 55 59.7	+0.1
CCCA	**Chr Cany lake**	**0.21**	**115**	Pg		Pg	04 56 00.9	+0.1
TOW	**Tower One**	**0.23**	**326**			Sg	04 56 05.8	+1.5
WNMM	**Nine Mile Cany**	**0.34**	**313**			Pg	04 56 02.9	-0.1
WNMM						Sg	04 56 08.1	+0.6
WVPM	**Volcano Peak E**	**0.38**	**332**			Pg	04 56 03.6	-0.3
DTP	**Desert Tortois**	**0.40**	**210**			Pg	04 56 03.9	-0.4
JRC2	**Joshua Ridge**	**0.40**	**335**			Pg	04 56 04.1	-0.3
JRC2						Sg	04 56 10.0	+0.3
WCSM	**Coso Springs S**	**0.43**	**342**			Pg	04 56 04.6	-0.3
WBSM	**Bird Springs**	**0.44**	**260**			Pg	04 56 04.8	-0.3
WBSM						Sg	04 56 11.1	+0.1
MPMC	**Manual Prospec**	**0.45**	**12**	Pg		Pg	04 56 04.9	-0.4
MPMC				IAML			04 56 11.9	
	comp=N,739nm,0.6s							
MPMC				IAML			04 56 13.2	
	comp=E,969nm,0.5s							
WRVM	**Rose V. Centra**	**0.46**	**329**			Pg	04 56 05.0	-0.4
WORM	**Onyx Ranch**	**0.53**	**279**			Pg	04 56 06.3	-0.4
MFS	**McCloud Flat S**	**0.54**	**338**			Pg	04 56 06.6	-0.4
MFS						Sg	04 56 14.4	+0.3
CCAC	**Calif City Air**	**0.57**	**216**			Pg	04 56 07.2	-0.3
CCAC						Sg	04 56 15.4	+0.4
WHFM	**Hanning Flat**	**0.61**	**278**			Pg	04 56 07.8	-0.5
WHFM						Sg	04 56 16.2	-0.1
QSM	**Queen of Sheba**	**0.69**	**59**	Pg		Pg	04 56 09.2	-0.6
QSM				Sg		Sg	04 56 18.3	-0.5
QSM				IAML			04 56 22.1	
	comp=E,660nm,0.6s							
QSM				IAML			04 56 22.9	
	comp=N,491nm,0.4s							
ISA	**Isabella, Lake**	**0.71**	**274**			Sg	04 56 19.0	-0.5
ISA	**Isabella, Lake**	**0.71**	**274**	Pg		Pg	04 56 09.4	-0.7
ISA				IAML			04 56 19.1	
	comp=N,697nm,0.5s							
ISA				IAML			04 56 21.1	
	comp=E,491nm,0.1s							
GSC	**Goldstone, Bar**	**0.72**	**115**			Sg	04 56 19.6	-0.1
HYS	**Haystack Butte**	**0.75**	**178**			Pg	04 56 10.3	-0.6
HYS						Sg	04 56 20.4	-0.2
WASM	**Alta Sierra Ca**	**0.79**	**279**			Pg	04 56 11.0	-0.6
WASM						Sg	04 56 21.6	-0.3
RRX	**Edison Barstow**	**0.89**	**146**			Sb	04 56 25.9	-0.4
TPO	**Tropico Hills**	**0.90**	**215**	Pg		Pg	04 56 12.8	-0.8
TPO				IAML			04 56 31.9	
	comp=E,487nm,0.5s							
TPO				IAML			04

	comp=N,63nm,0.6s								
TPNV					IAML			04 56 54.8	
	comp=N,67nm,0.6s								
DSP	**Deep Springs**	**1.78**	**351**		Pn		Pn	04 56 26.5	-1.1
BHPR	**Bishop**	**1.83**	**337**				Pb	04 56 30.2	-0.2
BLAC	**Blackrock camp**	**1.84**	**147**				Pb	04 56 30.8	+0.3
DEVC	**Devers**	**1.88**	**153**				Pb	04 56 31.6	+0.6
EW2	**E Wide Canyon**	**1.94**	**149**				Pb	04 56 32.6	+0.5
ELS	**Elsinore Mount**	**1.97**	**176**		Pn		Pn	04 56 29.4	-0.9
ELS					IAML			04 57 04.8	
	comp=E,48nm,0.6s								
ELS					IAML			04 57 05.8	
	comp=N,39nm,0.4s								
MZP	**Montezuma Peak**	**2.09**	**5**		Pn		Pn	04 56 31.1	-1.1
FIGC	**Figueroa Mtn.**	**2.15**	**246**				Pn	04 56 33.9	+1.2
SHPR	**Sheep Range**	**2.17**	**65**		Pn		Pn	04 56 32.5	-0.6
PMD	**Palm Desert**	**2.21**	**152**		Pn		Pn	04 56 32.4	-1.1
PMD					IAML			04 57 08.3	
	comp=E,28nm,0.2s								
PFO	**Pinyon Flats O**	**2.21**	**154**		Pn		Pn	04 56 32.1	-1.6
BENR	**Benton**	**2.24**	**340**				Pb	04 56 37.6	+0.2
MLAC	**Mammoth, Mammo**	**2.24**	**334**				Pb	04 56 37.9	+0.5
V12A	**Nelson**	**2.24**	**86**		Pn		Pn	04 56 32.5	-1.6
V12A					IAML			04 57 09.1	
	comp=N,27nm,0.7s								
TPH	**Tonopah**	**2.47**	**7**		Pn		Pn	04 56 36.8	-0.6
S11A	**Rachel**	**2.52**	**36**		Pn		Pn	04 56 36.6	-1.3
S11A					IAML			04 57 23.6	
	comp=E,44nm,0.9s								
S11A					IAML			04 57 23.9	
	comp=N,40nm,1.0s								
BORC	**Borrego Spring**	**2.54**	**157**		Pn		Pn	04 56 37.4	-0.7
BORC					IAML			04 57 18.4	
	comp=N,25nm,0.6s								
BORC					IAML			04 57 19.9	
	comp=E,27nm,0.7s								
GATR	**Gnd/Air Tx Cnt**	**2.60**	**247**				Pn	04 56 40.9	+1.9
PMPB	**Monarch Peak**	**2.67**	**284**		Pn		Pn	04 56 39.3	-0.6
PMPB					IAML			04 57 21.8	
	comp=E,56nm,0.9s								
PMPB					IAML			04 57 25.0	
	comp=N,61nm,0.8s								
DPP	**Dos Picos Cty**	**2.67**	**168**		Pn		Pn	04 56 38.8	-1.1
DPP					IAML			04 57 20.8	
	comp=E,34nm,0.5s								
PRN	**Pahroc Range**	**2.72**	**48**		Pn		Pn	04 56 39.7	-1.1
PRN					IAML			04 57 28.6	
	comp=N,22nm,0.6s								
PRN					IAML			04 57 32.8	
	comp=E,21nm,0.8s								
LHV	**Little Huntoon**	**2.73**	**345**		Pn		Pn	04 56 39.8	-0.8
NV11	**Mina Array Sit**	**2.85**	**351**		Pn		Pn	04 56 41.5	-1.0
NVAR	**Mina Array Bea**	**2.87**	**349**		Pn		Pn	04 56 42.4	-0.4
W13A	**Hualapai Mount**	**3.08**	**99**		Pn		Pn	04 56 43.7	-2.1
WAKR	**Walker**	**3.24**	**334**		Pn		Pn	04 56 46.6	-1.3
PSUT	**Pine Spring**	**4.18**	**45**		Pn		Pn	04 56 59.7	-1.2

IDC 15 05:16:00.7±6.0, 19°30S×175°27W, h0km, mb3.7/3, mbtmp3.7/3, MS3.5/2, Error ellipse: s-maj=286.3km s-min=36.4km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.33**	**258**	LR	LR	05 25 14.0	
	comp=Z,129nm,18.4s,baz=14,slow=32						
ASAR	**Alice Springs**	**47.30**	**255**	P		05 24 36.0	-0.4
	0.6nm,0.7s,baz=86,slow=8.1,SNR=11						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**47.33**	**260**	P	P	05 24 37.2	+0.5
	0.3nm,0.7s,baz=94,slow=7.3,SNR=1.4						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**86.60**	**12**	P	P	05 28 45.8	+0.3
	1.3nm,1.0s,baz=204,slow=4.3,SNR=9.7						
ILAR				LR	LR	06 01 33.6	
	comp=Z,30nm,18.9s,baz=178,slow=32						
	1.3nm,1.0s						
KURBB	**Kurchatov Arra**	**114.91**	**318**	PKP	PKiKP	05 34 42.5	-0.9
	0.3nm,0.3s,baz=74,slow=3.3,SNR=3.1						

AUST 15 05:28:04.2±0.6, 18°S±5°×12°1E±°, h10km, mb4.1/5, ML3.3/6, Error ellipse: s-maj=12.9km s-min=5.1km az=134.9, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.88**	**199**	P	Pn	05 28 51.0	+0.8
PSAC1	**Pilbara Seismi**	**3.21**	**196**	P	Pn	05 28 55.7	+0.9
PSAC1				S	Sn	05 29 33.7	+0.5
PSA00	**Pilbara Seismi**	**3.24**	**195**	P	Pn	05 28 56.1	+1.0
PSA00				S	Sn	05 29 34.3	+0.5
GIRL	**Giralia**	**7.39**	**234**	P	Pn	05 29 48.7	-3.5
GIRL				S	Sn	05 31 06.0	-10
KNRA	**Kununurra**	**8.15**	**72**	P	Pn	05 30 04.1	+1.4
	comp=Z,25nm,1.6s,comp=Z,0.1nm						
KNRA				S	Sn	05 31 35.0	0.0
MEEK	**Meekatharra**	**8.40**	**193**	P	Pn	05 30 06.5	+0.3
	comp=Z,16nm,2.9s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.40**	**193**	S	Sn	05 31 37.2	-4.0
CVQOZ	**Cooralya Stati**	**8.62**	**225**	P	Pn	05 30 05.5	-3.5
CVQOZ				S	Sn	05 31 34.6	-12
WRKA	**Warakurna**	**9.62**	**134**	P	Pn	05 30 26.2	+3.2
WRKA				S	Sn	05 32 12.8	+1.5
TWSI	**Taliwang, Sumb**	**10.33**	**338**	P	Pn	05 30 23.5	-9.1
TWSI	**Taliwang, Sumb**	**10.33**	**338**	S	Sn	05 32 06.5	-22
MORW	**Morawa**	**11.43**	**201**	P	Pn	05 30 47.2	-0.4
	comp=Z,15nm,2.5s						
MORW	**Morawa**	**11.43**	**201**	S	Sn	05 32 43.7	-12
MTN	**Manton Dam**	**11.45**	**62**	P	Pn	05 30 47.6	-0.3
	comp=Z,40nm,2.6s						
MTN	**Manton Dam**	**11.45**	**62**	S	Sn	05 32 49.8	-6.3
BLDU	**Ballidu**	**12.67**	**196**	P	Pn	05 31 02.2	-2.5
	comp=Z,19nm,2.1s						

IDC 15 05:42:56.0±4.3, 39°30N×45°86E, h0km, mb3.7/2, mbtmp3.5/3, ML2.5/1, Error ellipse: s-maj=88.8km s-min=23.1km az=43.0
NSSP 15 05:43:17.5, 41°45N×46°78E, h10km, Ms3.2
AZER 15 05:43:18.9, 41°43N×46°95E, h36km, ml3.3
TIF 15 05:43:18.8, 41°49N×47°00E, h44km
MOS 15 05:43:18.1±0.8, 41°51N×46°85E, h10km, mb4.0/1, Error ellipse: s-maj=7.4km s-min=4.8km az=97.3
DRS 15 05:43:19.5, 41°58N×46°99E, h30km

ISC 15 05:43:19.1±1.0, 41°49N±0°01×46°97E±0°02, h31km±9km, n93, σ1°51/158, 2C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKTA	**Zakatala**	**0.30**	**301**	P	**Pn**	**05 43 28.2**	**+0.8**
ZKTA				S	**Sn**	**05 43 36.0**	**+3.2**
SEKA	**Sheki**	**0.33**	**148**	P	**Pn**	**05 43 28.3**	**+0.4**
SEKA				S	**Sn**	**05 43 36.1**	**+2.5**
SEKA	**Sheki**	**0.33**	**148**	PG	**Pn**	**05 43 28.2**	**+0.4**
VSHL	**Vashlovani**	**0.50**	**239**	P	**Pn**	**05 43 32.0**	**+1.8**
VSHL				S	**Sn**	**05 43 42.4**	**+4.7**
AKT	**Akhty**	**0.57**	**90**	*i* Pg	**Pn**	**05 43 31.1**	**-0.2**
	381nm,0.6s						
AKT				*e*Sg	**Sn**	**05 43 40.0**	**+0.3**
	3μm,0.4s						
AKT	**Akhty**	**0.57**	**90**	*d* iPG	**Pn**	**05 43 30.9**	**-0.4**
AKT				*i* S	**Sb**	**05 43 38.1**	**-0.8**
AKT				pmax	pmax		
	comp=Z,5μm,0.6s						
KMKR	**Kumukh**	**0.65**	**9**	*i* Pg	**Pn**	**05 43 32.3**	**-0.2**
	comp=Z,1μm,0.2s						
KMKR				*e*Sg	**Sn**	**05 43 42.5**	**+0.7**
	comp=Z,3μm,0.4s						
KMKR	**Kumukh**	**0.65**	**9**	⇑ *i* PG	**Pn**	**05 43 32.3**	**-0.2**
KMKR				*e*S	**Sn**	**05 43 42.5**	**+0.7**
KMKR				pmax	pmax		
	comp=Z,1μm,0.2s						
MNGR	**Mingechevir, A**	**0.72**	**173**	P	**Pn**	**05 43 34.3**	**+1.1**
MNGR				S	**Sn**	**05 43 46.1**	**+3.0**
MNGR	**Mingechevir, A**	**0.72**	**173**	PG	**Pn**	**05 43 34.2**	**+1.1**
URKR	**Urkarakh**	**0.84**	**36**	*i* Pg	**Pn**	**05 43 35.2**	**+0.1**
	comp=Z,169nm,0.4s						
URKR				*e*Sg	**Sn**	**05 43 46.9**	**+0.5**
	comp=Z,2μm,0.6s						
URKR	**Urkarakh**	**0.84**	**36**	⇓ *i* PG	**Pn**	**05 43 35.1**	**+0.1**
URKR				*e*S	**Sn**	**05 43 46.9**	**+0.5**
URKR				pmax	pmax		
	comp=Z,169nm,0.4s						

QBL	**Gabala**	**0.85**	**129**		P		**Pn**	**05 43 35.5**	**+0.5**
QBL					S		**Sn**	**05 43 48.8**	**+2.3**
KSMR	**Kasumkent**	**0.88**	**82**	*i* Pg			**Pn**	**05 43 36.2**	**+0.7**
	comp=Z,866nm,0.2s								
KSMR				*e*Sg			**Sn**	**05 43 49.3**	**+2.0**
	comp=Z,5μm,0.4s								
KSMR	**Kasumkent**	**0.88**	**82**	⇓ *i* PG			**Pn**	**05 43 36.1**	**+0.7**
KSMR				*e*S			**Sn**	**05 43 49.2**	**+2.0**
KSMR				pmax			pmax		
	comp=Z,866nm,0.2s								
GNBR	**Gunib**	**0.90**	**360**	*i* Pg			**Pn**	**05 43 36.3**	**+0.5**
	comp=Z,562nm,0.8s								
GNBR				*e*Sg			**Sn**	**05 43 49.3**	**+1.5**
	comp=Z,980nm,0.4s								
GNBR	**Gunib**	**0.90**	**360**	*c* iPG			**Pn**	**05 43 36.2**	**+0.5**
GNBR				*i* S			**Sn**	**05 43 48.4**	**+0.6**
GNBR				pmax			pmax		
	comp=Z,724nm,0.2s								
XNQ	**Khinaliq**	**0.94**	**109**	P			**Pn**	**05 43 36.8**	**+0.4**
XNQ				S			**Sn**	**05 43 51.2**	**+2.3**
GANJ	**Ganja**	**0.97**	**210**	P			**Pn**	**05 43 36.7**	**+0.1**
GANJ				S			**Sn**	**05 43 50.9**	**+1.5**
GANJ	**Ganja**	**0.97**	**210**	PG			**Pn**	**05 43 36.7**	**+0.1**
QSAR	**Qusar**	**0.97**	**88**	P			**Pn**	**05 43 37.7**	**+1.0**
QSAR				S			**Sn**	**05 43 52.5**	**+3.0**
XNZR	**Khunzakh**	**1.07**	**350**	*e*Pg			**Pb**	**05 43 39.4**	**+0.1**
	comp=Z,141nm,0.3s								
XNZR				*e*Sg			**Sn**	**05 43 54.8**	**+2.7**
	comp=Z,245nm,0.5s								
HNZR	**Khunzah**	**1.09**	**350**	*e*PG			**Pb**	**05 43 39.3**	**-0.2**
HNZR				*e*S			**Sn**	**05 43 54.8**	**+2.3**
HNZR				pmax			pmax		
	comp=Z,141nm,0.3s								
ARKR	**Arakani**	**1.12**	**1**	*i* Pg			**Pb**	**05 43 39.7**	**-0.3**
	comp=Z,246nm,0.2s								
ARKR				*e*Sg			**Sn**	**05 43 55.0**	**+1.9**
	comp=Z,458nm,0.3s								
ARKR	**Arakani**	**1.12**	**1**	⇓ *i* PG			**Pb**	**05 43 39.6**	**-0.3**
ARKR				*e*S			**Sn**	**05 43 54.9**	**+1.9**
ARKR				pmax			pmax		
	comp=Z,246nm,0.2s								
IML	**Ismayilli**	**1.15**	**127**	P			**Pb**	**05 43 39.4**	**-1.0**
IML				S			**Sn**	**05 43 55.8**	**+1.9**
QUBA	**Quba, Azerbaij**	**1.16**	**96**	P			**Pb**	**05 43 39.9**	**-0.7**
QUBA				S			**Sn**	**05 43 56.4**	**+2.4**
GDB	**GEDABAY**	**1.19**	**231**	P			**Pb**	**05 43 39.4**	**-0.4**
GDB				S			**Sn**	**05 43 56.0**	**+0.9**
DGRG	**David-gareji**	**1.20**	**269**	P			**Pb**	**05 43 40.9**	**-0.4**
DGRG				S			**Sb**	**05 43 58.3**	**+1.9**
DGRG	**David-gareji**	**1.20**	**269**	PG			**Pb**	**05 43 40.9**	**-0.4**
DGRG				S			**Sb**	**05 43 58.3**	**+1.9**
BRDA	**Brd**	**1.23**	**172**	P			**Pb**	**05 43 41.8**	**0.0**
BRDA				S			**Sb**	**05 43 58.6**	**+1.3**
UNCR	**Uncukul**	**1.23**	**354**	*e*Pg			**Pn**	**05 43 40.3**	**-0.1**
	comp=Z,141nm,0.4s								
UNCR				*e*Sg			**Sb**	**05 43 57.1**	**-0.4**
	comp=Z,677nm,0.4s								
UNCR	**Uncukul**	**1.23**	**354**	*e*PG			**Pn**	**05 43 40.2**	**-0.1**
UNCR				*e*S			**Sb**	**05 43 57.0**	**-0.4**
UNCR				pmax			pmax		
	comp=Z,141nm,0.4s								
QZX	**Qazax, Azerbai**	**1.27**	**251**	P			**Pn**	**05 43 40.8**	**-0.1**
QZX				S			**Sb**	**05 43 59.8**	**+1.2**
BTLR	**Botlikh**	**1.30**	**335**	*e*Pg			**Pb**	**05 43 42.5**	**-0.5**
	comp=Z,61nm,0.4s								
BTLR				*e*Sg			**Sb**	**05 43 59.8**	**+0.4**
	comp=Z,260nm,0.5s								
BTLR	**Botlikh**	**1.30**	**335**	*e*PG			**Pn**	**05 43 41.6**	**+0.3**
BTLR				pmax			pmax		
	comp=Z,35nm,0.2s								
ZRD	**Zardab**	**1.32**	**155**	Pn			**Pb**	**05 43 42.5**	**-0.8**
ZRD				Sn			**Sb**	**05 44 01.7**	**+1.8**
BUJR	**Buynaksk**	**1.34**	**4**	*e*Pg			**Pb**	**05 43 43.0**	**-0.8**
	comp=Z,109nm,0.4s								
BUJR				*e*Sg			**Sb**	**05 44 00.8**	**+0.2**
	comp=Z,518nm,0.4s								
BUJR	**Buynaksk**	**1.34**	**4**	*e*PG			**Pb**	**05 43 42.9**	**-0.8**
BUJR				*e*S			**Sb**	**05 44 00.7**	**+0.2**
BUJR				pmax			pmax		
	comp=Z,109nm,0.4s								
AGDM	**Agdam**	**1.38**	**175**	Pn			**Pb**	**05 43 43.1**	**-1.2**
AGDM				Sn			**Sb**	**05 44 02.5**	**+0.9**
PQL	**Pirkuli**	**1.41**	**119**	Pn			**Pb**	**05 43 44.0**	**-1.0**
PQL				Sn			**Sb**	**05 44 03.5**	**+0.8**
KDMR	**Kurdemir**	**1.44**	**140**	Sn			**Sb**	**05 44 03.9**	**+0.6**
LSVT	**Lusahovit**	**1.46**	**248**	*e*P			**Pn**	**05 43 43.0**	**-0.4**
LSVT				*e*S			**Sn**	**05 44 01.9**	**+0.5**
SIZA	**Siyzn**	**1.51**	**105**	Pn			**Pb**	**05 43 46.9**	**+0.3**
SIZA				Sn			**Sb**	**05 44 06.2**	**+0.7**
MAK	**Makhachkala**	**1.53**	**15**	⇓ *i* PG			**Pn**	**05 43 44.8**	**+0.5**
MAK				*e*S			**Sb**	**05 44 05.4**	**-0.4**
MAK				pmax			pmax		
	comp=Z,135nm,0.4s								
MAK				smax			smax		
	comp=E,552nm,0.6s								
MAK				smax			smax		
	comp=N,357nm,0.5s								
DLMR	**Dylym**	**1.60**	**351**	*e*Pg			**Pb**	**05 43 46.9**	**-1.2**
	comp=N,76nm,0.2s								
DLMR				*e*Sg			**Sb**	**05 44 08.0**	**0.0**
	comp=N,850nm,0.3s								
DLMR	**Dylym**	**1.60**	**351**	*e*PG			**Pb**	**05 43 46.9**	**-1.2**
DLMR				*e*S			**Sb**	**05 44 07.9**	**0.0**
DLMR				pmax			pmax		
	comp=Z,76nm,0.2s								
ATGJ	**Altiaghaj**	**1.61**	**112**	Pn			**Pb**	**05 43 48.1**	**-0.2**
ATGJ				Sn			**Sb**	**05 44 10.8**	**+2.4**
AYRK	**Ayrk**	**1.64**	**214**	*e*P			**Pn**	**05 43 46.6**	**+0.6**
AYRK				*e*S			**Sb**	**05 44 08.0**	**-1.1**
TBLG	**Delisi**	**1.69**	**279**	P			**Pn**	**05 43 46.5**	**-0.1**
TBLG	**Delisi**	**1.69**	**279**	PG			**Pn**	**05 43 46.4**	**-0.1**
GBS	**Qobustan**	**1.77**	**122**	Pn			**Pb**	**05 43 50.9**	**-0.1**
GBS				Sn			**Sb**	**05 44 15.0**	**+2.1**
SHTL	**Shatili**	**1.79**	**312**	P			**Pn**	**05 43 48.9**	**+0.9**
SHTL	**Shatili**	**1.79**	**312**	PN			**Pn**	**05 43 48.9**	**+0.9**
BLQ	**Beylaqan**	**1.82**	**165**	Pn			**Pn**	**05 43 49.2**	**+0.9**
BLQ				Sn			**Sb**	**05 44 12.3**	**-1.8**
GROC	**Groznyy**	**1.92**	**334**	*e*Pg			**Pn**	**05 43 51.3**	**+1.5**
	comp=Z,36nm,0.3s								
GROC				*e*Sg			**Sb**	**05 44 16.1**	**-1.0**
	comp=Z,142nm,0.4s								
GROC	**Groznyy**	**1.92**	**334**	*e*PN			**Pn**	**05 43 51.2**	**+1.5**
GROC				*e*S			**Sb**	**05 44 16.0**	**-1.0**
GROC				pmax			pmax		
	comp=Z,36nm,0.3s								
KZRT	**Kazreti**	**1.93**	**268**	P			**Pn**	**05 43 48.1**	**-1.8**
KZRT				S			**Sn**	**05 44 11.3**	**-1.9**
KZRT	**Kazreti**	**1.93**	**268**	PN			**Pn**	**05 43 48.1**	**-1.8**
SAAT	**Saatly**	**1.96**	**145**	Sn			**Sn**	**05 44 14.0**	**+0.2**
SRTK	**Saratovka**	**2.04**	**259**	*e*P			**Pn**	**05 43 52.1**	**+0.6**
SRTK				*e*S			**Sn**	**05 44 17.3**	**+1.4**
QRD	**Qoradiz**	**2.04**	**172**	Pn			**Pn**	**05 43 51.8**	**+0.4**
QRD				Sn			**Sn**	**05 44 16.6**	**+0.8**
KAPZ	**Kaputan**	**2.07**	**237**	*e*P			**Pb**	**05 43 54.6**	**-1.6**
KAPZ				*e*S			**Sb**	**05 44 21.6**	**0.0**
TRLG	**Trialeti**	**2.15**	**272**	P			**Pn**	**05 43 52.8**	**-0.2**
TRLG				S			**Sn**	**05 44 18.2**	**-0.5**
TRLG	**Trialeti**	**2.15**	**272**	PN			**Pn**	**05 43 52.8**	**-0.2**
GNI	**Garni**	**2.15**	**232**	*e*P			Pb	05 44 02.5	+5.0
GNI				*e*S			Sb	05 44 33.1	+9.3
GNI	**Garni**	**2.15**	**232**	*i* PN			**Pb**	**05 43 57.3**	**-0.2**
GNI				pmax			pmax		
	comp=Z,15nm,0.9s								
ALIB	**&Aumlli-Bayram**	**2.18**	**134**	Pg			**Pb**	**05 43 58.2**	**+0.4**
ALIB				Sg			**Sb**	**05 44 28.3**	**+3.9**
SBZ	**Shahbuz**	**2.35**	**208**	Pn			**Pb**	**05 43 58.6**	**-2.2**
SBZ				Sn			**Sn**	**05 44 25.1**	**+1.5**
GOBA	**Gobu**	**2.36**	**116**	Pn			**Pn**	**05 43 57.5**	**+1.8**
GOBA				Sn			**Sb**	**05 44 26.6**	**-3.1**
KMOZ	**Kamo**	**2.37**	**255**	*e*P			**Pb**	**05 44 00.2**	**-1.0**
KMOZ				*e*S			**Sb**	**05 44 31.2**	**+1.0**
LACR	**Lac**	**2.39**	**305**	*e*PN			**Pn**	**05 43 58.5**	**+2.2**
LACR				*e*S			**Sb**	**05 44 31.2**	**+0.4**
LACR				pmax			pmax		
	comp=Z,18nm,0.2s								
NDR	**Nardaran**	**2.46**	**111**	Pn			**Pn**	**05 43 58.6**	**+1.5**
NDR				Sn			**Sb**	**05 44 30.0**	**-2.5**
GLBA	**Clilabad**	**2.49**	**154**	Pn			**Pn**	**05 43 57.6**	**+0.1**
GLBA				Sn			**Sn**	**05 44 26.6**	**-0.3**
ALIG	**Mtskhetisjvari**	**2.56**	**285**	PN			**Pn**	**05 43 59.8**	**+1.3**
ORD	**Ordubad**	**2.66**	**197**	Pn			**Pn**	**05 44 01.4**	**+1.5**
ORD				Sn			**Sn**	**05 44 31.1**	**-0.1**
YRD	**Yardimli**	**2.75**	**159**	Pn			**Pn**	**05 44 01.1**	**-0.2**
YRD				Sn			**Sn**	**05 44 32.1**	**-1.4**
GARIG	**Gari**	**2.83**	**294**	P			**Pb**	**05 44 06.4**	**-2.7**
LRK	**Lerik**	**3.03**	**159**	Pn			**Pn**	**05 44 05.2**	**+0.1**
LRK				Sn			**Sn**	**05 44 39.8**	**-0.6**
LKRN	**Lenkeran, Azer**	**3.10**	**153**	Sn			**Sn**	**05 44 40.6**	**-1.3**
ASTR	**Astara**	**3.24**	**154**	Pn			**Pn**	**05 44 07.9**	**+0.1**
ASTR				Sn			**Sn**	**05 44 45.1**	**-0.3**
KBZ	**Khabaz**	**3.75**	**308**	Pn			**Pn**	**05 44 15.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=140,slow=7.9,SNR=1.5								
KBZ				Sn			**Sb**	**05 45 12.0**	**+2.6**
	comp=Z,1.1nm,0.3s,baz=142,slow=7.5,SNR=4.8								
	comp=Z,0.4nm,0.3s								
KBZ	**Khabaz**	**3.75**	**308**	PN			**Pn**	**05 44 15.2**	**+0.4**
KBZ								05 45 12.0	
PYA1	**Pyatigorsk**	**3.84**	**313**	*i* PN			**Pn**	**05 44 18.9**	**+2.8**
KIV	**Kislovodsk**	**4.00**	**309**	*e*PN			**Pn**	**05 44 20.2**	**+1.8**
KIV				*e*S			**Sn**	**05 45 07.8**	**+3.5**
KIV				pmax			pmax		
	comp=Z,6.0nm,1.1s								
SOC	**Sochi**	**5.75**	**294**	*e*P			**Pn**	**05 44 42.1**	**-0.2**
SOC				*e*				05 45 48.2	
SOC				MLR			MLR		
	comp=Z,10.0nm,11.0s								
ARTI	**Arti**	**16.66**	**23**	*i* P			**P**	**05 47 12.5**	**+0.3**
ARTI				pmax			pmax		
	comp=Z,1.0nm,1.1s								
BRVK	**Borovoye**	**19.50**	**46**	*i* P			**Pn**	**05 47 46.3**	**+1.3**
BRVK				pmax			pmax		
	comp=Z,1.0nm,0.8s								
FINES	**FINESS Array B**	**23.65**	**335**	P			**P**	**05 48 23.4**	**-4.0**
	comp=Z,0.9nm,0.4s,baz=140,slow=10,SNR=11								
	comp=Z,0.9nm,0.4s								
FINES	**FINESS Array B**	**23.65**	**335**	P			**P**	**05 48 23.4**	**-4.0**
MKAR	**Makanchi Array**	**25.75**	**66**	P			**P**	**05 48 43.8**	**-3.1**
	comp=Z,0.4nm,0.6s,baz=283,slow=7.2,SNR=3.7								
	comp=Z,0.4nm,0.6s								
MKAR	**Makanchi Array**	**25.75**	**66**	P			**P**	**05 48 43.8**	**-3.1**
BORG	**Borgarnes**	**44.33**	**325**	*i* P			**P**	**05 51 29.2**	**+3.4**

IDC 15 05:48:06.4±0.7, 0.°45S×128.°07E, h0km, mb3.9/13, mbtmp4.0/14, ML4.5/1, MS3.5/2, Error ellipse: s-maj=33.9km s-min=15.2km az=80.0
NEIC 15 05:48:09.9±1.6, 0.°41S±0.°07×127.°97E±0.°08, h10km±1km, mb4.5/27, Error ellipse: s-maj=15.0km s-min=10.4km az=237.0
DJA 15 05:48:09.6±1.1, 1.°S±2.°×12.°8E±.°, h11km±8km, M4.2/7, MLv4.2/7

ISC 15 05:48:08.6±0.5, 0.°50S±0.°05×127.°91E±0.°06, h10km, n58, σ1°20/59, mb4.4/27, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.37**	**337**		**Pn**	**05 48 34.2**	**+0.5**
TNTI	**Ternate**	**1.37**	**337**	P	**Pb**	**05 48 34.5**	**+0.2**
TNTI				S	**Sg**	**05 48 54.1**	**+1.3**
SANI	**Sanana**	**2.46**	**231**	P	**Pn**	**05 48 47.5**	**-1.3**
SANI				S	**Sn**	**05 49 18.2**	**-0.8**
NLAI	**Namlea**	**2.84**	**197**	P	**Pn**	**05 48 54.4**	**+0.4**
NLAI				S	**Sn**	**05 49 27.5**	**-0.8**
AAI	**Ambon**	**3.18**	**175**	P	**Pn**	**05 48 59.3**	**+0.6**
SWI	**Sorong**	**3.37**	**96**	P	**Pn**	**05 49 02.1**	**+0.8**
KMSI	**Cibinong**	**4.07**	**285**	P	**Pg**	**05 49 25.8**	**-0.8**
FAKI	**Fak Fak**	**4.96**	**119**	Pn	**Pn**	**05 49 23.1**	**-0.1**
TOLI2	**Tolitoli**	**7.30**	**283**		**Pn**	**05 49 57.8**	**+2.4**
KAPI	**Kappang**	**9.30**	**241**	Pn	**Pn**	**05 50 25.2**	**+2.4**
	5.0nm,0.3s,baz=65,slow=7.2,SNR=20						
	44nm,0.6s						
WB0	**Warramunga Arr**	**20.18**	**162**	P	**P**	**05 52 41.2**	**-2.2**
COEN	**Coen**	**20.18**	**132**	P	**P**	**05 52 43.3**	**-0.2**
COEN				IAmb	IAmb	05 52 46.7	
	comp=Z,27nm,1.1s						
WRA	**Warramunga Arr**	**20.32**	**162**	P	**P**	**05 52 44.5**	**-0.6**
WRA	**Warramunga Arr**	**20.32**	**162**	P	**P**	**05 52 43.2**	**-1.9**
	comp=Z,0.8nm,0.5s,baz=345,slow=12,SNR=9.2						
	comp=Z,0.8nm,0.5s						
GUMO	**Guam**	**21.87**	**50**	LR	LR	06 00 35.8	
	comp=Z,54nm,20.9s,baz=244,slow=34						
AS31	**Alice Springs**	**23.

ILAR	**Eielson Array**	**88.39**	**25**	P		**P**	**06 00 59.6**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=243,slow=4.5,SNR=5.4							
	comp=Z,0.3nm,0.8s							
QSPA	**South Pole Qui**	**89.44**	**180**	P		**P**	**06 01 06.8**	**+1.1**
	comp=Z,1.7nm,1.1s,baz=334,slow=2.3,SNR=5.5							
	comp=Z,1.7nm,1.1s							
J26L	**Joseph Creek**	**89.81**	**26**	P		**P**	**06 01 07.5**	**+0.2**
FARO	**Faro, Yukon**	**94.52**	**28**	P		**P**	**06 01 29.7**	**+0.6**
FARO				IAmb		IAmb	06 01 30.4	
	comp=Z,1.8nm,0.8s							
SPITS	**Spitsbergen Ar**	**94.83**	**349**	P		**P**	**06 01 29.4**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=27,slow=2.1,SNR=1.8							
	comp=Z,1.9nm,0.9s							

AUST 15 05:49:51.7±1.6, 19°S±10°×12°1E±°, h8km±15km, mb3.9/4, ML2.8/6, Error ellipse: s-maj=26.2km s-min=5.9km az=142.9, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSAC1	**Pilbara Seismi**	**2.95**	**197**	P	Pn	05 50 38.4	-0.4
PSAC1				S	Sn	05 51 15.5	+1.1
PSA00	**Pilbara Seismi**	**2.98**	**196**	P	Pn	05 50 39.2	0.0
PSA00				S	Sn	05 51 16.3	+1.3
FITZ	**Fitzroy Crossi**	**4.68**	**83**	P	Pn	05 51 03.9	+1.2
FITZ	**Fitzroy Crossi**	**4.68**	**83**	S	Sn	05 51 57.5	+0.3
GIRL	**Giralia**	**7.25**	**236**	P	Pn	05 51 31.9	-6.1
GIRL				S	Sn	05 52 47.6	-13
MEEK	**Meekatharra**	**8.14**	**194**	P	Pn	05 51 49.2	-1.0
	comp=Z,18nm,2.2s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.14**	**194**	S	Sn	05 53 19.7	-2.6
KNRA	**Kununurra**	**8.23**	**70**	P	Pn	05 51 48.3	-3.1
	comp=Z,25nm,1.3s,comp=Z,0.1nm						
WRKA	**Warakurna**	**9.42**	**133**	P	Pn	05 52 11.3	+3.5
	comp=Z,2.6nm,2.1s,comp=Z,0.0nm						
WRKA				S	Sn	05 53 55.0	+1.1
MORW	**Morawa**	**11.18**	**202**	S	Sn	05 54 27.1	-10
	comp=Z,15nm,2.6s						

*IDC **15** 05:50:41.4±0.7, 0°76S×127°69E, h0km, mb4.1/14, mbtmp4.2/15, ML4.3/1, MS3.5/1, Error ellipse: s-maj=28.5km s-min=14.3km az=77.0*
*NEIC **15** 05:50:43.6±1.7, 0°80S±0°05×127°77E±0°05, h10km±1km, mb4.5/24, Error ellipse: s-maj=9.9km s-min=7.2km az=139.0*
*DJA **15** 05:50:45.9±1.6, 1°S±2°×12°8E±°, h16km±13km, M4.0/7, MLv4.0/7*
ISC 15 05:50:43.3±0.5, 0°83S±0°04×127°71E±0°08, h10km, n61, σ1§14/63, mb4.5/28, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.63**	**348**		**Pn**	**05 51 12.5**	**+0.4**
TNTI	**Ternate**	**1.63**	**348**	P	**Pn**	**05 51 12.5**	**+0.4**
TNTI				S	**Sb**	**05 51 33.7**	**-0.4**
SANI	**Sanana**	**2.11**	**235**	P	**Pn**	**05 51 16.6**	**-2.1**
SANI				S	**Sn**	**05 51 45.8**	**+0.8**
NLAI	**Namlea**	**2.47**	**194**	P	**Pn**	**05 51 26.0**	**+2.3**
NLAI				S	**Sn**	**05 51 54.6**	**+0.7**
AAI	**Ambon**	**2.88**	**170**	P	**Pb**	**05 51 33.5**	**-1.3**
KMSI	**Cibinong**	**3.98**	**290**	P	**Pn**	**05 51 44.5**	**0.0**
FAKI	**Fak Fak**	**4.99**	**115**	Pn	**Pn**	**05 51 57.1**	**-1.2**
TOLI2	**Tolitoli**	**7.19**	**286**	Pn	**Pn**	**05 52 28.1**	**-0.6**
SAUI	**Saumlaki**	**7.95**	**153**	Pn	**Pn**	**05 52 38.0**	**-1.1**
KAPI	**Kappang**	**8.97**	**242**	Pn	**Pn**	**05 52 54.0**	**+0.9**
KAPI	**Kappang**	**8.97**	**242**	Pn	**Pn**	**05 52 54.1**	**+1.0**
	3.3nm,0.3s,baz=66,slow=18,SNR=4.6						
	11nm,0.4s						
JAY	**Jayapura**	**13.09**	**98**	LR	LR	05 59 58.7	
	comp=Z,222nm,20.0s,baz=186,slow=42						
FITZ	**Fitzroy Crossi**	**17.28**	**187**	Pn	**Pn**	**05 54 44.5**	**-0.5**
WB0	**Warramunga Arr**	**19.93**	**161**	P	**P**	**05 55 15.6**	**+0.1**
WRA	**Warramunga Arr**	**20.07**	**162**	P	**P**	**05 55 15.0**	**-2.1**
WRA	**Warramunga Arr**	**20.07**	**162**	P	**P**	**05 55 16.9**	**-0.2**
	2.9nm,0.8s,baz=339,slow=12,SNR=6.4						
	2.9nm,0.8s						
WR8	**Warramunga Arr**	**20.14**	**161**	P	**P**	**05 55 17.5**	**-0.2**
AS31	**Alice Springs**	**23.48**	**166**		**P**	**05 55 54.3**	**+0.9**
ASAR	**Alice Springs**	**23.48**	**166**	P	**P**	**05 55 53.6**	**+0.2**
	6.5nm,0.7s,baz=346,slow=11,SNR=12						
	6.5nm,0.7s						
TPUB	**Ta-pu**	**24.95**	**344**		**P**	**05 56 06.7**	**-0.4**
TPUB				IAmb	IAmb	05 56 13.2	
	comp=Z,24nm,1.0s						
SSLB	**Suanglung**	**25.34**	**345**	P	**P**	**05 56 09.2**	**-1.3**
SSLB				IAmb	IAmb	05 56 17.5	
	comp=Z,15nm,0.9s						
RPSI	**Rantau Prapat**	**28.99**	**277**		**P**	**05 56 43.0**	**-0.5**
RPSI				IAmb	IAmb	05 56 46.5	
	comp=Z,7.3nm,0.7s						
RPSI	**Rantau Prapat**	**28.99**	**277**	P	**P**	**05 56 42.6**	**-0.9**
PSI	**Prapat**	**29.00**	**277**	P	**P**	**05 56 42.6**	**-1.2**
	comp=Z,7.6nm,0.7s,baz=86,slow=9.8,SNR=8.7						
	comp=Z,7.6nm,0.7s						
FORT	**Forrest**	**29.79**	**179**	P	**P**	**05 56 50.0**	**-0.4**
FORT				IAmb	IAmb	05 57 06.5	
	comp=Z,8.1nm,1.2s						
STKA	**Stephens Creek**	**33.55**	**158**	P	**P**	**05 57 24.6**	**+1.1**
	comp=Z,3.2nm,0.8s,baz=299,slow=10,SNR=3.6						
	comp=Z,3.2nm,0.8s						
NJ2	**Nanjing**	**33.76**	**346**	*e*P	**P**	**05 57 26.8**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH	**PanZhiHua**	**36.95**	**319**	P	**P**	**05 57 56.4**	**+3.4**
KSRS	**Korea Array**	**38.09**	**0**	P	**P**	**05 58 01.6**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=183,slow=10,SNR=1.6						
	comp=Z,0.4nm,0.3s						
MJAR	**Matsushiro Arr**	**38.44**	**14**	P	**P**	**05 58 04.2**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=188,slow=9.8,SNR=4.4						
	comp=Z,1.7nm,0.8s						
XAN	**Xi'an**	**38.92**	**335**	P	**P**	**05 58 10.5**	**+1.0**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**44.01**	**342**	*e*P	**P**	**05 58 54.3**	**+3.1**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,42nm,4.3s						
GTA	**Gaotai**	**47.51**	**331**	*e*P	**P**	**05 59 19.8**	**+0.8**
GTA				pP	sP	05 59 25.0	+1.6
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
EVN	**Everest**	**48.56**	**309**		**P**	**05 59 28.5**	**+0.6**
SONM	**Songino Array**	**51.91**	**342**	P	**P**	**05 59 52.2**	**-0.1**
SONM	**Songino Array**	**51.91**	**342**	P	**P**	**05 59 52.0**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=158,slow=6.9,SNR=5.5						
	comp=Z,1.0nm,0.7s						
PEA0B	**Petropavlovsk-**	**59.29**	**21**	P	**P**	**06 00 43.6**	**-1.6**
PETK	**Petropavlovsk-**	**59.29**	**21**	P	**P**	**06 00 44.9**	**-0.3**
PETK	**Petropavlovsk-**	**59.29**	**21**	P	**P**	**06 00 44.4**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=158,slow=4.9,SNR=3.0						
	comp=Z,1.3nm,0.5s						
TARG	**Taragay, Kyrgy**	**61.80**	**319**	P	**P**	**06 01 02.1**	**-1.0**
TARG				IAmb	IAmb	06 01 11.0	
	comp=Z,2.2nm,0.7s						
MKAR	**Makanchi Array**	**61.85**	**326**		**P**	**06 01 01.4**	**-1.4**
MKAR	**Makanchi Array**	**61.85**	**326**	P	**P**	**06 01 02.0**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=120,slow=8.6,SNR=7.6						
	comp=Z,2.1nm,0.7s						
MAKZ	**Makanchi**	**62.03**	**326**	P	**P**	**06 01 03.4**	**-0.7**
MAKZ				IAmb	IAmb	06 01 32.0	
	comp=Z,2.2nm,0.8s						
KDJ	**Kajisay**	**62.41**	**320**	P	**P**	**06 01 06.7**	**-0.2**
ARSB	**Arslanbob**	**64.82**	**317**	P	**P**	**06 01 22.4**	**-0.3**
ARSB				IAmb	IAmb	06 01 40.2	
	comp=Z,3.9nm,0.9s						
ZALV	**Zalesovo Beam**	**65.08**	**334**	P	**P**	**06 01 24.1**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=154,slow=7.5,SNR=1.4						
	comp=Z,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**66.09**	**328**	P	**P**	**06 01 28.8**	**-1.8**
	comp=Z,2.5nm,0.8s,baz=124,slow=6.2,SNR=5.0						
	comp=Z,2.5nm,0.8s						
KURK	**Kurchatov**	**66.10**	**328**	P	**P**	**06 01 29.6**	**-1.1**
KURK				IAmb	IAmb	06 01 34.0	
	comp=Z,5.1nm,0.9s						
KKAR	**Karatay Array**	**67.24**	**318**	P	**P**	**06 01 37.8**	**-0.3**
BVAR	**Borovoye Array**	**71.66**	**328**	P	**P**	**06 02 04.0**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=93,slow=7.8,SNR=1.9						
	comp=Z,0.6nm,0.4s						
AB31	**Akbulak array**	**76.29**	**321**	P	**P**	**06 02 31.1**	**-1.4**
AB31				IAmb	IAmb	06 02 34.0	
	comp=Z,3.1nm,1.4s						
ABKAR	**Akbulak array**	**76.29**	**321**	P	**P**	**06 02 31.0**	**-1.4**
GAMB	**Gambell**	**78.15**	**23**	P	**P**	**06 02 43.3**	**+0.8**
VNDA	**Vanda**	**78.81**	**173**	P	**P**	**06 02 46.9**	**+0.9**
VNDA				IAmb	IAmb	06 02 53.8	
	comp=Z,3.7nm,1.4s						
VNDA	**Vanda**	**78.81**	**173**	P	**P**	**06 02 45.6**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=309,slow=6.0,SNR=8.0						
	comp=Z,1.1nm,0.7s						
H17K	**Granite Mounta**	**83.34**	**24**	P	**P**	**06 03 11.4**	**+1.0**
H17K				IAmb	IAmb	06 03 13.6	
	comp=Z,5.5nm,1.4s						
K17K	**Iditarod**	**83.43**	**26**	P	**P**	**06 03 11.5**	**+0.6**
D20K	**Etivluk River**	**85.59**	**21**	P	**P**	**06 03 21.4**	**-0.2**
D20K				IAmb	IAmb	06 03 23.4	
	comp=Z,6.8nm,1.5s						
QSPA	**South Pole Qui**	**89.11**	**180**	P	**P**	**06 03 39.4**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=35,slow=1.1,SNR=12						
	comp=Z,2.2nm,0.8s						
TGL	**Tana Glacier**	**90.45**	**29**	P	**P**	**06 03 46.4**	**+1.1**
BCAR	**Beaver Creek A**	**90.96**	**27**	P	**P**	**06 03 47.7**	**+0.2**

*IDC **15** 05:55:13.7±3.6, 54°14N×87°37E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=32.7km s-min=20.1km az=47.0*
ASRS 15 05:55:12.0±0.7, 54°15N×87°19E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.41**	**263**	I	I	06 04 10.0	
	baz=82,slow=314,SNR=4.2						
ZALV	**Zalesovo Beam**	**1.41**	**263**	Pg	Pb	05 55 40.6	+1.4
	2.8nm,0.3s,baz=81,slow=18,SNR=22						
ZALV				Lg	Lg	05 56 02.1	
	1.5nm,0.3s,baz=84,slow=29,SNR=9.3						
KURBB	**Kurchatov Arra**	**6.37**	**240**	Pn	Pn	05 56 50.6	+3.6
	0.1nm,0.3s,baz=54,slow=14,SNR=3.0						
	0.3nm,0.3s						
MK31	**Makanchi Array**	**8.00**	**205**	P	Pn	05 57 14.3	+4.8
	1.0nm,1.1s,baz=26,slow=14,SNR=5.2						
MKAR	**Makanchi Array**	**8.00**	**205**	Pn	Pn	05 57 12.9	+3.4
	0.1nm,0.3s,baz=28,slow=14,SNR=1.6						
	0.1nm,0.3s						

*IDC **15** 05:59:33.6±0.4, 9°84S×118°90E, h0km, mb4.6/25, mbtmp4.6/30, ML4.4/5, MS3.7/35, Error ellipse: s-maj=17.1km s-min=11.0km az=65.0*
*BJI **15** 05:59:33.0, 10°10S×118°80E, h10km, mB4.9/10, mb5.0/56, Ms4.3/7, Ms7 3.9/7*
*MOS **15** 05:59:36.8±0.9, 9°85S×119°00E, h34km, mb5.1/26, Error ellipse: s-maj=12.8km s-min=6.3km az=108.0*
*NEIC **15** 05:59:38.9±2.0, 10°03S±0°07×118°81E±0°06, h35km±1km, mb4.9/80, Error ellipse: s-maj=11.8km s-min=10.1km az=199.0*
*DJA **15** 05:59:39.9±0.3, 10°S±2°×11°9E±°, h37km±5km, M5.0/38, mb5.0/38, mB5.4/13, MLv5.2/24, Mw(mB)4.8/13*
ISC 15 05:59:37.7±0.5, 10°01S±0°04×118°83E±0°04, h29km±3km, h30km: pP-P, n341, σ1§48/338, mb4.9/99, MS3.7/35, 24C-9D, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.66**	**57**	P	**Pn**	**05 59 51.2**	**+0.1**
WSI	**Waingapu**	**1.48**	**77**	P	**Pb**	**06 00 03.7**	**-0.9**
PLAI	**Plampang**	**1.57**	**318**	P	**Pb**	**06 00 04.8**	**-1.3**
PLAI	**Plampang**	**1.57**	**318**	S	**Sb**	**06 00 27.9**	**+2.4**
PLAI	**Plampang**	**1.57**	**318**	P	**Pn**	**06 00 04.3**	**+0.7**
BASI	**Baing, Sumba**	**1.73**	**97**	P	**Pb**	**06 00 08.7**	**-0.2**
TWSI	**Taiwang, Sumb**	**2.30**	**303**	P	**Pn**	**06 00 15.3**	**+1.6**
EDFI	**Ende, Flores**	**3.09**	**66**	P	**Pn**	**06 00 27.1**	**+2.5**
MMRI	**Maumere**	**3.63**	**68**		**Pn**	**06 00 34.7**	**+2.8**
MMRI	**Maumere**	**3.63**	**68**	P	**Pn**	**06 00 35.5**	**+3.6**
SRBI	**Singaraja**	**4.05**	**298**	P	**Pn**	**06 00 40.5**	**+2.7**
BSSI	**Bau Bau, Buton**	**4.18**	**23**	P	**Pn**	**06 00 41.9**	**+2.4**
BATI	**Baumata**	**4.76**	**93**	Pn	**Pn**	**06 00 47.1**	**-0.5**
	76nm,0.3s,baz=279,slow=19,SNR=13						
BATI				Sn	**Sn**	**06 01 43.5**	**+1.7**
	51nm,0.3s,baz=225,slow=6.5,SNR=7.6						
	101nm,0.5s						
BATI	**Baumata**	**4.76**	**93**	P	**Pn**	**06 00 50.2**	**+2.6**
BKSI	**Bukumuba**	**4.83**	**15**	P	**Pn**	**06 00 51.2**	**+2.7**
JAGI	**Jajag, Banyuwa**	**4.87**	**288**		**Pn**	**06 00 49.9**	**+1.0**
JAGI	**Jajag, Banyuwa**	**4.87**	**288**	P	**Pn**	**06 00 50.1**	**+1.1**
JAGI	**Jajag, Banyuwa**	**4.87**	**288**	P	**Pn**	**06 00 49.8**	**+0.8**
ABJI	**Asem Bagus**	**5.05**	**295**	P	**Pn**	**06 00 53.5**	**+2.1**
	2.3nm4μm296nm,0.6s						
KAPI	**Kappang**	**5.05**	**10**	Pn	**Pn**	**06 00 52.3**	**+0.8**
KAPI	**Kappang**	**5.05**	**10**	Pn	**Pn**	**06 00 52.0**	**+0.5**
	66nm,0.3s,baz=184,slow=7.8,SNR=83						
KAPI				Sn	**Sn**	**06 01 51.4**	**+2.6**
	66nm,0.3s,baz=236,slow=23,SNR=8.9						
KAPI				LR	LR	06 03 06.3	
	comp=Z,2μm,19.8s,baz=210,slow=44						
KAPI	**Kappang**	**5.05**	**10**	P	**Pn**	**06 00 54.9**	**+3.5**
SOEI	**Soe**	**5.36**	**88**		**Pn**	**06 00 56.3**	**+0.4**
SOEI	**Soe**	**5.36**	**88**	P	**Pn**	**06 00 59.9**	**+4.0**
SOEI	**Soe**	**5.36**	**88**	P	**Pn**	**06 00 58.8**	**+2.9**
	2.3nm3μm366nm,0.7s						
GMJI	**Gumukmas**	**5.59**	**288**	P	**Pn**	**06 01 00.9**	**+2.0**
	1.8nm277nm,0.8s						
KMMI	**Kalianget**	**5.64**	**301**	P	**Pn**	**06 01 01.9**	**+2.3**
	0.7nm143nm,0.9s						
BNSI	**Bone**	**5.71**	**13**	P	Pn	06 01 05.6	+5.0
BBSI	**Bau Bau**	**5.82**	**40**	P	**Pn**	**06 01 06.4**	**+4.3**
	1.2nm3μm371nm,0.8s						
SPSI	**Sidrap Palu**	**6.08**	**9**	P	**Pn**	**06 01 09.5**	**+3.9**
TTSI	**Tana Toraja**	**6.99**	**8**	P	Pn	06 01 23.8	+5.7
	0.7nm3μm176nm,1.1s						
PCJI	**Pacitan**	**7.77**	**283**	P	**Pn**	**06 01 30.8**	**+1.9**
	234nm,1.5s						
UGM	**Wanagama**	**8.47**	**284**	Pn	**Pn**	**06 01 37.3**	**-1.2**
UGM	**Wanagama**	**8.47**	**284**	P	**Pn**	**06 01 41.5**	**+3.0**
UGM	**Wanagama**	**8.47**	**284**	P	**Pn**	**06 01 40.8**	**+2.3**
	104nm,1.3s						
PCI	**Palu**	**9.10**	**6**	P	**Pn**	**06 01 50.9**	**+3.8**
	124nm,0.8s						
MPSI	**Mapaga**	**10.33**	**6**	P	**Pn**	**06 02 07.8**	**+3.8**
FITZ	**Fitzroy Crossi**	**10.40**	**141**	P	**Pn**	**06 02 04.6**	**-0.4**
	comp=Z,4.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**10.40**	**141**	Pn	**Pn**	**06 02 04.7**	**-0.4**
	comp=Z,3.3nm,0.3s,baz=334,slow=10,SNR=38						
FITZ				Sn	**Sn**	**06 03 56.4**	**-4.3**
	comp=Z,2.9nm,0.3s,baz=175,slow=22,SNR=6.7						
FITZ				LR	LR	06 06 26.4	
	comp=Z,543nm,20.4s,baz=309,slow=39						
	comp=Z,11nm,0.4s						
FITZ	**Fitzroy Crossi**	**10.40**	**141**	P	**Pn**	**06 02 04.6**	**-0.4**
CMJI	**Cimerak**	**10.49**	**281**	P	**Pn**	**06 02 08.3**	**+2.1**
	comp=Z,85nm,1.3s						
NLAI	**Namlea**	**10.61**	**51**	P	**Pn**	**06 02 11.5**	**+3.6**
MRSI	**Marisa**	**10.87**	**17**	P	**Pn**	**06 02 14.4**	**+3.0**
	comp=Z,1μmcomp=Z,113nm,1.2s						
MBWA	**Marble Bar**	**11.12**	**176**	P	**Pn**	**06 02 14.2**	**-0.6**
KNRA	**Kununurra**	**11.20**	**121**		**Pn**	**06 02 15.8**	**-0.2**
KNRA	**Kununurra**	**11.20**	**121**	P	**Pn**	**06 02 16.4**	**+0.5**
	comp=Z,42nm,0.9s						
TOLI2	**Tolitoli**	**11.22**	**10**	Pn	**Pn**	**06 02 16.1**	**0.0**
BBJI	**Bungbulang**	**11.34**	**282**	P	**Pn**	**06 02 18.6**	**+0.7**
PSAC1	**Pilbara Seismi**	**11.50**	**175**	P	**Pn**	**06 02 19.5**	**-0.5**
	comp=Z,37nm,0.8s						
LEM	**Lembang**	**11.53**	**285**	Pn	**Pn**	**06 02 20.2**	**-0.4**
	comp=Z,6.9nm,0.3s,baz=335,slow=22,SNR=1.7						
	comp=Z,16nm,0.4s						
PSA00	**Pilbara Seismi**	**11.54**	**175**	Pn	**Pn**	**06 02 20.0**	**-0.6**
PSA00	**Pilbara Seismi**	**11.54**	**175**	P	**Pn**	**06 02 19.9**	**-0.6**
	comp=Z,31nm,0.9s						
PSA00	**Pilbara Seismi**	**11.54**	**175**	P	**Pn**	**06 02 20.3**	**-0.2**
MTN	**Manton Dam**	**12.38**	**104**	Pn	**Pn**	**06 02 32.2**	**+0.1**
MTN	**Manton Dam**	**12.38**	**104**	P	**Pn**	**06 02 34.7**	**+2.6**
	comp=Z,58nm,1.0s						
MTN	**Manton Dam**	**12.38**	**104**	P	**Pn**	**06 02 32.5**	**+0.4**
SAUI	**Saumlaki**	**12.48**	**82**	Pn	**Pn**	**06 02 33.9**	**+0.5**
GIRL	**Giralia**	**13.31**	**199**	Pn	**Pn**	**06 02 44.6**	**-0.2**
GIRL	**Giralia**	**13.31**	**199**	P	**Pn**	**06 02 44.1**	**-0.7**
	comp=Z,113nm,1.8s						
KDU	**Kakadu**	**13.64**	**103**	P	**Pn**	**06 02 49.2**	**-0.1**
	comp=Z,25nm,0.8s						
SBUM	**Sibu**	**14.02**	**332**	Pn	**Pn**	**06 02 53.8**	**-0.7**
KSM	**Kuching**	**14.22**	**323**	Pn	**Pn**	**06 02 56.2**	**-0.9**
FAKI	**Fak Fak**	**15.07**	**63**	Pn	**Pn**	**06 03 07.8**	**-0.9**
FAKI				IAmb	IAmb	06 03 14.4	
	comp=Z,55nm,0.8s						
FAKI	**Fak Fak**	**15.07**	**63**	P	**Pn**	**06 03 10.5**	**+1.7**
FAKI	**Fak Fak**	**15.07**	**63**	P	**Pn**	**06 03 09.4**	**+0.6**
	comp=Z,75nm,0.8s						
MYLDM	**Lahad Datu**	**15.09**	**359**	Pn	**Pn**	**06 03 07.4**	**-1.6**
SWI	**Sorong**	**15.34**	**54**	P	**P**	**06 03 15.6**	**-1.1**
	comp=Z,141nm,0.9s						
MDSI	**Maura Dua**	**15.53**	**290**	P	**P**	**06 03 16.9**	**-1.9**
KKM	**Kota Kinabalu**	**16.16**	**351**	P	**P**	**06 03 27.7**	**+1.8**
KKM				IAmb	IAmb	06 03 28.8	
	comp=Z,74nm,0.8s						
LHSI	**Lahat**	**16.38**	**291**	P	**P**	**06 03 28.8**	**+0.5**
	comp=Z,46nm,0.7s						
MEEK	**Meekatharra**	**16.54**	**181**	P	**Pn**	**06 03 27.1**	**-0.5**
	comp=Z,35nm,0.8s						
MEEK	**Meekatharra**	**16.54**	**181**	P	**Pn**	**06 03 27.6**	**-0.1**
MNAI	**Manna**	**16.71**	**288**	P	**P**	**06 03 32.5**	**+0.6**
MNAI	**Manna**	**16.71**	**288**	P	**P**	**06 03 33.7**	**+1.7**
MNAI	**Manna**	**16.71**	**288**	P	**P**	**06 03 32.6**	**+0.6**
	comp=Z,272nm,1.3s						
WRKA	**Warakurna**	**17.45**	**150**	P	**Pn**	**06 03 38.7**	**-0.3**
	comp=Z,8.6nm,1.6s						
WB0	**Warramunga Arr**	**17.88**	**125**	P	**Pn**	**06 03 44.0**	**-0.4**
WRA	**Warramunga Arr**	**17.93**	**125**	P	**Pn**	**06 03 44.5**	**-0.5**
WRA	**Warramunga Arr**	**17.93**	**125**	P	**Pn**	**06 03 43.6**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=297,slow=14,SNR=15						
WRA				S	Sn	06 06 53.0	-11
	comp=Z,2.9nm,0.8s,baz=294,slow=21,SNR=2.3						
WRA				LR	LR	06 11 10.2	
	comp=Z,350nm,20.0s,baz=318,slow=39						
	comp=Z,3.7nm,0.6s						
WR8	**Warramunga Arr**	**18.06**	**125**	P	**P**	**06 03 47.1**	**+0.2**
MORW	**Morawa**	**19.14**	**187**	P	**Pn**	**06 03 59.3**	**-0.3**
MORW	**Morawa**	**19.14**	**187**	P	**Pn**	**06 03 59.9**	**+0.3**
	comp=Z,31nm,1.1s						
MORW	**Morawa**	**19.14**	**187**	P	**Pn**	**06 04 01.7**	**+2.0**
AS13	**Alice Springs**	**19.77**	**135**	P	**Pn**	**06 04 07.7**	**+0.4**
	comp=Z,32nm,1.1s						
AS15	**Alice Springs**	**19.77**	**135**	P	**Pn**	**06 04 07.5**	**+0.2**
	comp=Z,27nm,1.0s						
AS31	**Alice Springs**	**19.79**	**135**	P	**Pn**	**06 04 07.1**	**-0.3**
ASAR	**Alice Springs**	**19.79**	**135**	P	**P**	**06 04 06.1**	**+0.3**
ASAR	**Alice Springs**	**19.79**	**135**	P	**Pn**	**06 04 07.5**	**0.0**
	comp=Z,0.5nm,0.3s,baz=328,slow=15,SNR=45						
ASAR				S	**S**	**06 07 41.1**	**-6.3**
	comp=Z,3.3nm,0.9s,baz=310,slow=23,SNR=5.0						
ASAR				LR	LR	06 12 08.8	
	comp=Z,353nm,18.6s,baz=304,slow=38						
	comp=Z,16nm,0.9s						
AS01	**Alice Springs**	**19.82**	**135**	P	**Pn**	**06 04 08.4**	**+0.6**
BKNI	**Bangkinang**	**20.47**	**299**	P	**P**	**06 04 12.7**	**-0.5**
BLDU	**Ballidu**	**20.60**	**185**	P	**P**	**06 04 15.3**	**+0.8**
	comp=Z,15nm,0.6s						
BLDU	**Ballidu**	**20.60**	**185**	P	Pn	06 04 16.4	-0.5
MTKN	**Mount Kenneth**	**22.00**	**187**	P	**P**	**06 04 31.9**	**+2.3**
FORT	**Forrest**	**22.38**	**159**	P	**P**	**06 04 34.0**	**+0.3**
FORT	**Forrest**	**22.38**	**159**	P	**P**	**06 04 34.3**	**+0.6**
	comp=Z,16nm,0.8s						
QIS	**Mount Isa**	**22.59**	**120**	P	**P**	**06 04 37.8**	**+1.8**
	comp=Z,29nm,0.8s						
QIS	**Mount Isa**	**22.59**	**120**	P	**P**	**06 04 38.7**	**+2.6**
IPM	**Ipoh**	**22.84**	**308**	P	**P**	**06 04 38.7**	**-0.1**
NWAO	**Narrogin (SRO)**	**22.86**	**183**	P	**P**	**06 04 39.2**	**+0.5**
	comp=Z,13nm,1.0s,baz=2.3,slow=11,SNR=3.4						
NWAO				S	**S**	**06 08 46.0**	**-0.4**
	comp=Z,7.1nm,0.4s,baz=277,slow=19,SNR=5.9						
NWAO				LR	LR	06 14 37.8	
	comp=Z,165nm,18.2s,baz=26,slow=39						
	comp=Z,13nm,1.0s						
RPSI	**Rantau Prapat**	**23.50**	**301**	P	**P**	**06 04 45.0**	**-0.3**
RPSI				IAmb	IAmb	06 04 47.9	
	comp=Z,43nm,1.0s						
PSI	**Prapat**	**23.56**	**302**	P	**P**	**06 04 45.0**	**-1.1**
	comp=Z,24nm

XAN LR LR
comp=Z,220nm,19.9s
XAN Xi'an 44.81 348 P **P** **06 07 48.6 -0.5**
XAN sP **sP** **06 08 03.5 +2.7**
H08S2 Diego Garcia H 45.82 269 T T 06 57 08.6
baz=96,slow=75,SNR=85
H08S3 Diego Garcia H 45.83 269 T T 06 57 09.4
baz=96,slow=75,SNR=82
H08S1 Diego Garcia H 45.84 269 T T 06 57 10.0
baz=96,slow=75,SNR=28
TIA Tai'an 46.00 358 P **P** **06 07 58.1 -0.4**
TIA PcP **PcP** **06 09 36.9 +2.1**
TIA pmax pmax
comp=Z,12nm,0.8s
DZM Mont Dzumac 47.12 111 *e*LR LR 06 21 26.5
comp=Z,138nm,29.1s
HNS HongShan 47.32 356 ⇑P **P** **06 08 08.4 -0.3**
HNS pmax pmax
comp=Z,14nm,0.6s
LSA Lhasa 47.64 327 P **P** **06 08 12.3 +0.3**
LSA pmax pmax
comp=Z,14nm,1.2s
KSAR Wonju Array Be 47.96 10 **P** **06 08 14.1 +0.4**
KSRS Korea Array 47.98 10 P **P** **06 08 12.8 -1.0**
comp=Z,5.9nm,0.8s,baz=181,slow=8.3,SNR=26
KSRS PcP **PcP** **06 09 42.9 +1.1**
comp=Z,4.4nm,0.7s,baz=187,slow=3.3,SNR=13
KSRS LR LR 06 28 39.6
comp=Z,42µm,21.1s,baz=190,slow=36
comp=Z,5.9nm,0.8s
KS19 Wonju Array Si 48.01 10 P **P** **06 08 14.1 0.0**
KS19 IAmb IAmb 06 08 29.1
comp=Z,9.9nm,1.0s
JGF Kuroka 48.62 20 P **P** **06 08 18.7 -0.2**
JGF IAmb IAmb 06 08 40.8
comp=Z,17nm,1.4s
EVN Everest 48.83 321 **P** **06 08 21.3 -0.1**
EVN IAmb IAmb 06 08 22.6
comp=Z,17nm,1.1s
MAJO Matsushiro 49.77 20 P **P** **06 08 27.9 +0.2**
MAJO IAmb IAmb 06 08 28.2
comp=Z,25nm,1.5s
MAJO Matsushiro 49.77 20⇑*e*P **P** **06 08 26.7 -0.9**
MAJO pmax pmax
comp=Z,8.0nm,0.8s
MJAR Matsushiro Arr 49.77 20 P **P** **06 08 26.4 -1.2**
MJAR Matsushiro Arr 49.77 20 P **P** **06 08 26.0 -1.6**
comp=Z,6.5nm,0.8s,baz=197,slow=7.9,SNR=14
MJAR PcP **PcP** **06 09 49.5 +1.1**
comp=Z,2.1nm,0.7s,baz=218,slow=4.1,SNR=4.0
MJAR LR LR 06 28 12.9
comp=Z,41nm,21.6s,baz=207,slow=35
comp=Z,6.5nm,0.8s
MJB9 Matsu-Tunnel 49.77 20 P **P** **06 08 26.3 -1.3**
MJB9 IAmb IAmb 06 08 35.7
comp=Z,28nm,1.5s
BJT Baijiatuau 49.83 357 **P** **06 08 27.8 -0.2**
BJT Baijiatuau 49.83 357 P **P** **06 08 27.8 -0.2**
BJT sP **sP** **06 08 43.0 +3.1**
BJI Beijing 49.85 357 P **P** **06 08 27.9 -0.3**
BJI pP **pP** **06 08 37.0 +0.3**
BJI sP **sP** **06 08 41.3 +1.3**
BJI PcP **PcP** **06 09 49.9 +1.4**
BJI S **S** **06 15 34.6 -1.6**
BJI pmax pmax
comp=Z,11nm,0.8s
BJI LR LR
comp=Z,59nm,19.4s
BJI LR LR
comp=Z,40nm,17.5s
BJI LR LR
comp=Z,70nm,16.9s
BTO Baotou 51.01 351 *e*P **P** **06 08 37.8 +0.7**
BTO pP **pP** **06 08 42.3 -3.3**
BTO sP **sP** **06 08 44.8 -4.1**
BTO PP **PP** **06 10 30.9 -3.1**
BTO pmax pmax
comp=Z,39nm,1.2s
BTO pmax pmax
comp=Z,190nm,6.5s
HHC Hu-ho-hao-te 51.05 353 *e*P **P** **06 08 40.4 +3.0**
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,68nm,4.7s
JMM Marumori 51.87 22 P **P** **06 08 42.4 -1.0**
PSTR Posyet 53.54 11*de*P **P** **06 08 55.4 -0.3**
XLT XiLinHaoTe 53.71 358 *e*P **P** **06 08 56.8 -0.3**
XLT sP pP 06 09 05.1 -0.5
XLT pmax pmax
comp=Z,30nm,1.0s
CN2 Changchun 53.89 6 P **P** **06 08 56.6 -1.7**
CN2 PcP **PcP** **06 10 05.3 +1.8**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
JTM Tenmabayashi 54.56 21 P **P** **06 09 03.1 -0.1**
MDJ Mudanjiang 55.23 9 P **P** **06 09 08.5 +0.5**
MDJ pmax pmax
comp=Z,19nm,0.6s
USA0B Ussuriysk Arra 55.26 11 P **P** **06 09 08.2 0.0**
USA0B IAmb IAmb 06 09 10.6
comp=Z,7.5nm,0.7s
USA0B Ussuriysk Arra 55.26 11⇓*e*P **P** **06 09 06.8 -1.4**
USRK Ussuriysk Ar. 55.26 11 **P** **06 09 08.1 -0.1**
USRK Ussuriysk Ar. 55.26 11 P **P** **06 09 07.5 -0.7**
comp=Z,4.4nm,0.4s,baz=189,slow=6.7,SNR=12
USRK LR LR 06 33 49.2
comp=Z,41nm,18.3s,baz=191,slow=37
comp=Z,4.4nm,0.4s
BNX BinXian 56.02 7 ⇑P **P** **06 09 13.3 -0.4**
BNX pmax pmax
comp=Z,6.0nm,0.5s
ERM Erimo 56.38 22⇓*e*P **P** **06 09 15.5 -0.7**
ERM pmax pmax
comp=Z,75nm,1.3s
SNZO South Karori 58.01 133 P **P** **06 09 25.1 -2.8**
SNZO pP **pP** **06 09 35.5 -0.5**
ASAJ Asahikawa 58.03 20 LR LR 06 34 23.9
comp=Z,36nm,20.9s,baz=196,slow=36
JKA Kamikawa-asahi 58.03 20 P **P** **06 09 27.9 0.0**
JKA IAmb IAmb 06 09 32.2
comp=Z,11nm,0.9s
ULN Ulaanbaatar 58.56 351 P **P** **06 09 31.6 -0.2**
ULN IAmb IAmb 06 09 35.3
comp=Z,7.8nm,0.8s
ULN Ulaanbaatar 58.56 351⇓*e*P **P** **06 09 32.1 +0.4**
ULN pmax pmax
comp=Z,10.0nm,1.1s
SONM Songino Array 58.64 350 P **P** **06 09 32.2 0.0**
SONM IAmb IAmb 06 09 35.7
comp=Z,8.6nm,0.7s
SONM Songino Array 58.64 350 P **P** **06 09 32.2 0.0**
comp=Z,8.0nm,0.5s,baz=168,slow=8.3,SNR=74
SONM LR LR 06 39 13.1
comp=Z,31nm,19.0s,baz=109,slow=41
comp=Z,8.0nm,0.5s
URZ Urewera 59.06 129 LR LR 06 37 42.2
comp=Z,151nm,18.2s,baz=297,slow=39
HEH HeiHe 60.48 6 *e*P **P** **06 09 44.0 -0.7**
HEH pmax pmax
comp=Z,13nm,0.7s
WMQ Urumqi 60.59 335 *e*P **P** **06 09 43.8 -1.9**
WMQ pmax pmax
comp=Z,51nm,0.7s
YSS Yuzhno-Sakhali 60.59 19 P **P** **06 09 45.3 -0.2**
YSS Yuzhno-Sakhali 60.59 19 *e*P **P** **06 09 45.5 -0.1**
YSS pmax pmax
comp=Z,20nm,0.8s
NIL Nilore 61.33 317 P **P** **06 09 49.5 -1.3**
NIL IAmb IAmb 06 10 02.8
comp=Z,20nm,1.4s
KSH Kashi 63.31 324 P **P** **06 10 03.6 -0.6**
KSH pmax pmax
comp=Z,13nm,0.7s
MOY Mondy 63.33 348 *e*P **P** **06 10 04.1 +0.1**
MOY pmax pmax
comp=Z,12nm,2.9s
TARG Taragay, Kyrgy 63.79 327 P **P** **06 10 06.5 -1.2**
ZEA Zeya 63.90 6 *e*P **P** **06 10 07.7 +0.1**
ZEA pmax pmax
comp=Z,20nm,0.9s
SHLS Shalkode 63.93 329 *e*P **P** **06 10 06.0 -2.1**
SHLS Shalkode 63.93 329 *e*P **P** **06 10 06.0 -2.1**
TYV Tymovskoe 64.06 17 *e*P **P** **06 10 09.0 +0.3**

TYV *e*S **S** **06 18 41.6 -1.6**
TYV pmax pmax
comp=Z,100nm,3.9s
TYV pmax pmax
comp=Z,6.0nm,1.1s
TYV smax smax
comp=N,100nm,6.2s
TYV smax smax
comp=E,200nm,6.2s
UZB Uzynbulak 64.14 329 *e*P **P** **06 10 08.7 -0.9**
UZB Uzynbulak 64.14 329 *e*P **P** **06 10 08.8 -0.9**
SATY Saty 64.40 328 *e*P **P** **06 10 10.4 -0.9**
SATY pmax pmax
comp=Z,7.0nm,0.8s
SATY Saty 64.40 328 *e*P **P** **06 10 10.4 -0.9**
comp=Z,6.6nm,0.8s
NRN Naryn 64.58 326 P **P** **06 10 11.3 -1.4**
ZSN Zaisan 64.68 335 *e*P **P** **06 10 12.3 -0.6**
ZSN Zaisan 64.68 335 *e*P **P** **06 10 12.3 -0.6**
KBL Kabul 64.69 316 **P** **06 10 11.9 -1.6**
KBL IAmb IAmb 06 10 13.8
comp=Z,10nm,0.7s
MK31 Makanchi Array 65.28 333 P **P** **06 10 16.5 -0.3**
MK31 IAmb IAmb 06 10 17.8
comp=Z,9.1nm,0.8s
MK31 Makanchi Array 65.28 333*ce*P **P** **06 10 16.1 -0.7**
MKAR Makanchi Array 65.28 333 **P** **06 10 16.5 -0.3**
MKAR Makanchi Array 65.28 333 P **P** **06 10 16.2 -0.6**
comp=Z,8.4nm,0.6s,baz=150,slow=7.1,SNR=76
MKAR LR LR 06 40 54.3
comp=Z,59nm,19.8s,baz=142,slow=38
comp=Z,8.4nm,0.6s
MKAR Makanchi Array 65.28 333*ce*P **P** **06 10 16.2 -0.6**
MKAR pmax pmax
comp=Z,9.0nm,0.6s
AAA Alma-Ata 65.29 327 *e*P **P** **06 10 16.3 -0.6**
AAA Alma-Ata 65.29 327 *e*P **P** **06 10 16.4 -0.6**
BOOM Boomskoye usch 65.32 326 P **P** **06 10 16.9 -0.5**
BOOM IAmb IAmb 06 10 20.5
comp=Z,18nm,1.4s
MAKZ Makanchi 65.43 333 **P** **06 10 17.3 -0.4**
MAKZ Makanchi 65.43 333 P **P** **06 10 17.7 -0.1**
AAK Ala-Archa 66.21 326 P **P** **06 10 22.9 -0.1**
AAK IAmb IAmb 06 10 27.6
comp=Z,14nm,1.4s
AAK Ala-Archa 66.21 326 P **P** **06 10 22.4 -0.7**
comp=Z,3.5nm,0.4s,baz=120,slow=5.6,SNR=5.6
AAK LR LR 06 43 50.3
comp=Z,118nm,18.0s,baz=132,slow=40
comp=Z,3.5nm,0.4s
AAK Ala-Archa 66.21 326⇑*e*P **P** **06 10 22.8 -0.3**
AAK pmax pmax
comp=Z,7.0nm,1.0s
ARSB Arslanbob 66.22 324 P **P** **06 10 22.9 -0.3**
GAR Garm 66.41 320 **P** **06 10 23.6 -0.8**
BTK Batken 66.73 322 P **P** **06 10 25.3 -1.1**
BTK IAmb IAmb 06 10 36.8
comp=Z,6.8nm,0.7s
SIMJ Simiganj 67.04 319 P **P** **06 10 27.5 -0.9**
BOD Bodaibo 67.70 357 *e*P **P** **06 10 31.7 -0.3**
BOD pmax pmax
comp=Z,23nm,1.5s
MAW Mawson 68.24 200 P **P** **06 10 37.1 +1.8**
comp=Z,0.8nm,0.6s,baz=32,slow=13,SNR=1.9
MAW LR LR 06 34 09.9
comp=Z,62nm,21.2s,baz=58,slow=30
comp=Z,0.8nm,0.6s
IUG Iuzhnay 68.47 323 *e*P **P** **06 10 36.7 -0.6**
IUG pmax pmax
comp=Z,11nm,0.7s
IUG Iuzhnay 68.47 323 *e*P **P** **06 10 36.8 -0.6**
comp=Z,11nm,0.7s
KK31 Karatay Array 68.77 324 P **P** **06 10 38.2 -0.8**
KKAR Karatay Array 68.77 324 **P** **06 10 38.3 -0.8**
CHM Chimkent 68.82 323 *e*P **P** **06 10 39.1 -0.3**
CHM Chimkent 68.82 323 *e*P **P** **06 10 39.2 -0.2**
KURBB Kurchatov Arra 69.80 334 P **P** **06 10 44.5 -0.6**
comp=Z,4.7nm,0.6s,baz=144,slow=5.5,SNR=48
comp=Z,4.7nm,0.6s
KURK Kurchatov 69.82 334 **P** **06 10 44.8 -0.6**
KURK IAmb IAmb 06 10 45.8
comp=Z,15nm,0.9s
KURK Kurchatov 69.82 334⇑*e*P **P** **06 10 44.8 -0.6**
KURK pmax pmax
comp=Z,18nm,1.0s
ZAA0 Zalesovo Array 69.92 339 P **P** **06 10 44.9 -1.0**
ZAA0 IAmb IAmb 06 10 45.5
comp=Z,15nm,0.8s
ZALV Zalesovo Beam 69.92 339 P **P** **06 10 44.6 -1.2**
comp=Z,17nm,0.7s,baz=134,slow=4.3,SNR=45
ZALV LR LR 06 44 58.4
comp=Z,33nm,19.4s,baz=214,slow=39
comp=Z,17nm,0.7s
ZALV Zalesovo Beam 69.92 339 *i* P **P** **06 10 44.7 -1.2**
ZALV pmax pmax
comp=Z,16nm,0.7s
UOSS Minazif 70.20 301 P **P** **06 10 47.7 -0.6**
UOSS IAmb IAmb 06 10 50.3
comp=Z,10nm,0.9s
VNDA Vanda 71.02 171 P **P** **06 10 52.6 +0.3**
comp=Z,1.0nm,1.1s,baz=337,slow=0.8,SNR=5.7
comp=Z,1.0nm,1.1s
PEA0B Petropavlovsk- 71.06 24 P **P** **06 10 52.7 -0.2**
PEA0B IAmb IAmb 06 10 54.4
comp=Z,9.7nm,0.6s
PEA0B Petropavlovsk- 71.06 24⇑*e*P **P** **06 10 53.4 +0.5**
PETK Petropavlovsk- 71.06 24 **P** **06 10 52.8 -0.1**
PETK Petropavlovsk- 71.06 24 P **P** **06 10 51.8 -1.1**
comp=Z,8.2nm,0.6s,baz=189,slow=2.9,SNR=13
comp=Z,8.2nm,0.6s
PET Petropavlovsk 71.38 24 P **P** **06 10 54.7 -0.1**
PET Petropavlovsk 71.38 24⇑*e*P **P** **06 10 55.3 +0.6**
PET pmax pmax
comp=Z,19nm,0.9s
PET Petropavlovsk 71.38 24 P **P** **06 10 54.7 -0.1**
comp=Z,24nm,1.0s
BRZS Berezniki 72.02 331 *e*P **P** **06 10 58.5 -0.3**
BRZS Berezniki 72.02 331 *e*P **P** **06 10 58.5 -0.3**
YAK Yakutsk 72.31 5 LR LR 06 45 52.1
comp=Z,36nm,18.4s,baz=224,slow=38
YAK Yakutsk 72.31 5⇓*e*P **P** **06 10 59.7 -0.5**
YAK pmax pmax
comp=Z,12nm,0.8s
MA2 Magadan 73.93 16 LR LR 06 44 30.3
comp=Z,19nm,20.5s,baz=136,slow=37
BVAR Borovoye Array 75.10 332 P **P** **06 11 16.6 -0.2**
comp=Z,2.7nm,0.5s,baz=132,slow=8.8,SNR=14
BVAR LR LR 06 48 09.4
comp=Z,39nm,19.0s,baz=147,slow=39
comp=Z,2.7nm,0.5s
BRVK Borovoye 75.17 332 **P** **06 11 16.5 -0.7**
BRVK IAmb IAmb 06 11 17.7
comp=Z,13nm,1.4s
BRVK Borovoye 75.17 332*ce*P **P** **06 11 16.7 -0.5**
BRVK pmax pmax
comp=Z,10.0nm,1.2s
SYO Syowa Base 76.86 201⇑*e*PcP **PcP** **06 11 36.0 -1.7**
SYO Syowa Base 76.86 201⇓*es*P sP 06 11 41.2 +3.2
SEY Seymchan 77.17 15 LR LR 06 45 52.9
comp=Z,36nm,20.4s,baz=24,slow=36
SEY Seymchan 77.17 15⇓*e*P **P** **06 11 29.1 +0.7**
SEY pmax pmax
comp=Z,8.0nm,0.8s
AB31 Akbulak array 78.29 325 **P** **06 11 34.5 -0.4**
AB31 IAmb IAmb 06 11 35.4
comp=Z,12nm,1.1s
ABKAR Akbulak array 78.29 325 **P** **06 11 34.4 -0.5**
RAYN Ar Rayn 79.00 296 P **P** **06 11 39.4 -0.1**
AKTO Aktyubinsk 79.96 325 P **P** **06 11 43.9 -0.1**
comp=Z,9.7nm,0.8s,baz=114,slow=4.1,SNR=19
AKTO LR LR 06 50 51.2
comp=Z,39nm,19.2s,baz=77,slow=38
comp=Z,9.7nm,0.8s
QSPA South Pole Qui 79.99 180 LR LR 06 44 40.0
comp=Z,69nm,20.6s,baz=338,slow=34
TIXI Tiksi 81.75 3 P **P** **06 11 51.8 -1.3**
TIXI IAmb IAmb 06 11 53.1
comp=Z,16nm,0.9s
TIXI Tiksi 81.75 3 LR LR 06 54 51.9
comp=Z,48nm,18.1s,baz=186,slow=41
TIXI Tiksi 81.75 3⇓*e*P **P** **06 11 52.3 -0.8**
TIXI pmax pmax
comp=Z,14nm,0.9s
ARTI Arti 82.72 331 P **P** **06 11 57.9 -0.6**
ARTI Arti 82.72 331 P **P** **06 11 56.9 -1.6**
comp=Z,3.6nm,0.5s,baz=178,slow=3.8,SNR=6.6

ARTI LR LR 06 52 06.3
comp=Z,34nm,18.2s,baz=116,slow=38
comp=Z,3.6nm,0.5s
ARTI Arti 82.72 331*c i* P **P** **06 11 58.0 -0.5**
ARTI S **S** **06 22 12.4 -1.9**
ARTI pmax pmax
comp=Z,4.0nm,0.6s
AKT Akhty 82.77 314 *e*P **P** **06 11 55.5 -3.8**
AKT pmax pmax
comp=Z,13nm,0.8s
BTLR Botlikh 84.23 315⇑*e*P **P** **06 12 07.3 +0.6**
BTLR pmax pmax
comp=Z,21nm,0.9s
GNI Garni 84.49 312 LR LR 06 54 22.8
comp=Z,19nm,19.0s,baz=125,slow=39
GNI Garni 84.49 312⇑*e*P **P** **06 12 08.0 -0.2**
GNI pmax pmax
comp=Z,4.0nm,0.9s
GROC Groznyy 84.70 315⇑*e*P **P** **06 12 10.5 +1.5**
GROC pmax pmax
comp=Z,24nm,0.7s
GEVA Gevas 85.19 310 P **P** **06 12 11.2 -0.6**
GURO Guroymak-BITLI 86.03 310 P **P** **06 12 17.5 +1.6**
NCK Nalchik 86.32 315*ce*P **P** **06 12 17.2 +0.1**
NCK pmax pmax
comp=Z,9.0nm,0.2s
KBZ Khabaz 86.87 315 P **P** **06 12 20.2 +0.5**
comp=Z,5.2nm,0.8s,baz=142,slow=2.4,SNR=11
comp=Z,5.2nm,0.8s
KBZ Khabaz 86.87 315*ce*P **P** **06 12 20.4 +0.7**
KIV Kislovodsk 87.08 315 *e*P **P** **06 12 19.5 -1.4**
KIV pmax pmax
comp=Z,6.0nm,1.0s
TBI Tubuai 87.65 113 *e*LR LR 06 40 05.2
comp=Z,1µm,36.5s
KIRV Kirov 88.03 331 LR LR 06 55 58.7
comp=Z,48nm,20.7s,baz=121,slow=38
BOSA Boshof 88.38 241 P **P** **06 12 29.1 +1.5**
comp=Z,2.5nm,1.0s,baz=102,slow=4.9,SNR=3.1
comp=Z,2.5nm,1.0s
PPT2 Papeete2 88.52 107 *e*LR LR 06 40 42.5
comp=Z,139nm,26.5s
PPT2 *e*LR LR 06 40 42.7
comp=Z,64nm,24.0s
ASF Jabal al Asfar 88.53 303 P **P** **06 12 29.9 +1.8**
comp=Z,2.1nm,0.5s,baz=133,slow=5.3,SNR=1.9
comp=Z,2.1nm,0.5s
LBTB Lobatse 88.73 245 LR LR 06 44 11.2
comp=Z,70nm,21.7s,baz=81,slow=30
EIL Elat 89.64 300 LR LR 06 54 44.7
comp=Z,22nm,18.3s,baz=64,slow=37
MMAI Mount Meron Ar 89.94 303 P **P** **06 12 36.4 +1.7**
comp=Z,0.6nm,0.2s,baz=142,slow=5.4,SNR=2.1
comp=Z,0.6nm,0.2s
SNAA Sanae 89.99 196 P **P** **06 12 34.2 +0.1**
SNAA IAmb IAmb 06 12 42.5
comp=Z,8.3nm,1.4s
SNAA Sanae 89.99 196 P **P** **06 12 36.1 +2.0**
comp=Z,1.3nm,0.8s,baz=158,slow=4.4,SNR=8.3
SNAA LR LR 06 51 05.9
comp=Z,130nm,19.1s,baz=126,slow=34
comp=Z,1.3nm,0.8s
SNAA Sanae 89.99 196⇑*e*P **P** **06 12 35.0 +0.9**
SNAA pmax pmax
comp=Z,2.0nm,1.1s
BRTR Keskin Array B 92.65 310 P **P** **06 12 47.6 +0.4**
comp=Z,1.0nm,0.8s,baz=128,slow=6.9,SNR=5.0
comp=Z,1.0nm,0.8s
BR106 Keskin Array S 92.67 310 P **P** **06 12 46.2 -1.0**
comp=Z,2.7nm,1.4s
BZK Bozkurt 92.80 312 P **P** **06 12 46.5 -1.1**
comp=Z,188nm,2.7s
SDPT Sand Point 92.91 34 P **P** **06 12 47.4 -0.3**
KLMR Klimovskoe 93.51 331 *e*P **P** **06 12 47.9 -2.5**
KLMR pmax pmax
comp=Z,12nm,1.6s
OBN Obninsk 93.73 325 LR LR 06 58 39.6
comp=Z,112nm,20.6s,baz=40,slow=38
C16K Lisburne Hills 94.04 21 P **P** **06 12 53.9 +1.2**
G16K Koyuk River 94.41 24 **P** **06 12 55.6 +1.2**
G16K IAmb IAmb 06 12 55.8
comp=Z,3.6nm,0.7s
L16K Owhat River 94.82 28 P **P** **06 12 56.9 +0.5**
H17K Granite Mounta 95.31 25 **P** **06 12 59.6 +1.0**
H17K IAmb IAmb 06 13 00.2
comp=Z,4.9nm,0.8s
E18K Tukpahlearik C 95.56 23 P **P** **06 13 00.8 +1.1**
E18K IAmb IAmb 06 13 20.3
comp=Z,5.2nm,1.1s
E19K Redstone River 96.85 23 IAmb IAmb 06 13 07.7
comp=Z,5.1nm,0.8s
H19K Roundabout Mou 96.85 25 P **P** **06 13 06.8 +1.3**
H19K IAmb IAmb 06 13 07.2
comp=Z,4.2nm,0.8s
LVZ Lovozero 97.01 338⇑*e*P **P** **06 13 06.2 -0.1**
LVZ pmax pmax
comp=Z,29nm,1.8s
D20K Etivluk River 97.28 21 P Pdif 06 13 08.5 +1.0
D20K IAmb IAmb 06 13 09.0
comp=Z,4.6nm,1.1s
AK09 Malin Array Si 97.36 320 P **P** **06 13 07.4 -0.8**
AKBB Malin Array Si 97.41 320⇑*e*P Pdif 06 13 09.4 +0.9
AKBB Malin Array Si 97.41 320 P **P** **06 13 07.7 -0.7**
APA Apatity 97.43 337 *e*P **P** **06 13 04.1 -4.1**
APA *i* 06 17 07.7
APA *i* S **S** **06 24 24.9 -5.4**
APA *i* PS **PS** **06 25 52.3 -4.2**
IMAR Indian Mountai 98.01 24 P Pdif 06 13 11.7 +0.8
MI30 MI30,Zelenitsa 98.07 320 P **P** **06 13 11.1 -0.3**
LUBAR Lubar, Ukraine 98.26 319 P **P** **06 13 11.1 -1.2**
RNPP2 Kostyukhnivka 99.56 321 P **Pdif** **06 13 17.1 -1.0**
RNPP9 Sopachiv 99.57 321 P **Pdif** **06 13 17.2 -0.9**
FINES FINESS Array B 100.03 331 P **Pdif** **06 13 19.4 -0.6**
comp=Z,2.6nm,0.8s,baz=99,slow=6.0,SNR=8.0
FINES LR LR 07 03 16.5
comp=Z,38nm,18.9s,baz=50,slow=38
comp=Z,2.6nm,0.8s
ARCES ARCESS Array B 100.47 339 P **Pdif** **06 13 21.0 -0.7**
comp=Z,0.4nm,0.5s,baz=101,slow=6.3,SNR=4.2
SPITS Spitsbergen Ar 102.29 348 P **Pdif** **06 13 29.2 -0.5**
comp=Z,1.1nm,0.5s,baz=95,slow=9.5,SNR=7.0
KBS Kingsbay 102.99 349⇓*e*P **Pdif** **06 13 31.9 -0.9**
KBS pmax pmax
comp=Z,13nm,1.3s
YKA Yellowknife Ar 115.17 24 PKP **PKPdf** **06 18 16.2 +0.3**
comp=Z,0.4nm,0.5s,baz=72,slow=3.3,SNR=4.7
YKA Yellowknife Ar 115.17 24*c i* PKIKP **PKPdf** **06 18 17.5 +1.7**
ESDC Sonseca Array 121.44 311 PKP **PKiKP** **06 18 29.5 +0.7**
comp=Z,0.4nm,0.6s,baz=17,slow=2.7,SNR=6.0
NVAR Mina Array Bea 121.78 51 PKP **PKPdf** **06 18 29.3 -0.3**
comp=Z,0.8nm,0.8s,baz=304,slow=0.8,SNR=6.4
DBIC Dimbokro 124.24 271 PKP **PKiKP** **06 18 36.6 +1.6**
comp=Z,3.5nm,0.8s,baz=223,slow=2.6,SNR=4.4
PDAR Pinedale Array 126.76 43 PKP **PKiKP** **06 18 40.7 +1.2**
comp=Z,0.2nm,0.4s,baz=285,slow=2.9,SNR=4.0
SCHQ Schefferville 135.07 5 PKP **PKiKP** **06 18 55.2 -0.4**
comp=Z,1.6nm,0.6s,baz=72,slow=3.2,SNR=4.1
TXAR Lajitas Array 135.91 58 PKhKP PKPpre 06 18 50.8
comp=Z,0.3nm,0.6s,baz=194,slow=0.1,SNR=6.6
TXAR PKP **PKiKP** **06 18 57.7 -0.5**
comp=Z,0.4nm,0.8s,baz=217,slow=3.1,SNR=4.4
TXAR SKPbc **SKPbc** **06 22 28.1 +1.7**
comp=Z,0.2nm,0.7s,baz=215,slow=1.5,SNR=3.8
CPUP Villa Florida 143.69 186 PKP **PKPdf** **06 19 11.5 +0.8**
comp=Z,0.3nm,0.7s,baz=270,slow=1.8,SNR=1.6
EMMW East Machias 145.00 8 PKPab **PKPdf** **06 19 13.1 +0.8**
O53A New Philadelph 145.02 27 PKPab **PKPdf** **06 19 13.2 +0.6**
PLAL Pickwick Lake 145.06 40 PKPab **PKPdf** **06 19 12.9 +0.1**
I63A Otisfield 145.12 12 PKPab **PKPdf** **06 19 13.9 +1.3**
BINY Binghamton 145.40 20 PKPab **PKPab** **06 19 14.5 +1.3**
CLTN Cedars of Leba 145.42 37 PKPab **PKPab** **06 19 15.1 +1.6**
O54A Avella 145.44 26 PKPab **PKPab** **06 19 14.8 +1.4**
M57A Sunshine Farm, 145.77 22 PKPab **PKPab** **06 19 15.8 +1.2**
MCWV Mont Chateau 146.11 26 PKPab **PKPab** **06 19 16.7 +0.7**
BCX Boston College 146.63 14 PKPab **PKPab** **06 19 18.3 +0.5**
S54A Dingess, Beckl 146.92 30 PKPab **PKPab** **06 19 19.2 0.0**
TKL Tuckaleechee C 147.22 35 PKPab **PKPab** **06 19 20.6 +0.2**
U54A Nelsons Funny 147.65 32 PKPab **PKiKP** **06 19 21.8 -0.2**
R58B Mineral 148.37 26 PKPab **PKiKP** **06 19 23.1 -0.2**
152A Waverly Hall 148.69 40 PKPab **PKiKP** **06 19 24.6 +0.4**
GOGA Godfrey 148.97 38 PKPab **PKiKP** **06 19 25.5 +0.8**
T59A Double "B" Far 149.34 26 PKPab **PKiKP** **06 19 26.2 +0.9**
553A Crawfordville 150.45 44 PKPab **PKiKP** **06 19 29.7 +1.9**
BDFB Brasilia 151.38 207 PKPbc **PKPbc** **06 19 29.3 -0.5**
comp=Z,2.1nm,0.8s,baz=117,slow=6.8,SNR=3.6
LPAZ La Paz 152.98 165 PKPbc **PKiKP** **06 19 36.5 +2.3**

comp=Z,0.8nm,0.7s,baz=210,slow=3.9,SNR=2.6
SIV San Ignacio 154.17 180 PKPbc **PKiKP 06 19 38.1 +2.2**
comp=Z,0.5nm,0.8s,baz=356,slow=5.4,SNR=3.2

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*IDC **15** 06:00:06.2±0.9, 45.07N×38.18E, h0km, mb3.1/3, mbtmp3.2/8, ML2.9/4, MS2.5/1, Error ellipse: s-maj=20.4km s-min=9.3km az=36.0*
*CFUSG **15** 06:00:10.8, 44.48N×37.59E, h17km, Black Sea district 5*
*MOS **15** 06:00:11.4, 44.63N×37.63E, h38km, MPVA4.2*
*MCSM **15** 06:00:12.1±0.6, 45.1°N±4.1°×3.7°E±°, h22km±3km, mb3.8, mB5.8, MLv4.2, Mw(mB)5.4*
*AFAD **15** 06:00:13.5, 44.51N×38.07E, h9km±4km, ML2.6*
ISC 15 06:00:11.0±0.8, 44.66N±0.04×37.67E±0.02, h35km, n92, σ1s93/104, mb3.1/4, 2C-6D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANN	**Anapa**	**0.23**	**310**	*e*Pg		**Pn**		**06 00 20.3**	**+2.3**
ANN				*e*Sg		**Sn**		**06 00 27.1**	**+4.2**
ANN	**Anapa**	**0.23**	**310**	*e*P		**Pn**		**06 00 20.1**	**+2.0**
ANN				*e*				06 00 26.9	
ANN	comp=Z,2μm,0.2s			pmax	pmax				
ANN	comp=N,2μm,0.2s			smax	smax				
SUKR	**Sukko**	**0.23**	**310**	*i* Pg		**Pn**		**06 00 19.2**	**+1.1**
SUKR				*e*Sg		**Sn**		**06 00 24.5**	**+1.5**
SUKR	**Sukko**	**0.23**	**310**	⇓*i*P		**Pn**		**06 00 19.2**	**+1.1**
SUKR				*i* S		**Sn**		**06 00 24.3**	**+1.4**
SPGR	**Shapsug**	**0.30**	**73**	⇑*i*P		**Pn**		**06 00 20.2**	**+1.3**
SPGR				*e*				06 00 26.3	
GLDR	**Gladkovskiy**	**0.33**	**6**	*i* Pg		**Pn**		**06 00 20.2**	**+0.8**
GLDR				*e*Sg		**Sn**		**06 00 26.9**	**+1.8**
GLDR	**Gladkovskiy**	**0.33**	**6**	⇓*i*P		**Pn**		**06 00 20.2**	**+0.8**
GLDR				*i* S		**Sn**		**06 00 25.8**	**+0.7**
TMNR	**Tamanskiy**	**0.81**	**309**	*e*Pg		**Pn**		**06 00 29.4**	**+3.6**
TMNR				*i* Sg		**Sn**		**06 00 40.7**	**+4.1**
TMNR	**Tamanskiy**	**0.81**	**309**	*e*P		**Pn**		**06 00 27.2**	**+1.3**
TMNR				*e*S		**Sn**		**06 00 38.6**	**+2.0**
GOYR	**Goytkh**	**1.29**	**108**	*e*Pg		**Pn**		**06 00 34.0**	**+1.5**
GOYR				*e*Sg		**Sn**		**06 00 51.2**	**+2.7**
GOYR	**Goytkh**	**1.29**	**108**	*e*P		**Pn**		**06 00 34.0**	**+1.5**
GOYR				*e*				06 00 51.6	
GOYR	comp=N,701nm,0.3s			smax	smax				
SRGR	**Sergiyevskiy**	**1.31**	**54**	*e*Pg		**Pn**		**06 00 34.5**	**+1.7**
SRGR				*e*Sg		**Sn**		**06 00 51.6**	**+2.6**
SRGR	**Sergiyevskiy**	**1.31**	**54**	*e*P		**Pn**		**06 00 34.5**	**+1.7**
SRGR				*e*S		**Sn**		**06 00 51.6**	**+2.6**
MRNR	**Maryino**	**1.48**	**118**	*e*Pg		**Pn**		**06 00 36.7**	**+1.6**
MRNR				*e*Sg		**Sn**		**06 00 56.9**	**+3.6**
MRNR	**Maryino**	**1.48**	**118**	*e*P		**Pn**		**06 00 36.2**	**+1.0**
MRNR				*e*				06 00 56.7	
MRNR	comp=E,212nm,0.2s			smax	smax				
FEO	**Feodosiya**	**1.67**	**283**	*e*P		**Pn**		**06 00 40.5**	**+2.8**
FEO				pmax	pmax				
	comp=Z,19nm,0.2s								
FEO	**Feodosiya**	**1.67**	**283**	x		x		06 00 40.5	
FEO				Pnm				06 00 41.3	
	comp=Z,19nm,0.2s								
SOC	**Sochi**	**1.82**	**125**	*e*Pg		**Pn**		**06 00 41.1**	**+1.3**
SOC				*e*Sg		**Sn**		**06 01 03.9**	**+2.3**
SOC	**Sochi**	**1.82**	**125**	*e*P		**Pn**		**06 00 40.4**	**+0.6**
SOC				*e*				06 01 06.2	
SOC	comp=Z,16nm,0.6s			pmax	pmax				
GUZR	**Guzeripl'**	**1.87**	**110**	*i* Pg		**Pn**		**06 00 41.9**	**+1.2**
GUZR				*e*Sg		**Sn**		**06 01 05.4**	**+2.3**
GUZR	**Guzeripl'**	**1.87**	**110**	*e*P		**Pn**		**06 00 41.8**	**+1.2**
GUZR				*e*				06 01 05.9	
SUDU	**Sudak**	**1.92**	**278**	⇓*i*P		**Pn**		**06 00 41.7**	**+0.5**
SUDU				*i*				06 01 04.7	
SUDU	comp=Z,20nm,0.3s			pmax	pmax				
SUDU	comp=E,40nm,0.3s			smax	smax				
SUDU	comp=N,97nm,0.3s			smax	smax				
SUDU	**Sudak**	**1.92**	**278**	⇓*i*Pn		**Pn**		**06 00 41.7**	**+0.5**
SUDU				Pnm				06 00 41.9	
	comp=Z,20nm,0.2s								
SUDU				*i* Sn		**Sn**		**06 01 04.7**	**+0.6**
SUDU				Snm				06 01 05.7	
SUDU	comp=E,40nm,0.3s			Snm				06 01 06.5	
	comp=N,97nm,0.3s								
VSLR	**Vesyoloye**	**2.08**	**124**	*e*Pg		**Pn**		**06 00 45.4**	**+2.0**
VSLR				*e*Sg		**Sn**		**06 01 11.2**	**+3.2**
VSLR	**Vesyoloye**	**2.08**	**124**	*i* P		**Pn**		**06 00 45.3**	**+2.0**
VSLR				*e*S		**Sn**		**06 01 10.4**	**+2.4**
RPOR	**Krasnaya Polya**	**2.10**	**116**	*e*Pg		**Pn**		**06 00 45.0**	**+1.3**
RPOR				*e*Sg		**Sn**		**06 01 11.6**	**+3.1**
RPOR	**Krasnaya Polya**	**2.10**	**116**	*de*P		**Pn**		**06 00 44.6**	**+1.0**
LABN	**Labinsk**	**2.18**	**89**	*e*P		**Pn**		**06 00 46.0**	**+1.3**
LABN				*e*S		**Sn**		**06 01 13.1**	**+2.6**
ERBR	**Yeremizino-Bor**	**2.25**	**61**	*e*Pn		**Pn**		**06 00 48.0**	**+2.3**
ERBR				*e*Sn		**Sn**		**06 01 15.8**	**+3.5**
ERBR	**Yeremizino-Bor**	**2.25**	**61**	*e*P		**Pn**		**06 00 48.0**	**+2.3**
ERBR				*e*S		**Sn**		**06 01 15.8**	**+3.5**
ALU	**Alushta**	**2.33**	**272**	*e*Sn		**Sn**		**06 01 15.6**	**+1.3**
ALU				Snm				06 01 17.5	
ALU	comp=N,12nm,0.2s			Snm				06 01 20.9	
	comp=E,7.0nm,0.2s								
GRYR	**Gornoye**	**2.51**	**101**	*e*Pn		**Pn**		**06 00 50.8**	**+1.4**
GRYR				*e*Sn		**Sn**		**06 01 22.0**	**+3.3**
GRYR	**Gornoye**	**2.51**	**101**	*i* P		**Pn**		**06 00 50.6**	**+1.2**
GRYR				*i* S		**Sn**		**06 01 19.4**	**+0.6**
YAL	**Yalta**	**2.52**	**267**	*e*Sn		**Sn**		**06 01 20.5**	**+1.6**
YAL				Snm				06 01 24.8	
YAL	comp=N,18nm,0.2s			Snm				06 01 25.4	
	comp=E,22nm,0.2s								
SIM	**Simferopol'**	**2.55**	**278**	*e*Sn		**Sn**		**06 01 21.9**	**+2.2**
SIM				Snm				06 00 22.3	
SIM	comp=E,21nm,0.2s			Snm				06 00 25.3	
	comp=N,15nm,0.2s								
SEV	**Sevastopol'**	**2.86**	**269**	*e*P		**Pn**		**06 00 55.6**	**+1.5**
SEV				*e*				06 01 28.3	
SEV	comp=E,7.0nm,0.2s			smax	smax				
SEV	comp=N,1.0nm,0.2s			smax	smax				
SEV	**Sevastopol'**	**2.86**	**269**	*e*Pn		**Pn**		**06 00 55.6**	**+1.5**
SEV				Snm				06 00 30.0	
SEV	comp=E,7.0nm,0.2s			Snm				06 00 31.2	
	comp=N,1.0nm,0.1s								
SEV				Pnm				06 00 59.9	
SEV				*e*Sn		**Sn**		**06 01 28.3**	**+0.9**
DNZ2	**Donuzlav2**	**3.24**	**284**	*e*Sn		**Sn**		**06 01 37.9**	**+1.2**
DNZ2				Snm				06 01 41.2	
DNZ2	comp=E,24nm,0.2s			Snm				06 01 44.5	
	comp=N,20nm,0.1s								
KIV	**Kislovodsk**	**3.67**	**99**	*e*P		**Pn**		**06 01 03.8**	**-1.5**
KIV				*e*S		**Sn**		**06 01 50.7**	**+3.4**
KIV	comp=Z,6.0nm,1.0s			pmax	pmax				
KVAR	**Kislovodsk Arr** baz=260,slow=11	**3.67**	**99**	Pn		**Pn**		**06 01 01.3**	**-4.1**
KVAR	baz=284,slow=21 comp=Z,4.1nm,0.3s			Lg		Lg		06 01 50.2	
SHA1	**Shidzhatmaz**	**3.70**	**103**	*e*Pn		**Pn**		**06 01 06.6**	**+0.7**
SHA1				*e*Sn		**Sn**		**06 01 51.5**	**+3.1**
SHA1	**Shidzhatmaz**	**3.70**	**103**	*e*P		**Pn**		**06 01 06.9**	**+1.0**
SHA1				*e*S		**Sn**		**06 01 48.1**	**-0.2**
TARU	**Tarkhankut**	**3.72**	**283**	*e*Sn		**Sn**		**06 01 50.3**	**+1.9**
TARU				Snm				06 01 53.6	
TARU	comp=E,13nm,0.1s			Snm				06 01 53.9	
	comp=N,14nm,0.1s								
KBZ	**Khabaz**	**3.87**	**102**	Pn		**Pn**		**06 01 04.7**	**-3.3**
KBZ	comp=N,0.8nm,0.3s,baz=207,slow=2.3,SNR=7.3			Lg		Lg		06 02 00.2	
	comp=N,1.4nm,0.3s,baz=216,slow=6.9,SNR=3.9 comp=N,0.7nm,0.3s								
KBZ	**Khabaz**	**3.87**	**102**	*e*Pn		**Pn**		**06 01 09.6**	**+1.6**
KBZ				*e*Sn		**Sn**		**06 01 52.0**	**-0.1**
KBZ	**Khabaz**	**3.87**	**102**	*e*P		**Pn**		**06 01 09.6**	**+1.6**
KBZ				*e*S		**Sn**		**06 01 52.0**	**-0.1**
DBOC	**Borcka**	**4.42**	**137**	P		**Pn**		**06 01 16.7**	**+1.2**
DBOC				S		**Sn**		**06 02 03.5**	**-2.3**
DBOC	comp=N,15nm,0.2s			*i* IAML				06 02 08.0	
KELT	**Kelkit**	**4.65**	**165**	P		**Pn**		**06 01 21.4**	**+2.4**
KELT				S		**Sn**		**06 02 13.4**	**+1.6**
KELT	comp=N,11nm,0.3s			*i* IAML				06 02 15.0	
KELT	comp=N,10nm,0.4s			*i* IAML				06 02 26.0	
DAGI	**Agillar**	**4.74**	**137**	P		**Pn**		**06 01 21.5**	**+1.4**
DAGI				S		**Sn**		**06 02 12.2**	**-1.7**
DAGI	comp=N,6.9nm,0.3s			*i* IAML				06 02 16.0	
DAGI	comp=N,7.1nm,0.2s			*i* IAML				06 02 16.0	
DDEM	**Demirkent**	**4.81**	**140**	P		**Pn**		**06 01 22.8**	**+1.7**
DDEM				S		**Sn**		**06 02 15.0**	**-0.6**
KRIK	**Erzurum-spir**	**4.94**	**150**	P		**Pn**		**06 01 26.8**	**+3.9**
KRIK				S		**Sn**		**06 02 19.7**	**+0.8**
KRIK	comp=N,5.5nm,0.7s			*i* IAML				06 02 25.0	
BRTR	**Keskin Array B** comp=N,0.1nm,0.3s,baz=24,slow=12,SNR=1.5 comp=N,0.4nm,0.3s	**5.76**	**213**	Pn		Pn		06 01 41.8	+7.6
GNI	**Garni**	**6.90**	**128**	*i* P		Pn		06 01 54.6	+4.8
GNI	**Garni** comp=N,0.0nmcomp=N,9.2nm,0.6s	**6.90**	**128**	P		Pn		06 01 54.9	+5.1
KLYT	**Kilyos** comp=N,94nm,1.4s	**7.19**	**245**	P		**Pn**		**06 01 52.7**	**-0.8**
CTYL	**Yalikoy Yolu**	**7.57**	**248**	P		**Pn**		**06 01 57.7**	**-1.1**
ODBI	**Odobesti** comp=N,0.2nmcomp=N,30nm,0.5s	**7.58**	**282**	P		Pn		06 01 56.9	-2.0
BISRR	**Bisoca** comp=N,0.3nmcomp=N,71nm,1.7s	**7.81**	**280**	P		Pn		06 02 00.5	-1.7
NDNU	**Novodnistrovsk**	**8.11**	**303**	P		Pn		06 02 04.9	-1.3
NDNU	**Novodnistrovsk**	**8.11**	**303**	P		Pn		06 02 04.9	-1.3
AK07	**Malin Array Si**	**8.21**	**319**	P		Pn		06 02 06.8	-0.8
AK09	**Malin Array Si**	**8.22**	**319**	P		**Pn**		**06 02 07.2**	**-0.5**
AK10	**Malin Array Si**	**8.23**	**319**	P		Pn		06 02 07.0	-0.8
AK08	**Malin Array Si**	**8.25**	**319**	P		**Pn**		**06 02 07.8**	**-0.2**
AK05	**Malin Array Si**	**8.26**	**319**	P		Pn		06 02 07.6	-0.7
AK12	**Malin Array Si**	**8.30**	**319**	P		**Pn**		**06 02 08.6**	**-0.2**
AK01	**Malin Array Si**	**8.31**	**320**	P		**Pn**		**06 02 08.8**	**-0.1**
AKASG	**Malin Array Be** comp=N,0.9nm,0.3s,baz=127,slow=14,SNR=11	**8.31**	**320**	Pn		Pn		06 02 06.4	-2.5
AKASG	comp=N,3.3nm,0.3s,baz=130,slow=25,SNR=7.8			Sn		Sn		06 03 33.7	-7.7
AKASG	**Malin Array Be**	**8.31**	**320**	*i* P		Pn		06 02 07.5	-1.4
AKASG	comp=Z,1.0nm,0.3s			pmax	pmax				
AKBB	**Malin Array Si**	**8.31**	**320**	*de*P		Pn		06 02 07.5	-1.4
AKBB	**Malin Array Si**	**8.31**	**320**	P		**Pn**		**06 02 08.8**	**-0.1**
KIEV	**Kiev**	**8.31**	**320**	P		**Pn**		**06 02 08.7**	**-0.2**
KIEV	**Kiev** comp=Z,12nm,1.2s	**8.31**	**320**	P		**Pn**		**06 02 08.7**	**-0.2**
AK14	**Malin Array Si**	**8.31**	**319**	P		**Pn**		**06 02 08.8**	**-0.2**
AK11	**Malin Array Si**	**8.32**	**319**	P		**Pn**		**06 02 08.6**	**-0.4**
LUBAR	**Lubar, Ukraine**	**8.55**	**312**	P		Pn		06 02 11.6	-0.6
KMPD	**K-Podol'skiy**	**8.65**	**301**	P		Pn		06 02 12.6	-1.0
MI30	**MI30,Zelenitsa**	**8.83**	**317**	P		Pn		06 02 15.1	-0.9
MI28	**MI28,Pidlybu**	**9.20**	**317**	P		**Pn**		**06 02 20.9**	**-0.2**
RNPP5	**Staryi Chortor**	**10.28**	**314**	P		**Pn**		**06 02 35.4**	**-0.5**
RNPP2	**Kostyukhnivka**	**10.33**	**314**	P		Pn		06 02 35.8	-0.8
RNPP8	**Varash**	**10.36**	**314**	P		Pn		06 02 36.4	-0.5
RNPP9	**Sopachiv**	**10.38**	**315**	P		**Pn**		**06 02 36.8**	**-0.5**
VRAC	**Vranov** comp=Z,17nm,21.5s,baz=108,slow=42	**15.11**	**295**	LR		LR		06 10 55.3	
CLL	**Collm** comp=Z,3.3nm,0.7s	**17.76**	**301**	P		**Pn**		**06 04 14.7**	**-0.5**
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=148,slow=13,SNR=7.3 comp=Z,0.5nm,0.3s	**18.15**	**342**	P		P		06 04 15.1	-5.0
HFS	**Hagfors** comp=Z,0.5nm,0.5s,baz=125,slow=12,SNR=2.0 comp=Z,0.5nm,0.5s	**21.13**	**326**	P		**P**		**06 04 51.1**	**-1.3**
ECH	**Echery**	**21.26**	**291**	P		**P**		**06 04 53.9**	**-0.1**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.6s,baz=126,slow=9.8,SNR=2.2 comp=Z,0.4nm,0.6s	**22.65**	**326**	P		**P**		**06 05 07.7**	**-1.2**
BRVK	**Borovoye** comp=Z,1.0nm,0.9s	**22.88**	**57**	⇑*e*P		**P**		**06 05 10.3**	**-0.9**
BRVK				pmax	pmax				
ARCES	**ARCESS Array B** comp=Z,0.2nm,0.5s,baz=163,slow=8.9,SNR=6.8 comp=Z,0.2nm,0.5s	**25.70**	**350**	P		**P**		**06 05 35.0**	**-2.5**
ARCES	**ARCESS Array B**	**25.70**	**350**	P		**P**		**06 05 35.0**	**-2.5**

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*ASRS **15** 06:15:20.0±0.8, 54.13N×87.15E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 15 06:15:20.1±3.3, 54.23N×87.41E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=25.7km s-min=17.6km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=82,slow=312,SNR=8.4	**1.55**	**261**	I		I		06 23 50.0	
ZALV	**Zalesovo Beam** 1.5nm,0.3s,baz=77,slow=18,SNR=14	**1.55**	**261**	Pg		Pn		06 15 47.9	-1.1
ZALV	1.5nm,0.3s,baz=81,slow=27,SNR=6.5			Lg		Lg		06 16 09.5	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=54,slow=13,SNR=3.5	**6.52**	**240**	Pn		Pn		06 16 57.5	+0.3
KURBB	baz=53,slow=46,SNR=1.0			Sn		Sn		06 18 10.7	-1.5
KURBB	baz=52,slow=31,SNR=6.9 0.4nm,0.4s			Lg		Lg		06 18 49.2	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=28,slow=17,SNR=2.5	**8.12**	**206**	Pn		Pn		06 17 20.4	+1.1
MKAR	0.1nm,0.3s,baz=24,slow=24,SNR=2.0 0.1nm,0.4s			Sn		Sn		06 18 52.7	+1.0

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*IDC **15** 06:26:55.0±1.2, 46.70S×118.87E, h0km, mb4.0/6, mbtmp4.1/7, ML2.8/1, MS3.6/1, Error ellipse: s-maj=55.4km s-min=17.1km az=108.0*
*NEIC **15** 06:26:56.8±0.7, 46.7S±0.1×118.7E±0.1, h10km±1km, mb4.0/11, Error ellipse: s-maj=19.8km s-min=15.0km az=334.0*
ISC 15 06:26:55.8±0.6, 46.62S±0.07×118.6E±0.2, h10km, n35, σ1s31/31, mb4.1/11, 4C, South of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H** baz=163,slow=73,SNR=50	**12.18**	**342**	T		T		06 42 14.8	
H01W1	**Cape Leeuwin H** baz=163,slow=73,SNR=61	**12.18**	**342**	T		T		06 42 14.9	
H01W3	**Cape Leeuwin H** baz=163,slow=73,SNR=53	**12.19**	**342**	T		T		06 42 13.8	
NWAO	**Narrogin (SRO)** 2.5nm,0.3s,baz=160,slow=11,SNR=16	**13.71**	**355**	Pn		**Pn**		**06 30 12.2**	**+1.9**
NWAO	0.2nm,0.3s,baz=248,slow=17,SNR=1.1 9.1nm,0.4s			Sn		**Sn**		**06 32 38.5**	**-4.1**
MORW	**Morawa**	**17.63**	**353**				**Pn**	**06 31 03.1**	**+1.6**
MORW						IAmb	IAmb	06 31 06.7	
	comp=Z,9.1nm,1.1s								
CASY	**Casey**	**20.18**	**189**	P		**P**		**06 31 26.4**	**-3.7**
CASY						IAmb	IAmb	06 31 35.0	
	comp=Z,3.3nm,0.8s								
STKA	**Stephens Creek** comp=Z,2.3nm,0.9s,baz=245,slow=14,SNR=4.1 comp=Z,2.3nm,0.9s	**22.99**	**58**	P		**P**		**06 31 59.6**	**-1.0**
PSA00	**Pilbara Seismi**	**25.00**	**3**	P		**P**		**06 32 20.7**	**+0.9**
PSA00						IAmb	IAmb	06 32 37.1	
	comp=Z,3.9nm,1.0s								
ASAR	**Alice Springs**	**26.00**	**34**	P		**P**		**06 32 29.7**	**+0.8**
ASAR	**Alice Springs** comp=Z,1.7nm,0.8s,baz=200,slow=8.8,SNR=11 comp=Z,1.7nm,0.8s	**26.00**	**34**	P		**P**		**06 32 29.6**	**+0.7**
AS31	**Alice Springs**	**26.00**	**34**	P		**P**		**06 32 29.5**	**+0.6**
WRA	**Warramunga Arr**	**29.57**	**31**	P		**P**		**06 33 01.2**	**+0.4**
WRA	**Warramunga Arr** comp=Z,1.0nm,0.7s,baz=201,slow=9.0,SNR=3.8 comp=Z,1.0nm,0.7s	**29.57**	**31**	P		**P**		**06 33 01.2**	**+0.4**
VNDA	**Vanda**	**35.28**	**165**	P		**P**		**06 33 50.8**	**+0.5**
VNDA						IAmb	IAmb	06 33 51.4	
	comp=Z,2.1nm,0.8s								
VNDA	**Vanda** comp=Z,1.8nm,0.7s,baz=309,slow=9.1,SNR=17	**35.28**	**165**	P		**P**		**06 33 50.0**	**-0.2**
VNDA	comp=Z,84nm,18.9s,baz=326,slow=33 comp=Z,1.8nm,0.7s			LR		LR		06 46 21.6	
TCW	**Tory Channel**	**39.76**	**103**	P		**P**		**06 34 28.1**	**-0.5**
QSPA	**South Pole Qui**	**43.51**	**180**	P		**P**		**06 34 59.5**	**+0.3**
QSPA	comp=Z,2.2nm,1.1s			IAmb		IAmb		06 35 06.6	
QSPA	**South Pole Qui** comp=Z,1.2nm,0.7s,baz=302,slow=1.6,SNR=13 comp=Z,1.2nm,0.7s	**43.51**	**180**	P		**P**		**06 34 59.2**	**0.0**
TROLL	**Troll, Antarti** comp=Z,119nm,0.8s	**53.53**	**200**	⇑P		**P**		**06 36 16.6**	**+0.4**
BELA	**Belgrano 2**	**54.69**	**187**	P		**P**		**06 36 24.4**	**0.0**
SNAA	**Sanae** comp=Z,85nm,0.8s	**55.01**	**199**	⇑P		**P**		**06 36 27.6**	**+0.8**
SNAA	**Sanae**	**55.01**	**199**	P		**P**		**06 36 27.7**	**+0.8**
SNAA	**Sanae** comp=Z,3.5nm,0.8s,baz=131,slow=8.6,SNR=20 comp=Z,3.5nm,0.8s	**55.01**	**199**	P		**P**		**06 36 27.1**	**+0.3**
VNA2	**Neumayer--Watz** comp=Z,5.7nm,0.6s,baz=134,slow=7.7	**56.56**	**199**	⇑P		**P**		**06 36 38.9**	**+0.9**
VNA1	**Neumayer--Stat** comp=Z,4.9nm,0.9s	**56.96**	**199**	⇑P		**P**		**06 36 41.7**	**+1.0**
SMAI	**San Martin Ant**	**65.50**	**178**	P		**P**		**06 37 39.2**	**+0.6**
SMAI	comp=Z,2.7nm,0.8s			IAmb		IAmb		06 37 39.9	
PLCA	**Paso Flores**	**92.65**	**173**	P		**P**		**06 40 07.8**	**0.0**
PLCA	comp=Z,1.2nm,0.9s			IAmb		IAmb		06 40 32.2	
TXAR	**Lajitas Array** comp=Z,0.3nm,0.8s,baz=238,slow=3.9,SNR=3.7	**142.99**	**103**	PKP		**PKPdf**		**06 46 28.5**	**-1.3**
BSUT	**Blindstream Ca**	**144.21**	**81**	PKPdf		PKPbc		06 46 31.0	+0.9
PV21	**Cone Mtn., Par**	**144.52**	**86**	PKPdf		PKPbc		06 46 31.1	+0.1
PV12	**Saucer Basin,**	**144.52**	**86**	PKPdf		**PKPdf**		**06 46 32.1**	**-0.3**
BOZ	**Bozeman (W)**	**145.64**	**73**			**PKPab**		**06 46 35.2**	**+0.7**
LYMT	**Lyon Mountain**	**145.66**	**70**	PKPbc		**PKPab**		**06 46 35.1**	**+0.4**
PDAR	**Pinedale Array** comp=Z,0.2nm,0.6s,baz=286,slow=4.1,SNR=2.4	**145.97**	**79**	PKPbc		**PKPdf**		**06 46 35.1**	**+0.4**
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.5s,baz=286,slow=3.1,SNR=2.8	**146.44**	**42**	PKPbc		**PKPbc**		**06 46 36.5**	**+0.6**

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*BJI **15** 06:31:04.9, 0.76N×127.70E, h135km, mB4.8/11, mb4.9/49*
*IDC **15** 06:31:12.5±1.2, 1.43N×127.29E, h136km±10km, mb4.1/23, mbtmp4.5/27, MS2.9/1, Error ellipse: s-maj=19.1km s-min=7.1km az=78.0*
*DJA **15** 06:31:12.8±0.3, 2.7N±3.1°×12.7E±°, h114km±6km, M4.8/17, mb4.8/9, mB5.1/7, MLv5.0/17, Mw(mB)4.4/7*
*NEIC **15** 06:31:13.0±1.5, 1.37N±0.08×127.10E±0.05, h130km±5km, mb4.7/93, Error ellipse: s-maj=12.2km s-min=6.8km az=201.0*
ISC 15 06:31:12.4±0.3, 1.40N±0.04×127.13E±0.05, h130km, n192, σ1s02/209, mb4.7/81, 1C-2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.66**	**159**			**Pn**		**06 31 32.9**	**+0.4**
TNTI						Sn	**Sn**	**06 31 48.4**	**+0.6**
TNTI	**Ternate**	**0.66**	**159**	P		**Pn**		**06 31 32.8**	**+0.3**
TNTI	**Ternate**	**0.66**	**159**	P		**Pn**		**06 31 32.8**	**+0.3**
SGSI	**Sangihe**	**2.78**	**325**	P		**Pn**		**06 31 54.9**	**-1.3**
SGSI						S	**Sn**	**06 32 27.0**	**-3.0**
KMSI	**Cibinong**	**3.25**	**255**	P		**Pn**		**06 32 03.3**	**+1.0**
KMSI						S	**Sn**	**06 32 42.3**	**+1.4**
SANI	**Sanana**	**3.61**	**198**	P		**Pn**		**06 32 06.9**	**-0.1**
SANI	**Sanana**	**3.61**	**198**	P		**Pn**		**06 32 06.9**	**-0.1**
SANI						S	**Sn**	**06 32 45.3**	**-4.0**
NLAI	**Namlea**	**4.61**	**180**	P		**Pn**		**06 32 21.1**	**+0.9**
SWI	**Sorong**	**4.70**	**118**	P		**Pn**		**06 32 21.8**	**+0.3**
LUWI	**Luwuk** 7.3nm206nm,0.8s	**4.99**	**241**	P		**Pn**		**06 32 28.0**	**+2.7**
AAI	**Ambon** 0.8nm5μm129nm,0.7s	**5.16**	**168**	P		**Pn**		**06 32 29.3**	**+1.6**
MRSI	**Marisa** 1.1nm2μm146nm,0.5s	**5.27**	**260**	P		**Pn**		**06 32 30.3**	**+1.2**
DAV	**Davao City (W)** 448nm,0.4s,baz=312,slow=5.2,SNR=3.2	**5.84**	**345**	P		**Pn**		**06 32 38.0**	**+1.1**
DAV	468nm,0.5s,baz=318,slow=22,SNR=4.0			S		**Sn**		**06 33 43.7**	**+0.9**
DAV	comp=Z,120nm,21.7s,baz=176,slow=33			LR		LR		06 34 23.3	
APSI	**Ampana** 3.6nm3μm132nm,0.8s	**5.94**	**247**	P		**Pn**		**06 32 39.2**	**+1.0**
TOLI2	**Tolitoli**	**6.35**	**268**			**Pn**		**06 32 44.4**	**+0.7**
TOLI2						Sn	**Sn**	**06 33 52.9**	**-2.2**
TOLI2	**Tolitoli**	**6.35**	**268**	P		**Pn**		**06 32 44.2**	**+0.5**
FAKI	**Fak Fak**	**6.68**	**130**			**Pn**		**06 32 48.2**	**+0.2**
FAKI	**Fak Fak**	**6.68**	**130**	P		**Pn**		**06 32 49.0**	**+0.9**
KDI	**Kendari**	**6.97**	**220**	P		**Pn**		**06 32 53.8**	**+1.7**
BNSI	**Bone** 50nm,0.7s	**9.08**	**231**	P		**Pn**		**06 33 22.5**	**+2.1**
SPSI	**Sidrap Palu**	**9.08**	**234**	P		**Pn**		**06 33 22.4**	**+1.9**
MYLDM	**Lahad Datu**	**9.40**	**294**	Pn		**Pn**		**06 33 25.0**	**+0.3**
MYLDM	**Lahad Datu**	**9.40**	**294**	P		**Pn**		**06 33 27.4**	**+2.7**
BKSI	**Bukumba** 783nm49nm,0.6s	**9.67**	**226**	P		**Pn**		**06 33 31.0**	**+2.6**
KAPI	**Kappang**	**9.74

QIZ IAmb IAmb 06 36 19.5
comp=Z,15nm,0.6s
QIS Mount Isa 25.01 151 P P 06 36 24.8 +0.4
UBPT Khong Chiam 25.44 304 P P 06 36 28.5 +0.2
UBPT IAmb IAmb 06 36 30.7
comp=Z,27nm,0.9s
UBPT Khong Chiam 25.44 304 P P 06 36 30.2 +1.8
MTSU Mount Surprise 25.75 140 P P 06 36 31.4 +0.3
AS31 Alice Springs 25.77 166 P P 06 36 31.2 0.0
ASAR Alice Springs 25.77 166 P P 06 36 31.1 -0.2
ASAR Alice Springs 25.77 166 P P 06 36 30.9 -0.4
comp=Z,8.5nm,0.6s,baz=351,slow=7.3,SNR=133
ASAR S S **06 40 51.1 +0.1**
comp=Z,0.7nm,0.8s,baz=332,slow=15,SNR=2.2
ASAR ScP ScP **06 43 24.9 -0.6**
comp=Z,2.0nm,0.6s,baz=342,slow=2.5,SNR=11
comp=Z,8.5nm,0.6s
AS01 Alice Springs 25.78 165 P P 06 36 31.4 0.0
IPM Ipoh 26.25 277 P P 06 36 35.9 +0.2
RPSI Rantau Prapat 28.22 273 P P 06 36 53.8 +0.6
RPSI IAmb IAmb 06 36 54.2
comp=Z,17nm,0.8s
PSI Prapat 28.22 273 P P 06 36 53.7 +0.2
MEEK Meekatharra 29.06 196 P P 06 37 01.3 +0.7
GSI Gunungsitoli 29.55 270 P P 06 37 04.9 -0.2
GSI IAmb IAmb 06 37 06.2
comp=Z,26nm,0.8s
SLVN Son La 30.09 313 P P 06 37 11.1 +1.3
SLVN Son La 30.09 313 P P 06 37 10.8 +1.0
WHN Wuhan 31.42 339 ⇑P P 06 37 22.9 +1.6
WHN pmax pmax
comp=Z,50nm,0.9s
NJ2 Nanjing 31.48 346 eP P 06 37 24.3 +2.5
NJ2 pmax pmax
comp=Z,15nm,0.5s
FORT Forrest 32.01 178 P P 06 37 26.4 -0.1
FORT IAmb IAmb 06 37 27.0
comp=Z,12nm,0.7s
MORW Morawa 32.10 198 P P 06 37 27.6 +0.3
MORW IAmb IAmb 06 37 28.4
comp=Z,14nm,0.8s
QLP Quilpie 32.34 151 P P 06 37 29.4 -0.1
CMAR Chiang Mai Arr 32.44 303 P P 06 37 31.1 +0.7
comp=Z,2.9nm,0.3s,baz=126,slow=7.2,SNR=15
CMAR ScP ScP **06 43 45.5 -1.3**
comp=Z,2.4nm,0.3s,baz=164,slow=2.4,SNR=6.3
comp=Z,2.9nm,0.3s
CHTO Chiang Mai 32.60 304 P P 06 37 32.6 +0.7
CHTO IAmb IAmb 06 37 33.2
comp=Z,10nm,0.8s
CHTO Chiang Mai 32.60 304 P P 06 37 32.8 +0.9
JMN Monobe 32.78 10 P P 06 37 33.7 +0.4
ENH Enshi 33.25 331 P P 06 37 37.9 +0.5
KMI Kunming 33.33 317 P P 06 37 39.6 +1.2
KMI pmax pmax
comp=Z,18nm,1.3s
PZH PanZhiHua 34.91 318 P P 06 37 52.8 +0.9
PZH pmax pmax
comp=Z,20nm,0.5s
EIDS Eidsvold 35.29 141 P P 06 37 55.0 -0.1
EIDS IAmb IAmb 06 37 55.5
comp=Z,20nm,0.9s
EIDS Eidsvold 35.29 141 P P 06 37 55.5 +0.5
NWAO Narrogin (SRO) 35.40 194 P P 06 37 56.3 +0.5
comp=Z,7.0nm,0.5s,baz=20,slow=8.6,SNR=13
comp=Z,7.0nm,0.5s
WHYH Whyalla 35.64 165 P P 06 37 57.7 -0.1
LYN LuoYang 35.71 339 ⇓P P 06 37 59.3 +0.8
LYN pmax pmax
comp=Z,53nm,0.8s
STKA Stephens Creek 35.82 159 P P 06 37 59.3 -0.2
STKA Stephens Creek 35.82 159 P P 06 37 58.8 -0.7
comp=Z,18nm,0.7s,baz=330,slow=8.6,SNR=31
comp=Z,18nm,0.7s
STKA Stephens Creek 35.82 159 P P 06 37 59.6 +0.1
TIA Tai'an 35.86 346 P P 06 37 59.8 0.0
TIA pmax pmax
comp=Z,13nm,0.7s
KSAR Wonju Array Be 35.88 1 P P 06 37 60.0 +0.2
KSRS Korea Array 35.89 1 P P 06 37 59.6 -0.3
comp=Z,5.2nm,0.6s,baz=178,slow=10.0,SNR=25
KSRS ScP ScP **06 43 57.5 -1.2**
comp=Z,0.7nm,0.4s,baz=181,slow=3.7,SNR=4.6
comp=Z,5.2nm,0.6s
KS19 Wonju Array Si 35.94 1 P P 06 37 60.0 -0.4
KS19 IAmb IAmb 06 38 00.4
comp=Z,8.0nm,0.8s
MJAR Matsushiro Arr 36.44 15 P P 06 38 02.7 -2.0
comp=Z,1.3nm,0.5s,baz=260,slow=7.1,SNR=5.0
comp=Z,1.3nm,0.5s
MJB9 Matsu-Tunnel 36.45 15 P P 06 38 03.8 -0.9
MJB9 IAmb IAmb 06 38 16.6
comp=Z,15nm,1.4s
XAN Xi'an 36.67 334 P P 06 38 06.8 +0.1
XAN pP pP 06 38 34.9 +0.2
XAN pmax pmax
comp=Z,48nm,0.7s
XAN LR LR
comp=Z,100nm,16.5s
XAN LR LR
comp=Z,100nm,20.6s
CMSA Cobar Meteorol 37.19 153 P P 06 38 11.8 +0.7
HNS HongShan 37.61 344 ⇓P P 06 38 14.6 +0.1
HNS pmax pmax
comp=Z,13nm,0.8s
JMM Marumori 38.41 18 P P 06 38 20.9 -0.3
ARMA Armidale 39.32 146 P P 06 38 30.1 +1.0
ARMA Armidale 39.32 146 P P 06 38 29.7 +0.6
BJI Beijing 39.73 347 P P 06 38 31.8 -0.4
BJI PP PP **06 40 08.0 +1.8**
BJI S S **06 44 27.6 +1.3**
BJI pmax pmax
comp=Z,11nm,0.6s
BJI pmax pmax
comp=Z,37nm,4.9s
BJI LR LR
comp=Z,42nm,13.9s
BJI LR LR
comp=Z,30nm,14.9s
BJI LR LR
comp=Z,42nm,13.2s
LZH Lanzhou 40.71 331 eP P 06 38 41.8 +1.2
LZH sP sP 06 39 24.3 +0.8
LZH pmax pmax
comp=Z,44nm,1.0s
JTM Tenmabayashi 41.19 16 P P 06 38 44.4 +0.2
SHL Shillong 41.60 308 P P 06 38 48.1 +0.1
HHC Hu-ho-hao-te 41.73 342 eP P 06 38 50.8 +2.1
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,30nm,4.3s
CAN Canberra 41.86 153 P P 06 38 50.5 +0.6
CAN IAmb IAmb 06 38 51.8
comp=Z,36nm,1.1s
TOO Toolangi 42.34 158 P P 06 38 54.6 +1.0
USRK Ussuriysk Ar. 42.84 5 P P 06 38 57.4 -0.2
USRK Ussuriysk Ar. 42.84 5 P P 06 38 57.1 -0.4
comp=Z,4.0nm,0.6s,baz=194,slow=11,SNR=8.6
comp=Z,4.0nm,0.6s
MDJ Mudanjiang 43.09 3 P P 06 38 59.6 +0.1
MDJ IAmb IAmb 06 39 25.2
comp=Z,9.6nm,0.4s
XLT XiLinHaoTe 43.45 348 eP P 06 39 02.3 -0.3
XLT pmax pmax
comp=Z,16nm,0.6s
JKA Kamikawa-asahi 44.70 16 P P 06 39 12.3 -0.2
JKA IAmb IAmb 06 39 13.6
comp=Z,24nm,1.2s
DZM Mont Dzumac 44.90 124 P P 06 39 14.6 +0.1
DZM IAmb IAmb 06 39 51.7
comp=Z,24nm,1.1s
GTA Gaotai 45.30 330 P P 06 39 18.9 +1.5
GTA pmax pmax
comp=Z,16nm,1.0s
EVN Everest 46.72 308 P P 06 39 30.2 +0.8
EVN IAmb IAmb 06 39 31.1
comp=Z,18nm,0.7s
ULN Ulaanbaatar 49.45 342 P P 06 39 50.1 +0.7
ULN IAmb IAmb 06 39 50.6
comp=Z,22nm,1.2s
SONM Songino Array 49.62 342 P P 06 39 51.2 +0.5
SONM Songino Array 49.62 342 P P 06 39 50.6 -0.1
comp=Z,5.8nm,0.7s,baz=156,slow=9.1,SNR=24
SONM ScP ScP **06 44 51.6 -2.2**
comp=Z,0.2nm,0.3s,baz=150,slow=3.2,SNR=1.8
comp=Z,5.8nm,0.7s
MSVF Nonsavu 53.61 113 P P 06 40 22.0 +1.3
MSVF IAmb IAmb 06 40 22.8
comp=Z,18nm,1.1s
WMQ Urumqi 54.86 326 eP P 06 40 30.8 +1.4
WMQ pmax pmax
comp=Z,26nm,0.9s
PEA0B Petropavlovsk- 57.44 21 P P 06 40 47.8 +0.4
PEA0B IAmb IAmb 06 41 09.8
comp=Z,9.8nm,1.1s
PETK Petropavlovsk- 57.44 21 P P 06 40 48.5 +1.0
PETK Petropavlovsk- 57.44 21 P P 06 40 46.2 -1.2
comp=Z,1.6nm,0.7s,baz=150,slow=10,SNR=4.9
comp=Z,1.6nm,0.7s
PET Petropavlovsk 57.72 22 P P 06 40 50.2 +0.8
PET IAmb IAmb 06 41 00.3
comp=Z,20nm,1.1s
TOZ Tahuroa Road 59.22 136 P P 06 41 00.8 +0.7
MIDW Midway 59.26 58 P P 06 41 01.0 +0.4
LBZ Lake Benmore 59.54 145 P P 06 41 02.5 +0.2
NIL Nilore 59.67 309 P P 06 41 04.0 +0.6
MKAR Makanchi Array 59.69 326 P P 06 41 03.6 +0.3
comp=Z,9.6nm,0.4s,baz=123,slow=8.6,SNR=96
MKAR ScP ScP **06 45 36.3 -1.5**
comp=Z,1.0nm,0.7s,baz=125,slow=3.4,SNR=6.5
comp=Z,9.6nm,0.4s
TARG Taragay, Kyrgy 59.75 319 P P 06 41 03.0 -1.3
TARG IAmb IAmb 06 41 11.2
comp=Z,4.0nm,0.7s
MAKZ Makanchi 59.88 326 P P 06 41 04.6 +0.1
MAKZ IAmb IAmb 06 41 05.6
comp=Z,16nm,1.1s
KSH Kashi 59.98 316 P P 06 41 07.3 +1.8
KSH pmax pmax
comp=Z,8.0nm,0.9s
AIS Amsterdam Isla 60.07 224 P P 06 41 05.7 -0.2
TUWZ Tuamarina 60.10 141 P P 06 41 06.0 0.0
TCW Tory Channel 60.19 140 P P 06 41 06.3 -0.4
KDJ Kajisay 60.35 319 P P 06 41 09.0 +1.0
KDJ IAmb IAmb 06 41 38.4
comp=Z,12nm,1.1s
RTZ Ruatahuna 60.66 137 P P 06 41 09.3 -0.7
NRN Naryn 60.81 318 P P 06 41 11.6 +0.2
NRN IAmb IAmb 06 41 12.7
comp=Z,5.4nm,0.7s
BOOM Boomskoye usch 61.33 319 P P 06 41 14.8 +0.1
ARSB Arslanbob 62.81 317 P P 06 41 24.6 +0.1
ARSB IAmb IAmb 06 41 26.7
comp=Z,6.6nm,0.6s
ZAA0 Zalesovo Array 62.84 333 P P 06 41 23.2 -1.1
ZALV Zalesovo Beam 62.84 333 P P 06 41 23.1 -1.2
ZALV Zalesovo Beam 62.84 333 P P 06 41 22.8 -1.4
comp=Z,2.0nm,0.4s,baz=126,slow=7.5,SNR=8.8
comp=Z,2.0nm,0.4s
DRK Karamyk 62.91 314 P P 06 41 26.5 +1.1
DRK IAmb IAmb 06 41 27.1
comp=Z,12nm,0.9s
KBL Kabul 63.26 308 P P 06 41 27.1 -0.6
GAR Garm 63.80 313 P P 06 41 31.3 +0.3
BTK Batken 63.83 315 P P 06 41 30.9 -0.2
BTK IAmb IAmb 06 41 32.6
comp=Z,16nm,1.4s
KURBB Kurchatov Arra 63.91 328 P P 06 41 31.2 -0.1
comp=Z,9.0nm,0.5s,baz=125,slow=6.1,SNR=44
comp=Z,9.0nm,0.5s
KURK Kurchatov 63.91 328 P 06 41 31.2 -0.2
SIMJ Simiganj 64.63 313 P P 06 41 36.7 +0.2
SIMJ IAmb IAmb 06 41 37.6
comp=Z,9.5nm,1.2s
KK31 Karatay Array 65.21 318 P P 06 41 40.2 +0.2
KK31 IAmb IAmb 06 41 41.0
comp=Z,7.8nm,0.9s
KKAR Karatay Array 65.21 318 P P 06 41 39.8 -0.2
CASY Casey 68.56 187 P P 06 42 00.3 -0.4
BVAR Borovoye Array 69.48 327 P P 06 42 06.2 -0.5
comp=Z,4.8nm,0.6s,baz=134,slow=6.4,SNR=22
comp=Z,4.8nm,0.6s
BRVK Borovoye 69.56 327 P 06 42 06.8 -0.3
BRVK IAmb IAmb 06 42 07.7
comp=Z,8.2nm,0.9s
AB31 Akbulak array 74.20 321 P P 06 42 34.4 -0.6
ABKAR Akbulak array 74.20 321 P 06 42 34.3 -0.7
GAMB Gambell 76.36 24 P P 06 42 48.2 +1.3
GAMB IAmb IAmb 06 42 49.0
comp=Z,18nm,1.1s
ARTI Arti 77.19 328 P P 06 42 50.8 -1.1
ARTI IAmb IAmb 06 42 56.2
comp=Z,7.0nm,0.7s
K13K Kusilvak Mount 78.65 27 P P 06 43 00.6 +0.8
VNDA Vanda 81.08 173 P P 06 43 12.5 -0.1
VNDA Vanda 81.08 173 P P 06 43 11.8 -0.7
comp=Z,2.5nm,0.7s,baz=315,slow=7.1,SNR=18
comp=Z,2.5nm,0.7s
MAW Mawson 81.72 200 P P 06 43 15.8 -0.3
comp=Z,2.4nm,0.7s,baz=83,slow=3.7,SNR=8.7
comp=Z,2.4nm,0.7s
RAYN Ar Rayn 81.77 293 P P 06 43 17.1 -0.3
E18K Tukpahlearik C 81.96 22 P P 06 43 18.0 +0.7
G19K Purcell Mounta 82.99 23 P 06 43 23.5 +0.7
G19K IAmb IAmb 06 43 24.3
comp=Z,9.5nm,0.7s
H19K Roundabout Mou 83.12 24 P 06 43 24.6 +1.2
H19K IAmb IAmb 06 43 25.1
comp=Z,8.0nm,0.7s
D19K Kuna River 83.14 21 P P 06 43 23.9 +0.3
D19K IAmb IAmb 06 43 24.9
comp=Z,6.6nm,0.6s
J19K Poorman 83.17 26 P 06 43 24.4 +0.6
E19K Redstone River 83.23 22 P 06 43 24.8 +0.8
KBZ Khabaz 84.86 314 P P 06 43 32.4 -0.3
comp=Z,2.1nm,0.9s,baz=195,slow=6.4,SNR=2.9
comp=Z,2.1nm,0.9s
COLD Coldfoot 85.87 23 P P 06 43 37.6 +0.3
G23K Bananza Creek 85.89 23 P P 06 43 37.6 +0.2
C23K Itkillik River 86.02 20 P P 06 43 38.6 +0.7
C23K IAmb IAmb 06 44 08.2
comp=Z,11nm,1.4s
H24K Noodor Dome 86.68 24 P P 06 43 40.9 -0.4
F24K Squaw Lake 86.79 23 P P 06 43 42.5 +0.7
ILAR Eielson Array 87.03 25 P P 06 43 41.4 -1.5
comp=Z,0.3nm,0.6s,baz=244,slow=5.1,SNR=2.6
comp=Z,0.3nm,0.6s
BMAR Burnt Mountain 88.06 23 P P 06 43 48.3 +0.4
L29M L29M 90.92 27 P P 06 44 01.3 -0.1
QSPA South Pole Qui 91.32 180 P P 06 44 02.4 -0.8
comp=Z,0.6nm,0.5s,baz=156,slow=1.6,SNR=10.0
comp=Z,0.6nm,0.5s
BRTR Keskin Array B 91.81 310 P P 06 44 05.1 -1.0
comp=Z,0.5nm,0.7s,baz=123,slow=10,SNR=1.8
comp=Z,0.5nm,0.7s
ARCES ARCESS Array B 92.76 340 P P 06 44 08.1 -1.6
comp=Z,1.8nm,0.7s,baz=75,slow=6.5,SNR=11
comp=Z,1.8nm,0.7s
SPITS Spitsbergen Ar 92.83 349 P P 06 44 08.5 -1.4
comp=Z,1.3nm,0.6s,baz=69,slow=8.4,SNR=19
comp=Z,1.3nm,0.6s
FARO Faro, Yukon 93.22 28 P P 06 44 11.8 -0.1
FARO IAmb IAmb 06 44 12.2
comp=Z,2.0nm,0.6s
FINES FINESS Array B 94.06 332 P P 06 44 14.2 -1.6
comp=Z,0.6nm,0.6s,baz=153,slow=1.7,SNR=3.9
comp=Z,0.6nm,0.6s

NOU 15 06:35:53.5,16°47S×167°77E,h27km,MLv3.8/15,
Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLAKA	Lakatoro	0.49	317	P	Pn	06 36 04.9	+0.1
VLAKA	Lakatoro	0.49	317	S	Sn	06 36 13.5	+1.0
SANVU	Saraoutou	1.15	332	P	Pn	06 36 13.6	-0.3
SANVU	Saraoutou	1.15	332	S	Sb	06 36 29.8	+0.4
DVP	Devils Point	1.31	162	P	Pn	06 36 16.3	+0.3
DVP	Devils Point	1.31	162	S	Sb	06 36 34.6	+0.7
YATNC	Mamie plateau,	5.62	188	P	Pn	06 37 13.8	-1.6
DZM	Mont Dzumac	5.71	192	P	Pn	06 37 16.2	-0.5
OUENC	Ouen Island, N	5.98	188	P	Pn	06 37 20.3	0.0

NOU 15 06:38:13.4,15°38S×167°61E,h110km,MLv4.4/13,
Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	Saraoutou	0.40	260	P	Pn	06 38 29.8	+0.2
SANVU	Saraoutou	0.40	260	S	Sn	06 38 44.7	+2.9
VLAKA	Lakatoro	0.74	194	P	Pn	06 38 32.8	+0.7
VLAKA	Lakatoro	0.74	194	S	Sn	06 38 48.3	+2.1
DVP	Devils Point	2.40	167	P	Pn	06 38 50.8	-0.7
KOUNC	Koumac, New Ca	6.04	211	P	Pn	06 39 41.3	+1.0
	23nm,1.7s						
ONTNC	Ouen Toro	6.98	189	P	Pn	06 39 53.9	+0.9
	46nm,1.2s						
OUENC	Ouen Island, N	7.04	186	P	Pn	06 39 53.9	+0.1
	18nm,0.9s						

*NEIC **15** 06:39:55.4±1.7,35°381N±0°006×117°842W±0°009,*
h3km±2km, Error ellipse: s-maj=1.2km s-min=0.7km
az=58.0
PAS 15 06:39:55.7±1.5,**35°369N**±0°007×**117°846W**±0°009,
h2km±1km,ML3.1/23,**ML3.1**/151(NEIC),**Error ellipse:**
s-maj=1.2km s-min=0.9km az=132.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LRMC	Laurel Mtn Rad	0.17	50		Pg	06 39 59.3	+0.2
LRMC				Sg	Sg	06 40 01.9	+0.5
CJAC	Calif City Air	0.26	213		Pg	06 40 01.2	+0.5
WBSM	Bird Springs	0.29	305		Pg	06 40 01.7	+0.3
SRTC	Snort	0.33	14		Pg	06 40 02.7	+0.5
SRTC					Sg	06 40 08.1	+1.7
WSHM	Spangler Hills	0.37	51	Pg	Pg	06 40 02.8	0.0
WSHM				Sg	Sg	06 40 08.3	+0.7
WSHM				IAML		06 40 09.6	
	2μm,0.6s						
WSHM				IAML		06 40 09.9	
	3μm,0.7s						
CCCA	Chr Cany lake	0.42	68		Pg	06 40 04.0	+0.2
CCCA				Sg	Sb	06 40 11.2	-1.7
CCCA				IAML		06 40 14.6	
	comp=N,3μm,0.8s						
CCCA				IAML		06 40 18.2	
	comp=E,2μm,0.6s						
TOW	Tower One	0.44	9		Pg	06 40 04.9	+0.6
TOW					Sb	06 40 11.9	-1.6
WORM	Onyx Ranch	0.46	315		Pg	06 40 04.5	0.0
WORM					Sg	06 40 10.8	+0.3
WNMM	Nine Mile Cany	0.47	354		Pg	06 40 04.8	0.0
WNMM					Sg	06 40 11.8	+0.7
EDW2	Edwards Air Fo	0.50	194		Pg	06 40 05.3	-0.1
EDW2					Sg	06 40 12.4	+0.6
WHFM	Hanning Flat	0.52	309		Pg	06 40 05.8	0.0
WHFM					Sg	06 40 12.9	+0.3
HYS	Haystack Butte	0.55	156		Pg	06 40 06.2	-0.1
WVPM	Volcano Peak E	0.58	2		Pg	06 40 06.2	0.0
WVPM					Sg	06 40 15.2	+0.8
TPO	Tropico Hills	0.58	213		Pg	06 40 06.9	+0.1
TPO				IAML		06 40 16.0	
	comp=N,2μm,0.6s						
TPO				IAML		06 40 16.2	
	comp=E,2μm,0.7s						
ISA	Isabella, Lake	0.59	300		Sg	06 40 15.5	+0.7
ISA	Isabella, Lake	0.59	300	Pg	Pg	06 40 06.9	-0.1
ISA				IAML		06 40 17.3	
	comp=E,442nm,0.5s						
ISA				IAML		06 40 19.3	
	comp=N,582nm,0.5s						
JRC2	Joshua Ridge	0.61	3		Pg	06 40 07.5	0.0
WRVM	Rose V. Centra	0.64	357		Pg	06 40 08.0	0.0
WRVM					Sg	06 40 16.8	+0.5
SBB	Saddle Back Bu	0.68	179		Pg	06 40 08.4	-0.4
WASM	Alta Sierra Ca	0.69	303		Pg	06 40 08.9	-0.1
WASM					Sg	06 40 18.2	+0.3
TEJ	El Tejon	0.70	259		Pg	06 40 08.7	-0.5
MPMC	Manual Prospec	0.75	23	Pg	Pg	06 40 09.8	-0.3
MPMC				IAML		06 40 21.8	
	comp=N,609nm,0.5s						
MFS	McCloud Flat S	0.75	359		Pg	06 40 09.9	-0.2
MFS					Sg	06 40 20.3	+0.5
ALPC	Antelope	0.78	209		Pb	06 40 12.3	+0.3
ALPC					Sg	06 40 21.5	+0.9
TJR	Tejon Ranch	0.81	245		Pg	06 40 11.1	-0.3
THC	Tehachapi Micr	0.81	236		Pg	06 40 11.1	-0.2
LEOC	Leona Valley	0.83	207		Pb	06 40 13.4	+0.5
ARVC	Arvin	0.84	254		Pg	06 40 11.5	-0.3
GSC	Goldstone, Bar	0.85	94		Sb	06 40 24.4	-1.0
GSC	Goldstone, Bar	0.85	94	Pg	Pg	06 40 11.8	-0.3
RRX	Edison Barstow	0.85	125		Pg	06 40 12.1	+0.1
LRRC	Littlerock Res	0.85	190		Pb	06 40 12.8	-0.5
CJV	Casa Juvan	0.87	196		Pg	06 40 12.6	+0.2
CJV					Sb	06 40 25.0	-0.9
ADO	Adelanto Recei	0.88	157		Pn	06 40 14.7	-0.6
HOLC	Holcomb Ridge	0.91	180		Pg	06 40 12.6	-0.5
JNH	Juniper Hills	0.92	186		Pg	06 40 13.2	-0.3
QSM	Queen of Sheba	0.99	53		Pg	06 40 14.3	-0.5
QSM					Sg	06 40 27.6	-0.1
QSM				IAML		06 40 30.3	
	comp=N,782nm,0.5s						
OSI	Osito Audit: C	1.04	224	Pg	Pg	06 40 15.4	-0.3
OSI				IAML		06 40 32.3	
	comp=N,465nm,0.9s						
CHFC	Chilao Flat St	1.04	188		Pg	06 40 15.8	+0.1
CWC	Cottonwood Cre	1.08	350		Pg	06 40 15.8	-0.7
CWC					Sg	06 40 30.0	-0.7
CWC				IAML		06 40 30.9	
	comp=E,396nm,0.2s						
CWC				IAML		06 40 31.1	
	comp=N,416nm,0.2s						
BFSC	Mount Baldy Ra	1.14	172		Pg	06 40 16.8	-0.8
BFSC				IAML		06 40 34.1	
	comp=E,453nm,0.6s						
BFSC				IAML		06 40 35.9	
	comp=N,242nm,0.8s						
MWC	Mount Wilson	1.16	189		Pg	06 40 17.4	-0.5
MWC				IAML		06 40 34.7	
	comp=E,428nm,0.4s						
SSK	Sunset Peak	1.16	174		Pg	06 40 17.4	-0.6
CGO	Cerro Gordo	1.18	2		Pg	06 40 18.1	-0.3
DECC	Green Verdugo	1.18	200		Pg	06 40 18.6	+0.2
DECC					Sg	06 40 34.2	+0.5
OAT	Oat Mountain	1.20	212		Pn	06 40 19.6	-0.2
PASC	Pasadena Art C	1.23	193		Pg	06 40 18.9	-0.5
PASC				IAML		06 40 39.2	
	comp=E,258nm,0.6s						
GWY	Greenwater Val	1.26	49		Pg	06 40 19.2	-0.6
GWY				IAML		06 40 40.4	
	comp=N,298nm,0.5s						
GWY				IAML		06 40 40.6	
	comp=E,442nm,0.5s						
PSRC	Puddingstone R	1.27	179		Pn	06 40 20.7	+0.1
BLCC	Black Canyon	1.31	211		Pg	06 40 20.6	-0.2
SIL	Silver Peak	1.32	140		Pg	06 40 20.5	-0.5
GVRC	Garvey Reservo	1.33	190		Pb	06 40 22.1	+0.5
BBRC	Big Bear Solar	1.34	145		Pg	06 40 20.9	-0.5
BCW	Bitter Crk WRg	1.35	252		Pb	06 40 22.1	+0.2
DJJ	Donna J Jenkin	1.36	202		Pg	06 40 21.2	-0.5
DJJ					Sg	06 40 39.1	-0.1
RHC	Rose Hills Cem	1.37	186		Pb	06 40 23.1	+1.0
SVD	Seven Oaks Dam	1.40	154		Pn	06 40 22.0	-0.4
AMDNV	Amargosa	1.67	49		Pb	06 40 26.7	-0.5
GRAC	Grapevine Rang	1.67	13		Pn	06 40 25.7	-0.4
GRAC				IAML		06 40 51.8	
	comp=N,199nm,0.7s						
GRAC				IAML		06 40 57.6	
	comp=E,187nm,0.9s						
WCT	Wildcat Mounta	1.73	34		Pn	06 40 25.9	-1.1
WCT				IAML		06 40 52.9	
	comp=E,118nm,0.4s						
ELS	Elsinore Mount	1.75	168		Pn	06 40 26.2	-1.1
BLAC	Blackrock camp	1.77	137		Pn	06 40 27.4	-0.1
HMTC	Hemet	1.80	157		Pb	06 40 29.6	+0.2
POB	Polly Butte	1.84	155		Pb	06 40 30.5	+0.3
DGR	Domenigoni Val	1.85	158		Pn	06 40 27.8	-0.8
EW2	E Wide Canyon	1.85	140		Pb	06 40 30.8	+0.4
MTPC	Mountain Pass	1.88	86		Pn	06 40 27.5	-1.5
MTPC				IAML		06 40 56.6	
	comp=N,210nm,0.7s						
MTPC				IAML		06 40 57.5	
	comp=E,190nm,0.6s						
GMRC	Granite Mounta	1.89	107		Pn	06 40 27.7	-1.4
TPC	Twentynine Pal	1.94	130		Pn	06 40 28.2	-1.7
GMN	Gold Mountain	1.98	14	Pn	Pn	06 40 30.1	-0.5
DSP	Deep Springs	2.00	357	Pn	Pn	06 40 30.2	-0.4
CRY	Cary Ranch	2.02	153		Pb	06 40 33.5	+0.2
TPNV	Topopah Spring	2.04	39	Pn	Pn	06 40 30.5	-0.8

TPNV				IAML		06 41 04.7		
	comp=E,137nm,0.7s							
TPNV				IAML		06 41 07.0		
	comp=E,135nm,0.7s							
SNDA	**J Saunders Pla**	**2.08**	**150**		Pn	06 40 31.4	-0.5	
PFO	**Pinyon Flats O**	**2.09**	**146**		Pn	06 40 31.1	-1.0	
PMD	**Palm Desert**	**2.10**	**144**		Pn	06 40 30.7	-1.3	
PMD				IAML		06 41 15.9		
	comp=E,77nm,0.6s							
FRD	**Ford Ranch, An**	**2.13**	**151**		Pn	06 40 31.8	-0.7	
DANC	**Danby, Needles**	**2.15**	**109**		Pn	06 40 31.3	-1.4	
MZP	**Montezuma Peak**	**2.36**	**9**		Pn	06 40 35.6	-0.2	
MATG	**Mataguay Scout**	**2.38**	**155**		Pb	06 40 40.0	+0.5	
BORC	**Borrego Spring**	**2.41**	**150**	Pn	Pn	06 40 35.7	-0.5	
BORC				IAML		06 41 14.3		
	comp=N,74nm,0.9s							
BORC				IAML		06 41 17.4		
	comp=E,78nm,0.8s							
SHPR	**Sheep Range**	**2.46**	**62**		Pn	06 40 36.6	-0.5	
V12A	**Nelson**	**2.47**	**81**		Pn	06 40 36.0	-1.1	
V12A				IAML		06 41 20.7		
	comp=E,54nm,0.5s							
V12A				IAML		06 41 23.3		
	comp=N,66nm,0.5s							
DPP	**Dos Picos Cty**	**2.48**	**162**	Pn	Pn	06 40 36.6	-0.7	
DPP				IAML		06 41 16.2		
	comp=E,68nm,0.7s							
PMPB	**Monarch Peak**	**2.55**	**290**	Pn	Pn	06 40 37.9	-0.3	
PMPB				IAML		06 41 29.2		
	comp=E,158nm,0.7s							
SALN	**Salton City**	**2.59**	**143**	Pn	Pn	06 40 38.7	0.0	
NEE2	**Needles Airpor**	**2.71**	**102**	Pn	Pn	06 40 40.5	+0.1	
TPH	**Tonopah**	**2.75**	**10**	Pn	Pn	06 40 40.4	-0.7	
TPH				IAML		06 40 57.6		
	comp=N,126nm,0.7s							
TPH				IAML		06 41 33.1		
	comp=E,116nm,1.2s							
S11A	**Rachel**	**2.83**	**36**	Pn	Pn	06 40 41.7	-0.5	
S11A				IAML		06 41 41.7		
	comp=N,76nm,1.6s							
S11A				IAML		06 41 45.7		
	comp=E,77nm,1.0s							
BBGB	**Big Mountain B**	**2.86**	**296**	Pn	Pn	06 40 41.9	-0.6	
LHV	**Little Huntoon**	**2.92**	**350**	Pn	Pn	06 40 42.4	-0.8	
LHV				IAML		06 41 41.2		
	comp=N,46nm,0.7s							
LHV				IAML		06 41 41.3		
	comp=E,71nm,0.7s							
PRN	**Pahroc Range**	**3.04**	**47**	Pn	Pn	06 40 44.7	-0.3	
PRN				IAML		06 41 42.6		
	comp=N,75nm,1.1s							
NV11	**Mina Array Sit**	**3.07**	**355**	Pn	Pn	06 40 44.8	-0.7	
NVAR	**Mina Array Bea**	**3.08**	**353**	Pn	Pn	06 40 44.9	-0.7	
YUH	**Yuha Desert**	**3.15**	**149**	Pn	Pn	06 40 45.9	-0.5	
CBX	**Cerro Bola**	**3.20**	**162**		Pn	06 40 46.9	-0.3	
SAO	**San Andreas Ge**	**3.23**	**297**	Pn	Pn	06 40 46.6	-1.0	
W13A	**Hualapai Mount**	**3.25**	**94**		Pn	06 40 46.9	-1.1	
W13A				IAML		06 41 41.8		
	comp=E,52nm,0.7s							
W13A				IAML		06 41 44.6		
	comp=N,73nm,0.8s							
RYN	**Ryan**	**3.30**	**351**	Pn	Pn	06 40 47.7	-0.9	
CMB	**Columbia Colle**	**3.35**	**323**	Pn	Pn	06 40 49.1	-0.1	
CMB				IAML		06 41 44.6		
	comp=N,52nm,0.8s							
CMB				IAML		06 41 50.9		
	comp=E,44nm,0.9s							
WAKR	**Walker**	**3.38**	**338**	Pn	Pn	06 40 47.9	-1.8	
WAKR				IAML		06 41 50.9		
	comp=E,46nm,1.6s							
WAKR				IAML		06 41 56.3		
	comp=N,53nm,1.2s							
R11B	**Troy Canyon, C**	**3.48**	**31**	Pn	Pn	06 40 50.8	-0.3	
ESJX	**Sierra Juarez**	**3.71**	**154**	Pn	Pn	06 40 52.3	-1.9	
ESJX				IAML		06 41 54.4		
	comp=E,21nm,0.6s							
LCMT	**Little Creek M**	**4.07**	**65**		Pn	06 40 57.9	-1.2	
CCUT	**Cedar City**	**4.22**	**58**		Pn	06 41 00.4	-0.9	
Y14A	**Wickenburg**	**4.24**	**108**	Pn	Pn	06 40 59.9	-1.6	
113A	**Mohawk Valley,**	**4.26**	**126**	Pn	Pn	06 41 02.4	+0.7	
113A				IAML		06 42 17.4		
	comp=E,16nm,0.7s							
113A				IAML		06 42 18.7		
	comp=N,14nm,1.4s							
AFDM	**Forest Hills D**	**4.36**	**326**	Pn	Pn	06 41 02.1	-0.9	
AFDM				IAML		06 42 17.1		
	comp=E,34nm,0.9s							
AFDM				IAML		06 42 21.9		
	comp=N,21nm,0.9s							
KNB	**Kanab**	**4.38**	**67**		Pn	06 41 03.1	-0.5	
KNB				IAML		06 42 40.3		
	comp=E,11nm,0.9s							
PAHR	**Pah Rah Range**	**4.50**	**345**	Pn	Pn	06 41 04.2	-0.9	
PAHR				IAML		06 42 34.1		
	comp=N,11nm,1.0s							
PAHR				IAML		06 42 43.5		
	comp=E,13nm,1.2s							
SPR3	**Spring Creek 3**	**4.58**	**37**	Pn	Pn	06 41 05.8	-0.6	
SPR3				IAML		06 42 25.2		
	comp=E,12nm,1.1s							
U15A	**North Rim**	**4.63**	**75**		Pn	06 41 06.2	-0.8	
U15A				IAML		06 42 28.5		
	comp=N,13nm,0.7s							
U15A				IAML		06 42 47.7		
	comp=E,14nm,1.2s							
BEKR	**Beckworth**	**4.91**	**337**	Pn	Pn	06 41 08.9	-1.9	
BEKR				IAML		06 42 40.9		
	comp=N,18nm,1.0s							
WUAZ	**Wupatki**	**5.29**	**87**	Pn	Pn	06 41 13.6	-2.3	
WUAZ				IAML		06 42 46.0		
	comp=N,17nm,1.1s							
WUAZ				IAML		06 42 48.2		
	comp=N,17nm,0.7s							
X16A	**Lo Mia Camp, P**	**5.35**	**98**	Pn	Pn	06 41 15.1	-1.7	
X16A				IAML		06 42 46.9		
	comp=E,10.0nm,1.0s							
X16A				IAML		06 42 51.7		
	comp=N,12nm,0.8s							
ELK	**Elko**	**5.75**	**20**	Pn	Pn	06 41 20.2	-2.1	
HMU	**Henry Mountain**	**6.26**	**64**	Pn	Pn	06 41 28.0	-1.4	

ASRS ***15*** *07:20:33.3±0.2,50°N±1°×88°.2E±1°.0, h10km, MLh3.2/19, Error ellipse: s-maj=2.6km s-min=2.1km az=2.3, confirmed*
NNC ***15*** *07:20:34.3±3.0, 49°.88N×88°.28E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=21.8km s-min=13.8km az=76.0*

ISC 15 07:20:34.4±1.0, 49°.98N±0°.04×88°.23E±0°.03, h10km, n20, σ1°79°/37, 8C-9D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAR	**Aktash**	**0.52**	**311**	⇑Pg	**Pb**	**07 20 44.1**	**-1.6**
AKAR				Sg	**Sg**	**07 20 51.0**	**-0.4**
CHBI	**Chibit, Altay**	**0.57**	**306**	⇑Pg	**Pg**	**07 20 43.9**	**-1.7**
CHBI				Sg	**Sg**	**07 20 51.2**	**-2.0**
DGZ	**Jazzator, Alta**	**0.59**	**242**	⇑Pg	**Pg**	**07 20 43.9**	**-2.0**
DGZ				Sg	**Sg**	**07 20 50.5**	**-3.1**
ULGR	**Ulagan, Altay**	**0.67**	**345**	⇑Pg	**Pn**	**07 20 48.5**	**-1.5**
ULGR				Sg	**Sb**	**07 20 55.6**	**-1.9**
TEL	**Teeli**	**1.63**	**50**	⇓Pg	**Pb**	**07 21 03.7**	**-0.8**
TEL				Sg	**Sg**	**07 21 26.4**	**-0.4**
YALR	**Yailyu, Altay**	**1.83**	**348**	Pg	**Pg**	**07 21 09.3**	**-0.2**
YALR				Sg	**Sg**	**07 21 33.0**	**-0.3**
ELDR	**Elanda**	**1.84**	**313**	Pg	**Pb**	**07 21 07.7**	**-0.4**
ELDR				Sg	**Sg**	**07 21 33.5**	**0.0**
ARTR	**Artybash**	**1.92**	**342**	Pg	**Pg**	**07 21 12.1**	**+1.0**
ARTR				Sg	**Sg**	**07 21 36.3**	**+0.3**
GALT	**Gorno-Altaysk,**	**2.45**	**325**	Pg	**Pg**	**07 21 19.7**	**-1.6**
GALT				Sg	**Sg**	**07 21 52.4**	**-0.7**
TASR	**Tashtagol**	**2.79**	**356**	Sg	**Sg**	**07 22 03.5**	**-0.5**
DJO	**Djoy, Khakassi**	**3.37**	**33**	Pg	**Pg**	**07 21 36.8**	**-2.1**
DJO				Sg	**Sg**	**07 22 24.4**	**+1.8**
CERR	**Cheremushki**	**3.50**	**33**	Sg	**Sg**	**07 22 29.1**	**+2.5**
ELT	**Eltsovka**	**3.51**	**340**	Pg	**Pb**	**07 21 37.6**	**+1.0**
ELT				Sg	**Sg**	**07 22 27.2**	**+0.1**
VEH	**Verkhnyaya Baz**	**3.52**	**21**	Pg	**Pg**	**07 21 39.8**	**-2.1**
VEH				Sg	**Sg**	**07 22 27.1**	**-0.4**
LUZB	**Luzhba, Kemero**	**3.71**	**6**	Pg	**Pg**	**07 21 42.6**	**-2.8**
LUZB				Sg	**Sg**	**07 22 32.9**	**-0.5**
ARDR	**Aradan**	**4.17**	**49**	Sg	**Sg**	**07 22 48.3**	**0.0**
MK31	**Makanchi Array**	**5.08**	**233**	⇑Pn	**Pn**	**07 21 52.2**	**+1.6**
	2.4nm,0.5s,baz=55,slow=13,SNR=47						
MK31				⇑Sn	**Sn**	**07 22 51.5**	**+2.1**
	2.8nm,0.4s,baz=55,slow=24						
MK31				⇓Lg	Lg	07 23 13.8	
	9.3nm,0.7s,baz=50,slow=27						
MAKZ	**Makanchi**	**5.24**	**235**	⇓Pn	**Pn**	**07 21 54.1**	**+1.4**
	2.4nm,0.8s						
MAKZ				⇓Sn	**Sn**	**07 22 55.5**	**+2.3**
	2.3nm,0.3s						
MAKZ				⇓Lg	Lg	07 23 18.7	
	11nm,0.8s						
KURK	**Kurchatov**	**6.20**	**280**	⇓Pn	**Pn**	**07 22 07.4**	**+1.6**
	2.6nm,0.9s						
KURK				⇑Sn	**Sn**	**07 23 19.8**	**+3.1**
	3.3nm,0.5s						
KURK				⇓Lg	Lg	07 23 51.5	
	8.0nm,0.7s						
KURBB	**Kurchatov Arra**	**6.25**	**280**	⇑Pn	**Pn**	**07 22 08.2**	**+1.7**
	1.3nm,0.3s,baz=93,slow=15						
KURBB				⇓Sn	**Sn**	**07 23 22.3**	**+4.3**
	4.5nm,0.5s,baz=90,slow=20						
KURBB				⇓Lg	Lg	07 23 54.0	
	17nm,0.8s						

MOS ***15*** *07:22:30.3±1.3, 42°.94N×48°.25E, h30km, mb3.8/1, Error ellipse: s-maj=12.5km s-min=8.5km az=147.0*
DRS ***15*** *07:22:30.9, 42°.83N×48°.17E, h30km*

ISC 15 07:22:28.7±1.3, 42°.89N±0°.04×48°.31E±0°.04, h17km±9km, n27, σ1°12/49, 4C-2D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAK	**Makhachkala**	**0.60**	**277**	⇓*i*Pg	**Pg**	**07 22 39.3**	**-1.2**
MAK				*e*S	**Sg**	**07 22 48.2**	**-0.3**
MAK				pmax	pmax		
	comp=Z,98nm,0.3s						
MAK				smax	smax		
	comp=N,268nm,0.2s						
MAK				smax	smax		
	comp=N,244nm,0.2s						
URKR	**Urkarakh**	**0.88**	**215**	*e*Pg	**Pn**	**07 22 46.6**	**+0.2**
	comp=N,113nm,0.4s						
URKR				*e*Sg	**Sn**	**07 22 58.1**	**-0.8**
	comp=N,1μm,0.2s						
URKR	**Urkarakh**	**0.88**	**215**	*e*PG	**Pn**	**07 22 46.6**	**+0.2**
URKR				*e*S	**Sn**	**07 22 58.0**	**-0.8**
URKR				pmax	pmax		
	comp=Z,113nm,0.4s						
BUJR	**Buynaksk**	**0.89**	**266**	*e*Pg	**Pg**	**07 22 46.4**	**+0.4**
	comp=Z,52nm,0.3s						
BUJR				*e*Sg	**Sn**	**07 22 58.6**	**-0.4**
	comp=Z,776nm,0.4s						
BUJR	**Buynaksk**	**0.89**	**266**	*e*PG	**Pg**	**07 22 46.3**	**+0.4**
BUJR				*e*S	**Sn**	**07 22 58.5**	**-0.4**
BUJR				pmax	pmax		
	comp=Z,52nm,0.3s						
ARKR	**Arakani**	**1.01**	**254**	*e*Pg	**Pb**	**07 22 48.0**	**+0.2**
	comp=Z,19nm,0.4s						
ARKR				*e*Sg	**Sn**	**07 23 01.5**	**-0.6**
	comp=Z,128nm,0.4s						
ARKR	**Arakani**	**1.01**	**254**	*e*PG	**Pb**	**07 22 48.0**	**+0.2**
ARKR				*e*S	**Sn**	**07 23 01.4**	**-0.6**
ARKR				pmax	pmax		
	comp=Z,19nm,0.4s						
GNBR	**Gunib**	**1.11**	**244**	*e*Pg	**Pb**	**07 22 49.6**	**+0.1**
	comp=Z,32nm,0.1s						
GNBR				*e*Sg	**Sn**	**07 23 04.6**	**0.0**
	comp=Z,196nm,0.2s						
GNBR	**Gunib**	**1.11**	**244**	*e*PG	**Pb**	**07 22 49.6**	**+0.1**
GNBR				*e*S	**Sn**	**07 23 04.5**	**0.0**
GNBR				pmax	pmax		
	comp=Z,32nm,0.1s						
UNCR	**Uncukul**	**1.13**	**262**	*e*Pg	**Pb**	**07 22 49.9**	**+0.1**
	comp=Z,32nm,0.4s						
UNCR				*e*Sg	**Sb**	**07 23 04.0**	**-0.2**
	comp=Z,246nm,0.3s						
UNCR	**Uncukul**	**1.13**	**262**	*e*PG	**Pb**	**07 22 49.9**	**+0.1**
UNCR				*e*S	**Sb**	**07 23 04.0**	**-0.2**
UNCR				pmax	pmax		
	comp=Z,32nm,0.4s						
KMKR	**Kumukh**	**1.17**	**230**	*e*Pg	**Pg**	**07 22 51.2**	**-0.2**
	comp=Z,20nm,0.3s						
KMKR				*e*Sg	**Sn**	**07 23 06.5**	**+0.2**
	comp=Z,571nm,0.3s						
KMKR	**Kumukh**	**1.17**	**230**	*e*PG	**Pg**	**07 22 51.2**	**-0.2**
KMKR				*e*S	**Sn**	**07 23 06.4**	**+0.2**
KMKR				pmax	pmax		
	comp=Z,20nm,0.3s						
DLMR	**Dylym**	**1.25**	**279**	*e*Pg	**Pb**	**07 22 52.6**	**+0.7**
	comp=Z,96nm,0.2s						
DLMR				*e*Sg	**Sg**	**07 23 08.8**	**-0.4**
	comp=Z,564nm,0.4s						
DLMR	**Dylym**	**1.25**	**279**	*e*PG	**Pb**	**07 22 52.5**	**+0.7**
DLMR				*e*S	**Sg**	**07 23 08.7**	**-0.4**
DLMR				pmax	pmax		
	comp=Z,96nm,0.2s						
KSMR	**Kasumkent**	**1.29**	**186**	*e*Pg	**Pg**	**07 22 53.8**	**+0.2**
	comp=Z,305nm,0.2s						
KSMR				*e*Sg	**Sg**	**07 23 10.8**	**+0.4**
	comp=Z,2μm,0.3s						
KSMR	**Kasumkent**	**1.29**	**186**	*e*PG	**Pg**	**07 22 53.8**	**+0.2**
KSMR				*e*S	**Sg**	**07 23 10.7**	**+0.4**
KSMR				pmax	pmax		
	comp=Z,305nm,0.2s						
AKT	**Akhty**	**1.47**	**197**	*e*Pg	**Pb**	**07 22 56.1**	**+0.4**
	comp=Z,51nm,0.3s						
AKT				*e*Sg	**Sg**	**07 23 14.8**	**-1.3**
	comp=Z,443nm,0.2s						
AKT	**Akhty**	**1.47**	**197**	*e*PG	**Pb**	**07 22 56.0**	**+0.4**
AKT				pmax	pmax		
	comp=Z,51nm,0.3s						
BTLR	**Botlikh**	**1.56**	**263**	*e*Pg	**Pb**	**07 22 56.9**	**-0.2**
	comp=Z,20nm,0.4s						
BTLR				*e*Sg	**Sg**	**07 23 17.5**	**-1.4**
	comp=Z,144nm,0.6s						
BTLR	**Botlikh**	**1.56**	**263**	*e*PG	**Pb**	**07 22 56.9**	**-0.2**
BTLR				*e*S	**Sg**	**07 23 17.4**	**-1.4**
BTLR				pmax	pmax		
	comp=Z,20nm,0.4s						
GNI	**Garni**	**3.83**	**226**	⇑*e*PN	**Pn**	**07 23 27.6**	**+0.6**
GNI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PYA1	**Pyatigorsk**	**3.98**	**289**	⇑*e*PN	**Pn**	**07 23 29.4**	**+0.5**
KBZ	**Khabaz**	**4.04**	**284**	⇑*e*PN	**Pn**	**07 23 30.4**	**+0.7**
KIV	**Kislovodsk**	**4.24**	**287**	*e*PN	**Pn**	**07 23 34.6**	**+2.1**
KIV				*e*S	**Sn**	**07 24 24.5**	**+2.9**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,7.0nm,9.0s						
AB31	**Akbulak array**	**10.28**	**48**	P	**Pn**	**07 24 56.7**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=237,slow=13,SNR=6.4						
AB31				⇑S	**Sn**	**07 26 45.2**	**-4.9**
	comp=Z,0.7nm,0.7s,baz=237,slow=22						
BRVK	**Borovoye**	**17.82**	**48**	⇑*e*P	**Pn**	**07 26 37.5**	**+1.9**
BRVK				pmax	pmax		
	comp=Z,7.0nm,4.1s						

IDC ***15*** *07:26:31.5±1.9, 23°.88S×178°.26E, h563km±21km, mb3.5/6, mbtmp4.4/7, Error ellipse: s-maj=67.1km s-min=15.5km az=166.0*

ISC 15 07:26:30.2±1.0, 23°.95S±0°.5×178°.3E±0°.1, h550km, n9, σ1°42/10, mb4.3/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.05**	**277**	P	**P**	**07 28 59.8**	**+0.7**
	7.4nm,1.1s,baz=122,slow=15,SNR=2.7						
URZ	**Urewera**	**14.32**	**184**	P	P	07 29 26.2	-6.2
	6.3nm,0.7s,baz=10.0,slow=17,SNR=1.9						
URZ				S	S	07 31 48.5	-14
	7.3nm,1.0s,baz=154,slow=19,SNR=1.4						
PPT	**Papeete**	**30.68**	**84**	P	**P**	**07 32 01.3**	**+0.6**
	26nm,0.9s,baz=241,slow=20,SNR=3.6						
	26nm,0.9s						
STKA	**Stephens Creek**	**33.24**	**248**	P	**P**	**07 32 22.5**	**+0.1**
	4.2nm,0.5s,baz=95,slow=11,SNR=11						
	4.2nm,0.5s						
ASAR	**Alice Springs**	**40.47**	**261**	P	**P**	**07 33 22.3**	**+0.5**
	6.9nm,0.8s,baz=91,slow=6.8,SNR=61						
ASAR				ScP	**ScP**	**07 38 06.8**	**-1.6**
	0.5nm,0.7s,baz=107,slow=4.2,SNR=5.1						
	6.9nm,0.8s						
WRA	**Warramunga Arr**	**40.83**	**267**	P	**P**	**07 33 25.1**	**+0.4**
	7.2nm,0.4s,baz=97,slow=8.3,SNR=102						
WRA				ScP	**ScP**	**07 38 08.6**	**-1.2**
	0.9nm,0.9s,baz=104,slow=3.2,SNR=3.1						
	7.2nm,0.4s						
NVAR	**Mina Array Bea**	**85.88**	**45**	P	**P**	**07 38 12.9**	**+0.5**
	0.7nm,0.8s,baz=232,slow=9.0,SNR=5.5						
	0.7nm,0.8s						
TXAR	**Lajitas Array**	**91.79**	**59**	P	**P**	**07 38 40.4**	**+0.4**
	0.3nm,0.8s,baz=248,slow=4.9,SNR=1.3						
	0.3nm,0.8s						
HFS	**Hagfors**	**142.25**	**347**	PKP	**PKPdf**	**07 44 56.8**	**-2.9**
	1.0nm,0.4s,baz=82,slow=2.1,SNR=14						

ASRS ***15*** *07:29:43.0±0.8, 53°.57N×86°.92E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC ***15*** *07:29:47.0±2.5, 53°.63N×86°.83E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=22.6km s-min=13.7km az=74.0*

ISC 15 07:29:47.0±4.2, 53°.8N±0°.2×86°.8E±0°.2, h0km, n6, σ0°27/5, 2C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.19**	**281**	I	I	07 37 40.0	
	baz=106,slow=320,SNR=2.3						
ZAA0	**Zalesovo Array**	**1.19**	**281**	⇑P	**Pn**	**07 30 10.9**	**+0.1**
	0.2nm,0.2s,baz=101,slow=14						
ZAA0				⇑S	**Sg**	**07 30 24.9**	**-0.1**
	2.2nm,1.0s,baz=94,slow=27						
ZALV	**Zalesovo Beam**	**1.19**	**281**	Pg	**Pg**	**07 30 09.6**	**-0.1**
	1.8nm,0.3s,baz=100,slow=16,SNR=14						
ZALV				Lg	Lg	07 30 27.8	
	1.9nm,0.3s,baz=106,slow=31,SNR=13						
ZALV				Rg	Rg	07 30 35.4	
	1.9nm,0.4s,baz=109,slow=31,SNR=6.3						
KURBB	**Kurchatov Arra**	**5.97**	**242**	Pn	**Pn**	**07 31 16.8**	**+0.3**
	0.1nm,0.3s,baz=59,slow=14,SNR=3.7						
KURBB				Lg	Lg	07 32 54.1	
	baz=53,slow=31,SNR=5.4						
	0.2nm,0.3s						
MK31	**Makanchi Array**	**7.53**	**204**	P	Pn	07 31 42.0	+4.0
	0.2nm,0.4s,baz=27,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**7.53**	**204**	Pn	**Pn**	**07 31 38.0**	**-0.1**
	0.2nm,0.3s,baz=27,slow=13,SNR=5.6						
MKAR				Lg	Lg	07 33 43.5	
	0.1nm,0.3s,baz=20,slow=32,SNR=5.4						
	0.2nm,0.3s						

GCG 15 07:46:49.1±0.6, 15°.59N×91°.00W, h13km±28km, MD3.6, ML2.4, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QUIS	**Sacapulas**	**0.31**	**196**	*e*P	Pb	07 46 56.5	-0.1
QUIS				IAML		07 47 05.8	
	comp=N,236nm,0.3s						
HUEH	**Huehuetenango**	**0.55**	**240**	*e*S	Sb	07 47 08.9	+0.2
HUEH				IAML		07 47 16.3	
	comp=E,175nm,0.4s						
AVCB	**Coban**	**0.59**	**102**	*i*S	Sb	07 47 09.7	0.0
PETF	**Flores**	**1.71**	**40**	*e*P	Pn	07 47 18.4	-0.3
PETF				*e*S	Sn	07 47 40.7	+0.3
PETF				IAML		07 47 45.0	
	comp=E,97nm,0.3s						

IDC 15 07:50:18.2±18.0, 46°.91N×148°.54E, h207km±180km, mb3.2/3, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=605.0km s-min=95.9km az=154.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USRK	**Ussuriysk Ar.**	**11.91**	**263**	P	Pn	07 53 01.6	0.0
	0.3nm,0.3s,baz=78,slow=13,SNR=4.1						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**44.05**	**295**	P	P	07 58 05.4	+0.1
	0.4nm,0.6s,baz=65,slow=7.2,SNR=5.0						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**44.72**	**302**	P	P	07 58 10.2	-0.3
	0.9nm,0.5s,baz=69,slow=8.7,SNR=6.8						
	0.9nm,0.5s						
FINES	**FINESS Array B**	**62.51**	**333**	P	P	08 00 19.2	0.0
	0.8nm,0.7s,baz=61,slow=9.7,SNR=4.5						
	0.8nm,0.7s						

NEIC ***15*** *07:57:13.5±0.5, 36°.878N±0°.009×97°.43W±0°.01, h8km±4km, Error ellipse: s-maj=1.5km s-min=1.2km az=202.0*

NEIC 15 07:57:13.5±0.5, 36°.88N±0°.01×97°.43W±0°.01, h5km±1km, mb_Lg2.9/53, ML2.9/40, ML3.2/48, Error ellipse: s-maj=2.6km s-min=2.0km az=37.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAN13	**South Haven SW**	**0.14**	**342**		Pg	07 57 17.0	+0.6
KAN13				IAML		07 57 20.2	
	comp=N,10μm,0.4s						
BLOK	**Blackwell**	**0.20**	**125**		Pg	07 57 18.1	+0.5
BLOK					Sg	07 57 21.0	+0.7
KAN09	**Caldwell North**	**0.30**	**329**		Pg	07 57 19.9	+0.5
KAN09				Sg	Sg	07 57 24.2	+0.9
KAN09				IAML		07 57 26.3	
	comp=N,4μm,0.2s						
KAN17	**Caldwell West**	**0.32**	**301**		Pg	07 57 20.1	+0.4
KAN17				Sg	Sg	07 57 24.7	+0.7
KAN17				IAML		07 57 24.9	
	comp=N,5μm,0.3s						
KAN17				IAML		07 57 25.0	
	comp=E,3μm,0.3s						
GC02	**Grant County #**	**0.35**	**266**		Pg	07 57 20.6	+0.3
GC02					Sg	07 57 25.3	+0.4
KAN01	**Argonia South**	**0.38**	**316**		Pg	07 57 21.4	+0.5
KAN01					Sg	07 57 26.8	+0.8
KAN01				IAML		07 57 26.9	
	comp=E,2μm,0.4s						
KAN01				IAML		07 57 28.5	
	comp=N,2μm,0.3s						
KAN14	**Manchester OK**	**0.44**	**280**		Pg	07 57 22.2	+0.2
KAN14					Sg	07 57 28.1	+0.4
KAN14				IAML		07 57 29.9	
	comp=E,2μm,0.2s						
KAN08	**Anthony NE Sta**	**0.56**	**309**		Pg	07 57 24.6	+0.4
KAN08					Sg	07 57 32.3	+0.8
KAN08				IAML		07 57 34.0	
	comp=N,2μm,0.4s						
KAN08				IAML		07 57 35.7	
	comp=E,1μm,0.4s						
CROK	**Carrier**	**0.58**	**230**		Pg	07 57 24.9	+0.2

OKCSW	**OKLAHOMA CITY**	**1.47**	**180**			Pn	07 57 40.8	+0.1
OKCSW				IAmb_Lg			07 58 01.1	
	comp=Z,47nm,0.8s							
CSTR	**Hydro, Custer**	**1.60**	**220**			Pn	07 57 42.9	+0.4
FNO	**Franklin**	**1.62**	**179**			Pn	07 57 43.3	+0.6
TUL3	**Leonard**	**1.63**	**126**			Pb	07 57 43.7	-0.5
TUL3				IAmb_Lg			07 58 05.9	
	comp=Z,92nm,0.7s							
ELIS	**Ellis County**	**1.80**	**244**	Pn		Pn	07 57 45.2	0.0
R32A	**Long Quarter,**	**1.85**	**327**			Pn	07 57 46.7	+0.8
RLO	**Rose Lookout**	**2.06**	**109**	Pn		Pn	07 57 50.2	-1.2
X34A	**Smith Ranch, M**	**2.30**	**188**			Pn	07 57 53.5	+1.5
X34A				IAmb_Lg			07 58 27.4	
	comp=Z,36nm,0.7s							
KSU1	**Kansas State U**	**2.31**	**16**	Pn		Pn	07 57 53.3	+1.1
WMOK	**Wichita Mounta**	**2.40**	**208**	Pn		Pn	07 57 54.0	+0.5
WMOK				IAmb_Lg			07 58 29.2	
	comp=Z,47nm,1.0s							
U38A	**Gravette**	**2.48**	**99**			Pb	07 57 56.9	-1.7
U38A				IAmb_Lg			07 58 30.5	
	comp=Z,50nm,1.0s							
CBKS	**Cedar Bluff**	**2.66**	**317**			Pn	07 57 56.9	-0.2
HHAR	**Hobbs**	**2.87**	**101**			Pn	07 57 59.7	-0.2
SMWD	**Samnorwood**	**2.89**	**233**	Pn		Pn	07 58 00.6	+0.3
SMWD				IAmb_Lg			07 58 51.0	
	comp=Z,29nm,0.9s							
WTFS	**Witchita Falls**	**3.22**	**196**	Pn		Pn	07 58 05.7	+1.0
Z35A	**Perchaven, San**	**3.54**	**178**	Pn		Pn	07 58 09.3	+0.2
FW03	**Perrin-Whitt E**	**3.87**	**188**	IAmb_Lg			07 59 23.4	
	comp=Z,25nm,1.0s							
MIAR	**Mount Ida**	**3.90**	**125**			Pn	07 58 15.2	+1.1
AMTX	**Amarillo**	**3.99**	**241**	Pn		Pn	07 58 13.8	-1.6
AMTX				IAmb_Lg			07 59 27.4	
	comp=Z,36nm,0.9s							
P38A	**Dawn**	**4.11**	**47**			Pn	07 58 16.6	-0.4
P38A				IAmb_Lg			07 59 31.0	
	comp=Z,23nm,0.8s							
Z38A	**Mt. Pleasant**	**4.13**	**150**	Pn		Pn	07 58 15.0	-2.2
Z38A				IAmb_Lg			07 59 30.2	
	comp=Z,38nm,0.9s							
MGMO	**Mountain Grove**	**4.14**	**85**			Pn	07 58 16.8	-0.6
MGMO				IAmb_Lg			07 59 28.5	
	comp=Z,39nm,0.7s							
N35A	**Tabor**	**4.21**	**19**	Pn		Pn	07 58 19.1	+0.7
DKNS	**Dickens**	**4.30**	**223**	IAmb_Lg			07 59 27.5	
	comp=Z,19nm,1.0s							
R40A	**Maddies Statio**	**4.33**	**69**			Pn	07 58 19.5	-0.5
R40A				IAmb_Lg			07 59 33.3	
	comp=Z,27nm,0.9s							
FCAR	**Ozark Folk Cen**	**4.39**	**101**			Pn	07 58 20.1	-0.7
FCAR				IAmb_Lg			07 59 36.3	
	comp=Z,20nm,0.8s							
X40A	**Basin Creek Fa**	**4.43**	**121**			Pn	07 58 20.5	-0.9
X40A				IAmb_Lg			07 59 38.4	
	comp=Z,16nm,0.8s							
WHAR	**Wooly Hollow**	**4.45**	**109**			Pn	07 58 20.6	-1.0
BGNE	**Belgrade**	**4.56**	**353**	IAmb_Lg			07 59 50.7	
	comp=Z,37nm,0.9s							
KSCO	**Kaye Shedlock'**	**4.63**	**299**	IAmb_Lg			07 59 39.5	
	comp=Z,16nm,0.8s							
UALR	**University of**	**4.63**	**115**	IAmb_Lg			07 59 50.5	
	comp=Z,19nm,0.9s							
WLAR	**White Oak Lake**	**4.75**	**131**	IAmb_Lg			07 59 57.0	
	comp=Z,32nm,0.8s							
WHTX	**Lake Whitney,**	**4.88**	**180**	IAmb_Lg			08 00 00.3	
	comp=Z,14nm,0.9s							
237A	**Washetta, Mont**	**5.04**	**164**	IAmb_Lg			08 00 05.6	
	comp=Z,16nm,0.8s							
CCM	**Cathedral Cave**	**5.05**	**75**	IAmb_Lg			07 59 56.3	
	comp=Z,24nm,0.7s							
LCAR	**Lake Charles**	**5.12**	**97**	IAmb_Lg			08 00 03.0	
	comp=Z,12nm,0.8s							
Z41A	**Richland Creek**	**5.24**	**132**	IAmb_Lg			08 00 08.0	
	comp=Z,29nm,0.9s							
PBMO	**Poplar Bluff**	**5.61**	**89**	IAmb_Lg			08 00 10.5	
	comp=Z,20nm,0.8s							
435B	**Jarrell**	**6.08**	**181**	IAmb_Lg			08 00 37.6	
	comp=Z,23nm,0.8s							
JCT	**Junction City**	**6.68**	**198**	IAmb_Lg			08 01 01.3	
	comp=Z,13nm,0.7s							

IDC 15 07:59:59.4±1.9, 4°.29N×124°.87E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=200.1km s-min=24.2km az=65.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.82**	**159**	P	P	08 05 31.7	-0.9
	0.2nm,0.5s,baz=338,slow=10,SNR=4.8						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**29.15**	**163**	P	P	08 06 03.6	+1.1
	0.2nm,0.4s,baz=342,slow=9.7,SNR=2.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**56.04**	**326**	P	P	08 09 38.4	-1.8
	0.3nm,0.5s,baz=114,slow=8.6,SNR=4.3						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**60.27**	**328**	P	P	08 10 11.6	+1.9
	0.2nm,0.2s,baz=126,slow=6.2,SNR=2.0						
	0.2nm,0.2s						

*SJA **15** 08:01:01.2±0.9, 19°.44S×69°.53W, h90km±4km, ML3.7, MW3.5*
*GUC **15** 08:01:03.0±0.7, 19°.40S×69°.55W, h80km±4km, ML3.7*
ISC 15 08:01:03.5±1.4, 19°.44S±0°.03×69°.59W±0°.06, h79km±9km, n25, σ0971/46, 1C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.33**	**192**	⇓*iP*	**Pn**	**08 01 16.0**	**-0.1**
PB11				IAML		08 01 28.5	
	comp=E,5μm,0.2s						
PB11	**IPOC Station P**	**0.33**	**192**	*eP*	**Pn**	**08 01 16.0**	**-0.1**
PB11				*eS*	**Sn**	**08 01 26.4**	**+1.1**
PB11				IAML		08 01 31.3	
	comp=Z,2μm,0.2s						
GO01	**Chusmiza**	**0.43**	**122**	⇓*iP*	**Pn**	**08 01 16.3**	**-0.8**
GO01				*i* S	**Sn**	**08 01 27.7**	**+0.5**
GO01				IAML		08 01 28.7	
	comp=N,6μm,0.2s						
GO01	**Chusmiza**	**0.43**	**122**	*eP*	**Pn**	**08 01 16.4**	**-0.8**
GO01				*eS*	**Sn**	**08 01 27.5**	**+0.3**
PB08	**IPOC Station P**	**0.81**	**150**	⇓*iP*	**Pn**	**08 01 20.0**	**-0.6**
PB08				*i* S	**Sn**	**08 01 33.6**	**+0.2**
PB08				IAML		08 01 34.5	
	comp=E,3μm,0.3s						
PB08	**IPOC Station P**	**0.81**	**150**	*eP*	**Pn**	**08 01 20.1**	**-0.6**
PB08				*eS*	**Sn**	**08 01 33.9**	**+0.5**
PB08				IAML		08 01 34.4	
	comp=Z,2μm,0.7s						
TA02	**Huaiquique**	**0.97**	**212**	*eP*	**Pn**	**08 01 21.7**	**-0.5**
TA02				*eS*	**Sn**	**08 01 37.2**	**+1.1**
TA02				IAML		08 01 43.8	
	comp=Z,770nm,0.1s						
PB16	**IPOC Station P**	**1.10**	**4**	⇑*iP*	**Pn**	**08 01 23.4**	**-0.8**
PB16				*i* S	**Sn**	**08 01 39.5**	**-0.2**
PB16				IAML		08 01 41.2	
	comp=E,2μm,0.6s						
PB16	**IPOC Station P**	**1.10**	**4**	*eP*	**Pn**	**08 01 23.5**	**-0.8**
PB16				*eS*	**Sn**	**08 01 40.3**	**+0.5**
PB16				IAML		08 01 41.5	
	comp=Z,1μm,0.3s						
TA01	**Diego Aracena**	**1.25**	**206**	*eP*	**Pn**	**08 01 25.1**	**-0.5**
TA01				*eS*	**Sn**	**08 01 42.0**	**-0.2**
TA01				IAML		08 01 46.6	
	comp=E,906nm,0.2s						
TA01	**Diego Aracena**	**1.25**	**206**	*eP*	**Pn**	**08 01 25.1**	**-0.5**
TA01				*eS*	**Sn**	**08 01 43.2**	**+1.0**
TA01				IAML		08 01 50.6	
	comp=Z,361nm,0.3s						
AP01	**Chacalluta**	**1.28**	**326**	*i* P	**Pn**	**08 01 25.2**	**-0.8**
AP01				*eS*	**Sn**	**08 01 42.6**	**-0.2**
AP01	**Chacalluta**	**1.28**	**326**	*eP*	**Pn**	**08 01 24.9**	**-1.1**
AP01				*eS*	**Sn**	**08 01 44.2**	**+1.4**
AP01				IAML		08 01 47.0	
	comp=Z,2μm,0.2s						
PATCX	**Punta Patache**	**1.47**	**201**	*eP*	**Pn**	**08 01 28.0**	**-0.6**
PATCX				*eS*	**Sn**	**08 01 47.9**	**+0.5**
PATCX				IAML		08 01 54.4	
	comp=E,859nm,0.6s						
PATCX	**Punta Patache**	**1.47**	**201**	*eP*	**Pn**	**08 01 28.1**	**-0.4**
PATCX				*eS*	**Sn**	**08 01 47.2**	**-0.2**
PATCX				IAML		08 01 56.8	
	comp=Z,399nm,0.6s						
PB01	**IPOC Station P**	**1.60**	**177**	*i* P	**Pn**	**08 01 29.7**	**-0.5**
PB01				*i* S	**Sn**	**08 01 50.4**	**+0.1**
PB01				IAML		08 01 55.2	
	comp=E,2μm,0.3s						
PB01	**IPOC Station P**	**1.60**	**177**	*eP*	**Pn**	**08 01 29.9**	**-0.3**
PB01				*eS*	**Sn**	**08 01 50.6**	**+0.2**
PB01				IAML		08 01 57.2	
	comp=Z,931nm,0.2s						
PB18	**Visviri**	**1.84**	**3**	*eP*	**Pn**	**08 01 35.2**	**+1.4**
PB18				IAML		08 02 11.1	
	comp=E,589nm,0.4s						
PB02	**IPOC Station P**	**1.89**	**189**	*eP*	**Pn**	**08 01 33.7**	**-0.4**
PB02				*eS*	**Sn**	**08 01 57.8**	**+0.5**
PB02	**IPOC Station P**	**1.89**	**189**	*eP*	**Pn**	**08 01 33.5**	**-0.5**
PB02				*eS*	**Sn**	**08 01 58.1**	**+0.8**
PB02				IAML		08 02 04.1	
	comp=Z,1μm,0.4s						
PB09	**IPOC Station P**	**2.37**	**172**	*eP*	**Pn**	**08 01 40.8**	**+0.3**
PB09				*eS*	**Sn**	**08 02 09.2**	**+0.5**
PB09				IAML		08 02 17.1	
	comp=E,578nm,0.3s						
PB03	**IPOC Station P**	**2.60**	**183**	*eP*	**Pn**	**08 01 43.3**	**-0.3**
PB03				*eS*	**Sn**	**08 02 15.0**	**+0.7**
PB03				IAML		08 02 22.4	
	comp=E,576nm,0.3s						
PB03	**IPOC Station P**	**2.60**	**183**	*eP*	**Pn**	**08 01 42.8**	**-0.8**
PB03				IAML		08 02 23.5	
	comp=Z,582nm,0.3s						
PB06	**IPOC Station P**	**3.25**	**180**	*eP*	**Pn**	**08 01 52.4**	**0.0**
PB06				*eS*	**Sn**	**08 02 30.8**	**+0.7**
PB05	**IPOC Station P**	**3.44**	**190**	*eP*	**Pn**	**08 01 53.5**	**-1.5**

*ASIES **15** 08:02:08.0, 22°.39N×120°.96E, h14km, ML4.1, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr0.50; Mθθ0.66; Mϕϕ-3.31; Mrθ3.57; Mθϕ-5.32; Mϕr0.72; Fault plane solution: M0 6.88469×10^14 NP1: ϕs171.08000°, δ56.07000°, λ7.65000°. NP2: ϕs76.79000°, δ83.66000°, λ145.83000°. Principal axes: T Plg28.2160°, Azm28.3950°; N Plg55.3190°, Azm247.5500°; P Plg18.4570°, Azm128.7110°;*
*TAP **15** 08:02:08.0, 22°.39N×120°.96E, h14km, ML4.1, B*
*JMA **15** 08:02:09.9±0.1, 22°.6N±0°.8×12°.1E±°, h33km±1km, MV3.8/13, TAIWAN REGION*
ISC 15 08:02:07.7±0.8, 22°.38N±0°.02×121°.02E±0°.02, h15km±5km, n126, σ1s05/193, 16C-13D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAW	**Tawu**	**0.11**	**260**	⇑*iP*	**Pg**	**08 02 11.2**	**0.0**
TAW				*i* S	**Sg**	**08 02 13.1**	**-0.3**
TAWH	**Dawu Township**	**0.12**	**252**	⇑*iP*	**Pg**	**08 02 11.4**	**0.0**
TAWH				*eS*	**Sg**	**08 02 13.4**	**-0.2**
EAST	**Anshuo**	**0.15**	**272**	⇑*iP*	**Pb**	**08 02 11.6**	**-0.7**
EAST				*i* S	**Sb**	**08 02 13.9**	**-1.5**
ECL	**Taimali**	**0.23**	**345**	⇑*iP*	**Pg**	**08 02 12.9**	**0.0**
ECL				*i* S	**Sg**	**08 02 16.1**	**-0.2**
SLIU	**Shizi**	**0.26**	**231**	⇑*iP*	**Pg**	**08 02 13.4**	**+0.1**
SLIU				S	**Sb**	**08 02 17.6**	**-0.6**
SCZT	**Fangliau**	**0.37**	**269**	⇓*iP*	**Pb**	**08 02 15.0**	**-0.9**
SCZT				S	**Sb**	**08 02 19.6**	**-1.8**
SMST	**Manzhou Townsh**	**0.39**	**205**	⇑*iP*	**Pb**	**08 02 16.4**	**+0.1**
SMST				S	**Sb**	**08 02 22.1**	**-0.1**
TTN	**Taitung**	**0.39**	**18**	*eP*	**Pb**	**08 02 17.1**	**+0.7**
TTN				*eS*	**Sb**	**08 02 24.6**	**+2.4**
MASBT	**Mashibuluo**	**0.42**	**303**	⇓*iP*	**Pb**	**08 02 16.0**	**-0.9**
MASBT				*eS*	**Sg**	**08 02 20.5**	**-1.6**
TWGBT	**Beinan**	**0.44**	**8**	P	**Pg**	**08 02 16.6**	**0.0**
TWGBT	**Beinan**	**0.44**	**8**	S	**Sb**	**08 02 25.1**	**+1.4**
TWGBT	**Beinan**	**0.44**	**8**	⇑*iP*	**Pg**	**08 02 16.7**	**0.0**
TWGBT				*eS*	**Sb**	**08 02 23.4**	**-0.3**
TWG	**Pinlang**	**0.44**	**7**	⇑*iP*	**Pg**	**08 02 16.7**	**0.0**
TWG				*eS*	**Sb**	**08 02 23.5**	**-0.2**
HEN	**Hengchun**	**0.45**	**215**	⇑*eP*	**Pb**	**08 02 17.5**	**+0.2**
HEN				*eS*	**Sb**	**08 02 24.2**	**+0.4**
TSMG	**Majia**	**0.47**	**314**	⇓*iP*	**Pg**	**08 02 16.8**	**-0.3**
TSMG				S	**Sg**	**08 02 22.3**	**-1.2**
TWK1	**Hengchun**	**0.47**	**204**	⇑*iP*	**Pb**	**08 02 18.0**	**+0.3**
TWK1				*eS*	**Sb**	**08 02 25.3**	**+0.8**
TWKBT	**Hengchun**	**0.47**	**203**	⇑*iP*	**Pb**	**08 02 18.0**	**+0.3**
TWKBT				*eS*	**Sb**	**08 02 24.9**	**+0.4**
TSEB	**Hengchuen, Pin**	**0.49**	**193**	⇑*iP*	**Pb**	**08 02 18.8**	**+0.8**
TSEB				*i* S	**Sb**	**08 02 26.4**	**+1.7**
SSD	**Sandimen**	**0.51**	**316**	⇓*iP*	**Pg**	**08 02 17.4**	**-0.5**
SSD				S	**Sg**	**08 02 23.2**	**-1.5**
LDUT	**Ludao**	**0.51**	**55**	⇑*iP*	**Pg**	**08 02 18.9**	**+0.9**
LDUT				*eS*	**Sb**	**08 02 27.6**	**+2.0**
LONT	**Longtian**	**0.54**	**11**	⇑*iP*	**Pg**	**08 02 18.2**	**-0.2**
LONT				*eS*	**Sb**	**08 02 26.3**	**-0.1**
SGLT	**Jiouru**	**0.60**	**306**	*eP*	**Pb**	**08 02 20.1**	**+0.3**
SGLT				*eS*	**Sn**	**08 02 29.1**	**-1.9**
LAY	**Lan-yu**	**0.60**	**124**	*eP*	**Pg**	**08 02 19.7**	**+0.2**
LAY				*eS*	**Sg**	**08 02 28.5**	**+1.0**
LYUB	**Lan-yu**	**0.65**	**125**	⇓*eP*	**Pg**	**08 02 19.2**	**-1.2**
EDH	**Donghe**	**0.65**	**24**	*iP*	**Pg**	**08 02 20.3**	**-0.2**
EDH				*eS*	**Sb**	**08 02 30.2**	**+0.6**
SCST	**Cishan**	**0.70**	**316**	⇓*P*	**Pn**	**08 02 22.1**	**-1.0**
SCST				*eS*	**Sn**	**08 02 32.2**	**-1.4**
TWM1	**Shoushan**	**0.70**	**309**	⇓*eP*	**Pn**	**08 02 22.7**	**-0.5**
SNJT	**Kaohsiung City**	**0.73**	**301**	*eP*	**Pn**	**08 02 24.2**	**+0.7**
ECS	**Chishang**	**0.74**	**15**	*eP*	**Pg**	**08 02 21.7**	**-0.4**
ECS				*i* S	**Sg**	**08 02 32.4**	**+0.4**
WSSB	**Gushan**	**0.74**	**291**	*eP*	**Pn**	**08 02 24.5**	**+0.8**
WSSB				*eS*	**Sn**	**08 02 37.0**	**+2.3**
CHKT	**Chengkung**	**0.79**	**24**	*eP*	**Pg**	**08 02 22.3**	**-0.7**
CHKT				*eS*	**Sg**	**08 02 33.7**	**+0.3**
EHD	**Haiduan**	**0.79**	**13**	⇑*eP*	**Pg**	**08 02 21.6**	**-1.5**
ELDTW	**Lidau**	**0.81**	**0**	*eP*	**Pg**	**08 02 22.5**	**-0.9**
STYH	**Taoyuan**	**0.82**	**344**	⇓*eP*	**Pb**	**08 02 23.9**	**+0.3**
STYH				*eS*	**Sb**	**08 02 34.1**	**-0.4**
FULB	**Fuli**	**0.86**	**17**	⇑*eP*	**Pg**	**08 02 23.4**	**-1.0**
FULB				S	**Sg**	**08 02 35.6**	**-0.1**
CHKH	**Chenggong**	**0.88**	**23**	*eP*	**Pb**	**08 02 23.7**	**-1.0**
CHKH				S	**Sg**	**08 02 35.8**	**-0.7**
SHHT	**Tainan City**	**0.89**	**316**	⇓*eP*	**Pn**	**08 02 27.2**	**+1.6**
SHHT				*eS*	**Sn**	**08 02 40.1**	**+1.9**
CHN3	**Shinhua**	**0.92**	**319**	*eP*	**Pn**	**08 02 27.8**	**+1.8**
CHN3				*eS*	**Sn**	**08 02 41.1**	**+2.1**
CHN1	**Nanshi**	**0.92**	**331**	*eP*	**Pn**	**08 02 26.4**	**+0.2**
CHN1				*eS*	**Sn**	**08 02 39.6**	**+0.5**
WTP	**Ta-pu**	**0.94**	**337**	⇓*eP*	**Pn**	**08 02 26.5**	**0.0**
WTP				S	**Sn**	**08 02 40.2**	**+0.6**
SNST	**Tainan City**	**0.96**	**330**	⇓P	**Pn**	**08 02 27.6**	**+0.9**
SNST				S	**Sn**	**08 02 41.8**	**+1.6**
TPUB	**Ta-pu**	**0.98**	**339**	P	**Pn**	**08 02 27.5**	**+0.4**
TPUB	**Ta-pu**	**0.98**	**339**	S	**Sn**	**08 02 42.0**	**+1.3**
TPUB	**Ta-pu**	**0.98**	**339**	⇓P	**Pn**	**08 02 27.4**	**+0.4**
TPUB				S	**Sn**	**08 02 41.5**	**+0.8**
TWF1	**Yuli**	**1.00**	**15**	*eP*	**Pb**	**08 02 26.3**	**-0.6**
YULB	**Yu-li**	**1.04**	**14**	*eP*	**Pb**	**08 02 24.9**	**-2.5**
CHN4	**Tsaushan**	**1.04**	**338**	⇓P	**Pn**	**08 02 28.6**	**+0.8**
CHN4				*eS*	**Sn**	**08 02 43.2**	**+1.1**
SCLT	**Jiali**	**1.10**	**316**	*eP*	**Pn**	**08 02 30.0**	**+1.4**
SCLT				S	**Sn**	**08 02 45.5**	**+2.1**
WCKO	**Fanlu**	**1.12**	**340**	*eP*	**Pg**	**08 02 29.9**	**+0.4**
WCKO				*eS*	**Sn**	**08 02 45.7**	**+1.7**
ALS	**Alishan**	**1.14**	**350**	*eP*	**Pb**	**08 02 29.4**	**0.0**
ALS				*eS*	**Sn**	**08 02 45.7**	**+0.7**
TSCK	**Chigu Township**	**1.15**	**312**	*eP*	**Pg**	**08 02 30.2**	**+0.3**
TSCK				*eS*	**Sn**	**08 02 46.9**	**+2.2**
EHYH	**Wanrong**	**1.15**	**15**	*eP*	**Pb**	**08 02 29.2**	**-0.1**
EHY	**Hungye**	**1.16**	**14**	*eP*	**Pb**	**08 02 28.5**	**-0.9**
HGSD	**Ruisui**	**1.17**	**19**	*eP*	**Pn**	**08 02 29.7**	**+0.2**
CHN8	**Yiju**	**1.22**	**323**	*eP*	**Pg**	**08 02 30.3**	**-0.9**
CHN8				*eS*	**Sg**	**08 02 49.3**	**+2.2**
CHY	**Chiayi**	**1.24**	**334**	*eP*	**Pg**	**08 02 32.1**	**+0.5**
CHY				*eS*	**Sg**	**08 02 49.7**	**+1.8**
CHN2	**Minshiung**	**1.25**	**337**	*eP*	**Pg**	**08 02 32.5**	**+0.7**
CHN2				*eS*	**Sg**	**08 02 50.0**	**+1.8**
CHN5	**Tsauling**	**1.25**	**346**	*iP*	**Pg**	**08 02 32.3**	**+0.4**
CHN5				S	**Sg**	**08 02 50.2**	**+1.9**
WHYT	**Xinyi Township**	**1.32**	**354**	*eP*	**Pg**	**08 02 33.1**	**-0.1**
WHYT				*eS*	**Sg**	**08 02 50.6**	**+0.2**
WSL	**Shuilin Townsh**	**1.35**	**328**	P	**Pg**	**08 02 32.8**	**-1.0**
WSL				*eS*	**Sg**	**08 02 51.6**	**+0.2**
WGK	**Gukeng**	**1.37**	**342**	*eP*	**Pg**	**08 02 34.3**	**+0.2**
WGK				*eS*	**Sg**	**08 02 52.8**	**+0.9**
VWDT	**VWDT**	**1.38**	**5**	*eP*	**Pn**	**08 02 31.8**	**-0.5**
WARBT	**Fenglin Townsh**	**1.38**	**14**	*eP*	**Pn**	**08 02 30.1**	**-2.3**
WDLH	**Douliu**	**1.38**	**341**	*eP*	**Pg**	**08 02 34.0**	**-0.3**
WDLH				*eS*	**Sg**	**08 02 53.5**	**+1.2**
SSLB	**Suanglung**	**1.41**	**358**	P	**Pb**	**08 02 33.6**	**-0.1**
SSLB	**Suanglung**	**1.41**	**358**	*eP*	**Pn**	**08 02 33.2**	**+0.4**
SSLB				*eS*	**Sg**	**08 02 53.5**	**+0.4**
WTK	**Tuku**	**1.43**	**336**	*eP*	**Pg**	**08 02 34.3**	**-0.9**
WJS	**Zhushan**	**1.46**	**350**	*eP*	**Pg**	**08 02 36.3**	**+0.4**
ESL	**Shilin**	**1.48**	**15**	*eP*	**Pn**	**08 02 34.1**	**+0.3**
SHUL	**Shoufeng**	**1.49**	**20**	*eP*	**Pn**	**08 02 33.1**	**-0.8**
SMLT	**Sun Moon Lake**	**1.50**	**356**	*iP*	**Pg**	**08 02 36.3**	**-0.4**
SMLT				*eS*	**Sg**	**08 02 57.4**	**+1.1**
WNT	**Mingjian**	**1.52**	**349**	*eP*	**Pg**	**08 02 36.5**	**-0.5**
WNT				*eS*	**Sg**	**08 02 57.9**	**+1.0**
WDGT	**Dungji**	**1.53**	**305**	*eP*	**Pn**	**08 02 34.0**	**-0.4**
WDGT				*i* S	**Sn**	**08 02 52.9**	**-1.2**
OWD	**Renai**	**1.58**	**5**	*eP*	**Pg**	**08 02 37.7**	**-0.4**
WUSB	**Renai**	**1.61**	**3**	*eP*	**Pn**	**08 02 35.8**	**+0.1**
ETM	**Tongmen**	**1.64**	**15**	*eP*	**Pb**	**08 02 37.3**	**-0.3**
WCS	**Beigang Elemen**	**1.68**	**357**	*eP*	**Pb**	**08 02 38.6**	**+0.4**
WCS				*eS*	**Sg**	**08 03 01.4**	**-0.3**
LXIB	**Xiulin Townshi**	**1.68**	**13**	*eP*	**Pn**	**08 02 37.6**	**+0.9**
VCHM	**Qimei**	**1.68**	**300**	*eP*	**Pn**	**08 02 35.9**	**-0.7**
VCHM				*eS*	**Sn**	**08 02 57.5**	**-0.3**
PHUB	**P'eng-hu**	**1.75**	**311**	*eP*	**Pn**	**08 02 37.0**	**-0.4**
PHUB				*i* S	**Sn**	**08 02 58.1**	**-1.3**
WCHH	**Zhanghua**	**1.75**	**346**	*eP*	**Pb**	**08 02 39.0**	**-0.4**
WCHH				S	**Sg**	**08 03 03.4**	**-0.6**
WHF	**Hehuan Shan**	**1.77**	**7**	*eP*	**Pg**	**08 02 41.3**	**-0.6**
TCU	**Taichung**	**1.79**	**350**	*eP*	**Pb**	**08 02 40.8**	**+0.6**
PNG	**Penghu**	**1.79**	**312**	*eP*	**Pn**	**08 02 37.6**	**-0.5**
PNG				*i* S	**Sn**	**08 02 59.2**	**-1.3**
NACB	**Ninganchiao**	**1.87**	**16**	P	**Pb**	**08 02 41.4**	**-0.1**
NACB	**Ninganchiao**	**1.87**	**16**	*eP*	**Pn**	**08 02 37.2**	**-1.9**
ETLH	**Xiulin Townshi**	**1.87**	**13**	*eP*	**Pn**	**08 02 39.6**	**+0.3**
TDCB	**Techi**	**1.87**	**4**	*eP*	**Pb**	**08 02 41.9**	**+0.2**
TDCB				*eS*	**Sb**	**08 03 05.7**	**+0.7**
FUSS	**Fushou**	**1.87**	**6**	*eP*	**Pb**	**08 02 42.7**	**+0.9**
WHP	**Taichung City**	**1.89**	**358**	*iP*	**Pb**	**08 02 42.3**	**+0.2**
WHP				S	**Sg**	**08 03 08.7**	**0.0**
TWQ1	**Liyutan**	**1.97**	**354**	*eP*	**Pb**	**08 02 43.0**	**-0.4**
TWQ1				*eS*	**Sg**	**08 03 09.5**	**-1.8**
NSY	**Sanyi**	**2.04**	**353**	*eP*	**Pb**	**08 02 44.5**	**-0.1**
NSY				*eS*	**Sg**	**08 03 12.3**	**-1.2**
EAHA	**Aohua**	**2.05**	**19**	*eP*	**Pn**	**08 02 42.6**	**+0.9**
NNSB	**Datong**	**2.07**	**9**	*eP*	**Pb**	**08 02 44.8**	**-0.3**
NNS	**Nan Shan**	**2.08**	**9**	*eP*	**Pb**	**08 02 45.8**	**+0.5**
EOS4	**EOS4**	**2.11**	**34**	*eP*	**Pn**	**08 02 42.2**	**+0.1**
EOS4				*eS*	**Sn**	**08 03 07.4**	**-0.5**
LATG	**Datong**	**2.20**	**12**	*eP*	**Pb**	**08 02 46.5**	**-0.8**
NSTT	**Nanjuang**	**2.24**	**360**	*eP*	**Pb**	**08 02 46.9**	**-1.0**
EOS3	**EOS3**	**2.25**	**32**	*eP*	**Pn**	**08 02 44.9**	**+0.7**
EOS3				*eS*	**Sn**	**08 03 11.4**	**-0.1**
NFF	**Wufeng Townshi**	**2.25**	**2**	*eP*	**Pb**	**08 02 48.0**	**0.0**
LIOB	**Emei**	**2.26**	**0**	*eP*	**Pb**	**08 02 47.6**	**-0.6**
YHNB	**Yeheng**	**2.31**	**8**	*eP*	**Pb**	**08 02 47.4**	**-1.6**
ENTT	**Nioudou**	**2.31**	**13**	*eP*	**Pn**	**08 02 47.2**	**+2.0**
NSK	**Sanguang**	**2.31**	**8**	*eP*	**Pb**	**08 02 47.7**	**-1.4**
TWC	**Suao**	**2.35**	**19**	*eP*	**Pn**	**08 02 47.6**	**+1.8**
TWE	**Neicheng**	**2.41**	**14**	*eP*	**Pn**	**08 02 48.9**	**+2.4**
FUSB	**Fushanz

BJI ***15*** *08:21:32.7, 5.°96S × 149.°46E, h60km, mB5.9/75, mb5.6/87, Ms5.9/99, Ms7 5.9/96*

NEIC ***15*** *08:21:34.3, 5.°99S × 149.°54E, h46km*

NEIC ***15*** *08:21:34.3, 5.°99S × 149.°54E, h41km*

NEIC ***15*** *08:21:34.3, 6.°09S × 149.°64E, h46km, Moment Tensor Solution. Duration: 6s7 Moment tensor: Scale 10¹⁸Nm; Mrr3.25; Mθθ-3.51; Mφφ0.26; Mrθ0.09; Mθφ0.15; Mφr0.14; Fault plane solution: M₀3.39000×10¹⁸ NP1: φs274.96000°, δ44.32000°, λ93.90000°. NP2: φs89.52000°, δ45.81000°, λ86.20000°. Principal axes: T 3.2599, Plg87.0000°, Azm288.0000°; N 0.2547, Plg3.0000°, Azm92.0000°; P -3.5147, Plg1.0000°, Azm182.0000°;*

NEIC ***15*** *08:21:34.2± 1.8, 5.°97S± 0.°08 × 149.°49E± 0.°07, h42km± 1km, mb5.6/439, Ms_20 6.2/963, Mwb6.3/48, Mww6.3/67 Error ellipse: s-maj=13.9km s-min=11.2km az=190.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr4.26; Mθθ-3.65; Mφφ-0.61; Mrθ0.75; Mθφ0.45; Mφr0.04; Fault plane solution: M₀4.08000×10¹⁸ NP1: φs96.48000°, δ50.23000°, λ87.80000°. NP2: φs279.92000°, δ39.82000°, λ92.64000°. Principal axes: T 4.3288, Plg85.0000°, Azm350.0000°; N -0.5464, Plg2.0000°, Azm98.0000°; P -3.7824, Plg5.0000°, Azm188.0000°;*

ISC-PP ***15*** *08:21:34, 5.°97S × 149.°49E, h40km, Mwppsm6.6, Moment Tensor Solution. s42 Moment tensor: Scale 10¹⁸Nm; Mrr0.59±.10; Mθθ-0.65±.13; Mφφ-0.03±.10; Mrθ0.05±.11; Mθφ0.07±.10; Mφr0.32±.23; Fault plane solution: M₀8.61000×10¹⁸ NP1: φs103.30000°, δ46.70000°, λ76.70000°. NP2: φs302.40000°, δ44.90000°, λ103.80000°.*

IPGP ***15*** *08:21:35.0, 5.°99S × 149.°55E, h56km, Mww6.4, Fault plane solution: NP1: φs264.00000°, δ41.00000°, λ87.00000°. NP2: φs89.00000°, δ50.00000°, λ93.00000°.*

DJA ***15*** *08:21:39.5± 0.5, 6.°S± 2.°× 15.°0E± 1.°, h80km± 5km, M6.0/59, mB6.2/54, mb5.8/59, Mw(mB)5.9/54, MwMwp6.1/50, Mwp6.1/50*

GCMT ***15*** *08:21:41.2± 0.0, 6.°25S × 149.°65E, h51km, MW6.3/171, Moment Tensor Solution. s171, c397; s165, c671; Duration: 3s5 Moment tensor: Scale 10¹⁸Nm; Mrr3.64±.02; Mθθ-4.04±.01; Mφφ0.40±.01; Mrθ0.15±.01; Mθφ-0.21±.01; Mφr-0.01±.01; Best double couple: M₀3.84800×10¹⁸ NP1: φs267.00000°, δ44.00000°, λ89.00000°. NP2: φs88.00000°, δ46.00000°, λ91.00000°. Principal axes: T 3.6430, Plg89.0000°, Azm17.0000°; N 0.4120, Plg0.0000°, Azm267.0000°; P -4.0520, Plg1.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 15 08:21:34.1± 0.3, 5.°99S± 0.°03 × 149.°60E± 0.°03, h49km± 1km, h49km:pP-P, n1935, σ1.°94/1737, mb5.6/366, MS6.1/565, 77C-25D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I40PG	**Keravat**	**2.93**	**55**	Pn	**Pn**		**Pn**	**08 22 20.8**	**+2.5**
	baz=197,slow=32								
I40PG				I	I		I	08 31 30.0	
	67nm,0.4s,baz=226,slow=317,SNR=1.0								
RABL	**Rabaul**	**3.12**	**55**		**Pn**			**08 22 23.1**	**+2.2**
RABL	**Rabaul**	**3.12**	**55**	⇓P	**Pn**			**08 22 22.9**	**+2.0**
MANU	**Manus Island**	**4.51**	**330**		**Pn**			**08 22 39.1**	**-0.9**
MANU	**Manus Island**	**4.51**	**330**	⇑P	**Pn**			**08 22 42.9**	**+3.0**
JAY	**Jayapura**	**9.52**	**291**	Pn	**Pn**			**08 23 47.6**	**-1.0**
	25nm,0.3s,baz=136,slow=11,SNR=59								
JAY				Sn	**Sn**			**08 25 36.7**	**+2.4**
	baz=106,slow=23								
JAY				LR	LR			08 27 59.0	
	comp=Z,30μm,20.4s,baz=94,slow=41								
JAY	**Jayapura**	**9.52**	**291**	P	Pn			08 23 54.6	+6.0
	86μm9μm413nm,1.1s								
GENI	**Genyem**	**9.99**	**289**	P	Pn			08 24 00.6	+5.5
GENI	**Genyem**	**9.99**	**289**	P	Pn			08 23 59.8	+4.7
	94μm18μm645nm,1.3s								
GENI	**Genyem**	**9.99**	**289**	⇓P	Pn			08 23 59.9	+4.8
COEN	**Coen**	**10.13**	**218**		**Pn**			**08 23 58.4**	**+1.4**
COEN	**Coen**	**10.13**	**218**	P	**Pn**			**08 23 58.3**	**+1.3**
	comp=Z,237nm,0.9s,comp=Z,0.0nm								
COEN	**Coen**	**10.13**	**218**	P	**Pn**			**08 23 58.4**	**+1.4**
TATA	**Tatamba Isabel**	**10.40**	**104**	P	**Pn**			**08 24 03.7**	**+3.0**
TATA	**Tatamba Isabel**	**10.40**	**104**	S	**Sn**			**08 25 58.5**	**+2.5**
SAVO	**Savo Central**	**10.60**	**108**	P	**Pn**			**08 24 07.3**	**+3.8**
ALEG	**Aligegeo Malai**	**11.34**	**105**	P	**Pn**			**08 24 16.7**	**+3.1**
SMPI	**Sarmi**	**11.56**	**290**	P	Pn			08 24 23.6	+7.0
	comp=Z,75μmcomp=Z,17μmcomp=Z,587nm,1.4s								
NGOA	**Tingoa Renbel**	**11.72**	**119**	P	**Pn**			**08 24 22.2**	**+3.4**
HURO	**Huro Makira**	**12.96**	**111**	P	Pn			08 24 40.0	+4.3
MTSU	**Mount Surprise**	**13.12**	**203**	P	**Pn**			**08 24 40.4**	**+2.5**
	comp=Z,371nm,0.9s								
BAKI	**Biak**	**14.28**	**289**	P	**P**			**08 25 03.1**	**+3.4**
	comp=Z,43μmcomp=Z,6μmcomp=Z,244nm,1.1s								
CTAO	**Charters Tower**	**14.38**	**193**		**Pn**			**08 24 56.2**	**+1.2**
CTAO	**Charters Tower**	**14.38**	**193**	P	**Pn**			**08 24 56.2**	**+1.2**
PATS	**Pohnpei**	**15.43**	**34**	Pn	**Pn**			**08 25 08.8**	**+0.2**
PATS	**Pohnpei**	**15.43**	**34**	P	**P**			**08 25 11.6**	**-0.8**
	comp=Z,571nm,1.3s,comp=Z,0.0nm								
PATS	**Pohnpei**	**15.43**	**34**	P	**Pn**			**08 25 10.0**	**+1.3**
RKPI	**Ransiki, Papua**	**16.02**	**286**	P	**P**			**08 25 23.8**	**+4.8**
	comp=Z,41μmcomp=Z,18μmcomp=Z,220nm,1.0s								
LUES	**Luesalemba Tem**	**16.79**	**107**	P	**P**			**08 25 29.0**	**+1.4**
QIS	**Mount Isa**	**17.43**	**213**	P	**P**			**08 25 34.8**	**+0.2**
	comp=Z,0.0nmcomp=Z,638nm,2.0s								
QIS	**Mount Isa**	**17.43**	**213**	P	**P**			**08 25 34.7**	**+0.2**
FAKI	**Fak Fak**	**17.56**	**279**	Pn	**Pn**			**08 25 32.3**	**-3.2**
FAKI	**Fak Fak**	**17.56**	**279**	P	P			08 25 49.5	+13
KDU	**Kakadu**	**18.15**	**247**	P	**P**			**08 25 42.8**	**+0.2**
	comp=Z,0.0nmcomp=Z,610nm,0.9s								
KDU	**Kakadu**	**18.15**	**247**	P	**P**			**08 25 42.8**	**+0.2**
KDU	**Kakadu**	**18.15**	**247**	⇑P	**Pn**			**08 25 41.9**	**-0.9**
SAUI	**Saumlaki**	**18.27**	**263**	P	**P**			**08 25 40.7**	**-3.2**
SWI	**Sorong**	**19.00**	**285**	P	**Pn**			**08 25 58.7**	**+5.7**
	comp=Z,49μmcomp=Z,6μmcomp=Z,181nm,0.7s								
EIDS	**Eidsvold**	**19.32**	**176**				**P**	**08 25 56.6**	**+1.3**
EIDS					IAmb		IAmb	08 26 02.5	
	comp=Z,303nm,0.9s								
EIDS	**Eidsvold**	**19.32**	**176**	P	**P**			**08 25 56.9**	**+1.6**
	comp=Z,412nm,1.1s,comp=Z,0.0nm								
EIDS	**Eidsvold**	**19.32**	**176**	P	**P**			**08 25 56.9**	**+1.6**
EIDS	**Eidsvold**	**19.32**	**176**	⇑P	**Pn**			**08 25 57.0**	**+0.3**
MTN	**Manton Dam**	**19.44**	**248**		**P**			**08 25 56.5**	**-0.2**
MTN	**Manton Dam**	**19.44**	**248**	P	**Pn**			**08 25 57.5**	**-0.8**
	comp=Z,0.0nmcomp=Z,693nm,1.0s								
MTN	**Manton Dam**	**19.44**	**248**	P	**Pn**			**08 25 57.4**	**-0.8**
MTN	**Manton Dam**	**19.44**	**248**	⇑P	**P**			**08 25 57.0**	**+0.3**
DRS	**Darwin Rock St**	**19.53**	**250**	P	**Pn**			**08 25 58.6**	**-0.7**
BNDI	**Bandanaira**	**19.66**	**273**	P	**Pn**			**08 26 01.0**	**+0.1**
SANVU	**Saraoutou**	**19.67**	**120**	P	**P**			**08 26 00.3**	**+1.1**
SANVU	**Saraoutou**	**19.67**	**120**	P	**P**			**08 26 01.1**	**+1.9**
	comp=Z,912nm,1.2s								
SANVU	**Saraoutou**	**19.67**	**120**	⇑P	**P**			**08 26 00.7**	**+1.5**
GUMO	**Guam**	**20.01**	**346**		**P**			**08 26 02.8**	**-0.1**
GUMO	**Guam**	**20.01**	**346**	P	**P**			**08 26 02.0**	**-0.9**
	comp=Z,49nm,0.7s,baz=176,slow=5.4,SNR=10								
GUMO				LR	LR			08 33 56.7	
	comp=Z,16μm,18.4s,baz=178,slow=38								
	comp=Z,49nm,0.7s								
GUMO	**Guam**	**20.01**	**346**	P	**Pn**			**08 26 06.5**	**+1.5**
GUMO	**Guam**	**20.01**	**346**	P	**P**			**08 26 02.8**	**-0.1**
GUMO				pmax	pmax				
	comp=Z,665nm,1.0s								
GUMO	**Guam**	**20.01**	**346**	⇓P	**Pn**			**08 26 06.8**	**+1.9**
WB0	**Warramunga Arr**	**20.15**	**226**		**P**			**08 26 05.3**	**+0.9**
VLAKA	**Lakatoro**	**20.16**	**121**	P	**P**			**08 26 05.8**	**+1.3**
WR0	**Warramunga Arr**	**20.17**	**225**	P	**P**			**08 26 05.0**	**+0.3**
WR8	**Warramunga Arr**	**20.20**	**225**		**P**			**08 26 05.6**	**+0.6**
WR2	**Warramunga Arr**	**20.29**	**225**	P	Pn			08 26 07.0	-1.3
WRAB	**Tennant Creek**	**20.29**	**226**	P	**P**			**08 26 06.8**	**+0.8**
WRAB	**Tennant Creek**	**20.29**	**226**	*c iP*	**P**			**08 26 06.6**	**+0.6**
WRAB				pmax	pmax				
	comp=Z,553nm,0.9s								
WRAB				MLR	MLR				
	comp=Z,57μm,18.0s								
WRA	**Warramunga Arr**	**20.30**	**226**	P	**P**			**08 26 07.1**	**+1.0**
WRA	**Warramunga Arr**	**20.30**	**226**	P	**P**			**08 26 06.8**	**+0.7**
	comp=Z,503nm,0.7s,baz=50,slow=11,SNR=172								
WRA				S	**S**			**08 29 49.2**	**-2.1**
	comp=Z,35nm,0.9s,baz=48,slow=19,SNR=5.2								
WRA				ScP	**ScP**			**08 33 54.4**	**+3.5**
	comp=Z,19nm,0.8s,baz=39,slow=2.6,SNR=4.9								
WRA				LR	LR			08 35 12.4	
	comp=Z,63μm,18.4s,baz=46,slow=41								
WRA				PKiKP	**PKiKP**			**08 38 05.5**	**-1.5**
	comp=Z,1.9nm,0.9s,baz=315,slow=1.1,SNR=5.1								
	comp=Z,503nm,0.7s								
WRA	**Warramunga Arr**	**20.30**	**226**	P	**P**			**08 26 07.1**	**+1.0**
WRA				pmax	pmax				
	comp=Z,109nm,1.0s								
KOUNC	**Koumac, New Ca**	**20.31**	**137**	P	Pn			08 26 09.7	+1.2
RMQ	**Roma**	**20.40**	**182**	P	Pn			08 26 09.8	+0.3
	comp=Z,244nm,0.8s								
RMQ	**Roma**	**20.40**	**182**	P	Pn			08 26 10.2	+0.7
QLP	**Quilpie**	**21.11**	**193**	P	**P**			**08 26 16.4**	**+1.7**
	comp=Z,0.0nmcomp=Z,2μm,0.9s								
QLP	**Quilpie**	**21.11**	**193**	P	**P**			**08 26 15.8**	**+1.1**
QLP	**Quilpie**	**21.11**	**193**	⇓P	**P**			**08 26 16.2**	**+1.5**
AAI	**Ambon**	**21.45**	**275**	P	P			08 26 36.0	+18
DVP	**Devils Point**	**21.58**	**124**	P	**P**			**08 26 21.3**	**+1.5**
KNRA	**Kununurra**	**22.59**	**243**		**P**			**08 26 29.6**	**-1.1**
KNRA	**Kununurra**	**22.59**	**243**	P	**P**			**08 26 30.5**	**-0.2**
	comp=Z,0.0nmcomp=Z,1μm,1.5s								
DZM	**Mont Dzumac**	**22.82**	**136**	P	**P**			**08 26 32.9**	**-0.2**
DZM	**Mont Dzumac**	**22.82**	**136**	*eP*	**P**			**08 26 32.5**	**-0.7**
	comp=Z,1μm,1.1s								
DZM				*eS*	**S**			**08 30 31.3**	**-7.8**
	comp=Z,81μm,25.5s								
DZM				*e*LR	LR			08 32 07.8	
	comp=Z,219μm,24.6s								
DZM	**Mont Dzumac**	**22.82**	**136**	P	**P**			**08 26 32.9**	**-0.2**
	comp=Z,77nm,0.6s,baz=290,slow=5.8,SNR=63								
DZM				S	**S**			**08 30 38.6**	**-0.5**
	comp=Z,22nm,0.7s,baz=223,slow=19,SNR=3.2								
	comp=Z,77nm,0.6s								
DZM	**Mont Dzumac**	**22.82**	**136**	P	**P**			**08 26 33.2**	**0.0**
DZM	**Mont Dzumac**	**22.82**	**136**	⇑P	**P**			**08 26 33.4**	**+0.2**
ONTNC	**Ouen Toro**	**22.98**	**137**		**P**			**08 26 34.7**	**-0.1**
ONTNC				IAmb	IAmb			08 26 51.9	
	comp=Z,343nm,1.1s								
ONTNC	**Ouen Toro**	**22.98**	**137**	P	**P**			**08 26 35.6**	**+0.9**
ONTNC	**Ouen Toro**	**22.98**	**137**	⇑P	**P**			**08 26 35.3**	**+0.6**
AS17	**Alice Springs**	**23.11**	**219**	P	**P**			**08 26 36.8**	**+0.7**
	comp=Z,382nm,0.7s								
YATNC	**Mamie plateau,**	**23.12**	**135**	P	**P**			**08 26 37.0**	**+0.9**
AS01	**Alice Springs**	**23.14**	**219**	P	**P**			**08 26 36.6**	**+0.2**
AS31	**Alice Springs**	**23.17**	**219**	P	**P**			**08 26 36.8**	**+0.1**
AS31				IAmb	IAmb			08 26 59.5	
	comp=Z,79nm,0.6s								
ASAR	**Alice Springs**	**23.17**	**219**	P	**P**			**08 26 35.8**	**-0.9**
ASAR	**Alice Springs**	**23.17**	**219**	P	**P**			**08 26 36.7**	**0.0**
	comp=Z,82nm,0.6s,baz=50,slow=8.7,SNR=222								
ASAR				PcP	**PcP**			**08 30 23.3**	**-0.6**
	comp=Z,20nm,0.6s,baz=10,slow=2.3,SNR=4.0								
ASAR				S	**S**			**08 30 49.0**	**+4.1**
	comp=Z,69nm,1.0s,baz=32,slow=20,SNR=7.5								
ASAR				ScP	**ScP**			**08 34 00.7**	**+2.6**
	comp=Z,15nm,0.8s,baz=37,slow=3.2,SNR=4.9								
ASAR				LR	LR			08 36 31.5	
	comp=Z,60μm,19.2s,baz=41,slow=39								
ASAR				PKiKP	**PKiKP**			**08 38 07.8**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=51,slow=1.3,SNR=1.9								
ASAR				P3KP				09 01 01.0	
	comp=Z,2.1nm,1.0s,baz=170,slow=2.8,SNR=5.1								
	comp=Z,82nm,0.6s								
OUENC	**Ouen Island, N**	**23.32**	**136**	P	**P**			**08 26 38.6**	**+0.5**
SANI	**Sanana**	**23.87**	**278**	P	**P**			**08 26 40.4**	**-2.9**
SANI				S	**S**			**08 30 46.4**	**-10**
PINNC	**Pines Island,**	**23.87**	**136**	P	**P**			**08 26 44.1**	**+0.9**
PINNC				IAMs_20	IAMs_20			08 34 48.3	
	comp=Z,89μm,21.0s								
ARMA	**Armidale**	**24.37**	**176**	P	**P**			**08 26 48.6**	**+0.7**
ARMA	**Armidale**	**24.37**	**176**	P	**P**			**08 26 48.7**	**+0.7**
	comp=Z,0.0nmcomp=Z,519nm,1.7s								
ARMA	**Armidale**	**24.37**	**176**	P	**P**			**08 26 48.7**	**+0.8**
ARMA	**Armidale**	**24.37**	**176**	⇓P	**P**			**08 26 48.9**	**+1.0**
SOEI	**Soe**	**25.36**	**260**	P	**P**			**08 26 57.4**	**+0.3**
SOEI				S	**S**			**08 31 17.0**	**-3.5**
SOEI	**Soe**	**25.36**	**260**	P	**P**			**08 26 56.8**	**-0.2**
SOEI	**Soe**	**25.36**	**260**	P	**P**			**08 26 56.9**	**-0.2**
SOEI	**Soe**	**25.36**	**260**	P	**P**			**08 26 57.7**	**+0.6**
	comp=Z,43μmcomp=Z,12μmcomp=Z,631nm,1.6s								
SOEI	**Soe**	**25.36**	**260**	⇑P	**P**			**08 26 57.9**	**+0.8**
CMSA	**Cobar Meteorol**	**25.68**	**188**	P	**P**			**08 26 59.8**	**+0.2**
	comp=Z,0.0nmcomp=Z,301nm,2.2s								
CMSA	**Cobar Meteorol**	**25.68**	**188**	P	**P**			**08 26 59.4**	**-0.2**
BATI	**Baumata**	**26.01**	**259**	LR	LR			08 39 40.8	
	comp=Z,44μm,22.0s,baz=102,slow=42								
BATI	**Baumata**	**26.01**	**259**	P	**P**			**08 27 03.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**26.30**	**241**	P	**P**			**08 27 05.5**	**+0.3**
FITZ				IAmb	IAmb			08 27 23.3	
	comp=Z,251nm,1.0s								
FITZ	**Fitzroy Crossi**	**26.30**	**241**	P	**P**			**08 27 05.8**	**+0.5**
	comp=Z,265nm,1.1s								
FITZ	**Fitzroy Crossi**	**26.30**	**241**	P	**P**			**08 27 05.6**	**+0.3**
	comp=Z,386nm,0.5s,baz=84,slow=7.7,SNR=164								
FITZ				LR	LR			08 38 39.6	
	comp=Z,31μm,19.1s,baz=68,slow=39								
FITZ	**Fitzroy Crossi**	**26.30**	**241**	P	**P**			**08 27 05.8**	**+0.5**
STKA	**Stephens Creek**	**26.82**	**195**	P	**P**			**08 27 10.6**	**+0.7**
STKA	**Stephens Creek**	**26.82**	**195**	P	**P**			**08 27 10.6**	**+0.7**
	comp=Z,1μm,1.5s,comp=Z,0.0nm								
STKA	**Stephens Creek**	**26.82**	**195**	P	**P**			**08 27 09.5**	**-0.4**
	comp=Z,28nm,0.7s,baz=349,slow=8.5,SNR=26								
STKA				LR	LR			08 37 59.9	
	comp=Z,62μm,21.3s,baz=25,slow=37								
	comp=Z,28nm,0.7s								
STKA	**Stephens Creek**	**26.82**	**195**	P	**P**			**08 27 09.9**	**0.0**
STKA	**Stephens Creek**	**26.82**	**195**	P	**P**			**08 27 10.6**	**+0.7**
STKA				pmax	pmax				
	comp=Z,3μm,1.6s								
MGCD	**Mangrove Creek**	**27.12**	**177**	P	**P**			**08 27 14.1**	**+1.6**
	comp=Z,125nm,1.1s								
MGCD	**Mangrove Creek**	**27.12**	**177**	P	**P**			**08 27 13.3**	**+0.8**
DAV	**Davao City (W)**	**27.25**	**298**	LR	LR			08 39 40.3	
	comp=Z,2μm,18.0s,baz=124,slow=40								
DAV	**Davao City (W)**	**27.25**	**298**	⇑*eP*	**P**			**08 27 16.0**	**+2.0**
MMRI	**Maumere**	**27.26**	**263**	P	**P**			**08 27 12.8**	**-1.2**
MMRI	**Maumere**	**27.26**	**263**	P	**P**			**08 27 13.7**	**-0.4**
MMRI	**Maumere**	**27.26**	**263**	P	**P**			**08 27 14.4**	**+0.3**
MMRI	**Maumere**	**27.26**	**263**	⇑P	**P**			**08 27 12.2**	**-1.9**
RIV	**Riverview**	**27.74**	**177**	P	**P**			**08 27 19.6**	**+1.5**
	comp=Z,239nm,1.8s								
EDFI	**Ende, Flores**	**27.81**	**263**	P	**P**			**08 27 17.9**	**-1.2**
	comp=Z,26μmcomp=Z,4μmcomp=Z,299nm,0.9s								
WRKA	**Warakurna**	**27.84**	**225**	P	**P**			**08 27 19.3**	**0.0**
	comp=Z,0.0nmcomp=Z,211nm,1.0s								
YNG	**Young**	**28.19**	**182**	P	**P**			**08 27 23.1**	**+0.9**
	comp=Z,156nm,1.5s								
BASI	**Baing, Sumba**	**29.03**	**260**	P	P			08 27 40.2	+10
HTT	**Hallett**	**29.05**	**199**	P	**P**			**08 27 30.0**	**+0.2**
	comp=Z,37nm,0.9s								
HTT	**Hallett**	**29.05**	**199**	P	**P**			**08 27 30.0**	**+0.2**
HTT	**Hallett**	**29.05**	**199**	⇑P	**P**			**08 27 30.2**	**+0.4**
WHYH	**Whyalla**	**29.14**	**201**	P	**P**			**08 27 30.9**	**+0.3**
CNB	**Canberra Magne**	**29.18**	**180**	P	**P**			**08 27 31.9**	**+0.9**
	comp=Z,0.0nmcomp=Z,141nm,1.4s								
CNB	**Canberra Magne**	**29.18**	**180**	P	**P**			**08 27 32.0**	**+0.9**
	comp=Z,141nm,1.4s								
CAN	**Canberra**	**29.19**	**181**	P	**P**			**08 27 30.1**	**-1.0**
CAN				IAmb	IAmb			08 27 35.2	
	comp=Z,93nm,1.0s								
CAN	**Canberra**	**29.19**	**181**	P	**P**			**08 27 31.6**	**+0.5**
	comp=Z,0.0nmcomp=Z,98nm,1.6s								
CAN	**Canberra**	**29.19**	**181**	P	**P**			**08 27 31.8**	**+0.7**
CAN	**Canberra**	**29.19**	**181**	P	**P**			**08 27 30.1**	**-1.0**
CAN				pmax	pmax				
	comp=Z,93nm,1.0s								
CAN				MLR	MLR				
	comp=Z,79μm,19.0s								
CAN	**Canberra**	**29.19**	**181**	⇑P	**P**			**08 27 32.2**	**+1.1**
WSI	**Waingapu**	**29.25**	**261**	P	**P**			**08 27 34.5**	**+2.7**
BKSI	**Bulukumba**	**29.34**	**270**	P	P			08 27 47.6	+15
FUNA	**Funafuti**	**29.46**	**97**	P	**P**			**08 27 33.1**	**-0.6**
TOLI2	**Tolitoli**	**29.62**	**283**	P	**P**			**08 27 33.3**	**-1.8**
TOLI2				IAmb	IAmb			08 28 36.0	
	comp=Z,91nm,1.1s								
KAPI	**Kappang**	**29.72**	**270**	P	**P**			**08 27 34.3**	**-1.7**
KAPI				IAmb	IAmb			08 28 18.1	
	comp=Z,79nm,0.9s								
KAPI	**Kappang**	**29.72**	**270**	LR	LR			08 42 47.4	
	comp=Z,6μm,20.2s,baz=82,slow=43								
KAPI	**Kappang**	**29.72**	**270**	P	**P**			**08 27 34.3**	**-1.7**
KAPI				pmax	pmax				
	comp=Z,79nm,1.0s								
KAPI	**Kappang**	**29.72**	**270**	P	**P**			**08 27 35.9**	**-0.1**
KAPI				S	**S**			**08 32 36.2**	**+7.2**
KAPI	**Kappang**	**29.72**	**270**	P	**P**			**08 27 35.9**	**-0.1**
KAPI				S	**S**			**08 32 36.2**	**+7.2**
TTSI	**Tana Toraja**	**29.83**	**274**	P	P			08 27 47.6	+11
MSVF	**Nonsavu**	**30.14**	**115**	P	**P**			**08 27 40.4**	**+0.7**
MSVF	**Nonsavu**	**30.14**	**115**	P	**P**			**08 27 40.6**	**+0.9**
MSVF	**Nonsavu**	**30.14**	**115**	P	**P**			**08 27 40.4**	**+0.7**
MSVF				pmax	pmax				
	comp=Z,252nm,1.0s								
MSVF	**Nonsavu**	**30.14**	**115**	⇑P	**P**			**08 27 40.6**	**+0.9**
WBSI	**Waikabubak, Su**	**30.14**	**261**	P	P			08 27 45.2	+5.5
	comp=Z,19μmcomp=Z,6μmcomp=Z,302nm,0.9s								
MILA	**Mila**	**30.92**	**181**	⇑P	**P**			**08 27 49.5**	**+3.1**
ARPS	**Mount Arapiles**	**31.45**	**192**	P	**P**			**08 27 51.1**	**+0.2**
	comp=Z,0.0nmcomp=Z,95nm,0.9s								
TOO	**Toolangi**	**31.66**	**186**	P	**P**			**08 27 52.6**	**-0.2**
TOO	**Toolangi**	**31.66**	**186**	P	**P**			**08 27 53.6**	**+0.8**
	comp=Z,0.0nmcomp=Z,42nm,2.0s								
TOO	**Toolangi**	**31.66**	**186**	P	**P**			**08 27 52.6**	**-0.2**
TOO				pmax	pmax				
	comp=Z,40nm,1.1s								
TOO				MLR	MLR				
	comp=Z,14μm,18.0s								
TOO	**Toolangi**	**31.66**	**186**	⇑P	**P**			**08 27 53.9**	**+1.1**
PLAI	**Plampang**	**31.67**	**263**	P	**P**			**08 27 51.2**	**-2.0**
PLAI	**Plampang**	**31.67**	**263**	P	**P**			**08 27 52.7**	**-0.5**
	comp=Z,19μmcomp=Z,2μmcomp=Z,186nm,0.8s								
FORT	**Forrest**	**31.89**	**217**	P	**P**			**08 27 55.3**	**+0.4**
FORT	**Forrest**	**31.89**	**217**	P	**P**			**08 27 55.2**	**+0.2**
	comp=Z,0.0nmcomp=Z,250nm,0.9s								
MBWA	**Marble Bar**	**32.62**	**240**	P	**P**			**08 28 01.5**	**0.0**
MBWA	**Marble Bar**	**32.62**	**240**	P	**P**			**08 28 01.1**	**-0.3**
	comp=Z,259nm,0.8s								
MBWA	**Marble Bar**	**32.62**	**240**	P	**P**			**08 28 01.2**	**-0.2**
MBWA	**Marble Bar**	**32.62**	**240**	P	**P**			**08 28 01.2**	**-0.2**
MBWA	**Marble Bar**	**32.62**	**240**	P	**P**			**08 28 01.1**	**-0.3**
MBWA	**Marble Bar**	**32.62**	**240**	P	**P**			**08 28 01.1**	**-0.3**
PSAC2	**Pilbara Seismi**	**32.63**	**239**	P	**P**			**08 28 01.2**	**-0.4**
	comp=Z,449nm,1.1s								
PSA00	**Pilbara Seismi**	**32.69**	**239**	P	**P**			**08 28 02.1**	**+0.1**
PSA00	**Pilbara Seismi**	**32.69**	**239**	P	**P**			**08 28 02.2**	**+0.2**
PSA00				IAmb	IAmb			08 28 19.2	
	comp=Z,321nm,1.0s								
PSA00	**Pilbara Seismi**	**32.69**	**239**	P	**P**			**08 28 01.8**	**-0.2**
	comp=Z,362nm,1.1s								
PSA00	**Pilbara Seismi**	**32.69**	**239**	P	**P**			**08 28 02.1**	**+0.1**
FUTU	**Fugatoga**	**32.80**	**107**	P	**P**			**08 28 03.3**	**+0.3**
CBIJ	**Chichijima**	**33.67**	**348**	P	**P**			**08 28 09.5**	**-0.9**
JCJ	**Chichijima**	**33.67**	**348**	P	**P**			**08 28 09.4**	**-1.0**
JCJ	**Chichijima**	**33.67**	**348**	P	**P**			**08 28 10.1**	**-0.3**
JCJ	**Chichijima**	**33.67**	**348**	⇓P	**P**

comp=Z,108nm,1.3s
BKZ Black Stump Fm 40.99 148 P P 08 29 13.9 +1.4
NNZ Nelson 41.00 152 P P 08 29 13.3 +0.9
YHNB Yeheng 41.04 319 IAMs_20 IAMs_20 08 42 36.4
comp=Z,27µm,22.0s
YHNB Yeheng 41.04 319 P P 08 29 13.9 +0.9
WMGZ Waiomatatini S 41.11 145 P P 08 29 14.4 +1.1
TATO Taipei 41.18 319 P P 08 29 12.6 -1.4
TATO Taipei 41.18 319 P P 08 29 15.4 +1.3
THZ Tophouse 41.22 153 P P 08 29 15.1 +0.8
KRHZ Kereru 41.28 148 P P 08 29 15.6 +0.9
RIGZ Rimuhau 41.35 146 P P 08 29 16.0 +0.6
INZ Inchbonnie 41.38 155 IAMs_20 IAMs_20 08 44 05.5
comp=Z,29µm,20.0s
WVZ Waitaha Valley 41.38 156 P P 08 29 20.2 +4.7
TCW Tory Channel 41.41 152 P P 08 29 16.6 +0.7
TUWZ Tuamarina 41.43 152 P P 08 29 17.4 +1.4
RKGY Rocky Gully 41.45 222 P P 08 29 16.7 +0.5
comp=Z,143nm,0.8s
NIUE Niue 41.48 112 P P 08 29 18.2 +1.6
NIUE Niue 41.48 112 P P 08 29 18.1 +1.5
comp=Z,0.0nmcomp=Z,428nm,1.7s
JCZ Jackson Bay 41.50 159 P P 08 29 18.1 +1.5
BSWZ Blackbirch Sta 41.62 152 P P 08 29 17.9 +0.3
MRZ Mangatainoka R 41.63 150 P P 08 29 18.4 +0.8
MRZ IAmb IAmb 08 29 35.3
comp=Z,236nm,1.2s
MRZ Mangatainoka R 41.63 150 P P 08 29 19.5 +1.9
SNZO South Karori 41.70 151 P P 08 29 19.0 +0.9
SNZO South Karori 41.70 151 IAMs_20 IAMs_20 08 46 38.0
comp=Z,30µm,18.0s
SNZO South Karori 41.70 151 P P 08 29 20.2 +2.1
SNZO South Karori 41.70 151 P P 08 29 16.8 -1.3
SNZO South Karori 41.70 151 P P 08 29 16.8 -1.3
LEM Lembang 41.72 266 LR LR 08 50 59.6
comp=Z,7µm,20.8s,baz=108,slow=42
LTZ Lake Taylor 41.77 155 P P 08 29 20.4 +1.6
LTZ Lake Taylor 41.77 155 P P 08 29 20.1 +1.3
CMWZ Cape Campbell 41.81 152 P P 08 29 19.1 +0.1
PXZ Pawanui 41.82 148 P P 08 29 21.3 +2.2
BHW Baring Head 41.85 151 P P 08 29 20.7 +1.3
JSG Sagara 41.86 346 P P 08 29 19.9 +0.5
TPI Tanjungpandan 41.94 273 P P 08 29 27.4 +6.9
comp=Z,20µmcomp=Z,2µmcomp=Z,121nm,0.9s
BFZ Birch Farm 41.98 149 P P 08 29 20.6 +0.2
BFZ Birch Farm 41.98 149 P P 08 29 19.9 -0.6
BFZ Birch Farm 41.98 149 P P 08 29 20.8 +0.4
KHZ Kahutara 42.03 153 P P 08 29 21.1 +0.3
KHZ IAMs_20 IAMs_20 08 45 15.7
comp=Z,24µm,20.0s
KHZ Kahutara 42.03 153 P P 08 29 20.4 -0.4
KHZ Kahutara 42.03 153 ⇓P **P 08 29 21.1 +0.3**
MSWZ Moikau Station 42.04 151 P P 08 29 20.9 -0.1
RPZ Rata Peaks 42.05 157 P P 08 29 21.5 +0.5
RPZ IAMs_20 IAMs_20 08 44 34.1
comp=Z,34µm,21.0s
RPZ Rata Peaks 42.05 157 LR LR 08 44 46.4
comp=Z,32µm,21.2s,baz=327,slow=33
RPZ Rata Peaks 42.05 157 P P 08 29 21.5 +0.5
OXZ Oxford 42.12 155 P P 08 29 21.6 0.0
OXZ IAMs_20 IAMs_20 08 44 38.1
comp=Z,28µm,20.0s
PLWZ Palliser 42.16 151 P P 08 29 22.0 0.0
DCZ Deep Cove 42.18 162 P P 08 29 23.2 +1.3
DCZ IAmb IAmb 08 29 51.0
comp=Z,189nm,1.3s
CNJI Cibinong 42.19 266 P P 08 29 22.7 +0.1
comp=Z,3µmcomp=Z,265nm,0.9s
JMN Monobe 42.22 340 P P 08 29 23.2 +0.8
JMN Monobe 42.22 340 P P 08 29 23.5 +1.0
JMN Monobe 42.22 340 P P 08 29 23.3 +0.8
JMN Monobe 42.22 340 ⇑P **P 08 29 23.6 +1.2**
WKZ Wanaka 42.24 159 P P 08 29 22.5 0.0
GVZ Greta Valley S 42.25 154 P P 08 29 23.5 +0.9
GVZ Greta Valley S 42.25 154 P P 08 29 23.3 +0.7
LBZ Lake Benmore 42.28 158 IAmb IAmb 08 29 40.5
comp=Z,202nm,1.3s
MLZ Mavora Lakes 42.41 161 P P 08 29 24.3 +0.4
SKJI Sukabumi 42.77 266 P P 08 29 30.0 +2.7
JNU Nakatsue 42.77 337 LR LR 08 44 37.9
comp=Z,6µm,21.7s,baz=152,slow=32
JNU Nakatsue 42.77 337 P P 08 29 27.4 +0.4
JNU Nakatsue 42.77 337 P P 08 29 27.2 +0.2
JNU Nakatsue 42.77 337 ⇑P **P 08 29 27.2 +0.2**
INU Inuyama 42.79 345 P P 08 29 27.9 +0.8
INU Inuyama 42.79 345 ⇑P **P 08 29 27.5 +0.4**
INU Inuyama 42.79 345 P P 08 29 27.6 +0.6
INU pP **pP 08 29 38.5 -1.7**
KNMB Chin-men Tao 42.91 316 P P 08 29 28.0 -0.2
JGF Kuroka 42.94 345 P P 08 29 28.2 -0.2
JGF IAmb IAmb 08 29 47.7
comp=Z,104nm,0.7s
JGF Kuroka 42.94 345 P P 08 29 29.2 +0.8
JGF Kuroka 42.94 345 P P 08 29 28.7 +0.3
JGF Kuroka 42.94 345 ⇑P **P 08 29 28.9 +0.5**
JRY Ryogami san 42.98 347 P P 08 29 28.4 -0.2
ODZ Otahua Downs 43.01 158 IAmb IAmb 08 30 01.1
comp=Z,115nm,1.3s
ODZ Otahua Downs 43.01 158 P P 08 29 31.3 +2.5
ODZ Otahua Downs 43.01 158 ⇓P **P 08 29 32.6 +3.9**
QZH Quanzhou 43.08 317 P P 08 29 28.8 -0.8
QZH pP **sP 08 29 45.0 -3.5**
QZH sP pP 08 29 52.5 +10
QZH S S **08 35 50.8 -1.5**
QZH pmax pmax
comp=Z,280nm,0.5s
QZH pmax pmax
comp=Z,2µm,10.7s
QZH LR LR
comp=Z,10µm,23.4s
QZH LR LR
comp=Z,11µm,24.7s
QZH LR LR
comp=Z,26µm,29.5s
JWT Wachi 43.18 343 P P 08 29 30.6 +0.4
JFU Fukue jima 2 43.25 334 P P 08 29 31.6 +0.8
H01W1 Cape Leeuwin H 43.52 224 P P 08 29 35.2 +2.4
baz=74,slow=5.7,SNR=13
H01W3 Cape Leeuwin H 43.53 224 P P 08 29 34.6 +1.8
baz=74,slow=5.7,SNR=6.8
H01W2 Cape Leeuwin H 43.54 224 P P 08 29 35.4 +2.5
baz=74,slow=5.7,SNR=7.8
CGJI Cibinong 43.63 267 P P 08 29 36.3 +2.1
comp=Z,4µmcomp=Z,227nm,1.0s
MJAR Matsushiro Arr 43.63 347 P P 08 29 33.3 -0.6
MJAR IAmb IAmb 08 29 39.9
comp=Z,60nm,0.8s
MJAR Matsushiro Arr 43.63 347 P P 08 29 33.4 -0.6
comp=Z,37nm,0.8s,baz=168,slow=7.7,SNR=59
MJAR LR LR 08 47 35.1
comp=Z,5µm,18.4s,baz=171,slow=36
comp=Z,37nm,0.8s
MJAR Matsushiro Arr 43.63 347 P P 08 29 33.3 -0.6
MJAR pmax pmax
comp=Z,60nm,0.8s
MAJO Matsushiro 43.64 347 P P 08 29 33.4 -0.5
MAJO Matsushiro 43.64 347 P P 08 29 34.2 +0.3
MAJO Matsushiro 43.64 347*c i* P **P 08 29 33.1 -0.8**
MAJO pmax pmax
comp=Z,207nm,1.5s
MAJO Matsushiro 43.64 347 ⇑P **P 08 29 33.6 -0.3**
MAJO Matsushiro 43.64 347 P P 08 29 33.7 -0.3
MAJO pP **pP 08 29 44.9 -2.2**
MAJO sP **sP 08 29 50.1 -2.7**
MAJO Matsushiro 43.64 347 P P 08 29 33.8 -0.1
MAJO S S **08 35 58.9 -1.3**
MAJO Matsushiro 43.64 347 P P 08 29 33.8 -0.1
MAJO S S **08 35 58.9 -1.3**
MAT Matsushiro 43.64 347 P P 08 29 33.2 -0.7
MJB9 Matsu-Tunnel 43.64 347 P P 08 29 34.1 +0.1
SYZ Scrubby Hill 43.77 161 P P 08 29 36.1 +1.3
JMM Marumori 44.40 350 P P 08 29 39.8 -0.1
JMM Marumori 44.40 350 P P 08 29 40.5 +0.6
JMM Marumori 44.40 350 ⇓P **P 08 29 40.5 +0.6**
JTU Tsushima 44.59 336 P P 08 29 45.1 +3.6
JTU Tsushima 44.59 336 ⇑P **P 08 29 42.0 +0.5**
DLV Lat 44.60 294 IAmb IAmb 08 30 15.6
comp=Z,72nm,1.1s
JSD Sado 45.06 347 P P 08 29 46.2 +1.0
JSD Sado 45.06 347 ⇑P **P 08 29 45.4 +0.2**
MDSI Maura Dua 45.24 270 P P 08 29 46.3 -0.8
comp=Z,17µmcomp=Z,2µmcomp=Z,76nm,1.8s
JYA Atsumi 45.30 349 P P 08 29 48.3 +1.2

LWLI Liwa 45.33 269 P P 08 29 50.1 +2.1
comp=Z,16µmcomp=Z,338nm,0.9s
GZH Guangzhou 45.72 310 P P 08 29 52.8 +2.1
GZH pP **sP 08 30 06.1 -3.6**
GZH S S **08 36 31.4 +0.6**
GZH pmax pmax
comp=Z,2µm,10.5s
GZH LR LR
comp=Z,4µm,22.7s
GZH LR LR
comp=Z,10µm,22.8s
GZH LR LR
comp=Z,16µm,26.7s
SSE Sheshan 45.80 325 P P 08 29 53.8 +2.6
SSE pP **sP 08 30 07.3 -2.9**
SSE S S **08 36 33.8 +2.1**
SSE pmax pmax
comp=Z,34nm,0.8s
SSE pmax pmax
comp=Z,880nm,3.5s
JOM Ohasama 45.88 351 P P 08 29 52.2 +0.5
JOHN Johnston Islan 46.29 60 IAMs_20 IAMs_20 08 46 09.1
comp=Z,32µm,22.0s
MYKOM Kota Tinggi 46.33 278 P P 08 29 55.2 -0.5
MYKOM IAmb IAmb 08 30 44.4
comp=Z,65nm,1.0s
QIZ Qiongzhong 46.39 303 P P 08 29 55.1 -1.0
QIZ IAmb IAmb 08 31 08.7
comp=Z,91nm,1.3s
QIZ Qiongzhong 46.39 303 P P 08 29 55.4 -0.7
QIZ PP **PP 08 31 46.3 +0.6**
QIZ S S **08 36 41.4 +0.9**
QIZ pmax pmax
comp=Z,55nm,0.8s
QIZ LR LR
comp=Z,4µm,24.0s
QIZ LR LR
comp=Z,5µm,26.5s
QIZ LR LR
comp=Z,14µm,30.9s
QIZ Qiongzhong 46.39 303 P P 08 29 55.4 -0.7
QIZ Qiongzhong 46.39 303 P P 08 29 54.9 -1.2
TJN Taejon 47.02 335 P P 08 30 01.5 +0.9
TJN Taejon 47.02 335 P P 08 30 01.5 +0.9
TJN pmax pmax
comp=Z,1µm,1.5s
JTM Tenmabayashi 47.20 351 P P 08 30 03.0 +0.9
JTM Tenmabayashi 47.20 351 P P 08 30 02.7 +0.7
JTM Tenmabayashi 47.20 351 P P 08 30 02.9 +0.9
JTM Tenmabayashi 47.20 351 ⇑P **P 08 30 03.2 +1.2**
KSRS Korea Array 47.72 337 P P 08 30 06.5 +0.4
comp=Z,50nm,0.7s,baz=154,slow=8.7,SNR=47
KSRS ScP **ScP 08 35 29.2 +4.0**
comp=Z,1,4nm,0.7s,baz=155,slow=4.1,SNR=4.1
comp=Z,50nm,0.7s
KSAR Wonju Array Be 47.72 337 P P 08 30 06.2 +0.1
KSAR Wonju Array Be 47.72 337 P P 08 30 06.2 +0.1
NJ2 Nanjing 47.85 324⇑*iP* **P 08 30 08.4 +1.2**
NJ2 pP **sP 08 30 23.9 -2.3**
NJ2 S S **08 37 03.3 +2.4**
NJ2 pmax pmax
comp=Z,50nm,0.8s
NJ2 pmax pmax
comp=Z,810nm,5.4s
NJ2 LR LR
comp=Z,7µm,20.4s
NJ2 LR LR
comp=Z,8µm,24.2s
NJ2 LR LR
comp=Z,18µm,24.6s
ERM Erimo 48.14 354 P P 08 30 10.4 +1.2
ERM Erimo 48.14 354 P P 08 30 12.2 +3.0
ERM Erimo 48.14 354*ce*P **P 08 30 07.0 -2.2**
ERM pmax pmax
comp=Z,726nm,1.9s
ERM Erimo 48.14 354 ⇑P **P 08 30 10.8 +1.5**
ERM Erimo 48.14 354 P P 08 30 09.6 +0.4
ERM Erimo 48.14 354 P P 08 30 09.6 +0.4
JEM Erimo 48.14 354 P P 08 30 12.2 +3.0
INCN Inchon 48.27 335 P P 08 30 10.8 +0.4
INCN Inchon 48.27 335 P P 08 30 10.8 +0.4
INCN pmax pmax
comp=Z,445nm,1.7s
UBPT Khong Chiam 48.56 296 P P 08 30 12.2 -0.8
BKNI Bangkinang 48.88 276 P P 08 30 14.3 -1.2
CNSH ChangSha 49.04 316 P P 08 30 18.1 +1.7
CNSH S S **08 37 21.4 +3.6**
CNSH LR LR
comp=Z,6µm,29.2s
CNSH LR LR
comp=Z,10µm,24.3s
CNSH LR LR
comp=Z,20µm,29.4s
HJU Haeju 49.12 335 P P 08 30 18.5 +1.6
HJU S S **08 37 20.3 +1.7**
HJU AmB
comp=Z,332nm,1.8s
HJU AMS AMS
comp=Z,17µm,25.0s
JEW Eniwo 49.16 352 P P 08 30 16.9 -0.2
JSH Shimam 49.18 351 P P 08 30 17.7 +0.5
GULI GuiLin 49.20 311 P P 08 30 17.3 -0.5
GULI S S **08 37 18.4 -1.9**
GULI pmax pmax
comp=Z,19nm,0.7s
GULI LR LR
comp=Z,4µm,22.9s
GULI LR LR
comp=Z,5µm,22.9s
GULI LR LR
comp=Z,9µm,25.1s
WHN Wuhan 49.58 319 P P 08 30 21.8 +1.2
WHN pP **sP 08 30 36.8 -2.8**
WHN sP pP 08 30 44.8 +11
WHN S S **08 37 26.3 +0.9**
WHN pmax pmax
comp=Z,170nm,0.5s
WHN pmax pmax
comp=Z,4µm,9.7s
WHN LR LR
comp=Z,10µm,15.9s
WHN LR LR
comp=Z,18µm,17.6s
WHN LR LR
comp=Z,32µm,19.5s
YUK Yuzh-Kuril'sk 49.91 356*eP* **P 08 30 21.1 -1.7**
YUK *i* 08 32 16.2
YUK *i* S **S 08 37 26.9 -2.5**
YUK pmax pmax
comp=Z,947nm,2.5s
YUK pmax pmax
comp=N,204nm,1.1s
YUK pmax pmax
comp=Z,427nm,1.1s
YUK pmax pmax
comp=E,308nm,1.0s
PYAG Pyongyang 49.96 336 P P 08 30 24.6 +1.3
PYAG pP **sP 08 30 40.7 -1.6**
PYAG S S **08 37 32.5 +2.2**
PYAG AmB
comp=Z,567nm,1.4s
PYAG AMS AMS
comp=Z,14µm,30.2s
HHU Hamhung 50.02 338 P P 08 30 24.4 +0.8
HHU S S **08 37 33.5 +2.4**
HHU AmB
comp=Z,2µm,3.2s
KULM Kulim 50.14 282 P P 08 30 25.1 0.0
KULM IAmb IAmb 08 31 34.3
comp=Z,94nm,1.3s
KULM Kulim 50.14 282 P P 08 30 26.4 +1.3
JKA Kamikawa-asahi 50.27 353 P P 08 30 26.6 +1.1
ASAJ Asahikawa 50.27 353 LR LR 08 47 11.6
comp=Z,5µm,21.1s,baz=202,slow=31
ASAJ Asahikawa 50.27 353 P P 08 30 26.7 +1.1
ASAJ pmax pmax
comp=Z,515nm,1.0s
ASAJ MLR MLR
comp=Z,5µm,21.0s
ASAJ Asahikawa 50.27 353 P P 08 30 27.0 +1.5
MNSI Mandailing Nat 50.39 276 P P 08 30 28.2 +1.2
comp=Z,6µmcomp=Z,52nm,0.7s
KUR Kuril'sk 51.02 358*eP* **P 08 30 31.2 +0.1**
KUR *e* 08 32 27.6
KUR *eS* **S 08 37 43.8 -1.0**

KUR *eSS* **SS 08 41 20.8 +0.2**
KUR *eSSS* SSS 08 42 56.7
KUR pmax pmax
comp=Z,987nm,1.2s
KUR pmax pmax
comp=N,205nm,1.3s
KUR pmax pmax
comp=E,73nm,1.1s
KUR pmax pmax
comp=Z,4µm,11.8s
KUR MLR MLR
comp=Z,4µm,18.0s
KUR MLR MLR
comp=N,4µm,21.0s
MSHR Mys Shultsa 51.17 343*ce*P **P 08 30 33.5 +1.2**
MSHR pmax pmax
comp=Z,66nm,0.9s
RAR Rarotonga 51.25 112 P P 08 30 33.7 +0.4
RAR Rarotonga 51.25 112 LR LR 08 48 17.0
comp=Z,2µm,21.1s,baz=276,slow=31
RAR Rarotonga 51.25 112 P P 08 30 33.7 +0.4
RAR pmax pmax
comp=Z,459nm,1.5s
RAR Rarotonga 51.25 112 ⇑P **P 08 30 34.6 +1.3**
RPSI Rantau Prapat 51.33 278 P P 08 30 33.0 -1.0
PSTR Posyet 51.34 342*ce*P **P 08 30 35.2 +1.6**
PSI Prapat 51.35 278 LR LR 08 56 03.7
comp=Z,3µm,21.9s,baz=134,slow=40
PSI Prapat 51.35 278 P P 08 30 33.1 -1.3
PSI pmax pmax
comp=Z,334nm,1.9s
PSI MLR MLR
comp=Z,7µm,22.0s
SUJ Sinuiju 51.37 335 P P 08 30 35.2 +1.3
SUJ S **S 08 37 51.7 +1.9**
SUJ AmB
comp=Z,691nm,2.8s
SUJ AMS AMS
comp=Z,10µm,22.4s
DL2 Dalian 51.65 332 P P 08 30 36.8 +0.9
DL2 S **S 08 37 53.5 -0.2**
DL2 pmax pmax
comp=Z,160nm,0.9s
DL2 pmax pmax
comp=Z,3µm,8.8s
DL2 LR LR
comp=Z,10µm,23.1s
DL2 LR LR
comp=Z,5µm,19.2s
DL2 LR LR
comp=Z,16µm,22.2s
TIA Tai'an 51.86 326 P P 08 30 37.8 +0.2
TIA S **S 08 37 55.6 -1.2**
TIA pmax pmax
comp=Z,190nm,0.7s
TIA pmax pmax
comp=Z,1µm,10.2s
TIA LR LR
comp=Z,9µm,22.9s
TIA LR LR
comp=Z,7µm,23.9s
TIA LR LR
comp=Z,21µm,24.1s
SRIT Nakonsritamara 51.91 286 P P 08 30 38.7 +0.3
SLVN Son La 52.40 303 P P 08 30 41.2 -0.8
SLVN IAmb IAmb 08 31 20.1
comp=Z,94nm,1.6s
USA0B Ussuriysk Arra 52.42 344 P P 08 30 42.6 +1.0
USA0B Ussuriysk Arra 52.42 344 P P 08 30 42.6 +1.0
USA0B pmax pmax
comp=Z,344nm,1.3s
USRK Ussuriysk Ar. 52.42 344 P P 08 30 42.0 +0.4
USRK Ussuriysk Ar. 52.42 344 P P 08 30 41.0 -0.6
comp=Z,32nm,0.7s,baz=178,slow=8.1,SNR=43
USRK LR LR 08 50 55.6
comp=Z,9µm,21.4s,baz=153,slow=34
comp=Z,32nm,0.7s
USRK Ussuriysk Ar. 52.42 344 P P 08 30 42.0 +0.4
GSI Gunungsitoli 52.44 276 P P 08 30 42.0 -0.4
GSI Gunungsitoli 52.44 276 P P 08 30 43.6 +1.2
GSI Gunungsitoli 52.44 276 P P 08 30 45.8 +3.4
comp=Z,15µmcomp=Z,69nm,0.7s
GSI Gunungsitoli 52.44 276 ⇑P **P 08 30 43.5 +1.1**
GYA Guiyang 52.64 310 P P 08 30 46.9 +3.2
GYA pP sP 08 31 00.4 -2.5
GYA S **S 08 38 04.1 -4.0**
GYA sS sS 08 38 27.6 -2.0
GYA pmax pmax
comp=Z,16nm,0.9s
GYA LR LR
comp=Z,3µm,18.0s
GYA LR LR
comp=Z,2µm,20.4s
GYA LR LR
comp=Z,8µm,22.7s
ENH Enshi 52.70 316 P P 08 30 43.5 -0.4
ENH IAmb IAmb 08 31 14.8
comp=Z,60nm,0.9s
YSS Yuzhno-Sakhali 53.06 354 P P 08 30 47.1 +0.8
YSS Yuzhno-Sakhali 53.06 354 P P 08 30 48.2 +1.9
YSS Yuzhno-Sakhali 53.06 354*ce*P **P 08 30 46.8 +0.5**
YSS *e**PP **sP 08 31 02.0 -3.4**
YSS *e* 08 32 48.7
YSS *eS* **S 08 38 12.0 -0.8**
YSS pmax pmax
comp=N,600nm,5.1s
YSS pmax pmax
comp=Z,900nm,5.1s
YSS pmax pmax
comp=E,300nm,3.4s
YSS pmax pmax
comp=Z,110nm,1.0s
YSS pmax pmax
comp=N,70nm,0.9s
YSS pmax pmax
comp=E,30nm,0.8s
YSS smax smax
comp=N,2µm,8.0s
YSS smax smax
comp=E,600nm,6.4s
YSS Yuzhno-Sakhali 53.06 354 ⇑P **P 08 30 46.5 +0.3**
SNY Shenyang 53.19 336 ⇑P **P 08 30 46.5 -0.9**
SNY S S 08 38 02.3 -12
SNY pmax pmax
comp=E,33nm,0.7s
SNY pmax pmax
comp=E,2µm,4.9s
SNY LR LR
comp=E,5µm,27.5s
SNY LR LR
comp=E,3µm,26.0s
SNY LR LR
comp=E,12µm,28.4s
LYN LuoYang 53.42 322 ⇑P **P 08 30 50.4 +1.2**
LYN S **S 08 38 12.9 -5.2**
LYN sS sS 08 38 43.8 +4.1
LYN pmax pmax
comp=E,58nm,0.8s
LYN pmax pmax
comp=E,2µm,9.7s
LYN LR LR
comp=E,19µm,24.7s
LYN LR LR
comp=E,15µm,25.9s
LYN LR LR
comp=E,38µm,26.0s
XMAS Kiritimati 53.48 83 P P 08 30 50.2 +0.2
XMAS Kiritimati 53.48 83 IAMs_20 IAMs_20 08 50 53.8
comp=Z,15µm,20.0s
MDJ Mudanjiang 53.50 342 P P 08 30 50.7 +1.1
MDJ Mudanjiang 53.50 342 P P 08 30 50.9 +1.4
MDJ pP sP 08 31 06.4 -2.3
MDJ S **S 08 38 21.6 +2.8**
MDJ pmax pmax
comp=Z,40nm,1.0s
MDJ pmax pmax
comp=Z,2µm,11.7s
MDJ LR LR
comp=Z,6µm,24.8s
MDJ LR LR
comp=Z,6µm,24.0s
MDJ LR LR
comp=Z,21µm,24.8s
HNS HongShan 54.06 326 ⇑P **P 08 30 52.4 -1.4**
HNS S **S 08 38 25.5 -1.1**
HNS sS **sS 08 38 52.8 +4.7**

HNS				pmax	pmax			
	comp=Z,310nm,0.7s							
HNS				pmax	pmax			
	comp=Z,1μm,11.2s							
HNS				LR	LR			
	comp=Z,7μm,19.1s							
HNS				LR	LR			
	comp=Z,9μm,18.5s							
HNS				LR	LR			
	comp=Z,16μm,24.7s							
CN2	**Changchun**	**54.15**	**339**	P	**P**	**08 30 52.9**	**-1.5**	
CN2				pP	sP	08 31 10.4	-3.2	
CN2				S	**S**	**08 38 22.8**	**-5.0**	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CN2				pmax	pmax			
	comp=Z,2μm,8.0s							
CN2				LR	LR			
	comp=Z,4μm,21.0s							
CN2				LR	LR			
	comp=Z,6μm,21.0s							
CN2				LR	LR			
	comp=Z,4μm,21.0s							
KMI	**Kunming**	**55.06**	**306**	⇑P	**P**	**08 31 00.9**	**-0.7**	
KMI				pP	sP	08 31 19.8	-1.0	
KMI				PP	**PP**	**08 33 04.9**	**-0.4**	
KMI				S	**S**	**08 38 40.3**	**-0.7**	
KMI				SS	**SKiKP**	**08 42 14.8**	**+11**	
KMI				pmax	pmax			
	comp=Z,40nm,1.0s							
KMI				LR	LR			
	comp=Z,3μm,20.0s							
KMI				LR	LR			
	comp=Z,1μm,21.5s							
KMI				LR	LR			
	comp=Z,9μm,26.0s							
BJT	**Baijiatuau**	**55.18**	**329**	P	**P**	**08 31 02.1**	**+0.2**	
BJT				IAmb	IAmb	08 31 20.4		
	comp=Z,61nm,1.0s							
BJT	**Baijiatuau**	**55.18**	**329**	P	**P**	**08 31 02.1**	**+0.2**	
BJT				pmax	pmax			
	comp=Z,61nm,1.0s							
BNX	**BinXian**	**55.19**	**341**	⇓P	**P**	**08 31 02.4**	**+0.6**	
BNX				sP	sP	08 31 28.8	+7.8	
BNX				PcP	**PcP**	**08 32 02.1**	**-0.3**	
BNX				S	**S**	**08 38 41.6**	**+0.1**	
BNX				pmax	pmax			
	comp=Z,39nm,1.0s							
BNX				pmax	pmax			
	comp=Z,2μm,10.2s							
BNX				LR	LR			
	comp=Z,4μm,22.0s							
BNX				LR	LR			
	comp=Z,1μm,22.0s							
BNX				LR	LR			
	comp=Z,6μm,21.8s							
BJI	**Beijing**	**55.19**	**329**	P	**P**	**08 31 03.4**	**+1.5**	
BJI				pP	**sP**	**08 31 19.0**	**-2.2**	
BJI				sP	pP	08 31 26.4	+11	
BJI				PP	**PP**	**08 33 07.6**	**+1.7**	
BJI				S	**S**	**08 38 36.5**	**-5.3**	
BJI				sS	**sS**	**08 39 09.1**	**+5.5**	
BJI				SS	**SS**	**08 42 24.8**	**-1.9**	
BJI				pmax	pmax			
	comp=Z,18nm,0.9s							
BJI				pmax	pmax			
	comp=Z,650nm,10.6s							
BJI				LR	LR			
	comp=Z,3μm,20.6s							
BJI				LR	LR			
	comp=Z,3μm,22.4s							
BJI				LR	LR			
	comp=Z,7μm,22.6s							
UGL	**Uglegorsk**	**55.23**	**354**	*e*P	P	08 31 08.4	+6.3	
UGL				*e*S	sS	08 39 02.2	-1.9	
UGL				pmax	pmax			
	comp=Z,300nm,1.4s							
UGL				pmax	pmax			
	comp=Z,3μm,6.3s							
UGL				smax	smax			
	comp=E,2μm,13.0s							
UGL				smax	smax			
	comp=N,7μm,19.0s							
UGL				MLR	MLR			
	comp=E,3μm,19.0s							
UGL				MLR	MLR			
	comp=N,3μm,22.0s							
UGL				MLR	MLR			
	comp=Z,3μm,22.0s							
XAN	**Xi'an**	**55.35**	**319**	P	**P**	**08 31 02.8**	**-0.5**	
XAN				pP	sP	08 31 18.8	-3.7	
XAN				S	**S**	**08 38 42.4**	**-1.9**	
XAN				sS	sS	08 39 11.9	+5.8	
XAN				pmax	pmax			
	comp=Z,59nm,0.9s							
XAN				pmax	pmax			
	comp=Z,2μm,10.3s							
XAN				LR	LR			
	comp=Z,5μm,19.4s							
XAN				LR	LR			
	comp=Z,7μm,20.1s							
XAN				LR	LR			
	comp=Z,11μm,22.0s							
CM31	**Chiang Mai Arr**	**55.53**	**297**	P	**P**	**08 31 03.8**	**-1.0**	
CMAR	**Chiang Mai Arr**	**55.53**	**297**	P	**P**	**08 31 03.1**	**-1.7**	
CMAR	**Chiang Mai Arr**	**55.53**	**297**	P	**P**	**08 31 03.5**	**-1.4**	
	comp=Z,9.1nm,0.8s,baz=121,slow=5.5,SNR=17							
CMAR				LR	LR	08 52 38.4		
	comp=Z,1μm,21.0s,baz=115,slow=34							
CMAR				PKPPKP	**P'P'df**	**09 01 07.2**	**-2.1**	
	comp=Z,1.9nm,0.8s,baz=254,slow=5.1,SNR=6.8							
CMAR				PKP2bc		09 01 22.7		
	comp=Z,7.0nm,0.8s,baz=284,slow=3.8,SNR=10							
CMAR				PKP2ab		09 01 40.0		
	comp=Z,6.7nm,0.9s,baz=293,slow=3.4,SNR=6.7							
	comp=Z,9.1nm,0.8s							
CMAR	**Chiang Mai Arr**	**55.53**	**297**	*i* P	**P**	**08 31 03.5**	**-1.4**	
CMAR				pmax	pmax			
	comp=Z,11nm,0.8s							
TIY	**Taiyuan**	**55.57**	**324**	P	**P**	**08 31 04.5**	**-0.3**	
TIY				PP	**PP**	**08 33 14.3**	**+4.8**	
TIY				PcS	**PcS**	**08 36 02.6**	**-1.8**	
TIY				S	**S**	**08 38 43.3**	**-3.8**	
TIY				pmax	pmax			
	comp=Z,41nm,0.6s							
TIY				pmax	pmax			
	comp=Z,1μm,9.2s							
TIY				LR	LR			
	comp=Z,7μm,23.5s							
TIY				LR	LR			
	comp=Z,6μm,26.3s							
TIY				LR	LR			
	comp=Z,14μm,24.1s							
CHTO	**Chiang Mai**	**55.66**	**297**	P	**P**	**08 31 04.4**	**-1.4**	
CHTO				IAmb	IAmb	08 32 09.8		
	comp=Z,24nm,0.6s							
CHTO	**Chiang Mai**	**55.66**	**297**	P	**P**	**08 31 04.4**	**-1.4**	
CHTO				pmax	pmax			
	comp=Z,24nm,0.6s							
CHTO	**Chiang Mai**	**55.66**	**297**	⇑P	**P**	**08 31 05.1**	**-0.7**	
CHTO	**Chiang Mai**	**55.66**	**297**	P	**P**	**08 31 04.2**	**-1.6**	
CHTO	**Chiang Mai**	**55.66**	**297**	P	**P**	**08 31 04.2**	**-1.6**	
PZH	**PanZhiHua**	**56.49**	**307**	P	**P**	**08 31 13.8**	**+2.1**	
PZH				S	**S**	**08 38 55.3**	**-4.6**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				LR	LR			
	comp=Z,3μm,19.2s							
PZH				LR	LR			
	comp=Z,3μm,24.0s							
PZH				LR	LR			
	comp=Z,8μm,23.5s							
SKR	**Severo-Kuril's**	**56.73**	**5**	*e*P	**P**	**08 31 12.6**	**-0.1**	
SKR				*e*S	**S**	**08 39 00.5**	**-1.3**	
SKR				pmax	pmax			
	comp=Z,185nm,0.9s							
SKR				pmax	pmax			
	comp=Z,2μm,8.2s							
SKR				pmax	pmax			
	comp=Z,900nm,8.5s							
SKR				MLR	MLR			
	comp=Z,5μm,19.0s							
TYV	**Tymovskoe**	**56.94**	**355**	*e*P	**P**	**08 31 15.5**	**+1.3**	
TYV				*e*S	**S**	**08 39 05.8**	**+1.1**	
TYV				pmax	pmax			
	comp=Z,63nm,0.9s							
TYV				pmax	pmax			
	comp=Z,700nm,4.2s							
TYV				smax	smax			
	comp=N,800nm,4.4s							
TYV				smax	smax			
	comp=E,300nm,4.4s							
CD2	**Chengdu**	**57.14**	**313**	P	**P**	**08 31 18.3**	**+2.1**	
CD2				pP	sP	08 31 31.8	-3.7	
CD2				sP	pP	08 31 40.8	+11	
CD2				PP	**PP**	**08 33 26.8**	**+3.2**	
CD2				S	**S**	**08 39 08.9**	**+0.7**	
CD2				pmax	pmax			
	comp=E,2μm,9.3s							
CD2				LR	LR			
	comp=E,10μm,29.4s							
CD2				LR	LR			
	comp=E,14μm,28.4s							
CD2				LR	LR			
	comp=E,12μm,27.9s							
GRNR	**Gornyy**	**57.67**	**350**	⇓*i* P	**P**	**08 31 20.7**	**+1.3**	
GRNR				pmax	pmax			
	comp=Z,30nm,0.9s							
KIP	**Kipapa**	**58.13**	**60**	P	**P**	**08 31 24.4**	**+1.2**	
KIP	**Kipapa**	**58.13**	**60**	IAMs_20	IAMs_20	08 51 30.8		
	comp=Z,17μm,22.0s							
KIP	**Kipapa**	**58.13**	**60**	P	**P**	**08 31 24.4**	**+1.2**	
KIP				pmax	pmax			
	comp=Z,367nm,1.7s							
XLT	**XiLinHaoTe**	**58.15**	**332**	*e*P	**P**	**08 31 24.6**	**+1.6**	
XLT				S	**S**	**08 39 21.4**	**+0.4**	
XLT				pmax	pmax			
	comp=Z,120nm,0.7s							
XLT				pmax	pmax			
	comp=Z,880nm,6.3s							
XLT				LR	LR			
	comp=Z,8μm,20.8s							
XLT				LR	LR			
	comp=Z,11μm,20.6s							
HHC	**Hu-ho-hao-te**	**58.22**	**327**	⇓*i* P	**P**	**08 31 25.9**	**+2.3**	
HHC				pmax	pmax			
	comp=Z,60nm,0.7s							
HHC				pmax	pmax			
	comp=Z,1μm,7.2s							
HHC				LR	LR			
	comp=Z,5μm,19.3s							
HHC				LR	LR			
	comp=Z,9μm,19.3s							
HHC				LR	LR			
	comp=Z,16μm,20.2s							
TNCH	**TengChong**	**58.45**	**304**	P	**P**	**08 31 21.3**	**-4.3**	
TNCH				pP	pP	08 31 39.0	-0.3	
TNCH				sP	sP	08 31 49.1	+4.2	
TNCH				S	**S**	**08 39 21.9**	**-3.9**	
TNCH				sS	pS	08 39 42.3	+0.5	
TNCH				SS	**SS**	**08 43 13.6**	**-5.4**	
TNCH				pmax	pmax			
	comp=Z,1μm,11.3s							
TNCH				LR	LR			
	comp=Z,3μm,24.5s							
TNCH				LR	LR			
	comp=Z,3μm,20.7s							
TNCH				LR	LR			
	comp=Z,9μm,28.1s							
BTO	**Baotou**	**58.91**	**325**	*e*P	**P**	**08 31 29.3**	**+0.9**	
BTO				pP	**sP**	**08 31 48.8**	**+1.1**	
BTO				PP	**PP**	**08 33 43.0**	**+3.8**	
BTO				S	**S**	**08 39 32.0**	**+1.0**	
BTO				pmax	pmax			
	comp=Z,20nm,0.8s							
BTO				pmax	pmax			
	comp=Z,3μm,11.0s							
BTO				LR	LR			
	comp=Z,25μm,23.7s							
BTO				LR	LR			
	comp=Z,16μm,23.1s							
HEH	**HeiHe**	**59.22**	**344**	*e*P	**P**	**08 31 31.3**	**+1.1**	
HEH				pP	**sP**	**08 31 46.4**	**-3.1**	
HEH				S	**S**	**08 39 35.0**	**+0.5**	
HEH				pmax	pmax			
	comp=Z,82nm,0.8s							
HEH				pmax	pmax			
	comp=Z,1μm,8.0s							
HEH				LR	LR			
	comp=Z,2μm,17.0s							
HEH				LR	LR			
	comp=Z,3μm,20.9s							
HEH				LR	LR			
	comp=Z,4μm,18.4s							
PEA0B	**Petropavlovsk-**	**59.27**	**6**	P	**P**	**08 31 31.4**	**+0.8**	
PEA0B	**Petropavlovsk-**	**59.27**	**6**	P	**P**	**08 31 31.4**	**+0.8**	
PEA0B				pmax	pmax			
	comp=Z,148nm,0.7s							
PETK	**Petropavlovsk-**	**59.27**	**6**	P	**P**	**08 31 30.6**	**+0.1**	
	comp=Z,117nm,0.8s,baz=188,slow=7.2,SNR=151							
PETK				LR	LR	08 54 08.7		
	comp=Z,7μm,20.8s,baz=191,slow=33							
PETK				PKP2ab		09 01 23.5		
	comp=Z,2.3nm,0.9s,baz=29,slow=3.4,SNR=3.5							
	comp=Z,117nm,0.8s							
PET	**Petropavlovsk**	**59.29**	**6**	P	**P**	**08 31 31.2**	**+0.6**	
PET	**Petropavlovsk**	**59.29**	**6**	*e*P	**P**	**08 31 30.1**	**-0.5**	
PET				*e**PP	**pP**	**08 31 45.9**	**+1.5**	
PET				*e*S	**S**	**08 39 34.9**	**-0.3**	
PET				*e*SS	**SS**	**08 43 30.8**	**0.0**	
PET				pmax	pmax			
	comp=Z,154nm,0.8s							
PET				pmax	pmax			
	comp=Z,1μm,12.0s							
PET				pmax	pmax			
	comp=Z,2μm,21.9s							
PET				MLR	MLR			
	comp=Z,2μm,20.0s							
PET				MLR	MLR			
	comp=Z,2μm,17.0s							
PET	**Petropavlovsk**	**59.29**	**6**	pP	pP	08 31 45.9	+1.5	
	comp=Z,118nm,0.9s							
PET	**Petropavlovsk**	**59.29**	**6**	⇑P	**P**	**08 31 29.8**	**-0.8**	
PET	**Petropavlovsk**	**59.29**	**6**	P	**P**	**08 31 31.3**	**+0.6**	
HUH	**Hualalai**	**59.43**	**63**	IAMs_20	IAMs_20	08 52 43.1		
	comp=Z,14μm,20.0s							
MWH	**Mokuaweoweo**	**59.57**	**63**	IAMs_20	IAMs_20	08 52 48.0		
	comp=Z,13μm,21.0s							
HMH	**Humu'ula Sheep**	**59.71**	**63**	IAMs_20	IAMs_20	08 53 01.7		
	comp=Z,15μm,20.0s							
POHA	**Pohakuloa**	**59.72**	**63**	IAMs_20	IAMs_20	08 53 01.6		
	comp=Z,17μm,21.0s							
MLH	**Mauna Loa**	**59.76**	**63**	IAMs_20	IAMs_20	08 52 53.1		
	comp=Z,14μm,21.0s							
BYL	**Byron's Ledge**	**59.85**	**64**	IAMs_20	IAMs_20	08 53 05.3		
	comp=Z,13μm,21.0s							
LZH	**Lanzhou**	**59.91**	**318**	*e*P	**P**	**08 31 34.6**	**-0.9**	
LZH				pP	pP	08 31 50.1	+0.9	
LZH				sP	sP	08 32 01.0	+6.1	
LZH				S	**S**	**08 39 41.6**	**-2.7**	
LZH				SS	**SS**	**08 43 41.3**	**-0.3**	
LZH				pmax	pmax			
	comp=Z,560nm,4.3s							
LZH				LR	LR			
	comp=Z,5μm,20.1s							
LZH				LR	LR			
	comp=Z,8μm,20.2s							
LZH				LR	LR			
	comp=Z,18μm,20.1s							
PPT	**Papeete**	**60.42**	**107**	P	**P**	**08 31 39.4**	**+0.3**	
	comp=Z,32nm,0.7s,baz=106,slow=3.8,SNR=5.8							
	comp=Z,32nm,0.7s							
PAE	**Paea**	**60.42**	**107**	*e*P	**P**	**08 31 41.0**	**+1.9**	
	comp=Z,82nm,1.3s							
PAE				*e*S	S	08 39 36.2	-15	
	comp=Z,818nm,24.9s							
PAE				*e*LQ	LQ	08 46 54.8		
	comp=Z,2μm,26.7s							
PAE				*e*LR	LR	08 49 23.4		
	comp=Z,982nm,21.8s							
PPT2	**Papeete2**	**60.42**	**107**	*e*P	**P**	**08 31 40.0**	**+0.8**	
	comp=Z,222nm,1.3s							
PPT2	**Papeete2**	**60.42**	**107**	*e*PP	PP	08 33 41.8	-11	
	comp=Z,3μm,28.0s							
PPT2				*e*S	S	08 39 44.5	-6.8	
	comp=Z,6μm,26.8s							
PPT2				*e*SS	SS	08 43 29.0	-21	
	comp=Z,6μm,40.5s							
PPT2				*e*LQ	LQ	08 46 52.8		
	comp=Z,33μm,33.5s							
PPT2				*e*LR	LR	08 49 26.2		
	comp=Z,6μm,27.2s							
PPT2				*e*LR	LR	08 49 29.6		
	comp=Z,7μm,24.5s							
PPTF	**Pamatai, Papee**	**60.43**	**107**	P	**P**	**08 31 39.1**	**-0.2**	
PPTF	**Pamatai, Papee**	**60.43**	**107**	P	**P**	**08 31 41.4**	**+2.1**	
PPTF	**Pamatai, Papee**	**60.43**	**107**	⇓P	**P**	**08 31 41.6**	**+2.3**	
TVO	**Taravao**	**60.74**	**107**	*e*P	**P**	**08 31 39.8**	**-1.6**	
	comp=Z,172nm,1.4s							
TVO	**Taravao**	**60.74**	**107**	*e*PP	PP	08 33 46.9	-8.8	
	comp=Z,567nm,26.9s							
TVO				*e*S	S	08 39 43.8	-12	
	comp=Z,978nm,25.5s							
TVO				*e*LQ	LQ	08 46 54.2		
	comp=Z,3μm,29.1s							
TVO				*e*LR	LR	08 49 33.3		
	comp=Z,1μm,22.1s							
HIA	**Hailar**	**60.88**	**338**	P	**P**	**08 31 43.0**	**+1.3**	
HIA	**Hailar**	**60.88**	**338**	P	**P**	**08 31 43.6**	**+2.0**	
HIA	**Hailar**	**60.88**	**338**	*ce*P	**P**	**08 31 42.0**	**+0.4**	
HIA				pmax	pmax			
	comp=Z,118nm,0.9s							
DRV	**Dumont d'Urvil**	**60.94**	**184**	P	**P**	**08 31 42.3**	**+0.6**	
TBI	**Tubuai**	**61.00**	**113**	*e*P	**P**	**08 31 44.2**	**+1.2**	
	comp=Z,888nm,1.3s							
TBI	**Tubuai**	**61.00**	**113**	*e*PP	PP	08 33 49.7	-8.1	
	comp=Z,8μm,29.5s							
TBI				*e*S	S	08 39 48.4	-10	
	comp=Z,16μm,28.5s							
TBI				*e*SS	**SS**	**08 43 52.3**	**-6.3**	
	comp=Z,21μm,34.5s							
TBI				*e*LQ	LQ	08 47 09.2		
	comp=Z,142μm,38.8s							
TBI				*e*LR	LR	08 49 39.0		
	comp=Z,26μm,36.2s							
TBI				*e*LR	LR	08 49 46.3		
	comp=Z,149μm,36.2s							
PMOR	**Pomariorio Ree**	**61.94**	**104**	*e*P	**P**	**08 31 50.9**	**+1.5**	
	comp=Z,852nm,1.3s							
PMOR	**Pomariorio Ree**	**61.94**	**104**	*e*PP	PP	08 33 56.1	-10	
	comp=Z,4μm,27.7s							
PMOR				*e*S	S	08 40 03.7	-6.8	
	comp=Z,2μm,22.5s							
PMOR				*e*SS	**SS**	**08 44 10.1**	**-3.5**	
	comp=Z,3μm,26.4s							
PMOR				*e*LQ	LQ	08 47 31.9		
	comp=Z,4μm,24.6s							
PMOR				*e*LR	LR	08 50 11.0		
	comp=Z,16μm,23.9s							
SHEM	**Shemya Is, Ala**	**62.09**	**17**	LR	LR	08 56 27.9		
	comp=Z,7μm,19.5s,baz=202,slow=34							
SMY	**Shemya**	**62.09**	**17**	P	**P**	**08 31 50.8**	**+1.1**	
SMY	**Shemya**	**62.09**	**17**	P	**P**	**08 31 50.8**	**+1.1**	
SMY				pmax	pmax			
	comp=Z,90nm,0.8s							
IMP	**Imphal**	**62.19**	**302**	*e*P	**P**	**08 31 49.1**	**-2.0**	
IMP				IAmb	IAmb	08 31 54.4		
	comp=Z,16nm,0.6s							
VAH	**Vaihoa**	**62.20**	**104**	*e*P	**P**	**08 31 49.8**	**-1.4**	
	comp=Z,161nm,1.2s							
VAH				*e*S	S	08 40 07.1	-6.7	
	comp=Z,2μm,23.4s							
VAH				*e*LQ	LQ	08 47 36.9		
	comp=Z,14μm,44.0s							
VAH				*e*LR	LR	08 50 14.4		
	comp=Z,9μm,24.4s							
KOHI	**KOHIMA**	**62.38**	**303**	*e*P	**P**	**08 31 53.6**	**+1.2**	
KOHI				IAmb	IAmb	08 32 15.1		
	comp=Z,105nm,1.1s							
ZEA	**Zeya**	**62.41**	**345**	*e*P	**P**	**08 31 54.0**	**+2.1**	
ZEA				*e**PP	**sP**	**08 32 09.5**	**-1.7**	
ZEA				*e*		08 32 27.1		
ZEA				*e*S	**S**	**08 40 20.7**	**+5.6**	
ZEA				*e**SS	**sS**	**08 40 42.5**	**+4.6**	
ZEA				*e*SS	**SS**	**08 44 22.7**	**+2.9**	
ZEA				pmax	pmax			
	comp=E,100nm,4.6s							
ZEA				pmax	pmax			
	comp=N,300nm,4.7s							
ZEA				pmax	pmax			
	comp=Z,600nm,4.8s							
ZEA				pmax	pmax			
	comp=N,100nm,0.9s							
ZEA				pmax	pmax			
	comp=Z,220nm,0.9s							
ZEA				smax	smax			
	comp=N,1μm,10.1s							
AZL	**Aizawl**	**62.86**	**300**	*e*P	**P**	**08 31 55.6**	**0.0**	
AZL				IAmb	IAmb	08 32 07.7		
	comp=Z,17nm,0.8s							
ZIRO	**ZIRO**	**63.29**	**305**	*e*P	**P**	**08 31 57.9**	**-0.6**	
BRDH	**Bariadhala**	**63.41**	**299**	LR	LR	08 56 44.9		
	comp=Z,2μm,21.0s,baz=125,slow=33							
TEZP	**TEZPUR**	**63.81**	**303**	*e*P	**P**	**08 32 02.3**	**+0.7**	
TEZP				IAmb	IAmb	08 32 32.5		
	comp=Z,26nm,0.9s							
AGT	**Agartala**	**64.15**	**300**	*e*P	**P**	**08 32 03.0**	**-1.0**	
SHL	**Shillong**	**64.19**	**302**	P	**P**	**08 32 03.5**	**-1.0**	
SHL				IAmb	IAmb	08 33 11.8		
	comp=Z,75nm,1.0s							
SHL	**Shillong**	**64.19**	**302**	*e*P	**P**	**08 32 03.8**	**-0.6**	
SHL				IAmb	IAmb	08 32 20.1		
	comp=Z,27nm,0.8s							
SHL	**Shillong**	**64.19**	**302**	P	**P**	**08 32 03.5**	**-1.0**	
SHL				pmax	pmax			
	comp=Z,75nm,1.0s							
KIWB	**Kanaga Island**	**64.24**	**22**	P	**P**	**08 32 03.7**	**-0.3**	
GTA	**Gaotai**	**64.41**	**319**	P	**P**	**08 32 08.0**	**+2.5**	
GTA				pP	sP	08 32 23.4	-1.6	
GTA				sP	PcP	08 32 30.8	-8.8	
GTA				S	**S**	**08 40 40.9**	**+0.1**	
GTA				sS	sS	08 41 04.5	+0.6	
GTA				pmax	pmax			
	comp=Z,36nm,0.9s							
GTA				pmax	pmax			
	comp=Z,1μm,12.0s							
GTA				LR	LR			
	comp=Z,4μm,22.5s							
GTA				LR	LR			
	comp=Z,5μm,21.8s							
GTA				LR	LR			
	comp=Z,8μm,24.0s							
ADK	**Adak**	**64.44**	**22**	P	**P**	**08 32 05.3**	**0.0**	
ADK				IAmb	IAmb	08 32 07.4		
	comp=Z,70nm,0.8s							
ADK	**Adak**	**64.44**	**22**	P	**P**	**08 32 05.7**	**+0.4**	
ADK	**Adak**	**64.44**	**22**	P	**P**	**08 32 05.3**	**0.0**	
ADK				pmax	pmax			
	comp=Z,70nm,0.9s							
ADK	**Adak**	**64.44**	**22**	⇑P	**P**	**08 32 05.3**	**0.0**	
ADK	**Adak**	**64.44**	**22**	P	**P**	**08 32 05.4**	**+0.1**	
GUWA	**GUWAHATI**	**64.58**	**303**	*e*P	**P**	**08 32 07.0**	**+0.3**	
GUWA				IAmb	IAmb	08 32 22.3		
	comp=Z,59nm,0.4s							
GSTR	**Great Sitkin T**	**64.85**	**23**	P	**P**	**08 32 08.7**	**+0.7**	
GSTR				IAmb	IAmb	08 32 24.6		
	comp=Z,53nm,0.8s							
MA2	**Magadan**	**65.37**	**1**	P	**P**	**08 32 11.4**	**+0.3**	
MA2				IAmb	IAmb	08 32 14.5		
	comp=Z,56nm,0.9s							
MA2	**Magadan**	**65.37**	**1**	LR	LR	08 57 42.7		
	comp=Z,5μm,21.8s,baz=192,slow=33							
MA2	**Magadan**	**65.37**	**1**	*ce*P	**P**	**08 32 11.7**	**+0.5**	
MA2				pmax	pmax			
	comp=Z,169nm,2.1s							
MA2	**Magadan**	**65.37**	**1**	P	**P**	**08 32 11.5**	**+0.3**	
	comp=Z,2μmcomp=Z,82nm,0.9s							
MA2	**Magadan**	**65.37**	**1**	⇓P	**P**	**08 32 12.1**	**+0.9**	
ULN	**Ulaanbaatar**	**65.37**	**330**	P	**P**	**08 32 11.3**	**-0.3**	
ULN				IAmb	IAmb	08 32 17.9		
	comp=Z,56nm,0.7s							
ULN	**Ulaanbaatar**	**65.37**	**330**	*ce*P	**P**	**08 32 13.4**	**+1.8**	
ULN				pmax	pmax			
	comp=Z,49nm,1.0s							
ULN	**Ulaanbaatar**	**65.37**	**330**	⇑P	**P**	**08 32 11.7**	**+0.1**	
ATKA	**Atka Island**	**65.66**	**24**	P	**P**	**08 32 12.8**	**-0.4**	
ATKA				IAmb	IAmb	08 32 15.3		
	comp=Z,60nm,0.8s							
ATKA	**Atka Island**	**65.66**	**24**	P	**P**	**08 32 13.4**	**+0.2**	
ATKA	**Atka Island**	**65.66**	**24**	⇑P	**P**	**08 32 13.3**	**+0.1**	
SONM	**Songino Array**	**65.68**	**330**	P	**P**	**08 32 13.8**	**+0.2**	
SONM				IAmb	IAmb	08 32 33.4		
	comp=Z,60nm,1.0s							
SONM	**Songino Array**	**65.68**	**330**	P	**P**	**08 32 14.9**	**+1.2**	
	comp=Z,29nm,0.7s,baz=150,slow=5.6,SNR=73							
SONM				LR	LR	08 58 42.7		
	comp=Z,5μm,21.0s,baz=124,slow=34							
SONM				PKPPKP	**P'P'df**	**09 00 49.7**	**-1.3**	

comp=Z,1.1nm,0.9s,baz=180,slow=0.4,SNR=3.8
comp=Z,29nm,0.7s
SONM Songino Array 65.68 330 P **P** **08 32 13.8 +0.2**
SONM pmax pmax
comp=Z,60nm,1.0s
CASY Casey 65.97 196 P **P** **08 32 14.9 -0.1**
CASY Casey 65.97 196 ⇑P **P** **08 32 14.6 -0.4**
CASY Casey 65.97 196 P **P** **08 32 14.8 -0.2**
GOMU GeErMu 66.24 314 P **P** **08 32 19.9 +2.2**
GOMU pP pP 08 32 28.9 -2.7
GOMU sS sS 08 41 25.9 -1.1
GOMU pmax pmax
comp=Z,11nm,0.7s
GOMU LR LR
comp=Z,3μm,20.2s
GOMU LR LR
comp=Z,7μm,22.5s
GOMU LR LR
comp=Z,15μm,22.1s
LSA Lhasa 66.31 306 P **P** **08 32 16.8 -1.7**
LSA S **S** **08 40 59.9 -5.3**
LSA LR LR
comp=Z,2μm,23.7s
LSA LR LR
comp=Z,4μm,24.8s
GTK Tadong 67.56 303 *e*P **P** **08 32 27.4 +1.4**
GTK IAmb IAmb 08 32 37.4
comp=Z,38nm,1.0s
NIKH Nikolski High 68.43 26 P **P** **08 32 30.3 -0.5**
NIKH IAmb IAmb 08 32 34.6
comp=Z,84nm,0.9s
NIKH Nikolski High 68.43 26 P **P** **08 32 31.0 +0.2**
NIKH Nikolski High 68.43 26 P **P** **08 32 28.6 -2.2**
baz=225
NIKH S **S** **08 41 26.9 -1.8**
baz=225
SEY Seymchan 68.76 1 LR LR 09 03 11.8
comp=Z,2μm,19.1s,baz=168,slow=36
SEY Seymchan 68.76 1*ce*P **P** **08 32 33.3 +0.7**
SEY pmax pmax
comp=Z,50nm,0.9s
EVN Everest 69.26 303 P **P** **08 32 35.6 -1.7**
EVN IAmb IAmb 08 32 42.4
comp=Z,42nm,0.6s
EVN Everest 69.26 303 ⇑P **P** **08 32 35.6 -1.7**
YAK Yakutsk 69.55 350 LR LR 09 02 31.8
comp=Z,2μm,21.8s,baz=155,slow=35
YAK Yakutsk 69.55 350 *e*P **P** **08 32 39.7 +2.2**
YAK *e**PP **sP** **08 32 55.9 -1.1**
YAK *e* 08 33 02.0
YAK *e* 08 35 12.6
YAK *e*S **S** **08 41 43.6 +2.0**
YAK *e**SS **SKiKP** **08 42 13.6 -8.3**
YAK *e* 08 42 37.1
YAK *e*SS **SS** **08 46 16.4 +6.2**
YAK pmax pmax
comp=Z,54nm,1.0s
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,101nm,1.5s
YAK pmax pmax
comp=N,100nm,1.8s
YAK pmax pmax
comp=E,45nm,1.8s
YAK smax smax
comp=N,1μm,5.7s
YAK smax smax
comp=E,153nm,4.6s
YAK MLR MLR
comp=Z,2μm,21.0s
YAK MLR MLR
comp=E,908nm,22.0s
YAK MLR MLR
comp=N,1μm,21.0s
IRK Irkutsk 69.62 332 *e*P **P** **08 32 37.9 -0.3**
IRK pmax pmax
comp=Z,102nm,2.2s
TAOE Nuku Hiva Isla 69.64 97 P **P** **08 32 39.7 +0.5**
TAOE Nuku Hiva Isla 69.64 97 *e*P P 08 32 35.9 -3.3
comp=Z,707nm,1.2s
TAOE Nuku Hiva Isla 69.64 97 *e*PP PP 08 35 03.8 -10
comp=Z,547nm,25.1s
TAOE *e*S S 08 41 35.1 -10
comp=Z,3μm,26.4s
TAOE *e*SS SS 08 46 00.8 -13
comp=Z,2μm,35.8s
TAOE *e*LQ LQ 08 50 29.9
comp=Z,4μm,28.7s
TAOE *e*LR LR 08 53 45.2
comp=Z,8μm,23.2s
TAOE Nuku Hiva Isla 69.64 97 P **P** **08 32 40.6 +1.4**
TAOE Nuku Hiva Isla 69.64 97 ⇑P **P** **08 32 41.0 +1.8**
BOD Bodaibo 69.80 341 *e*P **P** **08 32 40.5 +1.3**
BOD pmax pmax
comp=Z,72nm,2.2s
PALK Pallekele 69.99 280 LR LR 09 07 08.2
comp=Z,1μm,21.5s,baz=114,slow=39
PALK Pallekele 69.99 280 P **P** **08 32 41.2 -0.1**
PALK Pallekele 69.99 280 P **P** **08 32 41.2 -0.1**
UNV Unalaska Valle 70.05 26 P **P** **08 32 40.8 +0.1**
UNV IAmb IAmb 08 32 44.4
comp=Z,45nm,0.7s
UNV Unalaska Valle 70.05 26 P **P** **08 32 37.5 -3.3**
baz=227
UNV S **S** **08 41 43.6 -4.1**
baz=227
MALK Mahakanadarawa 70.32 281 P **P** **08 32 43.5 +0.2**
LVA Lava Point 70.47 26 IAmb IAmb 08 32 48.0
comp=Z,49nm,0.8s
AKUT Akutan 70.57 26 P **P** **08 32 44.3 +0.4**
AKUT IAmb IAmb 08 32 47.4
comp=Z,76nm,0.8s
AKUT Akutan 70.57 26 P **P** **08 32 44.3 +0.4**
AKUT Akutan 70.57 26 ⇑P **P** **08 32 42.8 -1.1**
CCD Concordia, Ant 70.68 187 P **P** **08 32 45.3 +0.5**
P08K Saint George I 70.75 23 P **P** **08 32 42.9 -2.1**
baz=224
MOY Mondy 70.82 330 *e*P **P** **08 32 47.3 +1.6**
MOY pmax pmax
comp=Z,48nm,1.3s
SPIA Saint Paul Isl 70.91 22 P **P** **08 32 43.1 -2.8**
baz=223
VNDA Vanda 71.78 177 P **P** **08 32 51.6 +0.7**
VNDA Vanda 71.78 177 P **P** **08 32 51.5 +0.5**
comp=Z,89nm,0.7s,baz=333,slow=6.7,SNR=336
VNDA LR LR 09 00 58.7
comp=Z,8μm,19.5s,baz=22,slow=33
comp=Z,89nm,0.7s
VNDA Vanda 71.78 177 P **P** **08 32 51.7 +0.7**
VNDA pmax pmax
comp=Z,108nm,0.9s
VNDA Vanda 71.78 177 P **P** **08 32 51.7 +0.7**
VNDA pP **pP** **08 33 03.8 -1.2**
SBA Scott Base 72.38 176 P **P** **08 32 56.1 +1.5**
SBA Scott Base 72.38 176 P **P** **08 32 56.1 +1.5**
SBA pmax pmax
comp=Z,228nm,1.4s
ALBI Allahabad 72.77 299 *e*P **P** **08 32 58.5 +0.7**
SALM Salem 73.14 284 *e*P **P** **08 33 02.2 +2.1**
KOD Kodaikanal 73.61 282 *e*P **P** **08 33 03.4 +0.1**
KOD IAmb IAmb 08 33 09.9
comp=Z,27nm,0.9s
SDPT Sand Point 73.70 27 P **P** **08 33 01.7 -1.0**
SDPT IAmb IAmb 08 33 33.8
comp=Z,78nm,0.9s
SDPT Sand Point 73.70 27 P **P** **08 33 05.4 +2.8**
SDPT Sand Point 73.70 27 P **P** **08 32 59.3 -3.4**
baz=232
CHNA Chernabura Isl 73.80 28 P **P** **08 33 06.2 +3.0**
CHNA Chernabura Isl 73.80 28 P **P** **08 33 00.2 -3.0**
baz=233
TRD Trivandrum 73.84 281 *e*P **P** **08 33 06.6 +2.2**
HYB Hyderabad 73.88 290 *e*P **P** **08 33 04.3 -0.3**
HYB IVmB_BB 08 33 24.1
comp=Z,784nm,5.3s
HYB IVMs_BB IVMs_BB 09 08 06.3
comp=Z,1μm,18.2s
WMQ Urumqi 74.48 318 *e*P **P** **08 33 07.8 +0.2**
WMQ sP sP 08 33 32.6 +5.4
WMQ S **S** **08 42 37.8 -1.4**
WMQ pmax pmax
comp=Z,1μm,7.5s
WMQ LR LR
comp=Z,3μm,18.9s
WMQ LR LR
comp=Z,3μm,20.7s
WMQ LR LR
comp=Z,5μm,23.3s
M11K Mekoryuk 74.68 21 P **P** **08 33 09.0 +0.7**
M11K Mekoryuk 74.68 21 P **P** **08 33 06.0 -2.2**
baz=226
M11K S **S** **08 42 40.8 +0.4**
baz=226
S14K Fog Glacier 74.69 27 P P 08 33 04.3 -4.2
baz=233
BILL Bilibino 74.79 6 P **P** **08 33 09.5 +0.7**
BILL IAmb IAmb 08 33 13.9
comp=Z,76nm,1.0s
BILL Bilibino 74.79 6*ce*P **P** **08 33 08.7 -0.1**
BILL pmax pmax
comp=Z,73nm,1.0s
CHGN Chignik 75.21 27 IAmb IAmb 08 33 49.6
comp=Z,168nm,1.5s
CHGN Chignik 75.21 27 P **P** **08 33 07.6 -3.7**
baz=234
LGTI Lohaghat 75.22 302 *e*P **P** **08 33 12.9 +0.9**
LGTI IAmb IAmb 08 33 20.2
comp=Z,58nm,0.5s
PTH Pithoragarh 75.27 303 *e*P **P** **08 33 10.4 -2.2**
PTH IAmb IAmb 08 33 21.0
comp=Z,32nm,0.7s
GAMB Gambell 75.41 17 P **P** **08 33 12.8 +0.5**
GAMB IAmb IAmb 08 33 44.8
comp=Z,62nm,1.4s
GAMB IAMs_20 IAMs_20 09 04 26.4
comp=Z,11μm,20.0s
GAMB Gambell 75.41 17 P **P** **08 33 09.8 -2.5**
baz=220
GAMB S **S** **08 42 48.6 +0.2**
baz=220
JHNI Jhansi 75.67 298 *e*P **P** **08 33 14.3 -0.4**
JHNI IAmb IAmb 08 33 45.1
comp=Z,51nm,1.3s
M13K Dall Lake 75.74 22 P **P** **08 33 15.2 +0.9**
M13K IAmb IAmb 08 33 19.7
comp=Z,88nm,0.9s
M13K Dall Lake 75.74 22 P **P** **08 33 11.7 -2.6**
baz=229,SNR=19
M13K S **S** **08 42 52.7 +0.5**
baz=229
O14K Tigyukauivet M 75.80 24 IAmb IAmb 08 33 19.4
comp=Z,55nm,0.9s
O14K Tigyukauivet M 75.80 24 P **P** **08 33 13.9 -0.8**
baz=231,SNR=16
O14K S **S** **08 42 50.8 -2.1**
baz=231
N14K Kuskokwak Cree 76.06 23 P **P** **08 33 14.2 -1.9**
baz=230,SNR=7.1
N14K S **S** **08 42 55.0 -0.8**
baz=230
JOSI Joshimath 76.09 303 *e*P **P** **08 33 18.1 +0.9**
BHPL Bhopal 76.15 296 *e*P **P** **08 33 17.3 -0.3**
CHIR Chirikof Islan 76.22 28 P **P** **08 33 17.8 +0.6**
CHIR Chirikof Islan 76.22 28 P **P** **08 33 15.9 -1.3**
baz=237
NRDN NARMADA NAGAR 76.27 295 *e*P **P** **08 33 19.7 +1.5**
NRDN IAmb IAmb 08 33 28.7
comp=Z,21nm,0.7s
K13K Kusilvak Mount 76.30 20 P **P** **08 33 16.6 -0.8**
baz=227,SNR=8.3
K13K S **S** **08 42 59.5 +1.2**
baz=227
R16K Pilot Point 76.32 26 P **P** **08 33 14.3 -3.4**
baz=235
R16K S **S** **08 42 58.2 -0.5**
baz=235
M14K Bethel 76.48 22 IAmb IAmb 08 33 23.1
comp=Z,82nm,0.9s
M14K IAMs_20 IAMs_20 09 02 55.0
comp=Z,10μm,22.0s
M14K Bethel 76.48 22 P **P** **08 33 17.7 -0.8**
baz=230
M14K S **S** **08 43 01.0 +0.6**
baz=230
GUNA GUNA 76.55 297 *e*P **P** **08 33 19.8 +0.1**
GUNA IAmb IAmb 08 33 23.4
comp=Z,29nm,0.7s
L14K Kuka Creek 76.60 22 P **P** **08 33 18.8 -0.4**
baz=229,SNR=64
L14K S **S** **08 43 02.1 +0.4**
baz=229
N15K Kwethluk River 76.83 23 IAmb IAmb 08 33 25.5
comp=Z,58nm,1.0s
N15K Kwethluk River 76.83 23 P **P** **08 33 18.2 -2.4**
baz=232,SNR=22
N15K S **S** **08 43 04.3 -0.1**
baz=232
R17L Mt. Peulik Vol 76.89 27 P **P** **08 33 20.8 -0.2**
baz=236,SNR=7.8
R17L S **S** **08 43 02.8 -2.3**
baz=236
PLK4 Peulik 4 76.90 27 IAmb IAmb 08 33 28.6
comp=Z,48nm,0.7s
M15K Kasigluk River 76.93 23 P **P** **08 33 19.9 -1.2**
baz=231,SNR=15
M15K S **S** **08 43 03.9 -1.4**
baz=231
P16K Nushagak River 77.00 25 IAMs_20 IAMs_20 09 01 31.8
comp=Z,13μm,22.0s
P16K Nushagak River 77.00 25 P **P** **08 33 19.1 -2.3**
baz=234
HNLY HANLEY 77.17 305 *e*P **P** **08 33 21.6 -2.1**
HNLY IAmb IAmb 08 33 28.9
comp=Z,39nm,0.6s
J14K Nanvaranak Lak 77.23 20 IAMs_20 IAMs_20 09 01 44.7
comp=Z,10μm,22.0s
J14K Nanvaranak Lak 77.23 20 P **P** **08 33 21.2 -1.5**
baz=228
J14K S **S** **08 43 09.6 +1.2**
baz=228
L15K Ungalak Mounta 77.26 22 P **P** **08 33 19.9 -3.0**
baz=230
L15K S **S** **08 43 08.9 +0.1**
baz=230
DDI Dehra Dun 77.28 303 *e*P **P** **08 33 24.9 +1.1**
DDI IAmb IAmb 08 33 34.1
comp=Z,62nm,0.8s
O16K Kokwok River B 77.29 24 P **P** **08 33 20.8 -2.3**
baz=234,SNR=12
O16K S **S** **08 43 07.2 -2.0**
baz=234
SII Sitkinak Islan 77.30 28 P **P** **08 33 23.9 +0.6**
SII Sitkinak Islan 77.30 28 P P 08 33 15.1 -8.2
baz=238
Q16K King Salmon 77.36 26 P **P** **08 33 20.8 -2.7**
baz=235
KLP Kalpa 77.43 304 *e*P **P** **08 33 25.2 +0.2**
KLP IAmb IAmb 08 33 29.8
comp=Z,193nm,0.3s
Q17K Contact Creek 77.46 26 P **P** **08 33 21.7 -2.5**
baz=236,SNR=10.0
Q17K S **S** **08 43 09.5 -1.8**
baz=236
N16K Nishlik Lake 77.54 23 P **P** **08 33 22.5 -2.0**
baz=233,SNR=11
N16K S **S** **08 43 12.3 +0.2**
baz=233
SONA Sohna 77.59 301 *e*P **P** **08 33 25.6 +0.1**
SONA IAmb IAmb 08 33 53.6
comp=Z,72nm,1.3s
AYAN Aya Nagar 77.61 301 *e*P **P** **08 33 26.2 +0.6**
NPLP New Delhi 77.61 301 *e*P **P** **08 33 25.8 +0.1**
NPLP IAmb IAmb 08 33 29.2
comp=Z,94nm,0.4s
K15K Wolf Creek Mou 77.64 21 IAmb IAmb 08 33 29.7
comp=Z,63nm,0.9s
K15K Wolf Creek Mou 77.64 21 P **P** **08 33 23.1 -2.0**
baz=230,SNR=46
K15K S **S** **08 43 11.4 -1.5**
baz=230
ACHA Angle Creek He 77.68 26 P **P** **08 33 25.4 0.0**
R18K Karluk 77.72 27 P **P** **08 33 22.8 -2.8**
baz=238
R18K S **S** **08 43 11.9 -2.0**
baz=238
P17K Kvichak River 77.75 25 P **P** **08 33 22.9 -2.7**
baz=235
P17K S **S** **08 43 12.0 -2.1**
baz=235
ZSN Zaisan 77.76 321 *e*P **P** **08 33 26.1 0.0**
ZSN Zaisan 77.76 321 *e*P **P** **08 33 26.1 0.0**
M16K Timber Creek 77.80 23 IAmb IAmb 08 33 30.6
comp=Z,49nm,0.9s
M16K Timber Creek 77.80 23 P **P** **08 33 22.9 -3.1**
baz=233,SNR=26
M16K S **S** **08 43 15.0 +0.3**
baz=233
O17K Koliganek Bris 77.81 25 P **P** **08 33 23.6 -2.4**
baz=235
O17K S **S** **08 43 12.4 -2.4**
baz=235
TNA Tin City 77.83 17 IAMs_20 IAMs_20 09 04 01.3
comp=Z,11μm,21.0s
TNA Tin City 77.83 17 P **P** **08 33 23.8 -2.2**
baz=223
TNA S **S** **08 43 14.3 -0.5**
baz=223
ANM Nome 77.88 18 IAMs_20 IAMs_20 09 02 18.4
comp=Z,10μm,22.0s
ANM Nome 77.88 18 P **P** **08 33 23.3 -3.0**
baz=226
ANM S **S** **08 43 14.6 -0.9**
baz=226
KAD Karad 77.96 289 *e*P **P** **08 33 27.9 +0.1**
L16K Owhat River 78.03 22 IAMs_20 IAMs_20 09 04 23.7
comp=Z,9μm,21.0s
L16K Owhat River 78.03 22 P **P** **08 33 24.8 -2.3**
baz=232
L16K S **S** **08 43 14.9 -2.2**
baz=232
Q18K Katmai Hardscr 78.06 26 P **P** **08 33 24.3 -3.3**
baz=237
Q18K S **S** **08 43 12.4 -5.5**
baz=237
OHAK Old Harbor 78.07 28 IAmb IAmb 08 33 52.3
comp=Z,55nm,1.2s
OHAK Old Harbor 78.07 28 P **P** **08 33 27.9 +0.4**
OHAK Old Harbor 78.07 28 P **P** **08 33 25.4 -2.1**
baz=239
KUDL Kundal 78.08 300 *e*P **P** **08 33 28.5 +0.3**
KUDL IAmb IAmb 08 33 56.2
comp=Z,27nm,1.1s
N17K Nushagak Hills 78.21 24 IAMs_20 IAMs_20 09 02 22.8
comp=Z,12μm,21.0s
N17K Nushagak Hills 78.21 24 P **P** **08 33 25.1 -3.1**
baz=234,SNR=10
N17K S **S** **08 43 20.4 +1.3**
baz=234
F14K Arctic Creek 78.23 17 P **P** **08 33 25.6 -2.6**
baz=225,SNR=7.0
F14K S **S** **08 43 19.2 +0.1**
baz=225
P18K Big Mountain, 78.37 25 IAMs_20 IAMs_20 09 03 36.3
comp=Z,8μm,22.0s
P18K Big Mountain, 78.37 25 P **P** **08 33 26.0 -3.2**
baz=236
P18K S **S** **08 43 17.7 -3.3**
baz=236
G15K Niukluk 78.59 18 P **P** **08 33 28.3 -1.9**
baz=227,SNR=14
G15K S **S** **08 43 22.5 -0.5**
baz=227
J16K Anvik River 78.60 21 IAmb IAmb 08 35 07.3
comp=Z,132nm,1.8s
J16K Anvik River 78.60 21 P **P** **08 33 27.6 -2.7**
baz=231
J16K S **S** **08 43 24.4 +1.1**
baz=231
M17K Holitna River 78.62 23 P **P** **08 33 28.8 -1.7**
baz=234,SNR=11
M17K S **S** **08 43 24.9 +1.4**
baz=234
O18K Koktuh Hills 78.64 25 IAMs_20 IAMs_20 09 04 17.2
comp=Z,11μm,21.0s
O18K Koktuh Hills 78.64 25 P **P** **08 33 27.1 -3.5**
baz=236
O18K S **S** **08 43 21.4 -2.4**
baz=236
TIXI Tiksi 78.68 353 P **P** **08 33 31.9 +1.3**
TIXI Tiksi 78.68 353 LR LR 09 06 56.4
comp=Z,2μm,21.8s,baz=154,slow=35
TIXI Tiksi 78.68 353⇑ *e*P **P** **08 33 28.5 -2.1**
TIXI pmax pmax
comp=Z,28nm,0.9s
KDAK Kodiak Island 78.68 28 LR LR 09 01 48.9
comp=Z,5μm,21.9s,baz=243,slow=31
KDAK Kodiak Island 78.68 28*ce*P **P** **08 33 30.4 -0.5**
KDAK pmax pmax
comp=Z,68nm,1.9s
KDAK Kodiak Island 78.68 28 P **P** **08 33 28.4 -2.5**
baz=239
KDAK S **S** **08 43 22.1 -2.2**
baz=239
L17K Donlin 78.73 22 P **P** **08 33 28.3 -2.7**
baz=233,SNR=13
L17K S **S** **08 43 26.9 +2.2**
baz=233
Q19K Cape Douglas, 78.81 26 IAmb IAmb 08 33 37.0
comp=Z,68nm,0.7s
Q19K Cape Douglas, 78.81 26 P **P** **08 33 29.5 -2.1**
baz=238
N18K Kilae Creek 78.82 24 IAmb IAmb 08 33 58.2
comp=Z,147nm,1.9s
N18K IAMs_20 IAMs_20 09 02 51.0
comp=Z,12μm,22.0s
N18K Kilae Creek 78.82 24 P **P** **08 33 29.5 -2.1**
baz=236,SNR=6.0
N18K S **S** **08 43 26.5 +0.7**
baz=236
F15K North Star Dit 78.89 18 P **P** **08 33 32.0 +0.1**
F15K IAMs_20 IAMs_20 09 04 05.5
comp=Z,11μm,22.0s
F15K North Star Dit 78.89 18 P **P** **08 33 29.6 -2.3**
baz=227,SNR=17
F15K S **S** **08 43 26.4 +0.1**
baz=227
H16K Elim 78.92 19 P **P** **08 33 29.4 -2.7**
baz=229,SNR=19
H16K S **S** **08 43 26.1 -0.5**
baz=229
I17K Unalakleet 78.95 20 P **P** **08 33 30.6 -1.6**
baz=231
I17K S **S** **08 43 28.1 +1.2**
baz=231
K17K Iditarod 79.08 22 P **P** **08 33 32.6 -0.3**
K17K IAmb IAmb 08 33 35.5
comp=Z,40nm,0.8s
K17K Iditarod 79.08 22 P **P** **08 33 31.3 -1.7**
baz=233,SNR=24
K17K S **S** **08 43 28.3 0.0**
baz=233
MK31 Makanchi Array 79.15 320*ce*P **P** **08 33 33.5 -0.3**
MKAR Makanchi Array 79.15 320 P **P** **08 33 32.3 -1.4**
MKAR Makanchi Array 79.15 320 P **P** **08 33 34.4 +0.6**
comp=Z,18nm,0.5s,baz=109,slow=5.5,SNR=26
MKAR PKKPbc **PKKPbc** **08 52 25.2 -2.0**
comp=Z,5.0nm,0.7s,baz=305,slow=2.0,SNR=29
MKAR PKPPKP **P'P'df** **09 00 28.4 +0.2**
comp=Z,3.1nm,0.9s,baz=301,slow=2.6,SNR=5.9
MKAR LR LR 09 08 48.9
comp=Z,4μm,19.8s,baz=83,slow=36
comp=Z,18nm,0.5s
Q20K Shuyak Island 79.20 27 P **P** **08 33 30.5 -3.2**
baz=239
Q20K S **S** **08 43 26.7 -3.0**
baz=239
O19K Port Alsworth 79.20 25 IAMs_20 IAMs_20 09 03 01.1
comp=Z,10μm,22.0s
O19K Port Alsworth 79.20 25 P **P** **08 33 30.2 -3.5**
baz=237
O19K S **S** **08 43 27.6 -2.0**
baz=237
J17K VABM Dome 79.21 21 P **P** **08 33 33.7 0.0**
J17K IAMs_20 IAMs_20 09 02 21.1
comp=Z,9μm,22.0s
J17K VABM Dome 79.21 21 P **P** **08 33 32.0 -1.7**
baz=232
J17K S **S** **08 43 29.0 -0.7**
baz=232
DHRM DHARAMSHALA 79.21 304 *e*P **P** **08 33 34.7 0.0**
DHRM IAmb IAmb 08 33 38.8
comp=Z,135nm,0.5s
M18K Stony River 79.30 23 P **P** **08 33 33.6 -0.6**
baz=236,SNR=12
M18K S **S** **08 43 32.3 +1.5**
baz=236
AJM Ajmer 79.31 298 *e*P **P** **08 33 35.8 +0.6**

AJM IAmb IAmb 08 34 03.7
comp=Z,33nm,0.7s
MAKZ Makanchi 79.35 320 P **P** **08 33 35.5 +0.6**
MAKZ IAmb IAmb 08 33 40.8
comp=Z,31nm,0.7s
MAKZ Makanchi 79.35 320 P **P** **08 33 35.5 +0.6**
MAKZ pmax pmax
comp=Z,31nm,0.7s
P19K Oil Pt 79.37 26 IAmb IAmb 08 33 35.7
comp=Z,71nm,0.8s
P19K Oil Pt 79.37 26 P **P** **08 33 32.2 -2.5**
baz=238,SNR=5.5
P19K S **S** **08 43 29.0 -2.7**
baz=238
G16K Koyuk River 79.38 18 IAMs_20 IAMs_20 09 03 15.6
comp=Z,10µm,22.0s
G16K Koyuk River 79.38 18 P **P** **08 33 33.3 -1.2**
baz=229,SNR=25
G16K S **S** **08 43 32.7 +1.2**
baz=229
L18K Granite Mounta 79.39 23 IAMs_20 IAMs_20 09 04 43.9
comp=Z,9µm,22.0s
L18K Granite Mounta 79.39 23 P **P** **08 33 33.3 -1.3**
baz=235,SNR=20
L18K S **S** **08 43 32.7 +1.1**
baz=235
N19K Bonanza Creek 79.47 24 P **P** **08 33 33.4 -1.9**
baz=237
N19K S **S** **08 43 31.8 -1.0**
baz=237
THN Thein Dam 79.74 304 *eP* **P** **08 33 35.3 -1.9**
THN IAmb IAmb 08 33 41.1
comp=Z,38nm,0.8s
SHLS Shalkode 79.83 316 *eP* **P** **08 33 35.6 -2.0**
SHLS Shalkode 79.83 316 *eP* **P** **08 33 35.6 -2.0**
O20K Slope Mountain 79.86 26 P **P** **08 33 33.7 -3.6**
baz=239
O20K S **S** **08 43 34.3 -2.5**
baz=239
H17K Granite Mounta 79.88 20 IAMs_20 IAMs_20 09 04 51.8
comp=Z,13µm,22.0s
H17K Granite Mounta 79.88 20 P **P** **08 33 35.3 -2.0**
baz=231,SNR=19
H17K S **S** **08 43 35.8 -1.0**
baz=231
RED Redoubt Volcan 79.97 25 IAMs_20 IAMs_20 09 03 11.5
comp=Z,8µm,21.0s
G17K Kiwalik Mounta 80.00 19 P **P** **08 33 37.4 -0.5**
baz=230,SNR=23
G17K S **S** **08 43 38.2 +0.3**
baz=230
HOM Homer 80.06 26 P **P** **08 33 35.5 -2.9**
baz=240
L19K White Mountain 80.07 23 P **P** **08 33 36.3 -2.1**
baz=236,SNR=26
L19K S **S** **08 43 39.1 +0.1**
baz=236
J18K Innoko River 80.10 22 P **P** **08 33 36.8 -1.7**
baz=234
J18K S **S** **08 43 39.2 0.0**
baz=234
M19K Big River Lodg 80.10 23 P **P** **08 33 36.5 -2.1**
baz=237,SNR=10.0
M19K S **S** **08 43 39.7 +0.4**
baz=237
UZB Uzynbulak 80.13 316 *eP* **P** **08 33 38.9 -0.4**
UZB Uzynbulak 80.13 316 *eP* **P** **08 33 38.9 -0.4**
ZAA0 Zalesovo Array 80.39 327 P **P** **08 33 40.4 +0.1**
ZAA0 IAmb IAmb 08 33 44.9
comp=Z,29nm,0.7s
ZALV Zalesovo Beam 80.39 327 P **P** **08 33 40.2 -0.1**
comp=Z,37nm,0.7s,baz=107,slow=5.1,SNR=56
ZALV PKKPbc **PKKPbc** **08 52 22.2 -2.4**
comp=Z,5.2nm,0.5s,baz=302,slow=3.3,SNR=17
ZALV PKPPKP **P'P'df** **09 00 22.7 -2.7**
comp=Z,4.0nm,0.9s,baz=325,slow=7.2,SNR=4.1
ZALV LR LR 09 09 40.2
comp=Z,3µm,19.6s,baz=114,slow=36
comp=Z,37nm,0.7s
F17K Baldwin Pennin 80.41 18 IAMs_20 IAMs_20 09 04 18.8
comp=Z,11µm,22.0s
F17K Baldwin Pennin 80.41 18 P **P** **08 33 38.1 -2.0**
baz=230,SNR=6.3
F17K S **S** **08 43 43.2 +0.9**
baz=230
C16K Lisburne Hills 80.48 15 IAMs_20 IAMs_20 09 07 15.5
comp=Z,8µm,20.0s
C16K Lisburne Hills 80.48 15 P **P** **08 33 37.8 -2.6**
baz=226
C16K S **S** **08 43 42.2 -0.8**
baz=226
H18K Honhosa River 80.53 20 IAMs_20 IAMs_20 09 05 22.0
comp=Z,10µm,22.0s
H18K Honhosa River 80.53 20 P **P** **08 33 39.5 -1.4**
baz=233
H18K S **S** **08 43 43.3 -0.3**
baz=233
SATY Saty 80.53 315 *eP* **P** **08 33 41.1 -0.4**
SATY Saty 80.53 315 *eP* **P** **08 33 41.1 -0.4**
M20K Styx River 80.59 24 P **P** **08 33 38.4 -3.0**
baz=238
M20K S **S** **08 43 44.6 0.0**
baz=238
SPCR Spurr Chakacha 80.61 25 P P 08 33 35.6 -5.8
baz=239
L20K Farewell, AK 80.62 23 P **P** **08 33 41.0 -0.3**
baz=237,SNR=8.1
L20K S **S** **08 43 45.7 +1.0**
baz=237
E17K Hotham Inlet 80.66 17 P **P** **08 33 40.2 -1.3**
baz=229
E17K S **S** **08 43 46.0 +1.1**
baz=229
D17K Noatak River 80.71 17 P **P** **08 33 39.7 -2.0**
baz=228
D17K S **S** **08 43 47.2 +1.9**
baz=228
GCSA Galena City Sc 80.79 20 P **P** **08 33 39.4 -2.7**
baz=234,SNR=14
GCSA S **S** **08 43 45.2 -1.1**
baz=234
J19K Poorman 80.81 21 P **P** **08 33 40.6 -1.7**
baz=235,SNR=19
J19K S **S** **08 43 47.7 +1.2**
baz=235
CAPN Captain Cook N 80.83 25 IAMs_20 IAMs_20 09 03 06.4
comp=Z,8µm,21.0s
CAPN Captain Cook N 80.83 25 P **P** **08 33 40.0 -2.5**
baz=240
G18K Tagagawik 80.89 19 IAMs_20 IAMs_20 09 05 34.4
comp=Z,9µm,21.0s
G18K Tagagawik 80.89 19 P **P** **08 33 41.5 -1.2**
baz=232,SNR=36
G18K S **S** **08 43 47.2 -0.2**
baz=232
STLK Strandline Lak 80.92 24 IAMs_20 IAMs_20 09 03 55.6
comp=Z,8µm,22.0s
RDOG Red Dog Mine 81.00 16 IAMs_20 IAMs_20 09 07 52.1
comp=Z,10µm,20.0s
RDOG Red Dog Mine 81.00 16 P **P** **08 33 41.6 -1.7**
baz=228,SNR=11
RDOG S **S** **08 43 47.7 -0.6**
baz=228
F18K Selawik 81.01 18 P **P** **08 33 41.6 -1.6**
baz=231
F18K S **S** **08 43 48.3 -0.2**
baz=231
K20K Telida 81.02 22 P **P** **08 33 42.1 -1.4**
baz=237,SNR=37
K20K S **S** **08 43 48.4 -0.5**
baz=237
TDK Taldyqorghan 81.12 317 *eP* **P** **08 33 44.2 -0.2**
TDK Taldyqorghan 81.12 317 *eP* **P** **08 33 44.2 -0.2**
TDK LR LR 09 07 56.4
comp=Z,3µm,19.6s
C17K DeLong Mountai 81.20 16 P **P** **08 33 41.6 -2.7**
baz=228,SNR=6.0
C17K S **S** **08 43 50.3 -0.3**
baz=228
E18K Tukpahlearik C 81.24 17 IAMs_20 IAMs_20 09 06 10.7
comp=Z,10µm,21.0s
E18K Tukpahlearik C 81.24 17 P **P** **08 33 43.7 -0.9**
baz=230,SNR=14
E18K S **S** **08 43 50.5 -0.4**
baz=230
SEW Seward 81.25 26 P **P** **08 33 41.8 -2.9**
baz=242
SEW S **S** **08 43 47.1 -4.1**
baz=242
SKT Skwentna 81.29 24 P **P** **08 33 41.7 -3.3**
baz=240
SKT S **S** **08 43 48.3 -3.4**
baz=240
KSH Kashi 81.30 311 P **P** **08 33 50.3 +4.6**
KSH sP sP 08 34 07.5 +2.1
KSH S **S** **08 43 51.0 -2.0**
KSH pmax pmax
comp=Z,21nm,0.9s
KSH LR LR
comp=Z,2µm,19.9s
KSH LR LR
comp=Z,4µm,21.3s
KSH LR LR
comp=Z,4µm,22.7s
O22K Cooper Landing 81.31 26 IAmb IAmb 08 34 38.7
comp=Z,76nm,0.8s
O22K IAMs_20 IAMs_20 09 03 22.9
comp=Z,10µm,22.0s
O22K Cooper Landing 81.31 26 P **P** **08 33 42.1 -2.9**
baz=241
O22K S **S** **08 43 51.3 -0.5**
baz=241
H19K Roundabout Mou 81.40 20 P **P** **08 33 43.7 -1.7**
baz=234,SNR=28
H19K S **S** **08 43 52.3 -0.3**
baz=234
J20K Nowinta River 81.44 22 P **P** **08 33 43.9 -1.7**
baz=237,SNR=32
J20K S **S** **08 43 54.0 +0.8**
baz=237
PPLA Purkeypile 81.50 23 P **P** **08 33 46.5 +0.3**
PPLA IAmb IAmb 08 34 54.9
comp=Z,109nm,1.8s
PPLA IAMs_20 IAMs_20 09 04 28.8
comp=Z,8µm,22.0s
PPLA Purkeypile 81.50 23 P **P** **08 33 43.2 -3.0**
baz=239
PPLA S **S** **08 43 49.9 -4.2**
baz=239
G19K Purcell Mounta 81.55 19 IAMs_20 IAMs_20 09 06 04.9
comp=Z,11µm,22.0s
G19K Purcell Mounta 81.55 19 P **P** **08 33 44.5 -1.7**
baz=234,SNR=34
G19K S **S** **08 43 54.6 +0.4**
baz=234
TNSS Tian-Shan 81.55 315 *eP* **P** **08 33 46.6 -0.6**
TNSS Tian-Shan 81.55 315 *eP* **P** **08 33 46.7 -0.6**
RC01 Rabbit Creek A 81.60 25 P **P** **08 33 43.6 -2.9**
baz=241
RC01 S **S** **08 43 51.8 -3.0**
baz=241
AAA Alma-Ata 81.62 315 *eP* **P** **08 33 46.9 -0.2**
AAA Alma-Ata 81.62 315 *eP* **P** **08 33 47.0 -0.2**
AAA LR LR 09 08 45.5
I20K Naaghedeneel 81.67 21 IAmb IAmb 08 35 04.9
comp=Z,65nm,1.1s
I20K IAMs_20 IAMs_20 09 04 43.1
comp=Z,8µm,21.0s
I20K Naaghedeneel 81.67 21 P **P** **08 33 44.4 -2.4**
baz=236,SNR=14
I20K S **S** **08 43 56.1 +0.8**
baz=236
F19K Shaleruckik Mo 81.74 19 P **P** **08 33 47.3 +0.1**
F19K IAMs_20 IAMs_20 09 04 25.0
comp=Z,11µm,22.0s
F19K Shaleruckik Mo 81.74 19 P **P** **08 33 45.5 -1.7**
baz=233,SNR=35
F19K S **S** **08 43 53.6 -2.5**
baz=233
CHKK Chushkaly 81.75 316 *eP* **P** **08 33 47.6 -0.2**
CHKK Chushkaly 81.75 316 *eP* **P** **08 33 47.7 -0.2**
M22K Willow 81.76 25 IAmb IAmb 08 35 36.4
comp=Z,88nm,1.2s
M22K IAMs_20 IAMs_20 09 03 59.7
comp=Z,8µm,21.0s
M22K Willow 81.76 25 P **P** **08 33 45.6 -1.8**
baz=241
M22K S **S** **08 43 51.7 -4.7**
baz=241
C18K Utukok River 81.87 16 IAMs_20 IAMs_20 09 06 19.1
comp=Z,12µm,21.0s
C18K Utukok River 81.87 16 P **P** **08 33 46.5 -1.4**
baz=230
C18K S **S** **08 43 54.7 -2.8**
baz=230
H20K Anotleneega Mo 81.92 20 P **P** **08 33 47.7 -0.5**
baz=236,SNR=22
H20K S **S** **08 43 57.4 -0.6**
baz=236
CHUM Lake Minchumin 81.97 22 P **P** **08 33 46.7 -1.8**
baz=238,SNR=30
CHUM S **S** **08 43 55.3 -3.3**
baz=238
CUT Chulitna 82.02 24 P **P** **08 33 48.1 -0.6**
CUT IAmb IAmb 08 35 50.2
comp=Z,121nm,1.5s
CUT IAMs_20 IAMs_20 09 05 25.6
comp=Z,12µm,21.0s
CUT Chulitna 82.02 24 P **P** **08 33 45.9 -2.8**
baz=241
CUT S **S** **08 43 56.0 -3.1**
baz=241
NIL Nilore 82.03 305 P **P** **08 33 48.1 -1.4**
NIL IAmb IAmb 08 34 19.3
comp=Z,62nm,0.8s
NIL Nilore 82.03 305 P **P** **08 33 48.1 -1.4**
NIL pmax pmax
comp=Z,63nm,0.8s
NIL MLR MLR
comp=Z,2µm,20.0s
PWL Port Wells 82.09 26 IAmb IAmb 08 33 50.4
comp=Z,68nm,0.8s
PWL IAMs_20 IAMs_20 09 03 46.6
comp=Z,9µm,22.0s
PWL Port Wells 82.09 26 P **P** **08 33 46.6 -2.6**
baz=242,SNR=8.5
PWL S **S** **08 43 58.8 -1.2**
baz=242
PMR Palmer 82.09 25 P **P** **08 33 48.4 -0.7**
PMR Palmer 82.09 25 P **P** **08 33 46.6 -2.5**
baz=242,SNR=11
PMR S **S** **08 43 56.4 -3.5**
baz=242
P23K Montague Islan 82.11 27 P P 08 33 45.3 -4.0
baz=244
P23K S **S** **08 43 58.9 -1.2**
baz=244
B18K Kokolik River 82.17 16 P **P** **08 33 46.7 -2.7**
baz=229
B18K S **S** **08 43 59.2 -1.2**
baz=229
KUU Kurty 82.21 316 *eP* **P** **08 33 50.0 -0.2**
KUU Kurty 82.21 316 *eP* **P** **08 33 50.1 -0.2**
KUU LR LR 09 09 36.9
E19K Redstone River 82.29 18 IAmb IAmb 08 35 00.9
comp=Z,48nm,1.0s
E19K IAMs_20 IAMs_20 09 06 11.3
comp=Z,11µm,21.0s
E19K Redstone River 82.29 18 P **P** **08 33 49.0 -1.1**
baz=234,SNR=54
E19K S **S** **08 43 58.9 -2.9**
baz=234
KNK Knik Glacier 82.29 25 IAmb IAmb 08 34 16.0
comp=Z,99nm,1.6s
KNK IAMs_20 IAMs_20 09 04 42.0
comp=Z,9µm,22.0s
KNK Knik Glacier 82.29 25 P **P** **08 33 46.9 -3.3**
baz=242
KNK S **S** **08 43 58.9 -3.2**
baz=242
Q23K Middleton Isla 82.34 28 P **P** **08 33 47.5 -2.9**
baz=244
F20K Avaraart Lake 82.52 19 IAmb IAmb 08 35 12.8
comp=Z,60nm,1.4s
F20K Avaraart Lake 82.52 19 P **P** **08 33 48.8 -2.4**
baz=235
F20K S **S** **08 44 03.5 -0.6**
baz=235
TRF Thorofare Moun 82.53 23 P **P** **08 33 50.4 -1.2**
baz=240,SNR=22
TRF S **S** **08 43 59.6 -5.1**
baz=240
IMAR Indian Mountai 82.58 20 P **P** **08 33 52.2 +0.6**
BPAW Bear Paw Mtn. 82.58 22 P **P** **08 33 50.0 -1.7**
baz=240,SNR=27
BPAW S **S** **08 44 00.4 -4.5**
baz=240
C19K Lookout Ridge 82.61 16 IAmb IAmb 08 33 53.9
comp=Z,31nm,0.7s
C19K Lookout Ridge 82.61 16 P **P** **08 33 51.3 -0.4**
baz=231,SNR=16
C19K S **S** **08 44 03.5 -1.6**
baz=231
GLI Glacier Island 82.64 26 IAmb IAmb 08 33 57.6
comp=Z,43nm,0.8s
GLI Glacier Island 82.64 26 P **P** **08 33 49.4 -2.6**
baz=244,SNR=6.6
GLI S **S** **08 44 01.2 -4.4**
baz=244
D19K Kuna River 82.65 17 P **P** **08 33 50.9 -1.1**
baz=232,SNR=12
D19K S **S** **08 44 03.7 -1.8**
baz=232
H21K Melozitna Rive 82.73 21 P **P** **08 33 52.2 -0.2**
H21K IAMs_20 IAMs_20 09 04 53.2
comp=Z,10µm,22.0s
H21K Melozitna Rive 82.73 21 P **P** **08 33 51.3 -1.1**
baz=238,SNR=17
H21K S **S** **08 44 04.6 -1.8**
baz=238
KURK Kurchatov 82.76 323 P **P** **08 33 52.3 -0.6**
KURK IAmb IAmb 08 34 25.7
comp=Z,52nm,1.1s
KURK Kurchatov 82.76 323 *ce*P **P** **08 33 52.4 -0.4**
KURK pmax pmax
comp=Z,38nm,1.1s
M23K Glacier View 82.78 25 P **P** **08 33 50.1 -2.6**
baz=243
M23K S **S** **08 44 04.3 -2.7**
baz=243
KURBB Kurchatov Arra 82.78 323 P **P** **08 33 53.5 +0.5**
comp=Z,15nm,0.7s,baz=113,slow=3.9,SNR=40
KURBB PKKPbc **PKKPbc** **08 52 17.2 -1.7**
comp=Z,4.3nm,0.7s,baz=293,slow=2.8,SNR=22
KURBB PKPPKP **P'P'df** **09 00 22.4 +1.1**
comp=Z,7.0nm,0.2s,baz=280,slow=2.9,SNR=11
KURBB LR LR 09 09 23.2
comp=Z,4µm,21.2s,baz=114,slow=35
comp=Z,15nm,0.7s
FID Port Fidalgo 82.85 26 IAmb IAmb 08 34 51.9
comp=Z,49nm,1.1s
A19K Wainwright 82.92 15 P **P** **08 33 50.9 -2.4**
baz=230
A19K S **S** **08 44 07.0 -1.0**
baz=230
G21K Allakaket 82.95 20 IAMs_20 IAMs_20 09 06 58.0
comp=Z,8µm,22.0s
G21K Allakaket 82.95 20 P **P** **08 33 52.2 -1.3**
baz=237,SNR=14
G21K S **S** **08 44 06.2 -2.4**
baz=237
SCM Sheep Creek Mo 82.97 25 P **P** **08 33 53.6 -0.2**
SCM IAmb IAmb 08 34 33.3
comp=Z,65nm,1.0s
SCM Sheep Creek Mo 82.97 25 P **P** **08 33 53.6 -0.2**
SCM pmax pmax
comp=Z,65nm,1.0s
SCM Sheep Creek Mo 82.97 25 P **P** **08 33 52.3 -1.5**
baz=243,SNR=9.0
SCM S **S** **08 44 07.2 -1.8**
baz=243
RND Reindeer 83.07 23 IAMs_20 IAMs_20 09 07 21.3
comp=Z,11µm,20.0s
E20K Nigu River 83.08 18 P **P** **08 33 53.2 -1.0**
baz=234,SNR=21
E20K S **S** **08 44 09.3 -0.6**
baz=234
EYAK Cordova Ski Ar 83.09 27 P **P** **08 33 54.1 -0.2**
EYAK Cordova Ski Ar 83.09 27 P **P** **08 33 51.0 -3.3**
baz=245
EYAK S **S** **08 44 09.3 -0.8**
baz=245
MLY Manley 83.15 22 P **P** **08 33 53.8 -0.9**
MLY IAmb IAmb 08 33 55.9
comp=Z,31nm,0.7s
MLY Manley 83.15 22 P **P** **08 33 52.4 -2.3**
baz=240,SNR=58
MLY S **S** **08 44 07.2 -3.5**
baz=240
AAK Ala-Archa 83.18 314 P **P** **08 33 55.3 -0.2**
AAK Ala-Archa 83.18 314 LR LR 09 10 40.3
comp=Z,6µm,21.4s,baz=96,slow=36
AAK Ala-Archa 83.18 314 *eP* **P** **08 33 56.0 +0.5**
AAK pmax pmax
comp=Z,18nm,0.7s
AAK MLR MLR
comp=Z,8µm,24.0s
AAK Ala-Archa 83.18 314 P **P** **08 33 52.6 -2.8**
AAK Ala-Archa 83.18 314 P **P** **08 33 52.7 -2.8**
AAK Ala-Archa 83.18 314 P **P** **08 33 52.7 -2.8**
MCK McKinley 83.19 23 P **P** **08 33 53.6 -1.3**
MCK IAmb IAmb 08 33 55.5
comp=Z,64nm,0.8s
MCK IAMs_20 IAMs_20 09 06 03.5
comp=Z,9µm,21.0s
MCK McKinley 83.19 23 P **P** **08 33 53.6 -1.3**
MCK pmax pmax
comp=Z,64nm,0.8s
MCK McKinley 83.19 23 P **P** **08 33 53.1 -1.7**
baz=242,SNR=42
MCK S **S** **08 44 10.3 -0.8**
baz=242
BWN Browne 83.20 23 P **P** **08 33 54.7 -0.2**
BWN IAmb IAmb 08 34 22.0
comp=Z,54nm,0.8s
D20K Etivluk River 83.22 17 P **P** **08 33 52.1 -2.9**
baz=234,SNR=6.6
D20K S **S** **08 44 10.5 -0.8**
baz=234
MAW Mawson 83.25 203 P **P** **08 33 54.8 -0.3**
comp=Z,46nm,0.7s,baz=88,slow=6.7,SNR=71
MAW LR LR 09 08 42.6
comp=Z,17µm,21.5s,baz=88,slow=34
comp=Z,46nm,0.7s
SGDS Sogindy 83.29 315 *eP* **P** **08 33 55.5 -0.4**
DIV Divide 83.33 26 IAmb IAmb 08 35 20.1
comp=Z,63nm,1.4s
F21K Alatna River 83.35 19 IAMs_20 IAMs_20 09 08 23.4
comp=Z,8µm,21.0s
F21K Alatna River 83.35 19 P **P** **08 33 54.8 -0.8**
baz=237,SNR=14
F21K S **S** **08 44 13.1 +0.5**
baz=237
H22K Ishtalitna Cre 83.36 21 P **P** **08 33 54.6 -1.0**
baz=239,SNR=20
H22K S **S** **08 44 12.2 -0.6**
baz=239
KLU Klutina 83.42 26 IAmb IAmb 08 33 57.9
comp=Z,34nm,0.8s
KLU Klutina 83.42 26 P **P** **08 33 54.7 -1.5**
baz=245,SNR=14
KLU S **S** **08 44 12.0 -1.7**
baz=245
KAIM Kayak Island 83.44 28 P **P** **08 33 53.9 -2.3**
baz=246
KAIM S **S** **08 44 13.5 -0.2**
baz=246
NEA2 Nenana 83.55 22 P **P** **08 33 54.1 -2.6**
baz=241,SNR=34
NEA2 S **S** **08 44 11.2 -3.5**
baz=241
M24K Tolsona, Glenn 83.58 25 IAmb IAmb 08 34 54.2
comp=Z,63nm,0.8s
M24K IAMs_20 IAMs_20 09 05 19.9
comp=Z,9µm,22.0s
M24K Tolsona, Glenn 83.58 25 P **P** **08 33 55.6 -1.3**
baz=244,SNR=8.5
M24K S **S** **08 44 14.7 -0.4**
baz=244
BMRM Bremner River 83.78 27 IAmb IAmb 08 34 43.5
comp=Z,49nm,1.2s
BMRM Bremner River 83.78 27 P **P** **08 33 56.4 -1.6**
baz=246,SNR=7.4
BMRM S **SKSac** **08 44 16.7 0.0**
baz=246
B20K Meade River 83.84 16 IAmb IAmb 08 35 00.7
comp=Z,49nm,1.4s
B20K IAMs_20 IAMs_20 09 09 36.0
comp=Z,9µm,20.0s
B20K Meade River 83.84 16 P **P** **08 33 56.6 -1.4**
baz=233
B20K S **SKSac** **08 44 15.6 -1.0**
baz=233

G22K **Bettles** **83.84** **20** P **P** **08 33 57.3 -0.7**
baz=239
G22K S **S** **08 44 20.0 +2.5**
baz=239
E21K **Killik River** **83.86** **18** IAmb IAmb 08 35 19.5
comp=Z,93nm,1.6s
E21K IAMs_20 IAMs_20 09 07 22.7
comp=Z,9µm,21.0s
E21K **Killik River** **83.86** **18** P **P** **08 33 57.1 -1.1**
baz=236
E21K S **SKSac** **08 44 17.6 +0.7**
baz=236
WRH **Wood River Hil** **83.87** **23** IAmb IAmb 08 35 36.5
comp=Z,62nm,1.2s
F22K **John River** **83.93** **19** P **P** **08 33 56.7 -1.8**
baz=238
F22K S **SKSac** **08 44 18.9 +1.6**
baz=238
BERG **Berg Lake** **83.95** **27** IAmb IAmb 08 34 58.1
comp=Z,58nm,1.1s
ARSB **Arslanbob** **83.96** **313** P **P** **08 33 59.6 +0.2**
ARSB **Arslanbob** **83.96** **313** P **P** **08 33 59.7 +0.2**
ARSB pmax pmax
comp=Z,163nm,1.5s
H23K **Yukon River** **83.97** **21** IAmb IAmb 08 35 37.7
comp=Z,102nm,1.7s
H23K **Yukon River** **83.97** **21** P **P** **08 33 57.7 -1.1**
baz=241,SNR=20
H23K S **SKSac** **08 44 17.2 -0.5**
baz=241
QSPA **South Pole Qui** **83.98** **180** P **P** **08 33 59.4 +0.3**
QSPA **South Pole Qui** **83.98** **180** IAMs_20 IAMs_20 09 09 15.4
comp=Z,11µm,20.0s
QSPA **South Pole Qui** **83.98** **180** P **P** **08 33 59.2 +0.1**
comp=Z,132nm,0.9s,baz=342,slow=1.5,SNR=243
QSPA LR LR 09 09 26.3
comp=Z,12µm,21.2s,baz=12,slow=34
comp=Z,132nm,0.9s
C21K **Knifeblade Rid** **84.02** **17** P **P** **08 33 57.9 -1.1**
baz=236
C21K S **SKSac** **08 44 18.9 +1.1**
baz=236
BGLC **Bering Glacier** **84.04** **28** P **P** **08 33 58.0 -1.2**
baz=247
N25K **Chitina, Valde** **84.04** **26** IAmb IAmb 08 34 46.5
comp=Z,115nm,2.0s
N25K **Chitina, Valde** **84.04** **26** P **P** **08 33 57.9 -1.5**
baz=246,SNR=5.3
N25K S **SKSac** **08 44 20.5 +2.0**
baz=246
BTLS **Baital** **84.10** **316** *e*P **P** **08 33 59.7 -0.2**
BTLS **Baital** **84.10** **316** *e*P **P** **08 33 59.7 -0.2**
HARP **HAARP** **84.13** **25** P **P** **08 33 57.7 -2.0**
baz=245,SNR=6.2
HARP S **S** **08 44 21.9 +1.3**
baz=245
COLA **College** **84.15** **22** P **P** **08 33 58.3 -1.3**
COLA **College** **84.15** **22** P **P** **08 33 57.5 -2.1**
COLA **College** **84.15** **22** P **P** **08 33 58.1 -1.5**
baz=242
COLA S **S** **08 44 22.5 +1.9**
baz=242
COLA **College** **84.15** **22** P **P** **08 33 59.4 -0.3**
COLA **College** **84.15** **22** P **P** **08 33 59.4 -0.3**
G23K **Bananza Creek** **84.24** **20** P **P** **08 33 59.9 -0.3**
G23K IAMs_20 IAMs_20 09 07 18.2
comp=Z,10µm,21.0s
G23K **Bananza Creek** **84.24** **20** P **P** **08 33 58.7 -1.5**
baz=240,SNR=45
G23K S **S** **08 44 23.0 +1.3**
baz=240
PAX **Paxson** **84.24** **25** P **P** **08 33 58.4 -1.9**
baz=245,SNR=9.7
PAX S **SKSac** **08 44 20.0 +0.3**
baz=245
HDA **Harding Lake** **84.28** **23** P **P** **08 33 59.3 -1.1**
baz=243,SNR=14
HDA S **SKSac** **08 44 19.7 +0.1**
baz=243
GLB **Gilahina Butte** **84.32** **26** P **P** **08 34 00.5 -0.2**
B21K **Ikpikpuk River** **84.33** **17** IAMs_20 IAMs_20 09 08 13.3
comp=Z,11µm,21.0s
B21K **Ikpikpuk River** **84.33** **17** P **P** **08 33 59.1 -1.4**
baz=236
B21K S **SKSac** **08 44 16.0 -3.8**
baz=236
CRQM **Cirque** **84.35** **27** IAmb IAmb 08 35 25.3
comp=Z,56nm,1.1s
CRQE **Cirque** **84.37** **27** P **P** **08 33 59.7 -1.4**
baz=247,SNR=7.5
CRQE S **SKSac** **08 44 22.6 +1.9**
baz=247
E22K **Anaktuvuk Pass** **84.37** **19** IAMs_20 IAMs_20 09 06 01.2
comp=Z,10µm,22.0s
E22K **Anaktuvuk Pass** **84.37** **19** P **P** **08 34 00.7 -0.1**
baz=239
E22K S **SKSac** **08 44 21.7 +1.4**
baz=239
VRDI **Verde Repeater** **84.40** **27** IAmb IAmb 08 34 26.6
comp=Z,86nm,1.7s
POKR **Poker Flat Res** **84.42** **22** P **P** **08 33 58.1 -3.0**
baz=243
POKR S **SKSac** **08 44 20.9 +0.4**
baz=243
COLD **Coldfoot** **84.44** **20** IAmb IAmb 08 35 42.8
comp=Z,66nm,1.5s
COLD **Coldfoot** **84.44** **20** P **P** **08 33 57.5 -3.6**
baz=240,SNR=30
COLD S **SKSac** **08 44 22.5 +1.9**
baz=240
ILAR **Eielson Array** **84.47** **23** P **P** **08 33 59.7 -1.6**
comp=Z,28nm,0.7s,baz=253,slow=4.6,SNR=171
ILAR PKKP **PKKPdf** **08 52 05.2 -2.3**
comp=Z,0.6nm,0.9s,baz=251,slow=0.6,SNR=4.3
ILAR PKPPKP **P'P'df** **09 00 18.4 +1.0**
comp=Z,0.9nm,1.0s,baz=40,slow=2.3,SNR=4.7
ILAR LR LR 09 05 23.6
comp=Z,4µm,21.9s,baz=240,slow=31
comp=Z,28nm,0.7s
K24K **Donnelly Dome** **84.48** **24** IAmb IAmb 08 34 44.0
comp=Z,31nm,0.8s
K24K **Donnelly Dome** **84.48** **24** P P 08 33 57.3 -4.1
baz=245,SNR=11
K24K S **SKSac** **08 44 22.7 +1.6**
baz=245
TGL **Tana Glacier** **84.49** **27** IAmb IAmb 08 35 26.1
comp=Z,71nm,1.5s
D22K **Ayikyak River** **84.50** **18** IAmb IAmb 08 35 23.1
comp=Z,136nm,1.8s
D22K IAMs_20 IAMs_20 09 07 55.8
comp=Z,10µm,22.0s
D22K **Ayikyak River** **84.50** **18** P **P** **08 33 59.9 -1.5**
baz=238,SNR=16
D22K S **SKSac** **08 44 23.3 +2.3**
baz=238
H24K **Noodor Dome** **84.58** **22** P **P** **08 33 59.3 -2.7**
baz=242,SNR=20
H24K S **SKSac** **08 44 22.2 +0.5**
baz=242
MCARA **McCarthy VSAT** **84.65** **27** IAmb IAmb 08 35 36.8
comp=Z,63nm,1.4s
MCARA **McCarthy VSAT** **84.65** **27** P **P** **08 33 58.9 -3.4**
baz=247
MCARA S **SKSac** **08 44 23.5 +1.4**
baz=247
MESA **MESA** **84.68** **28** P **P** **08 33 59.8 -3.0**
baz=248
MESA S **S** **08 44 26.6 +0.1**
baz=248
A21K **Barrow** **84.77** **15** P **P** **08 34 00.6 -2.1**
baz=234
A21K S **SKSac** **08 44 24.1 +1.7**
baz=234
RIDG **Independent Ri** **84.82** **24** IAmb IAmb 08 34 52.9
comp=Z,71nm,1.3s
RIDG IAMs_20 IAMs_20 09 06 51.8
comp=Z,11µm,22.0s
RIDG **Independent Ri** **84.82** **24** P **P** **08 34 00.8 -2.4**
baz=245,SNR=11
RIDG S **SKSac** **08 44 24.4 +1.1**
baz=245
GRNC **Granite Creek** **84.97** **27** IAmb IAmb 08 35 48.5
comp=Z,44nm,1.4s
J25K **Salcha River,** **84.98** **23** P **P** **08 34 01.9 -2.1**
baz=245,SNR=80
J25K S **SKSac** **08 44 25.2 +0.9**
baz=245
A22K **Sinclair Lake** **85.02** **16** P **P** **08 34 01.8 -2.1**
baz=235
A22K S **SKSac** **08 44 25.9 +1.8**
baz=235
E23K **Chandalar** **85.05** **19** IAmb IAmb 08 34 08.4
comp=Z,31nm,0.9s
E23K **Chandalar** **85.05** **19** P **P** **08 34 02.3 -2.0**
baz=241,SNR=31
E23K S **SKSac** **08 44 27.5 +2.8**
baz=241
M26K **Nabesna, AK** **85.06** **26** P **P** **08 34 02.0 -2.4**
baz=247,SNR=6.2
M26K S **SKSac** **08 44 28.0 +3.1**
baz=247
B22K **Teshekpuk Lake** **85.08** **17** P **P** **08 34 01.4 -2.8**
baz=237
B22K S **SKSac** **08 44 25.7 +1.2**
baz=237
DOT **Dot Lake** **85.11** **24** IAmb IAmb 08 34 05.9
comp=Z,30nm,0.8s
DOT IAMs_20 IAMs_20 09 07 01.1
comp=Z,7µm,22.0s
G24K **Hadweenzic Riv** **85.13** **21** IAmb IAmb 08 35 24.8
comp=Z,95nm,1.6s
G24K IAMs_20 IAMs_20 09 07 33.6
comp=Z,9µm,22.0s
G24K **Hadweenzic Riv** **85.13** **21** P **P** **08 34 02.4 -2.3**
baz=243,SNR=25
G24K S **SKSac** **08 44 27.9 +2.8**
baz=243
BARN **Barnard Glacie** **85.14** **27** IAmb IAmb 08 34 06.8
comp=Z,24nm,0.8s
L26K **Log Cabin Wild** **85.15** **25** IAmb IAmb 08 34 06.3
comp=Z,20nm,0.7s
L26K IAMs_20 IAMs_20 09 06 20.5
comp=Z,11µm,21.0s
L26K **Log Cabin Wild** **85.15** **25** P **P** **08 34 02.1 -2.7**
baz=247,SNR=31
L26K S **SKSac** **08 44 29.0 +3.6**
baz=247
D23K **Nanushuk River** **85.16** **18** P **P** **08 34 04.5 -0.3**
D23K IAmb IAmb 08 34 46.8
comp=Z,66nm,1.1s
D23K IAMs_20 IAMs_20 09 08 13.3
comp=Z,11µm,22.0s
D23K **Nanushuk River** **85.16** **18** P **P** **08 34 03.6 -1.2**
baz=240
D23K S **SKSac** **08 44 29.0 +3.8**
baz=240
CTG **Chitna Glacier** **85.25** **27** P **P** **08 34 02.2 -3.3**
baz=249,SNR=13
CTG S **SKSac** **08 44 30.4 +4.1**
baz=249
CTGM **Chitina Glacie** **85.25** **27** IAmb IAmb 08 34 07.4
comp=Z,25nm,0.8s
SCRK **Sand Creek** **85.27** **24** IAMs_20 IAMs_20 09 07 05.5
comp=Z,11µm,21.0s
SCRK **Sand Creek** **85.27** **24** P **P** **08 34 03.8 -1.8**
baz=246,SNR=23
SCRK S **SKSac** **08 44 29.5 +3.2**
baz=246
BTK **Batken** **85.29** **311** P **P** **08 34 05.7 -0.5**
BTK IAmb IAmb 08 34 14.4
comp=Z,23nm,0.7s
BTK **Batken** **85.29** **311** P **P** **08 34 05.7 -0.5**
BTK pmax pmax
comp=Z,23nm,0.7s
PRP **Porcupine Dome** **85.31** **22** P **P** **08 34 02.2 -3.5**
baz=245
PRP S **SKSac** **08 44 28.3 +1.7**
baz=245
TOLK **Toolik Lake Re** **85.35** **19** IAMs_20 IAMs_20 09 10 59.3
comp=Z,10µm,20.0s
TOLK **Toolik Lake Re** **85.35** **19** P **P** **08 34 05.4 -0.3**
baz=241,SNR=14
TOLK S **S** **08 44 31.4 -1.2**
baz=241
LOGN **Logan Glacier** **85.35** **27** IAmb IAmb 08 35 20.9
comp=Z,29nm,1.1s
F24K **Squaw Lake** **85.36** **20** IAmb IAmb 08 34 10.1
comp=Z,37nm,0.8s
F24K IAMs_20 IAMs_20 09 06 49.8
comp=Z,11µm,22.0s
F24K **Squaw Lake** **85.36** **20** P **P** **08 34 05.3 -0.6**
baz=242,SNR=75
F24K S **SKSac** **08 44 30.5 +3.9**
baz=242
E24K **Your Creek** **85.43** **19** P **P** **08 34 03.8 -2.3**
baz=242
E24K S **SKSac** **08 44 31.3 +4.3**
baz=242
PCA **Pinnacle** **85.44** **28** IAmb IAmb 08 35 50.1
comp=Z,63nm,1.4s
PINM **Pinnacle** **85.44** **28** P **P** **08 34 04.2 -2.1**
baz=250,SNR=6.3
PINM S **SKSac** **08 44 31.8 +4.4**
baz=250
GAR **Garm** **85.46** **310** P **P** **08 34 06.1 -0.9**
GAR IAmb IAmb 08 35 09.3
comp=Z,41nm,0.9s
DZA **Taraz** **85.51** **314** *e*P **P** **08 34 06.7 -0.4**
DZA pmax pmax
comp=Z,29nm,0.6s
DZA **Taraz** **85.51** **314** *e*P **P** **08 34 06.7 -0.4**
comp=Z,30nm,0.6s
M27K **Edge Creek, AK** **85.52** **26** IAmb IAmb 08 34 12.3
comp=Z,40nm,0.8s
M27K IAMs_20 IAMs_20 09 06 12.3
comp=Z,7µm,22.0s
M27K **Edge Creek, AK** **85.52** **26** P **P** **08 34 06.1 -0.7**
baz=248,SNR=51
M27K S **SKSac** **08 44 31.8 +3.8**
baz=248
H25L **Birch Creek** **85.53** **22** P **P** **08 34 02.9 -3.7**
baz=244,SNR=5.2
H25L S **SKSac** **08 44 30.8 +3.3**
baz=244
KBU **Kabul Universi** **85.55** **305** P **P** **08 34 07.2 -0.5**
C23K **Itkillik River** **85.62** **17** IAmb IAmb 08 34 10.7
comp=Z,45nm,0.9s
C23K **Itkillik River** **85.62** **17** P **P** **08 34 05.2 -1.8**
baz=240,SNR=26
C23K S **S** **08 44 33.7 -1.4**
baz=240
G25K **Bearman Lake** **85.64** **21** P **P** **08 34 05.3 -1.9**
baz=244,SNR=13
G25K S **SKSac** **08 44 32.9 +4.6**
baz=244
J26L **Joseph Creek** **85.65** **24** P **P** **08 34 04.9 -2.4**
baz=246,SNR=23
J26L S **SKSac** **08 44 32.4 +3.8**
baz=246
PNL **Peninsula** **85.70** **29** P **P** **08 34 05.2 -2.5**
baz=251,SNR=7.9
PNL S **SKSac** **08 44 33.1 +4.1**
baz=251
O28M **Mount Upton** **85.70** **28** IAmb IAmb 08 34 10.6
comp=Z,26nm,0.8s
O28M **Mount Upton** **85.70** **28** P **P** **08 34 05.2 -2.8**
baz=250,SNR=17
O28M S **SKSac** **08 44 33.1 +3.6**
baz=250
L27K **Beaver Creek,** **85.81** **25** IAmb IAmb 08 34 48.9
comp=Z,62nm,1.5s
L27K **Beaver Creek,** **85.81** **25** P **P** **08 34 06.0 -2.1**
baz=248,SNR=18
L27K S **SKSac** **08 44 34.6 +5.1**
baz=248
BCAR **Beaver Creek A** **85.82** **25** P **P** **08 34 07.6 -0.6**
D24K **Happy Valley** **85.83** **18** IAmb IAmb 08 35 04.0
comp=Z,70nm,1.4s
D24K IAMs_20 IAMs_20 09 10 36.1
comp=Z,9µm,20.0s
D24K **Happy Valley** **85.83** **18** P **P** **08 34 05.8 -2.2**
baz=241,SNR=11
D24K S **SKSac** **08 44 34.3 +4.9**
baz=241
FYU **Fort Yukon** **85.87** **21** IAmb IAmb 08 34 33.4
comp=Z,36nm,1.0s
YUK3 **Moose Creek** **85.93** **27** P **P** **08 34 07.8 -1.2**
baz=250,SNR=19
YUK3 S **S** **08 44 37.7 -1.2**
baz=250
BVCY **Beaver Creek** **85.98** **26** P **P** **08 34 07.7 -1.3**
baz=249,SNR=9.2
BVCY S **SKSac** **08 44 36.0 +5.3**
baz=249
K27K **Chicken** **86.06** **24** IAmb IAmb 08 35 49.5
comp=Z,71nm,1.4s
K27K IAMs_20 IAMs_20 09 07 53.6
comp=Z,11µm,22.0s
K27K **Chicken** **86.06** **24** P **P** **08 34 07.3 -2.0**
baz=248
K27K S **S** **08 44 37.3 -2.3**
baz=248
YUK8 **Steele Glacier** **86.08** **27** P **P** **08 34 07.4 -2.4**
baz=250,SNR=15
YUK8 S **S** **08 44 37.4 -3.0**
baz=250
I26K **Coal Creek Min** **86.13** **23** IAMs_20 IAMs_20 09 07 25.9
comp=Z,8µm,22.0s
I26K **Coal Creek Min** **86.13** **23** P **P** **08 34 07.6 -2.0**
baz=247
I26K S **SKSac** **08 44 34.7 +3.4**
baz=247
KK31 **Karatay Array** **86.14** **314** P **P** **08 34 10.1 -0.1**
KK31 IAmb IAmb 08 34 42.5
comp=Z,78nm,1.2s
KK31 **Karatay Array** **86.14** **314** P **P** **08 34 10.1 -0.1**
KK31 pmax pmax
comp=Z,78nm,1.3s
KKAR **Karatay Array** **86.14** **314** P **P** **08 34 10.0 -0.2**
KKAR **Karatay Array** **86.14** **314** P **P** **08 34 10.0 -0.2**
C24K **Franklin Bluff** **86.15** **18** P **P** **08 34 09.8 +0.3**
C24K IAmb IAmb 08 34 13.2
comp=Z,53nm,1.0s
C24K IAMs_20 IAMs_20 09 08 59.0
comp=Z,10µm,21.0s
C24K **Franklin Bluff** **86.15** **18** P **P** **08 34 07.4 -2.2**
baz=241,SNR=23
C24K S **S** **08 44 36.8 -3.4**
baz=241
F25K **Christian River** **86.17** **20** P **P** **08 34 08.5 -1.3**
baz=244,SNR=20
F25K S **S** **08 44 39.3 -1.4**
baz=244
BRZS **Berezniki** **86.21** **321** *e*P **P** **08 34 10.1 -0.2**
BRZS **Berezniki** **86.21** **321** *e*P **P** **08 34 10.2 -0.2**
IUG **luzhnay** **86.30** **313** *e*P **P** **08 34 10.6 -0.5**
IUG pmax pmax
comp=Z,19nm,0.6s
IUG **luzhnay** **86.30** **313** *e*P **P** **08 34 10.7 -0.4**
comp=Z,19nm,0.6s
O29M **Mount Kennedy** **86.30** **28** P **P** **08 34 09.2 -1.5**
baz=251
O29M S **S** **08 44 40.4 -1.9**
baz=251
SIMJ **Simiganj** **86.40** **309** P **P** **08 34 10.8 -1.0**
SIMJ IAmb IAmb 08 34 41.1
comp=Z,40nm,1.0s
BMAR **Burnt Mountain** **86.47** **21** P **P** **08 34 10.6 -0.7**
P29M **Windy Craggy** **86.49** **29** IAmb IAmb 08 35 56.8
comp=Z,63nm,1.5s
P29M **Windy Craggy** **86.49** **29** P **P** **08 34 09.7 -1.8**
baz=252,SNR=7.5
P29M S **S** **08 44 42.8 -1.2**
baz=252
G26K **Porcupine Rive** **86.55** **21** P **P** **08 34 11.1 -0.5**
G26K IAmb IAmb 08 34 13.9
comp=Z,38nm,0.8s
G26K **Porcupine Rive** **86.55** **21** P **P** **08 34 10.7 -0.9**
baz=246,SNR=70
G26K S **S** **08 44 41.2 -3.1**
baz=246
YUK4 **Talbot Arm** **86.60** **27** P **P** **08 34 11.9 -0.4**
baz=251,SNR=15
YUK6 **Outpost Mounta** **86.61** **28** P **P** **08 34 10.7 -1.7**
baz=251,SNR=8.6
YUK6 S **S** **08 44 41.9 -3.6**
baz=251
BRLS **Borolday** **86.61** **314** *e*P **P** **08 34 12.5 0.0**
BRLS **Borolday** **86.61** **314** *e*P **P** **08 34 12.6 0.0**
CHM **Chimkent** **86.64** **313** *e*P **P** **08 34 12.3 -0.4**
CHM pmax pmax
comp=Z,12nm,0.4s
CHM **Chimkent** **86.64** **313** *e*P **P** **08 34 12.3 -0.4**
comp=Z,12nm,0.4s
D25K **Kavik River** **86.69** **19** IAmb IAmb 08 34 15.4
comp=Z,24nm,1.0s
D25K **Kavik River** **86.69** **19** P **P** **08 34 11.1 -1.2**
baz=244,SNR=34
D25K S **S** **08 44 43.8 -1.9**
baz=244
F26K **Sheenjek River** **86.73** **20** IAmb IAmb 08 35 54.4
comp=Z,47nm,1.5s
F26K IAMs_20 IAMs_20 09 08 46.9
comp=Z,9µm,22.0s
F26K **Sheenjek River** **86.73** **20** P **P** **08 34 11.3 -1.3**
baz=246,SNR=20
F26K S **S** **08 44 46.4 +0.3**
baz=246
S31K **Pelican** **86.74** **31** IAmb IAmb 08 35 32.9
comp=Z,81nm,1.6s
S31K IAMs_20 IAMs_20 09 04 29.9
comp=Z,8µm,22.0s
S31K **Pelican** **86.74** **31** P **P** **08 34 10.9 -1.8**
baz=253,SNR=21
S31K S **S** **08 44 45.5 -0.9**
baz=253
I27K **Kandik River** **86.84** **23** P **P** **08 34 12.0 -1.2**
baz=248,SNR=49
I27K S **S** **08 44 44.5 -2.7**
baz=248
SIT **Sitka** **86.96** **32** IAmb IAmb 08 35 38.4
comp=Z,44nm,1.4s
SIT IAMs_20 IAMs_20 09 04 43.7
comp=Z,10µm,22.0s
SIT **Sitka** **86.96** **32** P **P** **08 34 12.0 -1.8**
baz=254,SNR=12
SIT S **S** **08 44 48.5 0.0**
baz=254
HYT **Haines Junctio** **86.97** **28** IAmb IAmb 08 34 56.5
comp=Z,55nm,0.9s
HYT **Haines Junctio** **86.97** **28** P **P** **08 34 12.9 -1.0**
baz=252,SNR=68
HYT S **S** **08 44 48.1 -0.8**
baz=252
P30M **Million Dollar** **87.01** **29** P **P** **08 34 11.9 -2.2**
baz=253
P30M S **S** **08 44 48.3 -0.9**
baz=253
M29M **Somme Creek** **87.04** **26** IAmb IAmb 08 34 16.4
comp=Z,24nm,0.8s
M29M **Somme Creek** **87.04** **26** P **P** **08 34 13.4 -0.9**
baz=251,SNR=50
M29M S **S** **08 44 48.9 -0.5**
baz=251
PLBC **Pleasant Camp** **87.10** **29** P **P** **08 34 13.7 -0.8**
baz=253,SNR=14
PLBC S **S** **08 44 50.2 +0.3**
baz=253
H27K **Steamboat Moun** **87.11** **22** IAmb IAmb 08 34 18.6
comp=Z,33nm,0.8s
H27K **Steamboat Moun** **87.11** **22** P **P** **08 34 12.4 -2.1**
baz=248,SNR=79
H27K S **S** **08 44 48.7 -1.1**
baz=248
R31K **City Hall, Gus** **87.12** **31** P **P** **08 34 13.8 -0.7**
baz=254
R31K S **S** **08 44 50.2 +0.3**
baz=254
DAWY **Dawson** **87.18** **25** P **P** **08 34 15.1 +0.2**
DAWY IAmb IAmb 08 34 55.6
comp=Z,43nm,1.0s
DAWY IAMs_20 IAMs_20 09 08 26.1
comp=Z,9µm,22.0s
DAWY **Dawson** **87.18** **25** P **P** **08 34 13.1 -1.8**
baz=250,SNR=53
DAWY S **S** **08 44 49.6 -1.0**
baz=250
G27K **Doyon Strip** **87.27** **22** P **P** **08 34 12.8 -2.4**
baz=248,SNR=22
G27K S **S** **08 44 51.0 -0.4**
baz=248
N30M **Aishikik Lake** **87.35** **27** IAmb IAmb 08 35 04.5
comp=Z,30nm,1.1s
N30M **Aishikik Lake** **87.35** **27** P **P** **08 34 12.8 -2.9**
baz=252,SNR=15
N30M S **S** **08 44 50.9 -1.5**
baz=252
L29M **L29M** **87.40** **26** IAmb IAmb 08 34 18.2
comp=Z,39nm,0.8s
L29M IAMs_20 IAMs_20 09 07 19.0
comp=Z,8µm,22.0s
L29M **L29M** **87.40** **26** P **P** **08 34 14.1 -1.8**
baz=252,SNR=70
L29M S **S** **08 44 53.0 +0.3**

baz=252
C26K Camden Bay 87.41 18 P P 08 34 14.5 -1.2
baz=245,SNR=17
C26K S S 08 44 51.1 -1.3
baz=245
I28M Miner Creek 87.44 23 IAmb IAmb 08 35 04.6
comp=Z,49nm,1.3s
I28M IAMs_20 IAMs_20 09 09 35.8
comp=Z,9µm,20.0s
I28M Miner Creek 87.44 23 P P 08 34 15.8 -0.3
baz=250,SNR=38
I28M S S 08 44 52.2 -0.9
baz=250
S32K Killisnoo 87.46 32 IAmb IAmb 08 34 56.1
comp=Z,25nm,1.1s
S32K IAMs_20 IAMs_20 09 05 11.0
comp=Z,11µm,22.0s
S32K Killisnoo 87.46 32 P P 08 34 16.5 +0.3
baz=255,SNR=19
SKAG Skagway 87.61 30 IAmb IAmb 08 36 02.3
comp=Z,73nm,1.4s
SKAG Skagway 87.61 30 P P 08 34 16.9 0.0
baz=254
SKAG S S 08 44 55.5 +0.8
baz=254
O30N Mendenhall 87.61 28 IAmb IAmb 08 35 11.1
comp=Z,50nm,1.1s
O30N Mendenhall 87.61 28 P P 08 34 14.4 -2.6
baz=253,SNR=25
O30N S S 08 44 54.5 -0.3
baz=253
C27K Jago River 87.67 19 IAmb IAmb 08 34 20.8
comp=Z,41nm,1.1s
C27K Jago River 87.67 19 P P 08 34 16.4 -0.6
baz=246,SNR=38
C27K S S 08 44 53.8 -1.1
baz=246
R32K Eaglecrest 87.70 31 IAmb IAmb 08 35 18.0
comp=Z,44nm,1.6s
R32K Eaglecrest 87.70 31 P P 08 34 15.9 -1.5
baz=255
CRAG Craig 87.74 34 IAMs_20 IAMs_20 09 08 07.5
comp=Z,10µm,20.0s
CRAG Craig 87.74 34 P P 08 34 16.8 -0.8
baz=256
CRAG S S 08 44 56.1 0.0
baz=256
J29N Klondike Camp 87.79 24 IAmb IAmb 08 34 58.9
comp=Z,37nm,0.8s
J29N Klondike Camp 87.79 24 P P 08 34 16.0 -1.8
baz=251
J29N S S 08 44 55.9 -0.6
baz=251
E27K Coleen River 87.81 20 IAmb IAmb 08 36 00.4
comp=Z,100nm,1.6s
E27K IAMs_20 IAMs_20 09 09 29.5
comp=Z,11µm,22.0s
E27K Coleen River 87.81 20 P P 08 34 16.7 -1.1
baz=248,SNR=47
E27K S S 08 44 56.0 -0.5
baz=248
M30M Minto, Yukon 87.82 26 IAmb IAmb 08 35 06.6
comp=Z,75nm,1.4s
M30M Minto, Yukon 87.82 26 P P 08 34 17.7 -0.2
baz=253,SNR=29
M30M S S 08 44 56.0 -0.8
baz=253
MOBC Moresby Island 87.86 36 IAmb IAmb 08 34 20.4
comp=Z,24nm,0.8s
MOBC IAMs_20 IAMs_20 09 06 38.7
comp=Z,8µm,21.0s
K29M Barlow Dome 87.89 25 IAmb IAmb 08 34 20.6
comp=Z,38nm,0.8s
K29M Barlow Dome 87.89 25 P P 08 34 17.8 -0.5
baz=252,SNR=75
K29M S S 08 44 55.8 -1.7
baz=252
U33K Whale Pass 87.89 33 P P 08 34 18.6 +0.3
U33K IAmb IAmb 08 35 18.0
comp=Z,50nm,1.2s
U33K Whale Pass 87.89 33 P P 08 34 17.6 -0.7
baz=256,SNR=16
U33K S S 08 44 56.8 -0.7
baz=256
N31M Braeburn, Yuko 87.96 28 P P 08 34 18.0 -0.6
baz=254,SNR=36
N31M S S 08 44 57.1 -1.0
baz=254
I29M Ogilvie Camp, 88.05 24 IAmb IAmb 08 34 59.2
comp=Z,28nm,1.0s
I29M IAMs_20 IAMs_20 09 10 36.0
comp=Z,7µm,21.0s
I29M Ogilvie Camp, 88.05 24 P P 08 34 17.8 -1.2
baz=251,SNR=39
I29M S S 08 44 56.6 -2.2
baz=251
HG4B Hotspring 88.13 37 IAmb IAmb 08 34 21.8
comp=Z,33nm,0.9s
HG4B IAMs_20 IAMs_20 09 05 23.2
comp=Z,8µm,21.0s
T33K Petersburg 88.15 32 P P 08 34 17.3 -2.2
baz=256
WHY Whitehorse 88.15 28 IAmb IAmb 08 34 21.6
comp=Z,44nm,0.8s
WHY Whitehorse 88.15 28 P P 08 34 18.4 -1.2
baz=254,SNR=27
WHY S S 08 44 59.5 -0.6
baz=254
F28M Old Crow 88.21 21 IAmb IAmb 08 36 01.2
comp=Z,25nm,1.1s
F28M Old Crow 88.21 21 P P 08 34 19.2 -0.4
baz=250,SNR=24
F28M S S 08 45 00.3 0.0
baz=250
BVAR Borovoye Array 88.29 324 P P 08 34 19.1 -1.2
comp=Z,27nm,0.6s,baz=107,slow=5.3,SNR=54
BVAR PKKPbc PKKPdf 08 52 02.8 +2.3
comp=Z,3.0nm,0.7s,baz=289,slow=4.5,SNR=8.5
BVAR LR LR 09 15 58.2
comp=Z,2µm,18.9s,baz=94,slow=37
comp=Z,27nm,0.6s
H29M Whitestone 88.30 23 IAmb IAmb 08 35 48.1
comp=Z,76nm,1.8s
H29M IAMs_20 IAMs_20 09 10 34.6
comp=Z,8µm,21.0s
H29M Whitestone 88.30 23 P P 08 34 18.7 -1.4
baz=251
H29M S S 08 45 00.2 -0.9
baz=251
BRVK Borovoye 88.36 324 P P 08 34 20.9 +0.3
BRVK Borovoye 88.36 324 *ce*P P 08 34 21.1 +0.5
BRVK pmax pmax
comp=Z,15nm,0.7s
WRAK Wrangell Islan 88.39 33 IAmb IAmb 08 35 20.4
comp=Z,52nm,1.2s
WRAK Wrangell Islan 88.39 33 ⇑P P 08 34 20.9 +0.3
WRAK Wrangell Islan 88.39 33 P P 08 34 20.1 -0.5
baz=257,SNR=22
WRAK S S 08 45 04.5 +2.3
baz=257
D27M Malcolm River 88.42 20 IAMs_20 IAMs_20 09 08 52.4
comp=Z,11µm,22.0s
D27M Malcolm River 88.42 20 P P 08 34 18.5 -2.1
baz=249
D27M S S 08 45 00.3 -2.0
baz=249
P32M Atlin 88.44 30 IAmb IAmb 08 34 22.9
comp=Z,17nm,0.8s
P32M Atlin 88.44 30 P P 08 34 20.2 -0.7
baz=256,SNR=15
P32M S S 08 45 03.3 +0.5
baz=256
MAYO Mayo, Yukon 88.51 26 IAmb IAmb 08 35 53.3
comp=Z,50nm,0.9s
MAYO IAMs_20 IAMs_20 09 07 52.3
comp=Z,8µm,22.0s
MAYO Mayo, Yukon 88.51 26 P P 08 34 20.6 -0.6
baz=254,SNR=11
MAYO S S 08 45 01.7 -1.5
baz=254
V35K Ketchikan 88.54 34 IAmb IAmb 08 35 20.9
comp=Z,35nm,1.1s
V35K IAMs_20 IAMs_20 09 07 52.8
comp=Z,10µm,20.0s
V35K Ketchikan 88.54 34 P P 08 34 20.7 -0.7
baz=257,SNR=11
V35K S S 08 45 04.3 +0.5
baz=257

J30M Hart River 88.61 25 IAmb IAmb 08 35 10.5
comp=Z,51nm,1.2s
J30M IAMs_20 IAMs_20 09 08 28.8
comp=Z,10µm,22.0s
J30M Hart River 88.61 25 P P 08 34 21.1 -0.6
baz=253,SNR=36
J30M S S 08 45 03.6 -0.7
baz=253
G29M Pine Creek 88.66 22 IAmb IAmb 08 35 36.7
comp=Z,63nm,1.3s
G29M IAMs_20 IAMs_20 09 10 01.9
comp=Z,9µm,22.0s
G29M Pine Creek 88.66 22 P P 08 34 21.1 -0.6
baz=252,SNR=25
G29M S S 08 45 01.9 -2.6
baz=252
E28M Babbage River 88.67 20 IAmb IAmb 08 34 40.1
comp=Z,41nm,1.4s
E28M IAMs_20 IAMs_20 09 10 17.3
comp=Z,11µm,22.0s
E28M Babbage River 88.67 20 P P 08 34 20.9 -0.9
baz=250,SNR=22
E28M S S 08 45 01.5 -3.1
baz=250
I30M Mount Dempster 88.78 24 IAmb IAmb 08 35 10.8
comp=Z,46nm,1.4s
I30M IAMs_20 IAMs_20 09 10 08.3
comp=Z,11µm,20.0s
I30M Mount Dempster 88.78 24 P P 08 34 22.4 -0.2
baz=253,SNR=26
I30M S S 08 45 03.9 -2.0
baz=253
M31M Drury Creek, Y 88.79 27 P P 08 34 22.1 -0.4
baz=255,SNR=16
M31M S S 08 45 04.0 -2.0
baz=255
EPYK Eagle Plains 88.98 23 P P 08 34 20.8 -2.5
baz=253,SNR=19
EPYK S S 08 45 05.3 -2.3
baz=253
Q32M Nakina River 89.01 30 IAmb IAmb 08 35 48.5
comp=Z,40nm,1.4s
Q32M Nakina River 89.01 30 P P 08 34 19.9 -3.9
baz=257,SNR=8.7
Q32M S S 08 45 09.8 +1.4
baz=257
P33M Teslin, Yukon 89.03 29 P P 08 34 22.1 -1.6
baz=256,SNR=13
P33M S S 08 45 06.5 -1.8
baz=256
RUBB Prince Rupert 89.11 35 IAmb IAmb 08 34 26.3
comp=Z,23nm,0.9s
RUBB IAMs_20 IAMs_20 09 06 16.8
comp=Z,8µm,22.0s
N32M Quiet Lake 89.13 28 P P 08 34 24.0 -0.1
N32M IAmb IAmb 08 35 17.4
comp=Z,44nm,1.1s
N32M Quiet Lake 89.13 28 P P 08 34 21.5 -2.6
baz=256
N32M S S 08 45 08.0 -1.2
baz=256
E29M Blow River 89.17 21 IAMs_20 IAMs_20 09 10 21.5
comp=Z,8µm,22.0s
E29M Blow River 89.17 21 P P 08 34 23.5 -0.6
baz=252,SNR=12
E29M S S 08 45 06.7 -2.5
baz=252
D28M Stokes Point 89.19 20 P P 08 34 21.1 -3.1
baz=251
D28M S S 08 45 07.8 -1.5
baz=251
FARO Faro, Yukon 89.27 27 P P 08 34 23.9 -0.9
baz=256,SNR=27
FARO S S 08 45 09.6 -0.8
baz=256
G30M tAoh Zraii Nji 89.35 22 IAmb IAmb 08 35 58.6
comp=Z,54nm,1.4s
G30M IAMs_20 IAMs_20 09 09 14.4
comp=Z,11µm,22.0s
G30M tAoh Zraii Nji 89.35 22 P P 08 34 22.9 -2.2
baz=253,SNR=28
G30M S S 08 45 06.6 -4.5
baz=253
S34M Telegraph Cree 89.36 32 IAmb IAmb 08 35 25.3
comp=Z,49nm,1.4s
S34M IAMs_20 IAMs_20 09 06 09.3
comp=Z,11µm,22.0s
S34M Telegraph Cree 89.36 32 P P 08 34 24.2 -1.0
baz=258,SNR=15
S34M S S 08 45 12.5 +1.1
baz=258
U35K Hyder 89.55 34 P P 08 34 23.8 -2.3
baz=259
U35K S S 08 45 12.8 -0.3
baz=259
T35M Bob Quinn 89.64 33 IAmb IAmb 08 35 17.8
comp=Z,30nm,1.4s
T35M Bob Quinn 89.64 33 P P 08 34 24.9 -1.6
baz=258
T35M S S 08 45 14.2 +0.2
baz=258
F30M Barrier River 89.70 22 IAmb IAmb 08 35 18.8
comp=Z,27nm,0.9s
F30M IAMs_20 IAMs_20 09 10 58.4
comp=Z,7µm,22.0s
F30M Barrier River 89.70 22 P P 08 34 25.7 -0.9
baz=254,SNR=24
F30M S S 08 45 10.6 -3.5
baz=254
HOLB Holberg 89.70 39 P P 08 34 27.4 +0.4
HOLB IAmb IAmb 08 34 29.7
comp=Z,23nm,0.9s
HOLB IAMs_20 IAMs_20 09 06 49.8
comp=Z,8µm,22.0s
H31M Peel River 89.75 24 IAmb IAmb 08 36 10.2
comp=Z,48nm,1.4s
H31M IAMs_20 IAMs_20 09 10 39.1
comp=Z,9µm,21.0s
H31M Peel River 89.75 24 P P 08 34 26.5 -0.4
baz=255,SNR=18
H31M S S 08 45 11.9 -3.0
baz=255
R33M Jennings River 89.76 30 P P 08 34 26.4 -0.9
baz=258,SNR=14
R33M S S 08 45 14.8 -0.5
baz=258
BBB Bella Bella 89.97 38 IAMs_20 IAMs_20 09 08 30.0
comp=Z,8µm,20.0s
BBB Bella Bella 89.97 38 LR LR 09 08 31.3
comp=Z,7µm,20.0s,baz=266,slow=31
BBB Bella Bella 89.97 38 ⇑P P 08 34 28.8 +0.6
DLBC Dease Lake 90.04 31 P P 08 34 27.5 -1.0
baz=259,SNR=6.9
DLBC S S 08 45 17.6 -0.3
baz=259
G31M Satah River 90.08 23 IAmb IAmb 08 34 46.8
comp=Z,24nm,0.9s
G31M Satah River 90.08 23 P P 08 34 27.6 -0.7
baz=255,SNR=35
G31M S S 08 45 16.3 -1.3
baz=255
MMPY Sheldon Lake, 90.30 27 P P 08 34 28.2 -1.4
baz=258,SNR=14
MMPY S S 08 45 18.8 -1.3
baz=258
F31M Tsiigehtchic 90.41 22 IAmb IAmb 08 35 17.7
comp=Z,36nm,1.3s
F31M IAMs_20 IAMs_20 09 10 08.2
comp=Z,7µm,22.0s
F31M Tsiigehtchic 90.41 22 P P 08 34 28.5 -1.4
baz=255,SNR=8.7
F31M S S 08 45 16.3 -4.3
baz=255
INK Inuvik 90.70 21 IAmb IAmb 08 35 27.8
comp=Z,33nm,1.2s
INK Inuvik 90.70 21 LR LR 09 12 13.5
comp=Z,5µm,20.7s,baz=254,slow=34
INK Inuvik 90.70 21 P P 08 34 29.2 -2.1
baz=256
INK S S 08 45 20.6 -2.7
baz=256
WTLY Watson Lake, Y 90.98 30 IAmb IAmb 08 35 50.8
comp=Z,67nm,1.6s
WTLY Watson Lake, Y 90.98 30 P P 08 34 30.7 -2.1
baz=260,SNR=11
WTLY S S 08 45 26.3 0.0
baz=260
KMPM Mount Pierce 91.02 50 P P 08 34 32.9 -0.6

KMPM IAmb IAmb 08 34 37.5
comp=Z,19nm,0.9s
KMPM IAMs_20 IAMs_20 09 11 59.5
comp=Z,10µm,20.0s
JCC Jacoby Creek, 91.13 49 IAMs_20 IAMs_20 09 11 09.6
comp=Z,6µm,20.0s
KBO Bosley Butte 91.15 48 P P 08 34 34.4 +0.3
KBO IAmb IAmb 08 35 23.1
comp=Z,39nm,1.2s
KBO IAMs_20 IAMs_20 09 07 45.0
comp=Z,9µm,22.0s
KEBM Edson Butte 91.16 47 IAMs_20 IAMs_20 09 13 20.0
comp=Z,8µm,19.0s
KRPM Rodgers 91.18 49 IAMs_20 IAMs_20 09 07 51.7
comp=Z,7µm,22.0s
KRMB Red Mountain 91.31 49 IAmb IAmb 08 35 30.1
comp=Z,43nm,1.6s
KRMB IAMs_20 IAMs_20 09 12 07.1
comp=Z,8µm,20.0s
CBB Campbell River 91.36 40 IAmb IAmb 08 34 39.2
comp=Z,20nm,1.0s
CBB IAMs_20 IAMs_20 09 07 31.9
comp=Z,7µm,22.0s
KHMM Horse Mountain 91.36 49 IAmb IAmb 08 35 26.0
comp=Z,26nm,1.3s
KHMM IAMs_20 IAMs_20 09 12 23.7
comp=Z,8µm,19.0s
KSXB Camp Six Broad 91.37 48 IAmb IAmb 08 35 23.8
comp=Z,19nm,1.1s
TGTN Hyland Airport 91.47 28 P P 08 34 33.4 -1.7
baz=260
TGTN S S 08 45 29.0 -1.8
baz=260
J01E Myrtle Point 91.48 47 IAmb IAmb 08 34 37.4
comp=Z,19nm,0.8s
J01E IAMs_20 IAMs_20 09 07 34.6
comp=Z,11µm,22.0s
SYO Syowa Base 91.48 200 ⇑*i*P P 08 34 34.0 -0.9
SYO Syowa Base 91.48 200 ⇑*i*PcP P 08 34 35.6 +0.7
SYO Syowa Base 91.48 200 ⇑*i*pP pP 08 34 49.0 -0.3
SYO Syowa Base 91.48 200 ⇓*i*sP sP 08 34 54.2 -0.6
K02D Willamette Mer 91.62 47 IAmb IAmb 08 35 24.7
comp=Z,26nm,1.2s
I02E Swisshome, OR 91.65 46 IAMs_20 IAMs_20 09 10 17.1
comp=Z,7µm,20.0s
HOPS Hopland Field 91.66 51 IAMs_20 IAMs_20 09 08 09.5
comp=Z,10µm,21.0s
MCCM Marconi Confer 91.71 52 IAMs_20 IAMs_20 09 08 10.1
comp=Z,9µm,21.0s
HEBO Mount Hebo 91.85 45 IAMs_20 IAMs_20 09 10 23.1
comp=Z,8µm,20.0s
RADR Rader Ridge 91.95 44 IAMs_20 IAMs_20 09 07 46.9
comp=Z,10µm,22.0s
I03D Drain, OR 91.97 46 P P 08 34 37.9 +0.2
I03D IAmb IAmb 08 35 26.8
comp=Z,17nm,1.0s
I03D IAMs_20 IAMs_20 09 07 39.4
comp=Z,10µm,22.0s
O02D Mt. Diablo Mer 92.00 50 P P 08 34 38.6 +0.6
O02D IAmb IAmb 08 35 38.1
comp=Z,20nm,1.1s
NLWA Neilton Lookou 92.02 43 ⇑P P 08 34 41.5 +3.6
F03A Seaside 92.06 44 IAmb IAmb 08 35 53.0
comp=Z,30nm,1.1s
F03A IAMs_20 IAMs_20 09 11 36.8
comp=Z,9µm,20.0s
COR Corvallis 92.10 46 IAMs_20 IAMs_20 09 10 29.7
comp=Z,9µm,20.0s
E03A Lebam 92.13 44 IAmb IAmb 08 35 23.1
comp=Z,24nm,1.0s
E03A IAMs_20 IAMs_20 09 07 52.5
comp=Z,10µm,22.0s
G03D McMinnville, O 92.19 45 IAMs_20 IAMs_20 09 10 23.2
comp=Z,9µm,20.0s
LIRD Liard River Hi 92.21 31 P P 08 34 36.8 -1.7
baz=262,SNR=6.8
LIRD S S 08 45 32.9 -4.5
baz=262
YBH Yreka Blue Hor 92.22 48 IAmb IAmb 08 35 27.8
comp=Z,24nm,1.4s
YBH IAMs_20 IAMs_20 09 08 38.4
comp=Z,10µm,21.0s
YBH Yreka Blue Hor 92.22 48 LR LR 09 09 11.5
comp=Z,702nm,21.0s,baz=268,slow=31
BUCK Buck Mountain 92.28 46 IAmb IAmb 08 36 13.9
comp=Z,27nm,1.1s
BUCK IAMs_20 IAMs_20 09 07 25.7
comp=Z,10µm,22.0s
BBOR Butler Butte 92.36 47 IAmb IAmb 08 35 39.2
comp=Z,25nm,1.3s
F04D Rainier, OR 92.46 44 IAMs_20 IAMs_20 09 11 39.3
comp=Z,9µm,20.0s
H04D Lebanon 92.49 46 IAMs_20 IAMs_20 09 10 42.2
comp=Z,7µm,20.0s
L04D Klamth Falls 92.57 48 IAMs_20 IAMs_20 09 08 40.6
comp=Z,10µm,22.0s
TOAD Toad River Com 92.58 31 P P 08 34 38.4 -1.9
baz=263,SNR=7.7
TOAD S S 08 45 37.0 -3.7
baz=263
GNW Green Mountain 92.74 43 IAMs_20 IAMs_20 09 08 38.6
comp=Z,7µm,22.0s
G04A Mulino 92.74 45 P P 08 34 42.3 +1.0
G04A IAmb IAmb 08 36 04.2
comp=Z,28nm,1.0s
G04A IAMs_20 IAMs_20 09 07 25.8
comp=Z,7µm,22.0s
J04A Umpqua Nationa 92.82 47 IAmb IAmb 08 35 30.9
comp=Z,28nm,0.8s
J04A IAMs_20 IAMs_20 09 08 39.9
comp=Z,10µm,22.0s
H04A Detroit Lake 92.90 46 P P 08 34 42.1 0.0
H04A IAmb IAmb 08 35 38.4
comp=Z,33nm,1.5s
H04A IAMs_20 IAMs_20 09 08 06.0
comp=Z,8µm,21.0s
ORV Oroville 92.92 51 IAMs_20 IAMs_20 09 08 27.1
comp=Z,8µm,22.0s
A04D Lummi Island 92.94 41 IAmb IAmb 08 35 31.5
comp=Z,27nm,1.1s
K04D Chiloquin, OR 93.02 48 IAMs_20 IAMs_20 09 09 18.3
comp=Z,8µm,21.0s
HATC Hat Creek Radi 93.07 49 IAmb IAmb 08 36 26.3
comp=Z,52nm,1.4s
HATC IAMs_20 IAMs_20 09 13 46.9
comp=Z,6µm,19.0s
PMPB Monarch Peak 93.18 54 IAMs_20 IAMs_20 09 11 12.0
comp=Z,8µm,20.0s
D05A Enumclaw 93.27 43 IAMs_20 IAMs_20 09 08 40.6
comp=Z,8µm,22.0s
AFDM Forest Hills D 93.28 51 IAmb IAmb 08 35 38.7
comp=Z,33nm,1.5s
AFDM IAMs_20 IAMs_20 09 08 59.6
comp=Z,9µm,22.0s
KOTAN Kotaneelee Air 93.33 30 P P 08 34 43.7 +0.1
baz=264
KOTAN S S 08 45 41.4 -5.8
baz=264
HOOD Mount Hood Mea 93.33 45 IAMs_20 IAMs_20 09 11 10.5
comp=Z,8µm,20.0s
LON Longmire 93.35 44 IAMs_20 IAMs_20 09 08 42.8
comp=Z,7µm,22.0s
J05D Fort Rock, OR 93.46 47 IAmb IAmb 08 35 34.1
comp=Z,27nm,1.0s
I05D Terrebonne, OR 93.47 46 IAmb IAmb 08 36 07.7
comp=Z,63nm,1.7s
I05D IAMs_20 IAMs_20 09 12 58.2
comp=Z,7µm,20.0s
K05A Summer Lake 93.66 48 IAmb IAmb 08 35 34.6
comp=Z,44nm,1.2s
CMB Columbia Colle 93.66 52 IAmb IAmb 08 36 09.2
comp=Z,33nm,1.6s
CMB IAMs_20 IAMs_20 09 09 10.7
comp=Z,8µm,22.0s
PINE Pine Mountain 93.71 47 IAmb IAmb 08 36 19.9
comp=Z,57nm,1.7s
BEKR Beckworth 93.83 50 IAmb IAmb 08 35 32.5
comp=Z,34nm,1.6s
WRGLY Wrigley 93.92 27 IAmb IAmb 08 35 41.5
comp=Z,18nm,1.0s
WRGLY Wrigley 93.92 27 P P 08 34 45.0 -1.3
baz=265
WRGLY S S 08 45 46.6 -5.7
baz=265
G06A Carlson Farm, 94.04 45 IAMs_20 IAMs_20 09 11 42.3
comp=Z,7µm,20.0s
A36M Sachs Harbour 94.15 18 IAMs_20 IAMs_20 09 13 12.9
comp=Z,6µm,22.0s

A36M	**Sachs Harbour**	**94.15**	**18**	P	**P**	**08 34 46.0**	**-1.1**			
	baz=264									
A36M				S	**S**	**08 45 51.0**	**-3.0**			
	baz=264									
AB31	**Akbulak array**	**94.27**	**319**	P	**P**	**08 34 47.4**	**-0.8**			
ABKAR	**Akbulak array**	**94.27**	**319**	P	**P**	**08 34 47.3**	**-0.9**			
WAKR	**Walker**	**94.44**	**52**	IAmb	IAmb	08 35 37.6				
	comp=Z,66nm,1.9s									
WAKR				IAMs_20	IAMs_20	09 09 36.3				
	comp=Z,9µm,22.0s									
PAHR	**Pah Rah Range**	**94.57**	**51**	P	**P**	**08 34 49.8**	**-0.2**			
PAHR				IAMs_20	IAMs_20	09 10 03.6				
	comp=Z,9µm,21.0s									
F07A	**Phinny Hill Vi**	**94.59**	**44**	IAMs_20	IAMs_20	09 13 06.6				
	comp=Z,7µm,20.0s									
OSI	**Osito Audit: C**	**94.74**	**56**	IAMs_20	IAMs_20	09 11 05.6				
	comp=Z,6µm,20.0s									
I07A	**Izee**	**94.77**	**46**	IAMs_20	IAMs_20	09 09 31.5				
	comp=Z,8µm,22.0s									
WAH2	**Wahluke Slope**	**94.89**	**44**	IAMs_20	IAMs_20	09 13 28.6				
	comp=Z,7µm,20.0s									
HAWA	**Hanford**	**94.89**	**44**	IAMs_20	IAMs_20	09 09 41.6				
	comp=Z,7µm,21.0s									
ISA	**Isabella, Lake**	**95.02**	**55**	IAmb	IAmb	08 35 03.4				
	comp=Z,21nm,0.8s									
ISA				IAMs_20	IAMs_20	09 08 38.8				
	comp=Z,7µm,22.0s									
B08A	**Colville Reser**	**95.14**	**42**	P	**P**	**08 34 52.5**	**+0.2**			
B08A				IAmb	IAmb	08 36 16.1				
	comp=Z,49nm,1.9s									
LHV	**Little Huntoon**	**95.16**	**52**	P	**P**	**08 34 52.7**	**+0.2**			
LHV				IAmb	IAmb	08 35 31.3				
	comp=Z,20nm,1.0s									
LHV				IAMs_20	IAMs_20	09 10 09.3				
	comp=Z,8µm,22.0s									
PASC	**Pasadena Art C**	**95.16**	**56**	P	**P**	**08 34 53.0**	**+0.4**			
PASC				IAmb	IAmb	08 35 38.8				
	comp=Z,41nm,1.2s									
PASC				IAMs_20	IAMs_20	09 09 27.6				
	comp=Z,8µm,22.0s									
RYN	**Ryan**	**95.16**	**52**	P	**P**	**08 34 53.4**	**+0.7**			
RYN				IAmb	IAmb	08 35 47.0				
	comp=Z,18nm,1.2s									
RYN				IAMs_20	IAMs_20	09 09 59.5				
	comp=Z,8µm,22.0s									
SOHO	**SOHO**	**95.21**	**294**	P	**P**	**08 34 49.8**	**-3.2**			
E08A	**Dider Farm, El**	**95.22**	**44**	IAMs_20	IAMs_20	09 13 38.4				
	comp=Z,8µm,20.0s									
G08A	**Pilot Rock**	**95.23**	**45**	P	**P**	**08 34 53.3**	**+0.5**			
G08A				IAmb	IAmb	08 36 15.6				
	comp=Z,29nm,1.6s									
G08A				IAMs_20	IAMs_20	09 12 57.6				
	comp=Z,8µm,19.0s									
MWC	**Mount Wilson**	**95.27**	**56**	P	**P**	**08 34 53.1**	**-0.3**			
MWC				IAMs_20	IAMs_20	09 09 31.5				
	comp=Z,8µm,22.0s									
MWC	**Mount Wilson**	**95.27**	**56**	P	**P**	**08 34 53.1**	**-0.3**			
MWC				pmax	pmax					
	comp=Z,101nm,1.4s									
YPT	**Yellepit**	**95.27**	**44**	IAMs_20	IAMs_20	09 09 18.6				
	comp=Z,8µm,22.0s									
WVOR	**Wild Horse Val**	**95.30**	**48**	IAmb	IAmb	08 35 55.8				
	comp=Z,36nm,1.6s									
NVAR	**Mina Array Bea**	**95.32**	**52**	P	**P**	**08 34 54.1**	**+0.5**			
	comp=Z,6.7nm,0.9s,baz=256,slow=6.0,SNR=13									
NVAR				PKKPbc	**PKKPbc**	**08 51 47.8**	**+0.2**			
	comp=Z,2.0nm,0.6s,baz=67,slow=4.2,SNR=8.5									
NVAR				PKPPKP	**P'P'df**	**08 59 57.2**	**-2.3**			
	comp=Z,0.3nm,0.6s,baz=88,slow=4.7,SNR=3.6									
NVAR				LR	LR	09 10 41.5				
	comp=Z,6µm,21.3s,baz=272,slow=31									
	comp=Z,6.7nm,0.9s									
D08A	**Wollman Farm,**	**95.35**	**43**	IAMs_20	IAMs_20	09 09 43.7				
	comp=Z,7µm,22.0s									
CWC	**Cottonwood Cre**	**95.38**	**54**	IAmb	IAmb	08 35 49.5				
	comp=Z,48nm,1.6s									
NV11	**Mina Array Sit**	**95.44**	**52**	P	**P**	**08 34 54.0**	**0.0**			
NV11				IAmb	IAmb	08 35 48.9				
	comp=Z,22nm,1.2s									
J08A	**Circle Bar Ran**	**95.47**	**47**	P	**P**	**08 34 53.6**	**-0.4**			
J08A				IAMs_20	IAMs_20	09 10 16.2				
	comp=Z,10µm,22.0s									
MDH	**Madha**	**95.50**	**295**	P	**P**	**08 34 51.0**	**-3.3**			
DSP	**Deep Springs**	**95.53**	**53**	IAmb	IAmb	08 35 49.4				
	comp=Z,29nm,1.4s									
DSP				IAMs_20	IAMs_20	09 14 49.1				
	comp=Z,8µm,20.0s									
UOSS	**Minazif**	**95.56**	**294**	P	**P**	**08 34 51.3**	**-3.3**			
UOSS	**Minazif**	**95.56**	**294**	P	**P**	**08 34 56.7**	**+2.1**			
UOSS	**Minazif**	**95.56**	**294**	P	**P**	**08 34 56.7**	**+2.1**			
AKTO	**Aktyubinsk**	**95.58**	**320**	PKKPbc	PKKPbc	08 51 45.0	-2.1			
	comp=Z,0.9nm,0.4s,baz=332,slow=2.1,SNR=4.1									
AKTO				PKPPKP	**P'P'df**	**08 59 58.5**	**+0.7**			
	comp=Z,4.4nm,0.7s,baz=113,slow=20,SNR=2.1									
AKTO				LR	LR	09 17 26.9				
	comp=Z,5µm,21.8s,baz=70,slow=35									
ARTI	**Arti**	**95.62**	**326**	P	**P**	**08 34 53.9**	**-0.3**			
ARTI				IAMs_20	IAMs_20	09 16 57.6				
	comp=Z,10µm,22.0s									
ARTI	**Arti**	**95.62**	**326**	PKKPbc	PKKPbc	08 51 44.9	-2.3			
	comp=Z,4.2nm,0.6s,baz=71,slow=3.2,SNR=4.5									
ARTI				PKPPKP	**P'P'df**	**08 59 56.8**	**-0.5**			
	comp=Z,1.4nm,0.5s,baz=83,slow=1.7,SNR=5.3									
ARTI				LR	LR	09 17 44.0				
	comp=Z,8µm,22.0s,baz=96,slow=35									
ARTI	**Arti**	**95.62**	**326**	*d*	*i* P	**P**	**08 34 53.6**	**-0.6**		
ARTI							08 38 45.5			
ARTI				PPP	PPP		08 40 47.6			
ARTI				S	**SKSac**		**08 45 23.9**	**-2.3**		
ARTI				SP	**SP**		**08 47 23.5**	**-1.6**		
ARTI				SSS	SSS		08 56 18.2			
ARTI				pmax	pmax					
	comp=Z,6.0nm,0.6s									
ARTI				MLR	MLR					
	comp=Z,11µm,22.0s									
HATD	**Hatta, Dubai**	**95.62**	**294**	P	**P**	**08 34 51.6**	**-3.4**			
SHME	**Shamm**	**95.69**	**296**	P	**P**	**08 34 54.0**	**-1.2**			
LNOR	**Lincton Mounta**	**95.73**	**45**	IAMs_20	IAMs_20	09 09 43.8				
	comp=Z,6µm,22.0s									
ELS	**Elsinore Mount**	**95.75**	**57**	IAMs_20	IAMs_20	09 09 21.5				
	comp=Z,10µm,22.0s									
C09A	**Chrisman Ranch**	**95.83**	**43**	P	**P**	**08 34 54.8**	**-0.6**			
E09A	**Wood Farm, Sta**	**95.86**	**44**	P	**P**	**08 34 54.4**	**-1.1**			
E09A				IAMs_20	IAMs_20	09 13 57.1				
	comp=Z,7µm,20.0s									
GRAC	**Grapevine Rang**	**95.99**	**54**	IAmb	IAmb	08 36 07.7				
	comp=Z,22nm,1.1s									
GRAC				IAMs_20	IAMs_20	09 12 43.4				
	comp=Z,8µm,20.0s									
TJX	**Tijuana**	**96.00**	**58**	IAMs_20	IAMs_20	09 11 20.1				
	comp=Z,9µm,20.0s									
BELA	**Belgrano 2**	**96.22**	**179**	P	**P**	**08 34 55.8**	**-0.8**			
Q09A	**Carvers**	**96.22**	**52**	IAMs_20	IAMs_20	09 17 47.5				
	comp=Z,8µm,19.0s									
GSC	**Goldstone, Bar**	**96.36**	**55**	IAMs_20	IAMs_20	09 11 08.3				
	comp=Z,7µm,21.0s									
BMO	**Blue Mountains**	**96.38**	**46**	IAmb	IAmb	08 36 09.7				
	comp=Z,28nm,1.6s									
BMO				IAMs_20	IAMs_20	09 12 56.1				
	comp=Z,6µm,20.0s									
GWY	**Greenwater Val**	**96.51**	**54**	IAmb	IAmb	08 35 55.5				
	comp=Z,28nm,1.4s									
PFO	**Pinyon Flats O**	**96.56**	**57**	P	**P**	**08 34 59.5**	**+0.4**			
PFO				IAmb	IAmb	08 35 54.1				
	comp=Z,20nm,1.4s									
PFO	**Pinyon Flats O**	**96.56**	**57**	LR	LR	09 11 10.6				
	comp=Z,10µm,20.6s,baz=274,slow=31									
PFO	**Pinyon Flats O**	**96.56**	**57**	‖ *eP*	**P**	**08 34 59.0**	**-0.2**			
PFO				pmax	pmax					
	comp=Z,11nm,1.0s									
WCT	**Wildcat Mounta**	**96.57**	**54**	P	**P**	**08 34 59.3**	**+0.2**			
WCT				IAmb	IAmb	08 35 37.9				
	comp=Z,12nm,0.9s									
WCT				IAMs_20	IAMs_20	09 13 29.9				
	comp=Z,8µm,20.0s									
NEW	**Newport**	**96.61**	**42**	P	**P**	**08 34 58.4**	**-0.6**			
NEW				IAmb	IAmb	08 35 58.0				
	comp=Z,26nm,1.6s									
NEW	**Newport**	**96.61**	**42**	LR	LR	09 13 11.2				
	comp=Z,3µm,20.1s,baz=274,slow=32									
NEW	**Newport**	**96.61**	**42**	P	**P**	**08 34 58.4**	**-0.6**			
NEW				pmax	pmax					
	comp=Z,26nm,1.7s									
NEW				MLR	MLR					
	comp=Z,5µm,20.0s									
PMD	**Palm Desert**	**96.63**	**57**	IAMs_20	IAMs_20	09 11 01.6				
	comp=Z,9µm,21.0s									
TPNV	**Topopah Spring**	**96.88**	**54**	IAMs_20	IAMs_20	09 13 41.9				
	comp=Z,6µm,20.0s									
SALN	**Salton City**	**96.94**	**57**	IAMs_20	IAMs_20	09 11 09.9				
	comp=Z,8µm,20.0s									
YUH	**Yuha Desert**	**96.96**	**58**	IAmb	IAmb	08 35 46.6				
	comp=Z,21nm,1.4s									
VTX	**Valle De La Tr**	**97.02**	**59**	IAMs_20	IAMs_20	09 11 12.2				
	comp=Z,8µm,20.0s									
S11A	**Rachel**	**97.30**	**53**	IAMs_20	IAMs_20	09 15 57.2				
	comp=Z,7µm,19.0s									
PLID	**Pearl Lake**	**97.31**	**45**	IAMs_20	IAMs_20	09 13 05.8				
	comp=Z,8µm,21.0s									
MTPC	**Mountain Pass**	**97.39**	**55**	IAmb	IAmb	08 35 58.7				
	comp=Z,26nm,1.5s									
MFID	**Camas Ranch**	**97.40**	**47**	IAmb	IAmb	08 36 13.6				
	comp=Z,26nm,1.6s									
R11B	**Troy Canyon, C**	**97.45**	**52**	IAMs_20	IAMs_20	09 12 47.1				
	comp=Z,7µm,20.0s									
CPBX	**Cerro Prieto**	**97.47**	**58**	IAMs_20	IAMs_20	09 12 13.1				
	comp=Z,8µm,21.0s									
SHPR	**Sheep Range**	**97.74**	**54**	IAmb	IAmb	08 36 01.8				
	comp=Z,36nm,1.9s									
ELK	**Elko**	**97.78**	**50**	IAMs_20	IAMs_20	09 12 17.6				
	comp=Z,8µm,21.0s									
ELK	**Elko**	**97.78**	**50**	PKKPbc	PKKPbc	08 51 38.1	-2.8			
	comp=Z,1.5nm,0.7s,baz=58,slow=2.8,SNR=7.8									
ELK				LR	LR	09 12 49.4				
	comp=Z,8µm,20.7s,baz=282,slow=32									
SFX	**San Felipe**	**97.81**	**60**	IAMs_20	IAMs_20	09 11 26.0				
	comp=Z,8µm,21.0s									
PRN	**Pahroc Range**	**97.85**	**53**	P	**P**	**08 35 04.1**	**-0.9**			
PRN				IAmb	IAmb	08 36 00.3				
	comp=Z,26nm,1.4s									
GLA	**Glamis**	**97.90**	**58**	IAMs_20	IAMs_20	09 12 29.4				
	comp=Z,9µm,20.0s									
YKA	**Yellowknife Ar**	**97.96**	**28**	P	**P**	**08 35 03.9**	**-0.7**			
	comp=Z,1.4nm,0.8s,baz=282,slow=4.9,SNR=6.6									
YKA				PKKPbc	**PKKPbc**	**08 51 37.9**	**-3.0**			
	comp=Z,1.8nm,0.7s,baz=78,slow=2.8,SNR=10									
YKA				LR	LR	09 15 22.2				
	comp=Z,4µm,21.4s,baz=286,slow=33									
	comp=Z,1.4nm,0.8s									
YKA	**Yellowknife Ar**	**97.96**	**28**	*i* P	**P**	**08 35 05.0**	**+0.4**			
YKA				pmax	pmax					
	comp=Z,1.0nm,0.8s									
V12A	**Nelson**	**97.97**	**55**	P	**P**	**08 35 05.7**	**+0.3**			
V12A				IAmb	IAmb	08 36 01.6				
	comp=Z,41nm,1.6s									
V12A				IAMs_20	IAMs_20	09 12 58.9				
	comp=Z,7µm,20.0s									
BLYC	**Blythe**	**98.18**	**57**	IAMs_20	IAMs_20	09 10 57.6				
	comp=Z,7µm,21.0s									
W13A	**Hualapai Mount**	**98.74**	**56**	IAMs_20	IAMs_20	09 11 30.2				
	comp=Z,7µm,21.0s									
MSO	**Missoula**	**98.76**	**44**	IAMs_20	IAMs_20	09 11 37.8				
	comp=Z,7µm,22.0s									
113A	**Mohawk Valley,**	**98.78**	**58**	IAMs_20	IAMs_20	09 13 05.8				
	comp=Z,9µm,20.0s									
PSUT	**Pine Spring**	**98.82**	**52**	P	**P**	**08 35 09.6**	**+0.2**			
PSUT				IAMs_20	IAMs_20	09 13 21.2				
	comp=Z,8µm,21.0s									
FOMA	**Nahampoana Res**	**98.84**	**244**	IAMs_20	IAMs_20	09 13 35.6				
	comp=Z,9µm,22.0s									
CCUT	**Cedar City**	**99.20**	**53**	IAMs_20	IAMs_20	09 15 09.3				
	comp=Z,8µm,20.0s									
TROLL	**Troll, Antarti**	**99.26**	**190**	⇑P	**Pdif**	**08 35 09.8**	**-0.7**			
	comp=Z,2µm,0.8s									
Y14A	**Wickenburg**	**99.44**	**57**	IAMs_20	IAMs_20	09 11 36.2				
	comp=Z,8µm,22.0s									
VOI	**Vohitsoka**	**99.57**	**247**	IAMs_20	IAMs_20	09 18 52.2				
	comp=Z,6µm,20.0s									
214A	**Organ Pipe Nat**	**99.57**	**59**	IAMs_20	IAMs_20	09 11 28.8				
	comp=Z,6µm,21.0s									
DUG	**Dugway, Tooele**	**99.63**	**50**	IAMs_20	IAMs_20	09 13 36.0				
	comp=Z,6µm,20.0s									
HVU	**Hansel Valley**	**99.65**	**49**	IAMs_20	IAMs_20	09 17 10.8				
	comp=Z,6µm,20.0s									
DLMT	**Dillon**	**99.72**	**45**	IAMs_20	IAMs_20	09 16 09.4				
	comp=Z,8µm,20.0s									
U15A	**North Rim**	**100.05**	**54**	IAMs_20	IAMs_20	09 15 24.0				
	comp=Z,5µm,20.0s									
BOZ	**Bozeman (W)**	**100.39**	**45**	IAMs_20	IAMs_20	09 16 50.1				
	comp=Z,6µm,20.0s									
SNAA	**Sanae**	**100.40**	**189**	⇑P	**Pdif**	**08 35 14.1**	**-1.4**			
	comp=Z,256nm,0.7s									
SNAA	**Sanae**	**100.40**	**189**	P	**Pdif**	**08 35 14.9**	**-0.7**			
	comp=Z,11nm,0.8s,baz=182,slow=3.9,SNR=29									
CTU	**Camp Tracy**	**100.44**	**50**	IAMs_20	IAMs_20	09 13 50.8				
	comp=Z,6µm,21.0s									
MPU	**Maple Canyon**	**100.54**	**51**	IAMs_20	IAMs_20	09 18 13.6				
	comp=Z,5µm,20.0s									
HWUT	**Hardware Ranch**	**100.56**	**49**	IAMs_20	IAMs_20	09 14 29.9				
	comp=Z,6µm,21.0s									
JLU	**Jordanelle**	**100.67**	**50**	IAMs_20	IAMs_20	09 14 08.9				
	comp=Z,7µm,22.0s									
YHB	**Horse Butte**	**100.73**	**46**	IAMs_20	IAMs_20	09 16 08.2				
	comp=Z,8µm,20.0s									
YHL	**Hebgen Lake**	**100.73**	**46**	IAMs_20	IAMs_20	09 15 49.3				
	comp=Z,7µm,20.0s									
X16A	**Lo Mia Camp, P**	**100.74**	**56**	IAMs_20	IAMs_20	09 12 18.6				
	comp=Z,8µm,22.0s									
WUAZ	**Wupatki**	**100.80**	**55**	IAMs_20	IAMs_20	09 12 24.8				
	comp=Z,8µm,22.0s									
TMUT	**Trail Mountain**	**100.88**	**51**	IAMs_20	IAMs_20	09 13 57.7				
	comp=Z,7µm,21.0s									
FXWY	**Fox Creek**	**100.89**	**47**	IAMs_20	IAMs_20	09 13 07.6				
	comp=Z,9µm,22.0s									
Q16A	**Castle Valley**	**100.91**	**52**	IAMs_20	IAMs_20	09 13 47.7				
	comp=Z,9µm,22.0s									
YNM	**Yellowstone No**	**101.08**	**46**	IAMs_20	IAMs_20	09 16 09.5				
	comp=Z,8µm,20.0s									
YNR	**Norris Junctio**	**101.10**	**46**	IAMs_20	IAMs_20	09 16 19.9				
	comp=Z,8µm,20.0s									
HSIG		**101.14**	**62**	IAMs_20	IAMs_20	09 16 04.4				
	comp=Z,6µm,20.0s									
BSUT	**Blindstream Ca**	**101.19**	**50**	IAMs_20	IAMs_20	09 14 35.9				
	comp=Z,6µm,21.0s									
HMU	**Henry Mountain**	**101.27**	**53**	IAMs_20	IAMs_20	09 18 56.2				
	comp=Z,7µm,19.0s									
TUC	**Tucson**	**101.30**	**58**	IAMs_20	IAMs_20	09 13 02.4				
	comp=Z,8µm,21.0s									
SRU	**San Rafael Swe**	**101.41**	**51**	IAMs_20	IAMs_20	09 14 02.9				
	comp=Z,8µm,22.0s									
YMP	**Mirror Lake Pl**	**101.47**	**46**	IAMs_20	IAMs_20	09 17 02.8				
	comp=Z,7µm,20.0s									
EGMT	**Eagleton**	**101.55**	**42**	IAMs_20	IAMs_20	09 13 39.6				
	comp=Z,6µm,22.0s									
YNE	**Yellowstone No**	**101.56**	**45**	IAMs_20	IAMs_20	09 16 15.1				
	comp=Z,7µm,21.0s									
P18A	**Preston Nutter**	**101.61**	**51**	IAMs_20	IAMs_20	09 14 11.1				
	comp=Z,7µm,21.0s									
VNA2	**Neumayer--Watz**	**101.72**	**188**	⇑P	**Pdif**	**08 35 20.9**	**-0.4**			
	comp=Z,11nm,0.7s,baz=159,slow=4.6									
X18A	**Snowflake**	**101.97**	**56**	IAMs_20	IAMs_20	09 14 00.2				
	comp=Z,8µm,21.0s									
PDAR	**Pinedale Array**	**102.00**	**48**	P	**Pdif**	**08 35 22.8**	**-0.7**			
	comp=Z,2.9nm,0.9s,baz=248,slow=2.6,SNR=23									
PDAR				PKKPbc	**PKKPbc**	**08 51 27.4**	**-1.7**			
	comp=Z,0.9nm,0.4s,baz=95,slow=5.1,SNR=10									
PDAR				PKPPKP	**P'P'df**	**08 59 44.5**	**-2.1**			
	comp=Z,0.6nm,1.0s,baz=92,slow=4.5,SNR=3.7									
RLMT	**Red Lodge**	**102.08**	**45**	IAMs_20	IAMs_20	09 16 38.8				
	comp=Z,7µm,21.0s									
VNA1	**Neumayer--Stat**	**102.08**	**187**	⇑P	**Pdif**	**08 35 22.2**	**-0.7**			
	comp=Z,9.8nm,0.7s									
W18A	**Petrified Fore**	**102.14**	**55**	IAMs_20	IAMs_20	09 14 20.5				
	comp=Z,8µm,21.0s									
319A	**Douglas**	**102.58**	**59**	IAMs_20	IAMs_20	09 13 01.5				
	comp=Z,8µm,22.0s									
AKT	**Akhty**	**102.83**	**311**	*eP*	**Pdif**	**08 35 21.9**	**-5.1**			
AKT				*e*PPP	PPP	08 41 52.5				
AKT				pmax	pmax					
	comp=Z,4.0nm,0.8s									
AKT				MLR	MLR					
	comp=Z,6µm,23.0s									
MAK	**Makhachkala**	**102.91**	**313**	*i* P	**Pdif**	**08 35 22.3**	**-4.8**			
MAK				*i*		08 39 44.6				
MAK				*e*PPP	PPP	08 41 49.6				
MAK				*e*		08 45 59.3				
MAK				*e*PS	**PS**	**08 48 51.3**	**+0.6**			
MAK				*e*SSS	SSS	08 58 11.3				
MAK				pmax	pmax					
	comp=Z,392nm,2.0s									
O20A	**White River Ci**	**103.13**	**50**	IAMs_20	IAMs_20	09 15 52.3				
	comp=Z,6µm,21.0s									
SPITS	**Spitsbergen Ar**	**104.00**	**351**	Pdiff	**Pdif**	**08 35 32.5**	**+1.2**			
	comp=Z,2.1nm,0.8s,baz=61,slow=7.7,SNR=4.0									
SPITS				PKKPbc	**PKKPbc**	**08 51 20.7**	**-3.1**			
	comp=Z,1.4nm,0.5s,baz=134,slow=3.6,SNR=9.0									
LAO	**LASA Array**	**104.06**	**43**	IAMs_20	IAMs_20	09 14 46.1				
	comp=Z,7µm,22.0s									
KBS	**Kingsbay**	**104.11**	**352**	*i* P	**PKiKP**	**08 39 46.5**	**-2.1**			
NOR	**Nord**	**104.16**	**358**	*i* P	**PP**	**08 39 50.5**	**+0.5**			
K22A	**Casper**	**104.24**	**48**	IAMs_20	IAMs_20	09 19 58.3				
	comp=Z,6µm,20.0s									
ANMO	**Albuquerque**	**104.83**	**56**	IAMs_20	IAMs_20	09 16 58.8				
	comp=Z,6µm,20.0s									
ANMO	**Albuquerque**	**104.83**	**56**	PKKP		08 51 35.5				
	comp=Z,2.8nm,0.8s,baz=214,slow=6.8,SNR=8.3									
HSPB	**Hornsund (broa**	**104.93**	**350**	*e*PKP	**PP**	**08 39 57.8**	**+2.1**			
HSPB				*e*PS	**PS**	**08 49 17.3**	**+6.7**			
HSPB				*e*L	L	09 20 15.4				
	comp=Z,5µm,24.1s									
KLMR	**Klimovskoe**	**104.93**	**332**	*e*P	**Pdif**	**08 35 33.6**	**-2.1**			
KLMR				*e*		08 39 54.8				
KLMR				PPP	PPP	08 42 06.8				
KLMR				SS	SS	08 54 43.6	-2.4			
KLMR				SSS	SSS	08 58 41.2				
KLMR				pmax	pmax					
	comp=Z,10.0nm,0.7s									
KLMR				MLR	MLR					
	comp=Z,7µm,21.0s									
EPT	**El Paso**	**104.94**	**59**	IAMs_20	IAMs_20	09 16 37.9				
	comp=Z,7µm,20.0s									
ISCO	**Idaho Springs**	**105.17**	**51**	IAMs_20	IAMs_20	09 20 55.2				
	comp=Z,5µm,20.0s									
APA	**Apatity**	**105.32**	**339**	*i* P	**Pdif**	**08 35 38.0**	**+0.7**			
APA				*i*		08 40 01.7				
APA				*i* S	**Sdif**	**08 47 21.2**	**-7.4**			
APA				*i* PS	**PS**	**08 49 11.3**	**-3.7**			
APA				*i* SS	**SKKPbc**	**08 54 57.0**	**-2.1**			
APA				MLR	MLR					
	comp=Z,4µm,20.1s									
SDCO	**Great Sand Dun**	**105.42**	**53**	IAMs_20	IAMs_20	09 17 28.1				
	comp=Z,7µm,21.0s									
FFC	**Flin Flon**	**105.47**	**35**	IAMs_20	IAMs_20	09 18 06.6				
	comp=Z,8µm,22.0s									
Q24A	**Divide**	**105.60**	**51**	IAMs_20	IAMs_20	09 17 43.7				
	comp=Z,6µm,20.0s									
BLKN	**Baker Lake**	**105.81**	**24**	IAMs_20	IAMs_20	09 19 15.4				
	comp=Z,8µm,22.0s									
MNTX	**Cornudas Mount**	**105.90**	**59**	IAMs_20	IAMs_20	09 15 07.2				
	comp=Z,7µm,22.0s									
KBZ	**Khabaz**	**106.18**	**314**	PKKPbc	PKKPbc	08 51 14.5	-1.7			
	comp=Z,1.2nm,0.5s,baz=128,slow=3.1,SNR=3.6									
KIV	**Kislovodsk**	**106.30**	**314**	*eP*	**Pdif**	**08 35 39.2**	**-3.2**			
KIV				*e*		08 40 05.9				
KIV				*e*PS	**PS**	**08 49 23.8**	**-2.6**			
KIV				*e*SS	SS	08 55 02.7	-3.4			
KIV				pmax	pmax					
	comp=Z,7.0nm,1.1s									
KIV				MLR	MLR					
	comp=Z,3µm,21.0s									
KIV	**Kislovodsk**	**106.30**	**314**	P	**Pdif**	**08 35 39.6**	**-2.8**			
KIV	**Kislovodsk**	**106.30**	**314**	P	**

	comp=N,30nm,0.8s										
MNK					*i* P		**Pdif**	**08 36 08.6**	**-2.8**		
	comp=Z,27nm,0.7s,baz=67										
MNK					*i* pP		**pPdif**	**08 36 25.6**	**-0.3**		
MNK					*i* sP		**sPdif**	**08 36 29.7**	**-1.6**		
MNK					*i* PP		PP	08 41 05.4	+11		
MNK					*i* PPP		PPP	08 42 26.6			
MNK					*i* SKP			08 43 22.8			
MNK					*i* PKS		PKSdf	08 43 30.0	-12		
MNK					*i* SKS		**SKSac**	**08 46 46.7**	**+1.1**		
MNK					*i* SP		SP	08 50 51.2	+28		
MNK					*i* PS		**PKKPab**	**08 51 07.8**	**+6.7**		
MNK					*i* LRM		MLR	09 27 37.5			
	comp=N,5µm,17.6s										
MNK					*i* LRM		MLR	09 28 04.8			
	comp=Z,7µm,19.3s										
MNK	**Minsk**	**112.90**	**327**		*i* P		**Pdif**	**08 36 08.5**	**-2.8**		
MNK					*i*			08 43 22.8			
MNK					*i*			08 46 46.7			
MNK					pmax		pmax				
	comp=E,32nm,0.8s										
MNK					pmax		pmax				
	comp=Z,27nm,0.7s										
MNK					pmax		pmax				
	comp=N,30nm,0.8s										
MNK					MLR		MLR				
	comp=E,3µm,19.0s										
MNK					MLR		MLR				
	comp=N,5µm,18.0s										
MNK					MLR		MLR				
	comp=Z,7µm,19.0s										
SUMG	**Summit**	**113.30**	**3**		IAMs_20		IAMs_20	09 23 57.9			
	comp=Z,5µm,22.0s										
I37A	**Lemond, Waseca**	**113.43**	**44**		IAMs_20		IAMs_20	09 25 18.0			
	comp=Z,6µm,20.0s										
MMAI	**Mount Meron Ar**	**113.50**	**303**		PKKPbc		PKKPbc	08 50 50.4	-1.9		
	comp=Z,2.3nm,0.5s,baz=268,slow=8.3,SNR=3.6										
SPMN	**Marine on St.**	**113.52**	**43**		IAMs_20		IAMs_20	09 24 23.1			
	comp=Z,6µm,20.0s										
AKASG	**Malin Array Be**	**113.57**	**323**		PKiKP		**PKiKP**	**08 40 08.1**	**+1.1**		
	comp=Z,0.7nm,0.4s,baz=58,slow=2.3,SNR=6.9										
AKASG					PKKPbc		**PKKPbc**	**08 50 50.4**	**-2.2**		
	comp=Z,2.4nm,0.4s,baz=266,slow=4.1,SNR=12										
AKBB	**Malin Array Si**	**113.57**	**323**	⇑	*i*PKiKP		**PKiKP**	**08 40 07.2**	**+0.2**		
AK01	**Malin Array Si**	**113.58**	**323**		P		**Pdif**	**08 36 14.6**	**+0.2**		
EYMN	**Ely**	**113.58**	**40**		IAMs_20		IAMs_20	09 24 59.4			
	comp=Z,4µm,21.0s										
AK04	**Malin Array Si**	**113.59**	**323**		P		**Pdif**	**08 36 14.6**	**+0.1**		
BR131	**Keskin Array S**	**113.69**	**311**	⇑	*i*PKiKP		**PKiKP**	**08 40 07.3**	**-0.5**		
BRTR	**Keskin Array B**	**113.69**	**311**		PKKPbc		PKKPbc	08 50 50.8	-1.3		
	comp=Z,1.9nm,0.8s,baz=270,slow=3.5,SNR=3.9										
E38A	**The Farm, Brul**	**113.95**	**41**		IAMs_20		IAMs_20	09 26 54.5			
	comp=Z,4µm,20.0s										
SCIA	**State Center**	**114.09**	**47**		IAMs_20		IAMs_20	09 28 38.8			
	comp=Z,5µm,20.0s										
N38A	**Joes South For**	**114.35**	**48**		IAMs_20		IAMs_20	09 24 34.7			
	comp=Z,6µm,20.0s										
P38A	**Dawn**	**114.40**	**49**		IAMs_20		IAMs_20	09 24 26.2			
	comp=Z,6µm,20.0s										
Z38A	**Mt. Pleasant**	**114.47**	**56**		IAMs_20		IAMs_20	09 22 47.0			
	comp=Z,6µm,20.0s										
HHAR	**Hobbs**	**114.78**	**53**		IAMs_20		IAMs_20	09 23 02.8			
	comp=Z,6µm,20.0s										
NATX	**Nacogdoches**	**114.98**	**58**		IAMs_20		IAMs_20	09 24 03.5			
	comp=Z,5µm,20.0s										
KIS	**Kishinev**	**115.09**	**320**		*e*PP		**PP**	**08 41 10.0**	**+0.1**		
MILM	**Milestii Mici**	**115.12**	**319**		*e*P		**Pdif**	**08 36 16.0**	**-5.3**		
MILM	**Milestii Mici**	**115.12**	**319**		*i* PP		**PP**	**08 41 10.0**	**-0.1**		
	comp=Z,600nm,9.4s										
MILM					*e*SKS		SKSac	08 46 43.0	-12		
MILM	**Milestii Mici**	**115.12**	**319**		*i* PS		PS	08 50 42.0	-8.5		
MILM	**Milestii Mici**	**115.12**	**319**		*e*P		**Pdif**	**08 36 16.0**	**-5.3**		
MILM					*i*			08 41 10.0			
MILM					*e*			08 50 42.0			
MILM					pmax		pmax				
	comp=Z,600nm,9.4s										
MILM					MLR		MLR				
	comp=Z,2µm,21.0s										
G40A	**Rib Lake**	**115.26**	**42**		IAMs_20		IAMs_20	09 31 37.2			
	comp=Z,5µm,18.0s										
I40A	**Norwalk**	**115.39**	**44**		IAMs_20		IAMs_20	09 27 17.9			
	comp=Z,7µm,20.0s										
ILULI	**Iluliseat**	**115.41**	**8**		IAMs_20		IAMs_20	09 26 11.7			
	comp=Z,5µm,22.0s										
L40A	**Anamosa**	**115.49**	**46**		IAMs_20		IAMs_20	09 23 57.7			
	comp=Z,7µm,21.0s										
P40A	**Paris**	**115.53**	**49**		IAMs_20		IAMs_20	09 25 18.3			
	comp=Z,7µm,21.0s										
COWI	**Conover**	**115.70**	**41**		IAMs_20		IAMs_20	09 27 27.7			
	comp=Z,6µm,20.0s										
JFWS	**Jewell Farm**	**115.94**	**45**		IAMs_20		IAMs_20	09 23 22.5			
	comp=Z,6µm,22.0s										
N41A	**Harden Midland**	**116.12**	**47**		IAMs_20		IAMs_20	09 26 15.5			
	comp=Z,6µm,20.0s										
Z41A	**Richland Creek**	**116.28**	**56**		IAMs_20		IAMs_20	09 25 56.7			
	comp=Z,6µm,20.0s										
WHAR	**Wooly Hollow**	**116.30**	**54**		IAMs_20		IAMs_20	09 22 03.0			
	comp=Z,7µm,22.0s										
BOSA	**Boshof**	**116.35**	**234**		PKP		**PKPdf**	**08 40 12.8**	**-0.5**		
	comp=Z,3.3nm,0.8s,baz=52,slow=0.9,SNR=8.0										
UALR	**University of**	**116.36**	**54**				**PKPdf**	**08 40 13.5**	**+0.6**		
441A	**DeRidder**	**116.38**	**59**		IAMs_20		IAMs_20	09 25 02.7			
	comp=Z,6µm,21.0s										
F42A	**Maple Grove Fa**	**116.47**	**41**		IAMs_20		IAMs_20	09 28 01.2			
	comp=Z,5µm,21.0s										
CCM	**Cathedral Cave**	**116.50**	**50**				**PKPdf**	**08 40 12.1**	**-0.9**		
CCM	**Cathedral Cave**	**116.50**	**50**		PKiKP		**PKPdf**	**08 40 12.1**	**-0.9**		
I42A	**Draeger Farm,**	**116.57**	**44**		IAMs_20		IAMs_20	09 28 51.9			
	comp=Z,5µm,20.0s										
HFS	**Hagfors**	**116.57**	**337**		PKP		**PKPdf**	**08 40 11.1**	**-1.4**		
	comp=Z,2.6nm,0.8s,baz=304,slow=0.5,SNR=4.3										
HFS					PKKPbc		**PKKPbc**	**08 50 39.5**	**-3.0**		
	comp=Z,4.6nm,0.8s,baz=237,slow=5.1,SNR=6.9										
COYC	**Coyhaique**	**116.61**	**149**				**PKPdf**	**08 40 13.6**	**+0.5**		
NB2	**NORSAR Subarra**	**116.90**	**339**		PKPdf		**PKPdf**	**08 40 13.6**	**+0.4**		
	comp=Z,0.9nm,0.6s,baz=44,slow=1.9										
NB2					PP		**PP**	**08 41 26.8**	**+4.7**		
	comp=Z,1.4nm,0.7s,baz=43,slow=6.9										
NB2					PKKP		**PKKPbc**	**08 50 39.0**	**-2.4**		
	comp=Z,9.1nm,0.9s,baz=226,slow=3.6										
NOA	**NORSAR Array B**	**116.90**	**339**		PKP		**PKPdf**	**08 40 11.7**	**-1.5**		
	comp=Z,1.1nm,0.6s,baz=51,slow=1.7,SNR=9.0										
NOA					PKKPbc		**PKKPbc**	**08 50 39.1**	**-2.4**		
	comp=Z,5.3nm,0.9s,baz=40,slow=3.6,SNR=20										
H43A	**Windswept, Lux**	**117.15**	**43**		IAMs_20		IAMs_20	09 35 33.4			
	comp=Z,4µm,19.0s										
BROLN	**Tlhalogang**	**117.30**	**243**		*i* P		**PKPdf**	**08 40 14.2**	**-1.0**		
HDIL	**Hopedale**	**117.30**	**47**		IAMs_20		IAMs_20	09 27 39.9			
	comp=Z,6µm,20.0s										
K43A	**Burlington**	**117.34**	**45**		IAMs_20		IAMs_20	09 28 26.7			
	comp=Z,6µm,20.0s										
P43A	**Skaggs, Pawnee**	**117.39**	**48**		IAMs_20		IAMs_20	09 23 22.3			
	comp=Z,5µm,22.0s										
MLR	**Muntele Rosu**	**117.48**	**319**		PKKPbc		PKKPbc	08 50 34.4	-4.6		
	comp=Z,3.9nm,0.7s,baz=196,slow=9.4,SNR=3.6										
143A	**Socs Landing,**	**117.53**	**56**		IAMs_20		IAMs_20	09 24 32.1			
	comp=Z,6µm,21.0s										
HBAR	**Harrisburg**	**117.54**	**53**		IAMs_20		IAMs_20	09 22 53.9			
	comp=Z,5µm,22.0s										
L44A	**Lake County Fo**	**117.81**	**45**		IAMs_20		IAMs_20	09 24 38.9			
	comp=Z,6µm,22.0s										
LPHEP	**Lephephe**	**117.82**	**240**				**PKPdf**	**08 40 16.1**	**-0.1**		
LPHEP					IAMs_20		IAMs_20	09 28 34.1			
	comp=Z,5µm,20.0s										
CGM3	**Cape Girardeau**	**117.91**	**51**		IAMs_20		IAMs_20	09 26 41.3			
	comp=Z,7µm,20.0s										
GNAR	**Gosnell**	**117.95**	**52**		IAMs_20		IAMs_20	09 24 08.7			
	comp=Z,6µm,21.0s										
M44A	**Midewin, Midew**	**117.96**	**46**		IAMs_20		IAMs_20	09 26 13.1			
	comp=Z,6µm,22.0s										
Q44A	**Meyer Farm, Va**	**117.97**	**49**		IAMs_20		IAMs_20	09 22 57.7			
	comp=Z,6µm,22.0s										
LSZ	**Lusaka**	**118.24**	**249**				**PKPdf**	**08 40 17.1**	**0.0**		
LSZ	**Lusaka**	**118.24**	**249**		IAMs_20		IAMs_20	09 33 48.8			
	comp=Z,5µm,20.0s										
LSZ	**Lusaka**	**118.24**	**249**		PKIKP		**PKPdf**	**08 40 17.1**	**0.0**		
LL02	**Futaleuf**	**118.33**	**147**		IAMs_20		IAMs_20	09 21 50.7			
	comp=Z,6µm,21.0s										
I45A	**Fountain**	**118.34**	**43**		IAMs_20		IAMs_20	09 29 05.7			
	comp=Z,5µm,21.0s										
VBMS	**Vicksburg**	**118.36**	**57**		IAMs_20		IAMs_20	09 27 31.1			
	comp=Z,5µm,20.0s										
SOOWA	**Sowa**	**118.46**	**243**		*i* P		**PKPdf**	**08 40 17.3**	**-0.2**		
HALT	**Halls**	**118.50**	**52**		IAMs_20		IAMs_20	09 25 18.1			
	comp=Z,5µm,21.0s										
LL05	**Los Muermos**	**118.57**	**144**		IAMs_20		IAMs_20	09 21 16.4			
	comp=Z,7µm,21.0s										
OLIL	**Olney**	**118.71**	**49**		IAMs_20		IAMs_20	09 34 02.9			
	comp=Z,5µm,19.0s										
E46A	**Sault Ste Mari**	**118.72**	**40**				**PKPdf**	**08 40 16.8**	**-0.3**		
E46A					IAMs_20		IAMs_20	09 24 27.5			
	comp=Z,7µm,22.0s										
Y45A	**Yeager Farm, C**	**118.82**	**55**		IAMs_20		IAMs_20	09 28 55.8			
	comp=Z,4µm,21.0s										
KDWAN	**Kaudwane**	**118.85**	**239**		*i* P		**PKPdf**	**08 40 17.7**	**-0.5**		
SFIN	**Lafayette**	**118.95**	**47**		IAMs_20		IAMs_20	09 28 21.5			
	comp=Z,4µm,20.0s										
SKOMA	**Sekoma**	**119.04**	**238**		*i* P		**PKPdf**	**08 40 18.8**	**+0.3**		
P46A	**Rosedale**	**119.11**	**48**		IAMs_20		IAMs_20	09 33 47.7			
	comp=Z,5µm,19.0s										
OJC	**Ojcow**	**119.24**	**326**		*e*PP		PP	08 41 35.4	-3.3		
OJC					*e*PS		**PS**	**08 51 36.0**	**+8.3**		
OJC					*e*L		L	09 31 06.0			
	comp=Z,9µm,24.4s										
NIE	**Niedzica**	**119.33**	**325**		*e*PKP		**PKPdf**	**08 40 14.8**	**-3.4**		
NIE					*e*PP		**PP**	**08 41 37.6**	**-1.8**		
NIE					*e*PS		**PS**	**08 51 30.2**	**+1.4**		
NIE					*e*L		L	09 30 26.5			
	comp=Z,4µm,24.2s										
346A	**Big Creek Wild**	**119.41**	**57**		IAMs_20		IAMs_20	09 27 42.8			
	comp=Z,4µm,20.0s										
LR04	**Corral**	**119.56**	**143**		IAMs_20		IAMs_20	09 21 46.7			
	comp=Z,6µm,21.0s										
J47A	**Sunmer**	**119.58**	**43**		IAMs_20		IAMs_20	09 29 31.7			
	comp=Z,5µm,20.0s										
WVT	**Waverly**	**119.63**	**52**				**PKPdf**	**08 40 18.5**	**-0.6**		
WVT	**Waverly**	**119.63**	**52**		PKIKP		**PKPdf**	**08 40 18.5**	**-0.6**		
HOPE	**Hope Point**	**119.73**	**176**				**PKPdf**	**08 40 18.6**	**-0.2**		
HOPE	**Hope Point**	**119.73**	**176**		PKIKP		**PKPdf**	**08 40 18.6**	**-0.2**		
BLO	**Bloomington**	**119.75**	**48**		IAMs_20		IAMs_20	09 34 06.7			
	comp=Z,6µm,19.0s										
PHDHD	**Phuduhudu**	**120.07**	**243**		IAMs_20		IAMs_20	09 31 08.9			
	comp=Z,5µm,19.0s										
Z47A	**Carrollton**	**120.17**	**55**		IAMs_20		IAMs_20	09 33 11.6			
	comp=Z,5µm,20.0s										
LR05	**Currie**	**120.18**	**144**		IAMs_20		IAMs_20	09 22 38.0			
	comp=Z,6µm,22.0s										
WCI	**Wyandotte Cave**	**120.21**	**49**				**PKPdf**	**08 40 19.2**	**-0.9**		
WCI	**Wyandotte Cave**	**120.21**	**49**		PKIKP		**PKPdf**	**08 40 19.2**	**-0.9**		
KUQ	**Kuujjuuaa**	**120.26**	**22**				**PKiKP**	**08 40 20.8**	**+1.1**		
KUQ					IAMs_20		IAMs_20	09 29 07.1			
	comp=Z,6µm,21.0s										
KSANE	**Kasane**	**120.29**	**246**				**PKPdf**	**08 40 21.5**	**+0.5**		
OKC	**Ostrava-Krasne**	**120.35**	**326**		*e*PP		**PP**	**08 41 49.8**	**+3.5**		
OKC					AMS		AMS	09 32 00.0			
	comp=Z,6µm,22.1s										
O48B	**Farmland**	**120.40**	**46**		IAMs_20		IAMs_20	09 32 41.7			
	comp=Z,4µm,20.0s										
P48A	**Milroy**	**120.47**	**47**		IAMs_20		IAMs_20	09 33 13.6			
	comp=Z,5µm,19.0s										
V48A	**Smith Brothers**	**120.52**	**52**		IAMs_20		IAMs_20	09 26 30.6			
	comp=Z,6µm,21.0s										
VYHS	**Vyhne**	**120.62**	**324**		*e*PKIKP		**PKiKP**	**08 40 22.0**	**+1.2**		
VYHS	**Vyhne**	**120.62**	**324**		*e*PKP		**PKiKP**	**08 40 22.0**	**+1.2**		
VYHS					*e*			08 50 26.9			
I49A	**Point Hope**	**120.66**	**42**		IAMs_20		IAMs_20	09 34 42.9			
	comp=Z,5µm,20.0s										
PLCA	**Paso Flores**	**120.69**	**145**		PKP		**PKPdf**	**08 40 21.0**	**-0.2**		
	comp=Z,17nm,0.5s,baz=211,slow=2.7,SNR=62										
PLCA					PKKPbc		**PKKPbc**	**08 50 26.0**	**-1.2**		
	comp=Z,2.6nm,0.6s,baz=67,slow=5.3,SNR=11										
MORC	**Moravsky Berou**	**120.72**	**326**		*e*PKP		**PKPdf**	**08 40 19.8**	**-1.1**		
MORC					*e*PKKP		**PKKPab**	**08 50 25.5**	**-1.3**		
CLTN	**Cedars of Leba**	**120.81**	**51**		IAMs_20		IAMs_20	09 27 11.1			
	comp=Z,5µm,21.0s										
KSP	**Ksiaz**	**120.84**	**327**		*e*PP		PP	08 41 51.9	+2.3		
KSP					*e*PS		**PS**	**08 51 43.4**	**+1.3**		
KSP					*e*L		L	09 27 52.4			
	comp=Z,8µm,30.4s										
N49A	**Columbus Grove**	**120.86**	**45**		IAMs_20		IAMs_20	09 25 40.9			
	comp=Z,7µm,22.0s										
KRLC	**Kraliky**	**120.99**	**327**		*e*PP		**PP**	**08 41 54.8**	**+4.1**		
KRLC					AMS		AMS	09 29 20.0			
	comp=Z,7µm,23.3s										
O49A	**Covington**	**121.01**	**46**		IAMs_20		IAMs_20	09 31 20.9			
	comp=Z,5µm,20.0s										
R49A	**Shelbyville**	**121.03**	**49**		IAMs_20		IAMs_20	09 31 16.7			
	comp=Z,5µm,20.0s										
OSTC	**Ostas**	**121.04**	**327**		*e*PP		**PP**	**08 41 58.3**	**+7.3**		
OSTC					AMS		AMS	09 27 10.0			
	comp=Z,8µm,31.8s										
LRAL	**Lakeview Retre**	**121.08**	**55**		IAMs_20		IAMs_20	09 33 55.4			
	comp=Z,5µm,20.0s										
DPC	**Dobruska-Polom**	**121.09**	**327**		*e*PKP		**PKPdf**	**08 40 21.1**	**-0.5**		
DPC					*e*PP		**PP**	**08 41 55.7**	**+4.3**		
DPC					AMS		AMS	09 33 00.0			
	comp=Z,6µm,21.4s										
DPC	**Dobruska-Polom**	**121.09**	**327**		*e*PKIKP		**PKPdf**	**08 40 21.1**	**-0.5**		
DPC					*e*			08 41 55.7			
DPC					MLR		MLR				
	comp=Z,6µm,21.4s										
CHVC	**Chvalec**	**121.11**	**327**		*e*PP		**PP**	**08 41 55.2**	**+3.8**		
CHVC					AMS		AMS	09 33 50.0			
	comp=Z,6µm,20.7s										
KGCAE	**Kacgae**	**121.14**	**239**		*i* P		**PKPdf**	**08 40 22.6**	**0.0**		
UPC	**Upice**	**121.17**	**327**		*e*PP		**PP**	**08 41 56.5**	**+4.6**		
UPC					AMS		AMS	09 27 20.0			
	comp=Z,8µm,31.4s										
K50A	**Casco**	**121.25**	**43**		IAMs_20		IAMs_20	09 30 40.8			
	comp=Z,6µm,21.0s										
Y49A	**Blount Mountai**	**121.35**	**54**		IAMs_20		IAMs_20	09 24 55.7			
	comp=Z,7µm,22.0s										
BRAL	**Brewton**	**121.47**	**57**		IAMs_20		IAMs_20	09 35 32.5			
	comp=Z,7µm,21.0s										
M50A	**Fremont**	**121.49**	**45**		IAMs_20		IAMs_20	09 27 54.3			
	comp=Z,7µm,21.0s										
MTO3	**Montecristo**	**121.51**	**77**		IAMs_20		IAMs_20	09 23 19.0			
	comp=Z,6µm,21.0s										
MODS	**Modra-Piesok**	**121.59**	**325**		*e*PKIKP		**PKiKP**	**08 40 23.9**	**+1.2**		
MODS	**Modra-Piesok**	**121.59**	**325**		*e*PKP		**PKiKP**	**08 40 23.9**	**+1.2**		
R50A	**Paris**	**121.66**	**48**		IAMs_20		IAMs_20	09 32 03.4			
	comp=Z,6µm,20.0s										
T50A	**Nancy**	**121.68**	**50**		IAMs_20		IAMs_20	09 30 49.0			
	comp=Z,6µm,21.0s										
KRUC	**Moravsky**	**121.73**	**326**		*e*PKP		**PKPdf**	**08 40 22.0**	**-0.8**		
KRUC					*e*PKKP		**PKKPab**	**08 50 23.1**	**+0.7**		
FPAL	**Fort Paine**	**121.80**	**53**		IAMs_20		IAMs_20	09 26 05.7			
	comp=Z,4µm,22.0s										
W50A	**Signal Mountai**	**121.85**	**52**		IAMs_20		IAMs_20	09 27 32.9			
	comp=Z,7µm,21.0s										
PVCC	**Panska Ves**	**121.93**	**328**		*e*PP		**PP**	**08 42 04.3**	**+7.3**		
PVCC					AMS		AMS	09 29 40.0			
	comp=Z,5µm,23.0s										
ACSO	**Alum Creek Sta**	**121.97**	**46**		IAMs_20		IAMs_20	09 32 36.1			
	comp=Z,6µm,20.0s										
BRG	**Berggiesshubel**	**122.07**	**328**		*e*PKP		**PKPdf**	**08 40 19.5**	**-3.9**		
BRG					Amp			08 40 19.8			
	comp=Z,2.2nm,0.6s										
BRG	**Berggiesshubel**	**122.07**	**328**		P		**PKiKP**	**08 40 27.4**	**+3.9**		
BRG					Amp			08 40 27.7			
	comp=Z,5.7nm,0.8s										
BRG	**Berggiesshubel**	**122.07**	**328**		PP		PP	08 42 04.0	+6.1		
BRG					PKKP		**PKKPbc**	**08 50 25.8**	**+3.7**		
BRG					Amp			08 50 40.9			
	comp=Z,7.2nm,1.1s										
BRG	**Berggiesshubel**	**122.07**	**328**		PS		PS	08 51 55.0	+2.2		
VLDQ	**Val d'Or**	**122.08**	**35**		IAMs_20		IAMs_20	09 33 59.1			
	comp=Z,5µm,20.0s										
TREC	**Trest**	**122.11**	**326**		*e*PP		PP	08 42 07.2	+8.9		
TREC					AMS		AMS	09 30 00.0			
	comp=Z,8µm,27.2s										
Q51A	**Peebles**	**122.13**	**47**		IAMs_20		IAMs_20	09 26 50.7			
	comp=Z,7µm,22.0s										
GOPC	**GO Pecny, Ondr**	**122.16**	**327**		*e*PP		**PP**	**08 42 03.0**	**+4.4**		
GOPC					AMS		AMS	09 26 40.0			
	comp=Z,8µm,30.9s										
RICC	**Richard**	**122.17**	**328**		*e*PP		PP	08 42 07.9	+9.3		
RICC					AMS		AMS	09 33 30.0			
	comp=Z,5µm,21.9s										
PRU	**Pruhonice**	**122.25**	**327**		*e*PKP		**PKiKP**	**08 40 27.7**	**+3.8**		
PRU					*e*PP		**PP**	**08 42 04.9**	**+5.8**		
PRU					AMS		AMS	09 26 30.0			
	comp=Z,7µm,31.4s										
PRU	**Pruhonice**	**122.25**	**327**		*e*PKIKP		**PKiKP**	**08 40 27.7**	**+3.8**		
PRU					*e*			08 42 04.9			
PRA	**Prague**	**122.26**	**328**		*e*PKP		**PKPdf**	**08 40 24.5**	**+0.8**		
PRA					*e*PP		PP	08 42 09.7	+10		
PRA					AMS		AMS	09 26 40.0			
	comp=Z,6µm,24.8s										
PRA	**Prague**	**122.26**	**328**		*e*PKIKP		**PKPdf**	**08 40 24.5**	**+0.8**		
PRA					*e*			08 42 09.7			
PRA					MLR		MLR				
	comp=Z,6µm,24.8s										
CLL	**Collm**	**122.30**	**329**				**PKPdf**	**08 40 23.9**	**+0.1**		
CLL	**Collm**	**122.30**	**329**		*e*P		**Pdif**	**08 36 54.0**	**+0.8**		
CLL					*e*			08 40 23.0			
CLL					MLR		MLR				
	comp=Z,7µm,21.5s										
FNA	**Florina**	**122.33**	**315**				**PKPdf**	**08 40 25.0**	**+0.8**		
FNA	**Florina**	**122.33**	**315**		PKIKP		**PKPdf**	**08 40 25.0**	**+0.8**		
X51A	**Calhoun**	**122.39**	**53**		IAMs_20		IAMs_20	09 26 23.3			
	comp=Z,5µm,22.0s										
S51A	**Beattyville**	**122.42**	**49**		IAMs_20		IAMs_20	09 27 41.5			
	comp=Z,5µm,22.0s										
GRTLG	**Ghanzi**	**122.55**	**240**		*i* P		**PKPdf**	**08 40 25.3**	**-0.1**		
CONA	**Conrad Observa**	**122.63**	**325**		*e*PKiKP		**PKiKP**	**08 40 26.6**	**+1.7**		
	comp=Z,0.1nm,0.3s										
SADO	**Sadowa**	**122.68**	**40**		PKP		**PKPdf**	**08 40 23.3**	**-1.4**		
	comp=Z,5.7nm,0.8s,baz=335,slow=5.0,SNR=7.4										
451A	**Vernon**	**122.69**	**57**		IAMs_20		IAMs_20	09 33 34.7			
	comp=Z,4µm,20.0s										
ZVC	**Zvikov**	**122.74**	**327**		*e*PKP		**PKPdf**	**08 40 24.9**	**+0.2**		
ZVC					*e*PP		**PP**	**08 42 08.0**	**+5.5**		
ZVC					AMS		AMS	09 26 50.0			
	comp=Z,8µm,28.5s										
P52A	**Corning**	**122.79**	**46**		IAMs_20		IAMs_20	09 33 01.0			
	comp=Z,5µm,20.0s										
O52A	**Adamsville**	**122.82**	**46**		IAMs_20		IAMs_20	09 32 37.4			
	comp=Z,6µm,20.0s										
BI02	**San Fabin de**	**122.89**	**141**		IAMs_20		IAMs_20	09 23 55.3			
	comp=Z,4µm,20.0s										
TKL	**Tuckaleechee C**	**122.92**	**51**		PKP		**PKPdf**	**08 40 24.8**	**-0.6**		
	comp=Z,6.7nm,0.6s,baz=144,slow=9.2,SNR=16										
TKL					PKKPbc		**PKKPab**	**08 50 16.2

FUORN **Ofenpass-Fuorn** 126.52 326 IAMs_20 IAMs_20 09 36 45.0
comp=Z,6µm,22.0s
comp=Z,6µm,22.0s

TSUM Tsumeb 126.53 241 **PKPdf** **08 40 33.0 0.0**
NHSC New Hope 126.55 53 IAMs_20 IAMs_20 09 32 04.3
comp=Z,5µm,21.0s

BCLA Clavier 126.61 332 *d*PKP **PKPdf** **08 40 31.9 -0.2**
SDMD Soldier's Deli 126.62 44 IAMs_20 IAMs_20 09 29 33.2
comp=Z,4µm,21.0s

CSU Charleston Sou 126.67 53 IAMs_20 IAMs_20 09 28 42.5
comp=Z,5µm,22.0s

HDC Heredia 126.71 82 IAMs_20 IAMs_20 09 25 52.1
comp=Z,6µm,22.0s

WLF Walferdange 126.72 331 *d*PKP **PKiKP** **08 40 35.4 +2.6**
BGES Gesves 126.73 332 *d*PKP **PKiKP** **08 40 34.9 +2.2**
UCC Uccle 126.78 333 IAMs_20 IAMs_20 09 36 32.6
comp=Z,6µm,22.0s

LCR2 La Lucha 2 126.81 82 IAMs_20 IAMs_20 09 25 32.8
comp=Z,5µm,22.0s

CO03 El Pedregal 126.85 136 IAMs_20 IAMs_20 09 25 08.6
comp=Z,5µm,22.0s

VT1 Waterbury 126.85 37 IAMs_20 IAMs_20 09 30 05.4
comp=Z,6µm,22.0s

BMRD Maredsous 126.94 332 *d*PKP **PKPdf** **08 40 32.2 -0.5**
DWPF Disney Wildern 126.95 59 IAMs_20 IAMs_20 09 34 22.8
comp=Z,4µm,20.0s

CO05 La Serena 127.00 135 IAMs_20 IAMs_20 09 24 42.9
comp=Z,4µm,22.0s

DOU Dourbes 127.16 332 *d*PcP **PKPdf** **08 40 32.6 -0.5**
ECH Echery 127.19 329 IAMs_20 IAMs_20 09 36 45.8
comp=Z,5µm,22.0s

WUPA West Chester U 127.24 43 IAMs_20 IAMs_20 09 35 05.3
comp=Z,20nm,20.0s

TRQA Tornquist 127.25 149 **PKPdf** **08 40 33.5 -0.2**
TRQA Tornquist 127.25 149 PKIKP **PKPdf** **08 40 33.6 -0.2**
TRQA Tornquist 127.25 149 PKP **PKPdf** **08 40 33.2 -0.5**
TRQA Tornquist 127.25 149 PKP **PKPdf** **08 40 33.2 -0.5**
CO01 Juntas del Tor 127.77 135 IAMs_20 IAMs_20 09 28 21.2
comp=Z,4µm,20.0s

ZON Zonda 127.78 138 IAMs_20 IAMs_20 09 25 60.0
comp=Z,5µm,22.0s

LCO Las Campanas 127.91 134 **PKPdf** **08 40 35.8 +0.2**
LCO Las Campanas 127.91 134 PKIKP **PKPdf** **08 40 35.8 +0.2**
061Z Ochoppi 127.95 62 IAMs_20 IAMs_20 09 30 15.4
comp=Z,5µm,22.0s

K62A Royalston 128.07 39 IAMs_20 IAMs_20 09 31 46.7
comp=Z,5µm,20.0s

BRU2 Volcan 128.10 84 IAMs_20 IAMs_20 09 28 48.1
comp=Z,4µm,22.0s

CAMR Camarioca 128.12 65 IAMs_20 IAMs_20 09 31 45.3
comp=Z,7µm,20.0s

060A Indiantown 128.14 60 IAMs_20 IAMs_20 09 36 09.4
comp=Z,4µm,20.0s

V61A Roper 128.34 48 IAMs_20 IAMs_20 09 35 00.1
comp=Z,5µm,21.0s

F64A Sherman 128.48 33 IAMs_20 IAMs_20 09 35 10.9
comp=Z,5µm,20.0s

HRV Adam Dziewonsk 128.58 38 IAMs_20 IAMs_20 09 38 28.1
comp=Z,5µm,20.0s

WES Weston 128.79 39 IAMs_20 IAMs_20 09 36 15.7
comp=Z,5µm,20.0s

BCX Boston College 128.91 38 IAMs_20 IAMs_20 09 36 19.9
comp=Z,4µm,20.0s

AC06 Mina Casimiro 129.10 133 IAMs_20 IAMs_20 09 29 08.9
comp=Z,4µm,19.0s

G65A Princeton 129.33 34 IAMs_20 IAMs_20 09 31 01.3
comp=Z,5µm,22.0s

L64A Middleborough 129.34 39 IAMs_20 IAMs_20 09 36 42.2
comp=Z,5µm,20.0s

BNI Bardonecchia 129.46 326 IAMs_20 IAMs_20 09 37 51.8
comp=Z,5µm,21.0s

CLF Chambon-Foret 129.71 332 IAMs_20 IAMs_20 09 39 29.4
comp=Z,5µm,20.0s

AC02 Maricunga 130.30 133 IAMs_20 IAMs_20 09 25 41.4
comp=Z,4µm,22.0s

BCIP Isla Barro Col 130.92 83 IAMs_20 IAMs_20 09 31 30.0
comp=Z,4µm,22.0s

OTAV Otavalo 131.71 95 PKP **PKiKP** **08 40 45.2 +0.8**
OTAV Otavalo 131.71 95 PKP **PKiKP** **08 40 45.2 +0.8**
KEST Kesra 133.04 315 PKP **PKPdf** **08 40 45.5 +0.6**
comp=Z,4.9nm,0.9s,baz=136,slow=7.3,SNR=4.4

TRIS Tristan da Cun 133.95 200 **PKPdf** **08 40 47.4 +0.9**
NMDO Nuevo Mundo 134.43 67 IAMs_20 IAMs_20 09 30 12.4
comp=Z,6µm,22.0s

HELC Santa Helena 135.14 87 P PKPpre 08 40 41.3
UREC San Jos de Ur 135.18 85 P PKPpre 08 40 41.1
GUY2C Guyana, Caldas 135.25 89 P PKPpre 08 40 40.1
CZSB Cruzeiro do Su 135.66 107 PKPpre 08 40 41.4
CZSB Cruzeiro do Su 135.66 107 PKP **PKiKP** **08 40 52.4 +0.5**
CZSB Cruzeiro do Su 135.66 107 PKP **PKiKP** **08 40 52.4 +0.5**
NORC Norcasia 135.77 88 P PKPpre 08 40 43.2
ZARC Zaragoza, Cauc 135.84 85 P PKPpre 08 40 40.9
PTBC PUERTO BERRIO 136.22 87 P PKPpre 08 40 43.4
ROSC El Rosal 136.27 89 PKhKP PKPpre 08 40 46.4
comp=Z,18nm,0.7s,baz=166,slow=14,SNR=7.8

ROSC El Rosal 136.27 89 P PKPpre 08 40 45.2
PLTB Pedras Altas 136.42 151 PKP **PKPdf** **08 40 50.3 -1.0**
PLTB Pedras Altas 136.42 151 PKP **PKPdf** **08 40 50.3 -1.0**
LPAZ La Paz 136.60 121 PKhKP PKPpre 08 40 39.4
comp=Z,4.6nm,0.7s,baz=241,slow=1.5,SNR=20

LPAZ SKPbc **SKiKP** **08 44 27.1 +0.3**
comp=Z,14nm,0.9s,baz=168,slow=22,SNR=7.1

LPAZ La Paz 136.60 121 PKP **PKPdf** **08 40 51.4 -1.3**
LPAZ La Paz 136.60 121 PKP **PKPdf** **08 40 51.4 -1.3**
CHIC Chingaza 136.84 90 P PKPpre 08 40 42.7
VILC Villavicencio, 136.84 90 P PKPpre 08 40 46.2
BRJC Barrancabermej 136.94 86 P PKPpre 08 40 46.6
OCAC Ocana 137.37 84 P PKPpre 08 40 49.2
BARC Barichara 137.48 87 P PKPpre 08 40 48.9
RUSC La Rusia 137.56 88 PKPpre 08 40 44.8
RUSC La Rusia 137.56 88 P PKPpre 08 40 42.7
CPSB Cacapava Do Su 137.61 150 PKP **PKPdf** **08 40 54.1 +0.6**
CPSB Cacapava Do Su 137.61 150 PKP **PKPdf** **08 40 54.1 +0.6**
GRTK Grand Turk 137.70 65 IAMs_20 IAMs_20 09 34 17.7
comp=Z,5µm,21.0s

PAMC Pamplona, Colo 137.98 86 P PKPpre 08 40 50.7
SDDR Presa de Saban 138.17 68 IAMs_20 IAMs_20 09 35 25.9
comp=Z,5µm,22.0s

PBRG Braganca 138.59 333 *e*PKPdf PKPpre 08 40 47.1
PBRG *e*PP **PP** **08 43 49.0 +4.0**
CPUP Villa Florida 138.60 142 PKhKP PKPpre 08 40 44.9
comp=Z,0.8nm,0.7s,baz=105,slow=3.0,SNR=7.6

CPUP Villa Florida 138.60 142 PKP **PKPdf** **08 40 56.5 +1.1**
CPUP Villa Florida 138.60 142 PKP **PKPdf** **08 40 56.5 +1.1**
BBSR BB Station 138.64 46 IAMs_20 IAMs_20 09 43 48.3
comp=Z,3µm,20.0s

TAMC Tame, Arauca 138.86 87 P PKPpre 08 40 50.5
ESDC Sonseca Array 138.88 329 PKPpre 08 40 50.5
ESDC Sonseca Array 138.88 329 PKhKP PKPpre 08 40 50.3
comp=Z,0.6nm,0.6s,baz=16,slow=2.1,SNR=4.8

ESDC PKP **PKPdf** **08 40 56.9 +1.3**
comp=Z,1.7nm,0.7s,baz=9.4,slow=2.4,SNR=9.4

ESDC PP **PP** **08 43 50.0 +3.0**
comp=Z,1.4nm,0.8s,baz=46,slow=5.9,SNR=4.3

ESDC PKKP **PKKPdf** **08 50 23.6 -1.9**
comp=Z,1.0nm,0.7s,baz=276,slow=0.9,SNR=5.8

PGAV Gavieira, Arco 139.13 335 *e*PKPdf PKPpre 08 40 49.4
PGAV *e*PP PP 08 43 59.6 +11
PGAV *e*SS SS 09 03 04.1 +63
PGAV *e*LQ LQ 09 27 52.9
PGAV *e*LR LR 09 30 51.5
PGAV *i* IAMs_20 IAMs_20 09 44 25.2
comp=Z,4µm,22.0s

PAB San Pablo 139.17 329 IAMs_20 IAMs_20 09 44 27.5
comp=Z,3µm,22.0s

MVO Moncorvo 139.23 333 *e*PKPdf PKPpre 08 40 48.7
MVO *e*PP PP 08 44 02.8 +14
MVO *e*SS SS 09 03 12.1 +69
MVO *e*LQ LQ 09 29 25.5
MVO *e*LR LR 09 30 38.2
MVO *i* IAMs_20 IAMs_20 09 47 06.8
comp=Z,2µm,20.0s

TBTG Tabatinga, AM 139.28 103 PKP **PKPdf** **08 40 51.8 -5.2**
TBTG Tabatinga, AM 139.28 103 PKP **PKPdf** **08 40 51.8 -5.2**
POLO Lamas de Olo 139.40 334 *e*PKPdf PKPpre 08 40 50.0
POLO *e*PP PP 08 44 00.3 +10
CNLB Canela 139.76 152 PKP **PKPdf** **08 40 54.5 -3.0**
CNLB PKP **PKiKP** **08 40 58.6 -1.3**
CNLB Canela 139.76 152 PKP **PKPdf** **08 40 54.5 -3.0**
CNLB PKP **PKiKP** **08 40 58.6 -1.3**
PVIS Viseu 139.98 333 *e*PKPdf PKPpre 08 40 50.9
PVIS *e*PP PP 08 44 05.7 +12
SDV Santo Domingo 140.02 83 **PKPdf** **08 40 58.6 +0.1**
SDV IAMs_20 IAMs_20 09 34 29.0
comp=Z,3µm,22.0s

SDV Santo Domingo 140.02 83 PKP PKPdf 08 40 48.2 -10
SDV Santo Domingo 140.02 83 PKP PKPdf 08 40 48.2 -10
MTE Manteigas 140.07 332 *e*PKPdf PKPpre 08 40 51.9
MTE *e*PP PP 08 44 06.1 +12
MTE *e*SS SS 09 03 21.1 +69
MTE *e*LQ LQ 09 29 51.9
MTE *e*LR LR 09 32 43.9
MTE *i* IAMs_20 IAMs_20 09 47 29.6
comp=Z,2µm,22.0s

PCBR Castelo Branco 140.49 332 *e*PP **PP** **08 43 55.0 -1.7**
COI Coimbra 140.62 333 IAMs_20 IAMs_20 09 45 33.0
comp=Z,3µm,22.0s

COI Coimbra 140.62 333 *e*PKPdf PKPpre 08 40 54.1
COI *e*PP PP 08 44 08.5 +11
PMRV Marv??o 140.77 331 *e*PKPdf PKPpre 08 40 53.8
PMRV *e*PP PP 08 44 10.9 +12
PMRV *e*SS SS 09 03 51.4 +91
PMRV *e*LR LR 09 30 44.8
PMRV *i* IAMs_20 IAMs_20 09 47 08.6
comp=Z,2µm,20.0s

PCAS Casmilo, Conde 140.79 333 *e*PKPdf PKPpre 08 40 53.6
PCAS *e*PP PP 08 44 10.6 +12
ITAB Concordia 140.85 149 PKP **PKPdf** **08 40 54.7 -4.7**
ITAB Concordia 140.85 149 PKP **PKPdf** **08 40 54.7 -4.7**
PSARD Sardoal 141.00 332 *e*PKPdf PKPpre 08 40 55.0
PSARD *e*PP PP 08 44 11.8 +12
PESTR Estremoz 141.31 331 *e*PKPdf PKPpre 08 40 55.7
PESTR *e*PP PP 08 44 13.9 +12
PMTG Montargil 141.45 332 *e*PKPdf PKPpre 08 40 56.0
PMTG *e*PP PP 08 44 13.7 +11
PBAR Barrancos 141.58 330 *e*PKPdf **PKPdf** **08 40 56.9 -3.5**
EVO Evora 141.78 331 *e*PKPdf **PKPdf** **08 40 58.9 -1.9**
EVO *e*PP PP 08 44 15.3 +11
PARRA Arraiolos 142.03 332 *e*PKPdf PKPpre 08 40 57.1
PARRA *e*PP PP 08 44 15.7 +10
AGPR Aguadilla, PR 142.13 68 IAMs_20 IAMs_20 09 36 37.5
comp=Z,3µm,22.0s

LIS Lisbon 142.16 332 *e*PKPdf PKPpre 08 40 54.3
LIS Lisbon 142.16 332 *e*PKPdf PKPpre 08 40 57.1
LIS Lisbon 142.16 332 *e*PKhKP PKPpre 08 40 54.3
PRSN Puerto Rico Se 142.16 68 IAMs_20 IAMs_20 09 36 50.4
comp=Z,4µm,22.0s

MAJ01 Sao Joao Batis 142.24 152 PKP PKPdf 08 40 54.5 -7.5
MAJ01 PKP PKiKP 08 40 56.7 -8.2
MAJ01 Sao Joao Batis 142.24 152 PKP PKPdf 08 40 54.5 -7.5
MAJ01 PKP PKiKP 08 40 56.7 -8.2
MESJ Messejana 142.42 331 *e*PKPdf PKPpre 08 40 54.8
MESJ IAMs_20 IAMs_20 09 37 11.8
comp=Z,5µm,31.4s

MESJ Messejana 142.42 331 *e*PKPdf PKPpre 08 40 57.8
MESJ Messejana 142.42 331 *e*PKHKP PKPpre 08 40 54.8
PCVE Castro Verde 142.50 330 *e*PKPdf PKPpre 08 40 57.6
PVAQ Vaqueiros 142.51 330 *e*PKPdf **PKPdf** **08 40 58.4 -3.7**
PVAQ *e*SS SS 09 03 40.7 +60
PVAQ *e*LQ LQ 09 31 32.9
PVAQ *e*LR LR 09 32 18.7
PVAQ *i* IAMs_20 IAMs_20 09 47 33.6
comp=Z,4µm,20.0s

PBDV Barranco-do-Ve 142.75 330 *e*PKPdf **PKPdf** **08 40 59.4 -3.2**
PTGB Pitanga 142.90 146 PKP **PKPdf** **08 40 56.8 -6.5**
PTGB PKP PKiKP 08 40 59.1 -7.4
PTGB Pitanga 142.90 146 PKP **PKPdf** **08 40 56.8 -6.5**
PTGB PKP PKiKP 08 40 59.1 -7.4
PTEO Sao Teotonio 142.90 331 *e*PKPdf **PKPdf** **08 40 58.9 -3.8**
SGC2 Sao Gabriel da 142.98 98 PKP 08 40 56.5
SGC2 Sao Gabriel da 142.98 98 PKP 08 40 56.5
MORF Marmelete 143.05 331 *e*PKPdf PKPpre 08 40 56.1
MORF IAMs_20 IAMs_20 09 36 16.5
comp=E,3µm,23.3s

MORF Marmelete 143.05 331 *e*PKPdf PKPpre 08 40 58.8
MORF Marmelete 143.05 331 *e*PKHKP PKPpre 08 40 56.1
SJG San Juan 143.11 68 PKPbc 08 41 03.2 +2.6
SJG San Juan 143.11 68 IAMs_20 IAMs_20 09 38 51.3
comp=Z,3µm,22.0s

SJG San Juan 143.11 68 PKIKP PKPbc 08 41 03.2 +2.6
PFVI Vila Bisbo 143.28 331 *e*PKPdf PKPab 08 40 57.8 -1.5
AQDB Aquidauana 143.81 137 PKP PKPab 08 41 01.7 -0.2
AQDB PKP PKPbc 08 41 01.9 -0.7
AQDB Aquidauana 143.81 137 PKP PKPab 08 41 01.7 -0.2
AQDB PKP PKPbc 08 41 01.9 -0.7
TIJ01 Guaruva-PR 144.00 151 PKP **PKPab** **08 40 58.9 -3.7**
TIJ01 PKP PKPbc 08 41 00.8 -2.4
TIJ01 Guaruva-PR 144.00 151 PKP **PKPab** **08 40 58.9 -3.7**
TIJ01 PKP PKPbc 08 41 00.8 -2.4
TRCB Terra Rica 144.06 143 PKP **PKPab** **08 41 02.5 -0.3**
TRCB Terra Rica 144.06 143 PKP **PKPab** **08 41 02.5 -0.3**
PTLB Pontes e Lacer 144.45 127 PKP **PKPab** **08 41 01.4 -2.9**
PTLB PKP PKPbc 08 41 03.7 -0.8
PTLB Pontes e Lacer 144.45 127 PKP **PKPab** **08 41 01.4 -2.9**
PTLB PKP PKPbc 08 41 03.7 -0.8
TEFE Tefe 144.54 105 PKP **PKPab** **08 41 02.4 -2.4**
TEFE PKP PKPbc 08 41 03.4 -1.6
TEFE Tefe 144.54 105 PKP **PKPab** **08 41 02.4 -2.4**
TEFE PKP PKPbc 08 41 03.4 -1.6
VILB Vilhena 144.92 123 **PKPbc** **08 41 05.5 -0.7**
VILB Vilhena 144.92 123 PKP **PKPbc** **08 41 05.2 -1.0**
VILB PKP **PKPbc** **08 41 05.5 -0.7**
VILB Vilhena 144.92 123 PKP **PKPbc** **08 41 05.2 -1.0**
VILB PKP **PKPbc** **08 41 05.5 -0.7**
FRTB Fartura 145.35 148 PKP **PKPbc** **08 41 07.1 -0.3**
FRTB Fartura 145.35 148 PKP **PKPbc** **08 41 07.1 -0.3**
PET01 Itanhaem-SP 145.70 152 PKP **PKPdf** **08 41 08.3 +0.2**
PET01 Itanhaem-SP 145.70 152 PKP **PKPdf** **08 41 08.3 +0.2**
PCMB Pacaembu 145.78 144 PKP **PKPdf** **08 41 08.5 +0.2**
PCMB PKP **PKPbc** **08 41 08.6 -0.2**
PCMB Pacaembu 145.78 144 PKP **PKPdf** **08 41 08.5 +0.2**
PCMB PKP **PKPbc** **08 41 08.6 -0.2**
SABA Saba 145.91 67 IAMs_20 IAMs_20 09 39 38.4
comp=Z,3µm,22.0s

SEUS St. Eustatius 146.18 67 IAMs_20 IAMs_20 09 39 44.7
comp=Z,5µm,22.0s

SPB Sao Paulo 146.22 151 **PKPdf** **08 41 09.6 +0.6**
SPB IAMs_20 IAMs_20 09 45 42.3
comp=Z,5µm,22.0s

SALV Santo Antonio 146.83 131 PKP **PKPdf** **08 41 10.7 +0.5**
SALV Santo Antonio 146.83 131 PKP **PKPdf** **08 41 10.7 +0.5**
C2SB Chapadao do Su 146.92 139 PKP **PKPbc** **08 41 12.5 +0.4**
C2SB Chapadao do Su 146.92 139 PKP **PKPbc** **08 41 12.5 +0.4**
VABB Valinhos 146.94 151 PKP **PKPdf** **08 41 10.6 +0.3**
VABB Valinhos 146.94 151 PKP **PKPdf** **08 41 10.6 +0.3**
VAO Valinhos 146.94 151 **PKPdf** **08 41 11.0 +0.7**
SRBC Serra Branca 147.03 357 *e*PKP **PKiKP** **08 41 15.2 +0.7**
PGRA Graciosa 147.04 357 *e*PKP PKiKP 08 41 27.7 +13
MBFL Flemmings, Mon 147.09 68 *e*P **PKiKP** **08 41 16.4 +1.2**
MLYT Lee's Yard 147.12 68 *e*P **PKPdf** **08 41 04.4 -6.2**
ANWB Willy Bob 147.23 67 IAMs_20 IAMs_20 09 45 03.3
comp=Z,4µm,22.0s

PAGU Agualva, Azore 147.24 355 *e*PKP **PKPbc** **08 41 12.9 +0.4**
PSBA Serra de Santa 147.25 356 *e*PKP **PKiKP** **08 41 20.9 +5.9**
SHEL Horse Pasture 147.27 228 PKPbc **PKPbc** **08 41 14.0 +0.8**
SHEL Horse Pasture 147.27 228 IAMs_20 IAMs_20 09 41 06.9
comp=Z,3µm,21.0s

SHEL Horse Pasture 147.27 228 PKP2 **PKPbc** **08 41 14.0 +0.8**
PARB Paraibuna 147.28 153 PKP **PKPdf** **08 41 11.3 +0.5**
PARB Paraibuna 147.28 153 PKP **PKPdf** **08 41 11.3 +0.5**
ROSA Rosais 147.36 357 *e*PKP **PKPbc** **08 41 14.3 +1.4**
MAS01 UHE Manso 147.36 130 PKP **PKPdf** **08 41 11.6 +0.5**
MAS01 UHE Manso 147.36 130 PKP **PKPdf** **08 41 11.6 +0.5**
ANBD Bethesda, Anti 147.42 68 *e*P PKPpre 08 41 04.4
PMAN Manadas 147.44 357 *e*PKP **PKiKP** **08 41 20.6 +5.4**
PCED Cedros 147.47 358 *e*PKP **PKiKP** **08 41 21.3 +5.9**
CALA Caldeira 147.52 358 *e*PKP **PKiKP** **08 41 17.4 +1.9**
TORD Torodi Ar. Bea 147.59 285 **PKPdf** **08 41 10.9 -0.5**
TORD Torodi Ar. Bea 147.59 285 PKPbc **PKPdf** **08 41 12.0 +0.6**
comp=Z,20nm,0.6s,baz=45,slow=3.2,SNR=30

PICO Pico 147.59 357 *e*PKP **PKPbc** **08 41 13.9 +0.3**
GDHS Morne Mazeau, 147.62 69 IAMs_20 IAMs_20 09 49 00.5
comp=Z,4µm,21.0s

PID Ribeirinha 147.63 357 *e*PKP **PKPab** **08 41 21.1 +5.3**
BB19B Bebedouro 147.76 147 PKP **PKPdf** **08 41 12.2 +0.5**
BB19B Bebedouro 147.76 147 PKP **PKPdf** **08 41 12.2 +0.5**
ITRB Iturama 147.78 143 PKP **PKPdf** **08 41 12.2 +0.5**
ITRB Iturama 147.78 143 PKP **PKPdf** **08 41 12.2 +0.5**
CBE Ff, Capester 147.82 69 PKPbc **PKPdf** **08 41 14.4 +2.6**
ABD La Joyeuse, An 147.83 69 IAMs_20 IAMs_20 09 40 14.0
comp=Z,3µm,21.0s

TDBA Terre de Bas, 147.85 70 **PKPdf** **08 41 14.2 +2.4**
PSET Sete Cidades 148.03 353 *e*PKP **PKPbc** **08 41 15.6 +0.9**
PGRON Lagoa das Cont 148.04 352 *e*PKP **PKPab** **08 41 22.3 +4.8**
CMLA Cha da Macela 148.06 353 *e*PKP **PKPbc** **08 41 16.3 +1.5**
DSLB Salisbury 148.15 70 *e*P **PKPdf** **08 41 10.4 -2.0**

MAGL Barre d'ile 148.16 69 IAMs_20 IAMs_20 09 37 55.7
comp=Z,4µm,22.0s

MDN Morne-Daniel 148.21 71 *e*P PKPdf 08 41 04.4 -8.0
DWS Wesley 148.22 70 *e*P **PKPbc** **08 41 16.4 +0.6**
GDSD La Dsirade Is 148.26 69 **PKPdf** **08 41 15.3 +2.8**
DLPL La Plaine 148.34 70 *e*P PKPdf 08 41 04.4 -8.3
MAN01 Angra dos Reis 148.40 156 PKP **PKPdf** **08 41 11.8 -0.9**
MAN01 Angra dos Reis 148.40 156 PKP **PKPdf** **08 41 11.8 -0.9**
MACA Manacapuru-AM 148.42 106 PKPbc **PKPdf** **08 41 15.7 +2.8**
MACA Manacapuru-AM 148.42 106 PKP **PKPdf** **08 41 12.3 -0.6**
MACA Manacapuru-AM 148.42 106 PKP **PKPdf** **08 41 12.3 -0.6**
PDRB Porto dos Gac 148.51 124 PKP **PKPdf** **08 41 12.4 -0.1**
PDRB Porto dos Gac 148.51 124 PKP **PKPdf** **08 41 12.9 -0.1**
SVN Savane Anatole 148.53 71 IAMs_20 IAMs_20 09 47 57.8
comp=Z,3µm,22.0s

GRGR Grenville 148.56 77 IAMs_20 IAMs_20 09 51 55.0
comp=Z,3µm,20.0s

GRGR Grenville 148.56 77 *e*P PKPdf 08 41 01.4 -12
FDF Fort de France 148.57 72 PKPdf **PKPdf** **08 41 10.4 -2.7**
FDF PKPbc **PKPbc** **08 41 17.0 +0.2**
FDF IAMs_20 IAMs_20 09 54 12.9
comp=Z,3µm,20.0s

FDF Fort de France 148.57 72 PKHKP PKPpre 08 41 10.4
FDF 08 41 17.0
BIM Bigot 148.69 72 PKPdf **PKPdf** **08 41 10.7 -2.5**
BIM PKPbc **PKPbc** **08 41 16.6 -0.4**
BIM IAMs_20 IAMs_20 09 40 17.2
comp=Z,3µm,21.0s

PSMN Pico do Norte, 148.75 352 *e*PKP **PKPbc** **08 41 15.8 -0.8**
ILAM Ilet Lapin Mar 148.82 71 PKPbc **PKPbc** **08 41 17.2 -0.1**
ILAM IAMs_20 IAMs_20 09 46 41.4
comp=Z,3µm,21.0s

TPP Pointe-a-Pierr 148.98 80 *e*P **PKPdf** **08 41 14.2 +0.5**
TRN Trinidad (W) 148.99 79 *e*P **PKPdf** **08 41 16.8 +3.1**
VAS01 Vassouras-RJ 149.14 156 PKP **PKPdf** **08 41 14.3 +0.4**
VAS01 Vassouras-RJ 149.14 156 PKP **PKPdf** **08 41 14.3 +0.4**
TBH Brigand Hill 149.34 80 *e*P **PKPdf** **08 41 17.6 +3.2**
CANS Sao Roque de M 149.52 149 PKP **PKPdf** **08 41 14.8 +0.2**
CANS Sao Roque de M 149.52 149 PKP **PKPdf** **08 41 14.8 +0.2**
TPR Prospect 149.54 78 *e*P **PKPdf** **08 41 17.6 +2.9**
CLDB Colider 149.67 123 PKP **PKPdf** **08 41 14.9 0.0**
CLDB Colider 149.67 123 PKP **PKPdf** **08 41 14.9 0.0**
BSCB Bom Sucesso 149.69 153 PKP **PKPdf** **08 41 14.7 -0.2**
BSCB Bom Sucesso 149.69 153 PKP **PKPdf** **08 41 14.7 -0.2**
SIM2 UHE Simplicio 149.72 157 PKP **PKPdf** **08 41 15.1 +0.3**
SIM2 UHE Simplicio 149.72 157 PKP **PKPdf** **08 41 15.1 +0.3**
DUB01 Friburgo-RJ 149.74 158 PKP **PKPdf** **08 41 15.0 +0.2**
DUB01 Friburgo-RJ 149.74 158 PKP **PKPdf** **08 41 15.0 +0.2**
BOAV Boa Vista 149.75 96 **PKPdf** **08 41 15.0 -0.1**
BOAV Boa Vista 149.75 96 PKP **PKPdf** **08 41 14.4 -0.6**
BOAV Boa Vista 149.75 96 PKP **PKPdf** **08 41 14.4 -0.6**
ITU3 Corumbazu 149.82 143 PKP **PKPdf** **08 41 15.0 0.0**
ITU3 Corumbazu 149.82 143 PKP **PKPdf** **08 41 15.0 0.0**
ACRG Accra 149.96 271 PKPdf **PKPdf** **08 41 12.5 -2.9**
ACRG **PKPbc** **08 41 18.9 -1.3**
ACRG PKPab **PKPab** **08 41 25.1 -0.9**
PMPST Porto Santo, M 150.04 336 *e*PKPdf **PKPdf** **08 41 12.5 -2.4**
CAM01 Campos-RJ 150.23 159 PKP **PKPdf** **08 41 15.7 +0.2**
CAM01 Campos-RJ 150.23 159 PKP **PKPdf** **08 41 15.7 +0.2**
IPMB Ipameri, GO 150.39 144 PKP **PKPdf** **08 41 15.7 -0.3**
IPMB Ipameri, GO 150.39 144 PKP **PKPdf** **08 41 15.7 -0.3**
PMAR Madeira 150.58 336 *e*PKPdf **PKPdf** **08 41 15.0 -1.1**
PMOZ Porto Moniz, M 150.60 337 *e*PKPdf **PKPdf** **08 41 15.4 -0.6**
PMOZ *e*PP **PP** **08 45 03.3 +6.6**
PMOZ *e*SS SS 09 04 46.2 +34
PMOZ *e*LR LR 09 39 53.9
PMOZ *i* IAMs_20 IAMs_20 09 45 26.5
comp=Z,2µm,24.0s

SFA1 Serra Facao 150.70 145 PKP **PKPdf** **08 41 16.6 +0.1**
SFA1 Serra Facao 150.70 145 PKP **PKPdf** **08 41 16.6 +0.1**
PMNB Patos De Minas 150.94 147 PKP **PKPdf** **08 41 16.1 -0.8**
PMNB Patos De Minas 150.94 147 PKP **PKPdf** **08 41 16.1 -0.8**
BAT3 Ipameri 151.25 144 PKP **PKPdf** **08 41 12.2 -5.1**
BAT3 Ipameri 151.25 144 PKP **PKPdf** **08 41 12.2 -5.1**
BAT2 UHE Batalha 151.32 144 PKP **PKPdf** **08 41 17.2 -0.2**
BAT2 UHE Batalha 151.32 144 PKP **PKPdf** **08 41 17.2 -0.2**
NPGB Novo Progresso 151.93 117 PKP **PKPdf** **08 41 18.1 -0.3**
NPGB Novo Progresso 151.93 117 PKP **PKPdf** **08 41 18.1 -0.3**
BDFB Brasilia 152.32 141 **PKPdf** **08 41 18.8 -0.2**
BDFB PKPbc **PKPbc** **08 41 25.8 0.0**
BDFB PKPab **PKPab** **08 41 35.3 -0.4**
BDFB Brasilia 152.32 141 PKP **PKPdf** **08 41 19.2 +0.2**
comp=Z,40nm,0.9s,baz=203,slow=2.0,SNR=36

BDFB PKPbc **PKPbc** **08 41 25.8 0.0**
comp=Z,40nm,0.9s,baz=180,slow=2.3,SNR=54

BDFB Brasilia 152.32 141 PKIKP **PKPdf** **08 41 18.8 -0.2**
BDFB 08 41 25.8
BDFB 08 41 35.3
BDFB Brasilia 152.32 141 PKP **PKPdf** **08 41 18.9 -0.1**
BDFB Brasilia 152.32 141 PKP **PKPdf** **08 41 18.9 -0.1**
DIAM Diamantina, MG 152.54 152 PKP **PKPdf** **08 41 19.4 0.0**
DIAM Diamantina, MG 152.54 152 PKP **PKPdf** **08 41 19.4 0.0**
SNDB Serra Nova Dou 152.61 131 PKP **PKPdf** **08 41 19.1 -0.2**
SNDB Serra Nova Dou 152.61 131 PKP **PKPdf** **08 41 19.1 -0.2**
ITTB Itaituba 152.69 112 PKP **PKPdf** **08 41 19.1 -0.4**
ITTB Itaituba 152.69 112 PKP **PKPdf** **08 41 19.1 -0.4**
RIB01 Linhares ES 153.00 159 PKP **PKPdf** **08 41 20.4 +0.6**
RIB01 Linhares ES 153.00 159 PKP **PKPdf** **08 41 20.4 +0.6**
JQT1 Jequitai-MG 153.11 149 PKP **PKPdf** **08 41 19.5 -0.6**
JQT1 Jequitai-MG 153.11 149 PKP **PKPdf** **08 41 19.5 -0.6**
SJMB Sao Joao De Ma 153.26 157 PKP **PKPdf** **08 41 19.7 -0.5**
SJMB Sao Joao De Ma 153.26 157 PKP **PKPdf** **08 41 19.7 -0.5**
MC01 Montes Claros 153.77 149 PKP **PKPdf** **08 41 20.7 -0.4**
MC01 Montes Claros 153.77 149 PKP **PKPdf** **08 41 20.7 -0.4**
CAN3 Cana Brava 154.01 137 PKP **PKPdf** **08 41 21.0 -0.4**
CAN3 Cana Brava 154.01 137 PKP **PKPdf** **08 41 21.0 -0.4**
SSV2 Sao Salvador 154.24 137 PKP **PKPdf** **08 41 21.2 -0.5**
SSV2 Sao Salvador 154.24 137 PKP **PKPdf** **08 41 21.2 -0.5**
DBIC Dimbokro 154.60 273 PKPdf **PKPdf** **08 41 20.7 -1.5**
DBIC Dimbokro 154.60 273 PKP **PKPdf** **08 41 22.7 +0.5**
comp=Z,6.1nm,0.8s,baz=297,slow=0.5,SNR=6.3

DBIC PKPbc **PKPbc** **08 41 31.4 +0.7**
comp=Z,11nm,0.7s,baz=158,slow=1.3,SNR=12

DBIC PKPab **pPKPbc** **08 41 44.3 -1.4**
comp=Z,13nm,0.6s,baz=80,slow=3.6,SNR=6.4

DBIC Dimbokro 154.60 273 PKP **PKPdf** **08 41 22.0 -0.2**
DBIC Dimbokro 154.60 273 PKP **PKPdf** **08 41 22.0 -0.2**
CAR01 Carai MG 154.66 155 PKP **PKPdf** **08 41 21.9 -0.4**
CAR01 Carai MG 154.66 155 PKP **PKPdf** **08 41 21.9 -0.4**
JANB Januaria 154.95 147 PKP **PKPdf** **08 41 22.1 -0.6**
JANB Januaria 154.95 147 PKP **PKPdf** **08 41 22.1 -0.6**
MAL2 Monte Alegre, 154.96 108 PKPdf **PKPdf** **08 41 21.3 -1.4**
MAL2 PKPbc **pPKPdf** **08 41 28.5 -9.3**
MAL2 PKPab pPKPbc 08 41 46.5 +0.1
**MAL2 Monte Al

NBAN	**Anadia - AL**	**163.38**	**159**	PKP	**PKPdf**	**08 41 31.5**	**-1.0**
NBAN	**Anadia - AL**	**163.38**	**159**	PKP	**PKPdf**	**08 41 31.5**	**-1.0**
NBMA	**Muriti-CE**	**164.33**	**148**	PKP	**PKPdf**	**08 41 33.3**	**-0.1**
NBMA	**Muriti-CE**	**164.33**	**148**	PKP	**PKPdf**	**08 41 33.3**	**-0.1**
NBPS	**Pedro II - PI**	**164.90**	**133**	PKP	**PKPdf**	**08 41 33.8**	**-0.2**
NBPS	**Pedro II - PI**	**164.90**	**133**	PKP	**PKPdf**	**08 41 33.8**	**-0.2**
NBPB	**Pedra_Branca-C**	**165.33**	**141**	PKP	**PKPdf**	**08 41 33.6**	**-0.7**
NBPB	**Pedra_Branca-C**	**165.33**	**141**	PKP	**PKPdf**	**08 41 33.6**	**-0.7**
SBBR	**Sobral**	**166.19**	**134**	PKP	**PKPdf**	**08 41 34.8**	**-0.2**
SBBR	**Sobral**	**166.19**	**134**	PKP	**PKPdf**	**08 41 34.8**	**-0.2**
NBPA	**Parau_RN**	**166.55**	**150**	PKP	**PKPdf**	**08 41 35.7**	**+0.5**
NBPA				PKP	pPKPdf	08 41 36.0	-14
NBPA	**Parau_RN**	**166.55**	**150**	PKP	**PKPdf**	**08 41 35.7**	**+0.5**
NBPA				PKP	pPKPdf	08 41 36.0	-14
NBMO	**Morrinhos-CE**	**166.66**	**134**	PKP	**PKPdf**	**08 41 34.6**	**-0.7**
NBMO	**Morrinhos-CE**	**166.66**	**134**	PKP	**PKPdf**	**08 41 34.6**	**-0.7**
NBPV	**Pedro Velho**	**166.74**	**158**	PKP	**PKPdf**	**08 41 36.1**	**+0.8**
NBPV	**Pedro Velho**	**166.74**	**158**	PKP	**PKPdf**	**08 41 36.1**	**+0.8**
RCBR	**Riachuelo**	**167.04**	**155**	PKP	**PKPdf**	**08 41 36.7**	**+1.0**
RCBR	**Riachuelo**	**167.04**	**155**	PKP	**PKPdf**	**08 41 36.7**	**+1.0**
NBCL	**Cascavel-CE**	**167.15**	**142**	PKP	**PKPdf**	**08 41 36.3**	**+0.6**
NBCL	**Cascavel-CE**	**167.15**	**142**	PKP	**PKPdf**	**08 41 36.3**	**+0.6**

ASRS 15 08:25:29.0±0.9, 53°67′N×86°76′E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

ASRS 15 08:25:46.0±1.0, 53°93′N×86°56′E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

IDC 15 08:35:47.1±3.4, 53°48′N×90°70′E, h0km, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=27.5km s-min=22.8km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.53**	**280**	I	I	08 57 25.0	
	0.2nm,1.2s,baz=92,slow=306,SNR=12						
ZALV	**Zalesovo Beam**	**3.53**	**280**	Pn	Pn	08 36 43.0	-0.1
	1.6nm,0.4s,baz=93,slow=14,SNR=1.3						
ZALV				Lg	Lg	08 37 40.2	
	1.7nm,0.3s,baz=91,slow=25,SNR=6.5						
KURBB	**Kurchatov Arra**	**8.03**	**254**	Pn	Pn	08 37 45.0	+0.1
	0.2nm,0.3s,baz=66,slow=16,SNR=5.4						
KURBB				Sn	Sn	08 39 14.2	-2.1
	0.1nm,0.3s,baz=66,slow=26,SNR=8.7						
KURBB				Lg	Lg	08 40 01.9	
	0.1nm,0.3s,baz=64,slow=33,SNR=6.7						
	3.6nm,0.7s						
MKAR	**Makanchi Array**	**8.60**	**222**	Pn	Pn	08 37 53.6	+0.9
	0.4nm,0.3s,baz=36,slow=14,SNR=6.4						
MKAR				Sn	Sn	08 39 28.2	-2.1
	0.1nm,0.3s,baz=41,slow=16,SNR=3.0						
MKAR				Lg	Lg	08 40 21.5	
	baz=39,slow=25,SNR=5.3						
	0.8nm,0.4s						
SONM	**Songino Array**	**11.44**	**113**	Lg	Lg	08 41 37.2	
	0.1nm,0.3s,baz=306,slow=25,SNR=5.8						

*IDC **15** 08:38:44.6±1.0, 36°.01N×117°.81W, h0km, mb3.1/1, mbtmp3.3/5, ML3.4/4, Error ellipse: s-maj=20.0km s-min=7.1km az=73.0*

*NEIC **15** 08:38:44.8±1.2, 36°.061N±0°.008×117°.84W±0°.01, h4km±1km, Error ellipse: s-maj=1.3km s-min=1.1km az=105.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr=0.42; Mθθ=1.05; Mϕϕ=1.46; Mrθ=0.22; Mrϕ=0.45; Mθϕ=0.10; Fault plane solution: M0=1.40000×10^15^ NP1:φs=325.61000°, δ76.58000°, λ=-172.06000°. NP2: φs=233.76000°, δ82.28000°, λ=-13.55000°. Principal axes: T 1.5495, Plg4.0000°, Azm280.0000°; N -0.3708, Plg74.0000°, Azm25.0000°; P -1.1787, Plg15.0000°, Azm189.0000°;*

*PAS **15** 08:38:45.3±1.3, 36°.056N±0°.008×117°.85W±0°.01, h2km±2km, Mwr4.2/4, mb4.4/9(NEIC), ML3.9/164(NEIC), Mwr4.0/206(NEIC) Error ellipse: s-maj=1.2km s-min=1.1km az=91.0*

*NEIC **15** 08:38:45.3, 36°.06N×117°.85W, h2km*

ISC 15 08:38:45.1±0.7, 36°.05N±0°.01×117°.85W±0°.02, h7km±4km, n155, σθ67/174, mb4.3/6, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRVM	**Rose V. Centra**	**0.06**	**221**		**Pg**	**08 38 46.7**	**-0.2**
WRVM					**Sg**	**08 38 47.8**	**-0.2**
MFS	**McCloud Flat S**	**0.07**	**353**		**Pg**	**08 38 46.7**	**-0.3**
MFS					**Sg**	**08 38 48.1**	**-0.3**
WCSM	**Coso Springs S**	**0.07**	**111**		**Pg**	**08 38 47.0**	**0.0**
WCSM					**Sg**	**08 38 48.3**	**0.0**
JRC2	**Joshua Ridge**	**0.07**	**157**		**Pg**	**08 38 47.1**	**0.0**
JRC2					**Sg**	**08 38 48.5**	**-0.1**
WVPM	**Volcano Peak E**	**0.10**	**167**		**Pg**	**08 38 47.6**	**+0.1**
WVPM					**Sg**	**08 38 49.4**	**+0.3**
WNMM	**Nine Mile Cany**	**0.21**	**193**		**Pg**	**08 38 49.5**	**+0.2**
WNMM					**Sg**	**08 38 52.9**	**+0.7**
TOW	**Tower One**	**0.25**	**165**		**Pg**	**08 38 50.8**	**+0.8**
TOW					**Sb**	**08 38 55.5**	**-1.1**
MPMC	**Manual Prospec**	**0.29**	**88**	Pg	**Pg**	**08 38 51.1**	**+0.2**
MPMC				Sg	**Sg**	**08 38 55.7**	**+1.0**
MPMC				IAML		08 38 57.0	
	comp=E,10μm,0.8s						
SRTC	**Snort**	**0.37**	**168**		**Pb**	**08 38 53.0**	**-1.0**
SRTC					**Sb**	**08 38 59.4**	**-0.6**
CWC	**Cottonwood Cre**	**0.43**	**334**		**Pg**	**08 38 53.5**	**-0.1**
CWC					**Sg**	**08 38 59.7**	**+0.4**
CWC				IAML		08 38 59.9	
	comp=E,11μm,0.4s						
CWC				IAML		08 39 03.7	
	comp=N,8μm,0.2s						
WORM	**Onyx Ranch**	**0.48**	**222**		**Pg**	**08 38 54.4**	**0.0**
WORM					**Sg**	**08 39 01.0**	**+0.4**
CGO	**Cerro Gordo**	**0.50**	**4**		**Pg**	**08 38 54.6**	**-0.2**
CGO					**Sg**	**08 39 01.9**	**+0.5**
WSHM	**Spangler Hills**	**0.53**	**147**		**Pg**	**08 38 55.6**	**+0.2**
WSHM					**Sg**	**08 39 03.4**	**+1.1**
WSHM				IAML		08 39 03.7	
	comp=N,10μm,0.6s						
WSHM				IAML		08 39 04.0	
	comp=N,12μm,0.3s						
WHFM	**Hanning Flat**	**0.54**	**229**		**Pg**	**08 38 55.6**	**0.0**
WHFM					**Sg**	**08 39 03.2**	**+0.6**
WBSM	**Bird Springs**	**0.57**	**205**		**Pg**	**08 38 56.1**	**+0.1**
WBSM					**Sg**	**08 39 04.1**	**+0.6**
LRMC	**Laurel Mtn Rad**	**0.58**	**167**		**Pg**	**08 38 56.6**	**+0.2**
LRMC					**Sg**	**08 39 04.8**	**+0.8**
LRMC				IAML		08 39 05.6	
	comp=E,11μm,0.6s						
LRMC				IAML		08 39 09.4	
	comp=N,5μm,0.5s						
ISA	**Isabella, Lake**	**0.64**	**233**		**Pg**	**08 38 57.4**	**0.0**
ISA				Sg	**Sg**	**08 39 06.2**	**+0.4**
CCCA	**Chr Cany lake**	**0.65**	**143**		**Pb**	**08 38 58.3**	**-0.6**
CCCA					**Sb**	**08 39 08.2**	**-0.1**
WASM	**Alta Sierra Ca**	**0.66**	**242**		**Pg**	**08 38 57.8**	**0.0**
SPG2	**Springville 2**	**0.76**	**282**		**Pg**	**08 38 59.3**	**-0.4**
SPG2					**Sg**	**08 39 09.3**	**-0.4**
DTP	**Desert Tortois**	**0.78**	**180**		**Pg**	**08 39 00.0**	**-0.1**
DTP					**Sg**	**08 39 10.7**	**+0.4**
QSM	**Queen of Sheba**	**0.80**	**96**		**Pg**	**08 39 00.5**	**+0.1**
QSM				IAML		08 39 04.5	
	comp=E,4μm,0.3s						
QSM				IAML		08 39 16.5	
	comp=N,4μm,1.0s						
FURC	**Furnace Creek,**	**0.90**	**62**		**Pb**	**08 39 02.8**	**-0.1**
CCAC	**Calif City Air**	**0.91**	**189**		**Pg**	**08 39 02.4**	**-0.1**
CCAC					**Sb**	**08 39 15.1**	**-0.4**
GWY	**Greenwater Val**	**0.96**	**82**		**Pg**	**08 39 03.6**	**0.0**
GWY					**Sb**	**08 39 16.6**	**-0.6**
GWY				IAML		08 39 20.2	
	comp=N,4μm,0.8s						
GWY				IAML		08 39 22.4	
	comp=E,3μm,0.9s						
GRAC	**Grapevine Rang**	**1.02**	**22**		**Pg**	**08 39 04.4**	**-0.3**
GRAC				IAML		08 39 24.2	
	comp=N,5μm,0.9s						
GRAC				IAML		08 39 27.4	
	comp=E,4μm,0.9s						
VES	**Vestal, Richgr**	**1.03**	**259**		**Pg**	**08 39 04.7**	**-0.2**
VES					**Sb**	**08 39 18.9**	**-0.1**
TIN	**Tinemaha, Big**	**1.05**	**343**		**Pg**	**08 39 05.0**	**-0.2**
TEJ	**El Tejon**	**1.07**	**220**		**Pg**	**08 39 05.1**	**-0.6**
TEJ					**Sg**	**08 39 19.5**	**0.0**
MAGC	**SCE Magundon P**	**1.11**	**232**		**Pg**	**08 39 06.4**	**-0.1**
GSC	**Goldstone, Bar**	**1.13**	**131**		**Pg**	**08 39 06.3**	**-0.4**
GSC				IAML		08 39 25.8	
	comp=E,4μm,0.7s						
GSC				IAML		08 39 28.2	
	comp=N,2μm,0.7s						
SGV	**South Grapevin**	**1.14**	**35**		**Pg**	**08 39 06.0**	**-1.0**
EDW2	**Edwards Air Fo**	**1.17**	**186**		**Pg**	**08 39 06.9**	**-0.7**
EDW2					**Sg**	**08 39 22.7**	**-0.1**
LCH	**Last Change Ra**	**1.19**	**8**		**Pg**	**08 39 07.0**	**-1.0**
HYS	**Haystack Butte**	**1.21**	**169**		**Pg**	**08 39 07.7**	**-0.6**
TPO	**Tropico Hills**	**1.21**	**195**		**Pg**	**08 39 07.8**	**-0.5**
TPO	**Tropico Hills**	**1.21**	**195**		**Sb**	**08 39 24.6**	**+0.3**
TPO	**Tropico Hills**	**1.21**	**195**	IAML		08 39 29.3	
	comp=E,5μm,0.8s						
TPO				IAML		08 39 29.4	
	comp=N,5μm,0.9s						
ARVC	**Arvin**	**1.22**	**221**		**Pg**	**08 39 08.2**	**-0.3**
WCT	**Wildcat Mounta**	**1.23**	**53**		**Pg**	**08 39 08.3**	**-0.4**
WCT				IAML		08 39 28.5	
	comp=E,2μm,1.4s						
BAKC	**Calstate**	**1.24**	**236**		**Pg**	**08 39 08.9**	**-0.1**
BAKC					**Sn**	**08 39 26.3**	**+0.4**
TJR	**Tejon Ranch**	**1.26**	**216**		**Pg**	**08 39 08.4**	**-0.8**
TJR					**Sg**	**08 39 25.6**	**+0.1**
VOG	**Valley Oaks Go**	**1.27**	**283**		**Pg**	**08 39 08.9**	**-0.7**
SHOC	**Shoshone, Teco**	**1.28**	**96**		**Pg**	**08 39 09.1**	**-0.6**
DSP	**Deep Springs**	**1.32**	**356**		**Pg**	**08 39 09.4**	**-1.1**
THC	**Tehachapi Micr**	**1.32**	**211**		**Pg**	**08 39 09.3**	**-1.1**
AMDNV	**Amargosa**	**1.33**	**72**		**Pg**	**08 39 09.6**	**-0.9**
GMN	**Gold Mountain**	**1.33**	**20**		**Pg**	**08 39 09.2**	**-0.8**
BHPR	**Bishop**	**1.35**	**338**		**Pg**	**08 39 10.2**	**-0.8**
POCCA	**Poleta Canyon**	**1.35**	**345**		**Pn**	**08 39 10.8**	**+0.1**
SBB	**Saddle Back Bu**	**1.36**	**179**		**Pn**	**08 39 10.2**	**-0.4**
SBB					**Sn**	**08 39 29.6**	**+0.6**
RRX	**Edison Barstow**	**1.36**	**149**		**Pn**	**08 39 10.8**	**+0.2**
ALPC	**Antelope**	**1.41**	**195**		**Pn**	**08 39 11.3**	**0.0**
LEOC	**Leona Valley**	**1.47**	**195**		**Pn**	**08 39 12.2**	**+0.1**
LRRC	**Littlerock Res**	**1.53**	**186**		**Pn**	**08 39 12.8**	**0.0**
ADO	**Adelanto Recei**	**1.53**	**167**		**Pg**	**08 39 14.8**	**+0.3**
CJV	**Casa Juvan**	**1.54**	**189**		**Pn**	**08 39 13.0**	**-0.1**
TPNV	**Topopah Spring**	**1.57**	**55**		**Pn**	**08 39 13.9**	**+0.3**
TPNV				IAML		08 39 40.6	
	comp=E,1μm,0.9s						
TPNV				IAML		08 39 41.6	
	comp=E,2μm,1.1s						
HOLC	**Holcomb Ridge**	**1.59**	**180**		**Pn**	**08 39 13.7**	**-0.1**
JNH	**Juniper Hills**	**1.60**	**183**		**Pn**	**08 39 13.9**	**-0.1**
OSI	**Osito Audit: C**	**1.60**	**207**		**Pn**	**08 39 14.4**	**+0.4**
OSI				IAML		08 39 44.0	
	comp=N,2μm,0.5s						
TUQ	**Turquoise Moun**	**1.68**	**111**		**Pn**	**08 39 14.7**	**-0.3**
DSCC	**Desert Studies**	**1.68**	**122**		**Pn**	**08 39 14.8**	**-0.2**
MZP	**Montezuma Peak**	**1.69**	**13**		**Pn**	**08 39 15.8**	**+0.4**
BCW	**Bitter Crk WRg**	**1.69**	**230**		**Pb**	**08 39 16.3**	**-0.3**
CHFC	**Chilao Flat St**	**1.72**	**185**		**Pn**	**08 39 15.5**	**-0.1**
CRGC	**Crocker Grade**	**1.73**	**243**		**Pb**	**08 39 17.3**	**0.0**
KCC	**Kaiser Creek**	**1.74**	**317**		**Pb**	**08 39 16.9**	**-0.5**
BENR	**Benton**	**1.76**	**341**		**Pb**	**08 39 17.4**	**-0.6**
MLAC	**Mammoth, Mammo**	**1.77**	**334**		**Pb**	**08 39 18.1**	**+0.1**
MCSM	**Casa Diablo Ho**	**1.81**	**332**		**Pb**	**08 39 18.9**	**+0.1**
BFSC	**Mount Baldy Ra**	**1.81**	**175**		**Pn**	**08 39 16.9**	**0.0**
BFSC				IAML		08 39 45.2	
	comp=E,1μm,0.8s						
BFSC				IAML		08 39 47.0	
	comp=N,855nm,0.8s						
OAT	**Oat Mountain**	**1.82**	**201**		**Pn**	**08 39 17.6**	**+0.7**
MWC	**Mount Wilson**	**1.83**	**186**		**Pn**	**08 39 17.4**	**+0.2**
MWC				IAML		08 39 45.8	
	comp=E,1μm,1.1s						
MWC				IAML		08 39 46.8	
	comp=N,1μm,0.6s						
SSK	**Sunset Peak**	**1.84**	**176**		**Pn**	**08 39 17.6**	**+0.3**
SIL	**Silver Peak**	**1.89**	**154**		**Pn**	**08 39 18.0**	**0.0**
PASC	**Pasadena Art C**	**1.90**	**189**		**Pn**	**08 39 18.3**	**+0.4**
PASC				IAML		08 39 49.1	
	comp=E,687nm,0.9s						
SMMC	**Simmler**	**1.90**	**248**		**Pb**	**08 39 19.5**	**-0.6**
BLCC	**Black Canyon**	**1.93**	**201**		**Pn**	**08 39 19.1**	**+0.7**
BBRC	**Big Bear Solar**	**1.94**	**157**		**Pg**	**08 39 21.7**	**-0.6**
MTPC	**Mountain Pass**	**1.95**	**106**		**Pn**	**08 39 18.4**	**-0.4**
MTPC				IAML		08 39 50.8	
	comp=N,591nm,1.4s						
PSRC	**Puddingstone R**	**1.96**	**179**		**Pn**	**08 39 19.4**	**+0.6**
DJJ	**Donna J Jenkin**	**2.00**	**195**		**Pn**	**08 39 19.8**	**+0.4**
SVD	**Seven Oaks Dam**	**2.03**	**162**		**Pb**	**08 39 23.1**	**+0.7**
TPH	**Tonopah**	**2.08**	**14**		**Pn**	**08 39 21.2**	**+0.6**
RVR	**Riverside**	**2.09**	**169**		**Pn**	**08 39 20.9**	**+0.3**
GMRC	**Granite Mounta**	**2.19**	**125**		**Pn**	**08 39 21.4**	**-0.7**
PKD	**Bear Valley Ra**	**2.19**	**268**		**Pn**	**08 39 23.4**	**+1.4**
SHPR	**Sheep Range**	**2.22**	**77**		**Pn**	**08 39 23.2**	**+0.7**
LHV	**Little Huntoon**	**2.26**	**347**	Pn	**Pn**	**08 39 23.2**	**+0.3**
LHV				IAML		08 40 03.1	
	comp=E,942nm,1.2s						
LHV				IAML		08 40 07.6	
	comp=N,650nm,1.5s						
BLAC	**Blackrock camp**	**2.31**	**148**		**Pn**	**08 39 23.9**	**+0.1**
S11A	**Rachel**	**2.31**	**46**		**Pn**	**08 39 24.4**	**+0.5**
RPV	**Rancho Palos V**	**2.35**	**191**		**Pn**	**08 39 24.8**	**+0.7**
NV11	**Mina Array Sit**	**2.39**	**354**		**Pn**	**08 39 25.9**	**+1.0**
PMPB	**Monarch Peak**	**2.40**	**275**		**Pn**	**08 39 26.4**	**+1.5**
NVAR	**Mina Array Bea**	**2.40**	**351**		**Pn**	**08 39 25.7**	**+0.6**
NVAR	**Mina Array Bea**	**2.40**	**351**	Pn	**Pn**	**08 39 26.7**	**+1.6**
	comp=N,3.0nm,0.3s,baz=175,slow=11,SNR=51						
NVAR				Lg	Lg	08 40 01.3	
	comp=N,17nm,0.3s,baz=158,slow=17,SNR=6.7						
	comp=N,27nm,0.7s						
EW2	**E Wide Canyon**	**2.41**	**150**		**Pn**	**08 39 25.3**	**+0.2**
ELS	**Elsinore Mount**	**2.42**	**172**		**Pn**	**08 39 25.6**	**+0.4**
ELS				IAML		08 40 08.1	
	comp=E,495nm,1.4s						
TPC	**Twentynine Pal**	**2.44**	**142**		**Pn**	**08 39 25.3**	**-0.1**
HMTC	**Hemet**	**2.44**	**163**		**Pn**	**08 39 25.7**	**+0.3**
V12A	**Nelson**	**2.45**	**97**		**Pn**	**08 39 25.7**	**0.0**
V12A				IAML		08 40 09.3	
	comp=N,328nm,1.6s						
DANC	**Danby, Needles**	**2.46**	**124**		**Pn**	**08 39 25.4**	**-0.3**
POB	**Polly Butte**	**2.48**	**162**		**Pn**	**08 39 26.4**	**+0.4**
DGR	**Domenigoni Val**	**2.49**	**164**		**Pn**	**08 39 26.5**	**+0.4**
PRN	**Pahroc Range**	**2.62**	**58**		**Pn**	**08 39 28.5**	**+0.5**
PRN				IAML		08 40 17.2	
	comp=N,529nm,1.5s						
PRN				IAML		08 40 34.0	
	comp=E,750nm,1.1s						
RYN	**Ryan**	**2.63**	**348**		**Pn**	**08 39 28.9**	**+0.7**
RYN				IAML		08 40 16.9	
	comp=E,335nm,1.5s						
BBGB	**Big Mountain B**	**2.63**	**282**		**Pn**	**08 39 29.1**	**+0.9**
PMD	**Palm Desert**	**2.68**	**153**		**Pn**	**08 39 28.6**	**-0.2**
PMD				IAML		08 40 15.8	
	comp=E,290nm,1.5s						
PFO	**Pinyon Flats O**	**2.69**	**155**		**Pn**	**08 39 28.9**	**0.0**
PFO				IAML		08 40 21.0	
	comp=E,317nm,1.4s						
PFO	**Pinyon Flats O**	**2.69**	**155**	Pn	**Pn**	**08 39 28.9**	**0.0**
	comp=E,2.9nm,0.3s,baz=342,slow=15,SNR=51						
PFO				Lg	Lg	08 40 07.7	
	comp=E,38nm,0.3s,baz=245,slow=15,SNR=8.5						
	comp=E,11nm,0.3s						
WAKR	**Walker**	**2.76**	**333**	Pn	**Pn**	**08 39 30.7**	**+0.7**
WAKR				IAML		08 40 20.8	
	comp=E,417nm,1.4s						
WAKR				IAML		08 40 21.6	
	comp=N,304nm,0.8s						
Q09A	**Carvers**	**2.83**	**11**	Pn	**Pn**	**08 39 31.1**	**+0.2**
CMB	**Columbia Colle**	**2.84**	**315**	Pn	**Pn**	**08 39 31.3**	**+0.3**
CMB				IAML		08 40 17.2	
	comp=E,590nm,0.6s						
R11B	**Troy Canyon, C**	**2.92**	**38**	Pn	**Pn**	**08 39 32.9**	**+0.7**
R11B				IAML		08 40 20.0	
	comp=E,295nm,1.5s						
NEE2	**Needles Airpor**	**2.93**	**115**		**Pn**	**08 39 32.0**	**-0.1**
NEE2				IAML		08 40 28.2	
	comp=N,563nm,0.7s						
NEE2				IAML		08 40 32.1	
	comp=E,500nm,0.7s						
SAO	**San Andreas Ge**	**2.99**	**285**		**Pn**	**08 39 33.9**	**+0.9**
BORC	**Borrego Spring**	**3.02**	**157**		**Pn**	**08 39 33.5**	**+0.1**
BORC				IAML		08 40 24.5	
	comp=N,387nm,0.9s						
BORC				IAML		08 40 24.8	
	comp=E,697nm,0.8s						
DPP	**Dos Picos Cty**	**3.13**	**166**		**Pn**	**08 39 35.4**	**+0.4**
DPP				IAML		08 40 28.6	
	comp=E,243nm,0.8s						
SALN	**Salton City**	**3.16**	**150**	Pn	**Pn**	**08 39 34.3**	**-1.0**
W13A	**Hualapai Mount**	**3.36**	**105**		**Pn**	**08 39 38.5**	**+0.2**
W13A				IAML		08 40 50.6	
	comp=N,153nm,1.1s						
BLYC	**Blythe**	**3.57**	**129**		**Pn**	**08 39 40.2**	**-0.7**
BLYC				IAML		08 40 46.1	
	comp=E,139nm,1.2s						
BLYC				IAML		08 40 53.5	
	comp=N,149nm,0.9s						
TJX	**Tijuana**	**3.59**	**169**	Pn	**Pn**	**08 39 39.6**	**-1.7**
TKX	**Tecate**	**3.62**	**163**		**Pn**	**08 39 42.2**	**+0.5**
TKX				IAML		08 40 39.5	
	comp=E,159nm,0.8s						
MPK	**Martis Peak**	**3.67**	**332**	Pn	**Pn**	**08 39 42.9**	**+0.3**
YUH	**Yuha Desert**	**3.75**	**154**		**Pn**	**08 39 43.1**	**-0.3**
AFDM	**Forest Hills D**	**3.81**	**320**	Pn	**Pn**	**08 39 44.5**	**+0.2**
LCMT	**Little Creek M**	**3.83**	**74**		**Pn**	**08 39 45.9**	**+1.3**
PAHR	**Pah Rah Range**	**3.85**	**342**	Pn	**Pn**	**08 39 45.1**	**+0.3**
PAHR				IAML		08 40 57.5	
	comp=E,122nm,1.4s						
CBX	**Cerro Bola**	**3.85**	**165**		**Pn**	**08 39 46.0**	**+1.0**
GLA	**Glamis**	**3.89**	**139**	IAML		08 40 52.7	
	comp=E,312nm,0.6s						
GLA				IAML		08 40 57.1	
	comp=N,231nm,1.0s						
PSUT	**Pine Spring**	**4.03**	**51**	IAML		08 41 00.3	
	comp=N,283nm,1.4s						
PSUT				IAML		08 41 03.9	
	comp=E,240nm,1.3s						
SPR3	**Spring Creek 3**	**4.06**	**42**	IAML		08 40 59.5	
	comp=E,157nm,1.8s						
SPR3				IAML		08 41 02.0	
	comp=N,151nm,0.9s						
KNB	**Kanab**	**4.16**	**75**	IAML		08 41 14.0	
	comp=N,80nm,1.8s						
KNB				IAML		08 41 25.2	
	comp=E,96nm,1.6s						
CCX	**Cicese**	**4.29**	**166**	IAML		08 41 06.3	
	comp=E,137nm,0.9s						
CCX				IAML		08 41 07.5	
	comp=N,102nm,0.9s						
ESJX	**Sierra Juarez**	**4.33**	**158**	IAML		08 41 04.4	
	comp=N,72nm,1.2s						
Y14A	**Wickenburg**	**4.50**	**117**	IAML		08 41 15.0	
	comp=E,94nm,0.9s						
Y14A				IAML		08 41 19.9	
	comp=N,119nm,1.1s						
U15A	**North Rim**	**4.50**	**84**	IAML		08 41 21.6	
	comp=N,97nm,1.1s						
U15A				IAML		08 41 23.0	
	comp=E,117nm,1.1s						
MCCM	**Marconi Confer**	**4.54**	**299**	IAML		08 41 07.7	
	comp=N,124nm,1.4s						
MCCM				IAML		08 41 28.8	
	comp=E,134nm,1.4s						
ELK	**Elko**	**5.11**	**23**	Pn	**Pn**	**08 40 03.9**	**+1.5**
	comp=E,1.2nm,0.3s,baz=209,slow=12,SNR=22						
ELK				Pg	**Pb**	**08 40 17.5**	**+2.5**
	comp=E,4.4nm,0.3s,baz=224,slow=15,SNR=24						
ELK				Lg	Lg	08 41 26.6	
	comp=E,4.3nm,0.3s,baz=289,slow=20,SNR=10						
	comp=E,2.2nm,0.3s						
PIX	**Pinacate**	**5.78**	**140**	Pn	**Pn**	**08 40 11.1**	**-0.2**
KCPM	**Cahto Peak**	**5.81**	**310**	Pn	**Pn**	**08 40 11.4**	**-0.4**
214A	**Organ Pipe Nat**	**5.84**	**133**	Pn	**Pn**	**08 40 11.8**	**-0.4**
YBH	**Yreka Blue Hor**	**6.82**	**328**	Pn	**Pn**	**08 40 29.6**	**+3.9**
	baz=185,slow=6.9,SNR=3.8						
YBH				Lg	Lg	08 42 16.6	
	baz=96,slow=9.3,SNR=5.4						
TXAR	**Lajitas Array**	**13.68**	**115**	Pn	**Pn**	**08 42 00.4**	**+0.7**
	comp=E,0.1nm,0.3s,baz=304,slow=15,SNR=1.4						
	comp=E,0.3nm,0.5s						
FFC	**Flin Flon**	**21.65**	**25**	P	**P**	**08 43 35.7**	**-0.3**
HALT	**Halls**	**23.04**	**82**	P	**P**	**08 43 49.7**	**-1.2**
TABL	**Table Mountain**	**28.61**	**336**	P	**P**	**08 44 42.8**	**+0.7**
M30M	**Minto, Yukon**	**29.05**	**342**	P	**P**	**08 44 45.6**	**-0.1**
ERPA	**Erie**	**29.83**	**67**	P	**P**	**08 44 52.4**	**-0.5**
ERPA				IAmb	IAmb	08 45 18.3	
	comp=Z,7.1nm,0.9s						
VRDI	**Verde Repeater**	**29.96**	**335**	P	**P**	**08 44 53.8**	**-0.3**
VRDI				IAmb	IAmb	08 45 01.1	
	comp=Z,11nm,1.4s						
Q56A	**Snyder Ridge,**	**30.64**	**73**	P	**P**	**08 45 00.6**	**+0.5**
Q56A				IAmb	IAmb	08 45 21.2	
	comp=Z,11nm,1.4s						
DOT	**Dot Lake**	**31.92**	**338**	P	**P**	**08 45 10.0**	**-1.1**
DOT				IAmb	IAmb	08

TSLK S Sb 08 44 34.3 +0.2
LTHK Lithakia 0.71 146 P Pg 08 44 27.5 -0.6
LTHK S Sb 08 44 38.5 +0.9
LTHK Lithakia 0.71 146 P Pg 08 44 27.6 -0.5
LTHK S Sb 08 44 38.6 +0.9
CLEM Kyllini,Ilia,G 0.75 123 P Pb 08 44 29.3 +0.4
CLEM S Sb 08 44 40.1 +1.2
AXS Araxos 0.83 97 P Pb 08 44 30.3 +0.1
AXS S Sn 08 44 42.2 -0.8
RLS Riolos of Patr 0.92 105 P Pg 08 44 31.1 -1.1
RLS S Sn 08 44 45.7 +0.3
RLS Riolos of Patr 0.92 105 P Pn 08 44 32.6 +0.1
RLS S Sn 08 44 46.1 +0.6
AMPL Ampelaki 0.93 48 P Pg 08 44 31.0 -1.2
PVO Paravola 0.99 71 P Pb 08 44 32.7 -0.3
PVO Paravola 0.99 71 P Pn 08 44 33.3 -0.2
PVO S Sn 08 44 47.8 +0.8
UPR University Cam 1.14 90 P Pn 08 44 36.4 +0.9
LFKM Lefkimmi 1.17 349 P Pb 08 44 36.6 +0.6
IGT Igoumenitsa 1.23 360 P Pg 08 44 37.8 -0.2
IGT Igoumenitsa 1.23 360 *e*Pg Pg 08 44 39.1 +1.1
IGT *e*Sg Sn 08 44 58.3 +5.2
IGT Igoumenitsa 1.23 360 P Pg 08 44 38.1 +0.1
IGT S Sg 08 44 53.9 -0.3
EFP Efpalio 1.24 84 P Pb 08 44 36.4 -0.9
EFP Efpalio 1.24 84 P Pg 08 44 38.6 +0.4
EFP S Sn 08 44 55.8 +2.6
TETR Tetrakomo, Epi 1.28 35 P Pg 08 44 38.3 -0.5
TETR Tetrakomo, Epi 1.28 35 P Pg 08 44 38.7 -0.2
TETR S Sn 08 44 57.0 +2.7
ANX Ano Chora 1.28 76 P Pg 08 44 38.4 -0.5
ANX Ano Chora 1.28 76 P Pg 08 44 39.4 +0.4
ANX S Sn 08 44 58.5 +4.1
EVR Evrytania 1.31 61 P Pg 08 44 39.1 -0.4
EVR Evrytania 1.31 61 P Pg 08 44 40.8 +1.3
EVR S Sn 08 44 58.4 +3.3
AMT Artemida-Makis 1.33 125 P Pg 08 44 40.5 +0.6
AMT S Sn 08 44 58.9 +3.4
SERG Sergoula 1.36 85 P Pn 08 44 38.1 -0.5
SERG Sergoula 1.36 85 P Pg 08 44 41.5 +1.1
SERG S Sg 08 45 00.3 +2.2
JAN Janina 1.41 16 P Pg 08 44 41.1 -0.4
KALE Kalithea 1.42 86 P Pn 08 44 39.1 -0.4
KALE Kalithea 1.42 86 P Pg 08 44 41.4 -0.2
KALE S Sg 08 45 01.9 +1.7
KLV Kalavryta, Ach 1.45 100 P Pn 08 44 40.2 +0.4
KLV Kalavryta, Ach 1.45 100 P Pg 08 44 42.5 +0.3
KLV S Sg 08 45 02.6 +1.4
KEK Kerkira 1.47 344 Pn Pn 08 44 40.4 +0.3
KEK Sn Sn 08 44 59.7 +0.7
KEK Kerkira 1.47 344 P Pg 08 44 43.0 +0.4
MAKR Makrakomi, Fth 1.58 63 P Pb 08 44 42.7 -0.3
MAKR Makrakomi, Fth 1.58 63 P Pg 08 44 44.5 -0.1
MAKR S Sg 08 45 05.2 0.0
SRN Sarande 1.60 351 P Pn 08 44 43.2 +1.4
GUR Goura 1.62 102 P Pn 08 44 42.1 -0.1
GUR Goura 1.62 102 P Pg 08 44 44.9 -0.5
GUR S Sg 08 45 07.7 +1.1
ITM Ithomi 1.69 131 Pn Pn 08 44 41.9 -1.1
ITM Sn Sn 08 44 58.6 -5.7
ITM Ithomi 1.69 131 P Pb 08 44 44.3 -0.5
ITM Ithomi 1.69 131 P Pb 08 44 45.1 +0.2
ITM S Sg 08 45 07.9 -0.6
AGG Agios Georgios 1.72 65 P Pn 08 44 44.5 +0.9
AGG Agios Georgios 1.72 65 P Pg 08 44 46.6 -0.7
AGG S Sg 08 45 09.3 -0.4
THL Klokotos Trika 1.82 45 P Pb 08 44 46.1 -1.1
THL Klokotos Trika 1.82 45 P Pb 08 44 47.5 +0.4
THL S Sg 08 45 11.8 -1.0
TYRN Tyrnavos 2.04 46 P Pb 08 44 51.0 0.0
TYRN S Sg 08 45 17.5 -2.5
LTK Loutraki 2.09 97 P Pb 08 44 51.4 -0.4
LTK S Sg 08 45 19.2 -2.4
LKR Lokris 2.12 80 P Pb 08 44 51.1 -1.2
LKR S Sb 08 45 18.4 +0.1
NEST Nestorio 2.18 14 P Pb 08 44 52.4 -1.1
SCTE Santa Cesarea 2.29 321 Pn 08 44 52.6 +1.3
VIL2 Platees 2.31 91 P Pb 08 44 54.0 -1.5
VIL2 S Sb 08 45 24.8 +1.0
FNA Florina 2.61 18 Pn Pn 08 44 55.5 -0.3
FNA Florina 2.61 18 *e*Pg Pn 08 44 58.0 +2.2
TIP Timpagrande 2.93 289 Pn Pn 08 45 01.3 +1.0
TIP Timpagrande 2.93 289 P Pn 08 45 02.2 +2.0
CEL Celeste 3.50 271 Pn Pn 08 45 08.0 0.0
CEL Celeste 3.50 271 P Pn 08 45 10.0 +2.0
CUC Castrocucco 3.90 297 Pn Pn 08 45 13.8 +0.3
ACER Acerenza 4.21 308 Pn Pn 08 45 18.2 +0.5
PDG Podgorica 4.21 349 Pn Pn 08 45 18.4 +0.7
PDG Podgorica 4.21 349 *e*Pn Pn 08 45 18.6 +0.9
BOSS Bosilegrad 4.50 21 *e*Pn Pn 08 45 24.6 +2.9
BARS Barje 4.65 14 *e*Pn Pn 08 45 25.1 +1.3
TREB Trebinje 4.67 342 *e*Pn Pn 08 45 23.8 -0.2
TREB *e*Sg Sn 08 46 15.7 -2.1
EZN Ezine 4.91 70 P Pn 08 45 28.0 +0.7
RDO Rodhopi 4.92 53 Pn Pn 08 45 26.1 -1.3
SGRT San Giovanni R 4.93 316 Pn 08 45 26.9 -0.9
SELS Selova 4.95 7 *e*Pn Pn 08 45 28.6 +0.7
SJES Sjenica 4.96 357 *e*Pn Pn 08 45 29.5 +1.3
STON Ston 4.99 337 *e*Pn Pn 08 45 28.4 0.0
STON *e*Sg Sn 08 46 26.1 +0.4
ALN Alexandroupoli 5.12 58 Pn Pn 08 45 27.2 -2.9
IVAS Ivanjica 5.28 359 *e*Pn Pn 08 45 32.5 +0.1
GRUS Gruza 5.59 3 *e*Pn Pn 08 45 36.8 +0.1
TRUS Trudelj 5.92 0 *e*Pn Pn 08 45 41.5 +0.3
KARP Karpathos 6.12 115 P Pn 08 45 44.8 +0.8
0.2nm31nm,1.3s
TEKS Tekeris 6.28 355 *e*Pn Pn 08 45 45.7 -0.4
AQU L'Aquila 6.67 310 P Pn 08 45 53.3 +1.8
0.1nm15nm,0.8s
CAMP Campotosto 6.77 311 Pn Pn 08 45 56.1 +3.1
NRCA Norcia 7.12 312 Pn 08 46 00.9 +3.1
GUMA Gualdo di Mace 7.14 314 Pn Pn 08 46 00.8 +2.8
FDMO Fiordimonte 7.26 313 Pn 08 46 02.4 +2.7
CESX Cesi 7.31 309 Pn Pn 08 46 04.2 +3.8
KLYT Kilyos 7.33 64 P Pn 08 46 01.2 +0.7
0.4nm79nm,1.6s
MORH Mrgy. Hungar 8.01 352 P Pn 08 46 11.2 +1.3
2.4nm,0.8s
BOJS Bojanci 8.13 334 *e*Pn Pn 08 46 12.7 +1.1
ISR Istrita 8.24 32 P Pn 08 46 13.9 +0.8
16nm,0.9s
CEY Cerknica 8.63 331 *e*Pn Pn 08 46 19.3 +0.8
SKDS Skadanscina 8.64 329 *e*Pn Pn 08 46 19.0 +0.5
BISRR Bisoca 8.66 31 P Pn 08 46 19.7 +0.8
126nm,0.9s
VRI Vrincioaia 8.93 30 P Pn 08 46 23.5 +1.0
14nm,2.5s
GHRR 9.36 32 P Pn 08 46 29.4 +1.0
STAL STALIGIAL 9.75 327 Pn Pn 08 46 34.4 +0.6
CTI Castel Tesino 10.07 323 Pn Pn 08 46 38.5 +0.2
HOLU Holmets 10.33 8 P Pn 08 46 42.7 +1.0
BR105 Keskin Array S 10.44 78 P Pn 08 46 44.0 +0.7
4.5nm,1.4s
BR106 Keskin Array S 10.44 78 P Pn 08 46 43.9 +0.6
2.4nm,1.1s
KSV Kosov 10.59 17 P Pn 08 46 46.2 +1.0
CSS Mathiatis 10.96 104 P Pn 08 46 51.2 +0.8
18nm,1.4s
KMPD K-Podol'skiy 11.18 21 P Pn 08 46 54.3 +1.0
GERES GERESS Array B 11.58 338 Pn Pn 08 46 58.4 -0.5
0.1nm,0.3s,baz=155,slow=14,SNR=2.7
0.3nm,0.4s
AK07 Malin Array Si 13.78 24 P Pn 08 47 29.8 +1.1
AK22 Malin Array Si 13.92 24 P Pn 08 47 31.7 +1.1
HFS Hagfors 22.26 351 P P 08 49 10.2 0.0
0.9nm,0.6s,baz=148,slow=12,SNR=5.5
0.9nm,0.6s
NC602 NORSAR Array S 23.13 349 P P 08 49 17.9 -1.5
FINES FINESS Array B 23.45 7 P P 08 49 21.2 -1.3
FINES FINESS Array B 23.45 7 P P 08 49 21.9 -0.6
0.9nm,0.5s,baz=176,slow=8.8,SNR=7.7
0.9nm,0.5s
FIA1 FINESS Array S 23.45 7 P P 08 49 20.4 -2.1
FIA1 IAmb IAmb 08 49 37.1
comp=Z,16nm,1.4s
NC405 NORSAR Array S 23.47 349 P P 08 49 21.0 -1.8
NC405 IAmb IAmb 08 49 25.9
comp=Z,4.1nm,0.7s
NOA NORSAR Array B 23.47 349 P P 08 49 21.2 -1.7
comp=Z,0.5nm,0.8s,baz=156,slow=10,SNR=2.6
comp=Z,0.5nm,0.8s

NC303 NORSAR Array S 23.62 349 P P 08 49 22.4 -1.9
NC303 IAmb IAmb 08 49 42.6
comp=Z,11nm,1.4s
RAYN Ar Rayn 26.03 117 P P 08 49 44.3 -2.4
KEV Kevo 31.72 4 P P 08 50 37.5 +0.6
KEV IAmb IAmb 08 50 45.1
comp=Z,16nm,1.5s
UOSS Minazif 33.10 103 P P 08 50 47.1 -2.4
CHMS Chumysh 40.95 66 P P 08 51 56.9 +0.9
SNR=7.3

*IDC **15** 08:48:32.0±1.4,28°.26N×105°.03E,h0km,mb3.7/4,*
mbtmp3.7/5,ML3.6/1,Error ellipse: s-maj=46.5km
s-min=23.5km az=68.0
ISC 15 08:48:34.6±1.4,28°.2N±0°.1×105°.0E±0°.2,h19km,n6,
σ1s23/6,mb3.9/4,Sichuan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HHC	**Hu-ho-hao-te**	**13.71**	**22**	*e*P		**Pn**	**08 51 49.1**	**+1.1**
HHC				pmax		pmax		
	comp=Z,9.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,2μm,6.4s							
SONM	**Songino Array**	**19.61**	**3**	P		**Pn**	**08 53 03.5**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=192,slow=9.8,SNR=4.5							
	comp=Z,0.7nm,0.6s							
KSRS	**Korea Array**	**21.32**	**59**	P		**P**	**08 53 18.8**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=238,slow=10,SNR=4.4							
	comp=Z,0.6nm,0.5s							
KURBB	**Kurchatov Arra**	**30.00**	**325**	P		**P**	**08 54 41.5**	**-0.5**
	comp=Z,0.5nm,0.2s,baz=135,slow=8.6,SNR=6.0							
	comp=Z,0.5nm,0.2s							
WRA	**Warramunga Arr**	**55.67**	**146**	P		**P**	**08 58 09.9**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=333,slow=8.3,SNR=5.4							
	comp=Z,0.9nm,0.7s							
ASAR	**Alice Springs**	**58.65**	**149**	P		**P**	**08 58 31.4**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=334,slow=6.7,SNR=8.3							
	comp=Z,0.7nm,0.7s							

AUST 15 08:49:24.2±1.6,19°S±15°×12°1E±°,h21km±25km,mb3.9/2,
ML3.0/5,Error ellipse: s-maj=34.8km s-min=7.9km
az=154.4,Western Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.72**	**198**	S		Sn	08 50 40.7	+1.7
PSAC2	**Pilbara Seismi**	**3.07**	**193**	P		Pn	08 50 11.4	0.0
PSAC2				S		Sn	08 50 48.8	+1.3
PSA00	**Pilbara Seismi**	**3.09**	**193**	P		Pn	08 50 11.6	-0.1
PSA00				S		Sn	08 50 48.9	+0.9
FITZ	**Fitzroy Crossi**	**4.79**	**85**	P		Pn	08 50 35.2	+0.1
GIRL	**Giralia**	**7.23**	**235**	P		Pn	08 51 04.4	-4.3
GIRL				S		Sn	08 52 20.6	-10
MEEK	**Meekatharra**	**8.26**	**193**	P		Pn	08 51 21.6	-1.2
	comp=Z,13nm,2.5s,comp=Z,0.1nm							
CVQOZ	**Cooralya Stati**	**8.45**	**225**	P		Pn	08 51 21.7	-3.7
CVQOZ				S		Sn	08 52 50.9	-9.3
WRKA	**Warakurna**	**9.62**	**133**	P		Pn	08 51 44.0	+2.5
WRKA				S		Sn	08 53 28.6	-0.4
MORW	**Morawa**	**11.27**	**201**	P		Pn	08 52 00.0	-4.0
	comp=Z,17nm,2.3s							
BLDU	**Ballidu**	**12.52**	**196**	P		Pn	08 52 19.9	-1.3
	comp=Z,13nm,1.8s							

*IDC **15** 08:50:51.6±1.7,40°.11N×71°.19E,h0km,mb3.7/6,*
mbtmp3.8/13,ML3.5/7,Error ellipse: s-maj=25.3km
s-min=13.2km az=173.0
*NEIC **15** 08:50:53.7±1.2,40°.14N±0°.04×71°.13E±0°.06,h10km±1km,*
mb4.4/38,Error ellipse: s-maj=8.0km s-min=6.0km
az=91.0
*KRNET **15** 08:50:54.2±0.1,40°.06N×71°.17E,h30km,mb4.3*
*ISU **15** 08:50:54,40°.06N×71°.25E,h18km*
*SOME **15** 08:50:57.7,40°.33N×71°.40E,h10km,MS2.9*
*NNC **15** 08:50:59.2±1.8,40°.37N×71°.39E,h0km,mb4.6,mpv4.3,*
Error ellipse: s-maj=16.9km s-min=5.2km az=16.0
ISC 15 08:50:53.8±0.4,40°.16N±0°.02×71°.32E±0°.02,h10km,n159,
σ2s06/211,mb4.3/27,34C-26D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHMI	**Chimion**	**0.19**	**55**	P		**Pg**	**08 51 00.7**	**+2.8**
CHMI				S		**Sg**	**08 51 05.6**	**+4.9**
BTK	**Batken**	**0.40**	**255**			**Pg**	**08 51 01.1**	**-0.6**
BTK				Sg		**Sg**	**08 51 06.0**	**-1.0**
BTK	**Batken**	**0.40**	**255**	*e*P		**Pg**	**08 51 01.0**	**-0.7**
BTK				↑*e*S		**Sg**	**08 51 05.6**	**-1.4**
MINT	**Mingtut**	**0.40**	**319**	P		**Pg**	**08 51 03.0**	**+1.2**
MINT				S		**Sb**	**08 51 09.9**	**+0.6**
FRG	**Fergana**	**0.41**	**59**	P		**Pb**	**08 51 04.5**	**+1.2**
FRG				S		**Sb**	**08 51 12.1**	**+2.4**
DRK	**Karamyk**	**0.78**	**151**			**Pg**	**08 51 09.0**	**+0.1**
DRK				Sg		**Sg**	**08 51 20.4**	**+1.4**
DRK	**Karamyk**	**0.78**	**151**	↑*e*P		**Pg**	**08 51 08.9**	**+0.1**
DRK				↑*e*S		**Sg**	**08 51 19.3**	**+0.3**
NAM	**Namangan**	**0.87**	**17**	P		**Pn**	**08 51 13.6**	**+1.4**
NAM				S		**Sn**	**08 51 27.5**	**+2.6**
TSTA	**Tashata**	**0.98**	**64**	P		**Pb**	**08 51 13.6**	**+0.7**
TSTA				S		**Sn**	**08 51 28.5**	**+0.9**
ANR	**Andizhan**	**0.99**	**53**	P		**Pn**	**08 51 16.4**	**+2.5**
ANR				S		**Sn**	**08 51 31.7**	**+3.8**
OHH	**Osh**	**1.18**	**72**	P		**Pn**	**08 51 18.4**	**+1.9**
OHH				↑*e*S		**Sn**	**08 51 35.9**	**+3.3**
TRKS	**Terek-Say**	**1.37**	**354**	*e*P		**Pn**	**08 51 19.8**	**+0.5**
TRKS				*e*S		**Sg**	**08 51 38.5**	**+0.4**
GAR	**Garm**	**1.40**	**214**			**Pn**	**08 51 18.9**	**-0.6**
GAR				Sn		**Sn**	**08 51 35.8**	**-2.2**
GAR	**Garm**	**1.40**	**214**	*e*P		Pn	08 51 17.1	-2.4
GAR				*e*S		**Sn**	**08 51 33.7**	**-4.3**
SFK	**Sufi-Kurgan**	**1.68**	**94**	*e*P		**Pb**	**08 51 25.7**	**+0.7**
SFK				↑*e*S		**Sg**	**08 51 48.6**	**+0.6**
ARK	**Arkit**	**1.71**	**16**	↑*e*P		**Pb**	**08 51 26.3**	**+0.9**
ARK				↑*e*S		**Sg**	**08 51 49.7**	**+1.0**
CHMG	**Chimgan**	**1.71**	**325**	P		**Pn**	**08 51 25.0**	**+1.2**
CHMG				S		**Sg**	**08 51 48.9**	**+0.2**
ARSB	**Arslanbob**	**1.72**	**47**	Pn		**Pb**	**08 51 26.1**	**+0.6**
ARSB	**Arslanbob**	**1.72**	**47**	↑*e*P		**Pg**	**08 51 26.7**	**-0.1**
ARSB				↑*i*S		**Sg**	**08 51 50.3**	**+1.3**
CHRV	**Charvak**	**1.81**	**325**	P		**Pn**	**08 51 27.4**	**+2.3**
CHRV				S		**Sg**	**08 51 52.6**	**+0.7**
TGS	**TashGRES**	**1.86**	**313**	P		**Pb**	**08 51 29.7**	**+1.8**
TGS				S		**Sg**	**08 51 56.2**	**+2.6**
IUG	**Iuzhnay**	**2.21**	**334**	Pg		**Pg**	**08 51 36.5**	**+0.3**
	741nm,0.3s							
IUG				Lg		Lg	08 52 05.0	
	2μm,0.4s							
SIMJ	**Simiganj**	**2.34**	**231**	Pn		**Pn**	**08 51 35.5**	**+3.1**
MNAS	**Manas**	**2.49**	**21**	↑*e*P		**Pb**	**08 51 37.3**	**-1.4**
MNAS				↑*e*S		**Sb**	**08 52 08.7**	**-0.8**
CHM	**Chimkent**	**2.51**	**330**	*e*P		**Pg**	**08 51 42.7**	**+0.7**
	428nm,0.2s							
CHM				*e*S		**Sg**	**08 52 15.4**	**+0.8**
	2μm,0.3s							
BXML	**Bakhmal**	**2.57**	**260**	P		**Pn**	**08 51 38.7**	**+3.0**
DZI	**Dzhizak**	**2.68**	**270**	P		**Pn**	**08 51 39.2**	**+2.1**
DZA	**Taraz**	**2.73**	**0**	*e*P		**Pg**	**08 51 46.1**	**0.0**
	270nm,0.1s							
DZA				*e*S		**Sg**	**08 52 21.9**	**+0.4**
	967nm,0.3s							
MRKS	**Merke**	**2.95**	**28**	Pg		**Pg**	**08 51 50.0**	**-0.4**
	172nm,0.3s							
MRKS				Lg		Lg	08 52 28.5	
	599nm,0.6s							
MRKS	**Merke**	**2.95**	**28**	*e*P		**Pg**	**08 51 50.0**	**-0.4**
	172nm,0.3s							
MRKS				*e*S		**Sg**	**08 52 28.5**	**-0.2**
	599nm,0.6s							
KK31	**Karatay Array**	**3.00**	**349**			**Pn**	**08 51 42.2**	**+0.7**
KK31	**Karatay Array**	**3.00**	**349**	↑Pn		**Pb**	**08 51 45.8**	**-1.5**
	2.4nm,0.2s,baz=153,slow=10.0,SNR=614							
KK31				↑Pg		**Pg**	**08 51 49.6**	**-1.8**
	208nm,0.5s,baz=178,slow=16,SNR=3.7							
KK31				↑Lg		Lg	08 52 23.3	
	227nm,0.5s,baz=153,slow=22							
KKAR	**Karatay Array**	**3.00**	**349**			**Pn**	**08 51 42.0**	**+0.5**
BRLS	**Borolday**	**3.07**	**339**	Pg		**Pb**	**08 51 48.6**	**-0.1**
	152nm,0.3s							
BRLS				Lg		Lg	08 52 25.7	
	217nm,0.2s							
BRLS	**Borolday**	**3.07**	**339**	*e*P		**Pb**	**08 51 48.6**	**-0.1**
	88nm,0.2s							
BRLS				*e*S		**Sb**	**08 52 25.7**	**-0.5**
	276nm,0.2s							
EKS2	**Erkin-Say**	**3.11**	**36**	P		**Pb**	**08 51 47.1**	**-2.2**
	SNR=31							
EKS2	**Erkin-Say**	**3.11**	**36**	↓*e*P		**Pn**	**08 51 46.1**	**+3.1**
EKS2				↓*e*S		**Sb**	**08 52 23.7**	**-3.6**
UCH	**Uchtor**	**3.17**	**48**	P		**Pn**	**08 51 47.6**	**+3.3**
	SNR=32							
UCH	**Uchtor**	**3.17**	**48**	↓*e*P		**Pn**	**08 51 47.3**	**+3.1**
UCH				↓*e*S		**Sb**	**08 52 25.8**	**-3.7**
SAM	**Samarkand**	**3.40**	**263**	S		**Sb**	**08 52 40.5**	**+5.0**
AAK	**Ala-Archa**	**3.44**	**43**	P		**Pn**	**08 51 51.2**	**+3.5**
	SNR=12							
AAK	**Ala-Archa**	**3.44**	**43**	Pn		**Pn**	**08 51 49.1**	**+1.5**
AAK	**Ala-Archa**	**3.44**	**43**	↓Pn		**Pn**	**08 51 51.3**	**+3.7**
	3.6nm,0.4s							
AAK				↓Pg		**Pb**	**08 51 56.5**	**+1.6**
	11nm,0.4s							
AAK				↓Lg		Lg	08 52 34.0	
	210nm,1.2s							
AAK	**Ala-Archa**	**3.44**	**43**	Pn		**Pn**	**08 51 51.5**	**+3.9**
	10.0nm,0.3s,baz=208,slow=3.6,SNR=17							
AAK				Lg		Lg	08 52 43.8	
	33nm,0.3s,baz=52,slow=17,SNR=7.2							
	16nm,0.3s							
AAK	**Ala-Archa**	**3.44**	**43**	↑*i*P		**Pn**	**08 51 50.8**	**+3.2**
AAK				↑*e*S		**Sn**	**08 52 31.8**	**+3.3**
FRU1	**Bishkek**	**3.63**	**42**	Pn		**Pn**	**08 51 51.3**	**+1.1**
FRU1	**Bishkek**	**3.63**	**42**	↑*e*P		**Pn**	**08 51 53.4**	**+3.2**
FRU1				↑*e*S		**Sn**	**08 52 36.4**	**+3.3**
KBK	**Karagaybulak**	**3.70**	**46**	P		**Pn**	**08 51 55.6**	**+4.4**
	SNR=14							
KBK	**Karagaybulak**	**3.70**	**46**	↑*e*P		**Pn**	**08 51 54.4**	**+3.2**
KBK				↑*e*S		**Sn**	**08 52 37.9**	**+3.0**
NRN	**Naryn**	**3.77**	**69**			**Pn**	**08 51 54.4**	**+2.0**
NRN	**Naryn**	**3.77**	**69**	↓*e*P		**Pn**	**08 51 55.0**	**+2.6**
NRN				↓*e*S		**Sn**	**08 52 39.1**	**+2.1**
CHMS	**Chumysh**	**3.83**	**41**	↑*e*P		**Pn**	**08 51 56.0**	**+3.1**
CHMS				↑*e*S		**Sn**	**08 52 40.9**	**+2.9**
USP	**Ospenovka**	**3.91**	**36**	P		**Pn**	**08 51 57.0**	**+3.1**
	SNR=17							
USP	**Ospenovka**	**3.91**	**36**	↓*e*P		**Pn**	**08 51 57.1**	**+3.1**
USP				↓*e*S		**Sn**	**08 52 42.8**	**+2.8**
PKMR	**Pachkamar**	**4.15**	**249**	S		**Sb**	**08 53 05.6**	**+8.5**
BOOM	**Boomskoye usch**	**4.18**	**55**			**Pn**	**08 51 59.6**	**+1.7**
BOOM	**Boomskoye usch**	**4.18**	**55**	↓*e*P		**Pn**	**08 52 01.2**	**+3.3**
BOOM				↓*e*S		**Sn**	**08 52 49.8**	**+2.9**
TKM2	**Tokmak 2**	**4.23**	**48**	P		**Pn**	**08 52 02.1**	**+3.6**
	SNR=50							
TKM2	**Tokmak 2**	**4.23**	**48**	↑*e*P		**Pn**	**08 52 01.7**	**+3.1**
TKM2				↑*e*S		**Sn**	**08 52 50.9**	**+2.8**
ULHL	**Ulahol**	**4.26**	**59**	P		**Pn**	**08 52 02.1**	**+3.2**
	SNR=6.6							
ULHL	**Ulahol**	**4.26**	**59**	↓*e*P		**Pn**	**08 52 01.9**	**+3.0**
ULHL				↓*e*S		**Sn**	**08 52 51.4**	**+2.6**
KST	**Kastek**	**4.52**	**49**	Pg		**Pg**	**08 52 18.5**	**-1.9**
	32nm,0.4s							
KST				Lg		Lg	08 53 17.2	
	80nm,0.9s							
KST	**Kastek**	**4.52**	**49**	*e*P		**Pg**	**08 52 18.5**	**-1.9**
	32nm,0.2s							
KST				*e*S		**Sg**	**08 53 17.2**	**-1.7**
	74nm,0.4s							
KDJ	**Kajisay**	**4.84**	**64**	Pn		**Pn**	**08 52 07.8**	**+0.9**
KDJ	**Kajisay**	**4.84**	**64**	↓*e*P		**Pn**	**08 52 10.1**	**+3.2**
KDJ				↑*e*S		**Sn**	**08 53 05.4**	**+2.2**
MTBS	**Maitube**	**4.84**	**51**	Pg		**Pg**	**08 52 24.8**	**-1.8**
	12nm,0.5s							
MTBS				Lg		Lg	08 53 28.1	
	63nm,0.5s							
MTBS	**Maitube**	**4.84**	**51**	*e*P		**Pg**	**08 52 24.8**	**-1.8**
	12nm,0.5s							
MTBS				*e*S		**Sg**	**08 53 28.1**	**-1.2**
	63nm,0.5s							
IZV	**Izvestkoviy**	**4.90**	**52**	*e*P		**Pg**	**08 52 25.4**	**-2.3**
	16nm,0.4s							
IZV				*e*S		**Sg**	**08 53 29.0**	**-2.1**
	48nm,0.4s							
TNSS	**Tian-Shan**	**5.10**	**54**	Pg		**Pg**	**08 52 30.4**	**-1.2**
	6.3nm,0.6s							
TNSS	**Tian-Shan**	**5.10**	**54**	*e*P		**Pg**	**08 52 30.4**	**-1.2**
	6.3nm,0.6s							
TNSS				*e*S		**Sg**	**08 53 37.9**	**+0.1**
	13nm,0.9s							
TARG	**Taragay, Kyrgy**	**5.16**	**70**			**Pn**	**08 52 13.3**	**+1.8**
TARG	**Taragay, Kyrgy**	**5.16**	**70**	↓*e*P		**Pn**	**08 52 14.4**	**+3.0**
TARG				↓*e*S		**Sn**	**08 53 12.7**	**+1.5**
BTLS	**Baital**	**5.28**	**22**	Pg		**Pg**	**08 52 33.3**	**-1.6**
	85nm,0.4s							
BTLS				Lg		Lg	08 53 42.4	
	24nm,0.4s							
BTLS	**Baital**	**5.28**	**22**	*e*P		**Pg**	**08 52 33.3**	**-1.6**
	85nm,0.3s							
BTLS				*e*S		**Sg**	**08 53 42.4**	**-0.7**
	26nm,0.2s							
KUU	**Kurty**	**5.28**	**43**	Pg		**Pg**	**08 52 32.2**	**-2.7**
	8.8nm,0.4s							
KUU				Lg		Lg	08 53 40.5	
	89nm,0.7s							
KUU	**Kurty**	**5.28**	**43**	*e*P		**Pg**	**08 52 32.2**	**-2.7**
	8.8nm,0.4s							
KUU				*e*S		**Sg**	**08 53 40.5**	**-2.8**
	89nm,0.7s							
TMD	**Tamdy-Bulak**	**5.30**	**290**	P		**Pn**	**08 52 11.6**	**-1.4**
KOTS	**Kotyrbulak**	**5.31**	**53**	Pg		**Pg**	**08 52 33.8**	**-1.8**
	29nm,0.8s							
KOTS				Lg		Lg	08 53 42.9	
	69nm,0.8s							
KOTS	**Kotyrbulak**	**5.31**	**53**	*e*P		**Pg**	**08 52 33.8**	**-1.8**
	22nm,0.3s							
KOTS				*e*S		**Sg**	**08 53 43.3**	**-1.0**
	69nm,0.4s							
ANVS	**Anan'yevo**	**5.44**	**59**	↓*e*P		**Pn**	**08 52 18.3**	**+3.1**
ANVS				↓*e*S		**Sn**	**08 53 19.6**	**+1.7**
CHKK	**Chushkaly**	**5.61**	**47**	Pg		**Pg**	**08 52 38.7**	**-2.5**
	27nm,0.8s							
CHKK				Lg		Lg	08 53 51.3	
	54nm,0.5s							
CHKK	**Chushkaly**	**5.61**	**47**	*e*P		**Pg**	**08 52 38.7**	**-2.5**
	20nm,0.3s							
CHKK				*e*S		**Sg**	**08 53 51.8**	**-2.0**
	54nm,0.5s							
PRZ	**Przheval'sk**	**5.81**	**64**	↑*e*P		**Pn**	**08 52 23.5**	**+3.2**
PRZ				↑*e*S		**Sn**	**08 53 28.4**	**+1.3**
KBL	**Kabul**	**5.90**	**199**	Pn		**Pn**	**08 52 20.3**	**-1.2**
BLB	**Baldybastay**	**6.62**	**51**	Pg		**Pg**	**08 52 56.5**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
	comp=E,3.2nm,0.7s,baz=214,slow=12						
KURBB				⇑Lg	Lg	08 57 02.7	
	comp=E,21nm,0.6s						
KURBB	**Kurchatov Arra**	**11.62**	**23**	Pn	**Pn**	**08 53 38.4**	**-1.2**
	comp=E,0.2nm,0.3s,baz=216,slow=13,SNR=4.4						
KURBB				Lg	Lg	08 56 55.3	
	comp=E,0.1nm,0.3s,baz=222,slow=26,SNR=5.4						
	comp=E,0.8nm,0.2s						
KURK	**Kurchatov**	**11.73**	**23**	Pn	**Pn**	**08 53 40.7**	**-0.4**
KURK	**Kurchatov**	**11.73**	**23**	⇓Pn	**Pn**	**08 53 41.8**	**+0.7**
	comp=E,5.9nm,1.4s						
KURK				⇓Lg	Lg	08 57 06.4	
	comp=E,43nm,1.9s						
AB31	**Akbulak array**	**12.16**	**322**	Pn	**Pn**	**08 53 44.5**	**-2.5**
ABKAR	**Akbulak array**	**12.16**	**322**	Pn	**Pn**	**08 53 44.4**	**-2.6**
KUDL	**Kundal**	**12.72**	**159**	*e*P	**Pn**	**08 53 55.8**	**+1.0**
KUDL				*e*S	Sn	08 56 07.2	-9.3
BVAR	**Borovoye Array**	**12.88**	**357**	Pn	**Pn**	**08 53 54.5**	**-2.4**
	comp=E,0.1nm,0.3s,baz=158,slow=11,SNR=4.6						
BVAR				Lg	Lg	08 57 42.7	
	comp=E,0.1nm,0.3s,baz=156,slow=25,SNR=1.3						
	comp=E,0.7nm,0.4s						
BRVK	**Borovoye**	**12.92**	**357**	Pn	**Pn**	**08 53 57.0**	**-0.4**
AKTO	**Aktyubinsk**	**13.88**	**322**	P	**Pn**	**08 54 10.0**	**-0.5**
AKTO	**Aktyubinsk**	**13.88**	**322**	Pn	**Pn**	**08 54 08.4**	**-2.0**
	comp=E,0.4nm,0.3s,baz=154,slow=12,SNR=5.1						
AKTO				Sn	Sn	08 56 35.5	-9.0
	comp=E,0.4nm,0.3s,baz=310,slow=19,SNR=2.1						
	comp=E,1.8nm,0.5s						
ZAA0	**Zalesovo Array**	**16.54**	**29**	Pn	**Pn**	**08 54 44.9**	**-0.8**
ZALV	**Zalesovo Beam**	**16.54**	**29**	Pn	**Pn**	**08 54 45.6**	**0.0**
ZALV	**Zalesovo Beam**	**16.54**	**29**	Pn	**Pn**	**08 54 46.3**	**+0.6**
	comp=E,0.3nm,0.3s,baz=234,slow=12,SNR=4.1						
ZALV				Lg	Lg	08 59 39.4	
	comp=E,0.9nm,0.3s,baz=205,slow=30,SNR=6.4						
	comp=E,1.0nm,0.4s						
EVN	**Everest**	**17.66**	**129**		**Pn**	**08 55 01.9**	**+1.3**
ARTI	**Arti**	**18.32**	**337**		**Pn**	**08 55 05.9**	**-2.0**
ARTI	**Arti**	**18.32**	**337**	P	**Pn**	**08 55 06.8**	**-1.1**
	comp=E,0.6nm,0.3s,baz=164,slow=9.9,SNR=3.7						
	comp=E,2.5nm,0.4s						
GTA	**Gaotai**	**21.88**	**83**	*e*P	**P**	**08 55 49.3**	**+2.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SONM	**Songino Array**	**26.20**	**61**	P	**P**	**08 56 29.2**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=270,slow=7.2,SNR=2.2						
	comp=Z,0.3nm,0.5s						
AKAS	**Kas**	**32.80**	**277**	P	**P**	**08 57 25.5**	**-1.9**
FIA1	**FINESS Array S**	**34.65**	**323**	P	**P**	**08 57 41.6**	**-1.4**
FIA1				IAmb	IAmb	08 58 07.5	
	comp=Z,9.8nm,1.1s						
FINES	**FINESS Array B**	**34.65**	**323**	P	**P**	**08 57 42.5**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=115,slow=8.6,SNR=14						
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**37.89**	**336**	P	**P**	**08 58 10.2**	**-0.5**
ARCES	**ARCESS Array B**	**37.89**	**336**	P	**P**	**08 58 09.7**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=113,slow=7.9,SNR=11						
	comp=Z,0.5nm,0.6s						
HFS	**Hagfors**	**40.40**	**319**	P	**P**	**08 58 30.8**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=98,slow=11,SNR=12						
	comp=Z,1.1nm,0.4s						
NC303	**NORSAR Array S**	**41.59**	**321**	P	**P**	**08 58 41.2**	**-0.3**
NC303				IAmb	IAmb	08 59 10.1	
	comp=Z,5.4nm,1.1s						
NB2	**NORSAR Subarra**	**41.66**	**321**	P	**P**	**08 58 40.4**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=91,slow=7.9						
NOA	**NORSAR Array B**	**41.66**	**321**	P	**P**	**08 58 40.3**	**-1.9**
	comp=Z,0.3nm,0.5s,baz=101,slow=8.0,SNR=1.4						
	comp=Z,0.3nm,0.5s						
NC204	**NORSAR Array S**	**41.89**	**321**	P	**P**	**08 58 42.7**	**-1.3**
JMM	**Marumori**	**52.75**	**69**	P	**P**	**09 00 09.9**	**+1.0**
MNAI	**Manna**	**52.98**	**139**	P	**P**	**09 00 10.5**	**-0.2**
B20K	**Meade River**	**64.63**	**17**	P	**P**	**09 01 31.8**	**+0.8**
C19K	**Lookout Ridge**	**64.77**	**18**	P	**P**	**09 01 32.6**	**+0.6**
D19K	**Kuna River**	**65.58**	**18**	P	**P**	**09 01 37.0**	**-0.3**
D19K				IAmb	IAmb	09 01 37.5	
	comp=Z,2.4nm,0.8s						
E18K	**Tukpahlearik C**	**65.79**	**19**	P	**P**	**09 01 38.7**	**+0.1**
E18K				IAmb	IAmb	09 01 56.7	
	comp=Z,7.4nm,1.5s						
TORD	**Torodi Ar. Bea**	**66.10**	**267**	P	**P**	**09 01 39.1**	**-2.3**
TORD				IAmb	IAmb	09 01 39.4	
	comp=Z,1.2nm,0.7s						
C23K	**Itkillik River**	**66.12**	**15**	P	**P**	**09 01 41.3**	**+0.6**
E21K	**Killik River**	**66.57**	**17**	P	**P**	**09 01 43.8**	**+0.1**
E21K				IAmb	IAmb	09 01 44.7	
	comp=Z,4.9nm,1.2s						
TOLK	**Toolik Lake Re**	**67.32**	**15**	P	**P**	**09 01 48.7**	**+0.3**
TOLK				IAmb	IAmb	09 01 58.0	
	comp=Z,1.7nm,0.9s						
F21K	**Alatna River**	**67.67**	**17**	P	**P**	**09 01 50.2**	**-0.5**
F21K				IAmb	IAmb	09 01 57.6	
	comp=Z,3.8nm,1.4s						
E24K	**Your Creek**	**68.02**	**15**	P	**P**	**09 01 53.2**	**+0.3**
H19K	**Roundabout Mou**	**68.32**	**19**	P	**P**	**09 01 55.0**	**+0.4**
H19K				IAmb	IAmb	09 01 57.2	
	comp=Z,4.4nm,1.3s						
IMAR	**Indian Mountai**	**68.62**	**18**	P	**P**	**09 01 56.1**	**-0.5**
J16K	**Anvik River**	**68.94**	**22**	P	**P**	**09 01 59.2**	**+0.6**
J16K				IAmb	IAmb	09 02 23.1	
	comp=Z,7.0nm,1.4s						
BMAR	**Burnt Mountain**	**69.33**	**14**	P	**P**	**09 02 01.9**	**+0.8**
E29M	**Blow River**	**69.58**	**11**	P	**P**	**09 02 03.3**	**+0.8**
E29M				IAmb	IAmb	09 02 11.6	
	comp=Z,2.0nm,1.1s						
J20K	**Nowinta River**	**69.99**	**19**	P	**P**	**09 02 05.2**	**+0.1**
J20K				IAmb	IAmb	09 02 06.5	
	comp=Z,3.8nm,1.1s						
INK	**Inuvik**	**70.26**	**10**	P	**P**	**09 02 06.8**	**+0.1**
L16K	**Owhat River**	**70.49**	**23**	P	**P**	**09 02 08.6**	**+0.4**
L18K	**Granite Mounta**	**70.89**	**22**	P	**P**	**09 02 10.7**	**+0.1**
L18K				IAmb	IAmb	09 02 17.9	
	comp=Z,6.1nm,1.4s						
H27K	**Steamboat Moun**	**70.96**	**13**	P	**P**	**09 02 12.2**	**+1.1**
H27K				IAmb	IAmb	09 02 30.4	
	comp=Z,3.8nm,1.5s						
F31M	**Tsiigehtchic**	**71.05**	**10**	P	**P**	**09 02 11.4**	**-0.1**
F31M				IAmb	IAmb	09 02 12.2	
	comp=Z,2.5nm,0.8s						
G30M	**tAoh Zraii Nji**	**71.13**	**11**	P	**P**	**09 02 12.2**	**+0.1**
G30M				IAmb	IAmb	09 02 13.0	
	comp=Z,4.1nm,1.4s						
ILAR	**Eielson Array**	**71.20**	**16**	P	**P**	**09 02 11.5**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=314,slow=4.0,SNR=6.5						
	comp=Z,0.5nm,0.8s						
SKT	**Skwentna**	**72.49**	**20**	P	**P**	**09 02 19.6**	**-0.7**
SKT				IAmb	IAmb	09 02 30.9	
	comp=Z,8.2nm,1.3s						
SCRK	**Sand Creek**	**72.50**	**16**	P	**P**	**09 02 19.8**	**-0.7**
H31M	**Peel River**	**72.50**	**11**	P	**P**	**09 02 20.2**	**-0.1**
H31M				IAmb	IAmb	09 02 45.6	
	comp=Z,4.0nm,1.3s						
RIDG	**Independent Ri**	**72.53**	**16**	P	**P**	**09 02 20.1**	**-0.5**
K27K	**Chicken**	**72.84**	**15**	P	**P**	**09 02 22.6**	**+0.3**
K27K				IAmb	IAmb	09 02 33.6	
	comp=Z,4.0nm,1.2s						
SCM	**Sheep Creek Mo**	**73.65**	**18**	P	**P**	**09 02 26.8**	**-0.5**
L27K	**Beaver Creek,**	**73.76**	**15**	P	**P**	**09 02 28.2**	**+0.4**
L27K				IAmb	IAmb	09 02 53.6	
	comp=Z,4.2nm,1.5s						
BCAR	**Beaver Creek A**	**73.77**	**15**	P	**P**	**09 02 28.4**	**+0.5**
EYAK	**Cordova Ski Ar**	**75.15**	**18**	P	**P**	**09 02 37.3**	**+1.4**
BLKN	**Baker Lake**	**75.38**	**354**	P	**P**	**09 02 36.3**	**-0.8**

JMA 15 08:51:18.8±0.2,24°.0N±0°.6×123°.5E±0°.4,h18km±1km, MV1.7/8,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.27**	**68**	P	Pg	08 51 24.6	-0.2
HATJ				*e*S	Sb	08 51 29.1	-0.2
IRIF	**Iriomote-Funau**	**0.42**	**25**	P	Pg	08 51 27.2	-0.2
IRIF				S	Sg	08 51 33.0	-0.1
JKRS	**Kuro-shima**	**0.52**	**57**	P	Pg	08 51 29.1	-0.1
JKRS				S	Sb	08 51 36.5	0.0
JIJ	**Ishigaki jima**	**0.69**	**54**	P	Pb	08 51 31.8	-0.5
JIJ				S	Sb	08 51 41.2	-0.3
YOJ	**Yonaguni jima**	**0.69**	**316**	*e*P	Pb	08 51 32.2	-0.1
YOJ				*e*S	Sg	08 51 41.7	0.0
JYNG	**Yonagunijimaku**	**0.73**	**313**	*e*S	Sb	08 51 42.2	-0.4
JISG	**Ishigakijimahi**	**0.95**	**48**	*e*P	Pb	08 51 36.0	-0.7
JISG				*e*S	Sb	08 51 48.2	-0.7
JTJ	**Tarama**	**1.26**	**57**	*e*S	Sn	08 51 58.3	+0.2

TAP 15 08:51:38.1,24°.15N×121°.62E,h4km,ML1.0,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village**	**0.01**	**13**	*i* P	Pg	08 51 39.2	+0.2
ETL				*e*S	Sg	08 51 39.7	+0.2
NACB	**Ninganchiao**	**0.04**	**319**	*i* P	Pg	08 51 39.6	+0.5
NACB				S	Sg	08 51 40.5	+0.7
TWD	**Chiawan**	**0.07**	**198**	*i* P	Pg	08 51 40.4	+0.7
TWD				S	Sg	08 51 41.8	+1.1
ETLH	**Xiulin Townshi**	**0.14**	**295**	*i* P	Pg	08 51 42.0	+1.0
ETLH				S	Sg	08 51 44.6	+1.8
LXIB	**Xiulin Townshi**	**0.23**	**236**	*i* P	Pg	08 51 43.5	+0.9
LXIB				S	Sg	08 51 47.5	+1.9
WHF	**Hehuan Shan**	**0.32**	**270**	P	Pb	08 51 45.9	-0.9
WHF				S	Sb	08 51 51.0	-1.5
NNSB	**Datong**	**0.35**	**322**	*i* P	Pb	08 51 46.2	-0.9
NNSB				S	Sb	08 51 52.1	-1.0

NEIC 15 08:54:05.5±1.1,44°.06N±0°.09×128°.9W±0°.2,h10km±2km, ML2.8/62,Error ellipse: s-maj=21.3km s-min=14.9km az=260.0,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**3.51**	**108**	Pn	Pn	08 54 58.1	-1.9
KEBM				IAML		08 55 41.4	
	comp=E,27nm,1.0s						
KEBM				IAML		08 55 44.0	
	comp=N,29nm,1.0s						
I02E	**Swisshome, OR**	**3.62**	**88**	Pn	Pn	08 55 01.4	-0.1
J01E	**Myrtle Point**	**3.69**	**102**		Pn	08 55 02.0	-0.6
J01E				IAML		08 55 46.7	
	comp=N,14nm,0.6s						
J01E				IAML		08 55 47.5	
	comp=E,16nm,0.9s						
HEBO	**Mount Hebo**	**3.83**	**71**	Pn	Pn	08 55 04.2	-0.3
I03D	**Drain, OR**	**4.00**	**93**		Pn	08 55 07.1	+0.2
COR	**Corvallis**	**4.03**	**81**		Pn	08 55 07.0	-0.2
COR				IAML		08 56 00.0	
	comp=E,9.8nm,0.7s						
K02D	**Willamette Mer**	**4.03**	**108**		Pn	08 55 06.5	-0.7
K02D				IAML		08 55 54.4	
	comp=E,14nm,0.7s						
G03D	**McMinnville, O**	**4.16**	**72**	Pn	Pn	08 55 09.2	+0.2
G03D				IAML		08 56 01.9	
	comp=N,14nm,1.6s						
G03D				IAML		08 56 04.9	
	comp=E,9.9nm,2.3s						
F03A	**Seaside**	**4.20**	**62**		Pn	08 55 09.5	0.0
BUCK	**Buck Mountain**	**4.23**	**86**		Pn	08 55 10.2	0.0
BUCK				IAML		08 56 07.8	
	comp=N,8.7nm,0.8s						
BUCK				IAML		08 56 37.7	
	comp=E,11nm,4.9s						
RADR	**Rader Ridge**	**4.29**	**55**	Pn	Pn	08 55 10.8	0.0
RADR				IAML		08 56 41.0	
	comp=N,15nm,1.8s						
RADR				IAML		08 57 44.9	
	comp=E,16nm,1.9s						
H04D	**Lebanon**	**4.42**	**82**		Pn	08 55 13.0	+0.3
H04D				IAML		08 55 59.3	
	comp=N,6.5nm,1.7s						
H04D				IAML		08 56 06.7	
	comp=E,8.2nm,1.3s						
KRMB	**Red Mountain**	**4.44**	**123**	Pn	Pn	08 55 14.1	+1.0
E03A	**Lebam**	**4.49**	**55**	Pn	Pn	08 55 13.4	-0.1
E03A				IAML		08 56 12.8	
	comp=N,9.4nm,2.7s						
E03A				IAML		08 56 22.8	
	comp=E,11nm,3.2s						
BBOR	**Butler Butte**	**4.65**	**102**		Pn	08 55 16.2	+0.2
BBOR				IAML		08 56 14.0	
	comp=E,7.7nm,1.8s						
BBOR				IAML		08 56 18.1	
	comp=N,6.0nm,1.4s						
G04A	**Mulino**	**4.70**	**74**	Pn	Pn	08 55 13.9	-2.5
WISH	**Wishkah**	**4.70**	**48**		Pn	08 55 16.3	-0.1
H04A	**Detroit Lake**	**4.83**	**80**		Pn	08 55 17.6	-0.6
H04A				IAML		08 56 21.6	
	comp=N,6.3nm,0.5s						
H04A				IAML		08 56 23.6	
	comp=E,5.5nm,1.4s						
NLWA	**Neilton Lookou**	**4.83**	**45**		Pn	08 55 17.8	-0.5
NLWA				IAML		08 56 44.5	
	comp=E,6.2nm,3.9s						
NLWA				IAML		08 57 28.1	
	comp=E,6.9nm,2.1s						
C03A	**Quillayute Air**	**4.91**	**36**		Pn	08 55 18.6	-0.6
KHMM	**Horse Mountain**	**4.96**	**128**	Pn	Pn	08 55 19.7	-0.4
KHMM				IAML		08 58 09.0	
	comp=N,7.3nm,1.4s						
KHMM				IAML		08 58 35.6	
	comp=E,9.0nm,1.0s						
J04A	**Umpqua Nationa**	**4.97**	**97**		Pn	08 55 22.1	+1.7
YBH	**Yreka Blue Hor**	**5.08**	**115**		Pn	08 55 21.7	-0.1
L04D	**Klamath Falls**	**5.14**	**109**		Pn	08 55 23.5	+0.8
L04D				IAML		08 56 33.6	
	comp=N,8.0nm,3.9s						
HOOD	**Mount Hood Mea**	**5.29**	**74**		Pn	08 55 25.1	+0.3
I05D	**Terrebonne, OR**	**5.42**	**84**		Pn	08 55 26.6	+0.2
OZB	**Mount Ozzard**	**5.42**	**24**	Pn	Pn	08 55 26.1	-0.3
GNW	**Green Mountain**	**5.49**	**48**		Pn	08 55 27.0	-0.2
J05D	**Fort Rock, OR**	**5.59**	**95**		Pn	08 55 28.2	-0.6
LON	**Longmire**	**5.65**	**59**		Pn	08 55 29.3	-0.2
PINE	**Pine Mountain**	**5.73**	**90**		Pn	08 55 31.2	+0.5
D05A	**Enumclaw**	**5.75**	**55**	Pn	Pn	08 55 30.0	-0.8
CLRS	**Cowichan Lake**	**5.77**	**33**		Pn	08 55 30.3	-0.8
PGC	**Sidney**	**5.92**	**37**	Pn	Pn	08 55 32.2	-1.0
K05A	**Summer Lake**	**5.96**	**100**	Pn	Pn	08 55 33.7	-0.2
G06A	**Carlson Farm,**	**5.99**	**76**	Pn	Pn	08 55 32.7	-1.5
A04D	**Lummi Island**	**6.31**	**40**	Pn	Pn	08 55 38.2	-0.3
CBB	**Campbell River**	**6.43**	**21**	Pn	Pn	08 55 40.4	+0.2
MXC	**Moxie City**	**6.54**	**64**	Pn	Pn	08 55 42.4	+0.6
LTY	**Liberty**	**6.57**	**58**		Pn	08 55 42.5	+0.3
I07A	**Izee**	**6.74**	**87**	Pn	Pn	08 55 45.6	+1.0
GDXM	**Geysers**	**6.95**	**137**	Pn	Pn	08 55 47.1	-0.3
HAWA	**Hanford**	**6.99**	**67**	Pn	Pn	08 55 46.3	-1.6
WAH2	**Wahluke Slope**	**7.08**	**64**	Pn	Pn	08 55 49.2	+0.1
G08A	**Pilot Rock**	**7.17**	**77**		Pn	08 55 50.9	+0.5
D08A	**Wollman Farm,**	**7.59**	**63**	Pn	Pn	08 55 56.6	+0.4
LLLB	**Lillooet**	**8.08**	**33**	Pn	Pn	08 56 03.2	+0.3
C09A	**Chrisman Ranch**	**8.27**	**59**	Pn	Pn	08 56 05.4	-0.1
NEW	**Newport**	**9.17**	**59**	Pn	Pn	08 56 17.2	-0.6

*IDC **15** 08:58:01.5±1.9,0°.36N×126°.08E,h0km,mb3.8/3, mbtmp3.9/3,MS4.5/1,Error ellipse: s-maj=170.6km s-min=25.4km az=65.0*
*DJA **15** 08:58:03.0±0.8,0°N±5°×12°6E±°,h12km±7km,M3.7/7, MLv3.7/7*
ISC 15 08:58:02.9±1.1,0°.4N±0°.1×126°.43E±0°.08,h10km,n7, σ1°.25/7,mb3.8/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.02**	**67**	P	**Pg**	**08 58 22.1**	**-0.5**
TNTI				S	**Sb**	**08 58 37.2**	**+1.0**
SANI	**Sanana**	**2.44**	**190**	P	**Pn**	**08 58 42.4**	**-0.4**
KMSI	**Cibinong**	**2.46**	**275**	P	**Pn**	**08 58 43.6**	**+0.6**
WRA	**Warramunga Arr**	**21.62**	**159**	P	**P**	**09 02 53.6**	**+0.2**
	2.0nm,0.5s,baz=337,slow=11,SNR=16						
	2.0nm,0.5s						
ASAR	**Alice Springs**	**24.97**	**164**	P	**P**	**09 03 28.6**	**+1.8**
	4.3nm,0.9s,baz=343,slow=9.6,SNR=21						
	4.3nm,0.9s						
MJAR	**Matsushiro Arr**	**37.62**	**16**	LR	LR	09 20 45.6	
	comp=Z,767nm,21.1s,baz=134,slow=36						
MKAR	**Makanchi Array**	**60.15**	**327**	P	**P**	**09 08 09.7**	**-1.2**
	0.3nm,0.4s,baz=125,slow=7.5,SNR=5.8						
	0.3nm,0.4s						

*UPA **15** 09:02:09.8±1.0,8°.41N×82°.89W,h31km±3km,MW3.6, Fault plane solution: NP1:φs120.00000°,δ68.00000°, λ34.00000°.*
*UCR **15** 09:02:09.8±1.3,8°.39N×82°.89W,h20km±2km,MW3.6*
ISC 15 09:02:02.2±1.3,8°.12N±0°.04×82°.97W±0°.02,h1km±10km, n130,σ1°.11/184,15C-26D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LESP3	**La Esperanza,**	**0.34**	**32**	⇑*i*P	**Pn**	**09 02 15.3**	**+1.0**
LESP3				*e*S	**Sb**	**09 02 18.9**	**+2.0**
NELY	**Ciudad Neily**	**0.53**	**3**	⇑*i*P	**Pn**	**09 02 16.7**	**-0.3**
NELY				*e*S	**Sb**	**09 02 22.5**	**+0.1**
FITO	**Golfito**	**0.53**	**340**	⇓*i*P	**Pn**	**09 02 16.9**	**-0.1**
FITO				*e*S	**Sb**	**09 02 22.8**	**+0.2**
EDAD	**Golfito**	**0.56**	**340**	⇓*e*P	**Pn**	**09 02 17.4**	**0.0**
EDAD				*e*S	**Sb**	**09 02 23.8**	**+0.3**
CSTBL	**De las Acacias**	**0.60**	**61**	⇓*e*P	**Pn**	**09 02 19.1**	**+1.2**
CSTBL				*e*S	**Sn**	**09 02 26.2**	**-2.0**
CSTBL	**De las Acacias**	**0.60**	**61**	*i* P	**Pn**	**09 02 19.1**	**+1.2**
DVD	**David**	**0.60**	**59**	⇓*i*P	**Pn**	**09 02 19.0**	**+1.1**
DVD				*e*S	**Sn**	**09 02 26.4**	**-2.0**
PEDE3	**Pedregal, Chir**	**0.60**	**64**	⇓*i*P	**Pn**	**09 02 19.3**	**+1.3**
PEDE3				*e*S	**Sn**	**09 02 26.3**	**-2.1**
LOCO3	**Loma Colorada,**	**0.62**	**62**	⇓*i*P	**Pn**	**09 02 19.5**	**+1.3**
LOCO3				*e*S	**Sn**	**09 02 27.5**	**-1.3**
PRISO	**Paraso**	**0.66**	**35**	⇓*i*P	**Pn**	**09 02 18.7**	**-0.1**
PRISO				*e*S	**Sg**	**09 02 24.8**	**+1.3**
MLIR3	**Monte Lirio, C**	**0.68**	**12**	⇓*i*P	**Pn**	**09 02 19.2**	**0.0**
MLIR3				*e*S	**Sb**	**09 02 26.2**	**-0.9**
CHIR3	**Chiriqui UPA,**	**0.69**	**67**	⇓*e*P	**Pn**	**09 02 20.6**	**+1.4**
CHIR3				*e*S	**Sn**	**09 02 29.1**	**-1.4**
VITO	**San Vito**	**0.69**	**0**	⇑*i*P	**Pn**	**09 02 19.5**	**+0.1**
VITO				*e*S	**Sb**	**09 02 27.4**	**+0.1**
RSRNO	**Rio Sereno**	**0.70**	**9**	⇑*e*P	**Pn**	**09 02 19.5**	**0.0**
RSRNO				*e*S	**Sb**	**09 02 27.6**	**0.0**
RSRNO	**Rio Sereno**	**0.70**	**9**	⇑*i*P	**Pn**	**09 02 19.5**	**0.0**
CLLRA	**Cordillera,**	**0.71**	**30**	⇓*i*P	**Pn**	**09 02 19.4**	**-0.2**
CLLRA				*e*S	**Sb**	**09 02 27.8**	**-0.2**
CLLRA	**Cordillera,**	**0.71**	**30**	⇓*i*P	**Pn**	**09 02 19.4**	**-0.2**
BRU2	**Volcan**	**0.72**	**23**	⇓*i*P	**Pn**	**09 02 19.5**	**-0.3**
BRU2				*e*S	**Sb**	**09 02 27.3**	**-1.0**
BRU2	**Volcan**	**0.72**	**23**	⇓*i*P	**Pn**	**09 02 19.5**	**-0.3**
BRU2				*e*S	**Sb**	**09 02 27.3**	**-1.0**
SCLRA	**Santa Clara, W**	**0.73**	**15**	*e*P	**Pn**	**09 02 19.7**	**-0.2**
SCLRA	**Santa Clara, W**	**0.73**	**15**	⇓*i*P	**Pn**	**09 02 19.7**	**-0.2**
TBS2		**0.74**	**25**	⇓*e*P	**Pn**	**09 02 20.6**	**+0.6**
PTAR3	**Potrerillos Ar**	**0.74**	**40**	⇓*i*P	**Pn**	**09 02 20.0**	**+0.1**
PTAR3				*e*P	**Pn**	**09 02 20.1**	**+0.1**
PTAR3				*e*S	**Sg**	**09 02 27.2**	**+1.1**
BC3P	**Paso Ancho**	**0.78**	**27**	*e*P	**Pn**	**09 02 20.1**	**-0.4**
BQSF3	**Alto Boquete,**	**0.81**	**41**	*e*P	**Pn**	**09 02 20.8**	**-0.2**
BQSF3				*e*S	**Sg**	**09 02 28.5**	**0.0**
ALCO	**Alturas Coton,**	**0.83**	**9**	⇑*e*P	**Pn**	**09 02 20.6**	**-0.7**
ALCO				*e*S	**Sg**	**09 02 29.0**	**-0.1**
LNBQ3	**Los Naranjos,**	**0.85**	**38**	⇓*i*P	**Pn**	**09 02 21.1**	**-0.4**
LNBQ3				*e*S	**Sg**	**09 02 30.5**	**+0.9**
PSOM3	**Paja de Sombre**	**0.85**	**49**	⇓*i*P	**Pn**	**09 02 21.6**	**+0.1**
PSOM3				*e*S	**Sg**	**09 02 30.6**	**+0.9**
EDP2	**Potrero Grande**	**0.91**	**347**	⇑*i*P	**Pn**	**09 02 22.8**	**+0.5**
EDP2				*e*S	**Sb**	**09 02 33.3**	**-0.2**
FIMO	**Fila Mora**	**0.94**	**336**	⇑*e*P	**Pn**	**09 02 23.6**	**+0.9**
FIMO				*e*S	**Sb**	**09 02 35.1**	**+0.5**
PANP	**Palmar Norte**	**0.96**	**330**	⇑*e*P	**Pn**	**09 02 24.0**	**+1.1**
PANP				*e*S	**Sb**	**09 02 35.0**	**0.0**
PBNVO	**Pueblo Nuevo,**	**1.09**	**45**	⇓*i*P	**Pn**	**09 02 24.7**	**+0.1**
PBNVO				*e*S	**Sg**	**09 02 36.5**	**-0.7**
RBALA	**Bur**	**1.11**	**47**	⇓*i*P	**Pn**	**09 02 25.4**	**+0.5**
RBALA				*e*S	**Sg**	**09 02 37.4**	**-0.5**
RBALA	**Bur**	**1.11**	**47**	⇓*i*P	**Pn**	**09 02 25.4**	**+0.5**
BURE	**Buenos Aires**	**1.11**	**341**	⇑*i*P	**Pn**	**09 02 25.6**	**+0.7**
BURE				*e*S	**Sg**	**09 02 37.9**	**0.0**
DRK0	**Durika**	**1.17**	**347**	⇑*e*P	**Pn**	**09 02 26.0**	**+0.1**
DRK0				*e*S	**Sg**	**09 02 38.0**	**-1.0**
DRK0	**Durika**	**1.17**	**347**	⇑*i*P	**Pn**	**09 02 26.0**	**+0.1**
DRK0				*e*S	**Sg**	**09 02 39.0**	**-0.8**
EDPE	**Pejibaye, P**	**1.19**	**330**	⇑*e*P	**Pn**	**09 02 27.4**	**+1.3**
EDPE				*e*S	**Sb**	**09 02 41.7**	**+0.1**
SAJE	**San Jernim**	**1.33**	**336**	*e*P	**Pb**	**09 02 28.7**	**+0.6**
SAJE				*e*S	**Sg**	**09 02 43.7**	**-1.

CEDE	**Laguna Cedeo**	**2.91**	**324**	*eP*		**Pb**	**09 02 54.7**	**-0.3**
JUNT	**Juntas**	**2.91**	**318**	*eP*		**Pb**	**09 02 52.6**	**-2.4**
JTS	**Las Juntas de**	**2.91**	**318**	*eP*		**Pb**	**09 02 52.6**	**-2.4**
JTS	**Las Juntas de**	**2.91**	**318**	*eP*		**Pn**	**09 02 52.1**	**+2.3**
JTS				*eS*		**Sn**	**09 03 24.1**	**-1.4**
NYURE	**Nandayure**	**2.92**	**310**	*eP*		**Pb**	**09 02 54.5**	**-0.7**
TABAC	**Tabacon**	**2.95**	**323**	*eP*		**Pb**	**09 02 54.9**	**-0.9**
INVE	**Universidad In**	**3.12**	**319**	*eP*		**Pb**	**09 02 58.5**	**0.0**
QUEB	**Quebradon, Cot**	**3.13**	**323**	*eP*		**Pb**	**09 02 57.8**	**-0.9**
TIMP	**Tierras Morena**	**3.17**	**321**	*eP*		**Pb**	**09 02 57.9**	**-1.6**
BCIP	**Isla Barro Col**	**3.27**	**71**	*eP*		**Pb**	**09 02 57.4**	**-3.7**
MOTZ	**Rio Naranjo**	**3.29**	**321**	*eP*		**Pb**	**09 03 00.2**	**-1.2**
CUI	**Cuipilapa**	**3.32**	**320**	*eP*		**Pb**	**09 02 59.7**	**-2.4**
COLC	**Colonia**	**3.35**	**319**	*eP*		**Pb**	**09 03 01.3**	**-1.3**
LCHIL	**Los Chiles**	**3.37**	**329**	*eP*		**Pn**	**09 02 59.1**	**+3.0**
MESS	**Mesas**	**3.40**	**320**	*eP*		**Pb**	**09 03 01.2**	**-2.2**
VMAR	**Armenia, Volca**	**3.41**	**322**	*eP*		**Pb**	**09 03 01.9**	**-1.7**
UPAL	**Upala**	**3.42**	**324**	*eP*		**Pb**	**09 03 00.8**	**-2.8**
GPS2	**Hotel Rincn d**	**3.52**	**318**	*eP*		**Pb**	**09 03 03.1**	**-2.2**
GPS3	**Bodega del ICE**	**3.52**	**318**	*eP*		**Pb**	**09 03 06.1**	**+0.6**
ALIBA	**Liberia Airpor**	**3.53**	**314**	*eP*		**Pb**	**09 03 03.0**	**-2.7**
ELI1	**Hacienda Flor**	**3.58**	**315**	*eP*		**Pb**	**09 03 03.8**	**-2.6**
ELI1				*eS*		**Sn**	**09 03 42.6**	**+0.8**
LAPC	**Finca la Perla**	**3.58**	**317**	*eP*		**Pb**	**09 03 03.1**	**-3.4**
LCRUZ	**La Cruz**	**3.94**	**318**	*eP*		**Pb**	**09 03 08.6**	**-4.0**
BLUN	**Bluefields**	**3.94**	**348**	*eP*		**Pn**	**09 03 05.3**	**+1.4**
ACON	**Acoyapa**	**4.39**	**331**	*eP*		**Pn**	**09 03 12.6**	**+2.4**

*IDC **15** 09:06:11.0±1.0,25.69S×64.68W,h0km,mb3.9/3, mbtmp3.8/8,ML3.9/5,Error ellipse: s-maj=22.5km s-min=19.9km az=106.0*
*VAO **15** 09:06:14.7±1.0,25.95S×64.86W,h45km±7km,mb4.2*
*SJA **15** 09:06:14.2±0.4,25.79S×64.78W,h16km±3km, ML4.5, MW4.1*
*NEIC **15** 09:06:19.3±2.4,25.48S±0.07×64.40W±0.08,h37km±17km, mb4.3/4,Error ellipse: s-maj=10.6km s-min=9.4km az=216.0*

ISC 15 09:06:16.9±0.6,**25.75S**±0.05×**64.64W**±0.05,**h35**km,**n63,** σ2**9**.**00**/61,**mb3.9/3,Salta Province**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FSA	**Cafayete**	**1.26**	**253**	*eP*		**Pn**	**09 06 36.9**	**-1.2**
FSA				*eS*		**Sn**	**09 06 52.1**	**-1.9**
SLA	**San Lorenzo**	**1.29**	**323**	*eP*		**Pn**	**09 06 38.1**	**-0.5**
SLA				IAML			09 06 57.4	
	comp=Z,8μm,0.6s							
SALTA		**2.16**	**314**	*eP*		**Pn**	**09 06 51.8**	**+0.8**
SALTA				IAML			09 07 22.1	
	comp=Z,8μm,0.5s							
CYA	**Choya**	**2.87**	**201**	*eP*		**Pn**	**09 07 00.9**	**+0.7**
CYA				*eS*		Sn	09 07 45.5	+12
CYA				IAML			09 07 46.8	
	comp=Z,990nm,0.4s							
YJA	**Yavi**	**3.65**	**347**	*eP*		**Pn**	**09 07 13.0**	**+1.8**
YJA				*eS*		**Sn**	**09 07 58.6**	**+5.3**
AC02	**Maricunga**	**4.17**	**254**	Pn		Pn	09 07 25.7	+7.2
ACLC	**CERRO LA CRUZ**	**4.20**	**209**	*eP*		**Pn**	**09 07 18.9**	**+0.3**
AF01	**San Pedro de A**	**4.26**	**310**	Pn		**Pn**	**09 07 22.4**	**+2.8**
VCA	**Vinchina**	**4.35**	**226**	*eP*		**Pn**	**09 07 21.7**	**+1.1**
VCA				*eS*		Sn	09 08 23.2	+13
VCA				IAML			09 08 34.4	
	comp=Z,926nm,0.4s							
GO02	**Mina Guanaco**	**4.51**	**276**			**Pn**	**09 07 25.2**	**+2.2**
GO02	**Mina Guanaco**	**4.51**	**276**	*eP*		**Pn**	**09 07 24.9**	**+1.9**
GO02				*eS*		Sn	09 08 33.5	+19
APLL	**PUNTA DE LOS L**	**4.92**	**199**	*eP*		**Pn**	**09 07 28.6**	**+0.2**
APLL				*eS*		Sn	09 08 41.6	+18
AGUA	**GUANDACOL**	**5.05**	**222**	*eP*		**Pn**	**09 07 31.8**	**+1.5**
AGUA				IAML			09 09 01.4	
	comp=Z,194nm,0.4s							
GO03	**Copiapo**	**5.33**	**249**	Pn		Pn	09 07 40.0	+5.9
PB14	**IPOC Station P**	**5.34**	**281**			**Pn**	**09 07 35.4**	**+0.9**
PB06	**IPOC Station P**	**5.42**	**303**			**Pn**	**09 07 36.7**	**+1.2**
PB09	**IPOC Station P**	**5.77**	**312**	Pn		**Pn**	**09 07 43.4**	**+3.3**
PB05	**IPOC Station P**	**5.83**	**298**			**Pn**	**09 07 44.1**	**+3.0**
PB03	**IPOC Station P**	**5.95**	**307**			**Pn**	**09 07 44.7**	**+2.0**
CO01	**Juntas del Tor**	**6.40**	**228**			**Pn**	**09 07 52.0**	**+3.0**
PB01	**IPOC Station P**	**6.46**	**315**			**Pn**	**09 07 51.3**	**+1.6**
PB02	**IPOC Station P**	**6.53**	**311**			**Pn**	**09 07 51.8**	**+1.1**
CPUP	**Villa Florida**	**6.60**	**97**			**Pn**	**09 07 52.2**	**+0.7**
CPUP	**Villa Florida**	**6.60**	**97**	Pn		**Pn**	**09 07 51.6**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=126,slow=12,SNR=24							
CPUP					Lg	Lg	09 09 40.0	
	comp=Z,3.4nm,0.3s,baz=148,slow=8.1,SNR=3.0							
	comp=Z,1.2nm,0.3s							
ZON	**Zonda**	**6.78**	**211**			Pn	09 07 59.2	+5.3
PB08	**IPOC Station P**	**6.96**	**322**			**Pn**	**09 07 57.3**	**+0.5**
GO01	**Chusmiza**	**7.37**	**324**			**Pn**	**09 08 03.5**	**+1.1**
PB11	**IPOC Station P**	**7.54**	**321**	Pn		**Pn**	**09 08 05.0**	**+0.4**
SJPY	**San Joaquin**	**7.76**	**86**	*eP*		**Pn**	**09 08 08.0**	**+0.6**
SJPY				*eS*		**Sn**	**09 09 38.4**	**+4.3**
PB16	**IPOC Station P**	**8.65**	**328**			**Pn**	**09 08 21.2**	**+1.0**
BDQN	**Bodoquena, MS**	**8.98**	**56**	*eP*		**Pn**	**09 08 23.6**	**-0.6**
MT08	**Bocatoma Ro**	**8.98**	**210**			Pn	09 08 34.1	+10
AQDB	**Aquidauana**	**9.76**	**59**			**Pn**	**09 08 33.8**	**-1.0**
LPAZ	**La Paz**	**9.96**	**340**			**Pn**	**09 08 38.0**	**-0.1**
LPAZ	**La Paz**	**9.96**	**340**	Pn		**Pn**	**09 08 36.2**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=138,slow=7.3,SNR=12							
	comp=Z,0.9nm,0.4s							
LPAZ	**La Paz**	**9.96**	**340**	*eP*		**Pn**	**09 08 37.4**	**-0.8**
SIV	**San Ignacio**	**10.27**	**20**	Pn		**Pn**	**09 08 39.6**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=213,slow=9.6,SNR=31							
SIV					Sn	**Sn**	**09 10 31.2**	**-4.6**
	comp=Z,0.1nm,0.3s,baz=210,slow=17,SNR=1.3							
SIV					Lg	Lg	09 11 35.3	
	comp=Z,0.1nm,0.3s,baz=283,slow=19,SNR=2.0							
	comp=Z,4.1nm,0.3s							
CPSB	**Cacapava Do Su**	**10.92**	**118**	*eP*		**Pn**	**09 08 49.8**	**-0.9**
PLTB	**Pedras Altas**	**11.38**	**124**			**Pn**	**09 08 55.7**	**-1.4**
PTLB	**Pontes e Lacer**	**11.47**	**28**	*eP*		**Pn**	**09 08 59.9**	**+1.6**
TRQA	**Tornquist**	**12.47**	**170**	Pn		**Pn**	**09 09 09.7**	**-2.2**
PLCA	**Paso Flores**	**15.73**	**197**	Pn		**P**	**09 10 02.0**	**+2.5**
PLCA				IAmb		IAmb	09 10 36.9	
	comp=Z,7.9nm,1.4s							
PLCA	**Paso Flores**	**15.73**	**197**	Pn		**Pn**	**09 09 56.7**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=46,slow=13,SNR=2.9							
PLCA					Lg	Lg	09 14 32.4	
	comp=Z,0.1nm,0.3s,baz=285,slow=21,SNR=3.4							
	comp=Z,2.3nm,1.1s							
CLDB	**Colider**	**17.00**	**31**	*eP*		**P**	**09 10 13.4**	**-0.3**
BDFB	**Brasilia**	**18.50**	**60**	P		**Pn**	**09 10 29.2**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=248,slow=11,SNR=3.7							
	comp=Z,0.9nm,0.3s							
SNDB	**Serra Nova Dou**	**18.61**	**45**	*eP*		**Pn**	**09 10 31.8**	**-0.2**
NPGB	**Novo Progresso**	**20.60**	**27**	*eP*		Pn	09 10 53.0	-2.7
COYC	**Coyhaique**	**20.66**	**195**	P		Pn	09 10 58.5	+2.5
COYC				IAmb		IAmb	09 11 27.4	
	comp=Z,20nm,1.2s							
JANB	**Januaria**	**21.79**	**65**	*eP*		**P**	**09 11 05.7**	**-0.4**
TBTG	**Tabatinga, AM**	**22.03**	**346**	P		**P**	**09 11 07.3**	**-1.2**
TBTG				IAmb		IAmb	09 11 08.1	
	comp=Z,33nm,1.0s							
TBTG	**Tabatinga, AM**	**22.03**	**346**	*eP*		**P**	**09 11 07.2**	**-1.3**
TEFE	**Tefe**	**22.11**	**0**	*eP*		**P**	**09 11 08.8**	**-0.6**
SDBA	**SAO DESIDERIO**	**22.85**	**58**	*eP*		**P**	**09 11 17.0**	**-0.4**
ITTB	**Itaituba**	**22.91**	**23**	*eP*		**P**	**09 11 16.6**	**-1.3**
SMTB	**Santa Maria do**	**23.34**	**47**	*eP*		**P**	**09 11 21.9**	**-0.4**
PRPB	**Parauapebas**	**24.08**	**39**	*eP*		**P**	**09 11 28.6**	**-0.7**
GUA01	**Guaratinga, BA**	**24.86**	**73**	*eP*		**P**	**09 11 35.0**	**-1.3**
MG05	**Puerto Natales**	**26.57**	**191**	P		**P**	**09 11 58.6**	**+7.1**
QSPA	**South Pole Qui**	**64.46**	**180**	P		**P**	**09 16 49.4**	**-0.3**
	comp=Z,1.0nm,1.0s,baz=205,slow=5.6,SNR=2.0							
	comp=Z,1.0nm,1.0s							
TXAR	**Lajitas Array**	**66.35**	**323**	P		**P**	**09 17 00.8**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=146,slow=7.3,SNR=5.2							
	comp=Z,0.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**75.23**	**67**	P		**P**	**09 17 55.7**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=265,slow=5.1,SNR=4.4							
	comp=Z,1.4nm,0.4s							
ASAR	**Alice Springs**	**127.69**	**202**	PKP		**PKPdf**	**09 25 18.3**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=148,slow=1.8,SNR=4.1							
MKAR	**Makanchi Array**	**146.43**	**43**	PKPbc		**PKPbc**	**09 25 53.5**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=280,slow=3.6,SNR=6.6							

*ASRS **15** 09:14:17.0±1.0,54.30N×86.91E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **15** 09:14:19.4±3.1,54.32N×86.90E,h0km,mbtmp3.0/2, ML2.7/1,Error ellipse: s-maj=26.4km s-min=18.2km az=48.0.*

ISC 15 09:14:13.9±3.0,**54.6N**±0.2×**87.2E**±0.1,**h0**km,**n7,**σ2**9**.**08**/8, **2C-2D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.53**	**247**	I		I	09 22 20.0	
	baz=76,slow=315,SNR=12							
ZAA0	**Zalesovo Array**	**1.53**	**246**	⇓P		**Pg**	**09 14 42.5**	**-0.7**
	0.4nm,0.3s,baz=66,slow=16							
ZAA0				⇑S		**Sg**	**09 15 04.0**	**+0.9**
	2.0nm,0.5s,baz=76,slow=27							
ZALV	**Zalesovo Beam**	**1.53**	**246**	Pg		**Pg**	**09 14 42.5**	**-0.7**
	2.0nm,0.3s,baz=73,slow=17,SNR=23							
ZALV					Lg	Lg	09 15 00.2	
	3.4nm,0.3s,baz=74,slow=26,SNR=10							
ZALV					Rg	Rg	09 15 08.4	
	13nm,0.5s,baz=71,slow=32,SNR=8.7							
KURBB	**Kurchatov Arra**	**6.60**	**237**	Pn		**Pn**	**09 15 54.3**	**+2.2**
	0.8nm,0.3s,baz=54,slow=14,SNR=1.0							
KURBB					Lg	Lg	09 17 43.3	
	baz=53,slow=29,SNR=4.8							
MK31	**Makanchi Array**	**8.39**	**204**	P		**Pn**	**09 16 16.5**	**-0.2**
	baz=26,slow=13,SNR=13							
MK31				⇓S		**Sn**	**09 17 50.2**	**-1.9**
	0.3nm,0.5s,baz=24,slow=30							
MKAR	**Makanchi Array**	**8.39**	**204**	Pn		**Pn**	**09 16 19.6**	**+2.8**
	0.1nm,0.3s,baz=26,slow=14,SNR=7.5							
MKAR					Lg	Lg	09 18 37.3	
	0.1nm,0.3s,baz=24,slow=27,SNR=5.6							
	0.2nm,0.3s							
SURR	**Surduc**	**41.21**	**285**	⇑S		**S**	**09 28 12.5**	**-1.8**

IDC 15 09:26:49.6±2.2,**0.62N**×**126.41E**,**h0**km,**mb3.3**/3, **mbtmp3.3**/3,**Error ellipse: s-maj=180.7km s-min=28.6km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.86**	**160**	P		P	09 31 43.1	-1.0
	0.6nm,0.7s,baz=338,slow=11,SNR=5.1							
	0.6nm,0.7s							
ASAR	**Alice Springs**	**25.22**	**164**	P		P	09 32 17.9	+0.7
	0.7nm,0.7s,baz=345,slow=9.5,SNR=8.1							
	0.7nm,0.7s							
MKAR	**Makanchi Array**	**59.93**	**326**	P		P	09 36 57.5	-0.1
	0.1nm,0.3s,baz=122,slow=6.6,SNR=2.6							
	0.1nm,0.3s							

SJA 15 09:40:06.1±0.7,**29.46S**×**68.75W,h10**km±2km,**ML3.9, MW3.5,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AGUA	**GUANDACOL**	**0.23**	**96**	*eP*		Pb	09 40 12.0	-0.5
AGUA				IAML			09 40 17.5	
	comp=Z,34μm,0.4s							
ACDV	**Cuesta del Vie**	**0.77**	**204**	*eP*		Pg	09 40 16.1	-4.9
ACDV				*eP*		Pb	09 40 21.6	-0.2
VCA	**Vinchina**	**0.87**	**34**	*eP*		Pg	09 40 22.8	-0.1
VCA				*eS*		Sg	09 40 34.6	+0.3
VCA				IAML			09 40 36.6	
	comp=Z,4μm,0.2s							
AROD	**Rodeo**	**0.94**	**222**	*eP*		Pb	09 40 24.8	+0.1
AROD				*eS*		Sb	09 40 37.9	+0.5
ACCO	**Cerro Coronel**	**1.15**	**193**	*eP*		Pb	09 40 28.0	-0.3
ACCO				*eP*		Pg	09 40 28.1	-0.3
ACCO				*eS*		Sn	09 40 45.6	+1.0
CO01	**Juntas del Tor**	**1.27**	**246**	*eP*		Pg	09 40 30.6	-0.1
CO01				*eS*		Sn	09 40 47.6	+0.2
ACLC	**CERRO LA CRUZ**	**1.57**	**89**	*eP*		Pb	09 40 35.1	-0.3
ACLC				*eS*		Sb	09 40 55.7	+0.3
ACLC				IAML			09 40 57.1	
	comp=Z,2μm,0.3s							
LCO	**Las Campanas**	**1.76**	**284**	*eP*		Pb	09 40 39.1	+0.5
LCO				*eS*		Sg	09 41 02.1	-0.6
LCO				IAML			09 41 05.1	
	comp=Z,990nm,0.6s							
RTLL	**Cerro Villicun**	**1.88**	**173**	*eP*		Pb	09 40 40.8	+0.3
RTLL				*eS*		Sg	09 41 05.5	-0.9
GO04	**Tololo Observa**	**1.91**	**248**	*eP*		Pn	09 40 39.6	+0.7
GO04				*eS*		Sg	09 41 07.6	-0.1
SJA	**San Juan**	**2.06**	**175**	*eP*		Pg	09 40 44.9	-0.9
SJA				IAML			09 41 17.6	
	comp=Z,322nm,0.3s							
ZON	**Zonda**	**2.08**	**178**	*eP*		Pb	09 40 44.5	+0.6
ZON				*eS*		Sb	09 41 09.6	-0.2
APLL	**PUNTA DE LOS L**	**2.14**	**116**	*eP*		Pb	09 40 44.1	-0.9
APLL				*eS*		Sn	09 41 10.0	+1.4
CO03	**El Pedregal**	**2.17**	**230**	*eP*		Pb	09 40 46.4	+0.9
CO03				*eS*		Sn	09 41 10.6	+1.4
CO03				IAML			09 41 21.7	
	comp=Z,798nm,0.6s							
GO03	**Copiapo**	**2.27**	**325**	*eP*		Pb	09 40 48.0	+0.7
GO03				*eS*		Sb	09 41 17.1	+1.7
RTLS	**Leoncito**	**2.38**	**191**	*eS*		Sg	09 41 21.8	-0.7
RTLS				IAML			09 41 31.2	
	comp=Z,779nm,0.7s							
AC04	**Llanos de Chal**	**2.39**	**301**	*eP*		Pb	09 40 49.2	0.0
AC04				*eS*		Sn	09 41 16.2	+1.6
CO02	**Combarbal**	**2.60**	**228**	*eP*		Pb	09 40 53.4	+0.5
CO02				*eS*		Sb	09 41 25.5	+0.5
CO02				IAML			09 41 32.2	
	comp=Z,576nm,0.4s							
AC02	**Maricunga**	**2.64**	**353**	*eP*		Pb	09 40 54.3	+0.5
AC02				*eS*		Sg	09 41 31.8	+0.8
CYA	**Choya**	**2.78**	**69**	*eP*		Pn	09 40 53.1	+2.4
CYA				*eS*		Sb	09 41 28.0	-2.0
CYA				IAML			09 41 34.3	
	comp=Z,357nm,0.6s							
ASAL	**Salagasta**	**3.12**	**181**	*eS*		Sb	09 41 36.6	-3.3
VA03	**San Esteban**	**3.63**	**205**	*eP*		Pn	09 40 55.1	-7.3
VA03				*eS*		Sg	09 42 00.1	-2.7
VA03				IAML			09 42 06.0	
	comp=Z,227nm,0.9s							
AC01	**Pan de Azucar**	**3.68**	**333**	*eP*		Pn	09 41 06.0	+2.9
AC01				*eS*		Sb	09 41 54.8	-1.2
AC01				IAML			09 42 02.4	
	comp=Z,110nm,0.4s							
MRA	**San Martin**	**3.94**	**139**	*eP*		Pn	09 41 09.6	+3.0
MRA				*eS*		Sg	09 42 10.8	-1.7
MRA				IAML			09 42 11.0	
	comp=Z,173nm,0.4s							
MT04	**Ro Olivares**	**4.10**	**196**	*eS*		Sg	09 42 14.2	-3.8
MT04				IAML			09 42 14.9	
	comp=Z,93nm,1.4s							
FSA	**Cafayete**	**4.15**	**37**	*eP*		Pn	09 41 13.4	+3.7
FSA				*eS*		Sb	09 42 13.5	+4.0
MT05	**Renca**	**4.27**	**203**	*eP*		Pn	09 41 15.9	+4.8
MT05				IAML			09 42 23.4	
	comp=Z,67nm,0.5s							
MT03	**Universidad Ad**	**4.29**	**200**	*eP*		Pn	09 41 16.1	+4.7
MT03				*eS*		Sb	09 42 13.7	+0.2
MT03				IAML			09 42 22.1	
	comp=Z,91nm,0.5s							
LMEL	**Las Melosas**	**4.54**	**195**	*eP*		Pn	09 41 20.1	+5.1
MT01	**Popeta**	**4.88**	**205**	*eP*		Pn	09 41 22.6	+3.1
BO01	**Tunca**	**5.30**	**201**	*eP*		Pn	09 41 28.0	+2.7
RFA	**San Rafael**	**5.30**	**177**	IAML			09 43 01.1	
	comp=Z,125nm,0.4s							

*AUST **15** 09:47:55.1±0.7,19.5S×12.1E±*,h10km,mb4.0/5, ML3.2/6,Error ellipse: s-maj=13.5km s-min=5.5km az=140.0*

ISC 15 09:47:51.8±1.4,**18.58S**±0.09×**120.33E**±0.08,**h10**km,**n19,** σ2**3**.**37**/25,**Western Australia**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.63**	**192**	P		**Pb**	**09 48 37.3**	**-1.7**
PSA00	**Pilbara Seismi**	**3.02**	**189**	P		**Pb**	**09 48 43.9**	**-1.7**
PSA00				S		**Sb**	**09 49 21.3**	**-1.2**
PSA00	**Pilbara Seismi**	**3.02**	**189**	P		**Pb**	**09 48 44.1**	**-1.5**
PSAA1	**Pilbara Seismi**	**3.02**	**189**	P		**Pb**	**09 48 44.3**	**-1.4**
PSAA1				S		**Sb**	**09 49 21.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**5.07**	**85**	P		**Pn**	**09 49 09.2**	**+1.3**
FITZ	**Fitzroy Crossi**	**5.07**	**85**	S		**Sn**	**09 50 04.8**	**-1.7**
GIRL	**Giralia**	**7.00**	**234**	P		**Pn**	**09 49 36.2**	**+1.9**
GIRL				S		**Sn**	**09 50 52.8**	**-1.2**
MEEK	**Meekatharra**	**8.18**	**191**	P		**Pn**	**09 49 54.4**	**+3.8**
	comp=Z,12nm,1.0s,comp=Z,0.1nm							
MEEK	**Meekatharra**	**8.18**	**191**	S		**Sn**	**09 51 24.0**	**+0.9**
MEEK	**Meekatharra**	**8.18**	**191**	P		**Pn**	**09 49 54.6**	**+4.0**
CVQOZ	**Cooralya Stati**	**8.24**	**224**	P		**Pn**	**09 49 54.0**	**+2.6**
CVQOZ				S		**Sn**	**09 51 21.3**	**-3.4**
KNRA	**Kununurra**	**8.56**	**72**	P		**Pn**	**09 49 57.1**	**+1.2**
	comp=Z,24nm,2.4s,comp=Z,0.1nm							
KNRA				S		**Sn**	**09 51 28.3**	**-4.4**
WRKA	**Warakurna**	**9.80**	**132**	P		**Pn**	**09 50 16.8**	**+3.9**
	comp=Z,2.6nm,2.7s,comp=Z,0.0nm							
WRKA				S		**Sn**	**09 52 03.4**	**+0.2**
MORW	**Morawa**	**11.15**	**200**	P		**Pn**	**09 50 33.1**	**+1.6**
	comp=Z,1.4nm,2.5s							
MORW	**Morawa**	**11.15**	**200**	P		**Pn**	**09 50 33.7**	**+2.3**
BLDU	**Ballidu**	**12.43**	**195**	P		**Pn**	**09 50 50.6**	**+1.7**
	comp=Z,12nm,2.0s							
BLDU	**Ballidu**	**12.43**	**195**	P		**Pn**	**09 50 50.9**	**+2.1**
MUN	**Mundaring**	**13.85**	**195**	P		**Pn**	**09 51 09.6**	**+1.3**
NWAO	**Narrogin (SRO)**	**14.56**	**190**	P		**Pn**	**09 51 18.6**	**+0.7**

*ASRS **15** 09:50:13.0±1.5,53.68N×86.92E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 15 09:50:17.0±2.8,**53.71N**×**87.01E**,**h0**km,**mbtmp2.7**/2, **ML2.4**/2,**Error ellipse: s-maj=24.6km s-min=14.4km az=75.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**281**	I		I	09 58 34.0	
	baz=102,slow=320,SNR=5.0							
ZALV	**Zalesovo Beam**	**1.32**	**281**	Pg		Pg	09 50 40.0	-2.3
	1.1nm,0.3s,baz=100,slow=16,SNR=8.7							
ZALV					Lg	Lg	09 50 59.6	
	1.8nm,0.3s,baz=103,slow=28,SNR=9.4							
KURBB	**Kurchatov Arra**	**6.06**	**243**	Pn		Pn	09 51 49.1	+1.2
	0.1nm,0.3s,baz=58,slow=13,SNR=2.4							
KURBB					Lg	Lg	09 53 29.4	
	baz=66,slow=37,SNR=2.9							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**7.55**	**205**	Pn		Pn	09 52 09.6	+1.3
	0.1nm,0.3s,baz=23,slow=13,SNR=3.1							
MKAR					Sn	Sn	09 53 35.3	+0.7
	0.1nm,0.3s,baz=28,slow=27,SNR=2.7							
	0.2nm,0.3s							

*IDC **15** 10:08:27.0±1.3,0.65N×126.77E,h0km,mb3.9/7, mbtmp3.9/7,Error ellipse: s-maj=132.3km s-min=18.0km az=68.0*

ISC 15 10:08:31.3±1.7,**0.9N**±0.5×**12.7E**±*,**h35**km,**n7,**σ0**6**.**60**/7, **mb4.0**/7,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.76**	**162**	P		**P**	**10 13 19.9**	**-0.1**
	5.0nm,0.8s,baz=338,slow=11,SNR=18							
	5.0nm,0.8s							
ASAR	**Alice Springs**	**25.19**	**166**	P		**P**	**10 13 54.8**	**+1.0**
	2.5nm,0.9s,baz=350,slow=10,SNR=20							
	2.5nm,0.9s							
SONM	**Songino Array**	**50.22**	**342**	P		**P**	**10 17 23.9**	**-0.1**
	0.2nm,0.3s,baz=165,slow=6.0,SNR=1.9							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**60.31**	**326**	P		**P**	**10 18 36.6**	**0.0**
	1.1nm,0.8s,baz=121,slow=8.6,SNR=8.0							
	1.1nm,0.8s							
KURBB	**Kurchatov Arra**	**64.52**	**328**	P		**P**	**10 19 04.7**	**0.0**
	1.5nm,0.7s,baz=127,slow=6.3,SNR=14							
	1.5nm,0.7s							
BVAR	**Borovoye Array**	**70.10**	**327**	P		**P**	**10 19 40.1**	**+0.2**
	0.8nm,0.6s,baz=114,slow=7.0,SNR=5.0							
	0.8nm,0.6s							
QSPA	**South Pole Qui**	**90.81**	**180**	P		**P**	**10 21 30.2**	**-0.6**
	1.0nm,1.1s,baz=342,slow=3.2,SNR=1.6							
	1.0nm,1.

CLL	**Collm**	**28.85**	**76**	*e*P		**P**	**10 18 36.0**	**-0.1**
SPITS	**Spitsbergen Ar**	**29.84**	**19**	P		**P**	**10 18 45.2**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=251,slow=14,SNR=12							
	comp=Z,1.6nm,0.6s							
GERES	**GERESS Array B**	**30.37**	**80**	P		**P**	**10 18 49.2**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=316,slow=5.6,SNR=4.3							
	comp=Z,0.6nm,0.7s							
ARCES	**ARCESS Array B**	**30.81**	**37**	P		**P**	**10 18 52.6**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=258,slow=8.2,SNR=18							
	comp=Z,0.8nm,0.5s							
BLKN	**Baker Lake**	**31.42**	**313**	P		**P**	**10 18 57.9**	**-0.7**
BLKN				IAmb		IAmb	10 19 05.0	
	comp=Z,6.2nm,1.0s							
FINES	**FINESS Array B**	**32.26**	**52**	P		**P**	**10 19 06.2**	**+0.2**
FINES	**FINESS Array B**	**32.26**	**52**	P		**P**	**10 19 06.0**	**0.0**
	comp=Z,2.0nm,0.9s,baz=260,slow=8.3,SNR=5.2							
	comp=Z,2.0nm,0.9s							
KEST	**Kesra**	**35.79**	**103**	P		**P**	**10 19 37.5**	**+0.5**
	comp=Z,5.3nm,0.9s,baz=11,slow=4.6,SNR=3.7							
	comp=Z,5.3nm,0.9s							
R50A	**Paris**	**36.71**	**265**			**P**	**10 19 45.8**	**+1.0**
R50A				IAmb		IAmb	10 19 48.4	
	comp=Z,7.0nm,1.0s							
S51A	**Beattyville**	**36.71**	**263**	P		**P**	**10 19 45.9**	**+1.0**
BURAR	**Bucovina Array**	**37.60**	**75**			**P**	**10 19 53.5**	**+1.1**
T50A	**Nancy**	**37.86**	**264**			**P**	**10 19 56.0**	**+1.4**
AKASG	**Malin Array Be**	**38.18**	**68**	P		**P**	**10 19 56.6**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=302,slow=8.3,SNR=9.1							
	comp=Z,1.4nm,0.6s							
U49A	**Red Boiling Sp**	**38.76**	**264**	P		**P**	**10 20 03.3**	**+1.2**
YKA	**Yellowknife Ar**	**39.91**	**315**	P		**P**	**10 20 11.7**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=96,slow=8.5,SNR=4.1							
	comp=Z,1.0nm,0.7s							
SIUC	**Southern Illin**	**39.95**	**268**	IAmb		IAmb	10 20 15.5	
	comp=Z,8.2nm,0.8s							
S44A	**Carbondale**	**39.99**	**268**	IAmb		IAmb	10 20 20.0	
	comp=Z,9.0nm,0.9s							
ECSD	**EROS Data Cent**	**40.43**	**281**			**P**	**10 20 17.2**	**+1.2**
PBMO	**Poplar Bluff**	**41.30**	**268**	P		**P**	**10 20 23.6**	**+0.5**
PBMO				IAmb		IAmb	10 20 26.2	
	comp=Z,10.0nm,1.0s							
LCAR	**Lake Charles**	**42.21**	**268**	IAmb		IAmb	10 20 31.2	
	comp=Z,5.3nm,0.7s							
Z47A	**Carrollton**	**42.42**	**262**			**P**	**10 20 32.9**	**+0.5**
Z47A				IAmb		IAmb	10 20 34.8	
	comp=Z,10nm,1.1s							
WHAR	**Wooly Hollow**	**43.41**	**268**	IAmb		IAmb	10 20 47.7	
	comp=Z,8.9nm,1.0s							
F31M	**Tsiigehtchic**	**44.51**	**327**			**P**	**10 20 48.5**	**-0.3**
F31M				IAmb		IAmb	10 20 49.4	
	comp=Z,10nm,1.2s							
MIAR	**Mount Ida**	**44.69**	**268**			**P**	**10 20 50.9**	**+0.2**
G31M	**Satah River**	**44.97**	**327**	IAmb		IAmb	10 20 54.5	
	comp=Z,8.6nm,1.1s							
F30M	**Barrier River**	**45.06**	**328**	IAmb		IAmb	10 20 54.0	
	comp=Z,5.2nm,0.8s							
E28M	**Babbage River**	**45.60**	**330**			**P**	**10 20 57.8**	**+0.3**
H31M	**Peel River**	**45.65**	**325**	IAmb		IAmb	10 21 12.4	
	comp=Z,8.9nm,1.4s							
G29M	**Pine Creek**	**46.17**	**328**	IAmb		IAmb	10 21 04.2	
	comp=Z,9.0nm,1.4s							
F28M	**Old Crow**	**46.31**	**329**			**P**	**10 21 02.6**	**-0.5**
F28M				IAmb		IAmb	10 21 05.0	
	comp=Z,5.8nm,1.4s							
E27K	**Coleen River**	**46.46**	**330**	IAmb		IAmb	10 21 16.3	
	comp=Z,4.2nm,1.1s							
I30M	**Mount Dempster**	**46.68**	**325**	IAmb		IAmb	10 21 11.3	
	comp=Z,5.4nm,1.2s							
WTLY	**Watson Lake, Y**	**46.99**	**317**	IAmb		IAmb	10 21 16.9	
	comp=Z,4.4nm,1.1s							
J30M	**Hart River**	**47.06**	**325**	IAmb		IAmb	10 21 11.3	
	comp=Z,5.6nm,1.1s							
I29M	**Ogilvie Camp,**	**47.23**	**326**	IAmb		IAmb	10 21 12.8	
	comp=Z,4.1nm,0.9s							
BR131	**Keskin Array S**	**47.24**	**78**	P		**P**	**10 21 12.1**	**+1.2**
BRTR	**Keskin Array B**	**47.24**	**78**	P		**P**	**10 21 12.1**	**+1.2**
	comp=Z,2.7nm,0.9s,baz=300,slow=5.6,SNR=7.8							
	comp=Z,2.7nm,0.9s							
G27K	**Doyon Strip**	**47.36**	**329**	IAmb		IAmb	10 21 18.2	
	comp=Z,5.7nm,1.4s							
FARO	**Faro, Yukon**	**47.45**	**321**	IAmb		IAmb	10 21 20.0	
	comp=Z,4.3nm,1.4s							
WMOK	**Wichita Mounta**	**47.61**	**273**	IAmb		IAmb	10 21 22.0	
	comp=Z,3.0nm,1.0s							
I28M	**Miner Creek**	**47.70**	**327**	IAmb		IAmb	10 21 16.6	
	comp=Z,3.8nm,1.0s							
BMAR	**Burnt Mountain**	**47.81**	**331**			**P**	**10 21 15.2**	**+0.3**
G26K	**Porcupine Rive**	**47.90**	**330**	IAmb		IAmb	10 21 23.5	
	comp=Z,4.3nm,1.0s							
K29M	**Barlow Dome**	**47.93**	**324**	IAmb		IAmb	10 21 31.5	
	comp=Z,4.7nm,1.1s							
ISCO	**Idaho Springs**	**48.12**	**283**			**P**	**10 21 19.6**	**+1.7**
ISCO				IAmb		IAmb	10 21 21.2	
	comp=Z,4.1nm,1.1s							
R33M	**Jennings River**	**48.30**	**317**	IAmb		IAmb	10 21 35.1	
	comp=Z,7.6nm,1.4s							
PDAR	**Pinedale Array**	**48.38**	**288**	P		**P**	**10 21 19.5**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=52,slow=6.8,SNR=10.0							
	comp=Z,0.7nm,0.6s							
DAWY	**Dawson**	**48.42**	**325**	IAmb		IAmb	10 21 21.2	
	comp=Z,5.2nm,1.3s							
F24K	**Squaw Lake**	**48.69**	**332**	IAmb		IAmb	10 21 25.0	
	comp=Z,7.1nm,1.5s							
M29M	**Somme Creek**	**49.16**	**323**	IAmb		IAmb	10 21 30.0	
	comp=Z,6.3nm,1.2s							
G23K	**Bananza Creek**	**49.85**	**332**	IAmb		IAmb	10 21 39.0	
	comp=Z,5.9nm,1.2s							
BCAR	**Beaver Creek A**	**49.88**	**325**	P		**P**	**10 21 31.5**	**+0.7**
HYT	**Haines Junctio**	**49.88**	**321**	IAmb		IAmb	10 21 39.0	
	comp=Z,5.0nm,1.2s							
SCRK	**Sand Creek**	**49.98**	**327**	IAmb		IAmb	10 21 35.0	
	comp=Z,6.1nm,1.2s							
TORD	**Torodi Ar. Bea**	**50.18**	**130**	P		**P**	**10 21 33.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**50.18**	**130**	P		**P**	**10 21 32.8**	**-0.8**
	comp=Z,3.7nm,0.8s,baz=340,slow=9.2,SNR=7.4							
	comp=Z,3.7nm,0.8s							
HWUT	**Hardware Ranch**	**50.27**	**289**			**P**	**10 21 34.1**	**-0.1**
ILAR	**Eielson Array**	**50.33**	**329**	P		**P**	**10 21 33.9**	**-0.2**
ILAR	**Eielson Array**	**50.33**	**329**	P		**P**	**10 21 34.9**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=39,slow=6.0,SNR=7.3							
	comp=Z,0.7nm,0.9s							
MSTX	**Muleshoe**	**50.49**	**275**	IAmb		IAmb	10 21 39.1	
	comp=Z,9.7nm,1.5s							
COLA	**College**	**50.55**	**329**	P		**P**	**10 21 37.1**	**+1.4**
PV03	**Paradox Valley**	**51.01**	**284**	IAmb		IAmb	10 21 43.0	
	comp=Z,5.0nm,1.1s							
PV17	**East Wray Mesa**	**51.06**	**284**	IAmb		IAmb	10 21 42.2	
	comp=Z,3.3nm,0.7s							
PV13	**Radium Mtn., P**	**51.06**	**283**	IAmb		IAmb	10 21 44.2	
	comp=Z,6.3nm,1.1s							
E19K	**Redstone River**	**51.18**	**335**	IAmb		IAmb	10 21 47.9	
	comp=Z,5.2nm,1.0s							
IMAR	**Indian Mountai**	**51.41**	**333**	P		**P**	**10 21 43.2**	**+1.0**
MMAI	**Mount Meron Ar**	**52.92**	**83**	P		**P**	**10 21 54.7**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=345,slow=11,SNR=1.8							
	comp=Z,0.6nm,0.3s							
SAND	**Sanderson**	**53.01**	**271**	IAmb		IAmb	10 21 55.2	
	comp=Z,3.3nm,0.7s							
DBIC	**Dimbokro**	**53.36**	**141**	P		**P**	**10 21 56.4**	**-0.9**
	comp=Z,3.4nm,0.6s,baz=359,slow=7.9,SNR=5.9							
	comp=Z,3.4nm,0.6s							
J05D	**Fort Rock, OR**	**54.37**	**296**	IAmb		IAmb	10 22 06.5	
	comp=Z,3.3nm,0.9s							
TXAR	**Lajitas Array**	**54.37**	**272**	P		**P**	**10 22 04.5**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=58,slow=7.6,SNR=6.2							
	comp=Z,0.5nm,0.7s							
AB31	**Akbulak array**	**54.75**	**53**	P		**P**	**10 22 07.4**	**+0.4**
ABKAR	**Akbulak array**	**54.75**	**53**	P		**P**	**10 22 07.4**	**+0.4**
BVAR	**Borovoye Array**	**56.63**	**44**	P		**P**	**10 22 21.0**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=320,slow=5.8,SNR=11							
	comp=Z,2.3nm,0.8s							
HERN	**Volcan Telica**	**57.91**	**245**	IAmb		IAmb	10 22 29.2	
	comp=Z,60nm,0.7s							
ROSC	**El Rosal**	**58.56**	**227**	P		**P**	**10 22 35.0**	**0.0**
	comp=Z,6.0nm,0.4s,baz=110,slow=12,SNR=4.4							
	comp=Z,6.0nm,0.4s							
RCBR	**Riachuelo**	**59.84**	**181**	LR		LR	10 44 55.1	
	comp=Z,77nm,18.7s,baz=216,slow=32							
ZALV	**Zalesovo Beam**	**61.35**	**36**	P		**P**	**10 22 53.3**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=297,slow=9.5,SNR=2.2							
	comp=Z,0.8nm,0.5s							
KURK	**Kurchatov**	**61.69**	**41**			**P**	**10 22 55.7**	**+0.1**
KURK				IAmb		IAmb	10 22 58.5	
	comp=Z,3.9nm,1.1s							
KURBB	**Kurchatov Arra**	**61.73**	**41**	P		**P**	**10 22 55.8**	**0.0**
	comp=Z,2.7nm,0.8s,baz=324,slow=7.2,SNR=16							
	comp=Z,2.7nm,0.8s							
MAKZ	**Makanchi**	**66.15**	**42**			**P**	**10 23 23.6**	**-1.4**
MAKZ				IAmb		IAmb	10 23 25.9	
	comp=Z,4.7nm,1.2s							
MKAR	**Makanchi Array**	**66.29**	**42**			**P**	**10 23 26.0**	**+0.1**
MKAR	**Makanchi Array**	**66.29**	**42**	P		**P**	**10 23 25.9**	**0.0**
	comp=Z,1.8nm,0.8s,baz=334,slow=5.6,SNR=13							
	comp=Z,1.8nm,0.8s							
GAR	**Garm**	**67.35**	**54**			**P**	**10 23 33.5**	**+0.7**
SONM	**Songino Array**	**73.24**	**26**	P		**P**	**10 24 08.5**	**-0.3**
SONM	**Songino Array**	**73.24**	**26**	P		**P**	**10 24 08.8**	**0.0**
	comp=Z,1.8nm,1.0s,baz=347,slow=6.1,SNR=6.8							
	comp=Z,1.8nm,1.0s							
QSPA	**South Pole Qui**	**144.12**	**180**	PKP		PKPbc	10 32 09.8	-0.5
	comp=Z,1.1nm,0.8s,baz=164,slow=0.9,SNR=6.3							
WRA	**Warramunga Ar**	**144.84**	**17**	PKP		PKPbc	10 32 13.8	-0.1
	comp=Z,0.8nm,1.0s,baz=347,slow=3.0,SNR=7.8							
ASAR	**Alice Springs**	**148.39**	**19**	PKPbc		**PKPbc**	**10 32 23.6**	**-0.6**
	comp=Z,3.3nm,0.6s,baz=352,slow=2.4,SNR=58							

*OSPL **15** 10:16:47.5±2.5, 19°.56N×70°.02W, h0km±16km, ML2.0*
*SDD **15** 10:16:49.2±2.2, 19°.54N×70°.19W, h12km±31km, MD2.9, ML2.2, MW2.5*

ISC 15 10:16:48.2±1.1, 19°.55N±0°.04×70°.12W±0°.03, h7km±10km, n17, σ1°68/26, 16C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CADR	**Cabrera**	**0.21**	**57**	↑*e*Sg		**Sg**	**10 16 57.8**	**+2.6**
CADR						IAML	10 16 58.5	
	comp=N,442nm,0.1s							
SC01	**Santiago de lo**	**0.58**	**258**	*e*S		**Sb**	**10 17 09.2**	**0.0**
DR08	**Loma La Naviza**	**0.59**	**171**	↑*e*Pg		**Pb**	**10 17 01.3**	**+0.3**
DR08						IAML	10 17 10.9	
	comp=N,750nm,0.2s							
ABDR	**Alto Bandera**	**0.88**	**213**	↑*e*Pg		**Pg**	**10 17 04.8**	**-0.3**
ABDR						IAML	10 17 56.4	
	comp=N,63nm,0.2s							
SMDR	**Samana, DR**	**0.92**	**106**	↑*e*Sg		**Sn**	**10 17 21.3**	**+0.2**
SMDR						IAML	10 17 54.4	
	comp=N,61nm,1.7s							
HATOM	**Hato Mayor del**	**1.03**	**137**	↓*e*Pg		**Pg**	**10 17 07.3**	**-0.8**
HATOM				↑*e*Sg		**Sn**	**10 17 23.3**	**-0.7**
HATOM						IAML	10 17 46.6	
	comp=N,27nm,2.2s							
LOPP1	**Punta Rusia, P**	**1.06**	**287**	*i* P		**Pg**	**10 17 07.6**	**-1.0**
LOPP1				*e*S		**Sg**	**10 17 22.9**	**+0.6**
LOPP1						IAML	10 17 24.0	
	comp=Z,30nm,1.3s							
MIDR	**Miches**	**1.16**	**119**	↑*e*Pg		**Pg**	**10 17 10.0**	**-0.5**
MIDR				↑*e*Sg		**Sn**	**10 17 27.4**	**+0.4**
MIDR						IAML	10 17 30.1	
	comp=N,22nm,0.4s							
BANI	**BANI**	**1.18**	**191**	↑*e*Pg		**Pg**	**10 17 09.1**	**-1.7**
BANI				↑*e*Sg		**Sg**	**10 17 24.9**	**-1.2**
BANI						IAML	10 17 28.6	
	comp=N,142nm,0.2s							
SDDR	**Presa de Saban**	**1.24**	**243**	↑*e*Pg		**Pg**	**10 17 09.8**	**-2.3**
SDDR				↑*e*Sg		**Sg**	**10 17 27.0**	**-1.1**
SDDR						IAML	10 17 30.1	
	comp=N,17nm,0.7s							
SDDR	**Presa de Saban**	**1.24**	**243**	*i* P		**Pg**	**10 17 10.3**	**-1.7**
SDDR						IAML	10 17 29.9	
	comp=Z,17nm,0.9s							
REDR	**Restauracion**	**1.26**	**252**	↑*e*Pg		**Pg**	**10 17 14.2**	**+1.8**
REDR				↑*e*Sg		**Sn**	**10 17 34.7**	**+5.3**
REDR						IAML	10 17 37.4	
	comp=N,35nm,0.3s							
MCDR	**Montecristi**	**1.48**	**283**	↑*e*Sg		**Sn**	**10 17 34.9**	**-0.1**
MCDR						IAML	10 17 35.9	
	comp=N,18nm,0.2s							
LONE3	**El Aguacate, B**	**1.58**	**233**	*i* P		**Pn**	**10 17 17.1**	**+0.4**
LONE3				*e*S		**Sg**	**10 17 39.8**	**+0.8**
LONE3						IAML	10 17 41.2	
	comp=Z,12nm,0.9s							
HIDR	**Higuey Centro**	**1.64**	**125**	↑*e*Pg		**Pb**	**10 17 18.9**	**+0.1**
HIDR				↑*e*Sg		**Sg**	**10 17 42.5**	**+1.5**
HIDR						IAML	10 17 46.1	
	comp=N,47nm,0.2s							
LODU1	**El Espartillar**	**1.75**	**227**	*i* P		**Pn**	**10 17 19.4**	**+0.4**
LODU1						IAML	10 17 50.8	
	comp=Z,37nm,2.8s							
GRTK	**Grand Turk**	**2.17**	**334**	*i* P		**Pn**	**10 17 22.9**	**-1.9**
GRTK				*e*S		**Sn**	**10 17 51.1**	**-0.8**
GRTK						IAML	10 17 51.8	
	comp=Z,47nm,2.6s							

IDC 15 10:20:32.0±1.5, 0°.39N×126°.12E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=156.9km s-min=22.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.75**	**159**	P		P	10 25 24.3	-1.0
	1.1nm,0.5s,baz=337,slow=11,SNR=15							
	1.1nm,0.5s							
ASAR	**Alice Springs**	**25.08**	**163**	P		P	10 25 59.2	+0.8
ASAR	0.5nm,0.5s,baz=342,slow=10,SNR=13			PcP		PcP	10 29 32.8	-0.6
	0.2nm,0.6s,baz=346,slow=1.6,SNR=2.0							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**59.97**	**327**	P		P	10 30 39.3	-1.0
	0.2nm,0.4s,baz=116,slow=6.6,SNR=2.8							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**64.23**	**329**	P		P	10 31 09.6	+0.8
	0.6nm,0.8s,baz=126,slow=6.7,SNR=4.1							
	0.6nm,0.8s							

PGC 15 10:22:49.2±1.7, 51°.19N×130°.55W, h10km, MLSn1.8/11, Mw2.4/11, 197km southwest of Bella Bella, Bc Haida Gwaii Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JEDB	**Jedway, Haida**	**1.18**	**340**	P		Pb	10 23 09.3	-2.3
JEDB				S		Sb	10 23 24.1	-2.7
BAIB	**Barry Inlet**	**1.57**	**332**	Pn		Pn	10 23 14.8	-2.4
BAIB				Sn		Sn	10 23 34.1	-3.7
HOLB	**Holberg**	**1.62**	**109**	Pn		Pn	10 23 15.8	-2.1
HOLB				Sn		Sn	10 23 35.3	-3.6
BBB	**Bella Bella**	**1.81**	**56**	Pn		Pn	10 23 18.9	-1.6
BBB				Sn		Sn	10 23 39.4	-4.0
PHC	**Port Hardy**	**2.03**	**103**	Pn		Pn	10 23 21.2	-2.2
PHC				Sn		Sn	10 23 44.7	-4.1
PACB	**Port Alice, BC**	**2.08**	**110**	Pn		Pn	10 23 22.5	-1.6
PACB				Sn		Sn	10 23 46.2	-3.8
MOBC	**Moresby Island**	**2.14**	**336**	Sn		Sn	10 23 48.3	-3.4
BUTB	**Butedale**	**2.27**	**34**	Pn		Pn	10 23 25.9	-1.0
MAYB	**Maynard**	**2.28**	**109**	Pn		Pn	10 23 25.4	-1.7
MAYB				Sn		Sn	10 23 51.3	-4.0
BNAB	**Bonilla**	**2.31**	**359**	Sn		Sn	10 23 52.1	-3.5
GRIB	**Gribbell Islan**	**2.32**	**21**	Pn		Pn	10 23 25.8	-1.6
GRIB				Sn		Sn	10 23 53.0	-3.0
DI2B	**Dawson Inlet**	**2.34**	**330**	Sn		Sn	10 23 52.6	-3.8
GRNB	**Grenville Isla**	**2.68**	**7**	Pn		Pn	10 23 31.3	-1.2
GRNB				Sn		Sn	10 24 01.9	-3.1
WOSB	**Woss**	**2.73**	**111**	Pn		Pn	10 23 32.3	-0.9
WOSB				Sn		Sn	10 24 03.3	-3.0

PGC 15 10:23:24.3±0.1, 50°.96N×128°.98W, h7km, MLSn1.7/10, Mw2.3/10, 107km west of Port Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

*BJI **15** 10:35:17.5, 0°.96S×128°.22E, h10km, mB5.3/43, mb5.0/82, Ms4.8/70, Ms7 4.6/67*
*NEIC **15** 10:35:24.5±2.0, 0°.44S±0°.05×127°.84E±0°.07, h10km±1km, mb5.2/216, Mww5.2/14, Error ellipse: s-maj=12.1km s-min=8.5km az=65.0*
*NEIC **15** 10:35:24.4, 0°.44S×127°.84E, h14km*
*NEIC **15** 10:35:24.4, 0°.44S×128.04E, h14km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^16^Nm; Mrr-0.85; Mθθ-1.59; Mφφ2.44; Mrθ-3.36; Mθφ7.57; Mφr-1.35; Fault plane solution: Mo8.67000×10^16^ NP1: φs171.71000°, δ66.06000°, λ178.79000°. NP2: φs262.20000°, δ88.89000°, λ23.95000°. Principal axes: T 9.2470, Plg17.0000°, Azm130.0000°; N -1.3093, Plg66.0000°, Azm265.0000°; P -7.9377, Plg16.0000°, Azm34.0000°;*

*DJA **15** 10:35:25.7±0.4, 0°.5S±2°×12°.8E±°, h13km±3km, M5.2/67, mb5.4/67, mB5.7/41, MLv5.4/22, Mw(mB)5.2/41, MwMwp5.2/2, Mwp5.4/2*
*GCMT **15** 10:35:26.4±0.2, 0°.46S±0°.01×127°.83E±0°.01, h12km, MW5.3/127, Moment Tensor Solution. s31,c36; s127,c205; Duration: 1s1 Moment tensor: Scale 10^17^ Nm; Mrr-0.25±.03; Mθθ0.08±.03; Mφφ0.16±.03; Mrθ0.68±.08; Mθφ0.92±.02; Mφr-0.42±.07; Best double couple: Mo1.21200×10^17^ NP1:φs5.00000°, δ58.00000°, λ-160.00000°. NP2:φs264.00000°, δ73.00000°, λ-33.00000°. Principal axes: T 1.0700, Plg9.0000°, Azm318.0000°; N 0.2840, Plg53.0000°, Azm60.0000°; P -1.3540, Plg35.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **15** 10:35:27.0±1.0, 0°.44S×127°.76E, h48km, mb5.3/50, MS4.9/4 Error ellipse: s-maj=9.0km s-min=5.2km az=111.2*
*IDC **15** 10:35:28.0±1.7, 0°.46S×127°.80E, h47km±16km, mb4.5/24, mbtmp4.7/28, ML5.0/4, MS4.6/26, Error ellipse: s-maj=16.9km s-min=8.7km az=82.0*

ISC 15 10:35:25.7±0.4, 0°.52S±0°.03×127°.82E±0°.04, h23km±2km, h23km:pP-P, n745, σ1°57/700, mb5.1/212, MS4.6/55, 19C-11D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.36**	**341**			**Pb**	**10 35 48.6**	**-1.9**
TNTI	**Ternate**	**1.36**	**341**	P		**Pb**	**10 35 48.8**	**-1.7**
TNTI	**Ternate**	**1.36**	**341**	S		**Sb**	**10 36 08.9**	**+1.4**
TNTI	**Ternate**	**1.36**	**341**	P		**Pb**	**10 35 48.6**	**-1.9**
SANI	**Sanana**	**2.38**	**230**	P		**Pn**	**10 36 03.3**	**-0.1**
SANI	**Sanana**	**2.38**	**230**	P		**Pn**	**10 36 02.8**	**-0.6**
NLAI	**Namlea**	**2.80**	**195**	P		**Pn**	**10 36 09.2**	**+0.1**
MSAI	**Masohi**	**3.02**	**158**	P		**Pn**	**10 36 13.7**	**+1.5**
AAI	**Ambon**	**3.17**	**173**	P		**Pn**	**10 36 15.2**	**+0.9**
SWI	**Sorong**	**3.46**	**96**	P		**Pn**	**10 36 17.4**	**-0.8**
KMSI	**Cibinong**	**3.99**	**286**	P		**Pn**	**10 36 27.2**	**+1.7**
BNDI	**Bandanaira**	**4.49**	**152**	P		**Pn**	**10 36 34.1**	**+1.7**
BNDI	**Bandanaira**	**4.49**	**152**	P		**Pn**	**10 36 34.3**	**+1.9**
SGSI	**Sangihe**	**4.76**	**331**	P		**Pn**	**10 36 36.8**	**+0.7**
FAKI	**Fak Fak**	**5.03**	**118**			**Pn**	**10 36 38.7**	**-1.2**
FAKI	**Fak Fak**	**5.03**	**118**	P		**Pn**	**10 36 39.4**	**-0.5**
FAKI	**Fak Fak**	**5.03**	**118**	P		**Pn**	**10 36 38.1**	**-1.8**
	1.6nm14µm4µm240nm,0.6s							
MRSI	**Marisa**	**5.96**	**280**	P		**Pn**	**10 36 54.2**	**+1.6**
	1.9nm5µm534nm,0.7s							
APSI	**Ampana**	**6.18**	**266**	P		**Pn**	**10 36 56.8**	**+1.1**
KDI	**Kendari**	**6.22**	**237**	P		**Pn**	**10 36 58.2**	**+2.0**
RKPI	**Ransiki, Papua**	**6.43**	**99**	P		**Pn**	**10 37 01.5**	**+2.3**
	2.5nm3µm271nm,0.7s							
BBSI	**Bau Bau**	**7.20**	**227**	P		**Pn**	**10 37 11.5**	**+1.9**
	1.7nm6µm518nm,1.0s							
TOLI2	**Tolitoli**	**7.22**	**283**			**Pn**	**10 37 11.1**	**+1.2**
TOLI2	**Tolitoli**	**7.22**	**283**	P		**Pn**	**10 37 11.7**	**+1.8**
DAV	**Davao City (W)**	**7.86**	**344**	P		**Pn**	**10 37 20.6**	**+1.8**
	27nm,0.3s,baz=198,slow=9.6,SNR=1.6							
	147nm,0.5s							
MPSI	**Mapaga**	**7.96**	**276**	P		**Pn**	**10 37 22.5**	**+2.3**
	1.0nm3µm323nm,1.4s							
PCI	**Palu**	**7.99**	**267**	P		**Pn**	**10 37 21.5**	**+1.0**
	4µm319nm,0.9s							
BAKI	**Biak**	**8.31**	**95**	P		**Pn**	**10 37 28.2**	**+3.2**
	112nm,0.9s							
TTSI	**Tana Toraja**	**8.38**	**252**	P		**Pn**	**10 37 27.2**	**+1.3**
	5µm476nm,0.8s							
BNSI	**Bone**	**8.61**	**243**	P		**Pn**	**10 37 31.6**	**+2.5**
	3µm271nm,0.7s							
SPSI	**Sidrap Palu**	**8.74**	**247**	P		**Pn**	**10 37 33.0**	**+2.2**
BKSI	**Bulukumba**	**9.04**	**238**	P		**Pn**	**10 37 37.6**	**+2.6**
BSSI	**Bau Bau, Buton**	**9.20**	**232**	P		**Pn**	**10 37 39.5**	**+2.3**
KAPI	**Kappang**	**9.21**	**241**	P		**Pn**	**10 37 40.1**	**+2.8**
	37nm,0.3s,baz=87,slow=3.6,SNR=69							
KAPI				S		**Sn**	**10 39 18.7**	**-1.6**
	20nm,0.5s,baz=5.5,slow=6.1,SNR=1.1							
KAPI				LR		LR	10 41 23.8	
	comp=Z,4µm,20.3s,baz=70,slow=39							
KAPI	**Kappang**	**9.21**	**241**	P		**Pn**	**10 37 40.1**	**+2.8**
MMRI	**Maumere**	**9.79**	**214**			**Pn**	**10 37 46.1**	**+0.8**
MMRI	**Maumere**	**9.79**	**214**	P		**Pn**	**10 37 48.6**

UGM	**Wanagama**	**18.74**	**246**	P	**Pn**	**10 39 46.7**	**+3.0**	**FORT**	**Forrest**	**30.10**	**180**	IAmb	IAmb	10 41 43.8			LYN			PP	**PnPn**	**10 44 11.8**	**+4.3**
UGM	**Wanagama**	**18.74**	**246**	P	**Pn**	**10 39 47.0**	**+3.3**		comp=Z,25nm,0.7s								LYN			S	**S**	**10 48 33.0**	**+3.9**
	comp=Z,115nm,1.4s							**FORT**	**Forrest**	**30.10**	**180**	P	**P**	**10 41 32.9**	**-0.7**		LYN			pmax	pmax		
SZP	**Santa**	**19.36**	**338**	P	**Pn**	**10 39 52.2**	**+1.1**		comp=Z,43nm,0.8s									comp=Z,53nm,0.7s					
WB0	**Warramunga Arr**	**20.19**	**162**		**P**	**10 39 58.0**	**-1.0**	**GSI**	**Gunungsitoli**	**30.29**	**273**	P	**P**	**10 41 35.8**	**+0.1**		LYN			pmax	pmax		
WB9	**Warramunga Arr**	**20.21**	**162**	P	**P**	**10 39 57.5**	**-1.6**	**GSI**	**Gunungsitoli**	**30.29**	**273**	P	**P**	**10 41 38.2**	**+2.6**			comp=Z,400nm,4.2s					
COEN	**Coen**	**20.23**	**132**	P	**P**	**10 39 59.9**	**+0.4**	**QLP**	**Quilpie**	**30.35**	**150**	P	**P**	**10 41 35.3**	**-0.6**		LYN			LR	LR		
COEN				IAmb	IAmb	10 40 09.1			comp=Z,22nm,0.8s									comp=Z,2µm,17.7s					
	comp=Z,132nm,1.1s							**QLP**	**Quilpie**	**30.35**	**150**	P	**P**	**10 41 38.6**	**+2.7**		LYN			LR	LR		
COEN	**Coen**	**20.23**	**132**	P	**P**	**10 39 59.0**	**-0.4**	**MORW**	**Morawa**	**30.54**	**201**	P	**P**	**10 41 38.1**	**+0.5**			comp=Z,700nm,16.7s					
	comp=Z,116nm,1.2s								comp=Z,15nm,1.4s								LYN			LR	LR		
COEN	**Coen**	**20.23**	**132**	P	**P**	**10 39 59.1**	**-0.4**	**JCJ**	**Chichijima**	**30.74**	**26**	LR	LR	10 52 34.2				comp=Z,2µm,17.8s					
TPI	**Tanjungpandan**	**20.28**	**263**	P	Pn	10 40 01.0	-1.0		comp=Z,322nm,19.0s,baz=45,slow=33								**KSAR**	**Wonju Array Be**	**37.77**	**0**	P	**P**	**10 42 40.1**	**+0.1**
	comp=Z,144nm,1.3s							**BLDU**	**Ballidu**	**31.74**	**198**	P	**P**	**10 41 47.8**	**-0.3**		**KSAR**	**Wonju Array Be**	**37.77**	**0**	P	**P**	**10 42 40.2**	**+0.1**
WRAB	**Tennant Creek**	**20.33**	**162**	P	**P**	**10 39 59.2**	**-1.3**		comp=Z,17nm,1.0s								**KSRS**	**Korea Array**	**37.78**	**0**	P	**P**	**10 42 39.4**	**-0.8**
WRAB	**Tennant Creek**	**20.33**	**162**	P	**P**	**10 39 59.2**	**-1.3**	**BLDU**	**Ballidu**	**31.74**	**198**	P	**P**	**10 41 50.5**	**+2.4**			comp=Z,7.8nm,0.9s,baz=179,slow=10,SNR=28					
WRAB				pmax	pmax			**SLVN**	**Son La**	**31.90**	**314**	IAmb	IAmb	10 42 00.8				comp=Z,7.8nm,0.9s					
	comp=Z,65nm,1.1s								comp=Z,56nm,1.6s								**TIA**	**Tai'an**	**37.87**	**346**	P	**P**	**10 42 40.9**	**-0.1**
WRA	**Warramunga Arr**	**20.33**	**162**	P	**P**	**10 39 58.7**	**-1.8**	**SLVN**	**Son La**	**31.90**	**314**	P	**P**	**10 41 51.5**	**+1.8**		TIA			sP	**pP**	**10 42 46.5**	**-1.6**
WRA	**Warramunga Arr**	**20.33**	**162**	P	**P**	**10 39 59.4**	**-1.1**	**CNSH**	**ChangSha**	**31.91**	**335**	P	**P**	**10 41 50.4**	**+0.8**		TIA			S	**S**	**10 48 37.8**	**+6.6**
	comp=Z,32nm,1.0s,baz=346,slow=12,SNR=32							CNSH				S	**S**	**10 46 58.8**	**-0.7**		TIA			SS	**SS**	**10 51 13.5**	**-4.6**
WRA				S	**S**	**10 43 40.4**	**-7.2**	CNSH				pmax	pmax				TIA			pmax	pmax		
	comp=Z,2.2nm,0.8s,baz=344,slow=18,SNR=3.3								comp=Z,16nm,1.0s									comp=Z,21nm,1.1s					
WRA				LR	LR	10 49 03.9		CNSH				LR	LR				TIA			pmax	pmax		
	comp=Z,2µm,18.9s,baz=353,slow=40								comp=Z,570nm,22.0s									comp=Z,360nm,7.9s					
	comp=Z,32nm,1.0s							CNSH				LR	LR				TIA			LR	LR		
WRA	**Warramunga Arr**	**20.33**	**162**	P	**P**	**10 39 58.7**	**-1.8**		comp=Z,810nm,21.8s									comp=Z,660nm,14.8s					
WRA				pmax	pmax			CNSH				LR	LR				TIA			LR	LR		
	comp=Z,1.0nm,0.9s								comp=Z,590nm,21.8s									comp=Z,740nm,12.8s					
JCJI	**Jatiwangi**	**20.39**	**253**	P	Pn	10 40 06.1	+2.8	**SSE**	**Sheshan**	**32.06**	**349**	P	**P**	**10 41 51.3**	**+0.4**		TIA			LR	LR		
	comp=Z,297nm,1.3s							SSE				S	**S**	**10 47 05.9**	**+4.1**			comp=Z,910nm,19.3s					
CMJI	**Cimerak**	**20.61**	**249**	P	Pn	10 40 04.6	-1.3	SSE				sS	**sS**	**10 47 14.8**	**+1.6**		**TNCH**	**TengChong**	**38.06**	**314**	⇑P	**P**	**10 42 43.1**	**+0.1**
	comp=Z,382nm,0.9s							SSE				pmax	pmax				TNCH			sP	sP	10 42 52.3	-0.5
LEM	**Lembang**	**21.10**	**252**	P	**P**	**10 40 10.5**	**+1.4**		comp=Z,23nm,0.9s								TNCH			S	**S**	**10 48 30.8**	**-4.0**
	comp=Z,93nm,0.7s,baz=67,slow=11,SNR=12							SSE				pmax	pmax				TNCH			SS	**SS**	**10 51 23.3**	**+0.8**
LEM				LR	LR	10 49 58.6			comp=Z,80nm,7.7s								TNCH			pmax	pmax		
	comp=Z,2µm,18.5s,baz=68,slow=41							SSE				LR	LR					comp=Z,270nm,4.6s					
	comp=Z,93nm,0.7s								comp=Z,420nm,14.1s								TNCH			LR	LR		
LEM	**Lembang**	**21.10**	**252**	P	**P**	**10 40 11.5**	**+2.4**	**KLBR**	**Kellerberrin**	**32.34**	**196**	P	**P**	**10 41 53.9**	**+0.5**			comp=Z,700nm,16.8s					
	comp=Z,2µmcomp=Z,143nm,1.1s								comp=Z,40nm,0.8s								TNCH			LR	LR		
BBJI	**Bungbulang**	**21.26**	**251**	P	**P**	**10 40 14.2**	**+3.5**	**KLBR**	**Kellerberrin**	**32.34**	**196**	P	**P**	**10 41 55.5**	**+2.1**			comp=Z,640nm,14.2s					
CNJI	**Cibinong**	**21.70**	**251**	P	**P**	**10 40 17.2**	**+1.8**	**TATA**	**Tatamba Isabel**	**32.81**	**105**	P	**P**	**10 41 59.2**	**+1.5**		TNCH			LR	LR		
	comp=Z,82nm,1.0s							**SAVO**	**Savo Central**	**32.98**	**106**	P	**P**	**10 41 57.6**	**-1.7**			comp=Z,1µm,34.0s					
DBJI	**Dramaga**	**21.86**	**254**	P	**P**	**10 40 19.9**	**+2.9**	**WHN**	**Wuhan**	**33.44**	**339**	⇑P	**P**	**10 42 04.0**	**+1.0**		**MAJO**	**Matsushiro**	**38.12**	**14**	P	**P**	**10 42 42.3**	**-0.8**
	comp=Z,278nm,1.3s							WHN				sP	**sP**	**10 42 10.8**	**-1.9**		MAJO			IAmb	IAmb	10 42 50.2	
GUMO	**Guam**	**21.95**	**50**	LR	LR	10 47 35.0		WHN				PP	**PP**	**10 43 18.3**	**-0.7**			comp=Z,51nm,1.1s					
	comp=Z,1µm,21.0s,baz=230,slow=33							WHN				S	**S**	**10 47 27.5**	**+4.2**		**MAJO**	**Matsushiro**	**38.12**	**14**	P	**P**	**10 42 45.5**	**+2.4**
PSAC2	**Pilbara Seismi**	**22.30**	**200**	P	**P**	**10 40 21.6**	**-0.1**	WHN				sS	**sS**	**10 47 33.0**	**-1.8**		**MAJO**	**Matsushiro**	**38.12**	**14**	⇑*e*P	**P**	**10 42 41.9**	**-1.2**
	comp=Z,54nm,1.1s							WHN				pmax	pmax				MAJO			pmax	pmax		
PSAC1	**Pilbara Seismi**	**22.30**	**200**	P	**P**	**10 40 21.7**	**0.0**		comp=Z,250nm,1.1s									comp=Z,27nm,0.8s					
	comp=Z,58nm,1.4s							WHN				pmax	pmax				**MJAR**	**Matsushiro Arr**	**38.12**	**14**	P	**P**	**10 42 42.1**	**-1.0**
PSA00	**Pilbara Seismi**	**22.32**	**200**	P	**P**	**10 40 22.3**	**+0.4**		comp=Z,800nm,3.4s								MJAR			IAmb	IAmb	10 42 50.1	
PSA00	**Pilbara Seismi**	**22.32**	**200**	P	**P**	**10 40 22.8**	**+0.8**	WHN				LR	LR					comp=Z,38nm,1.1s					
PSA00				IAmb	IAmb	10 40 29.6			comp=Z,2µm,12.1s								**MJAR**	**Matsushiro Arr**	**38.12**	**14**	P	**P**	**10 42 41.2**	**-1.9**
	comp=Z,41nm,1.4s							WHN				LR	LR					comp=Z,20nm,0.8s,baz=185,slow=9.0,SNR=26					
PSA00	**Pilbara Seismi**	**22.32**	**200**	P	**P**	**10 40 23.6**	**+1.6**		comp=Z,1µm,14.6s								MJAR			LR	LR	10 56 19.9	
PSAB3	**Pilbara Seismi**	**22.34**	**200**	P	**P**	**10 40 22.5**	**+0.4**	WHN				LR	LR					comp=Z,2µm,21.2s,baz=212,slow=33					
	comp=Z,63nm,1.0s								comp=Z,3µm,26.5s									comp=Z,20nm,0.8s					
SBJI	**Serang**	**22.35**	**255**	P	**P**	**10 40 24.7**	**+2.4**	**NJ2**	**Nanjing**	**33.49**	**346**	⇓P	**P**	**10 42 04.6**	**+1.2**		**MJAR**	**Matsushiro Arr**	**38.12**	**14**	P	**P**	**10 42 42.1**	**-1.0**
	comp=Z,245nm,1.3s							NJ2				S	**S**	**10 47 30.8**	**+6.9**		MJAR			pmax	pmax		
DLV	**Lat**	**22.84**	**303**	P	**P**	**10 40 28.0**	**+0.2**	NJ2				pmax	pmax					comp=Z,38nm,1.1s					
DLV				IAmb	IAmb	10 40 44.5			comp=Z,31nm,0.8s								**MJB9**	**Matsu-Tunnel**	**38.12**	**14**	IAmb	IAmb	10 42 51.2	
	comp=Z,82nm,1.1s							NJ2				pmax	pmax					comp=Z,47nm,1.0s					
DLV	**Lat**	**22.84**	**303**	P	**P**	**10 40 28.5**	**+0.7**		comp=Z,300nm,5.5s								**ARPS**	**Mount Arapiles**	**38.34**	**162**	P	**P**	**10 42 44.6**	**-0.3**
CGJI	**Cibinong**	**22.89**	**254**	P	**P**	**10 40 28.9**	**+0.9**	NJ2				LR	LR					comp=Z,42nm,1.0s					
	comp=Z,145nm,1.2s								comp=Z,350nm,13.2s								**XAN**	**Xi'an**	**38.68**	**335**	P	**P**	**10 42 47.4**	**-0.6**
CGJI				pP	**pP**	**10 40 33.0**	**-1.4**	NJ2				LR	LR				XAN			S	**S**	**10 48 44.0**	**+0.4**
	comp=Z,145nm,1.2s								comp=Z,1µm,14.7s								XAN			pmax	pmax		
QIS	**Mount Isa**	**23.01**	**151**	P	**P**	**10 40 28.6**	**-0.7**	NJ2				LR	LR					comp=Z,72nm,1.0s					
	comp=Z,85nm,1.2s								comp=Z,630nm,17.0s								XAN			LR	LR		
QIS	**Mount Isa**	**23.01**	**151**	P	**P**	**10 40 29.8**	**+0.5**	**JNU**	**Nakatsue**	**33.58**	**5**	IAmb	IAmb	10 42 06.8				comp=Z,840nm,20.6s					
PMBI	**Palembang**	**23.16**	**264**	P	**P**	**10 40 33.6**	**+2.8**		comp=Z,38nm,1.1s								XAN			LR	LR		
KLI	**Kotabumi**	**23.33**	**259**	P	**P**	**10 40 34.8**	**+2.2**	**JNU**	**Nakatsue**	**33.58**	**5**	LR	LR	10 55 04.6				comp=Z,620nm,21.7s					
AS15	**Alice Springs**	**23.73**	**166**	P	**P**	**10 40 35.8**	**-0.6**		comp=Z,2µm,20.4s,baz=178,slow=35								XAN			LR	LR		
	comp=Z,111nm,1.2s							**JNU**	**Nakatsue**	**33.58**	**5**	P	**P**	**10 42 05.9**	**+1.6**			comp=Z,1µm,17.9s					
ASAR	**Alice Springs**	**23.76**	**166**	P	**P**	**10 40 35.6**	**-1.1**	**WHYH**	**Whyalla**	**33.62**	**165**	P	**P**	**10 42 05.7**	**+1.1**		**CD2**	**Chengdu**	**38.72**	**326**	P	**P**	**10 42 49.3**	**+1.0**
ASAR	**Alice Springs**	**23.76**	**166**	P	**P**	**10 40 35.8**	**-0.9**	**GYA**	**Guiyang**	**33.69**	**324**	P	**P**	**10 42 06.6**	**+1.2**		CD2			S	**S**	**10 48 49.6**	**+5.3**
	comp=Z,18nm,0.6s,baz=343,slow=10,SNR=167							GYA				S	**S**	**10 47 27.6**	**0.0**		CD2			pmax	pmax		
ASAR				PcP	**PcP**	**10 44 20.7**	**+0.4**	GYA				pmax	pmax					comp=Z,40nm,0.5s					
	comp=Z,2.8nm,1.0s,baz=347,slow=3.8,SNR=2.3								comp=Z,15nm,1.0s								CD2			LR	LR		
ASAR				S	**S**	**10 44 50.7**	**-0.2**	GYA				LR	LR					comp=Z,2µm,19.6s					
	comp=Z,25nm,1.2s,baz=346,slow=20,SNR=8.7								comp=Z,570nm,15.4s								CD2			LR	LR		
	comp=Z,18nm,0.6s							GYA				LR	LR					comp=Z,1µm,16.7s					
AS01	**Alice Springs**	**23.77**	**166**	P	**P**	**10 40 36.5**	**-0.2**		comp=Z,670nm,17.0s								**LUES**	**Luesalemba Tem**	**39.18**	**106**	P	**P**	**10 42 55.2**	**+2.9**
KASI	**Kota Agung**	**23.81**	**257**	P	**P**	**10 40 39.2**	**+2.0**	GYA				LR	LR				**JSD**	**Sado**	**39.56**	**13**	P	**P**	**10 42 56.4**	**+1.3**
	comp=Z,4µmcomp=Z,394nm,1.1s								comp=Z,730nm,22.7s								**HNS**	**HongShan**	**39.63**	**344**	⇓P	**P**	**10 42 56.1**	**+0.4**
AS19	**Alice Springs**	**23.81**	**166**	P	**P**	**10 40 36.4**	**-0.7**	**NWAO**	**Narrogin (SRO)**	**33.74**	**196**	P	**P**	**10 42 05.6**	**0.0**		HNS			S	S	10 49 06.5	+8.9
	comp=Z,60nm,0.8s								comp=Z,53nm,1.3s								HNS			pmax	pmax		
MTSU	**Mount Surprise**	**23.86**	**138**	P	**P**	**10 40 39.3**	**+1.6**	**NWAO**	**Narrogin (SRO)**	**33.74**	**196**	P	**P**	**10 42 07.4**	**+1.8**			comp=Z,27nm,1.2s					
	comp=Z,18nm,0.8s							**STKA**	**Stephens Creek**	**33.80**	**159**		**P**	**10 42 05.9**	**-0.3**		HNS			LR	LR		
MTSU	**Mount Surprise**	**23.86**	**138**	P	**P**	**10 40 40.2**	**+2.5**	**STKA**	**Stephens Creek**	**33.80**	**159**	P	**P**	**10 42 05.7**	**-0.4**			comp=Z,910nm,21.6s					
MDSI	**Maura Dua**	**23.94**	**260**	P	**P**	**10 40 40.3**	**+1.9**		comp=Z,145nm,1.2s								HNS			LR	LR		
MYKOM	**Kota Tinggi**	**24.07**	**276**	P	**P**	**10 40 40.5**	**+0.8**	**STKA**	**Stephens Creek**	**33.80**	**159**	P	**P**	**10 42 05.2**	**-1.0**			comp=Z,1µm,19.8s					
MYKOM				IAmb	IAmb	10 40 55.2			comp=Z,14nm,0.6s,baz=337,slow=9.1,SNR=13								**DL2**	**Dalian**	**39.64**	**352**	P	**P**	**10 42 53.8**	**-2.0**
	comp=Z,78nm,1.1s							STKA				LR	LR	10 59 10.0			DL2			S	**S**	**10 48 57.5**	**-0.3**
MYKOM	**Kota Tinggi**	**24.07**	**276**	P	**P**	**10 40 41.9**	**+2.2**		comp=Z,2µm,18.5s,baz=324,slow=42								DL2			pmax	pmax		
TWGBT	**Beinan**	**24.11**	**345**	P	**P**	**10 40 38.2**	**-1.7**		comp=Z,14nm,0.6s									comp=Z,14nm,0.6s					
WRKA	**Warakurna**	**24.38**	**179**	P	**P**	**10 40 41.9**	**-0.5**	**STKA**	**Stephens Creek**	**33.80**	**159**	P	**P**	**10 42 07.5**	**+1.3**		DL2			pmax	pmax		
	comp=Z,50nm,1.0s							**STKA**	**Stephens Creek**	**33.80**	**159**	P	**P**	**10 42 05.9**	**-0.3**			comp=Z,240nm,6.7s					
RABL	**Rabaul**	**24.59**	**99**	P	**P**	**10 40 43.0**	**-1.5**	STKA				pmax	pmax				DL2			LR	LR		
RABL				IAmb	IAmb	10 40 56.1			comp=Z,145nm,1.2s									comp=Z,480nm,18.0s					
	comp=Z,47nm,0.8s							**PTPS**	**Port Pirie**	**33.86**	**165**	P	**P**	**10 42 08.2**	**+1.5**		DL2			LR	LR		
YULB	**Yu-li**	**24.60**	**345**	IAmb	IAmb	10 40 52.1		**CM31**	**Chiang Mai Arr**	**34.07**	**305**	IAmb	IAmb	10 42 20.9				comp=Z,2µm,17.1s					
	comp=Z,106nm,1.5s								comp=Z,29nm,1.1s								DL2			LR	LR		
YULB	**Yu-li**	**24.60**	**345**	P	**P**	**10 40 46.0**	**+1.6**	**CMAR**	**Chiang Mai Arr**	**34.07**	**305**		**P**	**10 42 08.5**	**-0.2**			comp=Z,1µm,17.6s					
TPUB	**Ta-pu**	**24.69**	**344**	P	**P**	**10 40 45.9**	**+0.7**	**CMAR**	**Chiang Mai Arr**	**34.07**	**305**	P	**P**	**10 42 08.8**	**+0.1**		**BRAT**	**Ballarat**	**39.74**	**160**	P	**P**	**10 42 58.4**	**+1.8**
SSLB	**Suanglung**	**25.06**	**345**		**P**	**10 40 47.9**	**-0.7**		comp=Z,16nm,1.2s,baz=128,slow=7.1,SNR=30								**JMM**	**Marumori**	**40.03**	**16**	IAmb	IAmb	10 43 02.2	
SSLB				IAmb	IAmb	10 40 56.6		CMAR				PcP	**PcP**	**10 44 46.1**	**-0.1**			comp=Z,112nm,1.3s					
	comp=Z,64nm,0.8s								comp=Z,1.5nm,0.9s,baz=128,slow=2.7,SNR=2.6								**JMM**	**Marumori**	**40.03**	**16**	P	**P**	**10 43 00.9**	**+1.9**
SSLB	**Suanglung**	**25.06**	**345**	P	**P**	**10 40 48.9**	**+0.3**		comp=Z,16nm,1.2s								**TIY**	**Taiyuan**	**40.61**	**341**	*e*P	**P**	**10 43 04.5**	**+0.5**
MNAI	**Manna**	**25.13**	**261**	P	**P**	**10 40 50.5**	**+1.2**	**CMAR**	**Chiang Mai Arr**	**34.07**	**305**	*i* P	**P**	**10 42 09.6**	**+0.9**		TIY			S	**S**	**10 49 09.9**	**-2.6**
YOJ	**Yonaguni jima**	**25.27**	**350**	P	**P**	**10 40 50.5**	**+0.1**	CMAR				pmax	pmax				TIY			SS	**SS**	**10 52 10.6**	**-2.5**
YOJ	**Yonaguni jima**	**25.27**	**350**	P	**P**	**10 40 52.1**	**+1.7**		comp=Z,16nm,1.2s								TIY			pmax	pmax		
YOJ	**Yonaguni jima**	**25.27**	**350**	P	**P**	**10 40 50.5**	**+0.1**	**CHTO**	**Chiang Mai**	**34.25**	**306**	P	**P**	**10 42 11.1**	**+0.8**			comp=Z,36nm,0.7s					
YOJ				pmax	pmax			CHTO				IAmb	IAmb	10 42 21.7			TIY			pmax	pmax		
	comp=Z,113nm,1.0s								comp=Z,26nm,1.1s									comp=Z,150nm,4.7s					
NACB	**Ninganchiao**	**25.28**	**347**	P	**P**	**10 40 52.2**	**+1.7**	**CHTO**	**Chiang Mai**	**34.25**	**306**	P	**P**	**10 42 11.2**	**+0.9**		TIY			LR	LR		
GIRL	**Giralia**	**25.66**	**210**	P	**P**	**10 40 54.4**	**+0.4**	**CHTO**	**Chiang Mai**	**34.25**	**306**	P	**P**	**10 42 11.1**	**+0.8**			comp=Z,480nm,19.6s					
	comp=Z,88nm,1.4s							CHTO				pmax	pmax				TIY			LR	LR		
YHNB	**Yeheng**	**25.80**	**346**	P	**P**	**10 40 56.4**	**+1.0**		comp=Z,26nm,1.1s									comp=Z,790nm,15.1s					
TATO	**Taipei**	**26.07**	**347**	P	**P**	**10 40 57.1**	**-0.6**	**HTT**	**Hallett**	**34.36**	**163**	P	**P**	**10 42 10.9**	**-0.2**		TIY			LR	LR		
TATO	**Taipei**	**26.07**	**347**	P	**P**	**10 40 59.8**	**+2.1**		comp=Z,7.5nm,1.3s									comp=Z,590nm,21.8s					
QIZ	**Qiongzhong**	**26.25**	**319**	P	**P**	**10 40 59.9**	**+0.5**	**HTT**	**Hallett**	**34.36**	**163**	P	**P**	**10 42 14.4**	**+3.3**		**SANVU**	**Saraoutou**	**41.61**	**113**	P	**P**	**10 43 12.3**	**-0.1**
QIZ				S	**S**	**10 45 25.0**	**-5.7**	**JMN**	**Monobe**	**34.54**	**9**	P	**P**	**10 42 12.0**	**-0.6**		SANVU			IAmb	IAmb	10 43 22.2	
QIZ				pmax	pmax			JMN				IAmb	IAmb	10 42 21.1				comp=Z,51nm,0.7s					
	comp=Z,51nm,0.9s								comp=Z,63nm,1.3s								**SANVU**	**Saraoutou**	**41.61**	**113**	P	**P**	**10 43 14.4**	**+2.0**
QIZ				pmax	pmax			**JMN**	**Monobe**	**34.54**	**9**	P	**P**	**10 42 14.2**	**+1.6**		**BJT**	**Baijiatuao**	**41.72**	**347**	P	**P**	**10 43 12.8**	**-0.2**
	comp=Z,610nm,5.1s							**CMSA**	**Cobar Meteorol**	**35.19**	**153**	P	**P**	**10 42 17.8**	**-0.4**		**BJI**	**Beijing**	**41.74**	**347**	P	**P**	**10 43 12.6**	**-0.5**
QIZ				LR	LR				comp=Z,31nm,1.2s								BJI			sP	**pP**	**10 43 20.0**	**-0.1**
	comp=Z,900nm,21.6s							**CMSA**	**Cobar Meteorol**	**35.19**	**153**	P	**P**	**10 42 20.0**	**+1.8**		BJI			PP	**PnPn**	**10 44 52.8**	**-2.1**
QIZ				LR	LR			**KMI**	**Kunming**	**35.19**	**318**	P	**P**	**10 42 19.8**	**+1.2**		BJI			S	**S**	**10 49 28.6**	**-0.4**
	comp=Z,820nm,18.1s							KMI				sP	sP	10 42 26.3	-2.0		BJI			pmax	pmax		
QIZ				LR	LR			KMI				S	**S**	**10 47 52.9**	**+1.9**			comp=Z,15nm,1.1s					
	comp=Z,2µm,30.4s							KMI				pmax	pmax				BJI			pmax	pmax		
QIZ	**Qiongzhong**	**26.25**	**319**	P	**P**	**10 41 01.1**	**+1.7**		comp=Z,59nm,1.5s									comp=Z,120nm,9.7s					
QZH	**Quanzhou**	**26.84**	**341**	P	**P**	**10 41 05.3**	**+0.7**	KMI				LR	LR				BJI			LR	LR		
QZH				S	**S**	**10 45 40.8**	**+0.9**		comp=Z,610nm,14.4s									comp=Z,390nm,20.7s					
QZH				pmax	pmax			KMI				LR	LR				BJI			LR	LR		
	comp=Z,460nm,4.9s								comp=Z,730nm,20.3s									comp=Z,220nm,17.5s					
QZH				LR	LR			**ENH**	**Enshi**	**35.25**	**332**	P	**P**	**10 42 19.9**	**+1.2**		BJI			LR	LR		
	comp=Z,740nm,16.5s							**INU**	**Inuyama**	**36.70**	**13**	IAmb	IAmb	10 42 33.9				comp=Z,410nm,22.6s					
QZH				LR	LR				comp=Z,69nm,1.2s								**VLAKA**	**Lakatoro**	**42.01**	**114**	P	**P**	**10 43 17.8**	**+2.1**
	comp=Z,1µm,13.4s							**INU**	**Inuyama**	**36.70**	**13**	P	**P**	**10 42 31.8**	**+0.7**		**LZH**	**Lanzhou**	**42.71**	**331**	*e*P	**P**	**10 43 22.4**	**+1.1**
QZH				LR	LR			**TJN**	**Taejon**	**36.71**	**359**	P	**P**	**10 42 33.1**	**+2.0**		LZH			sP	sP	10 43 34.3	+3.2
	comp=Z,950nm,19.6s							**TJN**	**Taejon**	**36.71**	**359**	⇑*e*P	**P**	**10 42 31.9**	**+0.8**		LZH			S	**S**	**10 49 44.6**	**+0.8**
UBPT	**Khong Chiam**	**27.10**	**306**		**P**	**10 41 06.9**	**-0.2**	TJN				pmax	pmax					comp=Z,1.0nm,1.1s					
UBPT				IAmb	IAmb	10 41 18.0			comp=Z,1.0nm,1.1s								LZH			pmax	pmax		
	comp=Z,76nm,1.2s							**PZH**	**PanZhiHua**	**36.79**	**319**	P	**P**	**10 42 33.9**	**+1.8**			comp=Z,100nm,1.1s					
UBPT	**Khong Chiam**	**27.10**	**306**	P	**P**	**10 41 09.1**	**+2.0**	PZH				S	**S**	**10 48 19.1**	**+3.9**		LZH			pmax	pmax		
JOW	**Kunigami**	**27.20**	**1**	P	**P**	**10 41 08.9**	**+1.1**	PZH				pmax	pmax					comp=Z,500nm,4.8s					
IPM	**Ipoh**	**27.22**	**281**	IAmb	IAmb	10 41 23.2			comp=Z,20nm,0.8s								LZH			LR	LR		
	comp=Z,36nm,0.8s							PZH				pmax	pmax					comp=Z,960nm,19.9s					
IPM	**Ipoh**	**27.22**	**281**	P	**P**	**10 41 10.3**	**+2.0**		comp=Z,150nm,4.0s								LZH			LR	LR		
MEEK	**Meekatharra**	**27.44**	**198**	P	**P**	**10 41 10.3**	**+0.3**	PZH				LR	LR					comp=Z,1µm,20.1s					
	comp=Z,33nm,1.2s								comp=Z,580nm,20.1s								LZH			LR	LR		
MEEK	**Meekatharra**	**27.44**	**198**	P	**P**	**10 41 12.7**	**+2.6**	PZH				LR	LR					comp=Z,1µm,20.8s					
KULM	**Kulim**	**27.74**	**282**	IAmb	IAmb	10 41 24.5			comp=Z,470nm,15.2s								**MSHR**	**Mys Shultsa**	**43.01**	**4**⇑	*e*P	**P**	**10 43 23.8**	**+0.4**
	comp=Z,59nm,1.5s							PZH				LR	LR				MSHR			pmax	pmax		
KULM	**Kulim**	**27.74**	**282**	P	**P**	**10 41 15.6**	**+2.7**		comp=Z,840nm,21.8s									comp=Z,37nm,1.1s					
RPSI	**Rantau Prapat**	**29.06**	**276**	P	**P**	**10 41 25.1**	**+0.5**	**JGF**	**Kuroka**	**37.02**	**13**	P	**P**	**10 42 33.5**	**-0.4**		**DVP**	**Devils Point**	**43.21**	**116**	P	**P**	**10 43 26.7**	**+1.3**
RPSI				IAmb	IAmb	10 41 36.1		JGF				IAmb	IAmb	10 42 46.8			**DZM**	**Mont Dzumac**	**43.28**	**122**		**P**	**10 43 24.9**	**-1.2**
	comp=Z,33nm,1.0s								comp=Z,37nm,1.2s								DZM			IAmb	IAmb	10 43 36.0	
PSI	**Prapat**	**29.07**	**277**	P	**P**	**10 41 26.7**	**+1.8**	**JGF**	**Kuroka**	**37.02**	**13**	P	**P**	**10 42 35.4**	**+1.6**			comp=Z,82nm,1.6s					
PSI	**Prapat**	**29.07**	**277**	P	**P**	**10 41 25.2**	**+0.3**	**ARMA**	**Armidale**	**37.37**	**145**	P	**P**	**10 42 39.1**	**+2.1**		**DZM**	**Mont Dzumac**	**43.28**	**122**	*e*P	**P**	**10 43 24.0**

DZM	**Mont Dzumac**	43.28	122		P		**P**	10 43 27.7	+1.6	
SHL	**Shillong**	43.33	309		P		**P**	10 43 26.2	-0.2	
SHL					IAmb		IAmb	10 43 39.4		
	comp=Z,50nm,0.7s									
SHL	**Shillong**	43.33	309		P		**P**	10 43 26.3	-0.2	
SHL					pmax		pmax			
	comp=Z,50nm,0.7s									
VLA	**Vladivostok**	43.59		4⇑	*e*P		**P**	10 43 29.0	+0.9	
VLA					pmax		pmax			
	comp=Z,29nm,1.0s									
YATNC	**Mamie plateau,**	43.66	122		P		**P**	10 43 30.9	+1.9	
HHC	**Hu-ho-hao-te**	43.75	342	⇑	*i*P		**P**	10 43 29.9	+0.3	
HHC					S		**S**	10 50 05.1	+6.3	
HHC					SS		**SS**	10 53 10.1	-4.9	
HHC					pmax		pmax			
	comp=Z,21nm,0.9s									
HHC					pmax		pmax			
	comp=Z,230nm,4.6s									
HHC					LR		LR			
	comp=Z,530nm,20.2s									
HHC					LR		LR			
	comp=Z,430nm,19.3s									
HHC					LR		LR			
	comp=Z,1µm,22.7s									
BTO	**Baotou**	44.02	340		*e*P		**P**	10 43 35.3	+3.5	
BTO					pP		**pP**	10 43 39.6	+0.9	
BTO					sP		**sP**	10 43 42.1	+0.5	
BTO					S		**S**	10 50 09.9	+7.1	
BTO					sS		**sS**	10 50 18.5	+4.0	
BTO					pmax		pmax			
	comp=Z,21nm,1.1s									
BTO					pmax		pmax			
	comp=Z,600nm,9.6s									
BTO					LR		LR			
	comp=Z,1µm,17.7s									
BTO					LR		LR			
	comp=Z,2µm,20.8s									
BTO					LR		LR			
	comp=Z,2µm,22.4s									
USA0B	**Ussuriysk Arra**	44.68		4	*ce*P		**P**	10 43 36.6	-0.2	
USRK	**Ussuriysk Ar.**	44.68		4	P		**P**	10 43 36.3	-0.5	
	comp=Z,12nm,0.9s,baz=201,slow=8.5,SNR=14									
	comp=Z,12nm,0.9s									
MDJ	**Mudanjiang**	44.97		2	P		**P**	10 43 39.8	+0.7	
MDJ					S		S	10 50 24.3	+8.1	
MDJ					pmax		pmax			
	comp=Z,22nm,1.0s									
MDJ					LR		LR			
	comp=Z,940nm,21.3s									
MDJ					LR		LR			
	comp=Z,410nm,15.8s									
MDJ					LR		LR			
	comp=Z,2µm,19.2s									
MDJ	**Mudanjiang**	44.97		2	P		**P**	10 43 40.2	+1.1	
XLT	**XiLinHaoTe**	45.45	348		*e*P		**P**	10 43 43.0	-0.1	
XLT					pP		pP	10 43 48.8	-1.3	
XLT					PP		**PP**	10 45 31.9	+2.2	
XLT					SS		SS	10 53 40.1	-7.2	
XLT					pmax		pmax			
	comp=Z,18nm,1.0s									
XLT					LR		LR			
	comp=Z,1µm,19.5s									
XLT					LR		LR			
	comp=Z,440nm,20.6s									
BNX	**BinXian**	46.06	360	⇑	P		**P**	10 43 48.8	+1.0	
BNX					sP		**pP**	10 43 53.3	-1.5	
BNX					PcP		**PcP**	10 45 24.4	+0.5	
BNX					S		**S**	10 50 35.6	+3.7	
BNX					pmax		pmax			
	comp=Z,10.0nm,1.2s									
BNX					pmax		pmax			
	comp=Z,94nm,4.1s									
BNX					LR		LR			
	comp=Z,380nm,18.4s									
BNX					LR		LR			
	comp=Z,380nm,19.2s									
BNX					LR		LR			
	comp=Z,580nm,19.4s									
LSA	**Lhasa**	46.10	314		P		**P**	10 43 49.6	+0.7	
LSA					pmax		pmax			
	comp=Z,31nm,0.9s									
ASAJ	**Asahikawa**	46.36		15	LR		LR	11 04 46.2		
	comp=Z,1µm,18.5s,baz=316,slow=38									
GTA	**Gaotai**	47.29	330		P		**P**	10 43 57.9	+0.2	
GTA					sP		sP	10 44 06.5	-1.0	
GTA					pmax		pmax			
	comp=Z,24nm,1.0s									
GOMU	**GeErMu**	47.70	323		P		**P**	10 44 02.9	+1.7	
GOMU					pP		pP	10 44 09.0	+0.8	
GOMU					sP		sP	10 44 11.4	+0.3	
GOMU					S		**S**	10 50 56.6	+0.2	
GOMU					pmax		pmax			
	comp=Z,7.0nm,1.0s									
GOMU					LR		LR			
	comp=Z,600nm,20.9s									
GOMU					LR		LR			
	comp=Z,230nm,17.4s									
GOMU					LR		LR			
	comp=Z,540nm,21.8s									
EVN	**Everest**	48.44	309				**P**	10 44 07.1	-0.3	
YSS	**Yuzhno-Sakhali**	49.06		14			**P**	10 44 10.5	-0.4	
YSS					IAmb		IAmb	10 44 15.8		
	comp=Z,25nm,1.0s									
YSS	**Yuzhno-Sakhali**	49.06		14	P		**P**	10 44 11.9	+0.9	
YSS	**Yuzhno-Sakhali**	49.06		14	*e*P		**P**	10 44 12.1	+1.1	
YSS					*e*S		**S**	10 51 13.6	-0.8	
YSS					pmax		pmax			
	comp=Z,20nm,0.9s									
YSS					pmax		pmax			
	comp=Z,200nm,4.8s									
YSS					MLR		MLR			
	comp=Z,800nm,18.0s									
HEH	**HeiHe**	50.58	360		*e*P		**P**	10 44 22.0	-0.5	
HEH					pmax		pmax			
	comp=Z,19nm,1.2s									
HEH					LR		LR			
	comp=Z,1µm,21.9s									
HEH					LR		LR			
	comp=Z,640nm,15.5s									
HEH					LR		LR			
	comp=Z,2µm,20.2s									
UGL	**Uglegorsk**	50.91		12	*e*P		P	10 44 16.7	-8.3	
UGL					*e*S		**S**	10 51 31.4	-8.8	
UGL					pmax		pmax			
	comp=Z,100nm,1.1s									
UGL					smax		smax			
	comp=E,300nm,11.0s									
UGL					smax		smax			
	comp=N,1µm,17.0s									
ULN	**Ulaanbaatar**	51.47	342		P		**P**	10 44 29.0	-0.5	
ULN					IAmb		IAmb	10 44 33.4		
	comp=Z,27nm,1.0s									
ULN	**Ulaanbaatar**	51.47	342		*ce*P		**P**	10 44 29.4	-0.1	
ULN					pmax		pmax			
	comp=Z,30nm,1.0s									
GRNR	**Gornyy**	51.62		7⇓	*i*P		**P**	10 44 30.5	+0.1	
GRNR					pmax		pmax			
	comp=Z,8.0nm,1.1s									
SONM	**Songino Array**	51.65	342				**P**	10 44 30.1	-0.7	
SONM					IAmb		IAmb	10 44 39.8		
	comp=Z,61nm,1.6s									
SONM	**Songino Array**	51.65	342		P		**P**	10 44 29.9	-0.9	
	comp=Z,12nm,0.9s,baz=163,slow=8.2,SNR=34									
	comp=Z,12nm,0.9s									
SONM	**Songino Array**	51.65	342		P		**P**	10 44 30.1	-0.7	
SONM					pmax		pmax			
	comp=Z,61nm,1.6s									
HYB	**Hyderabad**	51.66	293		*e*P		**P**	10 44 31.1	-0.2	
MSVF	**Nonsavu**	52.24	112				**P**	10 44 35.0	-0.7	
MSVF	**Nonsavu**	52.24	112		P		**P**	10 44 37.5	+1.8	
MSVF	**Nonsavu**	52.24	112		P		**P**	10 44 35.0	-0.7	
MSVF					pmax		pmax			
	comp=Z,73nm,1.5s									
TYV	**Tymovskoe**	52.73		12	*e*P		**P**	10 44 36.7	-1.9	
TYV					*e*S		**S**	10 52 04.0	-1.2	
TYV					pmax		pmax			
	comp=Z,11nm,1.2s									
TYV					pmax		pmax			
	comp=Z,200nm,4.4s									
TYV					smax		smax			
	comp=N,100nm,5.8s									
TYV					smax		smax			
	comp=E,400nm,5.8s									
ZEA	**Zeya**	54.07	360		*e*P		**P**	10 44 48.2	-0.2	
ZEA					pmax		pmax			
	comp=Z,10.0nm,0.6s									
ZAK	**Zakamensk**	54.87	341		*e*P		**P**	10 44 53.9	-0.5	
ZAK					pmax		pmax			
	comp=Z,7.0nm,1.3s									
SKR	**Severo-Kuril's**	56.41		21⇑	*e*P		**P**	10 45 03.9	-1.4	
MOY	**Mondy**	56.72	340		*e*P		**P**	10 45 08.1	+0.4	
MOY					pmax		pmax			
	comp=Z,30nm,1.5s									
WMQ	**Urumqi**	56.82	326		*e*P		**P**	10 45 10.9	+2.4	
WMQ					LR		LR			
	comp=Z,970nm,18.5s									
WMQ					LR		LR			
	comp=Z,880nm,22.1s									
WMQ					LR		LR			
	comp=Z,640nm,22.1s									
BKZ	**Black Stump Fm**	58.74	137		P		**P**	10 45 23.7	+1.6	
URZ	**Urewera**	58.74	136		LR		LR	11 14 17.7		
	comp=Z,403nm,18.1s,baz=266,slow=40									
PEA0B	**Petropavlovsk-**	58.97		21			**P**	10 45 22.4	-0.9	
PEA0B	**Petropavlovsk-**	58.97		21	P		**P**	10 45 22.4	-0.9	
PEA0B					pmax		pmax			
	comp=Z,43nm,1.1s									
PETK	**Petropavlovsk-**	58.97		21			**P**	10 45 22.4	-0.9	
PETK	**Petropavlovsk-**	58.97		21	P		**P**	10 45 22.9	-0.3	
	comp=Z,24nm,1.0s,baz=171,slow=4.2,SNR=25									
	comp=Z,24nm,1.0s									
PETK	**Petropavlovsk-**	58.97		21	P		**P**	10 45 23.0	-0.3	
RAO	**Raoul Island**	59.02	124		LR		LR	11 11 12.0		
	comp=Z,225nm,19.0s,baz=132,slow=36									
PET	**Petropavlovsk**	59.24		21	P		**P**	10 45 26.5	+1.4	
PET	**Petropavlovsk**	59.24		21	⇓	*e*P	**P**	10 45 26.1	+1.0	
PET					pmax		pmax			
	comp=Z,47nm,1.2s									
PET	**Petropavlovsk**	59.24		21	P		**P**	10 45 24.5	-0.6	
	comp=Z,759nmcomp=Z,39nm,1.1s									
ZSN	**Zaisan**	60.65	328		*e*P		**P**	10 45 34.5	-0.5	
ZSN	**Zaisan**	60.65	328		*e*P		**P**	10 45 34.6	-0.5	
SHLS	**Shalkode**	61.31	321		*e*P		**P**	10 45 37.3	-2.4	
SHLS					pmax		pmax			
	comp=Z,26nm,1.3s									
SHLS	**Shalkode**	61.31	321		*e*P		**P**	10 45 37.4	-2.3	
	comp=Z,26nm,1.3s									
NIL	**Nilore**	61.40	309				**P**	10 45 40.1	-0.3	
NIL	**Nilore**	61.40	309		P		**P**	10 45 40.1	-0.3	
NIL					pmax		pmax			
	comp=Z,125nm,1.9s									
UZB	**Uzynbulak**	61.58	321		*e*P		**P**	10 45 40.9	-0.7	
UZB	**Uzynbulak**	61.58	321		*e*P		**P**	10 45 40.9	-0.7	
MK31	**Makanchi Array**	61.65	326		*de*P		**P**	10 45 41.6	-0.3	
MKAR	**Makanchi Array**	61.65	326		P		**P**	10 45 40.9	-1.0	
MKAR	**Makanchi Array**	61.65	326		P		**P**	10 45 40.6	-1.2	
	comp=Z,7.0nm,0.7s,baz=119,slow=8.8,SNR=46									
	comp=Z,7.0nm,0.7s									
KSH	**Kashi**	61.82	316		P		**P**	10 45 44.4	+1.1	
KSH					pmax		pmax			
	comp=Z,13nm,1.3s									
MAKZ	**Makanchi**	61.84	326		P		**P**	10 45 43.1	0.0	
MAKZ	**Makanchi**	61.84	326		P		**P**	10 45 43.1	0.0	
MAKZ					pmax		pmax			
	comp=Z,39nm,1.4s									
SATY	**Saty**	61.92	321		*e*P		**P**	10 45 43.2	-0.6	
SATY					pmax		pmax			
	comp=Z,10.0nm,0.9s									
SATY	**Saty**	61.92	321		*e*P		**P**	10 45 43.2	-0.6	
	comp=Z,9.9nm,0.9s									
YAK	**Yakutsk**	62.40		1	P		**P**	10 45 46.1	-0.3	
YAK	**Yakutsk**	62.40		1	*e*P		**P**	10 45 45.6	-0.9	
YAK					*e*			10 46 25.5		
YAK					*e*			10 48 02.0		
YAK					*e*PPP		PPP	10 49 29.8		
YAK					*e*S		**S**	10 54 12.6	+0.8	
YAK					*e**SS		**pS**	10 54 17.5	-3.4	
YAK					*e*			10 55 37.9		
YAK					*e*SS		**SS**	10 58 20.6	+4.8	
YAK					*e*SSS		SSS	11 00 59.0		
YAK					pmax		pmax			
	comp=Z,64nm,1.3s									
YAK					pmax		pmax			
	comp=N,20nm,1.3s									
YAK					pmax		pmax			
	comp=E,6.0nm,1.3s									
YAK					pmax		pmax			
	comp=Z,94nm,3.2s									
YAK					pmax		pmax			
	comp=N,48nm,3.5s									
YAK					smax		smax			
	comp=N,70nm,2.5s									
YAK					smax		smax			
	comp=E,28nm,2.1s									
YAK					MLR		MLR			
	comp=Z,1µm,19.0s									
YAK					MLR		MLR			
	comp=N,655nm,19.0s									
YAK					MLR		MLR			
	comp=E,188nm,22.0s									
MA2	**Magadan**	62.55		13	LR		LR	11 10 22.6		
	comp=E,804nm,21.4s,baz=22,slow=34									
MA2	**Magadan**	62.55		13⇓	*e*P		**P**	10 45 49.2	+1.6	
MA2					pmax		pmax			
	comp=Z,43nm,1.2s									
MA2	**Magadan**	62.55		13	P		**P**	10 45 47.0	-0.6	
	comp=Z,50nm,1.3s									
NRN	**Naryn**	62.69	318		IAmb		IAmb	10 46 04.9		
	comp=Z,18nm,1.0s									
TNSS	**Tian-Shan**	62.83	320		*e*P		**P**	10 45 49.3	-1.0	
TNSS	**Tian-Shan**	62.83	320		*e*P		**P**	10 45 49.4	-1.0	
TDK	**Taldyqorghan**	62.92	323		*e*P		**P**	10 45 49.8	-0.5	
TDK					pmax		pmax			
	comp=Z,16nm,1.2s									
TDK	**Taldyqorghan**	62.92	323		*e*P		**P**	10 45 49.9	-0.5	
	comp=Z,16nm,1.2s									
AAA	**Alma-Ata**	62.94	320		*e*P		**P**	10 45 50.0	-0.6	
AAA					pmax		pmax			
	comp=Z,11nm,0.4s									
AAA	**Alma-Ata**	62.94	320		*e*P		**P**	10 45 50.0	-0.6	
	comp=Z,10nm,0.4s									
CHKK	**Chushkaly**	63.21	321		*e*P		**P**	10 45 51.6	-0.7	
CHKK	**Chushkaly**	63.21	321		*e*P		**P**	10 45 51.6	-0.7	
BOOM	**Boomskoye usch**	63.22	319		IAmb		IAmb	10 46 01.9		
	comp=Z,31nm,1.2s									
AAK	**Ala-Archa**	64.23	319				**P**	10 45 59.8	+0.5	
AAK					IAmb		IAmb	10 46 44.9		
	comp=Z,32nm,1.6s									
AAK	**Ala-Archa**	64.23	319	⇓	*e*P		**P**	10 45 59.6	+0.3	
AAK					pmax		pmax			
	comp=Z,11nm,1.2s									
SGDS	**Sogindy**	64.52	320		*e*P		**P**	10 46 00.3	-0.7	
ARSB	**Arslanbob**	64.67	317		IAmb		IAmb	10 46 23.3		
	comp=Z,24nm,0.9s									
ZAA0	**Zalesovo Array**	64.85	334		IAmb		IAmb	10 46 14.1		
	comp=Z,28nm,1.2s									
ZALV	**Zalesovo Beam**	64.85	334				**P**	10 46 00.9	-1.9	
ZALV	**Zalesovo Beam**	64.85	334		P		**P**	10 46 00.8	-2.0	
	comp=Z,6.3nm,0.8s,baz=98,slow=4.5,SNR=15									
ZALV					LR		LR	11 15 31.9		
	comp=Z,331nm,20.6s,baz=340,slow=37									
	comp=Z,6.3nm,0.8s									
ZALV	**Zalesovo Beam**	64.85	334		P		**P**	10 46 00.9	-1.9	
KBL	**Kabul**	64.98	309				**P**	10 46 03.8	-0.6	
KBL					IAmb		IAmb	10 46 19.9		
	comp=Z,18nm,0.7s									
KBL	**Kabul**	64.98	309		P		**P**	10 46 03.8	-0.6	
KBL					pmax		pmax			
	comp=Z,18nm,0.7s									
KURBB	**Kurchatov Arra**	65.89	328		P		**P**	10 46 08.3	-1.3	
	comp=Z,9.7nm,0.5s,baz=128,slow=6.2,SNR=87									
KURBB					PcP		**PcP**	10 46 38.9	-1.5	
	comp=Z,9.2nm,0.7s,baz=127,slow=5.1,SNR=4.7									
	comp=Z,9.7nm,0.5s									
KURK	**Kurchatov**	65.89	328				**P**	10 46 08.5	-1.2	
KURK	**Kurchatov**	65.89	328	*ce*	P		**P**	10 46 08.7	-0.9	
KURK					pmax		pmax			
	comp=Z,21nm,1.0s									
SEY	**Seymchan**	65.92		12⇑	*e*P		**P**	10 46 10.7	+1.1	
SEY					pmax		pmax			
	comp=Z,24nm,1.0s									
DZA	**Taraz**	66.44	318		*e*P		**P**	10 46 12.8	-0.6	
DZA					pmax		pmax			
	comp=Z,6.0nm,0.5s									
DZA	**Taraz**	66.44	318		*e*P		**P**	10 46 12.8	-0.6	
	comp=Z,6.0nm,0.5s									
CASY	**Casey**	66.77	188				**P**	10 46 14.5	-0.4	
CASY					IAmb		IAmb	10 46 24.4		
	comp=Z,14nm,0.8s									
IUG	**Iuzhnay**	67.02	317		*e*P		**P**	10 46 16.6	-0.6	
IUG					pmax		pmax			
	comp=Z,23nm,1.0s									
IUG	**Iuzhnay**	67.02	317		*e*P		**P**	10 46 16.6	-0.6	
	comp=Z,23nm,1.0s									
KK31	**Karatay Array**	67.08	318		IAmb		IAmb	10 46 32.8		
	comp=Z,15nm,0.9s									
KKAR	**Karatay Array**	67.08	318				**P**	10 46 16.5	-1.0	
KKAR	**Karatay Array**	67.08	318		P		**P**	10 46 16.5	-1.0	
CHM	**Chimkent**	67.38	317		*e*P		**P**	10 46 19.0	-0.4	
CHM	**Chimkent**	67.38	317		*e*P		**P**	10 46 19.0	-0.4	
BRLS	**Borolday**	67.50	318		*e*P		**P**	10 46 19.6	-0.6	
BRLS	**Borolday**	67.50	318		*e*P		**P**	10 46 19.6	-0.6	
KIWB	**Kanaga Island**	69.61		33			**P**	10 46 33.1	0.0	
ADK	**Adak**	69.88		33	P		**P**	10 46 36.6	+1.9	
ATKA	**Atka Island**	71.39		33	P		**P**	10 46 45.7	+1.8	
BVAR	**Borovoye Array**	71.46	328		P		**P**	10 46 42.6	-1.8	
	comp=Z,17nm,1.1s,baz=132,slow=6.6,SNR=31									
	comp=Z,17nm,1.1s									
BRVK	**Borovoye**	71.53	328				**P**	10 46 43.3	-1.5	
BRVK					IAmb		IAmb	10 47 06.3		
	comp=Z,26nm,1.0s									
BRVK	**Borovoye**	71.53	328	⇑	*e*P		**P**	10 46 44.0	-0.8	
BRVK					pmax		pmax			
	comp=Z,11nm,1.0s									
TIXI	**Tiksi**	72.05		0			**P**	10 46 46.6	-1.0	
TIXI					IAmb		IAmb	10 46 58.3		
	comp=Z,15nm,0.8s									
TIXI	**Tiksi**	72.05		0⇑	*e*P		**P**	10 46 47.7	+0.2	
TIXI					pmax		pmax			
	comp=Z,14nm,0.8s									
BILL	**Bilibino**	73.37		14⇑	*e*P		**P**	10 46 56.4	+1.0	
BILL					pmax		pmax			
	comp=Z,5.0nm,1.1s									
NIKH	**Nikolski High**	74.67		34	P		**P**	10 47 03.0	-0.3	
	baz=248									
SPIA	**Saint Paul Isl**	75.60		30	P		**P**	10 47 08.9	+0.3	
	baz=246									
P08K	**Saint George I**	75.72		30	P		**P**	10 47 09.8	+0.5	
	baz=246									
ABKAR	**Akbulak array**	76.11	321				**P**	10 47 09.8	-2.0	
UNV	**Unalaska Valle**	76.30		34	P		**P**	10 47 13.3	+0.6	
	baz=250									
AKUT	**Akutan**	76.81		34	P		**P**	10 47 17.1	+1.6	
GAMB	**Gambell**	77.83		23	P		**P**	10 47 21.2	+0.1	
	baz=243									
SVE	**Sverdlovsk**	78.13	329		*e*P		**P**	10 47 22.7	-0.2	
SVE					pmax		pmax			
	comp=Z,23nm,0.9s									
M11K	**Mekoryuk**	78.79		28	P		**P**	10 47 27.1	+0.7	
	baz=248									
VNDA	**Vanda**	79.10	173		P		**P**	10 47 28.5	+0.6	
VNDA	**Vanda**	79.10	173		P		**P**	10 47 27.6	-0.2	
	comp=Z,2.0nm,0.6s,baz=319,slow=6.1,SNR=3.5									
	comp=Z,2.0nm,0.6s									
VNDA	**Vanda**	79.10	173		P		**P**	10 47 28.5	+0.6	
VNDA					pmax		pmax			
	comp=Z,9.0nm,0.9s									
ARTI	**Arti**	79.17	328				**P**	10 47 27.1	-1.6	
ARTI					IAmb		IAmb	10 47 54.0		
	comp=Z,12nm,0.6s									
ARTI	**Arti**	79.17	328	*c*	*i*P		**P**	10 47 26.7	-1.9	
ARTI					S		**S**	10 57 25.2	-1.8	
ARTI					SS		**SS**	11 02 27.9	-5.6	
ARTI					pmax		pmax			
	comp=Z,6.0nm,0.8s									
SBA	**Scott Base**	80.01	172		P		**P**	10 47 34.8	+2.0	
SBA					IAmb		IAmb	10 47 44.7		
	comp=Z,28nm,1.4s									
SBA	**Scott Base**	80.01	172		P		**P**	10 47 34.8	+2.0	
SBA					pmax		pmax			
	comp=Z,28nm,1.4s									
K13K	**Kusilvak Mount**	80.05		26	P		**P**	10 47 33.8	+0.5	
	baz=250									
TNA	**Tin City**	80.07		22	P		**P**	10 47 33.6	+0.3	
	baz=246									
SDPT	**Sand Point**	80.10		33	P		**P**	10 47 33.7	0.0	
	baz=254									
M13K	**Dall Lake**	80.13		28	IAmb		IAmb	10 47 41.9		
	comp=Z,24nm,1.1s									
M13K	**Dall Lake**	80.13		28	P		**P**	10 47 34.0	+0.3	
	baz=251									
MAW	**Mawson**	80.18	201		P		**P**	10 47 33.7	-0.2	
	comp=Z,2.6nm,0.8s,baz=86,slow=8.7,SNR=5.5									
MAW					LR		LR	11 20 51.3		
	comp=Z,263nm,20.4s,baz=45,slow=34									
	comp=Z,2.6nm,0.8s									
F14K	**Arctic Creek**	80.64		23	P		**P**	10 47 36.7	+0.3	
	baz=248									
ANM	**Nome**	80.68		24	P		**P**	10 47 37.8	+1.1	
	baz=249									
L14K	**Kuka Creek**	80.74		27	P		**P**	10 47 37.8	+0.9	
	baz=252									
N14K	**Kuskokwak Cree**	80.77		29	IAmb		IAmb	10 47 39.9		
	comp=Z,54nm,1.5s									
N14K	**Kuskokwak Cree**	80.77		29	P		**P**	10 47 36.6	-0.5	
	baz=253									
O14K	**Tigyukauivet M**	80.78		29	P		**P**	10 47 36.7	-0.6	
	baz=253									
J14K	**Nanvaranak Lak**	80.81		26	P		**P**	10 47 37.9	+0.6	
	baz=250									
M14K	**Bethel**	80.89		28	P		**P**	10 47 37.0	-0.7	
	baz=252									
G15K	**Niukluk**	81.37		24	P		**P**	10 47 40.9	+0.6	
	baz=250									
F15K	**North Star Dit**	81.38		23	P		**P**	10 47 40.9	+0.6	
	baz=249									
L15K	**Ungalak Mounta**	81.39		27	P		**P**	10 47 40.8	+0.4	
	baz=253									
O15K	**Ungalikthiuk R**	81.47		30	P		**P**	10 47 41.0	0.0	
	baz=254									
CHGN	**Chignik**	81.47		33	P		**P**	10 47 41.3	+0.3	
	baz=256									
M15K	**Kasigluk River**	81.47		28	P		**P**	10 47 40.7	-0.2	
	baz=253,SNR=7.9									
VOI	**Vohitsoka**	81.48	248				**P**	10 47 41.7	-0.3	
K15K	**Wolf Creek Mou**	81.55		26	IAmb		IAmb	10 47 45.7		
	comp=Z,26nm,1.2s									
K15K	**Wolf Creek Mou**	81.55		26	P		**P**	10 47 40.7	-0.7	
	baz=252,SNR=9

F17K	**Baldwin Pennin** baz=252,SNR=8.4	82.93	23	P		P	10 47 49.6	+1.2
Q16K	**King Salmon** baz=257	82.94	31	P		P	10 47 49.2	+0.6
J17K	**VABM Dome** baz=254,SNR=33	82.94	26	P		P	10 47 49.8	+1.2
L17K	**Donlin** baz=255,SNR=11	82.97	27	P		P	10 47 50.1	+1.3
O17K	**Koliganek Bris** baz=257	82.97	30	P		P	10 47 49.8	+1.1
H17K	**Granite Mounta** baz=254,SNR=33	83.02	24	P		P	10 47 49.8	+0.8
N17K	**Nushagak Hills** comp=Z,18nm,1.3s	83.09	29	IAmb		IAmb	10 48 00.2	
N17K	**Nushagak Hills** baz=257	83.09	29	P		P	10 47 50.7	+1.3
K17K	**Idlitarod** baz=255,SNR=44	83.11	26	P		P	10 47 50.5	+1.1
TBI	**Tubuai** comp=Z,3µm,34.2s	83.11	113	*e*LQ		LQ	11 10 20.8	
TBI	comp=Z,1µm,30.2s			*e*LR		LR	11 13 43.8	
TBI	comp=Z,2µm,30.0s			*e*LR		LR	11 13 53.0	
RAYN	**Ar Rayn**	83.16	294			P	10 47 49.4	-1.2
RAYN	**Ar Rayn**	83.16	294	P		P	10 47 49.4	-1.2
RAYN	comp=Z,9.0nm,0.9s			pmax		pmax		
P17K	**Kvichak River** baz=257	83.16	30	P		P	10 47 50.8	+1.1
M17K	**Holitna River** comp=Z,26nm,1.1s	83.18	28	IAmb		IAmb	10 47 56.4	
M17K	**Holitna River** baz=256,SNR=9.2	83.18	28	P		P	10 47 50.8	+1.0
Q17K	**Contact Creek** baz=258	83.25	31	P		P	10 47 50.7	+0.3
E18K	**Tukpahlearik C** baz=253,SNR=26	83.47	22	P		P	10 47 52.5	+1.2
F18K	**Selawik** baz=254	83.59	23	P		P	10 47 52.5	+0.7
C18K	**Utukok River** comp=Z,17nm,0.9s	83.63	20	IAmb		IAmb	10 48 01.4	
C18K	**Utukok River** baz=252	83.63	20	P		P	10 47 53.2	+1.1
B18K	**Kokolik River** baz=251	83.65	20	P		P	10 47 53.4	+1.3
H18K	**Honhosa River** comp=Z,20nm,1.1s	83.71	24	IAmb		IAmb	10 47 54.7	
H18K	**Honhosa River** baz=255,SNR=15	83.71	24	P		P	10 47 53.2	+0.7
L18K	**Granite Mounta** baz=257,SNR=31	83.72	27	P		P	10 47 53.5	+0.9
N18K	**Kilae Creek** comp=Z,20nm,1.1s	83.75	29	IAmb		IAmb	10 47 55.6	
N18K	**Kilae Creek** baz=258,SNR=6.5	83.75	29	P		P	10 47 53.8	+0.9
Q18K	**Katmai Hardscr** baz=259	83.78	31	P		P	10 47 53.7	+0.6
G18K	**Tagagawik** comp=Z,19nm,1.1s	83.78	23	IAmb		IAmb	10 47 57.8	
G18K	**Tagagawik** baz=255,SNR=24	83.78	23	P		P	10 47 53.8	+0.9
SII	**Sitkinak Islan** baz=260	83.82	33	P		P	10 47 53.7	+0.4
R18K	**Karluk** baz=259	83.86	32	P		P	10 47 54.2	+0.8
O18K	**Koktuh Hills** baz=258	83.92	30	P		P	10 47 54.3	+0.6
M18K	**Stony River** baz=258,SNR=23	83.96	28	P		P	10 47 55.1	+1.3
J18K	**Innoko River** comp=Z,21nm,1.0s	83.99	26	IAmb		IAmb	10 47 59.0	
J18K	**Innoko River** baz=257,SNR=26	83.99	26	P		P	10 47 54.6	+0.6
A19K	**Wainwright** baz=252	84.16	19	P		P	10 47 56.2	+1.6
BTLR	**Botlikh**	84.16	313	⇑ *e*P		P	10 47 55.1	-0.3
BTLR	comp=Z,17nm,1.4s			pmax		pmax		
GCSA	**Galena City Sc** baz=256,SNR=29	84.22	25	P		P	10 47 56.5	+1.4
C19K	**Lookout Ridge** baz=253	84.32	20	P		P	10 47 56.8	+1.2
F19K	**Shaleruckik Mo** baz=255,SNR=6.6	84.37	23	P		P	10 47 57.0	+1.1
KIRV	**Kirov**	84.40	329	‖ *e*P		P	10 47 55.6	-0.5
BELG	**Belogornoye**	84.42	323	*de*P		P	10 47 53.9	-2.4
BELG	comp=Z,8.0nm,1.2s			pmax		pmax		
O19K	**Port Alsworth** baz=259	84.42	29	P		P	10 47 56.9	+0.7
OHAK	**Old Harbor**	84.42	32	P		P	10 47 58.0	+1.7
OHAK	**Old Harbor** baz=260	84.42	32	P		P	10 47 56.9	+0.6
N19K	**Bonanza Creek** baz=259,SNR=20	84.46	29	P		P	10 47 57.6	+1.1
G19K	**Purcell Mounta** comp=Z,22nm,1.1s	84.47	23	IAmb		IAmb	10 48 06.3	
G19K	**Purcell Mounta** baz=256,SNR=21	84.47	23	P		P	10 47 57.5	+1.2
Q19K	**Cape Douglas,** baz=260	84.53	31	P		P	10 47 57.1	+0.2
L19K	**White Mountain** baz=258,SNR=23	84.55	27	P		P	10 47 57.7	+0.8
H19K	**Roundabout Mou** comp=Z,22nm,1.1s	84.58	24	IAmb		IAmb	10 48 06.3	
H19K	**Roundabout Mou** baz=257,SNR=25	84.58	24	P		P	10 47 58.0	+1.1
J19K	**Poorman** comp=Z,12nm,1.1s	84.58	26	IAmb		IAmb	10 48 09.5	
J19K	**Poorman** baz=258,SNR=8.1	84.58	26	P		P	10 47 57.9	+0.9
D19K	**Kuna River** baz=255	84.67	21	P		P	10 47 58.2	+0.8
M19K	**Big River Lodg** baz=259	84.71	28	P		P	10 47 58.8	+1.1
E19K	**Redstone River** baz=256	84.73	22	P		P	10 47 58.9	+1.2
P19K	**Oil Pt** baz=260	84.86	30	P		P	10 47 59.6	+1.1
KDAK	**Kodiak Island** comp=Z,525nm,21.9s,baz=245,slow=32	84.89	32	LR		LR	11 20 49.6	
KDAK	**Kodiak Island**	84.89	32	‖ *e*P		P	10 47 59.8	+1.2
KDAK	comp=Z,53nm,1.1s			pmax		pmax		
KDAK	**Kodiak Island** baz=261	84.89	32	P		P	10 47 59.6	+1.0
L20K	**Farewell, AK** baz=259	85.05	27	P		P	10 48 00.6	+1.1
Q20K	**Shuyak Island** baz=261	85.12	31	P		P	10 48 00.7	+1.0
K20K	**Telida** baz=259	85.13	26	P		P	10 48 00.8	+1.1
F20K	**Avaraart Lake** baz=257	85.21	22	P		P	10 48 00.9	+0.9
H20K	**Anotleneega Mo** baz=258	85.21	24	P		P	10 48 01.1	+1.0
I20K	**Naaghedeneel** baz=259	85.23	25	P		P	10 48 01.3	+1.1
J20K	**Nowinta River** baz=259	85.25	25	P		P	10 48 01.1	+0.8
D20K	**Etivluk River** comp=Z,10nm,0.9s	85.26	21	IAmb		IAmb	10 48 03.5	
D20K	**Etivluk River** baz=256,SNR=7.1	85.26	21	P		P	10 48 01.4	+1.0
M20K	**Styx River** comp=Z,24nm,1.1s	85.29	28	IAmb		IAmb	10 48 12.6	
M20K	**Styx River** baz=260,SNR=15	85.29	28	P		P	10 48 01.6	+0.9
E20K	**Nigu River** baz=257,SNR=18	85.31	21	P		P	10 48 01.5	+0.9
B20K	**Meade River** baz=256	85.39	19	P		P	10 48 01.9	+1.1
HOM	**Homer** baz=262	85.66	30	P		P	10 48 03.6	+1.2
IMAR	**Indian Mountai**	85.76	24	P		P	10 48 03.5	+0.7
A21K	**Barrow** baz=256	85.88	18	P		P	10 48 04.6	+1.3
PPLA	**Purkeypile** baz=261	85.89	27	P		P	10 48 04.6	+0.9
G21K	**Allakaket** baz=259	85.96	23	P		P	10 48 04.7	+0.9
CHUM	**Lake Minchumin** baz=261	86.00	26	P		P	10 48 04.9	+0.9
C21K	**Knifeblade Rid** baz=258	86.00	20	P		P	10 48 05.0	+1.0
SKT	**Skwentna** baz=261	86.06	28	P		P	10 48 04.3	-0.2
CAPN	**Captain Cook N** baz=262	86.06	29	P		P	10 48 04.7	+0.3
H21K	**Melozitna Rive** baz=260,SNR=6.3	86.09	24	P		P	10 48 05.4	+0.9
F21K	**Alatna River** baz=259	86.10	23	P		P	10 48 05.2	+0.7
E21K	**Killik River** baz=259	86.15	21	P		P	10 48 05.0	+0.2
B21K	**Ikpikpuk River** baz=258	86.16	20	P		P	10 48 05.2	+0.5
A22K	**Sinclair Lake** baz=258	86.33	19	P		P	10 48 05.9	+0.4
BPAW	**Bear Paw Mtn.** baz=262	86.61	26	P		P	10 48 07.8	+0.7
F22K	**John River** baz=260	86.65	22	P		P	10 48 07.5	+0.3
KBZ	**Khabaz** comp=Z,1.7nm,0.8s,baz=47,slow=4.1,SNR=2.9	86.67	314	P		P	10 48 06.6	-1.2
KBZ	**Khabaz**	86.67	314	‖ *e*P		P	10 48 06.7	-1.1
M22K	**Willow** baz=263	86.69	28	P		P	10 48 07.8	+0.4
D22K	**Ayikyak River** baz=260	86.69	21	P		P	10 48 07.8	+0.4
CUT	**Chulitna** baz=262	86.70	28	P		P	10 48 07.5	0.0
B22K	**Teshekpuk Lake** baz=259	86.70	19	P		P	10 48 08.3	+0.9
H22K	**Ishtalitna Cre** baz=261,SNR=10	86.71	24	P		P	10 48 08.6	+1.1
O22K	**Cooper Landing** baz=263	86.72	29	P		P	10 48 08.1	+0.4
RC01	**Rabbit Creek A** baz=263	86.79	29	P		P	10 48 08.7	+0.7
G22K	**Bettles** baz=261	86.81	23	P		P	10 48 08.0	0.0
SEW	**Seward** baz=263	86.81	30	P		P	10 48 08.5	+0.4
TRF	**Thorofare Moun** baz=262	86.83	26	P		P	10 48 08.0	-0.3
KVAR	**Kislovodsk Arr** comp=Z,178nm,20.1s,baz=97,slow=39	86.84	314	LR		LR	11 31 41.6	
KIV	**Kislovodsk**	86.84	314	*e*P		P	10 48 05.8	-3.0
KIV	comp=Z,7.0nm,1.0s			pmax		pmax		
KIV	comp=Z,419nm,20.0s			MLR		MLR		
MLY	**Manley** baz=262,SNR=9.3	86.85	25	P		P	10 48 08.4	+0.1
E22K	**Anaktuvuk Pass** baz=261	86.89	22	P		P	10 48 08.6	+0.2
PMR	**Palmer** comp=Z,17nm,1.2s	87.14	28	IAmb		IAmb	10 48 18.6	
PMR	**Palmer**	87.14	28	P		P	10 48 11.8	+2.2
PMR	**Palmer** baz=264	87.14	28	P		P	10 48 09.9	+0.2
COLD	**Coldfoot** comp=Z,11nm,1.0s	87.36	23	IAmb		IAmb	10 48 16.2	
COLD	**Coldfoot** baz=262,SNR=22	87.36	23	P		P	10 48 11.2	+0.5
G23K	**Bananza Creek** comp=Z,13nm,1.1s	87.36	23	IAmb		IAmb	10 48 15.8	
G23K	**Bananza Creek** baz=262,SNR=18	87.36	23	P		P	10 48 11.0	+0.2
D23K	**Nanushuk River** comp=Z,13nm,1.1s	87.42	21	IAmb		IAmb	10 48 21.1	
D23K	**Nanushuk River** baz=262,SNR=8.0	87.42	21	P		P	10 48 11.5	+0.6
KNK	**Knik Glacier** baz=264	87.44	29	P		P	10 48 11.3	+0.1
PWL	**Port Wells** baz=264	87.44	29	P		P	10 48 11.6	+0.4
H23K	**Yukon River** comp=Z,10nm,1.0s	87.44	24	IAmb		IAmb	10 48 16.0	
H23K	**Yukon River** baz=263,SNR=13	87.44	24	P		P	10 48 11.4	+0.3
MCK	**McKinley** baz=264	87.46	26	P		P	10 48 11.8	+0.5
RND	**Reindeer** comp=Z,13nm,1.0s	87.46	27	IAmb		IAmb	10 48 14.8	
NEA2	**Nenana** comp=Z,19nm,1.7s	87.50	25	IAmb		IAmb	10 48 14.1	
NEA2	**Nenana** baz=264	87.50	25	P		P	10 48 11.9	+0.5
C23K	**Itkillik River** comp=Z,15nm,1.1s	87.57	20	IAmb		IAmb	10 48 21.1	
C23K	**Itkillik River** baz=262,SNR=6.3	87.57	20	P		P	10 48 12.4	+0.8
E23K	**Chandalar** baz=263,SNR=22	87.69	22	P		P	10 48 12.8	+0.4
TOLK	**Toolik Lake Re** comp=Z,10nm,1.1s	87.78	21	IAmb		IAmb	10 48 22.3	
TOLK	**Toolik Lake Re** baz=263,SNR=6.8	87.78	21	P		P	10 48 13.1	+0.4
M23K	**Glacier View** baz=265	87.82	28	P		P	10 48 13.6	+0.6
P23K	**Montague Islan** baz=265	87.82	30	P		P	10 48 13.1	+0.1
WRH	**Wood River Hil** comp=Z,11nm,1.1s	87.91	26	IAmb		IAmb	10 48 16.4	
VRH	**Novokhoyorsk**	87.94	321	*e*P		P	10 48 10.5	-3.3
VRH	comp=Z,10.0nm,0.9s			pmax		pmax		
SCM	**Sheep Creek Mo** baz=265	88.01	28	P		P	10 48 14.4	+0.4
CCB	**Clear Creek Bu** comp=Z,11nm,1.0s	88.05	25	IAmb		IAmb	10 48 17.3	
GLI	**Glacier Island** baz=265	88.05	29	P		P	10 48 14.7	+0.6
D24K	**Happy Valley** comp=Z,10nm,0.9s	88.11	21	IAmb		IAmb	10 48 24.6	
D24K	**Happy Valley** baz=264	88.11	21	P		P	10 48 15.1	+0.9
E24K	**Your Creek** baz=264	88.11	22	P		P	10 48 15.3	+0.9
H24K	**Noodor Dome** comp=Z,14nm,1.1s	88.13	24	IAmb		IAmb	10 48 18.7	
H24K	**Noodor Dome** baz=264,SNR=15	88.13	24	P		P	10 48 14.5	+0.1
C24K	**Franklin Bluff** baz=264	88.21	20	P		P	10 48 15.2	+0.5
F24K	**Squaw Lake** baz=264,SNR=9.4	88.28	23	P		P	10 48 15.8	+0.7
G24K	**Hadweenzic Riv** comp=Z,13nm,1.3s	88.37	23	IAmb		IAmb	10 48 28.0	
G24K	**Hadweenzic Riv** baz=265,SNR=8.6	88.37	23	P		P	10 48 16.3	+0.8
HDA	**Harding Lake** comp=Z,8.8nm,0.9s	88.40	26	IAmb		IAmb	10 48 21.7	
HDA	**Harding Lake** baz=265,SNR=7.3	88.40	26	P		P	10 48 16.2	+0.5
ILAR	**Eielson Array**	88.45	25	P		P	10 48 14.6	-1.3
ILAR	**Eielson Array** comp=Z,5.2nm,1.0s,baz=269,slow=4.1,SNR=22	88.45	25	P		P	10 48 13.9	-2.1
ILAR	comp=Z,0.8nm,1.0s,baz=264,slow=6.4,SNR=4.3			PP		PP	10 51 41.5	-2.4
ILAR	comp=Z,89nm,18.4s,baz=290,slow=38			LR		LR	11 31 30.6	
ILAR	comp=Z,5.2nm,1.0s	88.45	25	P		P	10 48 14.6	-1.3
M24K	**Tolsona, Glenn** baz=266	88.58	28	P		P	10 48 16.9	+0.3
KLU	**Klutina** baz=266	88.66	29	P		P	10 48 17.7	+0.6
EYAK	**Cordova Ski Ar** baz=267	88.69	30	P		P	10 48 17.3	+0.3
K24K	**Donnelly Dome** baz=266	88.87	26	P		P	10 48 18.5	+0.6
SYO	**Syowa Base**	88.88	201	⇑ *is*P		sP	10 48 25.4	-2.5
G25K	**Bearman Lake** baz=266	88.92	23	P		P	10 48 18.8	+0.8
PAX	**Paxson** comp=Z,16nm,1.3s	88.96	27	IAmb		IAmb	10 48 21.9	
PAX	**Paxson** baz=267,SNR=6.6	88.96	27	P		P	10 48 18.9	+0.5
D25K	**Kavik River** baz=266	88.99	21	P		P	10 48 18.6	+0.1
H25L	**Birch Creek** baz=266,SNR=9.0	89.00	24	P		P	10 48 19.6	+1.1
HARP	**HAARP** baz=267	89.07	28	P		P	10 48 19.6	+0.7
PRP	**Porcupine Dome** baz=267	89.08	25	P		P	10 48 19.5	+0.5
J25K	**Salcha River,** baz=267	89.09	25	P		P	10 48 19.2	+0.2
F25K	**Christian Rive** baz=266,SNR=6.8	89.15	23	P		P	10 48 19.6	+0.4
FYU	**Fort Yukon**	89.25	24	IAmb		IAmb	10 48 24.8	
BMRM	**Bremner River** comp=Z,15nm,1.1s baz=268	89.27	29	P		P	10 48 20.2	+0.2
RIDG	**Independent Ri** comp=Z,26nm,1.2s	89.28	26	IAmb		IAmb	10 48 31.6	
RIDG	**Independent Ri** baz=267,SNR=11	89.28	26	P		P	10 48 20.1	+0.2
N25K	**Chitina, Valde** comp=Z,24nm,1.4s	89.30	29	IAmb		IAmb	10 48 28.8	
N25K	**Chitina, Valde** baz=268	89.30	29	P		P	10 48 20.3	+0.2
KAIM	**Kayak Island** baz=268	89.32	30	P		P	10 48 20.4	+0.3
QSPA	**South Pole Qui** comp=Z,5.4nm,1.1s,baz=322,slow=0.5,SNR=15	89.42	180	P		P	10 48 20.0	-0.6
C26K	**Camden Bay** comp=Z,5.4nm,1.1s baz=267	89.54	20	P		P	10 48 21.8	+0.9
BMAR	**Burnt Mountain**	89.55	23			P	10 48 21.3	+0.3
VSR	**Storozhevoye**	89.55	321	*e*P		P	10 48 21.4	0.0
VSR	comp=Z,3.0nm,1.1s			pmax		pmax		
KLMR	**Klimovskoe**	89.62	331	*e*P		P	10 48 19.6	-1.8
KLMR	comp=Z,13nm,1.2s			pmax		pmax		
DOT	**Dot Lake** comp=Z,16nm,1.5s	89.62	26	IAmb		IAmb	10 48 33.4	
SCRK	**Sand Creek** baz=268	89.67	26	P		P	10 48 22.2	+0.4
GLB	**Gilahina Butte** comp=Z,14nm,1.0s	89.67	29	IAmb		IAmb	10 48 26.0	
F26K	**Sheenjek River** baz=268	89.73	22	P		P	10 48 22.6	+0.7
G26K	**Porcupine Rive** baz=268,SNR=5.2	89.84	23	P		P	10 48 23.1	+0.8
J26L	**Joseph Creek** comp=Z,8.7nm,0.8s	89.87	26	IAmb		IAmb	10 48 29.9	
J26L	**Joseph Creek** baz=268,SNR=23	89.87	26	P		P	10 48 22.8	+0.2
BGLC	**Bering Glacier** baz=269	89.89	30	P		P	10 48 23.2	+0.5
L26K	**Log Cabin Wild** baz=269,SNR=7.4	89.93	27	P		P	10 48 23.0	+0.1
C27K	**Jago River** baz=268	89.95	20	P		P	10 48 23.5	+0.6
CRQE	**Cirque** baz=269	90.00	29	P		P	10 48 23.7	+0.2
MCARA	**McCarthy VSAT** baz=269	90.05	29	P		P	10 48 24.0	+0.5
I26K	**Coal Creek Min** baz=269	90.06	25	P		P	10 48 23.4	0.0
M26K	**Nabesna, AK** baz=269	90.08	28	P		P	10 48 24.0	+0.4
K27K	**Chicken** baz=270	90.51	26	P		P	10 48 26.4	+0.8
MESA	**MESA** baz=270	90.56	30	P		P	10 48 26.2	0.0
M27K	**Edge Creek, AK** baz=270	90.60	28	P		P	10 48 26.2	0.0
L27K	**Beaver Creek,** baz=270,SNR=9.7	90.62	27	P		P	10 48 26.5	+0.4
ANN	**Anapa**	90.64	315	*e*P		P	10 48 24.9	-1.6
ANN	comp=Z,34nm,0.8s			pmax		pmax		
ANN	comp=N,719nm,15.0s			MLR		MLR		
ANN	comp=E,57nm,11.0s			MLR		MLR		
ANN	comp=Z,545nm,14.0s			MLR		MLR		
BCAR	**Beaver Creek A**	90.64	27			P	10 48 26.2	0.0
G27K	**Doyon Strip** baz=270	90.68	23	P		P	10 48 27.0	+0.6
E27K	**Coleen River** baz=270,SNR=6.0	90.70	22	P		P	10 48 27.1	+0.6
BARN	**Barnard Glacie** comp=Z,24nm,1.2s	90.70	29	IAmb		IAmb	10 48 34.4	
I27K	**Kandik River** baz=270,SNR=29	90.70	25	P		P	10 48 26.8	+0.3
H27K	**Steamboat Moun** baz=270,SNR=7.7	90.74	24	P		P	10 48 26.8	+0.1
CTG	**Chitna Glacier** baz=270	90.86	29	P		P	10 48 27.4	0.0
CTGM	**Chitina Glacie** comp=Z,19nm,1.0s	90.86	29	IAmb		IAmb	10 48 32.5	
D27M	**Malcolm River** baz=271	90.92	21	P		P	10 48 27.4	-0.1
LOGN	**Logan Glacier** comp=Z,20nm,1.1s	91.03	29	IAmb		IAmb	10 48 35.2	
BVCY	**Beaver Creek** baz=271	91.07	28	P		P	10 48 28.4	+0.1
OBN	**Obninsk**	91.14	325	*i* P		P	10 48 29.1	+0.5
OBN	comp=Z,7.0nm,1.2s			pmax		pmax		
YUK3	**Moose Creek** baz=271	91.27	28	P		P	10 48 29.2	-0.2
F28M	**Old Crow** comp=Z,13nm,1.3s	91.36	23	IAmb		IAmb	10 48 38.4	
F28M	**Old Crow** baz=272,SNR=12	91.36	23	P		P	10 48 29.4	-0.1
I28M	**Miner Creek** baz=272,SNR=22	91.41	25	P		P	10 48 29.9	+0.1
PINM	**Pinnacle** baz=271	91.41	30	P		P	10 48 29.9	-0.1
O28M	**Mount Upton** comp=Z,15nm,1.2s	91.43	29	IAmb		IAmb	10 48 43.8	
O28M	**Mount Upton** baz=271	91.43	29	P		P	10 48 29.9	-0.3
E28M	**Babbage River** baz=272,SNR=9.7	91.45	22	P		P	10 48 30.5	+0.6
YUK8	**Steele Glacier** baz=272	91.62	29	P		P	10 48 31.2	0.0
DAWY	**Dawson**	91.69	26	P		P	10 48 31.1	0.0
DAWY	comp=Z,14nm,1.1s			IAmb		IAmb	10 48 35.4	
DAWY	**Dawson** baz=272,SNR=20	91.69	26	P		P	10 48 30.8	-0.3
D28M	**Stokes Point** baz=273	91.70	21	P		P	10 48 31.1	+0.2
PNL	**Peninsula**	91.86	30	P		P	10 48 33.8	+1.8
PNL	**Peninsula** baz=272	91.86	30	P		P	10 48 31.7	-0.3
TAOE	**Nuku Hiva Isla** comp=Z,425nm,24.5s	91.93	99	*e*LR		LR	11 17 47.8	
H29M	**Whitestone** baz=273	92.02	24	P		P	10 48 32.4	-0.1
E29M	**Blow River** baz=274	92.06	22	P		P	10 48 32.9	+0.2
I29M	**Ogilvie Camp,** baz=273,SNR=30	92.09	25	P		P	10 48 33.5	+0.5
G29M	**Pine Creek** comp=Z,20nm,1.2s	92.11	23	IAmb		IAmb	10 48 39.8	
G29M	**Pine Creek** baz=274,SNR=16	92.11	23	P		P	10 48 32.8	-0.2
YUK4	**Talbot Arm** baz=273	92.16	29	P		P	10 48 34.0	+0.5
APA	**Apatity**	92.17	337	*e*P		P	10 48 33.5	+0.3
APA				*e*			10 52 10.3	
APA				*i* PS		PnS	11 00 47.2	-1.2
APA				*e*SS		SS	11 05 47.1	+3.3
J29N	**Klondike Camp** baz=273	92.18	26	P		P	10 48 33.8	+0.3
M29M	**Somme Creek** baz=273,SNR=8.2	92.19	28	P		P	10 48 34.4	+0.9
O29M	**Mount Kennedy** comp=Z,11nm,1.0s	92.24	30	IAmb		IAmb	10 48 38.1	
O29M	**Mount Kennedy** baz=273	92.24	30	P		P	10 48 34.5	+0.6
L29M	**L29M** comp=Z,12nm,1.0s	92.30	27	IAmb		IAmb	10 48 36.2	
L29M	**L29M** baz=273,SNR=14	92.30	27	P		P	10 48 34.8	+0.8
MMAI	**Mount Meron Ar** comp=Z,85nm,20.0s,baz=118,slow=40	92.31	303	LR		LR	11 37 03.1	
YUK6	**Outpost Mounta** baz=273	92.31	29	P		P	10 48 34.5	+0.1
K29M	**Barlow Dome** comp=Z,17nm,1.4s	92.53	26	IAmb		IAmb	10 48 36.9	
K29M	**Barlow Dome** baz=274,SNR=14	92.53	26	P		P	10 48 35.7	+0.6
EPYK	**Eagle Plains** comp=Z,16nm,1.1s	92.67	24	IAmb		IAmb	10 48 39.3	
EPYK	**Eagle Plains** baz=275,SNR=12	92.67	24	P		P	10 48 36.5	+0.9
P29M	**Windy Craggy** baz=274,SNR=8.4	92.70	30	P		P	10 48 36.2	+0.4
HYT	**Haines Junctio** comp=Z,9.7nm,1.0s	92.74	29	IAmb		IAmb	10 48 43.9	

HYT	Haines Junctio	92.74	29	P	P	10 48 36.5	+0.4	
	baz=274,SNR=12							
G30M	tAoh Zraii Nji	92.81	23	IAmb	IAmb	10 48 42.3		
	comp=Z,13nm,1.1s							
G30M	tAoh Zraii Nji	92.81	23	P	P	10 48 35.6	-0.7	
	baz=275,SNR=16							
N30M	Aishikik Lake	92.90	29	IAmb	IAmb	10 48 38.7		
	comp=Z,6.8nm,0.9s							
N30M	Aishikik Lake	92.90	29	P	P	10 48 37.1	+0.4	
	baz=274,SNR=5.8							
I30M	Mount Dempster	92.91	25	IAmb	IAmb	10 48 45.5		
	comp=Z,10nm,1.2s							
I30M	Mount Dempster	92.91	25	P	P	10 48 36.7	-0.1	
	baz=275,SNR=10							
F30M	Barrier River	92.92	22	IAmb	IAmb	10 48 40.5		
	comp=Z,12nm,1.2s							
F30M	Barrier River	92.92	22	P	P	10 48 37.0	+0.3	
	baz=276,SNR=7.0							
M30M	Minto, Yukon	92.95	27	IAmb	IAmb	10 48 38.9		
	comp=Z,7.1nm,1.1s							
M30M	Minto, Yukon	92.95	27	P	P	10 48 37.4	+0.5	
	baz=274,SNR=12							
J30M	Hart River	92.99	25	IAmb	IAmb	10 48 41.8		
	comp=Z,9.4nm,1.1s							
J30M	Hart River	92.99	25	P	P	10 48 37.5	+0.2	
	baz=275,SNR=14							
P30M	Million Dollar	93.06	30	P	P	10 48 37.4	-0.1	
	baz=274							
MAYO	Mayo, Yukon	93.27	26	P	P	10 48 39.1	+0.7	
	baz=275,SNR=7.4							
PLBC	Pleasant Camp	93.41	31	P	P	10 48 39.6	+0.5	
	baz=275							
O30N	Mendenhall	93.43	29	P	P	10 48 39.4	+0.1	
	baz=275,SNR=5.4							
N31M	Braeburn, Yuko	93.52	29	P	P	10 48 40.2	+0.6	
	baz=275,SNR=9.5							
BRTR	Keskin Array B	93.55	310	P	P	10 48 37.8	-2.5	
	comp=Z,0.8nm,0.7s,baz=43,slow=6.7,SNR=2.4							
	comp=Z,0.8nm,0.7s							
G31M	Satah River	93.58	23	IAmb	IAmb	10 48 45.8		
	comp=Z,12nm,1.1s							
G31M	Satah River	93.58	23	P	P	10 48 39.1	-0.5	
	baz=277,SNR=10							
INK	Inuvik	93.69	22	P	P	10 48 40.0	-0.2	
	baz=278,SNR=7.7							
H31M	Peel River	93.69	24	IAmb	IAmb	10 48 44.6		
	comp=Z,9.6nm,1.1s							
H31M	Peel River	93.69	24	P	P	10 48 40.5	+0.2	
	baz=277,SNR=9.4							
F31M	Tsiigehtchic	93.72	22	IAmb	IAmb	10 48 41.4		
	comp=Z,13nm,1.2s							
F31M	Tsiigehtchic	93.72	22	P	P	10 48 40.1	-0.2	
	baz=278,SNR=8.9							
SKAG	Skagway	93.94	31	P	P	10 48 43.2	+1.7	
SKAG	Skagway	93.94	31	P	P	10 48 42.2	+0.7	
	baz=276							
WHY	Whitehorse	94.04	29	P	P	10 48 42.3	+0.2	
	baz=276,SNR=8.9							
M31M	Drury Creek, Y	94.10	28	IAmb	IAmb	10 48 54.0		
	comp=Z,9.3nm,1.1s							
M31M	Drury Creek, Y	94.10	28	P	P	10 48 42.3	0.0	
	baz=277,SNR=9.3							
SIT	Sitka	94.17	33	P	P	10 48 43.3	+0.7	
	baz=275							
R32K	Eaglecrest	94.48	32	P	P	10 48 44.6	+0.5	
	baz=276							
JIS	Juneau Island	94.55	32	P	P	10 48 45.8	+1.5	
FARO	Faro, Yukon	94.58	28	P	P	10 48 44.6	+0.2	
	baz=278,SNR=33							
P32M	Atlin	94.74	30	P	P	10 48 45.4	+0.1	
	baz=277							
ARCES	ARCESS Array B	94.78	340	P	P	10 48 43.1	-2.1	
ARCES				IAmb	IAmb	10 48 55.3		
	comp=Z,15nm,1.5s							
ARCES	ARCESS Array B	94.78	340	P	P	10 48 42.3	-2.9	
	comp=Z,1.1nm,0.6s,baz=67,slow=4.1,SNR=9.2							
	comp=Z,1.1nm,0.6s							
ARCES	ARCESS Array B	94.78	340	P	P	10 48 43.1	-2.1	
ARCES				pmax	pmax			
	comp=Z,15nm,1.5s							
SPITS	Spitsbergen Ar	94.83	349	P	P	10 48 42.6	-2.7	
	comp=Z,3.6nm,1.0s,baz=81,slow=8.9,SNR=3.9							
SPITS				LR	LR	11 37 17.9		
	comp=Z,244nm,19.7s,baz=50,slow=39							
	comp=Z,3.6nm,1.0s							
N32M	Quiet Lake	94.85	29	P	P	10 48 45.7	-0.1	
	baz=278							
P33M	Teslin, Yukon	95.11	30	P	P	10 48 47.4	+0.4	
	baz=278,SNR=8.0							
MMPY	Sheldon Lake,	95.48	27	IAmb	IAmb	10 48 56.0		
	comp=Z,14nm,1.1s							
MMPY	Sheldon Lake,	95.48	27	P	P	10 48 49.0	+0.4	
	baz=279,SNR=24							
U33K	Whale Pass	95.49	34	P	P	10 48 49.0	+0.4	
	baz=277							
Q32M	Nakina River	95.56	31	P	P	10 48 49.5	+0.2	
	baz=278							
CRAG	Craig	95.57	34	P	P	10 48 49.6	+0.6	
	baz=277							
A36M	Sachs Harbour	95.69	17	P	P	10 48 49.9	+0.6	
	baz=286							
AKASG	Malin Array Be	95.85	321	P	P	10 48 49.2	-1.2	
	comp=Z,0.2nm,0.3s,baz=95,slow=6.1,SNR=2.0							
AKASG				LR	LR	11 37 33.4		
	comp=Z,238nm,18.7s,baz=82,slow=39							
	comp=Z,0.2nm,0.3s							
AKBB	Malin Array Si	95.85	321	P	P	10 48 50.5	0.0	
WRAK	Wrangell Islan	95.88	33	P	P	10 48 50.9	+0.5	
	baz=278							
FINES	FINESS Array B	96.06	332	P	P	10 48 48.2	-2.9	
	comp=Z,0.7nm,0.7s,baz=62,slow=3.6,SNR=4.7							
	comp=Z,0.7nm,0.7s							
R33M	Jennings River	96.16	30	P	P	10 48 52.4	+0.5	
	baz=279,SNR=6.4							
S34M	Telegraph Cree	96.31	32	P	P	10 48 53.0	+0.6	
	baz=279							
DLBC	Dease Lake	96.80	31	LR	LR	11 28 20.8		
	comp=Z,24nm,21.8s,baz=282,slow=33							
DLBC	Dease Lake	96.80	31	P	P	10 48 55.2	+0.4	
	baz=280							
WTLY	Watson Lake, Y	97.11	29	IAmb	IAmb	10 49 03.4		
	comp=Z,8.7nm,1.1s							
WTLY	Watson Lake, Y	97.11	29	P	Pdif	10 48 56.5	+0.4	
	baz=281							
BBB	Bella Bella	99.02	37	LR	LR	11 27 37.6		
	comp=Z,180nm,20.2s,baz=282,slow=32							
LSZ	Lusaka	99.15	255	LR	LR	11 31 44.5		
	comp=Z,513nm,19.4s,baz=100,slow=34							
SNAA	Sanae	101.40	194	P	Pdif	10 49 13.6	-1.4	
	comp=Z,0.6nm,0.9s,baz=56,slow=7.3,SNR=1.0							
YKA	Yellowknife Ar	102.88	25	P	Pdif	10 49 21.4	-0.2	
	comp=Z,1.1nm,0.9s,baz=305,slow=5.2,SNR=4.0							
CLL	Collm	105.69	324	eP	Pdif	10 49 34.0	-0.4	
CLL				MLR	MLR			
	comp=Z,400nm,18.7s							
TXAR	Lajitas Array	123.24	55	PKP	PKPdf	10 54 21.9	+0.3	
	comp=Z,0.1nm,0.3s,baz=312,slow=1.8,SNR=2.3							
TXAR				PP	PP	10 56 01.0	-0.7	
	comp=Z,2.3nm,1.3s,baz=198,slow=3.7,SNR=4.4							
TORD	Torodi Ar. Bea	125.19	286	PKP	PKPdf	10 54 24.7	-0.9	
	comp=Z,1.9nm,0.7s,baz=45,slow=2.1,SNR=3.6							
PLTB	Pedras Altas	147.87	178	PKPdf	PKPdf	10 55 07.2	+0.5	
PB06	IPOC Station P	151.37	145	PKPbc	PKPbc	10 55 18.0	-0.8	
CPUP	Villa Florida	152.85	170	PKPbc	PKPbc	10 55 21.5	-0.3	
CPUP	Villa Florida	152.85	170	PKP	PKPdf	10 55 13.8	-0.8	
	comp=Z,1.1nm,0.9s,baz=252,slow=3.2,SNR=5.9							
CPUP				PKPbc	PKPbc	10 55 22.1	+0.4	
	comp=Z,2.6nm,0.9s,baz=284,slow=2.0,SNR=12							
LPAZ	La Paz	157.05	137	PKP	PKPdf	10 55 21.8	+0.4	
	comp=Z,1.0nm,0.4s,baz=46,slow=1.7,SNR=7.8							
AQDB	Aquidauana	158.85	171	PKPdf	PKPdf	10 55 22.0	-0.7	

*CATAC **15** 10:39:29.9±0.5, 12°N±2°×8°8W±°, h20km±4km, M3.3/23, MLv3.3/23, Error ellipse: s-maj=5.5km s-min=2.4km az=23.8, confirmed*

*SNET **15** 10:39:31.5±0.9, 12°.51N×88°.29W, h13km±13km, ML3.0*

ISC 15 10:39:29.2±1.6, **12°.41N**±0°.06×**88°.19W**±0°.03, **h20**km±3km, **n57**, σ0°**52**/68, **2D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POTN	Potosi Cosigui	0.89	49	P	Pg	10 39 46.5	-0.1
POTN				S	Sg	10 39 58.0	-0.5
CNCH	Conchagua	0.93	22	‖eP	Pg	10 39 47.3	-0.1
CNCH				eS	Sn	10 40 00.2	0.0
CNCH	Conchagua	0.93	22	S	Sb	10 39 59.0	+0.2
CNCH	Conchagua	0.93	22	P	Pg	10 39 47.3	-0.1
LCND	La Caada	0.94	18	eP	Pb	10 39 47.2	+0.2
LCND				eS	Sn	10 40 00.4	+0.1
LCND				IAML		10 40 05.0	
	comp=Z,291nm,0.3s						
LCND	La Caada	0.94	18	P	Pb	10 39 47.2	+0.2
ALJI	Alcalda de J	0.98	338	P	Pb	10 39 47.6	0.0
ALJI	Alcalda de J	0.98	338	S	Sg	10 40 01.3	-0.1
LCY	Lacayo	1.01	354	eP	Pn	10 39 48.6	+0.1
BLLM	Bellamira	1.03	358	eP	Pn	10 39 48.8	+0.1
CNRM	Centro Naciona	1.06	1	P	Pb	10 39 48.8	-0.1
TECA	Tecapa	1.12	344	eP	Pb	10 39 50.0	-0.1
TECA				eP	Pn	10 39 50.1	+0.1
TECA				eS	Sb	10 40 04.1	-0.2
TECA				IAML		10 40 09.6	
	comp=Z,250nm,0.2s						
CRIN	San Cristobal	1.15	75	P	Pb	10 39 50.7	+0.1
CRIN	San Cristobal	1.15	75	S	Sg	10 40 06.7	-0.1
PKGN	Cerro Pekin	1.22	78	P	Pb	10 39 51.8	+0.2
PKGN				S	Sb	10 40 06.9	0.0
PQSS	Presa 15 de Se	1.26	344	eP	Pn	10 39 52.1	+0.3
PQSS	Presa 15 de Se	1.26	344	P	Pn	10 39 52.1	+0.3
PQSS	Presa 15 de Se	1.26	344	S	Sb	10 40 07.5	-0.7
UESV	Universidad de	1.35	335	P	Pn	10 39 53.2	+0.1
UESV	Universidad de	1.35	335	S	Sn	10 40 10.4	-0.1
CAHU	Cacacuatique	1.35	359	eP	Pb	10 39 53.9	-0.2
COEG	Centro de Oper	1.38	331	eP	Pn	10 39 53.6	+0.1
COEG				eS	Sn	10 40 11.3	+0.1
COEG				IAML		10 40 19.6	
	comp=Z,225nm,0.3s						
COEG	Centro de Oper	1.38	331	P	Pn	10 39 53.5	+0.1
SCLA	Alcaldia de Sa	1.39	338	‖eP	Pn	10 39 54.2	+0.6
SCLA				eS	Sn	10 40 11.3	-0.1
SCLA	Alcaldia de Sa	1.39	338	P	Pn	10 39 54.1	+0.6
PLRN	Geotermica Pol	1.40	83	P	Pn	10 39 54.0	+0.3
CNGN	Cerro Negro	1.46	86	S	Sb	10 40 14.2	+0.2
CNGN	Cerro Negro	1.46	86	P	Pn	10 39 55.3	+0.7
CHOHN	Orocuina	1.47	43	P	Pn	10 39 54.6	-0.1
CHOHN	Orocuina	1.47	43	S	Sb	10 40 13.9	-0.3
LFRS	El Faro	1.47	325	eP	Pn	10 39 55.3	+0.5
PAVA	Las Pavas	1.48	331	eP	Pn	10 39 55.4	+0.4
PAVA	Las Pavas	1.48	331	P	Pn	10 39 55.3	+0.3
LALI	Alcalda de L	1.54	314	P	Pn	10 39 56.3	+0.7
LOMA	Loma Larga	1.55	322	eP	Pn	10 39 56.1	+0.1
LOMA				IAML		10 40 18.4	
	comp=Z,348nm,0.2s						
LOMA	Loma Larga	1.55	322	P	Pn	10 39 56.1	+0.1
COPN	Copaltepe	1.58	98	P	Pn	10 39 56.3	+0.1
MOMN	Momotombo	1.61	90	P	Pn	10 39 56.7	0.0
MOMN				S	Sn	10 40 15.6	-1.4
MOM2	El Cardon	1.67	89	P	Pn	10 39 58.4	+1.0
MOM2				S	Sn	10 40 17.6	-0.7
PMON	Piamonte	1.69	320	P	Pn	10 39 58.3	+0.4
PMON	Piamonte	1.69	320	S	Sb	10 40 20.5	-0.3
JAYA	Jayaque - finc	1.74	315	eP	Pn	10 39 59.0	+0.5
JAYA				IAML		10 40 23.8	
	comp=Z,262nm,0.2s						
JAYA	Jayaque - finc	1.74	315	P	Pn	10 39 59.3	+0.8
MARCA	Marcala la Paz	1.75	5	S	Sb	10 40 21.6	-0.7
MARCA	Marcala la Paz	1.75	5	P	Pn	10 39 58.8	+0.2
BC87	San Francisco	1.86	87	S	Sb	10 40 24.6	-0.9
TGUH	Tegucigalpa,Un	1.87	29	P	Pn	10 40 01.0	+0.8
TGUH				S	Sn	10 40 24.4	+1.1
UNAN	Cigeo UNAN	1.90	99	P	Pn	10 40 01.5	+0.8
YUSH	Yuscaran	2.02	40	P	Pn	10 40 03.0	+0.6
YUSH	Yuscaran	2.02	40	S	Sn	10 40 28.5	+1.4
NUBE	Las Nubes	2.14	314	eP	Pn	10 40 04.5	+0.4
NUBE	Las Nubes	2.14	314	S	Sn	10 40 29.4	-0.8
NUBE	Las Nubes	2.14	314	P	Pn	10 40 04.5	+0.4
RCVN	Varillal2	2.27	59	P	Pn	10 40 06.6	+0.8
FAME	Alcaldia de Sa	2.28	309	P	Pn	10 40 06.8	+1.0
MTO3	Montecristo	2.28	330	P	Pn	10 40 06.6	+0.6
RCPN	Sur Rio San Ju	2.33	61	P	Pn	10 40 06.0	-0.6

*IDC **15** 10:49:39.5±0.9, 13°.20N×50°.52E, h0km, mb4.0/20, mbtmp4.0/21, ML2.3/2, Error ellipse: s-maj=22.7km s-min=16.0km az=15.0*

*NEIC **15** 10:49:41.4±1.5, 13°.2N±0°.1×50°.5E±0°.1, h10km±1km, mb4.4/17, Error ellipse: s-maj=23.8km s-min=15.0km az=149.0*

ISC 15 10:49:41.6±0.7, **13°.2N**±0°.1×**50°.53E**±0°.09, **h15**km, **n46**, σ0°**67**/48, **mb4.2**/24, **Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	7.69	258		Pn	10 51 33.1	0.0
ATD	Arta Tunnel	7.69	258	Pn	Pn	10 51 33.5	+0.4
	0.4nm,0.3s,baz=41,slow=20,SNR=7.7						
	0.8nm,0.3s						
WSAR	Wadi Sarin	12.61	36	Pn	Pn	10 52 41.2	+0.7
	baz=253,slow=19,SNR=1.7						
LODK	Lodwar	17.86	238		Pn	10 53 49.7	-0.1
EIL	Elat	21.85	321	P	P	10 54 34.6	+0.9
	3.8nm,0.7s,baz=79,slow=7.7,SNR=3.7						
	3.8nm,0.7s						
GEVA	Gevas	25.89	346	P	P	10 55 11.7	-1.5
GURO	Guroymak-BITLI	26.36	345	P	P	10 55 18.1	+0.6
GURO				IAmb	IAmb	10 55 27.7	
	comp=Z,11nm,1.0s						
BRTR	Keskin Array B	30.34	334	P	P	10 55 54.6	+1.7
	comp=Z,0.5nm,0.6s,baz=160,slow=4.6,SNR=1.7						
	comp=Z,0.5nm,0.6s						
KKAR	Karatay Array	34.44	26	P	P	10 56 27.9	-0.8
NRN	Naryn	35.84	34	P	P	10 56 41.0	-0.1
NRN				IAmb	IAmb	10 56 54.1	
	comp=Z,5.4nm,1.1s						
AB31	Akbulak array	36.79	10	P	P	10 56 48.7	0.0
BURAR	Bucovina Array	40.30	333	P	P	10 57 16.9	-1.6
KIEV	Kiev	41.24	339		P	10 57 25.6	-0.3
KIEV				IAmb	IAmb	10 57 27.0	
	comp=Z,6.0nm,0.8s						
AKASG	Malin Array Be	41.24	339	P	P	10 57 26.0	+0.1
	comp=Z,2.7nm,0.8s,baz=152,slow=7.3,SNR=13						
	comp=Z,2.7nm,0.8s						
AKBB	Malin Array Si	41.24	339		P	10 57 25.6	-0.3
AKBB				IAmb	IAmb	10 57 27.0	
	comp=Z,6.7nm,0.8s						
BVAR	Borovoye Array	42.78	18	P	P	10 57 38.6	+0.2
	comp=Z,0.7nm,0.6s,baz=198,slow=7.2,SNR=3.9						
BVAR				PcP	PcP	10 59 30.1	+0.3
	comp=Z,1.6nm,0.6s,baz=242,slow=3.1,SNR=7.2						
	comp=Z,0.7nm,0.6s						
MKAR	Makanchi Array	42.80	32	P	P	10 57 38.3	-0.5
MKAR	Makanchi Array	42.80	32	P	P	10 57 39.4	+0.6
	comp=Z,0.6nm,0.5s,baz=221,slow=7.3,SNR=6.7						
	comp=Z,0.6nm,0.5s						
KURBB	Kurchatov Arra	43.74	26	P	P	10 57 46.9	+0.7
	comp=Z,1.1nm,0.7s,baz=228,slow=7.9,SNR=8.1						
KURBB				PcP	PcP	10 59 33.7	+0.7
	comp=Z,0.4nm,0.6s,baz=224,slow=5.3,SNR=2.8						
	comp=Z,1.1nm,0.7s						
GERES	GERESS Array B	46.75	327	P	P	10 58 11.1	+0.8
	comp=Z,0.4nm,0.6s,baz=128,slow=8.0,SNR=1.7						
	comp=Z,0.4nm,0.6s						
CMAR	Chiang Mai Arr	46.77	77	P	P	10 58 11.2	+0.3
	comp=Z,1.0nm,0.2s,baz=271,slow=8.5,SNR=5.7						
	comp=Z,1.0nm,0.2s						
TORD	Torodi Ar. Bea	47.49	276	P	P	10 58 16.4	-0.1
TORD				IAmb	IAmb	10 58 18.1	
	comp=Z,2.4nm,0.8s						
TORD	Torodi Ar. Bea	47.49	276	P	P	10 58 16.6	+0.1
	comp=Z,2.7nm,0.6s,baz=76,slow=7.7,SNR=5.7						
	comp=Z,2.7nm,0.6s						
ZALV	Zalesovo Beam	48.81	26	P	P	10 58 25.9	-0.2
ZALV	Zalesovo Beam	48.81	26	P	P	10 58 25.5	-0.6
	comp=Z,2.7nm,0.7s,baz=229,slow=7.6,SNR=9.7						
	comp=Z,2.7nm,0.7s						
FIA1	FINESS Array S	51.33	345	P	P	10 58 45.5	+0.3
FINES	FINESS Array B	51.33	345	P	P	10 58 45.1	0.0
FINES	FINESS Array B	51.33	345	P	P	10 58 45.0	-0.2
	comp=Z,3.0nm,0.7s,baz=133,slow=11,SNR=14						
	comp=Z,3.0nm,0.7s						
HFS	Hagfors	54.10	338	P	P	10 59 05.1	-0.6
	comp=Z,3.3nm,0.6s,baz=132,slow=10,SNR=12						
	comp=Z,3.3nm,0.6s						
ESDC	Sonseca Array	54.50	309	P	P	10 59 09.0	0.0
	comp=Z,1.0nm,0.8s,baz=95,slow=5.9,SNR=5.6						
	comp=Z,1.0nm,0.8s						
NB2	NORSAR Subarra	55.61	338	P	P	10 59 15.4	-1.3
	comp=Z,1.1nm,0.7s,baz=133,slow=7.4						
NOA	NORSAR Array B	55.61	338	P	P	10 59 15.8	-0.9
	comp=Z,1.2nm,0.7s,baz=130,slow=7.2,SNR=6.8						
	comp=Z,1.2nm,0.7s						
SONM	Songino Array	57.60	41	P	P	10 59 30.6	-0.6
SONM				IAmb	IAmb	10 59 33.9	
	comp=Z,2.9nm,1.2s						
SONM	Songino Array	57.60	41	P	P	10 59 31.9	+0.7
	comp=Z,1.0nm,0.6s,baz=258,slow=6.4,SNR=5.6						
	comp=Z,1.0nm,0.6s						
ARCES	ARCESS Array B	58.49	350	P	P	10 59 36.5	-0.4
ARCES				IAmb	IAmb	10 59 37.2	
	comp=Z,8.2nm,1.3s						
ARCES	ARCESS Array B	58.49	350	P	P	10 59 36.6	-0.3
	comp=Z,1.3nm,0.8s,baz=148,slow=5.7,SNR=5.4						
	comp=Z,1.3nm,0.8s						
EKA	Eskdalemuir Ar	58.96	327	P	P	10 59 39.5	-0.9
	comp=Z,0.8nm,0.6s,baz=120,slow=7.2,SNR=5.4						
	comp=Z,0.8nm,0.6s						
KSRS	Korea Array	72.15	55	P	P	11 01 05.7	-0.3
	comp=Z,0.8nm,0.6s,baz=277,slow=6.3,SNR=5.6						
	comp=Z,0.8nm,0.6s						
WRA	Warramunga Arr	88.74	111	P	P	11 02 35.4	+0.1
WRA	Warramunga Arr	88.74	111	P	P	11 02 35.9	+0.5
	comp=Z,2.7nm,0.8s,baz=299,slow=3.7,SNR=14						
	comp=Z,2.7nm,0.8s						
WR8	Warramunga Arr	88.89	111	P	P	11 02 36.5	+0.4
ASAR	Alice Springs	89.28	114	P	P	11 02 36.7	-1.2
ASAR	Alice Springs	89.28	114	P	P	11 02 38.0	+0.2
	comp=Z,2.0nm,0.8s,baz=292,slow=4.7,SNR=13						
	comp=Z,2.0nm,0.8s						
PET	Petropavlovsk	90.13	35	P	P	11 02 41.3	+0.1
PDAR	Pinedale Array	121.40	343	PKP	PKPdf	11 08 34.4	-0.6
	comp=Z,0.7nm,0.9s,baz=66,slow=5.5,SNR=4.3						
NVAR	Mina Array Bea	127.60	349	PKP	PKiKP	11 08 48.1	+0.5
	comp=Z,0.8nm,0.7s,baz=43,slow=2.4,SNR=7.0						

*IDC **15** 10:52:59.3±0.8, 13°.14N×50°.53E, h0km, mb4.1/27, mbtmp4.1/28, ML2.5/2, MS4.2/9, Error ellipse: s-maj=19.1km s-min=14.6km az=1.0*

*NEIC **15** 10:53:01.8±2.1, 13°.2N±0°.1×50°.53E±0°.10, h10km±1km, mb4.6/31, Error ellipse: s-maj=21.7km s-min=14.1km az=151.0*

*OMAN **15** 10:53:03.1±2.7, 13°.47N×50°.53E, h22km±118km, mb4.0/3, ml4.1/2, Error ellipse: s-maj=151.2km s-min=7.9km az=38.0*

ISC 15 10:53:02.9±0.6, **13°.27N**±0°.09×**50°.56E**±0°.08, **h21**km, **n93**, σ1**37**/91, **mb4.4**/50, **MS4.1**/10, **1C, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	Aybut	4.84	33	P	Pn	10 54 12.4	-2.3
	SNR=43						
ABTO				S	Sn	10 55 07.7	-2.5
RBK	Rabkut	5.48	39	P	Pn	10 54 21.3	-2.1
	SNR=10						
RBK				S	Sn	10 55 24.0	-1.9
WHFO	Wadi Hawf	5.56	33	P	Pn	10 54 22.8	-1.7
	SNR=24						
WHFO				S	Sn	10 55 25.2	-2.7
DMTO	DMTO	6.12	43	P	Pn	10 54 31.0	-1.1
	SNR=60						
DMTO				S	Sn	10 55 40.1	-1.4
DOK	Doka	6.33	32	P	Pn	10 54 33.9	-1.1
	SNR=21						
DOK				S	Sn	10 55 44.1	-2.6
ATD	Arta Tunnel	7.73	258		Pn	10 54 54.3	-0.1
ATD	Arta Tunnel	7.73	258	Pn	Pn	10 54 54.0	-0.4
	0.6nm,0.3s,baz=352,slow=5.6,SNR=22						
ATD				LR	LR	10 57 08.3	
	comp=Z,95nm,18.4s,baz=84,slow=32						
	1.5nm,0.3s						
DQM	DQM	9.41	44	P	Pn	10 55 15.9	-1.4
DQM				P		10 55 16.1	
MHTO	MHTO	10.44	42	P	Pn	10 55 29.5	-1.9
MHTO				S	Sn	10 57 24.8	-3.0
BSY	Bisya	11.34	33	P	Pn	10 55 42.4	-1.4
WSAR	Wadi Sarin	12.53	37	Pn	Pn	10 56 01.1	+1.1
	baz=266,slow=24,SNR=2.8						
WSAR				LR	LR	11 00 42.5	
	comp=Z,5.8nm,19.8s,baz=236,slow=37						
LODK	Lodwar	17.93	238		Pn	10 57 09.9	-1.2
KIBK	Kibwezi	19.87	220		P	10 57 31.9	-1.1
EIL	Elat	21.81	321	LR	LR	11 06 19.2	
	comp=Z,642nm,18.1s,baz=240,slow=36						
ASF	Jabal al Asfar	22.61	329	LR	LR	11 06 58.8	
	comp=Z,333nm,20.9s,baz=199,slow=37						
MMAI	Mount Meron Ar	24.04	327	P	P	10 58 16.8	+0.2
	0.7nm,0.2s,baz=134,slow=4.2,SNR=1.5						
MMAI				LR	LR	11 07 55.3	
	comp=Z,380nm,18.5s,baz=140,slow=37						
	0.7nm,0.2s						
GEVA	Gevas	25.82	346	P	P	10 58 34.7	+1.8
GEVA				IAmb	IAmb	10 58 44.1	
	comp=Z,14nm,1.0s						
GURO	Guroymak-BITLI	26.30	345	P	P	10 58 40.3	+3.1
GURO				IAmb	IAmb	10 58 57.2	
	comp=Z,11nm,1.1s						
KBL	Kabul	27.00	35	P	P	10 58 45.6	+1.9
KBL				IAmb	IAmb	10 59 06.5	
	comp=Z,21nm,1.4s						
GNI	Garni	27.26	350	P	P	10 58 47.0	+1.1
	comp=Z,7.6nm,0.4s,baz=180,slow=11,

KURK Kurchatov 43.76 26 P P 11 01 07.4 +0.7
KURK IAmb IAmb 11 01 09.9
comp=Z,12nm,1.5s
RONA Rosalia, Austr 44.63 327 *i* P P 11 01 14.8 +0.9
comp=Z,19nm,1.1s
ARSA Arzberg 44.76 326 P P 11 01 15.8 +0.9
ARSA Arzberg 44.76 326 *eP* P 11 01 15.8 +0.9
comp=Z,4.0nm,0.7s
CONA Conrad Observa 45.00 327 *eP* P 11 01 17.2 +0.3
comp=Z,0.2nm,0.3s
MORC Moravsky Berou 45.34 330 P P 11 01 19.8 +0.3
MORC IAmb IAmb 11 01 31.7
comp=Z,15nm,1.5s
MYKA Terra Mystica 45.44 324 *i* P P 11 01 21.6 +1.2
comp=Z,12nm,1.1s
VRAC Vranov 45.50 329 P P 11 01 22.1 +1.3
comp=Z,1.8nm,0.4s,baz=108,slow=4.6,SNR=3.3
comp=Z,1.8nm,0.4s
MOA Molln 45.80 326 *i* P P 11 01 24.7 +1.5
comp=Z,7.3nm,1.1s
KBA Koelnbreinsper 45.86 325 *eP* P 11 01 26.4 +2.6
comp=Z,6.8nm,1.5s
GERES GERESS Array B 46.70 327 P P 11 01 30.3 0.0
comp=Z,0.2nm,0.3s,baz=126,slow=7.8,SNR=3.8
comp=Z,0.2nm,0.3s
CMAR Chiang Mai Arr 46.72 77 P P 11 01 30.6 -0.2
CMAR Chiang Mai Arr 46.72 77 P P 11 01 30.4 -0.3
comp=Z,1.5nm,0.9s,baz=280,slow=8.0,SNR=6.3
comp=Z,1.5nm,0.9s
SQTA Sankt Quirin 47.15 324 *i* pP pP 11 01 38.3 -1.5
comp=Z,10nm,1.4s
TORD Torodi Ar. Bea 47.51 276 P P 11 01 35.7 -1.3
TORD IAmb IAmb 11 01 43.9
comp=Z,6.4nm,1.2s
TORD Torodi Ar. Bea 47.51 276 P P 11 01 36.7 -0.3
comp=Z,0.9nm,0.4s,baz=78,slow=7.8,SNR=5.5
TORD PcP PcP 11 03 07.4 +0.3
comp=Z,0.5nm,0.3s,baz=63,slow=5.0,SNR=1.9
comp=Z,0.9nm,0.4s
BRG Berggiesshubel 47.81 329 *eP* P 11 01 49.1 +10
BRG Amp 11 01 50.6
comp=Z,6.0nm,1.1s
CLL Collm 48.55 329 *eP* Px Px 11 01 48.0
CLL *i* x x 11 01 54.3
comp=Z,32nm,2.1s
CLL AMS AMS 11 49 00.0
comp=Z,400nm,18.7s
ZAA0 Zalesovo Array 48.73 26 IAmb IAmb 11 01 48.2
comp=Z,4.8nm,1.0s
ZALV Zalesovo Beam 48.73 26 P P 11 01 45.8 -0.1
comp=Z,1.4nm,0.7s,baz=226,slow=10.0,SNR=5.8
comp=Z,1.4nm,0.7s
FINES FINESS Array B 51.26 345 P 11 02 04.8 -0.1
FINES FINESS Array B 51.26 345 P P 11 02 05.0 +0.1
comp=Z,2.0nm,0.8s,baz=134,slow=11,SNR=8.2
comp=Z,2.0nm,0.8s
HFS Hagfors 54.04 338 P P 11 02 24.8 -0.7
comp=Z,1.7nm,0.5s,baz=139,slow=9.2,SNR=5.6
comp=Z,1.7nm,0.5s
ESDC Sonseca Array 54.47 309 P 11 02 27.8 -1.3
ESDC IAmb IAmb 11 02 35.6
comp=Z,5.9nm,1.2s
ESDC Sonseca Array 54.47 309 P P 11 02 28.8 -0.3
comp=Z,1.7nm,1.0s,baz=85,slow=6.5,SNR=7.6
comp=Z,1.7nm,1.0s
DBIC Dimbokro 54.88 269 P P 11 02 31.8 -0.6
comp=Z,7.1nm,1.1s,baz=146,slow=5.8,SNR=4.7
comp=Z,7.1nm,1.1s
NB2 NORSAR Subarra 55.55 338 P P 11 02 36.0 -0.5
comp=Z,16nm,1.7s,baz=133,slow=7.4
NOA NORSAR Array B 55.55 338 P P 11 02 36.1 -0.5
comp=Z,1.2nm,0.8s,baz=125,slow=7.3,SNR=5.1
comp=Z,1.2nm,0.8s
SONM Songino Array 57.53 41 P 11 02 51.8 +0.9
SONM IAmb IAmb 11 03 05.8
comp=Z,4.8nm,1.2s
SONM Songino Array 57.53 41 P P 11 02 51.5 +0.6
comp=Z,1.1nm,0.7s,baz=242,slow=3.2,SNR=6.6
comp=Z,1.1nm,0.7s
ULN Ulaanbaatar 57.96 41 P P 11 02 57.1 +3.1
ULN IAmb IAmb 11 03 02.5
comp=Z,7.2nm,1.1s
ARCES ARCESS Array B 58.42 350 P P 11 02 57.9 +1.2
comp=Z,2.6nm,0.9s,baz=149,slow=7.7,SNR=4.1
comp=Z,2.6nm,0.9s
EKA Eskdalemuir Ar 58.91 327 P P 11 02 59.4 -0.9
comp=Z,0.5nm,0.5s,baz=116,slow=7.5,SNR=1.9
comp=Z,0.5nm,0.5s
SPITS Spitsbergen Ar 67.09 353 P P 11 03 55.0 +0.7
comp=Z,3.3nm,1.0s,baz=128,slow=9.3,SNR=2.5
comp=Z,3.3nm,1.0s
BNX BinXian 71.46 46 ⇑P P 11 04 23.0 +1.1
BNX pmax pmax
comp=Z,4.0nm,0.3s
HEH HeiHe 71.52 41 *eP* P 11 04 22.6 +0.4
HEH pmax pmax
comp=Z,7.0nm,1.2s
KSRS Korea Array 72.08 55 P P 11 04 25.7 -0.1
comp=Z,0.8nm,0.7s,baz=273,slow=7.3,SNR=5.5
comp=Z,0.8nm,0.7s
KLR Kul'dur 74.34 42 P P 11 04 38.7 -0.3
baz=297,slow=10
WRA Warramunga Arr 88.74 111 P 11 05 55.6 0.0
WRA Warramunga Arr 88.74 111 P P 11 05 55.6 0.0
comp=Z,5.0nm,1.1s,baz=296,slow=3.6,SNR=11
comp=Z,5.0nm,1.1s
ASAR Alice Springs 89.28 114 P P 11 05 58.0 -0.1
ASAR Alice Springs 89.28 114 P P 11 05 58.4 +0.2
comp=Z,3.8nm,1.1s,baz=284,slow=4.3,SNR=12
comp=Z,3.8nm,1.1s
SCHQ Schefferville 94.20 329 LR LR 11 51 14.7
comp=Z,286nm,18.9s,baz=339,slow=37
PDAR Pinedale Array 121.33 343 PKP PKPdf 11 11 53.9 -1.2
comp=Z,0.2nm,0.6s,baz=64,slow=3.4,SNR=4.3
NVAR Mina Array Bea 127.53 349 PKP PKiKP 11 12 08.3 +0.7
comp=Z,1.0nm,0.9s,baz=198,slow=0.3,SNR=7.2
TXAR Lajitas Array 130.88 330 PKP PKiKP 11 12 13.8 -0.7
comp=Z,0.5nm,1.0s,baz=56,slow=4.1,SNR=1.9

*IDC **15** 10:54:45.7±0.8, 13°.27N×50°.51E, h0km, mb4.2/25, mbtmp4.2/26, ML1.5/1, Error ellipse: s-maj=20.5km s-min=15.3km az=8.0*

ISC 15 10:54:48.9±0.8, 13°.3N±0°.1×50°.52E±0°.09, h21km, n30, σ0s75/31, mb4.2/24, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**7.69**	**258**	Pn	**Pn**	**10 56 39.6**	**-0.2**
	2.0nm,0.3s,baz=85,slow=12,SNR=17						
WSAR	**Wadi Sarin**	**12.55**	**37**	Pn	**Pn**	**10 57 45.7**	**-0.7**
	baz=256,slow=24,SNR=2.7						
EIL	**Elat**	**21.78**	**321**	P	**P**	**10 59 41.2**	**+1.7**
	12nm,0.9s,baz=202,slow=11,SNR=1.7						
	12nm,0.9s						
ASF	**Jabal al Asfar**	**22.58**	**329**	P	**P**	**10 59 49.5**	**+1.3**
	3.6nm,0.2s,baz=155,slow=3.4,SNR=1.6						
	3.6nm,0.2s						
BRTR	**Keskin Array B**	**30.27**	**334**	P	**P**	**11 00 59.5**	**+0.8**
	0.8nm,0.8s,baz=138,slow=14,SNR=2.1						
	0.8nm,0.8s						
KBZ	**Khabaz**	**31.06**	**349**	P	**P**	**11 01 05.4**	**+0.1**
	2.8nm,0.8s,baz=198,slow=6.7,SNR=4.3						
	2.8nm,0.8s						
AKTO	**Aktyubinsk**	**37.57**	**8**	P	**P**	**11 02 01.8**	**+0.1**
	2.1nm,0.8s,baz=195,slow=12,SNR=3.5						
	2.1nm,0.8s						
AKASG	**Malin Array Be**	**41.16**	**339**	P	**P**	**11 02 31.6**	**-0.1**
	2.7nm,0.7s,baz=153,slow=7.1,SNR=7.8						
	2.7nm,0.7s						
BVAR	**Borovoye Array**	**42.71**	**18**	P	**P**	**11 02 44.4**	**+0.1**
	1.1nm,0.6s,baz=187,slow=6.0,SNR=5.8						
BVAR				PcP	**PcP**	**11 04 36.9**	**+1.1**
	3.3nm,0.9s,baz=197,slow=4.6,SNR=6.6						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**42.74**	**32**	P	**P**	**11 02 45.1**	**+0.4**
	1.6nm,0.6s,baz=224,slow=8.9,SNR=13						
	1.6nm,0.6s						
KURBB	**Kurchatov Arra**	**43.67**	**26**	P	**P**	**11 02 52.6**	**+0.5**
	2.7nm,0.8s,baz=226,slow=8.4,SNR=13						
	2.7nm,0.8s						
GERES	**GERESS Array B**	**46.68**	**327**	P	**P**	**11 03 15.6**	**-0.6**
	0.8nm,0.7s,baz=106,slow=8.7,SNR=2.6						
	0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**46.76**	**77**	P	**P**	**11 03 17.3**	**+0.2**
	1.2nm,0.6s,baz=276,slow=7.9,SNR=5.9						
	1.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**47.47**	**276**	P	**P**	**11 03 22.3**	**-0.5**
	1.1nm,0.4s,baz=70,slow=6.5,SNR=3.8						
	1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**48.75**	**26**	P	**P**	**11 03 31.4**	**-0.6**
	3.8nm,0.7s,baz=232,slow=7.3,SNR=10						
	3.8nm,0.7s						
FINES	**FINESS Array B**	**51.25**	**345**	P	**P**	**11 03 50.5**	**-0.3**
	5.8nm,0.7s,baz=133,slow=11,SNR=14						
	5.8nm,0.7s						
HFS	**Hagfors**	**54.02**	**338**	P	**P**	**11 04 10.8**	**-0.6**
	5.5nm,0.7s,baz=134,slow=8.5,SNR=9.2						
	5.5nm,0.7s						
ESDC	**Sonseca Array**	**54.44**	**309**	P	**P**	**11 04 15.3**	**+0.3**
	0.9nm,0.8s,baz=85,slow=6.4,SNR=5.4						
	0.9nm,0.8s						
DBIC	**Dimbokro**	**54.84**	**269**	P	**P**	**11 04 18.3**	**+0.1**
	3.1nm,0.9s,baz=91,slow=4.7,SNR=3.5						
	3.1nm,0.9s						
NB2	**NORSAR Subarra**	**55.54**	**338**	P	**P**	**11 04 21.2**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=130,slow=7.4						
NOA	**NORSAR Array B**	**55.54**	**338**	P	**P**	**11 04 21.4**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=124,slow=7.8,SNR=6.0						
	comp=Z,1.6nm,0.7s						
SONM	**Songino Array**	**57.55**	**41**	P	**P**	**11 04 37.4**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=249,slow=7.7,SNR=5.6						
	comp=Z,1.7nm,0.7s						
ARCES	**ARCESS Array B**	**58.41**	**350**	P	**P**	**11 04 41.9**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=158,slow=3.9,SNR=6.1						
	comp=Z,1.9nm,0.9s						
EKA	**Eskdalemuir Ar**	**58.89**	**327**	P	**P**	**11 04 45.0**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=119,slow=5.6,SNR=4.9						
	comp=Z,1.0nm,0.7s						
SPITS	**Spitsbergen Ar**	**67.09**	**353**	P	**P**	**11 05 41.7**	**+1.3**
	comp=Z,2.2nm,0.8s,baz=132,slow=6.0,SNR=2.2						
	comp=Z,2.2nm,0.8s						
KSRS	**Korea Array**	**72.12**	**55**	P	**P**	**11 06 12.0**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=273,slow=6.8,SNR=4.4						
	comp=Z,0.8nm,0.7s						
WRA	**Warramunga Arr**	**88.78**	**111**	P	**P**	**11 07 42.0**	**+0.2**
	comp=Z,7.0nm,1.2s,baz=298,slow=3.8,SNR=9.9						
	comp=Z,7.0nm,1.2s						
ASAR	**Alice Springs**	**89.32**	**114**	P	**P**	**11 07 44.5**	**+0.1**
	comp=Z,3.8nm,1.0s,baz=290,slow=4.7,SNR=9.5						
	comp=Z,3.8nm,1.0s						
NVAR	**Mina Array Bea**	**127.52**	**349**	PKP	**PKiKP**	**11 13 53.8**	**0.0**
	comp=Z,1.0nm,0.9s,baz=222,slow=2.0,SNR=5.0						
TXAR	**Lajitas Array**	**130.86**	**330**	PKP	**PKiKP**	**11 14 00.1**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=69,slow=3.4,SNR=3.0						

*NEIC **15** 10:57:21.6±1.0, 35°.13N±0°.02×95°.34W±0°.02, h5km±1km, mb_Lg2.4/34, ML2.6/7, ML2.9/12, Error ellipse: s-maj=4.0km s-min=2.9km az=163.0*

NEIC 15 10:57:22.0±0.9, 35°.14N±0°.02×95°.35W±0°.02, h7km±5km, Error ellipse: s-maj=2.8km s-min=2.1km az=188.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUL3	**Leonard**	**0.85**	**335**		Pg	10 57 38.1	-0.2
TUL3					Sg	10 57 49.6	+0.2
RLO	**Rose Lookout**	**1.06**	**15**		Pg	10 57 41.7	-0.7
RLO					Sb	10 57 56.4	-0.3
DEOK	**Depew**	**1.17**	**307**		Pg	10 57 43.9	-0.5
DEOK					Sg	10 57 59.5	-0.1
DEOK				IAML		10 58 01.5	
	comp=E,241nm,0.2s						
DEOK				IAML		10 58 05.5	
	comp=N,198nm,0.2s						
OK052	**Battle Ridge R**	**1.46**	**306**		Pn	10 57 48.7	0.0
OK052					Sb	10 58 08.5	+0.3
QUOK	**Quay**	**1.51**	**313**		Pn	10 57 49.5	0.0
QUOK					Sg	10 58 10.5	-0.1
U38A	**Gravette**	**1.52**	**31**		Pn	10 57 49.3	-0.2
U38A					Sn	10 58 09.7	+0.1
MIAR	**Mount Ida**	**1.57**	**112**		Pn	10 57 50.0	-0.3
MIAR					Sg	10 58 12.1	-0.5
HHAR	**Hobbs**	**1.62**	**45**		Pn	10 57 51.0	0.0
HHAR					Sb	10 58 12.8	-0.1
FNO	**Franklin**	**1.68**	**275**		Pn	10 57 52.4	+0.6
FNO					Sg	10 58 15.7	-0.4
OKCSW	**OKLAHOMA CITY**	**1.73**	**279**	IAmb_Lg		10 58 17.0	
	comp=Z,23nm,0.7s						
OK051	**E0350 and S346**	**1.82**	**319**		Pn	10 57 54.5	+0.8
OK029	**Liberty Lake**	**1.84**	**292**		Pn	10 57 54.9	+0.9
Z38A	**Mt. Pleasant**	**1.90**	**171**		Pn	10 57 55.7	+1.0
Z38A				IAmb_Lg		10 58 24.4	
	comp=Z,21nm,0.8s						
T35A	**Sooner Cattle**	**2.01**	**332**		Pb	10 57 57.8	-1.1
X40A	**Basin Creek Fa**	**2.17**	**107**	IAmb_Lg		10 58 34.7	
	comp=Z,19nm,0.8s						
Z35A	**Penaven, San**	**2.39**	**222**	IAmb_Lg		10 58 39.8	
	comp=Z,12nm,0.7s						
KAN17	**Caldwell West**	**2.73**	**315**	IAmb_Lg		10 58 52.6	
	comp=Z,13nm,0.8s						
LCAR	**Lake Charles**	**3.54**	**74**	IAmb_Lg		10 59 19.8	
	comp=Z,7.4nm,0.7s						
R40A	**Maddies Statio**	**4.00**	**37**	IAmb_Lg		10 59 31.6	
	comp=Z,12nm,0.8s						
R32A	**Long Quarter,**	**4.25**	**322**	IAmb_Lg		10 59 42.5	
	comp=Z,10.0nm,1.0s						
PBMO	**Poplar Bluff**	**4.32**	**66**	IAmb_Lg		10 59 39.1	
	comp=Z,12nm,0.8s						
CCM	**Cathedral Cave**	**4.40**	**47**	IAmb_Lg		10 59 48.0	
	comp=Z,6.0nm,0.7s						
P38A	**Dawn**	**4.71**	**17**	IAmb_Lg		10 59 51.1	
	comp=Z,6.6nm,0.8s						
FVM	**French Village**	**4.88**	**53**	IAmb_Lg		10 59 55.1	
	comp=Z,5.1nm,0.8s						
CBKS	**Cedar Bluff**	**5.08**	**318**	IAmb_Lg		11 00 03.4	
	comp=Z,8.0nm,0.8s						
P40A	**Paris**	**5.11**	**30**	IAmb_Lg		11 00 10.7	
	comp=Z,8.7nm,1.0s						
AMTX	**Amarillo**	**5.20**	**269**	IAmb_Lg		11 00 15.4	
	comp=Z,4.8nm,0.9s						
SIUC	**Southern Illin**	**5.57**	**61**	IAmb_Lg		11 00 16.6	
	comp=Z,9.3nm,0.7s						
SGCY	**Sterling City**	**5.80**	**238**	IAmb_Lg		11 00 37.9	
	comp=Z,8.0nm,1.0s						
T47A	**Sharon Grove**	**6.93**	**72**	IAmb_Lg		11 00 59.9	
	comp=Z,4.8nm,0.8s						

IDC 15 11:03:07.4±3.3, 61°.19N×29°.72E, h0km, mbtmp3.0/1, ML2.2/1, Error ellipse: s-maj=26.8km s-min=12.3km az=150.0, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**1.77**	**280**	Pg	Pn	11 03 39.1	-0.2
	0.2nm,0.3s,baz=97,slow=16,SNR=11						
FINES				Lg	Lg	11 04 03.4	
	0.6nm,0.3s,baz=96,slow=28,SNR=6.3						
ARCES	**ARCESS Array B**	**8.56**	**350**	Pn	Pn	11 05 10.2	-2.3
	baz=166,slow=12,SNR=1.2						
ARCES				Sn	Sn	11 06 43.1	-6.6
	baz=169,slow=24,SNR=1.7						
	0.7nm,0.8s						
I37NO	**I37NO**	**9.18**	**334**	I	I	11 56 18.6	
	baz=146,slow=324,SNR=0.8						

*IDC **15** 11:05:19.3±0.7, 54°.21N×35°.07W, h0km, mb3.9/17, mbtmp3.8/19, ML3.3/2, Error ellipse: s-maj=20.7km s-min=15.1km az=170.0*

ISC 15 11:05:21.4±0.6, 54°.2N±0°.1×35°.08W±0°.09, h14km, n22, σ0s82/22, mb4.0/17, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.36**	**285**	P	**Pn**	**11 09 34.4**	**-0.9**
	0.3nm,0.3s,baz=96,slow=6.6,SNR=4.8						
	2.0nm,0.6s						
EKA	**Eskdalemuir Ar**	**18.36**	**74**	P	**Pn**	**11 09 35.8**	**+0.5**
	baz=279,slow=10.0						
	0.3nm,0.4s						
NOA	**NORSAR Array B**	**25.23**	**56**	P	**P**	**11 10 46.6**	**+0.1**
	1.2nm,1.0s,baz=275,slow=9.0,SNR=3.8						
	1.2nm,1.0s						
ESDC	**Sonseca Array**	**25.49**	**112**	P	**P**	**11 10 49.2**	**+0.2**
	0.7nm,0.6s,baz=311,slow=9.8,SNR=5.7						
	0.7nm,0.6s						
ARCES	**ARCESS Array B**	**30.77**	**37**	P	**P**	**11 11 35.6**	**-0.3**
	0.4nm,0.5s,baz=266,slow=7.3,SNR=7.2						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**32.22**	**52**	P	**P**	**11 11 49.0**	**+0.3**
	1.6nm,0.8s,baz=297,slow=6.1,SNR=5.1						
	1.6nm,0.8s						
AKASG	**Malin Array Be**	**38.13**	**68**	P	**P**	**11 12 38.5**	**-1.1**
	0.9nm,0.6s,baz=305,slow=8.5,SNR=4.8						
	0.9nm,0.6s						
BRTR	**Keskin Array B**	**47.18**	**78**	P	**P**	**11 13 54.0**	**+0.6**
	2.0nm,0.9s,baz=319,slow=6.5,SNR=5.6						
	2.0nm,0.9s						
PDAR	**Pinedale Array**	**48.44**	**289**	P	**P**	**11 14 02.8**	**-0.5**
	0.3nm,0.6s,baz=69,slow=8.1,SNR=3.7						
	0.3nm,0.6s						
ARTI	**Arti**	**49.23**	**47**	P	**P**	**11 14 08.0**	**-0.8**
	1.7nm,0.3s,baz=0.0,slow=9.1,SNR=3.9						
	1.7nm,0.3s						
TORD	**Torodi Ar. Bea**	**50.13**	**131**	P	**P**	**11 14 15.4**	**-0.8**
	3.0nm,0.8s,baz=339,slow=9.2,SNR=5.1						
	3.0nm,0.8s						
ILAR	**Eielson Array**	**50.36**	**329**	P	**P**	**11 14 16.7**	**-0.7**
	0.7nm,1.1s,baz=38,slow=7.3,SNR=6.3						
	0.7nm,1.1s						
AKTO	**Aktyubinsk**	**52.98**	**53**	P	**P**	**11 14 38.5**	**+1.4**
	0.6nm,0.3s,baz=282,slow=7.9,SNR=3.7						
	0.6nm,0.3s						
DBIC	**Dimbokro**	**53.32**	**141**	P	**P**	**11 14 39.1**	**-0.9**
	2.8nm,0.6s,baz=10,slow=5.6,SNR=4.2						
	2.8nm,0.6s						
TXAR	**Lajitas Array**	**54.43**	**272**	P	**P**	**11 14 49.1**	**+1.0**
	0.5nm,0.8s,baz=45,slow=7.5,SNR=4.7						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**56.59**	**44**	P	**P**	**11 15 04.7**	**+1.5**
	1.7nm,0.7s,baz=317,slow=6.3,SNR=8.3						
	1.7nm,0.7s						
ROSC	**El Rosal**	**58.60**	**228**	P	**P**	**11 15 19.6**	**+1.3**
	12nm,0.7s,baz=126,slow=16,SNR=2.1						
KURBB	**Kurchatov Arra**	**61.69**	**42**	P	**P**	**11 15 38.8**	**+0.3**
	1.7nm,0.8s,baz=325,slow=7.0,SNR=12						
	1.7nm,0.8s						
MKAR	**Makanchi Array**	**66.25**	**42**	P	**P**	**11 16 08.6**	**-0.1**
	1.0nm,0.8s,baz=330,slow=7.0,SNR=5.5						
	1.0nm,0.8s						
SONM	**Songino Array**	**73.22**	**26**	P	**P**	**11 16 52.1**	**+0.5**
	0.4nm,0.4s,baz=2.9,slow=2.9,SNR=3.8						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**144.12**	**180**	PKP	**PKPab**	**11 24 52.5**	**-0.3**
	0.7nm,0.8s,baz=286,slow=1.7,SNR=5.6						
ASAR	**Alice Springs**	**148.37**	**20**	PKPbc	**PKPbc**	**11 25 07.0**	**-0.2**
	2.8nm,0.7s,baz=352,slow=2.5,SNR=34						

*OMAN **15** 11:09:25.3±0.5, 13°.39N×50°.37E, h15km±10km, mb4.7/5, ml4.0/1, ms3.8/3, Error ellipse: s-maj=11.0km s-min=10.1km az=73.0*

*IDC **15** 11:09:26.2±1.1, 13°.25N×50°.52E, h0km, mb4.0/17, mbtmp4.0/18, ML2.7/2, MS4.2/27, Error ellipse: s-maj=25.5km s-min=19.2km az=23.0*

*GCMT **15** 11:09:28.6±0.4, 13°.54N±0°.04×50°.45E±0°.04, h22km±1km, MW5.2/80, Moment Tensor Solution. s29,c31; s80,c98; Duration: 0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.81±.06; $M_{\theta\theta}$0.38±.04; $M_{\phi\phi}$0.43±.04; $M_{r\theta}$0.38±.05; $M_{r\phi}$0.07±.03; $M_{\theta\phi}$-0.18±.07; Best double couple: M0.72200×10^{17} NP1:ϕs48.00000°, δ36.00000°, λ-114.00000°. NP2: ϕs257.00000°, δ58.00000°, λ-74.00000°. Principal axes: T 0.4930, Plg11.0000°, Azm335.0000°; N 0.4570, Plg14.0000°, Azm68.0000°; P -0.9510, Plg72.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **15** 11:09:28.6±1.4, 13°.19N±0°.10×50°.52E±0°.02, h10km±1km, mb4.5/21 Error ellipse: s-maj=16.8km s-min=3.4km az=171.0*

ISC 15 11:09:29.6±0.6, 13°.31N±0°.08×50°.60E±0°.08, h21km, n79, σ1s49/64, mb4.3/25, MS4.1/27, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABTO	**Aybut**	**4.79**	**33**	P	**Pn**	**11 10 38.3**	**-2.4**
	SNR=7.4						
ABTO				S	**Sn**	**11 11 35.5**	**-0.2**
RBK	**Rabkut**	**5.43**	**39**	P	**Pn**	**11 10 47.8**	**-1.7**
	SNR=10						
RBK				S	**Sn**	**11 11 51.1**	**-0.3**
WHFO	**Wadi Hawf**	**5.51**	**33**	P	**Pn**	**11 10 47.9**	**-2.7**
	SNR=11						
WHFO				S	**Sn**	**11 11 53.1**	**-0.3**
DMTO	**DMTO**	**6.07**	**43**	P	**Pn**	**11 10 57.1**	**-1.1**
	SNR=25						
DOK	**Doka**	**6.28**	**32**	P	**Pn**	**11 10 58.8**	**-2.3**
	SNR=9.1						
ATD	**Arta Tunnel**	**7.77**	**258**	Pn	**Pn**	**11 11 19.4**	**-2.3**
	1.0nm,0.3s,baz=110,slow=22,SNR=29						
ATD				LR	LR	11 13 33.3	
	comp=Z,129nm,18.4s,baz=70,slow=32						
	2.4nm,0.3s						
DQM	**DQM**	**9.36**	**44**	P	**Pn**	**11 11 41.9**	**-1.5**
MHTO	**MHTO**	**10.39**	**42**	P	**Pn**	**11 11 55.0**	**-2.4**
MHTO				P	**Pn**	**11 11 55.0**	**-2.4**
RAYN	**Ar Rayn**	**11.25**	**335**	Pn	**Pn**	**11 12 10.6**	**+1.3**
BSY	**Bisya**	**11.29**	**33**	P	**Pn**	**11 12 07.6**	**-2.3**
ARQ	**Araqi**	**11.45**	**29**	P	**Pn**	**11 12 09.4**	**-2.6**
SMDO	**Samad**	**12.01**	**35**	P	**Pn**	**11 12 16.8**	**-2.9**
SMDO				P	**Pn**	**11 12 16.8**	**-2.9**
WSAR	**Wadi Sarin**	**12.48**	**37**	Pn	**Pn**	**11 12 26.9**	**+0.9**
	baz=148,slow=24,SNR=2.5						
WSAR				Sn	**Sn**	**11 14 39.9**	**-4.6**
	baz=197,slow=19,SNR=0.9						
WSAR				LR	LR	11 16 60.0	
	comp=Z,8.8nm,21.9s,baz=226,slow=36						
LODK	**Lodwar**	**17.97**	**238**		**Pn**	**11 13 37.7**	**-0.8**
KIBK	**Kibwezi**	**19.92**	**220**		**P**	**11 13 58.7**	**-1.5**
KIBK				IAmb	IAmb	11 14 06.3	
	comp=Z,25nm,1.5s						
EIL	**Elat**	**21.80**	**321**	P	**P**	**11 14 21.2**	**+0.9**
	comp=Z,6.6nm,0.8s,baz=150,slow=2.0,SNR=4.9						
EIL				LR	LR	11 22 37.6	
	comp=Z,811nm,21.9s,baz=108,slow=36						
	comp=Z,6.6nm,0.8s						
ASF	**Jabal al Asfar**	**22.59**	**328**	LR	LR	11 23 02.8	
	comp=Z,404nm,19.2s,baz=172,slow=36						
GHAJ	**Ghor Haditha**	**22.63**	**325**	P	**P**	**11 14 30.2**	**+1.0**
HMDM	**Hanimaadhoo**	**23.16**	**104**	P	**P**	**11 14 35.1**	**+0.3**
MMAI	**Mount Meron Ar**	**24.03**	**327**	P	**P**	**11 14 43.4**	**+0.2**
	comp=Z,0.5nm,0.2s,baz=152,slow=9.6,SNR=3.8						
MMAI				LR	LR	11 25 29.4	
	comp=Z,220nm,18.9s,baz=124,slow=40						
	comp=Z,0.5nm,0.2s						
GNI	**Garni**	**27.23**	**350**	P	**P**	**11 15 14.0**	**+1.7**
GNI				IAmb	IAmb	11 15 26.6	
	comp=Z,24nm,1.2s						
PALK	**Pallekele**	**30.20**	**98**	LR	LR	11 24 24.6	
	comp=Z,268nm,21.6s,baz=270,slow=30						
BRTR	**Keskin Array B**	**30.26**	**333**	LR	LR	11 28 31.2

	comp=Z,0.9nm,0.5s,baz=222,slow=7.8,SNR=9.2								
	comp=Z,0.9nm,0.5s								
PSZ	**Piszkesteto**	**42.92**	**330**	P		**P**		**11 17 26.9**	**+0.1**
PSZ				IAmb		IAmb		11 17 27.5	
	comp=Z,4.6nm,0.8s								
ARTI	**Arti**	**43.41**	**6**	P		**P**		**11 17 32.3**	**+1.7**
ARTI	**Arti**	**43.41**	**6**	LR		LR		11 38 19.4	
	comp=Z,345nm,20.3s,baz=144,slow=40								
KURBB	**Kurchatov Arra**	**43.60**	**26**	P		**P**		**11 17 34.0**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=222,slow=8.4,SNR=6.9								
	comp=Z,0.8nm,0.6s								
KIRV	**Kirov**	**45.20**	**359**	LR		LR		11 39 57.3	
	comp=Z,273nm,18.8s,baz=131,slow=40								
LBTB	**Lobatse**	**45.22**	**213**	LR		LR		11 35 33.7	
	comp=Z,480nm,21.4s,baz=74,slow=35								
TSUM	**Tsumeb**	**45.84**	**226**	LR		LR		11 38 42.9	
	comp=Z,390nm,18.9s,baz=82,slow=38								
SUW	**Suwalki**	**46.00**	**338**	P		**P**		**11 17 52.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**46.68**	**77**	LR		LR		11 38 02.5	
	comp=Z,74nm,18.6s,baz=150,slow=37								
TORD	**Torodi Ar. Bea**	**47.54**	**276**	P		**P**		**11 18 03.1**	**-0.8**
TORD				IAmb		IAmb		11 18 15.5	
	comp=Z,11nm,1.5s								
BOSA	**Boshof**	**48.35**	**210**	LR		LR		11 37 55.0	
	comp=Z,251nm,19.4s,baz=54,slow=35								
ZALV	**Zalesovo Beam**	**48.68**	**26**	P		**P**		**11 18 13.0**	**+0.9**
ZALV	**Zalesovo Beam**	**48.68**	**26**	P		**P**		**11 18 12.6**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=232,slow=7.3,SNR=7.1								
	comp=Z,2.3nm,0.7s								
FINES	**FINESS Array B**	**51.23**	**345**	P		**P**		**11 18 31.2**	**-0.2**
FINES	**FINESS Array B**	**51.23**	**345**	P		**P**		**11 18 31.8**	**+0.4**
	comp=Z,4.4nm,0.8s,baz=148,slow=10,SNR=14								
FINES				LR		LR		11 44 52.7	
	comp=Z,151nm,18.2s,baz=94,slow=42								
	comp=Z,4.4nm,0.8s								
MDT	**Midelt**	**53.76**	**301**	LR		LR		11 43 17.9	
	comp=Z,174nm,19.6s,baz=48,slow=38								
HFS	**Hagfors**	**54.01**	**338**	P		**P**		**11 18 51.0**	**-1.1**
	comp=Z,3.0nm,0.7s,baz=139,slow=9.6,SNR=16								
	comp=Z,3.0nm,0.7s								
ESDC	**Sonseca Array**	**54.47**	**309**			**P**		**11 18 57.6**	**+1.8**
ESDC				IAmb		IAmb		11 19 20.5	
	comp=Z,4.9nm,1.4s								
ESDC	**Sonseca Array**	**54.47**	**309**	P		**P**		**11 18 55.9**	**0.0**
	comp=Z,1.6nm,1.1s,baz=90,slow=6.5,SNR=6.1								
	comp=Z,1.6nm,1.1s								
NB2	**NORSAR Subarra**	**55.53**	**338**	P		**P**		**11 19 02.3**	**-0.8**
	comp=Z,9.1nm,1.4s,baz=133,slow=7.4								
NOA	**NORSAR Array B**	**55.53**	**338**	P		**P**		**11 19 02.2**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=130,slow=7.1,SNR=4.2								
NOA				LR		LR		11 45 44.5	
	comp=Z,200nm,20.9s,baz=50,slow=39								
	comp=Z,1.4nm,0.8s								
SONM	**Songino Array**	**57.48**	**41**	P		**P**		**11 19 18.3**	**+1.0**
SONM	**Songino Array**	**57.48**	**41**	P		**P**		**11 19 16.9**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=256,slow=6.0,SNR=5.2								
	comp=Z,1.4nm,0.8s								
ARCES	**ARCESS Array B**	**58.39**	**350**			**P**		**11 19 24.0**	**+0.9**
ARCES				IAmb		IAmb		11 19 25.8	
	comp=Z,5.2nm,1.1s								
ARCES	**ARCESS Array B**	**58.39**	**350**	P		**P**		**11 19 22.4**	**-0.7**
	comp=Z,3.1nm,0.9s,baz=140,slow=6.0,SNR=11								
ARCES				LR		LR		11 47 09.2	
	comp=Z,394nm,19.2s,baz=98,slow=39								
	comp=Z,3.1nm,0.9s								
EKA	**Eskdalemuir Ar**	**58.90**	**327**	P		**P**		**11 19 28.0**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=104,slow=7.7,SNR=1.9								
	comp=Z,0.8nm,0.6s								
SPITS	**Spitsbergen Ar**	**67.06**	**353**	P		**P**		**11 20 20.5**	**-0.4**
	comp=Z,3.8nm,1.0s,baz=146,slow=19,SNR=3.7								
	comp=Z,3.8nm,1.0s								
YAK	**Yakutsk**	**73.23**	**29**	LR		LR		11 55 54.2	
	comp=Z,113nm,20.2s,baz=237,slow=38								
TIXI	**Tiksi**	**73.76**	**19**	LR		LR		11 56 20.8	
	comp=Z,210nm,21.6s,baz=290,slow=38								
MAW	**Mawson**	**81.18**	**175**	LR		LR		11 50 54.6	
	comp=Z,214nm,21.6s,baz=50,slow=31								
WRA	**Warramunga Arr**	**88.72**	**111**			**P**		**11 22 22.4**	**+0.2**
WRA	**Warramunga Arr**	**88.72**	**111**	P		**P**		**11 22 22.2**	**0.0**
	comp=Z,3.0nm,0.9s,baz=299,slow=3.8,SNR=12								
	comp=Z,3.0nm,0.9s								
ASAR	**Alice Springs**	**89.27**	**114**	P		**P**		**11 22 25.3**	**+0.5**
ASAR	**Alice Springs**	**89.27**	**114**	P		**P**		**11 22 24.7**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=287,slow=4.8,SNR=13								
	comp=Z,0.8nm,0.6s								
RES	**Resolute Bay**	**89.58**	**351**	LR		LR		12 04 58.2	
	comp=Z,69nm,19.0s,baz=9.0,slow=37								
SNAA	**Sanae**	**91.92**	**195**	P		**P**		**11 22 36.8**	**+0.8**
SNAA				IAmb		IAmb		11 23 17.6	
	comp=Z,4.9nm,1.5s								
INK	**Inuvik**	**98.55**	**2**	LR		LR		12 14 03.1	
	comp=Z,99nm,21.1s,baz=316,slow=39								
BMAR	**Burnt Mountain**	**98.73**	**6**	P		**P**		**11 23 07.4**	**+0.1**
NVAR	**Mina Array Bea**	**127.50**	**349**	PKP		**PKiKP**		**11 28 36.1**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=203,slow=1.2,SNR=4.2								

KRSC 15 11:15:60.0±1.5, 50°28N×157°44E, h62km±28km, MI3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.93**	**296**	*eP*	Pn	11 16 18.3	+1.1
SKR				*eS*	Sn	11 16 29.9	0.0
PAU	**Pauzhetka**	**1.25**	**342**	*eP*	Pn	11 16 23.2	+1.8
PAU				*eS*	Sn	11 16 38.8	+1.5
MIPR	**Malaya Ipel'ka**	**2.04**	**348**	*eP*	Pn	11 16 33.5	+1.5
ASAK	**Asacha**	**2.12**	**8**	*eP*	Pn	11 16 36.0	+2.8
MTVR	**Mutnovka**	**2.25**	**12**	*eP*	Pn	11 16 37.9	+2.9
MTVR				*eS*	Sn	11 17 04.6	+2.9
RUS	**Russkaya**	**2.26**	**17**	*eP*	Pn	11 16 37.6	+2.7
RUS				*eS*	Sn	11 17 03.8	+2.2
GRL	**Gorelyy**	**2.31**	**10**	*eP*	Pn	11 16 39.1	+3.4
GRL				*eS*	Sn	11 17 06.8	+3.8
KRMR	**Karymshinskiy**	**2.59**	**9**	*eS*	Sn	11 17 12.1	+2.4
APC	**Apacha**	**2.65**	**356**	*eP*	Pn	11 16 41.8	+1.5
PET	**Petropavlovsk**	**2.85**	**15**	*eP*	Pn	11 16 45.6	+2.7
PET				*eS*	Sn	11 17 19.2	+3.2
DALK	**Dalny**	**2.87**	**16**	*eP*	Pn	11 16 46.3	+3.0
DALK				*eS*	Sn	11 17 19.8	+3.1
UGLR	**Uglovaya**	**3.06**	**16**	*eP*	Pn	11 16 49.5	+3.6
AVH	**Avacha**	**3.10**	**15**	*eP*	Pn	11 16 50.3	+3.9
SMAR	**Somma**	**3.10**	**15**	*eP*	Pn	11 16 50.2	+3.5
KOK	**Koryaka**	**3.11**	**13**	*eP*	Pn	11 16 50.5	+4.0
NLC	**Nalytchevo**	**3.13**	**22**	*eP*	Pn	11 16 48.6	+1.9
SDLR	**Sedlovina**	**3.13**	**16**	*eP*	Pn	11 16 50.0	+3.1
KRER	**Koryakskii**	**3.14**	**15**	*eP*	Pn	11 16 50.7	+3.6
KRK	**Arik**	**3.17**	**13**	*eP*	Pn	11 16 51.2	+3.7
SPN	**Mys Shipunski**	**3.25**	**29**	*eP*	Pn	11 16 51.6	+3.2
SPN				*eS*	Sn	11 17 27.8	+2.0
GNL	**Ganaly**	**3.43**	**5**	*eP*	Pn	11 16 53.3	+2.2
MKZ	**Mys Kozlova**	**5.02**	**30**	*eP*	Pn	11 17 14.8	+2.2
BKI	**Bering**	**7.15**	**43**	*eP*	Pn	11 17 44.7	+3.0

*NNC **15** 11:16:49.5±0.6, 42°.96N×77°.06E, h0km, mb2.7, mpv3.2, Error ellipse: s-maj=4.9km s-min=2.7km az=173.0*
*KRNET **15** 11:16:49.7±0.1, 42°.97N×77°.05E, h18km, mb2.7*
*SOME **15** 11:16:50.2, 42°.97N×77°.03E, h15km*

ISC 15 11:16:49.5±0.8, 42°.96N±0°.02×77°.04E±0°.02, h11km±5km, n32, σ0°48/64, 18C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**0.10**	**317**	P	**Pg**	**11 16 52.7**	**+0.1**
	118nm,0.1s						
TNSS				S	**Sg**	**11 16 54.7**	**-0.2**
	189nm,0.1s						
TNSS	**Tian-Shan**	**0.10**	**317**	*eP*	**Pg**	**11 16 52.7**	**+0.1**
TNSS				*eS*	**Sg**	**11 16 54.7**	**-0.2**
TNSS	**Tian-Shan**	**0.10**	**317**	*eP*	**Pg**	**11 16 52.7**	**+0.1**
	118nm,0.1s						
TNSS				*eS*	**Sg**	**11 16 54.7**	**-0.2**
	189nm,0.1s						
AAA	**Alma-Ata**	**0.26**	**339**	*eP*	**Pg**	**11 16 55.8**	**+0.8**
AAA	92nm,0.1s						
	49nm,0.1s			*eS*	**Sg**	**11 16 59.7**	**+1.1**
KOTS	**Kotyrbulak**	**0.28**	**11**	P	**Pg**	**11 16 55.5**	**+0.3**
	77nm,0.1s						
KOTS				S	**Sg**	**11 16 59.6**	**+0.6**
	312nm,0.2s						
KOTS	**Kotyrbulak**	**0.28**	**11**	*eP*	**Pg**	**11 16 55.5**	**+0.3**
KOTS				*eS*	**Sg**	**11 16 59.6**	**+0.6**
KOTS	**Kotyrbulak**	**0.28**	**11**	*eP*	**Pg**	**11 16 55.5**	**+0.3**
	77nm,0.1s						
KOTS				*eS*	**Sg**	**11 16 59.6**	**+0.6**
	312nm,0.2s						
IZV	**Izvestkoviy**	**0.32**	**283**	*eP*	**Pg**	**11 16 56.6**	**+0.6**
IZV				*eS*	**Sg**	**11 17 01.2**	**+0.8**
IZV	**Izvestkoviy**	**0.32**	**283**	*eP*	**Pg**	**11 16 56.6**	**+0.6**
	5.6nm,0.1s						
IZV				*eS*	**Sg**	**11 17 01.2**	**+0.8**
	56nm,0.1s						
MTBS	**Maitube**	**0.48**	**291**	P	**Pg**	**11 16 59.3**	**+0.4**
	5.2nm,0.1s						
MTBS				S	**Sg**	**11 17 05.9**	**+0.6**
MTBS	**Maitube**	**0.48**	**291**	*eP*	**Pg**	**11 16 59.3**	**+0.4**
MTBS				*eS*	**Sg**	**11 17 05.9**	**+0.6**
MTBS	**Maitube**	**0.48**	**291**	*eP*	**Pg**	**11 16 59.3**	**+0.4**
	2.5nm,0.1s						
MTBS				*eS*	**Sg**	**11 17 05.9**	**+0.6**
	28nm,0.1s						
KTBS	**Karatobe**	**0.79**	**341**	*eP*	**Pg**	**11 17 04.9**	**+0.1**
KTBS				*eS*	**Sg**	**11 17 15.4**	**+0.2**
KST	**Kastek**	**0.80**	**276**	P	**Pg**	**11 17 05.2**	**+0.3**
	2.1nm,0.2s						
KST				S	**Sb**	**11 17 15.9**	**-0.4**
	9.1nm,0.3s						
KST	**Kastek**	**0.80**	**276**	*eP*	**Pg**	**11 17 05.2**	**+0.3**
	1.7nm,0.1s						
KST				*eS*	**Sb**	**11 17 15.9**	**-0.4**
	6.0nm,0.1s						
KDJ	**Kajisay**	**0.84**	**173**	⇑*iP*	**Pg**	**11 17 05.7**	**+0.1**
KDJ				⇑*iS*	**Sg**	**11 17 17.1**	**+0.5**
CHKK	**Chushkaly**	**0.89**	**357**	P	**Pb**	**11 17 06.5**	**-0.5**
	4.3nm,0.1s						
CHKK				S	**Sb**	**11 17 18.2**	**-0.8**
	64nm,0.2s						
CHKK	**Chushkaly**	**0.89**	**357**	*eP*	**Pb**	**11 17 06.5**	**-0.5**
CHKK				*eS*	**Sb**	**11 17 18.2**	**-0.8**
CHKK	**Chushkaly**	**0.89**	**357**	*eP*	**Pb**	**11 17 06.5**	**-0.5**
	4.1nm,0.1s						
CHKK				*eS*	**Sb**	**11 17 18.2**	**-0.8**
	64nm,0.2s						
ULHL	**Ulahol**	**0.93**	**220**	⇑*iP*	**Pb**	**11 17 07.1**	**-0.6**
ULHL				⇑*iS*	**Sb**	**11 17 19.9**	**-0.2**
BOOM	**Boomskoye usch**	**0.94**	**240**	⇑*iP*	**Pb**	**11 17 07.6**	**-0.3**
BOOM				⇑*iS*	**Sb**	**11 17 20.2**	**-0.2**
DGS	**Degeres**	**0.97**	**287**	*eP*	**Pb**	**11 17 08.2**	**-0.2**
DGS				*eS*	**Sb**	**11 17 21.1**	**-0.2**
TKM2	**Tokmak 2**	**1.06**	**268**	⇑*iP*	**Pb**	**11 17 09.6**	**-0.4**
TKM2				⇑*iS*	**Sg**	**11 17 24.0**	**+0.2**
PRZ	**Przheval'sk**	**1.11**	**115**	⇑*eP*	**Pb**	**11 17 10.4**	**-0.4**
PRZ				⇑*eS*	**Sb**	**11 17 25.1**	**-0.2**
KRBS	**Karabastau**	**1.24**	**307**	*eP*	**Pb**	**11 17 12.8**	**-0.1**
KRBS				*eS*	**Sn**	**11 17 29.0**	**-0.6**
TARG	**Taragay, Kyrgy**	**1.36**	**155**	⇑*iP*	**Pn**	**11 17 14.7**	**0.0**
TARG				⇑*iS*	**Sn**	**11 17 33.0**	**+0.1**
ARXS	**Arharly**	**1.37**	**24**	P	**Pb**	**11 17 15.1**	**-0.1**
	7.0nm,0.2s						
ARXS				S	**Sb**	**11 17 32.8**	**-0.1**
	16nm,0.1s						
ARXS	**Arharly**	**1.37**	**24**	*eP*	**Pb**	**11 17 15.1**	**-0.1**
ARXS				*eS*	**Sb**	**11 17 32.8**	**-0.1**
BLB	**Baldybastay**	**1.54**	**42**	P	**Pb**	**11 17 17.8**	**-0.3**
	20nm,0.3s						
BLB				S	**Sb**	**11 17 37.8**	**0.0**
	39nm,0.2s						
NRN	**Naryn**	**1.71**	**207**	⇑*eP*	**Pb**	**11 17 21.4**	**+0.2**
NRN				⇑*eS*	**Sg**	**11 17 44.6**	**0.0**
PDGK	**Podgornoye**	**1.83**	**78**	⇑Pn	**Pb**	**11 17 22.2**	**-0.8**
	1.4nm,0.8s						
PDGK				⇑Sn	**Sb**	**11 17 46.9**	**+0.9**
	2.7nm,0.5s						
UCH	**Uchtor**	**2.01**	**249**	⇑*eP*	**Pb**	**11 17 25.6**	**-0.6**
UCH				⇑*iS*	**Sb**	**11 17 51.6**	**+0.2**

*NEIC **15** 11:21:50.6±3.0, 35°.17N±0°.02×95°.35W±0°.02, h5km±1km, ML1.7/6, Error ellipse: s-maj=4.2km s-min=2.7km az=162.0*

NEIC 15 11:21:50.6±2.8, 35°.15N±0°.03×95°.36W±0°.02, h5km±5km, ML1.8/12, Error ellipse: s-maj=3.9km s-min=2.3km az=161.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL3	**Leonard**	**0.84**	**335**	P	Pg	11 22 07.1	+0.3
TUL3				Sg	Sg	11 22 18.0	+0.3
RLO	**Rose Lookout**	**1.05**	**15**		Pg	11 22 10.5	-0.3
RLO				Sg	Sg	11 22 24.7	+0.1
RLO				IAML		11 22 27.2	
	comp=N,19nm,0.2s						
DEOK	**Depew**	**1.16**	**307**		Pg	11 22 12.7	-0.3
DEOK					Sg	11 22 28.2	+0.2
DEOK				IAML		11 22 32.8	
	comp=N,17nm,0.4s						
U38A	**Gravette**	**1.52**	**31**		Pn	11 22 17.7	-0.8
MIAR	**Mount Ida**	**1.58**	**112**		Pn	11 22 19.9	-0.4
MIAR					Sb	11 22 41.0	+0.3
HHAR	**Hobbs**	**1.62**	**45**		Pn	11 22 19.6	-0.2
X40A	**Basin Creek Fa**	**2.18**	**107**		Pn	11 22 27.4	-0.1
KAN13	**South Haven SW**	**2.53**	**318**	Pn	Pn	11 22 31.9	-0.5
KAN17	**Caldwell West**	**2.72**	**315**	Pn	Pn	11 22 33.7	-1.3
WMOK	**Wichita Mounta**	**2.84**	**263**		Pb	11 22 39.4	-2.4
WMOK					Sn	11 23 12.8	+1.5
KAN12	**Harper NE Stat**	**3.03**	**316**	Pn	Pn	11 22 38.6	-0.6
OK038	**West end E0370**	**3.06**	**297**	Pn	Pn	11 22 37.8	-1.8
PBMO	**Poplar Bluff**	**4.32**	**66**	Pn	Pn	11 22 56.4	-0.6
HDBT	**Hernando Brdge**	**4.34**	**88**	Pn	Pn	11 22 57.5	+0.2
Y45A	**Yeager Farm, C**	**4.97**	**103**	Pn	Pn	11 23 06.1	+0.2

*NEIC **15** 11:23:05.9±1.5, 0°.36S±0°.07×127°.82E±0°.09, h10km±1km, mb4.6/18, Error ellipse: s-maj=16.0km s-min=10.0km az=246.0*
*DJA **15** 11:23:08.2±1.0, 0°.5S±2°×12°.8E±°, h21km±8km, M4.5/10, mb4.8/6, mB5.0/3, MLv4.3/10, Mw(mB)4.3/3*
*IDC **15** 11:23:09.3±4.3, 0°.57S×127°.82E, h58km±42km, mb3.8/14, mbtmp4.1/16, ML3.9/2, Error ellipse: s-maj=26.8km s-min=14.8km az=70.0*

ISC 15 11:23:04.4±0.5, 0°.45S±0°.04×127°.87E±0°.07, h10km, n56, σ1°43/58, mb4.4/24, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.31**	**338**		**Pg**	**11 23 29.2**	**-0.3**
TNTI	**Ternate**	**1.31**	**338**	P	**Pg**	**11 23 29.3**	**-0.2**
TNTI				S	**Sn**	**11 23 48.3**	**+2.1**
SANI	**Sanana**	**2.46**	**230**	P	**Pn**	**11 23 44.9**	**+0.3**
SANI				S	**Sn**	**11 24 13.4**	**-1.4**
NLAI	**Namlea**	**2.88**	**195**	P	**Pn**	**11 23 50.1**	**-0.2**
NLAI				S	**Sn**	**11 24 24.3**	**-0.8**
MSAI	**Masohi**	**3.07**	**160**	P	**Pb**	**11 23 59.3**	**+0.1**
SWI	**Sorong**	**3.42**	**97**	P	Pg	11 24 18.9	+8.9
KMSI	**Cibinong**	**4.01**	**285**	P	**Pn**	**11 24 07.1**	**+1.1**
KMSI				S	**Sn**	**11 24 54.0**	**+0.9**
FAKI	**Fak Fak**	**5.02**	**119**	Pn	**Pn**	**11 24 22.7**	**+2.8**
MRSI	**Marisa**	**5.99**	**279**	P	Pb	11 24 44.6	-4.4
TOLI2	**Tolitoli**	**7.25**	**282**	Pn	**Pn**	**11 24 50.8**	**+0.4**
TTSI	**Tana Toraja**	**8.45**	**252**	P	**Pn**	**11 25 09.1**	**+2.2**
	0.2nm70nm,0.8s						
BNSI	**Bone**	**8.69**	**243**	P	Pn	11 25 29.2	+19
SPSI	**Sidrap Palu**	**8.81**	**247**	P	**Pn**	**11 25 13.5**	**+1.6**
BKSI	**Bulukumba**	**9.12**	**238**	P	**Pn**	**11 25 19.4**	**+3.2**
	658nm65nm,0.6s						
KAPI	**Kappang**	**9.29**	**241**	P	**Pn**	**11 25 20.5**	**+2.1**
	4.9nm,0.3s,baz=98,slow=6.8,SNR=8.3						
KAPI				S	**Sn**	**11 27 01.9**	**-1.2**
	9.7nm,0.6s,baz=100,slow=16,SNR=1.8						
	19nm,0.5s						
MYLDM	**Lahad Datu**	**10.89**	**301**	Pn	**Pn**	**11 25 41.3**	**+0.8**
MTN	**Manton Dam**	**12.74**	**165**	Pn	**Pn**	**11 26 08.2**	**+2.5**
KNRA	**Kununurra**	**15.16**	**177**	Pn	**Pn**	**11 26 41.2**	**+2.5**
KNRA				IAmb	IAmb	11 27 23.5	
	comp=Z,23nm,1.3s						
FITZ	**Fitzroy Crossi**	**17.68**	**187**	P	**Pn**	**11 27 09.1**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=10,slow=12,SNR=1.5						
	comp=Z,2.9nm,0.9s						
WB0	**Warramunga Arr**	**20.24**	**162**	P	**P**	**11 27 42.2**	**+2.3**
WRA	**Warramunga Arr**	**20.39**	**162**	P	**P**	**11 27 43.7**	**+2.2**
WRA	**Warramunga Arr**	**20.39**	**162**	P	**P**	**11 27 39.2**	**-2.4**
	comp=Z,2.1nm,1.0s,baz=346,slow=12,SNR=6.5						
	comp=Z,2.1nm,1.0s						
WR8	**Warramunga Arr**	**20.45**	**162**	P	**P**	**11 27 41.8**	**-0.4**
AS31	**Alice Springs**	**23.82**	**166**		**P**	**11 28 17.1**	**-0.6**
ASAR	**Alice Springs**	**23.82**	**166**		**P**	**11 28 18.2**	**+0.5**
ASAR	**Alice Springs**	**23.82**	**166**	P	**P**	**11 28 16.1**	**-1.6**
	comp=Z,2.7nm,0.8s,baz=345,slow=12,SNR=18						
	comp=Z,2.7nm,0.8s						
KASI	**Kota Agung**	**23.87**	**257**	P	**P**	**11 28 20.3**	**+2.0**
	comp=Z,53nm,0.9s						
MDSI	**Maura Dua**	**24.00**	**260**	P	**P**	**11 28 20.0**	**+0.5**
TPUB	**Ta-pu**	**24.63**	**344**		**P**	**11 28 24.5**	**-0.7**
YHNB	**Yeheng**	**25.75**	**346**	P	**P**	**11 28 33.4**	**-2.0**
YHNB				IAmb	IAmb	11 28 40.4	
	comp=Z,18nm,1.0s						
JOW	**Kunigami**	**27.12**	**1**	P	**P**	**11 28 48.3**	**+0.6**
JOW				IAmb	IAmb	11 28 49.4	
	comp=Z,8.6nm,0.9s						
FORT	**Forrest**	**30.17**	**180**	P	**P**	**11 29 15.2**	**+0.3**
FORT				IAmb	IAmb	11 29 30.1	
	comp=Z,6.3nm,0.9s						
STKA	**Stephens Creek**	**33.85**	**159**	P	**P**	**11 29 45.8**	**-1.4**
	comp=Z,3.7nm,1.0s,baz=352,slow=3.0,SNR=3.4						
	comp=Z,3.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**34.07**	**305**	P	**P**	**11 29 48.5**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=116,slow=6.5,SNR=4.6						
	comp=Z,0.5nm,0.3s						
KSRS	**Korea Array**	**37.71**	**0**	P	**P**	**11 30 20.6**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=182,slow=11,SNR=4.9						
	comp=Z,0.9nm,0.7s						
MJAR	**Matsushiro Arr**	**38.03**	**14**	P	**P**	**11 30 22.4**	**-0.6**
	comp=Z,3.2nm,0.9s,baz=185,slow=9.6,SNR=5.9						
	comp=Z,3.2nm,0.9s						
GTA	**Gaotai**	**47.25**	**330**	*eP*	**P**	**11 31 38.8**	**+0.8**
GTA				sP	sP	11 31 46.6	+4.2
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SONM	**Songino Array**	**51.59**	**342**	P	**P**	**11 32 10.4**	**-0.6**
	comp=Z,2.4nm,1.0s,baz=153,slow=7.4,SNR=5.4						
	comp=Z,2.4nm,1.0s						
PETK	**Petropavlovsk-**	**58.88**	**21**	P	**P**	**11 33 03.6**	**+0.2**
PETK	**Petropavlovsk-**	**58.88**	**21**	P	**P**	**11 33 04.2**	**+0.9**
	comp=Z,2.9nm,0.7s,baz=169,slow=4.3,SNR=7.6						
	comp=Z,2.9nm,0.7s						
MKAR	**Makanchi Array**	**61.62**	**326**	P	**P**	**11 33 21.2**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=116,slow=7.6,SNR=11						
	comp=Z,0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**65.85**	**328**	P	**P**	**11 33 49.0**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=125,slow=6.1,SNR=7.7						
	comp=Z,1.9nm,0.6s						
KURK	**Kurchatov**	**65.86**	**328**	P	**P**	**11 33 49.5**	**-0.6**
KURK				IAmb	IAmb	11 33 49.6	
	comp=Z,4.0nm,0.8s						
BVAR	**Borovoye Array**	**71.42**	**327**	P	**P**	**11 34 23.7**	**-1.2**
	comp=Z,2.1nm,0.9s,baz=124,slow=4.3,SNR=3.8						
	comp=Z,2.1nm,0.9s						
ABKAR	**Akbulak array**	**76.09**	**321**	P	**P**	**11 34 50.6**	**-1.7**
L16K	**Owhat River**	**82.23**	**27**	P	**P**	**11 35 26.6**	**+0.9**
J17K	**VABM Dome**	**82.86**	**26**		**P**	**11 35 30.2**	**+1.3**
H17K	**Granite Mounta**	**82.93**	**24**		**P**	**11 35 30.5**	**+1.2**
H17K				IAmb	IAmb	11 35 31.4	
	comp=Z,5.2nm,1.0s						
K17K	**Iditarod**	**83.02**	**26**	P	**P**	**11 35 31.0**	**+1.3**
E18K	**Tukpahlearik C**	**83.39**	**22**	P	**P**	**11 35 32.7**	**+1.1**
E18K				IAmb	IAmb	11 35 33.6	
	comp=Z,4.4nm,0.8s						
L18K	**Granite Mounta**	**83.63**	**27**		**P**	**11 35 33.8**	**+0.9**
L18K				IAmb	IAmb	11 35 35.0	
	comp=Z,4.3nm,0.8s						
ILAR	**Eielson Array**	**88.36**	**25**	P	**P**	**11 35 54.2**	**-2.1**
	comp=Z,0.5nm,0.9s,baz=250,slow=4.3,SNR=4.1						
	comp=Z,0.5nm,0.9s						
QSPA	**South Pole Qui**	**89.49**	**180**	P	**P**	**11 36 00.3**	**-1.4**
	comp=Z,1.1nm,0.9s,baz=328,slow=4.9,SNR=7.2						
	comp=Z,1.1nm,0.9s						
DAWY	**Dawson**	**91.60**	**26**	P	**P**	**11 36 12.1**	**+0.6**
DAWY				IAmb	IAmb	11 36 12.3	
	comp=Z,2.1nm,0.9s						
FARO	**Faro, Yukon**	**94.50**	**28**	P	**P**	**11 36 25

CCIG	Comitan	2.70	68	P	Pn	11 27 15.8	-0.9	
TUIG	Tuzandepetl	2.74	7	eP	Pn	11 27 16.3	-0.9	
TUIG				eS	Sn	11 27 48.8	-0.3	
TUIG	Tuzandepetl	2.74	7	P	Pn	11 27 16.3	-0.9	
TUIG	Tuzandepetl	2.74	7	S	Sn	11 27 49.4	+0.3	
RTAL	Retalhuleu	3.05	104		Pn	11 27 20.3	-1.1	
RTAL	Retalhuleu	3.05	104	eP	Pn	11 27 19.3	-2.2	
RTAL				eS	Sn	11 27 53.2	-3.5	
RTAL	Retalhuleu	3.05	104	P	Pn	11 27 20.4	-1.0	
RTAL	Retalhuleu	3.05	104	S	Sn	11 27 57.8	+1.1	
YOIG	Yosondua	3.10	300		Pn	11 27 22.5	+0.1	
YOIG	Yosondua	3.10	300	eP	Pn	11 27 22.5	+0.1	
YOIG				eS	Sn	11 27 56.0	-2.4	
HUEH	Huehuetenango	3.13	89		Pn	11 27 23.2	+0.5	
HUEH	Huehuetenango	3.13	89	eP	Pn	11 27 22.7	-0.1	
HUEH				eS	Sn	11 28 00.0	+0.9	
HUEH	Huehuetenango	3.13	89	iP	Pn	11 27 23.0	+0.2	
HUEH				eS	Sn	11 28 01.0	+1.9	
HUEH	Huehuetenango	3.13	89	S	Sn	11 27 59.4	+0.3	
HUEH	Huehuetenango	3.13	89	P	Pn	11 27 21.9	-0.9	
QUEO	Labor Ovalle	3.15	97	eP	Pn	11 27 22.4	-0.7	
VHSA	Villahermosa	3.19	33		Sn	11 27 56.1	-4.0	
VHSA	Villahermosa	3.19	33	eS	Sn	11 27 56.1	-4.0	
PMUV	Sontecomapan	3.25	354		Sn	11 27 57.3	-4.5	
PMUV	Sontecomapan	3.25	354	eP	Pn	11 27 19.9	-4.4	
PMUV				eS	Sn	11 27 57.3	-4.5	
SOKI	Kika Raxquin	3.27	98	iP	Pn	11 27 24.5	-0.3	
STG2	El Palmar, Qui	3.37	104	iP	Pn	11 27 19.9	-6.1	
STG0	El Palmar, Qui	3.41	104	eP	Pn	11 27 20.8	-5.7	
STG0				eS	Sn	11 27 56.2	-10	
PNIG	Pinotepa	3.43	289		Pn	11 27 25.7	-1.0	
PNIG	Pinotepa	3.43	289	eP	Pn	11 27 25.7	-1.0	
TXIG	Tlaxiaco	3.49	304		Pn	11 27 27.6	-0.2	
TXIG	Tlaxiaco	3.49	304	eP	Pn	11 27 27.6	-0.2	
TXIG				eS	Sn	11 28 05.8	-2.2	
QUIS	Sacapulas	3.53	90	⇓iP	Pn	11 27 28.4	+0.3	
QUIS				eS	Sn	11 28 11.0	+2.3	
TOIG	Toxpalan	3.56	322		Pn	11 27 30.3	+1.8	
TOIG					Sn	11 28 07.8	-1.7	
TOIG	Toxpalan	3.56	322	eP	Pn	11 27 30.3	+1.8	
TOIG				eS	Sn	11 28 07.8	-1.7	
HLIG	Huajuapan de L	3.87	311		Pn	11 27 34.1	+1.3	
HLIG	Huajuapan de L	3.87	311	eP	Pn	11 27 34.1	+1.3	
HLIG				eS	Sn	11 28 14.1	-3.0	
ESSG	Sabana Grande	3.90	103	iP	Pn	11 27 32.6	-0.5	
TPIG	Tehuac#an	3.99	322		Pn	11 27 33.5	-1.0	
TPIG					Sn	11 28 19.0	-1.1	
TPIG	Tehuac#an	3.99	322	eP	Pn	11 27 33.5	-1.0	
TPIG				eS	Sn	11 28 19.0	-1.1	
FG8	Yepocapa, Chim	4.18	104	iP	Pn	11 27 30.5	-6.5	
FG8				iS	Sn	11 28 13.6	-11	
FG16	Alotenango, Sa	4.22	103	iP	Pn	11 27 31.9	-5.8	
TLIG	Tlapa	4.30	302	eP	Pn	11 27 39.5	+0.8	
TLIG				eS	Sn	11 28 24.4	-3.3	
TLIG	Tlapa	4.30	302	P	Pn	11 27 40.1	+1.4	
TLIG	Tlapa	4.30	302	S	Sn	11 28 31.4	+3.6	
CRIG	Cruz Grande	4.45	289		Pn	11 27 39.6	-1.1	
CRIG	Cruz Grande	4.45	289	eP	Pn	11 27 39.6	-1.1	
CRIG				eS	Sn	11 28 25.1	-6.1	
JAUV	Jalcomulco	4.50	334		Pn	11 27 39.0	-2.4	
JAUV	Jalcomulco	4.50	334	eP	Pn	11 27 39.0	-2.4	
JAUV				eS	Sn	11 28 28.0	-4.5	
FAME	Alcaldia de Sa	4.81	107	P	Pn	11 27 45.3	-0.3	
PETF	Flores	4.96	70		Pn	11 27 46.8	-0.9	
PETF	Flores	4.96	70	eP	Pn	11 27 45.9	-1.9	
PETF				eS	Sn	11 28 41.5	-2.4	
PETF	Flores	4.96	70	iP	Pn	11 27 47.5	-0.2	
PETF	Flores	4.96	70	P	Pn	11 27 46.4	-1.3	
PETF	Flores	4.96	70	S	Sn	11 28 43.8	-0.1	
SCIG	Sabancuy	5.00	43	eP	Pn	11 27 46.5	-1.7	
SCIG				eS	Sn	11 28 38.9	-5.8	
SCIG	Sabancuy	5.00	43	eP	Pn	11 27 46.4	-1.8	
SCIG				⇓iS	Sn	11 28 40.5	-4.2	
SCIG	Sabancuy	5.00	43	S	Sn	11 28 43.6	-1.1	
SCIG	Sabancuy	5.00	43	P	Pn	11 27 46.4	-1.8	
NUBE	Las Nubes	5.01	105	eP	Pn	11 27 48.1	-0.3	
NUBE	Las Nubes	5.01	105	P	Pn	11 27 48.1	-0.3	
NUBE	Las Nubes	5.01	105	S	Sn	11 28 46.3	+1.1	
DAIG	Los Arroyos	5.01	291		Pn	11 27 48.4	0.0	
DAIG	Los Arroyos	5.01	291	eP	Pn	11 27 48.4	0.0	
DAIG				eS	Sn	11 28 37.4	-7.7	
PBCV	Popocatepetl	5.17	316	eP	Pn	11 27 54.1	+3.2	
PBCV				eS	Sn	11 28 50.6	+1.2	
CEVE	Cerro Verde	5.17	106	S	Sn	11 28 50.5	+1.1	
CEVE	Cerro Verde	5.17	106	P	Pn	11 27 52.3	-0.5	
PBXN	Popocatepetl	5.25	315	eP	Pn	11 27 55.1	+2.9	
PBXN				eS	Sn	11 28 47.9	-3.9	
PPM	Popocatepetl	5.27	316	eP	Pn	11 27 54.8	+2.4	
PPM				eS	Sn	11 28 52.4	+0.2	
PPIG	Popocatepetl	5.28	316		Pn	11 27 54.8	+2.4	
PPIG					Sn	11 28 52.4	+0.1	
ESQI	Esquipulas	5.28	97		Pn	11 27 52.2	+0.1	
ESQI	Esquipulas	5.28	97	P	Pn	11 27 51.6	-0.5	
MTO3	Montecristo	5.29	99		Pn	11 27 52.1	-0.3	
MTO3	Montecristo	5.29	99	P	Pn	11 27 52.7	+0.3	
MTO3	Montecristo	5.29	99	S	Sn	11 28 52.9	+0.7	
MEIG	Mezcala	5.35	300		Pn	11 27 55.1	+1.9	
MEIG	Mezcala	5.35	300	eP	Pn	11 27 55.1	+1.9	
MEIG				eS	Sn	11 28 49.6	-4.1	
JAYA	Jayaque - finc	5.39	107	P	Pn	11 27 54.0	+0.3	
YAIG	Yautepec	5.44	311		Pn	11 27 56.6	+2.2	
YAIG	Yautepec	5.44	311	eP	Pn	11 27 56.6	+2.2	
YAIG				eS	Sn	11 28 51.8	-4.2	
PMON	Piamonte	5.49	106	P	Pn	11 27 55.5	+0.4	
PLIG	Platanillo	5.50	305		Pn	11 27 56.8	+1.7	
PLIG	Platanillo	5.50	305	eP	Pn	11 27 56.8	+1.7	
PLIG				eS	Sn	11 28 53.5	-3.7	
CXUV	Coxquihui	5.56	331		Pn	11 27 54.1	-1.8	
CXUV	Coxquihui	5.56	331	eP	Pn	11 27 54.1	-1.8	
CXUV				eS	Sn	11 28 52.2	-6.4	
CAIG	El Cayaco	5.58	289		Pn	11 27 56.7	+0.5	
CAIG	El Cayaco	5.58	289	eP	Pn	11 27 56.7	+0.5	
CAIG				eS	Sn	11 28 51.5	-7.7	
MPVM	San Francisco	5.63	314		Pn	11 28 00.3	+3.2	
MPVM					Sn	11 29 01.5	+0.8	
MPVM	San Francisco	5.63	314	eP	Pn	11 28 00.3	+3.2	
MPVM				eS	Sn	11 29 01.5	+0.8	
TLVM	San Miguel Top	5.73	313		Sn	11 29 02.2	-1.1	
TLVM	San Miguel Top	5.73	313	eS	Sn	11 29 02.2	-1.1	
SARH	Santa Rosa de	5.81	94	P	Pn	11 27 55.4	-0.5	
SARH	Santa Rosa de	5.81	94	S	Sn	11 29 05.7	+0.8	
MAVM	Malinalco, Edo	5.82	309		Pn	11 28 02.0	+2.3	
MAVM	Malinalco, Edo	5.82	309	eP	Pn	11 28 02.0	+2.3	
MAVM				eS	Sn	11 29 02.0	-3.3	
PAVA	Las Pavas	5.84	105	P	Pn	11 27 59.7	-0.3	
AOVM	Tlapan	5.89	313		Pn	11 28 03.4	+2.5	
AOVM	Tlapan	5.89	313	eP	Pn	11 28 03.4	+2.5	
AOVM				eS	Sn	11 29 04.6	-2.8	
COEG	Centro de Oper	5.92	106	P	Pn	11 28 01.1	+0.1	
INVM	La Marquesa	5.95	313		Pn	11 28 04.3	+2.7	
INVM	La Marquesa	5.95	313	eP	Pn	11 28 04.3	+2.7	
INVM				eS	Sn	11 29 05.1	-3.7	
SCLA	Alcaldia de Sa	6.04	104	P	Pn	11 28 02.4	-0.3	
ARIG	Puente Sto Nin	6.13	300		Pn	11 28 05.9	+2.1	
ARIG	Puente Sto Nin	6.13	300	eP	Pn	11 28 05.9	+2.1	
ARIG				eS	Sn	11 29 08.1	-4.6	
MARCA	Marcala la Paz	6.59	99	P	Pn	11 28 09.9	-0.3	
ZIIG	Zihuatanejo	6.84	291		Pn	11 28 15.1	+1.5	
ZIIG	Zihuatanejo	6.84	291	eP	Pn	11 28 15.1	+1.5	
ZIIG				eS	Sn	11 29 24.7	-5.5	
LCND	La Caada	6.94	106	P	Pn	11 28 14.5	-0.3	
TGUH	Tegucigalpa,Un	7.34	99		Pn	11 28 20.6	+0.1	
MOIG	Morelia	7.53	306	eP	Pn	11 28 26.5	+3.2	
MOIG				eS	Sn	11 29 53.6	+6.1	
TEIG	Tepich	7.88	51		Pn	11 28 24.9	-2.9	
CNGN	Cerro Negro	8.30	109		Pn	11 28 33.5	0.0	
BOAB	BOACO BROADBAN	9.26	107	Pn	Pn	11 28 46.1	-0.7	
MNGA	Volcan de Coli	9.43	297	eP	Pn	11 28 53.0	+3.7	
INCO	Volcan de Coli	9.44	298	eP	Pn	11 28 53.5	+4.0	
SOMAC	Volcano de Col	9.46	298	eP	Pn	11 28 54.1	+4.2	
CDAR	Ciudad de Arme	9.57	294	eP	Pn	11 28 53.8	+2.8	
CEGR	Campo Tres	9.60	296	eP	Pn	11 28 55.0	+3.4	
CIHU	Emiliano Zapat	10.32	294		Pn	11 29 03.1	+1.8	
CIHU	Emiliano Zapat	10.32	294	eP	Pn	11 29 03.1	+1.8	
JTS	Las Juntas de	10.77	116	Pn	Pn	11 29 08.2	+0.7	
JTS	Las Juntas de	10.77	116	Pn	Pn	11 29 08.7	+1.2	
	1.8nm,0.3s,baz=300,slow=23,SNR=7.8							
LCR2	La Lucha 2	11.85	116		Pn	11 29 22.8	+0.3	
833A	Chaparral WMA,	13.66	342	Pn	Pn	11 29 47.5	+0.5	

435B	Jarrell	15.64	351		P		11 30 17.2	0.0
435B				IAmb	IAmb		11 30 26.1	
	comp=Z,18nm,0.8s							
SAND	Sanderson	16.09	336	P	P		11 30 23.0	+0.7
TXAR	Lajitas Array	16.21	331	Pn	Pn		11 30 22.1	+1.1
	comp=Z,0.9nm,0.9s,baz=150,slow=13,SNR=4.6							
TX31	Lajitas Ar. Si	16.22	331		Pn		11 30 21.1	+0.1
BRDY	Brady	16.39	347	P	Pn		11 30 23.4	+0.3
OZNA	Ozona	16.62	341		Pn		11 30 26.7	+0.7
WHTX	Lake Whitney,	16.81	352		Pn		11 30 27.2	-1.0
WHTX				IAmb	IAmb		11 30 57.0	
	comp=Z,18nm,0.7s							
LPIG	La Paz	17.06	303	P	P		11 30 35.0	+2.1
	comp=Z,3.4nm,0.3s,baz=161,slow=5.4,SNR=1.4							
	comp=Z,10nm,0.4s							
SGCY	Sterling City	17.54	342	P	Pn		11 30 36.5	-1.0
SGCY				IAmb	IAmb		11 30 50.8	
	comp=Z,15nm,0.6s							
PLPT	Palo Pinto	17.74	350	P	Pn		11 30 37.3	-2.6
PLPT				IAmb	IAmb		11 31 02.2	
	comp=Z,9.6nm,0.7s							
ABTX	Abilene, Hawle	17.82	346		Pn		11 30 40.2	-0.6
ABTX				IAmb	IAmb		11 30 55.9	
	comp=Z,12nm,0.9s							
ODSA	Odessa	18.20	338	P	P		11 30 44.4	-1.1
ODSA				IAmb	IAmb		11 30 58.0	
	comp=Z,14nm,0.8s							
352A	Blakely	18.45	27	P	P		11 30 48.2	0.0
WTFS	Witchita Falls	18.70	350	P	P		11 30 50.0	-1.0
WTFS				IAmb	IAmb		11 31 06.3	
	comp=Z,22nm,0.8s							
LRAL	Lakeview Retre	19.01	20		P		11 30 53.1	-1.3
DKNS	Dickens	19.13	344	IAmb	IAmb		11 31 06.3	
	comp=Z,8.7nm,0.8s							
MIAR	Mount Ida	19.20	3		P		11 30 55.5	-1.0
152A	Waverly Hall	19.55	26	IAmb	IAmb		11 31 12.2	
	comp=Z,8.6nm,0.9s							
WMOK	Wichita Mounta	19.70	350	P	P		11 31 01.0	-0.9
WHAR	Wooly Hollow	20.04	6	P	P		11 31 04.8	-0.8
SMWD	Samnorwood	20.34	347	P	P		11 31 08.7	-0.3
AMTX	Amarillo	20.48	344	IAmb	IAmb		11 31 23.0	
	comp=Z,18nm,1.1s							
FCAR	Ozark Folk Cen	20.65	6	P	P		11 31 11.6	-0.6
FCAR				IAmb	IAmb		11 31 20.9	
	comp=Z,11nm,1.3s							
OK052	Battle Ridge R	20.70	355	P	P		11 31 13.9	+1.1
Y52A	Lilburn	20.86	26	P	P		11 31 14.1	-0.5
Y52A				IAmb	IAmb		11 31 26.9	
	comp=Z,27nm,1.3s							
W50A	Signal Mountai	21.56	21	P	P		11 31 21.9	-0.2
W50A				IAmb	IAmb		11 31 41.1	
	comp=Z,6.0nm,0.9s							
BNM	Barren Site	21.62	332	P	P		11 31 23.4	+0.4
WVT	Waverly	21.65	15		P		11 31 21.0	-2.1
KAN13	South Haven SW	21.77	354	IAmb	IAmb		11 31 48.5	
	comp=Z,14nm,0.9s							
KAN09	Caldwell North	21.91	354	IAmb	IAmb		11 31 37.8	
	comp=Z,13nm,0.7s							
ANMO	Albuquerque	22.22	334	P	P		11 31 29.0	-0.4
BG3	Lake Jocassee	22.31	26	P	P		11 31 27.9	-2.2
BG3				IAmb	IAmb		11 31 43.4	
	comp=Z,8.2nm,0.8s							
TKL	Tuckaleechee C	22.54	24	IAmb	IAmb		11 31 47.1	
	comp=Z,5.1nm,0.8s							
TKL	Tuckaleechee C	22.54	24	P	P		11 31 29.5	-3.0
	comp=Z,1.3nm,0.3s,baz=190,slow=12,SNR=7.6							
	comp=Z,1.3nm,0.3s							
ROSC	El Rosal	22.61	115	P	P		11 31 35.9	+1.9
	comp=Z,23nm,0.5s,baz=327,slow=5.5,SNR=13							
T47A	Sharon Grove	22.65	16		P		11 31 30.9	-2.8
T47A				IAmb	IAmb		11 31 32.3	
	comp=Z,7.2nm,0.9s							
V53A	Saluda	22.94	26	IAmb	IAmb		11 31 44.6	
	comp=Z,11nm,0.9s							
RUSC	La Rusia	23.23	111		P		11 31 39.8	-0.7
FLOC	Florencia	23.25	124		P		11 31 41.6	+1.4
Y14A	Wickenburg	24.83	322	P	P		11 31 54.7	-0.1
Q52A	Bidwell	26.01	23	P	P		11 32 02.2	-3.1
PDAR	Pinedale Array	30.19	338	P	P		11 32 43.2	+0.3
	comp=Z,0.2nm,0.6s,baz=146,slow=8.2,SNR=1.9							
	comp=Z,0.2nm,0.6s							
NVAR	Mina Array Bea	31.01	322		P		11 32 51.3	+1.1
NVAR	Mina Array Bea	31.01	322	P	P		11 32 53.1	+2.9
	comp=Z,0.3nm,0.6s,baz=138,slow=8.1,SNR=8.2							
	comp=Z,0.3nm,0.6s							
LPAZ	La Paz	40.93	139	P	P		11 34 14.9	-0.8
	comp=Z,1.1nm,0.6s,baz=0.1,slow=5.3,SNR=5.0							
	comp=Z,1.1nm,0.6s							
YKA	Yellowknife Ar	49.19	348	P	P		11 35 19.4	-0.6
	comp=Z,0.9nm,0.7s,baz=156,slow=6.7,SNR=4.0							
	comp=Z,0.9nm,0.7s							
CPUP	Villa Florida	55.10	138	LR	LR		12 01 08.9	
	comp=Z,63nm,19.3s,baz=33,slow=38							
BDFB	Brasilia	55.46	122	P	P		11 36 05.8	-1.5
	comp=Z,3.5nm,0.6s,baz=305,slow=8.8,SNR=3.7							
	comp=Z,3.5nm,0.6s							
PLCA	Paso Flores	60.10	159	P	P		11 36 41.4	+2.0
	comp=Z,2.7nm,0.9s,baz=259,slow=6.5,SNR=4.1							
	comp=Z,2.7nm,0.9s							
ILAR	Eielson Array	60.62	337	P	P		11 36 42.8	+0.2
	comp=Z,0.5nm,0.7s,baz=120,slow=4.8,SNR=4.8							
	comp=Z,0.5nm,0.7s							
EKA	Eskdalemuir Ar	78.47	36	P	P		11 38 31.1	-1.8
	comp=Z,2.8nm,0.5s,baz=279,slow=5.5,SNR=20							
	comp=Z,2.8nm,0.5s							
ESDC	Sonseca Array	81.00	51	P	P		11 38 45.6	-1.5
	comp=Z,3.3nm,0.9s,baz=291,slow=5.2,SNR=17							
	comp=Z,3.3nm,0.9s							
NB2	NORSAR Subarra	84.27	28	P	P		11 39 02.8	-0.8
	comp=Z,3.7nm,1.0s,baz=292,slow=5.1							
NOA	NORSAR Array B	84.27	28	P	P		11 39 02.9	-0.7
	comp=Z,0.8nm,0.6s,baz=292,slow=5.1,SNR=7.1							
	comp=Z,0.8nm,0.6s							
ARCES	ARCESS Array B	85.74	18	P	P		11 39 08.5	-2.3
	comp=Z,0.7nm,0.6s,baz=292,slow=4.5,SNR=6.3							
	comp=Z,0.7nm,0.6s							
GERES	GERESS Array B	90.29	39	P	P		11 39 32.7	-0.4
	comp=Z,1.1nm,0.7s,baz=336,slow=2.9,SNR=5.9							
	comp=Z,1.1nm,0.7s							
FINES	FINESS Array B	90.44	24	P	P		11 39 33.8	+0.5
	comp=Z,1.0nm,0.8s,baz=266,slow=6.4,SNR=4.0							
	comp=Z,1.0nm,0.8s							
TORD	Torodi Ar. Bea	92.65	76	P	P		11 39 43.2	-1.3
	comp=Z,1.4nm,0.8s,baz=316,slow=5.3,SNR=1.1							
	comp=Z,1.4nm,0.8s							
BOSA	Boshof	123.31	114	PKP	PKiKP		11 45 31.9	+2.0
	comp=Z,1.4nm,0.6s,baz=3.0,slow=3.6,SNR=3.5							

KRSC 15 11:53:02.8±1.5, 56°02N×164°24E, h22km±26km, MI3.7,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.82	284	eP	Pb	11 53 18.0	-0.3
KBTR				eS	Sb	11 53 26.7	-2.2
KBG	Krutoberegovo	0.89	286	eP	Pb	11 53 19.2	-0.4
KBG				eS	Sn	11 53 32.0	-0.2
BKI	Bering	1.28	129	eP	Pb	11 53 25.8	-0.2
BKI				eS	Sb	11 53 43.1	+1.1
SMKR	Semkarok	1.65	291	eP	Pn	11 53 31.4	+0.9
SRKR	Sorokina	1.83	292	eP	Pb	11 53 34.6	-0.9
ZLN	Zelenaya	1.93	271	eP	Pb	11 53 37.0	-0.3
BZGR	Bezymyannyi-Gr	2.00	269	eP	Pb	11 53 38.2	-0.2
LGNR	Loginova	2.00	273	eP	Pb	11 53 39.2	+0.7
MKZ	Mys Kozlova	2.05	225	eP	Pb	11 53 38.4	-0.9
MKZ				eS	Sb	11 54 03.0	-1.3
BZWR	Bezymyannyi-We	2.11	270	eP	Pb	11 53 39.4	-0.9
BZMR	Bezymyannaya	2.11	269	eP	Pb	11 53 39.9	-0.5
KIRR	Kirishev	2.19	270	eP	Pb	11 53 41.1	-0.7
KPT	Kopyto	2.26	270	eP	Pb	11 53 41.6	-1.2
KMNR	Kamenistaya	2.27	265	eP	Pb	11 53 42.5	-0.6
TUMD	Tumrok D	2.33	251	eP	Pb	11 53 42.9	-1.2
TUMD				eS	Sb	11 54 12.0	-0.3
SRDR	Sredinnyy	2.55	279	eP	Pb	11 53 46.0	-1.8
OSSR	Ossora	3.30	349	eP	Pn	11 53 52.4	-0.7
SPN	Mys Shipunski	3.82	222	eP	Pn	11 54 03.3	+3.0
SPN				eS	Sn	11 54 45.6	+1.2
NLC	Nalytchevo	4.03	227	eP	Pb	11 54 08.4	-4.6
SDLR	Sedlovina	4.15	231	eP	Pn	11 54 08.9	+4.0
KRER	Koryakskii	4.19	232	eP	Pn	11 54 10.0	+4.4
SMAR	Somma	4.20	231	eP	Pn	11 54 09.6	+3.9
KRX	Arik	4.20	233	eP	Pn	11 54 10.0	+4.4
AVH	Avacha	4.22	231	eP	Pn	11 54 10.5	+4.6
UGLR	Uglovaya	4.22	230	eP	Pn	11 54 10.0	+4.0
KOK	Koryaka	4.25	232	eP	Pn	11 54 10.5	+4.2
DALK	Dalny	4.38	229	eP	Pn	11 54 11.0	+3.1
DALK				eS	Sn	11 55 00.5	+2.3
KRMR	Karymshinskiy	4.79	231	eP	Pn	11 54 18.7	+5.2
RUS	Russkaya	4.92	225	eP	Pn	11 54 19.2	+3.9
GRL	Gorelyy	5.01	229	eP	Pn	11 54 22.1	+5.3
MTVR	Mutnovka	5.02	228	eP	Pn	11 54 21.3	+4.5
ASAK	Asacha	5.21	228	eP	Pn	11 54 24.6	+5.2

NEIC ***15*** *11:54:05.7±1.8, 56°09N±0°09×148°5W±0°1, h22km±10km, ML3.8/72, ML3.5(AEIC), Error ellipse: s-maj=13.9km s-min=8.2km az=162.0*

IDC ***15*** *11:54:05.3±1.7, 56°14N×148°47W, h0km, mb3.7/5, mbtmp3.6/11, ML3.4/5, MS3.9/2, Error ellipse: s-maj=32.0km s-min=19.7km az=2.0*

AEIC ***15*** *11:54:09.9±1.3, 56°15N±0°10×148°6W±0°1, h12km±8km, Error ellipse: s-maj=14.6km s-min=9.4km az=164.0*

ISC 15 11:54:05.8±0.8, 56°23N±0°07×148°52W±0°05, h10km, n166, σ1=35/168, mb4.0/5, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.71	307		Pn	11 54 48.8	-0.7
KDAK	Kodiak Island	2.71	307		Sn	11 55 19.2	-3.1
KDAK	Kodiak Island	2.71	307	Pn	Pn	11 54 48.7	-0.7
	8.9nm,0.3s,baz=126,slow=8.7,SNR=212						
KDAK				Sn	Sn	11 55 18.3	-3.9
	5.3nm,0.3s,baz=150,slow=20,SNR=4.1						
	15nm,0.3s						
OHAK	Old Harbor	2.81	293		Pn	11 54 49.4	-1.3
OHAK	Old Harbor	2.81	293		Sn	11 55 21.2	-3.4
OHAK	Old Harbor	2.81	293	P	Pn	11 54 49.3	-1.4
SII	Sitkinak Islan	3.17	278		Pn	11 54 54.0	-1.7
SII				IAML		11 55 32.1	
	comp=N,228nm,0.9s						
SII				IAML		11 55 43.5	
	comp=E,194nm,0.5s						
SII	Sitkinak Islan	3.17	278		Sn	11 55 29.5	-4.0
SII	Sitkinak Islan	3.17	278	P	Pn	11 54 54.2	-1.5
SYI	Shuyak Island	3.18	320		Pn	11 54 55.5	-0.2
SYI	Shuyak Island	3.18	320		Sn	11 55 31.4	-2.2
Q23K	Middleton Isla	3.41	19		Pn	11 54 58.8	-0.2
Q23K					Pn	11 54 58.9	-0.1
Q23K					Sn	11 55 36.5	-2.9
Q23K	Middleton Isla	3.41	19	IAML		11 55 46.2	
	comp=E,208nm,1.1s						
Q23K				IAML		11 55 50.0	
	comp=N,156nm,1.5s						
R18K	Karluk	3.52	295		Pn	11 54 59.9	-0.6
R18K					Sn	11 55 38.8	-3.3
R18K	Karluk	3.52	295	IAML		11 55 40.4	
	comp=N,143nm,0.4s						
R18K				IAML		11 55 46.6	
	comp=E,162nm,0.3s						
CNPM	China Poot	3.61	337		Pn	11 55 01.6	-0.2
CNPM	China Poot	3.61	337		Sn	11 55 42.7	-1.7
BRLK	Bradley Lake	3.76	341		Pn	11 55 03.9	0.0
BRLK				IAML		11 55 52.2	
	comp=N,99nm,0.4s						
BRLK				IAML		11 55 52.4	
	comp=E,95nm,0.4s						
HOM	Homer	3.82	335		Pn	11 55 05.2	+0.6
HOM				IAML		11 56 01.4	
	comp=E,189nm,0.8s						
HOM	Homer	3.82	335		Sn	11 55 47.5	-2.1
P23K	Montague Islan	3.83	8		Pn	11 55 04.4	-0.3
P23K					Pn	11 55 04.6	-0.1
P23K					Sn	11 55 47.0	-2.7
P23K	Montague Islan

WAX	Waxell Ridge	5.18	33			Pn		11 55 23.4	+0.1
MESA	MESA	5.27	39			Pn		11 55 24.8	+0.1
MESA	MESA	5.27	39		IAML			11 56 39.8	
	comp=N,47nm,0.8s								
MESA					IAML			11 56 42.5	
	comp=E,34nm,1.1s								
SPU	Mount Spurr	5.30	341			Pn		11 55 24.4	-0.5
SPU						Pn		11 55 24.9	-0.1
PMR	Palmer	5.39	357			Pn		11 55 26.4	+0.2
PMR	Palmer	5.39	357	P		Pn		11 55 27.0	+0.9
TGL	Tana Glacier	5.43	31			Pn		11 55 26.8	0.0
ANPB	Aniakchak Plen	5.44	280			Pn		11 55 25.8	-1.0
ANPB						Pn		11 55 26.4	-0.5
KLU	Klutina	5.45	13			Pn		11 55 27.5	+0.5
BAGL	Bagley Icefiel	5.45	36			Pn		11 55 27.2	+0.3
STLK	Strandline Lak	5.56	343			Pn		11 55 28.6	0.0
RKAV	Rock Avalanche	5.56	40			Pn		11 55 29.0	+0.3
M23K	Glacier View	5.60	4			Pn		11 55 29.7	+0.7
SCM	Sheep Creek Mo	5.66	6			Pn		11 55 30.8	+0.9
SCM						Pn		11 55 31.1	+1.2
VRDI	Verde Repeater	5.66	26			Pn		11 55 30.3	+0.2
GRNC	Granite Creek	5.74	35			Pn		11 55 31.4	+0.2
GLB	Gilahina Butte	5.77	23			Pn		11 55 32.0	+0.5
O17K	Koliganek Bris	5.78	311			Pn		11 55 31.3	-0.2
P16K	Nushagak River	5.81	303			Pn		11 55 32.1	+0.2
PCA	Pinnacle	5.84	45			Pn		11 55 32.9	+0.4
PTPK	Patty Peak	5.89	30			Pn		11 55 33.3	+0.1
MCARA	McCarthy VSAT	5.90	27			Pn		11 55 33.6	+0.3
MCARA						Pn		11 55 33.6	+0.4
PNL	Peninsula	5.95	51	P		Pn		11 55 34.6	+0.7
SKT	Skwentna	5.97	346			Pn		11 55 34.8	+0.6
BARN	Barnard Glacie	6.02	34			Pn		11 55 35.7	+0.7
CTGM	Chitina Glacie	6.05	35			Pn		11 55 35.8	+0.4
WACK	Wrangell Chich	6.16	19			Pn		11 55 37.9	+0.9
O28M	Mount Upton	6.31	40			Pn		11 55 39.7	+0.7
HARP	HAARP	6.42	14			Pn		11 55 41.4	+1.1
CHNA	Chernabura Isl	6.44	262	P		Pn		11 55 38.7	-1.9
M19K	Big River Lodg	6.45	334			Pn		11 55 39.9	-0.8
O29M	Mount Kennedy	6.64	48			Pn		11 55 44.3	+0.8
O15K	Ungalikthiuk R	6.74	301			Pn		11 55 45.0	+0.3
L19K	White Mountain	6.80	334			Pn		11 55 44.7	-0.8
SDPT	Sand Point	6.80	268			Pn		11 55 44.3	-1.2
SDPT	Sand Point	6.80	268	P		Pn		11 55 44.8	-0.7
YUK8	Steele Glacier	6.81	38			Pn		11 55 47.3	+1.4
N16K	Nishlik Lake	6.87	313			Pn		11 55 46.3	-0.1
S31K	Pelican	6.92	70			Pn		11 55 45.9	-1.2
PAX	Paxson	6.94	12			Pn		11 55 48.6	+1.1
M17K	Holitna River	6.95	322			Pn		11 55 47.1	-0.4
M27K	Edge Creek, AK	7.02	26			Pn		11 55 48.9	+0.3
RND	Reindeer	7.20	359			Pn		11 55 52.0	+0.9
N15K	Kwethluk River	7.28	308			Pn		11 55 52.3	+0.2
TRF	Thorofare Moun	7.30	354			Pn		11 55 53.1	+0.6
SIT	Sitka	7.32	78			Pn		11 55 49.7	-2.9
SIT	Sitka	7.32	78	P		Pn		11 55 49.6	-3.1
HYT	Haines Junctio	7.38	47			Pn		11 55 54.0	+0.5
KTH	Kantishna Hill	7.45	352			Pn		11 55 55.1	+0.7
O14K	Tigyukauivet M	7.46	299			Pn		11 55 54.4	-0.2
SKAG	Skagway	7.74	60			Pn		11 55 59.1	+0.6
M15K	Kasigluk River	7.79	310			Pn		11 55 58.8	-0.3
N14K	Kuskokwak Cree	7.90	303			Pn		11 56 00.6	+0.1
N30M	Aishikik Lake	7.91	44			Pn		11 56 01.8	+1.0
JIS	Juneau Island	7.94	69	P		Pn		11 56 00.8	-0.2
M29M	Somme Creek	8.07	35			Pn		11 56 04.1	+1.1
WHY	Whitehorse	8.41	53			Pn		11 56 08.3	+0.5
CCB	Clear Creek Bu	8.45	2			Pn		11 56 09.5	+1.4
U33K	Whale Pass	8.59	84	Pn		Pn		11 56 07.9	-2.2
IL31		8.61	5			Pn		11 56 10.8	+0.6
ILAR	Eielson Array	8.61	5	Pn		Pn		11 56 11.5	+1.2
	comp=E,0.4nm,0.3s,baz=191,slow=14,SNR=14								
ILAR					Sn		Sn	11 57 41.4	-5.9
	comp=E,0.4nm,0.3s,baz=191,slow=22,SNR=10								
	comp=E,0.9nm,0.6s								
L15K	Ungalak Mounta	8.64	315			Pn		11 56 10.1	-0.5
J26L	Joseph Creek	8.65	14			Pn		11 56 11.9	+1.0
L29M	L29M	8.66	33			Pn		11 56 11.5	+0.4
CRAG	Craig	8.70	89	P		Pn		11 56 08.2	-3.3
M30M	Minto, Yukon	8.72	38			Pn		11 56 12.3	+0.4
J17K	VABM Dome	8.93	328	Pn		Pn		11 56 14.3	-0.4
K29M	Barlow Dome	9.40	31			Pn		11 56 21.3	+0.1
N32M	Quiet Lake	9.42	52			Pn		11 56 21.5	+0.1
H21K	Melozitna Rive	9.68	349			Pn		11 56 24.6	-0.4
H20K	Anotleneega Mo	9.79	344			Pn		11 56 27.2	+0.7
R33M	Jennings River	9.88	64			Pn		11 56 28.3	+0.5
IMAR	Indian Mountai	10.11	348			Pn		11 56 30.9	+0.2
DLBC	Dease Lake	10.23	70	Pn		Pn		11 56 32.9	+0.2
	comp=E,0.2nm,0.6s								
DLBC					Sn		Sn	11 58 25.4	-2.0
	baz=223,slow=19,SNR=2.1								
J30M	Hart River	10.29	31			Pn		11 56 35.3	+1.8
G24K	Hadweenzic Riv	10.52	2			Pn		11 56 37.9	+1.5
G23K	Bananza Creek	10.54	357			Pn		11 56 38.5	+1.7
H27K	Steamboat Moun	10.58	16	Pn		Pn		11 56 38.4	+1.1
MMPY	Sheldon Lake,	10.85	47			Pn		11 56 41.7	+0.7
F21K	Alatna River	11.28	350			Pn		11 56 47.8	+1.0
F24K	Squaw Lake	11.34	1			Pn		11 56 49.2	+1.6
F20K	Avaraart Lake	11.37	346	Pn		Pn		11 56 49.3	+1.3
BMAR	Burnt Mountain	11.39	8	Pn		Pn		11 56 49.1	+0.7
BBB	Bella Bella	12.60	100	Pn		Pn		11 57 06.6	+1.8
	comp=E,0.2nm,0.3s,baz=348,slow=9.3,SNR=4.2								
BBB					Sn		Sn	11 59 19.8	-5.3
	comp=E,0.1nm,0.3s,baz=249,slow=0.6,SNR=2.6								
	comp=E,0.4nm,0.6s								
INK	Inuvik	13.92	24			Pn		11 57 23.1	+0.3
INK	Inuvik	13.92	24	Pn		Pn		11 57 25.9	+3.1
	comp=E,0.1nm,0.3s,baz=212,slow=13,SNR=7.8								
	comp=E,2.7nm,0.9s								
YKA	Yellowknife Ar	18.22	56	P		P		11 58 19.7	+1.0
	comp=E,0.1nm,0.3s,baz=267,slow=10,SNR=5.7								
	comp=E,1.6nm,0.9s								
KLR	Kul'dur	46.24	297	LR		LR		12 23 25.2	
	comp=E,132nm,20.1s,baz=320,slow=38								
H11N2	WAKE ISLAND Hy	49.23	241	T		T		12 56 30.2	
	baz=30,slow=76,SNR=15								
H11N3	WAKE ISLAND Hy	49.23	241	T		T		12 56 32.1	
	baz=30,slow=76,SNR=12								
H11N1	WAKE ISLAND Hy	49.24	241	T		T		12 56 31.6	
	baz=30,slow=76,SNR=9.5								
H11S1	WAKE ISLAND Hy	50.37	240	T		T		12 57 59.5	
	baz=29,slow=76,SNR=8.6								
H11S2	WAKE ISLAND Hy	50.38	240	T		T		12 58 05.4	
	baz=29,slow=76,SNR=4.8								
H11S3	WAKE ISLAND Hy	50.38	240	T		T		12 58 00.2	
	baz=29,slow=76,SNR=7.3								
SONM	Songino Array	59.00	311	P		P		12 04 07.5	+2.1
	comp=E,1.0nm,0.8s,baz=43,slow=3.7,SNR=5.2								
	comp=E,1.0nm,0.8s								
FINES	FINESS Array B	62.59	3	P		P		12 04 30.9	+1.5
	comp=E,0.9nm,0.7s,baz=349,slow=5.8,SNR=5.0								
	comp=E,0.9nm,0.7s								
KURBB	Kurchatov Arra	66.60	329	P		P		12 04 58.1	+2.3
	comp=E,0.2nm,0.3s,baz=33,slow=20,SNR=2.0								
	comp=E,0.2nm,0.3s								
MKAR	Makanchi Array	68.88	325	P		P		12 05 11.4	+1.1
	comp=E,0.1nm,0.4s,baz=30,slow=5.9,SNR=2.4								
	comp=E,0.1nm,0.4s								
AKASG	Malin Array Be	73.42	1	P		P		12 05 38.3	+0.7
	comp=E,1.1nm,0.6s,baz=0.9,slow=6.0,SNR=4.5								
	comp=E,1.1nm,0.6s								
KEST	Kesra	86.48	18	LR		LR		12 49 56.6	
	comp=E,55nm,18.1s,baz=319,slow=39								

*KRNET **15** 12:11:59.0±0.1,40˚.53N×80˚.09E,mb3.1*
*SOME **15** 12:12:00.5,40˚.82N×79˚.77E,h5km*
*NNC **15** 12:12:04.5±6.9,40˚.85N×80˚.24E,h0km,mb3.8,mpv3.4,*
Error ellipse: s-maj=67.2km s-min=50.9km az=66.0
ISC 15 12:12:02.3±2.3,40˚.8N±0˚.1×79˚.93E±0˚.07,h10km,n18,
σ1§29/31,12C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.85	301	⇑*iP*	Pb	12 12 35.0	-1.5
TARG				⇑*iS*	Sg	12 13 01.8	-0.1
PRZ	Przheval'sk	2.04	326	*eP*	Pb	12 12 38.7	-0.8
PRZ				⇑*eS*	Sg	12 13 07.1	-0.7
SHLS	Shalkode	2.38	352	Pg	Pb	12 12 44.9	-0.5
	31nm,0.2s						
SHLS				Lg	Lg	12 13 16.3	
	27nm,0.4s						
SHLS	Shalkode	2.38	352	*eP*	Pb	12 12 45.0	-0.5
	31nm,0.2s						
SHLS				*eS*	Sg	12 13 17.0	-1.9
	25nm,0.2s						
UZB	Uzynbulak	2.44	344	Pg	Pb	12 12 45.8	-0.6
	9.4nm,0.3s						
UZB				Lg	Lg	12 13 17.7	
	16nm,0.5s						
UZB	Uzynbulak	2.44	344	*eP*	Pb	12 12 45.1	-1.4
UZB				*eS*	Sb	12 13 17.2	+0.6
KDJ	Kajisay	2.46	304	⇑*iP*	Pn	12 12 43.4	+0.8
KDJ				⇑*iS*	Sb	12 13 15.6	-1.5
SATY	Saty	2.53	334	Pg	Pb	12 12 47.8	-0.1
SATY				Lg	Lg	12 13 21.1	
PDGK	Podgornoye	2.55	353	⇓Pn	Pb	12 12 47.0	-1.3
	6.9nm,0.5s						
PDGK				⇑Sn	Sb	12 13 20.3	+0.6
	17nm,0.6s						
KTMS	Ketmen	2.67	7	*eP*	Pg	12 12 51.3	-2.1
	1.4nm,0.2s						
KTMS				*eS*	Sg	12 13 27.8	-0.1
	4.6nm,0.0s						
NRN	Naryn	3.03	283	⇑*eP*	Pn	12 12 51.2	+0.5
NRN				⇑*eS*	Sn	12 13 28.8	+1.5
TNSS	Tian-Shan	3.15	316	Pg	Pb	12 12 57.7	-1.1
TNSS				Lg	Lg	12 13 38.6	
TNSS	Tian-Shan	3.15	316	*eP*	Pb	12 12 57.8	-0.9
	1.6nm,0.2s						
TNSS				*eS*	Sb	12 13 39.0	+1.6
	3.4nm,0.3s						
KOTS	Kotyrbulak	3.21	320	Pg	Pb	12 13 00.6	+1.0
	4.7nm,0.4s						
KOTS				Lg	Lg	12 13 43.4	
	23nm,0.5s						
KOTS	Kotyrbulak	3.21	320	*eP*	Pb	12 12 58.0	-1.6
	5.8nm,0.2s						
KOTS				*eS*	Sb	12 13 39.3	+0.5
	23nm,0.2s						
BOOM	Boomskoye usch	3.43	301	⇑*iP*	Pn	12 12 57.0	+0.9
BOOM				⇑*iS*	Sn	12 13 38.9	+2.0
CHKK	Chushkaly	3.75	325	*eP*	Pb	12 13 07.8	-0.8
	2.9nm,0.1s						
CHKK				*eS*	Sb	12 13 56.3	+2.1
	9.7nm,0.2s						
MK31	Makanchi Array	6.23	15	Pn	Pn	12 13 36.4	+2.0
	0.2nm,0.3s,baz=200,slow=14,SNR=9.7						
MK31				⇑Sn	Sn	12 14 47.0	+1.3
	0.8nm,0.6s,baz=198,slow=22						

*KRSC **15** 12:25:39.9±1.5,56˚.14N×164˚.71E,h50km±22km,Ml4.7*
*IDC **15** 12:25:39.8±0.6,56˚.16N×164˚.41E,h0km,mb4.1/27,*
mbtmp4.1/29,ML3.6/2,MS3.6/25,Error ellipse:
s-maj=16.8km s-min=11.9km az=152.0
*NEIC **15** 12:25:42.6±1.4,56˚.2N±0˚.1×164˚.4E±0˚.2,h10km±1km,*
mb4.5/245, Error ellipse: s-maj=24.6km s-min=13.5km
az=157.0
*MOS **15** 12:25:43.5±0.8,56˚.12N×164˚.49E,h43km,mb4.6/6,Error*
ellipse: s-maj=7.6km s-min=4.5km az=57.5
ISC 15 12:25:41.0±1.6,56˚.12N±0˚.04×164˚.50E±0˚.03,h6km±10km,
n556,σ1§13/452,mb4.5/127,MS3.6/21,1C-1D,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.95	276	Pn	Pg	12 25 58.1	-1.0
KBTR	Krutoberegovo	0.95	276	*eP*	Pg	12 25 58.2	-1.0
KBG	Krutoberegovo	1.01	278	Pn	Pg	12 25 59.3	-1.2
KBG				S	Sb	12 26 13.4	-1.1
KBG	Krutoberegovo	1.01	278	*eP*	Pg	12 25 59.3	-1.2
KBG				*eS*	Sb	12 26 13.5	-1.1
BKI	Bering	1.24	137	Pn	Pn	12 26 02.4	-2.5
BKI				S	Sb	12 26 17.7	-3.3
BKI	Bering	1.24	137	*eP*	Pn	12 26 02.4	-2.4
BKI				*eS*	Sb	12 26 17.8	-3.3
SMKR	Semkarok	1.75	286	Pn	Pn	12 26 11.6	-0.3
SMKR				S	Sb	12 26 34.9	-0.9
SMKR	Semkarok	1.75	286	*eP*	Pn	12 26 11.7	-0.3
SMKR				*eS*	Sb	12 26 34.9	-0.9
BDR	Baidarnaya	1.89	285	*eS*	Sb	12 26 38.5	-1.2
SRKR	Sorokina	1.93	287	*eS*	Sb	12 26 39.4	-1.6
ZLN	Zelenaya	2.08	269	Pn	Pn	12 26 17.0	+0.6
ZLN	Zelenaya	2.08	269	*eP*	Pn	12 26 17.1	+0.6
CIRR	Tsirk	2.10	271	Pn	Pn	12 26 17.5	+0.7
CIRR	Tsirk	2.10	271	*eP*	Pn	12 26 17.6	+0.7
LGNR	Loginova	2.14	270	Pn	Pn	12 26 18.3	+0.8
LGNR	Loginova	2.14	270	*eP*	Pn	12 26 18.3	+0.8
BZGR	Bezymyannyi-Gr	2.15	267	Pn	Pn	12 26 17.9	+0.5
BZGR	Bezymyannyi-Gr	2.15	267	*eP*	Pn	12 26 17.9	+0.5
KLY	Klyuchi	2.16	277	Pn	Pn	12 26 15.9	-1.6
KLY				S	Sn	12 26 42.0	-2.5
KLY	Klyuchi	2.16	277	*eP*	Pn	12 26 15.9	-1.6
KLY				*eS*	Sn	12 26 42.0	-2.5
MKZ	Mys Kozlova	2.23	226	Pn	Pn	12 26 17.2	-1.2
MKZ	Mys Kozlova	2.23	226	*eP*	Pn	12 26 17.3	-1.2
BZWR	Bezymyannyi-We	2.25	268	Pn	Pn	12 26 19.7	+0.7
BZWR	Bezymyannyi-We	2.25	268	*eP*	Pn	12 26 19.7	+0.7
BZMR	Bezymyannaya	2.26	267	Pn	Pn	12 26 19.7	+0.7
BZMR	Bezymyannaya	2.26	267	*eP*	Pn	12 26 19.7	+0.7
KIRR	Kirishev	2.34	268	Pn	Pn	12 26 20.7	+0.6
KIRR				S	Sn	12 26 50.4	+1.2
KIRR	Kirishev	2.34	268	*eP*	Pn	12 26 20.8	+0.6
KIRR				*eS*	Sn	12 26 50.5	+1.2
KPT	Kopyto	2.41	268	Pn	Pn	12 26 21.3	+0.3
KPT				S	Sn	12 26 51.7	+0.9
KPT	Kopyto	2.41	268	*eP*	Pn	12 26 21.4	+0.3
KPT				*eS*	Sn	12 26 51.7	+0.9
KMNR	Kamenistaya	2.43	263	Pn	Pn	12 26 22.2	+0.9
KMNR	Kamenistaya	2.43	263	*eP*	Pn	12 26 22.3	+0.9
TUMD	Tumrok D	2.50	250	Pn	Pn	12 26 23.0	+0.8
TUMD	Tumrok D	2.50	250	*eP*	Pn	12 26 23.1	+0.8
KOZ	Kozyrevsk	2.60	270	Pn	Pn	12 26 24.7	+1.2
KOZ				S	Sb	12 26 58.5	-1.5
KOZ	Kozyrevsk	2.60	270	*eP*	Pn	12 26 24.8	+1.2
KOZ				*eS*	Sb	12 26 58.5	-1.5
SRDR	Sredinnyy	2.68	276	Pn	Pn	12 26 25.9	+1.2
SRDR	Sredinnyy	2.68	276	*eP*	Pn	12 26 25.9	+1.2
OSSR	Ossora	3.23	347	Pn	Pn	12 26 30.9	-1.3
OSSR				S	Sn	12 27 07.8	-3.0
OSSR	Ossora	3.23	347	*eP*	Pn	12 26 30.9	-1.3
OSSR				*eS*	Sn	12 27 07.9	-3.0
ESO	Esso	3.26	269	Pn	Pn	12 26 35.3	+2.7
ESO	Esso	3.26	269	*eP*	Pn	12 26 35.4	+2.7
KII	Karymskiy	3.58	236	Pn	Pn	12 26 38.7	+1.6
KII	Karymskiy	3.58	236	*eP*	Pn	12 26 38.8	+1.6
PALN	Palana	3.85	322	Pn	Pn	12 26 40.5	-0.1
PALN	Palana	3.85	322	*eP*	Pn	12 26 40.5	-0.1
SPN	Mys Shipunski	4.00	223	Pn	Pn	12 26 42.2	-0.5
SPN	Mys Shipunski	4.00	223	*eP*	Pn	12 26 42.3	-0.5
SPN				*eS*	Sn	12 27 24.0	-5.8
NLC	Nalytchevo	4.21	227	*eS*	Sn	12 27 34.7	-0.4
SDLR	Sedlovina	4.33	231	Pn	Pn	12 26 48.2	+0.8
SDLR	Sedlovina	4.33	231	*eP*	Pn	12 26 48.3	+0.8
KRER	Koryakskii	4.37	232	Pn	Pn	12 26 50.0	+2.0
KRER	Koryakskii	4.37	232	*eP*	Pn	12 26 50.1	+2.0
SMAR	Somma	4.38	231	Pn	Pn	12 26 48.6	+0.5
SMAR	Somma	4.38	231	*eP*	Pn	12 26 48.7	+0.5
KRX	Arik	4.38	233	Pn	Pn	12 26 49.2	+1.1
KRX	Arik	4.38	233	*eP*	Pn	12 26 49.3	+1.1
AVH	Avacha	4.40	232	Pn	Pn	12 26 49.3	+0.9
AVH	Avacha	4.40	232	*eP*	Pn	12 26 49.4	+0.9
UGLR	Uglovaya	4.40	231	Pn	Pn	12 26 49.2	+0.8
UGLR	Uglovaya	4.40	231	*eP*	Pn	12 26 49.2	+0.8
KOK	Koryaka	4.43	233	Pn	Pn	12 26 50.2	+1.4
KOK	Koryaka	4.43	233	*eP*	Pn	12 26 50.3	+1.4
GNL	Ganaly	4.50	240	Pn	Pn	12 26 51.3	+1.5
GNL	Ganaly	4.50	240	*eP*	Pn	12 26 51.3	+1.5
DALK	Dalny	4.56	230	Pn	Pn	12 26 50.5	+0.1
DALK	Dalny	4.56	230	*eP*	Pn	12 26 50.5	+0.1
INSR	Institute	4.60	231	Pn	Pn	12 26 53.9	+2.9
INSR	Institute	4.60	231	*eP*	Pn	12 26 54.0	+2.9
PET	Petropavlovsk	4.61	230		Pn	12 26 52.3	+1.2
PET	Petropavlovsk	4.61	230	*ePN*	Pn	12 26 52.8	+1.7
PET				*eS*	Sn	12 27 46.3	+1.4
PET				pmax	pmax		
	comp=Z,88nm,0.7s						
PET				smax	smax		
	comp=N,123nm,0.5s						
PET				MLR	MLR		
	comp=Z,400nm,11.0s						
KRMR	Karymshinskiy	4.97	231	Pn	Pn	12 26 57.8	+1.7
KRMR	Karymshinskiy	4.97	231	*eP*	Pn	12 26 57.8	+1.7
PEA0B	Petropavlovsk-	4.98	235		Pn	12 26 57.2	+1.0
PEA0B	Petropavlovsk-	4.98	235	PN	Pn	12 26 58.5	+2.3
PETK	Petropavlovsk-	4.98	235		Pn	12 26 57.2	+1.0

PETK	Petropavlovsk-	4.98	235	Pn		Pn		12 26 56.9	+0.7
	comp=Z,1.6nm,0.3s,baz=66,slow=18,SNR=33								
	comp=Z,6.1nm,0.6s								
PETK	Petropavlovsk-	4.98	235	PN		Pn		12 26 57.2	+1.0
RUS	Russkaya	5.10	226	PN		Pn		12 26 57.8	0.0
RUS	Russkaya	5.10	226	*eP*		Pn		12 26 57.8	0.0
GRL	Gorelyy	5.19	229	PN		Pn		12 27 01.5	+2.2
GRL	Gorelyy	5.19	229	*eP*		Pn		12 27 01.5	+2.2
MTVR	Mutnovka	5.20	228	PN		Pn		12 27 00.5	+1.2
MTVR	Mutnovka	5.20	228	*eP*		Pn		12 27 00.5	+1.2
APC	Apacha	5.34	236	PN		Pn		12 27 03.7	+2.5
APC	Apacha	5.34	236	*eP*		Pn		12 27 03.8	+2.5
ASAK	Asacha	5.39	229	PN		Pn		12 27 03.0	+1.1
ASAK	Asacha	5.39	229	*eP*		Pn		12 27 03.0	+1.1
KMSK	Kamenskaya	6.42	7	PN		Pn		12 27 16.1	+0.1
KMSK	Kamenskaya	6.42	7	*eP*		Pn		12 27 16.2	+0.1
PAU	Pauzhetka	6.52	228	PN		Pn		12 27 18.1	+0.7
PAU	Pauzhetka	6.52	228	*eP*		Pn		12 27 18.1	+0.7
SHEM	Shemya Is, Ala	6.55	117	LR		LR		12 29 34.5	
	comp=Z,182nm,20.8s,baz=328,slow=36								
SKR	Severo-Kuril's	7.40	226	PN		Pn		12 27 30.6	+1.2
SKR	Severo-Kuril's	7.40	226	*eP*		Pn		12 27 30.6	+1.2
MA2	Magadan	8.10	301	LR		LR		12 31 12.7	
	comp=Z,253nm,21.2s,baz=124,slow=41								
SEY	Seymchan	9.18	323	LR		LR		12 31 37.1	
	comp=Z,389nm,20.2s,baz=125,slow=39								
TYV	Tymovskoe	14.00	257	*eP*		Pn		12 28 57.7	-2.0
TYV				pmax	pmax				
	comp=Z,100nm,2.1s								
TYV				pmax	pmax				
	comp=Z,10.0nm,1.1s								
GAMB	Gambell	14.10	47	P		Pn		12 29 02.1	+1.2
	baz=248								
P08K	Saint George I	14.36	77	P		Pn		12 29 07.1	+2.5
	baz=279								
NIKH	Nikolski High	15.73	90	P		Pn		12 29 26.0	+3.0
	baz=292								
M11K	Mekoryuk	15.92	62	P		Pn		12 29 27.8	+2.5
	baz=268								
TNA	Tin City	16.28	43	P		Pn		12 29 31.4	+1.5
	baz=248								
YSS	Yuzhno-Sakhali	16.29	245	*eP*		Pn		12 29 31.3	+1.2
YSS				*eS*		Sn		12 32 31.3	+0.4
YSS				pmax	pmax				
	comp=Z,20nm,0.9s								
YSS				MLR	MLR				
	comp=Z,400nm,12.0s								
YSS				MLR	MLR				
	comp=N,200nm,16.0s								
YSS				MLR	MLR				
	comp=E,300nm,14.0s								
UNV	Unalaska Valle	16.74	86			Pn		12 29 36.9	+1.1
UNV	Unalaska Valle	16.74	86	P		Pn		12 29 38.6	+2.8
	baz=290								
K13K	Kusilvak Mount	16.79	57			Pn		12 29 38.5	+2.1
K13K	Kusilvak Mount	16.79	57	P		Pn		12 29 38.4	+2.0
	baz=264,SNR=7.4								
F14K	Arctic Creek	16.87	45	P		P		12 29 39.2	-0.3
	baz=250								
ANM	Nome	16.97	48	P		P		12 29 41.4	+0.7
ANM				IAmb		IAmb		12 29 44.3	
	comp=Z,48nm,1.4s								
ANM	Nome	16.97	48	P		P		12 29 41.4	+0.7
ANM				pmax	pmax				
	comp=Z,48nm,1.4s								
ANM	Nome	16.97	48	P		P		12 29 40.9	+0.2
	baz=254								
M13K	Dall Lake	17.34	62			P		12 29 46.7	+2.0
M13K				IAmb		IAmb		12 29 57.0	
	comp=Z,42nm,1.0s								
M13K	Dall Lake	17.34	62	P		P		12 29 45.8	+1.1
	baz=270								
J14K	Nanvaranak Lak	17.40	55

H17K	**Granite Mounta** baz=260,SNR=16	**19.34**	**48**	P	**Pn**	**12 30 08.5 +0.7**
M16K	**Timber Creek** baz=272,SNR=6.7	**19.48**	**60**	P	**P**	**12 30 09.7 +1.3**
J17K	**VABM Dome** comp=Z,27nm,1.3s	**19.50**	**53**	IAmb	IAmb	12 30 16.4
J17K	**VABM Dome** baz=265,SNR=10	**19.50**	**53**	P	**Pn**	**12 30 10.2 +0.5**
N16K	**Nishlik Lake** baz=274,SNR=14	**19.60**	**62**	P	**P**	**12 30 11.4 +1.8**
SDPT	**Sand Point** baz=287	**19.61**	**78**	P	**Pn**	**12 30 12.4 +1.4**
E18K	**Tukpahlearik C** comp=Z,28nm,1.2s	**19.68**	**41**	IAmb	IAmb	12 30 16.1
E18K	**Tukpahlearik C** baz=252	**19.68**	**41**	P	**Pn**	**12 30 12.0 +0.2**
L17K	**Donlin** baz=270,SNR=7.3	**19.79**	**57**	P	**P**	**12 30 13.3 +1.6**
F18K	**Selawik** baz=256,SNR=11	**19.80**	**44**	P	**Pn**	**12 30 13.6 +0.4**
K17K	**Iditarod** comp=Z,37nm,1.2s	**19.80**	**55**	IAmb	IAmb	12 30 18.2
K17K	**Iditarod** baz=268,SNR=14	**19.80**	**55**	P	**Pn**	**12 30 13.6 +0.3**
S14K	**Fog Glacier** baz=285,SNR=5.6	**19.86**	**74**	P	**P**	**12 30 14.2 +1.7**
C18K	**Utukok River**	**19.89**	**37**		**Pn**	**12 30 14.2 -0.1**
C18K	comp=Z,18nm,0.9s			IAmb	IAmb	12 30 15.2
C18K	**Utukok River** baz=248	**19.89**	**37**	P	**P**	**12 30 13.8 +1.0**
B18K	**Kokolik River** baz=246	**19.97**	**35**	P	**Pn**	**12 30 15.1 -0.1**
O16K	**Kokwok River B** baz=277,SNR=6.4	**20.02**	**65**	P	**P**	**12 30 14.8 +0.7**
H18K	**Honhosa River** comp=Z,18nm,0.8s	**20.02**	**48**	IAmb	IAmb	12 30 25.7
H18K	**Honhosa River** baz=261	**20.02**	**48**	P	**P**	**12 30 15.8 +1.6**
G18K	**Tagagawik** comp=Z,25nm,1.1s	**20.04**	**46**	IAmb	IAmb	12 30 20.1
G18K	**Tagagawik** baz=259,SNR=24	**20.04**	**46**	P	**P**	**12 30 15.9 +1.6**
P16K	**Nushagak River** baz=278	**20.14**	**66**	P	**P**	**12 30 16.6 +1.1**
M17K	**Holitna River**	**20.21**	**59**		**P**	**12 30 16.4 +0.2**
M17K	**Holitna River** baz=272,SNR=25	**20.21**	**59**	P	**P**	**12 30 17.7 +1.5**
CHNA	**Chernabura Isl** baz=289	**20.25**	**79**	P	**P**	**12 30 18.8 +2.1**
N17K	**Nushagak Hills**	**20.38**	**62**		**P**	**12 30 19.5 +1.4**
N17K	comp=Z,20nm,1.1s			IAmb	IAmb	12 30 24.9
N17K	**Nushagak Hills** baz=275,SNR=10.0	**20.38**	**62**	P	**P**	**12 30 19.4 +1.3**
CHGN	**Chignik**	**20.47**	**74**	P	**P**	**12 30 20.5 +1.4**
CHGN	**Chignik** baz=285	**20.47**	**74**	P	**P**	**12 30 20.2 +1.2**
O17K	**Koliganek Bris** baz=277	**20.50**	**64**	P	**P**	**12 30 20.1 +0.7**
L18K	**Granite Mounta** baz=271,SNR=7.1	**20.55**	**57**	P	**P**	**12 30 21.1 +1.2**
A19K	**Wainwright** baz=244	**20.56**	**33**	P	**P**	**12 30 20.6 +0.6**
J18K	**Innoko River** baz=267,SNR=22	**20.56**	**53**	P	**P**	**12 30 21.6 +1.5**
F19K	**Shaleruckik Mo** comp=Z,27nm,1.1s	**20.59**	**44**	IAmb	IAmb	12 30 22.9
F19K	**Shaleruckik Mo** baz=257,SNR=23	**20.59**	**44**	P	**P**	**12 30 21.3 +1.0**
GCSA	**Galena City Sc** baz=264,SNR=19	**20.59**	**50**	P	**P**	**12 30 21.7 +1.3**
C19K	**Lookout Ridge** baz=249	**20.60**	**37**	P	**P**	**12 30 21.4 +1.0**
G19K	**Purcell Mounta** baz=260	**20.71**	**46**	P	**P**	**12 30 22.8 +1.1**
H19K	**Roundabout Mou** comp=Z,38nm,1.4s	**20.88**	**47**	IAmb	IAmb	12 30 30.5
H19K	**Roundabout Mou** baz=262,SNR=20	**20.88**	**47**	P	**P**	**12 30 24.5 +1.1**
D19K	**Kuna River** comp=Z,23nm,0.9s	**20.90**	**39**	IAmb	IAmb	12 30 29.6
D19K	**Kuna River** baz=253	**20.90**	**39**	P	**P**	**12 30 24.4 +0.7**
P17K	**Kvichak River** baz=279	**20.91**	**65**	P	**P**	**12 30 24.8 +1.0**
E19K	**Redstone River** comp=Z,21nm,1.1s	**20.94**	**42**	IAmb	IAmb	12 30 27.7
E19K	**Redstone River** baz=256	**20.94**	**42**	P	**P**	**12 30 25.6 +1.5**
M18K	**Stony River** baz=273,SNR=7.8	**20.98**	**59**	P	**P**	**12 30 25.7 +1.2**
N18K	**Kilae Creek** baz=275	**21.00**	**61**	P	**P**	**12 30 25.8 +0.9**
J19K	**Poorman** baz=267,SNR=15	**21.07**	**52**	P	**P**	**12 30 26.6 +1.0**
R17L	**Mt. Peulik Vol** baz=283,SNR=7.3	**21.24**	**70**	P	**P**	**12 30 28.5 +1.1**
Q17K	**Contact Creek** baz=282	**21.36**	**68**	P	**P**	**12 30 29.4 +0.6**
L19K	**White Mountain** baz=272,SNR=7.6	**21.41**	**57**	P	**P**	**12 30 30.4 +1.2**
F20K	**Avaraart Lake** baz=259,SNR=10	**21.42**	**43**	P	**P**	**12 30 30.1 +0.9**
O18K	**Koktuh Hills** comp=Z,33nm,1.1s	**21.44**	**63**	IAmb	IAmb	12 30 34.3
O18K	**Koktuh Hills** baz=278,SNR=6.9	**21.44**	**63**	P	**P**	**12 30 30.5 +1.0**
D20K	**Etivluk River** comp=Z,22nm,0.9s	**21.49**	**39**	IAmb	IAmb	12 30 33.6
D20K	**Etivluk River** baz=254	**21.49**	**39**	P	**P**	**12 30 30.6 +0.6**
P18K	**Big Mountain,** comp=Z,24nm,0.9s	**21.49**	**65**	IAmb	IAmb	12 30 34.5
P18K	**Big Mountain,** baz=279	**21.49**	**65**	P	**P**	**12 30 30.9 +0.8**
H20K	**Anotleneega Mo** baz=264,SNR=16	**21.52**	**48**	P	**P**	**12 30 31.0 +0.7**
E20K	**Nigu River** baz=255	**21.52**	**40**	P	**P**	**12 30 31.1 +0.7**
TIXI	**Tiksi** comp=Z,3.5nm,0.4s,baz=96,slow=9.2,SNR=2.2	**21.57**	**330**	P	**P**	**12 30 30.8 +0.1**
TIXI	comp=Z,192nm,19.3s,baz=162,slow=40 comp=Z,3.5nm,0.4s			LR	LR	12 39 48.0
I20K	**Naaghedeneel** baz=266	**21.62**	**50**	P	**P**	**12 30 32.5 +1.1**
M19K	**Big River Lodg** baz=273	**21.64**	**58**	P	**P**	**12 30 32.7 +1.0**
N19K	**Bonanza Creek** comp=Z,14nm,0.9s	**21.68**	**61**	IAmb	IAmb	12 30 36.1
N19K	**Bonanza Creek** baz=276,SNR=5.7	**21.68**	**61**	P	**P**	**12 30 33.2 +0.9**
B20K	**Meade River**	**21.72**	**35**		**P**	**12 30 33.5 +1.1**
B20K	**Meade River** baz=250,SNR=17	**21.72**	**35**	P	**P**	**12 30 32.5 +0.2**
J20K	**Nowinta River** baz=268,SNR=10	**21.73**	**51**	P	**P**	**12 30 33.0 +0.4**
Q18K	**Katmai Hardscr** baz=281	**21.73**	**66**	P	**P**	**12 30 32.8 0.0**
K20K	**Telida** comp=Z,20nm,1.1s	**21.75**	**54**	IAmb	IAmb	12 30 44.0
K20K	**Telida** baz=270	**21.75**	**54**	P	**P**	**12 30 33.3 +0.4**
O19K	**Port Alsworth** comp=Z,22nm,1.1s	**21.83**	**62**	IAmb	IAmb	12 30 37.3
O19K	**Port Alsworth** baz=278	**21.83**	**62**	P	**P**	**12 30 34.4 +0.7**
L20K	**Farewell, AK** baz=272	**21.85**	**56**	P	**P**	**12 30 33.8 -0.1**
IMAR	**Indian Mountai**	**22.04**	**47**	P	**P**	**12 30 37.1 +1.2**
CHIR	**Chirikof Islan** baz=288	**22.11**	**74**	P	**P**	**12 30 37.5 +0.8**
G21K	**Allakaket** comp=Z,26nm,1.4s	**22.20**	**45**	IAmb	IAmb	12 30 45.6
G21K	**Allakaket** baz=263	**22.20**	**45**	P	**P**	**12 30 38.2 +0.5**
M20K	**Styx River** baz=274,SNR=6.0	**22.23**	**58**	P	**P**	**12 30 38.5 +0.3**
C21K	**Knifeblade Rid** baz=255	**22.25**	**38**	P	**P**	**12 30 38.9 +0.7**
R18K	**Karluk** baz=284	**22.25**	**69**	P	**P**	**12 30 39.3 +1.1**
F21K	**Alatna River** baz=261,SNR=9.6	**22.31**	**43**	P	**P**	**12 30 39.6 +0.7**
E21K	**Killik River** baz=258	**22.36**	**40**	P	**P**	**12 30 39.9 +0.5**
Q19K	**Cape Douglas,** baz=281	**22.38**	**65**	P	**P**	**12 30 39.5 -0.1**
H21K	**Melozitna Rive** baz=266,SNR=8.0	**22.39**	**48**	P	**P**	**12 30 40.4 +0.6**
B21K	**Ikpikpuk River** baz=254	**22.43**	**37**	P	**P**	**12 30 40.0 -0.1**
P19K	**Oil Pt** baz=280	**22.45**	**63**	P	**P**	**12 30 41.1 +0.7**
CHUM	**Lake Minchumin** baz=270	**22.53**	**52**	P	**P**	**12 30 41.7 +0.5**
PPLA	**Purkeypile** baz=273	**22.61**	**55**	P	**P**	**12 30 42.6 +0.4**
SII	**Sitkinak Islan** baz=287	**22.66**	**72**	P	**P**	**12 30 43.3 +0.7**
O20K	**Slope Mountain** baz=279	**22.69**	**62**	P	**P**	**12 30 43.4 +0.4**
SPCR	**Spurr Chakacha** baz=277	**22.74**	**59**	P	**P**	**12 30 44.2 +0.7**
HEH	**HeiHe**	**22.78**	**271**	eP	**P**	**12 30 41.1 -2.8**
HEH	comp=Z,4.0nm,0.6s			pmax	pmax	
F22K	**John River** baz=262	**22.86**	**43**	P	**P**	**12 30 44.9 +0.3**
STLK	**Strandline Lak** comp=Z,12nm,0.8s	**22.89**	**58**	IAmb	IAmb	12 30 47.5
D22K	**Ayikyak River**	**22.92**	**39**	P	**P**	**12 30 46.0 +0.7**
D22K	**Ayikyak River** baz=258	**22.92**	**39**	P	**P**	**12 30 45.2 0.0**
OHAK	**Old Harbor** baz=286	**22.95**	**70**	P	**P**	**12 30 46.6 +0.9**
SKT	**Skwentna** baz=276	**22.98**	**57**	P	**P**	**12 30 46.5 +0.5**
H22K	**Ishtalitna Cre** baz=266,SNR=7.0	**23.00**	**47**	P	**P**	**12 30 46.6 +0.5**
B22K	**Teshekpuk Lake** baz=254	**23.03**	**35**	P	**P**	**12 30 46.2 -0.2**
G22K	**Bettles** baz=264	**23.04**	**44**	P	**P**	**12 30 46.5 0.0**
Q20K	**Shuyak Island** baz=283	**23.08**	**66**	P	**P**	**12 30 47.4 +0.4**
E22K	**Anaktuvuk Pass** comp=Z,16nm,0.9s	**23.09**	**41**	IAmb	IAmb	12 30 48.7
E22K	**Anaktuvuk Pass** baz=261	**23.09**	**41**	P	**P**	**12 30 47.1 0.0**
BPAW	**Bear Paw Mtn.** baz=271,SNR=11	**23.12**	**52**	P	**P**	**12 30 47.7 +0.4**
KTH	**Kantishna Hill** comp=Z,23nm,1.2s	**23.16**	**53**	IAmb	IAmb	12 31 06.0
KDAK	**Kodiak Island** comp=Z,140nm,19.2s,baz=275,slow=36	**23.18**	**68**	LR	LR	12 39 39.4
KDAK	**Kodiak Island** baz=285	**23.18**	**68**	P	**P**	**12 30 48.2 +0.2**
MLY	**Manley** baz=269,SNR=10	**23.23**	**49**	P	**P**	**12 30 48.9 +0.4**
HOM	**Homer** baz=281	**23.25**	**63**	P	**P**	**12 30 49.3 +0.6**
CAPN	**Captain Cook N** baz=279	**23.30**	**60**	P	**P**	**12 30 49.9 +0.7**
TRF	**Thorofare Moun** comp=Z,15nm,0.9s	**23.45**	**53**	IAmb	IAmb	12 31 01.3
TRF	**Thorofare Moun** baz=273,SNR=6.7	**23.45**	**53**	P	**P**	**12 30 50.7 -0.1**
CUT	**Chulitna** baz=276	**23.53**	**56**	P	**P**	**12 30 50.8 -0.7**
COLD	**Coldfoot**	**23.58**	**44**	P	**P**	**12 30 52.7 +0.7**
COLD	**Coldfoot** baz=264,SNR=11	**23.58**	**44**	P	**P**	**12 30 51.7 -0.3**
G23K	**Bananza Creek** baz=266,SNR=7.2	**23.60**	**45**	P	**P**	**12 30 51.8 -0.5**
D23K	**Nanushuk River** baz=260	**23.65**	**39**	P	**P**	**12 30 52.1 -0.5**
H23K	**Yukon River** comp=Z,18nm,1.1s	**23.75**	**47**	IAmb	IAmb	12 31 30.0
H23K	**Yukon River** baz=268,SNR=12	**23.75**	**47**	P	**P**	**12 30 53.0 -0.7**
USRK	**Ussuriysk Ar.** comp=Z,155nm,21.2s,baz=51,slow=36	**23.76**	**254**	LR	LR	12 40 01.0
C23K	**Itkillik River** comp=Z,17nm,1.1s	**23.84**	**37**	IAmb	IAmb	12 31 03.6
C23K	**Itkillik River** baz=258,SNR=5.8	**23.84**	**37**	P	**P**	**12 30 53.9 -0.5**
E23K	**Chandalar** comp=Z,11nm,0.9s	**23.90**	**42**	IAmb	IAmb	12 31 07.9
E23K	**Chandalar** baz=263,SNR=10	**23.90**	**42**	P	**P**	**12 30 55.0 -0.1**
NEA2	**Nenana** comp=Z,12nm,1.0s	**23.94**	**50**	IAmb	IAmb	12 31 09.0
NEA2	**Nenana** baz=272	**23.94**	**50**	P	**P**	**12 30 55.8 +0.3**
RC01	**Rabbit Creek A** baz=279	**23.94**	**59**	P	**P**	**12 30 55.5 -0.1**
TOLK	**Toolik Lake Re** comp=Z,14nm,0.8s	**23.99**	**40**	IAmb	IAmb	12 31 08.0
TOLK	**Toolik Lake Re** baz=262,SNR=8.3	**23.99**	**40**	P	**P**	**12 30 55.7 -0.3**
MCK	**McKinley** baz=274	**24.04**	**52**	P	**P**	**12 30 55.8 -0.6**
O22K	**Cooper Landing** baz=280	**24.05**	**61**	P	**P**	**12 30 56.7 +0.2**
RND	**Reindeer** comp=Z,15nm,1.2s	**24.09**	**53**	IAmb	IAmb	12 31 07.3
PMR	**Palmer** baz=278	**24.16**	**58**	P	**P**	**12 30 56.8 -0.7**
SEW	**Seward** baz=281	**24.25**	**61**	P	**P**	**12 30 58.2 -0.2**
E24K	**Your Creek** comp=Z,19nm,1.0s	**24.32**	**42**	IAmb	IAmb	12 31 10.4
E24K	**Your Creek** baz=264,SNR=24	**24.32**	**42**	P	**P**	**12 30 59.0 0.0**
D24K	**Happy Valley**	**24.34**	**39**		**P**	**12 30 59.8 +0.7**
D24K	comp=Z,13nm,0.8s			IAmb	IAmb	12 31 10.1
D24K	**Happy Valley** baz=262,SNR=8.5	**24.34**	**39**	P	**P**	**12 30 58.9 -0.2**
WRH	**Wood River Hil** comp=Z,15nm,0.9s	**24.37**	**51**	IAmb	IAmb	12 31 10.7
H24K	**Noodor Dome** comp=Z,15nm,1.2s	**24.43**	**47**	IAmb	IAmb	12 31 11.7
H24K	**Noodor Dome** baz=270,SNR=11	**24.43**	**47**	P	**P**	**12 31 00.0 -0.1**
COLA	**College**	**24.46**	**50**	P	**P**	**12 31 00.9 +0.7**
COLA	**College**	**24.46**	**50**	P	**P**	**12 31 00.9 +0.7**
COLA	comp=Z,19nm,1.0s			pmax	pmax	
COLA	**College** baz=272	**24.46**	**50**	P	**P**	**12 30 59.9 -0.3**
C24K	**Franklin Bluff** baz=260	**24.47**	**38**	P	**P**	**12 30 59.3 -1.0**
F24K	**Squaw Lake** baz=266	**24.50**	**43**	P	**P**	**12 31 00.6 -0.1**
KNK	**Knik Glacier** baz=279	**24.50**	**58**	P	**P**	**12 31 00.6 -0.2**
G24K	**Hadweenzic Riv** comp=Z,15nm,0.9s	**24.61**	**45**	IAmb	IAmb	12 31 14.0
G24K	**Hadweenzic Riv** baz=268,SNR=14	**24.61**	**45**	P	**P**	**12 31 01.5 -0.2**
POKR	**Poker Plat Res** baz=272	**24.63**	**49**	P	**P**	**12 31 01.6 -0.2**
PWL	**Port Wells** baz=280,SNR=6.1	**24.65**	**59**	P	**P**	**12 31 01.5 -0.6**
M23K	**Glacier View** baz=279,SNR=5.1	**24.79**	**57**	P	**P**	**12 31 03.5 +0.1**
HDA	**Harding Lake** comp=Z,10nm,1.0s	**24.87**	**51**	IAmb	IAmb	12 31 14.8
HDA	**Harding Lake** baz=274	**24.87**	**51**	P	**P**	**12 31 04.1 +0.2**
IL31		**24.87**	**50**	IAmb	IAmb	12 31 15.4
	comp=Z,16nm,1.1s					
ILAR	**Eielson Array**	**24.87**	**50**	P	**P**	**12 31 05.2 +1.1**
ILAR	**Eielson Array** comp=Z,4.4nm,0.9s,baz=266,slow=8.7,SNR=32	**24.87**	**50**	P	**P**	**12 31 02.9 -1.2**
ILAR	comp=Z,141nm,18.0s,baz=270,slow=38 comp=Z,4.4nm,0.9s			LR	LR	12 41 25.3
SCM	**Sheep Creek Mo** baz=279,SNR=8.0	**24.97**	**57**	P	**P**	**12 31 05.7 +0.7**
G25K	**Bearman Lake** baz=269	**25.16**	**45**	P	**P**	**12 31 07.4 +0.8**
D25K	**Kavik River** baz=264,SNR=14	**25.22**	**39**	P	**P**	**12 31 07.5 +0.3**
GLI	**Glacier Island** baz=281	**25.25**	**59**	P	**P**	**12 31 07.8 +0.4**
H25L	**Birch Creek** baz=271	**25.27**	**46**	P	**P**	**12 31 08.3 +0.7**
P23K	**Montague Islan** baz=283	**25.28**	**61**	P	**P**	**12 31 08.9 +1.2**
BNX	**BinXian**	**25.28**	**262**	⇓P	**P**	**12 31 08.0 +0.1**
BNX				S	**S**	**12 35 34.8 +1.0**
BNX				pmax	pmax	
BNX	comp=Z,5.0nm,1.5s			pmax	pmax	
BNX	comp=Z,90nm,4.5s			LR	LR	
BNX	comp=N,200nm,12.4s			LR	LR	
BNX	comp=E,270nm,11.8s			LR	LR	
BNX	comp=Z,280nm,13.5s			LR	LR	
F25K	**Christian Rive** comp=Z,11nm,0.9s	**25.36**	**43**	IAmb	IAmb	12 31 21.1
F25K	**Christian Rive** baz=268,SNR=14	**25.36**	**43**	P	**P**	**12 31 08.1 -0.4**
PRP	**Porcupine Dome** comp=Z,15nm,1.3s	**25.41**	**48**	IAmb	IAmb	12 31 10.1
PRP	**Porcupine Dome** baz=273,SNR=6.9	**25.41**	**48**	P	**P**	**12 31 08.3 -0.7**
K24K	**Donnelly Dome** baz=276	**25.43**	**52**	P	**P**	**12 31 08.9 -0.2**
M24K	**Tolsona, Glenn** baz=279	**25.47**	**56**	P	**P**	**12 31 09.4 -0.1**
FYU	**Fort Yukon** comp=Z,17nm,1.2s	**25.51**	**46**	IAmb	IAmb	12 31 11.0
J25K	**Salcha River,** baz=275	**25.53**	**50**	P	**P**	**12 31 09.5 -0.6**
PAX	**Paxson** baz=278	**25.66**	**54**	P	**P**	**12 31 10.8 -0.5**
KLU	**Klutina** baz=281	**25.69**	**57**	P	**P**	**12 31 10.7 -0.8**
BMAR	**Burnt Mountain**	**25.77**	**44**		**P**	**12 31 12.9 +0.8**
C26K	**Camden Bay** baz=264	**25.80**	**38**	P	**P**	**12 31 11.5 -0.8**
RIDG	**Independent Ri** comp=Z,23nm,1.4s	**25.85**	**52**	IAmb	IAmb	12 31 28.5
RIDG	**Independent Ri** baz=277	**25.85**	**52**	P	**P**	**12 31 12.2 -0.7**
HARP	**HAARP** baz=279	**25.89**	**55**	P	**P**	**12 31 13.2 -0.1**
Q23K	**Middleton Isla** baz=285	**25.93**	**62**	P	**P**	**12 31 13.6 +0.1**
F26K	**Sheenjek River** baz=269	**25.94**	**43**	P	**P**	**12 31 13.7 0.0**
EYAK	**Cordova Ski Ar** baz=283	**25.96**	**59**	P	**P**	**12 31 14.2 +0.3**
G26K	**Porcupine Rive** comp=Z,8.7nm,0.9s	**26.08**	**45**	IAmb	IAmb	12 31 27.2
G26K	**Porcupine Rive** baz=271,SNR=8.0	**26.08**	**45**	P	**P**	**12 31 14.7 -0.2**
C27K	**Jago River** comp=Z,13nm,0.8s	**26.19**	**39**	IAmb	IAmb	12 31 28.3
C27K	**Jago River** baz=266,SNR=6.5	**26.19**	**39**	P	**P**	**12 31 15.3 -0.6**
SCRK	**Sand Creek** comp=Z,14nm,1.3s	**26.20**	**51**	IAmb	IAmb	12 31 15.8
SCRK	**Sand Creek** baz=277,SNR=9.0	**26.20**	**51**	P	**P**	**12 31 15.0 -1.1**
N25K	**Chitina, Valde** baz=281	**26.29**	**57**	P	**P**	**12 31 16.7 -0.3**
J26L	**Joseph Creek** baz=276	**26.32**	**50**	P	**P**	**12 31 16.4 -0.8**
I26K	**Coal Creek Min** baz=275	**26.42**	**48**	P	**P**	**12 31 17.3 -0.7**
BMRM	**Bremner River** baz=283,SNR=5.1	**26.42**	**58**	P	**P**	**12 31 17.3 -0.8**
MAJO	**Matsushiro**	**26.43**	**233**		**P**	**12 31 20.6 +2.2**
MAJO	comp=Z,14nm,1.0s			IAmb	IAmb	12 31 35.8
MAJO	**Matsushiro** comp=Z,14nm,1.0s	**26.43**	**233**	P	**P**	**12 31 20.6 +2.2**
MAJO				pmax	pmax	
MJAR	**Matsushiro Arr** comp=Z,4.1nm,0.6s,baz=31,slow=7.2,SNR=12	**26.43**	**233**	P	**P**	**12 31 18.1 -0.3**
MJAR	comp=Z,114nm,21.9s,baz=25,slow=37 comp=Z,4.1nm,0.6s			LR	LR	12 42 00.4
L26K	**Log Cabin Wild** baz=279	**26.61**	**53**	P	**P**	**12 31 19.5 -0.3**
GLB	**Gilahina Butte** comp=Z,15nm,1.2s	**26.70**	**57**	IAmb	IAmb	12 31 22.1
KAIM	**Kayak Island** baz=285	**26.75**	**61**	P	**P**	**12 31 20.5 -0.5**
M26K	**Nabesna, AK** comp=Z,20nm,1.4s	**26.88**	**55**	IAmb	IAmb	12 31 23.9
M26K	**Nabesna, AK** baz=281	**26.88**	**55**	P	**P**	**12 31 22.7 +0.5**
E27K	**Coleen River** baz=271	**26.90**	**42**	P	**P**	**12 31 21.9 -0.5**
G27K	**Doyon Strip** baz=273	**26.92**	**45**	P	**P**	**12 31 22.9 +0.4**
H27K	**Steamboat Moun** comp=Z,15nm,1.3s	**27.01**	**46**	IAmb	IAmb	12 31 25.7
H27K	**Steamboat Moun** baz=275,SNR=13	**27.01**	**46**	P	**P**	**12 31 23.3 -0.1**
K27K	**Chicken** baz=278	**27.02**	**51**	P	**P**	**12 31 22.8 -0.7**
I27K	**Kandik River** baz=276	**27.03**	**48**	P	**P**	**12 31 23.2 -0.4**
MCARA	**McCarthy VSAT** baz=283	**27.08**	**57**	P	**P**	**12 31 23.7 -0.3**
D27M	**Malcolm River** baz=269,SNR=11	**27.14**	**40**	P	**P**	**12 31 24.3 -0.2**
CRQE	**Cirque** baz=284	**27.19**	**58**	P	**P**	**12 31 25.0 -0.2**
L27K	**Beaver Creek,** baz=280,SNR=15	**27.29**	**53**	P	**P**	**12 31 25.9 -0.1**
BCAR	**Beaver Creek A**	**27.31**	**53**		**P**	**12 31 26.6 +0.5**
M27K	**Edge Creek, AK** comp=Z,19nm,1.2s	**27.40**	**55**	IAmb	IAmb	12 31 42.3
M27K	**Edge Creek, AK** baz=282	**27.40**	**55**	P	**P**	**12 31 27.2 +0.2**
F28M	**Old Crow** comp=Z,9.5nm,1.2s	**27.57**	**43**	IAmb	IAmb	12 31 29.7
F28M	**Old Crow** baz=273,SNR=7.2	**27.57**	**43**	P	**P**	**12 31 27.9 -0.5**
E28M	**Babbage River** baz=272,SNR=6.2	**27.66**	**41**	P	**P**	**12 31 28.8 -0.3**
I28M	**Miner Creek** baz=277,SNR=8.9	**27.74**	**48**	P	**P**	**12 31 29.8 -0.3**
BVCY	**Beaver Creek** baz=282	**27.86**	**54**	P	**P**	**12 31 30.8 -0.2**
MESA	**MESA** baz=286	**27.88**	**59**	P	**P**	**12 31 31.4 0.0**
D28M	**Stokes Point** baz=271	**27.93**	**39**	P	**P**	**12 31 31.3 -0.2**
CTG	**Chitna Glacier** baz=285	**27.97**	**57**	P	**P**	**12 31 32.5 +0.4**
YUK3	**Moose Creek** baz=284	**28.18**	**56**	P	**P**	**12 31 34.0 -0.1**
DAWY	**Dawson** baz=280	**28.18**	**51**	P	**P**	**12 31 33.9 -0.1**
E29M	**Blow River** comp=Z,12nm,1.4s	**28.27**	**41**	IAmb	IAmb	12 31 35.9
E29M	**Blow River** baz=274,SNR=7.9	**28.27**	**41**	P	**P**	**12 31 34.9 +0.3**
H29M	**Whitestone** baz=277,SNR=5.3	**28.29**	**46**	P	**P**	**12 31 35.1 +0.4**
G29M	**Pine Creek** comp=Z,14nm,1.1s	**28.35**	**44**	IAmb	IAmb	12 31 37.1
G29M	**Pine Creek** baz=276,SNR=10	**28.35**	**44**	P	**P**	**12 31 35.7 +0.4**
I29M	**Ogilvie Camp,** baz=279	**28.43**	**48**	P	**P**	**12 31 36.9 +0.8**
O28M	**Mount Upton** baz=286	**28.56**	**58**	P	**P**	**12 31 37.0 -0.6**
YUK8	**Steele Glacier** baz=285	**28.63**	**56**	P	**P**	**12 31 37.3 -0.8**
PINM	**Pinnacle** baz=287	**28.72**	**59**	P	**P**	**12 31 38.2 -0.6**
EPYK	**Eagle Plains** comp=Z,15nm,1.4s	**28.93**	**45**	IAmb	IAmb	12 32 20.0
EPYK	**Eagle Plains** baz=278	**28.93**	**45**	P	**P**	**12 31 39.4 -1.1**
L29M	**L29M** baz=283,SNR=8.4	**28.93**	**52**	P	**P**	**12 31 40.2 -0.4**
M29M	**Somme Creek** baz=284	**28.93**	**54**	P	**P**	**12 31 40.6 -0.1**
K29M	**Barlow Dome** baz=282	**29.04**	**51**	P	**P**	**12 31 41.1 -0.5**
G30M	**tAoh Zraii Nji** baz=278	**29.04**	**44**	P	**P**	**12 31 40.7 -0.8**
YUK4	**Talbot Arm** baz=286	**29.13**	**56**	P	**P**	**12 31 42.1 -0.4**
F30M	**Barrier River** comp=Z,6.8nm,0.9s	**29.13**	**43**	IAmb	IAmb	12 32 01.4
F30M	**Barrier River** baz=277	**29.13**	**43**	P	**P**	**12 31 42.1 -0.1**
I30M	**Mount Dempster** comp=Z,11nm,1.5s	**29.25**	**48**	IAmb	IAmb	12 31 44.9

I30M	**Mount Dempster** baz=281,SNR=8.5	29.25	48	P	P	12 31 42.9	-0.6
PNL	**Peninsula** baz=288	29.26	60	P	P	12 31 42.9	-0.6
YUK6	**Outpost Mounta** baz=287	29.38	57	P	P	12 31 44.1	-0.6
J30M	**Hart River** baz=282	29.40	49	P	P	12 31 44.1	-0.7
O29M	**Mount Kennedy** baz=288	29.46	58	P	P	12 31 45.6	+0.2
M30M	**Minto, Yukon** baz=285	29.65	53	P	P	12 31 47.0	0.0
G31M	**Satah River** baz=279	29.81	44	P	P	12 31 47.8	-0.4
HYT	**Haines Junctio** comp=Z,7.7nm,0.9s	29.81	57	IAmb	IAmb	12 31 49.9	
HYT	**Haines Junctio** baz=287,SNR=6.3	29.81	57	P	P	12 31 48.6	+0.1
N30M	**Aishikik Lake** baz=287	29.82	55	P	P	12 31 48.7	+0.2
INK	**Inuvik**	29.89	41		P	12 31 49.5	+0.6
INK	comp=Z,9.0nm,0.9s			IAmb	IAmb	12 32 05.3	
INK	**Inuvik**	29.89	41	P	P	12 31 49.5	+0.6
INK	comp=Z,9.0nm,1.0s			pmax	pmax		
INK	**Inuvik** baz=278,SNR=6.5	29.89	41	P	P	12 31 48.8	-0.1
F31M	**Tsiigehtchic** baz=279,SNR=5.8	29.93	43	P	P	12 31 49.5	+0.2
H31M	**Peel River** baz=281	29.98	46	P	P	12 31 49.4	-0.3
P29M	**Windy Craggy** comp=Z,6.1nm,0.7s	30.07	59	IAmb	IAmb	12 31 52.1	
P29M	**Windy Craggy** baz=289	30.07	59	P	P	12 31 50.8	+0.1
P30M	**Million Dollar** baz=289	30.29	58	P	P	12 31 52.9	+0.3
O30N	**Mendenhall** baz=288	30.49	56	P	P	12 31 54.1	-0.3
KSRS	**Korea Array** comp=Z,0.6nm,0.5s,baz=40,slow=9.9,SNR=5.1 comp=Z,0.6nm,0.5s	30.73	248	P	P	12 31 56.0	-0.6
PLBC	**Pleasant Camp** baz=290	30.79	59	P	P	12 31 57.0	+0.1
M31M	**Drury Creek, Y** comp=Z,10nm,1.3s	30.83	53	IAmb	IAmb	12 31 59.2	
M31M	**Drury Creek, Y** baz=287,SNR=7.8	30.83	53	P	P	12 31 57.5	+0.1
WHY	**Whitehorse**	31.09	56		P	12 32 01.1	+1.3
WHY	**Whitehorse** baz=289,SNR=5.0	31.09	56	P	P	12 32 00.2	+0.5
SKAG	**Skagway** baz=291	31.29	59	P	P	12 32 01.6	+0.3
FARO	**Faro, Yukon** comp=Z,6.9nm,1.2s	31.29	53	IAmb	IAmb	12 32 03.2	
FARO	**Faro, Yukon** baz=288,SNR=8.9	31.29	53	P	P	12 32 01.6	+0.2
S31K	**Pelican** baz=293	31.40	62	P	P	12 32 03.0	+0.7
N32M	**Quiet Lake** comp=Z,7.4nm,1.2s	31.75	55	IAmb	IAmb	12 32 07.0	
N32M	**Quiet Lake** baz=290	31.75	55	P	P	12 32 05.3	-0.2
P32M	**Atlin** baz=292	32.01	58	P	P	12 32 08.3	+0.6
MMPY	**Sheldon Lake,** comp=Z,8.5nm,1.2s	32.09	52	IAmb	IAmb	12 32 10.6	
MMPY	**Sheldon Lake,** baz=288,SNR=8.5	32.09	52	P	P	12 32 09.0	+0.5
R32K	**Eaglecrest** baz=293,SNR=8.8	32.12	60	P	P	12 32 09.8	+1.2
A36M	**Sachs Harbour** comp=Z,6.0nm,0.9s	32.19	33	IAmb	IAmb	12 32 10.5	
A36M	**Sachs Harbour** baz=279,SNR=6.0	32.19	33	P	P	12 32 09.2	0.0
P33M	**Teslin, Yukon** comp=Z,12nm,1.5s	32.20	56	IAmb	IAmb	12 32 11.5	
P33M	**Teslin, Yukon** baz=291,SNR=6.6	32.20	56	P	P	12 32 10.1	+0.6
SIT	**Sitka** baz=294,SNR=7.6	32.21	63	P	P	12 32 10.8	+1.3
S32K	**Killisnoo** baz=294,SNR=5.6	32.41	62	P	P	12 32 12.3	+1.1
JNU	**Nakatsue** comp=Z,72nm,20.6s,baz=58,slow=35	32.66	239	LR	LR	12 44 51.6	
Q32M	**Nakina River** comp=Z,12nm,1.3s	32.93	58	IAmb	IAmb	12 32 18.6	
Q32M	**Nakina River** baz=293,SNR=6.4	32.93	58	P	P	12 32 17.2	+1.1
R33M	**Jennings River** comp=Z,1nm,1.4s	33.38	57	IAmb	IAmb	12 32 22.3	
R33M	**Jennings River** baz=293,SNR=8.6	33.38	57	P	P	12 32 20.6	+0.8
T33K	**Petersburg** baz=296	33.49	62	P	P	12 32 21.6	+1.0
U33K	**Whale Pass** baz=297	33.72	63	P	P	12 32 24.0	+1.4
TGTN	**Hyland Airport** baz=292	33.79	53	P	P	12 32 24.0	+0.7
S34M	**Telegraph Cree** comp=Z,4.1nm,0.8s	33.91	60	IAmb	IAmb	12 32 26.7	
S34M	**Telegraph Cree** baz=295	33.91	60	P	P	12 32 25.5	+1.2
WRAK	**Wrangell Islan** baz=297	33.97	63	P	P	12 32 26.3	+1.5
CRAG	**Craig** baz=298	34.01	64	P	P	12 32 27.3	+2.2
WTLY	**Watson Lake, Y** baz=294	34.10	55	P	P	12 32 27.9	+1.9
DLBC	**Dease Lake** comp=Z,17nm,20.0s,baz=280,slow=37	34.22	58	LR	LR	12 46 37.3	
DLBC	**Dease Lake** baz=295,SNR=12	34.22	58	P	P	12 32 28.8	+1.8
T35M	**Bob Quinn** baz=297,SNR=10	34.75	61	P	P	12 32 33.6	+1.9
V35K	**Ketchikan** baz=298	34.84	64	P	P	12 32 33.6	+1.3
WRGLY	**Wrigley** baz=293	35.23	48	P	P	12 32 37.3	+1.7
LIRD	**Liard River Hi** baz=296	35.64	55	P	P	12 32 41.0	+1.8
SONM	**Songino Array**	35.75	282	P	P	12 32 40.3	-0.2
SONM	**Songino Array** comp=Z,1.2nm,0.7s,baz=63,slow=8.6,SNR=6.7 comp=Z,1.2nm,0.7s	35.75	282	P	P	12 32 40.0	-0.5
SONM	**Songino Array**	35.75	282	P	P	12 32 40.3	-0.2
SONM	comp=Z,2.0nm,1.0s			pmax	pmax		
TOAD	**Toad River Com** baz=297,SNR=17	36.29	56	P	P	12 32 46.5	+1.7
H11N2	**WAKE ISLAND Hy** baz=357,slow=76,SNR=929	36.38	176	T	T	13 11 39.9	
H11N3	**WAKE ISLAND Hy** baz=357,slow=76,SNR=756	36.40	176	T	T	13 11 41.0	
H11N1	**WAKE ISLAND Hy** baz=357,slow=76,SNR=948	36.40	176	T	T	13 11 41.2	
BBB	**Bella Bella** comp=Z,87nm,19.5s,baz=40,slow=35	38.24	67	LR	LR	12 47 58.1	
YKA	**Yellowknife Ar** comp=Z,2.5nm,0.8s,baz=304,slow=8.9,SNR=6.4 comp=Z,2.5nm,0.8s	39.20	46	P	P	12 33 08.7	-0.6
CLRS	**Cowichan Lake**	42.27	69		P	12 33 35.5	+0.7
LLLB	**Lillooet**	42.34	65	P	P	12 33 36.8	+1.4
LLLB	comp=Z,6.9nm,1.0s			IAmb	IAmb	12 33 37.5	
SPITS	**Spitsbergen Ar** comp=Z,5.0nm,0.7s,baz=104,slow=3.5,SNR=9.3 comp=Z,5.0nm,0.7s	44.55	351	P	P	12 33 52.7	-0.2
SPITS	**Spitsbergen Ar**	44.55	351	P	P	12 33 52.7	-0.2
SPITS	comp=Z,20nm,1.1s			pmax	pmax		
SPB2	**Spitsbergen Ar**	44.55	351	P	P	12 33 53.5	+0.6
GTA	**Gaotai**	44.82	276	*e*P	P	12 34 03.8	+8.2
GTA				pP	pwP	12 34 07.5	+5.7
GTA	comp=Z,6.0nm,1.0s			pmax	pmax		
B08A	**Colville Reser** comp=Z,7.1nm,0.9s	45.04	66	IAmb	IAmb	12 33 58.4	
LTY	**Liberty** comp=Z,6.9nm,1.4s	45.05	68	IAmb	IAmb	12 33 58.6	
BLKN	**Baker Lake**	45.13	37		P	12 33 57.5	-0.1
H04A	**Detroit Lake** comp=Z,8.2nm,1.1s	45.95	72	IAmb	IAmb	12 34 20.8	
BBOR	**Butler Butte** comp=Z,4.8nm,0.9s	46.89	74	IAmb	IAmb	12 34 13.9	
LNOR	**Lincton Mounta** comp=Z,5.7nm,1.3s	47.21	68	IAmb	IAmb	12 34 15.6	
PINE	**Pine Mountain** comp=Z,5.8nm,1.0s	47.21	72	IAmb	IAmb	12 34 16.3	
YBH	**Yreka Blue Hor** comp=Z,3.2nm,0.8s	47.66	75	IAmb	IAmb	12 34 20.1	
KURK	**Kurchatov**	48.31	302	P	P	12 34 22.6	-0.1
KURK	comp=Z,3.4nm,0.9s			IAmb	IAmb	12 34 23.5	
KURK	**Kurchatov**	48.31	302	P	P	12 34 22.6	-0.1
KURK	comp=Z,3.0nm,0.9s			pmax	pmax		
BMO	**Blue Mountains** comp=Z,3.4nm,0.8s	48.40	69	IAmb	IAmb	12 34 24.8	
KURBB	**Kurchatov Arra** comp=Z,0.7nm,0.2s,baz=49,slow=7.8,SNR=8.0	48.41	302	P	P	12 34 21.6	-1.9
KURBB	comp=Z,1.5nm,0.2s,baz=47,slow=10.0,SNR=5.0 comp=Z,0.7nm,0.2s			PP	PP	12 36 15.9	+0.2
PLID	**Pearl Lake** comp=Z,3.8nm,0.8s	48.92	68	IAmb	IAmb	12 34 28.9	
MKAR	**Makanchi Array**	49.15	296	P	P	12 34 28.7	-0.5
MKAR	**Makanchi Array** comp=Z,0.5nm,0.5s,baz=57,slow=6.0,SNR=8.0 comp=Z,0.5nm,0.5s	49.15	296	P	P	12 34 28.3	-1.0
MKAR	**Makanchi Array**	49.15	296	P	P	12 34 28.7	-0.5
DLMT	**Dillon** comp=Z,10nm,1.5s	50.48	65	IAmb	IAmb	12 34 40.7	
BVAR	**Borovoye Array** comp=Z,4.0nm,0.5s,baz=52,slow=7.8,SNR=22	50.51	309	P	P	12 34 38.9	-0.6
BVAR	comp=Z,123nm,18.3s,baz=63,slow=39 comp=Z,4.0nm,0.5s			LR	LR	12 58 39.1	
BRVK	**Borovoye**	50.53	309		P	12 34 39.8	+0.2
BRVK	**Borovoye**	50.53	309	P	P	12 34 39.8	+0.2
BRVK	comp=Z,7.0nm,0.7s			pmax	pmax		
ARCES	**ARCESS Array B** comp=Z,1.4nm,0.8s,baz=21,slow=10,SNR=4.6 comp=Z,1.4nm,0.8s	51.17	343	P	P	12 34 43.1	-1.2
YHL	**Hebgen Lake** comp=Z,6.9nm,1.1s	51.55	65	IAmb	IAmb	12 34 49.1	
YHB	**Horse Butte** comp=Z,6.2nm,0.9s	51.62	65	IAmb	IAmb	12 34 58.7	
WAKR	**Walker** comp=Z,3.9nm,0.7s	51.72	76	IAmb	IAmb	12 34 50.9	
YNE	**Yellowstone No** comp=Z,4.3nm,0.8s	52.03	64	IAmb	IAmb	12 34 52.5	
H17A	**Grant Village** comp=Z,5.6nm,0.8s	52.18	65	IAmb	IAmb	12 34 55.1	
RLMT	**Red Lodge** comp=Z,7.6nm,0.8s	52.32	63	IAmb	IAmb	12 34 55.0	
NVAR	**Mina Array Bea** comp=Z,1.7nm,0.7s,baz=298,slow=7.6,SNR=19 comp=Z,1.7nm,0.7s	52.39	75	P	P	12 34 54.8	+0.8
LHV	**Little Huntoon** comp=Z,5.5nm,1.0s	52.41	75	IAmb	IAmb	12 34 55.8	
FXWY	**Fox Creek** comp=Z,3.6nm,0.8s	52.49	66	IAmb	IAmb	12 34 56.2	
TPAW	**Teton Pass** comp=Z,3.7nm,0.8s	52.63	66	IAmb	IAmb	12 34 59.5	
LOHW	**Long Hollow** comp=Z,4.2nm,0.8s	52.72	65	IAmb	IAmb	12 34 58.1	
ARTI	**Arti** comp=Z,89nm,19.8s,baz=33,slow=37	52.98	318	LR	LR	12 58 29.0	
HWUT	**Hardware Ranch** comp=Z,3.5nm,0.7s	53.67	68	IAmb	IAmb	12 35 05.0	
BW06	**Boulder Array** comp=Z,3.7nm,0.8s	53.86	65	IAmb	IAmb	12 35 06.0	
PD31	**Pinedale Array** comp=Z,3.6nm,0.8s	53.86	65	IAmb	IAmb	12 35 06.0	
PDAR	**Pinedale Array** comp=Z,2.2nm,0.6s,baz=324,slow=2.9,SNR=29	53.86	65	P	P	12 35 05.2	+0.4
PDAR	comp=Z,56nm,19.8s,baz=312,slow=36 comp=Z,2.2nm,0.6s			LR	LR	12 57 52.2	
SPR3	**Spring Creek 3** comp=Z,5.9nm,0.9s	54.11	72	IAmb	IAmb	12 35 09.3	
TPNV	**Topopah Spring** comp=Z,5.1nm,1.0s	54.58	75	IAmb	IAmb	12 35 34.9	
PSUT	**Pine Spring** comp=Z,3.4nm,0.9s	54.70	72	IAmb	IAmb	12 35 23.2	
BSUT	**Blindstream Ca** comp=Z,5.3nm,1.1s	54.86	68	IAmb	IAmb	12 35 15.0	
PRN	**Pahroc Range** comp=Z,5.2nm,0.7s	54.89	74	IAmb	IAmb	12 35 14.1	
GWY	**Greenwater Val** comp=Z,4.4nm,0.8s	54.91	76	IAmb	IAmb	12 35 22.6	
TMUT	**Trail Mountain** comp=Z,4.2nm,0.8s	55.54	69	IAmb	IAmb	12 35 18.9	
LCMT	**Little Creek M** comp=Z,5.4nm,1.3s	56.15	73	IAmb	IAmb	12 35 31.9	
KNB	**Kanab** comp=Z,5.0nm,1.1s	56.37	72	IAmb	IAmb	12 35 40.4	
PV23	**Carpenter Ridg** comp=Z,6.3nm,0.9s	57.31	69	IAmb	IAmb	12 36 00.2	
PV10	**Paradox Valley**	57.35	69	P	P	12 35 30.4	+0.4
PV16	**Nyswonger Mesa** comp=Z,6.7nm,1.1s	57.47	69	IAmb	IAmb	12 35 32.3	
PV07	**Paradox Valley** comp=Z,4.5nm,0.8s	57.51	68	IAmb	IAmb	12 35 43.7	
PV03	**Paradox Valley** comp=Z,5.7nm,1.1s	57.55	69	IAmb	IAmb	12 35 44.0	
KKAR	**Karatay Array**	57.62	300		P	12 35 31.4	-0.2
KKAR	**Karatay Array**	57.62	300	P	P	12 35 31.4	-0.2
AKTO	**Aktyubinsk** comp=Z,61nm,18.2s,baz=146,slow=37	57.63	313	LR	LR	13 01 13.0	
AB31	**Akbulak array** comp=Z,4.6nm,1.1s	57.75	311	IAmb	IAmb	12 35 51.4	
ABKAR	**Akbulak array**	57.75	311		P	12 35 32.6	+0.3
ISCO	**Idaho Springs** comp=Z,2.6nm,0.8s	58.05	65	IAmb	IAmb	12 35 47.7	
FINES	**FINESS Array B** comp=Z,1.9nm,0.9s,baz=318,slow=2.6,SNR=4.6 comp=Z,1.9nm,0.9s	58.31	338	P	P	12 35 34.5	-1.6
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.4s,baz=21,slow=7.0,SNR=6.3	61.27	260	P	P	12 35 56.0	-1.0
CMAR	comp=Z,68nm,18.3s,baz=190,slow=38 comp=Z,0.9nm,0.4s			LR	LR	13 03 57.5	
CMAR	**Chiang Mai Arr**	61.27	260	P	P	12 35 56.0	-1.0
NB2	**NORSAR Subarra** comp=Z,2.4nm,0.8s,baz=17,slow=6.9	61.30	346	P	P	12 35 56.1	-0.6
NOA	**NORSAR Array B** comp=Z,1.6nm,0.7s,baz=18,slow=6.8,SNR=8.9 comp=Z,1.6nm,0.7s	61.30	346	P	P	12 35 55.5	-1.1
SCHQ	**Schefferville** comp=Z,2.1nm,0.5s,baz=341,slow=10,SNR=3.8 comp=Z,2.1nm,0.5s	61.75	31	P	P	12 35 59.4	-0.4
HFS	**Hagfors** comp=Z,1.7nm,0.6s,baz=320,slow=3.9,SNR=7.8	61.80	344	P	P	12 35 58.9	-1.1
HFS	comp=Z,41nm,20.0s,baz=8.0,slow=37 comp=Z,1.7nm,0.6s			LR	LR	13 03 43.1	
MNTX	**Cornudas Mount** comp=Z,2.7nm,1.0s	64.39	71	P	P	12 36 18.2	+0.5
MNTX				IAmb	IAmb	12 36 20.7	
TX31	**Lajitas Ar. Si**	67.16	71	P	P	12 36 35.9	+0.2
TX31	comp=Z,2.9nm,0.8s			IAmb	IAmb	12 36 36.8	
TXAR	**Lajitas Array** comp=Z,2.1nm,0.6s,baz=299,slow=4.2,SNR=37 comp=Z,2.1nm,0.6s	67.16	71	P	P	12 36 35.7	0.0
AKASG	**Malin Array Be** comp=Z,0.3nm,0.3s,baz=328,slow=30,SNR=2.2	67.27	331	P	P	12 36 34.2	-1.7
AKASG	comp=Z,56nm,20.9s,baz=5.5,slow=39 comp=Z,0.3nm,0.3s			LR	LR	13 09 41.9	
EKA	**Eskdalemuir Ar** comp=Z,1.0nm,0.6s,baz=20,slow=6.7,SNR=5.4 comp=Z,1.0nm,0.6s	68.45	352	P	P	12 36 43.1	-0.2
KBZ	**Khabaz** comp=Z,2.3nm,0.8s,baz=331,slow=7.4,SNR=4.3 comp=Z,2.3nm,0.8s	69.03	319	P	P	12 36 47.4	+0.4
CLL	**Collm**	70.36	341	*i* P	P	12 37 03.5	+8.3
GNI	**Garni** comp=Z,83nm,19.1s,baz=18,slow=40	71.39	315	LR	LR	13 12 46.6	
VRAC	**Vranov** comp=Z,34nm,20.4s,baz=18,slow=39	71.59	339	LR	LR	13 11 57.6	
TKL	**Tuckaleechee C** comp=Z,97nm,19.0s,baz=350,slow=37	71.82	53	LR	LR	13 09 53.2	
GERES	**GERESS Array B** comp=Z,0.4nm,0.5s,baz=39,slow=8.6,SNR=4.2 comp=Z,0.4nm,0.5s	72.60	340	P	P	12 37 09.2	+0.3
BRTR	**Keskin Array B** comp=Z,0.8nm,0.6s,baz=106,slow=6.0,SNR=2.8 comp=Z,0.8nm,0.6s	75.83	323	P	P	12 37 28.1	+0.2
WRA	**Warramunga Arr** comp=Z,1.1nm,1.0s,baz=19,slow=5.5,SNR=4.0 comp=Z,1.1nm,1.0s	79.95	209	P	P	12 37 49.6	-1.0
ASF	**Jabal al Asfar**	81.42	317	LR	LR	13 19 02.3	
IDI	**Anoyia** comp=Z,43nm,18.7s,baz=134,slow=39	82.67	328	LR	LR	13 17 56.8	
ASAR	**Alice Springs** comp=Z,104nm,21.5s,baz=312,slow=38	83.61	208	P	P	12 38 09.7	-0.2
ESDC	**Sonseca Array** comp=Z,0.6nm,0.8s,baz=14,slow=5.6,SNR=6.6 comp=Z,0.6nm,0.8s	84.07	351	P	P	12 38 11.9	-0.4
QSPA	**South Pole Qui** comp=Z,0.6nm,0.7s,baz=5.1,slow=6.0,SNR=5.8 comp=Z,0.6nm,0.7s	145.88	180	PKPbc	PKPdf	12 45 18.3	-0.8
QSPA	**South Pole Qui** comp=Z,1.5nm,0.9s,baz=343,slow=2.1,SNR=4.0	145.88	180	PKPbc	PKPdf	12 45 18.3	-0.8

NEIC ***15*** *12:25:44.4±1.2,36.118N±0.009×117.90W±0.02, h3km±5km, Error ellipse: s-maj=1.8km s-min=1.3km az=82.0*

PAS 15 12:25:45.0±1.0, 36.106N±0.004×117.91W±0.02, h2km±6km, ML3.0/24, ML2.8/86(NEIC), Error ellipse: s-maj=1.9km s-min=0.4km az=81.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	0.05	76		Pg	12 25 46.4	+0.4
WRVM	**Rose V. Centra**	0.10	169		Pg	12 25 47.2	+0.3
JRC2	**Joshua Ridge**	0.15	146		Pg	12 25 48.0	+0.1
WVPM	**Volcano Peak E**	0.17	154		Pg	12 25 48.5	+0.1
WNMM	**Nine Mile Cany**	0.26	179		Pg	12 25 50.0	0.0
WNMM					Sg	12 25 54.0	+0.6
TOW	**Tower One**	0.32	158		Sg	12 25 57.1	+1.8
MPMC	**Manual Prospec**	0.35	98	Pg	Pg	12 25 51.6	-0.1
MPMC	comp=N,833nm,0.3s			IAML		12 25 57.0	
CWC	**Cottonwood Cre**	0.36	338		Pg	12 25 51.9	0.0
CWC					Sg	12 25 56.8	+0.1
CWC				IAML		12 25 57.2	
CWC	comp=E,1μm,0.2s			IAML		12 26 01.2	
SRTC	comp=N,805nm,0.2s **Snort**	0.43	162		Pg	12 25 53.8	+0.5
SRTC					Sb	12 26 00.7	-1.7
CGO	**Cerro Gordo**	0.45	11		Pg	12 25 53.6	-0.1
ISA	**Isabella, Lake**	0.64	226		Pg	12 25 57.1	0.0
ISA				IAML		12 26 06.4	
ISA	comp=E,527nm,0.3s			IAML		12 26 07.8	
LRMC	comp=N,478nm,0.2s **Laurel Mtn Rad**	0.65	163	IAML		12 26 06.4	
LRMC	comp=E,506nm,0.4s			IAML		12 26 07.2	
SPG2	comp=N,635nm,0.3s **Springville 2**	0.70	278		Pg	12 25 58.1	-0.3
CCCA	**Chr Cany lake**	0.73	142		Pg	12 25 59.2	+0.2
CCCA				IAML		12 26 13.6	
QSM	comp=E,533nm,0.7s **Queen of Sheba**	0.86	99		Pg	12 26 01.2	-0.3
VES	**Vestal, Richgr**	0.99	255		Pg	12 26 03.7	-0.1
GRAC	**Grapevine Rang**	0.99	26		Pg	12 26 03.5	-0.5
GRAC				IAML		12 26 20.9	
GRAC	comp=N,177nm,0.4s			IAML		12 26 21.8	
GWY	comp=E,239nm,0.4s **Greenwater Val**	1.01	85		Pg	12 26 04.0	-0.4
GSC	**Goldstone, Bar**	1.21	131		Pg	12 26 07.5	-0.6
GSC				IAML		12 26 29.2	
VOG	comp=E,127nm,0.5s **Valley Oaks Go**	1.21	281		Pg	12 26 07.6	-0.5
WCT	**Wildcat Mounta**	1.24	56		Pg	12 26 08.0	-0.8
TPO	**Tropico Hills**	1.25	192		Pg	12 26 08.2	-0.7
TPO				IAML		12 26 26.4	
TPO	comp=E,106nm,0.3s			IAML		12 26 26.8	
DSP	comp=N,121nm,0.2s **Deep Springs**	1.26	358		Pg	12 26 08.3	-0.8
GMN	**Gold Mountain**	1.30	24		Pg	12 26 09.2	-0.7
GMN				IAML		12 26 29.4	
TPNV	comp=N,93nm,0.4s **Topopah Spring**	1.58	57		Pn	12 26 13.5	-0.7
TPNV				IAML		12 26 37.8	
TPNV	comp=N,86nm,0.6s			IAML		12 26 42.0	
OSI	comp=N,94nm,0.8s **Osito Audit: C**	1.63	204		Pn	12 26 14.6	-0.1
OSI				IAML		12 26 42.3	
OSI	comp=E,148nm,0.7s			IAML		12 26 44.9	
MZP	comp=N,103nm,0.6s **Montezuma Peak**	1.65	15		Pn	12 26 14.9	-0.3
BENR	**Benton**	1.69	342		Pn	12 26 16.4	+0.6
SMMC	**Simmler**	1.87	246		Pn	12 26 18.6	+0.6
MTPC	**Mountain Pass**	2.02	107		Pn	12 26 19.2	-0.9
MTPC				IAML		12 26 51.1	
MTPC	comp=N,45nm,0.5s			IAML		12 26 51.1	
TPH	comp=E,49nm,0.5s **Tonopah**	2.04	15		Pn	12 26 20.3	-0.2
TSCN	**Private Proper**	2.06	255		Pn	12 26 20.9	+0.3
PSMM	**Smith Mountain**	2.17	270		Pn	12 26 23.6	+1.4
LHV	**Little Huntoon**	2.19	348		Pn	12 26 22.4	0.0
LHV				IAML		12 27 00.8	
SHPR	comp=E,36nm,0.6s **Sheep Range**	2.26	79		Pn	12 26 23.3	-0.2
S11A	**Rachel**	2.32	48	Pn	Pn	12 26 23.7	-0.6
S11A				IAML		12 27 03.9	
S11A	comp=N,69nm,0.7s			IAML		12 27 03.9	
NVAR	comp=E,71nm,0.9s **Mina Array Bea**	2.34	352	Pn	Pn	12 26 25.1	+0.4
MYLM	**Yosemite Lake**	2.38	303		Pb	12 26 27.8	-0.8
ELS	**Elsinore Mount**	2.48	171		Pn	12 26 26.2	-0.3
V12A	**Nelson**	2.51	98	Pn	Pn	12 26 26.7	-0.3
V12A				IAML		12 27 06.4	
V12A	comp=N,28nm,0.5s			IAML		12 27 07.7	
BBGB	comp=E,27nm,0.5s **Big Mountain B**	2.57	282		Pn	12 26 28.3	+0.6
PRN	**Pahroc Range**	2.64	60		Pn	12 26 28.6	-0.2
PRN				IAML		12 27 18.2	
PRN	comp=E,55nm,0.8s			IAML		12 27 18.2	
WAKR	comp=N,56nm,0.8s **Walker**	2.69	334		Pn	12 26 29.2	-0.2
WAKR				IAML		12 27 13.7	
PMD	comp=N,22nm,0.5s **Palm Desert**	2.76	152	Pn	Pn	12 26 30.2	-0.1
PFO	**Pinyon Flats O**	2.76	154		Pn	12 26 30.2	-0.1
SAO	**San Andreas Ge**	2.92	284		Pn	12 26 32.4	-0.2
CCUT	**Cedar City**	3.92	67	Pn	Pn	12 26 45.3	-1.2
SPR3	**Spring Creek 3**	4.05	44	Pn	Pn	12 26 47.5	-0.9

SNET ***15*** *13:14:40.8±2.1, 13.27N×89.45W, h66km, ML3.2 CATAC* ***15*** *13:14:40.4±0.5, 13.3°N×8.9°W±°, h34km±3km, M3.4/23, MLv3.4/23, Error ellipse: s-maj=6.8km s-min=3.4km az=22.7, confirmed*

ISC 15 13:14:39.9±2.1, 13.1N±0.1×89.47W±0.06, h58km±14km, n77, σ0.47/89, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	0.43	20	P	Pn	13 14 51.7	+0.7
LALI	**Alcalda de L**	0.43	20	S	Sn	13 14 58.6	-0.4
JAYA	**Jayaque - finc**	0.57	2	*e*P	Pn	13 14 52.4	-0.3
JAYA				*e*S	Sn	13 15 01.2	-0.8
JAYA	**Jayaque - finc**	0.57	2	P	Pn	13 14 52.4	-0.3
PANCS	**Alcalda de**	0.60	28	P	Pn	13 14 52.8	-0.1
PANCS	**Alcalda de**	0.60	28	S	Sn	13 15 02.2	-0.2
LOMA	**Loma Larga**	0.63	27	*e*P	Pn	13 14 53.2	-0.2
LOMA				*e*S	Sn	13 15 03.5	+0.3
LOMA	**Loma Larga**	0.63	27	P	Pn	13 14 53.4	0.0
PMON	**Piamonte**	0.65	14	*e*P	Pn	13 14 53.1	-0.4
PMON				*e*S	Sn	13 15 03.7	+0.3
PMON	**Piamonte**	0.65	14	P	Pn	13 14 53.5	-0.1
PMON	**Piamonte**	0.65	14	S	Sn	13 15 04.0	+0.6
SEMO	**Seminario San**	0.67	21	S	Sn	13 15 03.6	-0.1
SEMO	**Seminario San**	0.67	21	P	Pn	13 14 53.6	-0.1
LFRS	**El Faro**	0.67	36	*e*P	Pn	13 14 53.6	-0.2
LFRS				*e*S	Sn	13 15 03.5	-0.4
UTEC	**Universidad Te**	0.67	23	P	Pn	13 14 53.9	+0.1
UTEC	**Universidad Te**	0.67	23	S	Sn	13 15 04.2	+0.3
UEES	**Universidad Ev**	0.67	20	S	Sn	13 15 04.4	+0.5
UEES	**Universidad Ev**	0.67	20	P	Pn	13 14 53.8	-0.1
BOQS	**Boqueron**	0.68	16	*e*P	Pn	13 14 53.9	-0.1

BOQS				*eS*	**Sn**	**13 15 04.6**	**+0.3**
UESS	**Universidad de**	**0.69**	**22**	*eP*	**Pn**	**13 14 53.5**	**-0.5**
PIC2	**El Picacho**	**0.69**	**17**	*eP*	**Pn**	**13 14 54.1**	**-0.1**
UDBS	**Universidad Do**	**0.70**	**26**	*eP*	**Pn**	**13 14 54.0**	**-0.2**
UDBS	**Universidad Do**	**0.70**	**26**	P	**Pn**	**13 14 54.4**	**+0.2**
UDBS	**Universidad Do**	**0.70**	**26**	S	**Sn**	**13 15 05.1**	**+0.5**
CEDA	**San Andres**	**0.72**	**6**	S	**Sn**	**13 15 05.5**	**+0.5**
CEDA	**San Andres**	**0.72**	**6**	P	**Pn**	**13 14 54.5**	**+0.1**
LFU	**La Fuente**	**0.75**	**28**	*eP*	**Pn**	**13 14 55.0**	**+0.3**
LFU				*eS*	**Sn**	**13 15 06.2**	**+0.6**
CEVE	**Cerro Verde**	**0.76**	**349**	*eP*	**Pn**	**13 14 54.9**	**-0.1**
CEVE	**Cerro Verde**	**0.76**	**349**	P	**Pn**	**13 14 55.2**	**+0.1**
CEVE	**Cerro Verde**	**0.76**	**349**	S	**Sn**	**13 15 06.5**	**+0.4**
SBLS	**San Blas**	**0.77**	**349**	*eP*	**Pn**	**13 14 55.1**	**-0.1**
LBRS	**Las Brisas**	**0.78**	**32**	*eP*	**Pn**	**13 14 55.2**	**+0.1**
LBRS				*eS*	**Sn**	**13 15 06.5**	**+0.3**
COEG	**Centro de Oper**	**0.79**	**47**	*eP*	**Pn**	**13 14 55.0**	**-0.2**
COEG	**Centro de Oper**	**0.79**	**47**	P	**Pn**	**13 14 55.0**	**-0.2**
COEG	**Centro de Oper**	**0.79**	**47**	S	**Sn**	**13 15 06.2**	**-0.2**
SNJE	**San Jose**	**0.80**	**351**	*eP*	**Pn**	**13 14 55.2**	**-0.3**
TECO	**Alcaldia de Te**	**0.81**	**56**	*eP*	**Pn**	**13 14 55.1**	**-0.4**
TECO	**Alcaldia de Te**	**0.81**	**56**	P	**Pn**	**13 14 55.4**	**-0.1**
TECO	**Alcaldia de Te**	**0.81**	**56**	S	**Sn**	**13 15 06.7**	**-0.2**
PAVA	**Las Pavas**	**0.82**	**39**	*eP*	**Pn**	**13 14 55.2**	**-0.5**
PAVA				*eS*	**Sn**	**13 15 07.0**	**-0.1**
PAVA	**Las Pavas**	**0.82**	**39**	P	**Pn**	**13 14 55.8**	**+0.1**
RTR	**El Retiro**	**0.83**	**348**	*eP*	**Pn**	**13 14 55.9**	**0.0**
UESV	**Universidad de**	**0.87**	**50**	*eP*	**Pn**	**13 14 55.8**	**-0.4**
UESV	**Universidad de**	**0.87**	**50**	S	**Sn**	**13 15 07.9**	**-0.3**
UESV	**Universidad de**	**0.87**	**50**	P	**Pn**	**13 14 56.1**	**-0.1**
NUBE	**Las Nubes**	**0.87**	**340**	*eP*	**Pn**	**13 14 56.2**	**-0.2**
NUBE	**Las Nubes**	**0.87**	**340**	S	**Sn**	**13 15 08.3**	**-0.1**
NUBE	**Las Nubes**	**0.87**	**340**	P	**Pn**	**13 14 56.1**	**-0.2**
UNIC	**Universidad Ca**	**0.90**	**355**	P	**Pn**	**13 14 57.4**	**-0.1**
UNIC	**Universidad Ca**	**0.90**	**355**	S	**Sn**	**13 15 10.4**	**0.0**
UNIC	**Universidad Ca**	**0.90**	**355**	S	**Sn**	**13 15 08.9**	**-0.1**
ALJI	**Alcalda de J**	**0.91**	**74**	S	**Sn**	**13 15 09.6**	**+0.5**
ALJI	**Alcalda de J**	**0.91**	**74**	P	**Pn**	**13 14 56.9**	**+0.2**
FAME	**Alcaldia de Sa**	**0.93**	**325**	P	**Pn**	**13 14 56.9**	**0.0**
SCLA	**Alcaldia de Sa**	**0.95**	**49**	*eP*	**Pn**	**13 14 57.1**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.95**	**49**	S	**Sn**	**13 15 10.2**	**0.0**
SCLA	**Alcaldia de Sa**	**0.95**	**49**	P	**Pn**	**13 14 57.2**	**-0.1**
LOAL	**Lomas de Alarc**	**0.96**	**342**	P	**Pn**	**13 14 57.4**	**-0.1**
LOAL	**Lomas de Alarc**	**0.96**	**342**	S	**Sn**	**13 15 10.4**	**0.0**
SLOZ	**Alcaldia de Sa**	**0.99**	**342**	*eP*	**Pn**	**13 14 57.7**	**-0.1**
SLOZ				*eS*	**Sn**	**13 15 11.2**	**+0.2**
SLOZ	**Alcaldia de Sa**	**0.99**	**342**	P	**Pn**	**13 14 57.9**	**0.0**
TECA	**Tecapa**	**1.03**	**66**	*eP*	**Pn**	**13 14 58.3**	**-0.2**
TECA				*eP*		13 14 58.4	
TECA				*eS*	**Sn**	**13 15 12.4**	**+0.3**
PQSS	**Presa 15 de Se**	**1.04**	**58**	*eP*	**Pn**	**13 14 57.9**	**-0.5**
PQSS				*eS*	**Sn**	**13 15 11.5**	**-0.6**
PQSS	**Presa 15 de Se**	**1.04**	**58**	P	**Pn**	**13 14 58.1**	**-0.3**
PQSS	**Presa 15 de Se**	**1.04**	**58**	S	**Sn**	**13 15 12.0**	**-0.1**
LCY	**Lacayo**	**1.20**	**73**	*eP*	**Pn**	**13 15 00.6**	**0.0**
LCY				*eS*	**Sn**	**13 15 16.6**	**+0.6**
MTO3	**Montecristo**	**1.32**	**5**	*eP*	**Pn**	**13 15 02.2**	**-0.1**
MTO3	**Montecristo**	**1.32**	**5**	S	**Sn**	**13 15 18.9**	**-0.2**
MTO3	**Montecristo**	**1.32**	**5**	P	**Pn**	**13 15 02.3**	**-0.1**
CNRM	**Centro Naciona**	**1.33**	**73**	P	**Pn**	**13 15 02.4**	**+0.2**
CNRM	**Centro Naciona**	**1.33**	**73**	S	**Sn**	**13 15 19.3**	**+0.4**
CAHU	**Cacacuatique**	**1.41**	**61**	*eP*	**Pn**	**13 15 03.2**	**-0.3**
ESQI	**Esquipulas**	**1.48**	**5**	*eP*	**Pn**	**13 15 04.7**	**+0.3**
LCND	**La Caada**	**1.56**	**81**	P	**Pn**	**13 15 05.9**	**+0.5**
LCND	**La Caada**	**1.56**	**81**	S	**Sn**	**13 15 25.1**	**+0.6**
CNCH	**Conchagua**	**1.61**	**83**	*eP*	**Pn**	**13 15 03.1**	**-3.0**
CNCH				*eP*		13 15 06.2	
CNCH	**Conchagua**	**1.61**	**83**	P	**Pn**	**13 15 07.0**	**+0.9**
CNCH	**Conchagua**	**1.61**	**83**	S	**Sn**	**13 15 26.7**	**+0.8**

*JMA **15** 13:18:41.9±0.3,26°N±2°×12°5E±°, h192km, MV3.0/25, NW OFF MIYAKOJIMA ISLAND*
ISC 15 13:18:39.2±1.9,26°2N±0°2×125°2E±0°1, h215km±23km, n24, σ1°59/35, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIRB	**Irabujima**	**1.40**	**180**		S	**Sn**	**13 19 39.1**	**-1.1**
JKE	**Kume jima 2**	**1.46**	**86**		P	**Pn**	**13 19 15.4**	**+1.6**
JKE					eS	**Sn**	**13 19 39.6**	**-1.3**
JMJ2	**Miyako jima3**	**1.50**	**174**		eS	**Sn**	**13 19 41.4**	**-0.1**
JTJ	**Tarama**	**1.64**	**195**		P	**Pn**	**13 19 17.3**	**+1.8**
JTJ					S	**Sn**	**13 19 42.5**	**-1.3**
JISG	**Ishigakijimahi**	**1.81**	**205**		P	**Pn**	**13 19 18.3**	**+1.2**
JISG					S	**Sn**	**13 19 44.9**	**-1.7**
JAGN	**Aguni-jima**	**1.90**	**79**		P	**Pn**	**13 19 19.2**	**+1.4**
JAGN					S	**Sn**	**13 19 46.7**	**-1.2**
JIJ	**Ishigaki jima**	**2.08**	**207**		P	**Pn**	**13 19 20.6**	**+0.9**
JIJ					S	**Sn**	**13 19 48.7**	**-2.6**
JKRS	**Kuro-shima**	**2.25**	**208**		P	**Pn**	**13 19 22.6**	**+1.2**
JKRS					S	**Sn**	**13 19 52.6**	**-1.8**
IRIF	**Iriomote-Funau**	**2.29**	**215**		P	**Pn**	**13 19 22.6**	**+0.8**
IRIF					S	**Sn**	**13 19 54.4**	**-0.8**
JJT3	**Tamagusuku3**	**2.36**	**92**		eS	**Sn**	**13 19 56.6**	**+0.3**
HATJ	**Hateruma jima**	**2.49**	**210**		eS	**Sn**	**13 19 57.9**	**-1.2**
JNTH	**Nagotoyohara**	**2.58**	**83**		P	**Pn**	**13 19 26.9**	**+2.0**
JNTH					eS	**Sn**	**13 20 00.0**	**-1.6**
YOJ	**Yonaguni jima**	**2.63**	**228**		P	**Pn**	**13 19 26.8**	**+1.3**
JIH	**Iheya**	**2.63**	**72**		eP	**Pn**	**13 19 27.1**	**+1.6**
JIH					eS	**Sn**	**13 19 59.8**	**-1.9**
JOW	**Kunigami**	**2.85**	**77**		P	**Pn**	**13 19 29.6**	**+1.7**
JOW					eS	**Sn**	**13 20 04.3**	**-1.8**
JYRO	**Yoronjima**	**3.05**	**74**		P	**Pn**	**13 19 31.8**	**+1.7**
JOKE	**Okinoerabujima**	**3.25**	**69**		P	**Pn**	**13 19 33.7**	**+1.2**
JTK	**Tokunoshima**	**3.71**	**65**		P	**Pn**	**13 19 39.0**	**+0.9**
YHNB	**Yeheng**	**3.76**	**246**		P	**Pn**	**13 19 41.7**	**+2.9**
NACB	**Ninganchiao**	**3.83**	**238**		P	**Pn**	**13 19 40.2**	**+0.7**
JAMN	**Amaminishikomi**	**4.09**	**60**		P	**Pn**	**13 19 43.2**	**+0.6**
JAMN					eS	**Sn**	**13 20 29.8**	**-2.9**
YULB	**Yu-li**	**4.51**	**232**		P	**Pn**	**13 19 47.8**	**-0.1**
SSLB	**Suanglung**	**4.53**	**238**		P	**Pn**	**13 19 49.4**	**+1.2**
TPUB	**Ta-pu**	**5.05**	**236**		P	**Pn**	**13 19 55.4**	**+0.7**

*JMA **15** 13:25:46.3±0.4, 44°N±1°×14°8E±°, h0km, MV3.5/25, SE OFF ETOROFU*
*SKHL **15** 13:25:47.5±0.1, 44°.20N×148°.40E, h64km±5km, mb4.4/3*
ISC 15 13:25:45.2±3.2, 44°1N±0°1×148°5E±0°2, h26km±20km, n17, σ1°25/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR	**Kuril'sk**	**1.20**	**338**	*eP*		**Pb**	**13 26 06.6**	**-0.7**
KUR					AMB	AMB	13 26 09.3	
	70nm,0.3s							
KUR				*i* S		**Sn**	**13 26 21.0**	**-0.7**
KUR				A		A	13 26 27.1	
	250nm,0.4s							
KUR				A		A	13 26 27.1	
	170nm,0.4s							
SHO	**Shikotan**	**1.23**	**259**	*eP*		**Pb**	**13 26 07.7**	**0.0**
SHO				*i* S		**Sn**	**13 26 22.3**	**-0.1**
SHO				A		A	13 26 23.6	
	380nm,0.2s							
SHO				A		A	13 26 23.6	
	340nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.90**	**268**	*i* P		**Pn**	**13 26 15.8**	**-0.1**
YUK					AMB	AMB	13 26 19.9	
	80nm,0.2s							
YUK				*i* S		**Sn**	**13 26 37.0**	**-1.9**
YUK				A		A	13 26 42.0	
	250nm,0.3s							
YUK				A		A	13 26 42.0	
	230nm,0.3s							
NEM2	**Nemuro 2**	**2.13**	**250**	P		**Pn**	**13 26 18.8**	**-0.3**
NEM2				*eS*		**Sn**	**13 26 42.2**	**-2.4**
NMR	**Nemuro--Hokkai**	**2.14**	**250**	*eP*		**Pn**	**13 26 18.9**	**-0.3**
NMR				*i* S		**Sn**	**13 26 44.0**	**-0.9**
GLVR	**Golovnino**	**2.18**	**261**	*eP*		**Pn**	**13 26 20.7**	**+0.9**
GLVR					AMB	AMB	13 26 21.4	
	50nm,0.2s							
GLVR				*i* S		**Sn**	**13 26 45.5**	**-0.4**
GLVR				A		A	13 26 53.1	
	190nm,0.2s							
GLVR				A		A	13 26 53.1	
	290nm,0.2s							
JRA	**Rausu**	**2.44**	**267**	*eP*		**Pn**	**13 26 24.8**	**+1.4**
JNSB	**Nemuroshibetsu**	**2.54**	**263**	P		**Pn**	**13 26 25.4**	**+0.7**
JKHN	**Kushirohamanak**	**2.64**	**248**	*eP*		**Pn**	**13 26 26.5**	**+0.5**
JNK	**Nakash**	**2.78**	**260**	*eP*		**Pn**	**13 26 28.6**	**+0.6**
AKK	**Akkeshi**	**2.88**	**249**	*eP*		**Pn**	**13 26 29.8**	**+0.5**
JAK	**Akkeshi**	**2.98**	**249**	P		**Pn**	**13 26 31.0**	**+0.3**
JTKR	**Abashiri--Toko**	**3.31**	**269**	*eP*		**Pn**	**13 26 37.9**	**+2.7**
JAR	**Ashorobuto**	**3.52**	**258**	*eP*		**Pn**	**13 26 39.8**	**+1.5**
JAR				*eS*		**Sn**	**13 27 19.5**	**+0.4**
JOB	**Onbets**	**3.60**	**252**	*eP*		**Pn**	**13 26 40.5**	**+1.2**
JCH	**Churui**	**4.03**	**250**	*eP*		**Pn**	**13 26 46.9**	**+1.7**
JNBK	**Urakawa-nobuka**	**4.58**	**248**	*eP*		**Pn**	**13 26 54.0**	**+1.2**

IDC 15 13:27:01.0±1.8, 0°92S×127°66E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=156.3km s-min=23.0km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**20.01**	**161**	P		P	13 31 33.9	-1.6
	0.5nm,0.6s,baz=340,slow=12,SNR=5.3							
	0.5nm,0.6s							
ASAR	**Alice Springs**	**23.41**	**165**	P		P	13 32 12.8	+0.9
	1.1nm,0.7s,baz=345,slow=12,SNR=17							
	1.1nm,0.7s							
MKAR	**Makanchi Array**	**61.90**	**326**	P		P	13 37 21.4	-1.1
	0.4nm,0.4s,baz=116,slow=7.2,SNR=6.5							
	0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**66.14**	**328**	P		P	13 37 51.6	+1.4
	0.9nm,0.3s,baz=134,slow=6.6,SNR=2.1							
	0.9nm,0.3s							

IDC 15 13:30:09.8±2.8, 1°06S×126°33E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=399.0km s-min=22.7km az=66.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**20.34**	**158**	P		P	13 34 46.8	-1.0
	1.1nm,1.0s,baz=334,slow=12,SNR=6.2							
	1.1nm,1.0s							
ASAR	**Alice Springs**	**23.64**	**162**	P		P	13 35 23.6	+0.6
	1.5nm,0.6s,baz=341,slow=11,SNR=22							
	1.5nm,0.6s							
MKAR	**Makanchi Array**	**61.28**	**327**	P		P	13 40 26.9	-0.2
	0.5nm,0.6s,baz=119,slow=7.5,SNR=6.3							
	0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**65.57**	**329**	P		P	13 40 55.4	+0.1
	0.3nm,0.2s,baz=131,slow=5.8,SNR=2.0							
	0.3nm,0.2s							

*SJA **15** 13:33:02.4±0.8, 25°82S×70°45W, h72km±4km, ML3.2, MW3.5*
*GUC **15** 13:33:04.3±0.8, 25°.81S×70°.41W, h59km±6km, ML3.1*
ISC 15 13:33:05.4±1.3, 25°80S±0°03×70°49W±0°07, h46km±14km, n22, σ1°81/33, 1C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AC01	**Pan de Azucar**	**0.36**	**196**	⇓*iP*		**Pn**	**13 33 14.6**	**-0.2**
AC01				*eS*		**Sn**	**13 33 22.1**	**+0.6**
AC01				IAML			13 33 23.5	
	comp=N,1μm,0.1s							
AC01	**Pan de Azucar**	**0.36**	**196**	*eP*		**Pn**	**13 33 14.4**	**-0.4**
AC01				IAML			13 33 24.1	
	comp=Z,559nm,0.2s							
GO02	**Mina Guanaco**	**1.03**	**52**	⇑*iP*		**Pn**	**13 33 22.7**	**-1.1**
GO02				*eS*		**Sn**	**13 33 36.7**	**-0.7**
GO02				IAML			13 33 38.1	
	comp=N,763nm,0.2s							
GO02	**Mina Guanaco**	**1.03**	**52**	*eP*		**Pn**	**13 33 22.8**	**-1.1**
GO02				*eS*		**Sn**	**13 33 37.5**	**+0.2**
PB14	**IPOC Station P**	**1.18**	**4**	*eP*		**Pn**	**13 33 25.2**	**-0.6**
PB14				*eS*		**Sn**	**13 33 41.4**	**+0.6**
PB14	**IPOC Station P**	**1.18**	**4**	*eP*		**Pn**	**13 33 25.2**	**-0.6**
PB14				*eS*		**Sn**	**13 33 41.8**	**+1.1**
PB14				IAML			13 33 43.9	
	comp=Z,306nm,0.3s							
AC06	**Mina Casimiro**	**1.55**	**176**	*eP*		**Pn**	**13 33 29.4**	**-1.2**
AC06				*eS*		**Sn**	**13 33 49.3**	**-0.3**
AC06				IAML			13 33 52.0	
	comp=E,442nm,0.2s							
AC02	**Maricunga**	**1.60**	**130**	⇓*iP*		**Pn**	**13 33 30.6**	**-1.1**
AC02				*eS*		**Sn**	**13 33 49.8**	**-1.5**
AC02				IAML			13 33 50.6	
	comp=N,886nm,0.5s							
AC02	**Maricunga**	**1.60**	**130**	*eP*		**Pn**	**13 33 30.6**	**-1.1**
AC02				*eS*		**Sn**	**13 33 50.1**	**-1.3**
AC02				IAML			13 33 50.9	
	comp=Z,647nm,0.1s							
GO03	**Copiapo**	**1.80**	**173**	*eP*		**Pn**	**13 33 33.8**	**-0.2**
GO03				IAML			13 33 58.6	
	comp=N,266nm,0.1s							
GO03	**Copiapo**	**1.80**	**173**	*eP*		**Pn**	**13 33 33.0**	**-1.1**
GO03				*eS*		**Sn**	**13 33 55.2**	**-0.4**
PB10	**IPOC Station P**	**2.28**	**359**	*eP*		**Pn**	**13 33 39.2**	**-1.4**
PB10				*eS*		Sn	13 33 56.2	-11
PB10				IAML			13 34 18.5	
	comp=Z,54nm,0.5s							
AC04	**Llanos de Chal**	**2.45**	**192**	*eP*		**Pn**	**13 33 40.0**	**-2.9**
PB05	**IPOC Station P**	**2.95**	**5**	*eP*		**Pn**	**13 33 47.7**	**-2.2**
PB05	**IPOC Station P**	**2.95**	**5**	*eP*		**Pn**	**13 33 48.2**	**-1.7**
PB05				*eS*		Sn	13 34 36.8	+13
PB05				IAML			13 34 39.2	
	comp=Z,40nm,0.6s							
PB06	**IPOC Station P**	**3.20**	**15**	*eP*		**Pn**	**13 33 52.2**	**-1.1**
PB06				*eS*		Sn	13 34 40.0	+10
PB06				IAML			13 34 51.4	
	comp=Z,46nm,0.2s							
VCA	**Vinchina**	**3.56**	**146**	*eP*		**Pn**	**13 33 59.4**	**+1.1**
VCA				*eS*		Sn	13 34 53.1	+14
VCA				IAML			13 34 53.4	
	comp=Z,29nm,1.5s							
PB03	**IPOC Station P**	**3.80**	**10**	*eP*		**Pn**	**13 34 01.0**	**-0.6**
PB03				*eS*		Sn	13 34 55.1	+10
PB03				IAML			13 35 09.5	
	comp=Z,31nm,1.4s							
AGUA	**GUANDACOL**	**4.08**	**155**	*eP*		**Pn**	**13 34 07.2**	**+1.9**
AGUA				*eS*		**Sn**	**13 34 56.0**	**+4.2**
AGUA				IAML			13 34 58.7	
	comp=Z,35nm,3.8s							
PB09	**IPOC Station P**	**4.15**	**16**	*eP*		**Pn**	**13 34 05.7**	**-0.8**
PB09				*eS*		Sn	13 35 08.6	+15
PB09				IAML			13 35 15.1	
	comp=Z,45nm,0.5s							
PB02	**IPOC Station P**	**4.50**	**7**	*eP*		**Pn**	**13 34 10.2**	**-0.9**
PB02				IAML			13 35 23.7	
	comp=Z,38nm,0.8s							
PB01	**IPOC Station P**	**4.83**	**11**	*eP*		**Pn**	**13 34 13.2**	**-2.4**
PB01				*eS*		**Sn**	**13 35 16.0**	**+5.6**
PB01				IAML			13 35 24.4	
	comp=Z,18nm,2.0s							

*IDC **15** 13:45:04.8±1.1, 6°07S×149°93E, h0km, mb3.9/10, mbtmp3.9/10, Error ellipse: s-maj=42.2km s-min=18.7km az=112.0*
*NEIC **15** 13:45:13.5±2.2, 5°94S±0°09×149°6E±0°2, h60km±5km, mb4.3/12, Error ellipse: s-maj=24.4km s-min=9.0km az=113.0*
ISC 15 13:45:12.7±0.7, 6°0S±0°1×149°6E±0°1, h50km, n27, σ1°09/27, mb3.9/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RABL	**Rabaul**	**3.15**	**55**	Pn		**Pn**	**13 46 01.4**	**+1.6**
COEN	**Coen**	**10.10**	**218**	Pn		**Pn**	**13 47 36.4**	**+1.2**
PATS	**Pohnpei**	**15.45**	**35**	Pn		**Pn**	**13 48 46.5**	**-1.0**
FAKI	**Fak Fak**	**17.53**	**279**	P		**Pn**	**13 49 13.0**	**-0.7**
MTN	**Manton Dam**	**19.41**	**248**	P		**Pn**	**13 49 36.2**	**-0.1**
MTN				IAmb		IAmb	13 49 45.1	
	comp=Z,32nm,1.2s							
WB0	**Warramunga Arr**	**20.12**	**226**	P		**P**	**13 49 43.5**	**+0.9**
WB0				IAmb		IAmb	13 50 04.0	
	comp=Z,20nm,1.4s							
WR8	**Warramunga Arr**	**20.17**	**225**	P		**P**	**13 49 43.8**	**+0.6**
WR8				IAmb		IAmb	13 49 44.8	
	comp=Z,7.5nm,0.8s							
WRA	**Warramunga Arr**	**20.27**	**225**	P		**P**	**13 49 43.1**	**-1.2**
WRA	**Warramunga Arr**	**20.27**	**225**	P		**P**	**13 49 45.4**	**+1.1**
	comp=Z,6.5nm,0.7s,baz=50,slow=10,SNR=44							
	comp=Z,6.5nm,0.7s							
KNRA	**Kununurra**	**22.56**	**243**	P		**P**	**13 50 09.2**	**+0.4**
AS31	**Alice Springs**	**23.14**	**219**	P		**P**	**13 50 13.4**	**-1.4**
ASAR	**Alice Springs**	**23.14**	**219**	P		**P**	**13 50 13.2**	**-1.6**
ASAR	**Alice Springs**	**23.14**	**219**	P		**P**	**13 50 15.1**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=54,slow=8.8,SNR=23							
	comp=Z,1.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**26.26**	**241**	P		**P**	**13 50 43.5**	**0.0**
	comp=Z,1.2nm,0.3s,baz=67,slow=8.9,SNR=9.7							
	comp=Z,1.2nm,0.3s							
FORT	**Forrest**	**31.87**	**217**	P		**P**	**13 51 32.5**	**-0.6**
FORT				IAmb		IAmb	13 51 45.6	
	comp=Z,4.9nm,0.9s							
PETK	**Petropavlovsk-**	**59.29**	**6**	P		**P**	**13 55 08.7**	**-0.5**
PETK	**Petropavlovsk-**	**59.29**	**6**	P		**P**	**13 55 08.4**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=161,slow=6.3,SNR=13							
	comp=Z,1.1nm,0.5s							
SONM	**Songino Array**	**65.67**	**330**	P		**P**	**13 55 53.2**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=144,slow=7.3,SNR=2.6							
	comp=Z,0.5nm,0.6s							
VNDA	**Vanda**	**71.77**	**177**	P		**P**	**13 56 29.6**	**+0.2**
VNDA	**Vanda**	**71.77**	**177**	P		**P**	**13 56 28.3**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=338,slow=5.0,SNR=6.1							
	comp=Z,0.6nm,0.6s							
MKAR	**Makanchi Array**	**79.14**	**320**	P		**P**	**13 57 14.2**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=97,slow=7.7,SNR=2.3							
	comp=Z,0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**80.39**	**327**	P		**P**	**13 57 19.8**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=108,slow=9.8,SNR=3.9							
	comp=Z,1.0nm,0.6s							
IMAR	**Indian Mountai**	**82.60**	**20**	P		**P**	**13 57 29.0**	**-1.2**
QSPA	**South Pole Qui**	**83.97**	**180**	P		**P**	**13 57 37.4**	**0.0**
QSPA				IAmb		IAmb	13 57 42.9	
	comp=Z,3.5nm,1.4s							
ILAR	**Eielson Array**	**84.49**	**23**	P		**P**	**13 57 38.6**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=248,slow=5.1,SNR=6.7							
	comp=Z,0.5nm,0.6s							
J25K	**Salcha River,**	**85.01**	**23**	P		**P**	**13 57 41.6**	**-1.0**
J25K				IAmb		IAmb	13 57 47.2	
	comp=Z,4.4nm,1.4s							
BVAR	**Borovoye Array**	**88.28**	**324**	P		**P**	**13 57 57.8**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=91,slow=5.8,SNR=2.7							
	comp=Z,0.5nm,0.5s							

*NNC **15** 13:46:42.6±4.2, 38°.45N×72°.14E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=33.8km s-min=26.2km az=171.0*
*IDC **15** 13:46:45.7±7.6, 38°.37N×72°.56E, h173km±56km, mb3.1/1, mbtmp3.7/5, Error ellipse: s-maj=69.3km s-min=43.0km az=12.0*
ISC 15 13:46:45.0±2.1, 38°4N±0°2×72°35E±0°10, h150km, n14, σ2°51/18, 5C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IUG	**Iuzhnay**	**4.12**	**335**	Lg		Lg	13 48 38.1	
	120nm,0.4s							
AAK	**Ala-Archa**	**4.52**	**20**	⇓P		**Pn**	**13 47 53.0**	**+0.9**
	1.6nm,0.4s							
AAK				⇑S		**Sn**	**13 48 47.9**	**+3.4**
	16nm,0.8s							
AAK	**Ala-Archa**	**4.52**	**20**	P		**Pn**	**13 47 52.8**	**+0.7**
	7.3nm,0.3s,baz=172,slow=7.1,SNR=5.7							
AAK				S		**Sn**	**13 48 47.3**	**+2.8**
	5.7nm,0.3s,baz=318,slow=22,SNR=9.5							
KK31	**Karatay Array**	**4.88**	**344**	P		**Pn**	**13 47 56.2**	**-0.6**
	8.0nm,0.3s,baz=157,slow=12,SNR=69							
KK31				⇑S		**Sn**	**13 48 53.7**	**+0.9**
	22nm,0.3s,baz=157,slow=15							
DGS	**Degeres**	**5.47**	**27**	Lg		Lg	13 49 09.1	
	7.5nm,1.0s							
KTBS	**Karatobe**	**6.22**	**30**	P		**Pn**	**13 48 14.0**	**-0.5**
MK31	**Makanchi Array**	**11.11**	**38**	⇑P		**P**	**13 49 24.8**	**-3.1**
	1.0nm,0.7s,baz=208,slow=9.2,SNR=5.4							
MKAR	**Makanchi Array**	**11.11**	**38**	P		**Pn**	**13 49 17.8**	**-1.7**
	0.3nm,0.5s,baz=220,slow=14,SNR=4.0							
KURBB	**Kurchatov Arra**	**12.97**	**18**	P		**Pn**	**13 49 41.2**	**-2.3**
	0.1nm,0.3s,baz=205,slow=12,SNR=4.2							
AB31	**Akbulak array**	**14.03**	**325**	⇓P		**Pn**	**13 49 58.8**	**+1.7**
	1.0nm,0.3s,baz=135,slow=14

	comp=Z,0.9nm,0.8s								
PEA0B	**Petropavlovsk-**	**59.29**	**21**	P		**P**	**13 57 10.5**	**+1.6**	
PETK	**Petropavlovsk-**	**59.29**	**21**	P		**P**	**13 57 08.6**	**-0.4**	
	comp=Z,1.5nm,0.7s,baz=185,slow=4.1,SNR=5.7								
	comp=Z,1.5nm,0.7s								
MKAR	**Makanchi Array**	**61.80**	**326**			**P**	**13 57 25.5**	**-0.7**	
MKAR	**Makanchi Array**	**61.80**	**326**	P		**P**	**13 57 25.3**	**-0.9**	
	comp=Z,1.6nm,0.7s,baz=119,slow=8.6,SNR=11								
	comp=Z,1.6nm,0.7s								
YAK	**Yakutsk**	**62.69**	**1**	P		**P**	**13 57 31.9**	**+0.2**	
KURBB	**Kurchatov Arra**	**66.04**	**328**	P		**P**	**13 57 53.2**	**-0.8**	
	comp=Z,1.6nm,0.7s,baz=126,slow=6.2,SNR=12								
	comp=Z,1.6nm,0.7s								
KURK	**Kurchatov**	**66.05**	**328**	P		**P**	**13 57 53.7**	**-0.3**	
KURK				IAmb		IAmb	13 57 54.6		
	comp=E,5.1nm,1.1s								
BVAR	**Borovoye Array**	**71.61**	**328**	P		**P**	**13 58 27.5**	**-1.1**	
	comp=Z,0.3nm,0.4s,baz=119,slow=12,SNR=2.6								
	comp=Z,0.3nm,0.4s								
ABKAR	**Akbulak array**	**76.23**	**321**	P		**P**	**13 58 52.7**	**-3.1**	
VNDA	**Vanda**	**78.84**	**173**	P		**P**	**13 59 09.8**	**0.0**	
VNDA				IAmb		IAmb	13 59 10.7		
	comp=Z,3.7nm,1.4s								
VNDA	**Vanda**	**78.84**	**173**	P		**P**	**13 59 09.5**	**-0.3**	
	comp=Z,0.9nm,0.7s,baz=314,slow=6.7,SNR=3.1								
	comp=Z,0.9nm,0.7s								
N15K	**Kwethluk River**	**81.94**	**29**	P		**P**	**13 59 27.1**	**+0.3**	
N15K				IAmb		IAmb	13 59 48.6		
	comp=Z,12nm,1.4s								
H17K	**Granite Mounta**	**83.35**	**24**	P		**P**	**13 59 35.9**	**+1.9**	
H17K				IAmb		IAmb	13 59 37.8		
	comp=Z,5.5nm,1.4s								
IL31		**88.78**	**25**	P		**P**	**14 00 01.1**	**+0.3**	
IL31				IAmb		IAmb	14 00 33.4		
	comp=Z,4.7nm,1.4s								
ILAR	**Eielson Array**	**88.78**	**25**	P		**P**	**14 00 01.1**	**+0.3**	
QSPA	**South Pole Qui**	**89.13**	**180**	P		**P**	**14 00 02.7**	**+0.2**	
QSPA				IAmb		IAmb	14 00 04.3		
	comp=Z,3.7nm,1.1s								
QSPA	**South Pole Qui**	**89.13**	**180**	P		**P**	**14 00 03.5**	**+1.0**	
	comp=Z,1.7nm,0.9s,baz=302,slow=1.6,SNR=8.0								
	comp=Z,1.7nm,0.9s								

SKO ***15*** *13:50:18.6, 41˚.81N×22˚.79E, h16km, ML2.8*
ATH ***15*** *13:50:19.6, 41˚.77N×22˚.87E, h5km±1km, ML2.9/7, Manual Solution by S.Koutrakis First location: 2019/07/15 13:51:32, This location: 2019/07/15 13:56:28 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
SOF ***15*** *13:50:19.6, 41˚.83N±0˚.02×22˚.86E±0˚.02, h8km±2km, MD3.1/10*
BEO ***15*** *13:50:20.0±0.3, 41˚.81N×22˚.86E, h12km±1km, ML2.9/11*
THE ***15*** *13:50:20.1, 42˚.N×2˚×2˚.3E±˚, h2km±2km, M2.7/9, MLh2.7/9*

ISC 15 13:50:19.0±1.0, 41˚.81N±0˚.01×22˚.83E±0˚.02, h8km±8km, n80, σ0s80/140, 10C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKB	**Krupnik**	**0.23**	**81**	*i* P	**Pg**	**13 50 23.7**	**+0.1**
KKB				*i* S	**Sg**	**13 50 26.7**	**0.0**
KKB	**Krupnik**	**0.23**	**81**	P	**Pg**	**13 50 23.7**	**+0.1**
KKB				S	**Sg**	**13 50 26.6**	**-0.1**
KKB	**Krupnik**	**0.23**	**81**	*i* Pg	**Pg**	**13 50 23.6**	**+0.1**
KKB				*i* Sg	**Sg**	**13 50 26.5**	**-0.1**
VAY	**Valandovo**	**0.52**	**202**	*i* Pg	**Pg**	**13 50 29.6**	**+0.5**
VAY				*i* Sg	**Sb**	**13 50 37.3**	**-0.8**
VAY				*e*Lg	Lg	13 50 37.6	
	comp=E,750nm,0.5s						
VAY				*e*Lg	Lg	13 50 38.3	
	comp=N,509nm,0.3s						
KNT	**Kendrikon**	**0.65**	**175**	P	**Pg**	**13 50 31.5**	**0.0**
KNT				S	**Sg**	**13 50 39.8**	**-0.1**
KNT	**Kendrikon**	**0.65**	**175**	⇑*i* Pg	**Pg**	**13 50 31.5**	**0.0**
KNT				*i* Sg	**Sg**	**13 50 40.6**	**+0.7**
KNT	**Kendrikon**	**0.65**	**175**	P	**Pg**	**13 50 31.6**	**+0.2**
KNT				S	**Sg**	**13 50 39.3**	**-0.6**
BOSS	**Bosilegrad**	**0.73**	**340**	*e*Pg	**Pg**	**13 50 33.4**	**+0.2**
BOSS				*e*Sg	**Sg**	**13 50 43.5**	**+0.7**
MMB	**Musomishta**	**0.74**	**110**	*i* P	**Pg**	**13 50 33.1**	**-0.1**
MMB				*i* S	**Sg**	**13 50 42.9**	**+0.1**
MMB	**Musomishta**	**0.74**	**110**	⇑*i* Pg	**Pg**	**13 50 33.0**	**-0.1**
MMB				*i* Sg	**Sg**	**13 50 42.7**	**-0.1**
PLNA	**Plana**	**0.80**	**33**	*i* P	**Pg**	**13 50 33.9**	**-0.6**
PLNA				*i* S	**Sg**	**13 50 45.3**	**+0.4**
VTS	**Vitosha**	**0.86**	**20**	*i* P	**Pg**	**13 50 35.1**	**-0.6**
VTS				*i* S	**Sg**	**13 50 46.7**	**-0.2**
VTS	**Vitosha**	**0.86**	**20**	*e*Pg	**Pg**	**13 50 34.8**	**-0.9**
VTS				*e*Sg	**Sg**	**13 50 46.5**	**-0.4**
TRAN	**Tran**	**1.03**	**353**	*i* P	**Pn**	**13 50 39.8**	**-0.1**
TRAN				*i* S	**Sn**	**13 50 55.5**	**+0.8**
SKO	**Skopje**	**1.05**	**280**	*e*Pg	**Pg**	**13 50 36.3**	**-2.8**
SKO				*i* Sg	**Sg**	**13 50 50.9**	**-1.8**
SOH	**Sokhos**	**1.06**	**158**	P	**Pg**	**13 50 39.3**	**-0.1**
SOH				S	**Sg**	**13 50 52.9**	**-0.2**
SOH	**Sokhos**	**1.06**	**158**	*i* Pg	**Pg**	**13 50 39.1**	**-0.2**
SOH				*i* Sg	**Sg**	**13 50 53.1**	**-0.1**
SOH	**Sokhos**	**1.06**	**158**	P	**Pg**	**13 50 39.2**	**-0.1**
SOH				S	**Sg**	**13 50 52.3**	**-0.9**
THE	**Thessaloniki**	**1.18**	**175**	P	**Pb**	**13 50 41.0**	**-0.6**
THE				S	**Sb**	**13 50 56.9**	**-0.1**
THE	**Thessaloniki**	**1.18**	**175**	*i* Pg	**Pb**	**13 50 41.1**	**-0.6**
THE				*i* Sg	**Sb**	**13 50 56.6**	**-0.4**
THE	**Thessaloniki**	**1.18**	**175**	P	**Pb**	**13 50 41.1**	**-0.5**
THE				S	**Sb**	**13 50 56.4**	**-0.7**
PGB	**Panagyurishte**	**1.23**	**54**	*i* P	**Pb**	**13 50 42.0**	**-0.5**
PGB				*i* S	**Sb**	**13 50 57.8**	**-0.7**
HORT	**Hortiatis**	**1.23**	**170**	P	**Pb**	**13 50 42.1**	**-0.4**
HORT				S	**Sb**	**13 50 58.5**	**0.0**
HORT	**Hortiatis**	**1.23**	**170**	P	**Pb**	**13 50 42.1**	**-0.4**
HORT				S	**Sb**	**13 50 58.3**	**-0.2**
BARS	**Barje**	**1.26**	**324**	*i* Pg	**Pg**	**13 50 43.2**	**+0.1**
BARS				*i* Sg	**Sg**	**13 50 59.7**	**+0.2**
BARS	**Barje**	**1.26**	**324**	*e*Pg	**Pg**	**13 50 43.3**	**+0.2**
BARS				*e*Sg	**Sg**	**13 50 59.7**	**+0.2**
RZN	**Rozhen**	**1.44**	**94**	*i* S	**Sg**	**13 51 05.9**	**+0.7**
RZN				*i* P	**Pn**	**13 50 45.6**	**+0.1**
KVLA	**Kavala**	**1.46**	**126**	P	**Pb**	**13 50 46.1**	**-0.4**
KVLA				S	**Sn**	**13 51 04.7**	**-0.3**
PLD	**Plovdiv**	**1.47**	**76**	*i* P	**Pb**	**13 50 46.7**	**+0.1**
PLD				*i* S	**Sg**	**13 51 06.1**	**-0.2**
PLD	**Plovdiv**	**1.47**	**76**	P	**Pb**	**13 50 46.6**	**-0.1**
PLD				S	**Sg**	**13 51 06.6**	**+0.3**
PLD	**Plovdiv**	**1.47**	**76**	*e*Pg	**Pb**	**13 50 46.3**	**-0.3**
PLD				*e*Sg	**Sn**	**13 51 04.6**	**-0.7**
ZAPS	**Zavoj**	**1.47**	**355**	*e*Pg	**Pg**	**13 50 47.2**	**-0.2**
ZAPS				*e*Sg	**Sg**	**13 51 07.2**	**+0.8**
FNA	**Florina**	**1.50**	**227**	P	**Pg**	**13 50 47.6**	**0.0**
FNA				S	**Sg**	**13 51 07.8**	**+0.7**
FNA	**Florina**	**1.50**	**227**	*e*Pn	**Pb**	**13 50 47.1**	**0.0**
FNA				*i* Sg	**Sg**	**13 51 07.7**	**+0.6**
FNA	**Florina**	**1.50**	**227**	*e*Pg	**Pg**	**13 50 47.7**	**0.0**
FNA				*e*Sg	**Sg**	**13 51 07.0**	**-0.1**
FNA	**Florina**	**1.50**	**227**	P	**Pb**	**13 50 47.3**	**+0.2**
FNA				S	**Sg**	**13 51 07.0**	**-0.1**
KAVA	**Kavala**	**1.50**	**122**	P	**Pn**	**13 50 46.6**	**+0.3**
KAVA				S	**Sb**	**13 51 06.5**	**+0.1**
KAVA	**Kavala**	**1.50**	**122**	P	**Pn**	**13 50 46.6**	**+0.3**
KAVA				S	**Sb**	**13 51 06.3**	**-0.1**
OHR	**Ohrid**	**1.68**	**246**	*i* Pn	**Pn**	**13 50 47.7**	**-1.1**
OHR				*e*Sn	**Sn**	**13 51 10.4**	**0.0**
OHR				*i* Sg	**Sg**	**13 51 12.8**	**0.0**
OHR				*e*Lg	Lg	13 51 15.0	
	comp=N,29nm,0.4s						
OHR				*e*Lg	Lg	13 51 15.5	
	comp=E,29nm,0.5s						
MPEP	**Malo Peshtene**	**1.69**	**23**	*i* P	**Pg**	**13 50 51.4**	**0.0**
MPEP				*i* S	**Sg**	**13 51 13.8**	**+0.5**
KZN	**Kozani**	**1.70**	**208**	P	**Pn**	**13 50 49.8**	**+0.7**
KZN	**Kozani**	**1.70**	**208**	P	**Pn**	**13 50 49.8**	**+0.7**
OUR	**Ouranopolis**	**1.71**	**149**	P	**Pn**	**13 50 49.4**	**+0.3**
OUR				S	**Sn**	**13 51 11.0**	**-0.2**
OUR	**Ouranopolis**	**1.71**	**149**	P	**Pn**	**13 50 49.6**	**+0.5**
OUR				S	**Sn**	**13 51 10.9**	**-0.3**
BLKB	**Belogradchik**	**1.82**	**357**	⇓S	**Sg**	**13 51 16.4**	**-1.0**
BLKB	**Belogradchik**	**1.82**	**357**	*e*Pn	**Pb**	**13 50 51.6**	**-1.0**
BLKB				*e*Sn	**Sb**	**13 51 14.8**	**-0.8**
SELS	**Selova**	**1.89**	**319**	*e*Pn	**Pn**	**13 50 52.0**	**+0.3**
SELS				*e*Sn	**Sn**	**13 51 16.6**	**+0.8**
PAIG	**Paliouri**	**1.99**	**161**	P	**Pn**	**13 50 53.0**	**0.0**
PAIG				S	**Sn**	**13 51 17.9**	**-0.1**
BOVS	**Bovan**	**2.00**	**336**	⇑P	**Pn**	**13 50 54.3**	**+1.1**
BOVS				⇓S	**Sn**	**13 51 19.2**	**+0.7**
BOVS	**Bovan**	**2.00**	**336**	*e*Pn	**Pb**	**13 50 55.1**	**-0.6**
BOVS	**Bovan**	**2.00**	**336**	*e*Pg	**Pb**	**13 50 56.0**	**+0.3**
BOVS				*e*Sn	**Sn**	**13 51 19.3**	**+0.8**
ZAGS	**Zajecar**	**2.05**	**348**	*e*Pn	**Pn**	**13 50 54.5**	**+0.7**
ZAGS				*e*Sn	**Sn**	**13 51 20.1**	**+0.5**
PLVB	**Pleven**	**2.06**	**39**	⇑P	**Pb**	**13 50 57.2**	**+0.6**
PLVB				⇓S	**Sg**	**13 51 25.8**	**+0.6**
GOCS	**Kraljevo Serbi**	**2.27**	**321**	*e*Pn	**Pn**	**13 50 57.3**	**+0.4**
GOCS				*e*Sn	**Sn**	**13 51 26.1**	**+0.9**
BORS2	**Bor- Borsko je**	**2.36**	**346**	*e*Pn	**Pb**	**13 51 00.5**	**-1.3**
BORS2				*e*Sn	**Sn**	**13 51 26.7**	**-0.5**
SMTH	**Samothraki Isl**	**2.44**	**122**	P	**Pn**	**13 50 59.0**	**-0.2**
ELND	**Elena**	**2.52**	**63**	⇑P	**Pb**	**13 51 04.6**	**0.0**
ELND				⇑S	**Sg**	**13 51 39.1**	**-0.9**
GRUS	**Gruza**	**2.60**	**324**	*e*Pn	**Pn**	**13 51 01.5**	**+0.2**
GRUS	**Gruza**	**2.60**	**324**	*e*Pg	**Pg**	**13 51 08.1**	**-0.6**
GRUS				*e*Sn	**Sn**	**13 51 32.8**	**-0.3**
GRUS				*e*Sg	**Sg**	**13 51 43.7**	**+1.3**
IVAS	**Ivanjica**	**2.65**	**313**	*e*Pn	**Pn**	**13 51 03.4**	**+1.3**
IVAS				*e*Sn	**Sn**	**13 51 35.3**	**+0.8**
KUBS	**Kucevo**	**2.74**	**342**	*e*Pn	**Pn**	**13 51 02.3**	**-1.0**
KUBS	**Kucevo**	**2.74**	**342**	*e*Pg	**Pb**	**13 51 07.2**	**-1.0**
SZH	**Strazhitsa**	**2.75**	**57**	*i* P	**Pg**	**13 51 10.2**	**-1.4**
SZH				*i* S	**Sg**	**13 51 46.2**	**-1.0**
AGG	**Agios Georgios**	**2.81**	**188**	P	**Pn**	**13 51 04.8**	**+0.5**
MAKR	**Makrakomi, Fth**	**2.84**	**191**	P	**Pn**	**13 51 05.7**	**+0.9**
TRUS	**Trudelj**	**3.00**	**325**	*e*Pn	**Pn**	**13 51 07.0**	**+0.1**
TRUS	**Trudelj**	**3.00**	**325**	*e*Pg	**Pg**	**13 51 14.9**	**-1.5**
TRUS				*e*Lg	Lg	13 51 55.9	
MDVR	**Moldovita**	**3.08**	**345**	⇑P	**Pn**	**13 51 08.2**	**+0.2**
MDVR				⇑S	**Sn**	**13 51 45.1**	**-0.1**
MDVR	**Moldovita**	**3.08**	**345**	*e*Pn	**Pn**	**13 51 08.1**	**0.0**
MDVR				*e*Sn	**Sn**	**13 51 44.7**	**-0.5**
MDVR				*e*Lg	Lg	13 51 55.9	
HERR	**Herculane**	**3.09**	**355**	⇓P	**Pn**	**13 51 08.0**	**-0.1**
VRSS	**Vrsac**	**3.49**	**342**	*e*Pn	**Pn**	**13 51 13.6**	**0.0**
GZR	**Gura Zlata**	**3.58**	**359**	⇓P	**Pn**	**13 51 15.2**	**+0.2**
TEKS	**Tekeris**	**3.65**	**320**	*e*Pn	**Pn**	**13 51 15.7**	**-0.2**
LOT	**Lotru**	**3.70**	**10**	⇑P	**Pn**	**13 51 18.3**	**+1.6**
BZS	**Buzias**	**3.91**	**347**	⇑P	**Pn**	**13 51 19.8**	**+0.4**
BZS	**Buzias**	**3.91**	**347**	*e*Pn	**Pn**	**13 51 19.3**	**-0.1**
BZS				*e*Sn	**Sn**	**13 52 03.8**	**-1.6**
BZS				*e*Lg	Lg	13 52 21.5	
VOIR		**3.97**	**23**	⇓P	**Pn**	**13 51 22.1**	**+1.8**
PLOR	**Plostina**	**4.90**	**33**	⇓P	**Pn**	**13 51 36.0**	**+3.0**
VRI	**Vrincioaia**	**4.94**	**33**	⇓P	**Pn**	**13 51 36.4**	**+2.9**
DUGI	**Dugi Otok**	**6.11**	**294**	*i* Pg	**Pg**	**13 52 19.2**	**+3.2**

AUST 15 13:50:46.6±1.3, 19˚S±10˚×12˚1E±˚, h21km±16km, mb3.9/5, ML3.1/5, Error ellipse: s-maj=25.7km s-min=5.0km az=141.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**2.76**	**196**	P	Pn	13 51 30.0	+0.4
MBWA				S	Sn	13 52 04.1	+1.8
PSAC1	**Pilbara Seismi**	**3.10**	**193**	P	Pn	13 51 35.4	+1.1
PSAC1				S	Sn	13 52 11.6	+0.9
PSAA2	**Pilbara Seismi**	**3.12**	**192**	P	Pn	13 51 34.9	+0.3
PSA00	**Pilbara Seismi**	**3.13**	**192**	P	Pn	13 51 35.9	+1.2
PSA00				S	Sn	13 52 12.6	+1.2
PSAB1	**Pilbara Seismi**	**3.13**	**193**	S	Sn	13 52 11.0	-0.6
FITZ	**Fitzroy Crossi**	**4.84**	**86**	P	Pn	13 51 58.2	-0.1
FITZ	**Fitzroy Crossi**	**4.84**	**86**	S	Sn	13 52 54.6	+0.9
GIRL	**Giralia**	**7.22**	**234**	P	Pn	13 52 27.2	-3.7
GIRL				S	Sn	13 53 43.1	-9.3
MEEK	**Meekatharra**	**8.29**	**192**	P	Pn	13 52 45.0	-0.8
MEEK	**Meekatharra**	**8.29**	**192**	S	Sn	13 54 14.7	-4.1
KNRA	**Kununurra**	**8.33**	**72**	P	Pn	13 52 46.5	+0.3
KNRA				S	Sn	13 54 16.1	-3.6
CVQOZ	**Cooralya Stati**	**8.45**	**224**	P	Pn	13 52 44.3	-3.5
CVQOZ				S	Sn	13 54 10.9	-12
WRKA	**Warakurna**	**9.69**	**134**	P	Pn	13 53 08.3	+3.4
	comp=Z,3.1nm,2.4s,comp=Z,0.0nm						
WRKA				S	Sn	13 54 54.1	+1.0
MORW	**Morawa**	**11.30**	**201**	P	Pn	13 53 26.2	-0.8
BLDU	**Ballidu**	**12.56**	**195**	P	Pn	13 53 42.7	-1.4
	comp=Z,15nm,1.7s						
BLDU	**Ballidu**	**12.56**	**195**	S	Sn	13 55 53.4	-10

IDC ***15*** *14:25:37.9±1.2, 13˚.26N×50˚.46E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=48.0km s-min=25.8km az=89.0*

ISC 15 14:25:41.2±1.4, 13˚.3N±0˚.2×50˚.5E±0˚.4, h21km, n7, σ0s54/7, mb3.9/7, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**41.14**	**339**	P	**P**	**14 33 24.3**	**+0.5**
	0.7nm,0.6s,baz=153,slow=7.1,SNR=4.9						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**42.76**	**32**	P	**P**	**14 33 37.4**	**+0.2**
	0.3nm,0.6s,baz=225,slow=9.8,SNR=4.7						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**43.68**	**26**	P	**P**	**14 33 44.9**	**+0.4**
	0.4nm,0.6s,baz=234,slow=7.5,SNR=3.3						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**48.76**	**26**	P	**P**	**14 34 23.8**	**-0.6**
	1.1nm,0.7s,baz=243,slow=6.3,SNR=4.0						
	1.1nm,0.7s						
FINES	**FINESS Array B**	**51.23**	**345**	P	**P**	**14 34 42.5**	**-0.5**
	1.4nm,0.8s,baz=120,slow=11,SNR=5.5						
	1.4nm,0.8s						
HFS	**Hagfors**	**54.00**	**338**	P	**P**	**14 35 03.3**	**-0.3**
	3.1nm,0.9s,baz=169,slow=8.8,SNR=3.9						
	3.1nm,0.9s						
MAW	**Mawson**	**81.16**	**175**	P	**P**	**14 37 54.8**	**0.0**
	2.7nm,0.6s,baz=234,slow=6.3,SNR=13						
	2.7nm,0.6s						

IDC 15 14:27:41.8±3.1, 22˚.61N×12˚.32W, h0km, mbtmp3.9/2, ML3.8/2, Error ellipse: s-maj=148.1km s-min=55.4km az=62.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**16.31**	**123**	Pn	Pn	14 31 31.8	-0.6
	0.5nm,0.3s,baz=311,slow=11,SNR=2.2						
	1.1nm,0.3s						
DBIC	**Dimbokro**	**17.40**	**154**	P	Pn	14 31 46.6	+0.4
	0.3nm,0.3s,baz=22,slow=11,SNR=1.6						
	0.8nm,0.4s						
I42PT	**GRACIOSA ISLAN**	**21.16**	**324**	I	I	16 35 20.0	
	baz=139,slow=322,SNR=1.3						
WRA	**Warramunga Arr**	**148.86**	**91**	PKPbc	PKPbc	14 47 31.6	-0.6
	0.4nm,0.6s,baz=290,slow=1.9,SNR=5.0						
ASAR	**Alice Springs**	**148.96**	**99**	PKPbc	PKPbc	14 47 31.9	-0.5
	0.3nm,0.6s,baz=281,slow=2.4,SNR=8.7						

NEIC ***15*** *14:28:35.9±1.0, 31˚.2S±0˚.1×177˚.1W±0˚.2, h10km±2km, mb4.6/14, Error ellipse: s-maj=27.0km s-min=10.3km az=55.0*
IDC ***15*** *14:28:36.3±1.8, 31˚.04S×177˚.43W, h0km, mb4.2/3, mbtmp4.2/3, MS3.1/2, Error ellipse: s-maj=44.6km s-min=26.5km az=113.0*

ISC 15 14:28:36.1±1.2, 31˚.27S±0˚.07×177˚.4W±0˚.2, h10km, n31, σ1s60/28, mb4.4/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.06**	**347**		**Pn**	**14 29 11.2**	**+0.4**
RAO	**Raoul Island**	**2.06**	**347**	Pn	**Pn**	**14 29 09.8**	**-1.0**
	175nm,0.3s,baz=216,slow=10,SNR=9.0						
RAO				Sn	**Sn**	**14 29 34.4**	**-2.2**
	248nm,0.3s,baz=102,slow=23,SNR=5.3						
URZ	**Urewera**	**8.32**	**212**	Pn	Pn	14 30 34.1	-2.6
	0.5nm,0.3s,baz=62,slow=8.2,SNR=1.1						
URZ				Sn	**Sn**	**14 32 08.9**	**-1.8**
	2.1nm,0.3s,baz=192,slow=18,SNR=10.0						
RPZ	**Rata Peaks**	**15.43**	**213**	Pn	**Pn**	**14 32 09.0**	**-4.8**
	1.2nm,0.3s,baz=63,slow=5.0,SNR=6.8						
FUTU	**Fugatoga**	**16.89**	**358**	Pn	**Pn**	**14 32 30.9**	**-1.8**
FUTU				IAmb	IAmb	14 33 06.8	
	comp=Z,35nm,0.8s						
ONTNC	**Ouen Toro**	**16.96**	**298**	Pn	**Pn**	**14 32 33.4**	**-0.1**
ONTNC				IAmb	IAmb	14 32 33.9	

	comp=Z,47nm,1.2s								
RAR	**Rarotonga**	**18.67**	**62**	LR		LR	14 37 21.8		
	comp=Z,69nm,21.5s,baz=193,slow=28								
PPT	**Papeete**	**28.65**	**68**	LR		LR	14 44 29.5		
	comp=Z,28nm,18.8s,baz=272,slow=33								
CTAO	**Charters Tower**	**34.47**	**280**	P		**P**	**14 35 25.2**	**+0.9**	
CTAO				IAmb		IAmb	14 35 29.5		
	comp=Z,8.4nm,0.9s								
STKA	**Stephens Creek**	**34.82**	**258**	P		**P**	**14 35 28.0**	**+0.9**	
STKA	**Stephens Creek**	**34.82**	**258**	P		**P**	**14 35 29.4**	**+2.3**	
	comp=Z,1.6nm,0.6s,baz=97,slow=12,SNR=4.1								
	comp=Z,1.6nm,0.6s								
AS31	**Alice Springs**	**43.60**	**268**	P		**P**	**14 36 41.5**	**+0.7**	
ASAR	**Alice Springs**	**43.60**	**268**	P		**P**	**14 36 41.9**	**+1.2**	
ASAR	**Alice Springs**	**43.60**	**268**	P		**P**	**14 36 42.0**	**+1.2**	
	comp=Z,2.8nm,0.8s,baz=106,slow=7.5,SNR=38								
ASAR				PcP		**PcP**	**14 38 30.9**	**+2.6**	
	comp=Z,0.4nm,0.5s,baz=116,slow=3.9,SNR=4.9								
	comp=Z,2.8nm,0.8s								
PATS	**Pohnpei**	**44.46**	**324**	P		**P**	**14 36 47.3**	**-0.2**	
WR8	**Warramunga Arr**	**44.53**	**273**	P		**P**	**14 36 49.5**	**+1.4**	
WR8				IAmb		IAmb	14 37 22.0		
	comp=Z,5.9nm,0.9s								
WRA	**Warramunga Arr**	**44.67**	**273**	P		**P**	**14 36 50.0**	**+0.7**	
WRA	**Warramunga Arr**	**44.67**	**273**	P		**P**	**14 36 50.3**	**+1.0**	
	comp=Z,4.2nm,0.7s,baz=112,slow=7.9,SNR=26								
	comp=Z,4.2nm,0.7s								
WB0	**Warramunga Arr**	**44.70**	**273**	P		**P**	**14 36 50.3**	**+0.7**	
WB0				IAmb		IAmb	14 36 51.4		
	comp=Z,8.2nm,0.9s								
MTN	**Manton Dam**	**50.65**	**279**	P		**P**	**14 37 36.7**	**+0.9**	
KNRA	**Kununurra**	**51.31**	**275**	P		**P**	**14 37 41.8**	**+1.0**	
FITZ	**Fitzroy Crossi**	**52.90**	**270**	P		**P**	**14 37 53.6**	**+1.1**	
FITZ				IAmb		IAmb	14 38 11.2		
	comp=Z,6.1nm,1.5s								
SAUI	**Saumlaki**	**53.04**	**285**	P		**P**	**14 37 53.8**	**+0.1**	
QSPA	**South Pole Qui**	**58.84**	**180**	P		**P**	**14 38 35.1**	**+0.5**	
QSPA				IAmb		IAmb	14 38 50.5		
	comp=Z,10nm,1.5s								
H03S2	**Juan Fernandez**	**79.54**	**123**	T		T	16 07 46.4		
	baz=238,slow=74,SNR=3.8								
H03S1	**Juan Fernandez**	**79.55**	**123**	T		T	16 07 42.6		
	baz=238,slow=74,SNR=5.1								
H03S3	**Juan Fernandez**	**79.56**	**123**	T		T	16 07 43.7		
	baz=238,slow=74,SNR=4.2								
FINES	**FINESS Array B**	**146.14**	**340**	PKPbc		**PKPbc**	**14 48 15.4**	**-0.3**	
	comp=Z,3.5nm,0.8s,baz=69,slow=2.7,SNR=13								
HFS	**Hagfors**	**150.20**	**349**	PKPbc		**PKiKP**	**14 48 29.0**	**+1.6**	
	comp=Z,3.1nm,1.0s,baz=70,slow=1.7,SNR=5.1								
AKASG	**Malin Array Be**	**152.31**	**322**	PKPab		**PKPab**	**14 48 40.4**	**-1.3**	
	comp=Z,0.2nm,0.3s,baz=53,slow=1.8,SNR=5.5								
BRTR	**Keskin Array B**	**153.48**	**297**	PKPab		**PKPab**	**14 48 47.4**	**+0.1**	
	comp=Z,0.7nm,0.8s,baz=128,slow=2.4,SNR=3.5								

GCG 15 14:30:51.2±0.3, 13˚.90N×91˚.79W, h37km±288km, MD3.8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESSG	**Sabana Grande**	**1.04**	**62**	*i* P	Pn	14 31 09.6	+0.2
NUBE	**Las Nubes**	**1.95**	**90**	*e*P	Pn	14 31 22.4	+0.5
NUBE				*e*S	Sn	14 31 46.7	+1.5
MTO3	**Montecristo**	**2.40**	**78**	*e*P	Pn	14 31 28.9	+0.7

JMA ***15*** *14:47:27.4±0.2, 42˚.8N±0˚.6×145˚.1E±0˚.7, h86km±1km, MV2.6/37, OFF NEMURO PENINSULA*
SKHL ***15*** *14:47:28.1±0.4, 42˚.70N×145˚.30E, h69km±3km, mb3.6/2*

ISC 15 14:47:28.4±1.7, 42˚.87N±0˚.08×145˚.06E±0˚.05, h81km±10km, n16, σ0s59/29, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKK	**Akkeshi**	**0.21**	**313**	*e*

YUK			*i* S	**Sn**	**15 27 41.4**	**-0.9**
YUK			pmax	pmax		
	comp=Z,540nm,0.2s					
YUK			pmax	pmax		
	comp=N,147nm,0.1s					
YUK			pmax	pmax		
	comp=E,250nm,0.1s					
YUK			smax	smax		
	comp=N,2μm,0.2s					
YUK			smax	smax		
	comp=E,3μm,0.2s					
YUK	**Yuzh-Kuril'sk**	**0.74 286**	*e*P	**Pn**	**15 27 30.4**	**-0.6**
YUK			AMB	AMB	15 27 31.6	
	comp=E,310nm,0.2s					
YUK			*i* S	**Sn**	**15 27 41.4**	**-0.9**
YUK			A	A	15 27 41.8	
	comp=E,2μm,0.4s					
YUK			A	A	15 27 41.8	
	comp=E,3μm,0.4s					
NEM2	**Nemuro 2**	**0.93 240**	*i* P	**Pn**	**15 27 32.8**	**-0.5**
NEM2			S	**Sn**	**15 27 45.7**	**-0.7**
NMR	**Nemuro--Hokkai**	**0.93 240** ⇑	*i*PN	**Pn**	**15 27 32.8**	**-0.5**
NMR			*i* S	**Sn**	**15 27 45.4**	**-1.1**
NMR	**Nemuro--Hokkai**	**0.93 240**	*i* P	**Pn**	**15 27 32.8**	**-0.5**
NMR			*i* S	**Sn**	**15 27 45.4**	**-1.1**
GLVR	**Golovnino**	**0.96 265**	*e*PN	**Pn**	**15 27 33.7**	**0.0**
GLVR			*i* S	**Sn**	**15 27 46.3**	**-0.8**
GLVR			pmax	pmax		
	comp=N,27nm,0.1s					
GLVR			pmax	pmax		
	comp=Z,152nm,0.1s					
GLVR			smax	smax		
	comp=N,1μm,0.2s					
GLVR			smax	smax		
	comp=E,2μm,0.2s					
GLVR	**Golovnino**	**0.96 265**	*e*P	**Pn**	**15 27 33.7**	**0.0**
GLVR			AMB	AMB	15 27 34.1	
	comp=E,150nm,0.2s					
GLVR			*i* S	**Sn**	**15 27 46.3**	**-0.8**
GLVR			A	A	15 27 50.4	
	comp=E,1μm,0.2s					
GLVR			A	A	15 27 50.4	
	comp=E,2μm,0.2s					
RUSJ	**Misakicho**	**1.18 284** ⇓	*i*PN	**Pn**	**15 27 37.3**	**+0.8**
RUSJ			*i* S	**Sn**	**15 27 53.6**	**+1.6**
JRA	**Rausu**	**1.25 275**	*i* P	**Pn**	**15 27 38.0**	**+0.7**
JRA			S	**Sn**	**15 27 54.8**	**+1.2**
JNSB	**Nemuroshibetsu**	**1.33 268**	P	**Pn**	**15 27 39.1**	**+0.7**
JNSB			S	**Sn**	**15 27 56.7**	**+1.2**
JKHN	**Kushirohamanak**	**1.44 239**	*i* P	**Pn**	**15 27 39.9**	**+0.1**
JKHN			S	**Sn**	**15 27 57.7**	**-0.2**
JNK	**Nakash**	**1.56 261**	P	**Pn**	**15 27 41.6**	**+0.2**
JNK			S	**Sn**	**15 28 01.4**	**+0.5**
KUR	**Kuril'sk**	**1.58 27***c*	*i*PN	**Pn**	**15 27 41.6**	**-0.1**
KUR			*e*S	**Sn**	**15 28 01.8**	**+0.5**
KUR			pmax	pmax		
	comp=Z,223nm,0.3s					
KUR			pmax	pmax		
	comp=N,92nm,0.2s					
KUR			smax	smax		
	comp=N,371nm,0.2s					
KUR			smax	smax		
	comp=E,167nm,0.4s					
KUR	**Kuril'sk**	**1.58 27**	*i* P	**Pn**	**15 27 41.5**	**-0.1**
KUR			AMB	AMB	15 27 42.5	
	comp=E,170nm,0.3s					
KUR			*i* S	**Sn**	**15 28 00.1**	**-1.2**
KUR			A	A	15 28 02.7	
	comp=E,260nm,0.2s					
KUR			A	A	15 28 02.7	
	comp=E,170nm,0.2s					
AKK	**Akkeshi**	**1.67 241**	*e*P	**Pn**	**15 27 42.7**	**-0.2**
JAK	**Akkeshi**	**1.77 243**	*i* P	**Pn**	**15 27 44.1**	**-0.1**
JAK			S	**Sn**	**15 28 05.5**	**-0.5**
JTKR	**Abashiri--Toko**	**2.12 275**	P	**Pn**	**15 27 50.0**	**+1.1**
JAR	**Ashorobuto**	**2.30 257**	*i* P	**Pn**	**15 27 52.4**	**+1.1**
JAR			*e*S	**Sn**	**15 28 20.2**	**+1.6**
JOB	**Onbets**	**2.38 248**	P	**Pn**	**15 27 53.2**	**+0.7**
JOB			*e*S	**Sn**	**15 28 20.9**	**+0.3**
JMP	**Maruseppu**	**2.52 275**	P	**Pn**	**15 27 55.7**	**+1.3**
ERM	**Erimo**	**3.26 237**	*ce*PN	**Pn**	**15 28 06.4**	**+2.0**
YSS	**Yuzhno-Sakhali**	**4.24 319**	*e*PN	**Pn**	**15 28 18.5**	**+0.7**
YSS			*e*S	**Sn**	**15 29 04.9**	**-1.1**
YSS			pmax	pmax		
	comp=Z,10.0nm,0.4s					
YSS			smax	smax		
	comp=N,10.0nm,0.8s					
YSS			smax	smax		
	comp=E,10.0nm,0.8s					
YSS	**Yuzhno-Sakhali**	**4.24 319**	*e*P	**Pn**	**15 28 18.5**	**+0.7**
YSS			*e*S	**Sn**	**15 29 04.9**	**-1.1**
TYV	**Tymovskoe**	**7.58 339**	*e*P	**Pn**	**15 29 04.2**	**+0.8**
MAJO	**Matsushiro**	**9.83 225** ⇑	*e*PN	**Pn**	**15 29 33.1**	**-1.1**
USA0B	**Ussuriysk Arra**	**10.71 277** ⇑	*e*PN	**Pn**	**15 29 45.5**	**-0.6**
ZEA	**Zeya**	**16.22 315** ⇑	*e*P	**Pn**	**15 30 59.2**	**+0.3**
ZEA	**Zeya**	**16.22 315**	*e*P	**Pn**	**15 30 56.4**	**-2.5**
SEY	**Seymchan**	**19.40 8** ⇑	*e*P	**P**	**15 31 36.4**	**+0.7**
SEY			pmax	pmax		
	comp=Z,3.0nm,1.0s					
SEY	**Seymchan**	**19.40 8**	*e*P	**P**	**15 31 36.4**	**+0.7**
ULN	**Ulaanbaatar**	**27.79 292** ⇑	*e*P	**P**	**15 32 56.6**	**-1.4**
ULN			pmax	pmax		
	comp=Z,1.0nm,1.0s					
ULN	**Ulaanbaatar**	**27.79 292**	*e*P	**P**	**15 32 56.6**	**-1.4**
MK31	**Makanchi Array**	**44.35 297** ⇑	*e*P	**P**	**15 35 19.4**	**+0.7**
BRVK	**Borovoye**	**49.32 309** ⇑	*e*P	**P**	**15 35 57.6**	**+0.3**
BRVK	**Borovoye**	**49.32 309**	*e*P	**P**	**15 35 57.6**	**+0.3**

*ISK **15** 15:30:41.3,38.91N×43.64E,h16km,ML2.7/9*
*AFAD **15** 15:30:43.0,38.92N×43.50E,h7km±4km,ML2.3*
ISC 15 15:30:41.5±1.2,38.95N±0.03×43.63E±0.03,h16km±10km, n18,σ0.91/30,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERCV	**ERCIS-VAN**	**0.24**	**286**	Pg	**Pb**	**15 30 47.3**	**-0.3**
ERCV				Sg	**Sb**	**15 30 51.8**	**+0.1**
OZAP	**Van, Ozalp-Mer**	**0.41**	**136**	P	**Pn**	**15 30 52.0**	**-0.9**
OZAP				S	**Sn**	**15 30 59.9**	**-0.4**
OZAP				*i* IAML		15 31 02.0	
	comp=N,271nm,0.8s						
VANB	**Van**	**0.41**	**208**	Pg	**Pb**	**15 30 50.7**	**+0.3**
VANB				Sg	**Sb**	**15 30 57.6**	**+1.2**
TVAN	**Van**	**0.46**	**203**	P	**Pb**	**15 30 51.1**	**-0.3**
TVAN				S	**Sb**	**15 30 58.0**	**0.0**
TVAN				*i* IAML		15 31 00.0	
	comp=N,390nm,0.3s						
ADCV	**BITLIS_Adilcev**	**0.72**	**259**	P	**Pg**	**15 30 55.1**	**-0.6**
ADCV				S	**Sg**	**15 31 05.0**	**-0.3**
ADCV				*i* IAML		15 31 06.0	
	comp=N,152nm,0.3s						
GEVA	**Gevas**	**0.78**	**215**	P	**Pg**	**15 30 55.6**	**-1.2**
GEVA				S	**Sg**	**15 31 06.8**	**-0.5**
AGRB	**Hanur-Agry**	**0.80**	**321**	Pg	**Pn**	**15 30 58.0**	**-0.3**
AGRB				Sg	**Sn**	**15 31 09.9**	**0.0**
AKDM	**Akdamar-Van**	**0.81**	**220**	Pg	**Pg**	**15 30 56.9**	**-0.4**
AKDM				Sg	**Sg**	**15 31 08.1**	**+0.1**
MLAZ	**Malazgirt-MUS**	**0.86**	**283**	Pg	**Pb**	**15 30 58.7**	**+0.5**
MLAZ				Sg	**Sn**	**15 31 11.3**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.13**	**24**	Pn	**Pg**	**15 31 03.5**	**+0.1**
BLIS	**Bitlis-Merkez**	**1.30**	**246**	P	**Pn**	**15 31 05.2**	**0.0**
BLIS				S	**Sb**	**15 31 21.3**	**-1.1**
BLIS				*i* IAML		15 31 24.0	
	comp=E,67nm,0.6s						
GURO	**Guroymak-BITLI**	**1.32**	**253**	Pn	**Pn**	**15 31 05.3**	**0.0**
HAKT	**HAKKARI**	**1.40**	**178**	P	**Pn**	**15 31 08.8**	**+0.3**
HAKT				S	**Sg**	**15 31 30.1**	**+3.5**
HAKT				*i* IAML		15 31 32.0	
	comp=E,49nm,0.6s						
GNI	**Garni**	**1.47**	**35**	Pn	**Pb**	**15 31 08.1**	**-0.4**
SRTM	**Siirt_Merkez**	**1.65**	**235**	P	**Pb**	**15 31 12.1**	**+0.5**
SRTM				S	**Sg**	**15 31 35.2**	**+0.4**
SRTM				*i* IAML		15 31 36.0	
	comp=E,39nm,1.1s						
SRTM				*i* IAML		15 31 39.0	
	comp=N,37nm,1.4s						
CUKT	**Cukurca**	**1.70**	**181**	Pn	**Pn**	**15 31 09.9**	**-0.8**
KOPR	**Koprukoy-ERZUR**	**1.72**	**307**	Pn	**Pn**	**15 31 11.9**	**+0.9**
SVAN	**Silvan-Diyarba**	**2.07**	**248**	Pn	**Pn**	**15 31 16.5**	**+0.9**

*NEIC **15** 15:31:19.7±0.7,6.01S±0.09×149.67E±0.10,h66km±8km,*
mb4.2/14,Error ellipse: s-maj=14.6km s-min=12.8km az=122.0
*IDC **15** 15:31:30.9±12.0,5.90S×149.07E,h170km±112km, mb3.3/3,mbtmp3.9/5,Error ellipse: s-maj=104.4km s-min=19.3km az=102.0*
ISC 15 15:31:18.7±0.7,5.95S±0.1×149.5E±0.1,h58km,n24, σ0.50/23,mb4.0/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.18**	**57**	Pn	**Pn**	**15 32 06.3**	**0.0**
JAY	**Jayapura**	**9.40**	**291**	P	Pn	15 33 37.8	+6.1
	5.7nm,0.4s,baz=118,slow=17,SNR=9.5						
COEN	**Coen**	**10.11**	**218**	Pn	**Pn**	**15 33 41.5**	**+0.4**
MTN	**Manton Dam**	**19.36**	**248**	P	**Pn**	**15 35 40.6**	**-0.7**
MTN				IAmb	IAmb	15 35 42.2	
	comp=Z,14nm,0.8s						
WB0	**Warramunga Arr**	**20.11**	**226**	P	**P**	**15 35 48.6**	**+0.6**
WB0				IAmb	IAmb	15 35 50.3	
	comp=Z,8.3nm,1.1s						
WR8	**Warramunga Arr**	**20.16**	**225**	P	**P**	**15 35 49.1**	**+0.6**
WR8				IAmb	IAmb	15 36 02.9	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**20.26**	**225**	P	**P**	**15 35 49.6**	**0.0**
WRA	**Warramunga Arr**	**20.26**	**225**	P	**P**	**15 35 50.4**	**+0.8**
	comp=Z,5.4nm,0.6s,baz=50,slow=10,SNR=35						
KNRA	**Kununurra**	**22.52**	**243**	P	**P**	**15 36 13.4**	**-0.4**
KNRA				IAmb	IAmb	15 36 15.0	
	comp=Z,34nm,1.2s						
AS31	**Alice Springs**	**23.14**	**219**	P	**P**	**15 36 19.9**	**-0.4**
ASAR	**Alice Springs**	**23.14**	**219**	P	**P**	**15 36 19.3**	**-0.9**
ASAR	**Alice Springs**	**23.14**	**219**	P	**P**	**15 36 20.1**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=57,slow=8.9,SNR=35						
	comp=Z,0.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**26.23**	**240**	P	**P**	**15 36 48.8**	**+0.4**
FITZ				IAmb	IAmb	15 37 06.1	
	comp=Z,3.9nm,1.2s						
FORT	**Forrest**	**31.87**	**217**	P	**P**	**15 37 38.5**	**0.0**
FORT				IAmb	IAmb	15 38 16.6	
	comp=Z,9.7nm,1.2s						
MBWA	**Marble Bar**	**32.55**	**239**	P	**P**	**15 37 45.0**	**+0.4**
MSWZ	**Moikau Station**	**42.13**	**151**	P	**P**	**15 39 05.4**	**0.0**
PEA0B	**Petropavlovsk-**	**59.24**	**6**	P	**P**	**15 41 13.9**	**0.0**
PETK	**Petropavlovsk-**	**59.24**	**6**	P	**P**	**15 41 14.0**	**+0.1**
PETK	**Petropavlovsk-**	**59.24**	**6**	P	**P**	**15 41 14.0**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=162,slow=6.4,SNR=9.5						
	comp=Z,1.1nm,0.5s						
SONM	**Songino Array**	**65.58**	**330**	P	**P**	**15 41 57.3**	**+0.7**
SONM				IAmb	IAmb	15 42 21.9	
	comp=Z,1.5nm,1.2s						
VNDA	**Vanda**	**71.83**	**177**	P	**P**	**15 42 34.5**	**-0.4**
VNDA	**Vanda**	**71.83**	**177**	P	**P**	**15 42 35.5**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=336,slow=6.0,SNR=4.9						
	comp=Z,0.3nm,0.5s						
L14K	**Kuka Creek**	**76.59**	**22**	P	**P**	**15 43 02.0**	**-0.7**
L14K				IAmb	IAmb	15 43 43.0	
	comp=Z,7.6nm,1.2s						
SYI	**Shuyak Island**	**79.20**	**27**	P	**P**	**15 43 17.1**	**-0.2**

*NEIC **15** 15:43:35.8±1.0,35.668N±0.009×117.38W±0.01, h10km±1km,Error ellipse: s-maj=2.9km s-min=2.3km az=207.0*
PAS 15 15:43:36.6±0.7,35.67N±0.01×117.41W±0.02,h9km±4km, Mwr3.6/6,ML3.5/170(NEIC),Error ellipse: s-maj=1.9km s-min=1.5km az=60.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.10**	**222**		Pg	15 43 39.0	-0.1
CCCA	**Chr Cany lake**	**0.15**	**165**		Pg	15 43 40.2	+0.3
CCCA					Sg	15 43 43.1	+1.0
CCCA	**Chr Cany lake**	**0.15**	**165**	IAML		15 43 43.3	
	comp=E,63μm,0.5s						
CCCA				IAML		15 43 44.1	
	comp=N,39μm,0.5s						
SRTC	**Snort**	**0.28**	**274**		Pg	15 43 42.3	+0.2
SRTC					Sb	15 43 47.2	-1.4
LRMC	**Laurel Mtn Rad**	**0.29**	**229**		Pg	15 43 42.2	-0.2
LRMC				IAML		15 43 46.7	
	comp=N,13μm,0.5s						
TOW	**Tower One**	**0.32**	**296**		Pg	15 43 43.2	+0.3
TOW					Sb	15 43 48.6	-1.2
MPMC	**Manual Prospec**	**0.39**	**351**		Sg	15 43 49.5	+0.1
MPMC	**Manual Prospec**	**0.39**	**351**		Pg	15 43 43.9	-0.4
MPMC				IAML		15 43 51.5	
	comp=N,6μm,0.4s						
MPMC				IAML		15 43 51.5	
	comp=E,7μm,0.4s						
WVPM	**Volcano Peak E**	**0.43**	**310**		Pg	15 43 44.8	-0.2
WVPM					Sg	15 43 51.1	+0.4
WNMM	**Nine Mile Cany**	**0.43**	**293**		Sg	15 43 51.3	+0.5
JRC2	**Joshua Ridge**	**0.45**	**314**		Sg	15 43 51.6	+0.4
WCSM	**Coso Springs S**	**0.46**	**321**		Sg	15 43 51.6	+0.1
WRVM	**Rose V. Centra**	**0.51**	**311**		Pg	15 43 46.2	-0.3
QSM	**Queen of Sheba**	**0.53**	**56**		Pg	15 43 46.6	-0.2
QSM				IAML		15 43 54.1	
	comp=E,5μm,0.5s						
QSM	**Queen of Sheba**	**0.53**	**56**		Sg	15 43 53.8	0.0
DTP	**Desert Tortois**	**0.54**	**221**		Sg	15 43 53.6	-0.4
MFS	**McCloud Flat S**	**0.57**	**321**		Sg	15 43 55.2	0.0
WBSM	**Bird Springs**	**0.61**	**257**		Pg	15 43 47.9	-0.5
WBSM					Sg	15 43 56.1	-0.2
GSC	**Goldstone, Bar**	**0.62**	**127**		Sg	15 43 56.4	-0.2
GSC	**Goldstone, Bar**	**0.62**	**127**	IAML		15 43 56.9	
	comp=N,6μm,0.4s						
GSC				IAML		15 44 01.0	
	comp=E,5μm,0.5s						
WORM	**Onyx Ranch**	**0.68**	**272**		Sg	15 43 57.9	-0.6
CCAC	**Calif City Air**	**0.72**	**224**		Sg	15 43 59.8	+0.1
GWY	**Greenwater Val**	**0.79**	**49**		Pg	15 43 51.3	-0.6
GWY				IAML		15 44 04.6	
	comp=N,2μm,0.5s						
GWY				IAML		15 44 06.2	
	comp=E,2μm,0.3s						
GWY	**Greenwater Val**	**0.79**	**49**		Sg	15 44 01.7	-0.5
ISA	**Isabella, Lake**	**0.86**	**270**		Pg	15 43 52.4	-0.8
ISA				IAML		15 44 04.0	
	comp=N,1μm,0.6s						
ISA				IAML		15 44 06.8	
	comp=E,2μm,0.5s						
EDW2	**Edwards Air Fo**	**0.92**	**211**		Pg	15 43 53.3	-0.9
CWC	**Cottonwood Cre**	**0.94**	**325**		Pg	15 43 53.9	-0.7
CWC				IAML		15 44 07.0	
	comp=N,922nm,0.2s						
SHOC	**Shoshone, Teco**	**0.95**	**76**		Pg	15 43 54.6	-0.3
TPO	**Tropico Hills**	**1.03**	**220**		Pg	15 43 55.7	-0.8
DSCC	**Desert Studies**	**1.19**	**116**		Pb	15 43 57.5	-1.9
SPG2	**Springville 2**	**1.22**	**296**		Pb	15 43 58.6	-1.2
HOLC	**Holcomb Ridge**	**1.26**	**196**		Pn	15 43 59.1	-1.4
WCT	**Wildcat Mounta**	**1.29**	**29**		Pn	15 43 59.5	-1.4
GRAC	**Grapevine Rang**	**1.32**	**2**		Pn	15 44 00.8	-0.5
GRAC	**Grapevine Rang**	**1.32**	**2**	IAML		15 44 26.4	
	comp=N,1μm,0.8s						
GRAC				IAML		15 44 26.6	
	comp=E,890nm,0.7s						
VES	**Vestal, Richgr**	**1.37**	**278**		Pn	15 44 01.0	-1.0
SIL	**Silver Peak**	**1.41**	**160**		Pn	15 44 01.8	-0.9
BFSC	**Mount Baldy Ra**	**1.44**	**188**	IAML		15 44 23.6	
	comp=N,667nm,0.7s						
SSK	**Sunset Peak**	**1.48**	**189**		Pn	15 44 02.6	-1.0
OSI	**Osito Audit: C**	**1.51**	**226**		Pn	15 44 04.1	+0.2
OSI				IAML		15 44 26.7	
	comp=N,1μm,0.8s						
OSI				IAML		15 44 31.0	
	comp=E,1μm,0.9s						
MWC	**Mount Wilson**	**1.54**	**200**		Pn	15 44 03.5	-0.9
MWC				IAML		15 44 29.5	
	comp=N,744nm,0.6s						
MWC				IAML		15 44 34.0	
	comp=E,529nm,0.7s						
TPNV	**Topopah Spring**	**1.58**	**36**		Pn	15 44 04.1	-1.0
TPNV				IAML		15 44 29.8	
	comp=E,427nm,0.4s						
TPNV				IAML		15 44 32.1	
	comp=E,526nm,0.6s						
PASC	**Pasadena Art C**	**1.63**	**203**	IAML		15 44 33.4	
	comp=E,373nm,0.7s						
GMN	**Gold Mountain**	**1.63**	**4**		Pn	15 44 05.1	-0.6
VOG	**Valley Oaks Go**	**1.72**	**293**		Pn	15 44 07.4	+0.6
DSP	**Deep Springs**	**1.75**	**345**		Pn	15 44 06.7	-0.4
DSP				IAML		15 44 33.5	
	comp=E,356nm,0.4s						
BLAC	**Blackrock camp**	**1.81**	**152**		Pn	15 44 06.8	-1.2
CRGC	**Crocker Grade**	**1.94**	**258**		Pb	15 44 12.0	-0.1
SHPR	**Sheep Range**	**2.00**	**65**		Pn	15 44 10.0	-0.8
ELS	**Elsinore Mount**	**2.02**	**180**		Pn	15 44 09.4	-1.6
ELS				IAML		15 44 41.4	
	comp=E,275nm,0.5s						
MZP	**Montezuma Peak**	**2.02**	**1**		Pn	15 44 10.7	-0.5
V12A	**Nelson**	**2.08**	**88**		Pn	15 44 10.4	-1.5
V12A				IAML		15 44 49.6	
	comp=E,276nm,0.6s						
V12A				IAML		15 44 51.8	
	comp=N,335nm,0.8s						
PMD	**Palm Desert**	**2.19**	**157**		Pn	15 44 11.6	-1.6
PMD				IAML		15 44 48.2	
	comp=E,275nm,0.6s						
PFO	**Pinyon Flats O**	**2.20**	**159**		Pn	15 44 11.5	-1.9
PFO				IAML		15 44 50.0	
	comp=E,206nm,0.9s						
PFO				IAML		15 44 54.5	
	comp=E,225nm,0.8s						
S11A	**Rachel**	**2.38**	**34**		Pn	15 44 15.7	-0.3
S11A				IAML		15 44 58.6	
	comp=N,186nm,1.0s						
S11A				IAML		15 45 13.2	
	comp=E,258nm,0.8s						
TPH	**Tonopah**	**2.40**	**4**		Pn	15 44 15.7	-0.7
TPH				IAML		15 44 57.1	
	comp=E,415nm,1.1s						
NEE2	**Needles Airpor**	**2.46**	**111**		Pn	15 44 15.2	-1.8
BORC	**Borrego Spring**	**2.54**	**161**		Pn	15 44 16.9	-1.0
BORC				IAML		15 44 57.5	
	comp=N,180nm,0.7s						
BORC				IAML		15 45 02.2	
	comp=E,229nm,0.8s						
PRN	**Pahroc Range**	**2.57**	**47**		Pn	15 44 18.1	-0.5
PRN				IAML		15 45 08.0	
	comp=E,388nm,0.8s						
PRN				IAML		15 45 08.3	
	comp=N,319nm,0.7s						
DPP	**Dos Picos Cty**	**2.69**	**172**		Pn	15 44 18.2	-1.9
DPP				IAML		15 45 01.8	
	comp=E,335nm,0.6s						
LHV	**Little Huntoon**	**2.72**	**342**		Pn	15 44 20.7	+0.3
LHV				IAML		15 45 09.2	
	comp=N,159nm,0.8s						
LHV				IAML		15 45 10.8	
	comp=E,248nm,0.9s						
PMPB	**Monarch Peak**	**2.80**	**282**		Pn	15 44 21.5	-0.2
PMPB				IAML		15 45 17.7	
	comp=E,326nm,1.1s						
W13A	**Hualapai Mount**	**2.94**	**100**	IAML		15 45 13.2	
	comp=E,107nm,0.6s						
W13A				IAML		15 45 20.1	
	comp=N,116nm,0.8s						
BLYC	**Blythe**	**3.06**	**128**	IAML		15 45 15.7	
	comp=E,240nm,0.8s						
BLYC				IAML		15 45 17.9	
	comp=N,256nm,0.5s						
Q09A	**Carvers**	**3.16**	**3**	IAML		15 45 26.7	
	comp=N,245nm,0.8s						
Q09A				IAML		15 45 51.4	
	comp=E,168nm,1.1s						
TKX	**Tecate**	**3.17**	**168**	IAML		15 45 15.9	
	comp=N,115nm,0.4s						
TKX				IAML		15 45 16.2	
	comp=E,157nm,0.6s						
CMB	**Columbia Colle**	**3.35**	**316**	IAML		15 45 26.7	
	comp=E,73nm,1.0s						
CMB				IAML		15 45 28.3	
	comp=N,91nm,0.8s						
ESJX	**Sierra Juarez**	**3.85**	**161**	IAML		15 45 40.6	
	comp=E,81nm,1.2s						
ESJX				IAML		15 45 40.7	
	comp=N,54nm,0.8s						
KNB	**Kanab**	**3.94**	**69**	IAML		15 45 42.3	
	comp=E,50nm,1.1s						
KNB				IAML		15 45 45.5	
	comp=N,67nm,1.7s						
Y14A	**Wickenburg**	**4.02**	**114**	IAML		15 45 45.1	
	comp=E,104nm,0.7s						
PSUT	**Pine Spring**	**4.03**	**44**	IAML		15 45 53.5	
	comp=E,51nm,1.4s						
PSUT				IAML		15 45 54.6	
	comp=N,73nm,1.0s						
MPK	**Martis Peak**	**4.17**	**331**	IAML		15 46 05.2	
	comp=E,86nm,0.9s						
MPK				IAML		15 46 10.2	
	comp=N,90nm,0.8s						
113A	**Mohawk Valley,**	**4.18**	**133**	IAML		15 45 56.3	
	comp=N,45nm,0.8s						
113A				IAML		15 46 05.0	
	comp=E,42nm,1.4s						
U15A	**North Rim**	**4.22**	**78**	IAML		15 45 50.4	
	comp=N,92nm,1.1s						
U15A				IAML		15 45 57.4	
	comp=E,92nm,0.8s						
AFDM	**Forest Hills D**	**4.33**	**320**	IAML		15 45 56.8	
	comp=E,56nm,0.7s						
AFDM				IAML		15 45 58.8	
	comp=N,42nm,1.1s						
VTX	**Valle De La Tr**	**4.48**	**162**	IAML		15 45 58.7	
	comp=N,52nm,0.7s						
VTX				IAML		15 46 05.7	
	comp=E,39nm,0.7s						
WUAZ	**Wupatki**	**4.92**	**90**	IAML		15 46 19.3	
	comp=E,58nm,0.8s						
ORV	**Oroville**	**5.05**	**321**	IAML		15 46 31.9	
	comp=E,23nm,1.1s						
PIX	**Pinacate**	**5.26**	**140**	IAML		15 46 37.6	
	comp=E,21nm,1.6s						
214A	**Organ Pipe Nat**	**5.33**	**133**	IAML		15 46 32.0	
	comp=E,37nm,1.2s						
214A				IAML		15 46 35.6	
	comp=N,33nm,1.3s						

ISC 15 15:52:49.8±1.1,48.94N±0.06×17.69E±0.06,h10km,n6, σ0.53/8,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAVC	**Velka Javorina**	**0.08**	**187**	*e*PG	**Pg**	**15 52 52.9**	**+0.7**
MODS	**Modra-Piesok**	**0.63**	**206**	*e*PG	**Pn**	**15 53 04.5**	**-0.3**
MODS				*e*SG	**Sn**	**15 53 15.4**	**+0.5**
MODS				*e*LG	Lg	15 53 17.4	
VRAC	**Vranov**	**0.81**	**298**	*e*PG	**Pn**	**15 53 07.0**	**-0.3**
MORC	**Moravsky Berou**	**0.84**	**354**	*e*PG	**Pb**	**15 53 06.7**	**+0.1**
KRUC	**Moravsky**	**0.86**	**279**	*e*PG	**Pb**	**15 53 06.3**	**-0.5**
VYHS	**Vyhne**	**0.88**	**120**	*e*PG	**Pb**	**15 53 07.0**	**-0.2**
VYHS				*e*SG	**Sn**	**15 53 20.7**	**-0.5**

IDC 15 15:53:50.3±755.0,33.01N×114.59W,h0km,Error ellipse: s-maj=285.4km s-min=36.8km az=112.0, California-Arizona border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I57US	**PIN

PET				*e*S	Sn	16 08 14.0	+1.6	
DALK	**Dalny**	**1.68**	**8**	*e*P	Pn	16 07 54.4	+2.0	
DALK				*e*S	Sn	16 08 14.2	+1.5	
INSR	**Institute**	**1.70**	**5**	*e*P	Pn	16 07 54.9	+2.1	
INSR				*e*S	Sn	16 08 15.5	+2.1	
APC	**Apacha**	**1.73**	**335**	*e*P	Pn	16 07 55.1	+2.0	
APC				*e*S	Sn	16 08 15.8	+1.9	
UGLR	**Uglovaya**	**1.86**	**8**	*e*P	Pn	16 07 57.5	+2.5	
NLC	**Nalytchevo**	**1.90**	**18**	*e*P	Pn	16 07 56.2	+0.8	
AVH	**Avacha**	**1.91**	**7**	*e*P	Pn	16 07 58.6	+2.9	
SMAR	**Somma**	**1.91**	**8**	*e*P	Pn	16 07 58.0	+2.1	
KOK	**Koryaka**	**1.93**	**5**	*e*P	Pn	16 07 59.0	+3.1	
SDLR	**Sedlovina**	**1.93**	**9**	*e*P	Pn	16 07 57.9	+1.8	
KRER	**Koryakskii**	**1.95**	**7**	*e*P	Pn	16 07 59.0	+2.7	
KRX	**Arik**	**2.00**	**5**	*e*P	Pn	16 07 59.5	+2.6	
SPN	**Mys Shipunski**	**2.00**	**30**	*e*P	Pn	16 07 59.4	+2.5	
SPN				*e*S	Sn	16 08 22.5	+1.8	
GNL	**Ganaly**	**2.34**	**354**	*e*P	Pn	16 08 03.9	+2.2	
MKZ	**Mys Kozlova**	**3.78**	**31**	*e*P	Pn	16 08 23.9	+2.7	
TUMD	**Tumrok D**	**4.02**	**17**	*e*P	Pn	16 08 29.9	+5.3	
ESO	**Esso**	**4.56**	**2**	*e*P	Pn	16 08 35.1	+3.1	
KBTR	**Krutoberegovo**	**5.51**	**27**	*e*P	Pn	16 08 48.2	+3.2	
SMKR	**Semkarok**	**5.53**	**18**	*e*P	Pn	16 08 51.5	+6.2	

IDC ***15*** *16:20:07.8±1.1,22°.53S×178°.36W, h0km, mb4.3/5, mbtmp4.3/5, Error ellipse: s-maj=38.1km s-min=32.0km az=179.0*
NEIC ***15*** *16:20:52.9±0.2,23°.9S±0°.1×179°.4W±0°.2, h351km±5km, mb4.0/13, Error ellipse: s-maj=30.4km s-min=17.7km az=85.0*

ISC 15 16:20:51.7±0.8,23°.8S±0°.1×179°.4W±0°.2, h350km, n29, σ1s66/29, mb3.9/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.60**	**167**	Pn		**Pn**	**16 22 17.7**	**-0.3**
FUTU	**Fugatoga**	**9.51**	**8**			**P**	**16 23 07.7**	**+1.9**
MXZ	**Matakaoa Point**	**13.87**	**188**	P		**P**	**16 23 52.6**	**-1.2**
STKA	**Stephens Creek**	**35.27**	**248**	P		**P**	**16 27 15.6**	**+1.0**
STKA	**Stephens Creek**	**35.27**	**248**	P		**P**	**16 27 15.6**	**+1.0**
	2.3nm,0.7s,baz=78,slow=9.3,SNR=3.6 2.3nm,0.7s							
AS31	**Alice Springs**	**42.59**	**260**	P		**P**	**16 28 15.4**	**+0.5**
ASAR	**Alice Springs**	**42.59**	**260**	P		**P**	**16 28 14.9**	**0.0**
ASAR	**Alice Springs**	**42.59**	**260**	P		**P**	**16 28 15.4**	**+0.6**
	2.9nm,0.7s,baz=100,slow=6.7,SNR=32 2.9nm,0.7s							
WR8	**Warramunga Arr**	**42.80**	**266**	P		**P**	**16 28 16.6**	**0.0**
WR8				IAmb		IAmb	16 28 52.6	
	comp=Z,12nm,1.3s							
WB0	**Warramunga Arr**	**42.95**	**266**	P		**P**	**16 28 17.7**	**-0.1**
WRA	**Warramunga Arr**	**42.95**	**266**	P		**P**	**16 28 17.8**	**0.0**
WRA	**Warramunga Arr**	**42.95**	**266**	P		**P**	**16 28 17.9**	**0.0**
	comp=Z,3.5nm,0.4s,baz=96,slow=8.3,SNR=90 comp=Z,3.5nm,0.4s							
FORT	**Forrest**	**46.86**	**249**	P		**P**	**16 28 47.9**	**-0.2**
FORT				IAmb		IAmb	16 28 48.5	
	comp=Z,6.4nm,0.6s							
KNRA	**Kununurra**	**49.23**	**269**	P		**P**	**16 29 06.2**	**0.0**
FITZ	**Fitzroy Crossi**	**51.38**	**265**	P		**P**	**16 29 22.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**51.38**	**265**	P		**P**	**16 29 22.3**	**+0.1**
	comp=Z,2.4nm,0.4s,baz=102,slow=9.3,SNR=2.5 comp=Z,2.4nm,0.4s							
PSA00	**Pilbara Seismi**	**55.72**	**259**	P		**P**	**16 29 52.6**	**-0.8**
PSA00				IAmb		IAmb	16 29 60.0	
	comp=Z,11nm,1.5s							
MORW	**Morawa**	**57.42**	**250**	P		**P**	**16 30 04.6**	**-0.6**
MORW				IAmb		IAmb	16 30 31.0	
	comp=Z,13nm,1.3s							
CASY	**Casey**	**60.44**	**206**	P		**P**	**16 30 25.3**	**+0.2**
CASY				IAmb		IAmb	16 30 55.3	
	comp=Z,4.6nm,1.2s							
QSPA	**South Pole Qui**	**66.29**	**180**	P		**P**	**16 31 05.6**	**+2.4**
QSPA				IAmb		IAmb	16 31 06.4	
	comp=Z,3.2nm,0.8s							
QSPA	**South Pole Qui**	**66.29**	**180**	P		**P**	**16 31 05.9**	**+2.7**
	comp=Z,1.7nm,0.6s,baz=328,slow=0.9,SNR=20 comp=Z,1.7nm,0.6s							
BELA	**Belgrano 2**	**76.47**	**173**	P		**P**	**16 32 03.8**	**+0.6**
BELA				IAmb		IAmb	16 32 37.0	
	comp=Z,2.3nm,1.3s							
BVAR	**Borovoye Array**	**120.72**	**319**	PKP		**PKPdf**	**16 38 59.4**	**-2.7**
	comp=Z,0.5nm,0.5s,baz=60,slow=8.8,SNR=3.6							
ARCES	**ARCESS Array B**	**131.89**	**349**	PKP		**PKPdf**	**16 39 21.2**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=45,slow=1.9,SNR=6.8							
FINES	**FINESS Array B**	**138.51**	**342**	PKP		**PKPdf**	**16 39 35.0**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=72,slow=1.8,SNR=4.3							
HFS	**Hagfors**	**142.54**	**349**	PKP		**PKPdf**	**16 39 38.0**	**-4.9**
	comp=Z,1.2nm,0.3s,baz=64,slow=3.4,SNR=20							
AKASG	**Malin Array Be**	**145.17**	**328**	PKP		**PKPdf**	**16 39 45.4**	**-2.3**
	comp=Z,0.8nm,0.4s,baz=44,slow=4.1,SNR=6.5							
BRTR	**Keskin Array B**	**147.94**	**308**	PKPbc		**PKPdf**	**16 39 54.7**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=143,slow=4.7,SNR=4.5							
MMAI	**Mount Meron Ar**	**148.15**	**295**	PKPbc		**PKPdf**	**16 39 55.9**	**+2.5**
	comp=Z,1.8nm,0.4s,baz=77,slow=3.3,SNR=6.6							

NOU 15 16:23:12.4,10°.71S×164°.61E, h19km, MLv4.1/11, Santa Cruz Islands Region, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**1.28**	**88**	P		Pn	16 23 34.7	-0.6
LUES	**Luesalemba Tem**	**1.28**	**88**	S		Sb	16 23 52.1	0.0
HURO	**Huro Makira**	**2.67**	**275**	P		Pn	16 23 53.8	-0.7
HURO	**Huro Makira**	**2.67**	**275**	S		Sn	16 24 27.1	+0.8
ALEG	**Aligegeo Malai**	**4.32**	**296**	P		Pn	16 24 17.4	+0.3
NGOA	**Tingoa Renbel**	**4.54**	**259**	P		Pn	16 24 18.0	-2.2
SAVO	**Savo Central**	**4.97**	**288**	P		Pn	16 24 27.9	+1.8
TATA	**Tatamba Isabel**	**5.27**	**296**	P		Pn	16 24 31.1	+0.9
SANVU	**Saraoutou**	**5.34**	**152**	P		Pn	16 24 31.2	0.0
KOUNC	**Koumac, New Ca**	**9.79**	**182**	P		Pn	16 25 32.8	+0.5
DZM	**Mont Dzumac**	**11.43**	**171**	P		Pn	16 25 55.5	+0.6

IDC ***15*** *16:38:06.2±1.0,35°.24N×137°.55E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=29.2km s-min=13.7km az=105.0*
JMA ***15*** *16:38:11.5±0.1,36°.1N±0°.3×139°.7E±0°.4, h85km, MV3.2/40, SW IBARAKI PREF*
JMA Felt I J1 at SW IBARAKI PREF .

ISC 15 16:38:10.6±1.1,36°.09N±0°.05×139°.68E±0°.09, h92km±8km, n16, σ0s46/25, mb3.8/5, 6D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAG	**Ashikaga**	**0.38**	**332**	*i* P		**Pn**	**16 38 24.8**	**-0.1**
JAG				S		**Sn**	**16 38 34.8**	**-0.6**
JRY	**Ryogami san**	**0.63**	**264**	⇓*i* P		**Pn**	**16 38 27.1**	**+0.4**
JRY				⇓S		**Sn**	**16 38 39.1**	**+0.3**
JKT	**Katashina**	**0.76**	**333**	*i* P		**Pn**	**16 38 28.2**	**+0.1**
JKT				S		**Sn**	**16 38 41.0**	**-0.1**
JOD2	**Odawara 2**	**0.95**	**210**	P		**Pn**	**16 38 30.1**	**+0.1**
JOD2				S		**Sn**	**16 38 44.0**	**-0.5**
JYN	**Shimob**	**1.09**	**238**	⇓*i* P		**Pn**	**16 38 32.2**	**+0.5**
JYN				⇓S		**Sn**	**16 38 47.7**	**+0.3**
JUON	**Uonuma**	**1.23**	**336**	P		**Pn**	**16 38 33.4**	**+0.3**
JUON				S		**Sn**	**16 38 50.1**	**+0.1**
JNT	**Takato**	**1.27**	**261**	⇓*i* P		**Pn**	**16 38 34.7**	**+1.0**
JNT				⇓S		**Sn**	**16 38 51.8**	**+0.6**
MJAR	**Matsushiro Arr**	**1.27**	**291**	Pg		**Pn**	**16 38 33.0**	**-0.6**
	10nm,0.3s,baz=87,slow=26,SNR=764							
MJAR				Lg		Lg	16 38 50.6	
	4.7nm,0.3s,baz=4.2,slow=36,SNR=5.4							
MAT	**Matsushiro**	**1.27**	**291**	*i* P		**Pn**	**16 38 34.0**	**+0.3**
MAT				*e*S		**Sn**	**16 38 51.0**	**-0.1**
JFY	**Yanaizu**	**1.32**	**1**	*i* P		**Pn**	**16 38 34.7**	**+0.5**
JFY				*e*S		**Sn**	**16 38 52.3**	**+0.2**
JOTO	**OTAMA OYAMA**	**1.56**	**20**	*i* P		**Pn**	**16 38 38.1**	**+0.8**
ZALV	**Zalesovo Beam**	**41.53**	**313**	P		**P**	**16 45 48.6**	**0.0**
	0.7nm,0.5s,baz=101,slow=7.5,SNR=4.0 0.7nm,0.5s							
MKAR	**Makanchi Array**	**43.44**	**303**	P		**P**	**16 46 04.2**	**-0.1**
	0.3nm,0.5s,baz=90,slow=8.7,SNR=4.6 0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**45.49**	**309**	P		**P**	**16 46 19.8**	**-0.7**
	1.2nm,0.5s,baz=86,slow=8.2,SNR=5.6 1.2nm,0.5s							
WRA	**Warramunga Arr**	**55.95**	**186**	P		**P**	**16 47 39.1**	**-0.2**
	0.7nm,0.3s,baz=1.4,slow=7.6,SNR=22 0.7nm,0.3s							
ASAR	**Alice Springs**	**59.68**	**186**	P		**P**	**16 48 05.3**	**0.0**

0.2nm,0.3s,baz=1.5,slow=7.3,SNR=13
0.2nm,0.3s

GCG 15 16:41:16.2±0.8,14°.61N×91°.69W, h91km±4km, MD3.6, ML3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	**0.35**	**118**	*e*P		Pn	16 41 29.4	-0.8
STG2				*e*S		Sn	16 41 39.7	-0.9
SOKI	**Kika Raxquin**	**0.35**	**53**	*e*P		Pn	16 41 31.8	+1.2
SMCA	**Catarina**	**0.45**	**304**	*e*P		Pn	16 41 30.8	+0.1
SMCA				*e*S		Sn	16 41 41.8	+0.3
THIG		**0.63**	**299**	*e*P		Pn	16 41 32.7	+0.5
THIG				*e*S		Sn	16 41 45.9	+1.9
ESSG	**Sabana Grande**	**0.86**	**105**	*e*P		Pn	16 41 34.8	+0.2
ESSG				*e*S		Sn	16 41 49.9	+1.6
ESSG				IAML			16 41 51.8	
	comp=N,356nm,0.2s							
FG8	**Yepocapa, Chim**	**1.15**	**107**	*e*P		Pn	16 41 33.7	-4.1
FG8				*e*S		Sn	16 41 47.6	-6.5
FG16	**Alotenango, Sa**	**1.19**	**106**	*e*P		Pn	16 41 34.6	-3.9
FG16				IAML			16 41 54.3	
	comp=E,3μm,0.2s							
MTO3	**Montecristo**	**2.27**	**95**	*e*P		Pn	16 41 52.8	+0.6

NEIC ***15*** *16:47:52.0±0.4,36°.877N±0°.009×97°.430W±0°.008, h8km±3km, Error ellipse: s-maj=1.3km s-min=0.9km az=164.0*

NEIC 15 16:47:51.9±0.5,36°.869N±0°.010×97°.44W±0°.01, h5km±1km, mb_Lg2.2/19, ML2.5/46, ML2.2/31, Error ellipse: s-maj=2.8km s-min=1.6km az=40.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.15**	**348**			Pg	16 47 55.5	+0.6
KAN13						Sg	16 47 57.8	+1.0
KAN13				IAML			16 47 58.0	
	comp=N,2μm,0.3s							
BLOK	**Blackwell**	**0.21**	**121**			Pg	16 47 56.5	+0.6
BLOK						Sg	16 47 59.5	+0.7
KAN09	**Caldwell North**	**0.30**	**332**			Pg	16 47 58.3	+0.5
KAN09						Sg	16 48 02.6	+0.8
KAN17	**Caldwell West**	**0.31**	**304**			Pg	16 47 58.6	+0.6
KAN17				IAML			16 48 03.2	
	comp=N,784nm,0.2s							
KAN17				IAML			16 48 03.4	
	comp=E,744nm,0.3s							
GC02	**Grant County #**	**0.34**	**267**			Pg	16 47 59.0	+0.5
GC02						Sg	16 48 03.6	+0.7
KAN01	**Argonia South**	**0.38**	**318**			Pg	16 47 59.8	+0.5
KAN01						Sg	16 48 05.1	+0.8
KAN01				IAML			16 48 05.7	
	comp=E,473nm,0.1s							
KAN14	**Manchester OK**	**0.43**	**282**			Pg	16 48 00.6	+0.5
KAN14						Sg	16 48 06.4	+0.6
KAN14				IAML			16 48 08.4	
	comp=E,388nm,0.2s							
KAN08	**Anthony NE Sta**	**0.56**	**310**			Pg	16 48 03.0	+0.5
KAN08						Sg	16 48 10.7	+0.9
KAN08				IAML			16 48 12.4	
	comp=N,368nm,0.4s							
KAN08				IAML			16 48 14.1	
	comp=E,252nm,0.4s							
CROK	**Carrier**	**0.57**	**230**			Pg	16 48 03.2	+0.4
CROK						Sg	16 48 11.2	+0.9
CROK				IAML			16 48 11.4	
	comp=E,372nm,0.3s							
KAN10	**Anthony SW Sta**	**0.58**	**296**			Pg	16 48 03.6	+0.5
OK051	**E0350 and S346**	**0.60**	**127**			Pg	16 48 03.8	+0.3
OK051							16 48 16.6	
	comp=E,176nm,0.2s							
OK051				IAML			16 48 17.8	
	comp=E,220nm,0.2s							
KAN12	**Harper NE Stat**	**0.62**	**314**			Pg	16 48 04.2	+0.4
KAN12						Sg	16 48 12.5	+0.7
T35A	**Sooner Cattle**	**0.74**	**86**			Pg	16 48 06.2	0.0
T35A						Sg	16 48 16.0	+0.2
OK052	**Battle Ridge R**	**1.01**	**149**			Pg	16 48 11.4	+0.1
OK052						Sg	16 48 24.6	+0.2
OK052				IAML			16 48 25.8	
	comp=E,104nm,0.2s							
OK052				IAML			16 48 30.3	
	comp=E,172nm,0.3s							
OK029	**Liberty Lake**	**1.07**	**181**			Pg	16 48 12.3	-0.1
OK029						Sb	16 48 26.8	-0.4
OK029				IAML			16 48 33.6	
	comp=E,79nm,0.2s							
OK038	**West end E0370**	**1.12**	**250**			Pg	16 48 13.1	-0.2
OK038						Sb	16 48 28.4	-0.2
BCOK	**Bluff Creek, N**	**1.22**	**187**			Pg	16 48 14.9	-0.3
DEOK	**Depew**	**1.27**	**143**			Pg	16 48 15.9	-0.4
DEOK						Sg	16 48 32.9	+0.1
DEOK				IAML			16 48 36.5	
	comp=E,105nm,0.6s							
DEOK				IAML			16 48 36.6	
	comp=N,70nm,0.6s							
CSTR	**Hydro, Custer**	**1.58**	**220**			Pb	16 48 21.5	-0.2
FNO	**Franklin**	**1.61**	**179**			Pn	16 48 21.4	+0.4
TUL3	**Leonard**	**1.64**	**125**			Pb	16 48 22.5	-0.1
R32A	**Long Quarter,**	**1.85**	**327**			Pn	16 48 25.2	+0.9
WMOK	**Wichita Mounta**	**2.39**	**208**	IAmb_Lg			16 49 08.1	
	comp=Z,8.5nm,1.0s							
CBKS	**Cedar Bluff**	**2.66**	**318**	IAmb_Lg			16 49 14.8	
	comp=Z,4.5nm,0.8s							
HHAR	**Hobbs**	**2.88**	**101**	IAmb_Lg			16 49 23.5	
	comp=Z,3.8nm,0.7s							
MIAR	**Mount Ida**	**3.91**	**125**	IAmb_Lg			16 49 58.2	
	comp=Z,7.6nm,0.8s							
AMTX	**Amarillo**	**3.97**	**241**	IAmb_Lg			16 50 05.8	
	comp=Z,6.9nm,0.9s							
P38A	**Dawn**	**4.13**	**47**	IAmb_Lg			16 50 03.3	
	comp=Z,5.9nm,0.7s							
MGMO	**Mountain Grove**	**4.15**	**85**	IAmb_Lg			16 50 06.6	
	comp=Z,5.8nm,0.8s							
N35A	**Tabor**	**4.22**	**19**	IAmb_Lg			16 50 13.7	
	comp=Z,11nm,0.9s							
DKNS	**Dickens**	**4.28**	**223**	IAmb_Lg			16 50 16.5	
	comp=Z,6.2nm,1.2s							
R40A	**Maddies Statio**	**4.34**	**69**	IAmb_Lg			16 50 11.7	
	comp=Z,5.5nm,1.0s							
FCAR	**Ozark Folk Cen**	**4.40**	**101**	IAmb_Lg			16 50 09.1	
	comp=Z,4.5nm,1.0s							

IDC 15 16:56:40.6±4.9,6°.73S×151°.14E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=138.5km s-min=34.2km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.94**	**230**	P		P	17 01 25.4	+0.2
	1.3nm,0.5s,baz=54,slow=11,SNR=12 1.3nm,0.5s							
ASAR	**Alice Springs**	**23.62**	**223**	P		P	17 01 53.1	-0.4
	1.5nm,0.7s,baz=57,slow=9.1,SNR=21 1.5nm,0.7s							
SONM	**Songino Array**	**67.09**	**329**	P		P	17 07 36.4	+0.3
	0.3nm,0.6s,baz=133,slow=6.3,SNR=2.2 0.3nm,0.6s							

IDC ***15*** *16:58:12.7±0.9,5°.71S×151°.26E, h0km, mb4.0/11, mbtmp4.0/11, MS3.2/4, Error ellipse: s-maj=40.8km s-min=19.1km az=109.0*
NEIC ***15*** *16:58:20.0±0.7,5°.6S±0°.1×150°.92E±0°.10, h47km±8km, mb4.6/15, Error ellipse: s-maj=16.9km s-min=12.9km az=153.0*

ISC 15 16:58:21.6±0.6,5°.61S±0°.10×150°.9E±0°.1, h65km, n36, σ1s15/31, mb4.2/16, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.88**	**42**	Pn		**Pn**	**16 58 49.5**	**-2.0**
MANU	**Manus Island**	**5.00**	**315**	Pn		**Pn**	**16 59 31.7**	**-2.5**
FAKI	**Fak Fak**	**18.80**	**277**	P		P	17 02 29.3	-6.8
FAKI				IAmb		IAmb	17 03 04.8	
	comp=Z,107nm,1.3s							
GUMO	**Guam**	**19.99**	**343**	P		**P**	**17 02 47.8**	**-1.2**
GUMO	**Guam**	**19.99**	**343**	LR		LR	17 09 10.2	
	comp=Z,43nm,20.6s,baz=210,slow=33							
WB0	**Warramunga Arr**	**21.37**	**227**	P		**P**	**17 03 02.8**	**-1.0**
WB0				IAmb		IAmb	17 03 08.7	
	comp=Z,28nm,1.4s							
WR8	**Warramunga Arr**	**21.41**	**227**	P		**P**	**17 03 03.6**	**-0.6**
WR8				IAmb		IAmb	17 03 36.6	
	comp=Z,20nm,1.3s							
WRA	**Warramunga Arr**	**21.52**	**227**	P		**P**	**17 03 05.1**	**-0.3**
	comp=Z,6.1nm,1.1s,baz=54,slow=11,SNR=7.1 comp=Z,6.1nm,1.1s							
DZM	**Mont Dzumac**	**22.22**	**139**	LR		LR	17 09 50.2	
	comp=Z,107nm,19.6s,baz=210,slow=32							
AS31	**Alice Springs**	**24.30**	**221**	P		**P**	**17 03 32.8**	**-0.4**
ASAR	**Alice Springs**	**24.31**	**221**	P		**P**	**17 03 32.1**	**-1.2**
ASAR	**Alice Springs**	**24.31**	**221**	P		**P**	**17 03 33.5**	**+0.3**
	comp=Z,5.0nm,0.8s,baz=58,slow=8.8,SNR=11 comp=Z,5.0nm,0.8s							
STKA	**Stephens Creek**	**27.55**	**197**	P		**P**	**17 04 03.0**	**+0.6**
	comp=Z,2.5nm,0.9s,baz=9.9,slow=13,SNR=3.2 comp=Z,2.5nm,0.9s							
JAGI	**Jajag, Banyuwa**	**36.59**	**263**	P		**P**	**17 05 22.4**	**+0.7**
JOW	**Kunigami**	**38.99**	**327**	LR		LR	17 20 10.4	
	comp=Z,22nm,19.0s,baz=244,slow=34							
COCO	**West Island**	**53.75**	**259**	P		**P**	**17 07 37.2**	**-0.6**
PEA0B	**Petropavlovsk-**	**58.77**	**5**	P		**P**	**17 08 13.4**	**+0.6**
PETK	**Petropavlovsk-**	**58.77**	**5**	P		**P**	**17 08 13.1**	**+0.3**
PETK	**Petropavlovsk-**	**58.77**	**5**	P		**P**	**17 08 13.0**	**+0.1**
	comp=Z,2.0nm,1.0s,baz=154,slow=6.4,SNR=4.5 comp=Z,2.0nm,1.0s							
MA2	**Magadan**	**64.97**	**360**	LR		LR	17 38 06.0	
	comp=Z,18nm,18.7s,baz=236,slow=37							
SONM	**Songino Array**	**66.02**	**329**	P		**P**	**17 09 04.2**	**+2.7**
	comp=Z,0.3nm,0.5s,baz=158,slow=4.2,SNR=2.1 comp=Z,0.3nm,0.5s							
CASY	**Casey**	**66.71**	**197**	P		**P**	**17 09 05.5**	**+0.1**
CASY				IAmb		IAmb	17 09 44.6	
	comp=Z,10nm,1.5s							
PLK4	**Peulik 4**	**75.97**	**26**	P		**P**	**17 10 01.0**	**-0.5**
MKAR	**Makanchi Array**	**79.70**	**319**	P		**P**	**17 10 24.1**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=97,slow=5.0,SNR=2.2 comp=Z,0.2nm,0.5s							
G18K	**Tagagawik**	**80.10**	**19**	P		**P**	**17 10 24.4**	**+0.3**
ZALV	**Zalesovo Beam**	**80.79**	**327**	P		**P**	**17 10 29.0**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=126,slow=7.3,SNR=2.6 comp=Z,0.6nm,0.6s							
F19K	**Shaleruckik Mo**	**80.97**	**18**	P		**P**	**17 10 29.1**	**+0.4**
IMAR	**Indian Mountai**	**81.77**	**20**	P		**P**	**17 10 33.1**	**+0.1**
KURBB	**Kurchatov Arra**	**83.28**	**322**	P		**P**	**17 10 42.1**	**+1.0**
	comp=Z,2.0nm,0.3s,baz=100,slow=4.1,SNR=2.1 comp=Z,2.0nm,0.3s							
ILAR	**Eielson Array**	**83.61**	**22**	P		**P**	**17 10 41.9**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=254,slow=5.2,SNR=12 comp=Z,1.8nm,0.8s							
J25K	**Salcha River,**	**84.12**	**23**	P		**P**	**17 10 44.9**	**-0.4**
J25K				IAmb		IAmb	17 10 46.9	
	comp=Z,3.8nm,0.8s							
QSPA	**South Pole Qui**	**84.36**	**180**	P		**P**	**17 10 45.0**	**-1.6**
QSPA				IAmb		IAmb	17 10 47.1	
	comp=Z,7.5nm,1.4s							
QSPA	**South Pole Qui**	**84.36**	**180**	P		**P**	**17 10 44.9**	**-1.6**
	comp=Z,3.3nm,1.0s,baz=293,slow=1.6,SNR=7.1 comp=Z,3.3nm,1.0s							
K29M	**Barlow Dome**	**86.99**	**25**			**P**	**17 10 59.5**	**-0.2**
K29M				IAmb		IAmb	17 11 03.0	
	comp=Z,5.7nm,1.1s							
NVAR	**Mina Array Bea**	**94.06**	**52**	P		**P**	**17 11 34.0**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=254,slow=6.5,SNR=4.9 comp=Z,0.8nm,0.7s							
GERES	**GERESS Array B**	**123.73**	**327**	PKP		**PKiKP**	**17 17 13.6**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=42,slow=2.2,SNR=8.6							

BUC ***15*** *17:01:26.9±0.2,45°.70N×26°.76E, h108km±2km, ml3.5/44, Error ellipse: s-maj=1.6km s-min=1.3km az=12.0*
MCSM ***15*** *17:01:27.3±0.7,46°.N±4"×2°.7E±°, h96km±6km, MLv3.1*

ISC 15 17:01:25.4±1.4,45°.76N±0°.03×26°.76E±0°.03, h121km±7km, n60, σ0s71/94, 45C-32D, Romania

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PLOR5	**Plostina Array**	**0.11**	**323**	P		**Pn**	**17 01 42.1**	**+0.1**
VRI	**Vrincioaia**	**0.11**	**348**	⇑P		**Pn**	**17 01 42.4**	**+0.4**
VRI				⇑S		**Sn**	**17 01 53.9**	**-0.6**
VRI	**Vrincioaia**	**0.11**	**348**	P		**Pn**	**17 01 42.0**	**0.0**
PLOR	**Plostina**	**0.12**	**321**	⇑P		**Pn**	**17 01 42.2**	**+0.2**
PLOR				⇓S		**Sn**	**17 01 54.7**	**+0.1**
ODBI	**Odobesti**	**0.21**	**87**	P		**Pn**	**17 01 43.0**	**+0.9**
BISRR	**Bisoca**	**0.21**	**190**	⇑P		**Pn**	**17 01 42.5**	**+0.3**
BISRR				⇓S		**Sn**	**17 01 54.3**	**-0.6**
BISRR	**Bisoca**	**0.21**	**190**	P		**Pn**	**17 01 42.2**	**0.0**
PANC	**Panciu**	**0.29**	**66**	⇑P		**Pn**	**17 01 42.9**	**+0.5**
PANC				⇓S		**Sn**	**17 01 54.6**	**-0.6**
COVR	**Voineasa-Covas**	**0.40**	**283**	⇑P		**Pn**	**17 01 43.2**	**+0.3**
COVR				⇓S		**Sn**	**17 01 55.6**	**-0.5**
NEHR	**Nehoiu**	**0.46**

50nm,21.0s

KIS				*e*S	**Sn**	**17 02 21.6**	**-0.4**
COPA	**Copaceanca**	**1.96**	**215**	⇓S	**Sn**	**17 02 22.6**	**-0.8**
TSCT	**Constanta Port**	**2.09**	**139**	⇑P	**Pn**	**17 02 00.5**	**+0.6**
RAZG	**Razgrad**	**2.20**	**185**	⇑P	**Pn**	**17 02 01.9**	**+0.6**
SORM	**Soroca**	**2.62**	**24**	P	**Pn**	**17 02 07.6**	**+1.0**
PLVB	**Pleven**	**2.82**	**214**	⇑P	**Pn**	**17 02 09.7**	**+0.4**
NDNU	**Novodnistrovsk**	**2.87**	**8**	P	**Pn**	**17 02 09.9**	**0.0**
ELND	**Elena**	**2.90**	**193**	⇓P	**Pn**	**17 02 11.0**	**+0.7**
LUBAR	**Lubar, Ukraine**	**4.22**	**9**	P	**Pn**	**17 02 28.5**	**+0.7**
KWP	**Kalwaria Pacla**	**4.75**	**326**	P	**Pn**	**17 02 34.2**	**-0.7**
RNPP5	**Staryi Chortor**	**5.51**	**354**	P	**Pn**	**17 02 45.5**	**+0.4**

IDC 15 17:13:18.7±1.4,0.29S×124.36E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=179.8km s-min=22.0km az=63.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.84**	**154**	P	P	17 18 12.2	-0.8
	0.7nm,0.5s,baz=332,slow=10.0,SNR=8.6 0.7nm,0.5s						
ASAR	**Alice Springs**	**25.01**	**159**	P	P	17 18 45.2	+0.6
	1.6nm,0.7s,baz=332,slow=6.9,SNR=22 1.6nm,0.7s						
MKAR	**Makanchi Array**	**59.58**	**328**	P	P	17 23 23.2	-1.1
	0.4nm,0.5s,baz=117,slow=8.8,SNR=6.0 0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**63.90**	**329**	P	P	17 23 54.6	+1.2
	0.2nm,0.4s,baz=118,slow=6.4,SNR=2.9 0.2nm,0.4s						

WEL 15 17:33:48.9±1.1,35.5S±9.7×18.0E±1.3,h221km±16km,M4.1/9, ML4.0/6,MLv4.1/9,Error ellipse: s-maj=17.3km s-min=11.9km az=103.5,confirmed,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.66**	**208**	P	Pn	17 34 35.5	-0.2
MXZ				S	S	17 35 12.4	0.0
WMGZ	**Waiomatatini S**	**2.85**	**204**	S	S	17 35 17.1	+0.9
PKGZ	**Pakihiroa**	**3.01**	**208**	P	Pn	17 34 39.0	-0.8
PKGZ				S	S	17 35 20.7	+1.1
HAZ	**Te Kaha**	**3.04**	**213**	P	Pn	17 34 40.3	+0.3
HAZ				S	S	17 35 21.8	+1.7
PUZ	**Puketiti**	**3.13**	**204**	P	Pn	17 34 40.7	-0.3
PUZ				S	S	17 35 20.8	-1.2
RUGZ	**Raukumara Rang**	**3.27**	**212**	P	Pn	17 34 43.2	+0.4
RUGZ				S	S	17 35 26.1	+1.2
TWGZ	**Tauwhareparae**	**3.32**	**207**	P	Pn	17 34 43.6	+0.3
TWGZ				S	S	17 35 28.0	+2.0
CNGZ	**Carnagh Statio**	**3.52**	**202**	P	Pn	17 34 46.3	+0.7
TKGZ	**Te Karaka**	**3.60**	**206**	S	S	17 35 32.3	+0.5
MWZ	**Matawai**	**3.64**	**211**	P	Pn	17 34 46.9	-0.1
MWZ				S	S	17 35 34.1	+1.4
GRZ	**Great Barrier**	**3.75**	**253**	P	Pn	17 34 47.5	-0.8
URZ	**Urewera**	**3.76**	**216**	P	Pn	17 34 48.2	-0.2
URZ				S	S	17 35 35.2	-0.2
RIGZ	**Rimuhau**	**3.87**	**205**	P	Pn	17 34 49.9	+0.1
RIGZ				S	S	17 35 39.0	+1.2
PRGZ	**Paritu Road**	**4.03**	**203**	S	S	17 35 40.5	-0.6
SNGZ	**Shannon Statio**	**4.10**	**209**	P	Pn	17 34 53.1	+0.5
SNGZ				S	S	17 35 43.8	+1.2
MUGZ	**Murupara**	**4.10**	**217**	S	S	17 35 42.7	0.0
KNZ	**Kokohu**	**4.18**	**204**	P	Pn	17 34 53.2	-0.4
KNZ				S	S	17 35 44.7	+0.2
TOZ	**Tahuroa Road**	**4.33**	**233**	P	Pn	17 34 57.0	+1.6
WCZ	**Waipu Caves**	**4.58**	**259**	P	Pn	17 34 57.8	-0.7
BKZ	**Black Stump Fm**	**4.78**	**214**	P	Pn	17 35 01.5	+0.4
BKZ				S	S	17 35 59.4	+1.4
DVHZ	**Dannevirke**	**5.86**	**209**	P	Pn	17 35 13.7	-0.9
DVHZ				S	S	17 36 22.1	-0.6
BFZ	**Birch Farm**	**6.16**	**207**	P	Pn	17 35 18.0	-0.4

*NDI **15** 17:41:25.6±2.8, 32.27N×91.30E, h10km, ML4.3, MW4.3*
*MOS **15** 17:41:27.8±0.9, 31.72N×91.13E, h12km, mb4.8/30, Error ellipse: s-maj=9.0km s-min=3.9km az=121.6*
*IDC **15** 17:41:27.3±0.4, 31.60N×91.11E, h0km, mb4.6/23, mbtmp4.5/27, ML4.0/4, MS3.7/30, Error ellipse: s-maj=19.4km s-min=10.7km az=52.0*
*NEIC **15** 17:41:30.0±1.6, 31.76N±0.08×91.2E±0.1, h12km±4km, mb4.9/174, Error ellipse: s-maj=13.1km s-min=11.3km az=57.0*
*BJI **15** 17:41:29.0, 31.77N×91.19E, h6km, mB4.7/19, mb4.4/51, ML4.3/4, Ms4.3/58, Ms7 4.2/56*
*GCMT **15** 17:41:31.0±0.5, 31.63N±0.04×91.32E±0.03, h20km±1km, MW4.7/63, Moment Tensor Solution. s10,c12; s63,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.09±.14; $M_{\theta\theta}$-0.24±.08; $M_{\phi\phi}$ 1.33±.09; $M_{r\theta}$-0.25±.17; $M_{\theta\phi}$ 0.41±.06; $M_{\phi r}$-0.30±.13; Best double couple: $M_0$1.32700×10^{16} NP1:ϕ_s182.00000°, δ39.00000°, λ-109.00000°. NP2: ϕ_s25.00000°, δ54.00000°, λ-76.00000°. Principal axes: T 1.4800, Plg8.0000°, Azm105.0000°; N -0.3060, Plg11.0000°, Azm196.0000°; P -1.1730, Plg76.0000°, Azm341.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 17:41:29.8±0.5,31.73N±0.03×91.15E±0.03,h14km±3km, h14km:pP-P,n640,σ1.52/596,mb4.8/156,MS3.8/48, 18C-16D,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**2.02**	**180**	Pg	**Pb**	**17 42 06.0**	**-0.7**
LSA				Sg	**Sg**	**17 42 34.6**	**-0.4**
LSA				smax	smax		
	comp=N,2μm,0.9s						
ZIRO	**ZIRO**	**4.80**	**150**	*e*P	**Pn**	**17 42 45.4**	**+3.4**
ZIRO				*e*S	**Sn**	**17 43 41.1**	**+3.6**
ZIRO				IAML		17 43 48.3	
	comp=E,741nm,0.7s						
ZIRO				IAML		17 43 51.0	
	comp=E,638nm,0.8s						
GTK	**Tadong**	**4.92**	**207**	*e*P	**Pn**	**17 42 46.9**	**+3.3**
GTK				*e*S	**Sn**	**17 43 47.0**	**+6.6**
GTK				IAML		17 44 04.7	
	comp=E,487nm,0.8s						
GTK				IAML		17 44 05.5	
	comp=E,576nm,0.6s						
TEZP	**TEZPUR**	**5.29**	**164**	*e*P	**Pn**	**17 42 50.8**	**+2.2**
TEZP				*e*S	**Sn**	**17 43 53.0**	**+3.6**
TEZP				IAML		17 43 56.7	
	comp=E,656nm,0.4s						
TEZP				IAML		17 43 59.9	
	comp=E,406nm,0.3s						
EVN	**Everest**	**5.32**	**226**		**Pn**	**17 42 53.0**	**+3.5**
GOMU	**GeErMu**	**5.40**	**33**	P	Pn	17 42 55.3	+5.0
GOMU				pP	Pb	17 43 01.8	-2.4
GOMU				sP	Pg	17 43 08.9	-4.3
GOMU				S	**Sb**	**17 44 06.6**	**-2.4**
GOMU				pmax	pmax		
	comp=Z,19nm,0.8s						
GOMU				LR	LR		
	comp=N,2μm,6.1s						
GOMU				LR	LR		
	comp=E,2μm,7.1s						
GOMU				LR	LR		
	comp=Z,2μm,9.4s						
GUWA	**GUWAHATI**	**5.54**	**175**	*e*P	**Pn**	**17 42 54.2**	**+2.3**
GUWA				*e*S	**Sn**	**17 44 02.3**	**+6.9**
GUWA				IAML		17 44 16.8	
	comp=Z,257nm,0.5s						
GUWA				IAML		17 44 25.8	
	comp=E,289nm,0.7s						
GUN	**Gumba**	**5.95**	**232**	Pn	**Pn**	**17 43 00.7**	**+2.8**
	baz=232,slow=0.0						
GUN				Sn	**Sn**	**17 44 10.9**	**+4.7**
	comp=E,399nm,0.7s,baz=232,slow=0.0						
SHL	**Shillong**	**6.17**	**174**		**Pn**	**17 43 02.3**	**+1.5**
SHL	**Shillong**	**6.17**	**174**	P	**Pn**	**17 43 02.3**	**+1.5**
RAMN	**Ramite**	**6.20**	**221**	Pn	**Pn**	**17 43 03.1**	**+1.9**
	baz=223,slow=0.0						
RAMN				Sn	**Sn**	**17 44 14.5**	**+2.4**
	comp=E,276nm,0.6s,baz=223,slow=0.0						
PKI	**Pulchoki**	**6.49**	**232**	Pn	**Pn**	**17 43 07.7**	**+2.4**
	baz=232,slow=0.0						
PKI				Sn	**Sn**	**17 44 22.8**	**+3.4**
	comp=E,291nm,0.7s,baz=232,slow=0.0						
PKIN	**Phulchoki**	**6.49**	**232**	Pn	**Pn**	**17 43 07.6**	**+2.3**
	baz=233,slow=0.0						
PKIN				Sn	**Sn**	**17 44 23.7**	**+4.3**
	comp=E,296nm,0.6s,baz=233,slow=0.0						
DMN	**Daman**	**6.67**	**234**	Pn	**Pn**	**17 43 10.2**	**+2.5**
	baz=234,slow=0.0						
DMN				Sn	**Sn**	**17 44 27.9**	**+4.2**
	comp=E,324nm,0.9s,baz=234,slow=0.0						
GKN	**Gorkha**	**6.76**	**238**	Pn	**Pn**	**17 43 11.6**	**+2.7**
	baz=239,slow=0.0						
GKN				Sn	**Sn**	**17 44 28.8**	**+2.9**
	comp=E,126nm,0.6s,baz=239,slow=0.0						
DANN	**Dangsing**	**7.24**	**244**	Pn	**Pn**	**17 43 17.3**	**+1.8**
	baz=244,slow=0.0						
DANN				Sn	**Sn**	**17 44 40.5**	**+2.8**
	comp=E,171nm,0.7s,baz=244,slow=0.0						
IMP	**Imphal**	**7.30**	**160**	*e*P	**Pn**	**17 43 17.1**	**+0.9**
IMP				*e*S	**Sn**	**17 44 40.1**	**+1.1**
IMP				IAML		17 44 48.0	
	comp=E,172nm,1.1s						
IMP				IAML		17 44 54.5	
	comp=E,164nm,1.2s						
AGT	**Agartala**	**7.82**	**179**	*e*P	**Pn**	**17 43 25.6**	**+2.4**
PYUN	**Piuthan**	**7.95**	**245**	Pn	**Pn**	**17 43 27.4**	**+2.1**
	baz=245,slow=0.0						
PYUN				Sn	**Sn**	**17 44 57.5**	**+2.3**
	comp=E,191nm,0.8s,baz=245,slow=0.0						
AZL	**Aizawl**	**8.08**	**170**	*e*P	**Pn**	**17 43 28.6**	**+1.8**
AZL				*e*S	**Sn**	**17 45 01.1**	**+3.0**
AZL				IAML		17 45 11.6	
	comp=E,184nm,0.9s						
AZL				IAML		17 45 15.6	
	comp=E,192nm,0.9s						
BRDH	**Bariadhala**	**9.03**	**177**	Pn	**Pn**	**17 43 39.5**	**-0.3**
	comp=E,115nm,0.3s,baz=4.2,slow=9.9,SNR=7.9						
BRDH				Sn	**Sn**	**17 45 23.1**	**+1.8**
	comp=E,37nm,0.3s,baz=116,slow=21,SNR=6.1						
TNCH	**TengChong**	**9.31**	**134**	P	**Pn**	**17 43 45.4**	**+1.6**
TNCH				sP		17 43 49.0	
TNCH				S	**Sn**	**17 45 25.8**	**-2.7**
TNCH				pmax	pmax		
	comp=E,8.0nm,0.6s						
TNCH				pmax	pmax		
	comp=E,66nm,4.0s						
TNCH				LR	LR		
	comp=E,1μm,8.6s						
TNCH				LR	LR		
	comp=E,780nm,9.5s						
TNCH				LR	LR		
	comp=E,880nm,11.1s						
LGTI	**Lohaghat**	**9.67**	**259**	*e*P	**Pn**	**17 43 50.6**	**+2.0**
LGTI				*e*S	**Sn**	**17 45 36.7**	**-0.3**
ALBI	**Allahabad**	**10.41**	**234**	*e*P	**Pn**	**17 43 59.6**	**+0.9**
ALBI				*e*S	**Sn**	**17 45 50.8**	**-4.4**
GTA	**Gaotai**	**10.41**	**40**	P	**Pn**	**17 44 01.3**	**+2.4**
GTA				sP		17 44 08.5	
GTA				S	**Sn**	**17 46 01.5**	**+6.1**
GTA				pmax	pmax		
	comp=E,11nm,0.9s						
GTA				LR	LR		
	comp=E,1μm,15.3s						
GTA				LR	LR		
	comp=E,1μm,14.9s						
GTA				LR	LR		
	comp=E,1μm,12.0s						
PZH	**PanZhiHua**	**10.62**	**117**	P	**Pn**	**17 44 01.8**	**0.0**
PZH				S	**Sn**	**17 46 01.3**	**+0.6**
PZH				pmax	pmax		
	comp=E,10.0nm,1.2s						
PZH				LR	LR		
	comp=E,1μm,7.5s						
PZH				LR	LR		
	comp=E,2μm,8.8s						
PZH				LR	LR		
	comp=E,2μm,9.2s						
CD2	**Chengdu**	**10.81**	**91**	P	**Pn**	**17 44 00.9**	**-3.5**
CD2				S	**Sn**	**17 46 02.1**	**-3.2**
CD2				pmax	pmax		
	comp=Z,170nm,5.8s						
CD2				LR	LR		
	comp=N,2μm,10.6s						
CD2				LR	LR		
	comp=E,2μm,8.2s						
CD2				LR	LR		
	comp=Z,2μm,8.4s						
KMI	**Kunming**	**12.13**	**120**	P	**Pn**	**17 44 27.3**	**+4.7**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KMI				LR	LR		
	comp=Z,690nm,8.4s						
KMI				LR	LR		
	comp=Z,690nm,9.4s						
WMQ	**Urumqi**	**12.38**	**348**	*e*P	**Pn**	**17 44 28.0**	**+2.3**
WMQ				LR	LR		
	comp=Z,630nm,9.5s						
WMQ				LR	LR		
	comp=Z,880nm,11.5s						
WMQ				LR	LR		
	comp=Z,210nm,15.7s						
JHNI	**Jhansi**	**12.71**	**244**	*e*P	**Pn**	**17 44 29.1**	**-1.2**
JHNI				*e*S	Sn	17 46 42.0	-10
GYA	**Guiyang**	**14.54**	**107**	⇓P	**Pn**	**17 44 54.8**	**-0.6**
GYA				S	**Sn**	**17 47 37.9**	**+1.4**
GYA				pmax	pmax		
	comp=Z,26nm,1.0s						
GYA				LR	LR		
	comp=Z,420nm,6.6s						
GYA				LR	LR		
	comp=Z,620nm,6.2s						
GYA				LR	LR		
	comp=Z,500nm,6.4s						
KSH	**Kashi**	**14.57**	**306**	P	**P**	**17 45 03.3**	**+1.0**
KSH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KSH				LR	LR		
	comp=Z,400nm,12.4s						
KSH				LR	LR		
	comp=Z,440nm,13.1s						
KSH				LR	LR		
	comp=Z,720nm,12.1s						
CHTO	**Chiang Mai**	**14.66**	**149**		**Pn**	**17 44 56.2**	**-0.7**
CHTO	**Chiang Mai**	**14.66**	**149**	P	**Pn**	**17 44 56.2**	**-0.7**
SHLS	**Shalkode**	**14.69**	**324**	*e*P	**Pn**	**17 44 55.2**	**-2.1**
SHLS	**Shalkode**	**14.69**	**324**	*e*P	**Pn**	**17 44 55.2**	**-2.1**
UZB	**Uzynbulak**	**14.90**	**323**	*e*P	**Pn**	**17 45 00.7**	**+0.5**
UZB	**Uzynbulak**	**14.90**	**323**	*e*P	**Pn**	**17 45 00.8**	**+0.5**
CM31	**Chiang Mai Arr**	**14.97**	**150**		**Pn**	**17 44 59.7**	**-1.5**
CMAR	**Chiang Mai Arr**	**14.97**	**150**		**Pn**	**17 44 59.2**	**-2.0**
CMAR	**Chiang Mai Arr**	**14.97**	**150**	Pn	**Pn**	**17 45 00.3**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=318,slow=12,SNR=13 comp=Z,1.5nm,0.7s						
XAN	**Xi'an**	**15.11**	**76**	P	**Pn**	**17 45 01.1**	**-1.9**
XAN				S	**Sn**	**17 47 47.5**	**-2.7**
XAN				pmax	pmax		
	comp=Z,14nm,0.9s						
XAN				LR	LR		
	comp=Z,650nm,9.3s						
XAN				LR	LR		
	comp=Z,880nm,8.9s						
XAN				LR	LR		
	comp=Z,920nm,8.7s						
SATY	**Saty**	**15.16**	**322**	*e*P	**Pn**	**17 45 04.5**	**+0.8**
SATY	**Saty**	**15.16**	**322**	*e*P	**Pn**	**17 45 04.6**	**+0.8**
NIL	**Nilore**	**15.20**	**282**		**Pn**	**17 45 00.3**	**-3.8**
NIL				IAmb	IAmb	17 45 11.3	
	comp=Z,86nm,1.6s						
NIL	**Nilore**	**15.20**	**282**	P	**Pn**	**17 45 00.3**	**-3.8**
NIL				pmax	pmax		
	comp=Z,86nm,1.6s						
SLVN	**Son La**	**15.40**	**129**		**Pn**	**17 45 06.1**	**-0.8**
ENH	**Enshi**	**15.79**	**90**	P	**Pn**	**17 45 09.3**	**-2.6**
TNSS	**Tian-Shan**	**15.94**	**319**	*e*P	**Pn**	**17 45 14.5**	**+0.4**
TNSS	**Tian-Shan**	**15.94**	**319**	*e*P	**Pn**	**17 45 14.5**	**+0.4**
ZSN	**Zaisan**	**16.42**	**345**	*e*P	**Pn**	**17 45 20.6**	**+0.8**
ZSN	**Zaisan**	**16.42**	**345**	*e*P	**Pn**	**17 45 20.6**	**+0.8**
MK31	**Makanchi Array**	**16.52**	**338**	*e*P	**Pn**	**17 45 20.6**	**-0.5**
MKAR	**Makanchi Array**	**16.52**	**338**		**Pn**	**17 45 19.1**	**-2.0**
MKAR	**Makanchi Array**	**16.52**	**338**	Pn	**Pn**	**17 45 20.8**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=147,slow=14,SNR=35						
MKAR				PcP	**PcP**	**17 50 10.9**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=188,slow=2.5,SNR=4.8						
MKAR				LR	LR	17 51 45.2	
	comp=Z,144nm,21.3s,baz=155,slow=37 comp=Z,4.1nm,0.8s						
MAKZ	**Makanchi**	**16.63**	**338**		**Pn**	**17 45 20.9**	**-1.6**
MAKZ	**Makanchi**	**16.63**	**338**	P	**Pn**	**17 45 20.9**	**-1.6**
MAKZ				pmax	pmax		
	comp=Z,12nm,1.1s						
AAK	**Ala-Archa**	**17.14**	**314**		**Pn**	**17 45 26.9**	**-2.1**
AAK	**Ala-Archa**	**17.14**	**314**	P	**P**	**17 45 30.7**	**0.0**
	comp=Z,0.6nm,0.3s,baz=232,slow=22,SNR=6.8						
AAK				LR	LR	17 53 01.8	
	comp=Z,185nm,20.6s,baz=135,slow=40 comp=Z,4.6nm,0.5s						
AAK	**Ala-Archa**	**17.14**	**314**	P	**Pn**	**17 45 26.9**	**-2.1**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ARSB	**Arslanbob**	**17.43**	**308**		**Pn**	**17 45 31.1**	**-1.7**
ARSB	**Arslanbob**	**17.43**	**308**	P	**Pn**	**17 45 31.1**	**-1.7**
ARSB				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SGDS	**Sogindy**	**17.52**	**317**	*e*P	**Pn**	**17 45 34.3**	**+0.5**
BTO	**Baotou**	**17.60**	**55**	*e*P	**Pn**	**17 45 34.8**	**0.0**
BTO				pP	**sP**	**17 45 44.0**	**+0.6**
BTO				PP	**PnPn**	**17 45 50.0**	**+4.8**
BTO				S	**Sn**	**17 48 45.8**	**-4.8**
BTO				sS	**S**	**17 48 59.6**	**+1.3**
BTO				SS		17 49 10.3	
BTO				pmax	pmax		
	comp=Z,22nm,0.9s						
BTO				pmax	pmax		
	comp=Z,180nm,4.5s						
BTO				LR	LR		
	comp=Z,2μm,17.9s						
BTO				LR	LR		
	comp=Z,1μm,17.3s						
BTO				LR	LR		
	comp=Z,700nm,16.3s						
HYB	**Hyderabad**	**18.26**	**222**	*e*P	**P**	**17 45 43.5**	**+0.3**
GAR	**Garm**	**18.45**	**299**		**P**	**17 45 43.6**	**-1.6**
KBL	**Kabul**	**18.72**	**285**	P	**Pn**	**17 45 49.0**	**+0.3**
KBL				IAmb	IAmb	17 45 55.5	
	comp=Z,49nm,0.9s						
KBL	**Kabul**	**18.72**	**285**	P	**Pn**	**17 45 49.0**	**+0.3**
KBL				pmax	pmax		
	comp=Z,49nm,0.9s						
TRKS	**Terek-Say**	**18.77**	**307**	P	**Pn**	**17 45 51.8**	**+2.6**
TRKS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**18.77**	**55**	*e*P	**P**	**17 45 46.6**	**-2.1**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,4.3s						
HHC				LR	LR		
	comp=Z,560nm,13.5s						
HHC				LR	LR		
	comp=Z,510nm,15.1s						
BTLS	**Baital**	**18.83**	**320**	*e*P	**Pn**	**17 45 50.0**	**+0.3**
BTLS	**Baital**	**18.83**	**320**	*e*P	**Pn**	**17 45 50.0**	**+0.3**
DZA	**Taraz**	**19.26**	**311**	*e*P	**Pn**	**17 45 54.6**	**-0.3**
DZA	**Taraz**	**19.26**	**311**	*e*P	**Pn**	**17 45 54.6**	**-0.3**
DZET	**Dzherino**	**19.52**	**297**	P	**Pn**	**17 45 57.5**	**-0.7**
DZET				pmax	pmax		
	comp=Z,13nm,0.9s						
IUG	**Iuzhnay**	**19.78**	**308**	*e*P	**Pn**	**17 46 00.4**	**-0.8**
IUG	**Iuzhnay**	**19.78**	**308**	*e*P	**Pn**	**17 46 00.5**	**-0.8**
SONM	**Songino Array**	**19.84**	**31**	P	**P**	**17 46 00.0**	**-0.4**
SONM	**Songino Array**	**19.84**	**31**	P	**P**	**17 46 01.4**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=214,slow=12,SNR=18						
SONM				PcP	**PcP**	**17 50 17.5**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=193,slow=2.4,SNR=3.8						
SONM				LR	LR	17 54 20.4	
	comp=Z,232nm,21.4s,baz=215,slow=39 comp=Z,4.7nm,0.8s						
KK31	**Karatay Array**	**19.89**	**311**	P	**P**	**17 45 59.8**	**-1.0**
KK31	**Karatay Array**	**19.89**	**311**	P	**P**	**17 45 59.8**	**-1.0**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KKAR	**Karatay Array**	**19.89**	**311**	P	**Pn**	**17 46 02.0**	**-0.4**
KKAR	**Karatay Array**	**19.89**	**311**	P	**Pn**	**17 46 02.0**	**-0.4**
WHN	**Wuhan**	**19.89**	**87**	P	**P**	**17 46 01.6**	**+0.7**
WHN				sP	**pP**	**17 46 06.3**	**+0.1**
WHN				S	**S**	**17 49 40.9**	**-3.6**
WHN				LR	LR		
	comp=Z,2μm,8.5s						
WHN				LR	LR		
	comp=Z,460nm,5.1s						
WHN				LR	LR		
	comp=Z,920nm,11.4s						
CHM	**Chimkent**	**20.14**	**308**	*e*P	**P**	**17 46 04.3**	**+0.8**
CHM	**Chimkent**	**20.14**	**308**	*e*P	**P**	**17 46 04.4**	**+0.8**
ULN	**Ulaanbaatar**	**20.16**	**32**	P	**P**	**17 46 03.3**	**-0.6**
ULN	**Ulaanbaatar**	**20.16**	**32**	*de*P	**P**	**17 46 04.5**	**+0.6**
ULN				pmax	pmax		
	comp=Z,18nm,1.7s						
HNS	**HongShan**	**20.19**	**67**	⇓P	Pn	17 46 08.8	+2.8
HNS				S	Sn	17 49 55.8	+2.8
HNS				pmax	pmax		
	comp=Z,18nm,0.6s						
HNS				LR	LR		
	comp=Z,250nm,8.1s						
HNS				LR	LR		
	comp=Z,680nm,9.2s						
HNS				LR	LR		
	comp=Z,580nm,8.8s						
BRLS	**Boroldoy**	**20.29**	**310**	*e*P	**P**	**17 46 05.8**	**+0.6**
BRLS	**Boroldoy**	**20.29**	**310**	*e*P	**P**	**17 46 05.9**	**+0.6**
ZAK	**Zakamensk**	**20.71**	**22**	*e*P	**P**	**17 46 09.9**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,15nm,1.3s						
UBPT	**Khong Chiam**	**20.95**	**138**	P	**P**	**17 46 11.1**	**-1.3**
QIZ	**Qiongzhong**	**21.06**	**122**	P	**P**	**17 46 11.8**	**-1.8**
QIZ				S	**S**	**17 50 11.3**	**+3.5**
QIZ				LR	LR		
	comp=Z,100nm,7.4s						
QIZ				LR	LR		
	comp=Z,260nm,7.8s						
QIZ				LR	LR		
	comp=Z,740nm,10.3s						
KURBB	**Kurchatov Arra**	**21.08**	**337**	P	**P**	**17 46 14.2**	**+0.6**
	comp=Z,22nm,0.9s,baz=151,slow=9.7,SNR=32						
KURBB				PcP	**PcP**	**17 50 19.6**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=164,slow=1.6,SNR=5.7 comp=Z,22nm,0.9s						
KURK	**Kurchatov**	**21.13**	**338**	P	**P**	**17 46 12.8**	**-1.3**
KURK	**Kurchatov**	**21.13**	**338**	P	**P**	**17 46 14.2**	**+0.1**
KURK						17 50 19.6	
MOY	**Mondy**	**21.20**	**17**	*e*P	**P**	**17 46 17.3**	**+2.3**
MOY				pmax	pmax		
	comp=Z,30nm,1.7s						
BJI	**Beijing**	**21.86**	**61**	P	**P**	**17 46 22.8**	**+0.8**
BJI				pP	**pP**	**17 46 27.0**	**-0.3**
BJI				PP	**PnPn**	**17 46 47.8**	**+4.4**
BJI				S	**S**	**17 50 20.0**	**-3.2**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,34nm,4.3s						
BJI				LR	LR		
	comp=Z,400nm,15.8s						
BJI				LR	LR		
	comp=Z,130nm,17.7s						
BJI				LR	LR		
	comp=Z,180nm,11.7s						
IRK	**Irkutsk**	**22.63**	**21**	*e*P	**P**	**17 46 33.1**	**+2.8**
IRK				pmax	pmax		
	comp=Z,30nm,2.1s						
ZAA0	**Zalesovo Array**	**22.67**	**350**		**P**	**17 46 29.7**	**-0.9**
ZAA0				IAmb	IAmb	17 46 36.1	
	comp=Z,87nm,1.9s						
ZALV	**Zalesovo Beam**

NJ2 Nanjing 23.50 82 *e*P P **17 46 38.6 -0.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 LR LR
comp=Z,250nm,8.3s
NJ2 LR LR
comp=Z,240nm,7.1s
NJ2 LR LR
comp=Z,270nm,10.7s
DL2 Dalian 25.80 65 P P **17 47 01.0 +0.5**
DL2 S S **17 51 31.0 +1.6**
DL2 pmax pmax
comp=Z,19nm,0.8s
DL2 pmax pmax
comp=Z,97nm,5.3s
DL2 LR LR
comp=Z,400nm,14.9s
DL2 LR LR
comp=Z,330nm,14.5s
DL2 LR LR
comp=Z,330nm,13.8s
BVAR Borovoye Array 26.05 331 P P **17 47 03.5 +0.8**
comp=Z,5.3nm,0.7s,baz=131,slow=10,SNR=29
BVAR PcP **PcP 17 50 30.2 0.0**
comp=Z,0.9nm,0.6s,baz=184,slow=5.9,SNR=4.2
comp=Z,5.3nm,0.7s
BRVK Borovoye 26.12 331 P P **17 47 03.3 0.0**
BRVK Borovoye 26.12 331 *d i*P P **17 47 03.8 +0.5**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
PALK Pallekele 26.21 204⇑ *e*P P **17 47 05.2 +0.8**
PALK pmax pmax
comp=Z,15nm,0.7s
AB31 Akbulak array 29.20 316 P P **17 47 30.8 -0.1**
ABKAR Akbulak array 29.20 316 P P **17 47 31.0 +0.1**
CN2 Changchun 29.46 56 P P **17 47 30.1 -3.2**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=N,600nm,10.0s
CN2 LR LR
comp=E,300nm,10.0s
CN2 LR LR
comp=Z,300nm,11.0s
PSI Prapat 29.69 164 LR LR 18 01 10.7
comp=Z,220nm,18.5s,baz=36,slow=40
KSRS Korea Array 30.67 69 P P **17 47 43.4 -0.7**
comp=Z,2.4nm,0.8s,baz=283,slow=9.0,SNR=9.3
KSRS PcP **PcP 17 50 41.8 -0.1**
comp=Z,1.4nm,0.8s,baz=263,slow=2.5,SNR=6.4
KSRS LR LR 18 00 23.8
comp=Z,73µm,19.7s,baz=275,slow=37
comp=Z,2.4nm,0.8s
BNX BinXian 31.26 53 ⇓P P **17 47 47.9 -1.2**
BNX pP **sP 17 47 58.9 +1.8**
BNX PcP **PcP 17 50 42.4 -0.9**
BNX S S **17 52 51.4 -3.8**
BNX pmax pmax
comp=Z,4.0nm,0.7s
BNX pmax pmax
comp=Z,49nm,7.6s
BNX LR LR
comp=Z,230nm,11.6s
BNX LR LR
comp=Z,250nm,15.7s
BNX LR LR
comp=Z,290nm,12.8s
HEH HeiHe 32.61 45 *e*P P **17 48 01.4 +0.5**
HEH pmax pmax
comp=Z,5.0nm,0.8s
JOW Kunigami 32.64 89 LR LR 18 01 11.7
comp=Z,87nm,18.5s,baz=306,slow=36
SVE Sverdlovsk 32.78 329 *e*P P **17 48 04.0 +1.7**
SVE pmax pmax
comp=Z,20nm,0.8s
JNU Nakatsue 33.43 77 LR LR 18 01 59.4
comp=Z,115nm,20.7s,baz=264,slow=37
ARTI Arti 33.55 327 P P **17 48 08.1 -0.9**
ARTI IAmb IAmb 17 48 10.5
comp=Z,9.8nm,0.9s
ARTI Arti 33.55 327 LR LR 18 02 58.8
comp=Z,104nm,18.1s,baz=133,slow=38
ARTI Arti 33.55 327 *c i*P P **17 48 09.4 +0.4**
ARTI 17 49 18.3
ARTI S S **17 53 34.4 +3.8**
ARTI SS **SnSn 17 55 39.3 +6.1**
ARTI pmax pmax
comp=Z,10.0nm,1.0s
ZEA Zeya 33.90 39 *e*P P **17 48 13.2 +1.1**
ZEA *e* 17 56 09.3
ZEA MLR MLR
comp=E,200nm,11.0s
ZEA MLR MLR
comp=N,100nm,11.0s
ZEA MLR MLR
comp=Z,200nm,13.0s
USRK Ussuriysk Ar. 34.18 57 LR LR 18 02 26.7
comp=Z,121nm,21.3s,baz=260,slow=37
AKT Akhty 35.87 298 *e*P P **17 48 27.1 -2.3**
MAK Makhachkala 36.10 301 *e*P P 17 48 25.9 -5.3
MAK *e* 17 49 49.0
MAK eSS **S 17 54 04.4 -5.7**
MAK eSS **SnSn 17 56 29.6 -5.7**
MAK pmax pmax
comp=Z,187nm,1.2s
MAK MLR MLR
comp=Z,120nm,18.0s
BELG Belogornoye 37.61 316 LR LR 18 06 21.9
comp=Z,82nm,19.5s,baz=131,slow=40
KIRV Kirov 38.84 326 *d i*P P **17 48 55.1 +0.9**
MJAR Matsushiro Arr 38.95 70 LR LR 18 06 21.6
comp=Z,51nm,19.5s,baz=269,slow=38
YAK Yakutsk 39.12 28 LR LR 18 06 23.0
comp=Z,163nm,20.4s,baz=234,slow=38
KBZ Khabaz 39.48 302 LR LR 18 07 20.6
comp=Z,64nm,21.9s,baz=112,slow=39
KIV Kislovodsk 39.64 302 *e*P P **17 49 03.3 +2.0**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,45nm,16.0s
VRH Novokhopyorsk 40.93 313 *e*P P **17 49 10.5 -1.2**
VRH pmax pmax
comp=Z,10.0nm,1.1s
RAYN Ar Rayn 41.02 270 P P **17 49 13.1 +0.2**
RAYN Ar Rayn 41.02 270 P P **17 49 13.1 +0.2**
RAYN pmax pmax
comp=Z,5.0nm,0.7s
ASAJ Asahikawa 41.79 58 LR LR 18 06 53.9
comp=Z,75nm,19.3s,baz=281,slow=36
YSS Yuzhno-Sakhali 41.94 53 *e*P P **17 49 21.0 +0.9**
YSS MLR MLR
comp=Z,200nm,11.0s
YSS MLR MLR
comp=E,200nm,13.0s
VORD Divnogorie 42.42 313 *e*P P **17 49 21.9 -2.0**
VORD pmax pmax
comp=Z,7.0nm,0.9s
VSR Storozhevoye 42.53 313 *e*P P **17 49 22.7 -2.1**
VSR pmax pmax
comp=Z,6.0nm,0.9s
LPSR Galich'ya Gora 42.85 315 *e*P P **17 49 25.7 -1.7**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
MOS Moscow 44.10 319 *e*P P **17 49 37.2 -0.2**
MOS pmax pmax
comp=Z,28nm,0.6s
KLMR Klimovskoe 44.33 327 *e*P P **17 49 37.6 -1.6**
KLMR *e* 17 51 20.9
KLMR pmax pmax
comp=Z,42nm,1.2s
OBN Obninsk 44.59 318 *e*P P **17 49 42.5 +1.1**
OBN *i* SS SS 17 59 38.3 +1.9
OBN pmax pmax
comp=Z,7.0nm,0.8s
OBN MLR MLR
comp=Z,70nm,17.0s
KAPI Kappang 45.58 138 LR LR 18 11 24.9
comp=Z,112nm,18.0s,baz=270,slow=40
ASF Jabal al Asfar 45.61 286 LR LR 18 10 46.7
comp=Z,59nm,18.2s,baz=139,slow=39
MMAI Mount Meron Ar 46.62 287 LR LR 18 12 56.5
comp=Z,69nm,18.4s,baz=89,slow=40
BR131 Keskin Array S 46.67 297 P P **17 49 58.1 -0.2**
BR131 Keskin Array S 46.67 297 P P **17 49 58.1 -0.2**
BR131 pmax pmax
comp=Z,9.0nm,1.4s
BRTR Keskin Array B 46.67 297 P P **17 49 57.5 -0.8**
comp=Z,2.2nm,0.7s,baz=98,slow=8.6,SNR=14
comp=Z,2.2nm,0.7s
BRTR Keskin Array B 46.67 297 *i*P P **17 49 58.7 +0.4**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
EIL Elat 47.91 283 LR LR 18 13 04.9
comp=Z,92nm,18.7s,baz=66,slow=40
MA2 Magadan 47.95 36 LR LR 18 12 03.7
comp=Z,176nm,19.0s,baz=260,slow=38
LVZ Lovozero 48.52 335 *ce*P P **17 50 12.1 +0.1**
LVZ pmax pmax
comp=Z,9.0nm,0.7s
AKASG Malin Array Be 48.78 312 P P **17 50 12.9 -1.4**
AKASG Malin Array Be 48.78 312 P P **17 50 14.1 -0.2**
comp=Z,5.9nm,0.8s,baz=80,slow=7.0,SNR=30
AKASG LR LR 18 14 48.5
comp=Z,50nm,18.6s,baz=83,slow=41
comp=Z,5.9nm,0.8s
AKASG Malin Array Be 48.78 312 *i*P P **17 50 14.1 -0.2**
AKASG pmax pmax
comp=Z,9.0nm,0.7s
AKBB Malin Array Si 48.78 312 IAmb IAmb 17 50 15.1
comp=Z,9.1nm,0.8s
AKBB Malin Array Si 48.78 312 *de*P P **17 50 14.1 -0.2**
AKBB Malin Array Si 48.78 312 P P **17 50 14.3 0.0**
KIEV Kiev 48.79 312 P P **17 50 13.6 -0.8**
KIEV IAmb IAmb 17 50 15.1
comp=Z,8.6nm,0.8s
KIEV Kiev 48.79 312⇑P P **17 50 14.6 +0.2**
KIEV Kiev 48.79 312 P P **17 50 13.6 -0.8**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 48.79 312 P P **17 50 14.1 -0.2**
comp=Z,48nm,1.2s
AK18 Malin Array Si 48.88 312 P P **17 50 14.8 -0.2**
AK18 pP **pP 17 50 18.5 -2.3**
AK13 Malin Array Si 48.89 312 P P **17 50 15.1 0.0**
SEY Seymchan 49.23 32 LR LR 18 12 42.2
comp=Z,95nm,18.4s,baz=242,slow=38
SEY Seymchan 49.23 32 *ce*P P **17 50 18.3 +0.8**
SEY pmax pmax
comp=Z,11nm,0.9s
SORM Soroca 49.50 308⇑P P **17 50 19.7 -0.1**
SORM Soroca 49.50 308 P P **17 50 19.7 -0.1**
MNK Minsk 49.56 317 *i*P P **17 50 22.4 +2.3**
comp=E,19nm,0.6s
MNK *i*P P **17 50 22.4 +2.3**
comp=N,33nm,0.7s
MNK *i*P P **17 50 22.4 +2.3**
comp=Z,33nm,0.7s,baz=90
MNK *i* PcP PcP 17 51 30.6 -11
MNK *i* PP **PP 17 52 12.4 -1.9**
MNK *i* PPP PPP 17 53 03.6
MNK *i* S **S 17 57 31.6 +4.0**
MNK *i* SS SS 18 01 13.1 +14
MNK *i* LQ LQ 18 07 47.6
MNK *i* LR LR 18 10 31.4
MNK *i* LRM MLR 18 12 19.5
comp=E,57nm,14.1s
MNK *i* LRM MLR 18 13 22.0
comp=N,51nm,16.4s
MNK *i* LRM MLR 18 13 25.3
comp=Z,61nm,14.3s
MNK Minsk 49.56 317 *i*P P **17 50 22.4 +2.3**
MNK *i* 17 52 12.3
MNK *i* PPP PPP 17 53 03.5
MNK *i* S **S 17 57 31.5 +4.0**
MNK pmax pmax
comp=N,33nm,0.7s
MNK pmax pmax
comp=Z,33nm,0.7s
MNK pmax pmax
comp=E,19nm,0.6s
MNK MLR MLR
comp=E,57nm,14.0s
MNK MLR MLR
comp=N,51nm,16.0s
MNK MLR MLR
comp=Z,61nm,14.0s
NACGM Naroch 50.20 317⇑ *i*P P **17 50 26.0 +1.0**
comp=Z,17nm,0.8s,baz=90
VSU Vasula 50.31 322 *de*P P **17 50 25.3 -0.5**
VSU pmax pmax
comp=Z,26nm,0.9s
VSU Vasula 50.31 322 *e*P P **17 50 25.4 -0.3**
KMPD K-Podol'skiy 50.71 309 P P **17 50 28.9 -0.1**
ARBE Arbavere 50.75 323 *e*P P **17 50 29.4 +0.3**
FINES FINESS Array B 50.84 326 P P **17 50 29.9 +0.2**
FINES FINESS Array B 50.84 326 P P **17 50 30.2 +0.5**
comp=Z,8.2nm,0.5s,baz=97,slow=8.0,SNR=74
FINES PcP **PcP 17 51 47.1 +0.8**
comp=Z,2.5nm,0.7s,baz=86,slow=5.9,SNR=5.5
comp=Z,8.2nm,0.5s
VRI Vrincioaia 50.84 306 ⇓P P **17 50 30.7 +0.6**
VRI Vrincioaia 50.84 306 P P **17 50 30.6 +0.6**
RNPP5 Staryi Chortor 50.87 313 P P **17 50 30.1 0.0**
RNPP8 Varash 50.88 313 P P **17 50 30.2 0.0**
PLOR Plostina 50.90 306⇑P P **17 50 31.6 +1.1**
PLOR Plostina 50.90 306 P P **17 50 31.6 +1.1**
RNPP1 Kostyukhnivka 50.93 313 P P **17 50 30.8 +0.2**
COVR Voineasa-Covas 51.21 306⇑P P **17 50 33.8 +0.9**
TURR Turia 51.31 306⇓P P **17 50 33.6 0.0**
MLR Muntele Rosu 51.44 305 P P **17 50 36.0 +1.3**
MLR Muntele Rosu 51.44 305 LR LR 18 16 32.3
comp=Z,46nm,18.4s,baz=84,slow=41
MLR Muntele Rosu 51.44 305⇑P P **17 50 36.0 +1.3**
MLR Muntele Rosu 51.44 305 P P **17 50 36.0 +1.3**
MLR pmax pmax
comp=Z,23nm,0.9s
KEF Keuruu 51.46 327 *e*P P **17 50 34.9 +0.4**
MEF Metsahovi 51.58 324 *e*P P **17 50 35.5 +0.2**
BURAR Bucovina Array 51.65 308 P P **17 50 35.6 -0.6**
BURAR Bucovina Array 51.65 308⇓P P **17 50 36.5 +0.3**
BURAR Bucovina Array 51.65 308 P P **17 50 36.5 +0.3**
KEV Kevo 51.69 336 P P **17 50 36.3 +0.3**
KEV IAmb IAmb 17 50 37.7
comp=Z,8.8nm,0.8s
KEV Kevo 51.69 336 P P **17 50 36.3 +0.3**
KEV pmax pmax
comp=Z,9.0nm,0.8s
PABE Paberze 51.80 318 *e*P P **17 50 37.5 +0.5**
VOIR 52.07 305⇓P P **17 50 39.5 +0.1**
VOIR 52.07 305 P P **17 50 39.4 +0.1**
ARA0 ARCESS Array S 52.16 336 *e*P P **17 50 40.0 +0.5**
ARCES ARCESS Array B 52.16 336 P P **17 50 40.0 +0.4**
ARCES ARCESS Array B 52.16 336 P P **17 50 40.3 +0.7**
comp=Z,4.1nm,0.6s,baz=92,slow=7.7,SNR=29
comp=Z,4.1nm,0.6s
ARCES ARCESS Array B 52.16 336 P P **17 50 40.0 +0.4**
ARCES pmax pmax
comp=Z,6.0nm,1.0s
SUW Suwalki 52.33 316 *e*P P **17 50 41.3 +0.3**
ARR Arges 52.37 305⇑P P **17 50 41.7 +0.1**
KTK1 Kautokeino 52.87 335 *e*P P **17 50 45.4 +0.6**
RAF Rauma 52.90 325 *e*P P **17 50 45.4 +0.2**
HAMF Hammerfest 52.97 337 *e*P P **17 50 46.4 +1.0**
KOLS Kolonicke sedl 53.42 310 *e*P P **17 50 49.6 +0.4**
KOLS pmax pmax
comp=Z,4.0nm,0.8s
KOLS Kolonicke sedl 53.42 310 *e*P P **17 50 49.5 +0.4**
DRGR 53.46 307⇓P P **17 50 50.3 +0.7**
DRGR 53.46 307 P P **17 50 50.3 +0.7**
GZR Gura Zlata 53.66 306⇑P P **17 50 51.2 +0.2**
GZR Gura Zlata 53.66 306 P P **17 50 51.2 +0.2**
JETT Jettan, Norway 53.93 336 *e*P P **17 50 54.1 +1.4**
STHS Stebnicka Huta 54.02 311 *e*P P **17 50 52.8 -0.8**
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 54.02 311 *e*P P **17 50 52.8 -0.8**
SURR Surduc 54.04 306⇓P P **17 50 54.7 +1.0**
SIRR Siria 54.26 307⇓P P **17 50 56.4 +1.0**
TRO Tromso 54.46 336 *e*P P **17 50 56.6 +0.3**
BOVS Bovan 54.75 304⇑P P **17 50 59.6 +0.6**
BILL Bilibino 55.44 26 P P **17 51 04.1 +0.5**
BILL IAmb IAmb 17 51 05.7
comp=Z,18nm,1.0s
BILL Bilibino 55.44 26 *de*P P **17 51 04.7 +1.1**
BILL pmax pmax
comp=Z,12nm,1.3s
FAUS Fauske 55.73 333 *e*P P **17 51 05.7 +0.1**
VYHS Vyhne 55.74 310 *e*P P **17 51 06.3 +0.3**
VYHS pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 55.74 310 *e*P P **17 51 06.3 +0.3**
STEI Steigen 55.74 334 *e*P P **17 51 05.8 +0.1**
OKC Ostrava-Krasne 55.94 312 AMS AMS 18 19 10.0
comp=Z,100nm,14.3s
SPB2 Spitsbergen Ar 56.06 346 IAmb IAmb 17 51 10.2
comp=Z,13nm,0.9s
SPA0 Spitsbergen Ar 56.07 346 *e*P P **17 51 08.7 +0.8**
SPITS Spitsbergen Ar 56.07 346 P P **17 51 08.8 +0.9**
comp=Z,8.0nm,0.8s,baz=112,slow=9.5,SNR=11
comp=Z,8.0nm,0.8s
SPITS Spitsbergen Ar 56.07 346 P P **17 51 09.3 +1.4**
SPITS pmax pmax
comp=Z,13nm,1.0s
MOR8 Moi Rana 56.10 332 *e*P P **17 51 07.1 -1.2**
MORH Mrgy, Hungar 56.33 307⇑P P **17 51 10.2 -0.1**
MORH Mrgy, Hungar 56.33 307 P P **17 51 10.2 -0.1**
comp=Z,7.3nm,1.1s
MORC Moravsky Berou 56.33 312 IAmb IAmb 17 51 12.0
comp=Z,8.2nm,1.1s
MORC Moravsky Berou 56.33 312 *e*P P **17 51 10.4 +0.1**
MORC Moravsky Berou 56.33 312⇑P P **17 51 10.9 +0.5**
MORC Moravsky Berou 56.33 312 P P **17 51 10.8 +0.5**
LOF Lofoten 56.38 334 *e*P P **17 51 10.0 -0.3**
JAVC Velka Javorina 56.43 311 *e*P P **17 51 12.1 +1.1**
VAGH Vaagaholmen 56.54 332 *e*P P **17 51 10.4 -1.0**
KONS Konsvik 56.61 332 *e*P P **17 51 10.8 -1.1**
LEIR Leirfjorden 56.64 332 *e*P P **17 51 12.7 +0.6**
STOK Stokkvaagen 56.66 332 *e*P P **17 51 12.5 +0.2**
KRLC Kraliky 56.76 312 *e*P P **17 51 14.1 +0.8**
KRLC AMS AMS 18 17 30.0
comp=Z,100nm,13.1s
KRLC Kraliky 56.76 312 *e*P P **17 51 14.1 +0.8**
KRLC MLR MLR
comp=Z,100nm,13.1s
MODS Modra-Piesok 56.78 310 *e*P P **17 51 14.2 +0.7**
MODS pmax pmax
comp=Z,16nm,1.4s
MODS Modra-Piesok 56.78 310 *e*P P **17 51 14.2 +0.7**
HFS Hagfors 56.93 324 P P **17 51 14.9 +0.6**
comp=Z,11nm,0.6s,baz=90,slow=8.9,SNR=37
HFS LR LR 18 17 41.1
comp=Z,65nm,20.9s,baz=76,slow=38
comp=Z,11nm,0.6s
DPC Dobruska-Polom 56.99 312 *e*P P **17 51 16.2 +1.2**
DPC AMS AMS 18 19 00.0
comp=Z,100nm,5.9s
DPC Dobruska-Polom 56.99 312 *e*P P **17 51 16.2 +1.2**
DPC MLR MLR
comp=Z,100nm,5.9s
DPC Dobruska-Polom 56.99 312 P P **17 51 16.0 +1.0**
comp=Z,9.2nm,1.1s
OSTC Ostas 57.02 313 AMS AMS 18 18 00.0
comp=Z,300nm,49.0s
VRAC Vranov 57.03 311 *e*P P **17 51 15.9 +0.7**
VRAC Vranov 57.03 311⇑P P **17 51 15.8 +0.5**
VRAC Vranov 57.03 311 P P **17 51 15.7 +0.5**
CHVC Chvalec 57.12 313 AMS AMS 18 18 10.0
comp=Z,100nm,8.6s
UPC Upice 57.16 313 AMS AMS 18 18 00.0
comp=Z,100nm,15.3s
KRUC Moravsky 57.21 311 *e*P P **17 51 17.0 +0.5**
RONA Rosalia, Austr 57.57 309 *i*P P **17 51 19.6 +0.6**
comp=Z,3.5nm,0.7s
TREC Trest 57.74 311 AMS AMS 18 18 50.0
comp=Z,100nm,5.9s
CONA Conrad Observa 57.80 310 *i*P P **17 51 21.3 +0.6**
comp=Z,8.5nm,0.8s
NC602 NORSAR Array S 57.90 325 IAmb IAmb 17 51 22.2
comp=Z,14nm,0.8s
NC602 NORSAR Array S 57.90 325 *e*P P **17 51 20.5 -0.7**
NC303 NORSAR Array S 57.92 326 IAmb IAmb 17 51 22.6
comp=Z,10.0nm,0.7s
NB2 NORSAR Subarra 58.02 326 P P **17 51 21.8 -0.2**
comp=Z,10nm,0.8s,baz=81,slow=6.9
NOA NORSAR Array B 58.02 326 P P **17 51 22.1 0.0**
comp=Z,7.9nm,0.7s,baz=82,slow=7.0,SNR=41
NOA LR LR 18 15 52.7
comp=Z,48nm,18.2s,baz=85,slow=36
comp=Z,7.9nm,0.7s
GOPC GO Pecny, Ondr 58.05 312 AMS AMS 18 18 20.0
comp=Z,100nm,11.5s
ARSA Arzberg 58.18 309 *i*P P **17 51 23.6 +0.2**
comp=Z,4.4nm,1.2s
PRU Pruhonice 58.19 312 AMS AMS 18 18 30.0
comp=Z,100nm,8.5s
NAO01 NORSAR Array S 58.20 325 IAmb IAmb 17 51 27.1
comp=Z,12nm,0.9s
PRA Prague 58.24 312 AMS AMS 18 18 40.0
comp=Z,100nm,9.2s
BRG Berggiesshubel 58.37 313 *e*P P **17 51 25.5 +0.9**
BRG Amp 17 51 29.7
comp=Z,3.4nm,0.8s
OSL Oslo 58.43 324 *e*P P **17 51 23.8 -1.0**
ZVC Zvikov 58.53 312 *e*P P **17 51 26.6 +0.8**
ZVC AMS AMS 18 20 20.0
comp=Z,100nm,11.9s
CKRC Cesky Krumlov 58.60 311 *e*P P **17 51 27.6 +1.3**
CKRC AMS AMS 18 18 40.0
comp=Z,100nm,15.1s
CKRC Cesky Krumlov 58.60 311 *e*P P **17 51 27.6 +1.3**
CKRC MLR MLR
comp=Z,100nm,15.1s
SOKA Soboth 58.65 308 *i*P P **17 51 26.5 -0.2**
comp=Z,2.9nm,0.6s,SNR=6.3
CLL Collm 58.85 314 *i*P P **17 51 26.7 -1.2**
CLL pmax pmax
comp=Z,5.0nm,1.1s
CLL Collm 58.85 314 *i*P P **17 51 26.7 -1.2**
comp=Z,5.0nm,1.1s
CLL *e*PP **PP 17 53 36.0 -1.8**
MOA Molln 58.86 310 *i*P P **17 51 28.4 +0.3**
comp=Z,6.7nm,1.1s
DOMB Dombas 58.88 327 *e*P P **17 51 27.7 -0.3**
GEC2 GERESS Array S 58.99 311 IAmb IAmb 17 51 30.7
comp=Z,6.3nm,0.8s
GERES GERESS Array B 58.99 311 P P **17 51 28.2 -0.9**
GERES GERESS Array B 58.99 311 P P **17 51 29.9 +0.9**
comp=Z,4.7nm,0.8s,baz=77,slow=5.8,SNR=37
GERES LR LR 18 18 40.9
comp=Z,91nm,20.8s,baz=64,slow=38
comp=Z,4.7nm,0.8s
GERES GERESS Array B 58.99 311 P P **17 51 30.0 +0.9**
KONO Kongsberg 59.04 324 *e*P P **17 51 28.4 -0.7**
BIOA Bad Ischl, Aus 59.31 310 *e*P P **17 51 31.5 +0.2**
comp=Z,2.9nm,0.7s
LODK Lodwar 59.38 254 P P **17 51 31.4 -0.8**
MOL Molde 59.48 328 *e*P P **17 51 29.7 -2.4**
SKAR Skarslia 59.48 325 *e*P P **17 51 32.6 +0.4**
FITZ Fitzroy Crossi 59.57 141 P P **17 51 32.5 -0.7**
comp=Z,3.9nm,0.8s,baz=89,slow=11,SNR=2.6
comp=Z,3.9nm,0.8s
KBA Koelnbreinsper 59.66 309 *i*P P **17 51 33.8 -0.1**
comp=Z,3.9nm,1.1s
LESA Schwarzeotal 60.01 310 *i*P P **17 51 36.0 -0.1**
comp=Z,3.0nm,0.6s
ABTA Abfaltersbach 60.30 309 *i*pP pP 17 51 42.5 -1.6
comp=Z,6.0nm,1.4s
WTTA Wattenberg 60.74 310 *i*P P **17 51 39.4 -1.8**
comp=Z,6.0nm,0.9s
SQTA Sankt Quirin 61.03 310 *i*P P **17 51 42.6 -0.5**
comp=Z,3.4nm,0.5s
MOTA Moosalm 61.06 310 *i*P P **17 51 43.2 -0.2**
comp=Z,6.1nm,1.0s
RETA Reutte 61.24 310 *i*P P **17 51 44.2 -0.3**
comp=Z,2.2nm,0.6s
FETA Feichten 61.40 310 *i*P P **17 51 45.1 -0.6**
comp=Z,6.6nm,1.1s
DAVA Damuels 61.88 310 *e*P P **17 51 48.6 -0.3**
comp=Z,6.9nm,0.9s
DAVOX Davos/Dischmat 62.03 310 LR LR 18 21 36.4
comp=Z,68nm,19.9s,baz=86,slow=39
GAMB Gambell 65.05 29 P P **17 52 09.4 0.0**
baz=291
MBAR Mbarara 65.46 253 P P **17 52 12.3 -0.7**
MBAR IAmb IAmb 17 52 13.7
comp=Z,5.3nm,0.8s
MBAR Mbarara 65.46 253 *ce*P P **17 52 13.0 -0.1**
MBAR pmax pmax
comp=Z,5.0nm,0.9s
C16K Lisburne Hills 65.69 23 P P **17 52 14.4 +0.9**
baz=295
TNA Tin City 65.88 27 P P **17 52 15.0 +0.3**
baz=294
WRA Warramunga Arr 65.98 135 P P **17 52 15.7 -0.3**
comp=Z,2.8nm,0.8s,baz=324,slow=6.1,SNR=24

WRA PcP PcP 17 52 47.6 +1.0
comp=Z,2.0nm,0.9s,baz=320,slow=6.3,SNR=5.7
comp=Z,2.8nm,0.8s
A19K **Wainwright** 66.21 21 P P 17 52 17.8 +1.0
baz=298
C17K **DeLong Mountai** 66.33 23 P P 17 52 18.7 +1.0
baz=296
B18K **Kokolik River** 66.37 22 P P 17 52 19.6 +1.8
baz=297
F14K **Arctic Creek** 66.52 26 P P 17 52 20.1 +1.3
baz=295
D17K **Noatak River** 66.71 24 P P 17 52 21.3 +1.2
baz=297
EKA **Eskdalemuir Ar** 66.86 322 P P 17 52 21.6 +0.4
comp=Z,2.0nm,0.5s,baz=68,slow=5.6,SNR=23
comp=Z,2.0nm,0.5s
C18K **Utukok River** 66.90 22 P P 17 52 22.5 +1.2
baz=298
A21K **Barrow** 66.95 19 P P 17 52 22.7 +1.2
baz=301
F15K **North Star Dit** 67.05 26 P P 17 52 23.3 +1.0
baz=296
C19K **Lookout Ridge** 67.19 22 P P 17 52 24.9 +1.8
baz=299
ANM **Nome** 67.28 27 P P 17 52 25.2 +1.5
baz=296
E17K **Hotham Inlet** 67.43 24 P P 17 52 25.8 +1.2
baz=298
B20K **Meade River** 67.47 20 P P 17 52 26.1 +1.3
baz=301
A22K **Sinclair Lake** 67.57 19 P P 17 52 26.4 +1.0
baz=303
G15K **Niukluk** 67.60 26 P P 17 52 26.7 +1.1
baz=297
E18K **Tukpahlearik C** 67.68 23 P P 17 52 26.3 +0.1
E18K IAmb IAmb 17 52 28.0
comp=Z,3.7nm,0.7s
E18K **Tukpahlearik C** 67.68 23 P P 17 52 27.3 +1.1
baz=299
F17K **Baldwin Pennin** 67.94 24 P P 17 52 29.2 +1.4
baz=299,SNR=9.0
D19K **Kuna River** 67.96 22 P P 17 52 29.1 +1.1
baz=301
G16K **Koyuk River** 68.04 26 P 17 52 29.0 +0.5
G16K IAmb IAmb 17 52 30.7
comp=Z,7.5nm,0.8s
G16K **Koyuk River** 68.04 26 P P 17 52 29.8 +1.3
baz=298,SNR=6.7
SPIA **Saint Paul Isl** 68.31 35 P P 17 52 31.4 +1.1
baz=295
D20K **Etivluk River** 68.32 21 P P 17 52 31.4 +1.2
baz=302
B22K **Teshekpuk Lake** 68.37 19 P P 17 52 31.5 +1.1
baz=304
F18K **Selawik** 68.42 24 P P 17 52 31.8 +1.0
baz=300
B21K **Ikpikpuk River** 68.43 20 IAmb IAmb 17 52 32.9
comp=Z,8.5nm,0.7s
B21K **Ikpikpuk River** 68.43 20 P P 17 52 32.1 +1.3
baz=303,SNR=6.5
H16K **Elim** 68.44 26 P P 17 52 31.9 +0.9
baz=299
AS31 **Alice Springs** 68.61 138 P 17 52 32.0 -0.6
ASAR **Alice Springs** 68.61 138 P P 17 52 32.5 -0.1
comp=Z,3.9nm,0.8s,baz=325,slow=6.7,SNR=50
comp=Z,3.9nm,0.8s
G17K **Kiwalik Mounta** 68.61 25 P P 17 52 33.2 +1.2
baz=300
C21K **Knifeblade Rid** 68.64 21 P P 17 52 33.7 +1.5
baz=303,SNR=8.2
E20K **Nigu River** 68.69 22 P P 17 52 33.8 +1.2
baz=302
K13K **Kusilvak Mount** 68.76 29 P P 17 52 34.1 +1.0
baz=298
E19K **Redstone River** 68.79 23 P P 17 52 34.2 +1.0
baz=302
M11K **Mekoryuk** 68.80 31 P P 17 52 34.7 +1.4
baz=297
J14K **Nanvaranak Lak** 68.83 28 P P 17 52 34.4 +0.9
baz=298
P08K **Saint George I** 68.91 36 P P 17 52 35.4 +1.4
baz=296
F19K **Shaleruckik Mo** 68.94 23 P 17 52 34.1 0.0
F19K IAmb IAmb 17 52 35.6
comp=Z,10nm,0.9s
F19K **Shaleruckik Mo** 68.94 23 P P 17 52 34.5 +0.5
baz=302,SNR=12
G18K **Tagagawik** 69.12 24 P P 17 52 35.9 +0.6
baz=301
H17K **Granite Mounta** 69.16 26 IAmb IAmb 17 52 37.8
comp=Z,10nm,0.8s
H17K **Granite Mounta** 69.16 26 P P 17 52 36.6 +1.1
baz=300,SNR=7.6
E21K **Killik River** 69.28 21 P P 17 52 37.4 +1.2
baz=304,SNR=16
I17K **Unalakleet** 69.40 27 P P 17 52 37.8 +0.8
baz=300
D22K **Ayikyak River** 69.42 20 P P 17 52 38.4 +1.3
baz=305,SNR=6.0
C23K **Itkillik River** 69.45 19 P P 17 52 38.5 +1.3
baz=307,SNR=11
F20K **Avaraart Lake** 69.50 23 IAmb IAmb 17 52 39.3
comp=Z,5.4nm,0.7s
F20K **Avaraart Lake** 69.50 23 P P 17 52 38.6 +1.0
baz=303,SNR=10.0
G19K **Purcell Mounta** 69.54 24 IAmb IAmb 17 52 39.8
comp=Z,5.7nm,0.8s
G19K **Purcell Mounta** 69.54 24 P P 17 52 38.7 +0.9
baz=302,SNR=7.1
H18K **Honhosa River** 69.61 25 IAmb IAmb 17 52 39.8
comp=Z,7.2nm,0.6s
H18K **Honhosa River** 69.61 25 P P 17 52 39.3 +0.9
baz=302
J16K **Anvik River** 69.74 27 IAmb IAmb 17 52 41.5
comp=Z,13nm,0.8s
J16K **Anvik River** 69.74 27 P P 17 52 40.4 +1.3
baz=300,SNR=7.4
L14K **Kuka Creek** 69.87 30 IAmb IAmb 17 52 42.2
comp=Z,8.3nm,0.8s
L14K **Kuka Creek** 69.87 30 P P 17 52 41.1 +1.3
baz=299
K15K **Wolf Creek Mou** 69.87 28 IAmb IAmb 17 52 42.0
comp=Z,8.0nm,0.8s
K15K **Wolf Creek Mou** 69.87 28 P P 17 52 41.5 +1.6
baz=300
D23K **Nanushuk River** 69.95 20 P P 17 52 41.7 +1.4
baz=307,SNR=5.6
M13K **Dall Lake** 70.04 31 P P 17 52 42.4 +1.4
baz=299
C24K **Franklin Bluff** 70.04 19 IAmb IAmb 17 52 42.2
comp=Z,6.9nm,0.8s
C24K **Franklin Bluff** 70.04 19 P P 17 52 41.7 +0.9
baz=308
H19K **Roundabout Mou** 70.09 24 P P 17 52 42.8 +1.6
baz=303,SNR=8.0
E22K **Anaktuvuk Pass** 70.11 21 P P 17 52 42.4 +1.0
baz=306,SNR=13
F21K **Alatna River** 70.13 22 IAmb IAmb 17 52 43.7
comp=Z,12nm,0.9s
F21K **Alatna River** 70.13 22 P P 17 52 42.6 +1.1
baz=305,SNR=14
L15K **Ungalak Mounta** 70.20 29 P P 17 52 43.1 +1.1
baz=300
J17K **VABM Dome** 70.27 27 IAmb IAmb 17 52 44.6
comp=Z,11nm,0.9s
J17K **VABM Dome** 70.27 27 P P 17 52 43.5 +1.2
baz=302,SNR=8.5
GCSA **Galena City Sc** 70.37 25 P P 17 52 44.5 +1.6
baz=303
F22K **John River** 70.37 21 P P 17 52 44.3 +1.4
baz=306,SNR=19
M14K **Bethel** 70.47 30 P P 17 52 44.6 +1.1
baz=300,SNR=5.5
TOLK **Toolik Lake Re** 70.47 20 IAmb IAmb 17 52 45.5
comp=Z,10nm,0.7s
TOLK **Toolik Lake Re** 70.47 20 P P 17 52 44.5 +1.0
baz=308,SNR=13
G21K **Allakaket** 70.53 23 P P 17 52 44.8 +0.8
baz=305
H20K **Anotleneega Mo** 70.66 24 P P 17 52 46.0 +1.3
baz=304,SNR=11
IMAR **Indian Mountai** 70.76 23 P P 17 52 45.1 -0.2
E23K **Chandalar** 70.82 20 IAmb IAmb 17 52 47.9
comp=Z,9.1nm,1.1s
E23K **Chandalar** 70.82 20 P P 17 52 47.0 +1.2
baz=308,SNR=7.3
NIKH **Nikolski High** 70.89 39 P P 17 52 47.4 +1.1
baz=298
C26K **Camden Bay** 70.92 18 P P 17 52 47.6 +1.4
baz=312
D25K **Kavik River** 70.93 18 P P 17 52 47.3 +0.9
baz=310,SNR=6.9
G22K **Bettles** 70.93 22 P P 17 52 47.4 +1.0
baz=307
K17K **Iditarod** 70.94 27 P P 17 52 47.6 +1.2
baz=302,SNR=7.1
L16K **Owhat River** 71.01 28 P P 17 52 48.1 +1.2
baz=302
N14K **Kuskokwak Cree** 71.01 31 P P 17 52 48.0 +1.1
baz=301
M15K **Kasigluk River** 71.04 30 P P 17 52 48.2 +1.2
baz=301,SNR=5.3
J18K **Innoko River** 71.13 26 IAmb IAmb 17 52 49.5
comp=Z,7.1nm,1.1s
J18K **Innoko River** 71.13 26 P P 17 52 48.7 +1.1
baz=304,SNR=8.4
E24K **Your Creek** 71.14 20 P P 17 52 48.9 +1.3
baz=309,SNR=15
COLD **Coldfoot** 71.15 21 IAmb IAmb 17 52 50.0
comp=Z,15nm,0.9s
COLD **Coldfoot** 71.15 21 P P 17 52 49.1 +1.4
baz=308,SNR=23
I20K **Naaghedeneel** 71.19 24 P P 17 52 49.5 +1.6
baz=305
J19K **Poorman** 71.24 25 P P 17 52 49.9 +1.6
baz=304,SNR=9.7
L17K **Donlin** 71.25 28 P P 17 52 50.1 +1.8
baz=303,SNR=5.7
H21K **Melozitna Rive** 71.27 23 IAmb IAmb 17 52 50.6
comp=Z,12nm,1.3s
H21K **Melozitna Rive** 71.27 23 P P 17 52 49.5 +1.1
baz=306,SNR=6.3
C27K **Jago River** 71.43 18 IAmb IAmb 17 52 51.4
comp=Z,15.5nm,0.7s
C27K **Jago River** 71.43 18 P P 17 52 50.5 +1.2
baz=313,SNR=7.2
G23K **Bananza Creek** 71.53 22 IAmb IAmb 17 52 52.2
comp=Z,8.7nm,1.0s
G23K **Bananza Creek** 71.53 22 P P 17 52 51.1 +1.0
baz=308,SNR=9.4
O14K **Tigyukauivet M** 71.53 31 P P 17 52 51.1 +1.0
baz=301
N15K **Kwethluk River** 71.56 30 P P 17 52 51.6 +1.3
baz=302
M16K **Timber Creek** 71.58 29 IAmb IAmb 17 52 52.9
comp=Z,13nm,1.0s
M16K **Timber Creek** 71.58 29 P P 17 52 52.0 +1.6
baz=302,SNR=7.2
H22K **Ishtalitna Cre** 71.60 23 P P 17 52 51.6 +1.2
baz=307
J20K **Nowinta River** 71.67 25 P P 17 52 52.4 +1.6
baz=305,SNR=20
F24K **Squaw Lake** 71.67 20 P P 17 52 51.8 +1.0
baz=310,SNR=8.5
L18K **Granite Mounta** 71.83 27 IAmb IAmb 17 54 57.4
comp=Z,8.8nm,0.9s
L18K **Granite Mounta** 71.83 27 P P 17 52 53.1 +1.2
baz=304
E25K **Arctic Village** 71.94 19 P P 17 52 53.4 +1.0
baz=312
N16K **Nishlik Lake** 71.96 29 P P 17 52 54.2 +1.5
baz=303
M17K **Holitna River** 72.00 28 IAmb IAmb 17 52 56.0
comp=Z,8.9nm,0.8s
M17K **Holitna River** 72.00 28 P P 17 52 54.6 +1.8
baz=304,SNR=5.4
K20K **Telida** 72.17 25 IAmb IAmb 17 54 49.1
comp=Z,12nm,0.7s
K20K **Telida** 72.17 25 P P 17 52 55.7 +1.8
baz=306,SNR=5.9
O15K **Ungalikthiuk R** 72.21 31 P P 17 52 54.9 +0.8
baz=302
H23K **Yukon River** 72.23 22 IAmb IAmb 17 52 56.9
comp=Z,17nm,1.4s
H23K **Yukon River** 72.23 22 P P 17 52 55.7 +1.5
baz=309,SNR=6.3
F25K **Christian Rive** 72.28 20 P P 17 52 56.3 +1.8
baz=312,SNR=8.8
G24K **Hadweenzic Riv** 72.32 21 IAmb IAmb 17 52 57.2
comp=Z,12nm,0.9s
G24K **Hadweenzic Riv** 72.32 21 P P 17 52 56.3 +1.6
baz=310,SNR=12
MLY **Manley** 72.33 23 IAmb IAmb 17 52 57.1
comp=Z,7.1nm,1.0s
MLY **Manley** 72.33 23 P P 17 52 56.2 +1.4
baz=308,SNR=11
D27M **Malcolm River** 72.40 17 P P 17 52 56.5 +1.3
baz=315
L19K **White Mountain** 72.56 27 IAmb IAmb 17 52 58.9
comp=Z,8.4nm,0.8s
L19K **White Mountain** 72.56 27 P P 17 52 58.0 +1.7
baz=305,SNR=6.1
N17K **Nushagak Hills** 72.58 29 P P 17 52 58.0 +1.7
baz=304
M18K **Stony River** 72.59 28 P P 17 52 57.9 +1.6
baz=305
F26K **Sheenjek River** 72.63 19 P P 17 52 57.9 +1.3
baz=313
BMAR **Burnt Mountain** 72.69 20 P 17 52 57.0 +0.1
G25K **Bearman Lake** 72.69 20 P P 17 52 58.6 +1.7
baz=311,SNR=10
O16K **Kokwok River B** 72.72 30 IAmb IAmb 17 52 59.6
comp=Z,11nm,1.0s
O16K **Kokwok River B** 72.72 30 P P 17 52 58.8 +1.6
baz=304
H24K **Noodor Dome** 72.75 22 P P 17 52 58.5 +1.2
baz=310,SNR=8.3
L20K **Farewell, AK** 72.76 26 P P 17 52 59.0 +1.5
baz=306
BPAW **Bear Paw Mtn.** 72.83 24 IAmb IAmb 17 52 59.8
comp=Z,8.8nm,1.0s
BPAW **Bear Paw Mtn.** 72.83 24 P P 17 52 58.9 +1.1
baz=308,SNR=9.6
M19K **Big River Lodg** 72.91 27 P P 17 52 59.0 +0.7
baz=306
E27K **Coleen River** 72.98 18 P P 17 52 59.5 +0.8
baz=315,SNR=5.4
N18K **Kilae Creek** 73.02 28 IAmb IAmb 17 53 01.5
comp=Z,10nm,0.9s
N18K **Kilae Creek** 73.02 28 P P 17 53 00.5 +1.4
baz=305
O17K **Koliganek Bris** 73.04 29 P P 17 53 00.2 +1.1
baz=304
H25L **Birch Creek** 73.11 21 P P 17 53 00.9 +1.6
baz=312,SNR=5.7
PPLA **Pukyupile** 73.14 25 P P 17 53 01.1 +1.3
baz=307,SNR=8.4
NEA2 **Nenana** 73.17 23 P P 17 53 00.9 +1.1
baz=310,SNR=8.1
E28M **Babbage River** 73.22 17 P P 17 53 00.7 +0.7
baz=316,SNR=6.2
G26K **Porcupine Rive** 73.24 20 IAmb IAmb 17 53 02.8
comp=Z,14nm,1.4s
G26K **Porcupine Rive** 73.24 20 P P 17 53 01.6 +1.4
baz=309,SNR=8.5
POKR **Poker Plat Res** 73.36 22 IAmb IAmb 17 53 03.1
comp=Z,14nm,0.8s
POKR **Poker Plat Res** 73.36 22 P P 17 53 02.1 +1.2
baz=311
COLA **College** 73.39 22 P P 17 53 01.7 +0.7
COLA **College** 73.39 22 P P 17 53 01.7 +0.7
COLA pmax pmax
comp=Z,36nm,0.8s
COLA **College** 73.39 22 P P 17 53 02.0 +1.0
baz=310
M20K **Styx River** 73.40 26 IAmb IAmb 17 54 06.4
comp=Z,10nm,0.8s
M20K **Styx River** 73.40 26 P P 17 53 02.8 +1.5
baz=307,SNR=6.0
TRF **Thorofare Moun** 73.47 24 P P 17 53 02.3 +0.5
baz=309
N19K **Bonanza Creek** 73.51 28 P P 17 53 03.2 +1.2
baz=306
CCB **Clear Creek Bu** 73.55 23 IAmb IAmb 17 53 03.2
comp=Z,6.1nm,0.7s
WRH **Wood River Hil** 73.57 23 IAmb IAmb 17 53 03.7
comp=Z,6.1nm,0.7s
P17K **Kvichak River** 73.65 30 P P 17 53 03.7 +1.0
baz=305
PRP **Porcupine Dome** 73.70 21 IAmb IAmb 17 53 05.6
comp=Z,12nm,0.8s
PRP **Porcupine Dome** 73.70 21 P P 17 53 03.9 +0.8
baz=312,SNR=7.9
MCK **McKinley** 73.76 24 IAmb IAmb 17 53 05.8
comp=Z,12nm,1.2s
MCK **McKinley** 73.76 24 P P 17 53 04.5 +1.2
baz=310
IL31 73.77 22 IAmb IAmb 17 53 04.4
comp=Z,9.7nm,0.8s
ILAR **Eielson Array** 73.77 22 P P 17 53 02.2 -1.1
ILAR **Eielson Array** 73.77 22 P P 17 53 03.7 +0.4
comp=Z,9.1nm,0.8s,baz=298,slow=5.0,SNR=75
comp=Z,9.1nm,0.8s
RES **Resolute Bay** 73.78 2 LR LR 18 27 08.4
comp=Z,33nm,18.8s,baz=338,slow=37
O18K **Koktuh Hills** 73.78 29 IAmb IAmb 17 53 06.6
comp=Z,22nm,1.4s
O18K **Koktuh Hills** 73.78 29 P P 17 53 04.9 +1.4
baz=306
E29M **Blow River** 73.79 17 P P 17 53 04.3 +1.0
baz=318,SNR=7.7
S14K **Fog Glacier** 73.89 33 P P 17 53 04.7 +0.4
baz=303
SKT **Skwentna** 73.94 26 IAmb IAmb 17 53 06.0
comp=Z,19nm,1.0s
SKT **Skwentna** 73.94 26 P P 17 53 05.0 +0.6
baz=308,SNR=8.9
G27K **Doyon Strip** 73.95 19 P P 17 53 05.1 +0.8
baz=315
HDA **Harding Lake** 73.99 23 P P 17 53 04.4 -0.2
baz=311
RND **Reindeer** 74.00 24 IAmb IAmb 17 53 09.1
comp=Z,29nm,1.8s
ESDC **Sonseca Array** 74.09 307 P 17 53 05.1 -0.6
ESDC **Sonseca Array** 74.09 307 P P 17 53 05.6 -0.1
comp=Z,3.5nm,0.8s,baz=51,slow=6.1,SNR=26
ESDC LR LR 18 29 15.3
comp=Z,43nm,18.3s,baz=74,slow=39
comp=Z,3.5nm,0.8s
J25K **Salcha River,** 74.36 22 P P 17 53 06.5 -0.4
baz=320,SNR=6.5
H27K **Steamboat Moun** 74.39 20 P P 17 53 08.0 +1.0
baz=315,SNR=6.3
Q17K **Contact Creek** 74.42 30 P P 17 53 07.7 +0.4
baz=306
SUA **Susitna One** 74.56 26 P P 17 53 08.6 +0.5
baz=309
I26K **Coal Creek Min** 74.57 21 IAmb IAmb 17 53 10.2
comp=Z,12nm,1.1s
I26K **Coal Creek Min** 74.57 21 P P 17 53 09.0 +1.0
baz=314
Q18K **Katmai Hardscr** 74.57 30 P P 17 53 08.6 +0.4
baz=306
CHNA **Chernabura Isl** 74.68 34 P P 17 53 08.7 0.0
baz=304
O20K **Slope Mountain** 74.69 28 P P 17 53 09.1 +0.2
baz=308
P19K **Oil Pt** 74.70 28 P P 17 53 09.0 +0.1
baz=307
K24K **Donnelly Dome** 74.78 23 P P 17 53 09.4 +0.1
baz=312,SNR=11
I27K **Kandik River** 74.82 20 P P 17 53 10.9 +1.4
baz=315,SNR=11
G29M **Pine Creek** 74.86 18 P P 17 53 10.0 +0.4
baz=318
INK **Inuvik** 74.90 16 P P 17 53 10.2 +0.4
baz=322
F30M **Barrier River** 74.90 17 IAmb IAmb 17 53 11.3
comp=Z,8.5nm,0.8s
F30M **Barrier River** 74.90 17 P P 17 53 10.4 +0.6
baz=320,SNR=6.3
Q19K **Cape Douglas,** 74.97 29 P P 17 53 11.0 +0.6
baz=307
J26L **Joseph Creek** 75.01 21 IAmb IAmb 17 53 12.1
comp=Z,10.0nm,0.8s
J26L **Joseph Creek** 75.01 21 P P 17 53 11.0 +0.4
baz=314,SNR=16
PMR **Palmer** 75.07 25 IAmb IAmb 17 53 12.5
comp=Z,15nm,0.9s
PMR **Palmer** 75.07 25 P P 17 53 11.4 +0.6
baz=310
RIDG **Independent Ri** 75.12 22 P P 17 53 11.6 +0.3
baz=313,SNR=14
RC01 **Rabbit Creek A** 75.17 26 P P 17 53 12.0 +0.5
baz=310
SCRK **Sand Creek** 75.24 22 IAmb IAmb 17 53 13.6
comp=Z,18nm,0.9s
SCRK **Sand Creek** 75.24 22 P P 17 53 12.5 +0.4
baz=314,SNR=22
G30M **tAoh Zraii Nji** 75.27 17 IAmb IAmb 17 53 13.4
comp=Z,8.0nm,0.7s
G30M **tAoh Zraii Nji** 75.27 17 P P 17 53 12.2 +0.1
baz=320,SNR=12
H29M **Whitestone** 75.28 19 IAmb IAmb 17 53 13.8
comp=Z,11nm,1.1s
H29M **Whitestone** 75.28 19 P P 17 53 12.5 +0.4
baz=318,SNR=7.4
I28M **Miner Creek** 75.41 20 P P 17 53 13.3 +0.3
baz=317,SNR=7.1
KNK **Knik Glacier** 75.43 25 P P 17 53 14.0 +1.0
baz=311
DOT **Dot Lake** 75.44 22 IAmb IAmb 17 53 14.3
comp=Z,10.0nm,1.3s
PAX **Paxson** 75.44 23 P P 17 53 13.7 +0.5
baz=313
M23K **Glacier View** 75.45 25 P P 17 53 13.8 +0.7
baz=311
R18K **Karluk** 75.45 30 P P 17 53 13.6 +0.4
baz=307
F31M **Tsiigehtchic** 75.53 16 P P 17 53 14.3 +0.9
baz=322
SCM **Sheep Creek Mo** 75.56 25 P P 17 53 14.8 +1.0
baz=312
EPYK **Eagle Plains** 75.61 18 IAmb IAmb 17 53 15.1
comp=Z,6.0nm,0.8s
EPYK **Eagle Plains** 75.61 18 P P 17 53 14.2 +0.2
baz=319,SNR=6.4
Q20K **Shuyak Island** 75.69 29 P P 17 53 14.3 -0.2
baz=308
M24K **Tolsona, Glenn** 75.79 24 P P 17 53 16.2 +1.1
baz=312
K27K **Chicken** 75.80 21 P P 17 53 16.4 +1.3
baz=315
G31M **Satah River** 75.81 17 IAmb IAmb 17 53 16.2
comp=Z,8.9nm,0.7s
G31M **Satah River** 75.81 17 P P 17 53 15.3 +0.3
baz=321,SNR=13
PWL **Port Wells** 75.84 26 P P 17 53 16.1 +0.7
baz=311
SEW **Seward** 75.91 27 P P 17 53 16.2 +0.4
baz=310
HARP **HAARP** 75.94 24 P P 17 53 16.5 +0.6
baz=313
KDAK **Kodiak Island** 76.12 30 P P 17 53 17.4 +0.4
baz=308
OHAK **Old Harbor** 76.16 30 P P 17 53 17.8 +0.6
baz=308
GLI **Glacier Island** 76.28 25 P P 17 53 18.4 +0.5
baz=312
KLU **Klutina** 76.29 24 P P 17 53 19.2 +1.1
baz=313,SNR=8.1
LSZ **Lusaka** 76.30 242 P 17 53 18.3 -0.5
LSZ IAmb IAmb 17 53 19.5
comp=Z,8.0nm,0.8s
LSZ **Lusaka** 76.30 242 P P 17 53 18.3 -0.5
LSZ pmax pmax
comp=Z,8.0nm,0.8s
L27K **Beaver Creek,** 76.57 22 IAmb IAmb 17 53 22.1
comp=Z,10nm,0.8s
L27K **Beaver Creek,** 76.57 22 P P 17 53 21.0 +1.4
baz=316,SNR=15
I30M **Mount Dempster** 76.58 19 IAmb IAmb 17 53 20.8
comp=Z,11nm,0.7s
I30M **Mount Dempster** 76.58 19 P P 17 53 19.9 +0.2
baz=320,SNR=22
BCAR **Beaver Creek A** 76.58 22 P 17 53 20.2 +0.6
DAWY **Dawson** 76.59 20 P P 17 53 20.6 +1.0
baz=318
M26K **Nabesna, AK** 76.66 23 IAmb IAmb 17 53 24.0
comp=Z,12nm,0.9s
M26K **Nabesna, AK** 76.66 23 P P 17 53 21.3 +1.2
baz=315,SNR=8.4
H31M **Peel River** 76.66 18 IAmb IAmb 17 53 22.3
comp=Z,9.6nm,1.0s
H31M **Peel River** 76.66 18 P P 17 53 20.2 +0.2
baz=321,SNR=11
N25K **Chitina, Valde** 76.68 24 P P 17 53 21.7 +1.5
baz=314,SNR=5.6
M27K **Edge Creek, AK** 77.06 22 IAmb IAmb 17 53 25.2
comp=Z,11nm,0.9s
M27K **Edge Creek, AK** 77.06 22 P P 17 53 24.0 +1.6
baz=316,SNR=7.7
J30M **Hart River** 77.09 19 P P 17 53 23.0 +0.4
baz=320,SNR=7.9

BMRM	**Bremner River**	**77.12**	**24**	P		**P**	**17 53 23.5**	**+0.9**
	baz=314							
K29M	**Barlow Dome**	**77.31**	**20**	IAmb		IAmb	17 53 25.6	
	comp=Z,8.6nm,0.9s							
K29M	**Barlow Dome**	**77.31**	**20**	P		**P**	**17 53 24.5**	**+0.7**
	baz=319,SNR=12							
BVCY	**Beaver Creek**	**77.35**	**22**	P		**P**	**17 53 25.3**	**+1.3**
	baz=317							
MCARA	**McCarthy VSAT**	**77.37**	**24**	P		**P**	**17 53 25.5**	**+1.5**
	baz=315,SNR=7.1							
L29M	**L29M**	**77.68**	**21**	IAmb		IAmb	17 53 28.0	
	comp=Z,8.7nm,1.2s							
L29M	**L29M**	**77.68**	**21**	P		**P**	**17 53 26.9**	**+1.1**
	baz=319,SNR=5.5							
YUK3	**Moose Creek**	**77.94**	**22**	P		**P**	**17 53 28.5**	**+1.0**
	baz=317							
M29M	**Somme Creek**	**78.08**	**21**	P		**P**	**17 53 29.5**	**+1.4**
	baz=318,SNR=7.7							
CTG	**Chitna Glacier**	**78.25**	**23**	P		**P**	**17 53 30.7**	**+1.6**
	baz=316							
YUK8	**Steele Glacier**	**78.53**	**22**	P		**P**	**17 53 32.2**	**+1.4**
	baz=318							
MESA	**MESA**	**78.61**	**24**	P		**P**	**17 53 32.9**	**+1.7**
	baz=316							
O28M	**Mount Upton**	**78.77**	**23**	P		**P**	**17 53 33.5**	**+1.3**
	baz=317							
YUK4	**Talbot Arm**	**78.85**	**22**	P		**P**	**17 53 33.8**	**+1.4**
	baz=319							
YUK6	**Outpost Mounta**	**79.24**	**22**	P		**P**	**17 53 35.8**	**+1.2**
	baz=319							
STKA	**Stephens Creek**	**79.24**	**138**	P		**P**	**17 53 33.6**	**-1.1**
STKA	**Stephens Creek**	**79.24**	**138**	P		**P**	**17 53 34.0**	**-0.7**
	comp=Z,7.0nm,0.8s,baz=332,slow=7.1,SNR=12							
STKA				LR		LR	18 34 39.5	
	comp=Z,67nm,18.6s,baz=283,slow=40							
	comp=Z,7.0nm,0.8s							
STKA	**Stephens Creek**	**79.24**	**138**	P		**P**	**17 53 33.6**	**-1.1**
STKA				pmax		pmax		
	comp=Z,42nm,0.9s							
PINM	**Pinnacle**	**79.25**	**23**	P		**P**	**17 53 35.4**	**+0.9**
	baz=317							
N30M	**Aishikik Lake**	**79.25**	**21**	P		**P**	**17 53 35.8**	**+1.3**
	baz=320							
HYT	**Haines Junctio**	**79.61**	**22**	P		**P**	**17 53 37.7**	**+1.1**
	baz=320,SNR=5.9							
N31M	**Braeburn, Yuko**	**79.63**	**21**	IAmb		IAmb	17 53 38.8	
	comp=Z,13nm,0.8s							
N31M	**Braeburn, Yuko**	**79.63**	**21**	P		**P**	**17 53 38.2**	**+1.7**
	baz=321,SNR=6.9							
PNL	**Peninsula**	**79.86**	**23**	P		**P**	**17 53 39.0**	**+1.2**
	baz=318							
MMPY	**Sheldon Lake,**	**80.03**	**18**	IAmb		IAmb	17 53 41.1	
	comp=Z,8.2nm,0.8s							
MMPY	**Sheldon Lake,**	**80.03**	**18**	P		**P**	**17 53 39.8**	**+1.1**
	baz=324,SNR=11							
O30N	**Mendenhall**	**80.09**	**21**	P		**P**	**17 53 40.4**	**+1.3**
	baz=321							
P30M	**Million Dollar**	**80.32**	**22**	P		**P**	**17 53 41.7**	**+1.4**
	baz=320							
P29M	**Windy Craggy**	**80.44**	**23**	P		**P**	**17 53 42.2**	**+1.3**
	baz=320							
WHY	**Whitehorse**	**80.55**	**21**	IAmb		IAmb	17 53 43.2	
	comp=Z,7.5nm,0.8s							
WHY	**Whitehorse**	**80.55**	**21**	P		**P**	**17 53 42.4**	**+0.7**
	baz=322							
BROLN	**Tlhalogang**	**80.57**	**238**	*i* P		**P**	**17 53 41.9**	**-0.4**
N32M	**Quiet Lake**	**80.70**	**20**	P		**P**	**17 53 43.0**	**+0.7**
	baz=323							
PLBC	**Pleasant Camp**	**81.02**	**22**	P		**P**	**17 53 45.3**	**+1.3**
	baz=321							
SKAG	**Skagway**	**81.36**	**22**	P		**P**	**17 53 47.7**	**+1.9**
	baz=321,SNR=6.1							
MREMI	**Moremi**	**81.42**	**237**	IAmb		IAmb	17 53 47.2	
	comp=Z,17nm,1.2s							
P33M	**Teslin, Yukon**	**81.53**	**21**	IAmb		IAmb	17 53 48.8	
	comp=Z,9.6nm,0.9s							
P33M	**Teslin, Yukon**	**81.53**	**21**	P		**P**	**17 53 47.9**	**+1.1**
	baz=323,SNR=11							
TGTN	**Hyland Airport**	**81.73**	**18**	P		**P**	**17 53 49.4**	**+1.6**
	baz=327							
P32M	**Atlin**	**81.76**	**21**	P		**P**	**17 53 49.6**	**+1.6**
	baz=323							
S31K	**Pelican**	**82.23**	**23**	P		**P**	**17 53 51.7**	**+1.4**
	baz=321							
R32K	**Eaglecrest**	**82.55**	**22**	P		**P**	**17 53 53.8**	**+1.7**
	baz=322							
Q32M	**Nakina River**	**82.71**	**21**	P		**P**	**17 53 54.6**	**+1.4**
	baz=324							
R33M	**Jennings River**	**82.75**	**20**	IAmb		IAmb	17 53 55.6	
	comp=Z,8.4nm,0.8s							
R33M	**Jennings River**	**82.75**	**20**	P		**P**	**17 53 54.6**	**+1.4**
	baz=325							
TORD	**Torodi Ar. Bea**	**82.75**	**281**	P		**P**	**17 53 52.6**	**-1.2**
TORD				IAmb		IAmb	17 53 54.7	
	comp=Z,7.5nm,1.2s							
TORD	**Torodi Ar. Bea**	**82.75**	**281**	P		**P**	**17 53 53.9**	**0.0**
	comp=Z,4.2nm,0.5s,baz=49,slow=6.0,SNR=3.7							
	comp=Z,4.2nm,0.5s							
SIT	**Sitka**	**83.24**	**24**	P		**P**	**17 53 57.5**	**+1.8**
	baz=322							
DLBC	**Dease Lake**	**83.81**	**20**	P		**P**	**17 54 00.4**	**+1.7**
	baz=326							
YKA	**Yellowknife Ar**	**83.85**	**12**	P		**P**	**17 53 58.1**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=335,slow=5.4,SNR=7.6							
	comp=Z,2.2nm,0.8s							
S34M	**Telegraph Cree**	**83.91**	**21**	IAmb		IAmb	17 54 02.0	
	comp=Z,9.6nm,0.9s							
S34M	**Telegraph Cree**	**83.91**	**21**	P		**P**	**17 54 00.7**	**+1.5**
	baz=325							
KDWAN	**Kaudwane**	**83.92**	**238**	P		**P**	**17 53 58.8**	**-0.9**
KDWAN	**Kaudwane**	**83.92**	**238**	*i* P		**P**	**17 53 59.6**	**-0.2**
QNGWA	**Qangwa**	**84.19**	**243**	IAmb		IAmb	17 54 02.5	
	comp=Z,8.4nm,0.9s							
QNGWA	**Qangwa**	**84.19**	**243**	*i* P		**P**	**17 54 01.3**	**+0.1**
U33K	**Whale Pass**	**84.73**	**23**	P		**P**	**17 54 04.8**	**+1.5**
	baz=323							
WRAK	**Wrangell Islan**	**84.74**	**23**	IAmb		IAmb	17 54 05.8	
	comp=Z,7.8nm,1.0s							
WRAK	**Wrangell Islan**	**84.74**	**23**	P		**P**	**17 54 04.8**	**+1.5**
	baz=324							
TOAD	**Toad River Com**	**84.81**	**18**	P		**P**	**17 54 05.1**	**+1.3**
	baz=330							
T35M	**Bob Quinn**	**84.95**	**21**	IAmb		IAmb	17 54 07.4	
	comp=Z,5.2nm,0.7s							
T35M	**Bob Quinn**	**84.95**	**21**	P		**P**	**17 54 06.5**	**+2.0**
	baz=326							
SKOMA	**Sekoma**	**85.15**	**237**	*i* P		**P**	**17 54 05.9**	**0.0**
GRTLG	**Ghanzi**	**85.24**	**241**	*i* P		**P**	**17 54 07.4**	**+0.9**
CRAG	**Craig**	**85.25**	**24**	P		**P**	**17 54 07.3**	**+1.4**
	baz=323							
MAKGR	**Makgori**	**85.33**	**236**	*i* P		**P**	**17 54 06.8**	**-0.1**
KGCAE	**Kacgae**	**85.39**	**240**			**P**	**17 54 06.7**	**-0.5**
KGCAE	**Kacgae**	**85.39**	**240**	*i* P		**P**	**17 54 07.5**	**+0.2**
BOSA	**Boshof**	**86.75**	**233**	P		**P**	**17 54 13.2**	**-0.6**
	comp=Z,11nm,0.7s,baz=47,slow=3.3,SNR=27							
	comp=Z,11nm,0.7s							
LKGWB	**Lokgwabe**	**86.87**	**239**			**P**	**17 54 12.5**	**-2.0**
KOOLE	**Kule**	**86.96**	**241**			**P**	**17 54 15.0**	**0.0**
KOOLE	**Kule**	**86.96**	**241**	*i* P		**P**	**17 54 15.5**	**+0.5**
DBIC	**Dimbokro**	**91.61**	**279**	P		**P**	**17 54 36.2**	**-0.8**
	comp=Z,6.7nm,0.8s,baz=55,slow=2.9,SNR=8.1							
DBIC				LR		LR	18 39 11.7	
	comp=Z,55nm,19.1s,baz=104,slow=38							
	comp=Z,6.7nm,0.8s							
VNDA	**Vanda**	**116.72**	**167**	PKP		**PKPdf**	**18 00 11.2**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=306,slow=5.0,SNR=4.0							
VNDA				PKKPbc		**PKKPab**	**18 10 39.8**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=186,slow=1.7,SNR=4.0							
TXAR	**Lajitas Array**	**117.66**	**15**	PKP		**PKPdf**	**18 00 15.8**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=15,slow=1.1,SNR=12							
SNAA	**Sanae**	**121.01**	**202**	PKP		**PKPdf**	**18 00 19.3**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=94,slow=3.1,SNR=2.7							
QSPA	**South Pole Qui**	**121.52**	**180**	PKP		**PKPdf**	**18 00 20.6**	**-1.6**
	comp=Z,2.6nm,0.7s,baz=237,slow=0.4,SNR=14							
QSPA				PKKPbc		**PKKPbc**	**18 10 23.1**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=155,slow=1.3,SNR=8.0							
CPUP	**Villa Florida**	**151.98**	**273**	PKP		**PKPdf**	**18 01 16.8**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=28,slow=1.6,SNR=5.0							
CPUP				PKPbc		**pPKPdf**	**18 01 23.8**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=274,slow=1.9,SNR=12							

*IDC **15** 17:54:36.7±1.4, 18°.17S×120°.25E, h0km, mb3.6/3, mbtmp3.9/8, ML3.9/4, Error ellipse: s-maj=37.5km s-min=23.5km az=49.0*
*NOU **15** 17:54:36.8, 18°.15S×120°.27E, h0km, mb4.4/15, Western Australia*

*AUST **15** 17:54:38.3±1.4, 18°.5S±2°.×12°.0E±°, h14km±10km, mb4.4/23, ML3.7/7, ML4.5/1, Error ellipse: s-maj=7.2km s-min=4.6km az=118.6*
ISC 15 17:54:37.0±0.6, **18°.11S**±0°.05×**120°.35E**±0°.06, **h10**km, **n60, σ2s44/62, mb3.8/4, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**3.09**	**191**	P	**Pn**	**17 55 28.2**	**+2.4**
MBWA				S	**Sn**	**17 56 03.1**	**+0.2**
MBWA	**Marble Bar**	**3.09**	**191**	P	**Pn**	**17 55 27.4**	**+1.6**
PSA00	**Pilbara Seismi**	**3.48**	**188**	P	**Pn**	**17 55 32.6**	**+1.4**
PSA00				S	**Sn**	**17 56 11.9**	**-0.5**
PSA00	**Pilbara Seismi**	**3.48**	**188**	P	**Pn**	**17 55 32.5**	**+1.3**
FITZ	**Fitzroy Crossi**	**5.04**	**91**	S	**Sn**	**17 56 50.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**5.04**	**91**	Pn	**Pn**	**17 55 55.5**	**+2.8**
	3.1nm,0.3s,baz=274,slow=9.7,SNR=42						
FITZ				Sn	**Sn**	**17 56 46.0**	**-4.9**
	4.7nm,0.3s,baz=231,slow=8.9,SNR=3.8						
	7.9nm,0.3s						
GIRL	**Giralia**	**7.29**	**231**	P	**Pn**	**17 56 25.3**	**+1.6**
GIRL				S	**Sn**	**17 57 42.4**	**-4.1**
KNRA	**Kununurra**	**8.41**	**75**	P	**Pn**	**17 56 41.6**	**+2.5**
	comp=Z,23nm,0.4s,comp=Z,0.1nm						
BATI	**Baumata**	**8.49**	**23**	Pn	**Pn**	**17 56 41.3**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=128,slow=18,SNR=1.5						
BATI				Sn	**Sn**	**17 58 12.3**	**-3.8**
	comp=Z,0.4nm,0.3s,baz=321,slow=13,SNR=1.2						
	comp=Z,12nm,0.5s						
CVQOZ	**Cooralya Stati**	**8.59**	**222**	P	**Pn**	**17 56 42.8**	**+1.3**
CVQOZ				S	**Sn**	**17 58 12.6**	**-5.9**
MEEK	**Meekatharra**	**8.64**	**190**	P	**Pn**	**17 56 43.3**	**+1.1**
	comp=Z,21nm,0.4s,comp=Z,0.3nm						
MEEK	**Meekatharra**	**8.64**	**190**	P	**Pn**	**17 56 43.0**	**+0.9**
EDFI	**Ende, Flores**	**9.40**	**8**	P	**Pn**	**17 56 53.0**	**+0.4**
	comp=Z,13nm,1.4s,comp=Z,0.0nm						
PLAI	**Plampang**	**9.56**	**345**	P	**Pn**	**17 56 56.5**	**+1.8**
PLAI	**Plampang**	**9.56**	**345**	S	**Sn**	**17 58 35.6**	**-6.7**
PLAI	**Plampang**	**9.56**	**345**	P	**Pn**	**17 56 56.6**	**+1.8**
WRKA	**Warakurna**	**10.11**	**134**	P	**Pn**	**17 57 03.8**	**+1.5**
	comp=Z,3.5nm,0.7s,comp=Z,0.0nm						
WRKA				S	**Sn**	**17 58 51.1**	**-4.8**
JAGI	**Jajag, Banyuwa**	**11.32**	**327**	P	**Pn**	**17 57 18.5**	**-0.4**
	comp=Z,25nm,1.2s						
JAGI	**Jajag, Banyuwa**	**11.32**	**327**	S	Sn	17 59 16.3	-9.3
JAGI	**Jajag, Banyuwa**	**11.32**	**327**	P	**Pn**	**17 57 19.2**	**+0.3**
MORW	**Morawa**	**11.60**	**199**	P	**Pn**	**17 57 21.9**	**-0.8**
	comp=Z,9.2nm,1.5s						
MORW	**Morawa**	**11.60**	**199**	S	Sn	17 59 21.3	-11
MORW	**Morawa**	**11.60**	**199**	P	**Pn**	**17 57 21.5**	**-1.2**
MTN	**Manton Dam**	**11.64**	**65**	P	**Pn**	**17 57 24.8**	**+1.5**
	comp=Z,46nm,0.9s						
MTN	**Manton Dam**	**11.64**	**65**	P	**Pn**	**17 57 24.5**	**+1.2**
DRS	**Darwin Rock St**	**11.64**	**62**	P	**Pn**	**17 57 25.9**	**+2.5**
	comp=Z,13nm,0.7s						
DRS	**Darwin Rock St**	**11.64**	**62**	P	**Pn**	**17 57 25.7**	**+2.4**
KDU	**Kakadu**	**12.88**	**67**	P	**Pn**	**17 57 41.6**	**+1.5**
	comp=Z,23nm,2.0s						
KDU	**Kakadu**	**12.88**	**67**	P	**Pn**	**17 57 41.7**	**+1.5**
BLDU	**Ballidu**	**12.88**	**194**	P	**Pn**	**17 57 40.7**	**+0.4**
	comp=Z,23nm,0.9s						
BLDU	**Ballidu**	**12.88**	**194**	P	**Pn**	**17 57 40.3**	**+0.1**
WC1	**Warramunga Arr**	**13.36**	**100**	P	**Pn**	**17 57 48.2**	**+1.4**
WRA	**Warramunga Arr**	**13.36**	**100**	Pn	**Pn**	**17 57 47.9**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=280,slow=14,SNR=28						
WRA				Sn	Sn	18 00 08.3	-7.2
	comp=Z,2.3nm,0.3s,baz=288,slow=26,SNR=7.4						
	comp=Z,1.5nm,0.3s						
WRAB	**Tennant Creek**	**13.37**	**100**	P	**Pn**	**17 57 48.4**	**+1.5**
	comp=Z,17nm,0.8s						
WB2	**Warramunga Arr**	**13.37**	**100**	P	**Pn**	**17 57 47.7**	**+0.7**
KLBR	**Kellerberrin**	**13.63**	**189**	P	**Pn**	**17 57 49.9**	**-0.5**
	comp=Z,20nm,0.4s						
KLBR	**Kellerberrin**	**13.63**	**189**	P	**Pn**	**17 57 50.2**	**-0.2**
AS13	**Alice Springs**	**13.81**	**116**	P	**Pn**	**17 57 53.7**	**+0.8**
	comp=Z,8.6nm,0.7s						
ASAR	**Alice Springs**	**13.82**	**116**	Pn	**Pn**	**17 57 53.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=290,slow=13,SNR=18						
ASAR				Sn	Sn	18 00 16.0	-11
	comp=Z,1.4nm,0.3s,baz=308,slow=25,SNR=13						
	comp=Z,0.5nm,0.4s						
AS01	**Alice Springs**	**13.86**	**116**	P	**Pn**	**17 57 55.1**	**+1.4**
MUN	**Mundaring**	**14.31**	**194**	P	**Pn**	**17 57 58.8**	**-0.9**
	comp=Z,23nm,1.4s						
MUN	**Mundaring**	**14.31**	**194**	P	**Pn**	**17 57 59.6**	**-0.1**
FORT	**Forrest**	**14.43**	**152**	P	**Pn**	**17 58 02.5**	**+1.1**
	comp=Z,5.7nm,0.8s						
DNDOZ	**Balladonia**	**14.64**	**168**	P	**Pn**	**17 58 03.5**	**-0.8**
	comp=Z,67nm,1.2s						
NWAO	**Narrogin (SRO)**	**15.02**	**190**	P	**Pn**	**17 58 07.1**	**-2.3**
NWAO	**Narrogin (SRO)**	**15.02**	**190**	Pn	**Pn**	**17 58 07.8**	**-1.5**
	comp=Z,3.6nm,0.3s,baz=11,slow=12,SNR=21						
NWAO				Sn	Sn	18 00 42.1	-14
	comp=Z,3.3nm,0.3s,baz=247,slow=10.0,SNR=6.2						
NWAO	**Narrogin (SRO)**	**15.02**	**190**	P	**Pn**	**17 58 08.2**	**-1.2**
RKGY	**Rocky Gully**	**16.70**	**190**	P	**Pn**	**17 58 31.2**	**0.0**
	comp=Z,20nm,2.4s						
MULG	**Mulgathing**	**17.39**	**137**	P	**Pn**	**17 58 41.7**	**+1.8**
	comp=Z,13nm,1.6s						
QIS	**Mount Isa**	**18.34**	**101**	P	**Pn**	**17 58 54.1**	**+2.5**
	comp=Z,8.7nm,0.6s						
QIS	**Mount Isa**	**18.34**	**101**	P	**Pn**	**17 58 53.9**	**+2.2**
LCRK	**Leigh Creek**	**20.37**	**130**	P	Pn	17 59 16.6	+0.7
	comp=Z,6.9nm,2.5s						
YAPP	**Yappala Statio**	**21.24**	**134**	P	**P**	**17 59 25.8**	**+2.5**
	comp=Z,6.6nm,0.8s						
STKA	**Stephens Creek**	**23.58**	**130**	P	**P**	**17 59 50.4**	**+2.5**
	comp=Z,1.3nm,0.7s,baz=303,slow=8.7,SNR=4.4						
STKA				S	**S**	**18 03 53.6**	**-8.7**
	comp=Z,0.8nm,0.7s,baz=113,slow=23,SNR=0.9						
	comp=Z,1.3nm,0.7s						
H08S2	**Diego Garcia H**	**47.66**	**276**	T	T	18 53 29.5	
	baz=107,slow=76,SNR=4.2						
H08S3	**Diego Garcia H**	**47.68**	**276**	T	T	18 53 30.4	
	baz=107,slow=76,SNR=15						
H08S1	**Diego Carcia H**	**47.68**	**276**	T	T	18 53 30.1	
	baz=107,slow=76,SNR=4.2						
SONM	**Songino Array**	**66.82**	**350**	P	**P**	**18 05 30.6**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=158,slow=6.6,SNR=3.7						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**73.14**	**334**	P	**P**	**18 06 09.3**	**+1.6**
	comp=Z,0.3nm,0.8s,baz=139,slow=9.0,SNR=2.6						
	comp=Z,0.3nm,0.8s						
LPAZ	**La Paz**	**144.81**	**166**	PKP	**PKPdf**	**18 14 16.7**	**+0.7**
	comp=Z,2.0nm,0.5s,baz=23,slow=1.6,SNR=4.7						

*AEIC **15** 17:54:42.5±0.6, 53°.50N±0°.07×163°.19W±0°.09, h36km±10km, Error ellipse: s-maj=11.0km s-min=7.2km az=166.0*
NEIC 15 17:54:41.1±0.8, **53°.51N**±0°.05×**163°.18W**±0°.03, **h10**km±2km, **ML2.5/8, ML2.5**(AEIC), **Error ellipse: s-maj=8.9km s-min=3.0km az=160.0, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISLZ	**Isanotski Laza**	**1.26**	**346**		Pn	17 55 04.2	-0.6
ISLZ					Sb	17 55 20.9	-0.3
WESE	**West Dahl East**	**1.27**	**320**		Pn	17 55 04.5	-0.5
WESE					Sn	17 55 23.2	+1.0
ISNN	**Isanotski Nort**	**1.37**	**345**		Pn	17 55 06.4	0.0
ISNN					Sb	17 55 24.4	-0.1
SSBA	**Shishaldin**	**1.38**	**337**		Pn	17 55 05.9	-0.6
SSBA					Sg	17 55 25.5	0.0
WECS	**Westdahl Cape**	**1.39**	**318**		Pn	17 55 06.0	-0.6
WEBT	**Westdahl Beart**	**1.43**	**320**		Pn	17 55 06.8	-0.3
WEBT					Sb	17 55 26.4	+0.4
AKUT	**Akutan**	**1.66**	**293**	Pn	Pn	17 55 10.2	-0.1
AHB	**Akutan Harbor**	**1.68**	**292**		Pn	17 55 10.4	0.0
AHB					Sn	17 55 30.6	-1.4
AKBBA	**Akutan Broad B**	**1.73**	**291**		Pn	17 55 11.4	+0.1
AKBBA					Sn	17 55 32.8	-0.7
LVA	**Lava Point**	**1.81**	**292**	Pn	Pn	17 55 12.3	-0.1
LVA				IAML		17 55 53.3	
	comp=E,44nm,1.2s						
HAG	**Hague Volcano**	**1.96**	**22**		Pn	17 55 14.7	+0.3
HAG					Sn	17 55 39.9	+0.9
PS1A	**Pavlof South-1**	**2.09**	**23**		Pn	17 55 16.8	+0.6
MTBL	**Makushin Table**	**2.13**	**284**		Pn	17 55 16.9	+0.1
MTBL					Sn	17 55 42.5	-0.7
MREP	**Makushin Rep't**	**2.14**	**280**		Pn	17 55 17.0	+0.1
MREP					Sn	17 55 42.9	-0.7
MAPS	**Pakushin South**	**2.26**	**279**		Pn	17 55 18.6	+0.1
MAPS					Sn	17 55 44.9	-1.4
SDPT	**Sand Point**	**2.43**	**40**		Pn	17 55 20.8	0.0
SDPT					Sn	17 55 48.9	-1.6
SDPT	**Sand Point**	**2.43**	**40**	IAML		17 55 50.4	
	comp=E,34nm,0.8s						
CNBA	**Chernabura Isl**	**2.49**	**57**		Pn	17 55 21.1	-0.5
CNBA	**Chernabura Isl**	**2.49**	**57**	IAML		17 55 36.8	
	comp=N,20nm,1.1s						
CNBA				IAML		17 55 54.5	
	comp=E,21nm,0.9s						
N15K	**Kwethluk River**	**6.89**	**13**	Pn	Pn	17 56 22.2	+0.1

*IDC **15** 18:02:29.8±2.0, 8°.98S×117°.58E, h0km, mb3.1/2, mbtmp3.5/6, ML3.4/4, MS3.3/1, Error ellipse: s-maj=39.8km s-min=23.0km az=58.0*
*DJA **15** 18:02:34.9±0.2, 9°.5S×11°.8E±°, h10km, M4.2/19, mB4.8/1, mb4.4/7, MLv4.1/19, Mw(mB)4.1/1*
ISC 15 18:02:34.3±1.1, **8°.97S**±0°.06×**117°.84E**±0°.05, **h12**km±7km, **n24, σ1s57/30, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.15**	**336**	P	**Pg**	**18 02 37.6**	**-0.3**
PLAI				Sg	**Sg**	**18 02 40.6**	**+0.2**
WBSI	**Waikabubak, Su**	**1.67**	**114**	P	**Pn**	**18 03 01.1**	**-2.4**
WSI	**Waingapu**	**2.53**	**106**	P	**Pn**	**18 03 15.1**	**-0.1**
SRBI	**Singaraja**	**2.74**	**288**	P	**Pn**	**18 03 18.6**	**+0.4**
BASI	**Baing, Sumba**	**2.98**	**115**	P	**Pn**	**18 03 23.3**	**+1.9**
JAGI	**Jajag, Banyuwa**	**3.68**	**277**	P	**Pn**	**18 03 31.1**	**0.0**
JAGI				S	**Sn**	**18 04 16.1**	**+1.7**
EDFI	**Ende, Flores**	**3.81**	**87**	P	**Pn**	**18 03 33.4**	**+0.4**
BSSI	**Bau Bau, Buton**	**3.84**	**43**	P	**Pn**	**18 03 34.3**	**+0.9**
BSSI				S	**Sn**	**18 04 19.4**	**+0.9**
BKSI	**Bulukumba**	**4.27**	**32**	P	**Pn**	**18 03 39.8**	**+0.6**
BKSI				S	**Sn**	**18 04 30.1**	**+1.0**
KMMI	**Kalianget**	**4.28**	**296**	P	**Pn**	**18 03 41.2**	**+1.8**
KAPI	**Kappang**	**4.36**	**26**	Pn	**Pn**	**18 03 40.4**	**0.0**
	3.8nm,0.3s,baz=183,slow=17,SNR=3.2						
KAPI				Sn	**Sn**	**18 04 32.5**	**+1.3**
	7.9nm,0.3s,baz=280,slow=22,SNR=9.5						
	8.3nm,0.3s						
MMRI	**Maumere**	**4.36**	**86**	P	**Pn**	**18 03 42.5**	**+2.0**
GMJI	**Gumukmas**	**4.40**	**279**	P	**Pn**	**18 03 41.7**	**+0.7**
BNSI	**Bone**	**5.06**	**27**	P	**Pn**	**18 03 51.5**	**+1.4**
BATI	**Baumata**	**5.88**	**103**	Pn	**Pn**	**18 04 02.5**	**+1.2**
	1.9nm,0.3s,baz=273,slow=19,SNR=1.7						
BATI				Sn	**Sn**	**18 05 11.6**	**+2.9**
	3.0nm,0.3s,baz=68,slow=15,SNR=1.2						
	20nm,0.7s						
BATI	**Baumata**	**5.88**	**103**	P	**Pn**	**18 04 02.5**	**+1.2**
	0.3nm57nm,1.6s						
TTSI	**Tana Toraja**	**6.20**	**19**	P	**Pn**	**18 04 07.7**	**+1.9**
SOEI	**Soe**	**6.39**	**98**	P	**Pn**	**18 04 10.0**	**+1.5**
	43nm,1.1s						
PCJI	**Pacitan**	**6.63**	**276**	P	**Pn**	**18 04 13.1**	**+1.4**
	67nm,1.4s						
UGM	**Wanagama**	**7.31**	**278**	P	**Pn**	**18 04 22.8**	**+1.7**
FITZ	**Fitzroy Crossi**	**11.83**	**141**	Pn	**Pn**	**18 05 22.6**	**-0.4**
	0.1nm,0.3s,baz=316,slow=9.8,SNR=2.0						
FITZ				Sn	Sn	18 07 25.5	-10
	0.1nm,0.3s,baz=329,slow=18,SNR=1.6						
FITZ				LR	LR	18 10 42.2	
	comp=Z,123nm,18.3s,baz=277,slow=41						
	5.2nm,1.1s						
WRA	**Warramunga Arr**	**19.33**	**126**	P	**P**	**18 06 58.4**	**-1.3**
	0.1nm,0.3s,baz=310,slow=10,SNR=1.6						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**21.21**	**135**	P	**P**	**18 07 19.1**	**-1.1**
	0.5nm,0.7s,baz=315,slow=10,SNR=9.8						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**63.91**	**334**	P	**P**	**18 13 03.7**	**-3.5**
	0.2nm,0.6s,baz=123,slow=7.4,SNR=1.8						
	0.2nm,0.6s						

*IDC **15** 18:11:51.8±1.4, 6°.36S×128°.03E, h396km±17km, mb3.6/12, mbtmp4.

JAGI	**Jajag, Banyuwa**	**13.92**	**260**	P		**P**	18 14 52.8	**+0.1**
JAGI	**Jajag, Banyuwa**	**13.92**	**260**	P		**P**	18 14 52.1	**-0.7**
WB0	**Warramunga Arr**	**14.71**	**156**			**P**	18 15 01.6	**+0.3**
WB0						**S**	18 17 36.0	**-2.0**
WRAB	**Tennant Creek**	**14.84**	**156**	P		**P**	18 15 03.5	**+0.7**
WRA	**Warramunga Arr**	**14.85**	**156**			**P**	18 15 01.8	**-1.0**
WRA	**Warramunga Arr**	**14.85**	**156**	P		**P**	18 15 03.2	**+0.4**
	8.3nm,0.3s,baz=334,slow=11,SNR=78							
WRA				S		**S**	18 17 39.3	**-1.5**
	3.3nm,0.4s,baz=336,slow=21,SNR=7.7							
WR8	**Warramunga Arr**	**14.92**	**156**			**P**	18 15 04.0	**+0.3**
WR8						**S**	18 17 40.7	**-1.6**
COEN	**Coen**	**16.71**	**118**	P		**P**	18 15 23.6	**+0.7**
AS31	**Alice Springs**	**18.13**	**162**			**P**	18 15 38.6	**+0.7**
AS31				IAmb		IAmb	18 15 39.4	
	comp=Z,9.9nm,0.5s							
ASAR	**Alice Springs**	**18.13**	**162**			**P**	18 15 38.4	**+0.5**
ASAR	**Alice Springs**	**18.13**	**162**	P		**P**	18 15 38.8	**+0.9**
	comp=Z,17nm,0.3s,baz=343,slow=12,SNR=295							
ASAR				S		**S**	18 18 44.3	**-0.4**
	comp=Z,10nm,0.8s,baz=340,slow=18,SNR=29							
NWAO	**Narrogin (SRO)**	**28.29**	**199**	P		**P**	18 17 11.8	**+1.1**
	comp=Z,24nm,1.3s,baz=23,slow=13,SNR=2.9							
	comp=Z,24nm,1.3s							
JOW	**Kunigami**	**32.98**	**0**	P		**P**	18 17 51.5	**+0.1**
JOW				IAmb		IAmb	18 17 52.4	
	comp=Z,20nm,0.9s							
CMAR	**Chiang Mai Arr**	**37.82**	**311**	P		**P**	18 18 32.7	**+0.4**
	comp=Z,0.5nm,0.6s,baz=146,slow=8.6,SNR=4.7							
	comp=Z,0.5nm,0.6s							
PZH	**PanZhiHua**	**41.42**	**323**	P		**P**	18 19 03.9	**+2.3**
KSRS	**Korea Array**	**43.57**	**360**	P		**P**	18 19 18.6	**+0.3**
	comp=Z,3.9nm,0.6s,baz=179,slow=9.5,SNR=29							
	comp=Z,3.9nm,0.6s							
MJAR	**Matsushiro Arr**	**43.71**	**12**	P		**P**	18 19 17.9	**-1.6**
	comp=Z,3.5nm,0.6s,baz=191,slow=8.7,SNR=9.5							
	comp=Z,3.5nm,0.6s							
MAJO	**Matsushiro**	**43.71**	**12**	P		**P**	18 19 17.9	**-1.7**
MJB9	**Matsu-Tunnel**	**43.72**	**12**	P		**P**	18 19 17.6	**-2.0**
XAN	**Xi'an**	**44.05**	**337**	*eP*		**P**	18 19 21.6	**-0.6**
XAN				pmax		pmax		
	comp=Z,13nm,0.5s							
HHC	**Hu-ho-hao-te**	**49.34**	**344**	*eP*		**P**	18 20 05.5	**+2.8**
HHC				pmax		pmax		
	comp=Z,9.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,47nm,4.2s							
USRK	**Ussuriysk Ar.**	**50.43**	**4**	P		**P**	18 20 10.7	**+0.1**
	comp=Z,4.8nm,0.8s,baz=193,slow=8.5,SNR=6.6							
	comp=Z,4.8nm,0.8s							
XLT	**XiLinHaoTe**	**51.16**	**349**	*eP*		**P**	18 20 17.3	**+1.2**
XLT				pmax		pmax		
	comp=Z,6.0nm,0.8s							
GTA	**Gaotai**	**52.47**	**332**	P		**P**	18 20 27.0	**+1.2**
GTA				pmax		pmax		
	comp=Z,7.0nm,0.6s							
SONM	**Songino Array**	**57.22**	**343**	P		**P**	18 20 59.7	**+0.5**
SONM	**Songino Array**	**57.22**	**343**	P		**P**	18 21 00.0	**+0.8**
	comp=Z,2.1nm,0.6s,baz=167,slow=6.6,SNR=13							
	comp=Z,2.1nm,0.6s							
PEA0B	**Petropavlovsk-**	**64.33**	**19**	P		**P**	18 21 46.7	**+0.4**
PEA0B				IAmb		IAmb	18 21 52.6	
	comp=Z,19nm,1.4s							
PETK	**Petropavlovsk-**	**64.33**	**19**	P		**P**	18 21 46.9	**+0.6**
	comp=Z,3.7nm,0.6s,baz=180,slow=3.8,SNR=26							
	comp=Z,3.7nm,0.6s							
KSH	**Kashi**	**66.22**	**318**	P		**P**	18 22 00.3	**+1.6**
MKAR	**Makanchi Array**	**66.61**	**328**	P		**P**	18 22 01.1	**+0.2**
MKAR	**Makanchi Array**	**66.61**	**328**	P		**P**	18 22 01.6	**+0.8**
	comp=Z,2.3nm,0.4s,baz=127,slow=7.8,SNR=49							
	comp=Z,2.3nm,0.4s							
MAKZ	**Makanchi**	**66.79**	**327**	P		**P**	18 22 02.0	**0.0**
MAKZ				IAmb		IAmb	18 22 03.6	
	comp=Z,6.3nm,1.4s							
YAK	**Yakutsk**	**68.18**	**1**	P		**P**	18 22 09.7	**-0.4**
ZALV	**Zalesovo Beam**	**70.14**	**335**	P		**P**	18 22 21.3	**-0.9**
ZALV	**Zalesovo Beam**	**70.14**	**335**	P		**P**	18 22 22.1	**-0.1**
	comp=Z,2.7nm,0.6s,baz=135,slow=4.4,SNR=12							
	comp=Z,2.7nm,0.6s							
KURBB	**Kurchatov Arra**	**70.94**	**329**	P		**P**	18 22 27.5	**+0.4**
	comp=Z,4.4nm,0.6s,baz=131,slow=5.0,SNR=49							
	comp=Z,4.4nm,0.6s							
KURK	**Kurchatov**	**70.95**	**329**	P		**P**	18 22 27.0	**-0.1**
KURK				IAmb		IAmb	18 22 28.2	
	comp=Z,4.6nm,0.5s							
BVAR	**Borovoye Array**	**76.47**	**328**	P		**P**	18 22 59.1	**+0.2**
	comp=Z,1.0nm,0.4s,baz=127,slow=8.9,SNR=10							
	comp=Z,1.0nm,0.4s							
BRVK	**Borovoye**	**76.54**	**328**	P		**P**	18 22 59.0	**-0.2**
BRVK				IAmb		IAmb	18 23 00.6	
	comp=Z,3.8nm,1.2s							
AB31	**Akbulak array**	**80.78**	**322**	IAmb		IAmb	18 23 22.9	
	comp=Z,1.5nm,0.6s							
ABKAR	**Akbulak array**	**80.78**	**322**	P		**P**	18 23 22.2	**+0.1**
QSPA	**South Pole Qui**	**83.63**	**180**	P		**P**	18 23 37.2	**+0.6**
	comp=Z,0.6nm,0.8s,baz=316,slow=1.0,SNR=9.8							
	comp=Z,0.6nm,0.8s							

STR 15 18:16:18.8±1.4,**45°N**±7°×°±1°3,**h5**km,**MLv0.5**/4,**LOCSAT earthModelID alpes_taup-2.11 preliminary,France**

*IDC **15** 18:19:18.6±1.5,0°.83S×128°.91E,h0km,mb3.7/3, mbtmp3.8/5,ML3.8/2,Error ellipse: s-maj=56.0km s-min=23.2km az=70.0*
*DJA **15** 18:19:22.3±0.2,1°S±2°×12°9E±°,h10km,M4.2/18, mb4.5/10,MLv4.0/18*
ISC 15 18:19:24.6±1.0,**0°.93S**±0°.06×**128°.64E**±0°.06,**h35**km,**n22, σ1s26/25,mb3.9/3,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.11**	**323**	P	**Pn**	**18 19 58.4**	**+0.9**
MSAI	**Masohi**	**2.42**	**173**	P	**Pn**	18 20 01.4	**-0.3**
MSAI				S	**Sn**	**18 20 32.1**	**+1.9**
SWI	**Sorong**	**2.62**	**89**	P	**Pn**	18 20 04.1	**-0.4**
SWI				S	**Sn**	**18 20 36.7**	**+1.5**
NLAI	**Namlea**	**2.76**	**214**	P	**Pn**	18 20 05.9	**-0.5**
NLAI				S	**Sn**	**18 20 38.7**	**+0.1**
AAI	**Ambon**	**2.78**	**189**	P	**Pn**	18 20 07.1	**+0.5**
SANI	**Sanana**	**2.87**	**247**	P	**Pn**	18 20 06.4	**-1.5**
FAKI	**Fak Fak**	**4.12**	**119**	P	**Pn**	18 20 24.0	**-1.1**
KMSI	**Cibinong**	**4.89**	**288**	P	**Pn**	**18 20 35.9**	**+0.2**
LUWI	**Luwuk**	**5.86**	**269**	P	**Pn**	**18 20 49.2**	**+0.1**
	0.4nm66nm,0.8s						
KDI	**Kendari**	**6.72**	**243**	P	**Pn**	**18 21 01.8**	**+0.9**
MRSI	**Marisa**	**6.84**	**282**	P	**Pn**	**18 21 02.8**	**+0.3**
	0.1nm28nm,0.8s						
APSI	**Ampana**	**6.99**	**270**	P	**Pn**	18 21 05.4	**+0.9**
	65nm,0.7s						
BBSI	**Bau Bau**	**7.56**	**233**	P	**Pn**	**18 21 14.3**	**+1.9**
	43nm,1.1s						
BNSI	**Bone**	**9.19**	**248**	P	**Pn**	**18 21 35.4**	**+0.6**
	25nm,2.2s						
SPSI	**Sidrap Palu**	**9.36**	**251**	P	**Pn**	**18 21 38.6**	**+1.5**
BKSI	**Bulukumba**	**9.55**	**243**	P	**Pn**	**18 21 42.0**	**+2.2**
	31nm,0.6s						
BSSI	**Bau Bau, Buton**	**9.64**	**237**	P	**Pn**	18 21 40.5	**-0.4**
	48nm,1.2s						
KAPI	**Kappang**	**9.76**	**245**	Pn	**Pn**	**18 21 44.1**	**+1.6**
	3.7nm,0.3s,baz=67,slow=14,SNR=5.0						
	9.2nm,0.4s						
WRA	**Warramunga Arr**	**19.71**	**164**	P	**P**	**18 23 48.6**	**-2.6**
	0.2nm,0.3s,baz=348,slow=12,SNR=6.2						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**23.18**	**168**	P	**P**	**18 24 28.4**	**0.0**
	3.4nm,0.8s,baz=346,slow=11,SNR=13						
	3.4nm,0.8s						
MKAR	**Makanchi Array**	**62.45**	**326**	P	**P**	**18 29 43.3**	**-1.1**
	0.4nm,0.8s,baz=126,slow=6.2,SNR=3.8						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**66.67**	**328**	P	**P**	**18 30 12.3**	**+0.5**
	0.7nm,0.6s,baz=126,slow=5.8,SNR=5.2						
	0.7nm,0.6s						

GCG 15 18:27:22.6±0.4,**13°.30N**×**90°.36W,h19**km±5km,**MD3.5, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.96**	**68**	*eP*	Pb	18 27 39.5	-1.2
JAYA				*eS*	Sb	18 27 53.4	+0.3
FG16	**Alotenango, Sa**	**0.98**	**352**	*eP*	Pg	18 27 45.3	+3.6
MTO3	**Montecristo**	**1.46**	**42**	*eP*	Pn	18 27 48.6	+0.3

*NEIC **15** 18:34:48.6±0.5,35°.908N±0°.007×117°.69W±0°.01, h5km±1km,Error ellipse: s-maj=2.1km s-min=1.5km az=9.0*
PAS 15 18:34:49.2±0.6,**35°.912N**±0°.007×**117°.70W**±0°.01, **h4**km±2km,**ML3.0**/25,**ML2.9**/82(NEIC),**Error ellipse: s-maj=1.3km s-min=1.1km az=83.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.12**	**208**		Pg	18 34 52.0	+0.4
WNMM	**Nine Mile Cany**	**0.18**	**248**		Pg	18 34 53.0	+0.3
SRTC	**Snort**	**0.22**	**191**		Pg	18 34 53.9	+0.4
MPMC	**Manual Prospec**	**0.22**	**49**		Pg	18 34 53.7	+0.1
MPMC				IAML		18 34 57.3	
	comp=E,2μm,0.3s						
MPMC				IAML		18 34 58.7	
	comp=N,3μm,0.7s						
MFS	**McCloud Flat S**	**0.24**	**328**		Pg	18 34 54.1	+0.2
WSHM	**Spangler Hills**	**0.35**	**152**	Pg	Pg	18 34 55.8	-0.2
LRMC	**Laurel Mtn Rad**	**0.43**	**178**		Pg	18 34 57.3	-0.2
LRMC				IAML		18 35 03.9	
	comp=E,1μm,0.5s						
LRMC				IAML		18 35 04.6	
	comp=N,1μm,0.4s						
CCCA	**Chr Cany lake**	**0.47**	**145**		Pg	18 34 58.5	+0.2
WORM	**Onyx Ranch**	**0.49**	**244**		Pg	18 34 58.0	-0.6
WBSM	**Bird Springs**	**0.52**	**224**		Pg	18 34 59.0	-0.1
WBSM					Sg	18 35 06.5	+0.5
DTP	**Desert Tortois**	**0.65**	**191**		Pg	18 35 01.6	-0.1
ISA	**Isabella, Lake**	**0.68**	**249**		Pg	18 35 02.1	-0.1
ISA				IAML		18 35 11.7	
	comp=N,762nm,0.4s						
ISA				IAML		18 35 12.3	
	comp=E,554nm,0.4s						
CCAC	**Calif City Air**	**0.80**	**199**		Pg	18 35 04.2	-0.4
GWY	**Greenwater Val**	**0.88**	**72**		Pg	18 35 05.9	-0.1
GWY	**Greenwater Val**	**0.88**	**72**	IAML		18 35 24.0	
	comp=N,547nm,0.5s						
SPG2	**Springville 2**	**0.91**	**289**		Pg	18 35 06.1	-0.6
GSC	**Goldstone, Bar**	**0.95**	**130**		Pg	18 35 06.7	-0.7
GSC				IAML		18 35 22.1	
	comp=N,340nm,0.6s						
GSC				IAML		18 35 26.0	
	comp=E,467nm,0.5s						
TPO	**Tropico Hills**	**1.12**	**203**		Pg	18 35 09.6	-1.0
TPO				IAML		18 35 32.3	
	comp=E,369nm,0.9s						
TPO				IAML		18 35 32.3	
	comp=N,357nm,0.7s						
TPNV	**Topopah Spring**	**1.56**	**48**		Pn	18 35 17.2	-0.7
TPNV				IAML		18 35 44.2	
	comp=N,95nm,0.5s						
TPNV				IAML		18 35 46.9	
	comp=N,99nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.67**	**179**		Pn	18 35 19.3	-0.1
BFSC				IAML		18 35 44.7	
	comp=N,107nm,0.4s						
BFSC				IAML		18 35 49.1	
	comp=E,84nm,0.5s						
MWC	**Mount Wilson**	**1.71**	**190**		Pn	18 35 19.6	-0.4
MWC				IAML		18 35 45.4	
	comp=N,184nm,0.5s						
MWC				IAML		18 35 50.0	
	comp=E,99nm,0.5s						
ELS	**Elsinore Mount**	**2.27**	**174**		Pn	18 35 27.1	-0.4
ELS				IAML		18 36 08.9	
	comp=E,38nm,1.3s						
V12A	**Nelson**	**2.32**	**94**		Pn	18 35 27.8	-0.5
V12A				IAML		18 36 05.0	
	comp=N,71nm,0.6s						
V12A				IAML		18 36 06.2	
	comp=E,45nm,0.5s						
S11A	**Rachel**	**2.33**	**42**		Pn	18 35 28.0	-0.5
S11A				IAML		18 36 08.2	
	comp=E,82nm,1.1s						
S11A				IAML		18 36 47.5	
	comp=N,95nm,0.1s						
LHV	**Little Huntoon**	**2.42**	**345**		Pb	18 35 34.3	+1.0
LHV				IAML		18 36 10.4	
	comp=N,35nm,0.5s						
LHV				IAML		18 36 15.2	
	comp=E,48nm,1.2s						
PFO	**Pinyon Flats O**	**2.51**	**156**	IAML		18 36 14.5	
	comp=E,34nm,1.4s						
PFO				IAML		18 36 15.0	
	comp=E,29nm,0.9s						
PRN	**Pahroc Range**	**2.60**	**54**	IAML		18 36 26.7	
	comp=N,47nm,0.7s						
PRN				IAML		18 36 26.8	
	comp=E,54nm,0.9s						
DPP	**Dos Picos Cty**	**2.97**	**168**	IAML		18 36 23.1	
	comp=E,33nm,0.7s						
W13A	**Hualapai Mount**	**3.21**	**104**	IAML		18 36 34.3	
	comp=N,17nm,0.9s						
AFDM	**Forest Hills D**	**4.00**	**320**	IAML		18 37 02.8	
	comp=N,11nm,0.5s						
AFDM				IAML		18 37 07.2	
	comp=E,14nm,1.0s						
PSUT	**Pine Spring**	**4.03**	**48**	IAML		18 37 05.7	
	comp=N,12nm,1.4s						
PSUT				IAML		18 37 20.1	
	comp=E,10nm,1.3s						
U15A	**North Rim**	**4.40**	**82**	IAML		18 37 06.4	
	comp=E,14nm,0.9s						
U15A				IAML		18 37 09.3	
	comp=N,9.0nm,0.9s						
BEKR	**Beckworth**	**4.47**	**333**	IAML		18 37 26.1	
	comp=E,10nm,0.8s						

*JMA **15** 19:08:00.4±0.4,38°N±2°×13°4E±°,h409km±4km,MV2.9/23, SEA OF JAPAN*
*IDC **15** 19:08:01.6±1.1,37°.68N×134°.57E,h393km±13km,mb2.6/2, mbtmp3.4/7,Error ellipse: s-maj=20.5km s-min=19.0km az=138.0*
ISC 15 19:08:01.3±0.9,**37°.77N**±0°.08×**134°.59E**±0°.08,**h400**km,**n19, σ1s52/23,Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOI	**OKI**	**1.82**	**216**	*eP*	**Pn**	**19 08 55.6**	**-0.7**
JKG	**Kaga**	**2.04**	**136**	*eP*	**Pn**	**19 08 58.0**	**+0.5**
JSZ	**Suzu**	**2.23**	**97**	*eP*	**Pn**	**19 08 59.7**	**+1.0**
JWT	**Wachi**	**2.57**	**165**	*eP*	**Pn**	**19 09 01.3**	**+0.1**
JWT				*eS*	**S**	**19 09 48.4**	**-1.2**
JYTA	**Yamagatataniai**	**2.77**	**141**	*eP*	**Pn**	19 09 03.0	**+0.3**
JYTA				*eS*	**S**	**19 09 51.4**	**-1.0**
JSD	**Sado**	**2.92**	**84**	*eP*	**Pn**	**19 09 04.7**	**+0.9**
JHS	**Saijyo**	**3.01**	**204**	P	**Pn**	**19 09 04.0**	**-0.7**
MAT	**Matsushiro**	**3.14**	**112**	*eP*	**Pn**	**19 09 06.4**	**+0.7**
MJAR	**Matsushiro Arr**	**3.14**	**112**	P	**Pn**	**19 09 06.4**	**+0.7**
	6.9nm,0.7s,baz=292,slow=9.7,SNR=19						
MJAR				S	**S**	**19 09 57.8**	**-0.1**
	0.9nm,0.8s,baz=306,slow=12,SNR=1.4						
JGT2	**ShimaneMisato**	**3.18**	**212**	*eP*	**Pn**	**19 09 05.4**	**-0.6**
KSRS	**Korea Array**	**5.30**	**269**	P	**Pn**	**19 09 26.5**	**+0.2**
	1.0nm,0.5s,baz=88,slow=11,SNR=6.9						
JMK	**Ichinoseki**	**5.34**	**75**	*eP*	**Pn**	**19 09 28.0**	**+1.2**
JNU	**Nakatsue**	**5.54**	**214**	P	**Pn**	**19 09 28.0**	**-1.1**
	3.3nm,0.4s,baz=38,slow=4.4,SNR=6.4						
BSO1	**Boso 1**	**6.03**	**119**	*eP*	**Pn**	**19 09 33.7**	**+0.1**
BSO1				*eS*	**S**	**19 10 47.5**	**-1.6**
USRK	**Ussuriysk Ar.**	**6.72**	**344**	P	**P**	**19 09 42.9**	**+0.7**
	1.9nm,0.5s,baz=165,slow=10,SNR=7.1						
JCH	**Churui**	**8.28**	**51**	*eS*	**S**	**19 11 30.5**	**-5.5**
ASAJ	**Asahikawa**	**8.77**	**41**	P	**Pn**	**19 10 05.0**	**+0.1**
	4.3nm,0.4s,baz=221,slow=10,SNR=19						
ILAR	**Eielson Array**	**51.78**	**32**	P	**P**	**19 16 31.4**	**+2.0**
	0.2nm,0.5s,baz=277,slow=7.3,SNR=2.5						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**57.40**	**180**	P	**P**	**19 17 09.8**	**0.0**
	0.5nm,1.0s,baz=358,slow=7.3,SNR=1.7						
	0.5nm,1.0s						

*NEIC **15** 19:10:35.7±2.5,41°.13N±0°.01×112°.84W±0°.02,h0km±1km, ML1.6/31,Error ellipse: s-maj=2.8km s-min=2.3km az=95.0*
*IDC **15** 19:10:36.4±1.3,41°.33N×113°.07W,h0km,mbtmp2.2/1, ML2.8/1,Error ellipse: s-maj=64.0km s-min=6.0km az=156.0*
ISC 15 19:10:35.8±0.9,**41°.16N**±0°.04×**112°.79W**±0°.03,**h0**km,**n20, σ0s85/22,Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGU	**Big Grassy Mou**	**0.30**	**218**		**Pg**	**19 10 41.5**	**-0.1**
BGU					IAML	19 10 48.5	
	comp=E,127nm,0.3s						
HVU	**Hansel Valley**	**0.62**	**1**		**Pb**	**19 10 49.4**	**-0.3**
CTU	**Camp Tracy**	**0.92**	**120**		**Pb**	**19 10 54.3**	**-0.5**
CTU					IAML	19 11 12.9	
	comp=E,24nm,0.4s						
CTU					IAML	19 11 14.2	
	comp=N,22nm,0.4s						
DUG	**Dugway, Tooele**	**0.97**	**181**		Pg	**Pg**	**19 10 54.5**	**+0.1**
DUG					IAML	19 11 14.9	
	comp=N,22nm,0.5s						
DUG					IAML	19 11 18.0	
	comp=N,22nm,0.4s						
HWUT	**Hardware Ranch**	**1.02**	**64**		Pg	**Pb**	**19 10 56.1**	**-0.4**
HWUT					IAML	19 11 21.4	
	comp=N,14nm,0.4s						
TCUT	**Toone Canyon**	**1.04**	**92**		**Pn**	**19 10 57.9**	**-0.1**
TCUT					**Sn**	**19 11 15.5**	**+2.1**
JLU	**Jordanelle**	**1.16**	**118**		**Pg**	**19 10 57.5**	**-0.6**
JLU					IAML	19 11 20.2	
	comp=E,11nm,0.5s						
MPU	**Maple Canyon**	**1.45**	**142**		**Pn**	**19 11 02.2**	**-1.2**
MPU					IAML	19 11 31.4	
	comp=E,6.8nm,0.6s						
BSUT	**Blindstream Ca**	**1.66**	**111**		**Pn**	**19 11 06.5**	**-0.1**
BSUT					**Sb**	**19 11 31.1**	**+1.9**
ELK	**Elko**	**1.90**	**258**	Pn	**Pn**	**19 11 09.9**	**+0.1**
ELK					**Sn**	**19 11 33.8**	**-0.7**
ELK					IAML	19 11 37.7	
	comp=E,4.6nm,0.3s						
ELK	**Elko**	**1.90**	**258**	Pg	**Pn**	**19 11 09.7**	**0.0**
	comp=E,1.4nm,0.3s,baz=71,slow=13,SNR=15						
ELK				Lg	Lg	19 11 31.6	
	comp=E,0.7nm,0.3s,baz=209,slow=20,SNR=3.2						
AHID	**Auburn Hatcher**	**2.04**	**38**	Pn	**Pn**	**19 11 11.6**	**-0.1**
TMUT	**Trail Mountain**	**2.22**	**146**	Pn	**Pn**	**19 11 14.2**	**0.0**
TMUT					IAML	19 11 26.7	
	comp=N,4.5nm,0.8s						
SPR3	**Spring Creek 3**	**2.46**	**209**	Pn	**Pn**	**19 11 18.0**	**+0.4**
SPR3					IAML	19 11 59.2	
	comp=N,3.1nm,1.5s						
SPR3					IAML	19 12 39.1	
	comp=E,2.9nm,3.5s						
HLID	**Hailey**	**2.68**	**334**		**Pn**	**19 11 21.0**	**+0.5**
HLID					IAML	19 11 45.2	
	comp=E,2.3nm,4.3s						
HLID					IAML	19 12 05.6	
	comp=E,2.0nm,2.0s						
SRU	**San Rafael Swe**	**2.69**	**139**	Pn	**Pn**	**19 11 20.3**	**-0.2**
SRU					IAML	19 11 37.1	
	comp=N,2.8nm,2.5s						
SRU					IAML	19 12 06.3	
	comp=E,2.9nm,2.1s						
PSUT	**Pine Spring**	**2.75**	**198**	Pn	**Pn**	**19 11 21.0**	**-0.4**
PSUT					IAML	19 12 54.8	
	comp=N,2.2nm,3.2s						
PDAR	**Pinedale Array**	**2.90**	**55**	Pn	**Pb**	**19 11 27.0**	**-1.5**
	comp=N,0.2nm,0.3s,baz=259,slow=15,SNR=2.9						
PDAR					**Pg**	**19 11 30.9**	**-0.5**
	comp=N,0.5nm,0.3s,baz=244,slow=16,SNR=8.4						
PDAR				Lg	Lg	19 12 11.4	
	comp=N,0.7nm,0.3s,baz=240,slow=26,SNR=5.7						
	comp=N,0.6nm,0.3s						
I56US	**NEWPORT INFRAS**	**7.74**	**338**	I	I	19 54 10.0	
	baz=159,slow=314,SNR=2.6						
I53US	**FAIRBANKS INFR**	**31.05**	**332**	I	I	22 21 40.0	
	baz=123,slow=319,SNR=0.7						

*NEIC **15** 19:14:51.2±0.5,35°.954N±0°.005×117°.49W±0°.01, h5km±3km,Error ellipse: s-maj=1.4km s-min=0.4km az=60.0*
PAS 15 19:14:51.6±0.5,**35°.952N**±0°.007×**117°.49W**±0°.01, **h2**km±2km,**ML2.6**/42,**ML2.5**/58(NEIC),**Error ellipse: s-maj=1.3km s-min=1.1km az=63.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.11**	**358**		Pg	19 14 53.9	+0.2
MPMC					Sg	19 14 55.6	+0.4
WCSM	**Coso Springs S**	**0.24**	**288**		Pg	19 14 56.4	+0.2
TOW	**Tower One**	**0.27**	**238**		Pg	19 14 57.4	+0.7
WVPM	**Volcano Peak E**	**0.27**	**270**		Pg	19 14 57.1	+0.3
WRVM	**Rose V. Centra**	**0.33**	**280**		Pg	19 14 58.2	+0.2
WRVM					Sg	19 15 02.9	+0.5
SRTC	**Snort**	**0.34**	**220**		Pg	19 14 58.5	+0.5
SRTC					Sb	19 15 04.3	-1.8
MFS	**McCloud Flat S**	**0.34**	**299**		Pg	19 14 58.3	+0.1
WSHM	**Spangler Hills**	**0.35**	**181**		Pg	19 14 58.4	0.0
WSHM					Sg	19 15 03.6	+0.7
WSHM	**Spangler Hills**	**0.35**	**181**	IAML		19 15 03.9	
	2μm,0.2s						
WSHM				IAML		19 15 04.0	
	3μm,0.2s						
WNMM	**Nine Mile Cany**	**0.36**	**252**		Pg	19 14 58.8	+0.3
CCCA	**Chr Cany lake**	**0.44**	**167**		Pg	19 15 00.4	+0.4
CCCA					Sg	19 15 06.7	+1.0
CCCA	**Chr Cany lake**	**0.44**	**167**	IAML		19 15 07.4	
	comp=E,970nm,0.4s						
CCCA				IAML		19 15 07.7	
	comp=N,774nm,0.6s						
LRMC	**Laurel Mtn Rad**	**0.50**	**199**		Pg	19 15 01.1	0.0
LRMC	**Laurel Mtn Rad**	**0.50**	**199**	IAML		19 15 08.8	
	comp=E,620nm,0.4s						
LRMC				IAML		19 15 09.1	
	comp=N,720nm,0.2s						
QSM	**Queen of Sheba**	**0.50**	**88**		Pg	19 15 01.4	+0.2
QSM	**Queen of Sheba**	**0.50**	**88**	IAML		19 15 08.6	
	comp=N,473nm,0.3s						
QSM				IAML		19 15 08.6	
	comp=E,532nm,0.2s						
CGO	**Cerro Gordo**	**0.65**	**337**		Pg	19 15 03.8	-0.3
WORM	**Onyx Ranch**	**0.67**	**248**		Pg

PFO	**Pinyon Flats O**	**2.48**	**160**		Pb		19 15 37.5	+0.5
U15A	**North Rim**	**4.23**	**82**	Pn	Pn		19 15 55.5	-1.8
113A	**Mohawk Valley,**	**4.42**	**135**		Pn		19 15 56.5	-3.1
SRU	**San Rafael Swe**	**6.37**	**58**	Pn	Pn		19 16 24.6	-1.9

*DNK **15** 19:37:15.7±3.3, 79.77N×3.71E, h10km, ML1.4*
*NAO **15** 19:37:20.9±1.6, 79.49N×3.84E, h15km, ML2.6*
*BER **15** 19:37:21.0±3.5, 79.55N×3.79E, h10km, mb(Pn)3.3, Confirmed Earthquake*
*KOLA **15** 19:37:23.6, 79.46N×5.33E, h0km, ML2.1, Error ellipse: s-maj=29.8km s-min=16.6km az=10.0, Greenland sea,Knipovich ridge, north*

ISC 15 19:37:16.4±1.8, 79.49N±0.07×3.61E±0.04, h10km±13km, n20, σ2ˢ20/47, 2C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.67**	**106**	Pn	**Pb**	**19 37 47.6**	**+0.5**
KBS				Sn	**Sn**	**19 38 06.4**	**-0.6**
KBS	**Kingsbay**	**1.67**	**106**	P	**Pg**	**19 37 48.0**	**-0.4**
KBS				S	**Sn**	**19 38 05.6**	**-1.4**
KBS	**Kingsbay**	**1.67**	**106**	Pn	**Pb**	**19 37 47.6**	**+0.5**
KBS				⇑*e*P	**Pg**	**19 37 47.9**	**-0.4**
KBS				Sn	**Sn**	**19 38 06.4**	**-0.6**
KBS				*e*S	**Sb**	**19 38 07.0**	**-1.1**
KBS				IAML		19 38 07.7	
	comp=Z,25nm,0.2s						
KBS	**Kingsbay**	**1.67**	**106**	*i* P	**Pb**	**19 37 47.7**	**+0.5**
KBS				*i* S	**Sn**	**19 38 06.5**	**-0.6**
BRBB	**Barentsburg B**	**2.50**	**119**	S	**Sb**	**19 38 31.2**	**-0.8**
BRBA	**Barentsburg A**	**2.52**	**119**	Pn	**Pb**	**19 38 01.3**	**-0.3**
BRBA				Sn	**Sb**	**19 38 30.2**	**-2.5**
BRBA	**Barentsburg A**	**2.52**	**119**	Pn	**Pb**	**19 38 01.3**	**-0.3**
BRBA				*e*P	**Pb**	**19 38 01.4**	**-0.3**
BRBA				*e*S	**Sn**	**19 38 29.6**	**+1.5**
BRBA				Sn	**Sb**	**19 38 30.2**	**-2.5**
SPA0	**Spitsbergen Ar**	**2.81**	**112**	Pn	**Pb**	**19 38 04.9**	**-1.6**
	baz=316,slow=11						
SPA0				Sn	**Sn**	**19 38 36.0**	**+0.9**
	baz=283,slow=22						
SPA0	**Spitsbergen Ar**	**2.81**	**112**	⇑*e*P	**Pb**	**19 38 04.7**	**-1.8**
SPA0				Pn	**Pb**	**19 38 04.9**	**-1.6**
	baz=316,slow=11						
SPA0				*e*S	**Sn**	**19 38 36.0**	**+0.9**
SPA0				Sn	**Sn**	**19 38 36.0**	**+0.9**
	baz=283,slow=22						
SPA0				IAML		19 38 49.4	
	comp=Z,9.8nm,0.6s						
SPITS	**Spitsbergen Ar**	**2.81**	**112**	P	**Pb**	**19 38 04.6**	**-1.9**
SPITS				S	**Sn**	**19 38 35.9**	**+0.7**
HSPB	**Hornsund (broa**	**3.49**	**130**	Pn	**Pb**	**19 38 15.2**	**-2.9**
HSPB				Sn	**Sn**	**19 38 52.2**	**+0.4**
HSPB	**Hornsund (broa**	**3.49**	**130**	P	**Pb**	**19 38 14.6**	**-3.5**
HSPB				S	**Sn**	**19 38 51.6**	**-0.2**
HSPB	**Hornsund (broa**	**3.49**	**130**	*e*P	**Pb**	**19 38 14.6**	**-3.5**
HSPB				Pn	**Pb**	**19 38 15.2**	**-2.9**
HSPB				*e*S	**Sn**	**19 38 51.5**	**-0.4**
HSPB				Sn	**Sn**	**19 38 52.2**	**+0.4**
HSPB				IAML		19 38 57.0	
	comp=Z,5.7nm,0.4s						
NOR	**Nord**	**3.94**	**312**	*e*P	**Pn**	**19 38 18.7**	**+2.0**
NOR				*e*S	**Sn**	**19 38 56.4**	**-6.4**
NOR				IAML		19 39 17.3	
	comp=Z,1.1nm,0.4s						
DAG	**Danmarks Havn**	**5.31**	**250**	*e*P	**Pn**	**19 38 37.7**	**+2.2**
DAG				*i* P	**Pn**	**19 38 38.2**	**+2.7**
DAG				*i* S	**Sn**	**19 39 34.4**	**-2.3**
DAG				IAML		19 39 37.5	
	comp=Z,1.9nm,0.3s						
HOPEN	**Hopen**	**5.34**	**113**	Pn	**Pn**	**19 38 38.4**	**+2.4**
HOPEN				Sn	**Sn**	**19 39 36.1**	**-1.3**
HOPEN	**Hopen**	**5.34**	**113**	P	**Pn**	**19 38 38.4**	**+2.4**
HOPEN				*e*S	**Sn**	**19 39 36.1**	**-1.3**
HOPEN				Sn	Sb	19 39 36.1	-18
HOPEN				IAML		19 39 40.5	
	comp=Z,5.3nm,0.5s						
DBG	**Daneborg**	**7.43**	**238**	Pn	**Pn**	**19 39 08.0**	**+3.4**
DBG				Sn	**Sn**	**19 40 25.0**	**-3.8**
DBG	**Daneborg**	**7.43**	**238**	Pn	**Pn**	**19 39 08.0**	**+3.4**
DBG				Sn	**Sn**	**19 40 25.0**	**-3.8**
NEEM	**North Greenlan**	**10.76**	**287**	*i* P	**Pn**	**19 39 50.5**	**+0.1**
NEEM				*i* S	Sn	19 41 34.1	-17
NEEM				IAML		19 41 43.4	
	comp=Z,1.3nm,0.4s						

*IDC **15** 19:43:41.7±1.2, 4.97S×152.06E, h0km, mb3.8/10, mbtmp3.8/10, Error ellipse: s-maj=49.5km s-min=21.8km az=105.0*
*NEIC **15** 19:43:49.7±1.1, 5.10S±0.05×152.2E±0.3, h60km±9km, mb4.4/23, Error ellipse: s-maj=39.6km s-min=6.1km az=95.0*

ISC 15 19:43:51.0±0.9, 5.0S±0.1×152.0E±0.3, h70km, n34, σ1ˢ09/34, mb4.2/22, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.81**	**11**		**Pn**	**19 44 06.2**	**-1.2**
WB0	**Warramunga Arr**	**22.58**	**228**	P	**P**	**19 48 44.6**	**-1.3**
WR8	**Warramunga Arr**	**22.62**	**227**	P	**P**	**19 48 44.5**	**-1.8**
WR8				IAmb	IAmb	19 48 50.9	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**22.73**	**228**	P	**P**	**19 48 45.6**	**-1.9**
	comp=Z,2.1nm,0.7s,baz=54,slow=9.9,SNR=13						
	comp=Z,2.1nm,0.7s						
KNRA	**Kununurra**	**25.18**	**243**	P	**P**	**19 49 10.2**	**0.0**
AS31	**Alice Springs**	**25.48**	**221**	P	**P**	**19 49 11.2**	**-1.7**
ASAR	**Alice Springs**	**25.48**	**221**	P	**P**	**19 49 11.2**	**-1.7**
	comp=Z,1.0nm,0.6s,baz=59,slow=8.8,SNR=11						
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**66.08**	**328**	P	**P**	**19 54 32.1**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=139,slow=4.4,SNR=3.0						
	comp=Z,0.3nm,0.6s						
L19K	**White Mountain**	**78.23**	**23**	P	**P**	**19 55 43.3**	**+0.4**
L19K				IAmb	IAmb	19 55 44.8	
	comp=Z,7.4nm,1.2s						
CNPM	**China Poot**	**78.23**	**26**	P	**P**	**19 55 42.4**	**-0.5**
G19K	**Purcell Mounta**	**79.83**	**19**	P	**P**	**19 55 51.6**	**+0.1**
G19K				IAmb	IAmb	19 55 52.9	
	comp=Z,5.8nm,1.2s						
MKAR	**Makanchi Array**	**79.96**	**319**	P	**P**	**19 55 53.0**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=108,slow=6.5,SNR=3.5						
	comp=Z,0.6nm,0.8s						
F19K	**Shalerucki Mo**	**80.05**	**18**	P	**P**	**19 55 52.1**	**-0.6**
F19K				IAmb	IAmb	19 55 53.5	
	comp=Z,3.0nm,0.8s						
E19K	**Redstone River**	**80.61**	**18**	P	**P**	**19 55 55.8**	**+0.1**
E19K				IAmb	IAmb	19 55 57.2	
	comp=Z,3.7nm,0.7s						
BPAW	**Bear Paw Mtn.**	**80.76**	**22**	P	**P**	**19 55 55.8**	**-0.8**
ZALV	**Zalesovo Beam**	**80.88**	**327**	P	**P**	**19 55 57.4**	**0.0**
	comp=Z,0.4nm,0.3s,baz=108,slow=4.7,SNR=2.2						
	comp=Z,0.4nm,0.3s						
H21K	**Melozitna Rive**	**80.97**	**20**	P	**P**	**19 55 58.0**	**+0.4**
C19K	**Lookout Ridge**	**81.00**	**16**		**P**	**19 55 57.9**	**+0.1**
D19K	**Kuna River**	**81.01**	**17**	P	**P**	**19 55 58.2**	**+0.4**
D19K				IAmb	IAmb	19 56 23.9	
	comp=Z,6.4nm,1.1s						
MLY	**Manley**	**81.35**	**21**	P	**P**	**19 55 59.4**	**-0.4**
MLY				IAmb	IAmb	19 56 00.3	
	comp=Z,1.7nm,0.6s						
ILAR	**Eielson Array**	**82.64**	**22**	P	**P**	**19 56 05.0**	**-1.4**
	comp=Z,1.0nm,1.0s,baz=259,slow=5.8,SNR=6.3						
	comp=Z,1.0nm,1.0s						
E22K	**Anaktuvuk Pass**	**82.67**	**18**	P	**P**	**19 56 06.9**	**+0.3**
E22K				IAmb	IAmb	19 56 25.1	
	comp=Z,3.1nm,1.1s						
D22K	**Ayikyak River**	**82.83**	**17**	P	**P**	**19 56 07.7**	**+0.3**
D22K				IAmb	IAmb	19 56 08.9	
	comp=Z,3.7nm,1.0s						
J25K	**Salcha River,**	**83.14**	**23**	P	**P**	**19 56 08.0**	**-1.1**
J25K				IAmb	IAmb	19 56 09.4	
	comp=Z,6.2nm,1.3s						
KURBB	**Kurchatov Arra**	**83.47**	**322**	P	**P**	**19 56 11.5**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=110,slow=3.4,SNR=3.3						
	comp=Z,0.2nm,0.5s						
D23K	**Nanushuk River**	**83.48**	**18**	P	**P**	**19 56 11.5**	**+0.8**
G26K	**Porcupine Rive**	**84.77**	**21**	P	**P**	**19 56 17.5**	**+0.2**
G26K				IAmb	IAmb	19 56 18.9	
	comp=Z,3.2nm,1.0s						
QSPA	**South Pole Qui**	**84.96**	**180**	P	**P**	**19 56 17.9**	**-0.7**
QSPA				IAmb	IAmb	19 56 31.6	
	comp=Z,4.7nm,1.4s						
QSPA	**South Pole Qui**	**84.96**	**180**	P	**P**	**19 56 19.7**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=342,slow=7.2,SNR=2.3						
	comp=Z,0.8nm,0.8s						
MAW	**Mawson**	**85.09**	**203**	P	**P**	**19 56 20.6**	**+1.7**
	comp=Z,1.7nm,0.7s,baz=103,slow=5.0,SNR=6.4						
	comp=Z,1.7nm,0.7s						
H27K	**Steamboat Moun**	**85.29**	**22**	P	**P**	**19 56 18.5**	**-1.5**
DAWY	**Dawson**	**85.29**	**24**	P	**P**	**19 56 17.7**	**-2.3**
C27K	**Jago River**	**85.96**	**18**	P	**P**	**19 56 23.9**	**+0.7**
C27K				IAmb	IAmb	19 56 42.6	
	comp=Z,5.7nm,1.4s						
BVAR	**Borovoye Array**	**88.93**	**323**	P	**P**	**19 56 38.0**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=85,slow=3.1,SNR=6.8						
	comp=Z,1.0nm,0.7s						

*JMA **15** 19:45:09.4±0.3, 26.7N±2.2×12.4E±.7, h202km, MV3.4/25, NW OFF ISHIGAKIJIMA IS*

ISC 15 19:45:06.2±1.9, 26.0N±0.2×123.68E±0.08, h214km±27km, n29, σ1ˢ36/38, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JISG	**Ishigakijimahi**	**1.48**	**157**	*e*P	**Pn**	**19 45 42.0**	**+1.0**
JISG				*e*S	**S**	**19 46 06.8**	**-1.1**
JTJ	**Tarama**	**1.61**	**144**	*e*P	**Pn**	**19 45 43.3**	**+1.2**
JTJ				*e*S	**S**	**19 46 09.3**	**-0.5**
YOJ	**Yonaguni jima**	**1.61**	**202**	P	**Pn**	**19 45 43.0**	**+0.9**
YOJ	**Yonaguni jima**	**1.61**	**202**	S	**S**	**19 46 09.3**	**-0.5**
YOJ	**Yonaguni jima**	**1.61**	**202**	P	**Pn**	**19 45 43.0**	**+0.9**
IRIF	**Iriomote-Funau**	**1.62**	**178**	P	**Pn**	**19 45 42.4**	**+0.2**
JYNG	**Yonagunijimaku**	**1.64**	**204**	P	**Pn**	**19 45 43.3**	**+0.9**
JYNG				*e*S	**S**	**19 46 09.7**	**-0.6**
JIJ	**Ishigaki jima**	**1.64**	**165**	*e*P	**Pn**	**19 45 42.7**	**+0.3**
JIJ				S	**S**	**19 46 07.8**	**-2.6**
JKRS	**Kuro-shima**	**1.74**	**170**	P	**Pn**	**19 45 44.0**	**+0.6**
JKRS				S	**S**	**19 46 10.3**	**-1.7**
JIKM	**Ikemajima**	**1.75**	**126**	S	**S**	**19 46 11.9**	**-0.2**
JIRB	**Irabujima**	**1.76**	**129**	*e*P	**Pn**	**19 45 44.7**	**+1.2**
JIRB				*e*S	**S**	**19 46 11.2**	**-1.0**
JMJ	**Miyako jima 2**	**1.85**	**128**	P	**Pn**	**19 45 46.6**	**+2.2**
JMJ	**Miyako jima 2**	**1.85**	**128**	S	**S**	**19 46 14.6**	**+0.8**
HATJ	**Hateruma jima**	**1.90**	**176**	S	**S**	**19 46 12.6**	**-2.0**
JMJ2	**Miyako jima3**	**1.92**	**129**	P	**Pn**	**19 45 46.7**	**+1.7**
JMJ2				S	**S**	**19 46 14.6**	**-0.4**
JOGS	**Gusukube**	**1.97**	**127**	*e*P	**Pn**	**19 45 47.3**	**+1.8**
JOGS				S	**S**	**19 46 15.6**	**-0.1**
NACB	**Ninganchiao**	**2.59**	**227**	P	**Pn**	**19 45 52.8**	**+0.8**
NACB	**Ninganchiao**	**2.59**	**227**	S	**S**	**19 46 26.3**	**-1.2**
JKE	**Kume jima 2**	**2.82**	**82**	*e*P	**Pn**	**19 45 56.2**	**+1.7**
SSLB	**Suanglung**	**3.28**	**229**	P	**Pn**	**19 46 01.7**	**+1.7**
SSLB	**Suanglung**	**3.28**	**229**	S	**S**	**19 46 41.6**	**-0.2**
YULB	**Yu-li**	**3.35**	**221**	P	**Pn**	**19 46 00.1**	**-0.6**
JJT3	**Tamagusuku3**	**3.70**	**86**	*e*P	**Pn**	**19 46 06.2**	**+1.3**
JJT3				*e*S	**S**	**19 46 49.7**	**-0.9**
TPUB	**Ta-pu**	**3.83**	**227**	P	**Pn**	**19 46 07.8**	**+1.3**
JNTH	**Nagotoyohara**	**3.94**	**81**	*e*S	**S**	**19 46 52.6**	**-3.2**
JIH	**Iheya**	**3.99**	**73**	*e*S	**S**	**19 46 55.0**	**-1.9**
JOW	**Kunigami**	**4.21**	**77**	P	**Pn**	**19 46 12.0**	**+0.8**
JOW	**Kunigami**	**4.21**	**77**	*e*P	**Pn**	**19 46 11.8**	**+0.7**
JYRO	**Yoronjima**	**4.41**	**75**	*e*P	**Pn**	**19 46 14.0**	**+0.4**

*NEIC **15** 19:47:57.2±1.5, 6.48S±0.10×129.79E±0.09, h170km±13km, mb4.5/7, Error ellipse: s-maj=16.1km s-min=10.3km az=138.0*
*IDC **15** 19:48:00.1±4.9, 6.82S×129.72E, h185km±47km, mb3.2/1, mbtmp3.8/4, Error ellipse: s-maj=47.0km s-min=21.7km az=59.0*

ISC 15 19:47:56.7±0.7, 6.67S±0.06×129.94E±0.07, h200km, n18, σ3ˢ41/23, mb4.3/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.88**	**134**	Pn	**Pn**	**19 48 35.1**	**+1.2**
SAUI				Sn	**Sn**	**19 48 58.7**	**-4.3**
FAKI	**Fak Fak**	**4.38**	**32**	Pn	**Pn**	**19 49 02.2**	**-1.0**
FAKI				Sn	**Sn**	**19 49 49.6**	**-6.1**
MTN	**Manton Dam**	**6.25**	**169**	Pn	**Pn**	**19 49 29.0**	**+1.8**
MTN					**Sn**	**19 50 35.3**	**-3.6**
SOEI	**Soe**	**6.39**	**241**	Pn	**Pn**	**19 49 30.4**	**+1.2**
BATI	**Baumata**	**7.13**	**240**	P	**Pn**	**19 49 39.3**	**+0.6**
	18nm,0.3s,baz=134,slow=1.5,SNR=11						
BATI				S	**Sn**	**19 50 56.5**	**-3.2**
	16nm,0.4s,baz=279,slow=22,SNR=1.7						
KNRA	**Kununurra**	**9.03**	**187**	Pn	**Pn**	**19 50 03.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**12.11**	**200**	Pn	**P**	**19 50 44.8**	**-2.7**
WB0	**Warramunga Arr**	**13.72**	**162**	Pn	**Pn**	**19 51 03.8**	**+0.6**
WRA	**Warramunga Arr**	**13.87**	**162**	P	**P**	**19 51 06.3**	**-0.8**
	0.4nm,0.4s,baz=342,slow=13,SNR=18						
WRA				S	**S**	**19 53 31.9**	**-7.7**
	0.9nm,0.5s,baz=331,slow=23,SNR=7.5						
COEN	**Coen**	**14.90**	**120**		**P**	**19 51 23.4**	**+4.8**
COEN				IAmb	IAmb	19 52 03.8	
	comp=Z,32nm,1.3s						
JAGI	**Jajag, Banyuwa**	**15.75**	**262**		**Pn**	**19 51 27.9**	**-0.2**
AS31	**Alice Springs**	**17.32**	**168**		**Pn**	**19 51 49.9**	**+3.0**
ASAR	**Alice Springs**	**17.32**	**168**	P	**Pn**	**19 51 50.1**	**+3.2**
	comp=Z,1.4nm,0.5s,baz=332,slow=9.6,SNR=16						
ASAR				S	**S**	**19 54 58.5**	**+3.3**
	comp=Z,0.5nm,0.6s,baz=348,slow=24,SNR=5.6						
STKA	**Stephens Creek**	**27.34**	**158**	P	**P**	**19 53 27.6**	**+4.4**
STKA				IAmb	IAmb	19 53 44.9	
	comp=Z,26nm,1.4s						
IPM	**Ipoh**	**30.91**	**290**	P	**P**	**19 53 54.4**	**-0.6**
IPM				IAmb	IAmb	19 54 20.6	
	comp=Z,18nm,1.5s						
MAJO	**Matsushiro**	**43.68**	**10**	P	**P**	**19 55 43.3**	**+1.5**
MAJO				IAmb	IAmb	19 55 43.5	
	comp=Z,13nm,1.3s						
MJB9	**Matsu-Tunnel**	**43.68**	**10**	P	**P**	**19 55 43.0**	**+1.2**
MJB9				IAmb	IAmb	19 55 43.5	
	comp=Z,12nm,1.3s						
MKAR	**Makanchi Array**	**67.92**	**327**	P	P	19 58 38.7	+4.9
	comp=Z,0.4nm,0.6s,baz=137,slow=6.3,SNR=4.3						
	comp=Z,0.4nm,0.6s						

*JMA **15** 19:54:12.9±0.2, 41.5N±0.5×142.1E±0.7, h66km±2km, MV3.0/37, E OFF AOMORI PREF*
*IDC **15** 19:54:17.4±2.3, 41.77N×142.00E, h90km±15km, mb3.4/8, mbtmp3.6/11, Error ellipse: s-maj=34.9km s-min=15.4km az=122.0*

ISC 15 19:54:13.2±0.9, 41.53N±0.04×142.08E±0.05, h63km±9km, n33, σ0ˢ50/33, mb3.7/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAHD	**Aomorihigashid**	**0.62**	**245**	*i* P	**Pn**	**19 54 27.0**	**+0.3**
JAHD				*e*S	**Sn**	**19 54 37.1**	**+0.7**
JARK	**Aomorirokkasho**	**0.75**	**226**	P	**Pn**	**19 54 28.1**	**-0.1**
JARK				*e*S	**Sn**	**19 54 39.1**	**-0.1**
JOT	**Ohata**	**0.79**	**259**	P	**Pn**	**19 54 28.5**	**-0.2**
JKB	**Kayabe**	**0.86**	**295**	P	**Pn**	**19 54 28.9**	**-0.6**
JNBK	**Urakawa-nobuka**	**0.90**	**34**	*e*P	**Pn**	**19 54 29.5**	**-0.6**
JEM	**Erimo**	**0.94**	**59**	P	**Pn**	**19 54 30.2**	**-0.4**
JEM				*e*S	**Sn**	**19 54 43.1**	**-0.3**
JTM	**Tenmabayashi**	**1.07**	**226**	P	**Pn**	**19 54 32.6**	**+0.4**
JTM				*e*S	**Sn**	**19 54 46.7**	**+0.4**
JIAM	**Iburiatsuma**	**1.10**	**354**	P	**Pn**	**19 54 33.4**	**+0.8**
JNB	**Noboribetsu**	**1.22**	**321**	*i* P	**Pn**	**19 54 33.4**	**-0.8**
JANG	**Nango**	**1.23**	**200**	*i* P	**Pn**	**19 54 34.5**	**+0.1**
JANG				S	**Sn**	**19 54 50.2**	**0.0**
JSR	**Shiriuchi**	**1.25**	**270**	*e*P	**Pn**	**19 54 35.0**	**+0.4**
JBT2	**Biratori 2**	**1.26**	**10**	*e*P	**Pn**	**19 54 35.1**	**+0.2**
JBT2				S	**Sn**	**19 54 52.2**	**+1.2**
JEW	**Eniwo**	**1.39**	**341**	P	**Pn**	**19 54 36.5**	**0.0**
JEW				*e*S	**Sn**	**19 54 53.2**	**-0.7**
JYM2	**Yakumo 2**	**1.41**	**295**	*i* P	**Pn**	**19 54 36.9**	**+0.2**
JCH	**Churui**	**1.44**	**41**	*i* P	**Pn**	**19 54 37.6**	**+0.4**
JOMM	**Oshimamatsumae**	**1.56**	**270**	*e*P	**Pn**	**19 54 38.7**	**0.0**
ASAJ	**Asahikawa**	**2.61**	**8**	P	**Pn**	**19 54 53.6**	**+0.6**
	8.8nm,0.5s,baz=243,slow=6.2,SNR=23						
ASAJ				S	**Sn**	**19 55 24.0**	**+0.4**
	13nm,0.4s,baz=162,slow=15,SNR=5.5						
MJAR	**Matsushiro Arr**	**5.82**	**212**	P	Pn	19 55 43.6	+6.6
	0.9nm,0.6s,baz=304,slow=17,SNR=4.2						
KSRS	**Korea Array**	**11.67**	**254**	P	Pn	19 57 02.3	+5.4
	0.7nm,0.4s,baz=68,slow=14,SNR=4.1						
SONM	**Songino Array**	**25.98**	**296**	P	**P**	**19 59 40.1**	**+0.1**
	0.4nm,0.5s,baz=89,slow=8.6,SNR=3.9						
	0.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**30.27**	**128**	T	T	20 32 49.6	
	baz=322,slow=75,SNR=9.4						
H11N1	**WAKE ISLAND Hy**	**30.29**	**128**	T	T	20 32 52.2	
	baz=322,slow=75,SNR=9.1						
H11N3	**WAKE ISLAND Hy**	**30.29**	**128**	T	T	20 32 48.6	
	baz=322,slow=75,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**31.12**	**130**	T	T	20 33 50.0	
	baz=323,slow=76,SNR=6.1						
H11S3	**WAKE ISLAND Hy**	**31.12**	**130**	T	T	20 33 53.0	
	baz=323,slow=76,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**31.14**	**130**	T	T	20 33 52.5	
	baz=323,slow=76,SNR=5.0						
ZALV	**Zalesovo Beam**	**39.39**	**308**	P	**P**	**20 01 36.4**	**-0.1**
	0.5nm,0.3s,baz=70,slow=13,SNR=3.6						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**42.31**	**298**	P	**P**	**20 02 00.7**	**+0.1**
	0.5nm,0.8s,baz=78,slow=6.3,SNR=2.3						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**43.76**	**304**	P	**P**	**20 02 12.0**	**-0.3**
	0.9nm,0.6s,baz=78,slow=9.0,SNR=6.1						
	0.9nm,0.6s						
ILAR	**Eielson Array**	**45.46**	**35**	P	**P**	**20 02 26.1**	**+0.5**
	0.3nm,0.7s,baz=269,slow=8.4,SNR=4.7						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**48.02**	**310**	P	**P**	**20 02 45.8**	**0.0**
	0.7nm,0.4s,baz=66,slow=9.5,SNR=9.0						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**65.09**	**332**	P	**P**	**20 04 46.3**	**-0.5**
	1.5nm,0.8s,baz=54,slow=9.7,SNR=5.6						
	1.5nm,0.8s						
HFS	**Hagfors**	**70.21**	**335**	P	**P**	**20 05 18.4**	**-0.7**
	0.6nm,0.6s,baz=46,slow=6.4,SNR=5.1						
	0.6nm,0.6s						

*IDC **15** 19:55:15.1±1.6, 2.55S×128.62E, h0km, mb3.6/4, mbtmp3.7/6, ML4.0/2, Error ellipse: s-maj=115.1km s-min=14.2km az=72.0*
*DJA **15** 19:55:27.0±1.0, 3.5S±5.×12.9E±.7, h13km±9km, M4.3/10, mb4.7/2, MLv4.1/10*

ISC 15 19:55:14.9±0.9, 2.48S±0.06×128.65E±0.06, h10km, n15, σ1ˢ84/17, mb3.8/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.91**	**162**	P	**Sg**	**19 55 43.6**	**-0.6**
AAI	**Ambon**	**1.29**	**201**	P	**Sg**	**19 55 56.6**	**+0.2**
NLAI	**Namlea**	**1.73**	**244**	P	**Sg**	**19 56 06.8**	**-3.7**
BNDI	**Bandanaira**	**2.38**	**148**	P	**Pg**	**19 55 59.7**	**-1.0**
SWI	**Sorong**	**3.06**	**58**	P	**Pb**	**19 56 08.2**	**-1.3**
SWI				S	**Sn**	**19 56 37.7**	**-2.4**
FAKI	**Fak Fak**	**3.62**	**97**	P	**Pn**	**19 56 10.3**	**-0.8**
RKPI	**Ransiki, Papua**	**5.60**	**80**	P	**Pn**	**19 56 38.8**	**+0.4**
BAKI	**Biak**	**7.56**	**80**	P	**Pn**	**19 57 05.6**	**+0.3**
	57nm,0.8s						
SRPI	**Serui, Papua**	**7.61**	**86**	P	**Pn**	**19 57 06.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**15.80**	**191**	Pn	**P**	**19 59 00.2**	**-1.4**
	0.3nm,0.3s,baz=18,slow=9.6,SNR=7.1						
	2.1nm,0.9s						
WRA	**Warramunga Arr**	**18.23**	**163**	P	**P**	**19 59 29.3**	**+0.9**
	0.6nm,0.3s,baz=344,slow=12,SNR=20						
	2.2nm,0.5s						
ASAR	**Alice Springs**	**21.67**	**167**	P	**P**	**20 00 08.7**	**+2.7**
	3.3nm,0.5s,baz=342,slow=9.9,SNR=59						
ASAR				S	**S**	**20 04 07.2**	**+1.2**
	0.6nm,0.7s,baz=352,slow=24,SNR=4.8						
	3.3nm,0.5s						
MKAR	**Makanchi Array**	**63.74**	**326**	P	**P**	**20 05 48.4**	**+1.4**
	0.3nm,0.4s,baz=112,slow=7.5,SNR=7.8						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**67.98**	**328**	P	**P**	**20 06 16.2**	**+2.0**
	0.3nm,0.6s,baz=129,slow=5.9,SNR=4.1						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**73.55**	**328**	P	**P**	**20 06 50.5**	**+2.5**
	0.1nm,0.5s,baz=130,slow=6.2,SNR=1.4						
	0.1nm,0.5s						

*CUPWA **15** 20:22:49.3±4.3, 32.36S×119.21E, h2km±20km, ML2.2, Region: WESTERN AUSTRALIA*
*AUST **15** 20:22:52.9±0.5, 32.3S±3.×11.9E±., h10km, ML2.2/7, ML2.5/8, Error ellipse: s-maj=6.5km s-min=5.7km az=74.8*

ISC 15 20:22:44.1±1.4, 32.32S±0.04×119.37E±0.05, h7km±11km, n20, σ0ˢ79/29, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUKUL	**Kulin High Sch**	**1.08**	**251**

C072					Sg	20 46 56.3	+1.8				
CADM	**Anderson Res.**	**0.11**	**172**		Pg	20 46 54.0	+0.7				
ARN	**Arnold Ranch**	**0.12**	**49**		Pg	20 46 55.9	+2.3				
C059	**Quail Canyon R**	**0.12**	**305**		Pg	20 46 54.2	+0.6				
C059					Sg	20 46 56.6	+1.2				
JLAB	**Laurel Hill**	**0.14**	**211**		Pg	20 46 54.4	+0.5				
JLAB					Sg	20 46 57.0	+1.2				
SCCB	**Santa Clara Co**	**0.17**	**275**		Pg	20 46 55.0	+0.5				
CMLM	**Mount Lewis**	**0.20**	**359**		Pg	20 46 55.5	+0.4				
CMLM					Sg	20 46 59.1	+1.2				
C016	**Longford Drive**	**0.22**	**305**		Pg	20 46 56.3	+1.1				
CALM	**Calaveras Res.**	**0.22**	**326**		Pg	20 46 55.6	+0.4				
CALM					Sg	20 46 59.5	+1.3				
HLPM	**Lions Peak**	**0.23**	**177**		Pg	20 46 56.1	+0.6				
GHS	**Gilroy Hot Spr**	**0.24**	**138**		Pg	20 46 55.9	+0.3				
JJOM	**Saint Joseph's**	**0.27**	**256**		Pg	20 46 56.7	+0.4				
JJOM					Sg	20 47 01.1	+1.1				
HCAM	**Canada Road**	**0.28**	**152**		Pg	20 46 56.9	+0.4				
HCAM					Sb	20 47 02.5	-0.7				
JPLM	**Pleasant Valle**	**0.33**	**207**		Pg	20 46 57.9	+0.5				
C050	**Festivo Court**	**0.34**	**318**		Pg	20 46 58.2	+0.6				
HCBM	**Chamberlain**	**0.34**	**182**		Pg	20 46 58.2	+0.6				
MTOS	**Mt Oso, Westle**	**0.34**	**47**		Pg	20 46 58.0	+0.3				
MTOS					Sg	20 47 03.5	+1.3				
MTOS	**Mt Oso, Westle**	**0.34**	**47**	IAML		20 47 03.8					
	comp=E,9µm,0.3s										
MTOS				IAML		20 47 04.0					
	comp=N,5µm,0.6s										
HFEM	**San Felipe**	**0.35**	**146**		Pg	20 46 58.0	+0.2				
WENL	**Wente Vineyard**	**0.36**	**346**		Pg	20 46 58.6	+0.6				
JSJM	**St Joseph**	**0.36**	**280**		Pg	20 46 58.8	+0.8				
HPCM	**Pacheco Lake**	**0.36**	**126**		Pg	20 46 58.3	+0.3				
HPCM					Sg	20 47 04.2	+1.3				
JELB	**Ellicott, Sant**	**0.37**	**203**		Pg	20 46 59.0	+0.8				
JELB					Sb	20 47 05.5	-0.5				
CSTL	**Corral Hollow**	**0.39**	**18**		Pg	20 46 59.2	+0.8				
CVLM	**Vallecito**	**0.39**	**337**		Pg	20 46 59.2	+0.7				
SLD	**San Luis Dam**	**0.39**	**120**		Pg	20 46 58.8	+0.2				
SLD					Sg	20 47 04.8	+1.0				
CSAM	**Sandia**	**0.40**	**353**		Pg	20 46 59.5	+0.7				
JBMM	**Black Mountain**	**0.41**	**277**		Pg	20 46 59.3	+0.4				
CNIC	**Niles Canyon**	**0.42**	**323**		Pg	20 46 59.5	+0.4				
CNIC					Sb	20 47 06.7	-0.7				
CBZL	**Buffer Zone**	**0.42**	**352**		Pb	20 47 00.1	-0.7				
CBZL	**Buffer Zone**	**0.42**	**352**		Pb	20 47 00.1	-0.7				
JFP	**Foothills Park**	**0.44**	**282**		Pg	20 46 59.9	+0.3				
JFP					Sb	20 47 06.9	-1.0				
JSFB	**Stanford Teles**	**0.44**	**287**		Pg	20 46 59.9	+0.4				
HTUM	**Tustin Road**	**0.44**	**180**		Pg	20 47 00.1	+0.6				
SCKWR	**San Luis Creek**	**0.47**	**101**		Pb	20 47 00.8	-0.8				
HERM	**Elkhorn Road**	**0.48**	**186**		Pg	20 47 00.8	+0.6				
JRSC	**Jasper Ridge**	**0.49**	**286**		Pg	20 47 00.5	0.0				
FRP	**Fremont Peak**	**0.53**	**166**		Pg	20 47 01.9	+0.6				
SAO	**San Andreas Ge**	**0.53**	**163**	Pg	Pg	20 47 01.8	+0.6				
SAO					Sg	20 47 02.1	-6.0				
CBSNC	**Byron Hot Spri**	**0.55**	**0**		Pb	20 47 02.5	-0.3				
CMOB	**Morgan Territo**	**0.55**	**347**		Pb	20 47 02.8	-0.2				
BGH	**Bear Gulch**	**0.56**	**277**		Pg	20 47 02.1	+0.4				
JPSM		**0.57**	**263**		Pg	20 47 02.1	+0.3				
CLCB	**Lake Chabot**	**0.57**	**324**		Pg	20 47 02.6	+0.6				
CSLM	**San Leandro Hi**	**0.59**	**320**		Pg	20 47 02.5	+0.2				
BSRM	**Salinas Radio**	**0.61**	**170**		Pg	20 47 03.0	+0.2				
JCPM	**Coyote Point**	**0.62**	**301**		Pg	20 47 02.9	-0.1				
JCHM	**Cahill Ridge**	**0.63**	**293**		Pg	20 47 02.9	-0.3				
BGC	**Bolinger Road**	**0.64**	**329**		Pb	20 47 04.1	-0.4				
SAC	**San Andreas**	**0.69**	**297**		Pg	20 47 04.0	-0.2				
BJOM	**Mount Johnson**	**0.70**	**157**		Pb	20 47 04.9	-0.5				
SCZ	**Santa Cruz**	**0.70**	**164**		Pg	20 47 04.5	0.0				
SCZ	**Santa Cruz**	**0.70**	**164**	IAML		20 47 17.1					
	comp=N,528nm,0.8s										
BDM	**Black Diamond**	**0.70**	**346**		Pb	20 47 05.1	-0.5				
HMOM	**Monterey**	**0.70**	**198**		Pg	20 47 04.5	0.0				
JSBM	**San Bruno Moun**	**0.72**	**304**		Pg	20 47 04.4	-0.5				
BJCM	**Johnson Can.**	**0.75**	**164**		Pg	20 47 05.4	0.0				
JMGM	**Milagra Ridge**	**0.75**	**299**		Pg	20 47 05.0	-0.5				
BKS	**Berkeley--Byer**	**0.76**	**322**		Pg	20 47 05.9	+0.2				
CMSB	**University of**	**0.77**	**321**		Pg	20 47 05.2	-0.5				
VAK	**Adit at Lawren**	**0.77**	**322**		Pg	20 47 06.0	+0.2				
BL67	**Building 67, L**	**0.77**	**321**		Pg	20 47 05.9	+0.1				
BL88	**Building 88, L**	**0.77**	**321**		Pg	20 47 06.1	0.1				
BRK	**Berkeley--Havi**	**0.77**	**321**		Pg	20 47 05.9	0.0				
CYBM	**Yerba Buena Is**	**0.78**	**314**		Pg	20 47 05.7	-0.3				
CTAM	**Taylor**	**0.81**	**339**		Pg	20 47 06.8	+0.3				
TWIT	**Twitchell Isla**	**0.82**	**358**		Pb	20 47 08.2	+0.6				
JPRM	**Presidio of Sa**	**0.84**	**309**		Pg	20 47 06.8	-0.4				
RFSB	**Richmond Field**	**0.84**	**320**		Pg	20 47 05.9	-1.3				
BBGB	**Big Mountain B**	**0.85**	**145**		Pg	20 47 07.2	-0.1				
CPIM	**Pinole Ridge**	**0.85**	**328**		Pg	20 47 07.5	+0.2				
BPRM	**Ponciano Ridge**	**0.87**	**185**		Pg	20 47 07.5	-0.1				
BSMM	**Soledad Missio**	**0.90**	**169**		Pg	20 47 08.2	-0.1				
CPMM	**Point Molate**	**0.91**	**318**		Pg	20 47 08.1	-0.3				
BSGM	**Shirttail Gulc**	**0.91**	**160**		Pg	20 47 07.8	-0.7				
BMSM	**Mercy Hot Spri**	**0.92**	**132**		Pg	20 47 08.6	0.0				
PINL	**Point Pinole R**	**0.93**	**322**		Pg	20 47 08.8	0.0				
NLHM	**Lake Herman**	**0.94**	**335**		Pg	20 47 08.5	-0.4				
BCWM	**Chews Ridge**	**0.97**	**176**		Pg	20 47 09.3	-0.2				
MYLM	**Yosemite Lake**	**0.98**	**83**		Pg	20 47 09.3	-0.5				
LRV	**Little Rabbit**	**0.98**	**149**		Pg	20 47 08.8	-0.1				
JEPS	**Jepson Natural**	**0.99**	**352**		Pb	20 47 11.1	-0.2				
BAPM	**Anderson Peak**	**1.09**	**180**		Pg	20 47 11.3	-0.6				
FARB	**Farallon Islan**	**1.16**	**292**		Pg	20 47 10.9	-2.3				
FARB	**Farallon Islan**	**1.16**	**292**	IAML		20 47 31.7					
	comp=N,446nm,0.5s										
FARB				IAML		20 47 32.0					
	comp=E,283nm,0.4s										
NOLM	**Olema**	**1.19**	**310**		Pg	20 47 12.3	-1.5				
LEGD	**La Grand CA**	**1.20**	**92**		Pg	20 47 12.6	-1.3				
NADM	**Allendale**	**1.21**	**348**		Pg	20 47 12.9	-1.3				
PCCM	**Crazy Canyon**	**1.24**	**162**		Pb	20 47 13.1	-1.6				
CVS	**Carmenet Viney**	**1.25**	**329**		Pn	20 47 13.3	-1.6				
CVS	**Carmenet Viney**	**1.25**	**329**	IAML		20 47 31.4					
	comp=N,430nm,0.5s										
CVS				IAML		20 47 37.8					
	comp=E,490nm,0.5s										
PMPB	**Monarch Peak**	**1.25**	**147**		Pb	20 47 13.6	-1.4				
BUCR	**Buckhorn Ranch**	**1.25**	**71**		Pb	20 47 13.7	-1.3				
BUCR	**Buckhorn Ranch**	**1.25**	**71**	IAML		20 47 30.8					
	comp=N,549nm,0.3s										
BUCR				IAML		20 47 30.9					
	comp=E,404nm,0.3s										
CMB	**Columbia Colle**	**1.26**	**52**		Pn	20 47 14.0	-1.0				
CMB	**Columbia Colle**	**1.26**	**52**		Pn	20 47 13.7	-1.3				
CMB				IAML		20 47 31.8					
	comp=E,617nm,0.9s										
CMB				IAML		20 47 31.8					
	comp=N,793nm,1.0s										
QRDG	**Quail Ridge Na**	**1.27**	**342**		Pn	20 47 13.4	-1.7				
HULI	**Fort Hunter Li**	**1.29**	**165**		Pn	20 47 13.7	-1.8				
HULI	**Fort Hunter Li**	**1.29**	**165**	IAML		20 47 41.1					
	comp=N,336nm,1.0s										
HULI				IAML		20 47 46.9					
	comp=E,274nm,0.9s										
OAKV	**Oakville Exper**	**1.30**	**333**		Pn	20 47 13.8	-1.8				
NPRM	**Point Reyes**	**1.31**	**304**		Pn	20 47 13.8	-1.9				
MCCM	**Marconi Confer**	**1.31**	**312**		Pn	20 47 13.7	-2.0				
MCCM	**Marconi Confer**	**1.31**	**312**		Pn	20 47 13.5	-2.1				
MCCM				IAML		20 47 38.5					
	comp=N,583nm,0.7s										
MCCM				IAML		20 47 39.8					
	comp=E,503nm,0.7s										
WELL	**Weller Preserv**	**1.37**	**32**		Pn	20 47 14.6	-2.0				
WELL	**Weller Preserv**	**1.37**	**32**	IAML		20 47 35.3					
	comp=N,457nm,0.5s										
NTYM	**Taylor**	**1.38**	**324**		Pn	20 47 15.3	-1.3				
PAPM	**Alder Peak**	**1.38**	**170**		Pn	20 47 15.2	-1.5				
PSAM	**San Ardo**	**1.39**	**154**		Pn	20 47 15.6	-1.2				
MHDM	**Hidden Dam**	**1.41**	**96**		Pn	20 47 15.3	-1.7				
PSMM	**Smith Mountain**	**1.47**	**145**		Pn	20 47 16.8	-1.2				
MMIM	**Miami Mountain**	**1.52**	**84**		Pn	20 47 17.5	-1.3				
FRI	**Friant**	**1.57**	**100**		Pn	20 47 18.4	-0.9				
PKD	**Bear Valley Ra**	**1.59**	**146**		Pn	20 47 17.4	-2.3				
PANM	**San Antonio Re**	**1.60**	**158**		Pn	20 47 18.9	-0.9				
PVCM	**Vineyard Canyo**	**1.62**	**146**		Pn	20 47 18.6	-1.4				
PPO	**Portuguese Can**	**1.63**	**149**		Pn	20 47 18.9	-1.2				
GAXM	**Alexander Vall**	**1.68**	**329**		Pn	20 47 18.8	-2.1				
PWKM	**Work Ranch**	**1.72**	**148**		Pn	20 47 20.1	-1.2				
MNRC	**McLaughlin Min**	**1.72**	**339**		Pn	20 47 20.3	-1.2				
RAMR	**Ramage Ranch**	**1.75**	**159**		Pn	20 47 20.5	-1.3				
AFDM	**Forest Hills D**	**1.75**	**17**		Pn	20 47 20.9	-1.0				
GGPM	**Geyser Peak**	**1.77**	**328**		Pn	20 47 20.2	-1.9				
LCUV	**Le Cuvier**	**1.78**	**155**		Pn	20 47 20.7	-1.5				
GDXM	**Geysers**	**1.78**	**330**		Pn	20 47 20.3	-2.0				
GSGM	**Seigler Mounta**	**1.80**	**332**		Pn	20 47 21.8	-0.6				
GHCM	**House Creek**	**1.81**	**318**		Pn	20 47 20.6	-2.0				
PCBM	**Cambria**	**1.81**	**165**		Pn	20 47 20.7	-1.9				
PKLM	**Kerr Lake**	**1.83**	**145**		Pn	20 47 21.9	-0.9				
KARE	**Kearney REC, C**	**1.84**	**111**		Pn	20 47 21.8	-1.2				
GCVM	**Cloverdale**	**1.84**	**325**		Pn	20 47 21.3	-1.7				
KCC	**Kaiser Creek**	**1.86**	**88**		Pn	20 47 23.6	+0.3				
PAGB	**Antelope Grade**	**1.91**	**143**		Pn	20 47 22.4	-1.5				
SFRE	**Sierra Foothil**	**2.00**	**7**		Pn	20 47 23.4	-1.7				
TSCN	**Private Proper**	**2.02**	**148**		Pn	20 47 24.2	-1.3				
PTAM	**Tassajara Cree**	**2.02**	**158**		Pn	20 47 24.1	-1.5				
GALB	**Galbreath Wild**	**2.03**	**322**		Pn	20 47 23.7	-2.0				
HOPS	**Hopland Field**	**2.05**	**327**		Pn	20 47 24.4	-1.5				
GSNM	**Snow Mountain**	**2.06**	**324**		Pn	20 47 24.4	-1.8				
MRDM	**Red Cones**	**2.08**	**80**		Pn	20 47 27.6	+0.9				
MINS	**Minaret Summit**	**2.09**	**79**		Pn	20 47 27.6	+0.9				
OSTM	**Stimpson Lane**	**2.09**	**1**		Pn	20 47 24.4	-2.1				
PBPM	**Bitterwater Pu**	**2.11**	**143**		Pn	20 47 26.1	-0.7				
MDCM	**Deadman Creek**	**2.12**	**77**		Pn	20 47 27.3	+0.2				
MDYM	**Dry Creek**	**2.13**	**79**		Pn	20 47 28.5	+1.2				
WAKR	**Walker**	**2.14**	**54**		Pn	20 47 28.1	+0.9				
MMLB	**Mammoth Lakes**	**2.16**	**79**		Pn	20 47 29.0	+1.3				
MEMM	**East Mammoth H**	**2.19**	**79**		Pn	20 47 29.5	+1.5				
MLCM	**Laurel Creek C**	**2.20**	**80**		Pn	20 47 29.6	+1.4				
MGPM	**Gravel Pit**	**2.21**	**80**		Pb	20 47 29.9	-1.5				
MCSM	**Casa Diablo Ho**	**2.21**	**79**		Pb	20 47 30.0	-1.5				
MCBM	**Casa Benchmark**	**2.22**	**80**		Pb	20 47 30.1	-1.5				
MCVM	**Convict Lake**	**2.26**	**81**		Pn	20 47 30.5	+1.4				
MLAC	**Mammoth, Mammo**	**2.26**	**80**		Pb	20 47 30.7	-1.6				
ORV	**Oroville**	**2.28**	**3**		Pn	20 47 28.2	-0.9				
DONR	**Donner Summit**	**2.32**	**26**		Pn	20 47 30.3	+0.4				
KPK	**Kanaka Peak**	**2.32**	**7**		Pn	20 47 29.8	+0.1				
GCK	**Clark Valley**	**2.35**	**345**		Pn	20 47 29.3	-0.7				
MGNR	**McGee Canyon**	**2.41**	**76**		Pb	20 47 33.1	-1.7				
MTUM	**Tungsten Hills**	**2.46**	**87**		Pn	20 47 33.4	+1.7				
BENR	**Benton**	**2.48**	**79**		Pn	20 47 33.4	+1.3				
BHPR	**Bishop**	**2.52**	**88**		Pn	20 47 34.3	+1.8				
MRCM	**Red Rock Canyo**	**2.53**	**80**		Pn	20 47 34.0	+1.4				
SPG2	**Springville 2**	**2.55**	**114**		Pn	20 47 31.5	-1.2				
MCDM	**Chidago Canyon**	**2.56**	**83**		Pn	20 47 34.9	+1.8				
MFBM	**Five Bridges**	**2.57**	**86**		Pb	20 47 35.4	-2.0				
MLNR	**Milner Canyon**	**2.65**	**82**		Pn	20 47 36.0	+1.7				
LHV	**Little Huntoon**	**2.67**	**68**		Pn	20 47 35.8	+1.3				
LHV	**Little Huntoon**	**2.67**	**68**	IAML		20 48 27.8					
	comp=N,103nm,0.7s										
PEAR	**Peavine Mounta**	**2.68**	**29**		Pn	20 47 36.4	+1.6				
BEKR	**Beckworth**	**2.78**	**21**		Pn	20 47 36.2	+0.1				
BEKR				IAML		20 48 21.6					
	comp=E,82nm,0.6s										
BEKR				IAML		20 48 23.3					
	comp=N,52nm,0.7s										
RYN	**Ryan**	**2.81**	**60**		Pn	20 47 36.8	+0.3				
RYN				IAML		20 48 30.6					
	comp=N,76nm,0.9s										
RYN				IAML		20 48 34.3					
	comp=E,70nm,0.9s										
DSP	**Deep Springs**	**2.93**	**87**	IAML		20 48 29.3					
	comp=E,84nm,0.8s										
DSP				IAML		20 48 33.0					
	comp=N,43nm,1.0s										
CWC	**Cottonwood Cre**	**2.98**	**105**	IAML		20 48 25.7					
	comp=E,69nm,0.3s										
CWC				IAML		20 48 27.9					
	comp=N,68nm,0.3s										
PAHR	**Pah Rah Range**	**3.01**	**35**		Pn	20 47 39.4	+0.2				
PAHR				IAML		20 48 30.3					
	comp=E,64nm,1.0s										
PAHR				IAML		20 48 35.8					
	comp=N,46nm,1.4s										
ISA	**Isabella, Lake**	**3.02**	**121**		Pn	20 47 39.1	-0.2				
ISA				IAML		20 48 33.4					
	comp=E,45nm,0.6s										
ISA				IAML		20 48 36.3					
	comp=N,36nm,0.6s										
GMN	**Gold Mountain**	**3.50**	**88**	IAML		20 48 46.6					
	comp=N,51nm,0.7s										
HATC	**Hat Creek Radi**	**3.54**	**2**	IAML		20 48 52.5					
	comp=N,30nm,2.7s										
HATC				IAML		20 48 58.8					
	comp=E,42nm,2.2s										
OSI	**Osito Audit: C**	**3.56**	**137**	IAML		20 48 56.5					
	comp=E,29nm,1.1s										
OSI				IAML		20 49 00.8					
	comp=N,30nm,0.7s										
CLC	**China Lake**	**3.57**	**113**	IAML		20 49 31.2					
	comp=E,30nm,0.3s										
CLC				IAML		20 49 31.2					
	comp=N,39nm,0.1s										
TPO	**Tropico Hills**	**3.66**	**130**	IAML		20 48 53.6					
	comp=N,36nm,1.0s										
TPO				IAML		20 48 59.2					
	comp=E,46nm,1.0s										
LRMC	**Laurel Mtn Rad**	**3.66**	**118**	IAML		20 48 54.4					
	comp=N,34nm,0.6s										
LRMC				IAML		20 48 54.9					
	comp=E,22nm,0.7s										
CCCA	**Chr Cany lake**	**3.87**	**116**	IAML		20 49 03.0					
	comp=E,50nm,0.8s										
WCT	**Wildcat Mounta**	**4.04**	**95**	IAML		20 49 01.5					
	comp=E,20nm,0.6s										
WCT				IAML		20 49 02.9					
	comp=N,20nm,0.9s										
QSM	**Queen of Sheba**	**4.06**	**107**	IAML		20 49 10.2					
	comp=E,18nm,0.8s										
QSM				IAML		20 49 11.7					
	comp=N,22nm,1.4s										
GWY	**Greenwater Val**	**4.14**	**104**	IAML		20 49 19.1					
	comp=E,20nm,0.9s										
TPNV	**Topopah Spring**	**4.33**	**93**	IAML		20 49 13.1					
	comp=E,26nm,1.6s										
TPNV				IAML		20 49 15.5					
	comp=E,36nm,1.4s										
GSC	**Goldstone, Bar**	**4.38**	**115**	IAML		20 49 33.6					
	comp=N,20nm,0.2s										
GSC				IAML		20 50 40.2					
	comp=E,18nm,0.1s										
KSXB	**Camp Six Broad**	**4.87**	**340**		Pn	20 48 05.6	+0.9				

IDC ***15*** *20:51:12.5₅1.0,32˚70N₆49˚91E,h0ᵏᵐ,mb3.7/17, mbtmp3.7/20,ML4.0/3,MS3.2/6,Error ellipse: s-maj=22.1km s-min=14.4km az=171.0*

NEIC ***15*** *20:51:13.1₅2.0,32˚8N₆0˚1₆50˚4E₆0˚1,h10ᵏᵐ₆2ᵏᵐ, mb4.4/15,Error ellipse: s-maj=20.9km s-min=19.9km az=76.0*

TEH ***15*** *20:51:13.1,32˚74N₆50˚05E,h7ᵏᵐ₆75ᵏᵐ*

ISC 15 20:51:14.1₅0.5,32˚68N₆0˚04₆50˚02E₆0˚03,h11ᵏᵐ,n110, σ1ˢ45/109,mb4.2/42,9C-9D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time		Res
				Op			h	m	s	ISC
JHBN	**Jahan bin**	**0.70**	**129**	Pg		**Pb**	**20**	**51**	**28.1**	**-0.4**
JHBN				Sg		**Sn**	**20**	**51**	**40.5**	**-0.8**
IPIR	**Pirpir**	**0.73**	**89**	Pg		**Pg**	**20**	**51**	**28.2**	**-0.2**
ZNGN	**Zangian**	**0.90**	**128**	Pg		**Pb**	**20**	**51**	**31.2**	**-0.7**
IBRJ	**Brojen**	**1.30**	**126**	Pg		**Pg**	**20**	**51**	**38.4**	**-0.6**
IKLH	**Kolahrood**	**1.46**	**63**	Pg		**Pn**	**20**	**51**	**40.6**	**0.0**
QAMS	**Qamsar**	**1.56**	**47**	Pg		**Pn**	**20**	**51**	**42.6**	**+0.5**
BDRS	**Dareh Seyedi**	**1.59**	**324**	Pg		**Pb**	**20**	**51**	**43.6**	**-0.1**
IGAR	**Gharneh**	**1.73**	**98**	Pg		**Pb**	**20**	**51**	**46.3**	**+0.3**
IZEF	**Zefreh**	**1.96**	**83**	Pn		**Pb**	**20**	**51**	**49.8**	**-0.1**
IKFM	**Kafar-mosalman**	**2.01**	**295**	Pn		**Pb**	**20**	**51**	**51.1**	**+0.4**
ABEH	**Behbahan**	**2.08**	**174**	Pn		**Pb**	**20**	**51**	**51.8**	**0.0**
KLNJ	**Kolanjah**	**2.13**	**141**	Pn		**Pb**	**20**	**51**	**53.0**	**0.0**
IRAM	**Ramesheh**	**2.18**	**113**	Pn		**Pb**	**20**	**51**	**53.2**	**-0.5**
HAGD	**Aghdareh**	**2.26**	**341**	Pn		**Pn**	**20**	**51**	**53.6**	**+1.9**
ISFB	**Sefidab**	**2.50**	**47**	Pn		**Pb**	**20**	**51**	**57.7**	**-1.3**
IBZA	**Bozab**	**2.54**	**315**	Pn		**Pb**	**20**	**52**	**04.1**	**-1.6**
SNQR	**Sonqor, Kerman**	**2.95**	**318**	Pn		**Pn**	**20**	**52**	**04.1**	**+2.9**
KCHF	**Cheshme Sefid,**	**2.96**	**303**	Pn		**Pn**	**20**	**52**	**03.6**	**+2.4**
ISAD	**Sadrabad**	**3.19**	**103**	Pn		**Pn**	**20**	**52**	**07.2**	**+2.6**
IGHG	**Ghaleghazi**	**3.32**	**301**	Pn		**Pn**	**20**	**52**	**08.4**	**+2.1**
ILBA	**Ilam Banvizeh**	**3.34**	**288**	Pn		**Pn**	**20**	**52**	**08.0**	**+1.7**
IDMV	**Damavand**	**3.34**	**29**	Pn		**Pn**	**20**	**52**	**08.9**	**+2.4**
KAZ2	**Kazeron-Fars-I**	**3.36**	**155**	Pn		**Pn**	**20**	**52**	**09.1**	**+2.5**
ILIN	**Lien**	**3.39**	**312**	Pn		**Pn**	**20**	**52**	**09.5**	**+2.3**
IDHR	**Dehrash**	**3.64**	**305**	Pn		**Pn**	**20**	**52**	**12.5**	**+2.0**
SHI	**Shiraz**	**3.70**	**144**	Pn		**Pn**	**20**	**52**	**14.2**	**+2.8**
GLG1	**Gilan-e-Gharb**	**3.73**	**294**	Pn		**Pn**	**20**	**52**	**13.1**	**+1.5**
IMEH	**Mehriz**	**4.11**	**107**	Pn		**Pn**	**20**	**52**	**19.6**	**+2.6**
KGS1	**Ghasr-e-Shirin**	**4.12**	**297**	Pn		**Pn**	**20**	**52**	**18.9**	**+1.9**
IHRS	**Heris**	**6.13**	**338**	Pn		**Pn**	**20**	**52**	**46.7**	**+1.9**

GRMI	**Germi**	**6.36**	**345**	Pn		**Pn**	**20**	**52**	**49.8**	**+1.9**	
GEVA	**Gevas**	**7.99**	**317**	Pn		**Pn**	**20**	**53**	**09.6**	**-0.7**	
GNI	**Garni**	**8.59**	**332**	LR		LR	20	57	10.7		
	comp=Z,52nm,20.6s,baz=156,slow=42										
ASF	**Jabal al Asfar**	**11.10**	**271**	Pn		**Pn**	**20**	**53**	**51.8**	**-1.1**	
	1.5nm,0.3s,baz=125,slow=12,SNR=14										
ASF				Sn		**Sn**	**20**	**55**	**55.0**	**-2.2**	
	0.5nm,0.3s,baz=6.8,slow=22,SNR=2.3										
ASF				LR		LR	20	59	22.5		
	comp=Z,82nm,19.5s,baz=127,slow=44 3.1nm,0.3s										
ARPR	**Arapgir-MALATY**	**11.43**	**307**			**Pn**	**20**	**53**	**59.5**	**+2.1**	
MMAI	**Mount Meron Ar**	**12.30**	**276**	Pn		**Pn**	**20**	**54**	**08.5**	**-0.7**	
	0.8nm,0.3s,baz=77,slow=19,SNR=5.2										
MMAI				LR		LR	21	00	09.7		
	comp=Z,64nm,18.3s,baz=83,slow=44 0.3nm,0.3s										
EIL	**Elat**	**13.25**	**261**	Pn		**Pn**	**20**	**54**	**21.9**	**-0.2**	
	0.7nm,0.3s,baz=57,slow=6.7,SNR=7.1										
EIL				LR		LR	21	00	49.7		
	comp=Z,79nm,19.5s,baz=64,slow=44 2.0nm,0.5s										
BRTR	**Keskin Array B**	**14.97**	**303**	Pn		**P**	**20**	**54**	**49.6**	**-1.7**	
	0.4n

BNX	**BinXian**	**59.17**	**53**	⇑P	**P**	**21 01 14.1**	**-0.8**
BNX				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BOSA	**Boshof**	**65.33**	**204**	P	**P**	**21 01 56.5**	**0.0**
	comp=Z,1.6nm,0.6s,baz=24,slow=8.6,SNR=5.8						
	comp=Z,1.6nm,0.6s						

*TEH **15** 20:51:42.3,27°.66N×53°.16E,h6km±61km*
*OMAN **15** 20:51:45.9±0.8,27°.48N×53°.22E,h8km±12km,ml3.4/10, Error ellipse: s-maj=16.8km s-min=3.5km az=178.0*

ISC 15 20:51:45.2±1.1,27°.62N±0°.04×53°.18E±0°.04,h20km,n25, σ1°27/37,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.28**	**182**	Pg	**Pb**	**20 51 49.4**	**-2.3**
QIR1	**Qir**	**0.86**	**352**	Pg	**Pb**	**20 51 58.8**	**-2.7**
JHRM	**Jahrom**	**0.95**	**22**	Pg	**Pb**	**20 52 01.1**	**-2.0**
LAR1	**LAR**	**1.06**	**87**	Pg	**Pb**	**20 52 03.6**	**-1.4**
LAR1				Sg	**Sn**	**20 52 19.7**	**+0.3**
DSBU	**Dashti - Bushe**	**1.85**	**294**	Pn	**Pn**	**20 52 17.2**	**+1.3**
SHMA	**Al-Shehemyia**	**2.65**	**229**	P	**Pn**	**20 52 28.6**	**+1.8**
GENO	**Geno**	**2.67**	**94**	Pn	**Pn**	**20 52 29.1**	**+1.8**
NAZ	**Nazwa, Dubai**	**3.45**	**139**	P	**Pn**	**20 52 38.6**	**+0.8**
NAZ				S	**Sn**	**20 53 19.5**	**+1.4**
ASUD	**Al Ashush, Dub**	**3.56**	**147**	P	**Pn**	**20 52 39.7**	**+0.3**
ASUD				S	**Sn**	**20 53 23.4**	**+2.5**
SMRA	**Abu-Samra**	**3.56**	**217**	P	**Pn**	**20 52 40.1**	**+0.7**
SMRA				S	**Sn**	**20 53 22.7**	**+1.9**
MDH	**Madha**	**3.63**	**129**	P	**Pn**	**20 52 41.8**	**+1.4**
MDH				S	**Sn**	**20 53 23.4**	**+0.7**
UOSS	**Minazif**	**3.81**	**134**	P	**Pn**	**20 52 43.0**	**+0.2**
UOSS				S	**Sn**	**20 53 27.2**	**+0.2**
HATD	**Hatta, Dubai**	**3.85**	**136**	P	**Pn**	**20 52 43.4**	**+0.1**
HATD				S	**Sn**	**20 53 29.0**	**+0.9**
ASHO	**Ashiyiah**	**3.91**	**138**	P	**Pn**	**20 52 44.6**	**+0.4**
ASHO				S	**Sn**	**20 53 29.9**	**+0.4**
KRBR	**Kerman**	**3.93**	**52**	Pn	**Pn**	**20 52 46.2**	**+1.5**
KHGB	**Koh Gabri**	**3.98**	**46**	Pn	**Pn**	**20 52 46.2**	**+0.7**
ALNE	**Al Ain**	**4.24**	**146**	P	**Pn**	**20 52 49.0**	**+0.2**
ALNE				S	**Sn**	**20 53 38.8**	**+1.0**
CHMN	**Cheshme madani**	**4.43**	**59**	Pn	**Pn**	**20 52 53.5**	**+1.8**
SOHO	**SOHO**	**4.61**	**138**	P	**Pn**	**20 52 54.3**	**+0.6**
SOHO				S	**Sn**	**20 53 47.6**	**+0.9**
UMZA	**Um Al Zommool**	**5.21**	**159**	P	**Pn**	**20 53 01.4**	**-0.6**
ARQ	**Araqi**	**5.23**	**144**	P	**Pn**	**20 53 02.6**	**+0.2**
	SNR=7.2						
HOQ	**Hoqain**	**5.49**	**136**	P	**Pn**	**20 53 06.7**	**+0.8**
BSY	**Bisya**	**6.07**	**142**	P	**Pn**	**20 53 14.2**	**+0.2**
BSY				S	**Sn**	**20 54 22.4**	**-0.6**
SMDO	**Samad**	**6.33**	**135**	P	**Pn**	**20 53 18.2**	**+0.6**
SMDO				S	**Sn**	**20 54 30.7**	**+1.3**
MHTO	**MHTO**	**7.92**	**145**	P	**Pn**	**20 53 39.4**	**+0.1**
	SNR=7.5						

AUST 15 21:04:41.0±1.3,19°S±9°×12°1E±°,h14km±13km,mb4.0/8, ML3.1/5,Error ellipse: s-maj=22.1km s-min=6.7km az=148.3,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.74**	**197**	P	Pn	21 05 25.3	+0.7
MBWA				S	Sn	21 05 59.3	+1.7
PSAC1	**Pilbara Seismi**	**3.08**	**194**	P	Pn	21 05 29.8	+0.6
PSAC1				S	Sn	21 06 06.6	+0.7
PSA00	**Pilbara Seismi**	**3.11**	**193**	P	Pn	21 05 30.4	+0.7
PSA00				S	Sn	21 06 07.7	+1.0
FITZ	**Fitzroy Crossi**	**4.79**	**86**	P	Pn	21 05 54.1	+1.2
GIRL	**Giralia**	**7.24**	**235**	P	Pn	21 06 23.0	-3.5
GIRL				S	Sn	21 07 37.7	-11
MEEK	**Meekatharra**	**8.28**	**193**	P	Pn	21 06 40.4	-0.3
	comp=Z,19nm,2.5s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.28**	**193**	S	Sn	21 08 09.6	-4.4
KNRA	**Kununurra**	**8.29**	**71**	P	Pn	21 06 40.1	-0.8
	comp=Z,18nm,0.5s,comp=Z,0.1nm						
KNRA				S	Sn	21 08 11.7	-2.7
CVQOZ	**Cooralya Stati**	**8.46**	**225**	P	Pn	21 06 40.6	-2.6
CVQOZ				S	Sn	21 08 07.3	-11
WRKA	**Warakurna**	**9.63**	**134**	P	Pn	21 06 59.6	+0.2
	comp=Z,4.0nm,1.8s,comp=Z,0.0nm						
WRKA				S	Sn	21 08 47.4	0.0
MORW	**Morawa**	**11.29**	**201**	P	Pn	21 07 18.8	-3.2
	comp=Z,14nm,2.6s						
BLDU	**Ballidu**	**12.54**	**196**	P	Pn	21 07 36.8	-2.3
	comp=Z,13nm,2.0s						
KLBR	**Kellerberrin**	**13.26**	**191**	P	Pn	21 07 47.0	-1.8
	comp=Z,19nm,1.3s						
FORT	**Forrest**	**13.94**	**152**	P	Pn	21 07 59.5	+1.4
	comp=Z,8.8nm,1.7s						
MUN	**Mundaring**	**13.97**	**196**	P	Pn	21 07 55.9	-2.7
	comp=Z,21nm,1.4s						

*IDC **15** 21:08:21.9±1.6,0°.53S×127°.97E,h0km,mb3.7/6, mbtmp3.7/6,Error ellipse: s-maj=153.7km s-min=20.9km az=69.0*

ISC 15 21:08:26.8±1.8,0°.5S±0°.6×12°8E±°,h35km,n6,σ0°58/6, mb3.9/5,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.24**	**163**	P	**P**	**21 12 59.0**	**-0.2**
	1.8nm,0.7s,baz=341,slow=12,SNR=2.5						
	1.8nm,0.7s						
ASAR	**Alice Springs**	**23.69**	**167**	P	**P**	**21 13 35.9**	**+0.3**
	4.1nm,0.8s,baz=345,slow=10.0,SNR=24						
	4.1nm,0.8s						
SONM	**Songino Array**	**51.74**	**341**	P	**P**	**21 17 31.1**	**+0.2**
	0.3nm,0.6s,baz=148,slow=8.4,SNR=2.1						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**61.84**	**326**	P	**P**	**21 18 42.5**	**+0.1**
	0.7nm,0.7s,baz=115,slow=8.6,SNR=6.4						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**66.06**	**328**	P	**P**	**21 19 10.4**	**+0.3**
	0.5nm,0.3s,baz=124,slow=5.6,SNR=4.8						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**71.64**	**327**	P	**P**	**21 19 43.9**	**-0.9**
	0.2nm,0.4s,baz=110,slow=8.4,SNR=3.7						
	0.2nm,0.4s						

*NEIC **15** 21:13:55.1±2.1,35°.671N±0°.010×117°.52W±0°.01, h12km±3km,Error ellipse: s-maj=1.5km s-min=1.4km az=122.0*

PAS 15 21:13:55.8±2.3,35°.672N±0°.009×117°.53W±0°.01, h6km±1km,ML3.2/20,ML2.9/114(NEIC),Error ellipse: s-maj=1.3km s-min=1.1km az=133.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.08**	**159**	Pg	Pg	21 13 57.8	+0.1
WSHM				Sg	Sg	21 13 59.5	+0.5
WSHM				IAML		21 14 00.4	
	10μm,0.1s						
CLC	**China Lake**	**0.15**	**338**	Pg	Pg	21 13 58.9	-0.1
CLC				IAML		21 14 01.8	
	comp=N,6μm,0.2s						
CLC				IAML		21 14 01.9	
	comp=E,6μm,0.3s						
SRTC	**Snort**	**0.18**	**276**		Pg	21 13 59.9	+0.4
CCCA	**Chr Cany lake**	**0.20**	**138**	Sg	Sg	21 14 03.5	+1.1
LRMC	**Laurel Mtn Rad**	**0.23**	**214**	Pg	Pg	21 14 00.2	-0.2
LRMC				IAML		21 14 04.0	
	comp=E,4μm,0.4s						
TOW	**Tower One**	**0.24**	**305**		Pg	21 14 00.9	+0.3
TOW					Sg	21 14 05.4	+1.7
WNMM	**Nine Mile Cany**	**0.35**	**299**		Pg	21 14 02.6	-0.1
WVPM	**Volcano Peak E**	**0.36**	**320**		Pg	21 14 02.8	-0.2
WVPM					Sg	21 14 08.1	+0.2
JRC2	**Joshua Ridge**	**0.39**	**324**		Pg	21 14 03.3	-0.1
MPMC	**Manual Prospec**	**0.39**	**4**	Pg	Pg	21 14 03.1	-0.3
MPMC				IAML		21 14 09.0	
	comp=E,2μm,0.6s						
MPMC				IAML		21 14 09.3	
	comp=N,1μm,0.6s						
WRVM	**Rose V. Centra**	**0.45**	**319**		Pg	21 14 04.3	-0.3
WRVM					Sg	21 14 10.5	+0.1
DTP	**Desert Tortois**	**0.48**	**213**		Pg	21 14 04.6	-0.5
WBSM	**Bird Springs**	**0.52**	**255**		Pg	21 14 05.5	-0.3
WBSM					Sg	21 14 12.7	0.0
MFS	**McCloud Flat S**	**0.52**	**329**		Pg	21 14 05.7	-0.2
MFS					Sg	21 14 12.8	+0.1
WORM	**Onyx Ranch**	**0.58**	**273**		Pg	21 14 06.7	-0.4
QSM	**Queen of Sheba**	**0.61**	**61**	Pg	Pg	21 14 07.0	-0.5
QSM				IAML		21 14 18.8	
	comp=E,523nm,0.2s						
QSM				IAML		21 14 19.0	
	comp=N,1μm,0.6s						
CCAC	**Calif City Air**	**0.66**	**218**		Pg	21 14 08.1	-0.4
CCAC					Sg	21 14 17.3	+0.3
WHFM	**Hanning Flat**	**0.67**	**272**		Pg	21 14 08.3	-0.5
GSC	**Goldstone, Bar**	**0.69**	**122**		Sg	21 14 17.1	-0.1
GSC	**Goldstone, Bar**	**0.69**	**122**	Pg	Pg	21 14 08.6	-0.6
ISA	**Isabella, Lake**	**0.77**	**270**		Sg	21 14 20.2	-0.5
ISA	**Isabella, Lake**	**0.77**	**270**	Pg	Pg	21 14 09.9	-0.8
ISA				IAML		21 14 20.9	
	comp=E,510nm,0.5s						
ISA				IAML		21 14 21.0	
	comp=N,336nm,0.2s						
HYS	**Haystack Butte**	**0.81**	**183**		Pg	21 14 10.5	-0.8
WASM	**Alta Sierra Ca**	**0.84**	**275**		Pg	21 14 11.5	-0.5
GWY	**Greenwater Val**	**0.86**	**53**	Pg	Pg	21 14 12.0	-0.5
GWY				IAML		21 14 28.4	
	comp=E,432nm,0.6s						
GWY				IAML		21 14 28.7	
	comp=N,390nm,0.5s						
EDW2	**Edwards Air Fo**	**0.88**	**206**		Pg	21 14 12.9	+0.3
CWC	**Cottonwood Cre**	**0.89**	**330**	Pg	Pg	21 14 12.3	-0.6
CWC				IAML		21 14 24.8	
	comp=N,198nm,0.3s						
CGO	**Cerro Gordo**	**0.91**	**346**		Pg	21 14 12.8	-0.5
RRX	**Edison Barstow**	**0.91**	**151**		Pg	21 14 13.5	+0.3
TPO	**Tropico Hills**	**0.98**	**216**	Pg	Pg	21 14 13.6	-1.0
TPO				IAML		21 14 33.7	
	comp=E,405nm,0.8s						
TPO				IAML		21 14 35.0	
	comp=N,314nm,0.7s						
SBB	**Saddle Back Bu**	**1.01**	**194**		Pg	21 14 14.3	-0.9
SBB					Sb	21 14 29.1	-0.2
SHOC	**Shoshone, Teco**	**1.04**	**77**		Sb	21 14 30.1	-0.1
TEJ	**El Tejon**	**1.05**	**245**		Pg	21 14 14.8	-1.2
VTV	**Victorville**	**1.12**	**172**		Sb	21 14 32.6	+0.2
SPG2	**Springville 2**	**1.14**	**298**		Pg	21 14 16.5	-1.1
SPG2					Sg	21 14 31.6	-0.9
ARVC	**Arvin**	**1.20**	**243**		Pg	21 14 18.6	-0.1
LRRC	**Littlerock Res**	**1.22**	**200**		Pg	21 14 17.7	-1.4
HOLC	**Holcomb Ridge**	**1.24**	**192**		Pg	21 14 18.1	-1.5
HOLC					Sb	21 14 36.0	+0.1
CJV	**Casa Juvan**	**1.25**	**204**		Pn	21 14 19.9	0.0
CJV					Sb	21 14 36.2	0.0
JNH	**Juniper Hills**	**1.27**	**196**		Pg	21 14 18.6	-1.6
JNH					Sb	21 14 37.2	+0.3
AMDNV	**Amargosa**	**1.27**	**52**		Pn	21 14 17.7	-2.4
DSCC	**Desert Studies**	**1.28**	**114**		Pn	21 14 17.9	-2.3
DSCC					Sg	21 14 35.9	-0.9
VES	**Vestal, Richgr**	**1.28**	**278**		Sg	21 14 36.3	-0.7
HEC	**Hector,Ludlow**	**1.29**	**130**		Pn	21 14 18.5	-1.9
HEC					Sg	21 14 36.5	-0.7
TUQ	**Turquoise Moun**	**1.33**	**100**		Pn	21 14 19.2	-1.8
GRAC	**Grapevine Rang**	**1.33**	**6**		Sg	21 14 38.7	+0.2
GRAC	**Grapevine Rang**	**1.33**	**6**		Pn	21 14 19.9	-1.1
GRAC				IAML		21 14 42.0	
	comp=N,305nm,0.4s						
GRAC				IAML		21 14 42.2	
	comp=E,282nm,0.4s						
WCT	**Wildcat Mounta**	**1.33**	**33**		Pn	21 14 19.5	-1.6
SGV	**South Grapevin**	**1.37**	**17**		Pn	21 14 20.2	-1.3
CHFC	**Chilao Flat St**	**1.40**	**197**		Pn	21 14 20.6	-1.4
CHFC					Sn	21 14 40.9	+0.1
BFSC	**Mount Baldy Ra**	**1.43**	**184**		Pn	21 14 21.3	-1.2
BFSC				IAML		21 14 42.7	
	comp=N,198nm,0.6s						
BFSC				IAML		21 14 42.9	
	comp=E,181nm,0.4s						
SIL	**Silver Peak**	**1.44**	**156**		Pn	21 14 22.4	-0.1
OSI	**Osito Audit: C**	**1.44**	**223**		Pn	21 14 22.7	+0.2
OSI				IAML		21 14 44.5	
	comp=E,97nm,0.3s						
SS2	**San Sevaine**	**1.46**	**179**		Pn	21 14 22.9	+0.2
SSK	**Sunset Peak**	**1.46**	**185**		Pn	21 14 21.6	-1.3
BBRC	**Big Bear Solar**	**1.49**	**160**		Sg	21 14 43.9	+0.1
TIN	**Tinemaha, Big**	**1.49**	**338**		Sn	21 14 39.9	-3.2
MWC	**Mount Wilson**	**1.51**	**197**		Pn	21 14 22.1	-1.4
LCH	**Last Change Ra**	**1.56**	**357**		Pn	21 14 23.2	-1.0
LCH					Sb	21 14 45.2	-0.1
DECC	**Green Verdugo**	**1.56**	**205**		Sg	21 14 45.9	-0.2
PASC	**Pasadena Art C**	**1.59**	**200**		Pn	21 14 23.4	-1.2
PASC				IAML		21 14 49.1	
	comp=E,93nm,0.6s						
PASC				IAML		21 14 50.8	
	comp=N,82nm,0.6s						
SVD	**Seven Oaks Dam**	**1.60**	**167**		Sb	21 14 46.5	+0.3
MTPC	**Mountain Pass**	**1.62**	**96**		Pn	21 14 23.0	-2.1
MTPC				IAML		21 14 48.7	
	comp=N,163nm,0.2s						
MTPC				IAML		21 14 48.9	
	comp=E,177nm,0.3s						
TPNV	**Topopah Spring**	**1.64**	**39**		Pn	21 14 23.9	-1.4
TPNV				IAML		21 14 49.8	
	comp=E,94nm,0.4s						
TPNV				IAML		21 14 50.0	
	comp=E,103nm,0.5s						
GMN	**Gold Mountain**	**1.64**	**7**		Pn	21 14 24.1	-1.3
GMN				IAML		21 14 51.0	
	comp=N,82nm,0.5s						
DSP	**Deep Springs**	**1.73**	**348**	Pn	Pn	21 14 25.5	-0.9
GMRC	**Granite Mounta**	**1.77**	**120**		Pn	21 14 24.4	-2.6
BLAC	**Blackrock camp**	**1.85**	**149**		Pn	21 14 26.9	-1.3
EW2	**E Wide Canyon**	**1.96**	**152**		Pn	21 14 28.1	-1.5
TPC	**Twentynine Pal**	**1.98**	**142**		Pn	21 14 28.2	-1.7
HMTC	**Hemet**	**2.00**	**167**		Pn	21 14 29.2	-1.0
ELS	**Elsinore Mount**	**2.02**	**178**	Pn	Pn	21 14 29.2	-1.3
ELS				IAML		21 15 02.9	
	comp=E,75nm,0.4s						
ELS				IAML		21 15 07.3	
	comp=N,52nm,0.5s						
MZP	**Montezuma Peak**	**2.03**	**3**	Pn	Pn	21 14 29.8	-1.0
POB	**Polly Butte**	**2.04**	**166**		Pn	21 14 29.7	-1.1
SHPR	**Sheep Range**	**2.09**	**66**	Pn	Pn	21 14 29.9	-1.6
V12A	**Nelson**	**2.18**	**88**	Pn	Pn	21 14 30.4	-2.2
V12A				IAML		21 15 06.5	
	comp=N,43nm,0.7s						
V12A				IAML		21 15 11.5	
	comp=E,63nm,0.6s						
CRY	**Cary Ranch**	**2.20**	**163**		Pn	21 14 32.1	-0.9
PMD	**Palm Desert**	**2.23**	**155**	Pn	Pn	21 14 31.4	-1.9
PMD				IAML		21 15 06.6	
	comp=E,50nm,0.6s						
PMD				IAML		21 15 07.4	
	comp=N,40nm,0.5s						
PFO	**Pinyon Flats O**	**2.23**	**157**	Pn	Pn	21 14 31.8	-1.7
PFO				IAML		21 15 07.5	
	comp=N,45nm,0.6s						
BZNA	**Buzz No.'s Pla**	**2.29**	**162**		Pn	21 14 33.2	-1.0
FRD	**Ford Ranch, An**	**2.30**	**160**		Pn	21 14 33.3	-1.1
TPH	**Tonopah**	**2.41**	**6**	Pn	Pn	21 14 35.0	-0.9
TPH				IAML		21 15 18.3	
	comp=N,108nm,0.9s						
TPH				IAML		21 15 19.1	
	comp=E,89nm,0.8s						
CTW	**Cottonwood Mou**	**2.41**	**145**		Pn	21 14 34.2	-1.6
HAY	**Hayfield**	**2.48**	**142**		Pn	21 14 35.1	-1.7
NEE2	**Needles Airpor**	**2.54**	**110**	Pn	Pn	21 14 35.2	-2.4
MATG	**Mataguay Scout**	**2.57**	**163**		Pn	21 14 37.5	-0.6
PRN	**Pahroc Range**	**2.64**	**48**	Pn	Pn	21 14 37.1	-2.0
PRN				IAML		21 15 28.9	
	comp=N,36nm,0.7s						
PRN				IAML		21 15 35.6	
	comp=E,39nm,0.9s						
LHV	**Little Huntoon**	**2.69**	**343**	Pn	Pn	21 14 38.9	-0.7
LHV				IAML		21 15 28.1	
	comp=N,38nm,0.7s						
LHV				IAML		21 15 35.2	
	comp=E,32nm,1.5s						
DPP	**Dos Picos Cty**	**2.71**	**170**	Pn	Pn	21 14 38.5	-1.4
DPP				IAML		21 15 21.1	
	comp=E,65nm,0.3s						
DPP				IAML		21 15 22.9	
	comp=N,25nm,0.4s						
BSM	**San Miguel Isl**	**2.84**	**236**		Pn	21 14 41.5	-0.1
BBGB	**Big Mountain B**	**2.98**	**289**	Pn	Pn	21 14 41.1	-2.7
W13A	**Hualapai Mount**	**3.03**	**100**	Pn	Pn	21 14 42.5	-1.9
W13A				IAML		21 15 33.4	
	comp=E,21nm,0.5s						
W13A				IAML		21 15 35.9	
	comp=N,20nm,0.6s						
RYN	**Ryan**	**3.06**	**345**	Pn	Pn	21 14 44.3	-0.5
BLYC	**Blythe**	**3.13**	**127**	Pn	Pn	21 14 43.0	-2.7
BLYC				IAML		21 15 37.5	
	comp=N,44nm,0.6s						
BLYC				IAML		21 15 38.9	
	comp=E,49nm,0.6s						
WAKR	**Walker**	**3.21**	**332**	Pn	Pn	21 14 44.6	-2.4
YUH	**Yuha Desert**	**3.30**	**156**	Pn	Pn	21 14 45.6	-2.3
LCMT	**Little Creek M**	**3.71**	**68**	Pn	Pn	21 14 52.3	-1.4
CCUT	**Cedar City**	**3.84**	**60**	Pn	Pn	21 14 55.1	-0.5
ESJX	**Sierra Juarez**	**3.89**	**160**	Pn	Pn	21 14 54.6	-1.6
ESJX				IAML		21 17 18.1	
	comp=N,30nm,0.1s						
KNB	**Kanab**	**4.03**	**69**	Pn	Pn	21 14 58.1	-0.1
KNB				IAML		21 16 33.6	
	comp=E,11nm,1.7s						
U15A	**North Rim**	**4.31**	**78**	Pn	Pn	21 15 00.9	-1.2
U15A				IAML		21 16 12.3	
	comp=N,13nm,1.2s						
U15A				IAML		21 16 19.2	
	comp=E,18nm,1.1s						

*SJA **15** 21:21:56.6±0.7,23°.13S×69°.78W,h69km±3km,ML3.5, MW3.5*
*GUC **15** 21:21:58.2±0.8,23°.18S×69°.91W,h79km±5km,ML3.7*

ISC 15 21:21:59.1±1.3,23°.13S±0°.03×69°.89W±0°.04,h62km±9km, n26,σ1°20/47,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB05	**IPOC Station P**	**0.40**	**314**	*e*P	**Pn**	**21 22 10.7**	**+0.3**
PB05				*i* S	**Sn**	**21 22 19.8**	**+1.2**
PB05				IAML		21 22 20.3	
	comp=N,4μm,0.2s						
PB05	**IPOC Station P**	**0.40**	**314**	*e*P	**Pn**	**21 22 10.0**	**-0.5**
PB05				*e*S	**Sn**	**21 22 20.0**	**+1.3**
PB05				IAML		21 22 20.1	
	comp=Z,2μm,0.1s						
PB06	**IPOC Station P**	**0.51**	**34**	*e*P	**Pn**	**21 22 10.7**	**-0.9**
PB06				*i* S	**Sn**	**21 22 19.7**	**-0.9**
PB06				IAML		21 22 20.0	
	comp=N,6μm,0.1s						
PB06	**IPOC Station P**	**0.51**	**34**	*e*P	**Pn**	**21 22 10.0**	**-1.6**
PB06				*e*P		21 22 10.5	
PB06				*e*S	**Sn**	**21 22 19.8**	**-0.8**
PB06				IAML		21 22 20.6	
	comp=Z,3μm,0.2s						
PB10	**IPOC Station P**	**0.72**	**238**	*e*P	**Pn**	**21 22 13.2**	**-0.5**
PB10				*i* S	**Sn**	**21 22 24.8**	**+0.3**
PB10	**IPOC Station P**	**0.72**	**238**	*e*P	**Pn**	**21 22 13.2**	**-0.5**
PB10				*e*S	**Sn**	**21 22 26.4**	**+1.9**
PB03	**IPOC Station P**	**1.08**	**7**	*e*P	**Pn**	**21 22 18.2**	**-0.3**
PB03				*i* S	**Sn**	**21 22 33.0**	**+0.2**
PB03	**IPOC Station P**	**1.08**	**7**	*e*P	**Pn**	**21 22 18.2**	**-0.3**
PB03				*e*S	**Sn**	**21 22 33.5**	**+0.6**
PB03				IAML		21 22 34.9	
	comp=Z,1μm,0.3s						
PB09	**IPOC Station P**	**1.46**	**24**	*e*P	**Pn**	**21 22 24.2**	**+0.7**
PB09				*i* S	**Sn**	**21 22 43.9**	**+2.2**
PB09				IAML		21 22 46.2	
	comp=E,778nm,0.1s						
PB09	**IPOC Station P**	**1.46**	**24**	*e*P	**Pn**	**21 22 23.6**	**+0.1**
PB09				*e*S	**Sn**	**21 22 44.1**	**+2.4**
PB09				IAML		21 22 48.0	
	comp=Z,513nm,0.5s						
PB14	**IPOC Station P**	**1.56**	**198**	*e*P	**Pn**	**21 22 24.1**	**-0.9**
PB14				*i* S	**Sn**	**21 22 43.9**	**-0.5**
PB14	**IPOC Station P**	**1.56**	**198**	*e*P	**Pn**	**21 22 24.4**	**-0.6**
PB14				*e*S	**Sn**	**21 22 45.7**	**+1.2**
PB14				IAML		21 22 49.2	
	comp=Z,217nm,0.2s						
AF01	**San Pedro de A**	**1.58**	**84**	*e*P	**Pn**	**21 22 26.2**	**+0.9**
AF01				*i* S	**Sn**	**21 22 46.4**	**+1.5**
AF01				IAML		21 22 59.2	
	comp=E,2μm,0.2s						
AF01	**San Pedro de A**	**1.58**	**84**	*e*P	**Pn**	**21 22 25.6**	**+0.3**
AF01				*e*S	**Sn**	**21 22 42.6**	**-2.4**
AF01				IAML		21 22 58.5	
	comp=Z,1μm,0.3s						
PB02	**IPOC Station P**	**1.80**	**360**	*e*P	**Pn**	**21 22 28.0**	**-0.1**
PB02				*i* S	**Sn**	**21 22 51.3**	**+1.4**
PB02				IAML		21 22 55.1	
	comp=E,1μm,0.4s						
PB02	**IPOC Station P**	**1.80**	**360**	*e*P	**Pn**	**21 22 27.3**	**-0.7**
PB02				*e*S	**Sn**	**21 22 51.6**	**+1.6**
PB02				IAML		21 22 57.7	
	comp=Z,651nm,0.4s						
PB01	**IPOC Station P**	**2.11**	**10**	*e*P	**Pn**	**21 22 32.3**	**+0.1**
PB01				*i* S	**Sn**	**21 22 58.9**	**+1.4**
PB01				IAML		21 23 02.1	
	comp=E,702nm,0.2s						
PB01	**IPOC Station P**	**2.11**	**10**	*e*P	**Pn**	**21 22 31.6**	**-0.6**
PB01				*e*S	**Sn**	**21 22 59.9**	**+2.4**
PB01				IAML		21 23 03.2	
	comp=Z,257nm,0.2s						
PATCX	**Punta Patache**	**2.31**	**354**	*e*P	**Pn**	**21 22 34.2**	**-0.8**
PATCX				*e*S	**Sn**	**21 23 02.6**	**+0.2**
PATCX				IAML		21 23 13.1	
	comp=Z,151nm,0.5s						
TA01	**Diego Aracena**	**2.57**	**354**	*e*P	**Pn**	**21 22 37.2**	**-1.2**
TA01				*e*S	**Sn**	**21 23 07.6**	**-0.9**
TA01				IAML		21 23 17.7	
	comp=Z,128nm,0.7s						
HMBC	**Humberstone**	**2.84**	**360**	*e*P	**Pn**	**21 22 41.1**	**-1.1**
HMBC				*e*S	**Sn**	**21 23 13.1**	**-2.2**
HMBC				IAML		21 23 34.0	
	comp=Z,137nm,0.3s						
PB08	**IPOC Station P**	**3.05**	**13**	*e*P	**Pn**	**21 22 45.1**	**-0.2**
PB08				*e*S	Sn	21 23 31.4

comp=Z,38nm,1.3s,comp=Z,0.1nm
MORW Morawa 11.09 201 P **Pn** 21 25 07.8 +1.0
comp=Z,14nm,1.7s
MORW Morawa 11.09 201 S **Sn** 21 27 07.1 -3.8
MORW Morawa 11.09 201 P **Pn** 21 25 07.9 +1.1
MTN Manton Dam 11.78 62 P **Pn** 21 25 13.3 -3.0
comp=Z,36nm,2.4s
DRS Darwin Rock St 11.80 60 P **Pn** 21 25 16.6 0.0
comp=Z,13nm,1.1s
JAGI Jajag, Banyuwa 11.89 328 P Pn 21 25 07.8 -10
comp=Z,42nm,1.1s
BLDU Ballidu 12.34 195 P **Pn** 21 25 26.0 +2.0
comp=Z,11nm,1.1s
BLDU Ballidu 12.34 195 P **Pn** 21 25 26.3 +2.3
KLBR Kellerberrin 13.07 190 P **Pn** 21 25 36.2 +2.4
comp=Z,23nm,0.8s
KLBR Kellerberrin 13.07 190 P **Pn** 21 25 37.3 +3.4
WRA Warramunga Arr 13.13 98 Pn **Pn** 21 25 34.6 -0.1
comp=Z,0.4nm,0.3s,baz=270,slow=14,SNR=14
WRA Sn **Sn** 21 27 56.3 -4.7
comp=Z,1.0nm,0.3s,baz=239,slow=5.7,SNR=5.4
comp=Z,0.7nm,0.5s
ASAR Alice Springs 13.44 114 Pn **Pn** 21 25 40.2 +1.1
comp=Z,0.2nm,0.3s,baz=291,slow=12,SNR=12
ASAR Sn **Sn** 21 28 05.3 -3.3
comp=Z,0.6nm,0.3s,baz=306,slow=24,SNR=6.6
comp=Z,0.5nm,0.5s
MUN Mundaring 13.77 195 P **Pn** 21 25 44.8 +1.3
comp=Z,20nm,0.8s
MUN Mundaring 13.77 195 S **Sn** 21 28 11.6 -4.9
MUN Mundaring 13.77 195 P **Pn** 21 25 44.5 +1.1
FORT Forrest 13.84 152 P **Pn** 21 25 47.2 +2.8
comp=Z,5.1nm,1.0s
FORT S **Sn** 21 28 20.9 +2.7
NWAO Narrogin (SRO) 14.46 191 Pn **Pn** 21 25 53.1 +0.1
comp=Z,2.5nm,0.3s,baz=15,slow=12,SNR=28
NWAO Sn **Sn** 21 28 26.6 -6.7
comp=Z,3.3nm,0.3s,baz=272,slow=1.7,SNR=8.1
comp=Z,5.3nm,0.3s
NWAO Narrogin (SRO) 14.46 191 P **Pn** 21 25 54.1 +1.2
MKAR Makanchi Array 73.73 334 P **P** 21 34 06.3 +4.0
comp=Z,0.1nm,0.4s,baz=160,slow=4.6,SNR=1.9
comp=Z,0.1nm,0.4s

*NEIC **15** 21:29:52.6±1.3, 35.˚685N±0.˚007×117.˚506W±0.˚008, h10km±1km, Error ellipse: s-maj=2.8km s-min=1.4km az=166.0*
PAS 15 21:29:53.0±1.3, **35.˚678N**±0.˚008×**117.˚506W**±0.˚009, **h9**km±4km, **Mwr3.7/6, ML3.7**/126(NEIC), **Error ellipse: s-maj=1.3km s-min=0.9km az=141.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.08**	**172**	Pg	Pg	21 29 55.2	-0.1
WSHM				Sg	Sg	21 29 57.0	+0.1
WSHM				IAML		21 29 57.3	
	66µm,0.2s						
CCCA	**Chr Cany lake**	**0.19**	**143**	Pg	Pg	21 29 57.5	+0.5
CCCA				Sg	Sg	21 30 00.6	+0.8
SRTC	**Snort**	**0.20**	**274**		Pg	21 29 57.4	+0.3
SRTC					Sg	21 30 01.3	+1.4
LRMC	**Laurel Mtn Rad**	**0.24**	**216**	Pg	Pg	21 29 57.6	-0.4
LRMC				Sg	Sg	21 30 01.3	-0.1
TOW	**Tower One**	**0.25**	**302**		Pg	21 29 58.3	+0.3
TOW					Sg	21 30 02.3	+0.9
WNMM	**Nine Mile Cany**	**0.36**	**297**		Pg	21 30 00.0	-0.1
WNMM					Sg	21 30 05.4	+0.4
MPMC	**Manual Prospec**	**0.38**	**2**	Pg	Pg	21 30 00.0	-0.5
MPMC				Sg	Sg	21 30 05.4	-0.3
MPMC				IAML		21 30 05.8	
	comp=E,5µm,0.6s						
MPMC				IAML		21 30 06.3	
	comp=N,6µm,0.6s						
JRC2	**Joshua Ridge**	**0.39**	**321**		Pg	21 30 00.6	-0.2
JRC2					Sg	21 30 06.0	+0.1
WCSM	**Coso Springs S**	**0.41**	**329**		Pg	21 30 00.8	-0.3
WCSM					Sg	21 30 06.4	-0.1
WRVM	**Rose V. Centra**	**0.45**	**317**		Pg	21 30 01.6	-0.3
WRVM					Sg	21 30 08.0	0.0
DTP	**Desert Tortois**	**0.49**	**214**		Pg	21 30 02.1	-0.5
DTP					Sg	21 30 08.9	-0.2
MFS	**McCloud Flat S**	**0.52**	**327**		Pg	21 30 02.9	-0.3
MFS					Sg	21 30 10.1	0.0
WBSM	**Bird Springs**	**0.54**	**255**		Pg	21 30 03.0	-0.4
WBSM					Sg	21 30 10.3	-0.2
QSM	**Queen of Sheba**	**0.59**	**61**	Pg	Pg	21 30 04.0	-0.5
QSM				Sg	Sg	21 30 11.9	-0.4
QSM				IAML		21 30 12.3	
	comp=E,5µm,0.5s						
QSM				IAML		21 30 12.6	
	comp=N,8µm,0.6s						
WORM	**Onyx Ranch**	**0.60**	**272**		Pg	21 30 04.1	-0.6
WORM					Sg	21 30 11.9	-0.6
CCAC	**Calif City Air**	**0.67**	**219**		Pg	21 30 05.6	-0.4
CCAC					Sg	21 30 14.7	0.0
GSC	**Goldstone, Bar**	**0.68**	**123**		Sg	21 30 15.1	-0.1
GSC	**Goldstone, Bar**	**0.68**	**123**	Pg	Pg	21 30 05.6	-0.7
GSC				IAML		21 30 17.8	
	comp=N,4µm,0.5s						
WHFM	**Hanning Flat**	**0.69**	**272**		Pg	21 30 05.7	-0.6
WHFM					Sg	21 30 14.6	-0.7
ISA	**Isabella, Lake**	**0.79**	**269**		Sg	21 30 17.8	-0.7
ISA	**Isabella, Lake**	**0.79**	**269**	Pg	Pg	21 30 07.3	-0.9
ISA				IAML		21 30 20.7	
	comp=E,2µm,0.2s						
HYS	**Haystack Butte**	**0.81**	**184**		Pg	21 30 07.9	-0.8
HYS					Sg	21 30 18.7	-0.6
GWY	**Greenwater Val**	**0.85**	**53**	Pg	Pg	21 30 08.5	-0.9
GWY				Sg	Sg	21 30 19.4	-1.0
GWY				IAML		21 30 22.6	
	comp=E,4µm,0.6s						
GWY				IAML		21 30 22.7	
	comp=N,4µm,0.9s						
WASM	**Alta Sierra Ca**	**0.86**	**274**		Pg	21 30 08.9	-0.7
WASM					Sg	21 30 20.2	-0.6
EDW2	**Edwards Air Fo**	**0.89**	**207**		Pg	21 30 09.2	-0.9
EDW2					Sg	21 30 21.6	-0.1
CWC	**Cottonwood Cre**	**0.89**	**329**	Pg	Pg	21 30 09.7	-0.5
CWC				Sg	Sg	21 30 21.5	-0.4
CGO	**Cerro Gordo**	**0.90**	**345**		Pg	21 30 09.6	-0.9
RRX	**Edison Barstow**	**0.90**	**152**		Pg	21 30 09.8	-0.5
RRX					Sb	21 30 23.7	+0.7
FURC	**Furnace Creek,**	**0.94**	**33**		Pg	21 30 11.0	-0.2
FURC					Sg	21 30 23.7	+0.2
TPO	**Tropico Hills**	**0.99**	**217**	Pg	Pg	21 30 11.4	-0.7
SBB	**Saddle Back Bu**	**1.02**	**195**		Pg	21 30 11.6	-1.0
SHOC	**Shoshone, Teco**	**1.02**	**77**		Pg	21 30 11.9	-0.9
SHOC					Sb	21 30 26.6	+0.1
TEJ	**El Tejon**	**1.06**	**245**		Pg	21 30 12.0	-1.5
VTV	**Victorville**	**1.12**	**173**		Sn	21 30 30.2	-0.4
ADO	**Adelanto Recei**	**1.13**	**177**		Pg	21 30 14.7	0.0
SPG2	**Springville 2**	**1.15**	**297**		Pb	21 30 14.0	-1.1
SPG2					Sg	21 30 29.2	-0.8
MAGC	**SCE Magundon P**	**1.20**	**255**		Pb	21 30 15.2	-0.7
TJR	**Tejon Ranch**	**1.20**	**238**		Pb	21 30 14.6	-1.3
TJR					Sb	21 30 30.7	-0.8
ARVC	**Arvin**	**1.21**	**243**		Pb	21 30 14.9	-1.3
THC	**Tehachapi Micr**	**1.22**	**231**		Pb	21 30 15.4	-0.9
LRRC	**Littlerock Res**	**1.23**	**201**		Pn	21 30 15.1	-1.2
LRRC					Sn	21 30 32.8	-0.2
LEOC	**Leona Valley**	**1.23**	**212**		Pn	21 30 15.5	-1.0
LEOC					Sn	21 30 33.2	-0.1
HOLC	**Holcomb Ridge**	**1.25**	**193**		Pn	21 30 15.3	-1.4
HOLC					Sb	21 30 32.9	-0.1
AMDNV	**Amargosa**	**1.26**	**52**		Pn	21 30 14.9	-1.9
CJV	**Casa Juvan**	**1.26**	**205**		Pn	21 30 16.7	-0.2
CJV					Sg	21 30 33.8	+0.2
DSCC	**Desert Studies**	**1.26**	**115**		Pn	21 30 14.9	-1.9
HEC	**Hector,Ludlow**	**1.28**	**131**		Pn	21 30 15.6	-1.6
HEC					Sg	21 30 34.1	-0.1
JNH	**Juniper Hills**	**1.28**	**197**		Pn	21 30 15.9	-1.3
JNH					Sn	21 30 34.8	+0.2
VES	**Vestal, Richgr**	**1.29**	**278**		Pn	21 30 17.0	-0.2
VES					Sb	21 30 34.1	-0.1
TUQ	**Turquoise Moun**	**1.31**	**100**		Pn	21 30 15.9	-1.7
GRAC	**Grapevine Rang**	**1.32**	**5**		Pn	21 30 17.1	-0.6
GRAC	**Grapevine Rang**	**1.32**	**5**		Pn	21 30 13.7	-4.0
GRAC				IAML		21 30 40.7	
	comp=E,2µm,0.5s						
GRAC				IAML		21 30 41.2	
	comp=N,2µm,1.1s						
WCT	**Wildcat Mounta**	**1.32**	**32**		Pn	21 30 16.4	-1.4
WCT					IAML	21 30 36.2	
	comp=E,1µm,0.9s						
WCT					IAML	21 30 36.9	
	comp=N,1µm,0.7s						
SGV	**South Grapevin**	**1.35**	**16**		Pn	21 30 17.2	-1.0
CHFC	**Chilao Flat St**	**1.41**	**198**		Pn	21 30 19.2	+0.3
SIL	**Silver Peak**	**1.44**	**157**		Pn	21 30 19.6	+0.2
BFSC	**Mount Baldy Ra**	**1.44**	**185**	Pn	Pn	21 30 18.1	-1.3
BFSC				IAML		21 30 44.1	
	comp=E,614nm,0.6s						
OSI	**Osito Audit: C**	**1.46**	**224**	Pn	Pn	21 30 18.6	-1.0
OSI				IAML		21 30 41.8	
	comp=E,2µm,0.7s						
OSI				IAML		21 30 42.3	
	comp=N,2µm,0.9s						
SS2	**San Sevaine**	**1.47**	**180**		Pb	21 30 20.1	-0.4
SSK	**Sunset Peak**	**1.47**	**186**		Pn	21 30 18.9	-0.9
MWC	**Mount Wilson**	**1.52**	**198**	Pn	Pn	21 30 19.8	-0.8
MWC				IAML		21 30 43.7	
	comp=N,1µm,0.5s						
MWC				IAML		21 30 45.0	
	comp=E,1µm,1.0s						
LCH	**Last Change Ra**	**1.56**	**356**		Pn	21 30 20.2	-0.8
DECC	**Green Verdugo**	**1.57**	**206**		Pg	21 30 22.8	-0.4
PSRC	**Puddingstone R**	**1.60**	**189**		Pb	21 30 22.8	+0.1
MTPC	**Mountain Pass**	**1.60**	**96**	Pn	Pn	21 30 20.0	-1.7
MTPC				IAML		21 30 45.2	
	comp=N,634nm,0.8s						
PASC	**Pasadena Art C**	**1.60**	**201**	Pn	Pn	21 30 20.8	-0.7
PASC				IAML		21 30 45.5	
	comp=N,809nm,0.6s						
PASC				IAML		21 30 47.1	
	comp=E,924nm,0.6s						
SVD	**Seven Oaks Dam**	**1.60**	**168**		Pb	21 30 22.5	-0.3
OAT	**Oat Mountain**	**1.61**	**215**		Pg	21 30 23.9	-0.1
TPNV	**Topopah Spring**	**1.62**	**38**	Pn	Pn	21 30 20.8	-1.2
TPNV				IAML		21 30 46.8	
	comp=E,1µm,0.7s						
TPNV				IAML		21 30 47.0	
	comp=E,1µm,0.7s						
GMN	**Gold Mountain**	**1.63**	**7**	Pn	Pn	21 30 21.2	-1.0
VOG	**Valley Oaks Go**	**1.65**	**293**		Pb	21 30 23.0	-0.6
GTM	**Goat Mountain**	**1.67**	**145**		Pb	21 30 24.1	+0.1
BLCC	**Black Canyon**	**1.72**	**214**		Pg	21 30 26.1	+0.1
BCW	**Bitter Crk WRg**	**1.73**	**245**		Pb	21 30 24.5	-0.4
DSP	**Deep Springs**	**1.73**	**348**	Pn	Pn	21 30 22.3	-0.9
DJJ	**Donna J Jenkin**	**1.75**	**207**		Pb	21 30 25.6	+0.3
BHPR	**Bishop**	**1.80**	**334**		Pb	21 30 26.4	+0.1
BLAC	**Blackrock camp**	**1.85**	**150**		Pb	21 30 27.6	+0.5
CRGC	**Crocker Grade**	**1.86**	**257**		Pb	21 30 27.1	-0.2
MTUM	**Tungsten Hills**	**1.88**	**333**		Pb	21 30 27.5	-0.1
EW2	**E Wide Canyon**	**1.95**	**152**		Pn	21 30 25.5	-0.9
TPC	**Twentynine Pal**	**1.97**	**142**		Pn	21 30 25.4	-1.3
HMTC	**Hemet**	**2.01**	**168**		Pn	21 30 26.4	-0.7
MZP	**Montezuma Peak**	**2.02**	**3**	Pn	Pn	21 30 26.6	-1.0
ELS	**Elsinore Mount**	**2.03**	**178**	Pn	Pn	21 30 26.3	-1.1
ELS				IAML		21 31 04.1	
	comp=E,271nm,0.7s						
ELS				IAML		21 31 05.0	
	comp=N,282nm,0.9s						
POB	**Polly Butte**	**2.04**	**166**		Pn	21 30 26.9	-0.8
DGR	**Domenigoni Val**	**2.06**	**168**		Pn	21 30 27.5	-0.3
SHPR	**Sheep Range**	**2.07**	**66**	Pn	Pn	21 30 27.2	-0.9
BACC	**Bachelor Mtn.**	**2.10**	**169**		Pn	21 30 28.0	-0.3
V12A	**Nelson**	**2.16**	**88**	Pn	Pn	21 30 27.7	-1.6
V12A				IAML		21 31 02.5	
	comp=N,298nm,0.5s						
V12A				IAML		21 31 08.1	
	comp=E,271nm,0.6s						
KCC	**Kaiser Creek**	**2.20**	**319**		Pb	21 30 33.3	+0.4
CRY	**Cary Ranch**	**2.20**	**163**		Pn	21 30 29.5	-0.4
PMD	**Palm Desert**	**2.23**	**155**	Pn	Pn	21 30 28.2	-1.9
PMD				IAML		21 31 06.7	
	comp=E,253nm,0.4s						
PFO	**Pinyon Flats O**	**2.23**	**157**	Pn	Pn	21 30 29.1	-1.2
PFO				IAML		21 31 08.8	
	comp=E,243nm,1.0s						
FRD	**Ford Ranch, An**	**2.30**	**161**		Pn	21 30 30.6	-0.6
TPH	**Tonopah**	**2.40**	**5**	Pn	Pn	21 30 32.2	-0.5
TPH				IAML		21 31 11.6	
	comp=E,696nm,1.1s						
CTW	**Cottonwood Mou**	**2.41**	**146**		Pg	21 30 38.0	-1.2
NEE2	**Needles Airpor**	**2.53**	**110**	Pn	Pn	21 30 32.1	-2.1
PRN	**Pahroc Range**	**2.62**	**48**	Pn	Pn	21 30 34.8	-0.9
PRN				IAML		21 31 32.4	
	comp=E,417nm,0.9s						
PRN				IAML		21 31 37.6	
	comp=N,332nm,0.7s						
LHV	**Little Huntoon**	**2.69**	**343**	Pn	Pn	21 30 36.1	-0.3
LHV				IAML		21 31 23.9	
	comp=E,219nm,0.8s						
LHV				IAML		21 31 26.6	
	comp=N,211nm,0.9s						
DPP	**Dos Picos Cty**	**2.71**	**170**	Pn	Pn	21 30 36.1	-0.7
DPP				IAML		21 31 18.4	
	comp=E,195nm,0.8s						
W13A	**Hualapai Mount**	**3.01**	**100**	Pn	Pn	21 30 39.6	-1.5
W13A				IAML		21 31 30.7	
	comp=N,135nm,1.7s						
W13A				IAML		21 31 31.7	
	comp=E,137nm,0.7s						
RYN	**Ryan**	**3.06**	**345**	Pn	Pn	21 30 41.4	-0.2
R11B	**Troy Canyon, C**	**3.08**	**29**	Pn	Pn	21 30 41.0	-0.9
R11B				IAML		21 31 31.9	
	comp=E,146nm,1.1s						
BLYC	**Blythe**	**3.12**	**127**	Pn	Pn	21 30 40.1	-2.3
BLYC				IAML		21 31 34.9	
	comp=N,357nm,0.7s						
BLYC				IAML		21 31 35.4	
	comp=E,416nm,0.8s						
Q09A	**Carvers**	**3.16**	**5**	Pn	Pn	21 30 43.2	+0.1
Q09A				IAML		21 31 42.1	
	comp=E,324nm,0.9s						
SAO	**San Andreas Ge**	**3.37**	**290**	Pn	Pn	21 30 45.7	-0.1
CBX	**Cerro Bola**	**3.43**	**168**	Pn	Pn	21 30 46.5	-0.3
GLA	**Glamis**	**3.43**	**139**	Pn	Pn	21 30 44.6	-2.1
LCMT	**Little Creek M**	**3.69**	**68**	Pn	Pn	21 30 50.0	-0.4
CCUT	**Cedar City**	**3.82**	**60**	Pn	Pn	21 30 52.5	+0.2
KNB	**Kanab**	**4.01**	**69**	Pn	Pn	21 30 54.4	-0.4
KNB				IAML		21 32 02.9	
	comp=E,54nm,1.4s						
KNB				IAML		21 32 05.6	
	comp=N,67nm,1.4s						
SZCU	**Shurtz Canyon**	**4.04**	**60**	Pn	Pn	21 30 54.8	-0.4
PAHR	**Pah Rah Range**	**4.29**	**340**	Pn	Pn	21 30 57.8	-0.8
U15A	**North Rim**	**4.29**	**78**	Pn	Pn	21 30 58.9	+0.2
U15A				IAML		21 32 09.9	
	comp=E,60nm,0.8s						
U15A				IAML		21 32 11.4	
	comp=N,43nm,0.9s						
X16A	**Lo Mia Camp, P**	**5.13**	**102**	Pn	Pn	21 31 10.2	0.0
X16A				IAML		21 32 46.0	
	comp=E,33nm,1.0s						
X16A				IAML		21 32 53.4	
	comp=N,30nm,2.1s						
ELK	**Elko**	**5.36**	**19**	Pn	Pn	21 31 13.4	0.0
ELK				IAML		21 32 44.6	
	comp=N,30nm,0.7s						
214A	**Organ Pipe Nat**	**5.39**	**132**	Pn	Pn	21 31 11.6	-2.0
214A				IAML		21 32 54.3	
	comp=N,40nm,1.2s						
214A				IAML		21 32 57.4	
	comp=E,38nm,0.6s						
TMUT	**Trail Mountain**	**6.17**	**52**	Pn	Pn	21 31 22.9	-1.7
X18A	**Snowflake**	**6.30**	**98**	Pn	Pn	21 31 26.3	0.0
TUC	**Tucson**	**6.51**	**119**	Pn	Pn	21 31 30.3	+1.1
PV19	**Morning Glory**	**7.31**	**66**	Pn	Pn	21 31 40.3	+0.2
PV18	**Skein Mesa, Pa**	**7.34**	**67**	Pn	Pn	21 31 41.9	+1.3
PV22	**Blue Mesa, Par**	**7.53**	**65**	Pn	Pn	21 31 43.2	+0.1

*NIED **15** 21:35:09.1, 40.˚70N×142.˚66E, h26km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}0.87; $M_{\theta\theta}$0.02; $M_{\phi\phi}$-0.89; $M_{r\theta}$-0.20; $M_{\theta\phi}$-0.27; $M_{r\phi}$0.94; Fault plane solution: $M_0$1.33000×10¹⁵ NP1: ϕ_s214.00000°, δ26.00000°, λ125.00000°. NP2: ϕ_s356.00000°, δ69.00000°, λ74.00000°.*
*JMA **15** 21:35:09.1±0.3, 40.˚7N±0.˚6×14.˚3E±˚, h26km±4km, MD4.0/40, MV4.2/40, E OFF AOMORI PREF*
JMA Felt I J1 at E OFF AOMORI PREF .
*NEIC **15** 21:35:12.6±2.0, 40.˚74N±0.˚06×142.˚54E±0.˚08, h53km±7km, mb4.3/19, Error ellipse: s-maj=10.6km s-min=6.0km az=138.0*
*IDC **15** 21:35:12.4±2.1, 40.˚71N×142.˚72E, h61km±16km, mb3.7/15, mbtmp4.0/19, MS3.2/8, Error ellipse: s-maj=22.9km s-min=11.7km az=99.0*
ISC 15 21:35:09.6±1.5, **40.˚70N**±0.˚05×**142.˚63E**±0.˚06, **h30**km±10km, **n82**,σ1**29**/69, **mb4.2**/26, **MS3.4**/4, **13D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.86**	**235**	⇓*i*P	**Pn**	**21 35 25.1**	**-0.5**
JKEN				⇓*e*S	**Sn**	**21 35 36.6**	**-0.5**
JANG	**Nango**	**0.91**	**250**	⇓*i*P	**Pn**	**21 35 26.2**	**-0.1**
JANG	**Nango**	**0.91**	**250**	A	A	21 35 26.2	
	comp=N,4.0nm,0.4s,comp=E,3.0nm,0.3s						
JTH	**Tanohata**	**0.96**	**218**	⇓*i*P	**Pn**	**21 35 26.6**	**-0.4**
JARK	**Aomorirokkasho**	**1.01**	**288**	⇓*i*P	**Pn**	**21 35 27.4**	**-0.3**
JAHD	**Aomorihigashid**	**1.13**	**300**	A	A	21 35 29.6	
	comp=N,8.0nm,4.5s,comp=E,6.0nm,0.8s						
JTM	**Tenmabayashi**	**1.19**	**275**	Pn	**Pn**	**21 35 30.5**	**+0.3**
JTM				Sn	**Sb**	**21 35 46.0**	**-0.6**
JTM	**Tenmabayashi**	**1.19**	**275**	⇓*i*P	**Pn**	**21 35 30.5**	**+0.3**
JTM				⇓S	**Sb**	**21 35 46.0**	**-0.6**
JKZ	**Kuzumaki**	**1.23**	**235**	P	**Pn**	**21 35 30.9**	**+0.2**
JKZ				*e*S	**Sb**	**21 35 48.7**	**+1.1**
ERM	**Erimo**	**1.37**	**17**	Pn	**Pn**	**21 35 32.8**	**+0.1**
ERM				Sn	**Sb**	**21 35 52.2**	**+0.4**
JEM	**Erimo**	**1.37**	**17**	P	**Pn**	**21 35 32.9**	**+0.2**
JOT	**Ohata**	**1.38**	**300**	⇓*i*P	**Pn**	**21 35 32.6**	**-0.1**
JOT				⇓*e*S	**Sn**	**21 35 49.4**	**-0.6**
JOT	**Ohata**	**1.38**	**300**	A	A	21 35 32.6	
	comp=N,2.0nm,1.2s,comp=E,3.0nm,0.9s						
JNBK	**Urakawa-nobuka**	**1.58**	**3**	P	**Pb**	**21 35 36.5**	**-1.7**
JOM	**Ohasama**	**1.60**	**220**	*i* P	**Pn**	**21 35 36.8**	**+1.0**
JOM	**Ohasama**	**1.60**	**220**	A	A	21 35 36.8	
	comp=N,5.0nm,0.3s,comp=E,4.0nm,0.8s						
JSZI	**Iwateshizukuis**	**1.60**	**234**	A	A	21 35 36.7	
	comp=N,6.0nm,2.2s,comp=E,6.0nm,1.0s						
JAH	**Hinai**	**1.61**	**252**	⇓*i*P	**Pb**	**21 35 37.3**	**-1.2**
JAH				⇓S	**Sb**	**21 35 58.1**	**-0.3**
JAH	**Hinai**	**1.61**	**252**	A	A	21 35 37.3	
	comp=N,4.0nm,3.0s,comp=E,4.0nm,1.3s						
JKB	**Kayabe**	**1.69**	**315**	⇓*i*P	**Pn**	**21 35 37.1**	**0.0**
JKB				⇓S	**Sn**	**21 35 57.3**	**-0.4**
JSI2	**Shiura 2**	**1.72**	**283**	A	A	21 35 38.5	
	comp=N,6.0nm,0.5s,comp=E,4.0nm,0.8s						
JNTW	**Noshirotokiwa**	**1.93**	**258**	A	A	21 35 41.5	
	comp=N,8.0nm,3.4s,comp=E,9.0nm,1.2s						
JRG	**Rokugo**	**2.01**	**230**	A	A	21 35 42.6	
	comp=N,4.0nm,2.2s,comp=E,4.0nm,0.6s						
JMM	**Marumori**	**3.17**	**207**	Pn	**Pn**	**21 35 59.0**	**+1.6**
ASAJ	**Asahikawa**	**3.42**	**360**	P	**Pn**	**21 36 02.1**	**+1.4**
	comp=E,26nm,0.4s,baz=202,slow=19,SNR=19						
ASAJ				S	**Sn**	**21 36 42.8**	**+2.6**
	comp=E,54nm,0.7s,baz=293,slow=30,SNR=9.0						
JKA	**Kamikawa-asahi**	**3.42**	**360**	Pn	**Pn**	**21 36 02.0**	**+1.2**
MJAR	**Matsushiro Arr**	**5.41**	**221**	P	**Pn**	**21 36 31.1**	**+2.9**
	comp=E,14nm,0.5s,baz=32,slow=13,SNR=51						
MJAR				LR	LR	21 38 52.5	
	comp=E,152nm,21.0s,baz=52,slow=40						
MJB9	**Matsu-Tunnel**	**5.41**	**221**	Pn	**Pn**	**21 36 30.9**	**+2.8**
MAJO	**Matsushiro**	**5.41**	**221**	Pn	**Pn**	**21 36 31.1**	**+3.0**
JGF	**Kuroka**	**6.57**	**221**	Pn	**Pn**	**21 36 46.6**	**+2.4**
INU	**Inuyama**	**6.94**	**221**	Pn	**Pn**	**21 36 51.5**	**+2.4**
JHJ2	**Mitsune**	**7.90**	**197**	Pn	**Pn**	**21 37 02.6**	**+0.2**
USRK	**Ussuriysk Ar.**	**8.61**	**297**	P	**Pn**	**21 37 16.0**	**+3.9**
	comp=E,6.3nm,0.6s,baz=98,slow=15,SNR=8.6						
JMN	**Monobe**	**9.85**	**228**	Pn	**Pn**	**21 37 31.2**	**+2.1**
KSRS	**Korea Array**	**11.88**	**259**	P	**Pn**	**21 37 59.9**	**+3.0**
	comp=E,0.6nm,0.3s,baz=62,slow=14,SNR=4.7						
JNU	**Nakatsue**	**12.06**	**235**	LR	LR	21 43 03.4	
	comp=E,89nm,18.3s,baz=25,slow=39						
PETK	**Petropavlovsk-**	**16.08**	**34**	LR	LR	21 45 29.6	
	comp=E,51nm,18.6s,baz=219,slow=38						
JOW	**Kunigami**	**18.23**	**225**	LR	LR	21 46 38.4	
	comp=E,60nm,21.4s,baz=70,slow=38						
SEY	**Seymchan**	**23.02**	**11**	LR	LR	21 50 03.8	
	comp=E,34nm,18.8s,baz=288,slow=39						
SONM	**Songino Array**	**26.73**	**298**	P	**P**	**21 40 46.4**	**+0.1**
	comp=E,0.7nm,0.5s,baz=82,slow=8.6,SNR=6.9						
	comp=E,0.7nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.43**	**128**	T	T	22 12 21.9	
	baz=318,slow=75,SNR=88						
H11N1	**WAKE ISLAND Hy**	**29.44**	**128**	T	T	22 12 17.6	
	baz=318,slow=75,SNR=105						
H11N3	**WAKE ISLAND Hy**	**29.45**	**128**	T	T	22 12 06.0	
	baz=318,slow=75,SNR=90						
H11S1	**WAKE ISLAND Hy**	**30.26**	**130**	T	T	22 13 03.1	
	baz=323,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	**30.27**	**130**	T	T	22 13 05.7	
	baz=323,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**30.28**	**130**	T	T	22 13 02.2	
	baz=323,slow=75,SNR=17						
L16K	**Owhat River**	**40.22**	**39**	P	P	21 43 00.3	+17
L16K				IAmb	IAmb	21 43 19.0	
	comp=Z,6.1nm,1.4s						
ZAA0	**Zalesovo Array**	**40.24**	**309**		**P**	**21 42 43.1**	**-0.2**
ZAA0				IAmb	IAmb	21 42

HFS	**Hagfors**	**71.14**	**336**	P		**P**	**21 46 24.0**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=32,slow=5.8,SNR=6.9							
	comp=Z,1.0nm,0.5s							
NB2	**NORSAR Subarra**	**71.18**	**337**	P		**P**	**21 46 24.4**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=36,slow=6.5							
NOA	**NORSAR Array B**	**71.18**	**337**	P		**P**	**21 46 24.1**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=36,slow=6.1,SNR=4.2							
NOA				LR		LR	22 23 08.6	
	comp=Z,12nm,18.6s,baz=40,slow=40							
	comp=Z,1.0nm,0.8s							
AKASG	**Malin Array Be**	**71.99**	**322**	P		**P**	**21 46 28.8**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=64,slow=2.2,SNR=1.2							
	comp=Z,0.4nm,0.5s							
BRTR	**Keskin Array B**	**77.14**	**312**	P		**P**	**21 46 59.9**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=56,slow=5.4,SNR=2.3							
	comp=Z,0.3nm,0.6s							
VRAC	**Vranov**	**78.56**	**327**	LR		LR	22 23 39.9	
	comp=Z,26nm,19.1s,baz=106,slow=37							
SNAA	**Sanae**	**144.53**	**198**	PKPdf		PKPbc	21 54 40.2	-0.3

*SDD **15** 21:35:48.3±1.6, 18°.23N×72°.89W, h15km±16km, MD2.9, ML3.2, MW3.5*
*OSPL **15** 21:35:59.7±1.9, 18°.25N×72°.10W, h25km±20km, ML2.4*
ISC 15 21:35:55.0±2.3, 18°.14N±0°.06×72°.4W±0°.1, h10km, n12, σ2s43/21, 8C, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PAPH	**Port-au-Prince**	**0.39**	**9**	*i* P		**Pn**	**21 36 06.4**	**-0.2**
PAPH				*e*S		**Sb**	**21 36 11.8**	**+1.9**
JIDR	**Jimani**	**0.60**	**54**	*i* P		**Pg**	**21 36 05.8**	**-0.8**
JIDR				↑*e*Sg		**Sn**	**21 36 19.0**	**-0.3**
JIDR				IAML			21 36 19.2	
	comp=N,2μm,0.2s							
LOBH	**Bahia de las A**	**0.74**	**112**	*i* P		**Pn**	**21 36 11.2**	**-0.3**
LOBH				*e*S		**Sg**	**21 36 18.2**	**-0.7**
LODU1	**El Espartillar**	**0.87**	**76**	*i* P		**Pg**	**21 36 11.1**	**-0.7**
LODU1				*e*S		**Sg**	**21 36 18.8**	**-4.2**
LODU1				IAML			21 36 22.6	
	comp=Z,330nm,0.5s							
NEDR	**Neiba UASD**	**0.96**	**69**	*i* P		**Pg**	**21 36 12.3**	**-1.1**
NEDR				↑*e*Sg		**Sn**	**21 36 30.7**	**+2.5**
NEDR				IAML			21 36 30.7	
	comp=N,385nm,0.2s							
LONE3	**El Aguacate, B**	**0.97**	**62**	*i* P		**Pn**	**21 36 14.9**	**+0.1**
LONE3				*e*S		**Sg**	**21 36 22.4**	**-4.0**
LONE3				IAML			21 36 23.1	
	comp=Z,98nm,0.3s							
LOVI	**El Cajuil, Ovi**	**1.00**	**110**	*i* P		**Pg**	**21 36 13.5**	**-0.8**
PODR	**Polo**	**1.03**	**88**	↑*e*Pg		**Pg**	**21 36 14.0**	**-0.8**
PODR				↑*e*Sg		**Sn**	**21 36 35.0**	**+4.8**
PODR				IAML			21 36 44.3	
	comp=N,308nm,0.5s							
SDDR	**Presa de Saban**	**1.32**	**50**	↑*e*Pg		**Pn**	**21 36 17.8**	**-1.7**
SDDR				↑*e*Sg		**Sg**	**21 36 39.4**	**+2.0**
SDDR				IAML			21 36 43.5	
	comp=N,82nm,0.6s							
SDDR	**Presa de Saban**	**1.32**	**50**	*i* P		**Pn**	**21 36 17.8**	**-1.7**
ABDR	**Alto Bandera**	**1.78**	**68**	*i* P		**Pn**	**21 36 23.0**	**-3.0**
ABDR				↑*e*Sg		**Sg**	**21 36 54.3**	**+2.1**
ABDR				IAML			21 36 56.0	
	comp=N,167nm,0.4s							
BANI	**BANI**	**1.92**	**82**	↑*e*Sg		**Sg**	**21 37 00.1**	**+3.4**
BANI				IAML			21 37 05.9	
	comp=N,176nm,0.4s							

AUST 15 21:43:14.1±1.1, 18°S±6°×12°1E±°, h12km±9km, mb4.0/8, ML3.0/6, Error ellipse: s-maj=17.3km s-min=4.7km az=138.1, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBWA	**Marble Bar**	**2.82**	**199**	P		Pn	21 43 59.2	+0.2
MBWA				S		Sn	21 44 35.0	+2.0
PSAC1	**Pilbara Seismi**	**3.16**	**195**	P		Pn	21 44 03.8	+0.2
PSA00	**Pilbara Seismi**	**3.19**	**195**	P		Pn	21 44 04.4	+0.4
PSA00				S		Sn	21 44 42.6	+0.7
FITZ	**Fitzroy Crossi**	**4.70**	**86**	P		Pn	21 44 26.1	+1.3
FITZ	**Fitzroy Crossi**	**4.70**	**86**	S		Sn	21 45 21.1	+1.9
GIRL	**Giralia**	**7.35**	**235**	P		Pn	21 44 56.8	-4.3
GIRL				S		Sn	21 46 12.4	-12
KNRA	**Kununurra**	**8.19**	**71**	P		Pn	21 45 12.2	-0.6
	comp=Z,20nm,1.6s,comp=Z,0.1nm							
KNRA				S		Sn	21 46 45.4	+0.1
MEEK	**Meekatharra**	**8.35**	**193**	P		Pn	21 45 14.4	-0.5
	comp=Z,11nm,2.0s,comp=Z,0.1nm							
MEEK	**Meekatharra**	**8.35**	**193**	S		Sn	21 46 44.3	-5.0
CVQOZ	**Cooralya Stati**	**8.57**	**225**	P		Pn	21 45 13.9	-4.0
WRKA	**Warakurna**	**9.61**	**134**	P		Pn	21 45 33.9	+1.6
	comp=Z,4.2nm,1.8s,comp=Z,0.0nm							
WRKA				S		Sn	21 47 20.2	+0.1
MORW	**Morawa**	**11.37**	**201**	P		Pn	21 45 52.4	-4.1
	comp=Z,17nm,1.7s							
BLDU	**Ballidu**	**12.62**	**196**	P		Pn	21 46 09.6	-3.8
	comp=Z,15nm,2.5s							
KLBR	**Kellerberrin**	**13.33**	**191**	P		Pn	21 46 20.9	-2.2
	comp=Z,14nm,1.6s							
FORT	**Forrest**	**13.95**	**153**	P		Pn	21 46 30.7	-0.8
	comp=Z,4.1nm,1.0s							
MUN	**Mundaring**	**14.04**	**196**	P		Pn	21 46 28.7	-4.1
	comp=Z,20nm,1.2s							
NWAO	**Narrogin (SRO)**	**14.72**	**192**	P		Pn	21 46 37.3	-4.9

*IDC **15** 21:59:28.3±0.8, 0°.33N×125°.91E, h0km, mb4.0/11, mbtmp4.0/12, ML3.2/1, MS3.4/2, Error ellipse: s-maj=73.3km s-min=14.3km az=72.0*
*DJA **15** 21:59:34.3±0.2, 0°N±2°×12°6E±°, h48km±8km, M4.2/15, mb4.2/9, MLv4.1/15*
*NEIC **15** 21:59:35.6±1.0, 0°.36N±0°.08×126°.42E±0°.06, h42km±4km, mb4.4/17, Error ellipse: s-maj=12.1km s-min=8.0km az=154.0*
ISC 15 21:59:35.0±0.6, 0°40N±0°06×126°30E±0°05, h47km, n49, σ1s11/50, mb4.2/20, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.13**	**71**	Pn		**Pn**	**21 59 52.5**	**-1.9**
TNTI				Sn		**Sn**	**22 00 07.7**	**-1.1**
TNTI	**Ternate**	**1.13**	**71**	P		**Pn**	**21 59 52.8**	**-1.6**
TNTI				S		**Sn**	**22 00 09.1**	**+0.3**
KMSI	**Cibinong**	**2.33**	**274**	P		Pn	22 00 07.1	-3.7
KMSI				S		**Sn**	**22 00 36.3**	**-1.9**
SANI	**Sanana**	**2.46**	**187**	P		**Pn**	**22 00 10.6**	**-2.0**
SANI				S		**Sn**	**22 00 41.4**	**0.0**
NLAI	**Namlea**	**3.70**	**168**	P		**Pn**	**22 00 28.8**	**-0.9**
LUWI	**Luwuk**	**3.81**	**248**	P		**Pn**	**22 00 31.4**	**+0.2**
MRSI	**Marisa**	**4.36**	**271**	P		**Pn**	**22 00 38.0**	**-0.7**
APSI	**Ampana**	**4.83**	**254**	P		**Pn**	**22 00 44.0**	**-1.2**
TOLI2	**Tolitoli**	**5.56**	**277**			**Pn**	**22 00 58.1**	**+2.9**
KDI	**Kendari**	**5.68**	**220**	P		**Pn**	**22 00 57.0**	**+0.1**
FAKI	**Fak Fak**	**6.80**	**119**			**Pn**	**22 01 10.7**	**-1.6**
FAKI	**Fak Fak**	**6.80**	**119**	P		**Pn**	**22 01 12.8**	**+0.5**
	32nm,1.4s							
TTSI	**Tana Toraja**	**7.33**	**242**	P		**Pn**	**22 01 20.1**	**+0.6**
	0.1nm16nm,0.5s							
BNSI	**Bone**	**7.81**	**232**	P		**Pn**	**22 01 26.2**	**0.0**
	18nm,1.0s							
SPSI	**Sidrap Palu**	**7.84**	**236**	P		**Pn**	**22 01 26.7**	**+0.2**
	0.1nm16nm,0.7s							
BKSI	**Bulukumba**	**8.39**	**227**	P		**Pn**	**22 01 34.3**	**+0.2**
	16nm,1.0s							
KAPI	**Kappang**	**8.47**	**230**	Pn		**Pn**	**22 01 35.8**	**+0.6**
EDFI	**Ende, Flores**	**10.19**	**207**	P		**Pn**	**22 02 00.7**	**+1.9**
KNRA	**Kununurra**	**16.16**	**171**	P		**P**	**22 03 21.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**18.39**	**182**	P		**P**	**22 03 46.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**18.39**	**182**	P		**P**	**22 03 44.7**	**-1.5**
	0.1nm,0.3s,baz=5.7,slow=13,SNR=3.0							
	2.9nm,0.7s							
WB0	**Warramunga Arr**	**21.56**	**159**	P		**P**	**22 04 19.9**	**-0.7**
WB0				IAmb		IAmb	22 04 25.7	
	comp=Z,17nm,0.8s							
WRA	**Warramunga Arr**	**21.70**	**159**	P		**P**	**22 04 21.2**	**-1.0**
	comp=Z,6.1nm,0.7s,baz=336,slow=11,SNR=23							
	comp=Z,6.1nm,0.7s							
WR8	**Warramunga Arr**	**21.77**	**159**	P		**P**	**22 04 22.4**	**-0.5**
WR8				IAmb		IAmb	22 04 29.5	
	comp=Z,8.6nm,0.8s							
COEN	**Coen**	**21.97**	**131**	P		**P**	**22 04 25.0**	**-0.1**
PSA00	**Pilbara Seismi**	**22.73**	**196**	P		**P**	**22 04 33.3**	**+0.1**
PSA00				IAmb		IAmb	22 04 35.8	
	comp=Z,25nm,1.2s							

AS31	**Alice Springs**	**25.04**	**163**	P		**P**	**22 04 55.4**	**+0.4**
ASAR	**Alice Springs**	**25.04**	**163**	P		**P**	**22 04 55.1**	**+0.1**
	comp=Z,5.0nm,0.7s,baz=348,slow=12,SNR=33							
	comp=Z,5.0nm,0.7s							
FORT	**Forrest**	**31.05**	**177**	P		**P**	**22 05 48.4**	**-0.2**
FORT				IAmb		IAmb	22 06 02.1	
	comp=Z,3.6nm,0.8s							
STKA	**Stephens Creek**	**35.22**	**157**	P		**P**	**22 06 24.6**	**-0.3**
STKA	**Stephens Creek**	**35.22**	**157**	P		**P**	**22 06 25.0**	**0.0**
	comp=Z,1.1nm,0.4s,baz=333,slow=11,SNR=3.9							
	comp=Z,1.1nm,0.4s							
KSRS	**Korea Array**	**36.90**	**2**	P		**P**	**22 06 39.5**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=180,slow=8.8,SNR=4.3							
	comp=Z,0.7nm,0.6s							
MJAR	**Matsushiro Arr**	**37.62**	**16**	LR		LR	22 20 18.2	
	comp=Z,44nm,20.5s,baz=238,slow=33							
SONM	**Songino Array**	**50.31**	**343**	P		**P**	**22 08 27.2**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=165,slow=6.0,SNR=4.5							
	comp=Z,0.6nm,0.6s							
MKAR	**Makanchi Array**	**60.05**	**327**	P		**P**	**22 09 36.0**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=119,slow=8.4,SNR=15							
	comp=Z,0.7nm,0.5s							
MAKZ	**Makanchi**	**60.23**	**326**	P		**P**	**22 09 38.1**	**-0.4**
MAKZ				IAmb		IAmb	22 09 58.2	
	comp=Z,4.2nm,1.3s							
MA2	**Magadan**	**62.02**	**14**	LR		LR	22 36 08.3	
	comp=Z,37nm,21.2s,baz=260,slow=35							
ZALV	**Zalesovo Beam**	**63.36**	**334**	P		**P**	**22 09 58.1**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=134,slow=4.2,SNR=2.5							
	comp=Z,0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**64.31**	**328**	P		**P**	**22 10 03.3**	**-2.3**
	comp=Z,2.0nm,0.2s,baz=128,slow=5.8,SNR=1.9							
	comp=Z,2.0nm,0.2s							
KURK	**Kurchatov**	**64.32**	**329**	P		**P**	**22 10 05.9**	**+0.2**
KURK				IAmb		IAmb	22 10 14.3	
	comp=Z,4.1nm,1.0s							
BVAR	**Borovoye Array**	**69.87**	**328**	P		**P**	**22 10 41.0**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=116,slow=5.0,SNR=3.7							
	comp=Z,0.4nm,0.4s							
AB31	**Akbulak array**	**74.45**	**321**			**P**	**22 11 09.0**	**+0.6**
SDPT	**Sand Point**	**80.18**	**34**	P		**P**	**22 11 41.0**	**+0.8**
VNDA	**Vanda**	**80.20**	**173**	P		**P**	**22 11 39.7**	**-0.3**
	comp=Z,0.8nm,1.1s,baz=346,slow=4.2,SNR=2.4							
	comp=Z,0.8nm,1.1s							
H17K	**Granite Mounta**	**82.81**	**24**	P		**P**	**22 11 56.8**	**+2.8**
H17K				IAmb		IAmb	22 12 08.6	
	comp=Z,7.4nm,1.2s							
L18K	**Granite Mounta**	**83.60**	**27**	P		**P**	**22 11 59.1**	**+1.0**
L18K				IAmb		IAmb	22 12 01.3	
	comp=Z,4.9nm,1.2s							
G19K	**Purcell Mounta**	**84.23**	**23**	P		**P**	**22 12 02.5**	**+1.2**
G19K				IAmb		IAmb	22 12 11.0	
	comp=Z,3.6nm,1.1s							
QSPA	**South Pole Qui**	**90.33**	**180**	P		**P**	**22 12 31.3**	**+0.4**
QSPA	**South Pole Qui**	**90.33**	**180**	P		**P**	**22 12 31.3**	**+0.4**
	comp=Z,1.5nm,1.0s,baz=2.9,slow=0.6,SNR=6.7							
	comp=Z,1.5nm,1.0s							

*JMA **15** 22:05:32.5±0.4, 42°N±2°×13°1E±°, h670km, MV3.9/27, NEAR VLADIVOSTOK*
*MOS **15** 22:05:35.8±0.9, 41°.99N×131°.02E, h573km, mb4.0/19, Error ellipse: s-maj=10.4km s-min=8.2km az=100.7*
*NEIC **15** 22:05:37.3±1.6, 42°.0N±0°.1×130°.9E±0°.1, h567km±9km, mb4.2/123, Error ellipse: s-maj=18.7km s-min=14.8km az=151.0*
*IDC **15** 22:05:38.1±0.7, 42°.18N×130°.89E, h570km±6km, mb3.1/18, mbtmp4.1/21, Error ellipse: s-maj=14.2km s-min=10.5km az=159.0*
ISC 15 22:05:36.8±0.4, 41°.86N±0°.07×131°.14E±0°.05, h576km, n391, σ1s38/359, mb4.1/94, 7C-14D, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSHR	**Mys Shultsa**	**0.72**	**1**	*ce*P		**P**	**22 06 43.7**	**-1.2**
PSTR	**Posyet**	**0.83**	**342**	*ce*P		**P**	**22 06 45.0**	**-0.1**
VLA	**Vladivostok**	**1.38**	**23**	↓*e*P		**P**	**22 06 44.8**	**-1.6**
USA0B	**Ussuriysk Arra**	**2.42**	**15**	P		**P**	**22 06 50.1**	**-0.4**
USA0B	**Ussuriysk Arra**	**2.42**	**15**	*de*P		**P**	**22 06 50.0**	**-0.6**
USRK	**Ussuriysk Ar.**	**2.42**	**15**	P		**P**	**22 06 50.1**	**-0.5**
	24nm,0.4s,baz=198,slow=3.3,SNR=89							
USRK				S		**S**	**22 07 49.7**	**-1.4**
	12nm,0.8s,baz=182,slow=9.9,SNR=8.1							
MDJ	**Mudanjiang**	**2.98**	**338**	P		**P**	**22 06 52.6**	**-1.1**
KS19	**Wonju Array Si**	**5.03**	**211**	P		**P**	**22 07 09.2**	**+0.7**
KSRS	**Korea Array**	**5.05**	**211**	P		**P**	**22 07 09.6**	**+1.0**
	62nm,0.6s,baz=20,slow=8.5,SNR=267							
INCN	**Inchon**	**5.58**	**220**	P		**P**	**22 07 13.6**	**+0.5**
INCN	**Inchon**	**5.58**	**220**	P		**P**	**22 07 13.6**	**+0.5**
JHG	**Hegura jima**	**5.98**	**130**	*e*P		**P**	**22 07 17.4**	**+0.9**
TJN	**Taejon**	**6.21**	**209**	P		**P**	**22 07 18.7**	**+0.1**
TJN	**Taejon**	**6.21**	**209**	*ce*P		**P**	**22 07 19.1**	**+0.5**
JOSM	**Okushiri--Mats**	**6.21**	**85**	*e*P		**P**	**22 07 17.8**	**-0.6**
JSD	**Sado**	**6.67**	**123**	*e*P		**P**	**22 07 22.1**	**-0.6**
JSK	**Shakotan**	**7.05**	**75**	*e*P		**P**	**22 07 25.0**	**-1.1**
JAW	**Awa shima**	**7.08**	**116**	*e*P		**P**	**22 07 25.6**	**-0.8**
JWT	**Wachi**	**7.36**	**152**	P		**P**	**22 07 30.4**	**+1.1**
JTU	**Tsushima**	**7.45**	**191**	*e*P		**P**	**22 07 31.1**	**+1.1**
MAJO	**Matsushiro**	**7.63**	**132**	*de*P		**P**	**22 07 30.9**	**-0.9**
MJAR	**Matsushiro Arr**	**7.63**	**132**	P		**P**	**22 07 31.6**	**-0.2**
	13nm,0.9s,baz=318,slow=9.6,SNR=34							
JNG	**Nsakai**	**7.67**	**133**	*e*P		**P**	**22 07 31.8**	**-0.4**
JNG				*e*S		**S**	**22 09 05.6**	**-1.2**
JMN	**Monobe**	**8.40**	**164**	P		**P**	**22 07 39.8**	**+0.5**
JMM	**Marumori**	**8.42**	**115**	P		**P**	**22 07 37.3**	**-2.1**
ASAJ	**Asahikawa**	**8.69**	**71**	P		**P**	**22 07 40.7**	**-1.2**
	35nm,0.7s,baz=264,slow=8.5,SNR=21							
ASAJ				S		**S**	**22 09 23.1**	**-1.6**
	4.9nm,0.7s,baz=115,slow=31,SNR=1.9							
JNU	**Nakatsue**	**8.72**	**181**	P		**P**	**22 07 43.4**	**+0.9**
	6.8nm,0.8s,baz=51,slow=12,SNR=5.5							
ERM	**Erimo**	**8.96**	**85**	P		**P**	**22 07 45.6**	**+1.0**
ERM	**Erimo**	**8.96**	**85**	*de*P		**P**	**22 07 45.1**	**+0.5**
YSS	**Yuzhno-Sakhali**	**9.74**	**55**	↓*e*P		**P**	**22 07 52.7**	**+0.4**
BSO4	**Boso 4**	**9.95**	**131**	*e*P		**P**	**22 07 53.2**	**-1.2**
BSO4				*e*S		**S**	**22 09 44.6**	**-3.0**
NEM2	**Nemuro 2**	**10.87**	**77**	*e*P		**P**	**22 08 02.7**	**-1.5**
NEM2				*e*S		**S**	**22 10 00.6**	**-3.9**
YUK	**Yuzh-Kuril'sk**	**11.01**	**74**	↓*e*P		**P**	**22 08 04.9**	**-0.2**
ULN	**Ulaanbaatar**	**18.07**	**298**	P		**P**	**22 09 14.5**	**+0.5**
ULN	**Ulaanbaatar**	**18.07**	**298**	P		**P**	**22 09 14.5**	**+0.5**
ULN				pmax		pmax		
	comp=Z,15nm,0.7s							
SONM	**Songino Array**	**18.50**	**297**	P		**P**	**22 09 18.4**	**+0.5**
	comp=Z,16nm,0.8s,baz=105,slow=9.0,SNR=72							
YAK	**Yakutsk**	**20.23**	**358**	↓*e*P		**P**	**22 09 32.2**	**-0.9**
YAK				pmax		pmax		
	comp=Z,17nm,0.5s							
ZAK	**Zakamensk**	**21.01**	**303**	*e*P		**P**	**22 09 38.6**	**-2.0**
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.1s							
LZH	**Lanzhou**	**21.94**	**264**	*e*P		**P**	**22 09 49.6**	**+0.4**
LZH				pmax		pmax		
	comp=Z,23nm,1.3s							
GTA	**Gaotai**	**23.84**	**275**	P		**P**	**22 10 06.4**	**+0.5**
GTA				pmax		pmax		
	comp=Z,16nm,0.8s							
SEY	**Seymchan**	**24.54**	**24**	P		**P**	**22 10 12.3**	**+0.7**
	comp=Z,1.8nm,0.4s,baz=193,slow=18,SNR=4.4							
	comp=Z,1.8nm,0.4s							
TIXI	**Tiksi**	**29.89**	**359**	P		**P**	**22 10 57.2**	**-1.1**
TIXI	**Tiksi**	**29.89**	**359**	↓*e*P		**P**	**22 10 57.1**	**-1.1**
TIXI				pmax		pmax		
	comp=Z,17nm,1.4s							
BILL	**Bilibino**	**32.24**	**24**	↓*e*P		**P**	**22 11 17.7**	**-0.7**
BILL				pmax		pmax		
	comp=Z,8.0nm,1.8s							
ZALV	**Zalesovo Beam**	**32.74**	**308**	P		**P**	**22 11 21.9**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=100,slow=9.4,SNR=4.1							
	comp=Z,1.1nm,0.5s							
ZALV	**Zalesovo Beam**	**32.74**	**308**	*e*P		**P**	**22 11 21.8**	**-0.9**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.4s							
MK31	**Makanchi Array**	**34.84**	**295**	*de*P		**P**	**22 11 39.8**	**-0.7**
MK31				*i* *PP		**pP**	**22 13 18.1**	**+1.6**
MKAR	**Makanchi Array**	**34.84**	**295**	P		**P**	**22 11 39.9**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=84,slow=10.0,SNR=12							
	comp=Z,2.3nm,0.6s							
MAKZ	**Makanchi**	**35.05**	**295**	P		**P**	**22 11 41.3**	**-0.9**
MAKZ				IAmb		IAmb	22 11 42.5	
	comp=Z,4.4nm,0.8s							
MAKZ	**Makanchi**	**35.05**	**295**	P		**P**	**22 11 41.3**	**-0.9**
MAKZ				pmax		pmax		
	comp=Z,4.0nm,0.9s							

CHTO	**Chiang Mai**	**35.72**	**240**	P		**P**	**22 11 48.5**	**+0.4**
CHTO				IAmb		IAmb	22 11 49.4	
	comp=Z,5.5nm,0.8s							
CHTO	**Chiang Mai**	**35.72**	**240**	P		**P**	**22 11 48.5**	**+0.4**
CHTO				pmax		pmax		
	comp=Z,6.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**35.98**	**239**	P		**P**	**22 11 51.0**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=31,slow=7.1,SNR=11							
	comp=Z,1.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**35.98**	**239**	*e*P		**P**	**22 11 50.7**	**+0.4**
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
KIWB	**Kanaga Island**	**36.04**	**56**	P		**P**	**22 11 51.3**	**+1.0**
SHL	**Shillong**	**36.12**	**256**	P		**P**	**22 11 49.7**	**-1.9**
SHL	**Shillong**	**36.12**	**256**	P		**P**	**22 11 49.7**	**-1.9**
SHL				pmax		pmax		
	comp=Z,8.0nm,0.7s							
KURK	**Kurchatov**	**36.67**	**302**	P		**P**	**22 11 54.3**	**-1.1**
KURK	**Kurchatov**	**36.67**	**302**	P		**P**	**22 11 54.3**	**-1.1**
KURK				pmax		pmax		
	comp=Z,11nm,1.0s							
KURBB	**Kurchatov Arra**	**36.74**	**302**	P		**P**	**22 11 55.0**	**-1.0**
	comp=Z,7.8nm,0.7s,baz=84,slow=8.6,SNR=23							
	comp=Z,7.8nm,0.7s							
EVN	**Everest**	**38.49**	**263**	P		**P**	**22 12 11.4**	**0.0**
EVN				IAmb		IAmb	22 12 12.8	
	comp=Z,7.8nm,0.8s							
GAMB	**Gambell**	**39.14**	**36**	P		**P**	**22 12 16.5**	**+1.2**
	baz=264							
TARG	**Taragay, Kyrgy**	**39.22**	**288**	P		**P**	**22 12 17.1**	**+0.3**
TARG				IAmb		IAmb	22 12 18.4	
	comp=Z,6.9nm,1.0s							
TARG	**Taragay, Kyrgy**	**39.22**	**288**	P		**P**	**22 12 17.1**	**+0.3**
TARG				pmax		pmax		
	comp=Z,7.0nm,1.0s							
SPIA	**Saint Paul Isl**	**39.69**	**47**	P		**P**	**22 12 20.7**	**+0.9**
	baz=274							
P08K	**Saint George I**	**40.12**	**48**	P		**P**	**22 12 24.2**	**+1.1**
	baz=275							
BOOM	**Boomskoye usch**	**40.30**	**290**	P		**P**	**22 12 25.1**	**0.0**
BOOM				IAmb		IAmb	22 12 26.5	
	comp=Z,11nm,1.4s							
BOOM	**Boomskoye usch**	**40.30**	**290**	P		**P**	**22 12 25.1**	**0.0**
BOOM				pmax		pmax		
	comp=Z,11nm,1.4s							
NIKH	**Nikolski High**	**40.95**	**53**	P		**P**	**22 12 30.8**	**+1.0**
	baz=280							
BVAR	**Borovoye Array**	**41.39**	**307**	P		**P**	**22 12 32.6**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=88,slow=7.3,SNR=9.2							
	comp=Z,1.0nm,0.3s							
BRVK	**Borovoye**	**41.45**	**307**	P		**P**	**22 12 33.1**	**-0.7**
BRVK	**Borovoye**	**41.45**	**307**	P		**P**	**22 12 33.1**	**-0.7**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.7s							
F14K	**Arctic Creek**	**41.59**	**34**	P		**P**	**22 12 35.7**	**+1.0**
	baz=267							
M11K	**Mekoryuk**	**41.63**	**42**	P		**P**	**22 12 36.0**	**+0.9**
	baz=273							
ANM	**Nome**	**41.96**	**35**	P		**P**	**22 12 38.7**	**+1.1**
	baz=269							
C16K	**Lisburne Hills**	**42.18**	**30**	P		**P**	**22 12 40.0**	**+0.7**
C16K	**Lisburne Hills**	**42.18**	**30**	P		**P**	**22 12 40.3**	**+1.0**
	baz=265							
UNV	**Unalaska Valle**	**42.19**	**51**	P		**P**	**22 12 40.5**	**+1.0**
	baz=280							
F15K	**North Star Dit**	**42.29**	**34**	P		**P**	**22 12 41.7**	**+1.4**
F15K				IAmb		IAmb	22 12 42.6	
	comp=Z,7.9nm,0.9s							
F15K	**North Star Dit**	**42.29**	**34**	P		**P**	**22 12 41.4**	**+1.1**
	baz=268							
K13K	**Kusilvak Mount**	**42.31**	**39**	P		**P**	**22 12 41.2**	**+0.8**
K13K	**Kusilvak Mount**	**42.31**	**39**	P		**P**	**22 12 41.7**	**+1.3**
	baz=273							
G15K	**Niukluk**	**42.54**	**35**	P		**P**	**22 12 43.5**	**+1.3**
	baz=270							
**J14K

	comp=Z,5.8nm,0.8s							
K17K	**Iditarod**	45.20	38	P		P	22 13 04.3	+1.5
	baz=277							
E19K	**Redstone River**	45.24	31	P		P	22 13 04.0	+1.0
	baz=274							
L17K	**Donlin**	45.28	39	P		P	22 13 05.4	+2.1
	baz=276,SNR=7.4							
N16K	**Nishlik Lake**	45.29	41	P		P	22 13 05.1	+1.6
	baz=279							
SDPT	**Sand Point**	45.34	48	P		P	22 13 05.3	+1.4
	baz=283							
A21K	**Barrow**	45.35	26	P		P	22 13 05.2	+1.5
	baz=270							
G19K	**Purcell Mounta**	45.38	33	P		P	22 13 04.8	+0.7
	baz=275,SNR=6.4							
D20K	**Etivluk River**	45.41	29	P		P	22 13 05.0	+0.8
D20K	**Etivluk River**	45.41	29	P		P	22 13 05.4	+1.2
	baz=273							
E20K	**Nigu River**	45.59	30	P		P	22 13 06.9	+1.3
	baz=274							
H19K	**Roundabout Mou**	45.70	34	P		P	22 13 07.9	+1.4
	baz=276,SNR=15							
O16K	**Kokwok River B**	45.77	42	P		P	22 13 08.4	+1.3
	baz=280							
M17K	**Holitna River**	45.79	40	P		P	22 13 09.0	+1.7
	baz=279							
J18K	**Innoko River**	45.83	37	P		P	22 13 07.6	+0.1
J18K	**Innoko River**	45.83	37	P		P	22 13 08.6	+1.1
	baz=278							
F20K	**Avaraart Lake**	45.85	32	P		P	22 13 08.9	+1.3
	baz=275							
A22K	**Sinclair Lake**	45.89	26	P		P	22 13 09.0	+1.2
	baz=272							
P16K	**Nushagak River**	45.92	43	P		P	22 13 09.9	+1.7
	baz=281							
L18K	**Granite Mounta**	46.01	38	P		P	22 13 10.6	+1.7
	baz=279							
C21K	**Knifeblade Rid**	46.04	29	P		P	22 13 10.6	+1.5
	baz=274,SNR=6.6							
N17K	**Nushagak Hills**	46.05	41	P		P	22 13 10.8	+1.6
	baz=280							
B21K	**Ikpikpuk River**	46.07	28	P		P	22 13 10.7	+1.4
	baz=274,SNR=8.1							
O17K	**Koliganek Bris**	46.23	42	P		P	22 13 12.2	+1.6
	baz=281							
J19K	**Poorman**	46.24	36	IAmb		IAmb	22 13 12.5	
	comp=Z,6.0nm,0.7s							
J19K	**Poorman**	46.24	36	P		P	22 13 11.6	+1.0
	baz=278,SNR=9.3							
H20K	**Anotleneega Mo**	46.35	34	P		P	22 13 12.6	+1.1
	baz=277,SNR=7.9							
E21K	**Killik River**	46.39	30	P		P	22 13 12.6	+0.9
	baz=275							
B22K	**Teshekpuk Lake**	46.44	27	P		P	22 13 12.9	+0.9
	baz=274							
M18K	**Stony River**	46.54	39	P		P	22 13 14.6	+1.7
	baz=280							
I20K	**Naaghedeneel**	46.62	35	P		P	22 13 15.0	+1.6
	baz=278							
N18K	**Kilae Creek**	46.66	40	P		P	22 13 15.4	+1.6
	baz=281							
P17K	**Kvichak River**	46.68	42	P		P	22 13 15.6	+1.6
	baz=282							
F21K	**Alatna River**	46.70	31	IAmb		IAmb	22 13 17.4	
	comp=Z,5.0nm,0.8s							
F21K	**Alatna River**	46.70	31	P		P	22 13 15.4	+1.3
	baz=277,SNR=12							
G21K	**Allakaket**	46.78	32	P		P	22 13 15.8	+1.2
	baz=278							
D22K	**Ayikyak River**	46.82	29	P		P	22 13 16.2	+1.2
	baz=276,SNR=9.1							
J20K	**Nowinta River**	46.85	35	P		P	22 13 16.6	+1.4
	baz=279,SNR=8.6							
L19K	**White Mountain**	46.87	38	P		P	22 13 16.7	+1.3
	baz=281							
K20K	**Telida**	47.02	36	IAmb		IAmb	22 13 18.9	
	comp=Z,6.1nm,0.7s							
K20K	**Telida**	47.02	36	P		P	22 13 18.3	+1.7
	baz=280							
R17L	**Mt. Peulik Vol**	47.06	44	P		P	22 13 18.5	+1.6
	baz=284							
M19K	**Big River Lodg**	47.13	38	P		P	22 13 19.0	+1.6
	baz=281							
O18K	**Koktuh Hills**	47.15	41	P		P	22 13 18.7	+1.1
	baz=282							
Q17K	**Contact Creek**	47.16	44	P		P	22 13 18.6	+0.9
	baz=283							
F22K	**John River**	47.17	31	P		P	22 13 18.9	+1.3
	baz=278							
H21K	**Melozitna Rive**	47.19	33	P		P	22 13 18.9	+1.2
	baz=279,SNR=6.8							
E22K	**Anaktuvuk Pass**	47.23	30	P		P	22 13 19.2	+1.2
	baz=278							
P18K	**Big Mountain,**	47.24	42	P		P	22 13 19.3	+1.1
	baz=283							
L20K	**Farewell, AK**	47.26	38	P		P	22 13 19.9	+1.5
	baz=281							
C23K	**Itkillik River**	47.44	27	P		P	22 13 20.8	+1.3
	baz=277,SNR=7.9							
ARTI	**Arti**	47.50	314	P		P	22 13 19.0	-1.2
ARTI	**Arti**	47.50	314	*d i*	P	P	22 13 19.2	-1.0
ARTI							22 15 17.7	
ARTI				S		S	22 19 31.7	-1.2
ARTI				SS		SS	22 23 12.9	+2.7
ARTI				pmax		pmax		
	comp=Z,6.0nm,0.5s							
D23K	**Nanushuk River**	47.53	29	IAmb		IAmb	22 13 22.2	
	comp=Z,6.6nm,0.7s							
D23K	**Nanushuk River**	47.53	29	P		P	22 13 21.7	+1.5
	baz=278							
M20K	**Styx River**	47.72	38	P		P	22 13 23.6	+1.7
	baz=282							
H22K	**Ishtalitna Cre**	47.73	33	P		P	22 13 23.0	+1.2
	baz=280							
CHIR	**Chirikof Islan**	47.90	47	P		P	22 13 24.6	+1.4
	baz=286							
PPLA	**Purkeypile**	47.94	37	P		P	22 13 25.1	+1.5
	baz=282							
COLD	**Coldfoot**	47.97	31	P		P	22 13 24.7	+1.1
	baz=280							
TOLK	**Toolik Lake Re**	47.98	29	P		P	22 13 24.3	+0.6
	baz=279							
E23K	**Chandalar**	48.05	30	IAmb		IAmb	22 13 26.3	
	comp=Z,5.0nm,0.6s							
E23K	**Chandalar**	48.05	30	P		P	22 13 25.3	+1.0
	baz=280,SNR=9.7							
R18K	**Karluk**	48.07	44	P		P	22 13 25.3	+1.0
	baz=285							
C24K	**Franklin Bluff**	48.12	27	P		P	22 13 25.3	+0.7
	baz=279							
G23K	**Bananza Creek**	48.12	32	P		P	22 13 25.3	+0.5
G23K				IAmb		IAmb	22 13 26.6	
	comp=Z,5.3nm,0.9s							
G23K	**Bananza Creek**	48.12	32	P		P	22 13 25.6	+0.9
	baz=280,SNR=7.4							
MLY	**Manley**	48.15	34	P		P	22 13 26.4	+1.4
	baz=281							
D24K	**Happy Valley**	48.16	28	P		P	22 13 26.1	+1.2
	baz=279							
BPAW	**Bear Paw Mtn.**	48.23	35	P		P	22 13 26.9	+1.3
	baz=282							
KTH	**Kantishna Hill**	48.37	36	IAmb		IAmb	22 13 29.1	
	comp=Z,11nm,1.0s							
SKT	**Skwentna**	48.44	38	P		P	22 13 28.6	+1.5
	baz=283							
E24K	**Your Creek**	48.47	30	IAmb		IAmb	22 13 29.4	
	comp=Z,7.4nm,0.8s							
E24K	**Your Creek**	48.47	30	P		P	22 13 28.3	+1.0
	baz=281							
SII	**Sitkinak Islan**	48.48	45	P		P	22 13 28.9	+1.5
	baz=286							
H23K	**Yukon River**	48.48	33	IAmb		IAmb	22 13 30.1	
	comp=Z,6.1nm,0.8s							
H23K	**Yukon River**	48.48	33	P		P	22 13 29.2	+1.8
	baz=282							
TRF	**Thorofare Moun**	48.67	36	P		P	22 13 30.3	+1.3
	baz=283							
AB31	**Akbulak array**	48.70	304	P		P	22 13 28.4	-0.8
AB31				IAmb		IAmb	22 13 29.0	
	comp=Z,5.5nm,0.5s							
OHAK	**Old Harbor**	48.77	44	P		P	22 13 30.8	+1.2
	baz=286							
F24K	**Squaw Lake**	48.80	30	IAmb		IAmb	22 13 31.7	
	comp=Z,5.0nm,0.7s							
F24K	**Squaw Lake**	48.80	30	P		P	22 13 30.7	+1.0
	baz=282,SNR=8.0							
NEA2	**Nenana**	48.94	34	IAmb		IAmb	22 13 32.8	
	comp=Z,7.0nm,0.8s							
NEA2	**Nenana**	48.94	34	P		P	22 13 32.0	+1.3
	baz=283							
KDAK	**Kodiak Island**	48.98	44	P		P	22 13 31.9	+0.8
KDAK	**Kodiak Island**	48.98	44	P		P	22 13 31.9	+0.8
KDAK				pmax		pmax		
	comp=Z,35nm,1.4s							
KDAK	**Kodiak Island**	48.98	44	P		P	22 13 31.9	+0.8
	baz=286							
D25K	**Kavik River**	48.99	28	IAmb		IAmb	22 13 32.8	
	comp=Z,5.0nm,0.6s							
D25K	**Kavik River**	48.99	28	P		P	22 13 31.8	+0.7
	baz=281,SNR=7.5							
G24K	**Hadweenzic Riv**	49.12	31	IAmb		IAmb	22 13 34.0	
	comp=Z,3.6nm,0.6s							
G24K	**Hadweenzic Riv**	49.12	31	P		P	22 13 33.4	+1.4
	baz=283,SNR=6.0							
H24K	**Noodor Dome**	49.15	33	IAmb		IAmb	22 13 35.0	
	comp=Z,4.0nm,0.8s							
H24K	**Noodor Dome**	49.15	33	P		P	22 13 33.8	+1.4
	baz=283							
MCK	**McKinley**	49.19	35	P		P	22 13 34.1	+1.5
	baz=284							
C26K	**Camden Bay**	49.38	27	P		P	22 13 35.2	+1.4
	baz=282							
COLA	**College**	49.38	34	*ce*	P	P	22 13 35.2	+1.3
COLA				pmax		pmax		
	comp=Z,12nm,0.8s							
COLA	**College**	49.38	34	P		P	22 13 35.3	+1.4
	baz=284							
CCB	**Clear Creek Bu**	49.45	34	IAmb		IAmb	22 13 36.4	
	comp=Z,3.6nm,0.6s							
RC01	**Rabbit Creek A**	49.49	39	P		P	22 13 36.4	+1.5
	baz=286							
E25K	**Arctic Village**	49.53	29	P		P	22 13 36.7	+1.7
	baz=283							
F25K	**Christian Rive**	49.62	30	IAmb		IAmb	22 13 38.6	
	comp=Z,4.0nm,0.7s							
F25K	**Christian Rive**	49.62	30	P		P	22 13 37.4	+1.6
	baz=283,SNR=7.2							
G25K	**Bearman Lake**	49.64	31	P		P	22 13 37.6	+1.7
	baz=284							
IL31		49.81	34	P		P	22 13 37.5	+0.4
IL31				IAmb		IAmb	22 13 39.6	
	comp=Z,4.3nm,0.8s							
ILAR	**Eielson Array**	49.81	34	P		P	22 13 37.4	+0.3
	comp=Z,2.8nm,0.6s,baz=285,slow=6.7,SNR=37							
	comp=Z,2.8nm,0.6s							
C27K	**Jago River**	49.85	27	P		P	22 13 38.7	+1.4
	baz=283							
H25L	**Birch Creek**	49.87	32	P		P	22 13 39.5	+2.0
	baz=284							
HDA	**Harding Lake**	49.87	34	P		P	22 13 37.9	+0.3
	baz=285							
SEW	**Seward**	49.90	40	P		P	22 13 39.2	+1.4
	baz=287							
F26K	**Sheenjek River**	50.15	30	IAmb		IAmb	22 13 42.4	
	comp=Z,5.8nm,0.8s							
F26K	**Sheenjek River**	50.15	30	P		P	22 13 41.3	+1.7
	baz=285,SNR=9.5							
PRP	**Porcupine Dome**	50.17	33	IAmb		IAmb	22 13 42.3	
	comp=Z,9.8nm,1.1s							
PRP	**Porcupine Dome**	50.17	33	P		P	22 13 41.5	+1.5
	baz=285							
M23K	**Glacier View**	50.23	38	P		P	22 13 41.5	+1.3
	baz=286							
SCM	**Sheep Creek Mo**	50.40	38	P		P	22 13 42.6	+1.0
	baz=287							
G26K	**Porcupine Rive**	50.48	31	IAmb		IAmb	22 13 44.7	
	comp=Z,5.6nm,0.8s							
G26K	**Porcupine Rive**	50.48	31	P		P	22 13 43.7	+1.8
	baz=286							
K24K	**Donnelly Dome**	50.53	35	P		P	22 13 43.5	+1.0
	baz=286							
M24K	**Tolsona Glenn**	50.84	37	P		P	22 13 46.3	+1.6
	baz=288							
D27M	**Malcolm River**	50.88	27	IAmb		IAmb	22 13 47.1	
	comp=Z,6.5nm,0.7s							
D27M	**Malcolm River**	50.88	27	P		P	22 13 46.4	+1.4
	baz=286,SNR=8.5							
PAX	**Paxson**	50.90	36	P		P	22 13 46.6	+1.4
	baz=287							
P23K	**Montague Islan**	50.91	40	P		P	22 13 46.4	+1.2
	baz=288							
RIDG	**Independent Ri**	50.95	35	P		P	22 13 45.7	+0.2
	baz=287							
E27K	**Coleen River**	50.95	29	P		P	22 13 46.7	+1.2
	baz=286							
KLU	**Klutina**	51.14	38	P		P	22 13 47.9	+1.0
	baz=288							
I26K	**Coal Creek Min**	51.19	33	P		P	22 13 47.5	+0.4
	baz=287							
SCRK	**Sand Creek**	51.24	34	P		P	22 13 48.0	+0.3
SCRK				IAmb		IAmb	22 13 48.8	
	comp=Z,8.2nm,0.8s							
SCRK	**Sand Creek**	51.24	34	P		P	22 13 47.9	+0.2
	baz=288							
J26L	**Joseph Creek**	51.26	34	P		P	22 13 47.8	+0.1
	baz=288							
DOT	**Dot Lake**	51.31	35	IAmb		IAmb	22 13 49.4	
	comp=Z,6.0nm,0.6s							
G27K	**Doyon Strip**	51.33	30	P		P	22 13 49.9	+1.8
	baz=287,SNR=7.1							
KIRV	**Kirov**	51.49	319	↑ *e*	P	P	22 13 49.7	+0.3
H27K	**Steamboat Moun**	51.55	31	IAmb		IAmb	22 13 52.5	
	comp=Z,4.3nm,0.7s							
H27K	**Steamboat Moun**	51.55	31	P		P	22 13 51.5	+1.7
	baz=288							
E28M	**Babbage River**	51.56	28	P		P	22 13 51.2	+1.4
	baz=288,SNR=6.8							
Q23K	**Middleton Isla**	51.60	40	P		P	22 13 51.6	+1.5
	baz=289							
I27K	**Kandik River**	51.71	32	P		P	22 13 52.6	+1.7
	baz=288,SNR=9.1							
N25K	**Chitina, Valde**	51.71	37	P		P	22 13 52.7	+1.7
	baz=289							
F28M	**Old Crow**	51.75	29	P		P	22 13 52.8	+1.6
	baz=288							
L26K	**Log Cabin Wild**	51.81	35	P		P	22 13 52.9	+1.2
	baz=289							
BMRM	**Bremner River**	51.91	38	P		P	22 13 53.6	+1.1
	baz=290							
K27K	**Chicken**	52.02	34	IAmb		IAmb	22 13 54.8	
	comp=Z,4.4nm,0.8s							
K27K	**Chicken**	52.02	34	P		P	22 13 54.3	+1.2
	baz=289							
M26K	**Nabesna, AK**	52.16	36	IAmb		IAmb	22 13 56.7	
	comp=Z,7.5nm,0.9s							
M26K	**Nabesna, AK**	52.16	36	P		P	22 13 55.7	+1.4
	baz=290							
E29M	**Blow River**	52.20	28	P		P	22 13 55.3	+1.0
E29M				IAmb		IAmb	22 13 56.6	
	comp=Z,4.3nm,0.7s							
E29M	**Blow River**	52.20	28	P		P	22 13 55.7	+1.4
	baz=289,SNR=5.8							
I28M	**Miner Creek**	52.42	32	IAmb		IAmb	22 13 58.1	
	comp=Z,4.1nm,0.6s							
I28M	**Miner Creek**	52.42	32	P		P	22 13 57.7	+1.6
	baz=290,SNR=10							
L27K	**Beaver Creek,**	52.45	35	IAmb		IAmb	22 13 58.8	
	comp=Z,9.5nm,1.4s							
L27K	**Beaver Creek,**	52.45	35	P		P	22 13 57.8	+1.5
	baz=290							
MCARA	**McCarthy VSAT**	52.50	37	P		P	22 13 58.2	+1.6
	baz=290							
G29M	**Pine Creek**	52.66	30	P		P	22 13 59.0	+1.4
	baz=290							
M27K	**Edge Creek, AK**	52.67	36	P		P	22 13 59.4	+1.4
	baz=291							
CRQE	**Circue**	52.69	38	P		P	22 13 59.3	+1.2
	baz=291							
H29M	**Whitestone**	52.76	31	P		P	22 14 00.1	+1.7
	baz=290							
DAWY	**Dawson**	53.12	33	P		P	22 14 01.8	+0.8
	baz=291							
F30M	**Barrier River**	53.22	29	IAmb		IAmb	22 14 03.8	
	comp=Z,11nm,0.9s							
F30M	**Barrier River**	53.22	29	P		P	22 14 02.9	+1.3
	baz=292,SNR=6.5							
G30M	**tAoh Zraii Nji**	53.29	29	IAmb		IAmb	22 14 04.1	
	comp=Z,8.9nm,1.0s							
G30M	**tAoh Zraii Nji**	53.29	29	P		P	22 14 02.8	+0.6
	baz=292,SNR=8.4							
EPYK	**Eagle Plains**	53.33	30	P		P	22 14 03.1	+0.7
	baz=292							
CTG	**Chitna Glacier**	53.41	37	P		P	22 14 04.6	+1.4
	baz=292							
CTGM	**Chitina Glacie**	53.41	37	P		P	22 14 04.6	+1.3
CTGM				IAmb		IAmb	22 14 05.1	
	comp=Z,7.5nm,0.6s							
INK	**Inuvik**	53.75	27	P		P	22 14 06.2	+0.9
	baz=293							
I30M	**Mount Dempster**	53.90	31	IAmb		IAmb	22 14 08.5	
	comp=Z,8.2nm,0.7s							
I30M	**Mount Dempster**	53.90	31	P		P	22 14 07.8	+1.2
	baz=293,SNR=14							
K29M	**Barlow Dome**	53.97	33	P		P	22 14 08.6	+1.4
	baz=293,SNR=6.6							
YUK8	**Steele Glacier**	54.00	37	P		P	22 14 09.3	+1.7
	baz=293							
L29M	**L29M**	54.00	34	P		P	22 14 09.1	+1.9
L29M	**L29M**	54.00	34	P		P	22 14 09.2	+1.9
	baz=293							
O28M	**Mount Upton**	54.00	37	P		P	22 14 09.7	+2.1
	baz=293							
G31M	**Satah River**	54.03	29	P		P	22 14 07.5	+0.3
	baz=293							
M29M	**Somme Creek**	54.12	35	P		P	22 14 10.2	+2.1
	baz=293							
J30M	**Hart River**	54.17	32	P		P	22 14 09.5	+1.1
	baz=293							
H31M	**Peel River**	54.45	30	P		P	22 14 10.2	-0.1
H31M	**Peel River**	54.45	30	P		P	22 14 10.9	+0.6
	baz=294							
YUK4	**Talbot Arm**	54.47	36	P		P	22 14 12.1	+1.4
	baz=294							
YUK6	**Outpost Mounta**	54.76	37	P		P	22 14 14.4	+1.6
	baz=294							
BELG	**Belogornoye**	54.76	312	↓ *e*	P	P	22 14 10.7	-1.9
BELG				pmax		pmax		
	comp=Z,1.0nm,0.9s							
M30M	**Minto, Yukon**	54.77	35	P		P	22 14 14.4	+1.7
	baz=294							
PNL	**Peninsula**	54.80	38	P		P	22 14 14.6	+1.7
	baz=294							
N30M	**Aishlik Lake**	55.11	36	P		P	22 14 16.8	+1.8
	baz=295							
HYT	**Haines Junctio**	55.19	37	IAmb		IAmb	22 14 18.5	
	comp=Z,8.6nm,1.0s							
HYT	**Haines Junctio**	55.19	37	P		P	22 14 17.6	+1.9
	baz=295							
P29M	**Windy Craggy**	55.59	38	P		P	22 14 20.4	+2.0
	baz=295							
N31M	**Braeburn, Yuko**	55.67	35	P		P	22 14 20.7	+1.9
	baz=296							
P30M	**Million Dollar**	55.73	37	P		P	22 14 21.3	+2.0
	baz=296							
O30N	**Mendenhall**	55.84	36	P		P	22 14 21.9	+1.8
	baz=296							
PLBC	**Pleasant Camp**	56.29	38	P		P	22 14 25.0	+1.9
	baz=296							
FARO	**Faro, Yukon**	56.37	34	P		P	22 14 25.2	+1.5
	baz=297							
WHY	**Whitehorse**	56.42	36	P		P	22 14 25.9	+1.7
	baz=297							
ARCES	**ARCESS Array B**	56.53	336	P		P	22 14 23.9	-0.7
	comp=Z,0.9nm,0.5s,baz=64,slow=8.9,SNR=16							
	comp=Z,0.9nm,0.5s							
S31K	**Pelican**	57.03	39	P		P	22 14 30.1	+2.0
	baz=298							
MMPY	**Sheldon Lake,**	57.06	33	P		P	22 14 30.3	+1.9
	baz=298							
P33M	**Teslin, Yukon**	57.54	36	P		P	22 14 33.5	+1.7
	baz=299							
R32K	**Eaglecrest**	57.69	39	P		P	22 14 34.7	+2.1
	baz=298							
SIT	**Sitka**	57.88	40	P		P	22 14 36.1	+2.1
	baz=299							
S32K	**Killisnoo**	58.04	39	P		P	22 14 37.2	+2.1
	baz=299							
Q32M	**Nakina River**	58.39	37	P		P	22 14 39.6	+1.9
	baz=300							
R33M	**Jennings River**	58.75	36	P		P	22 14 41.9	+1.8
	baz=300							
U33K	**Whale Pass**	59.41	40	P		P	22 14 46.2	+1.9
	baz=301							
S34M	**Telegraph Cree**	59.43	38	P		P	22 14 46.2	+1.9
	baz=301							
WRAK	**Wrangell Islan**	59.63	40	P		P	22 14 47.6	+1.9
	baz=301							
DLBC	**Dease Lake**	59.66	37	P		P	22 14 48.1	+2.1
	baz=302							
CRAG	**Craig**	59.74	41	P		P	22 14 48.5	+2.1
	baz=301							
RES	**Resolute Bay**	59.80	13	P		P	22 14 46.5	+0.1
RES				IAmb		IAmb	22 14 47.2	
	comp=Z,6.1nm,0.7s							
RES	**Resolute Bay**	59.80	13	P		P	22 14 46.6	+0.1
RES				pmax		pmax		
	comp=Z,6.0nm,0.7s							
V35K	**Ketchikan**	60.55	41	P		P	22 14 53.9	+2.1
	baz=302							
FINES	**FINESS Array B**	60.68	328	P		P	22 14 51.4	-1.1
	comp=Z,2.1nm,0.7s,baz=46,slow=6.0,SNR=9.9							
	comp=Z,2.1nm,0.7s							
FINES	**FINESS Array B**	60.68	328	*ce*	P	P	22 14 51.7	-0.8
FINES				pmax		pmax		
	comp=Z,2.0nm,0.7s							
MOBC	**Moresby Island**	61.53	43	P		P	22 14 59.6	+1.2
MOBC				IAmb		IAmb	22 15 00.4	
	comp=Z,8.3nm,1.0s							
TOAD	**Toad River Com**	61.55	35	P		P	22 14 59.8	+1.4
	baz=305							
WRA	**Warramunga Arr**	61.56	177	P		P	22 15 04.4	+5.5
	comp=Z,1.5nm,1.1s,baz=7.1,slow=5.2,SNR=6.4							
	comp=Z,1.5nm,1.1s							
WRA	**Warramunga Arr**	61.56	177	*ce*	P	P	22 15 05.1	+6.3
WRA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
GNI	**Garni**	62.43	300	↓ *e*	P	P	22 15 03.1	-1.4
GNI				pmax		pmax		
	comp=Z,7.0nm,1.1s							
YKAW3	**Yellowknife Wh**	63.45	28	P		P	22 15 11.1	+0.7
YKAW3				IAmb		IAmb	22 15 11.9	
	comp=Z,5.4nm,0.9s							
YKA	**Yellowknife Ar**	63.49	28	P		P	22 15 11.3	+0.5
	comp=Z,2.4nm,0.8s,baz=314,slow=7.5,SNR=14							
	comp=Z,2.4nm,0.8s							
YKA	**Yellowknife Ar**	63.49	28	*e*	P	P	22 15 11.2	+0.5
YKA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
HOLB	**Holberg**	64.91	44	P		P	22 15 20.2	+0.3
HOLB				IAmb		IAmb	22 15 43.8	
	comp=Z,9.1nm,1.1s							
SUMG	**Summit**	65.64	357	P		P	22 15 24.6	0.0
SUMG	**Summit**	65.64	357	P		P	22 15 24.6	0.0
SUMG				pmax		pmax		
	comp=Z,4.0nm,0.9s							
HFS	**Hagfors**	66.22	331	P		P	22 15 26.5	-1.4
	comp=Z,0.9nm,0.7s,baz=84,slow=4.5,SNR=6.1							
	comp=Z,0.9nm,0.7s							
NC405	**NORSAR Array S**	66.24	332	P		P	22 15 27.0	-1.0
ILON	**Igloolik, Nuna**	66.45	12	P		P	22 15 28.8	-0.4
NOA	**NORSAR Array B**	66.46	333	P		P	22 15 27.8	-1.7
	comp=Z,0.3nm,0.6s,baz=45,slow=6.6,SNR=1.4							
	comp=Z,0.3nm,0.6s							
BLKN	**Baker Lake**	67.85	20	P		P	22 15 37.0	-0.8
NLWA	**Neilton Lookou**	69.11	45	P	

NVAR	**Mina Array Bea**	**78.14**	**49**	P		**P**	**22 16 39.0**	**+1.6**
	comp=Z,2.7nm,0.7s,baz=296,slow=5.2,SNR=20							
	comp=Z,2.7nm,0.7s							
HWUT	**Hardware Ranch**	**79.46**	**43**	IAmb		IAmb	22 16 47.0	
	comp=Z,4.1nm,0.7s							
PDAR	**Pinedale Array**	**79.60**	**41**	P		**P**	**22 16 46.2**	**+1.1**
	comp=Z,3.1nm,0.8s,baz=348,slow=1.3,SNR=20							
	comp=Z,3.1nm,0.8s							
R11B	**Troy Canyon, C**	**79.71**	**47**	P		**P**	**22 16 47.0**	**+1.4**
TPNV	**Topopah Spring**	**80.34**	**49**	P		**P**	**22 16 50.0**	**+1.1**
TPNV				IAmb		IAmb	22 16 51.0	
	comp=Z,3.1nm,0.5s							
TPNV	**Topopah Spring**	**80.34**	**49**	P		**P**	**22 16 50.1**	**+1.1**
TPNV				pmax		pmax		
	comp=Z,3.0nm,0.5s							
EPLO	**Experimental L**	**80.71**	**28**	P		**P**	**22 16 49.9**	**-0.5**
EPLO				IAmb		IAmb	22 16 50.7	
	comp=Z,5.8nm,0.6s							
P18A	**Preston Nutter**	**81.60**	**43**	IAmb		IAmb	22 16 58.1	
	comp=Z,4.1nm,0.7s							
PV21	**Cone Mtn., Par**	**83.06**	**43**	IAmb		IAmb	22 17 05.2	
	comp=Z,4.0nm,0.7s							
PV10	**Paradox Valley**	**83.16**	**43**	IAmb		IAmb	22 17 06.2	
	comp=Z,7.1nm,0.8s							
ANMO	**Albuquerque**	**87.12**	**44**	*eP*		**P**	**22 17 23.8**	**+1.4**
ANMO				pmax		pmax		
	comp=Z,1.0nm,0.9s							
LDAQ	**Lac Daran**	**88.39**	**15**	P		**P**	**22 17 28.2**	**+0.3**
LDAQ				IAmb		IAmb	22 17 34.4	
	comp=Z,6.3nm,1.2s							
TRQ	**Mont Tremblant**	**89.36**	**18**	P		**P**	**22 17 32.6**	**+0.1**
TXAR	**Lajitas Array**	**92.97**	**46**	P		**P**	**22 17 51.0**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=299,slow=3.7,SNR=8.1							
	comp=Z,0.4nm,0.6s							
NVL	**N'lazarevskaya**	**138.45**	**206**	*eP*		**Pdif**	**22 21 19.2**	**+8.5**
NVL				pmax		pmax		
	comp=Z,17nm,1.0s							
SNAA	**Sanae**	**142.63**	**202**	PKPpre		PKPpre	22 24 02.4	
SNAA	**Sanae**	**142.63**	**202**	PKIKP		**PKPdf**	**22 24 02.4**	**-1.3**
BELA	**Belgrano 2**	**143.40**	**185**			PKPbc	22 24 03.9	+0.3
LPAZ	**La Paz**	**149.60**	**39**	PKPbc		**PKiKP**	**22 24 23.4**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=14,slow=4.2,SNR=6.8							
PB16	**IPOC Station P**	**150.67**	**43**	PKPbc		**PKiKP**	**22 24 25.7**	**-0.1**

IDC 15 22:12:35.3±2.3, 5.97S×128.80E, h0km, mb3.3/1, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=142.8km s-min=33.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.90**	**159**	Pn	Pn	22 16 07.3	0.0
	0.1nm,0.3s,baz=342,slow=13,SNR=0.9						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**18.27**	**165**	P	Pn	22 16 50.3	-0.1
	0.1nm,0.3s,baz=344,slow=12,SNR=6.4						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**66.72**	**327**	P	P	22 23 28.3	0.0
	0.1nm,0.4s,baz=109,slow=7.7,SNR=1.6						
	0.1nm,0.4s						

IDC 15 22:23:18.0±2.0, 0.14S×125.58E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=196.4km s-min=26.8km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.47**	**157**	P	P	22 28 07.6	-0.8
	1.0nm,0.6s,baz=335,slow=11,SNR=6.1						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**24.75**	**162**	P	P	22 28 42.0	+0.5
	0.3nm,0.3s,baz=346,slow=11,SNR=7.1						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**60.10**	**327**	P	P	22 33 27.1	-0.1
	0.2nm,0.5s,baz=127,slow=7.8,SNR=5.1						
	0.2nm,0.5s						

NNC 15 23:04:00.7±5.4, 37.18N×69.46E, h0km, mb4.4, mpv4.2, 1C-1D, Error ellipse: s-maj=51.7km s-min=37.8km az=129.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**luzhnay**	**4.98**	**5**	Pg	Pn	23 05 19.7	+2.8
	47nm,0.2s						
IUG				Lg	Lg	23 06 20.6	
	97nm,0.5s						
KK31	**Karatay Array**	**5.97**	**7**	Pn	Pn	23 05 30.8	+0.4
	0.9nm,0.2s,baz=181,slow=12,SNR=60						
KK31				⇓Sn	Sn	23 06 40.7	+1.1
	12nm,0.5s,baz=188,slow=23						
MRKS	**Merke**	**6.27**	**26**	Pg	Pn	23 05 29.8	-4.7
	5.6nm,0.3s						
MRKS				Lg	Lg	23 06 38.9	
	13nm,0.5s						
AB31	**Akbulak array**	**13.91**	**333**	⇑P	Pn	23 07 18.1	-0.8
	1.1nm,0.6s,baz=147,slow=12,SNR=16						

KRSC 15 23:24:28.9±1.9, 55.99N×164.16E, h14km±17km, MI3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.78**	**287**	*eP*	Pg	23 24 43.6	-0.5
KBTR				*eS*	Sg	23 24 54.0	-0.3
KBG	**Krutoberegovo**	**0.86**	**289**	*eP*	Pg	23 24 44.6	-0.9
KBG				*eS*	Sg	23 24 56.3	-0.4
SMKR	**Semkarok**	**1.61**	**293**	*eS*	Sn	23 25 16.9	-0.6
BDR	**Baidarnaya**	**1.74**	**291**	*eS*	Sn	23 25 21.3	+0.5
SRKR	**Sorokina**	**1.79**	**293**	*eS*	Sn	23 25 22.0	0.0
CIRR	**Tsirk**	**1.92**	**275**	*eP*	Pb	23 25 02.9	-0.8
BZGR	**Bezymyannyi-Gr**	**1.95**	**270**	*eP*	Pb	23 25 03.1	-1.0
LGNR	**Loginova**	**1.95**	**274**	*eP*	Pb	23 25 03.6	-0.7
KLY	**Klyuchi**	**1.99**	**281**	*eP*	Pn	23 25 01.1	-0.9
KLY				*eS*	Sn	23 25 25.3	-1.3
MKZ	**Mys Kozlova**	**2.00**	**225**	*eP*	Pb	23 25 04.5	-0.5
MKZ				*eS*	Sb	23 25 29.6	0.0
BZWR	**Bezymyannyi-We**	**2.06**	**271**	*eP*	Pb	23 25 05.2	-0.9
BZMR	**Bezymyannaya**	**2.06**	**270**	*eP*	Pb	23 25 04.9	-1.3
KIRR	**Kirishev**	**2.15**	**271**	*eP*	Pb	23 25 06.1	-1.5
KIRR				*eS*	Sb	23 25 32.9	-1.2
KPT	**Kopyto**	**2.21**	**271**	*eP*	Pb	23 25 07.2	-1.5
KPT				*eS*	Sb	23 25 36.7	+0.8
KMNR	**Kamenistaya**	**2.22**	**266**	*eP*	Pb	23 25 07.3	-1.6
TUMD	**Tumrok D**	**2.27**	**251**	*eP*	Pb	23 25 08.5	-1.2
KOZ	**Kozyrevsk**	**2.41**	**273**	*eP*	Pb	23 25 10.2	-1.7
KOZ				*eS*	Sb	23 25 42.0	+0.6
SRDR	**Sredinnyy**	**2.51**	**279**	*eP*	Pn	23 25 11.0	+1.8
SRDR				*eS*	Sb	23 25 42.0	-2.3
SPN	**Mys Shipunski**	**3.77**	**221**	*eP*	Pn	23 25 28.5	+2.0
SPN				*eS*	Sn	23 26 11.8	+1.3
NLC	**Nalytchevo**	**3.98**	**227**	*eP*	Pn	23 25 32.7	+3.4
SDLR	**Sedlovina**	**4.09**	**231**	*eP*	Pn	23 25 34.7	+3.6
KRER	**Koryakskii**	**4.13**	**232**	*eP*	Pn	23 25 36.0	+4.3
SMAR	**Somma**	**4.14**	**231**	*eP*	Pn	23 25 35.5	+3.7
KRX	**Arik**	**4.14**	**233**	*eP*	Pn	23 25 36.3	+4.5
AVH	**Avacha**	**4.17**	**231**	*eP*	Pn	23 25 36.8	+4.8
UGLR	**Uglovaya**	**4.17**	**230**	*eP*	Pn	23 25 35.7	+3.6
KOK	**Koryaka**	**4.19**	**232**	*eP*	Pn	23 25 36.1	+3.7
GNL	**Ganaly**	**4.26**	**240**	*eP*	Pn	23 25 37.4	+4.0
RUS	**Russkaya**	**4.86**	**225**	*eP*	Pn	23 25 44.9	+3.4
GRL	**Gorelyy**	**4.96**	**229**	*eP*	Pn	23 25 47.8	+4.8
MTVR	**Mutnovka**	**4.96**	**227**	*eP*	Pn	23 25 47.5	+4.5
ASAK	**Asacha**	**5.15**	**228**	*eP*	Pn	23 25 50.1	+4.6

IDC 15 23:27:58.8±2.3, 1.10S×126.31E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=215.2km s-min=29.4km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.31**	**158**	P	P	23 32 35.9	-0.7
	0.7nm,0.8s,baz=336,slow=11,SNR=2.6						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**23.61**	**162**	P	P	23 33 12.1	+0.4
	0.8nm,0.9s,baz=342,slow=8.9,SNR=4.5						
	0.8nm,0.9s						
MKAR	**Makanchi Array**	**61.30**	**327**	P	P	23 38 16.2	0.0
	0.1nm,0.3s,baz=134,slow=6.2,SNR=1.8						
	0.1nm,0.3s						

IDC 16 00:08:21.2±1.4, 1.40S×126.58E, h0km, mb3.6/3, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=102.2km s-min=24.1km az=74.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.93**	**158**	P	P	00 12 54.0	-0.8
	0.1nm,0.3s,baz=337,slow=9.8,SNR=2.5						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**23.25**	**163**	P	P	00 13 30.9	+0.5
	0.6nm,0.6s,baz=343,slow=11,SNR=7.6						
	0.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**45.65**	**5**	P	P	00 16 43.4	-0.1
	2.2nm,0.7s,baz=191,slow=7.8,SNR=4.4						
	2.2nm,0.7s						
MKAR	**Makanchi Array**	**61.70**	**327**	P	P	00 18 41.2	-0.1
	0.3nm,0.7s,baz=135,slow=7.9,SNR=2.6						
	0.3nm,0.7s						

BJI ***16*** *00:18:35.0, 8.90S×114.50E, h100km, mB5.4/68, mb5.2/85*
DJA ***16*** *00:18:36.8±0.1, 9.52S×114.4E±°, h96km±2km, M5.7/117, mb5.9/117, mB6.2/99, MLv6.3/30, Mw(mB)5.8/99, MwMwp5.5/61, Mwp5.6/61*
NEIC ***16*** *00:18:37.0±2.9, 8.82S±0.07°×114.49E±0.06°, h80km±1km, mb5.7/188, Mwb5.8/42, Mww5.7/31, Error ellipse: s-maj=12.3km s-min=9.9km az=195.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 3.95; Mθθ 0.01; Mϕϕ -3.96; Mrθ -4.17; Mθϕ 3.01; Mϕr 0.14; Fault plane solution: M0 6.49000×10^17 NP1: ϕs 180.43000°, δ 41.79000°, λ 142.63000°. NP2: ϕs 300.09000°, δ 66.15000°, λ 54.61000°. Principal axes: T 6.8134, Plg 54.0000°, Azm 165.0000°; N -0.7071, Plg 32.0000°, Azm 316.0000°; P -6.1063, Plg 14.0000°, Azm 55.0000°;*
NEIC ***16*** *00:18:36.9, 8.83S×114.51E, h90km*
IDC ***16*** *00:18:36.2±0.4, 8.60S×114.59E, h93km±3km, mb5.2/26, mbtmp5.5/29, MS4.6/51, Error ellipse: s-maj=12.1km s-min=8.3km az=69.0*
NEIC ***16*** *00:18:37, 9.32S×114.49E, h90km, Moment Tensor Solution. Duration: 3s7 Moment tensor: Scale 10^17 Nm; Mrr 2.87; Mθθ -0.58; Mϕϕ -2.29; Mrθ -3.86; Mθϕ 1.02; Mϕr 0.31; Fault plane solution: M0 4.79000×10^17 NP1: ϕs 165.81000°, δ 26.20000°, λ 139.91000°. NP2: ϕs 292.88000°, δ 73.48000°, λ 69.37000°. Principal axes: T 5.3866, Plg 57.0000°, Azm 176.0000°; N -1.6029, Plg 20.0000°, Azm 299.0000°; P -3.7837, Plg 26.0000°, Azm 39.0000°;*
MOS ***16*** *00:18:37.9±1.4, 8.57S×114.50E, h120km, mb5.3/49, MS4.8/11 Error ellipse: s-maj=7.2km s-min=3.9km az=121.0*
IPGP ***16*** *00:18:37.0, 8.87S×114.50E, h87km, Mw5.7, Fault plane solution: NP1: ϕs 293.00000°, δ 69.00000°, λ 45.00000°. NP2: ϕs 183.00000°, δ 48.00000°, λ 151.00000°.*
NEIC ***16*** *00:18:37, 8.82S×114.49E, h90km*
GCMT ***16*** *00:18:38.0±0.1, 9.01S±0.01×114.50E±0.01, h103km, MW5.8/164, Moment Tensor Solution. s164,c330; s163,c354; Duration: 1s9 Moment tensor: Scale 10^17 Nm; Mrr 2.84±.04; Mθθ 1.01±.05; Mϕϕ -3.84±.05; Mrθ -4.03±.03; Mθϕ 2.69±.05; Mϕr 0.15±.04; Best double couple: M0 5.91200×10^17 NP1: ϕs 189.00000°, δ 45.00000°, λ 151.00000°. NP2: ϕs 300.00000°, δ 70.00000°, λ 49.00000°. Principal axes: T 6.3110, Plg 48.0000°, Azm 166.0000°; N -0.7890, Plg 38.0000°, Azm 317.0000°; P -5.5120, Plg 15.0000°, Azm 59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 00:18:37.0±0.2, 8.71S±0.02×114.54E±0.03, h101km±1km, h102km:pP-P, n1377, σ1s85/1557, mb5.5/241, 36C-45D, Bali region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**0.45**	**302**		**Pn**	**00 18 51.0**	**-1.6**
JAGI	**Jajag, Banyuwa**	**0.45**	**302**	P	**Pn**	**00 18 51.9**	**-0.7**
SRBI	**Singaraja**	**0.91**	**47**	P	**Pn**	**00 18 58.5**	**+1.9**
GMJI	**Gumukmas**	**1.17**	**292**	P	**Pn**	**00 18 59.5**	**+0.1**
KMMI	**Kalianget**	**1.75**	**341**	P	**Pn**	**00 19 09.6**	**+3.2**
TWSI	**Taliwang, Sumb**	**2.31**	**91**	P	**Pn**	**00 19 14.4**	**+0.7**
GRJI	**Gresik**	**2.71**	**311**	P	**Pn**	**00 19 20.9**	**+1.9**
PLAI	**Plampang**	**3.20**	**92**	P	**Pn**	**00 19 26.9**	**+1.4**
TBJI	**Tambak Boyo**	**3.26**	**305**	P	**Pn**	**00 19 28.2**	**+1.9**
NGJI	**Ngawi**	**3.33**	**293**	P	**Pn**	**00 19 29.7**	**+2.5**
PCJI	**Pacitan**	**3.37**	**279**	P	**Pn**	**00 19 27.3**	**-0.4**
BWJI	**Bawean**	**3.49**	**327**	P	**Pn**	**00 19 31.2**	**+3.0**
WOJI	**Wonogiri, Jawa**	**3.68**	**283**	P	**Pn**	**00 19 32.3**	**+0.4**
UGM	**Wanagama**	**4.05**	**281**		**Pn**	**00 19 36.8**	**-0.2**
UGM	**Wanagama**	**4.05**	**281**	P	**Pn**	**00 19 38.1**	**+1.1**
UGM	**Wanagama**	**4.05**	**281**	S	**Sn**	**00 20 24.0**	**+0.5**
UGM	**Wanagama**	**4.05**	**281**	P	**Pn**	**00 19 37.0**	**0.0**
SMRI	**Semarang**	**4.38**	**292**		**Pn**	**00 19 41.1**	**-0.3**
SMRI	**Semarang**	**4.38**	**292**	P	**Pn**	**00 19 42.6**	**+1.1**
SMRI	**Semarang**	**4.38**	**292**	S	**Sn**	**00 20 33.4**	**+1.9**
SMRI	**Semarang**	**4.38**	**292**	P	**Pn**	**00 19 42.5**	**+1.1**
WBSI	**Waikabubak, Su**	**4.88**	**101**	P	**Pn**	**00 19 44.8**	**-3.3**
WSI	**Waingapu**	**5.76**	**100**	P	**Pn**	**00 19 59.3**	**-0.8**
BASI	**Baing, Sumba**	**6.14**	**105**	P	**Pn**	**00 20 02.6**	**-2.7**
KAPI	**Kappang**	**6.34**	**55**		**Pn**	**00 20 10.2**	**+2.1**
KAPI	**Kappang**	**6.34**	**55**	P	**Pn**	**00 20 09.7**	**+1.6**
	4μm,0.8s,baz=232,slow=11,SNR=672						
KAPI				S	**Sn**	**00 21 19.6**	**+0.5**
	966nm,0.9s,baz=52,slow=23,SNR=1.3						
KAPI				LR	LR	00 22 58.8	
	comp=Z,17μm,21.6s,baz=243,slow=42						
KAPI	**Kappang**	**6.34**	**55**	P	**Pn**	**00 20 11.2**	**+3.2**
KAPI				S	**Sn**	**00 21 21.2**	**+2.1**
KAPI	**Kappang**	**6.34**	**55**	*d* iP	**Pn**	**00 20 11.0**	**+3.0**
KAPI				pmax	pmax		
	comp=Z,3μm,0.9s						
BSSI	**Bau Bau, Buton**	**6.43**	**67**	P	**Pn**	**00 20 11.1**	**+1.9**
BKSI	**Bulukumba**	**6.48**	**59**	P	**Pn**	**00 20 12.5**	**+2.6**
	comp=Z,12nmcomp=Z,31μmcomp=Z,2μm,0.8s						
JCJI	**Jatiwangi**	**6.59**	**289**	P	**Pn**	**00 20 11.2**	**-0.2**
	comp=Z,18nmcomp=Z,17μmcomp=Z,28μmcomp=Z,2μm,0.9s						
BBJI	**Bungbulang**	**6.93**	**280**	P	**Pn**	**00 20 16.3**	**+0.2**
BNSI	**Bone**	**6.99**	**53**	P	**Pn**	**00 20 21.3**	**+4.5**
SPSI	**Sidrap Palu**	**7.02**	**48**	P	**Pn**	**00 20 20.0**	**+2.8**
	comp=Z,3.5nmcomp=Z,26μmcomp=Z,16μmcomp=Z,822nm,0.9s						
EDFI	**Ende, Flores**	**7.07**	**91**	P	**Pn**	**00 20 15.7**	**-2.3**
	comp=Z,9.3nmcomp=Z,32μmcomp=Z,21μmcomp=Z,1μm,0.6s						
LEM	**Lembang**	**7.11**	**285**	P	**Pn**	**00 20 19.5**	**+0.9**
	comp=Z,1μm,1.0s,baz=97,slow=9.6,SNR=72						
LEM				LR	LR	00 23 44.3	
	comp=Z,5μm,21.1s,baz=90,slow=43						
LEM	**Lembang**	**7.11**	**285**	P	**Pn**	**00 20 19.1**	**+0.5**
	comp=Z,7.6nmcomp=Z,19μmcomp=Z,1μm,1.1s						
CNJI	**Cibinong**	**7.47**	**280**	P	**Pn**	**00 20 21.9**	**-1.4**
	comp=Z,4.4nmcomp=Z,16μmcomp=Z,1μm,0.9s						
MMRI	**Maumere**	**7.61**	**90**		**Pn**	**00 20 24.0**	**-1.3**
MMRI	**Maumere**	**7.61**	**90**	P	**Pn**	**00 20 23.2**	**-2.0**
	comp=Z,23μmcomp=Z,24μmcomp=Z,2μm,0.8s						
TTSI	**Tana Toraja**	**7.70**	**43**	P	**Pn**	**00 20 30.9**	**+4.5**
	comp=Z,9.3nmcomp=Z,19μmcomp=Z,33μmcomp=Z,3μm,0.9s						
BKB	**Balikpapan**	**7.76**	**18**		**Pn**	**00 20 29.9**	**+2.6**
BKB	**Balikpapan**	**7.76**	**18**	P	**Pn**	**00 20 30.0**	**+2.7**
CBJI	**Citeko**	**7.96**	**286**	P	**Pn**	**00 20 27.9**	**-2.0**
DBJI	**Dramaga**	**8.01**	**285**	P	**Pn**	**00 20 30.9**	**+0.2**
	comp=Z,17μmcomp=Z,23μmcomp=Z,2μm,1.0s						
SKJI	**Sukabumi**	**8.09**	**282**	P	**Pn**	**00 20 30.8**	**-1.0**
TNG	**Tangerang**	**8.22**	**287**	P	**Pn**	**00 20 33.3**	**-0.3**
	comp=Z,26μmcomp=Z,2μm,1.0s						
SMKI	**Samarinda**	**8.63**	**18**	P	Pn	00 20 44.9	+5.8
SBJI	**Serang**	**8.73**	**287**	P	**Pn**	**00 20 40.9**	**+0.5**
	comp=Z,20μmcomp=Z,1μm,0.9s						
XMI	**Christmas Isla**	**8.90**	**258**	P	**Pn**	**00 20 40.1**	**-2.7**
CGJI	**Cibinong**	**9.01**	**283**	P	**Pn**	**00 20 43.6**	**-0.7**
TPI	**Tanjungpandan**	**9.05**	**310**	P	**Pn**	**00 20 47.9**	**+3.1**
	comp=Z,5μmcomp=Z,311nm,1.1s						
BATI	**Baumata**	**9.12**	**100**	P	**Pn**	**00 20 44.4**	**-1.5**
	comp=Z,236nm,0.4s,baz=284,slow=3.3,SNR=20						
BATI				S	**Sn**	**00 22 18.7**	**-8.1**
	comp=Z,756nm,0.5s,baz=216,slow=23,SNR=11						
BATI				LR	LR	00 25 13.0	
	comp=Z,6μm,21.7s,baz=280,slow=44						
BATI	**Baumata**	**9.12**	**100**	P	**Pn**	**00 20 43.0**	**-2.8**
	comp=Z,14μmcomp=Z,11μmcomp=Z,1μm,0.8s						
STKI	**Sintang**	**9.24**	**341**	P	**Pn**	**00 20 51.0**	**+3.6**
	comp=Z,10μmcomp=Z,786nm,0.8s						
PCI	**Palu**	**9.38**	**35**	P	Pn	00 20 54.9	+5.6
	comp=Z,10μmcomp=Z,988nm,0.9s						

SOEI	**Soe**	**9.66**	**97**	Pn		**Pn**	**00 20 52.8**	**-0.4**
SOEI	**Soe**	**9.66**	**97**	P		**Pn**	**00 20 51.2**	**-2.0**
SOEI	**Soe**	**9.66**	**97**	P		**Pn**	**00 20 50.8**	**-2.4**
	comp=Z,16μmcomp=Z,16μmcomp=Z,1μm,0.7s							
BLSI	**Bandar Lampung**	**9.80**	**289**	P		**Pn**	**00 20 55.3**	**+0.2**
	comp=Z,7μmcomp=Z,693nm,1.0s							
KLI	**Kotabumi**	**10.35**	**291**	P		**Pn**	**00 21 01.6**	**-0.9**
	comp=Z,7μmcomp=Z,585nm,0.7s							
MPSI	**Mapaga**	**10.45**	**31**	P		Pn	00 21 09.2	+5.3
	comp=Z,13μmcomp=Z,9μmcomp=Z,362nm,0.8s							
KASI	**Kota Agung**	**10.46**	**287**	P		**Pn**	**00 21 02.0**	**-2.0**
	comp=Z,10μmcomp=Z,596nm,0.6s							
APSI	**Ampana**	**10.49**	**43**	P		Pn	00 21 09.8	+5.3
	comp=Z,15μmcomp=Z,1μm,1.0s							
KSM	**Kuching**	**10.96**	**337**			**Pn**	**00 21 12.2**	**+1.4**
LWLI	**Liwa**	**11.03**	**289**	P		**Pn**	**00 21 11.0**	**-0.9**
MDSI	**Maura Dua**	**11.11**	**292**	P		**Pn**	**00 21 11.9**	**-1.0**
	comp=Z,9μmcomp=Z,6μmcomp=Z,253nm,1.1s							
PMBI	**Palembang**	**11.29**	**300**	Pn		**Pn**	**00 21 16.7**	**+1.5**
PMBI	**Palembang**	**11.29**	**300**	P		**Pn**	**00 21 15.8**	**+0.6**
PMBI	**Palembang**	**11.29**	**300**	P		**Pn**	**00 21 17.6**	**+2.4**
	comp=Z,525nm,0.9s							
SBUM	**Sibu**	**11.32**	**348**			**Pn**	**00 21 17.6**	**+1.8**
TOLI2	**Tolitoli**	**11.57**	**33**			**Pn**	**00 21 20.9**	**+1.8**
MRSI	**Marisa**	**11.73**	**39**	P		Pn	**00 21 24.7**	**+3.5**
	comp=Z,8μmcomp=Z,957nm,0.8s							
LHSI	**Lahat**	**11.97**	**293**	P		**Pn**	**00 21 25.8**	**+1.4**
	comp=Z,7μmcomp=Z,496nm,0.9s							
MNAI	**Manna**	**12.29**	**290**			**Pn**	**00 21 27.0**	**-1.6**
MNAI	**Manna**	**12.29**	**290**	P		**Pn**	**00 21 27.8**	**-0.8**
MNAI	**Manna**	**12.29**	**290**	P		**Pn**	**00 21 27.0**	**-1.6**
KSI	**Kapahiang**	**12.89**	**292**	P		**Pn**	**00 21 35.9**	**-0.7**
KMSI	**Cibinong**	**13.17**	**46**	P		**Pn**	**00 21 43.3**	**+3.1**
SANI	**Sanana**	**13.17**	**60**	P		**Pn**	**00 21 43.2**	**+3.0**
	comp=Z,18μmcomp=Z,15μmcomp=Z,1μm,1.0s							
MBWA	**Marble Bar**	**13.35**	**159**	Pn		Pn	00 21 37.1	-5.4
MBWA	**Marble Bar**	**13.35**	**159**	P		Pn	00 21 35.9	-6.6
MBWA	**Marble Bar**	**13.35**	**159**	P		Pn	00 21 36.6	-5.9
MBWA	**Marble Bar**	**13.35**	**159**	P		**Pn**	**00 21 38.1**	**-4.4**
NLAI	**Namlea**	**13.62**	**67**	P		**P**	**00 21 50.7**	**-0.7**
PSAC1	**Pilbara Seismi**	**13.72**	**159**	P		Pn	00 21 40.6	-6.7
PSAB1	**Pilbara Seismi**	**13.76**	**159**	P		Pn	00 21 42.5	-5.3
	comp=Z,33nm,0.8s							
PSAB2	**Pilbara Seismi**	**13.76**	**159**	P		Pn	00 21 41.8	-6.1
PSAA2	**Pilbara Seismi**	**13.76**	**159**	P		Pn	00 21 41.7	-6.2
PSA00	**Pilbara Seismi**	**13.77**	**159**			**Pn**	**00 21 43.4**	**-4.6**
PSA00	**Pilbara Seismi**	**13.77**	**159**			Pn	00 21 42.5	-5.4
PSA00	**Pilbara Seismi**	**13.77**	**159**	P		Pn	00 21 41.5	-6.4
PSA00	**Pilbara Seismi**	**13.77**	**159**	P		**Pn**	**00 21 43.6**	**-4.4**
PSAA1	**Pilbara Seismi**	**13.77**	**159**	P		Pn	00 21 41.8	-6.2
PSAC2	**Pilbara Seismi**	**13.78**	**159**	P		Pn	00 21 42.0	-6.1
PSAB3	**Pilbara Seismi**	**13.79**	**159**	P		Pn	00 21 42.1	-6.2
GIRL	**Giralia**	**13.86**	**181**			**Pn**	**00 21 45.2**	**-3.9**
GIRL	**Giralia**	**13.86**	**181**	P		Pn	00 21 44.1	-5.0
	comp=Z,0.0nmcomp=Z,732nm,1.4s							
FITZ	**Fitzroy Crossi**	**14.26**	**132**	Pn		**Pn**	**00 21 52.9**	**-1.5**
FITZ	**Fitzroy Crossi**	**14.26**	**132**	P		**Pn**	**00 21 51.7**	**-2.7**
	comp=Z,223nm,1.3s							
FITZ	**Fitzroy Crossi**	**14.26**	**132**	P		**Pn**	**00 21 52.0**	**-2.3**
	comp=Z,547nm,0.9s,baz=330,slow=9.1,SNR=136							
FITZ				S		Sn	00 24 18.5	-13
	comp=Z,693nm,0.8s,baz=182,slow=17,SNR=13							
FITZ				LR		LR	00 27 10.3	
	comp=Z,4μm,21.3s,baz=310,slow=36							
FITZ	**Fitzroy Crossi**	**14.26**	**132**	P		**Pn**	**00 21 52.1**	**-2.3**
AAI	**Ambon**	**14.46**	**71**	P		**P**	**00 21 59.9**	**-0.8**
	comp=Z,15μmcomp=Z,16μmcomp=Z,1μm,0.7s							
KKM	**Kota Kinabalu**	**14.75**	**7**			**Pn**	**00 22 02.3**	**+1.5**
KKM	**Kota Kinabalu**	**14.75**	**7

comp=Z,6µmcomp=Z,233nm,0.6s
SRPI Serui, Papua 22.64 74 P **P** **00 23 29.5 -0.3**
comp=Z,5µmcomp=Z,477nm,0.7s
BAKI Biak 22.73 72 P **P** **00 23 32.3 +1.5**
comp=Z,5µmcomp=Z,6µmcomp=Z,464nm,0.9s
SRIT Nakonsritamara 22.74 319 P **P** **00 23 31.6 +0.8**
SRIT Nakonsritamara 22.74 319 P **P** **00 23 33.9 +3.1**
KLBR Kellerberrin 22.96 173 P **P** **00 23 32.1 -0.7**
comp=Z,545nm,0.6s
KLBR Kellerberrin 22.96 173 P **P** **00 23 33.1 +0.3**
MTKN Mount Kenneth 23.14 177 P **P** **00 23 35.5 +1.1**
MTKN Mount Kenneth 23.14 177 P **P** **00 23 36.3 +1.8**
MUN Mundaring 23.20 176 P **P** **00 23 34.4 -0.7**
comp=Z,0.0nmcomp=Z,235nm,0.8s
MUN Mundaring 23.20 176 P **P** **00 23 35.3 +0.2**
TGY Tagaytay City 23.54 16 LR LR 00 35 28.1
comp=Z,2µm,19.1s,baz=186,slow=43
ASAR Alice Springs 23.76 131 P **P** **00 23 40.1 -0.2**
comp=Z,510nm,0.6s,baz=304,slow=9,3,SNR=2545
ASAR S **S** **00 27 52.5 +4.0**
comp=Z,66nm,0.9s,baz=327,slow=25,SNR=5.3
ASAR LR LR 00 34 25.9
comp=Z,1µm,18.8s,baz=300,slow=40
ASAR P3KPbc 00 57 00.5
comp=Z,0.4nm,0.5s,baz=120,slow=4.9,SNR=4.4
comp=Z,510nm,0.6s
AS31 Alice Springs 23.76 131 P **P** **00 23 40.8 +0.4**
AS31 IAmb IAmb 00 23 42.4
comp=Z,205nm,0.6s
AS01 Alice Springs 23.80 131 P **P** **00 23 41.3 +0.6**
NWAO Narrogin (SRO) 24.23 174 P **P** **00 23 43.5 -0.9**
NWAO IAmb IAmb 00 23 46.2
comp=Z,659nm,0.9s
NWAO Narrogin (SRO) 24.23 174 P **P** **00 23 44.0 -0.3**
comp=Z,668nm,1.0s,baz=350,slow=10,SNR=112
NWAO S **S** **00 28 03.6 +7.9**
comp=Z,420nm,1.0s,baz=253,slow=16,SNR=12
NWAO LR LR 00 33 47.1
comp=Z,2µm,19.1s,baz=350,slow=37
comp=Z,668nm,1.0s
NWAO Narrogin (SRO) 24.23 174 P **P** **00 23 42.7 -1.6**
NWAO Narrogin (SRO) 24.23 174 P **P** **00 23 44.1 -0.3**
SMPI Sarmi 24.96 76 P **P** **00 23 51.1 -0.2**
comp=Z,4µmcomp=Z,5µmcomp=Z,203nm,1.2s
FORT Forrest 25.33 152 P **P** **00 23 54.3 -0.1**
FORT Forrest 25.33 152 P **P** **00 23 54.3 -0.1**
comp=Z,0.0nmcomp=Z,1µm,1.0s
UBPT Khong Chiam 25.47 339 P **P** **00 23 56.9 +1.0**
UBPT Khong Chiam 25.47 339 P **P** **00 23 58.2 +2.4**
CMBY CAMPBELL BAY 25.81 307 *eP* **P** **00 23 58.6 -0.3**
RKGY Rocky Gully 25.87 175 P **P** **00 23 59.4 +0.1**
comp=Z,560nm,1.3s
H01W3 Cape Leeuwin H 26.05 181 P **P** **00 24 01.9 +1.2**
baz=2.3,slow=11,SNR=10
H01W1 Cape Leeuwin H 26.06 181 P **P** **00 24 01.9 +1.2**
baz=2.3,slow=11,SNR=10
H01W2 Cape Leeuwin H 26.07 181 P **P** **00 24 02.0 +1.2**
baz=2.3,slow=11,SNR=12
GENI Genyem 26.20 78 P **P** **00 24 02.6 +0.1**
GENI Genyem 26.20 78 P **P** **00 24 02.2 -0.3**
comp=Z,4µmcomp=Z,287nm,0.9s
JAY Jayapura 26.74 78 P **P** **00 24 06.8 -0.6**
comp=Z,42nm,0.8s,baz=77,slow=4.8,SNR=7.6
comp=Z,42nm,0.8s
JAY Jayapura 26.74 78 P **P** **00 24 06.6 -0.8**
comp=Z,77nm,0.8s
QIS Mount Isa 26.91 119 P **P** **00 24 08.7 -0.2**
comp=Z,0.0nmcomp=Z,228nm,0.9s
QIS Mount Isa 26.91 119 P **P** **00 24 09.7 +0.8**
QIZ Qiongzhong 27.95 350 P **P** **00 24 19.6 +1.5**
QIZ Qiongzhong 27.95 350 P **P** **00 24 19.3 +1.3**
QIZ pP **pP** **00 24 42.6 +2.0**
QIZ sP **sP** **00 24 52.6 +0.2**
QIZ S **S** **00 28 55.5 +0.7**
QIZ sS **sS** **00 29 36.9 +2.8**
QIZ pmax pmax
comp=Z,38nm,0.6s
QIZ pmax pmax
comp=Z,510nm,6.5s
QIZ LR LR
comp=Z,470nm,7.9s
QIZ LR LR
comp=Z,2µm,13.1s
QIZ LR LR
comp=Z,2µm,14.2s
COEN Coen 28.54 103 P **P** **00 24 24.1 +0.7**
COEN IAmb IAmb 00 24 25.5
comp=Z,133nm,0.9s
COEN Coen 28.54 103 P **P** **00 24 24.4 +0.9**
comp=Z,153nm,1.2s
COEN Coen 28.54 103 P **P** **00 24 25.0 +1.6**
MTSU Mount Surprise 30.40 111 P **P** **00 24 40.8 +0.9**
comp=Z,166nm,1.0s
MTSU Mount Surprise 30.40 111 P **P** **00 24 41.6 +1.7**
DGPR DIGLIPUR 30.55 315 *eP* **P** **00 24 40.2 -0.9**
HKPS Hong Kong Po S 30.80 359 P **P** **00 24 45.2 +2.0**
CM31 Chiang Mai Arr 31.08 330 P **P** **00 24 46.9 +1.2**
CM31 IAmb IAmb 00 25 15.3
comp=Z,87nm,0.9s
CM31 Chiang Mai Arr 31.08 330 P **P** **00 24 47.1 +1.4**
CM31 S **S** **00 29 45.2 +1.4**
CMAR Chiang Mai Arr 31.08 330 P **P** **00 24 45.9 +0.2**
comp=Z,38nm,0.7s,baz=160,slow=7.8,SNR=112
CMAR PcP **PcP** **00 27 40.9 +1.7**
comp=Z,4.6nm,0.6s,baz=194,slow=3.0,SNR=4.3
CMAR ScP **ScP** **00 31 12.8 -0.2**
comp=Z,5.1nm,0.7s,baz=182,slow=3.6,SNR=9.1
CMAR LR LR 00 38 25.7
comp=Z,1µm,19.7s,baz=140,slow=38
CMAR P3KPbc 00 56 29.9
comp=Z,1.6nm,0.6s,baz=316,slow=5.5,SNR=10.0
comp=Z,38nm,0.7s
CMAR Chiang Mai Arr 31.08 330 *i* P **P** **00 24 47.5 +1.8**
CMAR pmax pmax
comp=Z,40nm,0.7s
CHTO Chiang Mai 31.38 331 P **P** **00 24 49.2 +0.8**
CHTO Chiang Mai 31.38 331 P **P** **00 24 49.9 +1.5**
CHTO Chiang Mai 31.38 331 P **P** **00 24 49.3 +0.8**
CHTO pmax pmax
comp=Z,38nm,0.9s
CHTO Chiang Mai 31.38 331 P **P** **00 24 49.2 +0.8**
GZH Guangzhou 31.62 358 pmax pmax
comp=Z,39nm,0.8s
GZH LR LR
comp=Z,2µm,14.9s
GZH LR LR
comp=Z,2µm,11.9s
SLVN Son La 31.63 341 P **P** **00 24 51.6 +1.0**
SLVN Son La 31.63 341 P **P** **00 24 52.4 +1.8**
WHYH Whyalla 32.23 142 P **P** **00 24 56.3 +0.5**
TPUB Ta-pu 32.37 10 P **P** **00 24 59.1 +2.1**
TPUB Ta-pu 32.37 10 P **P** **00 24 59.7 +2.7**
YULB Yu-li 32.58 12 P **P** **00 25 00.8 +1.9**
PTPS Port Pirie 32.59 142 P **P** **00 24 59.7 +0.9**
CTAO Charters Tower 32.67 114 P **P** **00 25 00.6 +0.8**
CTAO IAmb IAmb 00 25 02.6
comp=Z,237nm,0.8s
CTAO Charters Tower 32.67 114 P **P** **00 25 01.0 +1.2**
CTAO Charters Tower 32.67 114 P **P** **00 25 00.6 +0.8**
CTAO pmax pmax
comp=Z,237nm,0.8s
CTAO Charters Tower 32.67 114 P **P** **00 25 00.9 +1.1**
SSLB Suanglung 32.90 11 P **P** **00 25 03.3 +1.6**
SSLB Suanglung 32.90 11 P **P** **00 25 05.5 +3.8**
KNMB Chin-men Tao 33.19 6 P **P** **00 25 06.2 +2.2**
KNMB IAmb IAmb 00 25 30.8
comp=Z,156nm,1.0s
QLP Quilpie 33.28 126 P **P** **00 25 05.4 +0.4**
comp=Z,420nm,1.6s
QLP Quilpie 33.28 126 P **P** **00 25 07.2 +2.2**
MANU Manus Island 33.33 80 P **P** **00 25 05.4 -0.1**
HTT Hallett 33.33 141 P **P** **00 25 05.7 +0.3**
comp=Z,103nm,1.6s
HTT Hallett 33.33 141 P **P** **00 25 06.3 +0.9**
NACB Ninganchiao 33.40 12 P **P** **00 25 07.4 +1.4**
QZH Quanzhou 33.68 7 P **P** **00 25 08.0 -0.4**
QZH pP **pP** **00 25 30.3 -0.9**
QZH sP **sP** **00 25 43.0 +0.2**
QZH S **S** **00 30 25.8 +1.6**
QZH sS **sS** **00 31 02.8 -1.1**
QZH pmax pmax
comp=Z,64nm,1.0s
QZH pmax pmax
comp=Z,300nm,8.8s
QZH LR LR
comp=Z,860nm,16.5s
QZH LR LR
comp=Z,1µm,17.7s
QZH LR LR
comp=Z,2µm,23.9s
YHNB Yeheng 33.84 11 P **P** **00 25 13.0 +3.1**
YOJ Yonaguni jima 33.99 14 P **P** **00 25 13.5 +2.4**
YOJ IAmb IAmb 00 25 37.7
comp=Z,98nm,1.2s
YOJ Yonaguni jima 33.99 14 P **P** **00 25 13.5 +2.4**
YOJ pmax pmax
comp=Z,98nm,1.2s
GULI GuiLin 34.04 353 P **P** **00 25 09.6 -1.9**
GULI pP **pP** **00 25 32.3 -2.1**
GULI S **S** **00 30 25.9 -3.8**
GULI pmax pmax
comp=Z,10.0nm,1.0s
GULI pmax pmax
comp=Z,1µm,5.7s
GULI LR LR
comp=Z,830nm,21.0s
GULI LR LR
comp=Z,1µm,15.9s
GULI LR LR
comp=Z,2µm,14.7s
STKA Stephens Creek 34.09 136 P **P** **00 25 12.0 0.0**
STKA Stephens Creek 34.09 136 P **P** **00 25 12.0 0.0**
comp=Z,2µm,1.8s
STKA Stephens Creek 34.09 136 P **P** **00 25 12.4 +0.4**
comp=Z,194nm,0.6s,baz=313,slow=8.8,SNR=417
STKA LR LR 00 39 55.3
comp=Z,1µm,19.6s,baz=298,slow=38
comp=Z,194nm,0.6s
STKA Stephens Creek 34.09 136 P **P** **00 25 12.0 0.0**
STKA Stephens Creek 34.09 136 P **P** **00 25 12.0 0.0**
STKA pmax pmax
comp=Z,1µm,0.8s
TATO Taipei 34.16 11 P **P** **00 25 14.5 +2.0**
TATO IAmb IAmb 00 25 40.0
comp=Z,163nm,1.3s
KMI Kunming 35.54 341 ⇓P **P** **00 25 27.3 +2.6**
KMI pP pP 00 25 47.5 -0.6
KMI PP **PP** **00 26 53.1 +5.6**
KMI S **S** **00 30 57.5 +4.2**
KMI pmax pmax
comp=Z,33nm,1.1s
KMI pmax pmax
comp=Z,310nm,9.1s
KMI LR LR
comp=Z,2µm,17.9s
KMI LR LR
comp=Z,3µm,15.0s
KMI LR LR
comp=Z,2µm,25.5s
GYA Guiyang 35.79 348 ⇓P **P** **00 25 28.6 +1.9**
GYA pP pP 00 25 47.3 -2.5
GYA S **S** **00 30 56.3 -0.5**
GYA SS **SnSn** **00 33 30.6 +0.4**
GYA pmax pmax
comp=Z,55nm,0.6s
GYA LR LR
comp=Z,940nm,22.2s
GYA LR LR
comp=Z,1µm,13.2s
GYA LR LR
comp=Z,2µm,18.4s
CNSH ChangSha 36.71 358 P **P** **00 25 35.3 +1.0**
CNSH S **S** **00 31 11.8 +1.3**
CNSH LR LR
comp=Z,1µm,14.2s
CNSH LR LR
comp=Z,810nm,14.5s
CNSH LR LR
comp=Z,1µm,16.9s
CMSA Cobar Meteorol 36.80 132 P **P** **00 25 35.8 +0.7**
comp=Z,334nm,1.6s
CMSA Cobar Meteorol 36.80 132 P **P** **00 25 36.2 +1.0**
RMQ Roma 36.93 123 P **P** **00 25 38.1 +1.7**
TNCH TengChong 36.99 335 P **P** **00 25 38.5 +1.5**
TNCH pP pP 00 25 59.0 -1.4
TNCH PP **PnPn** **00 27 09.9 +5.0**
TNCH S **S** **00 31 18.6 +3.3**
TNCH sS sS 00 31 55.5 +0.1
TNCH pmax pmax
comp=Z,130nm,0.8s
TNCH pmax pmax
comp=Z,590nm,3.6s
TNCH LR LR
comp=Z,2µm,15.0s
TNCH LR LR
comp=Z,2µm,13.4s
TNCH LR LR
comp=Z,4µm,14.6s
PZH PanZhiHua 37.15 341 P **P** **00 25 39.6 +1.4**
PZH pP **pP** **00 25 59.5 -2.1**
PZH S **S** **00 31 18.4 +0.9**
PZH sS **sS** **00 31 56.8 -0.8**
PZH pmax pmax
comp=Z,30nm,0.7s
PZH pmax pmax
comp=Z,800nm,8.6s
PZH LR LR
comp=Z,2µm,21.2s
PZH LR LR
comp=Z,2µm,19.2s
PZH LR LR
comp=Z,1µm,21.7s
PALK Pallekele 37.28 294 P **P** **00 25 39.4 -0.1**
PALK Pallekele 37.28 294 LR LR 00 41 12.4
comp=Z,935nm,19.5s,baz=116,slow=36
PALK Pallekele 37.28 294⇓ *eP* **P** **00 25 40.4 +0.9**
PALK pmax pmax
comp=Z,56nm,1.1s
ARPS Mount Arapiles 37.34 143 P **P** **00 25 39.8 +0.1**
comp=Z,133nm,1.8s
GUMO Guam 37.38 54 P **P** **00 25 41.0 +0.7**
GUMO Guam 37.38 54 P **P** **00 25 42.8 +2.5**
GUMO Guam 37.38 54 P **P** **00 25 41.0 +0.7**
GUMO pmax pmax
comp=Z,256nm,0.7s
JOW Kunigami 37.76 20 P **P** **00 25 44.3 +1.0**
JOW IAmb IAmb 00 26 09.2
comp=Z,58nm,0.8s
JOW Kunigami 37.76 20 P **P** **00 25 45.4 +2.1**
GD1S Gladstone Soft 38.10 118 P **P** **00 25 48.1 +1.9**
EIDS Eidsvold 38.49 120 P **P** **00 25 49.9 +0.4**
EIDS IAmb IAmb 00 25 52.4
comp=Z,133nm,0.9s
EIDS Eidsvold 38.49 120 P **P** **00 25 50.3 +0.7**
comp=Z,189nm,1.6s
EIDS Eidsvold 38.49 120 P **P** **00 25 51.1 +1.5**
AZL Aizawl 38.68 327 *eP* **P** **00 25 51.4 +0.2**
AZL IAmb IAmb 00 26 06.2
comp=Z,65nm,0.5s
IMP Imphal 38.92 329 *eP* **P** **00 25 53.0 -0.1**
IMP IAmb IAmb 00 25 58.2
comp=Z,49nm,0.6s
WHN Wuhan 39.03 360 ⇓P **P** **00 25 54.3 +0.5**
WHN pP **pP** **00 26 18.9 +1.8**
WHN S **S** **00 31 45.6 +0.1**
WHN pmax pmax
comp=Z,340nm,1.3s
WHN pmax pmax
comp=Z,2µm,5.8s
WHN LR LR
comp=Z,1µm,12.0s
WHN LR LR
comp=Z,3µm,13.5s
WHN LR LR
comp=Z,10µm,36.9s
ENH Enshi 39.06 353 P **P** **00 25 55.0 +0.8**
ENH IAmb IAmb 00 26 21.4
comp=Z,79nm,0.8s
ENH Enshi 39.06 353 P **P** **00 25 55.2 +1.0**
BRAT Ballarat 39.11 142 P **P** **00 25 56.1 +1.6**
KOHI KOHIMA 39.58 330 *eP* **P** **00 25 58.2 -0.5**
KOHI IAmb IAmb 00 26 00.0
comp=Z,165nm,0.5s
GEXS Deakin Univers 39.75 142 P **P** **00 26 02.1 +2.3**
SSE Sheshan 40.09 9 P **P** **00 26 05.5 +2.9**
SSE S **S** **00 31 56.6 -4.8**
SSE pmax pmax
comp=Z,25nm,0.8s
SSE pmax pmax
comp=Z,550nm,6.8s
SSE LR LR
SSE comp=Z,350nm,23.5s LR LR
SSE comp=Z,190nm,23.6s LR LR
TOO Toolangi 40.09 141 P **P** **00 26 03.9 +1.2**
TOO IAmb IAmb 00 26 06.2
comp=Z,234nm,1.1s
TOO Toolangi 40.09 141 P **P** **00 26 04.1 +1.3**
comp=Z,198nm,1.4s
TOO Toolangi 40.09 141 P **P** **00 26 03.9 +1.2**
TOO pmax pmax
comp=Z,234nm,1.2s
LKP Lekhapani 40.15 334 IAmb IAmb 00 25 29.5
comp=Z,137nm,0.8s
YNG Young 40.18 134 P **P** **00 26 04.3 +0.8**
comp=Z,723nm,1.0s
MDRS Chennai 40.35 302 *eP* **P** **00 26 04.3 -0.7**
SHL Shillong 40.59 328 P **P** **00 26 07.6 +0.5**
SHL IAmb IAmb 00 26 35.8
comp=Z,129nm,0.8s
SHL Shillong 40.59 328 *eP* **P** **00 26 07.1 0.0**
SHL IAmb IAmb 00 26 35.8
comp=Z,95nm,0.7s
SHL Shillong 40.59 328 P **P** **00 26 07.6 +0.5**
SHL pmax pmax
comp=Z,129nm,0.8s
CD2 Chengdu 40.73 346 P **P** **00 26 08.5 +0.5**
CD2 pP pP 00 26 31.9 +0.4
CD2 PcP **PcP** **00 28 09.5 +1.8**
CD2 PcS **PcS** **00 31 59.9 +1.2**
CD2 S **S** **00 32 10.3 -0.8**
CD2 sS sS 00 32 52.8 +1.2
CD2 pmax pmax
comp=Z,80nm,0.5s
CD2 pmax pmax
comp=Z,1µm,5.3s
CD2 LR LR
comp=Z,2µm,10.5s
CD2 LR LR
comp=Z,4µm,13.7s
CD2 LR LR
comp=Z,2µm,12.9s
NJ2 Nanjing 40.74 6 *eP* **P** **00 26 07.8 -0.2**
NJ2 pP **pP** **00 26 34.9 +3.4**
NJ2 ScP **ScP** **00 31 47.9 -0.2**
NJ2 S **S** **00 32 11.8 +0.7**
NJ2 sS **sS** **00 32 58.6 +7.0**
NJ2 ScS **ScS** **00 36 03.1 +0.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,290nm,3.8s
ARMA Armidale 40.80 127 P **P** **00 26 09.8 +1.1**
ARMA Armidale 40.80 127 P **P** **00 26 10.4 +1.7**
TEZP TEZPUR 40.97 330 *eP* **P** **00 26 09.4 -0.5**
TEZP IAmb IAmb 00 26 15.7
comp=Z,56nm,0.8s
CAN Canberra 41.13 135 P **P** **00 26 11.6 +0.2**
CAN IAmb IAmb 00 26 14.2
comp=Z,232nm,0.9s
CAN Canberra 41.13 135 P **P** **00 26 12.7 +1.3**
CAN Canberra 41.13 135 P **P** **00 26 11.6 +0.2**
CAN pmax pmax
comp=Z,232nm,0.9s
CAN Canberra 41.13 135 P **P** **00 26 12.6 +1.2**
GUWA GUWAHATI 41.19 328 *eP* **P** **00 26 12.4 +0.6**
GUWA IAmb IAmb 00 26 18.0
comp=Z,69nm,0.6s
ZIRO ZIRO 41.22 332 *eP* **P** **00 26 12.4 +0.2**
ZIRO IAmb IAmb 00 26 19.8
comp=Z,169nm,0.4s
CNB Canberra Magne 41.38 135 P **P** **00 26 14.5 +1.1**
SALM Salem 41.41 299 *eP* **P** **00 26 13.1 -0.7**
KOD Kodaikanal 41.42 296 *eP* **P** **00 26 13.9 -0.4**
KOD IAmb IAmb 00 26 21.2
comp=Z,29nm,0.6s
GC1S Gold Coast 1 S 41.47 123 P **P** **00 26 16.8 +2.7**
SYDH Sydney Hard Ro 41.60 132 P **P** **00 26 17.0 +1.9**
MGCD Mangrove Creek 41.61 131 P **P** **00 26 17.0 +1.8**
H08S2 Diego Garcia H 41.62 268 T T 01 10 51.9
baz=95,slow=76,SNR=163
H08S3 Diego Garcia H 41.63 268 T T 01 10 49.2
baz=95,slow=76,SNR=244
H08S1 Diego Carcia H 41.64 268 T T 01 10 51.5
baz=95,slow=76,SNR=185
VJD Vijayawada 41.87 307 IAmb IAmb 00 26 46.6
comp=Z,132nm,1.4s
NTLH Newcastle Hard 41.91 130 P **P** **00 26 19.4 +1.7**
RIV Riverview 41.94 132 P **P** **00 26 19.7 +1.9**
XAN Xi'an 42.85 353 ⇑P **P** **00 26 24.9 -0.3**
XAN pP pP 00 26 50.6 +1.7
XAN sP sP 00 26 58.8 -1.6
XAN PP **PP** **00 28 09.0 +2.3**
XAN S **S** **00 32 40.1 -2.1**
XAN sS sS 00 33 21.8 -1.2
XAN SS **SS** **00 35 52.6 -4.9**
XAN pmax pmax
comp=Z,40nm,0.6s
XAN pmax pmax
comp=Z,1µm,7.5s
XAN LR LR
comp=Z,2µm,15.8s
XAN LR LR
comp=Z,2µm,14.4s
XAN LR LR
comp=Z,3µm,15.8s
LYN LuoYang 43.07 357 P **P** **00 26 27.9 +1.0**
LYN pP pP 00 26 51.6 +1.0
LYN ScP **ScP** **00 31 57.1 -0.2**
LYN S **S** **00 32 44.5 -0.9**
LYN sS sS 00 33 26.6 +0.4
LYN pmax pmax
comp=Z,39nm,0.5s
LYN pmax pmax
comp=Z,350nm,4.8s
LYN LR LR
comp=Z,2µm,20.3s
LYN LR LR
comp=Z,2µm,20.3s
LYN LR LR
comp=Z,2µm,18.9s
CORO Coronation Par 43.51 144 P **P** **00 26 32.2 +1.8**
GLAD Gladstone 43.73 143 P **P** **00 26 34.4 +2.2**
GTK Tadong 43.76 326 *eP* **P** **00 26 34.0 +1.3**
GTK IAmb IAmb 00 26 36.3
comp=Z,46nm,0.6s
HYB Hyderabad 44.03 306⇓ *eP* **P** **00 26 34.3 -0.7**
HYB *ep*P **pP** **00 26 55.9 -2.9**
HYB IVmB_BB 00 26 56.9
comp=Z,1µm,2.0s
HYB *eP*cP **PP** **00 28 20.1 +0.5**
HYB *e*ScP **ScP** **00 32 04.9 +3.2**
HYB *eP*cS **PcS** **00 32 13.4 +1.0**
BLSP Bilaspur 44.15 314 *eP* **P** **00 26 35.3 -0.5**
BLSP IAmb IAmb 00 26 58.8
comp=Z,71nm,1.2s
MOO Moorlands 44.17 145 P **P** **00 26 38.0 +2.3**
MOO Moorlands 44.17 145 P **P** **00 26 37.1 +1.4**
LSA Lhasa 44.33 330 P **P** **00 26 38.4 +0.7**
LSA S **S** **00 32 59.3 -5.5**
LSA LR LR
comp=Z,900nm,13.9s
LSA LR LR
comp=Z,630nm,12.4s
JNU Nakatsue 44.41 20 P **P** **00 26 39.5 +1.7**
JNU Nakatsue 44.41 20 P **P** **00 26 39.9 +2.1**
TAU Tasmania Unive 44.54 145 P **P** **00 26 39.2 +0.5**
TAU Tasmania Unive 44.54 145 P **P** **00 26 40.6 +1.9**
TAU Tasmania Unive 44.54 145 P **P** **00 26 39.2 +0.5**
TAU pmax pmax
comp=Z,483nm,1.5s
TAU Tasmania Unive 44.54 145 P **P** **00 26 35.3 -3.4**
TAU pP **pP** **00 26 55.0 -6.3**
JCJ Chichijima 44.56 36 P **P** **00 26 41.2 +2.2**
JCJ IAmb IAmb 00 26 45.6
comp=Z,213nm,1.0s
JCJ Chichijima 44.56 36 P **P** **00 26 41.2 +2.2**
SAVO Savo Central 44.70 94 P **P** **00 26 41.5 +1.1**
TATA Tatamba Isabel 44.74 93 P **P** **00 26 42.7 +2.0**
TIA Tai'an 44.75 3 P **P** **00 26 39.5 -0.8**
TIA pP **pP** **00 27 04.5 +0.3**
TIA ScP **ScP** **00 32 03.8 -0.4**
TIA S **S** **00 33 08.3 -1.4**
TIA sS **sS** **00 33 51.5 +0.7**

TIA ScS **ScS** **00 36 28.3 +0.5**
TIA pmax pmax
comp=Z,20nm,0.7s
TIA pmax pmax
comp=Z,830nm,6.3s
TIA LR LR
comp=Z,410nm,17.9s
TIA LR LR
comp=Z,1µm,15.2s
TIA LR LR
comp=Z,1µm,15.2s
EVN Everest 45.25 325 P **P** **00 26 46.1 +0.8**
EVN IAmb IAmb 00 27 23.1
comp=Z,54nm,0.7s
ALEG Aligegeo Malai 45.60 94 P **P** **00 26 48.3 +0.8**
LZH Lanzhou 45.68 348 *e*P **P** **00 26 48.0 +0.1**
LZH pP pP 00 27 11.0 -1.0
LZH sP sP 00 27 27.3 +3.8
LZH S **S** **00 33 24.0 +0.5**
LZH sS sS 00 34 02.1 -2.6
LZH ScS **ScS** **00 36 34.1 -0.1**
LZH pmax pmax
comp=Z,85nm,1.2s
LZH pmax pmax
comp=Z,880nm,5.3s
HNS HongShan 45.87 0 ⇑P **P** **00 26 48.8 -0.3**
HNS pP **pP** **00 27 14.3 +1.3**
HNS sP **sP** **00 27 23.3 -1.2**
HNS ScP **ScP** **00 32 08.9 +0.2**
HNS S **S** **00 33 23.3 -2.5**
HNS pmax pmax
comp=Z,19nm,1.0s
HNS LR LR
comp=Z,1µm,19.6s
HNS LR LR
comp=Z,1µm,22.2s
JMN Monobe 46.03 23 P **P** **00 26 52.0 +1.4**
JMN IAmb IAmb 00 27 18.1
comp=Z,142nm,0.9s
JMN Monobe 46.03 23 P **P** **00 26 51.8 +1.2**
TIY Taiyuan 46.22 358 *e*P **P** **00 26 54.9 +2.9**
TIY pP **pP** **00 27 15.5 -0.5**
TIY S **S** **00 33 29.4 -1.7**
TIY pmax pmax
comp=Z,140nm,6.3s
TIY LR LR
comp=Z,1µm,16.8s
TIY LR LR
comp=Z,380nm,14.4s
TIY LR LR
comp=Z,690nm,19.8s
ALBI Allahabad 46.47 318 *e*P **P** **00 26 52.8 -1.2**
ALBI IAmb IAmb 00 27 23.5
comp=Z,212nm,1.5s
HURO Huro Makira 46.70 96 P **P** **00 26 58.6 +2.5**
AKL Akola 47.06 309 *e*P **P** **00 26 57.1 -1.7**
LHI Lord Howe Isla 47.14 125 P **P** **00 27 00.7 +1.4**
LHI IAmb IAmb 00 27 02.2
comp=Z,212nm,1.0s
KAD Karad 47.53 303 *e*P **P** **00 27 01.0 -1.6**
KSRS Korea Array 47.60 14 P **P** **00 27 02.4 -0.3**
comp=Z,9.0nm,0.8s,baz=195,slow=7.2,SNR=27
KSRS pP **pP** **00 27 25.4 -1.3**
comp=Z,16nm,0.9s,baz=194,slow=7.0,SNR=6.1
KSRS ScP **ScP** **00 32 16.2 +0.3**
comp=Z,7.9nm,0.8s,baz=193,slow=3.8,SNR=13
KSRS LR LR 00 49 37.6
comp=Z,276µm,20.0s,baz=200,slow=39
comp=Z,9.0nm,0.8s
KS19 Wonju Array Si 47.63 14 P **P** **00 27 05.8 +2.8**
NRDN NARMADA NAGAR 48.12 311 *e*P **P** **00 27 07.1 +0.2**
NRDN IAmb IAmb 00 27 32.6
comp=Z,84nm,0.9s
BHPL Bhopal 48.23 312 *e*P **P** **00 27 06.3 -1.6**
BHPL IAmb IAmb 00 27 31.8
comp=Z,87nm,1.0s
GOMU GeErMu 48.37 339 P **P** **00 27 09.8 +0.7**
GOMU S **S** **00 34 03.6 +1.3**
GOMU pmax pmax
comp=Z,7.0nm,0.4s
GOMU LR LR
comp=Z,760nm,15.6s
GOMU LR LR
comp=Z,540nm,15.5s
GOMU LR LR
comp=Z,400nm,15.9s
POO Poona 48.42 304 *e*P **P** **00 27 08.1 -1.3**
BJT Baijiatuau 48.51 2 P **P** **00 27 11.3 +1.7**
BJT IAmb IAmb 00 27 39.1
comp=Z,50nm,1.0s
BJT Baijiatuau 48.51 2 P **P** **00 27 13.1 +3.5**
BJT Baijiatuau 48.51 2 P **P** **00 27 11.3 +1.7**
BJT pmax pmax
comp=Z,50nm,1.0s
BJI Beijing 48.53 2 P **P** **00 27 08.6 -1.1**
BJI pP **pP** **00 27 30.9 -3.0**
BJI sP **sP** **00 27 42.9 -2.3**
BJI PcP **PcP** **00 28 33.5 -0.7**
BJI ScP **ScP** **00 32 19.9 0.0**
BJI S **S** **00 34 01.6 -1.9**
BJI sS **sS** **00 34 42.3 -2.7**
BJI ScS **ScS** **00 36 51.5 -0.8**
BJI pmax pmax
comp=Z,27nm,1.3s
BJI pmax pmax
comp=Z,230nm,7.7s
BJI LR LR
comp=Z,310nm,17.2s
BJI LR LR
comp=Z,440nm,15.9s
BJI LR LR
comp=Z,880nm,23.4s
INU Inuyama 48.69 25 P **P** **00 27 12.2 +1.2**
INU IAmb IAmb 00 27 40.2
comp=Z,113nm,1.1s
INU Inuyama 48.69 25 P **P** **00 27 12.3 +1.2**
JHNI Jhansi 48.80 315 *e*P **P** **00 27 09.8 -2.3**
JHNI IAmb IAmb 00 27 40.4
comp=Z,108nm,0.8s
JGF Kuroka 49.05 25 P **P** **00 27 15.1 +1.2**
JGF IAmb IAmb 00 27 40.8
comp=Z,84nm,0.8s
JGF Kuroka 49.05 25 P **P** **00 27 15.3 +1.4**
BTO Baotou 49.25 355 ⇑*i*P **P** **00 27 16.3 +0.9**
BTO pP **pP** **00 27 39.8 +0.2**
BTO sP **sP** **00 27 51.3 +0.3**
BTO PP **PP** **00 29 13.6 +3.3**
BTO S **S** **00 34 15.3 +1.5**
BTO sS **sS** **00 34 55.3 -0.1**
BTO SS **SS** **00 37 49.3 +2.5**
BTO pmax pmax
comp=Z,68nm,0.9s
BTO pmax pmax
comp=Z,500nm,7.2s
BTO LR LR
comp=Z,2µm,17.0s
BTO LR LR
comp=Z,1µm,15.6s
BTO LR LR
comp=Z,2µm,20.9s
KOUNC Koumac, New Ca 49.37 110 P **P** **00 27 18.8 +2.2**
HHC Hu-ho-hao-te 49.39 357 *e*P **P** **00 27 15.8 -0.7**
HHC pP pP 00 27 38.0 -2.6
HHC sP sP 00 27 50.8 -1.2
HHC S **S** **00 34 15.5 -0.3**
HHC sS sS 00 34 58.4 +1.0
HHC ScS **ScS** **00 36 55.6 -2.8**
HHC SS **SS** **00 37 46.3 -2.8**
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,170nm,6.1s
HHC LR LR
comp=Z,650nm,19.9s
HHC LR LR
comp=Z,790nm,19.1s
HHC LR LR
comp=Z,1µm,19.9s
GTA Gaotai 49.79 345 P **P** **00 27 20.8 +1.2**
GTA pP pP 00 27 42.8 -1.0
GTA ScP **ScP** **00 32 25.8 +0.3**
GTA S **S** **00 34 22.8 +1.3**
GTA sS sS 00 35 03.4 +0.2
GTA ScS **ScS** **00 36 59.3 -2.0**
GTA pmax pmax
comp=Z,12nm,0.9s
GTA pmax pmax
comp=Z,260nm,7.3s
GTA LR LR
comp=Z,520nm,20.7s
GTA LR LR
comp=Z,1µm,20.0s
GTA LR LR
comp=Z,760nm,21.8s
MAJO Matsushiro 50.21 25 P **P** **00 27 23.5 +0.9**
MAJO IAmb IAmb 00 27 54.9
comp=Z,46nm,0.8s
MAJO Matsushiro 50.21 25 P **P** **00 27 22.7 +0.1**
MAJO Matsushiro 50.21 25‖*e*P **P** **00 27 22.8 +0.1**
MAJO pmax pmax
comp=Z,31nm,0.7s
MJAR Matsushiro Arr 50.21 25 P **P** **00 27 20.5 -2.1**
comp=Z,29nm,0.7s,baz=197,slow=7.6,SNR=50
MJAR pP **pP** **00 27 45.2 -1.8**
comp=Z,54nm,0.8s,baz=197,slow=7.9,SNR=8.0
MJAR ScP **ScP** **00 32 27.0 -0.2**
comp=Z,11nm,0.8s,baz=190,slow=4.3,SNR=10
MJAR LR LR 00 52 01.0
comp=Z,292nm,18.1s,baz=220,slow=40
comp=Z,29nm,0.7s
MJB9 Matsu-Tunnel 50.21 25 P **P** **00 27 24.2 +1.6**
MJB9 IAmb IAmb 00 27 48.3
comp=Z,87nm,1.2s
LGTI Lohaghat 50.30 320 *e*P **P** **00 27 22.4 -1.0**
LGTI IAmb IAmb 00 27 29.8
comp=Z,58nm,0.6s
PTH Pithoragarh 50.39 320 *e*P **P** **00 27 22.7 -1.6**
PTH IAmb IAmb 00 27 26.7
comp=Z,66nm,0.7s
LUES Luesalemba Tem 50.63 97 P **P** **00 27 27.9 +1.6**
JOSI Joshimath 51.49 321 *e*P **P** **00 27 30.7 -1.9**
JSD Sado 51.51 24 P **P** **00 27 33.6 +1.2**
DZM Mont Dzumac 51.54 111 P **P** **00 27 33.8 +0.8**
DZM IAmb IAmb 00 27 36.3
comp=Z,118nm,1.1s
DZM Mont Dzumac 51.54 111 *e*P **P** **00 27 33.4 +0.4**
comp=Z,252nm,1.3s
DZM Mont Dzumac 51.54 111 *e*PP **PP** **00 29 23.7 -7.7**
comp=Z,165nm,23.4s
DZM *e*S **S** **00 34 47.4 +1.1**
comp=Z,567nm,23.6s
DZM *e*SS **SS** **00 38 24.0 +0.3**
comp=Z,886nm,24.8s
DZM *e*LQ LQ 00 39 30.3
comp=Z,3µm,25.1s
DZM *e*LR LR 00 42 18.4
comp=Z,3µm,41.0s
DZM Mont Dzumac 51.54 111 P **P** **00 27 35.8 +2.8**
DZM Mont Dzumac 51.54 111 P **P** **00 27 34.8 +1.7**
ONTNC Ouen Toro 51.57 112 P **P** **00 27 33.9 +0.7**
ONTNC IAmb IAmb 00 27 36.2
comp=Z,163nm,1.1s
ONTNC Ouen Toro 51.57 112 P **P** **00 27 35.3 +2.1**
JMIU JAMIA UNIVERSI 51.64 317 *e*P **P** **00 27 31.9 -1.6**
AYAN Aya Nagar 51.69 317 *e*P **P** **00 27 34.5 +0.6**
NDI New Delhi 51.76 317 *e*P **P** **00 27 31.7 -2.8**
NDI IAmb IAmb 00 27 34.7
comp=Z,119nm,0.3s
NPLP NPLP New Delhi 51.77 317 *e*P **P** **00 27 32.0 -2.4**
NPLP IAmb IAmb 00 28 02.5
comp=Z,68nm,0.9s
SANVU Saraoutou 51.83 103 P **P** **00 27 36.3 +1.2**
SANVU Saraoutou 51.83 103 P **P** **00 27 37.9 +2.8**
SANVU Saraoutou 51.83 103 P **P** **00 27 36.7 +1.6**
KUDL Kundal 51.91 316 *e*P **P** **00 27 32.8 -2.7**
OUENC Ouen Island, N 51.94 112 P **P** **00 27 38.5 +2.6**
YATNC Mamie plateau, 51.95 111 P **P** **00 27 39.0 +3.0**
VLAKA Lakatoro 52.05 104 P **P** **00 27 38.8 +2.0**
GNR GANAUR 52.19 318 *e*P **P** **00 27 36.7 -0.8**
XLT XiLinHaoTe 52.38 1 *e*P **P** **00 27 38.0 -0.8**
XLT pP pP 00 27 59.8 -3.5
XLT PP **PP** **00 29 39.3 +0.6**
XLT ScP **ScP** **00 32 35.9 -0.6**
XLT S **S** **00 34 51.9 -5.1**
XLT ScS **ScS** **00 37 15.5 -3.4**
XLT pmax pmax
comp=Z,8.0nm,0.8s
XLT LR LR
comp=Z,690nm,19.2s
XLT LR LR
comp=Z,890nm,23.6s
JMM Marumori 52.43 26 P **P** **00 27 40.2 +1.1**
JMM IAmb IAmb 00 28 07.6
comp=Z,134nm,1.0s
JMM Marumori 52.43 26 P **P** **00 27 41.6 +2.4**
PINNC Pines Island, 52.52 112 P **P** **00 27 40.8 +0.6**
PINNC IAmb IAmb 00 27 57.6
comp=Z,262nm,1.6s
PINNC Pines Island, 52.52 112 P **P** **00 27 43.1 +2.9**
KLP Kalpa 52.98 321 *e*P **P** **00 27 41.8 -2.0**
KLP IAmb IAmb 00 27 49.6
comp=Z,53nm,0.8s
CN2 Changchun 53.19 10 *e*P **P** **00 27 42.4 -2.3**
CN2 *e*pP pP 00 28 05.9 -3.4
CN2 *e*sP sP 00 28 17.8 -2.9
CN2 PP **PP** **00 29 46.8 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,8.0s
CN2 LR LR
comp=Z,900nm,22.0s
CN2 LR LR
comp=Z,600nm,22.0s
CN2 LR LR
comp=Z,600nm,19.1s
PSTR Posyet 53.23 15‖*e*P **P** **00 27 45.9 +0.9**
SMLA Simla 53.39 320 *e*P **P** **00 27 44.4 -1.9**
SMLA IAmb IAmb 00 27 50.6
comp=Z,81nm,0.5s
INH Isangel 53.96 108 P **P** **00 27 52.9 +2.1**
BHK Bhakra 54.06 319 *e*P **P** **00 27 50.0 -1.4**
MDJ Mudanjiang 54.79 13 P **P** **00 27 57.1 +0.7**
MDJ IAmb IAmb 00 28 24.7
comp=Z,39nm,0.8s
MDJ Mudanjiang 54.79 13 P **P** **00 27 55.4 -0.9**
MDJ PcP **PcP** **00 28 57.0 -0.5**
MDJ ScP **ScP** **00 32 47.0 +0.1**
MDJ PcS **PcS** **00 32 57.9 +0.7**
MDJ S **S** **00 35 27.5 -1.9**
MDJ ScS **ScS** **00 37 36.0 +0.3**
MDJ pmax pmax
comp=Z,20nm,0.6s
MDJ pmax pmax
comp=Z,200nm,4.7s
MDJ LR LR
comp=Z,780nm,23.7s
MDJ LR LR
comp=Z,580nm,19.4s
MDJ LR LR
comp=Z,3µm,24.1s
MDJ Mudanjiang 54.79 13 P **P** **00 27 57.5 +1.2**
MDJ Mudanjiang 54.79 13 P **P** **00 27 54.6 -1.7**
MDJ pP **pP** **00 28 14.5 -6.5**
PAF Port-aux-Franc 54.81 214 P **P** **00 27 57.6 +1.3**
PAF Port-aux-Franc 54.81 214 P **P** **00 27 57.7 +1.3**
PAF pmax pmax
comp=Z,695nm,1.6s
USA0B Ussuriysk Arra 54.98 15 P **P** **00 27 58.9 +1.2**
USA0B IAmb IAmb 00 28 29.1
comp=Z,52nm,0.9s
USA0B Ussuriysk Arra 54.98 15 P **P** **00 27 58.9 +1.2**
USA0B pmax pmax
comp=Z,52nm,1.0s
USRK Ussuriysk Ar. 54.98 15 P **P** **00 27 56.7 -1.0**
comp=Z,45nm,0.8s,baz=191,slow=8.5,SNR=31
comp=Z,45nm,0.8s
JTM Tenmabayashi 54.99 24 P **P** **00 27 58.3 +0.5**
JTM IAmb IAmb 00 28 26.4
comp=Z,104nm,0.9s
BNX BinXian 55.42 11 ⇑P **P** **00 28 02.0 +1.2**
BNX pP **pP** **00 28 26.3 +0.7**
BNX sP **sP** **00 28 37.9 +1.1**
BNX PcP **PcP** **00 28 59.8 -0.1**
BNX S **S** **00 35 32.3 -5.4**
BNX pmax pmax
comp=Z,12nm,0.8s
BNX pmax pmax
comp=Z,160nm,5.4s
BNX LR LR
comp=Z,480nm,23.9s
BNX LR LR
comp=Z,330nm,26.0s
BNX LR LR
comp=Z,520nm,21.1s
JMU Jammu 55.89 319 *e*P **P** **00 28 03.8 -0.6**
ULN Ulaanbaatar 56.72 354 P **P** **00 28 10.0 -0.2**
ULN Ulaanbaatar 56.72 354 P **P** **00 28 10.8 +0.6**
ULN S **S** **00 35 54.8 -0.4**
ULN Ulaanbaatar 56.72 354*d*e**P** **P** **00 28 09.6 -0.6**
ULN pmax pmax
comp=Z,16nm,0.9s
SONM Songino Array 56.76 353 P **P** **00 28 09.9 -0.6**
comp=Z,15nm,0.6s,baz=174,slow=8.0,SNR=55
SONM ScP **ScP** **00 32 54.2 -1.4**
comp=Z,4.8nm,0.6s,baz=167,slow=4.5,SNR=5.0
SONM PKPPKP **P'P'df** **00 57 58.9 -2.3**
comp=Z,1.8nm,1.0s,baz=204,slow=3.3,SNR=5.4
comp=Z,15nm,0.6s
NIL Nilore 57.54 319 P **P** **00 28 16.0 -0.2**
CASY Casey 57.55 182 P **P** **00 28 14.8 -0.8**
CASY IAmb IAmb 00 28 17.1
comp=Z,103nm,0.9s
CASY Casey 57.55 182 P **P** **00 28 14.9 -0.8**
WMQ Urumqi 57.68 337 *e*P **P** **00 28 17.4 +0.4**
WMQ pP pP 00 28 42.5 +0.7
WMQ sP sP 00 28 53.3 +0.3
WMQ S **S** **00 36 06.3 -1.5**
WMQ ScS **ScS** **00 37 53.9 -2.9**
WMQ pmax pmax
comp=Z,37nm,0.9s
WMQ pmax pmax
comp=Z,180nm,3.7s
WMQ LR LR
comp=Z,580nm,13.1s
WMQ LR LR
comp=Z,580nm,18.3s
WMQ LR LR
comp=Z,820nm,24.2s
RER Riviere de l'E 57.85 251 P **P** **00 28 18.5 -0.2**
RER Riviere de l'E 57.85 251 P **P** **00 28 20.0 +1.3**
PYZ Puysegur Point 58.00 140 P **P** **00 28 19.4 +0.2**
PYZ Puysegur Point 58.00 140 P **P** **00 28 21.4 +2.2**
DCZ Deep Cove 58.04 139 P **P** **00 28 20.4 +1.0**
DCZ Deep Cove 58.04 139 P **P** **00 28 21.4 +1.9**
MSZ Milford Sound 58.26 138 P **P** **00 28 23.0 +2.0**
ASAJ Asahikawa 58.40 23 LR LR 00 55 02.3
comp=Z,350nm,21.8s,baz=210,slow=38
ASAJ Asahikawa 58.40 23 P **P** **00 28 24.0 +2.1**
ASAJ pmax pmax
comp=Z,285nm,2.0s
JKA Kamikawa-asahi 58.40 23 P **P** **00 28 24.0 +2.1**
JKA IAmb IAmb 00 28 51.0
comp=Z,285nm,2.0s
JCZ Jackson Bay 58.62 137 P **P** **00 28 26.4 +2.7**
JCZ Jackson Bay 58.62 137 P **P** **00 28 25.2 +1.5**
MLZ Mavora Lakes 58.63 138 P **P** **00 28 24.2 +0.5**
MLZ Mavora Lakes 58.63 138 P **P** **00 28 25.0 +1.3**
WHZ Wether Hill Ro 58.72 139 P **P** **00 28 25.0 +0.9**
WHZ Wether Hill Ro 58.72 139 P **P** **00 28 25.2 +1.0**
WKZ Wanaka 59.04 138 P **P** **00 28 27.0 +0.5**
WKZ Wanaka 59.04 138 P **P** **00 28 27.2 +0.7**
APZ The Paps 59.09 140 P **P** **00 28 28.3 +1.5**
FOZ Fox Glacier 59.15 136 P **P** **00 28 27.5 +0.4**
EAZ Earnscleugh 59.37 138 P **P** **00 28 29.9 +1.2**
KLR Kul'dur 59.64 13 LR LR 00 57 03.2
comp=Z,304nm,18.3s,slow=39
WVZ Waitaha Valley 59.64 135 P **P** **00 28 31.3 +0.7**
ZAK Zakamensk 59.66 352 *e*P **P** **00 28 29.2 -1.4**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
YUK Yuzh-Kuril'sk 59.67 26‖*e*P **P** **00 28 31.8 +1.1**
LBZ Lake Benmore 59.68 137 P **P** **00 28 31.1 +0.3**
LBZ Lake Benmore 59.68 137 P **P** **00 28 31.2 +0.3**
SYZ Scrubby Hill 59.72 139 P **P** **00 28 33.1 +2.1**
SYZ Scrubby Hill 59.72 139 P **P** **00 28 32.1 +1.1**
HEH HeiHe 59.78 10 *e*P **P** **00 28 30.0 -1.3**
HEH pP **pP** **00 28 57.3 +1.0**
HEH PcP **PcP** **00 29 16.0 -1.0**
HEH ScP **ScP** **00 33 07.8 -1.0**
HEH S **S** **00 36 31.8 -2.8**
HEH sS **sS** **00 37 22.9 +5.6**
HEH pmax pmax
comp=Z,9.0nm,0.6s
HEH pmax pmax
comp=Z,220nm,3.7s
KSH Kashi 59.83 326 P **P** **00 28 31.0 -1.0**
KSH S **S** **00 36 30.5 -5.4**
KSH pmax pmax
comp=Z,50nm,0.6s
KSH pmax pmax
comp=Z,130nm,6.5s
KSH LR LR
comp=Z,700nm,22.7s
KSH LR LR
comp=Z,770nm,28.2s
KSH LR LR
comp=Z,2µm,35.0s
TUZ Tuapeka 59.84 139 P **P** **00 28 32.8 +0.9**
DSZ Denniston Nort 60.01 133 P **P** **00 28 33.9 +0.6**
INZ Inchbonnie 60.03 135 P **P** **00 28 33.6 +0.3**
RPZ Rata Peaks 60.06 136 P **P** **00 28 34.1 +0.7**
RPZ Rata Peaks 60.06 136 LR LR 00 54 52.6
comp=Z,1µm,19.6s,baz=287,slow=36
RPZ Rata Peaks 60.06 136 P **P** **00 28 34.3 +0.8**
ODZ Otahua Downs 60.20 137 P **P** **00 28 34.9 +0.5**
ODZ Otahua Downs 60.20 137 P **P** **00 28 35.1 +0.7**
TMZ Timaru 60.23 136 P **P** **00 28 35.1 +0.4**
QRZ Quartz Range 60.29 132 P **P** **00 28 36.3 +1.3**
QRZ Quartz Range 60.29 132 P **P** **00 28 36.9 +1.8**
DRV Dumont d'Urvil 60.43 169 P **P** **00 28 35.5 0.0**
TARG Taragay, Kyrgy 60.44 329 P **P** **00 28 37.5 +1.0**
TARG IAmb IAmb 00 29 06.4
comp=Z,33nm,0.9s
TARG Taragay, Kyrgy 60.44 329 P **P** **00 28 37.5 +1.0**
TARG pmax pmax
comp=Z,33nm,0.9s
HHSZ Highcliff Hill 60.45 138 P **P** **00 28 38.0 +2.0**
WCZ Waipu Caves 60.57 126 P **P** **00 28 39.4 +2.4**
MRNZ Matariki Terra 60.60 133 P **P** **00 28 38.1 +0.8**
OXZ Oxford 60.62 135 P **P** **00 28 37.5 +0.1**
OXZ Oxford 60.62 135 P **P** **00 28 38.4 +1.1**
LTZ Lake Taylor 60.63 134 P **P** **00 28 37.9 +0.5**
LTZ IAmb IAmb 00 28 40.8
comp=Z,158nm,1.4s
LTZ Lake Taylor 60.63 134 P **P** **00 28 38.3 +0.9**
TKNZ Takaka Hill 60.66 132 P **P** **00 28 38.1 +0.5**
SHLS Shalkode 60.69 331 *e*P **P** **00 28 35.5 -2.3**
SHLS *e*S **S** **00 36 44.3 -2.5**
SHLS pmax pmax
comp=Z,13nm,0.4s
SHLS Shalkode 60.69 331 *e*P **P** **00 28 35.5 -2.3**
comp=Z,13nm,0.4s
SHLS *e*S **S** **00 36 44.3 -2.5**
PRZ Przheval'sk 60.70 330 P **P** **00 28 38.3 +0.3**
PRZ IAmb IAmb 00 29 32.7
comp=Z,69nm,1.0s
PRZ Przheval'sk 60.70 330 P **P** **00 28 38.3 +0.3**
PRZ pmax pmax
comp=Z,69nm,1.0s
THZ Tophouse 60.81 133 P **P** **00 28 39.4 +0.8**
THZ Tophouse 60.81 133 P **P** **00 28 39.7 +1.0**
PDGK Podgornoye 60.81 331 P **P** **00 28 38.0 -0.6**
YSS Yuzhno-Sakhali 60.85 22 P **P** **00 28 39.5 +0.9**
YSS IAmb IAmb 00 29 05.5
comp=Z,39nm,0.8s
YSS Yuzhno-Sakhali 60.85 22 P **P** **00 28 42.2 +3.6**
YSS Yuzhno-Sakhali 60.85 22*ce*P **P** **00 28 36.8 -1.8**
YSS *e**SP **pP** **00 29 04.8 +1.1**
YSS *e* 00 30 51.1
YSS *e*S **S** **00 36 44.2 -4.1**
YSS *e*PS PnS 00 36 58.2 -20
YSS *e*SS **SS** **00 40 44.4 -4.9**
YSS pmax pmax
comp=Z,200nm,4.2s
YSS pmax pmax
comp=N,100nm,3.5s
YSS pmax pmax
comp=E,200nm,7.1s
YSS pmax pmax
comp=Z,20nm,0.6s
YSS smax smax
comp=N,200nm,11.3s
YSS smax smax

comp=E,200nm,11.0s
YSS MLR MLR
comp=Z,300nm,15.0s
YSS MLR MLR
comp=N,100nm,18.0s
YSS MLR MLR
comp=E,100nm,16.0s
KBL Kabul 60.85 318 P **P** **00 28 38.3 -0.9**
KBL Kabul 60.85 318 P **P** **00 28 38.3 -0.9**
KBL pmax pmax
comp=Z,20nm,0.8s
UZB Uzunbulak 60.90 331 *e*P **P** **00 28 38.0 -1.2**
UZB pmax pmax
comp=Z,9.0nm,0.5s
UZB Uzunbulak 60.90 331 *e*P **P** **00 28 38.0 -1.2**
comp=Z,9.4nm,0.5s
NNZ Nelson 61.01 132 P **P** **00 28 40.2 +0.3**
NNZ Nelson 61.01 132 P **P** **00 28 40.6 +0.7**
KDJ Kajisay 61.05 329 P **P** **00 28 40.5 +0.1**
KDJ IAmb IAmb 00 29 12.0
comp=Z,31nm,0.8s
KDJ Kajisay 61.05 329 P **P** **00 28 40.5 +0.1**
KDJ pmax pmax
comp=Z,31nm,0.8s
NEZ North Egmont 61.07 130 P **P** **00 28 44.2 +3.6**
SATY Saty 61.13 330 *e*P **P** **00 28 39.7 -1.1**
SATY *e*S **S** **00 36 52.2 -0.2**
SATY Saty 61.13 330 *e*P **P** **00 28 39.7 -1.1**
SATY *e*S **S** **00 36 52.2 -0.2**
MQZ McQueen's Vall 61.16 135 P **P** **00 28 41.1 +0.2**
MQZ McQueen's Vall 61.16 135 P **P** **00 28 42.4 +1.5**
NRN Naryn 61.17 328 P **P** **00 28 41.4 +0.1**
NRN Naryn 61.17 328 P **P** **00 28 41.4 +0.1**
NRN pmax pmax
comp=Z,18nm,0.8s
GVZ Greta Valley S 61.22 134 P **P** **00 28 42.1 +0.7**
GVZ Greta Valley S 61.22 134 P **P** **00 28 42.5 +1.1**
MOY Mondy 61.26 350 *e*P **P** **00 28 40.9 -0.6**
MOY pmax pmax
comp=Z,18nm,1.9s
IRK Irkutsk 61.35 353 *e*P **P** **00 28 37.7 -4.2**
IRK *e* 00 29 08.1
IRK *e*S **S** **00 36 54.8 +0.3**
IRK pmax pmax
comp=Z,34nm,1.4s
KHZ Kahutara 61.43 134 P **P** **00 28 42.8 +0.1**
KHZ Kahutara 61.43 134 P **P** **00 28 44.1 +1.3**
KHZ Kahutara 61.43 134 P **P** **00 28 43.5 +0.7**
TUWZ Tuamarina 61.47 133 P **P** **00 28 43.1 +0.1**
HIZ Hauiti 61.49 129 P **P** **00 28 44.1 +0.9**
HIZ Hauiti 61.49 129 P **P** **00 28 45.4 +2.2**
BSWZ Blackbirch Sta 61.50 133 P **P** **00 28 43.5 +0.2**
GRZ Great Barrier 61.51 127 P **P** **00 28 45.6 +2.2**
ULHL Ulahol 61.62 328 P **P** **00 28 43.7 -0.5**
SNR=6.0
TCW Tory Channel 61.66 132 P **P** **00 28 44.9 +0.6**
CMWZ Cape Campbell 61.75 133 P **P** **00 28 45.5 +0.5**
ZSN Zaisan 61.80 338 *e*P **P** **00 28 44.1 -1.0**
ZSN Zaisan 61.80 338 *e*P **P** **00 28 44.2 -0.9**
KUZ Kuaotunu 61.81 127 P **P** **00 28 47.6 +2.2**
KUZ Kuaotunu 61.81 127 P **P** **00 28 47.8 +2.4**
TOZ Tahuroa Road 61.83 128 P **P** **00 28 46.0 +0.5**
TOZ Tahuroa Road 61.83 128 P **P** **00 28 48.2 +2.7**
TNSS Tian-Shan 61.83 330 *e*P **P** **00 28 44.5 -1.4**
TNSS Tian-Shan 61.83 330 *e*P **P** **00 28 44.5 -1.4**
WAZ Wanganui 61.85 130 P **P** **00 28 48.2 +2.5**
BOOM Boomskoye usch 61.95 328 P **P** **00 28 46.1 -0.3**
BOOM Boomskoye usch 61.95 328 P **P** **00 28 46.1 -0.3**
AAA Alma-Ata 61.98 330 *e*P **P** **00 28 45.4 -1.0**
AAA Alma-Ata 61.98 330 *e*P **P** **00 28 45.5 -1.0**
SNZO South Karori 62.00 132 P **P** **00 28 46.5 -0.1**
SNZO South Karori 62.00 132 P **P** **00 28 48.9 +2.3**
BHW Baring Head 62.15 132 P **P** **00 28 47.9 +0.3**
BHW IAmb IAmb 00 28 48.8
comp=Z,114nm,1.0s
DRK Karamyk 62.18 324 P **P** **00 28 48.3 +0.2**
DRK IAmb IAmb 00 28 57.7
comp=Z,58nm,0.6s
DRK Karamyk 62.18 324 P **P** **00 28 48.3 +0.2**
DRK pmax pmax
comp=Z,58nm,0.6s
NGZ Ngauruhoe 62.19 130 P **P** **00 28 50.8 +2.7**
GRNR Gornyy 62.20 16 ǁ *i*P **P** **00 28 45.4 -2.3**
GRNR pmax pmax
comp=Z,2.0nm,0.8s
MSVF Nonsavu 62.24 105 P **P** **00 28 50.3 +1.6**
MSVF IAmb IAmb 00 28 51.9
comp=Z,154nm,1.6s
MSVF Nonsavu 62.24 105 P **P** **00 28 51.5 +2.8**
MSVF Nonsavu 62.24 105 P **P** **00 28 50.3 +1.6**
MSVF pmax pmax
comp=Z,154nm,1.6s
ARXS Arharly 62.27 331 *e*P **P** **00 28 48.1 -0.3**
MK31 Makanchi Array 62.28 336 *ce*P **P** **00 28 47.9 -0.4**
MKAR Makanchi Array 62.28 336 P **P** **00 28 47.7 -0.7**
comp=Z,32nm,0.4s,baz=148,slow=7.0,SNR=328
MKAR pP **pP** **00 29 11.7 -1.8**
comp=Z,32nm,0.6s,baz=146,slow=7.3,SNR=6.6
MKAR PKPPKP **P'P'df** **00 57 59.3 +6.2**
comp=Z,1.9nm,1.0s,baz=298,slow=2.6,SNR=5.4
MKAR LR LR 00 58 32.6
comp=Z,503nm,19.2s,baz=130,slow=38
comp=Z,32nm,0.4s
MAKZ Makanchi 62.42 335 P **P** **00 28 48.4 -0.9**
MAKZ Makanchi 62.42 335 P **P** **00 28 48.4 -0.9**
MAKZ pmax pmax
comp=Z,25nm,0.8s
MAKZ Makanchi 62.42 335 P **P** **00 28 48.3 -1.0**
MSWZ Moikau Station 62.42 132 P **P** **00 28 50.1 +0.6**
TKM2 Tokmak 2 62.44 329 P **P** **00 28 49.0 -0.7**
SNR=28
PLWZ Palliser 62.46 132 P **P** **00 28 49.5 -0.2**
MRZ Mangatainoka R 62.49 131 P **P** **00 28 50.1 +0.1**
MRZ Mangatainoka R 62.49 131 P **P** **00 28 50.8 +0.9**
UCH Uchtor 62.52 327 P **P** **00 28 50.3 -0.2**
SNR=15
TDK Taldyqorghan 62.59 332 *e*P **P** **00 28 49.5 -0.9**
TDK pmax pmax
comp=Z,29nm,0.5s
TDK Taldyqorghan 62.59 332 *e*P **P** **00 28 49.5 -0.9**
comp=Z,29nm,0.5s
KBK Karagaybulak 62.59 328 P **P** **00 28 50.9 +0.3**
SNR=18
TSZ Takapari Road 62.65 131 P **P** **00 28 51.9 +0.8**
ARSB Arslanbob 62.73 326 P **P** **00 28 51.6 0.0**
ARSB IAmb IAmb 00 29 32.6
comp=Z,112nm,1.2s
ARSB Arslanbob 62.73 326 P **P** **00 28 51.6 0.0**
ARSB pmax pmax
comp=Z,112nm,1.2s
GAR Garm 62.76 322 P **P** **00 28 51.4 -0.4**
GAR IAmb IAmb 00 29 31.8
comp=Z,94nm,1.1s
KUU Kurty 62.76 330 *e*P **P** **00 28 50.5 -1.0**
KUU Kurty 62.76 330 *e*P **P** **00 28 50.6 -1.0**
AAK Ala-Archa 62.81 328 P **P** **00 28 52.1 -0.1**
SNR=9.3
AAK Ala-Archa 62.81 328 P **P** **00 28 52.6 +0.5**
AAK Ala-Archa 62.81 328 LR LR 01 01 34.6
comp=Z,503nm,18.5s,baz=141,slow=41
AAK Ala-Archa 62.81 328 *i*P **P** **00 28 51.8 -0.3**
AAK pmax pmax
comp=Z,19nm,0.8s
AAK Ala-Archa 62.81 328 *i*P **P** **00 28 51.8 -0.3**
SNR=9.8
AAK Ala-Archa 62.81 328 P **P** **00 28 51.8 -0.3**
AAK pP **pP** **00 29 12.1 -5.3**
AAK PcP **PcP** **00 29 31.6 +2.0**
BKZ Black Stump Fm 62.87 130 P **P** **00 28 53.0 +0.5**
BKZ Black Stump Fm 62.87 130 P **P** **00 28 53.8 +1.3**
BKZ Black Stump Fm 62.87 130 P **P** **00 28 53.2 +0.7**
DQM DQM 62.90 298 P **P** **00 28 51.9 -1.0**
MHTO MHTO 62.91 299 P **P** **00 28 52.2 -0.8**
SNR=40
BFZ Birch Farm 62.99 131 P **P** **00 28 53.8 +0.5**
BFZ Birch Farm 62.99 131 P **P** **00 28 54.6 +1.3**
BFZ Birch Farm 62.99 131 P **P** **00 28 54.2 +1.0**
BTK Batken 63.13 324 P **P** **00 28 53.6 -0.6**
BTK IAmb IAmb 00 29 22.4
comp=Z,46nm,0.8s
BTK Batken 63.13 324 P **P** **00 28 53.6 -0.6**
BTK pmax pmax
comp=Z,46nm,0.8s
ZEA Zeya 63.14 8 *e*P P 00 28 48.9 -4.9
ZEA *e**SP pP 00 29 20.2 +1.2
ZEA *e*S **S** **00 37 11.3 -5.6**
ZEA *e*SS **SS** **00 41 20.8 -4.1**
ZEA pmax pmax
comp=Z,100nm,5.9s
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA smax smax
comp=N,500nm,8.9s
RTZ Ruatahuna 63.14 129 P **P** **00 28 54.6 +0.2**
URZ Urewera 63.17 128 P **P** **00 28 54.9 +0.5**
EKS2 Erkin-Say 63.21 327 P **P** **00 28 54.8 +0.1**
SNR=26
USP Ospenovka 63.25 328 P **P** **00 28 54.2 -0.7**
SNR=18
SGDS Sogindy 63.31 328 *e*P **P** **00 28 54.2 -1.1**
JMDO Jabal Madar 63.32 300 P **P** **00 28 55.6 -0.1**
PXZ Pawanui 63.32 130 P **P** **00 28 56.8 +1.4**
SIMJ Simiganj 63.35 321 P **P** **00 28 53.8 -1.9**
SIMJ IAmb IAmb 00 29 58.4
comp=Z,54nm,0.9s
MWZ Matawai 63.51 128 P **P** **00 28 57.3 +0.6**
HAZ Te Kaha 63.61 128 P **P** **00 28 58.3 +1.0**
SMDO Samad 63.63 301 P **P** **00 28 57.4 -0.4**
KNZ Kokohu 63.74 129 P **P** **00 28 59.5 +1.3**
BIDO Bidbid 63.75 302 P **P** **00 28 58.3 -0.2**
SNR=7.1
FUNA Funafuti 63.85 95 P **P** **00 28 59.7 +0.4**
MXZ Matakaoa Point 63.98 128 P **P** **00 28 59.4 -0.4**
MXZ IAmb IAmb 00 29 02.0
comp=Z,236nm,1.0s
MXZ Matakaoa Point 63.98 128 P **P** **00 29 01.2 +1.4**
PUZ Puketiti 64.03 128 P **P** **00 29 00.7 +0.6**
BSY Bisya 64.24 300 P **P** **00 29 01.2 -0.5**
DMTO DMTO 64.44 294 P **P** **00 29 02.2 -0.9**
SNR=7.9
HOQ Hoqain 64.46 301 P **P** **00 29 03.0 -0.2**
SNR=17
DZA Taraz 64.69 326 *e*P **P** **00 29 03.0 -1.3**
DZA Taraz 64.69 326 *e*P **P** **00 29 03.0 -1.3**
BTLS Baital 64.73 329 *e*P **P** **00 29 02.8 -1.6**
BTLS Baital 64.73 329 *e*P **P** **00 29 02.9 -1.6**
IUG Iuzhnay 64.93 325 *e*P **P** **00 29 04.8 -1.2**
IUG pmax pmax
comp=Z,24nm,0.5s
IUG Iuzhnay 64.93 325 *e*P **P** **00 29 04.8 -1.2**
comp=Z,24nm,0.5s
H04N2 CROZET ISLANDS 64.98 223 T T 01 40 08.2
baz=75,slow=75,SNR=74
H04N1 CROZET ISLANDS 65.00 223 T T 01 40 03.3
baz=75,slow=75,SNR=26
H04N3 CROZET ISLANDS 65.00 223 T T 01 39 55.3
baz=75,slow=75,SNR=71
ARQ Araqi 65.04 301 P **P** **00 29 05.9 -1.1**
RBK Rabkut 65.04 294 P **P** **00 29 07.2 +0.1**
KK31 Karatay Array 65.28 326 *e*P **P** **00 29 07.0 -1.1**
CHM Chimkent 65.28 325 *e*P **P** **00 29 07.2 -0.9**
CHM Chimkent 65.28 325 *e*P **P** **00 29 07.3 -0.9**
SOHO SOHO 65.33 301 P **P** **00 29 08.1 -0.6**
SOHO SOHO 65.33 301 *i*P **P** **00 29 07.2 -1.6**
SNR=8.4
DOK Doka 65.47 295 P **P** **00 29 09.1 -0.7**
SNR=8.7
WHFO Wadi Hawf 65.57 294 P **P** **00 29 09.6 -0.8**
SNR=21
BRLS Boroldav 65.61 326 *e*P **P** **00 29 08.4 -1.8**
BRLS Boroldav 65.61 326 *e*P **P** **00 29 08.4 -1.8**
ABTO Aybut 65.82 293 P **P** **00 29 12.1 0.0**
ABPO Ambohimpanom 65.83 253 P **P** **00 29 12.6 +0.3**
ABPO IAmb IAmb 00 29 14.1
comp=Z,62nm,1.1s
ABPO Ambohimpanom 65.83 253 P **P** **00 29 12.6 +0.3**
ABPO pmax pmax
comp=Z,62nm,1.2s
ABPO Ambohimpanom 65.83 253 P **P** **00 29 13.3 +1.0**
ABPO sP **PcP** **00 29 42.6 -0.1**
UOSS Minazif 65.92 302 P **P** **00 29 11.7 -0.8**
UOSS Minazif 65.92 302 P **P** **00 29 12.0 -0.6**
UOSS Minazif 65.92 302 *i*P **P** **00 29 11.5 -1.1**
SNR=10
HATD Hatta, Dubai 65.94 302 P **P** **00 29 12.6 -0.1**
HATD Hatta, Dubai 65.94 302 *i*P **P** **00 29 11.8 -0.8**
SNR=14
ASHO Ashiyiah 65.94 302 P **P** **00 29 12.8 0.0**
SNR=33
ASHO Ashiyiah 65.94 302 *i*P **P** **00 29 12.0 -0.8**
SNR=28
ALNE Al Ain 65.96 301 P **P** **00 29 12.1 -0.8**
SNR=5.9
ALNE Al Ain 65.96 301 *i*P **P** **00 29 12.1 -0.8**
SNR=16
UMZA Um Al Zommool 65.97 300 P **P** **00 29 11.5 -1.4**
MDH Madha 65.98 303 P **P** **00 29 11.6 -1.4**
MDH Madha 65.98 303 *i*P **P** **00 29 11.4 -1.5**
SNR=8.2
FUTU Fugatoga 66.03 102 P **P** **00 29 15.1 +1.6**
FUTU IAmb IAmb 00 29 17.4
comp=Z,155nm,1.1s
FUTU Fugatoga 66.03 102 P **P** **00 29 16.6 +3.1**
FOMA Nahampoana Res 66.07 247 P **P** **00 29 14.2 +0.6**
FOMA IAmb IAmb 00 29 58.3
comp=Z,153nm,1.3s
MSFE Esma-Masafi 66.12 303 *i*P **P** **00 29 13.2 -0.6**
SNR=7.0
MASF Masafi 66.12 303 P **P** **00 29 13.9 0.0**
VOI Vohitsoka 66.20 250 P **P** **00 29 14.7 +0.1**
VOI IAmb IAmb 00 29 43.8
comp=Z,114nm,1.1s
RAO Raoul Island 66.22 118 P **P** **00 29 14.2 -0.3**
RAO Raoul Island 66.22 118 LR LR 00 58 10.1
comp=Z,768nm,18.8s,baz=333,slow=36
RAO Raoul Island 66.22 118 P **P** **00 29 14.2 -0.3**
RAO pmax pmax
comp=Z,1µm,1.1s
BOD Bodaibo 66.30 360 *e*P **P** **00 29 12.6 -1.7**
BOD pmax pmax
comp=Z,60nm,2.1s
FAQ Al Faqa, Dubai 66.36 302 P **P** **00 29 14.6 -0.7**
SNR=7.0
FAQ Al Faqa, Dubai 66.36 302 *i*P **P** **00 29 15.0 -0.3**
SNR=16
SHME Shamm 66.40 303 P **P** **00 29 15.4 -0.2**
SHME Shamm 66.40 303 *i*P **P** **00 29 14.4 -1.2**
SNR=5.9
ASUD Al Ashush, Dub 66.53 302 P **P** **00 29 16.6 +0.1**
SNR=25
ASUD Al Ashush, Dub 66.53 302 *i*P **P** **00 29 16.0 -0.5**
SNR=12
CCD Concordia, Ant 66.54 178 P **P** **00 29 17.1 +0.9**
CCD pP **pP** **00 29 38.1 -2.5**
AJN Ajban 66.80 301 P **P** **00 29 16.9 -1.2**
AJN Ajban 66.80 301 *i*P **P** **00 29 16.6 -1.5**
SNR=5.9
KURBB Kurchatov Arra 66.83 336 P **P** **00 29 16.9 -0.9**
comp=Z,5.5nm,0.6s,baz=153,slow=4.6,SNR=48
KURBB pP **pP** **00 29 40.6 -2.7**
comp=Z,27nm,0.9s,baz=151,slow=5.6,SNR=10
KURBB PKPPKP **P'P'df** **00 57 46.2 +0.8**
comp=Z,2.1nm,1.0s,baz=312,slow=4.8,SNR=18
KURBB LR LR 01 02 01.7
comp=Z,419nm,18.2s,baz=124,slow=39
comp=Z,5.5nm,0.6s
KURBB Kurchatov Arra 66.83 336 P **P** **00 29 16.6 -1.2**
KURK Kurchatov 66.87 336 P **P** **00 29 18.3 +0.2**
KURK Kurchatov 66.87 336 *de*P **P** **00 29 17.3 -0.7**
KURK pmax pmax
comp=Z,12nm,0.6s
ZAA0 Zalesovo Array 67.28 341 P **P** **00 29 19.7 -0.9**
ZALV Zalesovo Beam 67.28 341 P **P** **00 29 19.1 -1.5**
comp=Z,18nm,0.4s,baz=141,slow=4.8,SNR=68
ZALV S **S** **00 38 04.0 -3.6**
comp=Z,2.9nm,0.7s,baz=150,slow=12,SNR=6.4
ZALV PKPPKP **P'P'df** **00 57 46.5 +2.1**
comp=Z,6.0nm,1.0s,baz=343,slow=4.6,SNR=7.9
ZALV LR LR 01 01 19.7
comp=Z,442nm,20.4s,baz=164,slow=38
comp=Z,18nm,0.4s
MZR Muzera 67.52 299 P **P** **00 29 21.9 -0.9**
MZR Muzera 67.52 299 *i*P **P** **00 29 22.2 -0.5**
SNR=9.6
MAW Mawson 68.04 199 P **P** **00 29 25.8 +0.6**
comp=Z,59nm,0.9s,baz=49,slow=7.8,SNR=65
MAW PcP **pwP** **00 29 55.5 +1.3**
comp=Z,36nm,1.1s,baz=83,slow=7.0,SNR=6.1
MAW LR LR 00 54 29.8
comp=Z,620nm,20.4s,baz=56,slow=32
comp=Z,59nm,0.9s
GHWR Ruwais 68.38 300 P **P** **00 29 27.6 -0.5**
JRN Qarnain Island 68.75 301 P **P** **00 29 29.0 -1.3**
CTZ Chatham Island 68.76 134 P **P** **00 29 29.6 -0.6**
CTZ IAmb IAmb 00 31 53.8
comp=Z,296nm,1.5s
CTZ Chatham Island 68.76 134 P **P** **00 29 32.5 +2.4**
BRZS Berezniki 68.88 332 *e*P **P** **00 29 29.7 -1.0**
BRZS Berezniki 68.88 332 *e*P **P** **00 29 29.7 -1.0**
SKR Severo-Kuril's 69.24 27 *e*P P 00 29 25.6 -7.3
SKR *e* 00 32 17.1
SKR *e*S **S** **00 38 27.4 -3.6**
SKR *e*SS **SS** **00 42 55.2 -4.6**
SKR pmax pmax
comp=Z,91nm,1.2s
SKR pmax pmax
comp=Z,400nm,5.2s
SKR MLR MLR
comp=Z,400nm,16.0s
SLWR Sila 69.43 300 P **P** **00 29 33.4 -1.2**
SMRA Abu-Samra 70.40 300 P **P** **00 29 39.9 -0.7**
SHMA Al-Shehemyia 70.66 301 P **P** **00 29 41.0 -1.2**
SAKB Bahrain 71.06 301 P **P** **00 29 43.9 -0.7**
YAK Yakutsk 71.50 7 *e*P **P** **00 29 44.4 -2.0**
YAK *e* 00 30 00.3
YAK *e**PP **pP** **00 30 14.1 +1.8**
YAK *e* 00 32 24.4
YAK *e*PPP PPP 00 34 08.4
YAK *e*S **S** **00 38 53.9 -2.9**
YAK *e* 00 39 33.9
YAK *e**SS **ScS** **00 39 45.8 +3.9**
YAK *e*SS **SS** **00 43 30.9 -3.2**
YAK pmax pmax
comp=Z,57nm,1.5s
YAK pmax pmax
comp=N,25nm,1.6s
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK pmax pmax
comp=Z,305nm,5.3s
YAK pmax pmax
comp=E,185nm,6.4s
YAK pmax pmax
comp=N,360nm,7.1s
YAK smax smax
comp=E,135nm,2.8s
YAK smax smax
comp=N,136nm,2.7s
PEA0B Petropavlovsk- 71.66 26 P **P** **00 29 49.7 +2.2**
PEA0B IAmb IAmb 00 30 33.2
comp=Z,66nm,1.1s
PEA0B Petropavlovsk- 71.66 26 P **P** **00 29 49.7 +2.2**
PEA0B pmax pmax
comp=Z,66nm,1.2s
PETK Petropavlovsk- 71.66 26 P **P** **00 29 47.1 -0.4**
comp=Z,9.0nm,0.7s,baz=216,slow=4.8,SNR=17
comp=Z,9.0nm,0.7s
PET Petropavlovsk 72.01 26 P **P** **00 29 50.3 +0.7**
PET Petropavlovsk 72.01 26 P **P** **00 29 53.5 +3.9**
PET Petropavlovsk 72.01 26 *e*P **P** **00 29 46.1 -3.5**
PET *e**PP **PcP** **00 30 09.3 +1.7**
PET *e*S **S** **00 38 57.3 -5.7**
PET *e**SS **SKSac** **00 39 39.0 -5.3**
PET pmax pmax
comp=Z,200nm,6.9s
PET pmax pmax
comp=Z,14nm,1.4s
PET pmax pmax
comp=Z,100nm,6.9s
BVA0 Borovoye Array 72.03 334 P **P** **00 29 48.6 -1.2**
BVAR Borovoye Array 72.03 334 P **P** **00 29 48.8 -1.0**
comp=Z,16nm,0.6s,baz=140,slow=8.6,SNR=71
BVAR pP **pP** **00 30 12.7 -2.9**
comp=Z,46nm,0.8s,baz=134,slow=4.3,SNR=13
BVAR LR LR 01 05 11.8
comp=Z,419nm,21.8s,baz=129,slow=39
comp=Z,16nm,0.6s
BRVK Borovoye 72.10 334 P **P** **00 29 49.9 -0.3**
BRVK Borovoye 72.10 334 *de*P **P** **00 29 49.3 -0.9**
BRVK pmax pmax
comp=Z,19nm,0.8s
BRVK MLR MLR
comp=Z,834nm,21.0s
VNDA Vanda 72.98 170 P **P** **00 29 55.7 +0.6**
VNDA IAmb IAmb 00 29 57.5
comp=Z,203nm,1.4s
VNDA Vanda 72.98 170 P **P** **00 29 55.7 +0.6**
comp=Z,48nm,1.0s,baz=310,slow=6.3,SNR=106
VNDA LR LR 00 59 51.5
comp=Z,793nm,20.5s,baz=326,slow=34
comp=Z,48nm,1.0s
VNDA Vanda 72.98 170 P **P** **00 29 55.7 +0.6**
VNDA pmax pmax
comp=Z,203nm,1.4s
MA2 Magadan 73.96 18 P **P** **00 30 02.1 +1.1**
MA2 Magadan 73.96 18 LR LR 01 06 49.3
comp=Z,133nm,19.0s,baz=214,slow=39
MA2 Magadan 73.96 18 P **P** **00 30 02.1 +1.1**
MA2 pmax pmax
comp=Z,33nm,0.9s
SBA Scott Base 74.02 170 P **P** **00 30 02.5 +1.3**
SBA IAmb IAmb 00 30 04.7
comp=Z,242nm,1.6s
SBA Scott Base 74.02 170 P **P** **00 30 02.5 +1.3**
SBA pmax pmax
comp=Z,242nm,1.6s
ATD Arta Tunnel 74.07 285 P **P** **00 30 02.4 -0.3**
ATD Arta Tunnel 74.07 285 LR LR 00 59 39.4
comp=Z,7.0nm,19.6s,baz=68,slow=33
KBD Kabd 74.52 303 P **P** **00 30 04.2 -0.7**
RAYN Ar Rayn 74.64 297 P **P** **00 30 05.1 -0.7**
RAYN IAmb IAmb 00 30 31.3
comp=Z,64nm,1.1s
RAYN Ar Rayn 74.64 297 P **P** **00 30 05.3 -0.5**
RAYN Ar Rayn 74.64 297 P **P** **00 30 05.1 -0.7**
RAYN pmax pmax
comp=Z,64nm,1.1s
RAYN Ar Rayn 74.64 297 *i*P **P** **00 30 05.3 -0.5**
SNR=34
AB31 Akbulak array 74.83 326 P **P** **00 30 05.5 -0.8**
KIBK Kibwezi 76.30 270 P **P** **00 30 15.9 +0.3**
AKTO Aktyubinsk 76.52 327 LR LR 01 08 32.8
comp=Z,683nm,20.2s,baz=133,slow=39
AKTO Aktyubinsk 76.52 327 P **P** **00 30 14.4 -1.5**
SYO Syowa Base 76.53 201 ǁ *i*P **P** **00 30 16.1 +0.4**
SYO Syowa Base 76.53 201 ǁ *i*PcP **PcP** **00 30 29.0 +2.1**
SYO Syowa Base 76.53 201 ǁ *i*pP pP 00 30 39.0 -1.9
SEY Seymchan 77.09 17 ǁ *eP* **P** **00 30 18.9 +0.1**
SEY pmax pmax
comp=Z,24nm,1.6s
FURI Furi 77.56 281 P **P** **00 30 23.8 +0.8**
FURI IAmb IAmb 00 30 51.6
comp=Z,188nm,1.4s
SVE Sverdlovsk 78.78 333 *ce*P **P** **00 30 27.7 -0.6**
SVE *e*S **S** **00 40 14.1 -3.6**
SVE *e* 00 40 51.4
SVE pmax pmax
comp=Z,93nm,0.9s
AKT Akhty 78.86 315 *e*P **P** **00 30 28.8 -0.5**
AKT *e* 00 37.3
AKT *e**PP **pP** **00 30 54.8 -0.6**
AKT *e*S **S** **00 40 16.3 -3.1**
AKT *e* 00 40 51.7
AKT pmax pmax
comp=Z,22nm,0.5s
AKT MLR MLR
comp=Z,719nm,26.0s
JOHN Johnston Islan 79.21 71 P **P** **00 30 33.4 +1.9**
JOHN IAmb IAmb 00 31 14.8
comp=Z,236nm,1.1s
SHEM Shemya Is, Ala 79.33 32 LR LR 01 02 00.2
comp=Z,246nm,21.6s,baz=279,slow=33
ARTI Arti 79.56 332 LR LR 01 09 09.3
comp=Z,707nm,21.4s,baz=130,slow=38
ARTI Arti 79.56 332 *d*iP **P** **00 30 31.3 -1.3**
ARTI S **S** **00 40 23.7 -2.3**
ARTI *SS **pS** **00 41 00.0 +1.6**
ARTI SS **SS** **00 45 27.4 -9.0**
ARTI pmax pmax
comp=Z,27nm,0.6s
ARTI MLR MLR
comp=Z,1µm,26.0s

MAK Makhachkala 79.57 317 *e*P **P** **00 30 30.7 -2.2**
MAK *e**PP **pP** **00 30 57.3 -1.8**
MAK *e* 00 33 34.2
MAK *e*PPP PPP 00 35 23.7
MAK *e*S **S** **00 40 23.0 -3.6**
MAK *e**SS **sS** **00 41 11.5 -0.2**
MAK *e*SS **SS** **00 45 37.6 +0.5**
MAK pmax pmax
comp=Z,103nm,1.2s
POGA Pongola 79.72 244 P **P** **00 30 35.0 +0.8**
POGA IAmb IAmb 00 30 38.0
comp=Z,122nm,0.9s
LODK Lodwar 79.84 275 P **P** **00 30 35.4 +0.3**
GNI Garni 80.50 313 P **P** **00 30 39.6 +1.3**
GNI Garni 80.50 313 LR LR 01 13 35.8
comp=Z,78nm,18.2s,baz=110,slow=41
GNI Garni 80.50 313⇑ *e*P **P** **00 30 38.8 +0.5**
GNI pmax pmax
comp=Z,16nm,0.6s
GNI Garni 80.50 313 P **P** **00 30 38.6 +0.4**
GNI Garni 80.50 313 P **P** **00 30 38.8 +0.5**
comp=Z,536nmcomp=Z,32nm,0.9s
OZAP Van, Ozalp-Mer 80.55 312 ⇓P **P** **00 30 38.9 +0.2**
TIXI Tiksi 80.75 5 P **P** **00 30 37.4 -1.3**
TIXI Tiksi 80.75 5 LR LR 01 08 25.1
comp=Z,566nm,21.8s,baz=198,slow=37
TIXI Tiksi 80.75 5⇑ *e*P **P** **00 30 37.2 -1.5**
TIXI pmax pmax
comp=Z,37nm,0.9s
TIXI MLR MLR
comp=Z,855nm,21.0s
GEVA Gevas 81.13 311 P **P** **00 30 42.2 +0.5**
QSPA South Pole Qui 81.28 180 P **P** **00 30 43.0 +1.1**
QSPA South Pole Qui 81.28 180 P **P** **00 30 42.6 +0.7**
comp=Z,148nm,1.2s,baz=317,slow=1.6,SNR=130
QSPA PKKPbc **PKKPbc** **00 49 16.7 -3.1**
comp=Z,1.2nm,0.7s,baz=232,slow=1.0,SNR=5.1
QSPA LR LR 01 01 29.4
comp=Z,372nm,22.0s,baz=330,slow=32
comp=Z,148nm,1.2s
KARS Kars 81.86 313 P **P** **00 30 46.1 +0.7**
KARS IAmb IAmb 00 31 15.7
comp=Z,111nm,1.1s
KARS Kars 81.86 313 P **P** **00 30 46.1 +0.7**
KARS pmax pmax
comp=Z,111nm,1.1s
GURO Guroymak-BITLI 81.97 311 P **P** **00 30 46.5 +0.5**
GURO IAmb IAmb 00 30 47.6
comp=Z,49nm,0.6s
NCK Nalchik 82.43 316⇓ *e*P **P** **00 30 48.5 +0.3**
NCK pmax pmax
comp=Z,12nm,0.6s
HOMI Horasan 82.53 312 ⇓P **P** **00 30 50.3 +1.2**
RAR Rarotonga 82.91 110 LR LR 01 06 27.6
comp=Z,237nm,21.6s,baz=270,slow=35
KBZ Khabaz 82.99 316 P **P** **00 30 50.9 -0.1**
comp=Z,16nm,0.6s,baz=119,slow=6.0,SNR=16
KBZ LR LR 01 13 22.6
comp=Z,137nm,19.6s,baz=100,slow=40
comp=Z,16nm,0.6s
KBZ Khabaz 82.99 316 *de*P **P** **00 30 51.0 0.0**
KBZ pmax pmax
comp=Z,17nm,0.6s
BELG Belogornoye 83.19 325 LR LR 01 14 24.0
comp=Z,294nm,19.1s,baz=117,slow=40
BELG Belogornoye 83.19 325 *de*P **P** **00 30 49.7 -2.1**
BELG pmax pmax
comp=Z,7.0nm,0.6s
KVAR Kislovodsk Arr 83.20 316 LR LR 01 13 23.4
comp=Z,123nm,20.1s,baz=226,slow=40
KIV Kislovodsk 83.21 316 P **P** **00 30 52.4 +0.1**
KIV Kislovodsk 83.21 316 ⇓P **P** **00 30 53.0 +0.7**
KIV Kislovodsk 83.21 316 *e*P **P** **00 30 51.6 -0.7**
KIV *e*S **S** **00 41 02.4 -2.0**
KIV *e*SS **SS** **00 46 34.3 +2.9**
KIV *e*SSS SSS 00 49 59.4
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,185nm,19.0s
KIV Kislovodsk 83.21 316 *i* P **P** **00 30 52.3 +0.1**
SNR=8.6
KIV Kislovodsk 83.21 316 P **P** **00 30 52.5 +0.2**
comp=Z,449nmcomp=Z,21nm,0.8s
GOF Gofitskoye 83.33 317 *ce*P **P** **00 30 54.8 +2.1**
MATP Matopo 83.33 250 LR LR 01 04 17.9
comp=Z,215nm,19.5s,baz=104,slow=33
KOPT Kop Dagi 83.55 312 P **P** **00 30 55.2 +0.9**
KOPT IAmb IAmb 00 31 27.2
comp=Z,59nm,0.8s
GRHM Grahamstown, E 83.76 237 P **P** **00 30 55.5 +0.1**
GRHM IAmb IAmb 00 30 58.5
comp=Z,292nm,1.6s
MBAR Mbarara 83.78 270 P **P** **00 30 56.6 +0.6**
MBAR IAmb IAmb 00 31 00.1
comp=Z,44nm,0.8s
MBAR Mbarara 83.78 270 *ce*P **P** **00 30 56.9 +0.9**
MBAR pmax pmax
comp=Z,40nm,0.8s
MREMI Moremi 84.05 248 P **P** **00 30 57.6 +0.5**
MREMI Moremi 84.05 248 *i* P **P** **00 30 57.9 +0.8**
LSZ Lusaka 84.25 255 P **P** **00 30 58.6 +0.3**
LSZ IAmb IAmb 00 31 01.4
comp=Z,90nm,0.9s
LSZ Lusaka 84.25 255 LR LR 01 04 03.5
comp=Z,543nm,20.8s,baz=108,slow=32
LSZ Lusaka 84.25 255 P **P** **00 30 58.6 +0.3**
LSZ pmax pmax
comp=Z,90nm,0.9s
BROLN Tlhalogang 84.33 250 *i* P **P** **00 30 59.7 +1.1**
LABN Labinsk 84.76 316 *e*P **P** **00 30 58.5 -1.5**
LABN *e* 00 41 12.8
LABN pmax pmax
comp=Z,22nm,0.6s
KIRV Kirov 84.86 332 *de*P **P** **00 30 59.4 -0.7**
ARPR Arapgir-MALATY 84.90 311 P **P** **00 31 02.2 +1.1**
ARPR IAmb IAmb 00 31 30.4
comp=Z,45nm,0.9s
SOC Sochi 85.14 315 *e*P **P** **00 30 58.4 -3.5**
SOC *e* 00 34 21.8
SOC *e*S **SKSac** **00 41 12.7 -4.8**
SOC *e*SS **SS** **00 47 01.8 +2.1**
GHAJ Ghor Haditha 85.18 303 P **P** **00 31 03.6 +1.2**
GHAJ IAmb IAmb 00 31 29.4
comp=Z,121nm,1.1s
ERBR Yeremizino-Bor 85.24 317 *e*P **P** **00 31 01.2 -1.2**
ERBR *e* 00 41 13.9
ERBR pmax pmax
comp=Z,21nm,0.7s
GAZ Gaziantep 85.26 309 P **P** **00 31 03.6 +0.9**
GAZ IAmb IAmb 00 31 31.7
comp=Z,71nm,1.4s
BOSA Boshof 85.27 242 P **P** **00 31 03.6 +0.4**
BOSA Boshof 85.27 242 P **P** **00 31 04.1 +0.9**
comp=Z,22nm,0.6s,baz=109,slow=3.2,SNR=67
BOSA LR LR 01 05 15.5
comp=Z,880nm,18.2s,baz=98,slow=33
comp=Z,22nm,0.6s
EIL Elat 85.33 301 LR LR 01 10 28.3
comp=Z,326nm,18.1s,baz=81,slow=36
LPHEP Lephephe 85.40 247 P **P** **00 31 04.4 +0.5**
LPHEP IAmb IAmb 00 31 07.4
comp=Z,91nm,0.8s
LPHEP Lephephe 85.40 247 *i* P **P** **00 31 04.9 +1.0**
LBTB Lobatse 85.42 246 P **P** **00 31 04.7 +0.7**
LBTB IAmb IAmb 00 31 07.4
comp=Z,89nm,0.9s
LBTB Lobatse 85.42 246 LR LR 01 02 40.1
comp=Z,344nm,21.4s,baz=110,slow=31
LBTB Lobatse 85.42 246 P **P** **00 31 04.7 +0.7**
LBTB pmax pmax
comp=Z,89nm,0.9s
SOOWA Sowa 85.43 250 *i* P **P** **00 31 05.0 +0.9**
MMAI Mount Meron Ar 85.70 304 P **P** **00 31 06.0 +0.9**
comp=Z,6.3nm,0.4s,baz=124,slow=5.5,SNR=32
MMAI LR LR 01 13 54.5
comp=Z,322nm,19.0s,baz=98,slow=39
comp=Z,6.3nm,0.4s
MAKGR Makgori 86.03 245 *i* P **P** **00 31 07.9 +0.9**
VRH Novokhopyorsk 86.17 323 *e*P **P** **00 31 06.0 -0.8**
VRH pmax pmax
comp=Z,49nm,0.6s
KDWAN Kaudwane 86.49 247 *i* P **P** **00 31 10.9 +1.7**
TOKA Tokat 86.60 311 P **P** **00 31 09.8 +0.5**
BNN Bunyan 86.71 310 P **P** **00 31 10.5 +0.5**

KSANE Kasane 86.79 253 P **P** **00 31 10.7 -0.1**
KSANE IAmb IAmb 00 31 14.3
comp=Z,94nm,0.8s
KSANE Kasane 86.79 253 *i* P **P** **00 31 12.1 +1.3**
SKOMA Sekoma 86.99 246 *i* P **P** **00 31 12.9 +1.2**
PHDHD Phuduhudu 87.04 250 P **P** **00 31 12.1 +0.1**
PHDHD IAmb IAmb 00 31 15.3
comp=Z,70nm,1.0s
PHDHD Phuduhudu 87.04 250 *i* P **P** **00 31 13.2 +1.2**
ANN Anapa 87.05 316 *e*P **P** **00 31 08.1 -3.2**
ANN *e*S **SKSac** **00 41 25.2 -4.2**
ANN pmax pmax
comp=Z,36nm,0.9s
VORD Divnogorie 87.56 322 *e*P **P** **00 31 11.5 -2.1**
VORD *e*S **SKSac** **00 41 23.8 -8.3**
VORD pmax pmax
comp=Z,40nm,0.5s
VORD smax smax
comp=N,10.0nm,2.7s
VSR Storozhevoye 87.70 322 *e*P **P** **00 31 11.5 -2.8**
VSR *e*S **SKSac** **00 41 28.6 -4.5**
VSR pmax pmax
comp=Z,110nm,0.5s
VSR smax smax
comp=N,290nm,7.2s
VSR MLR MLR
comp=Z,530nm,24.0s
CSS Mathiatis 87.81 306 P **P** **00 31 16.1 +0.8**
CSS IAmb IAmb 00 31 20.8
comp=Z,53nm,0.9s
CSS Mathiatis 87.81 306 P **P** **00 31 15.7 +0.5**
comp=Z,730nmcomp=Z,67nm,0.9s
DIKM Dikmen 87.81 313 P **P** **00 31 14.9 -0.1**
comp=Z,35nm,0.8s
VORR Voronezh 87.81 323 *e*P **P** **00 31 12.9 -1.9**
VORR *e*S **SKSac** **00 41 26.7 -7.0**
VORR pmax pmax
comp=Z,80nm,0.6s
VORR smax smax
comp=E,50nm,3.6s
PHPEN Phepeng 87.81 245 P **P** **00 31 16.3 +0.7**
PHPEN IAmb IAmb 00 31 19.3
comp=Z,114nm,0.9s
PHPEN Phepeng 87.81 245 *i* P **P** **00 31 16.9 +1.3**
KIRS Kirsehir-Merke 88.24 310 ⇓P **P** **00 31 17.5 +0.2**
LPSR Galich'ya Gora 88.25 324 *e*P **P** **00 31 15.2 -1.6**
LPSR *e*S **SKSac** **00 41 28.6 -7.6**
LPSR pmax pmax
comp=Z,40nm,0.7s
LPSR smax smax
comp=E,750nm,8.9s
XMAS Kiritimati 88.34 88 P **P** **00 31 18.6 +0.4**
XMAS IAmb IAmb 00 33 34.6
comp=Z,105nm,1.1s
TROLL Troll, Antarti 88.40 197 ⇑P **P** **00 31 18.9 +1.5**
comp=Z,4μm,0.9s
SUR Sutherland 88.52 238 P **P** **00 31 19.6 +0.7**
SUR IAmb IAmb 00 31 51.7
comp=Z,54nm,0.9s
BR104 Keskin Array S 88.57 310 P **P** **00 31 18.7 -0.2**
comp=Z,295nmcomp=Z,40nm,1.0s
BR131 Keskin Array S 88.58 310 *ce*P **P** **00 31 18.8 -0.1**
BRTR Keskin Array B 88.58 310 P **P** **00 31 18.9 0.0**
comp=Z,16nm,0.8s,baz=136,slow=5.5,SNR=77
BRTR LR LR 01 15 08.9
comp=Z,151nm,18.6s,baz=99,slow=38
comp=Z,16nm,0.8s
BRTR Keskin Array B 88.58 310 *i* P **P** **00 31 18.8 -0.1**
BRTR pmax pmax
comp=Z,17nm,0.8s
BR105 Keskin Array S 88.59 310 P **P** **00 31 18.9 -0.1**
comp=Z,254nmcomp=Z,39nm,0.9s
BR106 Keskin Array S 88.60 310 P **P** **00 31 18.9 -0.1**
comp=Z,230nmcomp=Z,34nm,0.8s
KGCAE Kacgae 88.80 247 **P** **00 31 21.3 +1.0**
KGCAE Kacgae 88.80 247 *i* P **P** **00 31 22.4 +2.1**
ILGA Ilgaz 88.81 312 P **P** **00 31 20.4 +0.3**
ANTO Ankara 89.25 310 P **P** **00 31 22.0 +0.1**
ANTO Ankara 89.25 310 ⇓P **P** **00 31 22.5 +0.5**
ANTO Ankara 89.25 310 P **P** **00 31 22.0 +0.1**
ANTO pmax pmax
comp=Z,21nm,1.0s
ANTO Ankara 89.25 310 P **P** **00 31 22.1 +0.1**
comp=Z,229nmcomp=Z,13nm,1.3s
GMARE Gumare 89.37 251 P **P** **00 31 22.8 -0.2**
GMARE IAmb IAmb 00 31 54.4
comp=Z,48nm,0.8s
GMARE Gumare 89.37 251 *i* P **P** **00 31 24.9 +1.9**
SIM Simferopol' 89.38 316 *e*P **P** **00 31 22.4 +0.1**
SIM *e*PPP PPP 00 37 03.0
SIM *e* 00 41 40.0
SIM S **S** **00 42 01.0 -3.1**
SIM *e*PS **SP** **00 43 08.0 -1.2**
SIM pmax pmax
comp=Z,25nm,0.8s
SIM pmax pmax
comp=Z,8.0nm,2.4s
SIM pmax pmax
comp=Z,30nm,6.0s
MOS Moscow 89.86 327 *e*P **P** **00 31 22.1 -2.2**
MOS *e**PP **pP** **00 31 51.4 +0.4**
MOS *e* 00 34 55.1
MOS *e*S **SKSac** **00 41 43.3 -2.3**
MOS *e* 00 41 56.6
MOS *e*PS **PnS** **00 43 28.1 +0.6**
MOS *e*SS **SS** **00 48 00.2 -7.6**
MOS smax smax
comp=E,800nm,3.1s
GRTLG Ghanzi 89.94 249 P **P** **00 31 26.7 +1.0**
GRTLG Ghanzi 89.94 249 *i* P **P** **00 31 27.3 +1.6**
SNAA Sanae 90.06 196 ⇑P **P** **00 31 26.5 +1.4**
comp=Z,2μm,0.8s
SNAA Sanae 90.06 196 P **P** **00 31 25.7 +0.5**
SNAA Sanae 90.06 196 P **P** **00 31 26.6 +1.4**
comp=Z,125nm,1.0s,baz=138,slow=3.7,SNR=188
SNAA PKKPbc **PKKPdf** **00 48 55.3 +2.3**
comp=Z,1.2nm,0.6s,baz=273,slow=6.8,SNR=17
SNAA LR LR 01 07 26.6
comp=Z,951nm,19.9s,baz=69,slow=32
comp=Z,125nm,1.0s
SNAA Sanae 90.06 196 P **P** **00 31 25.7 +0.5**
SNAA pmax pmax
comp=Z,392nm,1.5s
QNGWA Qangwa 90.27 250 P **P** **00 31 27.6 +0.3**
QNGWA IAmb IAmb 00 31 30.3
comp=Z,192nm,1.9s
QNGWA Qangwa 90.27 250 *i* P **P** **00 31 28.3 +1.0**
OBN Obninsk 90.27 326 P **P** **00 31 26.1 -0.1**
OBN IAmb IAmb 00 32 38.7
comp=Z,43nm,0.5s
OBN Obninsk 90.27 326 LR LR 01 18 49.6
comp=Z,236nm,18.1s,baz=50,slow=40
OBN Obninsk 90.27 326 ⇑P **P** **00 31 26.8 +0.6**
OBN Obninsk 90.27 326 *de*P **P** **00 31 25.5 -0.7**
OBN *e**SP **pP** **00 31 57.7 +4.8**
OBN *e* 00 35 01.4
OBN *i* 00 41 45.6
OBN *i*S **S** **00 42 08.3 -3.5**
OBN SPP SPP 00 43 48.0
OBN *e*PPS PPS 00 43 58.1
OBN SS **SS** **00 48 17.0 +3.1**
OBN pmax pmax
comp=Z,81nm,1.9s
OBN MLR MLR
comp=Z,634nm,23.0s
KLMR Klimovskoe 90.35 332 *e*P **P** **00 31 23.6 -2.9**
KLMR *e* 00 31 58.3
KLMR S **SKSac** **00 41 44.8 -3.4**
KLMR pmax pmax
comp=Z,15nm,0.5s
MDUB Mudurnu 90.56 311 P **P** **00 31 29.7 +1.6**
MDUB IAmb IAmb 00 31 58.1
comp=Z,29nm,0.9s
ISP Isparta 90.59 308 P **P** **00 31 29.9 +1.6**
ISP IAmb IAmb 00 31 42.6
comp=Z,18nm,0.7s
ISP Isparta 90.59 308 P **P** **00 31 29.9 +1.6**
ISP pmax pmax
comp=Z,18nm,0.7s
KOOLE Kule 90.61 247 P **P** **00 31 29.6 +0.8**
KOOLE Kule 90.61 247 *i* P **P** **00 31 30.5 +1.7**
ELL Elmali 90.88 307 P **P** **00 31 30.4 +0.7**
ELL IAmb IAmb 00 31 34.0
comp=Z,15nm,0.6s
ELL Elmali 90.88 307 P **P** **00 31 30.4 +0.7**

ELL pmax pmax
comp=Z,15nm,0.6s
VNA2 Neumayer--Watz 91.71 196 ⇑P **P** **00 31 34.1 +1.4**
comp=Z,67nm,0.8s,baz=111,slow=4.5
TAVA DENIZLI_Tavas 91.78 307 ⇓P **P** **00 31 33.9 0.0**
BELA Belgrano 2 91.86 186 P **P** **00 31 33.5 +0.2**
TBI Tubuai 92.04 114 *e*S **S** **00 42 23.9 -5.4**
comp=Z,3μm,28.2s
TBI *e*SS **SS** **00 48 47.6 +7.0**
comp=Z,4μm,28.0s
TBI *e*LQ LQ 00 56 42.2
comp=Z,4μm,25.2s
TBI *e*LR LR 01 01 09.8
comp=Z,956nm,32.8s
TBI *e*LR LR 01 01 10.4
comp=Z,4μm,31.8s
VNA1 Neumayer--Stat 92.10 196 ⇑P **P** **00 31 36.3 +1.8**
comp=Z,52nm,0.8s
VNA3 Neumayer Olymp 92.15 196 ⇑P **P** **00 31 35.8 +1.0**
comp=Z,59nm,0.8s
KHLH Kahului Airpor 92.16 69 P **P** **00 31 36.0 +0.2**
MANT Manisa 92.23 308 P **P** **00 31 35.2 -0.8**
PURM Purcari 92.60 317 ⇑P **P** **00 31 37.0 -0.2**
PURM Purcari 92.60 317 P **P** **00 31 36.6 -0.6**
comp=Z,54nm,0.8s
KARP Karpathos 92.88 305 P **P** **00 31 39.7 +0.9**
KARP Karpathos 92.88 305 *e*P **P** **00 31 39.1 +0.2**
CTYL Yalıkoy Yolu 92.91 311 P **P** **00 31 38.4 -0.4**
MLH Mauna Loa 92.93 71 P **P** **00 31 42.2 +2.5**
PPT2 Papeete2 92.95 108 *e*PKIKP P 00 31 29.5 -10
comp=Z,105nm,28.8s
PPT2 Papeete2 92.95 108 *e*PP **PP** **00 35 16.1 -7.5**
comp=Z,44nm,24.8s
PPT2 *e*S **S** **00 42 32.2 -5.6**
comp=Z,1μm,25.2s
PPT2 *e*SS **SS** **00 48 57.9 +3.9**
comp=Z,145nm,24.8s
PPT2 Papeete2 92.95 108 *e*LR LR 01 01 41.3
comp=Z,998nm,26.2s
PPT2 *e*LR LR 01 01 42.7
comp=Z,814nm,35.5s
PPT Papeete 92.95 108 LR LR 01 14 47.4
comp=Z,153nm,18.2s,baz=258,slow=36
HLP Hilina Pali 92.97 71 P **P** **00 31 42.1 +2.4**
TLCR 93.11 315 ⇓P **P** **00 31 39.6 -0.1**
TLCR 93.11 315 P **P** **00 31 39.5 -0.1**
TIRR Tirgusor 93.28 314 ⇓P **P** **00 31 40.6 +0.1**
TIRR Tirgusor 93.28 314 P **P** **00 31 40.5 +0.1**
TIRR Tirgusor 93.28 314 P **P** **00 31 40.0 -0.4**
comp=Z,19nm,0.9s
TPGR Topolog 93.34 315 ⇓P **P** **00 31 40.7 -0.1**
MILM Milestii Mici 93.39 317 *e*P **P** **00 31 42.0 +1.1**
MILM *e*pP **pP** **00 32 12.0 +4.4**
MILM Milestii Mici 93.39 317 *e*PP PP 00 35 23.0 -3.3
MILM *e*SKS **SKSac** **00 42 00.0 -5.9**
MILM *e*S **S** **00 42 40.0 -0.2**
MILM *e*sS sS 00 43 23.0 -3.9
MILM Milestii Mici 93.39 317 *e*PS PS 00 44 13.0 +6.4
MILM LRM MLR 01 21 42.0
comp=Z,200nm,15.5s
MILM Milestii Mici 93.39 317 *e*P **P** **00 31 42.0 +1.1**
MILM *e**PP **pP** **00 32 12.0 +4.4**
MILM *e* 00 35 23.0
MILM *e* 00 42 00.0
MILM *e*S **S** **00 42 40.0 -0.2**
MILM *e*PS **PS** **00 44 13.0 +6.4**
WIN Windhoek 93.49 247 P **P** **00 31 42.2 0.0**
WIN IAmb IAmb 00 31 47.0
comp=Z,43nm,1.3s
WIN Windhoek 93.49 247 P **P** **00 31 42.2 0.0**
WIN pmax pmax
comp=Z,43nm,1.3s
TLBR Topalu 93.55 314 ⇓P **P** **00 31 41.6 0.0**
CFR Carcaliu 93.58 315 ⇓P **P** **00 31 41.8 0.0**
CFR Carcaliu 93.58 315 P **P** **00 31 41.8 0.0**
HARR Harsova 93.66 314 ⇓P **P** **00 31 42.3 +0.1**
HARR Harsova 93.66 314 P **P** **00 31 42.2 +0.1**
AK09 Malin Array Si 93.66 320 P **P** **00 31 41.1 -0.9**
ICOR Ion Corvin 93.66 314 ⇓P **P** **00 31 42.3 +0.1**
TSUM Tsumeb 93.67 250 P **P** **00 31 43.5 +0.5**
TSUM Tsumeb 93.67 250 LR LR 01 07 44.3
comp=Z,565nm,21.9s,baz=100,slow=31
AK10 Malin Array Si 93.68 320 P **P** **00 31 41.1 -1.0**
AK08 Malin Array Si 93.68 321 P **P** **00 31 41.0 -1.1**
AK07 Malin Array Si 93.70 320 P **P** **00 31 41.3 -0.9**
AK06 Malin Array Si 93.71 320 P **P** **00 31 41.3 -1.0**
AKASG Malin Array Be 93.71 321 P **P** **00 31 41.2 -1.1**
comp=Z,5.0nm,0.6s,baz=85,slow=4.8,SNR=39
AKASG pP **pP** **00 32 05.2 -3.9**
comp=Z,14nm,0.8s,baz=85,slow=4.4,SNR=6.2
AKASG PKKPbc **PKKPdf** **00 48 46.5 -0.7**
comp=Z,0.3nm,0.3s,baz=279,slow=3.2,SNR=4.1
AKASG LR LR 01 23 17.8
comp=Z,164nm,18.0s,baz=101,slow=41
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 93.71 321 *i* P **P** **00 31 41.2 -1.1**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKBB Malin Array Si 93.71 321 P **P** **00 31 41.0 -1.2**
AKBB IAmb IAmb 00 32 07.8
comp=Z,17nm,0.8s
AKBB Malin Array Si 93.71 321 *ce*P **P** **00 31 41.2 -1.1**
AKBB Malin Array Si 93.71 321 P **P** **00 31 41.2 -1.1**
AK01 Malin Array Si 93.72 321 P **P** **00 31 41.1 -1.2**
AK02 Malin Array Si 93.72 321 P **P** **00 31 41.1 -1.2**
AK03 Malin Array Si 93.72 321 P **P** **00 31 41.3 -1.0**
KIEV Kiev 93.72 321 P **P** **00 31 40.9 -1.4**
KIEV IAmb IAmb 00 32 07.8
comp=Z,15nm,0.8s
KIEV Kiev 93.72 321 ⇑P **P** **00 31 41.3 -1.0**
KIEV Kiev 93.72 321 P **P** **00 31 40.9 -1.4**
KIEV pmax pmax
comp=Z,15nm,0.9s
KIEV Kiev 93.72 321 *i* P **P** **00 31 41.3 -1.0**
SNR=11
KIEV Kiev 93.72 321 P **P** **00 31 41.3 -1.0**
comp=Z,77nm,0.9s
AK12 Malin Array Si 93.75 321 P **P** **00 31 41.2 -1.2**
AK04 Malin Array Si 93.75 321 P **P** **00 31 41.2 -1.3**
AK14 Malin Array Si 93.78 320 P **P** **00 31 41.4 -1.2**
AK16 Malin Array Si 93.78 321 P **P** **00 31 41.4 -1.2**
AK17 Malin Array Si 93.82 321 P **P** **00 31 41.6 -1.1**
AK21 Malin Array Si 93.84 321 P **P** **00 31 41.6 -1.3**
AK20 Malin Array Si 93.86 321 P **P** **00 31 41.7 -1.2**
SORM Soroca 93.88 318 ⇑P **P** **00 31 42.0 -1.1**
SORM Soroca 93.88 318 P **P** **00 31 42.0 -1.1**
SORM Soroca 93.88 318 P **P** **00 31 41.6 -1.5**
comp=Z,14nm,1.2s
SDPT Sand Point 94.25 35 P **P** **00 31 47.6 +3.0**
SDPT IAmb IAmb 00 32 08.8
comp=Z,46nm,0.7s
LOZB Loznitsa 94.42 313 ⇓P **P** **00 31 45.3 -0.4**
ALN Alexandroupoli 94.50 311 P **P** **00 31 46.4 +0.3**
ALN Alexandroupoli 94.50 311 P **P** **00 31 46.4 +0.3**
ALN pmax pmax
comp=Z,11nm,1.3s
LUBAR Lubar, Ukraine 94.53 320 P **P** **00 31 44.8 -1.2**
APA Apatity 94.61 338 *i* P **P** **00 31 50.1 +4.1**
APA *i* 00 35 38.1
APA *i*S **S** **00 42 47.1 -3.0**
APA *i*PS **PS** **00 44 05.3 -14**
APA *i*SS SS 00 49 27.7 +12
APA MLR MLR
comp=Z,1μm,25.5s
VRI Vrincioaia 94.66 316 ⇑P **P** **00 31 47.0 +0.1**
VRI Vrincioaia 94.66 316 P **P** **00 31 46.9 +0.1**
IDI Anoyia 94.68 305 LR LR 01 18 39.7
comp=Z,85nm,21.6s,baz=86,slow=38
PLOR Plostina 94.71 316 ⇑P **P** **00 31 46.6 -0.5**
PLOR Plostina 94.71 316 P **P** **00 31 46.5 -0.5**
MI28 Mi28,Pidlybu 94.72 321 P **P** **00 31 45.9 -1.0**
TESR Tescani 94.80 316 ⇑P **P** **00 31 47.3 -0.1**
TESR Tescani 94.80 316 P **P** **00 31 46.5 -0.9**
ELND Elena 94.89 313 ⇓P **P** **00 31 47.5 -0.4**
NEHR Nehoiu 94.91 315 ⇑P **P** **00 31 47.9 0.0**
RDO Rodnopi 94.91 311 P **P** **00 31 48.1 +0.1**
G16K Koyuk River 94.99 25 P **P** **00 31 49.3 +1.5**
COVR Voineasa-Covas 95.02 315 ⇓P **P** **00 31 48.0 -0.4**
MNK Minsk 95.08 324 *i* P **P** **00 31 46.5 -2.0**
MNK *i* 00 35 37.5
MNK *i* PPP PPP 00 37 40.0
MNK *i*S **SKSac** **00 42 12.7 -2.1**
MNK *i* PS **PS** **00 44 24.4 -0.6**

MNK *i* SS **SS** **00 49 23.3 +0.5**
MNK *i* SSS SSS 00 53 06.9
MNK pmax pmax
comp=Z,14nm,1.0s
MNK MLR MLR
comp=Z,315nm,22.0s
MNK MLR MLR
comp=N,135nm,18.0s
MLR Muntele Rosu 95.16 315 LR LR 01 23 05.1
comp=N,134nm,18.2s,baz=81,slow=41
MLR Muntele Rosu 95.16 315 ⇓P **P** **00 31 49.3 +0.1**
MLR Muntele Rosu 95.16 315 P **P** **00 31 49.3 +0.1**
TURR Turia 95.18 316 ⇑P **P** **00 31 48.8 -0.4**
N15K Kwethluk River 95.19 30 P **P** **00 31 51.5 +2.7**
KMPD K-Podol'skiy 95.19 318 P **P** **00 31 47.5 -1.6**
HORU Horodok 95.29 319 P **P** **00 31 48.4 -1.2**
J16K Anvik River 95.40 27 P **P** **00 31 49.5 -0.2**
J16K IAmb IAmb 00 33 01.7
comp=Z,16nm,1.0s
HUMR Humele 95.72 314 ⇑P **P** **00 31 50.9 -0.8**
NACGM Naroch 95.77 325 *e*P **P** **00 31 50.7 -0.8**
comp=Z,7.0nm,0.9s,baz=97
VOIR 95.78 315 ⇓P **P** **00 31 52.6 +0.5**
VOIR 95.78 315 P **P** **00 31 52.5 +0.5**
IDID Didziasalis 95.84 325 *e*P **P** **00 31 48.1 -3.8**
RNPP5 Staryi Chortor 95.88 321 P **P** **00 31 51.1 -1.1**
RNPP9 Sopachiv 95.89 321 P **P** **00 31 51.4 -0.8**
BURAR Bucovina Array 95.91 317 ⇑P **P** **00 31 52.7 +0.2**
BURAR Bucovina Array 95.91 317 P **P** **00 31 52.7 +0.2**
H17K Granite Mounta 95.94 25 P **P** **00 31 53.1 +1.0**
ARR Arges 96.06 315 ⇓P **P** **00 31 52.9 -0.4**
VSU Vasula 96.20 328 *e*P **P** **00 31 53.1 -0.3**
K17K Iditarod 96.37 28 P **P** **00 31 54.7 +0.6**
VADS Vadso 96.49 340 *e*P **P** **00 31 53.0 -1.5**
STNU Starunia 96.50 318 P **P** **00 31 53.8 -1.3**
LOT Lotru 96.67 315 ⇑P **P** **00 31 55.2 -0.9**
ARBE Arbavere 96.69 329 *e*P **P** **00 31 54.8 -0.8**
FINES FINESS Array B 96.85 331 P **P** **00 31 55.5 -0.8**
comp=Z,11nm,0.5s,baz=111,slow=5.9,SNR=100
FINES PKKPbc **PKKPbc** **00 48 39.2 -1.4**
comp=Z,1.5nm,0.9s,baz=277,slow=2.7,SNR=6.6
FINES LR LR 01 19 13.3
comp=Z,495nm,20.9s,baz=104,slow=38
comp=Z,11nm,0.5s
LIT Litokhoron 97.10 309 P **P** **00 31 57.6 -0.5**
LIT IAmb IAmb 00 32 25.0
comp=Z,21nm,0.9s
LIT Litokhoron 97.10 309 P **P** **00 31 57.6 -0.5**
LIT pmax pmax
comp=Z,21nm,0.9s
G19K Purcell Mounta 97.24 24 P Pdif 00 31 59.2 +1.1
E19K Redstone River 97.30 23 P Pdif 00 31 59.8 +1.4
E19K IAmb IAmb 00 33 01.9
comp=Z,19nm,1.4s
GZR Gura Zlata 97.36 315 ⇑P **P** **00 31 58.6 -0.6**
GZR Gura Zlata 97.36 315 P **P** **00 31 58.6 -0.6**
PABE Paberze 97.43 325 *e*P **P** **00 31 58.8 -0.3**
H19K Roundabout Mou 97.45 25 P Pdif 00 32 00.7 +1.7
KEF Keuruu 97.48 332 *e*P **P** **00 31 58.5 -0.7**
DRGR 97.53 316 ⇓P Pdif 00 32 00.3 +0.4
DRGR 97.53 316 P Pdif 00 32 00.2 +0.3
MEF Metsahovi 97.56 330 *e*P **P** **00 31 58.5 -1.1**
HERR Herculane 97.58 314 ⇑P **P** **00 31 58.9 -1.1**
KWP Kalwaria Pacla 97.75 319 *e*P Pdif 00 32 00.8 +0.1
ARA0 ARCESS Array S 97.76 339 *e*P **P** **00 31 58.7 -1.6**
ARCES ARCESS Array B 97.76 339 P **P** **00 31 58.8 -1.5**
comp=Z,2.7nm,0.5s,baz=92,slow=6.1,SNR=58
ARCES PKiKP **PKiKP** **00 36 35.2 +1.5**
comp=Z,1.9nm,0.9s,baz=147,slow=1.2,SNR=6.2
ARCES LR LR 01 21 04.8
comp=Z,427nm,20.3s,baz=106,slow=38
comp=Z,2.7nm,0.5s
SUW Suwalki 97.78 323 P **P** **00 32 00.6 -0.1**
SUW Suwalki 97.78 323 P **P** **00 32 00.6 -0.1**
KOLS Kolonicke sedl 97.98 318 *e*P Pdif 00 32 02.0 +0.2
KOLS Kolonicke sedl 97.98 318 *e*PDIFF Pdif 00 32 02.0 +0.2
BOVS Bovan 97.99 313 ⇓P **P** **00 32 01.4 -0.5**
BZS Buzias 98.20 315 ⇓P **P** **00 32 01.5 -1.3**
BZS Buzias 98.20 315 P **P** **00 32 01.4 -1.3**
SIRR Siria 98.21 316 ⇑P **P** **00 32 02.4 -0.4**
HAMF Hammerfest 98.44 340 *e*P **P** **00 32 02.0 -1.3**
KTK1 Kautokeino 98.54 339 *e*P **P** **00 32 02.0 -1.8**
E21K Killik River 98.59 22 P Pdif 00 32 06.0 +1.9
STHS Stebnicka Huta 98.69 319 *e*P **P** **00 32 02.6 -2.3**
STHS Stebnicka Huta 98.69 319 *e*PDIFF **P** **00 32 02.6 -2.3**
KDAK Kodiak Island 98.84 33 LR LR 01 15 01.7
comp=Z,154nm,20.7s,baz=253,slow=34
RAF Rauma 98.90 331 *e*P **P** **00 32 04.5 -1.0**
KEK Kerkira 99.14 309 P **Pdif** **00 32 08.6 +1.4**
KEK IAmb IAmb 00 32 38.7
comp=Z,18nm,1.2s
NIE Niedzica 99.30 319 *e*P **Pdif** **00 32 08.0 +0.3**
JETT Jettan, Norway 99.55 339 *e*P **Pdif** **00 32 06.4 -1.9**
SPA0 Spitsbergen Ar 100.15 348 *e*P **Pdif** **00 32 09.1 -1.8**
SPA0 IAmb IAmb 00 32 10.9
comp=Z,22nm,0.7s
SPA0 *e*SKSac **SKSac** **00 42 38.4 -1.5**
SPA0 *e*SS **SS** **00 50 36.4 +3.5**
SPITS Spitsbergen Ar 100.15 348 P **Pdif** **00 32 09.7 -1.1**
comp=Z,13nm,0.5s,baz=93,slow=8.4,SNR=101
OKC Ostrava-Krasne 100.72 319 *e*PP **PP** **00 36 28.0 +5.4**
OKC *e*SKS **SKSac** **00 42 43.5 -0.1**
KBS Kingsbay 100.91 349 *e*P **Pdif** **00 32 16.0 +1.8**
KBS IAmb IAmb 00 32 18.7
comp=Z,12nm,1.4s
KBS *e*PP **PP** **00 36 26.6 +3.4**
KBS *e*SKSac **SKSac** **00 42 43.2 -0.3**
KBS *e*SP **SP** **00 45 17.7 +3.9**
KBS *e*SS **SS** **00 50 50.3 +6.9**
MAUC Maruska 100.92 319 *e*SKS **SKSac** **00 42 44.5 -0.3**
MODS Modra-Piesok 101.27 318 *e*P **Pdif** **00 32 20.1 +3.6**
MODS Modra-Piesok 101.27 318 *e*PDIFF **Pdif** **00 32 20.1 +3.6**
ILAR Eielson Array 101.48 26 PKKPbc PKKPbc 00 48 25.7 -1.9
comp=Z,1.9nm,0.9s,baz=100,slow=2.2,SNR=6.7
STEI Steigen 101.52 338 *e*P **Pdif** **00 32 18.4 +1.4**
STEI IAmb IAmb 00 32 19.3
comp=Z,7.1nm,0.8s
STEI *e*PP **PP** **00 36 30.9 +2.9**
STEI *e*SKSac **SKSac** **00 42 47.7 +1.0**
FAUS Fauske 101.55 337 *e*P **Pdif** **00 32 14.7 -2.6**
FAUS IAmb IAmb 00 32 17.1
comp=Z,2.9nm,0.8s
FAUS *e*PP **PP** **00 36 30.7 +2.5**
FAUS *e*SKSac **SKSac** **00 42 41.9 -5.0**
FAUS *e*SS **SS** **00 50 58.7 +6.1**
KRLC Kraliky 101.60 319 *e*SKS **SKSac** **00 42 47.6 -0.4**
DPC Dobruska-Polom 101.89 320 *e*SKS **SKSac** **00 42 47.8 -1.6**
RONA Rosalia, Austr 101.93 317 *i* PKiKP **PKiKP** **00 36 43.6 +1.7**
comp=Z,6.9nm,1.8s
RONA *e*PKKP **PKKPbc** **00 48 21.0 -4.8**
comp=Z,4.1nm,1.3s
OSTC Ostas 101.96 320 *e*SKS **SKSac** **00 42 47.4 -2.3**
MOR8 Moi Rana 102.00 336 *e*P **Pdif** **00 32 20.8 +1.6**
MOR8 IAmb IAmb 00 32 34.0
comp=Z,24nm,1.6s
MOR8 *e*PP **PP** **00 36 34.9 +3.1**
MOR8 *e*SKSac **SKSac** **00 42 46.2 -3.0**
MOR8 *e*SS **SS** **00 51 03.2 +4.2**
MOR8 IAMs_20 IAMs_20 01 00 33.2
comp=Z,353nm,21.8s
UPC Upice 102.09 320 *e*SKS **SKSac** **00 42 49.5 -0.7**
LOF Lofoten 102.13 338 *e* **Pdif** **00 32 30.3 +11**
LOF *e*SKSac **SKSac** **00 42 47.2 -2.4**
CONA Conrad Observa 102.22 317 *i* PKiKP **PKiKP** **00 36 43.1 +0.7**
comp=Z,7.1nm,1.3s
CONA *i* PKKP **PKKPbc** **00 48 25.0 0.0**
comp=Z,9.6nm,1.4s
VAGH Vaagaholmen 102.41 336 *e*Pdif **Pdif** **00 32 21.8 +0.8**
VAGH *e*PP **PP** **00 36 37.8 +3.1**
VAGH *e*SKSac **SKSac** **00 42 50.8 -0.1**
ARSA Arzberg 102.46 316 *e*PKiKP **PKiKP** **00 36 41.1 -1.7**
comp=Z,5.3nm,1.3s
ARSA *e*PKKP **PKKPdf** **00 48 29.5 -1.8**
comp=Z,9.8nm,1.6s
LEIR Leirfjorden 102.54 336 *e*P **Pdif** **00 32 20.0 -1.7**
LEIR IAmb IAmb 00 32 24.1
comp=Z,8.6nm,1.2s
LEIR *e*PP **PKiKP** **00 36 42.1 -0.2**
LEIR *e*SKSac **SKSac** **00 42 53.7 +2.0**
STOK Stokkvaagen 102.55 336 *e*P **Pdif** **00 32 24.0 +2.3**
STOK *e*PP **PP** **00 36 41.0 +5.2**
STOK *e*SKSac **SKSac** **00 42 51.1 -0.6**
SOKA Soboth 102.80 316 *e*PP **PP** **00 36 41.5 +3.1**
comp=Z,6.1nm,1.3s
SOKA *e*PKKP **PKKPbc** **00 48 22.6 -0.6**
comp=Z,5.6nm,1.2s
HFS Hagfors 102.91 330 P **Pdif** **00 32 22.9 -0.6**
comp=Z,3.2nm,0.6s,baz=77,slow=6.4,SNR=14
HFS pP **pPdif** **00 32 46.6 -3.6**
comp=Z,5.9nm,0.8s,baz=80,slow=3.3,SNR=5.8
PRU Pruhonice 103.04 319 *e*PP **PP** **00 36 41.5 +1.5**
PRU *e*SKS **SKSac** **00 42 52.8 -1.9**
PRA Prague 103.11 319 *e*SKS **SKSac** **00 42 52.7 -2.3**
OBKA Obir 103.14 316 *e*PKiKP **PKiKP** **00 36 44.9 +0.7**
comp=Z,8.7nm,1.4s
CKRC Cesky Krumlov 103.24 318 *e*PP **PP** **00 36 43.3 +1.8**
CKRC *e*SKS **SKSac** **00 42 53.9 -1.8**
CKRC *e*SS SS 00 51 38.3 +21
MOA Molln 103.30 317 *e*PKiKP **PKiKP** **00 36 46.7 +2.4**
comp=Z,4.4nm,1.2s
MOA *i* PKKP **PKKPbc** **00 48 19.4 -2.3**
comp=Z,13nm,1.3s
BRG Berggiesshubel 103.39 320⇓ *e*Pif 00 32 25.9
BRG Amp 00 32 26.8
comp=Z,1.4nm,0.7s
BRG Berggiesshubel 103.39 320 SS SS 00 51 14.0 -5.0
TAOE Nuku Hiva Isla 103.59 101 *e*S **Sdif** **00 44 13.4 +5.0**
comp=Z,234nm,25.9s
TAOE *e*SS **SS** **00 51 29.8 +6.2**
comp=Z,200nm,27.8s
TAOE Nuku Hiva Isla 103.59 101 *e*LR LR 01 06 30.9
comp=Z,421nm,24.7s
GERES GERESS Array B 103.64 318 Pdiff **Pdif** **00 32 26.4 -0.6**
comp=Z,0.3nm,0.5s,baz=90,slow=5.3,SNR=3.5
GERES PP **PP** **00 36 43.2 -1.4**
comp=Z,1.5nm,1.0s,baz=91,slow=8.0,SNR=3.6
GERES SKiKP **SKiKP** **00 40 11.0 0.0**
comp=Z,0.9nm,0.7s,baz=77,slow=2.9,SNR=4.2
GERES PKKPbc **PKKPbc** **00 48 20.3 -0.5**
comp=Z,0.6nm,0.8s,baz=278,slow=3.6,SNR=5.3
BIOA Bad Ischl, Aus 103.72 317 *i* PP **PP** **00 36 46.8 +1.6**
comp=Z,10nm,1.8s
BIOA *i* PKKP **PKKPdf** **00 48 26.9 -2.1**
comp=Z,13nm,1.4s
MYKA Terra Mystica 103.76 316 *e*PKiKP **PKiKP** **00 36 46.1 +0.9**
comp=Z,9.0nm,1.1s
NC602 NORSAR Array S 103.90 330 *i* PKiKP 00 37 10.9 +26
NC602 *e*SKSac **SKSac** **00 42 56.7 -1.6**
NC602 *e*SP **SP** **00 45 45.4 -0.7**
KBA Koelnbreinsper 103.95 316 *e*PKiKP **PKiKP** **00 36 46.4 +0.7**
comp=Z,5.1nm,1.1s
CLL Collm 103.96 321 *e*P **Pdif** **00 32 30.0 +1.7**
CLL *e* 00 43 00.0
CLL *e*S **Sdif** **00 44 07.0 -2.7**
NOA NORSAR Array B 104.02 331 Pdiff **Pdif** **00 32 27.4 -1.0**
comp=Z,0.5nm,0.6s,baz=78,slow=4.5,SNR=3.2
NOA PKKPbc **PKKPdf** **00 48 30.0 +1.4**
comp=Z,2.5nm,1.0s,baz=261,slow=4.4,SNR=3.6
I28M Miner Creek 104.31 25 **Pdif** **00 32 31.3 +1.6**
LESA Schwarzleotal 104.39 317 *i* PKiKP **PKiKP** **00 36 47.2 +0.9**
comp=Z,7.1nm,1.1s
LESA *e*PKKP **PKKPdf** **00 48 27.2 -0.6**
comp=Z,7.5nm,1.3s
OSL Oslo 104.41 330 *i* PKiKP 00 37 16.1 +30
OSL *e*SKSac **SKSac** **00 43 01.8 +1.3**
OSL *e*SP **SP** **00 45 56.1 +4.7**
ABTA Abfaltersbach 104.53 316 *e*PKiKP **PKiKP** **00 36 46.8 +0.2**
comp=Z,6.3nm,1.5s
ABTA *i* PKKP **PKKPdf** **00 48 25.5 -1.9**
comp=Z,7.7nm,1.2s
KONO Kongsberg 105.01 329 *e*PP **PP** **00 36 54.6 +0.3**
KONO *i* 00 37 20.2
KONO *e*SS SS 00 51 45.3 +4.7
WTTA Wattenberg 105.10 317 *e*PKiKP **PKiKP** **00 36 47.2 -0.6**
comp=Z,3.1nm,1.1s
WTTA *i* PKKP **PKKPab** **00 48 32.4 -0.1**
comp=Z,7.3nm,1.0s
WATA Walderalm 105.14 317 *e*PKiKP **PKiKP** **00 36 48.4 +0.6**
comp=Z,5.1nm,1.0s
WATA *i* PKKP **PKKPab** **00 48 31.7 -0.6**
comp=Z,8.2nm,1.4s
SQTA Sankt Quirin 105.39 317 *i* PKiKP **PKiKP** **00 36 49.8 +1.5**
comp=Z,10nm,1.4s
SQTA *i* PKKP **PKKPab** **00 48 30.5 -0.6**
comp=Z,6.5nm,1.1s
MOTA Moosalm 105.46 317 *i* PKiKP **PKiKP** **00 36 49.8 +1.4**
comp=Z,7.7nm,1.1s
MOTA *i* PKKP **PKKPab** **00 48 30.4 -0.5**
comp=Z,6.8nm,1.0s
SKAR Skarslia 105.49 331 *e*Pdif **Pdif** **00 32 35.4 +0.4**
SKAR IAmb IAmb 00 32 41.8
comp=Z,20nm,1.5s
SKAR *e*SKSac **SKSac** **00 43 00.1 -5.4**
RETA Reutte 105.68 317 *e*PKiKP **PKiKP** **00 36 49.8 +1.1**
comp=Z,3.4nm,1.4s
RETA *i* PKKP **PKKPab** **00 48 29.7 -0.1**
comp=Z,8.4nm,1.7s
FETA Feichten 105.73 316 *e*PKiKP **PKiKP** **00 36 50.6 +1.6**
comp=Z,7.3nm,1.6s
FETA *i* PKKP **PKKPab** **00 48 29.3 -0.4**
comp=Z,11nm,1.3s
DAVA Damuels 106.29 317 *i* PKiKP **PKiKP** **00 36 51.6 +1.6**
comp=Z,14nm,1.4s
DAVA *i* PKKP **PKKPab** **00 48 26.7 -0.5**
comp=Z,9.5nm,1.2s
HYA Hoyanger 106.41 331 *e*Pdif **Pdif** **00 32 41.0 +2.1**
HYA IAmb IAmb 00 32 46.9
comp=Z,24nm,1.2s
HYA *i* 00 37 31.9
HYA *e*SKSac **SKSac** **00 43 12.0 +2.6**
HYA *e*SP **SP** **00 46 14.8 +2.8**
BLS5 Blasjo 106.63 330 *e*Pdif **Pdif** **00 32 41.0 +1.0**
BLS5 IAmb IAmb 00 32 42.4
comp=Z,13nm,1.1s
BLS5 *i* 00 37 35.4
BLS5 *e*SKSac **SKSac** **00 43 10.4 -0.2**
BLS5 *e*SP **SP** **00 46 14.8 +0.4**
EKA Eskdalemuir Ar 112.71 327 PKiKP **PKiKP** **00 37 01.5 -0.1**
comp=Z,0.3nm,0.3s,baz=29,slow=3.6,SNR=8.7
EKA PKKPbc **PKKPbc** **00 47 54.3 +2.1**
comp=Z,0.8nm,0.8s,baz=304,slow=0.6,SNR=3.7
TORD Torodi Ar. Bea 114.07 281 PKP PKPdf 00 37 04.8 -0.5
comp=Z,3.6nm,0.5s,baz=50,slow=2.6,SNR=11
SUMG Summit 114.13 351 *i* P **PKiKP** **00 37 07.0 +2.6**
SUMG IAmb IAmb 00 37 29.9
comp=Z,3.3nm,0.8s
YKA Yellowknife Ar 115.69 23 PKP **PKPdf** **00 37 07.2 +0.1**
comp=Z,1.9nm,0.5s,baz=196,slow=4.2,SNR=34
YKA pPKP **pPKiKP** **00 37 31.6 -3.3**
comp=Z,13nm,0.7s,baz=318,slow=2.5,SNR=23
YKA SKP 00 40 32.4
comp=Z,0.9nm,0.5s,baz=320,slow=2.9,SNR=14
YKA PKKPbc **PKKPbc** **00 47 40.3 -2.0**
comp=Z,2.0nm,0.9s,baz=112,slow=3.3,SNR=10
ESDC Sonseca Array 117.37 310 PKP **PKiKP** **00 37 11.4 +0.2**
comp=Z,2.4nm,0.8s,baz=20,slow=2.8,SNR=12
ESDC SKP 00 40 36.8
comp=Z,1.1nm,0.6s,baz=20,slow=3.0,SNR=6.5
ESDC PKKPbc **PKKPab** **00 47 38.5 +0.3**
comp=Z,5.8nm,1.1s,baz=274,slow=4.1,SNR=17
LLLB Lillooet 117.67 37 PKPdf **PKiKP** **00 37 12.1 +0.7**
PAB San Pablo 117.69 310 **PKiKP** **00 37 13.1 +1.3**
PAB San Pablo 117.69 310 PKiKP **PKiKP** **00 37 13.1 +1.3**
E03A Lebam 118.00 42 **PKiKP** **00 37 12.9 +0.9**
GNW Green Mountain 118.15 40 **PKiKP** **00 37 13.8 +1.5**
F03A Seaside 118.19 42 PKPdf **PKiKP** **00 37 13.9 +1.4**
PBRG Braganca 118.93 313 *e*PKPdf **PKiKP** **00 37 15.9 +1.8**
H04D Lebanon 119.17 44 **PKiKP** **00 37 15.2 +0.8**
KRMB Red Mountain 119.20 47 PKPdf **PKiKP** **00 37 15.2 +0.5**
KRPM Redrings 119.21 48 PKPdf **PKiKP** **00 37 14.8 +0.1**
L02F Cave Junction 119.28 46 **PKiKP** **00 37 16.0 +1.2**
MVO Moncorvo 119.30 312 *e*PKPdf **PKiKP** **00 37 17.1 +2.2**
MVO *i* tx tx 00 37 41.7
KMPM Mount Pierce 119.32 48 PKPdf **PKiKP** **00 37 15.0 +0.1**
KHMM Horse Mountain 119.49 48 PKPdf **PKiKP** **00 37 16.1 +0.7**
HOOD Mount Hood Mea 119.65 42 PKPdf **PKiKP** **00 37 16.3 +0.7**
PVRL Vila Real 119.77 313 *e*PKPdf **PKPdf** **00 37 13.3 -2.4**
DBIC Dimbokro 119.96 273 PKP **PKPdf** **00 37 16.6 -0.1**
comp=Z,10nm,0.8s,baz=108,slow=1.3,SNR=23
DBIC pPKP **pPKPdf** **00 37 42.6 -2.0**
comp=Z,6.1nm,0.7s,baz=173,slow=3.8,SNR=2.8
PCBR Castelo Branco 119.97 311 *e*PKPdf **PKiKP** **00 37 17.0 +0.9**
PCBR *i* tx tx 00 37 41.8
PGAV Gavieira, Arco 119.98 314 *e*PKPdf **PKiKP** **00 37 16.3 +0.1**
YBH Yreka Blue Hor 120.00 47 **PKiKP** **00 37 17.1 +0.8**
YBH Yreka Blue Hor 120.00 47 PKP **PKPdf** **00 37 16.1 -0.1**
comp=Z,0.1nm,0.7s,baz=162,slow=4.1,SNR=4.4
YBH pPKP **pPKPdf** **00 37 41.6 -2.3**
comp=Z,0.5nm,0.9s,baz=0.8,slow=4.4,SNR=7.4
PBAR Barrancos 120.04 309 *e*PKPdf **PKiKP** **00 37 19.4 +3.1**
PESTR Estremoz 120.30 310 *e*PKPdf **PKiKP** **00 37 17.2 +0.4**
BLKN Baker Lake 120.43 15 PKPdf **PKiKP** **00 37 17.3 +1.0**
BLKN pKPPdf **pKPPdf** **00 37 40.0 -4.0**
PSARD Sardoal 120.54 311 *e*PKPdf **PKiKP** **00 37 18.3 +1.0**
PSARD *i* tx tx 00 37 44.5
COI Coimbra 120.57 312 *e*PKPdf **PKiKP** **00 37 18.9 +1.6**
F07A Phinny Hill Vi 120.59 41 PKPdf **PKiKP** **00 37 18.9 +1.7**
PCAS Casmilo, Conde 120.67 312 *e*PKPdf **PKiKP** **00 37 18.2 +0.7**
EVO Evora 120.70 310 *e*PKPdf **PKPdf** **00 37 09.8 -7.7**
PBEJ Beja 120.71 309 *e*PKPdf **PKiKP** **00 37 18.8 +1.3**
PMTG Montargil 120.73 310 *e*PKPdf PKPdf 00 37 08.6 -8.9
PVAQ Vaqueiros 120.74 308 *e*PKPdf **PKiKP** **00 37 18.7 +1.0**
D08A Wollman Farm, 120.81 40 **PKiKP** **00 37 18.8 +1.2**
MESJ Messejana 121.03 309 *e*PKPdf **PKiKP** **00 37 20.8 +2.6**
PARRA Arraiolos 121.41 310 *e*PKPdf **PKPdf** **00 37 18.3 -0.5**
ORV Oroville 121.49 49 pPKPdf pKPPdf 00 37 43.6 -3.1
E09A Wood Farm, Sta 121.51 40 **PKiKP** **00 37 20.0 +1.1**
E09A pKPPdf **pKPPdf** **00 37 43.9 -2.7**
PFVI Vila Bisbo 121.67 308 *e*PKPdf PKPdf 00 37 10.6 -8.8
NVAR Mina Array Bea 124.20 49 PKP **PKiKP** **00 37 26.1 +1.3**
comp=Z,4.8nm,0.7s,baz=269,slow=2.5,SNR=30
NVAR pPKP **pPKPdf** **00 37 50.5 -1.8**
comp=Z,13nm,0.7s,baz=238,slow=2.2,SNR=15
NVAR SKP 00 40 52.7
comp=Z,2.1nm,0.8s,baz=256,slow=2.9,SNR=3.5
LRM Limekiln Ridge 125.39 39 pPKPdf pKPPdf 00 37 50.6 -3.8
NRS Narsarsuaq 125.58 348 *i* P **PKiKP** **00 37 26.7 +0.2**
ELK Elko 125.65 46 PKP **PKiKP** **00 37 27.8 +0.1**
comp=Z,5.6nm,0.6s,baz=268,slow=8.1,SNR=19
ELK pPKP **pPKPdf** **00 37 53.0 -2.0**
comp=Z,20nm,0.8s,baz=286,slow=3.5,SNR=15
FFC Flin Flon 125.69 25 **PKiKP** **00 37 27.4 +0.4**
FFC Flin Flon 125.69 25 PKIKP **PKiKP** **00 37 27.4 +0.4**
EGMT Eagleton 125.91 35 pKPPdf pKPPdf 00 37 52.7 -2.4
WCT Wildcat Mounta 125.97 51 pKPPdf pKPPdf 00 37 53.7 -1.9
BOZ Bozeman (W) 126.00 39 pKPPdf pKPPdf 00 37 53.5 -1.9
QSM Queen of Sheba 126.03 52 pKPPdf pKPPdf 00 37 54.1 -1.5
GWY Greenwater Val 126.12 51 pKPPdf pKPPdf 00 37 53.8 -2.1
TPNV Topopah Spring 126.21 50 pKPPdf pKPPdf 00 37 53.9 -2.2
ELS Elsinore Mount 126.23 55 pKPPdf pKPPdf 00 37 53.8 -2.4
S11A Rachel 126.36 49 **PKiKP** **00 37 30.0 +1.0**
QLMT Earthquake Lak 126.49 40 pKPPdf pKPPdf 00 37 54.0 -2.5
YHL Hebgen Lake 126.63 39 pKPPdf pKPPdf 00 37 54.4 -2.4
YHB Horse Butte 126.67 40 PKPdf **PKiKP** **00 37 30.6 +1.1**
YHB pKPPdf **pKPPdf** **00 37 54.5 -2.4**
DPP Dos Picos Cty 126.79 55 pKPPdf pKPPdf 00 37 55.4 -1.7
YHH Holmes Hill 126.87 39 pKPPdf pKPPdf 00 37 55.8 -1.6
SPR3 Spring Creek 3 126.94 47 pKPPdf pKPPdf 00 37 55.1 -2.5
PRN Pahroc Range 126.97 49 pKPPdf pKPPdf 00 37 56.3 -1.2
YNM Yellowstone No 126.99 39 PKPdf **PKiKP** **00 37 31.9 +1.7**
YNM pKPPdf **pKPPdf** **00 37 56.1 -1.4**
YNR Norris Junctio 127.01 39 PKPdf **PKiKP** **00 37 32.3 +2.0**
PFO Pinyon Flats O 127.02 54 **PKiKP** **00 37 31.4 +0.9**
PFO pKPPdf **pKPPdf** **00 37 55.6 -2.1**
PFO Pinyon Flats O 127.02 54 PKP **PKiKP** **00 37 30.6 +0.1**
comp=Z,3.6nm,0.6s,baz=261,slow=2.2,SNR=9.2
PFO pPKP **pPKPdf** **00 37 55.3 -2.4**
comp=Z,11nm,0.8s,baz=279,slow=3.1,SNR=6.8
YFT Old Faithful 127.04 40 PKPdf **PKiKP** **00 37 32.2 +1.9**
YFT pKPPdf **pKPPdf** **00 37 57.2 -0.4**
PMD Palm Desert 127.08 54 pKPPdf pKPPdf 00 37 54.9 -2.7
BGU Big Grassy Mou 127.13 45 pKPPdf pKPPdf 00 37 55.9 -1.8
TKX Tecate 127.18 56 PKPdf **PKPdf** **00 37 30.4 +0.2**
CBX Cerro Bola 127.20 56 PKPdf **PKiKP** **00 37 31.4 +0.6**
MTPC Mountain Pass 127.20 52 PKPdf **PKiKP** **00 37 32.2 +1.4**
H17A Grant Village 127.23 40 PKPdf **PKiKP** **00 37 32.2 +1.5**
YNE Yellowstone No 127.29 39 PKPdf **PKiKP** **00 37 31.1 +0.3**
FXWY Fox Creek 127.30 41 pPKPdf pKPPdf 00 37 55.7 -2.4
YMP Mirror Lake Pl 127.33 39 PKPdf **PKiKP** **00 37 32.3 +1.3**
DUG Dugway, Tooele 127.57 45 PKPdf **PKiKP** **00 37 31.7 +0.3**
DUG Dugway, Tooele 127.57 45 PKIKP **PKiKP** **00 37 31.7 +0.3**
AHID Auburn Hatcher 127.65 42 pKPPdf pKPPdf 00 37 56.5 -2.2
RLMT Red Lodge 127.69 38 pKPPdf pKPPdf 00 37 56.6 -2.2
ESJX Sierra Juarez 127.86 56 PKPdf **PKiKP** **00 37 33.6 +1.3**
ESJX pKPPdf **pKPPdf** **00 37 58.2 -1.3**
LL02 Futaleuf 128.02 174 PKPdf **PKiKP** **00 37 32.8 +0.7**
CTU Camp Tracy 128.11 44 PKPdf **PKiKP** **00 37 32.9 +0.4**
CTU pKPPdf **pKPPdf** **00 37 57.7 -2.0**
NEE2 Needles Airpor 128.15 52 PKPdf **PKiKP** **00 37 34.1 +1.6**
TCUT Toone Canyon 128.16 44 PKPdf **PKiKP** **00 37 33.9 +1.2**
TCUT pKPPdf **pKPPdf** **00 37 57.9 -1.9**
CCUT Cedar City 128.18 49 **PKiKP** **00 37 33.2 +0.4**
CCUT pKPPdf **pKPPdf** **00 37 58.6 -1.3**
SZCU Shurtz Canyon 128.36 48 PKPdf **PKiKP** **00 37 35.0 +1.8**
SZCU pKPPdf **pKPPdf** **00 37 58.1 -2.2**
LCMT Little Creek M 128.46 49 PKPdf **PKiKP** **00 37 34.1 +0.9**
LCMT pKPPdf **pKPPdf** **00 37 58.0 -2.4**
MPU Maple Canyon 128.47 45 pKPPdf pKPPdf 00 37 58.6 -1.8
GLA Glamis 128.49 55 PKPdf **PKiKP** **00 37 34.8 +1.5**
GLA pKPPdf **pKPPdf** **00 37 59.1 -1.3**
LAO LASA Array 128.65 35 pKPPdf pKPPdf 00 37 59.0 -1.3
PD31 Pinedale Array 128.65 41 PKPdf **PKPdf** **00 37 33.1 +0.1**
PDAR Pinedale Array 128.65 41 PKP **PKPdf** **00 37 33.0 +0.1**
comp=Z,1.2nm,0.4s,baz=349,slow=1.5,SNR=24
PDAR SKPbc SKiKP 00 40 43.5 -17
comp=Z,2.2nm,0.6s,baz=215,slow=0.8,SNR=7.9
DGMT Dagmar 128.72 32 PKPdf **PKPdf** **00 37 32.9 +0.3**
KNB Kanab 128.77 49 PKPdf **PKiKP** **00 37 35.6 +1.7**
KNB Kanab 128.77 49 PKPdf **PKiKP** **00 37 35.6 +1.7**
BSUT Bluidstream Ca 128.86 44 PKPdf **PKiKP** **00 37 34.2 -0.1**
TMUT Trail Mountain 129.07 46 pKPPdf pKPPdf 00 38 00.5 -1.2
Q16A Castle Valley 129.25 46 pKPPdf pKPPdf 00 38 00.1 -1.8
U15A North Rim 129.38 50 **PKiKP** **00 37 36.0 +0.7**
U15A pKPPdf **pKPPdf** **00 38 01.8 -0.5**
113A Mohawk Valley, 129.42 55 **PKiKP** **00 37 35.5 +0.4**
P18A Preston Nutter 129.60 45 pKPPdf pKPPdf 00 37 59.8 -2.9
SRU San Rafael Swe 129.63 46 PKPdf **PKiKP** **00 37 35.5 -0.1**
SRU pKPPdf **pKPPdf** **00 37 59.7 -2.9**
HMU Henry Mountain 129.95 47 pKPPdf pKPPdf 00 38 01.7 -1.6
PIX Pinacate 130.02 56 PKPdf **PKPdf** **00 37 34.9 -0.6**
PIX pKPPdf **pKPPdf** **00 38 01.4 -1.9**
WUAZ Wupatki 130.40 50 pKPPdf pKPPdf 00 38 02.4 -1.7
214A Organ Pipe Nat 130.44 55 PKPdf **PKiKP** **00 37 37.7 +0.5**
PLCA Paso Flores 130.58 175 PKPdf **PKiKP** **00 37 38.3 +1.0**
PLCA Paso Flores 130.58 175 PKP **PKiKP** **00 37 37.9 +0.5**
comp=Z,5.9nm,1.0s,baz=257,slow=5.5,SNR=4.4
PLCA PP **PP** **00 39 50.8 -0.1**
comp=Z,10nm,1.2s,baz=179,slow=8.0,SNR=3.0
PLCA SKPbc **SKPab** **00 40 52.0 +0.8**
comp=Z,42nm,1.2s,baz=198,slow=4.3,SNR=11
K22A Casper 130.65 40 pKPPdf pKPPdf 00 38 02.1 -2.4
X16A Lo Mia Camp, P 130.74 52 pKPPdf pKPPdf 00 38 03.2 -1.6
O20A White River Ci 130.76 43 pKPPdf pKPPdf 00 38 02.7 -2.0
LR05 Currie 130.93 173 PKPdf **PKiKP** **00 37 38.4 +0.5**
PV21 Cone Mtn., Par 130.96 46 PKPdf **PKiKP** **00 37 39.3 +1.0**
PV23 Carpenter Ridg 130.98 46 pKPPdf pKPPdf 00 38 04.4 -0.9
PV10 Paradox Valley 130.99 46 pKPPdf pKPPdf 00 38 03.2 -2.1
PV14 Lion Creek, Pa 131.00 46 PKPdf **PKiKP** **00 37 38.8 +0.4**
PV14 pKPPdf **pKPPdf** **00 38 03.6 -1.7**
PV20 West Nyswonger 131.06 46 pKPPdf pKPPdf 00 38 04.1 -1.2
PV19 Morning Glory 131.06 46 pKPPdf pKPPdf 00 38 03.4 -2.0
PV04 Paradox Valley 131.08 46 PKPdf **PKiKP** **00 37 39.4 +0.9**
**PV17 East Wray Mesa 131.09

X18A	Snowflake	131.85	51	PKPdf	PKiKP	00 37 40.6	+0.4	
X18A				pPKPdf	pPKPdf	00 38 05.8	-1.2	
MVCO	Mesa Verde	131.87	47	PKPdf	PKiKP	00 37 40.6	+0.4	
MVCO				pPKPdf	pPKPdf	00 38 04.7	-2.3	
TUC	Tucson	131.96	54	pPKPdf	pPKPdf	00 38 05.1	-2.0	
TUC	Tucson	131.96	54	PKPdf	PKiKP	00 37 40.5	+0.1	
TUC	Tucson	131.96	54	PKIKP	PKiKP	00 37 40.5	+0.1	
ISCO	Idaho Springs	132.69	43	pPKPdf	pPKPdf	00 38 05.9	-2.6	
HSIG		132.81	58	PKPdf	PKiKP	00 37 42.2	+0.2	
HSIG				pPKPdf	pPKPdf	00 38 06.8	-1.9	
S22A	4UR Ranch, Cre	132.83	46	pPKPdf	pPKPdf	00 38 07.2	-1.7	
EPLO	Experimental L	132.85	25	PKPdf	PKiKP	00 37 41.0	-0.5	
EPLO				pPKPdf	pPKPdf	00 38 05.2	-2.9	
AGMN	Agassiz Nation	132.95	27	PKPdf	PKiKP	00 37 39.9	-0.6	
AGMN				pPKPdf	pPKPdf	00 38 05.7	-2.6	
DUN6	Lazy B Ranch	133.23	53	PKPdf	PKiKP	00 37 43.1	+0.2	
TRQA	Tornquist	133.36	184		PKiKP	00 37 42.7	-0.3	
TRQA	Tornquist	133.36	184	PKIKP	PKiKP	00 37 42.7	-0.3	
319A	Douglas	133.47	55	PKPdf	PKiKP	00 37 44.2	+0.7	
SDCO	Great Sand Dun	133.76	45	PKPdf	PKiKP	00 37 44.9	+0.8	
SDCO				pPKPdf	pPKPdf	00 38 09.2	-1.4	
SCHQ	Schefferville	133.99	1	PKPdf	PKiKP	00 37 44.1	+0.4	
SCHQ	Schefferville	133.99	1	PKP	PKiKP	00 37 43.1	-0.5	
	comp=Z,6.6nm,0.7s,baz=2.7,slow=1.7,SNR=16							
SCHQ				SKPbc	SKPbc	00 41 01.8	-0.7	
	comp=Z,13nm,0.7s,baz=41,slow=3.8,SNR=10							
SUSD	Miller	134.07	33	pPKPdf	pPKPdf	00 38 07.1	-3.5	
ANMO	Albuquerque	134.33	49		PKiKP	00 37 45.1	-0.1	
ANMO	Albuquerque	134.33	49	PKP	PKiKP	00 37 44.8	-0.5	
	comp=Z,3.4nm,0.7s,baz=282,slow=1.3,SNR=15							
ANMO				SKPbc	SKPbc	00 41 04.5	0.0	
	comp=Z,19nm,0.9s,baz=0.4,slow=2.5,SNR=21							
OGNE	Ogallala	134.40	39	PKPdf	PKiKP	00 37 44.7	-0.4	
F33A	5 Mile Ranch,	134.51	30	pPKPdf	pPKPdf	00 38 08.5	-2.9	
BNM	Barren Site	134.53	50	pPKPdf	pPKPdf	00 38 09.8	-2.3	
CRNM	Carthage	134.53	50	PKPdf	PKiKP	00 37 46.2	+0.5	
CRNM				pPKPdf	pPKPdf	00 38 10.5	-1.5	
T25A	Trinidad	134.82	45	PKPdf	PKiKP	00 37 46.0	-0.2	
T25A				pPKPdf	pPKPdf	00 38 10.5	-2.0	
K30B	Basset	134.83	36	PKPdf	PKPdf	00 37 44.7	+0.4	
EYMN	Ely	135.12	25	pPKPdf	pPKPdf	00 38 10.1	-2.4	
TBO	Thunder Bay	135.30	25	pPKPdf	pPKPdf	00 38 09.7	-2.9	
ECSD	EROS Data Cent	135.80	33	PKPdf	PKiKP	00 37 47.1	-0.6	
E38A	The Farm, Brul	136.15	26	PKPdf	PKPdf	00 37 46.8	+0.2	
E38A				pPKPdf	pPKPdf	00 38 11.7	-2.7	
MNTX	Cornudas Mount	136.46	53	PKPdf	PKiKP	00 37 49.9	+0.5	
MNTX				pPKPdf	pPKPdf	00 38 14.2	-1.2	
BGNE	Belgrade	136.47	36	PKPdf	PKPdf	00 37 48.1	+0.7	
BGNE				pPKPdf	pPKPdf	00 38 12.1	-3.1	
CBKS	Cedar Bluff	137.06	40	PKPdf	PKiKP	00 37 49.9	-0.6	
CBKS	Cedar Bluff	137.06	40	PKIKP	PKiKP	00 37 49.9	-0.6	
VHRN	Van Horn	137.13	54	PKPdf	PKPdf	00 37 49.8	+0.7	
BO04	La Punta	137.25	174	PKPdf	PKPdf	00 37 49.1	-0.1	
CLN7	Carlsbad 7	137.40	51	PKPdf	PKiKP	00 37 51.5	+0.1	
MSTX	Muleshoe	137.49	48		PKPpre	00 37 42.2		
MSTX				PKPdf	PKiKP	00 37 51.1	-0.5	
G40A	Rib Lake	137.78	26	pPKPdf	pPKPdf	00 38 14.8	-2.6	
AMTX	Amarillo	137.85	46	PKPpre	PKPpre	00 37 43.0		
MT08	Bocatoma Ro	137.85	174	PKPpre	PKPpre	00 37 42.5		
MT08				PKPdf	PKPdf	00 37 49.8	-0.8	
HPIG		137.89	59	PKPdf	PKPdf	00 37 48.3	-2.4	
R32A	Long Quarter,	137.95	40	pPKPdf	pPKPdf	00 38 15.0	-3.0	
N35A	Tabor	138.26	35	PKPdf	PKPdf	00 37 51.7	+1.0	
ALPN	Alpine	138.36	54	PKPdf	PKiKP	00 37 53.3	-0.2	
ODSA	Odessa	138.49	51	PKPdf	PKiKP	00 37 53.4	-0.2	
SACV	Santiago Islan	138.62	283	PKPdf	PKiKP	00 37 53.2	-1.0	
MNHN	Monahans	138.66	52	PKPdf	PKiKP	00 37 53.3	-0.7	
I40A	Norwalk	138.67	28	PKPdf	PKPdf	00 37 52.2	+0.8	
TX31	Lajitas Ar. Si	138.73	55	PKPpre	PKPpre	00 37 44.5		
TX31				PKPdf	PKiKP	00 37 53.8	-0.4	
TXAR	Lajitas Array	138.73	55	PKhKP	PKPpre	00 37 44.3		
	comp=Z,1.8nm,0.6s,baz=260,slow=3.3,SNR=18							
TXAR				SKPbc	SKPbc	00 41 17.5	-0.3	
	comp=Z,8.9nm,0.6s,baz=260,slow=1.4,SNR=15							
SMWD	Samnorwood	138.75	45	PKPpre	PKPpre	00 37 44.3		
SMWD				PKPdf	PKiKP	00 37 53.2	-0.9	
ELIS	Ellis County	138.81	43	PKPpre	PKPpre	00 37 44.6		
ELIS				PKPdf	PKPdf	00 37 52.9	+0.9	
POST	Post	138.85	49	PKPdf	PKiKP	00 37 53.6	-0.7	
SCIA	State Center	138.87	32	PKPdf	PKiKP	00 37 53.1	-0.9	
DKNS	Dickens	138.99	48	PKPdf	PKiKP	00 37 55.0	+0.5	
OK038	West end E0370	139.04	42	PKPpre	PKPpre	00 37 45.7		
OK038				PKPdf	PKiKP	00 37 55.0	+0.5	
E46A	Sault Ste Mari	139.15	20	pPKPdf	pPKPdf	00 38 18.0	-2.1	
KAN14	Manchester OK	139.28	41	PKPpre	PKPpre	00 37 46.1		
KAN14				PKPdf	PKiKP	00 37 54.9	-0.1	
SN07	Snyder 07	139.29	48	PKPdf	PKiKP	00 37 55.6	+0.4	
KAN01	Argonia South	139.30	41	PKPpre	PKPpre	00 37 46.8		
KAN17	Caldwell West	139.36	41	PKPdf	PKiKP	00 37 54.3	-0.9	
SN05	Snyder 5	139.39	49	PKPdf	PKiKP	00 37 54.3	-1.1	
KAN09	Caldwell North	139.40	41	PKPdf	PKiKP	00 37 54.4	-0.9	
H43A	Windswept, Lux	139.45	25	PKPdf	PKPdf	00 37 52.5	-0.3	
CROK	Carrier	139.53	42	PKPdf	PKiKP	00 37 54.9	-0.6	
CROK				pPKPdf	pPKPdf	00 38 18.5	-2.5	
CSTR	Hydro, Custer	139.54	43		PKiKP	00 37 55.4	-0.2	
CSTR				pPKPdf	pPKPdf	00 38 19.7	-1.4	
KAN13	South Haven SW	139.56	41	PKPdf	PKPdf	00 37 54.2	+1.0	
KAN13				pPKPdf	pPKPdf	00 38 17.4	-3.6	
JFWS	Jewell Farm	139.59	28	pPKPdf	pPKPdf	00 38 17.2	-3.7	
N38A	Joes South For	139.64	33	PKPdf	PKPdf	00 37 53.5	+0.3	
N38A				pPKPdf	pPKPdf	00 38 17.6	-3.5	
SAND	Sanderson	139.73	53	PKPpre	PKPpre	00 37 47.8		
CO02	Combarbal	139.96	173	PKPdf	PKiKP	00 37 55.6	-1.1	
DEOK	Depew	140.89	42	PKPpre	PKPpre	00 37 49.9		
DRIO	Del Rio	141.14	53		PKPdf	00 37 57.0	+0.8	
P40A	Paris	141.18	34		PKPpre	00 37 51.1		
P40A				PKPdf	PKiKP	00 37 58.0	-0.7	
PLPT	Palo Pinto	141.31	47		PKPpre	00 37 51.8		
JCT	Junction City	141.32	51	pPKPdf	pPKPdf	00 38 22.9	-1.5	
FW03	Perrin-Whitt E	141.37	46	pPKPdf	pPKPdf	00 38 20.1	-4.3	
BRDY	Brady	141.56	50	pPKPdf	pPKPdf	00 38 24.3	-0.5	
U38A	Gravette	141.88	39	pPKPdf	pPKPdf	00 38 22.4	-2.8	
R40A	Maddies Statio	141.92	35	pPKPdf	pPKPdf	00 38 21.7	-3.5	
SADO	Sadowa	142.17	16	pPKPdf	pPKPdf	00 38 22.1	-3.4	
HHAR	Hobbs	142.26	39	pPKPdf	pPKPdf	00 38 23.0	-2.9	
VAS01	Vassouras-RJ	142.39	215	eP	PKPdf	00 37 58.1	-0.7	
P43A	Skaggs, Pawnee	142.43	31	pPKPdf	pPKPdf	00 38 23.2	-2.9	
CCM	Cathedral Cave	142.66	34		PKPpre	00 37 53.7		
CCM	Cathedral Cave	142.66	34	PKHKP	PKPpre	00 37 53.7		
RIB01	Linhares ES	142.78	221	eP	PKPdf	00 37 59.9	+0.4	
SFIN	Lafayette	143.04	28	pPKPdf	pPKPdf	00 38 25.0	-2.1	
GBN	Guysborough	143.28	355		PKPdf	00 37 58.2	-1.3	
SPB	Sao Paulo	143.38	208	eP	PKPdf	00 38 01.0	+0.6	
VAO	Valinhos	143.65	210		PKPdf	00 38 00.5	-0.6	
VAO	Valinhos	143.65	210	eP	PKPdf	00 38 00.7	-0.3	
SJMB	Sao Joao De Ma	143.72	221	eP	PKPdf	00 38 01.6	+0.4	
AC06	Mina Casimiro	143.83	173		PKPdf	00 38 00.3	-0.9	
BSCB	Bom Sucesso	144.16	214	eP	PKPdf	00 38 01.9	-0.1	
GUA01	Guaratinga, BA	144.28	225	eP	PKPdf	00 38 01.9	-0.3	
CPUP	Villa Florida	144.28	193	PKP	PKPdf	00 38 01.3	-0.6	
	comp=Z,32nm,1.0s,baz=23,slow=2.1,SNR=65							
CPUP				PP	PP	00 41 16.7	+0.6	
	comp=Z,13nm,1.3s,baz=48,slow=4.7,SNR=4.3							
CPUP				SKPbc	SKPbc	00 41 32.2	+0.3	
	comp=Z,3.1nm,0.8s,baz=7.5,slow=2.3,SNR=3.3							
PTGB	Pitanga	144.30	201	eP	PKPdf	00 38 02.1	0.0	
FRTB	Fartura	144.55	206	eP	PKPdf	00 38 04.0	+1.4	
HKT	Hockley	144.59	49		PKPdf	00 38 02.5	+0.2	
HKT	Hockley	144.59	49	PKIKP	PKPdf	00 38 02.5	+0.2	
CMC01	Camacan, BA	144.89	227	eP	PKPab	00 38 01.8	-0.7	
WCI	Wyandotte Cave	145.12	29		PKPbc	00 38 02.4	-0.3	
WCI	Wyandotte Cave	145.12	29	PKIKP	PKPbc	00 38 02.4	-0.3	
SJPY	San Joaquin	145.28	195	eP	PKPbc	00 38 02.5	-1.1	
DIAM	Diamantina, MG	145.61	219	eP	PKPab	00 38 06.3	+0.9	
NBAN	Anadia - AL	145.68	239	eP	PKPdf	00 38 04.4	-0.2	
HRV	Adam Dziewonsk	145.91	8		PKPbc	00 38 04.7	-0.3	
HRV	Adam Dziewonsk	145.91	8	PKP2	PKPbc	00 38 04.7	-0.3	
WVT	Waverly	145.94	33		PKPbc	00 38 04.9	-0.4	
WVT	Waverly	145.94	33	PKP2	PKPbc	00 38 04.9	-0.4	
GDU01	Guandu, BA	145.99	229	eP	PKPdf	00 38 05.0	-0.2	
BB19B	Bebedouro	146.05	209	eP	PKPdf	00 38 04.9	-0.3	
SSPA	Standing Stone	146.34	17		PKPbc	00 38 05.7	-0.6	
PCMB	Pacaembu	146.80	205	eP	PKPbc	00 38 07.4	-0.9	
AMBA	Amambai (Brazi	146.93	198	eP	PKPdf	00 38 07.4	+0.8	
PMNB	Patos De Minas	147.06	215	eP	PKPdf	00 38 07.8	+0.8	
RCBR	Riachuelo	147.18	245	eP	PKPdf	00 38 07.4	+0.1	
PB10	IPOC Station P	147.59	171		PKPbc	00 38 11.2	+0.8	
S54A	Dingess, Beckl	147.69	24		PKPbc	00 38 09.8	-0.6	
ITRB	Iturama	148.09	208	eP	PKPdf	00 38 09.1	+0.5	
346A	Big Creek Wild	148.25	41	PKPdf	PKPdf	00 38 09.5	+1.0	
FPAL	Fort Paine	148.33	33		PKPdf	00 38 08.5	-0.1	
FPAL					PKPbc	00 38 12.0	-0.1	
TKL	Tuckaleechee C	148.39	29	PKP	PKPdf	00 38 09.0	+0.4	
	comp=Z,64nm,0.6s,baz=155,slow=4.5,SNR=74							
TKL				PKPbc	PKPbc	00 38 12.1	-0.1	
	comp=Z,64nm,0.6s,baz=348,slow=0.7,SNR=48							
JANB	Januaria	148.42	222	eP	PKPdf	00 38 09.8	+0.5	
IPMB	Ipameri, GO	148.48	213	eP	PKPdf	00 38 09.8	+0.4	
BLA	Blacksburg	148.55	23	PKPbc	PKiKP	00 38 13.3	-0.7	
BLA	Blacksburg	148.55	23	PKP2	PKiKP	00 38 13.4	-0.7	
S57A	Dark Hollow, R	148.61	21		PKPdf	00 38 10.0	+1.1	
S57A				PKPbc	PKiKP	00 38 13.4	-0.7	
X51A	Calhoun	148.71	32		PKPdf	00 38 10.4	+1.2	
X51A				PKPbc	PKPbc	00 38 13.6	+0.6	
CBN	Corbin Frederi	148.73	18	PKPdf	PKPdf	00 38 10.0	+1.0	
W52A	Murphy	148.76	30	PKPdf	PKPdf	00 38 10.2	+0.9	
RPRD	Ribas do Rio P	148.77	202	eP	PKPdf	00 38 11.0	+1.3	
MURT	Porto Murtinho	148.85	194	eP	PKPdf	00 38 10.6	+0.8	
PB03	IPOC Station P	149.14	172	PKPdf	PKPdf	00 38 11.7	+1.3	
V55A	Taylorsville	149.40	26		PKPdf	00 38 10.9	+0.7	
V55A				PKPbc	PKPbc	00 38 15.1	+0.4	
AQDB	Aquidauana	149.45	198	eP	PKPdf	00 38 11.3	+0.6	
BDQN	Bodoquena, MS	149.78	196	eP	PKPdf	00 38 12.1	+0.9	
PB02	IPOC Station P	149.84	172		PKPdf	00 38 13.0	+1.5	
PB02				PKPbc	PKiKP	00 38 18.8	+1.5	
BRAL	Brewton	149.93	39	PKPdf	PKPdf	00 38 12.9	+1.7	
C2SB	Chapadao do Su	149.99	204	eP	PKPdf	00 38 13.0	+1.3	
PAULI	Pauline	150.00	28	PKPbc	PKiKP	00 38 17.1	+0.1	
NBCL	Cascavel-CE	150.02	246	eP	PKPdf	00 38 13.1	+1.3	
CMIG	Matias Romero	150.17	71	PKPbc	PKPbc	00 38 16.7	-0.3	
	comp=Z,12nm,0.5s,baz=293,slow=0.8,SNR=8.5							
PB01	IPOC Station P	150.17	172	PKPbc	PKiKP	00 38 19.2	+1.2	
BDFB	Brasilia	150.27	216	PKP	PKPdf	00 38 12.5	+0.3	
	comp=Z,32nm,1.1s,baz=224,slow=3.4,SNR=6.0							
BDFB				PKPbc	PKiKP	00 38 18.6	+0.3	
	comp=Z,44nm,0.9s,baz=118,slow=1.6,SNR=38							
HODGE	Hodges	150.27	29	PKPbc	PKiKP	00 38 17.8	+0.2	
V58A	Windy Hill, Pi	150.30	23	PKPbc	PKiKP	00 38 17.6	-0.1	
GOGA	Godfrey	150.33	31	PKPbc	PKiKP	00 38 18.2	+0.4	
GOGA	Godfrey	150.33	31	PKIKP	PKiKP	00 38 18.2	+0.4	
W57A	Gilead	150.51	25	PKPbc	PKiKP	00 38 18.1	0.0	
NBPB	Pedra_Branca-C	150.57	242	eP	PKPdf	00 38 13.2	+0.5	
JSC	Jenkinsville	150.70	27	PKPbc	PKiKP	00 38 18.6	+0.1	
JSC	Jenkinsville	150.70	27	PKIKP	PKiKP	00 38 18.6	+0.1	
SDBA	SAO DESIDERIO	150.72	225	eP	PKPdf	00 38 13.7	+0.8	
BIRD	Birdtown, Kers	150.74	26	PKPbc	PKiKP	00 38 18.7	+0.1	
451A	Vernon	151.12	38	PKPdf	PKPdf	00 38 14.9	+1.9	
154A	Montrose	151.14	32	PKPdf	PKPdf	00 38 15.2	+2.2	
V61A	Roper	151.20	19	PKPdf	PKPdf	00 38 14.1	+1.1	
Y57A	Sumter	151.31	26	PKPdf	PKPdf	00 38 15.6	+2.4	
PB11	IPOC Station P	151.41	172	PKPdf	PKPdf	00 38 15.2	+1.2	
PB11				PKPbc	PKiKP	00 38 21.3	+0.7	
Y58A	Scranton	151.72	26	PKPbc	PKiKP	00 38 21.6	+1.0	
NHSC	New Hope	152.17	27	PKPdf	PKPdf	00 38 17.2	+2.6	
ARAG	Araguaiana, MT	152.23	209	eP	PKPdf	00 38 16.2	+1.1	
PB16	IPOC Station P	152.83	172	PKPdf	PKPdf	00 38 16.9	+0.2	
PB16				PKPab	PKPab	00 38 37.2	+2.2	
SALV	Santo Antonio	153.70	202	eP	PKPdf	00 38 17.6	+0.4	
LPAZ	La Paz	155.02	174	PKP	PKPdf	00 38 20.9	+1.0	
	comp=Z,1.9nm,0.8s,baz=31,slow=1.3,SNR=9.8							
LPAZ				PKPab	PKPab	00 38 45.3	+1.0	
	comp=Z,46nm,0.6s,baz=205,slow=2.2,SNR=45							
LPAZ				PP	PP	00 42 21.8	+3.0	
	comp=Z,11nm,1.1s,baz=150,slow=4.0,SNR=3.9							
SMTB	Santa Maria do	155.07	226	eP	PKPdf	00 38 19.1	-0.2	
SIV	San Ignacio	155.08	190	PKP	PKPdf	00 38 18.9	-0.3	
	comp=Z,5.1nm,1.1s,baz=209,slow=4.2,SNR=13							
SIV				PKPab	PKPab	00 38 44.5	+0.7	
	comp=Z,28nm,1.0s,baz=191,slow=3.6,SNR=11							
SIV				PP	PP	00 42 20.4	+1.9	
	comp=Z,40nm,1.2s,baz=184,slow=5.7,SNR=21							
SNDB	Serra Nova Dou	155.09	215	eP	PKPdf	00 38 19.4	+0.1	
PTLB	Pontes e Lacer	155.19	195	PKPab	PKPab	00 38 45.2	+0.9	
PTLB	Pontes e Lacer	155.19	195	eP	PKPdf	00 38 20.2	+0.9	
VILB	Vilhena	157.85	194		PKPab	00 38 56.3	+0.5	
VILB	Vilhena	157.85	194	eP	PKPdf	00 38 24.1	+1.2	
PDRB	Porto dos Gac	158.02	203	eP	PKPdf	00 38 23.4	+0.3	
CLDB	Colider	158.30	206	eP	PKPdf	00 38 23.6	+0.2	
PRPB	Parauapebas	158.51	227	eP	PKPdf	00 38 24.4	+0.7	
HERN	Volcan Telica	158.65	78	PKPdf	PKPdf	00 38 25.4	+1.5	
TMAB	Tom-Au,PA,Br	159.49	238	eP	PKPdf	00 38 25.6	+0.8	
ACON	Acoyapa	160.34	79	PKPdf	PKPdf	00 38 26.7	+1.0	
ACON					PKPab	00 39 07.8	+0.9	
NPGB	Novo Progresso	161.39	213	eP	PKPdf	00 38 27.1	+0.2	
HDC	Heredia	161.55	85	eP	PKPdf	00 38 29.3	+2.1	
CZSB	Cruzeiro do Su	162.14	156	PKPab	PKPab	00 39 15.5	+1.0	
CZSB	Cruzeiro do Su	162.14	156	eP	PKPdf	00 38 28.2	+0.5	
ITTB	Itaituba	163.79	217	eP	PKPdf	00 38 29.7	+0.4	
OTAV	Otavalo	164.56	122	eP	PKPdf	00 38 31.8	+1.2	
TBTG	Tabatinga, AM	166.44	161	eP	PKPdf	00 38 31.3	-0.2	
MDP	Montagnes des	166.78	255	PKPab	PKPab	00 39 35.9	+0.6	
	comp=Z,12nm,0.7s,baz=259,slow=3.5,SNR=9.4							
MDP				PP	PP	00 43 26.0	+2.5	
	comp=Z,9.3nm,1.1s,baz=92,slow=7.0,SNR=4.5							
MACA	Manacapuru-AM	167.28	202	eP	PKPdf	00 38 32.7	+0.6	
TEFE	Tefe	167.83	184	eP	PKPdf	00 38 33.4	+0.9	
ROSC	El Rosal	170.40	113	PKP	PKPdf	00 38 34.4	-0.3	
	comp=Z,3.3nm,0.4s,baz=110,slow=3.0,SNR=9.5							
ROSC				PKPab	PKPab	00 39 51.5	-0.2	
	comp=Z,6.4nm,0.5s,baz=112,slow=5.3,SNR=4.6							
RUSC	La Rusia	171.94	110	PKPab	PKPab	00 40 00.7	+2.0	
BOAV	Boa Vista	172.03	218		PKPab	00 39 59.1	+0.8	
BOAV	Boa Vista	172.03	218	eP	PKPdf	00 38 35.0	0.0	
SDV	Santo Domingo	174.88	88	PKP	PKPdf	00 38 35.3	-1.0	
	comp=Z,5.0nm,0.3s,baz=188,slow=2.5,SNR=6.5							
SDV				PKPab	PKPab	00 40 11.3	-0.2	
	comp=Z,17nm,0.6s,baz=239,slow=3.6,SNR=6.0							
SDV	Santo Domingo	174.88	88	eP	PKPdf	00 38 36.9	+0.7	

*IDC **16** 00:27:14.7±2.2,55°.88S×27°.41W,h0km,mb4.3/2, mbtmp4.3/2,Error ellipse: s-maj=150.1km s-min=32.9km az=14.0*

*NEIC **16** 00:27:16.9±1.4,55°.9S±0°.1×27°.57W±0°.08,h10km±1km, mb4.7/34,Error ellipse: s-maj=23.4km s-min=4.4km az=15.0*

ISC 16 00:27:16.3±0.6,55°.8S±0°.1×27°.58W±0°.09,h10km,n43, σ0s93/44,mb4.7/18,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	5.35	283		Pn	00 28 36.6	+0.6
HOPE				Sn	Sn	00 29 35.7	-1.9
SMAI	San Martin Ant	21.80	220	P	P	00 32 07.9	0.0
TRQA	Tornquist	29.03	293	P	P	00 33 16.9	+0.6
PLTB	Pedras Altas	30.18	312	P	P	00 33 25.0	-1.5
QSPA	South Pole Qui	34.43	180	P	P	00 34 01.2	-2.4
QSPA				IAmb	IAmb	00 34 23.2	
	comp=Z,14nm,1.1s						
MT09	Talagante	37.03	288	P	P	00 34 26.0	-0.2
MT09				IAmb	IAmb	00 34 30.7	
	comp=Z,13nm,1.1s						
MT01	Popeta	37.10	288	P	P	00 34 24.7	-1.9
MT01				IAmb	IAmb	00 34 41.2	
	comp=Z,24nm,1.4s						
MT02	Curacav	37.51	289	P	P	00 34 31.4	+1.3
ZON	Zonda	37.54	293	P	P	00 34 30.5	0.0
ZON				IAmb	IAmb	00 34 32.4	
	comp=Z,9.8nm,0.7s						
CO02	Combarbal	39.03	291	P	P	00 34 43.7	+0.7
CO02				IAmb	IAmb	00 35 00.5	
	comp=Z,17nm,0.9s						
CO03	El Pedregal	39.15	291	P	P	00 34 44.8	+0.8
CO03				IAmb	IAmb	00 34 49.6	
	comp=Z,29nm,1.4s						
CO01	Juntas del Tor	39.53	293	P	P	00 34 48.4	+1.1
GO04	Tololo Observa	39.74	292	P	P	00 34 49.4	+0.3
LCO	Las Campanas	40.61	293	P	P	00 34 56.8	+0.4
AC04	Llanos de Chal	41.46	293	P	P	00 35 03.5	+0.5
AC04				IAmb	IAmb	00 35 04.5	
	comp=Z,19nm,0.8s						
GO03	Copiapo	41.52	295	P	P	00 35 04.4	+0.8
GO03				IAmb	IAmb	00 35 04.6	
	comp=Z,13nm,0.9s						
AC02	Maricunga	41.58	297	P	P	00 35 05.8	+1.2
AC06	Mina Casimiro	41.77	295	P	P	00 35 05.8	+0.2
AC06				IAmb	IAmb	00 35 06.6	
	comp=Z,7.2nm,0.7s						
AC01	Pan de Azucar	42.89	296	P	P	00 35 15.1	+0.3
GO02	Mina Guanaco	43.19	298	P	P	00 35 18.3	+0.8
GO02				IAmb	IAmb	00 35 33.1	
	comp=Z,31nm,1.4s						
PB14	IPOC Station P	44.05	297	P	P	00 35 23.9	-0.6
PB14				IAmb	IAmb	00 35 25.1	
	comp=Z,21nm,1.2s						
BOSA	Boshof	46.13	76	P	P	00 35 40.1	-0.6
	comp=Z,2.0nm,0.9s,baz=192,slow=12,SNR=1.2						
	comp=Z,2.0nm,0.9s						
SBA	Scott Base	46.29	184	P	P	00 35 43.2	+2.0
SBA				IAmb	IAmb	00 36 07.8	
	comp=Z,13nm,1.4s						
PB01	IPOC Station P	46.61	301	P	P	00 35 45.0	+0.5
PB01				IAmb	IAmb	00 35 46.3	
	comp=Z,7.0nm,0.8s						
VNDA	Vanda	46.79	183	P	P	00 35 45.4	+0.2
PTLB	Pontes e Lacer	46.98	316	P	P	00 35 47.2	-0.1
PB08	IPOC Station P	47.22	302	P	P	00 35 49.9	+0.3
PB08				IAmb	IAmb	00 35 53.3	
	comp=Z,5.6nm,0.8s						
HMBC	Humberstone	47.45	301	P	P	00 35 51.5	+0.3
GO01	Chusmiza	47.64	302	P	P	00 35 53.6	+0.5
PB11	IPOC Station P	47.78	302	P	P	00 35 54.2	+0.5
PB16	IPOC Station P	48.93	303	P	P	00 36 03.4	+0.3
PB16				IAmb	IAmb	00 36 08.8	
	comp=Z,14nm,1.5s						
LPAZ	La Paz	50.07	305	P	P	00 36 12.6	+0.8
LPAZ				IAmb	IAmb	00 36 14.8	
	comp=Z,4.8nm,0.7s						
LPAZ	La Paz	50.07	305	P	P	00 36 12.7	+0.8
	comp=Z,4.6nm,0.6s,baz=151,slow=6.9,SNR=27						
	comp=Z,4.6nm,0.6s						
MREMI	Moremi	52.12	74	P	P	00 36 26.0	-0.7
MREMI				IAmb	IAmb

	18nm,0.3s							
KUU	**Kurty**	**3.51**	**339**	*e*P		**Pg**	**00 43 06.2**	**-3.4**
	4.3nm,0.1s							
KUU				*e*S		**Sg**	**00 43 54.0**	**-1.1**
	18nm,0.3s							
KRBS	**Karabastau**	**3.55**	**331**	Pg		**Pb**	**00 43 06.6**	**+1.4**
	5.2nm,0.5s							
KRBS				Lg		Lg	00 43 54.7	
	6.3nm,0.4s							
ARXS	**Arharly**	**3.59**	**357**	Pg		**Pb**	**00 43 07.1**	**+1.2**
	3.4nm,0.5s							
ARXS				Lg		Lg	00 43 55.7	
	8.7nm,0.4s							
USP	**Ospenovka**	**3.75**	**316**	P		**Pb**	**00 43 10.4**	**+1.8**
	SNR=6.2							
USP	**Ospenovka**	**3.75**	**316**	⇓*i*P		**Pn**	**00 43 02.6**	**+2.3**
USP				⇓*i*S		**Sn**	**00 43 47.5**	**+3.0**
KNOS	**Konyrlen**	**3.82**	**12**	Pg		**Pg**	**00 43 11.4**	**-4.2**
	3.7nm,0.6s							
KNOS				Lg		Lg	00 44 03.0	
MRKS	**Merke**	**4.20**	**302**	*e*P		**Pg**	**00 43 19.7**	**-3.1**
	1.9nm,0.3s							
MRKS				*e*S		**Sg**	**00 44 16.9**	**-0.3**
	4.6nm,0.6s							

IDC ***16*** *00:46:18.0±2.2,38°.31S×177°.37E,h0km,mb3.7/3, mbtmp3.7/3,MS4.3/3,2,Error ellipse: s-maj=67.9km s-min=38.5km az=47.0*
NOU ***16*** *00:46:26.8,39°.055S×176°.81E,h46km,MLv4.0/14,North Island, New Zealand*
WEL ***16*** *00:46:27.7±0.5,39°S±3'×17°.7E±°,h42km±5km,M4.0/97, ML4.4/32,MLv4.0/97,Error ellipse: s-maj=4.4km s-min=3.7km az=64.7,confirmed*

ISC 16 00:46:27.6±0.9,39°.00S±0'.03×176°.77E±0'.03,h58km±5km, n158,σ1°.05/163,mb3.9/3,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMHZ	**Naumai**	**0.11**	**164**	P	**Pn**	**00 46 36.6**	**0.0**
NMHZ				S	**Sn**	**00 46 43.4**	**+0.5**
MTHZ	**Maungataniwha**	**0.15**	**22**	P	**Pn**	**00 46 35.9**	**-0.8**
MTHZ				S	**Sn**	**00 46 42.5**	**-0.7**
RAHZ	**Arahi**	**0.26**	**72**	P	**Pn**	**00 46 37.1**	**-0.1**
RAHZ				S	**Sn**	**00 46 44.6**	**+0.4**
BKZ	**Black Stump Fm**	**0.27**	**231**	P	**Pn**	**00 46 37.0**	**-0.4**
BKZ	**Black Stump Fm**	**0.27**	**231**	S	**Sn**	**00 46 44.7**	**+0.2**
BKZ	**Black Stump Fm**	**0.27**	**231**	P	**Pn**	**00 46 37.1**	**-0.3**
MRHZ	**Matea Rd**	**0.32**	**300**	P	**Pn**	**00 46 37.1**	**-0.6**
MRHZ				S	**Sn**	**00 46 43.9**	**-1.1**
ARHZ	**Aropaoanui**	**0.32**	**147**	P	**Pn**	**00 46 38.2**	**+0.5**
WHHZ	**Waihua**	**0.37**	**103**	P	**Pn**	**00 46 38.6**	**+0.4**
WHHZ				S	**Sn**	**00 46 45.9**	**+1.1**
RTZ	**Ruatahuna**	**0.41**	**24**	P	**Pn**	**00 46 37.9**	**-0.7**
RTZ				S	**Sn**	**00 46 45.6**	**-0.9**
MCHZ	**McNeill Hill**	**0.45**	**187**	P	**Pn**	**00 46 39.9**	**+1.0**
SNGZ	**Shannon Statio**	**0.49**	**65**	P	**Pn**	**00 46 39.6**	**+0.3**
KWHZ	**Kaweka Forest**	**0.51**	**212**	P	**Pn**	**00 46 40.1**	**+0.6**
MUGZ	**Murupara**	**0.52**	**0**	P	**Pn**	**00 46 38.8**	**-0.8**
MUGZ				S	**Sn**	**00 46 47.0**	**-1.3**
ALRZ	**Allen Road**	**0.55**	**322**	P	**Pn**	**00 46 39.4**	**-0.6**
ALRZ				S	**Sn**	**00 46 48.1**	**-0.8**
PRRZ	**Plateau Road**	**0.58**	**329**	P	**Pn**	**00 46 39.6**	**-0.7**
WPRZ	**Whakapapatarin**	**0.67**	**315**	P	**Pn**	**00 46 40.8**	**-0.6**
RRRZ	**Republican Roa**	**0.68**	**343**	P	**Pn**	**00 46 40.9**	**-0.7**
CKHZ	**Cape Kidnapper**	**0.70**	**160**	P	**Pn**	**00 46 42.4**	**+0.6**
KNZ	**Kokohu**	**0.71**	**92**	P	**Pn**	**00 46 41.6**	**-0.1**
RAGZ	**Rawiri**	**0.71**	**46**	P	**Pn**	**00 46 42.2**	**+0.2**
HRRZ	**Handcock Road**	**0.71**	**328**	P	**Pn**	**00 46 41.4**	**-0.5**
WHTZ	**Whakaora**	**0.71**	**297**	P	**Pn**	**00 46 41.9**	**-0.1**
KRHZ	**Kereru**	**0.72**	**205**	P	**Pn**	**00 46 42.5**	**+0.5**
URZ	**Urewera**	**0.78**	**20**	P	**Pn**	**00 46 41.9**	**-0.8**
URZ	**Urewera**	**0.78**	**20**	S	**Sn**	**00 46 53.2**	**-0.6**
URZ	**Urewera**	**0.78**	**20**	P	**Pn**	**00 46 41.9**	**-0.8**
TARZ	**Mount Tarawera**	**0.79**	**345**	P	**Pn**	**00 46 42.5**	**-0.5**
RATZ	**Rangitukua**	**0.79**	**279**	P	**Pn**	**00 46 42.9**	**+0.1**
HSRZ	**Hossack Road**	**0.80**	**329**	P	**Pn**	**00 46 42.5**	**-0.4**
KAHZ	**Kahuranaki**	**0.80**	**174**	P	**Pn**	**00 46 43.7**	**+0.6**
HLRZ	**Highlands Stat**	**0.81**	**336**	P	**Pn**	**00 46 42.9**	**-0.3**
GRRZ	**Galatos Road**	**0.82**	**321**	P	**Pn**	**00 46 43.2**	**-0.2**
RIGZ	**Rimuhau**	**0.83**	**70**	P	**Pn**	**00 46 43.4**	**0.0**
ETVZ	**East Tongariro**	**0.83**	**260**	P	**Pn**	**00 46 43.7**	**+0.1**
KATZ	**Kakaramea**	**0.84**	**271**	P	**Pn**	**00 46 43.7**	**+0.1**
TMVZ	**Te Maari**	**0.84**	**261**	P	**Pn**	**00 46 43.7**	**+0.1**
NTVZ	**North Tongarir**	**0.86**	**263**	P	**Pn**	**00 46 43.8**	**0.0**
WATZ	**Wairara**	**0.86**	**289**	P	**Pn**	**00 46 43.5**	**-0.3**
PRGZ	**Paritu Road**	**0.87**	**86**	P	**Pn**	**00 46 44.0**	**+0.1**
OTVZ	**Oturere**	**0.87**	**269**	P	**Pn**	**00 46 44.3**	**+0.2**
KRVZ	**Karewarewa**	**0.88**	**263**	P	**Pn**	**00 46 44.2**	**0.0**
EDRZ	**Edgecumbe**	**0.89**	**359**	P	**Pn**	**00 46 43.6**	**-0.6**
MKRZ	**Makatiti**	**0.89**	**344**	P	**Pn**	**00 46 44.1**	**-0.1**
MWZ	**Matawai**	**0.89**	**42**	P	**Pn**	**00 46 44.1**	**0.0**
MOVZ	**Moawhango**	**0.89**	**242**	P	**Pn**	**00 46 44.4**	**+0.1**
KUTZ	**Kaahu Road**	**0.90**	**304**	P	**Pn**	**00 46 43.9**	**-0.3**
SNVZ	**South Ngauruho**	**0.90**	**257**	P	**Pn**	**00 46 44.6**	**+0.2**
MHGZ	**Mahia Peninsul**	**0.90**	**100**	P	**Pn**	**00 46 44.4**	**+0.2**
NNVZ	**North Ngauruho**	**0.91**	**261**	P	**Pn**	**00 46 44.7**	**+0.2**
TUVZ	**Tukino**	**0.91**	**252**	P	**Pn**	**00 46 44.8**	**+0.3**
WTVZ	**West Tongariro**	**0.93**	**262**	P	**Pn**	**00 46 44.8**	**+0.1**
NGZ	**Ngauruhoe**	**0.93**	**258**	P	**Pn**	**00 46 44.9**	**+0.2**
UTU	**Utuhina**	**0.93**	**331**	P	**Pn**	**00 46 44.5**	**-0.2**
OMRZ	**Omania**	**0.94**	**341**	P	**Pn**	**00 46 44.4**	**-0.5**
WHVZ	**Whangaehu Hut**	**0.96**	**252**	P	**Pn**	**00 46 45.5**	**+0.2**
WNVZ	**Wahianoa**	**0.97**	**250**	P	**Pn**	**00 46 45.6**	**+0.3**
COVZ	**Chateau Observ**	**0.98**	**259**	P	**Pn**	**00 46 45.5**	**+0.2**
MAVZ	**Mataerangi**	**0.98**	**253**	P	**Pn**	**00 46 45.7**	**+0.1**
FWVZ	**Far West T-bar**	**0.98**	**254**	P	**Pn**	**00 46 45.6**	**+0.1**
TRVZ	**Turoa**	**1.00**	**252**	P	**Pn**	**00 46 45.9**	**+0.2**
NGRZ	**Ngongotaha**	**1.00**	**333**	P	**Pn**	**00 46 45.7**	**0.0**
MARZ	**Manawahe**	**1.01**	**356**	P	**Pn**	**00 46 45.5**	**-0.2**
PNHZ	**Pukenui**	**1.02**	**205**	P	**Pn**	**00 46 46.1**	**+0.2**
PXZ	**Pawanui**	**1.04**	**176**	P	**Pn**	**00 46 46.0**	**0.0**
TWVZ	**Taurewa**	**1.04**	**265**	P	**Pn**	**00 46 45.9**	**-0.2**
KARZ	**Kaharoa**	**1.06**	**337**	P	**Pn**	**00 46 45.7**	**-0.6**
MTVZ	**Mangateitei**	**1.08**	**248**	P	**Pn**	**00 46 47.1**	**+0.4**
WPHZ	**Waipukurau**	**1.10**	**193**	P	**Pn**	**00 46 47.0**	**+0.1**
WHRZ	**Whale Island**	**1.15**	**8**	P	**Pn**	**00 46 47.6**	**+0.1**
OPRZ	**Ohinepanea**	**1.16**	**352**	P	**Pn**	**00 46 46.6**	**-1.1**
TLZ	**Tolley Road**	**1.17**	**304**	P	**Pn**	**00 46 47.4**	**-0.5**
TSZ	**Takapari Road**	**1.23**	**210**	P	**Pn**	**00 46 48.6**	**-0.1**
CNGZ	**Carnagh Statio**	**1.24**	**66**	P	**Pn**	**00 46 48.7**	**0.0**
RUGZ	**Raukumara Rang**	**1.25**	**35**	P	**Pn**	**00 46 48.5**	**-0.2**
TWZ	**Tauwhareparae**	**1.25**	**50**	P	**Pn**	**00 46 49.5**	**+0.6**
PRHZ	**Porangahau**	**1.27**	**185**	P	**Pn**	**00 46 48.9**	**-0.3**
KMRZ	**Kaimai**	**1.32**	**330**	P	**Pn**	**00 46 49.3**	**-0.6**
TGRZ	**Tauranga**	**1.33**	**342**	P	**Pn**	**00 46 48.9**	**-1.0**
DVHZ	**Dannevirke**	**1.38**	**199**	P	**Pn**	**00 46 50.1**	**-0.6**
HAZ	**Te Kaha**	**1.47**	**33**	P	**Pn**	**00 46 51.2**	**-0.7**
ANWZ	**Angora Road**	**1.48**	**189**	P	**Pn**	**00 46 51.5**	**-0.5**
PUZ	**Puketiti**	**1.49**	**52**	P	**Pn**	**00 46 51.8**	**-0.3**
WIZ	**White Island**	**1.50**	**13**	P	**Pn**	**00 46 51.9**	**-0.4**
PKGZ	**Pakihiroa**	**1.53**	**43**	P	**Pn**	**00 46 53.1**	**+0.5**
VRZ	**Vera Road**	**1.57**	**265**	P	**Pn**	**00 46 53.9**	**+0.7**
HIZ	**Hauiti**	**1.57**	**287**	P	**Pn**	**00 46 53.3**	**+0.1**
HIZ	**Hauiti**	**1.57**	**287**	S	**Sn**	**00 47 12.9**	**+0.4**
HIZ	**Hauiti**	**1.57**	**287**	P	**Pn**	**00 46 53.4**	**+0.2**
WAZ	**Wanganui**	**1.58**	**241**	P	**Pn**	**00 46 54.6**	**+1.3**
POWZ	**Post Office Ro**	**1.59**	**209**	P	**Pn**	**00 46 53.1**	**-0.4**
TOZ	**Tahuroa Road**	**1.61**	**321**	P	**Pn**	**00 46 53.2**	**-0.5**
OHWZ	**Ohakea**	**1.65**	**222**	P	**Pn**	**00 46 55.3**	**+1.1**
PRWZ	**Pori Road**	**1.68**	**201**	P	**Pn**	**00 46 54.1**	**-0.5**
BFZ	**Birch Farm**	**1.73**	**193**	P	**Pn**	**00 46 54.3**	**-1.1**
BFZ	**Birch Farm**	**1.73**	**193**	S	**Sn**	**00 47 15.6**	**-0.8**
BFZ	**Birch Farm**	**1.73**	**193**	P	**Pn**	**00 46 54.4**	**-1.0**
WMGZ	**Waiomatatini S**	**1.75**	**48**	P	**Pn**	**00 46 55.8**	**+0.2**
MXZ	**Matakaoa Point**	**1.87**	**41**	P	**Pn**	**00 46 58.0**	**+0.7**
MXZ	**Matakaoa Point**	**1.87**	**41**	P	**Pn**	**00 46 57.9**	**+0.7**
LREZ	**Lake Rotokare**	**1.90**	**255**	P	**Pn**	**00 46 58.8**	**+1.2**
MRZ	**Mangatainoka R**	**1.90**	**208**	P	**Pn**	**00 46 56.6**	**-1.1**
TIWZ	**Tintock**	**1.90**	**201**	P	**Pn**	**00 46 56.8**	**-0.9**
CPWZ	**Castlepoint**	**1.96**	**193**	P	**Pn**	**00 46 57.9**	**-0.6**
PREZ	**Palmer Road**	**2.06**	**259**	P	**Pn**	**00 47 01.7**	**+1.8**
NEZ	**North Egmont**	**2.10**	**262**	P	**Pn**	**00 47 02.1**	**+1.7**
HOWZ	**Holdsworth Sta**	**2.13**	**206**	P	**Pn**	**00 46 59.3**	**-1.5**
KHEZ	**Kahui Hut**	**2.16**	**261**	P	**Pn**	**00 47 03.4**	**+2.1**
PKE	**Pukeiti**	**2.17**	**264**	P	**Pn**	**00 47 03.1**	**+1.7**
OGWZ	**Otaki Gorge**	**2.20**	**214**	P	**Pn**	**00 47 00.5**	**-1.2**
TMWZ	**Te Maipa**	**2.21**	**197**	P	**Pn**	**00 47 00.4**	**-1.6**
NBEZ	**Newall Road No**	**2.27**	**262**	P	**Pn**	**00 47 05.0**	**+2.3**
MKAZ	**Moumakai**	**2.27**	**326**	P	**Pn**	**00 47 03.0**	**+0.2**
NMEZ	**Namu Road**	**2.28**	**259**	P	**Pn**	**00 47 05.1**	**+2.2**
KIW	**Kapiti Island**	**2.35**	**217**	P	**Pn**	**00 47 02.7**	**-1.1**
KUZ	**Kuaotunu**	**2.39**	**339**	P	**Pn**	**00 47 04.9**	**+0.5**
KUZ	**Kuaotunu**	**2.39**	**339**	P	**Pn**	**00 47 04.1**	**-0.3**
ETAZ	**East Tamaki Re**	**2.50**	**324**	P	**Pn**	**00 47 06.8**	**+0.9**
TRWZ	**Traveller**	**2.54**	**199**	P	**Pn**	**00 47 04.3**	**-2.1**
WIAZ	**Waiheke Island**	**2.55**	**329**	P	**Pn**	**00 47 07.1**	**+0.5**
AWAZ	**Awhitu Peninsu**	**2.56**	**318**	P	**Pn**	**00 47 06.8**	**+0.2**
PAWZ	**Paruwai Farm**	**2.60**	**203**	P	**Pn**	**00 47 04.8**	**-2.3**
MBAZ	**Motutapu North**	**2.67**	**326**	P	**Pn**	**00 47 08.8**	**+0.6**
MSWZ	**Moikau Station**	**2.68**	**205**	P	**Pn**	**00 47 05.7**	**-2.7**
WTAZ	**Waiatarua**	**2.69**	**319**	P	**Pn**	**00 47 09.2**	**+0.7**
SNZO	**South Karori**	**2.80**	**214**	P	**Pn**	**00 47 07.7**	**-2.2**
BHW	**Baring Head**	**2.81**	**210**	P	**Pn**	**00 47 07.6**	**-2.5**
PLWZ	**Palliser**	**2.82**	**204**	P	**Pn**	**00 47 07.4**	**-2.9**
DUWZ	**D'Urville Isla**	**2.84**	**230**	P	**Pn**	**00 47 09.6**	**-0.8**
ABAZ	**Army Bay**	**2.84**	**327**	P	**Pn**	**00 47 11.5**	**+1.0**
TCW	**Tory Channel**	**2.92**	**220**	P	**Pn**	**00 47 09.8**	**-1.9**
GRZ	**Great Barrier**	**2.93**	**339**	P	**Pn**	**00 47 12.2**	**+0.4**
NNZ	**Nelson**	**3.42**	**228**	P	**Pn**	**00 47 16.9**	**-1.4**
BSWZ	**Blackbirch Sta**	**3.50**	**218**	P	**Pn**	**00 47 17.3**	**-2.3**
TKNZ	**Takaka Hill**	**3.56**	**234**	P	**Pn**	**00 47 19.5**	**-0.9**
WCZ	**Waipu Caves**	**3.61**	**327**	P	**Pn**	**00 47 21.7**	**+0.7**
QRZ	**Quartz Range**	**3.74**	**239**	P	**Pn**	**00 47 21.0**	**-1.8**
QRZ	**Quartz Range**	**3.74**	**239**	P	**Pn**	**00 47 22.5**	**-0.2**
MRNZ	**Matariki Terra**	**3.90**	**231**	P	**Pn**	**00 47 23.3**	**-1.7**
THZ	**Tophouse**	**4.04**	**226**	P	**Pn**	**00 47 25.0**	**-2.0**
KHZ	**Kahutara**	**4.21**	**215**	P	**Pn**	**00 47 26.8**	**-2.4**
OUZ	**Omahuta**	**4.54**	**325**	P	**Pn**	**00 47 34.7**	**+0.9**
OUZ	**Omahuta**	**4.54**	**325**	P	**Pn**	**00 47 34.9**	**+1.1**
DSZ	**Denniston Nort**	**4.68**	**232**	P	**Pn**	**00 47 36.2**	**+0.5**
MHNZ	**Mount Hutt**	**5.99**	**219**	P	**Pn**	**00 47 51.6**	**-2.1**
WVZ	**Waitaha Valley**	**6.12**	**226**	P	**Pn**	**00 47 55.5**	**+0.2**
RPZ	**Rata Peaks**	**6.38**	**221**	P	**Pn**	**00 47 57.3**	**-1.7**
ARCZ	**Arundel**	**6.49**	**219**	P	**Pn**	**00 47 57.8**	**-2.6**
CTZ	**Chatham Island**	**6.87**	**136**	P	**Pn**	**00 48 04.9**	**-0.7**
TMZ	**Timaru**	**6.90**	**217**	P	**Pn**	**00 48 03.4**	**-2.6**
FOZ	**Fox Glacier**	**6.92**	**227**	P	**Pn**	**00 48 06.2**	**-0.1**
JCZ	**Jackson Bay**	**7.85**	**227**	P	Pn	00 48 23.0	**+3.9**
ASAR	**Alice Springs**	**39.30**	**280**	P	**P**	**00 53 51.6**	**+0.6**
	0.7nm,0.4s,baz=132,slow=9.8,SNR=12 0.7nm,0.4s							
WRA	**Warramunga Arr**	**41.10**	**285**	P	**P**	**00 54 06.0**	**+0.2**
	0.3nm,0.3s,baz=124,slow=7.9,SNR=3.1 0.3nm,0.3s							
FITZ	**Fitzroy Crossi**	**48.80**	**280**	LR	LR	01 16 41.7		
	comp=Z,190nm,19.3s,baz=318,slow=37							
QSPA	**South Pole Qui**	**51.13**	**180**	P	**P**	**00 55 27.4**	**+3.1**	
	0.9nm,0.7s,baz=53,slow=2.6,SNR=2.6 0.9nm,0.7s							
PLCA	**Paso Flores**	**79.69**	**135**	LR	LR	01 28 03.8		
	comp=Z,298nm,20.4s,baz=184,slow=31							
ARCES	**ARCESS Array B**	**145.79**	**342**	PKPbc	**PKPdf**	**01 05 55.5**	**-2.9**	
	0.4nm,0.6s,baz=41,slow=2.4,SNR=5.1							

PDG ***16*** *00:49:02.5±0.5,43°.01N×17°.89E,h14km,MD3.4/7, ML3.3/12,Error ellipse: s-maj=0.7km s-min=0.7km az=0.0*
BEO ***16*** *00:49:02.7±0.4,43°.08N×17°.81E,h5km,2km,ML3.1/14*
RHSSO ***16*** *00:49:03.1±0.2,43°.02N×17°.93E,h4km±2km,ML3.2/11*
PRU ***16*** *00:49:06.2,43°.19N×17°.79E,h1km*

ISC 16 00:49:02.5±1.1,43°.07N±0'.02×17°.90E±0'.01,h3km±9km, n108,σ1°20/193,29C-7D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.24**	**217**	⇓*i*Pg	**Pg**	**00 49 07.4**	**+0.2**
STON				*e*Sg	**Sg**	**00 49 11.3**	**+0.9**
STON	**Ston**	**0.24**	**217**	*e*Pg	**Pg**	**00 49 07.5**	**+0.2**
STON				*e*Sg	**Sg**	**00 49 11.4**	**+1.0**
STON	**Ston**	**0.24**	**217**	*i*Pg	**Pg**	**00 49 07.3**	**0.0**
STON				*i*Sg	**Sg**	**00 49 10.8**	**+0.4**
DBRK	**Dubrovnik**	**0.44**	**155**	*i*Pg	**Pg**	**00 49 11.1**	**+0.2**
DBRK				Sg	**Sg**	**00 49 17.8**	**+1.1**
TREB	**Trebinje**	**0.48**	**136**	*i*Pg	**Pg**	**00 49 11.3**	**-0.5**
TREB				*e*Sg	**Sg**	**00 49 18.3**	**+0.2**
BRY	**Bratogost**	**0.50**	**109**	⇑*i*Pg	**Pg**	**00 49 11.7**	**-0.4**
BRY				*i*Sg	**Sg**	**00 49 19.7**	**+1.1**
KLINJ	**Klinje**	**0.51**	**78**	*e*Pg	**Pg**	**00 49 12.0**	**-0.4**
KLINJ				*e*Sg	**Sg**	**00 49 19.7**	**+0.6**
MAKA	**Makarska**	**0.68**	**289**	*i*Pg	**Pg**	**00 49 14.8**	**-0.8**
MAKA				Sg	**Sg**	**00 49 25.2**	**+0.9**
RICI	**Ricice**	**0.70**	**308**	*i*Pg	**Pg**	**00 49 15.4**	**-0.6**
RICI				Sg	**Sg**	**00 49 26.0**	**+0.9**
UPM	**Unac-Piva**	**0.75**	**79**	⇑*i*Pg	**Pg**	**00 49 16.7**	**-0.2**
UPM				*i*Sg	**Sb**	**00 49 28.6**	**-0.5**
HCY	**Herceg Novi**	**0.76**	**145**	⇑*i*Pg	**Pg**	**00 49 16.6**	**-0.3**
HCY				*i*Sg	**Sg**	**00 49 27.7**	**+0.7**
LSTV	**Lastovo**	**0.80**	**248**	*i*Pg	**Pg**	**00 49 16.8**	**-1.0**
LSTV				Sg	**Sg**	**00 49 28.1**	**-0.1**
NKME	**Niksic**	**0.83**	**111**	⇑*i*Pg	**Pg**	**00 49 17.4**	**-1.1**
NKME				*i*Sg	**Sg**	**00 49 30.9**	**+1.6**
CEME	**Cevo**	**0.91**	**124**	⇑*i*Pg	**Pg**	**00 49 18.4**	**-1.7**
CEME				*i*Sg	**Sg**	**00 49 33.5**	**+1.6**
BUM	**Brajici-Budva**	**1.06**	**136**	⇓*i*Pg	**Pg**	**00 49 21.6**	**-1.3**
BUM				*i*Sg	**Sg**	**00 49 38.0**	**+1.3**
PLE	**Pljevlja**	**1.12**	**76**	*e*Pg	**Pg**	**00 49 23.7**	**-0.3**
PLE				*i*Sg	**Sn**	**00 49 41.3**	**0.0**
PDG	**Podgorica**	**1.19**	**122**	⇑P	**Pg**	**00 49 24.6**	**-0.6**
PDG				⇑S	**Sb**	**00 49 42.6**	**+1.2**
PDG	**Podgorica**	**1.19**	**122**	*e*Pg	**Pg**	**00 49 23.6**	**-1.7**
PDG				*e*Sg	**Sn**	**00 49 43.2**	**+0.6**
PDG	**Podgorica**	**1.19**	**122**	⇑*i*Pg	**Pg**	**00 49 23.6**	**-1.7**
PDG				*i*Sg	**Sn**	**00 49 42.8**	**+0.2**
RUDO	**Rudo**	**1.21**	**62**	⇑*i*Pg	**Pg**	**00 49 24.5**	**-1.2**
RUDO				*e*Sg	**Sg**	**00 49 41.5**	**+0.2**
KOME	**Kolasin**	**1.21**	**100**	⇓*i*Pg	**Pg**	**00 49 24.7**	**-1.0**
KOME				*i*Sg	**Sn**	**00 49 44.2**	**+0.9**
DRME	**Dracevica, Mon**	**1.29**	**132**	⇑*i*Pg	**Pn**	**00 49 25.7**	**-1.8**
DRME				*i*Sg	**Sn**	**00 49 46.2**	**+0.8**
BBLS	**Lazi&#263i**	**1.36**	**53**	*e*Pg	**Pn**	**00 49 28.1**	**-0.4**
BBLS				*e*Sg	**Sn**	**00 49 49.3**	**+2.3**
KIJV	**Kijevo**	**1.43**	**311**	*e*Pg	**Pn**	**00 49 28.9**	**-0.6**
KIJV				*e*Sg	**Sg**	**00 49 50.6**	**+2.0**
KIJV	**Kijevo**	**1.43**	**311**	*e*Pg	**Pn**	**00 49 28.0**	**-1.4**
KIJV				Sg	**Sg**	**00 49 49.8**	**+1.2**
VINV	**Vinovac**	**1.44**	**292**	*i*Pg	**Pn**	**00 49 27.8**	**-1.8**
VINV				Sg	**Sb**	**00 49 47.0**	**-1.8**
IVA	**Berane**	**1.48**	**97**	⇑*i*Pg	**Pn**	**00 49 29.6**	**-0.5**
IVA				*i*Sg	**Sg**	**00 49 51.8**	**+1.8**
ULC	**Ulcinj**	**1.49**	**138**	⇓*i*Pg	**Pn**	**00 49 28.8**	**-1.4**
ULC				*i*Sg	**Sg**	**00 49 51.3**	**+1.6**
SJES	**Sjenica**	**1.53**	**82**	*e*Pg	**Pn**	**00 49 31.5**	**-0.6**
SJES				*e*Sg	**Sg**	**00 49 52.9**	**+1.2**
DOB	**Doboj**	**1.67**	**5**	*e*Pn	**Pn**	**00 49 33.3**	**+0.6**
DOB				*e*Sn	**Sg**	**00 49 56.3**	**+0.1**
IVAS	**Ivanjica**	**1.72**	**72**	*e*Pg	**Pn**	**00 49 33.6**	**+0.1**
IVAS				*e*Sg	**Sb**	**00 49 57.7**	**+0.8**
A050A	**Klekovaca**	**1.73**	**325**	⇑*i*Pn	**Pb**	**00 49 34.7**	**-0.2**
A050A				*e*Sn	**Sg**	**00 49 58.0**	**0.0**
ZIRJ	**Zirje**	**1.75**	**290**	*i*Pn	**Pn**	**00 49 33.9**	**+0.2**
ZIRJ				Sg	**Sg**	**00 49 58.3**	**-0.3**
BLY	**Banja Luka**	**1.76**	**343**	⇑*i*Pn	**Pb**	**00 49 34.9**	**-0.5**
BLY				*e*Sn	**Sg**	**00 49 58.7**	**-0.3**
BLY	**Banja Luka**	**1.76**	**343**	⇑P	**Pn**	**00 49 34.7**	**+0.8**
BLY				⇑S	**Sg**	**00 49 58.5**	**-0.5**
MORI	**Morici**	**1.78**	**297**	*i*Pn	**Pn**	**00 49 34.6**	**+0.4**
MORI				Sn	**Sg**	**00 49 59.3**	**-0.5**
TEKS	**Tekeris**	**1.89**	**38**	*e*Pn	**Pn**	**00 49 34.9**	**-0.9**
TEKS				*e*Sn	**Sb**	**00 50 01.6**	**+0.9**
A051A	**Mrakovica**	**2.07**	**340**	*e*Pn	**Pn**	**00 49 39.2**	**+0.9**
A051A				*e*Sn	**Sn**	**00 50 05.6**	**+1.0**
UDBI	**Udbina**	**2.12**	**314**	*i*Pn	**Pb**	**00 49 41.0**	**-0.7**
UDBI				Sn	**Sb**	**00 50 09.0**	**+0.4**
TRUS	**Trudelj**	**2.16**	**57**	*e*Pn	**Pn**	**00 49 39.4**	**0.0**
TRUS				*e*Sn	**Sb**	**00 50 08.4**	**-1.0**
GRUS	**Gruza**	**2.21**	**67**	*e*Pn	**Pn**	**00 49 40.5**	**+0.4**
GRUS				*e*Sn	**Sn**	**00 50 09.1**	**+1.2**
GOCS	**Kraljevo Serbi**	**2.23**	**76**	*e*Pn	**Pn**	**00 49 41.1**	**+0.7**
GOCS				*e*Sn	**Sb**	**00 50 10.5**	**-1.0**
TIR	**Tirane**	**2.26**	**139**	⇑P	**Pn**	**00 49 39.6**	**-1.1**
TIR	**Tirane**	**2.26**	**139**	*e*Pn	**Pb**	**00 49 43.8**	**-0.1**
TIR				*e*Sn	**Sn**	**00 50 08.7**	**-0.4**
DUGI	**Dugi Otok**	**2.26**	**295**	*e*Pn	**Pn**	**00 49 41.4**	**+0.6**
DUGI				Sn	**Sb**	**00 50 12.3**	**-0.1**
SELS	**Selova**	**2.36**	**85**	*e*Pn	**Pn**	**00 49 43.3**	**+1.1**
SELS				*e*Sn	**Sb**	**00 50 14.2**	**-1.1**
VIRC	**Vir**	**2.40**	**302**	*e*Pn	**Pn**	**00 49 44.0**	**+1.3**
VIRC				Sn	**Sb**	**00 50 15.5**	**-0.8**
PLIT	**Plitvice**	**2.44**	**319**	*i*Pn	**Pn**	**00 49 45.0**	**+1.7**
PLIT				Sn	**Sb**	**00 50 16.8**	**-0.9**
AVAS	**Avala Beograd**	**2.49**	**48**	*e*Pn	**Pn**	**00 49 43.4**	**-0.7**
FRGS	**Fruska Gora**	**2.50**	**33**	*e*Pn	**Pn**	**00 49 43.0**	**-1.2**
FRGS				*e*Sn	**Sn**	**00 50 16.1**	**+0.9**
MATE	**Matera**	**2.58**	**201**	⇑P	**Pn**	**00 49 44.0**	**-1.2**
NVLJ	**Novalja**	**2.65**	**305**	*e*Pn	**Pn**	**00 49 46.8**	**+0.6**
NVLJ				Sn	**Sb**	**00 50 21.9**	**-1.6**
MOSL	**Moslavina**	**2.67**	**343**	⇑*i*Pn	**Pn**	**00 49 47.0**	**+0.5**
MOSL				*e*Sn	**Sn**	**00 50 21.2**	**+1.8**
MOSL	**Moslavina**	**2.67**	**343**	*e*Pn	**Pn**	**00 49 46.9**	**+0.4**
MOSL				Sn	**Sn**	**00 50 21.0**	**+1.6**
RABC	**Rab**	**2.81**	**308**	*e*Pn	**Pn**	**00 49 49.4**	**+1.1**
RABC				Sn	**Sb**	**00 50 25.4**	**-2.8**
BOVS	**Bovan**	**2.83**	**77**	⇓P	**Pn**	**00 49 49.9**	**+1.2**
BARS	**Barje**	**2.89**	**94**	*e*Pn	**Pn**	**00 49 50.7**	**+1.3**
BARS				*e*Sn	**Sn**	**00 50 26.7**	**+2.0**
**OH

WSHM	**Spangler Hills**	**0.39**	**154**			Pg	00 50 29.5	0.0
WSHM					Sg	Sg	00 50 35.2	+0.7
LRMC	**Laurel Mtn Rad**	**0.47**	**178**			Pg	00 50 31.0	0.0
LRMC					Sg	Sg	00 50 37.5	+0.5
LRMC					IAML		00 50 38.9	
	comp=N,813nm,0.5s							
LRMC					IAML		00 50 38.9	
	comp=E,1µm,0.4s							
CCCA	**Chr Cany lake**	**0.50**	**147**			Pg	00 50 32.0	+0.3
CCCA					Sg	Sg	00 50 39.4	+1.2
CWC	**Cottonwood Cre**	**0.58**	**328**			Pg	00 50 33.2	0.0
CWC					Sg	Sg	00 50 40.9	+0.2
CWC					IAML		00 50 41.8	
	comp=N,438nm,0.3s							
CWC					IAML		00 50 42.1	
	comp=E,758nm,0.2s							
QSM	**Queen of Sheba**	**0.68**	**88**			Pg	00 50 34.8	-0.3
QSM					Sg	Sg	00 50 43.4	-0.5
QSM					IAML		00 50 48.3	
	comp=E,824nm,0.5s							
QSM					IAML		00 50 55.4	
	comp=N,443nm,0.6s							
ISA	**Isabella, Lake**	**0.69**	**246**			Pg	00 50 35.2	-0.1
ISA					Sg	Sg	00 50 44.2	0.0
GWY	**Greenwater Val**	**0.87**	**74**			Pg	00 50 38.6	-0.1
GWY					Sg	Sg	00 50 50.1	0.0
GWY					IAML		00 50 51.0	
	comp=E,508nm,0.5s							
GWY					IAML		00 50 53.6	
	comp=N,443nm,0.5s							
SPG2	**Springville 2**	**0.90**	**287**			Pg	00 50 38.6	-0.7
GSC	**Goldstone, Bar**	**0.97**	**131**			Pg	00 50 40.1	-0.6
GSC					IAML		00 50 56.1	
	comp=E,492nm,0.7s							
GSC					IAML		00 51 00.3	
	comp=N,339nm,0.6s							
GRAC	**Grapevine Rang**	**1.08**	**14**			Pg	00 50 42.2	-0.6
GRAC					IAML		00 51 05.1	
	comp=N,273nm,0.8s							
GRAC					IAML		00 51 08.0	
	comp=E,286nm,0.7s							
TPO	**Tropico Hills**	**1.15**	**202**			Pg	00 50 43.3	-0.8
TPO					IAML		00 51 05.5	
	comp=E,290nm,0.7s							
WCT	**Wildcat Mounta**	**1.21**	**45**			Pg	00 50 44.7	-0.6
WCT					IAML		00 51 02.7	
	comp=E,278nm,0.4s							
WCT					IAML		00 51 03.5	
	comp=N,128nm,0.6s							
LCH	**Last Change Ra**	**1.29**	**2**			Pg	00 50 45.8	-1.0
GMN	**Gold Mountain**	**1.40**	**15**			Pn	00 50 47.9	-0.9
VOG	**Valley Oaks Go**	**1.41**	**286**			Pn	00 50 48.2	-0.5
DSP	**Deep Springs**	**1.44**	**352**			Pn	00 50 48.6	-0.5
DSP					IAML		00 51 09.7	
	comp=E,115nm,0.4s							
TPNV	**Topopah Spring**	**1.54**	**49**			Pn	00 50 50.0	-0.7
TPNV					IAML		00 51 15.5	
	comp=E,144nm,0.9s							
TPNV					IAML		00 51 15.6	
	comp=E,120nm,0.6s							
OSI	**Osito Audit: C**	**1.57**	**212**			Pn	00 50 50.9	0.0
OSI					IAML		00 51 18.5	
	comp=E,136nm,0.7s							
OSI					IAML		00 51 19.5	
	comp=N,93nm,0.6s							
BFSC	**Mount Baldy Ra**	**1.70**	**179**			Pn	00 50 53.0	+0.1
BFSC					IAML		00 51 20.8	
	comp=N,71nm,0.5s							
BFSC					IAML		00 51 21.1	
	comp=E,85nm,0.6s							
MWC	**Mount Wilson**	**1.74**	**190**			Pn	00 50 52.6	-0.9
MWC					IAML		00 51 19.3	
	comp=E,109nm,0.5s							
MWC					IAML		00 51 19.3	
	comp=N,118nm,0.4s							
MZP	**Montezuma Peak**	**1.77**	**8**			Pn	00 50 53.6	-0.4
MTPC	**Mountain Pass**	**1.81**	**104**			Pn	00 50 53.1	-1.3
MTPC					IAML		00 51 21.0	
	comp=N,74nm,0.4s							
MTPC					IAML		00 51 22.9	
	comp=E,106nm,0.4s							
PASC	**Pasadena Art C**	**1.81**	**193**			Pn	00 50 53.7	-0.6
SHPR	**Sheep Range**	**2.13**	**74**			Pn	00 50 58.8	0.0
TPH	**Tonopah**	**2.16**	**10**			Pn	00 50 59.0	-0.2
TPH					IAML		00 51 43.4	
	comp=N,121nm,0.9s							
ELS	**Elsinore Mount**	**2.30**	**174**			Pn	00 51 00.7	-0.4
S11A	**Rachel**	**2.31**	**42**			Pn	00 51 00.8	-0.5
V12A	**Nelson**	**2.33**	**95**			Pn	00 51 00.6	-0.9
LHV	**Little Huntoon**	**2.39**	**345**			Pn	00 51 01.9	-0.3
LHV					IAML		00 51 44.9	
	comp=E,45nm,0.8s							
PMPB	**Monarch Peak**	**2.52**	**277**			Pn	00 51 04.0	-0.1
PMPB					IAML		00 51 48.5	
	comp=N,58nm,0.7s							
PMPB					IAML		00 51 50.5	
	comp=E,79nm,0.7s							
PMD	**Palm Desert**	**2.54**	**154**			Pn	00 51 03.8	-0.5
PFO	**Pinyon Flats O**	**2.54**	**156**			Pn	00 51 04.3	-0.1
PFO					IAML		00 51 48.6	
	comp=E,36nm,1.5s							
PRN	**Pahroc Range**	**2.58**	**55**			Pg	00 51 10.8	-0.8
PRN					IAML		00 51 55.4	
	comp=E,73nm,0.8s							
PRN					IAML		00 51 55.5	
	comp=N,69nm,0.8s							
MYLM	**Yosemite Lake**	**2.61**	**304**			Pb	00 51 08.6	-1.0
SBI	**Santa Barbara**	**2.69**	**204**			Pb	00 51 09.9	-1.0
RYN	**Ryan**	**2.76**	**347**			Pg	00 51 14.4	-0.5
BBGB	**Big Mountain B**	**2.77**	**284**			Pb	00 51 11.6	-0.7
NEE2	**Needles Airpor**	**2.78**	**114**	Pn		Pn	00 51 06.6	-1.0
NEE2					IAML		00 52 03.0	
	comp=N,58nm,0.6s							
NEE2					IAML		00 52 06.3	
	comp=E,49nm,0.6s							
BORC	**Borrego Spring**	**2.87**	**158**			Pg	00 51 15.9	-1.2
BORC					IAML		00 51 57.5	
	comp=N,24nm,0.8s							
BORC					IAML		00 52 01.9	
	comp=E,41nm,0.8s							
BSM	**San Miguel Isl**	**2.89**	**230**			Pn	00 51 10.6	+1.5
WAKR	**Walker**	**2.91**	**332**			Pb	00 51 16.1	+1.4
Q09A	**Carvers**	**2.91**	**8**			Pg	00 51 17.1	-0.8
Q09A					IAML		00 52 04.3	
	comp=N,57nm,0.8s							
R11B	**Troy Canyon, C**	**2.94**	**35**			Pb	00 51 15.8	+0.5
R11B					IAML		00 51 57.2	
	comp=E,22nm,1.0s							
CMB	**Columbia Colle**	**2.99**	**315**			Pn	00 51 10.3	-0.2
CMB					IAML		00 52 01.0	
	comp=N,22nm,0.6s							
DPP	**Dos Picos Cty**	**3.01**	**168**	IAML			00 51 57.2	
	comp=E,28nm,0.7s							
AFDM	**Forest Hills D**	**3.97**	**320**	IAML			00 52 30.2	
	comp=N,11nm,0.6s							
AFDM					IAML		00 52 31.8	
	comp=E,18nm,0.6s							
PSUT	**Pine Spring**	**4.01**	**49**	IAML			00 52 33.9	
	comp=E,17nm,1.0s							
PSUT					IAML		00 52 35.5	
	comp=N,16nm,1.1s							
SPR3	**Spring Creek 3**	**4.06**	**40**	IAML			00 52 30.8	
	comp=E,15nm,0.7s							
SPR3					IAML		00 52 32.0	
	comp=N,16nm,0.9s							
Y14A	**Wickenburg**	**4.35**	**116**	IAML			00 52 51.0	
	comp=E,11nm,0.9s							
Y14A					IAML		00 54 16.0	
	comp=N,20nm,0.1s							
U15A	**North Rim**	**4.40**	**82**	IAML			00 52 46.2	
	comp=E,9.1nm,0.8s							
U15A					IAML		00 52 58.9	
	comp=N,8.5nm,3.0s							
BEKR	**Beckworth**	**4.44**	**333**	IAML			00 52 59.4	
	comp=E,8.7nm,0.5s							
WUAZ	**Wupatki**	**5.17**	**93**	IAML			00 53 06.6	
	comp=E,10nm,1.4s							

MEX ***16*** *00:50:48.6±1.3, 16.11N×92.88W, h70km±22km, MD3.7*
GCG ***16*** *00:50:49.3±0.3, 15.91N×92.39W, h125km±17km, MD3.8, ML3.5*
ISC 16 00:50:43.4±1.9**, 16.14N**±0.08×**92.64W**±0.08**, h96**km±15km**, n9**, σ3.8**40**/16**, Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.70**	**232**	*i* P	**Pn**	**00 51 00.3**	**-0.2**
PCIG				*i* S	**Sn**	**00 51 09.3**	**-4.0**
TGIG		**0.78**	**324**	*i* P	**Pn**	**00 51 02.1**	**+0.8**
TGIG				*e*S	**Sn**	**00 51 12.8**	**-1.9**
TGIG		**0.78**	**324**	*i* P	**Sn**	**00 51 13.2**	**-1.5**
PAVE	**Pavencul**	**1.04**	**154**	*e*P	**Pn**	**00 51 08.4**	**+4.1**
PAVE				*e*S	**Sn**	**00 51 23.5**	**+3.6**
PATR	**El Naranjo**	**1.09**	**159**	*e*P	**Pn**	**00 51 07.4**	**+2.5**
PATR				*e*S	**Sn**	**00 51 22.0**	**+1.1**
NILT	**Santiago Nilte**	**1.94**	**283**	*i* P	**Pn**	**00 51 17.4**	**+2.4**
NILT				*i* S	**Sn**	**00 51 38.4**	**-0.8**
STG2	**El Palmar, Qui**	**2.09**	**144**	*i* S	**Sn**	**00 51 37.7**	**-5.3**
STG0	**El Palmar, Qui**	**2.12**	**143**	*i* P	**Pn**	**00 51 17.1**	**-0.5**
STG0				*i* S	**Sn**	**00 51 38.8**	**-4.8**
STG0				IAML		00 51 43.3	
	comp=E,401nm,0.2s						
CMIG	**Matias Romero**	**2.35**	**294**	*e*P	**Pn**	**00 51 23.7**	**+3.3**
CMIG				*e*S	**Sn**	**00 51 45.4**	**-3.4**

MEX ***16*** *00:53:07.4±0.8, 14.68N×92.30W, h89km±6km, MD3.6*
GCG ***16*** *00:53:08.5±0.9, 14.88N×92.28W, h75km±4km, MD3.4, ML3.4*
ISC 16 00:52:59.3±2.2**, 14.3N**±0.1×**92.5W**±0.1**, h104**km±13km**, n15, σ2.8**4**/27, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.66**	**24**	*i* P	**Pn**	**00 53 19.0**	**+2.2**
THIG				*i* S	**Sn**	**00 53 28.1**	**-1.8**
THIG		**0.66**	**24**	*i* P	**Pn**	**00 53 18.9**	**+2.2**
THIG				*i* S	**Sn**	**00 53 28.3**	**-1.5**
SMCA	**Catarina**	**0.71**	**39**	*i* P	**Pn**	**00 53 19.9**	**+2.7**
SMCA				*i* S	**Sn**	**00 53 28.7**	**-2.0**
SMCA				IAML		00 53 30.0	
	comp=N,3µm,0.2s						
RTAL	**Retalhuleu**	**0.85**	**75**	*i* P	**Pn**	**00 53 21.6**	**+3.1**
RTAL				*e*S	**Sn**	**00 53 32.1**	**-0.9**
PATR	**El Naranjo**	**0.86**	**20**	*i* P	**Pn**	**00 53 20.3**	**+1.4**
PATR				*e*S	**Sn**	**00 53 29.8**	**-3.8**
PAVE	**Pavencul**	**0.95**	**22**	*e*P	**Pn**	**00 53 21.4**	**+1.5**
PAVE				*e*S	**Sn**	**00 53 31.9**	**-3.3**
STG2	**El Palmar, Qui**	**1.14**	**83**	*i* P	**Pn**	**00 53 23.5**	**+1.8**
STG2				*i* S	**Sn**	**00 53 35.7**	**-2.9**
STG0	**El Palmar, Qui**	**1.17**	**84**	*i* P	**Pn**	**00 53 24.4**	**+2.3**
STG0				*i* S	**Sn**	**00 53 36.6**	**-2.7**
STG0				IAML		00 53 40.0	
	comp=E,1µm,0.2s						
PCIG		**1.54**	**335**	*e*P	**Pn**	**00 53 29.7**	**+3.4**
PCIG				*i* S	**Sn**	**00 53 45.4**	**-1.4**
FG8	**Yepocapa, Chim**	**1.92**	**91**	*i* P	**Pn**	**00 53 33.0**	**+1.8**
FG8				*i* S	**Sn**	**00 53 51.4**	**-4.0**
FG16	**Alotenango, Sa**	**1.97**	**91**	*i* P	**Pn**	**00 53 34.0**	**+2.1**
FG16				IAML		00 54 03.2	
	comp=N,512nm,0.2s						
CCIG	**Comitan**	**2.01**	**11**	*i* P	**Pn**	**00 53 36.5**	**+4.2**
CCIG				*i* S	**Sn**	**00 53 57.5**	**0.0**
TGIG		**2.52**	**347**	*e*S	**Sn**	**00 54 08.3**	**-1.0**
UXUV	**UXUV**	**3.37**	**333**	*e*P	**Pn**	**00 53 50.1**	**0.0**
UXUV				*e*S	**Sn**	**00 54 23.4**	**-6.0**
CMIG	**Matias Romero**	**3.58**	**321**	*i* P	Pn	00 53 59.2	+6.4
CMIG				*i* S	**Sn**	**00 54 33.1**	**-1.2**

AUST 16 01:11:36.0±1.4**, 19°S**±10°×**12°1E**±°**, h21**km±19km**, mb4.1**/7, ML2.9**/6, Error ellipse: s-maj=25.1km s-min=6.8km az=146.4, Western Australia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**2.73**	**196**	P	Pn	01 12 19.2	+0.5
MBWA				P	Pb	01 12 53.2	+29
PSAC1	**Pilbara Seismi**	**3.07**	**192**	P	Pn	01 12 24.0	+0.6
PSAC1				S	Sn	01 12 59.7	+0.2
PSA00	**Pilbara Seismi**	**3.10**	**192**	P	Pn	01 12 24.4	+0.6
PSA00				S	Sn	01 13 01.2	+0.9
FITZ	**Fitzroy Crossi**	**4.89**	**86**	P	Pn	01 12 49.7	+1.4
GIRL	**Giralia**	**7.17**	**234**	P	Pn	01 13 16.8	-2.9
GIRL				S	Sn	01 14 34.4	-6.2
MEEK	**Meekatharra**	**8.27**	**192**	P	Pn	01 13 34.3	-0.6
	comp=Z,13nm,2.0s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.27**	**192**	S	Sn	01 15 04.2	-3.5
KNRA	**Kununurra**	**8.38**	**72**	P	Pn	01 13 35.6	-0.7
	comp=Z,20nm,1.7s,comp=Z,0.1nm						
KNRA				S	Sn	01 15 07.2	-3.1
WRKA	**Warakurna**	**9.71**	**133**	P	Pn	01 13 55.5	+0.8
	comp=Z,4.5nm,1.9s,comp=Z,0.0nm						
WRKA				S	Sn	01 15 43.5	+0.3
MORW	**Morawa**	**11.27**	**200**	P	Pn	01 14 14.3	-1.6
	comp=Z,11nm,0.6s						
BLDU	**Ballidu**	**12.53**	**195**	P	Pn	01 14 32.6	-0.6
	comp=Z,15nm,1.9s						
KLBR	**Kellerberrin**	**13.26**	**190**	S	Sn	01 17 00.5	-9.4
	comp=Z,17nm,1.3s						
FORT	**Forrest**	**14.00**	**152**	P	Pn	01 14 53.8	+0.6
	comp=Z,3.9nm,1.1s						

ROM 16 01:24:35.1±0.3**, 41.883N**±0.004×**12.755E**±0.009**, h6**km±2km**, ML1.1**/5, Error ellipse: s-maj=0.6km s-min=0.4km az=115.0, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMP	**Rome, Mte Porz**	**0.08**	**209**	P	Pg	01 24 37.1	+0.1
RMP				S	Sg	01 24 38.7	+0.4
RMP				AML	AML		
	comp=E,249µm,1.3s						
RMP				AML	AML		
	comp=N,384µm,0.4s						
RMP				AML	AML		
	comp=N,383µm,0.4s						
RMP				AML	AML		
	comp=E,202µm,0.2s						
VIVA	**Pratoni del Vi**	**0.13**	**175**	P	Pg	01 24 38.5	+0.7
VIVA				S	Sg	01 24 40.8	+1.1
VIVA				AML	AML		
	comp=N,155µm,0.2s						
VIVA				AML	AML		
	comp=E,144µm,0.3s						
MTCE	**Montecelio**	**0.14**	**356**	P	Pg	01 24 38.4	+0.4
MTCE				S	Sg	01 24 41.2	+1.3
MTCE				AML	AML		
	comp=N,66µm,0.3s						
RCAV	**Rocca di Cave**	**0.15**	**104**	P	Pg	01 24 38.7	+0.6
RCAV				S	Sg	01 24 41.1	+1.0
CERT	**Cerreto**	**0.18**	**69**	P	Pg	01 24 39.0	+0.2
CERT				S	Sg	01 24 42.4	+1.1
GIUL	**Giuliano Di Ro**	**0.49**	**131**	AML	AML		
	comp=E,131µm,1.2s						
GIUL				AML	AML		
	comp=N,145µm,0.2s						
POFI	**Posta Fibreno**	**0.73**	**103**	AML	AML		
	comp=E,174µm,0.8s						
POFI				AML	AML		
	comp=N,232µm,0.9s						

ROM 16 01:24:37.9±0.0**, 42.747N**±0.003×**13.065E**±0.006**, h11**km**, ML1.1**/4**, 3C-1D**, Error ellipse: s-maj=0.5km s-min=0.3km az=265.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAVE	**Gavelli**	**0.14**	**246**	P	Pg	01 24 41.6	+0.5
GAVE				S	Sg	01 24 44.3	+0.8
GAVE				AML	AML		
	comp=E,130µm,1.4s						
GAVE				AML	AML		
	comp=N,126µm,1.2s						
GAVE				AML	AML		
	comp=N,126µm,0.8s						
LNSS	**Leonessa**	**0.14**	**187**	↑P	Pg	01 24 41.8	+0.5
LNSS	**Leonessa**	**0.14**	**187**	↑P	Pg	01 24 41.8	+0.5
LNSS	**Leonessa**	**0.14**	**187**	↑P	Pg	01 24 41.8	+0.5
LNSS				S	Sg	01 24 44.5	+0.8
LNSS				AML	AML		
	comp=E,118µm,0.1s						
LNSS				AML	AML		
	comp=N,92µm,0.1s						
SMA1	**SAN MARTINO**	**0.23**	**120**	P	Pg	01 24 43.4	+0.7
MMO1	**Montemonaco**	**0.24**	**52**	P	Pg	01 24 43.4	+0.4
MMO1				S	Sg	01 24 47.6	+1.2
RM33	**Pellescritta (**	**0.26**	**155**	P	Pg	01 24 43.8	+0.5
RM33				S	Sb	01 24 48.1	-1.1
ARRO	**Arrone**	**0.28**	**233**	⇓P	Pg	01 24 44.0	+0.5

IDC ***16*** *01:39:42.2±2.3, 0.88S×126.84E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=212.0km s-min=27.2km az=66.0*
DJA ***16*** *01:39:45.0±1.0, 1.1°S±2.1×12.8E±.1°, h11km±6km, M3.6/7, MLv3.6/7*
ISC 16 01:39:46.6±1.3**, 0.50S**±0.05×**127.9E**±0.1**, h35**km**, n6, σ18.20/9, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.36**	**339**	P	**Pn**	**01 40 08.9**	**-0.2**
TNTI				S	**Sn**	**01 40 27.8**	**+1.9**
SANI	**Sanana**	**2.42**	**231**	P	**Pn**	**01 40 22.9**	**-0.8**
SANI				S	**Sn**	**01 40 52.9**	**+0.8**
NLAI	**Namlea**	**2.82**	**195**	P	**Pn**	**01 40 29.4**	**+0.2**
NLAI				S	**Sn**	**01 41 03.7**	**+1.7**
WRA	**Warramunga Arr**	**20.34**	**162**	P	**P**	**01 44 19.9**	**-0.1**
	1.1nm,1.1s,baz=341,slow=13,SNR=2.6 1.1nm,1.1s						
ASAR	**Alice Springs**	**23.76**	**166**	P	**P**	**01 44 55.6**	**-0.4**
	2.4nm,1.0s,baz=345,slow=9.6,SNR=9.6 2.4nm,1.0s						
MKAR	**Makanchi Array**	**61.66**	**326**	P	**P**	**01 50 00.3**	**-0.8**
	0.3nm,0.5s,baz=128,slow=6.0,SNR=4.8 0.3nm,0.5s						

AEIC ***16*** *01:41:40.0±1.3, 52.9N±0.3×173.1W±0.2, h156km±8km, Error ellipse: s-maj=41.2km s-min=8.0km az=163.0*
NEIC 16 01:41:38.3±1.1**, 53.0N**±0.3×**173.2W**±0.2**, h162**km±12km**, ML2.8**/16**, ML2.4**(AEIC)**, Error ellipse: s-maj=42.7km s-min=2.1km az=161.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**1.02**	**219**		Pn	01 42 04.5	+0.1
ATKA					Sn	01 42 24.5	+0.2
GSIG	**Igitkin Island**	**1.98**	**240**		Pn	01 42 14.2	+0.3
GSIG					Sn	01 42 40.3	-0.9
GSTR	**Great Sitkin T**	**1.99**	**244**	Pn	Pn	01 42 14.1	0.0
GSTR				IAML		01 42 46.6	
	comp=E,31nm,0.9s						
GSTR				IAML		01 42 50.5	
	comp=N,70nm,0.6s						
GSMY	**Great Sitkin M**	**2.02**	**243**		Pn	01 42 14.3	0.0
GSMY					Sn	01 42 42.6	+0.6
GSTD	**Great Sitkin T**	**2.06**	**244**		Pn	01 42 14.9	+0.1
GSTD					Sn	01 42 43.1	+0.1
GSCK	**Great Sitkin C**	**2.09**	**243**		Pn	01 42 15.1	0.0
GSCK					Sn	01 42 42.8	-0.8
ETKA	**Kagalaska Isla**	**2.29**	**241**		Pn	01 42 17.9	+0.4
ETKA					Sn	01 42 47.4	-0.4
ADAG	**Mount Adagdak**	**2.34**	**245**		Pn	01 42 19.2	+1.1
ADAG					Sn	01 42 47.1	-1.7
ADK	**Adak**	**2.43**	**244**	Pn	Pn	01 42 18.8	-0.3
ADK					Sn	01 42 50.4	-0.3
ADK	**Adak**	**2.43**	**244**	IAML		01 42 53.6	
	comp=N,33nm,0.2s						
ADK				IAML		01 42 53.7	
	comp=N,30nm,0.2s						
NIKH	**Nikolski High**	**2.60**	**89**		Pn	01 42 20.6	-0.5
NIKH				IAML		01 43 14.7	
	comp=N,23nm,1.1s						
NIKH	**Nikolski High**	**2.60**	**89**		Sn	01 42 53.2	-1.1
NIKH	**Nikolski High**	**2.60**	**89**	IAML		01 42 50.0	
	comp=E,37nm,1.2s						
KINC	**Kanaga Island**	**2.66**	**248**		Pn	01 42 21.0	-0.9
KINC					Sn	01 42 55.5	0.0
KIKV	**Kanaga Island**	**2.70**	**247**		Pn	01 42 21.9	-0.6
KIKV					Sn	01 42 54.8	-1.8
KIWB	**Kanaga Island**	**2.70**	**246**	Pn	Pn	01 42 22.6	+0.2
KIMD	**Kanaga Island**	**2.79**	**245**		Pn	01 42 23.9	+0.4
OKWE	**Okmok W'ng Wal**	**2.99**	**79**		Pn	01 42 26.9	+0.9
TASE	**Tanaga Southea**	**3.21**	**251**		Pn	01 42 28.6	-0.2
TANO	**Tanaga North**	**3.23**	**252**		Pn	01 42 28.2	-0.7
UNV	**Unalaska Valle**	**4.07**	**75**	Pn	Pn	01 42 40.0	+0.4
UNV				IAML		01 44 07.6	
	comp=E,7.3nm,1.2s						
UNV				IAML		01 45 05.3	
	comp=N,8.5nm,1.2s						
P08K	**Saint George I**	**4.17**	**29**	Pn	Pn	01 42 38.4	-2.4
LVA	**Lava Point**	**4.40**	**72**	Pn	Pn	01 42 44.2	+0.3
AMKA	**Amchitka**	**4.92**	**254**	Pn	Pn	01 42 50.5	-0.2
MKAR	**Makanchi Array**	**61.67**	**311**	P	P	01 51 38.6	-0.2

CATAC ***16*** *01:54:25.6±0.4, 11°N±3°×8°6W±°, h32km±7km, M3.4/9, MLv3.4/9, Error ellipse: s-maj=9.3km s-min=4.5km az=63.8, confirmed*
UCR ***16*** *01:54:26.3±1.1, 10.55N×85.66W, h30km±2km, MW3.6*
ISC 16 01:54:26.5±1.2**, 10.52N**±0.03×**85.70W**±0.05**, h33**km±3km**, n62, σ0.88/66, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALIBA	**Liberia Airpor**	**0.17**	**63**	*e*P	**Pb**	**01 54 33.3**	**+0.5**
ALIBA				*e*S	**Sb**	**01 54 39.7**	**+2.6**
SACU	**Santa Cruz**	**0.28**	**156**	*e*P	**Pn**	**01 54 33.8**	**-0.3**
SACU				*e*S	**Sb**	**01 54 40.4**	**+1.3**
LAPC	**Finca la Perla**	**0.36**	**46**	*e*P	**Pn**	**01 54 34.5**	**-0.6**
ELVJ	**El Viejo (Barb**	**0.37**	**100**	*e*P	**Pb**	**01 54 33.6**	**-1.6**
ELVJ				*e*S	**Sb**	**01 54 39.7**	**-1.5**
PLVR	**Palo Verde**	**0.38**	**116**	*e*P	**Pb**	**01 54 34.9**	**-0.6**
JUD3	**Juan Diaz 3**	**0.38**	**156**	*e*P	**Pb**	**01 54 35.1**	**-0.4**
GPS3	**Bodega del ICE**	**0.40**	**54**	*e*P	**Pn**	**01 54 37.7**	**+1.6**
GPS2	**Hotel Rincn d**	**0.41**	**55**	*e*P	**Pb**	**01 54 35.4**	**-0.5**
VRLE	**La Escondida,**	**0.42**	**50**	*e*P	**Pb**	**01 54 35.4**	**-0.7**
GPS1	**Guardaparques**	**0.43**	**53**	*e*P	**Pb**	**01 54 35.5**	**-0.6**
PG27	**Guanacaste Pro**	**0.44**	**44**	*e*P	**Pb**	**01 54 35.7**	**-0.6**
VORI	**VORI**	**0.46**	**49**	*e*P	**Pb**	**01 54 35.9**	**-0.7**
BUAI	**Buenos Aires**	**0.51**	**45**	*e*P	**Pb**	**01 54 36.8**	**-0.5**
COLC	**Colonia**	**0.51**	**73**	*e*P	**Pb**	**01 54 36.5**	**-0.8**
PEJA	**Penjamo Buenos**	**0.53**	**45**	*e*P	**Pn**	**01 54 37.4**	**-0.4**
CUI	**Cuipilapa**	**0.54**	**75**	*e*P	**Pn**	**01 54 37.1**	**-0.8**
MESS	**Mesas**	**0.54**	**66**	*e*P	**Pn**	**01 54 37.0**	**-0.9**
HORNC	**Hornillas**	**0.55**	**69**	*e*P	**Pn**	**01 54 37.0**	**-1.1**
LCRUZ	**La Cruz**	**0.56**	**7**	*e*P	**Pn**	**01 54 37.7**	**-0.5**
CNAS	**Canas**	**0.60**	**98**	*e*P	**Pn**	**01 54 38.9**	**+0.2**
INVE	**Universidad In**	**0.62**	**94**	*e*P	**Pn**	**01 54 38.1**	**-0.9**
MOTZ	**Rio Naranjo**	**0.64**	**75**	*e*P	**Pn**	**01 54 38.5

BOAB	**BOACO BROADBAN**	**.92**	**1**	P		**Pn**	**01 54 56.4**	**-0.5**
BOAB	**BOACO BROADBAN**	**.92**	**1**	S		**Sn**	**01 55 19.2**	**-0.7**
ESPN	**Las Esperanzas**	**2.16**	**39**	*eP*		**Pn**	**01 54 59.5**	**-0.6**
MATN	**Matagalpa**	**2.41**	**355**	P		**Pn**	**01 55 03.0**	**-0.7**
MATN	**Matagalpa**	**2.41**	**355**	S		**Sn**	**01 55 32.2**	**+0.1**
DRK0	**Durika**	**2.72**	**117**	P		**Pn**	**01 55 07.9**	**-0.1**

IDC ***16*** *01:57:22.7±1.4, 25.91N×44.97W, h0km, mb3.6/6, mbtmp3.6/6, MS3.7/7, Error ellipse: s-maj=48.8km s-min=29.7km az=129.0*

ISC 16 01:57:24.6±1.2, 25.9N±0.2×45.0W±0.3, h12km, n18, σ1°39/6, mb3.9/6, MS3.7/7, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**21.08**	**253**	LR	LR	02 08 29.6	
	comp=Z,155nm,21.1s,baz=9.5,slow=32						
TKL	**Tuckaleechee C**	**34.51**	**296**	LR	LR	02 15 24.2	
	comp=Z,186nm,21.4s,baz=128,slow=31						
MDT	**Midelt**	**35.70**	**69**	LR	LR	02 15 55.8	
	comp=Z,109nm,18.2s,baz=256,slow=31						
DBIC	**Dimbokro**	**42.78**	**109**	LR	LR	02 19 35.2	
	comp=Z,120nm,21.8s,baz=309,slow=31						
H10N2	**ASCENSION HYDR**	**44.78**	**134**	T	T	02 53 10.3	
	baz=320,slow=75,SNR=225						
H10N3	**ASCENSION HYDR**	**44.78**	**134**	T	T	02 53 10.3	
	baz=320,slow=75,SNR=224						
H10N1	**ASCENSION HYDR**	**44.80**	**134**	T	T	02 53 11.6	
	baz=320,slow=75,SNR=225						
H10S3	**ASCENSION HYDR**	**45.52**	**136**	T	T	02 54 06.1	
	baz=318,slow=74,SNR=352						
H10S2	**ASCENSION HYDR**	**45.54**	**136**	T	T	02 54 04.3	
	baz=262,slow=74,SNR=295						
LPAZ	**La Paz**	**47.62**	**211**	P	**P**	**02 06 01.6**	**+0.2**
	1.2nm,0.8s,baz=29,slow=6.6,SNR=3.9						
	1.2nm,0.8s						
DAVOX	**Davos/Dischmat**	**47.78**	**49**	LR	LR	02 23 37.4	
	comp=Z,61nm,19.5s,baz=268,slow=33						
ANMO	**Albuquerque**	**53.03**	**295**	LR	LR	02 27 33.9	
	comp=Z,99nm,19.3s,baz=177,slow=34						
PDAR	**Pinedale Array**	**54.62**	**305**	P	**P**	**02 06 52.0**	**-1.4**
	0.1nm,0.3s,baz=91,slow=6.2,SNR=2.0						
	0.1nm,0.3s						
MLR	**Muntele Rosu**	**58.94**	**51**	LR	LR	02 31 06.7	
	comp=Z,46nm,18.8s,baz=281,slow=34						
ARCES	**ARCESS Array B**	**59.15**	**23**	P	**P**	**02 07 25.1**	**+0.2**
	0.6nm,0.5s,baz=260,slow=4.4,SNR=8.0						
	0.6nm,0.5s						
AKASG	**Malin Array Be**	**60.58**	**45**	P	**P**	**02 07 34.2**	**-0.7**
	0.3nm,0.4s,baz=281,slow=5.6,SNR=1.9						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**71.74**	**334**	P	**P**	**02 08 48.1**	**+1.8**
	0.4nm,0.9s,baz=56,slow=4.1,SNR=4.3						
	0.4nm,0.9s						
BVAR	**Borovoye Array**	**83.49**	**33**	P	**P**	**02 09 52.1**	**-0.1**
	0.6nm,0.6s,baz=264,slow=6.8,SNR=3.6						
	0.6nm,0.6s						

IDC ***16*** *02:17:14.7±1.4, 28.0S×63.12E, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=46.6km s-min=29.7km az=81.0*

ISC 16 02:17:16.2±1.4, 28.1S±0.2×63.1E±0.4, h10km, n10, σ0°68/7, mb4.1/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**20.11**	**203**	T	T	02 42 36.1	
	baz=31,slow=74,SNR=31						
H04N1	**CROZET ISLANDS**	**20.12**	**203**	T	T	02 42 38.0	
	baz=31,slow=74,SNR=64						
H04N3	**CROZET ISLANDS**	**20.13**	**203**	T	T	02 42 34.0	
	baz=31,slow=74,SNR=45						
CMAR	**Chiang Mai Arr**	**57.86**	**41**	P	**P**	**02 27 09.1**	**+0.8**
	0.6nm,0.3s,baz=217,slow=6.8,SNR=1.5						
	0.6nm,0.3s						
QSPA	**South Pole Qui**	**62.06**	**180**	P	**P**	**02 27 37.1**	**+0.3**
	1.3nm,1.0s,baz=268,slow=4.8,SNR=4.7						
	1.3nm,1.0s						
ASAR	**Alice Springs**	**63.09**	**104**	P	**P**	**02 27 43.9**	**-0.4**
	1.2nm,0.7s,baz=245,slow=6.7,SNR=9.7						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**64.82**	**100**	P	**P**	**02 27 55.2**	**-0.4**
	1.4nm,0.8s,baz=247,slow=5.9,SNR=5.2						
	1.4nm,0.8s						
MKAR	**Makanchi Array**	**76.54**	**13**	P	**P**	**02 29 05.6**	**-0.7**
	0.8nm,0.9s,baz=181,slow=5.9,SNR=4.7						
	0.8nm,0.9s						
ZALV	**Zalesovo Beam**	**83.84**	**13**	P	**P**	**02 29 45.8**	**+0.3**
	1.0nm,0.6s,baz=250,slow=3.0,SNR=3.9						
	1.0nm,0.6s						
YKA	**Yellowknife Ar**	**145.56**	**358**	PKPbc	**PKPab**	**02 36 53.9**	**-0.5**
	0.2nm,0.5s,baz=356,slow=4.2,SNR=5.1						

OSPL ***16*** *02:19:42.5±1.1, 18.93N×70.52W, h65km±19km, ML2.0*
SDD ***16*** *02:19:43.1±2.4, 19.00N×70.82W, h87km±18km, MD2.8, ML2.3, MW2.7*

ISC 16 02:19:44.4±1.9, 18.99N±0.06×70.71W±0.04, h68km±17km, n13, σ1°54/22, 6C-6D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.44**	**357**	*e*P*g*	**Pn**	**02 19 55.4**	**-1.1**
SC01				*e*S*g*	**Sn**	**02 20 07.0**	**+1.7**
SC01				IAML		02 20 08.0	
	comp=N,79nm,0.1s						
SC01	**Santiago de lo**	**0.44**	**357**	*i* P	**Pn**	**02 19 55.0**	**-1.5**
SC01				IAML		02 20 07.8	
	comp=Z,38nm,0.8s						
SDDR	**Presa de Saban**	**0.55**	**270**	*e*P*g*	**Pn**	**02 19 56.0**	**-1.6**
SDDR				*e*S*g*	**Sn**	**02 20 07.0**	**-0.2**
SDDR				IAML		02 20 11.1	
	comp=N,21nm,1.2s						
SDDR	**Presa de Saban**	**0.55**	**270**	*i* P	**Pn**	**02 19 56.2**	**-1.3**
SDDR				*e*S	**Sn**	**02 20 06.8**	**-0.5**
SDDR				IAML		02 20 10.2	
	comp=Z,18nm,1.2s						
DR08	**Loma La Naviza**	**0.65**	**92**	*e*P*g*	**Pn**	**02 19 57.8**	**-0.9**
DR08				*e*S*g*	**Sn**	**02 20 09.1**	**0.0**
DR08				IAML		02 20 11.9	
	comp=N,690nm,0.1s						
REDR	**Restauracion**	**0.68**	**286**	*e*P*g*	**Pn**	**02 19 59.9**	**+1.0**
REDR				*e*S*g*	**Sn**	**02 20 13.6**	**+4.0**
REDR				IAML		02 20 14.1	
	comp=N,81nm,0.2s						
LONE3	**El Aguacate, B**	**0.81**	**242**	*i* P	**Pn**	**02 20 00.9**	**+0.4**
LONE3				*e*S	**Sn**	**02 20 14.2**	**+1.7**
LONE3				IAML		02 20 15.9	
	comp=Z,18nm,1.5s						
LODU1	**El Espartillar**	**0.96**	**229**	*i* P	**Pn**	**02 20 00.9**	**-1.4**
LODU1				IAML		02 20 16.6	
	comp=Z,55nm,2.9s						
PODR	**Polo**	**0.98**	**214**	*e*P*g*	**Pn**	**02 20 01.7**	**-1.0**
PODR				IAML		02 20 29.1	
	comp=N,53nm,2.4s						
LOPP1	**Punta Rusia, P**	**0.98**	**332**	*i* P	**Pn**	**02 20 01.2**	**-1.4**
LOPP1				*e*S	**Sn**	**02 20 15.6**	**-0.4**
LOPP1				IAML		02 20 20.3	
	comp=Z,72nm,0.8s						
HATOM	**Hato Mayor del**	**1.27**	**99**	*e*P*g*	**Pn**	**02 20 05.7**	**-0.6**
HATOM				*e*S*g*	**Sn**	**02 20 24.0**	**+1.3**
HATOM				IAML		02 20 24.5	
	comp=N,16nm,0.3s						
LOBH	**Bahia de las A**	**1.43**	**219**	*i* P	**Pn**	**02 20 06.7**	**-1.6**
LOBH				IAML		02 20 34.8	
	comp=Z,71nm,2.1s						
MIDR	**Miches**	**1.57**	**90**	*e*P*g*	**Pn**	**02 20 10.3**	**+0.1**
MIDR				*e*S*g*	**Sn**	**02 20 30.7**	**+1.0**
MIDR				IAML		02 20 33.2	
	comp=N,26nm,2.6s						
MIDR				IAML		02 20 33.2	
	comp=N,26nm,2.6s						

IDC ***16*** *02:27:30.5±2.3, 0.68S×128.01E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=184.2km s-min=26.8km az=67.0*
DJA ***16*** *02:27:34.3±0.3, 1.2S×12.7E±°, h10km, M3.6/6, MLv3.6/6*

ISC 16 02:27:36.7±1.1, 0.77S±0.05×127.5E±0.1, h35km, n7, σ1°85/11, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.54**	**354**	P	**Pn**	**02 28 01.8**	**+0.1**
TNTI				S	**Sn**	**02 28 21.7**	**+1.3**
SANI	**Sanana**	**2.00**	**230**	P	**Pn**	**02 28 07.8**	**-0.2**
SANI				S	**Sn**	**02 28 32.7**	**+0.9**
NLAI	**Namlea**	**2.49**	**190**	P	**Pn**	**02 28 14.1**	**-0.7**
NLAI				S	**Sn**	**02 28 46.2**	**+2.1**
AAI	**Ambon**	**2.98**	**167**	P	**Pn**	**02 28 21.4**	**-0.1**
AAI				S	**Sn**	**02 28 59.1**	**+3.0**
WRA	**Warramunga Arr**	**20.19**	**161**	P	**P**	**02 32 05.7**	**-2.9**
	0.4nm,0.4s,baz=341,slow=10,SNR=1.5						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**23.59**	**165**	P	**P**	**02 32 43.2**	**-1.3**
	1.3nm,0.9s,baz=346,slow=11,SNR=7.6						
	1.3nm,0.9s						
MKAR	**Makanchi Array**	**61.70**	**326**	P	**P**	**02 37 51.8**	**+0.4**
	0.6nm,0.5s,baz=123,slow=8.5,SNR=6.1						
	0.6nm,0.5s						

JMA 16 02:29:32.3±0.0, 33.8N±0.2×135.0E±0.1, h9km±1km, MV1.0/25, S PART OF KII CHANNEL, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.32**	**88**	P	Pg	02 29 38.6	0.0
JWM				*e*S	Sg	02 29 42.5	-0.4
JAI	**Aioi**	**0.44**	**264**	P	Pg	02 29 40.8	0.0
JTNC	**Tanabenakahech**	**0.53**	**92**	*e*P	Pg	02 29 42.7	+0.1

JMA 16 02:29:55.2±0.1, 34.9N±0.1×135.6E±0.2, h12km, MV0.3/8, KYOTO OSAKA BORDER REG, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHE	**Heguri**	**0.21**	**165**	*e*S	Sg	02 30 03.0	+0.1
JHE	**Heguri**	**0.21**	**165**	*e*P	Pg	02 29 59.7	0.0
JHE				*e*S	Sg	02 30 02.9	+0.1

NEIC ***16*** *02:35:51.9±1.3, 35.874N±0.009×117.69W±0.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.7km az=215.0*
PAS ***16*** *02:35:52.8±1.4, 35.869N±0.010×117.71W±0.02, h7km±4km, ML3.0/23, ML2.7/136(NEIC), Error ellipse: s-maj=1.9km s-min=1.4km az=79.0, Central California*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**219**		Pg	02 35 55.2	+0.5
TOW					Sg	02 35 57.8	+1.7
CLC	**China Lake**	**0.10**	**121**		Pg	02 35 55.1	0.0
CLC				Sg	Sg	02 35 56.8	+0.1
CLC				IAML		02 35 57.0	
	comp=E,4μm,0.2s						
CLC				IAML		02 35 57.1	
	comp=N,6μm,0.2s						
WVPM	**Volcano Peak E**	**0.12**	**312**		Pg	02 35 55.5	0.0
WVPM					Sg	02 35 57.7	+0.4
JRC2	**Joshua Ridge**	**0.14**	**324**		Pg	02 35 55.8	0.0
JRC2					Sg	02 35 58.2	+0.3
WNMM	**Nine Mile Cany**	**0.16**	**261**		Pg	02 35 56.1	0.0
WNMM					Sg	02 35 59.2	+0.9
SRTC	**Snort**	**0.18**	**191**		Pg	02 35 56.7	+0.3
WRVM	**Rose V. Centra**	**0.20**	**313**		Pg	02 35 56.7	-0.2
WRVM					Sg	02 35 59.9	+0.2
MFS	**McCloud Flat S**	**0.28**	**334**		Pg	02 35 57.5	-0.7
MFS					Sg	02 36 02.1	+0.1
WSHM	**Spangler Hills**	**0.32**	**147**		Pg	02 35 58.7	-0.3
LRMC	**Laurel Mtn Rad**	**0.39**	**177**		Pg	02 36 00.0	-0.3
CCCA	**Chr Cany lake**	**0.44**	**141**		Pg	02 36 01.4	+0.1
CWC	**Cottonwood Cre**	**0.65**	**332**		Pg	02 36 05.0	-0.3
CWC				IAML		02 36 17.3	
	comp=N,304nm,0.1s						
ISA	**Isabella, Lake**	**0.66**	**252**		Pg	02 36 05.0	-0.5
ISA				IAML		02 36 14.3	
	comp=N,355nm,0.4s						
ISA				IAML		02 36 16.0	
	comp=E,286nm,0.3s						
QSM	**Queen of Sheba**	**0.69**	**82**		Pg	02 36 05.3	-0.7
QSM				IAML		02 36 18.3	
	comp=E,511nm,0.5s						
QSM				IAML		02 36 19.7	
	comp=N,567nm,0.6s						
WASM	**Alta Sierra Ca**	**0.70**	**260**		Pg	02 36 05.9	-0.4
GWY	**Greenwater Val**	**0.90**	**69**		Pg	02 36 09.4	-0.6
GWY				IAML		02 36 25.4	
	comp=E,434nm,0.3s						
GWY				IAML		02 36 30.5	
	comp=N,248nm,0.4s						
GSC	**Goldstone, Bar**	**0.93**	**127**		Pg	02 36 09.8	-0.8
GSC				IAML		02 36 24.1	
	comp=N,255nm,0.4s						
GSC				IAML		02 36 31.2	
	comp=E,320nm,0.5s						
TPO	**Tropico Hills**	**1.08**	**204**		Pg	02 36 12.2	-1.2
TPO				IAML		02 36 30.1	
	comp=E,287nm,0.5s						
GRAC	**Grapevine Rang**	**1.16**	**14**		Pg	02 36 14.1	-0.9
GRAC				IAML		02 36 33.9	
	comp=N,245nm,0.4s						
WCT	**Wildcat Mounta**	**1.27**	**43**		Pn	02 36 15.6	-1.5
WCT				IAML		02 36 35.3	
	comp=E,147nm,0.5s						
WCT				IAML		02 36 35.8	
	comp=N,138nm,0.5s						
GMN	**Gold Mountain**	**1.47**	**14**		Pn	02 36 18.8	-1.3
GMN				IAML		02 36 42.6	
	comp=N,138nm,0.5s						
GMN				IAML		02 36 42.6	
	comp=E,72nm,0.7s						
OSI	**Osito Audit: C**	**1.50**	**214**		Pn	02 36 19.3	-0.9
OSI				IAML		02 36 47.4	
	comp=E,104nm,0.6s						
OSI				IAML		02 36 48.2	
	comp=N,85nm,0.6s						
DSP	**Deep Springs**	**1.51**	**352**		Pn	02 36 19.2	-1.1
TPNV	**Topopah Spring**	**1.59**	**47**		Pn	02 36 20.4	-1.2
TPNV				IAML		02 36 44.4	
	comp=N,144nm,0.5s						
TPNV				IAML		02 36 47.9	
	comp=N,134nm,1.0s						
BFSC	**Mount Baldy Ra**	**1.63**	**179**		Pn	02 36 21.6	-0.4
BFSC				IAML		02 36 46.1	
	comp=N,61nm,0.3s						
BFSC				IAML		02 36 46.8	
	comp=E,77nm,0.5s						
MWC	**Mount Wilson**	**1.67**	**190**		Pn	02 36 22.4	-0.2
MWC				IAML		02 36 46.9	
	comp=E,135nm,0.5s						
PASC	**Pasadena Art C**	**1.74**	**193**		Pn	02 36 23.0	-0.4
MTPC	**Mountain Pass**	**1.79**	**102**		Pn	02 36 22.2	-2.2
MTPC				IAML		02 36 49.8	
	comp=N,112nm,0.6s						
MTPC				IAML		02 36 51.4	
	comp=E,101nm,0.6s						
MZP	**Montezuma Peak**	**1.85**	**8**		Pn	02 36 24.3	-0.9
SHPR	**Sheep Range**	**2.15**	**72**	Pn	Pn	02 36 28.4	-0.9
ELS	**Elsinore Mount**	**2.23**	**174**	Pn	Pn	02 36 29.5	-0.7
ELS				IAML		02 37 05.5	
	comp=E,43nm,0.4s						
ELS				IAML		02 37 10.0	
	comp=N,33nm,0.8s						
TPH	**Tonopah**	**2.24**	**10**	Pn	Pn	02 36 29.8	-0.7
TPH				IAML		02 37 08.0	
	comp=E,31nm,0.4s						
TPH				IAML		02 37 08.4	
	comp=N,38nm,0.6s						
V12A	**Nelson**	**2.33**	**93**	Pn	Pn	02 36 29.9	-1.7
V12A				IAML		02 37 10.2	
	comp=N,31nm,0.7s						
V12A				IAML		02 37 16.2	
	comp=E,33nm,0.6s						
LHV	**Little Huntoon**	**2.46**	**345**		Pn	02 36 33.2	-0.1
LHV				IAML		02 37 24.0	
	comp=N,24nm,1.1s						
PMD	**Palm Desert**	**2.47**	**153**	Pn	Pn	02 36 32.1	-1.3
PMD				IAML		02 37 14.8	
	comp=E,27nm,0.6s						
PFO	**Pinyon Flats O**	**2.47**	**155**	Pn	Pn	02 36 32.5	-1.2
PMPB	**Monarch Peak**	**2.53**	**279**	Pn	Pn	02 36 34.2	-0.2
NV11	**Mina Array Sit**	**2.58**	**352**		Pn	02 36 34.6	-0.6
NVAR	**Mina Array Bea**	**2.60**	**350**		Pn	02 36 35.0	-0.5
PRN	**Pahroc Range**	**2.63**	**54**		Pn	02 36 34.9	-0.9
GATR	**Gnd/Air Tx Cnt**	**2.64**	**241**		Pb	02 36 38.5	-1.9
BORC	**Borrego Spring**	**2.80**	**157**	Pn	Pn	02 36 37.9	-0.1
BORC				IAML		02 37 24.1	
	comp=N,27nm,0.8s						
BORC				IAML		02 37 26.5	
	comp=E,36nm,0.8s						
RYN	**Ryan**	**2.83**	**347**	Pn	Pn	02 36 38.3	-0.3
BSM	**San Miguel Isl**	**2.84**	**231**		Pn	02 36 39.7	+1.2
DPP	**Dos Picos Cty**	**2.93**	**167**	Pn	Pn	02 36 40.2	+0.3
DPP				IAML		02 37 25.1	
	comp=E,29nm,0.7s						
WAKR	**Walker**	**2.97**	**333**	Pn	Pn	02 36 40.2	-0.4
R11B	**Troy Canyon, C**	**3.00**	**34**	Pn	Pn	02 36 40.3	-0.7
R11B				IAML		02 37 29.7	
	comp=E,28nm,1.0s						
CMB	**Columbia Colle**	**3.05**	**316**	Pn	Pn	02 36 41.2	-0.3
CMB				IAML		02 37 35.9	
	comp=N,23nm,0.8s						
CMB				IAML		02 37 39.4	
	comp=E,18nm,0.8s						
W13A	**Hualapai Mount**	**3.21**	**103**	Pn	Pn	02 36 42.5	-1.3
W13A				IAML		02 37 37.1	
	comp=N,14nm,0.9s						
BLYC	**Blythe**	**3.36**	**128**	Pn	Pn	02 36 46.5	+0.8
BLYC				IAML		02 37 44.5	
	comp=E,18nm,1.2s						
BLYC				IAML		02 37 50.2	
	comp=N,18nm,1.0s						
YUH	**Yuha Desert**	**3.54**	**155**	Pn	Pn	02 36 48.2	+0.1
LCMT	**Little Creek M**	**3.77**	**71**		Pn	02 36 51.6	+0.1
CCUT	**Cedar City**	**3.87**	**63**	Pn	Pn	02 36 52.5	-0.4
AFDM	**Forest Hills D**	**4.03**	**321**	Pn	Pn	02 36 54.4	-0.5
AFDM				IAML		02 38 03.0	
	comp=E,15nm,0.8s						
AFDM				IAML		02 38 03.6	
	comp=N,8.6nm,1.0s						
PAHR	**Pah Rah Range**	**4.05**	**341**	Pn	Pn	02 36 55.0	-0.4
PSUT	**Pine Spring**	**4.07**	**48**	Pn	Pn	02 36 54.8	-0.8
PSUT				IAML		02 38 03.8	
	comp=N,13nm,1.2s						
PSUT				IAML		02 38 07.8	
	comp=E,13nm,1.0s						
KNB	**Kanab**	**4.10**	**72**	Pn	Pn	02 36 56.2	+0.1
SPR3	**Spring Creek 3**	**4.12**	**40**	Pn	Pn	02 36 55.0	-1.5
SPR3				IAML		02 38 03.5	
	comp=E,16nm,0.7s						
SPR3				IAML		02 38 04.0	
	comp=N,9.3nm,0.9s						
ESJX	**Sierra Juarez**	**4.12**	**159**	Pn	Pn	02 36 56.4	+0.1
ESJX				IAML		02 37 26.0	
	comp=N,12nm,0.1s						
U15A	**North Rim**	**4.42**	**81**	Pn	Pn	02 37 00.8	+0.3
U15A				IAML		02 38 24.3	
	comp=E,5.5nm,1.1s						
BEKR	**Beckworth**	**4.51**	**333**	Pn	Pn	02 37 01.1	-0.6
BEKR				IAML		02 38 24.3	
	comp=E,9.2nm,0.7s						
BEKR				IAML		02 38 30.9	
	comp=N,4.7nm,0.8s						
WUAZ	**Wupatki**	**5.17**	**92**	Pn	Pn	02 37 10.4	-0.3
ELK	**Elko**	**5.24**	**21**	Pn	Pn	02 37 11.9	+0.1
ELK				IAML		02 38 41.1	
	comp=N,3.3nm,0.4s						

IDC ***16*** *02:42:05.5±4.1, 9.97S×118.63E, h55km±39km, mb3.2/2, mbtmp3.7/7, ML3.7/5, Error ellipse: s-maj=37.5km s-min=14.2km az=63.0*
DJA ***16*** *02:42:06.9±0.5, 10.3S×11.9E±°, h16km±4km, M4.6/13, mB4.8/1, mb4.7/3, MLv4.5/13, Mw(mB)4.0/1*

ISC 16 02:42:07.0±1.0, 9.98S±0.06×118.69E±0.04, h61km±12km, n24, σ1°86/35, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.77**	**65**	P	**Pn**	**02 42 21.0**	**-1.2**
WBSI				S	**Sn**	**02 42 32.4**	**-1.0**
PLAI	**Plampang**	**1.45**	**322**	P	**Pn**	**02 42 31.4**	**+0.3**
PLAI				S	**Sn**	**02 42 49.9**	**+0.7**
WSI	**Waingapu**	**1.62**	**79**	P	**Pn**	**02 42 34.5**	**+1.2**
WSI				S	**Sn**	**02 42 55.0**	**+1.8**
BASI	**Baing, Sumba**	**1.88**	**98**	P	**Pn**	**02 42 39.3**	**+2.4**
BASI				S	**Sn**	**02 43 03.8**	**+4.2**
TWSI	**Taliwang, Sumb**	**2.16**	**304**	P	**Pn**	**02 42 41.5**	**+0.8**
TWSI				S	**Sn**	**02 43 08.1**	**+1.6**
EDFI	**Ende, Flores**	**3.21**	**68**	P	**Pn**	**02 42 56.2**	**+1.1**
MMRI	**Maumere**	**3.75**	**70**	P	**Pn**	**02 43 03.6**	**+1.1**
MMRI				S	**Sn**	**02 43 46.4**	**+1.0**
SRBI	**Singaraja**	**3.91**	**298**	P	**Pn**	**02 43 05.0**	**+0.4**
SRBI				S	**Sn**	**02 43 52.8**	**+3.5**
BSSI	**Bau Bau, Buton**	**4.21**	**25**	P	**Pn**	**02 43 10.4**	**+1.7**
BSSI				S	**Sn**	**02 43 59.4**	**+2.8**
JAGI	**Jajag, Banyuwa**	**4.72**	**288**	P	**Pn**	**02 43 15.6**	**-0.1**
JAGI				S	**Sn**	**02 44 11.8**	**+2.6**
BKSI	**Bulukumba**	**4.84**	**17**	P	**Pn**	**02 43 19.1**	**+1.7**
BKSI				S	**Sn**	**02 44 13.3**	**+1.2**
BATI	**Baumata**	**4.91**	**93**	P	**Pn**	**02 43 17.8**	**-0.6**
	4.8nm,0.3s,baz=118,slow=19,SNR=1.4						
BATI				S	**Sn**	**02 44 14.3**	**+0.4**
	82nm,0.6s,baz=342,slow=20,SNR=4.2						
	28nm,0.4s						
KAPI	**Kappang**	**5.04**	**12**	P	**Pn**	**02 43 18.5**	**-1.6**
	5.4nm,0.3s,baz=199,slow=4.3,SNR=18						
KAPI				S	**Sn**	**02 44 16.4**	**-0.7**
	38nm,0.3s,baz=158,slow=19,SNR=8.9						
	17nm,0.2s						
GMJI	**Gumukmas**	**5.44**	**288**	P	**Pn**	**02 43 26.6**	**+0.9**
	0.3nm67nm,1.0s						
GMJI				S	**Sn**	**02 44 29.5**	**+2.5**
	0.3nm67nm,1.0s						
SOEI	**Soe**	**5.50**	**88**	P	**Pn**	**02 43 29.1**	**+2.5**
	0.4nm78nm,0.9s						
BNSI	**Bone**	**5.71**	**14**	P	**Pn**	**02 43 30.2**	**+0.8**
BNSI				S	**Sn**	**02 44 36.4**	**+2.7**
FITZ	**Fitzroy Crossi**	**10.52**	**141**	P	**Pn**	**02 44 33.0**	**-2.1**
	0.5nm,0.3s,baz=334,slow=12,SNR=1.6						
FITZ				S	Sn	02 46 23.1	-8.4
	3.7nm,0.5s,baz=162,slow=18,SNR=6.2						
	1.8nm,0.4s						
WRA	**Warramunga Arr**	**18.07**	**125**	P	**P**	**02 46 12.1**	**-1.6**
	0.1nm,0.3s,baz=299,slow=12,SNR=6.0						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**19.91**	**135**	P	**P**	**02 46 33.9**	**-0.1**
	0.2nm,0.3s,baz=319,slow=11,SNR=12						
	1.0nm,0.8s						
H08S2	**Diego Garcia H**	**45.68**	**269**	T	T	03 39 44.6	
	baz=96,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**45.69**	**269**	T	T	03 39 42.3	
	baz=96,slow=76,SNR=12						
H08S1	**Diego Carcia H**	**45.70**	**269**	T	T	03 39 47.5	
	baz=96,slow=76,SNR=6.9						
SONM	**Songino Array**	**58.58**	**350**	P	**P**	**02 51 57.7**	**0.0**
	0.4nm,0.6s,

Scale 10^{14}Nm; M_{rr}2.86; $M_{\theta\theta}$-6.05; $M_{\phi\phi}$3.19; $M_{r\theta}$0.62; $M_{r\phi}$-1.28; $M_{\theta\phi}$2.56; Fault plane solution: $M_0$6.01000×10^{14} NP1 ψ_s46.20000°, δ66.50000°, λ37.35000°. NP2: ψ_s299.27000°, δ56.20000°, λ151.32000°. Principal axes: T 5.6191, Plg42.0000°, Azm267.0000°; N 0.7150, Plg47.0000°, Azm74.0000°; P -6.3342, Plg6.0000°, Azm171.0000°;

*IDC **16** 02:47:04.7±0.7, 35°.63N×117°.36W, h0km, mb3.4/2, mbtmp3.3/8, ML3.5/5, MS2.6/3 Error ellipse: s-maj=16.4km s-min=5.6km az=73.0*

*PAS **16** 02:47:05.0±1.8, 35°.632N±0°.007×117°.430W±0°.007, h5km±1km, Mwr3.8/6, ML3.9/176(NEIC), Mwr3.8/85(NEIC), Error ellipse: s-maj=1.1km s-min=0.6km az=201.0*

*NEIC **16** 02:47:05, 35°.63N×117°.43W, h5km*

ISC 16 02:47:05.1±0.8, 35°.63N±0°.01×117°.42W±0°.02, h8km±5km, n153, σ0§86/159, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.07**	**246**		**Pg**	**02 47 06.7**	**-0.5**
WSHM					**Sg**	**02 47 08.2**	**-0.5**
WSHM	**Spangler Hills**	**0.07**	**246**	IAML		02 47 08.2	
	68μm,0.4s						
WSHM				IAML		02 47 08.3	
	82μm,0.4s						
CCCA	**Chr Cany lake**	**0.11**	**157**		**Pg**	**02 47 07.9**	**+0.2**
CCCA					**Sg**	**02 47 10.4**	**+0.8**
CCCA	**Chr Cany lake**	**0.11**	**157**	IAML		02 47 10.7	
	comp=E,80μm,0.7s						
CCCA				IAML		02 47 10.7	
	comp=N,237μm,0.6s						
GPO	**China Lake**	**0.20**	**276**		**Pg**	**02 47 09.0**	**-0.2**
GPO					**Sg**	**02 47 12.5**	**+0.5**
SRTC	**Snort**	**0.28**	**284**		**Pg**	**02 47 10.6**	**-0.1**
SRTC					**Sg**	**02 47 15.2**	**+0.8**
TOW	**Tower One**	**0.34**	**303**		**Pg**	**02 47 11.8**	**0.0**
TOW					**Sb**	**02 47 17.5**	**-1.4**
MPMC	**Manual Prospec**	**0.43**	**352**		**Pg**	**02 47 13.1**	**-0.6**
MPMC				IAML		02 47 20.6	
	comp=N,7μm,0.6s						
MPMC				IAML		02 47 21.7	
	comp=E,8μm,0.4s						
MPMC	**Manual Prospec**	**0.43**	**352**		**Sg**	**02 47 19.3**	**-0.1**
WNMM	**Nine Mile Cany**	**0.45**	**299**		**Pg**	**02 47 13.6**	**-0.3**
WNMM					**Sg**	**02 47 19.8**	**0.0**
WVPM	**Volcano Peak E**	**0.46**	**315**		**Pg**	**02 47 13.7**	**-0.4**
WVPM					**Sg**	**02 47 20.0**	**-0.1**
JRC2	**Joshua Ridge**	**0.48**	**318**		**Pg**	**02 47 14.0**	**-0.4**
JRC2					**Sg**	**02 47 20.6**	**-0.1**
WCSM	**Coso Springs S**	**0.49**	**325**		**Pg**	**02 47 14.0**	**-0.6**
WCSM					**Sg**	**02 47 20.9**	**-0.2**
DTP	**Desert Tortois**	**0.50**	**224**		**Pg**	**02 47 14.3**	**-0.6**
DTP					**Sg**	**02 47 20.9**	**-0.6**
WRVM	**Rose V. Centra**	**0.54**	**315**		**Pg**	**02 47 15.1**	**-0.5**
WRVM					**Sg**	**02 47 22.4**	**-0.3**
QSM	**Queen of Sheba**	**0.56**	**53**		**Pg**	**02 47 15.8**	**-0.1**
QSM					**Sg**	**02 47 23.3**	**0.0**
QSM	**Queen of Sheba**	**0.56**	**53**	IAML		02 47 25.8	
	comp=N,9μm,0.4s						
QSM				IAML		02 47 26.4	
	comp=E,8μm,0.5s						
WBSM	**Bird Springs**	**0.59**	**261**		**Pg**	**02 47 16.1**	**-0.6**
WBSM					**Sg**	**02 47 23.5**	**-1.0**
GSC	**Goldstone, Bar**	**0.60**	**123**	Pg	**Pg**	**02 47 16.5**	**-0.2**
GSC	**Goldstone, Bar**	**0.60**	**123**		**Sb**	**02 47 25.0**	**-1.5**
MFS	**McCloud Flat S**	**0.60**	**324**		**Pg**	**02 47 16.2**	**-0.6**
MFS					**Sg**	**02 47 24.7**	**-0.1**
WORM	**Onyx Ranch**	**0.68**	**276**		**Pg**	**02 47 17.4**	**-0.8**
WORM					**Sg**	**02 47 26.2**	**-0.8**
CCAC	**Calif City Air**	**0.68**	**226**		**Pg**	**02 47 17.7**	**-0.5**
CCAC					**Sg**	**02 47 27.1**	**-0.1**
WHFM	**Hanning Flat**	**0.76**	**275**		**Pg**	**02 47 19.0**	**-0.8**
HYS	**Haystack Butte**	**0.77**	**189**		**Pg**	**02 47 19.3**	**-0.7**
GWY	**Greenwater Val**	**0.82**	**47**		**Pg**	**02 47 20.6**	**-0.5**
GWY	**Greenwater Val**	**0.82**	**47**	IAML		02 47 36.6	
	comp=N,5μm,0.6s						
GWY				IAML		02 47 36.8	
	comp=E,5μm,0.6s						
RRX	**Edison Barstow**	**0.83**	**155**		**Pg**	**02 47 20.7**	**-0.3**
ISA	**Isabella, Lake**	**0.86**	**273**		**Pg**	**02 47 20.8**	**-0.9**
ISA				IAML		02 47 32.8	
	comp=E,3μm,0.6s						
ISA				IAML		02 47 35.3	
	comp=N,2μm,0.4s						
EDW2	**Edwards Air Fo**	**0.88**	**212**		**Pg**	**02 47 21.2**	**-0.8**
EDW2					**Sb**	**02 47 34.7**	**+0.1**
WASM	**Alta Sierra Ca**	**0.93**	**277**		**Pg**	**02 47 22.2**	**-0.9**
FURC	**Furnace Creek,**	**0.95**	**28**		**Pb**	**02 47 23.3**	**-0.6**
FURC					**Sb**	**02 47 36.1**	**-0.4**
SHOC	**Shoshone, Teco**	**0.97**	**73**		**Pg**	**02 47 23.3**	**-0.5**
SHOC					**Sb**	**02 47 36.9**	**-0.2**
CGO	**Cerro Gordo**	**0.97**	**341**		**Pg**	**02 47 22.8**	**-1.1**
CGO					**Sb**	**02 47 37.2**	**-0.6**
CWC	**Cottonwood Cre**	**0.97**	**327**		**Pg**	**02 47 22.9**	**-0.9**
CWC					**Sg**	**02 47 36.2**	**-0.3**
CWC	**Cottonwood Cre**	**0.97**	**327**	IAML		02 47 40.9	
	comp=E,3μm,0.2s						
SBB	**Saddle Back Bu**	**0.99**	**200**		**Pg**	**02 47 23.3**	**-0.9**
SBB					**Sg**	**02 47 36.4**	**-0.8**
TPO	**Tropico Hills**	**1.00**	**222**		**Pg**	**02 47 23.5**	**-0.8**
TPO					**Sn**	**02 47 38.3**	**-1.4**
VTV	**Victorville**	**1.07**	**176**		**Pb**	**02 47 24.7**	**-1.2**
VTV					**Sn**	**02 47 40.6**	**-0.9**
ADO	**Adelanto Recei**	**1.07**	**181**		**Pb**	**02 47 25.2**	**-0.8**
ADO					**Sn**	**02 47 42.0**	**+0.3**
TEJ	**El Tejon**	**1.11**	**249**		**Pb**	**02 47 24.9**	**-1.7**
TEJ					**Sb**	**02 47 39.6**	**-1.6**
DSCC	**Desert Studies**	**1.18**	**114**		**Pb**	**02 47 26.4**	**-1.3**
DSCC					**Sg**	**02 47 42.5**	**-0.5**
ALPC	**Antelope**	**1.18**	**218**		**Pg**	**02 47 27.9**	**+0.1**
HEC	**Hector,Ludlow**	**1.19**	**132**		**Pb**	**02 47 27.0**	**-0.9**
LRRC	**Littlerock Res**	**1.21**	**205**		**Pn**	**02 47 27.5**	**-0.8**
HOLC	**Holcomb Ridge**	**1.22**	**197**		**Pn**	**02 47 27.5**	**-1.0**
HOLC					**Sn**	**02 47 44.9**	**-0.3**
LEOC	**Leona Valley**	**1.23**	**216**		**Pg**	**02 47 29.1**	**+0.4**
LEOC					**Sn**	**02 47 45.4**	**-0.1**
TUQ	**Turquoise Moun**	**1.23**	**98**		**Pn**	**02 47 27.5**	**-1.3**
TUQ					**Sg**	**02 47 44.5**	**-0.4**
SPG2	**Springville 2**	**1.23**	**298**		**Pn**	**02 47 27.5**	**-1.2**
SPG2					**Sb**	**02 47 44.1**	**-0.7**
AMDNV	**Amargosa**	**1.24**	**48**		**Pn**	**02 47 27.5**	**-1.2**
TJR	**Tejon Ranch**	**1.24**	**241**		**Pn**	**02 47 27.6**	**-1.1**
CJV	**Casa Juvan**	**1.25**	**209**		**Pg**	**02 47 28.8**	**-0.3**
THC	**Tehachapi Micr**	**1.25**	**235**		**Pn**	**02 47 28.2**	**-0.8**
ARVC	**Arvin**	**1.26**	**247**		**Pn**	**02 47 28.1**	**-0.9**
JNH	**Juniper Hills**	**1.26**	**201**		**Pn**	**02 47 28.1**	**-1.0**
WCT	**Wildcat Mounta**	**1.33**	**29**		**Pn**	**02 47 29.0**	**-1.0**
WCT				IAML		02 47 49.3	
	comp=N,2μm,0.5s						
WCT				IAML		02 47 50.4	
	comp=E,2μm,0.4s						
SIL	**Silver Peak**	**1.37**	**159**		**Pb**	**02 47 30.5**	**-0.6**
GRAC	**Grapevine Rang**	**1.37**	**2**		**Pn**	**02 47 30.0**	**-0.5**
VES	**Vestal, Richgr**	**1.37**	**279**		**Pb**	**02 47 30.2**	**-0.8**
CHFC	**Chilao Flat St**	**1.38**	**201**		**Pn**	**02 47 30.1**	**-0.8**
SGV	**South Grapevin**	**1.39**	**13**		**Pn**	**02 47 30.1**	**-0.8**
BFSC	**Mount Baldy Ra**	**1.40**	**188**		**Pn**	**02 47 30.2**	**-0.8**
BFSC				IAML		02 47 50.5	
	comp=E,3μm,0.8s						
BFSC				IAML		02 47 51.1	
	comp=N,3μm,0.6s						
SS2	**San Sevaine**	**1.42**	**183**		**Pb**	**02 47 30.9**	**-0.8**
BBRC	**Big Bear Solar**	**1.42**	**163**		**Pg**	**02 47 32.1**	**-0.4**
SSK	**Sunset Peak**	**1.43**	**189**		**Pn**	**02 47 31.1**	**-0.4**
OSI	**Osito Audit: C**	**1.47**	**227**		**Pn**	**02 47 31.1**	**-0.9**
OSI				IAML		02 47 57.4	
	comp=N,2μm,1.1s						
OSI				IAML		02 47 58.4	
	comp=E,2μm,0.9s						
MWC	**Mount Wilson**	**1.50**	**201**		**Pn**	**02 47 31.4**	**-1.1**
MWC				IAML		02 47 55.1	
	comp=N,2μm,0.6s						
MWC				IAML		02 47 55.1	
	comp=E,2μm,0.5s						
MTPC	**Mountain Pass**	**1.53**	**95**		**Pn**	**02 47 31.6**	**-1.2**
MTPC				IAML		02 47 56.1	
	comp=E,1μm,0.3s						
MTPC				IAML		02 47 58.5	
	comp=N,1μm,0.4s						
SVD	**Seven Oaks Dam**	**1.54**	**170**		**Pb**	**02 47 33.5**	**-0.4**
DECC	**Green Verdugo**	**1.56**	**209**		**Pg**	**02 47 34.8**	**-0.3**
PSRC	**Puddingstone R**	**1.56**	**192**		**Pb**	**02 47 34.2**	**-0.1**
TIN	**Tinemaha, Big**	**1.57**	**336**		**Pg**	**02 47 34.9**	**-0.4**
PASC	**Pasadena Art C**	**1.58**	**204**		**Pn**	**02 47 32.9**	**-0.5**
PASC				IAML		02 48 01.0	
	comp=E,969nm,1.0s						
PASC				IAML		02 48 02.9	
	comp=N,897nm,1.0s						
GTM	**Goat Mountain**	**1.59**	**146**		**Pb**	**02 47 34.5**	**-0.3**
LCH	**Last Change Ra**	**1.61**	**354**		**Pn**	**02 47 33.5**	**-0.5**
OAT	**Oat Mountain**	**1.61**	**218**		**Pn**	**02 47 33.6**	**-0.3**
TPNV	**Topopah Spring**	**1.62**	**35**		**Pn**	**02 47 33.3**	**-0.8**
TPNV				IAML		02 48 00.2	
	comp=N,2μm,0.6s						
TPNV				IAML		02 48 02.1	
	comp=N,2μm,0.6s						
GMRC	**Granite Mounta**	**1.67**	**120**		**Pn**	**02 47 33.0**	**-1.7**
GMN	**Gold Mountain**	**1.68**	**4**		**Pn**	**02 47 34.5**	**-0.5**
GMN				IAML		02 48 02.8	
	comp=N,711nm,0.6s						
GVRC	**Garvey Reservo**	**1.68**	**200**		**Pg**	**02 47 37.2**	**-0.1**
BLCC	**Black Canyon**	**1.72**	**217**		**Pn**	**02 47 35.1**	**-0.3**
VOG	**Valley Oaks Go**	**1.74**	**294**		**Pb**	**02 47 36.5**	**-0.7**
DJJ	**Donna J Jenkin**	**1.74**	**210**		**Pg**	**02 47 37.8**	**-0.7**
PEC	**Perris**	**1.74**	**173**		**Pn**	**02 47 35.7**	**0.0**
BCW	**Bitter Crk WRg**	**1.77**	**248**		**Pb**	**02 47 37.6**	**-0.3**
BLAC	**Blackrock camp**	**1.77**	**151**		**Pn**	**02 47 35.4**	**-0.7**
DSP	**Deep Springs**	**1.79**	**346**		**Pn**	**02 47 36.0**	**-0.3**
DSP				IAML		02 48 03.0	
	comp=E,636nm,0.4s						
WTT2	**Watts, South G**	**1.81**	**203**		**Pb**	**02 47 37.5**	**-1.0**
POCCA	**Poleta Canyon**	**1.86**	**338**		**Pg**	**02 47 39.8**	**-1.1**
EW2	**E Wide Canyon**	**1.88**	**153**		**Pn**	**02 47 36.8**	**-0.7**
BHPR	**Bishop**	**1.88**	**333**		**Pn**	**02 47 37.5**	**-0.2**
TPC	**Twentynine Pal**	**1.89**	**143**		**Pn**	**02 47 36.7**	**-1.0**
CRGC	**Crocker Grade**	**1.92**	**259**		**Pb**	**02 47 40.4**	**-0.1**
DANC	**Danby, Needles**	**1.94**	**120**		**Pg**	**02 47 41.2**	**-1.1**
HMTC	**Hemet**	**1.94**	**170**		**Pn**	**02 47 38.0**	**-0.5**
ELS	**Elsinore Mount**	**1.98**	**180**		**Pn**	**02 47 38.5**	**-0.4**
ELS				IAML		02 48 11.2	
	comp=E,571nm,0.5s						
POB	**Polly Butte**	**1.98**	**168**		**Pn**	**02 47 38.6**	**-0.3**
DGR	**Domenigoni Val**	**2.00**	**170**		**Pn**	**02 47 39.1**	**-0.1**
SHPR	**Sheep Range**	**2.03**	**64**		**Pn**	**02 47 39.2**	**-0.5**
BACC	**Bachelor Mtn.**	**2.03**	**171**		**Pn**	**02 47 39.6**	**-0.1**
MZP	**Montezuma Peak**	**2.07**	**1**		**Pn**	**02 47 40.1**	**-0.3**
V12A	**Nelson**	**2.09**	**87**		**Pn**	**02 47 39.6**	**-0.9**
PMD	**Palm Desert**	**2.15**	**156**		**Pn**	**02 47 40.2**	**-1.1**
PFO	**Pinyon Flats O**	**2.16**	**158**		**Pn**	**02 47 40.5**	**-1.0**
PFO	**Pinyon Flats O**	**2.16**	**158**	Pn	**Pn**	**02 47 40.3**	**-1.2**
	comp=E,11nm,0.3s,baz=338,slow=15,SNR=206						
PFO				Pg	**Pb**	**02 47 44.9**	**+0.4**
	comp=E,69nm,0.3s,baz=338,slow=14,SNR=88						
PFO				LR	LR	02 48 06.3	
	comp=E,110nm,19.3s,baz=228,slow=29						
PFO				Lg	Lg	02 48 12.6	
	comp=E,56nm,0.3s,baz=78,slow=16,SNR=6.2						
	comp=E,28nm,0.3s						
SNDA	**J Saunders Pla**	**2.17**	**162**		**Pn**	**02 47 41.3**	**-0.4**
BENR	**Benton**	**2.28**	**336**		**Pn**	**02 47 43.5**	**+0.2**
PLM	**Palomar**	**2.31**	**168**		**Pn**	**02 47 43.4**	**-0.3**
CTW	**Cottonwood Mou**	**2.33**	**146**		**Pn**	**02 47 42.7**	**-1.0**
IRM	**Iron Mountain**	**2.38**	**127**		**Pn**	**02 47 42.8**	**-1.6**
S11A	**Rachel**	**2.42**	**33**		**Pn**	**02 47 44.8**	**-0.3**
S11A				IAML		02 48 26.6	
	comp=N,879nm,0.5s						
NEE2	**Needles Airpor**	**2.45**	**110**		**Pn**	**02 47 43.9**	**-1.4**
TPH	**Tonopah**	**2.45**	**4**		**Pn**	**02 47 45.4**	**-0.1**
BORC	**Borrego Spring**	**2.50**	**160**		**Pn**	**02 47 45.3**	**-0.7**
BORC				IAML		02 48 34.0	
	comp=E,467nm,0.8s						
PRN	**Pahroc Range**	**2.61**	**46**		**Pn**	**02 47 47.5**	**-0.1**
PRN				IAML		02 48 30.6	
	comp=E,617nm,0.9s						
PRN				IAML		02 48 36.0	
	comp=N,701nm,0.8s						
SALN	**Salton City**	**2.62**	**153**	Pn	**Pn**	**02 47 48.0**	**+0.3**
DPP	**Dos Picos Cty**	**2.65**	**171**		**Pn**	**02 47 47.6**	**-0.6**
DPP				IAML		02 48 33.8	
	comp=E,322nm,0.8s						
LHV	**Little Huntoon**	**2.76**	**342**		**Pn**	**02 47 49.7**	**+0.1**
LHV				IAML		02 48 42.6	
	comp=N,327nm,0.8s						
LHV				IAML		02 48 56.1	
	comp=E,356nm,0.9s						
PMPB	**Monarch Peak**	**2.81**	**283**		**Pn**	**02 47 49.6**	**-0.7**
PMPB				IAML		02 48 43.8	
	comp=E,708nm,1.0s						
NV11	**Mina Array Sit**	**2.86**	**348**		**Pn**	**02 47 50.5**	**-0.6**
NVAR	**Mina Array Bea**	**2.88**	**346**		**Pn**	**02 47 50.9**	**-0.7**
NVAR	**Mina Array Bea**	**2.88**	**346**	Pn	**Pn**	**02 47 51.4**	**-0.2**
	comp=E,6.7nm,0.3s,baz=168,slow=13,SNR=52						
NVAR				Pg	**Pb**	**02 47 57.9**	**+0.9**
	comp=E,60nm,0.3s,baz=159,slow=15,SNR=67						
NVAR				Lg	Lg	02 48 37.0	
	comp=E,17nm,0.3s,baz=167,slow=32,SNR=5.8						
	comp=E,6.0nm,0.3s						
W13A	**Hualapai Mount**	**2.94**	**99**		**Pn**	**02 47 51.3**	**-1.0**
W13A				IAML		02 48 39.1	
	comp=N,238nm,1.1s						
W13A				IAML		02 48 42.1	
	comp=E,292nm,0.8s						
BLYC	**Blythe**	**3.03**	**127**	IAML		02 48 44.4	
	comp=N,404nm,0.8s						
BLYC				IAML		02 48 47.6	
	comp=E,392nm,1.1s						
TJX	**Tijuana**	**3.12**	**174**	IAML		02 49 00.9	
	comp=N,564nm,1.0s						
TKX	**Tecate**	**3.12**	**167**	IAML		02 49 57.0	
	comp=E,434nm,0.1s						
TKX				IAML		02 49 57.6	
	comp=N,207nm,0.1s						
WAKR	**Walker**	**3.29**	**331**	IAML		02 49 05.1	
	comp=N,189nm,1.0s						
WAKR				IAML		02 49 06.3	
	comp=E,169nm,1.0s						
GLA	**Glamis**	**3.35**	**139**	IAML		02 48 53.8	
	comp=N,414nm,0.6s						
CBX	**Cerro Bola**	**3.37**	**169**	IAML		02 49 09.3	
	comp=N,441nm,0.9s						
CMB	**Columbia Colle**	**3.38**	**316**	IAML		02 48 56.4	
	comp=E,326nm,0.8s						
CMB				IAML		02 48 59.9	
	comp=N,280nm,0.7s						
CCX	**Cicese**	**3.80**	**170**	IAML		02 49 15.5	
	comp=E,148nm,1.0s						
CCX				IAML		02 49 21.2	
	comp=N,175nm,0.9s						
KNB	**Kanab**	**3.96**	**68**	IAML		02 49 18.0	
	comp=E,98nm,1.1s						
KNB				IAML		02 49 20.3	
	comp=N,114nm,1.4s						
Y14A	**Wickenburg**	**4.00**	**114**	IAML		02 49 16.4	
	comp=E,176nm,0.8s						
PSUT	**Pine Spring**	**4.07**	**43**	IAML		02 49 24.8	
	comp=N,118nm,1.0s						
PSUT				IAML		02 49 25.9	
	comp=E,111nm,1.4s						
113A	**Mohawk Valley,**	**4.16**	**132**	IAML		02 49 27.4	
	comp=N,78nm,0.9s						
SPR3	**Spring Creek 3**	**4.17**	**35**	IAML		02 49 17.6	
	comp=E,122nm,1.4s						
U15A	**North Rim**	**4.23**	**78**	IAML		02 49 21.6	
	comp=N,96nm,1.1s						
U15A				IAML		02 49 23.8	
	comp=E,100nm,1.1s						
AFDM	**Forest Hills D**	**4.36**	**321**	IAML		02 49 24.8	
	comp=N,140nm,0.5s						
AFDM				IAML		02 49 30.2	
	comp=E,178nm,1.0s						
VTX	**Valle De La Tr**	**4.44**	**162**	IAML		02 49 18.0	
	comp=N,140nm,0.1s						
VTX				IAML		02 49 30.9	
	comp=E,106nm,0.1s						
WUAZ	**Wupatki**	**4.93**	**90**	IAML		02 49 43.7	
	comp=E,86nm,0.5s						
WUAZ				IAML		02 49 51.1	
	comp=E,95nm,0.8s						
X16A	**Lo Mia Camp, P**	**5.05**	**102**	IAML		02 49 48.3	
	comp=E,64nm,1.2s						
X16A				IAML		02 49 54.9	
	comp=N,59nm,1.3s						
SFX	**San Felipe**	**5.06**	**154**	IAML		02 50 01.0	
	comp=E,42nm,1.2s						
SFX				IAML		02 50 01.5	
	comp=N,50nm,1.1s						
ORV	**Oroville**	**5.09**	**322**	IAML		02 49 49.0	
	comp=E,74nm,0.7s						
ORV				IAML		02 49 52.0	
	comp=N,51nm,1.8s						
214A	**Organ Pipe Nat**	**5.30**	**132**	IAML		02 50 08.6	
	comp=N,56nm,1.2s						
214A				IAML		02 50 11.6	
	comp=E,56nm,0.9s						
ELK	**Elko**	**5.39**	**18**	Pn	**Pn**	**02 48 26.6**	**+0.6**
	comp=E,1.2nm,0.3s,baz=224,slow=7.1,SNR=17						
ELK				Pg	**Pg**	**02 48 44.2**	**-4.2**
	comp=E,6.8nm,0.3s,baz=223,slow=11,SNR=38						
ELK				Lg	Lg	02 49 53.6	
	baz=308,slow=19						
	comp=E,3.5nm,0.4s						
YBH	**Yreka Blue Hor**	**7.37**	**327**	Pn	**Pn**	**02 48 54.6**	**+1.6**
	baz=115,slow=6.0,SNR=4.0						
YBH				Lg	Lg	02 50 56.6	
	baz=224,slow=18,SNR=5.8						
ANMO	**Albuquerque**	**8.99**	**91**	Pn	**Pn**	**02 49 16.4**	**+1.1**
	comp=E,0.1nm,0.3s,baz=239,slow=15,SNR=3.6						
ANMO				Pg	Pg	02 49 49.6	-7.6
	comp=E,1.0nm,0.3s,baz=60,slow=11,SNR=11						
ANMO				Lg	Lg	02 51 44.1	
	comp=E,0.1nm,0.3s,baz=145,slow=12,SNR=5.1						
	comp=E,0.9nm,0.6s						
PDAR	**Pinedale Array**	**9.38**	**38**	Pn	**Pn**	**02 49 22.6**	**+1.8**
	comp=E,0.1nm,0.3s,baz=240,slow=12,SNR=4.5						
	comp=E,0.8nm,1.0s						
NEW	**Newport**	**12.63**	**1**	LR	LR	02 55 32.0	
	comp=E,76nm,19.9s,baz=336,slow=40						
TXAR	**Lajitas Array**	**13.19**	**115**	Pn	**Pn**	**02 50 14.3**	**+1.5**
	comp=E,0.3nm,0.3s,baz=295,slow=14,SNR=0.9						
DLBC	**Dease Lake**	**24.30**	**344**	LR	LR	03 02 34.9	
	comp=E,6.7nm,20.9s,baz=153,slow=38						
YKA	**Yellowknife Ar**	**26.95**	**3**	P	**P**	**02 52 48.5**	**+1.8**
	comp=E,0.4nm,0.7s,baz=190,slow=9.1,SNR=4.6						
	comp=E,0.4nm,0.7s						
ILAR	**Eielson Array**	**34.11**	**338**	P	**P**	**02 53 52.1**	**+2.2**
	comp=E,0.5nm,0.9s,baz=154,slow=9.2,SNR=6.8						
	comp=E,0.5nm,0.9s						

UPA 16 02:59:37.7±0.4, 8°.41N×82°.79W, h46km±5km, MW2.5, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**0.34**	**85**	*e*P	Pn	02 59 46.4	-0.5
DVD				*e*S	Sn	02 59 53.5	+0.2
DVD	**David**	**0.34**	**85**	*e*P	Pn	02 59 46.3	-0.5
DVD				*e*S	Sn	02 59 53.5	+0.2
BRU2	**Volcan**	**0.39**	**14**	*e*P	Pn	02 59 52.2	+7.5
BRU2	**Volcan**	**0.39**	**14**	*e*P	Pn	02 59 48.0	+0.3
BRU2				*e*S	Sn	02 59 55.5	+0.8
PTAR3	**Potrerillos Ar**	**0.40**	**46**	*e*P	Pn	02 59 47.6	-0.1
PTAR3				*e*S	Sn	02 59 55.3	+0.4
BC3P	**Paso Ancho**	**0.44**	**23**	*e*P	Pn	02 59 48.4	+0.1
BC3P				*e*S	Sn	02 59 56.5	+0.7
CHIR3	**Chiriqui UPA,**	**0.45**	**92**	*e*P	Pn	02 59 48.0	-0.2
CHIR3				*e*S	Sn	02 59 56.7	+1.1
BQSF3	**Alto Boquete,**	**0.48**	**47**	*e*P	Pn	02 59 48.8	+0.1
BQSF3				*e*S	Sn	02 59 57.3	+0.8
DRK0	**Durika**	**0.96**	**332**	*e*P	Pn	02 59 55.4	+0.3
DRK0				*e*S	Sn	03 00 09.4	+1.7

*CATAC **16** 03:09:47.0±1.2, 8°.7N±7°×8°.3W±°, h5km±3km, M3.7/9, MLv3.7/9, Error ellipse: s-maj=16.4km s-min=6.6km az=167.1, confirmed*

*UCR **16** 03:09:46.1±1.4, 8°.28N×82°.94W, h0km±3km, MW3.9*

*UPA **16** 03:09:47.5±0.8, 8°.32N×82°.93W, h17km±1km, MW3.8, Fault plane solution: NP1 ψ_s111.00000°, δ44.00000°, λ18.00000°.*

ISC 16 03:09:45.8±1.2, 8°.26N±0°.04×82°.97W±0°.02, h14km±8km, n107, σ1§10/154, 4C-28D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LESP3	**La Esperanza,**	**0.23**	**50**	⇓*e*P	**Pb**	**03 09 52.2**	**+0.4**
LESP3				*e*S	**Sb**	**03 09 55.6**	**-0.2**
LPPC	**Paso Canoas**	**0.30**	**25**	⇓*i*P	**Pb**	**03 09 53.0**	**-0.1**
LPPC				*e*S	**Sb**	**03 09 57.9**	**0.0**
CDITO	**Canoas**	**0.33**	**17**	P	**Pb**	**03 09 53.3**	**-0.2**
CDITO	**Canoas**	**0.33**	**17**	S	**Sb**	**03 09 58.5**	**-0.1**
NELY	**Ciudad Neily**	**0.39**	**3**	⇓*i*P	**Pb**	**03 09 54.3**	**-0.2**
NELY				*e*S	**Sb**	**03 10 00.2**	**-0.2**
PTJ1	**Puerto Jimnez**	**0.43**	**310**	⇓*e*P	**Pb**	**03 09 56.0**	**+0.8**
PTJ1				*e*S	**Sn**	**03 10 04.4**	**-0.8**
PTJ1	**Puerto Jimnez**	**0.43**	**310**	⇓*e*P	**Pb**	**03 09 56.0**	**+0.8**
PTJ1				*e*S	**Sn**	**03 10 04.2**	**-1.0**
PTJ1	**Puerto Jimnez**	**0.43**	**310**	P	**Pb**	**03 09 56.0**	**+0.8**
EDAD	**Golfito**	**0.44**	**334**	⇓*i*P	**Pg**	**03 09 54.4**	**-0.2**
EDAD				*e*S	**Sg**	**03 10 00.4**	**-0.1**
DVD	**David**	**0.54**	**71**	⇓*e*P	**Pb**	**03 09 57.6**	**+0.5**
DVD				*e*S	**Sb**	**03 10

LCR2	**La Lucha 2**	**1.79**	**325**	*eP*	**Pn**	**03 10 17.1**	**+0.6**
LCR2	**La Lucha 2**	**1.79**	**325**	P	**Pb**	**03 10 18.5**	**-0.1**
VINA	**Juan Vinas**	**1.80**	**335**	*eP*	**Pb**	**03 10 17.6**	**-1.0**
RSUS3	**Rio de Jesus,**	**1.81**	**99**	*eP*	**Pn**	**03 10 17.0**	**+0.4**
RSUS3				*eS*	**Sn**	**03 10 39.0**	**-0.4**
PICV	**PH. Pirrs**	**1.82**	**318**	*eP*	**Pb**	**03 10 18.8**	**-0.2**
VERB	**Verbena**	**1.82**	**337**	*eP*	**Pb**	**03 10 18.6**	**-0.5**
PAR1A	**Puntarenas Pro**	**1.84**	**316**	*eP*	**Pb**	**03 10 18.4**	**-0.8**
VTCV	**VTCV, Calle Va**	**1.87**	**337**	*eP*	**Pb**	**03 10 19.4**	**-0.5**
RESJ	**San Isidro (Tu**	**1.88**	**339**	*eP*	**Pb**	**03 10 19.6**	**-0.4**
CVTV	**Tajo**	**1.90**	**336**	*eP*	**Pb**	**03 10 19.7**	**-0.7**
LCOCO	**El Coco**	**1.90**	**342**	*eP*	**Pb**	**03 10 20.9**	**+0.5**
LCOCO				*eS*	**Sb**	**03 10 44.5**	**+0.5**
CVTQ	**Turrialba Volc**	**1.91**	**336**	*eP*	**Pb**	**03 10 20.3**	**-0.3**
VTLA	**Turrialba Volc**	**1.91**	**335**	*eP*	**Pb**	**03 10 20.3**	**-0.3**
VTR0	**Volcan Turrial**	**1.91**	**336**	*eP*	**Pb**	**03 10 20.5**	**-0.3**
CVTR	**Volcan Turrial**	**1.92**	**336**	*eP*	**Pb**	**03 10 20.3**	**-0.5**
CVTR				*eS*	**Sg**	**03 10 46.0**	**-1.6**
VICA	**Volcano Irazu**	**1.92**	**333**	*eP*	**Pb**	**03 10 20.4**	**-0.5**
ACOS	**Acosta**	**1.93**	**322**	*eP*	**Pb**	**03 10 21.4**	**+0.5**
RVLA	**Villa Bonita**	**1.94**	**342**	*eP*	**Pb**	**03 10 20.5**	**-0.4**
RVLA				*eS*	**Sg**	**03 10 46.7**	**-1.5**
STIA3	**Santiago, Vera**	**1.98**	**94**	*eP*	**Pn**	**03 10 19.6**	**+0.6**
STIA3				*eS*	**Sn**	**03 10 43.0**	**-0.6**
CVIMO	**Finca Echandi**	**2.00**	**331**	*eP*	**Pb**	**03 10 21.0**	**-1.1**
SANTA	**Santa Ana**	**2.05**	**324**	*eP*	**Pb**	**03 10 22.8**	**-0.2**
HDC	**Heredia**	**2.07**	**327**	*eP*	**Pb**	**03 10 22.6**	**-0.6**
BELE	**Belen**	**2.09**	**325**	*eP*	**Pb**	**03 10 22.9**	**-0.6**
CALO3	**Calobre, Verag**	**2.11**	**88**	*eP*	**Pn**	**03 10 22.1**	**+1.5**
VBV1	**V. Barva**	**2.15**	**329**	*eP*	**Pb**	**03 10 23.1**	**-1.7**
CACAO	**El Cacao, Vera**	**2.28**	**113‖**	*eP*	**Pb**	**03 10 25.6**	**-1.1**
CACAO				*eS*	**Sn**	**03 11 51.1**	**+0.3**
TRT2	**Tortugero**	**2.41**	**342**	*eP*	**Pb**	**03 10 27.2**	**-1.7**
TRT2				*eS*	**Sb**	**03 10 59.6**	**+1.2**
VPL2	**V. Platanar**	**2.47**	**326**	*eP*	**Pb**	**03 10 29.5**	**-0.6**
CHIT3	**Chitre**	**2.54**	**97**	*eP*	**Pn**	**03 10 26.9**	**+0.3**
CHIT3				*eS*	**Sn**	**03 10 56.7**	**-0.8**
SOCE	**Pocosol**	**2.67**	**323**	*eP*	**Pb**	**03 10 32.3**	**-1.1**
SOCE	**Pocosol**	**2.67**	**323**	P	**Pb**	**03 10 31.4**	**-2.0**
AZU	**Azuero**	**2.71**	**100**	*eP*	**Pn**	**03 10 30.4**	**+1.4**
AZU	**Azuero**	**2.71**	**100‖**	*eP*	**Pb**	**03 10 32.5**	**-1.6**
AZU				*eS*	**Sn**	**03 11 01.0**	**-0.5**
FORC	**Fortuna**	**2.76**	**323**	*eP*	**Pb**	**03 10 34.8**	**-0.2**
VACR	**Volcan Arenal**	**2.77**	**323**	*eP*	**Pb**	**03 10 33.5**	**-1.6**
VARE2	**V. Arenal**	**2.79**	**322**	*eP*	**Pb**	**03 10 33.9**	**-1.6**
CEDE	**Laguna Cedeo**	**2.80**	**322**	*eP*	**Pb**	**03 10 35.0**	**-0.7**
JTS	**Las Juntas de**	**2.81**	**316**	*eP*	**Pn**	**03 10 32.8**	**+2.4**
JTS	**Las Juntas de**	**2.81**	**316‖**	*eP*	**Pn**	**03 10 31.8**	**+1.4**
JTS				*eS*	**Sn**	**03 11 05.5**	**+1.3**
JTS	**Las Juntas de**	**2.81**	**316**	P	**Pb**	**03 10 33.6**	**-2.2**
COVE	**Coope Vega, Sa**	**2.82**	**330**	P	**Pn**	**03 10 33.0**	**+2.4**
TABAC	**Tabacon**	**2.85**	**322**	*eP*	**Pb**	**03 10 35.6**	**-0.8**
ACHO3	**Achotines, Los**	**2.90**	**107**	*eP*	**Pn**	**03 10 32.1**	**+0.6**
ACHO3				*eS*	**Sn**	**03 11 05.5**	**-0.7**
TIMP	**Tierras Morena**	**3.07**	**319**	*eP*	**Pb**	**03 10 37.8**	**-2.5**
ZANG	**Zanguenga, Cho**	**3.15**	**77**	*eP*	**Pn**	**03 10 37.7**	**+2.7**
ZANG	**Zanguenga, Cho**	**3.15**	**77**	*eP*	**Pn**	**03 10 35.6**	**+0.7**
JUD3	**Juan Diaz 3**	**3.17**	**307**	*eP*	**Pb**	**03 10 36.7**	**+1.4**
ELVJ	**El Viejo (Barb**	**3.19**	**313**	*eP*	**Pn**	**03 10 36.9**	**+1.4**
CUI	**Cuipilapa**	**3.22**	**318**	*eP*	**Pb**	**03 10 39.7**	**-3.2**
BCIP	**Isla Barro Col**	**3.23**	**74**	*eP*	**Pn**	**03 10 37.9**	**+1.9**
BCIP	**Isla Barro Col**	**3.23**	**74‖**	*eP*	**Pn**	**03 10 38.7**	**+2.6**
BCIP				*eS*	**Sn**	**03 11 13.3**	**-1.0**
CHOR3	**La Chorrera**	**3.23**	**78**	*eP*	**Pn**	**03 10 37.0**	**+0.8**
CHOR3				*eS*	**Sn**	**03 11 13.2**	**-1.3**
COLC	**Colonia**	**3.25**	**318**	*eP*	**Pb**	**03 10 39.9**	**-3.5**
VRLE	**La Escondida,**	**3.45**	**317**	*eP*	**Pb**	**03 10 42.9**	**-3.9**
UPA	**Univ. de Panam**	**3.47**	**78**	*eP*	**Pn**	**03 10 39.4**	**-0.1**
UPA				*eS*	**Sn**	**03 11 20.0**	**-0.4**
LAPC	**Finca la Perla**	**3.48**	**316**	*eP*	**Pn**	**03 10 43.0**	**+3.4**
ACON	**Acoyapa**	**4.28**	**330**	P	**Pn**	**03 10 53.7**	**+3.1**

*NEIC **16** 03:11:25.6±1.6,28°.35N±0°.01×98°.98W±0°.02,h5km±1km, mb_Lg2.5/22,ML2.1/14,Error ellipse: s-maj=2.8km s-min=2.4km az=242.0*

*NEIC **16** 03:11:25.1±3.1,28°.353N±0°.005×98°.89W±0°.01,h8km±3km, Error ellipse: s-maj=1.7km s-min=0.7km az=72.0*

*TXNET **16** 03:11:25.1,28°.N±1°×9°.9W±°,h8km±3km,ML2.5/12,Error ellipse: s-maj=2.5km s-min=1.9km az=68.9,final*

ISC 16 03:11:24.9±1.1,28°.34N±0°.03×98°.95W±0°.03,h8km±10km, n34,σ0s80/51,Southern Texas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
833A	**Chaparral WMA,**	**0.39**	**268**			**Pb**	**03 11 33.7**	**-0.4**
833A						**Sg**	**03 11 37.7**	**-0.1**
833A	**Chaparral WMA,**	**0.39**	**268**	P		**Pb**	**03 11 33.7**	**-0.4**
833A				S		**Sb**	**03 11 41.5**	**+1.1**
EF74	**Calliham**	**0.47**	**78**	P		**Pg**	**03 11 33.3**	**-0.7**
EF74				S		**Sg**	**03 11 40.5**	**+0.2**
EF02	**Christine**	**0.57**	**40**	P		**Pg**	**03 11 35.4**	**-0.5**
EF02				S		**Sg**	**03 11 45.2**	**+1.8**
EF51	**Christine**	**0.60**	**41**	P		**Pg**	**03 11 36.0**	**-0.6**
EF51				S		**Sg**	**03 11 46.0**	**+1.7**
EF69	**Whitsett**	**0.66**	**63**	P		**Pg**	**03 11 36.6**	**-1.0**
EF69				S		**Sg**	**03 11 47.6**	**+1.4**
EF76	**Three Rivers**	**0.69**	**75**	P		**Pg**	**03 11 37.4**	**-0.8**
EF76				S		**Sg**	**03 11 48.1**	**+0.9**
EF59	**Coughran**	**0.77**	**37**	P		**Pg**	**03 11 39.9**	**+0.2**
EF59				S		**Sb**	**03 11 51.9**	**+0.7**
EF52	**Campbellton**	**0.83**	**52**	P		**Pg**	**03 11 40.0**	**-0.9**
EF71	**Pawnee**	**0.85**	**70**	P		**Pg**	**03 11 40.3**	**-0.9**
EF71				S		**Sg**	**03 11 52.9**	**+0.6**
EF01	**Eagle Ford 01**	**0.93**	**32**			**Pg**	**03 11 42.2**	**-0.6**
EF01						**Sg**	**03 11 55.0**	**+0.1**
EF01	**Eagle Ford 01**	**0.93**	**32**	P		**Pg**	**03 11 42.2**	**-0.6**
EF01				S		**Sg**	**03 11 55.0**	**+0.1**
EF75	**Tulsita**	**1.04**	**70**	P		**Pg**	**03 11 44.0**	**-1.0**
EF75				S		**Sg**	**03 11 59.7**	**+1.1**
735A	**Kenedy**	**1.13**	**63**			**Pb**	**03 11 46.1**	**-0.6**
735A						**Sb**	**03 12 02.2**	**+0.7**
735A	**Kenedy**	**1.13**	**63**	P		**Pb**	**03 11 46.1**	**-0.6**
735A				S		**Sb**	**03 12 02.3**	**+0.7**
HNDO	**Hondo**	**1.22**	**346**			**Pb**	**03 11 47.7**	**-0.6**
HNDO						**Sn**	**03 12 05.0**	**-0.1**
HNDO	**Hondo**	**1.22**	**346**	P		**Pb**	**03 11 47.8**	**-0.6**
HNDO				Pg		**Pn**	**03 11 48.6**	**+0.2**
HNDO				S		**Sn**	**03 12 05.0**	**-0.1**
KVTX	**Kingsville**	**1.22**	**130**			**Pn**	**03 11 48.0**	**-0.3**
KVTX						**Sb**	**03 12 05.0**	**+0.8**
KVTX	**Kingsville**	**1.22**	**130**	P		**Pn**	**03 11 47.8**	**-0.6**
KVTX				S		**Sb**	**03 12 05.0**	**+0.8**
HBVL	**Hebbronville**	**1.29**	**169**			**Pn**	**03 11 49.0**	**-0.3**
HBVL				Sg		**Sb**	**03 12 07.0**	**+0.8**
HBVL				IAmb_Lg			03 12 09.1	
	comp=Z,25nm,0.8s							
HBVL	**Hebbronville**	**1.29**	**169**	P		**Pn**	**03 11 48.7**	**-0.6**
HBVL				S		**Sb**	**03 12 06.8**	**+0.6**
HBVL				Sg		**Sg**	**03 12 08.5**	**+2.0**
EF72	**Nordheim**	**1.30**	**66**	P		**Pn**	**03 11 49.5**	**+0.1**
DRIO	**Del Rio**	**1.82**	**307**			**Pn**	**03 11 56.0**	**-0.6**
DRIO						**Sn**	**03 12 20.0**	**+0.1**
JCT	**Junction City**	**2.26**	**341**	Pn		**Pn**	**03 12 02.8**	**+0.1**
435B	**Jarrell**	**2.71**	**26**	Pn		**Pn**	**03 12 08.7**	**-0.1**
435B				IAmb_Lg			03 12 58.4	
	comp=Z,18nm,0.8s							
BRDY	**Brady**	**2.94**	**359**	Pn		**Pn**	**03 12 11.0**	**-1.0**
BRDY				IAmb_Lg			03 13 02.5	
	comp=Z,12nm,0.8s							
OZNA	**Ozona**	**3.20**	**324**			**Pn**	**03 12 16.1**	**+0.5**
SAND	**Sanderson**	**3.21**	**301**	Pn		**Pn**	**03 12 15.8**	**+0.1**
SGCY	**Sterling City**	**4.03**	**333**	IAmb_Lg			03 13 42.7	
	comp=Z,10.0nm,0.8s							
FW07	**Weatherford**	**4.46**	**13**	IAmb_Lg			03 13 48.2	
	comp=Z,8.7nm,0.9s							
PLPT	**Palo Pinto**	**4.49**	**7**	IAmb_Lg			03 13 57.4	
	comp=Z,7.1nm,0.9s							
SN05	**Snyder 5**	**4.82**	**340**	IAmb_Lg			03 14 10.2	
	comp=Z,11nm,1.0s							
SN07	**Snyder 07**	**5.02**	**341**	IAmb_Lg			03 14 18.3	
	comp=Z,8.6nm,0.8s							
DKNS	**Dickens**	**5.58**	**343**	IAmb_Lg			03 14 35.2	
	comp=Z,8.6nm,0.8s							

*GCG **16** 03:11:31.7±1.7,15°.17N×91°.96W,h7km±17km,MD3.6*

*MEX **16** 03:11:32.8±0.6,15°.30N×92°.10W,h18km±10km,MD3.9*

ISC 16 03:11:31.8±0.9,15°.14N±0°.03×91°.99W±0°.03,h13km±7km, n19,σ1s01/29,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PAVE	**Pavencul**	**0.18**	**287**	*eP*		**Pg**	**03 11 36.3**	**0.0**
PAVE				*eS*		**Sg**	**03 11 39.2**	**-0.1**
PATR	**El Naranjo**	**0.23**	**265**	*eP*		**Pg**	**03 11 37.4**	**+0.3**
PATR				*eS*		**Sg**	**03 11 40.7**	**+0.2**
SMCA	**Catarina**	**0.29**	**196**	*i* P		**Pb**	**03 11 39.1**	**+0.2**
SMCA				*eS*		**Sb**	**03 11 42.9**	**-0.8**
THIG		**0.35**	**229**	*eS*		**Sn**	**03 11 47.6**	**-1.8**
THIG		**0.35**	**229**	*eS*		**Sb**	**03 11 47.0**	**+1.7**
HUEH	**Huehuetenango**	**0.51**	**69**	*eP*		**Pb**	**03 11 42.6**	**-0.1**
HUEH				*eS*		**Sg**	**03 11 48.5**	**-0.2**
SOKI	**Kika Raxquin**	**0.65**	**119**	*eP*		**Pb**	**03 11 45.6**	**+0.3**
RTAL	**Retalhuleu**	**0.68**	**155**	*eP*		**Pn**	**03 11 47.1**	**0.0**
RTAL				*eS*		**Sn**	**03 11 57.0**	**-0.5**
QUIS	**Sacapulas**	**0.88**	**80**	*i* P		**Pg**	**03 11 48.9**	**0.0**
QUIS				*eS*		**Sg**	**03 12 00.5**	**-0.1**
STG0	**El Palmar, Qui**	**0.95**	**138**	*i* P		Pb	03 11 44.3	-5.9
STG0				*eS*		Sg	03 11 52.5	-10
CCIG	**Comitan**	**1.15**	**353**	*eP*		**Pb**	**03 11 53.4**	**-0.2**
CCIG				*eS*		**Sg**	**03 12 08.6**	**-0.3**
CCIG	**Comitan**	**1.15**	**353**	*eP*		**Pb**	**03 11 53.4**	**-0.2**
CCIG				*eS*		**Sb**	**03 12 08.5**	**0.0**
PCIG		**1.31**	**296**	*eP*		**Pn**	**03 11 54.3**	**-1.5**
PCIG				*eS*		**Sb**	**03 12 11.0**	**-1.9**
TGIG		**1.96**	**326**	*eP*		Pn	03 11 58.7	-6.1
TGIG				*eS*		**Sn**	**03 12 29.6**	**+0.3**
TGIG		**1.96**	**326**	*eS*		**Sb**	**03 12 31.3**	**-0.5**
PETF	**Flores**	**2.70**	**49**	*eS*		**Sn**	**03 12 48.8**	**+1.2**
UXUV	**UXUV**	**3.00**	**317**	*eP*		**Pn**	**03 12 17.8**	**-1.2**
UXUV				*eS*		Sn	03 12 41.3	-13
CMIG	**Matias Romero**	**3.39**	**305**	*eP*		**Pn**	**03 12 25.9**	**+1.5**
CMIG				*eS*		**Sn**	**03 13 06.5**	**+2.0**
NEUV	**Arroyo Zacate**	**4.46**	**306**	*eP*		**Pn**	**03 12 39.5**	**+0.3**
NEUV				*eS*		**Sn**	**03 13 32.4**	**+1.4**

IDC 16 03:24:11.4±8.7,4°.49S×148°.63E,h0km,mb3.7/3, mbtmp3.7/3,Error ellipse: s-maj=140.8km s-min=91.8km az=180.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.73**	**221**	P		P	03 28 52.7	-1.0
	0.3nm,0.3s,baz=48,slow=11,SNR=15 0.3nm,0.3s							
ASAR	**Alice Springs**	**23.78**	**215**	P		P	03 29 25.2	-0.7
	1.4nm,0.6s,baz=55,slow=9.0,SNR=23 1.4nm,0.6s							
STKA	**Stephens Creek**	**28.03**	**193**	P		P	03 30 05.8	+1.4
	1.0nm,0.4s,baz=22,slow=4.3,SNR=4.4 1.0nm,0.4s							

*NEIC **16** 03:32:11.0±1.7,35°.857N±0°.007×117°.658W±0°.008, h5km±1km,Error ellipse: s-maj=2.0km s-min=1.3km az=71.0*

PAS 16 03:32:11.7±1.7,35°.852N±0°.008×117°.68W±0°.01, h8km±6km,ML3.2/92,ML3.0/120(NEIC),Error ellipse: s-maj=1.2km s-min=1.1km az=132.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.07**	**120**			**Pg**	**03 32 15.3**	**+1.6**
CLC	**China Lake**	**0.07**	**120**	IAML			03 32 15.6	
	comp=N,17µm,0.3s							
CLC				IAML			03 32 15.6	
	comp=E,22µm,0.2s							
TOW	**Tower One**	**0.08**	**239**			**Pg**	**03 32 14.3**	**+0.5**
TOW						**Sg**	**03 32 16.8**	**+1.4**
WVPM	**Volcano Peak E**	**0.15**	**310**			**Pg**	**03 32 15.0**	**0.0**
WVPM						**Sg**	**03 32 17.4**	**+0.2**
JRC2	**Joshua Ridge**	**0.17**	**320**			**Pg**	**03 32 17.8**	**+2.5**
SRTC	**Snort**	**0.17**	**201**			**Pg**	**03 32 15.6**	**+0.3**
SRTC						**Sg**	**03 32 19.1**	**+1.5**
WNMM	**Nine Mile Cany**	**0.19**	**267**			**Pg**	**03 32 18.7**	**+3.3**
WCSM	**Coso Springs S**	**0.19**	**337**			**Pg**	**03 32 15.5**	**-0.1**
WCSM						**Sg**	**03 32 18.2**	**-0.1**
GPO	**China Lake**	**0.20**	**177**			**Pg**	**03 32 15.9**	**+0.1**
GPO						**Sg**	**03 32 19.1**	**+0.5**
WRVM	**Rose V. Centra**	**0.23**	**312**			**Pg**	**03 32 16.3**	**-0.1**
WRVM						**Sg**	**03 32 19.8**	**+0.2**
MPMC	**Manual Prospec**	**0.26**	**36**			**Pn**	**03 32 20.5**	**-1.4**
MPMC	**Manual Prospec**	**0.26**	**36**	IAML			03 32 20.6	
	comp=E,918nm,0.3s							
MPMC				IAML			03 32 23.9	
	comp=N,955nm,0.6s							
WSHM	**Spangler Hills**	**0.29**	**149**			**Pg**	**03 32 17.4**	**-0.1**
MFS	**McCloud Flat S**	**0.30**	**331**			**Pg**	**03 32 17.5**	**-0.2**
MFS						**Sg**	**03 32 21.8**	**+0.1**
LRMC	**Laurel Mtn Rad**	**0.37**	**181**			**Sg**	**03 32 24.1**	**+0.2**
LRMC	**Laurel Mtn Rad**	**0.37**	**181**			**Pg**	**03 32 18.7**	**-0.3**
LRMC				IAML			03 32 24.6	
	comp=E,6µm,0.4s							
LRMC				IAML			03 32 25.4	
	comp=N,5µm,0.2s							
CCCA	**Chr Cany lake**	**0.41**	**142**			**Pg**	**03 32 20.0**	**+0.2**
CCCA						**Sg**	**03 32 26.3**	**+1.2**
CCCA	**Chr Cany lake**	**0.41**	**142**	IAML			03 32 27.0	
	comp=N,5µm,0.5s							
CCCA				IAML			03 32 30.0	
	comp=E,3µm,0.4s							
WORM	**Onyx Ranch**	**0.49**	**251**			**Pg**	**03 32 20.7**	**-0.4**
WORM						**Sg**	**03 32 27.2**	**-0.3**
WBSM	**Bird Springs**	**0.49**	**230**			**Sg**	**03 32 20.9**	**-0.3**
WBSM						**Sg**	**03 32 27.7**	**+0.1**
WHFM	**Hanning Flat**	**0.57**	**254**			**Pg**	**03 32 22.3**	**-0.4**
WHFM						**Sg**	**03 32 29.9**	**-0.2**
DTP	**Desert Tortois**	**0.60**	**193**			**Pg**	**03 32 22.7**	**-0.5**
DTP						**Sg**	**03 32 31.1**	**0.0**
QSM	**Queen of Sheba**	**0.67**	**80**			**Pg**	**03 32 24.0**	**-0.5**
QSM						**Sg**	**03 32 32.8**	**-0.4**
QSM	**Queen of Sheba**	**0.67**	**80**	IAML			03 32 34.5	
	comp=N,1µm,0.3s							
QSM				IAML			03 32 36.3	
	comp=E,2µm,0.4s							
CWC	**Cottonwood Cre**	**0.67**	**331**			**Pg**	**03 32 24.2**	**-0.5**
CWC				IAML			03 32 37.8	
	comp=E,421nm,0.3s							
CWC				IAML			03 32 38.0	
	comp=N,538nm,0.3s							
CWC	**Cottonwood Cre**	**0.67**	**331**			**Sg**	**03 32 33.4**	**-0.1**
ISA	**Isabella, Lake**	**0.68**	**254**			**Pg**	**03 32 24.3**	**-0.4**
ISA				IAML			03 32 34.2	
	comp=N,1µm,0.3s							
ISA				IAML			03 32 34.3	
	comp=E,1µm,0.2s							
ISA	**Isabella, Lake**	**0.68**	**254**			**Sg**	**03 32 33.2**	**-0.4**
CGO	**Cerro Gordo**	**0.70**	**352**			**Pg**	**03 32 24.7**	**-0.6**
CGO						**Sg**	**03 32 34.4**	**-0.1**
WASM	**Alta Sierra Ca**	**0.73**	**261**			**Pg**	**03 32 25.2**	**-0.5**
WASM						**Sg**	**03 32 34.8**	**-0.4**
CCAC	**Calif City Air**	**0.75**	**202**			**Pg**	**03 32 25.6**	**-0.6**
CCAC						**Sg**	**03 32 36.0**	**+0.1**
GWY	**Greenwater Val**	**0.88**	**67**	IAML			03 32 45.7	
	comp=E,715nm,0.4s							
GWY				IAML			03 32 45.9	
	comp=N,940nm,0.5s							
GWY	**Greenwater Val**	**0.88**	**67**			**Pg**	**03 32 28.3**	**-0.3**
GWY						**Pn**	**03 32 39.8**	**+9.2**
GSC	**Goldstone, Bar**	**0.90**	**128**			**Pg**	**03 32 28.1**	**-0.8**
GSC				IAML			03 32 43.0	
	comp=N,421nm,0.7s							
GSC				IAML			03 32 43.1	
	comp=E,872nm,0.7s							
GSC	**Goldstone, Bar**	**0.90**	**128**			**Sg**	**03 32 40.2**	**-0.3**
FURC	**Furnace Creek,**	**0.90**	**47**			**Pg**	**03 32 28.8**	**-0.1**
FURC						**Sg**	**03 32 40.9**	**+0.3**
SPG2	**Springville 2**	**0.95**	**292**			**Pg**	**03 32 28.9**	**-1.1**
SPG2						**Sg**	**03 32 41.3**	**-1.0**
HYS	**Haystack Butte**	**0.99**	**175**			**Pg**	**03 32 29.9**	**-0.8**
HYS						**Sg**	**03 32 43.6**	**+0.1**
EDW2	**Edwards Air Fo**	**1.00**	**195**			**Pg**	**03 32 29.8**	**-1.1**
EDW2						**Sg**	**03 32 43.1**	**-0.8**
TEJ	**El Tejon**	**1.03**	**233**			**Pg**	**03 32 30.2**	**-1.3**
TEJ						**Sg**	**03 32 44.1**	**-0.8**
TPO	**Tropico Hills**	**1.07**	**205**			**Pg**	**03 32 31.1**	**-1.1**
TPO				IAML			03 32 51.6	
	comp=N,306nm,0.6s							
TPO				IAML			03 32 53.2	
	comp=E,240nm,0.4s							
TPO	**Tropico Hills**	**1.07**	**205**			**Sg**	**03 32 45.9**	**-0.2**
RRX	**Edison Barstow**	**1.12**	**150**			**Pg**	**03 32 32.0**	**-1.2**
RRX						**Sb**	**03 32 47.9**	**-0.1**
MAGC	**SCE Magundon P**	**1.13**	**245**			**Pg**	**03 32 32.5**	**-0.8**
SHOC	**Shoshone, Teco**	**1.14**	**87**			**Pg**	**03 32 32.0**	**-1.5**
SHOC						**Sg**	**03 32 47.9**	**-0.4**
VES	**Vestal, Richgr**	**1.15**	**270**			**Pg**	**03 32 33.0**	**-0.6**
VES						**Sg**	**03 32 47.5**	**-1.1**
GRAC	**Grapevine Rang**	**1.17**	**12**			**Sg**	**03 32 49.1**	**-0.2**
GRAC	**Grapevine Rang**	**1.17**	**12**			**Pg**	**03 32 33.3**	**-0.8**
GRAC				IAML			03 32 51.6	
	comp=N,608nm,0.4s							
ARVC	**Arvin**	**1.19**	**233**			**Pb**	**03 32 33.7**	**-0.8**
TJR	**Tejon Ranch**	**1.20**	**227**			**Pb**	**03 32 33.2**	**-1.5**
SGV	**South Grapevin**	**1.24**	**25**			**Pb**	**03 32 34.4**	**-1.1**
WCT	**Wildcat Mounta**	**1.27**	**42**			**Pn**	**03 32 34.4**	**-1.3**
AMDNV	**Amargosa**	**1.28**	**62**			**Pn**	**03 32 34.3**	**-1.5**
AMDNV						**Sb**	**03 32 52.0**	**-0.5**
LEOC	**Leona Valley**	**1.32**	**203**			**Pn**	**03 32 36.4**	**-0.1**
LRRC	**Littlerock Res**	**1.35**	**192**			**Pn**	**03 32 36.8**	**-0.1**
LRRC						**Sg**	**03 32 55.3**	**+0.1**
CJV	**Casa Juvan**	**1.37**	**196**			**Pb**	**03 32 37.8**	**+0.1**
LCH	**Last Change Ra**	**1.38**	**1**			**Pn**	**03 32 36.7**	**-0.6**
LCH						**Sb**	**03 32 55.5**	**-0.1**
HOLC	**Holcomb Ridge**	**1.40**	**186**			**Pn**	**03 32 36.2**	**-1.3**
HOLC						**Sg**	**03 32 56.6**	**0.0**
VOG	**Valley Oaks Go**	**1.46**	**289**			**Pn**	**03 32 38.2**	**0.0**
VOG						**Sn**	**03 32 57.3**	**-0.3**
DSCC	**Desert Studies**	**1.46**	**118**			**Pn**	**03 32 36.5**	**-1.8**
DSCC						**Sb**	**03 32 58.3**	**+0.4**
GMN	**Gold Mountain**	**1.48**	**13**			**Pn**	**03 32 38.0**	**-0.9**
GMN				IAML			03 33 01.9	
	comp=N,155nm,0.5s							
TUQ	**Turquoise Moun**	**1.48**	**106**			**Pn**	**03 32 37.3**	**-1.4**
OSI	**Osito Audit: C**	**1.50**	**215**			**Pn**	**03 32 38.4**	**-0.5**
OSI				IAML			03 33 08.4	
	comp=E,110nm,0.8s							
DSP	**Deep Springs**	**1.53**	**351**			**Sb**	**03 32 60.0**	**+0.1**
CHFC	**Chilao Flat St**	**1.54**	**191**			**Pb**	**03 32 40.8**	**+0.2**
BHPR	**Bishop**	**1.59**	**336**			**Pn**	**03 32 39.8**	**-0.5**
BFSC	**Mount Baldy Ra**	**1.61**	**180**			**Pn**	**03 32 40.0**	**-0.5**
BFSC				IAML			03 33 04.1	
	comp=E,286nm,0.3s							
SSK	**Sunset Peak**	**1.64**	**181**			**Pn**	**03 32 41.0**	**+0.1**
SS2	**San Sevaine**	**1.65**	**175**			**Pg**	**03 32 43.0**	**-0.2**
SIL	**Silver Peak**	**1.65**	**155**			**Pb**	**03 32 42.7**	**+0.2**
MWC	**Mount Wilson**	**1.66**	**191**			**Pn**	**03 32 40.6**	**-0.5**
MWC				IAML			03 33 05.9	
	comp=E,197nm,0.4s							
MWC				IAML			03 33 07.2	
	comp=N,248nm,0.5s							
OAT	**Oat Mountain**	**1.69**	**207**			**Pg**	**03 32 43.7**	**-0.4**
BBRC	**Big Bear Solar**	**1.70**	**158**			**Pb**	**03 32 43.7**	**+0.3**
PASC	**Pasadena Art C**	**1.73**	**194**	Pn		**Pn**	**03 32 40.9**	**-1.1**
BLCC	**Black Canyon**	**1.80**	**207**			**Pn**	**03 32 42.5**	**-0.5**
MZP	**Montezuma Peak**	**1.86**	**7**			**Pn**	**03 32 43.6**	**-0.5**
GTM	**Goat Mountain**	**1.89**	**145**			**Pb**	**03 32 46.4**	**-0.1**
GMRC

THIG				*e*S		**Sn**	03 36 14.6	-0.5	
THIG				IAML			03 36 16.7		
	comp=E,6μm,0.5s								
STG0	**El Palmar, Qui**	**0.64**	**96**	*i* P		**Pn**	**03 36 04.2**	**-0.9**	
STG0				*i* S		**Sn**	**03 36 15.4**	**-2.2**	
STG0				IAML			03 36 18.3		
	comp=E,7μm,0.3s								
SOKI	**Kika Raxquin**	**0.66**	**61**	*i* S		**Sn**	**03 36 20.4**	**+2.0**	
PATR	**El Naranjo**	**0.66**	**339**	*e*P		**Pn**	**03 36 05.3**	**-0.2**	
PATR				*e*S		**Sn**	**03 36 15.7**	**-2.4**	
PAVE	**Pavencul**	**0.71**	**346**	*e*P		**Pn**	**03 36 06.3**	**+0.3**	
PAVE				*e*S		**Sn**	**03 36 17.6**	**-1.4**	
HUEH	**Huehuetenango**	**0.95**	**30**	*e*P		**Pn**	**03 36 09.1**	**+0.9**	
HUEH				*e*S		**Sn**	**03 36 22.8**	**-0.3**	
HUEH	**Huehuetenango**	**0.95**	**30**	*i* P		**Pn**	**03 36 09.2**	**+0.9**	
ESSG	**Sabana Grande**	**1.13**	**96**	IAML			03 36 31.2		
	comp=E,363nm,0.2s								
QUIS	**Sacapulas**	**1.18**	**48**	*e*P		**Pn**	**03 36 12.2**	**+1.5**	
QUIS				*i* S		**Sn**	**03 36 28.8**	**+1.2**	
QUIS				IAML			03 36 29.9		
	comp=E,958nm,0.5s								
FG8	**Yepocapa, Chim**	**1.41**	**99**	*i* P		Pn	03 36 10.7	-2.8	
FG8				*e*S		**Sn**	**03 36 26.2**	**-6.3**	
PCIG		**1.69**	**316**	*e*P		**Pn**	**03 36 17.9**	**+1.1**	
PCIG				*e*S		**Sn**	**03 36 38.7**	**+0.3**	
CCIG	**Comitan**	**1.78**	**356**	*e*P		**Pn**	**03 36 20.0**	**+1.8**	
CCIG				*e*S		**Sn**	**03 36 42.2**	**+1.3**	
CCIG	**Comitan**	**1.78**	**356**	*i* P		**Pn**	**03 36 20.1**	**+1.9**	
CCIG				IAML			03 36 43.0		
	comp=N,70nm,0.6s								
CCIG	**Comitan**	**1.78**	**356**	P		**Pn**	**03 36 20.1**	**+1.9**	
UNIC	**Universidad Ca**	**2.43**	**102**	P		**Pn**	**03 36 29.5**	**+3.0**	
TGIG		**2.52**	**335**	*e*P		**Pn**	**03 36 25.2**	**-2.5**	
TGIG				*e*S		**Sn**	**03 36 52.0**	**-5.8**	
PETF	**Flores**	**3.16**	**40**	*e*P		**Pn**	**03 36 37.3**	**+1.1**	
PETF				*e*S		**Sn**	**03 37 10.1**	**-3.0**	
NILT	**Santiago Nilte**	**3.26**	**309**	*e*P		Pn	03 36 46.3	+8.8	
NILT				*e*S		**Sn**	**03 37 15.5**	**0.0**	
CMIG	**Matias Romero**	**3.79**	**313**	*e*P		**Pn**	**03 36 46.4**	**+1.6**	
CMIG				*e*S		**Sn**	**03 37 30.0**	**+1.6**	
NEUV	**Arroyo Zacate**	**4.86**	**312**	*e*P		**Pn**	**03 36 59.6**	**+0.4**	
NEUV				*e*S		**Sn**	**03 37 53.3**	**-1.0**	

DJA 16 03:48:35.6±0.3,9°S±3°×11°8E±°,h10km,M3.7/10,mb3.8/1, MLv3.6/10,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.16**	**333**	P	Pg	03 48 39.7	+0.6
PLAI				S	Pg	03 48 42.8	+1.3
TWSI	**Taliwang, Sumb**	**0.98**	**283**	P	Pg	03 48 53.4	-1.2
TWSI				S	Sg	03 49 05.7	-1.7
WBSI	**Waikabubak, Su**	**1.66**	**114**	P	Pn	03 49 04.7	-0.2
WBSI				S	Sn	03 49 25.5	-0.8
SRBI	**Singaraja**	**2.75**	**288**	P	Pn	03 49 20.8	+1.0
SRBI				S	Sn	03 49 54.3	+1.1
JAGI	**Jajag, Banyuwa**	**3.69**	**277**	P	Pn	03 49 33.9	+1.2
JAGI				S	Sn	03 50 17.9	+1.6
EDFI	**Ende, Flores**	**3.80**	**87**	P	Pn	03 49 33.9	-0.5
EDFI				S	Sn	03 50 19.6	+0.4
BSSI	**Bau Bau, Buton**	**3.84**	**43**	P	Pn	03 49 34.1	-0.7
BSSI				S	Sn	03 50 21.3	+1.3
BKSI	**Bulukumba**	**4.27**	**32**	P	Pn	03 49 41.7	+1.0
BKSI				S	Sn	03 50 32.0	+1.4
GMJI	**Gumukmas**	**4.41**	**279**	P	Pn	03 49 43.5	+0.8
GMJI				S	Sn	03 50 35.7	+1.6
SPSI	**Sidrap Palu**	**5.33**	**21**	P	Pn	03 49 55.7	+0.5

TAP 16 03:52:29.4,22°.65N×121°.54E,h19km±1km,ML2.5,C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.07**	**288**	*i* P	Pg	03 52 32.7	-0.2
LDUT				S	Sg	03 52 35.3	0.0
TTN	**Taitung**	**0.38**	**286**	S	Sb	03 52 43.4	+0.3
EDH	**Donghe**	**0.39**	**326**	*i* P	Pg	03 52 37.2	-0.3
EDH				*e*S	Sg	03 52 43.1	+0.1
LONT	**Longtian**	**0.46**	**304**	*e*P	Pb	03 52 39.0	+0.1
TWGBT	**Beinan**	**0.46**	**291**	*e*P	Pg	03 52 38.5	-0.3
TWGBT				*e*S	Sg	03 52 44.8	-0.3
TWG	**Pinlang**	**0.47**	**291**	*e*P	Pg	03 52 38.7	-0.2
TWG				S	Sg	03 52 44.6	-0.7
CHKT	**Chengkung**	**0.47**	**340**	*i* P	Pg	03 52 38.7	-0.3
CHKT				*i* S	Sg	03 52 45.2	-0.4
ECS	**Chishang**	**0.53**	**326**	*e*S	Sb	03 52 48.9	+1.5
ECL	**Taimali**	**0.55**	**264**	*e*P	Pb	03 52 39.9	-0.4
ECL				S	Sb	03 52 46.8	-0.9
CHKH	**Chenggong**	**0.56**	**346**	*e*S	Sb	03 52 47.5	-0.5
EHD	**Haiduan**	**0.58**	**328**	P	Pb	03 52 46.4	-0.5
EHD				*e*S	Sg	03 52 49.0	+0.1
FULB	**Fuli**	**0.59**	**337**	P	Pb	03 52 40.8	-0.3
FULB				S	Sb	03 52 48.9	-0.1
LYUB	**Lan-yu**	**0.65**	**177**	*e*P	Pb	03 52 39.1	-2.9
TAWH	**Dawu Township**	**0.68**	**243**	*e*S	Sb	03 52 50.2	-1.3
ELDTW	**Lidau**	**0.72**	**318**	*e*P	Pb	03 52 42.3	-1.1
ELDTW				S	Sb	03 52 51.9	-1.1
TWF1	**Yuli**	**0.73**	**342**	*e*P	Pb	03 52 43.2	-0.4
YULB	**Yu-li**	**0.77**	**343**	P	Pb	03 52 43.4	-0.8
YULB				*e*S	Sg	03 52 54.6	-0.2
SLIU	**Shizi**	**0.81**	**238**	*e*P	Pb	03 52 43.8	-1.0
TSMG	**Majia**	**0.83**	**274**	*e*P	Pb	03 52 44.8	-0.4
MASBT	**Mashibuluo**	**0.84**	**268**	*e*P	Pb	03 52 44.4	-1.0
HGSD	**Ruisui**	**0.84**	**353**	*e*P	Pb	03 52 45.4	0.0
SSD	**Sandimen**	**0.85**	**277**	*e*P	Pb	03 52 44.8	-0.7
EHYH	**Wanrong**	**0.86**	**348**	*e*S	Sb	03 52 56.5	-0.3
EHY	**Hungye**	**0.88**	**347**	*e*P	Pb	03 52 45.1	-0.9
EHY				*e*S	Sb	03 52 56.9	-0.4
STYH	**Taoyuan**	**0.88**	**306**	*i* P	Pb	03 52 45.2	+0.8
STYH				*e*S	Sb	03 52 56.8	-0.5
SCZT	**Fangliau**	**0.90**	**252**	*e*P	Pb	03 52 45.7	-0.6
TWKBT	**Hengchun**	**0.98**	**224**	*e*P	Pb	03 52 46.9	-0.8
SGST	**Jiashian**	**0.98**	**296**	*e*P	Pb	03 52 47.1	-0.7
WTP	**Ta-pu**	**1.04**	**305**	*e*P	Pb	03 52 48.5	-0.3
TPUB	**Ta-pu**	**1.06**	**308**	P	Pb	03 52 49.0	-0.2
WARBT	**Fenglin Townsh**	**1.07**	**352**	*e*P	Pb	03 52 48.1	-1.2
CHN1	**Nanshi**	**1.07**	**300**	*e*P	Pn	03 52 49.8	+0.4
CHN1				*i* S	Sg	03 53 04.7	+0.3
ALS	**Alishan**	**1.09**	**322**	*i* P	Pb	03 52 49.4	-0.4
CHN4	**Tsaushan**	**1.12**	**309**	*i* P	Pb	03 52 50.1	0.0
CHN4				*e*S	Sg	03 53 05.8	+0.1
VWDT	**VWDT**	**1.16**	**342**	*e*P	Pn	03 52 50.1	-0.5
WHYT	**Xinyi Township**	**1.22**	**329**	P	Pb	03 52 51.8	0.0
CHN5	**Tsauling**	**1.23**	**320**	P	Pb	03 52 52.1	0.0
SSLB	**Suanglung**	**1.25**	**335**	*e*P	Pn	03 52 51.9	-0.1
SMLT	**Sun Moon Lake**	**1.33**	**334**	*e*P	Pn	03 52 53.9	+0.4
LXIB	**Xiulin Townshi**	**1.37**	**355**	*e*P	Pn	03 52 52.4	-1.2
NACB	**Ninganchiao**	**1.52**	**2**	*e*P	Pn	03 52 54.6	-0.9

JMA 16 03:52:56.6±0.2,23°.9N±0°.7×122°.9E±0°.8,h19km,MV1.8/7, NEAR ISHIGAKIJIMA ISLAND,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.52**	**3**	*e*S	Sg	03 53 13.9	-0.4
YOJ	**Yonaguni jima**	**0.54**	**9**	*e*P	Pb	03 53 07.2	-0.2
YOJ				*e*S	Sg	03 53 14.8	0.0
HATJ	**Hateruma jima**	**0.82**	**81**	*e*P	Pb	03 53 11.9	-0.4
HATJ				*e*S	Sg	03 53 23.7	0.0
IRIF	**Iriomote-Funau**	**0.85**	**61**	*e*P	Pb	03 53 12.2	-0.5
IRIF				*e*S	Sg	03 53 24.4	-0.1
JIJ	**Ishigaki jima**	**1.20**	**69**	*e*S	Sg	03 53 35.0	-0.7
JISG	**Ishigakijimahi**	**1.43**	**62**	*e*S	Sb	03 53 40.4	-0.2

*IDC **16** 03:53:10.9±0.9,0°.40S×127°.94E,h0km,mb4.0/8, mbtmp4.1/10,ML4.1/2,MS3.1/1,Error ellipse: s-maj=47.3km s-min=16.1km az=71.0*
*NEIC **16** 03:53:13.5±1.7,0°.44S±0°.06×127°.97E±0°.08,h10km±1km, mb4.5/15,Error ellipse: s-maj=15.4km s-min=7.7km az=57.0*
*DJA **16** 03:53:16.6±0.8,1°.S±2°.×12°.8E±°,h24km±7km,M4.5/15, mB5.1/3,mb4.7/9,MLv4.3/15,Mw(mB)4.5/3*
ISC 16 03:53:16.8±0.5,0°.52S±0°.05×127°.78E±0°.05,h35km,n49, σ1s33/56,mb4.3/13,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC

TNTI	**Ternate**	**1.34**	**342**			**Pn**	**03 53 39.5**	**+0.4**	
TNTI					Sn	**Sn**	**03 53 55.3**	**-0.4**	
TNTI	**Ternate**	**1.34**	**342**	P		**Pn**	**03 53 39.7**	**+0.6**	
TNTI				S		**Sn**	**03 53 58.3**	**+2.6**	
SANI	**Sanana**	**2.35**	**230**	P		**Pn**	**03 53 51.5**	**-1.5**	
NLAI	**Namlea**	**2.79**	**194**	P		**Pn**	**03 53 59.4**	**+0.4**	
NLAI				S		**Sn**	**03 54 33.2**	**+1.8**	
MSAI	**Masohi**	**3.04**	**158**	P		**Pn**	**03 54 04.3**	**+1.9**	
AAI	**Ambon**	**3.18**	**173**	P		**Pn**	**03 54 06.1**	**+1.8**	
SWI	**Sorong**	**3.49**	**96**	P		**Pn**	**03 54 09.8**	**+1.2**	
SWI				S		**Sn**	**03 54 51.9**	**+3.1**	
KMSI	**Cibinong**	**3.95**	**286**	P		**Pn**	**03 54 14.6**	**-0.4**	
KMSI				S		**Sn**	**03 55 01.4**	**+1.2**	
LUWI	**Luwuk**	**5.04**	**264**	P		**Pn**	**03 54 30.0**	**+0.1**	
	0.8nm5μm83nm,0.8s								
LUWI				S		**Sn**	**03 55 28.5**	**+1.6**	
	0.8nm5μm83nm,0.8s								
FAKI	**Fak Fak**	**5.06**	**118**	Pn		**Pn**	**03 54 28.5**	**-1.7**	
FAKI	**Fak Fak**	**5.06**	**118**	P		**Pn**	**03 54 29.8**	**-0.4**	
	0.2nm56nm,1.7s								
APSI	**Ampana**	**6.15**	**266**	P		**Pn**	**03 54 45.4**	**+0.3**	
	0.7nm1μm71nm,0.6s								
TOLI2	**Tolitoli**	**7.19**	**283**			**Pn**	**03 55 01.0**	**+1.6**	
DAV	**Davao City (W)**	**7.85**	**344**	LR		LR	03 58 41.6		
	comp=Z,137nm,18.9s,baz=178,slow=42								
BKSI	**Bulukumba**	**9.02**	**238**	P		**Pn**	**03 55 24.7**	**+0.1**	
	554nm51nm,0.6s								
KAPI	**Kappang**	**9.18**	**241**			**Pn**	**03 55 29.3**	**+2.5**	
KAPI	**Kappang**	**9.18**	**241**	Pn		**Pn**	**03 55 29.0**	**+2.1**	
	6.3nm,0.3s,baz=65,slow=5.2,SNR=30								
	41nm,0.6s								
SOEI	**Soe**	**9.82**	**201**	Pn		**Pn**	**03 55 37.0**	**+1.3**	
SOEI	**Soe**	**9.82**	**201**	P		**Pn**	**03 55 36.0**	**+0.3**	
EDFI	**Ende, Flores**	**10.19**	**216**	P		**Pn**	**03 55 40.8**	**+0.1**	
MYLDM	**Lahad Datu**	**10.86**	**301**	Pn		**Pn**	**03 55 51.2**	**+1.3**	
KNRA	**Kununurra**	**15.10**	**176**	Pn		**Pn**	**03 56 45.2**	**-2.4**	
KNRA				IAmb	IAmb		03 56 49.8		
	comp=Z,21nm,1.0s								
FITZ	**Fitzroy Crossi**	**17.60**	**187**	P		**Pn**	**03 57 18.1**	**-1.2**	
	comp=Z,0.2nm,0.3s,baz=14,slow=17,SNR=1.1								
	comp=Z,1.9nm,0.6s								
WB0	**Warramunga Arr**	**20.20**	**162**	P		**P**	**03 57 47.0**	**-1.7**	
WB0				IAmb	IAmb		03 57 59.3		
	comp=Z,13nm,1.1s								
COEN	**Coen**	**20.26**	**132**	P		**P**	**03 57 46.7**	**-2.7**	
COEN				IAmb	IAmb		03 57 51.8		
	comp=Z,25nm,1.0s								
WRA	**Warramunga Arr**	**20.35**	**162**	P		**P**	**03 57 48.0**	**-2.4**	
WRA	**Warramunga Arr**	**20.35**	**162**	P		**P**	**03 57 49.3**	**-1.0**	
	comp=Z,1.3nm,0.5s,baz=343,slow=13,SNR=14								
	comp=Z,1.3nm,0.5s								
WR8	**Warramunga Arr**	**20.41**	**162**	P		**P**	**03 57 49.7**	**-1.2**	
MBWA	**Marble Bar**	**21.97**	**200**	P		**P**	**03 58 09.4**	**+1.6**	
MBWA				IAmb	IAmb		03 58 15.1		
	comp=Z,36nm,1.4s								
AS31	**Alice Springs**	**23.77**	**166**	P		**P**	**03 58 26.1**	**-0.1**	
ASAR	**Alice Springs**	**23.77**	**166**	P		**P**	**03 58 26.0**	**-0.2**	
ASAR	**Alice Springs**	**23.77**	**166**	P		**P**	**03 58 25.4**	**-0.9**	
	comp=Z,4.6nm,0.8s,baz=340,slow=8.3,SNR=25								
ASAR				PcP		**PcP**	**04 02 09.8**	**+0.2**	
	comp=Z,0.3nm,0.6s,baz=336,slow=2.5,SNR=5.5								
ASAR				S		**S**	**04 02 40.6**	**+1.0**	
	comp=Z,0.9nm,0.9s,baz=346,slow=20,SNR=5.2								
	comp=Z,4.6nm,0.8s								
MNAI	**Manna**	**25.09**	**261**	P		**P**	**03 58 39.1**	**+0.6**	
FORT	**Forrest**	**30.10**	**180**	P		**P**	**03 59 23.3**	**+0.2**	
FORT				IAmb	IAmb		03 59 24.8		
	comp=Z,4.5nm,0.8s								
STKA	**Stephens Creek**	**33.82**	**159**	P		**P**	**03 59 55.5**	**-0.2**	
STKA	**Stephens Creek**	**33.82**	**159**	P		**P**	**03 59 56.3**	**+0.6**	
	comp=Z,4.4nm,0.8s,baz=332,slow=10,SNR=8.7								
	comp=Z,4.4nm,0.8s								
ENH	**Enshi**	**35.23**	**332**	P		**P**	**04 00 07.4**	**-0.6**	
ENH				IAmb	IAmb		04 00 15.5		
	comp=Z,5.9nm,0.6s								
GTA	**Gaotai**	**47.27**	**330**	*e*P		**P**	**04 01 48.8**	**+1.9**	
GTA				pmax	pmax				
	comp=Z,3.0nm,1.1s								
EVN	**Everest**	**48.41**	**309**	P		**P**	**04 01 57.0**	**+0.4**	
SONM	**Songino Array**	**51.63**	**342**	P		**P**	**04 02 19.1**	**-1.0**	
	comp=Z,0.3nm,0.4s,baz=167,slow=9.4,SNR=2.3								
	comp=Z,0.3nm,0.4s								
MKAR	**Makanchi Array**	**61.63**	**326**	P		**P**	**04 03 31.1**	**+0.1**	
MKAR	**Makanchi Array**	**61.63**	**326**	P		**P**	**04 03 30.5**	**-0.6**	
	comp=Z,0.6nm,0.4s,baz=116,slow=8.3,SNR=9.8								
	comp=Z,0.6nm,0.4s								
KURBB	**Kurchatov Arra**	**65.87**	**328**	P		**P**	**04 03 58.6**	**-0.2**	
	comp=Z,1.1nm,0.7s,baz=131,slow=5.8,SNR=5.8								
	comp=Z,1.1nm,0.7s								
KURK	**Kurchatov**	**65.87**	**328**	P		**P**	**04 03 59.1**	**+0.3**	
KURK				IAmb	IAmb		04 04 11.4		
	comp=Z,5.8nm,1.2s								
CASY	**Casey**	**66.77**	**188**	P		**P**	**04 04 04.5**	**+0.2**	
CASY				IAmb	IAmb		04 04 16.2		
	comp=Z,3.7nm,1.0s								
BVAR	**Borovoye Array**	**71.44**	**328**	P		**P**	**04 04 32.1**	**-1.4**	
	comp=Z,1.0nm,0.7s,baz=123,slow=7.3,SNR=4.2								
	comp=Z,1.0nm,0.7s								
ABKAR	**Akbulak array**	**76.09**	**321**	P		**P**	**04 05 00.2**	**-0.7**	
QSPA	**South Pole Qui**	**89.42**	**180**	P		**P**	**04 06 10.6**	**+0.7**	
QSPA				IAmb	IAmb		04 06 11.4		
	comp=Z,3.5nm,1.4s								
QSPA	**South Pole Qui**	**89.42**	**180**	P		**P**	**04 06 10.1**	**+0.2**	
	comp=Z,1.7nm,0.9s,baz=349,slow=2.8,SNR=2.2								
	comp=Z,1.7nm,0.9s								

IDC 16 03:57:36.7±3.1,31°.18S×177°.53W,h0km,mb4.0/2, mbtmp4.0/3,ML3.3/1,Error ellipse: s-maj=74.9km s-min=46.5km az=124.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.33**	**211**	Pn	Pn	03 59 37.3	-1.4
	0.3nm,0.3s,baz=139,slow=20,SNR=1.0						
URZ				Sn	Sn	04 01 09.7	-3.8
	2.5nm,0.3s,baz=148,slow=22,SNR=13						
	12nm,1.0s						
ASAR	**Alice Springs**	**43.48**	**268**	P	P	04 05 42.5	+0.5
	0.5nm,0.4s,baz=112,slow=7.6,SNR=7.8						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**44.54**	**273**	P	P	04 05 50.1	-0.3
	1.6nm,0.4s,baz=111,slow=8.0,SNR=20						
	1.6nm,0.4s						
FINES	**FINESS Array B**	**146.01**	**340**	PKPbc	PKPdf	04 17 16.8	-0.1
	0.4nm,0.4s,baz=44,slow=3.5,SNR=6.5						

*PDG **16** 04:48:36.9±0.1,43°.03N×17°.92E,h11km,MD3.0/2, ML2.9/12,Error ellipse: s-maj=0.3km s-min=0.1km az=90.0*
*BEO **16** 04:48:37.4±0.3,43°.07N×17°.86E,h4km±2km,ML2.7/8*
*RHSSO **16** 04:48:37.2±0.2,43°.03N×17°.93E,h4km±2km,ML2.9/11*
ISC 16 04:48:37.2±1.1,43°.04N±0°.02×17°.91E±0°.01,h4km±9km, n76,σ1s18/128,7C-8D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.23**	**224**	*i*Pg	**Pg**	**04 48 41.5**	**-0.1**
STON				*e*Sg	**Sg**	**04 48 45.4**	**+0.8**
STON	**Ston**	**0.23**	**224**	*e*Pg	**Pg**	**04 48 41.5**	**-0.1**
STON				*e*Sg	**Sg**	**04 48 45.6**	**+1.1**
STON	**Ston**	**0.23**	**224**	*e*Pg	**Pg**	**04 48 41.1**	**-0.4**
STON				Sg	**Sg**	**04 48 45.3**	**+0.8**
DBRK	**Dubrovnik**	**0.41**	**155**	*e*Pg	**Pg**	**04 48 44.8**	**-0.1**
DBRK				Sg	**Sb**	**04 48 52.1**	**-1.3**
TREB	**Trebinje**	**0.45**	**135**	*i*Pg	**Pg**	**04 48 45.4**	**-0.5**
TREB				*e*Sg	**Sg**	**04 48 52.6**	**+0.8**
TREB	**Trebinje**	**0.45**	**135**	*e*Pg	**Pg**	**04 48 45.3**	**-0.6**
TREB				*e*Sg	**Sg**	**04 48 52.9**	**+1.1**
BRY	**Bratogost**	**0.48**	**106**	*i*Pg	**Pg**	**04 48 45.7**	**-0.7**
BRY				*e*Sg	**Sg**	**04 48 53.3**	**+0.7**
KLINJ	**Klinje**	**0.51**	**75**	*e*Pg	**Pg**	**04 48 46.0**	**-1.0**
KLINJ				*e*Sg	**Sg**	**04 48 53.9**	**+0.3**
MAKA	**Makarska**	**0.70**	**291**	*e*Pg	**Pg**	**04 48 48.8**	**-1.9**
MAKA				Sg	**Sg**	**04 48 59.6**	**-0.1**
HCY	**Herceg Novi**	**0.73**	**144**	*i*Pg	**Pg**	**04 48 50.3**	**-0.8**
HCY				*e*Sg	**Sb**	**04 49 01.5**	**-1.2**
RICI	**Ricice**	**0.73**	**309**	*i* Pg	**Pg**	**04 48 49.7**	**-1.5**
RICI				Sg	**Sg**	**04 49 00.8**	**+0.1**
UPM	**Unac-Piva**	**0.74**	**77**	*i*Pg	**Pg**	**04 48 50.9**	**-0.6**
UPM				*e*Sg	**Sb**	**04 49 02.4**	**-1.0**
LSTV	**Lastovo**	**0.80**	**251**	*i* Pg	**Pg**	**04 48 50.8**	**-1.6**
LSTV				Sg	**Sg**	**04 49 02.8**	**0.0**
NKME	**Niksic**	**0.81**	**109**	*i*Pg	**Pg**	**04 48 51.6**	**-1.1**

NKME				*i* Sg		**Sb**	**04 49 04.5**	**-0.6**	
CEME	**Cevo**	**0.89**	**123**	*i*Pg		**Pg**	**04 48 53.0**	**-1.2**	
CEME				*i* Sg		**Sb**	**04 49 06.9**	**-0.4**	
BUM	**Brajici-Budva**	**1.03**	**135**	*i*Pg		**Pg**	**04 48 55.6**	**-1.3**	
BUM				*i* Sg		**Sb**	**04 49 11.3**	**-0.2**	
PLE	**Pljevlja**	**1.12**	**74**	*e*Pg		**Pg**	**04 48 57.6**	**-1.0**	
PLE				*i* Sg		**Sn**	**04 49 15.1**	**-0.5**	
PDG	**Podgorica**	**1.16**	**121**	*e*Pg		**Pg**	**04 48 58.7**	**-0.7**	
PDG				*e*Sg		**Sn**	**04 49 17.4**	**+1.0**	
PDG	**Podgorica**	**1.16**	**121**	*e*Pg		**Pg**	**04 48 58.0**	**-1.4**	
PDG				*i* Sg		**Sn**	**04 49 16.1**	**-0.3**	
KOME	**Kolasin**	**1.19**	**98**	*i*Pg		**Pg**	**04 48 58.8**	**-1.2**	
KOME				*e*Sg		**Sn**	**04 49 17.1**	**-0.2**	
RUDO	**Rudo**	**1.21**	**61**	*i*Pg		**Pg**	**04 48 58.5**	**-1.9**	
RUDO				*e*Sg		**Sg**	**04 49 15.0**	**-1.1**	
RUDO	**Rudo**	**1.21**	**61**	*e*Pg		**Pg**	**04 48 58.5**	**-1.9**	
RUDO				*e*Sg		**Sg**	**04 49 15.4**	**-0.7**	
DRME	**Dracevica, Mon**	**1.27**	**132**	*i*Pg		**Pg**	**04 49 00.2**	**-1.2**	
DRME				*e*Sg		**Sn**	**04 49 19.6**	**+0.6**	
BBLS	**Lazi&#263i**	**1.37**	**52**	*e*Pg		**Pn**	**04 49 02.0**	**-1.1**	
BBLS				*e*Sg		**Sn**	**04 49 23.3**	**+1.6**	
ULC	**Ulcinj**	**1.46**	**137**	*i*Pg		**Pn**	**04 49 03.0**	**-1.2**	
ULC				*e*Sg		**Sg**	**04 49 25.3**	**+1.4**	
IVA	**Berane**	**1.46**	**96**	*e*Pg		**Pn**	**04 49 03.6**	**-0.8**	
IVA				*e*Sg		**Sg**	**04 49 25.6**	**+1.4**	
KIJV	**Kijevo**	**1.46**	**312**	*e*Pg		**Pn**	**04 49 02.9**	**-1.5**	
KIJV				*e*Sg		**Sg**	**04 49 24.5**	**+0.3**	
KIJV	**Kijevo**	**1.46**	**312**	*e*Pg		**Pn**	**04 49 03.0**	**-1.3**	
VINV	**Vinovac**	**1.46**	**293**	*i* Pg		**Pn**	**04 49 02.0**	**-2.3**	
VINV				Sg		**Sb**	**04 49 22.0**	**-1.8**	
SJES	**Sjenica**	**1.52**	**81**	*e*Pg		**Pg**	**04 49 06.5**	**+0.1**	
SJES				*e*Sg		**Sg**	**04 49 26.4**	**+0.3**	
PVY	**Plav**	**1.57**	**106**	*i*Pg		**Pn**	**04 49 05.6**	**-0.3**	
IVAS	**Ivanjica**	**1.72**	**71**	*e*Pg		**Pn**	**04 49 07.9**	**0.0**	
IVAS				*e*Sg		**Sg**	**04 49 32.6**	**+0.1**	
A050A	**Klekovaca**	**1.76**	**326**	*i*Pn		**Pn**	**04 49 09.2**	**+0.7**	
A050A				*e*Sn		**Sn**	**04 49 31.8**	**+0.5**	
ZIRJ	**Zirje**	**1.77**	**291**	*e*Pn		**Pn**	**04 49 08.0**	**-0.5**	
ZIRJ				Sn		**Sn**	**04 49 31.6**	**+0.2**	
BLY	**Banja Luka**	**1.79**	**343**	*i*Pn		**Pn**	**04 49 09.4**	**+0.6**	
BLY				*e*Sn		**Sn**	**04 49 32.2**	**+0.2**	
BLY	**Banja Luka**	**1.79**	**343**	*e*Pg		**Pn**	**04 49 09.8**	**+1.0**	
BLY				*e*Sg		**Sb**	**04 49 33.7**	**+0.4**	
MORI	**Morici**	**1.81**	**298**	*e*Pn		**Pn**	**04 49 08.8**	**-0.2**	
MORI				Sn		**Sb**	**04 49 33.6**	**-0.2**	
TEKS	**Tekeris**	**1.91**	**37**	*e*Pn		**Pb**	**04 49 12.8**	**+0.2**	
A051A	**Mrakovica**	**2.10**	**340**	*e*Pn		**Pn**	**04 49 13.7**	**+0.5**	
A051A				*e*Sn		**Sn**	**04 49 40.3**	**+0.4**	
UDBI	**Udbina**	**2.15**	**315**	*e*Pn		**Pn**	**04 49 15.2**	**+1.3**	
UDBI				Sn		**Sb**	**04 49 42.9**	**-1.0**	
TRIS	**Trudelj**	**2.16**	**56**	*e*Pn		**Pn**	**04 49 13.4**	**-0.6**	
GOCS	**Kraljevo Serbi**	**2.22**	**75**	*e*Pn		**

WSHM				Sg	Sg	04 52 38.8	+0.3	
LRMC	**Laurel Mtn Rad**	**0.40**	**180**		Sg	04 52 41.5	+0.4	
LRMC	**Laurel Mtn Rad**	**0.40**	**180**		Pg	04 52 35.8	-0.1	
LRMC				IAML		04 52 42.7		
	comp=N,1μm,0.2s							
LRMC				IAML		04 52 42.7		
	comp=E,1μm,0.2s							
CCCA	**Chr Cany lake**	**0.43**	**144**		Sg	04 52 43.5	+1.3	
CCCA	**Chr Cany lake**	**0.43**	**144**		Pg	04 52 37.0	+0.4	
CCCA				IAML		04 52 43.8		
	comp=N,2μm,0.3s							
CCCA				IAML		04 52 44.0		
	comp=E,2μm,0.6s							
WORM	**Onyx Ranch**	**0.49**	**249**		Pg	04 52 37.4	-0.3	
WORM					Sg	04 52 43.9	-0.2	
WBSM	**Bird Springs**	**0.50**	**228**		Pg	04 52 37.8	-0.1	
WBSM					Sg	04 52 44.8	+0.3	
WHFM	**Hanning Flat**	**0.57**	**252**		Pg	04 52 39.0	-0.2	
WHFM					Sg	04 52 46.7	0.0	
DTP	**Desert Tortois**	**0.62**	**193**		Pg	04 52 39.8	-0.4	
DTP					Sg	04 52 48.6	+0.4	
CWC	**Cottonwood Cre**	**0.65**	**330**		Sg	04 52 49.5	+0.2	
CWC	**Cottonwood Cre**	**0.65**	**330**		Pg	04 52 40.4	-0.3	
CWC				IAML		04 52 51.1		
	comp=N,404nm,0.2s							
CWC				IAML		04 52 54.1		
	comp=E,396nm,0.2s							
QSM	**Queen of Sheba**	**0.66**	**82**		Pg	04 52 40.6	-0.4	
QSM	**Queen of Sheba**	**0.66**	**82**	Sg	Sg	04 52 49.4	-0.2	
QSM				IAML		04 52 53.5		
	comp=E,490nm,0.2s							
QSM				IAML		04 52 54.7		
	comp=N,386nm,0.6s							
CGO	**Cerro Gordo**	**0.68**	**352**		Pg	04 52 40.8	-0.5	
CGO					Sg	04 52 50.4	+0.2	
ISA	**Isabella, Lake**	**0.68**	**252**		Sg	04 52 50.0	-0.2	
ISA	**Isabella, Lake**	**0.68**	**252**		Pg	04 52 41.0	-0.3	
ISA				IAML		04 52 51.4		
	comp=E,711nm,0.2s							
ISA				IAML		04 52 52.1		
	comp=N,568nm,0.2s							
WASM	**Alta Sierra Ca**	**0.73**	**259**		Pg	04 52 41.9	-0.3	
WASM					Sg	04 52 51.6	0.0	
CCAC	**Calif City Air**	**0.77**	**201**		Pg	04 52 42.6	-0.4	
CCAC					Sg	04 52 53.2	+0.2	
GWY	**Greenwater Val**	**0.88**	**69**		Sg	04 52 56.7	+0.3	
GWY	**Greenwater Val**	**0.88**	**69**		Pg	04 52 44.8	-0.3	
GWY				IAML		04 52 59.6		
	comp=N,389nm,0.3s							
GWY				IAML		04 53 02.5		
	comp=E,386nm,0.4s							
FURC	**Furnace Creek,**	**0.89**	**48**		Pg	04 52 45.3	0.0	
FURC					Sg	04 52 57.2	+0.5	
GSC	**Goldstone, Bar**	**0.91**	**129**		Pg	04 52 45.0	-0.8	
GSC				IAML		04 53 00.1		
	comp=E,400nm,0.4s							
GSC				IAML		04 53 00.2		
	comp=N,190nm,0.3s							
GSC	**Goldstone, Bar**	**0.91**	**129**		Pg	04 52 45.1	-0.6	
GSC	**Goldstone, Bar**	**0.91**	**129**		Sg	04 52 57.4	-0.2	
SPG2	**Springville 2**	**0.94**	**291**		Sg	04 52 45.4	-0.9	
SPG2					Sg	04 52 57.4	-1.1	
HYS	**Haystack Butte**	**1.01**	**175**		Pg	04 52 46.9	-0.8	
EDW2	**Edwards Air Fo**	**1.02**	**195**		Pg	04 52 46.9	-1.0	
EDW2					Sg	04 53 00.6	-0.6	
TEJ	**El Tejon**	**1.05**	**232**		Pg	04 52 47.3	-1.0	
TEJ					Sg	04 53 00.9	-1.0	
TPO	**Tropico Hills**	**1.09**	**204**		Sg	04 53 02.8	-0.5	
TPO	**Tropico Hills**	**1.09**	**204**		Pg	04 52 48.3	-0.9	
TPO				IAML		04 53 08.7		
	comp=E,251nm,0.6s							
VES	**Vestal, Richgr**	**1.14**	**269**		Pg	04 52 49.4	-0.7	
VES					Sg	04 53 04.0	-0.9	
GRAC	**Grapevine Rang**	**1.15**	**13**		Pg	04 52 49.6	-0.6	
GRAC				IAML		04 53 09.5		
	comp=N,160nm,0.5s							
GRAC				IAML		04 53 12.2		
	comp=E,162nm,0.5s							
WCT	**Wildcat Mounta**	**1.25**	**43**		Pg	04 52 51.3	-0.9	
WCT				IAML		04 53 12.5		
	comp=E,92nm,0.6s							
WCT				IAML		04 53 12.6		
	comp=N,105nm,0.7s							
VOG	**Valley Oaks Go**	**1.45**	**288**		Pn	04 52 55.0	-0.2	
GMN	**Gold Mountain**	**1.46**	**13**		Pn	04 52 54.8	-0.8	
GMN				IAML		04 53 00.1		
	comp=N,65nm,0.5s							
TUQ	**Turquoise Moun**	**1.50**	**107**		Pn	04 52 55.7	-0.2	
DSP	**Deep Springs**	**1.51**	**351**		Pn	04 52 54.7	-1.3	
DSP				IAML		04 53 17.7		
	comp=E,92nm,0.6s							
DSP				IAML		04 53 18.7		
	comp=N,54nm,0.5s							
BHPR	**Bishop**	**1.56**	**336**		Pn	04 52 57.4	+0.4	
TPNV	**Topopah Spring**	**1.57**	**47**		Pn	04 52 56.1	-0.9	
TPNV				IAML		04 53 23.2		
	comp=N,93nm,0.5s							
TPNV				IAML		04 53 24.8		
	comp=N,72nm,1.0s							
BFSC	**Mount Baldy Ra**	**1.63**	**179**		Pn	04 52 56.8	-1.0	
BFSC				IAML		04 53 21.5		
	comp=N,70nm,0.3s							
BFSC				IAML		04 53 21.6		
	comp=E,72nm,0.2s							
MWC	**Mount Wilson**	**1.68**	**191**		Pn	04 52 57.9	-0.6	
PASC	**Pasadena Art C**	**1.75**	**194**		Pn	04 52 59.2	-0.1	
MTPC	**Mountain Pass**	**1.77**	**102**	Pn	Pn	04 52 58.1	-1.7	
MTPC				IAML		04 53 25.7		
	comp=E,99nm,0.3s							
MTPC				IAML		04 53 26.6		
	comp=N,75nm,0.2s							
MZP	**Montezuma Peak**	**1.84**	**7**		Pn	04 52 59.9	-0.9	
KCC	**Kaiser Creek**	**1.96**	**318**		Pb	04 53 03.9	-0.5	
SHPR	**Sheep Range**	**2.13**	**72**		Pn	04 53 04.8	+0.1	
TPH	**Tonopah**	**2.23**	**9**		Pn	04 53 05.7	-0.3	
TPH				IAML		04 53 44.0		
	comp=E,64nm,0.9s							
V12A	**Nelson**	**2.30**	**93**		Pn	04 53 07.3	+0.3	
V12A				IAML		04 53 43.2		
	comp=N,27nm,0.4s							
V12A				IAML		04 53 45.6		
	comp=E,25nm,0.4s							
S11A	**Rachel**	**2.35**	**41**		Pn	04 53 07.6	-0.1	
S11A				IAML		04 53 47.4		
	comp=E,68nm,0.9s							
S11A				IAML		04 53 48.3		
	comp=N,48nm,0.7s							
LHV	**Little Huntoon**	**2.46**	**345**		Pn	04 53 09.6	+0.5	
LHV				IAML		04 53 53.1		
	comp=E,21nm,1.5s							
PMD	**Palm Desert**	**2.47**	**154**		Pn	04 53 09.3	+0.1	
PMD				IAML		04 53 50.7		
	comp=E,21nm,0.6s							
PFO	**Pinyon Flats O**	**2.47**	**156**		Pn	04 53 09.3	0.0	
PMPB	**Monarch Peak**	**2.55**	**279**		Pn	04 53 11.1	+0.7	
PMPB				IAML		04 53 51.2		
	comp=E,60nm,1.5s							
PMPB				IAML		04 53 51.4		
	comp=N,46nm,1.1s							
NV11	**Mina Array Sit**	**2.58**	**352**		Pn	04 53 11.1	+0.2	
NVAR	**Mina Array Bea**	**2.60**	**349**		Pn	04 53 11.0	-0.2	
PRN	**Pahroc Range**	**2.61**	**53**		Pn	04 53 11.1	-0.2	
PRN				IAML		04 53 56.5		
	comp=N,26nm,0.8s							
PRN				IAML		04 54 00.4		
	comp=E,27nm,0.7s							
BORC	**Borrego Spring**	**2.80**	**158**		Pn	04 53 14.0	+0.2	
BORC				IAML		04 54 01.7		
	comp=E,24nm,0.8s							
DPP	**Dos Picos Cty**	**2.93**	**168**		Pn	04 53 15.4	-0.2	
DPP				IAML		04 54 01.9		
	comp=E,18nm,0.5s							
WAKR	**Walker**	**2.98**	**332**		Pn	04 53 18.0	+1.6	
CMB	**Columbia Colle**	**3.06**	**316**	Pn	Pn	04 53 17.8	+0.5	
CMB				IAML		04 54 04.0		
	comp=N,18nm,0.3s							
CMB				IAML		04 54 05.6		
	comp=E,14nm,0.8s							
W13A	**Hualapai Mount**	**3.19**	**103**		Pn	04 53 19.2	-0.1	
LCMT	**Little Creek M**	**3.75**	**71**		Pn	04 53 29.1	+2.1	
CCUT	**Cedar City**	**3.85**	**63**		Pn	04 53 29.1	+0.7	
AFDM	**Forest Hills D**	**4.03**	**320**		Pn	04 53 31.8	+1.1	
AFDM				IAML		04 54 35.5		
	comp=N,7.4nm,0.7s							
AFDM				IAML		04 54 42.6		
	comp=E,8.3nm,0.8s							
KNB	**Kanab**	**4.08**	**72**		Pn	04 53 31.8	+0.3	
KNB				IAML		04 54 45.6		
	comp=N,6.2nm,2.0s							
KNB				IAML		04 54 58.9		
	comp=E,6.1nm,4.5s							
SPR3	**Spring Creek 3**	**4.10**	**40**	Pn	Pn	04 53 35.0	+3.1	
SPR3				IAML		04 54 40.5		
	comp=N,5.6nm,0.9s							
SPR3				IAML		04 54 40.5		
	comp=E,6.5nm,0.8s							
Y14A	**Wickenburg**	**4.30**	**115**		Pn	04 53 35.0	+0.6	
Y14A				IAML		04 54 48.6		
	comp=N,13nm,0.8s							
Y14A				IAML		04 54 53.3		
	comp=E,8.5nm,0.5s							
ELK	**Elko**	**5.23**	**21**		Pn	04 53 50.7	+3.4	

*JSN **16** 05:01:01.3±0.8, 17°.79N×76°.55W, h0km±66km, MD3.4*
*SSNC **16** 05:01:03.4±1.3, 17°.83N×76°.74W, h28km±9km, MD3.3, ML1.9*

ISC 16 05:01:04.4±1.5,**18°.05N**±0°.09×**76°.62W**±0°.07,**h18**km±3km,
n14,σ0**°87/20,2C-1D,Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.10**	**283**	*i*P	**Pg**	**05 01 08.4**	**0.0**
HOJ	**Hope**	**0.13**	**249**	*i*P	**Pb**	**05 01 06.4**	**-0.6**
STH	**Stony Hill**	**0.18**	**278**	*e*P	**Pb**	**05 01 08.8**	**+0.3**
STH				*e*S	**Sg**	**05 01 14.4**	**+2.0**
STH	**Stony Hill**	**0.18**	**278**	*i*P	**Pb**	**05 01 08.9**	**+0.3**
MTDJ	**Mount Denham**	**0.89**	**281**	*e*P	**Pb**	**05 01 20.2**	**-1.1**
MTDJ	**Mount Denham**	**0.89**	**281**	*e*P	**Pb**	**05 01 20.1**	**-1.2**
CHIV	**Chivirico**	**1.93**	**6**	*e*P	**Pn**	**05 01 35.6**	**-0.7**
LMGC	**Las Mercedes**	**2.04**	**350**	*e*P	**Pn**	**05 01 36.9**	**-0.8**
LMGC				*e*S	**Sn**	**05 02 02.6**	**-0.1**
LMGC				IAML		05 02 05.0	
	comp=N,7.2nm,0.1s						
LMGC				IAML		05 02 05.1	
	comp=E,5.5nm,0.1s						
MARVS	**Santiago de Cu**	**2.06**	**19**	*e*P	**Pn**	**05 01 38.2**	**+0.2**
RCC	**Rio Carpintero**	**2.12**	**24**	*e*P	**Pn**	**05 01 39.6**	**+0.6**
RCC				*e*S	**Sn**	**05 02 04.8**	**-0.1**
YAR	**Yar**	**2.32**	**6**	*e*P	**Pn**	**05 01 41.4**	**-0.3**
YAR				*e*S	**Sn**	**05 02 08.8**	**-1.0**
GTBY	**Guantanamo Bay**	**2.35**	**37**	*e*P	**Pn**	**05 01 42.9**	**+0.8**
GTBY				*e*S	**Sn**	**05 02 11.6**	**+1.0**
PINC	**Pinares de May**	**2.55**	**18**	*e*P	**Pn**	**05 01 44.3**	**-0.6**
QMBU	**Quimbuelo**	**2.74**	**38**	*e*P	**Pn**	**05 01 47.3**	**-0.2**
QMBU				*e*S	**Sn**	**05 02 20.2**	**+0.1**

*NEIC **16** 05:26:52.2±1.2, 35°.79N±0°.01×117°.62W±0°.01, h5km±1km,*
Error ellipse: s-maj=2.5km s-min=2.1km az=12.0

PAS 16 05:26:52.7±1.3,**35°.79N**±0°.01×**117°.62W**±0°.01,**h3**km±2km,
ML3.6/152,**ML3.3**/160(NEIC),**Error ellipse: s-maj=1.9km**
s-min=1.3km az=214.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.03**	**43**		Pg	05 26 53.7	+0.1
CLC				IAML		05 26 54.6	
	comp=E,34μm,0.2s						
TOW	**Tower One**	**0.12**	**278**		Pg	05 26 55.6	+0.6
TOW					Sg	05 26 58.1	+1.6
SRTC	**Snort**	**0.14**	**225**		Pg	05 26 56.0	+0.5
SRTC					Sg	05 26 59.0	+1.6
GPO	**China Lake**	**0.15**	**192**		Pg	05 26 55.8	+0.2
GPO					Sg	05 26 58.7	+1.2
WSHM	**Spangler Hills**	**0.22**	**151**		Pg	05 26 57.0	+0.1
WVPM	**Volcano Peak E**	**0.22**	**315**		Pg	05 26 57.2	+0.2
WVPM					Sg	05 27 00.6	+0.6
WNMM	**Nine Mile Cany**	**0.23**	**283**		Pg	05 26 57.5	+0.3
JRC2	**Joshua Ridge**	**0.24**	**322**		Pg	05 27 01.3	+3.9
WCSM	**Coso Springs S**	**0.26**	**334**		Pg	05 26 57.9	+0.1
WCSM					Sg	05 27 01.8	+0.5
MPMC	**Manual Prospec**	**0.29**	**22**		Pg	05 26 58.3	0.0
MPMC				IAML		05 27 04.3	
	comp=E,5μm,0.8s						
MPMC				IAML		05 27 04.5	
	comp=N,3μm,0.5s						
WRVM	**Rose V. Centra**	**0.30**	**315**		Pg	05 26 58.7	+0.1
WRVM					Sg	05 27 03.1	+0.5
LRMC	**Laurel Mtn Rad**	**0.32**	**189**		Pg	05 26 58.8	0.0
LRMC				IAML		05 27 05.1	
	comp=E,6μm,0.2s						
LRMC				IAML		05 27 05.1	
	comp=N,5μm,0.2s						
LRMC	**Laurel Mtn Rad**	**0.32**	**189**		Sg	05 27 03.7	+0.7
CCCA	**Chr Cany lake**	**0.34**	**141**		Pg	05 26 59.9	+0.6
CCCA					Sg	05 27 05.4	+1.7
MFS	**McCloud Flat S**	**0.37**	**330**		Pg	05 27 00.1	+0.1
MFS					Sg	05 27 05.4	+0.5
WBSM	**Bird Springs**	**0.49**	**239**		Sg	05 27 09.0	+0.5
WORM	**Onyx Ranch**	**0.51**	**259**		Pg	05 27 02.4	-0.1
WORM					Sg	05 27 09.3	+0.1
DTP	**Desert Tortois**	**0.55**	**199**		Pg	05 27 03.1	-0.2
DTP					Sg	05 27 10.5	0.0
WHFM	**Hanning Flat**	**0.60**	**261**		Pg	05 27 04.1	-0.1
WHFM					Sg	05 27 12.2	+0.3
QSM	**Queen of Sheba**	**0.64**	**74**		Pg	05 27 04.7	-0.3
QSM				IAML		05 27 14.1	
	comp=E,2μm,0.2s						
QSM				IAML		05 27 14.6	
	comp=N,2μm,0.5s						
QSM	**Queen of Sheba**	**0.64**	**74**		Sg	05 27 13.4	+0.2
ISA	**Isabella, Lake**	**0.70**	**260**		Pg	05 27 06.0	-0.2
ISA				IAML		05 27 16.6	
	comp=E,1μm,0.4s						
ISA				IAML		05 27 17.3	
	comp=N,831nm,0.5s						
ISA	**Isabella, Lake**	**0.70**	**260**		Sg	05 27 15.3	0.0
CCAC	**Calif City Air**	**0.71**	**207**		Pg	05 27 06.3	-0.1
CCAC					Sg	05 27 16.4	+0.8
CWC	**Cottonwood Cre**	**0.74**	**330**		Pg	05 27 06.8	-0.2
CWC	**Cottonwood Cre**	**0.74**	**330**		Sg	05 27 17.2	+0.6
WASM	**Alta Sierra Ca**	**0.76**	**266**		Pg	05 27 07.1	-0.2
WASM					Sg	05 27 16.8	-0.4
CGO	**Cerro Gordo**	**0.77**	**349**		Pg	05 27 07.1	-0.4
CGO					Sb	05 27 18.9	-1.1
GSC	**Goldstone, Bar**	**0.83**	**126**		Pg	05 27 08.3	-0.3
GSC	**Goldstone, Bar**	**0.83**	**126**		Sg	05 27 19.4	+0.1
GWY	**Greenwater Val**	**0.87**	**63**		Pg	05 27 09.1	-0.3
GWY				IAML		05 27 25.5	
	comp=E,2μm,0.3s						
GWY				IAML		05 27 27.5	
	comp=N,1μm,0.9s						
FURC	**Furnace Creek,**	**0.91**	**42**		Pg	05 27 10.2	0.0
FURC					Sg	05 27 22.8	+0.7
HYS	**Haystack Butte**	**0.93**	**177**		Pg	05 27 09.9	-0.6
HYS					Sg	05 27 22.5	0.0
EDW2	**Edwards Air Fo**	**0.96**	**198**		Pg	05 27 10.2	-0.8
EDW2					Sg	05 27 23.2	-0.3
SPG2	**Springville 2**	**1.01**	**294**		Pg	05 27 11.2	-0.9
SPG2					Sg	05 27 24.9	-0.3
TEJ	**El Tejon**	**1.03**	**237**		Pg	05 27 11.4	-1.1
TEJ					Sg	05 27 25.4	-0.5
TPO	**Tropico Hills**	**1.04**	**209**		Pg	05 27 12.0	-0.6
TPO				IAML		05 27 32.1	
	comp=E,1μm,0.7s						
TPO	**Tropico Hills**	**1.04**	**209**		Sg	05 27 26.2	+0.2
RRX	**Edison Barstow**	**1.05**	**151**		Sg	05 27 27.0	+0.5
SHOC	**Shoshone, Teco**	**1.10**	**84**		Pg	05 27 13.1	-0.7
SHOC					Sb	05 27 28.9	-0.3
SBB	**Saddle Back Bu**	**1.11**	**189**		Pg	05 27 13.2	-0.9
SBB					Sg	05 27 27.8	-0.7
ARVC	**Arvin**	**1.19**	**236**		Pg	05 27 15.6	+0.1
GRAC	**Grapevine Rang**	**1.22**	**10**		Pg	05 27 15.6	-0.5
GRAC				IAML		05 27 35.6	
	comp=N,1μm,0.7s						
GRAC				IAML		05 27 37.6	
	comp=E,1μm,0.5s						
WCT	**Wildcat Mounta**	**1.28**	**39**		Pg	05 27 16.4	-0.9
WCT				IAML		05 27 37.5	
	comp=E,509nm,0.5s						
BAKC	**Calstate**	**1.29**	**250**		Pg	05 27 16.8	-0.6
LCH	**Last Change Ra**	**1.44**	**359**		Pn	05 27 19.1	-0.7
OSI	**Osito Audit: C**	**1.48**	**218**		Pn	05 27 19.9	-0.4
OSI				IAML		05 27 42.3	
	comp=N,388nm,0.6s						
OSI				IAML		05 27 43.0	
	comp=E,468nm,0.9s						
GMN	**Gold Mountain**	**1.53**	**11**		Pn	05 27 20.6	-0.6
GMN				IAML		05 27 46.7	
	comp=N,260nm,0.8s						
BFSC	**Mount Baldy Ra**	**1.55**	**181**		Pn	05 27 20.3	-1.1
BFSC				IAML		05 27 44.9	
	comp=N,288nm,0.3s						
BFSC				IAML		05 27 47.0	
	comp=E,292nm,0.4s						
DSP	**Deep Springs**	**1.60**	**350**		Pn	05 27 21.3	-0.5
DSP				IAML		05 27 45.1	
	comp=E,326nm,0.5s						
TPNV	**Topopah Spring**	**1.60**	**43**		Pn	05 27 21.1	-0.9
TPNV				IAML		05 27 48.8	
	comp=E,283nm,0.6s						
TPNV				IAML		05 27 54.9	
	comp=E,326nm,0.8s						
MWC	**Mount Wilson**	**1.60**	**193**		Pn	05 27 21.6	-0.5
MWC				IAML		05 27 49.5	
	comp=N,533nm,0.5s						
MWC				IAML		05 27 50.5	
	comp=E,450nm,0.5s						
PASC	**Pasadena Art C**	**1.68**	**196**		Pn	05 27 22.5	-0.5
PASC				IAML		05 27 50.4	
	comp=E,311nm,0.4s						
MTPC	**Mountain Pass**	**1.71**	**100**		Pn	05 27 22.0	-1.7
MTPC				IAML		05 27 48.4	
	comp=N,403nm,0.4s						
MTPC				IAML		05 27 48.5	
	comp=E,528nm,0.3s						
MZP	**Montezuma Peak**	**1.92**	**6**		Pn	05 27 26.0	-0.5
SMMC	**Simmler**	**1.99**	**257**		Pn	05 27 28.4	+1.1
SHPR	**Sheep Range**	**2.12**	**70**		Pn	05 27 28.2	-0.9
ELS	**Elsinore Mount**	**2.15**	**176**		Pn	05 27 28.8	-0.7
ELS				IAML		05 28 03.8	
	comp=N,126nm,0.4s						
ELS				IAML		05 28 07.1	
	comp=E,136nm,0.7s						
V12A	**Nelson**	**2.26**	**91**		Pn	05 27 29.5	-1.5
V12A				IAML		05 28 07.0	
	comp=N,239nm,0.6s						
V12A				IAML		05 28 08.9	
	comp=E,202nm,0.5s						
TPH	**Tonopah**	**2.30**	**8**		Pn	05 27 31.3	-0.4
PMD	**Palm Desert**	**2.37**	**154**		Pn	05 27 31.3	-1.2
PFO	**Pinyon Flats O**	**2.38**	**156**		Pn	05 27 31.7	-1.1
S11A	**Rachel**	**2.39**	**39**		Pn	05 27 32.5	-0.4
S11A				IAML		05 28 13.6	
	comp=E,293nm,1.0s						
LHV	**Little Huntoon**	**2.55**	**344**		Pn	05 27 35.5	+0.5
PMPB	**Monarch Peak**	**2.61**	**280**		Pn	05 27 36.1	+0.2
PRN	**Pahroc Range**	**2.62**	**51**		Pn	05 27 35.7	-0.4
PRN				IAML		05 28 30.1	
	comp=N,154nm,0.7s						
PRN				IAML		05 28 37.9	
	comp=E,153nm,1.0s						
NV11	**Mina Array Sit**	**2.67**	**351**		Pn	05 27 36.6	-0.1
NVAR	**Mina Array Bea**	**2.69**	**349**		Pn	05 27 37.2	+0.1
BORC	**Borrego Spring**	**2.71**	**158**		Pn	05 27 36.1	-1.0
BORC				IAML		05 28 22.1	
	comp=N,85nm,0.6s						
BORC				IAML		05 28 23.5	
	comp=E,92nm,0.9s						
DPP	**Dos Picos Cty**	**2.84**	**168**		Pn	05 27 38.4	-0.6
RYN	**Ryan**	**2.92**	**346**		Pn	05 27 40.3	+0.1
W13A	**Hualapai Mount**	**3.13**	**102**	IAML		05 28 35.0	
	comp=N,68nm,0.4s						
W13A				IAML		05 28 42.9	
	comp=E,50nm,0.7s						
CMB	**Columbia Colle**	**3.15**	**316**	IAML		05 28 42.0	
	comp=E,53nm,0.8s						
CMB				IAML		05 28 42.3	
	comp=N,64nm,0.7s						
BAR	**Barrett**	**3.20**	**165**	IAML		05 28 34.2	
	comp=E,82nm,0.5s						
BAR				IAML		05 28 34.9	
	comp=N,50nm,0.4s						
BLYC	**Blythe**	**3.27**	**128**	IAML		05 28 37.8	
	comp=E,71nm,0.4s						
BLYC				IAML		05 28 40.1	
	comp=N,105nm,0.5s						
CBX	**Cerro Bola**	**3.56**	**167**	IAML		05 28 47.9	
	comp=E,117nm,0.8s						
CBX				IAML		05 28 52.5	
	comp=N,94nm,0.7s						
MPK	**Martis Peak**	**3.98**	**332**	IAML		05 29 16.7	
	comp=N,75nm,0.8s						
MPK				IAML		05 29 25.8	
	comp=E,60nm,1.0s						
KNB	**Kanab**	**4.06**	**71**	IAML		05 29 23.9	
	comp=N,30nm,1.1s						
PSUT	**Pine Spring**	**4.07**	**47**	IAML		05 29 08.2	
	comp=E,42nm,1.2s						
PSUT				IAML		05 29 16.6	
	comp=N,34nm,1.3s						
AFDM	**Forest Hills D**	**4.13**	**321**	IAML		05 29 10.6	
	comp=E,49nm,1.1s						
AFDM				IAML		05 29 16.2	
	comp=N,23nm,0.8s						
SPR3	**Spring Creek 3**	**4.14**	**38**	IAML		05 29 08.5	
	comp=E,36nm,0.9s						
SPR3				IAML		05 29 14.2	
	comp=N,26nm,1.1s						
Y14A	**Wickenburg**	**4.22**	**115**	IAML		05 29 12.0	
	comp=E,49nm,0.7s						
U15A	**North Rim**	**4.36**	**80**	IAML		05 29 16.5	
	comp=E,27nm,1.1s						
U15A				IAML		05 29 28.4	
	comp=N,25nm,1.6s						
113A	**Mohawk Valley,**	**4.39**	**132**	IAML		05 29 17.7	
	comp=E,19nm,1.0s						
BEKR	**Beckworth**	**4.61**	**333**	IAML		05 29 31.5	
	comp=E,33nm,0.6s						
ELK	**Elko**	**5.29**	**20**	IAML		05 29 41.5	
	comp=E,13nm,0.7s						

*SSNC **16** 05:30:30.9±1.1, 19°.79N×75°.56W, h34km±4km, MD3.1, ML2.8, MW3.1*
*SDD **16** 05:30:30.7±1.0, 19°.87N×75°.60W, h38km±16km, MD3.2, ML3.2, MW3.5*
*JSN **16** 05:30:32.4±1.3, 19°.66N×75°.62W, h27km±999km, MD4.1*

ISC 16 05:30:26.2±1.5,**19°.65N**±0°.03×**75°.54W**±0°.03,**h16**km±12km,
n26,σ1**°12/43,1C-3D,Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.37**	**336**	*e*P	**Pn**	**05 30 37.0**	**0.0**
RCC				*e*S	**Sb**	**05 30 41.4**	**+1.3**
RCC				IAML		05 30 41.9	
	comp=E,2μm,0.1s						
RCC				IAML	

NICP				*e*S		**Sb**	05 30 57.6	-1.5
NMDO	**Nuevo Mundo**	**1.04**	**30**	*i* P		**Pb**	05 30 46.1	+0.2
NMDO				*e*S		**Sb**	05 30 57.8	-1.6
NMDO				IAML			05 30 58.8	
	comp=E,684nm,0.2s							
NMDO				IAML			05 30 59.1	
	comp=N,521nm,0.1s							
NMDO	**Nuevo Mundo**	**1.04**	**30**	*e*Pg		**Pb**	05 30 46.1	+0.2
NMDO				*e*Sg		**Sb**	05 30 57.1	-2.3
NMDO				IAML			05 31 00.2	
	comp=N,630nm,0.2s							
NMDO				IAML			05 31 00.2	
	comp=N,630nm,0.2s							
YAR	**Yar**	**1.05**	**313**	*e*P		**Pg**	05 30 47.2	+0.6
YAR				*e*S		**Sb**	05 30 59.0	-0.7
YAR				IAML			05 31 00.9	
	comp=E,60nm,0.2s							
YAR				IAML			05 31 01.2	
	comp=N,89nm,0.2s							
MOAC	**Moa**	**1.14**	**28**	*i* P		**Pn**	05 30 47.6	0.0
MOAC				*e*S		**Sb**	05 30 59.8	-2.4
MOAC				IAML			05 31 02.3	
	comp=N,378nm,0.2s							
MOAC				IAML			05 31 02.5	
	comp=E,351nm,0.2s							
HLGC	**Holguin**	**1.33**	**338**	*e*P		**Pb**	05 30 51.6	+0.8
MASC	**Masc**	**1.33**	**67**	*i* P		**Pb**	05 30 51.6	+0.8
MASC				*e*S		**Sn**	05 31 07.2	-0.5
MASC				IAML			05 31 11.5	
	comp=N,129nm,0.2s							
MASC				IAML			05 31 11.6	
	comp=E,201nm,0.1s							
MASC	**Masc**	**1.33**	**67**	*e*Pg		**Pb**	05 30 51.8	+0.9
MASC				*e*Sg		**Sn**	05 31 07.6	0.0
MASC				IAML			05 31 12.8	
	comp=N,173nm,0.2s							
MASC				IAML			05 31 14.7	
	comp=N,153nm,0.2s							
LMGC	**Las Mercedes**	**1.44**	**287**	*e*P		**Pb**	05 30 52.8	+0.1
LMGC				*e*S		**Sn**	05 31 08.0	-2.3
LMGC				IAML			05 31 15.7	
	comp=N,201nm,0.1s							
LMGC				IAML			05 31 16.0	
	comp=E,115nm,0.1s							
PILO	**Pilon**	**1.78**	**279**	*e*P		**Pb**	05 30 57.5	-0.9
PILO				*e*S		**Sn**	05 31 16.9	-1.8
GWJ	**Greenwich**	**1.93**	**216**	*i*P		**Pg**	05 31 02.2	-1.1
STH	**Stony Hill**	**1.98**	**218**	*e*P		**Pb**	05 31 02.6	+0.7
STH				*e*S		**Sn**	05 31 23.3	-0.3
STH	**Stony Hill**	**1.98**	**218**	*i*P		**Pb**	05 31 02.7	+0.8
MTDJ	**Mount Denham**	**2.36**	**233**	*e*P		**Pb**	05 31 07.6	-0.9
MTDJ	**Mount Denham**	**2.36**	**233**	*i* S		**Sn**	05 31 34.6	+1.4
MTDJ	**Mount Denham**	**2.36**	**233**	*e*Pg		**Pb**	05 31 08.0	-0.5
MTDJ				*e*Sg		**Sn**	05 31 34.4	+1.2
MTDJ				IAML			05 31 36.7	
	comp=N,62nm,0.7s							
MCJ	**Malvern**	**2.66**	**230**	*i*P		**Pb**	05 31 12.9	-0.7
CBCY	**The Bluff, Cay**	**3.98**	**272**	*e*P		**Pn**	05 31 27.8	+1.2

GCG 16 05:32:06.5±0.3, **12°.89N**×**90°.70W**, **h5**km±11km, **MD4.0, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**1.35**	**42**	*i* P	Pn	05 32 31.3	-0.9
JAYA	**Jayaque - finc**	**1.44**	**58**	*i* P	Pn	05 32 32.2	-1.2
JAYA				*i* S	Sb	05 32 52.2	-0.4
MTO3	**Montecristo**	**1.99**	**41**	*i* P	Pn	05 32 41.1	+0.1

AFAD ***16*** *05:50:39.0, 36°.57N×42°.02E, h7km±3km, MW3.3*
ISN ***16*** *05:50:39.1±0.4, 36°.57N×42°.02E, h7km±6.4km, ML3.3*
ISC 16 05:50:39.3±2.2, **36°.56N**±0°.07×**41°.95E**±0°.05, **h1**km±19km, **n11**, **σ1°.35/22**, **Iraq**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIDY	**Mardin/Midyat-**	**0.95**	**333**	P	**Pb**	05 50 58.1	-0.6
MIDY				S	**Sb**	05 51 11.5	-0.5
SRTM	**Siirt_Merkez**	**1.43**	**359**	P	**Pg**	05 51 06.4	-0.3
SRTM				S	**Sg**	05 51 26.5	+1.2
BTMN	**Batman**	**1.44**	**338**	P	**Pb**	05 51 06.3	-0.7
BTMN				S	**Sg**	05 51 26.4	+0.9
PERV	**Siirt/Pervari-**	**1.46**	**19**	P	**Pg**	05 51 07.5	+0.1
PERV				S	**Sg**	05 51 29.0	+2.7
SVAN	**Silvan-Diyarba**	**1.70**	**340**	P	**Pb**	05 51 11.2	-0.2
SVAN				S	**Sg**	05 51 33.8	-0.1
HAKT	**HAKKARI**	**1.72**	**54**	P	**Pb**	05 51 10.0	-2.0
HAKT				S	**Sg**	05 51 33.6	-1.1
IKRK	**Kirkuk**	**2.26**	**120**	*e*Pn	**Pb**	05 51 19.0	-1.9
IKRK				*e*Sn	**Sb**	05 51 48.5	-0.9
SURC	**SANLIURFA_SURC**	**2.70**	**278**	P	**Pn**	05 51 22.4	-1.5
SURC				S	**Sb**	05 52 02.3	+0.1
BHD	**Baghdad**	**3.84**	**148**	*e*Pn	**Pn**	05 51 41.5	+1.9
BHD				*e*Sn	**Sn**	05 52 26.5	+1.1
IBDR	**Badra**	**4.75**	**135**	*e*Pn	**Pn**	05 51 53.5	+1.4
IBDR				*e*Sn	**Sn**	05 52 48.0	+0.2
RAFI	**Al-Rafai**	**5.93**	**143**	*e*Pn	**Pn**	05 52 10.0	+1.7
RAFI				*e*Sn	**Sn**	05 53 16.5	-0.4

ASRS ***16*** *06:01:17.0±0.8, 54°.12N×86°.47E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 16 06:01:19.3±3.0, **54°.13N**×**86°.54E**, **h0**km, **mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=24.9km s-min=14.6km az=58.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**261**	I	I	06 07 20.0	
	baz=80,slow=325,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.03**	**261**	Pg	Pg	06 01 38.2	-0.9
	0.6nm,0.3s,baz=79,slow=16,SNR=3.1						
ZALV				Lg	Lg	06 01 53.6	
	0.9nm,0.3s,baz=77,slow=26,SNR=4.0						
KURBB	**Kurchatov Arra**	**6.03**	**238**	Pn	Pn	06 02 50.7	+1.0
	0.1nm,0.3s,baz=53,slow=14,SNR=4.9 0.6nm,0.4s						
MKAR	**Makanchi Array**	**7.83**	**202**	Pn	Pn	06 03 15.2	+0.9
	0.2nm,0.3s,baz=21,slow=15,SNR=5.7 0.2nm,0.3s						

IDC ***16*** *06:01:49.4±2.2, 36°.54N×27°.04E, h0km, mb3.3/3, mbtmp3.3/5, ML3.3/2, Error ellipse: s-maj=60.7km s-min=26.9km az=179.0*
ISK ***16*** *06:01:51.2, 36°.36N×27°.01E, h6km, ML3.1/26*
THE ***16*** *06:01:51.9, 36°.N±1°×2°.7E±°, h3km±2km, M3.0/10, MLh3.0/10*
AFAD ***16*** *06:01:52.3, 36°.39N×27°.10E, h7km±4km, ML3.0*
ATH ***16*** *06:01:53.0, 36°.37N×27°.12E, h13km±1km, ML3.3/13, Manual Solution by N.Liadopoulou First location: 2019/07/16 06:02:59, This location: 2019/07/16 09:56:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
ISC 16 06:01:51.9±1.0, **36°.38N**±0°.02×**27°.05E**±0°.02, **h10**km±7km, **n70**, **σ0°.91/99**, **mb3.0/3**, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.24**	**14**	P	**Pg**	06 01 56.6	-0.3
NISR				S	**Sg**	06 02 00.9	+0.6
YAZI	**Mula-Dat§a-**	**0.44**	**46**	P	**Pg**	06 01 59.8	-0.8
YAZI				S	**Sg**	06 02 05.7	-0.8
DAT	**Datca**	**0.55**	**50**	Pg	**Pg**	06 02 02.6	-0.1
DAT	**Datca**	**0.55**	**50**	P	**Pg**	06 02 02.2	-0.4
DAT				S	**Sg**	06 02 10.6	+0.6
KLNA	**Kalymnos**	**0.58**	**354**	P	**Pb**	06 02 04.8	+0.6
KLNA				S	**Sb**	06 02 12.1	-0.4
BODT	**Bodrum**	**0.72**	**17**	Pg	**Pg**	06 02 05.6	-0.2
BODT				Sg	**Sb**	06 02 16.8	+0.4
BODT	**Bodrum**	**0.72**	**17**	P	**Pg**	06 02 05.4	-0.4
BODT				S	**Sb**	06 02 16.2	-0.2
BDRM	**Kayabasi**	**0.76**	**24**	P	**Pg**	06 02 06.2	-0.3
BDRM				S	**Sg**	06 02 15.9	-0.6
YKAV	**Yalikavak-Bodr**	**0.77**	**14**	Pg	**Pg**	06 02 07.0	+0.2
YKAV				Sg	**Sb**	06 02 18.5	+0.6
KARP	**Karpathos**	**0.83**	**174**	Pg	**Pg**	06 02 07.5	-0.4
KARP				Sg	**Sb**	06 02 19.7	0.0
KARP	**Karpathos**	**0.83**	**174**	P	**Pg**	06 02 07.7	-0.2
KARP				S	**Sb**	06 02 20.0	+0.3
KARP	**Karpathos**	**0.83**	**174**	P	**Pg**	06 02 08.2	+0.3
KARP				S	**Sb**	06 02 20.0	+0.3
ARG	**Arkhangelos**	**0.88**	**100**	Pg	**Pg**	06 02 09.1	+0.2
ARG				Sg	**Sb**	06 02 22.5	+1.4
ARG	**Arkhangelos**	**0.88**	**100**	P	**Pg**	06 02 08.9	0.0
ARG				S	**Sb**	06 02 21.2	+0.1
ARG	**Arkhangelos**	**0.88**	**100**	P	**Pg**	06 02 08.9	0.0
ARG				S	**Sg**	06 02 20.1	-0.3
RODB	**Rodos**	**0.94**	**85**	P	**Pg**	06 02 09.7	-0.4
AMGA	**Amorgos Island**	**1.04**	**296**	P	**Pn**	06 02 13.2	+0.6
AMGA				S	**Sn**	06 02 28.2	+1.1
TURN	**Turunc**	**1.04**	**67**	Pg	**Pg**	06 02 11.9	0.0
TURN				Sg	**Sn**	06 02 27.8	+0.7
TURN	**Turunc**	**1.04**	**67**	P	**Pg**	06 02 11.0	-0.8
TURN				S	**Sg**	06 02 25.8	+0.4
TURN				*i* IAML		06 02 29.0	
	comp=N,363nm,0.4s						
TURN				*i* IAML		06 02 30.0	
	comp=E,415nm,0.7s						
MLSB	**Milas**	**1.09**	**32**	Pn	**Pb**	06 02 13.0	+0.2
DDIM	**Aydin, Didim**	**1.09**	**8**	P	**Pn**	06 02 13.6	+0.3
DDIM				S	**Sn**	06 02 28.7	+0.3
DDIM				*i* IAML		06 02 36.0	
	comp=N,384nm,0.9s						
DDIM				*i* IAML		06 02 44.0	
	comp=E,380nm,0.6s						
THR8	**Santorini-Mono**	**1.27**	**272**	P	**Pn**	06 02 15.1	-0.6
THERA	**Ancient Thera,**	**1.27**	**270**	P	**Pn**	06 02 15.7	0.0
THERA				S	**Sn**	06 02 33.8	+0.9
GCAM	**G?zelcaml?**	**1.33**	**6**	Pn	**Pb**	06 02 17.1	+0.2
GCAM	**G?zelcaml?**	**1.33**	**6**	P	**Pb**	06 02 17.1	+0.2
GCAM				S	**Sn**	06 02 37.5	+3.2
CMBO	**Columbo, Santo**	**1.33**	**275**	P	**Pg**	06 02 18.5	+1.0
CMBO				S	**Sn**	06 02 36.5	+2.2
THR3	**Thira Island,**	**1.33**	**272**	P	**Pn**	06 02 16.8	+0.2
THR6	**Thira Island,**	**1.34**	**270**	P	**Pn**	06 02 16.8	+0.2
SMG	**Samos**	**1.34**	**353**	P	**Pn**	06 02 15.9	-0.8
SMG	**Samos**	**1.34**	**353**	P	**Pn**	06 02 15.7	-1.1
SMG				S	**Sn**	06 02 35.1	+0.4
MULA	**Mugla, Merkez-**	**1.34**	**49**	P	**Pg**	06 02 17.9	+0.2
MULA				S	**Sn**	06 02 35.6	+0.8
DALY	**Dalyan (Mula)**	**1.36**	**71**	Pn	**Pn**	06 02 17.6	+0.7
SAP3	**Santorini-Thir**	**1.38**	**273**	P	**Pb**	06 02 17.9	+0.1
SAP3				S	**Sn**	06 02 37.5	+2.0
APE	**Apeiranthos**	**1.41**	**300**	Pn	**Pn**	06 02 17.3	-0.4
APE	**Apeiranthos**	**1.41**	**300**	P	**Pn**	06 02 17.5	-0.2
APE				S	**Sg**	06 02 36.7	-0.4
APE	**Apeiranthos**	**1.41**	**300**	P	**Pn**	06 02 17.2	-0.4
APE				S	**Sg**	06 02 38.2	+1.1
ZKR	**Zakros**	**1.43**	**209**	Pn	**Pn**	06 02 17.9	0.0
ZKR	**Zakros**	**1.43**	**209**	P	**Pb**	06 02 18.7	0.0
ZKR	**Zakros**	**1.43**	**209**	P	**Pn**	06 02 18.2	+0.3
ZKR				S	**Sg**	06 02 38.5	+0.6
AYDN	**Tasoluk**	**1.44**	**27**	P	**Pb**	06 02 18.9	0.0
FETY	**Fethiye**	**1.66**	**80**	Pn	**Pn**	06 02 21.9	+0.9
AYDB	**Zeytinkoy-Aydi**	**1.71**	**23**	Pn	**Pn**	06 02 22.6	+0.8
NAZL	**Nazilli-Aydin**	**1.87**	**32**	Pn	**Pn**	06 02 25.0	+1.0
CAME	**Cameli-Denizli**	**1.90**	**72**	Pn	**Pn**	06 02 25.5	+1.1
BLCB	**Balcova**	**2.01**	**360**	Pn	**Pn**	06 02 26.9	+1.1
URLA	**Izmir**	**2.02**	**350**	Pn	**Pn**	06 02 26.9	+0.9
KSL	**Kastellorizon**	**2.06**	**96**	P	**Pn**	06 02 27.4	+0.9
KSL				S	**Sn**	06 02 53.8	+1.6
KSL	**Kastellorizon**	**2.06**	**96**	P	**Pn**	06 02 26.5	0.0
ODEM	**Odemis-Izmir**	**2.06**	**23**	Pn	**Pn**	06 02 27.7	+1.0
AKAS	**Kas**	**2.07**	**93**	Pn	**Pn**	06 02 28.0	+1.2
IDI	**Anoyia**	**2.07**	**239**	Pn	**Pn**	06 02 26.9	+0.2
IDI	**Anoyia**	**2.07**	**239**	P	**Pn**	06 02 26.8	+0.2
IDI				S	**Sn**	06 02 53.2	+0.7
IDI	**Anoyia**	**2.07**	**239**	P	**Pn**	06 02 26.8	0.0
APMY	**Acipayam-Deniz**	**2.11**	**58**	Pn	**Pn**	06 02 28.6	+1.3
CHOS	**Chios island**	**2.16**	**339**	Pn	**Pn**	06 02 28.3	+0.3
CHOS	**Chios island**	**2.16**	**339**	P	**Pn**	06 02 28.3	+0.3
CHOS	**Chios island**	**2.16**	**339**	P	**Pn**	06 02 28.3	+0.3
ELL	**Elmali**	**2.33**	**80**	Pn	**Pn**	06 02 31.8	+1.4
ELL	**Elmali**	**2.33**	**80**	P	**Pn**	06 02 29.8	-0.6
KULA	**Kula-Manisa**	**2.49**	**30**	Pn	**Pn**	06 02 33.9	+1.3
KARY	**Karystos**	**2.66**	**309**	P	**Pn**	06 02 35.5	+0.6
GORD	**Gordes-Manisa**	**2.68**	**19**	Pn	**Pn**	06 02 36.5	+1.3
KORT	**Korkueli**	**2.72**	**76**	Pn	**Pn**	06 02 37.3	+1.5
VLI	**Veliai**	**3.33**	**277**	P	**Pn**	06 02 44.9	+0.9
VIL2	**Platees**	**3.53**	**302**	P	**Pn**	06 02 47.4	+0.6
BRTR	**Keskin Array B**	**6.18**	**55**	Pn	**Pn**	06 03 25.0	+1.7
	0.1nm,0.3s,baz=244,slow=15,SNR=2.5 0.5nm,0.5s						
MMAI	**Mount Meron Ar**	**7.65**	**114**	Pn	**Pn**	06 03 43.9	+0.4
	2.1nm,0.3s,baz=317,slow=14,SNR=4.4 1.3nm,0.3s						
ESDC	**Sonseca Array**	**24.59**	**287**	P	**P**	06 07 11.1	-1.1
	0.6nm,0.7s,baz=93,slow=9.6,SNR=4.1 0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**39.16**	**52**	P	**P**	06 09 18.2	-1.4
	0.2nm,0.5s,baz=284,slow=9.0,SNR=2.1 0.2nm,0.5s						
MKAR	**Makanchi Array**	**41.82**	**58**	P	**P**	06 09 38.3	-3.5
	0.2nm,0.6s,baz=258,slow=7.2,SNR=2.1 0.2nm,0.6s						

IDC ***16*** *06:16:48.4±3.5, 54°.19N×87°.30E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=31.5km s-min=20.0km az=51.0*
ASRS 16 06:16:46.0±0.8, **54°.16N**×**87°.15E**, **h0**km, **M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**262**	I	I	06 25 20.0	
	baz=81,slow=312,SNR=2.9						
ZALV	**Zalesovo Beam**	**1.39**	**262**	Pg	Pb	06 17 14.8	+2.0
	1.4nm,0.3s,baz=80,slow=18,SNR=17						
ZALV				Lg	Lg	06 17 35.4	
	1.6nm,0.3s,baz=77,slow=26,SNR=8.0						
KURBB	**Kurchatov Arra**	**6.35**	**240**	Pn	Pn	06 18 25.6	+4.8
	baz=53,slow=13,SNR=2.5 0.4nm,0.4s						
MKAR	**Makanchi Array**	**8.00**	**205**	Pn	Pn	06 18 47.5	+4.1
	baz=24,slow=13,SNR=1.3 0.1nm,0.3s						

WEL 16 06:20:56.0±1.0, **40°.S**±5°×**17°.3E**±°, **h140**km±8km, **M3.8**/79, **MLv3.8**/79, **Error ellipse: s-maj=8.8km s-min=6.0km az=110.1, confirmed, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLK	**Kaihoka Lakes**	**0.51**	**254**	P	Pn	06 21 17.0	+0.8
KHLK				S	Sn	06 21 34.0	+2.5
DUWZ	**D'Urville Isla**	**0.63**	**127**	P	Pn	06 21 17.7	+0.8
DUWZ				S	Sn	06 21 34.7	+1.8
TKNZ	**Takaka Hill**	**0.65**	**200**	P	Pn	06 21 17.8	+0.7
TKNZ				S	Sn	06 21 35.1	+1.9
QRZ	**Quartz Range**	**0.69**	**234**	P	Pn	06 21 18.0	+0.7
QRZ				S	Sn	06 21 35.2	+1.7
MOTS	**Motueka DOC wo**	**0.73**	**195**	P	Pn	06 21 18.2	+0.6
MOTS				S	Sn	06 21 36.0	+1.9
NNZ	**Nelson**	**0.80**	**174**	P	Pn	06 21 18.6	+0.5
NNZ				S	Sn	06 21 36.4	+1.4
HAVS	**Havelock**	**0.94**	**155**	P	Pn	06 21 20.3	+1.1
MRNZ	**Matariki Terra**	**1.05**	**201**	P	Pn	06 21 20.2	0.0
MRNZ				S	Sn	06 21 39.4	+0.6
MATW	**Matariki Wadsw**	**1.09**	**203**	P	Pn	06 21 20.7	0.0
TCW	**Tory Channel**	**1.10**	**136**	P	Pn	06 21 21.3	+0.6
NMEZ	**Namu Road**	**1.11**	**25**	P	Pn	06 21 21.2	+0.3
BWRS	**Waikakaho Road**	**1.13**	**155**	P	Pn	06 21 21.6	+0.6
TUWZ	**Tuamarina**	**1.13**	**153**	P	Pn	06 21 21.6	+0.5
KASC	**Karamea School**	**1.20**	**226**	P	Pn	06 21 22.0	+0.4
NBEZ	**Newall Road No**	**1.24**	**22**	P	Pn	06 21 22.5	+0.3
KHEZ	**Kahui Hut**	**1.27**	**28**	P	Pn	06 21 22.7	+0.2
PREZ	**Palmer Road**	**1.28**	**33**	P	Pn	06 21 22.8	+0.2
LREZ	**Lake Rotokare**	**1.30**	**43**	P	Pn	06 21 23.1	+0.4
NEZ	**North Egmont**	**1.32**	**30**	P	Pn	06 21 22.9	-0.1
KIW	**Kapiti Island**	**1.33**	**110**	P	Pn	06 21 23.0	0.0
PKE	**Pukeiti**	**1.35**	**25**	P	Pn	06 21 23.2	0.0
MKBS	**Makara Bunker**	**1.36**	**127**	P	Pn	06 21 23.3	+0.1
THZ	**Tophouse**	**1.37**	**191**	P	Pn	06 21 23.1	-0.4
BSWZ	**Blackbirch Sta**	**1.37**	**160**	P	Pn	06 21 23.6	+0.2
DREZ	**Durham Road**	**1.43**	**31**	P	Pn	06 21 24.1	+0.1
WEL	**Wellington**	**1.43**	**127**	P	Pn	06 21 24.1	+0.1
WAZ	**Wanganui**	**1.48**	**64**	P	Pn	06 21 24.7	+0.1
OGWZ	**Otaki Gorge**	**1.51**	**106**	P	Pn	06 21 24.7	-0.1
CMWZ	**Cape Campbell**	**1.51**	**152**	P	Pn	06 21 26.1	+1.1
CAW	**Cannon Point**	**1.53**	**117**	P	Pn	06 21 24.9	-0.2
BHW	**Baring Head**	**1.57**	**129**	P	Pn	06 21 25.1	-0.4
OHWZ	**Ohakea**	**1.59**	**83**	P	Pn	06 21 25.8	+0.1
DSZ	**Denniston Nort**	**1.72**	**219**	P	Pn	06 21 26.6	-0.7
VRZ	**Vera Road**	**1.73**	**42**	P	Pn	06 21 26.4	-1.0
HOWZ	**Holdsworth Sta**	**1.78**	**106**	P	Pn	06 21 27.2	-0.7
MRZ	**Mangatainoka R**	**1.78**	**98**	P	Pn	06 21 27.2	-0.8
MSWZ	**Moikau Station**	**1.81**	**124**	P	Pn	06 21 27.6	-0.7
MTW	**Mount Morrison**	**1.85**	**114**	P	Pn	06 21 28.0	-0.8
PLWZ	**Palliser**	**1.90**	**128**	P	Pn	06 21 28.4	-0.9
PAWZ	**Paruwai Farm**	**1.90**	**121**	P	Pn	06 21 28.6	-0.8
POWZ	**Post Office Ro**	**1.92**	**90**	P	Pn	06 21 28.6	-0.9
PKVZ	**Pokaka**	**1.96**	**56**	P	Pn	06 21 29.3	-0.9
MTVZ	**Mangateitei**	**1.99**	**59**	P	Pn	06 21 29.3	-1.2
KHZ	**Kahutara**	**2.00**	**174**	P	Pn	06 21 29.6	-0.9
TIWZ	**Tintock**	**2.03**	**101**	P	Pn	06 21 30.0	-0.9
PRWZ	**Pori Road**	**2.07**	**95**	P	Pn	06 21 30.6	-0.8
TRWZ	**Traveller**	**2.08**	**119**	P	Pn	06 21 30.7	-0.9
TRVZ	**Turoa**	**2.09**	**58**	P	Pn	06 21 30.5	-1.3
TSZ	**Takapari Road**	**2.10**	**81**	P	Pn	06 21 30.4	-1.3
WNVZ	**Wahianoa**	**2.10**	**59**	P	Pn	06 21 30.6	-1.4
TMWZ	**Te Maipa**	**2.11**	**110**	P	Pn	06 21 30.9	-1.0
MAVZ	**Matarangi**	**2.11**	**58**	P	Pn	06 21 30.8	-1.4
FWVZ	**Far West T-bar**	**2.12**	**57**	P	Pn	06 21 30.8	-1.4
WHVZ	**Whangaehu Hut**	**2.12**	**58**	P	Pn	06 21 31.0	-1.2
COVZ	**Chateau Observ**	**2.14**	**56**	P	Pn	06 21 31.0	-1.3
TWVZ	**Taurewa**	**2.15**	**52**	P	Pn	06 21 30.7	-1.8
MOVZ	**Moawhango**	**2.17**	**63**	P	Pn	06 21 30.7	-1.9
TUVZ	**Tukino**	**2.17**	**59**	P	Pn	06 21 31.4	-1.4
NGZ	**Ngauruhoe**	**2.19**	**56**	P	Pn	06 21 31.6	-1.4
SNVZ	**South Ngauruho**	**2.21**	**57**	P	Pn	06 21 32.1	-1.2
WTVZ	**West Tongariro**	**2.22**	**55**	P	Pn	06 21 31.8	-1.5
DVHZ	**Dannevirke**	**2.22**	**88**	P	Pn	06 21 31.7	-1.5
NNVZ	**North Ngauruho**	**2.23**	**55**	P	Pn	06 21 31.8	-1.6
OTVZ	**Oturere**	**2.24**	**57**	P	Pn	06 21 32.3	-1.2
KRVZ	**Karewarewa**	**2.26**	**55**	P	Pn	06 21 32.1	-1.8
HIZ	**Hauiti**	**2.27**	**33**	P	Pn	06 21 32.3	-1.6
ETVZ	**East Tongariro**	**2.28**	**57**	P	Pn	06 21 32.8	-1.3
NTVZ	**North Tongarir**	**2.28**	**55**	P	Pn	06 21 33.3	-0.8
BFZ	**Birch Farm**	**2.29**	**97**	P	Pn	06 21 32.7	-1.3
CPWZ	**Castlepoint**	**2.29**	**103**	P	Pn	06 21 33.4	-0.6
TMVZ	**Te Maari**	**2.29**	**56**	P	Pn	06 21 32.8	-1.4
PNHZ	**Pukenui**	**2.31**	**78**	P	Pn	06 21 32.6	-1.7
KATZ	**Kakaramea**	**2.37**	**53**	P	Pn	06 21 33.4	-1.8
ANWZ	**Angora Road**	**2.45**	**92**	P	Pn	06 21 34.6	-1.4
WPHZ	**Waipukurau**	**2.46**	**83**	P	Pn	06 21 34.6	-1.6
RITZ	**Rihia Road**	**2.47**	**55**	P	Pn	06 21 34.8	-1.5
LTZ	**Lake Taylor**	**2.47**	**197**	P	Pn	06 21 34.5	-1.8
RATZ	**Rangitukua**	**2.48**	**52**	P	Pn	06 21 35.1	-1.4
KRHZ	**Kereru**	**2.51**	**73**	P	Pn	06 21 34.8	-2.1
GVZ	**Greta Valley S**	**2.55**	**184**	P	Pn	06 21 35.5	-1.8
PRHZ	**Porangahau**	**2.58**	**88**	P	Pn	06 21 36.2	-1.5
KWHZ	**Kaweka Forest**	**2.63**	**69**	P	Pn	06 21 36.5	-1.8
INZ	**Inchbonnie**	**2.67**	**210**	P	Pn	06 21 36.6	-2.2
TLZ	**Tolley Road**	**2.73**	**41**	P	Pn	06 21 37.3	-2.4
KUTZ	**Kaahu Road**	**2.77**	**47**	P	Pn	06 21 38.3	-1.7
PXZ	**Pawanui**	**2.79**	**83**	P	Pn	06 21 38.3	-1.9
BKZ	**Black Stump Fm**	**2.79**	**64**	P	Pn	06 21 37.6	-2.8
AMCZ	**Amberley**	**2.79**	**189**	P	Pn	06 21 38.0	-2.2
MCHZ	**McNeill Hill**	**2.82**	**71**	P	Pn	06 21 38.8	-1.8
KAHZ	**Kahuranaki**	**2.84**	**78**	P	Pn	06 21 39.4	-1.6
MRHZ	**Matea Rd**	**2.91**	**58**	P	Pn	06 21 38.7	-3.1
WPRZ	**Whakapapatarin**	**2.94**	**51**	P	Pn	06 21 39.8	-2.5
GRRZ	**Galatos Road**	**3.03**	**48**	P	Pn	06 21 41.4	-1.9
CKHZ	**Cape Kidnapper**	**3.03**	**77**	P	Pn	06 21 41.6	-1.8
NMHZ	**Naumai**	**3.04**	**65**	P	Pn	06 21 41.5

BRTR	**Keskin Array B**	**146.85**	**313**	PKPbc	**PKPbc**	**06 45 52.8**	**+0.2**
	1.0nm,0.6s,baz=144,slow=6.0,SNR=4.6						
GERES	**GERESS Array B**	**150.09**	**345**	PKPbc	**PKPbc**	**06 45 59.0**	**-1.3**
	0.8nm,0.7s,baz=38,slow=2.4,SNR=5.9						

*IDC **16** 06:45:16.1±3.7, 53.73N×88.02E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=36.3km s-min=19.8km az=47.0*

ASRS 16 06:45:12.0±0.8, 53.70N×88.13E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.98**	**279**	I	I	06 57 29.8	
	0.2nm,1.2s,baz=95,slow=310,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.98**	**279**	Pn	Pg	06 45 50.2	+0.3
	1.0nm,0.3s,baz=91,slow=15,SNR=9.1						
ZALV				Lg	Lg	06 46 16.2	
	1.5nm,0.3s,baz=95,slow=26,SNR=8.5						
KURBB	**Kurchatov Arra**	**6.66**	**246**	Pn	Pn	06 46 55.6	+4.6
	0.1nm,0.3s,baz=57,slow=13,SNR=2.7						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.86**	**211**	Pn	Pn	06 47 12.2	+4.7
	0.1nm,0.3s,baz=26,slow=12,SNR=4.3						
	0.1nm,0.3s						

IDC 16 06:50:33.9±2.0, 0.02S×126.88E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=218.3km s-min=23.8km az=66.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.11**	**160**	P	P	06 55 19.8	-0.5
	0.4nm,0.8s,baz=339,slow=10,SNR=2.0						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**24.48**	**164**	P	P	06 55 55.1	+0.2
	0.6nm,0.7s,baz=345,slow=11,SNR=6.1						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**60.72**	**326**	P	P	07 00 46.9	-0.5
	0.2nm,0.4s,baz=113,slow=7.6,SNR=5.1						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.97**	**328**	P	P	07 01 15.9	+0.4
	0.2nm,0.3s,baz=128,slow=4.4,SNR=4.6						
	0.2nm,0.3s						

*UCR **16** 06:57:24.8±1.5, 10.62N×85.28W, h5km±1km, MW4.1*
*CATAC **16** 06:57:25.5±0.2, 11°N±2°×8°5W±°, h7km±2km, M3.4/16, MLv3.4/16, Error ellipse: s-maj=4.5km s-min=2.8km az=56.6, confirmed*

ISC 16 06:57:25.5±0.8, 10.63N±0.01×85.24W±0.01, h14km±4km, n140, σ0.60/197, 69C-20D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COLC	**Colonia**	**0.06**	**44**	⇓*i*P	**Pg**	**06 57 27.9**	**-0.4**
COLC				*e*S	**Sg**	**06 57 29.8**	**-0.3**
CUI	**Cuipilapa**	**0.09**	**67**	⇓*i*P	**Pg**	**06 57 28.5**	**-0.1**
CUI				*e*S	**Sg**	**06 57 30.5**	**-0.1**
HORNC	**Hornillas**	**0.11**	**36**	⇓*i*P	**Pg**	**06 57 28.8**	**-0.1**
HORNC				*e*S	**Sg**	**06 57 31.1**	**-0.1**
MESS	**Mesas**	**0.12**	**23**	⇓*i*P	**Pg**	**06 57 29.1**	**0.0**
MESS				*e*S	**Sb**	**06 57 32.1**	**-0.4**
GPS2	**Hotel Rincn d**	**0.17**	**320**	⇑*e*P	**Pg**	**06 57 29.5**	**-0.1**
GPS2				*e*S	**Sg**	**06 57 32.4**	**0.0**
GPS3	**Bodega del ICE**	**0.18**	**317**	⇑*e*P	**Pb**	**06 57 30.8**	**+0.3**
GPS3				*e*S	**Sg**	**06 57 33.1**	**+0.5**
MOTZ	**Rio Naranjo**	**0.18**	**70**	⇓*e*P	**Pb**	**06 57 30.2**	**-0.3**
MOTZ				*e*S	**Sb**	**06 57 34.0**	**+0.1**
GPS1	**Guardaparques**	**0.18**	**325**	⇑*e*P	**Pg**	**06 57 29.9**	**0.0**
ELVJ	**El Viejo (Barb**	**0.19**	**204**	⇓*i*P	**Pb**	**06 57 31.2**	**+0.5**
ELVJ				*e*S	**Sb**	**06 57 35.7**	**+1.5**
ERIA	**Liberia**	**0.19**	**273**	⇑*i*P	**Pg**	**06 57 29.8**	**-0.1**
ERIA				*e*S	**Sg**	**06 57 33.1**	**+0.2**
VRLE	**La Escondida,**	**0.20**	**324**	⇑*e*P	**Pg**	**06 57 30.1**	**0.0**
VRLE				*e*S	**Sg**	**06 57 33.3**	**-0.1**
VORI	**VORI**	**0.22**	**332**	⇓*e*P	**Pg**	**06 57 30.5**	**0.0**
VORI				*e*S	**Sg**	**06 57 33.8**	**-0.1**
TIMP	**Tierras Morena**	**0.23**	**101**	⇑*i*P	**Pg**	**06 57 30.6**	**+0.1**
TIMP				*e*S	**Sg**	**06 57 34.5**	**+0.5**
VMAR	**Armenia, Volca**	**0.23**	**34**	⇓*i*P	**Pb**	**06 57 31.1**	**-0.3**
VMAR				*e*S	**Sb**	**06 57 35.6**	**+0.2**
INVE	**Universidad In**	**0.23**	**130**	⇑*i*P	**Pg**	**06 57 30.7**	**+0.1**
LAPC	**Finca la Perla**	**0.23**	**307**	⇑*i*P	**Pg**	**06 57 30.5**	**-0.1**
LAPC				*e*S	**Sg**	**06 57 33.8**	**-0.3**
CNAS	**Canas**	**0.24**	**142**	⇑*i*P	**Pb**	**06 57 31.9**	**+0.2**
CNAS				*e*S	**Sb**	**06 57 37.8**	**+2.0**
PG27	**Guanacaste Pro**	**0.25**	**326**	*e*P	**Pg**	**06 57 31.0**	**0.0**
PG27				*e*S	**Sg**	**06 57 34.9**	**+0.1**
BUAI	**Buenos Aires**	**0.27**	**341**	⇓*i*P	**Pg**	**06 57 31.1**	**0.0**
BUAI				*e*S	**Sg**	**06 57 35.1**	**+0.1**
TENO	**El Achiote**	**0.27**	**73**	⇑*i*P	**Pg**	**06 57 30.9**	**-0.4**
TENO				*e*S	**Sg**	**06 57 35.0**	**-0.3**
PEJA	**Penjamo Buenos**	**0.28**	**346**	⇓*i*P	**Pb**	**06 57 31.7**	**-0.6**
PEJA				*e*S	**Sb**	**06 57 36.2**	**-0.6**
PLVR	**Palo Verde**	**0.29**	**201**	⇓*e*P	**Pg**	**06 57 31.1**	**-0.6**
PLVR				*e*S	**Sg**	**06 57 35.5**	**-0.5**
ALIBA	**Liberia Airpor**	**0.30**	**264**	⇑*i*P	**Pg**	**06 57 31.6**	**-0.1**
ALIBA				*e*S	**Sg**	**06 57 36.5**	**+0.6**
ELI1	**Hacienda Flor**	**0.30**	**274**	⇑*i*P	**Pg**	**06 57 31.6**	**-0.2**
ELI1				*e*S	**Sg**	**06 57 35.6**	**-0.5**
TILA	**Tilaran**	**0.31**	**120**	⇑*i*P	**Pg**	**06 57 32.1**	**+0.2**
TILA				*e*S	**Sb**	**06 57 37.6**	**-0.1**
QUEB	**Quebradon, Cot**	**0.34**	**90**	⇑*i*P	**Pb**	**06 57 32.9**	**-0.5**
QUEB				*e*S	**Sb**	**06 57 38.6**	**-0.1**
UPAL	**Upala**	**0.35**	**40**	⇓*i*P	**Pb**	**06 57 33.4**	**-0.2**
UPAL				*e*S	**Sb**	**06 57 39.9**	**+0.9**
JTS	**Las Juntas de**	**0.44**	**139**	⇑*i*P	**Pg**	**06 57 33.8**	**-0.4**
JTS				*e*S	**Sg**	**06 57 40.0**	**-0.2**
JUNT	**Juntas**	**0.44**	**141**	⇑*i*P	**Pg**	**06 57 33.9**	**-0.4**
JUNT				*e*S	**Sg**	**06 57 40.0**	**-0.2**
TABAC	**Tabacon**	**0.48**	**105**	⇑*i*P	**Pb**	**06 57 35.6**	**-0.2**
SACU	**Santa Cruz**	**0.49**	**223**	⇓*i*P	**Pg**	**06 57 34.7**	**-0.5**
SACU				*e*S	**Sg**	**06 57 41.9**	**+0.1**
MTEVE	**Monteverde**	**0.51**	**126**	⇑*i*P	**Pg**	**06 57 35.4**	**-0.2**
MTEVE				*e*S	**Sg**	**06 57 42.9**	**+0.4**
CASO	**Castillo**	**0.54**	**111**	⇑*i*P	**Pg**	**06 57 36.2**	**+0.2**
JUD3	**Juan Diaz 3**	**0.54**	**213**	⇓*e*P	**Pg**	**06 57 35.5**	**-0.7**
JUD3				*e*S	**Sg**	**06 57 43.1**	**-0.2**
VARE2	**V. Arenal**	**0.54**	**107**	⇑*i*P	**Pb**	**06 57 36.7**	**-0.1**
CEDE	**Laguna Cedeo**	**0.55**	**104**	⇑*i*P	**Pb**	**06 57 36.8**	**-0.1**
VACR	**Volcan Arenal**	**0.58**	**105**	⇑*i*P	**Pb**	**06 57 37.3**	**-0.1**
FORC	**Fortuna**	**0.59**	**105**	⇑*i*P	**Pb**	**06 57 37.4**	**-0.1**
LCRUZ	**La Cruz**	**0.59**	**320**	⇑*i*P	**Pg**	**06 57 37.2**	**+0.1**
LCRUZ				*e*S	**Sb**	**06 57 46.0**	**+0.2**
TUNA	**La Fortuna**	**0.61**	**105**	⇑*i*P	**Pb**	**06 57 37.8**	**-0.1**
CARN	**Rivas**	**0.62**	**334**	*e*P	**Pb**	**06 57 38.4**	**+0.3**
CARN				*e*S	**Sn**	**06 57 49.1**	**-0.5**
CARN	**Rivas**	**0.62**	**334**	P	**Pb**	**06 57 38.4**	**+0.3**
CARN				S	**Sb**	**06 57 47.4**	**+0.7**
NYURE	**Nandayure**	**0.62**	**181**	*e*P	**Pg**	**06 57 36.8**	**-0.9**
LCHIL	**Los Chiles**	**0.66**	**52**	*e*P	**Pb**	**06 57 38.9**	**+0.1**
SOCE	**Pocosol**	**0.66**	**111**	⇑*i*P	**Pg**	**06 57 38.2**	**-0.1**
SOCE	**Pocosol**	**0.66**	**111**	P	**Pg**	**06 57 38.3**	**-0.1**
INDI	**Punta indio, G**	**0.80**	**199**	S	**Sg**	**06 57 52.1**	**+0.7**
INDI	**Punta indio, G**	**0.80**	**199**	P	**Pg**	**06 57 40.2**	**-0.8**
ROBF	**Roble, Puntare**	**0.81**	**142**	⇑*i*P	**Pg**	**06 57 40.4**	**-0.9**
ROBF				*e*S	**Sg**	**06 57 51.6**	**-0.3**
COVE	**Coope Vega, Sa**	**0.83**	**83**	P	**Pg**	**06 57 41.4**	**-0.2**
ARZA	**Esparza**	**0.85**	**138**	⇑*i*P	**Pg**	**06 57 40.9**	**-1.0**
ARZA				*e*S	**Sg**	**06 57 52.5**	**-0.6**
QUEU	**Ciudad Quesada**	**0.85**	**111**	⇑*i*P	**Pg**	**06 57 41.8**	**-0.1**
PAQE	**Paquera**	**0.86**	**159**	⇑*i*P	**Pb**	**06 57 41.1**	**-1.0**
PAQE				*e*S	**Sg**	**06 57 53.6**	**+0.2**
VPL2	**V. Platanar**	**0.90**	**110**	⇑*i*P	**Pb**	**06 57 42.9**	**-0.1**
SRA1	**San Ramn**	**0.92**	**125**	⇑*i*P	**Pb**	**06 57 42.9**	**-0.4**
RAMO	**San Ramon**	**0.93**	**125**	⇑*i*P	**Pb**	**06 57 43.2**	**-0.3**
ZARE	**Zarcero**	**0.95**	**117**	⇑*e*P	**Pb**	**06 57 43.8**	**0.0**
ITAL	**Pital**	**0.97**	**100**	*e*P	**Pb**	**06 57 43.5**	**-0.6**
ITAL				*e*S	**Sn**	**06 57 57.6**	**-0.6**
PALD	**Palmares**	**0.98**	**125**	⇑*i*P	**Pb**	**06 57 43.8**	**-0.5**
JAPN	**Al SSO del Vol**	**0.99**	**335**	⇑*e*P	**Pn**	**06 57 45.1**	**+0.1**
JAPN	**Al SSO del Vol**	**0.99**	**335**	P	**Pn**	**06 57 45.3**	**+0.3**
MORN	**Al O del Volca**	**1.00**	**337**	P	**Pn**	**06 57 44.9**	**-0.2**
MORN				S	**Sn**	**06 57 59.5**	**+0.5**
OROT	**Orotina**	**1.00**	**135**	*e*P	**Pb**	**06 57 43.7**	**-0.8**
SARCI	**Sarchi**	**1.03**	**121**	*e*P	**Pb**	**06 57 45.1**	**0.0**
CBL1	**Cabuya**	**1.04**	**172**	⇑*i*P	**Pb**	**06 57 44.2**	**-1.0**
CBL1				*e*S	**Sb**	**06 57 58.9**	**+0.2**
ATEO	**Atenas**	**1.06**	**127**	⇑*i*P	**Pb**	**06 57 45.1**	**-0.6**
GREC	**Grecia**	**1.07**	**121**	⇑*i*P	**Pb**	**06 57 45.7**	**-0.1**
TCS1	**Tacares**	**1.09**	**122**	⇑*i*P	**Pb**	**06 57 46.1**	**-0.1**
TCS1	**Tacares**	**1.09**	**122**	P	**Pb**	**06 57 46.1**	**-0.1**
PURI	**Puriscal**	**1.20**	**130**	⇑*i*P	**Pn**	**06 57 47.0**	**-1.0**
SARA	**Sarapiqu**	**1.22**	**98**	⇑*e*P	**Pn**	**06 57 47.5**	**-0.4**
SARA				*e*S	**Sg**	**06 58 05.8**	**+1.0**
BELE	**Belen**	**1.22**	**122**	⇑*e*P	**Pn**	**06 57 47.9**	**-0.3**
BELE				*e*S	**Sn**	**06 58 04.7**	**+0.1**
VBV1	**V. Barva**	**1.23**	**114**	⇑*i*P	**Pn**	**06 57 47.4**	**-1.1**
SANTA	**Santa Ana**	**1.25**	**123**	⇑*e*P	**Pn**	**06 57 48.0**	**-0.6**
HEME	**Heredia, Merce**	**1.26**	**120**	⇑*i*P	**Pn**	**06 57 48.6**	**-0.1**
HEME				*e*S	**Sg**	**06 58 06.8**	**+0.7**
HDC	**Heredia**	**1.27**	**119**	⇑*i*P	**Pn**	**06 57 48.9**	**0.0**
HDC				*e*S	**Sg**	**06 58 07.0**	**+0.4**
DOMI	**Santo Domingo**	**1.30**	**119**	⇑*i*P	**Pn**	**06 57 49.4**	**+0.1**
DOMI				*e*S	**Sg**	**06 58 08.5**	**+0.9**
TIBA	**Tibas**	**1.33**	**120**	*e*P	**Pb**	**06 57 50.0**	**-0.2**
ACON	**Acoyapa**	**1.34**	**3**	⇓*i*P	**Pn**	**06 57 49.5**	**-0.2**
ACON				*e*S	**Sg**	**06 58 08.1**	**-0.5**
ACON	**Acoyapa**	**1.34**	**3**	P	**Pn**	**06 57 49.5**	**-0.2**
CENT	**San Jose**	**1.34**	**121**	*e*P	**Pb**	**06 57 50.7**	**+0.3**
ACOS	**Acosta**	**1.34**	**128**	⇑*i*P	**Pn**	**06 57 49.7**	**-0.3**
ACOS				*e*S	**Sb**	**06 58 07.8**	**+0.2**
LUJA	**Lujan**	**1.35**	**121**	⇑*i*P	**Pn**	**06 57 50.0**	**0.0**
LUJA				*e*S	**Sg**	**06 58 08.6**	**-0.4**
LUPE	**Guadalupe**	**1.35**	**120**	⇑*i*P	**Pn**	**06 57 50.0**	**0.0**
LUPE				*e*S	**Sg**	**06 58 08.8**	**-0.3**
SJS	**Escuela Geolog**	**1.35**	**120**	*e*P	**Pn**	**06 57 50.2**	**+0.1**
SJS				*e*S	**Sg**	**06 58 09.1**	**-0.2**
ECI	**Escuela Centro**	**1.36**	**120**	*e*P	**Pn**	**06 57 49.7**	**-0.4**
SJS3	**Mercedes San J**	**1.36**	**120**	⇑*e*P	**Pn**	**06 57 51.2**	**+0.3**
NADN	**Granada**	**1.36**	**325**	*e*P	**Pn**	**06 57 49.6**	**-0.4**
NADN	**Granada**	**1.36**	**325**	P	**Pn**	**06 57 49.6**	**-0.4**
NADN				S	**Sg**	**06 58 08.7**	**-0.6**
AMPA	**Desamparados**	**1.37**	**122**	⇑*i*P	**Pn**	**06 57 50.1**	**-0.1**
CORON	**Coronado**	**1.38**	**118**	*e*P	**Pn**	**06 57 50.4**	**-0.1**
CVIMO	**Finca Echandi**	**1.41**	**115**	⇑*i*P	**Pn**	**06 57 51.2**	**+0.3**
PAR1A	**Puntarenas Pro**	**1.41**	**136**	*e*P	**Pn**	**06 57 50.6**	**-0.1**
TRIO	**Tres Rios**	**1.42**	**120**	*e*P	**Pn**	**06 57 51.2**	**+0.2**
PICV	**PH. Pirrs**	**1.43**	**134**	⇓*e*P	**Pn**	**06 57 50.6**	**-0.4**
PISJ	**San Jernim**	**1.48**	**132**	⇓*i*P	**Pn**	**06 57 51.6**	**-0.2**
TRT2	**Tortugero**	**1.48**	**92**	⇑*i*P	**Pn**	**06 57 51.2**	**-0.5**
TRT2	**Tortugero**	**1.48**	**92**	P	**Pn**	**06 57 51.9**	**+0.2**
TRT2	**Tortugero**	**1.48**	**92**	S	**Sg**	**06 58 12.4**	**-0.9**
ABE2	**San Pablo**	**1.49**	**128**	*e*P	**Pn**	**06 57 52.1**	**+0.2**
LCR2	**La Lucha 2**	**1.50**	**126**	⇑*i*P	**Pn**	**06 57 52.1**	**0.0**
LCR2				*e*S	**Sb**	**06 58 12.3**	**+0.1**
LCR2	**La Lucha 2**	**1.50**	**126**	P	**Pn**	**06 57 52.2**	**0.0**
TAGO	**Cartago**	**1.50**	**120**	⇓*e*P	**Pn**	**06 57 52.4**	**+0.2**
TAGO				*e*S	**Sg**	**06 58 14.7**	**+0.7**
CARI	**Cariari**	**1.50**	**100**	⇓*i*P	**Pb**	**06 57 52.7**	**-0.5**
CARI				*e*S	**Sg**	**06 58 14.1**	**+0.1**
VICA	**Volcano Irazu**	**1.52**	**115**	⇑*i*P	**Pn**	**06 57 53.1**	**+0.5**
VICA				*e*S	**Sg**	**06 58 16.2**	**+1.7**
PITB	**Pirrs, San**	**1.54**	**128**	*e*P	**Pn**	**06 57 52.8**	**+0.2**
RAZU	**San Marcos de**	**1.54**	**128**	⇑*i*P	**Pn**	**06 57 52.6**	**0.0**
NANN	**Nandasmo**	**1.56**	**327**	S	**Sg**	**06 58 15.7**	**-0.2**
NANN	**Nandasmo**	**1.56**	**327**	P	**Pb**	**06 57 54.2**	**0.0**
REPA	**Paraso**	**1.57**	**120**	⇑*i*P	**Pn**	**06 57 53.5**	**+0.5**
VTLA	**Turrialba Volc**	**1.57**	**113**	⇑*i*P	**Pb**	**06 57 54.1**	**-0.4**
PCAYA	**Pacayas**	**1.58**	**116**	*e*P	**Pb**	**06 57 54.1**	**-0.4**
CVTQ	**Turrialba Volc**	**1.58**	**113**	⇑*i*P	**Pb**	**06 57 54.2**	**-0.5**
CVTQ				*e*S	**Sg**	**06 58 17.9**	**+1.4**
CVTR	**Volcan Turrial**	**1.58**	**112**	⇑*i*P	**Pn**	**06 57 54.0**	**+0.6**
VTR0	**Volcan Turrial**	**1.58**	**112**	⇑*i*P	**Pb**	**06 57 54.2**	**-0.5**
VTR0				*e*S	**Sg**	**06 58 17.6**	**+1.0**
CVTV	**Tajo**	**1.59**	**113**	⇑*i*P	**Pb**	**06 57 54.3**	**-0.6**
PIEC	**Cerro El Cedra**	**1.61**	**128**	*e*P	**Pn**	**06 57 54.0**	**+0.3**
VTCV	**VTCV, Calle Va**	**1.62**	**113**	⇑*e*P	**Pb**	**06 57 54.7**	**-0.6**
VINA	**Juan Vinas**	**1.64**	**116**	*e*P	**Pb**	**06 57 55.5**	**-0.1**
RESJ	**San Isidro (Tu**	**1.68**	**110**	⇑*i*P	**Pb**	**06 57 55.7**	**-0.6**
RVLA	**Villa Bonita**	**1.71**	**107**	⇑*e*P	**Pb**	**06 57 56.4**	**-0.2**
LCOCO	**El Coco**	**1.74**	**108**	⇓*e*P	**Pn**	**06 57 56.2**	**+0.9**
LCOCO				*e*S	**Sg**	**06 58 21.1**	**-0.6**
IRES	**Siquirres**	**1.79**	**107**	*e*P	**Pn**	**06 57 56.8**	**+0.9**
TISN	**Laguna Tiscapa**	**1.81**	**326**	P	**Pb**	**06 57 57.5**	**-0.9**
ESPN	**Las Esperanzas**	**1.81**	**31**	⇑*e*P	**Pn**	**06 57 56.8**	**+0.6**
ESPN	**Las Esperanzas**	**1.81**	**31**	P	**Pb**	**06 57 57.7**	**-0.8**
BOAB	**BOACO BROADBAN**	**1.86**	**347**	P	**Pn**	**06 57 57.4**	**+0.5**
BOAB	**BOACO BROADBAN**	**1.86**	**347**	S	**Sb**	**06 58 22.2**	**-0.2**
TAAN	**Batan**	**1.94**	**106**	*e*P	**Pb**	**06 57 59.9**	**-0.7**
COPN	**Copaltepe**	**2.03**	**320**	*e*P	**Pn**	**06 57 59.7**	**+0.5**
COPN	**Copaltepe**	**2.03**	**320**	P	**Pn**	**06 57 59.9**	**+0.6**
SAJE	**San Jernim**	**2.13**	**126**	*e*P	**Pn**	**06 58 02.3**	**+1.0**
EDPE	**Pejibaya, P**	**2.20**	**131**	*e*P	**Pb**	**06 58 04.0**	**-1.4**
BURE	**Buenos Aires**	**2.37**	**127**	*e*P	**Pb**	**06 58 06.1**	**-1.9**
MATN	**Matagalpa**	**2.39**	**344**	P	**Pn**	**06 58 04.1**	**-0.1**
DRK0	**Durika**	**2.39**	**124**	*e*P	**Pn**	**06 58 06.4**	**+2.1**
PLRN	**Geotermica Pol**	**2.45**	**323**	P	**Pn**	**06 58 06.2**	**+1.1**
FIMO	**Fila Mora**	**2.47**	**131**	*e*P	**Pn**	**06 58 07.5**	**+2.1**
POLN	**Al Sur del Vol**	**2.53**	**323**	P	**Pn**	**06 58 07.6**	**+1.4**
ALCO	**Alturas Coton,**	**2.90**	**125**	⇑*i*P	**Pn**	**06 58 13.1**	**+1.8**

IDC 16 06:58:41.5±22.0, 28.19N×43.75W, h0km, mb3.5/3, mbtmp3.5/3, MS3.5/5, Error ellipse: s-maj=486.1km s-min=120.0km az=152.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SADO	**Sadowa**	**32.61**	**310**	LR	LR	07 16 03.9	
	comp=Z,73nm,20.6s,baz=62,slow=32						
TKL	**Tuckaleechee C**	**34.59**	**293**	LR	LR	07 19 15.1	
	comp=Z,45nm,18.3s,baz=19,slow=36						
PDAR	**Pinedale Array**	**54.25**	**304**	P	P	07 08 09.4	-0.1
	0.8nm,0.7s,baz=94,slow=7.8,SNR=9.0						
PDAR				LR	LR	07 30 09.3	
	comp=Z,26nm,18.7s,baz=35,slow=35						
	0.8nm,0.7s						
YKA	**Yellowknife Ar**	**56.59**	**328**	P	P	07 08 25.4	-0.4
	0.3nm,0.8s,baz=89,slow=6.3,SNR=3.7						
	0.3nm,0.8s						
ASF	**Jabal al Asfar**	**68.24**	**64**	LR	LR	07 38 34.8	
	comp=Z,34nm,18.7s,baz=145,slow=35						
ILAR	**Eielson Array**	**70.21**	**334**	P	P	07 09 56.2	+0.3
	0.4nm,0.8s,baz=70,slow=5.3,SNR=4.2						
	0.4nm,0.8s						
KDAK	**Kodiak Island**	**75.87**	**328**	LR	LR	07 45 10.4	
	comp=Z,65nm,18.7s,baz=207,slow=37						

*IDC **16** 07:00:10.0±3.4, 53.58N×87.84E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=31.9km s-min=18.7km az=59.0*

ASRS 16 07:00:05.0±0.6, 53.63N×87.90E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**281**	I	I	07 11 35.0	
	0.1nm,1.2s,baz=100,slow=319,SNR=11						
ZALV	**Zalesovo Beam**	**1.86**	**281**	Pn	Pg	07 00 42.0	+1.5
	0.6nm,0.3s,baz=102,slow=13,SNR=6.0						
ZALV				Lg	Lg	07 01 08.7	
	1.1nm,0.3s,baz=102,slow=28,SNR=5.1						
KURBB	**Kurchatov Arra**	**6.51**	**246**	Pn	Pn	07 01 46.0	+4.0
	0.1nm,0.3s,baz=59,slow=14,SNR=4.0						
	0.4nm,0.2s						
MKAR	**Makanchi Array**	**7.73**	**210**	Pn	Pn	07 02 05.1	+6.3
	0.1nm,0.3s,baz=30,slow=14,SNR=1.8						
MKAR				Lg	Lg	07 04 11.3	
	baz=29,slow=30,SNR=2.2						
	0.1nm,0.3s						

NOU 16 07:05:29.6, 13.89S×167.15E, h0km, MLv4.3/13, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.55**	**178**	P	Pn	07 05 56.9	-1.6
SANVU	**Saraoutou**	**1.55**	**178**	S	Sn	07 06 19.2	-0.1
VLAKA	**Lakatoro**	**2.22**	**173**	P	Pn	07 06 37.3	-0.4
VLAKA	**Lakatoro**	**2.22**	**173**	S	Sn	07 06 36.6	+0.8
LUES	**Luesalemba Tem**	**3.43**	**339**	P	Pn	07 06 23.2	-1.1
LUES	**Luesalemba Tem**	**3.43**	**339**	S	Sn	07 07 07.4	+1.7
DVP	**Devils Point**	**3.94**	**165**	P	Pn	07 06 31.4	0.0
YATNC	**Mamie plateau,**	**8.13**	**182**	P	Pn	07 07 28.3	-0.7
DZM	**Mont Dzumac**	**8.16**	**185**	P	Pn	07 07 29.0	-0.5

*PDG **16** 07:08:43.4±0.1, 43.02N×17.92E, h8km, MD2.9/2, ML2.8/10, Error ellipse: s-maj=0.2km s-min=0.1km az=90.0*
*RHSSO **16** 07:08:43.3±0.2, 43.05N×17.91E, h5km, 3km, ML2.7/10*
*BEO **16** 07:08:44.1±0.3, 43.02N×17.93E, h4km, 2km, ML2.5/8*

ISC 16 07:08:43.1±1.0, 43.05N±0.02×17.91E±0.01, h5km, n73, σ1.04/133, 9C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.23**	**221**	⇓*i*P	**Pg**	**07 08 47.7**	**+0.1**
STON				*e*Sg	**Sg**	**07 08 51.5**	**+0.8**
STON	**Ston**	**0.23**	**221**	*e*Pg	**Pg**	**07 08 47.6**	**0.0**
STON				*e*Sg	**Sg**	**07 08 51.7**	**+1.0**
STON	**Ston**	**0.23**	**221**	*i* Pg	**Pg**	**07 08 47.7**	**+0.1**
STON				Sg	**Sg**	**07 08 51.1**	**+0.5**
STON	**Ston**	**0.23**	**221**	*e*Pg	**Pg**	**07 08 47.3**	**-0.3**
STON				Sg	**Sg**	**07 08 51.0**	**+0.4**
DBRK	**Dubrovnik**	**0.42**	**155**	*i* Pg	**Pg**	**07 08 51.1**	**0.0**
DBRK				Sg	**Sb**	**07 08 58.0**	**-1.6**
DBRK	**Dubrovnik**	**0.42**	**155**	*i* Pg	**Pg**	**07 08 50.4**	**-0.8**
DBRK				Sg	**Sb**	**07 08 57.9**	**-1.7**
TREB	**Trebinje**	**0.46**	**135**	⇑*i*Pg	**Pg**	**07 08 51.5**	**-0.6**
TREB				*e*Sg	**Sb**	**07 08 59.1**	**-2.0**
TREB	**Trebinje**	**0.46**	**135**	*e*Pg	**Pg**	**07 08 51.5**	**-0.6**
TREB				*e*Sg	**Sb**	**07 08 59.0**	**-2.0**
BRY	**Bratogost**	**0.49**	**107**	⇑*i*Pg	**Pg**	**07 08 51.9**	**-0.6**
BRY				*e*Sg	**Sg**	**07 08 59.8**	**+0.9**
KLINJ	**Klinje**	**0.51**	**76**	*e*Pg	**Pg**	**07 08 52.1**	**-0.9**
KLINJ				*e*Sg	**Sg**	**07 09 00.1**	**+0.4**
MAKA	**Makarska**	**0.69**	**291**	*i* Pg	**Pg**	**07 08 55.2**	**-1.2**
MAKA				Sg	**Sg**	**07 09 05.9**	**+0.5**
MAKA	**Makarska**	**0.69**	**291**	*i* Pg	**Pg**	**07 08 55.1**	**-1.3**
MAKA				Sg	**Sg**	**07 09 04.9**	**-0.4**
RICI	**Ricice**	**0.72**	**309**	*i* Pg	**Pg**	**07 08 55.8**	**-1.1**
RICI				Sg	**Sg**	**07 09 06.6**	**+0.3**
RICI	**Ricice**	**0.72**	**309**

JTS				S	Sg	07 23 17.7	+0.6	
SOCE	**Pocosol**	**0.57**	**116**	P	Pb	07 23 16.3	-0.8	
CARN	**Rivas**	**0.66**	**325**	P	Pg	07 23 17.9	+0.7	
CARN				S	Sg	07 23 27.0	+1.2	
COVE	**Coope Vega, Sa**	**0.73**	**84**	P	Pb	07 23 19.2	-0.7	
INDI	**Punta indio, G**	**0.85**	**205**	P	Pg	07 23 19.6	-1.1	
TCS1	**Tacares**	**1.02**	**126**	P	Pg	07 23 24.2	+0.2	
ACON	**Acoyapa**	**1.32**	**359**	S	Sg	07 23 45.9	-1.1	
ACON	**Acoyapa**	**1.32**	**359**	P	Pg	07 23 27.5	-2.3	
LCR2	**La Lucha 2**	**1.43**	**129**	P	Pn	07 23 30.0	-1.6	
LCR2	**La Lucha 2**	**1.43**	**129**	S	Sg	07 23 50.5	+0.1	
NANN	**Nandasmo**	**1.61**	**323**	P	Pg	07 23 40.9	+5.5	
UNAN	**Cigeo UNAN**	**1.84**	**323**	P	Pn	07 23 37.5	+0.5	
UNAN				S	Sn	07 24 01.1	+0.3	
TISN	**Laguna Tiscapa**	**1.86**	**324**	P	Pn	07 23 37.3	0.0	
BOAB	**BOACO BROADBAN**	**1.87**	**344**	P	Pn	07 23 37.0	-0.5	
COPN	**Copaltepe**	**2.09**	**317**	P	Pn	07 23 41.7	+1.2	

IDC 16 07:32:09.5±1.9, 5°.41S×149°.15E, h0km, mb3.7/3, mbtmp3.8/3, Error ellipse: s-maj=120.6km s-min=28.9km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.40**	**224**	P	P	07 36 48.7	+0.5
	4.8nm,0.7s,baz=50,slow=10,SNR=36 4.8nm,0.7s						
ASAR	**Alice Springs**	**23.35**	**217**	P	P	07 37 19.5	-0.2
	1.0nm,0.6s,baz=48,slow=9.3,SNR=16 1.0nm,0.6s						
ILAR	**Eielson Array**	**84.10**	**23**	P	P	07 44 42.0	-0.1
	0.3nm,0.7s,baz=241,slow=6.2,SNR=5.8 0.3nm,0.7s						

*NEIC **16** 07:46:44.6±1.7, 47°.88N±0°.02×122°.05W±0°.03, h31km±8km, Error ellipse: s-maj=3.5km s-min=3.4km az=167.0*
SEA 16 07:46:45.0±2.1, 47°.85N±0°.02×122°.04W±0°.03, h28km±6km, ML2.4/22, ML2.3/36(NEIC), Error ellipse: s-maj=3.3km s-min=3.0km az=126.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLH	**Bald Hill**	**0.02**	**173**		Pb	07 46 49.4	-0.3
BLH					Sb	07 46 52.8	0.0
EVGW	**Everett Gatewa**	**0.08**	**271**		Pb	07 46 49.9	-0.1
EVGW					Sb	07 46 54.0	+0.7
LEOT	**Leota Junior H**	**0.10**	**213**		Pb	07 46 50.2	+0.2
LEOT					Sb	07 46 54.7	+1.2
EARN	**East Ridge Ele**	**0.11**	**182**		Pb	07 46 50.2	+0.1
EARN					Sb	07 46 54.7	+1.1
NIHS	**Ingelmoor High**	**0.17**	**229**		Pb	07 46 51.0	+0.4
BEVT	**Boeing Everett**	**0.17**	**293**		Pb	07 46 51.0	+0.3
LYNC	**Lynnwood City**	**0.18**	**261**		Pb	07 46 50.9	+0.2
HTW	**Haystack Looko**	**0.19**	**105**		Pb	07 46 50.5	-0.4
FINN	**Finn Hill Juni**	**0.19**	**225**		Sb	07 46 56.9	+2.1
BRKS	**Brookside Elem**	**0.20**	**241**		Sb	07 46 56.5	+1.5
MARYW	**Marymoor Park**	**0.20**	**197**		Pb	07 46 51.4	+0.4
NOWS	**NOAA--Sand Poi**	**0.22**	**222**		Pb	07 46 51.8	+0.6
NOWS					Sb	07 46 58.0	+2.5
C05A	**Tolt Reservoir**	**0.28**	**124**		Pb	07 46 51.5	-0.6
C05A					Sb	07 46 56.3	-0.5
TTW	**Tolt Reservoir**	**0.28**	**124**		Pb	07 46 51.5	-0.5
TTW					Sb	07 46 56.4	-0.4
SWID	**South Whidbey**	**0.30**	**302**		Pb	07 46 52.1	-0.1
SWID					Sn	07 46 58.3	-0.8
SP2	**Seward Park 2**	**0.33**	**206**		Pb	07 46 52.9	+0.2
JCW	**Jim Creek**	**0.35**	**12**		Pb	07 46 52.5	-0.5
JCW					Sb	07 46 58.1	-0.4
ELW	**Echo Lake**	**0.38**	**163**		Pb	07 46 53.0	-0.4
ELW					Sb	07 46 59.3	+0.3
B05A	**Bryant**	**0.41**	**354**		Pb	07 46 53.2	-0.8
B05A					Sb	07 46 59.5	-0.5
KINR	**Kitsap County**	**0.42**	**256**		Pb	07 46 54.0	-0.1
KINR					Sn	07 47 01.4	-0.7
CDMR	**Cedar Moraine**	**0.47**	**156**		Pb	07 46 54.3	-0.5
CDMR					Sb	07 47 01.6	0.0
RAW	**Raver**	**0.52**	**172**		Pb	07 46 55.2	-0.4
B013	**Quilcene**	**0.59**	**267**		Pb	07 46 55.6	-1.3
GMW	**Gold Mountain**	**0.59**	**239**		Pb	07 46 55.7	-1.1
SVOH	**Skagit Valley**	**0.59**	**318**		Pb	07 46 55.9	-1.0
GNW	**Green Mountain**	**0.61**	**242**		Pb	07 46 55.9	-1.2
GNW					Sb	07 47 04.2	-1.1
C04A	**Brinnon**	**0.65**	**258**		Pb	07 46 56.4	-1.4
C04A					Sb	07 47 05.2	-1.2
BLN	**Blyn Mountain**	**0.65**	**284**		Pb	07 46 56.5	-1.3
GPW	**Glacier Peak**	**0.66**	**66**		Pb	07 46 57.5	-0.7
D05A	**Enumclaw**	**0.67**	**177**		Pb	07 46 57.7	-0.4
D05A				IAML		07 47 07.8	
	comp=N,134nm,0.4s						
RPW	**Rockport**	**0.69**	**30**		Pb	07 46 57.9	-0.7
RPW					Sb	07 47 07.4	-0.4
SQM	**Sequim**	**0.72**	**288**		Pb	07 46 58.0	-0.9
WRW	**Wenatchee Ridg**	**0.78**	**89**		Pb	07 46 59.1	-0.9
GHW	**Garrison Hill**	**0.83**	**191**		Pb	07 47 00.2	-0.6
D04E	**Lakebay**	**0.84**	**217**		Pn	07 47 00.9	0.0
B941	**Kapowsin**	**0.88**	**188**		Pn	07 47 00.2	-1.3
PCFR	**Pierce County**	**0.91**	**198**		Pn	07 47 01.1	-0.7
RVC	**Mount Rainier-**	**0.91**	**177**		Pn	07 47 01.2	-0.8
MBW	**Mount Baker**	**0.94**	**5**		Pn	07 47 02.0	-0.5
FMW	**Mount Fremont**	**0.95**	**165**		Pn	07 47 01.8	-1.0
FMW					Sb	07 47 14.6	-0.8
UWFH	**University of**	**0.95**	**317**		Pn	07 47 01.3	-1.2
OBSR	**Observation Ro**	**0.96**	**171**		Pn	07 47 02.3	-0.7
A04D	**Lummi Island**	**0.98**	**333**	Pn	Pn	07 47 01.0	-1.8
A04D				IAML		07 47 16.5	
	comp=N,64nm,0.3s						
A04D				IAML		07 47 19.4	
	comp=E,73nm,0.3s						
MCW	**Mount Constitu**	**0.98**	**328**		Pb	07 47 02.1	-1.0
RCS	**Mount Rainier-**	**1.00**	**168**		Pn	07 47 03.0	-0.5
B04A	**Port Angeles**	**1.01**	**282**		Pn	07 47 01.9	-1.4
SLFW	**Sugar Loaf**	**1.02**	**95**		Pn	07 47 03.3	-0.3
PANH	**Panhandle Gap,**	**1.03**	**165**		Pn	07 47 03.1	-0.7
VGZ	**Gonzales**	**1.03**	**304**		Pn	07 47 01.9	-1.7
RCM	**Mount Rainier-**	**1.04**	**168**		Pn	07 47 03.4	-0.6
REMR	**Mount Rainier-**	**1.04**	**173**		Pn	07 47 03.4	-0.5
LTY	**Liberty**	**1.10**	**122**	Pn	Pn	07 47 04.1	-0.5
LTY				IAML		07 47 20.6	
	comp=E,64nm,0.3s						
LTY				IAML		07 47 21.2	
	comp=N,58nm,0.3s						
LON	**Longmire**	**1.11**	**172**		Pb	07 47 04.4	-0.4
LON	**Longmire**	**1.11**	**172**	Pn	Pn	07 47 04.4	-0.4
LON				IAML		07 47 19.2	
	comp=E,200nm,0.3s						
LON				IAML		07 47 19.9	
	comp=N,75nm,0.1s						
OSD	**Olympics--Snow**	**1.12**	**269**		Pn	07 47 04.8	-0.3
STW	**Striped Peak**	**1.14**	**286**		Pn	07 47 04.0	-1.1
NLW	**Nelson Butte**	**1.16**	**78**		Pn	07 47 06.0	+0.4
ETW	**Entiat**	**1.18**	**102**		Pn	07 47 05.8	+0.1
TBM	**Table Mountain**	**1.19**	**125**		Pb	07 47 06.7	-0.3
SNB	**Saturna Island**	**1.20**	**321**		Pn	07 47 05.7	-0.2
B011	**North Saanich**	**1.24**	**311**		Pn	07 47 05.4	-1.0
PGC	**Sidney**	**1.24**	**311**	Pn	Pn	07 47 05.6	-0.8
PGC				IAML		07 47 22.7	
	comp=N,58nm,0.2s						
PGC				IAML		07 47 24.3	
	comp=E,77nm,0.5s						
OLQ	**Olympics--Lake**	**1.25**	**255**		Pn	07 47 06.9	+0.4
NLWA	**Neilton Lookou**	**1.32**	**250**	Pn	Pn	07 47 07.6	-0.1
CBSW	**Chelan Butte S**	**1.34**	**91**		Pb	07 47 08.9	-0.7
EBG	**Ellensburg**	**1.37**	**133**		Pb	07 47 09.9	-0.2
SYMB	**Survey Mountai**	**1.38**	**302**		Pn	07 47 07.3	-1.1
NAC	**Naches**	**1.39**	**143**		Pb	07 47 09.6	-0.8
WTV	**Waterville**	**1.41**	**95**		Pb	07 47 10.2	-0.6
P403	**Sandy Floe Qua**	**1.43**	**279**		Pb	07 47 11.0	0.0
B201	**Coldwater, Mou**	**1.56**	**186**		Pn	07 47 11.6	+0.7
JRO	**Jston Ridge Ob**	**1.58**	**185**	Pn	Pn	07 47 12.0	+0.7
JRO				IAML		07 47 34.1	
	comp=N,59nm,0.3s						
STD	**Studebaker Rid**	**1.62**	**185**		Pn	07 47 12.9	+1.0
FL2	**Flat Top 2**	**1.67**	**188**		Pn	07 47 13.6	+1.0
YA2	**Yakima**	**1.68**	**142**		Pb	07 47 14.4	-0.8
SWF2	**Southwest Flan**	**1.68**	**184**		Pb	07 47 14.0	-1.3
B203	**Quarry, Mount**	**1.70**	**187**		Pb	07 47 14.2	-1.3
CLRS	**Cowichan Lake**	**1.70**	**305**	Pn	Pn	07 47 12.2	-0.6
JLK	**June Lake**	**1.71**	**183**		Pb	07 47 14.6	-1.2
CDFW	**Cedar Flats**	**1.74**	**180**		Pb	07 47 15.3	-1.0
MXC	**Moxie City**	**1.74**	**136**	Pn	Pn	07 47 14.5	+1.1
MXC				IAML		07 47 39.3	
	comp=N,48nm,0.6s						
MXC				IAML		07 47 39.9	
	comp=E,50nm,0.7s						
BVW	**Beverly**	**1.80**	**125**		Pb	07 47 17.3	0.0
TRW	**Toppenish Ridg**	**1.86**	**146**		Pb	07 47 17.4	-1.0
RADR	**Rader Ridge**	**1.87**	**221**	Pn	Pn	07 47 15.6	+0.4
RADR				IAML		07 47 46.2	
	comp=E,22nm,1.4s						
RADR				IAML		07 48 11.1	
	comp=N,22nm,1.6s						
B023	**Clatskanie**	**1.88**	**203**		Pn	07 47 16.6	+1.3
NLLB	**Nanaimo Lost L**	**1.89**	**317**		Pn	07 47 15.9	+0.4
E07A	**Sunnyside**	**1.97**	**130**	Pn	Pn	07 47 16.9	+0.3
E07A				IAML		07 47 47.2	
	comp=E,40nm,0.7s						
LOCW	**Locke Island**	**2.10**	**122**		Pb	07 47 23.1	+0.6
SHB	**Sechelt**	**2.13**	**326**		Pn	07 47 19.5	+0.7
SNIWA	**Snively Ranch**	**2.13**	**130**		Pn	07 47 19.8	+1.0
HAWA	**Hanford**	**2.25**	**130**	Pn	Pn	07 47 20.4	0.0
HAWA				IAML		07 47 54.5	
	comp=E,14nm,0.5s						
OD2	**Odessa Site #2**	**2.29**	**100**		Pn	07 47 20.4	-0.6
B927	**Port Alberni**	**2.30**	**308**		Pn	07 47 22.6	+1.6
B022	**Seaside**	**2.30**	**215**		Pn	07 47 17.4	-3.6
C09A	**Chrisman Ranch**	**2.53**	**90**	Pn	Pn	07 47 23.9	-0.4
HEBO	**Mount Hebo**	**2.89**	**205**	Pn	Pn	07 47 29.6	+0.3
LNOR	**Lincton Mounta**	**3.25**	**126**	Pn	Pn	07 47 34.2	0.0
NEW	**Newport**	**3.32**	**81**	Pn	Pn	07 47 34.8	-0.3
BMO	**Blue Mountains**	**4.44**	**131**	Pn	Pn	07 47 47.8	-2.8
BMO				IAML		07 49 29.1	
	comp=E,2.6nm,3.6s						
BMO				IAML		07 49 35.0	
	comp=E,3.0nm,4.3s						

*IDC **16** 07:49:54.2±5.0, 5°.68S×107°.53E, h123km±38km, mb3.3/3, mbtmp3.7/3, Error ellipse: s-maj=121.8km s-min=67.6km az=64.0*
*DJA **16** 07:49:56.0±0.4, 7°.5±6°×107°.7E±°, h117km±3km, M3.7/13, MLv3.7/13*
ISC 16 07:49:55.8±1.0, 7°.1S±0°.1×106°.71E±0°.06, h128km±7km, n15, σ0s55/23, mb3.2/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.16**	**295**	P	Pn	07 50 13.3	-0.1
SKJI				S	Sn	07 50 26.5	-0.1
CNJI	**Cibinong**	**0.48**	**119**	P	Pn	07 50 14.1	-0.5
CNJI				S	Sn	07 50 28.2	-0.5
DBJI	**Dramaga**	**0.52**	**5**	P	Pn	07 50 14.8	-0.1
DBJI				S	Sn	07 50 29.4	+0.2
LEM	**Lembang**	**0.94**	**75**	P	Pn	07 50 18.4	+0.2
	469nm,0.4s,baz=350,slow=17,SNR=60						
LEM				S	Sn	07 50 36.2	+1.1
	183nm,0.6s,baz=298,slow=13,SNR=6.9						
LEM	**Lembang**	**0.94**	**75**	P	Pn	07 50 18.7	+0.5
CGJI	**Cibinong**	**1.10**	**294**	P	Pn	07 50 19.6	0.0
CGJI				S	Sn	07 50 36.9	-0.7
SBJI	**Serang**	**1.11**	**329**	P	Pn	07 50 19.5	-0.1
SBJI				S	Sn	07 50 37.4	-0.3
JCJI	**Jatiwangi**	**1.66**	**70**	P	Pn	07 50 24.3	-1.3
KASI	**Kota Agung**	**2.68**	**305**	P	Pn	07 50 38.3	0.0
KASI				S	Sn	07 51 10.3	-0.7
UGM	**Wanagama**	**3.88**	**103**	P	Pn	07 50 53.6	-0.3
UGM				S	Sn	07 51 36.6	-0.4
PCJI	**Pacitan**	**4.57**	**104**	P	Pn	07 51 02.9	-0.2
MNAI	**Manna**	**4.60**	**306**	P	Pn	07 51 03.8	+0.2
WRA	**Warramunga Arr**	**29.70**	**118**	P	P	07 55 49.8	-0.1
	0.2nm,0.5s,baz=307,slow=8.5,SNR=6.4 0.2nm,0.5s						
ASAR	**Alice Springs**	**30.88**	**125**	P	P	07 56 00.2	-0.1
	0.3nm,0.5s,baz=294,slow=7.4,SNR=5.5 0.3nm,0.5s						
STKA	**Stephens Creek**	**40.81**	**132**	P	P	07 57 25.6	+0.7
	1.1nm,0.3s,baz=307,slow=7.8,SNR=7.7 1.1nm,0.3s						

*CATAC **16** 07:53:46.9±0.6, 13°.5±8°.9W±°, h32km±6km, M3.1/14, MLv3.1/14, Error ellipse: s-maj=10.3km s-min=5.7km az=22.1, confirmed*
*SNET **16** 07:53:47.1±0.8, 12°.98N×88°.97W, h33km±2km, ML3.0*
*GCG **16** 07:53:47.7±1.0, 13°.02N×88°.99W, h36km±426km, MD3.6, MW2.2*
ISC 16 07:53:45.0±2.1, 12°.9N±0°.1×89°.00W±0°.05, h22km±6km, n46, σ0s43/53, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.60**	**44**	P	Pn	07 53 59.6	+1.3
ALJI	**Alcalda de J**	**0.60**	**44**	S	Sn	07 54 08.8	+1.4
LALI	**Alcalda de L**	**0.67**	**332**	P	Pn	07 53 59.9	+0.7
TECO	**Alcaldia de Te**	**0.68**	**18**	eP	Pn	07 53 59.1	-0.2
TECO				eS	Sn	07 54 08.2	-1.0
TECO	**Alcaldia de Te**	**0.68**	**18**	P	Pn	07 53 59.3	-0.1
LFRS	**El Faro**	**0.73**	**355**	eP	Pn	07 54 00.2	+0.1
COEG	**Centro de Oper**	**0.73**	**9**	eS	Sb	07 54 09.6	+0.8
COEG				IAML		07 54 14.4	
	comp=Z,649nm,0.4s						
COEG	**Centro de Oper**	**0.73**	**9**	P	Pn	07 54 00.1	-0.1
COEG	**Centro de Oper**	**0.73**	**9**	S	Sn	07 54 10.3	-0.5
LOMA	**Loma Larga**	**0.77**	**348**	eP	Pn	07 54 00.8	+0.2
LOMA	**Loma Larga**	**0.77**	**348**	P	Pn	07 54 00.9	+0.2
LOMA	**Loma Larga**	**0.77**	**348**	S	Sn	07 54 11.3	-0.3
UESV	**Universidad de**	**0.77**	**16**	eP	Pn	07 54 00.6	0.0
UESV	**Universidad de**	**0.77**	**16**	S	Sn	07 54 11.4	-0.2
UESV	**Universidad de**	**0.77**	**16**	P	Pn	07 54 00.6	0.0
TECA	**Tecapa**	**0.77**	**39**	eP	Pn	07 54 00.7	0.0
PAVA	**Las Pavas**	**0.82**	**4**	i P	Pn	07 54 01.4	+0.1
PAVA				eS	Sn	07 54 12.6	-0.3
PAVA				IAML		07 54 13.6	
	comp=Z,847nm,0.2s						
PAVA	**Las Pavas**	**0.82**	**4**	P	Pn	07 54 01.4	+0.1
UTEC	**Universidad Te**	**0.83**	**346**	S	Sn	07 54 12.8	-0.3
UTEC	**Universidad Te**	**0.83**	**346**	P	Pn	07 54 01.8	+0.4
PQSS	**Presa 15 de Se**	**0.85**	**30**	eP	Pn	07 54 01.6	+0.1
PQSS				eS	Sn	07 54 13.1	-0.3
PQSS	**Presa 15 de Se**	**0.85**	**30**	P	Pn	07 54 01.7	+0.1
SCLA	**Alcaldia de Sa**	**0.85**	**18**	eP	Pn	07 54 01.8	+0.2
SCLA				eS	Sn	07 54 13.1	-0.4
SCLA	**Alcaldia de Sa**	**0.85**	**18**	P	Pn	07 54 01.9	+0.2
UEES	**Universidad Ev**	**0.85**	**344**	P	Pn	07 54 02.0	+0.2
UEES	**Universidad Ev**	**0.85**	**344**	S	Sn	07 54 13.5	-0.2
LFU	**La Fuente**	**0.86**	**353**	eP	Pn	07 54 01.9	+0.1
PMON	**Piamonte**	**0.87**	**340**	eP	Pn	07 54 02.2	+0.1
PMON	**Piamonte**	**0.87**	**340**	S	Sn	07 54 14.1	-0.1
PMON	**Piamonte**	**0.87**	**340**	P	Pn	07 54 02.3	+0.3
JAYA	**Jayaque - finc**	**0.88**	**330**	eP	Pn	07 54 02.2	+0.1
JAYA				eS	Sb	07 54 13.2	+0.3
JAYA	**Jayaque - finc**	**0.88**	**330**	P	Pn	07 54 02.6	+0.5
JAYA	**Jayaque - finc**	**0.88**	**330**	S	Sn	07 54 14.4	+0.1
SNJE	**San Jose**	**1.14**	**329**	eP	Pb	07 54 06.3	+0.3
LCND	**La Caada**	**1.16**	**69**	eP	Pn	07 54 05.9	0.0
LCND				eP	Pb	07 54 06.2	-0.1
LCND				IAML		07 54 22.3	
	comp=Z,276nm,0.2s						
LCND	**La Caada**	**1.16**	**69**	P	Pn	07 54 05.9	0.0
CNCH	**Conchagua**	**1.20**	**71**	P	Pn	07 54 06.3	-0.3
NUBE	**Las Nubes**	**1.26**	**323**	eP	Pb	07 54 08.0	-0.1
NUBE	**Las Nubes**	**1.26**	**323**	eP	Pb	07 54 08.0	-0.1
NUBE				eS	Sb	07 54 23.2	-0.7
NUBE	**Las Nubes**	**1.26**	**323**	P	Pb	07 54 08.0	-0.1
MTO3	**Montecristo**	**1.54**	**347**	eP	Pn	07 54 11.5	+0.2
MTO3	**Montecristo**	**1.54**	**347**	i P	Pn	07 54 11.5	+0.2
MTO3	**Montecristo**	**1.54**	**347**	P	Pn	07 54 11.3	0.0
MARCA	**Marcala la Paz**	**1.57**	**37**	i P	Pn	07 54 11.5	-0.2
ESQI	**Esquipulas**	**1.69**	**349**	P	Pn	07 54 13.9	+0.5
SARH	**Santa Rosa de**	**1.89**	**7**	eP	Pn	07 54 16.6	+0.5

ASRS 16 07:59:20.0±0.3, 53°.85N×86°.60E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

ASRS 16 08:00:03.0±0.9, 55°.75N×86°.07E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*IDC **16** 08:00:14.4±3.6, 53°.60N×87°.87E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=37.0km s-min=19.3km az=51.0*
ASRS 16 08:00:11.0±1.0, 53°.64N×87°.76E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.77**	**281**	I	I	08 11 29.4	
	baz=99,slow=307,SNR=4.6						
ZALV	**Zalesovo Beam**	**1.77**	**281**	Pn	Pg	08 00 47.4	+2.5
	1.3nm,0.3s,baz=103,slow=15,SNR=5.5						
ZALV				Lg	Lg	08 01 13.1	
	1.5nm,0.3s,baz=101,slow=23,SNR=3.6						
KURBB	**Kurchatov Arra**	**6.43**	**246**	Pn	Pn	08 01 50.9	+3.9
	0.1nm,0.3s,baz=62,slow=14,SNR=1.9 0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.70**	**209**	Pn	Pn	08 02 09.1	+4.8
	0.1nm,0.3s,baz=28,slow=14,SNR=5.4 0.2nm,0.3s						

IDC 16 08:01:48.5±5.1, 51°.76N×159°.67E, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=115.7km s-min=25.9km az=29.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**1.81**	**319**	Pn	Pn	08 02 21.6	+0.7
	2.6nm,0.3s,baz=149,slow=11,SNR=18						
PETK				Sn	Sn	08 02 43.6	-0.9
	1.2nm,0.3s,baz=168,slow=21,SNR=13						
ILAR	**Eielson Array**	**29.95**	**44**	P	P	08 07 58.3	+0.3
	0.4nm,0.8s,baz=248,slow=8.6,SNR=5.3 0.4nm,0.8s						
TXAR	**Lajitas Array**	**71.41**	**66**	P	P	08 13 10.3	-0.3
	0.3nm,0.5s,baz=304,slow=5.8,SNR=6.8 0.3nm,0.5s						

*AZER **16** 08:12:56.9, 41°.31N×46°.09E, h13km, ml3.0*
*MOS **16** 08:12:57.5, 41°.38N×46°.13E, h29km, MPVA3.9*
*DRS **16** 08:12:58.7, 41°.47N×46°.31E, h9km*
ISC 16 08:12:57.8±0.7, 41°.37N±0°.01×46°.11E±0°.02, h12km, n65, σ0s94/123, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKTA	**Zakatala**	**0.47**	**56**	P	Pn	08 13 08.9	-1.5
ZKTA				S	Sb	08 13 16.8	+1.9
QZX	**Qazax, Azerbai**	**0.64**	**241**	P	Pb	08 13 10.6	-0.4
QZX				S	Sb	08 13 19.5	-0.3
GDB	**GEDABAY**	**0.70**	**202**	P	Pg	08 13 11.2	-0.3
GDB				S	Sg	08 13 20.6	-0.2
GANJ	**Ganja**	**0.74**	**167**	P	Pb	08 13 12.1	-0.6
GANJ				S	Sb	08 13 22.4	-0.5
TLTR	**Tlyarata**	**0.75**	**14**	ePG	Pb	08 13 13.1	+0.1
TLTR				eS	Sn	08 13 24.1	-1.8
TLTR				pmax	pmax		
	comp=Z,10.0nm,0.0s						
SEKA	**Sheki**	**0.84**	**101**	P	Pn	08 13 14.6	-0.9
SEKA				S	Sn	08 13 27.0	-0.8
MNGR	**Mingechevir, A**	**0.95**	**129**	P	Pn	08 13 17.1	+0.1
MNGR				S	Sn	08 13 32.0	+1.5
KMKR	**Kumukh**	**1.06**	**44**	ePg	Pn	08 13 18.6	-0.1
KMKR				eSg	Sn	08 13 33.5	0.0
KMKR	**Kumukh**	**1.06**	**44**	ePG	Pn	08 13 18.6	-0.1
KMKR				eS	Sn	08 13 33.5	0.0
KMKR				pmax	pmax		
	comp=Z,78nm,0.2s						
GNBR	**Gunib**	**1.20**	**32**	ePg	Pg	08 13 21.0	+0.1
GNBR				eSg	Sn	08 13 37.2	+0.5
GNBR	**Gunib**	**1.20**	**32**	ePG	Pg	08 13 20.6	-0.3
GNBR				eS	Sn	08 13 37.2	+0.5
GNBR				pmax	pmax		
	comp=Z,23nm,0.7s						
AKT	**Akhty**	**1.23**	**85**	ePg	Pg	08 13 20.7	-0.7
AKT				eSg	Sn	08 13 37.4	0.0
AKT	**Akhty**	**1.23**	**85**	i PG	Pg	08 13 20.7	-0.7
XNZR	**Khunzakh**	**1.25**	**21**	ePg	Pg	08 13 22.2	+0.4
XNZR				eSg	Sn	08 13 39.7	+1.6
HNZR	**Khunzah**	**1.27**	**21**	ePG	Pg	08 13 22.2	0.0
HNZR				eS	Sg	08 13 39.6	+0.9
HNZR				pmax	pmax		
	comp=Z,58nm,0.3s						
BTLR	**Botlikh**	**1.29**	**4**	ePG	Pg	08 13 22.5	-0.2
BTLR				eS	Sg	08 13 40.6	+1.1
BTLR				pmax	pmax		
	comp=Z,66nm,0.2s						
QBL	**Gabala**	**1.37**	**108**	Pn	Pg	08 13 23.6	-0.6
QBL				Sn	Sg	08 13 43.0	+0.9
BRDA	**Brd**	**1.38**	**143**	Pn	Pg	08 13 24.0	-0.3
BRDA				Sn	Sg	08 13 44.2	+2.1
URKR	**Urkarakh**	**1.39**	**55**	ePg	Pg	08 13 23.9	-0.6
URKR				eSg	Sg	08 13 43.3	+0.8
URKR	**Urkarakh**	**1.39**	**55**	ePG	Pg	08 13 23.9	-0.6
URKR				eS	Sg	08 13 43.3	+0.8
ARKR	**Arakani**	**1.39**	**28**	ePg	Pg	08 13 24.5	-0.1
ARKR				eSg	Sg	08 13 43.4	+0.6
ARKR	**Arakani**	**1.39**	**28**	ePG	Pg	08 13 24.5

PQL				Sn		**Sb**	**08 13 58.7**	**+0.5**	
LACR	**Lac**	**1.98**	**318**	*e*Pg		**Pb**	**08 13 32.8**	**-1.1**	
LACR				*e*Sg		**Sb**	**08 13 57.5**	**-1.1**	
LACR	**Lac**	**1.98**	**318**	*e*PN		**Pb**	**08 13 32.8**	**-1.1**	
BLQ	**Beylaqan**	**1.99**	**146**	Pn		**Pb**	**08 13 32.6**	**-1.3**	
BLQ				Sn		**Sb**	**08 13 58.3**	**-0.3**	
SBZ	**Shahbuz**	**2.02**	**192**	Pn		**Pb**	**08 13 33.5**	**-1.1**	
SBZ				Sn		**Sb**	**08 14 00.8**	**+1.1**	
QRD	**Qoradiz**	**2.12**	**154**	Pn		**Pn**	**08 13 34.0**	**+0.9**	
QRD				Sn		**Sb**	**08 14 02.8**	**+0.3**	
SIZA	**Siyzn**	**2.13**	**97**	Pn		**Pb**	**08 13 36.6**	**+0.2**	
SIZA				Sn		**Sg**	**08 14 04.8**	**-1.3**	
IGDI	**IGDIR**	**2.16**	**226**	Pn		**Pb**	**08 13 35.9**	**-0.9**	
IGDI				Sn		**Sb**	**08 14 03.9**	**+0.3**	
ATGJ	**Altiaghaj**	**2.20**	**103**	Pn		**Pb**	**08 13 37.1**	**-0.5**	
ATGJ				Sg		**Sg**	**08 14 08.3**	**-0.1**	
ORD	**Ordubad**	**2.44**	**182**	Pg		**Pb**	**08 13 40.6**	**-1.2**	
ORD				Sg		**Sg**	**08 14 13.9**	**-2.4**	
GLBA	**Clilabad**	**2.75**	**140**	Pn		**Pb**	**08 13 44.0**	**-2.9**	
GLBA				Sn		**Sb**	**08 14 19.5**	**-1.2**	
YRD	**Yardimli**	**2.95**	**146**	Pn		**Pn**	**08 13 46.8**	**+2.1**	
YRD				Sn		**Sn**	**08 14 21.6**	**+1.5**	
LRK	**Lerik**	**3.22**	**147**	Pn		**Pn**	**08 13 49.1**	**+0.7**	
LRK				Sn		**Sn**	**08 14 29.2**	**+2.4**	
KBZ	**Khabaz**	**3.34**	**316**	*e*PN		**Pn**	**08 13 50.1**	**+0.3**	
KBZ				*e*S		**Sn**	**08 14 28.6**	**-0.8**	
SHA1	**Shidzhatmaz**	**3.48**	**314**	*e*Pn		**Pn**	**08 13 52.9**	**+0.9**	
SHA1				*e*Sn		**Sn**	**08 14 33.7**	**+0.6**	
SHA1	**Shidzhatmaz**	**3.48**	**314**	*e*PN		**Pn**	**08 13 52.8**	**+0.9**	
SHA1				*e*S		**Sn**	**08 14 33.7**	**+0.6**	
ASTR	**Astara**	**3.49**	**143**	Pn		**Pb**	**08 13 58.7**	**-0.7**	
ASTR				Sn		**Sn**	**08 14 34.9**	**+1.9**	
SOC	**Sochi**	**5.22**	**297**	*e*PN		**Pn**	**08 14 15.0**	**-0.6**	
SOC				*e*PPP		PPP	08 14 33.9		
SOC				*e*			08 15 16.1		
SOC				MLR		MLR			
	comp=Z,189nm,20.0s								
BRVK	**Borovoye**	**20.05**	**46**	*i* P		Pn	08 17 32.0	-0.3	
BRVK				pmax		pmax			
	comp=Z,6.0nm,3.0s								

*RSNC **16** 08:28:17.0±0.0, 7°N±2°×7°8W±°, h12km±3km, M3.1, mb3.9, ML2.6*
*UPA **16** 08:28:20.5±1.4, 7°16N×78°14W, h70km±88km, ML3.7, MW3.5*
ISC 16 08:28:15.6±1.1**, 7°09N**±0°03×**78°05W**±0°02**, h13**km±8km**, n31**, σ1§**50**/60**, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.25**	**76**	P	**Pg**	**08 28 21.5**	**+0.6**
PTAC				S	**Sg**	**08 28 24.1**	**-0.3**
SOLC	**Bahia Solano**	**1.07**	**143**	P	**Pb**	**08 28 34.6**	**-1.3**
SOLC				S	**Sb**	**08 28 48.9**	**-0.9**
APAC	**Apartado, Choc**	**1.67**	**61**	P	**Pn**	**08 28 45.2**	**+0.6**
APAC				S	**Sg**	**08 29 08.6**	**-0.8**
DBBC	**Dabeiba**	**1.83**	**92**	P	**Pn**	**08 28 46.1**	**-0.8**
DBBC				S	**Sn**	**08 29 07.9**	**-2.1**
ACHO3	**Achotines, Los**	**2.13**	**279**	*e*P	**Pn**	**08 28 52.3**	**+1.3**
ACHO3				AMP		08 28 53.2	
	comp=Z,486nm,0.1s						
ACHO3				*e*S	**Sn**	**08 29 16.5**	**-0.8**
AZU	**Azuero**	**2.31**	**288**	*e*P	**Pn**	**08 28 55.0**	**+1.5**
AZU				*e*S	**Sn**	**08 29 21.8**	**-0.1**
AZU	**Azuero**	**2.31**	**288**	P	**Pn**	**08 28 55.2**	**+1.7**
AZU				S	**Sn**	**08 29 21.5**	**-0.3**
CBOC	**Ciudad Bolivar**	**2.36**	**121**	P	**Pn**	**08 28 52.7**	**-1.6**
CBOC				S	**Sn**	**08 29 22.6**	**-0.7**
UPA	**Univ. de Panam**	**2.39**	**322**	*e*P	**Pn**	**08 28 55.1**	**+0.6**
UPA				*e*S	**Sn**	**08 29 22.8**	**-0.9**
TOSI3	**Tonosi**	**2.39**	**278**	*e*P	**Pn**	**08 28 56.2**	**+1.6**
TOSI3				*e*S	**Sn**	**08 29 22.3**	**-1.5**
LCBC	**Los crdobas,**	**2.42**	**43**	P	**Pn**	**08 28 57.1**	**+2.1**
LCBC				S	**Sb**	**08 29 28.2**	**-0.8**
CHIT3	**Chitre**	**2.50**	**290**	*e*P	**Pn**	**08 28 57.9**	**+1.8**
CHIT3				AMP		08 28 58.2	
	comp=Z,376nm,0.1s						
CHIT3				*e*S	**Sn**	**08 29 25.0**	**-1.4**
UREC	**San Jos de Ur**	**2.58**	**75**	P	**Pn**	**08 28 57.4**	**+0.2**
UREC				S	**Sn**	**08 29 29.6**	**+1.0**
ZANG	**Zanguenga, Cho**	**2.59**	**316**	*e*P	**Pn**	**08 28 58.4**	**+1.2**
ZANG				*e*S	**Sn**	**08 29 28.1**	**-0.5**
HELC	**Santa Helena**	**2.66**	**109**	P	**Pn**	**08 28 58.2**	**-0.4**
HELC				S	**Sn**	**08 29 31.5**	**+0.6**
BCIP	**Isla Barro Col**	**2.72**	**320**	P	**Pn**	**08 28 59.4**	**+0.3**
BCIP				S	**Sn**	**08 29 32.9**	**+1.0**
PLMC	**San Jos del P**	**2.79**	**141**	P	**Pn**	**08 28 58.7**	**-1.4**
PLMC				S	**Sn**	**08 29 36.9**	**+3.2**
CACAO	**El Cacao, Vera**	**2.80**	**275**	*e*P	**Pn**	**08 29 01.3**	**+1.1**
CACAO				*e*S	**Sn**	**08 29 32.0**	**-1.8**
CACAO	**El Cacao, Vera**	**2.80**	**275**	P	**Pn**	**08 29 01.3**	**+1.1**
CACAO				S	**Sn**	**08 29 31.5**	**-2.3**
MALC	**Bahia Malaga**	**3.13**	**167**	P	**Pn**	**08 29 05.5**	**+0.7**
ZARC	**Zaragoza, Cauc**	**3.19**	**83**	P	**Pn**	**08 29 05.9**	**+0.3**
ZARC				S	**Sn**	**08 29 43.4**	**-0.2**
GMAL	**Guarumal, Vera**	**3.23**	**282**	*e*P	**Pn**	**08 29 08.5**	**+2.5**
GMAL				*e*S	**Sn**	**08 29 43.8**	**-0.6**
GMAL	**Guarumal, Vera**	**3.23**	**282**	P	**Pn**	**08 29 08.6**	**+2.5**
GMAL				S	**Sn**	**08 29 45.2**	**+0.8**
GUY2C	**Guyana, Caldas**	**3.25**	**125**	P	**Pn**	**08 29 07.2**	**+0.4**
GUY2C				S	**Sn**	**08 29 49.4**	**+3.8**
PTBC	**PUERTO BERRIO,**	**3.61**	**98**	P	**Pn**	**08 29 11.4**	**0.0**
PTBC				S	**Sn**	**08 29 57.9**	**+4.0**
SJCC	**San Jacinto, C**	**3.98**	**45**	P	**Pn**	**08 29 16.8**	**+0.3**
SJCC				S	**Sn**	**08 30 02.3**	**-0.9**
POPC	**Popayan, Colom**	**4.72**	**163**	P	**Pn**	**08 29 28.6**	**+1.8**
POPC				S	**Sn**	**08 30 19.7**	**-1.9**
OCAC	**Ocana**	**4.83**	**76**	P	**Pn**	**08 29 29.6**	**+1.4**
OCAC				S	**Sn**	**08 30 23.7**	**-0.5**
BARC	**Barichara**	**4.86**	**95**	P	**Pn**	**08 29 29.8**	**+1.1**
BARC				S	**Sn**	**08 30 26.1**	**+1.1**
RUSC	**La Rusia**	**5.08**	**103**	P	**Pn**	**08 29 33.4**	**+1.5**
	comp=Z,1.1nm,0.9s						
BBAC	**Balboa, Cauca**	**5.09**	**171**	P	**Pn**	**08 29 33.5**	**+1.6**
	comp=Z,4.7nm,0.6s						
BBAC				S	**Sn**	**08 30 30.7**	**-0.1**
	comp=Z,4.7nm,0.6s						

*HEL **16** 08:28:43.6±0.1, 62°60N×22°42E, h0km, ML1.3, Explosion Hypocentre not reviewed by the ISC*
IDC 16 08:28:44.0±2.6**, 62°62N×22°62E, h0**km**, mbtmp2.4**/2**, ML1.1**/2**, Error ellipse: s-maj=30.4km s-min=8.6km az=58.0, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPF	**Kankaanpaa**	**0.83**	**198**	PG		08 28 57.8	
KEF	**Keuruu**	**1.14**	**113**	PG		08 29 05.4	
KEF				MSG		08 29 20.7	
	comp=Z,2.1nm,0.2s						
KEF				SG		08 29 21.5	
UMAU	**Umeaa**	**1.54**	**326**	PN		08 29 11.6	
	baz=136						
UMAU				SN		08 29 31.5	
SUF	**Sumiainen**	**1.63**	**85**	PG		08 29 14.4	
	baz=271						
SUF				MSG		08 29 34.9	
	comp=Z,1.8nm,0.2s						
SUF				SN		08 29 37.3	
RAF	**Rauma**	**1.66**	**195**	PG		08 29 12.6	
	baz=12						
RAF				MSG		08 29 32.1	
	comp=Z,3.6nm,0.2s						
RAF				SN		08 29 34.4	
KAF	**Kangasniemi**	**1.79**	**105**	PG		08 29 17.3	
	baz=294						
KAF				MSG		08 29 39.3	
	comp=Z,1.8nm,0.2s						
KAF				SG		08 29 41.1	
OUF	**Merijarvi**	**1.99**	**27**	PG		08 29 20.4	
OUF				MSG		08 29 44.5	
	comp=Z,0.7nm,0.2s						
OUF				SG		08 29 47.2	
FIA0	**FINESS Array S**	**2.01**	**124**	PG		08 29 20.9	
	baz=315						
FIA0				MSG		08 29 45.3	
	comp=Z,1.3nm,0.2s						
FIA0				SG		08 29 47.5	
FINES	**FINESS Array B**	**2.01**	**124**	Pn	Pn	08 29 20.2	+1.0
	comp=Z,0.1nm,0.3s,baz=312,slow=15,SNR=1.8						
FINES				Lg	Lg	08 29 47.5	
	comp=Z,1.1nm,0.3s,baz=310,slow=27,SNR=25						
	comp=Z,1.2nm,0.7s						
OBF0	**Syolatti, Pyha**	**2.02**	**20**	MSG		08 29 45.0	
	comp=Z,0.8nm,0.2s						
OBF0				SG		08 29 47.7	
NUR	**Nurmijarvi**	**2.33**	**155**	MSG		08 29 53.3	
	comp=Z,1.3nm,0.2s						
NUR				SG		08 29 57.0	
NIF	**Nilsia**	**2.49**	**70**	SB		08 30 00.1	
MEF	**Metsahovi**	**2.56**	**160**	MSG		08 29 59.5	
	comp=Z,1.8nm,0.2s						
MEF				SG		08 30 02.2	
MSF	**Maaselka**	**4.33**	**37**	PG		08 30 01.0	
VSU	**Vasula**	**4.64**	**152**	SG		08 31 04.7	
I37NO	**I37NO**	**6.68**	**348**	I	I	09 08 30.0	
	baz=166,slow=324,SNR=2.5						
ARCES	**ARCESS Array B**	**7.04**	**8**	Pn	Pn	08 30 27.3	-0.9
	baz=186,slow=10,SNR=1.5						
ARCES				Sn	Sn	08 31 44.6	-4.3
	baz=198,slow=23,SNR=2.7						
	comp=Z,0.8nm,0.9s						

*CATAC **16** 08:59:57.6±1.3, 7°N±4°×7°8W±°, h18km±10km, M3.7/7, mb3.9/1, MLv3.6/7, Error ellipse: s-maj=9.7km s-min=5.4km az=32.9, confirmed*
*RSNC **16** 08:59:57.4±0.0, 7°N±2°×7°8W±°, h9km±3km, M3.1, mb3.9, ML2.7*
*UPA **16** 09:00:00.5±0.9, 6°96N×78°23W, h20km±19km, ML3.5, MW3.5*
ISC 16 08:59:56.2±1.2**, 7°05N**±0°03×**78°04W**±0°02**, h12**km±8km**, n34**, σ1§**37**/64**, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.25**	**68**	P	**Pg**	**09 01 01.9**	**+0.4**
PTAC				S	**Sg**	**09 00 04.6**	**-0.4**
SOLC	**Bahia Solano**	**1.03**	**142**	S	**Pb**	**09 00 15.7**	**-0.4**
SOLC				S	**Sb**	**09 00 29.1**	**-0.6**
APAC	**Apartado, Choc**	**1.68**	**60**	P	**Pn**	**09 00 25.7**	**+0.2**
APAC				S	**Sb**	**09 00 48.8**	**+0.6**
DBBC	**Dabeiba**	**1.82**	**91**	P	**Pn**	**09 00 26.5**	**-1.0**
DBBC				S	**Sn**	**09 00 50.2**	**-0.4**
ACHO3	**Achotines, Los**	**2.14**	**280**	*e*P	**Pn**	**09 00 32.1**	**+0.2**
ACHO3				*e*S	**Sn**	**09 00 56.3**	**-2.2**
AZU	**Azuero**	**2.33**	**288**	*e*P	**Pn**	**09 00 35.9**	**+1.4**
AZU				*e*S	**Sn**	**09 01 02.2**	**-0.9**
AZU	**Azuero**	**2.33**	**288**	P	**Pn**	**09 00 35.6**	**+1.1**
AZU				S	**Sn**	**09 01 02.1**	**-1.0**
CBOC	**Ciudad Bolivar**	**2.34**	**120**	P	**Pn**	**09 00 33.2**	**-1.5**
CBOC				S	**Sn**	**09 01 01.0**	**-2.5**
TOSI3	**Tonosi**	**2.41**	**279**	*e*P	**Pn**	**09 00 36.0**	**+0.5**
TOSI3				*e*S	**Sn**	**09 01 03.2**	**-1.7**
UPA	**Univ. de Panam**	**2.42**	**322**	*e*P	**Pn**	**09 00 38.5**	**-1.3**
UPA				*e*S	**Sn**	**09 01 06.9**	**+1.6**
LCBC	**Los crdobas,**	**2.44**	**43**	P	**Pn**	**09 00 37.7**	**+1.7**
LCBC				S	**Sb**	**09 01 10.8**	**+0.5**
CHOR3	**La Chorrera**	**2.50**	**317**	*e*P	**Pn**	**09 00 37.8**	**+0.9**
CHOR3				*e*S	**Sn**	**09 01 08.2**	**+0.8**
CHIT3	**Chitre**	**2.52**	**291**	*e*P	**Pn**	**09 00 38.6**	**+1.6**
CHIT3				AMP		09 00 39.1	
	comp=Z,270nm,0.1s						
CHIT3				*e*S	**Sn**	**09 01 06.8**	**-1.0**
UREC	**San Jos de Ur**	**2.58**	**74**	P	**Pn**	**09 00 38.1**	**+0.1**
UREC				S	**Sn**	**09 01 10.3**	**+0.9**
ZANG	**Zanguenga, Cho**	**2.62**	**316**	*e*P	**Pn**	**09 00 40.5**	**+2.1**
ZANG				*e*S	**Sn**	**09 01 11.6**	**+1.5**
HELC	**Santa Helena**	**2.64**	**109**	P	**Pn**	**09 00 38.9**	**-0.2**
HELC				S	**Sn**	**09 01 12.8**	**+1.5**
HELC	**Santa Helena**	**2.64**	**109**	P	**Pn**	**09 00 38.9**	**-0.2**
HELC				S	**Sn**	**09 01 12.0**	**+0.7**
BCIP	**Isla Barro Col**	**2.75**	**320**	P	**Pn**	**09 00 40.3**	**+0.1**
BCIP				S	**Sn**	**09 01 14.4**	**+0.9**
BCIP	**Isla Barro Col**	**2.75**	**320**	P	**Pn**	**09 00 40.6**	**+0.3**
BCIP				S	**Sn**	**09 01 13.9**	**+0.4**
PLMC	**San Jos del P**	**2.76**	**141**	P	**Pn**	**09 00 42.2**	**+1.7**
CACAO	**El Cacao, Vera**	**2.81**	**276**	*e*P	**Pn**	**09 00 41.6**	**+0.5**
CACAO				*e*S	**Sn**	**09 01 12.5**	**-2.5**
MALC	**Bahia Malaga**	**3.10**	**167**	P	**Pn**	**09 00 46.7**	**+1.6**
ZARC	**Zaragoza, Cauc**	**3.19**	**82**	P	**Pn**	**09 00 46.3**	**0.0**
ZARC				S	**Sn**	**09 01 24.1**	**-0.2**
GUY2C	**Guyana, Caldas**	**3.22**	**124**	P	**Pn**	**09 00 47.7**	**+0.5**
GUY2C				S	**Sb**	**09 01 30.1**	**-3.1**
GMAL	**Guarumal, Vera**	**3.24**	**283**	P	**Pn**	**09 00 49.3**	**+2.3**
GMAL				S	**Sn**	**09 01 25.9**	**+0.3**
PTBC	**PUERTO BERRIO,**	**3.60**	**98**	P	**Pn**	**09 00 51.8**	**-0.1**
PTBC				S	**Sn**	**09 01 29.8**	**+4.1**
SJCC	**San Jacinto, C**	**4.00**	**45**	P	**Pn**	**09 00 58.2**	**+0.7**
SJCC				S	**Sn**	**09 01 42.8**	**-1.7**
SJCC	**San Jacinto, C**	**4.00**	**45**	P	**Pn**	**09 00 57.6**	**+0.1**
SJCC				S	**Sn**	**09 01 43.5**	**-0.9**
POPC	**Popayan, Colom**	**4.69**	**163**	P	**Pn**	**09 01 09.0**	**+1.9**
POPC				S	**Sn**	**09 02 02.6**	**+1.0**
OCAC	**Ocana**	**4.83**	**76**	P	**Pn**	**09 01 09.6**	**+0.6**
OCAC				S	**Sn**	**09 02 03.6**	**-1.4**
BARC	**Barichara**	**4.85**	**95**	P	**Pn**	**09 01 10.5**	**+1.2**
BARC				S	**Sn**	**09 02 06.6**	**+1.0**
BBAC	**Balboa, Cauca**	**5.06**	**171**	P	**Pn**	**09 01 14.1**	**+1.8**
	comp=Z,4.2nm,0.8s						
BBAC				S	**Sn**	**09 02 10.9**	**+0.1**
	comp=Z,4.2nm,0.8s						
RUSC	**La Rusia**	**5.06**	**103**	P	**Pn**	**09 01 14.3**	**+1.8**
RUSC	**La Rusia**	**5.06**	**103**	P	**Pn**	**09 01 13.6**	**+1.1**
	comp=Z,13nm,1.0s						

*NEIC **16** 09:09:36.3±1.1, 47°88N±0°03×122°07W±0°04, h31km±2km, Error ellipse: s-maj=4.1km s-min=3.6km az=73.0*
SEA 16 09:09:36.8±1.8**, 47°86N**±0°02×**122°04W**±0°04**, h28**km±6km**, ML1.7**/10**, ML1.7**/38(NEIC)**, Error ellipse: s-maj=4.0km s-min=2.8km az=57.0, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLH	**Bald Hill**	**0.02**	**162**		Pb	09 09 41.3	-0.3
EVGW	**Everett Gatewa**	**0.08**	**267**		Pb	09 09 41.7	-0.1
EVGW					Sb	09 09 45.8	+0.7
LEOT	**Leota Junior H**	**0.10**	**209**		Pb	09 09 42.1	+0.2
LEOT					Sb	09 09 46.6	+1.2
EARN	**East Ridge Ele**	**0.12**	**179**		Sb	09 09 46.7	+1.1
NIHS	**Ingelmoor High**	**0.17**	**226**		Pb	09 09 42.8	+0.4
NIHS					Sb	09 09 48.5	+2.2
HTW	**Haystack Looko**	**0.19**	**106**		Pb	09 09 42.4	-0.4
HTW					Sb	09 09 46.5	-0.4
SWID	**South Whidbey**	**0.29**	**301**		Pb	09 09 43.9	-0.1
SWID					Sn	09 09 49.9	-0.6
SP2	**Seward Park 2**	**0.33**	**205**		Pb	09 09 44.9	+0.3
JCW	**Jim Creek**	**0.34**	**13**		Pb	09 09 44.3	-0.5
JCW					Sb	09 09 49.8	-0.4
ELW	**Echo Lake**	**0.38**	**162**		Pb	09 09 44.9	-0.4
ELW					Sb	09 09 51.2	+0.2
B05A	**Bryant**	**0.41**	**355**		Pb	09 09 44.9	-0.8
B05A					Sb	09 09 51.3	-0.4
SVOH	**Skagit Valley**	**0.59**	**318**		Pb	09 09 47.6	-0.9
B013	**Quilcene**	**0.59**	**266**		Pb	09 09 47.3	-1.3
B013					Sb	09 09 55.4	-1.2
B013	**Quilcene**	**0.59**	**266**		Pb	09 09 47.3	-1.3
GMW	**Gold Mountain**	**0.59**	**239**		Pb	09 09 47.6	-1.0
GNW	**Green Mountain**	**0.60**	**241**		Pb	09 09 47.8	-1.1
GNW					Sb	09 09 56.1	-1.0
GNW				IAML		09 09 56.5	
	comp=E,28nm,0.2s						
GPW	**Glacier Peak**	**0.66**	**66**		Pb	09 09 49.8	-0.2
D05A	**Enumclaw**	**0.67**	**177**		Pb	09 09 49.5	-0.4
D05A				IAML		09 09 60.0	
	comp=N,21nm,0.4s						
RPW	**Rockport**	**0.69**	**31**		Pb	09 09 49.7	-0.7
RPW					Sb	09 09 59.1	-0.5
SQM	**Sequim**	**0.71**	**288**		Pb	09 09 49.8	-0.8
WRW	**Wenatchee Ridg**	**0.78**	**90**		Pb	09 09 51.0	-0.9
B941	**Kapowsin**	**0.88**	**188**		Pn	09 09 52.1	-1.1
RVC	**Mount Rainier-**	**0.92**	**177**		Pn	09 09 53.1	-0.7
RVC					Sb	09 10 05.5	-0.5
MBW	**Mount Baker**	**0.93**	**6**		Pn	09 09 53.7	-0.5
UWFH	**University of**	**0.95**	**317**		Pn	09 09 53.0	-1.1
FMW	**Mount Fremont**	**0.96**	**165**		Pn	09 09 53.6	-1.0
A04D	**Lummi Island**	**0.97**	**333**	Pn	Pn	09 09 53.9	-0.6
A04D				IAML		09 10 10.5	
	comp=E,30nm,1.1s						
A04D				IAML		09 10 21.8	
	comp=N,22nm,0.8s						
OBSR	**Observation Ro**	**0.97**	**171**		Pn	09 09 54.2	-0.6
MCW	**Mount Constitu**	**0.98**	**328**		Pn	09 09 53.8	-0.9
B04A	**Port Angeles**	**1.00**	**282**		Pn	09 09 53.8	-1.2
B04A	**Port Angeles**	**1.00**	**282**	Pn	Pn	09 09 53.8	-1.2
B04A				IAML		09 10 07.5	
	comp=E,15nm,0.3s						
B04A				IAML		09 10 07.9	
	comp=N,16nm,0.4s						
RCS	**Mount Rainier-**	**1.01**	**168**		Pn	09 09 54.8	-0.5
VGZ	**Gonzales**	**1.02**	**303**		Pn	09 09 53.9	-1.4
PANH	**Panhandle Gap,**	**1.04**	**165**		Pn	09 09 55.0	-0.7
RCM	**Mount Rainier-**	**1.04**	**168**		Pn	09 09 55.3	-0.6
REMR	**Mount Rainier-**	**1.05**	**172**		Pn	09 09 55.3	-0.4
LTY	**Liberty**	**1.11**	**122**		Pn	09 09 56.6	+0.1
LTY				IAML		09 10 11.5	
	comp=N,13nm,0.4s						
LON	**Longmire**	**1.12**	**172**		Pn	09 09 56.3	-0.3
LON	**Longmire**	**1.12**	**172**		Pn	09 09 56.2	-0.4
LON				IAML		09 10 11.2	
	comp=E,14nm,0.2s						
LON				IAML		09 10 13.3	
	comp=N,9.2nm,0.1s						
ETW	**Entiat**	**1.18**	**102**		Pb	09 09 58.2	-0.5
SNB	**Saturna Island**	**1.19**	**321**		Pn	09 09 57.7	+0.2
TBM	**Table Mountain**	**1.20**	**125**		Pb	09 09 58.8	-0.1
B011	**North Saanich**	**1.23**	**311**		Pn	09 09 57.2	-0.8
PGC	**Sidney**	**1.23**	**311**		Pn	09 09 57.3	-0.8
PGC				IAML		09 10 13.5	
	comp=E,13nm,0.2s						
PGC				IAML		09 10 13.5	
	comp=N,17nm,0.2s						
NLWA	**Neilton Lookou**	**1.32**	**250**	Pn	Pn	09 10 00.0	+0.6
SYMB	**Survey Mountai**	**1.37**	**302**		Pn	09 09 59.2	-0.9
EBG	**Ellensburg**	**1.38**	**133**		Pb	09 10 02.1	+0.1
WISH	**Wishkah**	**1.39**	**238**	Pn	Pn	09 10 00.1	-0.1
WISH				IAML		09 10 23.3	
	comp=E,15nm,2.7s						
WISH				IAML		09 10 34.5	
	comp=N,16nm,3.6s						
NAC	**Naches**	**1.40**	**143**		Pb	09 10 01.6	-0.7
B201	**Coldwater, Mou**	**1.56**	**186**		Pn	09 10 03.5	+0.8
STD	**Studebaker Rid**	**1.62**	**184**		Pb	09 10 05.3	-0.9
E03A	**Lebam**	**1.67**	**219**	Pn	Pn	09 10 02.9	-1.2
E03A				IAML		09 10 20.8	
	comp=N,10nm,2.2s						
FL2	**Flat Top 2**	**1.68**	**187**		Pb	09 10 05.8	-1.3
CLRS	**Cowichan Lake**	**1.69**	**305**	Pn	Pn	09 10 03.5	-0.9
C03A	**Quillayute Air**	**1.70**	**274**	Pn	Pn	09 10 03.1	-1.5
MXC	**Moxie City**	**1.75**	**136**	Pn	Pn	09 10 03.6	-1.7
MXC				IAML		09 10 31.4	
	comp=E,7.6nm,0.6s						
MXC				IAML		09 10 31.5	
	comp=N,5.8nm,0.7s						
RADR	**Rader Ridge**	**1.87**	**220**	Pn	Pn	09 10 05.8	-1.2
B08A	**Colville Reser**	**1.88**	**74**	Pn	Pn	09 10 05.8	-1.3
E07A	**Sunnyside**	**1.98**	**130**	Pn	Pn	09 10 06.7	-1.7
E07A				IAML		09 10 38.5	
	comp=E,7.3nm,0.6s						
E07A				IAML		09 10 43.0	
	comp=N,7.9nm,0.4s						
WAH2	**Wahluke Slope**	**2.01**	**122**	Pn	Pn	09 10 08.2	-0.7
WAH2				IAML		09 10 43.1	
	comp=N,6.8nm,0.6s						
F03A	**Seaside**	**2.19**	**209**	Pn	Pn	09 10 10.1	-1.2

*IDC **16** 09:16:06.5±4.9, 21°67S×69°17W, h0km, mb4.1/1, mbtmp4.0/2, ML4.0/1, MS3.7/1, Error ellipse: s-maj=147.4km s-min=57.9km az=79.0*
*GUC **16** 09:16:17.2±0.9, 20°79S×69°72W, h58km±4km, ML3.7*
ISC 16 09:16:15.3±1.0**, 20°79S**±0°04×**69°76W**±0°08**, h69**km±8km**, n25**, σ1§**13**/21**, 3C-4D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.36**	**135**	⇓*i*P	**Pn**	**09 16 27.1**	**+0.1**
PB01				*i* S	**Sn**	**09 16 34.6**	**-0.9**
PB01				IAML		09 16 35.6	
	comp=E,10μm,0.3s						
PATCX	**Punta Patache**	**0.37**	**265**	⇑*i*P	**Pn**	**09 16 27.5**	**+0.5**
PATCX				*i* S	**Sn**	**09 16 35.8**	**+0.3**
TA01	**Diego Aracena**	**0.45**	**299**	⇑*i*P	**Pn**	**09 16 28.1**	**+0.5**
TA01				*i* S	**Sn**	**09 16 36.8**	**+0.3**
TA01				IAML		09 16 37.9	
	comp=E,11μm,0.4s						
PB02	**IPOC Station P**	**0.54**	**193**	⇑*i*P	**Pn**	**09 16 29.4**	**+0.8**
PB02				*i* S	**Sn**	**09 16 38.4**	**-0.1**
PB02				IAML		09 16 39.6	
	comp=E,5μm,0.2s						
TA02	**Huaiquique**	**0.62**	**326**	*i* P	**Pn**	**09 16 29.9**	**+0.7**
PB11	**IPOC Station P**	**1.03**	**6**	⇓*i*P	**Pn**	**09 16 34.7**	**+0.4**
PB11				*i* S	**Sn**	**09 16 48.8**	**+0.4**
PB09	**IPOC Station P**	**1.12**	**154**	⇓*i*P	**Pn**	**09 16 36.7**	**+1.3**
GO01

TOF	**Tornio**	**1.79**	**10**	*e*PB			09 37 23.4		
TOF				*e*SG			09 37 52.4		
TOF				MSG			09 37 54.5		
	comp=Z,1.6nm,0.1s								
SUF	**Sumiainen**	**2.00**	**143**	*e*P			09 37 19.5		
SUF				*e*SG			09 37 45.0		
SUF				MSG			09 37 47.6		
	comp=Z,3.3nm,0.1s								
NIF	**Nilsia**	**2.12**	**114**	*e*PB			09 37 24.6		
NIF				*e*SB			09 37 54.1		
NIF				MSG			09 37 56.9		
	comp=Z,1.3nm,0.1s								
HUSU	**Husum**	**2.15**	**245**	P		**Pb**	**09 37 16.3**	**+1.4**	
HUSU				S		**Sn**	**09 37 38.5**	**+0.1**	
HUSU	**Husum**	**2.15**	**245**	*e*P			09 37 16.0		
HUSU				*e*S			09 37 38.6		
HUSU				MSG			09 37 40.5		
	comp=Z,1.9nm,0.1s								
BREU	**Bredtraesk**	**2.22**	**261**	P		**Pb**	**09 37 18.4**	**+2.5**	
KEF	**Keuruu**	**2.25**	**164**	*e*PB			09 37 20.7		
KEF				*e*SB			09 37 47.0		
KEF				MSG			09 37 50.1		
	comp=Z,2.4nm,0.1s								
KAF	**Kangasniemi**	**2.55**	**149**	*e*PB			09 37 27.6		
KAF				*e*SB			09 37 58.7		
KAF				MSG			09 38 02.0		
	comp=Z,1.7nm,0.1s								
KPF	**Kankaanpaa**	**2.59**	**196**	*e*PB			09 37 23.1		
KPF				*e*SG			09 37 52.2		
KPF				MSG			09 37 54.1		
	comp=Z,1.0nm,0.1s								
HEMU	**Hemsoen**	**2.97**	**239**	P		**Pb**	**09 37 27.4**	**-1.4**	
SOLU	**Sollefteaa**	**2.99**	**252**	P		**Pb**	**09 37 28.0**	**-1.1**	
FINES	**FINESS Array B**	**3.12**	**157**	Pn		**Pg**	**09 37 34.1**	**-1.5**	
	comp=Z,0.2nm,0.3s,baz=334,slow=15,SNR=8.5								
FINES				Sn		**Sb**	**09 38 11.7**	**+2.3**	
	comp=Z,1.0nm,0.3s,baz=337,slow=24,SNR=18								
	comp=Z,1.6nm,0.8s								
I37NO	**I37NO**	**5.15**	**340**	I		I	10 09 09.3		
	baz=160,slow=332,SNR=0.5								
ARCES	**ARCESS Array B**	**5.29**	**8**	Pn		**Pb**	**09 38 09.3**	**+1.0**	
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=5.7								
ARCES				Sn		**Sb**	**09 39 10.7**	**-1.1**	
	comp=Z,0.1nm,0.3s,baz=191,slow=23,SNR=2.0								
ARCES				Lg	Lg		09 39 36.2		
	comp=Z,0.1nm,0.3s,baz=181,slow=32,SNR=5.1								
	comp=Z,0.1nm,0.3s								

*KRNET **16** 09:36:53.9±0.1, 42.°10N×78.°81E, h14km, mb3.8*
*SOME **16** 09:36:54.3, 42.°12N×78.°80E, h25km*
*NNC **16** 09:36:56.1±0.6, 42.°23N×78.°84E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=4.2km s-min=1.7km az=159.0*

ISC 16 09:36:54.8±0.9, 42°09N±0'04×78°83E±0'03, h10km, n85, σ1s63/134, 41C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
PRZ	**Przheval'sk**	**0.51**	**321**	⇓*i*P		**Pg**	**09 37 03.7**	**-1.0**
PRZ				⇓*i*S		**Sg**	**09 37 10.6**	**-0.9**
TARG	**Taragay, Kyrgy**	**0.84**	**245**	⇑*i*P		**Pg**	**09 37 09.8**	**-1.4**
TARG				⇑*i*S		**Sg**	**09 37 21.7**	**-0.6**
SATY	**Saty**	**1.02**	**342**	P		**Pg**	**09 37 12.7**	**-1.7**
	55nm,0.2s							
SATY				S		**Sg**	**09 37 26.0**	**-1.7**
	339nm,0.1s							
SATY	**Saty**	**1.02**	**342**	*e*P		**Pg**	**09 37 12.7**	**-1.7**
SATY				*e*S		**Sg**	**09 37 24.8**	**-2.9**
UZB	**Uzynbulak**	**1.06**	**8**	P		**Pg**	**09 37 13.5**	**-1.9**
	22nm,0.2s							
UZB				S		**Sg**	**09 37 27.2**	**-2.0**
	490nm,0.3s							
UZB	**Uzynbulak**	**1.06**	**8**	*e*P		**Pg**	**09 37 13.5**	**-1.9**
	22nm,0.2s							
UZB				*e*S		**Sg**	**09 37 27.2**	**-2.0**
	490nm,0.3s							
UZB	**Uzynbulak**	**1.06**	**8**	*e*P		**Pg**	**09 37 13.5**	**-1.9**
UZB				*e*S		**Sg**	**09 37 26.2**	**-3.0**
SHLS	**Shalkode**	**1.16**	**23**	P		**Pn**	**09 37 18.7**	**+1.4**
	132nm,0.3s							
SHLS				S		**Sn**	**09 37 36.0**	**+2.7**
	268nm,0.3s							
SHLS	**Shalkode**	**1.16**	**23**	*e*P		**Pn**	**09 37 18.7**	**+1.4**
	132nm,0.3s							
SHLS				*e*S		**Sn**	**09 37 36.0**	**+2.7**
	268nm,0.3s							
SHLS	**Shalkode**	**1.16**	**23**	*e*P		**Pn**	**09 37 18.4**	**+1.1**
SHLS				*e*S		**Sn**	**09 37 34.5**	**+1.2**
KDJ	**Kajisay**	**1.23**	**272**	⇑*i*P		**Pn**	**09 37 16.7**	**-1.6**
KDJ				⇑*i*S		**Sb**	**09 37 33.2**	**-1.0**
PDGK	**Podgornoye**	**1.33**	**21**	⇑P		**Pn**	**09 37 18.3**	**-1.3**
	27nm,0.4s							
PDGK				⇑S		**Sb**	**09 37 35.3**	**-1.8**
	172nm,0.5s							
TNSS	**Tian-Shan**	**1.68**	**305**	P		**Pn**	**09 37 25.1**	**+0.4**
	13nm,0.3s							
TNSS				S		**Sn**	**09 37 47.0**	**+0.5**
	44nm,0.3s							
TNSS	**Tian-Shan**	**1.68**	**305**	*e*P		**Pn**	**09 37 25.1**	**+0.4**
	13nm,0.3s							
TNSS				*e*S		**Sn**	**09 37 47.0**	**+0.5**
	44nm,0.3s							
TNSS	**Tian-Shan**	**1.68**	**305**	*e*P		**Pn**	**09 37 25.0**	**+0.3**
KOTS	**Kotyrbulak**	**1.71**	**313**	P		**Pn**	**09 37 25.6**	**+0.8**
	70nm,0.3s							
KOTS				S		**Sb**	**09 37 48.0**	**0.0**
	474nm,0.3s							
KOTS	**Kotyrbulak**	**1.71**	**313**	*e*P		**Pn**	**09 37 25.6**	**+0.8**
	70nm,0.3s							
KOTS				*e*S		**Sb**	**09 37 48.0**	**0.0**
	474nm,0.3s							
KTMS	**Ketmen**	**1.76**	**39**	P		**Pn**	**09 37 26.3**	**+0.8**
	24nm,0.2s							
KTMS				S		**Sb**	**09 37 49.2**	**-0.3**
	163nm,0.4s							
KTMS	**Ketmen**	**1.76**	**39**	*e*P		**Pn**	**09 37 26.4**	**+0.8**
	24nm,0.2s							
KTMS				*e*S		**Sb**	**09 37 49.2**	**-0.3**
	163nm,0.4s							
KNDC	**Almaty**	**1.78**	**310**	⇑P		**Pb**	**09 37 27.3**	**-0.2**
	38nm,0.2s							
KNDC				⇑S		**Sb**	**09 37 50.6**	**+0.6**
	386nm,0.5s							
AAA	**Alma-Ata**	**1.80**	**309**	P		**Pb**	**09 37 27.1**	**-0.8**
	149nm,0.2s							
AAA				S		**Sb**	**09 37 50.6**	**0.0**
	22nm,0.2s							
AAA	**Alma-Ata**	**1.80**	**309**	*e*P		**Pb**	**09 37 27.1**	**-0.8**
	149nm,0.2s							
AAA				*e*S		**Sb**	**09 37 50.6**	**0.0**
	22nm,0.2s							
AAA	**Alma-Ata**	**1.80**	**309**	*e*P		**Pb**	**09 37 27.6**	**-0.4**
IZV	**Izvestkoviy**	**1.89**	**301**	P		**Pb**	**09 37 29.0**	**-0.6**
	68nm,0.3s							
IZV				S		**Sb**	**09 37 53.8**	**+0.5**
	702nm,0.4s							
IZV	**Izvestkoviy**	**1.89**	**301**	*e*P		**Pb**	**09 37 29.0**	**-0.6**
	68nm,0.3s							
IZV				*e*S		**Sb**	**09 37 53.8**	**+0.5**
	702nm,0.4s							
ULHL	**Ulahol**	**1.93**	**275**	P		**Pb**	**09 37 30.0**	**-0.3**
	SNR=81							
ULHL	**Ulahol**	**1.93**	**275**	⇓*i*P		**Pb**	**09 37 29.3**	**-0.9**
ULHL				⇓*i*S		**Sb**	**09 37 55.1**	**+0.6**
KASK	**Kaskelen**	**1.97**	**306**	⇑S		**Sg**	**09 37 56.8**	**-1.3**
	246nm,0.5s							
BLB	**Baldybastay**	**2.02**	**353**	Pg		**Pb**	**09 37 31.1**	**-0.7**
	744nm,0.2s							
BLB				Lg		Lg	09 37 57.4	
	481nm,0.3s							
MTBS	**Maitube**	**2.05**	**301**	Pg		**Pb**	**09 37 31.7**	**-0.5**
	47nm,0.3s							
MTBS				Lg		Lg	09 37 58.5	
	398nm,0.4s							
MTBS	**Maitube**	**2.05**	**301**	*e*P		**Pb**	**09 37 31.7**	**-0.5**
	47nm,0.3s							
MTBS				*e*S		**Sb**	**09 37 58.5**	**+0.6**
	398nm,0.4s							
BOOM	**Boomskoye usch**	**2.18**	**282**	⇑*i*P		**Pn**	**09 37 32.9**	**+1.6**
BOOM				⇑*i*S		**Sb**	**09 38 01.2**	**-0.4**
NRN	**Naryn**	**2.22**	**254**	⇑*i*P		**Pb**	**09 37 33.8**	**-1.4**
NRN				⇑*i*S		**Sb**	**09 38 02.9**	**+0.1**
CHKK	**Chushkaly**	**2.22**	**323**	Pg		**Pb**	**09 37 34.7**	**-0.4**
	328nm,0.4s							
CHKK				Lg		Lg	09 38 03.8	
	624nm,0.6s							
CHKK	**Chushkaly**	**2.22**	**323**	*e*P		**Pb**	**09 37 34.7**	**-0.4**
CHKK				*e*S		**Sb**	**09 38 03.8**	**+1.1**
	624nm,0.6s							
CHKK	**Chushkaly**	**2.22**	**323**	*e*P		**Pb**	**09 37 34.0**	**-1.0**
ARXS	**Arharly**	**2.25**	**341**	Pg		**Pb**	**09 37 34.6**	**-0.9**
	145nm,0.5s							
ARXS				Lg		Lg	09 38 03.8	
	283nm,0.7s							
ARXS	**Arharly**	**2.25**	**341**	*e*P		**Pb**	**09 37 34.6**	**-0.9**
ARXS				*e*S		**Sb**	**09 38 03.8**	**+0.4**
KTBS	**Karatobe**	**2.26**	**316**	Pg		**Pb**	**09 37 35.8**	**0.0**
	301nm,0.4s							
KTBS				Lg		Lg	09 38 05.5	
	821nm,0.5s							
KNOS	**Konyrlen**	**2.28**	**6**	Pg		**Pb**	**09 37 35.3**	**-0.9**
	53nm,0.2s							
KNOS				Lg		Lg	09 38 04.7	
	288nm,0.3s							
KST	**Kastek**	**2.32**	**295**	Pg		**Pb**	**09 37 36.7**	**-0.1**
	58nm,0.4s							
KST				Lg		Lg	09 38 07.0	
	718nm,0.7s							
KST	**Kastek**	**2.32**	**295**	*e*P		**Pb**	**09 37 36.7**	**-0.1**
	58nm,0.4s							
KST				*e*S		**Sb**	**09 38 07.0**	**+1.3**
	718nm,0.7s							
TKM2	**Tokmak 2**	**2.53**	**290**	P		**Pb**	**09 37 40.0**	**-0.5**
	SNR=44							
TKM2	**Tokmak 2**	**2.53**	**290**	⇑*i*P		**Pn**	**09 37 37.8**	**+1.6**
TKM2				⇑*i*S		**Sb**	**09 38 09.6**	**-2.1**
DGS	**Degeres**	**2.53**	**298**	Pg		**Pb**	**09 37 40.3**	**-0.2**
	69nm,0.5s							
DGS				Lg		Lg	09 38 13.1	
	172nm,0.6s							
KUU	**Kurty**	**2.57**	**315**	Pg		**Pb**	**09 37 40.6**	**-0.4**
	120nm,0.8s							
KUU				Lg		Lg	09 38 13.5	
	336nm,0.3s							
KUU	**Kurty**	**2.57**	**315**	*e*P		**Pb**	**09 37 40.6**	**-0.4**
	120nm,0.8s							
KUU				*e*S		**Sb**	**09 38 13.5**	**+0.9**
	336nm,0.3s							
KUU	**Kurty**	**2.57**	**315**	*e*P		**Pb**	**09 37 39.3**	**-1.7**
TDK	**Taldyqorghan**	**2.93**	**354**	Pg		**Pb**	**09 37 47.1**	**-0.1**
	83nm,0.2s							
TDK				Lg		Lg	09 38 24.5	
	567nm,0.6s							
TDK	**Taldyqorghan**	**2.93**	**354**	*e*P		**Pb**	**09 37 47.1**	**-0.1**
	83nm,0.2s							
TDK				*e*S		**Sb**	**09 38 24.5**	**+1.6**
	567nm,0.6s							
TDK	**Taldyqorghan**	**2.93**	**354**	*e*P		**Pn**	**09 37 43.5**	**+2.1**
KBK	**Karagaybulak**	**2.93**	**282**	P		**Pb**	**09 37 46.0**	**-1.3**
	SNR=17							
KBK	**Karagaybulak**	**2.93**	**282**	⇑*i*P		**Pn**	**09 37 43.2**	**+1.5**
KBK				⇑*i*S		**Sn**	**09 38 19.3**	**+2.3**
CHMS	**Chumysh**	**3.15**	**288**	P		**Pg**	**09 38 32.0**	**+37**
	SNR=7.7							
CHMS	**Chumysh**	**3.15**	**288**	⇑*i*P		**Pn**	**09 37 46.2**	**+1.7**
CHMS				⇑*i*S		**Sn**	**09 38 24.2**	**+2.1**
FRU1	**Bishkek**	**3.19**	**284**	⇑*i*P		**Pn**	**09 37 47.0**	**+1.9**
FRU1				⇑*i*S		**Sn**	**09 38 25.7**	**+2.5**
UCH	**Uchtor**	**3.21**	**274**	P		**Pb**	**09 37 50.5**	**-1.8**
	SNR=51							
UCH	**Uchtor**	**3.21**	**274**	⇑*i*P		**Pn**	**09 37 47.3**	**+1.5**
UCH				⇑*i*S		**Sn**	**09 38 26.4**	**+2.1**
KAPS	**Kapalarasan**	**3.22**	**7**	Pg		**Pb**	**09 37 52.4**	**+0.3**
	30nm,0.3s							
KAPS				Lg		Lg	09 38 34.0	
	433nm,0.3s							
AAK	**Ala-Archa**	**3.26**	**281**	P		**Pb**	**09 37 50.4**	**-2.5**
	SNR=11							
AAK	**Ala-Archa**	**3.26**	**281**	⇓Pn		**Pb**	**09 37 50.4**	**-2.5**
	21nm,0.9s							
AAK				⇑Sn		**Sn**	**09 38 28.9**	**+3.8**
	39nm,0.6s							
AAK	**Ala-Archa**	**3.26**	**281**	⇓*i*P		**Pn**	**09 37 47.8**	**+1.7**
AAK				⇓*i*S		**Sn**	**09 38 27.2**	**+2.1**
SGDS	**Sogindy**	**3.38**	**295**	Pg		**Pb**	**09 37 55.6**	**+0.8**
	12nm,0.4s							
SGDS				Lg		Lg	09 38 39.3	
	141nm,0.7s							
USP	**Ospenovka**	**3.40**	**292**	P		**Sg**	**09 38 42.2**	**-1.9**
	SNR=6.7							
USP	**Ospenovka**	**3.40**	**292**	⇑*i*P		**Pn**	**09 37 49.7**	**+1.7**
USP				⇑*i*S		**Sn**	**09 38 30.3**	**+1.9**
EKS2	**Erkin-Say**	**3.79**	**280**	P		**Pb**	**09 38 02.1**	**+0.3**
	SNR=14							
EKS2	**Erkin-Say**	**3.79**	**280**	⇑*i*P		**Pn**	**09 37 55.1**	**+1.7**
EKS2				⇑*i*S		**Sn**	**09 38 39.7**	**+1.7**
SALK	**Salom-Alik**	**3.95**	**254**	⇑*i*P		**Pn**	**09 37 57.4**	**+1.7**
SALK				⇑*i*S		**Sn**	**09 38 43.9**	**+1.8**
MRKS	**Merke**	**4.20**	**281**	Pg		**Pb**	**09 38 11.6**	**+2.7**
	14nm,0.7s							
MRKS				Lg		Lg	09 39 06.9	
	29nm,0.3s							
MRKS	**Merke**	**4.20**	**281**	*e*P		**Pb**	**09 38 11.6**	**+2.7**
	14nm,0.7s							
MRKS				*e*S		**Sg**	**09 39 06.9**	**-2.8**
	29nm,0.3s							
SFK	**Sufi-Kurgan**	**4.53**	**244**	⇑*i*P		**Pn**	**09 38 05.7**	**+2.0**
SFK				⇑*i*S		**Sn**	**09 38 57.9**	**+1.4**
BTLS	**Baital**	**4.56**	**312**	Pg		**Pb**	**09 38 16.9**	**+2.0**
	7.6nm,0.6s							
BTLS				Lg		Lg	09 39 16.4	
	12nm,0.6s							
BTLS	**Baital**	**4.56**	**312**	*e*P		**Pb**	**09 38 16.9**	**+2.0**
	7.6nm,0.6s							
BTLS				*e*S		**Sg**	**09 39 16.4**	**-4.7**
	12nm,0.6s							
MNAS	**Manas**	**4.71**	**277**	⇓*i*P		**Pn**	**09 38 07.9**	**+1.8**
MNAS				⇓*i*S		**Sn**	**09 39 01.9**	**+1.1**
OHH	**Osh**	**4.81**	**253**	⇑*e*P		**Pn**	**09 38 09.3**	**+1.9**
OHH				⇑*i*S		**Sn**	**09 39 04.4**	**+1.1**
ARK	**Arkit**	**5.13**	**269**	⇑*i*P		**Pn**	**09 38 13.7**	**+1.9**
ARK				⇑*i*S		**Sn**	**09 39 11.8**	**+0.7**
MAKZ	**Makanchi**	**5.23**	**24**	Pn		**Pn**	**09 38 16.0**	**+2.9**
	1.7nm,0.3s							
MAKZ				⇓Sn		**Sn**	**09 39 16.4**	**+3.0**
	3.6nm,0.5s							
MAKZ				⇓Lg		Lg	09 39 35.3	
	7.2nm,0.6s							
MK31	**Makanchi Array**	**5.32**	**27**	Pn		**Pn**	**09 38 16.8**	**+2.5**
	1.1nm,0.3s,baz=206,slow=12,SNR=81							
MK31				⇓Sn		**Sn**	**09 39 17.4**	**+1.9**
	5.7nm,0.6s,baz=205,slow=24,SNR=3.7							
MK31				⇑Lg		Lg	09 39 42.3	
	8.9nm,0.7s,baz=165,slow=35,SNR=4.5							
KK31	**Karatay Array**	**6.22**	**282**	Pg		Pg	09 38 48.8	-5.2
	2.5nm,0.5s,baz=94,slow=16,SNR=27							
KK31				Lg		Lg	09 40 14.5	
	11nm,0.5s,baz=103,slow=26,SNR=7.4							
IUG	**luzhnay**	**6.54**	**273**	Pg		**Pg**	**09 38 56.0**	**-4.1**
	21nm,0.4s							
IUG				Lg		Lg	09 40 23.6	
	38nm,0.8s							
BRLS	**Borolday**	**6.71**	**281**	Pg		**Pg**	**09 39 00.6**	**-2.7**
	2.1nm,0.5s							
BRLS				Lg		Lg	09 40 31.5	
	9.8nm,0.9s							
BRLS	**Borolday**	**6.71**	**281**	*e*P		**Pg**	**09 39 00.6**	**-2.7**
	2.1nm,0.5s							
BRLS				*e*S		**Sg**	**09 40 31.5**	**+1.4**
	9.8nm,0.9s							
GAR	**Garm**	**7.18**	**247**	⇑*i*P		**Pn**	**09 38 41.9**	**+1.9**
GAR				⇑*i*S		**Sn**	**09 40 00.5**	**-1.2**
KURK	**Kurchatov**	**8.63**	**359**	⇑Lg		Lg	09 41 26.1	
	21nm,0.7s							
AB31	**Akbulak array**	**15.00**	**305**	⇑Pn		**Pn**	**09 40 27.9**	**+1.2**
	1.0nm,0.8s,baz=110,slow=12,SNR=5.8							

*NOU **16** 09:39:09.8, 17.°37S×119.°88E, h27km, mb4.1/9, Northwest of Australia*
*AUST **16** 09:39:21.8±1.4, 18.°S±10'×12'1E±', h20km±18km, mb3.9/8, ML3.1/6, Error ellipse: s-maj=25.0km s-min=7.9km az=149.8*

ISC 16 09:39:15.8±1.4, 18°2S±0'1×120°32E±0'08, h10km, n23, σ2s70/30, Western Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
MBWA	**Marble Bar**	**3.04**	**190**	P		**Pn**	**09 40 05.6**	**+1.6**
MBWA				S		**Sn**	**09 40 42.5**	**+1.9**
MBWA	**Marble Bar**	**3.04**	**190**	P		**Pn**	**09 40 06.7**	**+2.7**
PSAC1	**Pilbara Seismi**	**3.40**	**188**	P		**Pn**	**09 40 11.3**	**+2.3**
PSAC1				S		**Sn**	**09 40 48.1**	**-1.3**
PSA00	**Pilbara Seismi**	**3.44**	**187**	P		**Pn**	**09 40 12.2**	**+2.8**
PSA00				S		**Sn**	**09 40 50.5**	**+0.3**
PSA00	**Pilbara Seismi**	**3.44**	**187**	P		**Pn**	**09 40 11.9**	**+2.5**
GIRL	**Giralia**	**7.25**	**231**	P		**Pn**	**09 41 04.6**	**+2.8**
GIRL				S		**Sn**	**09 42 20.4**	**-3.7**
KNRA	**Kununurra**	**8.45**	**74**	P		**Pn**	**09 41 20.0**	**+1.7**
	comp=Z,13nm,2.0s,comp=Z,0.1nm							
KNRA				S		**Sn**	**09 42 50.3**	**-3.5**
CVOOZ	**Cooralya Stati**	**8.55**	**222**	P		**Pn**	**09 41 21.1**	**+1.5**
CVOOZ				S		**Sn**	**09 42 50.6**	**-5.6**
MEEK	**Meekatharra**	**8.59**	**190**	P		**Pn**	**09 41 21.9**	**+1.6**
	comp=Z,14nm,1.5s,comp=Z,0.1nm							
MEEK	**Meekatharra**	**8.59**	**190**	S		**Sn**	**09 42 53.3**	**-4.1**
MEEK	**Meekatharra**	**8.59**	**190**	P		**Pn**	**09 41 21.7**	**+1.4**
WRKA	**Warakurna**	**10.10**	**134**	P		**Pn**	**09 41 45.6**	**+4.6**
	comp=Z,2.9nm,2.5s,comp=Z,0.0nm							
WRKA				S		**Sn**	**09 43 28.5**	**-6.0**
MORW	**Morawa**	**11.55**	**199**	P		**Pn**	**09 42 00.5**	**-0.3**
	comp=Z,7.6nm,2.1s							
MORW	**Morawa**	**11.55**	**199**	P		**Pn**	**09 42 01.2**	**+0.4**
BLDU	**Ballidu**	**12.84**	**194**	P		**Pn**	**09 42 18.7**	**+0.3**
	comp=Z,10nm,1.6s							
BLDU	**Ballidu**	**12.84**	**194**	P		**Pn**	**09 42 20.0**	**+1.6**
KDU	**Kakadu**	**12.92**	**67**	P		**Pn**	**09 42 19.9**	**+0.4**
	comp=Z,19nm,2.2s							
KLBR	**Kellerberrin**	**13.58**	**189**	P		**Pn**	**09 42 29.3**	**+0.7**
	comp=Z,9.4nm,0.5s							
KLBR	**Kellerberrin**	**13.58**	**189**	P		**Pn**	**09 42 29.8**	**+1.2**
AS01	**Alice Springs**	**13.87**	**116**	P		**Pn**	**09 42 34.5**	**+1.9**
MUN	**Mundaring**	**14.26**	**194**	P		**Pn**	**09 42 39.7**	**+1.8**
FORT	**Forrest**	**14.41**	**152**	P		**Pn**	**09 42 40.7**	**+0.8**
	comp=Z,4.1nm,0.9s							
NWAO	**Narrogin (SRO)**	**14.97**	**190**	P		**Pn**	**09 42 48.6**	**+1.0**

*IDC **16** 09:50:31.7±3.4, 53.°51N×87.°39E, h0km, mbtmp2.5/2, ML2.5/1, Error ellipse: s-maj=32.6km s-min=17.3km az=59.0*

ASRS 16 09:50:27.0±0.8, 53°52N×87°51E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
I46RU	**ZALESOVO INFRA**	**1.66**	**286**	I		I	10 00 30.0	
	baz=104,slow=313,SNR=1.9							
ZALV	**Zalesovo Beam**	**1.66**	**286**	Pg		Pg	09 50 59.8	+1.1
	0.6nm,0.3s,baz=109,slow=14,SNR=6.7							
ZALV				Lg		Lg	09 51 22.1	
	1.0nm,0.3s,baz=107,slow=30,SNR=5.7							
KURBB	**Kurchatov Arra**	**4.26**		Pn		Pn	09 52 05.3	+4.9
	0.2nm,0.4s,baz=62,slow=14,SNR=2.0							
MKAR	**Makanchi Array**	**7.52**	**209**	Pn		Pn	09 52 23.0	+5.1
	0.1nm,0.3s,baz=24,slow=10,SNR=2.0							
	0.1nm,0.3s							

*JMA **16** 09:54:13.2±0.2, 38.°N±1.°×133.°7E±1.°0, h445km±2km, MV3.6/35, SEA OF JAPAN*
*IDC **16** 09:54:14.3±0.9, 37.°84N×133.°61E, h442km±11km, mb3.1/15, mbtmp4.0/20, Error ellipse: s-maj=14.7km s-min=10.8km az=75.0*

ISC 16 09:54:13.9±0.6, 37°93N±0'09×133°63E±0'08, h428km, n31, σ1s12/32, mb3.5/15, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
JOI	**OKI**	**1.66**	**191**	P		**P**	**09 55 12.1**	**+1.5**
JKSM	**Kasumi**	**2.48**	**160**	P		**P**	**09 55 16.6**	**+1.1**
JKY	**Yasaka**	**2.58**	**152**	P		**P**	**09 55 17.3**	**+1.1**
JHG	**Hegura jima**	**2.61**	**91**	*e*P		**P**	**09 55 17.2**	**+1.0**
JKG	**Kaga**	**2.72**	**126**	P		**P**	**09 55 18.1**	**+1.0**
JHS	**Saijyo**	**2.95**	**188**	*e*P		**P**	**09 55 20.1**	**+1.1**
JWT	**Wachi**	**3.00**	**151**	*e*P		**P**	**09 55 20.7**	**+1.5**
JWT				*e*S		**S**	**09 56 13.3**	**+1.0**
JTT	**Ttatey**	**3.24**	**113**	*e*P		**P**	**09 55 22.5**	**+1.4**
JSD	**Sado**	**3.66**	**87**	*e*P		**P**	**09 55 25.1**	**+0.6**
MJAR	**Matsushiro Arr**	**3.91**	**109**	P		**P**	**09 55 27.7**	**+0.9**
	28nm,0.8s,baz=291,slow=9.8,SNR=78							
KSRS	**Korea Array**	**4.55**	**266**	P		**P**	**09 55 34.4**	**+1.7**
	3.3nm,0.6s,baz=80,slow=9.5,SNR=16							
JNU	**Nakatsue**	**5.29**	**206**	P		**P**	**09 55 41.8**	**+1.6**
	8.0nm,0.6s,baz=133,slow=2.3,SNR=15							
USRK	**Ussuriysk Ar.**	**6.39**	**349**	P		**P**	**09 55 53.3**	**+2.2**
	37nm,0.5s,baz=172,slow=10.0,SNR=91							
ASAJ	**Asahikawa**	**9.17**	**45**	P		**P**	**09 56 22.1**	**+0.3**
	12nm,0.5s,baz=236,slow=11,SNR=34							
KLR	**Kul'dur**	**11.38**	**354**	P		**P**	**09 56 46.2**	**+0.3**
	baz=178,slow=9.5							
SONM	**Songino Array**	**22.17**	**305**	P		**P**	**09 58 37.3**	**+1.0**
	0.8nm,0.5s,baz=110,slow=9.8,SNR=4.6							
	0.8nm,0.5s							
MKAR	**Makanchi Array**	**38.35**	**300**	P		**P**	**10 00 55.4**	**-0.8**
	0.5nm,0.5s,baz=80,slow=11,SNR=5.6							
	0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**40.53**	**306**	P		**P**	**10 01

*KOLA **16** 10:00:22.5, 64°.64N×30°.23E, h0km, ML2.2, Error ellipse: s-maj=17.2km s-min=9.4km az=160.0, Karelia,Finland, Oulu area*

*IDC **16** 10:00:23.2±2.8, 64°.67N×30°.32E, h0km, mbtmp2.5/2, ML1.5/2, Error ellipse: s-maj=46.7km s-min=10.1km az=102.0*

ISC 16 10:00:22.6±1.6, 64°.76N±0°.07×29°.81E±0°.08, h0km, n10, σ1s50/13, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.55**	**174**	*e*P		10 00 31.8	
RMF				*e*S		10 00 39.8	
KU1	**Kurvinen**	**0.82**	**353**	*e*P		10 00 39.4	
KU1				*e*S		10 00 52.8	
KU2	**Taivalkoski**	**1.16**	**326**	*e*P		10 00 47.7	
KU2				*e*S		10 01 07.5	
MSF	**Maaselka**	**1.20**	**345**	*e*P		10 00 46.6	
MSF				*e*S		10 01 05.4	
KU6	**Riekki**	**1.27**	**1**	*e*P		10 00 46.2	
KU6				*e*S		10 01 04.0	
OLKF	**Oulanka, Finla**	**1.58**	**354**	*e*P		10 00 52.1	
OLKF				*e*S		10 01 14.6	
OLKF				MSG		10 01 16.4	
	comp=Z,2.0nm,0.1s						
NIF	**Nilsia**	**1.63**	**214**	*e*PN		10 00 53.9	
NIF				*e*SG		10 01 18.4	
NIF				MSG		10 01 22.7	
	comp=Z,4.2nm,0.1s						
OUL	**Oulu**	**1.70**	**283**	*e*P		10 00 58.1	
OUL				*e*SG		10 01 26.9	
OUL				MSG		10 01 31.9	
	comp=Z,5.2nm,0.1s						
OBF4	**Vikkela, Lumij**	**2.02**	**274**	*e*PB		10 01 03.5	
OBF4				*e*SB		10 01 35.2	
OBF4				MSG		10 01 42.8	
	comp=Z,2.9nm,0.1s						
OUF	**Merijarvi**	**2.23**	**262**	*e*PB		10 01 06.9	
OUF				*e*SB		10 01 41.0	
OUF				MSG		10 01 48.6	
	comp=Z,3.8nm,0.1s						
KVDA	**Kovda**	**2.32**	**32**	P	**Pn**	**10 01 01.1**	**-0.8**
KVDA				S	**Sn**	**10 01 30.2**	**-0.8**
RNF	**Rovaniemi**	**2.43**	**321**	*e*PG		10 01 10.9	
RNF				*e*SG		10 01 46.8	
RNF				MSG		10 01 59.1	
	comp=Z,1.9nm,0.2s						
SUF	**Sumiainen**	**2.62**	**220**	*e*PG		10 01 12.2	
SUF				*e*SB		10 01 47.1	
SUF				MSG		10 01 56.7	
	comp=Z,3.2nm,0.2s						
APA0	**Apatity Array**	**3.14**	**23**	P	**Pn**	**10 01 14.6**	**+1.4**
APA0				S	**Sn**	**10 01 49.9**	**-1.4**
LVZ	**Lovozero**	**3.71**	**30**	S	**Sn**	**10 02 05.2**	**-0.2**
FINES	**FINESS Array B**	**3.73**	**209**	Pn	**Pn**	**10 01 22.2**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=33,slow=16,SNR=1.7						
FINES				Lg	Lg	10 02 21.8	
	comp=Z,0.9nm,0.3s,baz=27,slow=30,SNR=8.0						
	comp=Z,1.9nm,1.0s						
TERR	**Teriberka**	**4.92**	**23**	S	**Sn**	**10 02 33.8**	**-1.4**
ARCES	**ARCESS Array B**	**5.08**	**343**	Pn	**Pn**	**10 01 40.8**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=150,slow=13,SNR=12						
ARCES				Sn	**Sn**	**10 02 38.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=158,slow=27,SNR=2.1						
ARCES				Lg	Lg	10 03 02.5	
	comp=Z,0.2nm,0.3s,baz=153,slow=34,SNR=3.3						
	comp=Z,0.3nm,0.4s						
ARCES	**ARCESS Array B**	**5.08**	**343**	P	**Pn**	**10 01 40.9**	**+1.0**
ARCES				S	**Sn**	**10 02 40.2**	**+1.0**
VADS	**Vadso**	**5.39**	**358**	P	**Pn**	**10 01 45.6**	**+1.6**
I37NO	**I37NO**	**6.17**	**320**	I	I	10 40 30.0	
	baz=128,slow=314,SNR=4.3						
FAUS	**Fauske**	**6.46**	**301**	S	**Sn**	**10 03 10.1**	**-3.0**

VIE 16 10:05:15.9±0.1, 47°.10N×14°.98E, h0km, mb0.8/1, ml0.8/3, Error ellipse: s-maj=1.2km s-min=0.8km az=123.0 7 km WNW of Maria Lankowitz Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSA	**Arzberg**	**0.40**	**67**	*i* Pg	Pg	10 05 23.5	-0.1
	0.2nm,0.1s						
ARSA				*i* Sg	Sg	10 05 29.0	+0.2
	0.3nm,0.1s						
SOKA	**Soboth**	**0.42**	**175**	*i* Pg	Pg	10 05 23.9	0.0
	0.3nm,0.1s						
SOKA				*i* Sg	Sg	10 05 30.5	+1.1
	0.3nm,0.1s						
OBKA	**Obir**	**0.66**	**207**	*i* Pg	Pg	10 05 28.9	+0.4
	0.4nm,0.1s						
OBKA				*e*Sg	Sg	10 05 37.9	+0.8
	0.7nm,0.2s						

LJU 16 10:06:03.2, 46°.39N×15°.07E, h0km, 1D, Confirmed Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAVS	**Zavodnje**	**0.05**	**325**	⇓*i* Pg	Pg	10 06 03.2	-1.1

IDC 16 10:12:56.2±2.8, 28°.31N×105°.05E, h0km, mb3.7/4, mbtmp3.7/5, ML3.6/1, MS3.7/1, Error ellipse: s-maj=74.2km s-min=26.5km az=97.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**19.52**	**3**	P	P	10 17 25.5	+0.2
	0.2nm,0.3s,baz=171,slow=10,SNR=2.3						
	0.5nm,0.5s						
KSRS	**Korea Array**	**21.23**	**59**	P	P	10 17 44.0	+0.3
	1.5nm,0.7s,baz=247,slow=10,SNR=8.8						
	1.5nm,0.7s						
USRK	**Ussuriysk Ar.**	**26.74**	**46**	P	P	10 18 36.9	-0.5
	2.0nm,0.6s,baz=242,slow=8.0,SNR=5.4						
	2.0nm,0.6s						
YAK	**Yakutsk**	**37.45**	**19**	LR	LR	10 36 35.5	
	comp=Z,98nm,18.1s,baz=222,slow=38						
WRA	**Warramunga Arr**	**55.70**	**146**	P	P	10 22 34.4	-0.3
	0.8nm,0.7s,baz=336,slow=7.5,SNR=2.5						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**58.68**	**149**	P	P	10 22 55.9	+0.1
	0.4nm,0.7s,baz=333,slow=6.5,SNR=7.0						
	0.4nm,0.7s						

*BUT **16** 10:18:16.6±0.6, 45°.86N±0°.02×111°.36W±0°.02, h5km±3km, Error ellipse: s-maj=2.4km s-min=1.7km az=200.0*

NEIC 16 10:18:16.5±1.1, 45°.85N±0°.02×111°.35W±0°.02, h6km±1km, ML2.7/37, ML2.8/25(BUT), Error ellipse: s-maj=2.3km s-min=2.0km az=175.0, Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NQMA	**Gallatin River**	**0.05**	**10**		Pg	10 18 18.1	-0.1
NQMA					Sg	10 18 19.2	-0.1
BOZ	**Bozeman (W)**	**0.32**	**218**		Pg	10 18 23.1	+0.2
BOZ					Sg	10 18 27.5	+0.4
BOZ				IAML		10 18 27.9	
	2μm,0.2s						
BOZ				IAML		10 18 28.1	
	990nm,0.2s						
BZMT	**Bozeman Pass**	**0.43**	**118**		Pg	10 18 25.5	+0.5
MSMT	**Mission Creek**	**0.73**	**107**		Pg	10 18 30.8	+0.3
LRM	**Limekiln Ridge**	**0.77**	**268**		Pg	10 18 31.1	-0.3
BGMT	**Barton Gulch**	**0.79**	**219**		Pg	10 18 31.8	+0.1
BUT	**Butte**	**0.86**	**281**		Pg	10 18 32.9	-0.2
HBMT	**Mount Humbug**	**0.89**	**267**		Pg	10 18 33.1	-0.4
HRY	**Holter Researc**	**0.92**	**339**	Pg	Pg	10 18 33.6	-0.7
CRMT	**Chrome Mountai**	**0.93**	**115**		Pg	10 18 33.9	-0.5
DLMT	**Dillon**	**1.00**	**241**		Pg	10 18 35.4	-0.4
DLMT				IAML		10 18 52.7	
	158nm,0.2s						
DLMT				IAML		10 18 53.0	
	205nm,0.2s						
YHL	**Hebgen Lake**	**1.01**	**173**	Pg	Pg	10 18 35.7	-0.2
YHL				IAML		10 18 54.3	
	comp=N,290nm,0.4s						
YHL				IAML		10 18 54.8	
	comp=E,288nm,0.5s						
QLMT	**Earthquake Lak**	**1.02**	**183**	Pg	Pg	10 18 35.5	-0.6
YHB	**Horse Butte**	**1.11**	**174**	Pg	Pg	10 18 37.6	-0.1
YMC	**Maple Creek**	**1.12**	**168**		Pg	10 18 37.7	-0.3
YHH	**Holmes Hill**	**1.12**	**162**	Pg	Pg	10 18 37.6	-0.4
BEMT	**Mount Belmont**	**1.13**	**323**		Pg	10 18 37.5	-0.7
TPMT	**Tepee Creek**	**1.14**	**192**		Pb	10 18 38.7	-0.2
YPDC	**Denny Creek**	**1.15**	**176**		Pg	10 18 38.4	-0.1
GCMT	**Greyclift**	**1.18**	**92**	Pg	Pg	10 18 38.6	-0.4
YNM	**Yellowstone No**	**1.21**	**158**	Pg	Pg	10 18 37.7	-2.1
YNM				IAML		10 18 59.7	
	comp=E,124nm,0.3s						
YNR	**Norris Junctio**	**1.23**	**157**	Pg	Pg	10 18 39.5	-0.5
YPWB	**West Boundary**	**1.26**	**172**		Pb	10 18 40.7	-0.1
YNE	**Yellowstone No**	**1.27**	**131**	Pg	Pg	10 18 40.3	-0.5
YNE				IAML		10 19 00.7	
	comp=N,210nm,0.3s						
YNE				IAML		10 19 01.2	
	comp=E,171nm,0.3s						
YUF	**Upper Falls**	**1.28**	**152**		Pg	10 18 41.1	+0.1
YPSB	**Soda Butte**	**1.28**	**139**		Pg	10 18 40.8	-0.3
LYMT	**Lyon Mountain**	**1.30**	**330**	Pg	Pg	10 18 40.8	-0.6
YMP	**Mirror Lake Pl**	**1.39**	**143**	Pg	Pn	10 18 43.0	+0.2
YMP				IAML		10 19 05.2	
	comp=N,134nm,0.3s						
YMP				IAML		10 19 07.5	
	comp=E,133nm,0.3s						
YFT	**Old Faithful**	**1.45**	**165**		Pn	10 18 43.1	-0.3
MOMT	**Monida**	**1.46**	**211**		Pb	10 18 44.3	+0.1
MCMT	**McKenzie Canyo**	**1.47**	**227**		Pn	10 18 43.8	-0.1
YLT	**Little Thumb C**	**1.51**	**159**		Pg	10 18 46.7	+1.2
H17A	**Grant Village**	**1.56**	**159**		Pn	10 18 44.8	-0.1
RLMT	**Red Lodge**	**1.63**	**116**		Pb	10 18 46.7	-0.5
YTP	**The Promontory**	**1.64**	**152**		Pb	10 18 47.5	+0.2
MCID	**Moose Creek**	**1.67**	**176**		Pb	10 18 47.8	+0.1
OVMT	**Ovando**	**1.67**	**317**		Pn	10 18 45.8	-0.6
CHMT	**Chamberlain Mo**	**1.69**	**310**		Pn	10 18 46.3	-0.5
SLMT	**Seeley Lake**	**2.03**	**314**		Pn	10 18 50.9	-0.6
MSO	**Missoula**	**2.05**	**299**	Pn	Pn	10 18 50.7	-0.9
MSO				IAML		10 19 24.2	
	comp=E,59nm,0.5s						
MSO				IAML		10 19 24.9	
	comp=E,57nm,0.6s						
VCMT	**Victor**	**2.06**	**288**		Pb	10 18 54.4	0.0
EGMT	**Eagleton**	**2.43**	**26**	Pn	Pn	10 18 57.0	+0.1
ALMT	**Alberton, Mont**	**2.44**	**300**		Pb	10 19 02.0	+1.0
SWMT	**Swartz Lake**	**2.47**	**313**		Pn	10 18 56.8	-0.6
FBMT	**Ferry Basin**	**2.63**	**307**		Pn	10 18 59.4	-0.3
YBMT	**Yellow Bay**	**2.72**	**319**		Pn	10 19 01.3	+0.5
JTMT	**Jette**	**2.77**	**314**	Pn	Pn	10 19 00.6	-1.0
NDMT	**Ninemile Divid**	**2.77**	**302**		Pb	10 19 07.7	+1.1
MKMT	**Mink Peak**	**2.89**	**297**		Pn	10 19 03.6	+0.3
BHMT	**Big Hole Peak**	**3.07**	**306**		Pn	10 19 05.7	-0.1
BSMT	**Bassoo Peak**	**3.10**	**312**		Pn	10 19 06.2	+0.1
HLID	**Hailey**	**3.17**	**225**	Pn	Pn	10 19 07.5	+0.4
HLID				IAML		10 19 55.7	
	comp=E,21nm,0.5s						
HLID				IAML		10 19 57.2	
	comp=E,16nm,0.6s						
PLID	**Pearl Lake**	**3.36**	**259**	Pn	Pn	10 19 10.1	+0.3
PLID				IAML		10 20 05.3	
	comp=E,12nm,0.5s						
LAO	**LASA Array**	**3.65**	**75**	Pn	Pn	10 19 14.0	+0.4
MFID	**Camas Ranch**	**4.02**	**234**	Pn	Pn	10 19 18.9	+0.1
MFID				IAML		10 20 29.2	
	comp=E,14nm,0.3s						
BMO	**Blue Mountains**	**4.32**	**259**	Pn	Pn	10 19 23.6	+0.8
NEW	**Newport**	**4.63**	**304**	Pn	Pn	10 19 27.8	+0.7
NEW				IAML		10 20 50.5	
	comp=E,6.1nm,0.8s						
NEW				IAML		10 20 50.6	
	comp=E,7.1nm,1.2s						

*BJI **16** 10:45:34.0, 40°.28N×70°.96E, h15km, mB4.7/9, mb4.4/30, ML4.4/4, Ms3.9/9, Ms7 3.6/7*

*IDC **16** 10:45:34.4±0.6, 40°.01N×71°.24E, h0km, mb4.2/24, mbtmp4.3/31, ML4.2/7, MS3.7/31, Error ellipse: s-maj=11.9km s-min=7.9km az=151.0*

*NEIC **16** 10:45:37.3±1.6, 40°.14N±0°.03×71°.21E±0°.05, h10km±1km, mb4.6/101, Error ellipse: s-maj=7.5km s-min=3.0km az=56.0*

*MOS **16** 10:45:37.7±1.1, 40°.11N×71°.17E, h25km, mb4.6/29, Error ellipse: s-maj=5.3km s-min=3.6km az=64.2*

*KRNET **16** 10:45:37.7±0.1, 40°.08N×71°.23E, h27km, mb5.2*

*SOME **16** 10:45:38.5, 40°.18N×71°.28E, h10km, MS4.4*

*ISU **16** 10:45:38, 40°.11N×71°.26E, h12km*

*NNC **16** 10:45:40.4±1.3, 40°.25N×71°.26E, h17km±6km, mb5.3, mpv5.2, Error ellipse: s-maj=10.2km s-min=4.2km az=13.0*

ISC 16 10:45:38.4±0.6, 40°.02N±0°.02×71°.14E±0°.02, h26km±4km, n416, σ1s87/434, mb4.5/108, MS3.7/31, 49C-32D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.25**	**278**	⇓*e*P	**Pb**	**10 45 44.8**	**-0.1**
BTK				⇓*e*S	**Sb**	**10 45 49.7**	**+0.4**
CHMI	**Chimion**	**0.38**	**50**	P	**Pb**	**10 45 44.4**	**-2.4**
MINT	**Mingtut**	**0.46**	**344**	P	**Pb**	**10 45 47.0**	**-1.0**
FRG	**Fergana**	**0.60**	**54**	P	**Pb**	**10 45 48.2**	**-2.2**
FRG				S	**Sb**	**10 45 55.4**	**-3.2**
DRK	**Karamyk**	**0.74**	**137**		**Pb**	**10 45 52.7**	**-0.2**
DRK				Sg	**Sb**	**10 46 03.1**	**+0.3**
DRK	**Karamyk**	**0.74**	**137**	⇓*i*P	**Pb**	**10 45 52.1**	**-0.8**
DRK				⇓*i*S	**Sb**	**10 46 02.5**	**-0.3**
DRK	**Karamyk**	**0.74**	**137**	PG	**Pb**	**10 45 52.7**	**-0.2**
DRK						10 46 03.1	
NAM	**Namangan**	**1.04**	**22**	P	**Pn**	**10 45 57.5**	**+0.1**
NAM				S	**Sb**	**10 46 11.0**	**-0.1**
TSTA	**Tashata**	**1.16**	**61**	P	**Pn**	**10 45 57.8**	**-1.2**
TSTA				S	**Sn**	**10 46 12.7**	**-1.4**
ANR	**Andizhan**	**1.18**	**51**	P	**Pb**	**10 46 00.1**	**-0.1**
ANR				S	**Sb**	**10 46 15.4**	**+0.3**
GAR	**Garm**	**1.20**	**212**	Pn	**Pb**	**10 46 02.8**	**+2.2**
GAR				Sn	**Sb**	**10 46 19.7**	**+3.9**
OHH	**Osh**	**1.35**	**68**	⇑*i*P	**Pn**	**10 46 00.9**	**-0.8**
OHH				⇑*i*S	**Sn**	**10 46 17.8**	**-1.1**
OHH	**Osh**	**1.35**	**68**	PG	**Pn**	**10 46 00.9**	**-0.8**
OHH				S	**Sn**	**10 46 17.8**	**-1.1**
TRKS	**Terek-Say**	**1.51**	**360**	⇑*i*P	**Pn**	**10 46 03.1**	**-0.8**
TRKS				⇑*i*S	**Sn**	**10 46 21.3**	**-1.4**
TRKS	**Terek-Say**	**1.51**	**360**	PG	**Pn**	**10 46 03.5**	**-0.4**
SFK	**Sufi-Kurgan**	**1.81**	**90**	⇓*i*P	**Pn**	**10 46 08.8**	**+0.6**
SFK				⇓*i*S	**Sn**	**10 46 31.1**	**+0.7**
SFK	**Sufi-Kurgan**	**1.81**	**90**	PN	**Pn**	**10 46 08.8**	**+0.6**
SFK				S	**Sn**	**10 46 31.1**	**+0.7**
CHRV	**Charvak**	**1.85**	**331**	P	**Pb**	**10 46 11.3**	**-0.3**
TGS	**TashGRES**	**1.86**	**319**	P	**Pb**	**10 46 13.7**	**+1.9**
TGS				S	**Sb**	**10 46 39.7**	**+5.0**
ARK	**Arkit**	**1.88**	**19**	⇓*i*P	**Pn**	**10 46 09.5**	**+0.5**
ARK				⇓*i*S	**Sn**	**10 46 32.7**	**+0.8**
ARK	**Arkit**	**1.88**	**19**	PN	**Pn**	**10 46 09.5**	**+0.5**
ARK				S	**Sn**	**10 46 32.7**	**+0.8**
ARSB	**Arslanbob**	**1.91**	**47**	Pn	**Pn**	**10 46 09.5**	**+0.1**
ARSB	**Arslanbob**	**1.91**	**47**	⇓*i*P	**Pn**	**10 46 09.6**	**+0.1**
ARSB				⇓*i*S	**Sn**	**10 46 32.9**	**+0.2**
ARSB	**Arslanbob**	**1.91**	**47**	PN	**Pn**	**10 46 09.5**	**+0.1**
SIMJ	**Simiganj**	**2.14**	**231**	Pn	**Pn**	**10 46 13.6**	**+1.0**
DZET	**Dzherino**	**2.17**	**237**	PN	**Pb**	**10 46 18.6**	**+1.6**
SALK	**Salom-Alik**	**2.22**	**66**	⇑*i*P	**Pn**	**10 46 14.1**	**+0.4**
SALK				⇑*i*S	**Sn**	**10 46 40.5**	**+0.2**
SALK	**Salom-Alik**	**2.22**	**66**	PN	**Pn**	**10 46 14.1**	**+0.4**
SALK				S	**Sn**	**10 46 40.5**	**+0.2**
IUG	**Iuzhnay**	**2.28**	**339**	Pg	**Pb**	**10 46 18.0**	**-1.0**
	4μm,0.5s						
IUG				Lg	Lg	10 46 48.7	
	11μm,0.3s						
IUG	**Iuzhnay**	**2.28**	**339**	*e*PN	**Pn**	**10 46 15.9**	**+1.4**
IUG				*e*		10 46 18.4	
IUG	**Iuzhnay**	**2.28**	**339**	*e*Pn	**Pn**	**10 46 15.1**	**+0.6**
IUG				*e*Pg	**Pb**	**10 46 15.5**	**-0.5**
IUG				*e*Lg	Lg	10 46 47.9	
BXML	**Bakhmal**	**2.42**	**263**	P	Pb	10 46 27.6	+6.3
DZI	**Dzhizak**	**2.55**	**273**	P	**Pb**	**10 46 21.0**	**-2.4**
CHM	**Chimkent**	**2.57**	**334**	*e*PN	**Pb**	**10 46 21.6**	**-2.2**
CHM				*e*		10 46 24.0	
CHM				*e*		10 46 57.5	
CHM	**Chimkent**	**2.57**	**334**	*e*P	**Pb**	**10 46 24.3**	**+0.5**
	2μm,0.5s						
CHM				*e*S	**Sb**	**10 46 57.4**	**+2.4**
	11μm,0.3s						
CHM	**Chimkent**	**2.57**	**334**	*e*Pn	**Pb**	**10 46 21.6**	**-2.2**
CHM				*e*Pg	Pn	10 46 24.1	+5.7
CHM				*e*Lg	Lg	10 46 57.5	
MNAS	**Manas**	**2.67**	**22**	⇑*i*P	**Pn**	**10 46 20.3**	**+0.5**
MNAS				⇑*i*S	**Sn**	**10 46 51.4**	**0.0**
MNAS	**Manas**	**2.67**	**22**	PN	**Pn**	**10 46 20.3**	**+0.5**
MNAS				S	**Sn**	**10 46 51.4**	**0.0**
DZA	**Taraz**	**2.87**	**3**	Pg	**Pb**	**10 46 28.5**	**-0.4**
	2μm,0.4s						
DZA				Lg	Lg	10 47 04.7	
	6μm,0.4s						
DZA	**Taraz**	**2.87**	**3**	*e*PN	**Pn**	**10 46 23.5**	**+1.0**
DZA				*e*		10 46 29.1	
DZA				*e*		10 47 06.5	
DZA	**Taraz**	**2.87**	**3**	*e*P	**Pb**	**10 46 28.5**	**-0.4**
	2μm,0.4s						
DZA				*e*S	**Sb**	**10 47 04.7**	**+1.1**
	6μm,0.4s						
DZA	**Taraz**	**2.87**	**3**	*e*Pn	**Pn**	**10 46 23.6**	**+1.0**
DZA				*e*Pg	**Pb**	**10 46 29.1**	**+0.2**
DZA				*e*Lg	Lg	10 47 06.5	
KK31	**Karatay Array**	**3.11**	**351**		**Pn**	**10 46 27.1**	**+1.2**
KK31	**Karatay Array**	**3.11**	**351**	Pn	**Pn**	**10 46 27.1**	**+1.2**
	15nm,0.3s,baz=179,slow=14,SNR=5170						
KK31				⇑Pg	**Pb**	**10 46 33.7**	**+0.6**
	846nm,0.4s,baz=154,slow=14,SNR=5.4						
KK31				⇑Lg	Lg	10 47 12.7	
	1μm,0.4s						
KK31	**Karatay Array**	**3.11**	**351**	*i* PN	**Pn**	**10 46 27.0**	**+1.2**
KK31						10 46 33.7	
KKAR	**Karatay Array**	**3.11**	**351**		**Pn**	**10 46 26.9**	**+1.0**
KKAR	**Karatay Array**	**3.11**	**351**	PN	**Pn**	**10 46 26.9**	**+1.0**
MRKS	**Merke**	**3.14**	**29**	Pg	**Pb**	**10 46 32.9**	**-0.6**
	1μm,0.3s						
MRKS				Lg	Lg	10 47 12.6	
	5μm,0.5s						
MRKS	**Merke**	**3.14**	**29**	*e*P	**Pb**	**10 46 33.0**	**-0.6**
	1μm,0.3s						
MRKS				*e*S	**Sb**	**10 47 12.6**	**+1.2**
	5μm,0.5s						
BRLS	**Boroldoy**	**3.16**	**342**	Pg	**Pb**	**10 46 31.1**	**-2.7**
	600nm,0.3s						
BRLS				Lg	Lg	10 47 09.5	
	1μm,0.3s						
BRLS	**Boroldoy**	**3.16**	**342**	*e*PN	**Pn**	**10 46 25.1**	**-1.4**
BRLS				*e*		10 47 09.6	
BRLS	**Boroldoy**	**3.16**	**342**	*e*P	**Pb**	**10 46 31.1**	**-2.7**
	600nm,0.3s						
BRLS				*e*S	**Sb**	**10 47 09.5**	**-2.4**
	1μm,0.3s						
BRLS	**Boroldoy**	**3.16**	**342**	*e*Pn	**Pn**	**10 46 25.1**	**-1.4**
BRLS				*e*Pg	**Pb**	**10 46 31.0**	**-2.9**
BRLS				*e*Lg	Lg	10 47 09.7	
SAM	**Samarkand**	**3.25**	**265**	P	**Pb**	**10 46 34.4**	**-0.9**
EKS2	**Erkin-Say**	**3.30**	**36**	P	**Pn**	**10 46 30.0**	**+1.5**
	SNR=78						
EKS2	**Erkin-Say**	**3.30**	**36**	⇓*i*P	**Pn**	**10 46 29.2**	**+0.7**
EKS2				⇓*i*S	**Sn**	**10 47 06.3**	**-0.6**
EKS2	**Erkin-Say**	**3.30**	**36**	PN	**Pn**	**10 46 29.2**	**+0.7**
EKS2				S	**Sn**	**10 47 06.3**	**-0.6**
AGL	**Agalyk**	**3.32**	**263**	P	**Pn**	**10 46 31.8**	**+3.1**
UCH	**Uchtor**	**3.37**	**48**	P	**Pn**	**10 46 30.9**	**+1.2**
	SNR=190						
UCH	**Uchtor**	**3.37**	**48**	⇓*i*P	**Pn**	**10 46 30.2**	**+0.5**
UCH				⇓*i*S	**Sn**	**10 47 08.3**	**-0.8**
UCH	**Uchtor**	**3.37**	**48**	PN	**Pn**	**10 46 30.2**	**+0.5**
UCH				S	**Sn**	**10 47 08.3**	**-0.8**
KTAB	**Kitab**	**3.41**	**256**	P	Pb	10 46 43.2	+5.1
BAYS	**Baysun**	**3.56**	**241**	P	**Pb**	**10 46 38.0**	**-2.7**
AAK	**Ala-Archa**	**3.63**	**43**	P	**Pn**	**10 46 33.8**	**+0.6**
	SNR=36						
AAK	**Ala-Archa**	**3.63**	**43**	⇑Pn	**Pn**	**10 46 34.5**	**+1.4**
	38nm,0.4s						
AAK				⇑Pg	**Pb**	**10 46 42.5**	**+0.5**
	246nm,0.6s						
AAK				⇑Lg	Lg	10 47 28.0	
	234nm,0.5s						
AAK	**Ala-Archa**	**3.63**	**43**	Pn	**Pn**	**10 46 34.6**	**+1.5**
	74nm,0.3s,baz=209,slow=5.7,SNR=128						
AAK				Pg	**Pb**	**10 46 42.0**	**0.0**
	139nm,0.3s,baz=216,slow=13,SNR=34						
AAK				Lg	Lg	10 47 29.9	
	246nm,0.3s,baz=164,slow=18,SNR=8.5						
	196nm,0.4s						
AAK	**Ala-Archa**	**3.63**	**43**	⇓*i*P	**Pn**	**10 46 33.7**	**+0.6**
AAK				⇓*i*S	**Sn**	**10 47 14.5**	**-0.7**
AAK	**Ala-Archa**	**3.63**	**43**	*ce*PN	**Pn**	**10 46 34.5**	**+1.4**
AAK				pmax	pmax		
	comp=Z,98nm,0.5s						
KSH	**Kashi**	**3.76**	**96**	Pn	**Pn**	**10 46 34.5**	**-0.3**
KSH				Sn	**Sn**	**10 47 17.9**	**-0.3**
KSH				smax	smax		
	comp=Z,1μm,0.5s						
KSH				smax	smax		
	comp=Z,1μm,0.6s						
FRU1	**Bishkek**	**3.83**	**42**	⇑*i*P	**Pn**	**10 46 36.5**	**+0.8**
FRU1				⇑*i*S	**Sn**	**10 47 19.1**	**-0.7**
FRU1	**Bishkek**	**3.83**	**42**	PN	**Pn**	**10 46 36.5**	**+0.8**
FRU1				S	**Sn**	**10 47 19.1**	**-0.7**
KBK	**Karagaybulak**	**3.89**	**46**	P	**Pn**	**10 46 38.9**	**+2.2**
	SNR=78						
KBK	**Karagaybulak**	**3.89**	**46**	⇓*i*P	**Pn**	**10 46 37.3**	**+0.6**
KBK				⇓*i*S	**Sn**	**10 47 20.5**	**-1.1**
KBK	**Karagaybulak**	**3.89**	**46**	PN	**Pn**	**10 46 37.3**	**+0.6**
KBK				S	**Sn**	**10 47 20.5**	**-1.1**
NRN	**Naryn**	**3.95**	**68**		**Pn**	**10 46 37.5**	**-0.1**
NRN	**Naryn**	**3.95**	**68**	⇑*i*P	**Pn**	**10 46 38.0**	**+0.4**
NRN			

KDJ	**Kajisay**	**5.03**	**63**			**Pn**	**10 46 53.9 +1.6**
KDJ	**Kajisay**	**5.03**	**63**	⇓	*i*P	**Pn**	**10 46 53.2 +0.9**
KDJ				⇓	*i*S	**Sn**	**10 47 47.9 -1.7**
KDJ	**Kajisay**	**5.03**	**63**	*i*	PN	**Pn**	**10 46 53.2 +0.9**
MTBS	**Maitube**	**5.04**	**50**		Pg	**Pb**	**10 47 06.9 +1.1**
	comp=Z,98nm,0.3s						
MTBS					Lg	Lg	10 48 11.1
	comp=Z,442nm,0.6s						
MTBS	**Maitube**	**5.04**	**50**	*e*	P	**Pb**	**10 47 06.9 +1.1**
	comp=Z,98nm,0.3s						
MTBS				*e*	S	**Sb**	**10 48 11.1 +5.2**
	comp=Z,442nm,0.6s						
IZV	**Izvestkoviy**	**5.09**	**52**		Pg	**Pb**	**10 47 08.6 +1.8**
	comp=Z,138nm,0.7s						
IZV					Lg	Lg	10 48 13.7
	comp=Z,366nm,0.8s						
IZV	**Izvestkoviy**	**5.09**	**52**	*e*	P	**Pb**	**10 47 08.6 +1.8**
	comp=Z,138nm,0.7s						
IZV				*e*	S	**Sb**	**10 48 13.7 +6.1**
	comp=Z,366nm,0.8s						
KASK	**Kaskelen**	**5.21**	**50**	⇓	Lg	Lg	10 48 19.9
	comp=Z,733nm,0.6s						
TMD	**Tamdy-Bulak**	**5.22**	**291**		P	**Pn**	**10 46 55.3 +0.5**
TNSS	**Tian-Shan**	**5.30**	**53**		Pg	**Pb**	**10 47 12.5 +2.1**
	comp=Z,38nm,0.3s						
TNSS					Lg	Lg	10 48 19.9
	comp=Z,78nm,0.5s						
TNSS	**Tian-Shan**	**5.30**	**53**	*e*	PN	**Pn**	**10 46 57.3 +1.1**
TNSS				*e*			10 47 14.5
TNSS	**Tian-Shan**	**5.30**	**53**	*e*	P	**Pb**	**10 47 12.5 +2.1**
	comp=Z,38nm,0.3s						
TNSS				*e*	S	**Sb**	**10 48 19.9 +6.2**
	comp=Z,78nm,0.5s						
TNSS	**Tian-Shan**	**5.30**	**53**	*e*	Pn	**Pn**	**10 46 57.3 +1.1**
TNSS				*e*	Pg	**Pb**	**10 47 14.6 +4.1**
TARG	**Taragay, Kyrgy**	**5.33**	**69**			**Pn**	**10 46 57.8 +1.2**
TARG	**Taragay, Kyrgy**	**5.33**	**69**	⇑	*i*P	**Pn**	**10 46 57.3 +0.6**
TARG				⇑	*i*S	**Sn**	**10 47 55.2 -2.2**
TARG	**Taragay, Kyrgy**	**5.33**	**69**	*i*	PN	**Pn**	**10 46 57.3 +0.6**
AAA	**Alma-Ata**	**5.37**	**52**		Pg	**Pb**	**10 47 13.9 +2.4**
	comp=Z,260nm,0.5s						
AAA					Lg	Lg	10 48 23.2
	comp=Z,40nm,0.3s						
AAA	**Alma-Ata**	**5.37**	**52**	*e*	PN	**Pn**	**10 46 58.3 +1.4**
AAA				*e*			10 47 15.4
AAA	**Alma-Ata**	**5.37**	**52**	*e*	P	**Pb**	**10 47 13.9 +2.4**
	comp=Z,260nm,0.5s						
AAA				*e*	S	**Sb**	**10 48 23.2 +7.6**
	comp=Z,40nm,0.3s						
AAA	**Alma-Ata**	**5.37**	**52**	*e*	Pn	**Pn**	**10 46 58.4 +1.4**
AAA				*e*	Pg	**Pb**	**10 47 15.5 +3.9**
KNDC	**Almaty**	**5.41**	**52**	⇑	Pn	**Pn**	**10 46 59.4 +2.0**
	comp=Z,215nm,0.4s						
KNDC				⇓	Lg	Lg	10 48 24.7
	comp=Z,1μm,0.9s						
KNDC	**Almaty**	**5.41**	**52**		PN	**Pn**	**10 46 59.4 +2.0**
KNDC					pmax	pmax	
	comp=Z,215nm,0.4s						
BTLS	**Baital**	**5.45**	**22**		Pg	**Pb**	**10 47 16.9 +4.0**
	comp=Z,683nm,0.5s						
BTLS					Lg	Lg	10 48 28.2
	comp=Z,116nm,0.8s						
BTLS	**Baital**	**5.45**	**22**	*e*	PN	**Pn**	**10 46 58.0 +0.1**
BTLS				*e*			10 47 16.5
BTLS	**Baital**	**5.45**	**22**	*e*	P	**Pb**	**10 47 16.9 +4.0**
	comp=Z,683nm,0.5s						
BTLS				*e*	S	Sb	10 48 28.1 +10
	comp=Z,116nm,0.8s						
BTLS	**Baital**	**5.45**	**22**	*e*	Pn	**Pn**	**10 46 58.0 +0.1**
BTLS				*e*	Pg	**Pb**	**10 47 16.6 +3.7**
KUU	**Kurty**	**5.47**	**43**		Pg	**Pb**	**10 47 16.9 +3.7**
	comp=Z,78nm,0.5s						
KUU					Lg	Lg	10 48 27.7
	comp=Z,529nm,0.6s						
KUU	**Kurty**	**5.47**	**43**	*e*	PN	**Pn**	**10 46 58.5 +0.3**
KUU				*e*			10 47 16.7
KUU	**Kurty**	**5.47**	**43**	*e*	P	**Pb**	**10 47 16.9 +3.7**
	comp=Z,78nm,0.5s						
KUU				*e*	S	Sb	10 48 27.8 +9.3
	comp=Z,529nm,0.6s						
KUU	**Kurty**	**5.47**	**43**	*e*	P	**Pn**	**10 46 58.5 +0.3**
KUU				*e*	Pg	**Pb**	**10 47 16.7 +3.5**
KOTS	**Kotyrbulak**	**5.50**	**52**		Pg	**Pb**	**10 47 17.5 +3.6**
	comp=Z,294nm,1.1s						
KOTS					Lg	Lg	10 48 28.7
	comp=Z,570nm,0.9s						
KOTS	**Kotyrbulak**	**5.50**	**52**	*e*	P	**Pb**	**10 47 17.4 +3.6**
	comp=Z,294nm,1.1s						
KOTS				*e*	S	Sb	10 48 28.7 +9.2
	comp=Z,570nm,0.9s						
KTBS	**Karatobe**	**5.54**	**46**		Pg	**Pb**	**10 47 18.0 +3.6**
	comp=Z,111nm,0.6s						
KTBS					Lg	Lg	10 48 29.4
	comp=Z,999nm,0.5s						
KBL	**Kabul**	**5.72**	**198**			Pn	10 47 08.0 +6.1
KBL	**Kabul**	**5.72**	**198**		PN	Pn	10 47 08.0 +6.1
CHKK	**Chushkaly**	**5.80**	**47**		Pg	**Pb**	**10 47 22.9 +4.0**
	comp=Z,138nm,0.5s						
CHKK					Lg	Lg	10 48 37.7
	comp=Z,295nm,0.5s						
CHKK	**Chushkaly**	**5.80**	**47**	*e*	P	**Pb**	**10 47 22.9 +4.0**
	comp=Z,138nm,0.5s						
CHKK				*e*	S	Sb	10 48 37.7 +10
	comp=Z,295nm,0.5s						
GZLY	**Gazly**	**5.90**	**274**		P	**Pb**	**10 47 21.3 +0.8**
PRZ	**Przheval'sk**	**6.00**	**63**	⇑	*e*P	**Pn**	**10 47 06.4 +0.8**
PRZ				⇑	*i*S	**Sn**	**10 48 10.6 -2.9**
PRZ	**Przheval'sk**	**6.00**	**63**	*i*	PN	**Pn**	**10 47 06.4 +0.8**
SATY	**Saty**	**6.24**	**59**		Pg	Pb	10 47 31.0 +4.7
	comp=Z,159nm,0.8s						
SATY					Lg	Lg	10 48 51.7
	comp=Z,287nm,0.7s						
SATY	**Saty**	**6.24**	**59**	*e*	PN	**Pn**	**10 47 09.4 +0.6**
SATY				*e*			10 47 31.9
SATY	**Saty**	**6.24**	**59**	*e*	P	**Pn**	**10 47 09.5 +0.6**
SATY				*e*	Pg	Pb	10 47 32.0 +5.7
ARXS	**Arharly**	**6.50**	**48**		Pg	Pb	10 47 36.4 +5.7
	comp=Z,157nm,0.6s						
ARXS					Lg	Lg	10 49 01.2
	comp=Z,273nm,0.5s						
ARXS	**Arharly**	**6.50**	**48**	*e*	PN	**Pn**	**10 47 12.4 0.0**
NIL	**Nilore**	**6.58**	**164**			Pn	10 47 19.1 +5.6
NIL	**Nilore**	**6.58**	**164**		PN	Pn	10 47 19.1 +5.6
UZB	**Uzynbulak**	**6.68**	**60**		Pg	Pb	10 47 39.6 +5.7
	comp=Z,64nm,0.6s						
UZB					Lg	Lg	10 49 06.8
	comp=Z,109nm,0.5s						
UZB	**Uzynbulak**	**6.68**	**60**	*e*	PN	**Pn**	**10 47 15.3 +0.3**
UZB				*e*			10 47 39.4
UZB	**Uzynbulak**	**6.68**	**60**	*e*	P	Pb	10 47 39.6 +5.7
UZB				*e*	S	Sb	10 49 06.8 +14
UZB	**Uzynbulak**	**6.68**	**60**	*e*	P	**Pn**	**10 47 15.3 +0.3**
UZB				*e*	Pg	Pb	10 47 39.5 +5.6
BLB	**Baldybastay**	**6.81**	**51**		Pg	Pb	10 47 41.4 +5.3
	comp=Z,299nm,0.5s						
BLB					Lg	Lg	10 49 10.0
	comp=Z,384nm,0.6s						
SHLS	**Shalkode**	**6.98**	**61**		Pg	Pb	10 47 50.0 +11
	comp=Z,81nm,0.3s						
SHLS					Lg	Lg	10 49 24.8
	comp=Z,202nm,0.6s						
SHLS	**Shalkode**	**6.98**	**61**	*e*	P	**Pn**	**10 47 23.6 +4.6**
SHLS	**Shalkode**	**6.98**	**61**	*e*	P	Pb	10 47 50.0 +11
	comp=Z,81nm,0.3s						
SHLS				*e*	S	Sb	10 49 24.8 +23
	comp=Z,202nm,0.6s						
SHLS	**Shalkode**	**6.98**	**61**	*e*	P	**Pn**	**10 47 23.6 +4.6**
PDGK	**Podgornoye**	**7.07**	**59**	⇑	Pn	**Pn**	**10 47 20.8 +0.5**
	comp=Z,11nm,0.6s						
PDGK				⇓	Pg	**Pb**	**10 47 44.7 +4.2**
	comp=Z,74nm,0.8s						
PDGK				⇑	Lg	Lg	10 49 16.8
	comp=Z,149nm,0.6s						
PDGK	**Podgornoye**	**7.07**	**59**		PN	**Pn**	**10 47 20.8 +0.5**
PDGK							10 47 44.6
TDK	**Taldygorghan**	**7.32**	**45**		Pg	Pb	10 47 51.1 +6.5
	comp=Z,236nm,0.6s						
TDK					Lg	Lg	10 49 26.5
	comp=Z,572nm,1.0s						
TDK	**Taldygorghan**	**7.32**	**45**	*e*	P	Pb	10 47 51.1 +6.5
	comp=Z,236nm,0.6s						
TDK				*e*	S	Sb	10 49 26.5 +15
	comp=Z,572nm,1.0s						
KNOS	**Konyrlen**	**7.37**	**51**		Pg	Pb	10 47 52.1 +6.5
	comp=Z,50nm,0.9s						
KNOS					Lg	Lg	10 49 28.4
	comp=Z,120nm,0.6s						
KTMS	**Ketmen**	**7.69**	**61**		Pg	Pb	10 47 58.1 +7.0
	comp=Z,13nm,0.4s						
KTMS					Lg	Lg	10 49 38.5
	comp=Z,46nm,0.6s						
KTMS	**Ketmen**	**7.69**	**61**	*e*	P	Pb	10 47 58.1 +7.0
	comp=Z,13nm,0.4s						
KTMS				*e*	S	Sb	10 49 38.5 +16
	comp=Z,46nm,0.6s						
THN	**Thein Dam**	**8.43**	**153**	*e*	P	**Pn**	**10 47 41.5 +2.7**
THN				*e*	S	**Sn**	**10 49 10.8 -2.2**
THN					IAML		10 49 18.6
	comp=N,200nm,0.5s						
THN					IAML		10 49 19.6
	comp=E,183nm,0.4s						
DHRM	**DHARAMSHALA**	**8.80**	**150**	*e*	P	**Pn**	**10 47 46.3 +2.1**
DHRM				*e*	S	**Sn**	**10 49 18.6 -4.1**
DHRM					IAML		10 49 28.7
	comp=N,194nm,0.4s						
DHRM					IAML		10 49 29.1
	comp=E,243nm,0.4s						
HNLY	**HANLEY**	**9.59**	**136**	*e*	P	**Pn**	**10 47 55.6 +0.3**
BHK	**Bhakra**	**9.60**	**152**	*e*	S	**Sn**	**10 49 38.8 -3.0**
BRZS	**Berezniki**	**10.02**	**6**		Pg	Pn	10 48 41.8 +41
	comp=E,4.5nm,0.7s						
BRZS					Lg	Lg	10 50 54.2
	comp=E,110nm,1.2s						
BRZS	**Berezniki**	**10.02**	**6**	*e*	P	Pn	10 48 41.8 +41
	comp=E,4.5nm,0.7s						
BRZS				*e*	S		10 50 54.2
	comp=E,110nm,1.2s						
SMLA	**Simla**	**10.14**	**149**	*e*	P	**Pn**	**10 48 03.2 +1.0**
SMLA				*e*	S	**Sn**	**10 49 48.5 -6.6**
SMLA					IAML		10 50 01.1
	comp=N,125nm,0.5s						
MAKZ	**Makanchi**	**10.39**	**46**	⇑	Pn	**Pn**	**10 48 05.5 -0.2**
	comp=N,13nm,0.8s						
MAKZ				⇓	Lg	Lg	10 51 04.8
	comp=N,37nm,0.8s						
MAKZ	**Makanchi**	**10.39**	**46**		P	**Pn**	**10 48 05.5 -0.2**
MAKZ					pmax	pmax	
	comp=Z,10.0nm,0.8s						
MK31	**Makanchi Array**	**10.56**	**46**	⇑	Pn	**Pn**	**10 48 07.5 -0.4**
	comp=Z,12nm,0.6s,baz=229,slow=14,SNR=120						
MK31				⇓	Lg	Lg	10 51 10.3
	comp=Z,49nm,0.7s						
MK31	**Makanchi Array**	**10.56**	**46**	*i*	P	**Pn**	**10 48 08.0 0.0**
MK31					pmax	pmax	
	comp=Z,12nm,0.5s						
MKAR	**Makanchi Array**	**10.56**	**46**			**Pn**	**10 48 07.8 -0.2**
MKAR	**Makanchi Array**	**10.56**	**46**		Pn	**Pn**	**10 48 07.9 0.0**
	comp=Z,4.7nm,0.3s,baz=236,slow=15,SNR=108						
MKAR					Lg	Lg	10 51 05.1
	comp=Z,1.6nm,0.3s,baz=264,slow=23,SNR=3.5						
MKAR					LR	LR	10 52 42.1
	comp=Z,379nm,20.1s,baz=228,slow=41						
	comp=Z,10nm,0.4s						
MKAR	**Makanchi Array**	**10.56**	**46**		P	**Pn**	**10 48 07.8 -0.2**
DDI	**Dehra Dun**	**11.21**	**148**	*e*	P	**Pn**	**10 48 18.4 +1.4**
DDI				*e*	S	**Sn**	**10 50 13.9 -7.4**
DDI					IAML		10 50 24.1
	comp=N,114nm,0.4s						
DDI					IAML		10 50 25.8
	comp=E,123nm,0.6s						
KURBB	**Kurchatov Arra**	**11.80**	**24**	⇓	Pn	**Pn**	**10 48 21.3 -3.5**
	comp=E,26nm,0.6s						
KURBB				⇑	Lg	Lg	10 51 48.0
	comp=E,162nm,0.7s						
KURBB	**Kurchatov Arra**	**11.80**	**24**		Pn	**Pn**	**10 48 21.9 -3.0**
	comp=E,0.9nm,0.3s,baz=212,slow=12,SNR=87						
	comp=E,9.1nm,0.5s						
KURK	**Kurchatov**	**11.91**	**24**			**Pn**	**10 48 23.6 -2.7**
KURK	**Kurchatov**	**11.91**	**24**	⇑	Pn	**Pn**	**10 48 22.9 -3.5**
	comp=E,17nm,0.9s						
KURK				⇓	Lg	Lg	10 51 51.7
	comp=E,208nm,0.9s						
KURK	**Kurchatov**	**11.91**	**24**	*ce*	P	**Pn**	**10 48 23.5 -2.9**
KURK					pmax	pmax	
	comp=Z,26nm,1.3s						
BKNR	**BIKANER**	**12.10**	**171**	*e*	P	**Pn**	**10 48 30.5 +1.3**
AB31	**Akbulak array**	**12.19**	**323**			**Pn**	**10 48 28.1 -2.1**
AB31	**Akbulak array**	**12.19**	**323**		Pn	**Pn**	**10 48 27.9 -2.2**
	comp=Z,8.1nm,0.3s,baz=142,slow=12,SNR=393						
AB31				⇓	Sn	**Sn**	**10 50 48.8 +3.7**
	comp=Z,16nm,0.6s,baz=131,slow=25,SNR=4.8						
AB31	**Akbulak array**	**12.19**	**323**	*e*	P	**Pn**	**10 48 27.9 -2.2**
AB31				*e*	S	**Sn**	**10 50 38.3 -6.8**
ABKAR	**Akbulak array**	**12.19**	**323**			**Pn**	**10 48 27.8 -2.4**
SEM	**Semipalatinsk**	**12.20**	**29**		Pg	P	10 49 21.7 +39
	comp=Z,12nm,0.4s						
SEM					Lg	Lg	10 52 01.6
	comp=Z,77nm,0.8s						
SEM	**Semipalatinsk**	**12.20**	**29**	*e*	P	P	10 49 21.7 +39
	comp=Z,12nm,0.4s						
SEM				*e*	S		10 52 01.6
	comp=Z,77nm,0.8s						
AYAN	**Aya Nagar**	**12.53**	**155**	*e*	P	**Pn**	**10 48 34.9 0.0**
KUDL	**Kundal**	**12.65**	**158**	*e*	S	**Sn**	**10 50 48.5 -8.0**
PTH	**Pithoragarh**	**12.83**	**142**	*e*	S	Sn	10 50 47.1 -14
WMQ	**Urumqi**	**12.90**	**68**	*e*	P	**Pn**	**10 48 38.0 -2.0**
WMQ					pmax	pmax	
	comp=Z,6.0nm,0.7s						
BVA0	**Borovoye Array**	**13.02**	**358**		Pn	**Pn**	**10 48 38.6 -2.9**
	comp=Z,9.0nm,0.6s,baz=176,slow=13,SNR=20						
BVA0				⇓	Lg	Lg	10 52 27.5
	comp=Z,64nm,1.1s,baz=161,slow=11,SNR=4.2						
BVA0	**Borovoye Array**	**13.02**	**358**	*i*	P	**Pn**	**10 48 38.6 -2.9**
BVAR	**Borovoye Array**	**13.02**	**358**		Pn	**Pn**	**10 48 38.0 -3.5**
	comp=Z,0.4nm,0.3s,baz=162,slow=13,SNR=20						
BVAR					Lg	Lg	10 52 29.2
	comp=Z,0.3nm,0.3s,baz=155,slow=25,SNR=3.6						
BVAR					LR	LR	10 53 55.5
	comp=Z,506nm,18.2s,baz=177,slow=38						
	comp=Z,5.4nm,0.5s						
BVAR	**Borovoye Array**	**13.02**	**358**		P	**Pn**	**10 48 38.0 -3.5**
BRVK	**Borovoye**	**13.05**	**358**			**Pn**	**10 48 40.3 -1.7**
BRVK	**Borovoye**	**13.05**	**358**	⇑	Pn	**Pn**	**10 48 39.4 -2.6**
	comp=Z,9.1nm,0.6s						
BRVK				⇑	Lg	Lg	10 52 25.9
	comp=Z,131nm,1.0s						
BRVK	**Borovoye**	**13.05**	**358**	*ce*	P	**Pn**	**10 48 40.0 -2.0**
BRVK					pmax	pmax	
	comp=Z,6.0nm,0.6s						
AJM	**Ajmer**	**13.82**	**167**	*e*	P	**Pn**	**10 48 52.8 +0.1**
AKTO	**Aktyubinsk**	**13.90**	**323**	⇓	Pn	**Pn**	**10 48 50.8 -2.8**
	comp=Z,10.0nm,0.6s						
AKTO				⇑	Sn	**Sn**	**10 51 26.3 -0.7**
	comp=Z,21nm,0.9s						
AKTO	**Aktyubinsk**	**13.90**	**323**		Pn	**Pn**	**10 48 51.6 -2.0**
	comp=Z,0.5nm,0.3s,baz=125,slow=13,SNR=13						
AKTO					LR	LR	10 54 43.7
	comp=Z,497nm,18.2s,baz=80,slow=39						
	comp=Z,7.1nm,0.6s						
ZAA0	**Zalesovo Array**	**16.72**	**29**			**Pn**	**10 49 28.3 -2.4**
ZAA0	**Zalesovo Array**	**16.72**	**29**	⇑	Pn	**Pn**	**10 49 27.2 -3.4**
	comp=Z,2.8nm,0.7s						
ZALV	**Zalesovo Beam**	**16.72**	**29**		Pn	**Pn**	**10 49 28.0 -2.6**
	comp=Z,2.1nm,0.3s,baz=228,slow=13,SNR=25						
ZALV					LR	LR	10 56 15.0
	comp=Z,295nm,18.2s,baz=220,slow=38						
	comp=Z,8.9nm,0.4s						
ZALV	**Zalesovo Beam**	**16.72**	**29**	*i*	P	**Pn**	**10 49 28.2 -2.5**
ZALV					pmax	pmax	
	comp=Z,9.0nm,0.4s						
BHPL	**Bhopal**	**17.56**	**161**	*e*	P	**P**	**10 49 43.4 +1.2**
EVN	**Everest**	**17.68**	**128**			**Pn**	**10 49 40.7 -2.8**
AKT	**Akhty**	**17.79**	**282**	*e*	P	**P**	**10 49 47.0 +2.2**
AKT				*e*	S	**Sn**	**10 53 05.0 +3.3**
AKT					pmax	pmax	
	comp=Z,9.0nm,0.5s						
MAK	**Makhachkala**	**17.94**	**287**	*c*	*i*P	**Pn**	**10 49 40.6 -5.2**
MAK				*e*	S	**Sn**	**10 52 58.7 -6.3**
MAK					pmax	pmax	
	comp=Z,156nm,1.1s						
MAK					MLR	MLR	
	comp=Z,301nm,12.0s						
SVE	**Sverdlovsk**	**18.17**	**341**	*e*	P	**P**	**10 49 52.9 +4.2**
SVE					pmax	pmax	
	comp=Z,17nm,0.7s						
SVE					MLR	MLR	
	comp=Z,402nm,12.0s						
ARTI	**Arti**	**18.40**	**337**			**P**	**10 49 49.6 -1.7**
ARTI					IAmb	IAmb	10 49 56.3
	comp=Z,30nm,0.8s						
ARTI	**Arti**	**18.40**	**337**		P	**P**	**10 49 49.9 -1.4**
	comp=Z,1.1nm,0.3s,baz=151,slow=7.1,SNR=10						
ARTI					LR	LR	10 57 45.4
	comp=Z,123nm,21.7s,baz=138,slow=40						
	comp=Z,9.5nm,0.9s						
ARTI	**Arti**	**18.40**	**337**	*c*	*i*P	**P**	**10 49 50.1 -1.2**
ARTI					S	**S**	**10 53 20.6 +0.8**
ARTI					pmax	pmax	
	comp=Z,11nm,0.9s						
GOMU	**GeErMu**	**19.00**	**94**		P	**P**	**10 49 58.5 0.0**
GOMU					pP	Pn	10 50 02.5 +3.2
GOMU					sP	pP	10 50 05.9 -0.2
GOMU					pmax	pmax	
	comp=Z,7.0nm,0.7s						
WSAR	**Wadi Sarin**	**19.80**	**216**		P	**P**	**10 50 06.8 0.0**
	baz=75,slow=24,SNR=5.2						
GNI	**Garni**	**20.18**	**279**		P	**P**	**10 50 11.6 +0.6**
	comp=Z,8.4nm,0.7s,baz=184,slow=8.9,SNR=3.6						
	comp=Z,8.4nm,0.7s						
GNI	**Garni**	**20.18**	**279**	*ce*	P	Pn	10 50 13.0 -0.1
GNI					pmax	pmax	
	comp=Z,13nm,1.0s						
BELG	**Belogornoye**	**20.33**	**315**		P	**P**	**10 50 12.4 0.0**
	comp=Z,15nm,0.7s,baz=309,slow=3.2,SNR=6.4						
BELG					LR	LR	10 59 05.3
	comp=Z,138nm,19.6s,baz=113,slow=40						
	comp=Z,15nm,0.7s						
BELG	**Belogornoye**	**20.33**	**315**	*i*	P	**P**	**10 50 11.7 -0.7**
BELG					pmax	pmax	
	comp=Z,5.0nm,0.6s						
KBZ	**Khabaz**	**21.31**	**289**		P	**P**	**10 50 22.4 -0.7**
	comp=Z,1.8nm,0.7s,baz=122,slow=6.9,SNR=4.1						
KBZ					LR	LR	11 00 57.1
	comp=Z,103nm,18.0s,baz=88,slow=43						
	comp=Z,1.8nm,0.7s						
KBZ	**Khabaz**	**21.31**	**289**	*i*	P	**P**	**10 50 21.2 -1.8**
KBZ					pmax	pmax	
	comp=Z,8.0nm,0.8s						
KIV	**Kislovodsk**	**21.46**	**290**	*e*	P	**P**	**10 50 24.6 -0.2**
KIV				*e*	S	**S**	**10 54 22.4 +0.8**
KIV					pmax	pmax	
	comp=Z,9.0nm,1.0s						
KIV					MLR	MLR	
	comp=Z,48nm,14.0s						
SHA1	**Shidzhatmaz**	**21.48**	**289**	*i*	P	**P**	**10 50 26.9 +1.7**
GTA	**Gaotai**	**22.03**	**82**	*e*	P	**P**	**10 50 30.8 -0.2**
GTA					pmax	pmax	
	comp=Z,6.0nm,0.9s						
GTA					LR	LR	
	comp=Z,130nm,16.7s						
GTA					LR	LR	
	comp=Z,120nm,14.9s						
GTA					LR	LR	
	comp=Z,160nm,13.1s						
SHL	**Shillong**	**22.55**	**123**			**P**	**10 50 36.9 +0.2**
SHL					IAmb	IAmb	10 50 38.7
	comp=Z,22nm,0.9s						
SHL	**Shillong**	**22.55**	**123**		P	**P**	**10 50 36.9 +0.2**
SHL					pmax	pmax	
	comp=Z,22nm,0.9s						
KIRV	**Kirov**	**23.18**	**330**		LR	LR	11 00 26.3
	comp=Z,251nm,19.8s,baz=133,slow=38						
KIRV	**Kirov**	**23.18**	**330**	*i*	P	**P**	**10 50 43.0 +0.3**
VORD	**Divnogorie**	**24.67**	**307**	*e*	P	**P**	**10 50 56.7 -0.2**
VORD					pmax	pmax	
	comp=Z,9.0nm,0.9s						
ZAK	**Zakamensk**	**24.72**	**55**	*e*	P	**P**	**10 50 58.1 +0.6**
ZAK					pmax	pmax	
	comp=Z,7.0nm,1.2s						
VSR	**Storozhevoye**	**24.81**	**307**	*e*	P	**P**	**10 50 57.3 -0.8**
VSR					pmax	pmax	
	comp=Z,9.0nm,0.9s						
SONM	**Songino Array**	**26.38**	**61**		P	**P**	**10 51 10.9 -1.7**
SONM	**Songino Array**	**26.38**	**61**		P	**P**	**10 51 10.3 -2.4**
	comp=Z,1.5nm,0.7s,baz=278,slow=10,SNR=4.8						
	comp=Z,1.5nm,0.7s						
SONM	**Songino Array**	**26.38**	**61**		P	**P**	**10 51 10.9 -1.7**
SONM					pmax	pmax	
	comp=Z,6.0nm,1.4s						
ULN	**Ulaanbaatar**	**26.83**	**61**	*i*	P	**P**	**10 51 16.0 -0.7**
ULN					pmax	pmax	
	comp=Z,2.0nm,0.5s						
MOS	**Moscow**	**27.08**	**317**	*e*	P	**P**	**10 51 23.1 +4.5**
MOS				*e*			10 52 08.7
MOS					pmax	pmax	
	comp=Z,45nm,0.7s						
RAYN	**Ar Rayn**	**27.17**	**240**		P	**P**	**10 51 22.1 +2.3**
RAYN	**Ar Rayn**	**27.17**	**240**		P	**P**	**10 51 22.1 +2.3**
RAYN					pmax	pmax	
	comp=Z,3.0nm,0.6s						
OBN	**Obninsk**	**27.43**	**315**	⇓	*e*P	**P**	**10 51 23.9 +2.2**
OBN					*SP	**pP**	**10 51 31.0 +1.3**
OBN				*e*			10 52 06.6
OBN					pmax	pmax	
	comp=Z,20nm,1.0s						
OBN					MLR	MLR	
	comp=Z,171nm,16.0s						
KLMR	**Klimovskoe**	**28.52**	**327**	*e*	P	**P**	**10 51 30.6 -0.8**
KLMR					pmax	pmax	
	comp=Z,20nm,1.5s						
BR131	**Keskin Array S**	**28.65**	**282**			**P**	**10 51 33.7 +0.7**
BR131	**Keskin Array S**	**28.65**	**282**		P	**P**	**10 51 33.7 +0.7**
BR131					pmax	pmax	
	comp=Z,4.0nm,0.7s						
BRTR	**Keskin Array B**	**28.65**	**282**		P	**P**	**10 51 34.1 +1.1**
BRTR	**Keskin Array B**	**28.65**	**282**		P	**P**	**10 51 34.7 +1.7**
	comp=Z,1.7nm,0.7s,baz=79,slow=7.3,SNR=7.6						
	comp=Z,1.7nm,0.7s						
PZH	**PanZhiHua**	**28.77**	**109**		P	**P**	**10 51 36.8 +2.7**
BTO	**Baotou**	**29.49**	**76**	*e*	P	**P**	**10 51 38.5 -1.9**
BTO					pmax	pmax	
	comp=Z,14nm,0.8s			

FINES	FINES Array B	34.68	323	P		P	10 52 26.5	+1.0
FINES	FINES Array B	34.68	323	P		P	10 52 26.3	+0.8
	comp=Z,3.7nm,0.5s,baz=111,slow=8.7,SNR=29							
FINES				LR		LR	11 07 26.8	
	comp=Z,177nm,20.8s,baz=54,slow=38							
	comp=Z,3.7nm,0.5s							
OJC	Ojcow	36.96	303	eP		P	10 52 46.4	+1.2
OJC	Ojcow	36.96	303	P		P	10 52 46.3	+1.1
OJC	Ojcow	36.96	303	P		P	10 52 46.3	+1.1
PSZ	Piszkesteto	37.12	300	P		P	10 52 47.5	+0.8
PSZ	Piszkesteto	37.12	300	P		P	10 52 47.5	+0.8
PSZ				pmax		pmax		
	comp=Z,10.0nm,1.4s							
ARCES	ARCESS Array B	37.96	336			P	10 52 54.2	+0.9
ARCES	ARCESS Array B	37.96	336	P		P	10 52 54.1	+0.7
	comp=Z,0.8nm,0.4s,baz=111,slow=8.2,SNR=18							
ARCES				LR		LR	11 09 24.7	
	comp=Z,201nm,19.1s,baz=114,slow=38							
	comp=Z,0.8nm,0.4s							
ARCES	ARCESS Array B	37.96	336	P		P	10 52 54.3	+0.9
ARCES				pmax		pmax		
	comp=Z,5.0nm,0.9s							
UBPT	Khong Chiam	38.76	120	P		P	10 53 00.6	-0.1
UBPT				IAmb		IAmb	10 53 19.6	
	comp=Z,16nm,1.4s							
NJ2	Nanjing	39.01	86	eP		P	10 53 03.4	+0.7
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
VRAC	Vranov	39.12	302	LR		LR	11 13 16.4	
	comp=Z,70nm,18.6s,baz=74,slow=42							
RONA	Rosalia, Austr	39.56	300	eP		P	10 53 08.7	+1.5
	comp=Z,4.3nm,0.9s							
CONA	Conrad Observa	39.81	300	i P		P	10 53 10.6	+1.3
	comp=Z,6.4nm,0.9s							
ARSA	Arzberg	40.15	299	eP		P	10 53 13.2	+1.1
	comp=Z,4.2nm,1.0s							
HFS	Hagfors	40.42	319	P		P	10 53 14.5	+0.5
	comp=Z,3.0nm,0.3s,baz=102,slow=9.2,SNR=33							
HFS				LR		LR	11 10 54.8	
	comp=Z,127nm,19.4s,baz=92,slow=38							
	comp=Z,3.0nm,0.3s							
SOKA	Soboth	40.59	299	eP		P	10 53 15.5	-0.3
	comp=Z,4.1nm,0.7s							
BRG	Berggiesshubel	40.61	305	eP		P	10 53 16.5	+0.7
BRG				Amp			10 53 17.7	
	comp=Z,3.0nm,0.6s							
BRG	Berggiesshubel	40.61	305	P		P	10 53 23.6	+7.8
BRG				Amp			10 53 24.8	
	comp=Z,7.1nm,0.7s							
RGN	Rugen	40.63	311	P		P	10 53 16.7	+0.8
MOA	Molln	40.88	300	eP		P	10 53 18.7	+0.6
	comp=Z,3.2nm,0.6s							
GEC2	GERESS Array S	41.07	302	P		P	10 53 20.5	+0.7
GERES	GERESS Array B	41.07	302			P	10 53 21.6	+1.8
GERES	GERESS Array B	41.07	302	P		P	10 53 20.7	+0.9
	comp=Z,3.4nm,1.0s,baz=75,slow=5.7,SNR=8.8							
GERES				LR		LR	11 14 16.7	
	comp=Z,66nm,18.1s,baz=60,slow=42							
	comp=Z,3.4nm,1.0s							
GERES	GERESS Array B	41.07	302	P		P	10 53 21.6	+1.8
YAK	Yakutsk	41.08	38	P		P	10 53 19.9	+0.5
YAK	Yakutsk	41.08	38	eP		P	10 53 19.4	0.0
YAK				e*PP		sP	10 53 31.0	0.0
YAK				e			10 54 54.0	
YAK				ePPP		PPP	10 55 22.4	
YAK				eS		S	10 59 27.9	-2.4
YAK				eSS		SS	11 02 32.0	-0.7
YAK				e			11 03 19.6	
YAK				pmax		pmax		
	comp=Z,15nm,0.7s							
YAK				pmax		pmax		
	comp=N,8.0nm,1.4s							
YAK				pmax		pmax		
	comp=E,11nm,1.4s							
YAK				pmax		pmax		
	comp=Z,168nm,6.3s							
YAK				pmax		pmax		
	comp=N,49nm,6.0s							
YAK				pmax		pmax		
	comp=E,45nm,5.1s							
YAK				smax		smax		
	comp=E,37nm,3.1s							
YAK				smax		smax		
	comp=N,39nm,3.3s							
KHC	Kasperske Hory	41.10	303	eP		P	10 53 21.5	+1.6
KHC	Kasperske Hory	41.10	303	eP		P	10 53 21.5	+1.6
CLL	Collm	41.14	306	P		P	10 53 21.8	+1.6
CLL	Collm	41.14	306	P		P	10 53 21.8	+1.6
CLL				pmax		pmax		
	comp=Z,3.0nm,0.6s							
CLL	Collm	41.14	306	i P		P	10 53 18.8	-1.3
CLL				AMS		AMS	11 12 00.0	
	comp=Z,100nm,18.6s							
BIOA	Bad Ischl, Aus	41.32	300	eP		P	10 53 21.7	-0.1
	comp=Z,1.7nm,0.4s							
NC405	NORSAR Array S	41.44	321	P		P	10 53 23.1	+0.6
NC405				IAmb		IAmb	10 53 35.8	
	comp=Z,9.4nm,1.0s							
NC602	NORSAR Array S	41.51	320	P		P	10 53 23.7	+0.7
NC602				IAmb		IAmb	10 53 30.4	
	comp=Z,19nm,1.4s							
NC303	NORSAR Array S	41.61	321	P		P	10 53 24.7	+0.8
NC303				IAmb		IAmb	10 53 37.1	
	comp=Z,11nm,0.9s							
KBA	Koelnbreinsper	41.64	300	i P		P	10 53 24.5	0.0
	comp=Z,2.4nm,0.5s							
NB201	NORSAR Array S	41.64	321	P		P	10 53 24.6	+0.5
NB201				IAmb		IAmb	10 53 30.5	
	comp=Z,22nm,1.4s							
NB2	NORSAR Subarra	41.68	321	P		P	10 53 24.4	-0.1
	comp=Z,1.4nm,0.5s,baz=110,slow=7.9							
NOA	NORSAR Array B	41.68	321	P		P	10 53 24.7	+0.2
	comp=Z,1.2nm,0.6s,baz=92,slow=7.9,SNR=12							
NOA				LR		LR	11 11 34.2	
	comp=Z,143nm,18.7s,baz=100,slow=37							
	comp=Z,1.2nm,0.6s							
SABO	M.te Sabotino	41.71	298	P		P	10 53 25.6	+0.6
NC204	NORSAR Array S	41.91	321	P		P	10 53 27.1	+0.7
NC204				IAmb		IAmb	10 54 00.4	
	comp=Z,15nm,1.2s							
LESA	Schwarzleotal	42.02	300	i P		P	10 53 27.3	-0.2
	comp=Z,3.9nm,0.7s							
ABTA	Abfaltersbach	42.27	299	eP		P	10 53 31.2	+1.6
	comp=Z,1.8nm,0.5s							
TIXI	Tiksi	42.48	23			P	10 53 30.7	-0.2
TIXI				IAmb		IAmb	10 53 40.2	
	comp=Z,9.4nm,0.7s							
TIXI	Tiksi	42.48	23	LR		LR	11 13 43.8	
	comp=Z,42nm,18.5s,baz=240,slow=40							
TIXI	Tiksi	42.48	23	ceP		P	10 53 31.7	+0.9
TIXI				pmax		pmax		
	comp=Z,16nm,1.3s							
WTTA	Wattenberg	42.74	300	i P		P	10 53 33.0	-0.6
	comp=Z,4.8nm,0.6s							
WATA	Walderalm	42.77	300	i P		P	10 53 33.3	-0.3
	comp=Z,8.2nm,0.8s							
SQTA	Sankt Quirin	43.03	300	eP		P	10 53 36.3	+0.5
	comp=Z,2.2nm,0.4s							
MOTA	Moosalm	43.08	300	i P		P	10 53 36.0	-0.1
	comp=Z,4.6nm,0.6s							
RETA	Reutte	43.27	301	i P		P	10 53 38.0	+0.3
	comp=Z,5.8nm,1.2s							
FETA	Feichten	43.40	300	i P		P	10 53 38.4	-0.4
	comp=Z,5.9nm,1.2s							
VAE	Valguarnera	43.68	286	LR		LR	11 17 38.7	
	comp=Z,54nm,18.7s,baz=145,slow=44							
KSRS	Korea Array	43.73	74	P		P	10 53 40.1	-1.2
	comp=Z,0.7nm,0.4s,baz=282,slow=6.4,SNR=5.0							
	comp=Z,0.7nm,0.4s							
DAVA	Damuels	43.90	301	i P		P	10 53 43.1	+0.3
	comp=Z,5.6nm,0.6s							
DAVOX	Davos/Dischmat	44.02	300	LR		LR	11 15 34.9	
	comp=Z,54nm,19.1s,baz=80,slow=41							
SPITS	Spitsbergen Ar	44.10	346	P		P	10 53 44.9	+1.1
	comp=Z,3.1nm,0.7s,baz=129,slow=15,SNR=6.7							
SPITS				LR		LR	11 14 40.4	
	comp=Z,117nm,18.2s,baz=120,slow=40							
	comp=Z,3.1nm,0.7s							
SENIN	Lac Senin/Sane	45.85	300			P	10 53 59.2	+0.8
SENIN				IAmb		IAmb	10 54 07.3	
	comp=Z,5.6nm,0.6s							
BNI	Bardonecchia	46.65	298	P		P	10 54 06.5	+1.9
BNI	Bardonecchia	46.65	298	P		P	10 54 06.5	+1.9
BNI				pmax		pmax		
	comp=Z,17nm,1.4s							
EKA	Eskdalemuir Ar	49.88	314	P		P	10 54 28.7	-0.5
	comp=Z,1.0nm,0.3s,baz=88,slow=7.8,SNR=12							
	comp=Z,1.0nm,0.3s							
SEY	Seymchan	51.46	35	LR		LR	11 18 08.3	
	comp=Z,67nm,18.1s,baz=218,slow=38							
SEY	Seymchan	51.46	35	i P		P	10 54 42.1	+1.1
SEY				pmax		pmax		
	comp=Z,11nm,1.6s							
MJAR	Matsushiro Arr	51.63	71	P		P	10 54 41.9	-0.9
	comp=Z,3.6nm,0.9s,baz=292,slow=10.0,SNR=9.9							
	comp=Z,3.6nm,0.9s							
BORG	Borgarnes	55.64	329	LR		LR	11 18 41.4	
	comp=Z,57nm,19.9s,baz=60,slow=36							
ESDC	Sonseca Array	55.97	296	P		P	10 55 14.2	-0.3
	comp=Z,0.6nm,0.5s,baz=46,slow=8.0,SNR=4.6							
	comp=Z,0.6nm,0.5s							
RES	Resolute Bay	65.20	356	LR		LR	11 28 31.8	
	comp=Z,43nm,18.3s,baz=342,slow=40							
TORD	Torodi Ar. Bea	65.96	267	P		P	10 56 22.9	+0.4
TORD	Torodi Ar. Bea	65.96	267	P		P	10 56 22.4	-0.1
	comp=Z,7.6nm,0.5s,baz=45,slow=6.0,SNR=58							
	comp=Z,7.6nm,0.5s							
C23K	Itkillik River	66.29	15	P		P	10 56 25.2	+1.3
TOLK	Toolik Lake Re	67.49	15			P	10 56 32.4	+0.8
D25K	Kavik River	67.52	14	IAmb		IAmb	10 56 42.0	
	comp=Z,4.2nm,0.8s							
F21K	Alatna River	67.84	17	IAmb		IAmb	10 56 47.8	
	comp=Z,3.2nm,0.8s							
E23K	Chandalar	67.98	15	IAmb		IAmb	10 56 43.7	
	comp=Z,3.9nm,0.8s							
E24K	Your Creek	68.19	15	IAmb		IAmb	10 56 45.5	
	comp=Z,3.8nm,0.6s							
COLD	Coldfoot	68.56	16	P		P	10 56 39.1	+0.9
J14K	Nanvaranak Lak	68.63	24	P		P	10 56 39.9	+1.2
E25K	Arctic Village	68.71	14	P		P	10 56 40.5	+1.3
F24K	Squaw Lake	68.78	15	P		P	10 56 40.4	+0.6
IMAR	Indian Mountai	68.79	18	P		P	10 56 39.8	+0.1
J16K	Anvik River	69.11	22	P		P	10 56 42.8	+1.0
F25K	Christian Rive	69.16	14	P		P	10 56 43.4	+1.3
F25K				IAmb		IAmb	10 56 51.6	
	comp=Z,4.0nm,0.9s							
E28M	Babbage River	69.30	12	IAmb		IAmb	10 56 53.0	
	comp=Z,2.5nm,0.7s							
E27K	Coleen River	69.35	12	IAmb		IAmb	10 56 53.4	
	comp=Z,8.3nm,1.4s							
G24K	Hadweenzic Riv	69.57	15	IAmb		IAmb	10 56 54.7	
	comp=Z,7.7nm,1.2s							
E29M	Blow River	69.74	11	IAmb		IAmb	10 56 54.8	
	comp=Z,5.8nm,1.2s							
H23K	Yukon River	69.89	17	P		P	10 56 47.8	+1.2
H23K				IAmb		IAmb	10 56 55.5	
	comp=Z,4.0nm,1.1s							
L14K	Kuka Creek	69.96	24	P		P	10 56 48.1	+1.2
J20K	Nowinta River	70.17	19	IAmb		IAmb	10 56 58.3	
	comp=Z,11nm,1.5s							
H24K	Noodor Dome	70.23	16	IAmb		IAmb	10 57 01.4	
	comp=Z,6.4nm,1.4s							
INK	Inuvik	70.42	9			P	10 56 51.2	+1.6
INK	Inuvik	70.42	9	P		P	10 56 51.2	+1.6
INK				pmax		pmax		
	comp=Z,9.0nm,1.2s							
G27K	Doyon Strip	70.58	13	P		P	10 56 52.1	+1.3
G27K				IAmb		IAmb	10 56 58.8	
	comp=Z,3.3nm,1.0s							
F30M	Barrier River	70.77	11	IAmb		IAmb	10 56 59.5	
	comp=Z,8.5nm,1.2s							
K20K	Telida	70.86	20			P	10 56 53.4	+0.9
K20K				IAmb		IAmb	10 57 02.7	
	comp=Z,8.1nm,1.5s							
PRP	Porcupine Dome	71.00	15	P		P	10 56 54.4	+0.9
BPAW	Bear Paw Mtn.	71.01	18	IAmb		IAmb	10 57 33.0	
	comp=Z,6.4nm,1.1s							
COLA	College	71.07	16	P		P	10 56 53.9	+0.2
COLA	College	71.07	16	P		P	10 56 53.9	+0.2
COLA				pmax		pmax		
	comp=Z,21nm,1.4s							
L18K	Granite Mounta	71.07	22	P		P	10 56 53.4	-0.5
G29M	Pine Creek	71.08	12	P		P	10 56 54.1	+0.3
G29M				IAmb		IAmb	10 57 06.8	
	comp=Z,3.0nm,0.8s							
H27K	Steamboat Moun	71.12	13			P	10 56 54.4	+0.3
H27K				IAmb		IAmb	10 56 56.3	
	comp=Z,4.5nm,0.9s							
G30M	tAoh Zraii Nji	71.29	11	IAmb		IAmb	10 57 05.5	
	comp=Z,8.2nm,1.2s							
IL31		71.37	16	P		P	10 56 55.5	0.0
IL31				IAmb		IAmb	10 56 56.4	
	comp=Z,3.8nm,1.1s							
ILAR	Eielson Array	71.37	16	P		P	10 56 55.3	-0.3
ILAR	Eielson Array	71.37	16	P		P	10 56 55.0	-0.5
	comp=Z,1.9nm,0.8s,baz=326,slow=5.5,SNR=25							
	comp=Z,1.9nm,0.8s							
ILAR	Eielson Array	71.37	16	P		P	10 56 55.3	-0.3
KTH	Kantishna Hill	71.49	18	P		P	10 56 56.3	-0.1
KTH				IAmb		IAmb	10 56 57.6	
	comp=Z,6.0nm,1.0s							
G31M	Satah River	71.62	10	IAmb		IAmb	10 57 06.6	
	comp=Z,8.1nm,1.1s							
H29M	Whitestone	71.67	12	IAmb		IAmb	10 57 16.3	
	comp=Z,8.9nm,1.3s							
I28M	Miner Creek	72.11	13	IAmb		IAmb	10 57 01.4	
	comp=Z,3.9nm,0.9s							
I29M	Ogilvie Camp,	72.47	12	IAmb		IAmb	10 57 09.6	
	comp=Z,4.1nm,1.1s							
SCRK	Sand Creek	72.67	15			P	10 57 03.7	+0.2
SCRK				IAmb		IAmb	10 57 04.6	
	comp=Z,3.5nm,0.9s							
I30M	Mount Dempster	72.91	12			P	10 57 04.8	-0.1
DAWY	Dawson	73.47	13	IAmb		IAmb	10 57 15.9	
	comp=Z,7.9nm,1.4s							
DBIC	Dimbokro	75.02	266	P		P	10 57 18.0	+0.1
	comp=Z,3.7nm,0.8s,baz=9.3,slow=4.6,SNR=3.5							
	comp=Z,3.7nm,0.8s							
M29M	Somme Creek	75.13	14	IAmb		IAmb	10 57 27.7	
	comp=Z,2.3nm,0.5s							
BLKN	Baker Lake	75.50	354	P		P	10 57 19.9	+0.1
BLKN				IAmb		IAmb	10 57 28.1	
	comp=Z,4.0nm,0.9s							
M31M	Drury Creek, Y	76.06	12	P		P	10 57 23.4	+0.3
M31M				IAmb		IAmb	10 57 24.4	
	comp=Z,3.5nm,0.8s							
FARO	Faro, Yukon	76.19	12	P		P	10 57 24.8	+0.8
HYT	Haines Junctio	76.81	14	P		P	10 57 28.8	+1.2
HYT				IAmb		IAmb	10 57 29.7	
	comp=Z,4.8nm,0.8s							
YKAW3	Yellowknife Wh	77.66	3	P		P	10 57 32.6	+0.5
YKAW3				IAmb		IAmb	10 57 40.0	
	comp=Z,2.8nm,0.7s							
YKA	Yellowknife Ar	77.73	3	P		P	10 57 32.3	-0.2
YKA	Yellowknife Ar	77.73	3	P		P	10 57 32.6	+0.1
	comp=Z,1.5nm,0.8s,baz=351,slow=6.3,SNR=18							
YKA				LR		LR	11 34 21.4	
	comp=Z,51nm,20.3s,baz=354,slow=38							
	comp=Z,1.5nm,0.8s							
YKAW1	Yellowknife Wh	77.74	3			P	10 57 32.8	+0.2
YKAW1				IAmb		IAmb	10 57 34.1	
	comp=Z,2.5nm,0.8s							
P33M	Teslin, Yukon	78.19	12	IAmb		IAmb	10 57 47.2	
	comp=Z,2.8nm,0.7s							
SCHQ	Schefferville	78.91	337	P		P	10 57 39.5	+0.3
	comp=Z,1.7nm,0.7s,baz=14,slow=1.4,SNR=4.4							
SCHQ				LR		LR	11 31 42.9	
	comp=Z,63nm,21.3s,baz=65,slow=35							
	comp=Z,1.7nm,0.7s							
BOSA	Boshof	80.51	220	P		P	10 57 48.7	+0.5
	comp=Z,2.1nm,0.9s,baz=23,slow=17,SNR=4.0							
	comp=Z,2.1nm,0.9s							
S34M	Telegraph Cree	80.66	12	IAmb		IAmb	10 57 51.0	
	comp=Z,4.1nm,0.9s							
WRAB	Tennant Creek	83.77	122	P		P	10 58 05.7	+0.3
WRAB	Tennant Creek	83.77	122	P		P	10 58 05.7	+0.3
WRAB				pmax		pmax		
	comp=Z,11nm,1.4s							
FFC	Flin Flon	85.44	356	P		P	10 58 14.4	+1.1
FFC				IAmb		IAmb	10 58 14.8	
	comp=Z,3.2nm,0.9s							
FFC	Flin Flon	85.44	356	P		P	10 58 14.4	+1.1
FFC				pmax		pmax		
	comp=Z,3.0nm,1.0s							
ASAR	Alice Springs	86.18	125	P		P	10 58 17.2	-0.3
	comp=Z,2.2nm,0.5s,baz=316,slow=4.8,SNR=17							
	comp=Z,2.2nm,0.5s							
SADO	Sadowa	91.46	339	LR		LR	11 39 28.7	
	comp=Z,44nm,20.5s,baz=338,slow=35							
NEW	Newport	91.79	6	P		P	10 58 44.0	+0.2
NEW				IAmb		IAmb	10 58 45.5	
	comp=Z,2.3nm,0.8s							
NEW	Newport	91.79	6	LR		LR	11 44 09.6	
	comp=Z,60nm,18.2s,baz=296,slow=38							
NEW	Newport	91.79	6	P		P	10 58 44.0	+0.2
NEW				pmax		pmax		
	comp=Z,2.0nm,0.8s							
GNW	Green Mountain	91.91	9	P		P	10 58 45.1	+0.9
GNW				IAmb		IAmb	10 58 46.5	
	comp=Z,2.6nm,0.9s							
MXC	Moxie City	93.18	8	P		P	10 58 49.6	-0.6
MXC				IAmb		IAmb	10 58 52.1	
	comp=Z,2.8nm,0.9s							
OVMT	Ovando	93.22	3	P		P	10 58 51.0	+0.5
BPMT	Black Pine Rid	93.82	3	P		P	10 58 53.5	0.0
G04A	Mulino	94.28	10	P		P	10 58 55.9	+0.7
ELK	Elko	99.40	5	LR		LR	11 47 18.4	
	comp=Z,54nm,20.7s,baz=302,slow=37							
QSPA	South Pole Qui	129.81	180	PKP		PKPdf	11 04 44.8	+0.5
	comp=Z,0.8nm,0.9s,baz=270,slow=22,SNR=8.6							
PLCA	Paso Flores	150.96	256	PKPbc		PKiKP	11 05 29.6	+0.4
	comp=Z,3.0nm,0.5s,baz=49,slow=1.5,SNR=10							

*FUNV **16** 10:46:37.8, 10˚.41N×62˚.81W, h18km, MW3.4*
*TRN **16** 10:46:37.4, 10˚.71N×62˚.91W, h92km, MD3.7, North of the Paria peninsula.*

ISC 16 10:46:36.7±1.8, 10˚.70N±0˚.08×62˚.91W±0˚.05, h103km±25km, n15, σ1°28/24, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	Guralp CMG5TDE	1.33	90	eP	Pn	10 47 01.7	+0.6
DMDM				eS	Sn	10 47 18.7	-0.8
PSKH	Kent House, Po	1.36	91	eS	Sn	10 47 19.1	-1.0
PSQC	Port of Spain	1.36	91	eS	Sn	10 47 19.1	-1.1
PSGH	Port of Spain	1.38	91	eS	Sn	10 47 19.8	-0.6
TRN	Trinidad (W)	1.48	92	eP	Pn	10 47 03.0	+0.2
TRN				eS	Sn	10 47 21.7	-1.4
GRFF	Grenada Fort F	1.77	40	eP	Pn	10 47 06.7	+0.3
GRFF				eS	Sn	10 47 28.0	-1.1
PCRV	Puerto La Cruz	1.78	253	eP	Pn	10 47 07.8	+1.2
PCRV				eS	Sn	10 47 28.5	-0.8
PCRV	Puerto La Cruz	1.78	253	eP	Pn	10 47 07.7	+1.2
PCRV				eS	Sn	10 47 29.4	+0.1
TBH	Brigand Hill	1.82	96	eP	Pn	10 47 08.4	+1.3
TBH				eS	Sn	10 47 30.9	+0.6
GRGR	Grenville	1.88	41	eP	Pn	10 47 08.0	+0.1
GRGR				eS	Sn	10 47 30.7	-1.0
GRSS	Sisters	2.04	38	eP	Pn	10 47 11.7	+1.8
BENV	Beln	4.67	261	eP	Pn	10 47 46.3	+1.2
BENV				eS	Sn	10 48 38.6	+0.3
CACV	CAICARA DEL OR	4.75	229	eP	Pn	10 47 40.5	-5.6
CACV				eS	Sn	10 48 27.3	-13
BAUV	El Baul	5.35	251	eP	Pn	10 47 55.1	+0.9
BAUV				eS	Sn	10 48 52.9	-1.7
BAUV	El Baul	5.35	251	eP	Pn	10 47 54.3	+0.1
BAUV				eS	Sn	10 48 51.4	-3.2

*NEIC **16** 10:52:32.0±1.9, 35˚.602N±0˚.006×117˚.36W±0˚.01, h9km±4km, Error ellipse: s-maj=1.5km s-min=0.9km az=82.0*

PAS 16 10:52:32.7±2.0, 35°.597N±0˚.008×117°.372W±0˚.001, h6km±1km, ML3.6/181, ML3.2/164(NEIC), Error ellipse: s-maj=1.1km s-min=0.1km az=181.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	Chr Cany lake	0.07	175	Pg	Pg	10 52 34.8	+0.4
WSHM	Spangler Hills	0.10	271		Pg	10 52 34.9	0.0
WSHM					Sg	10 52 36.4	0.0
WSHM				IAML		10 52 37.0	
	19μm,0.2s						
WSHM				IAML		10 52 37.0	
	22μm,0.2s						
GPO	China Lake	0.24	282		Pg	10 52 37.7	+0.2
GPO					Sg	10 52 41.7	+1.1
LRMC	Laurel Mtn Rad	0.28	245	Pg	Pg	10 52 38.1	-0.1
LRMC				IAML		10 52 42.6	
	comp=N,6μm,0.2s						
LRMC				IAML		10 52 42.8	
	comp=E,7μm,0.3s						
CLC	China Lake	0.28	320	Pg	Pg	10 52 38.1	-0.2
SRTC	Snort	0.32	287		Pg	10 52 39.3	+0.3
SRTC					Sg	10 52 44.6	+1.3
TOW	Tower One	0.38	304		Pg	10 52 40.4	+0.3
TOW					Sb	10 52 46.8	-1.4
MPMC	Manual Prospec	0.47	348		Pg	10 52 41.5	-0.3
MPMC					Sg	10 52 48.0	+0.1
MPMC				IAML		10 52 50.1	
	comp=N,1μm,0.8s						
MPMC				IAML		10 52 51.0	
	comp=E,2μm,0.8s						
WNMM	Nine Mile Cany	0.50	300		Pg	10 52 42.2	-0.1
WNMM					Sg	10 52 49.7	+0.9
WVPM	Volcano Peak E	0.51	314		Pg	10 52 42.3	-0.2
WVPM					Sg	10 52 49.6	+0.5
DTP	Desert Tortois	0.51	230		Pg	10 52 42.2	-0.3
DTP					Sg	10 52 49.1	0.0
JRC2	Joshua Ridge	0.52	317		Pg	10 52 42.6	-0.1
JRC2					Sg	10 52 50.2	+0.6
WCSM	Coso Springs S	0.54	323		Pg	10 52 42.6	-0.4
WCSM					Sg	10 52 50.3	+0.2
GSC	Goldstone, Bar	0.55	122		Pg	10 52 43.1	-0.1
GSC				IAML		10 52 50.9	
	comp=E,3μm,0.6s						
GSC				IAML		10 52 51.8	
	comp=N,2μm,0.4s						
GSC	Goldstone, Bar	0.55	122		Sg	10 52 50.3	-0.1
QSM	Queen of Sheba	0.55	48		Pg	10 52 43.2	-0.1
QSM				IAML		10 52 54.8	
	comp=N,1μm,0.7s						
QSM				IAML		10 52 55.8	
	comp=E,960nm,0.6s						
WRVM	Rose V. Centra	0.59	314		Pg	10 52 43.8	-0.3
WRVM					Sg	10 52 51.8	+0.1
WBSM	Bird Springs	0.63	265		Pg	10 52 44.5	-0.3
WBSM					Sg	10 52 53.1	+0.1
MFS	McCloud Flat S	0

LRRC	**Littlerock Res**	**1.20**	**207**			Pg	10 52 54.7	-0.9	
LRRC						Sb	10 53 11.7	+0.2	
HOLC	**Holcomb Ridge**	**1.20**	**199**			Pg	10 52 54.6	-1.1	
HOLC						Sb	10 53 12.0	+0.3	
AMDNV	**Amargosa**	**1.23**	**46**			Pg	10 52 55.0	-1.3	
LEOC	**Leona Valley**	**1.23**	**219**			Pg	10 52 55.1	-1.1	
CJV	**Casa Juvan**	**1.24**	**211**			Pg	10 52 55.2	-1.2	
CJV						Sb	10 53 13.2	+0.3	
JNH	**Juniper Hills**	**1.24**	**203**			Pg	10 52 55.4	-1.1	
TJR	**Tejon Ranch**	**1.26**	**244**			Pg	10 52 55.7	-1.1	
THC	**Tehachapi Micr**	**1.26**	**237**			Pg	10 52 55.8	-1.1	
ARVC	**Arvin**	**1.28**	**249**			Pn	10 52 56.4	-0.7	
SPG2	**Springville 2**	**1.28**	**298**			Pn	10 52 56.3	-0.9	
SPG2						Sg	10 53 13.4	-0.6	
SIL	**Silver Peak**	**1.32**	**160**			Pn	10 52 57.1	-0.8	
WCT	**Wildcat Mounta**	**1.34**	**27**			Pn	10 52 56.9	-1.1	
WCT					IAML		10 53 17.5		
	comp=N,248nm,0.5s								
WCT					IAML		10 53 18.6		
	comp=E,297nm,0.5s								
CHFC	**Chilao Flat St**	**1.37**	**203**			Pn	10 52 57.2	-1.3	
CHFC						Sb	10 53 16.5	-0.2	
BFSC	**Mount Baldy Ra**	**1.38**	**190**			Pn	10 52 57.4	-1.1	
BFSC					IAML		10 53 18.1		
	comp=N,588nm,0.8s								
BFSC					IAML		10 53 20.9		
	comp=E,410nm,0.7s								
BBRC	**Big Bear Solar**	**1.38**	**164**			Pn	10 52 57.9	-0.9	
BBRC						Sn	10 53 17.4	-0.1	
GRAC	**Grapevine Rang**	**1.40**	**0**			Pn	10 52 58.3	-0.5	
GRAC					IAML		10 53 22.0		
	comp=N,550nm,0.7s								
GRAC					IAML		10 53 24.1		
	comp=E,426nm,0.5s								
SGV	**South Grapevin**	**1.41**	**11**			Pn	10 52 58.1	-0.9	
SSK	**Sunset Peak**	**1.41**	**191**			Pn	10 52 58.2	-0.9	
VES	**Vestal, Richgr**	**1.42**	**280**			Pb	10 52 59.3	-0.2	
OSI	**Osito Audit: C**	**1.48**	**229**			Pn	10 52 59.1	-0.8	
MWC	**Mount Wilson**	**1.48**	**203**			Pn	10 52 59.3	-0.7	
MWC					IAML		10 53 22.6		
	comp=E,468nm,0.4s								
MWC					IAML		10 53 28.3		
	comp=N,544nm,0.6s								
MTPC	**Mountain Pass**	**1.49**	**94**			Pn	10 52 58.7	-1.4	
MTPC						Sn	10 53 17.7	-2.3	
MTPC					IAML		10 53 20.6		
	comp=E,275nm,0.3s								
MTPC					IAML		10 53 21.3		
	comp=N,284nm,0.3s								
SVD	**Seven Oaks Dam**	**1.50**	**171**			Pn	10 53 00.3	+0.1	
GTM	**Goat Mountain**	**1.54**	**147**			Pn	10 53 01.1	+0.3	
PSRC	**Puddingstone R**	**1.54**	**194**			Pn	10 53 00.4	-0.4	
PASC	**Pasadena Art C**	**1.57**	**205**			Pn	10 53 00.4	-0.7	
PASC					IAML		10 53 24.2		
	comp=E,228nm,0.6s								
PASC					IAML		10 53 26.2		
	comp=N,215nm,0.4s								
RVR	**Riverside**	**1.60**	**180**			Pn	10 53 00.7	-0.8	
GMRC	**Granite Mounta**	**1.62**	**120**			Pn	10 52 59.8	-2.2	
TPNV	**Topopah Spring**	**1.62**	**34**			Pn	10 53 01.2	-0.8	
TPNV					IAML		10 53 27.8		
	comp=N,418nm,0.7s								
TPNV					IAML		10 53 30.7		
	comp=N,348nm,0.5s								
LCH	**Last Change Ra**	**1.65**	**352**			Pn	10 53 01.7	-0.6	
GMN	**Gold Mountain**	**1.70**	**3**			Pn	10 53 02.6	-0.5	
BLCC	**Black Canyon**	**1.72**	**219**			Pn	10 53 02.6	-0.7	
BLAC	**Blackrock camp**	**1.73**	**152**			Pn	10 53 02.5	-0.8	
EW2	**E Wide Canyon**	**1.83**	**154**			Pn	10 53 03.8	-0.9	
DSP	**Deep Springs**	**1.83**	**345**			Pn	10 53 04.3	-0.4	
TPC	**Twentynine Pal**	**1.84**	**143**			Pn	10 53 04.0	-0.9	
HMTC	**Hemet**	**1.91**	**171**			Pn	10 53 04.9	-0.9	
BHPR	**Bishop**	**1.92**	**332**			Pb	10 53 08.4	+0.1	
POB	**Polly Butte**	**1.94**	**169**			Pn	10 53 05.6	-0.7	
ELS	**Elsinore Mount**	**1.94**	**181**			Pn	10 53 05.5	-0.8	
ELS					IAML		10 53 35.6		
	comp=E,247nm,0.4s								
ELS					IAML		10 53 36.9		
	comp=N,241nm,0.5s								
CRGC	**Crocker Grade**	**1.95**	**260**			Pb	10 53 08.7	-0.1	
DGR	**Domenigoni Val**	**1.96**	**171**			Pn	10 53 05.8	-0.8	
MURC	**Murrieta**	**2.00**	**176**			Pn	10 53 06.3	-0.7	
BACC	**Bachelor Mtn.**	**2.00**	**172**			Pn	10 53 06.3	-0.7	
SHPR	**Sheep Range**	**2.01**	**63**			Pn	10 53 06.7	-0.6	
RPV	**Rancho Palos V**	**2.04**	**205**			Pn	10 53 07.1	-0.4	
V12A	**Nelson**	**2.06**	**86**			Pn	10 53 06.6	-1.3	
V12A					IAML		10 53 45.3		
	comp=N,110nm,0.8s								
CRY	**Cary Ranch**	**2.09**	**165**			Pn	10 53 07.8	-0.6	
MZP	**Montezuma Peak**	**2.10**	**360**			Pn	10 53 08.3	-0.3	
PMD	**Palm Desert**	**2.11**	**157**			Pn	10 53 07.1	-1.4	
PMD					IAML		10 53 40.4		
	comp=E,150nm,0.6s								
PMD					IAML		10 53 41.8		
	comp=N,103nm,0.5s								
PFO	**Pinyon Flats O**	**2.12**	**159**			Pn	10 53 07.5	-1.2	
PFO					IAML		10 53 48.2		
	comp=N,120nm,0.8s								
XPFO	**Pinon Flat**	**2.12**	**159**			Pn	10 53 07.6	-1.2	
SNDA	**J Saunders Pla**	**2.13**	**163**			Pn	10 53 08.2	-0.8	
BZNA	**Buzz No.'s Pla**	**2.18**	**164**			Pn	10 53 08.9	-0.7	
FRD	**Ford Ranch, An**	**2.19**	**163**			Pn	10 53 09.1	-0.7	
FRD	**Ford Ranch, An**	**2.19**	**163**			Pn	10 53 09.0	-0.7	
PLM	**Palomar**	**2.28**	**169**			Pn	10 53 10.4	-0.6	
CTW	**Cottonwood Mou**	**2.28**	**147**			Pn	10 53 10.1	-0.8	
MLAC	**Mammoth, Mammo**	**2.35**	**330**			Pb	10 53 15.8	+0.3	
CIAC	**Catalina I. Ai**	**2.35**	**202**			Pn	10 53 11.1	-0.8	
NEE2	**Needles Airpor**	**2.40**	**109**	Pn		Pn	10 53 10.8	-1.7	
NEE2					IAML		10 54 05.5		
	comp=E,246nm,0.7s								
BORC	**Borrego Spring**	**2.45**	**161**	Pn		Pn	10 53 12.2	-1.0	
BORC					IAML		10 53 53.4		
	comp=N,100nm,0.7s								
BORC					IAML		10 53 57.0		
	comp=E,149nm,0.9s								
MATG	**Mataguay Scout**	**2.47**	**166**			Pn	10 53 12.9	-0.6	
TPH	**Tonopah**	**2.48**	**3**			Pn	10 53 13.6	-0.2	
SALN	**Salton City**	**2.58**	**153**	Pn		Pn	10 53 14.1	-0.9	
JUEM	**Julian Eagle M**	**2.59**	**165**			Pn	10 53 14.8	-0.5	
PRN	**Pahroc Range**	**2.60**	**45**	Pn		Pn	10 53 15.3	-0.1	
PRN					IAML		10 54 01.0		
	comp=E,131nm,0.8s								
PRN					IAML		10 54 01.4		
	comp=N,121nm,0.8s								
DPP	**Dos Picos Cty**	**2.62**	**172**			Pn	10 53 14.7	-0.8	
DPP					IAML		10 53 55.3		
	comp=E,186nm,0.5s								
DPP					IAML		10 53 55.4		
	comp=N,69nm,0.4s								
LHV	**Little Huntoon**	**2.80**	**341**			Pn	10 53 18.4	+0.4	
LHV					IAML		10 54 08.1		
	comp=E,103nm,0.9s								
LHV					IAML		10 54 12.9		
	comp=N,65nm,1.2s								
PMPB	**Monarch Peak**	**2.85**	**283**	Pn		Pn	10 53 18.3	-0.5	
W13A	**Hualapai Mount**	**2.89**	**99**			Pn	10 53 18.3	-1.2	
NV11	**Mina Array Sit**	**2.90**	**348**			Pn	10 53 19.4	-0.1	
SLVP	**Salvation Pass**	**2.91**	**143**			Pn	10 53 17.9	-1.6	
NVAR	**Mina Array Bea**	**2.92**	**345**			Pn	10 53 19.7	-0.2	
BLYC	**Blythe**	**2.98**	**127**	Pn		Pn	10 53 20.0	-0.6	
BLYC					IAML		10 54 15.0		
	comp=N,72nm,0.7s								
BLYC					IAML		10 54 15.5		
	comp=E,78nm,0.9s								
TJX	**Tijuana**	**3.09**	**175**	Pn		Pn	10 53 22.1	+0.1	
R11B	**Troy Canyon, C**	**3.10**	**27**	Pn		Pn	10 53 21.6	-0.6	
RYN	**Ryan**	**3.16**	**343**	Pn		Pn	10 53 23.3	+0.2	
YUH	**Yuha Desert**	**3.18**	**157**	Pn		Pn	10 53 21.4	-1.8	
Q09A	**Carvers**	**3.23**	**3**	Pn		Pn	10 53 24.2	0.0	
Q09A					IAML		10 54 31.6		
	comp=E,95nm,0.8s								
Q09A					IAML		10 54 49.3		
	comp=N,95nm,1.0s								
GLA	**Glamis**	**3.30**	**140**	Pn		Pn	10 53 23.1	-1.8	
GLA					IAML		10 54 28.8		
	comp=N,106nm,0.7s								
CBX	**Cerro Bola**	**3.33**	**170**	Pn		Pn	10 53 25.3	-0.1	
SAO	**San Andreas Ge**	**3.50**	**291**	Pn		Pn	10 53 27.0	-0.6	
LCMT	**Little Creek M**	**3.62**	**66**	Pn		Pn	10 53 29.4	0.0	
CCUT	**Cedar City**	**3.77**	**58**	Pn		Pn	10 53 32.4	+0.8	
ESJX	**Sierra Juarez**	**3.77**	**161**	Pn		Pn	10 53 31.2	-0.4	
ESJX					IAML		10 54 34.2		
	comp=N,30nm,0.7s								
ESJX					IAML		10 54 34.2		
	comp=E,57nm,0.6s								
KNB	**Kanab**	**3.94**	**68**	Pn		Pn	10 53 33.9	+0.1	
Y14A	**Wickenburg**	**3.96**	**113**			Pn	10 53 32.7	-1.3	
Y14A					IAML		10 54 44.7		
	comp=N,44nm,0.9s								
Y14A					IAML		10 54 45.4		
	comp=E,39nm,0.6s								
SZCU	**Shurtz Canyon**	**3.98**	**59**	Pn		Pn	10 53 34.1	-0.4	
PSUT	**Pine Spring**	**4.06**	**43**	Pn		Pn	10 53 35.2	-0.4	
PSUT					IAML		10 54 58.0		
	comp=N,20nm,1.1s								
SPR3	**Spring Creek 3**	**4.17**	**35**	Pn		Pn	10 53 36.7	-0.5	
SPR3					IAML		10 54 44.0		
	comp=E,19nm,0.8s								
U15A	**North Rim**	**4.20**	**77**			Pn	10 53 37.8	+0.2	
U15A					IAML		10 55 07.7		
	comp=E,19nm,1.0s								
MPK	**Martis Peak**	**4.25**	**331**	Pn		Pn	10 53 38.8	+0.5	
MPK					IAML		10 55 02.0		
	comp=E,50nm,0.7s								
VTX	**Valle De La Tr**	**4.40**	**162**	Pn		Pn	10 53 40.1	0.0	
VTX					IAML		10 54 55.7		
	comp=E,37nm,0.8s								
VTX					IAML		10 55 02.7		
	comp=N,21nm,1.1s								
PAHR	**Pah Rah Range**	**4.40**	**339**	Pn		Pn	10 53 38.9	-1.3	
AFDM	**Forest Hills D**	**4.41**	**320**	Pn		Pn	10 53 40.7	+0.6	
AFDM					IAML		10 54 54.0		
	comp=N,18nm,0.6s								
AFDM					IAML		10 55 02.1		
	comp=E,33nm,0.8s								
WUAZ	**Wupatki**	**4.89**	**89**	Pn		Pn	10 53 45.9	-1.0	
WUAZ					IAML		10 55 16.8		
	comp=E,20nm,0.8s								
WUAZ					IAML		10 55 17.2		
	comp=E,22nm,0.8s								
X16A	**Lo Mia Camp, P**	**5.01**	**102**	Pn		Pn	10 53 49.3	+0.7	
X16A					IAML		10 55 16.7		
	comp=E,12nm,1.1s								
X16A					IAML		10 55 17.8		
	comp=N,14nm,1.1s								
SFX	**San Felipe**	**5.01**	**154**	Pn		Pn	10 53 48.0	-0.4	
SFX					IAML		10 55 20.1		
	comp=N,14nm,1.2s								
SFX					IAML		10 55 28.7		
	comp=E,15nm,0.8s								
ORV	**Oroville**	**5.13**	**322**	Pn		Pn	10 53 49.4	-0.7	
ORV					IAML		10 55 19.1		
	comp=N,9.9nm,1.0s								
ORV					IAML		10 55 27.0		
	comp=E,13nm,1.3s								
214A	**Organ Pipe Nat**	**5.25**	**132**	Pn		Pn	10 53 51.3	-0.5	
214A					IAML		10 55 31.9		
	comp=E,12nm,1.4s								
214A					IAML		10 55 43.6		
	comp=N,8.3nm,1.0s								
ELK	**Elko**	**5.41**	**17**	Pn		Pn	10 53 54.5	+0.4	
HMU	**Henry Mountain**	**5.81**	**64**	Pn		Pn	10 53 59.2	-0.4	
X18A	**Snowflake**	**6.18**	**98**			Pn	10 54 03.8	-0.9	
TUC	**Tucson**	**6.38**	**119**	Pn		Pn	10 54 06.8	-0.5	
SRU	**San Rafael Swe**	**6.48**	**55**	Pn		Pn	10 54 06.9	-2.0	
PV16	**Nyswonger Mesa**	**7.29**	**66**	Pn		Pn	10 54 17.1	-2.8	
PV13	**Radium Mtn., P**	**7.31**	**67**	Pn		Pn	10 54 17.6	-2.7	
PV04	**Paradox Valley**	**7.33**	**65**	Pn		Pn	10 54 19.7	-0.7	
PV02	**Paradox Valley**	**7.39**	**67**	Pn		Pn	10 54 19.9	-1.5	

*AUST **16** 10:54:12.8±1.2, 18°S±7°×12°1E±°, h19km±13km, mb4.1/9, ML3.3/6, Error ellipse: s-maj=19.4km s-min=4.6km az=137.9*
*NOU **16** 10:54:12.8, 18°.28S×120°.26E, h108km, mb3.9/11, Western Australia*
*IDC **16** 10:54:18.4±8.0, 17°.61S×121°.55E, h0km, mb3.6/1, mbtmp3.8/3, ML3.8/2, MS3.4/1, Error ellipse: s-maj=105.2km s-min=70.5km az=168.0*

ISC 16 10:54:10.7±1.4, 18°.42S±0°.10×120°.53E±0°.08, h10km, n32, σ2°.42/38, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBWA	**Marble Bar**	**2.83**	**195**	P		**Pn**	**10 54 57.4**	**+1.4**
MBWA				S		**Sn**	**10 55 32.1**	**+1.9**
MBWA	**Marble Bar**	**2.83**	**195**	P		**Pn**	**10 54 57.5**	**+1.5**
PSAC1	**Pilbara Seismi**	**3.17**	**192**	P		**Pn**	**10 55 02.2**	**+1.5**
PSAC1				S		**Sn**	**10 55 38.3**	**-0.3**
PSA00	**Pilbara Seismi**	**3.21**	**191**	P		**Pn**	**10 55 02.7**	**+1.6**
PSA00				S		**Sn**	**10 55 39.8**	**+0.4**
PSA00	**Pilbara Seismi**	**3.21**	**191**	P		**Pn**	**10 55 02.9**	**+1.8**
FITZ	**Fitzroy Crossi**	**4.87**	**87**	P		**Pn**	**10 55 26.8**	**+2.9**
FITZ	**Fitzroy Crossi**	**4.87**	**87**	S		**Sn**	**10 56 20.9**	**+0.5**
GIRL	**Giralia**	**7.25**	**233**	P		**Pn**	**10 55 54.9**	**-1.7**
KNRA	**Kununurra**	**8.33**	**72**	P		**Pn**	**10 56 12.8**	**+1.2**
	comp=Z,12nm,0.9s,comp=Z,0.1nm							
KNRA				S		**Sn**	**10 57 42.4**	**-3.4**
MEEK	**Meekatharra**	**8.37**	**192**	P		**Pn**	**10 56 12.9**	**+0.7**
	comp=Z,7.7nm,0.7s,comp=Z,0.1nm							
MEEK	**Meekatharra**	**8.37**	**192**	S		**Sn**	**10 57 42.1**	**-4.7**
MEEK	**Meekatharra**	**8.37**	**192**	P		**Pn**	**10 56 12.7**	**+0.5**
CVQOZ	**Cooralya Stati**	**8.49**	**224**	P		**Pn**	**10 56 13.0**	**-0.8**
WRKA	**Warakurna**	**9.77**	**134**	P		**Pn**	**10 56 33.7**	**+2.3**
	comp=Z,3.9nm,1.2s,comp=Z,0.0nm							
WRKA				S		**Sn**	**10 58 20.6**	**-0.6**
MORW	**Morawa**	**11.37**	**200**	P		**Pn**	**10 56 51.3**	**-2.0**
	comp=Z,4.5nm,0.7s							
MORW	**Morawa**	**11.37**	**200**	P		**Pn**	**10 56 51.2**	**-2.0**
MTN	**Manton Dam**	**11.62**	**63**	P		**Pn**	**10 56 55.9**	**-0.7**
	comp=Z,35nm,1.7s							
BLDU	**Ballidu**	**12.63**	**195**	P		**Pn**	**10 57 09.3**	**-1.2**
	comp=Z,9.7nm,1.9s							
BLDU	**Ballidu**	**12.63**	**195**	P		**Pn**	**10 57 09.6**	**-0.9**
KDU	**Kakadu**	**12.84**	**65**	P		**Pn**	**10 57 13.7**	**+0.4**
	comp=Z,14nm,1.9s							
KDU	**Kakadu**	**12.84**	**65**	P		**Pn**	**10 57 13.8**	**+0.5**
WRA	**Warramunga Arr**	**13.13**	**99**	Pn		**Pn**	**10 57 16.6**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=277,slow=14,SNR=6.7							
WRA				Sn		**Sn**	**10 59 36.2**	**-7.5**
	comp=Z,0.5nm,0.3s,baz=276,slow=25,SNR=2.5							
	comp=Z,2.6nm,0.6s							
KLBR	**Kellerberrin**	**13.36**	**190**	P		**Pn**	**10 57 19.9**	**-0.5**
	comp=Z,11nm,1.2s							
KLBR	**Kellerberrin**	**13.36**	**190**	P		**Pn**	**10 57 20.1**	**-0.3**
ASAR	**Alice Springs**	**13.53**	**115**	Pn		**Pn**	**10 57 23.1**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=302,slow=13,SNR=18							
ASAR				Sn		**Sn**	**10 59 53.1**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=302,slow=23,SNR=5.1							
	comp=Z,0.8nm,0.4s							
AS01	**Alice Springs**	**13.57**	**115**	P		**Pn**	**10 57 24.4**	**+1.0**
MUN	**Mundaring**	**14.06**	**195**	P		**Pn**	**10 57 28.9**	**-1.0**
FORT	**Forrest**	**14.08**	**152**	P		**Pn**	**10 57 29.9**	**-0.3**
	comp=Z,5.8nm,2.5s							
NWAO	**Narrogin (SRO)**	**14.75**	**191**	P		**Pn**	**10 57 36.7**	**-2.7**
NWAO	**Narrogin (SRO)**	**14.75**	**191**	P		**Pn**	**10 57 36.6**	**-2.8**
STKA	**Stephens Creek**	**23.25**	**129**	P		**P**	**10 59 25.4**	**+7.1**
	comp=Z,1.7nm,0.7s,baz=306,slow=8.7,SNR=3.8							
	comp=Z,1.7nm,0.7s							
MJAR	**Matsushiro Arr**	**57.16**	**17**	LR		LR	11 31 11.1	
	comp=Z,32nm,18.4s,baz=227,slow=39							

NNC 16 10:57:29.1±6.1, 52°.69N×78°.95E, h0km, mb3.7, mpv3.2, 5C-1D, Error ellipse: s-maj=110.0km s-min=41.8km az=91.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KURK	**Kurchatov**	**1.99**	**186**	↑Pg		Pb	10 58 06.0	-0.2
	9.0nm,0.7s							
KURK				↑Lg		Lg	10 58 33.9	
	13nm,0.7s							
KURBB	**Kurchatov Arra**	**2.09**	**187**	↑Pg		Pn	10 58 06.6	+1.2
	15nm,0.5s							
KURBB				↑Lg		Lg	10 58 34.1	
	30nm,0.3s							
MAKZ	**Makanchi**	**6.21**	**160**	↓Lg		Lg	11 00 46.0	
	1.8nm,0.5s							
MK31	**Makanchi Array**	**6.29**	**159**	↑Lg		Lg	11 00 48.3	
	1.0nm,0.5s,baz=314,slow=26,SNR=2.6							

*NEIC **16** 11:12:30.7, 24°.21N×122°.44E, h62km*
*TAP **16** 11:12:30.6, 24°.22N×122°.43E, h64km, ML4.7, C*
*NEIC **16** 11:12:30.5±1.0, 24°.19N±0°.04×122°.43E±0°.01, h61km±6km, mb4.3/65, Mwr4.0/10, Error ellipse: s-maj=6.5km s-min=2.0km az=184.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr 0.64; Mθθ 0.36; Mφφ -1.00; Mrθ 0.77; Mrφ -0.08; Mθφ 0.13; Fault plane solution: Mo 1.18000×10^15 NP1 φ152.14000°, δ50.28000°, λ35.87000°. NP2 φ37.33000°, δ63.21000°, λ134.28000°. Principal axes: T 1.2821, Plg50.0000°, Azm358.0000°; N -0.2563, Plg39.0000°, Azm194.0000°; P -1.0258, Plg8.0000°, Azm97.0000°;*
*JMA **16** 11:12:30.4±0.1, 24°.4N±1°×122°.4E±0°.4, h59km±2km, MV4.2/17, NW OFF ISHIGAKIJIMA IS*
*IDC **16** 11:12:31.6±3.6, 24°.35N×122°.57E, h77km±34km, mb3.7/15, mbtmp4.0/17, MS3.1/2, Error ellipse: s-maj=24.8km s-min=14.4km az=60.0*

ISC 16 11:12:29.9±0.6, 24°.20N±0°.02×122°.47E±0°.02, h63km±4km, n275, σ1§21/411, mb4.3/48, 8C-61D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EOS4	**EOS4**	**0.16**	**240**	↑*i*P		**Pn**	**11 12 39.8**	**+0.8**
EOS4				*e*S		**Sn**	**11 12 46.9**	**+1.3**
EOS3	**EOS3**	**0.16**	**301**	↑*i*P		**Pn**	**11 12 40.5**	**+1.2**
EOS3				S		**Sn**	**11 12 47.9**	**+1.7**
EOS2	**EOS2**	**0.31**	**315**	↑*e*P		**Pn**	**11 12 41.5**	**+1.3**
EOS2				S		**Sn**	**11 12 49.6**	**+1.9**
JYNG	**Yonagunijimaku**	**0.50**	**60**	*e*P		**Pn**	**11 12 43.0**	**+0.9**
JYNG				*e*S		**Sn**	**11 12 51.5**	**+0.6**
JYNG	**Yonagunijimaku**	**0.50**	**60**	A		A	11 12 43.0	
	comp=N,14nm,0.6s,comp=E,23nm,1.0s							
YOJ	**Yonaguni jima**	**0.56**	**62**			**Pn**	**11 12 43.6**	**+0.9**
YOJ					Sn	**Sn**	**11 12 53.2**	**+1.1**
YOJ	**Yonaguni jima**	**0.56**	**62**	P		**Pn**	**11 12 43.6**	**+0.9**
YOJ	**Yonaguni jima**	**0.56**	**62**	P		**Pn**	**11 12 43.6**	**+0.9**
YOJ				*e*S		**Sn**	**11 12 53.1**	**+1.0**
EHP	**Heping Village**	**0.67**	**279**	*e*P		**Pn**	**11 12 43.9**	**-0.2**
EHP				*e*S		**Sn**	**11 12 55.4**	**+1.0**
EWUT	**Wuta**	**0.68**	**291**	↓P		**Pn**	**11 12 44.2**	**+0.2**
EWUT				*e*S		**Sn**	**11 12 54.2**	**-0.2**
EAHA	**Aohua**	**0.68**	**281**	↓P		**Pn**	**11 12 44.5**	**+0.5**
EAHA				*i* S		**Sn**	**11 12 55.4**	**+0.9**
ESAO	**Su ao**	**0.68**	**303**	↓*e*P		**Pn**	**11 12 44.5**	**+0.4**
ESAO				*e*S		**Sn**	**11 12 54.5**	**-0.2**
ENA	**Nanau**	**0.70**	**289**	↓*i*P		**Pn**	**11 12 44.6**	**+0.3**
ENA				*i* S		**Sn**	**11 12 55.0**	**0.0**
ETL	**Fush Village**	**0.78**	**267**	P		**Pn**	**11 12 45.4**	**+0.2**
ETL				*e*S		**Sn**	**11 12 56.6**	**+0.1**
NACB	**Ninganchiao**	**0.80**	**268**			**Pn**	**11 12 45.6**	**+0.1**
NACB					Sn	**Sn**	**11 12 56.7**	**-0.3**
NACB	**Ninganchiao**	**0.80**	**268**	P		**Pn**	**11 12 45.6**	**+0.1**
NACB	**Ninganchiao**	**0.80**	**268**	↓*i*P		**Pn**	**11 12 45.6**	**+0.1**
NACB				S		**Sn**	**11 12 56.8**	**-0.3**
EGS		**0.81**	**323**	↓*i*P		**Pn**	**11 12 45.9**	**+0.3**
EGS				S		**Sn**	**11 12 57.6**	**+0.4**
TWD	**Chiawan**	**0.81**	**261**	↓P		**Pn**	**11 12 45.7**	**+0.1**
TWD				S		**Sn**	**11 12 56.8**	**-0.4**
NDS	**Dongshan**	**0.81**	**302**	↓*i*P		**Pn**	**11 12 45.4**	**-0.3**
NDS				*e*S		**Sn**	**11 12 57.4**	**+0.1**
HWA	**Hwalien**	**0.82**	**254**	P		**Pn**	**11 12 46.3**	**+0.6**
HWA				S		**Sn**	**11 12 58.2**	**+0.7**
ILA	**Ilan**	**0.86**	**311**	*i* P		**Pn**	**11 12 47.2**	**+0.8**
ILA				S		**Sn**	**11 12 59.9**	**+1.4**
TEYL	**Yanliau Villag**	**0.86**	**247**	↓*i*P		**Pn**	**11 12 46.6**	**+0.3**
TEYL				*i* S		**Sn**	**11 12 58.9**	**+0.5**
NTC	**Toucheng**	**0.87**	**318**	*e*P		**Pn**	**11 12 47.1**	**+0.6**
NTC				*i* S		**Sn**	**11 12 59.4**	**+0.8**
TWE	**Neicheng**	**0.90**	**305**	↓*i*P		**Pn**	**11 12 47.5**	**+0.8**
TWE				*i* S		**Sn**	**11 12 59.5**	**+0.3**
ETLH	**Xiulin Townshi**	**0.90**	**270**	↓*i*P		**Pn**	**11 12 47.1**	**+0.2**
ETLH				*i* S		**Sn**	**11 12 59.6**	**+0.1**
TWB1	**Santiao Chiao**	**0.91**	**331**	↓*i*P		**Pn**	**11 12 47.1**	**+0.2**
TWB1				*e*S		**Sn**	**11 12 59.1**	**-0.5**
LATG	**Datong**	**0.92**	**291**	↓*i*P		**Pn**	**11 12 47.7**	**+0.5**
LATG				*i* S		**Sn**	**11 13 00.5**	**+0.5**
ETM	**Tongmen**	**0.92**	**255**	↓P		**Pn**	**11 12 47.1**	**+0.1**
ETM				*e*S		**Sn**

YULB	**Yu-li**	**1.34 233**	⇓*iP*	**Pn**	**11 12 52.7 +0.1**	WDGT			S	**Sn**	**11 13 43.2 -0.3**	**C27K**	**Jago River**	**68.86 22**	P	**P**	**11 23 28.6 +1.1**
YULB			*eS*	**Sn**	**11 13 09.1 -0.5**	**PNG**	**Penghu**	**2.74 257**	P	**Pn**	**11 13 11.8 +0.3**	C27K			IAmb	IAmb	11 24 10.8
EYUL	**Yuli**	**1.35 231**	*eP*	**Pn**	**11 12 53.6 +0.9**	PNG			S	**Sn**	**11 13 43.3 -0.2**		comp=Z,4.6nm,1.2s				
EYUL			*eS*	**Sn**	**11 13 10.3 +0.4**	**VWUC**	**VWUC**	**2.86 287**	*eP*	**Pn**	**11 13 13.0 -0.1**	**BMAR**	**Burnt Mountain**	**69.03 24**	P	**P**	**11 23 30.1 +1.5**
TWF1	**Yuli**	**1.37 232**	⇓*iP*	**Pn**	**11 12 53.3 +0.3**	**VCHM**	**Qimei**	**2.96 251**	*eP*	**Pn**	**11 13 15.1 +0.6**	**SCM**	**Sheep Creek Mo**	**69.06 31**	P	**P**	**11 23 30.1 +1.1**
TWF1			*eS*	**Sn**	**11 13 09.4 -0.7**	**MATB**	**Ma-tsu**	**3.00 311**	*eP*	**Pn**	**11 13 14.9 -0.1**	**J25K**	**Salcha River,**	**69.33 27**	P	**P**	**11 23 31.2 +0.7**
WHP	**Taichung City**	**1.39 273**	⇓P	**Pn**	**11 12 54.8 +1.5**	**PTMZ**	**Houxiangcun**	**3.16 286**	*eP*	**Pn**	**11 13 17.1 -0.1**	**G26K**	**Porcupine Rive**	**69.44 25**	P	**P**	**11 23 32.0 +0.9**
WHP			*eS*	**Sn**	**11 13 11.7 +0.8**	**XPSS**	**Dashiqiu**	**3.41 323**	*eP*	**Pn**	**11 13 20.3 -0.3**	**D27M**	**Malcolm River**	**69.90 22**	P	**P**	**11 23 34.8 +0.9**
LIOB	**Emei**	**1.40 289**	⇓*iP*	**Pn**	**11 12 54.7 +1.4**	**MHZQ**	**Yeshan**	**3.65 302**	*eP*	**Pn**	**11 13 23.4 -0.5**	**ARCES**	**ARCESS Array B**	**69.96 338**	P	**P**	**11 23 33.7 -0.5**
LIOB			*eS*	**Sn**	**11 13 12.3 +1.5**	**KNMB**	**Chin-men Tao**	**3.73 275**		**Pn**	**11 13 24.6 -0.4**		comp=Z,1.0nm,0.7s,baz=60,slow=7.2,SNR=6.1				
NSTT	**Nanjuang**	**1.41 288**	⇓*iP*	**Pn**	**11 12 54.7 +1.3**	**KNMB**	**Chin-men Tao**	**3.73 275**	*eP*	**Pn**	**11 13 24.4 -0.6**		comp=Z,1.0nm,0.7s				
NSTT			*eS*	**Sn**	**11 13 11.8 +0.7**	**AXDP**	**Jialang**	**4.16 281**	*eP*	**Pn**	**11 13 30.6 -0.2**	**GLB**	**Gilahina Butte**	**70.79 31**	P	**P**	**11 23 39.9 +0.4**
JKRS	**Kuro-shima**	**1.41 88**	P	**Pn**	**11 12 54.7 +1.4**	**ZPLA**	**Ao Xicun**	**4.32 267**	*eP*	**Pn**	**11 13 32.7 -0.4**	GLB			IAmb	IAmb	11 24 04.5
CHKH	**Chenggong**	**1.41 225**	*eP*	**Pn**	**11 12 53.0 -0.4**	**DSXP**	**Dongshan**	**4.64 265**	*eP*	**Pn**	**11 13 37.3 -0.2**		comp=Z,8.8nm,1.3s				
CHKH			*eS*	**Sn**	**11 13 09.6 -1.5**	**SXFK**	**Yanhouchang**	**4.88 298**	*eP*	**Pn**	**11 13 40.3 -0.5**	**M26K**	**Nabesna, AK**	**70.90 29**	P	**P**	**11 23 40.9 +0.8**
WCS	**Beigang Elemen**	**1.43 264**	⇓P	**Pn**	**11 12 55.0 +1.3**	**JOW**	**Kunigami**	**5.86 62**	Pn	**Pn**	**11 13 53.5 -0.7**	M26K			IAmb	IAmb	11 24 04.9
WCS			*i* S	**Sn**	**11 13 12.8 +1.2**	**JOW**	**Kunigami**	**5.86 62**	P	**Pn**	**11 13 53.4 -0.8**		comp=Z,6.6nm,1.5s				
SSLB	**Suanglung**	**1.45 254**	Pn	**Pn**	**11 12 54.7 +0.7**		comp=E,32nm,0.5s,baz=129,slow=18,SNR=17					**BCAR**	**Beaver Creek A**	**71.26 29**	P	**P**	**11 23 42.8 +0.5**
SSLB			Sn	**Sn**	**11 13 12.1 -0.1**	JOW			S	**Sn**	**11 14 59.0 -1.1**	**I28M**	**Miner Creek**	**71.34 26**	P	**P**	**11 23 43.5 +0.7**
SSLB	**Suanglung**	**1.45 254**	P	**Pn**	**11 12 54.8 +0.8**		comp=E,10nm,0.2s,baz=96,slow=24,SNR=1.7					I28M			IAmb	IAmb	11 23 54.8
SSLB	**Suanglung**	**1.45 254**	S	**Sn**	**11 13 12.0 -0.1**	**JOW**	**Kunigami**	**5.86 62**	P	**Pn**	**11 13 53.5 -0.7**		comp=Z,4.0nm,1.5s				
SSLB	**Suanglung**	**1.45 254**	⇓*iP*	**Pn**	**11 12 54.7 +0.7**	**JMZ**	**Minamidaito 2**	**8.10 77**	Pn	**Pn**	**11 14 23.7 -1.2**	**G29M**	**Pine Creek**	**71.63 24**	P	**P**	**11 23 45.1 +0.6**
SSLB			S	**Sn**	**11 13 11.5 -0.6**	**KSAR**	**Wonju Array Be**	**13.99 18**	Pn	**Pn**	**11 15 43.9 -1.0**	**DAWY**	**Dawson**	**71.98 27**	P	**P**	**11 23 46.9 +0.3**
PCYT	**Pengchaiyu**	**1.47 346**	⇓*eP*	**Pn**	**11 12 55.0 +0.8**	**KSRS**	**Korea Array**	**14.01 18**	P	**Pn**	**11 15 45.1 -0.2**	**FINES**	**FINESS Array B**	**72.02 330**	P	**P**	**11 23 47.7 +0.9**
FULB	**Fuli**	**1.47 227**	⇑P	**Pn**	**11 12 54.2 -0.1**		comp=E,2.5nm,0.6s,baz=198,slow=12,SNR=25					**FINES**	**FINESS Array B**	**72.02 330**	P	**P**	**11 23 46.8 0.0**
FULB			S	**Sn**	**11 13 12.7 +0.1**	**KS19**	**Wonju Array Si**	**14.04 18**	Pn	**Pn**	**11 15 44.0 -1.7**		comp=Z,0.6nm,0.3s,baz=74,slow=4.5,SNR=9.3				
SMLT	**Sun Moon Lake**	**1.47 258**	⇓*iP*	**Pn**	**11 12 55.3 +1.0**	**INU**	**Inuyama**	**16.80 45**	Pn	**Pn**	**11 16 19.2 -1.7**		comp=Z,0.6nm,0.3s				
SMLT			*eS*	**Sn**	**11 13 12.8 0.0**	INU			IAmb	IAmb	11 16 54.4	**F30M**	**Barrier River**	**72.22 23**	P	**P**	**11 23 48.4 +0.5**
HSN	**Hsinchu**	**1.49 294**	*eP*	**Pn**	**11 12 55.3 +0.8**		comp=Z,26nm,1.5s					**G30M**	**tAoh Zraii Nji**	**72.28 24**	P	**P**	**11 23 48.4 0.0**
HSN			*eS*	**Sn**	**11 13 13.7 +0.6**	**UBPT**	**Khong Chiam**	**18.28 244**	P	**P**	**11 16 36.3 -2.5**	G30M			IAmb	IAmb	11 24 21.8
CHKT	**Chengkung**	**1.49 223**	⇑*iP*	**Pn**	**11 12 54.2 -0.4**	**MAJO**	**Matsushiro**	**18.29 44**	P	**P**	**11 16 38.1 -0.6**		comp=Z,4.4nm,1.4s				
CHKT			*eS*	**Sn**	**11 13 12.0 -1.1**	**MJB9**	**Matsu-Tunnel**	**18.29 44**	P	**P**	**11 16 38.2 -0.5**	**EPYK**	**Eagle Plains**	**72.30 25**	P	**P**	**11 23 47.7 -0.8**
JIJ	**Ishigaki jima**	**1.54 84**	P	**Pn**	**11 12 55.9 +0.7**	**USRK**	**Ussuriysk Ar.**	**21.41 19**	P	**P**	**11 17 12.4 -0.1**	EPYK			IAmb	IAmb	11 24 18.3
JIJ			S	**Sn**	**11 13 14.5 +0.4**	**USRK**	**Ussuriysk Ar.**	**21.41 19**	P	**P**	**11 17 11.0 -1.5**		comp=Z,7.6nm,1.4s				
TWQ1	**Liyutan**	**1.56 276**	⇓*iP*	**Pn**	**11 12 57.0 +1.6**		comp=Z,2.6nm,0.7s,baz=205,slow=12,SNR=4.8					**I30M**	**Mount Dempster**	**72.83 26**	P	**P**	**11 23 51.9 +0.2**
TWQ1			*eS*	**Sn**	**11 13 16.3 +1.7**		comp=Z,2.6nm,0.7s					I30M			IAmb	IAmb	11 24 31.1
EHD	**Haiduan**	**1.56 228**	P	**Pn**	**11 12 55.4 -0.2**	**CM31**	**Chiang Mai Arr**	**22.64 260**	P	**P**	**11 17 23.7 -2.2**		comp=Z,4.4nm,1.4s				
EHD			*eS*	**Sn**	**11 13 14.5 -0.4**	**TOLI2**	**Tolitoli**	**23.01 184**	P	**P**	**11 17 27.7 -2.0**	**L29M**	**L29M**	**72.83 28**	P	**P**	**11 23 53.1 +1.5**
WHYT	**Xinyi Township**	**1.56 251**	⇓*iP*	**Pn**	**11 12 57.0 +1.5**	**GUMO**	**Guam**	**23.64 112**	LR	LR	11 25 53.2	L29M			IAmb	IAmb	11 24 08.5
WHYT			S	**Sn**	**11 13 16.1 +1.2**		comp=Z,33nm,19.3s,baz=250,slow=34						comp=Z,8.3nm,1.5s				
NMLH	**Miaoli**	**1.57 283**	*eP*	**Pn**	**11 12 57.1 +1.5**	**GTA**	**Gaotai**	**24.41 314**	*eP*	**P**	**11 17 43.9 +1.3**	**BRTR**	**Keskin Array B**	**74.11 307**	P	**P**	**11 24 00.0 +0.2**
NMLH			*eS*	**Sn**	**11 13 16.9 +1.9**	GTA			pmax	pmax			comp=Z,1.4nm,0.8s,baz=92,slow=3.7,SNR=5.7				
NSY	**Sanyi**	**1.57 278**	⇑*iP*	**Pn**	**11 12 57.8 +2.1**		comp=Z,8.0nm,0.9s						comp=Z,1.4nm,0.8s				
NSY			*eS*	**Sn**	**11 13 17.3 +2.2**	**ERM**	**Erimo**	**24.71 39**	P	**P**	**11 17 43.3 -1.8**	**HFS**	**Hagfors**	**78.12 331**	P	**P**	**11 24 21.3 -0.7**
ECS	**Chishang**	**1.59 226**	*eP*	**Pn**	**11 12 56.6 +0.7**	**ASAJ**	**Asahikawa**	**25.80 35**	LR	LR	11 28 36.6		comp=Z,1.6nm,0.7s,baz=72,slow=5.3,SNR=4.8				
ECS			*eS*	**Sn**	**11 13 15.3 -0.3**		comp=Z,68nm,19.3s,baz=199,slow=38						comp=Z,1.6nm,0.7s				
EDH	**Donghe**	**1.63 221**	*i* P	**Pn**	**11 12 56.1 -0.3**	**JKA**	**Kamikawa-asahi**	**25.80 35**	P	**P**	**11 17 53.6 -1.4**	**NB2**	**NORSAR Subarra**	**78.75 332**	P	**P**	**11 24 24.7 -0.8**
EDH			*i* S	**Sn**	**11 13 14.9 -1.4**	JKA			IAmb	IAmb	11 18 22.6		comp=Z,0.3nm,0.4s,baz=53,slow=5.9				
WJS	**Zhushan**	**1.64 257**	⇓*eP*	**Pn**	**11 12 58.7 +2.2**		comp=Z,16nm,1.3s					**NOA**	**NORSAR Array B**	**78.75 332**	P	**P**	**11 24 24.6 -0.8**
WJS			*eS*	**Sn**	**11 13 19.4 +2.7**	**SONM**	**Songino Array**	**26.82 336**		**P**	**11 18 04.6 +0.2**		comp=Z,0.3nm,0.4s,baz=54,slow=5.7,SNR=3.8				
TCU	**Taichung**	**1.64 268**	*eP*	**Pn**	**11 12 58.3 +1.8**	**SONM**	**Songino Array**	**26.82 336**	P	**P**	**11 18 03.9 -0.5**		comp=Z,0.3nm,0.4s				
TCU			S	**Sn**	**11 13 19.2 +2.6**		comp=Z,3.9nm,0.7s,baz=149,slow=9.5,SNR=13					**YKA**	**Yellowknife Ar**	**82.49 23**	P	**P**	**11 24 45.1 -0.3**
WNT	**Mingjian**	**1.67 259**	*i* P	**Pn**	**11 12 59.0 +2.1**		comp=Z,3.9nm,0.7s						comp=Z,0.8nm,0.8s,baz=318,slow=5.3,SNR=9.3				
WNT			S	**Sn**	**11 13 19.7 +2.4**	**MKAR**	**Makanchi Array**	**39.15 315**	P	**P**	**11 19 51.5 +0.1**		comp=Z,0.8nm,0.8s				
ELDTW	**Lidau**	**1.67 233**	⇓P	**Pn**	**11 12 57.3 +0.2**		comp=Z,1.6nm,0.4s,baz=99,slow=9.6,SNR=32					**B08A**	**Colville Reser**	**89.08 36**	P	**P**	**11 25 18.8 +0.4**
ELDTW			*eS*	**Sn**	**11 13 16.7 -0.9**		comp=Z,1.6nm,0.4s					**MXC**	**Moxie City**	**89.61 38**	P	**P**	**11 25 21.7 +0.9**
ALS	**Alishan**	**1.67 246**	*eP*	**Pn**	**11 12 58.7 +1.4**	**PEA0B**	**Petropavlovsk-**	**39.20 33**	P	**P**	**11 19 51.3 -0.5**						
ALS			*eS*	**Sn**	**11 13 17.8 -0.1**	**MAKZ**	**Makanchi**	**39.35 315**	P	**P**	**11 19 53.7 +0.6**						
WDJ	**Dajia District**	**1.68 275**	P	**Pn**	**11 12 58.4 +1.4**	MAKZ			IAmb	IAmb	11 19 54.2						
WDJ			*eS*	**Sn**	**11 13 20.2 +2.6**		comp=Z,9.2nm,1.2s										
JISG	**Ishigakijimahi**	**1.72 77**	*eP*	**Pn**	**11 12 58.3 +0.7**	**ZAA0**	**Zalesovo Array**	**40.87 327**	P	**P**	**11 20 04.7 -0.9**						
JISG			*eS*	**Sn**	**11 13 19.2 +0.6**	ZAA0			IAmb	IAmb	11 20 05.1						
CHN5	**Tsauling**	**1.75 250**	P	**Pn**	**11 12 59.8 +1.8**		comp=Z,4.2nm,0.6s										
CHN5			*i* S	**Sn**	**11 13 20.9 +1.4**	**ZALV**	**Zalesovo Beam**	**40.87 327**	P	**P**	**11 20 04.4 -1.1**						
WCHH	**Zhanghua**	**1.75 266**	P	**Pn**	**11 12 59.5 +1.5**		comp=Z,3.6nm,0.4s,baz=109,slow=8.0,SNR=14										
WCHH			S	**Sn**	**11 13 20.8 +1.4**		comp=Z,3.6nm,0.4s										
WCH1	**Changhua City**	**1.76 266**	*eP*	**Pn**	**11 12 59.6 +1.5**	**KDJ**	**Kajisay**	**41.38 307**	P	**P**	**11 20 11.3 +1.2**						
WCH1			*eS*	**Sn**	**11 13 21.9 +2.3**	KDJ			IAmb	IAmb	11 20 12.1						
LDUT	**Ludao**	**1.78 211**	P	**Pn**	**11 12 58.1 -0.3**		comp=Z,2.6nm,0.7s										
LDUT			*eS*	**Sn**	**11 13 18.4 -1.7**	**NRN**	**Naryn**	**42.13 306**	P	**P**	**11 20 17.4 +1.0**						
LONT	**Longtian**	**1.78 224**	*eP*	**Pn**	**11 12 59.0 +0.5**	NRN			IAmb	IAmb	11 20 18.8						
LONT			*eS*	**Sn**	**11 13 20.0 -0.2**		comp=Z,4.8nm,1.0s										
WGK	**Gukeng**	**1.82 254**	*i* P	**Pn**	**11 13 01.2 +2.3**	**KURK**	**Kurchatov**	**42.83 320**	P	**P**	**11 20 21.5 -0.1**						
WGK			*i* S	**Sn**	**11 13 24.1 +3.1**	KURK			IAmb	IAmb	11 20 22.6						
WDLH	**Douliu**	**1.84 254**	*i* P	**Pn**	**11 13 01.4 +2.2**		comp=Z,4.6nm,0.9s										
WDLH			*eS*	**Sn**	**11 13 24.7 +3.2**	**KURBB**	**Kurchatov Arra**	**42.85 319**	P	**P**	**11 20 21.4 -0.3**						
STYH	**Taoyuan**	**1.86 237**	⇓*eP*	**Pn**	**11 13 01.0 +1.5**		comp=Z,0.7nm,0.3s,baz=110,slow=8.0,SNR=11										
STYH			*eS*	**Sn**	**11 13 23.1 +1.0**		comp=Z,0.7nm,0.3s										
WCKO	**Fanlu**	**1.87 246**	⇓*eP*	**Pn**	**11 13 01.6 +2.0**	**WRA**	**Warramunga Arr**	**45.38 164**	P	**P**	**11 20 41.9 -0.4**						
WCKO			*i* S	**Sn**	**11 13 25.0 +2.7**	**WRA**	**Warramunga Arr**	**45.38 164**	P	**P**	**11 20 43.0 +0.8**						
TWGBT	**Beinan**	**1.88 223**	P	**Pn**	**11 13 00.0 +0.2**		comp=Z,0.4nm,0.5s,baz=347,slow=8.6,SNR=5.7										
TWGBT	**Beinan**	**1.88 223**	P	**Pn**	**11 12 59.9 +0.1**	WRA			PcP	**PcP**	**11 22 20.5 -0.3**						
TWG	**Pinlang**	**1.88 223**	Pn	**Pn**	**11 12 59.8 0.0**		comp=Z,0.3nm,0.5s,baz=348,slow=3.8,SNR=5.1										
TWG			Sn	**Sn**	**11 13 21.7 -0.9**		comp=Z,0.4nm,0.5s										
TWG	**Pinlang**	**1.88 223**	*i* P	**Pn**	**11 12 59.9 +0.1**	**WR8**	**Warramunga Arr**	**45.43 164**	P	**P**	**11 20 44.2 +1.5**						
TWG			*eS*	**Sn**	**11 13 21.7 -0.9**	WR8			IAmb	IAmb	11 21 12.7						
TTN	**Taitung**	**1.89 220**	*eP*	**Pn**	**11 13 00.2 +0.4**		comp=Z,11nm,1.4s										
TTN			*i* S	**Sn**	**11 13 22.7 +0.1**	**BVAR**	**Borovoye Array**	**48.41 320**	P	**P**	**11 21 05.3 -0.3**						
TPUB	**Ta-pu**	**1.91 242**	Pn	**Pn**	**11 13 01.8 +1.6**		comp=Z,1.8nm,0.5s,baz=108,slow=7.7,SNR=11										
TPUB			Sn	**Sn**	**11 13 25.1 +1.8**	BVAR			PcP	**PcP**	**11 22 30.4 -0.6**						
TPUB	**Ta-pu**	**1.91 242**	P	**Pn**	**11 13 02.1 +1.9**		comp=Z,0.3nm,0.3s,baz=66,slow=3.6,SNR=4.9										
TPUB	**Ta-pu**	**1.91 242**	S	**Sn**	**11 13 25.9 +2.6**		comp=Z,1.8nm,0.5s										
TPUB	**Ta-pu**	**1.91 242**	⇓*iP*	**Pn**	**11 13 01.9 +1.6**	**BRVK**	**Borovoye**	**48.48 320**	P	**P**	**11 21 06.0 -0.1**						
TPUB			S	**Sn**	**11 13 24.4 +1.2**	BRVK			IAmb	IAmb	11 21 06.7						
CHN4	**Tsaushan**	**1.92 244**	⇓P	**Pn**	**11 13 02.1 +1.8**		comp=Z,2.8nm,1.0s										
CHN4			*eS*	**Sn**	**11 13 25.8 +2.4**	**ASAR**	**Alice Springs**	**48.86 166**	P	**P**	**11 21 10.8 +1.5**						
CHN2	**Minshiung**	**1.94 250**	*eP*	**Pn**	**11 13 03.1 +2.5**		comp=Z,1.0nm,0.8s,baz=342,slow=8.7,SNR=9.8										
WTP	**Ta-pu**	**1.95 241**	⇓*iP*	**Pn**	**11 13 02.6 +1.8**		comp=Z,1.0nm,0.8s										
WTP			*eS*	**Sn**	**11 13 26.1 +1.9**	**AMKA**	**Amchitka**	**50.89 43**	P	**P**	**11 21 25.1 +0.7**						
WTK	**Tuku**	**1.97 255**	*eP*	**Pn**	**11 13 03.1 +2.0**	**AB31**	**Akbulak array**	**54.27 314**		**P**	**11 21 50.0 +0.6**						
WTK			*eS*	**Sn**	**11 13 27.2 +2.5**	**ABKAR**	**Akbulak array**	**54.27 314**	P	**P**	**11 21 50.0 +0.5**						
CHY	**Chiayi**	**2.00 250**	*eP*	**Pn**	**11 13 03.5 +2.1**	**C18K**	**Utukok River**	**62.72 24**	P	**P**	**11 22 48.4 +0.3**						
CHY			*i* S	**Sn**	**11 13 27.8 +2.4**	**E18K**	**Tukpahlearik C**	**62.88 25**	P	**P**	**11 22 50.2 +1.2**						
WTCT	**Ta-ch'eng**	**2.03 261**	*eP*	**Pn**	**11 13 03.2 +1.4**	E18K			IAmb	IAmb	11 23 01.6						
WTCT			S	**Sn**	**11 13 27.9 +1.9**		comp=Z,6.1nm,1.4s										
CHN1	**Nanshi**	**2.05 241**	⇓*eP*	**Pn**	**11 13 03.9 +1.8**	**C19K**	**Lookout Ridge**	**63.32 23**	P	**P**	**11 22 52.6 +0.6**						
CHN1			S	**Sn**	**11 13 29.2 +2.6**	**J17K**	**VABM Dome**	**63.49 30**	P	**P**	**11 22 53.8 +0.6**						
SNST	**Tainan City**	**2.06 242**	*eP*	**Pn**	**11 13 04.8 +2.6**	J17K			IAmb	IAmb	11 23 00.7						
SNST			*eS*	**Sn**	**11 13 28.9 +2.1**		comp=Z,6.8nm,1.4s										
JTJ	**Tarama**	**2.08 77**	*eP*	**Pn**	**11 13 03.6 +1.1**	**M16K**	**Timber Creek**	**63.63 32**	P	**P**	**11 22 54.1 0.0**						
JTJ			*eS*	**Sn**	**11 13 27.9 +0.5**	**D19K**	**Kuna River**	**63.84 24**	P	**P**	**11 22 56.7 +1.2**						
ECL	**Taimali**	**2.12 221**	*eP*	**Pn**	**11 13 02.9 -0.2**	**K17K**	**Iditarod**	**63.87 30**	P	**P**	**11 22 56.8 +1.1**						
ECL			*eS*	**Sn**	**11 13 26.8 -1.5**	K17K			IAmb	IAmb	11 23 20.9						
WSF	**Szhu**	**2.13 255**	P	**Pn**	**11 13 05.0 +1.8**		comp=Z,7.0nm,1.3s										
WSF			*i* S	**Sn**	**11 13 31.6 +3.0**	**D20K**	**Etivluk River**	**64.39 24**	P	**P**	**11 22 58.4 -0.6**						
WSL	**Shuilin Townsh**	**2.16 252**	*eP*	**Pn**	**11 13 05.3 +1.7**	**L18K**	**Granite Mounta**	**64.64 31**	P	**P**	**11 23 01.5 +0.8**						
WSL			S	**Sn**	**11 13 31.8 +2.5**	L18K			IAmb	IAmb	11 23 02.9						
ICHU	**Yijhu**	**2.17 248**	*i* P	**Pn**	**11 13 05.6 +1.8**		comp=Z,5.0nm,1.4s										
ICHU			S	**Sn**	**11 13 31.8 +2.1**	**J19K**	**Poorman**	**65.00 29**	P	**P**	**11 23 04.3 +1.3**						
SSD	**Sandimen**	**2.23 230**	*eP*	**Pn**	**11 13 06.5 +2.0**	J19K			IAmb	IAmb	11 23 19.9						
SSD			*eS*	**Sn**	**11 13 32.1 +1.2**		comp=Z,6.4nm,1.5s										
CHN3	**Shinhua**	**2.23 240**	*eP*	**Pn**	**11 13 07.7 +3.1**	**E21K**	**Killik River**	**65.38 24**	P	**P**	**11 23 05.9 +0.5**						
CHN3			*eS*	**Sn**	**11 13 35.1 +4.0**	E21K			IAmb	IAmb	11 23 09.0						
CHN8	**Yiju**	**2.24 248**	*eP*	**Pn**	**11 13 06.3 +1.7**		comp=Z,3.2nm,1.0s										
CHN8			*i* S	**Sn**	**11 13 33.6 +2.4**	**L19K**	**White Mountain**	**65.50 31**	P	**P**	**11 23 06.9 +0.6**						
SCST	**Cishan**	**2.24 235**	*eP*	**Pn**	**11 13 07.8 +3.2**	L19K			IAmb	IAmb	11 23 07.3						
TSMG	**Majia**	**2.24 229**	*eP*	**Pn**	**11 13 05.6 +0.9**		comp=Z,4.3nm,1.2s										
LAY	**Lan-yu**	**2.31 202**	*i* P	**Pn**	**11 13 05.1 -0.6**	**J20K**	**Nowinta River**	**65.63 29**	P	**P**	**11 23 08.2 +1.1**						
MASBT	**Mashibuluo**	**2.31 227**	*eP*	**Pn**	**11 13 07.2 +1.5**	**K20K**	**Telida**	**65.75 29**	P	**P**	**11 23 07.9 0.0**						
MASBT			*eS*	**Sn**	**11 13 34.5 +1.4**	K20K			IAmb	IAmb	11 23 46.1						
TWM1	**Shoushan**	**2.33 234**	*eP*	**Pn**	**11 13 09.6 +3.7**		comp=Z,4.1nm,1.5s										
TWM1			*eS*	**Sn**	**11 13 38.0 +4.5**	**D22K**	**Ayikyak River**	**65.81 23**	P	**P**	**11 23 09.2 +1.0**						
SGLT	**Jiouru**	**2.34 231**	*eP*	**Pn**	**11 13 09.9 +3.9**	**E22K**	**Anaktuvuk Pass**	**66.20 24**	P	**P**	**11 23 11.6 +0.8**						
SGLT			*eS*	**Sn**	**11 13 37.0 +3.3**	E22K			IAmb	IAmb	11 23 12.1						
TAW	**Tawu**	**2.34 219**	*eP*	**Pn**	**11 13 06.3 +0.3**		comp=Z,4.7nm,1.4s										
TAW			*eS*	**Sn**	**11 13 32.3 -1.4**	**M20K**	**Styx River**	**66.34 31**	P	**P**	**11 23 13.2 +1.4**						
EAST	**Anshuo**	**2.35 220**	*eP*	**Pn**	**11 13 06.6 +0.4**	M20K			IAmb	IAmb	11 23 38.8						
TAWH	**Dawu Township**	**2.36 218**	*eP*	**Pn**	**11 13 06.6 +0.3**		comp=Z,5.1nm,1.2s										
TSCK	**Chigu Township**	**2.42 245**	*eP*	**Pn**	**11 13 09.2 +2.0**	**C23K**	**Itkillik River**	**66.46 22**	P	**P**	**11 23 13.2 +0.9**						
SCZT	**Fangliau**	**2.49 223**	*eP*	**Pn**	**11 13 09.9 +1.8**	**D23K**	**Nanushuk River**	**66.53 23**	P	**P**	**11 23 14.2 +1.4**						
SLIU	**Shizi**	**2.50 218**	*eP*	**Pn**	**11 13 08.9 +0.6**	D23K			IAmb	IAmb	11 23 14.7						
JIRB	**Irabujima**	**2.54 75**	*eP*	**Pn**	**11 13 09.3 +0.6**		comp=Z,4.2nm,1.1s										
JIRB			*eS*	**Sn**	**11 13 39.9 +1.3**	**MLY**	**Manley**	**66.99 27**	P	**P**	**11 23 16.3 +0.4**						
WSSB	**Gushan**	**2.56 233**	*eP*	**Pn**	**11 13 11.4 +2.4**	**E23K**	**Chandalar**	**67.03 24**	P	**P**	**11 23 17.0 +0.9**						
JIKM	**Ikemajima**	**2.63 74**	*eP*	**Pn**	**11 13 11.7 +1.8**	E23K			IAmb	IAmb	11 23 22.0						
JIKM			*eS*	**Sn**	**11 13 42.0 +1.3**		comp=Z,7.1nm,1.4s										
JMJ	**Miyako jima 2**	**2.64 76**	P	**Pn**	**11 13 11.8 +1.7**	**KDAK**	**Kodiak Island**	**67.21 35**	P	**P**	**11 23 17.2 -0.1**						
JMJ2	**Miyako jima3**	**2.66 78**	*eP*	**Pn**	**11 13 11.8 +1.4**	**H23K**	**Yukon River**	**67.37 26**	P	**P**	**11 23 19.6 +1.4**						
JMJ2			*eS*	**Sn**	**11 13 43.3 +1.9**	**E24K**	**Your Creek**	**67.44 24**	P	**P**	**11 23 19.9 +1.2**						
HEN	**Hengchun**	**2.71 216**	*eP*	**Pn**	**11 13 13.0 +2.0**	E24K			IAmb	IAmb	11 23 35.8						
TSEB	**Hengchuen, Pin**	**2.71 213**	*eP*	**Pn**	**11 13 12.1 +1.0**		comp=Z,5.5nm,1.4s										
TSEB			*eS*	**Sn**	**11 13 44.3 +1.6**	**I23K**	**Minto, Yukon-K**	**67.55 27**	P	**P**	**11 23 20.6 +1.3**						
TWKBT	**Hengchun**	**2.72 214**	P	**Pn**	**11 13 12.7 +1.5**	**F24K**	**Squaw Lake**	**67.76 25**	P	**P**	**11 23 21.4 +0.7**						
TWKBT			*eS*	**Sn**	**11 13 43.3 +0.3**	F24K			IAmb	IAmb	11 24 03.0						
TWK1	**Hengchun**	**2.72 215**	*eP*	**Pn**	**11 13 10.8 -0.5**		comp=Z,3.8nm,1.4s										
TWK1			*eS*	**Sn**	**11 13 42.7 -0.3**	**G24K**	**Hadweenzic Riv**	**68.06 25**	P	**P**	**11 23 23.6 +1.1**						
PHUB	**P'eng-hu**	**2.74 256**	*i* P	**Pn**	**11 13 11.9 +0.4**	G24K			IAmb	IAmb	11 23 39.2						
PHUB			*eS*	**Sn**	**11 13 42.5 -1.0**		comp=Z,5.7nm,1.5s										
WDGT	**Dungji**	**2.74 251**	P	**Pn**	**11 13 12.3 +0.9**	**RND**	**Reindeer**	**68.07 29**	P	**P**	**11 23 22.5 -0.2**						
						RND			IAmb	IAmb	11 23 38.1						
							comp=Z,7.1nm,1.3s										
						F25K	**Christian Rive**	**68.59 24**	P	**P**	**11 23 26.6 +0.7**						
						ILAR	**Eielson Array**	**68.66 27**	P	**P**	**11 23 25.1 -1.2**						
							comp=Z,0.1nm,0.3s,baz=280,slow=6.3,SNR=2.0										
							comp=Z,0.1nm,0.3s										

JMA 16 11:13:37.7±0.2, 33°N±1°×132°4E±0°.4, h31km±3km, MV0.5/8, HYUGANADA REGION, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSKE	**Saikikamae**	**0.41**	**292**	P	Pb	11 13 46.5	-0.3

0.2nm,0.5s,baz=134,slow=8.3,SNR=2.7
0.2nm,0.5s

TEH ***16*** *12:02:24.9, 27°.66N × 53°.31E, h8km ± 21km*
IDC ***16*** *12:02:24.0 ± 0.6, 27°.60N × 53°.27E, h0km, mb4.2/27, mbtmp4.2/30, ML3.6/2, MS3.7/2, Error ellipse: s-maj=15.6km s-min=12.4km az=35.0*
DSN ***16*** *12:02:26.1 ± 1.8, 27°.81N × 53°.21E, h15km, ML3.7/17, Error ellipse: s-maj=21.7km s-min=7.2km az=170.0*
NEIC ***16*** *12:02:27.0 ± 1.3, 27°.68N ± 0°.07 × 53°.26E ± 0°.07, h10km ± 1km, mb4.5/76, Error ellipse: s-maj=13.0km s-min=9.3km az=211.0*
THR ***16*** *12:02:26.0 ± 0.0, 27°.65N × 53°.15E, h20km ± 5km, ML4.1*
OMAN ***16*** *12:02:28.9 ± 0.1, 27°.51N × 53°.27E, h9km ± 1km, mb4.9/10, ml4.0/20, Error ellipse: s-maj=2.3km s-min=0.9km az=348.0*

ISC 16 12:02:27.1 ± 0.3, 27°.65N ± 0°.04 × 53°.26E ± 0°.04, h16km, n218, σ1s27/223, mb4.4/57, MS3.8/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LMD1	**Lamerd**	**0.32**	**196**	Pg	**Pg**	**12 02 32.4**	**-1.4**
LMD1	**Lamerd**	**0.32**	**196**	*e*PgA		12 02 32.1	
LMD1				*e*Sg	**Sg**	**12 02 38.3**	**-0.1**
LMD1				IAML		12 02 49.5	
	comp=Z,120nm,1.0s						
QIR1	**Qir**	**0.85**	**347**	Pg	**Pb**	**12 02 42.1**	**-1.4**
JHRM	**Jahrom**	**0.90**	**18**	Pg	**Pb**	**12 02 42.8**	**-1.5**
LAR1	**LAR**	**0.99**	**89**	Pg	**Pb**	**12 02 44.1**	**-1.8**
DSBU	**Dashti - Bushe**	**1.91**	**292**	Pn	**Pn**	**12 03 01.3**	**+2.3**
SHI	**Shiraz**	**2.09**	**342**	Pn	**Pn**	**12 03 02.7**	**+1.0**
KAZ2	**Kazeron-Fars-I**	**2.41**	**325**	Pn	**Pn**	**12 03 07.9**	**+2.0**
BNDS	**Bandar-Abbas**	**2.60**	**95**	Pn	**Pn**	**12 03 09.1**	**+0.6**
BNDS	**Bandar-Abbas**	**2.60**	**95**	*e*Pn	**Pn**	**12 03 10.3**	**+1.7**
BNDS				IAML		12 04 16.9	
	comp=Z,1.2nm,1.0s						
GENO	**Geno**	**2.60**	**95**	Pn	**Pn**	**12 03 09.2**	**+0.6**
JRN	**Qarnain Island**	**2.72**	**188**	P	**Pn**	**12 03 13.3**	**+3.2**
SHMA	**Al-Shehemyia** SNR=16	**2.72**	**230**	P	**Pn**	**12 03 12.8**	**+2.8**
SAKB	**Bahrain**	**2.95**	**236**	P	**Pn**	**12 03 15.6**	**+2.4**
UMQ	**Umm Al-Quwin**	**3.02**	**134**	P	**Pn**	**12 03 17.7**	**+3.5**
SHME	**Shamm**	**3.03**	**121**	P	**Pn**	**12 03 17.3**	**+3.0**
SHME				S	**Sn**	**12 03 52.2**	**+1.9**
SHME	**Shamm**	**3.03**	**121**	P	**Pn**	**12 03 15.5**	**+1.1**
BANOM	**Banah**	**3.21**	**122**	P	**Pn**	**12 03 19.5**	**+2.6**
BANOM	**Banah** SNR=31	**3.21**	**122**	*i* P	**Pn**	**12 03 18.5**	**+1.6**
NAZ	**Nazwa, Dubai** SNR=7.3	**3.42**	**140**	P	**Pn**	**12 03 21.8**	**+2.2**
NAZ				S	**Sn**	**12 04 03.1**	**+3.2**
NAZ	**Nazwa, Dubai** SNR=7.3	**3.42**	**140**	*i* P	**Pn**	**12 03 21.1**	**+1.4**
TRNA	**Turayna** SNR=16	**3.44**	**213**	P	**Pn**	**12 03 22.0**	**+2.0**
AJN	**Ajban** SNR=12	**3.44**	**153**	P	**Pn**	**12 03 22.5**	**+2.5**
AJN				S	**Sn**	**12 04 02.7**	**+2.2**
AJN	**Ajban** SNR=12	**3.44**	**153**	*i* P	**Pn**	**12 03 22.0**	**+1.9**
MASF	**Masafi**	**3.45**	**130**	P	**Pn**	**12 03 22.6**	**+2.5**
MSFE	**Esma-Masafi**	**3.46**	**131**	P	**Pn**	**12 03 22.0**	**+1.8**
ASUD	**Al Ashush, Dub**	**3.54**	**148**	P	**Pn**	**12 03 23.6**	**+2.2**
ASUD				S	**Sn**	**12 04 05.4**	**+2.5**
ASUD	**Al Ashush, Dub**	**3.54**	**148**	P	**Pn**	**12 03 23.1**	**+1.7**
FAQ	**Al Faqa, Dubai**	**3.57**	**144**	P	**Pn**	**12 03 23.5**	**+1.7**
FAQ				S	**Sn**	**12 04 04.7**	**+1.0**
FAQ	**Al Faqa, Dubai**	**3.57**	**144**	P	**Pn**	**12 03 23.0**	**+1.2**
MDH	**Madha**	**3.59**	**130**	P	**Pn**	**12 03 23.7**	**+1.6**
MDH				S	**Sn**	**12 04 07.5**	**+3.4**
MDH	**Madha**	**3.59**	**130**	P	**Pn**	**12 03 23.4**	**+1.3**
SMRA	**Abu-Samra** SNR=9.3	**3.63**	**218**	P	**Pn**	**12 03 24.3**	**+1.7**
NGRK	**Negar Kerman**	**3.64**	**56**	Pn	**Pn**	**12 03 23.9**	**+0.8**
KLNJ	**Kolanjah**	**3.65**	**337**	*e*Pn	**Pn**	**12 03 23.6**	**+0.4**
KLNJ				IAML		12 04 43.6	
	comp=Z,0.7nm,1.0s						
GHWR	**Ruwais**	**3.69**	**185**	P	**Pn**	**12 03 24.5**	**+1.1**
UOSS	**Minazif**	**3.77**	**135**	Pn	**Pn**	**12 03 25.3**	**+0.7**
UOSS	**Minazif**	**3.77**	**135**	P	**Pn**	**12 03 25.6**	**+1.0**
UOSS	**Minazif**	**3.77**	**135**	P	**Pn**	**12 03 25.3**	**+0.7**
HATD	**Hatta, Dubai**	**3.81**	**137**	P	**Pn**	**12 03 27.5**	**+2.3**
HATD				S	**Sn**	**12 04 11.2**	**+1.4**
HATD	**Hatta, Dubai**	**3.81**	**137**	P	**Pn**	**12 03 26.1**	**+0.9**
SLWR	**Sila**	**3.83**	**202**	P	**Pn**	**12 03 26.3**	**+0.8**
KRBR	**Kerman**	**3.85**	**52**	Pn	**Pn**	**12 03 27.6**	**+1.6**
KRBR	**Kerman**	**3.85**	**52**	*e*PnA		12 03 28.0	
KRBR				IAML		12 04 30.4	
	comp=Z,0.7nm,1.0s						
ASHO	**Ashiyiah** SNR=12	**3.88**	**139**	P	**Pn**	**12 03 27.4**	**+1.3**
ASHO				S	**Sn**	**12 04 12.7**	**+1.3**
ASHO	**Ashiyiah** SNR=11	**3.88**	**139**	*i* P	**Pn**	**12 03 26.9**	**+0.8**
IMEH	**Mehriz**	**3.91**	**17**	Pn	**Pn**	**12 03 28.5**	**+1.8**
IRAM	**Ramesheh**	**4.22**	**350**	Pn	**Pn**	**12 03 32.0**	**+1.1**
ALNE	**Al Ain** SNR=14	**4.22**	**147**	P	**Pn**	**12 03 32.4**	**+1.6**
ALNE				S	**Sn**	**12 04 20.9**	**+1.1**
ALNE	**Al Ain** SNR=14	**4.22**	**147**	*i* P	**Pn**	**12 03 31.9**	**+1.1**
ZRDN	**Zarand Kerman**	**4.37**	**40**	Pn	**Pn**	**12 03 34.1**	**+1.1**
JASK	**Jask - Hormozg**	**4.48**	**112**	Pn	**Pn**	**12 03 35.9**	**+1.5**
JASK	**Jask - Hormozg**	**4.48**	**112**	P	**Pn**	**12 03 35.7**	**+1.3**
JASK				S	**Sn**	**12 04 27.9**	**+1.7**
SOHO	**SOHO**	**4.58**	**139**	P	**Pn**	**12 03 36.5**	**+0.9**
SOHO				S	**Sn**	**12 04 30.6**	**+2.1**
SOHO	**SOHO** SNR=12	**4.58**	**139**	*i* P	**Pn**	**12 03 36.2**	**+0.6**
MZR	**Muzera** SNR=5.6	**4.63**	**178**	P	**Pn**	**12 03 37.6**	**+1.2**
MZR	**Muzera**	**4.63**	**178**	P	**Pn**	**12 03 37.1**	**+0.7**
ICHK	**Chekchek**	**4.69**	**12**	Pn	**Pn**	**12 03 38.8**	**+1.5**
KBAM	**BAM**	**4.81**	**71**	Pn	**Pn**	**12 03 40.4**	**+1.5**
YZKH	**Yazd**	**4.86**	**13**	*e*PnA		12 03 41.7	
YZKH				IAML		12 04 10.3	
	comp=Z,0.1nm,1.0s						
UMZA	**Um Al Zommool**	**5.21**	**160**	P	**Pn**	**12 03 45.4**	**+1.1**
UMZA				S	**Sn**	**12 04 45.5**	**+1.5**
ARQ	**Araqi** SNR=13	**5.21**	**145**	P	**Pn**	**12 03 45.6**	**+1.2**
IZEF	**Zefreh**	**5.29**	**351**	Pn	**Pn**	**12 03 46.5**	**+0.8**
HOQ	**Hoqain**	**5.46**	**137**	P	**Pn**	**12 03 49.0**	**+1.2**
HOQ				S	**Sn**	**12 04 50.9**	**+0.6**
ANAR	**Anarak**	**5.54**	**4**	Pn	**Pn**	**12 03 49.9**	**+1.0**
BIDO	**Bidbid**	**6.02**	**132**	P	**Pn**	**12 03 56.4**	**+1.0**
BIDO				S	**Sn**	**12 05 04.8**	**+0.8**
BSY	**Bisya** SNR=14	**6.05**	**143**	P	**Pn**	**12 03 57.0**	**+1.1**
BSY				S	**Sn**	**12 05 04.6**	**-0.2**
SMDO	**Samad** SNR=9.0	**6.30**	**135**	P	**Pn**	**12 04 00.1**	**+0.7**
SMDO				S	**Sn**	**12 05 11.4**	**+0.4**
WSAR	**Wadi Sarin** baz=300,slow=24,SNR=12	**6.54**	**131**	Pn	**Pn**	**12 04 02.6**	**-0.1**
WSAR				Sn	**Sn**	**12 05 16.1**	**-0.9**
	baz=122,slow=24,SNR=4.0						
ISFB	**Sefidab**	**6.74**	**353**	Pn	**Pn**	**12 04 06.1**	**+0.7**
CHBR	**Chabahar**	**6.78**	**106**	Pn	**Pn**	**12 04 07.4**	**+1.5**
TKDS	**Koohdasht(Taba**	**6.81**	**28**	Pn	**Pn**	**12 04 07.5**	**+1.0**
TABS	**Tabas**	**6.84**	**28**	*e*PnA		12 04 07.9	
TABS				IAML		12 06 26.9	
	comp=Z,0.1nm,1.0s						
JMDO	**Jabal Madar**	**6.85**	**139**	P	**Pn**	**12 04 07.4**	**+0.5**
ZHSF	**Zahedan**	**6.89**	**72**	Pn	**Pn**	**12 04 08.6**	**+1.1**
ZHSF	**Zahedan**	**6.89**	**72**	*e*PnA		12 04 09.6	
ZHSF				IAML		12 05 56.7	
	comp=Z,0.0nm,1.0s						
TNSJ	**Nastanj**	**6.92**	**24**	Pn	**Pn**	**12 04 08.5**	**+0.6**
NHDN	**Nehbandan**	**6.99**	**56**	Pn	**Pn**	**12 04 10.1**	**+1.1**
GHVR	**GHOM**	**7.01**	**347**	*e*Pn	**Pn**	**12 04 11.0**	**+1.8**
GHVR				IAML		12 05 54.8	
	comp=Z,0.8nm,1.0s						
WBK	**Wadi Bani Khal**	**7.21**	**133**	P	**Pn**	**12 04 12.0**	**+0.2**
ASAO	**Ashtian**	**7.42**	**339**	*e*PnA		12 04 15.7	
ASAO				IAML		12 05 44.7	
	comp=Z,0.1nm,1.0s						
NGCH	**Negor - Chabah**	**7.42**	**106**	P	**Pn**	**12 04 14.8**	**+0.1**
IVRN	**Varamin**	**7.44**	**350**	Pn	**Pn**	**12 04 15.7**	**+0.7**
IANJ	**Anjilo**	**7.81**	**4**	Pn	**Pn**	**12 04 21.5**	**+1.2**
JLN	**Jalan Bani Buh**	**7.82**	**133**	P	**Pn**	**12 04 20.0**	**-0.2**
MHTO	**MHTO**	**7.90**	**146**	P	**Pn**	**12 04 21.4**	**+0.1**
DAMV	**Damavand**	**8.03**	**352**	*e*PnA		12 04 24.0	
DAMV				IAML		12 04 25.3	
	comp=Z,69nm,1.0s						
RAYN	**Ar Rayn**	**8.12**	**241**	Pn	**Pn**	**12 04 23.6**	**-0.7**
RAYN	**Ar Rayn**	**8.12**	**241**	P	**Pn**	**12 04 23.7**	**-0.7**
RAYN	**Ar Rayn** SNR=12	**8.12**	**241**	*i* P	**Pn**	**12 04 23.6**	**-0.7**
CHTH	**Charan**	**8.43**	**348**	*e*PnA		12 04 29.3	
CHTH				IAML		12 05 23.0	
	comp=Z,18nm,1.0s						
ILBA	**Ilam Banvizeh**	**8.51**	**316**	*e*PnA		12 04 29.3	
ILBA				IAML		12 06 32.4	
	comp=Z,20nm,1.0s						
SHRT	**Shahrakht**	**8.51**	**44**	*e*PnA		12 04 32.2	
SHRT				IAML		12 06 46.2	
	comp=Z,12nm,1.0s						
DQM	**DQM**	**8.62**	**152**	P	**Pn**	**12 04 30.9**	**-0.4**
SHRO	**Shahrood**	**8.64**	**15**	*e*PnA		12 04 32.9	
SHRO				IAML		12 04 44.2	
	comp=Z,14nm,1.0s						
DOK	**Doka** SNR=24	**9.02**	**175**	P	**Pn**	**12 04 35.8**	**-1.0**
SBZV	**Sabzevar**	**9.46**	**22**	*e*Pn	**Pn**	**12 04 45.7**	**+2.8**
WHFO	**Wadi Hawf** SNR=26	**9.70**	**177**	P	**Pn**	**12 04 44.5**	**-1.5**
DMTO	**DMTO** SNR=11	**10.01**	**171**	P	**Pn**	**12 04 48.8**	**-1.4**
RBK	**Rabkut**	**10.13**	**175**	P	**Pn**	**12 04 51.8**	**-0.2**
ABTO	**Aybut** SNR=10	**10.25**	**180**	P	**Pn**	**12 04 52.3**	**-1.2**
MRVT	**Maraveh tapeh**	**10.26**	**13**	*e*PnA		12 04 56.5	
BJRD	**Bojnurd**	**10.61**	**18**	*e*PnA		12 05 01.6	
GNI	**Garni**	**14.32**	**333**	Pn	**Pn**	**12 05 50.8**	**+1.4**
	comp=Z,4.5nm,0.4s,baz=26,slow=0.9,SNR=3.7						
ASF	**Jabal al Asfar**	**14.89**	**292**	Pn	**Pn**	**12 05 57.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=117,slow=6.8,SNR=1.7						
	comp=Z,1.3nm,0.3s						
KBL	**Kabul**	**15.16**	**59**	Pn	**Pn**	**12 06 00.0**	**-0.7**
KOPT	**Kop Dagi**	**16.25**	**323**	Pn	**Pn**	**12 06 13.7**	**-1.1**
SIMJ	**Simiganj**	**17.13**	**46**	Pn	**Pn**	**12 06 25.6**	**-0.3**
KBZ	**Khabaz**	**18.09**	**335**	P	**Pn**	**12 06 38.8**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=140,slow=11,SNR=4.7						
	comp=Z,3.0nm,0.8s						
GAR	**Garm**	**18.17**	**47**	Pn	**Pn**	**12 06 36.7**	**-2.1**
GAR				IAmb	IAmb	12 06 41.2	
	comp=Z,31nm,1.0s						
NIL	**Nilore**	**18.20**	**66**	Pn	**Pn**	**12 06 37.3**	**-1.8**
NIL				IAmb	IAmb	12 06 42.2	
	comp=Z,45nm,1.1s						
BRTR	**Keskin Array B**	**20.24**	**312**		**P**	**12 07 00.8**	**-0.9**
BRTR	**Keskin Array B**	**20.24**	**312**	P	**P**	**12 07 02.1**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=133,slow=13,SNR=11						
	comp=Z,1.6nm,0.5s						
BR131	**Keskin Array S**	**20.24**	**312**	P	**P**	**12 06 59.7**	**-2.0**
KK31	**Karatay Array**	**20.81**	**38**	P	**P**	**12 07 07.9**	**+0.2**
KK31				IAmb	IAmb	12 07 12.3	
	comp=Z,21nm,0.8s						
KKAR	**Karatay Array**	**20.81**	**38**	P	**P**	**12 07 07.9**	**+0.2**
ANTO	**Ankara**	**20.88**	**311**		**P**	**12 07 08.5**	**0.0**
ILGA	**Ilgaz**	**20.89**	**315**	P	**P**	**12 07 09.0**	**+0.1**
ARSB	**Arslanbob**	**21.16**	**45**	P	**P**	**12 07 11.8**	**+0.2**
ARSB				IAmb	IAmb	12 07 13.9	
	comp=Z,23nm,0.7s						
AB31	**Akbulak array**	**22.18**	**12**	P	**P**	**12 07 22.9**	**+0.5**
KSH	**Kashi**	**22.25**	**52**	P	**P**	**12 07 18.8**	**-4.6**
KSH				sP	pP	12 07 27.8	-0.4
KSH				pmax	pmax		
	comp=Z,11nm,0.7s						
AAK	**Ala-Archa**	**22.83**	**44**	P	**P**	**12 07 30.5**	**+1.0**
AAK				IAmb	IAmb	12 07 40.1	
	comp=Z,7.8nm,0.7s						
ARG	**Arkhangelos**	**22.93**	**298**	P	**P**	**12 07 30.4**	**-0.1**
ARG				IAmb	IAmb	12 07 47.2	
	comp=Z,21nm,1.0s						
AKTO	**Aktyubinsk**	**23.04**	**8**	P	**P**	**12 07 32.1**	**+0.6**
	comp=Z,7.4nm,0.7s,baz=175,slow=10,SNR=23						
	comp=Z,7.4nm,0.7s						
NRN	**Naryn**	**23.15**	**48**	P	**P**	**12 07 33.1**	**+0.1**
MANT	**Manisa**	**23.29**	**304**	P	**P**	**12 07 35.3**	**+1.0**
BOOM	**Boomskoye usch**	**23.64**	**45**		**P**	**12 07 38.4**	**+0.6**
BOOM				IAmb	IAmb	12 07 40.8	
	comp=Z,7.4nm,0.8s						
KDJ	**Kajisay**	**24.26**	**47**	P	**P**	**12 07 43.9**	**+0.3**
TARG	**Taragay, Kyrgy**	**24.48**	**49**		**P**	**12 07 47.4**	**+1.4**
BELG	**Belogornoye**	**25.07**	**352**	P	**P**	**12 07 50.8**	**+0.2**
	comp=Z,18nm,0.8s,baz=249,slow=3.9,SNR=4.1						
BELG				LR	LR	12 20 27.9	
	comp=Z,49nm,18.6s,baz=104,slow=43						
	comp=Z,18nm,0.8s						
IDI	**Anoyia**	**25.31**	**295**	P	**P**	**12 07 53.1**	**0.0**
MLR	**Muntele Rosu**	**28.05**	**317**	P	**P**	**12 08 18.5**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=359,slow=7.0,SNR=3.2						
	comp=Z,1.9nm,0.5s						
BVAR	**Borovoye Array**	**28.36**	**22**	P	**P**	**12 08 21.2**	**+0.9**
	comp=Z,5.1nm,0.6s,baz=205,slow=3.1,SNR=6.8						
BVAR				ScP	**ScP**	**12 15 12.8**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=232,slow=1.7,SNR=3.8						
	comp=Z,5.1nm,0.6s						
ARTI	**Arti**	**28.95**	**6**	P	**P**	**12 08 25.9**	**+0.4**
ARTI				IAmb	IAmb	12 08 39.4	
	comp=Z,6.2nm,0.9s						
AKASG	**Malin Array Be**	**29.37**	**328**	P	**P**	**12 08 27.8**	**-1.5**
	comp=Z,1.6nm,0.6s,baz=135,slow=7.8,SNR=10						
	comp=Z,1.6nm,0.6s						
AKBB	**Malin Array Si**	**29.37**	**328**	P	**P**	**12 08 29.4**	**+0.1**
AKBB				IAmb	IAmb	12 08 29.7	
	comp=Z,4.7nm,0.5s						
KIEV	**Kiev**	**29.38**	**328**	P	**P**	**12 08 29.1**	**-0.1**
KIEV				IAmb	IAmb	12 08 29.7	
	comp=Z,4.2nm,0.5s						
MAKZ	**Makanchi**	**29.56**	**42**	P	**P**	**12 08 32.0**	**+1.0**
MAKZ				IAmb	IAmb	12 08 33.3	
	comp=Z,5.5nm,0.7s						
BURAR	**Bucovina Array**	**29.59**	**320**	P	**P**	**12 08 31.0**	**-0.3**
BUR08	**Bucovina Ar. S**	**29.61**	**320**	P	**P**	**12 08 31.2**	**-0.3**
EVN	**Everest**	**29.63**	**81**	P	**P**	**12 08 32.6**	**+0.1**
MKAR	**Makanchi Array**	**29.74**	**42**	P	**P**	**12 08 33.4**	**+0.8**
MKAR	**Makanchi Array**	**29.74**	**42**	P	**P**	**12 08 32.2**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=230,slow=8.2,SNR=16						
	comp=Z,1.7nm,0.5s						
KIRV	**Kirov**	**31.04**	**356**	P	**P**	**12 08 44.8**	**+1.0**
	comp=Z,12nm,0.6s,baz=213,slow=7.2,SNR=4.0						
	comp=Z,12nm,0.6s						
TIP	**Timpagrande**	**32.36**	**300**	P	**P**	**12 08 56.2**	**+0.3**
PABE	**Paberze**	**34.94**	**331**	P	**P**	**12 09 18.6**	**+0.7**
ZAA0	**Zalesovo Array**	**35.00**	**33**	P	**P**	**12 09 18.9**	**+0.3**
ZALV	**Zalesovo Beam**	**35.00**	**33**	P	**P**	**12 09 19.3**	**+0.7**
ZALV	**Zalesovo Beam**	**35.00**	**33**	P	**P**	**12 09 19.1**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=236,slow=6.9,SNR=9.4						
	comp=Z,2.2nm,0.5s						
NRCA	**Norcia**	**35.76**	**306**	P	**P**	**12 09 26.0**	**+0.7**
FIA1	**FINESS Array S**	**38.37**	**339**	P	**P**	**12 09 47.5**	**+0.4**
FINES	**FINESS Array B**	**38.37**	**339**	P	**P**	**12 09 47.3**	**+0.2**
FINES	**FINESS Array B**	**38.37**	**339**	P	**P**	**12 09 47.1**	**0.0**
	comp=Z,3.7nm,0.5s,baz=144,slow=9.8,SNR=28						
	comp=Z,3.7nm,0.5s						
DAVOX	**Davos/Dischmat**	**38.88**	**311**	P	**P**	**12 09 51.5**	**-0.4**
	comp=Z,2.3nm,0.4s,baz=345,slow=12,SNR=4.5						
	comp=Z,2.3nm,0.4s						
GTA	**Gaotai**	**40.14**	**61**	*e*P	**P**	**12 10 03.8**	**+1.4**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
GTA				LR	LR		
	comp=N,83nm,16.4s						
GTA				LR	LR		
	comp=E,120nm,18.5s						
GTA				LR	LR		
	comp=Z,110nm,16.4s						
HFS	**Hagfors**	**42.11**	**332**	P	**P**	**12 10 16.9**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=118,slow=8.6,SNR=13						
	comp=Z,1.1nm,0.3s						
CMAR	**Chiang Mai Arr**	**42.82**	**92**	P	**P**	**12 10 24.6**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=284,slow=9.7,SNR=5.9						
	comp=Z,0.4nm,0.3s						
LZH	**Lanzhou**	**43.37**	**66**	*e*P	**P**	**12 10 30.3**	**+1.3**
LZH				pP	sP	12 10 41.1	+4.9
LZH				pmax	pmax		
	comp=Z,17nm,0.7s						
NC405	**NORSAR Array S**	**43.45**	**332**	P	**P**	**12 10 29.7**	**+0.6**
NC405				IAmb	IAmb	12 10 40.8	
	comp=Z,13nm,1.2s						
NB2	**NORSAR Subarra**	**43.63**	**332**	P	**P**	**12 10 29.9**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=121,slow=8.6						
NOA	**NORSAR Array B**	**43.63**	**332**	P	**P**	**12 10 29.9**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=122,slow=8.2,SNR=4.1						
	comp=Z,0.8nm,0.7s						
CEST	**Esterri de Car**	**44.40**	**304**	P	**P**	**12 10 38.1**	**+1.0**
CEST				IAmb	IAmb	12 11 00.8	
	comp=Z,15nm,1.5s						
KEV	**Kevo**	**44.79**	**347**	P	**P**	**12 10 40.4**	**+0.8**
ARCES	**ARCESS Array B**	**44.91**	**347**	P	**P**	**12 10 41.2**	**+0.6**
ARCES				IAmb	IAmb	12 11 05.2	
	comp=Z,8.4nm,1.5s						
ARCES	**ARCESS Array B**	**44.91**	**347**	P	**P**	**12 10 41.2**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=148,slow=7.8,SNR=10						
	comp=Z,1.1nm,0.6s						
SONM	**Songino Array**	**45.60**	**49**	P	**P**	**12 10 47.2**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=265,slow=8.9,SNR=8.3						
	comp=Z,1.6nm,0.5s						
ESDC	**Sonseca Array**	**48.38**	**300**	P	**P**	**12 11 08.8**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=77,slow=6.3,SNR=8.6						
	comp=Z,1.0nm,0.6s						
PAB	**San Pablo**	**48.69**	**300**	P	**P**	**12 11 10.8**	**+0.1**
PAB				IAmb	IAmb	12 11 11.6	
	comp=Z,5.3nm,0.9s						
GSI	**Gunungsitoli**	**49.84**	**114**	P	**P**	**12 11 20.5**	**+0.8**
TORD	**Torodi Ar. Bea**	**50.10**	**264**	P	**P**	**12 11 21.7**	**0.0**
TORD	**Torodi Ar. Bea**	**50.10**	**264**	P	**P**	**12 11 21.4**	**-0.3**
	comp=Z,2.6nm,0.5s,baz=57,slow=8.9,SNR=5.0						
	comp=Z,2.6nm,0.5s						
SPITS	**Spitsbergen Ar**	**53.27**	**351**	P	**P**	**12 11 42.7**	**-1.9**
	comp=Z,1.9nm,0.6s,baz=326,slow=7.0,SNR=4.6						
	comp=Z,1.9nm,0.6s						
QNGWA	**Qangwa**	**56.26**	**217**	P	**P**	**12 12 07.5**	**+0.5**
QNGWA				IAmb	IAmb	12 12 21.6	
	comp=Z,4.2nm,0.8s						
GRTLG	**Ghanzi**	**57.74**	**216**	P	**P**	**12 12 17.2**	**-0.3**
KDWAN	**Kaudwane**	**57.76**	**211**	P	**P**	**12 12 18.0**	**+0.5**
LBTB	**Lobatse**	**58.75**	**210**	P	**P**	**12 12 25.6**	**+1.1**
DBIC	**Dimbokro**	**58.76**	**261**	P	**P**	**12 12 24.7**	**0.0**
DBIC	**Dimbokro**	**58.76**	**261**	P	**P**	**12 12 23.9**	**-0.8**
	comp=Z,7.1nm,0.7s,baz=103,slow=7.7,SNR=7.5						
	comp=Z,7.1nm,0.7s						
BOSA	**Boshof**	**62.05**	**208**	P	**P**	**12 12 47.1**	**+0.1**
BOSA	**Boshof**	**62.05**	**208**	P	**P**	**12 12 47.6**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=33,slow=7.2,SNR=5.7						
	comp=Z,1.6nm,0.5s						
KSRS	**Korea Array**	**62.21**	**60**	P	**P**	**12 12 46.6**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=276,slow=8.2,SNR=2.1						
	comp=Z,0.3nm,0.4s						
KAPI	**Kappang**	**71.79**	**106**	LR	LR	12 49 43.5	
	comp=Z,1.19nm,18.1s,baz=86,slow=40						
C18K	**Utukok River**	**80.70**	**12**	P	**P**	**12 14 39.8**	**+0.7**
E18K	**Tukpahlearik C**	**81.87**	**13**	P	**P**	**12 14 45.3**	**0.0**
E18K				IAmb	IAmb	12 15 00.5	
	comp=Z,8.2nm,1.4s						
D22K	**Ayikyak River**	**81.89**	**9**	P	**P**	**12 14 46.8**	**+1.5**
D23K	**Nanushuk River**	**82.08**	**9**	P	**P**	**12 14 46.1**	**-0.2**
E21K	**Killik River**	**82.10**	**10**	P	**P**	**12 14 47.0**	**+0.5**
E21K				IAmb	IAmb	12 15 04.4	
	comp=Z,5.6nm,1.3s						
D25K	**Kavik River**	**82.26**	**7**	P	**P**	**12 14 47.9**	**+0.5**
MORW	**Morawa**	**82.41**	**128**	P	**P**	**12 14 48.1**	**-0.5**
E19K	**Redstone River**	**82.46**	**11**	P	**P**	**12 14 48.2**	**-0.1**
E19K				IAmb	IAmb	12 15 28.4	
	comp=Z,4.6nm,1.2s						
E22K	**Anaktuvuk Pass**	**82.70**	**9**	P	**P**	**12 14 50.4**	**+0.7**
E22K				IAmb	IAmb	12 15 11.1	
	comp=Z,6.7nm,1.4s						
F20K	**Avaraart Lake**	**83.09**	**11**	P	**P**	**12 14 52.1**	**+0.5**
F20K				IAmb	IAmb	12 15 01.5	
	comp=Z,2.9nm,1.2s						
E25K	**Arctic Village**	**83.50**	**7**	P	**P**	**12 14 53.5**	**-0.3**
E25K				IAmb	IAmb	12 14 56.9	
	comp=Z,1.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**83.52**	**114**	P	**P**	**12 14 54.4**	**-0.1**
FITZ				IAmb	IAmb	12 15 28.5	
	comp=Z,3.3nm,1.4s						
FITZ	**Fitzroy Crossi

baz=92,slow=76,SNR=21
H08S3 Diego Garcia H 34.77 268 T T 12 52 23.2
baz=92,slow=76,SNR=23
H08S1 Diego Carcia H 34.78 268 T T 12 52 21.8
baz=92,slow=76,SNR=19
STKA Stephens Creek 39.49 132 P **P** **12 15 45.3 +0.7**
1.1nm,0.3s,baz=315,slow=9.1,SNR=7.7
1.1nm,0.3s
MKAR Makanchi Array 59.09 340 P **P** **12 18 12.3 -1.2**
0.3nm,0.3s,baz=158,slow=8.4,SNR=4.1
0.3nm,0.3s
H04N2 CROZET ISLANDS 60.83 221 T T 13 25 19.1
baz=70,slow=75,SNR=55
H04N1 CROZET ISLANDS 60.85 221 T T 13 25 19.8
baz=70,slow=75,SNR=67
H04N3 CROZET ISLANDS 60.85 221 T T 13 25 17.5
baz=70,slow=75,SNR=62
BVAR Borovoye Array 68.58 337 P **P** **12 19 13.3 -2.3**
0.6nm,0.4s,baz=150,slow=6.8,SNR=4.6
0.6nm,0.4s

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*ISK **16** 12:17:52.6, 35°.47N×31°.26E, h5km, ML3.1/39*
*AFAD **16** 12:17:53.8, 35°.65N×31°.10E, h6km±2km, ML2.9*
*NIC **16** 12:17:54.1, 35°.52N×31°.19E, h4km±2km, Ml2.9/3*
*GII **16** 12:17:58.8±0.0, 35°.151N±0°.001×31°.471E±0°.001, h2km, Mws2.9, confirmed*

ISC 16 12:17:53.9±1.2, **35°.50N**±0°.03×**31°.30E**±0°.03, **h7**km±10km, **n84**, σ1**s79**/98, **Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AKMS	**Akamas**	**0.97**	**119**	P	**Pn**		**12 18 14.8**	**+0.9**
AKMS				S	**Sn**		**12 18 30.1**	**+2.2**
AKMS				AML	AML		12 18 33.7	
	0.8nm,0.3s							
AKMS				AML	AML		12 18 34.1	
	2.1nm,0.4s							
GAZI	**Gazipasa**	**1.10**	**48**	Pn	**Pn**		**12 18 15.6**	**-0.1**
GAZI	**Gazipasa**	**1.10**	**48**	P	**Pn**		**12 18 15.4**	**-0.3**
GAZI				S	**Sg**		**12 18 24.1**	**-5.3**
GAZI				*i* IAML			12 18 30.0	
	comp=N,433nm,0.6s							
GAZI				*i* IAML			12 18 34.0	
	comp=E,250nm,0.4s							
ALFC	**Alefka**	**1.11**	**107**	P	**Pn**		**12 18 16.2**	**+0.3**
ALFC				S	**Sn**		**12 18 35.5**	**+4.1**
ALFC				AML	AML		12 18 39.3	
	1.3nm,0.4s							
ALFC				AML	AML		12 18 42.6	
	1.1nm,0.4s							
AKUM	**Antalya-Kumluc**	**1.13**	**317**	P	**Pn**		**12 18 17.6**	**+1.5**
AKUM				S	**Sn**		**12 18 35.2**	**+3.4**
ALAN	**Alanya-ANTALYA**	**1.21**	**29**	Pn	**Pn**		**12 18 17.0**	**-0.2**
NATA	**Nata**	**1.26**	**124**	P	**Pb**		**12 18 19.9**	**+1.9**
TROD	**Troodos**	**1.39**	**113**	P	**Pg**		**12 18 21.3**	**+0.7**
TROD				S	**Sn**		**12 18 43.1**	**+4.5**
BOZY	**Bozyazi-Mersin**	**1.49**	**65**	Pn	**Pb**		**12 18 21.6**	**-0.2**
ANTB	**Antalya**	**1.50**	**340**	Pn	**Pg**		**12 18 21.9**	**-0.6**
XYLS	**Xyliatos**	**1.51**	**108**	P	**Pg**		**12 18 22.7**	**-0.1**
XYLS				S	**Sg**		**12 18 45.4**	**+3.0**
XYLS				AML	AML		12 18 54.3	
	0.5nm,0.4s							
XYLS				AML	AML		12 19 01.4	
	0.5nm,0.6s							
TEKE	**Tekeli-Mersin**	**1.61**	**66**	Pn	**Pb**		**12 18 23.3**	**-0.5**
ELL	**Elmali**	**1.68**	**318**	Pn	**Pg**		**12 18 24.6**	**-1.5**
KORT	**Korkueli**	**1.69**	**333**	Pn	**Pb**		**12 18 24.6**	**-0.7**
ERMK	**Ermenek**	**1.73**	**48**	P	**Pb**		**12 18 26.2**	**+0.1**
ERMK				S	**Sg**		**12 18 52.0**	**+2.3**
ERMK				*i* IAML			12 19 00.0	
	comp=N,130nm,0.6s							
CSS	**Mathiatis**	**1.74**	**107**	Pn	**Pb**		**12 18 25.5**	**-0.7**
CSS	**Mathiatis**	**1.74**	**107**	P	**Pg**		**12 18 26.7**	**-0.6**
CSS				S	**Sb**		**12 18 48.2**	**-0.1**
ASGA	**Asgata**	**1.75**	**113**	P	**Pg**		**12 18 26.2**	**-1.1**
HDMB	**Hadim**	**1.75**	**33**	Pn	**Pb**		**12 18 25.9**	**-0.5**
BERE	**Bereket-Mersin**	**1.77**	**61**	Pn	**Pb**		**12 18 26.0**	**-0.8**
YORU	**Yoruktepe-Mers**	**1.83**	**68**	Pn	**Pb**		**12 18 27.1**	**-0.6**
AKIN	**Akıncılar- Kıb**	**1.83**	**105**	Pn	**Pb**		**12 18 26.9**	**-0.8**
LFK	**Lefkose**	**1.83**	**96**	Pn	**Pb**		**12 18 26.9**	**-0.9**
AKK1	**Akkuyu-Mersin**	**1.93**	**70**	Pn	**Pb**		**12 18 28.9**	**-0.4**
SEYD	**Seydisehir-KON**	**1.95**	**13**	Pn	**Pb**		**12 18 28.7**	**-1.1**
TEPK	**Tepekoy-MERSIN**	**1.96**	**68**	Pn	**Pb**		**12 18 28.9**	**-1.0**
TEVE	**Tevekalti-Mers**	**1.97**	**61**	Pn	**Pb**		**12 18 29.1**	**-1.0**
SEDI	**Konya, Seydise**	**1.98**	**10**	P	**Pb**		**12 18 29.9**	**-0.4**
SEDI				S	**Sn**		**12 18 54.2**	**+1.2**
SEDI				*i* IAML			12 18 59.0	
	comp=N,121nm,0.5s							
SEDI				*i* IAML			12 19 03.0	
	comp=E,138nm,0.5s							
BCK	**Bucak**	**2.04**	**344**	Pn	**Pb**		**12 18 29.6**	**-1.7**
TISA	**Tisan-Mersin**	**2.04**	**70**	Pn	**Pb**		**12 18 30.2**	**-1.0**
IKL	**Isikli**	**2.07**	**68**	Pn	**Pb**		**12 18 30.5**	**-1.3**
KARG	**Kargicak-Mersi**	**2.08**	**69**	Pn	**Pb**		**12 18 30.4**	**-1.3**
CAME	**Cameli-Denizli**	**2.17**	**312**	Pn	**Pb**		**12 18 31.5**	**-2.0**
KKBE	**Karaman, Kazim**	**2.17**	**37**	P	**Pb**		**12 18 33.2**	**-0.2**
KKBE				S	**Sg**		**12 19 02.7**	**-0.9**
KKBE				*i* IAML			12 19 08.0	
	comp=E,107nm,0.4s							
KKBE				*i* IAML			12 19 11.0	
	comp=N,65nm,0.6s							
KEBE	**Keben-Mersin**	**2.17**	**63**	Pn	**Pb**		**12 18 32.7**	**-0.8**
GOLH	**Golhisar**	**2.23**	**322**	P	**Pb**		**12 18 34.3**	**-0.3**
GOLH				S	**Sg**		**12 19 10.8**	**+5.1**
GOLH				*i* IAML			12 19 21.0	
	comp=N,70nm,0.7s							
GOLH				*i* IAML			12 19 22.0	
	comp=E,75nm,0.4s							
SILI	**Silifke-Mersin**	**2.30**	**67**	Pn	**Pb**		**12 18 33.8**	**-1.8**
KRMN	**Karaman**	**2.30**	**43**	Pn	**Pb**		**12 18 33.8**	**-2.0**
SLFK	**Silifke-Mersin**	**2.32**	**67**	Pn	**Pb**		**12 18 34.2**	**-1.8**
EREN	**Erenkoy**	**2.34**	**88**	Pn	**Pb**		**12 18 34.3**	**-2.0**
KIZK	**Mersin**	**2.50**	**66**	Pn	**Pn**		**12 18 36.6**	**+1.6**
DALY	**Dalyan (Mula)**	**2.52**	**302**	Pn	**Pn**		**12 18 35.9**	**+0.8**
APMY	**Acipayam-Deniz**	**2.55**	**321**	Pn	**Pn**		**12 18 36.6**	**+1.0**
YVAC	**Isparta, Yalva**	**2.77**	**359**	P	**Pn**		**12 18 39.9**	**+1.1**
YVAC				S	**Sn**		**12 19 13.8**	**+1.4**
TURN	**Turunc**	**2.78**	**298**	Pn	**Pn**		**12 18 39.8**	**+1.0**
YESY	**Yesilyurt**	**3.01**	**40**	Pn	**Pn**		**12 18 43.8**	**+1.8**
DAT	**Datca**	**3.26**	**293**	Pn	**Pn**		**12 18 46.4**	**+1.0**
YAZI	**Mula-Dat§a-**	**3.33**	**292**	P	**Pn**		**12 18 46.4**	**0.0**
YAZI				S	**Sn**		**12 19 21.6**	**-4.6**
MLSB	**Milas**	**3.36**	**303**	Pn	**Pn**		**12 18 47.9**	**+1.1**
KARP	**Karpathos**	**3.38**	**272**	Pn	**Pn**		**12 18 47.4**	**+0.4**
AYDN	**Tasoluk**	**3.50**	**309**	P	**Pn**		**12 18 49.7**	**+1.0**
AYDN				S	**Sn**		**12 19 28.0**	**-2.4**
BODT	**Bodrum**	**3.58**	**297**	Pn	**Pn**		**12 18 50.2**	**+0.4**
CMRD	**Camardi-Nigde**	**3.67**	**53**	Pn	**Pn**		**12 18 53.3**	**+2.2**
HNTI	**Hanita**	**4.01**	**126**	S	**Sn**		**12 19 41.6**	**-1.3**
HNTI	**Hanita**	**4.01**	**126**	P	**Pn**		**12 18 57.4**	**+1.7**
TAHT	**Tahtakopru-Hat**	**4.06**	**76**	Pn	**Pn**		**12 18 58.8**	**+2.5**
ZKR	**Zakros**	**4.18**	**266**	Pn	**Pn**		**12 18 59.2**	**+1.2**
MMC7	**Mount Meron ar**	**4.19**	**125**	P	**Pn**		**12 18 59.9**	**+1.7**
MMA0B	**Mount Meron ar**	**4.20**	**125**	S	**Sn**		**12 19 46.8**	**-0.9**
MMA0B	**Mount Meron ar**	**4.20**	**125**	P	**Pn**		**12 18 59.5**	**+1.1**
GEM	**Giv'at Ha'Em**	**4.27**	**121**	S	**Sn**		**12 19 48.5**	**-0.7**
GEM	**Giv'at Ha'Em**	**4.27**	**121**	P	**Pn**		**12 19 00.5**	**+1.3**
NATI	**Neve Ativ**	**4.29**	**120**	S	**Sn**		**12 19 49.3**	**-0.5**
NATI	**Neve Ativ**	**4.29**	**120**	P	**Pn**		**12 19 01.6**	**+2.1**
MMLI	**Mount Malkishu**	**4.58**	**131**	S	**Sn**		**12 19 55.6**	**-1.6**
MMLI	**Mount Malkishu**	**4.58**	**131**	P	**Pn**		**12 19 04.7**	**+1.1**
HMDT	**Nahal Hemdat**	**4.78**	**131**	S	**Sn**		**12 20 00.2**	**-1.6**
HMDT	**Nahal Hemdat**	**4.78**	**131**	P	**Pn**		**12 19 07.6**	**+1.4**
DSI	**Dead Sea**	**5.19**	**138**	S	**Sn**		**12 20 09.8**	**-2.2**
DSI	**Dead Sea**	**5.19**	**138**	P	**Pn**		**12 19 13.2**	**+1.4**
YTIR	**Yattir**	**5.21**	**141**	S	**Sn**		**12 20 10.8**	**-1.9**
YTIR	**Yattir**	**5.21**	**141**	P	**Pn**		**12 19 13.0**	**+0.8**
KZIT	**Kziot**	**5.26**	**150**	S	**Sn**		**12 20 11.4**	**-2.3**
KZIT	**Kziot**	**5.26**	**150**	P	**Pn**		**12 19 13.9**	**+1.0**
PRNI	**Paran**	**6.00**	**148**	S	**Sn**		**12 20 29.6**	**-2.5**
PRNI	**Paran**	**6.00**	**148**	P	**Pn**		**12 19 23.9**	**+0.8**
KRMI	**Paran Flat**	**6.09**	**151**	S	**Sn**		**12 20 31.5**	**-2.7**
KRMI	**Paran Flat**	**6.09**	**151**	P	**Pn**		**12 19 25.3**	**+1.1**
HRFI	**Mount Harif**	**6.29**	**149**	S	**Sn**		**12 20 36.7**	**-2.4**
HRFI	**Mount Harif**	**6.29**	**149**	P	**Pn**		**12 19 27.9**	**+0.9**
MBRI	**Mt Berech**	**6.45**	**151**	S	**Sn**		**12 20 40.8**	**-2.4**
MBRI	**Mt Berech**	**6.45**	**151**	P	**Pn**		**12 19 30.3**	**+1.1**
EIL	**Elat**	**6.58**	**151**	S	**Sn**		**12 20 43.5**	**-2.6**
EIL	**Elat**	**6.58**	**151**	P	**Pn**		**12 19 31.8**	**+0.9**

DJA 16 12:22:54.9±0.3, **9°S**×**141°.5E**±, **h62**km±6km, **M3.8**/14, **mb4.0**/6, **MLv3.7**/14, **Bali region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JAGI	**Jajag, Banyuwa**	**0.62**	**326**	P	Pn		12 23 08.7	+0.3
JAGI				S	Sn		12 23 19.5	+1.3
SRBI	**Singaraja**	**1.14**	**38**	P	Pn		12 23 15.2	+0.3
SRBI				S	Sn		12 23 31.2	+1.4
GMJI	**Gumukmas**	**1.26**	**304**	P	Pn		12 23 16.5	0.0
GMJI				S	Sn		12 23 33.3	+0.7
KMMI	**Kalianget**	**2.00**	**345**	P	Pn		12 23 26.6	+0.2
KMMI				S	Sn		12 23 51.1	+0.8
TWSI	**Taliwang, Sumb**	**2.37**	**84**	P	Pn		12 23 31.7	+0.3
TWSI				S	Sn		12 24 00.3	+0.9
PLAI	**Plampang**	**3.24**	**87**	P	Pn		12 23 44.4	+1.0
PLAI				S	Sn		12 24 20.1	-0.7
PCJI	**Pacitan**	**3.38**	**283**	P	Pn		12 23 45.7	+0.5
PCJI				S	Sn		12 24 24.5	+0.3
UGM	**Wanagama**	**4.08**	**285**	P	Pn		12 23 54.6	-0.2
UGM				S	Sn		12 24 42.8	+1.5
BSSI	**Bau Bau, Buton**	**6.58**	**65**	P	Pn		12 24 29.5	+0.4
	0.1nm20nm,1.2s							
BKSI	**Bulukumba**	**6.66**	**57**	P	Pn		12 24 29.9	-0.3
	0.0nm9.1nm,0.9s							
EDFI	**Ende, Flores**	**7.11**	**89**	P	Pn		12 24 35.2	-1.2

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*IDC **16** 12:35:59.5±2.3, 23°.57S×179°.84W, h501km±24km, mb3.7/13, mbtmp4.5/15, Error ellipse: s-maj=17.1km s-min=14.6km az=102.0*
*NOU **16** 12:36:01.8, 23°.65S×179°.67W, h541km, mb4.6/55, South of Fiji Islands*
*NEIC **16** 12:36:02.1±1.6, 23°.6S±0°.1×179°.8W±0°.1, h530km±6km, mb4.5/87, Error ellipse: s-maj=14.9km s-min=13.7km az=150.0*

ISC 16 12:36:01.9±0.3, **23°.65S**±0°.05×**179°.84W**±0°.05, **h532**km, **n249**, σ1**s23**/255, **mb4.5**/61, **3C**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RAO	**Raoul Island**	**5.84**	**163**	P	**P**		**12 37 38.7**	**+0.7**
RAO	**Raoul Island**	**5.84**	**163**	P	**P**		**12 37 38.9**	**+0.8**
MSVF	**Nonsavu**	**6.21**	**341**		**P**		**12 37 41.5**	**-0.3**
MSVF	**Nonsavu**	**6.21**	**341**	P	**P**		**12 37 41.3**	**-0.5**
FUTU	**Fugatoga**	**9.43**	**10**	P	**P**		**12 38 12.9**	**-0.9**
FUTU	**Fugatoga**	**9.43**	**10**	P	**P**		**12 38 13.7**	**-0.1**
NIUE	**Niue**	**10.29**	**66**	P	**P**		**12 38 21.8**	**-0.8**
NIUE	**Niue**	**10.29**	**66**	P	**P**		**12 38 21.1**	**-1.6**
NIUE	**Niue**	**10.29**	**66**	P	**P**		**12 38 26.2**	**+3.5**
NIUE				S	**S**		**12 40 20.6**	**+2.2**
PINNC	**Pines Island,**	**11.75**	**273**		**P**		**12 38 38.4**	**+0.6**
PINNC	**Pines Island,**	**11.75**	**273**	P	**P**		**12 38 39.6**	**+1.8**
OUENC	**Ouen Island, N**	**12.33**	**273**	P	**P**		**12 38 46.1**	**+2.3**
YATNC	**Mamie plateau,**	**12.34**	**275**	P	**P**		**12 38 46.8**	**+2.8**
DVP	**Devils Point**	**12.66**	**296**	P	**P**		**12 38 49.4**	**+2.1**
ONTNC	**Ouen Toro**	**12.70**	**273**	P	**P**		**12 38 47.3**	**-0.4**
DZM	**Mont Dzumac**	**12.74**	**274**		**P**		**12 38 46.7**	**-1.6**
DZM	**Mont Dzumac**	**12.74**	**274**	P	**P**		**12 38 47.6**	**-0.7**
	8.6nm,0.6s,baz=77,slow=22,SNR=12							
DZM	**Mont Dzumac**	**12.74**	**274**	P	**P**		**12 38 49.9**	**+1.6**
OUZ	**Omahuta**	**12.87**	**205**	P	**P**		**12 38 50.9**	**+1.6**
OUZ	**Omahuta**	**12.87**	**205**	P	**P**		**12 38 51.0**	**+1.7**
WCZ	**Waipu Caves**	**13.25**	**201**	P	**P**		**12 38 55.1**	**+1.9**
KUZ	**Kuaotunu**	**13.61**	**195**	P	**P**		**12 38 57.2**	**+0.3**
KUZ	**Kuaotunu**	**13.61**	**195**	P	**P**		**12 38 57.9**	**+1.0**
MXZ	**Matakaoa Point**	**13.96**	**186**	P	**P**		**12 39 01.0**	**+0.4**
MXZ	**Matakaoa Point**	**13.96**	**186**	P	**P**		**12 39 02.5**	**+1.8**
MKAZ	**Moumakai**	**14.09**	**197**	P	**P**		**12 39 02.9**	**+1.0**
VLAKA	**Lakatoro**	**14.13**	**300**	P	**P**		**12 39 02.8**	**+0.1**
WMGZ	**Waiomatatini S**	**14.21**	**186**	P	**P**		**12 39 03.1**	**0.0**
WMGZ				S	**S**		**12 41 35.0**	**+0.4**
HAZ	**Te Kaha**	**14.21**	**188**	P	**P**		**12 39 02.1**	**-1.2**
HAZ				S	**S**		**12 41 30.7**	**-2.0**
PKGZ	**Pakihiroa**	**14.29**	**187**	P	**P**		**12 39 05.2**	**+1.2**
PKGZ				S	**S**		**12 41 31.5**	**-2.8**
RUGZ	**Raukumara Rang**	**14.43**	**188**	P	**P**		**12 39 07.2**	**+1.5**
TGRZ	**Tauranga**	**14.43**	**193**	P	**P**		**12 39 07.0**	**+1.5**
PUZ	**Puketiti**	**14.47**	**186**	P	**P**		**12 39 06.9**	**+0.9**
PUZ				S	**S**		**12 41 36.2**	**-1.6**
OPRZ	**Ohinepanea**	**14.49**	**191**	P	**P**		**12 39 06.1**	**0.0**
TWGZ	**Tauwhareparae**	**14.61**	**187**	P	**P**		**12 39 07.2**	**-0.2**
TWGZ				S	**S**		**12 41 40.1**	**-0.3**
KMRZ	**Kaimai**	**14.61**	**193**	P	**P**		**12 39 11.0**	**+3.6**
LIRZ	**Lichensteins R**	**14.67**	**192**	P	**P**		**12 39 12.1**	**+4.1**
SANVU	**Saraoutou**	**14.68**	**301**	P	**P**		**12 39 07.3**	**-1.1**
SANVU	**Saraoutou**	**14.68**	**301**	P	**P**		**12 39 09.5**	**+1.1**
KARZ	**Kaharoa**	**14.72**	**192**	P	**P**		**12 39 09.6**	**+1.1**
OMRZ	**Omania**	**14.78**	**192**	P	**P**		**12 39 11.5**	**+2.3**
URZ	**Urewera**	**14.80**	**189**	P	**P**		**12 39 06.9**	**-2.4**
	38nm,0.4s,baz=332,slow=2.2,SNR=35							
URZ				S	**S**		**12 41 40.4**	**-3.5**
	25nm,0.5s,baz=190,slow=22,SNR=10							
URZ	**Urewera**	**14.80**	**189**	P	**P**		**12 39 09.1**	**-0.2**
URZ	**Urewera**	**14.80**	**189**	P	**P**		**12 39 06.6**	**-2.8**
URZ				S	**S**		**12 41 40.3**	**-3.7**
NGRZ	**Ngongotaha**	**14.81**	**192**	P	**P**		**12 39 12.3**	**+2.8**
MWZ	**Matawai**	**14.81**	**188**	P	**P**		**12 39 07.8**	**-1.7**
MWZ				S	**S**		**12 41 41.7**	**-2.6**
TARZ	**Mount Tarawera**	**14.88**	**191**	P	**P**		**12 39 13.3**	**+3.0**
UTU	**Utuhina**	**14.88**	**192**	P	**P**		**12 39 13.8**	**+3.6**
TKGZ	**Te Karaka**	**14.88**	**187**	P	**P**		**12 39 09.6**	**-0.6**
CNGZ	**Carnagh Statio**	**14.88**	**186**	P	**P**		**12 39 11.4**	**+1.2**
HLRZ	**Highlands Stat**	**14.92**	**192**	P	**P**		**12 39 13.2**	**+2.5**
RRRZ	**Republican Roa**	**14.97**	**191**	P	**P**		**12 39 12.4**	**+1.2**
HSRZ	**Hossack Road**	**15.00**	**192**	P	**P**		**12 39 12.8**	**+1.3**
KOUNC	**Koumac, New Ca**	**15.03**	**279**	P	**P**		**12 39 12.9**	**+0.8**
GRRZ	**Galatos Road**	**15.06**	**192**	P	**P**		**12 39 14.9**	**+2.7**
MUGZ	**Murupara**	**15.06**	**190**	P	**P**		**12 39 10.3**	**-1.8**
HRRZ	**Handcock Road**	**15.07**	**192**	P	**P**		**12 39 13.1**	**+0.9**
PRRZ	**Plateau Road**	**15.15**	**191**	P	**P**		**12 39 11.8**	**-1.2**
WPRZ	**Whakapapatarin**	**15.21**	**192**	P	**P**		**12 39 16.0**	**+2.3**
KUTZ	**Kaahu Road**	**15.25**	**193**	P	**P**		**12 39 16.5**	**+2.4**
SNGZ	**Shannon Statio**	**15.28**	**188**	P	**P**		**12 39 14.6**	**+0.2**
PRGZ	**Paritu Road**	**15.35**	**187**	P	**P**		**12 39 16.1**	**+1.0**
RAHZ	**Arahi**	**15.45**	**189**	P	**P**		**12 39 14.6**	**-1.6**
MRHZ	**Matea Rd**	**15.47**	**191**	P	**P**		**12 39 14.6**	**-1.8**
KNZ	**Kokohu**	**15.47**	**187**	P	**P**		**12 39 14.1**	**-2.3**
WATZ	**Wairara**	**15.48**	**193**	P	**P**		**12 39 17.5**	**+1.0**
HIZ	**Hauiti**	**15.50**	**196**	P	**P**		**12 39 16.7**	**+0.1**
MHGZ	**Mahia Peninsul**	**15.58**	**187**	P	**P**		**12 39 17.9**	**+0.4**
RATZ	**Rangitukua**	**15.63**	**193**	P	**P**		**12 39 17.9**	**-0.1**
NMHZ	**Naumai**	**15.67**	**190**	P	**P**		**12 39 18.6**	**+0.2**
RITZ	**Rihia Road**	**15.72**	**192**	P	**P**		**12 39 18.2**	**-0.7**
BKZ	**Black Stump Fm**	**15.78**	**191**	P	**P**		**12 39 18.8**	**-0.8**
BKZ	**Black Stump Fm**	**15.78**	**191**	P	**P**		**12 39 16.6**	**-3.0**
ARHZ	**Aropaoanui**	**15.80**	**189**	P	**P**		**12 39 18.3**	**-1.4**
NTVZ	**North Tongarir**	**15.87**	**193**	P	**P**		**12 39 21.1**	**+0.5**
TMVZ	**Te Maari**	**15.88**	**193**	P	**P**		**12 39 20.6**	**-0.1**
ETVZ	**East Tongariro**	**15.90**	**193**	P	**P**		**12 39 20.5**	**-0.4**
WTVZ	**West Tongariro**	**15.90**	**193**	P	**P**		**12 39 21.5**	**+0.6**
OTVZ	**Oturere**	**15.94**	**193**	P	**P**		**12 39 21.9**	**+0.7**
NGZ	**Ngauruhoe**	**15.96**	**193**	P	**P**		**12 39 22.1**	**+0.6**
COVZ	**Chateau Observ**	**15.99**	**193**	P	**P**		**12 39 21.5**	**-0.3**
MCHZ	**McNeill Hill**	**16.02**	**190**	P	**P**		**12 39 20.2**	**-1.7**
KWHZ	**Kaweka Forest**	**16.05**	**191**	P	**P**		**12 39 20.3**	**-1.9**
WHVZ	**Whangaehu Hut**	**16.07**	**193**	P	**P**		**12 39 22.0**	**-0.6**
TRVZ	**Turoa**	**16.09**	**193**	P	**P**		**12 39 21.9**	**-1.0**
WNVZ	**Wahianoa**	**16.11**	**193**	P	**P**		**12 39 22.9**	**-0.4**
CKHZ	**Cape Kidnapper**	**16.18**	**189**	P	**P**		**12 39 23.1**	**-0.4**
KHEZ	**Kahui Hut**	**16.45**	**197**	P	**P**		**12 39 25.9**	**-0.3**
BFZ	**Birch Farm**	**17.30**	**190**	P	**P**		**12 39 33.4**	**-0.7**
SNZO	**South Karori**	**18.20**	**193**	P	**P**		**12 39 40.5**	**-1.7**
QRZ	**Quartz Range**	**18.29**	**199**	P	**P**		**12 39 43.1**	**0.0**
LUES	**Luesalemba Tem**	**18.74**	**311**	P	**P**		**12 39 48.0**	**+0.5**
KHZ	**Kahutara**	**19.51**	**195**	P	**P**		**12 39 52.7**	**-1.5**
RPZ	**Rata Peaks**	**21.38**	**198**	P	**P**		**12 40 10.2**	**-0.9**
	26nm,0.4s,baz=56,slow=22,SNR=31							
	26nm,0.4s							
RPZ	**Rata Peaks**	**21.38**	**198**	P	**P**		**12 40 10.3**	**-0.8**
JCZ	**Jackson Bay**	**22.42**	**202**	P	**P**		**12 40 20.0**	**-0.5**
ODZ	**Otahua Downs**	**22.71**	**198**	P	**P**		**12 40 22.0**	**-1.1**
ALEG	**Aligegeo Malai**	**23.80**	**305**	P	**P**		**12 40 32.8**	**-0.3**
SYZ	**Scrubby Hill**	**24.51**	**199**	P	**P**		**12 40 39.1**	**+0.2**
TATA	**Tatamba Isabel**	**24.71**	**305**	P	**P**		**12 40 40.3**	**-0.9**
ARMA	**Armidale**	**26.25**	**249**	P	**P**		**12 40 55.6**	**+0.9**
ARMA					IAmb	IAmb	12 40 56.4	
	comp=Z,10nm,1.1s							
ARMA	**Armidale**	**26.25**	**249**	P	**P**		**12 40 56.1**	**+1.3**
EIDS	**Eidsvold**	**26.50**	**260**	P	**P**		**12 40 57.6**	**+0.8**
EIDS	**Eidsvold**	**26.50**	**260**	P	**P**		**12 40 57.6**	**+0.8**
CNB	**Canberra Magne**	**29.11**	**239**	P	**P**		**12 41 21.3**	**+1.6**
CAN	**Canberra**	**29.40**	**240**	P	**P**		**12 41 22.9**	**+0.7**
CAN	**Canberra**	**29.40**	**240**	P	**P**		**12 41 22.9**	**+0.7**
CMSA	**Cobar Meteorol**	**31.45**	**248**	P	**P**		**12 41 40.2**	**+0.4**
CTAO	**Charters Tower**	**31.62**	**270**	P	**P**		**12 41 42.0**	**+0.5**
CTAO	**Charters Tower**	**31.62**	**270**	P	**P**		**12 41 42.0**	**+0.5**
QLP	**Quilpie**	**32.60**	**257**	P	**P**		**12 41 50.8**	**+1.1**
TOO	**Toolangi**	**32.71**	**237**	P	**P**		**12 41 51.4**	**+0.9**
TOO					IAmb	IAmb	12 42 10.2	
	comp=Z,9.1nm,1.2s							
TAU	**Tasmania Unive**	**33.22**	**227**	P	**P**		**12 41 55.1**	**+0.5**
TAU	**Tasmania Unive**	**33.22**	**227**	P	**P**		**12 41 55.4**	**+0.8**
STKA	**Stephens Creek**	**34.95**	**248**	P	**P**		**12 42 10.2**	**+0.7**
STKA	**Stephens Creek**	**34.95**	**248**	P	**P**		**12 42 09.9**	**+0.5**
	comp=Z,2.7nm,0.4s,baz=98,slow=12,SNR=13							
	comp=Z,2.7nm,0.4s							
STKA	**Stephens Creek**	**34.95**	**248**	P	**P**		**12 42 10.1**	**+0.7**
COEN	**Coen**	**36.22**	**279**	P	**P**		**12 42 19.0**	**-1.2**
COEN					IAmb	IAmb	12 42 24.1	
	comp=Z,24nm,1.1s							
COEN	**Coen**	**36.22**	**279**	P	**P**		**12 42 21.1**	**+0.9**
HTT	**Hallett**	**37.31**	**245**	P	**P**		**12 42 29.1**	**+0.1**
QIS	**Mount Isa**	**37.62**	**267**	P	**P**		**12 42 31.9**	**+0.3**
GHSS	**Government Hou**	**37.71**	**243**	P	**P**		**12 42 32.3**	**+0.2**
MANU	**Manus Island**	**38.33**	**299**	P	**P**		**12 42 37.3**	**-0.1**
MANU					IAmb	IAmb	12 42 41.3	
	comp=Z,20nm,1.5s							
TAOE	**Nuku Hiva Isla**	**40.68**	**76**	P	**P**		**12 42 54.5**	**-1.9**
AS01	**Alice Springs**	**42.18**	**260**	P	**P**		**12 43 08.0**	**-0.2**
AS31	**Alice Springs**	**42.22**	**260**	P	**P**		**12 43 08.4**	**-0.1**
AS31					IAmb	IAmb	12 43 10.2	
	comp=Z,4.6nm,0.5s							
ASAR	**Alice Springs**	**42.22**	**260**	P	**P**		**12 43 08.3**	**-0.2**
	comp=Z,7.3nm,0.5s,baz=94,slow=7.2,SNR=148							
ASAR				ScP	**ScP**		**12 47 53.5**	**+3.2**
	comp=Z,1.4nm,0.7s,baz=110,slow=4.3,SNR=8.8							
ASAR				S	**S**		**12 48 49.6**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=100,slow=16,SNR=7.2							
	comp=Z,7.3nm,0.5s							
WR8	**

O15K	**Ungalikthiuk R**	**84.16**	**10**	P	**P**	**12 47 37.3**	**+0.8**
O15K				IAmb	IAmb	12 47 56.4		
	comp=Z,12nm,1.1s							
KDAK	**Kodiak Island**	**84.27**	**14**	P	**P**	**12 47 37.5**	**+0.5**
NVAR	**Mina Array Bea**	**84.47**	**44**	P	**P**	**12 47 38.8**	**0.0**
NVAR	**Mina Array Bea**	**84.47**	**44**	P	**P**	**12 47 40.0**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=225,slow=7.7,SNR=6.3							
	comp=Z,0.9nm,0.7s							
N14K	**Kuskokwak Cree**	**84.59**	**9**	P	**P**	**12 47 39.0**	**+0.5**
N14K				IAmb	IAmb	12 48 19.9		
	comp=Z,19nm,1.1s							
TROLL	**Troll, Antarti**	**84.59**	**181**	⇑P	**P**	**12 47 38.6**	**-0.3**
	comp=Z,162nm,0.3s							
O16K	**Kokwok River B**	**84.84**	**11**	P	**P**	**12 47 39.2**	**-0.6**
TPNV	**Topopah Spring**	**84.95**	**46**	P	**P**	**12 47 41.6**	**+0.5**
N15K	**Kwethluk River**	**85.06**	**10**	P	**P**	**12 47 41.2**	**+0.3**
N15K				IAmb	IAmb	12 47 42.3		
	comp=Z,11nm,1.1s							
VNA3	**Neumayer Olymp**	**85.12**	**177**	⇑P	**P**	**12 47 41.1**	**-0.2**
	comp=Z,2.4nm,0.6s							
O18K	**Koktuh Hills**	**85.62**	**12**	P	**P**	**12 47 43.2**	**-0.4**
O18K				IAmb	IAmb	12 47 44.6		
	comp=Z,10nm,0.7s							
VNA1	**Neumayer--Stat**	**85.78**	**177**	⇑P	**P**	**12 47 43.8**	**-0.5**
	comp=Z,1.5nm,0.4s							
HOLB	**Holberg**	**86.89**	**30**	P	**P**	**12 47 48.8**	**-1.1**
HOLB				IAmb	IAmb	12 48 19.8		
	comp=Z,8.4nm,1.1s							
L19K	**White Mountain**	**87.84**	**11**	IAmb	IAmb	12 47 55.0		
	comp=Z,6.4nm,1.1s							
G08A	**Pilot Rock**	**88.14**	**38**		**P**	**12 47 56.6**	**+0.6**
G08A				IAmb	IAmb	12 47 58.2		
	comp=Z,3.6nm,0.8s							
MFID	**Camas Ranch**	**88.87**	**41**		**P**	**12 48 00.1**	**+0.6**
TMUT	**Trail Mountain**	**89.56**	**46**	IAmb	IAmb	12 48 05.6		
	comp=Z,5.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**89.58**	**290**	P	**P**	**12 48 04.1**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=132,slow=4.2,SNR=5.8							
	comp=Z,1.0nm,0.8s							
HLID	**Hailey**	**89.81**	**41**	P	**P**	**12 48 05.1**	**+1.2**
HVU	**Hansel Valley**	**89.85**	**44**	P	**P**	**12 48 04.8**	**+0.6**
HVU				IAmb	IAmb	12 48 06.1		
	comp=Z,3.2nm,0.7s							
BI02	**San Fabin de**	**89.86**	**130**	P	**P**	**12 48 04.5**	**+0.1**
BI02				IAmb	IAmb	12 48 16.7		
	comp=Z,13nm,1.4s							
TRF	**Thorofare Moun**	**89.87**	**13**	P	**P**	**12 48 03.2**	**-0.5**
TRF				IAmb	IAmb	12 48 04.2		
	comp=Z,4.9nm,0.8s							
SRU	**San Rafael Swe**	**89.92**	**47**	IAmb	IAmb	12 48 06.5		
	comp=Z,5.0nm,0.8s							
TX31	**Lajitas Ar. Si**	**90.17**	**58**	P	**P**	**12 48 06.4**	**+0.6**
TXAR	**Lajitas Array**	**90.17**	**58**	P	**P**	**12 48 07.1**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=215,slow=6.4,SNR=23							
	comp=Z,1.6nm,0.7s							
BNM	**Barren Site**	**90.18**	**53**	P	**P**	**12 48 05.8**	**-0.2**
HHC	**Hu-ho-hao-te**	**90.34**	**315**	*eP*	**P**	**12 48 06.6**	**+0.3**
HHC				pmax	pmax			
	comp=Z,10.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,42nm,4.4s							
TCUT	**Toone Canyon**	**90.38**	**45**	IAmb	IAmb	12 48 08.8		
	comp=Z,4.3nm,0.8s							
BSUT	**Blindstream Ca**	**90.49**	**45**	IAmb	IAmb	12 48 09.5		
	comp=Z,5.8nm,0.6s							
PZH	**PanZhiHua**	**90.69**	**299**	P	**P**	**12 48 09.8**	**+1.5**
SAND	**Sanderson**	**91.65**	**58**	P	**P**	**12 48 12.1**	**-0.5**
ILAR	**Eielson Array**	**91.75**	**13**	P	**P**	**12 48 11.4**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=218,slow=5.0,SNR=5.6							
	comp=Z,0.4nm,0.5s							
PDAR	**Pinedale Array**	**92.41**	**44**	P	**P**	**12 48 16.4**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=200,slow=3.6,SNR=7.5							
	comp=Z,0.7nm,0.6s							
YNE	**Yellowstone No**	**93.26**	**42**	P	**P**	**12 48 19.4**	**-0.5**
F26K	**Sheenjek River**	**94.84**	**13**	P	**P**	**12 48 26.4**	**+0.2**
F26K				IAmb	IAmb	12 48 28.6		
	comp=Z,6.6nm,1.3s							
G30M	**tAoh Zrail Nji**	**96.06**	**16**	P	**P**	**12 48 32.6**	**+0.9**
G30M				IAmb	IAmb	12 48 33.4		
	comp=Z,6.4nm,1.4s							
G31M	**Satah River**	**96.52**	**16**	P	**P**	**12 48 34.2**	**+0.5**
BVAR	**Borovoye Array**	**120.35**	**319**	PKP	**PKiKP**	**12 53 52.5**	**0.0**
	comp=Z,1.3nm,0.4s,baz=140,slow=3.3,SNR=5.3							
ARCES	**ARCESS Array B**	**131.67**	**348**	PKP	**PKPdf**	**12 54 13.7**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=50,slow=1.9,SNR=8.5							
FINES	**FINESS Array B**	**138.25**	**342**	SKPbc	**SKPbc**	**12 57 10.5**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=22,slow=2.1,SNR=3.9							
NB2	**NORSAR Subarra**	**141.85**	**351**	PKP	PKPpre	12 54 28.9		
	comp=Z,1.0nm,0.7s,baz=23,slow=3.6							
NOA	**NORSAR Array B**	**141.85**	**351**	PKhKP	PKPpre	12 54 28.3		
	comp=Z,0.7nm,0.8s,baz=16,slow=4.8,SNR=6.7							
HFS	**Hagfors**	**142.33**	**349**	PKhKP	PKPpre	12 54 28.9		
	comp=Z,5.2nm,0.3s,baz=60,slow=3.3,SNR=48							
AKASG	**Malin Array Be**	**144.84**	**328**	PKPdf	**PKPdf**	**12 54 37.6**	**-0.4**
AKASG	**Malin Array Be**	**144.84**	**328**	PKP	**PKPdf**	**12 54 37.4**	**-0.6**
	comp=Z,3.2nm,0.6s,baz=44,slow=4.2,SNR=24							
AKBB	**Malin Array Si**	**144.84**	**328**		**PKPdf**	**12 54 37.5**	**-0.5**
KIEV	**Kiev**	**144.85**	**328**		**PKPdf**	**12 54 37.5**	**-0.5**
SUW	**Suwalki**	**145.09**	**336**	PKPbc	**PKPab**	**12 54 40.2**	**0.0**
BNN	**Bunyan**	**146.18**	**305**	PKPbc	**PKPbc**	**12 54 43.1**	**+0.2**
BR131	**Keskin Array S**	**147.54**	**308**	PKPbc	**PKPbc**	**12 54 45.6**	**-1.0**
BRTR	**Keskin Array B**	**147.54**	**308**	PKPbc	**PKPbc**	**12 54 46.3**	**-0.3**
BRTR	**Keskin Array B**	**147.54**	**308**	PKPbc	**PKPbc**	**12 54 46.2**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=98,slow=2.5,SNR=4.4							
MMAI	**Mount Meron Ar**	**147.73**	**295**	PKPbc	**PKiKP**	**12 54 48.0**	**-0.6**
	comp=Z,2.3nm,0.4s,baz=79,slow=4.7,SNR=6.6							
EKA	**Eskdalemuir Ar**	**148.26**	**4**	PKPbc	**PKPbc**	**12 54 46.9**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=347,slow=2.4,SNR=11							
BUR08	**Bucovina Ar. S**	**148.83**	**326**	PKPbc	**PKiKP**	**12 54 50.2**	**-0.3**
BURAR	**Bucovina Array**	**148.84**	**326**		**PKiKP**	**12 54 50.3**	**-0.2**
OJC	**Ojcow**	**149.37**	**335**	PKPbc	**PKPbc**	**12 54 49.5**	**-1.1**
CLL	**Collm**	**150.66**	**343**	PKPdf	**PKPdf**	**12 54 45.7**	**-1.8**
CLL				PKPbc	**PKiKP**	**12 54 53.8**	**-0.2**
CLL				PKPab	**PKPab**	**12 55 02.5**	**-0.3**
GERES	**GERESS Array B**	**152.67**	**340**	PKPbc	**PKPbc**	**12 54 57.8**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=315,slow=0.2,SNR=4.1							
ESDC	**Sonseca Array**	**163.64**	**11**	PKPab	**PKPab**	**12 55 58.7**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=351,slow=3.8,SNR=4.5							

KNET ***16*** *12:49:14.8±0.3, 42.65N×74.86E, h11km±2km, ml2.2, Error ellipse: s-maj=2.0km s-min=1.9km az=24.0*
NNC ***16*** *12:49:15.8±0.2, 42.70N×74.82E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=5.1km s-min=0.8km az=160.0*
KRNET ***16*** *12:49:15.3±0.1, 42.64N×74.83E, h17km, mb3.1*
SOME ***16*** *12:49:15.6, 42.65N×74.82E, h10km*

ISC 16 12:49:15.8±0.8, 42.66N±0.02×74.83E±0.01, h8km±6km, n69, σ1°08/128, 36C-25D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBK	**Karagaybulak**	**0.09**	**89**	⇑P	**Pg**	**12 49 18.0**	**-0.1**
	738nm,0.1s,SNR=195						
KBK				⇑S	**Sg**	**12 49 19.4**	**-0.4**
	4μm,0.1s						
KBK	**Karagaybulak**	**0.09**	**89**	⇓*i*P	**Pg**	**12 49 18.0**	**-0.1**
KBK				⇓*i*S	**Sg**	**12 49 19.8**	**0.0**
FRU1	**Bishkek**	**0.21**	**317**	⇓*i*P	**Pg**	**12 49 20.3**	**+0.2**
FRU1				⇓*i*S	**Sg**	**12 49 23.4**	**+0.4**
AAK	**Ala-Archa**	**0.25**	**266**	P	**Pg**	**12 49 20.7**	**0.0**
	96nm,0.1s,SNR=69						
AAK				S	**Sg**	**12 49 24.5**	**+0.4**
	216nm,0.1s						
AAK	**Ala-Archa**	**0.25**	**266**	⇑P	**Pg**	**12 49 20.5**	**-0.2**
	24nm,0.4s						
AAK				⇑S	**Sg**	**12 49 24.4**	**+0.4**
	120nm,0.6s						
AAK	**Ala-Archa**	**0.25**	**266**	⇑*i*P	**Pg**	**12 49 20.7**	**0.0**
AAK				⇑*i*S	**Sg**	**12 49 24.2**	**+0.1**
CHMS	**Chumysh**	**0.35**	**351**	⇑P	**Pg**	**12 49 22.5**	**-0.2**
	117nm,0.1s,SNR=237						
CHMS				⇑S	**Sg**	**12 49 27.6**	**+0.4**
	428nm,0.2s						
CHMS	**Chumysh**	**0.35**	**351**	⇑*i*P	**Pg**	**12 49 22.5**	**-0.2**
CHMS				⇑*i*S	**Sg**	**12 49 27.6**	**+0.4**
UCH	**Uchtor**	**0.49**	**209**	P	**Pg**	**12 49 25.0**	**-0.2**
	32nm,0.1s,SNR=275						
UCH				⇑S	**Sg**	**12 49 31.4**	**-0.3**
	76nm,0.2s						
UCH	**Uchtor**	**0.49**	**209**	⇓*i*P	**Pg**	**12 49 24.9**	**-0.4**
UCH				⇓*i*S	**Sg**	**12 49 31.3**	**-0.3**
TKM2	**Tokmak 2**	**0.63**	**65**	⇑P	**Pg**	**12 49 27.3**	**-0.7**
	34nm,0.1s,SNR=22						
TKM2				⇑S	**Sg**	**12 49 35.7**	**-0.4**
	530nm,0.3s						
TKM2	**Tokmak 2**	**0.63**	**65**	⇓*i*P	**Pg**	**12 49 27.2**	**-0.7**
TKM2				⇓*i*S	**Sg**	**12 49 36.3**	**+0.2**
USP	**Ospenovka**	**0.66**	**339**	⇓P	**Pg**	**12 49 28.1**	**-0.3**
	33nm,0.1s,SNR=106						
USP				⇓S	**Sg**	**12 49 37.2**	**+0.2**
	96nm,0.1s						
USP	**Ospenovka**	**0.66**	**339**	⇑*i*P	**Pg**	**12 49 27.9**	**-0.6**
USP				⇑*i*S	**Sg**	**12 49 37.5**	**+0.4**
EKS2	**Erkin-Say**	**0.77**	**271**	⇑P	**Pg**	**12 49 30.8**	**+0.2**
	10nm,0.1s,SNR=12						
EKS2				⇑S	**Sb**	**12 49 42.2**	**-0.1**
	37nm,0.1s						
EKS2	**Erkin-Say**	**0.77**	**271**	⇓*i*P	**Pg**	**12 49 30.1**	**-0.6**
EKS2				⇓*i*S	**Sg**	**12 49 40.9**	**+0.1**
BOOM	**Boomskoye usch**	**0.84**	**101**	⇑*i*P	**Pg**	**12 49 31.0**	**-0.9**
BOOM				⇑*i*S	**Sg**	**12 49 42.9**	**+0.1**
DGS	**Degeres**	**0.91**	**49**	P	**Pg**	**12 49 32.8**	**-0.4**
	5.3nm,0.1s						
DGS				S	**Sg**	**12 49 44.9**	**-0.2**
	56nm,0.2s						
DGS	**Degeres**	**0.91**	**49**	*e*P	**Pg**	**12 49 32.8**	**-0.4**
DGS				*e*S	**Sg**	**12 49 44.9**	**-0.2**
KST	**Kastek**	**0.92**	**65**	P	**Pg**	**12 49 32.8**	**-0.7**
	15nm,0.1s						
KST				S	**Sg**	**12 49 45.4**	**-0.1**
	90nm,0.2s						
KST	**Kastek**	**0.92**	**65**	*e*P	**Pg**	**12 49 32.8**	**-0.7**
KST				*e*S	**Sg**	**12 49 45.2**	**-0.3**
KST	**Kastek**	**0.92**	**65**	*e*P	**Pg**	**12 49 32.8**	**-0.7**
	15nm,0.1s						
KST				*e*S	**Sg**	**12 49 45.2**	**-0.3**
	90nm,0.2s						
ULHL	**Ulahol**	**1.12**	**111**	⇓P	**Pb**	**12 49 36.2**	**-1.4**
	24nm,0.1s,SNR=5.6						
ULHL				⇓S	**Sg**	**12 49 51.2**	**-0.7**
	20nm,0.1s						
ULHL	**Ulahol**	**1.12**	**111**	⇑*i*P	**Pb**	**12 49 36.1**	**-1.4**
ULHL				⇑*i*S	**Sg**	**12 49 51.5**	**-0.4**
MRKS	**Merke**	**1.18**	**275**	P	**Pb**	**12 49 37.8**	**-0.8**
	16nm,0.1s						
MRKS				S	**Sg**	**12 49 53.7**	**-0.1**
	31nm,0.2s						
MRKS	**Merke**	**1.18**	**275**	*e*P	**Pb**	**12 49 37.8**	**-0.8**
MRKS				*e*S	**Sg**	**12 49 53.7**	**-0.1**
MRKS	**Merke**	**1.18**	**275**	*e*P	**Pb**	**12 49 37.8**	**-0.8**
	16nm,0.1s						
MRKS				*e*S	**Sg**	**12 49 53.7**	**-0.1**
	31nm,0.2s						
KRBS	**Karabastau**	**1.21**	**31**	P	**Pn**	**12 49 38.3**	**-0.8**
	9.9nm,0.1s						
KRBS				S	**Sb**	**12 49 54.3**	**-0.6**
	46nm,0.2s						
KRBS	**Karabastau**	**1.21**	**31**	*e*P	**Pn**	**12 49 38.3**	**-0.8**
KRBS				*e*S	**Sb**	**12 49 54.3**	**-0.6**
MTBS	**Maitube**	**1.27**	**67**	P	**Pn**	**12 49 39.1**	**-0.8**
	12nm,0.2s						
MTBS				S	**Sb**	**12 49 56.3**	**-0.2**
	37nm,0.2s						
MTBS	**Maitube**	**1.27**	**67**	*e*P	**Pn**	**12 49 39.1**	**-0.8**
MTBS				*e*S	**Sb**	**12 49 56.3**	**-0.2**
MTBS	**Maitube**	**1.27**	**67**	*e*P	**Pn**	**12 49 39.1**	**-0.8**
	12nm,0.2s						
MTBS				*e*S	**Sb**	**12 49 56.3**	**-0.2**
	37nm,0.2s						
IZV	**Izvestkoviy**	**1.37**	**73**	P	**Pn**	**12 49 41.0**	**-0.3**
	26nm,0.2s						
IZV				S	**Sn**	**12 49 59.2**	**-0.5**
	52nm,0.2s						
IZV	**Izvestkoviy**	**1.37**	**73**	*e*P	**Pn**	**12 49 41.0**	**-0.3**
IZV				*e*S	**Sn**	**12 49 59.2**	**-0.5**
IZV	**Izvestkoviy**	**1.37**	**73**	*e*P	**Pn**	**12 49 41.0**	**-0.3**
	26nm,0.2s						
IZV				*e*S	**Sn**	**12 49 59.2**	**-0.5**
	52nm,0.2s						
NRN	**Naryn**	**1.50**	**144**	⇓*i*P	**Pn**	**12 49 42.8**	**-0.5**
NRN				⇓*i*S	**Sb**	**12 50 28.8**	**-0.6**
TNSS	**Tian-Shan**	**1.60**	**76**	P	**Pb**	**12 49 45.6**	**-0.3**
	3.0nm,0.2s						
TNSS				S	**Sg**	**12 50 07.1**	**-0.3**
	11nm,0.3s						
TNSS	**Tian-Shan**	**1.60**	**76**	*e*P	**Pb**	**12 49 45.6**	**-0.3**
TNSS				*e*S	**Sg**	**12 50 07.1**	**-0.3**
TNSS	**Tian-Shan**	**1.60**	**76**	*e*P	**Pb**	**12 49 45.6**	**-0.3**
	3.0nm,0.2s						
TNSS				*e*S	**Sg**	**12 50 07.1**	**-0.3**
	11nm,0.3s						
KNDC	**Almaty**	**1.67**	**70**	⇓P	**Pb**	**12 49 46.6**	**-0.2**
	21nm,0.4s						
KNDC				⇑S	**Sg**	**12 50 09.3**	**-0.1**
	67nm,0.3s						
KTBS	**Karatobe**	**1.72**	**51**	*e*P	**Pb**	**12 49 47.3**	**-0.3**
KTBS				*e*S	**Sb**	**12 50 09.9**	**+0.5**
MNAS	**Manas**	**1.72**	**265**	⇑*i*P	**Pb**	**12 49 46.9**	**-0.9**
MNAS				⇑*i*S	**Sb**	**12 50 09.9**	**+0.2**
KOTS	**Kotyrbulak**	**1.77**	**70**	P	**Pb**	**12 49 48.7**	**+0.1**
	20nm,0.3s						
KOTS				S	**Sg**	**12 50 12.5**	**-0.4**
	136nm,0.5s						
KOTS	**Kotyrbulak**	**1.77**	**70**	*e*P	**Pb**	**12 49 48.7**	**+0.1**
KOTS				*e*S	**Sg**	**12 50 12.4**	**-0.4**
KOTS	**Kotyrbulak**	**1.77**	**70**	*e*P	**Pb**	**12 49 48.7**	**+0.1**
	20nm,0.3s						
KOTS				*e*S	**Sg**	**12 50 12.5**	**-0.4**
	136nm,0.5s						
KDJ	**Kajisay**	**1.82**	**106**	⇑*i*P	**Pb**	**12 49 48.6**	**-0.8**
KDJ				⇑*i*S	**Sb**	**12 50 13.0**	**+0.6**
ARSB	**Arslanbob**	**1.91**	**227**	⇓*i*P	**Pb**	**12 49 49.9**	**-1.1**
ARSB				⇓*i*S	**Sb**	**12 50 15.1**	**0.0**
SALK	**Salom-Alik**	**1.92**	**203**	⇑*i*P	**Pb**	**12 49 50.0**	**-1.2**
SALK				⇑*i*S	**Sb**	**12 50 15.3**	**-0.1**
CHKK	**Chushkaly**	**1.98**	**52**	Pg	**Pb**	**12 49 52.0**	**-0.1**
	4.1nm,0.2s						
CHKK				Lg	Lg	12 50 18.0		
	118nm,0.3s						
CHKK	**Chushkaly**	**1.98**	**52**	*e*P	**Pb**	**12 49 52.0**	**-0.1**
	4.1nm,0.2s						
CHKK				*e*S	**Sg**	**12 50 18.0**	**-1.4**
	118nm,0.3s						
ARK	**Arkit**	**2.29**	**249**	⇓*i*P	**Pn**	**12 49 55.2**	**+1.2**
ARK				⇓*i*S	**Sb**	**12 50 24.1**	**-1.9**
TARG	**Taragay, Kyrgy**	**2.40**	**112**	⇑*i*P	**Pn**	**12 49 56.7**	**+1.0**
TARG				⇑*i*S	**Sb**	**12 50 26.8**	**-2.5**
BTLS	**Baital**	**2.45**	**347**	Pg	**Pb**	**12 50 00.4**	**+0.3**
	12nm,0.3s						
BTLS				Lg	Lg	12 50 32.4		
	6.8nm,0.4s						
BTLS	**Baital**	**2.45**	**347**	*e*P	**Pb**	**12 50 00.4**	**+0.3**
	12nm,0.3s						
BTLS				*e*S	**Sg**	**12 50 32.4**	**-2.1**
	6.8nm,0.4s						
OHH	**Osh**	**2.62**	**216**	⇓*i*P	**Pn**	**12 49 59.6**	**+1.1**
OHH				⇓*i*S	**Sn**	**12 50 31.9**	**+1.3**
PRZ	**Przheval'sk**	**2.65**	**93**	⇑*i*P	**Pn**	**12 49 59.9**	**+1.0**
PRZ				⇑*i*S	**Sn**	**12 50 32.5**	**+1.2**
SATY	**Saty**	**2.66**	**80**	Pg	**Pb**	**12 50 04.6**	**+0.8**
	10nm,0.3s						
SATY				Lg	Lg	12 50 39.8		
	39nm,0.1s						
ARXS	**Arharly**	**2.68**	**53**	Pg	**Pb**	**12 50 05.1**	**+1.0**
	2.8nm,0.2s						
ARXS				Lg	Lg	12 50 40.5		
	50nm,0.2s						
ARXS	**Arharly**	**2.68**	**53**	*e*P	**Pb**	**12 50 05.1**	**+1.0**
ARXS				*e*S	**Sg**	**12 50 40.5**	**-1.4**
SFK	**Sufi-Kurgan**	**2.82**	**201**	⇑*i*P	**Pn**	**12 50 02.4**	**+1.0**
SFK				⇑*i*S	**Sn**	**12 50 36.8**	**+1.1**
TRKS	**Terek-Say**	**2.96**	**249**	⇑*i*P	**Pn**	**12 50 04.6**	**+1.3**
TRKS				⇑*i*S	**Sn**	**12 50 40.4**	**+1.3**
BLB	**Baldybastay**	**3.03**	**60**	Pg	**Pb**	**12 50 11.1**	**+1.1**
	10nm,0.3s						
BLB				Lg	Lg	12 50 51.0		
	26nm,0.3s						
UZB	**Uzynbulak**	**3.12**	**80**	Pg	**Pb**	**12 50 12.9**	**+1.3**
	5.3nm,0.2s						
UZB				Lg	Lg	12 50 54.1		
	24nm,0.2s						
UZB	**Uzynbulak**	**3.12**	**80**	*e*P	**Pb**	**12 50 12.9**	**+1.3**
	5.3nm,0.2s						
UZB				*e*S	**Sg**	**12 50 54.1**	**-1.9**
	24nm,0.2s						
KK31	**Karatay Array**	**3.20**	**280**	Pg	**Pg**	**12 50 14.8**	**-2.3**
	1.9nm,0.6s,baz=94,slow=21,SNR=14						
KK31				Lg	Lg	12 50 58.3		
	3.0nm,0.3s,baz=96,slow=30,SNR=21						
SHLS	**Shalkode**	**3.44**	**80**	Pg	**Pg**	**12 50 24.2**	**+2.5**
	3.0nm,0.1s						
SHLS				Lg	Lg	12 51 13.5		
	7.9nm,0.3s						
SHLS	**Shalkode**	**3.44**	**80**	*e*P	**Pg**	**12 50 24.2**	**+2.5**
	3.0nm,0.1s						
SHLS				*e*S	**Sg**	**12 51 13.5**	**+7.2**
	7.9nm,0.3s						
PDGK	**Podgornoye**	**3.49**	**77**	⇑Pg	**Pg**	**12 50 20.5**	**-2.0**
	2.3nm,0.5s						
PDGK				⇓Lg	Lg	12 51 07.0		
	17nm,0.8s						
KNOS	**Konyrlen**	**3.59**	**60**	Pg	**Pb**	**12 50 21.2**	**+1.5**
	2.3nm,0.4s						
KNOS				Lg	Lg	12 51 08.4		
	6.6nm,0.3s						

IDC ***16*** *12:50:47.5±2.8, 15.86S×167.88E, h157km±23km, mb3.6/9, mbtmp4.1/10, MS3.6/2, Error ellipse: s-maj=25.9km s-min=16.7km az=85.0*
NOU ***16*** *12:50:50.2, 16.02S×167.75E, h118km, mb4.6/7, Vanuatu Islands*

ISC 16 12:50:49.5±0.9, 15.84S±0.08×167.8E±0.2, h177km, n19, σ2°10/18, mb4.0/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.69**	**304**	P	**Pn**	**12 51 10.8**	**-4.1**
KOUNC	**Koumac, New Ca**	**5.75**	**215**	P	**Pn**	**12 52 10.7**	**-2.6**
YATNC	**Mamie plateau,**	**6.25**	**188**	P	**Pn**	**12 52 16.6**	**-3.1**
DZM	**Mont Dzumac**	**6.33**	**191**	P	**Pn**	**12 52 19.6**	**-1.3**
	23nm,0.5s,baz=38,slow=20,SNR=36						
ONTNC	**Ouen Toro**	**6.56**	**191**	P	**Pn**	**12 52 22.3**	**-1.5**
OUENC	**Ouen Island, N**	**6.61**	**188**	P	**Pn**	**12 52 23.0**	**-1.5**
PINNC	**Pines Island,**	**6.75**	**183**	P	**Pn**	**12 52 23.9**	**-2.4**
STKA	**Stephens Creek**	**28.68**	**231**	P	**P**	**12 56 31.1**	**+1.1**
	1.5nm,0.3s,baz=63,slow=6.8,SNR=4.6						
	1.5nm,0.3s						
WRA	**Warramunga Arr**	**32.07**	**258**	P	**P**	**12 56 59.2**	**-0.8**
	0.3nm,0.7s,baz=83,slow=7.5,SNR=8.8						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**32.77**	**251**	P	**P**	**12 57 06.0**	**-0.1**
	1.8nm,0.6s,baz=79,slow=8.8,SNR=49						
ASAR				ScP	**ScP**	**13 03 17.8**	**+3.1**
	1.3nm,1.1s,baz=74,slow=1.8,SNR=4.7						
	1.8nm,0.6s						
PPT	**Papeete**	**40.80**	**99**	LR	LR	13 14 00.8		
	comp=Z,15nm,19.4s,baz=315,slow=34						
MJAR	**Matsushiro Arr**	**59.12**	**332**	P	**P**	**13 00 32.1**	**+0.7**
	3.0nm,0.9s,baz=153,slow=8.1,SNR=7.0						
	3.0nm,0.9s						
LEM	**Lembang**	**59.51**	**271**	LR	LR	13 29 07.2		
	comp=Z,292nm,18.2s,baz=265,slow=39						
VNDA	**Vanda**	**61.77**	**181**	P	**P**	**13 00 48.6**	**-0.3**
	0.8nm,0.5s,baz=2.7,slow=7.6,SNR=9.5						
	0.8nm,0.5s						
USRK	**Ussuriysk Ar.**	**68.10**	**333**	P	**P**	**13 01 31.9**	**+1.8**
	1.4nm,0.6s,baz=174,slow=6.8,SNR=5.0						
	1.4nm,0.6s						
QSPA	**South Pole Qui**	**74.20**	**180**	P	**P**	**13 02 07.1**	**+0.5**
	5.0nm,0.8s,baz=344,slow=0.7,SNR=25						
	5.0nm,0.8s						
SONM	**Songino Array**	**83.69**	**323**	P	**P**	**13 03 00.2**	**+1.7**
	0.7nm,0.6s,baz=146,slow=8.0,SNR=3.8						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**87.42**	**18**	P	**P**	**13 03 14.8**	**-1.5**
	0.2nm,0.5s,baz=243,slow=5.3,SNR=5.7						
	0.2nm,0.5s						
ARCES	**ARCESS Array B**	**121.45**	**345**	PKP	**PKPdf**	**13 09 20.8**	**-0.4**
	0.3nm,0.6s,baz=77,slow=2.6,SNR=5.2						

IDC ***16*** *13:14:47.3±0.9, 23.95N×122.57E, h0km, mb3.8/9, mbtmp3.8/11, ML3.5/2, MS3.6/6, Error ellipse: s-maj=30.3km s-min=18.4km az=66.0*
NEIC ***16*** *13:14:50.2±1.6, 23.77N±0.02×122.55E±0.02, h21km±6km, mb4.4/20, Error ellipse: s-maj=3.7km s-min=2.0km az=145.0*
JMA ***16*** *13:14:50.8±0.2, 23.8N±0.9×122.5E±0.6, h23km, MV

IRIF			eS	Sn	13 15 29.4 +2.0	STYT			eS	Sn	13 15 42.1 +0.7
CHKH	**Chenggong**	**1.22 242**	*i* P	Pn	13 15 11.2 -0.3	**TCU**	**Taichung**	**1.77 283**	P	Pb	13 15 21.7 +0.5
CHKH			S	Sb	13 15 25.0 -2.3	TCU			eS	Sb	13 15 44.1 +0.9
EGS		**1.22 332**	eP	Pg	13 15 12.5 -0.1	**NSY**	**Sanyi**	**1.77 292**	*i* P	Pb	13 15 21.9 +0.6
EGS			S	Sb	13 15 27.1 -0.3	NSY			eS	Sb	13 15 44.0 +0.7
LATG	**Datong**	**1.22 309**	eP	Pn	13 15 12.1 +0.4	**HSN**	**Hsinchu**	**1.79 306**	eP	Pb	13 15 20.9 -0.6
LATG			S	Sb	13 15 27.8 +0.3	HSN			S	Sb	13 15 43.6 0.0
YULB	**Yu-li**	**1.22 253**		Pn	13 15 11.2 -0.4	**JISG**	**Ishigakijimahi**	**1.79 62**	P	Pb	13 15 20.5 -1.0
YULB	**Yu-li**	**1.22 253**	P	Pn	13 15 12.0 +0.4	**NMLH**	**Miaoli**	**1.79 296**	eP	Pb	13 15 21.8 +0.2
YULB	**Yu-li**	**1.22 253**	eP	Pn	13 15 11.7 +0.1	NMLH			eS	Sb	13 15 44.3 +0.4
YULB			eS	Sb	13 15 27.2 -0.2	**NJN**	**Zhunan**	**1.80 301**	eP	Pn	13 15 20.5 +1.0
TWF1	**Yuli**	**1.24 251**	*i* P	Pn	13 15 11.8 +0.1	NJN			eS	Sb	13 15 44.3 +0.3
TWF1			S	Sb	13 15 27.5 -0.4	**WCKO**	**Fanlu**	**1.83 260**	eP	Pb	13 15 22.9 +0.7
ILA	**Ilan**	**1.24 323**	eP	Pg	13 15 13.7 +0.6	WCKO			eS	Sb	13 15 46.8 +1.8
ILA			S	Sb	13 15 28.1 0.0	**TPUB**	**Ta-pu**	**1.84 256**		Pn	13 15 21.8 +1.7
WHF	**Hehuan Shan**	**1.25 288**	eP	Pn	13 15 12.1 -0.2	**TPUB**	**Ta-pu**	**1.84 256**	P	Pb	13 15 22.2 -0.2
WHF			S	Sb	13 15 28.7 +0.1	**TPUB**	**Ta-pu**	**1.84 256**	S	Sb	13 15 45.5 +0.3
TWE	**Neicheng**	**1.26 319**	eP	Pg	13 15 12.9 -0.4	**TPUB**	**Ta-pu**	**1.84 256**	eP	Pb	13 15 22.2 -0.2
TWE			S	Sb	13 15 27.9 -0.5	TPUB			eS	Sn	13 15 44.7 +1.6
ENTT	**Nioudou**	**1.26 314**	eP	Pb	13 15 12.8 +0.2	**WGK**	**Gukeng**	**1.84 268**	eP	Pb	13 15 22.3 -0.1
ENTT			S	Sb	13 15 28.4 -0.2	WGK			*i* S	Sn	13 15 44.9 +1.8
NNSB	**Datong**	**1.27 302**	eP	Pn	13 15 12.7 +0.4	**WDJ**	**Dajia District**	**1.85 289**	eP	Pb	13 15 22.5 -0.1
NNSB			S	Sb	13 15 29.0 +0.1	WDJ			S	Sb	13 15 45.5 -0.1
NNSH	**Datong**	**1.27 302**	P	Pn	13 15 12.5 +0.2	**NHW**	**Xinwu Township**	**1.86 312**	P	Pn	13 15 21.6 +1.3
NNSH			S	Sb	13 15 28.7 -0.2	NHW			eS	Sn	13 15 44.6 +1.1
NTC	**Toucheng**	**1.27 328**	eP	Pg	13 15 14.8 +1.2	**CHN4**	**Tsaushan**	**1.86 258**	eP	Pb	13 15 23.6 +0.9
NTC			eS	Sg	13 15 31.7 +1.4	CHN4			eS	Sb	13 15 47.3 +1.5
NNS	**Nan Shan**	**1.28 302**	eP	Pn	13 15 12.8 +0.3	**WDLH**	**Douliu**	**1.86 268**	P	Pb	13 15 22.6 -0.2
NNS			*i* S	Sb	13 15 29.2 -0.1	WDLH			eS	Sb	13 15 47.6 +1.8
OWD	**Renai**	**1.29 279**	P	Pn	13 15 12.8 +0.2	**WCHH**	**Zhanghua**	**1.86 280**	P	Pb	13 15 23.0 +0.2
OWD			*i* S	Sb	13 15 28.5 -1.0	WCHH			eS	Sb	13 15 46.1 +0.2
CHKT	**Chengkung**	**1.29 239**	*i* P	Pn	13 15 12.0 -0.4	**WTP**	**Ta-pu**	**1.87 254**	eP	Pb	13 15 46.2 -0.3
CHKT			S	Sb	13 15 27.0 -2.3	WTP			eS	Sb	13 15 46.2 +0.2
FULB	**Fuli**	**1.30 244**	P	Pn	13 15 12.4 -0.2	**WCH1**	**Changhua City**	**1.87 280**	P	Pb	13 15 22.9 -0.1
FULB			*i* S	Sb	13 15 28.5 -1.2	WCH1			eS	Sb	13 15 46.9 +0.7
FUSS	**Fushou**	**1.30 292**	eP	Pn	13 15 13.3 +0.4	**ECL**	**Taimali**	**1.89 232**	eP	Pn	13 15 20.6 -0.1
FUSS			S	Sb	13 15 29.5 -0.4	ECL			S	Sn	13 15 42.2 -2.0
VWDT	**VWDT**	**1.31 270**	eP	Pn	13 15 13.2 +0.5	**PCYT**	**Pengchaiyu**	**1.91 346**	eP	Pn	13 15 22.1 +1.1
VWDT			S	Sb	13 15 29.3 -0.6	PCYT			S	Sn	13 15 43.9 -0.9
FUSB	**Fushanzhiwuyua**	**1.33 318**	eP	Pb	13 15 14.2 +0.4	**SGST**	**Jiashian**	**1.95 250**	eP	Pn	13 15 22.9 +1.3
FUSB			eS	Sb	13 15 30.0 -0.7	SGST			eS	Sn	13 15 47.5 +1.7
TWB1	**Santiao Chiao**	**1.34 337**	eP	Pg	13 15 14.4 -0.6	**LAY**	**Lan-yu**	**1.96 209**	P	Pn	13 15 21.6 -0.2
TWB1			S	Sb	13 15 30.0 -0.9	LAY			eS	Sn	13 15 46.0 -0.1
WUSB	**Renai**	**1.35 280**	P	Pn	13 15 13.8 +0.4	**CHN1**	**Nanshi**	**1.96 253**	eP	Pb	13 15 24.3 -0.2
WUSB			eS	Sb	13 15 31.2 +0.1	CHN1			eS	Sb	13 15 49.2 +0.5
TWT	**Tachien**	**1.36 291**	eP	Pn	13 15 14.4 +0.8	**SNST**	**Tainan City**	**1.98 254**	eP	Pb	13 15 25.3 +0.6
TWT			S	Sb	13 15 31.7 +0.1	SNST			eS	Sb	13 15 49.5 +0.3
TDCB	**Techi**	**1.38 291**	eP	Pn	13 15 14.5 +0.7	**LYUB**	**Lan-yu**	**1.98 208**	*i* P	Pn	13 15 21.3 -0.6
TDCB			S	Sn	13 15 32.0 +0.1	LYUB			eS	Sn	13 15 44.0 -2.5
TIPB	**Shuangxi**	**1.38 331**	eP	Pg	13 15 14.8 +0.2	**CHY**	**Chiayi**	**1.98 263**	eP	Pb	13 15 26.1 +1.3
TIPB			S	Sb	13 15 31.2 -0.7	CHY			eS	Sb	13 15 49.2 -0.1
EHD	**Haiduan**	**1.39 244**	*i* P	Pn	13 15 14.0 0.0	**WTK**	**Tuku**	**2.00 268**	eP	Pb	13 15 25.0 -0.1
EHD			eS	Sn	13 15 30.5 -1.5	WTK			eS	Sb	13 15 50.0 +0.2
JKRS	**Kuro-shima**	**1.40 70**	P	Pg	13 15 15.9 -0.1	**RLNB**	**Erlin**	**2.03 274**	P	Pb	13 15 25.3 -0.3
NWLT	**Wulai**	**1.40 316**	eP	Pb	13 15 15.1 +0.2	RLNB			eS	Sb	13 15 51.3 +0.8
NWLT			S	Sn	13 15 32.0 -0.3	**SSD**	**Sandimen**	**2.05 241**	eP	Pn	13 15 24.5 +1.5
EDH	**Donghe**	**1.41 236**	eP	Pn	13 15 13.9 -0.2	**TSMG**	**Majia**	**2.06 240**	eS	Sn	13 15 49.2 +0.7
EDH			*i* S	Sn	13 15 30.6 -1.8	**TAW**	**Tawu**	**2.08 228**	P	Pn	13 15 23.9 +0.5
ECS	**Chishang**	**1.41 242**	eP	Pn	13 15 14.6 +0.5	TAW			eS	Sn	13 15 48.2 -0.8
ECS			eS	Sn	13 15 33.4 +0.9	**WTCT**	**Ta-ch'eng**	**2.10 273**	P	Pn	13 15 24.5 +0.9
YHNB	**Yeheng**	**1.41 310**		Pn	13 15 14.7 +0.4	WTCT			eS	Sb	13 15 53.2 +0.6
YHNB	**Yeheng**	**1.41 310**	P	Pb	13 15 15.0 -0.1	**EAST**	**Anshuo**	**2.10 229**	eP	Pn	13 15 24.2 +0.5
YHNB	**Yeheng**	**1.41 310**	eP	Pb	13 15 15.1 -0.1	**SCST**	**Cishan**	**2.10 246**	eP	Pb	13 15 28.4 +1.6
YHNB			S	Sn	13 15 32.4 -0.2	SCST			eS	Sb	13 15 54.1 +1.4
NSK	**Sanguang**	**1.43 310**	eP	Pn	13 15 15.2 +0.7	**TAWH**	**Dawu Township**	**2.10 228**	eP	Pn	13 15 24.7 +1.0
NSK			S	Sn	13 15 32.3 -0.7	TAWH			eS	Sn	13 15 48.7 -0.8
SXI1	**Grass Mountain**	**1.46 335**	eP	Pb	13 15 15.7 -0.4	**MASBT**	**Mashibuluo**	**2.12 238**	eP	Pn	13 15 24.7 +1.2
SXI1			eS	Sn	13 15 32.6 -1.4	MASBT			eS	Sn	13 15 49.9 -0.1
SSLB	**Suanglung**	**1.48 271**		Pn	13 15 15.1 0.0	**JTJ**	**Tarama**	**2.13 66**	P	Pb	13 15 25.8 -1.6
SSLB	**Suanglung**	**1.48 271**	P	Pn	13 15 15.5 +0.4	**WSF**	**Szhu**	**2.15 267**	eP	Pb	13 15 27.6 -0.1
SSLB	**Suanglung**	**1.48 271**	eP	Pn	13 15 15.6 +0.4	WSF			eS	Sb	13 15 55.2 +0.9
SSLB			eS	Sn	13 15 34.6 +0.4	**WSL**	**Shuilin Townsh**	**2.16 264**	eP	Pb	13 15 27.1 -0.8
NWF	**Wu-fen Shan**	**1.48 331**	*i* P	Pn	13 15 15.9 +0.7	WSL			*i* S	Sn	13 15 53.1 +2.2
WFSB	**Wu-fen Shan**	**1.48 331**	P	Pb	13 15 16.2 -0.1	**SHHT**	**Tainan City**	**2.17 250**	eP	Pb	13 15 29.5 +1.5
LDUT	**Ludao**	**1.49 223**	P	Pn	13 15 14.7 -0.5	SHHT			eS	Sb	13 15 56.6 +1.9
LDUT			eS	Sn	13 15 32.2 -2.1	**SGLT**	**Jiouru**	**2.17 242**	P	Pb	13 15 27.5 -0.6
WPL	**Puli Township**	**1.50 280**	eP	Pb	13 15 17.1 +0.6	**TWM1**	**Shoushan**	**2.19 245**	P	Pb	13 15 28.8 +0.6
WPL			S	Sn	13 15 34.6 +0.1	**SSHA**	**Shanhua**	**2.19 254**	P	Pn	13 15 27.1 +2.2
TWA	**Mucha**	**1.50 324**	eP	Pb	13 15 16.9 +0.3	SSHA			S	Sb	13 15 56.1 +0.9
TWA			S	Sn	13 15 35.0 +0.1	**CHN8**	**Yiju**	**2.20 260**	P	Pb	13 15 27.8 -0.8
YUS	**Yu-Shan**	**1.51 260**	P	Pn	13 15 16.5 +0.5	CHN8			eS	Sn	13 15 54.7 +2.7
YUS			S	Sn	13 15 35.1 -0.5	**SLIU**	**Shizi**	**2.25 227**	eP	Pn	13 15 26.9 +1.2
DPDB	**Guoxing**	**1.53 280**	P	Pb	13 15 17.1 0.0	SLIU			eS	Sn	13 15 50.9 -2.2
DPDB			eS	Sb	13 15 37.0 +0.8	**SCLT**	**Jiali**	**2.26 255**	P	Pn	13 15 27.8 +2.0
SMLT	**Sun Moon Lake**	**1.53 275**	*i* P	Pn	13 15 17.2 +0.7	SCLT			eS	Sb	13 15 56.6 -0.6
SMLT			eS	Sn	13 15 35.0 -0.7	**SCZT**	**Fangliau**	**2.27 233**	eP	Pb	13 15 28.8 -0.9
ELDTW	**Lidau**	**1.54 248**	eP	Pn	13 15 16.0 0.0	**SNJT**	**Kaohsiung City**	**2.29 244**	eP	Pn	13 15 28.1 +1.9
ELDTW			S	Sn	13 15 34.9 -0.9	SNJT			eS	Sb	13 15 58.4 +0.3
WCS	**Beigang Elemen**	**1.54 281**	*i* P	Pn	13 15 16.9 +0.9	**SMST**	**Manzhou Townsh**	**2.36 223**	eP	Pn	13 15 29.1 +1.9
WCS			eS	Sn	13 15 36.5 +0.8	SMST			eS	Sn	13 15 56.5 +0.6
TATO	**Taipei**	**1.56 321**		Pb	13 15 17.2 -0.3	**TSCK**	**Chigu Township**	**2.36 255**	eP	Pb	13 15 30.0 -1.2
TATO	**Taipei**	**1.56 321**	P	Pb	13 15 17.9 +0.4	TSCK			eS	Sn	13 15 58.9 +3.0
TNOU	**National Taiwa**	**1.56 332**	eP	Pn	13 15 16.9 +0.7	**WSSB**	**Gushan**	**2.40 243**	eP	Pn	13 15 30.2 +2.4
TNOU			S	Sn	13 15 36.0 -0.1	**TSEB**	**Hengchuen, Pin**	**2.41 220**	P	Pn	13 15 30.0 +2.1
JIJ	**Ishigaki jima**	**1.56 67**	P	Pb	13 15 17.5 -0.1	TSEB			eS	Sn	13 15 59.2 +2.0
WHP	**Taichung City**	**1.57 289**	eP	Pb	13 15 18.8 +1.0	**HEN**	**Hengchun**	**2.43 224**	P	Pn	13 15 30.2 +2.0
WHP			eS	Sb	13 15 38.9 +1.4	HEN			eS	Sn	13 15 58.9 +1.2
TYC	**Yuchr**	**1.57 275**	eP	Pn	13 15 17.4 +1.0	**TWKBT**	**Hengchun**	**2.43 222**	eP	Pn	13 15 30.3 +2.1
TYC			S	Sn	13 15 36.6 +0.1	TWKBT			eS	Sn	13 15 58.3 +0.6
WHYT	**Xinyi Township**	**1.57 268**	eP	Pn	13 15 17.6 +1.1	**TWK1**	**Hengchun**	**2.44 222**	eP	Pn	13 15 30.3 +2.1
LONT	**Longtian**	**1.57 237**	P	Pn	13 15 16.9 +0.5	TWK1			eS	Sn	13 15 58.3 +0.5
LONT			eS	Sn	13 15 36.9 -0.6	**JMJ2**	**Miyako jima3**	**2.70 68**	P	Pn	13 15 34.1 +2.2
NFF	**Wufeng Townshi**	**1.58 303**	*i* P	Pb	13 15 18.0 0.0	**WDGT**	**Dungji**	**2.72 260**	eP	Pn	13 15 33.8 +1.7
NFF			eS	Sg	13 15 39.3 -0.7	WDGT			eS	Sn	13 16 05.9 +1.2
TAP	**Taipei**	**1.59 323**	P	Pn	13 15 17.5 +0.8	**PHUB**	**P'eng-hu**	**2.76 265**	eP	Pn	13 15 34.7 +2.0
TAP			S	Sn	13 15 37.5 +0.5	PHUB			S	Sn	13 16 06.2 +0.4
KSHI	**Guanxi Townshi**	**1.62 309**	eP	Pb	13 15 18.8 +0.2	**PNG**	**Penghu**	**2.77 266**	*i* P	Pn	13 15 34.6 +1.8
KSHI			eS	Sg	13 15 40.4 -0.9	PNG			*i* S	Sn	13 16 06.8 +0.8
ALS	**Alishan**	**1.64 261**	eP	Pn	13 15 18.7 +1.2	**VCHM**	**Qimei**	**2.93 260**	eP	Pn	13 15 36.8 +1.7
ALS			S	Sn	13 15 39.3 +0.8	VCHM			S	Sn	13 16 10.8 +0.7
YM01	**YM01**	**1.65 327**	eP	Pb	13 15 19.4 +0.3	**VWUC**	**VWUC**	**3.09 294**	eP	Pn	13 15 38.0 +0.6
YM01			S	Sn	13 15 38.2 -0.2	VWUC			eS	Sn	13 16 12.1 -2.0
NWRT	**Kuosheng**	**1.65 330**	eP	Pb	13 15 19.8 +0.6	**MATB**	**Ma-tsu**	**3.36 315**	eP	Pn	13 15 42.0 +1.0
NWRT			S	Sn	13 15 38.4 0.0	MATB			eS	Sn	13 16 18.1 -2.5
TTN	**Taitung**	**1.65 233**	eP	Pn	13 15 19.2 +1.7	**MSUT**	**Lienchiang**	**3.39 315**	P	Pn	13 15 42.1 +0.7
TTN			S	Sn	13 15 37.9 -0.4	MSUT			S	Sn	13 16 21.1 -0.2
NJD	**Zhudong**	**1.66 306**	P	Pb	13 15 20.2 +0.9	**PTMZ**	**Houxiangcun**	**3.39 293**	eP	Pn	13 15 41.7 +0.3
NJD			eS	Sg	13 15 41.7 -0.9	PTMZ			eS	Sn	13 16 19.2 -2.1
TWGBT	**Beinan**	**1.66 236**	P	Pn	13 15 18.0 +0.3	**XPSS**	**Dashiqiu**	**3.81 326**	eP	Pn	13 15 47.8 +0.6
TWGBT	**Beinan**	**1.66 236**	*i* P	Pn	13 15 17.2 +0.3	XPSS			S	Sn	13 16 37.1 -0.1
TWGBT			*i* S	Sn	13 15 38.2 +0.6	**KNMB**	**Chin-men Tao**	**3.88 281**		Pn	13 15 48.4 +0.2
LIOB	**Emei**	**1.67 302**	*i* P	Pb	13 15 19.8 +0.4	**KNMB**	**Chin-men Tao**	**3.88 281**	eP	Pn	13 15 48.4 +0.2
LIOB			S	Sb	13 15 40.2 0.0	KNMB			S	Sn	13 16 32.6 -0.9
TWG	**Pinlang**	**1.67 236**		Pn	13 15 17.6 -0.1	**MHZQ**	**Yeshan**	**3.96 307**	eP	Pn	13 15 49.7 +0.4
TWG	**Pinlang**	**1.67 236**	*i* P	Pn	13 15 17.9 +0.2	MHZQ			eS	Sn	13 16 33.1 -2.4
TWG			eS	Sn	13 15 37.8 -1.0	**AXDP**	**Jialang**	**4.34 286**	*i* P	Pn	13 15 55.3 +0.9
NSTT	**Nanjuang**	**1.67 301**	eP	Pb	13 15 19.7 +0.3	AXDP			eS	Sn	13 16 42.1 -2.7
NSTT			*i* S	Sb	13 15 40.4 +0.1	**ZPLA**	**Ao Xicun**	**4.41 273**	*i* P	Pn	13 15 56.5 +1.0
YM08	**YM08**	**1.67 328**	eP	Pb	13 15 19.4 -0.2	ZPLA			eS	Sn	13 16 45.3 -1.3
YM08			S	Sn	13 15 38.4 -0.6	**DSXP**	**Dongshan**	**4.71 270**	eP	Pn	13 16 00.9 +1.4
ZUZH	**Zhuzihu**	**1.67 326**	P	Pn	13 15 18.5 +0.6	DSXP			eS	Sn	13 16 53.0 -1.0
ZUZH			eS	Sb	13 15 40.1 -0.4	**SXFK**	**Yanhouchang**	**5.18 301**	eP	Pn	13 16 05.9 -0.1
WJS	**Zhushan**	**1.69 272**	eP	Pb	13 15 20.2 +0.4	SXFK			eS	Sn	13 17 03.9 -1.6
WJS			eS	Sg	13 15 42.8 -0.5	**JOW**	**Kunigami**	**6.00 58**	Pn	Pn	13 16 17.2 0.0
NTY	**Taoyuan**	**1.69 317**	P	Pb	13 15 19.3 -0.5	**JOW**	**Kunigami**	**6.00 58**	Pn	Pn	13 16 16.4 -0.8
NTY			S	Sn	13 15 39.6 +0.3		2.0nm,0.3s,baz=124,slow=27,SNR=8.3				
TWS1	**Kuangyinshan**	**1.69 322**	eP	Pb	13 15 19.5 -0.4		7.1nm,0.3s				
ANP	**Anpu**	**1.71 326**	eP	Pb	13 15 19.9 -0.3	**VDOS**	**Pratas Island**	**6.21 242**	eP	Pn	13 16 24.4 +4.2
ANP			S	Sn	13 15 39.1 -0.8	VDOS			eS	Sn	13 17 29.9 -1.0
NTST	**Danshui**	**1.73 324**	eP	Pb	13 15 20.6 +0.2	**KSRS**	**Korea Array**	**14.40 17**	Pn	Pn	13 18 11.4 -0.8
NTST			S	Sn	13 15 40.5 +0.2		0.3nm,0.3s,baz=196,slow=12,SNR=12				
WNT	**Mingjian**	**1.73 274**	eP	Pb	13 15 20.6 +0.2		0.4nm,0.5s				
WNT			S	Sb	13 15 42.2 +0.2	**BJT**	**Baijiatuan**	**17.08 343**		Pn	13 18 48.2 +1.0
WWF	**Wufeng**	**1.73 279**	P	Pb	13 15 21.6 +1.0	BJT			IAmb	IAmb	13 19 11.8
WWF			eS	Sg	13 15 44.8 -0.1		comp=Z,6.4nm,0.4s				
WNT1	**Nantou City**	**1.73 275**	P	Pb	13 15 21.4 +0.8	**JCJ**	**Chichijima**	**18.02 75**	Pn	Pn	13 18 57.9 -1.2
WNT1			S	Sb	13 15 43.4 +1.3	**CRAI**	**Chiangrai**	**20.87 265**	P	P	13 19 29.0 -1.7
HSN1	**Hsinchu**	**1.74 306**	P	Pb	13 15 20.9 +0.3	**SBUM**	**Sibu**	**23.44 207**	P	P	13 19 56.6 -1.2
HSN1			eS	Sn	13 15 41.5 +1.0	SBUM			IAmb	IAmb	13 20 03.5
NCU	**National Centr**	**1.74 314**	eS	Sn	13 15 39.6 -1.0		comp=Z,8.9nm,1.3s				
TWQ1	**Liyutan**	**1.74 290**	*i* P	Pb	13 15 21.0 +0.3	**GTA**	**Gaotai**	**24.78 314**	eP	P	13 20 11.8 +1.4
TWQ1			*i* S	Sb	13 15 42.9 +0.5	GTA			pP	pwP	13 20 23.3 +5.2
CHN5	**Tsauling**	**1.74 265**	eP	Pb	13 15 20.6 -0.2	GTA			pmax	pmax	
CHN5			S	Sn	13 15 42.2 +1.4		comp=Z,4.0nm,0.9s				
TWY	**Chenhua**	**1.74 330**	P	Pb	13 15 20.2 -0.5	**JKA**	**Kamikawa-asahi**	**26.11 34**	P	P	13 20 22.3 +0.1
TWY			S	Sn	13 15 40.9 +0.3	JKA			IAmb	IAmb	13 20 28.6
STYH	**Taoyuan**	**1.75 251**	*i* P	Pn	13 15 20.1 +1.3		comp=Z,15nm,1.4s				
STYH			*i* S	Sn	13 15 40.9 +0.1	**SONM**	**Songino Array**	**27.25 336**	P	P	13 20 31.0 -1.7
STYT	**Tauyuan**	**1.77 250**	eP	Pn	13 15 20.4 +1.2	**SONM**	**Songino Array**	**27.25 336**	P	P	13 20 31.4 -1.3
							comp=Z,1.2nm,0.8s,baz=151,slow=9.2,SNR=6.0				

SONM			LR	LR	13 33 22.3	
	comp=Z,68nm,19.6s,baz=184,slow=41					
	comp=Z,1.2nm,0.8s					
MKAR	**Makanchi Array**	**39.52 316**	P	**P**	**13 22 19.5 +0.3**	
MKAR	**Makanchi Array**	**39.52 316**	P	**P**	**13 22 18.7 -0.5**	
	comp=Z,1.0nm,0.5s,baz=110,slow=10,SNR=10					
MKAR			LR	LR	13 41 01.5	
	comp=Z,50nm,18.6s,baz=150,slow=40					
	comp=Z,1.0nm,0.5s					
KNRA	**Kununurra**	**39.67 171**	P	**P**	**13 22 17.9 -2.7**	
KNRA			IAmb	IAmb	13 22 28.3	
	comp=Z,22nm,1.4s					
MAKZ	**Makanchi**	**39.72 316**	P	**P**	**13 22 20.9 +0.1**	
ZALV	**Zalesovo Beam**	**41.28 327**	P	**P**	**13 22 32.9 -0.7**	
ZALV	**Zalesovo Beam**	**41.28 327**	P	**P**	**13 22 32.2 -1.4**	
	comp=Z,0.9nm,0.5s,baz=115,slow=10.0,SNR=3.7					
	comp=Z,0.9nm,0.5s					
KURK	**Kurchatov**	**43.22 320**	P	**P**	**13 22 49.2 -0.3**	
KURBB	**Kurchatov Arra**	**43.24 320**	P	**P**	**13 22 49.6 -0.1**	
	comp=Z,1.8nm,0.2s,baz=107,slow=8.5,SNR=1.9					
	comp=Z,1.8nm,0.2s					
AAK	**Ala-Archa**	**43.76 307**	LR	LR	13 44 56.1	
	comp=Z,116nm,18.4s,baz=159,slow=41					
WRA	**Warramunga Arr**	**44.94 164**	P	**P**	**13 23 05.0 +1.5**	
	comp=Z,0.6nm,0.9s,baz=341,slow=7.3,SNR=3.3					
	comp=Z,0.6nm,0.9s					
ASAR	**Alice Springs**	**48.42 166**	P	**P**	**13 23 33.0 +2.3**	
	comp=Z,0.4nm,0.5s,baz=347,slow=7.1,SNR=17					
	comp=Z,0.4nm,0.5s					
BVAR	**Borovoye Array**	**48.80 321**	P	**P**	**13 23 33.5 +0.1**	
	comp=Z,0.7nm,0.5s,baz=111,slow=11,SNR=4.8					
	comp=Z,0.7nm,0.5s					
AB31	**Akbulak array**	**54.64 314**	P	**P**	**13 24 17.3 +0.2**	
AB31			IAmb	IAmb	13 24 18.0	
	comp=Z,3.3nm,1.3s					
ABKAR	**Akbulak array**	**54.64 314**	P	**P**	**13 24 17.4 +0.3**	
D19K	**Kuna River**	**64.21 24**	P	**P**	**13 25 23.5 +0.6**	
E19K	**Redstone River**	**64.54 25**	P	**P**	**13 25 25.6 +0.6**	
E19K			IAmb	IAmb	13 25 37.1	
	comp=Z,3.8nm,1.1s					
D20K	**Etivluk River**	**64.76 23**	P	**P**	**13 25 26.9 +0.4**	
D20K			IAmb	IAmb	13 25 33.9	
	comp=Z,2.8nm,1.1s					
D22K	**Ayikyak River**	**66.18 23**	P	**P**	**13 25 36.6 +0.9**	
C23K	**Itkillik River**	**66.83 22**	P	**P**	**13 25 40.4 +0.7**	
KDAK	**Kodiak Island**	**67.51 35**	P	**P**	**13 25 44.3 0.0**	
I23K	**Minto, Yukon-K**	**67.90 27**	P	**P**	**13 25 47.1 +0.5**	
I23K			IAmb	IAmb	13 26 23.0	
	comp=Z,6.1nm,1.5s					
ILAR	**Eielson Array**	**69.00 27**	P	**P**	**13 25 52.9 -0.7**	
	comp=Z,0.2nm,0.5s,baz=253,slow=4.6,SNR=4.4					
	comp=Z,0.2nm,0.5s					
BMAR	**Burnt Mountain**	**69.38 24**	P	**P**	**13 25 57.3 +1.4**	
GLB	**Gilahina Butte**	**71.12 30**	P	**P**	**13 26 07.2 +0.6**	
HFS	**Hagfors**	**78.54 331**	LR	LR	14 05 36.2	
	comp=Z,66nm,18.1s,baz=61,slow=39					
NOA	**NORSAR Array B**	**79.18 333**	LR	LR	14 05 27.0	
	comp=Z,26nm,18.6s,baz=80,slow=38					
POIN	**Pond Inlet**	**82.78 6**	P	**P**	**13 27 12.6 +0.5**	
POIN			IAmb	IAmb	13 27 12.8	
	comp=Z,5.3nm,1.0s					
YKAW3	**Yellowknife Wh**	**82.81 23**	P	**P**	**13 27 12.4 +0.1**	
YKAW3			IAmb	IAmb	13 27 13.9	
	comp=Z,5.1nm,1.4s					
YKA	**Yellowknife Ar**	**82.86 23**	P	**P**	**13 27 12.7 0.0**	
	comp=Z,0.8nm,0.9s,baz=315,slow=5.6,SNR=7.5					
	comp=Z,0.8nm,0.9s					
BORG	**Borgarnes**	**87.45 345**	LR	LR	14 12 30.3	
	comp=Z,27nm,18.0s,baz=349,slow=40					

*NEIC **16** 13:16:49.9±0.7, 35°.666N±0°.006×117°.47W±0°.01, h8km±7km, Error ellipse: s-maj=1.5km s-min=0.7km az=118.0*

PAS 16 13:16:50.2±0.8, 35°.659N±0°.007×117°.474W±0°.007, h4km±3km, ML3.1/20, ML3.0/119(NEIC), Error ellipse: s-maj=1.1km s-min=0.8km az=168.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
WSHM	**Spangler Hills**	**0.06**	**195**	Pg	Pg	13	16	51.8	+0.1
CCCA	**Chr Cany lake**	**0.16**	**146**		Pg	13	16	53.9	+0.5
CCCA				IAML		13	16	58.6	
	comp=E,7μm,0.4s								
CLC	**China Lake**	**0.19**	**327**		Sg	13	16	57.0	+0.6
CLC	**China Lake**	**0.19**	**327**	Pg	Pg	13	16	53.9	0.0
CLC				IAML		13	16	57.0	
	comp=E,5μm,0.8s								
CLC				IAML		13	16	57.0	
	comp=N,4μm,0.3s								
SRTC	**Snort**	**0.23**	**278**		Pg	13	16	55.1	+0.5
LRMC	**Laurel Mtn Rad**	**0.25**	**224**		Sg	13	16	58.9	+0.6
LRMC	**Laurel Mtn Rad**	**0.25**	**224**		Pg	13	16	55.0	0.0
LRMC				IAML		13	16	59.0	
	comp=N,3μm,0.3s								
LRMC				IAML		13	17	00.1	
	comp=E,2μm,0.3s								
TOW	**Tower One**	**0.28**	**302**		Pg	13	16	56.2	+0.5
WNMM	**Nine Mile Cany**	**0.40**	**298**		Pg	13	16	58.0	+0.1
MPMC	**Manual Prospec**	**0.40**	**358

	comp=E,121nm,0.4s							
ELS	**Elsinore Mount**	**2.01**	**179**	Pn	Pn	13 17 23.0	-2.0	
ELS				IAML		13 17 54.5		
	comp=N,68nm,0.6s							
ELS				IAML		13 18 00.7		
	comp=E,69nm,0.7s							
MZP	**Montezuma Peak**	**2.04**	**2**		Pn	13 17 23.4	-2.2	
V12A	**Nelson**	**2.14**	**87**		Pn	13 17 24.8	-2.0	
V12A				IAML		13 17 59.0		
	comp=N,96nm,0.5s							
V12A				IAML		13 18 00.7		
	comp=E,56nm,0.4s							
PFO	**Pinyon Flats O**	**2.21**	**157**	Pn	Pn	13 17 25.8	-2.0	
S11A	**Rachel**	**2.42**	**35**		Pn	13 17 29.0	-1.7	
S11A				IAML		13 18 15.6		
	comp=N,85nm,1.1s							
S11A				IAML		13 18 18.6		
	comp=E,82nm,0.8s							
TPH	**Tonopah**	**2.42**	**5**		Pn	13 17 28.4	-2.4	
NEE2	**Needles Airpor**	**2.50**	**110**	Pn	Pn	13 17 29.9	-1.8	
NEE2				IAML		13 18 12.2		
	comp=E,130nm,0.5s							
BORC	**Borrego Spring**	**2.54**	**160**	Pn	Pn	13 17 30.4	-1.8	
BORC				IAML		13 18 17.0		
	comp=E,59nm,0.9s							
PRN	**Pahroc Range**	**2.62**	**47**	Pn	Pn	13 17 31.5	-1.9	
PRN				IAML		13 18 19.8		
	comp=E,47nm,0.8s							
PRN				IAML		13 18 19.9		
	comp=N,56nm,0.7s							
DPP	**Dos Picos Cty**	**2.69**	**170**		Pn	13 17 32.8	-1.5	
DPP				IAML		13 18 15.2		
	comp=E,68nm,0.9s							
LHV	**Little Huntoon**	**2.72**	**343**	Pn	Pn	13 17 33.5	-1.1	
LHV				IAML		13 18 22.8		
	comp=N,53nm,1.1s							
LHV				IAML		13 18 26.2		
	comp=E,67nm,0.8s							
PMPB	**Monarch Peak**	**2.76**	**283**	Pn	Pn	13 17 34.4	-0.9	
NVAR	**Mina Array Bea**	**2.84**	**347**	Pn	Pn	13 17 36.4	-0.2	
W13A	**Hualapai Mount**	**2.98**	**100**	Pn	Pn	13 17 37.2	-1.3	
W13A				IAML		13 18 28.2		
	comp=E,30nm,0.6s							
W13A				IAML		13 18 28.3		
	comp=N,35nm,1.0s							
BBGB	**Big Mountain B**	**3.03**	**289**		Pn	13 17 37.6	-1.5	
RYN	**Ryan**	**3.08**	**345**		Pn	13 17 39.9	+0.1	
BLYC	**Blythe**	**3.09**	**127**		Pn	13 17 37.3	-2.5	
BLYC				IAML		13 18 31.0		
	comp=N,39nm,0.7s							
BLYC				IAML		13 18 32.1		
	comp=E,30nm,0.6s							
YUH	**Yuha Desert**	**3.27**	**156**		Pn	13 17 39.9	-2.3	
GLA	**Glamis**	**3.40**	**139**		Pn	13 17 41.9	-2.1	
GLA				IAML		13 18 42.8		
	comp=E,50nm,0.7s							
GLA				IAML		13 18 46.2		
	comp=N,36nm,0.9s							
PSUT	**Pine Spring**	**4.08**	**44**		Pn	13 17 52.3	-1.2	
MPK	**Martis Peak**	**4.16**	**332**	IAML		13 19 15.5		
	comp=N,28nm,0.9s							
MPK				IAML		13 19 20.2		
	comp=E,26nm,0.8s							
U15A	**North Rim**	**4.27**	**78**		Pn	13 17 54.4	-1.9	
U15A				IAML		13 19 07.1		
	comp=N,14nm,1.4s							
U15A				IAML		13 19 09.4		
	comp=E,13nm,1.1s							
AFDM	**Forest Hills D**	**4.31**	**321**		Pn	13 17 57.0	+0.5	
AFDM				IAML		13 19 15.6		
	comp=E,10nm,0.7s							
BEKR	**Beckworth**	**4.78**	**332**		Pn	13 18 01.5	-1.7	
BEKR				IAML		13 19 36.2		
	comp=E,8.1nm,0.7s							
WUAZ	**Wupatki**	**4.97**	**90**	Pn	Pn	13 18 04.8	-1.1	
WUAZ				IAML		13 19 31.2		
	comp=E,16nm,0.8s							
ELK	**Elko**	**5.37**	**18**	Pn	Pn	13 18 13.3	+1.9	

NEIC ***16*** *13:17:36.9±1.8, 45˚.36S±0˚.07×167˚.2E±0˚.1, h75km±6km, mb4.3/7, Error ellipse: s-maj=13.8km s-min=10.1km az=104.0*

IDC ***16*** *13:17:36.6±3.1, 45˚.24S×167˚.36E, h86km±31km, mb3.4/6, mbtmp3.8/7, MS3.4/1, Error ellipse: s-maj=26.6km s-min=20.3km az=53.0*

WEL ***16*** *13:17:37.6±0.9, 45˚S±4˚×167˚E±˚, h63km±7km, M4.2/8, ML4.5/8, MLv4.2/8, Error ellipse: s-maj=7.7km s-min=4.7km az=125.0, confirmed*

NOU ***16*** *13:17:37.8, 45˚.36S×167˚.44E, h82km, mb4.5/18, South Island, New Zealand*

ISC 16 13:17:37.0±0.6, 45˚.36S±0˚.04×167˚.27E±0˚.05, h81km±5km, n75, σ1§18/85, mb4.0/7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.13**	**219**		**Pn**	**13 17 47.6**	**-1.0**
DCZ				Sn	**Sn**	**13 17 55.6**	**-1.6**
DCZ	**Deep Cove**	**0.13**	**219**	P	**Pn**	**13 17 47.6**	**-1.0**
DCZ				S	**Sn**	**13 17 55.7**	**-1.6**
TAFS	**Te Anau Fire S**	**0.32**	**100**	P	**Pn**	**13 17 48.1**	**-1.4**
TAFS				S	**Sn**	**13 17 58.3**	**-0.4**
MLZ	**Mavora Lakes**	**0.60**	**91**		**Pn**	**13 17 51.9**	**+0.2**
MLZ				Sn	**Sn**	**13 18 03.4**	**+0.7**
MLZ	**Mavora Lakes**	**0.60**	**91**	P	**Pn**	**13 17 51.9**	**+0.2**
MLZ				S	**Sn**	**13 18 03.3**	**+0.6**
WHZ	**Wether Hill Ro**	**0.71**	**139**		**Pn**	**13 17 52.6**	**-0.2**
WHZ				Sn	**Sn**	**13 18 03.5**	**-1.1**
WHZ	**Wether Hill Ro**	**0.71**	**139**	P	**Pn**	**13 17 52.6**	**-0.2**
WHZ				S	**Sn**	**13 18 04.3**	**-0.3**
MOSS	**Mossburn Schoo**	**0.74**	**115**	P	**Pn**	**13 17 53.5**	**+0.3**
MOSS				S	**Sn**	**13 18 06.4**	**+1.2**
RRKS	**Rarakau**	**0.80**	**170**	P	**Pn**	**13 17 53.6**	**-0.2**
RRKS				S	**Sn**	**13 18 06.4**	**+0.2**
MSZ	**Milford Sound**	**0.83**	**34**	P	**Pn**	**13 17 54.2**	**+0.1**
MSZ				S	**Sn**	**13 18 07.5**	**+0.6**
ORPS	**Orepuki**	**0.99**	**160**	P	**Pn**	**13 17 55.4**	**-0.5**
ORPS				S	**Sn**	**13 18 09.5**	**-0.5**
QTPS	**Queenstown Pol**	**1.04**	**72**	P	**Pn**	**13 17 56.9**	**+0.4**
QTPS				S	**Sn**	**13 18 10.9**	**-0.3**
ICCS	**Invercargill C**	**1.29**	**145**	P	**Pn**	**13 17 57.8**	**-1.8**
WKZ	**Wanaka**	**1.35**	**67**		**Pn**	**13 18 01.0**	**+0.6**
WKZ	**Wanaka**	**1.35**	**67**	P	**Pn**	**13 18 01.2**	**+0.8**
WKZ				S	**Sn**	**13 18 18.7**	**+0.7**
GODC	**Gore District**	**1.38**	**123**	P	**Pn**	**13 17 59.8**	**-1.0**
EAZ	**Earnscleugh**	**1.44**	**86**	P	**Pn**	**13 18 02.2**	**+0.7**
EAZ				S	**Sn**	**13 18 20.1**	**-0.1**
APZ	**The Paps**	**1.55**	**162**	P	**Pn**	**13 18 02.3**	**-0.7**
APZ				S	**Sn**	**13 18 21.9**	**-0.9**
JCZ	**Jackson Bay**	**1.68**	**40**	P	**Pn**	**13 18 04.7**	**-0.1**
JCZ	**Jackson Bay**	**1.68**	**40**	P	**Pn**	**13 18 05.0**	**+0.3**
SYZ	**Scrubby Hill**	**1.75**	**133**	P	**Pn**	**13 18 05.3**	**-0.3**
SYZ	**Scrubby Hill**	**1.75**	**133**	S	**Sn**	**13 18 26.8**	**-0.5**
SYZ	**Scrubby Hill**	**1.75**	**133**	P	**Pn**	**13 18 05.5**	**-0.1**
TUZ	**Tuapeka**	**1.76**	**111**	P	**Pn**	**13 18 05.7**	**+0.1**
LBZ	**Lake Benmore**	**2.29**	**66**		**Pn**	**13 18 12.0**	**-0.8**
ODZ	**Otahua Downs**	**2.41**	**84**		**Pn**	**13 18 13.6**	**-0.6**
ODZ	**Otahua Downs**	**2.41**	**84**	P	**Pn**	**13 18 13.5**	**-0.8**
FOZ	**Fox Glacier**	**2.58**	**46**		**Pn**	**13 18 16.2**	**-0.5**
RPZ	**Rata Peaks**	**3.17**	**60**		**Pn**	**13 18 23.1**	**-1.5**
RPZ	**Rata Peaks**	**3.17**	**60**	P	**Pn**	**13 18 22.6**	**-1.9**
	84nm,0.3s,baz=258,slow=4.7,SNR=162						
RPZ				S	**Sn**	**13 18 58.9**	**-2.3**
	164nm,0.5s,baz=230,slow=11,SNR=4.8						
RPZ	**Rata Peaks**	**3.17**	**60**	P	**Pn**	**13 18 23.1**	**-1.5**
RPZ	**Rata Peaks**	**3.17**	**60**	S	**Sn**	**13 18 59.9**	**-1.4**
MQZ	**McQueen's Vall**	**4.19**	**69**	Pn	**Pn**	**13 18 36.3**	**-2.1**
GVZ	**Greta Valley S**	**4.79**	**62**	Pn	**Pn**	**13 18 44.5**	**-2.2**
KHZ	**Kahutara**	**5.40**	**59**	P	**Pn**	**13 18 53.9**	**-1.0**
THZ	**Tophouse**	**5.45**	**51**	Pn	**Pn**	**13 18 53.2**	**-2.4**
QRZ	**Quartz Range**	**5.95**	**42**	Pn	**Pn**	**13 19 01.4**	**-1.0**
QRZ	**Quartz Range**	**5.95**	**42**	P	**Pn**	**13 19 02.1**	**-0.3**
TKNZ	**Takaka Hill**	**6.00**	**46**		**Pn**	**13 19 02.1**	**-1.1**
TCW	**Tory Channel**	**6.58**	**53**	Pn	**Pn**	**13 19 11.5**	**+0.4**
SNZO	**South Karori**	**6.76**	**56**	P	**Pn**	**13 19 14.0**	**+0.5**
MRZ	**Mangatainoka R**	**7.69**	**55**	Pn	**Pn**	**13 19 25.7**	**-0.4**
KHEZ	**Kahui Hut**	**7.85**	**42**	P	**Pn**	**13 19 28.2**	**-0.3**
HIZ	**Hauiti**	**8.87**	**42**	P	**Pn**	**13 19 41.8**	**-0.5**
OUZ	**Omahuta**	**11.22**	**28**	P	**Pn**	**13 20 14.6**	**+0.3**
TAU	**Tasmania Unive**	**14.54**	**273**	P	**Pn**	**13 21 01.3**	**+2.9**
GLAD	**Gladstone**	**14.71**	**280**	P	**Pn**	**13 21 01.8**	**+1.0**
MOO	**Moorlands**	**14.77**	**274**	P	**Pn**	**13 21 04.0**	**+2.6**
CORO	**Coronation Par**	**15.14**	**278**	P	**Pn**	**13 21 08.7**	**+2.6**
CNB	**Canberra Magne**	**16.91**	**300**	P	**P**	**13 21 30.3**	**+1.1**
CAN	**Canberra**	**17.13**	**299**		**P**	**13 21 33.0**	**+1.3**
CAN				IAmb	IAmb	13 22 10.9	
	comp=E,31nm,1.3s						
CAN	**Canberra**	**17.13**	**299**	P	**P**	**13 21 32.9**	**+1.3**
STKA	**Stephens Creek**	**24.04**	**295**	P	**P**	**13 22 43.5**	**-0.9**
	comp=Z,2.2nm,0.9s,baz=122,slow=15,SNR=2.9						
	comp=Z,2.2nm,0.9s						
VNDA	**Vanda**	**32.34**	**182**	LR	LR	13 36 38.9	
	comp=Z,62nm,18.0s,baz=304,slow=35						
ASAR	**Alice Springs**	**34.62**	**297**	P	**P**	**13 24 17.5**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=138,slow=5.5,SNR=5.4						
ASAR				PcP	**PcP**	**13 26 49.2**	**-1.9**
	comp=Z,0.4nm,0.8s,baz=139,slow=4.1,SNR=4.6						
	comp=Z,0.4nm,0.7s						
WRA	**Warramunga Arr**	**37.14**	**302**	P	**P**	**13 24 38.2**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=133,slow=7.9,SNR=5.0						
	comp=Z,0.4nm,0.5s						
H01W1	**Cape Leeuwin H**	**41.27**	**266**	T	T	14 08 56.4	
	baz=120,slow=75,SNR=183						
H01W2	**Cape Leeuwin H**	**41.28**	**265**	T	T	14 08 56.4	
	baz=120,slow=75,SNR=189						
H01W3	**Cape Leeuwin H**	**41.28**	**266**	T	T	14 08 53.3	
	baz=120,slow=75,SNR=166						
KNRA	**Kununurra**	**43.79**	**300**	P	**P**	**13 25 34.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**43.93**	**294**	P	**P**	**13 25 35.6**	**-0.3**
QSPA	**South Pole Qui**	**44.76**	**180**	P	**P**	**13 25 43.0**	**+0.9**
QSPA				IAmb	IAmb	13 26 26.3	
	comp=Z,5.0nm,1.4s						
QSPA	**South Pole Qui**	**44.76**	**180**	P	**P**	**13 25 43.1**	**+1.0**
	comp=Z,1.7nm,0.9s,baz=334,slow=2.4,SNR=6.9						
	comp=Z,1.7nm,0.9s						
SMAI	**San Martin Ant**	**59.76**	**159**	P	**P**	**13 27 34.1**	**+1.3**
SMAI				IAmb	IAmb	13 27 46.8	
	comp=Z,3.5nm,1.1s						
SNAA	**Sanae**	**63.06**	**183**	P	**P**	**13 27 54.9**	**-0.3**
SNAA				IAmb	IAmb	13 28 03.6	
	comp=Z,4.5nm,1.3s						
SNAA	**Sanae**	**63.06**	**183**	P	**P**	**13 27 54.0**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=209,slow=12,SNR=8.0						
	comp=Z,0.4nm,0.4s						
MG05	**Puerto Natales**	**70.49**	**145**	P	**P**	**13 28 44.7**	**+2.2**
H08S2	**Diego Garcia H**	**87.97**	**261**	T	T	15 07 12.9	
	baz=135,slow=76,SNR=220						
H08S1	**Diego Garcia H**	**87.98**	**261**	T	T	15 07 13.9	
	baz=135,slow=76,SNR=213						
H08S3	**Diego Garcia H**	**87.98**	**261**	T	T	15 07 14.3	
	baz=135,slow=76,SNR=230						
CMAR	**Chiang Mai Arr**	**88.63**	**298**	P	**P**	**13 30 21.2**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=160,slow=2.6,SNR=5.5						
	comp=Z,0.6nm,0.6s						
BRTR	**Keskin Array B**	**145.75**	**277**	PKPbc	**PKPdf**	**13 37 05.2**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=142,slow=4.5,SNR=9.5						
ARCES	**ARCESS Array B**	**149.16**	**335**	PKPbc	**PKPbc**	**13 37 13.1**	**-1.6**
	comp=Z,1.4nm,0.7s,baz=51,slow=1.9,SNR=5.4						
AKASG	**Malin Array Be**	**151.73**	**296**	PKPbc	**PKPbc**	**13 37 19.6**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=80,slow=2.5,SNR=7.6						
FINES	**FINESS Array B**	**152.37**	**320**	PKPbc	**PKPbc**	**13 37 20.9**	**-1.5**
	comp=Z,1.8nm,0.7s,baz=96,slow=3.8,SNR=6.6						

NEIC ***16*** *13:24:10.9±1.1, 4˚.5S±0˚.1×151˚.7E±0˚.2, h132km±8km, mb4.4/17, Error ellipse: s-maj=29.7km s-min=13.1km az=127.0*

IDC ***16*** *13:24:23.2±6.5, 4˚.49S×151˚.30E, h244km±58km, mb3.4/8, mbtmp4.0/9, Error ellipse: s-maj=41.9km s-min=17.5km az=82.0*

ISC 16 13:24:11.7±0.8, 4˚4S±0˚.1×151˚7E±0˚.2, h150km, n29, σ1§29/29, mb4.2/16, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.54**	**66**		**Pn**	**13 24 30.0**	**-3.3**
JAY	**Jayapura**	**11.11**	**279**	P	P	13 26 51.4	-3.4
	15nm,0.9s,baz=107,slow=19,SNR=1.8						
COEN	**Coen**	**12.66**	**221**	P	**P**	**13 27 12.4**	**+0.5**
BOXOZ	**Borroloola**	**19.02**	**231**	Pn	**Pn**	**13 28 24.7**	**+0.1**
MTN	**Manton Dam**	**21.95**	**246**	P	**P**	**13 28 53.7**	**+0.1**
MTN				IAmb	IAmb	13 29 36.9	
	comp=Z,36nm,1.3s						
WB0	**Warramunga Arr**	**22.73**	**226**	P	**P**	**13 29 01.4**	**+0.3**
WB0				IAmb	IAmb	13 29 02.0	
	comp=Z,7.2nm,0.8s						
WR8	**Warramunga Arr**	**22.77**	**226**		**P**	**13 29 02.0**	**+0.5**
WR8				IAmb	IAmb	13 29 02.7	
	comp=Z,16nm,0.6s						
WRAB	**Tennant Creek**	**22.87**	**226**	P	**P**	**13 29 02.7**	**+0.4**
WRA	**Warramunga Arr**	**22.88**	**226**	P	**P**	**13 29 02.9**	**+0.4**
	comp=Z,16nm,0.6s,baz=48,slow=9.2,SNR=247						
	comp=Z,16nm,0.6s						
KNRA	**Kununurra**	**25.15**	**242**	P	**P**	**13 29 22.1**	**-1.0**
AS31	**Alice Springs**	**25.70**	**220**		**P**	**13 29 28.5**	**+0.4**
AS31				IAmb	IAmb	13 29 30.0	
	comp=Z,4.1nm,0.2s						
ASAR	**Alice Springs**	**25.70**	**220**	P	**P**	**13 29 27.9**	**-0.2**
ASAR	**Alice Springs**	**25.70**	**220**	P	**P**	**13 29 28.1**	**0.0**
	comp=Z,2.4nm,0.4s,baz=48,slow=8.8,SNR=158						
ASAR				PcP	**PcP**	**13 32 53.0**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=29,slow=2.1,SNR=4.3						
	comp=Z,2.4nm,0.4s						
STKA	**Stephens Creek**	**28.91**	**198**	P	**P**	**13 29 58.3**	**+1.6**
	comp=Z,1.7nm,0.7s,baz=25,slow=15,SNR=3.4						
	comp=Z,1.7nm,0.7s						
FORT	**Forrest**	**34.39**	**218**	P	**P**	**13 30 44.5**	**-0.2**
FORT				IAmb	IAmb	13 30 45.1	
	comp=Z,3.4nm,0.6s						
MBWA	**Marble Bar**	**35.20**	**239**	P	**P**	**13 30 49.7**	**-2.0**
PSA00	**Pilbara Seismi**	**35.27**	**238**	P	**P**	**13 30 50.5**	**-1.8**
GIRL	**Giralia**	**40.48**	**240**	P	**P**	**13 31 34.8**	**-1.2**
MORW	**Morawa**	**41.72**	**230**	P	**P**	**13 31 44.1**	**-2.0**
MORW				IAmb	IAmb	13 32 12.8	
	comp=Z,16nm,1.4s						
CMAR	**Chiang Mai Arr**	**56.69**	**295**	P	**P**	**13 33 40.1**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=118,slow=5.5,SNR=8.2						
	comp=Z,1.2nm,0.8s						
SONM	**Songino Array**	**65.40**	**328**	P	**P**	**13 34 39.4**	**+1.1**
SONM	**Songino Array**	**65.40**	**328**	P	**P**	**13 34 39.1**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=149,slow=5.1,SNR=4.2						
	comp=Z,0.7nm,0.5s						
CASY	**Casey**	**68.06**	**197**	P	**P**	**13 34 54.4**	**-0.3**
CASY				IAmb	IAmb	13 35 36.4	
	comp=Z,5.6nm,1.2s						
VNDA	**Vanda**	**73.26**	**178**	P	**P**	**13 35 27.1**	**+1.1**
VNDA	**Vanda**	**73.26**	**178**	P	**P**	**13 35 27.7**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=335,slow=6.8,SNR=8.1						
	comp=Z,0.7nm,0.6s						
GHO	**Glory Hole Cre**	**79.97**	**25**	P	**P**	**13 36 05.8**	**+1.8**
GHO				IAmb	IAmb	13 36 43.5	
	comp=Z,15nm,1.5s						
ILAR	**Eielson Array**	**82.22**	**22**	P	**P**	**13 36 17.5**	**+1.7**
	comp=Z,0.1nm,0.6s,baz=255,slow=4.8,SNR=2.2						
	comp=Z,0.1nm,0.6s						
QSPA	**South Pole Qui**	**85.55**	**180**	P	**P**	**13 36 33.4**	**+0.6**
QSPA				IAmb	IAmb	13 36 55.9	
	comp=Z,4.1nm,1.4s						
QSPA	**South Pole Qui**	**85.55**	**180**	P	**P**	**13 36 32.8**	**0.0**
	comp=Z,0.5nm,0.5s,baz=340,slow=0.5,SNR=6.5						
	comp=Z,0.5nm,0.5s						

IDC ***16*** *13:31:52.1±1.5, 36˚.39N×8˚.03W, h0km, mb3.7/7, mbtmp3.8/8, ML4.6/2, MS3.1/7, Error ellipse: s-maj=32.0km s-min=31.5km az=90.0*

CNRM ***16*** *13:31:55.8, 36˚.28N×8˚.10W, h58km, ML4.1*

SFS ***16*** *13:31:57.7, 36˚.37N×8˚.02W, h42km, mb4.9/6, mB5.2/4, ML4.4/23, ML4.6/33, MLv4.2/33, Mw(mB)4.6/4*

MDD ***16*** *13:31:58.0±0.3, 36˚.40N×8˚.00W, h31km, mb_Lg4.2/64, Error ellipse: s-maj=2.6km s-min=2.0km az=46.0*

IGIL ***16*** *13:31:58.1, 36˚.37N×8˚.01W, h34km, ML4.1*

INMG ***16*** *13:31:58.5±1.6, 36˚.38N×8˚.01W, h34km, ML3.9, Error ellipse: s-maj=2.7km s-min=1.8km az=63.0, #DIST_RANGE: LOCAL #IPMA_REGION: S Faro #FELT: II/III (MM56) at Albufeira (Faro)*

ISC 16 13:31:56.1±0.7, 36˚.39N±0˚.03×7˚.99W±0˚.03, h29km, n202, σ2§15/303, mb3.8/6, MS3.5/5, 9C-9D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFARO	**Faro**	**0.64**	**5**	*eP*	**Pb**	**13 32 10.1**	**+1.4**
PFARO				*eS*	**Sb**	**13 32 19.0**	**+1.6**
PFARO				*i* IAML		13 32 24.1	
PFARO				*i* IAML		13 32 25.7	
PALBU	**Albufeira**	**0.74**	**344**	*eP*	**Pb**	**13 32 11.2**	**+0.9**
PALBU				*eS*	**Sb**	**13 32 21.4**	**+1.3**
PALBU				*i* IAML		13 32 21.4	
PALBU				*i* IAML		13 32 21.7	
PALBU				*i* IAML		13 32 22.3	
PTAV	**Tavira**	**0.78**	**20**	*eP*	**Pn**	**13 32 12.4**	**+1.3**
PTAV				*eS*	**Sb**	**13 32 22.5**	**+1.1**
PTAV				*i* IAML		13 32 23.6	
PBDV	**Barranco-do-Ve**	**0.85**	**3§**	*eP*	**Pn**	**13 32 13.0**	**+0.8**
PBDV				*eS*	**Sb**	**13 32 23.9**	**+0.4**
PBDV				*i* IAML		13 32 24.3	
PBDV				*i* IAML		13 32 26.1	
PBDV				*i* IAML		13 32 28.6	
PPOR	**Portimao**	**0.86**	**330**	*eP*	**Pn**	**13 32 13.2**	**+1.0**
PPOR				*eS*	**Sb**	**13 32 24.1**	**+0.4**
PPOR				*i* IAML		13 32 24.2	
PLAGO	**Lagos**	**0.90**	**322**	*eP*	**Pn**	**13 32 13.7**	**+0.9**
PLAGO				*eS*	**Sb**	**13 32 25.4**	**+0.6**
PLAGO				*i* IAML		13 32 25.5	
PLAGO				*i* IAML		13 32 26.1	
PLAGO				*i* IAML		13 32 27.6	
PFVI	**Vila Bisbo**	**1.00**	**318**	Pn	**Pn**	**13 32 14.5**	**+0.4**
PFVI				Sn	**Sn**	**13 32 26.7**	**-0.6**
PFVI	**Vila Bisbo**	**1.00**	**318§**	*eP*	**Pn**	**13 32 14.6**	**+0.4**
PFVI				*eS*	**Sn**	**13 32 27.0**	**-0.4**
PFVI				*i* IAML		13 32 28.4	
PFVI				*i* IAML		13 32 31.9	
PFVI				*i* IAML		13 32 37.2	
PFVI	**Vila Bisbo**	**1.00**	**318**	P	**Pn**	**13 32 14.6**	**+0.4**
PFVI	**Vila Bisbo**	**1.00**	**318**	S	**Sn**	**13 32 21.6**	**-5.7**
PSVI	**Cabo S. Vicent**	**1.03**	**308**	*eP*	**Pn**	**13 32 14.5**	**0.0**
PSVI				*eS*	**Sn**	**13 32 27.1**	**-0.8**
PSVI				*i* IAML		13 32 37.8	
PSVI				*i* IAML		13 32 38.2	
PSVI				*i* IAML		13 32 41.1	
PVAQ	**Vaqueiros**	**1.04**	**12**	Pn	**Pn**	**13 32 15.4**	**+0.8**
PVAQ	**Vaqueiros**	**1.04**	**12§**	*eP*	**Pn**	**13 32 15.5**	**+0.8**
PVAQ				*i* IAML		13 32 28.4	
PVAQ				*eS*	**Sn**	**13 32 28.4**	**+0.2**
PVAQ				*i* IAML		13 32 29.5	
PVAQ				*i* IAML		13 32 44.4	
PVAQ	**Vaqueiros**	**1.04**	**12**	P	**Pn**	**13 32 15.6**	**+0.9**
PVAQ	**Vaqueiros**	**1.04**	**12**	S	**Sn**	**13 32 29.5**	**+1.3**
MORF	**Marmelete**	**1.06**	**330**	*eP*	**Pn**	**13 32 15.5**	**+0.5**
MORF				*eS*	**Sn**	**13 32 28.4**	**-0.4**
MORF				IAML		13 32 31.0	
	comp=N,3µm,0.4s						
MORF	**Marmelete**	**1.06**	**330§**	*eP*	**Pn**	**13 32 15.5**	**+0.5**
MORF				*eS*	**Sn**	**13 32 28.5**	**-0.3**
MORF				*i* IAML		13 32 29.7	
MORF				*i* IAML		13 32 30.1	
MORF				*i* IAML		13 32 31.1	
PALJ	**Aljezur**	**1.13**	**325**	*eP*	**Pn**	**13 32 17.0**	**+1.0**
PALJ				*eS*	**Sn**	**13 32 30.6**	**0.0**
PALJ				*i* IAML		13 32 32.0	
PALJ				*i* IAML		13 32 46.7	
EGRO	**El Granado**	**1.21**	**19**	Pn	**Pn**	**13 32 18.0**	**+1.0**
EGRO				Sn	**Sn**	**13 32 32.5**	**0.0**
EGRO	**El Granado**	**1.21**	**19 ⇑**	P	**Pn**	**13 32 18.0**	**+1.0**
EGRO				S	**Sn**	**13 32 32.5**	**0.0**
EGRO				*i* IVmb_Lg		13 32 34.0	
ARNO	**Arenosillo**	**1.23**	**55**	Pn	**Pn**	**13 32 18.6**	**+1.3**
ARNO				Sn	**Sn**	**13 32 33.6**	**+0.5**
PCVE	**Castro Verde**	**1.24**	**358**	Pn	**Pn**	**13 32 18.4**	**+1.0**
PCVE				Sn	**Sn**	**13 32 32.9**	**-0.4**
PCVE	**Castro Verde**	**1.24**	**358**	*eP*	**Pn**	**13 32 18.5**	**+1.0**
PCVE				*eS*	**Sn**	**13 32 33.0**	**-0.3**
PCVE				*i* IAML		13 32 33.9	
PCVE				*i* IAML		13 32 33.9	
PCVE				*i* IAML		13 32 34.6	
PTEO	**Sao Teotonio**	**1.30**	**333§**	*eP*	**Pn**	**13 32 19.0**	**+0.8**
PTEO				*eS*	**Sn**	**13 32 34.6**	**0.0**
PTEO				*i* IAML		13 32 35.8	
PTEO				*i* IAML		13 32 35.9	
PTEO				*i* IAML		13 32 47.6	
SFS	**San Fernando**	**1.44**	**86**	Pn	**Pn**	**13 32 21.9**	**+1.7**
SFS				Sn	**Sn**	**13 32 39.0**	**+0.9**
MESJ	**Messejana**	**1.46**	**353**	*eP*	**Pn**	**13 32 21.3**	**+0.8**
MESJ				*eS*	**Sn**	**13 32 38.2**	**-0.5**
MESJ				IAML		13 32 39.2	
	comp=N,1µm,0.2s						
MESJ	**Messejana**	**1.46**	**353**	*eP*	**Pn**	**13 32 21.4**	**+0.9**
MESJ				*eS*	**Sn**	**13 32 38.5**	**-0.1**
MESJ				*

LIS					*i* IAML			13 33 08.1	
CHEFC	**Chefchaouen**	**2.50**	**120**		P		**Pn**	**13 32 36.0**	**+1.0**
CHEFC	**Chefchaouen**	**2.50**	**120**		S		**Sn**	**13 33 05.7**	**+1.2**
INMG	**Instituto de M**	**2.55**	**340**		*e*S		**Sn**	**13 33 06.4**	**+0.9**
INMG					*i* IAML			13 33 07.2	
INMG					*i* IAML			13 33 07.6	
PARRA	**Arraiolos**	**2.56**	**341**		*e*P		**Pn**	**13 32 34.5**	**-1.2**
PARRA					*e*S		**Sn**	**13 33 01.4**	**-4.4**
PARRA					*i* IAML			13 33 04.1	
PARRA					*i* IAML			13 33 04.1	
PARRA					*i* IAML			13 33 04.2	
RTC	**Rabat Centre**	**2.57**	**158**		Sn		**Sn**	**13 33 03.7**	**-2.2**
RTC	**Rabat Centre**	**2.57**	**158**		P		**Pn**	**13 32 35.2**	**-0.5**
RTC	**Rabat Centre**	**2.57**	**158**		S		**Sn**	**13 33 04.4**	**-1.6**
EMIJ	**Mijas**	**2.60**	**85**		Sn		**Sn**	**13 33 06.4**	**-0.4**
EMIJ					Pn		**Pn**	**13 32 36.6**	**+0.5**
EMIJ	**Mijas**	**2.60**	**85**		P		**Pn**	**13 32 36.9**	**+0.7**
EMIJ					S		**Sn**	**13 33 05.0**	**-1.8**
EMIJ					*i* IVmb_Lg			13 33 10.9	
PVERD	**Verdizela**	**2.62**	**336**	⇓	*e*S		Sn	13 32 36.0	-31
PVERD					*i* IAML			13 32 39.5	
PVERD					*i* IAML			13 32 40.6	
ECAB	**El Cabril**	**2.66**	**50**		Sn		**Sn**	**13 33 08.2**	**0.0**
ECAB					Pn		**Pn**	**13 32 37.4**	**+0.4**
ECAB	**El Cabril**	**2.66**	**50**		P		**Pn**	**13 32 37.4**	**+0.4**
ECAB					S		**Sn**	**13 33 05.4**	**-2.8**
ECAB					*i* IVmb_Lg			13 33 10.1	
PMTG	**Montargil**	**2.68**	**356**	⇑	*e*P		**Pn**	**13 32 38.1**	**+0.8**
PMTG					*e*S		**Sn**	**13 33 08.0**	**-0.8**
PMTG					*i* IAML			13 33 09.3	
PMTG					*i* IAML			13 33 09.7	
PMTG					*i* IAML			13 33 09.7	
PMAFR	**Mafra**	**2.76**	**339**		Sn		**Sn**	**13 33 03.7**	**0.0**
PMAFR					Pn		**Pn**	**13 32 39.4**	**+1.0**
PMAFR	**Mafra**	**2.76**	**339**		*e*P		**Pn**	**13 32 39.4**	**+1.0**
PMAFR					*e*S		**Sn**	**13 33 09.8**	**-1.0**
PMAFR					*i* IAML			13 33 11.2	
PMAFR					*i* IAML			13 33 11.4	
PMAFR					*i* IAML			13 33 12.3	
EMAL	**Malaga-Limoner**	**2.89**	**82**		Pn		**Pn**	**13 32 41.8**	**+1.7**
EMAL					Sn		**Sn**	**13 33 13.2**	**-0.7**
PMRV	**Marv??o**	**3.07**	**9**	⇓	*e*P		**Pn**	**13 32 43.5**	**+0.8**
PMRV					*e*S		**Sn**	**13 33 16.8**	**-1.7**
PMRV					*i* IAML			13 33 19.1	
PMRV					*i* IAML			13 33 19.5	
PMRV					*i* IAML			13 33 19.6	
AVE	**Averroes**	**3.12**	**171**		Pn		**Pn**	**13 32 44.0**	**+0.7**
AVE					Sn		**Sn**	**13 33 17.5**	**-2.0**
AVE	**Averroes**	**3.12**	**171**		P		**Pn**	**13 32 43.8**	**+0.5**
AVE	**Averroes**	**3.12**	**171**		S		**Sn**	**13 33 16.8**	**-2.8**
SICH	**Sidi Chahed**	**3.16**	**135**		P		**Pn**	**13 32 44.2**	**+0.3**
SICH	**Sidi Chahed**	**3.16**	**135**		S		**Sn**	**13 33 20.1**	**-0.5**
PSBE	**So Bento**	**3.19**	**349**		*e*P		**Pn**	**13 32 45.4**	**+1.1**
PSBE					*e*S		**Sn**	**13 33 19.6**	**-1.6**
PSBE					*i* IAML			13 33 21.3	
PSBE					*i* IAML			13 33 21.9	
PSBE					*i* IAML			13 33 22.3	
EGOR	**Sierra Gorda,**	**3.20**	**76**		Sn		**Sn**	**13 33 20.8**	**-0.9**
EGOR					Pn		**Pn**	**13 32 46.4**	**+1.9**
EGOR	**Sierra Gorda,**	**3.20**	**76**		P		**Pn**	**13 32 46.4**	**+1.9**
EGOR					S		**Sn**	**13 33 20.9**	**-0.8**
EGOR					*i* IVmb_Lg			13 33 29.1	
PSARD	**Sardoal**	**3.21**	**358**	⇑	*i*P		**Pn**	**13 32 45.5**	**+0.9**
PSARD					*e*S		**Sn**	**13 33 20.1**	**-1.8**
PSARD					*i* IAML			13 33 22.1	
PSARD					*i* IAML			13 33 22.2	
PSARD					*i* IAML			13 33 22.3	
EADA	**Adamuz**	**3.25**	**56**		Sn		**Sn**	**13 33 20.3**	**-2.5**
EADA					Pn		**Pn**	**13 32 45.9**	**+0.8**
EADA	**Adamuz**	**3.25**	**56**		P		**Pn**	**13 32 46.1**	**+1.0**
EADA					S		**Sn**	**13 33 20.8**	**-2.1**
EADA					*i* IVmb_Lg			13 33 23.3	
PCBR	**Castelo Branco**	**3.47**	**7**		*e*P		**Pn**	**13 32 49.0**	**+0.9**
PCBR					*e*S		**Sn**	**13 33 26.7**	**-1.5**
PCBR					*i* IAML			13 33 27.9	
PCBR					*i* IAML			13 33 28.4	
PCBR					*i* IAML			13 33 28.8	
PALE	**Palemas**	**3.49**	**108**		P		**Pn**	**13 32 49.0**	**+0.5**
ELGU	**Los Guajares,**	**3.54**	**81**		Sn		**Sn**	**13 33 30.0**	**-0.2**
ELGU					Pn		**Pn**	**13 32 49.7**	**+0.5**
ELGU	**Los Guajares,**	**3.54**	**81**		P		**Pn**	**13 32 49.7**	**+0.5**
ELGU					S		**Sn**	**13 33 29.8**	**-0.3**
ELGU					*i* IVmb_Lg			13 33 36.0	
PCAS	**Casmilo, Conde**	**3.68**	**354**	⇑	*e*P		**Pn**	**13 32 51.9**	**+0.9**
PCAS					*e*S		**Sn**	**13 33 31.7**	**-1.8**
PCAS					*i* IAML			13 33 32.8	
PCAS					*i* IAML			13 33 34.2	
PCAS					*i* IAML			13 33 36.7	
LCRM	**LCR**	**3.72**	**135**		P		**Pn**	**13 32 51.4**	**-0.4**
LCRM	**LCR**	**3.72**	**135**		S		**Sn**	**13 33 36.0**	**+1.2**
EQTA	**Presa de Quent**	**3.74**	**76**		Sn		**Sn**	**13 33 34.5**	**-0.6**
EQTA					Pn		**Pn**	**13 32 53.7**	**+1.8**
EQUE	**Quentar**	**3.74**	**76**		P		**Pn**	**13 32 53.9**	**+1.9**
EQUE					S		**Sn**	**13 33 32.3**	**-2.8**
EQUE					*i* IVmb_Lg			13 33 39.7	
COI	**Coimbra**	**3.83**	**355**		*e*P		**Pn**	**13 32 53.6**	**+0.5**
COI					*e*S		**Sn**	**13 33 34.8**	**-2.3**
COI					*i* IAML			13 33 35.9	
COI					*i* IAML			13 33 36.7	
COI					*i* IAML			13 33 36.7	
AKLM	**AKL**	**3.85**	**118**		P		**Pn**	**13 32 54.5**	**+1.0**
AKLM	**AKL**	**3.85**	**118**		S		**Sn**	**13 33 35.0**	**-2.8**
E0803	**Jimena (Jaen)**	**3.89**	**67**		P		**Pn**	**13 32 54.7**	**+0.8**
E0803					S		**Sn**	**13 33 36.1**	**-2.5**
SRHM	**Skhour des Reh**	**3.91**	**179**		P		**Pn**	**13 32 54.7**	**+0.5**
SRHM	**Skhour des Reh**	**3.91**	**179**		S		**Sn**	**13 33 37.2**	**-2.0**
EPLA	**Plasencia**	**3.97**	**22**		P		**Pn**	**13 32 55.6**	**+0.6**
EPLA					S		**Sn**	**13 33 37.6**	**-2.9**
EPLA					*i* IVmb_Lg			13 33 41.5	
MTE	**Manteigas**	**4.02**	**5**		*e*P		**Pn**	**13 32 56.5**	**+0.7**
MTE					*e*S		**Sn**	**13 33 39.8**	**-2.2**
MTE					*i* IAML			13 33 41.2	
MTE					*i* IAML			13 33 41.6	
MTE					*i* IAML			13 33 42.0	
E0802	**Ubeda,Jaen**	**4.03**	**65**		P		**Pn**	**13 32 57.8**	**+2.0**
E0802					S		**Sn**	**13 33 40.4**	**-1.8**
EALB	**Alboran**	**4.03**	**95**		Sn		**Sn**	**13 33 37.9**	**-4.2**
EALB					Pn		**Pn**	**13 32 55.0**	**-0.9**
EALB	**Alboran**	**4.03**	**95**		P		**Pn**	**13 32 55.5**	**-0.3**
EALB					S		**Sn**	**13 33 43.1**	**-3.9**
EALB					*i* IVmb_Lg			13 33 43.4	
CZD	**Col de Zad**	**4.13**	**143**		P		**Pn**	**13 32 57.5**	**-0.1**
CZD	**Col de Zad**	**4.13**	**143**		S		**Sn**	**13 33 42.7**	**-2.4**
PSIM	**Granatula de C**	**4.15**	**53**	⇑	P		**Pn**	**13 32 58.3**	**+0.9**
PSIM					S		**Sn**	**13 33 41.4**	**-3.6**
EQES	**Quesada**	**4.18**	**69**		P		**Pn**	**13 32 58.6**	**+0.7**
EQES					S		**Sn**	**13 33 43.5**	**-2.3**
EQES					*i* IVmb_Lg			13 33 49.6	
GOG	**Mont Gurugu**	**4.22**	**105**		P		**Pn**	**13 32 58.7**	**+0.2**
GOG	**Mont Gurugu**	**4.22**	**105**		S		**Sn**	**13 33 44.7**	**-2.2**
WMELI	**Melilla**	**4.23**	**103**		Pn		**Pn**	**13 32 57.8**	**-0.7**
WMELI					Sn		**Sn**	**13 33 43.3**	**-3.6**
EMLI	**Melilla**	**4.24**	**103**		Sn		**Sn**	**13 33 43.6**	**-3.4**
PVIS	**Viseu**	**4.32**	**1**		*e*P		**Pn**	**13 33 00.7**	**+0.8**
PVIS					*e*S		**Sn**	**13 33 46.6**	**-2.7**
MD31	**MD31**	**4.41**	**142**		P		**Pn**	**13 33 00.9**	**-0.2**
MD31	**MD31**	**4.41**	**142**		S		**Sn**	**13 33 48.6**	**-2.9**
MDT	**Midelt**	**4.53**	**141**		Pn		**Pn**	**13 33 02.8**	**0.0**
	comp=E,104nm,0.3s,baz=332,slow=11,SNR=496								
MDT					Sn		**Sn**	**13 33 50.5**	**-3.9**
	comp=E,42nm,0.3s,baz=30,slow=23,SNR=22								
MDT	**Midelt**	**4.53**	**141**		P		**Pn**	**13 33 02.8**	**0.0**
MDT	**Midelt**	**4.53**	**141**		S		**Sn**	**13 33 52.4**	**-2.1**
ESDC	**Sonseca Array**	**4.57**	**43**		P		**Pn**	**13 33 04.0**	**+0.7**
ESDC					S		**Sn**	**13 33 50.5**	**-4.9**
ESDC					*i* IVmb_Lg			13 33 53.4	
ESDC	**Sonseca Array**	**4.57**	**43**		Pn		**Pn**	**13 33 03.9**	**+0.7**
	comp=E,8.2nm,0.3s,baz=227,slow=13,SNR=432								
ESDC					Sn		**Sn**	**13 33 51.9**	**-3.5**
	comp=E,22nm,0.3s,baz=228,slow=23,SNR=27								
ESDC					LR		LR	13 35 06.2	
	comp=E,88nm,18.7s,baz=184,slow=42								
	comp=E,77nm,0.7s								
ENIJ	**Nijar**	**4.68**	**81**		Sn		**Sn**	**13 33 54.6**	**-3.7**
ENIJ					Pn		**Pn**	**13 33 05.0**	**+0.2**
ENIJ	**Nijar**	**4.68**	**81**		P		**Pn**	**13 33 05.7**	**+0.9**
ENIJ					S		**Sn**	**13 33 55.4**	**-2.8**
ENIJ					*i* IVmb_Lg			13 34 01.0	
PTO	**Porto**	**4.77**	**354**		*e*P		**Pn**	**13 33 06.5**	**+0.5**
PTO					*e*S		**Sn**	**13 33 57.1**	**-3.1**
PTO					*i* IAML			13 33 58.6	
PTO					*i* IAML			13 33 59.6	
PTO					*i* IAML			13 33 59.6	
TAF	**Taforalt**	**4.81**	**107**		P		**Pn**	**13 33 06.4**	**-0.2**
TAF	**Taforalt**	**4.81**	**107**		S		**Sn**	**13 34 00.6**	**-0.7**
MVO	**Moncorvo**	**4.83**	**9**		*e*P		**Pn**	**13 33 07.4**	**+0.5**
MVO					*e*S		**Sn**	**13 33 58.5**	**-3.3**
MVO					*i* IAML			13 34 01.0	
MVO					*i* IAML			13 34 02.1	
MVO					*i* IAML			13 34 02.1	
JBK	**JBK**	**4.88**	**113**		P		**Pn**	**13 33 07.1**	**-0.6**
JBK	**JBK**	**4.88**	**113**		S		**Sn**	**13 34 00.6**	**-2.8**
PVRL	**Vila Real**	**4.89**	**2**	⇓	*i*P		**Pn**	**13 33 08.2**	**+0.6**
PVRL					*e*S		**Sn**	**13 34 00.2**	**-3.0**
PVRL					*i* IAML			13 34 02.5	
PVRL					*i* IAML			13 34 03.3	
PVRL					*i* IAML			13 34 03.4	
EJUZ	**Juzbado, Salam**	**4.97**	**19**		P		**Pn**	**13 33 09.2**	**+0.4**
EJUZ					S		**Sn**	**13 34 02.3**	**-3.0**
POLO	**Lamas de Olo**	**4.98**	**2**	⇓	*i*P		**Pn**	**13 33 09.6**	**+0.7**
POLO					*e*S		**Sn**	**13 34 02.4**	**-3.2**
POLO					*i* IAML			13 34 05.0	
POLO					*i* IAML			13 34 05.2	
POLO					*i* IAML			13 34 14.3	
OUK	**Oukaimeden**	**5.17**	**179**		P		**Pn**	**13 33 11.2**	**-0.6**
OUK	**Oukaimeden**	**5.17**	**179**		S		**Sn**	**13 34 06.0**	**-4.6**
GUD	**Guadarrama**	**5.21**	**34**		P		**Pn**	**13 33 13.0**	**+0.9**
GUD					S		**Sn**	**13 34 07.8**	**-3.4**
GUD					*i* IVmb_Lg			13 34 10.4	
GOLM	**Goulmima**	**5.31**	**151**		P		**Pn**	**13 33 14.2**	**+0.7**
PCAB	**Cabril**	**5.32**	**360**	⇓	*e*P		**Pn**	**13 33 14.2**	**+0.7**
PCAB					*e*S		**Sn**	**13 34 02.8**	**-3.3**
PCAB					*i* IAML			13 34 12.8	
PCAB					*i* IAML			13 34 13.2	
PCAB					*i* IAML			13 34 13.6	
UCM	**Universidad Co**	**5.41**	**42**		Pn		**Pn**	**13 33 16.2**	**+1.4**
UCM					Sn		**Sn**	**13 34 11.2**	**-4.8**
ELOB	**Lobios**	**5.47**	**359**		P		**Pn**	**13 33 16.3**	**+0.6**
ELOB					S		**Sn**	**13 34 13.3**	**-4.4**
ELOB					*i* IVmb_Lg			13 34 17.3	
TIO	**Tiouine**	**5.48**	**173**		Pn		**Pn**	**13 33 15.8**	**-0.1**
TIO					Sn		**Sn**	**13 34 13.2**	**-4.8**
TIO	**Tiouine**	**5.48**	**173**		P		**Pn**	**13 33 15.3**	**-0.6**
TIO	**Tiouine**	**5.48**	**173**		S		**Sn**	**13 34 13.6**	**-4.4**
PBRG	**Braganca**	**5.50**	**10**		*e*P		**Pn**	**13 33 16.5**	**+0.5**
PBRG					*e*S		**Sn**	**13 34 15.0**	**-3.2**
PBRG					*i* IAML			13 34 16.4	
PBRG					*i* IAML			13 34 16.8	
PBRG					*i* IAML			13 34 17.1	
OUZM	**OUZ**	**5.56**	**169**		P		**Pn**	**13 33 17.1**	**+0.1**
PGAV	**Gavieira, Arco**	**5.57**	**358**	⇓	*e*P		**Pn**	**13 33 17.9**	**+0.8**
PGAV					*e*S		**Sn**	**13 34 16.5**	**-3.8**
PGAV					*i* IAML			13 34 17.3	
PGAV					*i* IAML			13 34 19.2	
PGAV					*i* IAML			13 34 19.8	
ECAL	**Calabor**	**5.63**	**10**		Sn		**Sn**	**13 34 17.6**	**-4.0**
ECAL					Pn		**Pn**	**13 33 18.5**	**+0.6**
ECAL	**Calabor**	**5.63**	**10**	⇓	P		**Pn**	**13 33 18.5**	**+0.6**
ECAL					S		**Sn**	**13 34 17.6**	**-4.0**
ECAL					*i* IVmb_Lg			13 34 21.0	
CART	**Cartagena**	**5.72**	**76**		Pn		**Pn**	**13 33 19.7**	**+0.7**
CART					Sn		**Sn**	**13 34 18.7**	**-5.0**
CART	**Cartagena**	**5.72**	**76**		P		**Pn**	**13 33 19.4**	**+0.4**
EZAM	**Zamans**	**5.78**	**355**		P		**Pn**	**13 33 20.7**	**+0.9**
EZAM					S		**Sn**	**13 34 19.9**	**-5.2**
EZAM					*i* IVmb_Lg			13 34 24.7	
TTIG	**Tnine Tigouga,**	**5.84**	**184**		P		**Pn**	**13 33 18.1**	**-2.7**
ARF	**Arif**	**5.85**	**147**		P		**Pn**	**13 33 20.9**	**-0.1**
ARF	**Arif**	**5.85**	**147**		S		**Sn**	**13 34 24.6**	**-2.5**
TZRR	**Tazzarine**	**5.94**	**159**		P		**Pn**	**13 33 22.2**	**0.0**
TZRR	**Tazzarine**	**5.94**	**159**		S		**Sn**	**13 34 26.0**	**-3.4**
ECHE	**Chera**	**6.40**	**58**		Sn		**Sn**	**13 34 37.1**	**-3.4**
ECHE					Pn		**Pn**	**13 33 28.9**	**+0.5**
ECHE	**Chera**	**6.40**	**58**		P		**Pn**	**13 33 29.5**	**+1.0**
ECHE					S		**Sn**	**13 34 38.5**	**-2.0**
EAGO	**Agolada(Pontev**	**6.41**	**359**		P		**Pn**	**13 33 29.1**	**+0.7**
EAGO					S		**Sn**	**13 34 34.6**	**-6.0**
EAGO					*i* IVmb_Lg			13 34 40.3	
ETOR	**Torete**	**6.42**	**45**		P		**Pn**	**13 33 29.6**	**+1.0**
ETOR					S		**Sn**	**13 34 34.9**	**-6.1**
ETOR					*i* IVmb_Lg			13 34 40.8	
ZGR	**Zagora**	**6.56**	**162**		P		**Pn**	**13 33 30.1**	**-0.6**
EMAZ	**Mazaricos**	**6.60**	**354**		P		**Pn**	**13 33 32.0**	**+0.9**
EMAZ					S		**Sn**	**13 34 39.1**	**-6.2**
EMAZ					*i* IVmb_Lg			13 34 43.1	
E0901	**Celadas (Terue**	**6.76**	**51**		P		**Pn**	**13 33 35.3**	**+1.9**
E0901					S		**Sn**	**13 34 45.8**	**-3.7**
E0901					*i* IVmb_Lg			13 34 51.2	
EPON	**Pontenova**	**6.96**	**5**		P		**Pn**	**13 33 37.0**	**+0.9**
EPON					S		**Sn**	**13 34 48.1**	**-6.2**
FIGM	**Figuig**	**7.00**	**125**		P		**Pn**	**13 33 36.5**	**-0.3**
FIGM	**Figuig**	**7.00**	**125**		S		**Sn**	**13 34 55.5**	**+0.1**
EMOS	**Mosqueruela**	**7.11**	**54**		P		**Pn**	**13 33 39.5**	**+1.2**
EMOS					S		**Sn**	**13 34 52.6**	**-5.7**
EMOS					*i* IVmb_Lg			13 34 58.0	
EARI	**Arriondas**	**7.23**	**16**		P		**Pn**	**13 33 40.6**	**+0.8**
EARI					S		**Sn**	**13 34 56.8**	**-4.1**
PMPST	**Porto Santo, M**	**7.62**	**247**		*e*P		**Pn**	**13 33 44.7**	**-0.5**
PMPST					*e*S		Sn	13 34 58.8	-12
ELAN	**Lanestosa**	**7.68**	**26**		P		**Pn**	**13 33 46.2**	**+0.3**
ELAN					S		Sn	13 35 04.7	-7.3
ELAN					*i* IVmb_Lg			13 35 10.6	
EIBI	**Ibiza**	**7.85**	**68**		Sn		**Sn**	**13 33 10.3**	**-5.9**
EIBI					Pn		**Pn**	**13 33 48.6**	**+0.3**
EIBI	**Ibiza**	**7.85**	**68**		P		**Pn**	**13 33 49.5**	**+1.2**
EIBI					S		**Sn**	**13 35 10.9**	**-5.3**
EIBI					*i* IVmb_Lg			13 35 13.8	
ESAC	**San Caprasio**	**7.91**	**45**		P		**Pn**	**13 33 50.0**	**+0.8**
ESAC					S		**Sn**	**13 35 12.6**	**-5.1**
ESAC					*i* IVmb_Lg			13 35 34.7	
ERTA	**Horta de San J**	**7.95**	**52**		S		**Sn**	**13 35 16.2**	**-2.3**
ERTA					*i* IVmb_Lg			13 35 24.1	
EARA	**Aranguren**	**8.07**	**36**		P		**Pn**	**13 33 52.7**	**+1.4**
EARA					*i* IVmb_Lg			13 35 22.2	
PMAR	**Madeira**	**8.22**	**246**		*e*S		**Sn**	**13 35 18.8**	**-6.7**
EORO	**Oroz-Betelu**	**8.29**	**36**		P		**Pn**	**13 33 56.1**	**+1.7**
EORO					S		**Sn**	**13 35 21.3**	**-5.7**
EORO					*i* IVmb_Lg			13 35 27.3	
PMOZ	**Porto Moniz, M**	**8.38**	**248**		Sn		**Sn**	**13 35 22.3**	**-7.1**
PMOZ	**Porto Moniz, M**	**8.38**	**248**		*e*S		**Sn**	**13 35 24.7**	**-4.6**
EALK	**Alkurruntz**	**8.45**	**34**		P		**Pn**	**13 33 57.2**	**+0.6**
EALK					S		**Sn**	**13 35 24.5**	**-6.4**
EALK					*i* IVmb_Lg			13 35 29.6	
EPOB	**Poblet**	**8.63**	**52**		P		**Pn**	**13 33 59.5**	**+0.5**
EPOB					S		Sn	13 35 28.4	-7.1
ECHI	**Chisagues Biel**	**8.90**	**43**		P		**Pn**	**13 34 03.7**	**+0.9**
ETOS	**Mallorca**	**9.16**	**65**		Sn		**Sn**	**13 35 42.6**	**-5.8**
ETOS					Pn		**Pn**	**13 34 08.2**	**+2.0**
DAVOX	**Davos/Dischmat**	**16.89**	**47**		LR		LR	13 42 53.4	
	comp=E,22nm,21.3s,baz=262,slow=39								
GERES	**GERESS Array B**	**20.16**	**45**		P		**P**	**13 36 27.9**	**-0.2**
	comp=E,0.3nm,0.4s,baz=221,slow=5.1,SNR=3.5								
	comp=E,0.3nm,0.4s								
VRAC	**Vranov**	**22.05**	**46**		LR		LR	13 46 32.4	
	comp=E,35nm,18.9s,baz=222,slow=40								
MODS	**Modra-Piesok**	**22.07**	**49**		*e*P		**P**	**13 36 48.8**	**+0.3**
MODS	**Modra-Piesok**	**22.07**	**49**		*e*S		**S**	**13 40 50.9**	**+0.7**
VYHS	**Vyhne**	**23.07**	**50**		*e*P		**P**	**13 37 00.1**	**+1.0**
VYHS	**Vyhne**	**23.07**	**50**		*e*PN		P	13 37 06.8	+7.7
VYHS	**Vyhne**	**23.07**	**50**		*e*SN		S	13 40 56.7	-11
VYHS	**Vyhne**	**23.07**	**50**		*e*S		**S**	**13 41 09.9**	**+1.8**
LANS	**Liptovska Anna**	**23.70**	**49**		*e*S		**S**	**13 41 17.6**	**-0.9**
NOA	**NORSAR Array B**	**27.52**	**20**		LR		LR	13 50 06.0	
	comp=E,23nm,19.2s,baz=100,slow=40								
HFS	**Hagfors**	**27.55**	**24**		P		**P**	**13 37 40.5**	**+0.4**
	comp=E,1.4nm,0.7s,baz=185,slow=16,SNR=1.9								
	comp=E,1.4nm,0.7s								
FINES	**FINESS Array B**	**32.95**	**30**		P		**P**	**13 38 28.7**	**+0.9**
	comp=E,2.6nm,0.9s,baz=224,slow=5.8,SNR=2.4								
	comp=E,2.6nm,0.9s								
ARCES	**ARCESS Array B**	**37.85**	**18**		P		**P**	**13 39 09.4**	**-0.5**
	comp=E,1.5nm,0.8s,baz=234,slow=7.4,SNR=5.7								
	comp=E,1.5nm,0.8s								
SFJD	**Kangerlussuaq**	**39.06**	**335**		LR		LR	13 52 59.0	
	comp=E,89nm,19.5s,baz=348,slow=32								
MDP	**Montagnes des**	**51.39**	**244**		LR		LR	13 59 04.1	
	comp=E,42nm,19.6s,baz=179,slow=32								
BVAR	**Borovoye Array**	**55.33**	**46**		P		**P**	**13 41 26.9**	**0.0**
	comp=E,0.4nm,0.4s,baz=289,slow=13,SNR=0.9								
	comp=E,0.4nm,0.4s								
PDAR	**Pinedale Array**	**73.71**	**311**		P		**P**	**13 43 27.3**	**-0.2**
	comp=E,0.3nm,0.5s,baz=56,slow=5.6,SNR=3.6								
	comp=E,0.3nm,0.5s								
ILAR	**Eielson Array**	**74.15**	**343**		P		**P**	**13 43 31.1**	**+1.8**
	comp=E,0.3nm,0.5s,baz=24,slow=4.5,SNR=6.9								
	comp=E,0.3nm,0.5s								
NEW	**Newport**	**74.77**	**319**		LR		LR	14 11 09.1	
	comp=E,34nm,20.6s,baz=302,slow=32								
ASAR	**Alice Springs**	**144.88**	**80**		PKP		**PKPab**	**13 51 30.6**	**+0.9**
	comp=E,1.1nm,0.6s,baz=307,slow=3.1,SNR=14								

IDC 16 13:46:43.2±2.2, 0.17N×126.54E, h0km, mb3.3/3, mbtmp3.3/3, MS3.6/1, Error ellipse: s-maj=171.5km s-min=29.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**21.40**	**160**	P	P		13 51 31.5	-1.3
	0.5nm,0.5s,baz=338,slow=10,SNR=3.0							
WRA				LR	LR		13 59 56.2	
	comp=Z,158nm,20.3s,baz=7.5,slow=37							
	0.5nm,0.5s							
ASAR	**Alice Springs**	**24.75**	**164**	P	P		13 52 07.3	+0.6
	0.3nm,0.3s,baz=346,slow=12,SNR=12							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**60.37**	**327**	P	P		13 56 54.2	-0.1
	0.1nm,0.3s,baz=111,slow=7.9,SNR=2.8							
	0.1nm,0.3s							

IDC 16 13:47:11.6±1.6, 39.03S×78.42E, h0km, mb3.8/5, mbtmp3.8/5, MS3.7/9, Error ellipse: s-maj=49.2km s-min=29.4km az=132.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
H04N2	**CROZET ISLANDS**	**20.79**	**241**	T	T		14 13 24.7	
	baz=79,slow=75,SNR=516							
H04N1	**CROZET ISLANDS**	**20.80**	**241**	T	T		14 13 25.1	
	baz=79,slow=75,SNR=398							
H04N3	**CROZET ISLANDS**	**20.80**	**241**	T	T		14 13 23.5	
	baz=79,slow=75,SNR=463							
H01W2	**Cape Leeuwin H**	**28.72**	**93**	T	T		14 23 09.4	
	baz=251,slow=75,SNR=869							
H01W3	**Cape Leeuwin H**	**28.73**	**93**	T	T		14 23 09.9	
	baz=251,slow=75,SNR=812							
H01W1	**Cape Leeuwin H**	**28.74**	**93**	T	T		14 23 10.7	
	baz=251,slow=75,SNR=945							
MAW	**Mawson**	**29.91**	**192**	LR	LR		14 03 22.1	
	comp=Z,55nm,18.4s,baz=42,slow=32							
H08S2	**Diego Garcia H**	**31.70**	**349**	T	T		14 26 28.5	
	baz=171,slow=76,SNR=108							
H08S1	**Diego

comp=E,3μm,0.2s
NLYR Nelyaty 1.65 77 ⇓iPg Pg 13 57 36.6 +1.1
NLYR e 13 57 38.2
NLYR max 13 57 51.1
comp=E,314nm,0.5s
NLYR eSg **Sg 13 58 01.1 +4.2**
NLYR Smax 13 58 03.9
comp=E,3μm,1.2s
NLYR Nelyaty 1.65 77 ⇓iPN Pg 13 57 36.5 +1.1
NLYR e 13 57 59.6
NLYR pmax pmax
comp=Z,188nm,0.3s
NLYR smax smax
comp=N,3μm,1.2s
BOD Bodaibo 1.79 21 ⇓iPg Pg 13 57 38.1 -0.1
BOD Pmax 13 57 39.5
comp=N,163nm,0.3s
BOD eSg **Sg 13 58 02.8 +1.4**
BOD Smax 13 58 04.3
comp=N,3μm,0.4s
BOD Bodaibo 1.79 21 ⇓iPN Pg 13 57 37.9 -0.3
BOD e 13 57 39.8
BOD e 13 58 03.7
BOD pmax pmax
comp=Z,165nm,0.4s
BOD smax smax
comp=E,3μm,0.4s
NIZB Nizh Angarsk 1.87 259 ePg Pn 13 57 37.2 +0.2
NIZB Pmax 13 57 37.8
comp=E,180nm,0.3s
NIZB eSg **Sn 13 58 01.3 +0.1**
NIZB Smax 13 58 03.5
comp=E,985nm,0.3s
NIZB Nizh Angarsk 1.87 259 ePN Pn 13 57 37.2 +0.2
NIZB e 13 58 01.3
NIZB pmax pmax
comp=Z,180nm,0.3s
NIZB smax smax
comp=N,980nm,0.3s
SYVR Suvo 2.98 214 ePn Pn 13 57 52.2 0.0
SYVR ePg **Pb 13 57 58.2 +0.5**
SYVR Pmax 13 58 05.1
comp=N,48nm,0.4s
SYVR eSg **Sb 13 58 35.3 +0.7**
SYVR Smax 13 58 40.5
comp=N,474nm,0.5s
SYVR Suvo 2.98 214 ePN Pn 13 57 51.9 -0.3
SYVR e 13 57 56.1
SYVR e 13 58 35.1
SYVR pmax pmax
comp=Z,54nm,0.3s
SYVR smax smax
comp=E,657nm,0.7s
VTMR Vitim 3.30 358 ePn Pn 13 57 57.3 +0.8
VTMR ePg **Pg 13 58 05.5 -1.5**
VTMR eSn **Sn 13 58 36.8 +0.5**
VTMR eSg **Sg 13 58 48.5 -1.1**
MXMB Maximikha 3.73 221 ePn Pn 13 58 02.0 -0.6
MXMB ePg **Pb 13 58 11.5 +1.0**
MXMB eSg **Sb 13 58 59.0 +2.8**
OGRR Ongureny 3.92 232 ePn Pn 13 58 05.0 -0.1
OGRR ePg **Pb 13 58 14.1 +0.4**
OGRR Pmax 13 58 23.8
comp=E,43nm,0.8s
OGRR eSg **Sb 13 59 04.2 +2.6**
OGRR Smax 13 59 13.6
comp=E,220nm,0.5s
KHNR Khani 4.05 76 ePn Pn 13 58 10.1 +3.2
KHNR ePg **Pg 13 58 20.8 -0.6**
KHNR e 13 59 00.1
KHNR eSg **Sg 13 59 15.4 +1.6**
GORB Goryachinsk 4.12 221 ePg Pb 13 58 17.9 +0.7
GORB eSg **Sb 13 59 10.8 +3.4**
CIT Chita 4.17 174 ePg Pb 13 58 20.8 +2.8
CIT Pmax 13 58 22.9
comp=E,85nm,0.2s
CIT eSg **Sg 13 59 14.7 -2.9**
CIT Smax 13 59 17.6
comp=E,682nm,0.2s
CIT Chita 4.17 174 ePN Pn 13 58 08.6 0.0
CIT e 13 58 19.4
CIT eS **Sn 13 58 57.2 -0.7**
CIT e 13 59 13.4
CIT pmax pmax
comp=Z,104nm,0.3s
CIT smax smax
comp=E,886nm,0.8s
TUP Tupik 4.44 110 ePn Pn 13 58 14.1 +1.7
TUP ePg **Pg 13 58 26.8 -2.1**
TUP Pmax 13 58 27.0
comp=E,54nm,0.3s
TUP eSn **Sn 13 59 04.2 -0.4**
TUP eSg **Sg 13 59 26.8 +0.4**
TUP Smax 13 59 28.7
comp=E,649nm,0.8s
TUP Tupik 4.44 110 ePN Pn 13 58 14.0 +1.7
TUP e 13 58 26.0
TUP eS **Sn 13 59 07.2 +2.6**
TUP e 13 59 26.7
TUP pmax pmax
comp=Z,55nm,0.6s
TUP smax smax
comp=E,628nm,0.8s
ZRHB Zarechye 4.89 225 ePg Pb 13 58 31.8 +1.5
ZRHB Pmax 13 58 54.8
comp=E,109nm,0.9s
ZRHB eSg **Sb 13 59 34.5 +4.9**
ZRHB Smax 13 59 55.1
comp=E,884nm,1.0s
YKLR Yuktali 4.94 81 ePg Pg 13 58 36.2 -2.3
YKLR eSg **Sg 13 59 42.5 0.0**
TRG Tyrgan 5.07 231 ePn Pn 13 58 20.8 -0.2
TRG ePg **Pb 13 58 34.9 +1.5**
TRG Pmax 13 58 57.0
comp=E,17nm,0.3s
TRG eSg **Sb 13 59 39.9 +5.1**
TRG e 13 59 45.0
TRG max 13 59 49.2
comp=E,184nm,0.8s
TRG Tyrgan 5.07 231 ePN Pn 13 58 20.6 -0.4
TRG e 13 58 34.8
TRG eS **Sn 13 59 17.6 -2.6**
TRG e 13 59 39.2
TRG pmax pmax
comp=Z,16nm,0.4s
TRG smax smax
comp=E,183nm,0.7s
UUDB Ulan-Yde 5.26 217 ePg Pb 13 58 39.2 +2.7
UUDB Pmax 13 58 53.3
comp=E,21nm,0.7s
UUDB eSg **Sb 13 59 46.4 +6.3**
UUDB Smax 13 59 57.2
comp=E,331nm,1.5s
KAB Kabansk 5.48 224 eSg Sb 13 59 52.6 +6.2
KAB Smax 14 00 22.6
comp=E,754nm,1.2s
STDB Stepnoy Dvoret 5.50 226 ePg Pb 13 58 43.3 +2.7
STDB eSg **Sb 13 59 53.1 +6.1**
HRMR Khuramsha 5.70 220 ePg Pb 13 58 47.4 +3.3
HRMR Pmax 13 59 00.4
comp=E,21nm,0.8s
HRMR eSg **Sb 14 00 00.5 +7.6**
HRMR Smax 14 00 14.1
comp=E,191nm,1.0s
VBR Suhoy Ruchey 5.92 225 ePg Pb 13 58 50.8 +3.0
VBR eSg **Sb 14 00 06.6 +7.4**
BGT Bolshoye Golou 5.99 230 ePn Pn 13 58 34.5 +1.0
BGT ePg **Pb 13 58 51.1 +2.2**
BGT Pmax 13 59 13.1
comp=E,12nm,0.6s
BGT eSg **Sb 14 00 07.7 +6.6**
BGT Smax 14 00 33.1
comp=E,134nm,0.7s
IRK Irkutsk 6.36 235 eSg Sb 14 00 18.4 +6.8
IRK Smax 14 00 22.8
comp=E,261nm,0.5s
IRK Irkutsk 6.36 235 ePG Pb 13 58 57.9 +2.7
IRK e 14 00 18.0
IRK pmax pmax
comp=Z,91nm,0.1s
IRK smax smax
comp=N,259nm,0.5s
LSTR Listvyanka 6.36 231 e Pn 13 58 40.3 +1.6
LSTR ePg **Pb 13 58 57.9 +2.6**
LSTR Pmax 13 59 14.9
comp=N,8.0nm,0.8s
LSTR eSg **Sb 14 00 19.1 +7.3**
LSTR Smax 14 00 25.4
comp=N,123nm,1.7s
KPC Khapcheranga 6.47 182 ePn Pn 13 58 40.5 +0.3
KPC ePg **Pb 13 59 01.8 +4.6**
KPC Pmax 13 59 07.7
comp=N,14nm,0.5s
KPC eSg **Sg 14 00 24.7 -6.8**
KPC Smax 14 00 29.2
comp=N,382nm,1.3s
KPC Khapcheranga 6.47 182 ePN Pn 13 58 39.6 -0.6
KPC e 13 59 00.2
KPC e 14 00 24.2
KPC pmax pmax
comp=Z,14nm,0.7s
KPC smax smax
comp=E,382nm,2.0s
IVK Ivanovka 6.59 232 ePn Pn 13 58 41.6 -0.3
IVK ePg **Pb 13 59 01.8 +2.6**
IVK Pmax 13 59 16.7
comp=E,18nm,0.5s
IVK eSg **Sb 14 00 25.6 +7.1**
IVK Smax 14 00 36.6
comp=E,199nm,1.5s
CLNS Chul'man 6.73 79 ePg Pg 13 59 09.8 -2.9
CLNS eSg **Sg 14 00 38.1 -1.8**
TLY Talaya 7.02 234 ePn Pn 13 58 47.2 -0.5
TLY ePg **Pb 13 59 10.1 +3.6**
TLY Pmax 13 59 24.9
comp=E,21nm,0.5s
TLY eSg **Sb 14 00 39.1 +8.3**
TLY Smax 14 01 00.2
comp=E,79nm,1.5s
ARS Arshan 7.44 240 ePn Pb 13 59 05.1 -8.5
ARS ePg Pg 13 59 18.6 -7.6
ARS Pmax 13 59 41.2
comp=E,31nm,0.6s
ARS eSg Sb 14 00 53.4 +11
ARS Smax 14 00 56.1
comp=E,388nm,0.8s
HIA Hailar 8.08 146 i PN Pn 13 59 04.5 +2.2
ZAK Zakamensk 8.12 229 ePg Pb 13 59 31.2 +5.9
ZAK Pmax 13 59 46.1
comp=E,5.0nm,0.3s
ZAK eSg Sb 14 01 14.7 +12
ZAK Smax 14 01 26.0
comp=E,60nm,1.6s
ZAK Zakamensk 8.12 229 ePG Pg 13 59 40.0 +0.7
ZAK pmax pmax
comp=Z,5.0nm,0.3s
MOY Mondy 8.29 242 ePn Pn 13 59 05.6 +0.4
MOY ePg Pb 13 59 33.4 +5.2
MOY Pmax 13 59 42.9
comp=Z,22nm,1.0s
MOY eSn **Sn 14 00 34.3 -5.2**
MOY eSg Sb 14 01 18.8 +11
MOY Smax 14 01 24.6
comp=Z,161nm,1.6s
MOY Mondy 8.29 242 ePN Pn 13 59 04.5 -0.7
MOY e 13 59 33.0
MOY pmax pmax
comp=Z,22nm,0.8s
ORL Orlik 8.41 250 ePn Pn 13 59 07.2 +0.4
ORL ePg Pb 13 59 36.7 +6.5
ORL Pmax 14 00 04.3
comp=Z,17nm,1.1s
ORL eSn **Sn 14 00 47.7 +5.4**
ORL eSg Sg 14 01 23.7 -10
ORL Smax 14 01 30.1
comp=Z,273nm,1.3s
ZEA Zeya 8.66 100 ePN Pn 13 59 20.8 +11
ZEA e 14 01 38.3
ULN Ulaanbaatar 9.03 205 ePN Pn 13 59 14.6 -0.7
SONM Songino Array 9.22 208 Pn Pn 13 59 17.7 -0.2
comp=Z,0.6nm,0.3s,baz=21,slow=12,SNR=4.9
SONM Pg 13 59 51.2
comp=Z,0.5nm,0.3s,baz=15,slow=16,SNR=5.0
SONM Lg 14 01 54.9
comp=Z,2.5nm,0.3s,baz=24,slow=28,SNR=12
SONM LR LR 14 03 01.6
comp=Z,164nm,18.0s,baz=227,slow=39
comp=Z,0.2nm,0.3s
YAK Yakutsk 10.47 49 Lg Lg 14 02 32.6
comp=Z,1.6nm,0.3s,baz=335,slow=23,SNR=10.0
ARDR Aradan 11.84 260 eSg 14 03 08.1
ZALV Zalesovo Beam 16.14 274 Pn Pn 14 00 50.0 -1.6
comp=Z,0.1nm,0.3s,baz=73,slow=12,SNR=1.5
comp=Z,0.9nm,0.7s
TIXI Tiksi 16.97 17 P Pn 14 00 58.4 -3.8
comp=Z,4.9nm,0.5s,baz=252,slow=3.2,SNR=2.7
TIXI Tiksi 16.97 17 i P P 14 01 02.5 -1.6
TIXI pmax pmax
comp=Z,6.0nm,0.8s
USA0B Ussuriysk Arra 17.08 126 i P P 14 01 05.4 -0.1
USRK Ussuriysk Ar. 17.08 126 Lg Lg 14 06 11.6
comp=Z,0.1nm,0.3s,baz=312,slow=26,SNR=4.9
MA2 Magadan 20.29 65 i P Pn 14 01 41.5 -1.1
MA2 pmax pmax
comp=Z,4.0nm,1.1s
KURK Kurchatov 20.93 269 ceP P 14 01 44.5 -3.1
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURBB Kurchatov Arra 21.02 269 P P 14 01 46.7 -2.0
comp=Z,1.2nm,0.3s,baz=67,slow=11,SNR=4.8
comp=Z,1.2nm,0.3s
ASAJ Asahikawa 22.38 110 LR LR 14 11 56.3
comp=Z,52nm,18.0s,baz=260,slow=40
BVAR Borovoye Array 24.49 281 P P 14 02 22.1 -2.1
comp=Z,1.2nm,0.8s,baz=47,slow=11,SNR=3.8
comp=Z,1.2nm,0.8s
BRVK Borovoye 24.53 281 ⇓iP P 14 02 22.9 -1.7
BRVK pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 42.08 314 P P 14 04 55.7 -1.0
comp=Z,0.9nm,0.7s,baz=86,slow=9.8,SNR=4.3
comp=Z,0.9nm,0.7s
ILAR Eielson Array 45.10 37 P P 14 05 22.2 +1.2
comp=Z,0.6nm,0.8s,baz=302,slow=8.0,SNR=8.4
comp=Z,0.6nm,0.8s
NOA NORSAR Array B 47.98 320 P P 14 05 41.8 -1.9
comp=Z,0.7nm,0.7s,baz=50,slow=7.1,SNR=2.9
comp=Z,0.7nm,0.7s
NVAR Mina Array Bea 76.28 39 P P 14 08 54.2 0.0
comp=Z,0.8nm,0.8s,baz=321,slow=2.1,SNR=3.8
comp=Z,0.8nm,0.8s
ASAR Alice Springs 81.50 161 P P 14 09 21.4 -1.1
comp=Z,0.6nm,1.2s,baz=356,slow=5.6,SNR=2.2
comp=Z,0.6nm,1.2s
LSZ Lusaka 99.57 257 LR LR 14 57 45.2
comp=Z,91nm,18.1s,baz=140,slow=37

*NNC **16** 14:03:52.5±2.8, 41.°09N×82.°78E, h0km, mb3.3, mpv3.0,*
Error ellipse: s-maj=24.2km s-min=21.4km az=173.0
*SOME **16** 14:04:43.3, 42.°33N×81.°53E, h15km*
ISC 16 14:04:23.5±5.0, 42.°2N±0.°2×82.°3E±0.°1, h13km, n10,
σ2s68/9, 2C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.94**	**313**	*eP*	Pg	14 05 09.4	+8.7
	1.4nm,0.2s						
KTMS				*eS*	**Sg**	**14 05 28.4**	**+2.4**
	13nm,0.4s						
SHLS	**Shalkode**	**2.33**	**297**	*eP*	**Pg**	**14 05 10.9**	**+2.6**
	8.3nm,0.2s						
SHLS				*eS*	**Sn**	**14 05 31.0**	**+0.7**
	59nm,0.4s						
PDGK	**Podgornoye**	**2.39**	**301**	⇑Pn	Pn	14 04 45.9	-17
	1.6nm,0.3s						
PDGK				⇓Lg	Lg	14 05 37.0	
	21nm,0.6s						
UZB	**Uzynbulak**	**2.62**	**293**	*eP*	Pg	14 05 19.9	+6.1
UZB				*eS*	**Sg**	**14 05 46.5**	**-1.5**
KOTS	**Kotyrbulak**	**3.98**	**288**	*eP*	Pg	14 05 44.9	+5.0
	2.2nm,0.2s						
KOTS				*eS*	**Sg**	**14 06 29.4**	**-2.1**
	20nm,0.6s						
TNSS	**Tian-Shan**	**4.06**	**284**	*eP*	Pg	14 05 45.4	+4.1
	0.2nm,0.0s						
TNSS				*eS*	**Sg**	**14 06 30.3**	**-3.6**
	2.6nm,0.8s						
CHKK	**Chushkaly**	**4.26**	**295**	*eP*	Pg	14 05 49.7	+4.5
	1.0nm,0.1s						
CHKK				*eS*	**Sg**	**14 06 37.3**	**-3.1**
	4.0nm,0.3s						
MK31	**Makanchi Array**	**4.65**	**360**	Pg	**Pg**	**14 05 52.1**	**-0.4**
	0.7nm,0.4s,baz=175,slow=16,SNR=7.7						
MK31				⇑Lg	Lg	14 06 55.2	
	3.2nm,0.6s,baz=169,slow=29,SNR=3.7						
MAKZ	**Makanchi**	**4.67**	**357**	Lg	Lg	14 06 56.0	
	3.7nm,0.9s						
KST	**Kastek**	**4.77**	**283**	*eP*	Pg	14 06 00.5	+5.6
	1.4nm,0.3s						
KST				*eS*	**Sg**	**14 06 55.7**	**-1.0**
	7.4nm,0.9s						

*SOME **16** 14:15:19.7, 39.°75N×74.°20E, h10km*
*KRNET **16** 14:15:20.3±0.1, 39.°68N×74.°61E, h14km, mb3.1*
*NNC **16** 14:15:22.4±2.3, 39.°77N×74.°34E, h0km, mb3.6, mpv3.4,*
Error ellipse: s-maj=17.3km s-min=9.2km az=169.0
ISC 16 14:15:22.9±1.1, 39.°90N±0.°05×74.°26E±0.°03, h10km, n45,
σ2s29/71, 16C-23D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.59**	**282**	⇓*iP*	**Pn**	**14 15 37.8**	**+0.2**
SFK				⇓*iS*	**Sn**	**14 15 50.9**	**+3.5**
SALK	**Salom-Alik**	**1.04**	**342**	⇑*iP*	**Pn**	**14 15 45.9**	**+2.1**
SALK				⇑*iS*	**Sn**	**14 16 04.6**	**+6.1**
OHH	**Osh**	**1.29**	**300**	⇓*eP*	Pg	14 15 50.7	+3.0
OHH				⇓*eS*	Sg	14 16 13.5	+9.1
DRK	**Karamyk**	**1.94**	**258**	⇑*iP*	**Pg**	**14 15 59.9**	**-0.2**
DRK				⇑*iS*	**Sg**	**14 16 28.6**	**+3.3**
NRN	**Naryn**	**2.03**	**40**	⇓*iP*	**Pb**	**14 15 57.8**	**-2.3**
NRN				⇓*iS*	**Sb**	**14 16 25.2**	**-0.4**
UCH	**Uchtor**	**2.34**	**5**	⇓*iP*	**Pb**	**14 16 05.3**	**-0.1**
UCH				⇓*iS*	**Sg**	**14 16 38.0**	**-0.1**
BTK	**Batken**	**2.65**	**275**	⇑*eP*	**Pg**	**14 16 10.5**	**-3.1**
BTK				⇑*eS*	**Sg**	**14 16 47.2**	**-0.7**
AAK	**Ala-Archa**	**2.75**	**4**	⇑Pn	**Pb**	**14 16 10.9**	**-1.3**
	2.2nm,0.4s						
AAK				⇑Lg	Lg	14 16 53.0	
	6.7nm,0.6s						
AAK	**Ala-Archa**	**2.75**	**4**	⇓*iP*	**Pb**	**14 16 10.8**	**-1.4**
AAK				⇓*iS*	**Sb**	**14 16 47.7**	**+1.7**
EKS2	**Erkin-Say**	**2.79**	**353**	⇓*iP*	**Pb**	**14 16 12.0**	**-0.9**
EKS2				⇓*iS*	**Sb**	**14 16 49.7**	**+2.6**
KBK	**Karagaybulak**	**2.81**	**10**	⇓*iP*	**Pb**	**14 16 11.1**	**-2.2**
KBK				⇓*iS*	**Sb**	**14 16 48.2**	**+0.4**
TRKS	**Terek-Say**	**2.88**	**306**	⇑*iP*	**Pb**	**14 16 13.6**	**-0.8**
TRKS				⇑*iS*	**Sg**	**14 16 52.4**	**-2.9**
BOOM	**Boomskoye usch**	**2.89**	**26**	⇑*iP*	**Pb**	**14 16 11.2**	**-3.4**
BOOM				⇑*iS*	**Sb**	**14 16 48.3**	**-1.8**
MNAS	**Manas**	**2.91**	**334**	⇓*iP*	**Pb**	**14 16 14.4**	**-0.5**
MNAS				⇓*iS*	**Sg**	**14 16 54.0**	**-2.3**
MRKS	**Merke**	**2.95**	**345**	Pg	**Pg**	**14 16 17.7**	**-1.8**
	2.8nm,0.1s						
MRKS				Lg	Lg	14 16 59.2	
	9.9nm,0.4s						
MRKS	**Merke**	**2.95**	**345**	*eP*	**Pg**	**14 16 17.7**	**-1.8**
	2.8nm,0.1s						
MRKS				*eS*	**Sg**	**14 16 59.2**	**+1.5**
	9.9nm,0.4s						
KDJ	**Kajisay**	**3.14**	**44**	⇓*iP*	**Pn**	**14 16 13.1**	**+0.4**
KDJ				⇓*iS*	**Sn**	**14 16 51.9**	**+1.6**
TKM2	**Tokmak 2**	**3.19**	**18**	⇑*iP*	**Pb**	**14 16 15.8**	**-3.9**
TKM2				⇑*iS*	**Sb**	**14 16 56.4**	**-2.3**
TARG	**Taragay, Kyrgy**	**3.26**	**55**	⇓*iP*	**Pn**	**14 16 14.0**	**-0.4**
TARG				⇓*iS*	**Sn**	**14 16 53.0**	**-0.5**
USP	**Ospenovka**	**3.37**	**3**	⇓*iP*	**Pb**	**14 16 19.3**	**-3.5**
USP				⇓*iS*	**Sb**	**14 17 02.6**	**-1.3**
KST	**Kastek**	**3.40**	**22**	Pg	**Pb**	**14 16 23.2**	**-0.1**
	2.9nm,0.5s						
KST				Lg	Lg	14 17 08.6	
	19nm,0.5s						
KST	**Kastek**	**3.40**	**22**	*eP*	**Pb**	**14 16 23.2**	**-0.1**
	2.9nm,0.5s						
KST				*eS*	**Sb**	**14 17 08.6**	**+3.9**
	19nm,0.5s						
DGS	**Degeres**	**3.53**	**18**	Pg	**Pg**	**14 16 29.9**	**-0.7**
	9.1nm,0.4s						
DGS				Lg	Lg	14 17 20.2	
	18nm,0.5s						
SGDS	**Sogindy**	**3.56**	**4**	Pg	**Pg**	**14 16 31.2**	**0.0**
	1.0nm,0.2s						
SGDS				Lg	Lg	14 17 22.3	
	7.4nm,0.3s						
IZV	**Izvestkoviy**	**3.60**	**29**	Pg	**Pg**	**14 16 30.8**	**-1.2**
	5.2nm,0.5s						
IZV				Lg	Lg	14 17 21.6	
	9.7nm,0.2s						
IZV	**Izvestkoviy**	**3.60**	**29**	*eP*	**Pg**	**14 16 30.8**	**-1.2**
	5.2nm,0.5s						
IZV				*eS*	**Sg**	**14 17 21.6**	**+3.0**
	9.7nm,0.2s						
MTBS	**Maitube**	**3.62**	**26**	Pg	**Pg**	**14 16 30.9**	**-1.4**
	4.9nm,0.2s						
MTBS				Lg	Lg	14 17 21.9	
	6.1nm,0.2s						
MTBS	**Maitube**	**3.62**	**26**	*eP*	**Pg**	**14 16 30.9**	**-1.4**
	4.9nm,0.2s						
MTBS				*eS*	**Sg**	**14 17 21.9**	**+2.7**
	6.1nm,0.2s						
TNSS	**Tian-Shan**	**3.73**	**32**	Pg	**Pg**	**14 16 31.6**	**-2.9**
	0.9nm,0.3s						
TNSS				Lg	Lg	14 17 23.4	
	3.3nm,0.6s						
TNSS	**Tian-Shan**	**3.73**	**32**	*eP*	**Pg**	**14 16 31.6**	**-2.9**
	0.9nm,0.3s						
TNSS				*eS*	**Sg**	**14 17 23.4**	**+0.5**
	3.3nm,0.6s						
IUG	**Iuzhnay**	**3.91**	**307**	Pg	**Pb**	**14 16 30.9**	**-1.1**
	3.0nm,0.1s						
IUG				Lg	Lg	14 17 21.4	
	18nm,0.3s						
KOTS	**Kotyrbulak**	**3.96**	**32**	Pg	**Pg**	**14 16 36.5**	**-2.4**
	3.8nm,0.4s						
KOTS				Lg	Lg	14 17 31.5	
	32nm,0.6s						
KOTS	**Kotyrbulak**	**3.96**	**32**	*eP*	**Pg**	**14 16 36.5**	**-2.4**
	3.8nm,0.4s						
KOTS				*eS*	**Sg**	**14 17 31.5**	**+1.2**
	32nm,0.6s						
KTBS	**Karatobe**	**4.22**	**25**	Pg	**Pg**	**14 16 41.5**	**-2.3**
	2.2nm,0.3s						
KTBS				Lg	Lg	14 17 40.0	
	9.6nm,0.5s						
KK31	**Karatay Array**	**4.26**	**320**	Pn	Pb	14 16 32.1	-5.8
	0.3nm,0.2s,baz=123,slow=13,SNR=5.0						
KK31				⇓Pg	**Pg**	**14 16 44.2**	**-0.3**
	0.4nm,0.3s,baz=139,slow=16,SNR=3.5						
KK31				⇑Sn	**Sb**	**14 17 24.5**	**-5.0**
	2.3nm,0.5s,baz=138,slow=24,SNR=3.9						
KK31				⇑Lg	Lg	14 17 44.6	
	2.0nm,0.5s,baz=122,slow=27,SNR=3.6						
KUU	**Kurty**	**4.29**	**21**	Pg	**Pg**	**14 16 43.0**	**-2.0**
	2.7nm,0.0s						
KUU				Lg	Lg	14 17 42.5	
	10nm,0.2s						
KUU	**Kurty**	**4.29**	**21**	*eP*	**Pg**	**14 16 43.0**	**-2.0**
	2.7nm,0.0s						
KUU				*eS*	**Sg**	**14 17 42.5**	**+2.0**
	10nm,0.2s						
SATY	**Saty**	**4.44**	**43**	Pg	**Pb**	**14 16 42.7**	**+1.6**
	0.6nm,0.1s						
SATY				Lg	Lg	14 17 42.0	
	4.9nm,0.2s						
CHKK	**Chushkaly**	**4.45**	**26**	Pg	**Pg**	**14 16 45.7**	**-2.5**
	2.7nm,0.2s						
CHKK				Lg	Lg	14 17 47.2	
	9.3nm,0.8s						
CHKK	**Chushkaly**	**4.45**	**26**	*eP*	**Pg**	**14 16 45.7**	**-2.5**
	2.7nm,0.2s						
CHKK				*eS*	**Sg**	**14 17 47.2**	**+1.4**
	9.3nm,0.8s						
UZB	**Uzynbulak**	**4.83**	**46**	Pg	**Pb**	**14 16 49.3**	**+1.6**
	1.2nm,0.2s						
UZB				Lg	Lg	14 17 53.4	
	3.4nm,0.7s						
UZB	**Uzynbulak**	**4.83**	**46**	*eP*	**Pb**	**14 16 49.3**	**+1.6**
UZB				*eS*	**Sg**	**14 17 53.4**	**-4.6**
BTLS	**Baital**	**5.14**	**358**	Pg	**Pg**	**14 16 58.9**	**-2.5**
	1.1nm,0.4s						
BTLS				Lg	Lg	14 18 09.9	
	2.7nm,0.6s						
BTLS	**Baital**	**5.14**	**358**	*eP*	**Pg**	**14 16 58.9**	**-2.5**
	1.1nm,0.4s						
BTLS				*eS*	**Sg**	**14 18 09.9**	**+1.9**

2.7nm,0.6s
BLB Baldybastay 5.25 35 Pg **Pb** 14 16 57.8 **+3.0**
8.1nm,0.5s
BLB Lg Lg 14 18 07.9
4.2nm,0.8s

AUST 16 14:35:48.9±1.1,19°S±8″×12°1E±°, h10km±10km, mb4.0/5, ML3.1/5, ML3.6/1, Error ellipse: s-maj=19.8km s-min=4.9km az=143.3, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.67**	**203**	P	Pn	14 36 32.8	+0.9
MBWA				S	Sn	14 37 05.4	+1.0
PSAC1	**Pilbara Seismi**	**2.99**	**198**	P	Pn	14 36 37.0	+0.6
PSAC1				S	Sn	14 37 13.2	+0.9
PSA00	**Pilbara Seismi**	**3.02**	**198**	P	Pn	14 36 38.0	+1.3
PSA00				S	Sn	14 37 13.9	+0.9
FITZ	**Fitzroy Crossi**	**4.61**	**83**	P	Pn	14 36 59.6	+1.0
FITZ	**Fitzroy Crossi**	**4.61**	**83**	S	Sn	14 37 53.1	+1.0
GIRL	**Giralia**	**7.32**	**236**	P	Pn	14 37 32.0	-3.9
GIRL				S	Sn	14 38 46.8	-12
KNRA	**Kununurra**	**8.15**	**70**	P	Pn	14 37 46.5	-0.8
	comp=Z,15nm,2.1s,comp=Z,0.1nm						
KNRA				S	Sn	14 39 16.1	-3.4
MEEK	**Meekatharra**	**8.17**	**194**	P	Pn	14 37 47.8	+0.1
	comp=Z,10nm,1.5s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.17**	**194**	S	Sn	14 39 16.2	-3.9
CVQOZ	**Cooralya Stati**	**8.50**	**226**	P	Pn	14 37 49.3	-2.8
CVQOZ				S	Sn	14 39 15.4	-13
WRKA	**Warakurna**	**9.38**	**134**	P	Pn	14 38 07.6	+3.4
WRKA				S	Sn	14 39 50.6	+0.8
SOEI	**Soe**	**9.48**	**21**	P	Pn	14 37 60.0	-5.7
EDFI	**Ende, Flores**	**9.91**	**5**	P	Pn	14 38 01.1	-11
PLAI	**Plampang**	**10.24**	**343**	P	Pn	14 38 05.7	-10
MORW	**Morawa**	**11.22**	**202**	P	Pn	14 38 26.1	-3.4
MTN	**Manton Dam**	**11.49**	**61**	P	Pn	14 38 30.3	-2.9
BLDU	**Ballidu**	**12.45**	**197**	P	Pn	14 38 44.1	-2.1
	comp=Z,11nm,1.7s						
KLBR	**Kellerberrin**	**13.15**	**192**	P	Pn	14 38 53.9	-1.9
	comp=Z,14nm,0.6s						
FORT	**Forrest**	**13.71**	**153**	P	Pn	14 39 04.1	+0.7
	comp=Z,6.0nm,0.7s						
MUN	**Mundaring**	**13.88**	**197**	P	Pn	14 39 03.4	-2.3

*NEIC **16** 14:38:45.6±0.8,35°.995N±0°.009×117°.403W±0°.006, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.4km az=47.0*

PAS 16 14:38:46.0±0.6,35°.989N±0°.008×117°.41W±0°.01, h1km, ML3.5/109, ML3.2/172(NEIC), Error ellipse: s-maj=1.5km s-min=1.0km az=71.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.09**	**317**		Pg	14 38 48.1	+0.2
CLC	**China Lake**	**0.23**	**221**		Sg	14 38 54.0	+0.6
CLC	**China Lake**	**0.23**	**221**		Pg	14 38 50.6	+0.2
CLC				IAML		14 38 54.2	
	comp=E,8μm,0.5s						
CLC				IAML		14 38 54.2	
	comp=N,9μm,0.4s						
WCSM	**Coso Springs S**	**0.29**	**277**		Pg	14 38 51.9	+0.3
WCSM					Sg	14 38 56.1	+0.7
JRC2	**Joshua Ridge**	**0.32**	**269**		Pg	14 38 52.6	+0.4
JRC2					Sg	14 38 57.3	+0.9
WVPM	**Volcano Peak E**	**0.33**	**263**		Pg	14 38 52.8	+0.4
TOW	**Tower One**	**0.34**	**238**		Pg	14 38 53.3	+0.8
TOW					Sb	14 38 59.0	-1.8
MFS	**McCloud Flat S**	**0.38**	**290**		Pg	14 38 53.6	+0.3
MFS					Sg	14 38 59.2	+0.9
WRVM	**Rose V. Centra**	**0.39**	**273**		Pg	14 38 53.7	+0.2
WRVM					Sg	14 38 59.2	+0.7
WSHM	**Spangler Hills**	**0.39**	**190**		Sg	14 38 59.4	+0.7
WSHM	**Spangler Hills**	**0.39**	**190**	Pg	Pg	14 38 53.7	+0.1
WSHM				IAML		14 38 59.6	
	comp=N,3μm,0.2s						
WSHM				IAML		14 38 59.7	
	comp=N,3μm,0.3s						
GPO	**China Lake**	**0.40**	**211**		Pg	14 38 54.0	+0.4
GPO					Sg	14 38 59.7	+1.0
SRTC	**Snort**	**0.40**	**223**		Pg	14 38 54.4	+0.6
SRTC					Sb	14 39 02.0	-0.7
WNMM	**Nine Mile Cany**	**0.43**	**250**		Pg	14 38 54.6	+0.4
QSM	**Queen of Sheba**	**0.44**	**93**		Sg	14 39 00.6	+0.4
QSM	**Queen of Sheba**	**0.44**	**93**		Pg	14 38 54.7	+0.2
QSM				IAML		14 39 01.2	
	comp=N,2μm,0.5s						
QSM				IAML		14 39 01.5	
	comp=E,2μm,0.3s						
CCCA	**Chr Cany lake**	**0.47**	**175**		Sg	14 39 02.5	+1.6
CCCA	**Chr Cany lake**	**0.47**	**175**		Pg	14 38 55.5	+0.5
CCCA				IAML		14 39 02.8	
	comp=E,2μm,0.4s						
CCCA				IAML		14 39 04.1	
	comp=N,3μm,0.6s						
LRMC	**Laurel Mtn Rad**	**0.55**	**204**		Sg	14 39 04.6	+0.8
LRMC	**Laurel Mtn Rad**	**0.55**	**204**		Pg	14 38 56.7	+0.1
LRMC				IAML		14 39 05.5	
	comp=N,2μm,0.3s						
LRMC				IAML		14 39 06.8	
	comp=E,3μm,0.4s						
GWY	**Greenwater Val**	**0.63**	**72**		Sg	14 39 07.0	+0.6
GWY	**Greenwater Val**	**0.63**	**72**		Pg	14 38 58.3	+0.2
GWY				IAML		14 39 11.2	
	comp=N,1μm,0.3s						
GWY				IAML		14 39 11.5	
	comp=E,2μm,0.3s						
CGO	**Cerro Gordo**	**0.64**	**331**		Sg	14 39 07.2	+0.4
FURC	**Furnace Creek,**	**0.65**	**43**		Pg	14 38 59.0	+0.5
FURC					Sg	14 39 07.9	+0.9
CWC	**Cottonwood Cre**	**0.70**	**310**		Sg	14 39 09.3	+0.6
CWC	**Cottonwood Cre**	**0.70**	**310**		Pg	14 38 59.4	-0.1
CWC				IAML		14 39 09.9	
	comp=E,2μm,0.2s						
WORM	**Onyx Ranch**	**0.74**	**247**		Pg	14 39 00.1	-0.1
WORM					Sg	14 39 09.8	+0.1
DTP	**Desert Tortois**	**0.80**	**206**		Sg	14 39 12.2	+0.4
WHFM	**Hanning Flat**	**0.82**	**249**		Pg	14 39 01.6	-0.1
GSC	**Goldstone, Bar**	**0.84**	**144**		Pg	14 39 02.0	-0.2
GSC				IAML		14 39 15.6	
	comp=N,1μm,0.5s						
ISA	**Isabella, Lake**	**0.92**	**250**		Sg	14 39 15.6	-0.1
ISA	**Isabella, Lake**	**0.92**	**250**		Pg	14 39 03.6	-0.1
ISA				IAML		14 39 19.5	
	comp=N,463nm,0.4s						
ISA				IAML		14 39 19.6	
	comp=E,604nm,0.5s						
SHOC	**Shoshone, Teco**	**0.93**	**95**		Pg	14 39 04.3	+0.5
SHOC					Sb	14 39 17.0	-0.7
GRAC	**Grapevine Rang**	**1.01**	**2**		Pg	14 39 05.0	-0.3
GRAC				IAML		14 39 27.4	
	comp=E,890nm,0.7s						
GRAC				IAML		14 39 27.8	
	comp=N,829nm,0.8s						
WCT	**Wildcat Mounta**	**1.02**	**38**		Pg	14 39 05.4	-0.3
WCT				IAML		14 39 19.7	
	comp=E,579nm,0.3s						
WCT				IAML		14 39 20.2	
	comp=N,393nm,0.3s						
SPG2	**Springville 2**	**1.12**	**281**		Pg	14 39 06.9	-0.6
SPG2					Sg	14 39 21.4	-0.6
EDW2	**Edwards Air Fo**	**1.20**	**203**		Pg	14 39 08.3	-0.8
TIN	**Tinemaha, Big**	**1.25**	**328**		Pg	14 39 09.9	-0.1
TPO	**Tropico Hills**	**1.29**	**211**		Pg	14 39 10.4	-0.4
GMN	**Gold Mountain**	**1.31**	**5**		Pg	14 39 10.7	-0.6
TUQ	**Turquoise Moun**	**1.33**	**114**		Pg	14 39 10.6	-0.9
TPNV	**Topopah Spring**	**1.34**	**44**		Pg	14 39 11.0	-0.7
TPNV				IAML		14 39 30.3	
	comp=N,583nm,0.3s						
TPNV				IAML		14 39 31.1	
	comp=N,476nm,0.4s						
DSP	**Deep Springs**	**1.45**	**342**		Pn	14 39 12.5	-0.8
MTPC	**Mountain Pass**	**1.59**	**108**		Pn	14 39 14.8	-0.7
MTPC				IAML		14 39 40.5	
	comp=N,307nm,0.7s						
MTPC				IAML		14 39 40.7	
	comp=E,309nm,0.3s						
VOG	**Valley Oaks Go**	**1.63**	**282**		Pb	14 39 16.6	-0.3
MZP	**Montezuma Peak**	**1.71**	**1**		Pn	14 39 16.7	-0.6
OSI	**Osito Audit: C**	**1.74**	**218**		Pn	14 39 17.3	-0.2
OSI				IAML		14 39 47.1	
	comp=E,266nm,0.7s						
OSI				IAML		14 39 48.0	
	comp=N,284nm,0.9s						
MWC	**Mount Wilson**	**1.84**	**197**		Pn	14 39 18.2	-0.7
MWC				IAML		14 39 47.7	
	comp=E,316nm,0.6s						
MWC				IAML		14 39 48.5	
	comp=N,256nm,0.5s						
SHPR	**Sheep Range**	**1.89**	**74**		Pn	14 39 18.8	-0.9
PASC	**Pasadena Art C**	**1.92**	**200**		Pn	14 39 19.3	-0.6
PASC				IAML		14 39 50.9	
	comp=E,150nm,0.7s						
PASC				IAML		14 39 54.3	
	comp=N,180nm,0.6s						
TPH	**Tonopah**	**2.09**	**4**		Pn	14 39 21.8	-0.5
V12A	**Nelson**	**2.10**	**96**		Pn	14 39 21.0	-1.4
V12A				IAML		14 40 01.1	
	comp=E,195nm,0.6s						
V12A				IAML		14 40 02.5	
	comp=N,118nm,0.6s						
S11A	**Rachel**	**2.12**	**38**		Pn	14 39 22.1	-0.7
ELS	**Elsinore Mount**	**2.34**	**180**		Pn	14 39 24.9	-0.8
PRN	**Pahroc Range**	**2.37**	**53**		Pn	14 39 25.1	-1.0
PRN				IAML		14 40 04.9	
	comp=N,194nm,0.5s						
PRN				IAML		14 40 06.4	
	comp=E,170nm,0.4s						
LHV	**Little Huntoon**	**2.42**	**339**		Pn	14 39 26.4	-0.3
LHV				IAML		14 40 10.3	
	comp=E,76nm,0.6s						
LHV				IAML		14 40 15.6	
	comp=N,69nm,0.6s						
PMD	**Palm Desert**	**2.49**	**160**		Pn	14 39 26.2	-1.5
PFO	**Pinyon Flats O**	**2.50**	**161**		Pn	14 39 26.9	-1.0
NV11	**Mina Array Sit**	**2.51**	**347**		Pn	14 39 27.4	-0.7
NVAR	**Mina Array Bea**	**2.54**	**344**		Pn	14 39 27.9	-0.6
NEE2	**Needles Airpor**	**2.59**	**117**		Pn	14 39 28.6	-0.4
PMPB	**Monarch Peak**	**2.75**	**276**		Pn	14 39 31.0	-0.4
PMPB				IAML		14 40 20.9	
	comp=N,102nm,0.9s						
PMPB				IAML		14 40 25.6	
	comp=E,99nm,0.9s						
R11B	**Troy Canyon, C**	**2.77**	**31**		Pn	14 39 30.4	-1.3
R11B				IAML		14 40 15.0	
	comp=E,70nm,0.5s						
RYN	**Ryan**	**2.78**	**342**		Pn	14 39 31.1	-0.7
BORC	**Borrego Spring**	**2.83**	**163**		Pn	14 39 32.2	-0.3
Q09A	**Carvers**	**2.85**	**4**		Pn	14 39 31.8	-1.0
SALN	**Salton City**	**2.95**	**156**	Pn	Pn	14 39 34.3	+0.4
WAKR	**Walker**	**2.99**	**328**		Pn	14 39 34.8	+0.1
BBGB	**Big Mountain B**	**2.99**	**282**		Pn	14 39 34.5	-0.2
DPP	**Dos Picos Cty**	**3.01**	**172**		Pn	14 39 34.2	-0.7
W13A	**Hualapai Mount**	**3.01**	**106**		Pn	14 39 34.7	-0.3
W13A				IAML		14 40 26.2	
	comp=N,53nm,0.9s						
W13A				IAML		14 40 26.6	
	comp=E,58nm,0.7s						
CMB	**Columbia Colle**	**3.14**	**311**		Pn	14 39 36.0	-0.7
CMB				IAML		14 40 28.9	
	comp=E,61nm,0.9s						
CMB				IAML		14 40 30.4	
	comp=N,73nm,0.6s						
BLYC	**Blythe**	**3.26**	**132**		Pn	14 39 36.5	-1.7
BLYC				IAML		14 40 37.8	
	comp=N,44nm,0.7s						
BLYC				IAML		14 40 43.0	
	comp=E,56nm,0.7s						
SAO	**San Andreas Ge**	**3.35**	**285**		Pn	14 39 38.0	-1.5
TKX	**Tecate**	**3.48**	**169**	Pn	Pn	14 39 39.3	-2.0
TJX	**Tijuana**	**3.48**	**175**	Pn	Pn	14 39 40.3	-1.0
LCMT	**Little Creek M**	**3.51**	**72**		Pn	14 39 40.5	-1.4
YUH	**Yuha Desert**	**3.55**	**159**		Pn	14 39 41.6	-0.7
CCUT	**Cedar City**	**3.60**	**63**		Pn	14 39 41.3	-1.9
GLA	**Glamis**	**3.62**	**143**		Pn	14 39 41.5	-1.9
GLA				IAML		14 40 43.9	
	comp=E,70nm,0.7s						
GLA				IAML		14 40 48.9	
	comp=N,66nm,0.7s						
CBX	**Cerro Bola**	**3.72**	**170**		Pn	14 39 43.3	-1.5
PSUT	**Pine Spring**	**3.81**	**47**		Pn	14 39 44.4	-1.7
PSUT				IAML		14 40 47.8	
	comp=N,34nm,0.5s						
PSUT				IAML		14 40 47.9	
	comp=E,32nm,0.8s						
SZCU	**Shurtz Canyon**	**3.82**	**64**		Pn	14 39 44.6	-1.7
KNB	**Kanab**	**3.84**	**73**		Pn	14 39 45.5	-0.9
SPR3	**Spring Creek 3**	**3.88**	**38**		Pn	14 39 47.7	+0.6
SPR3				IAML		14 40 52.3	
	comp=N,34nm,0.7s						
SPR3				IAML		14 40 52.4	
	comp=E,39nm,0.7s						
MPK	**Martis Peak**	**3.90**	**329**		Pn	14 39 47.0	-0.4
MPK				IAML		14 41 07.6	
	comp=E,39nm,0.9s						
MPK				IAML		14 41 11.2	
	comp=N,41nm,0.6s						
PAHR	**Pah Rah Range**	**4.03**	**338**		Pn	14 39 48.9	-0.1
AFDM	**Forest Hills D**	**4.09**	**317**		Pn	14 39 49.1	-0.7
AFDM				IAML		14 40 56.7	
	comp=E,45nm,0.3s						
AFDM				IAML		14 40 59.9	
	comp=N,40nm,1.0s						
Y14A	**Wickenburg**	**4.16**	**118**		Pn	14 39 49.0	-1.6
U15A	**North Rim**	**4.16**	**82**	IAML		14 41 08.4	
	comp=E,16nm,1.0s						
BEKR	**Beckworth**	**4.52**	**330**	IAML		14 41 19.8	
	comp=N,13nm,0.5s						
BEKR				IAML		14 41 19.9	
	comp=E,26nm,0.5s						
VTX	**Valle De La Tr**	**4.78**	**163**		Pn	14 39 56.7	-2.6
VTX				IAML		14 41 21.5	
	comp=E,11nm,2.5s						
VTX				IAML		14 43 10.5	
	comp=N,13nm,0.1s						
WUAZ	**Wupatki**	**4.93**	**94**	IAML		14 41 23.3	
	comp=N,18nm,0.7s						
WUAZ				IAML		14 41 28.5	
	comp=N,16nm,0.7s						
ELK	**Elko**	**5.05**	**19**		Pn	14 40 03.4	+0.4
ELK				IAML		14 41 27.5	
	comp=N,11nm,0.7s						
ELK				IAML		14 41 27.5	
	comp=N,15nm,0.6s						
X16A	**Lo Mia Camp, P**	**5.13**	**106**	IAML		14 41 37.7	
	comp=E,11nm,0.9s						
X16A				IAML		14 42 08.4	
	comp=N,19nm,0.1s						

*NOU **16** 14:56:04.0, 18°.20S×120°.10E, h101km, mb4.0/12, Western Australia*
*AUST **16** 14:56:06.6±1.6, 19°.9S×12°.1E±°, h17km±18km, mb3.9/8, ML3.1/7, Error ellipse: s-maj=25.2km s-min=6.3km az=137.4*

ISC 16 14:56:01.3±1.3, 18°.39S±0°.09×120°.25E±0°.08, h10km, n28, σ2§26/32, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.79**	**190**	P	Pn	**14 56 49.8**	**+3.7**
MBWA	**Marble Bar**	**2.79**	**190**	P	Pn	**14 56 49.7**	**+3.5**
PSAC1	**Pilbara Seismi**	**3.15**	**187**	P	Pn	**14 56 54.3**	**+3.3**
PSA00	**Pilbara Seismi**	**3.19**	**187**	P	Pn	**14 56 55.0**	**+3.5**
PSA00				S	Sn	**14 57 32.2**	**+2.5**
PSA00	**Pilbara Seismi**	**3.19**	**187**	P	Pn	**14 56 55.1**	**+3.5**
FITZ	**Fitzroy Crossi**	**5.13**	**88**	P	Pn	**14 57 19.9**	**+1.6**
FITZ	**Fitzroy Crossi**	**5.13**	**88**	S	Sn	**14 58 16.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**5.13**	**88**	P	Pn	**14 57 19.7**	**+1.4**
GIRL	**Giralia**	**7.05**	**232**	P	Pn	**14 57 46.1**	**+1.5**
GIRL				S	Sn	**14 59 00.5**	**-4.3**
CVQOZ	**Cooralya Stati**	**8.32**	**223**	P	Pn	**14 58 03.3**	**+1.1**
MEEK	**Meekatharra**	**8.34**	**190**	P	Pn	**14 58 04.7**	**+2.2**
	comp=Z,6.7nm,0.4s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.34**	**190**	S	Sn	**14 59 34.1**	**-2.7**
MEEK	**Meekatharra**	**8.34**	**190**	P	Pn	**14 58 04.6**	**+2.2**
KNRA	**Kununurra**	**8.58**	**73**	P	Pn	**14 58 07.1**	**+1.5**
	comp=Z,16nm,2.2s,comp=Z,0.1nm						
WRKA	**Warakurna**	**9.98**	**133**	P	Pn	**14 58 27.4**	**+2.5**
	comp=Z,2.2nm,1.4s,comp=Z,0.0nm						
WRKA				S	Sn	**15 00 15.7**	**-1.3**
MORW	**Morawa**	**11.30**	**199**	P	Pn	**14 58 42.9**	**-0.1**
	comp=Z,11nm,2.4s						
MORW	**Morawa**	**11.30**	**199**	P	Pn	**14 58 43.1**	**+0.1**
MTN	**Manton Dam**	**11.84**	**64**	P	Pn	**14 58 49.7**	**-0.7**
	comp=Z,24nm,2.0s						
MTN	**Manton Dam**	**11.84**	**64**	P	Pn	**14 58 49.6**	**-0.8**
BLDU	**Ballidu**	**12.59**	**194**	P	Pn	**14 59 00.8**	**+0.3**
	comp=Z,7.9nm,2.1s						
BLDU	**Ballidu**	**12.59**	**194**	P	Pn	**14 59 01.6**	**+1.1**
KDU	**Kakadu**	**13.07**	**66**	P	Pn	**14 59 07.7**	**+0.5**
KLBR	**Kellerberrin**	**13.33**	**189**	P	Pn	**14 59 11.8**	**+1.1**
	comp=Z,9.7nm,0.8s						
KLBR	**Kellerberrin**	**13.33**	**189**	P	Pn	**14 59 11.8**	**+1.1**
AS01	**Alice Springs**	**13.82**	**115**	P	Pn	**14 59 18.4**	**+0.9**
MUN	**Mundaring**	**14.01**	**194**	P	Pn	**14 59 19.9**	**-0.1**
FORT	**Forrest**	**14.22**	**152**	P	Pn	**14 59 23.9**	**+1.1**
	comp=Z,5.0nm,3.0s						
FORT				S	Sn	**15 01 56.4**	**-4.4**
NWAO	**Narrogin (SRO)**	**14.72**	**190**	P	Pn	**14 59 29.5**	**-0.3**

*FUNV **16** 15:04:08.6, 8°.39N×71°.45W, h5km, MW3.5*
*RSNC **16** 15:04:10.6±0.0, 9°N±2°×7°1W±°, h17km±4km, M2.8, mb3.5, ML2.4*

ISC 16 15:04:07.8±1.2, 8°.50N±0°.03×71°.43W±0°.03, h5km±10km, n29, σ1§52/53, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.60**	**111**	*eP*	**Pg**	**15 04 20.2**	**+0.8**
SOCV				*eS*	**Sg**	**15 04 28.1**	**+0.9**
SDV	**Santo Domingo**	**0.87**	**64**	P	**Pg**	**15 04 25.0**	**+0.4**
SDV				S	**Sg**	**15 04 36.6**	**+0.6**
CAPV	**Capacho**	**1.08**	**235**	*eP*	**Pg**	**15 04 27.1**	**-1.5**
CAPV				*eS*	**Sg**	**15 04 41.4**	**-1.2**
PAMC	**Pamplona, Colo**	**1.71**	**228**	P	**Pn**	**15 04 39.4**	**+0.7**
PAMC				S	**Sb**	**15 05 02.2**	**+0.3**
OCAC	**Ocana**	**1.89**	**262**	P	**Pn**	**15 04 40.4**	**-0.5**
OCAC				S	**Sn**	**15 05 05.1**	**-0.1**
MCQV	**Machiques**	**1.89**	**325**	*eP*	**Pn**	**15 04 42.5**	**+1.7**
TAMC	**Tame, Arauca**	**2.08**	**190**	P	**Pn**	**15 04 45.2**	**+1.8**
TAMC				S	**Sb**	**15 05 12.9**	**+0.6**
BARC	**Barichara**	**2.57**	**223**	P	**Pb**	**15 04 54.2**	**-0.4**
BARC				S	**Sb**	**15 05 26.7**	**+0.1**
BRJC	**Barrancabermej**	**2.75**	**237**	P	**Pb**	**15 04 57.2**	**-0.3**
BRJC				S	**Sn**	**15 05 28.6**	**+2.3**
CRJC	**Cerrejon, Guaj**	**2.89**	**330**	P	**Pn**	**15 04 54.3**	**-0.3**
CRJC				S	**Sn**	**15 05 29.6**	**-0.2**
RUSC	**La Rusia**	**3.07**	**213**	P	**Pn**	**15 04 58.2**	**+0.8**
RUSC				S	**Sn**	**15 05 35.2**	**+0.5**
ARGC	**Ariguani, Magd**	**3.10**	**296**	P	**Pn**	**15 04 59.7**	**+2.3**
ARGC				S	**Sn**	**15 05 34.8**	**0.0**
URIC	**Uribia, Colomb**	**3.23**	**350**	P	**Pn**	**15 05 00.0**	**+0.8**
URIC				S	**Sn**	**15 05 36.3**	**-1.9**
BAUV	**El Baul**	**3.38**	**82**	*eP*	**Pn**	**15 05 01.9**	**+0.7**
BAUV				*eS*	**Sn**	**15 05 41.1**	**-0.6**
ZARC	**Zaragoza, Cauc**	**3.54**	**254**	P	**Pn**	**15 05 03.3**	**-0.2**
ZARC				S	**Sn**	**15 05 48.9**	**+3.1**
PTBC	**PUERTO BERRIO,**	**3.58**	**237**	P	**Pn**	**15 05 03.4**	**-0.6**
PTBC				S	**Sn**	**15 05 48.0**	**+1.3**
SMRC	**Santa Marta, M**	**3.83**	**314**	P	**Pn**	**15 05 10.2**	**+2.8**
SMRC				S	**Sn**	**15 05 49.0**	**-3.8**
SJCC	**San Jacinto, C**	**3.96**	**291**	P	**Pn**	**15 05 10.1**	**+0.8**
SJCC				S	**Sn**	**15 05 57.4**	**+1.2**
BENV	**Beln**	**4.05**	**69**	*eP*	**Pn**	**15 05 11.1**	**+0.6**
UREC	**San Jos de Ur**	**4.13**	**260**	P	**Pn**	**15 05 13.3**	**+1.6**
UREC				S	**Sn**	**15 06 00.2**	**-0.2**
PTGC	**Puerto Gaitan,**	**4.33**	**189**	P	**Pn**	**15 05 14.6**	**+0.3**
PTGC				S	**Sn**	**15 06 05.6**	**+0.4**
CHIC	**Chingaza**	**4.47**	**211**	P	**Pn**	**15 05 17.7**	**+1.0**
CHIC				S	**Sn**	**15 06 08.5**	**-0.9**
NORC	**Norcasia**	**4.49**	**230**	P	**Pn**	**15 05 19.0**	**+2.4**
TACV	**Tcata**	**4.64**	**69**	*eP*	**Pn**	**15 05 18.4**	**-0.2**
CACV	**CAICARA DEL OR**	**4.93**	**100**	*eP*	Pn	15 05 29.0	+6.5
CACV				*eS*	**Sb**	**15 06 28.9**	**-5.3**
PRAC	**Prado**	**5.87**	**216**	P	**Pn**	**15 05 36.2**	**+0.7**
	4.6nm,2.0s						
PRAC				S	**Sn**	**15 06 42.9**	**-0.3**
	4.6nm,2.0s						
YOTC	**Yotoco, Valle**	**6.63**	**228**	P	**Pn**	**15 05 48.3**	**+2.2**
	3.7nm,0.8s						
YOTC				S	**Sn**	**15 07 03.6**	**+1.3**
	3.7nm,0.8s						
MACC	**Macarena, Meta**	**6.75**	**201**	P	**Pn**	**15 05 46.7**	**-1.0**
MACC				S	**Sn**	**15 07 04.6**	**-0.5**
GARC	**Garzon, Huila**	**7.46**	**213**	P	**Pn**	**15 05 58.4**	**+0.8**
GARC				S	**Sn**	**15 07 23.0**	**+0.1**

*NIED **16** 15:25:43.9, 37°.17N×141°.39E, h47km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.21; Mθθ-0.26; Mϕϕ-0.95; Mrθ0.73; Mrϕ-0.49; Mθϕ1.53; Fault plane solution: M0 2.08000×10^15 NP1: ϕs209.00000°, δ18.00000°, λ93.00000°. NP2: ϕs26.00000°, δ72.00000°, λ89.00000°.*
*NEIC **16** 15:25:43.3±1.5, 37°.21N±0°.04×141°.53E±0°.08, h40km±6km, mb4.6/66 Error ellipse: s-maj=8.9km s-min=6.5km az=86.0*
*JMA **16** 15:25:43.9±0.1, 37°.2N±0°.4×141°.4E±0°.9, h47km±1km, MD4.3/37, MV4.7/37, E OFF FUKUSHIMA PREF*
JMA Felt III J1 at E OFF FUKUSHIMA PREF .
*IDC **16** 15:25:45.0±0.7, 37°.25N×141°.34E, h45km±5km, mb3.8/19, mbtmp4.0/24, ML3.8/5, MS3.4/9, Error ellipse: s-maj=17.5km s-min=13.4km az=162.0*

ISC 16 15:25:43.7±0.6, 37°.18N±0°.04×141°.48E±0°.05, h48km±4km, n170, σ1§45/171, mb4.5/55, MS3.5/11, 17D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.51**	**291**	⇓P	**Pn**	**15 25 54.3**	**-0.8**
JFK				⇓S	**Sn**	**15 26 01.5**	**-1.7**
JFK	**Kawauchi**	**0.51**	**291**	A	A	15 25 54.3	
	comp=N,24nm,0.3s,comp=E,36nm,0.5s						
ONAJ	**Iwakimizuishiy**	**0.55**	**262**	⇓P	**Pn**	**15 25 54.6**	**-0.9**
ONAJ				⇓S	**Sn**	**15 26 02.1**	**-1.8**
ONAJ	**Iwakimizuishiy**	**0.55**	**262**	A	A	15 25 54.6	
	comp=N,142nm,0.3s,comp=E,246nm,0.3s						
JMST	**Minamisoumatoc**	**0.72**	**319**	⇓P	**Pn**	**15 25 57.0**	**-0.6**
JMST				⇓S	**Sn**	**15 26 06.5**	**-1.1

MJAR	**Matsushiro Arr**	**2.69**	**257**	P		**Pn**	**15 26 23.5**	**-1.2**	
	comp=E,5.4nm,0.3s,baz=253,slow=18,SNR=195								
MJAR				S		**Sn**	**15 26 59.3**	**+3.2**	
	comp=E,56nm,0.3s,baz=350,slow=19,SNR=2.8								
MJAR				LR		LR	15 27 45.7		
	comp=E,551nm,19.8s,baz=62,slow=46								
	comp=E,33nm,0.4s								
MAJO	**Matsushiro**	**2.70**	**257**			**Pn**	**15 26 25.4**	**+0.7**	
MAJO	**Matsushiro**	**2.70**	**257**	P		**Pn**	**15 26 25.7**	**+1.1**	
MJB9	**Matsu-Tunnel**	**2.70**	**257**			**Pn**	**15 26 25.5**	**+0.8**	
JTM	**Tenmabayashi**	**3.62**	**355**			**Pn**	**15 26 37.7**	**+0.5**	
JTM				Sn		**Sn**	**15 27 17.6**	**-1.0**	
JTM	**Tenmabayashi**	**3.62**	**355**	P		**Pn**	**15 26 38.7**	**+1.5**	
JSG	**Sagara**	**3.66**	**228**			**Pn**	**15 26 38.6**	**+0.8**	
JSG				Sn		**Sn**	**15 27 19.0**	**-0.6**	
JSG	**Sagara**	**3.66**	**228**	P		**Pn**	**15 26 40.9**	**+3.1**	
JGF	**Kuroka**	**3.68**	**246**			**Pn**	**15 26 38.5**	**+0.3**	
JGF				Sn		**Sn**	**15 27 21.1**	**+0.8**	
JGF	**Kuroka**	**3.68**	**246**	P		**Pn**	**15 26 39.6**	**+1.5**	
INU	**Inuyama**	**4.04**	**244**			**Pn**	**15 26 44.4**	**+1.3**	
INU	**Inuyama**	**4.04**	**244**	P		**Pn**	**15 26 44.6**	**+1.6**	
JHJ2	**Mitsune**	**4.28**	**199**			**Pn**	**15 26 46.0**	**-0.4**	
JHJ2				Sn		**Sn**	**15 27 31.9**	**-3.1**	
JHJ2	**Mitsune**	**4.28**	**199**	P		**Pn**	**15 26 46.6**	**+0.2**	
ERM	**Erimo**	**5.00**	**15**			**Pn**	**15 26 56.0**	**-0.2**	
ERM				Sn		**Sn**	**15 27 49.0**	**-3.6**	
ERM	**Erimo**	**5.00**	**15**	P		**Pn**	**15 26 56.2**	**0.0**	
JKA	**Kamikawa-asahi**	**6.98**	**7**			**Pn**	**15 27 22.4**	**-1.0**	
JKA				Sn		**Sn**	**15 28 40.0**	**-1.4**	
ASAJ	**Asahikawa**	**6.98**	**7**	P		**Pn**	**15 27 22.9**	**-0.5**	
	comp=E,4.6nm,0.3s,baz=211,slow=15,SNR=66								
ASAJ				S		**Sn**	**15 28 41.8**	**+0.5**	
	comp=E,14nm,0.5s,baz=73,slow=19,SNR=3.9								
	comp=E,9.7nm,0.3s								
JMN	**Monobe**	**7.09**	**243**			**Pn**	**15 27 25.1**	**+0.1**	
JMN	**Monobe**	**7.09**	**243**	P		**Pn**	**15 27 27.3**	**+2.3**	
JNU	**Nakatsue**	**9.57**	**248**	Pn		**Pn**	**15 27 58.2**	**-0.7**	
JNU	**Nakatsue**	**9.57**	**248**	P		**Pn**	**15 27 59.6**	**+0.7**	
	comp=E,0.5nm,0.3s,baz=138,slow=1.3,SNR=6.2								
	comp=E,4.9nm,0.7s								
JNU	**Nakatsue**	**9.57**	**248**	P		**Pn**	**15 28 01.6**	**+2.6**	
YSS	**Yuzhno-Sakhali**	**9.81**	**5**	Pn		**Pn**	**15 27 59.9**	**-2.2**	
YSS	**Yuzhno-Sakhali**	**9.81**	**5**	P		**Pn**	**15 28 03.2**	**+1.1**	
USRK	**Ussuriysk Ar.**	**10.05**	**317**	P		**Pn**	**15 28 05.5**	**+0.2**	
	comp=E,0.8nm,0.3s,baz=134,slow=13,SNR=14								
USRK				LR		LR	15 31 43.4		
	comp=E,138nm,20.0s,baz=187,slow=36								
	comp=E,1.4nm,0.6s								
USA0B	**Ussuriysk Arra**	**10.05**	**317**			**Pn**	**15 28 03.9**	**-1.4**	
JCJ	**Chichijima**	**10.07**	**176**	Pn		**Pn**	**15 28 03.9**	**-1.9**	
KSRS	**Korea Array**	**10.80**	**276**	P		**Pn**	**15 28 16.9**	**+1.3**	
	comp=E,0.3nm,0.3s,baz=83,slow=13,SNR=10								
	comp=E,1.7nm,0.6s								
KSAR	**Wonju Array Be**	**10.83**	**275**	Pn		**Pn**	**15 28 13.2**	**-2.8**	
KS19	**Wonju Array Si**	**10.84**	**276**	Pn		**Pn**	**15 28 13.8**	**-2.5**	
MDJ	**Mudanjiang**	**11.65**	**313**			**Pn**	**15 28 25.9**	**-1.4**	
MDJ	**Mudanjiang**	**11.65**	**313**	P		Pn	15 28 32.6	+5.3	
MDJ				pmax		pmax			
	comp=Z,10.0nm,0.8s								
HEH	**HeiHe**	**16.52**	**327**	*eP*		**Pn**	**15 29 28.9**	**-3.0**	
NJ2	**Nanjing**	**19.29**	**261**	*eP*		**Pn**	**15 30 05.1**	**-0.9**	
NJ2				pmax		pmax			
	comp=Z,9.0nm,1.1s								
XLT	**XiLinHaoTe**	**20.39**	**297**	*eP*		**P**	**15 30 14.3**	**-2.2**	
XLT				pP		pP	15 30 24.9	-2.8	
XLT				sS		Sn	15 34 08.8	+1.1	
XLT				pmax		pmax			
	comp=Z,10.0nm,1.2s								
XLT				pmax		pmax			
	comp=Z,73nm,5.3s								
XLT				LR		LR			
	comp=N,11nm,17.6s								
XLT				LR		LR			
	comp=E,60nm,11.2s								
XLT				LR		LR			
	comp=Z,160nm,19.6s								
HNS	**HongShan**	**21.28**	**279**	⇓P		**P**	**15 30 24.3**	**-1.7**	
HNS				pmax		pmax			
	comp=Z,20nm,0.9s								
NACB	**Ninganchiao**	**21.40**	**238**	P		**P**	**15 30 24.8**	**-2.7**	
NACB				IAmb		IAmb	15 30 34.4		
	comp=Z,13nm,0.7s								
SSLB	**Suanglung**	**22.10**	**239**	P		**P**	**15 30 31.3**	**-3.6**	
SSLB				IAmb		IAmb	15 31 06.3		
	comp=Z,45nm,1.5s								
YULB	**Yu-li**	**22.13**	**237**	P		**P**	**15 30 32.1**	**-3.2**	
YULB				IAmb		IAmb	15 30 52.4		
	comp=Z,33nm,1.5s								
TPUB	**Ta-pu**	**22.64**	**238**	P		**P**	**15 30 37.1**	**-3.7**	
TPUB				IAmb		IAmb	15 31 10.0		
	comp=Z,30nm,1.3s								
HHC	**Hu-ho-hao-te**	**23.47**	**288**	*eP*		**P**	**15 30 48.0**	**-1.1**	
HHC				pmax		pmax			
	comp=Z,9.0nm,0.7s								
HHC				pmax		pmax			
	comp=Z,97nm,7.2s								
HHC				LR		LR			
	comp=N,130nm,14.8s								
HHC				LR		LR			
	comp=E,110nm,13.3s								
HHC				LR		LR			
	comp=Z,110nm,14.8s								
YAK	**Yakutsk**	**25.94**	**347**	P		**P**	**15 31 10.0**	**-1.2**	
YAK				IAmb		IAmb	15 31 23.5		
	comp=Z,15nm,0.9s								
XAN	**Xi'an**	**26.58**	**273**	P		**P**	**15 31 16.4**	**-1.0**	
XAN				pP		pP	15 31 26.5	-3.3	
XAN				pmax		pmax			
	comp=Z,3.0nm,0.4s								
SEY	**Seymchan**	**26.64**	**11**	LR		LR	15 43 56.4		
	comp=Z,34nm,19.0s,baz=207,slow=41								
SONM	**Songino Array**	**27.74**	**304**	P		**P**	**15 31 27.9**	**+0.1**	
SONM	**Songino Array**	**27.74**	**304**	P		**P**	**15 31 28.8**	**+1.0**	
	comp=Z,2.9nm,0.6s,baz=106,slow=9.0,SNR=21								
SONM				LR		LR	15 42 45.8		
	comp=Z,84nm,18.5s,baz=181,slow=37								
	comp=Z,2.9nm,0.6s								
LZH	**Lanzhou**	**30.09**	**279**	*eP*		P	15 31 41.6	-7.2	
LZH				sP		sP	15 32 07.3	+0.2	
LZH				ScP		**ScP**	**15 38 20.0**	**-7.7**	
LZH				pmax		pmax			
	comp=Z,13nm,1.0s								
LZH				LR		LR			
	comp=N,180nm,14.6s								
LZH				LR		LR			
	comp=E,95nm,14.8s								
LZH				LR		LR			
	comp=Z,160nm,17.0s								
GTA	**Gaotai**	**32.57**	**287**	*eP*		**P**	**15 32 12.9**	**+2.4**	
GTA				pmax		pmax			
	comp=Z,2.0nm,0.7s								
KMI	**Kunming**	**35.03**	**261**	P		**P**	**15 32 32.5**	**+0.3**	
KMI				pmax		pmax			
	comp=Z,10.0nm,1.0s								
TIXI	**Tiksi**	**35.15**	**353**	P		**P**	**15 32 31.8**	**-0.5**	
TIXI				IAmb		IAmb	15 32 32.1		
	comp=Z,7.9nm,1.2s								
PZH	**PanZhiHua**	**35.16**	**264**	P		**P**	**15 32 34.8**	**+1.6**	
GAMB	**Gambell**	**38.56**	**31**	P		**P**	**15 32 59.6**	**-1.8**	
UBPT	**Khong Chiam**	**38.63**	**245**	P		**P**	**15 33 03.6**	**+1.1**	
UBPT				IAmb		IAmb	15 33 42.7		
	comp=Z,13nm,1.3s								
TOLI2	**Tolitoli**	**40.66**	**213**	P		**P**	**15 33 19.4**	**0.0**	
FAKI	**Fak Fak**	**40.81**	**194**	P		**P**	**15 33 21.8**	**+1.2**	
WMQ	**Urumqi**	**40.82**	**297**	*eP*		**P**	**15 33 22.0**	**+1.4**	
WMQ				LR		LR			
	comp=Z,200nm,22.9s								
CMAR	**Chiang Mai Arr**	**41.58**	**255**	P		**P**	**15 33 28.2**	**+1.2**	
	comp=Z,0.9nm,0.6s,baz=43,slow=5.2,SNR=9.6								
CMAR				LR		LR	15 50 00.7		
	comp=Z,33nm,20.2s,baz=210,slow=35								
	comp=Z,0.9nm,0.6s								
ZAA0	**Zalesovo Array**	**41.85**	**312**	P		**P**	**15 33 28.9**	**+0.1**	
ZAA0				IAmb		IAmb	15 33 30.8		
	comp=Z,9.4nm,0.9s								
ZALV	**Zalesovo Beam**	**41.85**	**312**			**P**	**15 33 28.2**	**-0.6**	
ZALV	**Zalesovo Beam**	**41.85**	**312**	P		**P**	**15 33 29.4**	**+0.7**	
	comp=Z,6.9nm,0.8s,baz=77,slow=6.4,SNR=22								
	comp=Z,6.9nm,0.8s								
MK31	**Makanchi Array**	**44.08**	**302**	P		**P**	**15 33 46.8**	**-0.2**	
MKAR	**Makanchi Array**	**44.08**	**302**			**P**	**15 33 47.2**	**+0.2**	
MKAR	**Makanchi Array**	**44.08**	**302**	P		**P**	**15 33 47.6**	**+0.7**	
	comp=Z,2.4nm,0.6s,baz=88,slow=9.9,SNR=24								
	comp=Z,2.4nm,0.6s								
M17K	**Holitna River**	**44.49**	**37**	P		**P**	**15 33 49.2**	**-0.8**	
C19K	**Lookout Ridge**	**44.80**	**26**	P		**P**	**15 33 50.8**	**-1.7**	
C19K				IAmb		IAmb	15 33 59.4		
	comp=Z,16nm,1.4s								
N18K	**Kilae Creek**	**45.21**	**38**	P		**P**	**15 33 54.1**	**-1.6**	
H19K	**Roundabout Mou**	**45.34**	**31**	P		**P**	**15 33 56.0**	**-0.7**	
L19K	**White Mountain**	**45.76**	**36**	P		**P**	**15 33 59.1**	**-1.0**	
B20K	**Meade River**	**45.84**	**25**	P		**P**	**15 33 60.0**	**-0.6**	
KURK	**Kurchatov**	**45.88**	**308**			**P**	**15 34 01.1**	**0.0**	
KURK				IAmb		IAmb	15 34 17.2		
	comp=Z,11nm,0.7s								
KURBB	**Kurchatov Arra**	**45.95**	**308**	P		**P**	**15 34 01.9**	**+0.3**	
	comp=Z,6.7nm,0.5s,baz=84,slow=8.0,SNR=71								
	comp=Z,6.7nm,0.5s								
EVN	**Everest**	**46.42**	**275**	P		**P**	**15 34 07.2**	**+0.6**	
EVN				IAmb		IAmb	15 34 13.9		
	comp=Z,12nm,1.4s								
B21K	**Ikpikpuk River**	**46.63**	**26**	P		**P**	**15 34 07.0**	**+0.3**	
KDAK	**Kodiak Island**	**46.96**	**42**	P		**P**	**15 34 09.8**	**+0.3**	
D22K	**Ayikyak River**	**47.21**	**27**	P		**P**	**15 34 13.2**	**+1.9**	
D22K				IAmb		IAmb	15 34 27.2		
	comp=Z,6.3nm,0.8s								
E22K	**Anaktuvuk Pass**	**47.45**	**28**	P		**P**	**15 34 14.5**	**+1.2**	
E22K				IAmb		IAmb	15 34 29.3		
	comp=Z,3.9nm,0.8s								
CNPM	**China Poot**	**47.55**	**40**	P		**P**	**15 34 16.0**	**+1.8**	
MLY	**Manley**	**47.70**	**32**	P		**P**	**15 34 15.9**	**+0.7**	
D23K	**Nanushuk River**	**47.94**	**27**	P		**P**	**15 34 17.4**	**+0.4**	
D23K				IAmb		IAmb	15 34 50.4		
	comp=Z,10nm,1.4s								
C23K	**Itkillik River**	**48.04**	**26**	P		**P**	**15 34 19.0**	**+1.2**	
C23K				IAmb		IAmb	15 34 33.5		
	comp=Z,8.8nm,0.8s								
E23K	**Chandalar**	**48.27**	**28**	P		**P**	**15 34 20.8**	**+1.1**	
E23K				IAmb		IAmb	15 34 35.5		
	comp=Z,4.8nm,0.8s								
TARG	**Taragay, Kyrgy**	**48.38**	**296**	P		**P**	**15 34 21.5**	**+0.2**	
TARG				IAmb		IAmb	15 34 23.3		
	comp=Z,4.3nm,0.7s								
KDJ	**Kajisay**	**48.71**	**297**	P		**P**	**15 34 23.4**	**-0.2**	
KULM	**Kulim**	**48.93**	**240**	P		**P**	**15 34 24.9**	**-0.4**	
IPM	**Ipoh**	**49.26**	**239**	P		**P**	**15 34 28.2**	**+0.4**	
ILAR	**Eielson Array**	**49.34**	**32**	P		**P**	**15 34 29.3**	**+1.5**	
	comp=Z,1.3nm,0.8s,baz=267,slow=5.8,SNR=12								
ILAR				pP		**pP**	**15 34 41.9**	**+1.0**	
	comp=Z,1.9nm,0.7s,baz=266,slow=6.4,SNR=9.8								
	comp=Z,1.3nm,0.8s								
BOOM	**Boomskoye usch**	**49.49**	**298**	P		**P**	**15 34 29.5**	**0.0**	
BOOM				IAmb		IAmb	15 34 30.9		
	comp=Z,3.1nm,0.8s								
D25K	**Kavik River**	**49.50**	**26**	P		**P**	**15 34 29.7**	**+0.7**	
D25K				IAmb		IAmb	15 34 44.9		
	comp=Z,4.3nm,0.8s								
BMAR	**Burnt Mountain**	**50.18**	**29**	P		**P**	**15 34 35.2**	**+1.0**	
C27K	**Jago River**	**50.44**	**26**	P		**P**	**15 34 35.7**	**-0.3**	
BVAR	**Borovoye Array**	**50.51**	**312**	P		**P**	**15 34 37.2**	**+0.4**	
	comp=Z,2.2nm,0.5s,baz=71,slow=8.5,SNR=11								
BVAR				PcP		**PcP**	**15 35 55.2**	**+1.0**	
	comp=Z,1.1nm,0.6s,baz=27,slow=1.6,SNR=2.6								
BVAR				pPcP			15 36 08.5		
	comp=Z,1.9nm,0.7s,baz=108,slow=4.6,SNR=5.0								
	comp=Z,2.2nm,0.5s								
E27K	**Coleen River**	**51.27**	**28**	P		**P**	**15 34 43.2**	**+0.8**	
H27K	**Steamboat Moun**	**51.47**	**30**	P		**P**	**15 34 44.3**	**+0.4**	
ARSB	**Arslanbob**	**51.95**	**297**	P		**P**	**15 34 48.4**	**+0.4**	
I28M	**Miner Creek**	**52.21**	**31**			**P**	**15 34 50.3**	**+0.8**	
I28M				IAmb		IAmb	15 35 06.3		
	comp=Z,3.4nm,0.7s								
H29M	**Whitestone**	**52.74**	**30**	P		**P**	**15 34 51.9**	**-1.4**	
KK31	**Karatay Array**	**53.09**	**300**	P		**P**	**15 34 55.9**	**-0.4**	
KKAR	**Karatay Array**	**53.09**	**300**			**P**	**15 34 56.0**	**-0.2**	
G30M	**tAoh Zraii Nji**	**53.46**	**29**	P		**P**	**15 34 58.6**	**0.0**	
G30M				IAmb		IAmb	15 35 14.4		
	comp=Z,11nm,1.2s								
I30M	**Mount Dempster**	**53.72**	**31**			**P**	**15 35 00.7**	**+0.1**	
H31M	**Peel River**	**54.43**	**30**	P		**P**	**15 35 07.4**	**+1.6**	
SIMJ	**Simiganj**	**55.75**	**295**	P		**P**	**15 35 15.7**	**-0.1**	
SIMJ				IAmb		IAmb	15 35 17.1		
	comp=Z,7.4nm,0.9s								
ARTI	**Arti**	**56.39**	**318**			**P**	**15 35 19.9**	**0.0**	
WRA	**Warramunga Arr**	**57.21**	**188**	P		**P**	**15 35 26.3**	**+0.3**	
	comp=Z,0.8nm,0.4s,baz=7.7,slow=6.9,SNR=1.6								
	comp=Z,0.8nm,0.4s								
AB31	**Akbulak array**	**57.88**	**310**			**P**	**15 35 30.5**	**-0.1**	
AB31				IAmb		IAmb	15 35 31.5		
	comp=Z,4.3nm,0.7s								
ABKAR	**Akbulak array**	**57.88**	**310**			**P**	**15 35 30.6**	**+0.1**	
ASAR	**Alice Springs**	**60.94**	**188**	P		**P**	**15 35 54.0**	**+2.2**	
	comp=Z,0.3nm,0.4s,baz=352,slow=7.7,SNR=1.6								
	comp=Z,0.3nm,0.4s								
MBWA	**Marble Bar**	**61.54**	**203**	P		**P**	**15 35 55.9**	**0.0**	
YKA	**Yellowknife Ar**	**63.66**	**30**	P		**P**	**15 36 10.6**	**+1.1**	
	comp=Z,0.3nm,0.6s,baz=276,slow=4.1,SNR=2.0								
YKA				pP		**pP**	**15 36 23.8**	**+0.7**	
	comp=Z,1.2nm,0.8s,baz=307,slow=7.5,SNR=8.5								
	comp=Z,0.3nm,0.6s								
ARCES	**ARCESS Array B**	**63.88**	**339**	P		**P**	**15 36 12.0**	**+1.1**	
ARCES				IAmb		IAmb	15 36 50.8		
	comp=Z,8.1nm,1.4s								
ARCES	**ARCESS Array B**	**63.88**	**339**	P		**P**	**15 36 12.2**	**+1.3**	
	comp=Z,1.0nm,0.7s,baz=74,slow=10,SNR=4.4								
ARCES				LR		LR	16 09 56.0		
	comp=Z,41nm,18.3s,baz=69,slow=42								
	comp=Z,1.0nm,0.7s								
TULEG	**Thule**	**64.95**	**7**	P		**P**	**15 36 17.6**	**-0.2**	
B08A	**Colville Reser**	**68.70**	**45**	P		**P**	**15 36 40.9**	**-1.2**	
B08A				IAmb		IAmb	15 36 45.2		
	comp=Z,3.7nm,0.7s								
FIA1	**FINESS Array S**	**68.70**	**332**	P		**P**	**15 36 42.6**	**+0.7**	
FINES	**FINESS Array B**	**68.71**	**332**	P		**P**	**15 36 42.2**	**+0.3**	
	comp=Z,2.2nm,0.8s,baz=46,slow=5.5,SNR=5.3								
	comp=Z,2.2nm,0.8s								
FORT	**Forrest**	**68.76**	**192**	P		**P**	**15 36 44.2**	**+1.6**	
FORT				IAmb		IAmb	15 36 57.6		
	comp=Z,3.8nm,0.8s								
UOSS	**Minazif**	**71.81**	**288**	P		**P**	**15 37 00.3**	**-1.3**	
NIUE	**Niue**	**72.30**	**132**	P		**P**	**15 37 02.8**	**-1.5**	
WVOR	**Wild Horse Val**	**72.36**	**50**	P		**P**	**15 37 03.2**	**-1.5**	
NC405	**NORSAR Array S**	**73.86**	**337**	P		**P**	**15 37 13.3**	**+0.3**	
NC405				IAmb		IAmb	15 37 44.1		
	comp=Z,6.4nm,1.1s								
HFS	**Hagfors**	**73.97**	**336**	P		**P**	**15 37 14.5**	**+0.8**	
	comp=Z,1.1nm,0.7s,baz=64,slow=10,SNR=5.5								
HFS				LR		LR	16 13 43.6		
	comp=Z,51nm,19.0s,baz=92,slow=39								
	comp=Z,1.1nm,0.7s								
NC204	**NORSAR Array S**	**74.02**	**338**	P		**P**	**15 37 15.0**	**+0.9**	
NC204				IAmb		IAmb	15 37 30.7		
	comp=Z,6.6nm,1.1s								
NB2	**NORSAR Subarra**	**74.07**	**337**	P		**P**	**15 37 14.8**	**+0.5**	
	comp=Z,3.1nm,1.1s,baz=40,slow=5.9								
NOA	**NORSAR Array B**	**74.07**	**337**	P		**P**	**15 37 14.9**	**+0.6**	
	comp=Z,1.0nm,0.9s,baz=39,slow=5.8,SNR=4.0								
NOA				pP		**pP**	**15 37 27.9**	**-0.2**	
	comp=Z,1.0nm,0.6s,baz=39,slow=6.0,SNR=5.3								
NOA				LR		LR	16 13 08.9		
	comp=Z,20nm,19.3s,baz=95,slow=38								
	comp=Z,1.0nm,0.9s								
AKASG	**Malin Array Be**	**74.21**	**322**	P		**P**	**15 37 15.6**	**+0.3**	
	comp=Z,1.8nm,0.3s,baz=47,slow=5.9,SNR=19								
	comp=Z,1.8nm,0.3s								
AKBB	**Malin Array Si**	**74.21**	**322**	P		**P**	**15 37 15.7**	**+0.4**	
AKBB				IAmb		IAmb	15 37 15.8		
	comp=Z,4.8nm,0.5s								
KIEV	**Kiev**	**74.22**	**322**	P		**P**	**15 37 15.6**	**+0.3**	
KIEV				IAmb		IAmb	15 37 15.9		
	comp=Z,4.3nm,0.5s								
NVAR	**Mina Array Bea**	**74.86**	**53**	P		**P**	**15 37 21.5**	**+1.9**	
	comp=Z,0.4nm,0.5s,baz=309,slow=5.6,SNR=2.2								
	comp=Z,0.4nm,0.5s								
KONO	**Kongsberg**	**75.66**	**337**	P		**P**	**15 37 22.9**	**-0.6**	
KONO				IAmb		IAmb	15 37 47.7		
	comp=Z,16nm,1.2s								
PDAR	**Pinedale Array**	**77.53**	**45**	P		**P**	**15 37 36.8**	**+2.1**	
	comp=Z,0.3nm,0.7s,baz=293,slow=6.5,SNR=2.5								
PDAR				pP		**pP**	**15 37 49.9**	**+1.4**	
	comp=Z,0.7nm,0.7s,baz=256,slow=3.6,SNR=6.2								
	comp=Z,0.3nm,0.7s								
BURAR	**Bucovina Array**	**78.23**	**322**	P		**P**	**15 37 38.0**	**-0.2**	
KOLS	**Kolonicke sedl**	**78.73**	**324**	*eP*		**P**	**15 37 40.2**	**-0.7**	
LANS	**Liptovska Anna**	**79.87**	**326**	*eP*		P	15 37 42.4	-4.8	
MODS	**Modra-Piesok**	**81.42**	**326**	*eP*		**P**	**15 37 56.5**	**+1.0**	
GERES	**GERESS Array B**	**82.61**	**328**	P		**P**	**15 38 02.3**	**+0.5**	
	comp=Z,0.6nm,0.4s,baz=42,slow=8.1,SNR=5.0								
GERES				LR		LR	16 18 43.8		
	comp=Z,25nm,18.6s,baz=22,slow=38								
	comp=Z,0.6nm,0.4s								
MEM	**Membach**	**84.20**	**333**	*d*PcP		**PcP**	**15 38 13.5**	**0.0**	
TXAR	**Lajitas Array**	**89.99**	**52**	P		**P**	**15 38 41.5**	**+3.1**	
	comp=Z,0.2nm,0.4s,baz=334,slow=8.4,SNR=1.9								
TXAR				pP		**pP**	**15 38 53.8**	**+1.3**	
	comp=Z,0.3nm,0.5s,baz=313,slow=3.2,SNR=3.4								
	comp=Z,0.2nm,0.4s								
LPAZ	**La Paz**	**146.58**	**59**	PKPbc		**PKPab**	**15 45 22.5**	**+0.3**	
	comp=Z,0.8nm,0.5s,baz=19,slow=8.3,SNR=4.1								
LPAZ				pPKPbc		pPKPab	15 45 36.2	-0.2	
	comp=Z,1.3nm,0.5s,baz=23,slow=4.7,SNR=4.7								

RSNC 16 15:26:27.3±0.0, 7°N±1°×7°3W±°, h115km±2km, M1.7, ML1.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VMM09	**Lebrija**	**0.09**	**104**	P		Pn	15 26 42.7	-0.6
VMM09				S		Sn	15 26 54.3	-0.9
BRJC	**Barrancabermej**	**0.40**	**244**	P		Pn	15 26 43.9	-0.2
BRJC				S		Sn	15 26 56.3	-0.5
VMM10	**El Carmen**	**0.51**	**222**	P		Pn	15 26 44.3	-0.5
VMM10				S		Sn	15 26 57.4	-0.5
BARC	**Barichara**	**0.59**	**160**	P		Pn	15 26 45.3	-0.3
BARC	**Barichara**	**0.59**	**160**	P		Pn	15 26 45.1	-0.5
BARC				S		Sn	15 26 58.9	-0.4
PAMC	**Pamplona, Colo**	**0.70**	**74**	P		Pn	15 26 46.4	-0.3
PAMC				S		Sn	15 27 01.2	-0.1
PTBC	**PUERTO BERRIO,**	**1.23**	**240**	P		Pn	15 26 47.9	-3.4
PTBC				S		Sn	15 27 09.1	-0.5
PTBC	**PUERTO BERRIO,**	**1.23**	**240**	P		Pn	15 26 48.7	-2.6
PTBC				S		Sn	15 27 08.4	-1.2
RUSC	**La Rusia**	**1.28**	**167**	P		Pn	15 26 51.3	-1.2
RUSC				S		Sn	15 27 10.6	-0.9
AGCC	**Aguachica**	**1.37**	**351**	P		Pn	15 26 52.1	-0.9
AGCC				S		Sn	15 27 11.3	-1.1
ZARC	**Zaragoza, Cauc**	**1.50**	**283**	P		Pn	15 26 54.2	-0.3
ZARC				S		Sn	15 27 15.6	+0.5
GUY2C	**Guyana, Caldas**	**2.75**	**226**	P		Pn	15 27 01.9	-8.7
SJCC	**San Jacinto, C**	**3.26**	**327**	P		Pn	15 27 15.5	-1.4
SJCC				S		Sn	15 27 52.3	-3.0

AUST 16 15:29:01.8±1.3, 18°S±10°×12°1E±°, h20km±17km, mb3.9/9, ML3.0/6, Error ellipse: s-maj=24.3km s-min=6.7km az=147.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBWA	**Marble Bar**	**2.81**	**197**	P		Pn	15 29 46.9	+1.1
MBWA				S		Sn	15 30 18.2	-1.0
PSAC1	**Pilbara Seismi**	**3.15**	**194**	P		Pn	15 29 51.5	+1.1
PSAC1				S		Sn	15 30 29.7	+2.2
PSA00	**Pilbara Seismi**	**3.18**	**193**	P		Pn	15 29 52.3	+1.5
PSA00				S		Sn	15 30 30.0	+1.8
FITZ	**Fitzroy Crossi**	**4.77**	**86**	P		Pn	15 30 13.7	+1.1
GIRL	**Giralia**	**7.30**	**234**	P		Pn	15 30 44.6	-2.8
GIRL				S		Sn	15 32 00.1	-10
KNRA	**Kununurra**	**8.25**	**72**	P		Pn	15 30 60.0	-0.5
	comp=Z,16nm,1.9s,comp=Z,0.1nm							
KNRA				S		Sn	15 32 32.5	-0.6
MEEK	**Meekatharra**	**8.35**	**193**	P		Pn	15 31 01.9	+0.1
	comp=Z,8.5nm,1.5s,comp=Z,0.1

FINES				Lg		Lg	15 32 45.8	
	comp=Z,0.1nm,0.3s,baz=25,slow=30,SNR=1.9							
	comp=Z,0.6nm,0.7s							
FAUS	**Fauske**	**7.16**	**276**	S		**Sn**	**15 32 12.8**	**-2.3**

IDC ***16*** *15:36:27.8±2.0,36°.63N×141°.42E,h0km,mb3.6/4, mbtmp3.6/5,ML2.7/1,Error ellipse: s-maj=41.3km s-min=28.3km az=70.0*
JMA ***16*** *15:36:35.1±0.1,36°.5N±0°.3×141°.0E±0°.8,h45km±1km, MV3.3/37,E OFF IBARAKI PREF*
JMA Felt I J1 at E OFF IBARAKI PREF .
ISC 16 15:36:33.4±1.9,36°.45N±0°.06×141°.2E±0°.1,h32km±10km, n14,σ1§09/19,mb3.6/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHYU	**Hitachinakayam**	**0.48**	**257**	*i* P		**Pn**	**15 36 44.3**	**+0.2**
JHYU				S		**Sb**	**15 36 50.6**	**-0.1**
JHO	**Hitachi**	**0.51**	**289**	P		**Pb**	**15 36 44.5**	**+0.3**
JHO				S		**Sb**	**15 36 50.8**	**-0.8**
JIHU	**Itakohorinouch**	**0.71**	**228**	P		**Pb**	**15 36 48.1**	**+0.7**
ONAJ	**Iwakimizuishiy**	**0.72**	**335**	*i* P		**Pn**	**15 36 47.9**	**+0.4**
ONAJ				S		**Sb**	**15 36 56.6**	**-0.6**
JYT	**Yasato**	**0.82**	**255**	*i* P		**Pn**	**15 36 48.4**	**-0.4**
JYT				S		**Sn**	**15 36 57.7**	**-2.1**
JFK	**Kawauchi**	**0.95**	**345**	*i* P		**Pn**	**15 36 51.2**	**+0.6**
JOTO	**OTAMA OYAMA**	**1.30**	**329**	*i* P		**Pb**	**15 36 57.0**	**-0.2**
JAG	**Ashikaga**	**1.39**	**270**	*i* P		**Pn**	**15 36 56.3**	**-0.2**
JKT	**Katashina**	**1.58**	**282**	P		**Pn**	**15 36 59.8**	**+0.5**
MJAR	**Matsushiro Arr**	**2.39**	**273**	Pn		**Pn**	**15 37 10.9**	**+0.6**
	1.5nm,0.3s,baz=86,slow=9.7,SNR=73							
MJAR				Sn		**Sn**	**15 37 41.6**	**+3.0**
	0.6nm,0.3s,baz=84,slow=31,SNR=2.6							
	16nm,0.6s							
ZALV	**Zalesovo Beam**	**42.17**	**313**	P		**P**	**15 44 22.8**	**0.0**
	0.5nm,0.4s,baz=99,slow=6.3,SNR=2.3							
	0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**46.21**	**308**	P		**P**	**15 44 54.6**	**-0.6**
	0.6nm,0.4s,baz=83,slow=7.8,SNR=9.7							
	0.6nm,0.4s							
BVAR	**Borovoye Array**	**50.83**	**313**	P		**P**	**15 45 29.6**	**-1.0**
	0.2nm,0.3s,baz=85,slow=6.2,SNR=3.7							
	0.2nm,0.3s							
WRA	**Warramunga Arr**	**56.45**	**188**	P		**P**	**15 46 12.3**	**+0.1**
	0.4nm,0.6s,baz=6.0,slow=7.2,SNR=2.5							
	0.4nm,0.6s							

NEIC ***16*** *15:57:03.8±1.3,36°.107N±0°.009×117°.822W±0°.008, h5km±2km,Error ellipse: s-maj=1.3km s-min=0.9km az=154.0*
PAS 16 15:57:04.4±1.6,36°.101N±0°.008×117°.823W±0°.006, h2km±3km,ML3.0/70,ML2.9/154(NEIC),Error ellipse: s-maj=1.2km s-min=0.7km az=175.0,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MFS	**McCloud Flat S**	**0.03**	**301**			Pg	15 57 05.4	+0.2
MFS						Sg	15 57 06.2	+0.3
WCSM	**Coso Springs S**	**0.09**	**149**			Pg	15 57 06.5	+0.3
WCSM						Sg	15 57 07.9	+0.6
WRVM	**Rose V. Centra**	**0.11**	**210**			Pg	15 57 06.7	+0.2
WRVM						Sg	15 57 08.6	+0.6
JRC2	**Joshua Ridge**	**0.12**	**174**			Pg	15 57 07.0	+0.2
JRC2						Sg	15 57 09.0	+0.7
WVPM	**Volcano Peak E**	**0.15**	**178**			Pg	15 57 07.6	+0.2
WVPM						Sg	15 57 10.0	+0.6
WNMM	**Nine Mile Cany**	**0.27**	**194**			Pg	15 57 09.7	+0.1
WNMM						Sg	15 57 13.6	+0.6
MPMC	**Manual Prospec**	**0.27**	**99**			Pg	15 57 09.8	+0.1
MPMC				Sg		Sg	15 57 13.1	-0.2
MPMC				IAML			15 57 15.8	
	comp=E,2μm,0.5s							
MPMC				IAML			15 57 17.5	
	comp=N,1μm,0.7s							
TOW	**Tower One**	**0.30**	**171**			Pg	15 57 10.8	+0.7
TOW						Sg	15 57 15.2	+1.3
CLC	**China Lake**	**0.34**	**147**			Pg	15 57 11.0	0.0
CLC				Sg		Sg	15 57 15.6	+0.3
CWC	**Cottonwood Cre**	**0.40**	**328**			Pg	15 57 11.8	-0.2
CWC						Sg	15 57 17.5	+0.2
CWC				IAML			15 57 18.6	
	comp=N,2μm,0.2s							
SRTC	**Snort**	**0.41**	**172**			Pg	15 57 13.0	+0.7
SRTC						Sb	15 57 19.6	-1.6
CGO	**Cerro Gordo**	**0.45**	**2**			Sg	15 57 19.7	+0.8
GPO	**China Lake**	**0.47**	**164**			Sg	15 57 20.7	+1.2
WORM	**Onyx Ranch**	**0.53**	**220**			Pg	15 57 14.4	-0.1
WORM						Sg	15 57 21.6	+0.2
WSHM	**Spangler Hills**	**0.57**	**152**	Pg		Pg	15 57 15.1	-0.2
WSHM				Sg		Sg	15 57 23.4	+0.7
WSHM				IAML			15 57 23.8	
	comp=N,624nm,0.7s							
WSHM				IAML			15 57 23.9	
	comp=N,465nm,0.4s							
WHFM	**Hanning Flat**	**0.59**	**227**			Pg	15 57 15.6	-0.1
WHFM						Sg	15 57 23.6	+0.3
WBSM	**Bird Springs**	**0.62**	**205**			Pg	15 57 16.2	-0.1
WBSM						Sg	15 57 25.0	+0.7
LRMC	**Laurel Mtn Rad**	**0.63**	**169**			Pg	15 57 16.3	-0.2
LRMC	**Laurel Mtn Rad**	**0.63**	**169**			Sg	15 57 25.0	+0.3
CCCA	**Chr Cany lake**	**0.69**	**147**			Pg	15 57 17.4	-0.2
CCCA				Sg		Sg	15 57 26.4	0.0
CCCA				IAML			15 57 28.4	
	comp=N,748nm,0.6s							
ISA	**Isabella, Lake**	**0.69**	**231**			Pg	15 57 17.4	-0.1
ISA				IAML			15 57 27.1	
	comp=N,500nm,0.5s							
ISA	**Isabella, Lake**	**0.69**	**231**			Sg	15 57 26.8	+0.4
WASM	**Alta Sierra Ca**	**0.70**	**239**			Pg	15 57 17.7	-0.1
WASM						Sg	15 57 27.1	+0.2
SPG2	**Springville 2**	**0.77**	**278**			Pg	15 57 18.8	-0.4
SPG2						Sg	15 57 28.9	-0.2
QSM	**Queen of Sheba**	**0.79**	**100**			Pg	15 57 19.2	-0.3
QSM	**Queen of Sheba**	**0.79**	**100**			Sg	15 57 30.2	+0.5
DTP	**Desert Tortois**	**0.83**	**181**			Pg	15 57 20.0	-0.3
DTP						Sg	15 57 31.1	0.0
FURC	**Furnace Creek,**	**0.86**	**65**			Pg	15 57 21.0	+0.2
FURC						Sg	15 57 32.6	+0.7
GWY	**Greenwater Val**	**0.94**	**84**			Pg	15 57 21.9	-0.5
GWY				IAML			15 57 42.3	
	comp=N,512nm,0.5s							
GWY	**Greenwater Val**	**0.94**	**84**			Sb	15 57 35.5	-0.9
CCAC	**Calif City Air**	**0.96**	**190**			Pg	15 57 22.4	-0.4
CCAC						Sg	15 57 35.7	+0.5
GRAC	**Grapevine Rang**	**0.97**	**22**			Pg	15 57 22.4	-0.5
GRAC				IAML			15 57 39.8	
	comp=N,484nm,0.5s							
GRAC				IAML			15 57 44.9	
	comp=E,468nm,0.8s							
GRAC	**Grapevine Rang**	**0.97**	**22**			Sb	15 57 36.5	-0.7
TIN	**Tinemaha, Big**	**1.01**	**341**			Pg	15 57 23.5	-0.2
TIN						Sb	15 57 37.8	-0.5
VES	**Vestal, Richgr**	**1.06**	**256**			Pg	15 57 24.4	-0.2
VES						Sg	15 57 38.8	+0.4
SGV	**South Grapevin**	**1.08**	**36**			Pg	15 57 24.9	-0.3
SGV						Sg	15 57 39.8	+0.5
TEJ	**El Tejon**	**1.12**	**219**			Pg	15 57 25.2	-0.7
GSC	**Goldstone, Bar**	**1.15**	**134**			Pg	15 57 25.7	-0.8
GSC				IAML			15 57 45.1	
	comp=N,186nm,0.5s							
GSC				IAML			15 57 48.7	
	comp=E,286nm,0.6s							
WCT	**Wildcat Mounta**	**1.19**	**54**			Pg	15 57 26.4	-0.7
WCT				IAML			15 57 46.6	
	comp=N,165nm,0.6s							
WCT				IAML			15 57 47.5	
	comp=E,329nm,0.8s							
TPO	**Tropico Hills**	**1.26**	**195**			Pg	15 57 27.8	-0.9
TPO				IAML			15 57 51.5	
	comp=E,197nm,0.8s							
TPO				IAML			15 57 53.9	
	comp=N,132nm,0.9s							
DSP	**Deep Springs**	**1.27**	**355**			Pg	15 57 27.7	-1.1
DSP				IAML			15 57 50.3	
	comp=E,123nm,0.7s							
GMN	**Gold Mountain**	**1.28**	**21**			Pg	15 57 28.2	-0.7
GMN				IAML			15 57 50.0	
	comp=N,135nm,0.5s							
GMN				IAML			15 57 50.8	
	comp=E,141nm,0.5s							
VOG	**Valley Oaks Go**	**1.28**	**280**			Pg	15 57 28.4	-0.6
TPNV	**Topopah Spring**	**1.52**	**56**			Pn	15 57 32.2	-0.6
TPNV				IAML			15 57 55.9	
	comp=E,194nm,0.7s							
MZP	**Montezuma Peak**	**1.64**	**12**			Pn	15 57 33.9	-0.6
OSI	**Osito Audit: C**	**1.66**	**207**			Pn	15 57 34.4	-0.1
OSI				IAML			15 58 01.9	
	comp=E,158nm,0.8s							
OSI				IAML			15 58 04.5	
	comp=N,104nm,0.8s							
BENR	**Benton**	**1.72**	**340**			Pb	15 57 36.5	-0.4
BFSC	**Mount Baldy Ra**	**1.86**	**176**			Pn	15 57 37.1	-0.3
BFSC				IAML			15 58 19.4	
	comp=E,122nm,0.1s							
BFSC				IAML			15 58 22.2	
	comp=N,89nm,0.1s							
MWC	**Mount Wilson**	**1.88**	**186**			Pn	15 57 37.1	-0.7
MTPC	**Mountain Pass**	**1.94**	**108**			Pn	15 57 37.3	-1.3
MTPC				IAML			15 58 08.3	
	comp=N,75nm,0.4s							
MTPC				IAML			15 58 08.5	
	comp=E,92nm,0.3s							
PASC	**Pasadena Art C**	**1.95**	**189**	Pn		Pn	15 57 37.4	-1.1
TPH	**Tonopah**	**2.03**	**14**			Pn	15 57 39.1	-0.7
SHPR	**Sheep Range**	**2.19**	**79**			Pn	15 57 41.1	-0.9
LHV	**Little Huntoon**	**2.21**	**346**			Pn	15 57 41.4	-0.7
LHV				IAML			15 58 22.7	
	comp=E,82nm,0.9s							
LHV				IAML			15 58 22.9	
	comp=N,63nm,0.6s							
PSMM	**Smith Mountain**	**2.25**	**270**			Pb	15 57 44.4	-1.4
S11A	**Rachel**	**2.27**	**47**			Pn	15 57 42.1	-1.0
NV11	**Mina Array Sit**	**2.34**	**354**			Pn	15 57 43.0	-1.0
NVAR	**Mina Array Bea**	**2.35**	**351**			Pn	15 57 43.0	-1.3
PMPB	**Monarch Peak**	**2.41**	**274**			Pn	15 57 44.2	-0.7
V12A	**Nelson**	**2.44**	**98**			Pn	15 57 44.7	-0.7
V12A				IAML			15 58 31.4	
	comp=N,43nm,1.5s							
ELS	**Elsinore Mount**	**2.47**	**172**			Pn	15 57 45.0	-0.7
PRN	**Pahroc Range**	**2.58**	**59**			Pn	15 57 46.7	-0.6
PRN				IAML			15 58 43.3	
	comp=N,66nm,0.8s							
RYN	**Ryan**	**2.58**	**348**			Pn	15 57 46.5	-0.9
BBGB	**Big Mountain B**	**2.64**	**281**			Pn	15 57 47.4	-0.7
PMD	**Palm Desert**	**2.72**	**154**			Pn	15 57 48.9	-0.3
WAKR	**Walker**	**2.72**	**332**			Pn	15 57 48.9	-0.4
WAKR				IAML			15 58 33.5	
	comp=E,36nm,0.5s							
WAKR				IAML			15 58 34.4	
	comp=N,30nm,0.8s							
PFO	**Pinyon Flats O**	**2.73**	**155**			Pn	15 57 48.8	-0.5
CMB	**Columbia Colle**	**2.81**	**314**			Pn	15 57 49.2	-1.3
CMB				IAML			15 58 32.5	
	comp=N,69nm,0.4s							
CMB				IAML			15 58 35.8	
	comp=E,36nm,0.7s							
R11B	**Troy Canyon, C**	**2.87**	**38**			Pn	15 57 50.0	-1.3
R11B				IAML			15 58 37.3	
	comp=E,30nm,0.5s							
SAO	**San Andreas Ge**	**3.00**	**284**			Pn	15 57 51.4	-1.5
BORC	**Borrego Spring**	**3.05**	**157**			Pn	15 57 52.0	-1.7
BORC				IAML			15 58 46.5	
	comp=E,19nm,0.8s							
DPP	**Dos Picos Cty**	**3.18**	**167**			Pn	15 57 53.7	-1.7
DPP				IAML			15 59 47.1	
	comp=N,20nm,0.1s							
DPP				IAML			15 59 47.2	
	comp=E,18nm,0.1s							
W13A	**Hualapai Mount**	**3.36**	**106**			Pn	15 57 55.1	-3.0
W13A				IAML			15 58 54.1	
	comp=N,16nm,0.5s							
W13A				IAML			15 58 56.4	
	comp=E,16nm,0.6s							
BLYC	**Blythe**	**3.58**	**130**	Pn		Pn	15 57 59.1	-1.8
BLYC				IAML			15 59 06.2	
	comp=N,14nm,0.6s							
BLYC				IAML			15 59 19.4	
	comp=E,15nm,0.8s							
MPK	**Martis Peak**	**3.64**	**332**			Pn	15 57 59.5	-2.5
AFDM	**Forest Hills D**	**3.79**	**320**			Pn	15 58 02.4	-1.4
LCMT	**Little Creek M**	**3.80**	**75**			Pn	15 58 02.0	-2.0
PAHR	**Pah Rah Range**	**3.81**	**342**			Pn	15 58 03.2	-0.9
CCUT	**Cedar City**	**3.86**	**67**			Pn	15 58 02.1	-2.9
CBX	**Cerro Bola**	**3.90**	**165**	Pn		Pn	15 58 03.6	-1.9
GLA	**Glamis**	**3.92**	**140**	Pn		Pn	15 58 05.4	-0.2
GLA				IAML			15 59 18.4	
	comp=N,17nm,1.1s							
GLA				IAML			15 59 39.9	
	comp=E,24nm,0.8s							
PSUT	**Pine Spring**	**3.99**	**51**			Pn	15 58 06.7	0.0
PSUT				IAML			15 59 18.5	
	comp=N,26nm,1.2s							
PSUT				IAML			15 59 21.5	
	comp=E,27nm,1.2s							
SPR3	**Spring Creek 3**	**4.01**	**43**	IAML			15 59 13.6	
	comp=N,24nm,0.9s							
SPR3				IAML			15 59 16.8	
	comp=E,18nm,0.9s							
KNB	**Kanab**	**4.13**	**76**			Pn	15 58 05.9	-2.8
KNB				IAML			15 59 17.9	
	comp=N,12nm,1.2s							
KNB				IAML			15 59 26.5	
	comp=E,9.2nm,1.3s							
BEKR	**Beckworth**	**4.26**	**333**	IAML			15 59 26.8	
	comp=N,14nm,0.6s							
ESJX	**Sierra Juarez**	**4.37**	**159**			Pn	15 58 09.8	-2.1
ESJX				IAML			16 00 12.3	
	comp=N,8.4nm,0.1s							
U15A	**North Rim**	**4.48**	**84**			Pn	15 58 11.5	-2.1
U15A				IAML			15 59 33.2	
	comp=N,8.3nm,1.1s							
U15A				IAML			15 59 36.2	
	comp=E,13nm,0.9s							
Y14A	**Wickenburg**	**4.50**	**117**	IAML			15 59 31.1	
	comp=E,11nm,0.6s							
Y14A				IAML			15 59 33.8	
	comp=N,15nm,1.1s							
ELK	**Elko**	**5.06**	**23**			Pn	15 58 20.7	-0.8
ELK				IAML			15 59 51.0	
	comp=N,4.4nm,0.9s							
WUAZ	**Wupatki**	**5.27**	**94**			Pn	15 58 22.9	-1.4
WUAZ				IAML			15 59 53.1	
	comp=N,7.9nm,1.2s							
WUAZ				IAML			16 00 04.1	
	comp=N,10.0nm,0.8s							

IDC 16 16:00:07.8±1.4,2°.67S×138°.40E,h0km,mb3.3/2, mbtmp3.4/5,ML3.5/3,Error ellipse: s-maj=29.5km s-min=23.9km az=149.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAY	**Jayapura**	**2.31**	**86**	Pn		Pn	16 00 47.5	+0.4
	2.3nm,0.3s,baz=218,slow=9.9,SNR=15							
JAY				Sn		Sn	16 01 16.8	+0.5
	2.5nm,0.3s,baz=317,slow=21,SNR=1.8							
	17nm,0.6s							
WRA	**Warramunga Arr**	**17.62**	**193**	P		Pn	16 04 13.4	-1.4
	0.1nm,0.3s,baz=14,slow=12,SNR=4.6							
	0.8nm,1.1s							
FITZ	**Fitzroy Crossi**	**19.79**	**218**	P		Pn	16 04 41.0	-0.3
	0.4nm,0.3s,baz=13,slow=18,SNR=9.0							
	1.1nm,0.4s							
ASAR	**Alice Springs**	**21.32**	**191**	P		P	16 04 56.3	-0.2
	0.6nm,0.8s,baz=8.3,slow=11,SNR=7.7							
	0.6nm,0.8s							
MKAR	**Makanchi Array**	**69.57**	**323**	P		P	16 11 18.6	-0.1
	0.6nm,0.7s,baz=120,slow=8.5,SNR=6.7							
	0.6nm,0.7s							

KRNET ***16*** *16:11:55.0±0.1,41°.12N×78°.09E,h14km,mb2.5*
SOME ***16*** *16:11:56.7,41°.00N×78°.00E,h15km*
ISC 16 16:11:59.2±2.0,41°.18N±0°.08×77°.94E±0°.04,h12km±11km, n16,σ1§68/32,12C-4D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.55**	**350**	⇑*i* P		**Pg**	**16 12 07.6**	**-2.5**
TARG				⇑*i* S		**Sg**	**16 12 17.0**	**-0.5**
KDJ	**Kajisay**	**1.10**	**329**	⇑*i* P		**Pb**	**16 12 17.9**	**-2.4**
KDJ				⇑*i* S		**Sb**	**16 12 34.8**	**+0.1**
PRZ	**Przheval'sk**	**1.34**	**15**	⇑*i* P		**Pn**	**16 12 21.6**	**-2.3**
PRZ				⇑*i* S		**Sn**	**16 12 40.7**	**-1.1**
NRN	**Naryn**	**1.48**	**280**	⇑*i* P		**Pn**	**16 12 25.6**	**-0.4**
NRN				⇑*i* S		**Sg**	**16 12 47.8**	**+0.9**
ULHL	**Ulahol**	**1.66**	**310**	⇑*i* P		**Pn**	**16 12 28.4**	**+0.2**
ULHL				⇑*i* S		**Sg**	**16 12 52.6**	**+0.2**
BOOM	**Boomskoye usch**	**1.98**	**312**	⇓*i* P		**Pn**	**16 12 33.7**	**+1.0**
BOOM				⇓*i* S		**Sb**	**16 13 01.7**	**+1.7**
TNSS	**Tian-Shan**	**1.99**	**339**	*eP*		**Pg**	**16 12 37.0**	**-0.4**
	0.7nm,0.1s							
TNSS				*eS*		**Sg**	**16 13 06.1**	**+2.8**
	4.2nm,0.9s							
IZV	**Izvestkoviy**	**2.10**	**332**	*eP*		**Pb**	**16 12 38.1**	**+0.9**
	1.9nm,0.2s							
IZV				*eS*		**Sg**	**16 13 08.2**	**+1.6**
	6.9nm,0.3s							
UZB	**Uzynbulak**	**2.12**	**22**	*eP*		**Pb**	**16 12 37.8**	**+0.2**
UZB				*eS*		**Sg**	**16 13 07.3**	**0.0**
KOTS	**Kotyrbulak**	**2.14**	**344**	*eP*		**Pb**	**16 12 38.6**	**+0.6**
	1.7nm,0.1s							
KOTS				*eS*		**Sg**	**16 13 09.0**	**+1.1**
	13nm,0.2s							
SHLS	**Shalkode**	**2.27**	**29**	*eP*		**Pg**	**16 12 43.8**	**+1.0**
	3.1nm,0.2s							
SHLS				*eS*		**Sg**	**16 13 17.6**	**+5.3**
	11nm,0.4s							
KST	**Kastek**	**2.37**	**322**	*eP*		**Pb**	**16 12 43.0**	**+1.2**
	2.8nm,0.3s							
KST				*eS*		**Sg**	**16 13 16.6**	**+1.3**
	8.2nm,0.7s							
TKM2	**Tokmak 2**	**2.46**	**316**	⇓*eP*		**Pn**	**16 12 40.2**	**+0.9**
TKM2				⇓*eS*		**Sb**	**16 13 13.2**	**-0.6**
CHKK	**Chushkaly**	**2.76**	**346**	*eP*		**Pb**	**16 12 49.6**	**+1.2**
	1.9nm,0.1s							
CHKK				*eS*		**Sg**	**16 13 27.7**	**-0.1**
	7.4nm,0.2s							
UCH	**Uchtor**	**2.77**	**293**	⇑*i* P		**Pn**	**16 12 44.5**	**+0.7**
UCH				⇑*i* S		**Sb**	**16 13 21.0**	**-1.9**
KTMS	**Ketmen**	**2.88**	**38**	*eP*		**Pb**	**16 12 51.2**	**+0.6**
	0.6nm,0.2s							
KTMS				*eS*		**Sg**	**16 13 30.2**	**-1.6**
	4.4nm,0.4s							

NEIC ***16*** *16:21:04.6±1.8,28°.42N±0°.07×56°.76E±0°.06,h10km±1km, mb4.5/80,Error ellipse: s-maj=12.9km s-min=7.4km az=215.0*
TEH ***16*** *16:21:07.5,28°.39N×56°.99E,h9km±32km*
DSN ***16*** *16:21:07.8±0.8,28°.50N×56°.77E,h15km,ML4.3/14,Error ellipse: s-maj=11.9km s-min=4.6km az=84.0*
THR ***16*** *16:21:08.6±0.0,28°.28N×57°.08E,h10km±13km,ML4.7*
OMAN ***16*** *16:21:09.5±1.0,28°.37N×56°.86E,h31km±13km,mb4.4/14, ml4.5/16,Error ellipse: s-maj=8.6km s-min=3.6km az=17.0*
IDC ***16*** *16:21:11.0±3.5,28°.37N×56°.71E,h38km±32km,mb3.8/21, mbtmp4.0/26,ML4.0/4,MS3.8/28,Error ellipse: s-maj=18.5km s-min=13.2km az=5.0*
ISC 16 16:21:06.4±0.3,28°.38N±0°.03×57°.01E±0°.03,h10km,n271, σ2§04/211,mb4.4/68,MS3.7/27,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.75**	**125**	Pg		**Pb**	**16 21 22.7**	**+1.2**
KHNJ				Sg		**Sn**	**16 21 34.6**	**+0.1**
IBND	**Bandar-abas**	**1.01**	**204**	Pg		**Pb**	**16 21 27.5**	**+1.4**
IBND				Sg		**Sn**	**16 21 41.8**	**+0.8**
GENO	**Geno**	**1.23**	**218**	Pg		**Pb**	**16 21 31.1**	**+1.3**
BNDS	**Bandar-Abbas**	**1.23**	**218**	Pg		**Pb**	**16 21 31.1**	**+1.3**
BNDS	**Bandar-Abbas**	**1.23**	**218**	*e*PgA			16 21 30.8	
BNDS				*e*Sg		**Sn**	**16 21 48.4**	**+1.9**
BNDS				IAML			16 21 57.2	
	comp=Z,17nm,1.0s							
NGRK	**Negar Kerman**	**1.29**	**349**	Pg		**Pn**	**16 21 31.4**	**+0.6**
KBAM	**BAM**	**1.47**	**59**	Pg		**Pn**	**16 21 35.3**	**+2.2**
CHMN	**Cheshme madani**	**1.55**	**17**	Pg		**Pn**	**16 21 37.1**	**+2.7**
KRBR	**Kerman**	**1.61**	**352**	Pg		**Pn**	**16 21 37.4**	**+2.1**
KHGB	**Koh Gabri**	**2.05**	**347**	Pn		**Pn**	**16 21 44.8**	**+3.6**
KRM1	**Kerman Provinc**	**2.13**	**6**	Pn		**Pn**	**16 21 46.1**	**+3.8**
LAR1	**LAR**	**2.44**	**254**	Pn		**Pn**	**16 21 49.9**	**+3.5**
SHME	**Shamm**	**2.44**	**199**	P		**Pn**	**16 21 47.8**	**+1.4**
	SNR=76							
SHME	**Shamm**	**2.44**	**199**	*e*P		**Pn**	**16 21 47.8**	**+1.4**
	SNR=75							
SHME				S		**Sb**	**16 22 19.3**	**-1.4**
JASK	**Jask - Hormozg**	**2.61**	**163**	Pn		**Pn**	**16 21 51.4**	**+2.7**
JASK	**Jask - Hormozg**	**2.61**	**163**	P		**Pn**	**16 21 51.3**	**+2.5**
	SNR=174							
JASK				S		**Sb**	**16 22 22.9**	**-2.6**
JHRM	**Jahrom**	**3.03**	**273**	Pn		**Pn**	**16 21 57.5**	**+2.9**
UMQ	**Umm Al-Quwin**	**3.09**	**203**	P		**Pn**	**16 21 58.0**	**+2.8**
	SNR=19							
UMQ	**Umm Al-Quwin**	**3.09**	**203**	*i* P		**Pn**	**16 21 58.1**	**+2.8**
	SNR=19							
MASF	**Masafi**	**3.09**	**194**	P		**Pn**	**16 21 57.4**	**+2.1**
	SNR=11							
MSFE	**Esma-Masafi**	**3.10**	**194**	*i* P		**Pn**	**16 21 56.7**	**+1.2**
	SNR=35							
MDH	**Madha**	**3.13**	**192**	P		**Pn**	**16 21 56.9**	**+1.0**
UOSS	**Minazif**	**3.49**	**192**			**Pn**	**16 21 59.1**	**-1.8**
UOSS	**Minazif**	**3.49**	**192**	P		**Pn**	**16 22 02.1**	**+1.3**
UOSS	**Minazif**	**3.49**	**192**	*i* P		**Pn**	**16 22 02.5**	**+1.6**
	SNR=10							
QIR1	**Qir**	**3.50**	**273**	Pn		**Pn**	**16 22 03.9**	**+2.9**
ZHSF	**Zahedan**	**3.52**	**69**	*e*Pn		**Pn**	**16 22 05.6**	**+4.3**
ZHSF				IAML			16 23 13.5	
	comp=Z,0.9nm,1.0s							
LMD1	**Lamerd**	**3.56**	**254**	Pn		**Pn**	**16 22 04.9**	**+3.1**
LMD1	**Lamerd**	**3.56**	**254**	*e*Pn		**Pn**	**16 22 05.2**	**+3

SNR=11
KAZ2 Kazeron-Fars-I 4.85 286 Pn **Pn** **16 22 22.5 +3.0**
BIDO Bidbid 4.94 168 P **Pn** **16 22 21.0 +0.3**
SNR=30
ARQ Araqi 5.04 185 P **Pn** **16 22 23.8 +1.7**
SNR=35
ARQ S **Sn** **16 23 21.4 +1.0**
JRN Qarnain Island 5.06 228 P **Pn** **16 22 22.9 +0.6**
SNR=12
TABS Tabas 5.26 1 *e*Pn Pn 16 22 31.1 +5.9
TABS IAML 16 24 18.3
comp=Z,0.9nm,1.0s
IRAM Rameshe h 5.27 312 Pn **Pn** **16 22 28.1 +2.5**
AFRZ Afriz 5.32 18 Pn **Pn** **16 22 29.7 +3.6**
WSAR Wadi Sarin 5.32 164 Pn **Pn** **16 22 27.4 +1.4**
comp=Z,0.6nm,0.3s,baz=184,slow=24,SNR=119
WSAR Sn **Sn** **16 23 23.8 -3.6**
comp=Z,0.8nm,0.3s,baz=240,slow=24,SNR=15
SMDO Samad 5.38 170 P **Pn** **16 22 28.0 +1.1**
SNR=27
SMDO S **Sn** **16 23 29.4 +0.5**
KLNJ Kolanjah 5.40 300 Pn **Pn** **16 22 30.2 +2.9**
ANAR Anarak 5.57 330 Pn **Pn** **16 22 32.7 +3.2**
BSY Bisya 5.61 178 P **Pn** **16 22 32.1 +2.1**
SNR=5.6
BSY S **Sn** **16 23 35.5 +0.9**
GHWR Ruwais 5.76 221 P **Pn** **16 22 32.4 +0.5**
IGAR Gharneh 5.88 314 Pn **Pn** **16 22 36.6 +2.8**
UMZA Um Al Zommool 5.88 197 P **Pn** **16 22 34.8 +1.1**
SHMA Al-Shehemyia 5.95 246 P **Pn** **16 22 36.0 +1.4**
SNR=139
SHMA S **Sn** **16 23 40.0 -2.8**
SHRT Shahrakht 5.96 27 Pn **Pn** **16 22 39.2 +4.4**
SHRT Shahrakht 5.96 27 *e*Pn Pn 16 22 41.0 +6.2
SHRT IAML 16 24 42.9
comp=Z,0.6nm,1.0s
IZEF Zefreh 6.05 319 Pn **Pn** **16 22 38.5 +2.3**
JMDO Jabal Madar 6.06 170 P **Pn** **16 22 38.2 +2.0**
JMDO S **Sn** **16 23 47.7 +2.0**
IBRJ Brojen 6.10 307 Pn **Pn** **16 22 40.0 +3.1**
MZR Muzera 6.23 212 P **Pn** **16 22 38.8 +0.4**
SNR=8.0
MZR S **Sn** **16 23 48.5 -1.3**
MZR Muzera 6.23 212 *i* P **Pn** **16 22 38.9 +0.4**
SNR=6.2
SAKB Bahrain 6.24 249 P **Pn** **16 22 39.5 +0.9**
TRNA Turayna 6.33 236 P **Pn** **16 22 40.1 +0.2**
SNR=10
TRNA S **Sn** **16 23 49.9 -2.4**
SLWR Sila 6.42 229 P **Pn** **16 22 41.2 +0.1**
SLWR S **Sn** **16 23 51.0 -3.5**
TAPT Tabas- Tapeh t 6.49 1 Pn **Pn** **16 22 46.0 +3.9**
ZNGN Zangian 6.50 306 Pn **Pn** **16 22 45.0 +2.5**
JLN Jalan Bani Buh 6.57 160 P **Pn** **16 22 44.4 +1.3**
SNR=10
SMRA Abu-Samra 6.62 238 P **Pn** **16 22 45.1 +1.3**
SNR=28
JHBN Jahan bin 6.70 307 Pn **Pn** **16 22 47.3 +2.1**
IKLH Kolahrood 6.79 318 Pn **Pn** **16 22 49.6 +3.3**
IPIR Pirpir 6.80 311 Pn **Pn** **16 22 49.0 +2.4**
KRSH Karshahi 6.97 324 Pn **Pn** **16 22 52.5 +3.8**
ISFB Sefidab 7.22 327 Pn **Pn** **16 22 55.0 +2.9**
MHTO MHTO 7.41 173 P **Pn** **16 22 56.4 +1.7**
SNR=10.0
SHRO Shahrood 7.64 354 *e*Pn Pn 16 23 04.3 +6.4
SHRO IAML 16 24 51.4
comp=Z,0.1nm,1.0s
IVRN Varamin 7.99 327 Pn **Pn** **16 23 05.9 +3.2**
SBZV Sabzevar 8.00 3 *e*Pn Pn 16 23 09.1 +6.1
KBD Kabd 8.22 278 P **Pn** **16 23 05.6 -0.1**
IPAY Payeh 8.22 11 Pn **Pn** **16 23 09.5 +3.5**
DQM DQM 8.42 177 P **Pn** **16 23 09.9 +1.2**
DOK Doka 10.07 196 P **Pn** **16 23 30.7 -0.5**
DMTO DMTO 10.78 191 P **Pn** **16 23 40.9 0.0**
WHFO Wadi Hawf 10.83 197 P **Pn** **16 23 41.7 +0.1**
RBK Rabkut 11.13 194 P **Pn** **16 23 44.8 -0.9**
RAYN Ar Rayn 11.43 248 Pn **16 23 45.5 -4.3**
RAYN Ar Rayn 11.43 248 P Pn 16 23 46.9 -2.9
RAYN Ar Rayn 11.43 248 *i* P Pn 16 23 46.3 -3.6
SNR=25
ABTO Aybut 11.49 198 P **Pn** **16 23 49.5 -1.3**
NIL Nilore 14.88 65 **Pn** **16 24 38.0 +1.0**
NIL IAmb IAmb 16 24 55.4
comp=Z,25nm,1.1s
GEVA Gevas 15.29 314 Pn 16 24 36.3 -6.2
GAR Garm 15.31 43 **Pn** **16 24 42.4 -0.3**
GAR IAmb IAmb 16 25 02.0
comp=Z,17nm,0.8s
GNI Garni 15.50 322 LR LR 16 31 20.6
comp=Z,345nm,18.4s,baz=118,slow=40
GURO Guroymak-BITLI 16.08 313 P **Pn** **16 24 51.0 -1.8**
GURO IAmb IAmb 16 24 59.4
comp=Z,26nm,1.0s
DRK Karamyk 16.51 44 P **Pn** **16 24 59.6 +1.2**
DRK IAmb IAmb 16 25 18.3
comp=Z,29nm,0.5s
ASF Jabal al Asfar 17.78 287 P **Pn** **16 25 12.5 -1.7**
comp=Z,0.7nm,0.3s,baz=162,slow=3.7,SNR=7.6
ASF LR LR 16 33 40.6
comp=Z,285nm,20.0s,baz=130,slow=43
comp=Z,13nm,1.1s
KOPT Kop Dagi 17.90 315 P Pn 16 25 10.9 -4.8
KK31 Karatay Array 18.29 33 **Pn** **16 25 19.7 -0.7**
KKAR Karatay Array 18.29 33 **Pn** **16 25 20.0 -0.3**
ARSB Arslanbob 18.36 41 P **Pn** **16 25 19.8 -1.6**
GAZ Gaziantep 18.79 303 P 16 25 20.6 -5.5
GHAJ Ghor Haditha 18.83 284 P 16 25 19.9 -6.5
GHAJ IAmb IAmb 16 26 02.6
comp=Z,28nm,1.1s
KBZ Khabaz 19.06 327 P **P** **16 25 28.9 0.0**
comp=Z,0.1nm,0.3s,baz=123,slow=6.5,SNR=1.2
comp=Z,0.4nm,0.3s
MMAI Mount Meron Ar 19.14 289 P **P** **16 25 28.9 -1.0**
comp=Z,1.3nm,0.3s,baz=98,slow=13,SNR=5.5
MMAI LR LR 16 34 43.0
comp=Z,474nm,18.3s,baz=98,slow=43
comp=Z,1.2nm,0.4s
KSH Kashi 19.22 50 P **P** **16 25 31.5 +0.7**
KSH pP pP 16 25 35.5 +1.2
KSH pmax pmax
comp=Z,31nm,0.9s
KIV Kislovodsk 19.33 327 P P 16 25 27.5 -4.4
KIV IAmb IAmb 16 26 04.2
comp=Z,24nm,1.1s
EIL Elat 19.34 279 P **P** **16 25 31.0 -1.0**
comp=Z,0.5nm,0.3s,baz=85,slow=6.7,SNR=9.5
EIL LR LR 16 34 29.0
comp=Z,160nm,21.6s,baz=88,slow=42
comp=Z,20nm,1.1s
AAK Ala-Archa 20.07 40 **P** **16 25 39.1 -0.9**
AAK Ala-Archa 20.07 40 P **P** **16 25 43.4 +3.3**
comp=Z,1.8nm,0.3s,baz=221,slow=13,SNR=9.3
AAK LR LR 16 34 39.6
comp=Z,370nm,18.2s,baz=224,slow=40
comp=Z,1.8nm,0.3s
NRN Naryn 20.25 45 **P** **16 25 41.0 -1.2**
BNN Bunyan 20.45 306 P **16 25 38.2 -6.0**
TOKA Tokat 20.67 311 P P 16 25 41.4 -5.1
BOOM Boomskoye usch 20.82 42 **P** **16 25 46.8 -1.4**
AB31 Akbulak array 20.97 5 **P** **16 25 47.6 -1.9**
ABKAR Akbulak array 20.97 5 **P** **16 25 48.4 -1.2**
CSS Mathiatis 21.17 294 P P 16 25 46.6 -5.3
CSS IAmb IAmb 16 26 07.0
comp=Z,35nm,1.3s
KDJ Kajisay 21.37 45 **P** **16 25 53.9 -0.2**
ATD Arta Tunnel 21.37 221 P **P** **16 25 49.3 -4.9**
ATD IAmb IAmb 16 25 58.0
comp=Z,29nm,1.2s
ATD Arta Tunnel 21.37 221 LR LR 16 35 54.6
comp=Z,11nm,18.5s,baz=34,slow=42
AKTO Aktyubinsk 22.04 2 LR LR 16 35 33.2
comp=Z,274nm,20.7s,baz=219,slow=39
PRZ Przheval'sk 22.32 45 P **P** **16 26 03.7 -0.7**
BR131 Keskin Array S 22.36 306 P 16 26 00.3 -4.5
BR131 IAmb IAmb 16 26 08.4
comp=Z,22nm,1.1s
BRTR Keskin Array B 22.36 306 P 16 26 00.5 -4.4
BRTR Keskin Array B 22.36 306 P **P** **16 26 04.5 -0.4**
comp=Z,16nm,1.0s,baz=123,slow=9.0,SNR=52
BRTR LR LR 16 36 30.9
comp=Z,359nm,20.2s,baz=120,slow=42
comp=Z,16nm,1.0s
ILGA Ilgaz 22.87 310 P 16 26 05.6 -4.7
ILGA IAmb IAmb 16 26 35.7
comp=Z,15nm,1.1s

ANTO Ankara 23.02 306 P P 16 26 07.8 -4.0
ANTO IAmb IAmb 16 26 25.4
comp=Z,28nm,1.2s
BZK Bozkurt 23.09 312 P **P** **16 26 08.9 -3.4**
ELL Elmali 24.26 297 P P 16 26 18.8 -5.2
ELL IAmb IAmb 16 26 41.4
comp=Z,16nm,0.8s
MDUB Mudurnu 24.38 306 P 16 26 19.7 -5.3
BELG Belogornoye 24.99 346 LR LR 16 39 04.8
comp=Z,81nm,20.8s,baz=127,slow=43
MANT Manisa 25.71 300 P P 16 26 31.9 -5.2
KARP Karpathos 26.25 293 P P 16 26 36.2 -5.6
EVN Everest 26.25 84 **P** **16 26 41.2 -1.4**
BVAR Borovoye Array 26.54 18 P **P** **16 26 46.0 +1.8**
comp=Z,5.1nm,0.8s,baz=201,slow=7.4,SNR=19
comp=Z,5.1nm,0.8s
BRVK Borovoye 26.54 18 **P** **16 26 42.6 -1.6**
MAKZ Makanchi 26.83 40 **P** **16 26 45.7 -1.3**
MAKZ IAmb IAmb 16 27 10.2
comp=Z,14nm,1.3s
MKAR Makanchi Array 27.00 40 **P** **16 26 46.9 -1.6**
MKAR Makanchi Array 27.00 40 P **P** **16 26 50.9 +2.4**
comp=Z,1.3nm,0.7s,baz=223,slow=8.3,SNR=9.4
MKAR LR LR 16 39 22.3
comp=Z,141nm,18.5s,baz=221,slow=40
comp=Z,1.3nm,0.7s
KURBB Kurchatov Arra 27.55 30 P **P** **16 26 55.4 +2.1**
comp=Z,2.4nm,1.0s,baz=231,slow=8.5,SNR=4.7
comp=Z,2.4nm,1.0s
KURK Kurchatov 27.65 30 P **P** **16 26 53.2 -1.1**
ARTI Arti 28.01 2 LR LR 16 38 58.2
comp=Z,126nm,19.2s,baz=188,slow=38
WMQ Urumqi 28.98 50 *e*P **P** **16 27 08.3 +2.0**
WMQ pP pP 16 27 11.8 +2.0
WMQ pmax pmax
comp=Z,20nm,0.7s
AKASG Malin Array Be 30.61 324 P **P** **16 27 20.1 -0.4**
comp=Z,0.3nm,0.3s,baz=131,slow=8.0,SNR=4.5
comp=Z,0.3nm,0.3s
AKBB Malin Array Si 30.61 324 P 16 27 18.4 -2.2
KIEV Kiev 30.62 324 P P 16 27 18.4 -2.2
KIRV Kirov 30.66 352 LR LR 16 42 48.8
comp=Z,128nm,18.3s,baz=173,slow=42
PALK Pallekele 30.69 129 LR LR 16 38 46.4
comp=Z,171nm,18.8s,baz=71,slow=34
ZAA0 Zalesovo Array 32.64 31 **P** **16 27 37.2 -1.1**
ZAA0 IAmb IAmb 16 27 58.7
comp=Z,5.9nm,0.9s
ZALV Zalesovo Beam 32.64 31 **P** **16 27 36.4 -2.0**
ZALV Zalesovo Beam 32.64 31 P **P** **16 27 40.2 +1.9**
comp=Z,1.4nm,0.3s,baz=238,slow=8.3,SNR=9.5
comp=Z,1.4nm,0.3s
KOLS Kolonicke sedl 33.60 317 *e*P **P** **16 27 49.4 +2.6**
STHS Stebnicka Huta 34.41 318 *e*P P 16 27 51.5 -2.4
OJC Ojcow 35.60 318 P P 16 27 59.7 -4.4
SGRT San Giovanni R 35.98 303 P P 16 28 03.5 -4.1
MODS Modra-Piesok 36.47 314 *e*P P 16 28 08.2 -3.4
GTA Gaotai 36.89 61 *e*P **P** **16 28 18.3 +2.9**
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA LR LR
comp=N,170nm,17.4s
GTA LR LR
comp=E,340nm,18.2s
GTA LR LR
comp=Z,380nm,16.4s
VRAC Vranov 37.20 315 LR LR 16 45 36.6
comp=Z,60nm,21.2s,baz=90,slow=40
CONA Conrad Observa 37.24 313 *e*pP **P** **16 28 18.1 -0.1**
comp=Z,1.7nm,0.6s
MOA Molln 38.25 312 *e*pP **P** **16 28 26.7 0.0**
comp=Z,4.1nm,1.0s
KBA Koelnbreinsper 38.67 311 pP **P** **16 28 29.9 -0.5**
comp=Z,7.9nm,1.0s
GEC2 GERESS Array S 38.88 314 P P 16 28 27.4 -4.6
GERES GERESS Array B 38.88 314 P P 16 28 28.4 -3.6
GERES GERESS Array B 38.88 314 P **P** **16 28 30.5 -1.5**
comp=Z,0.3nm,0.3s,baz=111,slow=7.3,SNR=7.8
GERES LR LR 16 47 18.8
comp=Z,48nm,19.3s,baz=14,slow=40
comp=Z,0.3nm,0.3s
FINES FINESS Array B 38.94 337 P **P** **16 28 31.6 -0.6**
comp=Z,1.9nm,0.4s,baz=131,slow=8.8,SNR=23
comp=Z,1.9nm,0.4s
KHC Kasperske Hory 39.03 314 *e*P P 16 28 26.5 -6.8
KHC *e*pP pP 16 28 33.5 -3.4
PZH PanZhiHua 39.57 82 P **P** **16 28 38.4 +0.2**
WTTA Wattenberg 39.85 311 *e*pP **P** **16 28 39.2 -1.0**
comp=Z,13nm,1.4s
WATA Walderalm 39.90 311 *e*pP **P** **16 28 40.0 -0.7**
comp=Z,11nm,1.3s
CLL Collm 40.02 317 *e*P P 16 28 39.0 -2.4
comp=Z,5.0nm,0.9s
LZH Lanzhou 40.04 67 *e*P P 16 28 48.1 +6.1
LZH sP sP 16 28 57.4 +10
LZH pmax pmax
comp=Z,16nm,1.1s
SQTA Sankt Quirin 40.12 311 *e*pP **P** **16 28 41.5 -0.9**
comp=Z,3.8nm,0.5s
MOTA Moosalm 40.22 311 *e*pP **P** **16 28 42.4 -0.9**
comp=Z,6.4nm,1.0s
FETA Feichten 40.41 310 *e*pP **P** **16 28 44.5 -0.4**
comp=Z,11nm,1.3s
GRFO Grafenberg 40.66 314 P P 16 28 43.0 -3.7
GRFO IAmb IAmb 16 28 48.3
comp=Z,9.3nm,1.0s
KEST Kesra 40.74 293 LR LR 16 49 08.8
comp=Z,89nm,18.3s,baz=33,slow=41
KMI Kunming 40.78 84 P P 16 28 53.9 +5.6
KMI pmax pmax
comp=Z,15nm,0.8s
MSSA Maissana 40.84 306 P P 16 28 44.3 -4.1
DAVA Damuels 41.02 311 *e*pP **P** **16 28 49.1 -0.8**
comp=Z,4.9nm,0.6s
SONM Songino Array 42.62 49 P **P** **16 29 01.7 -1.3**
SONM Songino Array 42.62 49 P **P** **16 29 05.0 +2.0**
comp=Z,0.4nm,0.5s,baz=282,slow=7.4,SNR=5.1
comp=Z,0.4nm,0.5s
SENIN Lac Senin/Sane 42.64 309 P P 16 28 57.7 -5.6
SLVN Son La 42.91 89 P **P** **16 29 04.7 -0.9**
BNI Bardonecchia 42.93 307 P 16 29 00.1 -5.4
ECH Echery 42.99 311 P P 16 29 01.0 -4.9
ULN Ulaanbaatar 43.06 49 P **P** **16 29 06.0 -0.6**
HFS Hagfors 43.10 330 P **P** **16 29 05.1 -1.4**
comp=Z,0.8nm,0.4s,baz=119,slow=8.6,SNR=10
comp=Z,0.8nm,0.4s
XAN Xi'an 44.37 69 P **P** **16 29 18.0 +0.8**
XAN pmax pmax
comp=Z,5.0nm,0.8s
NC405 NORSAR Array S 44.41 330 P P 16 29 13.5 -3.6
NC405 IAmb IAmb 16 29 53.1
comp=Z,8.4nm,1.1s
SSB Saint Sauveur 44.45 307 P P 16 29 13.1 -4.6
SSB IAmb IAmb 16 29 42.4
comp=Z,8.4nm,1.2s
NB2 NORSAR Subarra 44.60 330 P **P** **16 29 17.9 -0.7**
comp=Z,2.5nm,1.1s,baz=117,slow=7.9
NOA NORSAR Array B 44.60 330 P **P** **16 29 16.9 -1.7**
comp=Z,0.6nm,0.6s,baz=116,slow=7.9,SNR=5.0
comp=Z,0.6nm,0.6s
NC204 NORSAR Array S 44.90 330 P P 16 29 17.9 -3.2
ARCES ARCESS Array B 45.02 345 P P 16 29 19.9 -1.9
ARCES IAmb IAmb 16 29 32.2
comp=Z,11nm,1.4s
ARCES ARCESS Array B 45.02 345 P **P** **16 29 20.8 -1.0**
comp=Z,0.9nm,0.7s,baz=141,slow=6.2,SNR=7.2
ARCES LR LR 16 51 19.5
comp=Z,71nm,18.8s,baz=114,slow=40
comp=Z,0.9nm,0.7s
HHC Hu-ho-hao-te 45.91 59 *e*P **P** **16 29 28.3 -1.1**
HHC pmax pmax
comp=Z,6.0nm,0.6s
HHC pmax pmax
comp=Z,47nm,4.6s
HHC LR LR
comp=N,73nm,12.2s
HHC LR LR
comp=E,130nm,13.8s
HHC LR LR
comp=Z,170nm,14.5s
PSI Prapat 47.32 115 LR LR 16 52 18.7
comp=Z,553nm,18.4s,baz=232,slow=39
EKA Eskdalemuir Ar 50.32 320 P **P** **16 30 02.6 -0.6**
comp=Z,0.4nm,0.4s,baz=99,slow=7.1,SNR=5.8
comp=Z,0.4nm,0.4s
ESDC Sonseca Array 50.91 300 P **P** **16 30 07.4 -0.5**
comp=Z,0.5nm,0.6s,baz=78,slow=8.7,SNR=2.1

comp=Z,0.5nm,0.6s
LSZ Lusaka 51.59 216 LR LR 16 54 40.4
comp=Z,86nm,21.0s,baz=76,slow=39
NJ2 Nanjing 52.93 70 *e*P **P** **16 30 21.4 -1.6**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
TORD Torodi Ar. Bea 53.47 266 P P 16 30 21.8 -5.4
TORD Torodi Ar. Bea 53.47 266 P **P** **16 30 25.8 -1.4**
comp=Z,3.4nm,0.6s,baz=56,slow=7.7,SNR=30
comp=Z,3.4nm,0.6s
MATP Matopo 55.80 213 LR LR 16 54 27.8
comp=Z,57nm,18.1s,baz=56,slow=36
YAK Yakutsk 57.27 32 LR LR 16 57 47.5
comp=Z,180nm,18.1s,baz=226,slow=38
TIXI Tiksi 57.63 21 LR LR 17 00 30.6
comp=Z,94nm,18.3s,baz=258,slow=41
KS19 Wonju Array Si 58.90 61 P P 16 31 02.9 -2.9
KSAR Wonju Array Be 58.93 61 P **P** **16 31 03.4 -2.6**
KSRS Korea Array 58.96 61 P **P** **16 31 09.5 +3.4**
comp=Z,0.8nm,0.6s,baz=280,slow=7.6,SNR=6.8
comp=Z,0.8nm,0.6s
BORG Borgarnes 59.77 331 LR LR 17 00 40.7
comp=Z,33nm,18.6s,baz=64,slow=40
LBTB Lobatse 61.09 213 P **P** **16 31 18.1 -2.8**
LBTB IAmb IAmb 16 31 38.6
comp=Z,5.1nm,1.1s
DBIC Dimbokro 62.15 262 P P 16 31 23.6 -4.6
DBIC Dimbokro 62.15 262 LR LR 17 01 21.9
comp=Z,59nm,19.1s,baz=85,slow=39
JNU Nakatsue 62.44 65 LR LR 17 00 37.0
comp=Z,78nm,18.3s,baz=266,slow=38
BOSA Boshof 64.31 211 P **P** **16 31 41.1 -1.3**
BOSA Boshof 64.31 211 LR LR 17 02 06.3
comp=Z,115nm,18.2s,baz=24,slow=38
SEY Seymchan 67.50 30 LR LR 17 04 49.8
comp=Z,136nm,21.0s,baz=247,slow=39
SFJD Kangerlussuaq 70.74 337 LR LR 17 07 17.6
comp=Z,32nm,18.1s,baz=360,slow=39
C19K Lookout Ridge 79.19 13 P P 16 33 08.9 -2.4
E18K Tukpahlearik C 80.41 14 P **P** **16 33 16.2 -1.6**
E18K IAmb IAmb 16 33 41.0
comp=Z,12nm,1.4s
F19K Shaleruckik Mo 81.50 13 P **P** **16 33 22.1 -1.6**
E23K Chandalar 81.83 10 P P 16 33 23.0 -2.5
E24K Your Creek 81.98 9 **P** **16 33 24.8 -1.5**
E24K IAmb IAmb 16 33 50.6
comp=Z,5.5nm,1.2s
G18K Tagagawik 82.12 14 P **P** **16 33 26.4 -0.5**
G18K IAmb IAmb 16 33 37.6
comp=Z,5.8nm,1.1s
G19K Purcell Mounta 82.23 13 P **P** **16 33 26.0 -1.5**
G19K IAmb IAmb 16 33 37.8
comp=Z,3.1nm,0.8s
COLD Coldfoot 82.50 10 P **P** **16 33 27.6 -1.3**
COLD IAmb IAmb 16 33 34.2
comp=Z,3.6nm,1.1s
H17K Granite Mounta 82.66 15 P **P** **16 33 29.1 -0.7**
H19K Roundabout Mou 82.90 13 P **P** **16 33 29.0 -2.0**
H19K IAmb IAmb 16 33 54.7
comp=Z,4.3nm,1.2s
G23K Bananza Creek 83.01 10 P P 16 33 28.4 -3.2
G23K IAmb IAmb 16 34 00.2
comp=Z,5.7nm,1.5s
IMAR Indian Mountai 83.02 12 P P 16 33 29.4 -2.3
BMAR Burnt Mountain 83.11 8 P **P** **16 33 30.6 -1.6**
G24K Hadweenzic Riv 83.41 10 P **P** **16 33 31.8 -1.9**
H21K Melozitna Rive 83.49 12 P P 16 33 31.7 -2.4
H21K IAmb IAmb 16 33 56.0
comp=Z,4.6nm,1.4s
F30M Barrier River 83.83 5 P P 16 33 33.6 -2.2
F30M IAmb IAmb 16 34 13.2
comp=Z,5.8nm,1.1s
J16K Anvik River 83.90 16 P **P** **16 33 34.1 -2.1**
H23K Yukon River 83.90 11 P **P** **16 33 34.1 -2.1**
H23K IAmb IAmb 16 33 43.7
comp=Z,6.3nm,1.4s
J17K VABM Dome 84.17 15 P P 16 33 34.7 -2.8
J19K Poorman 84.42 14 P P 16 33 36.0 -2.9
J19K IAmb IAmb 16 34 05.7
comp=Z,4.9nm,1.3s
J20K Nowinta River 84.56 13 P P 16 33 36.8 -2.8
J20K IAmb IAmb 16 33 49.7
comp=Z,4.8nm,1.1s
G31M Satah River 84.61 4 P P 16 33 36.7 -3.0
H29M Whitestone 84.97 6 P P 16 33 38.1 -3.5
H29M IAmb IAmb 16 34 22.0
comp=Z,6.2nm,1.3s
ILAR Eielson Array 85.30 10 P **P** **16 33 43.0 -0.3**
comp=Z,0.4nm,0.8s,baz=348,slow=4.7,SNR=4.7
ILAR LR LR 17 17 03.7
comp=Z,33nm,18.6s,baz=280,slow=39
comp=Z,0.4nm,0.8s
I28M Miner Creek 85.56 7 P P 16 33 42.4 -2.3
I28M IAmb IAmb 16 33 54.7
comp=Z,2.9nm,1.0s
J25K Salcha River, 85.68 9 P **P** **16 33 44.8 -0.5**
J25K IAmb IAmb 16 34 26.7
comp=Z,5.1nm,1.4s
H31M Peel River 85.71 5 P **P** **16 33 44.1 -1.2**
H31M IAmb IAmb 16 34 02.6
comp=Z,4.3nm,0.9s
J26L Joseph Creek 86.04 9 P **P** **16 33 45.7 -1.4**
J26L IAmb IAmb 16 33 48.3
comp=Z,2.7nm,0.7s
I30M Mount Dempster 86.13 6 **P** **16 33 46.1 -1.5**
I30M IAmb IAmb 16 34 04.8
comp=Z,3.9nm,1.1s
SCRK Sand Creek 86.48 9 **P** **16 33 47.5 -1.8**
SCRK IAmb IAmb 16 34 13.3
comp=Z,5.1nm,1.3s
DOT Dot Lake 86.78 9 P **P** **16 33 49.1 -1.5**
DOT IAmb IAmb 16 34 04.5
comp=Z,3.7nm,1.2s
K29M Barlow Dome 87.38 6 P **P** **16 33 51.9 -1.7**
K29M IAmb IAmb 16 34 02.0
comp=Z,2.2nm,0.8s
WRA Warramunga Arr 88.76 113 P **P** **16 34 01.8 +1.0**
comp=Z,1.6nm,0.9s,baz=311,slow=4.2,SNR=6.8
comp=Z,1.6nm,0.9s
YKA Yellowknife Ar 89.20 356 P **P** **16 34 02.6 +0.4**
comp=Z,1.6nm,0.9s,baz=0.8,slow=5.2,SNR=11
comp=Z,1.6nm,0.9s
ASAR Alice Springs 90.31 117 P **P** **16 34 09.4 +1.4**
comp=Z,0.8nm,0.8s,baz=308,slow=5.3,SNR=10.0
comp=Z,0.8nm,0.8s

*IDC **16** 16:23:13.6±2.9, 9.34S×113.70E, h0km, mb3.2/3, mbtmp3.2/3, MS3.3/1, Error ellipse: s-maj=168.8km s-min=26.5km az=47.0*
*DJA **16** 16:23:28.3±0.4, 9.3S±7.1×114.4E±0.6, h58km±9km, M3.9/14, mb4.1/5, MLv3.8/14*
ISC 16 16:23:27.3±1.1, 9.0S±0.1×114.5E±0.06, h101km, n15, σ1§14/17, mb3.1/3, Bali region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**0.55**	**328**	P	**Pn**	**16 23 42.8**	**-0.8**
JAGI				S	**Sn**	**16 23 53.5**	**-2.3**
SRBI	**Singaraja**	**1.14**	**42**	P	**Pn**	**16 23 49.4**	**0.0**
SRBI				S	**Sn**	**16 24 05.3**	**-0.8**
GMJI	**Gumukmas**	**1.19**	**304**	P	**Pn**	**16 23 50.6**	**+0.6**
GMJI				S	**Sn**	**16 24 07.7**	**+0.6**
KMMI	**Kalianget**	**1.94**	**346**	P	**Pn**	**16 24 00.7**	**+1.5**
PLAI	**Plampang**	**3.29**	**88**	P	**Pn**	**16 24 18.3**	**+1.3**
PCJI	**Pacitan**	**3.32**	**283**	P	**Pn**	**16 24 18.5**	**+1.2**
UGM	**Wanagama**	**4.01**	**285**	P	**Pn**	**16 24 27.9**	**+1.2**
WBSI	**Waikabubak, Su**	**4.93**	**98**	P	**Pn**	**16 24 39.0**	**-0.2**
BSSI	**Bau Bau, Buton** 0.1nm24nm,0.9s	**6.61**	**65**	P	**Pn**	**16 25 02.9**	**+1.0**
BKSI	**Bulukumba**	**6.69**	**58**	P	**Pn**	**16 25 04.0**	**+1.0**
EDFI	**Ende, Flores**	**7.16**	**89**	P	**Pn**	**16 25 09.9**	**+0.3**
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=298,slow=9.2,SNR=1.6 0.3nm,0.6s	**22.12**	**122**	P	**P**	**16 28 15.4**	**+0.6**
ASAR	**Alice Springs** 0.4nm,0.5s,baz=303,slow=9.4,SNR=19 0.4nm,0.5s	**23.68**	**130**	P	**P**	**16 28 30.6**	**+0.6**
JAY	**Jayapura**	**26.88**	**78**	LR	LR	16 42 57.3	
	comp=Z,68nm,20.3s,baz=320,slow=43						
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=144,slow=8.2,SNR=4.6 0.2nm,0.5s	**62.45**	**336**	P	**P**	**16 33 38.8**	**-1.1**

BJI **16** *16:25:59.5,30˚.45N×141˚.97E,h14km,mB4.5/18,mb4.6/51, Ms4.2/31,Ms7 4.1/34*
IDC **16** *16:26:00.5±0.6,30˚.55N×141˚.90E,h0km,mb4.2/22, mbtmp4.2/28,ML3.5/5,MS3.8/22,Error ellipse: s-maj=17.6km s-min=12.8km az=74.0*
NIED **16** *16:26:01.6,30˚.70N×142˚.29E,h33km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr4.31; Mθθ-0.37; Mφφ-3.94; Mrθ-1.18; Mθφ0.87; Mφr5.75; Fault plane solution: M₀7.23000×10¹⁵ NP1: φs166.00000°,δ18.00000°,λ88.00000°. NP2: φs348.00000°,δ72.00000°,λ91.00000°.*
JMA **16** *16:26:01.6±0.2,30˚.7N±1˚.0×14˚.2E±˚,h33km,MV4.5/25, MW4.6/25,NEAR TORISHIMA IS*
NEIC **16** *16:26:02.5±1.5,30˚.56N±0˚.07×141˚.8E±0˚.1,h10km±1km, mb4.8/47,Error ellipse: s-maj=21.2km s-min=10.1km az=71.0*

ISC 16 16:26:03.1±0.5,30˚.58N±0˚.04×141˚.99E±0˚.07,h23km,n135, σ2s14/139,mb4.6/49,MS3.9/26,1C,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAOM	**Aogashimamukai**	**2.67**	**315**	*eP*		**Pn**	**16 26 45.8**	**+0.9**
JHCJ	**Hachijojimakas**	**3.11**	**324**	P		**Pn**	**16 26 50.6**	**-0.1**
JHCJ				*eS*		**Sn**	**16 27 26.7**	**-0.5**
JHJ2	**Mitsune**	**3.13**	**324**			**Pn**	**16 26 50.6**	**-0.5**
JHJ2						**Sn**	**16 27 23.9**	**-3.9**
JHJ2	**Mitsune**	**3.13**	**324**	*eP*		**Pn**	**16 26 51.0**	**-0.1**
JHJ2				*eS*		**Sn**	**16 27 28.2**	**+0.5**
CBIJ	**Chichi jima**	**3.47**	**177**	*eP*		**Pn**	**16 26 57.3**	**+1.5**
JCJ	**Chichijima**	**3.47**	**177**			**Pn**	**16 26 56.3**	**+0.5**
JCJ				Sn		**Sn**	**16 27 32.3**	**-3.9**
JCJ	**Chichijima** 39nm,0.4s	**3.47**	**177**	Pn		**Pn**	**16 26 55.2**	**-0.6**
JCJ				Sn		**Sn**	**16 27 33.8**	**-2.4**
JMKN	**Mikurajimanish**	**3.88**	**329**	*eP*		**Pn**	**16 27 01.2**	**-0.2**
JMKN				S		**Sn**	**16 27 45.2**	**-1.0**
JHH2	**Haha-jima-NKT2**	**3.93**	**178**	*eS*		**Sn**	**16 27 50.1**	**+2.5**
JMYK	**Miyake Tsubota**	**4.04**	**330**	P		**Pn**	**16 27 04.2**	**+0.7**
JMYK				*eS*		**Sn**	**16 27 51.2**	**+1.0**
BSO1	**Boso 1**	**4.15**	**348**	*eP*		**Pn**	**16 27 04.5**	**-0.1**
JOD2	**Odawara 2**	**5.27**	**333**	*eP*		**Pn**	**16 27 21.3**	**+0.8**
TTO1	**TONANKAI O.B.S**	**5.36**	**306**	*eP*		Pn	16 27 24.8	+3.3
JIE	**Ise**	**5.87**	**312**	*eP*		**Pn**	**16 27 30.8**	**+2.2**
INU	**Inuyama**	**6.33**	**320**			**Pn**	**16 27 33.6**	**-1.4**
JGF	**Kuroka**	**6.34**	**323**			**Pn**	**16 27 35.2**	**0.0**
MJAR	**Matsushiro Arr**	**6.73**	**333**			**Pn**	**16 27 41.6**	**+1.0**
MJAR	**Matsushiro Arr** 0.8nm,0.3s,baz=158,slow=11,SNR=74	**6.73**	**333**	Pn		**Pn**	**16 27 41.2**	**+0.6**
MJAR				Sn		**Sn**	**16 28 54.2**	**-2.4**
MJAR	0.2nm,0.3s,baz=165,slow=18,SNR=4.8			LR		LR	16 30 30.0	
	comp=Z,408nm,18.8s,baz=159,slow=40 12nm,0.5s							
MAJO	**Matsushiro**	**6.74**	**333**			**Pn**	**16 27 41.8**	**+1.2**
MJB9	**Matsu-Tunnel**	**6.74**	**333**			**Pn**	**16 27 42.2**	**+1.5**
JMM	**Marumori**	**7.34**	**353**			**Pn**	**16 27 46.9**	**-2.0**
JMN	**Monobe**	**7.56**	**297**	Pn		Pn	16 27 45.1	-6.9
JMK	**Ichinoseki**	**8.38**	**356**	*eP*		**Pn**	**16 28 02.8**	**-0.3**
JNU	**Nakatsue** 0.3nm,0.3s,baz=196,slow=3.5,SNR=5.1	**9.79**	**288**	Pn		**Pn**	**16 28 22.9**	**+0.3**
JNU				LR		LR	16 31 59.4	
	comp=Z,434nm,18.7s,baz=82,slow=37 3.7nm,1.0s							
JTM	**Tenmabayashi**	**10.21**	**356**	Pn		**Pn**	**16 28 27.1**	**-1.2**
ERM	**Erimo**	**11.45**	**4**	Pn		**Pn**	**16 28 40.6**	**-4.6**
JOW	**Kunigami** comp=Z,361nm,18.4s,baz=105,slow=37	**12.61**	**256**	LR		LR	16 33 47.2	
JKA	**Kamikawa-asahi**	**13.52**	**2**	Pn		**Pn**	**16 29 09.4**	**-4.1**
ASAJ	**Asahikawa** 0.8nm,0.3s,baz=222,slow=12,SNR=14	**13.52**	**2**	Pn		**Pn**	**16 29 11.9**	**-1.6**
ASAJ				Sn		**Sn**	**16 31 34.4**	**-8.6**
ASAJ	0.3nm,0.3s,baz=38,slow=33,SNR=5.6			LR		LR	16 35 16.2	
	comp=Z,198nm,20.6s,baz=180,slow=41 2.0nm,0.3s							
KSRS	**Korea Array** 0.3nm,0.3s,baz=109,slow=12,SNR=15 2.7nm,0.7s	**13.53**	**304**	Pn		**Pn**	**16 29 14.6**	**+1.0**
INCN	**Inchon**	**14.47**	**303**	Pn		**Pn**	**16 29 23.8**	**-2.7**
USA0B	**Ussuriysk Arra**	**15.73**	**333**	Pn		**Pn**	**16 29 40.8**	**-2.4**
USRK	**Ussuriysk Ar.**	**15.73**	**333**	Pn		**Pn**	**16 29 38.1**	**-5.1**
USRK	**Ussuriysk Ar.** 0.1nm,0.3s,baz=151,slow=12,SNR=10	**15.73**	**333**	Pn		**Pn**	**16 29 41.5**	**-1.7**
USRK				LR		LR	16 35 40.8	
	comp=Z,201nm,19.0s,baz=164,slow=37 2.9nm,0.8s							
YSS	**Yuzhno-Sakhali**	**16.36**	**2**	Pn		**Pn**	**16 29 49.6**	**-1.7**
MDJ	**Mudanjiang**	**17.09**	**329**	P		**P**	**16 30 02.3**	**+0.3**
MDJ	**Mudanjiang**	**17.09**	**329**	P		**Pn**	**16 29 56.3**	**-4.1**
MDJ	**Mudanjiang**	**17.09**	**329**	P		**P**	**16 30 02.5**	**+0.5**
MDJ				*pmax*		*pmax*		
	comp=Z,19nm,1.1s							
CN2	**Changchun**	**18.61**	**320**	*eP*		**Pn**	**16 30 19.0**	**-0.2**
CN2				*eS*		**Sn**	**16 33 42.0**	**-4.5**
CN2				*pmax*		*pmax*		
	comp=Z,10.0nm,0.9s							
CN2				*pmax*		*pmax*		
	comp=Z,100nm,8.0s							
CN2				LR		LR		
	comp=N,300nm,15.0s							
CN2				LR		LR		
	comp=E,300nm,15.0s							
CN2				LR		LR		
	comp=Z,200nm,15.0s							
BNX	**BinXian**	**18.95**	**327**	⇑P		**Pn**	**16 30 23.3**	**+0.1**
BNX				S		**S**	**16 33 58.1**	**+2.0**
BNX				*pmax*		*pmax*		
	comp=Z,17nm,0.8s							
BNX				*pmax*		*pmax*		
	comp=Z,83nm,3.9s							
BNX				LR		LR		
	comp=N,93nm,19.0s							
BNX				LR		LR		
	comp=E,170nm,19.7s							
BNX				LR		LR		
	comp=Z,120nm,17.3s							
YULB	**Yu-li**	**19.77**	**254**			**Pn**	**16 30 31.9**	**-1.3**
YULB				IAmb		IAmb	16 30 33.9	
	comp=Z,26nm,0.7s							
NJ2	**Nanjing**	**19.82**	**280**	*eP*		**Pn**	**16 30 32.8**	**-1.0**
NJ2				*pmax*		*pmax*		
	comp=Z,17nm,1.0s							
NJ2				LR		LR		
	comp=Z,200nm,14.2s							
NJ2				LR		LR		
	comp=Z,270nm,16.1s							
NJ2				LR		LR		
	comp=Z,320nm,14.2s							
SSLB	**Suanglung**	**19.88**	**255**			**Pn**	**16 30 33.7**	**-1.0**
SSLB				IAmb		IAmb	16 30 36.1	
	comp=Z,96nm,1.1s							
KLR	**Kulʲdur** baz=147,slow=11	**20.18**	**340**	P		Pn	16 30 36.8	-1.2
TWG	**Pinlang**	**20.20**	**253**			Pn	16 30 36.5	-1.9
TWG				IAmb		IAmb	16 30 49.3	
	comp=Z,65nm,1.4s							
TPUB	**Ta-pu**	**20.36**	**254**			Pn	16 30 39.0	-1.3
TPUB				IAmb		IAmb	16 30 45.8	
	comp=Z,41nm,1.1s							
HEH	**HeiHe**	**22.50**	**335**	*eP*		**P**	**16 31 01.3**	**+0.4**
HEH				pP		**pP**	**16 31 03.6**	**-1.8**
HEH				S		**S**	**16 35 11.8**	**+5.4**
HEH				*pmax*		*pmax*		
	comp=Z,12nm,1.1s							
HEH				LR		LR		
	comp=Z,190nm,14.8s							
HEH				LR		LR		
	comp=Z,190nm,13.6s							
HEH				LR		LR		
	comp=Z,270nm,13.5s							
BJT	**Baijiatuan**	**23.02**	**301**			**P**	**16 31 05.4**	**-1.1**
XLT	**XiLinHaoTe**	**24.42**	**310**	*eP*		**P**	**16 31 20.1**	**+0.1**
XLT				*pmax*		*pmax*		
	comp=Z,9.0nm,1.3s							
XLT				*pmax*		*pmax*		
	comp=Z,64nm,4.1s							
XLT				LR		LR		
	comp=Z,200nm,14.9s							
XLT				LR		LR		
	comp=Z,180nm,14.5s							
HIA	**Hailar**	**25.13**	**324**	P		**P**	**16 31 26.4**	**+0.1**
HIA				IAmb		IAmb	16 31 41.4	
	comp=Z,16nm,1.0s							
LYN	**LuoYang**	**25.15**	**287**	P		**P**	**16 31 26.4**	**-0.2**
LYN				*pmax*		*pmax*		
	comp=Z,12nm,0.8s							
LYN				LR		LR		
	comp=Z,320nm,10.0s							
LYN				LR		LR		
	comp=Z,290nm,15.8s							
LYN				LR		LR		
	comp=Z,310nm,17.9s							
PETK	**Petropavlovsk-** comp=Z,79nm,18.1s,baz=229,slow=48	**25.26**	**22**	LR		LR	16 46 03.9	
HHC	**Hu-ho-hao-te**	**26.63**	**301**	*eP*		**P**	**16 31 40.3**	**+0.2**
HHC				*pmax*		*pmax*		
	comp=Z,24nm,0.5s							
HHC				*pmax*		*pmax*		
	comp=Z,74nm,4.9s							
HHC				LR		LR		
	comp=Z,200nm,12.6s							
HHC				LR		LR		
	comp=Z,400nm,13.3s							
HHC				LR		LR		
	comp=Z,580nm,15.4s							
BTO	**Baotou**	**27.73**	**300**	*eP*		**P**	**16 31 51.3**	**+1.4**
BTO				pP		**sP**	**16 31 55.8**	**-1.1**
BTO				sP		**pwP**	**16 31 58.4**	**-3.9**
BTO				PP		**PnPn**	**16 32 40.3**	**+4.3**
BTO				S		**S**	**16 36 36.8**	**+5.7**
BTO				sS		**sS**	**16 36 40.5**	**+0.9**
BTO				SS		**SnSn**	**16 37 53.3**	**+9.5**
BTO				*pmax*		*pmax*		
	comp=Z,32nm,0.9s							
BTO				*pmax*		*pmax*		
	comp=Z,310nm,10.7s							
BTO				LR		LR		
	comp=Z,620nm,15.3s							
BTO				LR		LR		
	comp=Z,1μm,16.1s							
BTO				LR		LR		
	comp=Z,1μm,16.6s							
XAN	**Xi'an**	**28.09**	**286**	P		**P**	**16 31 49.0**	**-4.2**
XAN				*pmax*		*pmax*		
	comp=Z,3.0nm,0.4s							
ULN	**Ulaanbaatar**	**31.76**	**313**	P		**P**	**16 32 25.1**	**-0.5**
ULN				IAmb		IAmb	16 32 31.4	
	comp=Z,7.5nm,0.7s							
SONM	**Songino Array**	**32.16**	**313**			**P**	**16 32 28.8**	**-0.4**
SONM	**Songino Array** comp=Z,1.4nm,0.6s,baz=109,slow=7.8,SNR=7.8	**32.16**	**313**	P		**P**	**16 32 28.9**	**-0.3**
	comp=Z,1.4nm,0.6s							
LZH	**Lanzhou**	**32.20**	**290**	*eP*		**P**	**16 32 29.9**	**+0.2**
LZH				pP		sP	16 32 34.8	-1.9
LZH				*pmax*		*pmax*		
	comp=Z,23nm,1.0s							
LZH				LR		LR		
	comp=Z,330nm,17.2s							
LZH				LR		LR		
	comp=Z,150nm,16.2s							
LZH				LR		LR		
	comp=Z,230nm,17.7s							
SHEM	**Shemya Is, Ala** comp=Z,50nm,20.6s,baz=307,slow=32	**32.21**	**37**	LR		LR	16 43 22.9	
GTA	**Gaotai**	**35.39**	**296**	*eP*		**P**	**16 32 57.6**	**+0.3**
GTA				sP		pwP	16 33 09.6	-0.2
GTA				*pmax*		*pmax*		
	comp=Z,9.0nm,0.8s							
GTA				LR		LR		
	comp=Z,180nm,15.3s							
GTA				LR		LR		
	comp=Z,280nm,16.0s							
GTA				LR		LR		
	comp=Z,320nm,14.9s							
PZH	**PanZhiHua**	**35.46**	**274**	P		**P**	**16 32 58.6**	**+0.6**
GOMU	**GeErMu**	**39.48**	**291**	P		**P**	**16 33 31.9**	**-0.4**
GOMU				pP		pP	16 33 35.8	-1.9
GOMU				sP		sP	16 33 39.3	-0.1
GOMU				S		**S**	**16 39 26.1**	**-7.4**
GOMU				*pmax*		*pmax*		
	comp=Z,14nm,1.1s							
GOMU				LR		LR		
	comp=Z,130nm,11.8s							
GOMU				LR		LR		
	comp=Z,98nm,11.2s							
GOMU				LR		LR		
	comp=Z,88nm,11.4s							
CM31	**Chiang Mai Arr**	**40.76**	**263**	P		**P**	**16 33 41.0**	**-1.6**
CM31				IAmb		IAmb	16 33 43.7	
	comp=Z,38nm,2.0s							
CMAR	**Chiang Mai Arr**	**40.76**	**263**	P		**P**	**16 33 41.4**	**-1.3**
	comp=Z,2.1nm,0.7s,baz=57,slow=6.6,SNR=21							
CMAR				PcP		**PcP**	**16 35 44.9**	**+1.1**
	comp=Z,2.1nm,1.0s,baz=45,slow=1.6,SNR=8.3							
CMAR				LR		LR	16 51 41.9	
	comp=Z,124nm,18.9s,baz=185,slow=38 comp=Z,2.1nm,0.7s							
WMQ	**Urumqi**	**44.48**	**303**	*eP*		**P**	**16 34 14.8**	**+2.2**
WMQ				LR		LR		
	comp=Z,85nm,22.1s							
ZAA0	**Zalesovo Array**	**46.79**	**317**	P		**P**	**16 34 30.9**	**+0.1**
ZAA0				PcP		**PcP**	**16 36 04.2**	**+0.6**
ZALV	**Zalesovo Beam**	**46.79**	**317**			**P**	**16 34 30.7**	**0.0**
ZALV				PcP		**PcP**	**16 36 04.6**	**+1.0**
ZALV	**Zalesovo Beam** comp=Z,1.0nm,0.3s,baz=73,slow=5.0,SNR=6.8	**46.79**	**317**	P		**P**	**16 34 31.4**	**+0.7**
ZALV				PcP		**PcP**	**16 36 04.9**	**+1.3**
	comp=Z,1.8nm,0.5s,baz=113,slow=3.1,SNR=5.8							
ZALV				LR		LR	16 55 04.5	
	comp=Z,123nm,18.3s,baz=124,slow=37 comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**48.19**	**307**			**P**	**16 34 41.9**	**+0.2**
MKAR	**Makanchi Array** comp=Z,3.8nm,0.6s,baz=91,slow=9.4,SNR=43	**48.19**	**307**	P		**P**	**16 34 42.8**	**+1.0**
MKAR				LR		LR	16 55 12.4	
	comp=Z,84nm,20.5s,baz=98,slow=36 comp=Z,3.8nm,0.6s							
MAKZ	**Makanchi**	**48.40**	**307**			**P**	**16 34 43.9**	**+0.5**
MAKZ				IAmb		IAmb	16 34 45.0	
	comp=Z,4.9nm,0.9s							
KURK	**Kurchatov**	**50.47**	**313**			**P**	**16 34 59.1**	**+0.1**
KURK				IAmb		IAmb	16 35 00.9	
	comp=Z,8.5nm,0.8s							
KURBB	**Kurchatov Arra** comp=Z,5.2nm,0.8s,baz=89,slow=7.6,SNR=35	**50.53**	**312**	P		**P**	**16 35 00.7**	**+1.2**
KURBB				LR		LR	16 57 09.6	
	comp=Z,107nm,19.0s,baz=170,slow=37 comp=Z,5.2nm,0.8s							
WB0	**Warramunga Arr**	**50.59**	**189**			**P**	**16 35 00.3**	**+0.2**
WR8	**Warramunga Arr**	**50.76**	**189**			**P**	**16 35 01.7**	**+0.3**
WRA	**Warramunga Arr**	**50.77**	**189**			**P**	**16 35 00.7**	**-0.8**
WRA	**Warramunga Arr** comp=Z,13nm,0.7s,baz=7.3,slow=7.8,SNR=74	**50.77**	**189**	P		**P**	**16 35 02.0**	**+0.5**
	comp=Z,13nm,0.7s							
PRZ	**Przheval'sk**	**51.37**	**302**	P		**P**	**16 35 07.7**	**+1.5**
PRZ				IAmb		IAmb	16 35 09.8	
	comp=Z,15nm,0.8s							
KDAK	**Kodiak Island** comp=Z,97nm,21.1s,baz=275,slow=34	**51.72**	**38**	LR		LR	16 55 46.7	
TARG	**Taragay, Kyrgy** comp=Z,7.8nm,0.9s	**51.92**	**301**	IAmb		IAmb	16 35 14.0	
KDJ	**Kajisay**	**52.31**	**302**	P		**P**	**16 35 13.8**	**+0.5**
BPAW	**Bear Paw Mtn.**	**52.94**	**30**	P		**P**	**16 35 19.7**	**+2.3**
BPAW				IAmb		IAmb	16 35 23.6	
	comp=Z,7.3nm,1.0s							
BOOM	**Boomskoye usch**	**53.16**	**302**	P		**P**	**16 35 20.1**	**+0.6**
NRN	**Naryn**	**53.31**	**301**			**P**	**16 35 20.0**	**-0.7**
KSH	**Kashi**	**53.71**	**299**	P		P	16 35 27.8	+4.3
KSH				sP		pwP	16 35 35.0	-0.8
KSH				*pmax*		*pmax*		
	comp=Z,13nm,0.8s							
AAK	**Ala-Archa** comp=Z,1.5nm,0.3s,baz=51,slow=19,SNR=5.4	**54.19**	**303**	P		**P**	**16 35 28.0**	**+1.1**
AAK				LR		LR	16 59 17.8	
	comp=Z,83nm,20.9s,baz=112,slow=37 comp=Z,1.5nm,0.3s							
AS31	**Alice Springs**	**54.49**	**189**			**P**	**16 35 29.3**	**+0.2**
ASAR	**Alice Springs**	**54.49**	**189**			**P**	**16 35 29.4**	**+0.3**
ASAR	**Alice Springs** comp=Z,3.9nm,0.8s,baz=356,slow=4.5,SNR=29	**54.49**	**189**	P		**P**	**16 35 29.6**	**+0.5**
	comp=Z,3.9nm,0.8s							
ILAR	**Eielson Array** comp=Z,0.9nm,0.9s,baz=265,slow=5.7,SNR=7.6	**54.77**	**30**	P		**P**	**16 35 32.5**	**+1.8**
	comp=Z,0.9nm,0.9s							
DIV	**Divide**	**55.23**	**34**			**P**	**16 35 35.8**	**+1.7**
DIV				IAmb		IAmb	16 35 39.0	
	comp=Z,13nm,1.2s							
BVAR	**Borovoye Array** comp=Z,2.7nm,0.6s,baz=81,slow=7.9,SNR=15	**55.40**	**316**	P		**P**	**16 35 36.7**	**+1.3**
BVAR				LR		LR	17 00 23.1	
	comp=Z,144nm,18.5s,baz=116,slow=37 comp=Z,2.7nm,0.6s							
KK31	**Karatay Array**	**56.96**	**304**			**P**	**16 35 47.5**	**+0.8**
KK31				IAmb		IAmb	16 35 49.0	
	comp=Z,7.3nm,0.7s							
KKAR	**Karatay Array**	**56.96**	**304**			**P**	**16 35 47.7**	**+1.0**
DZM	**Mont Dzumac** comp=Z,87nm,22.4s	**57.38**	**153**	*e*LR		LR	16 52 31.4	
L29M	**L29M**	**58.69**	**32**	P		**P**	**16 36 01.4**	**+2.9**
L29M				IAmb		IAmb	16 36 15.7	
	comp=Z,7.3nm,0.8s							
SIMJ	**Simiganj**	**59.17**	**299**	P		**P**	**16 36 03.0**	**+0.6**
KBL	**Kabul**	**60.37**	**295**	P		**P**	**16 36 10.4**	**-0.4**
KBL				IAmb		IAmb	16 36 13.1	
	comp=Z,9.1nm,0.7s							
PALK	**Pallekele** comp=Z,136nm,18.3s,baz=86,slow=37	**61.66**	**261**	LR		LR	17 04 23.8	
ARTI	**Arti**	**61.70**	**321**			**P**	**16 36 19.3**	**0.0**
ARTI	**Arti** comp=Z,75nm,18.4s,baz=136,slow=38	**61.70**	**321**	LR		LR	17 05 29.8	
STKA	**Stephens Creek** comp=Z,4.1nm,0.7s,baz=335,slow=7.2,SNR=9.0	**62.12**	**180**	P		**P**	**16 36 23.0**	**+0.8**
	comp=Z,4.1nm,0.7s							
FORT	**Forrest**	**62.44**	**194**	P		**P**	**16 36 24.7**	**+0.4**
FORT				IAmb		IAmb	16 36 26.2	
	comp=Z,8.5nm,0.8s							
AB31	**Akbulak array**	**62.58**	**313**			**P**	**16 36 25.5**	**+0.3**
AB31				IAmb		IAmb	16 36 27.1	
	comp=Z,5.3nm,0.6s							
ABKAR	**Akbulak array**	**62.58**	**313**			**P**	**16 36 25.6**	**+0.4**
AKTO	**Aktyubinsk** comp=Z,93nm,18.6s,baz=230,slow=37	**63.45**	**315**	LR		LR	17 05 12.5	
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.8s,baz=299,slow=6.3,SNR=3.6 comp=Z,0.6nm,0.8s	**69.18**	**29**	P		**P**	**16 37 07.9**	**+0.4**
ARCES	**ARCESS Array B** comp=Z,1.3nm,0.6s,baz=62,slow=14,SNR=3.9 comp=Z,1.3nm,0.6s	**70.21**	**340**	P		**P**	**16 37 13.5**	**-0.3**
FINES	**FINESS Array B** comp=Z,2.2nm,0.6s,baz=56,slow=5.3,SNR=6.9 comp=Z,2.2nm,0.6s	**74.76**	**333**	P		**P**	**16 37 42.5**	**+1.5**
KBZ	**Khabaz** comp=Z,3.8nm,0.7s,baz=48,slow=2.2,SNR=8.9	**75.53**	**312**	P		**P**	**16 37 47.3**	**+1.6**
KBZ				LR		LR	17 13 16.6	
	comp=Z,62nm,19.8s,baz=116,slow=38 comp=Z,3.8nm,0.7s							
RAR	**Rarotonga** comp=Z,44nm,21.3s,baz=298,slow=29	**76.02**	**125**	LR		LR	17 02 39.1	
NVAR	**Mina Array Bea** comp=Z,0.9nm,0.6s,baz=297,slow=6.6,SNR=4.6 comp=Z,0.9nm,0.6s	**78.51**	**52**	P		**P**	**16 38 05.0**	**+2.0**
AKASG	**Malin Array Be** comp=Z,1.3nm,0.7s,baz=49,slow=6.0,SNR=7.3	**79.72**	**323**	P		**P**	**16 38 09.8**	**+0.9**
AKASG				LR		LR	17 16 15.2	
	comp=Z,99nm,19.5s,baz=31,slow=38 comp=Z,1.3nm,0.7s							
HFS	**Hagfors** comp=Z,1.5nm,0.7s,baz=58,slow=5.6,SNR=4.0 comp=Z,1.5nm,0.7s	**80.17**	**337**	P		**P**	**16 38 11.7**	**+0.4**
NB2	**NORSAR Subarra** comp=Z,2.2nm,0.6s,baz=41,slow=5.3	**80.33**	**338**	P		**P**	**16 38 13.0**	**+0.9**
NOA	**NORSAR Array B** comp=Z,2.1nm,0.9s,baz=41,slow=5.3,SNR=8.3 comp=Z,2.1nm,0.9s	**80.33**	**338**	P		**P**	**16 38 13.0**	**+0.9**
ARPR	**Arapgir-MALATY**	**80.83**	**310**	P		**P**	**16 38 16.6**	**+1.2**
ARPR				IAmb		IAmb	16 38 18.6	
	comp=Z,12nm,1.2s							
PPT2	**Papeete2** comp=Z,102nm,26.2s	**81.35**	**116**	*e*LR		LR	17 03 45.6	
PPT2				*e*LR		LR	17 03 50.3	
	comp=Z,36nm,22.0s							
PDAR	**Pinedale Array** comp=Z,0.6nm,0.7s,baz=289,slow=4.5,SNR=5.6 comp=Z,0.6nm,0.7s	**81.87**	**45**	P		**P**	**16 38 21.7**	**+0.7**
PFO	**Pinyon Flats O** comp=Z,56nm,19.0s,baz=233,slow=33	**82.25**	**56**	LR		LR	17 10 46.2	
BR131	**Keskin Array S**	**83.52**	**313**			**P**	**16 38 29.4**	**-0.2**
BR131				IAmb		IAmb	16 38 44.0	
	comp=Z,3.6nm,0.9s							
BRTR	**Keskin Array B**	**83.52**	**313**	P		**P**	**16 38 30.1**	**+0.5**
BRTR	**Keskin Array B** comp=Z,2.9nm,1.0s,baz=97,slow=3.1,SNR=11 comp=Z,2.9nm,1.0s	**83.52**	**313**	P		**P**	**16 38 30.4**	**+0.9**
RAYN	**Ar Rayn**	**83.60**	**293**			**P**	**16 38 31.0**	**+0.9**
TAOE	**Nuku Hiva Isla** comp=Z,79nm,26.6s	**84.16**	**104**	*e*LR		LR	17 05 08.2	
PV23	**Carpenter Ridg**	**84.66**	**48**	P		**P**	**16 38 37.0**	**+1.5**
PV10	**Paradox Valley**	**84.69**	**48**	P		**P**	**16 38 36.7**	**+1.1**
PV19	**Morning Glory**	**84.76**	**48**	P		**P**	**16 38 36.6**	**+0.6**
PV18	**Skein Mesa, Pa**	**84.84**	**48**			**P**	**16 38 38.1**	**+1.7**
PV12	**Saucer Basin,**	**84.87**	**48**	P		**P**	**16 38 37.4**	**+0.9**
PV12				IAmb		IAmb	16 38 52.9	
	comp=Z,6.2nm,0.9s							
PV03	**Paradox Valley**	**84.88**	**48**	P		**P**	**16 38 37.4**	**+0.9**
PV03				IAmb		IAmb	16 38 52.0	
	comp=Z,4.7nm,1.0s							
VRAC	**Vranov** comp=Z,47nm,19.1s,baz=62,slow=38	**86.81**	**328**	LR		LR	17 20 43.9	
TXAR	**Lajitas Array** comp=Z,1.5nm,1.1s,baz=299,slow=2.6,SNR=7.8 comp=Z,1.5nm,1.1s	**93.65**	**53**	P		**P**	**16 39 20.1**	**+1.9**
LPAZ	**La Paz** comp=Z,1.0nm,0.4s,baz=344,slow=7.2,SNR=5.2	**149.04**	**70**	PKPbc		**PKPab**	**16 45 53.3**	**-1.6**

AUST 16 16:28:02.7±1.8,13˚S±9˚×12˚1E±˚,h22km±20km,mb3.7/5, ML2.7/6,Error ellipse: s-maj=24.3km s-min=6.6km az=140.5,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBWA	**Marble Bar**	**2.75**	**200**	P		Pn	16 28 44.7	-0.8
PSAC1	**Pilbara Seismi**	**3.08**	**196**	P		Pn	16 28 50.3	+0.3
PSAC1				S		Sn	16 29 27.3	+1.1
PSA00	**Pilbara Seismi**	**3.10**	**196**	P		Pn	16 28 52.8	+2.4
FITZ	**Fitzroy Crossi**	**4.68**	**85**	P		Pn	16 29 12.0	-0.1
FITZ	**Fitzroy Crossi**	**4.68**	**85**	S		Sn	16 30 06.8	+1.0
KNRA	**Kununurra** comp=Z,13nm,1.7s,comp=Z,0.0nm	**8.19**	**71**	P		Pn	16 29 59.4	-1.0
KNRA				S		Sn	16 31 29.2	-3.1
MEEK	**Meekatharra** comp=Z,7.5nm,2.0s,comp=Z,0.0nm	**8.27**	**193**	P		Pn	16 30 01.4	0.0
MEEK	**Meekatharra**	**8.27**

POLN				S		Sn	16 34 31.0	+0.4
CNGA	**Al SSO del Vol**	**1.56**	**97**	S		Sn	16 34 33.7	+0.2
CNGN	**Cerro Negro**	**1.56**	**96**	S		Sn	16 34 35.0	+1.3
TGUH	**Tegucigalpa,Un**	**1.69**	**36**	S		Sn	16 34 37.4	+0.5
COPN	**Copaltepe**	**1.73**	**106**	P		Pn	16 34 16.9	+0.1
YUSH	**Yuscaran**	**1.90**	**48**	S		Sn	16 34 42.3	+0.3
YUSH	**Yuscaran**	**1.90**	**48**	P		Pn	16 34 19.2	0.0
RCVN	**Varillal2**	**2.23**	**66**	P		Pn	16 34 24.0	+0.1
RCPN	**Sur Rio San Ju**	**2.30**	**68**	P		Pn	16 34 24.2	-0.5

IDC ***16*** *16:36:00.1±4.9, 30°.22N×141°.19E, h0km, mb3.6/2, mbtmp3.5/3, ML2.3/1, Error ellipse: s-maj=267.1km s-min=35.4km az=79.0*
JMA ***16*** *16:36:03.9±0.8, 31°N±2°×14°.2E±°, h74km, MV3.3/13, NEAR TORISHIMA IS*
ISC 16 16:36:02.3±1.8, 30°.5N±0°.1×141°.5E±0°.4, h28km, n7, σ1ᵍ73/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAOM	**Aogashimamukai**	**2.47**	**323**	P		**Pn**	**16 36 41.0**	**+0.3**
BSO1	**Boso 1**	**4.16**	**354**	*eS*		**Sn**	**16 37 49.8**	**-1.2**
BSO3	**Boso 3**	**4.37**	**349**	*eS*		**Sn**	**16 37 56.4**	**-0.1**
JAG	**Ashikaga**	**6.16**	**344**	*eP*		**Pn**	**16 37 32.2**	**+0.8**
JAG				*eS*		**Sn**	**16 38 38.6**	**-2.2**
MJAR	**Matsushiro Arr**	**6.63**	**336**	Pn		**Pn**	**16 37 40.6**	**+2.7**
	0.1nm,0.3s,baz=156,slow=11,SNR=2.1 0.8nm,0.4s							
WRA	**Warramunga Arr**	**50.63**	**189**	P		**P**	**16 44 58.9**	**-0.2**
	1.0nm,0.7s,baz=6.3,slow=7.6,SNR=9.7 1.0nm,0.7s							
ASAR	**Alice Springs**	**54.36**	**189**	P		**P**	**16 45 25.9**	**-0.7**
	0.2nm,0.5s,baz=9.9,slow=6.7,SNR=1.6 0.2nm,0.5s							

NEIC ***16*** *16:43:23.1±0.7, 54°.4N±0°.7×164°.1W±0°.7, h85km±36km, Error ellipse: s-maj=117.5km s-min=5.1km az=151.0*
AEIC 16 16:43:22.7±1.0, 54°.4N±0°.2×164°.2W±0°.2, h81km±9km, ML2.6, ML2.7(8(NEIC), **Error ellipse: s-maj=36.0km s-min=5.0km az=149.0, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WESE	**West Dahl East**	**0.27**	**290**			Pn	16 43 35.4	+0.4
WESE						Sn	16 43 45.8	+1.7
SSLS	**Shishaldin Sou**	**0.34**	**14**			Pn	16 43 36.0	+0.6
SSLS						Sn	16 43 46.4	+1.6
SSBA	**Shishaldin**	**0.39**	**2**			Pn	16 43 36.0	+0.3
SSBA						Sn	16 43 46.9	+1.5
WECS	**Westdahl Cape**	**0.40**	**292**			Pn	16 43 36.4	+0.7
WECS						Sn	16 43 47.2	+1.8
WEBT	**Westdahl Beart**	**0.41**	**301**			Pn	16 43 36.4	+0.6
WEBT						Sn	16 43 46.8	+1.3
ISLZ	**Isanotski Laza**	**0.43**	**36**			Pn	16 43 36.5	+0.5
ISNN	**Isanotski Nort**	**0.50**	**25**			Pn	16 43 37.2	+0.7
ISNN						Sn	16 43 48.1	+1.3
AKUT	**Akutan**	**0.98**	**256**	Pn		Pn	16 43 42.4	+0.9
AKUT				IAML			16 43 58.3	
	comp=N,153nm,0.3s							
AHB	**Akutan Harbor**	**1.02**	**255**			Pn	16 43 43.0	+1.0
AHB						Sn	16 43 57.8	+1.5
AKBBA	**Akutan Broad B**	**1.09**	**256**			Pn	16 43 43.8	+1.0
AKBBA						Sn	16 43 59.3	+1.5
AKGG	**Akutan Green G**	**1.10**	**261**			Pn	16 43 43.8	+0.9
AKGG						Sn	16 43 59.9	+1.8
LVA	**Lava Point**	**1.13**	**260**	Pn		Pn	16 43 44.2	+0.9
LVA				IAML			16 44 02.4	
	comp=E,122nm,1.0s							
UNV	**Unalaska Valle**	**1.49**	**250**			Pn	16 43 48.5	+0.7
UNV				IAML			16 44 08.0	
	comp=E,71nm,0.3s							
UNV				IAML			16 44 08.1	
	comp=N,67nm,0.5s							
UNV	**Unalaska Valle**	**1.49**	**250**			Sn	16 44 07.5	+0.7
MTBL	**Makushin Table**	**1.54**	**256**			Pn	16 43 49.3	+0.6
MTBL						Sn	16 44 10.1	+1.8
HAG	**Hague Volcano**	**1.60**	**53**			Pn	16 43 49.9	+0.6
PN7A	**Pavlof North-7**	**1.63**	**49**			Pn	16 43 50.1	+0.4
PS1A	**Pavlof South-1**	**1.74**	**52**			Pn	16 43 51.4	+0.4
MAPS	**Pakushin South**	**1.74**	**252**			Pn	16 43 52.0	+0.9
SDPT	**Sand Point**	**2.33**	**64**			Pn	16 43 59.3	+0.3

DJA 16 16:44:59.2±0.4, 3°S±3°×139°E±°, h10km, M3.4/7, MLv3.4/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMPI	**Sarmi**	**0.63**	**16**	P		Pb	16 45 12.0	-0.3
GENI	**Genyem**	**1.63**	**90**	P		Pn	16 45 27.8	-0.1
JAY	**Jayapura**	**2.16**	**88**	P		Pn	16 45 35.5	+0.1
SRPI	**Serui, Papua**	**2.41**	**287**	P		Pn	16 45 38.6	-0.1
BAKI	**Biak**	**2.81**	**300**	P		Pn	16 45 44.1	-0.1

IDC ***16*** *16:45:51.6±0.6, 0°.69S×127°.50E, h0km, mb4.3/15, mbtmp4.3/17, ML4.2/2, Error ellipse: s-maj=26.1km s-min=12.5km az=79.0*
NEIC ***16*** *16:45:52.7±1.6, 0°.68S±0°.03×127°.62E±0°.07, h10km±1km, mb4.7/39, Error ellipse: s-maj=12.8km s-min=5.5km az=74.0*
DJA ***16*** *16:45:56.6±1.2, 1°S±2°×12°8E±°, h23km±11km, M4.7/18, mB5.4/2, mb4.9/12, MLv4.6/18, Mw(mB)4.8/2*
ISC 16 16:45:56.8±0.3, 0.71S±0°.04×127°.58E±0°.07, h41km, n102, σ1ᵍ18/106, mb4.6/39, 2C, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.48**	**352**			**Pn**	**16 46 20.2**	**-0.8**
TNTI	**Ternate**	**1.48**	**352**	P		**Pn**	**16 46 20.2**	**-0.8**
TNTI				S		**Sn**	**16 46 41.0**	**+1.8**
SANI	**Sanana**	**2.08**	**230**	P		**Pn**	**16 46 27.5**	**-1.7**
NLAI	**Namlea**	**2.56**	**191**	P		**Pn**	**16 46 36.6**	**+0.8**
NLAI				S		**Sn**	**16 47 07.8**	**+2.0**
MSAI	**Masohi**	**2.95**	**153**	P		**Pn**	**16 46 43.4**	**+2.3**
AAI	**Ambon**	**3.02**	**168**	P		**Pn**	**16 46 44.0**	**+1.8**
SWI	**Sorong**	**3.68**	**92**	P		**Pn**	**16 46 53.1**	**+1.8**
SWI	**Sorong**	**3.68**	**92**	P		**Pn**	**16 46 53.0**	**+1.8**
KMSI	**Cibinong**	**3.82**	**289**	P		**Pn**	**16 46 52.5**	**-0.6**
LUWI	**Luwuk**	**4.82**	**266**	P		**Pn**	**16 47 07.0**	**+0.1**
SGSI	**Sangihe**	**4.82**	**335**	P		**Pn**	**16 47 08.1**	**+1.2**
FAKI	**Fak Fak**	**5.16**	**115**			**Pn**	**16 47 11.6**	**0.0**
FAKI	**Fak Fak**	**5.16**	**115**	P		**Pn**	**16 47 12.2**	**+0.7**
	0.5nm164nm,1.1s							
MRSI	**Marisa**	**5.76**	**282**	P		**Pn**	**16 47 19.5**	**-0.4**
	0.3nm48nm,0.5s							
APSI	**Ampana**	**5.94**	**268**	P		**Pn**	**16 47 21.3**	**-0.9**
	1.2nm3µm176nm,0.5s							
KMPI	**Kaimana, Papua**	**6.79**	**116**	P		**Pn**	**16 47 35.0**	**+1.1**
TOLI2	**Tolitoli**	**7.04**	**285**	Pn		**Pn**	**16 47 35.7**	**-1.7**
PCI	**Palu**	**7.75**	**268**	P		**Pn**	**16 47 46.9**	**-0.2**
	0.4nm66nm,0.6s							
MPSI	**Mapaga**	**7.75**	**278**	P		**Pn**	**16 47 48.0**	**+0.8**
TTSI	**Tana Toraja**	**8.10**	**253**	P		**Pn**	**16 47 53.0**	**+1.1**
	42nm,0.6s							
BNSI	**Bone**	**8.32**	**244**	P		**Pn**	**16 47 55.1**	**+0.1**
	23nm,0.7s							
SPSI	**Sidrap Palu**	**8.45**	**247**	P		**Pn**	**16 47 57.9**	**+1.1**
BKSI	**Bulukumba**	**8.75**	**238**	P		**Pn**	**16 48 02.7**	**+1.9**
	54nm,0.6s							
BSSI	**Bau Bau, Buton**	**8.90**	**232**	P		**Pn**	**16 48 04.0**	**+1.0**
KAPI	**Kappang**	**8.91**	**241**			**Pn**	**16 48 01.9**	**-1.2**
KAPI	**Kappang**	**8.91**	**241**	Pn		**Pn**	**16 48 01.1**	**-2.0**
	4.4nm,0.3s,baz=13,slow=2.2,SNR=5.9 5.6nm,0.5s							
EDFI	**Ende, Flores**	**9.91**	**216**	P		**Pn**	**16 48 19.1**	**+2.2**
MTN	**Manton Dam**	**12.56**	**164**	Pn		**Pn**	**16 48 51.4**	**-1.7**
KNRA	**Kununurra**	**14.92**	**176**	Pn		**Pn**	**16 49 24.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**17.39**	**186**			**Pn**	**16 49 54.5**	**-1.9**
FITZ	**Fitzroy Crossi**	**17.39**	**186**	P		**Pn**	**16 49 56.6**	**+0.2**
	0.5nm,0.3s,baz=17,slow=8.1,SNR=12 4.1nm,0.7s							
WB0	**Warramunga Arr**	**20.08**	**161**			**P**	**16 50 25.3**	**-1.7**
WRA	**Warramunga Arr**	**20.23**	**161**	P		**P**	**16 50 29.0**	**+0.4**
	4.0nm,0.5s,baz=341,slow=11,SNR=30 4.0nm,0.5s							
COEN	**Coen**	**20.28**	**131**	P		**P**	**16 50 27.1**	**-2.2**
COEN				IAmb		IAmb	16 50 38.5	
	comp=Z,40nm,1.4s							
WR8	**Warramunga Arr**	**20.29**	**161**	P		**P**	**16 50 27.8**	**-1.5**
PSA00	**Pilbara Seismi**	**22.07**	**199**	P		**P**	**16 50 48.5**	**+0.1**
AS31	**Alice Springs**	**23.63**	**165**			**P**	**16 51 04.7**	**+0.3**
ASAR	**Alice Springs**	**23.63**	**165**			**P**	**16 51 04.3**	**-0.1**
ASAR	**Alice Springs**	**23.63**	**165**	P		**P**	**16 51 05.0**	**+0.6**
	comp=Z,8.8nm,0.7s,baz=342,slow=12,SNR=69							
ASAR				PcP		**PcP**	**16 54 49.5**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=355,slow=2.1,SNR=11 comp=Z,8.8nm,0.7s							
RABL	**Rabaul**	**24.80**	**98**	P		**P**	**16 51 13.7**	**-1.6**
TPUB	**Ta-pu**	**24.80**	**345**	P		**P**	**16 51 13.3**	**-1.9**
SSLB	**Suanglung**	**25.18**	**346**			**P**	**16 51 18.0**	**-0.6**
SSLB				IAmb		IAmb	16 51 26.3	
	comp=Z,30nm,1.2s							
IPM	**Ipoh**	**27.03**	**281**	P		**P**	**16 51 35.0**	**-0.5**
IPM				IAmb		IAmb	16 51 40.8	
	comp=Z,22nm,1.4s							
RPSI	**Rantau Prapat**	**28.85**	**277**	P		**P**	**16 51 50.4**	**-1.3**
RPSI				IAmb		IAmb	16 51 54.4	
	comp=Z,10nm,0.8s							
RPSI	**Rantau Prapat**	**28.85**	**277**	P		**P**	**16 51 51.9**	**+0.2**
PSI	**Prapat**	**28.86**	**277**	P		**P**	**16 51 51.9**	**-0.1**
	comp=Z,6.7nm,0.6s,baz=82,slow=6.7,SNR=8.1 comp=Z,6.7nm,0.6s							
FORT	**Forrest**	**29.91**	**179**	P		**P**	**16 52 00.6**	**-0.3**
GSI	**Gunungsitoli**	**30.07**	**274**	P		**P**	**16 52 02.3**	**-0.3**
GSI				IAmb		IAmb	16 52 04.1	
	comp=Z,12nm,0.6s							
NWAO	**Narrogin (SRO)**	**33.50**	**196**	P		**P**	**16 52 32.5**	**+0.1**
NWAO				IAmb		IAmb	16 52 50.1	
	comp=Z,15nm,1.2s							
NJ2	**Nanjing**	**33.61**	**347**	*eP*		**P**	**16 52 36.0**	**+2.6**
NJ2				pmax		pmax		
	comp=Z,12nm,0.5s							
STKA	**Stephens Creek**	**33.71**	**158**			**P**	**16 52 34.1**	**-0.2**
STKA	**Stephens Creek**	**33.71**	**158**	P		**P**	**16 52 35.9**	**+1.5**
	comp=Z,2.7nm,0.5s,baz=338,slow=7.2,SNR=6.9 comp=Z,2.7nm,0.5s							
ENH	**Enshi**	**35.30**	**332**			**P**	**16 52 48.4**	**+0.3**
ENH				IAmb		IAmb	16 52 51.1	
	comp=Z,11nm,1.0s							
PZH	**PanZhiHua**	**36.77**	**319**	P		**P**	**16 53 02.6**	**+1.7**
KSRS	**Korea Array**	**37.97**	**0**	P		**P**	**16 53 11.5**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=178,slow=9.6,SNR=5.9 comp=Z,0.9nm,0.6s							
MJAR	**Matsushiro Arr**	**38.35**	**14**	P		**P**	**16 53 14.2**	**+0.2**
	comp=Z,2.4nm,0.9s,baz=183,slow=9.6,SNR=4.3 comp=Z,2.4nm,0.9s							
XAN	**Xi'an**	**38.75**	**335**	⇑P		**P**	**16 53 18.1**	**+0.7**
XAN				pmax		pmax		
	comp=Z,14nm,0.7s							
HHC	**Hu-ho-hao-te**	**43.85**	**342**	*eP*		**P**	**16 54 02.3**	**+3.1**
HHC				pmax		pmax		
	comp=Z,11nm,0.6s							
HHC				pmax		pmax		
	comp=Z,96nm,4.5s							
USRK	**Ussuriysk Ar.**	**44.88**	**4**	P		**P**	**16 54 07.8**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=201,slow=7.2,SNR=6.1 comp=Z,1.3nm,0.5s							
GTA	**Gaotai**	**47.34**	**331**	*eP*		**P**	**16 54 28.6**	**+1.8**
GTA				pmax		pmax		
	comp=Z,8.0nm,0.9s							
HEH	**HeiHe**	**50.77**	**360**	*eP*		**P**	**16 54 52.0**	**-0.7**
HEH				pmax		pmax		
	comp=Z,3.0nm,0.9s							
SONM	**Songino Array**	**51.75**	**342**	P		**P**	**16 55 00.7**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=165,slow=8.0,SNR=5.6 comp=Z,1.4nm,0.8s							
WMQ	**Urumqi**	**56.84**	**326**	⇑*iP*		**P**	**16 55 39.9**	**+2.5**
WMQ				sP		sP	16 55 59.6	+5.4
WMQ				PcP		**PcP**	**16 56 33.4**	**+0.7**
WMQ				pmax		pmax		
	comp=Z,71nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,95nm,3.9s							
LBZ	**Lake Benmore**	**57.57**	**145**	P		**P**	**16 55 41.4**	**-1.1**
LBZ				IAmb		IAmb	16 56 11.9	
	comp=Z,22nm,1.4s							
BKZ	**Black Stump Fm**	**58.76**	**137**	P		**P**	**16 55 50.0**	**-1.0**
PEA0B	**Petropavlovsk-**	**59.22**	**21**	P		**P**	**16 55 53.7**	**-0.1**
PETK	**Petropavlovsk-**	**59.22**	**21**	P		**P**	**16 55 53.8**	**0.0**
PETK	**Petropavlovsk-**	**59.22**	**21**	P		**P**	**16 55 55.0**	**+1.2**
	comp=Z,3.7nm,0.9s,baz=186,slow=5.7,SNR=8.2 comp=Z,3.7nm,0.9s							
MKAR	**Makanchi Array**	**61.68**	**326**	P		**P**	**16 56 10.3**	**-0.4**
MKAR				PcP		**PcP**	**16 56 52.1**	**+0.2**
MKAR	**Makanchi Array**	**61.68**	**326**	P		**P**	**16 56 11.7**	**+1.0**
	comp=Z,4.0nm,0.6s,baz=114,slow=8.1,SNR=5.1 comp=Z,4.0nm,0.6s							
KSH	**Kashi**	**61.80**	**317**	P		**P**	**16 56 14.3**	**+2.5**
KSH				pmax		pmax		
	comp=Z,6.0nm,1.2s							
MAKZ	**Makanchi**	**61.86**	**326**	P		**P**	**16 56 12.1**	**+0.2**
MAKZ				IAmb		IAmb	16 56 14.1	
	comp=Z,4.7nm,0.7s							
KDJ	**Kajisay**	**62.23**	**320**	P		**P**	**16 56 15.0**	**+0.2**
KDJ				IAmb		IAmb	16 56 18.1	
	comp=Z,3.6nm,0.8s							
YAK	**Yakutsk**	**62.59**	**1**			**P**	**16 56 16.5**	**0.0**
ARSB	**Arslanbob**	**64.65**	**317**	P		**P**	**16 56 29.9**	**-0.8**
ARSB				IAmb		IAmb	16 56 40.4	
	comp=Z,6.5nm,1.2s							
ZAA0	**Zalesovo Array**	**64.91**	**334**	P		**P**	**16 56 30.9**	**-1.0**
ZAA0				IAmb		IAmb	16 56 33.1	
	comp=Z,4.8nm,1.1s							
ZALV	**Zalesovo Beam**	**64.91**	**334**	P		**P**	**16 56 31.2**	**-0.7**
ZALV	**Zalesovo Beam**	**64.91**	**334**	P		**P**	**16 56 31.8**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=103,slow=4.7,SNR=9.2 comp=Z,2.4nm,0.9s							
KBL	**Kabul**	**64.92**	**309**	P		**P**	**16 56 30.8**	**-1.9**
KBL				IAmb		IAmb	16 56 34.8	
	comp=Z,7.1nm,0.6s							
GAR	**Garm**	**65.57**	**314**	P		**P**	**16 56 35.6**	**-1.1**
KURBB	**Kurchatov Arra**	**65.92**	**328**	P		**P**	**16 56 39.0**	**+0.5**
	comp=Z,6.7nm,0.7s,baz=127,slow=5.9,SNR=51 comp=Z,6.7nm,0.7s							
KURK	**Kurchatov**	**65.93**	**328**	P		**P**	**16 56 38.2**	**-0.3**
CASY	**Casey**	**66.55**	**187**	P		**P**	**16 56 42.4**	**+0.2**
CASY				IAmb		IAmb	16 56 56.5	
	comp=Z,4.8nm,1.1s							
KK31	**Karatay Array**	**67.06**	**318**	P		**P**	**16 56 45.9**	**-0.2**
KK31				IAmb		IAmb	16 56 48.1	
	comp=Z,7.3nm,1.3s							
KKAR	**Karatay Array**	**67.06**	**318**	P		**P**	**16 56 45.6**	**-0.4**
GSTR	**Great Sitkin T**	**70.60**	**33**	P		**P**	**16 57 08.7**	**+0.8**
BVAR	**Borovoye Array**	**71.49**	**328**	P		**P**	**16 57 13.6**	**+0.3**
	comp=Z,4.1nm,0.7s,baz=124,slow=9.2,SNR=17 comp=Z,4.1nm,0.7s							
BRVK	**Borovoye**	**71.56**	**328**	P		**P**	**16 57 13.6**	**0.0**
BRVK				IAmb		IAmb	16 57 16.0	
	comp=Z,5.4nm,0.8s							
TIXI	**Tiksi**	**72.24**	**0**	P		**P**	**16 57 16.4**	**-0.9**
TIXI				IAmb		IAmb	16 57 20.5	
	comp=Z,5.7nm,1.0s							
UOSS	**Minazif**	**73.46**	**296**	P		**P**	**16 57 25.5**	**0.0**
AB31	**Akbulak array**	**76.11**	**321**	P		**P**	**16 57 39.6**	**-0.7**
ABKAR	**Akbulak array**	**76.11**	**321**	P		**P**	**16 57 39.6**	**-0.7**
VNDA	**Vanda**	**78.95**	**173**	P		**P**	**16 57 55.9**	**+0.2**
VNDA	**Vanda**	**78.95**	**173**	P		**P**	**16 57 56.7**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=327,slow=4.5,SNR=6.2 comp=Z,0.9nm,0.8s							
SDPT	**Sand Point**	**80.39**	**33**	P		**P**	**16 58 01.7**	**-2.2**
VOI	**Vohitsoka**	**81.19**	**248**	P		**P**	**16 58 08.1**	**-0.9**
H17K	**Granite Mounta**	**83.28**	**24**	P		**P**	**16 58 18.5**	**-0.4**
H17K				IAmb		IAmb	16 58 24.1	
	comp=Z,4.1nm,0.8s							
C19K	**Lookout Ridge**	**84.58**	**20**	P		**P**	**16 58 25.5**	**-0.1**
G19K	**Purcell Mounta**	**84.73**	**23**	P		**P**	**16 58 26.7**	**+0.4**
G19K				IAmb		IAmb	16 58 36.2	
	comp=Z,5.8nm,1.2s							
QSPA	**South Pole Qui**	**89.23**	**180**	P		**P**	**16 58 49.8**	**+1.5**
	comp=Z,3.1nm,0.9s,baz=338,slow=1.8,SNR=11 comp=Z,3.1nm,0.9s							
TAOE	**Nuku Hiva Isla**	**92.14**	**99**	*e*LR		LR	17 28 31.9	
	comp=Z,100nm,26.3s							
CPUP	**Villa Florida**	**152.71**	**170**	PKPbc		**PKPbc**	**17 05 49.2**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=224,slow=2.4,SNR=3.8							

UPP ***16*** *17:02:05.0±0.1, 67°.07N×20°.94E, h0km, ML2.5, Unknown*
IDC ***16*** *17:02:06.0±1.0, 67°.04N×21°.23E, h0km, mbtmp2.8/4, ML1.9/4, Error ellipse: s-maj=17.7km s-min=8.8km az=104.0*
ISC 16 17:02:04.6±0.9, 67°.09N±0°.03×20°.89E±0°.04, h16km±7km, n17, σ1ᵍ82/23, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DUNU	**Dundret**	**0.13**	**286**	P		**Pg**	**17 02 08.2**	**-0.2**
DUNU				S		**Sg**	**17 02 10.4**	**-0.4**
MASU	**Masugnsbyn**	**0.57**	**49**	P		**Pg**	**17 02 15.8**	**0.0**
MASU				S		**Sg**	**17 02 23.4**	**-0.1**
ERTU	**Ertsjaerv**	**0.74**	**136**	P		**Pg**	**17 02 18.4**	**-0.6**
ERTU				S		**Sg**	**17 02 28.0**	**-0.8**
PAJU	**Pajala**	**0.87**	**93**	P		**Pb**	**17 02 20.9**	**-0.5**
RATU	**Laukkuluspa**	**0.90**	**326**	P		**Pb**	**17 02 22.0**	**+0.2**
KUA	**Kurravaara**	**0.90**	**346**	P		**Pb**	**17 02 21.9**	**+0.1**
HARU	**Harads**	**0.93**	**178**	P		**Pb**	**17 02 22.0**	**-0.3**
SALU	**Saltoluokta**	**0.97**	**289**	P		**Pb**	**17 02 23.6**	**+0.4**
LANU	**Lannavaara**	**1.05**	**23**	P		**Pb**	**17 02 24.4**	**-0.1**
KOVU	**Salmi**	**1.18**	**347**	P		**Pn**	**17 02 26.9**	**+0.5**
KALU	**Kalix**	**1.58**	**140**	P		**Pb**	**17 02 33.4**	**0.0**
SJUU	**Sjulsmark**	**1.61**	**169**	P		**Pb**	**17 02 34.1**	**+0.2**
I37NO	**I37NO**	**2.17**	**338**	I		I	17 15 28.6	
	0.1nm,0.4s,baz=156,slow=330,SNR=5.5							
ARCES	**ARCESS Array B**	**3.00**	**33**	Pn		**Pn**	**17 02 54.0**	**+2.6**
	0.4nm,0.3s,baz=212,slow=14,SNR=61							
ARCES				Sn		**Sb**	**17 03 31.7**	**-2.2**
	0.5nm,0.3s,baz=211,slow=21,SNR=8.4 1.1nm,0.2s							
FINES	**FINESS Array B**	**6.10**	**156**	Pn		**Pn**	**17 03 36.8**	**+2.8**
	0.1nm,0.3s,baz=341,slow=13,SNR=5.7							
FINES				Sn		**Sn**	**17 04 44.0**	**+0.7**
	0.2nm,0.3s,baz=345,slow=21,SNR=5.8							
FINES				Lg		Lg	17 05 14.9	
	0.2nm,0.3s,baz=337,slow=27,SNR=3.5 1.0nm,0.7s							
NOA	**NORSAR Array B**	**7.40**	**219**	Pn		**Pn**	**17 03 54.5**	**+2.7**
	baz=28,slow=12,SNR=4.0							
NOA				Sn		**Sn**	**17 05 14.3**	**-1.1**
	baz=39,slow=25,SNR=1.7 0.2nm,0.7s							
HFS	**Hagfors**	**7.67**	**208**	Pn		**Pn**	**17 03 57.6**	**+2.0**
	0.1nm,0.3s,baz=23,slow=14,SNR=1.6							
HFS				Sn		**Sn**	**17 05 16.8**	**-5.3**
	0.1nm,0.3s,baz=29,slow=28,SNR=1.9 0.8nm,0.7s							

GII ***16*** *17:07:13.6±0.0, 33°.670N±0°.003×36°.398E±0°.001, h1km, Mws2.1, confirmed*
GRAL ***16*** *17:07:17.2±0.4, 33°.55N×36°.31E, h10km±4km, MD2.8*
ISC 16 17:07:15.4±1.5, 33°.65N±0°.04×36°.38E±0°.08, h11km, n29, σ0ᵍ77/31, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZAHL	**Zahle**	**0.46**	**297**	*eP*		**Pb**	**17 07 25.6**	**-0.1**
RCY	**Rachaya**	**0.48**	**252**	*eP*		**Pg**	**17 07 24.4**	**-0.5**
RCY				*eS*		**Sg**	**17 07 30.1**	**-1.1**
QRWL	**Qaraoun**	**0.59**	**261**	*eP*		**Pg**	**17 07 26.8**	**-0.2**
FKH	**Fakeheh**	**0.60**	**2**	*eP*		**Pn**	**17 07 29.9**	**-0.1**
SHBL	**Chebaa**	**0.61**	**241**	*eP*		**Pg**	**17 07 26.7**	**-0.7**
BHL	**Bhannes**	**0.66**	**293**	*eP*		**Pb**	**17 07 28.8**	**-0.2**
NATI	**Neve Ativ**	**0.66**	**235**	S		**Sb**	**17 07 39.0**	**+0.8**
NATI	**Neve Ativ**	**0.66**	**235**	P		**Pg**	**17 07 27.8**	**-0.5**
DQRL	**Deir Qamar**	**0.68**	**275**	*eP*		**Pg**	**17 07 28.6**	**0.0**
DQRL				*eS*		**Sg**	**17 07 37.3**	**-0.3**
HWQ	**Hawqa**	**0.73**	**330**	*eP*		**Pn**	**17 07 31.3**	**-0.5**
GEM	**Giv'at Ha'Em**	**0.74**	**234**	S		**Sb**	**17 07 41.3**	**+0.8**
GEM	**Giv'at Ha'Em**	**0.74**	**234**	P		**Pg**	**17 07 29.1**	**-0.7**
KSHT	**Keshet**	**0.82**	**216**	S		**Sg**	**17 07 42.6**	**+0.7**
KSHT	**Keshet**	**0.82**	**216**	P		**Sg**	**17 07 30.5**	**-0.7**
MMA0B	**Mount Meron ar**	**1.03**	**233**	S		**Sg**	**17 07 50.5**	**+1.7**
MMA0B	**Mount Meron ar**	**1.03**	**233**	P		**Pb**	**17 07 34.3**	**-1.1**
MMC7	**Mount Meron ar**	**1.04**	**233**	P		**Pb**	**17 07 34.6**	**-0.8**
HNTI	**Hanita**	**1.16**	**241**	S		**Sb**	**17 07 53.8**	**+1.3**
HNTI	**Hanita**	**1.16**	**241**	P		**Pn**	**17 07 36.6**	**-1.0**
MML1	**Mount Malkishu**	**1.45**	**214**	S		**Sb**	**17 08 01.9**	**+0.9**
MML1	**Mount Malkishu**	**1.45**	**214**	P		**Pn**	**17 07 41.4**	**-0.2**
OFRI	**`Ofer**	**1.56**	**229**	S		**Sn**	**17 08 04.3**	**+1.0**
OFRI	**`Ofer**	**1.56**	**229**	P		**Pn**	**17 07 42.7**	**-0.4**
**HMDT

	9.5nm,0.7s								
AAK					⇑Lg		Lg	17 25 05.0	
	62nm,1.0s								
AAK	**Ala-Archa**	**3.02**	**325**	⇑	*i*P		**Pb**	**17 24 16.3**	**-3.1**
AAK				⇑	*i*S		**Sb**	**17 24 54.5**	**-1.9**
KNDC	**Almaty**	**3.02**	**1**	⇑	Pn		**Pn**	**17 24 12.6**	**-0.8**
	51nm,0.7s								
KNDC					⇑Lg		Lg	17 25 01.1	
	348nm,0.5s								
KOTS	**Kotyrbulak**	**3.04**	**3**		Pg		**Pg**	**17 24 21.0**	**-2.7**
	18nm,0.2s								
KOTS					Lg		Lg	17 25 03.1	
	228nm,0.7s								
KOTS	**Kotyrbulak**	**3.04**	**3**	*e*	P		**Pg**	**17 24 21.0**	**-2.7**
	18nm,0.2s								
KOTS					*e*S		**Sg**	**17 25 03.1**	**-0.1**
	228nm,0.7s								
SATY	**Saty**	**3.09**	**21**		Pg		**Pg**	**17 24 21.6**	**-2.9**
	13nm,0.2s								
SATY					Lg		Lg	17 25 03.5	
	136nm,0.6s								
FRU1	**Bishkek**	**3.11**	**328**	⇑	*i*P		**Pb**	**17 24 17.8**	**-2.9**
FRU1				⇑	*i*S		**Sb**	**17 24 56.7**	**-2.0**
OHH	**Osh**	**3.13**	**277**	⇓	*i*P		**Pb**	**17 24 17.6**	**-3.6**
OHH				⇓	*i*S		**Sb**	**17 24 57.0**	**-2.5**
DGS	**Degeres**	**3.15**	**345**		Pg		**Pg**	**17 24 23.5**	**-2.3**
	29nm,0.6s								
DGS					Lg		Lg	17 25 07.4	
	56nm,0.8s								
ARSB	**Arslanbob**	**3.16**	**292**	⇑	*i*P		**Pb**	**17 24 18.4**	**-3.3**
ARSB				⇑	*i*S		**Sb**	**17 24 57.7**	**-2.5**
CHMS	**Chumysh**	**3.22**	**331**		P		**Pb**	**17 24 20.4**	**-2.3**
	SNR=12								
CHMS	**Chumysh**	**3.22**	**331**	⇑	*e*P		**Pb**	**17 24 18.7**	**-3.9**
CHMS				⇑	*i*S		**Sb**	**17 24 58.6**	**-3.3**
UZB	**Uzynbulak**	**3.36**	**28**		Pg		**Pg**	**17 24 26.2**	**-3.7**
	19nm,0.5s								
UZB					Lg		Lg	17 25 11.3	
	42nm,0.5s								
UZB	**Uzynbulak**	**3.36**	**28**	*e*	P		**Pg**	**17 24 26.2**	**-3.7**
UZB					*e*S		**Sg**	**17 25 11.3**	**-2.2**
EKS2	**Erkin-Say**	**3.38**	**318**		P		**Pb**	**17 24 23.5**	**-2.0**
	SNR=5.2								
EKS2	**Erkin-Say**	**3.38**	**318**	⇑	*i*P		**Pn**	**17 24 21.2**	**+2.8**
EKS2				⇑	*i*S		**Sb**	**17 25 03.2**	**-3.6**
KTBS	**Karatobe**	**3.52**	**358**		Pg		**Pb**	**17 24 29.0**	**+1.2**
	29nm,0.5s								
KTBS					Lg		Lg	17 25 16.8	
	141nm,0.4s								
SHLS	**Shalkode**	**3.54**	**32**		Pg		**Pg**	**17 24 32.6**	**-0.7**
	17nm,0.5s								
SHLS					Lg		Lg	17 25 22.2	
	83nm,0.5s								
SHLS	**Shalkode**	**3.54**	**32**	*e*	P		**Pg**	**17 24 32.6**	**-0.7**
	17nm,0.5s								
SHLS					*e*S		**Sg**	**17 25 22.2**	**+3.1**
	83nm,0.5s								
USP	**Ospenovka**	**3.54**	**331**		P		**Pb**	**17 24 25.0**	**-3.2**
	SNR=5.3								
USP	**Ospenovka**	**3.54**	**331**	⇑	*i*P		**Pn**	**17 24 23.5**	**+3.0**
USP				⇑	*i*S		**Sn**	**17 25 06.5**	**+4.0**
CHKK	**Chushkaly**	**3.66**	**1**		Pg		**Pb**	**17 24 31.6**	**+1.5**
	9.5nm,0.2s								
CHKK					Lg		Lg	17 25 21.3	
	88nm,0.4s								
CHKK	**Chushkaly**	**3.66**	**1**	*e*	P		**Pb**	**17 24 31.6**	**+1.5**
	9.5nm,0.2s								
CHKK					*e*S		**Sg**	**17 25 21.2**	**-1.6**
	88nm,0.4s								
PDGK	**Podgornoye**	**3.70**	**31**	⇑	Pg		**Pg**	**17 24 32.4**	**-3.8**
	15nm,0.6s								
PDGK				⇓	Lg		Lg	17 25 21.3	
	108nm,0.7s								
MRKS	**Merke**	**3.74**	**314**		Pg		**Pg**	**17 24 34.1**	**-2.9**
MRKS					Lg		Lg	17 25 24.8	
MRKS	**Merke**	**3.74**	**314**	*e*	P		**Pg**	**17 24 34.1**	**-2.9**
MRKS					*e*S		**Sg**	**17 25 24.8**	**-0.6**
DRK	**Karamyk**	**3.96**	**261**	⇑	*e*P		**Pn**	**17 24 29.1**	**+2.6**
DRK				⇑	*e*S		**Sn**	**17 25 17.7**	**+4.5**
MNAS	**Manas**	**4.00**	**306**	⇑	*i*P		**Pn**	**17 24 30.0**	**+3.1**
MNAS				⇑	*i*S		**Sn**	**17 25 17.9**	**+4.0**
ARK	**Arkit**	**4.04**	**295**	⇑	*i*P		**Pn**	**17 24 30.4**	**+3.0**
ARK				⇑	*i*S		**Sn**	**17 25 19.1**	**+4.3**
ARXS	**Arharly**	**4.08**	**10**		Pg		**Pb**	**17 24 38.5**	**+1.2**
	5.3nm,0.2s								
ARXS					Lg		Lg	17 25 33.2	
	56nm,0.5s								
BLB	**Baldybastay**	**4.08**	**17**		Pg		**Pb**	**17 24 38.6**	**+1.2**
	47nm,0.6s								
BLB					Lg		Lg	17 25 33.3	
	69nm,0.4s								
KTMS	**Ketmen**	**4.17**	**38**		Pg		**Pb**	**17 24 39.6**	**+0.8**
	3.6nm,0.4s								
KTMS					Lg		Lg	17 25 35.1	
	23nm,0.8s								
KTMS	**Ketmen**	**4.17**	**38**	*e*	P		**Pb**	**17 24 39.6**	**+0.8**
	3.6nm,0.4s								
KTMS					*e*S		**Sg**	**17 25 35.1**	**-4.0**
	23nm,0.8s								
KNOS	**Konyrlen**	**4.50**	**22**		Pg		**Pg**	**17 24 48.0**	**-3.6**
	5.5nm,0.4s								
KNOS					Lg		Lg	17 25 49.5	
	9.0nm,0.2s								
TRKS	**Terek-Say**	**4.54**	**289**	⇑	*e*P		**Pn**	**17 24 37.2**	**+2.9**
TRKS				⇑	*e*S		**Sn**	**17 25 30.7**	**+3.5**
BTK	**Batken**	**4.64**	**270**	⇓	*e*P		**Pn**	**17 24 38.4**	**+2.8**
BTK				⇓	*e*S		**Sn**	**17 25 33.7**	**+4.2**
KK31	**Karatay Array**	**5.58**	**303**	⇑	Pg		**Pg**	**17 25 08.4**	**-3.7**
	0.9nm,0.5s,baz=126,slow=16,SNR=5.3								
KK31				⇓	Lg		Lg	17 26 24.0	
	1.3nm,0.4s,baz=125,slow=29,SNR=3.6								
MAKZ	**Makanchi**	**7.58**	**28**	⇓	Lg		Lg	17 27 24.9	
	3.2nm,1.2s								
MK31	**Makanchi Array**	**7.69**	**29**	⇑	Pn		**Pn**	**17 25 16.7**	**-0.6**
	0.2nm,0.3s,baz=203,slow=15,SNR=5.5								
MK31				⇑	Pg		Pb	17 25 43.0	+4.3
	0.6nm,0.6s,baz=217,slow=16,SNR=3.5								
MK31				⇑	Lg		Lg	17 27 27.8	
	2.8nm,0.8s,baz=87,slow=31,SNR=4.7								

*IDC **16** 17:39:40.0±1.6,0.°66S×127.°28E,h0km,mb3.5/4, mbtmp3.7/5,ML3.6/1, Error ellipse: s-maj=124.2km s-min=20.3km az=69.0*
*DJA **16** 17:39:43.1±0.2,1.°S±2.°×12.°8E±.°,h10km,M4.2/13,mB5.1/1, mb4.8/4,MLv4.0/13,Mw(mB)4.5/1*
ISC 16 17:39:44.9±1.0,0.°50S±0.°06×127.°89E±0.°09,h35km,n17, σ1♀38/18,mb3.8/3,Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.36**	**337**	P		**Pn**	**17 40 07.0**	**-0.4**
TNTI				S		**Sn**	**17 40 26.7**	**+2.4**
SANI	**Sanana**	**2.45**	**231**	P		**Pn**	**17 40 21.3**	**-1.1**
NLAI	**Namlea**	**2.84**	**196**	P		**Pn**	**17 40 27.8**	**+0.1**
NLAI				S		**Sn**	**17 41 02.2**	**+1.5**
MSAI	**Masohi**	**3.01**	**160**	P		**Pn**	**17 40 30.7**	**+0.5**
AAI	**Ambon**	**3.18**	**175**	P		**Pn**	**17 40 33.5**	**+1.0**
SWI	**Sorong**	**3.38**	**96**	P		**Pn**	**17 40 36.2**	**+1.0**
KMSI	**Cibinong**	**4.05**	**285**	P		**Pn**	**17 40 44.6**	**+0.1**
FAKI	**Fak Fak**	**4.97**	**119**	P		**Pn**	**17 40 57.4**	**+0.3**
APSI	**Ampana**	**6.26**	**266**	P		**Pn**	**17 41 15.5**	**+0.7**
	43nm,0.6s							
TTSI	**Tana Toraja**	**8.46**	**252**	P		Pn	17 41 54.1	+9.1
SPSI	**Sidrap Palu**	**8.82**	**247**	P		**Pn**	**17 41 51.3**	**+1.4**
	999nm66nm,0.5s							
BKSI	**Bulukumba**	**9.12**	**238**	P		**Pn**	**17 41 56.6**	**+2.5**
FITZ	**Fitzroy Crossi**	**17.63**	**187**	P		**Pn**	**17 43 45.3**	**-2.6**
	0.2nm,0.3s,baz=17,slow=14,SNR=2.4 5.3nm,1.1s							
WRA	**Warramunga Arr**	**20.33**	**162**	P		**P**	**17 44 17.8**	**-0.5**
	0.5nm,0.5s,baz=342,slow=12,SNR=8.8 0.5nm,0.5s							
ASAR	**Alice Springs**	**23.76**	**166**	P		**P**	**17 44 54.6**	**+0.4**
	1.0nm,0.5s,baz=345,slow=11,SNR=18 1.0nm,0.5s							
MKAR	**Makanchi Array**	**61.68**	**326**	P		**P**	**17 49 59.0**	**-0.5**
	0.3nm,0.4s,baz=115,slow=8.2,SNR=6.2 0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**65.91**	**328**	P		**P**	**17 50 26.1**	**-1.0**
	0.7nm,0.6s,baz=128,slow=6.0,SNR=14 0.7nm,0.6s							

KRSC 16 17:40:52.2±1.5,48.°54N×156.°36E,h24km±28km,MI4.0,

East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.15**	**356**	*e*P		Pn	17 41 26.9	+0.4
SKR				*e*S		Sn	17 41 53.6	+1.1
PAU	**Pauzhetka**	**2.95**	**5**	*e*P		Pb	17 41 40.9	-3.1
PAU				*e*S		Sn	17 42 15.3	+3.2
MIPR	**Malaya Ipel'ka**	**3.75**	**4**	*e*P		Pn	17 41 51.7	+3.1
ASAK	**Asacha**	**3.97**	**14**	*e*P		Pn	17 41 56.2	+4.6
MTVR	**Mutnovka**	**4.12**	**16**	*e*P		Pn	17 41 58.0	+4.3
MTVR				*e*S		Sb	17 42 47.7	-5.6
RUS	**Russkaya**	**4.13**	**19**	*e*P		Pn	17 41 57.8	+4.0
RUS				*e*S		Sn	17 42 46.7	+5.3
GRL	**Gorelyy**	**4.17**	**15**	*e*P		Pn	17 41 58.6	+4.2
GRL				*e*S		Sb	17 42 48.6	-6.1
KRMR	**Karymshinskiy**	**4.44**	**14**	*e*S		Sn	17 42 54.3	+5.4
PET	**Petropavlovsk**	**4.72**	**17**	*e*S		Sn	17 43 02.0	+6.2
DALK	**Dalny**	**4.75**	**18**	*e*P		Pn	17 42 06.1	+3.9
UGLR	**Uglovaya**	**4.93**	**17**	*e*P		Pn	17 42 10.6	+5.7
AVH	**Avacha**	**4.97**	**17**	*e*P		Pn	17 42 09.6	+4.3
KOK	**Koryaka**	**4.97**	**16**	*e*P		Pn	17 42 10.4	+5.0
SMAR	**Somma**	**4.98**	**17**	*e*P		Pn	17 42 09.8	+4.3
SDLR	**Sedlovina**	**5.01**	**18**	*e*P		Pn	17 42 10.4	+4.5
NLC	**Nalytchevo**	**5.01**	**21**	*e*S		Sn	17 43 07.1	+4.3
KRX	**Arik**	**5.04**	**16**	*e*P		Pn	17 42 12.0	+5.7
SPN	**Mys Shipunski**	**5.12**	**26**	*e*P		Pn	17 42 12.6	+5.3
SPN				*e*S		Sn	17 43 10.9	+5.3
GNL	**Ganaly**	**5.26**	**10**	*e*P		Pn	17 42 13.3	+3.9
MKZ	**Mys Kozlova**	**6.89**	**27**	*e*P		Pn	17 42 35.3	+3.7
MKZ				*e*S		Sn	17 43 54.1	+4.9
KBTR	**Krutoberegovo**	**8.63**	**25**	*e*P		Pn	17 43 00.3	+4.8

DJA 16 17:48:24.2±0.3,10.°S±4.°×11.°8E±.°,h10km,M4.1/13, mb4.1/7,MLv4.0/13,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.21**	**74**	P		Pb	17 48 45.0	-2.2
PLAI	**Plampang**	**1.21**	**339**	P		Pn	17 48 45.3	-2.0
WSI	**Waingapu**	**2.08**	**82**	P		Pn	17 48 58.5	-0.7
BASI	**Baing, Sumba**	**2.34**	**96**	P		Pn	17 49 04.1	+1.3
SRBI	**Singaraja**	**3.50**	**302**	P		Pn	17 49 19.5	+0.7
EDFI	**Ende, Flores**	**3.64**	**71**	P		Pn	17 49 19.6	-1.2
MMRI	**Maumere**	**4.19**	**72**	P		Pn	17 49 30.0	+1.8
JAGI	**Jajag, Banyuwa**	**4.27**	**290**	P		Pn	17 49 28.9	-0.5
BSSI	**Bau Bau, Buton**	**4.42**	**31**	P		Pn	17 49 31.0	-0.4
BKSI	**Bulukumba**	**4.99**	**22**	P		Pn	17 49 39.4	+0.2
GMJI	**Gumukmas**	**5.00**	**289**	P		Pn	17 49 38.7	-0.6
BATI	**Baumata**	**5.38**	**93**	P		Pn	17 49 44.9	+0.3
	33nm,1.4s							
BNSI	**Bone**	**5.84**	**19**	P		Pn	17 49 52.1	+1.1
	0.1nm13nm,1.0s							
SOEI	**Soe**	**5.97**	**88**	P		Pn	17 49 52.6	-0.3
	40nm,1.5s							

IDC 16 17:59:43.3±2.5,5.°91S×129.°82E,h0km,mb3.4/1, mbtmp3.4/3,ML3.3/2,Error ellipse: s-maj=155.1km s-min=32.7km az=69.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.62**	**163**	P		Pn	18 03 10.1	-1.5
	0.1nm,0.3s,baz=345,slow=14,SNR=5.6							
WRA				S		Sn	18 05 42.7	-12
	0.5nm,0.3s,baz=333,slow=23,SNR=8.9 0.4nm,0.6s							
ASAR	**Alice Springs**	**18.08**	**168**	P		P	18 03 56.9	+0.3
	0.2nm,0.3s,baz=354,slow=12,SNR=22							
ASAR				S		Sn	18 07 05.4	-13
	0.2nm,0.5s,baz=356,slow=27,SNR=5.8 0.9nm,0.6s							
MKAR	**Makanchi Array**	**67.22**	**327**	P		P	18 10 39.5	0.0
	0.2nm,0.6s,baz=112,slow=8.9,SNR=2.0 0.2nm,0.6s							

*CATAC **16** 18:07:43.5±0.6,7.°N±2.°×7.°3W±.°,h160km±5km,M3.6/12, mb3.4/2,MLv3.7/12,Error ellipse: s-maj=9.8km s-min=5.0km az=96.0,confirmed*
*RSNC **16** 18:07:44.2±0.0,7.°N±1.°×7.°3W±.°,h155km±2km,M3.3,mb3.7, mB4.9,ML3.1,Mw(mB)4.2*
ISC 16 18:07:43.0±1.3,6.°86N±0.°03×73.°09W±0.°04,h162km±8km, n47,σ1♀36/92,1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**198**	P		**Pn**	**18 08 05.3**	**+0.1**
BARC				S		**Sn**	**18 08 20.6**	**-1.5**
PAMC	**Pamplona, Colo**	**0.61**	**40**	P		**Pn**	**18 08 08.1**	**+1.3**
PAMC				S		**Sn**	**18 08 25.4**	**+0.4**
BRJC	**Barrancabermej**	**0.66**	**280**	P		**Pn**	**18 08 07.0**	**+0.6**
BRJC				S		**Sn**	**18 08 24.0**	**-0.4**
RUSC	**La Rusia**	**0.96**	**179**	⇓	P	**Pn**	**18 08 09.2**	**+0.1**
RUSC				S		**Sn**	**18 08 28.7**	**-0.6**
RUSC	**La Rusia**	**0.96**	**179**		P	**Pn**	**18 08 09.2**	**+0.1**
RUSC				S		**Sn**	**18 08 28.1**	**-1.1**
TAMC	**Tame, Arauca**	**1.36**	**108**		P	**Pn**	**18 08 13.7**	**+1.6**
TAMC				S		**Sn**	**18 08 35.6**	**+1.1**
OCAC	**Ocana**	**1.38**	**351**		P	**Pn**	**18 08 13.7**	**+1.2**
OCAC				S		**Sn**	**18 08 36.1**	**+0.9**
PTBC	**PUERTO BERRIO,**	**1.39**	**257**		P	**Pn**	**18 08 11.7**	**-0.7**
PTBC				S		**Sn**	**18 08 33.1**	**-1.8**
ZARC	**Zaragoza, Cauc**	**1.86**	**290**		P	**Pn**	**18 08 17.5**	**+0.3**
ZARC				S		**Sn**	**18 08 43.2**	**-0.5**
NORC	**Norcasia**	**2.19**	**234**		P	**Pn**	**18 08 21.0**	**0.0**
NORC				S		**Sn**	**18 08 49.1**	**-1.3**
CHIC	**Chingaza**	**2.31**	**196**		P	**Pn**	**18 08 23.3**	**+0.5**
CHIC				S		**Sn**	**18 08 52.7**	**-0.9**
ROSC	**El Rosal**	**2.35**	**211**		P	**Pn**	**18 08 24.9**	**+1.6**
ROSC				S		**Sn**	**18 08 55.4**	**+0.9**
HELC	**Santa Helena**	**2.51**	**255**		P	**Pn**	**18 08 26.0**	**+0.8**
HELC				S		**Sn**	**18 08 58.0**	**+0.3**
HELC	**Santa Helena**	**2.51**	**255**		P	**Pn**	**18 08 25.9**	**+0.7**
HELC				S		**Sn**	**18 08 57.7**	**0.0**
CVER	**Cruz Verde, Cu**	**2.52**	**203**		P	**Pn**	**18 08 26.9**	**+1.5**
CVER				S		**Sn**	**18 08 58.4**	**+0.1**
UREC	**San Jos de Ur**	**2.58**	**290**		P	**Pn**	**18 08 24.9**	**-0.7**
UREC				S		**Sn**	**18 08 55.8**	**-2.8**
GUY2C	**Guyana, Caldas**	**2.79**	**234**		P	**Pn**	**18 08 30.0**	**+1.4**
GUY2C				S		**Sn**	**18 09 03.6**	**-0.3**
VILC	**Villavicencio,**	**2.80**	**192**		P	**Pn**	**18 08 28.5**	**0.0**
VILC				S		**Sn**	**18 09 02.9**	**-0.8**
PTGC	**Puerto Gaitan,**	**2.81**	**160**		P	**Pn**	**18 08 28.2**	**-0.3**
PTGC				S		**Sn**	**18 09 01.9**	**-2.0**
RECRC	**Villamaria, Ca**	**2.94**	**230**		P	**Pn**	**18 08 33.3**	**+2.7**
RECRC				S		**Sn**	**18 09 09.4**	**+2.0**
NIZA	**Niza - Manizal**	**2.97**	**233**		P	**Pn**	**18 08 34.8**	**+4.1**
NIZA				S		**Sn**	**18 09 10.5**	**+2.8**
CBOC	**Ciudad Bolivar**	**3.07**	**251**		P	**Pn**	**18 08 32.7**	**+0.9**
CBOC				S		**Sn**	**18 09 09.2**	**-0.5**
DBBC	**Dabeiba**	**3.10**	**273**		P	**Pn**	**18 08 32.7**	**+0.6**
DBBC				S		**Sn**	**18 09 09.7**	**-0.5**
SDV	**Santo Domingo**	**3.16**	**50**		P	**Pn**	**18 08 34.8**	**+1.8**
SDV				S		**Sn**	**18 09 13.1**	**+1.3**
ANIL	**Santa Ana**	**3.29**	**224**		P	**Pn**	**18 08 36.5**	**+1.7**
ANIL				S		**Sn**	**18 09 14.9**	**-0.3**
PRAC	**Prado**	**3.60**	**210**		P	**Pn**	**18 08 38.8**	**+0.3**
PRAC				S		**Sn**	**18 09 21.2**	**-0.5**
PRAC	**Prado**	**3.60**	**210**		P	**Pn**	**18 08 38.6**	**+0.1**
PRAC				S		**Sn**	**18 09 21.2**	**-0.5**
APAC	**Apartado, Choc**	**3.61**	**287**		P	**Pn**	**18 08 39.1**	**+0.6**
APAC				S		**Sn**	**18 09 22.8**	**+1.1**
ORTC	**Ortega, Tolima**	**3.63**	**216**		P	**Pn**	**18 08 39.6**	**+0.7**
ORTC				S		**Sn**	**18 09 22.8**	**+0.4**
SJCC	**San Jacinto, C**	**3.65**	**326**		P	**Pn**	**18 08 38.6**	**-0.5**
SJCC				S		**Sn**	**18 09 20.6**	**-2.3**
SJCC	**San Jacinto, C**	**3.65**	**326**		P	**Pn**	**18 08 38.8**	**-0.3**
SJCC				S		**Sn**	**18 09 20.8**	**-2.1**
PLMC	**San Jos del P**	**3.72**	**239**		P	**Pn**	**18 08 40.7**	**+0.7**
PLMC				S		**Sn**	**18 09 24.8**	**+0.3**
LCBC	**Los crdobas,**	**3.80**	**302**		P	**Pn**	**18 08 41.5**	**+0.5**
LCBC				S		**Sn**	**18 09 24.9**	**-1.2**
URMC	**La Uribe, Meta**	**3.81**	**200**		P	**Pn**	**18 08 42.5**	**+1.2**
URMC				S		**Sn**	**18 09 25.9**	**-0.8**
CRJC	**Cerrejon, Guaj**	**4.13**	**3**		P	**Pn**	**18 08 45.9**	**+0.5**
CRJC				S		**Sn**	**18 09 33.5**	**-0.6**
GUVC	**San Jose del G**	**4.32**	**174**		P	**Pn**	**18 08 48.1**	**+0.4**
GUVC				S		**Sn**	**18 09 35.7**	**-2.5**
YOTC	**Yotoco, Valle**	**4.32**	**229**		P	**Pn**	**18 08 48.0**	**+0.2**
YOTC				S		**Sn**	**18 09 38.8**	**+0.4**
SMRC	**Santa Marta, M**	**4.42**	**345**		P	**Pn**	**18 08 50.7**	**+1.7**
SMRC				S		**Sn**	**18 09 38.6**	**-1.9**
MACC	**Macarena, Meta**	**4.75**	**189**		P	**Pn**	**18 08 52.6**	**-0.7**
MACC				S		**Sn**	**18 09 43.5**	**-4.8**
URI	**Uribia**	**4.93**	**13**		P	**Pn**	**18 08 55.8**	**+0.1**
URIC	**Uribia, Colomb**	**4.93**	**13**		P	**Pn**	**18 08 55.6**	**-0.1**
URIC				S		**Sn**	**18 09 52.1**	**-0.4**
MALC	**Bahia Malaga**	**5.08**	**236**		P	**Pn**	**18 08 59.6**	**+1.9**
MALC				S		**Sn**	**18 09 56.5**	**+0.3**
GARC	**Garzon, Huila**	**5.23**	**207**		P	**Pn**	**18 08 59.2**	**-0.6**
GARC				S		**Sn**	**18 09 56.9**	**-3.0**
POPC	**Popayan, Colom**	**5.58**	**220**		P	**Pn**	**18 09 05.4**	**+0.8**
	5.3nm,0.7s							
POPC				S		**Sn**	**18 10 08.0**	**-0.4**
	5.3nm,0.7s							
FLOC	**Florencia**	**5.83**	**206**	P		**Pn**	**18 09 08.2**	**+0.6**
FLOC	**Florencia**	**5.83**	**206**	P		**Pn**	**18 09 08.1**	**+0.4**
	10nm,0.6s							
FLOC				S		**Sn**	**18 10 13.7**	**-0.4**
	10nm,0.6s							
BBAC	**Balboa, Cauca**	**6.35**	**221**	P		**Pn**	**18 09 16.2**	**+1.6**
BBAC				S		**Sn**	**18 10 25.2**	**-1.3**

*NEIC **16** 18:15:26.1±1.9,28.°44N±0.°02×56.°81E±0.°09,h10km±1km, mb4.3/50,Error ellipse: s-maj=13.6km s-min=3.4km az=89.0*
*TEH **16** 18:15:27.5,28.°38N×56.°99E,h14km±32km*
*THR **16** 18:15:27.6±0.0,28.°37N×56.°98E,h15km±14km,ML4.3*
*OMAN **16** 18:15:28.5±0.4,28.°33N×56.°88E,h16km±6km,mb4.7/8, ml4.3/17,Error ellipse: s-maj=9.4km s-min=2.1km az=6.0*
*DSN **16** 18:15:28.9±1.7,28.°37N×56.°76E,h15km,ML4.1/15,Error ellipse: s-maj=20.0km s-min=10.0km az=58.0*
*IDC **16** 18:15:29.8±3.3,28.°32N×56.°77E,h40km±30km,mb3.8/24, mbtmp4.0/27,ML3.9/3,MS3.4/17,Error ellipse: s-maj=14.8km s-min=13.6km az=3.0*
ISC 16 18:15:26.1±0.4,28.°40N±0.°03×56.°91E±0.°04,h10km,n196, σ1♀99/200,mb4.1/39,MS3.2/15,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.83**	**122**	Pg		**Pg**	**18 15 42.3**	**+0.1**
IBND	**Bandar-abas**	**1.00**	**199**	Pg		**Pn**	**18 15 47.4**	**+1.3**
IBND				Sg		**Sn**	**18 16 01.4**	**+1.2**
GENO	**Geno**	**1.19**	**213**	Pg		**Pb**	**18 15 50.6**	**+1.9**
BNDS	**Bandar-Abbas**	**1.19**	**213**	Pg		**Pn**	**18 15 50.7**	**+1.9**
BNDS	**Bandar-Abbas**	**1.19**	**213**	*e*PgA			18 15 50.5	
BNDS				*e*Sg		**Sn**	**18 16 07.0**	**+1.8**
BNDS				IAML			18 16 09.3	
	comp=Z,22nm,1.0s							
NGRK	**Negar Kerman**	**1.25**	**353**	Pg		**Pn**	**18 15 50.9**	**+0.9**
KBAM	**BAM**	**1.55**	**61**	Pg		**Pn**	**18 15 54.5**	**+0.7**
CHMN	**Cheshme madani**	**1.56**	**21**	Pg		**Pn**	**18 15 56.9**	**+1.5**
KRBR	**Kerman**	**1.59**	**355**	Pg		**Pn**	**18 15 56.8**	**+2.3**
KRBR	**Kerman**	**1.59**	**355**	*e*Pn		**Pn**	**18 15 56.6**	**+2.1**
KRBR				IAML			18 16 25.5	
	comp=Z,9.0nm,1.0s							
KHGB	**Koh Gabri**	**2.01**	**349**	Pn		**Pb**	**18 16 03.5**	**+0.7**
KRM1	**Kerman Provinc**	**2.12**	**9**	Pn		**Pb**	**18 16 05.2**	**+0.4**
LAR1	**LAR**	**2.35**	**253**	Pn		**Pn**	**18 16 08.2**	**+3.4**
SHME	**Shamm**	**2.43**	**196**	P		**Pn**	**18 16 07.3**	**+1.4**
	SNR=18							
SHME				S		**Sn**	**18 16 37.6**	**+1.9**
SHME	**Shamm**	**2.43**	**196**	*e*P		**Pn**	**18 16 07.2**	**+1.4**
	SNR=101							
JASK	**Jask - Hormozg**	**2.66**	**161**	Pn		**Pn**	**18 16 10.4**	**+1.4**
JASK	**Jask - Hormozg**	**2.66**	**161**	P		**Pn**	**18 16 10.5**	**+1.5**
JASK				S		**Sn**	**18 16 42.2**	**+0.9**
JHRM	**Jahrom**	**2.93**	**273**	Pn		**Pn**	**18 16 16.7**	**+3.9**
UMQ	**Umm Al-Quwin**	**3.07**	**201**	P		**Pn**	**18 16 17.3**	**+2.7**
	SNR=18							
UMQ	**Umm Al-Quwin**	**3.07**	**201**	*i* P		**Pn**	**18 16 17.2**	**+2.6**
	SNR=18							
MASF	**Masafi**	**3.08**	**193**	P		**Pn**	**18 16 16.9**	**+2.0**
	SNR=27		

	comp=Z,0.6nm,1.0s								
WSAR	**Wadi Sarin**	**5.36**	**163**	Pn	**Pn**	**18 16 46.4**	**+0.1**		
	comp=Z,0.1nm,0.3s,baz=348,slow=24,SNR=51								
WSAR				Sn	**Sn**	**18 17 45.0**	**-3.0**		
	comp=Z,1.3nm,0.3s,baz=238,slow=24,SNR=38								
SMDO	**Samad**	**5.41**	**169**	P	**Pn**	**18 16 47.3**	**+0.3**		
	SNR=12								
ANAR	**Anarak**	**5.50**	**331**	Pn	**Pn**	**18 16 52.1**	**+3.8**		
BSY	**Bisya**	**5.63**	**177**	P	**Pn**	**18 16 51.5**	**+1.6**		
	SNR=14								
BSY				S	**Sn**	**18 17 55.8**	**+1.1**		
GHWR	**Ruwais**	**5.71**	**220**	P	**Pn**	**18 16 51.1**	**+0.2**		
IGAR	**Gharneh**	**5.80**	**315**	Pn	**Pn**	**18 16 55.6**	**+3.2**		
SHMA	**Al-Shehemyia**	**5.87**	**246**	P	**Pn**	**18 16 55.8**	**+2.7**		
	SNR=215								
UMZA	**Um Al Zommool**	**5.87**	**196**	P	**Pn**	**18 16 53.6**	**+0.4**		
IZEF	**Zefreh**	**5.97**	**320**	Pn	**Pn**	**18 16 58.0**	**+3.3**		
IBRJ	**Brojen**	**6.01**	**307**	Pn	**Pn**	**18 16 59.6**	**+4.2**		
MZR	**Muzera**	**6.20**	**211**	P	**Pn**	**18 16 58.0**	**+0.3**		
	SNR=8.3								
MZR	**Muzera**	**6.20**	**211**	*i* P	**Pn**	**18 16 57.8**	**+0.2**		
	SNR=8.0								
TRNA	**Turayna**	**6.27**	**236**	P	**Pn**	**18 16 59.8**	**+1.2**		
	SNR=21								
SLWR	**Sila**	**6.36**	**229**	P	**Pn**	**18 17 00.9**	**+1.0**		
ZNGN	**Zangian**	**6.42**	**307**	Pn	**Pn**	**18 17 04.4**	**+3.5**		
JHBN	**Jahan bin**	**6.61**	**307**	Pn	**Pn**	**18 17 06.6**	**+3.0**		
JLN	**Jalan Bani Buh**	**6.62**	**159**	P	**Pn**	**18 17 03.7**	**+0.2**		
IKLH	**Kolahrood**	**6.71**	**318**	Pn	**Pn**	**18 17 08.9**	**+4.0**		
KRSH	**Karshahi**	**6.90**	**325**	Pn	**Pn**	**18 17 11.1**	**+3.7**		
QAMS	**Qamsar**	**7.12**	**320**	Pn	**Pn**	**18 17 13.8**	**+3.3**		
ISFB	**Sefidab**	**7.15**	**327**	Pn	**Pn**	**18 17 14.3**	**+3.4**		
SHRO	**Shahrood**	**7.61**	**355**	*e*Pn	**Pn**	**18 17 20.8**	**+3.6**		
SHRO				IAML		18 19 50.3			
	comp=Z,56nm,1.0s								
KHMZ	**Khomeyn**	**7.99**	**314**	*e*PnA		18 17 25.7			
KHMZ				IAML		18 17 26.5			
	comp=Z,65nm,1.0s								
IDMV	**Damavand**	**8.27**	**331**	Pn	**Pn**	**18 17 30.3**	**+3.9**		
CHTH	**Charan**	**8.95**	**328**	*e*PnA		18 17 40.1			
RAYN	**Ar Rayn**	**11.35**	**247**		**Pn**	**18 18 06.1**	**-2.2**		
RAYN	**Ar Rayn**	**11.35**	**247**	*i* P	**Pn**	**18 18 06.4**	**-1.9**		
	SNR=57								
NIL	**Nilore**	**14.96**	**65**	Pn	**Pn**	**18 18 59.2**	**+1.6**		
GEVA	**Gevas**	**15.21**	**314**		**Pn**	**18 18 57.0**	**-4.0**		
GEVA				IAmb	IAmb	18 19 09.0			
	comp=Z,10nm,1.0s								
GAR	**Garm**	**15.36**	**43**	Pn	**Pn**	**18 19 04.2**	**+1.1**		
GNI	**Garni**	**15.43**	**323**	LR	LR	18 25 39.9			
	comp=Z,139nm,18.4s,baz=134,slow=40								
GURO	**Guroymak-BITLI**	**16.00**	**313**		**Pn**	**18 19 09.0**	**-2.4**		
GURO				IAmb	IAmb	18 19 18.7			
	comp=Z,19nm,0.9s								
DRK	**Karamyk**	**16.56**	**44**		**Pn**	**18 19 17.5**	**-1.1**		
DRK				IAmb	IAmb	18 19 37.5			
	comp=Z,22nm,1.0s								
ASF	**Jabal al Asfar**	**17.68**	**287**	P	**Pn**	**18 19 31.8**	**-0.8**		
	comp=Z,0.6nm,0.3s,baz=120,slow=8.1,SNR=5.7								
	comp=Z,4.1nm,0.7s								
KOPT	**Kop Dagi**	**17.82**	**315**	P	**Pn**	**18 19 33.3**	**-1.1**		
KK31	**Karatay Array**	**18.33**	**33**		**Pn**	**18 19 40.9**	**+0.5**		
KKAR	**Karatay Array**	**18.33**	**33**		**Pn**	**18 19 40.8**	**+0.4**		
ARSB	**Arslanbob**	**18.41**	**41**	P	**Pn**	**18 19 42.5**	**+0.9**		
GAZ	**Gaziantep**	**18.70**	**303**		**P**	**18 19 43.6**	**-1.2**		
GAZ				IAmb	IAmb	18 19 49.4			
	comp=Z,13nm,0.9s								
GHAJ	**Ghor Haditha**	**18.73**	**284**		**P**	**18 19 42.4**	**-2.5**		
GHAJ				IAmb	IAmb	18 20 02.9			
	comp=Z,11nm,0.6s								
MMAI	**Mount Meron Ar**	**19.05**	**289**	P	**P**	**18 19 46.5**	**-2.0**		
	comp=Z,0.6nm,0.3s,baz=97,slow=13,SNR=5.2								
MMAI				LR	LR	18 29 02.2			
	comp=Z,180nm,18.8s,baz=98,slow=43								
	comp=Z,0.4nm,0.3s								
EIL	**Elat**	**19.24**	**279**	P	**P**	**18 19 49.4**	**-1.2**		
	comp=Z,0.2nm,0.3s,baz=60,slow=6.0,SNR=9.9								
	comp=Z,4.1nm,1.1s								
KIV	**Kislovodsk**	**19.27**	**327**	P	**P**	**18 19 49.9**	**-1.0**		
KIV				IAmb	IAmb	18 20 09.9			
	comp=Z,12nm,0.6s								
KSH	**Kashi**	**19.28**	**50**	P	**P**	**18 19 51.3**	**+0.2**		
KSH				pmax	pmax				
	comp=Z,8.0nm,0.9s								
AAK	**Ala-Archa**	**20.11**	**40**	P	**P**	**18 20 00.8**	**+0.6**		
AAK	**Ala-Archa**	**20.11**	**40**	LR	LR	18 28 50.1			
	comp=Z,110nm,18.8s,baz=198,slow=40								
NRN	**Naryn**	**20.30**	**45**	P	**P**	**18 20 02.4**	**0.0**		
BNN	**Bunyan**	**20.36**	**306**		**P**	**18 20 01.5**	**-1.4**		
BNN				IAmb	IAmb	18 20 06.5			
	comp=Z,14nm,0.8s								
TOKA	**Tokat**	**20.58**	**311**	P	**P**	**18 20 03.6**	**-1.6**		
TOKA				IAmb	IAmb	18 20 41.5			
	comp=Z,8.8nm,0.4s								
BOOM	**Boomskoye usch**	**20.87**	**43**	P	**P**	**18 20 09.2**	**+0.8**		
AB31	**Akbulak array**	**20.96**	**6**		**P**	**18 20 09.4**	**+0.2**		
AB31				IAmb	IAmb	18 20 11.8			
	comp=Z,9.8nm,0.8s								
ABKAR	**Akbulak array**	**20.96**	**6**		**P**	**18 20 09.4**	**+0.2**		
KDJ	**Kajisay**	**21.42**	**45**		**P**	**18 20 14.6**	**+0.3**		
KDJ				IAmb	IAmb	18 20 29.9			
	comp=Z,8.0nm,0.9s								
AKTO	**Aktyubinsk**	**22.03**	**2**	P	**P**	**18 20 22.4**	**+1.8**		
	comp=Z,4.7nm,0.8s,baz=186,slow=10,SNR=11								
AKTO				LR	LR	18 30 28.4			
	comp=Z,78nm,19.3s,baz=352,slow=41								
	comp=Z,4.7nm,0.8s								
BR131	**Keskin Array S**	**22.28**	**307**		**P**	**18 20 21.1**	**-2.4**		
BR131				IAmb	IAmb	18 20 27.6			
	comp=Z,16nm,0.8s								
BRTR	**Keskin Array B**	**22.28**	**307**		**P**	**18 20 21.3**	**-2.3**		
BRTR	**Keskin Array B**	**22.28**	**307**	P	**P**	**18 20 23.6**	**+0.1**		
	comp=Z,12nm,0.8s,baz=129,slow=9.7,SNR=58								
	comp=Z,12nm,0.8s								
PRZ	**Przheval'sk**	**22.37**	**45**	P	**P**	**18 20 25.9**	**+1.3**		
PRZ				IAmb	IAmb	18 21 03.0			
	comp=Z,12nm,1.3s								
ILGA	**Ilgaz**	**22.78**	**310**	P	**P**	**18 20 27.0**	**-2.0**		
ILGA				IAmb	IAmb	18 20 48.5			
	comp=Z,13nm,1.1s								
ANTO	**Ankara**	**22.93**	**306**	P	**P**	**18 20 26.8**	**-3.6**		
ELL	**Elmali**	**24.17**	**297**	P	**P**	**18 20 38.9**	**-3.8**		
MDUB	**Mudurnu**	**24.29**	**306**		**P**	**18 20 40.9**	**-2.9**		
AKAS	**Kas**	**24.30**	**296**	P	**P**	**18 20 40.4**	**-3.6**		
BELG	**Belogornoye**	**24.95**	**346**	P	**P**	**18 20 49.8**	**+0.4**		
	comp=Z,5.5nm,0.6s,baz=158,slow=0.9,SNR=4.4								
BELG				LR	LR	18 33 43.2			
	comp=Z,48nm,19.9s,baz=103,slow=44								
	comp=Z,5.5nm,0.6s								
MANT	**Manisa**	**25.62**	**300**	P	**P**	**18 20 53.9**	**-2.1**		
MANT				IAmb	IAmb	18 21 11.9			
	comp=Z,16nm,1.3s								
KARP	**Karpathos**	**26.16**	**293**	P	**P**	**18 20 58.8**	**-1.8**		
EVN	**Everest**	**26.34**	**84**	P	**P**	**18 21 04.4**	**+1.3**		
EVN				IAmb	IAmb	18 21 21.0			
	comp=Z,11nm,1.0s								
BVAR	**Borovoye Array**	**26.55**	**18**	P	**P**	**18 21 05.1**	**+1.1**		
	comp=Z,6.2nm,0.7s,baz=199,slow=7.8,SNR=32								
BVAR				LR	LR	18 32 44.2			
	comp=Z,69nm,20.5s,baz=205,slow=39								
	comp=Z,6.2nm,0.7s								
BRVK	**Borovoye**	**26.55**	**18**	P	**P**	**18 21 04.0**	**0.0**		
BRVK				IAmb	IAmb	18 21 05.8			
	comp=Z,3.4nm,0.8s								
MAKZ	**Makanchi**	**26.88**	**40**	P	**P**	**18 21 07.8**	**+0.8**		
MAKZ				IAmb	IAmb	18 21 28.9			
	comp=Z,5.1nm,1.1s								
MKAR	**Makanchi Array**	**27.05**	**40**	P	**P**	**18 21 09.0**	**+0.4**		
MKAR	**Makanchi Array**	**27.05**	**40**	P	**P**	**18 21 09.5**	**+0.9**		
	comp=Z,0.6nm,0.7s,baz=227,slow=8.0,SNR=7.1								
MKAR				LR	LR	18 33 42.7			
	comp=Z,69nm,18.6s,baz=152,slow=40								
	comp=Z,0.6nm,0.7s								
KURBB	**Kurchatov Array**	**27.58**	**30**	P	**P**	**18 21 13.8**	**+0.6**		
	comp=Z,1.0nm,0.2s,baz=230,slow=8.4,SNR=4.1								
KURBB				LR	LR	18 33 05.6			
	comp=Z,75nm,20.2s,baz=159,slow=38								
	comp=Z,1.0nm,0.2s								
IDI	**Anoyia**	**27.97**	**292**	P	**P**	**18 21 14.8**	**-2.2**		
IDI	**Anoyia**	**27.97**	**292**	LR	LR	18 36 09.0			
	comp=Z,122nm,20.4s,baz=121,slow=44								
WMQ	**Urumqi**	**29.05**	**50**	*e*P	**P**	**18 21 30.0**	**+3.5**		
MLR	**Muntele Rosu**	**29.81**	**313**	LR	LR	18 36 16.7			
	comp=Z,63nm,19.4s,baz=96,slow=42								
AKASG	**Malin Array Be**	**30.55**	**324**	P	**P**	**18 21 38.9**	**-0.7**		
	comp=Z,1.0nm,0.7s,baz=136,slow=8.2,SNR=5.8								
	comp=Z,1.0nm,0.7s								
ITM	**Ithomi**	**30.55**	**296**	P	**P**	**18 21 38.3**	**-1.5**		
KIRV	**Kirov**	**30.62**	**352**	LR	LR	18 36 38.7			
	comp=Z,97nm,18.6s,baz=157,slow=41								
BURAR	**Bucovina Array**	**31.18**	**317**	P	**P**	**18 21 43.4**	**-2.0**		
ZAA0	**Zalesovo Array**	**32.67**	**31**	P	**P**	**18 21 58.2**	**-0.1**		
ZAA0				IAmb	IAmb	18 22 22.2			
	comp=Z,2.5nm,0.8s								
ZALV	**Zalesovo Beam**	**32.67**	**31**	P	**P**	**18 21 57.9**	**-0.4**		
ZALV	**Zalesovo Beam**	**32.67**	**31**	P	**P**	**18 21 58.7**	**+0.5**		
	comp=Z,1.3nm,0.3s,baz=248,slow=7.8,SNR=11								
ZALV				LR	LR	18 35 21.7			
	comp=Z,28nm,19.1s,baz=186,slow=36								
	comp=Z,1.3nm,0.3s								
MSEY	**Mahe Island**	**32.91**	**183**	P	**P**	**18 21 59.4**	**-1.3**		
KOLS	**Kolonicke sedl**	**33.52**	**317**	*e*P	**P**	**18 22 07.5**	**+1.7**		
STHS	**Stebnicka Huta**	**34.34**	**318**	*e*P	**P**	**18 22 10.1**	**-2.8**		
STHS				*e*PP	**PnPn**	**18 23 28.6**	**+1.4**		
OJC	**Ojcow**	**35.52**	**318**	P	P	18 22 20.1	-3.0		
GTA	**Gaotai**	**36.96**	**61**	*e*P	**P**	**18 22 39.8**	**+4.1**		
GTA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
VRAC	**Vranov**	**37.12**	**315**	LR	LR	18 41 15.0			
	comp=Z,31nm,19.2s,baz=80,slow=42								
NRCA	**Norcia**	**37.97**	**304**	P	**P**	**18 22 42.8**	**-1.3**		
NRCA				IAmb	IAmb	18 22 57.0			
	comp=Z,8.6nm,1.1s								
FDMO	**Fiordimonte**	**38.02**	**304**	P	**P**	**18 22 43.2**	**-1.3**		
GERES	**GERESS Array B**	**38.80**	**314**	P	**P**	**18 22 50.8**	**-0.2**		
	comp=Z,1.2nm,0.8s,baz=110,slow=7.4,SNR=8.3								
	comp=Z,1.2nm,0.8s								
FIA1	**FINESS Array S**	**38.88**	**337**	P	**P**	**18 22 50.6**	**-0.8**		
FINES	**FINESS Array B**	**38.88**	**337**	P	**P**	**18 22 51.6**	**+0.2**		
	comp=Z,2.8nm,0.6s,baz=134,slow=9.7,SNR=16								
	comp=Z,2.8nm,0.6s								
KHC	**Kasperske Hory**	**38.95**	**314**	*e*P	**P**	**18 22 52.5**	**+0.3**		
PZH	**PanZhiHua**	**39.66**	**82**	P	**P**	**18 23 00.8**	**+2.2**		
CLL	**Collm**	**39.94**	**317**	*i* P	**P**	**18 23 00.6**	**+0.2**		
	comp=Z,5.0nm,1.2s								
CLL				*e*PPP	PPP	18 24 53.0			
CLL				*e*PPPP		18 25 01.0			
FUORN	**Ofenpass-Fuorn**	**40.56**	**310**	P	**P**	**18 23 04.6**	**-1.4**		
MSSA	**Maissana**	**40.75**	**306**	P	**P**	**18 23 06.7**	**-0.6**		
DAVOX	**Davos/Dischmat**	**40.85**	**310**	P	**P**	**18 23 07.4**	**-0.9**		
	comp=Z,2.9nm,0.6s,baz=72,slow=11,SNR=7.2								
DAVOX				LR	LR	18 42 47.1			
	comp=Z,33nm,20.0s,baz=188,slow=40								
	comp=Z,2.9nm,0.6s								
TUE	**Stuetta**	**41.16**	**309**	P	**P**	**18 23 10.7**	**-0.1**		
SENIN	**Lac Senin/Sane**	**42.55**	**309**		**P**	**18 23 20.3**	**-1.9**		
SENIN				IAmb	IAmb	18 23 22.9			
	comp=Z,3.2nm,0.7s								
SONM	**Songino Array**	**42.68**	**49**	P	**P**	**18 23 23.9**	**+0.8**		
	comp=Z,0.4s,baz=270,slow=7.2,SNR=1.7								
	comp=Z,0.2nm,0.4s								
BNI	**Bardonecchia**	**42.84**	**307**		**P**	**18 23 22.7**	**-1.8**		
BNI				IAmb	IAmb	18 23 26.1			
	comp=Z,5.9nm,0.8s								
HFS	**Hagfors**	**43.03**	**330**	P	**P**	**18 23 24.3**	**-1.4**		
	comp=Z,2.5nm,0.8s,baz=110,slow=9.1,SNR=8.3								
	comp=Z,2.5nm,0.8s								
NC405	**NORSAR Array S**	**44.35**	**330**	P	**P**	**18 23 35.0**	**-1.3**		
SSB	**Saint Sauveur**	**44.37**	**307**	P	**P**	**18 23 35.1**	**-1.5**		
SSB				IAmb	IAmb	18 23 40.6			
	comp=Z,5.2nm,1.0s								
NB2	**NORSAR Subarra**	**44.54**	**330**	P	**P**	**18 23 36.8**	**-1.0**		
	comp=Z,0.9nm,0.7s,baz=115,slow=8.6								
NOA	**NORSAR Array B**	**44.54**	**330**	P	**P**	**18 23 37.0**	**-0.8**		
	comp=Z,1.3nm,0.7s,baz=116,slow=8.0,SNR=8.5								
NOA				LR	LR	18 45 16.3			
	comp=Z,40nm,21.3s,baz=120,slow=40								
	comp=Z,1.3nm,0.7s								
KONO	**Kongsberg**	**44.69**	**328**	P	**P**	**18 23 37.6**	**-1.3**		
ARCES	**ARCESS Array B**	**44.98**	**345**	P	**P**	**18 23 41.7**	**+0.5**		
	comp=Z,1.2nm,0.7s,baz=100,slow=6.3,SNR=4.4								
	comp=Z,1.2nm,0.7s								
HHC	**Hu-ho-hao-te**	**45.99**	**59**	*e*P	**P**	**18 23 50.5**	**+0.8**		
HHC				pmax	pmax				
	comp=Z,11nm,0.6s								
HHC				pmax	pmax				
	comp=Z,100nm,6.1s								
EKA	**Eskdalemuir Ar**	**50.25**	**320**	P	**P**	**18 24 21.7**	**-0.6**		
	comp=Z,0.6nm,0.5s,baz=104,slow=7.0,SNR=7.9								
	comp=Z,0.6nm,0.5s								
ESDC	**Sonseca Array**	**50.81**	**300**	P	**P**	**18 24 26.4**	**-0.5**		
	comp=Z,0.3nm,0.5s,baz=80,slow=7.5,SNR=2.3								
	comp=Z,0.3nm,0.5s								
TORD	**Torodi Ar. Bea**	**53.37**	**265**	P	**P**	**18 24 44.9**	**-1.3**		
TORD				IAmb	IAmb	18 24 46.1			
	comp=Z,2.5nm,0.8s								
TORD	**Torodi Ar. Bea**	**53.37**	**265**	P	**P**	**18 24 44.6**	**-1.6**		
	comp=Z,3.2nm,0.5s,baz=56,slow=7.8,SNR=36								
	comp=Z,3.2nm,0.5s								
TIXI	**Tiksi**	**57.65**	**21**	P	**P**	**18 25 14.4**	**-1.6**		
KSAR	**Wonju Array Be**	**59.01**	**61**	P	**P**	**18 25 26.6**	**+0.5**		
KSRS	**Korea Array**	**59.03**	**61**	P	**P**	**18 25 25.9**	**-0.4**		
	comp=Z,0.4nm,0.5s,baz=278,slow=6.2,SNR=2.4								
	comp=Z,0.4nm,0.5s								
KGCAE	**Kacgae**	**60.96**	**217**	P	**P**	**18 25 39.3**	**-0.4**		
LBTB	**Lobatse**	**61.05**	**213**	P	**P**	**18 25 39.4**	**-0.9**		
LBTB	**Lobatse**	**61.05**	**213**	LR	LR	18 53 41.1			
	comp=Z,99nm,19.5s,baz=86,slow=38								
BOSA	**Boshof**	**64.28**	**211**	P	**P**	**18 26 01.2**	**-0.6**		
BOSA	**Boshof**	**64.28**	**211**	P	**P**	**18 26 00.5**	**-1.3**		
	comp=Z,1.1nm,0.5s,baz=21,slow=8.1,SNR=5.7								
	comp=Z,1.1nm,0.5s								
ILAR	**Eielson Array**	**85.30**	**10**	P	**P**	**18 28 00.9**	**-2.0**		
	comp=Z,0.3nm,0.6s,baz=334,slow=5.3,SNR=2.4								
	comp=Z,0.3nm,0.6s								
WRA	**Warramunga Arr**	**88.86**	**113**	P	**P**	**18 28 20.5**	**-0.4**		
	comp=Z,1.0nm,0.7s,baz=315,slow=3.9,SNR=11								
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**89.17**	**356**	P	**P**	**18 28 20.8**	**-0.9**		
	comp=Z,0.6nm,0.7s,baz=0.0,slow=5.4,SNR=6.3								
YKA				LR	LR	19 16 10.6			
	comp=Z,45nm,18.4s,baz=1.5,slow=41								
	comp=Z,0.6nm,0.7s								
ASAR	**Alice Springs**	**90.41**	**117**	P	**P**	**18 28 28.6**	**+0.5**		
	comp=Z,0.6nm,0.7s,baz=306,slow=4.7,SNR=10.0								
	comp=Z,0.6nm,0.7s								
QSPA	**South Pole Qui**	**118.23**	**180**	PKP	**PKPdf**	**18 34 11.8**	**-1.0**		
	comp=Z,0.9nm,1.0s,baz=224,slow=3.5,SNR=3.3								

IDC 16 18:26:52.8±41.0, 54.44S×159.80E, h0km, mb3.8/3, mbtmp3.8/3, MS4.1/1, Error ellipse: s-maj=718.3km s-min=359.8km az=125.0, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**26.02**	**323**	P	P	18 32 27.2	-0.2
	2.7nm,0.9s,baz=139,slow=11,SNR=3.4						
	2.7nm,0.9s						
ASAR	**Alice Springs**	**36.32**	**317**	P	P	18 33 57.9	-0.3
	1.0nm,0.8s,baz=155,slow=7.5,SNR=8.8						
	1.0nm,0.8s						
H01W1	**Cape Leeuwin H**	**37.07**	**283**	T	T	19 13 11.6	
	baz=134,slow=75,SNR=101						
H01W2	**Cape Leeuwin H**	**37.08**	**283**	T	T	19 13 12.2	
	baz=134,slow=75,SNR=105						
H01W3	**Cape Leeuwin H**	**37.09**	**283**	T	T	19 13 12.9	
	baz=134,slow=75,SNR=103						
WRA	**Warramunga Arr**	**39.53**	**321**	P	P	18 34 25.6	+0.3
	0.8nm,0.9s,baz=158,slow=7.9,SNR=1.5						
	0.8nm,0.9s						
KAPI	**Kappang**	**58.94**	**312**	LR	LR	19 02 32.6	
	comp=Z,159nm,20.3s,baz=144,slow=36						
H08S2	**Diego Garcia H**	**82.27**	**268**	T	T	20 10 03.2	
	baz=143,slow=76,SNR=7.9						
H08S1	**Diego Carcia H**	**82.28**	**268**	T	T	20 10 07.2	
	baz=143,slow=76,SNR=7.4						
H08S3	**Diego Garcia H**	**82.29**	**268**	T	T	20 10 00.5	
	baz=143,slow=76,SNR=12						

*NOU **16** 18:48:28.0,38°.77S×175°.72E, h165km, MLv3.8/14, North Island, New Zealand*
*WEL **16** 18:48:31.1±0.7,39°.5S±4°×17°.6E±°, h135km±6km, M2.9/41, ML2.6/19, MLv2.9/41, Error ellipse: s-maj=5.9km s-min=4.7km az=156.5, confirmed*

ISC 16 18:48:25.6±1.6, 38.67S±0.05×175.64E±0.05, h180km±8km, n128, σ1§65/136, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATZ	**Rangitukua**	**0.22**	**152**	P	**Pn**	**18 48 50.7**	**+1.1**
KUTZ	**Kaahu Road**	**0.23**	**39**	P	**Pn**	**18 48 50.7**	**+1.1**
WHTZ	**Whakaora**	**0.25**	**89**	P	**Pn**	**18 48 51.0**	**+1.3**
KATZ	**Kakaramea**	**0.31**	**172**	P	**Pn**	**18 48 51.2**	**+1.3**
TLZ	**Tolley Road**	**0.35**	**347**	P	**Pn**	**18 48 51.1**	**+1.1**
TWVZ	**Taurewa**	**0.43**	**201**	P	**Pn**	**18 48 51.6**	**+1.4**
WPRZ	**Whakapapatarin**	**0.44**	**70**	P	**Pn**	**18 48 51.2**	**+1.0**
WTVZ	**West Tongariro**	**0.45**	**185**	P	**Pn**	**18 48 51.8**	**+1.5**
TMVZ	**Te Maari**	**0.45**	**173**	P	**Pn**	**18 48 52.0**	**+1.7**
ETVZ	**East Tongariro**	**0.47**	**173**	P	**Pn**	**18 48 51.9**	**+1.5**
ETVZ					S	**Sn**	**18 49 08.1**	**-1.6**
GRRZ	**Galatos Road**	**0.49**	**49**	P	**Pn**	**18 48 51.5**	**+1.1**
OTVZ	**Oturere**	**0.49**	**177**	P	**Pn**	**18 48 52.1**	**+1.6**
COVZ	**Chateau Observ**	**0.53**	**188**	P	**Pn**	**18 48 52.2**	**+1.6**
ALRZ	**Allen Road**	**0.56**	**79**	P	**Pn**	**18 48 51.7**	**+1.0**
HRRZ	**Handcock Road**	**0.58**	**61**	P	**Pn**	**18 48 51.9**	**+1.1**
FWVZ	**Far West T-bar**	**0.59**	**186**	P	**Pn**	**18 48 52.6**	**+1.5**
TUVZ	**Tukino**	**0.60**	**179**	P	**Pn**	**18 48 52.7**	**+1.7**
HSRZ	**Hossack Road**	**0.60**	**53**	P	**Pn**	**18 48 52.1**	**+1.2**
MAVZ	**Matarangi**	**0.60**	**186**	P	**Pn**	**18 48 52.9**	**+1.7**
WHVZ	**Whangaehu Hut**	**0.61**	**184**	P	**Pn**	**18 48 52.8**	**+1.6**
PRRZ	**Plateau Road**	**0.62**	**74**	P	**Pn**	**18 48 51.9**	**+1.0**
TRVZ	**Turoa**	**0.63**	**186**	P	**Pn**	**18 48 53.1**	**+1.8**
TRVZ					S	**Sn**	**18 49 09.5**	**-1.7**
MRHZ	**Matea Rd**	**0.63**	**105**	P	**Pn**	**18 48 51.9**	**+0.9**
MRHZ					S	**Sn**	**18 49 08.1**	**-2.5**
HIZ	**Hauiti**	**0.63**	**284**	P	**Pn**	**18 48 52.6**	**+1.6**
HIZ	**Hauiti**	**0.63**	**284**	P	**Pn**	**18 48 52.6**	**+1.6**
WNVZ	**Wahianoa**	**0.66**	**183**	P	**Pn**	**18 48 53.0**	**+1.6**
WNVZ					S	**Sn**	**18 49 09.6**	**-1.7**
PKVZ	**Pokaka**	**0.66**	**200**	P	**Pn**	**18 48 52.9**	**+1.7**
MOVZ	**Moawhango**	**0.74**	**173**	P	**Pn**	**18 48 53.1**	**+1.4**
RRRZ	**Republican Roa**	**0.76**	**65**	P	**Pn**	**18 48 52.8**	**+1.0**
VRZ	**Vera Road**	**0.82**	**236**	P	**Pn**	**18 48 54.0**	**+2.0**
BKZ	**Black Stump Fm**	**0.83**	**127**	P	**Pn**	**18 48 53.4**	**+1.2**
BKZ	**Black Stump Fm**	**0.83**	**127**	S	**Sn**	**18 49 11.8**	**+1.0**
BKZ	**Black Stump Fm**	**0.83**	**127**	P	**Pn**	**18 48 53.5**	**+1.3**
MUGZ	**Murupara**	**0.91**	**78**	P	**Pn**	**18 48 53.3**	**+0.6**
MUGZ					S	**Sn**	**18 49 10.4**	**-3.1**
TOZ	**Tahuroa Road**	**0.94**	**353**	P	**Pn**	**18 48 54.6**	**+1.6**
MTHZ	**Maungataniwha**	**0.96**	**101**	P	**Pn**	**18 48 54.3**	**+1.3**
MTHZ					S	**Sn**	**18 49 12.3**	**-1.9**
KWHZ	**Kaweka Forest**	**0.97**	**141**	P	**Pn**	**18 48 55.0**	**+1.9**
NMHZ	**Naumai**	**1.01**	**115**	P	**Pn**	**18 48 55.7**	**+2.3**
KRHZ	**Kereru**	**1.12**	**150**	P	**Pn**	**18 48 56.3**	**+2.0**
KRHZ					S	**Sn**	**18 49 14.9**	**-1.7**
MCHZ	**McNeill Hill**	**1.13**	**133**	P	**Pn**	**18 48 56.8**	**+2.6**
RAHZ	**Arahi**	**1.16**	**103**	P	**Pn**	**18 48 56.5**	**+2.0**
RAHZ					S	**Sn**	**18 49 15.

SBUM	**Sibu**	**14.22**	**279**	Pn	**Pn**	**18 57 00.8**	**-1.2**
KNRA	**Kununurra**	**15.89**	**171**	Pn	**Pn**	**18 57 23.5**	**-0.3**
KNRA				IAmb	IAmb	18 57 45.0	
	comp=Z,38nm,1.5s						
FITZ	**Fitzroy Crossi**	**18.12**	**182**		**P**	**18 57 50.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**18.12**	**182**	P	**P**	**18 57 49.8**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=332,slow=8.4,SNR=6.5						
	comp=Z,6.0nm,1.1s						
WB0	**Warramunga Arr**	**21.32**	**158**	P	**P**	**18 58 25.8**	**-0.4**
WRA	**Warramunga Arr**	**21.46**	**159**	P	**P**	**18 58 27.9**	**+0.3**
	comp=Z,4.2nm,0.5s,baz=334,slow=11,SNR=47						
	comp=Z,4.2nm,0.5s						
WR8	**Warramunga Arr**	**21.53**	**158**		**P**	**18 58 28.8**	**+0.3**
PSA00	**Pilbara Seismi**	**22.45**	**196**	P	**P**	**18 58 38.9**	**+0.6**
PSA00				IAmb	IAmb	18 59 16.5	
	comp=Z,24nm,1.4s						
AS31	**Alice Springs**	**24.79**	**163**	P	**P**	**18 59 01.6**	**+0.9**
AS31				IAmb	IAmb	18 59 03.9	
	comp=Z,6.3nm,0.3s						
ASAR	**Alice Springs**	**24.79**	**163**	P	**P**	**18 59 01.4**	**+0.6**
ASAR	**Alice Springs**	**24.79**	**163**	P	**P**	**18 59 02.5**	**+1.7**
	comp=Z,3.0nm,0.3s,baz=346,slow=12,SNR=242						
ASAR				S	**S**	**19 03 28.1**	**+8.2**
	comp=Z,1.4nm,0.9s,baz=344,slow=20,SNR=7.4						
	comp=Z,3.0nm,0.3s						
FORT	**Forrest**	**30.78**	**177**	P	**P**	**18 59 54.9**	**+0.6**
FORT				IAmb	IAmb	19 00 22.8	
	comp=Z,6.1nm,1.1s						
JCJ	**Chichijima**	**30.88**	**28**	P	**P**	**18 59 55.1**	**-0.1**
STKA	**Stephens Creek**	**34.98**	**157**	P	**P**	**19 00 29.8**	**-1.1**
STKA	**Stephens Creek**	**34.98**	**157**	P	**P**	**19 00 32.1**	**+1.2**
	comp=Z,1.5nm,0.4s,baz=334,slow=12,SNR=3.1						
	comp=Z,1.5nm,0.4s						
JHJ2	**Mitsune**	**35.21**	**20**	P	**P**	**19 00 31.6**	**-1.2**
KSRS	**Korea Array**	**37.18**	**2**	P	**P**	**19 00 52.6**	**+3.0**
	comp=Z,0.7nm,0.7s,baz=180,slow=9.5,SNR=4.9						
	comp=Z,0.7nm,0.7s						
JKA	**Kamikawa-asahi**	**46.16**	**16**	P	**P**	**19 02 04.3**	**+1.3**
JKA				IAmb	IAmb	19 02 48.7	
	comp=Z,10nm,1.3s						
SONM	**Songino Array**	**50.56**	**343**	P	**P**	**19 02 36.4**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=157,slow=7.6,SNR=3.7						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**60.26**	**327**		**P**	**19 03 45.4**	**-1.3**
MKAR	**Makanchi Array**	**60.26**	**327**	P	**P**	**19 03 45.6**	**-1.0**
	comp=Z,1.4nm,0.4s,baz=121,slow=8.8,SNR=18						
	comp=Z,1.4nm,0.4s						
MAKZ	**Makanchi**	**60.44**	**327**	P	**P**	**19 03 46.8**	**-1.1**
MAKZ				IAmb	IAmb	19 03 50.8	
	comp=Z,1.6nm,0.8s						
KBL	**Kabul**	**63.37**	**309**		**P**	**19 04 07.4**	**-0.6**
ZALV	**Zalesovo Beam**	**63.58**	**334**	P	**P**	**19 04 08.3**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=144,slow=5.3,SNR=4.4						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**64.52**	**329**	P	**P**	**19 04 13.9**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=128,slow=6.3,SNR=10						
	comp=Z,1.2nm,0.6s						
BVAR	**Borovoye Array**	**70.08**	**328**	P	**P**	**19 04 50.9**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=109,slow=7.4,SNR=4.9						
	comp=Z,0.4nm,0.4s						
ATKA	**Atka Island**	**71.72**	**34**	P	**P**	**19 05 01.1**	**+1.1**
PPT	**Papeete**	**84.47**	**108**	LR	LR	19 45 41.3	
	comp=Z,20nm,18.3s,baz=206,slow=37						

*ISU **16** 19:01:43, 39°.13N×67°.74E, h18km*
*NNC **16** 19:01:46.9±7.7, 39°.48N×67°.38E, h0km, mb3.9, mpv3.8,*
Error ellipse: s-maj=79.7km s-min=57.0km az=126.0
*SOME **16** 19:01:47.7, 39°.10N×69°.58E, h20km*
ISC 16 19:01:44.4±0.9, 39°.17N±0°.04×67°.69E±0°.04, h10km, n22, σ2ş55/24, 2C-3D, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BXML	**Bakhmal**	**0.58**	**27**	P	**Pb**	**19 01 56.0**	**-0.8**
KTAB	**Kitab**	**0.62**	**267**	P	**Pb**	**19 01 56.8**	**-0.6**
KTAB				S	**Sb**	**19 02 06.7**	**+0.5**
AGL	**Agalyk**	**0.72**	**300**	P	**Pg**	**19 01 58.0**	**-0.2**
SAM	**Samarkand**	**0.75**	**311**	P	**Pb**	**19 01 59.2**	**-0.4**
SAM				S	**Sb**	**19 02 10.7**	**+0.8**
DZI	**Dzhizak**	**0.95**	**6**	P	**Pn**	**19 02 03.5**	**-0.3**
DZI				S	**Sn**	**19 02 17.2**	**-0.3**
BAYS	**Baysun**	**1.03**	**202**	P	**Pg**	**19 02 02.5**	**-1.6**
BAYS				S	**Sb**	**19 02 16.0**	**-1.9**
CHM	**Chimkent**	**3.47**	**24**	*e*P	**Pb**	**19 02 46.3**	**+0.4**
	37nm,0.2s						
CHM				*e*S	**Sb**	**19 03 28.4**	**+0.3**
	201nm,0.4s						
IUG	**Iuzhnay**	**3.47**	**30**	Pg	**Pb**	**19 02 43.7**	**-2.3**
	5.5nm,0.1s						
IUG				Lg	Lg	19 03 23.9	
	82nm,0.4s						
BRLS	**Borolday**	**4.19**	**22**	Pg	**Pb**	**19 02 54.8**	**-3.4**
	1.0nm,0.1s						
BRLS				Lg	Lg	19 03 42.7	
	23nm,0.4s						
BRLS	**Borolday**	**4.19**	**22**	*e*P	**Pb**	**19 02 54.8**	**-3.4**
	1.0nm,0.1s						
BRLS				*e*S	**Sb**	**19 03 42.7**	**-6.0**
	23nm,0.4s						
KK31	**Karatay Array**	**4.47**	**28**	⇑Pn	**Pn**	**19 02 54.5**	**+2.2**
	0.4nm,0.2s,baz=202,slow=5.2,SNR=10						
KK31				⇓Pg	**Pg**	**19 03 07.0**	**-3.1**
	4.7nm,0.4s,baz=210,slow=15,SNR=7.3						
KK31				⇓Lg	Lg	19 04 07.0	
	25nm,0.5s						
DZA	**Taraz**	**4.63**	**35**	Pg	Pb	19 02 59.9	-5.7
	79nm,0.1s						
DZA				Lg	Lg	19 03 51.6	
	76nm,0.1s						
DZA	**Taraz**	**4.63**	**35**	*e*P	Pb	19 02 60.0	-5.7
	79nm,0.1s						
DZA				*e*S	**Sn**	**19 03 51.6**	**+3.3**
	76nm,0.1s						
MRKS	**Merke**	**5.51**	**48**	Pg	Pb	19 03 12.3	-8.4
	4.7nm,0.3s						
MRKS				Lg	Lg	19 04 13.3	
	76nm,0.4s						
MRKS	**Merke**	**5.51**	**48**	*e*P	Pb	19 03 12.3	-8.4
	4.7nm,0.3s						
MRKS				*e*S	**Sn**	**19 04 13.3**	**+3.3**
	76nm,0.4s						
AAK	**Ala-Archa**	**6.21**	**54**	⇑Pn	Pn	19 03 21.4	+5.1
	2.5nm,0.6s						
AAK				⇓Sn	**Sn**	**19 04 32.7**	**+5.2**
	11nm,0.6s						
SGDS	**Sogindy**	**6.76**	**48**	Pg	Pb	19 03 34.4	-7.5
	1.4nm,0.1s						
SGDS				Lg	Lg	19 04 50.1	
	2.1nm,0.1s						
DGS	**Degeres**	**7.33**	**54**	Pg	Pb	19 03 45.3	-6.4
	3.1nm,0.6s						
DGS				Lg	Lg	19 05 09.7	
	5.7nm,0.8s						
KST	**Kastek**	**7.35**	**56**	Pg	Pb	19 03 43.2	-8.9
	0.9nm,0.2s						
KST				Lg	Lg	19 05 05.3	
	7.4nm,0.6s						
KST	**Kastek**	**7.35**	**56**	*e*P	Pb	19 03 43.2	-8.9
	0.9nm,0.2s						
KST				*e*S	Sn	19 05 05.3	+10
	7.4nm,0.6s						
BTLS	**Baital**	**7.54**	**37**	Pg	**Pb**	**19 03 54.8**	**-0.3**
	1.2nm,0.3s						
BTLS				Lg	Lg	19 05 25.3	
	5.5nm,0.6s						
BTLS	**Baital**	**7.54**	**37**	*e*P	**Pb**	**19 03 54.9**	**-0.3**
	1.2nm,0.3s						
BTLS				*e*S	**Sb**	**19 05 25.3**	**+0.3**
	5.5nm,0.6s						

*FUNV **16** 19:03:06.2, 8°.27N×71°.97W, h2km, MW3.1*
*RSNC **16** 19:03:07.0±0.0, 8°.N±2°×7°.3W×, h145km±1km, M2.8, ML2.8*
ISC 16 19:03:04.1±2.1, 8°.33N±0°.05×72°.00W±0°.05, h5km±17km, n8, σ0ş76/15, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.56**	**214**	*e*P	**Pb**	**19 03 16.5**	**+0.1**
CAPV				*e*S	**Sb**	**19 03 24.1**	**-0.6**
SOCV	**Socops**	**1.13**	**92**	*e*P	**Pn**	**19 03 26.6**	**0.0**
SOCV				*e*S	**Sn**	**19 03 41.5**	**-1.1**
PAMC	**Pamplona, Colo**	**1.20**	**215**	P	**Pn**	**19 03 28.4**	**+0.4**
PAMC				S	**Sn**	**19 03 45.1**	**+0.2**
OCAC	**Ocana**	**1.31**	**266**	P	**Pb**	**19 03 29.1**	**-0.1**
OCAC				S	**Sb**	**19 03 46.1**	**-0.3**
MCQV	**Machiques**	**1.79**	**343**	*e*P	**Pg**	**19 03 38.2**	**-0.2**
MCQV				*e*S	**Sg**	**19 04 01.6**	**0.0**
CRJC	**Cerrejon, Guaj**	**2.81**	**342**	P	**Pb**	**19 03 54.4**	**-0.4**
CRJC				S	**Sb**	**19 04 30.0**	**+0.4**
BAUV	**El Baul**	**3.96**	**81**	*e*P	**Pn**	**19 04 07.1**	**+1.6**
BAUV				*e*S	**Sn**	**19 04 51.6**	**-0.7**
BENV	**Beln**	**4.64**	**69**	*e*P	**Pn**	**19 04 15.8**	**+0.9**

NOU 16 19:17:30.8, 11°.71S×166°.01E, h0km, mb4.7/10, Santa Cruz Islands, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**1.05**	**355**	P	Pg	19 17 49.9	-1.0
LUES	**Luesalemba Tem**	**1.05**	**355**	S	Sg	19 18 05.1	+0.6
SANVU	**Saraoutou**	**3.89**	**163**	P	Pn	19 18 31.3	-0.6
SANVU	**Saraoutou**	**3.89**	**163**	S	Sn	19 19 19.6	+1.2
HURO	**Huro Makira**	**4.22**	**287**	P	Pn	19 18 36.3	-0.1
VLAKA	**Lakatoro**	**4.58**	**163**	P	Pn	19 18 42.2	+0.8
NGOA	**Tingoa Renbel**	**5.83**	**271**	P	Pn	19 18 57.6	-1.0
ALEG	**Aligegeo Malai**	**6.00**	**299**	P	Pn	19 19 01.1	+0.2
TATA	**Tatamba Isabel**	**6.95**	**298**	P	Pn	19 19 14.4	+0.5

*NEIC **16** 19:21:26.7±2.4, 19°.90S±0°.03×169°.6E±0°.1, h100km±7km,*
mb4.5/27, Error ellipse: s-maj=14.4km s-min=4.3km
az=90.0
*IDC **16** 19:21:27.1±4.1, 19°.85S×169°.42E, h106km±34km,*
mb3.8/10, mbtmp4.2/11, MS3.7/2, Error ellipse:
s-maj=29.1km s-min=18.9km az=79.0
*NOU **16** 19:21:29.6, 19°.98S×169°.39E, h74km, MLv4.8/16,*
Vanuatu Islands
ISC 16 19:21:26.3±0.5, 19°.94S±0°.04×169°.55E±0°.07, h100km, n84, σ1ş14/84, mb4.5/22, 4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INH	**Isangel**	**0.47**	**326**	P	**Pn**	**19 21 44.3**	**+2.4**
DVP	**Devils Point**	**2.55**	**329**	P	**Pn**	**19 22 08.6**	**+2.5**
YATNC	**Mamie plateau,**	**3.26**	**229**	P	**Pn**	**19 22 15.7**	**+0.2**
PINNC	**Pines Island,**	**3.31**	**216**		**Pn**	**19 22 17.2**	**+1.0**
PINNC				Sn	**Sn**	**19 22 53.5**	**-1.2**
PINNC	**Pines Island,**	**3.31**	**216**	P	**Pn**	**19 22 17.5**	**+1.3**
PINNC	**Pines Island,**	**3.31**	**216**	S	**Sn**	**19 22 54.0**	**-0.6**
OUENC	**Ouen Island, N**	**3.53**	**225**	P	**Pn**	**19 22 20.7**	**+1.5**
OUENC	**Ouen Island, N**	**3.53**	**225**	S	**Sn**	**19 23 00.3**	**+0.2**
DZM	**Mont Dzumac**	**3.59**	**233**		**Pn**	**19 22 21.1**	**+1.0**
DZM				Sn	**Sn**	**19 23 00.3**	**-1.4**
DZM	**Mont Dzumac**	**3.59**	**233**	P	**Pn**	**19 22 21.1**	**+1.0**
	321nm,0.4s,baz=82,slow=9.2,SNR=529						
DZM				S	**Sn**	**19 22 59.4**	**-2.4**
	baz=108,slow=19						
DZM				LR	LR	19 23 44.0	
	comp=Z,149nm,20.2s,baz=359,slow=39						
DZM	**Mont Dzumac**	**3.59**	**233**	P	**Pn**	**19 22 21.2**	**+1.1**
DZM	**Mont Dzumac**	**3.59**	**233**	S	**Sn**	**19 23 00.8**	**-0.9**
ONTNC	**Ouen Toro**	**3.73**	**230**		**Pn**	**19 22 23.3**	**+1.5**
ONTNC				Sn	**Sn**	**19 23 04.3**	**-0.5**
ONTNC	**Ouen Toro**	**3.73**	**230**	P	**Pn**	**19 22 23.4**	**+1.5**
ONTNC	**Ouen Toro**	**3.73**	**230**	S	**Sn**	**19 23 05.1**	**+0.3**
KOUNC	**Koumac, New Ca**	**4.98**	**262**	P	**Pn**	**19 22 40.4**	**+1.7**
KOUNC	**Koumac, New Ca**	**4.98**	**262**	S	**Sn**	**19 23 35.3**	**+0.2**
SANVU	**Saraoutou**	**4.99**	**333**	Pn	**Pn**	**19 22 39.2**	**+0.2**
SANVU					**Sn**	**19 23 33.5**	**-2.0**
SANVU	**Saraoutou**	**4.99**	**333**	P	**Pn**	**19 22 41.9**	**+2.9**
NIUE	**Niue**	**19.37**	**91**		**P**	**19 25 41.6**	**-2.6**
MRZ	**Mangatainoka R**	**21.29**	**167**	P	**P**	**19 26 05.7**	**+0.9**
CTAO	**Charters Tower**	**21.89**	**266**	P	**P**	**19 26 12.6**	**+1.3**
MSWZ	**Moikau Station**	**21.95**	**168**	P	**P**	**19 26 13.8**	**+1.9**
PYZ	**Puysegur Point**	**26.27**	**185**	P	**P**	**19 26 52.6**	**+0.5**
STKA	**Stephens Creek**	**27.73**	**239**	P	**P**	**19 27 05.8**	**+0.3**
STKA				IAmb	IAmb	19 27 08.3	
	comp=Z,39nm,1.2s						
STKA	**Stephens Creek**	**27.73**	**239**	P	**P**	**19 27 05.4**	**0.0**
	comp=Z,1.5nm,0.5s,baz=68,slow=11,SNR=4.2						
	comp=Z,1.5nm,0.5s						
WR8	**Warramunga Arr**	**32.91**	**264**	P	**P**	**19 27 50.1**	**-1.2**
WB0	**Warramunga Arr**	**33.03**	**264**	P	**P**	**19 27 51.2**	**-1.1**
WB0				IAmb	IAmb	19 27 56.2	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**33.06**	**264**	P	**P**	**19 27 50.1**	**-2.5**
	comp=Z,1.0nm,0.7s,baz=92,slow=8.2,SNR=25						
	comp=Z,1.0nm,0.7s						
AS31	**Alice Springs**	**33.25**	**257**	P	**P**	**19 27 53.7**	**-0.5**
AS31				IAmb	IAmb	19 27 54.3	
	comp=Z,3.6nm,0.6s						
ASAR	**Alice Springs**	**33.25**	**257**	P	**P**	**19 27 53.0**	**-1.3**
ASAR	**Alice Springs**	**33.25**	**257**	P	**P**	**19 27 53.7**	**-0.6**
	comp=Z,8.0nm,0.7s,baz=86,slow=9.2,SNR=133						
	comp=Z,8.0nm,0.7s						
FORT	**Forrest**	**38.82**	**245**	P	**P**	**19 28 41.0**	**-0.6**
FORT				IAmb	IAmb	19 29 04.0	
	comp=Z,8.6nm,1.2s						
BATI	**Baumata**	**45.22**	**275**	LR	LR	19 50 03.1	
	comp=Z,508nm,19.0s,baz=190,slow=38						
MBWA	**Marble Bar**	**46.51**	**259**	P	**P**	**19 29 43.7**	**-0.2**
TOLI2	**Tolitoli**	**52.16**	**288**	P	**P**	**19 30 26.7**	**-0.3**
VNDA	**Vanda**	**57.75**	**182**	P	**P**	**19 31 07.2**	**+0.8**
VNDA	**Vanda**	**57.75**	**182**	P	**P**	**19 31 06.9**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=360,slow=7.7,SNR=2.4						
	comp=Z,0.4nm,0.5s						
SBA	**Scott Base**	**57.97**	**181**	P	**P**	**19 31 09.6**	**+1.7**
SBA				IAmb	IAmb	19 31 10.7	
	comp=Z,4.6nm,0.8s						
CASY	**Casey**	**59.60**	**204**	P	**P**	**19 31 19.2**	**-0.2**
CASY				IAmb	IAmb	19 31 20.1	
	comp=Z,2.6nm,0.8s						
MJAR	**Matsushiro Arr**	**63.50**	**332**	P	**P**	**19 31 43.4**	**-2.6**
	comp=Z,1.3nm,0.9s,baz=168,slow=13,SNR=4.5						
	comp=Z,1.3nm,0.9s						
QSPA	**South Pole Qui**	**70.12**	**180**	P	**P**	**19 32 28.6**	**+0.8**
QSPA				IAmb	IAmb	19 32 29.4	
	comp=Z,6.1nm,0.9s						
QSPA	**South Pole Qui**	**70.12**	**180**	P	**P**	**19 32 28.6**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=322,slow=1.0,SNR=25						
	comp=Z,3.4nm,0.7s						
PETK	**Petropavlovsk-**	**73.46**	**353**	P	**P**	**19 32 47.2**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=143,slow=5.8,SNR=6.8						
	comp=Z,1.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**79.05**	**294**	P	**P**	**19 33 20.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**79.05**	**294**	P	**P**	**19 33 20.9**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=130,slow=4.4,SNR=11						
	comp=Z,1.7nm,0.9s						
CHTO	**Chiang Mai**	**79.20**	**295**	P	**P**	**19 33 21.7**	**+0.9**
BELA	**Belgrano 2**	**81.38**	**175**	P	**P**	**19 33 31.3**	**-0.3**
BELA				IAmb	IAmb	19 33 31.6	
	comp=Z,4.9nm,0.5s						
PLK4	**Peulik 4**	**82.34**	**18**	P	**P**	**19 33 37.9**	**+1.1**
PLK4				IAmb	IAmb	19 34 12.9	
	comp=Z,12nm,1.0s						
SMAI	**San Martin Ant**	**83.08**	**162**	P	**P**	**19 33 40.9**	**+0.4**
SMAI				IAmb	IAmb	19 33 57.4	
	comp=Z,6.9nm,1.1s						
N15K	**Kwethluk River**	**83.55**	**15**	P	**P**	**19 33 42.2**	**-0.7**
N15K				IAmb	IAmb	19 34 12.6	
	comp=Z,11nm,1.2s						
KDAK	**Kodiak Island**	**83.59**	**19**	P	**P**	**19 33 42.4**	**-0.7**
Q19K	**Cape Douglas,**	**84.21**	**18**	P	**P**	**19 33 46.3**	**0.0**
SYI	**Shuyak Island**	**84.33**	**19**	P	**P**	**19 33 47.3**	**+0.5**
M16K	**Timber Creek**	**84.57**	**15**	P	**P**	**19 33 48.9**	**+0.8**
M16K				IAmb	IAmb	19 33 50.9	
	comp=Z,7.8nm,1.1s						
N17K	**Nushagak Hills**	**84.58**	**16**	P	**P**	**19 33 49.6**	**+1.6**
L19K	**White Mountain**	**86.59**	**16**	P	**P**	**19 33 59.0**	**+1.0**
TROLL	**Troll, Antarti**	**87.86**	**184**	⇓P	**P**	**19 34 04.3**	**0.0**
	comp=Z,280nm,0.7s						
SNAA	**Sanae**	**88.48**	**182**	⇓P	**P**	**19 34 06.7**	**-0.5**
	comp=Z,54nm,0.5s						
SNAA	**Sanae**	**88.48**	**182**	P	**P**	**19 34 06.3**	**-0.9**
SNAA				IAmb	IAmb	19 34 07.2	
	comp=Z,2.7nm,0.7s						
SNAA	**Sanae**	**88.48**	**182**	P	**P**	**19 34 06.8**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=204,slow=8.4,SNR=58						
	comp=Z,2.1nm,0.5s						
VNA3	**Neumayer Olymp**	**89.06**	**180**	⇓P	**P**	**19 34 09.3**	**-0.6**
	comp=Z,9.6nm,0.7s						
VNA1	**Neumayer--Stat**	**89.64**	**181**	⇓P	**P**	**19 34 12.2**	**-0.3**
	comp=Z,3.3nm,0.8s						
ILAR	**Eielson Array**	**90.81**	**17**	P	**P**	**19 34 17.6**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=241,slow=5.4,SNR=4.4						
	comp=Z,0.4nm,0.6s						
ARCES	**ARCESS Array B**	**125.81**	**345**	PKP	**PKPdf**	**19 40 15.1**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=76,slow=2.7,SNR=15						
NOA	**NORSAR Array B**	**136.19**	**345**	PKP	**PKPdf**	**19 40 36.0**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=30,slow=2.0,SNR=3.6						
PRU	**Pruhonice**	**144.03**	**332**	AMS	AMS	21 01 30.0	
	comp=Z,100nm,21.8s						
EKA	**Eskdalemuir Ar**	**144.23**	**353**	PKP	**PKPab**	**19 40 47.0**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=6.8,slow=2.1,SNR=6.0						
ZVC	**Zvikov**	**144.59**	**332**	*e*PKP	**PKPab**	**19 40 50.0**	**+0.2**
RONA	**Rosalia, Austr**	**144.83**	**328**	*e*PKP	PKPbc	19 40 51.4	+0.5
	comp=Z,6.0nm,0.8s						
CONA	**Conrad Observa**	**144.89**	**329**	*e*PKP	PKPbc	19 40 51.6	+0.5
	comp=Z,3.2nm,0.6s						
CKRC	**Cesky Krumlov**	**144.99**	**331**	*e*PKP	PKPbc	19 40 50.5	-0.8
CKRC				AMS	AMS	21 08 00.0	
	comp=Z,100nm,16.9s						
KHC	**Kasperske Hory**	**145.08**	**332**	*e*PKP	**PKPab**	**19 40 52.0**	**+0.3**
GERES	**GERESS Array B**	**145.24**	**332**	PKPbc	**PKPbc**	**19 40 52.1**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=26,slow=3.7,SNR=28						
ARSA	**Arzberg**	**145.52**	**328**	*e*PKP	**PKPbc**	**19 40 53.4**	**+0.4**
	comp=Z,3.4nm,0.7s						
LESA	**Schwarzleotal**	**146.75**	**331**	*e*PKP	**PKPbc**	**19 40 56.2**	**-0.6**
	comp=Z,3.5nm,0.5s,SNR=5.6						
MYKA	**Terra Mystica**	**146.88**	**329**	*i* PKP	**PKPdf**	**19 40 56.1**	**+1.0**
	comp=Z,2.1nm,0.5s						
WATA	**Walderalm**	**147.32**	**332**	*i* PKP	**PKPbc**	**19 40 58.0**	**-0.5**
	comp=Z,1.3nm,0.4s						
ABTA	**Abfaltersbach**	**147.33**	**330**	*e*PKP	**PKPdf**	**19 40 57.3**	**+1.4**
	comp=Z,3.3nm,0.6s						
MOTA	**Moosalm**	**147.52**	**332**	*e*PKP	**PKPbc**	**19 40 58.5**	**-0.6**
	comp=Z,2.7nm,0.6s,SNR=5.3						
RETA	**Reutte**	**147.56**	**333**	*i* PKP	**PKPbc**	**19 40 58.7**	**-0.4**
	comp=Z,1.5nm,0.5s						
SQTA	**Sankt Quirin**	**147.57**	**332**	*i* PKP	**PKPbc**	**19 40 58.8**	**-0.3**
	comp=Z,3.6nm,0.5s						
FETA	**Feichten**	**147.93**	**332**	*i* PKP	**PKPbc**	**19 40 60.0**	**-0.2**
	comp=Z,2.4nm,0.5s,SNR=6.2						
DAVA	**Damuels**	**148.09**	**333**	*i* PKP	**PKPbc**	**19 41 00.2**	**-0.4**
	comp=Z,1.9nm,0.6s						

*IDC **16** 19:25:08.4±4.9, 7°.61S×129°.18E, h236km±49km, mb3.5/2,*
mbtmp4.0/6, Error ellipse: s-maj=51.1km s-min=19.5km
az=54.0
ISC 16 19:25:04.9±1.3, 7°.56S±0°.10×129°.47E±0°.10, h200km, n12, σ1ş71/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRS	**Darwin Rock St**	**5.05**	**164**	P	**Pn**	**19 26 20.5**	**+0.5**
MTN	**Manton Dam**	**5.50**	**163**	P	**Pn**	**19 26 26.0**	**+0.2**
SOEI	**Soe**	**5.59**	**247**	P	**Pn**	**19 26 28.5**	**+1.4**
KDU	**Kakadu**	**5.89**	**150**	P	Pn	19 26 29.8	-1.1
BATI	**Baumata**	**6.31**	**245**	P	**Pn**	**19 26 36.5**	**+0.2**
	20nm,0.4s,baz=72,slow=4.5,SNR=12						
BATI				S	**Sn**	**19 27 47.4**	**-1.3**
	22nm,0.3s,baz=268,slow=20,SNR=10						
FITZ	**Fitzroy Crossi**	**11.12**	**199**	P	**Pn**	**19 27 39.8**	**+1.1**
	2.2nm,0.3s,baz=14,slow=11,SNR=26						
FITZ				S	**Sn**	**19 29 42.8**	**-0.1**
	5.9nm,0.3s,baz=71,slow=22,SNR=8.9						
PLAI	**Plampang**	**11.64**	**263**	P	**Pn**	**19 27 45.5**	**+0.1**
WRA	**Warramunga Arr**	**13.19**	**160**	P	**Pn**	**19 28 06.6**	**+1.7**
	0.7nm,0.3s,baz=327,slow=14,SNR=14						
WRA				S	**S**	**19 30 28.4**	**-3.6**
	3.0nm,0.6s,baz=334,slow=22,SNR=9.9						
COEN	**Coen**	**14.89**	**116**	P	Pn	19 28 23.9	-2.0
ASAR	**Alice Springs**	**16.58**	**166**	P	**P**	**19 28 48.0**	**+2.6**
	0.9nm,0.5s,baz=342,slow=9.4,SNR=12						
ASAR				S	**S**	**19 31 47.6**	**-1.0**
	0.6nm,0.4s,baz=350,slow=26,SNR=5.5						
MKAR	**Makanchi Array**	**68.40**	**327**	P	**P**	**19 35 44.5**	**-0.6**
	1.0nm,0.4s,baz=115,slow=8.5,SNR=24						
	1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**72.71**	**329**	P	**P**	**19 36 09.4**	**-1.5**
	0.8nm,0.7s,baz=128,slow=5.0,SNR=9.1						
	0.8nm,0.7s						

AUST 16 19:32:36.7±1.1, 18°S±10°×12°0E±1°0, h10km, mb4.1/7, ML2.8/3, ML3.2/2, Error ellipse: s-maj=29.0km s-min=8.1km az=132.9, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.98**	**190**	P	Pn	19

0.5nm,0.5s
MKAR Makanchi Array 66.12 331 P **P** **19 57 11.6 -1.0**
0.5nm,0.7s,baz=128,slow=7.9,SNR=5.0
0.5nm,0.7s
ZALV Zalesovo Beam 70.28 337 P **P** **19 57 36.8 -1.6**
0.6nm,0.3s,baz=149,slow=3.1,SNR=3.9
0.6nm,0.3s
KURBB Kurchatov Arra 70.57 332 P **P** **19 57 38.4 -1.7**
0.2nm,0.4s,baz=134,slow=5.5,SNR=4.3
0.2nm,0.4s
VNDA Vanda 71.67 172 P **P** **19 57 47.0 +0.6**
0.3nm,0.5s,baz=316,slow=9.8,SNR=6.6
0.3nm,0.5s
QSPA South Pole Qui 81.28 180 P **P** **19 58 41.4 +0.4**
1.0nm,0.8s,baz=306,slow=2.1,SNR=5.1
1.0nm,0.8s
SNAA Sanae 92.34 195 P **P** **19 59 34.8 0.0**
0.6nm,0.7s,baz=173,slow=8.1,SNR=2.0
0.6nm,0.7s

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*SJA **16** 19:50:27.4±0.8, 18°.99S×69°.33W, h114km±6km, ML2.8, MW3.7*
*GUC **16** 19:50:29.0±0.8, 19°.01S×69°.39W, h101km±4km, ML2.9*
ISC 16 19:50:30.8±1.8, **19°.02S**±0°.04×**69°.45W**±0°.08, **h97**km±13km, **n17**, σ0s**84**/31, **4D**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.68**	**355**	⇓*iP*		**Pn**		**19 50 47.7**	**-0.7**
PB16				*eS*		**Sn**		**19 51 01.7**	**+0.2**
PB16				IAML				19 51 03.2	
	comp=N,405nm,0.7s								
PB16	**IPOC Station P**	**0.68**	**355**	*eP*		**Pn**		**19 50 47.2**	**-1.3**
PB16				*eS*		**Sn**		**19 51 02.6**	**+1.0**
PB16				IAML				19 51 03.0	
	comp=Z,202nm,0.9s								
GO01	**Chusmiza**	**0.69**	**159**	⇓*iP*		**Pn**		**19 50 47.9**	**-0.5**
GO01				*eS*		**Sn**		**19 51 02.2**	**+0.7**
GO01				IAML				19 51 02.8	
	comp=E,465nm,0.2s								
GO01	**Chusmiza**	**0.69**	**159**	*eP*		**Pn**		**19 50 47.2**	**-1.2**
PB11	**IPOC Station P**	**0.76**	**195**	⇓*iP*		**Pn**		**19 50 48.3**	**-0.5**
PB11				*eS*		**Sn**		**19 51 02.8**	**+0.6**
PB11				IAML				19 51 03.5	
	comp=E,565nm,0.3s								
PB11	**IPOC Station P**	**0.76**	**195**	*eP*		**Pn**		**19 50 47.5**	**-1.2**
PB11				*eS*		**Sn**		**19 51 03.6**	**+1.5**
PB11				IAML				19 51 04.2	
	comp=Z,181nm,0.2s								
AP01	**Chacalluta**	**1.06**	**307**	*eP*		**Pn**		**19 50 50.8**	**-0.8**
AP01				*eS*		**Sn**		**19 51 07.9**	**+0.5**
AP01				IAML				19 51 11.1	
	comp=E,513nm,0.4s								
AP01	**Chacalluta**	**1.06**	**307**	*eP*		**Pn**		**19 50 51.4**	**-0.2**
AP01				*eS*		**Sn**		**19 51 08.7**	**+1.3**
AP01				IAML				19 51 14.1	
	comp=Z,380nm,0.1s								
PB08	**IPOC Station P**	**1.15**	**166**	⇓*iP*		**Pn**		**19 50 52.7**	**-0.4**
PB08				*eS*		**Sn**		**19 51 10.0**	**+0.1**
PB08	**IPOC Station P**	**1.15**	**166**	*eP*		**Pn**		**19 50 52.7**	**-0.4**
PB08				*eS*		**Sn**		**19 51 11.2**	**+1.4**
PB08				IAML				19 51 11.5	
	comp=Z,70nm,0.5s								
HMBC	**Humberstone**	**1.32**	**198**	*eP*		**Pn**		**19 50 54.1**	**-0.7**
HMBC				*eS*		**Sn**		**19 51 13.1**	**+0.2**
HMBC				IAML				19 51 20.9	
	comp=E,182nm,0.3s								
HMBC	**Humberstone**	**1.32**	**198**	*eP*		**Pn**		**19 50 54.2**	**-0.6**
HMBC				*eS*		**Sn**		**19 51 13.7**	**+0.8**
HMBC				IAML				19 51 17.4	
	comp=Z,153nm,0.4s								
PATCX	**Punta Patache**	**1.91**	**200**	*eP*		**Pn**		**19 51 01.6**	**-0.6**
PATCX				*eS*		Sn		19 51 13.3	-13
PATCX				IAML				19 51 35.4	
	comp=Z,41nm,0.4s								
PB01	**IPOC Station P**	**2.01**	**181**	*eP*		**Pn**		**19 51 02.9**	**-0.6**
PB01				*eS*		**Sn**		**19 51 28.6**	**+0.1**
PB01				IAML				19 51 38.6	
	comp=E,83nm,0.3s								
PB01	**IPOC Station P**	**2.01**	**181**	*eP*		**Pn**		**19 51 02.9**	**-0.6**
PB01				*eS*		**Sn**		**19 51 29.8**	**+1.3**
PB01				IAML				19 51 37.7	
	comp=Z,32nm,0.2s								
PB02	**IPOC Station P**	**2.33**	**190**	*eP*		**Pn**		**19 51 07.1**	**-0.5**
PB02				*eS*		**Sn**		**19 51 35.7**	**-0.1**
PB02				IAML				19 51 44.3	
	comp=E,126nm,0.3s								
LPAZ	**La Paz**	**2.99**	**25**	*eP*		**Pn**		**19 51 16.9**	**-0.1**

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*IDC **16** 19:51:05.8±0.8, 6°.07S×148°.65E, h62km±6km, mb3.8/10, mbtmp4.2/11, MS3.4/6, Error ellipse: s-maj=25.8km s-min=12.8km az=103.0*
*NEIC **16** 19:51:06.2±1.9, 6°.28S±0°.07×148°.63E±0°.09, h57km±7km, mb4.6/46, Error ellipse: s-maj=12.7km s-min=9.3km az=105.0*
ISC 16 19:51:06.7±0.4, **6°.25S**±0°.05×**148°.60E**±0°.07, **h65**km, **n90**, σ1s**50**/86, **mb4.5**/39, **1D**, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.10**	**60**			**Pn**		**19 52 05.7**	**-1.3**
MANU	**Manus Island**	**4.35**	**344**			**Pn**		**19 52 10.1**	**-0.3**
COEN	**Coen**	**9.34**	**214**	Pn		**Pn**		**19 53 17.4**	**-1.2**
COEN				Sn		**Sn**		**19 54 58.0**	**-4.1**
COEN	**Coen**	**9.34**	**214**	P		**Pn**		**19 53 19.3**	**+0.7**
COEN	**Coen**	**9.34**	**214**	S		**Sn**		**19 55 00.2**	**-2.0**
TATA	**Tatamba Isabel**	**11.32**	**102**	P		Pn		19 53 53.4	+7.7
ALEG	**Aligegeo Malai**	**12.25**	**102**	P		**P**		**19 54 09.2**	**+0.6**
ALEG	**Aligegeo Malai**	**12.25**	**102**	S		S		19 56 26.2	-12
CTAO	**Charters Tower**	**13.95**	**189**	Pn		**Pn**		**19 54 19.4**	**-1.9**
PATS	**Pohnpei**	**16.21**	**37**			**P**		**19 54 51.1**	**-1.5**
QIS	**Mount Isa**	**16.69**	**211**	P		**P**		**19 54 59.0**	**+1.2**
MTN	**Manton Dam**	**18.42**	**248**	P		**P**		**19 55 15.3**	**-1.7**
MTN				IAmb		IAmb		19 55 48.6	
	comp=Z,52nm,1.4s								
DRS	**Darwin Rock St**	**18.50**	**249**	P		**P**		**19 55 18.4**	**+0.5**
EIDS	**Eidsvold**	**19.16**	**173**			**P**		**19 55 24.3**	**-0.8**
WB0	**Warramunga Arr**	**19.27**	**224**			**P**		**19 55 26.2**	**-0.1**
WRA	**Warramunga Arr**	**19.42**	**224**	P		**P**		**19 55 25.7**	**-2.2**
WRA	**Warramunga Arr**	**19.42**	**224**	P		**P**		**19 55 28.4**	**+0.5**
	comp=Z,8.9nm,0.3s,baz=52,slow=10,SNR=37								
GUMO	**Guam**	**20.05**	**349**	P		**P**		**19 55 33.5**	**-1.2**
GUMO	**Guam**	**20.05**	**349**	LR		LR		20 02 04.3	
	comp=Z,26nm,20.2s,baz=176,slow=33								
QLP	**Quilpie**	**20.65**	**191**	P		Pn		19 55 44.1	+0.1
KNRA	**Kununurra**	**21.59**	**243**			**P**		**19 55 50.7**	**-0.6**
KNRA				IAmb		IAmb		19 56 06.2	
	comp=Z,46nm,1.4s								
AS01	**Alice Springs**	**22.32**	**218**	P		**P**		**19 56 00.2**	**+1.0**
AS31	**Alice Springs**	**22.35**	**218**			**P**		**19 55 59.8**	**+0.3**
ASAR	**Alice Springs**	**22.35**	**218**			**P**		**19 56 00.1**	**+0.6**
ASAR	**Alice Springs**	**22.35**	**218**	P		**P**		**19 56 00.2**	**+0.7**
	comp=Z,16nm,0.7s,baz=50,slow=9.3,SNR=112								
ASAR				pP		**pP**		**19 56 15.5**	**+2.6**
	comp=Z,7.8nm,0.6s,baz=29,slow=12,SNR=7.6								
	comp=Z,16nm,0.7s								
DZM	**Mont Dzumac**	**23.34**	**134**	P		**P**		**19 56 11.0**	**+1.4**
DZM				IAmb		IAmb		19 56 44.5	
	comp=Z,36nm,1.5s								
ARMA	**Armidale**	**24.21**	**174**	P		**P**		**19 56 18.4**	**+0.9**
ARMA	**Armidale**	**24.21**	**174**	P		**P**		**19 56 22.3**	**+4.8**
SOEI	**Soe**	**24.34**	**260**	P		**P**		**19 56 17.6**	**-1.2**
SOEI	**Soe**	**24.34**	**260**	P		**P**		**19 56 19.9**	**+1.1**
FITZ	**Fitzroy Crossi**	**25.30**	**240**			**P**		**19 56 27.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**25.30**	**240**	P		**P**		**19 56 28.0**	**+0.6**
	comp=Z,46nm,1.0s,baz=59,slow=11,SNR=44								
FITZ				pP		**pP**		**19 56 43.6**	**+1.8**
	comp=Z,39nm,0.7s,baz=84,slow=6.9,SNR=9.0								
CMSA	**Cobar Meteorol**	**25.31**	**186**	P		**P**		**19 56 29.2**	**+1.9**
MMRI	**Maumere**	**26.24**	**263**	P		**P**		**19 56 34.6**	**-1.4**
MMRI	**Maumere**	**26.24**	**263**	P		**P**		**19 56 37.8**	**+1.8**
STKA	**Stephens Creek**	**26.33**	**194**			**P**		**19 56 36.5**	**-0.1**
STKA	**Stephens Creek**	**26.33**	**194**	P		**P**		**19 56 36.8**	**+0.2**
	comp=Z,10nm,0.7s,baz=352,slow=8.1,SNR=16								
STKA				LR		LR		20 07 03.9	
	comp=Z,116nm,20.0s,baz=24,slow=36								
	comp=Z,10nm,0.7s								
STKA	**Stephens Creek**	**26.33**	**194**	P		**P**		**19 56 39.3**	**+2.7**
FORT	**Forrest**	**31.10**	**216**	P		**P**		**19 57 18.5**	**-0.5**
FORT				IAmb		IAmb		19 57 20.6	
	comp=Z,7.3nm,0.6s								
MBWA	**Marble Bar**	**31.63**	**239**	P		**P**		**19 57 23.8**	**0.0**
MORW	**Morawa**	**38.21**	**230**	P		**P**		**19 58 20.0**	**-0.4**
MORW				IAmb		IAmb		19 58 48.2	
	comp=Z,21nm,1.4s								
YULB	**Yu-li**	**39.73**	**319**	P		**P**		**19 58 33.7**	**+0.5**
YULB				IAmb		IAmb		19 59 06.3	
	comp=Z,18nm,1.2s								
MRNZ	**Matariki Terra**	**41.10**	**152**	P		**P**		**19 58 44.6**	**+0.4**
TCW	**Tory Channel**	**41.68**	**151**	P		**P**		**19 58 49.8**	**+0.8**
MLZ	**Mavora Lakes**	**42.51**	**160**	P		**P**		**19 58 56.8**	**+1.1**
JNU	**Nakatsue**	**42.61**	**338**	P		**P**		**19 58 56.8**	**+0.1**
JNU				IAmb		IAmb		19 59 12.4	
	comp=Z,11nm,0.9s								
JNU	**Nakatsue**	**42.61**	**338**	LR		LR		20 13 35.9	
	comp=Z,39nm,19.2s,baz=202,slow=32								
MJAR	**Matsushiro Arr**	**43.66**	**348**	pP		**pP**		**19 59 18.9**	**-2.6**
	comp=Z,6.9nm,0.9s,baz=169,slow=8.1,SNR=9.2								
MJAR				LR		LR		20 16 57.5	
	comp=Z,50nm,18.1s,baz=230,slow=36								
MJB9	**Matsu-Tunnel**	**43.67**	**348**	P		**P**		**19 59 08.0**	**+2.8**
MJB9				IAmb		IAmb		19 59 20.5	
	comp=Z,21nm,1.1s								
NJ2	**Nanjing**	**47.47**	**325**	*eP*		**P**		**19 59 37.8**	**+2.5**
NJ2				pmax		pmax			
	comp=Z,9.0nm,0.6s								
KSRS	**Korea Array**	**47.56**	**338**	pP		pP		19 59 51.0	-1.5
	comp=Z,1.6nm,0.7s,baz=161,slow=9.4,SNR=5.7								
USRK	**Ussuriysk Ar.**	**52.40**	**345**	LR		LR		20 19 58.4	
	comp=Z,77nm,19.6s,baz=215,slow=33								
CMAR	**Chiang Mai Arr**	**54.77**	**298**	P		**P**		**20 00 29.5**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=110,slow=6.7,SNR=2.2								
	comp=Z,0.3nm,0.6s								
BNX	**BinXian**	**55.11**	**342**	⇓*iP*		**P**		**20 00 34.4**	**+2.2**
BNX				pmax		pmax			
	comp=Z,3.0nm,1.4s								
PZH	**PanZhiHua**	**55.86**	**308**	P		**P**		**20 00 41.3**	**+3.2**
HHC	**Hu-ho-hao-te**	**57.88**	**327**	*eP*		**P**		**20 00 54.8**	**+2.6**
HHC				pmax		pmax			
	comp=Z,12nm,0.7s								
HHC				pmax		pmax			
	comp=Z,59nm,5.6s								
XLT	**XiLinHaoTe**	**57.91**	**333**	*eP*		**P**		**20 00 54.0**	**+1.8**
XLT				pP		pP		20 01 05.8	-3.5
XLT				PcP		**PcP**		**20 01 42.3**	**-1.6**
XLT				pmax		pmax			
	comp=Z,5.0nm,1.1s								
XLT				pmax		pmax			
	comp=Z,83nm,5.5s								
XLT				LR		LR			
	comp=N,7.0nm,18.5s								
XLT				LR		LR			
	comp=E,100nm,15.1s								
XLT				LR		LR			
	comp=Z,100nm,20.3s								
PEA0B	**Petropavlovsk-**	**59.63**	**6**	P		**P**		**20 01 04.0**	**+0.1**
PETK	**Petropavlovsk-**	**59.63**	**6**	P		**P**		**20 01 03.9**	**0.0**
PETK	**Petropavlovsk-**	**59.63**	**6**	P		**P**		**20 01 02.7**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=164,slow=6.4,SNR=7.7								
PETK				pP		**pP**		**20 01 18.1**	**-2.9**
	comp=Z,3.4nm,0.8s,baz=174,slow=7.8,SNR=4.4								
	comp=Z,1.7nm,0.5s								
KIWB	**Kanaga Island**	**64.86**	**23**	P		**P**		**20 01 38.9**	**0.0**
ADK	**Adak**	**65.06**	**23**	P		**P**		**20 01 40.0**	**-0.2**
SONM	**Songino Array**	**65.40**	**330**	P		**P**		**20 01 40.9**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=101,slow=6.2,SNR=3.1								
SONM				pP		**pP**		**20 01 57.9**	**-2.1**
	comp=Z,0.7nm,0.7s,baz=149,slow=6.6,SNR=3.7								
	comp=Z,0.3nm,0.4s								
CASY	**Casey**	**65.45**	**196**	P		**P**		**20 01 42.1**	**-0.4**
CASY				IAmb		IAmb		20 02 22.9	
	comp=Z,8.9nm,1.2s								
VNDA	**Vanda**	**71.58**	**177**	P		**P**		**20 02 21.4**	**+0.8**
VNDA	**Vanda**	**71.58**	**177**	P		**P**		**20 02 21.8**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=328,slow=6.7,SNR=18								
	comp=Z,1.8nm,0.6s								
O14K	**Tigyukauivet M**	**76.43**	**24**	P		**P**		**20 02 49.5**	**+0.4**
O15K	**Ungalikthiuk R**	**76.97**	**24**	P		**P**		**20 02 52.3**	**+0.2**
O15K				IAmb		IAmb		20 03 10.5	
	comp=Z,15nm,1.2s								
M14K	**Bethel**	**77.10**	**23**	P		**P**		**20 02 53.4**	**+0.6**
L14K	**Kuka Creek**	**77.20**	**22**	P		**P**		**20 02 53.6**	**+0.2**
L14K				IAmb		IAmb		20 03 02.8	
	comp=Z,20nm,1.5s								
K15K	**Wolf Creek Mou**	**78.23**	**21**	P		**P**		**20 02 59.9**	**+0.8**
K15K				IAmb		IAmb		20 03 04.0	
	comp=Z,13nm,1.4s								
MKAR	**Makanchi Array**	**78.70**	**320**	P		**P**		**20 03 00.5**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=103,slow=7.7,SNR=2.7								
	comp=Z,0.3nm,0.6s								
OHAK	**Old Harbor**	**78.76**	**28**	P		**P**		**20 03 01.9**	**-0.2**
OHAK				IAmb		IAmb		20 03 11.8	
	comp=Z,13nm,1.4s								
J17K	**VABM Dome**	**79.80**	**21**	P		**P**		**20 03 08.0**	**+0.3**
J17K				IAmb		IAmb		20 03 35.2	
	comp=Z,16nm,1.4s								
L18K	**Granite Mounta**	**80.00**	**23**	P		**P**		**20 03 09.5**	**+0.7**
L18K				IAmb		IAmb		20 03 17.0	
	comp=Z,8.9nm,1.5s								
ZALV	**Zalesovo Beam**	**80.07**	**327**	P		**P**		**20 03 07.3**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=144,slow=5.4,SNR=2.0								
	comp=Z,0.4nm,0.3s								
KURBB	**Kurchatov Arra**	**82.38**	**323**	P		**P**		**20 03 21.0**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=99,slow=6.9,SNR=2.2								
RND	**Reindeer**	**83.70**	**24**			**P**		**20 03 27.3**	**-1.0**
RND				IAmb		IAmb		20 03 28.3	
	comp=Z,3.6nm,0.7s								
QSPA	**South Pole Qui**	**83.72**	**180**	P		**P**		**20 03 28.3**	**-0.2**
QSPA				IAmb		IAmb		20 03 29.7	
	comp=Z,4.1nm,0.7s								
QSPA	**South Pole Qui**	**83.72**	**180**	P		**P**		**20 03 29.0**	**+0.5**
	comp=Z,3.7nm,0.6s,baz=308,slow=1.2,SNR=34								
QSPA				pP		**pP**		**20 03 45.3**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=267,slow=2.8,SNR=4.1								
	comp=Z,3.7nm,0.6s								
E22K	**Anaktuvuk Pass**	**84.94**	**19**			**P**		**20 03 34.3**	**-0.1**
ILAR	**Eielson Array**	**85.09**	**23**	P		**P**		**20 03 33.5**	**-1.7**
	comp=Z,1.3nm,0.7s,baz=260,slow=5.1,SNR=14								
ILAR				LR		LR		20 38 04.9	
	comp=Z,40nm,19.5s,baz=132,slow=33								
	comp=Z,1.3nm,0.7s								
H24K	**Noodor Dome**	**85.19**	**22**	P		**P**		**20 03 34.6**	**-1.1**
J25K	**Salcha River,**	**85.61**	**23**	IAmb		IAmb		20 03 37.9	
	comp=Z,5.5nm,1.1s								
D23K	**Nanushuk River**	**85.71**	**18**	P		**P**		**20 03 37.8**	**-0.4**
F24K	**Squaw Lake**	**85.94**	**20**	IAmb		IAmb		20 03 41.2	
	comp=Z,2.8nm,0.8s								
G26K	**Porcupine Rive**	**87.15**	**21**	IAmb		IAmb		20 03 47.1	
	comp=Z,4.9nm,1.1s								
H27K	**Steamboat Moun**	**87.72**	**22**	P		**P**		**20 03 47.5**	**-0.6**
H27K				IAmb		IAmb		20 03 49.0	
	comp=Z,1.8nm,0.6s								
E27K	**Coleen River**	**88.39**	**21**	IAmb		IAmb		20 03 52.6	
	comp=Z,2.3nm,0.6s								
J30M	**Hart River**	**89.25**	**25**			**P**		**20 03 55.2**	**-0.3**
J30M				IAmb		IAmb		20 04 22.2	
	comp=Z,2.7nm,1.0s								

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*UCR **16** 20:03:37.8±1.3, 12°.03N×86°.88W, h64km±17km, MW4.3*
*IDC **16** 20:03:38.9±2.0, 11°.90N×86°.99W, h86km±32km, mb3.4/2, mbtmp3.8/4, MS3.0/1, Error ellipse: s-maj=70.6km s-min=20.2km az=39.0*
*CATAC **16** 20:03:38.1±0.2, 12°.N±1°×8°.7W±°, h40km±3km, M4.4/43, MLv4.4/43, Error ellipse: s-maj=3.5km s-min=1.6km az=32.8, confirmed*
*GCG **16** 20:03:42.9±2.0, 12°.18N×87°.26W, h69km±216km, MD4.1, ML4.6*
ISC 16 20:03:37.4±0.9, **11°.97N**±0°.04×**87°.00W**±0°.03, **h64**km±7km, **n120**, σ1s**01**/140, **16C-14D**, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.46**	**62**	*eP*		**Pn**		**20 03 49.5**	**+0.2**
COPN	**Copaltepe**	**0.46**	**62**	⇓P		**Pn**		**20 03 49.5**	**+0.2**
CNGA	**AI SSO del Vol**	**0.60**	**29**	⇓P		**Pn**		**20 03 50.9**	**+0.1**
CNGA				S		**Sn**		**20 04 00.7**	**+0.1**
CNGN	**Cerro Negro**	**0.61**	**29**	S		**Sn**		**20 04 00.8**	**+0.1**
CNGN	**Cerro Negro**	**0.61**	**29**	P		**Pn**		**20 03 50.8**	**-0.1**
AMTN	**Mateare**	**0.62**	**64**	P		**Pn**		**20 03 51.4**	**+0.4**
AMTN	**Mateare**	**0.62**	**64**	S		**Sn**		**20 04 01.7**	**+0.8**
BC84	**Volcan Momotom**	**0.62**	**47**	S		**Sn**		**20 04 00.8**	**-0.1**
BC84	**Volcan Momotom**	**0.62**	**47**	P		**Pn**		**20 03 51.2**	**+0.2**
MOMN	**Momotombo**	**0.63**	**46**	⇑P		**Pn**		**20 03 51.1**	**0.0**
MOMN				S		**Sn**		**20 04 00.6**	**-0.6**
PLRN	**Geotermica Pol**	**0.66**	**20**	⇓P		**Pn**		**20 03 50.6**	**-0.8**
PLRN				S		**Sn**		**20 04 00.6**	**-1.0**
ILCN	**San Idelfonso**	**0.68**	**26**	P		**Pn**		**20 03 51.8**	**+0.1**
ILCN				S		**Sn**		**20 04 02.0**	**0.0**
CRUN	**El Crucero**	**0.69**	**88**	P		**Pn**		**20 03 50.5**	**-1.3**
MOM2	**El Cardon**	**0.69**	**47**	⇑P		**Pn**		**20 03 51.9**	**+0.2**
MOM2				S		**Sn**		**20 04 03.0**	**+0.7**
APQ3	**Volcan Apoyequ**	**0.69**	**64**	⇑P		**Pn**		**20 03 52.0**	**+0.3**
APQ3				S		**Sn**		**20 04 02.8**	**+0.5**
ABCN	**Banco Central**	**0.69**	**77**	S		**Sn**		**20 04 03.0**	**+0.5**
PKGN	**Cerro Pekin**	**0.70**	**2**	⇓P		**Pn**		**20 03 52.3**	**+0.4**
PKGN				S		**Sn**		**20 04 03.4**	**+0.9**
APQ2	**Apoyeque**	**0.70**	**71**	⇑P		**Pn**		**20 03 51.5**	**-0.3**
APQ2				S		**Sn**		**20 04 02.3**	**-0.2**
POLN	**AI Sur del Vol**	**0.70**	**15**	⇓P		**Pn**		**20 03 52.1**	**+0.1**
POLN				S		**Sn**		**20 04 03.1**	**+0.4**
UNAN	**Cigeo UNAN**	**0.73**	**79**	⇑P		**Pn**		**20 03 52.5**	**+0.2**
UNAN				S		**Sn**		**20 04 03.4**	**+0.2**
CRIN	**San Cristobal**	**0.73**	**356**	*eP*		**Pn**		**20 03 52.5**	**+0.2**
CRIN				*eS*		**Sn**		**20 04 04.0**	**+0.7**
CRIN	**San Cristobal**	**0.73**	**356**	⇓P		**Pn**		**20 03 52.7**	**+0.3**
CRIN	**San Cristobal**	**0.73**	**356**	S		**Sn**		**20 04 04.0**	**+0.7**
ALLN	**Telcor Managua**	**0.74**	**75**	P		**Pn**		**20 03 52.6**	**+0.3**
ALLN	**Telcor Managua**	**0.74**	**75**	S		**Sn**		**20 04 03.8**	**+0.5**
TISN	**Laguna Tiscapa**	**0.74**	**76**	⇑P		**Pn**		**20 03 52.6**	**+0.3**
WILN	**Americas 2**	**0.82**	**76**	⇓P		**Pn**		**20 03 53.5**	**+0.2**
WILN				S		**Sn**		**20 04 05.6**	**+0.5**
SABN	**Sabanita**	**0.82**	**91**	⇑P		**Pn**		**20 03 52.4**	**-1.0**
NANN	**Nandasmo**	**0.86**	**92**	⇑P		**Pn**		**20 03 55.0**	**+1.1**
NANN	**Nandasmo**	**0.86**	**92**	S		**Sn**		**20 04 07.1**	**+1.0**
NADN	**Granada**	**0.97**	**103**	*eP*		**Pn**		**20 03 55.0**	**-0.2**
NADN				*eS*		**Sn**		**20 04 08.0**	**-0.5**
NADN	**Granada**	**0.97**	**103**	⇑P		**Pn**		**20 03 55.1**	**-0.2**
NADN				S		**Sn**		**20 04 08.2**	**-0.3**
AESN	**El Sauce Leon**	**1.02**	**26**	P		**Pn**		**20 03 55.8**	**+0.1**
POTN	**Potosi Cosigui**	**1.14**	**334**	*eP*		**Pn**		**20 03 57.7**	**+0.4**
POTN	**Potosi Cosigui**	**1.14**	**334**	⇓P		**Pn**		**20 03 57.8**	**+0.4**
POTN				S		**Sn**		**20 04 12.8**	**+0.5**
ARIN	**Rivas**	**1.25**	**114**	*eP*		**Pn**		**20 03 58.8**	**-0.1**
ARIN	**Rivas**	**1.25**	**114**	P		**Pn**		**20 03 58.9**	**-0.1**
ARIN	**Rivas**	**1.25**	**114**	S		**Sn**		**20 04 14.2**	**-0.8**
JAPN	**AI SSO del Vol**	**1.37**	**109**	*eP*		**Pn**		**20 04 00.8**	**+0.4**
JAPN	**AI SSO del Vol**	**1.37**	**109**	⇑P		**Pn**		**20 04 01.0**	**+0.5**
MORN	**AI O del Volca**	**1.39**	**107**	⇑P		**Pn**		**20 04 00.8**	**+0.1**
MORN				S		**Sn**		**20 04 18.5**	**+0.2**
BOAB	**BOACO BROADBAN**	**1.39**	**70**	⇑P		**Pn**		**20 04 00.7**	**-0.1**
BOAB	**BOACO BROADBAN**	**1.39**	**70**	S		**Sn**		**20 04 18.3**	**0.0**
MATN	**Matagalpa**	**1.42**	**48**	⇑P		**Pn**		**20 04 00.5**	**-0.8**
MATN	**Matagalpa**	**1.42**	**48**	S		**Sn**		**20 04 18.3**	**-0.9**
CHOHN	**Orocuina**	**1.51**	**354**	⇓P		**Pn**		**20 04 03.1**	**+0.6**
CHOHN	**Orocuina**	**1.51**	**354**	S		**Sn**		**20 04 22.1**	**+0.8**
CNCH	**Conchagua**	**1.54**	**328**	S		**Sn**		**20 04 22.3**	**+0.5**
CNCH	**Conchagua**	**1.54**	**328**	⇓P		**Pn**		**20 04 03.2**	**+0.4**
LCND	**La Caada**	**1.59**	**327**	⇓P		**Pn**		**20 04 03.8**	**+0.4**
LCRUZ	**La Cruz**	**1.61**	**123**	*eP*		**Pn**		**20 04 03.4**	**-0.3**
OCON	**Estacion meteo**	**1.73**	**17**	P		**Pn**		**20 04 06.0**	**+0.5**
OCON				S		**Sn**		**20 04 26.8**	**+0.2**
RCPN	**Sur Rio San Ju**	**1.79**	**30**	⇑P		**Pn**		**20 04 06.2**	**0.0**
RCPN	**Sur Rio San Ju**	**1.79**	**30**	S		**Sn**		**20 04 28.1**	**+0.2**
ACON	**Acoyapa**	**1.79**	**90**	*eP*		**Pn**		**20 04 05.7**	**-0.4**
ACON	**Acoyapa**	**1.79**	**90**	⇑P		**Pn**

Mwr4.3/4,mb4.0/13(NEIC),ML4.1/144(NEIC), Mwr4.3/59(NEIC),Error ellipse: s-maj=4.7km s-min=2.2km az=194.0

NEIC ***16*** *20:11:01.5,37˚.82N×121˚.76W,h12km*

NEIC ***16*** *20:11:01.5,37˚.82N×121˚.77W,h8km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=0.06; Mθθ-3.23; Mφφ3.17; Mrθ-0.21; Mrφ1.40; Mθφ-0.79; Fault plane solution: M₀3.59000×10¹⁵ NP1:φs146.07000°, δ80.49000°,λ171.31000°. NP2:φs237.52000°,δ81.43000°, λ9.62000°. Principal axes: T 3.6517, Plg13.0000°, Azm102.0000°; N -0.1269, Plg77.0000°, Azm279.0000°; P -3.5248, Plg1.0000°, Azm12.0000°;*

ISC 16 20:11:01.3±0.7,37°.84N±0˚.02×121°.72W±0˚.02,h18km±3km, n273,σ1§13/259,mb4.0/7,MS3.7/10,Central California

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMOB	**Morgan Territo**	**0.07**	**248**			**Pg**	**20 11 04.1**	**-0.7**
CBSNC	**Byron Hot Spri**	**0.07**	**106**			**Pg**	**20 11 05.3**	**+0.6**
CBSNC						**Sg**	**20 11 08.1**	**+1.2**
C057	**Hedge Avenue B**	**0.12**	**10**			**Pg**	**20 11 06.8**	**+1.7**
CBZL	**Buffer Zone**	**0.14**	**177**			**Pg**	**20 11 05.6**	**+0.1**
CBZL	**Buffer Zone**	**0.14**	**177**			**Pg**	**20 11 05.6**	**+0.1**
CBZL						**Sg**	**20 11 08.9**	**+0.6**
BDM	**Black Diamond**	**0.16**	**316**			**Pg**	**20 11 06.1**	**+0.4**
CSAM	**Sandia**	**0.16**	**174**			**Pg**	**20 11 06.0**	**+0.3**
CRPB	**Russellman Par**	**0.16**	**298**			**Pb**	**20 11 05.5**	**+0.1**
C027	**Lawnview Circl**	**0.21**	**258**			**Pb**	**20 11 06.3**	**0.0**
C027						**Sb**	**20 11 10.0**	**+0.3**
C045	**Hawkins Drive**	**0.21**	**245**			**Pb**	**20 11 06.3**	**0.0**
C062	**Calle Reynoso**	**0.22**	**220**			**Pg**	**20 11 06.8**	**+0.3**
CVLM	**Vallecito**	**0.23**	**203**			**Pb**	**20 11 06.8**	**+0.1**
C069	**Rotal Creek Pl**	**0.23**	**216**			**Pg**	**20 11 07.1**	**+0.4**
C047	**Rutherford Dri**	**0.23**	**268**			**Pb**	**20 11 06.9**	**0.0**
C010	**Sunflower Cour**	**0.25**	**296**			**Pb**	**20 11 07.0**	**-0.2**
C026	**Kell Court Ala**	**0.26**	**278**			**Pg**	**20 11 07.5**	**+0.3**
TWIT	**Twitchell Isla**	**0.26**	**7**			**Pn**	**20 11 09.7**	**-0.6**
CSTL	**Corral Hollow**	**0.27**	**138**			**Pg**	**20 11 08.1**	**+0.9**
BGC	**Bolinger Road**	**0.27**	**266**			**Pg**	**20 11 07.4**	**+0.1**
CLCB	**Lake Chabot**	**0.29**	**250**			**Pg**	**20 11 07.6**	**0.0**
CNIC	**Niles Canyon**	**0.30**	**220**			**Pg**	**20 11 07.8**	**0.0**
CNIC						**Sg**	**20 11 12.7**	**+0.5**
CTAM	**Taylor**	**0.30**	**310**			**Pb**	**20 11 08.6**	**+0.4**
C021	**Meadowview Dri**	**0.30**	**242**			**Pg**	**20 11 07.8**	**-0.1**
C042	**Juniper Way Mo**	**0.32**	**268**			**Pg**	**20 11 08.3**	**+0.2**
HMR	**Hamilton Ranch**	**0.32**	**349**			**Pn**	**20 11 10.7**	**-0.5**
C068	**Mocine Avenue**	**0.34**	**236**			**Pg**	**20 11 08.5**	**+0.1**
C015	**Bright Common**	**0.35**	**218**			**Pg**	**20 11 08.8**	**+0.1**
C070	**Dillo Street S**	**0.35**	**248**			**Pg**	**20 11 08.6**	**-0.1**
C055	**Cottonwood Ave**	**0.35**	**240**			**Pg**	**20 11 08.6**	**-0.1**
C055					Sg	**Sg**	**20 11 13.4**	**-0.4**
C001	**Firth Court Fr**	**0.36**	**208**			**Pg**	**20 11 09.1**	**+0.3**
C006	**Lk Pillsbury D**	**0.36**	**227**			**Pg**	**20 11 09.1**	**+0.2**
CMCM	**Mills College**	**0.36**	**261**			**Pg**	**20 11 09.0**	**+0.1**
C017	**S Grimmer Bl F**	**0.37**	**206**			**Pg**	**20 11 09.4**	**+0.4**
C064	**Brunell Drive**	**0.37**	**265**			**Pg**	**20 11 09.1**	**+0.1**
C002	**Farnham Drive**	**0.37**	**222**			**Pg**	**20 11 09.2**	**+0.2**
C056	**Diablo Avenue**	**0.38**	**238**			**Pg**	**20 11 09.3**	**+0.2**
C058	**Eastshore Driv**	**0.41**	**259**			**Pg**	**20 11 09.8**	**+0.2**
C005	**Mandana Bl Oak**	**0.41**	**267**			**Pg**	**20 11 09.7**	**0.0**
BKS	**Berkeley--Byer**	**0.41**	**276**			**Pg**	**20 11 09.9**	**+0.2**
C028	**Eucalyptus Rd**	**0.41**	**272**			**Pg**	**20 11 09.9**	**+0.2**
CPIM	**Pinole Ridge**	**0.42**	**292**			**Pb**	**20 11 10.5**	**+0.3**
VAK	**Adit at Lawren**	**0.42**	**276**			**Pg**	**20 11 10.0**	**+0.2**
BL67	**Building 67, L**	**0.42**	**275**			**Pg**	**20 11 10.0**	**0.0**
BL88	**Building 88, L**	**0.42**	**276**			**Pg**	**20 11 10.1**	**+0.1**
BRK	**Berkeley--Havi**	**0.43**	**275**			**Pg**	**20 11 10.1**	**+0.1**
JEPS	**Jepson Natural**	**0.43**	**349**			**Pn**	**20 11 12.3**	**-0.2**
C007	**Forest Lane Be**	**0.43**	**278**			**Pg**	**20 11 10.3**	**+0.2**
C031	**McGee Avenue B**	**0.44**	**274**			**Pg**	**20 11 10.2**	**-0.1**
NLHM	**Lake Herman**	**0.44**	**310**			**Pg**	**20 11 10.7**	**+0.4**
C049	**Pacific Avenue**	**0.44**	**262**			**Pg**	**20 11 10.4**	**+0.1**
C008	**Spokane Avenue**	**0.46**	**278**			**Pg**	**20 11 10.6**	**0.0**
C011	**Colusa Avenue,**	**0.46**	**279**			**Pg**	**20 11 10.6**	**+0.1**
MTOS	**Mt Oso, Westle**	**0.46**	**136**			**Pg**	**20 11 10.7**	**+0.2**
MTOS	**Mt Oso, Westle**	**0.46**	**136**	IAML			20 11 27.2	
	comp=N,16μm,0.7s							
MTOS				IAML			20 11 27.3	
	comp=E,14μm,0.5s							
RFSB	**Richmond Field**	**0.49**	**280**			**Pg**	**20 11 09.9**	**-1.3**
C059	**Quail Canyon R**	**0.49**	**184**			**Pb**	**20 11 11.9**	**+0.5**
MHC	**Mount Hamilton**	**0.50**	**173**			**Pb**	**20 11 11.8**	**+0.2**
CYBM	**Yerba Buena Is**	**0.51**	**267**			**Pb**	**20 11 11.2**	**-0.4**
ARN	**Arnold Ranch**	**0.51**	**163**			**Pb**	**20 11 12.0**	**+0.2**
JCPM	**Coyote Point**	**0.54**	**243**			**Pb**	**20 11 11.7**	**-0.4**
PINL	**Point Pinole R**	**0.54**	**289**			**Pb**	**20 11 12.4**	**+0.2**
CPMM	**Point Molate**	**0.55**	**282**			**Pb**	**20 11 12.2**	**-0.3**
JSBM	**San Bruno Moun**	**0.56**	**254**			**Pb**	**20 11 11.9**	**-0.6**
SCCB	**Santa Clara Co**	**0.56**	**192**			**Pg**	**20 11 12.7**	**+0.3**
JSFB	**Stanford Teles**	**0.58**	**220**			**Pb**	**20 11 12.6**	**+0.1**
CCOB	**Coe Ranch Numb**	**0.58**	**176**			**Pg**	**20 11 13.5**	**+0.7**
JSJM	**St Joseph**	**0.58**	**210**			**Pg**	**20 11 13.2**	**+0.4**
NGVM		**0.59**	**319**			**Pb**	**20 11 13.0**	**-0.1**
JRSC	**Jasper Ridge**	**0.59**	**224**			**Pb**	**20 11 13.0**	**-0.1**
JPRM	**Presidio of Sa**	**0.59**	**266**			**Pb**	**20 11 12.9**	**-0.3**
JFP	**Foothills Park**	**0.60**	**218**			**Pb**	**20 11 13.3**	**0.0**
SAC	**San Andreas**	**0.60**	**245**			**Pb**	**20 11 13.0**	**-0.3**
JCHM	**Cahill Ridge**	**0.61**	**239**			**Pb**	**20 11 13.1**	**-0.3**
JBMM	**Black Mountain**	**0.62**	**214**			**Pb**	**20 11 13.7**	**0.0**
JMGM	**Milagra Ridge**	**0.63**	**252**			**Pb**	**20 11 13.2**	**-0.5**
JJOM	**Saint Joseph's**	**0.66**	**198**			**Pb**	**20 11 14.2**	**-0.1**
CADM	**Anderson Res.**	**0.68**	**173**			**Pg**	**20 11 15.2**	**+0.6**
JLAB	**Laurel Hill**	**0.68**	**181**			**Pg**	**20 11 15.1**	**+0.4**
BGH	**Bear Gulch**	**0.69**	**225**			**Pg**	**20 11 15.3**	**+0.3**
RUSS	**Russell Ranch**	**0.72**	**351**			**Pn**	**20 11 16.9**	**+0.4**
RUSS	**Russell Ranch**	**0.72**	**351**	IAML			20 11 31.5	
	comp=N,10μm,0.6s							
RUSS				IAML			20 11 34.6	
	comp=E,8μm,0.8s							
QRDG	**Quail Ridge Na**	**0.72**	**333**			**Pb**	**20 11 15.5**	**+0.1**
CVS	**Carmenet Viney**	**0.77**	**311**			**Pb**	**20 11 15.7**	**-0.5**
CVS	**Carmenet Viney**	**0.77**	**311**	IAML			20 11 29.5	
	comp=N,4μm,1.0s							
CVS				IAML			20 11 33.0	
	comp=E,3μm,0.8s							
GHS	**Gilroy Hot Spr**	**0.77**	**163**			**Pg**	**20 11 16.6**	**+0.2**
HLPM	**Lions Peak**	**0.80**	**175**			**Pg**	**20 11 17.0**	**+0.2**
OAKV	**Oakville Exper**	**0.80**	**318**			**Pb**	**20 11 16.2**	**-0.5**
JPSM		**0.81**	**218**			**Pb**	**20 11 16.7**	**0.0**
SCKWR	**San Luis Creek**	**0.83**	**141**			**Pn**	**20 11 18.2**	**+0.1**
HPCM	**Pacheco Lake**	**0.85**	**155**			**Pg**	**20 11 18.2**	**+0.2**
SLD	**San Luis Dam**	**0.86**	**152**			**Pg**	**20 11 18.3**	**+0.2**
NOLM	**Olema**	**0.87**	**284**			**Pb**	**20 11 17.8**	**0.0**
HFEM	**San Felipe**	**0.89**	**163**			**Pb**	**20 11 18.4**	**+0.2**
HCBM	**Chamberlain**	**0.91**	**177**			**Pb**	**20 11 18.5**	**+0.1**
JELB	**Ellicott, Sant**	**0.91**	**185**			**Pb**	**20 11 18.8**	**+0.2**
NTYM	**Taylor**	**0.92**	**307**			**Pb**	**20 11 18.8**	**+0.1**
MCCM	**Marconi Confer**	**0.96**	**289**			**Pb**	**20 11 18.8**	**-0.7**
MCCM					Sg	**Sb**	**20 11 31.6**	**-0.3**
MCCM				IAML			20 11 35.6	
	comp=E,9μm,0.7s							
MCCM				IAML			20 11 41.1	
	comp=N,6μm,1.1s							
FARB	**Farallon Islan**	**1.02**	**263**			**Pb**	**20 11 19.6**	**-0.8**
FARB	**Farallon Islan**	**1.02**	**263**	IAML			20 11 40.7	
	comp=E,5μm,0.7s							
FARB				IAML			20 11 41.4	
	comp=N,6μm,0.8s							
NPRM	**Point Reyes**	**1.03**	**279**			**Pb**	**20 11 19.9**	**-0.7**
CMB	**Columbia Colle**	**1.08**	**79**			**Pn**	**20 11 21.5**	**0.0**
CMB						**Sn**	**20 11 35.8**	**-0.3**
CMB				IAML			20 11 37.5	
	comp=N,3μm,0.7s							
CMB				IAML			20 11 48.9	
	comp=E,2μm,0.6s							
SAO	**San Andreas Ge**	**1.09**	**168**			**Pb**	**20 11 20.6**	**-1.0**
SAO					Sg	**Sg**	**20 11 38.6**	**+1.8**
MYLM	**Yosemite Lake**	**1.13**	**113**			**Pn**	**20 11 21.6**	**-0.6**
MNRC	**McLaughlin Min**	**1.18**	**332**			**Pn**	**20 11 22.1**	**-0.9**
GAXM	**Alexander Vall**	**1.19**	**317**			**Pn**	**20 11 22.0**	**-1.1**
GBGM	**Boggs Mountain**	**1.23**	**323**			**Pn**	**20 11 23.0**	**-0.7**
BJOM	**Mount Johnson**	**1.25**	**165**			**Pn**	**20 11 23.9**	**+0.1**
AFDM	**Forest Hills D**	**1.26**	**28**			**Pn**	**20 11 23.8**	**-0.2**
AFDM				IAML			20 11 54.6	
	comp=E,2μm,0.9s							
BUCR	**Buckhorn Ranch**	**1.26**	**97**			**Pn**	**20 11 24.1**	**0.0**
BUCR	**Buckhorn Ranch**	**1.26**	**97**	IAML			20 11 41.3	
	comp=N,2μm,0.2s							
GDXM	**Geysers**	**1.28**	**319**			**Pn**	**20 11 23.3**	**-1.1**
GSGM	**Seigler Mounta**	**1.29**	**323**			**Pb**	**20 11 25.6**	**+0.6**
GRTM	**Round Top Moun**	**1.33**	**326**			**Pn**	**20 11 24.9**	**-0.1**
MBUM	**Mount Bullion**	**1.34**	**101**			**Pn**	**20 11 25.4**	**+0.2**
BBGB	**Big Mountain B**	**1.37**	**156**			**Pn**	**20 11 25.7**	**0.0**
BMSM	**Mercy Hot Spri**	**1.39**	**147**			**Pn**	**20 11 25.8**	**0.0**
GHCM	**House Creek**	**1.39**	**304**			**Pn**	**20 11 24.9**	**-1.0**
GPMM	**Pine Mountain**	**1.39**	**317**			**Pn**	**20 11 26.0**	**+0.1**
LEGD	**La Grand CA**	**1.40**	**116**			**Pn**	**20 11 25.7**	**-0.2**
BPRM	**Ponciano Ridge**	**1.43**	**180**			**Pn**	**20 11 25.4**	**-0.9**
OSUM	**Sutter Buttes**	**1.44**	**356**			**Pn**	**20 11 25.9**	**-0.5**
SFRE	**Sierra Foothil**	**1.45**	**12**			**Pn**	**20 11 26.8**	**+0.1**
BSMM	**Soledad Missio**	**1.47**	**171**			**Pn**	**20 11 26.3**	**-0.7**
OHCM	**Honcut**	**1.51**	**7**			**Pn**	**20 11 27.3**	**-0.2**
LRV	**Little Rabbit**	**1.52**	**158**			**Pn**	**20 11 27.9**	**+0.3**
OSTM	**Simpson Lane**	**1.53**	**4**			**Pn**	**20 11 27.6**	**-0.1**
GFC	**Funks Creek**	**1.55**	**344**			**Pn**	**20 11 28.4**	**+0.4**
GHGM	**Hogback Ridge**	**1.55**	**327**			**Pn**	**20 11 27.8**	**-0.4**
HOPS	**Hopland Field**	**1.57**	**318**			**Pn**	**20 11 27.9**	**-0.3**
GALB	**Galbreath Wild**	**1.58**	**311**			**Pn**	**20 11 27.6**	**-0.9**
GSNM	**Snow Mountain**	**1.60**	**314**			**Pn**	**20 11 28.7**	**0.0**
MHDM	**Hidden Dam**	**1.62**	**116**			**Pn**	**20 11 29.1**	**+0.1**
MMIM	**Miami Mountain**	**1.63**	**104**			**Pn**	**20 11 29.8**	**+0.6**
ORV	**Oroville**	**1.73**	**6**			**Pn**	**20 11 30.4**	**0.0**
GGUM	**Gualala**	**1.73**	**307**			**Pn**	**20 11 30.0**	**-0.5**
PMPB	**Monarch Peak**	**1.78**	**155**			**Pn**	**20 11 31.4**	**+0.1**
WAKR	**Walker**	**1.92**	**69**			**Pb**	**20 11 36.3**	**+0.4**
WAKR					IAML		20 12 10.6	
	comp=E,2μm,0.6s							
WAKR					IAML		20 12 17.5	
	comp=N,2μm,1.0s							
PAPM	**Alder Peak**	**1.94**	**171**			**Pn**	**20 11 33.3**	**-0.2**
MPK	**Martis Peak**	**1.97**	**42**			**Pb**	**20 11 36.0**	**-0.9**
KCC	**Kaiser Creek**	**1.98**	**104**			**Pb**	**20 11 35.4**	**-1.4**
GVV	**Valley View**	**2.07**	**339**			**Pn**	**20 11 35.4**	**+0.1**
MINS	**Minaret Summit**	**2.12**	**94**			**Pb**	**20 11 38.4**	**-1.0**
GTC	**Three Chop Rid**	**2.12**	**318**			**Pn**	**20 11 36.9**	**+1.1**
MRDM	**Red Cones**	**2.13**	**96**			**Pb**	**20 11 38.4**	**-1.1**
MDCM	**Deadman Creek**	**2.13**	**93**			**Pb**	**20 11 38.5**	**-1.0**
MMPM	**Mammoth Pass**	**2.15**	**95**			**Pb**	**20 11 38.8**	**-1.1**
MLIM	**Lincoln Peak**	**2.15**	**94**			**Pb**	**20 11 39.5**	**-0.5**
PANM	**San Antonio Re**	**2.15**	**162**			**Pn**	**20 11 37.4**	**+1.0**
MDYM	**Dry Creek**	**2.16**	**94**			**Pb**	**20 11 39.3**	**-0.7**
PPO	**Portuguese Can**	**2.16**	**155**			**Pn**	**20 11 37.4**	**+1.0**
KARE	**Kearney REC, C**	**2.16**	**124**			**Pn**	**20 11 37.1**	**+0.7**
MMLB	**Mammoth Lakes**	**2.18**	**94**			**Pb**	**20 11 39.9**	**-0.6**
CTM	**Castle Mountai**	**2.20**	**149**			**Pb**	**20 11 38.9**	**-1.8**
GROM	**Round Mountain**	**2.21**	**341**			**Pn**	**20 11 37.6**	**+0.5**
MEMM	**East Mammoth H**	**2.21**	**94**			**Pb**	**20 11 40.1**	**-0.9**
MLCM	**Laurel Creek C**	**2.24**	**95**			**Pb**	**20 11 40.4**	**-1.0**
PWKM	**Work Ranch**	**2.24**	**154**			**Pn**	**20 11 38.2**	**+0.7**
MCSM	**Casa Diablo Ho**	**2.24**	**94**			**Pb**	**20 11 40.7**	**-0.8**
MGPM	**Gravel Pit**	**2.25**	**94**			**Pb**	**20 11 40.7**	**-0.8**
MCBM	**Casa Benchmark**	**2.25**	**94**			**Pb**	**20 11 40.8**	**-0.8**
GHC	**Gold Hill**	**2.28**	**151**			**Pb**	**20 11 41.2**	**-0.8**
BEKR	**Beckworth**	**2.29**	**27**			**Pn**	**20 11 40.1**	**+1.7**
MLAC	**Mammoth, Mammo**	**2.30**	**94**			**Pb**	**20 11 41.5**	**-0.8**
LCMM	**Colby Mountain**	**2.31**	**4**			**Pb**	**20 11 41.8**	**-0.8**
KCPM	**Cahto Peak**	**2.35**	**322**			**Pn**	**20 11 39.0**	**-0.1**
KBNM	**Bluenose Ridge**	**2.35**	**331**			**Pb**	**20 11 43.2**	**0.0**
O03E	**Paynes Creek**	**2.46**	**359**			**Pn**	**20 11 42.0**	**+1.5**
O03E	**Paynes Creek**	**2.46**	**359**	IAML			20 12 53.8	
	comp=E,1μm,1.0s							
O03E				IAML			20 12 55.4	
	comp=N,551nm,0.9s							
O02D	**Mt. Diablo Mer**	**2.48**	**341**			**Pn**	**20 11 40.9**	**+0.1**
LHV	**Little Huntoon**	**2.58**	**80**			**Pb**	**20 11 44.6**	**-2.3**
PAHR	**Pah Rah Range**	**2.61**	**44**			**Pn**	**20 11 44.5**	**+1.8**
PAHR				IAML			20 12 36.3	
	comp=E,617nm,1.0s							
PAHR				IAML			20 12 47.1	
	comp=N,496nm,0.9s							
RYN	**Ryan**	**2.64**	**72**			**Pn**	**20 11 45.2**	**+2.0**
RYN				IAML			20 12 27.9	
	comp=E,739nm,0.8s							
RYN				IAML			20 12 37.2	
	comp=N,630nm,0.8s							
NVAR	**Mina Array Bea**	**2.76**	**77**			**Pn**	**20 11 46.5**	**+1.6**
NVAR	**Mina Array Bea**	**2.76**	**77**	Pn		**Pn**	**20 11 47.4**	**+2.5**
	comp=N,4.1nm,0.3s,baz=249,slow=15,SNR=45							
NVAR					Pg	**Pb**	**20 11 51.6**	**+1.3**
	comp=N,30nm,0.3s,baz=267,slow=18,SNR=45							
NVAR					Lg	Lg	20 12 28.6	
	comp=N,68nm,0.3s,baz=233,slow=15,SNR=5.2							
	comp=N,10.0nm,0.4s							
KMRM	**Mail Ridge**	**2.84**	**328**			**Pn**	**20 11 46.7**	**+0.9**
NV11	**Mina Array Sit**	**2.88**	**77**			**Pn**	**20 11 47.5**	**+1.1**
NV11				IAML			20 12 43.7	
	comp=N,822nm,1.5s							
NV11				IAML			20 13 00.1	
	comp=E,432nm,1.6s							
HATC	**Hat Creek Radi**	**2.98**	**4**			**Pn**	**20 11 49.1**	**+1.3**
HATC				IAML			20 13 07.7	
	comp=E,1μm,2.4s							
HATC				IAML			20 13 10.0	
	comp=N,706nm,1.5s							
DSP	**Deep Springs**	**3.02**	**98**			**Pn**	**20 11 50.5**	**+2.3**
DSP				IAML			20 12 40.3	
	comp=E,736nm,1.0s							
DSP				IAML			20 12 47.5	
	comp=N,516nm,1.0s							
KMPM	**Mount Pierce**	**3.18**	**325**			**Pn**	**20 11 49.6**	**-0.9**
CWC	**Cottonwood Cre**	**3.23**	**114**			**Pn**	**20 11 52.3**	**+1.1**
CWC				IAML			20 12 52.9	
	comp=E,585nm,1.1s							
CWC				IAML			20 12 58.1	
	comp=N,590nm,1.0s							
ISA	**Isabella, Lake**	**3.39**	**129**			**Pn**	**20 11 53.5**	**0.0**
ISA				IAML			20 12 52.9	
	comp=E,406nm,0.8s							
ISA				IAML			20 12 59.5	
	comp=N,400nm,0.9s							
KHMM	**Horse Mountain**	**3.41**	**333**			**Pn**	**20 11 54.9**	**+1.2**
MZP	**Montezuma Peak**	**3.44**	**91**			**Pn**	**20 11 56.0**	**+1.7**
MZP				IAML			20 13 02.8	
	comp=N,212nm,1.0s							
JCC	**Jacoby Creek,**	**3.47**	**330**	Pn		**Pn**	**20 11 54.8**	**+0.4**
TPH	**Tonopah**	**3.57**	**85**			**Pn**	**20 11 58.0**	**+2.0**
GRAC	**Grapevine Rang**	**3.57**	**102**			**Pn**	**20 11 56.9**	**+1.0**
GMN	**Gold Mountain**	**3.59**	**97**			**Pn**	**20 11 58.0**	**+1.7**
GMN				IAML			20 12 58.8	
	comp=E,219nm,1.3s							
GMN				IAML			20 13 01.3	
	comp=N,404nm,0.9s							
Q09A	**Carvers**	**3.71**	**73**			**Pn**	**20 12 00.4**	**+2.6**
LMHM	**Little Mount H**	**3.74**	**1**			**Pb**	**20 12 08.0**	**+1.1**
KRPM	**Rodgers**	**3.76**	**333**			**Pn**	**20 11 58.7**	**+0.2**
MPMC	**Manual Prospec**	**3.83**	**116**			**Pn**	**20 12 01.1**	**+1.5**
CLC	**China Lake**	**3.88**	**120**			**Pn**	**20 12 01.1**	**+1.0**
CLC				IAML			20 13 13.5	
	comp=E,193nm,1.6s							
CLC				IAML			20 13 24.4	
	comp=N,208nm,1.4s							
YBH	**Yreka Blue Hor**	**3.96**	**349**			**Pn**	**20 12 03.2**	**+1.9**
YBH	**Yreka Blue Hor**	**3.96**	**349**	Pn		**Pn**	**20 12 04.7**	**+3.4**
	comp=N,0.2nm,0.3s,baz=176,slow=9.1,SNR=27							
YBH					Sn	**Sb**	**20 12 53.9**	**-4.4**
	comp=N,0.2nm,0.3s,baz=174,slow=5.6,SNR=6.2							
LRMC	**Laurel Mtn Rad**	**4.01**	**125**			**Pn**	**20 11 59.7**	**-2.3**
LRMC				IAML			20 13 13.4	
	comp=N,312nm,1.0s							
LRMC				IAML			20 13 21.2	
	comp=E,339nm,0.9s							
OSI	**Osito Audit: C**	**4.03**	**142**			**Pn**	**20 11 59.0**	**-3.1**
OSI				IAML			20 13 24.8	
	comp=N,288nm,1.2s							
OSI				IAML			20 13 25.1	
	comp=E,356nm,0.9s							
KRMB	**Red Mountain**	**4.05**	**336**			**Pn**	**20 12 02.8**	**+0.3**
WSHM	**Spangler Hills**	**4.07**	**122**			**Pn**	**20 12 01.6**	**-1.0**
WSHM				IAML			20 13 10.5	
	comp=E,262nm,1.2s							
WSHM				IAML			20 13 12.0	
	comp=E,282nm,1.5s							
CCCA	**Chr Cany lake**	**4.20**	**122**			**Pn**	**20 12 03.1**	**-1.4**
WCT	**Wildcat Mounta**	**4.20**	**103**	IAML			20 13 25.1	
	comp=N,251nm,1.4s							
WCT				IAML			20 13 29.1	
	comp=E,353nm,0.8s							
QSM	**Queen of Sheba**	**4.32**	**114**	IAML			20 13 38.3	
	comp=E,294nm,1.1s							
QSM				IAML			20 13 43.7	
	comp=N,264nm,1.3s							
GWY	**Greenwater Val**	**4.37**	**111**			**Pn**	**20 12 08.5**	**+1.6**
GWY				IAML			20 13 30.4	
	comp=E,340nm,1.1s							
L04D	**Klamath Falls**	**4.40**	**354**			**Pn**	**20 12 05.7**	**-1.6**
L04D					IAML		20 13 41.7	
	comp=E,94nm,2.1s							
TPNV	**Topopah Spring**	**4.45**	**100**			**Pn**	**20 12 08.0**	**0.0**
PASC	**Pasadena Art C**	**4.65**	**141**	IAML			20 13 37.0	
	comp=E,118nm,1.4s							
PASC				IAML			20 13 38.7	
	comp=N,94nm,1.0s							
MWC	**Mount Wilson**	**4.67**	**139**	IAML			20 13 42.9	
	comp=E,154nm,1.4s							
MWC				IAML			20 14 00.3	
	comp=N,145nm,1.4s							
GSC	**Goldstone, Bar**	**4.70**	**121**	IAML			20 13 39.1	
	comp=E,260nm,1.2s							
GSC				IAML			20 13 50.3	
	comp=N,251nm,1.1s							
K04D	**Chiloquin, OR**	**4.78**	**360**			**Pn**	**20 12 11.3**	**-1.3**
K04D					IAML		20 14 37.0	
	comp=E,235nm,1.5s							
R11B	**Troy Canyon, C**	**4.87**	**82**	IAML			20 13 48.5	
	comp=E,94nm,1.8s							
R11B				IAML			20 14 03.7	
	comp=N,79nm,1.6s							
BFSC	**Mount Baldy Ra**	**4.87**	**136**			**Pn**	**20 12 14.3**	**+0.5**
BFSC					IAML		20 13 43.8	
	comp=E,83nm,1.1s							
BFSC				IAML			20 14 13.0	
	comp=N,74nm,1.9s							
K05A	**Summer Lake**	**4.92**	**7**	IAML			20 14 05.3	
	comp=N,150nm,1.3s							
K05A				IAML			20 14 26.2	
	comp=E,100nm,2.4s							
ELS	**Elsinore Mount**	**5.45**	**139**			**Pn**	**20 12 21.9**	**+0.3**
ELK	**Elko**	**5.81**	**58**			**Pn**	**20 12 26.6**	**-0.2**
ELK	**Elko**	**5.81**	**58**	Pn		**Pn**	**20 12 29.4**	**+2.6**
	comp=E,1.0nm,0.3s,baz=250,slow=15,SNR=14							
ELK					Sn	**Sn**	**20 13 36.5**	**+3.5**
	comp=E,1.5nm,0.3s,baz=270,slow=11,SNR=1.4							
ELK					Lg	Lg	20 14 03.9	
	comp=E,3.2nm,0.3s,baz=335,slow=14,SNR=8.5							
	comp=E,2.5nm,0.4s							
PFO	**Pinyon Flats O**	**6.01**	**133**			**Pn**	**20 12 28.3**	**-1.1**
PFO	**Pinyon Flats O**	**6.01**	**133**	Pn		**Pn**	**20 12 30.4**	**+1.0**
	comp=E,1.3nm,0.3s,baz=320,slow=12,SNR=9.3							
PFO					Lg	Lg	20 14 09.6	
	comp=E,0.8nm,0.3s,baz=221,slow=20,SNR=4.7							
	comp=E,4.2nm,0.5s							
PMD	**Palm Desert**	**6.03**	**132**			**Pn**	**20 12 28.4**	**-1.2**
BORC	**Borrego Spring**	**6.28**	**135**			**Pn**	**20 12 31.6**	**-1.4**
I05D	**Terrebonne, OR**	**6.50**	**2**	

*PAS **16** 20:15:36.8±2.1,35˚.78N±0˚.01×117˚.62W±0˚.02, h4km±3km, Mwr4.5/6,mb4.4/19(NEIC),ML4.5/132(NEIC), Mwr4.4/176(NEIC), Error ellipse: s-maj=2.4km s-min=1.8km az=97.0*

ISC 16 20:15:36.8±0.8,35˚.78N±0˚.02×117˚.60W±0˚.02,h9km±5km, n172,σ1♀08/170,mb4.3/21,MS3.9/15,1D,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.04**	**4**		**Pg**	**20 15 38.0**	**-0.6**
TOW	**Tower One**	**0.14**	**283**		**Pg**	**20 15 39.9**	**0.0**
TOW					**Sg**	**20 15 42.7**	**+0.8**
GPO	**China Lake**	**0.14**	**201**		**Pg**	**20 15 39.8**	**0.0**
GPO					**Sg**	**20 15 42.9**	**+0.9**
SRTC	**Snort**	**0.15**	**234**		**Pg**	**20 15 40.1**	**+0.1**
SRTC					**Sg**	**20 15 42.7**	**+0.4**
WSHM	**Spangler Hills**	**0.20**	**154**	Pg	**Pg**	**20 15 40.8**	**-0.1**
WSHM				IAML		20 15 44.9	
	145μm,0.3s						
WVPM	**Volcano Peak E**	**0.24**	**314**		**Pg**	**20 15 41.5**	**-0.3**
WVPM					**Sg**	**20 15 45.5**	**+0.3**
WNMM	**Nine Mile Cany**	**0.26**	**285**		**Pg**	**20 15 41.7**	**-0.2**
WNMM					**Sg**	**20 15 45.9**	**+0.6**
WCSM	**Coso Springs S**	**0.28**	**331**		**Pg**	**20 15 42.1**	**-0.4**
WCSM					**Sg**	**20 15 46.5**	**+0.2**
MPMC	**Manual Prospec**	**0.29**	**18**	IAML		20 15 47.5	
	comp=E,71μm,0.7s						
MPMC				IAML		20 15 47.8	
	comp=N,63μm,1.0s						
LRMC	**Laurel Mtn Rad**	**0.30**	**193**		**Pg**	**20 15 42.8**	**-0.1**
LRMC				IAML		20 15 48.8	
	comp=N,42μm,0.2s						
LRMC				IAML		20 15 49.2	
	comp=E,69μm,0.2s						
CCCA	**Chr Cany lake**	**0.32**	**143**		**Sb**	**20 15 48.9**	**-1.1**
WRVM	**Rose V. Centra**	**0.33**	**314**		**Pg**	**20 15 43.0**	**-0.4**
WRVM					**Sg**	**20 15 47.6**	**-0.1**
MFS	**McCloud Flat S**	**0.40**	**329**		**Pg**	**20 15 44.3**	**-0.3**
MFS					**Sg**	**20 15 50.1**	**+0.3**
WORM	**Onyx Ranch**	**0.53**	**261**		**Pg**	**20 15 46.5**	**-0.5**
WORM					**Sg**	**20 15 53.4**	**-0.6**
DTP	**Desert Tortois**	**0.55**	**201**		**Pg**	**20 15 47.1**	**-0.3**
DTP					**Sg**	**20 15 54.8**	**+0.2**
WHFM	**Hanning Flat**	**0.61**	**263**		**Pg**	**20 15 48.1**	**-0.6**
WHFM					**Sg**	**20 15 57.0**	**+0.3**
QSM	**Queen of Sheba**	**0.62**	**72**		**Pg**	**20 15 48.7**	**-0.2**
QSM					**Sg**	**20 15 57.8**	**+0.8**
QSM	**Queen of Sheba**	**0.62**	**72**	IAML		20 15 59.0	
	comp=E,21μm,0.5s						
QSM				IAML		20 16 01.6	
	comp=N,23μm,0.7s						
CCAC	**Calif City Air**	**0.71**	**209**		**Pg**	**20 15 50.3**	**-0.2**
CCAC					**Sg**	**20 16 00.3**	**+0.5**
ISA	**Isabella, Lake**	**0.72**	**261**		**Pg**	**20 15 50.1**	**-0.6**
CWC	**Cottonwood Cre**	**0.77**	**330**		**Pg**	**20 15 50.9**	**-0.7**
CWC	**Cottonwood Cre**	**0.77**	**330**		**Sg**	**20 16 01.7**	**+0.1**
WASM	**Alta Sierra Ca**	**0.78**	**267**		**Pg**	**20 15 51.2**	**-0.6**
WASM					**Sg**	**20 16 02.0**	**+0.1**
CGO	**Cerro Gordo**	**0.79**	**348**		**Sb**	**20 16 03.3**	**-0.5**
GSC	**Goldstone, Bar**	**0.80**	**126**		**Pg**	**20 15 52.1**	**-0.2**
GSC				IAML		20 16 04.1	
	comp=N,16μm,0.6s						
GSC				IAML		20 16 06.6	
	comp=E,19μm,0.4s						
GWY	**Greenwater Val**	**0.86**	**61**		**Pg**	**20 15 53.1**	**-0.3**
GWY					**Sb**	**20 16 05.4**	**-0.3**
GWY	**Greenwater Val**	**0.86**	**61**	IAML		20 16 08.9	
	comp=N,21μm,0.5s						
GWY				IAML		20 16 09.5	
	comp=E,20μm,0.5s						
FURC	**Furnace Creek,**	**0.91**	**41**		**Pg**	**20 15 54.3**	**0.0**
FURC					**Sb**	**20 16 06.7**	**-0.4**
HYS	**Haystack Butte**	**0.91**	**178**		**Pg**	**20 15 53.8**	**-0.6**
HYS					**Sg**	**20 16 06.2**	**-0.1**
EDW2	**Edwards Air Fo**	**0.95**	**200**		**Pg**	**20 15 54.5**	**-0.6**
EDW2					**Sg**	**20 16 06.9**	**-0.6**
RRX	**Edison Barstow**	**1.03**	**151**		**Pg**	**20 15 56.3**	**-0.3**
TPO	**Tropico Hills**	**1.03**	**210**		**Pg**	**20 15 55.9**	**-0.8**
TPO				IAML		20 16 16.7	
	comp=E,17μm,0.9s						
TPO				IAML		20 16 16.7	
	comp=N,13μm,0.6s						
TPO	**Tropico Hills**	**1.03**	**210**		**Sb**	**20 16 10.7**	**0.0**
SPG2	**Springville 2**	**1.03**	**294**		**Sg**	**20 16 09.1**	**-1.0**
TEJ	**El Tejon**	**1.04**	**239**		**Pg**	**20 15 55.5**	**-1.4**
SHOC	**Shoshone, Teco**	**1.08**	**83**		**Pg**	**20 15 57.4**	**-0.2**
SBB	**Saddle Back Bu**	**1.10**	**190**		**Pg**	**20 15 57.1**	**-0.8**
MAGC	**SCE Magundon P**	**1.16**	**249**		**Pb**	**20 15 58.2**	**-0.8**
ARVC	**Arvin**	**1.20**	**237**		**Pb**	**20 15 58.7**	**-1.0**
TJR	**Tejon Ranch**	**1.20**	**232**		**Pb**	**20 15 58.2**	**-1.4**
VES	**Vestal, Richgr**	**1.21**	**273**		**Pb**	**20 15 59.1**	**-0.8**
THC	**Tehachapi Micr**	**1.23**	**225**		**Pb**	**20 15 58.9**	**-1.5**
ALPC	**Antelope**	**1.23**	**208**		**Pb**	**20 15 59.4**	**-0.9**
GRAC	**Grapevine Rang**	**1.23**	**9**		**Pn**	**20 15 59.6**	**-0.7**
ADO	**Adelanto Recei**	**1.23**	**174**		**Pn**	**20 15 59.7**	**-0.6**
VTV	**Victorville**	**1.23**	**170**		**Pn**	**20 16 00.1**	**-0.2**
LEOC	**Leona Valley**	**1.28**	**207**		**Pn**	**20 16 00.1**	**-0.9**
WCT	**Wildcat Mounta**	**1.28**	**38**		**Pn**	**20 16 00.3**	**-0.7**
WCT	**Wildcat Mounta**	**1.28**	**38**	IAML		20 16 20.2	
	comp=E,9μm,1.2s						
WCT				IAML		20 16 21.3	
	comp=N,7μm,0.6s						
SGV	**South Grapevin**	**1.28**	**21**		**Pn**	**20 16 00.5**	**-0.6**
LRRC	**Littlerock Res**	**1.30**	**196**		**Pn**	**20 16 00.4**	**-0.7**
BAKC	**Calstate**	**1.30**	**251**		**Pn**	**20 16 01.0**	**-0.2**
CJV	**Casa Juvan**	**1.32**	**200**		**Pn**	**20 16 00.8**	**-0.9**
HOLC	**Holcomb Ridge**	**1.33**	**189**		**Pn**	**20 16 00.9**	**-0.9**
JNH	**Juniper Hills**	**1.36**	**192**		**Pn**	**20 16 01.3**	**-0.8**
DSCC	**Desert Studies**	**1.38**	**117**		**Pn**	**20 16 01.1**	**-1.2**
HEC	**Hector,Ludlow**	**1.40**	**132**		**Pn**	**20 16 01.8**	**-0.9**
TUQ	**Turquoise Moun**	**1.41**	**104**		**Pn**	**20 16 01.9**	**-0.9**
OSI	**Osito Audit: C**	**1.48**	**219**		**Pn**	**20 16 03.0**	**-0.7**
OSI				IAML		20 16 27.8	
	comp=N,7μm,0.8s						
OSI				IAML		20 16 28.4	
	comp=E,6μm,0.6s						
BFSC	**Mount Baldy Ra**	**1.54**	**182**		**Pn**	**20 16 04.2**	**-0.4**
BFSC				IAML		20 16 28.3	
	comp=N,5μm,0.8s						
BFSC				IAML		20 16 32.4	
	comp=E,4μm,0.6s						
VOG	**Valley Oaks Go**	**1.54**	**291**		**Pb**	**20 16 05.3**	**-0.3**
GMN	**Gold Mountain**	**1.54**	**10**	IAML		20 16 28.9	
	comp=E,4μm,1.2s						
GMN				IAML		20 16 29.0	
	comp=N,4μm,0.5s						
MWC	**Mount Wilson**	**1.60**	**194**		**Pn**	**20 16 04.9**	**-0.6**
MWC				IAML		20 16 33.8	
	comp=E,9μm,1.0s						
DSP	**Deep Springs**	**1.62**	**350**	IAML		20 16 29.7	
	comp=E,5μm,0.5s						
PASC	**Pasadena Art C**	**1.67**	**197**		**Pn**	**20 16 05.7**	**-0.6**
PASC				IAML		20 16 31.9	
	comp=E,5μm,1.3s						
PASC				IAML		20 16 36.8	
	comp=N,3μm,1.2s						
MTPC	**Mountain Pass**	**1.69**	**99**		**Pn**	**20 16 05.9**	**-0.9**
MTPC				IAML		20 16 33.1	
	comp=N,4μm,0.3s						
MTPC				IAML		20 16 34.4	
	comp=E,5μm,0.3s						
ELS	**Elsinore Mount**	**2.13**	**176**		**Pn**	**20 16 12.2**	**-0.5**
ELS				IAML		20 16 52.3	
	comp=E,2μm,1.3s						
PMD	**Palm Desert**	**2.35**	**154**		**Pn**	**20 16 15.0**	**-0.6**
PFO	**Pinyon Flats O**	**2.36**	**156**		**Pn**	**20 16 15.3**	**-0.5**
PFO	**Pinyon Flats O**	**2.36**	**156**	Pn	**Pn**	**20 16 15.3**	**-0.5**
	comp=E,13nm,0.3s,baz=342,slow=13,SNR=46						
PFO				Pg	**Pb**	**20 16 19.9**	**+0.3**
	comp=E,72nm,0.3s,baz=337,slow=15,SNR=36						
PFO				Lg	Lg	20 16 51.7	
	comp=E,194nm,0.3s,baz=54,slow=19,SNR=12						
	comp=E,29nm,0.3s						
PMPB	**Monarch Peak**	**2.63**	**280**		**Pn**	**20 16 19.9**	**+0.3**
NEE2	**Needles Airpor**	**2.64**	**112**		**Pn**	**20 16 18.4**	**-1.2**
NV11	**Mina Array Sit**	**2.69**	**351**	Pn	**Pn**	**20 16 20.6**	**+0.2**
BORC	**Borrego Spring**	**2.69**	**158**		**Pn**	**20 16 20.3**	**0.0**
BORC				IAML		20 17 09.3	
	comp=E,1μm,1.6s						
NVAR	**Mina Array Bea**	**2.71**	**348**	Pn	**Pn**	**20 16 20.7**	**0.0**
NVAR	**Mina Array Bea**	**2.71**	**348**	Pn	**Pn**	**20 16 21.6**	**+0.8**
	comp=E,46nm,0.3s,baz=183,slow=15,SNR=67						
NVAR				Pg	**Pg**	**20 16 27.4**	**-1.2**
	comp=E,195nm,0.3s,baz=172,slow=15,SNR=58						
NVAR				Lg	Lg	20 17 03.2	
	comp=E,121nm,0.3s,baz=162,slow=27,SNR=6.1						
	comp=E,88nm,0.5s						
DPP	**Dos Picos Cty**	**2.83**	**169**		**Pn**	**20 16 21.9**	**-0.3**
SALN	**Salton City**	**2.83**	**151**		**Pn**	**20 16 21.8**	**-0.4**
BBGB	**Big Mountain B**	**2.89**	**287**		**Pn**	**20 16 24.4**	**+1.2**
CMB	**Columbia Colle**	**3.17**	**316**		**Pn**	**20 16 27.9**	**+0.9**
CMB				IAML		20 17 20.9	
	comp=N,2μm,1.1s						
CMB				IAML		20 17 21.5	
	comp=E,1μm,0.8s						
BLYC	**Blythe**	**3.24**	**128**		**Pn**	**20 16 26.2**	**-1.7**
BLYC				IAML		20 17 21.3	
	comp=N,1μm,0.5s						
BLYC				IAML		20 17 24.6	
	comp=E,1μm,1.6s						
SAO	**San Andreas Ge**	**3.26**	**289**		**Pn**	**20 16 27.6**	**-0.5**
TJX	**Tijuana**	**3.29**	**172**		**Pn**	**20 16 28.6**	**0.0**
TKX	**Tecate**	**3.31**	**165**		**Pn**	**20 16 28.4**	**-0.4**
YUH	**Yuha Desert**	**3.42**	**156**		**Pn**	**20 16 30.6**	**+0.3**
CBX	**Cerro Bola**	**3.54**	**167**		**Pn**	**20 16 32.3**	**+0.1**
GLA	**Glamis**	**3.56**	**139**		**Pn**	**20 16 30.5**	**-1.8**
GLA				IAML		20 17 37.8	
	comp=N,1μm,1.3s						
LCMT	**Little Creek M**	**3.72**	**69**		**Pn**	**20 16 35.5**	**+0.8**
CCX	**Cicese**	**3.98**	**168**		**Pn**	**20 16 37.7**	**-0.3**
CCX				IAML		20 17 45.0	
	comp=E,525nm,1.0s						
ESJX	**Sierra Juarez**	**4.01**	**159**		**Pn**	**20 16 38.5**	**-0.1**
SZCU	**Shurtz Canyon**	**4.05**	**62**		**Pn**	**20 16 39.9**	**+0.6**
AFDM	**Forest Hills D**	**4.15**	**321**		**Pn**	**20 16 39.6**	**-0.8**
AFDM				IAML		20 17 49.8	
	comp=E,985nm,1.2s						
AFDM				IAML		20 17 53.2	
	comp=N,758nm,1.1s						
Y14A	**Wickenburg**	**4.20**	**115**		**Pn**	**20 16 40.0**	**-1.2**
Y14A				IAML		20 17 57.4	
	comp=N,940nm,1.4s						
Y14A				IAML		20 18 01.0	
	comp=E,614nm,1.1s						
U15A	**North Rim**	**4.35**	**80**		**Pn**	**20 16 44.1**	**+0.7**
U15A				IAML		20 18 02.7	
	comp=E,489nm,1.4s						
U15A				IAML		20 18 02.8	
	comp=N,590nm,1.3s						
113A	**Mohawk Valley,**	**4.37**	**132**		**Pn**	**20 16 43.2**	**-0.2**
VTX	**Valle De La Tr**	**4.63**	**160**		**Pn**	**20 16 48.1**	**+1.0**
VTX				IAML		20 18 13.7	
	comp=E,282nm,2.1s						
VTX				IAML		20 18 14.9	
	comp=N,305nm,1.4s						
MCCM	**Marconi Confer**	**4.84**	**301**	Pn	**Pn**	**20 16 50.1**	**+0.2**
MCCM				IAML		20 18 08.1	
	comp=N,560nm,1.2s						
MCCM				IAML		20 18 14.1	
	comp=E,399nm,1.4s						
ORV	**Oroville**	**4.88**	**322**		**Pn**	**20 16 49.8**	**-0.6**
ORV				IAML		20 18 15.6	
	comp=E,369nm,0.8s						
ORV				IAML		20 18 18.2	
	comp=N,269nm,0.6s						
X16A	**Lo Mia Camp, P**	**5.23**	**103**		**Pn**	**20 16 55.9**	**+0.5**
X16A				IAML		20 18 47.2	
	comp=N,226nm,3.1s						
SFX	**San Felipe**	**5.26**	**153**		**Pn**	**20 16 56.1**	**+0.5**
SFX				IAML		20 18 32.1	
	comp=E,215nm,1.3s						
SFX				IAML		20 18 32.6	
	comp=N,188nm,1.1s						
ELK	**Elko**	**5.29**	**20**	Pn	**Pn**	**20 16 57.4**	**+1.1**
	comp=N,5.1nm,0.3s,baz=190,slow=13,SNR=61						
ELK				Pg	**Pg**	**20 17 15.1**	**-3.1**
	comp=N,11nm,0.3s,baz=226,slow=7.6,SNR=4.3						
ELK				Sn	**Sn**	**20 17 59.1**	**+1.5**
	comp=N,2.3nm,0.3s,baz=223,slow=18,SNR=2.1						
ELK				Lg	Lg	20 18 22.7	
	comp=N,40nm,0.3s,baz=131,slow=20,SNR=10						
	comp=N,10nm,0.3s						
PIX	**Pinacate**	**5.44**	**139**		**Pn**	**20 16 57.0**	**-1.1**
214A	**Organ Pipe Nat**	**5.51**	**132**		**Pn**	**20 16 57.9**	**-1.3**
HATC	**Hat Creek Radi**	**5.87**	**330**		**Pn**	**20 17 06.4**	**+2.2**
HMU	**Henry Mountain**	**5.91**	**67**		**Pn**	**20 17 06.6**	**+1.8**
KCPM	**Cahto Peak**	**6.14**	**311**	Pn	**Pn**	**20 17 08.1**	**+0.3**
W18A	**Petrified Fore**	**6.45**	**94**		**Pn**	**20 17 11.5**	**-0.7**
WVOR	**Wild Horse Val**	**6.70**	**353**		**Pn**	**20 17 15.9**	**+0.5**
HVU	**Hansel Valley**	**7.08**	**31**		**Pn**	**20 17 21.9**	**+1.1**
YBH	**Yreka Blue Hor**	**7.16**	**328**	Pn	**Pn**	**20 17 23.5**	**+1.7**
	baz=134,slow=5.5,SNR=5.6						
YBH				Lg	Lg	20 19 17.6	
	comp=N,0.1nm,0.3s,baz=165,slow=16,SNR=5.6						
YBH				LR	LR	20 19 42.2	
	comp=N,11nm,21.1s,baz=144,slow=34						
PV20	**West Nyswonger**	**7.36**	**67**		**Pn**	**20 17 23.7**	**-1.0**
PV03	**Paradox Valley**	**7.42**	**68**		**Pn**	**20 17 25.8**	**+0.2**
PV02	**Paradox Valley**	**7.50**	**69**		**Pn**	**20 17 26.4**	**-0.1**
PV22	**Blue Mesa, Par**	**7.56**	**66**		**Pn**	**20 17 26.9**	**-0.5**
MFID	**Camas Ranch**	**7.75**	**10**		**Pn**	**20 17 29.9**	**0.0**
KSXB	**Camp Six Broad**	**7.78**	**323**		**Pn**	**20 17 28.6**	**-1.7**
HLID	**Hailey**	**8.15**	**17**	Pn	**Pn**	**20 17 33.7**	**-1.8**
ANMO	**Albuquerque**	**9.14**	**92**	Pn	**Pn**	**20 17 51.3**	**+2.2**
	comp=N,0.2nm,0.3s,baz=273,slow=14,SNR=4.7						
ANMO				Pg		20 18 26.2	
	comp=N,0.5nm,0.3s,baz=239,slow=5.1,SNR=17						
ANMO				Lg	Lg	20 20 18.7	
	comp=N,0.7nm,0.3s,baz=248,slow=16,SNR=8.6						
	comp=N,1.2nm,0.6s						
PDAR	**Pinedale Array**	**9.36**	**39**	Pn	**Pn**	**20 17 55.8**	**+3.8**
	comp=N,0.2nm,0.3s,baz=225,slow=12,SNR=8.5						
PDAR				Lg	Lg	20 20 26.6	
	baz=234,slow=37						
PDAR				LR	LR	20 21 42.3	
	comp=N,339nm,19.3s,baz=230,slow=39						
	comp=N,1.6nm,0.6s						
VHRN	**Van Horn**	**11.67**	**112**		**Pn**	**20 18 24.0**	**+0.3**
NEW	**Newport**	**12.48**	**1**	Pn	**Pn**	**20 18 37.4**	**+2.8**
	comp=N,0.3nm,0.3s,baz=158,slow=16,SNR=4.1						
NEW				Lg	Lg	20 22 10.1	
	baz=127,slow=16,SNR=3.0						
NEW				LR	LR	20 23 12.8	
	comp=N,206nm,19.6s,baz=188,slow=36						
	comp=N,3.8nm,0.9s						
TXAR	**Lajitas Array**	**13.39**	**115**		**Pn**	**20 18 48.1**	**+0.9**
TXAR	**Lajitas Array**	**13.39**	**115**	Pn	**Pn**	**20 18 48.8**	**+1.6**
	comp=N,0.3nm,0.3s,baz=290,slow=12,SNR=8.1						
TXAR				Lg	Lg	20 22 38.2	
	comp=N,0.1nm,0.3s,baz=290,slow=30,SNR=6.8						
	comp=N,0.4nm,0.4s						
LLLB	**Lillooet**	**15.14**	**350**		**Pn**	**20 19 10.7**	**-0.2**
CBB	**Campbell River**	**15.33**	**341**		**Pn**	**20 19 13.4**	**+0.2**
CBB				IAmb	IAmb	20 19 23.3	
	comp=Z,19nm,1.0s						
BRDY	**Brady**	**16.14**	**101**		**Pn**	**20 19 19.0**	**-5.0**
ECSD	**EROS Data Cent**	**17.95**	**57**		**Pn**	**20 19 42.6**	**-4.1**
BBB	**Bella Bella**	**18.03**	**339**	LR	LR	20 26 53.1	
	comp=Z,284nm,18.2s,baz=167,slow=38						
MIAR	**Mount Ida**	**19.67**	**87**		**P**	**20 20 06.8**	**+0.7**
I37A	**Lemond, Waseca**	**20.26**	**59**		**P**	**20 20 12.7**	**+0.2**
AGMN	**Agassiz Nation**	**20.34**	**45**	P	**P**	**20 20 12.7**	**-0.6**
AGMN				IAmb	IAmb	20 20 19.6	
	comp=Z,15nm,0.8s						
FFC	**Flin Flon**	**21.82**	**25**	P	**P**	**20 20 28.3**	**-0.8**
FFC				IAmb	IAmb	20 20 31.2	
	comp=Z,16nm,1.0s						
EPLO	**Experimental L**	**22.25**	**44**	P	**P**	**20 20 32.6**	**-1.2**
EPLO				IAmb	IAmb	20 20 37.1	
	comp=Z,17nm,1.2s						
E38A	**The Farm, Brul**	**22.29**	**53**		**P**	**20 20 35.2**	**+0.9**
E38A				IAmb	IAmb	20 20 40.5	
	comp=Z,15nm,0.9s						
DLBC	**Dease Lake**	**24.11**	**344**	P	**P**	**20 20 55.6**	**+2.8**
	comp=Z,0.4nm,1.0s,baz=147,slow=16,SNR=4.2						
DLBC				LR	LR	20 31 14.4	
	comp=Z,48nm,18.1s,baz=138,slow=39						
R33M	**Jennings River**	**25.19**	**344**		**P**	**20 21 00.7**	**-1.9**
R33M				IAmb	IAmb	20 21 09.0	
	comp=Z,8.5nm,1.2s						
YKAW1	**Yellowknife Wh**	**26.80**	**3**	P	**P**	**20 21 15.9**	**-1.1**
YKAW1				IAmb	IAmb	20 21 21.6	
	comp=Z,8.9nm,0.9s						
YKA	**Yellowknife Ar**	**26.80**	**3**	P	**P**	**20 21 16.5**	**-0.6**
YKA	**Yellowknife Ar**	**26.80**	**3**	P	**P**	**20 21 18.6**	**+1.6**
	comp=Z,2.9nm,0.8s,baz=184,slow=8.6,SNR=14						
	comp=Z,2.9nm,0.8s						
SADO	**Sadowa**	**30.45**	**61**	LR	LR	20 34 46.1	
	comp=Z,238nm,20.8s,baz=304,slow=38						
K29M	**Barlow Dome**	**30.61**	**343**	IAmb	IAmb	20 21 56.5	
	comp=Z,5.3nm,1.2s						
J30M	**Hart River**	**30.97**	**344**		**P**	**20 21 52.9**	**-1.3**
J30M				IAmb	IAmb	20 21 59.3	
	comp=Z,6.9nm,1.3s						
I30M	**Mount Dempster**	**31.54**	**345**		**P**	**20 21 58.8**	**-0.4**
I30M				IAmb	IAmb	20 22 02.7	
	comp=Z,5.7nm,1.1s						
SCRK	**Sand Creek**	**32.47**	**339**		**P**	**20 22 07.7**	**+0.3**
I28M	**Miner Creek**	**32.53**	**343**		**P**	**20 22 07.8**	**-0.2**
I28M				IAmb	IAmb	20 22 11.3	
	comp=Z,4.0nm,0.8s						
ILAR	**Eielson Array**	**33.92**	**338**	P	**P**	**20 22 22.0**	**+2.1**
	comp=Z,2.3nm,1.0s,baz=152,slow=7.3,SNR=18						
	comp=Z,2.3nm,1.0s						
H19K	**Roundabout Mou**	**37.54**	**335**		**P**	**20 22 50.6**	**-0.3**
H19K				IAmb	IAmb	20 22 54.2	
	comp=Z,7.6nm,1.1s						
SCHQ	**Schefferville**	**39.44**	**45**	LR	LR	20 38 32.2	
	comp=Z,92nm,18.4s,baz=268,slow=35						
FRB	**Frobisher Bay**	**40.68**	**31**	LR	LR	20 38 58.5	
	comp=Z,144nm,18.1s,baz=260,slow=34						
SJG	**San Juan**	**48.56**	**97**	LR	LR	20 48 42.0	
	comp=Z,89nm,18.0s,baz=196,slow=41						
SFJD	**Kangerlussuaq**	**48.69**	**29**	LR	LR	20 45 21.4	
	comp=Z,124nm,19.3s,baz=264,slow=37						
PCRV	**Puerto La Cruz**	**54.24**	**104**	LR	LR	20 49 20.5	
	comp=Z,91nm,19.3s,slow=37						
PETK	**Petropavlovsk-**	**59.36**	**316**	P	**P**	**20 25 39.7**	**+0.5**
	comp=Z,4.1nm,0.9s,baz=81,slow=12,SNR=6.4						
	comp=Z,4.1nm,0.9s						
BORG	**Borgarnes**	**60.81**	**29**	LR	LR	20 51 59.4	
	comp=Z,112nm,18.5s,baz=289,slow=36						
PPT	**Papeete**	**61.09**	**215**	LR	LR	20 46 26.7	
	comp=Z,41nm,19.6s,baz=5.5,slow=30						
PPT2	**Papeete2**	**61.11**	**215**	*e*LR	LR	20 43 53.3	
	comp=Z,90nm,26.0s						
TBI	**Tubuai**	**66.09**	**212**	*e*LR	LR	20 46 04.1	
	comp=Z,1μm,38.8s						
RAR	**Rarotonga**	**69.33**	**222**	LR	LR	20 51 52.1	
	comp=Z,48nm,19.6s,baz=352,slow=31						
HFS	**Hagfors**	**76.39**	**23**	P	**P**	**20 27 26.3**	**0.0**
	comp=Z,0.6nm,0.5s,baz=312,slow=13,SNR=4.1						
	comp=Z,0.6nm,0.5s						
MEM	**Membach**	**80.69**	**33**	*d*P	**P**	**20 27 50.9**	**+0.8**
ESDC	**Sonseca Array**	**83.19**	**45**	P	**P**	**20 28 03.2**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=254,slow=5.2,SNR=2.5						
	comp=Z,0.4nm,0.7s						
KSRS	**Korea Array**	**85.16**	**313**	P	**P**	**20 28 14.2**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=62,slow=2.9,SNR=4.7						
	comp=Z,0.8nm,0.7s						
DAVOX	**Davos/Dischmat**	**85.25**	**33**	LR	LR	21 08 49.7	
	comp=Z,36nm,18.4s,baz=296,slow=38						
GERES	**GERESS Array B**	**85.27**	**30**	LR	LR	21 05 52.6	
	comp=Z,64nm,20.2s,baz=319,slow=35						
VRAC	**Vranov**	**86.04**	**28**	LR	LR	21 06 48.1	
	comp=Z,42nm,18.8s,baz=325,slow=36						
MDT	**Midelt**	**87.34**	**51**	LR	LR	21 05 01.3	
	comp=Z,56nm,19.3s,baz=352,slow=34						
SONM	**Songino Array**	**87.94**	**332**	P	**P**	**20 28 28.6**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=23,slow=8.0,SNR=6.1						
	comp=Z,1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**88.56**	**347**	P	**P**	**20 28 30.3**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=339,slow=6.5,SNR=4.4						
	comp=Z,0.9nm,0.4s						
BVAR	**Borovoye Array**	**91.29**	**355**	P	**P**	**20 28 44.1**	**+1.5**
	comp=Z,1.9nm,0.7s,baz=353,slow=2.7,SNR=12						
	comp=Z,1.9nm,0.7s						
KURBB	**Kurchatov Arra**	**92.80**	**350**	P	**P**	**20 28 50.5**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=13,slow=4.7,SNR=6.3						
	comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**95.88**	**346**	P	**P**	**20 29 05.0**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=42,slow=2.8,SNR=2.1						
	comp=Z,0.2nm,0.5s						
KBZ	**Khabaz**	**98.90**	**14**	LR	LR	21 17 40.1	
	comp=Z,69nm,18.2s,baz=28,slow=38						

*NEIC **16** 20:15:58.5±0.2,35˚.67N±0˚.01×117˚.51W±0˚.01, h8km±2km, Error ellipse: s-maj=2.1km s-min=1.2km az=224.0*

PAS 16 20:15:59.0±0.3,35˚.68N±0˚.02×117˚.52W±0˚.02,h6km±4km, ML3.6/4,ML3.5/14(NEIC),Error ellipse: s-maj=2.3km s-min=1.9km az=175.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**

CFUE					⇑*i*Vmb_VC			20 20 13.8			
	236nm,SNR=1.1										
CFUE					S		**Sn**	**20 21 04.5**	**-1.7**		
ZHG	**ZHG**	**5.02**	**88**		P		**Pn**	**20 20 13.0**	**+0.9**		
ZHG	**ZHG**	**5.02**	**88**		S		Sn	20 21 01.0	-9.2		
MORF	**Marmelete**	**5.08**	**39**	*e*P			**Pn**	**20 20 14.2**	**+1.4**		
MORF				*e*S			Sn	20 21 06.3	-5.3		
MORF				*i* IAML				20 21 08.0			
	comp=E,9.7nm,0.1s										
MORF	**Marmelete**	**5.08**	**39**	*e*P			**Pn**	**20 20 15.2**	**+2.4**		
MORF				*e*S			Sn	20 21 06.3	-5.3		
MORF				*i* IAML				20 21 11.2			
MORF				*i* IAML				20 21 12.6			
MORF				*i* IAML				20 21 13.4			
TIO	**Tiouine**	**5.19**	**117**		Pn		Pn	20 20 19.5	+5.1		
TIO					Sn		Sn	20 21 10.9	-3.6		
TIO	**Tiouine**	**5.19**	**117**		P		**Pn**	**20 20 16.4**	**+2.0**		
TIO	**Tiouine**	**5.19**	**117**		S		Sn	20 21 10.9	-3.5		
PTEO	**Sao Teotonio**	**5.23**	**37**	*e*P			**Pn**	**20 20 17.4**	**+2.6**		
PTEO				*e*S			Sn	20 21 09.4	-5.7		
PTEO				*i* IAML				20 21 13.4			
PTEO				*i* IAML				20 21 14.8			
PTEO				*i* IAML				20 21 17.0			
PBDV	**Barranco-do-Ve**	**5.44**	**44**	*e*P			**Pn**	**20 20 19.9**	**+2.2**		
PBDV				*e*S			Sn	20 21 14.3	-6.0		
PBDV				*i* IAML				20 21 18.5			
PBDV				*i* IAML				20 21 19.6			
PBDV				*i* IAML				20 21 26.8			
OUZM	**OUZ**	**5.58**	**115**		P		**Pn**	**20 20 21.3**	**+1.6**		
OUZM	**OUZ**	**5.58**	**115**		S		Sn	20 21 18.7	-5.3		
PCVE	**Castro Verde**	**5.65**	**40**		Pn		**Pn**	**20 20 22.6**	**+2.1**		
PCVE					Sn		Sn	20 21 19.3	-6.3		
PCVE	**Castro Verde**	**5.65**	**40**	*e*P			**Pn**	**20 20 22.7**	**+2.1**		
PCVE				*e*S			**Sn**	**20 21 20.7**	**-4.8**		
PCVE				*i* IAML				20 21 22.9			
PCVE				*i* IAML				20 21 24.1			
PCVE				*i* IAML				20 21 25.9			
PVAQ	**Vaqueiros**	**5.67**	**44**		Pn		**Pn**	**20 20 22.9**	**+2.0**		
PVAQ	**Vaqueiros**	**5.67**	**44**	*e*P			**Pn**	**20 20 22.9**	**+2.0**		
PVAQ				*e*S			Sn	20 21 19.6	-6.4		
PVAQ				*i* IAML				20 21 23.7			
PVAQ				*i* IAML				20 21 24.5			
PVAQ				*i* IAML				20 21 25.1			
PVAQ	**Vaqueiros**	**5.67**	**44**		P		**Pn**	**20 20 23.8**	**+3.0**		
PVAQ	**Vaqueiros**	**5.67**	**44**		S		**Sn**	**20 21 26.2**	**+0.2**		
MESJ	**Messejana**	**5.71**	**38**	*e*P			**Pn**	**20 20 22.6**	**+1.2**		
MESJ				*e*S			Sn	20 20 20.7	-6.3		
MESJ				*i* IAML				20 21 24.6			
	comp=N,3.0nm,0.1s										
MESJ	**Messejana**	**5.71**	**38**	*e*P			**Pn**	**20 20 22.9**	**+1.5**		
MESJ				*e*S			Sn	20 21 21.2	-5.7		
MESJ				*i* IAML				20 21 26.9			
MESJ				*i* IAML				20 21 28.2			
MESJ				*i* IAML				20 21 33.2			
EGRO	**El Granado**	**5.90**	**44**		Pn		**Pn**	**20 20 25.8**	**+1.9**		
EGRO					Sn		Sn	20 21 25.4	-6.2		
EGRO	**El Granado**	**5.90**	**44**		P		**Pn**	**20 20 26.0**	**+2.1**		
EGRO				⇑*i*Vmb_VC				20 20 27.2			
	comp=N,172nm,SNR=1.9										
EGRO					S		**Sn**	**20 21 27.0**	**-4.5**		
CGUI	**Guimar, Teneri**	**6.02**	**214**		S		Sn	20 21 31.4	-3.4		
PBEJ	**Beja**	**6.04**	**39**	*e*S			Sn	20 21 28.9	-6.1		
PBEJ				*i* IAML				20 21 32.0			
PBEJ				*i* IAML				20 21 32.2			
PBEJ				*i* IAML				20 21 32.3			
CFOR	**Fortaleza, Los**	**6.10**	**215**		S		Sn	20 21 32.4	-4.6		
MACI	**Morro de la Ar**	**6.11**	**214**		S		Sn	20 21 33.4	-3.9		
CNOR	**Icod de los Vi**	**6.13**	**215**		S		**Sn**	**20 21 34.7**	**-3.0**		
CLUM	**San Bartolome**	**6.14**	**206**		P		**Pn**	**20 20 31.6**	**+4.3**		
CLUM					S		**Sn**	**20 21 34.8**	**-2.8**		
PARRA	**Arraiolos**	**6.14**	**27**	*e*P			Pn	20 20 35.4	+8.1		
PARRA				*e*S			**Sn**	**20 21 41.5**	**+4.0**		
PARRA				*i* IAML				20 21 45.3			
PARRA				*i* IAML				20 21 45.4			
PARRA				*i* IAML				20 21 46.5			
PMAFR	**Mafra**	**6.17**	**25**		Sn		Sn	20 21 31.7	-6.7		
PMAFR	**Mafra**	**6.17**	**25**	*e*S			**Sn**	**20 21 33.1**	**-5.3**		
PMAFR				*i* IAML				20 21 47.7			
PMAFR				*i* IAML				20 21 56.1			
PMAFR				*i* IAML				20 21 56.4			
CPVI	**La Orotava (Te**	**6.18**	**215**		S		**Sn**	**20 21 37.0**	**-2.0**		
PACT	**Alcochete**	**6.18**	**29**	*e*S			**Sn**	**20 21 33.9**	**-4.6**		
PACT				*i* IAML				20 21 43.8			
PACT				*i* IAML				20 21 45.8			
PACT				*i* IAML				20 21 58.0			
CCAN	**Las Canadas**	**6.18**	**214**		S		Sn	20 21 34.9	-4.2		
CDOS	**Garachico, Isl**	**6.19**	**216**		P		**Pn**	**20 20 29.3**	**+1.2**		
CDOS					S		Sn	20 21 35.4	-3.6		
CCHO	**La Orotava (Te**	**6.21**	**215**		S		Sn	20 21 36.4	-3.3		
GUIA	**Guia de Isora,**	**6.22**	**215**		S		**Sn**	**20 21 38.5**	**-1.3**		
CLAJ	**Vilaflor (Tene**	**6.27**	**215**		S		Sn	20 21 36.8	-4.3		
EVO	**Evora**	**6.35**	**35**		Sn		Sn	20 21 35.7	-7.0		
EVO	**Evora**	**6.35**	**35**	*e*P			**Pn**	**20 20 30.0**	**-0.2**		
EVO				*e*S			Sn	20 21 36.3	-6.4		
EVO				*i* IAML				20 21 40.4			
EVO				*i* IAML				20 21 41.2			
EVO				*i* IAML				20 21 42.1			
CENR	**El Paso, La Pa**	**6.52**	**224**		S		Sn	20 21 43.2	-4.0		
TBT	**Taburiente**	**6.52**	**225**		S		Sn	20 21 41.3	-5.7		
EMIN	**Mina Concepcio**	**6.53**	**46**		Pn		**Pn**	**20 20 34.5**	**+1.8**		
EMIN					Sn		Sn	20 21 39.7	-7.6		
EMIN	**Mina Concepcio**	**6.53**	**46**		P		**Pn**	**20 20 34.4**	**+1.8**		
EMIN				⇑*i*Vmb_VC				20 20 35.2			
	comp=N,85nm,SNR=1.8										
EMIN					S		Sn	20 21 41.9	-5.3		
EGOM	**La Gomera**	**6.53**	**218**		S		Sn	20 21 42.5	-4.7		
ESPR	**Espera**	**6.55**	**56**		Pn		**Pn**	**20 20 34.9**	**+2.0**		
ESPR					Sn		Sn	20 21 42.0	-5.7		
ESPR	**Espera**	**6.55**	**56**		P		**Pn**	**20 20 34.7**	**+1.7**		
ESPR				⇑*i*Vmb_VC				20 20 35.0			
	comp=N,177nm,SNR=2.0										
PBAR	**Barrancos**	**6.59**	**42**		Pn		**Pn**	**20 20 35.5**	**+2.0**		
PBAR					Sn		Sn	20 21 41.5	-7.2		
PBAR	**Barrancos**	**6.59**	**42**	*e*P			**Pn**	**20 20 36.3**	**+2.8**		
PBAR				*e*S			Sn	20 21 42.2	-6.5		
PBAR				*i* IAML				20 21 45.6			
PBAR				*i* IAML				20 21 47.4			
PBAR				*i* IAML				20 21 49.9			
EJIF	**Jimena Fronter**	**6.64**	**61**		P		**Pn**	**20 20 36.4**	**+2.3**		
MD31	**MD31**	**6.64**	**92**		P		**Pn**	**20 20 35.9**	**+1.7**		
MD31	**MD31**	**6.64**	**92**		S		Sn	20 21 43.7	-6.4		
PMTG	**Montargil**	**6.69**	**31**	*e*P			**Pn**	**20 20 36.5**	**+1.7**		
PMTG				*e*S			Sn	20 21 44.2	-6.8		
PMTG				*i* IAML				20 21 48.7			
PMTG				*i* IAML				20 21 48.9			
PMTG				*i* IAML				20 21 49.1			
MDT	**Midelt**	**6.77**	**93**		P		**Pn**	**20 20 37.3**	**+1.2**		
MDT	**Midelt**	**6.77**	**93**		S		Sn	20 21 46.6	-6.8		
PESTR	**Estremoz**	**6.82**	**35**		Sn		Sn	20 21 47.3	-7.0		
PESTR	**Estremoz**	**6.82**	**35**	*e*S			Sn	20 21 47.7	-6.6		
ZGR	**Zagora**	**6.82**	**117**		P		**Pn**	**20 20 39.1**	**+2.3**		
ZGR	**Zagora**	**6.82**	**117**		S		Sn	20 21 50.5	-4.1		
EBAD	**Badajoz**	**7.02**	**39**		Pn		**Pn**	**20 20 41.1**	**+1.6**		
EBAD					Sn		Sn	20 21 51.3	-8.1		
EBAD	**Badajoz**	**7.02**	**39**		P		**Pn**	**20 20 41.3**	**+1.9**		
EBAD					S		Sn	20 21 53.8	-5.5		
PSARD	**Sardoal**	**7.16**	**29**	*e*P			**Pn**	**20 20 43.5**	**+2.2**		
PSARD				*e*S			Sn	20 21 55.8	-6.9		
PSARD				*i* IAML				20 22 00.7			
PSARD				*i* IAML				20 22 00.9			
PSARD				*i* IAML				20 22 01.2			
EMIJ	**Mijas**	**7.19**	**62**		Pn		**Pn**	**20 20 43.8**	**+2.0**		
EMIJ					Sn		Sn	20 21 57.0	-6.6		
EMIJ	**Mijas**	**7.19**	**62**	⇑*i*Vmb_VC				20 20 43.8			
	comp=N,53nm,SNR=0.7										
EMIJ					P		**Pn**	**20 20 44.0**	**+2.2**		
EMIJ					S		Sn	20 21 58.4	-5.2		
PMRV	**Marv??o**	**7.36**	**34**	*e*P			**Pn**	**20 20 46.8**	**+2.8**		
PMRV				*e*S			Sn	20 22 00.2	-7.3		
AKLM	**AKL**	**7.38**	**79**		P		**Pn**	**20 20 45.0**	**+0.6**		
AKLM	**AKL**	**7.38**	**79**		S		Sn	20 22 02.3	-6.1		
PCAS	**Casmilo, Conde**	**7.43**	**25**	*e*S			Sn	20 22 03.6	-5.6		
PALE	**Palemas**	**7.43**	**73**		P		**Pn**	**20 20 46.7**	**+1.7**		
PALE	**Palemas**	**7.43**	**73**		S		Sn	20 22 03.9	-5.6		
ECAB	**El Cabril**	**7.50**	**50**		Pn		**Pn**	**20 20 47.7**	**+1.7**		
ECAB					Sn		Sn	20 22 02.7	-8.5		
ECAB	**El Cabril**	**7.50**	**50**		P		**Pn**	**20 20 47.3**	**+1.3**		
ECAB				⇑*i*Vmb_VC				20 20 48.4			
	comp=N,57nm,SNR=0.9										
ECAB					S		Sn	20 22 04.8	-6.3		

PCBR	**Castelo Branco**	**7.65**	**31**	*e*S			Sn	20 22 09.2	-5.6		
EGOR	**Sierra Gorda,**	**7.90**	**60**		Pn		**Pn**	**20 20 54.7**	**+3.1**		
EGOR	**Sierra Gorda,**	**7.90**	**60**		P		**Pn**	**20 20 53.8**	**+2.2**		
EGOR					S		Sn	20 22 15.2	-6.0		
EADA	**Adamuz**	**8.10**	**52**		Pn		**Pn**	**20 20 55.9**	**+1.7**		
EADA					Sn		Sn	20 22 17.6	-8.2		
EADA	**Adamuz**	**8.10**	**52**		P		**Pn**	**20 20 56.0**	**+1.7**		
EADA				⇑*i*Vmb_VC				20 20 57.1			
	comp=N,88nm,SNR=1.6										
EADA					S		Sn	20 22 19.7	-6.2		
ELGU	**Los Guajares,**	**8.16**	**62**		Pn		**Pn**	**20 20 58.3**	**+3.2**		
EQTA	**Presa de Quent**	**8.43**	**61**		Pn		**Pn**	**20 21 01.7**	**+3.0**		
EQTA					Sn		**Sn**	**20 22 30.8**	**-3.3**		
JBK	**JBK**	**8.44**	**81**		P		Pn	20 20 59.1	+0.1		
JBK	**JBK**	**8.44**	**81**		S		Sn	20 22 25.0	-9.4		
EPLA	**Plasencia**	**8.48**	**37**		S		Sn	20 22 27.7	-7.6		
POLO	**Lamas de Olo**	**8.84**	**24**	*e*P			**Pn**	**20 21 07.7**	**+3.2**		
POLO				*e*S			Sn	20 22 37.6	-6.6		
MVO	**Moncorvo**	**8.95**	**28**	*e*P			**Pn**	**20 21 05.8**	**-0.1**		
MVO				*e*S			Sn	20 22 39.7	-7.0		
EQES	**Quesada**	**8.95**	**58**		P		**Pn**	**20 21 07.8**	**+1.8**		
EQES					S		Sn	20 22 40.7	-6.2		
PSIM	**Granatula de C**	**9.00**	**51**		P		**Pn**	**20 21 08.3**	**+1.7**		
PSIM					S		Sn	20 22 41.3	-6.7		
PCAB	**Cabril**	**9.07**	**23**	*e*S			Sn	20 22 41.1	-8.5		
PAB	**San Pablo**	**9.07**	**45**		P		**Pn**	**20 21 09.2**	**+1.6**		
PAB				⇑*i*Vmb_VC				20 21 10.8			
	comp=N,37nm,SNR=0.8										
PAB					S		Sn	20 22 42.1	-7.7		
ELOB	**Lobios**	**9.20**	**22**		S		Sn	20 22 45.4	-7.5		
PGAV	**Gavieira, Arco**	**9.22**	**21**	*e*S			Sn	20 22 45.1	-8.5		

IDC ***16*** *20:21:06.6±1.9,30°.41S×177°.49W,h0km,mb3.8/3, mbtmp3.8/3,Error ellipse: s-maj=44.0km s-min=25.6km az=98.0*

ISC 16 20:21:10.4±1.9,**30°.54S**±0°.09×**177°.5W**±0°.3,**h33**km,**n14,** σ1°**68**/10,**mb3.8/3,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.32**	**346**	Pn	**Pn**	**20 21 32.1**	**-0.5**
	109nm,0.3s,baz=125,slow=20,SNR=2.3						
RAO				Sn	**Sn**	**20 21 46.7**	**-2.3**
	354nm,0.3s,baz=139,slow=19,SNR=10						
URZ	**Urewera**	**8.88**	**208**	Pn	**Pn**	**20 23 14.6**	**-1.7**
	0.3nm,0.3s,baz=333,slow=15,SNR=1.8						
URZ				Sn	**Sn**	**20 24 53.6**	**-1.5**
	1.0nm,0.3s,baz=3.9,slow=22,SNR=6.6						
STKA	**Stephens Creek**	**34.83**	**257**	P	**P**	**20 28 00.4**	**+2.0**
	2.3nm,0.8s,baz=82,slow=6.5,SNR=4.9						
	2.3nm,0.8s						
ASAR	**Alice Springs**	**43.50**	**267**	P	**P**	**20 29 12.3**	**+1.4**
	0.4nm,0.6s,baz=104,slow=8.3,SNR=2.5						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**44.50**	**272**	P	**P**	**20 29 19.7**	**+0.8**
	0.6nm,0.4s,baz=110,slow=8.1,SNR=7.4						
	0.6nm,0.4s						
H03S2	**Juan Fernandez**	**80.06**	**123**	T	T	22 02 32.3	
	baz=238,slow=74,SNR=4.2						
H03S1	**Juan Fernandez**	**80.07**	**123**	T	T	22 02 34.9	
	baz=238,slow=74,SNR=3.9						
H03S3	**Juan Fernandez**	**80.07**	**123**	T	T	22 02 31.4	
	baz=238,slow=74,SNR=4.0						
H03N3	**Juan Fernandez**	**80.25**	**123**	T	T	22 02 48.1	
	baz=241						
H03N2	**Juan Fernandez**	**80.25**	**123**	T	T	22 02 47.3	
	baz=241						
H03N1	**Juan Fernandez**	**80.26**	**123**	T	T	22 02 45.3	
	baz=241						
KURBB	**Kurchatov Arra**	**121.47**	**314**	PKP	**PKPdf**	**20 39 59.3**	**-0.7**
	0.2nm,0.7s,baz=90,slow=1.9,SNR=2.0						
BVAR	**Borovoye Array**	**126.78**	**316**	PKP	**PKiKP**	**20 40 11.5**	**+0.9**
	0.4nm,0.6s,baz=27,slow=6.6,SNR=2.2						
FINES	**FINESS Array B**	**145.41**	**340**	PKPbc	**PKPab**	**20 40 45.3**	**+0.9**
	1.1nm,0.4s,baz=48,slow=4.8,SNR=17						

IDC ***16*** *20:22:28.6±1.2,2°.66S×138°.61E,h0km,mb3.4/3, mbtmp3.8/7,ML3.6/4,Error ellipse: s-maj=29.3km s-min=21.1km az=143.0*

ISC 16 20:22:33.1±1.0,**2°.8S**±0°.2×**138°.70E**±0°.09,**h32**km,**n7,** σ0°**52**/8,**mb3.5**/3,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.02**	**83**	Pn	**Pn**	**20 23 05.5**	**+0.5**
	9.0nm,0.3s,baz=221,slow=12,SNR=38						
JAY				Sn	**Sb**	**20 23 33.8**	**-0.2**
	5.7nm,0.3s,baz=305,slow=10,SNR=3.9						
	20nm,0.3s						
BATI	**Baumata**	**16.67**	**243**	Pn	**Pn**	**20 26 25.0**	**+0.5**
	0.5nm,0.3s,baz=69,slow=8.6,SNR=1.7						
	13nm,0.7s						
WRA	**Warramunga Arr**	**17.61**	**194**	P	**Pn**	**20 26 35.9**	**-0.4**
	0.3nm,0.3s,baz=16,slow=13,SNR=11						
	1.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.91**	**219**	P	**P**	**20 27 02.1**	**-0.2**
	0.1nm,0.3s,baz=45,slow=11,SNR=2.5						
	5.4nm,0.9s						
ASAR	**Alice Springs**	**21.31**	**192**	P	**P**	**20 27 17.6**	**+0.2**
	0.4nm,0.3s,baz=15,slow=9.6,SNR=17						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**73.75**	**325**	P	**P**	**20 34 04.4**	**+0.2**
	0.5nm,1.1s,baz=134,slow=7.7,SNR=4.2						
	0.5nm,1.1s						
ILAR	**Eielson Array**	**85.87**	**24**	P	**P**	**20 35 08.8**	**-0.7**
	0.2nm,0.7s,baz=255,slow=4.6,SNR=2.8						
	0.2nm,0.7s						

NEIC ***16*** *20:24:17.0±1.7,37°.84N±0°.01×121°.75W±0°.02,h10km±1km, Error ellipse: s-maj=2.8km s-min=2.3km az=192.0*

NCEDC 16 20:24:16.8±1.5,**37°.82N**±0°.01×**121°.76W**±0°.02,**h12**km±2km, **ML3.2**/81,**ML2.9**/92(NEIC),**Error ellipse: s-maj=2.1km s-min=1.8km az=207.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMOB	**Morgan Territo**	**0.04**	**256**		Pg	20 24 19.4	+0.3
CMOB					Sg	20 24 21.4	+0.8
CBSNC	**Byron Hot Spri**	**0.09**	**91**		Pg	20 24 20.6	+1.1
CBZL	**Buffer Zone**	**0.13**	**165**		Pb	20 24 20.9	-0.3
CBZL	**Buffer Zone**	**0.13**	**165**		Pb	20 24 24.2	+3.0
CRPB	**Russellman Par**	**0.15**	**309**		Pg	20 24 20.7	+0.4
CRPB					Sg	20 24 23.7	+0.9
CSAM	**Sandia**	**0.15**	**163**		Pb	20 24 21.3	-0.3
BDM	**Black Diamond**	**0.16**	**328**		Pb	20 24 21.4	-0.4
BDM					Sg	20 24 25.2	+2.1
C027	**Lawnview Circl**	**0.18**	**262**		Pb	20 24 21.6	-0.4
C027					Sg	20 24 25.2	+1.8
C062	**Calle Reynoso**	**0.19**	**217**		Pb	20 24 22.1	-0.1
C062					Sg	20 24 26.7	+2.9
CVLM	**Vallecito**	**0.20**	**197**		Pb	20 24 22.1	-0.3
C026	**Kell Court Ala**	**0.24**	**283**		Pb	20 24 22.8	-0.2
C026					Sg	20 24 27.7	+2.6
BGC	**Bolinger Road**	**0.24**	**269**		Pb	20 24 22.7	-0.4
BGC					Sg	20 24 27.7	+2.5
CLCB	**Lake Chabot**	**0.25**	**252**		Pb	20 24 22.9	-0.4
CNIC	**Niles Canyon**	**0.27**	**218**		Pb	20 24 23.1	-0.4
CNIC					Sb	20 24 28.4	+0.3
CSTL	**Corral Hollow**	**0.28**	**131**		Pb	20 24 23.4	-0.2
SMCB	**Saint Mary's C**	**0.28**	**274**		Pb	20 24 23.4	-0.4
SMCB					Sb	20 24 28.5	+0.1
TWIT	**Twitchell Isla**	**0.28**	**12**		Pb	20 24 24.9	+1.1
CTAM	**Taylor**	**0.29**	**316**		Pb	20 24 23.8	-0.2
C050	**Festivo Court**	**0.32**	**204**		Pb	20 24 24.2	-0.3
CMCM	**Mills College**	**0.33**	**264**		Pb	20 24 24.3	-0.4
CMCM					Sb	20 24 30.1	+0.2
HMR	**Hamilton Ranch**	**0.34**	**355**		Pb	20 24 26.0	+1.2
CMLM	**Mount Lewis**	**0.35**	**166**		Pb	20 24 24.7	-0.4
CALM	**Calaveras Res.**	**0.37**	**185**		Pb	20 24 25.0	-0.3
CALM					Sb	20 24 31.1	+0.1
CYD1	**Coyote D'meter**	**0.37**	**226**		Pb	20 24 24.8	-0.5
BKS	**Berkeley--Byer**	**0.38**	**279**		Pb	20 24 25.1	-0.3
BKS					Sb	20 24 31.9	+0.5
VAK	**Adit at Lawren**	**0.39**	**279**		Pb	20 24 25.3	-0.4
CMSB	**University of**	**0.39**	**278**		Pb	20 24 25.2	-0.4
BL67	**Building 67, L**	**0.40**	**278**		Pg	20 24 25.2	+0.5
BL88	**Building 88, L**	**0.40**	**279**		Pb	20 24 25.3	-0.5
CPIM	**Pinole Ridge**	**0.40**	**295**		Pb	20 24 25.7	-0.1
BRK	**Berkeley--Havi**	**0.40**	**278**		Pb	20 24 25.3	-0.5
NLHM	**Lake Herman**	**0.43**	**315**		Pg	20 24 25.6	+0.3
HERB	**Hercules**	**0.44**	**296**		Pb	20 24 26.1	-0.4

JEPS	**Jepson Natural**	**0.44**	**353**				Pb	20 24 27.6	+1.1		
MTOS	**Mt Oso, Westle**	**0.47**	**132**				Pg	20 24 26.1	+0.2		
MTOS	**Mt Oso, Westle**	**0.47**	**132**	IAML				20 24 38.5			
	comp=E,723nm,0.3s										
MTOS				IAML				20 24 39.8			
	comp=N,929nm,0.4s										
RFSB	**Richmond Field**	**0.47**	**282**				Pg	20 24 25.4	-0.6		
CYBM	**Yerba Buena Is**	**0.48**	**269**				Pg	20 24 26.5	+0.4		
MHC	**Mount Hamilton**	**0.48**	**169**				Pb	20 24 27.1	-0.2		
JCPM	**Coyote Point**	**0.50**	**243**				Pg	20 24 27.0	+0.4		
ARN	**Arnold Ranch**	**0.50**	**159**				Pb	20 24 27.3	-0.3		
PINL	**Point Pinole R**	**0.52**	**292**				Pb	20 24 27.9	+0.1		
JSBM	**San Bruno Moun**	**0.52**	**255**				Pg	20 24 27.2	+0.2		
CPMM	**Point Molate**	**0.53**	**284**				Pg	20 24 27.4	+0.2		
JSFB	**Stanford Teles**	**0.53**	**219**				Pb	20 24 27.9	-0.1		
SCCB	**Santa Clara Co**	**0.54**	**189**				Pb	20 24 28.3	+0.1		
JSJM	**St Joseph**	**0.55**	**209**				Pb	20 24 28.5	+0.2		
JRSC	**Jasper Ridge**	**0.56**	**223**				Pg	20 24 28.1	+0.4		
CCOB	**Coe Ranch Numb**	**0.56**	**173**				Pb	20 24 28.9	+0.3		
JPRM	**Presidio of Sa**	**0.57**	**268**				Pg	20 24 28.1	+0.3		
JFP	**Foothills Park**	**0.57**	**217**				Pb	20 24 28.6	-0.2		
SAC	**San Andreas**	**0.57**	**246**				Pg	20 24 28.3	+0.3		
JCHM	**Cahill Ridge**	**0.57**	**239**				Pg	20 24 28.3	+0.3		
NGVM		**0.58**	**322**				Pg	20 24 28.4	+0.3		
JBMM	**Black Mountain**	**0.59**	**212**				Pb	20 24 28.9	-0.2		
JMGM	**Milagra Ridge**	**0.59**	**252**				Pg	20 24 28.5	+0.1		
JJOM	**Saint Joseph's**	**0.64**	**196**				Pb	20 24 29.7	-0.2		
NADM	**Allendale**	**0.66**	**346**				Pb	20 24 30.4	+0.1		
BGH	**Bear Gulch**	**0.66**	**224**				Pb	20 24 30.5	+0.2		
CADM	**Anderson Res.**	**0.66**	**171**				Pb	20 24 30.6	+0.3		
JLAB	**Laurel Hill**	**0.66**	**178**				Pb	20 24 30.3	0.0		
QRDG	**Quail Ridge Na**	**0.73**	**335**				Pg	20 24 30.7	-0.2		
RUSS	**Russell Ranch**	**0.73**	**353**				Pb	20 24 31.9	+0.5		
CVS	**Carmenet Viney**	**0.76**	**314**				Pg	20 24 30.9	-0.6		
CVS	**Carmenet Viney**	**0.76**	**314**	IAML				20 24 45.0			
	comp=N,754nm,0.5s										
CVS				IAML				20 24 46.8			
	comp=E,563nm,0.6s										
GHS	**Gilroy Hot Spr**	**0.76**	**161**				Pb	20 24 31.9	-0.2		
JPSM		**0.78**	**217**				Pb	20 24 32.1	-0.1		
HLPM	**Lions Peak**	**0.78**	**172**				Pb	20 24 32.3	0.0		
OAKV	**Oakville Exper**	**0.80**	**320**				Pg	20 24 31.6	-0.6		
NOLM	**Olema**	**0.85**	**285**				Pg	20 24 32.6	-0.5		
HPCM	**Pacheco Lake**	**0.85**	**153**				Pb	20 24 33.5	0.0		
SLD	**San Luis Dam**	**0.86**	**150**

KSXB				IAML		20 26 13.2		
	comp=N,9.5nm,1.9s							
KSXB				IAML		20 27 54.8		
	comp=E,12nm,1.8s							
QSM	**Queen of Sheba**	**4.34**	**114**	Pn	Pn	20 25 20.6	-2.0	
QSM				IAML		20 26 01.7		
	comp=N,9.3nm,3.5s							
QSM				IAML		20 26 53.9		
	comp=E,8.9nm,1.2s							
PASC	**Pasadena Art C**	**4.65**	**140**	Pn	Pn	20 25 25.7	-1.2	
PASC				IAML		20 26 29.8		
	comp=E,14nm,0.8s							
PASC				IAML		20 27 37.0		
	comp=N,17nm,1.9s							
KBO	**Bosley Butte**	**4.78**	**337**	Pn	Pn	20 25 28.2	-0.5	
KEBM	**Edson Butte**	**5.42**	**340**	Pn	Pn	20 25 37.2	-0.3	
ELK	**Elko**	**5.84**	**58**		Pn	20 25 43.6	+0.1	
J08A	**Circle Bar Ran**	**6.07**	**23**	Pn	Pn	20 25 45.4	-1.1	

IDC ***16*** *20:31:33.2±1.3,23°30′S×66°66′W,h186km±11km,mb3.8/10, mbtmp4.4/15,MS3.1/2,Error ellipse: s-maj=17.9km s-min=11.0km az=86.0*

SJA ***16*** *20:31:33.3±0.8,23°34′S×66°92′W,h213km±5km,ML4.7, MW4.3*

NEIC ***16*** *20:31:33.9±1.9,23°36′S±0°07′×66°8′W±0°1′,h204km±7km, mb4.6/51,Mwr4.5(GUC),Error ellipse: s-maj=13.6km s-min=9.7km az=94.0*

GUC ***16*** *20:31:35.1±0.7,23°29′S×66°93′W,h200km±5km,ML4.8*

VAO ***16*** *20:31:35.2±0.6,23°21′S×66°86′W,h214km±5km,mb4.3*

ISC 16 20:31:33.6±0.5,**23°36′S**±0°03′×**66°94′W**±0°04′,**h203**km±5km, **n210,σ1ᵍ42**/252,**mb4.5**/31,**5C-3D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**1.02**	**147**	*eP*	**Pn**	**20 32 05.5**	**+1.1**
SALTA				*eS*	**S**	**20 32 29.1**	**+0.8**
AF01	**San Pedro de A**	**1.21**	**289**		**Pn**	**20 32 07.7**	**+2.2**
AF01	**San Pedro de A**	**1.21**	**289**	⇑*iP*	**Pn**	**20 32 07.8**	**+2.2**
AF01				*eS*	**S**	**20 32 33.0**	**+3.1**
AF01				IAML		20 32 52.8	
	comp=E,4μm,0.9s						
AF01	**San Pedro de A**	**1.21**	**289**	*eP*	**Pn**	**20 32 07.8**	**+2.2**
AF01				*eS*	**S**	**20 32 29.4**	**-0.5**
AF01				IAML		20 32 53.2	
	comp=Z,2μm,0.6s						
YJA	**Yavi**	**1.77**	**49**	*i* P	**Pn**	**20 32 11.2**	**+0.7**
YJA	**Yavi**	**1.77**	**49**	*eP*	**Pn**	**20 32 11.2**	**+0.7**
YJA				*eS*	**S**	**20 32 39.0**	**+0.3**
SLA	**San Lorenzo**	**1.89**	**136**	*eP*	**Pn**	**20 32 13.1**	**+1.7**
SLA				*eS*	**S**	**20 32 41.9**	**+1.5**
PB06	**IPOC Station P**	**2.51**	**285**		**Pn**	**20 32 19.4**	**+1.4**
PB06	**IPOC Station P**	**2.51**	**285**	⇑*iP*	**Pn**	**20 32 19.6**	**+1.6**
PB06				*eS*	**S**	**20 32 52.7**	**+0.9**
PB06				IAML		20 32 53.5	
	comp=N,7μm,0.4s						
PB06	**IPOC Station P**	**2.51**	**285**	*eP*	**Pn**	**20 32 19.5**	**+1.6**
PB06				*eS*	**S**	**20 32 52.8**	**+1.0**
PB06				IAML		20 32 54.1	
	comp=Z,3μm,0.7s						
PB09	**IPOC Station P**	**2.63**	**306**		**Pn**	**20 32 20.9**	**+1.6**
PB09	**IPOC Station P**	**2.63**	**306**	*i* P	**Pn**	**20 32 21.2**	**+1.9**
PB09				*eS*	**S**	**20 32 55.6**	**+1.2**
PB09				IAML		20 33 00.4	
	comp=N,2μm,0.4s						
PB09	**IPOC Station P**	**2.63**	**306**	*eP*	**Pn**	**20 32 21.1**	**+1.7**
PB09				*eS*	**S**	**20 32 56.6**	**+2.2**
PB09				IAML		20 33 02.1	
	comp=Z,1μm,0.2s						
FSA	**Cafayete**	**2.88**	**162**	*eP*	**Pn**	**20 32 23.2**	**+1.0**
FSA				*eS*	**S**	**20 33 00.1**	**+0.5**
PB03	**IPOC Station P**	**2.90**	**296**		**Pn**	**20 32 23.5**	**+1.0**
PB03	**IPOC Station P**	**2.90**	**296**	*i* P	**Pn**	**20 32 23.7**	**+1.2**
PB03				*eS*	**S**	**20 32 59.8**	**-0.1**
PB03	**IPOC Station P**	**2.90**	**296**	*eP*	**Pn**	**20 32 23.5**	**+1.0**
PB03				*eS*	**S**	**20 33 00.3**	**+0.4**
PB03				IAML		20 33 02.2	
	comp=Z,5μm,0.2s						
GO02	**Mina Guanaco**	**3.01**	**233**		**Pn**	**20 32 24.8**	**+1.0**
GO02	**Mina Guanaco**	**3.01**	**233**	*i* P	**Pn**	**20 32 25.2**	**+1.4**
GO02				*eS*	**S**	**20 33 04.3**	**+1.8**
GO02	**Mina Guanaco**	**3.01**	**233**	*eP*	**Pn**	**20 32 24.5**	**+0.7**
GO02				*eS*	**S**	**20 33 04.1**	**+1.7**
PB05	**IPOC Station P**	**3.04**	**279**		**Pn**	**20 32 25.0**	**+1.1**
PB05	**IPOC Station P**	**3.04**	**279**	⇑*iP*	**Pn**	**20 32 25.1**	**+1.1**
PB05				*eS*	**S**	**20 33 02.3**	**-0.5**
PB05				IAML		20 33 03.7	
	comp=N,3μm,0.7s						
PB05	**IPOC Station P**	**3.04**	**279**	*eP*	**Pn**	**20 32 25.1**	**+1.1**
PB05				*eS*	**S**	**20 33 03.2**	**+0.4**
PB05				IAML		20 33 06.5	
	comp=Z,1μm,0.4s						
PB01	**IPOC Station P**	**3.30**	**314**		**Pn**	**20 32 27.5**	**+0.4**
PB01	**IPOC Station P**	**3.30**	**314**	*i* P	**Pn**	**20 32 27.9**	**+0.9**
PB01				*eS*	**S**	**20 33 08.3**	**+0.1**
PB01	**IPOC Station P**	**3.30**	**314**	*eP*	**Pn**	**20 32 27.9**	**+0.9**
PB01				*eS*	**S**	**20 33 08.9**	**+0.7**
PB01				IAML		20 33 09.7	
	comp=Z,1μm,0.2s						
PB10	**IPOC Station P**	**3.32**	**267**		**Pn**	**20 32 28.4**	**+1.3**
PB10	**IPOC Station P**	**3.32**	**267**	*i* P	**Pn**	**20 32 28.6**	**+1.4**
PB10				*eS*	**S**	**20 33 07.8**	**-0.7**
PB10	**IPOC Station P**	**3.32**	**267**	*eP*	**Pn**	**20 32 28.5**	**+1.3**
PB10				*eS*	**S**	**20 33 08.7**	**+0.2**
PB10				IAML		20 33 10.2	
	comp=Z,804nm,0.6s						
PB02	**IPOC Station P**	**3.40**	**306**		**Pn**	**20 32 28.7**	**+0.4**
PB02	**IPOC Station P**	**3.40**	**306**	*i* P	**Pn**	**20 32 29.1**	**+0.8**
PB02				*eS*	**S**	**20 33 09.2**	**-1.3**
PB02	**IPOC Station P**	**3.40**	**306**	*eP*	**Pn**	**20 32 29.2**	**+0.8**
PB02				*eS*	**S**	**20 33 09.7**	**-0.8**
PB02				IAML		20 33 13.9	
	comp=Z,3μm,0.2s						
PB14	**IPOC Station P**	**3.41**	**248**		**Pn**	**20 32 29.3**	**+0.8**
PB14	**IPOC Station P**	**3.41**	**248**	*i* P	**Pn**	**20 32 29.5**	**+1.0**
PB14				*eS*	**S**	**20 33 10.7**	**-0.2**
PB14	**IPOC Station P**	**3.41**	**248**	*eP*	**Pn**	**20 32 29.4**	**+1.0**
PB14				*eS*	**S**	**20 33 11.3**	**+0.4**
PB14				IAML		20 33 15.4	
	comp=Z,777nm,0.7s						
PB08	**IPOC Station P**	**3.80**	**327**		**Pn**	**20 32 34.7**	**+1.3**
PB08	**IPOC Station P**	**3.80**	**327**	*i* P	**Pn**	**20 32 35.1**	**+1.6**
PB08				*eS*	**S**	**20 33 21.4**	**+1.6**
PB08	**IPOC Station P**	**3.80**	**327**	*eP*	**Pn**	**20 32 35.1**	**+1.6**
PB08				*eS*	**S**	**20 33 21.9**	**+2.0**
PB08				IAML		20 33 24.2	
	comp=Z,630nm,0.3s						
PATCX	**Punta Patache**	**3.90**	**310**		**Pn**	**20 32 34.5**	**+0.1**
PATCX	**Punta Patache**	**3.90**	**310**	*i* P	**Pn**	**20 32 34.8**	**+0.4**
PATCX				*eS*	**S**	**20 33 19.6**	**-1.9**
PATCX	**Punta Patache**	**3.90**	**310**	*eP*	**Pn**	**20 32 34.8**	**+0.4**
PATCX				*eS*	**S**	**20 33 20.8**	**-0.8**
PATCX				IAML		20 33 30.6	
	comp=Z,868nm,0.5s						
AC02	**Maricunga**	**3.99**	**209**		**Pn**	**20 32 36.9**	**+1.1**
AC02	**Maricunga**	**3.99**	**209**	⇑*iP*	**Pn**	**20 32 37.2**	**+1.4**
AC02				*eS*	**S**	**20 33 26.0**	**+1.8**
AC02	**Maricunga**	**3.99**	**209**	*eP*	**Pn**	**20 32 37.2**	**+1.4**
AC02				*eS*	**S**	**20 33 26.2**	**+2.1**
TA01	**Diego Aracena**	**4.09**	**312**		**Pn**	**20 32 37.0**	**+0.4**
TA01	**Diego Aracena**	**4.09**	**312**	*i* P	**Pn**	**20 32 37.1**	**+0.4**
TA01				*eS*	**S**	**20 33 24.2**	**-1.5**
TA01	**Diego Aracena**	**4.09**	**312**	*eP*	**Pn**	**20 32 37.4**	**+0.7**
TA01				*eS*	**S**	**20 33 24.4**	**-1.3**
TA01				IAML		20 33 29.4	
	comp=Z,472nm,0.3s						
HMBC	**Humberstone**	**4.11**	**318**		**Pn**	**20 32 36.3**	**-0.7**
HMBC	**Humberstone**	**4.11**	**318**	*eP*	**Pn**	**20 32 36.9**	**-0.1**
HMBC				*eS*	**S**	**20 33 25.5**	**-0.8**
HMBC				IAML		20 33 27.8	
	comp=Z,2μm,0.4s						
GO01	**Chusmiza**	**4.23**	**330**		**Pn**	**20 32 39.4**	**+0.5**
GO01	**Chusmiza**	**4.23**	**330**	⇓*iP*	**Pn**	**20 32 39.9**	**+1.0**
GO01				*eS*	**S**	**20 33 31.5**	**+2.0**
GO01	**Chusmiza**	**4.23**	**330**	*eP*	**Pn**	**20 32 39.8**	**+1.0**
GO01				*eS*	**S**	**20 33 32.3**	**+2.8**
TA02	**Huaiquique**	**4.27**	**315**		**Pn**	**20 32 38.8**	**-0.1**
TA02	**Huaiquique**	**4.27**	**315**	*eP*	**Pn**	**20 32 39.1**	**+0.3**
TA02				IAML		20 33 33.6	
	comp=Z,690nm,0.1s						
AC01	**Pan de Azucar**	**4.33**	**229**		**Pn**	**20 32 39.2**	**-0.4**
AC01	**Pan de Azucar**	**4.33**	**229**	⇑*iP*	**Pn**	**20 32 39.3**	**-0.2**
AC01				*eS*	**S**	**20 33 29.2**	**-1.9**
AC01	**Pan de Azucar**	**4.33**	**229**	*eP*	**Pn**	**20 32 39.4**	**-0.2**
AC01				*eS*	**S**	**20 33 28.9**	**-2.2**
AC01				IAML		20 33 30.4	
	comp=Z,304nm,0.3s						
PB11	**IPOC Station P**	**4.38**	**324**		**Pn**	**20 32 40.0**	**-0.4**
PB11	**IPOC Station P**	**4.38**	**324**	*i* P	**Pn**	**20 32 40.4**	**-0.1**
PB11				*eS*	**S**	**20 33 30.8**	**-1.6**
PB11	**IPOC Station P**	**4.38**	**324**	*eP*	**Pn**	**20 32 40.3**	**-0.1**
PB11				*eS*	**S**	**20 33 26.3**	**-6.2**
PB11				IAML		20 33 39.0	
	comp=Z,672nm,0.4s						
AC06	**Mina Casimiro**	**5.04**	**217**		**Pn**	**20 32 47.6**	**-0.9**
GO03	**Copiapo**	**5.16**	**215**		**Pn**	**20 32 49.0**	**-1.1**
GO03	**Copiapo**	**5.16**	**215**	*eP*	**Pn**	**20 32 49.7**	**-0.5**
GO03				*eS*	**S**	**20 33 43.5**	**-6.7**
PB16	**IPOC Station P**	**5.54**	**334**		**Pn**	**20 32 55.7**	**+0.1**
AP01	**Chacalluta**	**5.89**	**327**		**Pn**	**20 32 59.0**	**-0.6**
AC04	**Llanos de Chal**	**6.09**	**217**		**Pn**	**20 33 00.3**	**-1.8**
PB18	**Visviri**	**6.21**	**337**		**Pn**	**20 33 05.5**	**+1.3**
LCO	**Las Campanas**	**6.56**	**210**		**Pn**	**20 33 06.7**	**-1.7**
LPAZ	**La Paz**	**7.12**	**351**		**Pn**	**20 33 16.4**	**+0.3**
LPAZ	**La Paz**	**7.12**	**351**	P	**Pn**	**20 33 16.9**	**+0.9**
	comp=Z,36nm,0.3s,baz=164,slow=7.1,SNR=40						
LPAZ				S	**S**	**20 34 35.2**	**-2.1**
	comp=Z,6.3nm,0.5s,baz=184,slow=9.7,SNR=0.9						
LPAZ	**La Paz**	**7.12**	**351**	*eP*	**Pn**	**20 33 17.2**	**+1.2**
LPAZ				*eS*	**S**	**20 34 35.4**	**-1.9**
CO01	**Juntas del Tor**	**7.17**	**202**		**Pn**	**20 33 15.6**	**-0.7**
CO05	**La Serena**	**7.58**	**210**		**Pn**	**20 33 19.9**	**-1.4**
GO04	**Tololo Observa**	**7.61**	**206**		**Pn**	**20 33 19.7**	**-2.2**
CO03	**El Pedregal**	**8.16**	**203**		**Pn**	**20 33 27.3**	**-1.7**
CFA	**Coronel Fontan**	**8.29**	**188**	P	**Pn**	**20 33 30.2**	**-0.5**
	comp=Z,6.4nm,0.6s,baz=47,slow=19,SNR=29						
CFA				S	**S**	**20 34 56.9**	**-7.2**
	comp=Z,15nm,0.4s,baz=288,slow=20,SNR=20						
ZON	**Zonda**	**8.30**	**190**		**Pn**	**20 33 29.2**	**-1.6**
CO02	**Combarbal**	**8.61**	**204**		**Pn**	**20 33 32.3**	**-2.5**
MRA	**San Martin**	**9.09**	**173**	*eP*	**Pn**	**20 33 38.4**	**-2.7**
MRA				AMP		20 33 41.5	
	comp=Z,321nm,0.2s						
SIV	**San Ignacio**	**9.18**	**38**	P	**Pn**	**20 33 39.8**	**-2.4**
	comp=Z,21nm,0.5s,baz=214,slow=12,SNR=118						
SIV				S	S	20 35 09.8	-16
	comp=Z,5.3nm,0.5s,baz=224,slow=14,SNR=3.2						
CPUP	**Villa Florida**	**9.22**	**111**	P	Pn	20 33 37.7	-4.9
	comp=Z,0.6nm,0.7s,baz=353,slow=8.1,SNR=2.3						
MT08	**Bocatoma Ro**	**10.41**	**194**		**Pn**	**20 33 56.4**	**-1.8**
PTLB	**Pontes e Lacer**	**10.77**	**44**		**Pn**	**20 34 00.4**	**-2.4**
PTLB	**Pontes e Lacer**	**10.77**	**44**	*eP*	**Pn**	**20 34 00.9**	**-1.9**
AQDB	**Aquidauana**	**10.82**	**77**		**Pn**	**20 34 00.9**	**-2.5**
AQDB	**Aquidauana**	**10.82**	**77**	*eP*	**Pn**	**20 34 03.4**	**0.0**
LMEL	**Las Melosas**	**10.84**	**195**		**Pn**	**20 34 01.3**	**-2.3**
BO04	**La Punta**	**11.07**	**196**		**Pn**	**20 34 05.3**	**-1.2**
BO01	**Tunca**	**11.57**	**197**		**Pn**	**20 34 10.5**	**-2.4**
BO02	**Sierra Bellavi**	**11.88**	**196**		**Pn**	**20 34 16.1**	**-0.7**
VILB	**Vilhena**	**12.17**	**33**		**Pn**	**20 34 18.6**	**-2.1**
VILB	**Vilhena**	**12.17**	**33**	*eP*	**Pn**	**20 34 20.4**	**-0.3**
RPRD	**Ribas do Rio P**	**12.62**	**79**	*eP*	**Pn**	**20 34 25.9**	**-0.3**
SALV	**Santo Antonio**	**12.93**	**57**	*eP*	**Pn**	**20 34 29.2**	**-1.0**
ML02	**Panimavida**	**12.96**	**196**		**Pn**	**20 34 28.0**	**-2.3**
TRCB	**Terra Rica**	**13.19**	**90**		**Pn**	**20 34 31.0**	**-2.4**
TRCB	**Terra Rica**	**13.19**	**90**	*eP*	**Pn**	**20 34 32.5**	**-0.9**
PTGB	**Pitanga**	**13.66**	**99**	*eP*	**Pn**	**20 34 39.8**	**+0.4**
BIQ2	**San Fabin de**	**13.78**	**195**		**Pn**	**20 34 39.7**	**-1.0**
C2SB	**Chapadao do Su**	**13.94**	**74**	*eP*	**Pn**	**20 34 43.8**	**-0.8**
CPSB	**Caapapava Do Su**	**13.94**	**123**	*eP*	**Pn**	**20 34 43.0**	**+0.4**
ITAB	**Concordia**	**13.94**	**109**	*eP*	**P**	**20 34 44.2**	**-0.4**
PLTB	**Pedras Altas**	**14.48**	**128**	Pn	**Pn**	**20 34 47.5**	**-1.9**
PLTB	**Pedras Altas**	**14.48**	**128**	*eP*	**P**	**20 34 51.2**	**+0.7**
LDASE	**Londrina, Braz**	**14.54**	**93**	*eP*	**Pn**	**20 34 49.6**	**-0.5**
PCMB	**Pacaembu**	**14.60**	**86**	*eP*	**Pn**	**20 34 50.4**	**-0.5**
PDRB	**Porto dos Gac**	**15.20**	**42**	*eP*	**Pn**	**20 34 58.1**	**-0.1**
TRQA	**Tornquist**	**15.26**	**165**		**Pn**	**20 34 56.0**	**-2.7**
TRQA				IAmb	IAmb	20 35 01.1	
	comp=Z,15nm,0.7s						
ITRB	**Iturama**	**15.85**	**80**	*eP*	**P**	**20 35 05.8**	**0.0**
FRTB	**Fartura**	**15.96**	**93**	*eP*	**P**	**20 35 07.1**	**+0.1**
ARAG	**Araguaiana, MT**	**16.16**	**65**	*eP*	**P**	**20 35 09.2**	**+0.1**
CLDB	**Colider**	**16.35**	**42**	*eP*	**P**	**20 35 11.1**	**-0.2**
CZSB	**Cruzeiro do Su**	**16.50**	**339**	*eP*	**Pn**	**20 35 13.2**	**-0.6**
MAJ01	**Sao Joao Batis**	**16.70**	**108**	*eP*	**P**	**20 35 14.1**	**-0.9**
BB19B	**Bebedouro**	**17.21**	**86**	*eP*	**Pn**	**20 35 21.8**	**-0.5**
LR05	**Currie**	**17.36**	**193**	P	**P**	**20 35 20.6**	**-1.5**
PLCA	**Paso Flores**	**17.59**	**189**	P	**P**	**20 35 23.5**	**-1.2**
PLCA				IAmb	IAmb	20 35 33.3	
	comp=Z,13nm,0.7s						
PLCA	**Paso Flores**	**17.59**	**189**	P	**Pn**	**20 35 26.5**	**-0.1**
	comp=Z,6.5nm,0.6s,baz=3.1,slow=13,SNR=16						
PLCA	**Paso Flores**	**17.59**	**189**	*eP*	**Pn**	**20 35 26.8**	**+0.2**
SPB	**Sao Paulo**	**17.90**	**95**	*eP*	**P**	**20 35 28.7**	**+0.5**
PET01	**Itanhaem-SP**	**18.02**	**97**	*eP*	**P**	**20 35 29.9**	**+0.4**
IPMB	**Ipameri, GO**	**18.32**	**77**	*eP*	**P**	**20 35 33.1**	**+0.2**
VAO	**Valinhos**	**18.37**	**93**	P	**P**	**20 35 32.9**	**-0.6**
VAO	**Valinhos**	**18.37**	**93**	*eP*	**P**	**20 35 33.2**	**-0.2**
SNDB	**Serra Nova Dou**	**18.70**	**55**	*eP*	**P**	**20 35 36.0**	**-1.0**
LL05	**Los Muermos**	**18.81**	**195**	P	**P**	**20 35 38.0**	**+0.1**
TBTG	**Tabatinga, AM**	**19.27**	**351**	P	**P**	**20 35 43.6**	**+0.5**
TBTG	**Tabatinga, AM**	**19.27**	**351**	*eP*	**P**	**20 35 42.9**	**-0.2**
BDFB	**Brasilia**	**19.41**	**70**	P	**P**	**20 35 44.0**	**-0.8**
BDFB	**Brasilia**	**19.41**	**70**	P	**P**	**20 35 44.5**	**-0.2**
	comp=Z,80nm,0.7s,baz=240,slow=11,SNR=79						
PARB	**Paraibuna**	**19.58**	**94**	*eP*	**P**	**20 35 46.8**	**+0.4**
NPGB	**Novo Progresso**	**19.68**	**36**	*eP*	**P**	**20 35 45.2**	**-2.2**
PMNB	**Patos De Minas**	**19.74**	**80**	*eP*	**P**	**20 35 48.3**	**+0.1**
TEFE	**Tefe**	**19.86**	**7**	*eP*	**P**	**20 35 48.8**	**-0.5**
LL02	**Futaleuf**	**20.19**	**190**	P	**P**	**20 35 53.0**	**+0.3**
LL02				IAmb	IAmb	20 35 57.1	
	comp=Z,43nm,0.8s						
GO07	**Milladeo Hill,**	**20.48**	**194**	P	**P**	**20 35 55.6**	**-0.1**
BSCB	**Bom Sucesso**	**20.66**	**88**	*eP*	**P**	**20 35 57.8**	**-0.2**
MACA	**Manacapuru-AM**	**20.97**	**18**		**P**	**20 35 59.3**	**-1.9**
MACA	**Manacapuru-AM**	**20.97**	**18**	*eP*	**P**	**20 35 59.8**	**-1.4**
VAS01	**Vassouras-RJ**	**21.69**	**92**	*eP*	**P**	**20 36 08.8**	**+0.2**
ITTB	**Itaituba**	**21.77**	**32**	*eP*	**P**	**20 36 07.4**	**-2.0**
DIAM	**Diamantina, MG**	**22.32**	**81**	*eP*	**P**	**20 36 14.4**	**-0.4**
COYC	**Coyhaique**	**22.55**	**189**	P	**P**	**20 36 17.0**	**+0.5**
COYC				IAmb	IAmb	20 36 19.2	
	comp=Z,79nm,1.5s						
DUB01	**Friburgo-RJ**	**22.70**	**92**	*eP*	**P**	**20 36 18.0**	**-0.1**
JANB	**Januaria**	**22.89**	**73**	*eP*	**P**	**20 36 18.2**	**-1.7**
CAM01	**Campos-RJ**	**23.39**	**91**	*eP*	**P**	**20 36 22.9**	**-1.4**
SMTB	**Santa Maria do**	**23.48**	**55**	*eP*	**P**	**20 36 24.4**	**-0.8**
SDBA	**SAO DESIDERIO**	**23.60**	**66**	*eP*	**P**	**20 36 25.6**	**-0.7**
PRPB	**Parauapebas**	**23.75**	**47**	*eP*	**P**	**20 36 26.1**	**-1.3**
SJMB	**Sao Joao De Ma**	**24.47**	**84**	*eP*	**P**	**20 36 33.3**	**-0.9**
MAL2	**Monte Alegre,**	**24.56**	**32**		**P**	**20 36 33.6**	**-1.3**
BOAV	**Boa Vista**	**26.35**	**15**		**P**	**20 36 50.7**	**-0.4**
BOAV				IAmb	IAmb	20 36 52.6	
	comp=Z,26nm,1.3s						
BOAV	**Boa Vista**	**26.35**	**15**	*eP*	**P**	**20 36 50.2**	**-0.9**
GUA01	**Guaratinga, BA**	**26.35**	**80**	*eP*	**P**	**20 36 50.9**	**-0.2**
RCBR	**Riachuelo**	**34.60**	**65**	P	**P**	**20 38 02.1**	**-1.5**
RCBR				IAmb	IAmb	20 38 04.5	
	comp=Z,17nm,0.8s						
BBGH	**Gun Hill**	**36.99**	**12**	P	**P**	**20 38 22.6**	**-1.2**
FDF	**Fort de France**	**38.28**	**9**	P	**P**	**20 38 32.8**	**-1.8**
ANWB	**Willy Bob**	**41.09**	**7**	P	**P**	**20 38 57.2**	**-0.4**
MTO3	**Montecristo**	**43.47**	**328**	P	**P**	**20 39 18.4**	**+1.3**
TEIG	**Tepich**	**48.06**	**333**	P	**P**	**20 39 53.7**	**+1.0**
TEIG				IAmb	IAmb	20 40 28.1	
	comp=Z,28nm,1.4s						
TEIG	**Tepich**	**48.06**	**333**	LR	LR	21 04 36.1	
	comp=Z,4.8nm,18.4s,baz=304,slow=41						
BELA	**Belgrano 2**	**56.67**	**172**	P	**P**	**20 40 56.5**	**+1.2**
VNA3	**Neumayer Olymp**	**57.74**	**161**	⇓*iP*	**P**	**20 41 02.5**	**-0.3**
	comp=Z,5.7nm,0.7s						
JSC	**Jenkinsville**	**58.92**	**346**	P	**P**	**20 41 12.4**	**+1.0**
JSC				IAmb	IAmb	20 41 13.9	
	comp=Z,7.9nm,0.8s						
BIRD	**Birdtown, Kers**	**59.10**	**347**	P	**P**	**20 41 13.4**	**+0.8**
BIRD				IAmb	IAmb	20 41 15.2	
	comp=Z,11nm,0.9s						
Y52A	**Lilburn**	**59.19**	**343**	P	**P**	**20 41 13.5**	**+0.2**
W57A	**Gilead**	**59.49**	**348**		**P**	**20 41 16.1**	**+0.8**
W57A				IAmb	IAmb	20 41 17.7	
	comp=Z,12nm,0.8s						
KMSC	**Kings Mountain**	**59.76**	**346**	P	**P**	**20 41 17.8**	**+0.7**
KMSC				IAmb	IAmb	20 41 19.8	
	comp=Z,8.6nm,0.7s						
Y49A	**Blount Mountai**	**59.84**	**341**	P	**P**	**20 41 18.2**	**+0.5**
SNAA	**Sanae**	**59.94**	**161**	⇓P	**P**	**20 41 19.5**	**+1.5**
	comp=Z,75nm,0.7s						
SNAA	**Sanae**	**59.94**	**161**	P	**P**	**20 41 19.2**	**+1.2**
SNAA	**Sanae**	**59.94**	**161**	P	**P**	**20 41 19.4**	**+1.4**
	comp=Z,3.3nm,0.8s,baz=284,slow=7.9,SNR=18						
	comp=Z,3.3nm,0.8s						
V58A	**Windy Hill, Pi**	**59.95**	**349**	P	**P**	**20 41 18.5**	**+0.1**
X51A	**Calhoun**	**60.07**	**343**	P	**P**	**20 41 19.1**	**-0.2**
X51A				IAmb	IAmb	20 41 21.3	
	comp=Z,13nm,1.0s						
V55A	**Taylorsville**	**60.42**	**347**	P	**P**	**20 41 22.4**	**+0.8**
V55A				IAmb	IAmb	20 41 24.4	
	comp=Z,13nm,1.0s						
X48A	**Hartselle**	**60.58**	**341**	P	**P**	**20 41 23.1**	**+0.4**
X48A				IAmb	IAmb	20 41 24.7	
	comp=Z,6.5nm,0.7s						
CPCT	**Cooper Cave**	**60.81**	**344**	P	**P**	**20 41 24.7**	**+0.5**
TKL	**Tuckaleechee C**	**60.82**	**344**	P	**P**	**20 41 24.3**	**0.0**
SWET	**Sewanee**	**60.97**	**342**	P	**P**	**20 41 25.3**	**-0.1**
SWET				IAmb	IAmb	20 41 27.3	
	comp=Z,7.1nm,0.8s						
T57A	**Hurt**	**61.15**	**349**	P	**P**	**20 41 26.6**	**+0.2**
V48A	**Smith Brothers**	**61.72**	**342**	P	**P**	**20 41 30.6**	**+0.2**
V48A				IAmb	IAmb	20 41 31.7	
	comp=Z,3.8nm,0.6s						
WLAR	**White Oak Lake**	**61.96**	**335**		**P**	**20 41 32.5**	**+0.5**
WLAR				IAmb	IAmb	20 41 35.4	
	comp=Z,14nm,0.8s						
Q56A	**Snyder Ridge,**	**63.12**	**349**	P	**P**	**20 41 39.9**	**+0.3**
TXAR	**Lajitas Array**	**63.19**	**324**	P	**P**	**20 41 42.3**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=141,slow=6.9,SNR=3.5						
	comp=Z,0.3nm,0.6s						
MCWV	**Mont Chateau**	**63.84**	**349**	P	**P**	**20 41 44.7**	**+0.5**
MCWV				IAmb	IAmb	20 41 46.6	
	comp=Z,11nm,1.1s						
P53A	**Whipple**	**63.96**	**348**	P	**P**	**20 41 45.3**	**+0.3**
P53A				IAmb	IAmb	20 41 47.5	
	comp=Z,5.8nm,0.7s						
N58A	**Sunbury**	**64.51**	**352**	P	**P**	**20 41 49.1**	**+0.6**
N58A				IAmb	IAmb	20 41 51.3	
	comp=Z,5.7nm,0.9s						
CCM	**Cathedral Cave**	**65.22**	**339**	P	**P**	**20 41 53.4**	**+0.2**
CCM				IAmb	IAmb	20 41 55.1	
	comp=Z,8.2nm,0.7s						
L59A	**Walton**	**65.65**	**353**		**P**	**20 41 55.9**	**0.0**
L59A				IAmb	IAmb	20 41 58.8	
	comp=Z,12nm,0.9s						
BINY	**Binghamton**	**65.76**	**353**		**P**	**20 41 56.4**	**-0.2**
BINY				IAmb	IAmb	20 41 59.5	
	comp=Z,13nm,1.1s						
TRY	**Troy**	**66.05**	**355**	P	**P**	**20 41 56.8**	**-1.6**
TRY				IAmb	IAmb	20 42 01.4	
	comp=Z,9.4nm,0.8s						
QSPA	**South Pole Qui**	**66.84**	**180**	P	**P**	**20 42 04.

	1.1nm,0.6s								
FNA	**Florina**	**1.34**	**59**	P		**Pn**	**20 34 17.6**	**-1.2**
FNA				S		**Sb**	**20 34 36.4**	**-0.2**
FNA	**Florina**	**1.34**	**59**	P		**Pn**	**20 34 18.7**	**-0.1**
FNA				S		**Sn**	**20 34 38.2**	**+1.2**
TSLK	**Tsoukalades, L**	**1.41**	**154**	P		**Pn**	**20 34 19.5**	**-0.1**
TSLK				S		**Sn**	**20 34 38.4**	**0.0**
TSLK	**Tsoukalades, L**	**1.41**	**154**	P		**Pb**	**20 34 19.9**	**-0.3**
TSLK				S		**Sg**	**20 34 39.9**	**+1.1**
LKD2	**Lefkada island**	**1.44**	**154**	Pn		**Pb**	**20 34 20.7**	**-0.1**
LKD2				Sn		**Sg**	**20 34 41.1**	**+1.2**
LKD2	**Lefkada island**	**1.44**	**154**	P		**Pn**	**20 34 19.6**	**-0.3**
LKD2				S		**Sg**	**20 34 40.3**	**+0.3**
LKD2	**Lefkada island**	**1.44**	**154**	P		**Pg**	**20 34 21.0**	**-0.2**
LKD2				S		**Sg**	**20 34 40.6**	**+0.7**
KZN	**Kozani**	**1.48**	**81**	P		**Pn**	**20 34 20.1**	**-0.5**
KZN				S		**Sg**	**20 34 41.4**	**+0.3**
KZN	**Kozani**	**1.48**	**81**	P		**Pg**	**20 34 22.1**	**+0.1**
KZN				S		**Sg**	**20 34 42.2**	**+1.1**
NYDR	**Nydri-Lefkada**	**1.52**	**155**	P		**Pn**	**20 34 20.4**	**-0.8**
NYDR				S		**Sn**	**20 34 41.2**	**0.0**
NYDR	**Nydri-Lefkada**	**1.52**	**155**	P		**Pn**	**20 34 21.3**	**+0.2**
NYDR				S		**Sn**	**20 34 41.2**	**0.0**
AMPL	**Ampelaki**	**1.57**	**138**	P		**Pn**	**20 34 21.5**	**-0.3**
AMPL				S		**Sn**	**20 34 42.4**	**0.0**
EVGI	**Lefkada island**	**1.59**	**157**	P		**Pn**	**20 34 22.4**	**+0.2**
EVGI				S		**Sb**	**20 34 43.5**	**-0.2**
EVGI	**Lefkada island**	**1.59**	**157**	P		**Pb**	**20 34 22.9**	**-0.4**
PHP	**Peshkopia**	**1.65**	**15**	Pn		**Pn**	**20 34 23.5**	**+0.5**
PHP				Sn		**Sg**	**20 34 47.5**	**+0.9**
PHP				AML	AML		20 34 57.8	
	0.3nm,0.6s							
FSK	**Fiskardo**	**1.72**	**161**	P		**Pn**	**20 34 23.0**	**-0.9**
FSK				S		**Sb**	**20 34 47.1**	**-0.2**
THL	**Klokotos Trika**	**1.74**	**107**	P		**Pn**	**20 34 24.4**	**+0.2**
THL				S		**Sb**	**20 34 47.9**	**+0.1**
THL	**Klokotos Trika**	**1.74**	**107**	P		**Pn**	**20 34 24.6**	**+0.5**
TYRN	**Tyrnavos**	**1.86**	**101**	P		**Pn**	**20 34 26.5**	**+0.6**
TYRN				S		**Sn**	**20 34 50.1**	**+0.5**
TYRN	**Tyrnavos**	**1.86**	**101**	P		**Pn**	**20 34 26.5**	**+0.6**
DMLN	**Damoulianata-K**	**1.90**	**168**	P		**Pn**	**20 34 26.0**	**-0.3**
DMLN				S		**Sb**	**20 34 51.9**	**-0.5**
DMLN	**Damoulianata-K**	**1.90**	**168**	P		**Pn**	**20 34 26.3**	**0.0**
EVR	**Evrytania**	**1.91**	**127**	P		**Pn**	**20 34 27.3**	**+0.7**
EVR				S		**Sb**	**20 34 53.4**	**+0.6**
EVR	**Evrytania**	**1.91**	**127**	P		**Pb**	**20 34 28.5**	**-0.3**
PUK	**Puka**	**1.95**	**1**	Pn		**Pn**	**20 34 26.6**	**-0.5**
PVO	**Paravola**	**1.96**	**138**	P		**Pn**	**20 34 27.4**	**+0.2**
PVO				S		**Sb**	**20 34 54.7**	**+0.5**
VLS	**Valsamata**	**2.00**	**163**	P		**Pn**	**20 34 28.0**	**+0.3**
LIT	**Litokhoron**	**2.02**	**89**	P		**Pn**	**20 34 28.4**	**+0.3**
MAKR	**Makrakomi, Fth**	**2.06**	**121**	P		**Pb**	**20 34 29.9**	**-1.4**
RTZL	**Ratzakli, Kefa**	**2.13**	**160**	P		**Pn**	**20 34 29.1**	**-0.5**
AGG	**Agios Georgios**	**2.19**	**119**	P		**Pn**	**20 34 31.2**	**+0.8**
ANX	**Ano Chora**	**2.19**	**133**	P		**Pn**	**20 34 31.2**	**+0.8**
EFP	**Efpalio**	**2.30**	**136**	P		**Pn**	**20 34 31.3**	**-0.6**
ORTH	**Orthonies,Zaky**	**2.33**	**164**	P		**Pn**	**20 34 32.7**	**+0.3**

*MDD **16** 20:44:37.5±0.8, 36°.59N×7°.90W, h4km±6km, mb_Lg2.3/11, Error ellipse: s-maj=8.6km s-min=3.9km az=40.0*
*INMG **16** 20:44:37.8±1.6, 36°.44N×8°.01W, h21km±5km, ML1.6, Error ellipse: s-maj=5.5km s-min=3.8km az=39.0, #DIST_RANGE: REGIONAL #IPMA_REGION: S Faro*
*IGIL **16** 20:44:38.4, 36°.41N×8°.02W, h34km, ML1.6*
*SFS **16** 20:44:38.0, 36°.43N×8°.02W, h35km, ML2.6/7, ML2.0/10, MLv1.8/10*

ISC 16 20:44:36.8±1.6, 36°.48N±0°.07×8°.00W±0°.04, h33km±11km, n45, σ1s02/76, 1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBDV	**Barranco-do-Ve**	**0.77**	**4**	*e*P	**Pb**	**20 44 52.5**	**+0.7**
PBDV				*e*S	**Sb**	**20 45 03.2**	**+1.2**
PBDV				*i* IAML		20 45 04.0	
PBDV				*i* IAML		20 45 04.1	
PBDV				*i* IAML		20 45 07.7	
PFVI	**Vila Bisbo**	**0.93**	**315**	Sg	**Sb**	**20 45 06.1**	**-0.6**
PFVI	**Vila Bisbo**	**0.93**	**315**	*e*P	**Pb**	**20 44 54.4**	**-0.1**
PFVI				*e*S	**Sn**	**20 45 05.7**	**-0.2**
PFVI				*i* IAML		20 45 07.6	
PFVI				*i* IAML		20 45 17.3	
PVAQ	**Vaqueiros**	**0.95**	**14**	Pg	**Pb**	**20 44 55.0**	**+0.1**
PVAQ	**Vaqueiros**	**0.95**	**14**	*e*P	**Pb**	**20 44 55.0**	**+0.1**
PVAQ				*e*S	**Sb**	**20 45 07.8**	**+0.6**
PVAQ				*i* IAML		20 45 09.8	
PVAQ				*i* IAML		20 45 10.2	
PVAQ				*i* IAML		20 45 10.2	
MORF	**Marmelete**	**0.98**	**328**	*e*P	**Pb**	**20 44 55.3**	**0.0**
MORF				*e*S	**Sb**	**20 45 07.6**	**-0.3**
MORF				IAML		20 45 09.9	
	comp=N,9.6nm,0.1s						
MORF	**Marmelete**	**0.98**	**328**	*e*P	**Pb**	**20 44 55.3**	**0.0**
MORF				*e*S	**Sb**	**20 45 08.2**	**+0.2**
MORF				*i* IAML		20 45 08.3	
MORF				*i* IAML		20 45 09.9	
MORF				*i* IAML		20 45 16.9	
EGRO	**El Granado**	**1.14**	**21**	Sg	**Sb**	**20 45 12.1**	**-0.2**
EGRO				Pg	**Pb**	**20 44 57.6**	**-0.3**
EGRO	**El Granado**	**1.14**	**21**	Pn	**Pb**	**20 44 57.3**	**-0.5**
EGRO				Sn	**Sn**	**20 45 10.8**	**0.0**
EGRO				*i* IVmb_Lg		20 45 13.6	
PCVE	**Castro Verde**	**1.16**	**358**	Sg	**Sn**	**20 45 12.1**	**+0.8**
PCVE				Pg	**Pb**	**20 44 58.1**	**-0.1**
PCVE	**Castro Verde**	**1.16**	**358**	*e*P	**Pb**	**20 44 58.2**	**-0.1**
PCVE				*e*S	**Sb**	**20 45 12.5**	**-0.4**
PCVE				*i* IAML		20 45 13.1	
PCVE				*i* IAML		20 45 13.3	
PCVE				*i* IAML		20 45 14.0	
PTEO	**Sao Teotonio**	**1.22**	**332**	*e*P	**Pb**	**20 44 58.6**	**-0.7**
PTEO				*e*S	**Sb**	**20 45 13.9**	**-0.7**
PTEO				*i* IAML		20 45 18.8	
PTEO				*i* IAML		20 45 19.9	
PTEO				*i* IAML		20 45 29.3	
MESJ	**Messejana**	**1.37**	**353**	*e*P	**Pb**	**20 45 01.1**	**-0.8**
MESJ				*e*S	**Sn**	**20 45 17.5**	**+0.8**
MESJ				IAML		20 45 18.6	
	comp=N,6.9nm,0.1s						
MESJ	**Messejana**	**1.37**	**353**	*e*P	**Pb**	**20 45 01.2**	**-0.7**
MESJ				*e*S	**Sb**	**20 45 18.1**	**-1.1**
MESJ				*i* IAML		20 45 18.5	
MESJ				*i* IAML		20 45 18.7	
MESJ				*i* IAML		20 45 19.7	
PBEJ	**Beja**	**1.55**	**4**	*e*S	**Sb**	**20 45 22.9**	**-1.3**
EMIN	**Mina Concepcio**	**1.67**	**39**	Pn	**Pn**	**20 45 04.3**	**+0.6**
EMIN				Sn	**Sn**	**20 45 24.4**	**+0.4**
EMIN				*i* IVmb_Lg		20 45 29.6	
ESPR	**Espera**	**1.77**	**77**	Pn	**Pn**	**20 45 05.8**	**+0.8**
ESPR	**Espera**	**1.77**	**77**	Pn	**Pn**	**20 45 05.6**	**+0.6**
ESPR				Sn	**Sn**	**20 45 26.2**	**-0.2**
ESPR				*i* IVmb_Lg		20 45 28.5	
PBAR	**Barrancos**	**1.86**	**24**	Sn	**Sn**	**20 45 29.8**	**+1.1**
PBAR				Pn	**Pb**	**20 45 08.1**	**-2.1**
PBAR	**Barrancos**	**1.86**	**24**	*e*P	**Pn**	**20 45 07.4**	**+1.1**
PBAR				*e*S	**Sn**	**20 45 30.0**	**+1.3**
PBAR				*i* IAML		20 45 30.7	
PBAR				*i* IAML		20 45 31.6	
PBAR				*i* IAML		20 45 33.7	
EJIF	**Jimena Fronter**	**2.04**	**90**	Sn	**Sn**	**20 45 35.0**	**+1.8**
EVO	**Evora**	**2.05**	**360**	Sn	**Sn**	**20 45 33.0**	**-0.4**
EVO	**Evora**	**2.05**	**360**	*e*S	**Sn**	**20 45 34.0**	**+0.5**
EBAD	**Badajoz**	**2.41**	**19**	Pn	**Pn**	**20 45 15.4**	**+1.6**
EBAD				Sn	**Sn**	**20 45 42.5**	**+0.3**
EBAD	**Badajoz**	**2.41**	**19**	Pn	**Pn**	**20 45 14.8**	**+0.9**
EBAD				Sn	**Sn**	**20 45 42.7**	**+0.4**
EBAD				*i* IVmb_Lg		20 45 49.3	
PESTR	**Estremoz**	**2.41**	**8**	*e*S	**Sn**	**20 45 43.5**	**+1.1**
PARRA	**Arraiolos**	**2.48**	**341**	⇓*e*P	**Pn**	**20 45 13.9**	**-0.9**
PARRA				*e*S	**Sn**	**20 45 40.2**	**-3.8**
PARRA				*i* IAML		20 45 41.6	
PARRA				*i* IAML		20 45 41.9	
PARRA				*i* IAML		20 45 43.8	
PMTG	**Montargil**	**2.59**	**356**	*e*P	**Pn**	**20 45 17.5**	**+1.0**
PMTG				*e*S	**Sn**	**20 45 47.0**	**+0.2**
PMTG				*i* IAML		20 45 48.3	
PMTG				*i* IAML		20 45 48.3	
PMTG				*i* IAML		20 45 49.5	
ECAB	**El Cabril**	**2.60**	**51**	Pn	**Pn**	**20 45 17.4**	**+0.8**
ECAB	**El Cabril**	**2.60**	**51**	Pn	**Pn**	**20 45 17.4**	**+0.8**
ECAB				Sn	**Sn**	**20 45 45.6**	**-1.6**
ECAB				*i* IVmb_Lg		20 45 47.7	
PMAFR	**Mafra**	**2.68**	**338**	*e*P	**Pn**	**20 45 17.5**	**-0.1**
PMAFR				*e*S	**Sn**	**20 45 50.4**	**+1.5**
PMAFR				*i* IAML		20 45 56.5	
PMAFR				*i* IAML		20 45 57.4	
PMAFR				*i* IAML		20 46 03.8	
PMRV	**Marv??o**	**2.99**	**9**	*e*P	**Pn**	**20 45 22.9**	**+1.1**
PMRV				*e*S	**Sn**	**20 45 56.2**	**-0.3**
PMRV				*i* IAML		20 45 57.8	
PMRV				*i* IAML		20 45 58.8	
PSARD	**Sardoal**	**3.12**	**358**	*e*P	**Pn**	**20 45 25.1**	**+1.4**
PSARD				*e*S	**Sn**	**20 46 00.0**	**+0.1**
PSARD				*i* IAML		20 46 01.6	
PSARD				*i* IAML		20 46 02.8	
EADA	**Adamuz**	**3.21**	**57**	Pn	**Pn**	**20 45 25.6**	**+0.7**
EADA				Sn	**Sn**	**20 46 00.4**	**-1.7**
EADA	**Adamuz**	**3.21**	**57**	Pn	**Pn**	**20 45 25.7**	**+0.7**
EADA				Sn	**Sn**	**20 46 01.2**	**-0.8**
EADA				*i* IVmb_Lg		20 46 03.0	
PCBR	**Castelo Branco**	**3.38**	**7**	*e*S	**Sn**	**20 46 07.0**	**+0.7**
PCAS	**Casmilo, Conde**	**3.59**	**354**	*e*S	**Sn**	**20 46 11.5**	**0.0**
EPLA	**Plasencia**	**3.89**	**22**	Pn	**Pn**	**20 45 35.1**	**+0.8**
EPLA				Sn	**Sn**	**20 46 17.7**	**-1.1**
EPLA				*i* IVmb_Lg		20 46 29.4	
PSIM	**Granatula de C**	**4.10**	**54**	Pn	**Pn**	**20 45 38.0**	**+0.8**
PSIM				Sn	**Sn**	**20 46 22.8**	**-1.3**
EQES	**Quesada**	**4.16**	**70**	Pn	**Pn**	**20 45 39.2**	**+1.2**
EQES				Sn	**Sn**	**20 46 24.6**	**-0.8**
EQES				*i* IVmb_Lg		20 46 40.3	
PAB	**San Pablo**	**4.21**	**42**	Pn	**Pn**	**20 45 39.6**	**+0.9**
PAB				Sn	**Sn**	**20 46 24.7**	**-2.0**
PAB				*i* IVmb_Lg		20 46 32.7	
PVIS	**Viseu**	**4.24**	**1**	*e*S	**Sn**	**20 46 28.4**	**+1.0**
MVO	**Moncorvo**	**4.74**	**9**	*e*P	**Pn**	**20 45 47.5**	**+1.5**
MVO				*e*S	**Sn**	**20 46 38.7**	**-1.3**
POLO	**Lamas de Olo**	**4.89**	**2**	*e*S	**Sn**	**20 46 43.8**	**+0.1**
PCAB	**Cabril**	**5.23**	**360**	*e*S	**Sn**	**20 46 50.8**	**-1.0**

*IDC **16** 21:04:50.4±2.1, 0°.15N×97°.51E, h0km, mb3.5/8, mbtmp3.5/9, Error ellipse: s-maj=74.1km s-min=21.4km az=57.0*

ISC 16 21:04:54.3±2.2, 0°.2N±0°.3×97°.6E±0°.4, h25km, n21, σ0s63/9, mb3.5/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.21**	**4**	P	**Pn**	**21 09 05.5**	**0.0**
	0.5nm,0.7s,baz=194,slow=12,SNR=5.2						
H08S2	**Diego Garcia H**	**26.18**	**252**	T	T	21 37 39.7	
	baz=74,slow=76,SNR=274						
H08S3	**Diego Garcia H**	**26.18**	**252**	T	T	21 37 43.8	
	baz=74,slow=76,SNR=383						
H08S1	**Diego Garcia H**	**26.20**	**252**	T	T	21 37 40.9	
	baz=74,slow=76,SNR=296						
H01W3	**Cape Leeuwin H**	**38.17**	**158**	T	T	21 52 43.3	
	baz=334,slow=76,SNR=5.2						
H01W2	**Cape Leeuwin H**	**38.18**	**158**	T	T	21 52 48.4	
	baz=334,slow=76,SNR=5.0						
H01W1	**Cape Leeuwin H**	**38.19**	**158**	T	T	21 52 44.2	
	baz=334,slow=76,SNR=4.6						
WRA	**Warramunga Arr**	**41.20**	**121**	P	**P**	**21 12 37.1**	**-0.2**
	0.2nm,0.4s,baz=300,slow=7.7,SNR=1.6						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**42.50**	**126**	P	**P**	**21 12 48.2**	**+0.3**
	0.5nm,0.8s,baz=346,slow=16,SNR=5.9						
	0.5nm,0.8s						
KSRS	**Korea Array**	**46.48**	**34**	P	**P**	**21 13 19.1**	**-0.3**
	0.7nm,0.7s,baz=212,slow=8.7,SNR=2.6						
	0.7nm,0.7s						
SONM	**Songino Array**	**48.08**	**8**	P	**P**	**21 13 32.2**	**+0.2**
	0.3nm,0.6s,baz=182,slow=6.6,SNR=2.4						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**48.31**	**346**	P	**P**	**21 13 34.7**	**+1.1**
	0.4nm,0.7s,baz=136,slow=7.6,SNR=4.0						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**52.80**	**345**	P	**P**	**21 14 07.0**	**-0.5**
	0.3nm,0.7s,baz=170,slow=6.7,SNR=4.3						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**54.62**	**351**	P	**P**	**21 14 21.0**	**+0.3**
	0.8nm,0.5s,baz=183,slow=5.8,SNR=3.6						
	0.8nm,0.5s						
BVAR	**Borovoye Array**	**57.33**	**341**	P	**P**	**21 14 39.3**	**-0.8**
	0.3nm,0.6s,baz=121,slow=10,SNR=2.5						
	0.3nm,0.6s						
H04N2	**CROZET ISLANDS**	**61.14**	**215**	T	T	22 21 30.3	
	baz=54,slow=75,SNR=83						
H04N1	**CROZET ISLANDS**	**61.15**	**215**	T	T	22 21 30.8	
	baz=54,slow=75,SNR=74						
H04N3	**CROZET ISLANDS**	**61.16**	**215**	T	T	22 21 27.4	
	baz=54,slow=75,SNR=76						
H04S1	**CROZET ISLANDS**	**61.47**	**214**	T	T	22 21 55.2	
	baz=54,slow=75,SNR=40						
H04S3	**CROZET ISLANDS**	**61.48**	**214**	T	T	22 21 55.1	
	baz=54,slow=75,SNR=47						
H04S2	**CROZET ISLANDS**	**61.49**	**214**	T	T	22 21 56.4	
	baz=54,slow=75,SNR=48						

*NEIC **16** 21:06:20.9±1.2, 35°.878N±0°.008×117°.67W±0°.01, h5km±2km, Error ellipse: s-maj=1.5km s-min=1.1km az=69.0*

PAS 16 21:06:21.4±0.9, 35°.879N±0°.010×117°.69W±0°.01, h8km±3km, ML3.1/66, ML2.8/88(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=82.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOW	**Tower One**	**0.09**	**220**		Pg	21 06 24.1	+0.4
CLC	**China Lake**	**0.10**	**130**	Pg	Pg	21 06 23.8	0.0
CLC				IAML		21 06 25.9	
	comp=E,5μm,0.5s						
WVPM	**Volcano Peak E**	**0.12**	**305**		Pg	21 06 24.3	+0.1
JRC2	**Joshua Ridge**	**0.14**	**317**		Pg	21 06 24.6	+0.1
WCSM	**Coso Springs S**	**0.16**	**337**		Pg	21 06 24.8	-0.1
WCSM					Sg	21 06 27.1	0.0
WNMM	**Nine Mile Cany**	**0.18**	**258**		Pg	21 06 25.1	0.0
SRTC	**Snort**	**0.19**	**194**		Pg	21 06 25.8	+0.4
SRTC					Sg	21 06 29.5	+1.5
WRVM	**Rose V. Centra**	**0.21**	**309**		Pg	21 06 25.6	0.0
WRVM					Sg	21 06 28.7	+0.2
GPO	**China Lake**	**0.23**	**174**		Pg	21 06 26.0	0.0
GPO					Sg	21 06 30.2	+1.0
MPMC	**Manual Prospec**	**0.24**	**43**		Pg	21 06 26.3	-0.1
MPMC				Sg	Sg	21 06 29.7	0.0
MPMC				IAML		21 06 30.1	
	comp=N,2μm,0.5s						
MPMC				IAML		21 06 30.1	
	comp=E,2μm,0.3s						
MFS	**McCloud Flat S**	**0.27**	**331**		Pg	21 06 26.8	-0.1
WSHM	**Spangler Hills**	**0.32**	**150**		Pg	21 06 27.6	-0.2
WSHM					Sg	21 06 32.4	+0.3
LRMC	**Laurel Mtn Rad**	**0.40**	**179**		Pg	21 06 29.0	-0.2
LRMC				Sg	Sg	21 06 34.8	+0.3
LRMC				IAML		21 06 35.0	
	comp=E,1μm,0.3s						
LRMC				IAML		21 06 35.8	
	comp=N,1μm,0.2s						
WORM	**Onyx Ranch**	**0.48**	**248**		Pg	21 06 30.4	-0.4
WORM					Sg	21 06 36.9	-0.3
WBSM	**Bird Springs**	**0.50**	**227**		Pg	21 06 30.9	-0.3
WBSM					Sg	21 06 37.7	0.0
WHFM	**Hanning Flat**	**0.56**	**251**		Pg	21 06 32.0	-0.3
WHFM					Sg	21 06 39.5	-0.2
DTP	**Desert Tortois**	**0.62**	**192**		Pg	21 06 32.9	-0.6
DTP					Sg	21 06 41.4	-0.3
CWC	**Cottonwood Cre**	**0.64**	**331**	Pg	Pg	21 06 33.7	-0.2
CWC					Sg	21 06 43.0	+0.7
CWC				IAML		21 06 43.7	
	comp=N,333nm,0.2s						
ISA	**Isabella, Lake**	**0.67**	**251**		Pg	21 06 34.0	-0.4
ISA				Sg	Sg	21 06 42.7	-0.5
ISA				IAML		21 06 43.5	
	comp=N,360nm,0.3s						
ISA				IAML		21 06 45.1	
	comp=E,450nm,0.3s						
QSM	**Queen of Sheba**	**0.67**	**82**		Pg	21 06 33.9	-0.5
QSM				IAML		21 06 46.5	
	comp=E,524nm,0.6s						
QSM				IAML		21 06 48.3	
	comp=N,773nm,0.4s						
CGO	**Cerro Gordo**	**0.68**	**352**		Pg	21 06 33.9	-0.6
WASM	**Alta Sierra Ca**	**0.72**	**259**		Pg	21 06 34.9	-0.4
CCAC	**Calif City Air**	**0.77**	**200**		Pg	21 06 35.7	-0.6
CCAC					Sg	21 06 46.0	-0.3
GWY	**Greenwater Val**	**0.88**	**69**		Pg	21 06 38.0	-0.4
GWY					Sg	21 06 49.6	-0.3
GWY				IAML		21 06 53.9	
	comp=E,454nm,0.3s						
GWY				IAML		21 06 53.9	
	comp=N,264nm,0.2s						
FURC	**Furnace Creek,**	**0.89**	**49**		Pg	21 06 38.4	-0.1
FURC					Sg	21 06 50.4	+0.2
GSC	**Goldstone, Bar**	**0.92**	**128**	Pg	Pg	21 06 38.6	-0.6
GSC				Sg	Sg	21 06 50.9	-0.3
GSC				IAML		21 06 53.2	
	comp=N,281nm,0.4s						
SPG2	**Springville 2**	**0.93**	**291**		Pg	21 06 38.3	-1.0
SPG2					Sg	21 06 50.3	-1.0
HYS	**Haystack Butte**	**1.02**	**174**		Pg	21 06 40.1	-0.9
HYS					Sg	21 06 53.9	-0.3
EDW2	**Edwards Air Fo**	**1.03**	**194**		Pg	21 06 40.1	-1.1
EDW2					Sg	21 06 53.6	-0.8
TEJ	**El Tejon**	**1.04**	**232**		Pg	21 06 40.3	-1.1
TEJ					Sg	21 06 53.5	-1.4
TPO	**Tropico Hills**	**1.09**	**204**		Pg	21 06 41.4	-1.0
TPO					Sg	21 06 56.0	-0.5
TPO				IAML		21 06 59.3	
	comp=N,302nm,0.5s						
TPO				IAML		21 07 04.8	
	comp=E,273nm,0.7s						
VES	**Vestal, Richgr**	**1.13**	**268**		Pg	21 06 42.4	-0.8
VES					Sg	21 06 57.9	0.0
GRAC	**Grapevine Rang**	**1.15**	**13**		Pg	21 06 42.8	-0.7
GRAC					Sb	21 06 58.6	-0.1
GRAC				IAML		21 07 02.4	
	comp=N,283nm,0.4s						
ARVC	**Arvin**	**1.19**	**231**		Pn	21 06 44.5	0.0
WCT	**Wildcat Mounta**	**1.25**	**43**		Pn	21 06 44.2	-1.2
WCT				IAML		21 07 03.8	
	comp=E,171nm,0.5s						
GMN	**Gold Mountain**	**1.46**	**14**		Pn	21 06 47.7	-0.7
GMN				IAML		21 07 11.1	
	comp=N,105nm,0.5s						
DSP	**Deep Springs**	**1.50**	**352**		Pn	21 06 48.2	-0.6
OSI	**Osito Audit: C**	**1.52**	**214**		Pn	21 06 48.6	-0.4
OSI				IAML		21 07 12.8	
	comp=E,100nm,0.6s						
TPNV	**Topopah Spring**	**1.58**	**47**		Pn	21 06 49.2	-0.8
TPNV				IAML		21 07 12.9	
	comp=E,136nm,0.5s						
TPNV				IAML		21 07 15.7	
	comp=E,139nm,1.1s						
BFSC	**Mount Baldy Ra**	**1.64**	**179**		Pn	21 06 51.0	+0.3
BFSC				IAML		21 07 14.3	
	comp=N,74nm,0.3s						
BFSC				IAML		21 07 16.0	
	comp=E,75nm,0.6s						
MWC	**Mount Wilson**	**1.68**	**190**		Pn	21 06 51.9	+0.6
MWC				IAML		21 07 16.4	
	comp=E,98nm,0.5s						
MWC				IAML		21 07 16.6	
	comp=N,115nm,0.5s						
PASC	**Pasadena Art C**	**1.75**	**194**		Pn	21 06 52.9	+0.7
CRGC	**Crocker Grade**	**1.78**	**250**		Pb	21 06 53.7	-0.7
MTPC	**Mountain Pass**	**1.79**	**102**		Pn	21 06 51.3	-1.4
MTPC				IAML		21 07 18.5	
	comp=N,127nm,0.6s						
MTPC				IAML		21 07 19.0	
	comp=E,110nm,0.4s						
MZP	**Montezuma Peak**	**1.83**	**8**		Pn	21 06 52.8	-0.8
SHPR	**Sheep Range**	**2.14**	**72**		Pn	21 06 56.8	-0.9
ELS	**Elsinore Mount**	**2.24**	**174**		Pn	21 06 58.3	-0.6
ELS				IAML		21 07 34.7	
	comp=E,40nm,0.7s						
V12A	**Nelson**	**2.31**	**93**		Pn	21 06 58.6	-1.4
V12A				IAML		21 07 42.1	
	comp=N,39nm,0.5s						
S11A	**Rachel**	**2.35**	**41**		Pn	21 06 59.0	-1.6
LHV	**Little Huntoon**	**2.46**	**345**		Pn	21 07 01.8	-0.1
PMD	**Palm Desert**	**2.48**	**154**		Pn	21 07 01.6	-0.5
PMPB	**Monarch Peak**	**2.54**	**279**		Pn	21 07 02.2	-0.9
PMPB				IAML		21 07 42.4	
	comp=E,64nm,0.9s						
PMPB				IAML		21 07 53.3	
	comp=N,58nm,1.0s						
NV11	**Mina Array Sit**	**2.58**	**352**		Pn	21 07 03.2	-0.4
NVAR	**Mina Array Bea**	**2.59**	**349**		Pn	21 07 03.4	-0.6
PRN	**Pahroc Range**	**2.61**	**54**		Pn	21 07 03.7	-0.5
PRN				IAML		21 07 49.7	
	comp=N,50nm,0.7s						
PRN				IAML		21 07 58.1	
	comp=E,65nm,0.6s						
BBGB	**Big Mountain B**	**2.79**	**285**		Pn	21 07 05.0	-1.6
RYN	**Ryan**	**2.82**	**347**		Pn	21 07 06.5	-0.6
DPP	**Dos Picos Cty**	**2.94**	**168**		Pn	21 07 07.2	-1.4
R11B	**Troy Canyon, C**	**2.98**	**34**		Pn	21 07 07.8	-1.5
CMB	**Columbia Colle**	**3.05**	**316**		Pn	21 07 09.2	-0.8
CMB				IAML		21 08 02.3	
	comp=N,19nm,0.7s						
W13A	**Hualapai Mount**	**3.20**

	SNR=5.9							
MK31	**Makanchi Array**	**12.10**	**36**	⇑P	**P**	**21 27 49.9**	**+0.1**
	0.9nm,0.5s,baz=227,slow=6.8,SNR=4.6							
MKAR	**Makanchi Array**	**12.10**	**36**	P	**Pn**	**21 27 45.8**	**+2.4**
	1.0nm,0.4s,baz=210,slow=9.7,SNR=16							
KURBB	**Kurchatov Arra**	**14.05**	**17**	P	**P**	**21 28 10.5**	**-0.8**
	2.1nm,0.3s,baz=205,slow=11,SNR=16							
AB31	**Akbulak array**	**14.78**	**327**	⇑P	**P**	**21 28 18.7**	**-0.8**
	0.9nm,0.4s,baz=135,slow=12,SNR=26							
AB31				S	**Sn**	**21 31 03.0**	**+1.6**
	1.0nm,0.5s,baz=136,slow=26,SNR=3.8							
BVA0	**Borovoye Array**	**15.71**	**356**	P	**P**	**21 28 29.2**	**-0.6**
	1.3nm,0.7s,baz=160,slow=13,SNR=8.9							
BVAR	**Borovoye Array**	**15.71**	**356**	P	**Pn**	**21 28 28.1**	**-0.7**
	2.0nm,0.7s,baz=163,slow=12,SNR=14							
AKTO	**Aktyubinsk**	**16.49**	**327**	⇓P	**Pn**	**21 28 41.0**	**+2.5**
	1.1nm,0.5s							
AKTO	**Aktyubinsk**	**16.49**	**327**	P	**Pn**	**21 28 40.0**	**+1.5**
	2.1nm,0.4s,baz=132,slow=5.9,SNR=10							
AKTO				S	**S**	**21 31 36.4**	**-5.1**
	0.8nm,0.5s,baz=108,slow=5.0,SNR=1.8							
ZALV	**Zalesovo Beam**	**18.79**	**24**	P	**P**	**21 29 02.9**	**-0.5**
	7.5nm,0.3s,baz=227,slow=10.0,SNR=49							
ARTI	**Arti**	**21.13**	**339**	P	**P**	**21 29 28.3**	**-0.4**
	1.4nm,0.5s,baz=137,slow=11,SNR=2.9							
	1.4nm,0.5s							
SONM	**Songino Array**	**27.15**	**56**	P	**P**	**21 30 24.3**	**-0.8**
	0.4nm,0.5s,baz=269,slow=11,SNR=1.7							
	0.4nm,0.5s							
FINES	**FINESS Array B**	**37.25**	**325**	P	**P**	**21 31 52.8**	**+0.1**
	0.8nm,0.8s,baz=108,slow=18,SNR=1.0							
	0.8nm,0.8s							
ARCES	**ARCESS Array B**	**40.68**	**337**	P	**P**	**21 32 21.3**	**+0.2**
	0.5nm,0.4s,baz=112,slow=8.3,SNR=11							
	0.5nm,0.4s							
HFS	**Hagfors**	**42.92**	**321**	P	**P**	**21 32 39.2**	**-0.2**
	0.6nm,0.5s,baz=120,slow=7.5,SNR=4.8							
	0.6nm,0.5s							
NOA	**NORSAR Array B**	**44.21**	**322**	P	**P**	**21 32 49.4**	**-0.3**
	0.2nm,0.5s,baz=111,slow=7.7,SNR=1.6							
	0.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**66.58**	**269**	P	**P**	**21 35 29.6**	**-0.7**
	0.9nm,0.3s,baz=55,slow=5.9,SNR=3.4							
	0.9nm,0.3s							

NEIC ***16*** *21:42:41.69˚.27N×144˚.73W,h8km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.00; $M_{\theta\theta}$0.39; $M_{\phi\phi}$-0.39; $M_{r\theta}$-0.05; $M_{\theta\phi}$-2.20; $M_{r\phi}$0.60; Fault plane solution: M_o2.32000×10^{14} NP1:φ_s355.00000°, δ90.00000°, λ.15.00000°. NP2:φ_s265.00000°, δ75.00000°, λ180.00000°. Principal axes: T 2.3132, Plg11.0000°, Azm221.0000°; N 0.0002, Plg75.0000°, Azm355.0000°; P -2.3135, Plg11.0000°, Azm129.0000°;*

IDC ***16*** *21:42:42.7±1.8,69˚.27N×145˚.08W,h0km,mb3.5/2, mbtmp3.5/4,ML3.4/2 Error ellipse: s-maj=38.8km s-min=23.2km az=97.0*

AEIC ***16*** *21:42:42.1±1.8,69˚.09N±0˚.03×144˚.68W±0˚.07,h10km±5km, ML3.5,ML3.5/104(NEIC),Mwr3.5/27(SLM), Error ellipse: s-maj=3.9km s-min=3.5km az=201.0*

NEIC ***16*** *21:42:43.6±1.5,69˚.14N±0˚.01×144˚.63W±0˚.05,h10km±2km, Error ellipse: s-maj=3.4km s-min=2.8km az=53.0*

ISC 16 21:42:42.5±1.6,69˚18N±0˚.04×144˚63W±0˚.04,h4km±13km, n103,σ0s77/101,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
C27K	**Jago River**	**0.55**	**35**		**Pb**	**21 42 54.3**	**-0.5**
C27K				Sg	**Sb**	**21 43 02.6**	**-0.4**
D25K	**Kavik River**	**0.64**	**284**	Pg	**Pg**	**21 42 54.5**	**-0.3**
D25K				Sg	**Sg**	**21 43 02.7**	**-0.3**
D25K				IAML		21 43 04.9	
	comp=N,2μm,0.7s						
C26K	**Camden Bay**	**0.75**	**352**		**Pn**	**21 42 58.7**	**-1.1**
C26K					**Sn**	**21 43 10.5**	**-1.1**
C26K	**Camden Bay**	**0.75**	**352**	IAML		21 43 11.8	
	comp=N,1μm,0.6s						
C26K				IAML		21 43 13.4	
	comp=E,1μm,0.7s						
D27M	**Malcolm River**	**1.31**	**85**		**Pn**	**21 43 06.9**	**-0.7**
D27M				Sn	**Sb**	**21 43 24.3**	**-0.5**
D27M				IAML		21 43 29.8	
	comp=N,1μm,0.6s						
D27M				IAML		21 43 30.9	
	comp=E,879nm,0.6s						
E27K	**Coleen River**	**1.49**	**131**		**Pn**	**21 43 09.5**	**-0.5**
E27K				Sn	**Sn**	**21 43 29.9**	**0.0**
E27K				IAML		21 43 36.7	
	comp=E,555nm,0.6s						
D24K	**Happy Valley**	**1.50**	**271**		**Pb**	**21 43 10.6**	**-0.3**
D24K	**Happy Valley**	**1.50**	**271**		**Sg**	**21 43 32.8**	**+2.1**
F26K	**Sheenjek River**	**1.50**	**173**		**Pn**	**21 43 09.5**	**-0.7**
F26K				IAML		21 43 31.0	
	comp=N,801nm,0.5s						
C24K	**Franklin Bluff**	**1.54**	**293**		**Pb**	**21 43 11.7**	**+0.2**
C24K					**Sg**	**21 43 33.1**	**+1.2**
C24K	**Franklin Bluff**	**1.54**	**293**	IAML		21 43 38.9	
	comp=N,839nm,0.7s						
C24K				IAML		21 43 40.6	
	comp=E,896nm,0.5s						
F25K	**Christian Rive**	**1.64**	**194**		**Pn**	**21 43 11.6**	**-0.5**
F25K				IAML		21 43 35.0	
	comp=E,1μm,0.7s						
BMAR	**Burnt Mountain**	**1.76**	**179**		**Pn**	**21 43 13.7**	**-0.1**
E24K	**Your Creek**	**1.80**	**234**		**Pn**	**21 43 14.1**	**-0.2**
E24K				IAML		21 43 44.4	
	comp=E,425nm,1.0s						
TOLK	**Toolik Lake Re**	**1.87**	**256**		**Pb**	**21 43 16.3**	**-0.9**
E28M	**Babbage River**	**1.93**	**105**		**Pn**	**21 43 16.6**	**+0.5**
E28M				IAML		21 43 46.4	
	comp=N,338nm,0.5s						
F24K	**Squaw Lake**	**2.06**	**217**		**Pn**	**21 43 18.0**	**+0.1**
F24K				IAML		21 43 52.8	
	comp=N,315nm,0.5s						
E23K	**Chandalar**	**2.15**	**241**		**Pn**	**21 43 20.4**	**+1.3**
E23K				IAML		21 43 54.9	
	comp=E,296nm,0.9s						
E23K				IAML		21 43 59.6	
	comp=N,333nm,0.6s						
D23K	**Nanushuk River**	**2.19**	**267**		**Pb**	**21 43 20.8**	**-1.7**
D23K				IAML		21 43 55.7	
	comp=E,364nm,1.1s						
D23K				IAML		21 43 59.5	
	comp=N,405nm,0.9s						
C23K	**Itkillik River**	**2.21**	**290**		**Pn**	**21 43 20.7**	**+0.9**
G26K	**Porcupine Rive**	**2.26**	**172**		**Pn**	**21 43 20.5**	**-0.1**
F28M	**Old Crow**	**2.36**	**130**		**Pn**	**21 43 21.9**	**-0.1**
G25K	**Bearman Lake**	**2.49**	**194**		**Pn**	**21 43 23.6**	**-0.1**
E29M	**Blow River**	**2.57**	**105**		**Pn**	**21 43 25.4**	**+0.5**
E29M				IAML		21 44 09.4	
	comp=E,190nm,0.8s						
G27K	**Doyon Strip**	**2.63**	**153**		**Pn**	**21 43 25.5**	**-0.2**
E22K	**Anaktuvuk Pass**	**2.83**	**252**		**Pn**	**21 43 28.6**	**+0.1**
E22K				IAML		21 44 17.1	
	comp=N,195nm,0.6s						
COLD	**Coldfoot**	**2.86**	**229**		**Pn**	**21 43 28.3**	**-0.5**
H25L	**Birch Creek**	**2.96**	**189**		**Pn**	**21 43 30.0**	**-0.1**
G23K	**Bananza Creek**	**3.21**	**222**		**Pn**	**21 43 33.4**	**-0.3**
G23K	**Bananza Creek**	**3.21**	**222**	IAML		21 44 29.7	
	comp=E,153nm,0.8s						
F22K	**John River**	**3.27**	**243**		**Pn**	**21 43 34.5**	**+0.1**
B22K	**Teshekpuk Lake**	**3.27**	**295**		**Pn**	**21 43 34.9**	**+0.5**
B21K	**Ikpikpuk River**	**3.56**	**282**		**Pn**	**21 43 38.7**	**+0.4**
B21K				IAML		21 44 43.1	
	comp=E,130nm,0.7s						
H24K	**Noodor Dome**	**3.58**	**202**		**Pn**	**21 43 38.1**	**-0.6**
H24K	**Noodor Dome**	**3.58**	**202**	IAML		21 44 42.8	
	comp=N,79nm,1.1s						
F30M	**Barrier River**	**3.63**	**112**		**Pn**	**21 43 41.0**	**+1.7**
F30M				IAML		21 44 27.6	
	comp=E,143nm,0.9s						
F30M				IAML		21 44 28.6	
	comp=N,92nm,0.9s						
C21K	**Knifeblade Rid**	**3.63**	**274**		**Pn**	**21 43 40.8**	**+1.4**
PRP	**Porcupine Dome**	**3.69**	**186**		**Pn**	**21 43 39.7**	**-0.7**
PRP				IAML		21 44 42.5	
	comp=E,87nm,1.0s						
PRP				IAML		21 44 42.6	
	comp=N,98nm,0.7s						
I27K	**Kandik River**	**3.77**	**161**		**Pn**	**21 43 42.4**	**+0.9**
F21K	**Alatna River**	**3.84**	**243**		**Pn**	**21 43 43.2**	**+0.9**
F21K				IAML		21 44 49.0	
	comp=E,107nm,0.8s						
F21K				IAML		21 44 52.0	
	comp=N,109nm,1.6s						
H23K	**Yukon River**	**3.86**	**212**		**Pn**	**21 43 42.4**	**-0.2**
H23K	**Yukon River**	**3.86**	**212**	IAML		21 44 50.6	
	comp=E,65nm,1.1s						
H23K				IAML		21 44 56.6	
	comp=N,84nm,1.0s						
I26K	**Coal Creek Min**	**3.93**	**171**		**Pn**	**21 43 43.9**	**+0.3**
INK	**Inuvik**	**4.13**	**97**		**Pn**	**21 43 47.2**	**+1.0**
I28M	**Miner Creek**	**4.16**	**152**		**Pn**	**21 43 47.1**	**+0.3**
I28M				IAML		21 44 38.4	
	comp=N,62nm,0.6s						
H22K	**Ishtalitna Cre**	**4.19**	**221**		**Pn**	**21 43 46.5**	**-0.6**
G21K	**Allakaket**	**4.29**	**236**		**Pn**	**21 43 48.3**	**-0.2**
G21K				IAML		21 45 09.8	
	comp=E,86nm,1.2s						
G21K				IAML		21 45 11.2	
	comp=N,60nm,1.1s						
E20K	**Nigu River**	**4.32**	**263**		**Pn**	**21 43 49.2**	**+0.4**
D20K	**Etivluk River**	**4.35**	**269**		**Pn**	**21 43 50.1**	**+0.8**
F31M	**Tsiigehtchic**	**4.40**	**108**		**Pn**	**21 43 50.7**	**+0.8**
F31M				IAML		21 45 06.2	
	comp=E,52nm,0.9s						
F31M				IAML		21 45 11.7	
	comp=N,47nm,1.4s						
I23K	**Minto, Yukon-K**	**4.45**	**207**		**Pn**	**21 43 50.0**	**-0.6**
I23K				IAML		21 45 06.5	
	comp=N,44nm,0.9s						
I23K				IAML		21 45 19.8	
	comp=E,46nm,1.2s						
IL31		**4.52**	**192**		**Pn**	**21 43 51.5**	**0.0**
ILAR	**Eielson Array**	**4.52**	**192**		**Pn**	**21 43 50.9**	**-0.7**
ILAR	**Eielson Array**	**4.52**	**192**	Pn	**Pn**	**21 43 51.6**	**+0.1**
	comp=E,0.9nm,0.3s,baz=2.4,slow=14,SNR=29						
ILAR				Sn	**Sn**	**21 44 43.3**	**-1.1**
	comp=E,1.8nm,0.3s,baz=12,slow=18,SNR=6.0						
ILAR				Lg	Lg	21 44 58.4	
	comp=E,3.0nm,0.3s,baz=347,slow=17,SNR=8.3						
	comp=E,2.0nm,0.3s						
J25K	**Salcha River,**	**4.60**	**184**		**Pn**	**21 43 52.1**	**-0.6**
J25K	**Salcha River,**	**4.60**	**184**	IAML		21 45 06.6	
	comp=E,63nm,0.7s						
J25K				IAML		21 45 14.6	
	comp=N,46nm,0.9s						
F20K	**Avaraart Lake**	**4.67**	**248**		**Pn**	**21 43 55.0**	**+1.4**
F20K				IAML		21 45 16.2	
	comp=E,38nm,0.9s						
F20K				IAML		21 45 22.9	
	comp=N,56nm,1.2s						
CCB	**Clear Creek Bu**	**4.72**	**197**		**Pn**	**21 43 54.2**	**-0.1**
H21K	**Melozitna Rive**	**4.74**	**226**		**Pn**	**21 43 54.6**	**+0.1**
H21K	**Melozitna Rive**	**4.74**	**226**	IAML		21 45 32.7	
	comp=N,35nm,1.1s						
IMAR	**Indian Mountai**	**4.74**	**232**		**Pn**	**21 43 54.0**	**-0.6**
MLY	**Manley**	**4.80**	**213**		**Pn**	**21 43 55.3**	**-0.2**
HDA	**Harding Lake**	**4.88**	**192**		**Pn**	**21 43 56.4**	**-0.1**
HDA				IAML		21 45 23.0	
	comp=N,43nm,0.8s						
WRH	**Wood River Hil**	**4.92**	**198**		**Pn**	**21 43 56.6**	**-0.5**
WRH	**Wood River Hil**	**4.92**	**198**	IAML		21 45 26.9	
	comp=E,44nm,1.0s						
NEA2	**Nenana**	**4.93**	**203**		**Pn**	**21 43 56.7**	**-0.5**
I21K	**Tanana**	**4.93**	**219**		**Pn**	**21 43 56.7**	**-0.6**
I21K				IAML		21 45 24.6	
	comp=N,54nm,1.1s						
I30M	**Mount Dempster**	**5.10**	**137**		**Pn**	**21 43 59.6**	**-0.2**
I30M				IAML		21 45 27.4	
	comp=E,26nm,1.1s						
I30M				IAML		21 45 39.3	
	comp=N,34nm,1.1s						
H31M	**Peel River**	**5.20**	**126**		**Pn**	**21 44 00.2**	**-0.8**
H31M				IAML		21 45 44.6	
	comp=E,30nm,1.1s						
H31M				IAML		21 45 53.4	
	comp=N,33nm,1.1s						
SCRK	**Sand Creek**	**5.23**	**177**		**Pn**	**21 44 01.9**	**+0.4**
SCRK				IAML		21 45 32.1	
	comp=E,46nm,0.9s						
SCRK				IAML		21 45 36.0	
	comp=N,28nm,0.8s						
C19K	**Lookout Ridge**	**5.35**	**276**		**Pn**	**21 44 03.8**	**+0.9**
C19K	**Lookout Ridge**	**5.35**	**276**	IAML		21 45 59.2	
	comp=E,38nm,1.7s						
K24K	**Donnelly Dome**	**5.42**	**185**		**Pn**	**21 44 04.2**	**+0.3**
H20K	**Anotleneega Mo**	**5.42**	**232**		**Pn**	**21 44 04.0**	**+0.1**
RIDG	**Independent Ri**	**5.46**	**181**		**Pn**	**21 44 05.5**	**+0.8**
F19K	**Shaleruckik Mo**	**5.47**	**251**		**Pn**	**21 44 05.7**	**+1.1**
DAWY	**Dawson**	**5.54**	**155**		**Pn**	**21 44 04.8**	**-0.9**
G19K	**Purcell Mounta**	**5.64**	**243**		**Pn**	**21 44 07.9**	**+0.9**
J30M	**Hart River**	**5.66**	**141**		**Pn**	**21 44 07.2**	**-0.1**
BPAW	**Bear Paw Mtn.**	**5.69**	**209**		**Pn**	**21 44 07.6**	**-0.1**
H19K	**Roundabout Mou**	**5.85**	**237**	Pn	**Pn**	**21 44 10.2**	**+0.3**
K29M	**Barlow Dome**	**6.06**	**149**		**Pn**	**21 44 12.9**	**0.0**
E18K	**Tukpahlearik C**	**6.18**	**261**		**Pn**	**21 44 15.1**	**+0.7**
TRF	**Thorofare Moun**	**6.19**	**204**		**Pn**	**21 44 14.7**	**+0.1**
PAX	**Paxson**	**6.25**	**184**		**Pn**	**21 44 16.0**	**+0.6**
BCAR	**Beaver Creek A**	**6.25**	**168**		**Pn**	**21 44 16.4**	**+1.1**
J20K	**Nowinta River**	**6.28**	**221**		**Pn**	**21 44 15.4**	**-0.3**
G18K	**Tagagawik**	**6.30**	**245**		**Pn**	**21 44 15.8**	**-0.2**
H18K	**Honhosa River**	**6.39**	**239**		**Pn**	**21 44 21.2**	**-0.2**
M26K	**Nabesna, AK**	**6.84**	**174**		**Pn**	**21 44 25.1**	**+1.6**
F17K	**Baldwin Pennin**	**6.86**	**254**		**Pn**	**21 44 24.0**	**+0.4**
M27K	**Edge Creek, AK**	**6.94**	**169**		**Pn**	**21 44 25.4**	**+0.4**
PPLA	**Purkeypile**	**7.01**	**210**		**Pn**	**21 44 26.1**	**+0.1**
A36M	**Sachs Harbour**	**7.03**	**58**	Pn	**Pn**	**21 44 25.9**	**0.0**
G17K	**Kiwalik Mounta**	**7.20**	**247**		**Pn**	**21 44 28.6**	**+0.3**
YUK2	**White River**	**7.59**	**166**		**Pn**	**21 44 34.9**	**+1.1**
M20K	**Styx River**	**8.12**	**210**		**Pn**	**21 44 41.2**	**+0.1**
M19K	**Big River Lodg**	**8.34**	**214**		**Pn**	**21 44 44.7**	**+0.7**
MMPY	**Sheldon Lake,**	**8.54**	**134**		**Pn**	**21 44 47.6**	**+0.9**
M18K	**Stony River**	**9.01**	**217**		**Pn**	**21 44 53.2**	**0.0**
YKA	**Yellowknife Ar**	**13.86**	**104**	Pn	**Pn**	**21 45 57.5**	**-2.0**
	comp=E,0.2nm,0.3s,baz=314,slow=14,SNR=4.6						
	comp=E,0.8nm,0.6s						
PDAR	**Pinedale Array**	**32.08**	**127**	P	**P**	**21 49 12.9**	**+2.5**
	comp=E,0.1nm,0.3s,baz=345,slow=8.1,SNR=2.1						
	comp=E,0.1nm,0.3s						
FINES	**FINESS Array B**	**49.50**	**6**	P	**P**	**21 51 33.4**	**+0.1**
	comp=E,1.7nm,0.9s,baz=353,slow=4.6,SNR=4.8						
	comp=E,1.7nm,0.9s						

ASRS ***16*** *21:49:41.5±0.2,50˚.1N±1˚.0×89˚.2E±0˚.9,h4km±1km, MLh4.5/32,Error ellipse: s-maj=2.4km s-min=1.6km az=142.7,confirmed*

IDC ***16*** *21:49:42.7±1.6,49˚.96N×89˚.17E,h0km,mb3.8/4, mbtmp3.7/11,ML3.2/6,Error ellipse: s-maj=18.1km s-min=15.6km az=127.0*

NNC ***16*** *21:49:45.6±1.1,49˚.96N×88˚.90E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=11.4km s-min=4.5km az=106.0*

ISC 16 21:49:43.6±0.7,49˚99N±0˚.04×89˚.13E±0˚.03,h10km,n52, σ2s24/92,mb3.8/4,13C-2D,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUR	**Chagan-Uzun**	**0.51**	**283**	⇑Pg	**Pg**	**21 49 52.4**	**-1.2**
CUR				Sg	**Sg**	**21 49 59.6**	**-0.8**
ULGR	**Ulagan, Altay**	**0.98**	**311**	Pg	**Pb**	**21 50 02.3**	**-0.5**
ULGR				Sg	**Sg**	**21 50 15.0**	**-0.2**
AKAR	**Aktash**	**1.03**	**289**	Pg	**Pg**	**21 50 01.6**	**-1.7**
AKAR				Sg	**Sg**	**21 50 15.5**	**-1.1**
CHBI	**Chibit, Altay**	**1.09**	**288**	Pg	**Pb**	**21 50 01.8**	**-2.8**
CHBI				Sg	**Sg**	**21 50 16.4**	**-2.4**
DGZ	**Jazzator, Alta**	**1.14**	**256**	Pg	**Pb**	**21 50 03.4**	**-1.9**
DGZ				Sg	**Sg**	**21 50 18.2**	**-1.9**
TEL	**Teeli**	**1.24**	**33**	⇓Pg	**Pn**	**21 50 03.6**	**-3.4**
TEL				Sg	**Sb**	**21 50 19.5**	**-3.6**
YALR	**Yailyu, Altay**	**2.03**	**332**	Pg	**Pb**	**21 50 20.5**	**0.0**
YALR				Sg	**Sg**	**21 50 48.1**	**-0.6**
ARTR	**Artybash**	**2.16**	**328**	Pg	**Pb**	**21 50 23.0**	**+0.4**
ARTR				Sg	**Sg**	**21 50 52.6**	**-0.3**
ELDR	**Elanda**	**2.29**	**304**	Pg	**Pb**	**21 50 24.9**	**-0.1**
ELDR				Sg	**Sg**	**21 50 55.9**	**-1.3**
GALT	**Gorno-Altaysk,**	**2.82**	**316**	Pg	**Pb**	**21 50 34.2**	**+0.3**
GALT				Sg	**Sg**	**21 51 13.2**	**-0.8**
TASR	**Tashtagol**	**2.88**	**345**	Pg	**Pg**	**21 50 36.9**	**-1.9**
TASR				Sg	**Sg**	**21 51 15.7**	**-0.4**
DJO	**Djoy, Khakassi**	**3.09**	**24**	Pg	**Pb**	**21 50 38.7**	**+0.2**
DJO				Sg	**Sg**	**21 51 19.5**	**-3.2**
CERR	**Cheremushki**	**3.21**	**26**	Pg	**Pb**	**21 50 40.6**	**0.0**
CERR				Sg	**Sg**	**21 51 22.4**	**-4.0**
VEH	**Verkhnyaya Baz**	**3.35**	**12**	Pg	**Pb**	**21 50 43.4**	**+0.3**
VEH				Sg	**Sg**	**21 51 28.7**	**-2.5**
KALT2	**Kaltan 2**	**3.60**	**343**	Pg	**Pb**	**21 50 48.6**	**+1.4**
KALT2				Sg	**Sg**	**21 51 37.9**	**-1.1**
MALIN	**Malinovka, Kuz**	**3.63**	**342**	Pg	**Pb**	**21 50 49.1**	**+1.4**
MALIN				Sg	**Sg**	**21 51 37.9**	**-2.1**
TAIL	**Tailep, Kuzbas**	**3.67**	**342**	Pg	**Pb**	**21 50 49.8**	**+1.4**
TAIL				Sg	**Sg**	**21 51 39.7**	**-1.5**
LUZB	**Luzhba, Kemero**	**3.68**	**358**	Pg	**Pb**	**21 50 50.0**	**+1.4**
LUZB				Sg	**Sg**	**21 51 38.5**	**-3.2**
KALT3	**Kaltan 3**	**3.68**	**344**	Pg	**Pb**	**21 50 49.2**	**+0.6**
KALT3				Sg	**Sg**	**21 51 39.5**	**-2.3**
ELT	**Eltsovka**	**3.74**	**332**	Pg	**Pb**	**21 50 51.5**	**+1.9**
ELT				Sg	**Sg**	**21 51 39.9**	**-3.7**
ARDR	**Aradan**	**3.75**	**44**	Pn	**Pn**	**21 50 43.1**	**+1.7**
ARDR				Pg	**Pb**	**21 50 49.9**	**+0.1**
ARDR				Sg	**Sb**	**21 51 36.9**	**+1.7**
KZLR	**Kyzyl**	**3.79**	**61**	Pn	**Pn**	**21 50 43.1**	**+1.2**
KZLR				Pg	**Pg**	**21 50 54.8**	**-1.2**
KZLR				Sg	**Sb**	**21 51 37.6**	**+1.2**
ERU	**Erunakovo, Kuz**	**4.29**	**346**	Sg	**Sg**	**21 51 58.2**	**-3.2**
KOTO	**Kotino, Kuzbas**	**4.42**	**343**	Sg	**Sg**	**21 52 05.0**	**-0.4**
BJR3	**Bachatsky-3 (S**	**4.62**	**338**	Sg	**Sg**	**21 52 09.5**	**-2.4**
ZAA0	**Zalesovo Array**	**4.78**	**328**	⇑Pn	**Pn**	**21 50 58.3**	**+2.8**
	0.7nm,1.1s						
ZAA0				⇑Pg	**Pg**	**21 51 11.4**	**-3.6**
	0.9nm,0.5s						
ZAA0				⇑Lg	Lg	21 52 14.1	
	18nm,0.9s						
ZALV	**Zalesovo Beam**	**4.78**	**328**	Pn	**Pn**	**21 50 57.3**	**+1.8**
	0.5nm,0.3s,baz=147,slow=13,SNR=14						
ZALV				Pg	**Pb**	**21 51 09.3**	**+2.0**
	2.0nm,0.3s,baz=147,slow=15,SNR=8.3						
ZALV				Sn	**Sn**	**21 51 53.8**	**+2.9**
	2.5nm,0.3s,baz=147,slow=18,SNR=5.8						
ZALV				Lg	Lg	21 52 12.0	
	9.8nm,0.3s,baz=142,slow=26,SNR=9.7						
	2.0nm,0.3s						
SALR	**Pechorkino, Sa**	**4.91**	**336**	Pn	**Pn**	**21 51 00.1**	**+2.8**
SALR				Pg	**Pb**	**21 51 12.0**	**+2.4**
SALR				Sg	**Sg**	**21 52 17.7**	**-3.4**
MK31	**Makanchi Array**	**5.56**	**238**	⇑Pn	**Pn**	**21 51 07.8**	**+1.4**
	1.3nm,0.2s,baz=51,slow=16,SNR=196						
MK31				⇑Pg	**Pg**	**21 51 25.3**	**-4.7**
	8.8nm,0.5s,baz=61,slow=15,SNR=18						
MK31				⇓Sn	**Sn**	**21 52 11.9**	**+1.5**
	19nm,0.6s,baz=57,slow=14,SNR=3.6						
MK31				⇑Lg	Lg	21 52 37.8	
	47nm,0.6s,baz=54,slow=27,SNR=7.2						
MKAR	**Makanchi Array**	**5.56**	**238**	Pn	**Pn**	**21 51 07.9**	**+1.5**
	3.1nm,0.3s,baz=48,slow=16,SNR=198						
MKAR				Pg	**Pb**	**21 51 22.0**	**+1.3**
	2.1nm,0.3s,baz=62,slow=15,SNR=5.9						
MKAR				Sn	**Sn**	**21 52 12.1**	**+1.7**
	3.5nm,0.3s,baz=56,slow=26,SNR=4.4						
MKAR				Lg	Lg	21 52 36.2	
	5.7nm,0.3s,baz=48,slow=22,SNR=4.0						
	4.0nm,0.3s						
KEM	**Kemerovo**	**5.67**	**342**	Sg	**Sg**	**21 52 44.3**	**-1.2**
BRCR	**Berchikul'**	**5.68**	**355**	Pg	**Pb**	**21 51 22.8**	**+0.1**
BRCR				Sg	**Sg**	**21 52 42.0**	**-3.8**
MAKZ	**Makanchi**	**5.73**	**239**	Pn	**Pn**	**21 51 09.7**	**+1.1**
	4.8nm,0.5s						
MAKZ				Pg	**Pb**	**21 51 26.6**	**+3.1**
	10nm,0.6s						
MAKZ				Lg	Lg	21 52 43.1	
	83nm,0.8s						
MAKZ	**Makanchi**	**5.73**	**239**	Pn	**Pn**	**21 51 10.0**	**+1.3**
MAKZ				Pg	**Pg**	**21 51 29.2**	**-4.0**
MAKZ				Sg	**Sg**	**21 52 42.7**	**-4.6**
MINR	**Mina**	**5.81**	**30**	Pg	**Pb**	**21 51 27.8**	**+2.8**
MINR				Sg	**Sg**	**21 52 46.0**	**-4.1**
NVS	**Novosibirsk**	**6.05**	**326**	Sg	**Sg**	**21 52 56.8**	**-0.8**
NVSII	**Novosibirsk**	**6.05**	**326**	Sg	**Sg**	**21 52 56.5**	**-1.1**
KURK	**Kurchatov**	**6.76**	**280**	⇑Pn	**Pn**	**21 51 24.8**	**+2.0**
	7.4nm,0.6s						
KURK				⇑Lg	Lg	21 53 17.1	
	68nm,0.8s						
KURK	**Kurchatov**	**6.76**	**280**	Sg	**Sg**	**21 53 15.1**	**-5.4**
KURBB	**Kurchatov Arra**	**6.82**	**279**	⇑Pn	**Pn**	**21 51 24.5**	**+1.0**
	12nm,0.6s						
KURBB				⇑Lg	Lg	21 53 18.3	
	147nm,0.7s						
KURBB	**Kurchatov Arra**	**6.82**	**279**	Pn	**Pn**	**21 51 24.0**	**+0.5**
	0.3nm,0.3s,baz=91,slow=14,SNR=94						
KURBB			

PRU ***16*** *21:57:54.8, 50.15N×19.10E, h0km*
IPEC 16 21:57:54.1±0.1, 50.14N×19.13E, h1km, ML1.7/4, Error ellipse: s-maj=1.4km s-min=0.8km az=10.0, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.44**	**79**	*e*Pg	Pg	21 58 02.7	+0.1
OJC				*e*Sg	Sg	21 58 08.8	+0.6
OKC	**Ostrava-Krasne**	**0.70**	**245**	*e*SG	Sg	21 58 17.6	+1.1
STEB	**Steborice**	**0.90**	**257**	*e*PG	Pg	21 58 11.0	-0.2
STEB				*e*SG	Sg	21 58 23.5	+0.7
LANS	**Liptovska Anna**	**1.01**	**167**	*e*PG	Pg	21 58 13.4	-0.1
LANS				*e*SG	Sg	21 58 26.7	+0.1
LANS				*e*LG	Lg	21 58 27.2	
NIE	**Niedzica**	**1.05**	**133**	*e*Pg	Pg	21 58 14.2	0.0
NIE				*e*Sg	Sb	21 58 29.4	+0.1
MORC	**Moravsky Berou** baz=70	**1.08**	**251**	*e*Pg	Pg	21 58 15.1	+0.2
MORC	11nm,0.5s,baz=70			*e*Sg	Sg	21 58 28.2	-0.7
KRLC	**Kraliky**	**1.51**	**269**	*e*PG	Pn	21 58 21.1	-1.2
KRLC	comp=Z,5.0nm,0.3s			*e*SG	Sg	21 58 41.8	-0.8
STHS	**Stebnicka Huta**	**1.55**	**117**	*e*PG	Pb	21 58 23.5	-0.1
STHS				*e*SG	Sg	21 58 44.8	+0.9
VYHS	**Vyhne**	**1.66**	**187**	*e*PG	Pn	21 58 23.7	-0.6
VYHS				*e*SG	Sn	21 58 44.5	-1.7
DPC	**Dobruska-Polom**	**1.81**	**278**	*e*PG	Pb	21 58 27.6	-0.5
DPC	comp=Z,5.0nm,0.6s			*e*SG	Sb	21 58 50.9	-0.4
VRAC	**Vranov** baz=62	**1.84**	**244**	*e*Pn	Pn	21 58 26.8	0.0
VRAC	3.9nm,0.5s,baz=62			*e*Sg	Sb	21 58 51.7	-0.4
KECS	**Kecovo**	**1.88**	**151**	*e*PG	Pg	21 58 30.9	+0.8
KECS				*e*SG	Sn	21 58 52.4	+0.7
OSTC	**Ostas**	**1.91**	**284**	*e*SG	Sg	21 58 54.9	-0.5
UPC	**Upice**	**2.03**	**282**	*e*SG	Sg	21 58 59.0	-0.3
KRUC	**Moravsky** baz=58	**2.08**	**240**	*e*Pn	Pn	21 58 30.2	+0.1
KRUC	5.1nm,0.6s,baz=58			*e*Sg	Sb	21 58 59.0	+0.1
ZVC	**Zvikov**	**3.27**	**260**	*e*SG	Sg	21 59 37.8	-1.4
CKRC	**Cesky Krumlov** comp=Z,1.6nm,0.5s	**3.41**	**249**	*e*SG	Sg	21 59 41.6	-1.9
KHC	**Kasperske Hory**	**3.74**	**256**	*e*SG	Sg	21 59 53.0	-1.3

BJI ***16*** *22:03:48.6, 12.49N×144.66E, h8km, mB5.5/68, mb5.5/98, Ms5.6/99, Ms7 5.4/99*
IDC ***16*** *22:03:49.5±0.3, 12.38N×144.43E, h0km, mb5.2/35, mbtmp5.2/38, ML4.8/2, MS5.2/65, Error ellipse: s-maj=11.0km s-min=8.8km az=78.0*
MOS ***16*** *22:03:50.6±1.0, 12.37N×144.39E, h21km, mb5.9/93, MS5.4/64, Error ellipse: s-maj=7.2km s-min=3.9km az=111.5*
NEIC ***16*** *22:03:51.2±1.6, 12.33N±0.06×144.50E±0.09, h7km±3km, mb5.9/249, Ms_20 5.5/938, Mww5.7/33, Error ellipse: s-maj=12.4km s-min=7.8km az=102.0*
DJA ***16*** *22:03:52.7±0.9, 12.2°N±2.2×14.5E±.4°, h20km±6km, M5.7/96, mB6.2/79, mb5.6/96, MLv5.3/1, Mw5.8/80, Mw(mB)5.8/79, MwMwp5.4/21, Mwp5.6/21*
NEIC ***16*** *22:03:53, 11.86N×144.40E, h14km, Moment Tensor Solution. Duration: 3s8 Moment tensor: Scale 10^17 Nm; Mrr2.13; Mθθ1.54; Mθφ-3.67; Mrθ1.77; Mθφ-1.27; Mrφ0.06; Fault plane solution: M0 3.86000×10^17 NP1: φs158.80000°, δs54.0000°, λs34.87000°. NP2:φs46.79000°, δs62.25000°, λs139.04000°. Principal axes: T 3.7148, Plg48.0000°, Azm9.0000°; N 0.2846, Plg42.0000°, Azm199.0000°; P -3.9994, Plg5.0000°, Azm104.0000°;*
NEIC ***16*** *22:03:53, 12.36N×144.50E, h14km*
PMR ***16*** *22:03:54.0, 12.29N×144.81E, h34km*
GCMT ***16*** *22:03:55.0±0.1, 12.20N±0.01×144.54E±0.01, h12km, MW5.6/166, Moment Tensor Solution. s132,c222; s166,c348; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr1.81±.04; Mθθ2.08±.03; Mφφ-3.89±.03; Mrθ-0.09±.10; Mθφ-1.46±.03; Mrφ0.86±.09; Best double couple: M0 3.44100×10^17 NP1:φs237.00000°, δ68.00000°, λ168.00000°. NP2:φs332.00000°, δ79.00000°, λ23.00000°. Principal axes: T 2.5440, Plg24.0000°, Azm196.0000°; N 1.7940, Plg65.0000°, Azm356.0000°; P -4.3380, Plg8.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 22:03:53.0±0.4, 12.35N±0.02×144.52E±0.03, h25km±2km, h26km:pP-P, n1660, s1960/1641, mb5.7/350, MS5.5/597, 30C-10D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.28**	**16**		**Pb**	**22 04 16.3**	**-0.2**
GUMO				Sn	**Sn**	**22 04 31.1**	**-0.5**
GUMO	**Guam** 4μm,0.3s,baz=181,slow=7.5,SNR=367	**1.28**	**16**	Pn	**Pb**	**22 04 16.6**	**+0.1**
GUMO	3μm,0.3s,baz=189,slow=13,SNR=11			Sn	**Sn**	**22 04 28.6**	**-3.1**
GUMO	**Guam**	**1.28**	**16**	P	**Pb**	**22 04 17.0**	**+0.5**
GUMO	**Guam**	**1.28**	**16**	P	**Pb**	**22 04 16.3**	**-0.2**
GUMO						22 04 31.2	
MANU	**Manus Island**	**14.57**	**169**		**Pn**	**22 07 15.5**	**-2.2**
PATS	**Pohnpei**	**14.66**	**111**		Pn	22 07 12.2	-6.7
PATS	**Pohnpei**	**14.66**	**111**	P	Pn	22 07 12.9	-6.1
JCJ	**Chichijima**	**14.83**	**352**	Pn	**Pn**	**22 07 21.0**	**-0.2**
JCJ	**Chichijima** 18nm,0.5s	**14.83**	**352**	Pn	**Pn**	**22 07 21.9**	**+0.7**
JCJ	**Chichijima**	**14.83**	**352**	P	**Pn**	**22 07 23.2**	**+2.0**
JAY	**Jayapura** 0.6nm,0.3s,baz=346,slow=8.5,SNR=23	**15.24**	**195**	Pn	**Pn**	**22 07 26.0**	**-0.8**
JAY	0.2nm,0.3s,baz=24,slow=20,SNR=1.0			Sn	**Sn**	**22 10 21.9**	**+6.9**
JAY	comp=Z,23μm,18.7s,baz=16,slow=35 180nm,1.3s			LR	LR	22 12 37.8	
JAY	**Jayapura** 5μm242nm,1.9s	**15.24**	**195**	P	**Pn**	**22 07 27.2**	**+0.4**
JAY	**Jayapura**	**15.24**	**195**	P	**Pn**	**22 07 26.0**	**-0.8**
SMPI	**Sarmi** 9μm14μm430nm,2.6s	**15.37**	**202**	P	**Pn**	**22 07 30.4**	**+2.1**
GENI	**Genyem** 11μm19μm1μm,1.6s	**15.46**	**197**	P	**Pn**	**22 07 30.7**	**+1.2**
BAKI	**Biak** 7μm9μm259nm,1.9s	**15.83**	**212**	P	**Pn**	**22 07 34.7**	**+0.3**
SRPI	**Serui, Papua**	**16.34**	**211**	P	P	22 07 58.0	+14
RKPI	**Ransiki, Papua** 5μm9μm297nm,1.5s	**17.18**	**217**	P	**P**	**22 07 53.8**	**+0.9**
RABL	**Rabaul**	**18.10**	**155**		**Pn**	**22 08 01.6**	**-1.4**
RABL	comp=Z,1μm,1.5s			IAmb	IAmb	22 08 08.6	
JMZ	**Minamidaito 2**	**18.35**	**319**		**P**	**22 08 04.8**	**-0.9**
SWI	**Sorong** comp=Z,8μmcomp=Z,10μmcomp=Z,232nm,1.6s	**18.59**	**226**	P	**Pn**	**22 08 10.8**	**+2.0**
DAV	**Davao City (W)**	**19.38**	**256**	P	**P**	**22 08 17.0**	**-0.2**
DAV	comp=Z,924nm,1.1s			IAmb	IAmb	22 08 24.1	
DAV	**Davao City (W)** comp=Z,17nm,0.3s,baz=40,slow=11,SNR=4.7	**19.38**	**256**	P	**P**	**22 08 17.2**	**0.0**
DAV	comp=Z,201nm,0.7s,baz=53,slow=15,SNR=1.4			S	**Sn**	**22 11 56.3**	**+1.0**
DAV	comp=Z,2μm,18.9s,baz=76,slow=43 comp=Z,170nm,0.4s			LR	LR	22 17 39.3	
DAV	**Davao City (W)**	**19.38**	**256**	↑*i*P	Pn	22 08 26.0	+7.6
DAV	**Davao City (W)**	**19.38**	**256**	P	**Pn**	**22 08 20.0**	**+1.6**
DAV				S	**Sn**	**22 11 56.8**	**+1.5**
FAKI	**Fak Fak**	**19.46**	**220**		**P**	**22 08 18.0**	**0.0**
FAKI	**Fak Fak**	**19.46**	**220**	P	**Pn**	**22 08 19.4**	**+0.1**
FAKI	**Fak Fak** comp=Z,7μmcomp=Z,13μmcomp=Z,312nm,1.6s	**19.46**	**220**	P	**Pn**	**22 08 20.3**	**+1.0**
TNTI	**Ternate**	**20.53**	**237**		**P**	**22 08 30.0**	**+0.3**
TNTI	**Ternate** comp=Z,4μmcomp=Z,6μmcomp=Z,202nm,1.4s	**20.53**	**237**	P	Pn	22 08 31.5	-0.5
SGSI	**Sangihe** comp=Z,9μmcomp=Z,9μmcomp=Z,596nm,0.9s	**20.66**	**247**	P	Pn	22 08 34.4	+0.9
JOW	**Kunigami**	**20.98**	**316**		**P**	**22 08 35.0**	**+0.4**
JOW	comp=Z,357nm,0.8s			IAmb	IAmb	22 08 40.0	
JOW	**Kunigami** comp=Z,393nm,0.8s,baz=144,slow=9.5,SNR=26	**20.98**	**316**	P	**P**	**22 08 35.4**	**+0.9**
JOW	comp=Z,11nm,0.7s,baz=114,slow=19,SNR=1.2			S	**S**	**22 12 27.1**	**0.0**
JOW	comp=Z,5μm,20.9s,baz=141,slow=32 comp=Z,393nm,0.8s			LR	LR	22 14 56.5	
JOW	**Kunigami**	**20.98**	**316**	P	Pn	22 08 37.0	-0.2
JHJ2	**Mitsune**	**21.11**	**349**		**P**	**22 08 36.0**	**+0.2**
JHJ2	**Mitsune**	**21.11**	**349**	P	**P**	**22 08 37.4**	**+1.6**
MSAI	**Masohi** comp=Z,12μmcomp=Z,690nm,1.3s	**21.98**	**226**	P	**P**	**22 08 47.1**	**+1.8**
JMJ	**Miyako jima 2**	**22.00**	**307**	P	**P**	**22 08 47.5**	**+2.0**
BNDI	**Bandanaira** comp=Z,976nm,1.7s	**22.18**	**222**	P	**P**	**22 08 48.6**	**+1.2**
H11S3	**WAKE ISLAND Hy** baz=255,slow=76,SNR=11	**22.22**	**71**	T	T	22 32 10.7	
H11S1	**WAKE ISLAND Hy** baz=253,slow=76,SNR=13	**22.23**	**71**	T	T	22 32 14.4	
H11S2	**WAKE ISLAND Hy** baz=253,slow=76,SNR=12	**22.23**	**71**	T	T	22 32 22.4	
H11N1	**WAKE ISLAND Hy** baz=255,slow=75,SNR=21	**22.70**	**68**	T	T	22 32 35.5	
H11N2	**WAKE ISLAND Hy** baz=255,slow=75,SNR=19	**22.71**	**68**	T	T	22 32 35.3	
H11N3	**WAKE ISLAND Hy** baz=255,slow=75,SNR=18	**22.72**	**68**	T	T	22 32 37.8	
AAI	**Ambon** comp=Z,5μmcomp=Z,539nm,0.8s	**22.74**	**227**	P	**P**	**22 08 54.8**	**+1.4**
JSG	**Sagara**	**22.96**	**347**	P	**P**	**22 08 55.7**	**+0.2**
TGY	**Tagaytay City** comp=Z,10μm,18.8s,baz=78,slow=37	**23.02**	**277**	LR	LR	22 18 07.1	
NLAI	**Namlea**	**23.22**	**229**	P	**P**	**22 08 59.1**	**+0.7**
SANI	**Sanana**	**23.31**	**233**	P	**P**	**22 09 00.3**	**+1.0**
JMN	**Monobe**	**23.39**	**337**	P	**P**	**22 09 00.1**	**+0.1**
KMSI	**Cibinong**	**23.49**	**242**	P	**P**	**22 09 03.4**	**+2.4**
YOJ	**Yonaguni jima**	**23.66**	**304**	P	**P**	**22 09 02.3**	**-0.3**
YOJ	comp=Z,167nm,0.6s			IAmb	IAmb	22 09 04.7	
YOJ	**Yonaguni jima**	**23.66**	**304**	P	**P**	**22 09 02.3**	**-0.3**
YOJ	comp=Z,167nm,0.6s			pmax	pmax		
YOJ	comp=Z,15μm,22.0s			MLR	MLR		
INU	**Inuyama**	**23.89**	**345**		**P**	**22 09 04.4**	**-0.3**
INU	**Inuyama**	**23.89**	**345**	P	**P**	**22 09 07.1**	**+2.4**
JGF	**Kuroka**	**24.04**	**346**		**P**	**22 09 06.5**	**+0.3**
JGF	**Kuroka**	**24.04**	**346**	P	**P**	**22 09 06.8**	**+0.6**
SAUI	**Saumlaki**	**24.09**	**214**		**P**	**22 09 06.4**	**-0.3**
JNU	**Nakatsue**	**24.15**	**331**		**P**	**22 09 06.1**	**-1.1**
JNU	comp=Z,834nm,1.9s			IAmb	IAmb	22 09 24.2	
JNU	**Nakatsue** comp=Z,19nm,0.8s,baz=106,slow=5.2,SNR=3.8	**24.15**	**331**	PcP	**PcP**	**22 12 48.9**	**+1.0**
JNU	comp=Z,3.2nm,0.8s,baz=58,slow=4.6,SNR=0.6			S	**S**	**22 13 27.1**	**+3.2**
JNU	comp=Z,13nm,0.9s,baz=114,slow=5.1,SNR=4.8			ScP	**ScP**	**22 16 27.2**	**+2.2**
JNU	comp=Z,2μm,19.1s,baz=138,slow=33			LR	LR	22 17 15.0	
JNU	**Nakatsue**	**24.15**	**331**	P	**P**	**22 09 07.5**	**+0.3**
TWG	**Pinlang**	**24.62**	**298**	P	**P**	**22 09 11.2**	**-0.4**
YULB	**Yu-li**	**24.64**	**300**	P	**P**	**22 09 11.0**	**-0.7**
YULB	comp=Z,190nm,0.8s			IAmb	IAmb	22 09 14.7	
YULB	comp=Z,13μm,20.0s			IAMs_20	IAMs_20	22 16 23.5	
YULB	**Yu-li**	**24.64**	**300**	P	**P**	**22 09 12.1**	**+0.4**
NACB	**Ninganchiao**	**24.70**	**302**	P	**P**	**22 09 11.9**	**-0.4**
NACB	comp=Z,249nm,1.3s			IAmb	IAmb	22 09 17.2	
NACB	**Ninganchiao**	**24.70**	**302**	P	**P**	**22 09 11.9**	**-0.4**
MJAR	**Matsushiro Arr** comp=Z,44nm,1.0s,baz=170,slow=9.8,SNR=66	**24.75**	**348**	P	**P**	**22 09 10.9**	**-1.7**
MJAR	comp=Z,4.4nm,0.7s,baz=159,slow=2.9,SNR=2.0			PcP	**PcP**	**22 12 49.6**	**+0.5**
MJAR	comp=Z,2.9nm,0.7s,baz=157,slow=3.9,SNR=1.6			S	**S**	**22 13 35.6**	**+2.2**
MJAR	comp=Z,1.2nm,0.4s,baz=200,slow=3.1,SNR=4.7			ScP	**ScP**	**22 16 27.9**	**+1.4**
MJAR	comp=Z,5μm,21.1s,baz=158,slow=34 comp=Z,44nm,1.0s			LR	LR	22 17 57.3	
MAJO	**Matsushiro**	**24.75**	**348**		**P**	**22 09 11.4**	**-1.2**
MAJO	**Matsushiro**	**24.75**	**348**	P	**P**	**22 09 12.2**	**-0.4**
MAJO	**Matsushiro**	**24.75**	**348**	*i*P	**P**	**22 09 10.6**	**-2.0**
MAJO	comp=Z,116nm,1.2s			pmax	pmax		
MJB9	**Matsu-Tunnel**	**24.75**	**348**	P	**P**	**22 09 10.9**	**-1.7**
SSLB	**Suanglung**	**25.08**	**300**		**P**	**22 09 15.8**	**0.0**
SSLB	comp=Z,14μm,20.0s			IAMs_20	IAMs_20	22 16 51.2	
SSLB	**Suanglung**	**25.08**	**300**	P	**P**	**22 09 16.4**	**+0.6**
YHNB	**Yeheng** comp=Z,18μm,22.0s	**25.09**	**303**	IAMs_20	IAMs_20	22 16 56.5	
YHNB	**Yeheng**	**25.09**	**303**	P	**P**	**22 09 16.1**	**+0.3**
TATO	**Taipei**	**25.12**	**303**	P	**P**	**22 09 16.1**	**0.0**
TATO	**Taipei** comp=Z,14μm,21.0s	**25.12**	**303**	IAMs_20	IAMs_20	22 16 57.2	
TATO	**Taipei**	**25.12**	**303**	P	**P**	**22 09 16.4**	**+0.3**
TATO				S	**S**	**22 13 35.4**	**-4.1**
TPUB	**Ta-pu**	**25.17**	**299**	P	**P**	**22 09 16.4**	**-0.2**
MRSI	**Marisa** comp=Z,9μmcomp=Z,11μmcomp=Z,495nm,1.3s	**25.31**	**244**	P	**P**	**22 09 19.4**	**+1.5**
LUWI	**Luwuk**	**25.36**	**240**	P	**P**	**22 09 19.3**	**+1.0**
JMM	**Marumori**	**25.63**	**353**		**P**	**22 09 20.2**	**-0.3**
JMM	comp=Z,11μm,18.0s			IAMs_20	IAMs_20	22 21 10.7	
JMM	**Marumori**	**25.63**	**353**	P	**P**	**22 09 20.5**	**0.0**
JTU	**Tsushima**	**26.00**	**331**	P	**P**	**22 09 25.6**	**+1.6**
TOLI2	**Tolitoli**	**26.05**	**246**		**P**	**22 09 24.4**	**-0.2**
TOLI2	**Tolitoli**	**26.05**	**246**	P	**P**	**22 09 27.7**	**+3.1**
COEN	**Coen**	**26.17**	**183**		**P**	**22 09 24.7**	**-0.9**
COEN	comp=Z,518nm,1.8s			IAmb	IAmb	22 09 40.4	
COEN	**Coen** comp=Z,127nm,1.7s	**26.17**	**183**	P	**P**	**22 09 25.3**	**-0.3**
COEN	**Coen**	**26.17**	**183**	P	**P**	**22 09 25.3**	**-0.3**
JSD	**Sado**	**26.18**	**349**	P	**P**	**22 09 25.9**	**+0.3**
APSI	**Ampana** comp=Z,4μmcomp=Z,378nm,1.2s	**26.25**	**241**	P	**P**	**22 09 28.3**	**+1.9**
MPSI	**Mapaga** comp=Z,3μmcomp=Z,2μmcomp=Z,88nm,1.3s	**27.18**	**246**	P	**P**	**22 09 36.2**	**+1.4**
QZH	**Quanzhou**	**27.51**	**301**	P	**P**	**22 09 38.0**	**+0.3**
QZH				PP	**PnPn**	**22 10 23.1**	**+0.2**
QZH				S	**S**	**22 14 21.8**	**+4.5**
QZH	comp=Z,110nm,1.0s			pmax	pmax		
QZH	comp=Z,700nm,4.4s			pmax	pmax		
QZH	comp=Z,5μm,12.3s			LR	LR		
QZH	comp=Z,7μm,12.4s			LR	LR		
QZH	comp=Z,9μm,16.4s			LR	LR		
KDU	**Kakadu** comp=Z,0.0nmcomp=Z,119nm,1.6s	**27.59**	**206**	P	**P**	**22 09 37.8**	**-0.6**
KDU	**Kakadu**	**27.59**	**206**	P	**P**	**22 09 38.3**	**-0.1**
PCI	**Palu** comp=Z,3μmcomp=Z,82nm,0.8s	**27.81**	**243**	P	**P**	**22 09 42.6**	**+2.1**
MTN	**Manton Dam**	**28.33**	**208**		**P**	**22 09 43.9**	**-1.2**
MTN	**Manton Dam** comp=Z,126nm,0.9s	**28.33**	**208**	P	**P**	**22 09 44.7**	**-0.3**
MTN	**Manton Dam**	**28.33**	**208**	P	**P**	**22 09 44.9**	**-0.1**
TJN	**Taejon**	**28.48**	**330**		**P**	**22 09 46.1**	**0.0**
TJN	**Taejon**	**28.48**	**330**	P	**P**	**22 09 46.1**	**0.0**
TJN	comp=Z,1μm,1.9s			pmax	pmax		
TJN	comp=Z,24μm,18.0s			MLR	MLR		
SSE	**Sheshan**	**28.49**	**315**	P	**P**	**22 09 46.4**	**+0.1**
SSE				S	**S**	**22 14 34.8**	**+2.2**
SSE	comp=Z,27nm,1.1s			pmax	pmax		
SSE	comp=Z,180nm,3.5s			pmax	pmax		
SSE	comp=Z,1μm,15.8s			LR	LR		
SSE	comp=Z,2μm,15.4s			LR	LR		
JTM	**Tenmabayashi**	**28.49**	**355**	P	**P**	**22 09 45.5**	**-0.7**
KKM	**Kota Kinabalu**	**28.61**	**260**		**P**	**22 09 48.3**	**+0.6**
TTSI	**Tana Toraja** comp=Z,3μmcomp=Z,61nm,1.5s	**28.91**	**240**	P	**P**	**22 09 52.7**	**+2.4**
KSRS	**Korea Array** comp=Z,8.9nm,0.7s,baz=141,slow=9.5,SNR=34	**29.08**	**332**	P	**P**	**22 09 51.0**	**-0.5**
KSRS	comp=Z,9.3nm,0.9s,baz=161,slow=2.2,SNR=10			PcP	**PcP**	**22 13 01.0**	**+1.7**
KSRS	comp=Z,0.5nm,0.4s,baz=140,slow=19,SNR=1.1			S	**S**	**22 14 48.0**	**+6.2**
KSRS	comp=Z,8.0nm,1.1s,baz=166,slow=2.9,SNR=8.2 comp=Z,8.9nm,0.7s			ScP	**SS**	**22 16 42.9**	**-2.7**
KSAR	**Wonju Array Be**	**29.09**	**332**		**P**	**22 09 51.2**	**-0.3**
KSAR	**Wonju Array Be**	**29.09**	**332**	P	**P**	**22 09 51.3**	**-0.3**
KS19	**Wonju Array Si**	**29.15**	**332**	P	**P**	**22 09 51.0**	**-1.1**
BNSI	**Bone** comp=Z,2μmcomp=Z,100nm,1.1s	**29.42**	**237**	P	**P**	**22 09 57.1**	**+2.3**
SPSI	**Sidrap Palu** comp=Z,62nm,1.0s	**29.45**	**238**	P	**P**	**22 09 56.1**	**+1.0**
ERM	**Erimo**	**29.58**	**358**	P	**P**	**22 09 56.5**	**+0.6**
ERM	**Erimo**	**29.58**	**358**	*i*P	**P**	**22 09 56.2**	**+0.3**
ERM	comp=Z,77nm,2.3s			pmax	pmax		
INCN	**Inchon**	**29.71**	**330**	P	**P**	**22 09 57.4**	**+0.2**
INCN	**Inchon**	**29.71**	**330**	P	**P**	**22 09 55.6**	**-1.6**
INCN				S	**S**	**22 14 49.7**	**-2.0**
INCN	**Inchon**	**29.71**	**330**	P	**P**	**22 09 57.4**	**+0.2**
INCN	comp=Z,78nm,1.6s			pmax	pmax		
INCN	comp=Z,5μm,19.0s			MLR	MLR		
SOEI	**Soe**	**29.78**	**223**		**P**	**22 09 57.0**	**-1.1**
SOEI	comp=Z,430nm,1.5s			IAmb	IAmb	22 10 28.6	
SOEI	**Soe** comp=Z,3μmcomp=Z,171nm,1.3s	**29.78**	**223**	P	**P**	**22 09 58.7**	**+0.6**
BKSI	**Bulukumba**	**29.94**	**235**	P	**P**	**22 10 01.1**	**+1.8**
KAPI	**Kappang**	**30.06**	**236**		**P**	**22 10 00.0**	**-0.4**
KAPI	**Kappang**	**30.06**	**236**	P	**P**	**22 10 00.6**	**+0.1**
KAPI	**Kappang**	**30.06**	**236**	*i*P	**P**	**22 09 58.2**	**-2.2**
KAPI	comp=Z,39nm,0.9s			pmax	pmax		
BSSI	**Bau Bau, Buton** comp=Z,2μmcomp=Z,116nm,1.5s	**30.13**	**234**	P	**P**	**22 10 04.5**	**+3.4**
MTSU	**Mount Surprise** comp=Z,21nm,1.3s	**30.29**	**180**	P	**P**	**22 10 02.0**	**-0.4**
MMRI	**Maumere**	**30.41**	**228**	P	**P**	**22 10 02.9**	**-0.7**
MMRI	comp=Z,144nm,1.2s			IAmb	IAmb	22 10 35.6	
MMRI	**Maumere**	**30.41**	**228**	P	P	22 10 12.1	+8.6
BATI	**Baumata** comp=Z,4μm,19.5s,baz=37,slow=38	**30.52**	**224**	LR	LR	22 23 01.8	
HKPS	**Hong Kong Po S**	**30.58**	**293**	P	**P**	**22 10 04.9**	**-0.1**
HJU	**Haeju**	**30.59**	**330**	P	**P**	**22 10 03.0**	**-1.9**
HJU				S	**S**	**22 15 02.7**	**-2.8**
HJU	comp=Z,404nm,2.4s			AmB			
HJU	comp=Z,5μm,11.0s			AMS	AMS		
NJ2	**Nanjing**	**30.67**	**314**	↑P	**P**	**22 10 05.8**	**+0.2**
NJ2				PP	**PnPn**	**22 11 06.3**	**+0.7**
NJ2				S	**S**	**22 15 07.9**	**+1.1**
NJ2	comp=Z,24nm,1.1s			pmax	pmax		
NJ2	comp=Z,510nm,7.1s			pmax	pmax		
NJ2	comp=Z,2μm,12.8s			LR	LR		
NJ2	comp=Z,4μm,13.7s			LR	LR		
NJ2	comp=Z,5μm,16.1s			LR	LR		
EDFI	**Ende, Flores** comp=Z,2μmcomp=Z,77nm,1.0s	**30.89**	**228**	P	**P**	**22 10 08.3**	**+0.4**
HHU	**Hamhung**	**31.30**	**334**	P	**P**	**22 10 13.0**	**+1.9**
HHU				S	**S**	**22 15 21.1**	**+4.7**
HHU	comp=Z,199nm,2.2s			AmB			
HHU	comp=Z,3μm,12.0s			AMS	AMS		
PYAG	**Pyongyang**	**31.38**	**331**	P	**P**	**22 10 11.0**	**-0.7**
PYAG				S	**S**	**22 15 17.3**	**-0.4**
PYAG	comp=Z,213nm,2.8s			AmB			
PYAG	comp=Z,7μm,16.1s			AMS	AMS		
GZH	**Guangzhou**	**31.49**	**294**	P	**P**	**22 10 12.5**	**-0.5**
GZH				pP	**pP**	**22 10 15.8**	**-3.1**
GZH				S	**S**	**22 15 21.0**	**+1.2**
GZH	comp=Z,31nm,0.8s			pmax	pmax		
GZH	comp=Z,4μm,15.6s			LR	LR		
GZH	comp=Z,7μm,17.8s			LR	LR		
GZH	comp=Z,12μm,20.0s			LR	LR		
YUK	**Yuzh-Kuril'sk**	**31.60**	**2**	*e*P	**P**	**22 10 12.7**	**-0.9**
YUK				*i*S	**S**	**22 15 20.9**	**-0.1**
YUK						22 17 35.9	
YUK	comp=Z,4μm,14.0s			MLR	MLR		
YUK	comp=N,4μm,17.0s			MLR	MLR		
YUK	comp=E,5μm,14.0s			MLR	MLR		
ASAJ	**Asahikawa** comp=E,0.8nm,0.3s,baz=142,slow=19,SNR=1.0	**31.70**	**357**	S	**S**	**22 15 20.5**	**-2.1**
ASAJ	**Asahikawa**	**31.70**	**357**	P	**P**	**22 10 15.4**	**+0.8**
ASAJ	comp=Z,136nm,1.4s			pmax	pmax		
ASAJ	comp=Z,7μm,21.0s			MLR	MLR		
JKA	**Kamikawa-asahi**	**31.70**	**357**		**P**	**22 10 15.4**	**+0.8**
JKA	comp=Z,136nm,1.4s			IAmb	IAmb	22 11 03.0	
KNRA	**Kununurra**	**31.91**	**210**		**P**	**22 10 16.8**	**+0.1**
KNRA	comp=Z,146nm,0.8s			IAmb	IAmb	22 10 19.1	
KNRA	**Kununurra** comp=Z,187nm,1.5s	**31.91**	**210**	P	**P**	**22 10 17.1**	**+0.5**
CTAO	**Charters Tower**	**32.28**	**177**		**P**	**22 10 19.4**	**-0.5**
CTAO	comp=Z,201nm,1.6s			IAmb	IAmb	22 10 32.6	
CTAO	**Charters Tower**	**32.28**	**177**	P	**P**	**22 10 20.1**	**+0.2**
CTAO	**Charters Tower**	**32.28**	**177**	P	**P**	**22 10 19.4**	**-0.5**
CTAO	comp=Z,201nm,1.7s			pmax	pmax		
CTAO	comp=Z,5μm,20.0s			MLR	MLR		
MSHR	**Mys Shultsa**	**32.28**	**341**	*i*P	**P**	**22 10 17.1**	**-2.6**
VLA	**Vladivostok**	**32.55**	**343**	*i*P	**P**	**22 10 21.7**	**-0.4**
VLA	comp=Z,76nm,1.5s			pmax	pmax		
SUJ	**Sinuiju**	**32.80**	**331**	P	**P**	**22 10 22.9**	**-1.4**
SUJ				S	**S**	**22 15 38.5**	**-1.5**
SUJ	comp=Z,315nm,2.2s			AmB			
SUJ	comp=Z,6μm,14.9s			AMS	AMS		
KUR	**Kuril'sk**	**32.90**	**4**	P	**P**	**22 10 26.4**	**+1.4**
KUR				S	**S**	**22 15 46.2**	**+4.9**
KUR				*e*SSS	SSS	22 17 58.7	
KUR	comp=Z,2μm,3.8s			pmax	pmax		
KUR	comp=Z,4μm,18.0s			MLR	MLR		
KUR	comp=E,4μm,17.0s			MLR	MLR		
QIS	**Mount Isa** comp=Z,151nm,1.7s	**33.05**	**188**	P	**P**	**22 10 26.1**	**-0.6**
QIS	**Mount Isa**	**33.05**	**188**	P	**P**	**22 10 26.2**	**-0.5**
WHN	**Wuhan**	**33.25**	**308**	↑P	**P**	**22 10 29.3**	**+1.0**
WHN				PP	**PnPn**	**22 11 36.6**	**-2.3**
WHN				S	**S**	**22 15 49.3**	**+2.2**
WHN	comp=Z,350nm,0.9s			pmax	pmax		
WHN	comp=Z,2μm,3.0s			pmax	pmax		
WHN	comp=Z,10μm,13.9s			LR	LR		
WHN	com

DL2 LR LR
comp=Z,3µm,15.6s
DL2 LR LR
comp=Z,6µm,15.2s
CNSH ChangSha 33.42 303 P **P** **22 10 31.6 +1.7**
CNSH S **S** **22 15 54.8 +4.9**
CNSH pmax pmax
comp=Z,52nm,1.0s
CNSH LR LR
comp=Z,3µm,17.1s
CNSH LR LR
comp=Z,5µm,19.2s
CNSH LR LR
comp=Z,6µm,18.6s
WB0 Warramunga Arr 33.43 197 **P** **22 10 29.4 -0.7**
SBUM Sibu 33.46 256 **P** **22 10 31.3 +0.9**
SBUM IAmb IAmb 22 10 34.6
comp=Z,145nm,1.2s
USA0B Ussuriysk Arra 33.52 344 P **P** **22 10 30.1 -0.4**
USA0B Ussuriysk Arra 33.52 344 P **P** **22 10 30.1 -0.4**
USA0B pmax pmax
comp=Z,60nm,1.5s
USRK Ussuriysk Ar. 33.52 344 P **P** **22 10 29.6 -0.9**
USRK Ussuriysk Ar. 33.52 344 P **P** **22 10 29.0 -1.5**
comp=Z,4.8nm,0.6s,baz=137,slow=9.2,SNR=12
USRK S **S** **22 15 57.3 +6.3**
comp=Z,2.7nm,0.7s,baz=174,slow=29,SNR=2.4
USRK LR LR 22 22 48.7
comp=Z,4µm,20.4s,baz=154,slow=34
USRK P3KPbc 22 41 40.9
comp=Z,0.7nm,0.5s,baz=274,slow=2.9,SNR=4.0
comp=Z,4.8nm,0.6s
USRK Ussuriysk Ar. 33.52 344 P **P** **22 10 29.6 -0.9**
WR8 Warramunga Arr 33.58 197 **P** **22 10 30.6 -0.7**
WR8 IAmb IAmb 22 10 33.2
comp=Z,124nm,0.8s
WRAB Tennant Creek 33.60 197 *i* P **P** **22 10 30.3 -1.2**
WRAB pmax pmax
comp=Z,190nm,0.9s
WRA Warramunga Arr 33.62 197 P **P** **22 10 29.9 -1.7**
WRA Warramunga Arr 33.62 197 P **P** **22 10 30.6 -1.0**
comp=Z,78nm,0.7s,baz=22,slow=9.8,SNR=117
WRA S **S** **22 15 51.5 -1.4**
comp=Z,0.9nm,0.9s,baz=9.9,slow=20,SNR=1.4
WRA ScP **ScP** **22 16 58.5 +3.7**
comp=Z,3.5nm,1.1s,baz=16,slow=2.9,SNR=3.2
WRA LR LR 22 24 09.5
comp=Z,11µm,20.5s,baz=3.5,slow=36
comp=Z,78nm,0.7s
WRA Warramunga Arr 33.62 197 *i* P **P** **22 10 30.6 -1.0**
WRA pmax pmax
comp=Z,86nm,0.7s
QIZ Qiongzhong 33.99 286 P **P** **22 10 36.0 +1.0**
QIZ Qiongzhong 33.99 286 IAms_20 IAms_20 22 21 57.0
comp=Z,8µm,20.0s
QIZ Qiongzhong 33.99 286 P **P** **22 10 37.0 +2.0**
QIZ PP **PP** **22 11 53.3 +1.1**
QIZ S **S** **22 16 02.3 +3.4**
QIZ pmax pmax
comp=Z,130nm,1.0s
QIZ pmax pmax
comp=Z,1µm,4.3s
QIZ LR LR
comp=Z,4µm,16.7s
QIZ LR LR
comp=Z,5µm,18.5s
QIZ LR LR
comp=Z,17µm,16.7s
TIA Tai'an 34.24 319 P **P** **22 10 36.9 -0.1**
TIA PcP **PcP** **22 13 17.9 +4.6**
TIA S **S** **22 16 00.8 -1.7**
TIA pmax pmax
comp=Z,41nm,1.0s
TIA pmax pmax
comp=Z,630nm,4.9s
TIA LR LR
comp=Z,5µm,15.7s
TIA LR LR
comp=Z,6µm,17.2s
TIA LR LR
comp=Z,9µm,16.8s
YSS Yuzhno-Sakhali 34.53 358 P **P** **22 10 38.5 -0.7**
YSS Yuzhno-Sakhali 34.53 358 *ce*P **P** **22 10 38.7 -0.5**
YSS *e**SP **sP** **22 10 45.9 -1.6**
YSS *e* 22 11 53.0
YSS *e* 22 13 12.4
YSS *e*S **S** **22 15 59.6 -6.9**
YSS *e*SS **SnSn** **22 18 20.6 +1.8**
YSS pmax pmax
comp=Z,30nm,0.6s
YSS pmax pmax
comp=Z,200nm,2.2s
YSS pmax pmax
comp=N,100nm,2.4s
YSS pmax pmax
comp=E,100nm,2.2s
YSS smax smax
comp=N,600nm,7.3s
YSS smax smax
comp=E,500nm,6.5s
YSS MLR MLR
comp=Z,3µm,16.0s
YSS MLR MLR
comp=N,4µm,15.0s
YSS MLR MLR
comp=E,5µm,15.0s
SNY Shenyang 34.59 332 ⇓P **P** **22 10 39.5 -0.3**
SNY S **S** **22 16 09.3 +1.8**
SNY LR LR
comp=E,3µm,15.6s
SNY LR LR
comp=E,4µm,17.5s
SNY LR LR
comp=E,7µm,17.5s
MDJ Mudanjiang 34.61 341 P **P** **22 10 39.6 -0.3**
MDJ Mudanjiang 34.61 341 P **P** **22 10 39.9 -0.1**
MDJ S **S** **22 16 15.6 +7.8**
MDJ pmax pmax
comp=E,9.0nm,1.0s
MDJ LR LR
comp=E,4µm,14.4s
MDJ LR LR
comp=E,6µm,20.1s
MDJ LR LR
comp=E,8µm,18.6s
GULI GuiLin 34.68 297 P **P** **22 10 37.0 -3.9**
GULI PP **PP** **22 11 59.6 -0.1**
GULI S **S** **22 16 07.3 -2.2**
GULI pmax pmax
comp=E,110nm,1.1s
GULI pmax pmax
comp=E,620nm,9.3s
GULI LR LR
comp=E,3µm,23.1s
GULI LR LR
comp=E,7µm,18.2s
GULI LR LR
comp=E,9µm,18.6s
STKI Sintang 34.98 252 P **P** **22 10 45.8 +2.3**
comp=E,127nm,1.2s
DLV Lat 35.21 273 **P** **22 10 45.9 +0.1**
CN2 Changchun 35.39 336 *e*P **P** **22 10 47.8 +1.1**
CN2 *e*pP pP 22 10 52.9 -0.1
CN2 *e*sP sP 22 10 56.0 +0.4
CN2 PP **PP** **22 12 05.5 -1.8**
CN2 pmax pmax
comp=E,10.0nm,0.6s
CN2 pmax pmax
comp=E,200nm,8.0s
CN2 LR LR
comp=E,6µm,18.0s
CN2 LR LR
comp=E,4µm,18.0s
CN2 LR LR
comp=E,3µm,19.1s
FITZ Fitzroy Crossi 35.53 212 P **P** **22 10 47.9 -0.3**
FITZ Fitzroy Crossi 35.53 212 LR LR 22 26 08.1
comp=E,2µm,19.2s,baz=38,slow=38
KSM Kuching 35.58 255 **P** **22 10 48.9 +0.1**
KSM IAmb IAmb 22 10 52.0
comp=Z,290nm,1.5s
SANVU Saraoutou 35.59 140 **P** **22 10 47.5 -1.2**
BNX BinXian 36.32 340 ⇑P **P** **22 10 53.8 -0.9**
BNX sP **sP** **22 11 02.6 -1.0**
BNX S **S** **22 16 27.9 -6.2**
BNX pmax pmax
comp=Z,16nm,1.4s
BNX LR LR
comp=Z,890nm,14.3s
BNX LR LR
comp=Z,990nm,15.3s
BNX LR LR
comp=Z,1µm,15.3s
HNS HongShan 36.51 318 ⇑P **P** **22 10 56.5 +0.1**
HNS S **S** **22 16 37.5 +0.3**
HNS pmax pmax
comp=Z,260nm,1.0s
HNS pmax pmax
comp=Z,900nm,5.3s
HNS LR LR
comp=Z,5µm,17.5s
HNS LR LR
comp=Z,6µm,16.5s
HNS LR LR
comp=Z,9µm,17.2s
LYN LuoYang 36.53 313 ⇑P **P** **22 10 57.3 +0.7**
LYN sP pwP 22 11 06.0 -2.2
LYN PP **PnPn** **22 12 16.4 -3.3**
LYN S **S** **22 16 38.8 +1.3**
LYN SS **SnSn** **22 19 04.8 -2.8**
LYN pmax pmax
comp=Z,370nm,0.9s
LYN pmax pmax
comp=Z,1µm,4.5s
LYN LR LR
comp=Z,13µm,17.5s
LYN LR LR
comp=Z,8µm,15.8s
LYN LR LR
comp=Z,4µm,18.2s
JAGI Jajag, Banyuwa 36.59 237 P **P** **22 10 57.2 -0.1**
JAGI IAmb IAmb 22 11 08.2
comp=Z,173nm,1.4s
JAGI Jajag, Banyuwa 36.59 237 P P 22 11 08.3 +11
ENH Enshi 36.98 304 P **P** **22 11 01.1 +0.5**
ENH IAmb IAmb 22 11 04.3
comp=Z,399nm,1.3s
GMJI Gumukmas 37.06 238 P **P** **22 11 03.5 +2.1**
comp=Z,3µmcomp=Z,107nm,1.1s
BJT Baijiatuau 37.20 323 P **P** **22 11 02.2 -0.1**
BJT Baijiatuau 37.20 323 P **P** **22 11 02.2 -0.1**
BJT pmax pmax
comp=Z,63nm,0.8s
BJT MLR MLR
comp=Z,4µm,18.0s
BJI Beijing 37.21 323 P **P** **22 11 02.1 -0.2**
BJI PP **PnPn** **22 12 30.4 +2.4**
BJI S **S** **22 16 48.0 +0.2**
BJI SS **SnSn** **22 19 19.5 -4.4**
BJI pmax pmax
comp=Z,43nm,1.1s
BJI pmax pmax
comp=Z,340nm,3.9s
BJI LR LR
comp=Z,3µm,20.6s
BJI LR LR
comp=Z,2µm,19.4s
BJI LR LR
comp=Z,2µm,17.6s
AS01 Alice Springs 37.25 196 P **P** **22 11 03.0 +0.1**
AS31 Alice Springs 37.27 196 **P** **22 11 02.3 -0.7**
ASAR Alice Springs 37.27 196 **P** **22 11 02.6 -0.4**
ASAR Alice Springs 37.27 196 P **P** **22 11 02.4 -0.7**
comp=Z,46nm,0.6s,baz=16,slow=6.6,SNR=161
ASAR S **S** **22 16 46.0 -3.1**
comp=Z,0.8nm,0.9s,baz=69,slow=9.3,SNR=1.5
ASAR ScP **ScP** **22 17 10.3 +2.3**
comp=Z,0.5nm,0.8s,baz=15,slow=3.8,SNR=1.7
ASAR LR LR 22 26 03.9
comp=Z,10µm,22.0s,baz=8.5,slow=36
comp=Z,46nm,0.6s
UBPT Khong Chiam 37.99 279 **P** **22 11 10.6 +1.3**
EIDS Eidsvold 38.03 170 **P** **22 11 08.1 -1.2**
EIDS Eidsvold 38.03 170 P **P** **22 11 08.6 -0.7**
comp=Z,72nm,1.8s
TIY Taiyuan 38.18 317 P **P** **22 11 11.5 +0.8**
TIY S **S** **22 17 08.8 +6.0**
TIY pmax pmax
comp=Z,140nm,1.0s
TIY pmax pmax
comp=Z,650nm,4.4s
TIY LR LR
comp=Z,3µm,16.8s
TIY LR LR
comp=Z,4µm,17.2s
TIY LR LR
comp=Z,5µm,17.5s
GYA Guiyang 38.20 297 ⇑P **P** **22 11 12.5 +1.4**
GYA sP pP 22 11 16.5 -0.6
GYA S **S** **22 17 06.8 +3.3**
GYA pmax pmax
comp=Z,61nm,1.2s
GYA LR LR
comp=Z,9µm,20.0s
NGJI Ngawi 38.25 241 P **P** **22 11 13.8 +2.3**
comp=Z,111nm,2.6s
TYV Tymovskoe 38.44 358 *e*P **P** **22 11 13.1 +0.6**
TYV *e*S **S** **22 17 07.2 +1.1**
TYV pmax pmax
comp=Z,500nm,2.8s
TYV pmax pmax
comp=Z,43nm,1.3s
TYV smax smax
comp=N,2µm,6.6s
TYV smax smax
comp=E,1µm,6.6s
TYV MLR MLR
comp=N,5µm,17.0s
TYV MLR MLR
comp=Z,5µm,17.0s
QLP Quilpie 38.70 180 P **P** **22 11 13.9 -1.0**
comp=Z,192nm,1.8s
QLP Quilpie 38.70 180 P **P** **22 11 14.3 -0.7**
RMQ Roma 38.82 174 P **P** **22 11 16.8 +0.8**
comp=Z,40nm,1.7s
GRNR Gornyy 38.88 352 ⇑*i*P **P** **22 11 15.4 -0.9**
GRNR pmax pmax
comp=Z,5.0nm,0.6s
GRNR MLR MLR
comp=E,2µm,15.0s
GRNR MLR MLR
comp=N,2µm,16.0s
GRNR MLR MLR
comp=Z,2µm,21.0s
MIDW Midway 38.88 60 P **P** **22 11 16.7 +0.1**
MIDW IAmb IAmb 22 11 21.3
comp=Z,414nm,1.6s
XAN Xi'an 38.90 310 ⇑P **P** **22 11 16.8 0.0**
XAN pP pP 22 11 20.9 -2.3
XAN PP **PP** **22 12 51.9 +5.7**
XAN S **S** **22 17 16.5 +2.7**
XAN pmax pmax
comp=Z,160nm,0.8s
XAN pmax pmax
comp=Z,530nm,3.6s
XAN LR LR
comp=Z,5µm,14.4s
XAN LR LR
comp=Z,6µm,19.2s
XAN LR LR
comp=Z,10µm,19.2s
PCJI Pacitan 38.92 240 P **P** **22 11 18.7 +1.7**
comp=Z,4µmcomp=Z,249nm,1.7s
WOJI Wonogiri, Jawa 38.95 241 P **P** **22 11 20.6 +3.3**
comp=Z,4µmcomp=Z,133nm,1.5s
UGM Wanagama 39.33 241 P **P** **22 11 21.2 +0.7**
comp=Z,224nm,1.6s
TPI Tanjungpandan 39.58 250 P **P** **22 11 24.7 +2.1**
comp=Z,3µmcomp=Z,283nm,1.2s
SLVN Son La 39.79 288 **P** **22 11 24.9 +0.6**
SLVN IAMs_20 IAMs_20 22 25 41.4
comp=Z,7µm,20.0s
SLVN Son La 39.79 288 P **P** **22 11 26.1 +1.8**
XLT XiLinHaoTe 39.83 327 *e*P **P** **22 11 24.1 -0.3**
XLT sP pwP 22 11 37.1 +0.9
XLT ScP **ScP** **22 17 21.0 +3.4**
XLT S **S** **22 17 30.4 +2.9**
XLT SS **SS** **22 20 13.3 -11**
XLT pmax pmax
comp=Z,56nm,1.1s
XLT pmax pmax
comp=Z,540nm,5.3s
XLT LR LR
comp=Z,4µm,16.9s
XLT LR LR
comp=Z,5µm,20.1s
FUNA Funafuti 40.23 119 P **P** **22 11 28.7 +0.7**
FUNA IAmb IAmb 22 11 33.2
comp=Z,388nm,1.6s
HEH HeiHe 40.32 343 *e*P **P** **22 11 27.3 -0.9**
HEH PP **PP** **22 13 03.8 +2.5**
HEH PcP **PcP** **22 13 32.5 +1.1**
HEH ScP **ScP** **22 17 23.0 +3.7**
HEH S **S** **22 17 34.3 -0.1**
HEH ScS **ScS** **22 21 32.0 -0.9**
HEH pmax pmax
comp=Z,44nm,1.0s
HEH LR LR
comp=Z,5µm,16.3s
HEH LR LR
comp=Z,7µm,16.5s
HEH LR LR
comp=Z,6µm,17.3s
WRKA Warakurna 40.39 203 P **P** **22 11 28.6 -0.5**
comp=Z,77nm,1.0s
DZM Mont Dzumac 40.41 148 **P** **22 11 28.6 -0.8**
DZM IAMs_20 IAMs_20 22 27 25.3
comp=Z,7µm,18.0s
DZM Mont Dzumac 40.41 148 *e*P **P** **22 11 28.4 -1.0**
comp=Z,168nm,1.4s
DZM Mont Dzumac 40.41 148 *e*PP PP 22 13 06.2 +3.4
comp=Z,199nm,22.6s
DZM *e*S **S** **22 17 38.7 +2.2**
comp=Z,869nm,30.7s
DZM *e*SS **SS** **22 20 37.7 +1.4**
comp=Z,8µm,29.9s
DZM *e*LR LR 22 22 29.4
comp=Z,4µm,22.4s
DZM Mont Dzumac 40.41 148 P **P** **22 11 29.1 -0.3**
comp=Z,24nm,1.1s,baz=0.1,slow=9.1,SNR=4.8
comp=Z,24nm,1.1s
HHC Hu-ho-hao-te 40.49 321 *e*P **P** **22 11 30.3 +0.3**
HHC pP pP 22 11 34.4 -2.0
HHC PP **PnPn** **22 13 06.6 -0.8**
HHC S **S** **22 17 36.8 -0.8**
HHC ScS **ScS** **22 21 30.8 -3.8**
HHC pmax pmax
comp=Z,32nm,1.0s
HHC pmax pmax
comp=Z,700nm,5.7s
HHC LR LR
comp=Z,2µm,16.8s
HHC LR LR
comp=Z,3µm,17.6s
HHC LR LR
comp=Z,4µm,16.8s
NKL Nikolayevsk 40.81 356 *e*P **P** **22 11 30.1 -2.2**
NKL *e*S **S** **22 17 42.2 +0.6**
NKL pmax pmax
comp=E,114nm,1.3s
NKL pmax pmax
comp=N,105nm,1.6s
NKL pmax pmax
comp=Z,188nm,1.7s
NKL smax smax
comp=N,355nm,5.0s
NKL smax smax
comp=E,403nm,5.0s
NKL MLR MLR
comp=N,4µm,11.0s
NKL MLR MLR
comp=E,8µm,13.0s
NKL MLR MLR
comp=Z,6µm,13.0s
MBWA Marble Bar 41.25 216 **P** **22 11 36.0 -0.3**
MBWA Marble Bar 41.25 216 P **P** **22 11 37.0 +0.6**
comp=Z,146nm,1.4s
MBWA Marble Bar 41.25 216 P **P** **22 11 36.9 +0.6**
BTO Baotou 41.33 319 ⇓*i*P **P** **22 11 38.9 +2.0**
BTO pP **sP** **22 11 44.9 -1.1**
BTO sP **pwP** **22 11 47.9 -0.6**
BTO PP **PnPn** **22 13 18.8 +1.6**
BTO S **S** **22 17 52.5 +2.5**
BTO sS **sS** **22 18 04.3 +3.5**
BTO pmax pmax
comp=Z,180nm,0.9s
BTO pmax pmax
comp=Z,2µm,7.6s
BTO LR LR
comp=Z,7µm,13.1s
BTO LR LR
comp=Z,7µm,20.8s
BTO LR LR
comp=Z,11µm,18.4s
LEM Lembang 41.33 245 LR LR 22 28 47.2
comp=Z,2µm,21.5s,baz=38,slow=36
PINNC Pines Island, 41.38 147 P **P** **22 11 37.2 -0.1**
PINNC IAmb IAmb 22 12 11.2
comp=Z,284nm,1.5s
PINNC Pines Island, 41.38 147 P **P** **22 11 38.1 +0.8**
KMI Kunming 41.38 294 ⇑P **P** **22 11 39.3 +1.6**
KMI S **S** **22 17 51.6 +0.2**
KMI pmax pmax
comp=Z,52nm,1.0s
KMI pmax pmax
comp=Z,510nm,5.7s
KMI LR LR
comp=Z,2µm,15.9s
KMI LR LR
comp=Z,3µm,15.8s
KMI LR LR
comp=Z,4µm,19.5s
PSA00 Pilbara Seismi 41.51 216 P **P** **22 11 38.4 0.0**
PSA00 IAmb IAmb 22 11 41.1
comp=Z,192nm,0.9s
PSA00 Pilbara Seismi 41.51 216 P **P** **22 11 38.6 +0.2**
PSA00 IAmb IAmb 22 11 41.0
comp=Z,174nm,1.1s
PSA00 Pilbara Seismi 41.51 216 P **P** **22 11 38.6 +0.2**
comp=Z,231nm,1.4s
PSA00 Pilbara Seismi 41.51 216 P **P** **22 11 39.1 +0.7**
MYKOM Kota Tinggi 41.63 259 **P** **22 11 40.5 +1.0**
MYKOM IAmb IAmb 22 11 45.0
comp=Z,188nm,1.1s
CD2 Chengdu 41.86 303 P **P** **22 11 41.8 +0.5**
CD2 sP pP 22 11 45.8 -1.4
CD2 PP **PP** **22 13 18.4 0.0**
CD2 S **S** **22 18 00.9 +2.9**
CD2 sS pS 22 18 06.0 +0.6
CD2 pmax pmax
comp=Z,490nm,0.8s
CD2 LR LR
comp=Z,8µm,14.9s
CD2 LR LR
comp=Z,6µm,17.0s
CD2 LR LR
comp=Z,4µm,14.5s
DBJI Dramaga 41.98 245 P **P** **22 11 45.4 +3.0**
comp=Z,78nm,1.5s
PEA0B Petropavlovsk- 42.00 12 **P** **22 11 41.9 -0.2**
PEA0B Petropavlovsk- 42.00 12 P **P** **22 11 41.9 -0.2**
PEA0B pmax pmax
comp=Z,112nm,2.0s
PETK Petropavlovsk- 42.00 12 **P** **22 11 41.9 -0.1**
PETK Petropavlovsk- 42.00 12 P **P** **22 11 42.1 +0.1**
comp=Z,2.5nm,0.6s,baz=178,slow=5.5,SNR=9.9
PETK PcP **PcP** **22 13 37.3 +0.4**
comp=Z,16nm,0.8s,baz=197,slow=4.6,SNR=8.6
PETK S **S** **22 18 00.2 +0.8**
comp=Z,0.7nm,0.4s,baz=258,slow=15,SNR=4.2
PETK LR LR 22 27 46.6
comp=Z,5µm,20.4s,baz=189,slow=34
comp=Z,2.5nm,0.6s
HIA Hailar 42.12 336 P **P** **22 11 43.2 +0.1**
HIA Hailar 42.12 336 P **P** **22 11 43.2 +0.1**
HIA pmax pmax
comp=Z,140nm,1.9s
HIA MLR MLR
comp=Z,5µm,22.0s
PET Petropavlovsk 42.12 13 *e*P **P** **22 11 41.4 -1.6**
PET *e* 22 13 38.7
PET *e*S **S** **22 18 02.4 +1.3**
PET pmax pmax
comp=Z,300nm,9.2s
PET pmax pmax
comp=Z,100nm,11.9s
PET MLR MLR
comp=Z,3µm,15.0s

PET MLR MLR
comp=Z,3µm,14.0s
PET Petropavlovsk 42.12 13 P P 22 11 43.7 +0.7
comp=Z,802nmcomp=Z,16nm,1.5s
PMBI Palembang 42.30 252 P **P** 22 11 45.7 +0.7
PMBI IAmb IAmb 22 11 49.1
comp=Z,290nm,0.8s
PZH PanZhiHua 42.52 296 ⇓P **P** **22 11 48.5 +1.7**
PZH sP **pP** **22 11 53.1 +0.2**
PZH S **S** **22 18 11.0 +3.0**
PZH ScS **ScS** **22 21 46.6 -0.8**
PZH pmax pmax
comp=Z,60nm,1.2s
PZH pmax pmax
comp=Z,570nm,6.2s
PZH LR LR
comp=Z,2µm,18.7s
PZH LR LR
comp=Z,3µm,19.6s
PZH LR LR
comp=Z,3µm,19.0s
CGJI Cibinong 42.95 246 P **P** **22 11 50.4 +0.1**
comp=Z,2µmcomp=Z,181nm,1.1s
KLI Kotabumi 42.97 249 P **P** **22 11 50.0 -0.5**
comp=Z,167nm,0.9s
ARMA Armidale 43.07 171 **P** **22 11 49.9 -1.2**
ARMA IAmb IAmb 22 12 04.6
comp=Z,312nm,1.6s
ARMA Armidale 43.07 171 P **P** **22 11 51.2 +0.1**
comp=Z,113nm,1.7s
ARMA Armidale 43.07 171 P **P** **22 11 50.8 -0.3**
MDSI Maura Dua 43.44 250 P **P** **22 11 55.2 +0.9**
comp=Z,3µmcomp=Z,111nm,1.6s
ZEA Zeya 43.51 345 *e*P **P** **22 11 53.4 -0.9**
ZEA *e* 22 13 30.4
ZEA *e*S **S** **22 18 24.3 +2.8**
ZEA *e* 22 21 57.5
ZEA pmax pmax
comp=Z,200nm,10.9s
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA pmax pmax
comp=E,200nm,9.8s
ZEA pmax pmax
comp=N,200nm,8.1s
ZEA pmax pmax
comp=Z,400nm,10.2s
ZEA smax smax
comp=N,800nm,9.2s
ZEA MLR MLR
comp=N,2µm,17.0s
ZEA MLR MLR
comp=Z,2µm,17.0s
LZH Lanzhou 43.54 310 ⇑P **P** **22 11 56.3 +1.3**
LZH sP sP 22 12 04.3 +1.0
LZH S **S** **22 18 22.9 +0.1**
LZH SS **SS** **22 21 35.3 -2.5**
LZH pmax pmax
comp=Z,290nm,1.3s
LZH pmax pmax
comp=Z,990nm,4.0s
LZH LR LR
comp=Z,4µm,18.0s
LZH LR LR
comp=Z,2µm,17.9s
LZH LR LR
comp=Z,6µm,22.2s
KASI Kota Agung 43.56 248 P **P** **22 11 56.7 +1.4**
comp=Z,2µmcomp=Z,105nm,1.5s
CMSA Cobar Meteorol 43.65 179 P **P** **22 11 55.3 -0.3**
comp=Z,54nm,1.4s
CMSA Cobar Meteorol 43.65 179 P **P** **22 11 55.5 -0.1**
IPM Ipoh 43.67 264 **P** **22 11 56.7 +0.4**
IPM IAmb IAmb 22 12 00.3
comp=Z,323nm,1.4s
IPM Ipoh 43.67 264 P **P** **22 11 57.8 +1.6**
LWLI Liwa 43.76 249 P **P** **22 11 58.6 +1.6**
LHSI Lahat 43.79 251 P **P** **22 11 58.7 +1.6**
KULM Kulim 43.86 265 **P** **22 11 58.2 +0.5**
KULM Kulim 43.86 265 P **P** **22 11 59.2 +1.5**
STKA Stephens Creek 44.06 184 **P** **22 11 58.0 -1.0**
STKA Stephens Creek 44.06 184 P **P** **22 11 58.0 -1.0**
comp=Z,246nm,1.7s
STKA Stephens Creek 44.06 184 P **P** **22 11 58.0 -1.0**
comp=Z,16nm,0.9s,baz=349,slow=8.4,SNR=16
STKA PcP **PcP** **22 13 45.4 +1.2**
comp=Z,10nm,0.8s,baz=350,slow=6.1,SNR=4.1
STKA S **S** **22 18 29.3 -0.7**
comp=Z,1.5nm,0.6s,baz=51,slow=23,SNR=1.2
STKA LR LR 22 31 14.1
comp=Z,3µm,19.1s,baz=0.2,slow=37
comp=Z,16nm,0.9s
STKA Stephens Creek 44.06 184 P **P** **22 11 58.0 -1.0**
STKA pmax pmax
comp=Z,456nm,1.4s
CMAR Chiang Mai Arr 44.26 284 **P** **22 12 01.6 +0.7**
CMAR Chiang Mai Arr 44.26 284 P **P** **22 12 02.2 +1.4**
comp=Z,71nm,0.9s,baz=84,slow=6.0,SNR=177
CMAR S **S** **22 18 29.2 -4.3**
comp=Z,0.7nm,0.3s,baz=107,slow=16,SNR=5.0
CMAR LR LR 22 30 28.4
comp=Z,4µm,19.1s,baz=95,slow=36
comp=Z,71nm,0.9s
CHTO Chiang Mai 44.27 284 **P** **22 12 01.4 +0.5**
CHTO Chiang Mai 44.27 284 P **P** **22 12 01.2 +0.3**
CHTO P **pP** **22 12 01.7 -5.4**
CHTO S **S** **22 18 28.5 -5.1**
CHTO Chiang Mai 44.27 284 P **P** **22 12 02.2 +1.2**
CHTO Chiang Mai 44.27 284 P **P** **22 12 01.4 +0.5**
CHTO pmax pmax
comp=Z,75nm,1.4s
CHTO MLR MLR
comp=Z,4µm,18.0s
SRIT Nakonsritamara 44.28 270 **P** **22 12 02.4 +1.3**
MNAI Manna 44.52 251 **P** **22 12 02.8 -0.2**
MNAI Manna 44.52 251 P **P** **22 12 04.1 +1.1**
MNAI Manna 44.52 251 P **P** **22 12 04.7 +1.7**
KSI Kapahiang 44.59 252 P **P** **22 12 04.8 +1.2**
MSVF Nonsavu 44.60 131 **P** **22 12 03.8 +0.2**
MSVF IAmb IAmb 22 12 06.8
comp=Z,205nm,1.4s
MSVF Nonsavu 44.60 131 IAMs_20 IAMs_20 22 30 05.3
comp=Z,4µm,18.0s
MSVF Nonsavu 44.60 131 P **P** **22 12 04.0 +0.4**
MSVF Nonsavu 44.60 131 *i*P **P** **22 12 03.5 -0.1**
MSVF pmax pmax
comp=Z,198nm,1.5s
BKNI Bangkinang 44.74 258 P **P** **22 12 06.1 +1.3**
BKNI IAmb IAmb 22 12 49.5
comp=Z,229nm,1.2s
TNCH TengChong 45.15 293 ⇑P **P** **22 12 09.1 +1.0**
TNCH ScP **ScP** **22 17 41.0 +1.5**
TNCH S **S** **22 18 48.9 +2.3**
TNCH SS **ScS** **22 22 03.0 -1.2**
TNCH pmax pmax
comp=Z,360nm,1.2s
TNCH pmax pmax
comp=Z,1µm,3.0s
TNCH LR LR
comp=Z,1µm,17.1s
TNCH LR LR
comp=Z,2µm,21.5s
TNCH LR LR
comp=Z,6µm,18.4s
PPI Padang Panjang 45.59 257 P **P** **22 12 12.9 +1.4**
comp=Z,3µmcomp=Z,84nm,0.9s
FORT Forrest 45.70 200 **P** **22 12 12.8 +0.8**
FORT IAmb IAmb 22 12 26.2
comp=Z,139nm,1.2s
FORT Forrest 45.70 200 P **P** **22 12 12.9 +0.8**
comp=Z,91nm,1.6s
HTT Hallett 45.83 187 P **P** **22 12 13.1 0.0**
comp=Z,21nm,1.6s
HTT Hallett 45.83 187 P **P** **22 12 12.8 -0.3**
MNSI Mandailing Nat 46.01 259 P **P** **22 12 16.2 +1.4**
comp=Z,77nm,1.5s
PSI Prapat 46.11 262 LR LR 22 30 42.7
comp=Z,1µm,21.9s,baz=128,slow=35
PSI Prapat 46.11 262 P **P** **22 12 17.3 +1.6**
PSI Prapat 46.11 262 P **P** **22 12 16.2 +0.5**
PSI pmax pmax
comp=Z,109nm,1.0s
RPSI Rantau Prapat 46.13 262 **P** **22 12 16.2 +0.4**
RPSI IAmb IAmb 22 12 20.4
comp=Z,108nm,1.0s
MEEK Meekatharra 46.21 213 P **P** **22 12 16.1 -0.1**
comp=Z,68nm,1.6s
MEEK Meekatharra 46.21 213 P **P** **22 12 16.5 +0.3**
TSI Tuntungan 46.29 263 P **P** **22 12 18.9 +1.9**
comp=Z,5µmcomp=Z,94nm,1.5s
YNG Young 46.53 176 P **P** **22 12 18.5 -0.1**
comp=Z,35nm,2.0s
SHEM Shenya Is, Ala 46.73 24 P **P** **22 12 21.1 +1.2**
comp=Z,29nm,0.5s,baz=264,slow=9.2,SNR=4.5
SHEM LR LR 22 30 50.8
comp=Z,4µm,19.6s,baz=222,slow=35
comp=Z,29nm,0.5s
SMY Shenya 46.73 24 **P** **22 12 20.3 +0.5**
SMY IAMs_20 IAMs_20 22 30 40.1
comp=Z,5µm,20.0s
SMY Shenya 46.73 24 P **P** **22 12 20.3 +0.5**
SMY pmax pmax
comp=Z,568nm,2.0s
SMY MLR MLR
comp=Z,5µm,20.0s
SISI Saibi 47.10 256 P **P** **22 12 26.4 +3.1**
ULN Ulaanbaatar 47.21 326 **P** **22 12 24.1 +0.2**
ULN Ulaanbaatar 47.21 326 P **P** **22 12 24.1 +0.2**
ULN P **P** **22 12 24.5 +0.5**
ULN S **S** **22 19 11.5 -3.9**
ULN Ulaanbaatar 47.21 326*ce*P **P** **22 12 24.4 +0.5**
ULN pmax pmax
comp=Z,66nm,1.7s
MA2 Magadan 47.37 4 **P** **22 12 25.1 +0.3**
MA2 Magadan 47.37 4 P **P** **22 12 24.9 +0.1**
comp=Z,38nm,0.6s,baz=176,slow=6.8,SNR=15
MA2 LR LR 22 34 05.2
comp=Z,1µm,18.3s,baz=189,slow=38
comp=Z,38nm,0.6s
MA2 Magadan 47.37 4 P **P** **22 12 25.1 +0.3**
MA2 pmax pmax
comp=Z,60nm,1.0s
MA2 MLR MLR
comp=Z,3µm,18.0s
MA2 Magadan 47.37 4 P **P** **22 12 24.7 -0.1**
comp=Z,1µmcomp=Z,68nm,0.7s
LHMI Lhok Sumawe 47.48 266 **P** **22 12 27.6 +1.2**
LHMI Lhok Sumawe 47.48 266 P **P** **22 12 28.5 +2.2**
SONM Songino Array 47.55 326 **P** **22 12 27.0 +0.4**
SONM IAmb IAmb 22 12 30.9
comp=Z,139nm,1.7s
SONM Songino Array 47.55 326 P **P** **22 12 27.2 +0.7**
comp=Z,19nm,0.7s,baz=138,slow=8.5,SNR=74
SONM ScP **ScP** **22 17 50.7 +1.7**
comp=Z,1.7nm,0.8s,baz=130,slow=2.6,SNR=2.8
SONM S **S** **22 19 17.3 -3.0**
comp=Z,0.2nm,0.4s,baz=75,slow=7.6,SNR=1.0
SONM LR LR 22 33 51.9
comp=Z,3µm,18.7s,baz=121,slow=38
comp=Z,19nm,0.7s
SONM Songino Array 47.55 326 P **P** **22 12 27.0 +0.4**
SONM pmax pmax
comp=Z,139nm,1.7s
CAN Canberra 47.60 175 P **P** **22 12 26.2 -0.7**
CAN IAmb IAmb 22 12 57.7
comp=Z,288nm,2.0s
CAN Canberra 47.60 175 P **P** **22 12 26.2 -0.7**
CAN pmax pmax
comp=Z,288nm,2.0s
CAN MLR MLR
comp=Z,3µm,20.0s
CNB Canberra Magne 47.62 175 P **P** **22 12 26.2 -0.9**
comp=Z,45nm,2.4s
GTA Gaotai 47.74 313 P **P** **22 12 29.3 +1.1**
GTA PcP **PcP** **22 14 01.3 +4.1**
GTA S **S** **22 19 25.8 +2.5**
GTA ScS **ScS** **22 22 23.8 +3.3**
GTA pmax pmax
comp=Z,98nm,1.3s
GTA pmax pmax
comp=Z,560nm,5.1s
GTA LR LR
comp=Z,3µm,18.9s
GTA LR LR
comp=Z,4µm,18.9s
GTA LR LR
comp=Z,6µm,18.5s
GSI Gunungsitoli 47.79 260 **P** **22 12 29.2 +0.5**
GSI Gunungsitoli 47.79 260 P **P** **22 12 29.0 +0.2**
GSI Gunungsitoli 47.79 260 P **P** **22 12 29.6 +0.8**
comp=Z,189nm,1.1s
LKP Lekhapani 47.85 296 IAMs_20 IAMs_20 22 32 40.6
comp=Z,3µm,16.0s
AMKA Amchitka 48.05 29 **P** **22 12 30.6 +0.5**
MLSI Meulaboh, Aceh 48.21 265 P **P** **22 12 34.5 +2.5**
comp=Z,259nm,1.2s
JORH JORHAT 49.18 295 *e*P **P** **22 12 38.7 -0.5**
JORH IAMs_20 IAMs_20 22 33 17.6
comp=Z,3µm,19.0s
IMP Imphal 49.26 292 *e*P **P** **22 12 36.5 -3.5**
IMP IAmb IAmb 22 12 42.8
comp=Z,98nm,1.4s
IMP IAMs_20 IAMs_20 22 32 36.6
comp=Z,4µm,17.0s
MORW Morawa 49.52 213 **P** **22 12 41.4 -0.3**
MORW IAmb IAmb 22 12 44.2
comp=Z,192nm,1.1s
MORW Morawa 49.52 213 P **P** **22 12 41.9 +0.1**
comp=Z,173nm,1.4s
MORW Morawa 49.52 213 P **P** **22 12 42.2 +0.5**
TOO Toolangi 49.66 179 **P** **22 12 42.4 -0.3**
TOO Toolangi 49.66 179 P **P** **22 12 41.9 -0.9**
comp=Z,38nm,1.5s
TOO Toolangi 49.66 179 P **P** **22 12 42.4 -0.3**
TOO pmax pmax
comp=Z,48nm,1.2s
TOO MLR MLR
comp=Z,2µm,18.0s
KIWB Kanaga Island 50.05 30 **P** **22 12 46.5 +1.0**
KIWB IAmb IAmb 22 13 33.0
comp=Z,140nm,1.1s
CMBY CAMPBELL BAY 50.09 269 *e*P **P** **22 12 46.5 +0.1**
DGPR DIGLIPUR 50.24 277 *e*P P 22 12 52.8 +5.3
ADK Adak 50.30 30 P **P** **22 12 47.9 +0.5**
ADK IAmb IAmb 22 13 34.6
comp=Z,207nm,1.4s
ADK Adak 50.30 30 P **P** **22 12 47.6 +0.2**
ADK Adak 50.30 30 P **P** **22 12 47.9 +0.5**
ADK pmax pmax
comp=Z,207nm,1.4s
ADK MLR MLR
comp=Z,3µm,19.0s
AZL Aizawl 50.32 291 *e*P **P** **22 12 47.9 -0.2**
AZL IAmb IAmb 22 12 52.1
comp=Z,76nm,1.4s
AZL IAMs_20 IAMs_20 22 32 55.1
comp=Z,5µm,18.0s
BLDU Ballidu 50.40 211 P **P** **22 12 48.0 -0.4**
comp=Z,129nm,1.9s
BLDU Ballidu 50.40 211 P **P** **22 12 48.3 -0.1**
TEZP TEZPUR 50.46 294 *e*P **P** **22 12 48.5 -0.5**
TEZP IAmb IAmb 22 12 51.4
comp=Z,94nm,1.1s
GOMU GeErMu 50.49 307 P **P** **22 12 50.9 +1.3**
GOMU pP pP 22 12 54.6 -1.0
GOMU sP sP 22 12 58.3 +0.3
GOMU S **S** **22 20 03.5 +1.0**
GOMU pmax pmax
comp=Z,42nm,0.8s
GOMU LR LR
comp=Z,2µm,19.4s
GOMU LR LR
comp=Z,1µm,19.1s
GOMU LR LR
comp=Z,3µm,19.0s
AFI Afiamalu 50.57 120 IAMs_20 IAMs_20 22 31 07.1
comp=Z,5µm,18.0s
KLBR Kellerberrin 50.67 210 P **P** **22 12 50.0 -0.5**
comp=Z,138nm,1.0s
KLBR Kellerberrin 50.67 210 P **P** **22 12 50.3 -0.1**
ZAK Zakamensk 50.68 327 *e*P **P** **22 12 49.6 -0.8**
ZAK pmax pmax
comp=Z,37nm,1.8s
GSTR Great Sitkin T 50.74 30 **P** **22 12 51.2 +0.5**
GSTR IAmb IAmb 22 13 37.2
comp=Z,189nm,1.4s
YAK Yakutsk 50.75 351 **P** **22 12 51.0 +0.4**
YAK IAmb IAmb 22 13 26.1
comp=Z,131nm,0.8s
YAK Yakutsk 50.75 351 IAMs_20 IAMs_20 22 34 29.6
comp=Z,6µm,19.0s
YAK Yakutsk 50.75 351 S **S** **22 19 60.0 -4.4**
comp=Z,5.8nm,0.3s,baz=124,slow=0.7,SNR=1.7
YAK LR LR 22 34 47.3
comp=Z,6µm,19.6s,baz=155,slow=37
YAK Yakutsk 50.75 351 *e*P **P** **22 12 50.3 -0.3**
YAK *e**PP **pwP** **22 13 02.5 -1.2**
YAK *e* 22 14 06.5
YAK *e* 22 14 44.5
YAK *e*PPP PPP 22 15 44.3
YAK *e*S **S** **22 20 04.0 -0.4**
YAK *e**SS **sS** **22 20 20.9 +4.9**
YAK *e* 22 22 37.3
YAK *e*SS **SS** **22 23 40.0 +1.0**
YAK *e*SSS SSS 22 25 13.9
YAK pmax pmax
comp=Z,114nm,1.0s
YAK pmax pmax
comp=N,59nm,1.5s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,281nm,3.1s
YAK pmax pmax
comp=N,173nm,3.0s
YAK pmax pmax
comp=E,83nm,4.1s
YAK smax smax
comp=N,868nm,7.9s
YAK smax smax
comp=E,312nm,5.0s
YAK MLR MLR
comp=Z,8µm,26.0s
YAK MLR MLR
comp=N,5µm,24.0s
YAK MLR MLR
comp=E,2µm,21.0s
SEY Seymchan 50.82 5 LR LR 22 32 26.8
comp=E,2µm,21.8s,baz=200,slow=34
SEY Seymchan 50.82 5 *i*P **P** **22 12 50.7 -0.4**
SEY pmax pmax
comp=Z,98nm,1.4s
BOD Bodaibo 50.95 340 *e*P **P** **22 12 50.8 -1.4**
BOD pmax pmax
comp=Z,47nm,1.6s
SHL Shillong 51.18 293 **P** **22 12 54.4 -0.3**
SHL IAmb IAmb 22 12 57.8
comp=Z,284nm,1.2s
SHL Shillong 51.18 293 P **P** **22 12 54.7 -0.1**
SNR=48
SHL P **pP** **22 12 54.9 -5.9**
SNR=48
SHL Shillong 51.18 293 *e*P **P** **22 12 53.5 -1.2**
SHL IAmb IAmb 22 12 57.7
comp=Z,75nm,0.9s
SHL IAMs_20 IAMs_20 22 32 46.9
comp=Z,3µm,19.4s
SHL Shillong 51.18 293 P **P** **22 12 54.4 -0.3**
SHL pmax pmax
comp=Z,284nm,1.2s
SHL MLR MLR
comp=Z,3µm,20.0s
BRDH Bariadhala 51.23 289 LR LR 22 33 34.7
comp=Z,3µm,20.8s,baz=104,slow=35
IRK Irkutsk 51.23 329 *e*P **P** **22 12 53.8 -0.6**
IRK *e*S **S** **22 20 14.4 +2.9**
IRK pmax pmax
comp=Z,75nm,2.7s
GUWA GUWAHATI 51.41 294 *e*P **P** **22 12 55.9 -0.2**
GUWA IAmb IAmb 22 12 59.3
comp=Z,85nm,1.4s
AGT Agartala 51.65 291 *e*P **P** **22 12 58.0 +0.1**
AGT IAmb IAmb 22 13 01.8
comp=Z,64nm,0.8s
AGT IAMs_20 IAMs_20 22 31 45.1
comp=Z,2µm,19.8s
AGT IAMs_20 IAMs_20 22 32 08.0
comp=Z,3µm,24.8s
ATKA Atka Island 51.73 31 P **P** **22 12 58.5 +0.4**
ATKA IAmb IAmb 22 13 45.0
comp=Z,163nm,1.2s
ATKA Atka Island 51.73 31 P **P** **22 12 58.5 +0.4**
MUN Mundaring 51.75 211 P **P** **22 12 58.8 +0.3**
comp=Z,93nm,1.4s
MUN Mundaring 51.75 211 P **P** **22 12 58.8 +0.3**
NWAO Narrogin (SRO) 52.02 209 **P** **22 13 00.3 -0.1**
NWAO IAmb IAmb 22 13 14.1
comp=Z,202nm,1.6s
NWAO Narrogin (SRO) 52.02 209 IAMs_20 IAMs_20 22 35 19.4
comp=Z,7µm,20.0s
NWAO Narrogin (SRO) 52.02 209 LR LR 22 35 41.5
comp=Z,6µm,20.9s,baz=42,slow=37
NWAO Narrogin (SRO) 52.02 209 P **P** **22 13 00.8 +0.3**
NWAO Narrogin (SRO) 52.02 209 P **P** **22 13 00.4 -0.1**
NWAO pmax pmax
comp=Z,202nm,1.6s
NWAO MLR MLR
comp=Z,6µm,20.0s
LSA Lhasa 52.26 298 P **P** **22 13 03.6 +0.5**
LSA S **S** **22 20 28.4 +1.1**
LSA LR LR
comp=Z,1µm,15.4s
LSA LR LR
comp=Z,2µm,17.7s
MOY Mondy 52.59 327 *e*P **P** **22 13 04.6 -0.1**
MOY pmax pmax
comp=Z,74nm,2.0s
RKGY Rocky Gully 53.52 208 P **P** **22 13 12.4 +0.8**
comp=Z,60nm,1.5s
JPG JALPAIGURI 54.09 294 *e*P **P** **22 13 15.9 -0.1**
GTK Tadong 54.25 295 *e*P **P** **22 13 17.1 -0.3**
GTK IAmb IAmb 22 13 19.9
comp=Z,72nm,1.1s
NIKH Nikolski High 54.90 33 P **P** **22 13 20.9 -0.5**
baz=240
NIKH S **S** **22 21 01.7 +0.4**
baz=240
RAO Raoul Island 55.00 139 LR LR 22 33 55.6
comp=Z,7µm,19.9s,baz=329,slow=33
TAU Tasmania Unive 55.05 177 IAMs_20 IAMs_20 22 34 34.1
comp=Z,4µm,21.0s
KIP Kipapa 55.48 72 P **P** **22 13 26.9 +0.8**
KIP IAMs_20 IAMs_20 22 38 22.9
comp=Z,4µm,19.0s
KIP Kipapa 55.48 72 P **P** **22 13 26.9 +0.8**
KIP pmax pmax
comp=Z,555nm,1.7s
KIP MLR MLR
comp=Z,4µm,19.0s
SPIA Saint Paul Isl 56.43 28 P **P** **22 13 32.4 0.0**
baz=236
P08K Saint George I 56.44 28 IAMs_20 IAMs_20 22 33 32.8
comp=Z,4µm,21.0s
P08K Saint George I 56.44 28 P **P** **22 13 32.5 +0.1**
baz=237
BOK Bokaro 56.55 290 *e*P **P** **22 13 34.1 +0.3**
BOK IAmb IAmb 22 13 39.5
comp=Z,73nm,0.8s
UNV Unalaska Valle 56.55 32 P **P** **22 13 33.4 +0.1**
UNV IAmb IAmb 22 14 21.5
comp=Z,229nm,1.6s
UNV IAMs_20 IAMs_20 22 34 25.9
comp=Z,4µm,22.0s
UNV Unalaska Valle 56.55 32 P **P** **22 13 32.8 -0.4**
baz=242
UNV S **S** **22 21 23.8 +0.4**
baz=242
LVA Lava Point 56.95 32 P **P** **22 13 36.2 +0.1**
LVA IAMs_20 IAMs_20 22 34 27.2
comp=Z,4µm,21.0s
AKUT Akutan 57.07 32 IAMs_20 IAMs_20 22 35 03.6
comp=Z,3µm,20.0s
AKUT Akutan 57.07 32 P **P** **22 13 37.8 +0.9**
KNTI KHUNTI 57.10 290 *e*P **P** **22 13 38.1 +0.3**
KNTI IAmb IAmb 22 13 41.9
comp=Z,88nm,1.2s
HLK Haleakala 57.14 73 P **P** **22 13 39.3 +1.0**
BILL Bilibino 57.44 10 P **P** **22 13 38.8 -0.5**
BILL Bilibino 57.44 10*ce*P **P** **22 13 39.5 +0.2**
BILL pmax pmax
comp=Z,100nm,1.3s
TOZ Tahuroa Road 57.67 151 IAMs_20 IAMs_20 22 37 18.0
comp=Z,4µm,19.0s
HPAH Hawaii Prepara 57.68 74 P **P** **22 13 42.4 +0.5**
WMQ Urumqi 57.74 314 ⇑*i*P **P** **22 13 43.0 +1.0**
WMQ S **S** **22 21 43.1 +3.5**

WMQ pmax pmax
comp=Z,180nm,1.5s
WMQ pmax pmax
comp=Z,690nm,3.9s
WMQ LR LR
comp=Z,3µm,19.3s
WMQ LR LR
comp=Z,2µm,15.5s
WMQ LR LR
comp=Z,2µm,17.7s
MWH Mokuaweoweo 57.79 75 IAMs_20 IAMs_20 22 32 14.1
comp=Z,4µm,22.0s
POHA Pohakuloa 57.84 74 P **P** **22 13 44.3 +1.0**
POHA Pohakuloa 57.84 74 IAMs_20 IAMs_20 22 32 38.4
comp=Z,4µm,21.0s
HMH Humu'ula Sheep 57.90 75 P **P** **22 13 44.1 +0.4**
HMH IAMs_20 IAMs_20 22 32 39.8
comp=Z,4µm,21.0s
AIN Ainahou 57.93 75 IAMs_20 IAMs_20 22 32 17.8
comp=Z,4µm,21.0s
MLH Mauna Loa 57.99 75 IAMs_20 IAMs_20 22 32 42.4
comp=Z,3µm,21.0s
HLP Hilina Pali 58.08 75 IAMs_20 IAMs_20 22 32 10.6
comp=Z,4µm,21.0s
UWE Uwekahuna 58.08 75 P **P** **22 13 44.8 0.0**
HATHI Halema'uma'u T 58.11 75 P **P** **22 13 45.5 +0.4**
KNHH Kane Nui o Ham 58.20 75 P **P** **22 13 45.7 0.0**
STCH Steam Cracks 58.24 75 IAMs_20 IAMs_20 22 31 57.0
comp=Z,4µm,21.0s
XMAS Kiritimati 58.37 95 IAMs_20 IAMs_20 22 35 03.6
comp=Z,5µm,20.0s
JHSG JHARSUGUGA 58.52 288 *e*P **P** **22 13 48.3 +0.7**
MXZ Matakaoa Point 58.91 149 IAMs_20 IAMs_20 22 39 21.3
comp=Z,3µm,19.0s
RTZ Ruatahuna 59.08 151 P **P** **22 13 50.8 -0.5**
RTZ IAmb IAmb 22 14 26.1
comp=Z,138nm,1.2s
VIS Vishakhapatnam 59.13 283 *e*P **P** **22 13 53.0 +1.0**
VIS IAmb IAmb 22 13 56.8
comp=Z,96nm,1.6s
BKZ Black Stump Fm 59.29 151 P **P** **22 13 52.3 -0.4**
BKZ IAmb IAmb 22 14 23.4
comp=Z,105nm,1.5s
BKZ IAMs_20 IAMs_20 22 39 10.2
comp=Z,3µm,19.0s
BKZ Black Stump Fm 59.29 151 P **P** **22 13 52.6 -0.1**
GAMB Gambell 59.75 21 IAMs_20 IAMs_20 22 40 18.2
comp=Z,3µm,19.0s
GAMB Gambell 59.75 21 P **P** **22 13 55.4 0.0**
baz=231
GAMB S **S** **22 22 10.4 +5.6**
baz=231
M11K Mekoryuk 59.93 26 IAMs_20 IAMs_20 22 36 09.1
comp=Z,3µm,22.0s
M11K Mekoryuk 59.93 26 P **P** **22 13 57.4 +0.6**
baz=238
M11K S **S** **22 22 09.0 +1.8**
baz=238
TIXI Tiksi 60.03 354 P **P** **22 13 57.2 -0.1**
TIXI IAmb IAmb 22 14 47.8
comp=Z,134nm,1.8s
TIXI Tiksi 60.03 354 LR LR 22 40 34.5
comp=Z,914nm,21.5s,baz=174,slow=37
TIXI Tiksi 60.03 354 *ce*P **P** **22 13 58.2 +1.0**
TIXI pmax pmax
comp=Z,51nm,1.7s
BLSP Bilaspur 60.03 288 *e*P **P** **22 13 58.5 +0.3**
BLSP IAmb IAmb 22 14 01.6
comp=Z,95nm,1.2s
MRZ Mangatainoka R 60.08 153 IAMs_20 IAMs_20 22 42 26.1
comp=Z,4µm,18.0s
SNZO South Karori 60.23 154 IAMs_20 IAMs_20 22 39 44.0
comp=Z,3µm,18.0s
ALBI Allahabad 60.27 292 *e*P **P** **22 14 00.3 +0.5**
ALBI IAmb IAmb 22 14 02.1
comp=Z,92nm,0.7s
SDPT Sand Point 60.37 33 P **P** **22 14 00.2 +0.4**
SDPT Sand Point 60.37 33 P **P** **22 13 59.8 -0.1**
baz=247,SNR=7.1
SDPT S **S** **22 22 12.4 -0.5**
baz=247
BRCI Bahraich 60.49 295 *e*P **P** **22 14 01.4 +0.2**
ZSN Zaisan 60.58 318 *e*P **P** **22 14 00.8 -0.7**
ZSN *e*S **S** **22 22 17.4 +1.3**
ZSN pmax pmax
comp=Z,77nm,2.0s
ZSN Zaisan 60.58 318 *e*P **P** **22 14 00.9 -0.7**
comp=Z,77nm,2.0s
ZSN *e*S **S** **22 22 17.4 +1.3**
CHNA Chernabura Isl 60.64 33 P **P** **22 14 01.8 +0.1**
baz=248
CHNA S **S** **22 22 17.3 +0.9**
baz=248
RPZ Rata Peaks 60.82 158 P **P** **22 14 03.1 +0.1**
RPZ Rata Peaks 60.82 158 LR LR 22 37 01.5
comp=Z,5µm,21.4s,baz=322,slow=33
M13K Dall Lake 61.18 27 IAMs_20 IAMs_20 22 38 45.0
comp=Z,4µm,19.0s
M13K Dall Lake 61.18 27 P **P** **22 14 05.9 +0.7**
baz=241,SNR=7.2
S14K Fog Glacier 61.21 32 P **P** **22 14 05.9 +0.2**
baz=247
S14K S **S** **22 22 24.5 +0.6**
baz=247
K13K Kusilvak Mount 61.37 25 P **P** **22 14 06.9 +0.3**
K13K IAMs_20 IAMs_20 22 38 43.1
comp=Z,4µm,20.0s
K13K Kusilvak Mount 61.37 25 P **P** **22 14 07.0 +0.4**
baz=239,SNR=16
K13K S **S** **22 22 27.7 +2.1**
baz=239
O14K Tigyukauivet M 61.59 28 P **P** **22 14 08.6 +0.5**
O14K IAmb IAmb 22 14 54.6
comp=Z,171nm,1.5s
O14K Tigyukauivet M 61.59 28 P **P** **22 14 08.4 +0.4**
baz=244
O14K S **S** **22 22 29.6 +1.2**
baz=244
N14K Kuskokwak Cree 61.69 27 P **P** **22 14 09.1 +0.4**
N14K IAmb IAmb 22 14 55.3
comp=Z,112nm,1.2s
N14K Kuskokwak Cree 61.69 27 P **P** **22 14 08.8 +0.1**
baz=243
N14K S **S** **22 22 29.8 +0.2**
baz=243
LGTI Lohaghat 61.71 297 *e*P **P** **22 14 10.7 +1.2**
PTH Pithoragarh 61.74 297 *e*P **P** **22 14 09.9 0.0**
PTH IAmb IAmb 22 14 17.4
comp=Z,98nm,1.6s
VJD Vijayawada 61.78 282 *e*P **P** **22 14 11.5 +1.4**
VJD IAmb IAmb 22 14 20.9
comp=Z,97nm,1.4s
CHGN Chignik 61.80 32 P **P** **22 14 09.2 -0.3**
CHGN IAmb IAmb 22 15 14.5
comp=Z,148nm,1.4s
CHGN Chignik 61.80 32 P **P** **22 14 09.5 -0.1**
baz=248
L14K Kuka Creek 61.90 26 P **P** **22 14 10.5 +0.4**
baz=242,SNR=16
L14K S **S** **22 22 33.8 +1.5**
baz=242
M14K Bethel 61.94 27 IAMs_20 IAMs_20 22 38 59.2
comp=Z,3µm,20.0s
M14K Bethel 61.94 27 P **P** **22 14 11.0 +0.6**
baz=243,SNR=13
M14K S **S** **22 22 34.1 +1.3**
baz=243
TNA Tin City 62.12 20 P **P** **22 14 11.1 -0.4**
baz=234
TNA S **S** **22 22 35.6 +0.6**
baz=234
MK31 Makanchi Array 62.14 317 *i* P **P** **22 14 12.6 +0.5**
MKAR Makanchi Array 62.14 317 P **P** **22 14 12.6 +0.4**
comp=Z,46nm,0.7s,baz=93,slow=7.6,SNR=281
MKAR S **S** **22 22 35.1 -0.9**
comp=Z,2.1nm,1.0s,baz=99,slow=9.1,SNR=4.8
MKAR LR LR 22 42 02.3
comp=Z,2µm,20.0s,baz=93,slow=37
MKAR PKP2bc 22 43 27.8
comp=Z,1.3nm,1.0s,baz=270,slow=1.2,SNR=6.0
comp=Z,46nm,0.7s
J14K Nanvaranak Lak 62.23 24 IAMs_20 IAMs_20 22 39 39.7
comp=Z,4µm,20.0s
J14K Nanvaranak Lak 62.23 24 P **P** **22 14 12.6 +0.3**
baz=240,SNR=9.0
J14K S **S** **22 22 38.5 +2.2**
baz=240

O15K Ungalikthiuk R 62.23 29 P **P** **22 14 12.8 +0.5**
O15K IAmb IAmb 22 14 59.7
comp=Z,206nm,1.6s
O15K Ungalikthiuk R 62.23 29 P **P** **22 14 12.6 +0.3**
baz=245,SNR=8.1
O15K S **S** **22 22 37.7 +1.2**
baz=245
FRKB FARRUKHABAD 62.28 295 *e*P **P** **22 14 13.8 +0.4**
FRKB IAmb IAmb 22 14 14.6
comp=Z,71nm,1.2s
JOSI Joshimath 62.34 298 *e*P **P** **22 14 13.9 -0.1**
JOSI IAmb IAmb 22 14 16.2
comp=Z,63nm,1.6s
MAKZ Makanchi 62.36 317 P **P** **22 14 14.1 +0.5**
MAKZ IAmb IAmb 22 14 15.7
comp=Z,89nm,0.8s
MAKZ Makanchi 62.36 317 P **P** **22 14 14.1 +0.5**
MAKZ pmax pmax
comp=Z,89nm,0.9s
MAKZ MLR MLR
comp=Z,2µm,19.0s
ZAA0 Zalesovo Array 62.43 325 P **P** **22 14 13.3 -0.5**
ZALV Zalesovo Beam 62.43 325 P **P** **22 14 13.0 -0.8**
ZALV Zalesovo Beam 62.43 325 P **P** **22 14 13.8 -0.1**
comp=Z,8.7nm,0.6s,baz=104,slow=5.7,SNR=33
ZALV S **S** **22 22 35.8 -3.5**
comp=Z,0.3nm,0.3s,baz=94,slow=19,SNR=1.0
ZALV LR LR 22 42 22.1
comp=Z,3µm,19.2s,baz=106,slow=37
ZALV PKPPKP **P'P'df** **22 43 19.9 -2.0**
comp=Z,2.8nm,0.9s,baz=279,slow=2.9,SNR=6.9
comp=Z,8.7nm,0.6s
ANM Nome 62.47 22 P **P** **22 14 14.5 +0.6**
ANM IAmb IAmb 22 15 26.4
comp=Z,145nm,1.8s
ANM Nome 62.47 22 P **P** **22 14 14.5 +0.6**
ANM pmax pmax
comp=Z,145nm,1.8s
ANM MLR MLR
comp=Z,2µm,19.0s
ANM Nome 62.47 22 P **P** **22 14 13.9 0.0**
baz=237
ANM S **S** **22 22 38.6 -0.8**
baz=237
M15K Kasigluk River 62.48 27 P **P** **22 14 14.0 0.0**
baz=244,SNR=9.2
M15K S **S** **22 22 39.2 -0.4**
baz=244
N15K Kwethluk River 62.52 28 IAMs_20 IAMs_20 22 37 35.5
comp=Z,4µm,20.0s
N15K Kwethluk River 62.52 28 P **P** **22 14 14.8 +0.4**
baz=245,SNR=10
N15K S **S** **22 22 40.7 +0.5**
baz=245
MDRS Chennai 62.54 278 *e*P **P** **22 14 17.5 +2.3**
MDRS IAmb IAmb 22 14 18.7
comp=Z,86nm,1.6s
L15K Ungalak Mounta 62.57 26 P **P** **22 14 14.6 -0.1**
baz=243,SNR=9.2
L15K S **S** **22 22 40.3 -0.4**
baz=243
F14K Arctic Creek 62.62 21 P **P** **22 14 15.1 +0.2**
baz=236,SNR=7.2
F14K S **S** **22 22 43.3 +1.9**
baz=236
K15K Wolf Creek Mou 62.83 25 IAMs_20 IAMs_20 22 39 37.8
comp=Z,3µm,20.0s
K15K Wolf Creek Mou 62.83 25 P **P** **22 14 16.6 +0.2**
baz=242,SNR=10
K15K S **S** **22 22 45.1 +1.1**
baz=242
TKRD Thakurdwara 62.92 296 *e*P **P** **22 14 17.9 +0.3**
PALK Pallekele 62.97 272 P **P** **22 14 18.3 +0.1**
PALK IAmb IAmb 22 14 21.5
comp=Z,73nm,1.1s
PALK Pallekele 62.97 272 LR LR 22 41 06.1
comp=Z,1µm,20.5s,baz=76,slow=36
PALK Pallekele 62.97 272 P **P** **22 14 18.9 +0.8**
PALK Pallekele 62.97 272 P **P** **22 14 18.3 +0.1**
PALK pmax pmax
comp=Z,73nm,1.1s
PALK MLR MLR
comp=Z,2µm,21.0s
P16K Nushagak River 63.04 29 P **P** **22 14 17.9 +0.1**
baz=247
P16K S **S** **22 22 47.0 +0.3**
baz=247
CHIR Chirikof Islan 63.11 33 P **P** **22 14 19.4 +1.1**
CHIR Chirikof Islan 63.11 33 P **P** **22 14 19.0 +0.7**
baz=251
CHIR S **S** **22 22 49.2 +1.5**
baz=251
G15K Niukluk 63.18 22 P **P** **22 14 18.1 -0.5**
baz=239
G15K S **S** **22 22 49.0 +0.7**
baz=239
O16K Kokwok River B 63.20 29 P **P** **22 14 19.0 +0.1**
baz=247,SNR=7.9
O16K S **S** **22 22 49.9 +1.1**
baz=247
JHNI Jhansi 63.23 292 *e*P **P** **22 14 19.8 +0.1**
JHNI IAmb IAmb 22 14 20.8
comp=Z,97nm,0.9s
N16K Nishlik Lake 63.24 28 P **P** **22 14 19.8 +0.6**
baz=246,SNR=13
N16K S **S** **22 22 50.9 +1.5**
baz=246
R17L Mt. Peulik Vol 63.33 31 P **P** **22 14 19.3 -0.5**
baz=250
R17L S **S** **22 22 49.4 -1.1**
baz=250
F15K North Star Dit 63.34 21 P **P** **22 14 19.8 +0.1**
baz=238,SNR=7.7
F15K S **S** **22 22 50.3 0.0**
baz=238
M16K Timber Creek 63.38 27 IAMs_20 IAMs_20 22 40 15.3
comp=Z,3µm,20.0s
M16K Timber Creek 63.38 27 P **P** **22 14 20.4 +0.4**
baz=245,SNR=9.9
M16K S **S** **22 22 52.3 +1.3**
baz=245
L16K Owhat River 63.44 26 IAMs_20 IAMs_20 22 38 07.0
comp=Z,3µm,22.0s
L16K Owhat River 63.44 26 P **P** **22 14 20.3 -0.1**
baz=245,SNR=9.1
L16K S **S** **22 22 52.0 +0.3**
baz=245
KLP Kalpa 63.49 299 *e*P **P** **22 14 21.5 -0.2**
KLP IAmb IAmb 22 14 25.1
comp=Z,80nm,0.8s
SHLS Shalkode 63.49 312 *e*P **P** **22 14 18.3 -3.0**
SHLS *e*S **S** **22 22 50.2 -3.0**
SHLS pmax pmax
comp=Z,40nm,1.0s
SHLS Shalkode 63.49 312 *e*P **P** **22 14 18.3 -3.0**
comp=Z,40nm,1.0s
SHLS *e*S **S** **22 22 50.3 -3.0**
Q16K King Salmon 63.55 30 S **S** **22 22 53.6 +0.6**
baz=249
DDI Dehra Dun 63.63 298 *e*P **P** **22 14 22.6 +0.2**
DDI IAmb IAmb 22 14 25.0
comp=Z,79nm,0.7s
DDI *e*S **S** **22 22 51.9 -3.3**
H16K Elim 63.67 23 P **P** **22 14 21.7 -0.2**
baz=240
H16K S **S** **22 22 55.0 +0.6**
baz=240
J16K Anvik River 63.67 24 IAMs_20 IAMs_20 22 40 53.8
comp=Z,4µm,19.0s
J16K Anvik River 63.67 24 P **P** **22 14 22.4 +0.5**
baz=243,SNR=12
J16K S **S** **22 22 56.7 +2.3**
baz=243
HYB Hyderabad 63.69 283 *e*P **P** **22 14 24.0 +1.1**
HYB IVmB_BB 22 14 25.7
comp=Z,1µm,1.3s
HYB *e*S **S** **22 22 59.7 +3.4**
HYB IVMs_BB IVMs_BB 22 46 35.0
comp=Z,922nm,19.7s
O17K Koliganek Bris 63.74 29 P **P** **22 14 22.7 +0.3**
baz=248,SNR=18
O17K S **S** **22 22 56.2 +0.7**
baz=248
UGON Onchagaon 63.75 296 *e*P **P** **22 14 23.6 +0.5**
UGON IAmb IAmb 22 14 24.6
comp=Z,82nm,1.9s
Q17K Contact Creek 63.78 31 P **P** **22 14 22.7 -0.2**
baz=250,SNR=7.5
UZB Uzynbulak 63.80 312 *e*P **P** **22 14 22.3 -1.1**
UZB *e*S **S** **22 22 58.1 +0.9**
UZB pmax pmax
comp=Z,31nm,0.9s
UZB Uzynbulak 63.80 312 *e*P **P** **22 14 22.4 -1.1**
comp=Z,31nm,0.9s
UZB *e*S **S** **22 22 58.1 +0.9**
P17K Kvichak River 63.84 29 P **P** **22 14 22.1 -1.0**
baz=249
P17K S **S** **22 22 56.1 -0.6**
baz=249
ASOR Ausora 63.87 296 *e*P **P** **22 14 24.3 +0.5**
I17K Unalakleet 63.90 24 IAMs_20 IAMs_20 22 40 31.1
comp=Z,3µm,20.0s
I17K Unalakleet 63.90 24 P **P** **22 14 23.9 +0.4**
baz=242
I17K S **S** **22 22 59.1 +1.7**
baz=242
N17K Nushagak Hills 63.98 28 IAMs_20 IAMs_20 22 37 57.3
comp=Z,3µm,20.0s
N17K Nushagak Hills 63.98 28 P **P** **22 14 24.8 +0.7**
baz=247,SNR=13
N17K S **S** **22 23 00.3 +1.8**
baz=247
G16K Koyuk River 63.99 22 P **P** **22 14 23.7 -0.3**
baz=240
G16K S **S** **22 22 59.7 +1.3**
baz=240
ACHA Angle Creek He 64.05 31 IAMs_20 IAMs_20 22 38 53.9
comp=Z,4µm,21.0s
RAR Rarotonga 64.07 121 IAMs_20 IAMs_20 22 36 59.3
comp=Z,4µm,20.0s
RAR Rarotonga 64.07 121 LR LR 22 37 09.6
comp=Z,2µm,19.1s,baz=298,slow=31
SII Sitkinak Islan 64.10 33 P **P** **22 14 25.8 +0.9**
SII IAMs_20 IAMs_20 22 45 16.5
comp=Z,3µm,19.0s
SII Sitkinak Islan 64.10 33 P **P** **22 14 25.3 +0.4**
baz=252,SNR=8.7
L17K Donlin 64.13 26 P **P** **22 14 25.1 +0.1**
baz=246,SNR=15
L17K S **S** **22 23 02.0 +1.8**
baz=246
BISR Bishrakh 64.16 296 *e*P **P** **22 14 26.3 +0.6**
PRZ Przheval'sk 64.17 311 P **P** **22 14 26.8 +0.9**
PRZ IAMs_20 IAMs_20 22 45 24.0
comp=Z,3µm,20.0s
PRZ Przheval'sk 64.17 311 P **P** **22 14 26.8 +0.9**
PRZ pmax pmax
comp=Z,381nm,1.1s
PRZ MLR MLR
comp=Z,3µm,20.0s
M17K Holitna River 64.21 27 IAMs_20 IAMs_20 22 40 50.2
comp=Z,3µm,20.0s
M17K Holitna River 64.21 27 P **P** **22 14 26.0 +0.5**
baz=247,SNR=12
M17K S **S** **22 23 03.3 +2.1**
baz=247
SATY Saty 64.24 312 *e*P **P** **22 14 25.2 -1.0**
SATY *e*S **S** **22 23 03.6 +1.1**
SATY pmax pmax
comp=Z,39nm,1.0s
SATY Saty 64.24 312 *e*P **P** **22 14 25.2 -1.0**
comp=Z,39nm,1.0s
SATY *e*S **S** **22 23 03.7 +1.1**
R18K Karluk 64.28 32 P **P** **22 14 25.8 -0.1**
baz=251
JMIU JAMIA UNIVERSI 64.29 296 *e*P **P** **22 14 27.2 +0.5**
JMIU IAMs_20 IAMs_20 22 21 00.0
comp=Z,259nm,7.8s
BHPL Bhopal 64.33 290 *e*P **P** **22 14 27.9 +0.8**
BHPL IAmb IAmb 22 14 30.1
comp=Z,96nm,1.3s
BHPL *e*S **S** **22 23 01.8 -2.3**
J17K VABM Dome 64.33 25 IAMs_20 IAMs_20 22 41 15.2
comp=Z,4µm,20.0s
J17K VABM Dome 64.33 25 P **P** **22 14 26.7 +0.4**
baz=244,SNR=14
J17K S **S** **22 23 03.4 +0.7**
baz=244
Q18K Katmai Hardscr 64.35 30 P **P** **22 14 25.1 -1.5**
baz=250,SNR=14
NDI New Delhi 64.36 296 *e*P **P** **22 14 27.7 +0.6**
NDI IAmb IAmb 22 14 30.0
comp=Z,83nm,1.6s
LDR Lodi Road 64.36 296 *e*P **P** **22 14 27.7 +0.6**
K17K Iditarod 64.37 25 IAMs_20 IAMs_20 22 38 58.3
comp=Z,3µm,22.0s
K17K Iditarod 64.37 25 P **P** **22 14 26.9 +0.4**
baz=245,SNR=24
K17K S **S** **22 23 04.4 +1.2**
baz=245
NPLP NPLP New Delhi 64.40 296 *e*P **P** **22 14 27.8 +0.5**
SMLA Simla 64.41 299 *e*P **P** **22 14 27.7 +0.4**
SMLA IAmb IAmb 22 14 30.7
comp=Z,96nm,0.9s
AYAN Aya Nagar 64.44 296 *e*P **P** **22 14 28.1 +0.6**
AYAN IAmb IAmb 22 14 29.1
comp=Z,70nm,2.3s
P18K Big Mountain, 64.49 29 P **P** **22 14 26.7 -0.7**
baz=250
TDK Taldyqorghan 64.50 314 *e*P **P** **22 14 27.1 -0.7**
TDK Taldyqorghan 64.50 314 *e*P **P** **22 14 27.1 -0.7**
C16K Lisburne Hills 64.51 18 IAMs_20 IAMs_20 22 41 27.7
comp=Z,3µm,20.0s
C16K Lisburne Hills 64.51 18 P **P** **22 14 26.9 -0.4**
baz=236
C16K S **S** **22 23 04.3 -0.4**
baz=236
GNR GANAUR 64.53 296 *e*P **P** **22 14 28.6 +0.4**
TARG Taragay, Kyrgy 64.53 310 P **P** **22 14 28.5 0.0**
TARG IAmb IAmb 22 14 32.8
comp=Z,89nm,1.3s
TARG Taragay, Kyrgy 64.53 310 P **P** **22 14 28.5 0.0**
TARG pmax pmax
comp=Z,89nm,1.3s
NRDN NARMADA NAGAR 64.59 289 *e*P **P** **22 14 29.7 +0.9**
NRDN IAmb IAmb 22 14 36.6
comp=Z,94nm,1.0s
N18K Kilae Creek 64.64 28 P **P** **22 14 28.6 +0.3**
baz=248,SNR=11
N18K S **S** **22 23 08.9 +2.3**
baz=248
O18K Koktuh Hills 64.66 29 P **P** **22 14 28.9 +0.3**
baz=250,SNR=17
O18K S **S** **22 23 07.3 +0.3**
baz=250
G17K Kiwalik Mounta 64.67 22 P **P** **22 14 28.2 -0.3**
baz=242,SNR=12
G17K S **S** **22 23 06.9 +0.1**
baz=242
H17K Granite Mounta 64.69 23 IAMs_20 IAMs_20 22 41 52.5
comp=Z,3µm,20.0s
H17K Granite Mounta 64.69 23 P **P** **22 14 28.9 +0.3**
baz=243,SNR=6.7
H17K S **S** **22 23 07.8 +0.7**
baz=243
OHAK Old Harbor 64.77 32 P **P** **22 14 29.7 +0.5**
OHAK IAmb IAmb 22 15 16.5
comp=Z,147nm,1.1s
OHAK Old Harbor 64.77 32 P **P** **22 14 29.7 +0.5**
baz=252,SNR=12
OHAK S **S** **22 23 09.0 +0.7**
baz=252
L18K Granite Mounta 64.85 26 IAMs_20 IAMs_20 22 41 11.0
comp=Z,3µm,20.0s
L18K Granite Mounta 64.85 26 P **P** **22 14 30.0 +0.3**
baz=247,SNR=23
L18K S **S** **22 23 10.6 +1.4**
baz=247
AKL Akola 64.86 287 *e*P **P** **22 14 31.7 +1.1**
AKL IAmb IAmb 22 14 34.5
comp=Z,100nm,1.6s
F17K Baldwin Pennin 64.91 21 P **P** **22 14 30.2 +0.3**
baz=241,SNR=12
F17K S **S** **22 23 10.2 +0.6**
baz=241
D17K Noatak River 64.92 20 P **P** **22 14 30.0 0.0**
baz=238,SNR=13
D17K S **S** **22 23 09.8 0.0**
baz=238
M18K Stony River 64.96 27 P **P** **22 14 30.7 +0.3**
baz=248,SNR=14
M18K S **S** **22 23 11.8 +1.3**
baz=248
KUDL Kundal 65.00 295 *e*P **P** **22 14 31.9 +0.6**

KUDL IAmb IAmb 22 14 34.4
comp=Z,320nm,1.8s
E17K Hotham Inlet 65.02 20 P P 22 14 30.9 +0.2
baz=240,SNR=12
E17K S S 22 23 11.7 +0.7
baz=240
KDJ Kajisay 65.03 311 P P 22 14 32.2 +0.7
KDJ IAMs_20 IAMs_20 22 46 35.4
comp=Z,3µm,20.0s
KDJ Kajisay 65.03 311 P P 22 14 32.2 +0.7
KDJ pmax pmax
comp=Z,173nm,1.0s
KDJ MLR MLR
comp=Z,3µm,20.0s
BHK Bhakra 65.05 299 *eP* **P 22 14 29.0 -2.6**
BHK IAmb IAmb 22 14 35.2
comp=Z,93nm,1.1s
Q19K Cape Douglas, 65.11 30 IAMs_20 IAMs_20 22 38 54.9
comp=Z,4µm,21.0s
Q19K Cape Douglas, 65.11 30 P P 22 14 30.5 -1.0
baz=251,SNR=6.4
Q19K S S 22 23 13.3 +0.7
baz=251
RDOG Red Dog Mine 65.16 19 P P 22 14 32.0 +0.4
RDOG IAmb IAmb 22 15 18.9
comp=Z,111nm,1.5s
RDOG IAMs_20 IAMs_20 22 40 56.8
comp=Z,3µm,21.0s
RDOG Red Dog Mine 65.16 19 P P 22 14 31.2 -0.4
baz=238,SNR=7.6
O19K Port Alsworth 65.20 29 P P 22 14 31.7 -0.2
baz=250
O19K S S 22 23 13.1 -0.3
baz=250
C17K DeLong Mountai 65.29 19 P P 22 14 32.8 +0.4
baz=238
C17K S S 22 23 13.7 -0.7
baz=238
KDAK Kodiak Island 65.30 32 P P 22 14 33.3 +0.7
KDAK IAmb IAmb 22 15 19.2
comp=Z,142nm,1.4s
KDAK Kodiak Island 65.30 32 LR LR 22 41 37.7
comp=Z,2µm,19.9s,baz=242,slow=35
KDAK Kodiak Island 65.30 32 *i* P P 22 14 33.1 +0.5
KDAK pmax pmax
comp=Z,176nm,1.7s
KDAK Kodiak Island 65.30 32 P P 22 14 33.0 +0.3
baz=253
KDAK S S 22 23 16.0 +1.2
baz=253
TNSS Tian-Shan 65.30 312 *eP* P 22 14 32.2 -1.3
TNSS Tian-Shan 65.30 312 *eP* P 22 14 32.2 -1.3
KURK Kurchatov 65.31 320 P P 22 14 32.6 -0.3
KURK Kurchatov 65.31 320 IAMs_20 IAMs_20 22 46 19.7
comp=Z,4µm,20.0s
KURK Kurchatov 65.31 320 P P 22 14 33.8 +1.0
KURK S S 22 23 10.5 -4.6
KURK Kurchatov 65.31 320 *ce*P P 22 14 32.8 -0.1
KURK pmax pmax
comp=Z,231nm,1.3s
J18K Innoko River 65.33 25 IAMs_20 IAMs_20 22 41 46.5
comp=Z,3µm,20.0s
J18K Innoko River 65.33 25 P P 22 14 32.9 +0.1
baz=246,SNR=9.1
J18K S S 22 23 15.2 +0.2
baz=246
N19K Bonanza Creek 65.33 28 P P 22 14 33.3 +0.4
baz=250,SNR=21
N19K S S 22 23 16.2 +0.9
baz=250
AAA Alma-Ata 65.34 312 *eP* P 22 14 32.5 -0.8
AAA Alma-Ata 65.34 312 *eP* P 22 14 32.6 -0.8
KURBB Kurchatov Arra 65.35 320 P P 22 14 33.0 -0.1
comp=Z,95nm,0.9s,baz=101,slow=6.6,SNR=164
KURBB S S 22 23 14.8 -0.8
comp=Z,1.3nm,0.2s,baz=91,slow=9.5,SNR=4.3
KURBB PKP2bc 22 43 19.3
comp=Z,1.1nm,0.2s,baz=277,slow=3.7,SNR=13
comp=Z,95nm,0.9s
KURBB Kurchatov Arra 65.35 320 P P 22 14 32.8 -0.3
CHKK Chushkaly 65.36 313 *eP* P 22 14 32.7 -0.7
CHKK Chushkaly 65.36 313 *eP* P 22 14 32.7 -0.7
H18K Honhosa River 65.37 23 IAMs_20 IAMs_20 22 44 15.6
comp=Z,3µm,19.0s
H18K Honhosa River 65.37 23 P P 22 14 32.7 -0.3
baz=244,SNR=11
H18K S S 22 23 15.2 -0.3
baz=244
P19K Oil Pt 65.54 30 P P 22 14 33.8 -0.4
baz=252,SNR=11
P19K S S 22 23 15.5 -2.2
baz=252
F18K Selawik 65.55 21 P P 22 14 34.0 0.0
baz=242
G18K Tagagawik 65.59 22 P P 22 14 34.7 +0.3
baz=244,SNR=23
G18K S S 22 23 16.4 -1.7
baz=244
E18K Tukpahlearik C 65.60 20 P P 22 14 34.6 +0.1
baz=241,SNR=19
E18K S S 22 23 17.3 -0.9
baz=241
KOD Kodaikanal 65.64 276 *eP* P 22 14 37.9 +1.9
KOD IAmb IAmb 22 14 38.8
comp=Z,108nm,0.9s
Q20K Shuyak Island 65.64 31 P P 22 14 34.4 -0.4
baz=253,SNR=7.5
Q20K S S 22 23 16.9 -2.0
baz=253
L19K White Mountain 65.64 27 IAMs_20 IAMs_20 22 39 13.8
comp=Z,3µm,21.0s
L19K White Mountain 65.64 27 P P 22 14 34.8 0.0
baz=249,SNR=21
L19K S S 22 23 20.0 +1.1
baz=249
ILSW Iliamna Southw 65.69 29 IAMs_20 IAMs_20 22 47 51.1
comp=Z,2µm,18.0s
KSH Kashi 65.72 308 P P 22 14 39.1 +3.2
KSH sP pwP 22 14 47.1 -2.5
KSH S S 22 23 27.6 +6.7
KSH SS SS 22 27 46.3 +11
KSH pmax pmax
comp=Z,76nm,1.5s
KSH pmax pmax
comp=Z,480nm,4.1s
KSH LR LR
comp=Z,2µm,14.8s
KSH LR LR
comp=Z,2µm,15.1s
KSH LR LR
comp=Z,3µm,16.7s
ULHL Ulahol 65.74 311 P P 22 14 37.5 +1.4
SNR=37
M19K Big River Lodg 65.75 27 IAMs_20 IAMs_20 22 41 39.6
comp=Z,3µm,20.0s
M19K Big River Lodg 65.75 27 P P 22 14 36.2 +0.7
baz=249,SNR=13
GCSA Galena City Sc 65.78 24 P P 22 14 35.4 -0.2
baz=246
KUU Kurty 65.83 313 *eP* P 22 14 35.6 -0.8
KUU Kurty 65.83 313 *eP* P 22 14 35.7 -0.8
NRN Naryn 65.85 310 P P 22 14 37.3 +0.4
NRN IAMs_20 IAMs_20 22 46 31.9
comp=Z,3µm,19.0s
NRN Naryn 65.85 310 P P 22 14 37.3 +0.4
NRN pmax pmax
comp=Z,173nm,1.3s
NRN MLR MLR
comp=Z,3µm,19.0s
O20K Slope Mountain 65.96 29 P P 22 14 36.7 -0.3
baz=252
O20K S S 22 23 22.1 -0.9
baz=252
J19K Poorman 65.98 25 IAMs_20 IAMs_20 22 41 55.8
comp=Z,3µm,20.0s
J19K Poorman 65.98 25 P P 22 14 37.1 +0.1
baz=247,SNR=20
J19K S S 22 23 24.0 +1.0
baz=247
BOOM Boomskoye usch 65.98 311 P P 22 14 38.0 +0.4
BOOM Boomskoye usch 65.98 311 P P 22 14 38.0 +0.4
BOOM pmax pmax
comp=Z,183nm,1.4s
C18K Utukok River 66.01 19 P P 22 14 37.4 +0.2
C18K IAMs_20 IAMs_20 22 42 17.5
comp=Z,3µm,20.0s
C18K Utukok River 66.01 19 P P 22 14 36.7 -0.4
baz=240
L20K Farewell, AK 66.17 27 P P 22 14 38.4 +0.2
baz=250,SNR=13
L20K S S 22 23 26.4 +1.1
baz=250
B18K Kokolik River 66.18 18 P P 22 14 38.6 +0.5
baz=239
B18K S S 22 23 25.8 +0.6
baz=239
H19K Roundabout Mou 66.26 23 IAMs_20 IAMs_20 22 45 01.0
comp=Z,3µm,19.0s
H19K Roundabout Mou 66.26 23 P P 22 14 38.8 +0.1
baz=246,SNR=16
H19K S S 22 23 25.8 -0.4
baz=246
G19K Purcell Mounta 66.27 22 IAMs_20 IAMs_20 22 43 05.4
comp=Z,2µm,19.0s
G19K Purcell Mounta 66.27 22 P P 22 14 39.0 +0.2
baz=245,SNR=30
G19K S S 22 23 27.4 +1.0
baz=245
TKM2 Tokmak 2 66.28 312 P P 22 14 40.2 +0.7
SNR=124
M20K Styx River 66.30 27 IAMs_20 IAMs_20 22 42 18.2
comp=Z,3µm,21.0s
M20K Styx River 66.30 27 P P 22 14 39.5 +0.4
baz=251,SNR=24
M20K S S 22 23 28.6 +1.5
baz=251
HOM Homer 66.31 30 P P 22 14 39.3 +0.2
HOM Homer 66.31 30 P P 22 14 39.0 -0.2
baz=253
F19K Shaleruckik Mo 66.32 21 P P 22 14 38.8 -0.3
baz=244,SNR=5.4
F19K S S 22 23 25.1 -1.8
baz=244
JMU Jammu 66.35 300 *eP* P 22 14 40.7 +0.8
JMU IAmb IAmb 22 14 44.1
comp=Z,197nm,0.9s
K20K Telida 66.39 26 IAMs_20 IAMs_20 22 42 41.1
comp=Z,3µm,20.0s
K20K Telida 66.39 26 P P 22 14 40.5 +0.8
baz=249
K20K S S 22 23 28.1 +0.1
baz=249
SRNI Srinagar 66.40 302 *eP* P 22 14 40.8 +0.6
TRD Trivandrum 66.41 274 IAmb IAmb 22 14 43.8
comp=Z,190nm,1.2s
CNPM China Poot 66.47 30 P P 22 14 40.5 +0.3
CNPM IAMs_20 IAMs_20 22 39 38.8
comp=Z,3µm,21.0s
SPCR Spurr Chakacha 66.50 28 P P 22 14 40.3 -0.1
baz=252
SPCR S S 22 23 29.8 +0.3
baz=252
J20K Nowinta River 66.65 25 IAMs_20 IAMs_20 22 42 26.5
comp=Z,3µm,20.0s
J20K Nowinta River 66.65 25 P P 22 14 41.9 +0.6
baz=249,SNR=40
J20K S S 22 23 32.1 +1.0
baz=249
KBK Karagaybulak 66.73 311 P P 22 14 43.3 +0.9
SNR=46
C19K Lookout Ridge 66.74 19 IAMs_20 IAMs_20 22 42 30.7
comp=Z,4µm,20.0s
C19K Lookout Ridge 66.74 19 P P 22 14 42.0 +0.2
baz=241,SNR=14
C19K S S 22 23 31.4 -0.7
baz=241
I20K Naaghedeneel 66.75 24 P P 22 14 42.4 +0.6
baz=248,SNR=6.1
STLK Strandline Lak 66.77 28 P P 22 14 42.3 +0.2
E19K Redstone River 66.78 21 P P 22 14 42.2 +0.2
baz=244,SNR=20
E19K S S 22 23 31.6 -0.9
baz=244
H20K Anotleneega Mo 66.85 23 P P 22 14 42.5 0.0
baz=248,SNR=22
H20K S S 22 23 33.3 -0.1
baz=248
CAPN Captain Cook N 66.86 29 P P 22 14 43.0 +0.4
baz=253
CHMS Chumysh 66.90 312 P P 22 14 43.7 +0.4
SNR=63
D19K Kuna River 66.93 20 IAMs_20 IAMs_20 22 42 16.8
comp=Z,3µm,20.0s
D19K Kuna River 66.93 20 P P 22 14 43.1 +0.1
baz=243,SNR=14
D19K S S 22 23 32.9 -1.6
baz=243
FRU1 Bishkek 66.97 311 P P 22 14 44.1 +0.3
FRU1 IAmb IAmb 22 14 46.4
comp=Z,90nm,0.9s
FRU1 IAMs_20 IAMs_20 22 46 59.1
comp=Z,3µm,18.0s
FRU1 Bishkek 66.97 311 P P 22 14 44.1 +0.3
FRU1 pmax pmax
comp=Z,90nm,0.9s
FRU1 MLR MLR
comp=Z,3µm,18.0s
UCH Uchtor 67.02 311 P P 22 14 45.8 +1.2
SNR=248
SGDS Sogindy 67.03 312 *eP* P 22 14 43.4 -0.7
PPLA Purkeypile 67.04 26 P P 22 14 44.1 +0.1
PPLA IAMs_20 IAMs_20 22 39 10.9
comp=Z,3µm,22.0s
PPLA Purkeypile 67.04 26 P P 22 14 44.1 +0.1
baz=251,SNR=12
PPLA S S 22 23 36.3 +0.2
baz=251
SKT Skwentna 67.05 27 P P 22 14 43.1 -0.8
baz=252,SNR=20
SKT S S 22 23 34.8 -1.2
baz=252
AAK Ala-Archa 67.06 311 P P 22 14 45.6 +1.1
SNR=23
AAK Ala-Archa 67.06 311 P P 22 14 45.0 +0.5
AAK IAmb IAmb 22 14 48.3
comp=Z,185nm,1.6s
AAK Ala-Archa 67.06 311 IAMs_20 IAMs_20 22 47 10.4
comp=Z,3µm,19.0s
AAK Ala-Archa 67.06 311 P P 22 14 44.9 +0.5
comp=Z,58nm,1.1s,baz=112,slow=5.9,SNR=48
AAK LR LR 22 47 41.9
comp=Z,1µm,18.5s,baz=95,slow=39
comp=Z,58nm,1.1s
AAK Ala-Archa 67.06 311 P P 22 14 45.4 +0.9
AAK S S 22 23 31.9 -5.2
AAK Ala-Archa 67.06 311 *ce*P P 22 14 45.4 +0.9
AAK pmax pmax
comp=Z,93nm,1.3s
AAK Ala-Archa 67.06 311 *i* P P 22 14 44.6 +0.1
SNR=19
USP Ospenovka 67.10 312 P P 22 14 45.0 +0.3
SNR=81
F20K Avaraart Lake 67.14 22 IAMs_20 IAMs_20 22 43 53.3
comp=Z,3µm,20.0s
F20K Avaraart Lake 67.14 22 P P 22 14 44.3 0.0
baz=246,SNR=10.0
F20K S S 22 23 36.7 -0.1
baz=246
SRGN SRI GANGA NAGA 67.24 297 *eP* P 22 14 46.3 +0.6
SRGN IAmb IAmb 22 14 48.6
comp=Z,237nm,1.0s
CHUM Lake Minchumin 67.31 25 P P 22 14 45.9 +0.4
baz=251
CHUM S S 22 23 39.3 +0.3
baz=251
O22K Cooper Landing 67.46 29 P P 22 14 46.0 -0.5
baz=254
O22K S S 22 23 39.5 -1.4
baz=254
IMAR Indian Mountai 67.46 23 P P 22 14 46.5 +0.1
E20K Nigu River 67.47 20 P P 22 14 46.5 0.0
baz=245,SNR=21
E20K S S 22 23 38.3 -2.7
baz=245
SEW Seward 67.50 30 P P 22 14 47.2 +0.5
SEW IAmb IAmb 22 15 31.4
comp=Z,166nm,1.3s
SEW IAMs_20 IAMs_20 22 42 16.9
comp=Z,3µm,20.0s
SEW Seward 67.50 30 P P 22 14 46.6 0.0
baz=255,SNR=12
SEW S S 22 23 40.7 -0.6
baz=255
D20K Etivluk River 67.53 20 IAMs_20 IAMs_20 22 42 45.4
comp=Z,4µm,19.0s
D20K Etivluk River 67.53 20 P P 22 14 46.5 -0.2
baz=244,SNR=15
D20K S S 22 23 40.4 -1.1
baz=244
BTLS Baital 67.58 314 *eP* P 22 14 46.9 -0.6
BTLS *eS* S 22 23 44.1 +1.2
BTLS pmax pmax
comp=Z,34nm,1.3s
BTLS Baital 67.58 314 *eP* P 22 14 47.0 -0.6
comp=Z,34nm,1.3s
BTLS *eS* S 22 23 44.2 +1.2
EKS2 Erkin-Say 67.59 311 P P 22 14 48.3 +0.4
SNR=81
RC01 Rabbit Creek A 67.62 29 IAMs_20 IAMs_20 22 42 13.1
comp=Z,3µm,21.0s
RC01 Rabbit Creek A 67.62 29 P P 22 14 46.8 -0.7
baz=254,SNR=28
RC01 S S 22 23 40.2 -2.6
baz=254
M22K Willow 67.62 28 P P 22 14 46.8 -0.6
baz=254
M22K S S 22 23 41.3 -1.5
baz=254
H21K Melozitna Rive 67.71 23 IAMs_20 IAMs_20 22 42 10.4
comp=Z,3µm,20.0s
H21K Melozitna Rive 67.71 23 P P 22 14 47.9 -0.1
baz=249,SNR=24
H21K S S 22 23 44.1 +0.3
baz=249
NIL Nilore 67.73 301 P P 22 14 48.9 +0.2
NIL Nilore 67.73 301 P P 22 14 48.9 +0.2
NIL pmax pmax
comp=Z,466nm,1.1s
NIL MLR MLR
comp=Z,2µm,22.0s
CUT Chulitna 67.74 27 IAMs_20 IAMs_20 22 43 03.4
comp=Z,3µm,20.0s
CUT Chulitna 67.74 27 P P 22 14 47.3 -0.9
baz=253
G21K Allakaket 67.75 22 IAMs_20 IAMs_20 22 43 49.4
comp=Z,3µm,20.0s
G21K Allakaket 67.75 22 P P 22 14 48.4 +0.2
baz=248,SNR=13
G21K S S 22 23 45.9 +1.7
baz=248
BKNR BIKANER 67.84 295 *eP* P 22 14 50.2 +0.7
KAD Karad 67.85 284 *eP* P 22 14 51.2 +1.5
KAD IAmb IAmb 22 14 52.9
comp=Z,154nm,1.2s
I21K Tanana 67.87 24 P P 22 14 49.3 +0.3
baz=250,SNR=13
B20K Meade River 67.91 18 P P 22 14 49.8 +0.7
baz=244
BPAW Bear Paw Mtn. 67.93 25 P P 22 14 49.7 +0.2
BPAW IAmb IAmb 22 15 35.8
comp=Z,127nm,1.3s
BPAW IAMs_20 IAMs_20 22 43 37.4
comp=Z,3µm,19.0s
BPAW Bear Paw Mtn. 67.93 25 P P 22 14 49.3 -0.1
baz=252,SNR=20
BPAW S S 22 23 46.3 -0.3
baz=252
F21K Alatna River 68.02 22 IAMs_20 IAMs_20 22 44 30.5
comp=Z,2µm,19.0s
F21K Alatna River 68.02 22 P P 22 14 49.9 0.0
baz=248,SNR=17
F21K S S 22 23 47.6 +0.1
baz=248
POO Poona 68.03 285 *eP* P 22 14 52.3 +1.4
POO IAmb IAmb 22 14 54.0
comp=Z,108nm,0.7s
PMR Palmer 68.03 28 P P 22 14 49.6 -0.4
baz=254
PMR S S 22 23 45.9 -1.8
baz=254
TRF Thorofare Moun 68.03 26 IAMs_20 IAMs_20 22 41 01.1
comp=Z,3µm,21.0s
TRF Thorofare Moun 68.03 26 P P 22 14 50.2 -0.1
baz=253,SNR=17
TRF S S 22 23 46.9 -1.2
baz=253
ARSB Arslanbob 68.11 310 P P 22 14 51.6 +0.5
ARSB Arslanbob 68.11 310 P P 22 14 51.6 +0.5
ARSB pmax pmax
comp=Z,292nm,1.2s
PWL Port Wells 68.22 29 IAMs_20 IAMs_20 22 42 47.1
comp=Z,3µm,20.0s
PWL Port Wells 68.22 29 P P 22 14 51.2 -0.1
baz=256,SNR=33
PWL S S 22 23 48.1 -2.0
baz=256
KNK Knik Glacier 68.30 28 IAMs_20 IAMs_20 22 43 05.2
comp=Z,3µm,21.0s
KNK Knik Glacier 68.30 28 P P 22 14 51.8 0.0
baz=255,SNR=14
KNK S S 22 23 49.1 -2.0
baz=255
C21K Knifeblade Rid 68.31 20 P P 22 14 52.2 +0.5
baz=246
C21K S S 22 23 48.7 -2.2
baz=246
MLY Manley 68.32 24 IAMs_20 IAMs_20 22 43 27.6
comp=Z,4µm,20.0s
MLY Manley 68.32 24 P P 22 14 51.9 0.0
baz=252,SNR=44
MLY S S 22 23 51.5 +0.3
baz=252
H22K Ishtalitna Cre 68.35 23 P P 22 14 52.4 +0.4
baz=251,SNR=20
H22K S S 22 23 52.2 +0.8
baz=251
GOA Goa 68.41 282 *eP* P 22 14 55.0 +1.8
P23K Montague Islan 68.47 30 IAMs_20 IAMs_20 22 40 27.6
comp=Z,4µm,21.0s
P23K Montague Islan 68.47 30 P P 22 14 53.4 +0.6
baz=257
B21K Ikpikpuk River 68.55 19 P P 22 14 53.9 +0.7
B21K IAmb IAmb 22 16 45.6
comp=Z,212nm,1.9s
B21K IAMs_20 IAMs_20 22 43 50.4
comp=Z,4µm,20.0s
B21K Ikpikpuk River 68.55 19 P P 22 14 53.6 +0.4
baz=246,SNR=5.3
B21K S S 22 23 53.5 -0.2
baz=246
F22K John River 68.59 22 P P 22 14 54.0 +0.5
baz=249,SNR=45
F22K S S 22 23 54.5 +0.2
baz=249
G22K Bettles 68.64 22 P P 22 14 53.7 0.0
baz=250
RND Reindeer 68.64 26 IAMs_20 IAMs_20 22 41 31.0
comp=Z,3µm,21.0s
A21K Barrow 68.66 17 P P 22 14 54.7 +0.9
baz=244
MCK McKinley 68.70 26 IAMs_20 IAMs_20 22 43 52.5
comp=Z,3µm,20.0s
MCK McKinley 68.70 26 P P 22 14 53.6 -0.6
baz=254,SNR=12
MCK S S 22 23 54.1 -1.6
baz=254
M23K Glacier View 68.73 28 P P 22 14 54.6 +0.1
baz=256,SNR=5.5
M23K S S 22 23 55.1 -1.1
baz=256
GLI Glacier Island 68.81 29 IAMs_20 IAMs_20 22 42 26.5
comp=Z,4µm,21.0s
GLI Glacier Island 68.81 29 P P 22 14 55.1 +0.1
baz=257,SNR=8.2
GLI S S 22 23 57.3 +0.2
baz=257
Q23K Middleton Isla 68.87 31 IAMs_20 IAMs_20 22 41 35.4
comp=Z,4µm,21.0s
Q23K Middleton Isla 68.87 31 P P 22 14 55.4 +0.1
baz=258
NEA2 Nenana 68.88 25 P P 22 14 55.1 -0.2
NEA2 IAmb IAmb 22 15 42.1
comp=Z,115nm,1.8s
NEA2 IAMs_20 IAMs_20 22 44 07.3
comp=Z,4µm,20.0s
NEA2 Nenana 68.88 25 P P 22 14 54.8 -0.5
baz=253,SNR=9.9
NEA2 S S 22 23 54.5 -3.3
baz=253
D22K Ayikyak River 68.91 20 P P 22 14 55.9 +0.5
baz=248,SNR=8.6
D22K S S 22 23 55.9 -2.1
baz=248

I23K	**Minto, Yukon-K**	**68.92**	**24**	IAMs_20	IAMs_20	22 43 47.3		
	comp=Z,3µm,19.0s							
I23K	**Minto, Yukon-K**	**68.92**	**24**	P	**P**	**22 14 55.7**	**+0.2**	
I23K	baz=253,SNR=58			S	**S**	**22 23 58.0**	**-0.1**	
	baz=253							
SCM	**Sheep Creek Mo**	**68.93**	**28**	P	**P**	**22 14 56.2**	**+0.4**	
SCM				IAMs_20	IAMs_20	22 43 54.7		
	comp=Z,3µm,20.0s							
SCM	**Sheep Creek Mo**	**68.93**	**28**	P	**P**	**22 14 56.2**	**+0.4**	
SCM				pmax	pmax			
	comp=Z,246nm,1.1s							
SCM				MLR	MLR			
	comp=Z,3µm,20.0s							
SCM	**Sheep Creek Mo**	**68.93**	**28**	P	**P**	**22 14 56.1**	**+0.3**	
	baz=256,SNR=21							
SCM				S	**S**	**22 23 58.3**	**-0.3**	
	baz=256							
E22K	**Anaktuvuk Pass**	**68.94**	**21**	P	**P**	**22 14 56.0**	**+0.3**	
	baz=250,SNR=29							
E22K				S	**S**	**22 23 56.9**	**-1.6**	
	baz=250							
DRK	**Karamyk**	**68.95**	**308**	P	**P**	**22 14 57.3**	**+0.7**	
DRK				IAmb	IAmb	22 15 01.9		
	comp=Z,100nm,0.9s							
DRK	**Karamyk**	**68.95**	**308**	P	**P**	**22 14 57.3**	**+0.7**	
DRK				pmax	pmax			
	comp=Z,101nm,0.9s							
DRK				MLR	MLR			
	comp=Z,2µm,21.0s							
BRZS	**Berezniki**	**68.97**	**319**	*e*P	**P**	**22 14 55.7**	**-0.4**	
BRZS	**Berezniki**	**68.97**	**319**	*e*P	**P**	**22 14 55.8**	**-0.4**	
A22K	**Sinclair Lake**	**69.00**	**18**	P	**P**	**22 14 56.7**	**+0.8**	
	baz=245							
H23K	**Yukon River**	**69.04**	**24**	IAMs_20	IAMs_20	22 43 39.6		
	comp=Z,3µm,20.0s							
H23K	**Yukon River**	**69.04**	**24**	P	**P**	**22 14 56.6**	**+0.3**	
	baz=252,SNR=28							
H23K				S	**S**	**22 23 59.5**	**-0.2**	
	baz=252							
G23K	**Bananza Creek**	**69.12**	**23**	IAMs_20	IAMs_20	22 43 04.8		
	comp=Z,3µm,21.0s							
G23K	**Bananza Creek**	**69.12**	**23**	P	**P**	**22 14 57.2**	**+0.4**	
	baz=252,SNR=36							
G23K				S	**S**	**22 24 01.6**	**+0.9**	
	baz=252							
B22K	**Teshekpuk Lake**	**69.21**	**19**	IAMs_20	IAMs_20	22 44 33.0		
	comp=Z,3µm,20.0s							
B22K	**Teshekpuk Lake**	**69.21**	**19**	P	**P**	**22 14 57.5**	**+0.2**	
	baz=247							
COLD	**Coldfoot**	**69.22**	**22**	P	**P**	**22 14 58.2**	**+0.9**	
COLD	**Coldfoot**	**69.22**	**22**	P	**P**	**22 14 58.0**	**+0.6**	
	baz=251,SNR=33							
WRH	**Wood River Hil**	**69.25**	**25**	IAMs_20	IAMs_20	22 43 49.2		
	comp=Z,3µm,19.0s							
EYAK	**Cordova Ski Ar**	**69.39**	**30**	P	**P**	**22 14 59.0**	**+0.5**	
	baz=258							
DZA	**Taraz**	**69.40**	**311**	*e*P	**P**	**22 14 58.2**	**-0.8**	
DZA				pmax	pmax			
	comp=Z,58nm,1.7s							
DZA	**Taraz**	**69.40**	**311**	*e*P	**P**	**22 14 58.2**	**-0.8**	
	comp=Z,58nm,1.7s							
CCB	**Clear Creek Bu**	**69.42**	**25**	IAMs_20	IAMs_20	22 43 42.5		
	comp=Z,3µm,20.0s							
COLA	**College**	**69.46**	**25**	P	**P**	**22 14 58.9**	**+0.1**	
COLA				IAmb	IAmb	22 15 20.2		
	comp=Z,76nm,1.3s							
COLA	**College**	**69.46**	**25**	IAMs_20	IAMs_20	22 44 33.5		
	comp=Z,4µm,20.0s							
COLA	**College**	**69.46**	**25***c*	*i*P	**P**	**22 14 57.2**	**-1.6**	
COLA				pmax	pmax			
	comp=Z,61nm,1.5s							
COLA	**College**	**69.46**	**25**	P	**P**	**22 14 58.2**	**-0.6**	
	baz=254							
KLU	**Klutina**	**69.50**	**29**	P	**P**	**22 14 59.7**	**+0.4**	
	baz=258,SNR=11							
KLU				S	**S**	**22 24 04.2**	**-1.2**	
	baz=258							
M24K	**Tolsona, Glenn**	**69.52**	**28**	IAMs_20	IAMs_20	22 44 22.4		
	comp=Z,3µm,20.0s							
M24K	**Tolsona, Glenn**	**69.52**	**28**	P	**P**	**22 14 59.8**	**+0.4**	
	baz=257,SNR=14							
M24K				S	**S**	**22 24 06.3**	**+0.8**	
	baz=257							
D23K	**Nanushuk River**	**69.61**	**20**	P	**P**	**22 15 00.8**	**+1.1**	
	baz=250,SNR=22							
D23K				S	**S**	**22 24 04.9**	**-1.4**	
	baz=250							
E23K	**Chandalar**	**69.69**	**21**	P	**P**	**22 15 01.1**	**+0.7**	
	baz=252,SNR=74							
E23K				S	**S**	**22 24 07.4**	**-0.1**	
	baz=252							
H24K	**Noodor Dome**	**69.70**	**24**	IAMs_20	IAMs_20	22 45 08.1		
	comp=Z,3µm,20.0s							
H24K	**Noodor Dome**	**69.70**	**24**	P	**P**	**22 15 00.7**	**+0.2**	
	baz=254,SNR=41							
H24K				S	**S**	**22 24 08.7**	**+1.2**	
	baz=254							
HDA	**Harding Lake**	**69.72**	**26**	IAMs_20	IAMs_20	22 44 52.5		
	comp=Z,2µm,19.0s							
HDA	**Harding Lake**	**69.72**	**26**	P	**P**	**22 14 59.2**	**-1.3**	
	baz=256,SNR=16							
HDA				S	**S**	**22 24 04.4**	**-3.2**	
	baz=256							
ILAR	**Eielson Array**	**69.83**	**25**	P	**P**	**22 14 59.7**	**-1.5**	
ILAR	**Eielson Array**	**69.83**	**25**	P	**P**	**22 15 00.2**	**-1.0**	
	comp=Z,11nm,0.6s,baz=250,slow=6.1,SNR=95							
ILAR				PKPPKP	**P'P'df**	**22 43 04.7**	**-4.5**	
	comp=Z,0.8nm,1.0s,baz=104,slow=1.3,SNR=4.6							
ILAR				LR	LR	22 44 26.8		
	comp=Z,3µm,20.4s,baz=248,slow=35							
	comp=Z,11nm,0.6s							
ILAR	**Eielson Array**	**69.83**	**25**	P	**P**	**22 14 59.7**	**-1.5**	
RAGM	**Ragged Mountai**	**69.88**	**30**	IAMs_20	IAMs_20	22 42 23.0		
	comp=Z,3µm,20.0s							
TOLK	**Toolik Lake Re**	**69.89**	**21**	P	**P**	**22 15 02.5**	**+0.9**	
TOLK				IAmb	IAmb	22 15 59.9		
	comp=Z,154nm,1.4s							
TOLK				IAMs_20	IAMs_20	22 45 56.0		
	comp=Z,3µm,20.0s							
TOLK	**Toolik Lake Re**	**69.89**	**21**	P	**P**	**22 15 02.2**	**+0.7**	
	baz=252,SNR=21							
TOLK				S	**S**	**22 24 08.3**	**-1.3**	
	baz=252							
KAIM	**Kayak Island**	**69.92**	**30**	P	**P**	**22 15 01.7**	**-0.1**	
	baz=259							
C23K	**Itkillik River**	**69.93**	**20**	IAMs_20	IAMs_20	22 44 14.9		
	comp=Z,3µm,20.0s							
C23K	**Itkillik River**	**69.93**	**20**	P	**P**	**22 15 02.0**	**+0.3**	
	baz=250,SNR=16							
C23K				S	**S**	**22 24 09.3**	**-0.6**	
	baz=250							
KK31	**Karatay Array**	**70.01**	**311**	P	**P**	**22 15 02.7**	**0.0**	
KK31				IAmb	IAmb	22 15 05.2		
	comp=Z,115nm,1.0s							
KK31	**Karatay Array**	**70.01**	**311**	P	**P**	**22 15 02.7**	**0.0**	
KK31				pmax	pmax			
	comp=Z,115nm,1.0s							
KKAR	**Karatay Array**	**70.01**	**311**	P	**P**	**22 15 02.9**	**+0.1**	
KKAR	**Karatay Array**	**70.01**	**311**	P	**P**	**22 15 02.9**	**+0.1**	
BMRM	**Bremner River**	**70.02**	**29**	P	**P**	**22 15 03.6**	**+1.1**	
BMRM				IAmb	IAmb	22 15 49.8		
	comp=Z,159nm,1.2s							
BMRM				IAMs_20	IAMs_20	22 41 52.8		
	comp=Z,4µm,22.0s							
BMRM	**Bremner River**	**70.02**	**29**	P	**P**	**22 15 02.9**	**+0.4**	
	baz=259,SNR=12							
BMRM				S	**S**	**22 24 10.1**	**-1.3**	
	baz=259							
PAX	**Paxson**	**70.03**	**27**	IAMs_20	IAMs_20	22 43 49.7		
	comp=Z,2µm,20.0s							
PAX	**Paxson**	**70.03**	**27**	P	**P**	**22 15 02.8**	**+0.3**	
	baz=257,SNR=31							
PAX				S	**S**	**22 24 10.4**	**-1.1**	
	baz=257							
HARP	**HAARP**	**70.05**	**28**	P	**P**	**22 15 03.2**	**+0.6**	
	baz=258,SNR=10							
K24K	**Donnelly Dome**	**70.07**	**26**	IAMs_20	IAMs_20	22 41 06.9		
	comp=Z,3µm,22.0s							
K24K	**Donnelly Dome**	**70.07**	**26**	P	**P**	**22 15 02.5**	**-0.2**	
	baz=257,SNR=15							
K24K				S	**S**	**22 24 11.0**	**-1.0**	
	baz=257							
G24K	**Hadweenzic Riv**	**70.09**	**23**	IAMs_20	IAMs_20	22 43 43.4		
	comp=Z,4µm,20.0s							
G24K	**Hadweenzic Riv**	**70.09**	**23**	P	**P**	**22 15 03.2**	**+0.4**	
	baz=254,SNR=26							
G24K				S	**S**	**22 24 14.1**	**+2.1**	
	baz=254							
GAR	**Garm**	**70.09**	**307**	P	**P**	**22 15 03.8**	**+0.3**	
E24K	**Your Creek**	**70.10**	**22**	IAMs_20	IAMs_20	22 44 37.6		
	comp=Z,2µm,19.0s							
E24K	**Your Creek**	**70.10**	**22**	P	**P**	**22 15 03.1**	**+0.3**	
	baz=253,SNR=34							
E24K				S	**S**	**22 24 14.0**	**+1.8**	
	baz=253							
N25K	**Chitina, Valde**	**70.15**	**29**	P	**P**	**22 15 04.1**	**+0.8**	
	baz=259,SNR=12							
N25K				S	**S**	**22 24 14.2**	**+1.2**	
	baz=259							
F24K	**Squaw Lake**	**70.16**	**22**	IAMs_20	IAMs_20	22 43 07.2		
	comp=Z,3µm,21.0s							
F24K	**Squaw Lake**	**70.16**	**22**	P	**P**	**22 15 03.9**	**+0.7**	
	baz=254,SNR=30							
F24K				S	**S**	**22 24 14.1**	**+1.2**	
	baz=254							
D24K	**Happy Valley**	**70.31**	**20**	IAMs_20	IAMs_20	22 43 46.0		
	comp=Z,2µm,20.0s							
D24K	**Happy Valley**	**70.31**	**20**	P	**P**	**22 15 04.6**	**+0.6**	
	baz=252,SNR=37							
D24K				S	**S**	**22 24 14.5**	**+0.1**	
	baz=252							
IUG	**Iuzhnay**	**70.34**	**310**	*e*P	**P**	**22 15 04.0**	**-0.9**	
IUG				pmax	pmax			
	comp=Z,39nm,1.2s							
IUG	**Iuzhnay**	**70.34**	**310**	*e*P	**P**	**22 15 04.1**	**-0.9**	
	comp=Z,39nm,1.2s							
BERG	**Berg Lake**	**70.36**	**30**	P	**P**	**22 15 05.5**	**+1.0**	
BERG				IAmb	IAmb	22 16 02.7		
	comp=Z,121nm,1.0s							
J25K	**Salcha River,**	**70.43**	**25**	IAMs_20	IAMs_20	22 44 26.3		
	comp=Z,3µm,20.0s							
J25K	**Salcha River,**	**70.43**	**25**	P	**P**	**22 15 03.7**	**-1.3**	
	baz=257,SNR=42							
J25K				S	**S**	**22 24 13.1**	**-3.0**	
	baz=257							
RIDG	**Independent Ri**	**70.46**	**26**	P	**P**	**22 15 05.3**	**+0.2**	
RIDG				IAmb	IAmb	22 16 02.6		
	comp=Z,157nm,1.4s							
RIDG				IAMs_20	IAMs_20	22 42 18.3		
	comp=Z,4µm,22.0s							
RIDG	**Independent Ri**	**70.46**	**26**	P	**P**	**22 15 05.0**	**-0.2**	
	baz=258,SNR=32							
RIDG				S	**S**	**22 24 15.1**	**-1.4**	
	baz=258							
GLB	**Gilahina Butte**	**70.49**	**29**	P	**P**	**22 15 06.1**	**+0.7**	
GLB				IAmb	IAmb	22 15 52.5		
	comp=Z,158nm,1.2s							
GLB				IAMs_20	IAMs_20	22 42 32.0		
	comp=Z,3µm,22.0s							
BRLS	**Borolday**	**70.50**	**311**	*e*P	**P**	**22 15 05.7**	**0.0**	
BRLS	**Borolday**	**70.50**	**311**	*e*P	**P**	**22 15 05.7**	**0.0**	
C24K	**Franklin Bluff**	**70.52**	**20**	P	**P**	**22 15 05.7**	**+0.4**	
	baz=252,SNR=16							
C24K				S	**S**	**22 24 17.3**	**+0.5**	
	baz=252							
PRP	**Porcupine Dome**	**70.57**	**25**	IAMs_20	IAMs_20	22 44 48.0		
	comp=Z,4µm,20.0s							
PRP	**Porcupine Dome**	**70.57**	**25**	P	**P**	**22 15 04.1**	**-1.7**	
	baz=256,SNR=15							
PRP				S	**S**	**22 24 14.7**	**-3.1**	
	baz=256							
VRDI	**Ve Repeater**	**70.62**	**29**	IAMs_20	IAMs_20	22 42 10.5		
	comp=Z,3µm,21.0s							
H25L	**Birch Creek**	**70.63**	**24**	P	**P**	**22 15 06.3**	**+0.3**	
	baz=256,SNR=45							
H25L				S	**S**	**22 24 18.7**	**+0.5**	
	baz=256							
G25K	**Bearman Lake**	**70.64**	**23**	P	**P**	**22 15 06.8**	**+0.7**	
	baz=256,SNR=18							
G25K				S	**S**	**22 24 20.3**	**+2.0**	
	baz=256							
CHM	**Chimkent**	**70.66**	**311**	*e*P	**P**	**22 15 06.0**	**-0.7**	
CHM	**Chimkent**	**70.66**	**311**	*e*P	**P**	**22 15 06.0**	**-0.7**	
BVA0	**Borovoye Array**	**70.68**	**322**	*i* P	**P**	**22 15 07.0**	**+0.4**	
BVAR	**Borovoye Array**	**70.68**	**322**	P	**P**	**22 15 06.5**	**-0.1**	
	comp=Z,68nm,0.8s,baz=100,slow=7.7,SNR=199							
BVAR				S	**S**	**22 24 16.8**	**-2.6**	
	comp=Z,1.3nm,0.8s,baz=93,slow=10,SNR=3.8							
BVAR				LR	LR	22 48 08.1		
	comp=Z,4µm,18.9s,baz=96,slow=38							
	comp=Z,68nm,0.8s							
CRQM	**Cirque**	**70.69**	**30**	IAMs_20	IAMs_20	22 43 12.0		
	comp=Z,4µm,21.0s							
CRQE	**Cirque**	**70.72**	**30**	P	**P**	**22 15 06.7**	**-0.1**	
	baz=260,SNR=12							
BRVK	**Borovoye**	**70.75**	**322**	P	**P**	**22 15 07.0**	**0.0**	
BRVK				IAmb	IAmb	22 15 09.7		
	comp=Z,78nm,1.0s							
BRVK	**Borovoye**	**70.75**	**322**	P	**P**	**22 15 07.8**	**+0.7**	
BRVK	**Borovoye**	**70.75**	**322***ce*	P	**P**	**22 15 07.4**	**+0.4**	
BRVK				pmax	pmax			
	comp=Z,150nm,1.7s							
WAX	**Waxell Ridge**	**70.78**	**30**	IAMs_20	IAMs_20	22 42 36.8		
	comp=Z,4µm,21.0s							
DOT	**Dot Lake**	**70.79**	**27**	P	**P**	**22 15 07.0**	**-0.1**	
DOT				IAmb	IAmb	22 15 54.1		
	comp=Z,62nm,1.0s							
MCARA	**McCarthy VSAT**	**70.85**	**29**	P	**P**	**22 15 07.3**	**-0.1**	
	baz=260,SNR=8.5							
SCRK	**Sand Creek**	**70.88**	**26**	IAMs_20	IAMs_20	22 44 54.3		
	comp=Z,3µm,20.0s							
SCRK	**Sand Creek**	**70.88**	**26**	P	**P**	**22 15 07.6**	**-0.2**	
	baz=258,SNR=36							
SCRK				S	**S**	**22 24 20.2**	**-1.4**	
	baz=258							
L26K	**Log Cabin Wild**	**70.99**	**27**	IAMs_20	IAMs_20	22 44 07.1		
	comp=Z,3µm,21.0s							
L26K	**Log Cabin Wild**	**70.99**	**27**	P	**P**	**22 15 08.7**	**+0.4**	
	baz=259,SNR=27							
F25K	**Christian Rive**	**71.01**	**22**	IAMs_20	IAMs_20	22 44 24.7		
	comp=Z,3µm,20.0s							
F25K	**Christian Rive**	**71.01**	**22**	P	**P**	**22 15 09.2**	**+0.7**	
	baz=256,SNR=46							
F25K				S	**S**	**22 24 22.8**	**0.0**	
	baz=256							
M26K	**Nabesna, AK**	**71.04**	**28**	IAMs_20	IAMs_20	22 43 47.5		
	comp=Z,3µm,20.0s							
M26K	**Nabesna, AK**	**71.04**	**28**	P	**P**	**22 15 08.7**	**0.0**	
	baz=260							
M26K				S	**S**	**22 24 23.2**	**-0.1**	
	baz=260							
ISLE	**Juniper Island**	**71.06**	**30**	IAMs_20	IAMs_20	22 42 47.1		
	comp=Z,4µm,22.0s							
SIMJ	**Simiganj**	**71.12**	**307**	P	**P**	**22 15 09.9**	**+0.2**	
J26L	**Joseph Creek**	**71.17**	**26**	IAMs_20	IAMs_20	22 45 46.8		
	comp=Z,2µm,19.0s							
J26L	**Joseph Creek**	**71.17**	**26**	P	**P**	**22 15 09.6**	**+0.1**	
	baz=259,SNR=64							
J26L				S	**S**	**22 24 22.4**	**-2.3**	
	baz=259							
MESA	**MESA**	**71.19**	**30**	IAMs_20	IAMs_20	22 42 36.5		
	comp=Z,3µm,20.0s							
MESA	**MESA**	**71.19**	**30**	P	**P**	**22 15 10.6**	**+0.8**	
	baz=262							
D25K	**Kavik River**	**71.19**	**21**	P	**P**	**22 15 09.9**	**+0.5**	
	baz=254,SNR=37							
D25K				S	**S**	**22 24 25.4**	**+0.6**	
	baz=254							
KBL	**Kabul**	**71.20**	**302**	P	**P**	**22 15 10.5**	**+0.1**	
KBL	**Kabul**	**71.20**	**302**	P	**P**	**22 15 10.8**	**+0.4**	
	SNR=96							
KBL				S	**S**	**22 24 20.4**	**-6.0**	
KBL	**Kabul**	**71.20**	**302**	P	**P**	**22 15 10.5**	**+0.1**	
KBL				pmax	pmax			
	comp=Z,264nm,1.2s							
GRNC	**Granite Creek**	**71.36**	**30**	IAMs_20	IAMs_20	22 42 56.9		
	comp=Z,4µm,21.0s							
BMAR	**Burnt Mountain**	**71.37**	**23**	P	**P**	**22 15 11.8**	**+1.2**	
I26K	**Coal Creek Min**	**71.49**	**25**	P	**P**	**22 15 10.3**	**-1.0**	
	baz=259							
I26K				S	**S**	**22 24 26.2**	**-2.1**	
	baz=259							
PPT	**Papeete**	**71.53**	**113**	LR	LR	22 41 22.0		
	comp=Z,3µm,19.1s,baz=258,slow=31							
PPT2	**Papeete2**	**71.54**	**113**	*e*PKIKP	**P**	**22 15 10.5**	**-2.0**	
	comp=Z,244nm,23.0s							
PPT2				*e*S	**S**	**22 24 28.9**	**-1.6**	
	comp=Z,1µm,24.8s							
PPT2				*e*SS	**SS**	**22 29 07.2**	**+1.1**	
	comp=Z,240nm,22.2s							
PPT2				*e*LQ	LQ	22 33 37.2		
	comp=Z,1µm,26.5s							
PPT2				*e*LR	LR	22 36 23.6		
	comp=Z,5µm,34.0s							
PPT2				*e*LR	LR	22 36 47.6		
	comp=Z,7µm,28.8s							
M27K	**Edge Creek, AK**	**71.54**	**28**	IAMs_20	IAMs_20	22 44 18.9		
	comp=Z,3µm,20.0s							
M27K	**Edge Creek, AK**	**71.54**	**28**	P	**P**	**22 15 12.2**	**+0.4**	
	baz=261,SNR=22							
G26K	**Porcupine Rive**	**71.57**	**23**	P	**P**	**22 15 12.4**	**+0.7**	
	baz=258,SNR=57							
G26K				S	**S**	**22 24 30.0**	**+0.9**	
	baz=258							
F26K	**Sheenjek River**	**71.59**	**22**	IAMs_20	IAMs_20	22 44 52.0		
	comp=Z,3µm,20.0s							
F26K	**Sheenjek River**	**71.59**	**22**	P	**P**	**22 15 12.4**	**+0.4**	
	baz=257,SNR=69							
F26K				S	**S**	**22 24 30.4**	**+0.9**	
	baz=257							
CTG	**Chitna Glacier**	**71.59**	**30**	P	**P**	**22 15 12.9**	**+0.8**	
	baz=262,SNR=9.7							
L27K	**Beaver Creek,**	**71.67**	**27**	IAMs_20	IAMs_20	22 44 35.3		
	comp=Z,4µm,21.0s							
L27K	**Beaver Creek,**	**71.67**	**27**	P	**P**	**22 15 12.8**	**+0.3**	
	baz=261,SNR=25							
L27K				S	**S**	**22 24 30.8**	**+0.3**	
	baz=261							
BCAR	**Beaver Creek A**	**71.69**	**27**	P	**P**	**22 15 13.0**	**+0.4**	
K27K	**Chicken**	**71.72**	**26**	P	**P**	**22 15 13.8**	**+1.1**	
	baz=260							
K27K				S	**S**	**22 24 32.4**	**+1.4**	
	baz=260							
LOGN	**Logan Glacier**	**71.74**	**30**	IAMs_20	IAMs_20	22 43 07.8		
	comp=Z,4µm,21.0s							
C26K	**Camden Bay**	**71.84**	**20**	P	**P**	**22 15 14.2**	**+1.0**	
	baz=256,SNR=9.3							
C26K				S	**S**	**22 24 33.1**	**+1.0**	
	baz=256							
PCA	**Pinnacle**	**72.02**	**31**	P	**P**	**22 15 16.1**	**+1.5**	
PCA				IAmb	IAmb	22 16 02.0		
	comp=Z,175nm,1.2s							
PCA				IAMs_20	IAMs_20	22 43 23.5		
	comp=Z,2µm,20.0s							
PINM	**Pinnacle**	**72.02**	**31**	P	**P**	**22 15 15.1**	**+0.4**	
	baz=263							
BVCY	**Beaver Creek**	**72.02**	**28**	P	**P**	**22 15 14.9**	**+0.3**	
	baz=262,SNR=12							
YUK3	**Moose Creek**	**72.12**	**29**	P	**P**	**22 15 16.1**	**+0.7**	
	baz=262							
O28M	**Mount Upton**	**72.13**	**30**	IAMs_20	IAMs_20	22 43 09.4		
	comp=Z,3µm,22.0s							
O28M	**Mount Upton**	**72.13**	**30**	P	**P**	**22 15 15.9**	**+0.4**	
	baz=263,SNR=13							
O28M				S	**S**	**22 24 36.6**	**+0.2**	
	baz=263							
C27K	**Jago River**	**72.18**	**20**	P	**P**	**22 15 16.2**	**+0.8**	
	baz=257,SNR=16							
C27K				S	**S**	**22 24 36.9**	**+0.9**	
	baz=257							
I27K	**Kandik River**	**72.18**	**25**	P	**P**	**22 15 15.1**	**-0.4**	
	baz=260,SNR=18							
I27K				S	**S**	**22 24 35.1**	**-1.2**	
	baz=260							
BCPM	**Bancas Point**	**72.31**	**31**	IAMs_20	IAMs_20	22 43 31.3		
	comp=Z,2µm,20.0s							
H27K	**Steamboat Moun**	**72.32**	**24**	P	**P**	**22 15 16.7**	**+0.4**	
	baz=260,SNR=110							
G27K	**Doyon Strip**	**72.37**	**24**	IAMs_20	IAMs_20	22 44 11.5		
	comp=Z,3µm,21.0s							
G27K	**Doyon Strip**	**72.37**	**24**	P	**P**	**22 15 17.1**	**+0.5**	
	baz=260,SNR=35							
G27K				S	**S**	**22 24 38.8**	**+0.4**	
	baz=260							
YUK8	**Steele Glacier**	**72.39**	**29**	P	**P**	**22 15 18.1**	**+1.0**	
	baz=263,SNR=11							
PNL	**Peninsula**	**72.40**	**31**	P	**P**	**22 15 17.4**	**+0.6**	
	baz=264							
E27K	**Coleen River**	**72.64**	**22**	IAMs_20	IAMs_20	22 46 17.6		
	comp=Z,2µm,20.0s							
E27K	**Coleen River**	**72.64**	**22**	P	**P**	**22 15 18.6**	**+0.4**	
	baz=259,SNR=26							
E27K				S	**S**	**22 24 42.2**	**+0.8**	
	baz=259							
I28M	**Miner Creek**	**72.85**	**25**	P	**P**	**22 15 19.7**	**+0.2**	
	baz=262,SNR=27							
I28M				S	**S**	**22 24 43.9**	**-0.1**	
	baz=262							
O29M	**Mount Kennedy**	**72.87**	**30**	IAMs_20	IAMs_20	22 50 04.1		
	comp=Z,2µm,20.0s							
O29M	**Mount Kennedy**	**72.87**	**30**	P	**P**	**22 15 21.0**	**+1.1**	
	baz=264,SNR=10.0							
O29M				S	**S**	**22 24 47.4**	**+2.8**	
	baz=264							
DAWY	**Dawson**	**72.90**	**27**	P	**P**	**22 15 20.6**	**+0.8**	
DAWY				IAmb	IAmb	22 16 06.7		
	comp=Z,138nm,1.2s							
DAWY	**Dawson**	**72.90**	**27**	P	**P**	**22 15 20.3**	**+0.5**	
	baz=263,SNR=51							
DAWY				S	**S**	**22 24 45.0**	**+0.4**	
	baz=263							
YUK4	**Talbot Arm**	**72.94**	**29**	P	**P**	**22 15 21.5**	**+1.2**	
	baz=264,SNR=17							
YUK6	**Outpost Mounta**	**73.04**	**30**	P	**P**	**22 15 22.2**	**+1.3**	
	baz=264							
YUK6				S	**S**	**22 24 47.8**	**+1.2**	
	baz=264							
D27M	**Malcolm River**	**73.05**	**21**	IAMs_20	IAMs_20	22 44 54.5		
	comp=Z,2µm,20.0s							
D27M	**Malcolm River**	**73.05**	**21**	P	**P**	**22 15 21.5**	**+0.9**	
	baz=260,SNR=27							
D27M				S	**S**	**22 24 46.9**	**+0.7**	
	baz=260							
M29M	**Somme Creek**	**73.13**	**28**	IAMs_20	IAMs_20	22 46 40.9		
	comp=Z,2µm,19.0s							
M29M	**Somme Creek**	**73.13**	**28**	P	**P**	**22 15 22.3**	**+1.0**	
	baz=264,SNR=25							
M29M				S	**S**	**22 24 48.4**	**+1.0**	
	baz=264							
F28M	**Old Crow**	**73.19**	**23**	P	**P**	**22 15 22.3**	**+0.9**	
	baz=261,SNR=36							
F28M				S	**S**	**22 24 48.0**	**+0.3**	
	baz=261							
P29M	**Windy Craggy**	**73.24**	**31**	P	**P**	**22 15 22.9**	**+1.0**	
	baz=266,SNR=11							
P29M				S	**SKiKP**	**22 24 50.8**	**-1.3**	
	baz=266							
L29M	**L29M**	**73.35**	**28**	P	**P**	**22 15 23.8**	**+1.3**	
	baz=264,SN

comp=Z,3µm,26.0s
TBI eLR LR 22 37 25.1
comp=Z,21µm,32.5s
TBI eLR LR 22 37 27.5
comp=Z,4µm,34.0s
K29M Barlow Dome 73.69 27 P **P** **22 15 25.1 +0.5**
baz=264,SNR=50
K29M S **S** **22 24 53.5 -0.3**
baz=264
N30M Aishikik Lake 73.69 29 IAMs_20 IAMs_20 22 44 46.3
comp=Z,3µm,22.0s
N30M Aishikik Lake 73.69 29 P **P** **22 15 25.7 +1.1**
baz=266,SNR=14
N30M S **S** **22 24 54.2 +0.5**
baz=266
G29M Pine Creek 73.80 24 IAMs_20 IAMs_20 22 47 09.0
comp=Z,4µm,20.0s
G29M Pine Creek 73.80 24 P **P** **22 15 25.9 +0.9**
baz=263,SNR=23
G29M S **S** **22 24 55.9 +1.2**
baz=263
D28M Stokes Point 73.85 21 P **P** **22 15 25.8 +0.6**
baz=262
D28M S **S** **22 24 55.2 +0.2**
baz=262
M30M Minto, Yukon 73.92 28 IAMs_20 IAMs_20 22 49 03.1
comp=Z,2µm,20.0s
M30M Minto, Yukon 73.92 28 P **P** **22 15 26.6 +0.8**
baz=265,SNR=22
M30M S **S** **22 24 56.8 +0.7**
baz=265
S31K Pelican 73.92 33 P **P** **22 15 26.7 +0.9**
baz=267
PLBC Pleasant Camp 73.92 31 P **P** **22 15 26.9 +1.1**
baz=267,SNR=13
E29M Blow River 74.03 22 IAMs_20 IAMs_20 22 46 27.8
comp=Z,3µm,20.0s
E29M Blow River 74.03 22 P **P** **22 15 26.9 +0.6**
baz=263,SNR=22
E29M S **S** **22 24 55.7 -1.4**
baz=263
O30N Mendenhall 74.13 30 IAMs_20 IAMs_20 22 48 21.9
comp=Z,3µm,20.0s
O30N Mendenhall 74.13 30 P **P** **22 15 27.4 +0.3**
baz=267,SNR=8.6
O30N S **S** **22 25 00.1 +1.5**
baz=267
R31K City Hall, Gus 74.20 33 P **P** **22 15 28.1 +0.7**
baz=268
EPYK Eagle Plains 74.26 24 P **P** **22 15 28.3 +0.5**
baz=264,SNR=31
EPYK S **S** **22 24 59.1 -0.8**
baz=264
J30M Hart River 74.27 26 IAMs_20 IAMs_20 22 48 33.5
comp=Z,2µm,20.0s
J30M Hart River 74.27 26 P **P** **22 15 28.4 +0.4**
baz=265,SNR=56
J30M S **S** **22 24 59.4 -0.9**
baz=265
I30M Mount Dempster 74.31 25 P **P** **22 15 28.3 +0.2**
baz=265,SNR=22
I30M S **S** **22 25 00.9 +0.3**
baz=265
N31M Braeburn, Yuko 74.32 29 IAMs_20 IAMs_20 22 44 53.9
comp=Z,3µm,22.0s
N31M Braeburn, Yuko 74.32 29 P **P** **22 15 29.0 +0.8**
baz=267,SNR=8.7
N31M S **S** **22 25 02.2 +1.5**
baz=267
SIT Sitka 74.38 34 P **P** **22 15 29.4 +0.9**
baz=268
MAYO Mayo, Yukon 74.40 27 IAMs_20 IAMs_20 22 47 10.7
comp=Z,2µm,21.0s
MAYO Mayo, Yukon 74.40 27 P **P** **22 15 29.9 +1.3**
baz=266
MAYO S **S** **22 25 02.1 +0.7**
baz=266
SKAG Skagway 74.45 31 P **P** **22 15 30.1 +1.2**
baz=268,SNR=9.0
SKAG S **S** **22 25 03.0 +0.9**
baz=268
G30M tAoh Zraii Nji 74.52 24 IAMs_20 IAMs_20 22 50 09.8
comp=Z,3µm,19.0s
G30M tAoh Zraii Nji 74.52 24 P **P** **22 15 29.6 +0.3**
baz=265,SNR=26
G30M S **S** **22 24 59.0 -3.7**
baz=265
WHY Whitehorse 74.72 30 P **P** **22 15 31.5 +0.9**
WHY Whitehorse 74.72 30 P **P** **22 15 32.0 +1.3**
baz=268,SNR=19
WHY S **S** **22 25 03.8 -1.6**
baz=268
F30M Barrier River 74.74 23 IAMs_20 IAMs_20 22 47 01.6
comp=Z,2µm,20.0s
F30M Barrier River 74.74 23 P **P** **22 15 31.5 +1.0**
baz=265,SNR=24
F30M S **S** **22 25 01.3 -3.8**
baz=265
S32K Killisnoo 74.80 34 P **P** **22 15 32.0 +1.1**
baz=269,SNR=8.1
R32K Eaglecrest 74.84 33 P **P** **22 15 31.9 +0.7**
baz=269
M31M Drury Creek, Y 75.01 29 IAMs_20 IAMs_20 22 44 43.1
comp=Z,4µm,22.0s
M31M Drury Creek, Y 75.01 29 P **P** **22 15 32.7 +0.6**
baz=268,SNR=14
M31M S **S** **22 25 06.7 -1.7**
baz=268
H31M Peel River 75.19 25 IAMs_20 IAMs_20 22 46 23.6
comp=Z,3µm,21.0s
H31M Peel River 75.19 25 P **P** **22 15 33.8 +0.6**
baz=267,SNR=34
H31M S **S** **22 25 09.3 -1.0**
baz=267
G31M Satah River 75.28 24 IAMs_20 IAMs_20 22 46 55.9
comp=Z,3µm,21.0s
G31M Satah River 75.28 24 P **P** **22 15 33.7 +0.2**
baz=266,SNR=32
G31M S **S** **22 25 10.0 -1.0**
baz=266
P32M Atlin 75.28 31 P **P** **22 15 34.5 +0.7**
baz=269,SNR=13
P32M S **S** **22 25 13.3 +1.9**
baz=269
FARO Faro, Yukon 75.50 29 IAMs_20 IAMs_20 22 46 51.0
comp=Z,3µm,20.0s
FARO Faro, Yukon 75.50 29 P **P** **22 15 35.8 +0.8**
baz=269,SNR=6.2
F31M Tsiigehtchic 75.51 23 IAMs_20 IAMs_20 22 50 42.1
comp=Z,3µm,20.0s
F31M Tsiigehtchic 75.51 23 P **P** **22 15 34.6 -0.3**
baz=267,SNR=9.0
F31M S **S** **22 25 12.6 -1.0**
baz=267
U33K Whale Pass 75.60 35 IAMs_20 IAMs_20 22 50 10.8
comp=Z,2µm,19.0s
U33K Whale Pass 75.60 35 P **P** **22 15 36.9 +1.3**
baz=270,SNR=5.8
U33K S **S** **22 25 16.4 +1.5**
baz=270
CRAG Craig 75.60 36 IAMs_20 IAMs_20 22 43 11.1
comp=Z,2µm,21.0s
CRAG Craig 75.60 36 P **P** **22 15 36.9 +1.3**
baz=271
N32M Quiet Lake 75.61 30 IAMs_20 IAMs_20 22 45 21.4
comp=Z,3µm,21.0s
N32M Quiet Lake 75.61 30 P **P** **22 15 36.5 +0.8**
baz=269
N32M S **S** **22 25 16.3 +1.1**
baz=269
INK Inuvik 75.64 22 P **P** **22 15 35.7 +0.1**
INK Inuvik 75.64 22 LR LR 22 47 11.5
comp=Z,2µm,21.5s,baz=258,slow=34
INK Inuvik 75.64 22 P **P** **22 15 35.7 +0.1**
INK pmax pmax
comp=Z,68nm,1.1s
INK MLR MLR
comp=Z,2µm,21.0s
INK Inuvik 75.64 22 P **P** **22 15 35.6 +0.1**
baz=267,SNR=13
INK S **S** **22 25 13.4 -1.6**
baz=267
T33K Petersburg 75.68 34 P **P** **22 15 37.6 +1.5**
baz=270
P33M Teslin, Yukon 75.74 31 IAMs_20 IAMs_20 22 49 13.3
comp=Z,2µm,18.0s
P33M Teslin, Yukon 75.74 31 P **P** **22 15 37.3 +0.8**
baz=270,SNR=16
P33M S **S** **22 25 18.0 +1.4**
baz=270
Q32M Nakina River 76.02 32 P **P** **22 15 39.5 +1.3**
baz=270,SNR=14
Q32M S **S** **22 25 22.1 +2.1**
baz=270
WRAK Wrangell Islan 76.02 35 IAMs_20 IAMs_20 22 50 07.1
comp=Z,3µm,18.0s
WRAK Wrangell Islan 76.02 35 P **P** **22 15 39.0 +1.0**
baz=271,SNR=9.2
WRAK S **S** **22 25 22.7 +3.0**
baz=271
DIB Dawson Inlet, 76.04 38 P **P** **22 15 39.1 +1.0**
DIB IAmb IAmb 22 15 42.7
comp=Z,134nm,1.2s
SVE Sverdlovsk 76.42 326 *de*P **P** **22 15 40.5 +0.2**
SVE *e*S **S** **22 25 26.0 +2.0**
SVE pmax pmax
comp=Z,79nm,1.5s
SVE MLR MLR
comp=Z,2µm,19.0s
V35K Ketchikan 76.47 36 IAMs_20 IAMs_20 22 43 35.9
comp=Z,2µm,21.0s
V35K Ketchikan 76.47 36 P **P** **22 15 41.4 +0.9**
baz=272
V35K S **S** **22 25 29.0 +4.5**
baz=272
MMPY Sheldon Lake, 76.47 28 P **P** **22 15 41.6 +1.0**
baz=270,SNR=16
MMPY S **S** **22 25 26.0 +1.4**
baz=270
S34M Telegraph Cree 76.64 33 P **P** **22 15 43.0 +1.5**
baz=272,SNR=13
S34M S **S** **22 25 29.7 +3.3**
baz=272
R33M Jennings River 76.68 32 P **P** **22 15 43.1 +1.2**
baz=271,SNR=22
R33M S **S** **22 25 29.7 +2.6**
baz=271
T35M Bob Quinn 77.16 34 IAMs_20 IAMs_20 22 51 04.1
comp=Z,3µm,19.0s
T35M Bob Quinn 77.16 34 P **P** **22 15 46.1 +1.6**
baz=273,SNR=22
T35M S **S** **22 25 36.2 +4.0**
baz=273
DLBC Dease Lake 77.21 33 LR LR 22 46 33.7
comp=Z,201nm,20.5s,baz=267,slow=33
DLBC Dease Lake 77.21 33 P **P** **22 15 46.2 +1.4**
baz=272,SNR=30
DLBC S **S** **22 25 35.2 +2.4**
baz=272
AB31 Akbulak array 77.23 318 *i* P **P** **22 15 44.7 -0.3**
ABKAR Akbulak array 77.23 318 P **P** **22 15 44.6 -0.4**
RUBB Prince Rupert 77.30 37 P **P** **22 15 46.5 +1.3**
U35K Hyder 77.34 35 IAMs_20 IAMs_20 22 50 45.9
comp=Z,2µm,18.0s
U35K Hyder 77.34 35 P **P** **22 15 46.2 +0.8**
baz=273
U35K S **S** **22 25 37.2 +3.2**
baz=273
ARTI Arti 77.69 325 P **P** **22 15 47.2 -0.2**
ARTI IAMs_20 IAMs_20 22 55 10.9
comp=Z,2µm,20.0s
ARTI Arti 77.69 325 P **P** **22 15 47.6 +0.2**
comp=Z,55nm,1.2s,baz=113,slow=2.9,SNR=26
ARTI S **S** **22 25 30.0 -7.8**
comp=Z,0.7nm,0.4s,baz=72,slow=19,SNR=1.0
ARTI LR LR 22 53 08.0
comp=Z,1µm,18.4s,baz=84,slow=38
comp=Z,55nm,1.2s
ARTI Arti 77.69 325 *d* *i* P **P** **22 15 47.8 +0.4**
ARTI S **S** **22 25 40.9 +3.1**
ARTI SS **SS** **22 30 33.9 -3.6**
ARTI pmax pmax
comp=Z,71nm,1.5s
WTLY Watson Lake, Y 77.75 31 P **P** **22 15 48.7 +1.0**
baz=273
TAOE Nuku Hiva Isla 77.76 102 *e*PKIKP **P** **22 15 45.4 -3.3**
comp=Z,180nm,23.7s
TAOE *e*S **S** **22 25 34.0 -6.3**
comp=Z,912nm,27.9s
TAOE *e*SS **SS** **22 30 37.6 -3.4**
comp=Z,248nm,24.4s
TAOE *e*LR LR 22 39 31.4
comp=Z,2µm,20.3s
TGTN Hyland Airport 77.92 29 P **P** **22 15 50.4 +1.7**
baz=273,SNR=14
TGTN S **S** **22 25 41.4 +1.1**
baz=273
AKTO Aktyubinsk 78.38 319 P **P** **22 15 51.0 -0.3**
comp=Z,30nm,0.9s,baz=82,slow=5.5,SNR=38
AKTO S **S** **22 25 39.1 -6.4**
comp=Z,0.6nm,0.5s,baz=58,slow=14,SNR=7.1
AKTO LR LR 22 52 26.3
comp=Z,2µm,20.5s,baz=84,slow=37
comp=Z,30nm,0.9s
A36M Sachs Harbour 78.42 19 IAMs_20 IAMs_20 22 51 01.8
comp=Z,2µm,20.0s
A36M Sachs Harbour 78.42 19 P **P** **22 15 51.2 0.0**
baz=274
A36M S **S** **22 25 44.0 -1.2**
baz=274
BBB Bella Bella 78.75 39 LR LR 22 44 49.9
comp=Z,4µm,21.3s,baz=272,slow=31
HOLB Holberg 78.90 40 IAMs_20 IAMs_20 22 45 09.4
comp=Z,3µm,20.0s
NGCH Negor - Chabah 78.91 294 P **P** **22 15 56.0 +1.3**
LIRD Liard River Hi 79.17 31 P **P** **22 15 56.7 +1.2**
baz=276
LIRD S **S** **22 25 54.4 +0.8**
baz=276
TOAD Toad River Com 79.67 32 P **P** **22 15 59.7 +1.4**
baz=276,SNR=18
TOAD S **S** **22 25 58.2 -0.9**
baz=276
WRGLY Wrigley 79.99 27 P **P** **22 16 00.5 +0.7**
baz=277
WRGLY S **S** **22 26 01.9 -0.2**
baz=277
KOTAN Kotaneelee Air 80.11 31 P **P** **22 16 01.9 +1.3**
baz=277,SNR=8.7
KOTAN S **S** **22 26 04.9 +1.3**
baz=277
CBB Campbell River 80.73 41 IAMs_20 IAMs_20 22 44 39.9
comp=Z,3µm,21.0s
OZB Mount Ozzard 80.80 42 P **P** **22 16 06.0 +1.4**
JLN Jalan Bani Buh 80.97 291 P **P** **22 16 07.4 +1.4**
SNR=6.0
JASK Jask - Hormozg 81.74 295 P **P** **22 16 12.1 +2.0**
SNR=11
BIDO Bidbid 81.91 292 P **P** **22 16 12.2 +1.3**
SNR=28
SMDO Samad 82.06 292 P **P** **22 16 12.9 +1.0**
SNR=7.8
NLWA Neilton Lookou 82.11 43 P **P** **22 16 12.8 +1.2**
JMDO Jabal Madar 82.13 291 P **P** **22 16 13.5 +1.3**
SNR=7.8
KIRV Kirov 82.21 328 LR LR 22 56 40.4
comp=Z,2µm,18.2s,baz=77,slow=39
KIRV Kirov 82.21 328 *c* *i* P **P** **22 16 11.1 -0.7**
RADR Rader Ridge 82.33 44 P **P** **22 16 13.8 +1.1**
RADR IAMs_20 IAMs_20 22 46 02.3
comp=Z,2µm,21.0s
CASY Casey 82.33 193 P **P** **22 16 12.4 +0.3**
CASY IAmb IAmb 22 16 26.6
comp=Z,74nm,1.3s
E03A Lebam 82.46 44 IAMs_20 IAMs_20 22 46 39.0
comp=Z,2µm,21.0s
MHTO MHTO 82.49 290 P **P** **22 16 15.3 +1.2**
SNR=17
KEBM Edson Butte 82.55 48 IAMs_20 IAMs_20 22 46 00.6
comp=Z,3µm,20.0s
HEBO Mount Hebo 82.56 45 IAMs_20 IAMs_20 22 47 33.8
comp=Z,2µm,19.0s
F03A Seaside 82.57 45 IAMs_20 IAMs_20 22 46 20.9
comp=Z,2µm,21.0s
HOQ Hoqain 82.63 292 P **P** **22 16 16.0 +1.2**
SNR=30
I02E Swisshome, OR 82.69 47 IAMs_20 IAMs_20 22 46 49.1
comp=Z,3µm,20.0s
KBO Bosley Butte 82.74 48 IAMs_20 IAMs_20 22 46 26.7
comp=Z,3µm,20.0s
J01E Myrtle Point 82.79 48 IAMs_20 IAMs_20 22 46 31.3
comp=Z,3µm,20.0s
LLLB Lillooet 82.84 40 IAMs_20 IAMs_20 22 47 04.8
comp=Z,3µm,20.0s
BSY Bisya 82.88 292 P **P** **22 16 17.3 +1.2**
SNR=6.6
BSY S **S** **22 26 30.2 -3.5**
G03D McMinnville, O 82.90 45 IAMs_20 IAMs_20 22 48 25.8
comp=Z,2µm,20.0s
F04D Rainier, OR 82.92 44 IAMs_20 IAMs_20 22 46 43.2
comp=Z,2µm,21.0s
COR Corvallis 82.99 46 P **P** **22 16 17.2 +1.0**
COR Corvallis 82.99 46 IAMs_20 IAMs_20 22 49 25.1
comp=Z,3µm,20.0s
COR Corvallis 82.99 46 P **P** **22 16 17.2 +1.0**
COR pmax pmax
comp=Z,674nm,1.9s
COR MLR MLR
comp=Z,3µm,20.0s
KRMB Red Mountain 83.10 49 P **P** **22 16 18.2 +1.2**
KRMB IAmb IAmb 22 16 22.1
comp=Z,139nm,1.5s
KRMB IAMs_20 IAMs_20 22 46 37.2
comp=Z,3µm,20.0s
SOHO SOHO 83.23 293 P **P** **22 16 18.6 +0.8**
SOHO S **S** **22 26 31.0 -6.2**
SOHO SOHO 83.23 293 *i* P **P** **22 16 17.6 -0.2**
SNR=8.8
MDH Madha 83.23 294 P **P** **22 16 18.9 +1.1**
MDH S **S** **22 26 32.4 -4.8**
SHME Shamm 83.24 295 P **P** **22 16 19.2 +1.4**
SHME S **S** **22 26 33.0 -4.1**
SHME Shamm 83.24 295 P **P** **22 16 18.1 +0.3**
L02F Cave Junction 83.24 48 P **P** **22 16 18.3 +0.8**
L02F IAmb IAmb 22 16 22.5
comp=Z,167nm,1.6s
BUCK Buck Mountain 83.28 46 IAMs_20 IAMs_20 22 47 08.9
comp=Z,3µm,20.0s
MASF Masafi 83.34 294 P **P** **22 16 19.7 +1.2**
MASF S **S** **22 26 32.2 -6.2**
KHMM Horse Mountain 83.35 50 P **P** **22 16 19.8 +1.5**
MSFE Esma-Masafi 83.35 294 *i* P **P** **22 16 19.1 +0.6**
SNR=10
UOSS Minazif 83.38 294 P **P** **22 16 19.0 +0.4**
UOSS IAmb IAmb 22 16 22.6
comp=Z,138nm,1.4s
UOSS Minazif 83.38 294 *i* P **P** **22 16 18.1 -0.6**
SNR=7.5
ARQ Araqi 83.39 292 P **P** **22 16 19.6 +0.8**
SNR=12
ARQ S **S** **22 26 32.5 -6.3**
H04D Lebanon 83.40 46 IAMs_20 IAMs_20 22 49 47.9
comp=Z,2µm,20.0s
HATD Hatta, Dubai 83.47 294 P **P** **22 16 20.2 +1.1**
SNR=5.2
HATD S **S** **22 26 36.2 -3.3**
HATD Hatta, Dubai 83.47 294 *i* P **P** **22 16 19.4 +0.3**
SNR=10
ASHO Ashiyiah 83.56 294 P **P** **22 16 20.7 +1.1**
ASHO S **S** **22 26 35.7 -4.9**
ASHO Ashiyiah 83.56 294 *i* P **P** **22 16 19.9 +0.3**
SNR=7.6
KCPM Cahto Peak 83.68 51 IAMs_20 IAMs_20 22 46 50.6
comp=Z,3µm,20.0s
BBOR Butler Butte 83.75 48 IAMs_20 IAMs_20 22 46 50.2
comp=Z,3µm,21.0s
H04A Detroit Lake 83.75 46 IAMs_20 IAMs_20 22 47 04.3
comp=Z,2µm,19.0s
NAZ Nazwa, Dubai 83.86 294 P **P** **22 16 22.6 +1.5**
SNR=6.5
NAZ S **SKSac** **22 26 38.0 -5.0**
NAZ Nazwa, Dubai 83.86 294 *i* P **P** **22 16 21.4 +0.4**
SNR=6.8
YBH Yreka Blue Hor 83.94 49 P **P** **22 16 22.2 +0.9**
YBH IAMs_20 IAMs_20 22 47 26.5
comp=Z,3µm,20.0s
YBH Yreka Blue Hor 83.94 49 LR LR 22 47 38.3
comp=Z,187nm,20.5s,baz=278,slow=31
YBH Yreka Blue Hor 83.94 49 P **P** **22 16 22.2 +0.9**
YBH pmax pmax
comp=Z,188nm,1.5s
YBH MLR MLR
comp=Z,3µm,20.0s
ALNE Al Ain 83.95 293 P **P** **22 16 23.0 +1.4**
SNR=20
ALNE Al Ain 83.95 293 *i* P **P** **22 16 22.3 +0.8**
SNR=30
FAQ Al Faqa, Dubai 83.97 294 P **P** **22 16 22.7 +1.0**
SNR=7.2
FAQ Al Faqa, Dubai 83.97 294 *i* P **P** **22 16 22.5 +0.9**
SNR=8.0
J04A Umpqua Nationa 84.09 47 IAMs_20 IAMs_20 22 47 32.3
comp=Z,3µm,20.0s
YKA Yellowknife Ar 84.11 27 P **P** **22 16 21.5 0.0**
YKA Yellowknife Ar 84.11 27 P **P** **22 16 21.9 +0.4**
comp=Z,4.7nm,0.5s,baz=220,slow=6.5,SNR=45
YKA S **SKSac** **22 26 40.8 -2.4**
comp=Z,0.3nm,0.5s,baz=275,slow=11,SNR=1.6
YKA LR LR 22 55 21.6
comp=Z,1µm,18.6s,baz=283,slow=37
comp=Z,4.7nm,0.5s
HOPS Hopland Field 84.20 51 IAMs_20 IAMs_20 22 46 55.4
comp=Z,2µm,20.0s
ASUD Al Ashush, Dub 84.22 294 P **P** **22 16 24.6 +1.7**
SNR=6.7
ASUD Al Ashush, Dub 84.22 294 *i* P **P** **22 16 24.4 +1.5**
SNR=7.2
I05D Terrebonne, OR 84.42 46 IAMs_20 IAMs_20 22 47 56.9
comp=Z,2µm,20.0s
GDXM Geysers 84.44 52 IAMs_20 IAMs_20 22 47 23.0
comp=Z,3µm,21.0s
K04D Chiloquin, OR 84.47 48 IAMs_20 IAMs_20 22 47 13.3
comp=Z,3µm,21.0s
BELG Belogornoye 84.49 322 LR LR 22 56 20.9
comp=Z,2µm,18.7s,baz=74,slow=37
BELG Belogornoye 84.49 322 *c* *i* P **P** **22 16 21.8 -1.8**
BELG pmax pmax
comp=Z,53nm,1.3s
AJN Ajban 84.54 294 P **P** **22 16 25.4 +0.9**
SNR=9.1
AJN S **SKSac** **22 26 41.9 -5.5**
AJN Ajban 84.54 294 *i* P **P** **22 16 25.0 +0.5**
SNR=8.8
HOPEN Hopen 84.63 348 *e*P **P** **22 16 25.0 +1.0**
HOPEN IAmb IAmb 22 16 28.1
comp=Z,158nm,1.6s
HOPEN *e*SKSac **SKSac** **22 26 43.7 -2.4**
HOPEN IAMs_20 IAMs_20 22 49 45.9
comp=Z,917nm,20.7s
MNRC McLaughlin Min 84.70 52 IAMs_20 IAMs_20 22 47 31.1
comp=Z,2µm,21.0s
G06A Carlson Farm, 84.72 45 IAMs_20 IAMs_20 22 47 48.9
comp=Z,2µm,21.0s
UMZA Um Al Zommool 84.74 292 P **P** **22 16 26.1 +0.5**
TULE Intermountain 84.81 48 IAMs_20 IAMs_20 22 47 12.6
comp=Z,2µm,20.0s
PINE Pine Mountain 84.81 46 IAMs_20 IAMs_20 22 48 18.3
comp=Z,3µm,20.0s
O03E Paynes Creek 84.90 50 IAMs_20 IAMs_20 22 47 35.2
comp=Z,3µm,20.0s
HATC Hat Creek Radi 85.05 49 IAMs_20 IAMs_20 22 47 51.8
comp=Z,3µm,20.0s
F07A Phinny Hill Vi 85.07 44 IAMs_20 IAMs_20 22 47 50.0
comp=Z,2µm,21.0s
WAH2 Wahluke Slope 85.12 43 IAMs_20 IAMs_20 22 51 05.4
comp=Z,2µm,20.0s
SPA0 Spitsbergen Ar 85.21 351 *e*P **P** **22 16 27.7 +0.8**
SPA0 IAmb IAmb 22 16 30.9
comp=Z,215nm,1.6s
SPA0 *e*SKSac **S** **22 26 52.8 -2.3**
SPA0 IAMs_20 IAMs_20 22 50 26.1
comp=Z,2µm,21.6s
SPB2 Spitsbergen Ar 85.21 351 P **P** **22 16 28.1 +1.2**
SPB2 IAmb IAmb 22 17 25.7
comp=Z,99nm,1.2s
SPITS Spitsbergen Ar 85.21 351 P **P** **22 16 28.0 +1.1**
comp=Z,20nm,0.8s,baz=72,slow=5.5,SNR=15
SPITS S **SKSac** **22 26 46.0 -3.8**
comp=Z,4.8nm,0.9s,baz=37,slow=22,SNR=1.0
SPITS LR LR 22 56 54.8
comp=Z,2µm,20.0s,baz=36,slow=37
comp=Z,20nm,0.8s
SPITS Spitsbergen Ar 85.21 351 P **P** **22 16 28.0 +1.1**
SPITS pmax pmax
comp=Z,172nm,1.4s
KBS Kingsbay 85.37 352 P **P** **22 16 27.5 -0.1**
KBS IAmb IAmb 22 17 26.1
comp=Z,54nm,1.1s
KBS Kingsbay 85.37 352 *c* *e*P **P** **22 16 28.7 +1.0**
KBS pmax pmax
comp=Z,49nm,1.3s
KBS Kingsbay 85.37 352 *e*P **P** **22 16 28.3 +0.7**

KBS IAmb IAmb 22 16 34.6
comp=Z,31nm,0.9s
KBS eSKSac **S** **22 26 55.2 -1.5**
KBS IAMs_20 IAMs_20 22 50 36.8
comp=Z,1µm,24.4s
KBS Kingsbay 85.37 352 *i* P **P** **22 16 26.0 -1.6**
YPT Yellepit 85.69 44 IAMs_20 IAMs_20 22 50 36.4
comp=Z,2µm,20.0s
NOR Nord 85.75 357 *i* P **P** **22 16 28.2 -1.3**
NOR IAmb IAmb 22 17 03.6
comp=Z,84nm,1.4s
I07A Izee 85.76 46 IAMs_20 IAMs_20 22 48 39.4
comp=Z,2µm,20.0s
RES Resolute Bay 85.83 13 P **P** **22 16 30.6 +0.6**
RES IAmb IAmb 22 16 34.0
comp=Z,173nm,1.4s
RES Resolute Bay 85.83 13 LR LR 22 54 35.0
comp=Z,965nm,21.5s,baz=309,slow=36
RES Resolute Bay 85.83 13 P **P** **22 16 30.6 +0.6**
RES pmax pmax
comp=Z,173nm,1.4s
MTOS Mt Oso, Westle 85.84 53 IAMs_20 IAMs_20 23 02 43.4
comp=Z,2µm,20.0s
G08A Pilot Rock 85.86 45 IAMs_20 IAMs_20 22 48 15.1
comp=Z,2µm,20.0s
SAO San Andreas Ge 85.91 53 IAMs_20 IAMs_20 22 49 08.8
comp=Z,2µm,19.0s
DMTO DMTO 85.91 287 P **P** **22 16 32.9 +1.4**
LVZ Lovozero 85.93 339 P **P** **22 16 31.5 +0.9**
LVZ IAMs_20 IAMs_20 23 00 52.6
comp=Z,2µm,19.0s
LVZ Lovozero 85.93 339 P **P** **22 16 31.5 +0.9**
LVZ pmax pmax
comp=Z,61nm,1.3s
LVZ MLR MLR
comp=Z,2µm,19.0s
SCZ Santa Cruz 85.98 54 IAMs_20 IAMs_20 22 49 19.0
comp=Z,2µm,19.0s
HSPB Hornsund (broa 86.11 350 *eP* **P** **22 16 31.2 -0.2**
HSPB *eL* L 22 57 06.7
comp=Z,3µm,21.1s
HSPB Hornsund (broa 86.11 350 *eP* **P** **22 16 32.8 +1.4**
E09A Wood Farm, Sta 86.13 43 IAMs_20 IAMs_20 22 51 54.1
comp=Z,2µm,20.0s
MZR Muzera 86.20 293 P **P** **22 16 34.2 +1.4**
SNR=26
MZR Muzera 86.20 293 *i* P **P** **22 16 33.6 +0.7**
SNR=16
HULI Fort Hunter Li 86.23 54 IAMs_20 IAMs_20 22 51 32.8
comp=Z,2µm,20.0s
BBGB Big Mountain B 86.27 54 IAMs_20 IAMs_20 22 49 27.3
comp=Z,2µm,20.0s
JRN Qarnain Island 86.37 295 P **P** **22 16 34.8 +1.1**
NEW Newport 86.38 41 P **P** **22 16 34.2 +0.9**
NEW Newport 86.38 41 LR LR 22 51 59.1
comp=Z,971nm,19.4s,baz=298,slow=33
NEW Newport 86.38 41 P **P** **22 16 34.2 +0.9**
NEW pmax pmax
comp=Z,479nm,1.7s
NEW MLR MLR
comp=Z,1µm,19.0s
KLMR Klimovskoe 86.47 332 *d i* P **P** **22 16 31.4 -2.0**
KLMR *e* 22 19 51.2
KLMR S **SKSac** **22 26 57.8 -0.4**
KLMR SS **SS** **22 32 51.4 +3.7**
KLMR pmax pmax
comp=Z,52nm,1.4s
KLMR MLR MLR
comp=Z,3µm,17.0s
DOK Doka 86.49 288 P **P** **22 16 34.8 +0.4**
SNR=6.7
APA Apatity 86.49 339 *eP* **P** **22 16 32.6 -0.8**
APA *eS* **SKSac** **22 26 55.9 -2.2**
APA MLR MLR
comp=Z,2µm,20.5s
GHWR Ruwais 86.55 294 P **P** **22 16 35.7 +1.1**
RAMR Ramage Ranch 86.61 54 IAMs_20 IAMs_20 22 51 22.7
comp=Z,2µm,19.0s
RBK Rabkut 86.65 287 P **P** **22 16 36.2 +1.0**
SNR=7.7
J08A Circle Bar Ran 86.65 46 IAMs_20 IAMs_20 22 50 08.1
comp=Z,2µm,20.0s
VADS Vadso 86.70 342 *eP* **P** **22 16 35.6 +1.3**
VADS IAmb IAmb 22 16 37.7
comp=Z,63nm,1.2s
VADS *eSKSac* **SKSac** **22 26 58.5 -0.7**
VADS IAMs_20 IAMs_20 22 51 06.8
comp=Z,1µm,26.4s
MAK Makhachkala 86.75 313 *eP* P 22 16 27.0 -8.1
MAK *e* 22 19 55.8
MAK *ePPP* PPP 22 21 49.7
MAK *e* 22 26 49.4
MAK *eSSS* SSS 22 36 19.6
MAK pmax pmax
comp=Z,120nm,1.1s
WVOR Wild Horse Val 86.75 47 P **P** **22 16 36.2 +0.8**
WVOR Wild Horse Val 86.75 47 P **P** **22 16 36.2 +0.8**
WVOR pmax pmax
comp=Z,211nm,1.5s
WVOR MLR MLR
comp=Z,4µm,20.0s
AKT Akhty 86.94 312 *eP* **P** **22 16 32.9 -3.4**
AKT *e* 22 19 57.1
AKT *eS* **SKSac** **22 26 59.3 -2.8**
AKT pmax pmax
comp=Z,116nm,1.2s
AKT MLR MLR
comp=Z,2µm,18.0s
WHFO Wadi Hawf 86.97 288 P **P** **22 16 37.5 +0.7**
BMO Blue Mountains 87.11 45 IAMs_20 IAMs_20 22 49 03.0
comp=Z,2µm,21.0s
ABTO Aybut 87.53 287 P **P** **22 16 40.6 +1.1**
SNR=7.2
KEV Kevo 87.59 342 IAMs_20 IAMs_20 23 01 38.3
comp=Z,2µm,19.0s
SHMA Al-Shehemyia 87.84 296 P **P** **22 16 42.1 +1.4**
SNR=5.1
TRNA Turayna 87.87 295 P **P** **22 16 42.1 +1.2**
SNR=7.1
PLID Pearl Lake 87.94 44 IAMs_20 IAMs_20 22 54 57.1
comp=Z,2µm,19.0s
NVAR Mina Array Bea 87.96 51 P **P** **22 16 42.7 +1.3**
NVAR Mina Array Bea 87.96 51 P **P** **22 16 43.1 +1.7**
comp=Z,19nm,0.8s,baz=266,slow=5.3,SNR=69
NVAR PP **PP** **22 20 08.6 +1.0**
comp=Z,0.4nm,0.6s,baz=309,slow=5.9,SNR=2.2
NVAR S **SKSac** **22 27 03.6 -5.1**
comp=Z,0.3nm,0.5s,baz=231,slow=3.7,SNR=1.2
NVAR LR LR 22 49 30.6
comp=Z,935nm,21.2s,baz=284,slow=31
comp=Z,19nm,0.8s
HAMF Hammerfest 88.09 343 *eP* **P** **22 16 40.4 -0.6**
HAMF IAmb IAmb 22 16 43.3
comp=Z,57nm,1.3s
HAMF *eSKSac* **SKSac** **22 27 06.8 -0.9**
ARA0 ARCESS Array S 88.15 342 *eP* **P** **22 16 41.1 -0.3**
ARA0 IAmb IAmb 22 16 43.8
comp=Z,110nm,1.7s
ARA0 *eSKSac* **SKSac** **22 27 06.3 -1.9**
ARA0 IAMs_20 IAMs_20 22 50 23.4
comp=Z,875nm,22.9s
ARCES ARCESS Array B 88.15 342 P **P** **22 16 41.4 0.0**
ARCES IAmb IAmb 22 17 27.5
comp=Z,125nm,1.6s
ARCES ARCESS Array B 88.15 342 P **P** **22 16 41.5 +0.1**
comp=Z,9.1nm,0.6s,baz=61,slow=5.7,SNR=30
ARCES S **SKSac** **22 27 04.9 -3.3**
comp=Z,1.8nm,0.8s,baz=36,slow=8.2,SNR=1.8
ARCES LR LR 22 58 37.1
comp=Z,814nm,20.3s,baz=64,slow=37
comp=Z,9.1nm,0.6s
ARCES ARCESS Array B 88.15 342 P **P** **22 16 41.4 0.0**
ARCES pmax pmax
comp=Z,125nm,1.7s
SMRA Abu-Samra 88.21 295 P **P** **22 16 43.6 +1.1**
VRH Novokhopyorsk 88.34 322 *eP* **P** **22 16 40.0 -2.6**
VRH pmax pmax
comp=Z,80nm,2.0s
JTMT Jette 88.36 41 P **P** **22 16 44.7 +1.7**
ISA Isabella, Lake 88.50 54 P **P** **22 16 45.6 +1.8**
ISA IAmb IAmb 22 16 47.8
comp=Z,71nm,1.4s
ISA IAMs_20 IAMs_20 22 53 01.4
comp=Z,2µm,20.0s
ISA Isabella, Lake 88.50 54 P **P** **22 16 45.6 +1.8**
ISA pmax pmax
comp=Z,71nm,1.5s
ISA MLR MLR
comp=Z,2µm,20.0s
MFID Camas Ranch 88.51 46 P **P** **22 16 44.4 +0.7**
MFID IAMs_20 IAMs_20 22 52 42.1
comp=Z,2µm,20.0s
MSO Missoula 88.84 42 IAMs_20 IAMs_20 22 50 29.8
comp=Z,2µm,21.0s
PASC Pasadena Art C 89.09 55 IAMs_20 IAMs_20 22 51 22.2
comp=Z,2µm,20.0s
KTK1 Kautokeino 89.12 342 *eP* **P** **22 16 46.5 +0.5**
KTK1 IAmb IAmb 22 16 48.2
comp=Z,19nm,1.0s
KTK1 *eSKSac* **SKSac** **22 27 11.6 -2.3**
KTK1 IAMs_20 IAMs_20 22 50 45.4
comp=Z,699nm,28.1s
TULEG Thule 89.12 7 P **P** **22 16 46.3 +0.5**
TULEG IAmb IAmb 22 16 49.9
comp=Z,90nm,1.2s
TULEG Thule 89.12 7 *i* P **P** **22 16 45.0 -0.8**
TULEG IAmb IAmb 22 16 48.8
comp=Z,107nm,1.3s
MOS Moscow 89.16 327 *eP* **P** **22 16 43.1 -3.2**
MOS *e* 22 20 15.6
MOS *eS* **SKSac** **22 27 10.8 -3.8**
MOS *e* 22 27 23.7
MOS *eSS* **SS** **22 33 33.9 +6.8**
MOS pmax pmax
comp=Z,83nm,1.5s
MOS pmax pmax
comp=Z,200nm,2.0s
MOS smax smax
comp=N,800nm,7.4s
MOS smax smax
comp=E,1µm,5.7s
MOS MLR MLR
comp=E,1µm,17.0s
MOS MLR MLR
comp=Z,2µm,17.0s
MWC Mount Wilson 89.18 55 IAMs_20 IAMs_20 22 51 26.5
comp=Z,2µm,20.0s
WSHM Spangler Hills 89.29 54 IAMs_20 IAMs_20 22 53 11.3
comp=Z,2µm,20.0s
GOF Gofitskoye 89.31 316 *c i* P **P** **22 16 46.3 -1.0**
GOF *eS* **SKSac** **22 27 15.7 -0.3**
NCK Nalchik 89.37 314 *i* P **P** **22 16 46.9 -0.8**
NCK pmax pmax
comp=Z,64nm,1.4s
HLID Hailey 89.45 46 P **P** **22 16 49.3 +1.0**
HLID IAMs_20 IAMs_20 22 50 28.2
comp=Z,2µm,20.0s
GNI Garni 89.47 311 P **P** **22 16 48.7 +0.3**
GNI IAmb IAmb 22 17 00.9
comp=Z,186nm,1.8s
GNI Garni 89.47 311 LR LR 23 01 28.3
comp=Z,456nm,18.5s,baz=66,slow=39
GNI Garni 89.47 311 *ce* P **P** **22 16 49.4 +1.0**
GNI pmax pmax
comp=Z,103nm,1.7s
GNI Garni 89.47 311 P **P** **22 16 48.6 +0.3**
comp=Z,865nmcomp=Z,53nm,1.8s
LPSR Galich'ya Gora 89.53 324 *eP* **P** **22 16 47.0 -1.1**
LPSR pmax pmax
comp=Z,130nm,2.1s
JETT Jettan, Norway 89.63 343 *eP* **P** **22 16 48.0 -0.3**
JETT IAmb IAmb 22 16 50.3
comp=Z,340nm,2.6s
JETT *eSKSac* **SKSac** **22 27 15.9 -1.1**
ELK Elko 89.65 48 LR LR 22 51 04.4
comp=Z,3µm,20.6s,baz=288,slow=32
VORR Voronezh 89.68 323 *eP* **P** **22 16 48.3 -0.6**
VORR pmax pmax
comp=Z,44nm,0.7s
KBZ Khabaz 89.79 315 P **P** **22 16 49.3 -0.2**
comp=Z,20nm,1.0s,baz=76,slow=4.2,SNR=12
KBZ S **SKSac** **22 27 16.8 -2.0**
comp=Z,0.8nm,0.7s,baz=35,slow=1.5,SNR=1.1
KBZ LR LR 23 02 25.5
comp=Z,1µm,19.6s,baz=69,slow=39
comp=Z,20nm,1.0s
KBZ Khabaz 89.79 315 *i* P **P** **22 16 47.8 -1.7**
KBZ pmax pmax
comp=Z,47nm,1.3s
ELS Elsinore Mount 89.83 56 IAMs_20 IAMs_20 22 50 42.8
comp=Z,2µm,20.0s
VSR Storozhevoye 89.86 323 *eP* **P** **22 16 48.1 -1.6**
VSR pmax pmax
comp=Z,90nm,1.8s
VORD Divnogorie 89.86 322 *eP* **P** **22 16 47.6 -2.2**
VORD pmax pmax
comp=Z,40nm,1.4s
KIV Kislovodsk 89.87 315 P **P** **22 16 49.6 -0.5**
KIV IAmb IAmb 22 16 52.2
comp=Z,63nm,1.3s
KIV IAMs_20 IAMs_20 23 04 59.2
comp=Z,2µm,20.0s
KIV Kislovodsk 89.87 315 P **P** **22 16 50.1 +0.1**
KIV Kislovodsk 89.87 315 *eP* **P** **22 16 48.9 -1.1**
KIV *e* 22 20 20.1
KIV *e* 22 27 19.3
KIV pmax pmax
comp=Z,26nm,1.1s
KIV pmax pmax
comp=Z,33nm,4.5s
KIV MLR MLR
comp=Z,2µm,20.0s
KIV Kislovodsk 89.87 315 *i* P **P** **22 16 49.2 -0.9**
SNR=12
KIV Kislovodsk 89.87 315 P **P** **22 16 49.0 -1.1**
comp=Z,472nmcomp=Z,30nm,1.2s
KBD Kabd 89.91 300 P **P** **22 16 52.1 +1.6**
NEEM North Greenlan 89.92 3 *i* P **P** **22 16 48.8 -1.1**
NEEM IAmb IAmb 22 16 52.6
comp=Z,132nm,1.4s
OBN Obninsk 89.95 327 P **P** **22 16 49.1 -0.9**
OBN IAmb IAmb 22 17 35.9
comp=Z,195nm,1.6s
OBN Obninsk 89.95 327 LR LR 22 59 45.1
comp=Z,2µm,18.1s,baz=12,slow=37
OBN Obninsk 89.95 327 *c i* P **P** **22 16 48.6 -1.4**
OBN *i* *PP **PcP** **22 16 53.1 +1.8**
OBN *i* 22 17 00.7
OBN *e* 22 20 28.1
OBN *ePPP* PPP 22 22 23.8
OBN *i* S **SKSac** **22 27 18.0 -1.2**
OBN *i* 22 27 39.2
OBN *ePS* **PnS** **22 28 47.8 -1.8**
OBN SS **SS** **22 33 46.0 +7.5**
OBN SSS SSS 22 37 12.0
OBN pmax pmax
comp=Z,114nm,1.7s
OBN MLR MLR
comp=Z,2µm,17.0s
OBN Obninsk 89.95 327 P **P** **22 16 48.6 -1.4**
comp=Z,896nmcomp=Z,52nm,1.2s
TRO Tromso 90.00 343 *eP* **P** **22 16 49.3 -0.7**
TRO IAmb IAmb 22 16 52.3
comp=Z,53nm,1.4s
TRO *eSKSac* **SKSac** **22 27 16.8 -2.2**
TRO IAMs_20 IAMs_20 22 50 58.5
comp=Z,651nm,31.2s
VNDA Vanda 90.26 176 P **P** **22 16 52.1 +1.2**
VNDA Vanda 90.26 176 P **P** **22 16 52.2 +1.3**
comp=Z,4.5nm,1.1s,baz=328,slow=5.7,SNR=15
VNDA LR LR 22 56 38.2
comp=Z,641nm,19.1s,baz=352,slow=35
comp=Z,4.5nm,1.1s
VNDA Vanda 90.26 176 P **P** **22 16 52.1 +1.2**
VNDA pmax pmax
comp=Z,35nm,1.6s
CPE Camp Elliot 90.28 56 IAMs_20 IAMs_20 22 48 50.3
comp=Z,2µm,20.0s
DAG Danmarks Havn 90.49 356 *i* P **P** **22 16 51.0 -1.2**
DAG IAmb IAmb 22 16 53.3
comp=Z,105nm,1.7s
KARS Kars 90.55 312 P **P** **22 16 53.6 +0.2**
KARS IAmb IAmb 22 16 58.4
comp=Z,98nm,1.2s
KARS Kars 90.55 312 P **P** **22 16 53.6 +0.2**
KARS pmax pmax
comp=Z,98nm,1.2s
PFO Pinyon Flats O 90.62 56 P **P** **22 16 54.6 +0.7**
PFO IAmb IAmb 22 16 59.5
comp=Z,167nm,1.9s
PFO Pinyon Flats O 90.62 56 IAMs_20 IAMs_20 22 56 10.8
comp=Z,2µm,19.0s
PFO Pinyon Flats O 90.62 56 LR LR 22 51 58.7
comp=Z,2µm,20.0s,baz=262,slow=32
PFO Pinyon Flats O 90.62 56 *i* P **P** **22 16 53.9 0.0**
PFO pmax pmax
comp=Z,137nm,2.0s
PMD Palm Desert 90.68 55 IAMs_20 IAMs_20 22 56 22.2
comp=Z,2µm,19.0s
POIN Pond Inlet 90.74 12 P **P** **22 16 53.8 +0.5**
POIN IAmb IAmb 22 16 57.5
comp=Z,120nm,1.4s
BOZ Bozeman (W) 90.74 43 P **P** **22 16 55.0 +0.8**
BOZ IAmb IAmb 22 16 58.7
comp=Z,131nm,1.4s
BOZ IAMs_20 IAMs_20 22 53 58.1
comp=Z,2µm,20.0s
BOZ Bozeman (W) 90.74 43 P **P** **22 16 55.0 +0.8**
BOZ pmax pmax
comp=Z,131nm,1.4s
BOZ MLR MLR
comp=Z,2µm,20.0s
TKX Tecate 90.77 57 IAMs_20 IAMs_20 23 01 38.8
comp=Z,2µm,22.0s
ERBR Yeremizino-Bor 90.83 317 *eP* **P** **22 16 53.1 -1.3**
ERBR *e* 22 27 23.5
ERBR pmax pmax
comp=Z,172nm,1.0s
ERBR MLR MLR
comp=Z,3µm,17.0s
SBA Scott Base 90.92 175 P **P** **22 16 55.3 +1.3**
SBA IAmb IAmb 22 17 09.9
comp=Z,128nm,1.9s
SBA Scott Base 90.92 175 P **P** **22 16 55.3 +1.3**
SBA pmax pmax
comp=Z,128nm,1.9s
LABN Labinsk 91.00 316 *eP* **P** **22 16 54.4 -0.8**
LABN *e* 22 27 26.9
LABN pmax pmax
comp=Z,27nm,1.2s
LABN MLR MLR
comp=Z,2µm,17.0s
BLKN Baker Lake 91.05 22 P **P** **22 16 55.1 +0.1**
BLKN IAMs_20 IAMs_20 22 57 09.0
comp=Z,2µm,20.0s
SALN Salton City 91.09 56 IAMs_20 IAMs_20 22 56 33.1
comp=Z,2µm,18.0s
HVU Hansel Valley 91.13 47 P **P** **22 16 57.0 +0.9**
HVU IAMs_20 IAMs_20 22 52 01.7
comp=Z,2µm,20.0s
HVU Hansel Valley 91.13 47 P **P** **22 16 57.0 +0.9**
HVU pmax pmax
comp=Z,323nm,1.8s
HVU MLR MLR
comp=Z,2µm,20.0s
EGMT Eagleton 91.17 40 P **P** **22 16 56.9 +0.8**
EGMT IAmb IAmb 22 17 00.0
comp=Z,152nm,1.6s
BGU Big Grassy Mou 91.20 48 IAMs_20 IAMs_20 22 52 23.7
comp=Z,2µm,20.0s
GEVA Gevas 91.23 310 P **P** **22 16 55.9 -0.8**
GEVA IAmb IAmb 22 17 00.2
comp=Z,129nm,1.8s
YHL Hebgen Lake 91.28 44 P **P** **22 16 57.9 +1.0**
YHL IAMs_20 IAMs_20 22 52 49.4
comp=Z,2µm,19.0s
PSUT Pine Spring 91.30 50 IAMs_20 IAMs_20 22 52 22.3
comp=Z,2µm,21.0s
YHB Horse Butte 91.30 44 IAMs_20 IAMs_20 22 53 41.0
comp=Z,2µm,19.0s
YUH Yuha Desert 91.31 56 IAMs_20 IAMs_20 22 49 20.0
comp=Z,2µm,20.0s
DUG Dugway, Tooele 91.58 48 IAMs_20 IAMs_20 22 51 53.9
comp=Z,3µm,21.0s
YNR Norris Junctio 91.66 44 IAMs_20 IAMs_20 22 54 03.5
comp=Z,2µm,19.0s
FXWY Fox Creek 91.78 45 IAMs_20 IAMs_20 22 54 31.6
comp=Z,2µm,19.0s
VSLR Vesyoloye 91.85 315 *i* P **P** **22 16 58.2 -1.0**
VSLR pmax pmax
comp=Z,127nm,1.1s
CPBX Cerro Prieto 91.87 56 IAMs_20 IAMs_20 22 58 53.9
comp=Z,2µm,20.0s
TPAW Teton Pass 91.88 45 IAMs_20 IAMs_20 22 54 34.1
comp=Z,1µm,19.0s
GURO Guroymak-BITLI 91.93 310 P **P** **22 16 59.8 0.0**
GURO IAmb IAmb 22 17 02.8
comp=Z,77nm,1.3s
AHID Auburn Hatcher 92.01 46 P **P** **22 17 01.1 +0.9**
AHID IAMs_20 IAMs_20 22 52 23.7
comp=Z,2µm,20.0s
SNOW Snow King Moun 92.02 45 IAMs_20 IAMs_20 22 54 29.1
comp=Z,1µm,20.0s
SOC Sochi 92.03 315 *eP* P 22 16 52.1 -7.9
SOC *e* 22 20 37.4
SOC *ePPP* PPP 22 22 36.5
SOC *eS* S 22 27 23.5 -37
SOC *eSS* **SS** **22 34 06.7 -2.6**
SOC *eSSS* SSS 22 37 40.3
HWUT Hardware Ranch 92.05 47 P **P** **22 17 01.6 +1.2**
HWUT IAMs_20 IAMs_20 22 53 20.9
comp=Z,2µm,20.0s
LOHW Long Hollow 92.08 45 IAMs_20 IAMs_20 22 52 25.5
comp=Z,2µm,20.0s
GLA Glamis 92.09 56 IAMs_20 IAMs_20 22 57 37.5
comp=Z,1µm,19.0s
STEI Steigen 92.12 343 *eP* **P** **22 16 59.0 -0.8**
STEI IAmb IAmb 22 17 01.9
comp=Z,235nm,1.9s
STEI *eSKSac* **SKSac** **22 27 30.9 -0.3**
FIA1 FINESS Array S 92.13 335 P **P** **22 16 59.2 -0.9**
FIA1 IAmb IAmb 22 17 59.1
comp=Z,73nm,1.1s
FINES FINESS Array B 92.14 335 P **P** **22 16 59.0 -1.0**
FINES FINESS Array B 92.14 335 P **P** **22 16 59.2 -0.9**
comp=Z,6.7nm,0.5s,baz=73,slow=4.2,SNR=68
FINES S **SKSac** **22 27 26.1 -5.4**
comp=Z,1.4nm,0.9s,baz=134,slow=8.0,SNR=1.2
FINES LR LR 23 01 23.3
comp=Z,970nm,18.9s,baz=63,slow=38
comp=Z,6.7nm,0.5s
BLYC Blythe 92.14 55 P **P** **22 17 02.1 +1.4**
BLYC IAmb IAmb 22 17 05.5
comp=Z,69nm,1.4s
BLYC IAMs_20 IAMs_20 22 53 48.8
comp=Z,2µm,19.0s
KULLO Kullorsuaq 92.18 6 *i* P **P** **22 16 58.4 -1.7**
KULLO IAmb IAmb 22 17 03.2
comp=Z,117nm,1.4s
CTU Camp Tracy 92.20 48 IAMs_20 IAMs_20 22 52 36.0
comp=Z,2µm,20.0s
W13A Hualapai Mount 92.26 54 P **P** **22 17 02.7 +1.1**
W13A IAmb IAmb 22 17 06.4
comp=Z,140nm,1.6s
ILON Igloolik, Nuna 92.31 15 P **P** **22 17 01.1 +0.4**
LOF Lofoten 92.47 344 *eP* **P** **22 17 00.8 -0.6**
LOF IAmb IAmb 22 17 01.8
comp=Z,42nm,1.4s
LOF *eSKSac* **SKSac** **22 27 31.8 -1.3**
FAUS Fauske 92.47 343 *eP* **P** **22 17 00.7 -0.8**
FAUS IAmb IAmb 22 17 03.3
comp=Z,177nm,2.1s
FAUS *eSKSac* **SKSac** **22 27 32.0 -1.2**
RLMT Red Lodge 92.47 43 P **P** **22 17 03.8 +1.5**
KOPT Kop Dagi 92.62 312 P **P** **22 17 03.2 0.0**
KOPT IAmb IAmb 22 17 06.3
comp=Z,69nm,1.2s
BSUT Blindstream Ca 92.96 48 IAMs_20 IAMs_20 22 52 50.2
comp=Z,2µm,21.0s
DBG Daneborg 92.99 356 *i* P **P** **22 17 00.5 -3.3**
DBG IAmb IAmb 22 17 06.0
comp=Z,70nm,1.7s
FFC Flin Flon 93.04 32 P **P** **22 17 04.8 +0.4**
FFC Flin Flon 93.04 32 IAMs_20 IAMs_20 22 52 59.1
comp=Z,2µm,22.0s
FFC Flin Flon 93.04 32 P **P** **22 17 04.8 +0.4**
FFC pmax pmax
comp=Z,216nm,1.9s
FFC MLR MLR
comp=Z,2µm,22.0s
BW06 Boulder Array 93.08 45 IAMs_20 IAMs_20 22 52 51.0
comp=Z,2µm,20.0s
PD31 Pinedale Array 93.08 45 P **P** **22 17 06.2 +1.0**
PD31 IAmb IAmb 22 17 09.0
comp=Z,73nm,1.9s
PDAR Pinedale Array 93.08 45 P **P** **22 17 05.6 +0.4**
PDAR Pinedale Array 93.08 45 P **P** **22 17 06.5 +1.3**
comp=Z,3.2nm,0.8s,baz=277,slow=2.5,SNR=25

PDAR PP **PP** **22 20 46.7 -1.4**
comp=Z,0.7nm,0.8s,baz=292,slow=9.3,SNR=3.9
PDAR S **SKSac** **22 27 37.4 -0.7**
comp=Z,0.1nm,0.3s,baz=330,slow=4.1,SNR=1.7
PDAR LR LR 22 53 01.3
comp=Z,998nm,21.2s,baz=285,slow=32
comp=Z,3.2nm,0.8s
ANN Anapa 93.16 317 *e*P **P** **22 17 03.3 -1.9**
ANN *e* 22 27 37.5
ANN pmax pmax
comp=Z,86nm,1.0s
Q16A Castle Valley 93.18 49 IAMs_20 IAMs_20 22 52 55.1
comp=Z,2µm,20.0s
RAYN Ar Rayn 93.22 295 P **P** **22 17 05.5 -0.4**
RAYN Ar Rayn 93.22 295 P **P** **22 17 06.4 +0.4**
RAYN Ar Rayn 93.22 295 P **P** **22 17 05.6 -0.4**
RAYN pmax pmax
comp=Z,40nm,1.4s
RAYN MLR MLR
comp=Z,900nm,21.0s
RAYN Ar Rayn 93.22 295 *i* P **P** **22 17 06.4 +0.4**
SNR=13
Y14A Wickenburg 93.29 54 IAMs_20 IAMs_20 22 54 26.4
comp=Z,2µm,20.0s
VSU Vasula 93.36 332 *ce*P **P** **22 17 05.2 -0.6**
VSU pmax pmax
comp=Z,55nm,1.7s
VAGH Vaagaholmen 93.50 343 *e*P **P** **22 17 06.6 +0.4**
VAGH IAmb IAmb 22 17 08.0
comp=Z,104nm,2.0s
VAGH *e*SKSac **SKSac** **22 27 38.1 -0.7**
VAGH IAMs_20 IAMs_20 22 50 12.4
comp=Z,361nm,22.2s
MOR8 Moi Rana 93.52 342 *e*P **P** **22 17 05.2 -1.2**
MOR8 IAmb IAmb 22 17 06.9
comp=Z,146nm,2.2s
MOR8 *e*SKSac **SKSac** **22 27 36.5 -2.6**
HMU Henry Mountain 93.81 50 IAMs_20 IAMs_20 22 53 45.9
comp=Z,2µm,20.0s
STOK Stokkvaagen 93.84 342 *e*P **P** **22 17 07.3 -0.5**
STOK IAmb IAmb 22 17 09.3
comp=Z,91nm,2.0s
STOK *e*SKSac **SKSac** **22 27 40.1 -0.6**
LAO LASA Array 93.89 41 P **P** **22 17 10.2 +1.6**
LEIR Leirfjorden 93.96 342 *e*P **P** **22 17 08.3 -0.1**
LEIR *e*SKSac **SKSac** **22 27 40.5 -0.9**
UPNV Upernavik 93.98 6 *i* P **P** **22 17 06.4 -2.0**
UPNV IAmb IAmb 22 17 10.4
comp=Z,83nm,1.8s
214A Organ Pipe Nat 94.03 56 IAMs_20 IAMs_20 22 57 42.1
comp=Z,2µm,19.0s
WUAZ Wupatki 94.10 52 P **P** **22 17 11.6 +1.7**
WUAZ IAmb IAmb 22 17 14.9
comp=Z,126nm,1.4s
WUAZ IAMs_20 IAMs_20 22 55 00.5
comp=Z,2µm,20.0s
X16A Lo Mia Camp, P 94.39 54 IAMs_20 IAMs_20 22 56 06.2
comp=Z,2µm,20.0s
ARPR Arapgir-MALATY 94.50 311 P **P** **22 17 10.5 -1.3**
ARPR IAmb IAmb 22 17 14.6
comp=Z,43nm,1.2s
MNK Minsk 94.75 328 *i* P **P** **22 17 11.0 -1.3**
comp=E,13nm,1.1s
MNK *i* P **P** **22 17 11.0 -1.3**
comp=N,11nm,0.6s
MNK *i* P **P** **22 17 11.0 -1.3**
comp=Z,22nm,0.9s,baz=61
MNK *i* PPP PPP 22 23 01.0
MNK *i* SSS SSS 22 38 32.6
MNK *i* LQ LQ 22 52 54.2
MNK *i* LR LR 23 00 38.6
MNK *i* LRM MLR 23 01 55.2
comp=N,1µm,17.3s
MNK *i* LRM MLR 23 01 55.2
comp=Z,2µm,18.4s
MNK *i* LRM MLR 23 02 06.9
comp=E,984nm,17.7s
MNK Minsk 94.75 328 *i* P **P** **22 17 10.9 -1.3**
MNK *i* 22 20 59.4
MNK *i* PPP PPP 22 23 00.9
MNK *i* S **SKSac** **22 27 46.1 -0.1**
MNK *i* PS **PS** **22 29 38.2 -4.9**
MNK *i* SS **SS** **22 34 50.3 +2.8**
MNK *i* SSS SSS 22 38 32.6
MNK pmax pmax
comp=E,13nm,1.1s
MNK pmax pmax
comp=Z,22nm,0.9s
MNK pmax pmax
comp=N,11nm,0.6s
MNK MLR MLR
comp=N,1µm,17.0s
MNK MLR MLR
comp=Z,2µm,18.0s
MNK MLR MLR
comp=E,984nm,18.0s
JNW Jan Mayen West 94.81 351 *e*P **P** **22 17 13.8 +1.6**
JNW *e*SKSac **SKSac** **22 27 49.2 +3.4**
O20A White River Ci 94.91 47 IAMs_20 IAMs_20 22 54 55.8
comp=Z,2µm,20.0s
NACGM Naroch 95.11 329 *e*P **P** **22 17 13.6 -0.3**
comp=Z,7.0nm,1.0s,baz=60
K22A Casper 95.21 44 IAMs_20 IAMs_20 22 54 50.4
comp=Z,2µm,20.0s
SUMG Summit 95.24 1 P **P** **22 17 15.0 +0.3**
SUMG IAmb IAmb 22 17 19.2
comp=Z,87nm,2.0s
SUMG Summit 95.24 1 P **P** **22 17 15.0 +0.3**
SUMG pmax pmax
comp=Z,87nm,2.0s
SUMG MLR MLR
comp=Z,1µm,20.0s
SUMG Summit 95.24 1 *i* P **P** **22 17 14.0 -0.7**
SUMG IAmb IAmb 22 17 17.1
comp=Z,285nm,2.9s
SIM Simferopol' 95.29 318 *e*P **P** **22 17 15.0 0.0**
SIM *e* 22 27 51.0
SIM S **S** **22 28 28.0 -1.4**
SIM pmax pmax
comp=Z,25nm,0.9s
TOKA Tokat 95.42 313 P **P** **22 17 15.1 -0.7**
W18A Petrified Fore 95.49 52 IAMs_20 IAMs_20 22 55 33.5
comp=Z,2µm,20.0s
X18A Snowflake 95.52 53 IAMs_20 IAMs_20 22 57 24.2
comp=Z,2µm,20.0s
TUC Tucson 95.56 55 P **P** **22 17 18.4 +1.8**
TUC IAmb IAmb 22 17 21.6
comp=Z,68nm,1.8s
TUC Tucson 95.56 55 IAMs_20 IAMs_20 22 51 54.5
comp=Z,2µm,21.0s
TUC Tucson 95.56 55 P **P** **22 17 18.4 +1.8**
TUC pmax pmax
comp=Z,68nm,1.8s
TUC MLR MLR
comp=Z,2µm,21.0s
MVCO Mesa Verde 95.74 50 P **P** **22 17 18.5 +1.0**
MVCO IAmb IAmb 22 17 21.8
comp=Z,73nm,1.5s
MVCO IAMs_20 IAMs_20 22 58 01.0
comp=Z,2µm,19.0s
AKASG Malin Array Be 95.83 325 P **P** **22 17 16.1 -1.2**
comp=Z,1.2nm,0.6s,baz=52,slow=4.5,SNR=12
AKASG S **SKSac** **22 27 50.5 -1.6**
comp=Z,0.2nm,0.3s,baz=69,slow=1.1,SNR=1.6
AKASG LR LR 23 01 36.6
comp=Z,2µm,21.2s,baz=60,slow=36
comp=Z,1.2nm,0.6s
AKASG Malin Array Be 95.83 325 *i* P **P** **22 17 16.1 -1.2**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 95.83 325 P **P** **22 17 15.8 -1.4**
AKBB Malin Array Si 95.83 325 *i* P **P** **22 17 15.6 -1.7**
AKBB pmax pmax
comp=Z,27nm,1.8s
AKBB Malin Array Si 95.83 325 P **P** **22 17 16.2 -1.1**
AK09 Malin Array Si 95.83 325 P **P** **22 17 16.3 -1.0**
KIEV Kiev 95.84 325 P **P** **22 17 16.0 -1.3**
KIEV Kiev 95.84 325 P **P** **22 17 16.0 -1.3**
KIEV pmax pmax
comp=Z,34nm,1.6s
KIEV MLR MLR
comp=Z,3µm,19.0s
KIEV Kiev 95.84 325 *i* P **P** **22 17 15.6 -1.8**
SNR=8.9
KIEV Kiev 95.84 325 P **P** **22 17 16.3 -1.0**
comp=Z,1µmcomp=Z,50nm,2.4s

AK11 Malin Array Si 95.87 325 P **P** **22 17 16.5 -1.0**
AK05 Malin Array Si 95.87 325 P **P** **22 17 16.5 -1.0**
GAZ Gaziantep 95.99 310 P **P** **22 17 17.3 -1.1**
GAZ IAmb IAmb 22 17 24.7
comp=Z,40nm,1.4s
PABE Paberze 96.19 330 IAMs_20 IAMs_20 23 03 40.3
comp=Z,2µm,18.0s
RSSD Black Hills 96.31 42 P **P** **22 17 20.3 +0.3**
RSSD IAmb IAmb 22 17 24.4
comp=Z,84nm,1.6s
RSSD Black Hills 96.31 42 P **P** **22 17 20.3 +0.3**
RSSD pmax pmax
comp=Z,84nm,1.6s
RSSD MLR MLR
comp=Z,1µm,19.0s
BNN Bunyan 96.40 312 P **P** **22 17 19.1 -1.3**
ISCO Idaho Springs 96.92 47 P **P** **22 17 22.9 +0.1**
ISCO IAMs_20 IAMs_20 22 55 33.7
comp=Z,2µm,20.0s
ISCO Idaho Springs 96.92 47 P **P** **22 17 23.0 +0.1**
ISCO pmax pmax
comp=Z,35nm,1.9s
ISCO MLR MLR
comp=Z,2µm,20.0s
319A Douglas 97.07 56 IAMs_20 IAMs_20 23 00 16.6
comp=Z,2µm,19.0s
ILGA Ilgaz 97.09 315 P **P** **22 17 22.1 -1.5**
RNPP9 Sopachiv 97.33 326 P **P** **22 17 23.0 -1.1**
E28A Huff 97.40 39 IAMs_20 IAMs_20 23 00 16.0
comp=Z,1µm,20.0s
BR131 Keskin Array S 97.66 313 P **P** **22 17 24.5 -1.5**
BR131 Keskin Array S 97.66 313 P **P** **22 17 24.5 -1.5**
BR131 pmax pmax
comp=Z,15nm,1.1s
BRTR Keskin Array B 97.66 313 P **P** **22 17 24.5 -1.6**
BRTR Keskin Array B 97.66 313 P **P** **22 17 24.9 -1.2**
comp=Z,9.3nm,1.0s,baz=72,slow=4.0,SNR=27
BRTR PP **PP** **22 21 18.8 -4.8**
comp=Z,3.6nm,1.1s,baz=84,slow=3.8,SNR=3.7
BRTR S **SKSac** **22 28 00.5 -1.9**
comp=Z,0.2nm,0.5s,baz=25,slow=7.9,SNR=1.4
comp=Z,9.3nm,1.0s
BR104 Keskin Array S 97.67 313 P **P** **22 17 25.3 -0.8**
comp=Z,91nmcomp=Z,9.9nm,1.1s
BR106 Keskin Array S 97.67 313 P **P** **22 17 25.4 -0.7**
comp=Z,82nmcomp=Z,9.5nm,1.2s
BR105 Keskin Array S 97.68 313 P **P** **22 17 25.4 -0.7**
comp=Z,92nmcomp=Z,10nm,1.2s
SDCO Great Sand Dun 97.77 49 P Pdif 22 17 27.3 +0.4
SDCO IAmb IAmb 22 17 30.8
comp=Z,36nm,1.9s
SDCO IAMs_20 IAMs_20 22 56 09.5
comp=Z,2µm,20.0s
HFS Hagfors 97.80 338 P **P** **22 17 25.6 -0.5**
comp=Z,1.6nm,0.6s,baz=84,slow=4.6,SNR=17
HFS S **SKSac** **22 27 58.2 -3.7**
comp=Z,1.0nm,0.7s,baz=130,slow=13,SNR=1.8
HFS LR LR 23 02 54.8
comp=Z,940nm,21.9s,baz=41,slow=36
comp=Z,1.6nm,0.6s
NDNU Novodnistrovsk 97.88 323 P **P** **22 17 25.6 -1.0**
ASF Jabal al Asfar 97.95 305 LR LR 23 07 52.4
comp=Z,494nm,19.3s,baz=79,slow=39
Y22D IRIS PASSCAL I 98.03 53 IAMs_20 IAMs_20 22 58 37.7
comp=Z,2µm,20.0s
Y22D IRIS PASSCAL I 98.03 53 P **P** **22 17 26.5 -1.3**
baz=291
ANMO Albuquerque 98.08 52 P Pdif 22 17 28.9 +0.8
ANMO IAmb IAmb 22 17 32.6
comp=Z,42nm,1.8s
ANMO Albuquerque 98.08 52 IAMs_20 IAMs_20 22 57 02.9
comp=Z,2µm,20.0s
ANMO Albuquerque 98.08 52 LR LR 22 57 52.8
comp=Z,2µm,19.4s,baz=34,slow=33
ANMO Albuquerque 98.08 52 *ce*P Pdif 22 17 30.6 +2.4
ANMO pmax pmax
comp=Z,25nm,1.8s
NB2 NORSAR Subarra 98.08 339 P **P** **22 17 26.7 -0.6**
comp=Z,36nm,2.0s,baz=43,slow=5.3
NB2 NORSAR Subarra 98.08 339 P **P** **22 17 26.7 -0.6**
baz=43,slow=5.3
NOA NORSAR Array B 98.08 339 P **P** **22 17 26.2 -1.1**
comp=Z,0.6nm,0.6s,baz=47,slow=4.6,SNR=5.2
NOA PP **PP** **22 21 24.4 -1.4**
comp=Z,0.5nm,0.7s,baz=25,slow=4.0,SNR=3.6
NOA S **SKSac** **22 28 01.3 -2.2**
comp=Z,0.4nm,0.9s,baz=46,slow=7.9,SNR=1.0
NOA LR LR 23 03 25.3
comp=Z,967nm,21.8s,baz=50,slow=36
comp=Z,0.6nm,0.6s
MAW Mawson 98.16 203 P Pdif 22 17 28.1 +0.8
comp=Z,3.7nm,1.0s,baz=52,slow=9.5,SNR=4.5
MAW PP **PP** **22 21 25.6 -1.2**
comp=Z,6.9nm,1.1s,baz=81,slow=8.0,SNR=5.7
MAW LR LR 22 59 17.9
comp=Z,2µm,19.6s,baz=77,slow=34
comp=Z,3.7nm,1.0s
MOL Molde 98.19 341 *e*P Pdif 22 17 28.8 +1.1
MOL *e*SKSac **SKSac** **22 28 05.0 +1.2**
ANTO Ankara 98.20 314 P **P** **22 17 26.1 -2.3**
ANTO IAmb IAmb 22 17 30.3
comp=Z,21nm,1.1s
ANTO Ankara 98.20 314 P **P** **22 17 26.1 -2.3**
ANTO pmax pmax
comp=Z,21nm,1.1s
ANTO MLR MLR
comp=Z,1µm,21.0s
ANTO Ankara 98.20 314 P Pdif 22 17 29.2 +0.8
LPIG La Paz 98.48 63 LR LR 22 54 55.9
comp=Z,2µm,19.9s,baz=290,slow=31
ATD Arta Tunnel 98.71 284 LR LR 23 03 04.6
comp=Z,9.3nm,18.5s,baz=56,slow=36
T25A Trinidad 98.80 49 P Pdif 22 17 31.6 +0.3
T25A IAmb IAmb 22 17 35.4
comp=Z,28nm,1.6s
T25A IAMs_20 IAMs_20 22 56 32.9
comp=Z,2µm,20.0s
MMAI Mount Meron Ar 98.83 307 P **P** **22 17 30.5 -0.9**
comp=Z,8.8nm,0.9s,baz=68,slow=4.9,SNR=13
MMAI LR LR 23 06 07.2
comp=Z,707nm,20.8s,baz=44,slow=38
comp=Z,8.8nm,0.9s
SLBS Sierra La Lagu 98.92 63 IAMs_20 IAMs_20 22 58 52.1
comp=Z,2µm,20.0s
OGNE Ogallala 98.97 45 IAMs_20 IAMs_20 22 56 50.9
comp=Z,1µm,20.0s
BALJ Balqa 98.98 306 P **P** **22 17 31.4 -0.5**
BALJ IAmb IAmb 22 17 34.4
comp=Z,32nm,0.9s
MDUB Mudurnu 99.07 315 P **Pdif** **22 17 30.9 -1.4**
MDUB IAmb IAmb 22 17 34.6
comp=Z,37nm,1.2s
TIRR Tirgusor 99.18 319 P **Pdif** **22 17 31.7 -0.8**
TIRR IAMs_20 IAMs_20 23 05 49.4
comp=Z,2µm,19.0s
TIRR Tirgusor 99.18 319 P **Pdif** **22 17 31.7 -0.8**
TIRR pmax pmax
comp=Z,14nm,1.3s
TIRR MLR MLR
comp=Z,2µm,19.0s
GHAJ Ghor Haditha 99.31 305 P **Pdif** **22 17 33.1 -0.3**
GHAJ IAmb IAmb 22 17 35.8
comp=Z,22nm,0.9s
KSCO Kaye Shedlock' 99.35 47 IAMs_20 IAMs_20 22 56 44.2
comp=Z,2µm,20.0s
AGMN Agassiz Nation 99.46 36 P **Pdif** **22 17 33.8 0.0**
AGMN IAmb IAmb 22 17 36.8
comp=Z,31nm,1.4s
CSS Mathiatis 99.72 309 IAMs_20 IAMs_20 23 07 48.3
comp=Z,1µm,20.0s
KWP Kalwaria Pacla 99.99 326 *e*P **Pdif** **22 17 34.7 -1.4**
KWP *e*L L 23 10 12.5
comp=Z,3µm,18.1s
MNTX Cornudas Mount 100.09 54 IAMs_20 IAMs_20 22 57 46.3
comp=Z,1µm,21.0s
SFJD Kangerlussuaq 100.10 6 IAMs_20 IAMs_20 23 04 13.6
comp=Z,1µm,22.0s
KOLS Kolonicke sedl 100.61 325 *e*P **Pdif** **22 17 39.5 +0.7**
KOLS Kolonicke sedl 100.61 325 *e*PDIFF **Pdif** **22 17 39.5 +0.7**
KOLS *e*PP **PP** **22 21 38.8 -6.7**
STHS Stebnicka Huta 100.91 326 *e*P **Pdif** **22 17 40.2 0.0**
STHS Stebnicka Huta 100.91 326 *e*PDIFF **Pdif** **22 17 40.2 0.0**
STHS Stebnicka Huta 100.91 326 *e*PP PKiKP 22 21 38.5 -27
OJC Ojcow 101.22 327 *e*P **Pdif** **22 17 42.9 +1.3**
OJC *e*L L 23 07 42.4
comp=Z,3µm,17.8s
MSTX Muleshoe 101.27 51 IAMs_20 IAMs_20 23 00 28.3
comp=Z,2µm,20.0s
NIE Niedzica 101.42 327 *e*P **Pdif** **22 17 41.6 -0.9**
NIE *e*L L 23 06 14.5
comp=Z,1µm,19.5s
CBKS Cedar Bluff 101.48 46 IAMs_20 IAMs_20 22 58 11.4
comp=Z,2µm,21.0s
RGN Rugen 101.67 333 IAMs_20 IAMs_20 23 09 29.0
comp=Z,2µm,20.0s
AMTX Amarillo 101.73 50 IAMs_20 IAMs_20 23 04 45.5
comp=Z,2µm,19.0s
LANS Liptovska Anna 102.02 327 *e*P **Pdif** **22 17 44.6 -0.5**
LANS *e* 22 21 57.4
LANS Liptovska Anna 102.02 327 *e*PDIFF **Pdif** **22 17 44.6 -0.5**
LANS Liptovska Anna 102.02 327 *e*PP **PP** **22 21 57.4 +1.3**
EYMN Ely 102.12 35 IAMs_20 IAMs_20 23 02 22.5
comp=Z,2µm,20.0s
QSPA South Pole Qui 102.19 180 P **Pdif** **22 17 47.1 +1.6**
comp=Z,2.5nm,1.0s,baz=30,slow=2.6,SNR=4.6
QSPA PP **PP** **22 21 56.6 -0.9**
comp=Z,4.0nm,1.0s,baz=14,slow=3.7,SNR=3.0
ANGG Ammassalik, Gr 102.24 1 IAMs_20 IAMs_20 23 03 32.2
comp=Z,1µm,21.0s
OKC Ostrava-Krasne 102.31 328 *e*SKS **SKSac** **22 28 24.4 -0.1**
OKC AMS AMS 23 12 10.0
comp=Z,3µm,17.3s
TXAR Lajitas Array 102.33 56 P **Pdif** **22 17 46.6 -0.5**
comp=Z,0.7nm,0.9s,baz=283,slow=6.3,SNR=4.1
TXAR PP **PP** **22 21 56.6 -2.8**
comp=Z,7.0nm,1.3s,baz=298,slow=2.7,SNR=9.4
TXAR PKKPbc **PKKPbc** **22 33 48.6 -0.6**
comp=Z,0.7nm,0.9s,baz=96,slow=2.5,SNR=4.2
R32A Long Quarter, 102.37 46 IAMs_20 IAMs_20 22 58 59.1
comp=Z,2µm,20.0s
MORC Moravsky Berou 102.66 328 *e*PDIFF **Pdif** **22 17 49.1 +1.1**
MORC *e*SKS 22 28 27.5
VYHS Vyhne 102.74 326 *e*P **Pdif** **22 17 48.3 0.0**
VYHS *e* 22 22 03.5
VYHS Vyhne 102.74 326 *e*PDIFF **Pdif** **22 17 48.3 0.0**
VYHS Vyhne 102.74 326 *e*PP **PKiKP** **22 22 03.5 -5.5**
OSTC Ostas 102.87 329 *e*SKS **SKSac** **22 28 25.1 -2.1**
OSTC AMS AMS 23 13 10.0
comp=Z,2µm,19.3s
KRLC Kraliky 102.88 328 *e*SKS **SKSac** **22 28 27.3 0.0**
KRLC AMS AMS 23 12 10.0
comp=Z,2µm,15.2s
CHVC Chvalec 102.93 329 *e*SKS **SKSac** **22 28 28.1 +0.6**
CHVC AMS AMS 23 13 20.0
comp=Z,2µm,18.1s
DPC Dobruska-Polom 102.94 329 *e*SKS **SKSac** **22 28 25.4 -2.2**
DPC AMS AMS 23 13 10.0
comp=Z,2µm,17.4s
UPC Upice 103.00 329 AMS AMS 23 13 00.0
comp=Z,2µm,19.4s
I37A Lemond, Waseca 103.14 39 IAMs_20 IAMs_20 22 58 40.9
comp=Z,2µm,22.0s
JAVC Velka Javorina 103.15 327 *e*PDIFF **Pdif** **22 17 51.5 +1.3**
VRAC Vranov 103.44 328 *e*PDIFF **Pdif** **22 17 51.2 -0.2**
VRAC *e*SKS 22 28 31.6
MODS Modra-Piesok 103.64 327 *e*P **Pdif** **22 17 50.6 -1.8**
MODS Modra-Piesok 103.64 327 *e*PDIFF **Pdif** **22 17 50.6 -1.8**
MODS *e*PP PP 22 21 58.9 -9.4
KRUC Moravsky 103.69 328 *e*PDIFF **Pdif** **22 17 51.2 -1.3**
KRUC *e*SKS 22 28 33.3
PVCC Panska Ves 103.70 330 AMS AMS 23 12 50.0
comp=Z,2µm,16.1s
RICC Richard 103.92 330 AMS AMS 23 13 10.0
comp=Z,3µm,16.8s
WMOK Wichita Mounta 103.95 49 IAMs_20 IAMs_20 23 00 14.2
comp=Z,2µm,20.0s
CLL Collm 103.95 331 IAMs_20 IAMs_20 23 13 39.6
comp=Z,2µm,18.0s
CLL Collm 103.95 331 *e*P **Pdif** **22 17 53.0 -0.6**
CLL pmax pmax
comp=Z,11nm,1.5s
CLL Collm 103.95 331 *e*Pdif **Pdif** **22 17 53.0 -0.6**
comp=Z,11nm,1.5s
CLL *e*PP **PP** **22 22 08.0 -2.4**
CLL *e*SKSac **SKSac** **22 28 34.0 +1.9**
CLL *e*PS **PS** **22 31 22.0 -0.1**
CLL *e*PPS PPS 22 32 06.0
CLL *ex* x 22 33 00.0
CLL *e*SS **SS** **22 37 06.0 +10**
CLL *e*SSS SSS 22 40 54.0
GOPC GO Pecny, Ondr 103.98 329 AMS AMS 23 10 50.0
comp=Z,2µm,17.0s
TREC Trest 104.02 328 AMS AMS 23 09 00.0
comp=Z,2µm,17.7s
PRU Pruhonice 104.06 329 *e*SKS **SKSac** **22 28 26.9 -5.8**
PRU AMS AMS 23 08 40.0
comp=Z,2µm,18.4s
PRA Prague 104.06 329 *e*SKS **SKSac** **22 28 33.1 +0.5**
PRA AMS AMS 23 08 40.0
comp=Z,3µm,19.4s
ABTX Abilene, Hawle 104.21 52 IAMs_20 IAMs_20 23 01 40.3
comp=Z,1µm,19.0s
SCIA State Center 104.36 41 IAMs_20 IAMs_20 23 06 19.3
comp=Z,1µm,19.0s
OK029 Liberty Lake 104.45 48 IAMs_20 IAMs_20 23 02 20.3
comp=Z,2µm,20.0s
RONA Rosalia, Austr 104.58 327 *e*Pdiff **Pdif** **22 17 56.2 -0.4**
comp=Z,4.6nm,1.5s
ZVC Zvikov 104.58 329 AMS AMS 23 12 50.0
comp=Z,2µm,16.6s
CONA Conrad Observa 104.67 327 *e*Pdiff **Pdif** **22 17 57.2 +0.2**
comp=Z,5.8nm,1.0s
CKRC Cesky Krumlov 104.92 329 *e*PP **PP** **22 22 23.0 +5.3**
CKRC *e*SKS **SKSac** **22 28 37.1 +0.4**
CKRC AMS AMS 23 14 10.0
comp=Z,2µm,16.9s
N38A Joes South For 104.93 42 IAMs_20 IAMs_20 23 03 25.4
comp=Z,2µm,20.0s
JCT Junction City 104.97 54 IAMs_20 IAMs_20 23 01 14.6
comp=Z,2µm,20.0s
KHC Kasperske Hory 105.09 329 *e*PP **PKiKP** **22 22 15.0 +1.7**
KHC *ex* x 22 22 30.0
GERES GERESS Array B 105.21 329 Pdiff **Pdif** **22 17 59.0 -0.4**
comp=Z,0.4nm,0.7s,baz=29,slow=3.0,SNR=4.4
GERES PKiKP **PKiKP** **22 22 14.6 +1.0**
comp=Z,1.0nm,0.7s,baz=61,slow=6.3,SNR=4.9
GERES PKKPbc **PKKPbc** **22 33 40.5 -0.8**
comp=Z,0.3nm,0.8s,baz=209,slow=3.2,SNR=5.4
ARSA Arzberg 105.27 327 *e*Pdiff **Pdif** **22 17 59.2 -0.5**
comp=Z,5.6nm,1.0s
L40A Anamosa 105.53 40 IAMs_20 IAMs_20 23 04 47.3
comp=Z,1µm,20.0s
MOA Molln 105.56 328 *e*Pdiff **Pdif** **22 18 01.0 +0.1**
comp=Z,2.6nm,1.1s
FW07 Weatherford 105.59 51 IAMs_20 IAMs_20 23 02 46.6
comp=Z,2µm,20.0s
ZAIG Zacatecas 105.63 62 IAMs_20 IAMs_20 22 55 45.8
comp=Z,1µm,20.0s
FW06 Azle 105.64 50 IAMs_20 IAMs_20 23 03 56.0
comp=Z,2µm,20.0s
Z35A Perchaven, San 105.71 50 IAMs_20 IAMs_20 23 09 05.8
comp=Z,1µm,19.0s
GRA1 Grafenberg Arr 105.88 331 IAMs_20 IAMs_20 23 07 39.7
comp=Z,1µm,19.0s
GRFO Grafenberg 105.88 331 IAMs_20 IAMs_20 23 07 29.7
comp=Z,1µm,20.0s
SOKA Soboth 105.89 326 *e*Pdiff **Pdif** **22 18 01.7 -0.8**
comp=Z,6.0nm,1.3s
PDG Podgorica 105.95 321 IAMs_20 IAMs_20 23 07 32.3
comp=Z,2µm,22.0s
IVI Ivigtut 106.00 6 IAMs_20 IAMs_20 23 08 09.7
comp=Z,2µm,22.0s
WHTX Lake Whitney, 106.15 51 IAMs_20 IAMs_20 23 07 10.7
comp=Z,2µm,19.0s
TIR Tirane 106.17 320 IAMs_20 IAMs_20 23 12 52.3
comp=Z,2µm,19.0s
FW14 Alvarado 106.17 51 IAMs_20 IAMs_20 23 02 42.2
comp=Z,1µm,19.0s
833A Chaparral WMA, 106.17 56 IAMs_20 IAMs_20 23 05 15.7
comp=Z,2µm,19.0s
U38A Gravette 106.34 46 IAMs_20 IAMs_20 23 03 46.3
comp=Z,2µm,20.0s
N41A Harden Midland 106.50 41 IAMs_20 IAMs_20 23 05 22.2
comp=Z,1µm,19.0s
L42A Oliver, Polo 106.53 39 IAMs_20 IAMs_20 23 01 18.8
comp=Z,2µm,22.0s
435B Jarrell 106.58 53 IAMs_20 IAMs_20 23 03 08.1
comp=Z,2µm,20.0s
KIBK Kibwezi 106.58 271 IAMs_20 IAMs_20 23 02 07.3
comp=Z,1µm,22.0s
LESA Schwarzleotal 106.66 328 *e*Pdiff **Pdif** **22 18 03.1 -2.8**
comp=Z,2.1nm,1.1s
HHAR Hobbs 106.73 46 IAMs_20 IAMs_20 23 01 23.7

comp=Z,1µm,20.0s
SYO Syowa Base 106.79 201 ⇓ *e*Pdiff Pdiff 22 18 06.4 +0.7
R40A Maddies Statio 106.86 43 IAMs_20 IAMs_20 23 01 39.0
comp=Z,2µm,21.0s
EKA Eskdalemuir Ar 107.30 341 Pdiff Pdiff 22 18 08.2 -0.3
comp=Z,0.6nm,0.7s,baz=31,slow=9.9,SNR=2.6
EKA PKIKP PKiKP 22 22 18.6 +1.4
comp=Z,0.6nm,0.6s,baz=29,slow=6.0,SNR=2.3
ESK Eskdalemuir 107.33 341 IAMs_20 IAMs_20 23 12 23.4
comp=Z,1µm,21.0s
MGMO Mountain Grove 107.45 44 IAMs_20 IAMs_20 23 08 54.6
comp=Z,1µm,20.0s
STU Stuttgart 107.48 331 IAMs_20 IAMs_20 23 11 47.0
comp=Z,1µm,18.0s
HDIL Hopedale 107.58 40 IAMs_20 IAMs_20 23 10 12.5
comp=Z,2µm,20.0s
CCM Cathedral Cave 107.67 43 IAMs_20 IAMs_20 23 02 57.4
comp=Z,1µm,20.0s
GLMI Grayling 107.80 34 IAMs_20 IAMs_20 23 03 02.9
comp=Z,2µm,22.0s
M44A Midewin, Midew 107.88 39 IAMs_20 IAMs_20 23 02 22.5
comp=Z,2µm,22.0s
BFO Black Forest 108.20 331 IAMs_20 IAMs_20 23 12 18.0
comp=Z,1µm,19.0s
FCAR Ozark Folk Cen 108.20 46 IAMs_20 IAMs_20 23 04 52.5
comp=Z,2µm,20.0s
WLF Walferdange 108.24 333 IAMs_20 IAMs_20 23 15 08.0
comp=Z,2µm,18.0s
FVM French Village 108.26 43 IAMs_20 IAMs_20 23 07 16.9
comp=Z,1µm,20.0s
HKT Hockley 108.30 53 IAMs_20 IAMs_20 23 07 14.5
comp=Z,1µm,19.0s
NATX Nacogdoches 108.37 50 IAMs_20 IAMs_20 23 04 25.5
comp=Z,2µm,20.0s
Q44A Meyer Farm, Va 108.68 41 IAMs_20 IAMs_20 23 13 22.9
comp=Z,1µm,18.0s
LCAR Lake Charles 108.78 45 IAMs_20 IAMs_20 23 03 06.8
comp=Z,1µm,20.0s
ECH Echery 108.83 331 IAMs_20 IAMs_20 23 12 37.7
comp=Z,1µm,19.0s
SFIN Lafayette 109.05 39 IAMs_20 IAMs_20 23 06 33.6
comp=Z,1µm,20.0s
CGM3 Cape Girardeau 109.14 43 IAMs_20 IAMs_20 23 03 20.3
comp=Z,1µm,20.0s
SIUC Southern Illin 109.21 43 IAMs_20 IAMs_20 23 05 11.9
comp=Z,1µm,19.0s
TIP Timpagrande 109.35 319 IAMs_20 IAMs_20 23 15 41.6
comp=Z,1µm,20.0s
HBAR Harrisburg 109.39 45 IAMs_20 IAMs_20 23 10 14.1
comp=Z,2µm,20.0s
PARMO Parma 109.42 44 IAMs_20 IAMs_20 23 05 41.7
comp=Z,1µm,20.0s
P46A Rosedale 109.43 40 IAMs_20 IAMs_20 23 05 39.6
comp=Z,1µm,20.0s
CUC Castrocucco 109.47 321 IAMs_20 IAMs_20 23 16 52.7
comp=Z,1µm,18.0s
GNAR Gosnell 109.62 45 IAMs_20 IAMs_20 23 03 32.9
comp=Z,1µm,20.0s
PEBM Pemiscott Bayo 109.64 44 IAMs_20 IAMs_20 23 03 13.7
comp=Z,2µm,20.0s
HICK Hickman 109.84 44 IAMs_20 IAMs_20 23 15 24.8
comp=Z,1µm,19.0s
LNXT Lenox 109.90 44 IAMs_20 IAMs_20 23 10 08.5
comp=Z,2µm,19.0s
441A DeRidder 109.96 51 IAMs_20 IAMs_20 23 11 56.6
comp=Z,1µm,19.0s
T45A Paducah 109.97 43 IAMs_20 IAMs_20 23 04 25.2
comp=Z,1µm,19.0s
USIN University of 110.08 42 IAMs_20 IAMs_20 23 14 35.1
comp=Z,1µm,20.0s
HALT Halls 110.11 44 IAMs_20 IAMs_20 23 06 24.0
comp=Z,1µm,21.0s
BLO Bloomington 110.12 40 IAMs_20 IAMs_20 23 18 23.8
comp=Z,1µm,19.0s
MET Memphis--Engin 110.12 45 IAMs_20 IAMs_20 23 07 00.4
comp=Z,1µm,19.0s
CEL Celeste 110.43 319 IAMs_20 IAMs_20 23 13 10.2
comp=Z,1µm,22.0s
P48A Milroy 110.63 39 IAMs_20 IAMs_20 23 03 56.3
comp=Z,2µm,21.0s
WCI Wyandotte Cave 110.81 41 IAMs_20 IAMs_20 23 18 13.4
comp=Z,2µm,19.0s
WVT Waverly 111.01 43 IAMs_20 IAMs_20 23 13 48.7
comp=Z,1µm,19.0s
CLF Chambon-Foret 111.17 334 IAMs_20 IAMs_20 23 14 17.5
comp=Z,2µm,21.0s
PLAL Pickwick Lake 111.48 45 IAMs_20 IAMs_20 23 07 15.3
comp=Z,1µm,20.0s
R49A Shelbyville 111.49 40 IAMs_20 IAMs_20 23 08 42.2
comp=Z,1µm,20.0s
V48A Smith Brothers 111.91 43 IAMs_20 IAMs_20 23 14 50.4
comp=Z,1µm,18.0s
ERPA Erie 112.12 34 IAMs_20 IAMs_20 23 06 28.1
comp=Z,1µm,20.0s
U49A Red Boiling Sp 112.15 42 IAMs_20 IAMs_20 23 09 01.8
comp=Z,1µm,21.0s
SSB Saint Sauveur 112.20 331 IAMs_20 IAMs_20 23 14 39.9
comp=Z,1µm,19.0s
346A Big Creek Wild 112.41 48 IAMs_20 IAMs_20 23 05 25.4
comp=Z,2µm,20.0s
Z47A Carrollton 112.46 46 IAMs_20 IAMs_20 23 08 15.3
comp=Z,2µm,20.0s
T50A Nancy 112.46 41 IAMs_20 IAMs_20 23 12 35.9
comp=Z,2µm,19.0s
X48A Hartselle 112.48 44 IAMs_20 IAMs_20 23 07 45.7
comp=Z,2µm,21.0s
SWET Sewanee 112.80 43 IAMs_20 IAMs_20 23 10 14.1
comp=Z,1µm,20.0s
S51A Beattyville 112.88 40 IAMs_20 IAMs_20 23 08 54.8
comp=Z,1µm,20.0s
LONY Lake Ozonia 113.13 29 IAMs_20 IAMs_20 23 14 02.5
comp=Z,2µm,19.0s
W50A Signal Mountai 113.22 43 IAMs_20 IAMs_20 23 15 58.3
comp=Z,1µm,19.0s
Y49A Blount Mountai 113.25 45 IAMs_20 IAMs_20 23 09 31.1
comp=Z,1µm,20.0s
LRAL Lakeview Retre 113.30 46 IAMs_20 IAMs_20 23 06 07.5
comp=Z,2µm,20.0s
TZTN Tazewell 113.57 41 IAMs_20 IAMs_20 23 10 18.4
comp=Z,2µm,20.0s
CPCT Cooper Cave 113.60 42 IAMs_20 IAMs_20 23 12 52.2
comp=Z,1µm,19.0s
VSL Villasalto 113.66 323 IAMs_20 IAMs_20 23 17 03.3
comp=Z,1µm,19.0s
J59A Piesco 114.02 30 IAMs_20 IAMs_20 23 09 20.2
comp=Z,2µm,22.0s
W52A Murphy 114.20 42 IAMs_20 IAMs_20 23 13 01.1
comp=Z,1µm,21.0s
M57A Sunshine Farm, 114.21 33 IAMs_20 IAMs_20 23 08 13.4
comp=Z,2µm,21.0s
250A Grady 114.40 46 IAMs_20 IAMs_20 23 09 34.7
comp=Z,2µm,20.0s
BELA Belgrano 2 114.47 180 IAMs_20 IAMs_20 23 10 37.6
comp=Z,2µm,20.0s
G62A West of Eustis 114.53 26 IAMs_20 IAMs_20 23 12 58.2
comp=Z,1µm,20.0s
V53A Saluda 114.58 41 IAMs_20 IAMs_20 23 17 26.0
comp=Z,1µm,19.0s
LBNH Lisbon 114.66 28 IAMs_20 IAMs_20 23 16 25.9
comp=Z,1µm,19.0s
U54A Nelsons Funny 114.68 40 IAMs_20 IAMs_20 23 09 40.6
comp=Z,1µm,20.0s
H62A Milan 114.75 27 IAMs_20 IAMs_20 23 17 25.3
comp=Z,1µm,19.0s
BG3 Lake Jocassee 114.91 42 IAMs_20 IAMs_20 23 12 35.9
comp=Z,2µm,19.0s
TRY Troy 114.98 30 IAMs_20 IAMs_20 23 10 34.5
comp=Z,1µm,22.0s
PKME Peaks-Kenny Pk 115.02 26 IAMs_20 IAMs_20 23 10 14.3
comp=Z,1µm,22.0s
152A Waverly Hall 115.09 45 IAMs_20 IAMs_20 23 14 05.9
comp=Z,1µm,18.0s
I62A Tamworth 115.22 28 IAMs_20 IAMs_20 23 17 09.6
comp=Z,1µm,19.0s
I63A Otisfield 115.42 27 IAMs_20 IAMs_20 23 17 36.9
comp=Z,1µm,19.0s
WVL Waterville 115.42 26 IAMs_20 IAMs_20 23 14 22.9
comp=Z,1µm,20.0s
L61B Northampton 115.67 30 IAMs_20 IAMs_20 23 14 25.8
comp=Z,1µm,19.0s
K62A Royalston 115.72 29 IAMs_20 IAMs_20 23 10 51.1
comp=Z,1µm,20.0s
PAULI Pauline 115.74 41 IAMs_20 IAMs_20 23 19 40.9
comp=Z,1µm,19.0s
G65A Princeton 115.79 25 IAMs_20 IAMs_20 23 11 59.6
comp=Z,2µm,20.0s
HODGE Hodges 115.82 42 IAMs_20 IAMs_20 23 20 04.9
comp=Z,1µm,18.0s

KMSC Kings Mountain 115.85 41 IAMs_20 IAMs_20 23 18 15.7
comp=Z,1µm,19.0s
KEST Kesra 116.12 320 PKP PKPdf 22 22 34.6 +0.1
comp=Z,5.4nm,1.1s,baz=320,slow=14,SNR=1.5
TROLL Troll, Antarti 116.18 192 ⇓ PKPdf 22 22 34.6 +0.9
comp=Z,127nm,0.9s
154A Montrose 116.22 44 IAMs_20 IAMs_20 23 09 31.8
comp=Z,2µm,20.0s
EMMW East Machias 116.24 25 IAMs_20 IAMs_20 23 16 20.4
comp=Z,1µm,21.0s
MAHO Mahon 116.25 327 IAMs_20 IAMs_20 23 19 29.4
comp=Z,1µm,18.0s
JSC Jenkinsville 116.44 42 IAMs_20 IAMs_20 23 11 30.2
comp=Z,1µm,19.0s
BIRD Birdtown, Kers 116.72 41 IAMs_20 IAMs_20 23 11 16.7
comp=Z,1µm,20.0s
M63A Gales Ferry 116.77 30 IAMs_20 IAMs_20 23 09 02.9
comp=Z,2µm,22.0s
Y57A Sumter 117.16 41 IAMs_20 IAMs_20 23 11 52.4
comp=Z,2µm,20.0s
SNAA Sanae 117.51 191 ⇓ P PKiKP 22 22 36.3 +0.2
comp=Z,34nm,0.6s
SNAA Sanae 117.51 191 PKiKP 22 22 36.1 0.0
SNAA IAMs_20 IAMs_20 23 12 07.1
comp=Z,1µm,20.0s
SNAA Sanae 117.51 191 PKP PKPdf 22 22 35.6 -0.5
comp=Z,2.3nm,0.8s,baz=212,slow=7.4,SNR=5.9
SNAA PP PP 22 23 45.9 -2.1
comp=Z,6.8nm,1.1s,baz=128,slow=9.2,SNR=4.0
SNAA PKKPbc PKKPbc 22 33 01.1 -0.2
comp=Z,1.1nm,0.8s,baz=16,slow=4.8,SNR=3.1
SNAA Sanae 117.51 191 PKiKP PKiKP 22 22 36.2 0.0
SNAA MLR MLR
comp=Z,1µm,20.0s
NHSC New Hope 117.87 42 IAMs_20 IAMs_20 23 19 29.3
comp=Z,1µm,19.0s
CSU Charleston Sou 118.02 42 IAMs_20 IAMs_20 23 21 02.2
comp=Z,1µm,19.0s
456A Hilliard 118.09 45 IAMs_20 IAMs_20 23 13 55.3
comp=Z,2µm,19.0s
LSZ Lusaka 118.29 259 PKPdf PKiKP 22 22 39.7 +0.4
LSZ Lusaka 118.29 259 PKiKP PKiKP 22 22 39.7 +0.4
TEIG Tepich 118.81 59 IAMs_20 IAMs_20 23 09 56.6
comp=Z,2µm,19.0s
PETF Flores 118.90 63 IAMs_20 IAMs_20 23 06 44.4
comp=Z,1µm,20.0s
VNA1 Neumayer--Stat 119.34 190 ⇓ P PKiKP 22 22 40.1 +0.5
comp=Z,7.1nm,1.0s
MREMI Moremi 119.48 251 PKPdf PKPdf 22 22 39.9 -1.4
MREMI Moremi 119.48 251 *i* P PKiKP 22 22 43.4 +2.0
BROLN TIhalogang 119.53 253 *i* P PKiKP 22 22 43.3 +1.8
ESQI Esquipulas 120.33 65 IAMs_20 IAMs_20 23 09 03.4
comp=Z,1µm,19.0s
MTO3 Montecristo 120.38 65 IAMs_20 IAMs_20 23 11 12.7
comp=Z,1µm,19.0s
PGAV Gavieira, Arco 120.43 337 *e*PKPdf PKiKP 22 22 43.8 +1.0
PGAV *e*LQ LQ 22 54 26.8
PGAV *e*LR LR 23 01 20.4
PGAV *i* IAMs_20 IAMs_20 23 25 14.7
comp=Z,929nm,18.0s
ESDC Sonseca Array 120.52 332 PKPdf PKiKP 22 22 43.4 +0.4
ESDC Sonseca Array 120.52 332 PKP PKiKP 22 22 44.0 +1.0
comp=Z,1.8nm,0.7s,baz=21,slow=2.7,SNR=13
ESDC PP PP 22 24 06.0 -2.9
comp=Z,3.2nm,1.1s,baz=30,slow=8.2,SNR=4.9
ESDC PKKPbc PKKPbc 22 32 49.8 +0.1
comp=Z,1.1nm,0.9s,baz=224,slow=4.0,SNR=5.7
PCAB Cabril 120.56 336 *e*PKPdf PKiKP 22 22 44.0 +1.0
SMAI San Martin Ant 120.58 167 PKiKP 22 22 42.7 +0.6
MVO Moncorvo 120.62 335 *e*PKPdf PKiKP 22 22 45.5 +2.3
MVO *e*LQ LQ 23 02 53.1
MVO *e*LR LR 23 06 25.1
MVO *i* IAMs_20 IAMs_20 23 19 46.1
comp=Z,1µm,18.0s
CART Cartagena 120.72 328 IAMs_20 IAMs_20 23 22 00.6
comp=Z,1µm,20.0s
POLO Lamas de Olo 120.75 336 *e*PKPdf PKiKP 22 22 45.3 +1.9
POLO *i* tx tx 22 22 57.0
PAB San Pablo 120.80 332 IAMs_20 IAMs_20 23 20 37.3
comp=Z,1µm,19.0s
PVRL Vila Real 120.80 336 *e*PKPdf PKiKP 22 22 45.7 +2.2
PVRL *i* tx tx 22 23 00.3
LPHEP Lephephe 120.96 250 *i* P PKiKP 22 22 46.4 +2.1
KSANE Kasane 121.39 257 *i* P PKiKP 22 22 48.0 +2.7
BOSA Boshof 121.41 244 PKP PKiKP 22 22 46.1 +1.0
comp=Z,6.2nm,0.9s,baz=83,slow=8.6,SNR=3.9
MTE Manteigas 121.47 335 IAMs_20 IAMs_20 23 19 20.9
comp=Z,2µm,20.0s
MTE Manteigas 121.47 335 *e*PKPdf PKiKP 22 22 47.1 +2.2
MTE *e*LQ LQ 22 58 03.2
MTE *e*LR LR 23 06 53.1
MTE *i* IAMs_20 IAMs_20 23 19 42.4
comp=Z,1µm,20.0s
MAKGR Makgori 121.91 247 *i* P PKiKP 22 22 48.2 +2.1
PCBR Castelo Branco 121.92 335 *e*PKPdf PKiKP 22 22 47.3 +1.6
PCBR *i* tx tx 22 23 01.0
COI Coimbra 121.99 336 IAMs_20 IAMs_20 23 20 05.5
comp=Z,1µm,20.0s
KDWAN Kaudwane 122.06 250 *i* P PKiKP 22 22 48.3 +1.8
PCAS Casmilo, Conde 122.15 336 *e*PKPdf PKiKP 22 22 49.6 +3.5
PMRV Marv??o 122.22 334 *e*PKPdf PKiKP 22 22 48.4 +2.0
PMRV *e*LQ LQ 22 55 05.7
PMRV *e*LR LR 23 03 56.3
PMRV *i* IAMs_20 IAMs_20 23 21 43.5
comp=Z,1µm,20.0s
TGUH Tegucigalpa,Un 122.36 65 IAMs_20 IAMs_20 23 08 08.3
comp=Z,1µm,20.0s
PSARD Sardoal 122.40 335 *e*PKPdf PKiKP 22 22 48.9 +2.3
SKOMA Sekoma 122.72 249 *i* P PKiKP 22 22 49.6 +1.9
PMTG Montargil 122.88 335 *e*PKPdf PKiKP 22 22 49.4 +1.8
CAMR Camarioca 122.94 52 IAMs_20 IAMs_20 23 12 10.4
comp=Z,2µm,21.0s
PBAR Barrancos 123.12 333 *e*PKPdf PKiKP 22 22 50.0 +1.9
PBAR *i* tx tx 22 23 04.5
EVO Evora 123.24 334 *e*PKPdf PKiKP 22 22 50.5 +2.2
EVO *i* tx tx 22 23 02.2
HERN Volcan Telica 123.35 66 IAMs_20 IAMs_20 23 19 06.5
comp=Z,830nm,18.0s
PARRA Arraiolos 123.43 335 *e*PKPdf PKiKP 22 22 49.8 +1.2
PBEJ Beja 123.60 334 *e*PKPdf PKiKP 22 22 51.2 +2.1
PHPEN Phepeng 123.67 248 *i* P PKiKP 22 22 51.7 +2.1
MESJ Messejana 123.91 334 *e*PKPdf PKiKP 22 22 51.8 +2.2
PCVE Castro Verde 124.01 334 *e*PKPdf PKiKP 22 22 51.8 +1.9
PVAQ Vaqueiros 124.06 333 *e*LQ LQ 22 58 07.1
PVAQ *e*LR LR 23 09 32.4
PVAQ *i* IAMs_20 IAMs_20 23 27 12.2
comp=Z,1µm,18.0s
KGCAE Kacgae 124.32 251 *i* P PKiKP 22 22 53.2 +2.2
LKGWB Lokgwabe 125.21 249 *i* P PKiKP 22 22 53.5 +0.8
GRTLG Ghanzi 125.24 253 *i* P PKiKP 22 22 54.3 +1.4
QNGWA Qangwa 125.25 255 *i* P PKiKP 22 22 54.9 +2.0
KOOLE Kule 126.17 251 *i* P PKiKP 22 22 57.1 +2.4
TAM Tamanrasset 126.77 311 IAMs_20 IAMs_20 23 28 22.7
comp=Z,79nm,18.0s
HDC Heredia 126.83 67 IAMs_20 IAMs_20 23 14 05.0
comp=Z,1µm,20.0s
BBSR BB Station 127.48 31 IAMs_20 IAMs_20 23 13 49.6
comp=Z,1µm,22.0s
MTDJ Mount Denham 128.58 55 IAMs_20 IAMs_20 23 21 55.5
comp=Z,909nm,21.0s
BRU2 Volcan 128.60 68 IAMs_20 IAMs_20 23 20 36.3
comp=Z,871nm,20.0s
GTBY Guantanamo Bay 129.50 51 IAMs_20 IAMs_20 23 16 27.2
comp=Z,1µm,20.0s
BCIP Isla Barro Col 131.02 66 IAMs_20 IAMs_20 23 15 43.1
comp=Z,860nm,20.0s
GRTK Grand Turk 131.45 46 IAMs_20 IAMs_20 23 20 55.2
comp=Z,1µm,19.0s
PMOZ Porto Moniz, M 131.81 339 *e*LR LR 23 08 59.9
PMOZ *i* IAMs_20 IAMs_20 23 22 36.7
comp=Z,424nm,20.0s
SDDR Presa de Saban 132.94 49 IAMs_20 IAMs_20 23 19 04.1
comp=Z,1µm,21.0s
TORD Torodi Ar. Bea 135.27 303 PKP PKiKP 22 23 12.9 -0.2
comp=Z,3.5nm,0.5s,baz=31,slow=3.6,SNR=7.5
TORD PP PP 22 25 43.3 -3.8
comp=Z,6.3nm,1.0s,baz=36,slow=5.3,SNR=6.7
OTAV Otavalo 135.57 77 *e*P PKPdf 22 23 13.5 +0.7
LL01 San Ignacio de 136.18 140 IAMs_20 IAMs_20 23 32 30.6
comp=Z,1µm,21.0s
SJG San Juan 137.20 46 IAMs_20 IAMs_20 23 21 34.6
comp=Z,1µm,22.0s
ATAH Atahualpa 137.43 87 PKP PKiKP 22 23 18.5 +0.5
comp=Z,9.6nm,0.9s,baz=230,slow=2.8,SNR=7.0
ROSC El Rosal 137.79 68 PKP PKiKP 22 23 18.6 -0.1

comp=Z,8.7nm,0.6s,baz=252,slow=20,SNR=4.0
PLCA Paso Flores 138.24 139 PKP PKiKP 22 23 19.1 +0.7
comp=Z,6.5nm,1.0s,baz=270,slow=3.6,SNR=5.0
SDV Santo Domingo 139.19 61 IAMs_20 IAMs_20 23 24 15.4
comp=Z,700nm,19.0s
NNA Nana 139.60 94 IAMs_20 IAMs_20 23 21 17.2
comp=Z,839nm,20.0s
NNA Nana 139.60 94 PKP PKiKP 22 23 20.8 -1.2
comp=Z,5.1nm,0.3s,baz=183,slow=8.3,SNR=2.1
BI02 San Fabin de 139.79 133 PKPdf 22 23 18.1 -1.3
MT05 Renca 141.63 129 IAMs_20 IAMs_20 23 35 14.4
comp=Z,1µm,20.0s
PEL Peldehue 141.77 129 PKPdf PKPdf 22 23 23.8 +0.8
PEL Peldehue 141.77 129 PKiKP PKPdf 22 23 23.8 +0.8
VA03 San Esteban 142.03 128 PKPdf PKPdf 22 23 23.4 -0.2
CO02 Combarbal 142.28 126 PKPdf PKPdf 22 23 24.4 +0.3
CZSB Cruzeiro do Su 143.09 86 PKPdf 22 23 24.7 -1.1
CZSB Cruzeiro do Su 143.09 86 *e*P PKPdf 22 23 24.8 -1.1
LCO Las Campanas 143.30 122 PKPbc 22 23 24.4 +1.2
LCO Las Campanas 143.30 122 PKiKP PKPbc 22 23 24.4 +1.2
ZON Zonda 143.98 127 PKPdf 22 23 26.3 -0.7
ZON Zonda 143.98 127 PKiKP PKPdf 22 23 26.3 -0.7
AC06 Mina Casimiro 144.11 120 PKPdf 22 23 26.8 -0.5
DBIC Dimbokro 144.17 300 PKPbc 22 23 26.0 +0.2
DBIC Dimbokro 144.17 300 PKP PKPbc 22 23 26.5 +0.7
comp=Z,63nm,0.7s,baz=82,slow=3.4,SNR=61
CFA Coronel Fontan 144.29 128 PKP PKPbc 22 23 26.3 +0.5
comp=Z,35nm,1.1s,baz=243,slow=2.7,SNR=51
GRGR Grenville 144.42 48 IAMs_20 IAMs_20 23 26 25.1
comp=Z,1µm,22.0s
PB14 IPOC Station P 144.81 115 PKPdf 22 23 28.7 -0.2
TBTG Tabatinga, AM 145.02 80 PKPbc PKPbc 22 23 28.5 0.0
TBTG Tabatinga, AM 145.02 80 *e*P PKPdf 22 23 29.4 +0.2
TRQA Tornquist 145.16 142 PKPbc PKPdf 22 23 28.7 -0.1
TRQA Tornquist 145.16 142 PKiKP PKPdf 22 23 28.7 -0.1
TA01 Diego Aracena 145.79 108 IAMs_20 IAMs_20 23 19 11.4
comp=Z,1µm,19.0s
PB16 IPOC Station P 146.69 105 PKPdf 22 23 32.2 -0.4
LPAZ La Paz 148.15 101 PKPdf 22 23 36.7 +1.5
LPAZ La Paz 148.15 101 PKPbc PKPbc 22 23 37.6 -0.8
comp=Z,20nm,0.9s,baz=326,slow=1.9,SNR=22
LPAZ La Paz 148.15 101 PKP2 PKPdf 22 23 36.7 +1.5
LPAZ La Paz 148.15 101 *e*P PKPdf 22 23 35.4 +0.3
TEFE Tefe 149.85 75 *e*P PKPdf 22 23 38.0 +0.8
SACV Santiago Islan 150.42 336 PKPbc PKPbc 22 23 41.9 -1.4
BOAV Boa Vista 151.13 61 PKPdf 22 23 38.5 -0.8
BOAV Boa Vista 151.13 61 *e*P PKPdf 22 23 38.7 -0.6
MACA Manacapuru-AM 153.44 72 PKPdf PKPdf 22 23 41.8 -0.9
MACA Manacapuru-AM 153.44 72 *e*P PKPdf 22 23 43.5 +0.9
PLTB Pedras Altas 154.47 142 *e*P PKPdf 22 23 45.1 +1.4
SIV San Ignacio 154.94 101 PKP PKPdf 22 23 46.0 +1.3
comp=Z,0.6nm,0.5s,baz=308,slow=2.7,SNR=5.0
SIV PKPab PKPab 22 24 09.8 +0.9
comp=Z,22nm,1.1s,baz=248,slow=2.9,SNR=16
CPUP Villa Florida 155.19 127 PKP PKPdf 22 23 46.6 +1.9
comp=Z,4.4nm,1.3s,baz=236,slow=3.6,SNR=4.7
CPUP PKPab PKPab 22 24 11.1 +1.5
comp=Z,5.6nm,1.1s,baz=270,slow=3.0,SNR=3.5
CPUP Villa Florida 155.19 127 *e*P PKPdf 22 23 46.2 +1.4
CPSB Cacapava Do Su 155.52 140 *e*P PKPdf 22 23 46.6 +1.5
VILB Vilhena 155.88 94 PKPdf PKPdf 22 23 44.2 -1.8
VILB Vilhena 155.88 94 *e*P PKPdf 22 23 47.0 +1.0
SJPY San Joaquin 156.81 126 *e*P PKPdf 22 23 48.3 +1.4
PTLB Pontes e Lacer 156.84 100 PKPdf PKPdf 22 23 46.9 -0.3
PTLB Pontes e Lacer 156.84 100 *e*P PKPdf 22 23 48.2 +1.0
MURT Porto Murtinho 156.93 117 *e*P PKPdf 22 23 48.4 +1.3
CNLB Canela 157.88 142 *e*P PKPdf 22 23 49.5 +1.3
ITTB Itaituba 158.47 70 *e*P PKPdf 22 23 50.1 +0.8
MAL2 Monte Alegre, 158.82 62 PKPdf PKPdf 22 23 49.2 -0.6
PDRB Porto dos Gac 159.20 90 *e*P PKPdf 22 23 51.0 +0.9
CLDB Colider 160.05 88 *e*P PKPdf 22 23 52.0 +0.9
SALV Santo Antonio 160.09 103 *e*P PKPdf 22 23 52.1 +1.0
FRTB Fartura 162.72 131 *e*P PKPdf 22 23 54.9 +1.1
ARAG Araguaiana, MT 163.81 104 *e*P PKPdf 22 23 55.8 +0.9
ITRB Iturama 163.95 119 *e*P PKPdf 22 23 56.2 +1.2
TMAB Tom-Au,PA,Br 164.05 53 *e*P PKPdf 22 23 55.8 +0.5
SNDB Serra Nova Dou 164.54 90 *e*P PKPdf 22 23 56.5 +0.9
PRPB Parauapebas 164.59 68 *e*P PKPdf 22 23 56.8 +1.0
BDFB Brasilia 167.41 107 PKP PKPdf 22 23 59.7 +1.7
comp=Z,8.4nm,1.0s,baz=243,slow=16,SNR=4.8
BDFB PKPab PKPab 22 25 04.6 +1.3
comp=Z,10nm,1.0s,baz=308,slow=8.2,SNR=4.3
SMTB Santa Maria do 167.61 75 *e*P PKPdf 22 23 58.9 +0.7
JANB Januaria 171.01 108 *e*P PKPdf 22 24 01.0 +0.9
NBCL Cascavel-CE 171.46 19 *e*P PKPdf 22 24 00.8 +0.4
NBPB Pedra_Branca-C 172.12 31 *e*P PKPdf 22 24 01.1 +0.4

CNRM **16** *22:05:58.8, 36°.23N×7°.94W, h10km*
MDD **16** *22:06:04.9±0.7, 36°.56N×7°.92W, h8km±4km, mb_Lg2.3/16, Error ellipse: s-maj=6.1km s-min=3.2km az=34.0*
IGIL **16** *22:06:04.8, 36°.45N×7°.99W, h16km, ML1.7*
SFS **16** *22:06:05.5, 36°.50N×7°.92W, h21km, ML2.5/7, ML2.1/10, MLv1.9/10*
INMG **16** *22:06:05.0±1.8, 36°.48N×8°.01W, h14km±4km, ML1.8, Error ellipse: s-maj=6.0km s-min=3.0km az=49.0, #DIST_RANGE: REGIONAL #IPMA_REGION: S Faro*
ISC 16 22:06:02.0±1.4**, 36°.35N**±0°.04×**8°.03W**±0°.04, **h33**km±10km, **n61**,σ1**°56**/100**, 1D, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.90**	**5**	*e*P		**Pn**	**22 06 19.6**	**+1.2**
PBDV				*e*S		**Sb**	**22 06 29.7**	**-1.1**
PBDV				*i* IAML			22 06 31.2	
PBDV				*i* IAML			22 06 31.3	
PBDV				*i* IAML			22 06 35.0	
PFVI	**Vila Bisbo**	**1.01**	**321**	*e*P		**Pn**	**22 06 21.6**	**+1.7**
PFVI				*e*S		**Sn**	**22 06 33.5**	**+0.4**
PFVI				*i* IAML			22 06 34.8	
PFVI				*i* IAML			22 06 35.4	
MORF	**Marmelete**	**1.08**	**332**	*e*P		**Pn**	**22 06 22.6**	**+1.7**
MORF				*e*S		**Sn**	**22 06 35.2**	**+0.4**
MORF				IAML			22 06 36.9	
	comp=N,14nm,0.2s							
MORF	**Marmelete**	**1.08**	**332**	*e*P		**Pn**	**22 06 22.6**	**+1.7**
MORF				*e*S		**Sn**	**22 06 34.9**	**+0.2**
MORF				*i* IAML			22 06 35.5	
MORF				*i* IAML			22 06 36.2	
MORF				*i* IAML			22 06 37.6	
PVAQ	**Vaqueiros**	**1.08**	**13**	Pg		**Pb**	**22 06 22.2**	**0.0**
PVAQ	**Vaqueiros**	**1.08**	**13**	*e*P		**Pb**	**22 06 22.2**	**0.0**
PVAQ				*e*S		**Sb**	**22 06 35.0**	**-1.0**
PVAQ				*i* IAML			22 06 37.2	
PVAQ				*i* IAML			22 06 37.4	
PVAQ				*i* IAML			22 06 38.4	
PVAQ	**Vaqueiros**	**1.08**	**13**	P		**Pn**	**22 06 21.9**	**+1.0**
PVAQ	**Vaqueiros**	**1.08**	**13**	S		**Sb**	**22 06 36.8**	**+0.7**
EGRO	**El Granado**	**1.26**	**20**	Pg		**Pn**	**22 06 24.7**	**+1.3**
EGRO				Sg		**Sn**	**22 06 39.2**	**0.0**
EGRO	**El Granado**	**1.26**	**20**	Pg		**Pn**	**22 06 24.7**	**+1.3**
EGRO				Sg		**Sn**	**22 06 38.3**	**-0.9**
EGRO				*i* IVmb_Lg			22 06 40.8	
PCVE	**Castro Verde**	**1.28**	**360**	Pn		**Pn**	**22 06 25.1**	**+1.5**
PCVE				Sn		**Sn**	**22 06 39.5**	**-0.2**
PCVE	**Castro Verde**	**1.28**	**360**	*e*P		**Pn**	**22 06 25.3**	**+1.7**
PCVE				*e*S		**Sn**	**22 06 39.8**	**+0.2**
PCVE				*i* IAML			22 06 40.3	
PCVE				*i* IAML			22 06 40.5	
PCVE				*i* IAML			22 06 41.2	
PTEO	**Sao Teotonio**	**1.32**	**335**	*e*P		**Pn**	**22 06 25.7**	**+1.6**
PTEO				*e*S		**Sn**	**22 06 41.0**	**+0.4**
PTEO				*i* IAML			22 06 41.7	
PTEO				*i* IAML			22 06 44.1	
PTEO				*i* IAML			22 06 44.4	
MESJ	**Messejana**	**1.50**	**354**	*e*P		**Pn**	**22 06 28.1**	**+1.5**
MESJ				*e*S		**Sn**	**22 06 45.0**	**0.0**
MESJ				IAML			22 06 45.8	
	comp=N,12nm,0.1s							
MESJ	**Messejana**	**1.50**	**354**	*e*P		**Pn**	**22 06 28.1**	**+1.5**
MESJ				*e*S		**Sn**	**22 06 45.3**	**+0.3**
MESJ				*i* IAML			22 06 45.9	
MESJ				*i* IAML			22 06 46.7	
MESJ				*i* IAML			22 06 48.7	
PBEJ	**Beja**	**1.68**	**4**	*e*P		**Pn**	**22 06 26.0**	**-3.2**
PBEJ				*e*S		**Sn**	**22 06 49.4**	**-0.1**
PBEJ				*i* IAML			22 06 51.9	
PBEJ				*i* IAML			22 06 52.0	
PBEJ				*i* IAML			22 06 53.0	
EMIN	**Mina Concepcio**	**1.78**	**37**	Pn		**Pn**	**22 06 31.5**	**+1.0**
EMIN				Sn		**Sn**	**22 06 51.3**	**-0.8**

EMIN	**Mina Concepcio**	**1.78**	**37**	Pn	**Pn**	**22 06 31.6**	**+1.0**
EMIN				Sn	**Sn**	**22 06 52.0**	**0.0**
EMIN				*i* IVmb_Lg		22 06 54.3	
ESPR	**Espera**	**1.82**	**73**	Pn	**Pn**	**22 06 32.7**	**+1.7**
ESPR				Sn	**Sn**	**22 06 53.3**	**+0.2**
ESPR	**Espera**	**1.82**	**73**	Pn	**Pn**	**22 06 32.8**	**+1.7**
ESPR				Sn	**Sn**	**22 06 53.2**	**+0.2**
ESPR				*i* IVmb_Lg		22 06 55.6	
PBAR	**Barrancos**	**1.99**	**23**	Pn	**Pn**	**22 06 34.4**	**+1.1**
PBAR				Sn	**Sn**	**22 06 57.0**	**-0.1**
PBAR	**Barrancos**	**1.99**	**23**	*e*P	**Pn**	**22 06 34.6**	**+1.2**
PBAR				*e*S	**Sn**	**22 06 56.9**	**-0.2**
PBAR				*i* IAML		22 06 58.7	
PBAR				*i* IAML		22 06 59.5	
PBAR				*i* IAML		22 07 04.5	
EVO	**Evora**	**2.18**	**0**	Pn	**Pn**	**22 06 37.2**	**+1.2**
EVO				Sn	**Sn**	**22 07 00.7**	**-1.1**
EVO	**Evora**	**2.18**	**0**	*e*P	**Pn**	**22 06 38.7**	**+2.7**
EVO				*e*S	**Sn**	**22 07 01.2**	**-0.6**
EVO				*i* IAML		22 07 02.9	
EVO				*i* IAML		22 07 04.8	
PACT	**Alcochete**	**2.50**	**345**	*e*S	**Sn**	**22 07 10.3**	**+0.6**
PACT				*i* IAML		22 07 18.1	
PACT				*i* IAML		22 07 28.5	
EBAD	**Badajoz**	**2.53**	**18**	Pn	**Pn**	**22 06 42.0**	**+1.1**
EBAD				Sn	**Sn**	**22 07 09.9**	**-0.7**
EBAD	**Badajoz**	**2.53**	**18**	Pn	**Pn**	**22 06 42.1**	**+1.1**
EBAD				Sn	**Sn**	**22 07 09.8**	**-0.8**
EBAD				*i* IVmb_Lg		22 07 12.3	
PESTR	**Estremoz**	**2.54**	**8**	*e*P	**Pn**	**22 06 42.9**	**+1.9**
PESTR				*e*S	**Sn**	**22 07 10.1**	**-0.7**
PESTR				*i* IAML		22 07 11.0	
PESTR				*i* IAML		22 07 13.2	
PESTR				*i* IAML		22 07 21.9	
PARRA	**Arraiolos**	**2.59**	**342**	*e*P	**Pn**	**22 06 41.2**	**-0.5**
PARRA				*e*S	**Sn**	**22 07 07.6**	**-4.4**
PARRA				*i* IAML		22 07 10.7	
PARRA				*i* IAML		22 07 10.7	
PARRA				*i* IAML		22 07 11.1	
EMIJ	**Mijas**	**2.63**	**84**	Sn	**Sn**	**22 07 15.6**	**+2.5**
EMIJ				*i* IVmb_Lg		22 07 16.2	
ECAB	**El Cabril**	**2.70**	**50**	Pn	**Pn**	**22 06 44.6**	**+1.3**
ECAB				Sn	**Sn**	**22 07 12.4**	**-2.4**
ECAB	**El Cabril**	**2.70**	**50**	Pn	**Pn**	**22 06 44.3**	**+1.1**
ECAB				Sn	**Sn**	**22 07 12.8**	**-2.1**
ECAB				*i* IVmb_Lg		22 07 22.9	
PMTG	**Montargil**	**2.72**	**357**	*e*P	**Pn**	**22 06 44.7**	**+1.3**
PMTG				*e*S	**Sn**	**22 07 14.7**	**-0.5**
PMTG				*i* IAML		22 07 15.5	
PMTG				*i* IAML		22 07 16.4	
PMTG				*i* IAML		22 07 16.6	
ZHG	**ZHG**	**3.11**	**158**	P	**Pn**	**22 06 48.7**	**-0.2**
ZHG	**ZHG**	**3.11**	**158**	S	**Sn**	**22 07 24.3**	**-0.7**
PMRV	**Marv??o**	**3.12**	**9**	*e*P	**Pn**	**22 06 50.1**	**+1.2**
PMRV				*e*S	**Sn**	**22 07 24.2**	**-0.7**
PMRV				*i* IAML		22 07 25.9	
PMRV				*i* IAML		22 07 26.3	
PMRV				*i* IAML		22 07 26.3	
EGOR	**Sierra Gorda,**	**3.24**	**75**	Sn	**Sn**	**22 07 29.4**	**+1.2**
EGOR				*i* IVmb_Lg		22 07 31.4	
PSARD	**Sardoal**	**3.25**	**358**	*e*P	**Pn**	**22 06 52.2**	**+1.5**
PSARD				*e*S	**Sn**	**22 07 27.8**	**-0.4**
PSARD				*i* IAML		22 07 28.6	
PSARD				*i* IAML		22 07 29.0	
PSARD				*i* IAML		22 07 29.8	
EADA	**Adamuz**	**3.30**	**56**	Pn	**Pn**	**22 06 52.8**	**+1.4**
EADA				Sn	**Sn**	**22 07 27.7**	**-1.8**
EADA	**Adamuz**	**3.30**	**56**	Pn	**Pn**	**22 06 52.8**	**+1.4**
EADA				Sn	**Sn**	**22 07 28.5**	**-1.0**
EADA				*i* IVmb_Lg		22 07 30.1	
PCBR	**Castelo Branco**	**3.51**	**7**	*e*P	**Pn**	**22 06 55.7**	**+1.4**
PCBR				*e*S	**Sn**	**22 07 34.2**	**-0.5**
PCBR				*i* IAML		22 07 35.0	
PCBR				*i* IAML		22 07 35.3	
PCBR				*i* IAML		22 07 39.6	
ELGU	**Los Guajares,**	**3.58**	**80**	Sn	**Sn**	**22 07 37.6**	**+1.1**
ELGU				*i* IVmb_Lg		22 07 44.1	
PCAS	**Casmilo, Conde**	**3.72**	**354**	*e*S	**Sn**	**22 07 38.6**	**-1.2**
PCAS				*i* IAML		22 07 42.4	
PCAS				*i* IAML		22 07 45.2	
PCAS				*i* IAML		22 07 54.9	
EQUE	**Quentar**	**3.78**	**76**	*i* IVmb_Lg		22 07 33.5	
EQUE				Sn	**Sn**	**22 07 41.5**	**0.0**
EPLA	**Plasencia**	**4.01**	**22**	Pn	**Pn**	**22 07 02.6**	**+1.3**
EPLA				Sn	**Sn**	**22 07 45.1**	**-2.1**
PSIM	**Granatula de C**	**4.19**	**53**	Pn	**Pn**	**22 07 05.2**	**+1.5**
PSIM				Sn	**Sn**	**22 07 50.3**	**-1.4**
EQES	**Quesada**	**4.22**	**68**	Pn	**Pn**	**22 07 06.2**	**+2.0**
EQES				Sn	**Sn**	**22 07 52.1**	**-0.3**
EQES				*i* IVmb_Lg		22 07 58.4	
PAB	**San Pablo**	**4.32**	**41**	Pn	**Pn**	**22 07 06.8**	**+1.4**
PAB				Sn	**Sn**	**22 07 50.6**	**-4.1**
PAB				*i* IVmb_Lg		22 07 55.7	
MD31	**MD31**	**4.40**	**141**	P	**Pn**	**22 07 06.1**	**-0.4**
MD31	**MD31**	**4.40**	**141**	S	**Sn**	**22 07 54.2**	**-2.5**
ESDC	**Sonseca Array**	**4.62**	**43**	Pn	**Pn**	**22 07 10.8**	**+1.2**
ESDC				*i* IVmb_Lg		22 07 56.8	
ESDC				Sn	**Sn**	**22 07 59.6**	**-2.5**
ESBB	**Sonseca Array**	**4.62**	**43**	Sn	**Sn**	**22 07 59.7**	**-2.4**
MVO	**Moncorvo**	**4.87**	**9**	*e*P	**Pn**	**22 07 14.6**	**+1.5**
MVO				*e*S	**Sn**	**22 08 05.4**	**-3.0**
MVO				*i* IAML		22 08 08.9	
MVO				*i* IAML		22 08 15.0	
MVO				*i* IAML		22 08 19.0	
POLO	**Lamas de Olo**	**5.02**	**2**	*e*P	**Pn**	**22 07 16.3**	**+1.2**
POLO				*e*S	**Sn**	**22 08 10.3**	**-1.7**
POLO				*i* IAML		22 08 12.0	
POLO				*i* IAML		22 08 12.9	
POLO				*i* IAML		22 08 19.3	
GUD	**Guadarrama**	**5.25**	**34**	Pn	**Pn**	**22 07 19.9**	**+1.6**
GUD				*i* IVmb_Lg		22 08 23.1	
PCAB	**Cabril**	**5.35**	**0**	*e*S	**Sn**	**22 08 19.3**	**-0.9**
TIO	**Tiouine**	**5.45**	**173**	P	Pn	22 07 18.8	-2.3
TIO	**Tiouine**	**5.45**	**173**	S	**Sn**	**22 08 19.7**	**-3.0**
ELOB	**Lobios**	**5.51**	**360**	Sn	**Sn**	**22 08 21.2**	**-2.9**
ECAL	**Calabor**	**5.67**	**10**	Pn	**Pn**	**22 07 25.7**	**+1.6**
ECAL				Sn	**Sn**	**22 08 24.8**	**-3.3**
TTIG	**Tnine Tigouga,**	**5.80**	**184**	P	Pn	22 07 23.9	-2.0

AUST 16 22:10:22.9±1.1,19°S±8°×12°1E±°,h12km±11km,mb4.6/4, ML3.1/6,Error ellipse: s-maj=21.4km s-min=4.9km az=143.2,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.72**	**198**	P	Pn	22 11 06.6	+0.1
MBWA				S	Sn	22 11 41.4	+2.1
PSAC1	**Pilbara Seismi**	**3.06**	**195**	P	Pn	22 11 11.7	+0.6
PSAC1				S	Sn	22 11 48.1	+0.4
PSA00	**Pilbara Seismi**	**3.09**	**194**	P	Pn	22 11 12.2	+0.7
PSA00				S	Sn	22 11 49.3	+0.9
PSAA1	**Pilbara Seismi**	**3.10**	**194**	P	Pn	22 11 11.9	+0.3
PSAA1				S	Sn	22 11 49.6	+1.1
FITZ	**Fitzroy Crossi**	**4.76**	**85**	P	Pn	22 11 34.6	+0.1
FITZ	**Fitzroy Crossi**	**4.76**	**85**	S	Sn	22 12 30.4	+0.6
GIRL	**Giralia**	**7.25**	**235**	P	Pn	22 12 04.8	-4.0
MEEK	**Meekatharra** comp=E,68nm,1.6s,comp=Z,0.1nm	**8.25**	**193**	P	Pn	22 12 21.6	-0.9
MEEK	**Meekatharra**	**8.25**	**193**	S	Sn	22 13 50.9	-4.9
KNRA	**Kununurra** comp=Z,39nm,1.1s,comp=Z,0.1nm	**8.27**	**71**	P	Pn	22 12 23.3	+0.5
KNRA				S	Sn	22 13 55.5	-0.7
WRKA	**Warakurna** comp=Z,27nm,1.1s,comp=Z,0.1nm	**9.59**	**134**	P	Pn	22 12 42.2	+1.3
WRKA				S	Sn	22 14 28.8	+0.2
MORW	**Morawa** comp=Z,153nm,0.9s	**11.27**	**201**	P	Pn	22 13 00.8	-3.1
MORW	**Morawa**	**11.27**	**201**	S	Sn	22 14 58.6	-11

AFAD 16 22:16:02.9,41°.12N×43°.73E,h7km±3km,ML1.5, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAK	**Akyaka**	**0.44**	**192**	P	Pg	22 16 11.2	-0.3
EAK				S	Sb	22 16 18.9	-1.0
EAK				*i* IAML		22 16 19.0	
DIGO	comp=E,42nm,0.2s **Kars**	**0.75**	**201**	P	Pg	22 16 17.7	+0.4
DIGO				S	Sb	22 16 28.3	-0.7
DIGO				*i* IAML		22 16 31.0	
	comp=E,22nm,0.4s						
DIGO				*i* IAML		22 16 35.0	
	comp=N,26nm,0.4s						
BOZK	**Kars-Merkez-Bo**	**0.77**	**228**	P	Pb	22 16 18.7	-0.1
BOZK				S	Sb	22 16 29.6	0.0
AHAN	**Ardahan-Merkez**	**0.83**	**274**	P	Pg	22 16 18.9	-0.1
AHAN				S	Sb	22 16 31.0	-0.3
EPOS	**Posof**	**0.85**	**298**	P	Pg	22 16 19.6	+0.4
EPOS				S	Sb	22 16 31.5	-0.2
GOLE	**Ardahan-G¶le**	**0.90**	**252**	P	Pg	22 16 20.2	0.0
GOLE				S	Sb	22 16 34.2	+1.0
GOLE				*i* IAML		22 17 00.0	
	comp=N,14nm,1.3s						
GOLE				*i* IAML		22 17 00.0	
	comp=E,12nm,1.0s						
IGDI	**IGDIR**	**1.27**	**168**	P	Pn	22 16 25.8	-1.4
IGDI				S	Sb	22 16 39.1	-4.7
DAGI	**Agillar**	**1.37**	**269**	P	Pg	22 16 29.7	+0.5
DAGI				S	Sn	22 16 49.3	+2.3
DAGI				*i* IAML		22 17 16.0	
	comp=E,7.5nm,1.5s						
DAGI				*i* IAML		22 17 20.0	
	comp=N,8.1nm,1.5s						
DDEM	**Demirkent**	**1.51**	**262**	P	Pg	22 16 31.8	-0.1
DDEM				S	Sg	22 16 53.6	+2.1

*IDC **16** 22:57:45.5±1.3,18°.60N×93°.00E,h0km,mb3.8/9, mbtmp3.8/10,ML4.2/1,MS3.6/1,Error ellipse: s-maj=50.7km s-min=18.5km az=54.0*

ISC 16 22:57:51.0±1.3,18°.7N±0°.2×93°.2E±0°.1,h35km,n11, σ1s20/11,mb3.8/9,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.46**	**91**	Pn	**Pn**	**22 59 08.8**	**-1.1**
	1.8nm,0.3s,baz=273,slow=12,SNR=5.1						
CMAR				Sn	**Sn**	**23 00 11.8**	**+0.2**
	0.5nm,0.3s,baz=272,slow=16,SNR=1.1						
	2.1nm,0.3s						
TGY	**Tagaytay City**	**26.99**	**95**	LR	LR	23 15 29.1	
	comp=Z,130nm,20.6s,baz=236,slow=39						
MKAR	**Makanchi Array**	**29.47**	**345**	P	**P**	**23 03 49.6**	**-1.9**
	0.5nm,0.4s,baz=160,slow=9.5,SNR=12						
	0.5nm,0.4s						
SONM	**Songino Array**	**31.04**	**17**	P	**P**	**23 04 07.5**	**+1.9**
	0.4nm,0.5s,baz=198,slow=12,SNR=2.9						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**33.97**	**343**	P	**P**	**23 04 31.6**	**+0.5**
	0.8nm,0.6s,baz=161,slow=8.2,SNR=6.6						
	0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**35.82**	**352**	P	**P**	**23 04 46.6**	**-0.3**
	1.0nm,0.5s,baz=171,slow=10,SNR=5.1						
	1.0nm,0.5s						
BVAR	**Borovoye Array**	**38.62**	**338**	P	**P**	**23 05 10.6**	**-0.1**
	0.1nm,0.3s,baz=158,slow=4.7,SNR=2.1						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**55.68**	**131**	P	**P**	**23 07 24.6**	**+0.5**
	0.5nm,0.5s,baz=321,slow=8.8,SNR=4.8						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**57.86**	**135**	P	**P**	**23 07 40.3**	**+0.8**
	0.6nm,0.5s,baz=313,slow=6.9,SNR=4.9						
	0.6nm,0.5s						
FINES	**FINESS Array B**	**62.87**	**330**	P	**P**	**23 08 12.6**	**-0.6**
	2.3nm,0.9s,baz=148,slow=15,SNR=3.7						
	2.3nm,0.9s						
HFS	**Hagfors**	**68.80**	**328**	P	**P**	**23 08 50.4**	**-1.0**
	6.2nm,1.3s,baz=141,slow=11,SNR=1.7						
	6.2nm,1.3s						

IDC 16 23:06:49.9±1.5,0°.37S×128°.24E,h0km,mb3.5/4, mbtmp3.7/5,ML3.9/1,MS4.0/2,Error ellipse: s-maj=55.1km s-min=23.2km az=70.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.65**	**241**	Pn	Pn	23 09 10.4	+0.4
	1.2nm,0.3s,baz=76,slow=18,SNR=7.3						
	3.6nm,0.4s						
WRA	**Warramunga Arr**	**20.34**	**163**	P	P	23 11 27.8	-0.2
	0.7nm,0.9s,baz=341,slow=10,SNR=2.3						
	0.7nm,0.9s						
LEM	**Lembang**	**21.55**	**252**	LR	LR	23 19 51.8	
	comp=Z,227nm,21.2s,baz=156,slow=36						
ASAR	**Alice Springs**	**23.80**	**167**	P	P	23 12 04.7	+0.2
	1.6nm,0.9s,baz=344,slow=11,SNR=10						
	1.6nm,0.9s						
PALK	**Pallekele**	**48.02**	**280**	LR	LR	23 38 43.0	
	comp=Z,223nm,18.0s,baz=46,slow=40						
MKAR	**Makanchi Array**	**61.77**	**326**	P	P	23 17 11.2	+0.8
	0.3nm,0.4s,baz=122,slow=7.3,SNR=4.3						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**65.99**	**328**	P	P	23 17 37.3	-0.8
	0.9nm,0.9s,baz=131,slow=6.1,SNR=6.4						
	0.9nm,0.9s						

AUST 16 23:15:57.1±1.6,18°S±14°×12°1E±1°7,h10km,mb3.8/1, ML2.6/3,ML3.0/3,Error ellipse: s-maj=46.9km s-min=7.0km az=129.0,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.87**	**197**	P	Pn	23 16 43.6	+0.6
MBWA				S	Sn	23 17 17.8	+0.3
PSAC1	**Pilbara Seismi**	**3.21**	**194**	P	Pn	23 16 47.3	-0.3
PSAC1				S	Sn	23 17 27.0	+1.1
FITZ	**Fitzroy Crossi**	**4.75**	**87**	P	Pn	23 17 09.3	+0.5
GIRL	**Giralia**	**7.34**	**234**	P	Pn	23 17 38.8	-5.6
KNRA	**Kununurra** comp=Z,13nm,2.2s,comp=Z,0.1nm	**8.22**	**72**	P	Pn	23 17 56.0	-0.6

*AZER **16** 23:20:18.9,41°.11N×44°.05E,h6km,ml2.7*
*NORS **16** 23:20:19.5,41°.39N×43°.95E,h2km,MPVA3.4*
*DRS **16** 23:20:22.5,41°.06N×43°.86E,h15km*

ISC 16 23:20:20.3±0.9,41°.24N±0°.02×43°.99E±0°.04,h10km,n31, σ1s42/61,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZX	**Qazax, Azerbai**	**1.06**	**99**	P	**Pg**	**23 20 40.4**	**-0.2**
QZX				S	**Sn**	**23 20 56.1**	**+0.1**
IGDI	**IGDIR**	**1.37**	**177**	P	Pn	23 20 45.2	-0.3
IGDI				S	**Sg**	**23 21 04.0**	**-0.4**
GDB	**GEDABAY**	**1.43**	**111**	P	Pn	23 20 46.3	-0.2
GDB				S	**Sg**	**23 21 05.9**	**-0.4**
LACR	**Lac**	**1.60**	**8**	*e*Pg	**Pb**	**23 20 49.2**	**-0.8**
LACR				*e*Sg	**Sb**	**23 21 09.9**	**-0.5**
HYR	**Heyderabad**	**1.65**	**156**	P	**Pb**	**23 20 51.1**	**+0.2**
HYR				S	**Sg**	**23 21 15.0**	**+1.5**
DIGR	**Digorskoe uzhe**	**1.69**	**350**	*e*Pg	**Pb**	**23 20 50.6**	**-0.9**
DIGR				*e*Sg	**Sg**	**23 21 13.7**	**-0.8**
KORR	**Kora**	**1.85**	**2**	*e*Pg	**Pb**	**23 20 54.2**	**0.0**
KORR				*e*Sg	**Sg**	**23 21 19.4**	**-0.2**
GANJ	**Ganja**	**1.86**	**108**	P	**Pb**	**23 20 53.7**	**-0.6**
GANJ				S	**Sb**	**23 21 18.9**	**+1.2**
KMGR	**Komgaron**	**1.93**	**19**	*e*Pg	**Pb**	**23 20 55.7**	**+0.1**
KMGR				*e*Sg	**Sg**	**23 21 22.9**	**+0.6**
ARNR	**Ardon**	**1.95**	**6**	*e*Pg	**Pg**	**23 20 56.3**	**-1.4**
ARNR				*e*Sg	**Sg**	**23 21 23.0**	**0.0**
ZKTA	**Zakatala**	**2.02**	**78**	P	**Pb**	**23 20 56.8**	**-0.2**
ZKTA				S	**Sg**	**23 21 24.4**	**-0.7**
BTKR	**Batakoyurt**	**2.17**	**11**	*e*Pg	**Pb**	**23 20 59.9**	**+0.2**
BTKR				*e*Sg	**Sg**	**23 21 28.6**	**-1.4**
BTLR	**Botlikh** 5.0nm,0.4s	**2.19**	**49**	*e*Pn	**Pb**	**23 20 59.8**	**-0.2**
BTLR	47nm,0.4s			*e*Sn	**Sb**	**23 21 28.7**	**+1.5**
SBZ	**Shahbuz**	**2.19**	**147**	P	**Pb**	**23 21 00.3**	**+0.2**
SBZ				S	**Sb**	**23 21 28.2**	**+0.9**
GROC	**Groznyy** 9.0nm,0.3s	**2.38**	**34**	*e*Pn	**Pg**	**23 21 04.8**	**-1.0**
GROC	81nm,0.5s			*e*Sn	**Sg**	**23 21 37.4**	**+0.8**
MNGR	**Mingechevir, A**	**2.39**	**100**	S	**Sb**	**23 21 31.2**	**-1.5**
SEKA	**Sheki**	**2.42**	**90**	P	**Pb**	**23 21 03.5**	**-0.4**
SEKA				S	**Sb**	**23 21 34.3**	**+0.5**
KMKR	**Kumukh** 8.0nm,0.5s	**2.49**	**68**	*e*Pn	**Pb**	**23 21 05.1**	**-0.1**
KMKR	64nm,0.6s			*e*Sn	**Sb**	**23 21 38.0**	**+1.9**
GNBR	**Gunib**	**2.50**	**62**	*e*Pn	**Pb**	**23 21 06.3**	**+1.0**
GNBR	7.0nm,0.5s			*e*Sn	**Sg**	**23 21 39.4**	**-1.2**
UNCR	**Uncukul** 6.0nm,0.5s	**2.56**	**54**	*e*Pn	**Pb**	**23 21 06.3**	**0.0**
UNCR	59nm,0.5s			*e*Sn	**Sg**	**23 21 40.4**	**-2.0**
ARKR	**Arakani** 3.0nm,0.4s	**2.62**	**58**	*e*Pn	**Pb**	**23 21 07.9**	**+0.5**
ARKR	15nm,0.4s			*e*Sn	**Sg**	**23 21 42.4**	**-2.1**
AGDM	**Agdam**	**2.62**	**114**	P	**Pn**	**23 21 03.6**	**+0.9**
AGDM				S	**Sb**	**23 21 38.0**	**-1.7**
DLMR	**Dylym** 14nm,0.4s	**2.68**	**46**	*e*Pn	**Pb**	**23 21 08.8**	**+0.5**
DLMR	60nm,0.5s			*e*Sn	**Sg**	**23 21 44.6**	**-1.8**
KRNR	**Karanay** 1.0nm,0.9s	**2.69**	**53**	*e*Pn	**Pb**	**23 21 08.9**	**+0.4**
KRNR	10.0nm,0.4s			*e*Sn	**Sg**	**23 21 44.2**	**-2.5**
ORD	**Ordubad**	**2.77**	**146**	P	**Pb**	**23 21 07.5**	**-2.4**
ORD				S	**Sb**	**23 21 42.7**	**-1.2**
AKT	**Akhty** 5.0nm,0.2s	**2.82**	**84**	*e*Pn	**Pb**	**23 21 10.1**	**-0.7**
AKT	25nm,0.5s			*e*Sn	**Sb**	**23 21 46.9**	**+1.4**
QBL	**Gabala**	**2.92**	**94**	P	**Pb**	**23 21 09.9**	**-2.5**
QBL				S	**Sb**	**23 21 47.2**	**-1.0**
XNQ	**Khinaliq**	**3.13**	**90**	P	**Pn**	**23 21 12.2**	**+2.3**
XNQ				S	**Sb**	**23 21 51.9**	**-2.5**
KSMR	**Kasumkent** 8.0nm,0.3s	**3.13**	**82**	*e*Pn	**Pb**	**23 21 13.2**	**-2.9**
KSMR	56nm,0.5s			*e*Sn	**Sb**	**23 21 52.1**	**-2.2**
PQL	**Pirkuli**	**3.51**	**96**	P	**Pn**	**23 21 17.2**	**+2.2**
PQL				S	**Sn**	**23 22 00.9**	**+4.2**
YRD	**Yardimli**	**4.00**	**124**	P	**Pn**	**23 21 23.1**	**+1.3**
YRD				S	**Sn**	**23 22 10.3**	**+1.5**

*IDC **16** 23:26:35.7±9.8,25°.18S×179°.93W,h495km±99km,mb3.2/2, mbtmp4.2/4,Error ellipse: s-maj=81.9km s-min=31.2km az=35.0*

ISC 16 23:26:35.2±1.5,25°.2S±0°.1×179°.9W±0°.3,h496km,n9, σ0s96/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.28**	**190**	P	**P**	**23 29 28.0**	**+0.9**
	4.2nm,0.3s,baz=0.0,slow=20,SNR=8.2						
URZ				S	**S**	**23 31 47.9**	**-1.1**
	16nm,0.9s,baz=0.0,slow=15,SNR=1.2						
RPZ	**Rata Peaks**	**19.91**	**200**	P	**P**	**23 30 33.6**	**+0.5**
	2.8nm,0.4s,baz=34,slow=19,SNR=0.9						
ASAR	**Alice Springs**	**41.94**	**262**	P	**P**	**23 33 42.5**	**+0.4**
	0.8nm,0.4s,baz=95,slow=7.1,SNR=16						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**42.44**	**268**	P	**P**	**23 33 46.0**	**-0.1**
	2.2nm,0.4s,baz=103,slow=7.8,SNR=16						
	2.2nm,0.4s						
ARCES	**ARCESS Array B**	**133.16**	**348**	PKP	**PKPdf**	**23 44 53.5**	**+0.2**
	3.0nm,1.0s,baz=50,slow=2.9,SNR=2.6						
FINES	**FINESS Array B**	**139.69**	**341**	PKhKP	PKPpre	23 44 59.0	
	1.2nm,0.9s,baz=50,slow=4.3,SNR=1.5						
HFS	**Hagfors**	**143.82**	**349**	PKP	**PKPdf**	**23 45 12.9**	**0.0**
	2.0nm,0.6s,baz=35,slow=3.5,SNR=14						
MMAI	**Mount Meron Ar**	**148.30**	**292**	PKPbc	**PKPbc**	**23 45 23.9**	**-1.7**
	1.3nm,0.5s,baz=67,slow=3.7,SNR=5.1						
BRTR	**Keskin Array B**	**148.42**	**306**	PKPbc	**PKiKP**	**23 45 27.5**	**+0.5**
	0.5nm,0.7s,baz=90,slow=2.9,SNR=4.1						

*CATAC **16** 23:38:10.2±1.7,7°N±5°×7°3W±1°2,h160km±19km,M3.6/8, MLv3.6/8,Error ellipse: s-maj=25.6km s-min=9.8km az=83.5,confirmed*
*RSNC **16** 23:38:12.4±0.0,7°N±1°×7°3W±°,h142km±2km,M3.1, mB6.0,ML3.0,Mw(mB)5.6*

ISC 16 23:38:10.0±1.3,6°.84N±0°.03×73°.06W±0°.04,h155km±7km, n42,σ1s34/79,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**207**	P	**Pn**	**23 38 31.7**	**+0.3**
BARC				S	**Sn**	**23 38 46.5**	**-1.2**
PAMC	**Pamplona, Colo**	**0.61**	**35**	P	**Pn**	**23 38 34.8**	**+1.7**
PAMC				S	**Sn**	**23 38 51.1**	**+0.1**
BRJC	**Barrancabermej**	**0.69**	**281**	P	**Pn**	**23 38 33.5**	**+0.5**
BRJC				S	**Sn**	**23 38 50.1**	**-0.5**
RUSC	**La Rusia**	**0.94**	**182**	P	**Pn**	**23 38 35.2**	**-0.2**
RUSC	**La Rusia**	**0.94**	**182**	P	**Pn**	**23 38 35.6**	**+0.2**
RUSC				S	**Sn**	**23 38 53.7**	**-1.1**
TAMC	**Tame, Arauca**	**1.32**	**108**	P	**Pn**	**23 38 40.1**	**+1.9**
TAMC				S	**Sn**	**23 39 00.3**	**+0.5**
OCAC	**Ocana**	**1.42**	**349**	P	**Pn**	**23 38 40.1**	**+0.8**
OCAC				S	**Sn**	**23 39 01.8**	**0.0**
PTBC	**PUERTO BERRIO,**	**1.42**	**258**	P	**Pn**	**23 38 38.3**	**-0.9**
PTBC				S	**Sn**	**23 38 59.2**	**-2.3**
ZARC	**Zaragoza, Cauc**	**1.90**	**290**	P	**Pn**	**23 38 44.9**	**+0.6**
ZARC				S	**Sn**	**23 39 10.9**	**+0.2**
NORC	**Norcasia**	**2.20**	**235**	P	**Pn**	**23 38 47.5**	**-0.4**
NORC				S	**Sn**	**23 39 15.6**	**-1.4**
CHIC	**Chingaza**	**2.29**	**197**	P	**Pn**	**23 38 50.0**	**+0.7**
CHIC				S	**Sn**	**23 39 18.9**	**-0.7**
ROSC	**El Rosal**	**2.35**	**212**	P	**Pn**	**23 38 51.6**	**+1.6**
ROSC				S	**Sn**	**23 39 21.2**	**+0.5**
CVER	**Cruz Verde, Cu**	**2.51**	**204**	P	**Pn**	**23 38 53.2**	**+1.2**
CVER				S	**Sn**	**23 39 25.4**	**+1.0**
HELC	**Santa Helena**	**2.54**	**256**	P	**Pn**	**23 38 52.6**	**+0.4**

IDC 16 23:46:57.2±1.3,2°55S×138°40E,h0km,mb3.6/3, mbtmp3.7/5,ML3.8/2,MS3.3/2,Error ellipse: s-maj=29.2km s-min=25.8km az=139.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.30**	**89**	Pn	Pn	23 47 36.9	+0.4
	10nm,0.3s,baz=224,slow=10,SNR=34						
JAY				Sn	Sn	23 48 04.6	-1.0
	5.2nm,0.3s,baz=289,slow=21,SNR=4.4						
JAY				LR	LR	23 48 45.1	
	comp=Z,292nm,19.1s,baz=220,slow=47 27nm,0.3s						
WRA	**Warramunga Arr**	**17.73**	**193**	P	P	23 51 06.5	-0.2
	0.4nm,0.3s,baz=17,slow=12,SNR=7.7 2.0nm,0.6s						
ASAR	**Alice Springs**	**21.43**	**191**	P	P	23 51 46.1	-1.0
	1.3nm,0.6s,baz=18,slow=10,SNR=8.8 1.3nm,0.6s						
JNU	**Nakatsue**	**36.19**	**349**	LR	LR	00 05 45.7	
	comp=Z,101nm,21.5s,baz=302,slow=31						
MKAR	**Makanchi Array**	**69.48**	**322**	P	P	23 58 06.8	-0.8
	0.5nm,0.9s,baz=122,slow=5.2,SNR=2.1 0.5nm,0.9s						
ILAR	**Eielson Array**	**85.82**	**24**	P	P	23 59 39.5	+1.1
	0.6nm,0.7s,baz=257,slow=4.4,SNR=6.6 0.6nm,0.7s						

*IDC **16** 23:47:01.5±24.0,22°85S×179°65E,h383km±259km, mb3.3/5,mbtmp4.1/5,Error ellipse: s-maj=146.6km s-min=59.9km az=1.0*

ISC 16 23:47:14.9±2.0,24°0S±1°0×179°7E±0°4,h550km,n7, σ0s51/6,mb3.8/5,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.40**	**248**	P	**P**	**23 53 16.4**	**-0.3**
	1.1nm,0.4s,baz=83,slow=16,SNR=4.3 1.1nm,0.4s						
ASAR	**Alice Springs**	**41.72**	**261**	P	**P**	**23 54 16.3**	**-0.1**
	0.7nm,0.4s,baz=90,slow=6.7,SNR=8.5 0.7nm,0.4s						
WRA	**Warramunga Arr**	**42.10**	**266**	P	**P**	**23 54 19.1**	**-0.2**
	1.7nm,0.3s,baz=98,slow=8.4,SNR=15 1.7nm,0.3s						
FITZ	**Fitzroy Crossi**	**50.52**	**266**	P	**P**	**23 55 23.6**	**+0.6**
	3.5nm,1.0s,baz=112,slow=7.2,SNR=2.0 3.5nm,1.0s						
TXAR	**Lajitas Array**	**90.75**	**58**	P	**P**	**23 59 20.0**	**+0.2**
	0.4nm,0.8s,baz=207,slow=7.1,SNR=5.7 0.4nm,0.8s						
HFS	**Hagfors**	**142.62**	**348**	PKhKP	PKPpre	00 05 42.2	
	1.0nm,0.4s,baz=45,slow=2.7,SNR=21						
EKA	**Eskdalemuir Ar**	**148.67**	**3**	PKPbc	**PKPbc**	**00 05 59.4**	**-0.5**
	0.8nm,0.9s,baz=342,slow=2.3,SNR=3.5						

*IDC **16** 23:49:06.8±0.7,14°39N×56°31E,h0km,mb4.1/26, mbtmp4.1/26,ML1.5/1,MS3.9/9,Error ellipse: s-maj=18.1km s-min=14.3km az=17.0*
*NEIC **16** 23:49:10.6±1.8,14°56N±0°04×56°22E±0°09,h10km±1km, mb4.7/41,Error ellipse: s-maj=16.5km s-min=5.1km az=69.0*

ISC 16 23:49:10.6±0.5,14°49N±0°08×56°28E±0°07,h19km,n168, σ1s18/171,mb4.5/69,MS3.8/9,33C-15D,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**8.98**	**14**	Pn	**Pn**	**23 51 20.8**	**+1.4**
	baz=127,slow=20,SNR=1.7						
UOSS	**Minazif**	**10.40**	**360**		**Pn**	**23 51 38.5**	**-0.3**
RAYN	**Ar Rayn**	**13.58**	**313**		**Pn**	**23 52 20.8**	**-1.5**
KBL	**Kabul**	**23.05**	**28**		**P**	**23 54 15.4**	**+0.4**
KBL				IAmb	IAmb	23 54 25.3	
	comp=Z,15nm,0.9s						
LODK	**Lodwar**	**23.38**	**244**		**P**	**23 54 20.9**	**+2.4**
PALK	**Pallekele**	**25.02**	**104**	LR	LR	00 03 04.7	
	comp=Z,195nm,18.2s,baz=52,slow=34						
OZAP	**Van, Ozalp-Mer**	**26.41**	**338**	⇑P	**P**	**23 54 49.0**	**+2.7**
GEVA	**Gevas**	**26.45**	**336**	P	**P**	**23 54 48.7**	**+2.1**
MMAI	**Mount Meron Ar**	**26.46**	**318**	P	**P**	**23 54 48.4**	**+1.7**
	comp=Z,1.3nm,0.5s,baz=135,slow=9.5,SNR=8.9 comp=Z,1.3nm,0.5s						
SIMJ	**Simiganj**	**26.57**	**23**	P	**P**	**23 54 48.2**	**+0.6**
SIMJ				IAmb	IAmb	23 54 59.0	
	comp=Z,14nm,1.1s						
GURO	**Guroymak-BITLI**	**27.07**	**335**	P	**P**	**23 54 52.3**	**+0.1**
GURO				IAmb	IAmb	23 54 57.1	
	comp=Z,10nm,0.9s						
GAR	**Garm**	**27.37**	**24**	P	**P**	**23 54 54.6**	**-0.2**
GAR				IAmb	IAmb	23 55 07.4	
	comp=Z,14nm,1.0s						
GNI	**Garni**	**27.48**	**341**	P	**P**	**23 54 56.5**	**+0.6**
GNI	**Garni**	**27.48**	**341**	LR	LR	00 07 05.9	
	comp=Z,98nm,19.4s,baz=212,slow=39						
DRK	**Karamyk**	**28.39**	**26**	P	**P**	**23 55 04.6**	**+0.5**
HOMI	**Horasan**	**28.40**	**336**	⇑P	**P**	**23 55 07.0**	**+2.9**
KARS	**Kars**	**28.48**	**339**	P	**P**	**23 55 05.7**	**+1.0**
KARS				IAmb	IAmb	23 55 09.5	
	comp=Z,12nm,1.0s						
KOPT	**Kop Dagi**	**28.95**	**334**	P	**P**	**23 55 09.5**	**+0.4**
KOPT				IAmb	IAmb	23 55 25.5	
	comp=Z,17nm,1.1s						
ARPR	**Arapgir-MALATY**	**29.16**	**331**	P	**P**	**23 55 12.0**	**+1.2**
KSH	**Kashi**	**30.34**	**31**	P	**P**	**23 55 18.3**	**-3.0**
KSH				sP	pP	23 55 24.8	-1.4
KSH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ARSB	**Arslanbob**	**30.42**	**25**	P	**P**	**23 55 22.0**	**+0.1**
KK31	**Karatay Array**	**31.02**	**20**	P	**P**	**23 55 27.5**	**+0.4**
KKAR	**Karatay Array**	**31.02**	**20**	P	**P**	**23 55 27.6**	**+0.5**
KBZ	**Khabaz**	**31.31**	**341**	P	**P**	**23 55 30.7**	**+1.2**
	comp=Z,4.9nm,0.8s,baz=156,slow=7.6,SNR=9.0 comp=Z,4.9nm,0.8s						
EVN	**Everest**	**31.36**	**60**	P	**P**	**23 55 30.9**	**0.0**
EVN				IAmb	IAmb	23 55 39.1	
	comp=Z,9.3nm,0.9s						
KIV	**Kislovodsk**	**31.58**	**341**	P	**P**	**23 55 33.1**	**+1.1**
KIV				IAmb	IAmb	23 55 46.1	
	comp=Z,20nm,1.1s						
KIV	**Kislovodsk**	**31.58**	**341**	⇑P	**P**	**23 55 33.5**	**+1.5**
BRTR	**Keskin Array B**	**32.03**	**326**	P	**P**	**23 55 35.9**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=136,slow=7.7,SNR=5.5						
BRTR				PP	**PP**	**23 56 46.2**	**-2.5**
	comp=Z,1.6nm,1.0s,baz=144,slow=12,SNR=5.0 comp=Z,0.8nm,0.8s						
AAK	**Ala-Archa**	**32.14**	**26**	P	**P**	**23 55 37.9**	**+0.8**
AAK				IAmb	IAmb	23 55 42.4	
	comp=Z,13nm,1.1s						
AAK	**Ala-Archa**	**32.14**	**26**	LR	LR	00 10 15.8	
	comp=Z,122nm,19.2s,baz=253,slow=39						
BOOM	**Boomskoye usch**	**32.65**	**27**	P	**P**	**23 55 42.0**	**+0.4**
BOOM				IAmb	IAmb	23 55 50.5	
	comp=Z,10nm,1.4s						
KDJ	**Kajisay**	**32.94**	**29**	P	**P**	**23 55 44.4**	**+0.3**
ILGA	**Ilgaz**	**32.95**	**328**	P	**P**	**23 55 45.5**	**+1.2**
PRZ	**Przheval'sk**	**33.79**	**30**	P	**P**	**23 55 52.8**	**+1.3**
AB31	**Akbulak array**	**34.80**	**4**	P	**P**	**23 56 00.8**	**+0.8**
ABKAR	**Akbulak array**	**34.80**	**4**	P	**P**	**23 56 00.8**	**+0.8**
SHL	**Shillong**	**35.11**	**66**	P	**P**	**23 56 03.4**	**+0.1**
SHL				IAmb	IAmb	23 56 27.9	
	comp=Z,12nm,1.2s						
AKTO	**Aktyubinsk**	**35.87**	**2**	LR	LR	00 11 00.7	
	comp=Z,166nm,19.5s,baz=346,slow=36						
TIRR	**Tirgusor**	**38.12**	**327**	⇓P	**P**	**23 56 30.2**	**+1.8**
TLBR	**Topalu**	**38.37**	**327**	⇑P	**P**	**23 56 32.1**	**+1.6**
TPGR	**Topolog**	**38.38**	**328**	⇑P	**P**	**23 56 32.1**	**+1.4**
LOZB	**Loznitsa**	**38.39**	**324**	⇑P	**P**	**23 56 31.9**	**+1.1**
HARR	**Harsova**	**38.53**	**327**	⇓P	**P**	**23 56 33.2**	**+1.4**
RAZG	**Razgrad**	**38.56**	**325**	⇑P	**P**	**23 56 33.4**	**+1.2**
CFR	**Carcaliu**	**38.75**	**328**	⇑P	**P**	**23 56 35.6**	**+1.9**
MKAR	**Makanchi Array**	**38.85**	**29**	P	**P**	**23 56 35.0**	**+0.4**
MKAR	**Makanchi Array**	**38.85**	**29**	P	**P**	**23 56 35.0**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=215,slow=7.9,SNR=14						
MKAR				PcP	**PcP**	**23 58 44.7**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=242,slow=3.1,SNR=2.7						
MKAR				LR	LR	00 14 58.2	
	comp=Z,159nm,18.2s,baz=278,slow=40 comp=Z,2.3nm,0.8s						
VLDR	**Vladesti**	**39.24**	**329**	⇑P	**P**	**23 56 37.8**	**+0.1**
TUDR		**39.27**	**328**	⇑P	**P**	**23 56 38.9**	**+0.8**
VARL	**Varlezi**	**39.39**	**328**	⇑P	**P**	**23 56 39.7**	**+0.6**
PLVB	**Pleven**	**39.53**	**323**	⇑P	**P**	**23 56 41.5**	**+1.2**
ISR	**Istrita**	**39.55**	**327**	⇑P	**P**	**23 56 41.3**	**+0.9**
MILM	**Milestii Mici**	**39.63**	**330**	⇑P	**P**	**23 56 41.4**	**+0.4**
WMQ	**Urumqi**	**39.66**	**36**	*e*P	**P**	**23 56 44.3**	**+2.9**
NEHR	**Nehoiu**	**39.88**	**327**	⇓P	**P**	**23 56 45.0**	**+1.8**
VRI	**Vrincioaia**	**39.95**	**328**	⇑P	**P**	**23 56 44.3**	**+0.6**
PLOR	**Plostina**	**39.98**	**327**	⇓P	**P**	**23 56 45.9**	**+1.9**
HUMR	**Humele**	**40.02**	**325**	⇑P	**P**	**23 56 45.9**	**+1.5**
VLAD	**Vladila**	**40.03**	**324**	⇓P	**P**	**23 56 45.0**	**+0.7**
BVAR	**Borovoye Array**	**40.04**	**13**	P	**P**	**23 56 43.9**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=216,slow=7.3,SNR=7.4						
BVAR				PcP	**PcP**	**23 58 49.0**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=204,slow=3.3,SNR=4.4						
BVAR				LR	LR	00 15 57.5	
	comp=Z,100nm,18.8s,baz=251,slow=40 comp=Z,1.4nm,0.8s						
MLR	**Muntele Rosu**	**40.11**	**327**	P	**P**	**23 56 47.0**	**+1.8**
MLR				IAmb	IAmb	23 57 00.8	
	comp=Z,18nm,1.1s						
MLR	**Muntele Rosu**	**40.11**	**327**	⇑P	**P**	**23 56 46.2**	**+0.9**
COVR	**Voineasa-Covas**	**40.20**	**327**	⇓P	**P**	**23 56 47.5**	**+1.6**
KURBB	**Kurchatov Arra**	**40.30**	**22**	P	**P**	**23 56 47.0**	**+0.5**
	comp=Z,4.9nm,0.9s,baz=219,slow=8.1,SNR=19 comp=Z,4.9nm,0.9s						
KURK	**Kurchatov**	**40.40**	**22**	P	**P**	**23 56 47.7**	**+0.3**
TESR	**Tescani**	**40.42**	**328**	⇑P	**P**	**23 56 48.1**	**+0.5**
TURR	**Turia**	**40.44**	**327**	⇑P	**P**	**23 56 48.8**	**+0.9**
VOIR		**40.56**	**326**	⇓P	**P**	**23 56 49.8**	**+0.9**
LSZ	**Lusaka**	**40.58**	**224**	P	**P**	**23 56 50.5**	**+1.1**
OZUR		**40.59**	**327**	⇑P	**P**	**23 56 50.3**	**+1.2**
BOSR	**Bodos**	**40.64**	**327**	⇑P	**P**	**23 56 49.9**	**+0.5**
DOPR	**Dopca**	**40.72**	**327**	⇓P	**P**	**23 56 51.0**	**+0.9**
ARR	**Arges**	**40.74**	**325**	⇓P	**P**	**23 56 51.9**	**+1.5**
CMAR	**Chiang Mai Arr**	**41.03**	**78**	P	**P**	**23 56 53.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**41.03**	**78**	P	**P**	**23 56 53.0**	**-0.1**
	comp=Z,2.0nm,0.3s,baz=276,slow=9.0,SNR=18 comp=Z,2.0nm,0.3s						
PRAR	**RASCA**	**41.21**	**329**	⇑P	**P**	**23 56 53.7**	**-0.4**
LOT	**Lotru**	**41.27**	**325**	⇑P	**P**	**23 56 54.8**	**+0.1**
HERR	**Herculane**	**41.70**	**323**	⇑P	**P**	**23 56 59.2**	**+1.1**
GZR	**Gura Zlata**	**41.79**	**324**	⇓P	**P**	**23 56 59.6**	**+0.6**
BURAR	**Bucovina Array**	**41.88**	**328**	P	**P**	**23 57 00.4**	**+0.6**
BURAR	**Bucovina Array**	**41.88**	**328**	⇑P	**P**	**23 57 00.2**	**+0.4**
BUR08	**Bucovina Ar. S**	**41.91**	**328**	P	**P**	**23 57 00.9**	**+0.9**
ARCR	**ARCALIA**	**41.98**	**327**	⇑P	**P**	**23 57 00.8**	**+0.3**
MDVR	**Moldovita**	**42.05**	**323**	⇓P	**P**	**23 57 01.3**	**+0.2**
CJR	**Cluj-Napoca**	**42.15**	**326**	⇓P	**P**	**23 57 01.9**	**+0.1**
AKASG	**Malin Array Be**	**42.23**	**335**	P	**P**	**23 57 01.8**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=141,slow=7.7,SNR=16						
AKASG				PP	**PP**	**23 58 35.4**	**-4.9**
	comp=Z,0.1nm,0.3s,baz=141,slow=9.6,SNR=1.4						
AKASG				LR	LR	00 18 03.3	
	comp=Z,110nm,18.1s,baz=230,slow=41 comp=Z,3.2nm,0.8s						
AKBB	**Malin Array Si**	**42.23**	**335**	P	**P**	**23 57 01.8**	**-0.5**
AKBB				IAmb	IAmb	23 57 09.7	
	comp=Z,14nm,1.1s						
KIEV	**Kiev**	**42.23**	**334**	P	**P**	**23 57 02.3**	**-0.1**
KIEV				IAmb	IAmb	23 57 09.7	
	comp=Z,11nm,1.1s						
KIEV	**Kiev**	**42.23**	**334**	⇑P	**P**	**23 57 00.9**	**-1.5**
SURR	**Surduc**	**42.38**	**324**	⇓P	**P**	**23 57 04.0**	**+0.4**
MARR	**Marisel-Cluj**	**42.38**	**326**	⇑P	**P**	**23 57 05.0**	**+1.1**
BZS	**Buzias**	**42.58**	**324**	⇑P	**P**	**23 57 05.3**	**0.0**
DRGR		**42.67**	**326**	⇑P	**P**	**23 57 06.4**	**+0.2**
BMR	**Baia Mare**	**42.81**	**327**	⇓P	**P**	**23 57 07.3**	**+0.2**
PZH	**PanZhiHua**	**44.02**	**67**	P	**P**	**23 57 19.3**	**+1.9**
KOLS	**Kolonicke sedl**	**44.24**	**328**	*e*P	**P**	**23 57 22.1**	**+3.4**
MORH	**Mrgy, Hungar**	**44.64**	**323**	⇓P	**P**	**23 57 22.1**	**+0.2**
BLY	**Banja Luka**	**44.76**	**320**	⇑P	**P**	**23 57 22.7**	**-0.2**
STHS	**Stebnicka Huta**	**45.07**	**328**	*e*P	**P**	23 57 30.2	+4.9
ZAA0	**Zalesovo Array**	**45.29**	**23**	P	**P**	**23 57 26.5**	**-0.4**
ZAA0				IAmb	IAmb	23 57 34.1	
	comp=Z,8.1nm,0.8s						
ZALV	**Zalesovo Beam**	**45.29**	**23**	P	**P**	**23 57 26.7**	**-0.2**
ZALV	**Zalesovo Beam**	**45.29**	**23**	P	**P**	**23 57 26.9**	**-0.1**
	comp=Z,8.0nm,0.8s,baz=234,slow=7.1,SNR=23 comp=Z,8.0nm,0.8s						
GTA	**Gaotai**	**45.47**	**48**	*e*P	**P**	**23 57 29.5**	**+0.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MNK	**Minsk**	**45.66**	**337**	*i* P	**P**	**23 57 30.4**	**+0.6**
	comp=E,5.0nm,0.7s						
MNK				*i* P	**P**	**23 57 30.4**	**+0.6**
	comp=N,13nm,1.2s						
MNK				*i* P	**P**	**23 57 30.4**	**+0.6**
	comp=Z,13nm,0.9s,baz=140						
MNK				*i* PP	**PP**	**23 59 16.2**	**-0.7**
MNK				*i* PPP	PPP	23 59 55.6	
MNK				*i* S	**S**	**00 04 13.9**	**+2.2**
MNK				*i* SS	**SS**	**00 07 35.2**	**-0.6**
MNK				*i* SSS	SSS	00 08 33.6	
MNK				*i* LQ	LQ	00 13 19.7	
MNK				*i* LR	LR	00 16 48.2	
LANS	**Liptovska Anna**	**45.84**	**327**	*e*P	**P**	**23 57 32.2**	**+0.8**
LANS				*e*PP	**PP**	**23 59 20.0**	**+1.1**
NACGM	**Naroch**	**46.38**	**337**	*e*P	**P**	**23 57 36.0**	**+0.5**
	comp=Z,13nm,1.0s,baz=139						
MREMI	**Moremi**	**46.42**	**218**	P	**P**	**23 57 37.5**	**+1.1**
MODS	**Modra-Piesok**	**46.59**	**325**	*e*P	**P**	**23 57 41.3**	**+3.9**
RONA	**Rosalia, Austr**	**46.79**	**323**	*e*P	**P**	**23 57 38.9**	**-0.1**
	comp=Z,3.2nm,1.1s						
KEST	**Kesra**	**46.94**	**306**	P	**P**	**23 57 41.4**	**+1.0**
	comp=Z,3.2nm,0.8s,baz=55,slow=12,SNR=2.2 comp=Z,3.2nm,0.8s						
ARSA	**Arzberg**	**47.01**	**323**	*e*P	**P**	**23 57 41.0**	**+0.4**
	comp=Z,1.7nm,0.7s						
SOKA	**Soboth**	**47.02**	**322**	*i* P	**P**	**23 57 41.5**	**+0.7**
	comp=Z,6.5nm,1.2s						
CONA	**Conrad Observa**	**47.16**	**324**	*e*P	**P**	**23 57 41.4**	**-0.5**
	comp=Z,4.1nm,1.1s						
SUW	**Suwalki**	**47.18**	**334**	P	**P**	**23 57 41.5**	**-0.3**
MORC	**Moravsky Berou**	**47.22**	**326**	P	**P**	**23 57 42.4**	**0.0**
MORC				IAmb	IAmb	23 57 50.1	
	comp=Z,16nm,1.5s						
MORC	**Moravsky Berou**	**47.22**	**326**	*e*P	**P**	**23 57 41.6**	**-0.7**
MORC				*e*pP	**sP**	**23 57 48.7**	**-0.6**
MORC	**Moravsky Berou**	**47.22**	**326**	⇑P	**P**	**23 57 41.7**	**-0.6**
OBKA	**Obir**	**47.23**	**321**	*e*P	**P**	**23 57 42.0**	**-0.4**
	comp=Z,4.9nm,1.1s						
KRUC	**Moravsky**	**47.45**	**325**	*e*P	**P**	**23 57 43.6**	**-0.5**
KRUC				*e*pP	**pP**	**23 57 49.9**	**+0.7**
VRAC	**Vranov**	**47.48**	**325**	*e*pP	pP	23 57 50.1	+0.7
MYKA	**Terra Mystica**	**47.84**	**321**	*e*P	**P**	**23 57 47.4**	**+0.2**
	comp=Z,5.9nm,0.8s						
MOA	**Molln**	**48.05**	**323**	*e*P	**P**	**23 57 48.7**	**0.0**
	comp=Z,3.2nm,0.9s						
BIOA	**Bad Ischl, Aus**	**48.34**	**322**	*e*P	**P**	**23 57 52.1**	**+1.1**
	comp=Z,5.6nm,1.2s						
ABTA	**Abtersbach**	**48.58**	**321**	*e*P	**P**	**23 57 52.8**	**-0.2**
	comp=Z,2.7nm,1.3s						
LESA	**Schwarzleotal**	**48.79**	**322**	*e*P	**P**	**23 57 53.8**	**-0.7**
	comp=Z,2.6nm,0.6s						
CTI	**Castel Tesino**	**48.81**	**319**	P	**P**	**23 57 54.3**	**-0.4**
CTI				IAmb	IAmb	23 57 57.5	
	comp=Z,7.3nm,1.1s						
GERES	**GERESS Array B**	**48.86**	**324**	P	**P**	**23 57 54.1**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=118,slow=7.7,SNR=5.5 comp=Z,0.8nm,0.8s						
WTTA	**Wattenberg**	**49.35**	**321**	*e*P	**P**	**23 57 58.8**	**-0.2**
	comp=Z,4.8nm,0.8s						
SQTA	**Sankt Quirin**	**49.59**	**321**	*e*P	**P**	**23 58 00.1**	**-0.6**
	comp=Z,2.4nm,0.5s						
MOTA	**Moosalm**	**49.71**	**321**	*e*P	**P**	**23 57 59.8**	**-1.9**
	comp=Z,4.8nm,1.0s						
KGCAE	**Kacgae**	**49.91**	**222**	P	**P**	**23 58 04.2**	**+0.8**
RETA	**Reutte**	**49.98**	**321**	*e*P	**P**	**23 58 04.0**	**+0.4**
	comp=Z,2.0nm,0.6s						
DAVA	**Dannuels**	**50.44**	**320**	*e*P	**P**	**23 58 07.2**	**0.0**
	comp=Z,3.8nm,0.6s						
CLL	**Collm**	**50.49**	**326**	*i* P	**P**	**23 58 08.1**	**+0.8**
	comp=Z,4.0nm,0.7s						
CLL				*i* x	x	23 58 13.9	
	comp=Z,11nm,1.3s						
TSUM	**Tsumeb**	**50.72**	**230**	LR	LR	00 20 24.3	
	comp=Z,329nm,19.1s,baz=327,slow=37 comp=Z,0.8nm,0.8s						
XAN	**Xi'an**	**51.20**	**58**	⇑P	**P**	**23 58 12.4**	**-0.6**
XAN				pP	pP	23 58 17.6	-0.5
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
FINES	**FINESS Array B**	**51.66**	**342**	P	**P**	**23 58 15.3**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=124,slow=9.5,SNR=9.2 comp=Z,2.6nm,0.8s						
SENIN	**Lac Senin/Sane**	**51.71**	**318**	P	**P**	**23 58 15.6**	**-1.3**
BOSA	**Boshof**	**52.32**	**215**	P	**P**	**23 58 21.4**	**0.0**
	comp=Z,2.0nm,0.7s,baz=49,slow=7.8,SNR=7.2 comp=Z,2.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**52.92**	**276**	P	**P**	**23 58 26.6**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=80,slow=6.4,SNR=1.9 comp=Z,0.6nm,0.3s						
SONM	**Songino Array**	**52.97**	**40**	P	**P**	**23 58 26.4**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=236,slow=7.7,SNR=7.6 comp=Z,1.4nm,0.7s						
SSB	**Saint Sauveur**	**53.16**	**316**	P	**P**	**23 58 26.9**	**-0.5**
SSB				IAmb	IAmb	23 58 34.8	
	comp=Z,9.8nm,1.1s						
BTO	**Baotou**	**53.32**	**50**	*e*P	**P**	**23 58 28.3**	**-0.4**
BTO				pP	**pP**	**23 58 33.0**	**-0.8**
BTO				sP	**sP**	**23 58 35.4**	**-0.5**
BTO				pmax	pmax		
	comp=Z,20nm,0.8s						
BTO				pmax	pmax		
	comp=Z,360nm,8.8s						
HHC	**Hu-ho-hao-te**	**54.52**	**50**	*e*P	**P**	**23 58 38.6**	**+1.1**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,68nm,5.3s						
HFS	**Hagfors**	**55.09**	**336**	P	**P**	**23 58 40.7**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=162,slow=10,SNR=4.6 comp=Z,2.1nm,0.9s						
NOA	**NORSAR Array B**	**56.62**	**336**	P	**P**	**23 58 51.0**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=107,slow=9.2,SNR=3.7 comp=Z,0.6nm,0.8s						
ESDC	**Sonseca Array**	**58.05**	**308**	P	**P**	**23 59 02.2**	**-0.5**
ESDC				IAmb	IAmb	23 59 10.6	
	comp=Z,7.6nm,1.4s						
ESDC	**Sonseca Array**	**58.05**	**308**	P	**P**	**23 59 01.4**	**-1.3**
	comp=Z,2.2nm,0.8s,baz=84,slow=6.0,SNR=13 comp=Z,2.2nm,0.8s						
TIA	**Tai'an**	**58.14**	**56**	P	**P**	**23 59 02.9**	**-0.4**
TIA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARCES	**ARCESS Array B**	**58.30**	**348**	P	**P**	**23 59 04.5**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=133,slow=8.4,SNR=7.0 comp=Z,1.0nm,0.6s						
NJ2	**Nanjing**	**59.33**	**61**	*e*P	**P**	**23 59 12.9**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,7.0nm,1.1s						
DBIC	**Dimbokro**	**60.45**	**270**	LR	LR	00 23 16.6	
	comp=Z,180nm,18.3s,baz=316,slow=34						
EKA	**Eskdalemuir Ar**	**60.95**	**326**	P	**P**	**23 59 20.9**	**-1.5**
	comp=Z,1.2nm,0.8s,baz=113,slow=8.5,SNR=5.5 comp=Z,1.2nm,0.8s						
CN2	**Changchun**	**65.11**	**48**	*e*P	**P**	**23 59 49.1**	**-1.1**
CN2				*es*P	sP	23 59 56.8	-0.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SPITS	**Spitsbergen Ar**	**66.64**	**352**	P	**P**	**23 59 58.8**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=105,slow=16,SNR=2.0 comp=Z,2.5nm,0.8s						
KSRS	**Korea Array**	**66.84**	**55**	P	**P**	**00 00 00.2**	**-1.2**
	comp=Z,2.9nm,0.8s,baz=268,slow=6.7,SNR=10 comp=Z,2.9nm,0.8s						
HEH	**HeiHe**	**66.94**	**41**	*e*P	**P**	**00 00 02.6**	**+0.8**
USRK	**Ussuriysk Ar.**	**69.83**	**48**	P	**P**	**00 00 19.4**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=289,slow=5.8,SNR=4.1 comp=Z,2.5nm,0.8s						
H01W3	**Cape Leeuwin H**	**73.62**	**133**	T	T	01 20 58.0	
	baz=302,slow=75,SNR=28						
H01W2	**Cape Leeuwin H**	**73.62**	**133**	T	T	01 20 58.1	
	baz=302,slow=75,SNR=31						
H01W1	**Cape Leeuwin H**	**73.63**	**133**	T	T	01 20 57.0	
	baz=302,slow=75,SNR=48						
MJAR	**Matsushiro Arr**	**75.11**	**56**	P	**P**	**00 00 50.9**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=267,slow=8.5,SNR=4.5 comp=Z,0.8nm,0.4s						
WRA	**Warramunga Arr**	**84.02**	**112**	P	**P**	**00 01 38.5**	**-1.9**
	comp=Z,0.9nm,0.7s,baz=300,slow=4.2,SNR=4.7 comp=Z,0.9nm,0.7s						
ASAR	**Alice Springs**	**84.78**	**116**	P	**P**	**00 01 42.5**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=289,slow=4.9,SNR=6.3 comp=Z,0.7nm,0.6s						
PDAR	**Pinedale Array**	**121.56**	**348**	PKPdf	**PKPdf**	**00 08 02.9**	**-0.7**
PDAR	**Pinedale Array**	**121.56**	**348**	PKP	**PKPdf**	**00 08 01.7**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=96,slow=3.0,SNR=4.1						
**NVAR

GCAM				S	Sg	00 02 36.7	+0.5	
GCAM				*i* IAML		00 02 38.0		
	comp=N,1μm,0.2s							
YKAV	**Yalikavak-Bodr**	**0.36**	**140**	Pg	Pg	**00 02 31.3**	**-0.2**	
YKAV				Sg	Sg	**00 02 36.9**	**+0.3**	
BODT	**Bodrum**	**0.43**	**143**	Pg	Pg	**00 02 32.7**	**0.0**	
BODT				Sg	Sb	**00 02 39.2**	**-0.5**	
BODT	**Bodrum**	**0.43**	**143**	P	Pg	**00 02 32.7**	**0.0**	
BODT				S	Sg	**00 02 38.5**	**0.0**	
KLNA	**Kalymnos**	**0.45**	**182**	P	Pg	**00 02 33.0**	**-0.1**	
KLNA				S	Sg	**00 02 39.2**	**+0.1**	
BDRM	**Kayabasi**	**0.50**	**133**	P	Pg	**00 02 34.2**	**+0.2**	
BDRM				*i* IAML		00 02 43.0		
	comp=E,415nm,0.2s							
AYDN				*i* IAML		00 02 52.0		
	comp=E,272nm,0.5s							
NISR	**Nisiros**	**0.80**	**172**	P	Pb	**00 02 39.9**	**+0.1**	
YAZI	**Mula-Dat§a-**	**0.81**	**153**	P	Pb	**00 02 40.2**	**+0.2**	
YAZI				*i* IAML		00 02 54.0		
	comp=E,301nm,0.5s							
DAT	**Datca**	**0.82**	**145**	Pg	Pg	**00 02 40.2**	**+0.1**	
DAT	**Datca**	**0.82**	**145**	P	Pb	**00 02 40.5**	**+0.3**	
DAT				S	Sg	**00 02 50.7**	**-0.3**	
DATC	**Datca-Mugla**	**0.84**	**140**	Pg	Pb	**00 02 40.5**	**+0.1**	
DATC				Sg	Sb	**00 02 52.5**	**+1.0**	
AYDB	**Zeytinkoy-Aydi**	**0.90**	**53**	Pg	Pb	**00 02 41.5**	**0.0**	
ZEYE	**Izmir, Urla-Ze**	**0.92**	**335**	P	Pg	**00 02 41.8**	**-0.1**	
ZEYE				S	Sg	**00 02 53.3**	**-0.6**	
ZEYE				*i* IAML		00 02 56.0		
	comp=E,163nm,0.5s							
ZEYE				*i* IAML		00 02 57.0		
	comp=N,221nm,0.5s							
BLCB	**Balcova**	**0.98**	**2**	Pg	Pb	**00 02 42.8**	**0.0**	
BLCB	**Balcova**	**0.98**	**2**	P	Pb	**00 02 42.9**	**0.0**	
BLCB				S	Sg	**00 02 56.1**	**+0.2**	
URLA	**Izmir**	**1.00**	**342**	Pg	Pg	**00 02 43.4**	**-0.1**	
URLA	**Izmir**	**1.00**	**342**	P	Pn	**00 02 43.7**	**0.0**	
URLA				S	Sg	**00 02 56.8**	**+0.1**	
URLA				*i* IAML		00 02 59.0		
	comp=E,144nm,0.5s							
URLA				*i* IAML		00 03 01.0		
	comp=N,161nm,0.6s							
IZMR	**zmir-demi**	**1.05**	**46**	P	Pb	**00 02 44.2**	**+0.1**	
IZMR				S	Sb	**00 02 57.7**	**0.0**	
MULA	**Mugla, Merkez-**	**1.07**	**98**	P	Pb	**00 02 44.3**	**-0.2**	
ESEN	**Aydn-Nazilli**	**1.15**	**70**	P	Pb	**00 02 45.6**	**-0.1**	
ESEN				S	Sb	**00 02 59.3**	**-1.1**	
NAZL	**Nazilli-Aydin**	**1.17**	**61**	Pn	Pg	**00 02 46.6**	**-0.2**	
TURN	**Turunc**	**1.18**	**122**	Pn	Pg	**00 02 47.0**	**+0.1**	
TURN	**Turunc**	**1.18**	**122**	P	Pg	**00 02 46.8**	**-0.1**	
TURN				S	Sg	**00 03 02.8**	**+0.4**	
TURN				*i* IAML		00 03 09.0		
	comp=N,86nm,0.6s							
APE	**Apeiranthos**	**1.21**	**254**	Pn	Pn	**00 02 46.8**	**+0.2**	
APE	**Apeiranthos**	**1.21**	**254**	P	Pn	**00 02 46.3**	**-0.3**	
APE				S	Sb	**00 03 02.7**	**+0.4**	
APE	**Apeiranthos**	**1.21**	**254**	P	Pg	**00 02 47.4**	**-0.1**	
APE				S	Sb	**00 03 02.4**	**+0.1**	
ODEM	**Odemis-Izmir**	**1.22**	**44**	Pn	Pn	**00 02 46.9**	**+0.1**	
CHOS	**Chios island**	**1.23**	**323**	Pn	Pg	**00 02 47.8**	**0.0**	
CHOS	**Chios island**	**1.23**	**323**	P	Pn	**00 02 47.0**	**+0.1**	
CHOS	**Chios island**	**1.23**	**323**	P	Pb	**00 02 47.4**	**+0.3**	
CHOS				S	Sb	**00 03 03.0**	**+0.2**	
KARB	**zmir-Karabur**	**1.34**	**340**	P	Pb	**00 02 48.7**	**-0.2**	
KARB				S	Sn	**00 03 06.1**	**+0.3**	
KARB				*i* IAML		00 03 13.0		
	comp=E,73nm,1.3s							
KIRA	**zmir-Kiraz**	**1.37**	**54**	P	Pn	**00 02 49.0**	**+0.2**	
KIRA				S	Sg	**00 03 08.2**	**-0.1**	
DALY	**Dalyan (Mula)**	**1.45**	**113**	Pn	Pb	**00 02 51.2**	**+0.3**	
ARG	**Arkhangelos**	**1.50**	**142**	Pn	Pb	**00 02 52.1**	**+0.5**	
ARG	**Arkhangelos**	**1.50**	**142**	P	Pn	**00 02 50.8**	**+0.3**	
ARG	**Arkhangelos**	**1.50**	**142**	P	Pn	**00 02 50.8**	**+0.3**	
ARG				S	Sn	**00 03 09.8**	**+0.1**	
TAVA	**DENIZLI_Tavas**	**1.53**	**87**	P	Pb	**00 02 52.6**	**+0.3**	
THERA	**Ancient Thera,**	**1.60**	**230**	P	Pn	**00 02 51.3**	**-0.6**	
AKHS	**Akhisar**	**1.61**	**24**	P	Pg	**00 02 55.3**	**+0.3**	
AKHS				S	Sg	**00 03 15.5**	**-0.4**	
DNZT	**Denizli-Tavas-**	**1.63**	**94**	P	Pg	**00 02 54.7**	**-0.7**	
DNIZ	**Denizli-Tavas-**	**1.64**	**82**	P	Pb	**00 02 54.5**	**+0.3**	
DNIZ				S	Sn	**00 03 12.8**	**-0.7**	
DNIZ				*i* IAML		00 03 28.0		
	comp=N,52nm,0.4s							
DNIZ				*i* IAML		00 03 29.0		
	comp=E,70nm,0.4s							
MANT	**Manisa**	**1.65**	**48**	P	Pg	**00 02 56.1**	**+0.3**	
MANT				S	Sn	**00 03 14.0**	**+0.3**	
SABU	**Mula-Dalaman**	**1.69**	**110**	P	Pb	**00 02 54.7**	**-0.1**	
KULA	**Kula-Manisa**	**1.72**	**50**	Pn	Pb	**00 02 56.1**	**+0.6**	
GORD	**Gordes-Manisa**	**1.77**	**32**	Pn	Pb	**00 02 56.4**	**+0.1**	
APMY	**Acipayam-Deniz**	**1.84**	**87**	Pn	Pb	**00 02 56.9**	**-0.7**	
FETY	**Fethiye**	**1.84**	**114**	Pn	Pb	**00 02 57.1**	**-0.5**	
CAEL	**Denizli, Camel**	**1.88**	**98**	P	Pg	**00 02 59.7**	**-0.5**	
CAME	**Cameli-Denizli**	**1.90**	**103**	Pn	Pb	**00 02 57.7**	**-0.9**	
IZZE	**Mula-Seydike**	**2.04**	**118**	P	Pb	**00 03 00.8**	**0.0**	
IZZE				*i* IAML		00 03 29.0		
	comp=N,53nm,0.6s							
IZZE				*i* IAML		00 03 32.0		
	comp=E,36nm,0.4s							
GOLH	**Golhisar**	**2.06**	**94**	P	Pb	**00 03 00.6**	**-0.6**	
USAK	**Uak-Merkez**	**2.07**	**50**	P	Pn	**00 02 59.8**	**+1.5**	
DEMI	**Demirci**	**2.13**	**39**	P	Pg	**00 03 05.2**	**+0.3**	
KNIK	**Mula-Seydike**	**2.14**	**104**	P	Pb	**00 03 02.1**	**-0.5**	
PASA	**Karahalli, USA**	**2.19**	**64**	P	Pn	**00 03 00.2**	**+0.1**	
AKAS	**Kas**	**2.40**	**118**	P	Pb	**00 03 06.4**	**-0.7**	
AKAS				*i* IAML		00 04 12.0		
	comp=N,50nm,1.2s							
AKAS				*i* IAML		00 04 34.0		
	comp=E,30nm,1.0s							

*IDC **17** 00:42:46.1±1.2,32.°86S×178.°46W, h0km, mb3.8/3, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=37.0km s-min=32.8km az=95.0*

ISC 17 00:42:50.9±1.2,**32.°9S**±0.°2×**178.°5W**±0.°3,**h32**km,**n9, σ0°20/11, mb3.8/3, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.41**	**213**	Pn	**Pn**	**00 44 23.0**	**-0.1**
	1.0nm,0.3s,baz=276,slow=4.5,SNR=8.8						
URZ				Sn	**Sn**	**00 45 34.9**	**-0.1**
	4.5nm,0.3s,baz=127,slow=20,SNR=6.7						
	4.5nm,0.4s						
ASAR	**Alice Springs**	**42.60**	**270**	P	**P**	**00 50 44.4**	**+0.2**
	0.5nm,0.5s,baz=108,slow=7.4,SNR=8.2						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**43.81**	**275**	P	**P**	**00 50 54.2**	**+0.2**
	1.3nm,0.5s,baz=115,slow=7.6,SNR=15						
	1.3nm,0.5s						
QSPA	**South Pole Qui**	**57.20**	**180**	P	**P**	**00 52 34.9**	**+0.3**
	0.6nm,0.7s,baz=310,slow=23,SNR=5.6						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**147.33**	**338**	PKPbc	**PKPbc**	**01 02 30.3**	**-0.1**
	1.4nm,0.6s,baz=48,slow=3.4,SNR=14						
NB2	**NORSAR Subarra**	**151.16**	**350**	PKP	**PKPbc**	**01 02 39.8**	**-0.3**
	comp=Z,2.8nm,1.0s,baz=16,slow=4.3						
NOA	**NORSAR Array B**	**151.16**	**350**	PKPbc	**PKiKP**	**01 02 40.7**	**0.0**
	comp=Z,0.2nm,0.7s,baz=11,slow=2.9,SNR=1.3						
HFS	**Hagfors**	**151.60**	**347**	PKPbc	**PKPbc**	**01 02 40.9**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=31,slow=1.7,SNR=2.2						
MMAI	**Mount Meron Ar**	**151.61**	**280**	PKPbc	**PKiKP**	**01 02 42.4**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=110,slow=3.3,SNR=2.0						
MMAI				PKPab	**pPKPbc**	**01 02 50.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=102,slow=5.5,SNR=3.6						

*IDC **17** 00:44:42.8±1.3,32.°80S×178.°43W, h0km, mb4.0/3, mbtmp4.1/4, ML3.6/1, MS3.6/1, Error ellipse: s-maj=39.4km s-min=34.7km az=111.0*

ISC 17 00:44:48.0±1.4,**32.°9S**±0.°2×**178.°6W**±0.°3,**h32**km,**n10, σ0°72/10, mb4.1/3, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.38**	**212**	Pn	**Pn**	**00 46 20.1**	**+0.5**
	1.2nm,0.3s,baz=142,slow=17,SNR=1.8						
URZ				Sn	**Sn**	**00 47 30.3**	**-1.0**
	2.0nm,0.3s,baz=146,slow=13,SNR=1.5						
	28nm,0.8s						
DZM	**Mont Dzumac**	**17.12**	**305**	LR	LR	00 53 34.2	
	comp=Z,183nm,19.0s,baz=192,slow=31						
ASAR	**Alice Springs**	**42.56**	**270**	P	**P**	**00 52 41.4**	**+0.4**
	0.8nm,0.5s,baz=110,slow=7.9,SNR=5.0						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**43.77**	**275**	P	**P**	**00 52 51.1**	**+0.3**
	1.7nm,0.5s,baz=115,slow=7.7,SNR=11						
	1.7nm,0.5s						
QSPA	**South Pole Qui**	**57.19**	**180**	P	**P**	**00 54 32.1**	**+0.5**
	2.1nm,1.1s,baz=78,slow=0.9,SNR=3.2						
	2.1nm,1.1s						
FINES	**FINESS Array B**	**147.33**	**338**	PKPbc	**PKPbc**	**01 04 27.3**	**-0.2**
	1.6nm,0.6s,baz=52,slow=4.8,SNR=10.0						
NB2	**NORSAR Subarra**	**151.16**	**350**	PKP	**PKPbc**	**01 04 36.5**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=17,slow=4.1						
NOA	**NORSAR Array B**	**151.16**	**350**	PKPbc	**PKPbc**	**01 04 36.2**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=15,slow=4.1,SNR=4.1						
MMAI	**Mount Meron Ar**	**151.57**	**280**	PKPbc	**PKiKP**	**01 04 39.3**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=117,slow=2.5,SNR=2.1						
HFS	**Hagfors**	**151.61**	**347**	PKPbc	**PKPbc**	**01 04 37.7**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=36,slow=2.4,SNR=2.6						

*NEIC **17** 00:53:15.6±1.3,35.°612N±0.°009×117.°42W±0.°01, h9km±4km, Error ellipse: s-maj=1.4km s-min=1.3km az=81.0*

PAS 17 00:53:16.2±1.2,**35.°621N**±0.°007×**117.°44W**±0.°01, **h8**km±2km,**ML3.3**/286,**ML3.0**/122(NEIC),**Error ellipse: s-maj=1.2km s-min=1.1km az=96.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.05**	**246**	Pg	Pg	00 53 17.9	-0.1
WSHM				Sg	Sg	00 53 19.2	0.0
CCCA	**Chr Cany lake**	**0.11**	**149**	Pg	Pg	00 53 19.0	+0.3
CCCA				Sg	Sg	00 53 21.2	+0.7
GPO	**China Lake**	**0.19**	**279**		Pg	00 53 20.1	+0.1
GPO					Sg	00 53 23.6	+0.9
CLC	**China Lake**	**0.23**	**326**	Pg	Pg	00 53 20.7	-0.2
CLC				Sg	Sg	00 53 24.2	+0.1
CLC				IAML		00 53 24.6	
	comp=N,3μm,0.3s						
CLC				IAML		00 53 24.6	
	comp=E,5μm,0.5s						
LRMC	**Laurel Mtn Rad**	**0.25**	**235**	Pg	Pg	00 53 20.9	-0.2
LRMC				Sg	Sg	00 53 24.5	+0.1
SRTC	**Snort**	**0.27**	**285**		Pg	00 53 21.7	+0.2
TOW	**Tower One**	**0.33**	**305**		Pg	00 53 22.9	+0.2
TOW					Sg	00 53 28.2	+1.2
MPMC	**Manual Prospec**	**0.44**	**354**	Pg	Pg	00 53 24.3	-0.5
MPMC				IAML		00 53 31.2	
	comp=N,1μm,0.6s						
MPMC				IAML		00 53 33.1	
	comp=E,1μm,0.3s						
MPMC	**Manual Prospec**	**0.44**	**354**		Sg	00 53 30.6	+0.1
WNMM	**Nine Mile Cany**	**0.44**	**300**		Pg	00 53 24.6	-0.1
WNMM					Sg	00 53 31.2	+0.6
WVPM	**Volcano Peak E**	**0.45**	**317**		Pg	00 53 24.8	-0.2
WVPM					Sg	00 53 31.2	+0.3
JRC2	**Joshua Ridge**	**0.47**	**320**		Pg	00 53 25.2	-0.1
JRC2					Sg	00 53 31.9	+0.3
WCSM	**Coso Springs S**	**0.49**	**326**		Pg	00 53 25.3	-0.3
WCSM					Sg	00 53 31.9	-0.1
DTP	**Desert Tortois**	**0.49**	**224**		Pg	00 53 25.2	-0.4
DTP					Sg	00 53 31.7	+0.3
WRVM	**Rose V. Centra**	**0.54**	**316**		Pg	00 53 26.2	-0.3
WRVM					Sg	00 53 33.6	0.0
QSM	**Queen of Sheba**	**0.57**	**53**	Pg	Pg	00 53 27.1	-0.1
QSM				Sg	Sg	00 53 34.4	-0.4
QSM				IAML		00 53 35.1	
	comp=E,2μm,0.4s						
QSM				IAML		00 53 38.6	
	comp=N,2μm,0.4s						
WBSM	**Bird Springs**	**0.58**	**262**		Pg	00 53 27.0	-0.4
WBSM					Sg	00 53 34.9	-0.2
MFS	**McCloud Flat S**	**0.60**	**326**		Pg	00 53 27.6	-0.3
MFS					Sg	00 53 35.9	+0.1
GSC	**Goldstone, Bar**	**0.60**	**122**	Pg	Pg	00 53 27.4	-0.4
GSC				Sg	Sg	00 53 35.6	-0.1
GSC				IAML		00 53 36.2	
	comp=E,2μm,0.3s						
GSC				IAML		00 53 39.7	
	comp=N,1μm,0.3s						
WORM	**Onyx Ranch**	**0.66**	**277**		Pg	00 53 28.4	-0.6
WORM					Sg	00 53 37.0	-0.6
CCAC	**Calif City Air**	**0.67**	**226**		Pg	00 53 28.6	-0.4
CCAC					Sg	00 53 37.7	0.0
WHFM	**Hanning Flat**	**0.75**	**276**		Pg	00 53 30.0	-0.6
WHFM					Sg	00 53 39.9	-0.4
HYS	**Haystack Butte**	**0.76**	**188**		Pg	00 53 30.1	-0.7
HYS					Sg	00 53 40.4	-0.4
RRX	**Edison Barstow**	**0.83**	**154**		Pg	00 53 31.5	-0.6
RRX					Sg	00 53 42.1	-0.7
GWY	**Greenwater Val**	**0.84**	**48**	Pg	Pg	00 53 31.9	-0.4
GWY				Sg	Sg	00 53 42.8	-0.4
GWY				IAML		00 53 47.0	
	comp=N,1μm,0.5s						
GWY				IAML		00 53 47.7	
	comp=E,816nm,0.4s						
ISA	**Isabella, Lake**	**0.85**	**273**	Pg	Pg	00 53 31.6	-0.9
ISA				Sg	Sg	00 53 42.6	-0.9
ISA				IAML		00 53 46.2	
	comp=N,635nm,0.3s						
ISA				IAML		00 53 46.2	
	comp=E,659nm,0.6s						
EDW2	**Edwards Air Fo**	**0.87**	**212**		Pg	00 53 32.0	-0.9
EDW2					Sg	00 53 43.8	-0.4
WASM	**Alta Sierra Ca**	**0.92**	**278**		Pg	00 53 33.1	-0.8
WASM					Sg	00 53 45.3	-0.6
FURC	**Furnace Creek,**	**0.96**	**29**		Sg	00 53 47.5	+0.3
CWC	**Cottonwood Cre**	**0.97**	**328**	Pg	Pg	00 53 34.5	-0.3
CWC				IAML		00 53 48.9	
	comp=N,293nm,0.2s						
CWC				IAML		00 53 50.8	
	comp=E,296nm,0.2s						
CWC	**Cottonwood Cre**	**0.97**	**328**		Sg	00 53 47.4	-0.1
CGO	**Cerro Gordo**	**0.97**	**342**		Pg	00 53 34.1	-0.8
CGO					Sg	00 53 48.1	+0.5
SHOC	**Shoshone, Teco**	**0.98**	**73**		Pg	00 53 34.1	-1.0
SHOC					Sg	00 53 48.1	+0.3
SBB	**Saddle Back Bu**	**0.98**	**199**		Pg	00 53 34.2	-0.9
SBB					Sg	00 53 47.4	-0.4
TPO	**Tropico Hills**	**0.98**	**221**	Pg	Pg	00 53 34.8	-0.3
TPO				Sg	Sg	00 53 47.5	-0.4
TPO				IAML		00 53 50.7	
	comp=E,732nm,0.5s						
VTV	**Victorville**	**1.06**	**175**		Sb	00 53 51.1	+0.2
ADO	**Adelanto Recei**	**1.07**	**180**		Pb	00 53 36.9	-0.1
ADO					Sb	00 53 51.7	+0.5
TEJ	**El Tejon**	**1.10**	**249**		Pg	00 53 35.8	-1.4
TEJ					Sg	00 53 49.9	-1.6
ALPC	**Antelope**	**1.17**	**218**		Sb	00 53 37.4	+0.3
DSCC	**Desert Studies**	**1.19**	**113**		Pg	00 53 37.2	-1.7
DSCC					Sg	00 53 53.3	-1.1
LRRC	**Littlerock Res**	**1.20**	**204**		Pb	00 53 37.9	-1.2
HEC	**Hector,Ludlow**	**1.20**	**131**		Pg	00 53 37.8	-1.4
HEC					Sg	00 53 53.6	-1.1
HOLC	**Holcomb Ridge**	**1.21**	**196**		Pg	00 53 38.1	-1.3
HOLC					Sb	00 53 55.6	+0.4
LEOC	**Leona Valley**	**1.22**	**216**		Pb	00 53 38.2	-1.4
LEOC					Sn	00 53 56.0	-0.3
SPG2	**Springville 2**	**1.23**	**299**		Sg	00 53 54.7	-0.9
ARVC	**Arvin**	**1.24**	**247**		Pn	00 53 39.0	-0.9
ARVC					Sb	00 53 55.2	-0.9
JNH	**Juniper Hills**	**1.25**	**200**		Pb	00 53 38.7	-1.4
JNH					Sb	00 53 56.5	+0.2
TUQ	**Turquoise Moun**	**1.25**	**98**		Pb	00 53 38.8	-1.2
AMDNV	**Amargosa**	**1.25**	**48**		Pn	00 53 38.5	-1.5
AMDNV					Sb	00 53 55.9	-0.3
WCT	**Wildcat Mounta**	**1.34**	**29**		Pn	00 53 40.4	-1.0
WCT				IAML		00 54 02.0	
	comp=E,131nm,0.4s						
SIL	**Silver Peak**	**1.36**	**158**		Pn	00 53 41.8	+0.1
CHFC	**Chilao Flat St**	**1.37**	**201**		Pn	00 53 40.6	-1.2
CHFC					Sb	00 53 59.6	-0.4
GRAC	**Grapevine Rang**	**1.37**	**2**		Pn	00 53 41.0	-0.7
GRAC				IAML		00 54 04.3	
	comp=N,262nm,0.6s						
GRAC				IAML		00 54 04.5	
	comp=E,317nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.39**	**188**		Pn	00 53 40.8	-1.3
BFSC				IAML		00 54 00.9	
	comp=E,197nm,0.5s						
BFSC				IAML		00 54 01.8	
	comp=N,229nm,0.5s						
SGV	**South Grapevin**	**1.40**	**13**		Pn	00 53 41.2	-0.9
SGV					Sb	00 54 00.5	-0.2
SS2	**San Sevaine**	**1.41**	**182**		Pb	00 53 42.5	-0.3
SSK	**Sunset Peak**	**1.42**	**189**		Pn	00 53 41.9	-0.6
OSI	**Osito Audit: C**	**1.46**	**227**		Pn	00 53 42.7	-0.2
OSI				IAML		00 54 05.4	
	comp=N,292nm,0.8s						
OSI				IAML		00 54 06.8	
	comp=E,265nm,0.8s						
MWC	**Mount Wilson**	**1.48**	**200**		Pn	00 53 42.8	-0.6
MWC				IAML		00 54 04.9	
	comp=E,244nm,0.5s						
MWC				IAML		00 54 06.9	
	comp=N,252nm,0.5s						
SVD	**Seven Oaks Dam**	**1.54**	**170**		Pb	00 53 45.2	+0.3
SVD					Sg	00 54 05.3	-0.3
MTPC	**Mountain Pass**	**1.54**	**95**		Pn	00 53 42.6	-1.6
MTPC				IAML		00 54 06.3	
	comp=N,154nm,0.3s						
MTPC				IAML		00 54 09.1	
	comp=E,149nm,0.4s						
DECC	**Green Verdugo**	**1.55**	**209**		Pb	00 53 45.3	+0.1
PSRC	**Puddingstone R**	**1.56**	**191**		Pb	00 53 44.9	-0.3
PASC	**Pasadena Art C**	**1.57**	**203**		Pn	00 53 43.4	-1.0
PASC				IAML		00 54 10.1	
	comp=E,139nm,0.5s						
PASC				IAML		00 54 10.4	
	comp=N,94nm,0.5s						
GTM	**Goat Mountain**	**1.59**	**146**		Pb	00 53 45.7	-0.2
GTM					Sb	00 54 06.2	0.0
LCH	**Last Change Ra**	**1.62**	**354**		Pb	00 53 46.8	+0.4
GMRC	**Granite Mounta**	**1.68**	**119**		Pn	00 53 43.8	-2.1
GMN	**Gold Mountain**	**1.68**	**5**		Pn	00 53 46.3	+0.1
DJJ	**Donna J Jenkin**	**1.73**	**209**		Pb	00 53 48.5	+0.3
BBSC	**Beaumont Base**	**1.74**	**167**		Sn	00 54 08.0	-1.2
BLAC	**Blackrock camp**	**1.77**	**151**		Pb	00 53 49.3	+0.4
DSP	**Deep Springs**	**1.80**	**346**	Pn	Pn	00 53 47.3	-0.2
DSP				IAML		00 54 14.2	
	comp=E,88nm,0.4s						
BHPR	**Bishop**	**1.88**	**333**		Pb	00 53 51.3	+0.5
TPC	**Twentynine Pal**	**1.89**	**143**		Pn	00 53 47.9	-1.0
MTUM	**Tungsten Hills**	**1.95**	**333**		Pb	00 53 52.6	+0.5
ELS	**Elsinore Mount**	**1.97**	**180**	Pn	Pn	00 53 48.9	-1.1
ELS				IAML		00 54 19.1	
	comp=E,106nm,0.3s						
ELS				IAML		00 54 21.4	
	comp=N,60nm,0.4s						
POB	**Polly Butte**	**1.98**	**168**		Pn	00 53 49.4	-0.7
SHPR	**Sheep Range**	**2.04**	**64**	Pn	Pn	00 53 50.1	-1.0
MZP	**Montezuma Peak**	**2.08**	**1**	Pn	Pn	00 53 51.7	+0.1
V12A	**Nelson**	**2.11**	**86**	Pn	Pn	00 53 50.3	-1.6
PMD	**Palm Desert**	**2.15**	**156**	Pn	Pn	00 53 50.9	-1.5
PMD				IAML		00 54 26.8	
	comp=E,71nm,0.3s						
PFO	**Pinyon Flats O**	**2.16**	**158**	Pn	Pn	00 53 51.3	-1.3
S11A	**Rachel**	**2.43**	**33**	Pn	Pn	00 53 55.4	-1.0
S11A				IAML		00 54 47.0	
	comp=E,120nm,1.0s						
S11A				IAML		00 54 53.6	
	comp=N,71nm,0.6s						
TPH	**Tonopah**	**2.46**	**4**	Pn	Pn	00 53 56.4	-0.3
TPH				IAML		00 54 37.2	
	comp=N,127nm,1.2s						
NEE2	**Needles Airpor**	**2.46**	**109**	Pn	Pn	00 53 54.5	-2.2
NEE2				IAML		00 54 37.2	
	comp=E,143nm,0.3s						
BORC	**Borrego Spring**	**2.49**	**160**	Pn	Pn	00 53 57.9	+0.8
BORC				IAML		00 54 36.5	
	comp=N,52nm,0.5s						
BORC				IAML		00 54 40.7	
	comp=E,75nm,0.8s						
PKD	**Bear Valley Ra**	**2.55**	**278**		Pb	00 54 00.6	-1.5
DPP	**Dos Picos Cty**	**2.65**	**171**	Pn	Pn	00 53 58.2	-1.1
DPP				IAML		00 54 39.1	
	comp=E,69nm,0.7s						
PMPB	**Monarch Peak**	**2.80**	**283**	Pn	Pn	00 54 00.7	-0.6
PMPB				IAML		00 54 51.3	
	comp=N,88nm,0.8s						
PMPB				IAML		00 54 55.0	
	comp=E,74nm,0.7s						
NV11	**Mina Array Sit**	**2.86**	**349**	Pn	Pn	00 54 02.2	-0.1
NVAR	**Mina Array Bea**	**2.89**	**346**	Pn	Pn	00 54 02.6	-0.1
W13A	**Hualapai Mount**	**2.95**	**99**	Pn	Pn	00 54 02.1	-1.4
BLYC	**Blythe**	**3.04**	**127**	Pn	Pn	00 54 03.7	-0.8
BLYC				IAML		00 54 55.2	
	comp=N,47nm,0.6s						
BLYC				IAML		00 54 57.3	
	comp=E,43nm,0.4s						
BBGB	**Big Mountain B**	**3.07**	**289**	Pn	Pn	00 54 05.9	+0.8
R11B	**Troy Canyon, C**	**3.10**	**28**	Pn	Pn	00 54 06.2	+0.6
RYN	**Ryan**	**3.12**	**344**	Pn	Pn	00 54 06.0	+0.1
YUH	**Yuha Desert**	**3.22**	**157**	Pn	Pn	00 54 06.3	-0.8
CBX	**Cerro Bola**	**3.36**	**169**	Pn	Pn	00 54 08.9	-0.3
CCUT	**Cedar City

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	**Cerrejon, Guaj**	**0.63**	**271**	P	**Pn**	**01 28 41.0**	**+0.9**
CRJC				S	**Sn**	**01 28 52.5**	**+3.3**
URIC	**Uribia, Colomb**	**0.72**	**19**	P	**Pb**	**01 28 40.9**	**-0.3**
URIC				S	**Sn**	**01 28 52.7**	**+1.4**
MCQV	**Machiques**	**1.00**	**197**	*e*P	**Pb**	**01 28 46.8**	**+0.9**
MCQV				*e*S	**Sn**	**01 29 02.1**	**+3.9**
SMRC	**Santa Marta, M**	**1.96**	**275**	P	**Pn**	**01 28 56.8**	**-1.4**
SMRC				S	**Sn**	**01 29 20.1**	**-1.7**
OCAC	**Ocana**	**2.96**	**201**	P	**Pn**	**01 29 10.3**	**-1.9**
OCAC				S	**Sn**	**01 29 45.3**	**-1.4**
SOCV	**Socops**	**3.04**	**153**	*e*P	**Pn**	**01 29 13.5**	**+0.4**
SOCV				*e*S	**Sn**	**01 29 48.4**	**-0.1**
SJCC	**San Jacinto, C**	**3.10**	**249**	P	**Pn**	**01 29 13.7**	**-0.3**
SJCC				S	**Sn**	**01 29 49.7**	**-0.4**
BENV	**Beln**	**4.68**	**102**	*e*P	**Pn**	**01 29 34.8**	**-0.9**
PTBC	**PUERTO BERRIO,** 0.0nm54nm1.6nm,1.2s	**4.96**	**206**	P	**Pn**	**01 29 38.6**	**-1.0**
PTBC				S	**Sn**	**01 30 35.5**	**-0.4**
RUSC	**La Rusia**	**5.16**	**189**	P	**Pn**	**01 29 41.4**	**-1.3**
TACV	**Tcata**	**5.20**	**99**	*e*P	**Pn**	**01 29 42.9**	**+0.1**

NEIC ***17*** *01:29:51.2±1.9, 17°.51S±0°.09×172°.51W±0°.09, h10km±1km, mb4.5/10, Error ellipse: s-maj=17.0km s-min=11.8km az=46.0*

IDC ***17*** *01:29:52.4±0.7, 17°.75S×172°.98W, h0km, mb4.1/10, mbtmp4.1/10, MS4.0/6, Error ellipse: s-maj=29.8km s-min=18.9km az=135.0*

ISC 17 01:29:56.2±0.5, 17°.9S±0°.1×173°.05W±0°.09, h26km, n71, σ1§68/63, mb4.3/17, MS4.0/6, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.19**	**112**		Pn	01 30 37.4	-7.4
AFI	**Afiamalu**	**4.14**	**17**	Pn	Pn	01 30 48.2	-10
FUTU	**Fugatoga**	**6.03**	**305**	Pn	**Pn**	**01 31 24.0**	**+0.2**
MSVF	**Nonsavu**	**8.48**	**270**		Pn	01 32 05.4	+8.0
RAR	**Rarotonga**	**12.95**	**107**	Pn	Pn	01 32 50.9	-7.7
DZM	**Mont Dzumac** 80nm,25.1s	**19.71**	**254**	*e*P	**P**	**01 34 20.3**	**-3.6**
DZM	112nm,23.2s			*e*S	**S**	**01 37 57.9**	**-7.1**
DZM	394nm,23.8s			*e*LR	LR	01 39 04.1	
PPT2	**Papeete2** 74nm,26.5s	**22.36**	**93**	*e*P	P	01 34 43.6	-9.0
PPT2	361nm,26.2s			*e*S	S	01 38 40.3	-17
PPT2	195nm,29.8s			*e*LR	LR	01 39 53.2	
PPT2	286nm,26.5s			*e*LR	LR	01 39 56.2	
PPT	**Papeete** comp=Z,141nm,18.1s,baz=247,slow=32	**22.36**	**93**	LR	LR	01 41 56.2	
TBI	**Tubuai** 2μm,25.8s	**22.73**	**108**	*e*S	**S**	**01 38 58.2**	**-5.3**
TBI	1μm,31.2s			*e*LR	LR	01 40 03.3	
BKZ	**Black Stump Fm**	**23.07**	**201**	P	**P**	**01 35 02.0**	**+2.2**
TAOE	**Nuku Hiva Isla** 218nm,30.0s	**33.20**	**79**	*e*LR	LR	01 44 51.3	
COEN	**Coen**	**42.20**	**269**	P	**P**	**01 37 47.0**	**-0.3**
STKA	**Stephens Creek** 3.2nm,0.8s,baz=75,slow=10,SNR=4.5	**43.13**	**242**	P	**P**	**01 37 55.5**	**+0.9**
STKA	comp=Z,200nm,18.7s,baz=19,slow=35 3.2nm,0.8s			LR	LR	01 55 10.5	
WR8	**Warramunga Arr**	**49.49**	**259**	P	**P**	**01 38 45.1**	**+0.3**
WR8	comp=Z,12nm,1.3s			IAmb	IAmb	01 39 20.0	
WB0	**Warramunga Arr**	**49.62**	**259**	P	**P**	**01 38 45.8**	**0.0**
WB0	comp=Z,5.0nm,0.8s			IAmb	IAmb	01 38 49.2	
WRA	**Warramunga Arr**	**49.64**	**259**	P	**P**	**01 38 46.3**	**+0.2**
WRA	**Warramunga Arr** comp=Z,2.2nm,0.7s,baz=96,slow=6.9,SNR=19	**49.64**	**259**	P	**P**	**01 38 46.1**	**+0.1**
AS31	**Alice Springs** comp=Z,2.2nm,0.7s	**49.70**	**254**	P	**P**	**01 38 46.7**	**+0.3**
AS31	comp=Z,3.2nm,0.8s			IAmb	IAmb	01 38 48.5	
ASAR	**Alice Springs**	**49.70**	**254**	P	**P**	**01 38 47.1**	**+0.7**
ASAR	**Alice Springs** comp=Z,12nm,0.8s,baz=87,slow=8.5,SNR=90	**49.70**	**254**	P	**P**	**01 38 46.9**	**+0.5**
ASAR	comp=Z,1.5nm,0.8s,baz=103,slow=5.2,SNR=4.4 comp=Z,12nm,0.8s			PcP	**PcP**	**01 40 09.6**	**+2.1**
FORT	**Forrest** comp=Z,6.6nm,1.1s	**54.62**	**245**	P	**P**	**01 39 23.9**	**+1.0**
FORT				IAmb	IAmb	01 39 50.1	
FITZ	**Fitzroy Crossi** comp=Z,2.9nm,1.2s	**58.05**	**260**	P	**P**	**01 39 48.8**	**+1.2**
FITZ				IAmb	IAmb	01 40 23.2	
VNDA	**Vanda**	**60.95**	**186**	P	**P**	**01 40 06.1**	**-0.4**
VNDA	**Vanda** comp=Z,1.4nm,0.9s,baz=329,slow=4.9,SNR=7.9 comp=Z,1.4nm,0.9s	**60.95**	**186**	P	**P**	**01 40 06.9**	**+0.4**
DAV	**Davao City (W)** comp=Z,121nm,21.8s,baz=164,slow=33	**65.44**	**287**	LR	LR	02 05 47.7	
KAPI	**Kappang** comp=Z,176nm,21.5s,baz=70,slow=34	**66.78**	**272**	LR	LR	02 07 13.7	
SHEM	**Shemya Is, Ala** comp=Z,77nm,18.7s,baz=104,slow=33	**71.20**	**352**	LR	LR	02 09 15.5	
QSPA	**South Pole Qui**	**72.17**	**180**	P	**P**	**01 41 20.2**	**+1.6**
QSPA	comp=Z,5.4nm,1.1s			IAmb	IAmb	01 41 22.6	
QSPA	**South Pole Qui** comp=Z,2.7nm,0.9s,baz=348,slow=4.9,SNR=5.7 comp=Z,2.7nm,0.9s	**72.17**	**180**	P	**P**	**01 41 20.9**	**+2.4**
NVAR	**Mina Array Bea**	**75.95**	**41**	P	P	01 41 33.9	-7.3
NVAR	**Mina Array Bea** comp=Z,1.9nm,0.9s,baz=226,slow=9.7,SNR=7.2 comp=Z,1.9nm,0.9s	**75.95**	**41**	P	**P**	**01 41 40.5**	**-0.7**
KSRS	**Korea Array** comp=Z,0.5nm,0.3s,baz=134,slow=7.3,SNR=6.9 comp=Z,0.5nm,0.3s	**78.16**	**316**	P	**P**	**01 41 53.7**	**+0.4**
TXAR	**Lajitas Array** comp=Z,1.2nm,1.1s,baz=227,slow=6.1,SNR=5.3 comp=Z,1.2nm,1.1s	**81.72**	**56**	P	**P**	**01 42 11.9**	**-1.0**
BNX	**BinXian**	**83.10**	**323**	⇑P	**P**	**01 42 22.8**	**+3.2**
BNX	comp=Z,4.0nm,1.4s			pmax	pmax		
PDAR	**Pinedale Array** comp=Z,0.5nm,0.7s,baz=197,slow=4.5,SNR=5.6 comp=Z,0.5nm,0.7s	**83.89**	**42**	P	**P**	**01 42 23.7**	**-0.4**
ILAR	**Eielson Array** comp=Z,1.2nm,1.1s,baz=217,slow=5.1,SNR=6.2 comp=Z,1.2nm,1.1s	**84.81**	**11**	P	**P**	**01 42 26.9**	**-1.0**
MAW	**Mawson** comp=Z,137nm,18.7s,baz=17,slow=35	**85.55**	**199**	LR	LR	02 20 10.8	
XLT	**XiLinHaoTe**	**89.16**	**317**	*e*P	**P**	**01 42 53.8**	**+4.2**
XLT				pP	sP	01 42 58.1	-2.0
XLT				sP	pwP	01 43 00.8	+0.3
XLT	comp=Z,5.0nm,0.8s			pmax	pmax		
KSP	**Ksiaz**	**146.28**	**349**	*e*PKP	**PKPab**	**01 49 35.7**	**+0.6**
CLL	**Collm** comp=Z,13nm,1.1s	**146.31**	**353**	*i* PKPbc	**PKPab**	**01 49 34.8**	**-0.4**
CLL	comp=Z,16nm,1.0s			*i* PKiKP	**PKiKP**	**01 49 38.3**	**+0.8**
CLL				*i* x	x	01 49 48.5	
CLL				*e*SKPdf	**SKPbc**	**01 53 09.0**	**-2.8**
OSTC	**Ostas**	**146.57**	**349**	*e*PKP	**PKiKP**	**01 49 37.3**	**-0.8**
OSTC				*ex*	x	01 49 51.5	
BRG	**Berggiesshubel**	**146.62**	**352**	*e*PKP	**PKPab**	**01 49 36.7**	**+0.3**
BRG	comp=Z,7.4nm,1.1s			Amp		01 49 38.3	
DPC	**Dobruska-Polom**	**146.75**	**349**	*e*PKP	**PKiKP**	**01 49 40.4**	**+1.9**
STEB	**Steborice**	**146.86**	**347**	*e*PKP	**PKiKP**	**01 49 38.4**	**-0.3**
STEB				*ex*	x	01 49 51.4	
MORC	**Moravsky Berou**	**147.06**	**347**	*e*PKP	**PKPbc**	**01 49 36.8**	**+0.1**
VRAC	**Vranov**	**147.70**	**348**	*e*PKP	**PKPab**	**01 49 40.5**	**-0.2**
JAVC	**Velka Javorina**	**147.90**	**347**	*e*PKP	**PKPab**	**01 49 41.1**	**-0.5**
VYHS	**Vyhne**	**147.97**	**345**	*e*PKP	**PKPab**	**01 49 41.4**	**-0.4**
KRUC	**Moravsky**	**147.97**	**348**	*e*PKP	**PKiKP**	**01 49 40.9**	**-0.1**
BR131	**Keskin Array S**	**148.26**	**319**	PKPbc	**PKiKP**	**01 49 41.0**	**-1.1**
BRTR	**Keskin Array B**	**148.26**	**319**	PKPbc	**PKiKP**	**01 49 41.2**	**-0.9**
BRTR	**Keskin Array B** comp=Z,1.9nm,1.0s,baz=63,slow=3.8,SNR=9.0	**148.26**	**319**	PKPbc	**PKiKP**	**01 49 41.4**	**-0.8**
KHC	**Kasperske Hory**	**148.37**	**352**	*e*PKP	**PKPab**	**01 49 43.0**	**-0.5**
MODS	**Modra-Piesok**	**148.45**	**347**	*e*PKP	**PKiKP**	**01 49 41.5**	**-0.6**
CKRC	**Cesky Krumlov**	**148.57**	**351**	*e*PKP	**PKiKP**	**01 49 42.0**	**-0.3**
GERES	**GERESS Array B**	**148.64**	**351**		**PKPbc**	**01 49 40.1**	**-0.9**
GERES	**GERESS Array B** comp=Z,1.6nm,1.0s,baz=24,slow=2.4,SNR=8.9	**148.64**	**351**	PKPbc	**PKiKP**	**01 49 41.9**	**-0.7**
CONA	**Conrad Observa** comp=Z,1.4nm,0.8s	**149.16**	**348**	*e*PKP	**PKiKP**	**01 49 43.5**	**-0.1**
RONA	**Rosalia, Austr** comp=Z,4.4nm,1.4s	**149.29**	**348**	PKP	**PKiKP**	**01 49 43.9**	**+0.1**
MOA	**Molln** comp=Z,1.4nm,0.7s	**149.52**	**350**	*e*PKP	**PKiKP**	**01 49 44.7**	**+0.4**
BIOA	**Bad Ischl, Aus** comp=Z,1.5nm,0.8s	**149.77**	**351**	*e*PKP	**PKiKP**	**01 49 45.4**	**+0.5**
ARSA	**Arzberg** comp=Z,4.9nm,1.4s	**149.88**	**348**	*e*PKP	**PKiKP**	**01 49 45.5**	**+0.4**
LESA	**Schwarzleotal** comp=Z,5.3nm,1.7s	**150.17**	**352**	*e*PKP	**PKiKP**	**01 49 46.0**	**+0.3**
RETA	**Reutte** comp=Z,1.8nm,0.8s	**150.31**	**355**	*i* PKP	**PKiKP**	**01 49 46.6**	**+0.6**
MMAI	**Mount Meron Ar** comp=Z,0.3nm,0.3s,baz=67,slow=2.2,SNR=4.3	**150.34**	**306**	PKPbc	**PKiKP**	**01 49 45.7**	**-0.9**
KBA	**Koelnbreinsper** comp=Z,0.7nm,0.5s	**150.41**	**351**	PKP	**PKiKP**	**01 49 47.4**	**+1.0**
MOTA	**Moosalm** comp=Z,5.6nm,1.2s	**150.42**	**354**	*e*PKP	**PKiKP**	**01 49 46.9**	**+0.5**
SOKA	**Soboth** comp=Z,1.5nm,0.7s	**150.52**	**349**	*e*PKP	**PKiKP**	**01 49 47.1**	**+0.6**
SQTA	**Sankt Quirin** comp=Z,0.1nm,0.3s	**150.54**	**354**	*e*PKP	**PKiKP**	**01 49 47.3**	**+0.7**
DAVA	**Damuels** comp=Z,2.6nm,0.7s	**150.58**	**356**	*e*PKP	**PKiKP**	**01 49 47.6**	**+0.9**
FETA	**Feichten** comp=Z,6.1nm,1.2s	**150.78**	**355**	*e*PKP	**PKiKP**	**01 49 48.2**	**+1.1**

RSNC 17 01:34:54.8±0.0, 13°N±2°×8°1W±°, h4km±4km, M2.7, mB4.9, mb4.0, ML2.7, MLv3.7, Mw(mB)4.2, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.29**	**295**	P	Pg	01 35 01.5	+1.0
PRVC				S	Sg	01 35 05.3	+0.9
SAIC	**Isla e San And**	**0.93**	**221**	P	Pg	01 35 13.0	+0.3
SAIC				S	Sb	01 35 26.9	+0.6
RNCC	**Cayo Roncador,**	**1.02**	**71**	P	Pg	01 35 13.1	-1.4
RNCC				S	Sg	01 35 27.4	-0.4
SERC	**Banco Serrana,**	**1.25**	**34**	P	Pg	01 35 17.0	-1.8
SERC				S	Sg	01 35 33.8	-1.2
ESPN	**Las Esperanzas**	**3.30**	**252**	P	Pn	01 35 47.2	-0.1
ESPN				S	Sn	01 36 24.4	-2.7
ACON	**Acoyapa**	**4.18**	**253**	P	Pn	01 35 59.6	+0.1
BCIP	**Isla Barro Col**	**4.24**	**163**	P	Pn	01 35 56.3	-3.9
BCIP				S	Sn	01 36 43.5	-6.7
JTS	**Las Juntas de**	**4.79**	**233**	P	Pn	01 36 07.8	0.0
JTS				S	Sn	01 37 02.4	-1.5
AZU	**Azuero** 12nm,1.1s	**5.48**	**172**	P	Pn	01 36 15.5	-1.8
AZU	12nm,1.1s			S	Sn	01 37 16.0	-4.9
CACAO	**El Cacao, Vera**	**5.87**	**178**	P	Pn	01 36 22.3	-0.4
MTDJ	**Mount Denham** 60nm,1.9s	**6.02**	**34**	P	Pn	01 36 24.5	-0.2
SJCC	**San Jacinto, C** 20nm,2.2s	**6.68**	**119**	P	Pn	01 36 29.5	-4.4
SJCC	20nm,2.2s			S	Sn	01 37 41.1	-9.4
APAC	**Apartado, Choc** 9.6nm,1.6s	**6.92**	**140**	P	Pn	01 36 37.3	+0.2
APAC	9.6nm,1.6s			S	Sn	01 37 52.1	-4.3
CRJC	**Cerrejon, Guaj**	**8.33**	**105**	P	Pn	01 36 54.0	-2.5
CRJC				S	Sn	01 38 21.5	-10
OCAC	**Ocana**	**9.11**	**122**	P	Pn	01 36 58.1	-9.3
OCAC				S	Sn	01 38 44.8	-5.8

NOU ***17*** *01:44:54.8, 16°.32S×120°.03E, h52km, mb4.1/7, Northwest of Australia*

AUST ***17*** *01:45:21.0±1.3, 18°.S±4°×12°1E±°, h17km±11km, mb4.0/6, ML3.2/6, Error ellipse: s-maj=11.9km s-min=5.9km az=134.7*

ISC 17 01:45:18.9±1.1, 18°.45S±0°.07×120°.53E±0°.09, h10km, n19, σ1§72/25, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.80**	**196**	P	**Pn**	**01 46 05.5**	**+1.7**
MBWA				S	**Sb**	**01 46 41.6**	**-1.8**
MBWA	**Marble Bar**	**2.80**	**196**	P	**Pn**	**01 46 05.2**	**+1.4**
PSAC1	**Pilbara Seismi**	**3.14**	**192**	P	**Pn**	**01 46 10.2**	**+1.7**
PSAC1				S	**Sn**	**01 46 48.3**	**+2.2**
PSAB2	**Pilbara Seismi**	**3.15**	**191**	P	**Pn**	**01 46 10.5**	**+1.8**
PSAB2				S	**Sn**	**01 46 48.4**	**+2.0**
PSA00	**Pilbara Seismi**	**3.17**	**192**	P	**Pn**	**01 46 10.7**	**+1.7**
PSA00				S	**Sn**	**01 46 48.9**	**+2.0**
PSA00	**Pilbara Seismi** 22nm,0.6s	**3.17**	**192**	P	**Pn**	**01 46 10.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**4.86**	**87**	P	**Pn**	**01 46 32.8**	**+0.6**
GIRL	**Giralia**	**7.23**	**234**	P	**Pn**	**01 47 03.4**	**-1.3**
KNRA	**Kununurra** comp=Z,18nm,1.8s,comp=Z,0.1nm	**8.34**	**72**	P	**Pn**	**01 47 20.2**	**+0.2**
KNRA				S	**Sn**	**01 48 52.1**	**-2.1**
MEEK	**Meekatharra** comp=Z,11nm,1.5s,comp=Z,0.1nm	**8.34**	**192**	P	**Pn**	**01 47 20.6**	**+0.6**
MEEK	**Meekatharra**	**8.34**	**192**	S	**Sn**	**01 48 51.4**	**-3.0**
MEEK	**Meekatharra** comp=Z,11nm,1.5s	**8.34**	**192**	P	**Pn**	**01 47 20.6**	**+0.6**
EDFI	**Ende, Flores** comp=Z,16nm,1.1s,comp=Z,0.0nm	**9.71**	**7**	P	**Pn**	**01 47 40.5**	**+1.7**
WRKA	**Warakurna** comp=Z,3.2nm,1.9s,comp=Z,0.0nm	**9.74**	**134**	P	**Pn**	**01 47 41.4**	**+2.2**
WRKA				S	**Sn**	**01 49 29.6**	**+0.7**
MORW	**Morawa** comp=Z,12nm,1.7s	**11.34**	**200**	P	**Pn**	**01 47 59.5**	**-1.6**
MTN	**Manton Dam** comp=Z,36nm,2.2s	**11.63**	**63**	P	**Pn**	**01 48 02.9**	**-2.1**
BLDU	**Ballidu** comp=Z,15nm,2.9s	**12.60**	**195**	P	**Pn**	**01 48 17.7**	**-0.6**
KLBR	**Kellerberrin** comp=Z,10nm,1.9s	**13.33**	**190**	P	**Pn**	**01 48 28.1**	**-0.1**
NWAO	**Narrogin (SRO)** comp=Z,8.4nm,2.1s	**14.72**	**191**	P	**Pn**	**01 48 45.7**	**-1.6**

NEIC ***17*** *01:47:24.4±1.4, 35°.638N±0°.007×117°.47W±0°.01, h7km, Error ellipse: s-maj=1.1km s-min=1.0km az=116.0*

PAS 17 01:47:24.8±1.2, 35°.623N±0°.005×117°.475W±0°.009, h8km±4km, ML3.1/95, ML2.9/78(NEIC), Error ellipse: s-maj=1.2km s-min=0.5km az=123.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.03**	**212**	Pg	Pg	01 47 26.4	-0.1
WSHM					Sg	01 47 27.5	0.0
CCCA	**Chr Cany lake**	**0.13**	**137**	Pg	Pg	01 47 28.0	+0.2
CCCA				Sg	Sg	01 47 30.4	+0.6
GPO	**China Lake**	**0.15**	**280**		Pg	01 47 28.2	+0.1
GPO					Sg	01 47 31.1	+0.7
CLC	**China Lake**	**0.22**	**333**	Pg	Pg	01 47 29.1	-0.1
CLC				Sg	Sg	01 47 32.3	0.0
CLC	comp=N,3μm,0.1s			IAML		01 47 32.5	
CLC	comp=E,3μm,0.4s			IAML		01 47 32.7	
LRMC	**Laurel Mtn Rad**	**0.22**	**230**	Pg	Pg	01 47 29.2	-0.2
LRMC				Sg	Sg	01 47 32.5	+0.1
SRTC	**Snort**	**0.23**	**287**		Pg	01 47 29.8	+0.2
SRTC					Sg	01 47 34.0	+1.3
TOW	**Tower One**	**0.30**	**308**		Pg	01 47 31.0	+0.2
TOW					Sg	01 47 35.8	+1.0
WNMM	**Nine Mile Cany**	**0.41**	**302**		Pg	01 47 32.7	-0.2
WNMM					Sg	01 47 38.7	+0.3
WVPM	**Volcano Peak E**	**0.43**	**320**		Pg	01 47 32.3	-0.9
WVPM					Sg	01 47 38.9	+0.1
JRC2	**Joshua Ridge**	**0.45**	**323**		Pg	01 47 33.4	-0.2
JRC2					Sg	01 47 39.7	+0.1
DTP	**Desert Tortois**	**0.47**	**221**		Pg	01 47 33.4	-0.5
DTP					Sg	01 47 39.6	-0.4
WCSM	**Coso Springs S**	**0.47**	**330**		Pg	01 47 33.8	-0.1
WCSM					Sg	01 47 40.1	0.0
WRVM	**Rose V. Centra**	**0.51**	**319**		Pg	01 47 34.3	-0.5
WRVM					Sg	01 47 41.2	-0.3
WBSM	**Bird Springs**	**0.55**	**261**		Pg	01 47 35.0	-0.5
WBSM					Sg	01 47 42.6	-0.1
MFS	**McCloud Flat S**	**0.58**	**328**		Pg	01 47 35.8	-0.3
MFS					Sg	01 47 43.7	-0.1
QSM	**Queen of Sheba**	**0.60**	**55**	Pg	Pg	01 47 36.1	-0.3
QSM					Sg	01 47 44.0	-0.3
QSM	comp=N,1μm,0.4s			IAML		01 47 45.0	
QSM	comp=E,2μm,0.4s			IAML		01 47 47.6	
WORM	**Onyx Ranch**	**0.63**	**277**		Pg	01 47 36.4	-0.6
WORM					Sg	01 47 44.6	-0.7
GSC	**Goldstone, Bar**	**0.63**	**120**	Pg	Pg	01 47 36.6	-0.4
GSC				Sg	Sg	01 47 45.0	-0.4
GSC	comp=E,754nm,0.4s			IAML		01 47 48.5	
GSC	comp=N,711nm,0.3s			IAML		01 47 49.1	
CCAC	**Calif City Air**	**0.65**	**223**		Pg	01 47 36.9	-0.4
CCAC					Sg	01 47 45.8	+0.1
WHFM	**Hanning Flat**	**0.72**	**276**		Pg	01 47 38.0	-0.6
WHFM					Sg	01 47 47.5	-0.4
HYS	**Haystack Butte**	**0.76**	**186**		Pg	01 47 38.8	-0.7
HYS					Sg	01 47 49.0	-0.4
ISA	**Isabella, Lake**	**0.81**	**273**	Pg	Pg	01 47 39.7	-0.8
ISA				Sg	Sg	01 47 50.7	-0.4
ISA	comp=E,275nm,0.3s			IAML		01 47 54.1	
RRX	**Edison Barstow**	**0.84**	**152**		Pg	01 47 40.5	-0.5
RRX					Sg	01 47 51.4	-0.5
EDW2	**Edwards Air Fo**	**0.85**	**210**		Pg	01 47 40.5	-0.8
WASM	**Alta Sierra Ca**	**0.89**	**278**		Pg	01 47 41.0	-0.9
WASM					Sg	01 47 52.9	-0.6
CWC	**Cottonwood Cre**	**0.95**	**329**	Pg	Pg	01 47 42.6	-0.6
CWC	comp=E,264nm,0.2s			IAML		01 47 55.7	
CWC	comp=N,214nm,0.1s			IAML		01 47 57.0	
CWC	**Cottonwood Cre**	**0.95**	**329**		Sg	01 47 55.2	-0.3
CGO	**Cerro Gordo**	**0.96**	**344**		Pg	01 47 42.9	-0.5
CGO					Sg	01 47 56.4	+0.4
TPO	**Tropico Hills**	**0.96**	**220**	Pg	Pg	01 47 42.8	-0.6
TPO				Sg	Sg	01 47 55.7	-0.2
TPO	comp=E,468nm,0.5s			IAML		01 47 58.2	
TPO	comp=N,573nm,0.6s			IAML		01 48 02.4	
SBB	**Saddle Back Bu**	**0.98**	**197**		Pg	01 47 42.7	-0.9
SHOC	**Shoshone, Teco**	**1.01**	**74**		Sg	01 47 57.6	+0.2
TEJ	**El Tejon**	**1.07**	**249**		Pg	01 47 43.9	-1.4
VTV	**Victorville**	**1.07**	**174**		Sb	01 47 60.0	+0.3
ALPC	**Antelope**	**1.15**	**216**		Sb	01 48 02.6	+0.5
LRRC	**Littlerock Res**	**1.19**	**203**		Pb	01 47 46.7	-0.8
LRRC					Sn	01 48 03.7	-0.2
SPG2	**Springville 2**	**1.20**	**299**		Pb	01 47 46.7	-1.1
HOLC	**Holcomb Ridge**	**1.20**	**195**		Pb	01 47 46.9	-1.0
HOLC					Sb	01 48 04.0	+0.4
LEOC	**Leona Valley**	**1.20**	**215**		Pb	01 47 46.7	-1.1
THC	**Tehachapi Micr**	**1.21**	**234**		Pg	01 47 47.0	-0.9
DSCC	**Desert Studies**	**1.22**	**113**		Pb	01 47 46.2	-1.8
DSCC					Sg	01 48 04.0	0.0
CJV	**Casa Juvan**	**1.22**	**207**		Pn	01 47 48.5	+0.2
HEC	**Hector,Ludlow**	**1.22**	**130**		Sg	01 48 03.7	-0.5
JNH	**Juniper Hills**	**1.24**	**199**		Pb	01 47 47.5	-0.9
JNH					Sb	01 48 04.8	+0.1
AMDNV	**Amargosa**	**1.27**	**49**		Pn	01 47 48.8	0.0
TUQ	**Turquoise Moun**	**1.28**	**98**		Pn	01 47 48.1	-1.0
VES	**Vestal, Richgr**	**1.33**	**280**		Pn	01 47 49.7	+0.1
WCT	**Wildcat Mounta**	**1.35**	**30**		Pn	01 47 48.8	-1.3
WCT				Sg	Sb	01 48 07.5	-0.5
WCT	comp=E,118nm,0.5s			IAML		01 48 10.6	
BAKC	**Calstate**	**1.36**	**259**		Pn	01 47 48.3	-1.7
CHFC	**Chilao Flat St**	**1.36**	**200**		Pn	01 47 49.9	-0.4
CHFC					Sg	01 48 08.8	+0.2
SIL	**Silver Peak**	**1.38**	**157**		Pn	01 47 50.3	-0.2
BFSC	**Mount Baldy Ra**	**1.39**	**186**		Pn	01 47 50.0	-0.6
BFSC	comp=N,163nm,0.2s			IAML		01 48 09.6	
BFSC	comp=E,149nm,0.4s			IAML		01 48 10.1	
SGV	**South Grapevin**	**1.40**	**15**		Pb	01 47 51.1	-0.2
SSK	**Sunset Peak**	**1.42**	**187**		Pn	01 47 51.1	0.0
OSI	**Osito Audit: C**	**1.44**	**226**		Pn	01 47 51.4	+0.3
OSI	comp=N,142nm,0.5s			IAML		01 48 13.3	
OSI	comp=E,139nm,0.8s			IAML		01 48 15.4	
MWC	**Mount Wilson**	**1.48**	**199**		Pn	01 47 51.2	-0.6
MWC	comp=N,277nm,0.4s			IAML		01 48 13.2	
MWC	comp=E,250nm,0.3s			IAML		01 48 13.2	
SVD	**Seven Oaks Dam**	**1.54**	**168**		Pb	01 47 53.5	-0.2
SVD					Sb	01 48 13.8	+0.4
PSRC	**Puddingstone R**	**1.55**	**190**		Pb	01 47 53.8	-0.2
PASC	**Pasadena Art C**	**1.56**	**202**		Pn	01 47 52.8	-0.1
PASC	comp=E,88nm,0.6s			IAML		01 48 19.7	
MTPC	**Mountain Pass**	**1.57**	**94**		Pn	01 47 51.3	-1.9
MTPC	comp=N,121nm,0.2s			IAML		01 48 15.8	
MTPC	comp=E,133nm,0.2s			IAML		01 48 15.8	
LCH	**Last Change Ra**	**1.61**	**355**		Pn	01 47 50.0	-3.7
GTM	**Goat Mountain**	**1.61**	**145**		Pb	01 47 54.8	-0.1
GTM					Sb	01 48 15.3	-0.1
BLCC	**Black Canyon**	**1.69**	**216**		Pg	01 47 56.8	-0.5
VOG	**Valley Oaks Go**	**1.70**	**295**		Pb	01 47 56.0	-0.3
GMRC	**Granite Mounta**	**1.71**	**119**		Pn	01 47 52.8	-2.2
BCW	**Bitter Crk WRg**	**1.73**	**247**		Pb	01 47 56.2	-0.6
DSP	**Deep Springs**	**1.79**	**347**	Pn	Pn	01 47 55.2	-0.7
CRGC	**Crocker Grade**	**1.88**	**259**		Pb	01 47 59.2	-0.2
TPC	**Twentynine Pal**	**1.92**	**142**		Pn	01 47 56.7	-1.1
ELS	**Elsinore Mount**	**1.97**	**179**	Pn	Pn	01 47 57.4	-1.1
SHPR	**Sheep Range**	**2.07**	**64**	Pn	Pn	01 47 59.4	-0.6
V12A	**Nelson**	**2.14**	**86**	Pn	Pn	01 47 59.4	-1.5
PMD	**Palm Desert**	**2.17**	**155**

0.3nm,0.3s,baz=267,slow=21,SNR=1.7
1.9nm,0.3s
WRA Warramunga Arr 27.91 248 P **P** **01 59 58.2 +0.5**
0.8nm,0.7s,baz=78,slow=9.6,SNR=6.4
0.8nm,0.7s
ASAR Alice Springs 29.42 241 P **P** **02 00 11.5 +0.3**
0.5nm,0.6s,baz=72,slow=9.2,SNR=4.8
0.5nm,0.6s
FITZ Fitzroy Crossi 35.66 254 P **P** **02 01 05.0 -0.7**
2.5nm,0.9s,baz=58,slow=9.1,SNR=1.5
2.5nm,0.9s
PPT Papeete 47.52 104 LR LR 02 18 04.3
comp=Z,27nm,20.5s,baz=238,slow=30
VNDA Vanda 66.62 180 P **P** **02 04 58.0 +1.0**
1.3nm,0.7s,baz=342,slow=6.7,SNR=15
1.3nm,0.7s
SONM Songino Array 76.27 325 P **P** **02 05 55.4 -0.5**
0.6nm,0.7s,baz=122,slow=6.4,SNR=7.1
0.6nm,0.7s
ILAR Eielson Array 84.64 20 P **P** **02 06 39.9 -0.3**
0.3nm,0.8s,baz=243,slow=5.0,SNR=1.2
0.3nm,0.8s

*IDC **17** 01:57:19.5±0.6,0˚.25N×126˚.02E,h0km,mb4.3/18, mbtmp4.3/19,ML3.7/1,MS3.5/4,Error ellipse: s-maj=32.5km s-min=12.3km az=80.0*
*NEIC **17** 01:57:24.9±1.8,0˚.35N±0˚.08×126˚.23E±0˚.03,h27km±5km, mb4.7/25,Error ellipse: s-maj=11.6km s-min=4.9km az=186.0*
*DJA **17** 01:57:24.6±0.2,0˚N±3˚×12˚6E±˚,h10km,M4.4/17,mB5.7/1, mb4.5/6,MLv4.3/17,Mw(mB)5.2/1,MwMwp4.4/1,Mwp4.8/1*
ISC 17 01:57:25.3±0.4,0.31N±0.05×126.23E±0.06,h35km,n78,
σ1§33/79,mb4.6/36,MS3.6/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.23**	**68**		**Pn**	**01 57 46.4**	**+0.4**
TNTI	**Ternate**	**1.23**	**68**	P	**Pn**	**01 57 46.8**	**+0.8**
KMSI	**Cibinong**	**2.26**	**277**	P	**Pn**	**01 58 00.1**	**-0.1**
SANI	**Sanana**	**2.35**	**186**	P	**Pn**	**01 57 59.7**	**-1.8**
SGSI	**Sangihe**	**3.43**	**348**	P	**Pn**	**01 58 18.0**	**+1.7**
NLAI	**Namlea**	**3.63**	**166**	P	**Pn**	**01 58 23.8**	**+4.8**
LUWI	**Luwuk**	**3.71**	**249**	P	**Pn**	**01 58 23.8**	**+3.7**
MRSI	**Marisa**	**4.29**	**272**	P	**Pn**	**01 58 29.5**	**+1.4**
APSI	**Ampana**	**4.74**	**255**	P	**Pn**	**01 58 36.0**	**+1.7**
TOLI2	**Tolitoli**	**5.50**	**278**	Pn	**Pn**	**01 58 45.4**	**+0.6**
MPSI	**Mapaga**	**6.33**	**270**	P	**Pn**	**01 58 57.7**	**+1.5**
TTSI	**Tana Toraja**	**7.22**	**242**	P	**Pn**	**01 59 09.1**	**+0.7**
	54nm,0.7s						
BNSI	**Bone**	**7.70**	**233**	P	**Pn**	**01 59 13.5**	**-1.5**
SPSI	**Sidrap Palu**	**7.72**	**237**	P	**Pn**	**01 59 15.7**	**+0.4**
KAPI	**Kappang**	**8.35**	**231**	Pn	**Pn**	**01 59 24.8**	**+0.8**
KAPI	**Kappang**	**8.35**	**231**	Pn	**Pn**	**01 59 25.0**	**+1.0**
	3.5nm,0.3s,baz=66,slow=9.4,SNR=5.5						
KAPI				Sn	**Sn**	**02 00 57.3**	**+0.1**
	0.5nm,0.3s,baz=121,slow=20,SNR=1.1						
MTN	**Manton Dam**	**13.94**	**160**	Pn	**Pn**	**02 00 43.9**	**+3.4**
JAY	**Jayapura**	**14.74**	**101**	LR	LR	02 08 08.5	
	comp=Z,159nm,20.4s,baz=289,slow=44						
KNRA	**Kununurra**	**16.08**	**171**	Pn	**Pn**	**02 01 08.9**	**0.0**
FITZ	**Fitzroy Crossi**	**18.30**	**182**	P	**P**	**02 01 35.0**	**-1.4**
	0.2nm,0.3s,baz=73,slow=9.5,SNR=4.0						
	4.2nm,0.8s						
WB0	**Warramunga Arr**	**21.50**	**159**	P	**P**	**02 02 09.6**	**-1.6**
WB0				IAmb	IAmb	02 02 26.4	
	comp=Z,27nm,1.1s						
WRA	**Warramunga Arr**	**21.64**	**159**	P	**P**	**02 02 11.0**	**-1.8**
WRA	**Warramunga Arr**	**21.64**	**159**	P	**P**	**02 02 11.2**	**-1.5**
	comp=Z,4.2nm,0.4s,baz=337,slow=11,SNR=29						
	comp=Z,4.2nm,0.4s						
WR8	**Warramunga Arr**	**21.71**	**159**	P	**P**	**02 02 11.6**	**-1.9**
WR8				IAmb	IAmb	02 02 23.3	
	comp=Z,38nm,1.4s						
COEN	**Coen**	**21.97**	**131**	P	**P**	**02 02 15.6**	**-0.7**
COEN				IAmb	IAmb	02 02 28.5	
	comp=Z,56nm,1.4s						
AS31	**Alice Springs**	**24.97**	**163**	P	**P**	**02 02 45.8**	**0.0**
ASAR	**Alice Springs**	**24.97**	**163**	P	**P**	**02 02 46.4**	**+0.6**
ASAR	**Alice Springs**	**24.97**	**163**	P	**P**	**02 02 45.4**	**-0.4**
	comp=Z,3.0nm,0.4s,baz=344,slow=9.7,SNR=32						
ASAR				PcP	**PcP**	**02 06 20.5**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=347,slow=2.3,SNR=2.9						
	comp=Z,3.0nm,0.4s						
FORT	**Forrest**	**30.96**	**177**	P	**P**	**02 03 40.3**	**+1.0**
NJ2	**Nanjing**	**32.34**	**348**	*e*P	**P**	**02 03 53.9**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH	**PanZhiHua**	**35.13**	**320**	P	**P**	**02 04 18.3**	**+2.4**
STKA	**Stephens Creek**	**35.16**	**157**	P	**P**	**02 04 14.5**	**-1.5**
STKA	**Stephens Creek**	**35.16**	**157**	P	**P**	**02 04 15.8**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=315,slow=14,SNR=5.1						
	comp=Z,3.1nm,0.7s						
JGF	**Kuroka**	**36.61**	**15**	P	**P**	**02 04 27.9**	**-0.5**
JGF				IAmb	IAmb	02 04 30.2	
	comp=Z,6.6nm,0.9s						
KSRS	**Korea Array**	**37.00**	**2**	P	**P**	**02 04 31.9**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=179,slow=10,SNR=16						
	comp=Z,3.4nm,0.8s						
XAN	**Xi'an**	**37.27**	**336**	P	**P**	**02 04 35.0**	**+1.0**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MJAR	**Matsushiro Arr**	**37.73**	**16**	P	**P**	**02 04 36.6**	**-1.2**
	comp=Z,2.6nm,0.6s,baz=192,slow=8.3,SNR=7.0						
	comp=Z,2.6nm,0.6s						
JMM	**Marumori**	**39.71**	**18**	P	**P**	**02 04 54.4**	**0.0**
HHC	**Hu-ho-hao-te**	**42.49**	**343**	*e*P	**P**	**02 05 19.4**	**+2.0**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
USA0B	**Ussuriysk Arra**	**44.00**	**6**	P	**P**	**02 05 28.0**	**-1.4**
USA0B				IAmb	IAmb	02 05 33.6	
	comp=Z,7.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**44.00**	**6**	P	**P**	**02 05 29.5**	**+0.1**
	comp=Z,5.5nm,0.8s,baz=184,slow=8.0,SNR=5.8						
	comp=Z,5.5nm,0.8s						
GTA	**Gaotai**	**45.80**	**331**	*e*P	**P**	**02 05 43.9**	**0.0**
GTA				sP	sP	02 06 05.6	+8.2
GTA				PcP	**PcP**	**02 07 22.3**	**+1.2**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ASAJ	**Asahikawa**	**45.99**	**16**	P	**P**	**02 05 45.7**	**+0.5**
	comp=Z,5.7nm,0.7s,baz=207,slow=9.1,SNR=6.0						
	comp=Z,5.7nm,0.7s						
HEH	**HeiHe**	**49.77**	**1**	*e*P	**P**	**02 06 14.4**	**+0.1**
HEH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SONM	**Songino Array**	**50.38**	**343**	P	**P**	**02 06 18.2**	**-1.0**
	comp=Z,2.6nm,0.9s,baz=149,slow=7.8,SNR=8.1						
SONM				PcP	**PcP**	**02 07 37.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=155,slow=4.7,SNR=2.2						
SONM				LR	LR	02 31 14.6	
	comp=Z,55nm,18.2s,baz=169,slow=40						
	comp=Z,2.6nm,0.9s						
PEA0B	**Petropavlovsk-**	**58.77**	**22**	P	**P**	**02 07 20.2**	**+0.4**
PETK	**Petropavlovsk-**	**58.77**	**22**	P	**P**	**02 07 19.8**	**-0.1**
PETK	**Petropavlovsk-**	**58.77**	**22**	P	**P**	**02 07 20.6**	**+0.8**
	comp=Z,3.7nm,0.6s,baz=186,slow=3.8,SNR=14						
	comp=Z,3.7nm,0.6s						
MKAR	**Makanchi Array**	**60.09**	**327**	P	**P**	**02 07 28.2**	**-0.9**
MKAR	**Makanchi Array**	**60.09**	**327**	P	**P**	**02 07 28.1**	**-1.1**
	comp=Z,3.0nm,0.6s,baz=135,slow=8.0,SNR=14						
	comp=Z,3.0nm,0.6s						
MAKZ	**Makanchi**	**60.27**	**326**	P	**P**	**02 07 30.1**	**-0.3**
MAKZ				IAmb	IAmb	02 07 32.4	
	comp=Z,3.9nm,0.8s						
MA2	**Magadan**	**62.13**	**14**	P	**P**	**02 07 43.4**	**+0.8**
	comp=Z,14nm,0.8s,baz=178,slow=5.5,SNR=5.3						
	comp=Z,14nm,0.8s						
ZALV	**Zalesovo Beam**	**63.41**	**334**	P	**P**	**02 07 51.6**	**+0.3**
ZALV	**Zalesovo Beam**	**63.41**	**334**	P	**P**	**02 07 50.4**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=130,slow=7.5,SNR=6.5						
	comp=Z,1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**64.35**	**328**	P	**P**	**02 07 56.7**	**-0.8**
	comp=Z,1.8nm,0.4s,baz=127,slow=5.8,SNR=12						
	comp=Z,1.8nm,0.4s						
KURK	**Kurchatov**	**64.36**	**329**	P	**P**	**02 07 56.7**	**-0.9**
KURK				IAmb	IAmb	02 07 59.0	
	comp=Z,6.1nm,0.7s						
SEY	**Seymchan**	**65.46**	**13**	LR	LR	02 36 46.5	
	comp=Z,31nm,20.3s,baz=172,slow=36						
BVAR	**Borovoye Array**	**69.92**	**328**	P	**P**	**02 08 32.2**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=126,slow=7.5,SNR=11						
	comp=Z,2.9nm,0.8s						
BRVK	**Borovoye**	**69.99**	**328**	P	**P**	**02 08 32.4**	**-0.9**
TIXI	**Tiksi**	**71.25**	**1**	LR	LR	02 44 23.6	
	comp=Z,41nm,18.2s,baz=188,slow=40						

ATKA	**Atka Island**	**71.59**	**34**	P	**P**	**02 08 42.8**	**-0.2**
AB31	**Akbulak array**	**74.48**	**321**	P	**P**	**02 08 59.2**	**-0.9**
ABKAR	**Akbulak array**	**74.48**	**321**	P	**P**	**02 08 58.9**	**-1.3**
ARTI	**Arti**	**77.63**	**328**	P	**P**	**02 09 16.4**	**-1.6**
ARTI				IAmb	IAmb	02 09 28.7	
	comp=Z,3.9nm,0.6s						
K13K	**Kusilvak Mount**	**80.02**	**27**	P	**P**	**02 09 32.4**	**+1.4**
K13K				IAmb	IAmb	02 09 34.5	
	comp=Z,14nm,1.3s						
VNDA	**Vanda**	**80.12**	**173**	P	**P**	**02 09 30.2**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=300,slow=7.4,SNR=1.9						
	comp=Z,0.3nm,0.4s						
SDPT	**Sand Point**	**80.30**	**34**	P	**P**	**02 09 32.8**	**+0.2**
RAYN	**Ar Rayn**	**81.37**	**294**	P	**P**	**02 09 38.1**	**-1.0**
RAYN				IAmb	IAmb	02 09 43.6	
	comp=Z,5.9nm,1.1s						
J17K	**VABM Dome**	**82.90**	**26**	P	**P**	**02 09 47.6**	**+1.4**
J17K				IAmb	IAmb	02 09 48.6	
	comp=Z,5.9nm,0.8s						
K17K	**Iditarod**	**83.09**	**27**	P	**P**	**02 09 47.9**	**+0.7**
K17K				IAmb	IAmb	02 09 49.6	
	comp=Z,7.8nm,0.9s						
E18K	**Tukpahlearik C**	**83.30**	**22**	P	**P**	**02 09 49.2**	**+1.0**
E18K				IAmb	IAmb	02 09 50.4	
	comp=Z,8.6nm,1.0s						
GURO	**Guroymak-BITLI**	**85.26**	**308**	P	**P**	**02 09 58.9**	**-0.1**
ILAR	**Eielson Array**	**88.39**	**25**	P	**P**	**02 10 12.1**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=248,slow=4.9,SNR=4.2						
	comp=Z,0.3nm,0.5s						
QSPA	**South Pole Qui**	**90.24**	**180**	P	**P**	**02 10 22.0**	**-0.2**
	comp=Z,2.2nm,1.1s,baz=329,slow=1.1,SNR=6.3						
	comp=Z,2.2nm,1.1s						
ARCES	**ARCESS Array B**	**93.47**	**340**	P	**P**	**02 10 35.8**	**-1.2**
	comp=Z,3.0nm,0.9s,baz=76,slow=4.9,SNR=5.8						
	comp=Z,3.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**123.44**	**286**	PKP	**PKPdf**	**02 16 18.6**	**-1.4**
	comp=Z,0.9nm,0.9s,baz=97,slow=2.3,SNR=3.9						
CO02	**Combarbal**	**145.20**	**154**		**PKPbc**	**02 16 58.2**	**-1.5**
PLTB	**Pedras Altas**	**148.71**	**180**	PKPbc	**PKPbc**	**02 17 09.7**	**+0.1**

*NEIC **17** 01:58:33.3±1.4,55˚.69S±0˚.05×28˚.7W±0˚.2,h74km±6km, mb4.7/35,Error ellipse: s-maj=13.7km s-min=7.3km az=98.0*
*IDC **17** 01:58:35.0±5.1,55˚.63S×28˚.39W,h93km±47km,mb4.1/8, mbtmp4.5/10,MS2.5/1,Error ellipse: s-maj=23.1km s-min=14.2km az=59.0*
ISC 17 01:58:29.8±0.5,55.62S±0.09×28.55W±0.08,h45km,n73,
σ1§02/66,mb4.5/21,4C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.77**	**283**		**Pn**	**01 59 41.5**	**+2.5**
HOPE				Sn	**Sn**	**02 00 29.1**	**-3.8**
VNA1	**Neumayer--Stat**	**17.49**	**157**	⇑P	**P**	**02 02 31.8**	**+1.2**
	comp=Z,1.6nm,0.4s						
VNA3	**Neumayer Olymp**	**17.66**	**160**	⇑P	**P**	**02 02 32.9**	**+0.3**
	comp=Z,46nm,1.1s						
SNAA	**Sanae**	**19.45**	**156**	⇑P	**P**	**02 02 52.6**	**+0.3**
	comp=Z,118nm,0.2s						
SNAA	**Sanae**	**19.45**	**156**		**P**	**02 02 52.6**	**+0.3**
SNAA				IAmb	IAmb	02 02 53.5	
	comp=Z,37nm,0.9s						
SNAA	**Sanae**	**19.45**	**156**	P	**P**	**02 02 52.5**	**+0.3**
	comp=Z,22nm,0.4s,baz=315,slow=11,SNR=305						
SNAA				PcP	**PcP**	**02 07 10.1**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=360,slow=11,SNR=2.7						
PMSA	**Palmer Station**	**19.61**	**228**	P	**Pn**	**02 02 56.3**	**+0.7**
	comp=Z,9.8nm,0.8s,baz=72,slow=6.4,SNR=1.2						
TROLL	**Troll, Antarti**	**20.98**	**153**	⇑P	**P**	**02 03 08.9**	**+0.1**
	comp=Z,186nm,0.3s						
TRQA	**Tornquist**	**28.44**	**294**		**P**	**02 04 20.2**	**0.0**
TRQA				IAmb	IAmb	02 04 21.0	
	comp=Z,17nm,1.4s						
PLTB	**Pedras Altas**	**29.64**	**313**	P	**P**	**02 04 31.0**	**+0.3**
QSPA	**South Pole Qui**	**34.64**	**180**	P	**P**	**02 05 14.4**	**0.0**
QSPA				IAmb	IAmb	02 05 16.0	
	comp=Z,4.9nm,0.8s						
QSPA	**South Pole Qui**	**34.64**	**180**	P	**P**	**02 05 14.9**	**+0.5**
	comp=Z,4.3nm,0.7s,baz=198,slow=2.8,SNR=50						
	comp=Z,4.3nm,0.7s						
CPUP	**Villa Florida**	**35.95**	**313**	P	**P**	**02 05 26.4**	**+0.6**
CPUP	**Villa Florida**	**35.95**	**313**	P	**P**	**02 05 26.3**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=2.2,slow=7.1,SNR=10.0						
CPUP				LR	LR	02 20 55.0	
	comp=Z,6.9nm,18.2s,baz=58,slow=37						
	comp=Z,1.6nm,0.7s						
MT09	**Talagante**	**36.44**	**289**	P	**P**	**02 05 28.9**	**-1.3**
MT02	**Curacav**	**36.92**	**289**	P	**P**	**02 05 33.9**	**-0.2**
ZON	**Zonda**	**36.96**	**294**	P	**P**	**02 05 35.6**	**+1.2**
ZON				IAmb	IAmb	02 05 49.4	
	comp=Z,9.9nm,1.3s						
VA03	**San Esteban**	**36.99**	**290**	P	**P**	**02 05 35.1**	**+0.4**
VA03				IAmb	IAmb	02 05 53.1	
	comp=Z,23nm,1.5s						
CO02	**Combarbal**	**38.44**	**292**	P	**P**	**02 05 46.4**	**-0.7**
CO03	**El Pedregal**	**38.56**	**292**	P	**P**	**02 05 48.2**	**+0.1**
CO03				IAmb	IAmb	02 06 11.0	
	comp=Z,9.0nm,1.2s						
CO01	**Juntas del Tor**	**38.94**	**294**	P	**P**	**02 05 52.7**	**+1.3**
MAW	**Mawson**	**40.95**	**144**	P	**P**	**02 06 07.1**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=216,slow=7.6,SNR=9.2						
	comp=Z,1.8nm,0.3s						
AC02	**Maricunga**	**40.99**	**298**	P	**P**	**02 06 09.3**	**+0.6**
BDFB	**Brasilia**	**42.61**	**332**	P	**P**	**02 06 22.6**	**+1.0**
BDFB	**Brasilia**	**42.61**	**332**	P	**P**	**02 06 22.6**	**+1.0**
	comp=Z,1.7nm,0.5s,baz=315,slow=26,SNR=4.7						
	comp=Z,1.7nm,0.5s						
GO02	**Mina Guanaco**	**42.61**	**298**	P	**P**	**02 06 22.2**	**+0.4**
PB02	**IPOC Station P**	**45.99**	**301**	P	**P**	**02 06 49.3**	**+0.7**
PB01	**IPOC Station P**	**46.03**	**302**	P	**P**	**02 06 49.1**	**+0.3**
PTLB	**Pontes e Lacer**	**46.45**	**317**	P	**P**	**02 06 52.1**	**0.0**
PTLB				IAmb	IAmb	02 06 53.2	
	comp=Z,5.6nm,0.8s						
BOSA	**Boshof**	**46.62**	**78**	P	**P**	**02 06 54.5**	**+1.0**
BOSA				IAmb	IAmb	02 07 35.9	
	comp=Z,13nm,1.4s						
BOSA	**Boshof**	**46.62**	**78**	P	**P**	**02 06 53.0**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=212,slow=6.2,SNR=5.0						
	comp=Z,2.7nm,0.8s						
VNDA	**Vanda**	**46.97**	**183**	P	**P**	**02 06 56.1**	**+0.6**
VNDA	**Vanda**	**46.97**	**183**	P	**P**	**02 06 56.2**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=187,slow=7.0,SNR=15						
	comp=Z,1.9nm,0.6s						
GO01	**Chusmiza**	**47.06**	**303**	P	**P**	**02 06 58.1**	**+0.7**
GO01				IAmb	IAmb	02 06 59.5	
	comp=Z,7.2nm,0.7s						
PB11	**IPOC Station P**	**47.20**	**302**	P	**P**	**02 06 58.4**	**+0.2**
PB11				IAmb	IAmb	02 07 00.4	
	comp=Z,11nm,0.9s						
H10S2	**ASCENSION HYDR**	**47.82**	**19**	T	T	02 59 02.4	
	baz=190,slow=74,SNR=13						
H10S3	**ASCENSION HYDR**	**47.82**	**19**	T	T	02 59 03.5	
	baz=30,slow=74,SNR=7.4						
KOOLE	**Kule**	**48.35**	**68**	P	**P**	**02 07 07.2**	**+0.2**
KOOLE				IAmb	IAmb	02 07 08.2	
	comp=Z,13nm,1.2s						
PB16	**IPOC Station P**	**48.36**	**304**	P	**P**	**02 07 08.4**	**+0.8**
PB16				IAmb	IAmb	02 07 15.1	
	comp=Z,11nm,1.5s						
H10N1	**ASCENSION HYDR**	**48.94**	**19**	T	T	03 00 24.8	
	baz=189,slow=75,SNR=3.6						
H10N3	**ASCENSION HYDR**	**48.94**	**19**	T	T	03 00 26.9	
	baz=189,slow=75,SNR=5.0						
H10N2	**ASCENSION HYDR**	**48.95**	**19**	T	T	03 00 28.2	
	baz=189,slow=75,SNR=5.5						
LPAZ	**La Paz**	**49.50**	**306**	P	**P**	**02 07 17.7**	**+1.3**
LPAZ				IAmb	IAmb	02 07 18.4	
	comp=Z,7.8nm,0.8s						
LPAZ	**La Paz**	**49.50**	**306**	P	**P**	**02 07 17.6**	**+1.3**
	comp=Z,7.8nm,0.5s,baz=127,slow=4.8,SNR=46						
	comp=Z,7.8nm,0.5s						
LBTB	**Lobatse**	**49.63**	**75**	P	**P**	**02 07 17.2**	**+0.4**
LBTB				IAmb	IAmb	02 07 18.4	
	comp=Z,8.0nm,1.0s						
LPHEP	**Lephephe**	**51.09**	**74**	P	**P**	**02 07 28.8**	**+1.0**
LPHEP				IAmb	IAmb	02 07 58.2	
	comp=Z,9.0nm,1.2s						
QNGWA	**Qangwa**	**51.72**	**66**	P	**P**	**02 07 33.4**	**+0.9**
QNGWA				IAmb	IAmb	02 07 34.0	
	comp=Z,5.9nm,1.0s						
MREMI	**Moremi**	**52.59**	**75**	P	**P**	**02 07 39.5**	**+0.5**
CASY	**Casey**	**54.57**	**161**	P	**P**	**02 07 52.5**	**-0.3**
CASY				IAmb	IAmb	02 07 53.3	
	comp=Z,4.9nm,0.9s						
MACA	**Manacapuru-AM**	**58.34**	**321**	P	**P**	**02 08 20.0**	**-0.2**

LSZ	**Lusaka**	**58.94**	**70**	P	**P**	**02 08 24.2**	**-0.3**
BOAV	**Boa Vista**	**63.47**	**324**	P	**P**	**02 08 54.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**73.06**	**31**	P	**P**	**02 09 55.6**	**+0.7**
TORD				IAmb	IAmb	02 09 56.6	
	comp=Z,7.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.06**	**31**	P	**P**	**02 09 55.3**	**+0.3**
	comp=Z,12nm,0.5s,baz=199,slow=6.1,SNR=34						
	comp=Z,12nm,0.5s						
TBI	**Tubuai**	**86.75**	**232**	*e*LR	LR	02 38 33.3	
	comp=Z,790nm,28.8s						
TBI				*e*LR	LR	02 38 42.0	
	comp=Z,2μm,40.2s						
PPT2	**Papeete2**	**91.81**	**235**	*e*LR	LR	02 41 02.3	
	comp=Z,102nm,26.2s						
PPT2				*e*LR	LR	02 41 03.0	
	comp=Z,99nm,27.0s						
SUSD	**Miller**	**116.00**	**311**	PKPdf	**PKPdf**	**02 17 05.6**	**-1.1**
PLID	**Pearl Lake**	**124.29**	**301**	PKPdf	**PKPdf**	**02 17 21.1**	**-1.8**
FINES	**FINESS Array B**	**124.36**	**28**	PKPdf	**PKPdf**	**02 17 20.3**	**-1.9**
FINES	**FINESS Array B**	**124.36**	**28**	PKP	**PKPdf**	**02 17 20.6**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=198,slow=2.9,SNR=9.9						
ABKAR	**Akbulak array**	**127.76**	**56**	PKPdf	**PKPdf**	**02 17 28.1**	**-1.0**
ARCES	**ARCESS Array B**	**130.83**	**22**	PKP	**PKPdf**	**02 17 33.1**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=196,slow=2.5,SNR=6.2						
PZH	**PanZhiHua**	**133.97**	**108**	PKP	**PKPdf**	**02 17 41.3**	**-0.5**
BVAR	**Borovoye Array**	**135.20**	**58**	PKP	**PKPdf**	**02 17 42.5**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=214,slow=1.0,SNR=3.9						
MMPY	**Sheldon Lake,**	**141.99**	**313**	PKPdf	**PKPdf**	**02 17 56.0**	**+0.7**
HYT	**Haines Junctio**	**143.92**	**308**	PKPpre	PKPpre	02 17 56.2	
H31M	**Peel River**	**144.48**	**317**	PKPdf	**PKPab**	**02 17 57.8**	**-0.2**
INK	**Inuvik**	**144.98**	**321**		PKPbc	02 17 58.4	**-1.3**
G27K	**Doyon Strip**	**147.60**	**317**	PKPdf	**PKPdf**	**02 18 06.0**	**+1.2**
G26K	**Porcupine Rive**	**148.45**	**317**		**PKPbc**	**02 18 09.0**	**-0.7**
ILAR	**Eielson Array**	**149.25**	**312**		**PKPbc**	**02 18 10.3**	**-1.5**
ILAR	**Eielson Array**	**149.25**	**312**	PKPbc	**PKPbc**	**02 18 10.8**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=102,slow=3.0,SNR=24						
SONM	**Songino Array**	**151.47**	**87**	PKPbc	**PKPbc**	**02 18 16.4**	**-1.5**
	comp=Z,3.0nm,0.5s,baz=226,slow=3.1,SNR=18						

*MEX **17** 02:01:31.7±0.7,15˚.32N×92˚.15W,h163km±8km,MD3.5*
*GCG **17** 02:01:32.4±0.3,15˚.28N×92˚.10W,h136km±12km,MD3.7, ML2.6*
ISC 17 02:01:27.3±2.7,15.29N±0.09×92.1W±0.1,h177km±16km,
n12,σ1§80/21,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAVE	**Pavencul**	**0.14**	**227**	*e*P	**Pn**	**02 01 52.1**	**+1.1**
PAVE				*e*S	**Sn**	**02 02 08.2**	**-1.0**
PATR	**El Naranjo**	**0.23**	**222**	*e*P	**Pn**	**02 01 51.9**	**+0.8**
PATR				*e*S	**Sn**	**02 02 08.2**	**-1.3**
THIG		**0.42**	**206**	*e*S	**Sn**	**02 02 09.9**	**0.0**
RTAL	**Retalhuleu**	**0.84**	**154**	*e*P	**Pn**	**02 01 54.8**	**+1.2**
RTAL				*i* S	**Sn**	**02 02 13.9**	**+0.1**
CCIG	**Comitan**	**0.99**	**356**	*e*P	**Pn**	**02 01 56.6**	**+1.8**
CCIG				*e*S	**Sn**	**02 02 15.3**	**-0.9**
CCIG	**Comitan**	**0.99**	**356**	*i* P	**Pn**	**02 01 56.6**	**+1.8**
CCIG				*i* S	**Sn**	**02 02 15.4**	**-0.7**
CCIG				IAML		02 02 17.1	
	comp=N,75nm,0.4s						
STG0	**El Palmar, Qui**	**1.11**	**140**	*i* P	**Pn**	**02 01 54.5**	**-1.2**
PCIG		**1.18**	**291**	*e*P	**Pn**	**02 01 57.4**	**+1.4**
PCIG				*e*S	**Sn**	**02 02 17.5**	**-0.8**
PCIG		**1.18**	**291**	*i* P	**Pn**	**02 01 57.5**	**+1.4**
PCIG				*i* S	**Sn**	**02 02 17.1**	**-1.1**
TGIG		**1.79**	**326**	*i* S	**Sn**	**02 02 25.8**	**-3.1**
UXUV	**UXUV**	**2.83**	**316**	*e*P	**Pn**	**02 02 15.1**	**+1.3**
UXUV				*e*S	**Sn**	**02 02 47.1**	**-2.9**
CMIG	**Matias Romero**	**3.24**	**304**	*e*P	**Pn**	**02 02 21.2**	**+2.5**
CMIG				*e*S	**Sn**	**02 02 56.0**	**-2.9**

*GCG **17** 02:12:03.4±0.6,13˚.84N×89˚.40W,h145km±9km,MD3.6, ML3.4*
*SNET **17** 02:12:04.5±1.1,13˚.76N×

$M_{6.1}$1.30; Fault plane solution: $M_0$3.68000×10^{15} NP1: ϕ_S143.08000°,δ84.10000°,λ-151.21000°. NP2: ϕ_S49.84000°,δ61.38000°,λ-6.72000°. Principal axes: T 3.8652, Plg15.0000°, Azm273.0000°; N -0.4112, Plg61.0000°, Azm154.0000°; P -3.4540, Plg24.0000°, Azm10.0000°;

*NEIC **17** 02:29:07.4,36°.12N×117°.88W,h5km*

*PAS **17** 02:29:07.4±1.2,36°.116N±0°.010×117°.88W±0°.01, h5km±1km,Mwr4.4/6,mb4.2/55(NEIC),ML4.3/114(NEIC), Mwr4.3/157(NEIC),Error ellipse: s-maj=1.5km s-min=1.4km az=221.0*

*IDC **17** 02:29:08.1±0.7,36°.13N×117°.74W,h0km,mb3.7/4, mbtmp3.8/11,ML3.7/7,MS3.5/9,Error ellipse: s-maj=13.1km s-min=5.4km az=73.0*

ISC 17 02:29:07.7±0.7,36°.12N±0°.01×117°.88W±0°.02,h9km±4km, n220,σ1$14/245,mb4.2/27,MS3.6/7,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.02**	**89**		**Pg**	**02 29 08.8**	**-0.7**
MFS					**Sg**	**02 29 10.1**	**-0.6**
WRVM	**Rose V. Centra**	**0.11**	**185**		**Pg**	**02 29 09.8**	**-0.6**
WRVM					**Sg**	**02 29 11.9**	**-0.3**
WCSM	**Coso Springs S**	**0.13**	**135**		**Pg**	**02 29 10.2**	**-0.4**
WCSM					**Sg**	**02 29 12.3**	**-0.3**
JRC2	**Joshua Ridge**	**0.14**	**158**		**Pg**	**02 29 10.4**	**-0.5**
JRC2					**Sg**	**02 29 12.8**	**-0.3**
WVPM	**Volcano Peak E**	**0.17**	**164**		**Pg**	**02 29 10.9**	**-0.5**
WVPM					**Sg**	**02 29 13.7**	**-0.3**
WNMM	**Nine Mile Cany**	**0.27**	**185**		**Pn**	**02 29 16.8**	**-1.1**
MPMC	**Manual Prospec**	**0.32**	**100**	Pg	**Pg**	**02 29 13.4**	**-0.7**
MPMC				Sg	**Sg**	**02 29 17.9**	**-0.5**
MPMC				IAML		02 29 20.1	
	comp=N,33μm,0.6s						
MPMC				IAML		02 29 21.6	
	comp=E,30μm,0.6s						
TOW	**Tower One**	**0.32**	**163**		**Pg**	**02 29 14.0**	**-0.1**
TOW					**Sb**	**02 29 19.4**	**-1.5**
CWC	**Cottonwood Cre**	**0.36**	**333**		**Pg**	**02 29 14.2**	**-0.7**
CWC					**Sg**	**02 29 19.1**	**-0.5**
CWC				IAML		02 29 19.7	
	comp=N,40μm,0.3s						
CWC				IAML		02 29 19.8	
	comp=E,42μm,0.3s						
CLC	**China Lake**	**0.38**	**143**	Pg	**Pg**	**02 29 14.6**	**-0.5**
CLC	**China Lake**	**0.38**	**143**		**Sg**	**02 29 20.1**	**0.0**
CGO	**Cerro Gordo**	**0.44**	**8**		**Pg**	**02 29 15.6**	**-0.7**
CGO					**Sg**	**02 29 22.4**	**+0.3**
SRTC	**Snort**	**0.44**	**166**		**Pg**	**02 29 16.2**	**0.0**
GPO	**China Lake**	**0.50**	**159**		**Pg**	**02 29 16.9**	**-0.4**
GPO					**Sg**	**02 29 24.4**	**+0.5**
WORM	**Onyx Ranch**	**0.51**	**215**		**Pg**	**02 29 16.9**	**-0.8**
WORM					**Sg**	**02 29 23.7**	**-0.7**
WHFM	**Hanning Flat**	**0.57**	**223**		**Pg**	**02 29 18.0**	**-0.7**
WHFM					**Sg**	**02 29 25.6**	**-0.5**
WSHM	**Spangler Hills**	**0.60**	**149**	Pg	**Pg**	**02 29 18.5**	**-0.8**
WSHM	**Spangler Hills**	**0.60**	**149**		**Sg**	**02 29 27.1**	**-0.1**
WBSM	**Bird Springs**	**0.62**	**200**		**Pg**	**02 29 18.9**	**-0.7**
WBSM					**Sg**	**02 29 27.3**	**-0.5**
LRMC	**Laurel Mtn Rad**	**0.66**	**166**	Pg	**Pg**	**02 29 19.4**	**-0.9**
LRMC				Sg	**Sg**	**02 29 28.2**	**-0.7**
LRMC				IAML		02 29 29.2	
	comp=E,20μm,0.6s						
LRMC				IAML		02 29 29.8	
	comp=N,13μm,0.3s						
ISA	**Isabella, Lake**	**0.66**	**227**	Pg	**Pg**	**02 29 19.7**	**-0.8**
ISA				IAML		02 29 29.0	
	comp=N,19μm,0.6s						
ISA				IAML		02 29 29.0	
	comp=E,19μm,0.6s						
ISA	**Isabella, Lake**	**0.66**	**227**		**Sg**	**02 29 28.7**	**-0.4**
WASM	**Alta Sierra Ca**	**0.67**	**236**		**Pg**	**02 29 19.9**	**-0.7**
WASM					**Sg**	**02 29 28.7**	**-0.7**
CCCA	**Chr Cany lake**	**0.72**	**145**	Pg	**Pg**	**02 29 21.1**	**-0.5**
CCCA	**Chr Cany lake**	**0.72**	**145**		**Sb**	**02 29 31.6**	**-0.9**
SPG2	**Springville 2**	**0.72**	**277**		**Pg**	**02 29 20.7**	**-0.9**
SPG2					**Sg**	**02 29 30.1**	**-1.0**
QSM	**Queen of Sheba**	**0.83**	**100**		**Sg**	**02 29 34.3**	**-0.2**
DTP	**Desert Tortois**	**0.85**	**178**		**Pg**	**02 29 23.0**	**-1.0**
DTP					**Sg**	**02 29 34.1**	**-0.9**
FURC	**Furnace Creek,**	**0.89**	**67**		**Pg**	**02 29 24.4**	**-0.3**
FURC					**Sb**	**02 29 36.7**	**-0.6**
CCAC	**Calif City Air**	**0.97**	**187**		**Pg**	**02 29 25.3**	**-1.0**
CCAC					**Sg**	**02 29 38.4**	**-0.5**
GRAC	**Grapevine Rang**	**0.97**	**25**		**Sg**	**02 29 38.9**	**0.0**
GRAC	**Grapevine Rang**	**0.97**	**25**	Pg	**Pg**	**02 29 25.4**	**-1.0**
GRAC				IAML		02 29 41.4	
	comp=E,13μm,0.5s						
TIN	**Tinemaha, Big**	**0.98**	**343**		**Pg**	**02 29 25.7**	**-0.8**
TIN					**Sg**	**02 29 38.6**	**-0.6**
VES	**Vestal, Richgr**	**1.02**	**255**		**Pg**	**02 29 26.4**	**-0.8**
VES					**Sg**	**02 29 39.3**	**-1.2**
SGV	**South Grapevin**	**1.10**	**38**		**Pg**	**02 29 27.8**	**-1.0**
SGV					**Sg**	**02 29 42.8**	**-0.2**
TEJ	**El Tejon**	**1.10**	**217**		**Sg**	**02 29 42.1**	**-1.2**
LCH	**Last Change Ra**	**1.13**	**9**		**Sg**	**02 29 27.9**	**-1.5**
MAGC	**SCE Magundon P**	**1.14**	**229**		**Pg**	**02 29 28.6**	**-0.9**
MAGC					**Sg**	**02 29 43.4**	**-0.8**
GSC	**Goldstone, Bar**	**1.19**	**133**		**Sg**	**02 29 45.4**	**-0.7**
GSC	**Goldstone, Bar**	**1.19**	**133**	Pg	**Pg**	**02 29 29.4**	**-1.2**
GSC				IAML		02 29 50.5	
	comp=N,5μm,1.6s						
GSC				IAML		02 29 54.0	
	comp=E,6μm,1.6s						
WCT	**Wildcat Mounta**	**1.21**	**56**		**Pg**	**02 29 29.8**	**-1.2**
WCT					**Sg**	**02 29 45.6**	**-1.2**
WCT	**Wildcat Mounta**	**1.21**	**56**	IAML		02 29 52.0	
	comp=N,6μm,1.2s						
WCT				IAML		02 29 55.0	
	comp=E,5μm,1.3s						
VOG	**Valley Oaks Go**	**1.23**	**280**		**Pg**	**02 29 30.1**	**-1.3**
EDW2	**Edwards Air Fo**	**1.24**	**184**		**Sg**	**02 29 45.6**	**-1.9**
DSP	**Deep Springs**	**1.25**	**357**		**Pg**	**02 29 30.0**	**-1.7**
DSP					**Sg**	**02 29 47.0**	**-1.0**
ARVC	**Arvin**	**1.26**	**218**		**Pg**	**02 29 30.6**	**-1.2**
ARVC					**Sg**	**02 29 47.3**	**-0.8**
BAKC	**Calstate**	**1.26**	**233**		**Pg**	**02 29 31.0**	**-0.9**
BAKC					**Sb**	**02 29 48.6**	**+0.6**
TPO	**Tropico Hills**	**1.27**	**193**		**Sg**	**02 29 47.5**	**-1.0**
TPO	**Tropico Hills**	**1.27**	**193**	Pg	**Pg**	**02 29 30.4**	**-1.6**
TPO				IAML		02 29 50.4	
	comp=N,7μm,1.2s						
TPO				IAML		02 29 55.1	
	comp=E,6μm,0.8s						
HYS	**Haystack Butte**	**1.27**	**169**		**Pg**	**02 29 30.6**	**-1.5**
BHPR	**Bishop**	**1.28**	**338**		**Pg**	**02 29 30.7**	**-1.5**
GMN	**Gold Mountain**	**1.28**	**23**		**Pg**	**02 29 31.1**	**-1.2**
POCCA	**Poleta Canyon**	**1.28**	**346**		**Pg**	**02 29 31.0**	**-1.4**
TJR	**Tejon Ranch**	**1.30**	**213**		**Pn**	**02 29 30.9**	**-1.1**
TJR					**Sg**	**02 29 48.4**	**-0.9**
AMDNV	**Amargosa**	**1.33**	**75**		**Pn**	**02 29 31.3**	**-1.1**
AMDNV					**Sg**	**02 29 49.3**	**-1.2**
MTUM	**Tungsten Hills**	**1.35**	**336**		**Pn**	**02 29 32.3**	**-0.7**
THC	**Tehachapi Micr**	**1.36**	**208**		**Pn**	**02 29 32.0**	**-1.1**
SBB	**Saddle Back Bu**	**1.43**	**178**		**Pn**	**02 29 32.8**	**-1.1**
SBB					**Sb**	**02 29 51.2**	**-1.6**
RRX	**Edison Barstow**	**1.43**	**150**		**Pn**	**02 29 33.2**	**-0.7**
RRX					**Sb**	**02 29 52.5**	**-0.4**
ALPC	**Antelope**	**1.47**	**194**		**Pn**	**02 29 33.8**	**-0.7**
LEOC	**Leona Valley**	**1.52**	**193**		**Pn**	**02 29 35.3**	**+0.1**
LRRC	**Littlerock Res**	**1.59**	**184**		**Pb**	**02 29 36.8**	**-0.5**
CJV	**Casa Juvan**	**1.60**	**188**		**Pb**	**02 29 37.4**	**0.0**
OSI	**Osito Audit: C**	**1.65**	**205**	Pg	**Pn**	**02 29 37.0**	**+0.1**
HOLC	**Holcomb Ridge**	**1.66**	**179**		**Pn**	**02 29 36.2**	**-0.8**
JNH	**Juniper Hills**	**1.67**	**182**		**Pn**	**02 29 36.4**	**-0.8**
KCC	**Kaiser Creek**	**1.67**	**317**		**Pn**	**02 29 37.7**	**+0.4**
BENR	**Benton**	**1.69**	**341**		**Pn**	**02 29 37.8**	**+0.1**
MLAC	**Mammoth, Mammo**	**1.69**	**333**		**Pb**	**02 29 38.8**	**-0.4**
FRI	**Friant**	**1.71**	**301**		**Pn**	**02 29 38.0**	**+0.3**
BCW	**Bitter Crk WRg**	**1.72**	**227**		**Pn**	**02 29 38.4**	**+0.6**
TUQ	**Turquoise Moun**	**1.73**	**113**		**Pn**	**02 29 37.0**	**-1.1**
CRGC	**Crocker Grade**	**1.74**	**240**		**Pn**	**02 29 39.2**	**+1.0**
DSCC	**Desert Studies**	**1.74**	**123**		**Pn**	**02 29 36.8**	**-1.3**
MCSM	**Casa Diablo Ho**	**1.74**	**332**		**Pn**	**02 29 39.3**	**+0.9**
CHFC	**Chilao Flat St**	**1.78**	**184**		**Pn**	**02 29 38.1**	**-0.8**
CARC	**Carrizo Plain**	**1.79**	**244**		**Pb**	**02 29 40.4**	**-0.3**
HEC	**Hector,Ludlow**	**1.80**	**135**		**Pb**	**02 29 40.5**	**-0.3**
OAT	**Oat Mountain**	**1.87**	**199**		**Pb**	**02 29 42.1**	**+0.1**
BFSC	**Mount Baldy Ra**	**1.88**	**174**		**Pn**	**02 29 39.6**	**-0.6**
BFSC				IAML		02 30 07.6	
	comp=E,2μm,0.7s						
MWC	**Mount Wilson**	**1.90**	**185**	Pn	**Pn**	**02 29 40.0**	**-0.4**
MWC				IAML		02 30 09.0	
	comp=N,3μm,0.5s						
MWC				IAML		02 30 10.1	
	comp=E,2μm,0.6s						
DECC	**Green Verdugo**	**1.90**	**192**		**Pb**	**02 29 42.2**	**-0.3**
SMMC	**Simmler**	**1.90**	**246**		**Pn**	**02 29 41.2**	**+0.8**
PASC	**Pasadena Art C**	**1.96**	**187**		**Pn**	**02 29 40.6**	**-0.5**
PASC				IAML		02 30 10.6	
	comp=E,2μm,0.9s						
BLCC	**Black Canyon**	**1.98**	**199**		**Pn**	**02 29 41.5**	**+0.1**
MTPC	**Mountain Pass**	**1.99**	**108**	Pn	**Pn**	**02 29 40.5**	**-1.2**
MTPC				IAML		02 30 13.3	
	comp=N,2μm,0.9s						
MTPC				IAML		02 30 15.6	
	comp=E,2μm,0.8s						
PKM	**Mcpherson Peak**	**2.00**	**233**		**Pn**	**02 29 43.0**	**+1.1**
PSRC	**Puddingstone R**	**2.02**	**178**		**Pn**	**02 29 42.0**	**+0.1**
DJJ	**Donna J Jenkin**	**2.06**	**193**		**Pb**	**02 29 44.2**	**-1.0**
PKD	**Bear Valley Ra**	**2.17**	**266**		**Pn**	**02 29 44.7**	**+0.7**
PSMM	**Smith Mountain**	**2.20**	**270**		**Pn**	**02 29 45.5**	**+1.0**
FIGC	**Figueroa Mtn.**	**2.21**	**232**		**Pn**	**02 29 45.6**	**+0.9**
SHPR	**Sheep Range**	**2.23**	**79**		**Pn**	**02 29 45.1**	**+0.1**
GMRC	**Granite Mounta**	**2.25**	**126**		**Pn**	**02 29 43.5**	**-1.7**
NV11	**Mina Array Sit**	**2.32**	**355**	Pn	**Pn**	**02 29 46.0**	**-0.3**
NVAR	**Mina Array Bea**	**2.33**	**352**	Pn	**Pn**	**02 29 46.2**	**-0.3**
NVAR	**Mina Array Bea**	**2.33**	**352**	Pn	**Pn**	**02 29 47.0**	**+0.5**
	comp=E,16nm,0.3s,baz=167,slow=14,SNR=247						
NVAR				Pg	**Pg**	**02 29 51.2**	**-1.2**
	comp=E,140nm,0.3s,baz=168,slow=19,SNR=68						
NVAR				Lg	Lg	02 30 22.4	
	comp=E,62nm,0.3s,baz=105,slow=29,SNR=5.6						
	comp=E,284nm,0.8s						
PMPB	**Monarch Peak**	**2.37**	**273**	Pn	**Pn**	**02 29 46.4**	**-0.4**
ELS	**Elsinore Mount**	**2.49**	**171**	Pn	**Pn**	**02 29 47.8**	**-0.7**
BBGB	**Big Mountain B**	**2.59**	**281**	Pn	**Pn**	**02 29 50.2**	**+0.2**
PMD	**Palm Desert**	**2.75**	**153**	Pn	**Pn**	**02 29 51.2**	**-0.9**
PFO	**Pinyon Flats O**	**2.76**	**155**	Pn	**Pn**	**02 29 51.8**	**-0.4**
PFO	**Pinyon Flats O**	**2.76**	**155**	Pn	**Pn**	**02 29 51.8**	**-0.4**
	comp=E,3.4nm,0.3s,baz=338,slow=14,SNR=21						
PFO				Pg	**Pb**	**02 29 58.0**	**+0.7**
	comp=E,29nm,0.3s,baz=333,slow=12,SNR=24						
PFO				Lg	Lg	02 30 33.6	
	comp=E,67nm,0.3s,baz=240,slow=22,SNR=9.8						
	comp=E,59nm,0.7s						
CMB	**Columbia Colle**	**2.77**	**314**	Pn	**Pn**	**02 29 52.2**	**-0.2**
CMB				IAML		02 30 33.8	
	comp=E,1μm,0.4s						
CMB				IAML		02 30 34.4	
	comp=N,2μm,0.5s						
SAO	**San Andreas Ge**	**2.95**	**284**	Pn	**Pn**	**02 29 54.4**	**-0.4**
NEE2	**Needles Airpor**	**2.98**	**116**	Pn	**Pn**	**02 29 55.5**	**+0.3**
NEE2				IAML		02 30 48.1	
	comp=E,2μm,0.8s						
BORC	**Borrego Spring**	**3.09**	**157**	Pn	**Pn**	**02 29 57.5**	**+0.9**
BORC				IAML		02 30 50.5	
	comp=E,799nm,0.8s						
BORC				IAML		02 30 51.6	
	comp=N,609nm,0.8s						
DPP	**Dos Picos Cty**	**3.21**	**166**	Pn	**Pn**	**02 29 58.1**	**-0.2**
TJX	**Tijuana**	**3.66**	**169**	Pn	**Pn**	**02 30 05.0**	**+0.5**
TJX				IAML		02 31 32.6	
	comp=N,886nm,1.3s						
AFDM	**Forest Hills D**	**3.75**	**320**	Pn	**Pn**	**02 30 05.8**	**0.0**
YUH	**Yuha Desert**	**3.82**	**154**	Pn	**Pn**	**02 30 07.7**	**+1.0**
LCMT	**Little Creek M**	**3.83**	**75**	Pn	**Pn**	**02 30 07.4**	**+0.3**
LCMT				IAML		02 31 20.5	
	comp=N,325nm,1.2s						
CCUT	**Cedar City**	**3.89**	**67**	Pn	**Pn**	**02 30 08.3**	**+0.4**
CCUT				IAML		02 31 20.8	
	comp=E,266nm,1.2s						
CBX	**Cerro Bola**	**3.92**	**165**	Pn	**Pn**	**02 30 08.7**	**+0.4**
GLA	**Glamis**	**3.96**	**140**	Pn	**Pn**	**02 30 07.3**	**-1.3**
GLA				IAML		02 31 21.8	
	comp=E,810nm,1.4s						
GLA				IAML		02 31 24.6	
	comp=N,564nm,0.8s						
SZCU	**Shurtz Canyon**	**4.12**	**68**	Pn	**Pn**	**02 30 11.2**	**+0.2**
SZCU				IAML		02 31 30.3	
	comp=N,238nm,1.7s						
KNB	**Kanab**	**4.17**	**76**	Pn	**Pn**	**02 30 12.4**	**+0.8**
KNB				IAML		02 31 32.8	
	comp=N,331nm,1.1s						
KNB				IAML		02 31 37.5	
	comp=E,326nm,1.7s						
MCCM	**Marconi Confer**	**4.48**	**298**	Pn	**Pn**	**02 30 15.9**	**+0.1**
MCCM				IAML		02 31 24.2	
	comp=E,403nm,1.3s						
MCCM				IAML		02 31 46.4	
	comp=N,346nm,2.0s						
U15A	**North Rim**	**4.52**	**84**	Pn	**Pn**	**02 30 18.0**	**+1.3**
U15A				IAML		02 31 42.0	
	comp=E,424nm,1.1s						
U15A				IAML		02 31 45.4	
	comp=N,307nm,2.1s						
ELK	**Elko**	**5.06**	**23**	Pn	**Pn**	**02 30 24.2**	**+0.2**
ELK				IAML		02 31 54.1	
	comp=N,184nm,0.8s						
ELK	**Elko**	**5.06**	**23**	Pn	**Pn**	**02 30 24.7**	**+0.7**
	comp=N,6.6nm,0.3s,baz=209,slow=10.0,SNR=92						
ELK				Pg	**Pg**	**02 30 40.8**	**-3.8**
	comp=N,7.0nm,0.3s,baz=228,slow=14,SNR=44						
ELK				Lg	Lg	02 31 46.4	
	comp=N,18nm,0.3s,baz=196,slow=11,SNR=11						
	comp=N,13nm,0.3s						
X16A	**Lo Mia Camp, P**	**5.53**	**106**	Pn	**Pn**	**02 30 30.8**	**+0.4**
HMU	**Henry Mountain**	**5.99**	**70**	Pn	**Pn**	**02 30 38.3**	**+1.5**
BGU	**Big Grassy Mou**	**6.12**	**37**	Pn	**Pn**	**02 30 40.2**	**+1.8**
YBH	**Yreka Blue Hor**	**6.75**	**328**	Pn	Pn	02 30 52.4	+5.3
	baz=165,slow=8.2,SNR=10						
YBH				Lg	Lg	02 32 34.2	
	comp=N,0.1nm,0.3s,baz=72,slow=2.7,SNR=5.5						
HVU	**Hansel Valley**	**6.91**	**34**	Pn	**Pn**	**02 30 51.9**	**+2.6**
TUC	**Tucson**	**7.00**	**121**	Pn	**Pn**	**02 30 50.6**	**+0.2**
HWUT	**Hardware Ranch**	**7.37**	**40**	Pn	**Pn**	**02 30 57.5**	**+1.9**
PV20	**West Nyswonger**	**7.45**	**70**	Pn	**Pn**	**02 30 59.1**	**+2.4**
MFID	**Camas Ranch**	**7.46**	**12**	Pn	**Pn**	**02 30 58.8**	**+2.1**
PV03	**Paradox Valley**	**7.52**	**71**	Pn	**Pn**	**02 31 00.3**	**+2.6**
PV22	**Blue Mesa, Par**	**7.63**	**69**	Pn	**Pn**	**02 31 01.4**	**+2.1**
PV15	**Paradox Valley**	**7.82**	**71**	Pn	**Pn**	**02 31 04.1**	**+2.2**
HLID	**Hailey**	**7.90**	**19**	Pn	**Pn**	**02 31 04.9**	**+2.1**
PINE	**Pine Mountain**	**8.02**	**344**	Pn	**Pn**	**02 31 06.0**	**+1.4**
AHID	**Auburn Hatcher**	**8.46**	**36**	Pn	**Pn**	**02 31 13.2**	**+2.6**
319A	**Douglas**	**8.58**	**121**	Pn	**Pn**	**02 31 11.7**	**-0.5**
PLID	**Pearl Lake**	**9.07**	**8**	Pn	**Pn**	**02 31 22.0**	**+3.0**
PDAR	**Pinedale Array**	**9.24**	**42**	Pn	**Pn**	**02 31 22.0**	**+0.6**
PDAR	**Pinedale Array**	**9.24**	**42**	Pn	**Pn**	**02 31 24.6**	**+3.2**
	comp=N,0.1nm,0.3s,baz=222,slow=14,SNR=13						
PDAR				Lg	Lg	02 33 56.8	
	comp=N,0.3nm,0.3s,baz=225,slow=29,SNR=7.1						
	comp=N,2.1nm,0.9s						
ANMO	**Albuquerque**	**9.38**	**94**	Pn	**Pn**	**02 31 24.9**	**+1.7**
	comp=N,0.1nm,0.3s,baz=315,slow=5.7,SNR=4.7						
ANMO				Pg		02 31 58.5	
	comp=N,0.5nm,0.3s,baz=10.0,slow=13,SNR=18						
ANMO				Lg	Lg	02 34 02.1	
	comp=N,0.2nm,0.3s,baz=223,slow=19,SNR=5.9						
ANMO				LR	LR	02 35 19.8	
	comp=N,341nm,18.4s,baz=30,slow=40						
	comp=N,0.8nm,0.5s						
BPMT	**Black Pine Rid**	**10.83**	**17**	Pn	**Pn**	**02 31 45.2**	**+2.1**
K22A	**Casper**	**10.94**	**50**	Pn	**Pn**	**02 31 47.3**	**+2.8**
MSO	**Missoula**	**11.10**	**14**	Pn	**Pn**	**02 31 49.5**	**+2.8**
D05A	**Enumclaw**	**11.48**	**346**	Pn	**Pn**	**02 31 54.7**	**+3.0**
LYMT	**Lyon Mountain**	**11.62**	**19**	Pn	**Pn**	**02 31 56.4**	**+2.6**
NEW	**Newport**	**12.15**	**2**	Pn	**Pn**	**02 32 03.0**	**+2.0**
	comp=N,0.2nm,0.3s,baz=170,slow=11,SNR=3.6						
NEW				LR	LR	02 37 39.7	
	comp=N,79nm,18.3s,baz=236,slow=42						
	comp=N,1.3nm,0.6s						
RSSD	**Black Hills**	**13.26**	**49**	Pn	**Pn**	**02 32 17.5**	**+1.2**
EGMT	**Eagleton**	**13.33**	**24**	Pn	**Pn**	**02 32 19.6**	**+2.5**
TXAR	**Lajitas Array**	**13.73**	**115**	Pn	**Pn**	**02 32 26.1**	**+3.4**
TXAR	**Lajitas Array**	**13.73**	**115**	Pn	**Pn**	**02 32 25.7**	**+3.0**
	comp=N,0.1nm,0.3s,baz=290,slow=9.0,SNR=27						
TXAR				Lg	Lg	02 36 15.2	
	baz=299,slow=30,SNR=5.9						
	comp=N,4.8nm,1.0s						
DKNS	**Dickens**	**14.13**	**95**	Pn	**Pn**	**02 32 27.9**	**-0.2**
SN07	**Snyder 07**	**14.31**	**97**	P	**P**	**02 32 36.0**	**-1.8**
SMWD	**Samnorwood**	**14.38**	**89**	P	**P**	**02 32 37.2**	**-1.4**
OZNA	**Ozona**	**14.90**	**106**	P	**P**	**02 32 42.5**	**-1.8**
OK038	**West end E0370**	**15.44**	**83**	P	**P**	**02 32 49.3**	**-0.9**
K30B	**Basset**	**15.55**	**60**	Pn	**Pn**	**02 32 47.9**	**+0.8**
WMOK	**Wichita Mounta**	**15.63**	**89**		**P**	**02 32 52.4**	**-0.1**
DRIO	**Del Rio**	**15.97**	**110**	P	**P**	**02 32 55.4**	**-0.7**
KAN12	**Harper NE Stat**	**15.99**	**80**	P	**Pn**	**02 32 54.3**	**+1.5**
WTFS	**Witchita Falls**	**16.09**	**93**	P	**P**	**02 32 57.0**	**-0.6**
WTFS				IAmb	IAmb	02 33 02.9	
	comp=Z,17nm,0.9s						
JCT	**Junction City**	**16.12**	**105**	P	**P**	**02 32 57.6**	**-0.3**
BRDY	**Brady**	**16.43**	**102**	P	**P**	**02 33 00.9**	**-0.4**
PLPT	**Palo Pinto**	**16.46**	**96**	P	**P**	**02 33 01.7**	**0.0**
PLPT				IAmb	IAmb	02 33 07.6	
	comp=Z,21nm,1.0s						
OK052	**Battle Ridge R**	**17.04**	**84**	Pn	**Pn**	**02 33 06.0**	**-0.2**
BBB	**Bella Bella**	**17.63**	**339**	LR	LR	02 39 47.3	
	comp=Z,60nm,19.0s,baz=138,slow=36						
TUL3	**Leonard**	**17.87**	**84**	P	**P**	**02 33 17.9**	**+0.7**
ECSD	**EROS Data Cent**	**17.96**	**58**		**P**	**02 33 18.5**	**+0.3**
MIAR	**Mount Ida**	**19.88**	**87**	P	**Pn**	**02 33 40.4**	**-0.4**
MIAR				IAmb	IAmb	02 33 46.7	
	comp=Z,24nm,1.2s						
AGMN	**Agassiz Nation**	**20.27**	**46**	P	**P**	**02 33 42.8**	**-0.6**
I37A	**Lemond, Waseca**	**20.28**	**60**	P	**P**	**02 33 43.6**	**+0.1**
I37A				IAmb	IAmb	02 33 49.6	
	comp=Z,9.6nm,1.0s						
P40A	**Paris**	**20.66**	**73**	P	**P**	**02 33 46.7**	**-1.0**
WHAR	**Wooly Hollow**	**20.78**	**85**	P	**P**	**02 33 49.2**	**+0.1**
SPMN	**Marine on St.**	**21.01**	**57**	P	**P**	**02 33 51.5**	**0.0**
SPMN				IAmb	IAmb	02 34 00.1	
	comp=Z,17nm,1.2s						
CCM	**Cathedral Cave**	**21.31**	**77**	P	**P**	**02 33 54.8**	**0.0**
L40A	**Anamosa**	**21.48**	**66**	P	**P**	**02 33 57.3**	**+0.8**
L40A				IAmb	IAmb	02 33 58.6	
	comp=Z,11nm,1.0s						
LCAR	**Lake Charles**	**21.57**	**82**	P	**P**	**02 33 59.0**	**+1.4**
FFC	**Flin Flon**	**21.60**	**26**	P	**P**	**02 33 56.5**	**-1.2**
FFC				IAmb	IAmb	02 33 58.8	
	comp=Z,12nm,0.8s						
N41A	**Harden Midland**	**21.63**	**70**	P	**P**	**02 33 58.2**	**+0.1**
N41A				IAmb	IAmb	02 34 02.1	
	comp=Z,8.9nm,0.6s						
FVM	**French Village**	**21.96**	**77**	P	**P**	**02 34 02.1**	**+0.4**
FVM				IAmb	IAmb	02 34 04.8	
	comp=Z,11nm,1.4s						
EPLO	**Experimental L**	**22.16**	**45**	P	**P**	**02 34 02.6**	**-1.2**
EPLO				IAmb	IAmb	02 34 44.0	
	comp=Z,10nm,1.3s						
I40A	**Norwalk**	**22.21**	**61**	P	**P**	**02 34 03.6**	**-0.8**
I40A				IAmb	IAmb	02 34 06.3	
	comp=Z,11nm,1.0s						
E38A	**The Farm, Brul**	**22.27**	**54**	P	**P**	**02 34 04.4**	**-0.5**
E38A				IAmb	IAmb	02 34 12.0	
	comp=Z,7.2nm,0.7s						
JFWS	**Jewell Farm**	**22.31**	**64**	P	**P**	**02 34 04.5**	**-0.9**
JFWS				IAmb	IAmb	02 34 24.5	
	comp=Z,8.3nm,0.8s						
P43A	**Skaggs, Pawnee**	**22.62**	**72**	P	**P**	**02 34 09.0**	**+0.2**
P43A				IAmb	IAmb	02 34 14.1	
	comp=Z,14nm,1.3s						
HDIL	**Hopedale**	**22.81**	**70**	P	**P**	**02 34 10.9**	**+0.1**
Q44A	**Meyer Farm, Va**	**23.02**	**74**	P	**P**	**02 34 12.8**	**-0.2**
K43A	**Burlington**	**23.68**	**65**	P	**P**	**02 34 18.9**	**-0.7**
COWI	**Conover**	**23.73**	**56**	P	**P**	**02 34 19.5**	**-0.5**
COWI				IAmb	IAmb	02 34 40.8	
	comp=Z,5.9nm,0.9s						
DLBC	**Dease Lake**	**23.73**	**344**	LR	LR	02 45 10.2	
	comp=Z,8.7nm,19.6s,baz=121,slow=40						
T47A	**Sharon Grove**	**24.69**	**79**	P	**P**

CWC				Sg	Sg	02 35 39.1	-0.1
CWC				IAML		02 35 39.5	
	comp=N,2µm,0.2s						
CWC				IAML		02 35 39.6	
	comp=E,2µm,0.3s						
CLC	**China Lake**	**0.38**	**142**	Pg	Pg	02 35 34.7	-0.2
CLC				Sg	Sg	02 35 39.7	-0.2
CGO	**Cerro Gordo**	**0.43**	**9**		Pg	02 35 35.6	-0.4
SRTC	**Snort**	**0.44**	**165**		Pg	02 35 36.3	+0.3
SRTC					Sb	02 35 43.3	-1.4
GPO	**China Lake**	**0.50**	**159**		Pg	02 35 37.1	-0.1
GPO					Sg	02 35 43.7	+0.1
WORM	**Onyx Ranch**	**0.51**	**214**		Pg	02 35 36.9	-0.4
WORM					Sg	02 35 43.7	-0.2
WHFM	**Hanning Flat**	**0.56**	**222**		Pg	02 35 38.0	-0.3
WHFM					Sg	02 35 45.6	0.0
WSHM	**Spangler Hills**	**0.61**	**148**	Pg	Pg	02 35 38.7	-0.5
WSHM				Sg	Sg	02 35 47.1	0.0
WSHM				IAML		02 35 48.4	
	comp=E,495nm,0.3s						
WBSM	**Bird Springs**	**0.62**	**199**		Pg	02 35 39.0	-0.3
WBSM					Sg	02 35 47.4	+0.1
ISA	**Isabella, Lake**	**0.66**	**226**	Pg	Pg	02 35 39.9	-0.2
ISA				Sg	Sg	02 35 48.4	-0.3
ISA				IAML		02 35 49.1	
	comp=N,1µm,0.2s						
ISA				IAML		02 35 49.2	
	comp=E,986nm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.66**	**165**	Pg	Pg	02 35 39.7	-0.5
LRMC				Sg	Sg	02 35 48.4	-0.3
LRMC				IAML		02 35 49.0	
	comp=E,912nm,0.4s						
LRMC				IAML		02 35 49.8	
	comp=N,890nm,0.3s						
WASM	**Alta Sierra Ca**	**0.66**	**235**		Pg	02 35 39.9	-0.3
WASM					Sg	02 35 48.9	+0.1
SPG2	**Springville 2**	**0.72**	**277**		Pg	02 35 40.7	-0.5
SPG2					Sg	02 35 49.9	-0.6
CCCA	**Chr Cany lake**	**0.73**	**144**	Pg	Pg	02 35 41.4	-0.1
CCCA				Sg	Sg	02 35 51.1	+0.2
QSM	**Queen of Sheba**	**0.84**	**100**		Pg	02 35 43.1	-0.4
QSM					Sg	02 35 54.2	-0.3
QSM	**Queen of Sheba**	**0.84**	**100**	IAML		02 35 58.2	
	comp=E,535nm,0.9s						
QSM				IAML		02 35 59.5	
	comp=N,514nm,0.5s						
DTP	**Desert Tortois**	**0.85**	**178**		Pg	02 35 43.2	-0.6
DTP					Sg	02 35 54.4	-0.4
FURC	**Furnace Creek,**	**0.90**	**67**		Sg	02 35 56.7	+0.4
GRAC	**Grapevine Rang**	**0.97**	**25**	Pg	Pg	02 35 45.3	-0.7
GRAC				IAML		02 36 02.7	
	comp=E,457nm,0.5s						
GRAC				IAML		02 36 03.0	
	comp=N,502nm,0.7s						
GRAC	**Grapevine Rang**	**0.97**	**25**		Sg	02 35 59.3	+0.6
CCAC	**Calif City Air**	**0.97**	**186**		Pg	02 35 45.4	-0.6
CCAC					Sg	02 35 58.4	-0.3
TIN	**Tinemaha, Big**	**0.97**	**344**		Pg	02 35 45.6	-0.5
TIN					Sg	02 35 59.1	+0.3
GWY	**Greenwater Val**	**0.99**	**86**		Pg	02 35 46.0	-0.4
GWY					Sg	02 35 59.3	+0.1
GWY	**Greenwater Val**	**0.99**	**86**	IAML		02 36 02.3	
	comp=E,499nm,0.4s						
GWY				IAML		02 36 02.4	
	comp=N,432nm,0.6s						
VES	**Vestal, Richgr**	**1.01**	**254**		Pg	02 35 46.4	-0.4
VES					Sg	02 36 00.1	+0.2
SGV	**South Grapevin**	**1.10**	**38**		Pg	02 35 48.0	-0.6
SGV					Sg	02 36 03.2	+0.4
TEJ	**El Tejon**	**1.10**	**217**		Pg	02 35 47.7	-0.9
TEJ					Sg	02 36 02.2	-0.6
LCH	**Last Change Ra**	**1.13**	**10**		Pg	02 35 47.9	-1.2
LCH					Sg	02 36 03.9	+0.1
GSC	**Goldstone, Bar**	**1.20**	**133**	Pg	Pg	02 35 49.5	-1.0
GSC				Sg	Sg	02 36 05.9	-0.2
GSC				IAML		02 36 08.1	
	comp=E,180nm,0.8s						
WCT	**Wildcat Mounta**	**1.22**	**56**		Pg	02 35 50.4	-0.4
WCT				IAML		02 36 11.9	
	comp=N,176nm,1.1s						
WCT				IAML		02 36 15.3	
	comp=E,180nm,0.7s						
VOG	**Valley Oaks Go**	**1.23**	**280**		Pg	02 35 50.2	-0.7
EDW2	**Edwards Air Fo**	**1.24**	**184**		Pg	02 35 50.0	-1.2
EDW2					Sg	02 36 06.3	-1.0
DSP	**Deep Springs**	**1.25**	**357**		Sg	02 36 07.0	-0.6
DSP	**Deep Springs**	**1.25**	**357**		Pg	02 35 50.4	-1.0
ARVC	**Arvin**	**1.25**	**218**		Pg	02 35 50.8	-0.7
ARVC					Sg	02 36 07.3	-0.4
TPO	**Tropico Hills**	**1.27**	**193**	Pg	Pg	02 35 50.5	-1.3
TPO				Sg	Sg	02 36 07.1	-1.1
TPO				IAML		02 36 13.7	
	comp=N,137nm,0.6s						
TPO				IAML		02 36 15.1	
	comp=E,144nm,0.7s						
BHPR	**Bishop**	**1.27**	**338**		Pg	02 35 51.0	-0.8
HYS	**Haystack Butte**	**1.28**	**168**		Pg	02 35 51.1	-0.8
TJR	**Tejon Ranch**	**1.29**	**213**		Pn	02 35 51.2	-1.0
AMDNV	**Amargosa**	**1.34**	**75**		Pn	02 35 52.0	-0.8
AMDNV					Sb	02 36 10.1	-0.4
MTUM	**Tungsten Hills**	**1.35**	**336**		Pn	02 35 52.4	-0.8
THC	**Tehachapi Micr**	**1.36**	**208**		Pn	02 35 52.3	-1.1
SBB	**Saddle Back Bu**	**1.43**	**178**		Pn	02 35 54.0	-0.2
OSI	**Osito Audit: C**	**1.65**	**205**		Pn	02 35 56.5	-0.6
OSI				IAML		02 36 27.9	
	comp=N,196nm,0.8s						
HOLC	**Holcomb Ridge**	**1.66**	**179**		Pn	02 35 57.9	+0.6
KCC	**Kaiser Creek**	**1.66**	**317**		Sn	02 36 19.2	+0.1
BENR	**Benton**	**1.69**	**341**		Pn	02 35 58.0	+0.1
MLAC	**Mammoth, Mammo**	**1.69**	**334**		Pb	02 35 58.8	-0.3
CRGC	**Crocker Grade**	**1.73**	**240**		Pb	02 35 59.3	-0.6
MCSM	**Casa Diablo Ho**	**1.74**	**332**		Pb	02 35 59.7	-0.3
CHFC	**Chilao Flat St**	**1.79**	**184**		Pb	02 36 00.3	-0.4
BFSC	**Mount Baldy Ra**	**1.89**	**174**	Pn	Pn	02 36 00.3	-0.1
MWC	**Mount Wilson**	**1.90**	**184**		Pn	02 36 00.5	-0.1
MWC				IAML		02 36 29.8	
	comp=E,72nm,0.6s						
MWC				IAML		02 36 32.8	
	comp=N,100nm,0.5s						
SSK	**Sunset Peak**	**1.91**	**175**		Pb	02 36 02.9	0.0
PASC	**Pasadena Art C**	**1.96**	**187**	Pn	Pn	02 36 01.0	-0.4
MTPC	**Mountain Pass**	**2.00**	**108**	Pn	Pn	02 36 00.9	-1.2
MTPC				IAML		02 36 32.1	
	comp=E,86nm,0.3s						
MTPC				IAML		02 36 32.9	
	comp=N,72nm,0.4s						
PSMM	**Smith Mountain**	**2.19**	**269**		Pb	02 36 06.4	-1.3
NV11	**Mina Array Sit**	**2.32**	**355**	Pn	Pn	02 36 06.0	-0.5
NVAR	**Mina Array Bea**	**2.33**	**352**	Pn	Pn	02 36 06.8	+0.2
PMPB	**Monarch Peak**	**2.36**	**273**	Pn	Pn	02 36 06.8	-0.1
PMPB				IAML		02 36 52.3	
	comp=N,107nm,0.9s						
PMPB				IAML		02 37 22.3	
	comp=E,80nm,0.9s						
MYLM	**Yosemite Lake**	**2.39**	**303**		Pb	02 36 10.0	-1.0
RAMR	**Ramage Ranch**	**2.47**	**260**		Pn	02 36 09.9	+1.5
ELS	**Elsinore Mount**	**2.50**	**171**	Pn	Pn	02 36 08.1	-0.7
BBGB	**Big Mountain B**	**2.59**	**281**	Pn	Pn	02 36 09.7	-0.4
GATR	**Gnd/Air Tx Cnt**	**2.65**	**235**		Pn	02 36 10.5	-0.4
PMD	**Palm Desert**	**2.76**	**153**	Pn	Pn	02 36 11.2	-1.1
PFO	**Pinyon Flats O**	**2.76**	**154**	Pn	Pn	02 36 11.5	-1.1
CMB	**Columbia Colle**	**2.77**	**314**	Pn	Pn	02 36 12.1	-0.4
SAO	**San Andreas Ge**	**2.94**	**284**	Pn	Pn	02 36 14.5	-0.4
DPP	**Dos Picos Cty**	**3.21**	**166**	Pn	Pn	02 36 18.4	-0.2
W13A	**Hualapai Mount**	**3.42**	**106**	Pn	Pn	02 36 20.9	-0.7
CBX	**Cerro Bola**	**3.93**	**165**	Pn	Pn	02 36 26.0	-2.6
KNB	**Kanab**	**4.17**	**76**	Pn	Pn	02 36 31.6	-0.4
ELK	**Elko**	**5.06**	**23**	Pn	Pn	02 36 44.4	+0.1
ELK				IAML		02 39 16.5	
	comp=E,5.8nm,0.8s						

*SNET **17** 02:35:41.5±1.2, 13°.05N×89°.41W, h40km, ML3.5*
*CATAC **17** 02:35:41.7±0.6, 13°.N±3°.×8°.9W±°, h29km±3km, M3.6/16, MLv3.6/16, Error ellipse: s-maj=7.8km s-min=4.8km az=25.0, confirmed*
*GCG **17** 02:35:43.0±1.1, 13°.17N×89°.40W, h51km±8km, MD3.3, ML3.4, MW2.6*
ISC 17 02:35:42.6±1.8,**13°.10N**±0°.09×**89°.39W**±0°.04,**h45**km±12km, **n77,**σ0°.**46**/94,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.39**	**10**	*eP*	**Pn**	**02 35 52.2**	**-0.1**
LALI				*eS*	**Sn**	**02 35 59.5**	**+0.4**
LALI	**Alcalda de L**	**0.39**	**10**	*i* P	**Pn**	**02 35 52.3**	**-0.1**
LALI				*i* S	**Sn**	**02 35 59.6**	**+0.4**
LALI				IAML		02 36 01.5	
	comp=E,1µm,0.3s						
LALI	**Alcalda de L**	**0.39**	**10**	P	**Pn**	**02 35 52.3**	**-0.1**
PANCS	**Alcalda de**	**0.55**	**22**	*eP*	**Pn**	**02 35 53.8**	**-0.6**
PANCS				*eS*	**Sn**	**02 36 02.6**	**-0.1**
PANCS	**Alcalda de**	**0.55**	**22**	P	**Pn**	**02 35 53.9**	**-0.4**
JAYA	**Jayaque - finc**	**0.55**	**354**	*eP*	**Pn**	**02 35 54.0**	**-0.5**
JAYA				*eS*	**Sn**	**02 36 03.0**	**+0.1**
JAYA	**Jayaque - finc**	**0.55**	**354**	*i* P	**Pn**	**02 35 54.0**	**-0.5**
JAYA				*i* S	**Sn**	**02 36 03.1**	**+0.2**
JAYA	**Jayaque - finc**	**0.55**	**354**	P	**Pn**	**02 35 54.0**	**-0.5**
LOMA	**Loma Larga**	**0.58**	**21**	*eP*	**Pn**	**02 35 54.3**	**-0.5**
LFRS	**El Faro**	**0.61**	**32**	*eP*	**Pn**	**02 35 55.0**	**-0.1**
PMON	**Piamonte**	**0.61**	**7**	*eP*	**Pn**	**02 35 54.8**	**-0.5**
PMON				*eS*	**Sn**	**02 36 03.9**	**-0.3**
PMON	**Piamonte**	**0.61**	**7**	S	**Sn**	**02 36 04.5**	**+0.3**
PMON	**Piamonte**	**0.61**	**7**	P	**Pn**	**02 35 54.8**	**-0.5**
UTEC	**Universidad Te**	**0.62**	**17**	*eP*	**Pn**	**02 35 54.9**	**-0.4**
UTEC	**Universidad Te**	**0.62**	**17**	P	**Pn**	**02 35 55.1**	**-0.3**
UTEC	**Universidad Te**	**0.62**	**17**	S	**Sn**	**02 36 04.8**	**+0.4**
UEES	**Universidad Ev**	**0.63**	**13**	*eP*	**Pn**	**02 35 55.0**	**-0.4**
UEES	**Universidad Ev**	**0.63**	**13**	S	**Sn**	**02 36 05.3**	**+0.7**
UEES	**Universidad Ev**	**0.63**	**13**	P	**Pn**	**02 35 55.1**	**-0.3**
BOQS	**Boqueron**	**0.64**	**10**	*eP*	**Pn**	**02 35 55.5**	**-0.2**
AEIL	**Aeropuerto Ilo**	**0.65**	**24**	*eP*	**Pn**	**02 35 55.5**	**-0.1**
AEIL				*eS*	**Sn**	**02 36 05.7**	**+0.7**
UDBS	**Universidad Do**	**0.65**	**21**	*eP*	**Pn**	**02 35 55.5**	**-0.2**
PIC2	**El Picacho**	**0.65**	**11**	*eP*	**Pn**	**02 35 55.5**	**-0.3**
CEDA	**San Andres**	**0.70**	**360**	*eP*	**Pn**	**02 35 55.8**	**-0.4**
CEDA	**San Andres**	**0.70**	**360**	P	**Pn**	**02 35 55.9**	**-0.4**
CEDA	**San Andres**	**0.70**	**360**	S	**Sn**	**02 36 06.6**	**+0.6**
LFU	**La Fuente**	**0.70**	**23**	*eP*	**Pn**	**02 35 56.3**	**0.0**
COEG	**Centro de Oper**	**0.72**	**44**	*eP*	**Pn**	**02 35 55.8**	**-0.7**
COEG	**Centro de Oper**	**0.72**	**44**	S	**Sn**	**02 36 07.2**	**+0.7**
COEG	**Centro de Oper**	**0.72**	**44**	P	**Pn**	**02 35 56.0**	**-0.5**
LBRS	**Las Brisas**	**0.72**	**28**	*eP*	**Pn**	**02 35 56.6**	**0.0**
TECO	**Alcaldia de Te**	**0.73**	**54**	*eP*	**Pn**	**02 35 55.8**	**-0.9**
TECO				*eS*	**Sn**	**02 36 06.5**	**-0.4**
TECO	**Alcaldia de Te**	**0.73**	**54**	P	**Pn**	**02 35 56.0**	**-0.7**
SNVI	**San Vicente**	**0.74**	**46**	*eP*	**Pn**	**02 35 56.3**	**-0.6**
PAVA	**Las Pavas**	**0.75**	**36**	*eP*	**Pn**	**02 35 56.8**	**-0.3**
PAVA				*eS*	**Sn**	**02 36 08.0**	**+0.6**
PAVA	**Las Pavas**	**0.75**	**36**	P	**Pn**	**02 35 56.8**	**-0.3**
CEVE	**Cerro Verde**	**0.76**	**343**	*eP*	**Pn**	**02 35 56.9**	**-0.3**
CEVE				*eS*	**Sn**	**02 36 07.9**	**+0.1**
CEVE	**Cerro Verde**	**0.76**	**343**	P	**Pn**	**02 35 57.0**	**-0.3**
CEVE	**Cerro Verde**	**0.76**	**343**	S	**Sn**	**02 36 08.4**	**+0.6**
SBLS	**San Blas**	**0.77**	**343**	*eP*	**Pn**	**02 35 57.0**	**-0.4**
SBLS				*eS*	**Sn**	**02 36 08.2**	**+0.1**
SNJE	**San Jose**	**0.79**	**345**	*eP*	**Pn**	**02 35 57.2**	**-0.5**
UESV	**Universidad de**	**0.79**	**48**	*eP*	**Pn**	**02 35 56.8**	**-0.7**
UESV				*eS*	**Sn**	**02 36 08.3**	**0.0**
UESV	**Universidad de**	**0.79**	**48**	P	**Pn**	**02 35 56.9**	**-0.7**
ALJI	**Alcalda de J**	**0.83**	**74**	*eP*	**Pn**	**02 35 57.9**	**-0.1**
RTR	**El Retiro**	**0.83**	**343**	*eP*	**Pn**	**02 35 57.9**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.88**	**47**	*eP*	**Pn**	**02 35 58.5**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.88**	**47**	P	**Pn**	**02 35 58.4**	**-0.3**
NUBE	**Las Nubes**	**0.88**	**335**	*eP*	**Pn**	**02 35 58.1**	**-0.7**
NUBE	**Las Nubes**	**0.88**	**335**	*i* P	**Pn**	**02 35 58.2**	**-0.6**
NUBE				*i* S	**Sn**	**02 36 10.6**	**0.0**
NUBE	**Las Nubes**	**0.88**	**335**	P	**Pn**	**02 35 58.3**	**-0.6**
TECA	**Tecapa**	**0.95**	**66**	*eP*	**Pn**	**02 35 59.1**	**-0.6**
FAME	**Alcaldia de Sa**	**0.96**	**321**	P	**Pn**	**02 35 59.0**	**-0.7**
FAME	**Alcaldia de Sa**	**0.96**	**321**	S	**Sn**	**02 36 11.1**	**-1.2**
PQSS	**Presa 15 de Se**	**0.96**	**57**	*eP*	**Pn**	**02 35 59.3**	**-0.4**
PQSS				*eS*	**Sn**	**02 36 12.2**	**-0.1**
LOAL	**Lomas de Alarc**	**0.97**	**337**	*eP*	**Pn**	**02 36 00.2**	**+0.2**
LOAL	**Lomas de Alarc**	**0.97**	**337**	S	**Sn**	**02 36 13.8**	**+1.2**
LOAL	**Lomas de Alarc**	**0.97**	**337**	P	**Pn**	**02 35 59.6**	**-0.3**
SLOZ	**Alcaldia de Sa**	**1.00**	**337**	*eP*	**Pn**	**02 36 00.2**	**-0.1**
SLOZ				*eS*	**Sn**	**02 36 14.1**	**+0.8**
SLOZ	**Alcaldia de Sa**	**1.00**	**337**	P	**Pn**	**02 36 00.1**	**-0.1**
LCY	**Lacayo**	**1.11**	**73**	*eP*	**Pn**	**02 36 01.8**	**-0.1**
VSM	**San Miguel**	**1.14**	**73**	*eP*	**Pn**	**02 36 02.4**	**+0.1**
BLLM	**Bellamira**	**1.17**	**73**	*eP*	**Pn**	**02 36 02.6**	**-0.1**
MTO3	**Montecristo**	**1.29**	**1**	*eP*	**Pn**	**02 36 03.8**	**-0.6**
MTO3	**Montecristo**	**1.29**	**1**	*i* P	**Pn**	**02 36 04.1**	**-0.5**
MTO3	**Montecristo**	**1.29**	**1**	S	**Sn**	**02 36 20.6**	**-0.1**
MTO3	**Montecristo**	**1.29**	**1**	P	**Pn**	**02 36 04.0**	**-0.5**
CAHU	**Cacacuatique**	**1.33**	**60**	*eP*	**Pn**	**02 36 04.6**	**-0.4**
ESQI	**Esquipulas**	**1.45**	**2**	*eP*	**Pn**	**02 36 06.3**	**-0.2**
ESQI	**Esquipulas**	**1.45**	**2**	P	**Pn**	**02 36 06.3**	**-0.2**
ESQI	**Esquipulas**	**1.45**	**2**	S	**Sn**	**02 36 25.3**	**+0.9**
LCND	**La Caada**	**1.48**	**82**	*eP*	**Pn**	**02 36 06.8**	**0.0**
LCND	**La Caada**	**1.48**	**82**	P	**Pn**	**02 36 07.0**	**+0.3**
CNCH	**Conchagua**	**1.53**	**83**	*eP*	**Pn**	**02 36 07.5**	**-0.1**
FG8	**Yepocapa, Chim**	**1.62**	**315**	*i* P	Pn	02 36 15.1	+6.2
FG8				*i* S	Sn	02 36 38.4	+10
MARCA	**Marcala la Paz**	**1.69**	**51**	*i* P	**Pn**	**02 36 09.5**	**-0.3**
MARCA				*i* S	**Sn**	**02 36 30.4**	**+0.2**
SARH	**Santa Rosa de**	**1.77**	**20**	*i* P	**Pn**	**02 36 11.3**	**+0.4**
SARH				*i* S	**Sn**	**02 36 32.2**	**-0.2**
ESSG	**Sabana Grande**	**1.89**	**313**	*i* P	**Pn**	**02 36 13.0**	**+0.4**
ESSG				*i* S	**Sn**	**02 36 35.6**	**+0.2**

*NEIC **17** 02:36:29.6±0.9, 36°.110N±0°.008×117°.876W±0°.003, h5km±2km, Error ellipse: s-maj=1.2km s-min=0.4km az=182.0*
PAS 17 02:36:29.9±1.0,**36°.115N**±0°.008×**117°.88W**±0°.01, **h4**km±2km,**ML3.2**/91,**ML3.1**/50(NEIC),**Error ellipse: s-maj=1.3km s-min=1.2km az=104.0,California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.02**	**84**		Pg	02 36 31.2	+0.2
MFS					Sg	02 36 32.2	+0.5
WRVM	**Rose V. Centra**	**0.11**	**183**		Pg	02 36 32.2	+0.1
WRVM					Sg	02 36 34.1	+0.5
WCSM	**Coso Springs S**	**0.13**	**133**		Pg	02 36 32.7	+0.1
WCSM					Sg	02 36 34.7	+0.4
JRC2	**Joshua Ridge**	**0.14**	**155**		Pg	02 36 32.9	+0.1
JRC2					Sg	02 36 35.3	+0.5
WVPM	**Volcano Peak E**	**0.17**	**162**		Pg	02 36 33.4	0.0
WVPM					Sg	02 36 36.1	+0.4
WNMM	**Nine Mile Cany**	**0.27**	**184**		Pg	02 36 35.0	-0.1
WNMM					Sg	02 36 39.1	+0.3
TOW	**Tower One**	**0.32**	**162**		Pg	02 36 36.5	+0.4
TOW					Sg	02 36 41.7	+1.3
MPMC	**Manual Prospec**	**0.32**	**100**		Pg	02 36 36.1	-0.1
MPMC				Sg	Sg	02 36 40.5	-0.1
CWC	**Cottonwood Cre**	**0.36**	**334**	Pg	Pg	02 36 36.7	-0.3
CWC				Sg	Sg	02 36 41.6	-0.2
CWC				IAML		02 36 42.3	
	comp=E,2µm,0.3s						
CWC				IAML		02 36 42.3	
	comp=N,2µm,0.2s						
CLC	**China Lake**	**0.38**	**142**	Pg	Pg	02 36 37.0	-0.2
CLC				Sg	Sg	02 36 42.0	-0.2
SRTC	**Snort**	**0.44**	**165**		Pg	02 36 38.7	+0.4
SRTC					Sb	02 36 45.7	-1.4
CGO	**Cerro Gordo**	**0.44**	**8**		Pg	02 36 38.1	-0.4
GPO	**China Lake**	**0.50**	**159**		Sg	02 36 46.6	+0.6
WORM	**Onyx Ranch**	**0.51**	**215**		Pg	02 36 39.3	-0.4
WORM					Sg	02 36 46.2	-0.2
WHFM	**Hanning Flat**	**0.56**	**222**		Pg	02 36 40.5	-0.3
WHFM					Sg	02 36 48.1	+0.1
WSHM	**Spangler Hills**	**0.60**	**148**	Pg	Pg	02 36 41.2	-0.3
WSHM				Sg	Sg	02 36 49.4	0.0
WBSM	**Bird Springs**	**0.61**	**200**		Pg	02 36 41.5	-0.2
WBSM					Sg	02 36 49.8	+0.2
LRMC	**Laurel Mtn Rad**	**0.66**	**165**	Pg	Pg	02 36 41.8	-0.7
LRMC				Sg	Sg	02 36 50.8	-0.2
LRMC				IAML		02 36 51.3	
	comp=E,884nm,0.4s						
LRMC				IAML		02 36 52.2	
	comp=N,890nm,0.3s						
ISA	**Isabella, Lake**	**0.66**	**227**	Pg	Pg	02 36 42.0	-0.5
ISA				Sg	Sg	02 36 50.1	-1.0
ISA				IAML		02 36 51.7	
	comp=E,1µm,0.4s						
WASM	**Alta Sierra Ca**	**0.66**	**236**		Pg	02 36 42.4	-0.3
WASM					Sg	02 36 51.4	+0.1

SPG2	**Springville 2**	**0.72**	**277**		Pg	02 36 43.3	-0.5
SPG2					Sg	02 36 52.5	-0.6
CCCA	**Chr Cany lake**	**0.72**	**144**	Pg	Pg	02 36 43.6	-0.2
CCCA				Sg	Sg	02 36 53.9	+0.7
CCCA				IAML		02 36 58.3	
	comp=E,940nm,0.8s						
QSM	**Queen of Sheba**	**0.84**	**100**		Pg	02 36 45.5	-0.4
QSM					Sg	02 36 56.4	-0.5
QSM	**Queen of Sheba**	**0.84**	**100**	IAML		02 37 01.8	
	comp=N,876nm,0.6s						
DTP	**Desert Tortois**	**0.85**	**178**		Pg	02 36 45.6	-0.6
DTP					Sg	02 36 56.7	-0.4
FURC	**Furnace Creek,**	**0.90**	**67**		Pg	02 36 47.1	0.0
FURC					Sg	02 36 59.4	+0.7
CCAC	**Calif City Air**	**0.97**	**186**		Pg	02 36 47.8	-0.6
CCAC					Sg	02 37 00.8	-0.1
GRAC	**Grapevine Rang**	**0.97**	**25**		Pg	02 36 48.0	-0.6
GRAC	**Grapevine Rang**	**0.97**	**25**	Pg	Pg	02 36 47.8	-0.8
GRAC	**Grapevine Rang**	**0.97**	**25**	Sg	Sg	02 37 00.8	-0.4
GRAC				IAML		02 37 05.0	
	comp=E,626nm,0.4s						
GRAC				IAML		02 37 05.6	
	comp=N,595nm,0.8s						
TIN	**Tinemaha, Big**	**0.98**	**344**		Pg	02 36 48.3	-0.4
TIN					Sb	02 37 02.2	-0.6
GWY	**Greenwater Val**	**0.98**	**86**		Pg	02 36 48.4	-0.4
GWY					Sg	02 37 01.6	0.0
GWY	**Greenwater Val**	**0.98**	**86**	IAML		02 37 07.7	
	comp=E,527nm,0.7s						
GWY				IAML		02 37 08.1	
	comp=N,509nm,0.4s						
VES	**Vestal, Richgr**	**1.01**	**255**		Pg	02 36 48.9	-0.4
VES					Sg	02 37 02.5	+0.1
TEJ	**El Tejon**	**1.10**	**217**		Pg	02 36 50.1	-1.0
TEJ					Sg	02 37 04.5	-0.7
SGV	**South Grapevin**	**1.10**	**38**		Pg	02 36 50.9	-0.2
LCH	**Last Change Ra**	**1.13**	**10**		Pg	02 36 50.5	-1.1
GSC	**Goldstone, Bar**	**1.20**	**132**		Pg	02 36 52.6	-0.2
GSC	**Goldstone, Bar**	**1.20**	**132**	Pg	Pg	02 36 52.4	-0.5
GSC	**Goldstone, Bar**	**1.20**	**132**	Sg	Sg	02 37 07.4	-0.9
GSC				IAML		02 37 12.4	
	comp=E,330nm,0.6s						
VOG	**Valley Oaks Go**	**1.23**	**280**		Pg	02 36 52.8	-0.7
EDW2	**Edwards Air Fo**	**1.23**	**184**		Pg	02 36 52.4	-1.2
EDW2					Sg	02 37 08.7	-0.9
ARVC	**Arvin**	**1.25**	**218**		Pg	02 36 53.4	-0.5
TPO	**Tropico Hills**	**1.27**	**193**	Sg	Sg	02 37 09.9	-0.7
HYS	**Haystack Butte**	**1.27**	**168**		Pg	02 36 54.0	-0.3
BHPR	**Bishop**	**1.28**	**338**		Pg	02 36 53.8	-0.7
POCCA	**Poleta Canyon**	**1.28**	**346**		Pg	02 36 54.2	-0.4
TJR	**Tejon Ranch**	**1.29**	**213**		Pg	02 36 53.7	-1.0
AMDNV	**Amargosa**	**1.34**	**75**		Pn	02 36 54.8	-0.5
AMDNV					Sg	02 37 12.5	-0.4
MTUM	**Tungsten Hills**	**1.35**	**336**		Pn	02 36 54.9	-0.8
THC	**Tehachapi Micr**	**1.36**	**208**		Pn	02 36 54.7	-1.1
RRX	**Edison Barstow**	**1.43**	**149**		Pb	02 36 57.2	0.0
BENR	**Benton**	**1.69**	**341**		Pb	02 37 01.2	-0.6
MLAC	**Mammoth, Mammo**	**1.69**	**333**		Pb	02 37 01.3	-0.5
BCW	**Bitter Crk WRg**	**1.71**	**227**		Sb	02 37 23.6	-0.3
CRGC	**Crocker Grade**	**1.73**	**240**		Pb	02 37 01.8	-0.6
MCSM	**Casa Diablo Ho**	**1.74**	**332**		Pb	02 37 02.2	-0.4
CHFC	**Chilao Flat St**	**1.78**	**184**		Pb	02 37 02.8	-0.4
CARC	**Carrizo Plain**	**1.79**	**244**		Pb	02 37 02.9	-0.4
BFSC	**Mount Baldy Ra**	**1.88**	**174**		Pn	02 37 03.5	+0.5
MTPC	**Mountain Pass**	**2.00**	**108**	Pn	Pn	02 37 03.4	-1.1

ABKAR Akbulak array 15.27 333 P P 02 45 43.7 -0.8
KURBB Kurchatov Arra 15.63 19 P P 02 45 50.0 +1.5
comp=Z,0.8nm,0.5s,baz=207,slow=10,SNR=6.9
EVN Everest 15.99 116 P Pn 02 45 50.8 -2.1
BVAR Borovoye Array 16.93 360 P Pn 02 46 05.1 +1.8
comp=Z,0.5nm,0.3s,baz=178,slow=13,SNR=4.1
AKTO Aktyubinsk 16.95 332 ⇓P Pn 02 46 08.0 +4.3
comp=Z,1.5nm,0.8s
AKTO Aktyubinsk 16.95 332 P Pn 02 46 06.1 +2.4
comp=Z,1.0nm,0.5s,baz=162,slow=6.4,SNR=4.1
ZAA0 Zalesovo Array 20.44 25 P P 02 46 41.3 +0.3
ZAA0 IAmb IAmb 02 46 42.6
comp=Z,3.7nm,0.6s
ZALV Zalesovo Beam 20.44 25 P P 02 46 40.6 -0.3
ZALV Zalesovo Beam 20.44 25 P P 02 46 42.0 +1.1
comp=Z,3.2nm,0.3s,baz=230,slow=12,SNR=15
comp=Z,3.2nm,0.3s
FINES FINESS Array B 37.62 327 P P 02 49 17.5 +2.1
comp=Z,0.8nm,0.9s,baz=115,slow=9.0,SNR=1.1
comp=Z,0.8nm,0.9s
ARCES ARCESS Array B 41.38 338 P P 02 49 48.1 +1.6
comp=Z,1.9nm,0.9s,baz=99,slow=7.5,SNR=8.3
comp=Z,1.9nm,0.9s
HFS Hagfors 43.16 322 P P 02 50 02.8 +1.9
comp=Z,1.7nm,0.9s,baz=104,slow=9.2,SNR=4.0
comp=Z,1.7nm,0.9s
NOA NORSAR Array B 44.48 323 P P 02 50 12.9 +1.3
comp=Z,0.3nm,0.7s,baz=98,slow=7.9,SNR=3.6
comp=Z,0.3nm,0.7s
TORD Torodi Ar. Bea 65.34 269 P P 02 52 41.9 0.0
comp=Z,0.2nm,0.3s,baz=46,slow=5.3,SNR=5.1
comp=Z,0.2nm,0.3s
ILAR Eielson Array 75.27 16 P P 02 53 42.2 +0.6
comp=Z,0.1nm,0.4s,baz=311,slow=5.9,SNR=4.0
comp=Z,0.1nm,0.4s

NEIC ***17*** *02:43:22.5, 17.°05S×176.°80W, h10km*
IDC ***17*** *02:43:22.0±0.5, 17.°29S×177.°14W, h0km, mb4.3/18, mbtmp4.3/18, MS5.0/56, Error ellipse: s-maj=21.1km s-min=15.7km az=107.0*
BJI ***17*** *02:43:23.6, 17.°18S×176.°94W, h13km, mB5.4/15, mb4.9/34, Ms5.2/33, Ms7 4.9/32*
MOS ***17*** *02:43:23.0±1.9, 16.°99S×177.°19W, h10km, mb5.0/25, MS5.2/9, Error ellipse: s-maj=10.7km s-min=9.2km az=138.3*
NEIC ***17*** *02:43:24.5, 16.°44S×176.°09W, h12km, Moment Tensor Solution. Duration: 3s0 Moment tensor: Scale 1017Nm; Mrr=0.02; Mθθ=2.78; Mϕϕ2.80; Mrθ=-0.11; Mθϕ0.43; Mϕr1.06; Fault plane solution: M03.02000×1017 NP1:ϕs50.92000°, δ74.21000°, λ10.01000°. NP2:ϕs318.17000°, δ80.37000°, λ163.98000°. Principal axes: T 3.1787, Plg18.0000°, Azm274.0000°; N -0.3516, Plg71.0000°, Azm108.0000°; P -2.8271, Plg4.0000°, Azm5.0000°;*
NEIC ***17*** *02:43:24.5, 17.°14S×177.°14W, h12km*
NEIC ***17*** *02:43:24.5±1.3, 17.°15S±0.°10×177.°13W±0.°10, h10km±1km, mb5.1/167, Ms_20 5.4/613, Mwb5.6/44, Mww5.6/15, Error ellipse: s-maj=17.0km s-min=15.3km az=216.0, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr0.24; Mθθ-2.66; Mϕϕ2.42; Mrθ0.29; Mθϕ1.58; Mrϕ0.33; Fault plane solution: M03.03000×1017 NP1:ϕs61.24000°, δ86.44000°, λ8.23000°. NP2:ϕs330.73000°, δ81.79000°, λ176.40000°. Principal axes: T 2.9297, Plg8.0000°, Azm286.0000°; N 0.1937, Plg81.0000°, Azm84.0000°; P -3.1234, Plg3.0000°, Azm196.0000°;*
GCMT ***17*** *02:43:27.5±0.1, 17.°21S±0.°01×176.°72W, h15km, MW5.6/166, Moment Tensor Solution. s138,c266; s166,c356; Duration: 1s6 Moment tensor: Scale 1017 Nm; Mrr-0.26±.03; Mθθ-2.98±.03; Mϕϕ3.24±.03; Mrθ0.42±.09; Mθϕ1.56±.03; Mrϕ0.57±.09; Best double couple: M03.54500×1017 NP1:ϕs328.00000°, δ80.00000°, λ177.00000°. NP2:ϕs59.00000°, δ87.00000°, λ10.00000°. Principal axes: T 3.7160, Plg9.0000°, Azm284.0000°; N -0.3420, Plg79.0000°, Azm74.0000°; P -3.3750, Plg5.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***17*** *02:43:31.8, 16.°89S×176.°44W, h33km, Ms5.2*
ISC 17 02:43:26.6±0.3, 17.°19S±0.°06×176.°91W±0.°05, h35km, n870, σ1s50/533, mb5.0/132, MS5.3/379, 22C-40D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUTU	**Fugatoga**	**3.09**	**338**	Pn	**Pn**	**02 44 10.1**	**-2.9**
MSVF	**Nonsavu**	**4.84**	**263**	Pn	**Pn**	**02 44 36.0**	**-1.0**
MSVF	**Nonsavu**	**4.84**	**263**	*e*P	**Pn**	**02 44 37.8**	**+0.7**
AFI	**Afiamalu**	**5.93**	**57**	Pn	**Pn**	**02 44 53.1**	**+1.1**
AFI	**Afiamalu**	**5.93**	**57**	P	**Pn**	**02 44 53.2**	**+1.1**
RAO	**Raoul Island**	**12.04**	**184**	LR	LR	02 50 00.0	
	comp=Z,26μm,21.3s,baz=30,slow=33						
SANVU	**Saraoutou**	**15.35**	**274**	P	**P**	**02 47 02.3**	**-2.8**
SANVU				IAmb	IAmb	02 47 03.9	
	comp=Z,136nm,1.5s						
PINNC	**Pines Island,**	**15.66**	**247**	P	**P**	**02 47 06.7**	**-1.8**
PINNC				IAmb	IAmb	02 47 09.8	
	comp=Z,197nm,1.6s						
DZM	**Mont Dzumac**	**16.41**	**250**	P	**P**	**02 47 15.7**	**-1.3**
DZM	**Mont Dzumac**	**16.41**	**250**	*e*P	**Pn**	**02 47 13.7**	**-0.8**
	comp=Z,191nm,1.5s						
DZM				*e*S	**S**	**02 50 22.8**	**-4.2**
	comp=Z,45μm,29.2s						
DZM				*e*LR	LR	02 51 07.8	
	comp=Z,14μm,24.6s						
DZM	**Mont Dzumac**	**16.41**	**250**	Pn	**P**	**02 47 15.6**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=85,slow=12,SNR=5.5						
DZM				LR	LR	02 52 26.6	
	comp=Z,12μm,20.8s,baz=81,slow=34						
ONTNC	**Ouen Toro**	**16.46**	**249**	P	**P**	**02 47 16.5**	**-0.9**
RAR	**Rarotonga**	**16.67**	**107**	LR	LR	02 52 08.0	
	comp=Z,8μm,21.0s,baz=268,slow=31						
TOZ	**Tahuroa Road**	**21.52**	**197**	P	**P**	**02 48 15.5**	**+2.9**
TOZ				IAMs_20	IAMs_20	02 54 41.0	
	comp=Z,12μm,21.0s						
URZ	**Urewera**	**21.64**	**193**	P	**P**	**02 48 10.6**	**-3.2**
	comp=Z,40nm,0.9s,baz=11,slow=3.8,SNR=8.1						
URZ				LR	LR	02 55 20.5	
	comp=Z,17μm,21.0s,baz=39,slow=33						
	comp=Z,40nm,0.9s						
RTZ	**Ruatahuna**	**22.01**	**193**	IAMs_20	IAMs_20	02 55 10.1	
	comp=Z,12μm,20.0s						
HIZ	**Hauiti**	**22.43**	**197**	IAMs_20	IAMs_20	02 55 45.0	
	comp=Z,14μm,22.0s						
BKZ	**Black Stump Fm**	**22.64**	**193**	P	**P**	**02 48 23.4**	**-1.3**
BKZ				IAMs_20	IAMs_20	02 55 30.9	
	comp=Z,12μm,20.0s						
BFZ	**Birch Farm**	**24.15**	**193**	IAMs_20	IAMs_20	02 57 12.7	
	comp=Z,12μm,20.0s						
MRZ	**Mangatainoka R**	**24.27**	**194**	IAMs_20	IAMs_20	02 56 32.0	
	comp=Z,10μm,21.0s						
SNZO	**South Karori**	**25.10**	**195**	IAMs_20	IAMs_20	02 58 21.7	
	comp=Z,12μm,18.0s						
QRZ	**Quartz Range**	**25.26**	**199**	P	**P**	**02 48 47.9**	**-1.6**
PPT2	**Papeete2**	**26.08**	**95**	*e*PKIKP	**P**	**02 48 53.5**	**-3.8**
	comp=Z,438nm,23.8s						
PPT2				*e*S	**S**	**02 53 24.1**	**-2.4**
	comp=Z,6μm,26.5s						
PPT2				*e*LR	LR	02 55 14.7	
	comp=Z,13μm,30.0s						
PPT2				*e*LR	LR	02 55 22.7	
	comp=Z,13μm,24.2s						
PPT	**Papeete**	**26.08**	**95**	LR	LR	02 56 26.2	
	comp=Z,4μm,19.8s,baz=261,slow=30						
KHZ	**Kahutara**	**26.43**	**196**	IAMs_20	IAMs_20	02 59 18.0	
	comp=Z,9μm,18.0s						
TBI	**Tubuai**	**26.44**	**108**	*e*P	**P**	**02 48 55.6**	**-4.8**
	comp=Z,3μm,39.0s						
TBI				*e*S	**S**	**02 53 33.0**	**+1.0**
	comp=Z,11μm,32.2s						
TBI				*e*LR	LR	02 55 24.9	
	comp=Z,19μm,30.5s						
TBI				*e*LR	LR	02 55 37.5	
	comp=Z,89μm,28.5s						
GVZ	**Greta Valley S**	**27.08**	**196**	IAMs_20	IAMs_20	02 58 22.2	
	comp=Z,13μm,22.0s						
OXZ	**Oxford**	**27.69**	**198**	P	**P**	**02 49 10.7**	**-0.7**
OXZ				IAmb	IAmb	02 49 15.8	
	comp=Z,34nm,0.9s						
MQZ	**McQueen's Vall**	**27.87**	**196**	IAMs_20	IAMs_20	02 58 55.0	
	comp=Z,12μm,21.0s						
FOZ	**Fox Glacier**	**28.57**	**200**	IAMs_20	IAMs_20	03 00 49.1	
	comp=Z,9μm,21.0s						
MLZ	**Mavora Lakes**	**30.76**	**201**	IAMs_20	IAMs_20	03 01 06.0	
	comp=Z,7μm,19.0s						
EIDS	**Eidsvold**	**30.86**	**249**	P	**P**	**02 49 39.2**	**-0.5**
EIDS				IAmb	IAmb	02 49 45.7	
	comp=Z,21nm,1.1s						
DCZ	**Deep Cove**	**31.18**	**202**	IAMs_20	IAMs_20	03 02 08.1	
	comp=Z,10μm,20.0s						
PYZ	**Puysegur Point**	**31.95**	**202**	IAMs_20	IAMs_20	03 02 41.5	
	comp=Z,9μm,19.0s						
CTAO	**Charters Tower**	**34.98**	**259**	P	**P**	**02 50 15.3**	**-0.5**
CTAO	**Charters Tower**	**34.98**	**259**	IAMs_20	IAMs_20	03 03 11.5	
	comp=Z,7μm,18.0s						
CTAO	**Charters Tower**	**34.98**	**259**	P	**P**	**02 50 15.4**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,122nm,2.0s						
CTAO				MLR	MLR		
	comp=Z,7μm,18.0s						
TAOE	**Nuku Hiva Isla**	**36.71**	**82**	*e*PKIKP	**P**	**02 50 28.4**	**-2.4**
	comp=Z,193nm,22.8s						
TAOE				*e*S	**S**	**02 56 05.0**	**-7.4**
	comp=Z,813nm,28.7s						
TAOE				*e*SS	**SnSn**	**02 58 44.2**	**-0.6**
	comp=Z,866nm,24.3s						
TAOE				*e*LR	LR	03 00 10.4	
	comp=Z,6μm,25.5s						
TAU	**Tasmania Unive**	**39.73**	**222**	IAMs_20	IAMs_20	03 04 46.4	
	comp=Z,4μm,19.0s						
STKA	**Stephens Creek**	**40.23**	**241**	P	**P**	**02 50 59.8**	**-0.3**
STKA	**Stephens Creek**	**40.23**	**241**	P	**P**	**02 50 59.5**	**-0.6**
	comp=Z,4.1nm,0.8s,baz=143,slow=22,SNR=4.6						
STKA				LR	LR	03 06 28.3	
	comp=Z,2μm,18.1s,baz=71,slow=35						
	comp=Z,4.1nm,0.8s						
KIP	**Kipapa**	**42.61**	**26**	IAMs_20	IAMs_20	03 04 08.1	
	comp=Z,4μm,21.0s						
JAY	**Jayapura**	**44.09**	**285**	LR	LR	03 08 43.8	
	comp=Z,3μm,21.9s,baz=122,slow=35						
GENI	**Genyem**	**44.56**	**284**	P	**P**	**02 51 37.9**	**+2.3**
	comp=Z,2μmcomp=Z,53nm,1.4s						
MIDW	**Midway**	**45.14**	**359**	IAMs_20	IAMs_20	03 06 18.4	
	comp=Z,3μm,21.0s						
WR8	**Warramunga Arr**	**46.02**	**259**	P	**P**	**02 51 46.7**	**-0.4**
WR8				IAmb	IAmb	02 52 01.9	
	comp=Z,47nm,1.8s						
WB0	**Warramunga Arr**	**46.13**	**259**	P	**P**	**02 51 46.3**	**-1.7**
WRAB	**Tennant Creek**	**46.16**	**259**	*i* P	**P**	**02 51 48.1**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,27nm,2.0s						
WRA	**Warramunga Arr**	**46.17**	**259**	P	**P**	**02 51 47.3**	**-1.0**
WRA	**Warramunga Arr**	**46.17**	**259**	P	**P**	**02 51 46.3**	**-2.0**
	comp=Z,2.7nm,0.9s,baz=94,slow=6.7,SNR=16						
WRA				PcP	**PcP**	**02 53 24.3**	**+0.3**
	comp=Z,1.4nm,1.0s,baz=94,slow=3.2,SNR=1.9						
WRA				LR	LR	03 10 12.0	
	comp=Z,5μm,18.1s,baz=106,slow=35						
	comp=Z,2.7nm,0.9s						
AS31	**Alice Springs**	**46.36**	**254**	P	**P**	**02 51 48.5**	**-1.3**
ASAR	**Alice Springs**	**46.36**	**254**	P	**P**	**02 51 48.3**	**-1.5**
ASAR	**Alice Springs**	**46.36**	**254**	P	**P**	**02 51 48.8**	**-1.1**
	comp=Z,27nm,0.7s,baz=88,slow=7.7,SNR=151						
ASAR				LR	LR	03 10 44.1	
	comp=Z,5μm,18.6s,baz=94,slow=36						
	comp=Z,27nm,0.7s						
FORT	**Forrest**	**51.60**	**244**	P	**P**	**02 52 29.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**54.56**	**260**	LR	LR	03 14 44.0	
	comp=Z,5μm,19.6s,baz=104,slow=35						
SOEI	**Soe**	**57.50**	**269**	P	P	02 53 20.0	+7.0
BATI	**Baumata**	**57.97**	**269**	LR	LR	03 18 42.4	
	comp=Z,2μm,18.3s,baz=126,slow=37						
PSA00	**Pilbara Seismi**	**59.47**	**255**	P	**P**	**02 53 25.9**	**-0.7**
PSA00				IAmb	IAmb	02 53 33.9	
	comp=Z,17nm,1.1s						
MBWA	**Marble Bar**	**59.63**	**255**	IAMs_20	IAMs_20	03 17 45.9	
	comp=Z,2μm,20.0s						
NWAO	**Narrogin (SRO)**	**60.81**	**242**	IAMs_20	IAMs_20	03 18 27.2	
	comp=Z,2μm,18.0s						
NWAO	**Narrogin (SRO)**	**60.81**	**242**	LR	LR	03 18 39.2	
	comp=Z,2μm,18.6s,baz=86,slow=35						
SBA	**Scott Base**	**61.23**	**184**	P	**P**	**02 53 37.9**	**+0.3**
SBA	**Scott Base**	**61.23**	**184**	P	**P**	**02 53 37.9**	**+0.3**
SBA				pmax	pmax		
	comp=Z,44nm,1.8s						
VNDA	**Vanda**	**61.28**	**185**	P	**P**	**02 53 39.6**	**+1.6**
VNDA	**Vanda**	**61.28**	**185**	P	**P**	**02 53 38.5**	**+0.5**
	comp=Z,2.5nm,1.0s,baz=5.2,slow=4.6,SNR=7.5						
VNDA				LR	LR	03 15 55.7	
	comp=Z,881nm,22.0s,baz=22,slow=32						
	comp=Z,2.5nm,1.0s						
VNDA	**Vanda**	**61.28**	**185**	P	**P**	**02 53 39.6**	**+1.6**
VNDA				pmax	pmax		
	comp=Z,10.0nm,1.5s						
DAV	**Davao City (W)**	**61.73**	**288**	LR	LR	03 18 26.4	
	comp=Z,402nm,18.6s,baz=145,slow=34						
BNSI	**Bone**	**62.91**	**274**	P	P	02 53 55.2	+5.3
	comp=Z,49nm,1.3s						
KAPI	**Kappang**	**63.07**	**273**	LR	LR	03 19 19.7	
	comp=Z,1μm,21.1s,baz=102,slow=34						
KAPI	**Kappang**	**63.07**	**273**	*i* P	**P**	**02 53 48.5**	**-2.5**
KAPI				pmax	pmax		
	comp=Z,17nm,1.1s						
CASY	**Casey**	**67.38**	**205**	P	**P**	**02 54 18.4**	**+0.3**
MJA0	**Matsu Arr-Jizo**	**68.18**	**322**	*e*P	**P**	**02 54 20.9**	**-2.7**
MJAR	**Matsushiro Arr**	**68.20**	**322**	P	**P**	**02 54 22.5**	**-1.2**
MJAR	**Matsushiro Arr**	**68.20**	**322**	P	**P**	**02 54 23.5**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=146,slow=5.2,SNR=1.6						
MJAR				LR	LR	03 18 37.5	
	comp=Z,319nm,20.7s,baz=130,slow=31						
	comp=Z,0.7nm,0.3s						
MJAR	**Matsushiro Arr**	**68.20**	**322**	P	**P**	**02 54 22.5**	**-1.2**
MJAR				pmax	pmax		
	comp=Z,7.0nm,1.3s						
MAJO	**Matsushiro**	**68.20**	**322**	*i* P	**P**	**02 54 22.6**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,7.0nm,1.3s						
TGY	**Tagaytay City**	**68.77**	**293**	LR	LR	03 20 13.1	
	comp=Z,2.1nm,1.9s,baz=127,slow=32						
SHEM	**Shemya Is, Ala**	**70.06**	**354**	LR	LR	03 18 43.5	
	comp=Z,2μm,21.9s,baz=155,slow=30						
NIKH	**Nikolski High**	**70.22**	**5**	IAMs_20	IAMs_20	03 18 20.6	
	comp=Z,3μm,21.0s						
UNV	**Unalaska Valle**	**71.31**	**6**	IAMs_20	IAMs_20	03 19 12.7	
	comp=Z,3μm,22.0s						
ASAJ	**Asahikawa**	**71.35**	**330**	LR	LR	03 21 54.0	
	comp=Z,619nm,20.2s,baz=163,slow=32						
SKR	**Severo-Kuril's**	**71.62**	**342**	*e*P	**P**	**02 54 45.3**	**+1.0**
SKR				*e*S	S	03 04 10.0	+8.9
SKR				pmax	pmax		
	comp=Z,100nm,10.9s						
SKR				MLR	MLR		
	comp=Z,600nm,18.0s						
QSPA	**South Pole Qui**	**72.86**	**180**	P	**P**	**02 54 52.0**	**+0.2**
QSPA				IAmb	IAmb	02 55 18.9	
	comp=Z,20nm,1.1s						
QSPA	**South Pole Qui**	**72.86**	**180**	P	**P**	**02 54 52.0**	**+0.2**
	comp=Z,11nm,0.9s,baz=22,slow=1.9,SNR=21						
QSPA				LR	LR	03 22 29.8	
	comp=Z,372nm,20.3s,baz=39,slow=32						
	comp=Z,11nm,0.9s						
CNBA	**Chernabura Isl**	**73.23**	**10**	IAMs_20	IAMs_20	03 21 05.1	
	comp=Z,2μm,20.0s						
PEA0B	**Petropavlovsk-**	**73.36**	**344**	P	**P**	**02 54 55.2**	**+0.5**
PEA0B				IAmb	IAmb	02 55 01.0	
	comp=Z,18nm,0.9s						
PEA0B	**Petropavlovsk-**	**73.36**	**344**	P	**P**	**02 54 55.2**	**+0.5**
PEA0B				pmax	pmax		
	comp=Z,18nm,1.0s						
PETK	**Petropavlovsk-**	**73.36**	**344**	P	**P**	**02 54 54.3**	**-0.4**
PETK	**Petropavlovsk-**	**73.36**	**344**	P	**P**	**02 54 54.9**	**+0.2**
	comp=Z,6.6nm,0.9s,baz=104,slow=6.3,SNR=7.5						
PETK				LR	LR	03 23 01.2	
	comp=Z,886nm,19.5s,baz=152,slow=32						
	comp=Z,6.6nm,0.9s						
YSS	**Yuzhno-Sakhali**	**73.43**	**332**	*e*P	**P**	**02 54 56.2**	**+1.0**
YSS				*e*S	**S**	**03 04 21.2**	**-0.8**
YSS				pmax	pmax		
	comp=Z,100nm,3.3s						
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
YSS				smax	smax		
	comp=N,300nm,10.8s						
YSS				smax	smax		
	comp=E,500nm,7.7s						
LEM	**Lembang**	**74.17**	**268**	LR	LR	03 27 29.8	
	comp=E,668nm,19.5s,baz=110,slow=36						
HULI	**Fort Hunter Li**	**74.64**	**44**	IAMs_20	IAMs_20	03 21 15.1	
	comp=Z,2μm,20.0s						
RAMR	**Ramage Ranch**	**74.66**	**44**	IAMs_20	IAMs_20	03 20 16.8	
	comp=Z,1μm,20.0s						
TJN	**Taejon**	**74.87**	**316**	*e*P	**P**	**02 55 01.6**	**-2.2**
KSRS	**Korea Array**	**75.13**	**317**	P	**P**	**02 55 05.7**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=139,slow=5.9,SNR=1.3						
	comp=Z,0.5nm,0.3s						
HOPS	**Hopland Field**	**75.20**	**41**	IAMs_20	IAMs_20	03 21 06.6	
	comp=Z,2μm,19.0s						
MTOS	**Mt Oso, Westle**	**75.43**	**43**	IAMs_20	IAMs_20	03 22 25.0	
	comp=Z,2μm,19.0s						
MNRC	**McLaughlin Min**	**75.52**	**41**	IAMs_20	IAMs_20	03 20 50.3	
	comp=Z,2μm,20.0s						
PASC	**Pasadena Art C**	**75.69**	**47**	IAMs_20	IAMs_20	03 19 45.4	
	comp=Z,2μm,22.0s						
JCC	**Jacoby Creek,**	**75.73**	**39**	IAMs_20	IAMs_20	03 20 10.4	
	comp=Z,2μm,21.0s						
CPE	**Camp Elliot**	**75.77**	**49**	IAMs_20	IAMs_20	03 20 06.8	
	comp=Z,2μm,20.0s						
SII	**Sitkinak Islan**	**75.91**	**13**	IAMs_20	IAMs_20	03 22 31.9	
	comp=Z,2μm,20.0s						
O02D	**Mt. Diablo Mer**	**76.09**	**40**	P	**P**	**02 55 14.1**	**+3.2**
O02D				IAmb	IAmb	02 55 18.7	
	comp=Z,32nm,1.6s						
VLA	**Vladivostok**	**76.20**	**324**	*i* P	**P**	**02 55 09.1**	**-2.2**
VLA				pmax	pmax		
	comp=Z,14nm,0.8s						
MSHR	**Mys Shultsa**	**76.27**	**323**	*i* P	**P**	**02 55 09.7**	**-2.0**
MSHR				pmax	pmax		
	comp=Z,8.0nm,1.5s						
ISA	**Isabella, Lake**	**76.29**	**46**	P	**P**	**02 55 13.2**	**+1.1**
ISA	**Isabella, Lake**	**76.29**	**46**	P	**P**	**02 55 13.2**	**+1.1**
ISA				pmax	pmax		
	comp=Z,58nm,0.6s						
CMB	**Columbia Colle**	**76.34**	**43**	P	**P**	**02 55 14.1**	**+1.8**
CMB	**Columbia Colle**	**76.34**	**43**	P	**P**	**02 55 14.1**	**+1.8**
CMB				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SSE	**Sheshan**	**76.39**	**309**	P	**P**	**02 55 12.8**	**+0.1**
SSE				S	**S**	**03 04 58.4**	**+2.8**
SSE				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SSE				pmax	pmax		
	comp=Z,56nm,4.1s						
SSE				LR	LR		
	comp=Z,240nm,20.3s						
SSE				LR	LR		
	comp=Z,170nm,19.9s						
R17L	**Mt. Peulik Vol**	**76.47**	**11**	P	**P**	**02 55 12.4**	**-0.2**
	baz=200						
PLK4	**Peulik 4**	**76.48**	**11**	IAMs_20	IAMs_20	03 25 17.8	
	comp=Z,2μm,19.0s						
AFDM	**Forest Hills D**	**76.49**	**42**	P	**P**	**02 55 14.4**	**+1.3**
YUH	**Yuha Desert**	**76.50**	**49**	P	**P**	**02 55 15.2**	**+1.9**
YUH				IAmb	IAmb	02 55 18.8	
	comp=Z,21nm,1.5s						
PFO	**Pinyon Flats O**	**76.61**	**48**	IAMs_20	IAMs_20	03 20 55.0	
	comp=Z,2μm,20.0s						
PFO	**Pinyon Flats O**	**76.61**	**48**	LR	LR	03 20 45.5	
	comp=Z,2μm,21.8s,baz=240,slow=29						
PFO	**Pinyon Flats O**	**76.61**	**48**	*e*P	**P**	**02 55 12.8**	**-1.2**
PFO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
O03E	**Paynes Creek**	**76.76**	**40**	IAMs_20	IAMs_20	03 20 35.0	
	comp=Z,2μm,22.0s						
M02C	**Callahan**	**76.78**	**39**	IAMs_20	IAMs_20	03 20 45.3	
	comp=Z,2μm,21.0s						
USA0B	**Ussuriysk Arra**	**76.84**	**325**	*e*P	**P**	**02 55 12.9**	**-2.0**
USRK	**Ussuriysk Ar.**	**76.84**	**325**	P	**P**	**02 55 15.3**	**+0.4**
USRK	**Ussuriysk Ar.**	**76.84**	**325**	P	**P**	**02 55 15.9**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=128,slow=6.6,SNR=5.5						
USRK				LR	LR	03 25 16.7	
	comp=Z,550nm,19.0s,baz=126,slow=33						
	comp=Z,0.9nm,0.4s						
LPIG	**La Paz**	**76.84**	**59**	LR	LR	03 22 31.9	
	comp=Z,663nm,19.6s,baz=242,slow=30						
WSHM	**Spangler Hills**	**76.93**	**46**	IAMs_20	IAMs_20	03 22 48.3	
	comp=Z,2μm,20.0s						
CLC	**China Lake**	**76.98**	**46**	P	**P**	**02 55 17.5**	**+1.5**
CLC	**China Lake**	**76.98**	**46**	P	**P**	**02 55 17.5**	**+1.5**
CLC				pmax	pmax		
	comp=Z,31nm,0.5s						
CCCA	**Chr Cany lake**	**76.98**	**46**	P	**P**	**02 55 16.8**	**+0.8**
YBH	**Yreka Blue Hor**	**77.07**	**39**	P	**P**	**02 55 20.1**	**+3.7**
YBH				IAmb	IAmb	02 55 30.8	
	comp=Z,16nm,1.4s						
YBH	**Yreka Blue Hor**	**77.07**	**39**	LR	LR	03 21 16.0	
	comp=Z,144nm,21.6s,baz=250,slow=29						
YBH	**Yreka Blue Hor**	**77.07**	**39**	P	**P**	**02 55 20.1**	**+3.7**
YBH				pmax	pmax		
	comp=Z,16nm,1.4s						
Q17K	**Contact Creek**	**77.16**	**11**	P	**P**	**02 55 15.7**	**-0.8**
	baz=200						
WAKR	**Walker**	**77.22**	**43**	P	**P**	**02 55 19.7**	**+2.2**
WAKR				IAmb	IAmb	02 55 23.2	
	comp=Z,36nm,1.7s						
O14K	**Tigyukauivet M**	**77.24**	**8**	P	**P**	**02 55 16.0**	**-0.7**
	baz=195						
HATC	**Hat Creek Radi**	**77.28**	**40**	IAMs_20	IAMs_20	03 20 50.6	
	comp=Z,2μm,22.0s						
O15K	**Ungalikthiuk R**	**77.37**	**9**	IAMs_20	IAMs_20	03 23 39.2	
	comp=Z,1μm,20.0s						
O15K	**Ungalikthiuk R**	**77.37**	**9**	P	**P**	**02 55 16.5**	**-1.0**
	baz=197						
KDAK	**Kodiak Island**	**77.38**	**13**	IAMs_20	IAMs_20	03 21 53.8	
	comp=Z,2μm,21.0s						
KDAK	**Kodiak Island**	**77.38**	**13**	LR	LR	03 22 16.9	
	comp=Z,2μm,21.6s,baz=209,slow=30						
KDAK	**Kodiak Island**	**77.38**	**13**	P	**P**	**02 55 16.6**	**-0.9**
	baz=204						
BEKR	**Beckworth**	**77.41**	**41**	P	**P**	**02 55 19.8**	**+1.3**
GLA	**Glamis**	**77.50**	**49**	P	**P**	**02 55 20.8**	**+1.8**
GLA				IAmb	IAmb	02 55 24.8	
	comp=Z,9.4nm,0.8s

P18K	**Big Mountain,**	**78.34**	**11**	P	**P**	**02 55 25.0**	**+2.0**
P18K				IAmb	IAmb	02 55 28.2	
	comp=Z,20nm,1.1s						
P18K	**Big Mountain,**	**78.34**	**11**	P	**P**	**02 55 22.7**	**-0.3**
	baz=201						
O17K	**Koliganek Bris**	**78.37**	**10**	P	**P**	**02 55 22.9**	**-0.2**
	baz=199						
TPH	**Tonopah**	**78.44**	**44**	P	**P**	**02 55 25.4**	**+1.1**
TPH	**Tonopah**	**78.44**	**44**	P	**P**	**02 55 25.4**	**+1.1**
TPH				pmax	pmax		
	comp=Z,141nm,1.7s						
COR	**Corvallis**	**78.48**	**36**	IAMs_20	IAMs_20	03 23 13.8	
	comp=Z,2µm,19.0s						
TPNV	**Topopah Spring**	**78.50**	**45**	IAMs_20	IAMs_20	03 22 19.7	
	comp=Z,2µm,20.0s						
NEE2	**Needles Airpor**	**78.51**	**48**	P	**P**	**02 55 26.4**	**+1.9**
NJ2	**Nanjing**	**78.60**	**309**	⇓P	**P**	**02 55 22.8**	**-2.2**
NJ2				S	**S**	**03 05 24.5**	**+5.0**
NJ2				pmax	pmax		
	comp=Z,15nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,200nm,5.5s						
NJ2				LR	LR		
	comp=Z,470nm,18.0s						
NJ2				LR	LR		
	comp=Z,380nm,19.9s						
NJ2				LR	LR		
	comp=Z,790nm,23.9s						
M14K	**Bethel**	**78.60**	**7**	P	**P**	**02 55 26.7**	**+2.4**
M14K				IAmb	IAmb	02 55 30.8	
	comp=Z,21nm,1.1s						
M14K	**Bethel**	**78.60**	**7**	P	**P**	**02 55 23.7**	**-0.6**
	baz=194						
M15K	**Kasigluk River**	**78.71**	**8**	P	**P**	**02 55 24.9**	**0.0**
	baz=196						
N16K	**Nishlik Lake**	**78.77**	**9**	P	**P**	**02 55 25.1**	**-0.2**
	baz=198						
O18K	**Koktuh Hills**	**78.77**	**11**	P	**P**	**02 55 27.3**	**+1.9**
O18K	**Koktuh Hills**	**78.77**	**11**	P	**P**	**02 55 25.3**	**0.0**
	baz=201						
V12A	**Nelson**	**78.83**	**47**	P	**P**	**02 55 27.6**	**+1.3**
V12A				IAmb	IAmb	02 55 31.9	
	comp=Z,26nm,1.8s						
J05D	**Fort Rock, OR**	**78.88**	**38**	P	**P**	**02 55 29.0**	**+2.5**
P19K	**Oil Pt**	**78.96**	**12**	IAMs_20	IAMs_20	03 22 49.7	
	comp=Z,2µm,22.0s						
P19K	**Oil Pt**	**78.96**	**12**	P	**P**	**02 55 26.1**	**-0.3**
	baz=203						
SHPR	**Sheep Range**	**79.02**	**46**	P	**P**	**02 55 29.3**	**+1.9**
N17K	**Nushagak Hills**	**79.07**	**10**	IAMs_20	IAMs_20	03 23 48.2	
	comp=Z,1µm,21.0s						
N17K	**Nushagak Hills**	**79.07**	**10**	P	**P**	**02 55 26.7**	**-0.2**
	baz=199						
L14K	**Kuka Creek**	**79.09**	**7**	P	**P**	**02 55 27.1**	**+0.1**
	baz=194						
H04A	**Detroit Lake**	**79.17**	**36**	P	**P**	**02 55 29.8**	**+1.9**
H04A				IAmb	IAmb	02 55 45.3	
	comp=Z,19nm,1.5s						
W13A	**Hualapai Mount**	**79.20**	**48**	P	**P**	**02 55 30.7**	**+2.1**
W13A				IAmb	IAmb	02 55 34.2	
	comp=Z,28nm,1.9s						
S11A	**Rachel**	**79.20**	**45**	IAmb	IAmb	02 58 26.0	
	comp=Z,9.8nm,0.8s						
CNPM	**China Poot**	**79.26**	**13**	IAMs_20	IAMs_20	03 23 57.6	
	comp=Z,2µm,20.0s						
Y14A	**Wickenburg**	**79.26**	**49**	P	**P**	**02 55 29.8**	**+1.1**
M16K	**Timber Creek**	**79.27**	**9**	P	**P**	**02 55 29.8**	**+1.8**
M16K				IAmb	IAmb	02 55 35.0	
	comp=Z,34nm,1.4s						
M16K				IAMs_20	IAMs_20	03 27 23.3	
	comp=Z,1µm,19.0s						
M16K	**Timber Creek**	**79.27**	**9**	P	**P**	**02 55 28.2**	**+0.2**
	baz=197						
ILSW	**Iliamna Southw**	**79.28**	**12**	IAmb	IAmb	02 55 33.5	
	comp=Z,27nm,1.3s						
HOM	**Homer**	**79.29**	**13**	IAMs_20	IAMs_20	03 23 20.4	
	comp=Z,2µm,21.0s						
HOM	**Homer**	**79.29**	**13**	P	**P**	**02 55 28.1**	**-0.1**
	baz=204						
PINE	**Pine Mountain**	**79.35**	**38**	P	**P**	**02 55 30.6**	**+1.5**
PINE				IAmb	IAmb	02 55 34.9	
	comp=Z,33nm,1.6s						
N18K	**Kilae Creek**	**79.43**	**10**	P	**P**	**02 55 29.0**	**+0.1**
	baz=200						
I05D	**Terrebonne, OR**	**79.44**	**37**	IAmb	IAmb	02 55 46.6	
	comp=Z,41nm,1.9s						
K13K	**Kusilvak Mount**	**79.45**	**6**	IAMs_20	IAMs_20	03 23 58.0	
	comp=Z,2µm,21.0s						
K13K	**Kusilvak Mount**	**79.45**	**6**	P	**P**	**02 55 29.1**	**+0.1**
	baz=192						
O20K	**Slope Mountain**	**79.48**	**12**	P	**P**	**02 55 28.7**	**-0.6**
	baz=203						
BRLK	**Bradley Lake**	**79.55**	**13**	IAMs_20	IAMs_20	03 23 14.9	
	comp=Z,2µm,21.0s						
PRN	**Pahroc Range**	**79.55**	**46**	P	**P**	**02 55 32.4**	**+2.0**
PRN				IAmb	IAmb	02 55 37.1	
	comp=Z,40nm,1.9s						
L15K	**Ungalak Mounta**	**79.56**	**7**	P	**P**	**02 55 28.8**	**-0.7**
	baz=195						
R11B	**Troy Canyon, C**	**79.68**	**45**	P	**P**	**02 55 32.8**	**+1.8**
RED	**Redoubt Volcan**	**79.76**	**12**	P	**P**	**02 55 33.0**	**+2.2**
N19K	**Bonanza Creek**	**79.80**	**11**	P	**P**	**02 55 30.3**	**-0.7**
	baz=202						
L16K	**Owhat River**	**79.85**	**8**	IAMs_20	IAMs_20	03 23 44.8	
	comp=Z,1µm,22.0s						
L16K	**Owhat River**	**79.85**	**8**	P	**P**	**02 55 30.0**	**-1.1**
	baz=197						
M17K	**Holitna River**	**79.86**	**9**	IAMs_20	IAMs_20	03 25 05.0	
	comp=Z,2µm,21.0s						
M17K	**Holitna River**	**79.86**	**9**	P	**P**	**02 55 30.9**	**-0.3**
	baz=199						
H02S1	**DAWSON INLET T**	**79.86**	**25**	T	T	04 23 13.6	
	SNR=4.7						
NLWA	**Neilton Lookou**	**79.92**	**33**	IAMs_20	IAMs_20	03 23 14.8	
	comp=Z,2µm,20.0s						
WVOR	**Wild Horse Val**	**79.94**	**40**	P	**P**	**02 55 34.1**	**+1.8**
WVOR	**Wild Horse Val**	**79.94**	**40**	P	**P**	**02 55 34.1**	**+1.8**
WVOR				pmax	pmax		
	comp=Z,14nm,1.5s						
DL2	**Dalian**	**80.06**	**316**	P	**P**	**02 55 35.0**	**+2.2**
DL2				S	**SKSac**	**03 05 46.5**	**-1.1**
DL2				pmax	pmax		
	comp=Z,40nm,1.4s						
DL2				pmax	pmax		
	comp=Z,170nm,7.4s						
DL2				LR	LR		
	comp=Z,1µm,17.9s						
DL2				LR	LR		
	comp=Z,330nm,16.2s						
DL2				LR	LR		
	comp=Z,920nm,18.7s						
TUC	**Tucson**	**80.13**	**52**	P	**P**	**02 55 35.8**	**+2.3**
TUC	**Tucson**	**80.13**	**52**	IAMs_20	IAMs_20	03 22 52.4	
	comp=Z,2µm,20.0s						
TUC	**Tucson**	**80.13**	**52**	P	**P**	**02 55 35.8**	**+2.3**
TUC				pmax	pmax		
	comp=Z,20nm,1.6s						
K15K	**Wolf Creek Mou**	**80.15**	**7**	P	**P**	**02 55 32.2**	**-0.5**
	baz=195						
SEW	**Seward**	**80.17**	**14**	IAMs_20	IAMs_20	03 22 55.8	
	comp=Z,1µm,22.0s						
SEW	**Seward**	**80.17**	**14**	P	**P**	**02 55 32.3**	**-0.6**
	baz=206						
M18K	**Stony River**	**80.20**	**10**	P	**P**	**02 55 32.2**	**-0.8**
	baz=200						
KLR	**Kul'dur**	**80.23**	**329**	LR	LR	03 26 25.8	
	comp=Z,360nm,20.8s,baz=46,slow=32						
Q23K	**Middleton Isla**	**80.31**	**15**	P	**P**	**02 55 33.2**	**-0.4**
	baz=209						
CN2	**Changchun**	**80.34**	**322**	P	P	02 55 39.9	+5.7
CN2				pmax	pmax		
	comp=Z,10.0nm,1.5s						
CN2				LR	LR		
	comp=Z,340nm,20.0s						
CN2				LR	LR		
	comp=Z,310nm,20.0s						
CN2				LR	LR		
	comp=Z,340nm,21.0s						
BNX	**BinXian**	**80.34**	**324**	⇓P	**P**	**02 55 34.0**	**-0.2**
BNX				PcP	**PcP**	**02 55 40.8**	**-0.4**
BNX				S	**SKSac**	**03 05 48.4**	**-0.9**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BNX				pmax	pmax		
	comp=Z,51nm,2.8s						
BNX				LR	LR		
	comp=Z,1µm,22.8s						
BNX				LR	LR		
	comp=Z,3µm,24.9s						
BNX				LR	LR		
	comp=Z,400nm,19.0s						
J14K	**Nanvaranak Lak**	**80.37**	**6**	IAMs_20	IAMs_20	03 25 19.1	
	comp=Z,2µm,21.0s						
J14K	**Nanvaranak Lak**	**80.37**	**6**	P	**P**	**02 55 33.4**	**-0.4**
	baz=193						
SLKM	**Skilak Lake**	**80.37**	**13**	P	**P**	**02 55 37.2**	**+3.1**
SLKM				IAmb	IAmb	02 55 39.5	
	comp=Z,32nm,1.3s						
SLKM				IAMs_20	IAMs_20	03 23 41.0	
	comp=Z,1µm,21.0s						
L17K	**Donlin**	**80.42**	**9**	P	**P**	**02 55 34.1**	**-0.1**
	baz=198						
O22K	**Cooper Landing**	**80.45**	**13**	IAMs_20	IAMs_20	03 24 44.2	
	comp=Z,1µm,20.0s						
QIZ	**Qiongzhong**	**80.47**	**293**	P	**P**	**02 55 34.8**	**-0.7**
QIZ				S	**S**	**03 05 34.8**	**-5.1**
QIZ				SS	**SS**	**03 10 57.4**	**+4.6**
QIZ				pmax	pmax		
	comp=Z,14nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,360nm,7.8s						
QIZ				LR	LR		
	comp=Z,330nm,28.6s						
QIZ				LR	LR		
	comp=Z,490nm,28.0s						
QIZ				LR	LR		
	comp=Z,2µm,24.5s						
J08A	**Circle Bar Ran**	**80.56**	**39**	P	**P**	**02 55 37.6**	**+2.0**
X16A	**Lo Mia Camp, P**	**80.63**	**50**	P	**P**	**02 55 36.6**	**+0.4**
L18K	**Granite Mounta**	**80.75**	**9**	P	**P**	**02 55 37.4**	**+1.4**
L18K				IAMs_20	IAMs_20	03 25 52.6	
	comp=Z,2µm,21.0s						
L18K	**Granite Mounta**	**80.75**	**9**	P	**P**	**02 55 35.9**	**-0.1**
	baz=199						
D05A	**Enumclaw**	**80.80**	**34**	P	**P**	**02 55 38.4**	**+1.8**
GAMB	**Gambell**	**80.81**	**2**	IAMs_20	IAMs_20	03 24 17.4	
	comp=Z,2µm,22.0s						
GAMB	**Gambell**	**80.81**	**2**	P	**P**	**02 55 35.9**	**-0.3**
	baz=185						
SPR3	**Spring Creek 3**	**80.86**	**44**	P	**P**	**02 55 38.9**	**+1.4**
MA2	**Magadan**	**80.89**	**344**	LR	LR	03 28 15.7	
	comp=Z,571nm,19.3s,baz=152,slow=33						
KNB	**Kanab**	**80.89**	**47**	P	**P**	**02 55 39.0**	**+1.4**
KNB				IAmb	IAmb	02 55 44.5	
	comp=Z,30nm,1.8s						
KNB	**Kanab**	**80.89**	**47**	P	**P**	**02 55 39.0**	**+1.4**
KNB				pmax	pmax		
	comp=Z,30nm,1.8s						
PSUT	**Pine Spring**	**80.94**	**45**	P	**P**	**02 55 39.9**	**+2.1**
FIS	**Fire Island**	**80.94**	**13**	IAMs_20	IAMs_20	03 23 17.1	
	comp=Z,2µm,22.0s						
K17K	**Iditarod**	**80.98**	**9**	P	**P**	**02 55 38.5**	**+1.3**
K17K				IAmb	IAmb	02 55 44.1	
K17K	comp=Z,27nm,1.4s			IAMs_20	IAMs_20	03 26 12.6	
	comp=Z,1µm,20.0s						
K17K	**Iditarod**	**80.98**	**9**	P	**P**	**02 55 36.6**	**-0.6**
	baz=198						
U15A	**North Rim**	**80.98**	**48**	P	**P**	**02 55 38.6**	**+0.4**
RC01	**Rabbit Creek A**	**81.00**	**13**	P	**P**	**02 55 36.8**	**-0.5**
	baz=206						
BBB	**Bella Bella**	**81.01**	**28**	LR	LR	03 23 16.0	
	comp=Z,1µm,21.3s,baz=238,slow=30						
L19K	**White Mountain**	**81.01**	**10**	IAMs_20	IAMs_20	03 28 10.7	
	comp=Z,1µm,19.0s						
L19K	**White Mountain**	**81.01**	**10**	P	**P**	**02 55 37.5**	**+0.1**
	baz=201						
M20K	**Styx River**	**81.04**	**11**	IAMs_20	IAMs_20	03 23 32.5	
	comp=Z,2µm,22.0s						
PWL	**Port Wells**	**81.10**	**14**	IAMs_20	IAMs_20	03 23 24.3	
	comp=Z,2µm,22.0s						
PWL	**Port Wells**	**81.10**	**14**	P	**P**	**02 55 37.4**	**-0.5**
	baz=207						
ELK	**Elko**	**81.16**	**43**	P	**P**	**02 55 40.8**	**+1.8**
ELK	**Elko**	**81.16**	**43**	LR	LR	03 27 14.0	
	comp=Z,575nm,18.1s,baz=248,slow=32						
ELK	**Elko**	**81.16**	**43**	P	**P**	**02 55 40.8**	**+1.8**
ELK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
WUAZ	**Wupatki**	**81.20**	**49**	P	**P**	**02 55 41.9**	**+2.7**
WUAZ				IAMs_20	IAMs_20	03 22 35.4	
	comp=Z,2µm,22.0s						
J16K	**Anvik River**	**81.22**	**7**	P	**P**	**02 55 40.3**	**+1.9**
J16K				IAmb	IAmb	02 55 45.4	
	comp=Z,23nm,1.1s						
J16K	**Anvik River**	**81.22**	**7**	P	**P**	**02 55 38.3**	**-0.2**
	baz=196						
CRAG	**Craig**	**81.29**	**23**	P	**P**	**02 55 38.1**	**-0.9**
	baz=222						
SMAI	**San Martin Ant**	**81.32**	**159**	P	**P**	**02 55 41.0**	**+2.0**
SMAI				IAmb	IAmb	02 55 50.8	
	comp=Z,19nm,1.1s						
MXC	**Moxie City**	**81.36**	**36**	P	**P**	**02 55 41.4**	**+1.8**
G08A	**Pilot Rock**	**81.37**	**37**	P	**P**	**02 55 40.5**	**+0.6**
G08A				IAmb	IAmb	02 55 45.3	
	comp=Z,16nm,1.4s						
GLI	**Glacier Island**	**81.40**	**14**	IAMs_20	IAMs_20	03 23 32.4	
	comp=Z,2µm,22.0s						
GLI	**Glacier Island**	**81.40**	**14**	P	**P**	**02 55 39.8**	**+0.3**
	baz=209						
SKT	**Skwentna**	**81.44**	**12**	IAMs_20	IAMs_20	03 24 51.0	
	comp=Z,1µm,20.0s						
SKT	**Skwentna**	**81.44**	**12**	P	**P**	**02 55 38.9**	**-0.8**
	baz=204						
FID	**Port Fidalgo**	**81.44**	**15**	IAMs_20	IAMs_20	03 24 54.1	
	comp=Z,2µm,20.0s						
EYAK	**Cordova Ski Ar**	**81.44**	**15**	P	**P**	**02 55 39.5**	**-0.1**
	baz=210						
L20K	**Farewell, AK**	**81.46**	**11**	P	**P**	**02 55 39.6**	**-0.2**
	baz=202						
M22K	**Willow**	**81.51**	**13**	P	**P**	**02 55 39.9**	**-0.1**
	baz=206						
J17K	**VABM Dome**	**81.52**	**8**	P	**P**	**02 55 41.8**	**+1.8**
J17K				IAmb	IAmb	02 55 49.7	
	comp=Z,32nm,1.6s						
J17K				IAMs_20	IAMs_20	03 28 54.9	
	comp=Z,1µm,20.0s						
J17K	**VABM Dome**	**81.52**	**8**	P	**P**	**02 55 39.8**	**-0.3**
	baz=197						
KNK	**Knik Glacier**	**81.56**	**13**	IAMs_20	IAMs_20	03 25 05.6	
	comp=Z,1µm,21.0s						
HAWA	**Hanford**	**81.68**	**36**	P	**P**	**02 55 43.8**	**+2.5**
HAWA				IAMs_20	IAMs_20	03 25 06.6	
	comp=Z,2µm,20.0s						
V35K	**Ketchikan**	**81.77**	**24**	IAMs_20	IAMs_20	03 23 29.3	
	comp=Z,1µm,21.0s						
TIA	**Tal'an**	**81.83**	**312**	P	P	02 55 47.8	+5.5
TIA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
TIA				LR	LR		
	comp=Z,350nm,17.3s						
TIA				LR	LR		
	comp=Z,380nm,21.8s						
TIA				LR	LR		
	comp=Z,590nm,20.0s						
J18K	**Innoko River**	**81.92**	**9**	P	**P**	**02 55 43.7**	**+1.5**
J18K				IAmb	IAmb	02 55 57.3	
	comp=Z,12nm,1.1s						
J18K				IAMs_20	IAMs_20	03 29 12.6	
	comp=Z,1µm,19.0s						
J18K	**Innoko River**	**81.92**	**9**	P	**P**	**02 55 42.3**	**+0.1**
	baz=199						
DIV	**Divide**	**81.94**	**15**	IAMs_20	IAMs_20	03 23 45.6	
	comp=Z,2µm,22.0s						
ANM	**Nome**	**81.98**	**5**	IAMs_20	IAMs_20	03 26 29.6	
	comp=Z,2µm,20.0s						
BMRM	**Bremner River**	**82.09**	**15**	IAMs_20	IAMs_20	03 24 30.6	
	comp=Z,2µm,21.0s						
BMO	**Blue Mountains**	**82.09**	**38**	IAmb	IAmb	02 55 48.9	
	comp=Z,25nm,1.8s						
BMO				IAMs_20	IAMs_20	03 26 34.8	
	comp=Z,2µm,19.0s						
PPLA	**Purkeypile**	**82.15**	**11**	IAMs_20	IAMs_20	03 24 40.8	
	comp=Z,2µm,22.0s						
SCM	**Sheep Creek Mo**	**82.19**	**14**	IAMs_20	IAMs_20	03 24 20.2	
	comp=Z,1µm,21.0s						
SCM	**Sheep Creek Mo**	**82.19**	**14**	P	**P**	**02 55 43.2**	**-0.6**
	baz=208						
MFID	**Camas Ranch**	**82.20**	**40**	P	**P**	**02 55 45.4**	**+1.1**
MFID				IAMs_20	IAMs_20	03 24 01.0	
	comp=Z,1µm,22.0s						
KLU	**Klutina**	**82.22**	**14**	IAMs_20	IAMs_20	03 23 44.0	
	comp=Z,2µm,22.0s						
KLU	**Klutina**	**82.22**	**14**	P	**P**	**02 55 43.3**	**-0.6**
	baz=210						
K20K	**Telida**	**82.24**	**10**	P	**P**	**02 55 43.6**	**-0.3**
	baz=202						
S32K	**Killisnoo**	**82.26**	**22**	P	**P**	**02 55 43.0**	**-1.1**
	baz=220						
H16K	**Elim**	**82.35**	**6**	P	**P**	**02 55 45.3**	**+1.0**
	baz=194						
D08A	**Wollman Farm,**	**82.41**	**36**	P	**P**	**02 55 47.4**	**+2.3**
D08A				IAmb	IAmb	02 55 50.6	
	comp=Z,26nm,1.6s						
G15K	**Niukluk**	**82.52**	**5**	P	**P**	**02 55 45.5**	**+0.3**
	baz=192						
J19K	**Poorman**	**82.59**	**9**	IAMs_20	IAMs_20	03 29 33.2	
	comp=Z,1µm,19.0s						
J19K	**Poorman**	**82.59**	**9**	P	**P**	**02 55 45.6**	**0.0**
	baz=200						
VRDI	**Verde Repeater**	**82.60**	**16**	IAMs_20	IAMs_20	03 25 07.3	
	comp=Z,1µm,20.0s						
N25K	**Chitina, Valde**	**82.64**	**15**	IAMs_20	IAMs_20	03 25 01.2	
	comp=Z,2µm,21.0s						
N25K	**Chitina, Valde**	**82.64**	**15**	P	**P**	**02 55 45.8**	**-0.3**
	baz=211						
BELA	**Belgrano 2**	**82.69**	**173**	P	**P**	**02 55 46.5**	**+0.3**
BELA				IAmb	IAmb	02 55 52.7	
	comp=Z,11nm,1.0s						
GLB	**Gilahina Butte**	**82.69**	**15**	IAMs_20	IAMs_20	03 25 11.7	
	comp=Z,1µm,20.0s						
M24K	**Tolsona, Glenn**	**82.69**	**14**	IAMs_20	IAMs_20	03 24 12.6	
	comp=Z,2µm,22.0s						
M24K	**Tolsona, Glenn**	**82.69**	**14**	P	**P**	**02 55 46.2**	**-0.1**
	baz=209						
TNA	**Tin City**	**82.78**	**4**	P	**P**	**02 55 46.3**	**-0.2**
	baz=188						
F14K	**Arctic Creek**	**82.80**	**4**	P	**P**	**02 55 46.9**	**+0.2**
	baz=190						
U35K	**Hyder**	**82.82**	**24**	IAMs_20	IAMs_20	03 23 15.1	
	comp=Z,2µm,22.0s						
MCARA	**McCarthy VSAT**	**82.84**	**16**	IAMs_20	IAMs_20	03 25 24.7	
	comp=Z,1µm,20.0s						
MCARA	**McCarthy VSAT**	**82.84**	**16**	P	**P**	**02 55 46.6**	**-0.4**
	baz=212						
R32K	**Eaglecrest**	**82.90**	**21**	P	**P**	**02 55 46.7**	**-0.7**
	baz=220						
H17K	**Granite Mounta**	**82.90**	**7**	P	**P**	**02 55 48.2**	**+0.9**
	baz=196						
P29M	**Windy Craggy**	**82.90**	**19**	P	**P**	**02 55 46.6**	**-0.9**
	baz=217						
BARN	**Barnard Glacie**	**82.93**	**16**	IAMs_20	IAMs_20	03 24 45.1	
	comp=Z,2µm,21.0s						
CTG	**Chitna Glacier**	**82.94**	**17**	P	**P**	**02 55 46.5**	**-1.2**
	baz=214						
CTGM	**Chitina Glacie**	**82.94**	**17**	IAMs_20	IAMs_20	03 24 35.4	
	comp=Z,2µm,21.0s						
KTH	**Kantishna Hill**	**82.99**	**11**	IAMs_20	IAMs_20	03 27 22.0	
	comp=Z,1µm,20.0s						
J20K	**Nowinta River**	**82.99**	**10**	P	**P**	**02 55 48.9**	**+1.1**
J20K				IAmb	IAmb	02 56 04.6	
	comp=Z,12nm,1.1s						
J20K				IAMs_20	IAMs_20	03 27 01.0	
	comp=Z,1µm,20.0s						
J20K	**Nowinta River**	**82.99**	**10**	P	**P**	**02 55 47.9**	**+0.2**
	baz=202,SNR=5.2						
PLID	**Pearl Lake**	**83.00**	**39**	P	**P**	**02 55 49.5**	**+0.9**
PLID				IAmb	IAmb	02 55 55.4	
	comp=Z,18nm,1.7s						
PLID				IAMs_20	IAMs_20	03 24 47.8	
	comp=Z,2µm,21.0s						
TRF	**Thorofare Moun**	**83.01**	**12**	P	**P**	**02 55 49.4**	**+1.3**
TRF				IAmb	IAmb	02 56 02.3	
	comp=Z,13nm,1.1s						
TRF	**Thorofare Moun**	**83.01**	**12**	P	**P**	**02 55 47.5**	**-0.6**
	baz=205						
CHUM	**Lake Minchumin**	**83.03**	**11**	P	**P**	**02 55 46.4**	**-1.5**
	baz=204						
HEH	**HeiHe**	**83.06**	**328**	*e*P	P	02 55 54.3	+5.9
HEH				sP	pwP	02 56 00.8	-1.1
HEH				SS	SS	03 11 36.6	+6.4
HEH				pmax	pmax		
	comp=Z,7.0nm,1.4s						
HEH				LR	LR		
	comp=Z,500nm,23.7s						
HEH				LR	LR		
	comp=Z,700nm,22.8s						
HEH				LR	LR		
	comp=Z,1µm,21.7s						
G16K	**Koyuk River**	**83.07**	**6**	IAMs_20	IAMs_20	03 26 21.6	
	comp=Z,2µm,21.0s						
O28M	**Mount Upton**	**83.10**	**17**	P	**P**	**02 55 47.6**	**-1.1**
	baz=215						
GCSA	**Galena City Sc**	**83.11**	**9**	P	**P**	**02 55 48.3**	**0.0**
	baz=199						
EPT	**El Paso**	**83.16**	**54**	IAMs_20	IAMs_20	03 25 38.6	
	comp=Z,1µm,20.0s						
F15K	**North Star Dit**	**83.17**	**5**	IAMs_20	IAMs_20	03 28 08.0	
	comp=Z,2µm,20.0s						
F15K	**North Star Dit**	**83.17**	**5**	P	**P**	**02 55 48.5**	**-0.1**
	baz=192						
O29M	**Mount Kennedy**	**83.19**	**18**	P	**P**	**02 55 48.0**	**-1.0**
	baz=217						
PLBC	**Pleasant Camp**	**83.20**	**20**	P	**P**	**02 55 48.6**	**-0.3**
	baz=219						
H18K	**Honhosa River**	**83.30**	**8**	P	**P**	**02 55 51.6**	**+2.2**
H18K				IAmb	IAmb	02 56 18.4	
	comp=Z,20nm,1.4s						
H18K	**Honhosa River**	**83.30**	**8**	P	**P**	**02 55 48.9**	**-0.5**
	baz=198						
G17K	**Kiwalik Mounta**	**83.36**	**7**	P	**P**	**02 55 49.5**	**-0.1**
	baz=196						
SEY	**Seymchan**	**83.41**	**346**	LR	LR	03 26 58.8	
	comp=Z,989nm,22.0s,baz=147,slow=31						
SEY	**Seymchan**	**83.41**	**346**	*i* P	**P**	**02 55 49.3**	**-0.6**
SEY				*i* *PP	**PcP**	**02 55 52.1**	**-2.1**
SEY				pmax	pmax		
	comp=Z,11nm,1.2s						
BPAW	**Bear Paw Mtn.**	**83.47**	**11**	P	**P**	**02 55 49.9**	**-0.3**
	baz=205						
SRU	**San Rafael Swe**	**83.49**	**46**	IAmb	IAmb	02 56 02.5	
	comp=Z,16nm,1.3s						
I20K	**Naaghedeneel**	**83.52**	**9**	IAMs_20	IAMs_20	03 30 19.8	
	comp=Z,1µm,19.0s						
P30M	**Million Dollar**	**83.53**	**19**	P	**P**	**02 55 50.7**	**0.0**
	baz=218						
SKAG	**Skagway**	**83.53**	**20**	P	**P**	**02 55 50.6**	**0.0**
	baz=220						
MCK	**McKinley**	**83.54**	**12**	P	**P**	**02 55 50.9**	**+0.3**
	baz=207						
PAX	**Paxson**	**83.61**	**14**	IAMs_20	IAMs_20	03 26 28.7	
	comp=Z,2µm,20.0s						
PAX	**Paxson**	**83.61**	**14**	P	**P**	**02 55 51.4**	**+0.3**
	baz=210						
YUK8	**Steele Glacier**	**83.64**	**17**	P	**P**	**02 55 50.1**	**-1.4**
	baz=215						
M26K	**Nabesna, AK**	**83.71**	**15**	IAmb	IAmb	02 55 57.5	
	comp=Z,14nm,1.1s						
M26K				IAMs_20	IAMs_20	03 25 36.6	
	comp=Z,2µm,21.

HNS pmax pmax
comp=Z,14nm,0.9s
HNS LR LR
comp=Z,270nm,19.2s
HNS LR LR
comp=Z,560nm,17.4s
HNS LR LR
comp=Z,540nm,18.9s
H20K Anotleneega Mo 84.11 9 P **P** **02 55 53.5 +0.1**
baz=201,SNR=6.2
L26K Log Cabin Wild 84.16 15 IAmb IAmb 02 55 59.7
comp=Z,9.5nm,1.1s
P32M Atlin 84.17 20 P **P** **02 55 54.0 +0.1**
baz=221
PV10 Paradox Valley 84.18 47 IAmb IAmb 02 56 08.8
comp=Z,15nm,1.0s
Q32M Nakina River 84.19 21 P **P** **02 55 53.8 -0.5**
baz=222
PV17 East Wray Mesa 84.19 47 IAmb IAmb 02 56 04.6
comp=Z,15nm,1.3s
F17K Baldwin Pennin 84.20 6 IAMs_20 IAMs_20 03 27 06.6
comp=Z,2µm,22.0s
F17K Baldwin Pennin 84.20 6 P **P** **02 55 54.8 +1.0**
baz=195
PV18 Skein Mesa, Pa 84.21 47 P **P** **02 55 55.5 +0.6**
PV18 IAmb IAmb 02 56 11.9
comp=Z,18nm,1.1s
PV13 Radium Mtn., P 84.23 47 IAmb IAmb 02 56 12.2
comp=Z,16nm,1.3s
PV03 Paradox Valley 84.26 47 IAmb IAmb 02 56 05.5
comp=Z,17nm,1.4s
K24K Donnelly Dome 84.26 13 P **P** **02 55 55.8 +1.5**
K24K IAMs_20 IAMs_20 03 28 08.0
comp=Z,1µm,20.0s
K24K Donnelly Dome 84.26 13 P **P** **02 55 54.7 +0.4**
baz=210
NEA2 Nenana 84.28 12 P **P** **02 55 55.0 +0.7**
baz=206
PV04 Paradox Valley 84.28 47 IAmb IAmb 02 56 09.0
comp=Z,11nm,1.0s
I21K Tanana 84.28 10 P **P** **02 55 56.1 +1.8**
I21K Tanana 84.28 10 P **P** **02 55 54.7 +0.4**
baz=204,SNR=5.3
PV21 Cone Mtn., Par 84.31 47 IAmb IAmb 02 56 01.0
comp=Z,20nm,1.4s
O30N Mendenhall 84.31 19 P **P** **02 55 54.4 -0.2**
baz=219
MLY Manley 84.36 11 P **P** **02 55 56.2 +1.3**
MLY IAmb IAmb 02 55 59.8
comp=Z,11nm,1.2s
MLY IAMs_20 IAMs_20 03 30 24.3
comp=Z,1µm,20.0s
MLY Manley 84.36 11 P **P** **02 55 54.8 0.0**
baz=205,SNR=5.8
WRH Wood River Hil 84.36 12 P **P** **02 55 56.1 +1.3**
TX31 Lajitas Ar. Si 84.41 57 IAmb IAmb 02 56 07.6
comp=Z,15nm,1.5s
TXAR Lajitas Array 84.41 57 **P** **02 55 57.6 +1.6**
TXAR Lajitas Array 84.41 57 P **P** **02 55 57.4 +1.4**
comp=Z,0.8nm,1.1s,baz=244,slow=4.7,SNR=7.7
TXAR LR LR 03 27 33.3
comp=Z,443nm,18.1s,baz=242,slow=31
comp=Z,0.8nm,1.1s
TXAR Lajitas Array 84.41 57 P **P** **02 55 57.6 +1.6**
G19K Purcell Mounta 84.41 8 P **P** **02 55 55.2 +0.2**
baz=199,SNR=5.4
RIDG Independent Ri 84.42 14 IAMs_20 IAMs_20 03 26 01.1
comp=Z,2µm,21.0s
RIDG Independent Ri 84.42 14 P **P** **02 55 55.4 +0.2**
baz=210
PV22 Blue Mesa, Par 84.43 47 P **P** **02 55 57.7 +1.7**
PV22 IAmb IAmb 02 56 21.1
comp=Z,18nm,1.6s
PV07 Paradox Valley 84.48 47 P **P** **02 55 58.4 +2.1**
PV07 IAmb IAmb 02 56 13.2
comp=Z,12nm,1.3s
DOT Dot Lake 84.52 14 IAmb IAmb 02 56 01.2
comp=Z,10nm,1.1s
DOT IAMs_20 IAMs_20 03 25 41.8
comp=Z,2µm,22.0s
ANMO Albuquerque 84.54 51 P **P** **02 55 58.0 +1.4**
ANMO IAmb IAmb 02 56 02.2
comp=Z,26nm,1.8s
ANMO Albuquerque 84.54 51 IAMs_20 IAMs_20 03 26 53.9
comp=Z,1µm,18.0s
ANMO Albuquerque 84.54 51 LR LR 03 28 10.3
comp=Z,2µm,18.2s,baz=334,slow=32
ANMO Albuquerque 84.54 51⇑ *i*P **P** **02 55 58.2 +1.6**
ANMO pmax pmax
comp=Z,16nm,1.8s
HDA Harding Lake 84.54 13 P **P** **02 55 57.3 +1.6**
HDA IAMs_20 IAMs_20 03 25 42.3
comp=Z,1µm,21.0s
HDA Harding Lake 84.54 13 P **P** **02 55 56.4 +0.7**
baz=208
PV15 Paradox Valley 84.56 47 P **P** **02 55 58.0 +1.3**
PV15 IAmb IAmb 02 56 26.7
comp=Z,18nm,1.5s
L27K Beaver Creek, 84.56 15 P **P** **02 55 58.6 +2.8**
L27K IAmb IAmb 02 56 01.1
comp=Z,19nm,1.6s
L27K IAMs_20 IAMs_20 03 26 34.1
comp=Z,2µm,20.0s
L27K Beaver Creek, 84.56 15 P **P** **02 55 56.0 +0.1**
baz=213
BCAR Beaver Creek A 84.58 15 P **P** **02 55 57.4 +1.4**
CCB Clear Creek Bu 84.58 12 IAmb IAmb 02 56 04.5
comp=Z,12nm,0.8s
H21K Melozitna Rive 84.59 10 P **P** **02 55 56.0 +0.1**
baz=203
WHY Whitehorse 84.60 19 P **P** **02 55 56.2 0.0**
baz=220
DLBC Dease Lake 84.62 23 LR LR 03 25 40.8
comp=Z,284nm,21.5s,baz=214,slow=30
DLBC Dease Lake 84.62 23 P **P** **02 55 55.8 -0.5**
baz=224
I23K Minto, Yukon-K 84.72 11 IAMs_20 IAMs_20 03 26 55.9
comp=Z,2µm,21.0s
I23K Minto, Yukon-K 84.72 11 P **P** **02 55 56.7 +0.2**
baz=206,SNR=9.9
IMAR Indian Mountai 84.74 9 P **P** **02 55 58.2 +1.6**
E17K Hotham Inlet 84.77 6 P **P** **02 55 56.5 -0.2**
baz=194
COLA College 84.77 12⇓ *i*P **P** **02 55 55.4 -1.4**
COLA pmax pmax
comp=Z,5.0nm,0.8s
SCRK Sand Creek 84.82 14 P **P** **02 55 59.1 +1.8**
SCRK IAmb IAmb 02 56 02.3
comp=Z,14nm,1.3s
SCRK IAMs_20 IAMs_20 03 26 01.6
comp=Z,2µm,22.0s
SCRK Sand Creek 84.82 14 P **P** **02 55 57.6 +0.4**
baz=211,SNR=6.1
ALPN Alpine 84.84 56 IAmb IAmb 02 56 04.1
comp=Z,10nm,1.3s
ILAR Eielson Array 84.88 12 P **P** **02 55 58.7 +1.3**
ILAR Eielson Array 84.88 12 P **P** **02 55 56.6 -0.7**
comp=Z,1.2nm,0.7s,baz=211,slow=5.8,SNR=15
ILAR LR LR 03 26 26.4
comp=Z,1µm,22.0s,baz=210,slow=30
ILAR Eielson Array 84.88 12 P **P** **02 55 58.7 +1.3**
P33M Teslin, Yukon 84.93 20 P **P** **02 55 56.6 -1.2**
baz=222
M29M Somme Creek 84.94 17 P **P** **02 55 56.5 -1.4**
baz=216
N31M Braeburn, Yuko 84.96 18 P **P** **02 55 57.1 -0.8**
baz=219
R33M Jennings River 84.97 22 P **P** **02 55 56.5 -1.6**
baz=224
F19K Shaleruckik Mo 84.98 7 P **P** **02 55 57.2 -0.6**
baz=198,SNR=6.4
MAW Mawson 85.01 199 P **P** **02 55 57.6 -0.5**
comp=Z,1.7nm,0.9s,baz=53,slow=5.0,SNR=2.3
MAW LR LR 03 31 13.5
comp=Z,2µm,19.7s,baz=106,slow=34
comp=Z,1.7nm,0.9s
H22K Ishtalitna Cre 85.04 10 P **P** **02 55 56.8 -1.4**
baz=204,SNR=7.3
J25K Salcha River, 85.06 13 P **P** **02 55 59.7 +1.3**
J25K IAmb IAmb 02 56 14.7
comp=Z,11nm,1.0s
J25K Salcha River, 85.06 13 P **P** **02 55 57.7 -0.7**
baz=210,SNR=6.8
MSO Missoula 85.14 38 IAMs_20 IAMs_20 03 27 50.4
comp=Z,2µm,20.0s
DLMT Dillon 85.19 40 IAMs_20 IAMs_20 03 28 31.0
comp=Z,2µm,20.0s

E18K Tukpahlearik C 85.22 6 IAMs_20 IAMs_20 03 28 52.4
comp=Z,2µm,20.0s
E18K Tukpahlearik C 85.22 6 P **P** **02 55 58.0 -1.0**
baz=196
PSI Prapat 85.25 274 LR LR 03 36 49.7
comp=Z,1µm,18.1s,baz=127,slow=38
D17K Noatak River 85.25 5 P **P** **02 55 58.2 -1.0**
baz=193
ZEA Zeya 85.26 330 *e*P **P** **02 56 03.8 +4.3**
ZEA pmax pmax
comp=Z,10.0nm,1.6s
G21K Allakaket 85.27 9 IAMs_20 IAMs_20 03 27 32.1
comp=Z,1µm,21.0s
G21K Allakaket 85.27 9 P **P** **02 55 58.7 -0.6**
baz=202,SNR=8.8
TPAW Teton Pass 85.30 42 P **P** **02 56 01.3 +1.0**
TPAW IAmb IAmb 02 56 06.8
comp=Z,23nm,1.6s
H23K Yukon River 85.30 11 P **P** **02 55 58.9 -0.6**
baz=206
K27K Chicken 85.31 15 IAmb IAmb 02 56 15.5
comp=Z,24nm,1.6s
K27K IAMs_20 IAMs_20 03 25 55.8
comp=Z,2µm,22.0s
K27K Chicken 85.31 15 P **P** **02 56 00.9 +1.3**
baz=213
FXWY Fox Creek 85.32 42 IAmb IAmb 02 56 13.8
comp=Z,16nm,1.4s
J26L Joseph Creek 85.36 14 P **P** **02 56 01.4 +1.4**
J26L IAMs_20 IAMs_20 03 27 33.1
comp=Z,2µm,20.0s
J26L Joseph Creek 85.36 14 P **P** **02 56 00.3 +0.4**
baz=212,SNR=8.8
F20K Avaraart Lake 85.45 8 IAmb IAmb 02 56 05.6
comp=Z,22nm,1.6s
F20K Avaraart Lake 85.45 8 P **P** **02 55 59.6 -0.6**
baz=200
S22A 4UR Ranch, Cre 85.46 48 IAmb IAmb 02 56 27.4
comp=Z,12nm,1.3s
S22A IAMs_20 IAMs_20 03 26 40.3
comp=Z,2µm,20.0s
LRM Limekiln Ridge 85.51 39 P **P** **02 56 03.3 +2.0**
M30M Minto, Yukon 85.52 17 P **P** **02 56 00.6 -0.1**
baz=218
O20A White River Ci 85.53 46 P **P** **02 56 02.9 +1.4**
O20A IAmb IAmb 02 56 06.8
comp=Z,25nm,1.6s
O20A IAMs_20 IAMs_20 03 25 54.8
comp=Z,2µm,21.0s
L29M L29M 85.57 17 P **P** **02 56 00.3 -0.6**
baz=217,SNR=8.3
H24K Noodor Dome 85.62 12 P **P** **02 56 00.5 -0.6**
baz=208
C16K Lisburne Hills 85.64 4 P **P** **02 56 00.9 -0.2**
baz=191
E19K Redstone River 85.64 7 P **P** **02 56 04.0 +2.9**
E19K IAmb IAmb 02 56 17.6
comp=Z,13nm,1.1s
E19K Redstone River 85.64 7 P **P** **02 56 00.4 -0.7**
baz=199
QLMT Earthquake Lak 85.65 40 P **P** **02 56 03.6 +1.7**
PRP Porcupine Dome 85.81 13 IAMs_20 IAMs_20 03 26 32.8
comp=Z,1µm,22.0s
PRP Porcupine Dome 85.81 13 P **P** **02 56 02.0 -0.1**
baz=210,SNR=6.5
PD31 Pinedale Array 85.85 43 P **P** **02 56 05.7 +2.7**
PDAR Pinedale Array 85.85 43 P **P** **02 56 04.8 +1.8**
PDAR Pinedale Array 85.85 43 P **P** **02 56 05.2 +2.2**
comp=Z,0.4nm,0.6s,baz=241,slow=1.5,SNR=9.9
PDAR LR LR 03 27 19.6
comp=Z,428nm,20.8s,baz=231,slow=31
comp=Z,0.4nm,0.6s
BILL Bilibino 85.87 354 IAMs_20 IAMs_20 03 36 00.6
comp=Z,1µm,21.0s
BILL Bilibino 85.87 354 *i*P **P** **02 56 01.3 -0.9**
BILL pmax pmax
comp=Z,4.0nm,0.9s
BOZ Bozeman (W) 85.90 40 IAmb IAmb 02 56 08.8
comp=Z,29nm,1.8s
BOZ IAMs_20 IAMs_20 03 27 45.7
comp=Z,2µm,20.0s
F21K Alatna River 85.93 9 IAmb IAmb 02 56 08.5
comp=Z,22nm,1.6s
F21K IAMs_20 IAMs_20 03 28 34.5
comp=Z,2µm,21.0s
F21K Alatna River 85.93 9 P **P** **02 56 02.2 -0.4**
baz=202
M31M Drury Creek, Y 85.94 19 P **P** **02 56 02.2 -0.5**
baz=220
G22K Bettles 85.96 10 P **P** **02 56 02.0 -0.7**
baz=204,SNR=8.5
C17K DeLong Mountai 86.00 5 P **P** **02 56 03.9 +1.0**
baz=193
DAWY Dawson 86.01 16 P **P** **02 56 02.6 -0.5**
baz=216,SNR=6.2
G23K Bananza Creek 86.02 10 P **P** **02 56 03.5 +0.4**
baz=206
I26K Coal Creek Min 86.14 14 IAmb IAmb 02 56 09.7
comp=Z,25nm,1.4s
I26K Coal Creek Min 86.14 14 P **P** **02 56 03.9 +0.3**
baz=212
EGAK Eagle 86.16 15 IAMs_20 IAMs_20 03 26 32.4
comp=Z,2µm,22.0s
K29M Barlow Dome 86.32 16 IAMs_20 IAMs_20 03 29 13.8
comp=Z,2µm,20.0s
K29M Barlow Dome 86.32 16 P **P** **02 56 05.5 +0.7**
baz=217,SNR=5.9
F22K John River 86.39 9 P **P** **02 56 04.3 -0.6**
baz=204
H25L Birch Creek 86.40 12 P **P** **02 56 04.4 -0.4**
baz=210
SDCO Great Sand Dun 86.42 49 IAMs_20 IAMs_20 03 29 55.6
comp=Z,1µm,19.0s
COLD Coldfoot 86.45 10 IAMs_20 IAMs_20 03 31 33.5
comp=Z,1µm,20.0s
COLD Coldfoot 86.45 10 P **P** **02 56 04.6 -0.5**
baz=205
G24K Hadweenzic Riv 86.47 11 IAMs_20 IAMs_20 03 27 59.9
comp=Z,2µm,22.0s
G24K Hadweenzic Riv 86.47 11 P **P** **02 56 04.7 -0.5**
baz=208
D19K Kuna River 86.52 7 IAMs_20 IAMs_20 03 27 48.0
comp=Z,2µm,22.0s
D19K Kuna River 86.52 7 P **P** **02 56 05.8 +0.3**
baz=198
E20K Nigu River 86.53 8 P **P** **02 56 05.0 -0.6**
baz=200
J29N Klondike Camp 86.63 16 IAMs_20 IAMs_20 03 27 15.8
comp=Z,2µm,21.0s
I27K Kandik River 86.74 14 P **P** **02 56 05.7 -0.9**
baz=214
FYU Fort Yukon 86.78 12 IAMs_20 IAMs_20 03 27 02.4
comp=Z,2µm,22.0s
G25K Bearman Lake 86.78 12 P **P** **02 56 04.7 -2.0**
baz=209
D20K Etivluk River 86.91 7 IAMs_20 IAMs_20 03 35 13.2
comp=Z,1µm,19.0s
D20K Etivluk River 86.91 7 P **P** **02 56 06.1 -1.3**
baz=199
MSTX Muleshoe 86.92 53 IAMs_20 IAMs_20 03 27 00.2
comp=Z,1µm,20.0s
T25A Trinidad 86.96 50 IAMs_20 IAMs_20 03 25 36.9
comp=Z,1µm,22.0s
XAN Xi'an 86.97 307⇑ P **P** **02 56 07.4 -1.1**
XAN S **S** **03 06 45.1 +0.2**
XAN pmax pmax
comp=Z,9.0nm,1.2s
XAN pmax pmax
comp=Z,220nm,4.2s
XAN LR LR
comp=Z,540nm,21.3s
XAN LR LR
comp=Z,760nm,20.6s
XAN LR LR
comp=Z,1µm,20.6s
E21K Killik River 87.00 8 IAMs_20 IAMs_20 03 32 25.6
comp=Z,1µm,20.0s
H03S2 Juan Fernandez 87.00 124 T T 04 32 10.6
baz=250,slow=75,SNR=6.8
I28M Miner Creek 87.01 15 P **P** **02 56 07.0 -1.0**
baz=215
H03S1 Juan Fernandez 87.02 124 T T 04 32 15.0
baz=250,slow=75,SNR=5.7
H03S3 Juan Fernandez 87.02 124 T T 04 32 13.3
baz=250,slow=75,SNR=5.8
E22K Anaktuvuk Pass 87.02 9 P **P** **02 56 07.4 -0.6**
baz=204
F24K Squaw Lake 87.12 11 P **P** **02 56 07.4 +2.7**

F24K IAMs_20 IAMs_20 03 30 06.1
comp=Z,1µm,21.0s
F24K Squaw Lake 87.12 11 P **P** **02 56 08.1 -0.3**
baz=208
H03N2 Juan Fernandez 87.12 124 T T 04 32 13.5
baz=252
H03N3 Juan Fernandez 87.13 124 T T 04 32 17.5
baz=252
H03N1 Juan Fernandez 87.14 124 T T 04 32 18.2
baz=252
Q24A Divide 87.18 48 IAMs_20 IAMs_20 03 26 32.6
comp=Z,1µm,21.0s
MMPY Sheldon Lake, 87.22 19 IAmb IAmb 02 56 27.1
comp=Z,12nm,1.3s
MMPY Sheldon Lake, 87.22 19 P **P** **02 56 07.7 -1.4**
baz=223
J30M Hart River 87.22 16 IAMs_20 IAMs_20 03 30 11.6
comp=Z,1µm,19.0s
J30M Hart River 87.22 16 P **P** **02 56 08.0 -1.1**
baz=218
H27K Steamboat Moun 87.28 14 IAMs_20 IAMs_20 03 29 03.9
comp=Z,1µm,20.0s
H27K Steamboat Moun 87.28 14 P **P** **02 56 08.9 -0.4**
baz=214
E23K Chandalar 87.30 10 IAMs_20 IAMs_20 03 32 37.9
comp=Z,1µm,20.0s
E23K Chandalar 87.30 10 P **P** **02 56 09.0 -0.4**
baz=206
I29M Ogilvie Camp, 87.34 15 IAMs_20 IAMs_20 03 27 08.4
comp=Z,1µm,22.0s
G26K Porcupine Rive 87.41 12 IAMs_20 IAMs_20 03 27 55.0
comp=Z,2µm,21.0s
G26K Porcupine Rive 87.41 12 P **P** **02 56 10.5 +0.7**
baz=211,SNR=5.5
E24K Your Creek 87.51 10 P **P** **02 56 10.7 +0.4**
baz=207
C21K Knifeblade Rid 87.56 8 P **P** **02 56 11.0 +0.5**
baz=201
D22K Ayikyak River 87.58 9 IAMs_20 IAMs_20 03 31 08.1
comp=Z,1µm,20.0s
D22K Ayikyak River 87.58 9 P **P** **02 56 10.9 +0.2**
baz=203
F25K Christian Rive 87.60 11 P **P** **02 56 11.1 +0.4**
baz=210
CMIG Matias Romero 87.65 71 LR LR 03 26 06.7
comp=Z,1µm,21.5s,baz=254,slow=29
BMAR Burnt Mountain 87.66 12 P **P** **02 56 13.7 +2.6**
I30M Mount Dempster 87.72 16 IAMs_20 IAMs_20 03 28 21.6
comp=Z,1µm,21.0s
I30M Mount Dempster 87.72 16 P **P** **02 56 10.4 -1.1**
baz=218
G27K Doyon Strip 87.74 13 IAMs_20 IAMs_20 03 31 06.9
comp=Z,1µm,20.0s
G27K Doyon Strip 87.74 13 P **P** **02 56 11.0 -0.4**
baz=213
TOLK Toolik Lake Re 87.84 10 IAMs_20 IAMs_20 03 29 26.0
comp=Z,1µm,21.0s
TOLK Toolik Lake Re 87.84 10 P **P** **02 56 12.2 +0.3**
baz=206
D23K Nanushuk River 87.96 9 IAMs_20 IAMs_20 03 30 33.1
comp=Z,2µm,20.0s
F26K Sheenjek River 87.97 12 P **P** **02 56 12.9 +0.4**
baz=211
H29M Whitestone 88.01 15 IAMs_20 IAMs_20 03 27 27.2
comp=Z,2µm,22.0s
H29M Whitestone 88.01 15 P **P** **02 56 11.8 -0.9**
baz=216
B21K Ikpikpuk River 88.01 8 IAMs_20 IAMs_20 03 32 56.4
comp=Z,1µm,19.0s
HNDO Hondo 88.03 58 IAmb IAmb 02 56 25.0
comp=Z,17nm,1.3s
B20K Meade River 88.07 7 IAMs_20 IAMs_20 03 30 57.9
comp=Z,2µm,20.0s
AMTX Amarillo 88.10 53 IAMs_20 IAMs_20 03 28 39.5
comp=Z,1µm,20.0s
EGMT Eagleton 88.20 38 IAMs_20 IAMs_20 03 27 38.4
comp=Z,1µm,22.0s
D24K Happy Valley 88.42 10 IAMs_20 IAMs_20 03 29 55.3
comp=Z,1µm,20.0s
D24K Happy Valley 88.42 10 P **P** **02 56 15.2 +0.7**
baz=207
EPYK Eagle Plains 88.54 15 IAMs_20 IAMs_20 03 27 55.1
comp=Z,2µm,22.0s
EPYK Eagle Plains 88.54 15 P **P** **02 56 12.8 -2.5**
baz=218
G29M Pine Creek 88.65 14 IAMs_20 IAMs_20 03 29 46.1
comp=Z,2µm,20.0s
G29M Pine Creek 88.65 14 P **P** **02 56 15.0 -0.8**
baz=217
H31M Peel River 88.71 16 IAMs_20 IAMs_20 03 29 12.9
comp=Z,1µm,20.0s
H31M Peel River 88.71 16 P **P** **02 56 15.5 -0.5**
baz=220
C23K Itkillik River 88.76 9 IAMs_20 IAMs_20 03 31 41.3
comp=Z,1µm,20.0s
BTO Baotou 88.77 313 *e*P **P** **02 56 21.0 +4.0**
BTO pP **pP** **02 56 25.8 -1.5**
BTO sP **pwP** **02 56 28.1 -2.4**
BTO S **S** **03 07 06.8 +4.9**
BTO sS **pS** **03 07 14.5 -0.5**
BTO pmax pmax
comp=Z,12nm,0.5s
BTO pmax pmax
comp=Z,350nm,8.3s
BTO LR LR
comp=Z,920nm,17.6s
BTO LR LR
comp=Z,1µm,20.4s
BTO LR LR
comp=Z,1µm,19.7s
KMI Kunming 88.78 297 P **P** **02 56 21.4 +3.8**
KMI pmax pmax
comp=Z,11nm,1.5s
KMI LR LR
comp=Z,450nm,20.1s
KMI LR LR
comp=Z,730nm,18.5s
KMI LR LR
comp=Z,1µm,23.0s
F28M Old Crow 88.80 13 IAMs_20 IAMs_20 03 31 19.9
comp=Z,1µm,20.0s
F28M Old Crow 88.80 13 P **P** **02 56 16.5 +0.1**
baz=215
B22K Teshekpuk Lake 88.84 8 IAMs_20 IAMs_20 03 33 40.2
comp=Z,1µm,19.0s
ABTX Abilene, Hawle 88.84 55 IAMs_20 IAMs_20 03 29 49.3
comp=Z,1µm,19.0s
E27K Coleen River 88.91 12 IAMs_20 IAMs_20 03 28 50.6
comp=Z,1µm,21.0s
C24K Franklin Bluff 88.95 9 IAMs_20 IAMs_20 03 30 53.3
comp=Z,1µm,19.0s
C24K Franklin Bluff 88.95 9 P **P** **02 56 16.7 -0.3**
baz=207
D25K Kavik River 88.98 10 IAMs_20 IAMs_20 03 29 03.2
comp=Z,1µm,21.0s
D25K Kavik River 88.98 10 P **P** **02 56 17.2 -0.1**
baz=209
KSCO Kaye Shedlock' 88.99 49 IAMs_20 IAMs_20 03 28 24.8
comp=Z,1µm,21.0s
G30M tAoh Zraii Nji 89.14 15 IAMs_20 IAMs_20 03 29 07.1
comp=Z,2µm,21.0s
G30M tAoh Zraii Nji 89.14 15 P **P** **02 56 17.1 -1.0**
baz=218
YAK Yakutsk 89.45 338 LR LR 03 31 39.3
comp=Z,194nm,20.7s,baz=122,slow=32
G31M Satah River 89.58 15 IAMs_20 IAMs_20 03 28 37.9
comp=Z,1µm,22.0s
G31M Satah River 89.58 15 P **P** **02 56 19.1 -0.9**
baz=220
E28M Babbage River 89.69 13 IAMs_20 IAMs_20 03 28 40.2
comp=Z,1µm,22.0s
E28M Babbage River 89.69 13 P **P** **02 56 20.9 +0.4**
baz=215
C27K Jago River 89.71 11 P **P** **02 56 21.9 +1.3**
baz=211
F30M Barrier River 89.74 15 IAMs_20 IAMs_20 03 29 56.9
comp=Z,2µm,21.0s
E29M Blow River 89.87 13 IAMs_20 IAMs_20 03 32 51.1
comp=Z,1µm,19.0s
D27M Malcolm River 89.92 12 IAMs_20 IAMs_20 03 29 36.2
comp=Z,2µm,21.0s
CMAR Chiang Mai Arr 89.99 289 P **P** **02 56 23.2 +0.1**
CMAR Chiang Mai Arr 89.99 289 P **P** **02 56 22.4 -0.8**
comp=Z,1.0nm,0.3s,baz=118,slow=5.1,SNR=9.0
CMAR LR LR 03 32 50.9
comp=Z,361nm,21.8s,baz=125,slow=33
comp=Z,1.0nm,0.3s
RSSD Black Hills 90.06 43 IAMs_20 IAMs_20 03 30 30.3

	comp=Z,1µm,20.0s								
PZH	PanZhiHua	90.08	298	P	P	02 56 24.3	+0.8		
PZH	comp=Z,10.0nm,0.7s			pmax	pmax				
PZH	comp=Z,120nm,4.8s			pmax	pmax				
F31M	Tsiigehtchic	90.11	15	IAmb	IAmb	02 56 29.1			
F31M	comp=Z,19nm,1.3s			IAMs_20	IAMs_20	03 28 41.9			
SYO	comp=Z,1µm,22.0s Syowa Base	90.16	192⇑	*ep*P	P	02 56 26.2	+3.3		
WMOK	Wichita Mounta	90.27	54	IAMs_20	IAMs_20	03 29 06.9			
PLCA	comp=Z,1µm,20.0s Paso Flores	90.78	133	LR	LR	03 31 50.8			
INK	comp=Z,592nm,18.3s,baz=246,slow=32 Inuvik	90.83	15	LR	LR	03 29 48.9			
OK038	comp=Z,1µm,21.8s,baz=232,slow=31 West end E0370	90.91	52	IAMs_20	IAMs_20	03 29 29.8			
Z35A	comp=Z,2µm,22.0s Perchaven, San	90.97	55	IAMs_20	IAMs_20	03 31 15.6			
CBKS	comp=Z,1µm,19.0s Cedar Bluff	91.01	50	IAMs_20	IAMs_20	03 31 39.2			
TROLL	comp=Z,1µm,19.0s Troll, Antarti	91.02	180	⇑P	P	02 56 26.1	-1.0		
SNAA	comp=Z,42nm,0.2s Sanae	91.27	178	⇑P	P	02 56 27.6	-0.6		
SNAA	comp=Z,54nm,1.0s Sanae	91.27	178	P	P	02 56 30.5	+2.3		
SNAA	comp=Z,12nm,1.5s Sanae	91.27	178	IAmb	IAmb	02 56 47.7			
SNAA	comp=Z,2.9nm,1.0s,baz=171,slow=6.7,SNR=6.3 Sanae	91.27	178	LR	LR	03 35 25.8			
SNAA	comp=Z,634nm,19.1s,baz=171,slow=34 Sanae	91.27	178	*e*P	P	02 56 28.4	+0.2		
VNA3	comp=Z,2.9nm,1.0s Neumayer Olymp	91.36	176	⇑P	P	02 56 27.5	-1.0		
R32A	comp=Z,7.0nm,1.3s Long Quarter,	91.62	50	IAMs_20	IAMs_20	03 30 32.4			
VNA1	comp=Z,8.4nm,0.8s Neumayer--Stat	92.03	176	⇑P	P	02 56 32.1	+0.5		
OK052	comp=Z,1µm,20.0s Battle Ridge R	92.22	53	IAMs_20	IAMs_20	03 31 12.5			
OK051	comp=Z,7.2nm,1.0s E0350 and S346	92.36	53	IAMs_20	IAMs_20	03 32 47.3			
K30B	comp=Z,1µm,19.0s Basset	92.49	46	IAMs_20	IAMs_20	03 30 33.0			
Z38A	comp=Z,1µm,21.0s Mt. Pleasant	92.74	56	IAMs_20	IAMs_20	03 31 52.5			
T35A	comp=Z,1µm,19.0s Sooner Cattle	92.75	52	IAMs_20	IAMs_20	03 30 47.4			
TUL3	comp=Z,2µm,21.0s Leonard	92.97	53	IAMs_20	IAMs_20	03 31 13.3			
BGNE	comp=Z,1µm,20.0s Belgrade	93.06	48	IAMs_20	IAMs_20	03 32 50.4			
YKA	comp=Z,2µm,19.0s Yellowknife Ar	93.09	24	P	P	02 56 38.3	+1.9		
YKA	comp=Z,0.6nm,0.9s,baz=248,slow=3.3,SNR=2.3			LR	LR	03 30 57.7			
SUSD	comp=Z,2µm,21.5s,baz=234,slow=31 comp=Z,0.6nm,0.9s Miller	93.56	45	IAMs_20	IAMs_20	03 33 07.3			
SONM	comp=Z,1µm,20.0s Songino Array	93.95	319	P	P	02 56 40.3	-0.6		
SONM	Songino Array	93.95	319	P	P	02 56 41.0	+0.1		
SONM	comp=Z,0.2nm,0.4s,baz=130,slow=6.4,SNR=5.6			LR	LR	03 34 29.3			
SONM	comp=Z,324nm,22.0s,baz=110,slow=33 Songino Array	93.95	319	*e*P	P	02 56 40.3	-0.6		
U38A	comp=Z,0.2nm,0.4s Gravette	94.21	53	IAMs_20	IAMs_20	03 33 55.2			
MDND	comp=Z,961nm,19.0s Maddock	94.34	41	IAMs_20	IAMs_20	03 35 30.2			
WLAR	comp=Z,1µm,19.0s White Oak Lake	94.36	56	P	P	02 56 44.4	+1.4		
L34A	Svendsen Farm,	94.50	48	IAMs_20	IAMs_20	03 32 30.4			
N35A	comp=Z,1µm,20.0s Tabor	94.67	49	IAMs_20	IAMs_20	03 31 55.0			
JTS	comp=Z,1µm,19.0s Las Juntas de	94.84	81	IAMs_20	IAMs_20	03 28 40.5			
JTS	comp=Z,878nm,18.0s Las Juntas de	94.84	81	LR	LR	03 30 51.4			
545A	comp=Z,666nm,19.5s,baz=246,slow=30 Edgard	95.43	60	IAMs_20	IAMs_20	03 42 24.9			
FFC	comp=Z,1µm,20.0s Flin Flon	95.46	34	IAMs_20	IAMs_20	03 33 23.8			
GTA	comp=Z,1µm,20.0s Gaotai	95.68	309	*e*P	P	02 56 56.0	+6.9		
GTA				sS	sS	03 08 21.6	+0.2		
GTA	comp=Z,2.0nm,0.7s			pmax	pmax				
GTA	comp=Z,280nm,21.1s			LR	LR				
GTA	comp=Z,300nm,20.7s			LR	LR				
GTA	comp=Z,380nm,22.2s			LR	LR				
FCAR	Ozark Folk Cen	95.79	54	IAmb	IAmb	02 56 59.5			
F33A	comp=Z,8.9nm,1.4s 5 Mile Ranch,	95.80	44	IAMs_20	IAMs_20	03 34 45.3			
P38A	comp=Z,1µm,20.0s Dawn	95.82	50	IAMs_20	IAMs_20	03 34 00.7			
TIXI	comp=Z,1µm,20.0s Tiksi	95.83	345	IAMs_20	IAMs_20	03 33 59.8			
TIXI	comp=Z,1µm,22.0s Tiksi	95.83	345	LR	LR	03 36 36.9			
NNA	comp=Z,1µm,20.3s,baz=143,slow=33 Nana	95.91	104	LR	LR	03 30 21.3			
ATAH	comp=Z,542nm,20.4s,baz=245,slow=29 Atahualpa	95.98	99	LR	LR	03 29 34.4			
CFA	comp=Z,2µm,21.1s,baz=237,slow=29 Coronel Fontan	96.20	126	LR	LR	03 32 56.0			
R40A	comp=Z,140nm,20.0s,baz=280,slow=31 Maddies Statio	96.38	52	IAMs_20	IAMs_20	03 34 18.4			
N38A	comp=Z,1µm,19.0s Joes South For	96.39	49	IAMs_20	IAMs_20	03 35 05.5			
SCIA	comp=Z,1µm,19.0s State Center	96.73	48	IAMs_20	IAMs_20	03 33 51.4			
AGMN	comp=Z,1µm,20.0s Agassiz Nation	96.85	42	IAMs_20	IAMs_20	03 38 44.8			
P40A	comp=Z,1µm,18.0s Paris	96.89	51	IAMs_20	IAMs_20	03 33 26.0			
CCM	comp=Z,1µm,20.0s Cathedral Cave	97.08	52	IAMs_20	IAMs_20	03 34 30.2			
I37A	comp=Z,1µm,20.0s Lemond, Waseca	97.21	46	IAMs_20	IAMs_20	03 33 37.9			
OXF	comp=Z,1µm,21.0s Oxford	97.54	56	IAMs_20	IAMs_20	03 33 16.6			
BRDH	comp=Z,908nm,21.0s Bariadhala	97.75	291	LR	LR	03 38 10.9			
SPMN	comp=Z,428nm,21.8s,baz=154,slow=34 Marine on St.	97.96	45	IAMs_20	IAMs_20	03 33 51.8			
N41A	comp=Z,2µm,22.0s Harden Midland	98.10	50	IAMs_20	IAMs_20	03 35 48.8			
L40A	comp=Z,1µm,19.0s Anamosa	98.20	49	IAMs_20	IAMs_20	03 33 08.3			
S44A	comp=Z,1µm,22.0s Carbondale	98.50	53	IAMs_20	IAMs_20	03 34 25.8			
T45A	comp=Z,887nm,20.0s Paducah	98.80	54	IAMs_20	IAMs_20	03 33 51.7			
Q44A	comp=Z,984nm,22.0s Meyer Farm, Va	98.99	52	IAMs_20	IAMs_20	03 33 58.7			
I40A	comp=Z,1µm,22.0s Norwalk	99.11	47	IAMs_20	IAMs_20	03 36 20.3			
E38A	comp=Z,1µm,20.0s The Farm, Brul	99.17	44	IAMs_20	IAMs_20	03 36 43.5			
HDIL	comp=Z,1µm,20.0s Hopedale	99.20	50	IAMs_20	IAMs_20	03 36 26.2			
WVT	comp=Z,1µm,19.0s Waverly	99.21	55	IAMs_20	IAMs_20	03 35 35.7			
L42A	comp=Z,1µm,19.0s Oliver, Polo	99.30	49	IAMs_20	IAMs_20	03 34 26.5			
EYMN	comp=Z,849nm,20.0s Ely	99.56	43	IAMs_20	IAMs_20	03 36 20.6			
I42A	comp=Z,1µm,21.0s Draeger Farm,	100.30	47	IAMs_20	IAMs_20	03 37 24.9			
M44A	comp=Z,1µm,19.0s Midewin, Midew	100.33	50	IAMs_20	IAMs_20	03 38 37.8			
K43A	comp=Z,1µm,19.0s Burlington	100.43	49	IAMs_20	IAMs_20	03 35 11.4			
HQIL	comp=Z,1µm,22.0s Hanson Quary C	100.56	50	IAMs_20	IAMs_20	03 37 32.0			
L44A	comp=Z,879nm,19.0s Lake County Fo	100.61	49	IAMs_20	IAMs_20	03 33 56.2			
WCI	comp=Z,1µm,22.0s Wyandotte Cave	100.90	53	IAMs_20	IAMs_20	03 36 29.3			
	comp=Z,1µm,20.0s								
U49A	Red Boiling Sp	100.91	55	IAMs_20	IAMs_20	03 37 05.6			
H43A	comp=Z,869nm,20.0s Windswept, Lux	101.23	47	IAMs_20	IAMs_20	03 39 13.5			
T50A	comp=Z,821nm,19.0s Nancy	101.76	55	IAMs_20	IAMs_20	03 37 51.1			
R49A	comp=Z,856nm,20.0s Shelbyville	101.78	53	IAMs_20	IAMs_20	03 37 06.5			
N47A	comp=Z,1µm,21.0s Urbana	101.94	51	IAMs_20	IAMs_20	03 38 26.6			
R50A	comp=Z,1µm,19.0s Paris	102.42	54	IAMs_20	IAMs_20	03 36 25.7			
TZTN	comp=Z,1µm,21.0s Tazewell	102.67	55	IAMs_20	IAMs_20	03 38 21.3			
S51A	comp=Z,961nm,20.0s Beattyville	102.86	54	IAMs_20	IAMs_20	03 37 21.2			
J47A	comp=Z,958nm,20.0s Sumner	103.06	49	IAMs_20	IAMs_20	03 36 19.1			
N49A	comp=Z,985nm,21.0s Columbus Grove	103.07	51	IAMs_20	IAMs_20	03 38 06.6			
Q51A	comp=Z,1µm,20.0s Peebles	103.33	53	IAMs_20	IAMs_20	03 36 45.5			
GLMI	comp=Z,1µm,22.0s Grayling	103.51	47	IAMs_20	IAMs_20	03 36 38.8			
AAM	comp=Z,1µm,22.0s Ann Arbor	103.72	50	IAMs_20	IAMs_20	03 40 23.7			
M50A	comp=Z,759nm,19.0s Fremont	104.01	51	IAMs_20	IAMs_20	03 39 33.3			
U54A	comp=Z,1µm,19.0s Nelsons Funny	104.03	56	IAMs_20	IAMs_20	03 39 13.3			
Q52A	comp=Z,904nm,20.0s Bidwell	104.14	53	IAMs_20	IAMs_20	03 37 22.1			
I49A	comp=Z,876nm,21.0s Point Hope	104.61	48	IAMs_20	IAMs_20	03 39 57.2			
S54A	comp=Z,1µm,19.0s Dingess, Beckl	104.67	55	IAMs_20	IAMs_20	03 38 47.1			
O52A	comp=Z,1µm,22.0s Adamsville	104.68	52	IAMs_20	IAMs_20	03 38 27.4			
NHSC	comp=Z,1µm,20.0s New Hope	104.70	60	IAMs_20	IAMs_20	03 40 52.4			
P53A	comp=Z,772nm,20.0s Whipple	104.91	53	IAMs_20	IAMs_20	03 37 54.3			
Q54A	comp=Z,1µm,21.0s Coxs Mills	105.24	53	IAMs_20	IAMs_20	03 37 56.3			
WMQ	comp=Z,1µm,22.0s Urumqi	105.53	312	Pdif	Pdif	02 57 33.3	+0.4		
WMQ	comp=Z,460nm,22.3s			LR	LR				
WMQ	comp=Z,300nm,24.1s			LR	LR				
R55A	Marlinton	105.68	54	IAMs_20	IAMs_20	03 39 28.8			
MCWV	comp=Z,1µm,20.0s Mont Chateau	106.11	53	IAMs_20	IAMs_20	03 38 53.2			
T57A	comp=Z,1µm,21.0s Hurt	106.14	56	IAMs_20	IAMs_20	03 41 51.2			
Q56A	comp=Z,704nm,19.0s Snyder Ridge,	106.52	54	IAMs_20	IAMs_20	03 38 45.0			
R58B	comp=Z,1µm,22.0s Mineral	107.37	55	IAMs_20	IAMs_20	03 42 12.7			
T59A	comp=Z,775nm,20.0s Double "B" Far	107.48	56	IAMs_20	IAMs_20	03 41 27.7			
P57A	comp=Z,892nm,20.0s Homestead Farm	107.48	53	IAMs_20	IAMs_20	03 40 07.6			
SSPA	comp=Z,1µm,20.0s Standing Stone	107.74	52	IAMs_20	IAMs_20	03 40 04.2			
CBN	comp=Z,1µm,20.0s Corbin Frederi	107.80	55	IAMs_20	IAMs_20	03 40 34.1			
J55A	comp=Z,852nm,20.0s Hilton	108.12	49	IAMs_20	IAMs_20	03 39 36.0			
L56A	comp=Z,1µm,22.0s Greenwood	108.17	51	IAMs_20	IAMs_20	03 41 32.5			
R61A	comp=Z,1µm,19.0s Willards	109.40	55	IAMs_20	IAMs_20	03 41 52.5			
J57A	comp=Z,846nm,20.0s Williamstown	109.45	49	IAMs_20	IAMs_20	03 40 04.3			
SDDR	comp=Z,1µm,22.0s Presa de Saban	109.79	76	IAMs_20	IAMs_20	03 38 01.3			
P61A	comp=Z,1µm,22.0s Hammonton	109.98	53	IAMs_20	IAMs_20	03 40 40.6			
LONY	comp=Z,1µm,22.0s Lake Ozonia	110.57	48	IAMs_20	IAMs_20	03 42 48.8			
TULEG	comp=Z,1µm,20.0s Thule	110.80	14	IAMs_20	IAMs_20	03 45 28.2			
TRY	comp=Z,1µm,20.0s Troy	111.10	50	IAMs_20	IAMs_20	03 45 29.9			
WSPT	comp=Z,931nm,18.0s Westport, CT	111.23	52	IAMs_20	IAMs_20	03 42 59.8			
VT1	comp=Z,1µm,20.0s Waterbury	111.86	49	IAMs_20	IAMs_20	03 43 30.0			
HNH	comp=Z,1µm,20.0s Hanover	112.17	49	IAMs_20	IAMs_20	03 42 19.1			
H62A	comp=Z,1µm,22.0s Milan	113.01	48	IAMs_20	IAMs_20	03 46 33.4			
PKME	comp=Z,1µm,18.0s Peaks-Kenny Pk	114.35	48	IAMs_20	IAMs_20	03 49 54.7			
G65A	comp=Z,972nm,18.0s Princeton	115.57	48	IAMs_20	IAMs_20	03 46 20.0			
EMMW	comp=Z,861nm,20.0s East Machias	115.66	48	IAMs_20	IAMs_20	03 49 20.3			
BVAR	comp=Z,1µm,19.0s Bovoye Array	117.19	321	PKP	PKiKP	03 02 08.7	+0.7		
KEV	comp=Z,0.7nm,0.4s,baz=70,slow=1.7,SNR=4.1 Kevo	125.42	350	IAMs_20	IAMs_20	03 53 27.0			
LVZ	comp=Z,691nm,20.0s Lovozero	125.46	346	IAMs_20	IAMs_20	03 54 41.9			
ARCES	comp=Z,779nm,21.0s ARCESS Array B	125.86	350	PKP	PKiKP	03 02 25.3	+0.7		
KLMR	comp=Z,3.5nm,1.0s,baz=60,slow=1.3,SNR=4.2 Klimovskoe	129.24	338	*e*PKiKP	PKPdf	03 02 27.8	-3.0		
KLMR	comp=Z,9.0nm,1.5s			pmax	pmax				
FINES	FINESS Array B	132.88	345	PKP	PKiKP	03 02 40.5	+1.7		
OBN	comp=Z,1.4nm,0.8s,baz=42,slow=2.8,SNR=2.5 Obninsk	134.31	334	IAMs_20	IAMs_20	04 00 08.5			
OBN	comp=Z,761nm,22.0s Obninsk	134.31	334	*e*PKiKP	PKPdf	03 02 39.4	-1.1		
OBN				*e*		03 05 10.8			
OBN	comp=Z,3.0nm,0.8s			pmax	pmax				
RCBR	Riachuelo	135.20	117	IAMs_20	IAMs_20	03 56 43.8			
NOA	comp=Z,782nm,20.0s NORSAR Array B	135.82	354	PKP	PKiKP	03 02 44.1	-0.9		
KIV	comp=Z,0.3nm,0.7s,baz=16,slow=8.9,SNR=2.0 Kislovodsk	137.32	317	IAMs_20	IAMs_20	04 07 30.4			
PABE	comp=Z,617nm,20.0s Paberze	138.56	342	IAMs_20	IAMs_20	03 59 43.2			
SUW	comp=Z,721nm,22.0s Suwalki	140.08	342	IAMs_20	IAMs_20	04 02 21.3			
AKASG	comp=Z,706nm,22.0s Malin Array Be	140.57	334	PKP	PKPdf	03 02 52.6	+0.4		
KIEV	comp=Z,0.8nm,0.6s,baz=46,slow=1.5,SNR=4.8 Kiev	140.58	334	IAMs_20	IAMs_20	04 07 54.2			
ATD	comp=Z,561nm,19.0s Arta Tunnel	141.13	267	IAMs_20	IAMs_20	03 59 28.5			
ESK	comp=Z,543nm,22.0s Eskdalemuir	141.64	6	IAMs_20	IAMs_20	04 04 34.2			
RGN	comp=Z,701nm,19.0s Rugen	141.88	350	IAMs_20	IAMs_20	04 01 11.4			
BNN	comp=Z,632nm,22.0s Bunyan	144.21	314		PKPdf	03 02 58.8	-0.5		
OJC	Ojcow	144.41	341	*e*PKPdf	PKiKP	03 03 02.3	-0.5		
FURI	Furi	144.41	261	IAMs_20	IAMs_20	04 02 56.6			
BURAR	comp=Z,783nm,21.0s Bucovina Array	144.63	334	⇓P	PKiKP	03 03 02.1	-1.3		
BURAR	Bucovina Array	144.63	334	⇓PKiKP	PKiKP	03 03 02.1	-1.3		
STHS	Stebnicka Huta	144.65	339	*e*PKiKP	PKiKP	03 03 06.0	+2.7		
STHS	Stebnicka Huta	144.65	339	*e*PKP	PKiKP	03 03 06.0	+2.7		
NIE	Niedzica	144.96	340	*e*PKPdf	PKiKP	03 03 01.9	-2.1		
CLL	Collm	145.06	349	IAMs_20	IAMs_20	04 05 38.1			
CLL	comp=Z,774nm,22.0s Collm	145.06	349	*e*PKiKP	PKPdf	03 03 01.0	+0.8		
CLL				*i*		03 03 05.7			
CLL	comp=Z,9.0nm,1.3s			pmax	pmax				
CLL	comp=Z,700nm,21.4s			MLR	MLR				
OSTC	Ostas	145.09	345	AMS	AMS	04 05 30.0			
CHVC	comp=Z,600nm,21.0s Chvalec	145.09	346	*e*PKP	PKiKP	03 03 01.9	-2.3		
CHVC				AMS	AMS	04 12 30.0			
CHVC	comp=Z,500nm,17.5s Chvalec	145.09	346	*e*PKiKP	PKiKP	03 03 01.9	-2.3		
CHVC				MLR	MLR				
CFR	comp=Z,500nm,17.5s Carcaliu	145.10	328	⇑P	PKPdf	03 03 01.9	+1.5		
CFR	Carcaliu	145.10	328	⇑PKiKP	PKPdf	03 03 01.9	+1.5		
UPC	Upice	145.18	346	AMS	AMS	03 59 00.0			
	comp=Z,900nm,25.7s								
TPGR	Topolog	145.18	328	⇓P	PKiKP	03 03 03.5	-1.1		
OKC	Ostrava-Krasne	145.24	343	AMS	AMS	04 05 10.0			
DPC	comp=Z,600nm,23.0s Dobruska-Polom	145.25	345	*e*PKP	PKPdf	03 03 01.1	+0.5		
DPC				*ep*PKP	PKiKP	03 03 05.6	+1.1		
DPC	comp=Z,600nm,24.5s			AMS	AMS	03 59 10.0			
DPC	Dobruska-Polom	145.25	345	*e*PKiKP	PKPdf	03 03 01.1	+0.5		
DPC				*e*		03 03 05.6			
DPC	comp=Z,600nm,24.5s			MLR	MLR				
STEB	Steborice	145.25	343	*e*PKP	PKPdf	03 03 01.0	+0.4		
BRTR	Keskin Array B	145.27	317		PKPbc	03 03 00.3	-0.6		
BRTR	Keskin Array B	145.27	317	PKPbc	PKPdf	03 03 01.9	+0.8		
VRI	comp=Z,8.2nm,1.1s,baz=149,slow=2.9,SNR=17 Vrincioaia	145.28	331	⇓P	PKiKP	03 03 03.5	-1.2		
VRI	Vrincioaia	145.28	331	⇓PKiKP	PKiKP	03 03 03.5	-1.2		
GTTG	Gottingen	145.29	352	*e*PKPbc	PKiKP	03 03 04.7	+0.2		
BRG	baz=13,slow=3.0 Berggiesshubel	145.29	348	*e*PKPbc	PKiKP	03 03 04.8	+0.3		
BRG	baz=13,slow=3.0 Berggiesshubel	145.29	348	*e*PKP	PKiKP	03 03 05.6	+1.1		
BRG	comp=Z,7.2nm,1.1s			Amp		03 03 06.8			
BRG	Berggiesshubel	145.29	348	P	PKiKP	03 03 11.3	+6.8		
BRG	comp=Z,5.0nm,1.1s			Amp		03 03 12.6			
PLOR	Plostina	145.33	331	⇓P	PKiKP	03 03 03.6	-1.2		
PLOR	Plostina	145.33	331	⇓PKiKP	PKiKP	03 03 03.6	-1.2		
KRLC	Kraliky	145.39	344	*e*PKP	PKiKP	03 03 03.8	-1.0		
KRLC	comp=Z,800nm,24.2s			AMS	AMS	04 00 40.0			
KRLC	Kraliky	145.39	344	*e*PKiKP	PKiKP	03 03 03.8	-1.0		
KRLC	comp=Z,800nm,24.2s			MLR	MLR				
LANS	Liptovska Anna	145.46	341	*e*PKiKP	PKiKP	03 03 03.3	-1.8		
LANS	Liptovska Anna	145.46	341	*e*PKP	PKiKP	03 03 03.2	-1.8		
MORC	Moravsky Berou	145.46	343	*e*PKP	PKPab	03 03 01.2	0.0		
MORC	Moravsky Berou	145.46	343	⇑P	PKiKP	03 03 03.6	-1.4		
TURR	Turia	145.47	331	⇓P	PKPab	03 03 02.5	+1.0		
PVCC	Panska Ves	145.49	347	*e*PKP	PKPab	03 03 02.6	+1.4		
PVCC	comp=Z,900nm,27.2s			AMS	AMS	03 58 00.0			
PVCC	Panska Ves	145.49	347	*e*PKiKP	PKPab	03 03 02.6	+1.4		
PVCC	comp=Z,900nm,27.2s			MLR	MLR				
LODK	Lodwar	145.51	250	IAMs_20	IAMs_20	04 05 01.5			
COVR	comp=Z,606nm,19.0s Voineasa-Covas	145.54	331	⇓P	PKiKP	03 03 04.8	-0.5		
HARR	Harsova	145.55	328	⇑P	PKiKP	03 03 04.8	-0.4		
OZUR		145.55	332	⇑P	PKiKP	03 03 04.3	-1.0		
TLBR	Topalu	145.59	328	⇓P	PKiKP	03 03 04.5	-0.9		
ANTO	Ankara	145.75	317	⇓P	PKPdf	03 03 01.3	-0.6		
ANTO	Ankara	145.75	317	⇓PKP2	PKPdf	03 03 01.3	-0.6		
MAUC	Maruska	145.75	343	*e*PKP	PKPab	03 03 02.7	+0.4		
MAUC				*ex*	x	03 03 07.5			
MAUC	comp=Z,1µm,17.1s			AMS	AMS	04 05 20.0			
KASTN	Kahler Asten	145.80	354	*e*PKPbc	PKiKP	03 03 06.2	+0.6		
NEHR	baz=13,slow=3.0 Nehoiu	145.81	330	⇓P	PKiKP	03 03 04.8	-1.0		
DOPR	Dopca	145.82	332	⇓P	PKiKP	03 03 04.3	-1.5		
ISR	Istrita	145.92	330	⇓P	PKPab	03 03 03.0	-0.1		
ISR	Istrita	145.92	330	⇓PKiKP	PKPab	03 03 03.0	-0.1		
MLR	Muntele Rosu	145.93	331	IAMs_20	IAMs_20	04 06 33.5			
MLR	comp=Z,740nm,22.0s Muntele Rosu	145.93	331	⇑P	PKiKP	03 03 05.3	-0.9		
MLR	Muntele Rosu	145.93	331	⇑PKiKP	PKiKP	03 03 05.3	-0.9		
MOX	Moxa	145.93	350	*e*PKPbc	PKiKP	03 03 06.9	+1.1		
MOX	baz=13,slow=3.0			*e*L	L	04 06 03.7			
PRA	comp=Z,440nm,21.9s Prague	145.95	347	AMS	AMS	03 58 10.0			
UBBA	comp=Z,900nm,26.4s Unterbreizbach	146.00	352	*e*PKPbc	PKiKP	03 03 06.8	+1.0		
PRU	baz=13,slow=3.0 Pruhonice	146.00	347	AMS	AMS	03 58 20.0			
TANN	comp=Z,900nm,25.1s Tannenbergstha	146.01	349	*e*PKPbc	PKiKP	03 03 07.3	+1.2		
CJR	baz=13,slow=3.0 Cluj-Napoca	146.01	334	⇑P	PKiKP	03 03 06.2	-0.1		
CJR	Cluj-Napoca	146.01	334	⇑PKP2	PKiKP	03 03 06.2	-0.1		
GOPC	GO Pecny, Ondr	146.02	346	AMS	AMS	03 58 40.0			
VRAC	comp=Z,900nm,26.1s Vranov	146.14	344	*e*PKP	PKiKP	03 03 07.7	+1.3		
VRAC	Vranov	146.14	344	⇑P	PKiKP	03 03 07.1	+0.8		
VRAC	Vranov	146.14	344	⇑PKP2	PKiKP	03 03 07.1	+0.8		
VYHS	Vyhne	146.23	341	*e*PKP2	PKiKP	03 03 06.9	+0.3		
VYHS	Vyhne	146.23	341	*e*PKP	PKiKP	03 03 06.9	+0.3		
VYHS				*e*		03 03 12.2			
MARR	Marisel-Cluj	146.24	335	⇓P	PKiKP	03 03 06.0	-0.8		
JAVC	Velka Javorina	146.25	343	*e*PKP	PKiKP	03 03 06.9	+0.2		
DRGR		146.31	335	⇓P	PKiKP	03 03 07.4	+0.5		
DRGR		146.31	335	⇓PKP2	PKiKP	03 03 07.4	+0.5		
VOIR		146.38	332	⇓P	PKPab	03 03 04.3	-0.6		
VOIR		146.38	332	⇓PKP2	PKPab	03 03 04.3	-0.6		
PSZ	Piszkesteto	146.40	339	IAMs_20	IAMs_20	04 08 05.4			
PSZ	comp=Z,506nm,20.0s Piszkesteto	146.40	339	⇑P	PKiKP	03 03 08.9	+1.9		
PSZ	Piszkesteto	146.40	339	⇑PKP2	PKiKP	03 03 08.9	+1.9		
KRUC	Moravsky	146.42	344	*e*PKP	PKiKP	03 03 08.0	+1.1		
TREC	Trest	146.43	345	AMS	AMS	03 59 20.0			
BTNL	comp=Z,1µm,25.5s Ternell	146.59	356	*d*PKP	PKiKP	03 03 07.7	+0.4		
ZVC	Zvikov	146.60	347	AMS	AMS	03 58 30.0			
ARR	comp=Z,800nm,22.5s Arges	146.62	332	⇓P	PKiKP	03 03 07.9	+0.3		
BSTI	Sart Tilman	146.63	357	*d*PKP	PKPbc	03 03 04.2	-0.3		
BCLA	Clavier	146.80	357	*d*PKP	PKiKP	03 03 07.9	+0.2		
MODS	Modra-Piesok	146.81	343	*e*PKP2	PKiKP	03 03 06.9	-0.9		
MODS	Modra-Piesok	146.81	343	*e*PKP	PKiKP	03 03 06.9	-0.9		
BHOU	Houvegnez	146.83	357	*d*PKP	PKiKP	03 03 07.4	-0.3		
BGES	Gesves	146.85	358	*d*PKP	PKiKP	03 03 12.3	+4.5		
GRA1	Grafenberg Arr	146.92	350	IAMs_20	IAMs_20	04 06 21.5			
GRF	comp=Z,508nm,21.0s Grafenberg Arr	146.92	350	*e*L	L	04 06 32.0			
GRFO	comp=Z,500nm,22.0s Grafenberg	146.92	350	IAMs_20

BFO				IAMs_20	IAMs_20	04 09 46.4		
	comp=Z,534nm,20.0s							
BFO	**Black Forest**	**148.65**	**353**	PKIKP	**PKPdf**	**03 03 07.7**	**+1.3**	
BFO				MLR	MLR			
	comp=Z,500nm,20.0s							
BFO	**Black Forest**	**148.65**	**353**	*e*PKPbc	**PKiKP**	**03 03 14.5**	**+2.9**	
	baz=13,slow=3.0							
LESA	**Schwarzleotal**	**148.83**	**347**	PKiKP	**PKiKP**	**03 03 11.2**	**-0.9**	
	comp=Z,8.2nm,1.5s							
ECH	**Echery**	**148.88**	**355**	IAMs_20	IAMs_20	04 10 58.6		
	comp=Z,698nm,19.0s							
SOKA	**Soboth**	**148.97**	**344**	PKP	**PKiKP**	**03 03 13.3**	**+0.9**	
	comp=Z,8.7nm,1.2s							
KBA	**Koelnbreinsper**	**149.01**	**346**	*e*PKP	**PKiKP**	**03 03 13.5**	**+0.9**	
	comp=Z,2.4nm,0.8s							
RETA	**Reutte**	**149.13**	**350**	*e*PKP	**PKiKP**	**03 03 13.5**	**+0.8**	
	comp=Z,8.5nm,1.0s							
WATA	**Walderalm**	**149.13**	**349**	*e*PKP	**PKPab**	**03 03 14.3**	**-1.6**	
	comp=Z,16nm,1.5s							
WTTA	**Wattenberg**	**149.19**	**349**	*ep*PKP	**PKPab**	**03 03 14.7**	**-1.4**	
	comp=Z,8.3nm,0.9s,SNR=6.0							
WTTA	**Wattenberg**	**149.19**	**349**	*e*PKP	**PKPab**	**03 03 14.7**	**-1.4**	
	comp=Z,8.3nm,0.9s,SNR=6.0							
MOTA	**Moosalm**	**149.21**	**349**	*e*PKP	**PKiKP**	**03 03 13.9**	**+1.0**	
	comp=Z,13nm,1.5s							
SQTA	**Sankt Quirin**	**149.31**	**349**	*e*PKP	**PKiKP**	**03 03 14.3**	**+1.2**	
	comp=Z,9.6nm,1.0s							
MYKA	**Terra Mystica**	**149.37**	**346**	*e*PKP	**PKiKP**	**03 03 13.8**	**+0.7**	
	comp=Z,1.5nm,0.6s							
DAVA	**Damuels**	**149.47**	**351**	*ep*PKiKP	**PKPab**	**03 03 15.1**	**-2.1**	
	comp=Z,20nm,1.2s,SNR=8.5							
DAVA	**Damuels**	**149.47**	**351**	*e*PKP	**PKPab**	**03 03 15.1**	**-2.1**	
	comp=Z,20nm,1.2s,SNR=8.5							
ABTA	**Abfaltersbach**	**149.51**	**347**	*ep*PKiKP	**PKiKP**	**03 03 14.6**	**+1.1**	
	comp=Z,17nm,1.2s,SNR=6.0							
ABTA	**Abfaltersbach**	**149.51**	**347**	*e*PKP	**PKiKP**	**03 03 14.6**	**+1.1**	
	comp=Z,17nm,1.2s,SNR=6.0							
FETA	**Feichten**	**149.59**	**350**	*ep*PKP	**PKPab**	**03 03 15.6**	**-2.1**	
	comp=Z,19nm,1.1s,SNR=9.2							
FETA	**Feichten**	**149.59**	**350**	*e*PKP	**PKPab**	**03 03 15.6**	**-2.1**	
	comp=Z,19nm,1.1s,SNR=9.2							
FUORN	**Ofenpass-Fuorn**	**150.06**	**350**		**PKPbc**	**03 03 13.9**	**0.0**	
BLY	**Banja Luka**	**150.08**	**340**	⇓P	**PKiKP**	**03 03 15.1**	**+0.6**	
TUE	**Stuetta**	**150.34**	**351**		**PKPdf**	**03 03 09.8**	**+0.4**	
TUE				IAMs_20	IAMs_20	04 13 51.1		
	comp=Z,674nm,20.0s							
PDG	**Podgorica**	**151.30**	**335**	IAMs_20	IAMs_20	04 15 57.9		
	comp=Z,750nm,21.0s							
KARP	**Karpathos**	**151.85**	**315**	IAMs_20	IAMs_20	04 21 56.2		
	comp=Z,463nm,20.0s							
SSB	**Saint Sauveur**	**151.97**	**358**	IAMs_20	IAMs_20	04 11 26.6		
	comp=Z,581nm,20.0s							
CUC	**Castrocucco**	**154.74**	**337**	IAMs_20	IAMs_20	04 16 16.5		
	comp=Z,426nm,20.0s							
CEL	**Celeste**	**156.19**	**334**	IAMs_20	IAMs_20	04 18 17.5		
	comp=Z,670nm,20.0s							
ESDC	**Sonseca Array**	**156.77**	**14**	PKP	**PKPdf**	**03 03 20.8**	**+2.3**	
	comp=Z,0.2nm,0.3s,baz=331,slow=1.9,SNR=1.6							
TORD	**Torodi Ar. Bea**	**175.76**	**161**	PKP	**PKPdf**	**03 03 36.2**	**+2.2**	
	comp=Z,0.4nm,0.9s,baz=68,slow=1.1,SNR=2.4							
TORD				PKPab	**PKPab**	**03 05 12.7**	**+0.8**	
	comp=Z,2.5nm,1.1s,baz=189,slow=3.9,SNR=6.4							

*GUC **17** 03:20:26.7±0.7, 22°.31S×67°.53W, h173km±7km, ML3.3*
*SCB **17** 03:20:27.5±1.3, 22°.33S×67°.58W, h151km±13km, ML2.9/4, MW2.8, Error ellipse: s-maj=6.8km s-min=3.8km az=0.0*

ISC 17 03:20:27.0±2.4, 22°.33S±0°.08×67°.55W±0°.04, h165km±21km, n29, σ0.64/40, 7C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**1.66**	**289**	⇑*i*P	**Pn**	**03 21 00.5**	**+1.0**
PB09	**IPOC Station P**	**1.66**	**289**	Pg	**Pn**	**03 21 00.0**	**+0.5**
YJA	**Yavi**	**1.89**	**86**	*e*P	**Pn**	**03 21 02.2**	**-0.1**
YJA				*e*S	**Sn**	**03 21 28.8**	**-0.7**
PB06	**IPOC Station P**	**1.91**	**258**	⇓*i*P	**Pn**	**03 21 02.6**	**+0.5**
PB06				*i* S	**Sn**	**03 21 29.8**	**+0.5**
PB06				IAML		03 21 33.3	
	comp=N,82nm,0.2s						
PB06	**IPOC Station P**	**1.91**	**258**	Pg	**Pn**	**03 21 02.7**	**+0.6**
PB03	**IPOC Station P**	**2.06**	**278**	⇑*i*P	**Pn**	**03 21 04.0**	**+0.2**
PB03				*i* S	**Sn**	**03 21 32.3**	**-0.1**
PB03				IAML		03 21 33.3	
	comp=N,69nm,0.2s						
PB03	**IPOC Station P**	**2.06**	**278**	Pg	**Pn**	**03 21 04.1**	**+0.2**
MOCB	**Mochara**	**2.08**	**59**	Pg	**Pn**	**03 21 04.2**	**-0.2**
MOCB				Sg	**Sn**	**03 21 33.5**	**+0.2**
MOCB				IAML		03 21 36.6	
	comp=N,58nm,0.4s						
PB01	**IPOC Station P**	**2.21**	**305**	⇑*i*P	**Pn**	**03 21 05.6**	**+0.1**
PB01				*i* S	**Sn**	**03 21 35.1**	**-0.3**
PB01				IAML		03 21 37.3	
	comp=N,79nm,0.3s						
PB01	**IPOC Station P**	**2.21**	**305**	Pg	**Pn**	**03 21 05.9**	**+0.3**
PB01				Sg	**Sn**	**03 21 34.9**	**-0.5**
PB01				IAML		03 21 38.8	
	comp=N,41nm,0.3s						
PB02	**IPOC Station P**	**2.40**	**294**	⇑*i*P	**Pn**	**03 21 07.7**	**0.0**
PB02				*e*S	**Sn**	**03 21 38.9**	**-0.5**
PB02				IAML		03 21 40.3	
	comp=E,74nm,0.2s						
PB02	**IPOC Station P**	**2.40**	**294**	Pg	**Pn**	**03 21 07.8**	**0.0**
PB02				Sg	**Sn**	**03 21 38.4**	**-1.0**
PB02				IAML		03 21 40.6	
	comp=E,37nm,0.3s						
PB05	**IPOC Station P**	**2.50**	**258**	⇑*e*P	**Pn**	**03 21 09.1**	**+0.2**
PB05				IAML		03 21 41.4	
	comp=N,49nm,0.3s						
PB05	**IPOC Station P**	**2.50**	**258**	Pg	**Pn**	**03 21 09.2**	**+0.2**
PB08	**IPOC Station P**	**2.65**	**325**	⇑*i*P	**Pn**	**03 21 11.9**	**+0.9**
PB08				*i* S	**Sn**	**03 21 45.7**	**+0.6**
PB08				IAML		03 21 47.0	
	comp=E,46nm,0.3s						
PB08	**IPOC Station P**	**2.65**	**325**	Pg	**Pn**	**03 21 12.2**	**+1.2**
HMBC	**Humberstone**	**2.99**	**313**	⇑*i*P	**Pn**	**03 21 13.9**	**-1.0**
HMBC				IAML		03 21 53.1	
	comp=N,86nm,0.3s						
HMBC	**Humberstone**	**2.99**	**313**	Pg	**Pn**	**03 21 14.5**	**-0.5**
TA01	**Diego Aracena**	**3.02**	**305**	*e*P	**Pn**	**03 21 15.1**	**-0.1**
TA01				IAML		03 21 53.5	
	comp=E,77nm,0.2s						
GO01	**Chusmiza**	**3.06**	**330**	*e*P	**Pn**	**03 21 16.5**	**+0.3**
GO01				*e*S	**Sn**	**03 21 54.3**	**-0.2**
GO01				IAML		03 21 57.6	
	comp=N,123nm,0.1s						
GO01	**Chusmiza**	**3.06**	**330**	Pg	**Pn**	**03 21 16.6**	**+0.3**
PB11	**IPOC Station P**	**3.23**	**322**	*e*P	**Pn**	**03 21 17.1**	**-0.9**
PB11	**IPOC Station P**	**3.23**	**322**	Pg	**Pn**	**03 21 17.7**	**-0.3**
PB11				Sg	**Sn**	**03 21 56.0**	**-1.6**
PB11				IAML		03 21 57.7	
	comp=N,57nm,0.3s						
PB16	**IPOC Station P**	**4.38**	**335**	Pg	**Pn**	**03 21 33.3**	**+0.1**
BBOJ	**La Paz, Jacaqu**	**5.37**	**353**	Pg	**Pn**	**03 21 46.7**	**+0.7**
BBOE	**La Paz, Chanca**	**5.51**	**356**	Pg	**Pn**	**03 21 49.0**	**+1.1**
BBOD	**La Paz, Gloria**	**5.75**	**350**	Pg	**Pn**	**03 21 51.9**	**+0.8**
LPAZ	**La Paz**	**6.04**	**355**	Pg	**Pn**	**03 21 55.6**	**+0.6**
BBOB	**La Paz, Bander**	**6.18**	**355**	Pg	**Pn**	**03 21 56.9**	**+0.1**

*NEIC **17** 03:22:48.8±1.1, 36°.121N±0°.004×117°.89W±0°.02, h4km±5km, Error ellipse: s-maj=1.8km s-min=0.5km az=79.0*

PAS 17 03:22:49.5±1.2, 36°.119N±0°.009×117°.89W±0°.02, h3km±5km, ML3.2/22, ML3.2/148(NEIC), Error ellipse: s-maj=1.8km s-min=1.2km az=77.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MFS	**McCloud Flat S**	**0.03**	**93**		Pg	03 22 50.8	+0.3
WRVM	**Rose V. Centra**	**0.11**	**180**		Pg	03 22 51.9	+0.1
JRC2	**Joshua Ridge**	**0.15**	**154**		Pg	03 22 52.6	+0.1
JRC2					Sg	03 22 55.0	+0.4
WVPM	**Volcano Peak E**	**0.18**	**161**		Pg	03 22 53.0	0.0
WVPM					Sg	03 22 56.0	+0.5
WNMM	**Nine Mile Cany**	**0.28**	**183**		Pg	03 22 54.7	-0.1
WNMM					Sg	03 22 59.0	+0.5
TOW	**Tower One**	**0.33**	**162**		Pg	03 22 56.2	+0.4
TOW					Sg	03 23 01.5	+1.4
MPMC	**Manual Prospec**	**0.33**	**100**		Pg	03 22 55.8	-0.2
CWC	**Cottonwood Cre**	**0.36**	**334**		Pg	03 22 56.2	-0.3
CWC				IAML		03 23 01.6	
	comp=E,3μm,0.1s						
CWC				IAML		03 23 01.7	
	comp=N,3μm,0.2s						
CWC	**Cottonwood Cre**	**0.36**	**334**		Sg	03 23 01.5	+0.3
CLC	**China Lake**	**0.38**	**142**		Pg	03 22 56.8	-0.1
CGO	**Cerro Gordo**	**0.44**	**9**		Pg	03 22 57.8	-0.2
SRTC	**Snort**	**0.44**	**165**		Pg	03 22 58.4	+0.4
WSHM	**Spangler Hills**	**0.61**	**148**		Pg	03 23 00.9	-0.4
ISA	**Isabella, Lake**	**0.66**	**226**		Pg	03 23 01.9	-0.2
ISA				IAML		03 23 11.2	
	comp=N,1μm,0.3s						
ISA				IAML		03 23 11.5	
	comp=E,775nm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.66**	**165**		Pg	03 23 01.9	-0.3
LRMC				IAML		03 23 11.0	
	comp=E,813nm,0.4s						
LRMC				IAML		03 23 11.9	
	comp=N,733nm,0.3s						
SPG2	**Springville 2**	**0.71**	**277**		Pg	03 23 02.9	-0.4
CCCA	**Chr Cany lake**	**0.73**	**144**		Pg	03 23 03.7	+0.1
CCCA				IAML		03 23 18.0	
	comp=E,805nm,0.5s						
CCCA				IAML		03 23 18.2	
	comp=N,802nm,0.6s						
QSM	**Queen of Sheba**	**0.84**	**100**		Pg	03 23 05.5	-0.2
QSM				IAML		03 23 09.2	
	comp=E,593nm,0.3s						
GRAC	**Grapevine Rang**	**0.97**	**26**		Pg	03 23 07.6	-0.6
GRAC				IAML		03 23 25.1	
	comp=E,556nm,0.4s						
GRAC				IAML		03 23 25.2	
	comp=N,590nm,0.6s						
GWY	**Greenwater Val**	**0.99**	**86**		Pg	03 23 08.2	-0.3
GWY				IAML		03 23 24.4	
	comp=E,506nm,0.4s						
GWY				IAML		03 23 24.5	
	comp=N,401nm,0.5s						
SGV	**South Grapevin**	**1.10**	**38**		Pg	03 23 10.1	-0.6
GSC	**Goldstone, Bar**	**1.20**	**132**		Pg	03 23 11.7	-0.9
GSC				IAML		03 23 53.0	
	comp=N,285nm,0.3s						
GSC				IAML		03 23 53.7	
	comp=E,416nm,0.4s						
WCT	**Wildcat Mounta**	**1.22**	**56**		Pg	03 23 12.1	-0.8
DSP	**Deep Springs**	**1.25**	**357**		Pg	03 23 12.3	-1.3
DSP				IAML		03 23 52.7	
	comp=N,298nm,0.8s						
TPO	**Tropico Hills**	**1.27**	**193**		Pg	03 23 13.0	-0.9
TPO				IAML		03 23 54.2	
	comp=N,274nm,0.5s						
GMN	**Gold Mountain**	**1.28**	**23**		Pg	03 23 13.4	-0.8
GMN				IAML		03 23 54.4	
	comp=N,379nm,0.5s						
TPNV	**Topopah Spring**	**1.56**	**57**		Pn	03 23 17.4	-0.8
TPNV				IAML		03 24 12.1	
	comp=N,197nm,0.6s						
MZP	**Montezuma Peak**	**1.63**	**14**		Pn	03 23 18.6	-0.8
MZP				IAML		03 23 59.3	
	comp=N,213nm,0.6s						
KCC	**Kaiser Creek**	**1.66**	**317**		Pn	03 23 19.8	+0.2
MLAC	**Mammoth, Mammo**	**1.69**	**334**		Pb	03 23 21.1	-0.3
BFSC	**Mount Baldy Ra**	**1.89**	**174**		Pn	03 23 22.4	-0.3
BFSC				IAML		03 24 28.3	
	comp=N,181nm,0.4s						
BFSC				IAML		03 24 28.7	
	comp=E,250nm,0.6s						
MWC	**Mount Wilson**	**1.90**	**184**		Pn	03 23 22.7	-0.2
MWC				IAML		03 24 30.6	
	comp=E,289nm,0.5s						
PASC	**Pasadena Art C**	**1.96**	**187**		Pn	03 23 23.7	+0.1
PASC				IAML		03 24 33.1	
	comp=E,150nm,0.6s						
PASC				IAML		03 24 35.5	
	comp=N,113nm,1.1s						
MTPC	**Mountain Pass**	**2.00**	**108**		Pn	03 23 22.8	-1.6
MTPC				IAML		03 24 33.5	
	comp=N,271nm,0.6s						
MTPC				IAML		03 24 34.4	
	comp=E,310nm,0.5s						
TPH	**Tonopah**	**2.02**	**15**		Pn	03 23 24.2	-0.5
LHV	**Little Huntoon**	**2.19**	**347**		Pn	03 23 26.5	-0.2
LHV				IAML		03 24 40.6	
	comp=E,134nm,1.2s						
LHV				IAML		03 24 50.4	
	comp=N,162nm,0.8s						
SHPR	**Sheep Range**	**2.24**	**79**		Pn	03 23 27.3	-0.3
S11A	**Rachel**	**2.30**	**48**	Pn	Pn	03 23 28.4	0.0
NV11	**Mina Array Sit**	**2.32**	**355**		Pn	03 23 28.7	0.0
NVAR	**Mina Array Bea**	**2.33**	**352**		Pn	03 23 28.5	-0.4
PMPB	**Monarch Peak**	**2.36**	**273**		Pn	03 23 28.8	-0.4
RAMR	**Ramage Ranch**	**2.47**	**260**		Pn	03 23 32.1	+1.4
ELS	**Elsinore Mount**	**2.49**	**171**		Pn	03 23 30.7	-0.4
ELS				IAML		03 24 47.5	
	comp=E,82nm,0.3s						
ELS				IAML		03 24 48.4	
	comp=N,72nm,0.7s						
V12A	**Nelson**	**2.50**	**98**		Pn	03 23 30.5	-0.6
V12A				IAML		03 24 17.9	
	comp=E,112nm,0.6s						
V12A				IAML		03 24 51.4	
	comp=N,91nm,1.4s						
RYN	**Ryan**	**2.56**	**349**	Pn	Pn	03 23 31.9	-0.1
BBGB	**Big Mountain B**	**2.58**	**281**		Pn	03 23 31.8	-0.5
PRN	**Pahroc Range**	**2.62**	**60**		Pn	03 23 32.4	-0.4
WAKR	**Walker**	**2.68**	**333**	Pn	Pn	03 23 33.9	+0.2
WAKR				IAML		03 24 56.9	
	comp=N,94nm,1.1s						
WAKR				IAML		03 25 02.5	
	comp=E,105nm,1.2s						
PMD	**Palm Desert**	**2.76**	**153**	Pn	Pn	03 23 34.9	+0.3
PFO	**Pinyon Flats O**	**2.76**	**154**	Pn	Pn	03 23 34.5	-0.3
CMB	**Columbia Colle**	**2.77**	**315**		Pn	03 23 34.8	0.0
R11B	**Troy Canyon, C**	**2.89**	**39**	Pn	Pn	03 23 36.4	-0.2
R11B				IAML		03 25 01.3	
	comp=E,132nm,0.6s						
R11B				IAML		03 25 01.6	
	comp=N,57nm,0.5s						
SAO	**San Andreas Ge**	**2.94**	**284**		Pn	03 23 36.5	-0.6
BORC	**Borrego Spring**	**3.09**	**156**	IAML		03 25 11.8	
	comp=E,74nm,0.8s						
BORC				IAML		03 25 18.6	
	comp=N,46nm,0.7s						
DPP	**Dos Picos Cty**	**3.21**	**166**	IAML		03 24 29.1	
	comp=N,39nm,0.6s						
DPP				IAML		03 25 11.4	
	comp=E,44nm,0.6s						
W13A	**Hualapai Mount**	**3.42**	**106**	IAML		03 24 31.9	
	comp=E,49nm,0.7s						
W13A				IAML		03 25 19.9	
	comp=N,53nm,1.2s						
BLYC	**Blythe**	**3.64**	**130**	IAML		03 25 28.9	
	comp=N,43nm,0.7s						
BLYC				IAML		03 25 38.9	
	comp=E,32nm,0.8s						
CCUT	**Cedar City**	**3.90**	**67**	IAML		03 25 34.3	
	comp=N,22nm,0.7s						
SZCU	**Shurtz Canyon**	**4.12**	**68**	IAML		03 25 42.2	
	comp=N,21nm,0.7s						
KNB	**Kanab**	**4.18**	**76**	IAML		03 25 49.9	
	comp=E,23nm,1.8s						
KNB				IAML		03 25 53.4	
	comp=N,23nm,1.0s						
U15A	**North Rim**	**4.53**	**84**	IAML		03 25 56.4	
	comp=N,29nm,1.1s						
U15A				IAML		03 26 03.2	
	comp=E,33nm,1.3s						
Y14A	**Wickenburg**	**4.56**	**117**	IAML		03 25 58.2	
	comp=N,34nm,0.8s						
Y14A				IAML		03 26 01.1	
	comp=E,31nm,0.7s						
ELK	**Elko**	**5.07**	**23**	IAML		03 26 14.6	
	comp=E,15nm,1.0s						
ELK				IAML		03 26 17.7	
	comp=E,8.6nm,0.7s						

*NEIC **17** 03:23:27.5±0.8, 36°.116N±0°.008×117°.89W±0°.01, h3km±2km, Error ellipse: s-maj=1.4km s-min=1.1km az=84.0*

PAS 17 03:23:28.0±0.8, 36°.117N±0°.008×117°.89W±0°.01, h3km±1km, ML3.6/99, ML3.5/64(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=73.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MFS	**McCloud Flat S**	**0.03**	**89**		Pg	03 23 29.2	+0.3
MFS					Sg	03 23 30.3	+0.6
WCSM	**Coso Springs S**	**0.14**	**132**		Pg	03 23 30.9	+0.2
WCSM					Sg	03 23 33.0	+0.5
JRC2	**Joshua Ridge**	**0.15**	**154**		Pg	03 23 31.0	+0.1
JRC2					Sg	03 23 33.4	+0.5
WVPM	**Volcano Peak E**	**0.18**	**160**		Pg	03 23 31.5	0.0
WVPM					Sg	03 23 34.3	+0.5
WNMM	**Nine Mile Cany**	**0.27**	**182**		Pg	03 23 33.1	-0.1
WNMM					Sg	03 23 37.1	+0.4
TOW	**Tower One**	**0.32**	**162**		Pg	03 23 34.6	+0.4
TOW					Sg	03 23 39.8	+1.4
MPMC	**Manual Prospec**	**0.33**	**100**		Pg	03 23 34.2	-0.1
MPMC	**Manual Prospec**	**0.33**	**100**	IAML		03 23 40.6	
	comp=N,3μm,0.6s						
MPMC				IAML		03 23 40.9	
	comp=E,2μm,0.4s						
CWC	**Cottonwood Cre**	**0.36**	**335**		Pg	03 23 34.9	0.0
CWC					Sg	03 23 39.9	+0.3
CWC	**Cottonwood Cre**	**0.36**	**335**	IAML		03 23 40.1	
	comp=N,4μm,0.3s						
CWC				IAML		03 23 40.3	
	comp=E,3μm,0.3s						
CLC	**China Lake**	**0.38**	**142**		Pg	03 23 35.4	0.0
CLC					Sg	03 23 40.6	+0.3
CLC	**China Lake**	**0.38**	**142**	IAML		03 23 41.8	
	comp=N,860nm,0.4s						
CLC				IAML		03 23 43.4	
	comp=E,1μm,0.6s						
CGO	**Cerro Gordo**	**0.44**	**9**		Pg	03 23 36.2	-0.3
CGO					Sg	03 23 42.7	+0.4
SRTC	**Snort**	**0.44**	**165**		Pg	03 23 36.8	+0.4
SRTC					Sb	03 23 43.8	-1.6
GPO	**China Lake**	**0.50**	**158**		Pg	03 23 37.6	0.0
GPO					Sg	03 23 44.6	+0.5
WORM	**Onyx Ranch**	**0.51**	**214**		Pg	03 23 37.5	-0.3
WORM					Sg	03 23 44.3	0.0
WHFM	**Hanning Flat**	**0.56**	**222**		Pg	03 23 38.6	-0.1
WHFM					Sg	03 23 46.2	+0.2
WSHM	**Spangler Hills**	**0.61**	**148**		Pg	03 23 39.4	-0.2
WSHM					Sg	03 23 47.8	+0.2
WSHM	**Spangler Hills**	**0.61**	**148**	IAML		03 23 48.4	
	comp=E,1μm,0.4s						
WSHM				IAML		03 23 49.0	
	comp=E,2μm,0.2s						
WBSM	**Bird Springs**	**0.61**	**199**		Pg	03 23 39.6	-0.2
WBSM					Sg	03 23 48.0	+0.3
ISA	**Isabella, Lake**	**0.66**	**226**		Pg	03 23 40.4	-0.2
ISA					Sg	03 23 49.2	+0.1
ISA	**Isabella, Lake**	**0.66**	**226**	IAML		03 23 49.7	
	comp=N,3μm,0.4s						
ISA				IAML		03 23 49.8	
	comp=E,2μm,0.5s						
LRMC	**Laurel Mtn Rad**	**0.66**	**165**		Pg	03 23 40.3	-0.3
LRMC	**Laurel Mtn Rad**	**0.66**	**165**		Sg	03 23 49.3	+0.2
WASM	**Alta Sierra Ca**	**0.66**	**235**		Pg	03 23 40.5	-0.2
WASM					Sg	03 23 49.4	+0.1
SPG2	**Springville 2**	**0.71**	**277**		Pg	03 23 41.3	-0.4
SPG2					Sg	03 23 50.9	-0.1
CCCA	**Chr Cany lake**	**0.73**	**144**		Pg	03 23 42.2	+0.2
CCCA					Sg	03 23 52.3	+0.9
QSM	**Queen of Sheba**	**0.84**	**100**		Pg	03 23 43.8	-0.4
QSM					Sg	03 23 55.1	+0.1
QSM	**Queen of Sheba**	**0.84**	**100**	IAML		03 24 00.1	
	comp=N,2μm,0.7s						
DTP	**Desert Tortois**	**0.85**	**178**		Pg	03 23 43.7	-0.5
DTP					Sg	03 23 55.0	-0.2
FURC	**Furnace Creek,**	**0.90**	**67**		Pg	03 23 45.2	-0.1
FURC					Sg	03 23 57.4	+0.5
CCAC	**Calif City Air**	**0.97**	**186**		Pg	03 23 46.0	-0.5
CCAC					Sg	03 23 59.0	-0.1
GRAC	**Grapevine Rang**	**0.97**	**26**		Pg	03 23 46.4	-0.3
GRAC	**Grapevine Rang**	**0.97**	**26**	IAML		03 24 03.6	
	comp=E,2μm,0.4s						
GRAC				IAML		03 24 03.7	
	comp=N,2μm,0.7s						
TIN	**Tinemaha, Big**	**0.97**	**344**		Pg	03 23 46.4	-0.3
TIN					Sg	03 23 59.5	+0.2
GWY	**Greenwater Val**	**0.99**	**86**		Pg	03 23 46.6	-0.4
GWY					Sg	03 23 60.0	+0.2
GWY	**Greenwater Val**	**0.99**	**86**	IAML		03 24 03.0	
	comp=N,2μm,0.6s						
VES	**Vestal, Richgr**	**1.01**	**254**		Pg	03 23 47.0	-0.3
VES					Sg	03 24 00.7	+0.3
TEJ	**El Tejon**	**1.10**	**217**		Pg	03 23 48.4	-0.7
TEJ					Sg	03 24 02.2	-1.0
SGV	**South Grapevin**	**1.10**	**38**		Pg	03 23 49.5	+0.3
SGV					Sg	03 24 03.1	-0.4
MAGC	**SCE Magundon P**	**1.13**	**228**		Pg	03 23 49.3	-0.3
MAGC					Sb	03 24 04.8	-0.3
LCH	**Last Change Ra**	**1.13**	**10**		Pg	03 23 48.7	-0.9
GSC	**Goldstone, Bar**	**1.20**	**132**		Pg	03 23 50.2	-0.8
GSC					Sg	03 24 06.2	-0.3
GSC	**Goldstone, Bar**	**1.20**	**132**	IAML		03 24 08.7	
	comp=E,715nm,0.8s						
GSC				IAML		03 24 11.5	
	comp=N,608nm,0.5s						
WCT	**Wildcat Mounta**	**1.22**	**56**		Pg	03 23 50.6	-0.9
WCT	**Wildcat Mounta**	**1.22**	**56**	IAML		03 24 10.2	
	comp=N,624nm,0.4s						
WCT				IAML		03 24 14.7	
	comp=E,607nm,0.9s						
VOG	**Valley Oaks Go**	**1.22**	**280**		Pg	03 23 50.7	-0.7
VOG					Sg	03 24 07.4	+0.1
EDW2	**Edwards Air Fo**	**1.24**	**184**		Pg	03 23 50.5	-1.1
EDW2					Sg	03 24 06.7	-0.9
BAKC	**Calstate**	**1.25**	**232**		Pg	03 23 51.4	-0.6
DSP	**Deep Springs**	**1.25**	**357**		Pg	03 23 50.8	-1.2
DSP					Sg	03 24 07.7	-0.6
TPO	**Tropico Hills**	**1.27**	**193**

STH	**Stony Hill**	**0.39**	**243**	*i* P		**Pg**	**03 29 28.3**	**+0.7**
STH				*e*S		**Sg**	**03 29 31.8**	**-1.1**
STH				lAML			03 29 32.9	
	comp=N,20μm,0.1s							
STH				lAML			03 29 33.0	
	comp=E,19μm,0.1s							
STH	**Stony Hill**	**0.39**	**243**	⇑*i* P		**Pg**	**03 29 28.3**	**+0.7**
MTDJ	**Mount Denham**	**1.04**	**268**	*e*P		**Pb**	**03 29 40.0**	**+0.3**
MTDJ				*e*S		**Sb**	**03 29 52.7**	**-0.8**
MTDJ				lAML			03 29 53.3	
	comp=E,52nm,0.2s							
MTDJ				lAML			03 29 53.5	
	comp=E,52nm,0.3s							
MTDJ	**Mount Denham**	**1.04**	**268**	⇑*i* P		**Pn**	**03 29 40.2**	**0.0**
CHIV	**Chivirico**	**1.71**	**1**	*e*P		**Pb**	**03 29 51.6**	**+0.4**
CHIV				*e*S		**Sb**	**03 30 12.8**	**+0.1**
CHIV				lAML			03 30 16.0	
	comp=N,2.7nm,0.2s							
CHIV				lAML			03 30 16.5	
	comp=E,2.5nm,0.3s							
RCC	**Rio Carpintero**	**1.87**	**22**	*e*P		**Pg**	**03 29 55.8**	**+0.2**
RCC				*e*S		**Sg**	**03 30 19.3**	**-0.5**
LMGC	**Las Mercedes**	**1.88**	**344**	*e*P		**Pb**	**03 29 53.6**	**-0.4**
LMGC				*e*S		**Sn**	**03 30 15.7**	**+0.4**
LMGC				lAML			03 30 19.4	
	comp=N,18nm,0.1s							
LMGC				lAML			03 30 19.9	
	comp=E,14nm,0.0s							
PILO	**Pilon**	**1.88**	**331**	*e*P		**Pb**	**03 29 53.7**	**-0.3**
PILO				*e*S		**Sn**	**03 30 15.3**	**-0.2**
PILO				lAML			03 30 17.2	
	comp=E,6.7nm,0.3s							
PILO				lAML			03 30 18.3	
	comp=N,14nm,0.1s							
GTBY	**Guantanamo Bay**	**2.08**	**37**	*e*P		**Pb**	**03 29 58.7**	**+1.1**
GTBY				*e*S		**Sb**	**03 30 25.0**	**+1.5**
GTBY				lAML			03 30 30.8	
	comp=N,15nm,1.0s							
GTBY				lAML			03 30 37.1	
	comp=N,21nm,0.6s							
YAR	**Yar**	**2.10**	**2**	*e*P		**Pb**	**03 29 58.1**	**+0.2**
YAR				*e*S		**Sb**	**03 30 24.4**	**+0.3**
YAR				lAML			03 30 25.7	
	comp=N,2.1nm,0.2s							
YAR				lAML			03 30 25.8	
	comp=E,2.9nm,0.1s							
PINC	**Pinares de May**	**2.30**	**15**	*e*P		**Pb**	**03 30 00.7**	**-0.5**
PINC				*e*S		**Sb**	**03 30 29.4**	**-0.3**
PINC				lAML			03 30 33.4	
	comp=Z,188nm,0.1s							
PINC				lAML			03 30 34.0	
	comp=N,701nm,0.0s							
QMBU	**Quimbuelo**	**2.47**	**38**	*e*P		**Pb**	**03 30 02.4**	**-1.8**
QMBU				*e*S		**Sb**	**03 30 34.0**	**-0.6**
QMBU				lAML			03 30 35.4	
	comp=N,1.9nm,0.2s							
QMBU				lAML			03 30 35.6	
	comp=E,3.7nm,0.2s							
HLGC	**Holguin**	**2.64**	**8**	*e*P		**Pb**	**03 30 06.6**	**-0.5**
HLGC				*e*S		**Sb**	**03 30 40.5**	**+0.9**
HLGC				lAML			03 30 50.4	
	comp=N,25nm,1.9s							
HLGC				lAML			03 31 17.7	
	comp=E,16nm,1.9s							

IDC 17 03:30:01.6±1.4, 4°94S×150°92E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=109.7km s-min=25.4km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.98**	**226**	P	P	03 34 57.1	-0.3
	0.7nm,0.3s,baz=50,slow=10,SNR=13 0.7nm,0.3s						
ASAR	**Alice Springs**	**24.81**	**220**	P	P	03 35 25.4	-0.3
	1.0nm,0.7s,baz=51,slow=9.1,SNR=8.6 1.0nm,0.7s						
ILAR	**Eielson Array**	**83.00**	**22**	P	P	03 42 28.3	-0.2
	0.4nm,0.6s,baz=247,slow=5.4,SNR=8.6 0.4nm,0.6s						
NVAR	**Mina Array Bea**	**93.64**	**52**	P	P	03 43 20.0	-0.7
	0.7nm,0.8s,baz=271,slow=5.3,SNR=3.6 0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**148.57**	**287**	PKPbc	PKPbc	03 49 52.1	+0.4
	1.7nm,0.7s,baz=86,slow=2.4,SNR=9.2						

IDC 17 03:46:40.8±0.8, 26°60N×100°17E, h0km, mb3.8/12, mbtmp3.8/12, Error ellipse: s-maj=25.4km s-min=15.5km az=67.0

ISC 17 03:46:43.4±0.8, 26°83N±0°09×100°3E±0°2, h10km, n14, σ1$40/13, mb3.8/12, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.43**	**189**	Pg	**Pb**	**03 49 11.3**	**+1.8**
	0.8nm,0.3s,baz=6.5,slow=17,SNR=12						
CMAR				Lg	Lg	03 51 01.1	
	0.6nm,0.3s,baz=9.5,slow=32,SNR=6.1						
SONM	**Songino Array**	**21.50**	**11**	P	**P**	**03 51 34.3**	**+1.8**
	1.3nm,0.8s,baz=191,slow=11,SNR=14 1.3nm,0.8s						
MKAR	**Makanchi Array**	**24.48**	**329**	P	**P**	**03 52 03.8**	**+1.1**
	2.1nm,0.5s,baz=134,slow=11,SNR=23 2.1nm,0.5s						
KSRS	**Korea Array**	**25.59**	**59**	P	**P**	**03 52 13.5**	**+0.7**
	0.9nm,0.5s,baz=248,slow=9.8,SNR=6.2 0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**28.99**	**331**	P	**P**	**03 52 43.5**	**+0.4**
	0.5nm,0.6s,baz=136,slow=8.9,SNR=3.2 0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**29.41**	**341**	P	**P**	**03 52 47.4**	**+0.6**
	0.6nm,0.3s,baz=146,slow=8.8,SNR=5.9 0.6nm,0.3s						
USRK	**Ussuriysk Ar.**	**30.82**	**48**	P	**P**	**03 53 00.4**	**+0.9**
	1.7nm,0.7s,baz=234,slow=9.9,SNR=2.8 1.7nm,0.7s						
BVAR	**Borovoye Array**	**34.34**	**328**	P	**P**	**03 53 30.8**	**+0.6**
	1.1nm,0.7s,baz=126,slow=7.3,SNR=2.7 1.1nm,0.7s						
WRA	**Warramunga Arr**	**57.02**	**141**	P	**P**	**03 56 27.7**	**-2.0**
	1.2nm,0.7s,baz=330,slow=7.7,SNR=6.3 1.2nm,0.7s						
AKASG	**Malin Array Be**	**57.94**	**315**	P	**P**	**03 56 34.7**	**-1.1**
	0.1nm,0.3s,baz=76,slow=6.6,SNR=2.7 0.1nm,0.3s						
ASAR	**Alice Springs**	**59.79**	**144**	P	**P**	**03 56 47.1**	**-1.9**
	0.6nm,0.7s,baz=321,slow=6.2,SNR=7.0 0.6nm,0.7s						
NB2	**NORSAR Subarra**	**66.47**	**328**	P	**P**	**03 57 31.9**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=78,slow=6.5						
NOA	**NORSAR Array B**	**66.47**	**328**	P	P	03 57 31.4	-1.6
	comp=Z,0.5nm,0.7s,baz=77,slow=6.4,SNR=3.8 comp=Z,0.5nm,0.7s						
GERES	**GERESS Array B**	**68.15**	**315**	P	**P**	**03 57 43.5**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=60,slow=6.2,SNR=3.6 comp=Z,0.5nm,0.7s						

NEIC 17 03:58:56.1±1.0, 37°512N±0°008×97°74W±0°02, h5km±1km, mb_Lg2.2/26, ML2.7/26, Error ellipse: s-maj=3.0km s-min=2.7km az=323.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN12	**Harper NE Stat**	**0.30**	**224**		Pg	03 59 02.9	+1.0
KAN12				Sg	Sg	03 59 06.8	+1.0
KAN08	**Anthony NE Sta**	**0.34**	**213**		Pg	03 59 03.6	+0.9
KAN08				Sg	Sg	03 59 07.9	+0.8
KAN08				lAML		03 59 08.1	
	comp=E,1μm,0.3s						
KAN08				lAML		03 59 08.1	
	comp=N,916nm,0.2s						
KAN01	**Argonia South**	**0.36**	**182**		Pg	03 59 03.9	+0.8
KAN01				Sg	Sg	03 59 08.6	+0.8
KAN09	**Caldwell North**	**0.39**	**165**		Pg	03 59 04.5	+0.9
KAN09				Sg	Sg	03 59 09.6	+0.9
KAN09				lAML		03 59 11.6	
	comp=E,686nm,0.3s						
KAN09				lAML		03 59 16.0	
	comp=N,682nm,0.3s						
KAN17	**Caldwell West**	**0.47**	**182**		Pg	03 59 06.0	+0.8
KAN17				Sg	Sg	03 59 12.0	+0.8
KAN13	**South Haven SW**	**0.54**	**157**		Pb	03 59 07.4	-0.7
KAN13				Sg	Sg	03 59 14.5	+1.0
KAN13				lAML		03 59 18.7	
	comp=N,387nm,0.3s						
KAN13				lAML		03 59 23.7	
	comp=E,384nm,0.3s						
KAN14	**Manchester OK**	**0.58**	**198**		Pg	03 59 08.0	+0.7
KAN14				Sg	Sg	03 59 15.5	+0.6
GC02	**Grant County #**	**0.67**	**188**		Pg	03 59 09.4	+0.5
GC02				Sg	Sg	03 59 18.1	+0.5
CROK	**Carrier**	**1.02**	**191**		Pg	03 59 15.9	+0.2
CROK				lAML		03 59 33.9	
	comp=N,162nm,0.3s						
CROK				lAML		03 59 36.7	
	comp=E,248nm,0.3s						
T35A	**Sooner Cattle**	**1.15**	**121**		Pb	03 59 18.7	+0.2
T35A				lAML		03 59 38.2	
	comp=E,121nm,0.2s						
T35A				lAML		03 59 40.5	
	comp=E,161nm,0.3s						
R32A	**Long Quarter,**	**1.19**	**320**		Pn	03 59 19.6	+0.1
R32A				lAML		03 59 40.1	
	comp=E,291nm,0.2s						
R32A				lAML		03 59 40.6	
	comp=E,217nm,0.2s						
OK051	**E0350 and S346**	**1.24**	**144**	Pn	Pn	03 59 20.1	0.0
OK038	**West end E0370**	**1.31**	**218**		Pn	03 59 20.9	-0.2
QUOK	**Quay**	**1.57**	**148**		Pn	03 59 25.1	+0.3
OK052	**Battle Ridge R**	**1.69**	**153**		Pn	03 59 26.4	+0.1
OK029	**Liberty Lake**	**1.73**	**172**		Pn	03 59 26.4	-0.5
KSU1	**Kansas State U**	**1.82**	**29**		Pn	03 59 27.4	-0.7
DEOK	**Depew**	**1.94**	**149**		Pn	03 59 29.9	+0.1
ELIS	**Ellis County**	**1.97**	**223**	Pn	Pn	03 59 29.6	-0.7
CBKS	**Cedar Bluff**	**2.04**	**310**	Pn	Pn	03 59 31.4	+0.2
OKCSW	**OKLAHOMA CITY**	**2.12**	**173**	Pn	Pn	03 59 31.5	-0.7
TUL3	**Leonard**	**2.24**	**135**	Pn	Pn	03 59 33.0	-0.9
FNO	**Franklin**	**2.27**	**173**		Pn	03 59 33.2	-1.1
RLO	**Rose Lookout**	**2.56**	**121**	Pn	Pn	03 59 36.4	-1.9
U38A	**Gravette**	**2.89**	**111**		Pn	03 59 42.6	-0.2
WMOK	**Wichita Mounta**	**2.89**	**197**		Pn	03 59 41.5	-1.4
WMOK	**Wichita Mounta**	**2.89**	**197**	Pn	Pn	03 59 41.1	-1.8
X34A	**Smith Ranch, M**	**2.91**	**181**	lAmb_Lg		04 00 28.2	
	comp=Z,6.1nm,0.8s						
SMWD	**Samnorwood**	**3.14**	**221**	lAmb_Lg		04 00 38.4	
	comp=Z,5.1nm,1.0s						
P38A	**Dawn**	**3.92**	**56**	lAmb_Lg		04 01 06.4	
	comp=Z,5.6nm,0.8s						
AMTX	**Amarillo**	**4.13**	**232**	lAmb_Lg		04 01 07.3	
	comp=Z,3.7nm,0.8s						
MGMO	**Mountain Grove**	**4.38**	**93**	lAmb_Lg		04 01 23.4	
	comp=Z,3.5nm,0.8s						
MIAR	**Mount Ida**	**4.49**	**130**	lAmb_Lg		04 01 29.4	
	comp=Z,6.6nm,0.8s						
DKNS	**Dickens**	**4.63**	**215**	lAmb_Lg		04 01 20.5	
	comp=Z,7.2nm,1.2s						
N38A	**Joes South For**	**4.80**	**46**	lAmb_Lg		04 01 30.9	
	comp=Z,8.8nm,0.8s						
P40A	**Paris**	**4.90**	**64**	lAmb_Lg		04 01 34.0	
	comp=Z,3.8nm,0.8s						
WHAR	**Wooly Hollow**	**4.93**	**115**	lAmb_Lg		04 01 40.6	
	comp=Z,6.7nm,0.8s						
X40A	**Basin Creek Fa**	**4.99**	**126**	lAmb_Lg		04 01 36.8	
	comp=Z,4.2nm,0.8s						
CCM	**Cathedral Cave**	**5.18**	**82**	lAmb_Lg		04 01 51.8	
	comp=Z,4.4nm,1.0s						
PBMO	**Poplar Bluff**	**5.89**	**95**	lAmb_Lg		04 02 10.8	
	comp=Z,5.1nm,0.8s						
Q24A	**Divide**	**6.01**	**286**	lAmb_Lg		04 02 20.6	
	comp=Z,5.9nm,0.8s						

NNC 17 04:03:11.5±2.1, 36°77N×70°75E, h120km±45km, mb3.0, mpv3.7, 4C-1D, Error ellipse: s-maj=24.4km s-min=17.6km az=134.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.33**	**358**	⇑P	Pn	04 04 42.2	-0.2
	6.6nm,0.4s,baz=177,slow=12,SNR=67						
KK31				⇑S	Sn	04 05 54.2	+0.9
	1.8nm,0.3s,baz=188,slow=24,SNR=3.9						
AAK	**Ala-Archa**	**6.54**	**25**	⇑P	Pn	04 04 45.4	+0.1
	1.2nm,0.4s						
AAK				⇓S	Sn	04 05 58.9	+0.4
	2.5nm,0.5s						
AB31	**Akbulak array**	**14.76**	**331**	⇑P	Pn	04 06 34.0	0.0
	0.4nm,0.5s,baz=161,slow=10,SNR=13						

IDC 17 04:32:37.8±1.0, 12°53S×166°07E, h0km, mb4.2/12, mbtmp4.2/13, ML3.3/1, Error ellipse: s-maj=36.4km s-min=18.0km az=88.0

NEIC 17 04:32:39.8±2.0, 12°42S±0°05×166°1E±0°2, h10km±1km, mb4.6/21, Error ellipse: s-maj=28.9km s-min=6.1km az=79.0

ISC 17 04:32:43.6±0.5, 12°53S±0°07×166°1E±0°1, h40km, n43, σ1$00/44, mb4.6/23, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.10**	**159**		**Pn**	**04 33 30.7**	**+0.7**
DZM	**Mont Dzumac**	**9.49**	**178**	Pn	**Pn**	**04 34 57.3**	**-0.7**
DZM	**Mont Dzumac**	**9.49**	**178**	Pn	**Pn**	**04 34 57.6**	**-0.3**
	0.3nm,0.3s,baz=333,slow=18,SNR=1.2						
DZM				Sn	**Sn**	**04 36 42.6**	**-0.8**
	baz=327,slow=6.7 6.1nm,0.8s						
EIDS	**Eidsvold**	**19.06**	**226**	P	**Pn**	**04 37 03.2**	**-0.4**
STKA	**Stephens Creek**	**29.61**	**226**	P	**P**	**04 38 44.0**	**-1.2**
	2.1nm,0.8s,baz=59,slow=19,SNR=3.1 2.1nm,0.8s						
WB0	**Warramunga Arr**	**31.23**	**253**	P	**P**	**04 38 58.6**	**-1.0**
WB0				lAmb	lAmb	04 39 13.4	
	comp=Z,6.2nm,1.1s						
WRA	**Warramunga Arr**	**31.31**	**252**	P	**P**	**04 38 59.6**	**-0.7**
WRA	**Warramunga Arr**	**31.31**	**252**	P	**P**	**04 38 59.3**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=82,slow=9.2,SNR=2.6 comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**32.45**	**246**	P	**P**	**04 39 09.8**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=76,slow=8.5,SNR=9.7 comp=Z,1.2nm,0.8s						
MJAR	**Matsushiro Arr**	**55.43**	**333**	P	**P**	**04 42 14.3**	**+0.2**
MJAR	**Matsushiro Arr**	**55.43**	**333**	P	**P**	**04 42 13.6**	**-0.6**
	comp=Z,1.3nm,0.4s,baz=166,slow=8.2,SNR=6.9 comp=Z,1.3nm,0.4s						
KSRS	**Korea Array**	**61.28**	**326**	P	**P**	**04 42 56.6**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=134,slow=7.0,SNR=1.8 comp=Z,0.7nm,0.6s						
USRK	**Ussuriysk Ar.**	**64.41**	**333**		**P**	**04 43 15.1**	**-0.5**
USRK	**Ussuriysk Ar.**	**64.41**	**333**	P	**P**	**04 43 15.2**	**-0.4**
	comp=Z,7.0nm,0.9s,baz=131,slow=5.9,SNR=11 comp=Z,7.0nm,0.9s						
VNDA	**Vanda**	**65.02**	**181**	P	**P**	**04 43 21.0**	**+1.8**
CMAR	**Chiang Mai Arr**	**73.00**	**294**	P	**P**	**04 44 11.9**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=111,slow=8.5,SNR=1.0 comp=Z,0.6nm,0.3s						
QSPA	**South Pole Qui**	**77.48**	**180**	P	**P**	**04 44 35.8**	**+0.9**
QSPA	**South Pole Qui**	**77.48**	**180**	P	**P**	**04 44 35.6**	**+0.8**
	comp=Z,8.9nm,0.9s,baz=13,slow=1.4,SNR=11 comp=Z,8.9nm,0.9s						
SONM	**Songino Array**	**80.05**	**324**	P	**P**	**04 44 48.8**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=134,slow=6.2,SNR=6.9 comp=Z,0.8nm,0.6s						
L27K	**Beaver Creek,**	**85.34**	**21**	P	**P**	**04 45 17.3**	**+1.1**
T35M	**Bob Quinn**	**86.75**	**29**	P	**P**	**04 45 23.2**	**-0.1**
SZCU	**Shurtz Canyon**	**90.43**	**52**	P	**P**	**04 45 40.9**	**-0.5**
SZCU				lAmb	lAmb	04 45 42.6	
	comp=Z,2.8nm,0.9s						
DUG	**Dugway, Tooele**	**91.32**	**49**	P	**P**	**04 45 44.7**	**-0.7**
DUG				lAmb	lAmb	04 45 48.3	
	comp=Z,4.6nm,1.4s						
HMU	**Henry Mountain**	**92.31**	**52**	P	**P**	**04 45 48.7**	**-1.6**
P18A	**Preston Nutter**	**93.09**	**50**	P	**P**	**04 45 53.7**	**-0.2**
P18A				lAmb	lAmb	04 46 04.8	
	comp=Z,1.9nm,1.2s						
KAAM	**Kaadhehdhoo**	**93.11**	**270**	P	**P**	**04 45 54.0**	**-0.1**
QLMT	**Earthquake Lak**	**93.48**	**45**	P	**P**	**04 45 55.0**	**-0.4**
YHL	**Hebgen Lake**	**93.66**	**45**	P	**P**	**04 45 54.9**	**-1.4**
YHL				lAmb	lAmb	04 45 56.7	
	comp=Z,4.9nm,1.5s						
PV20	**West Nyswonger**	**93.77**	**52**	P	**P**	**04 45 55.0**	**-1.8**
PV20				lAmb	lAmb	04 46 10.2	
	comp=Z,4.0nm,1.2s						
PV22	**Blue Mesa, Par**	**93.95**	**52**	P	**P**	**04 45 57.6**	**0.0**
PV22				lAmb	lAmb	04 46 00.7	
	comp=Z,3.1nm,1.2s						
HPIG		**94.05**	**63**	P	**P**	**04 45 56.3**	**-2.1**
HPIG				lAmb	lAmb	04 45 56.9	
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**94.82**	**317**	P	**P**	**04 46 01.3**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=92,slow=7.2,SNR=6.7 comp=Z,0.9nm,0.7s						
ZAA0	**Zalesovo Array**	**94.94**	**324**	P	**P**	**04 46 00.8**	**-0.8**
ZAA0				lAmb	lAmb	04 46 01.9	
	comp=Z,3.0nm,1.1s						
ZALV	**Zalesovo Beam**	**94.94**	**324**	P	**P**	**04 46 00.8**	**-0.8**
ZALV	**Zalesovo Beam**	**94.94**	**324**	P	**P**	**04 46 01.2**	**-0.4**
	comp=Z,3.0nm,1.0s,baz=82,slow=3.1,SNR=5.8 comp=Z,3.0nm,1.0s						
MAKZ	**Makanchi**	**95.03**	**317**	P	**P**	**04 46 02.1**	**-0.1**
MAKZ				lAmb	lAmb	04 46 04.9	
	comp=Z,3.0nm,1.1s						
SNAA	**Sanae**	**95.66**	**184**	P	**P**	**04 46 06.5**	**+1.8**
SNAA	**Sanae**	**95.66**	**184**	P	**P**	**04 46 04.6**	**-0.2**
	comp=Z,2.1nm,1.2s,baz=203,slow=4.2,SNR=4.0 comp=Z,2.1nm,1.2s						
YKAW3	**Yellowknife Wh**	**96.15**	**27**	P	**P**	**04 46 07.6**	**+0.7**
YKAW3				lAmb	lAmb	04 46 23.2	
	comp=Z,2.3nm,1.0s						
AKASG	**Malin Array Be**	**128.27**	**326**	PKP	**PKiKP**	**04 51 45.8**	**-0.5**
	comp=Z,0.1nm,0.2s,baz=53,slow=4.8,SNR=1.4						
KEST	**Kesra**	**148.78**	**322**	PKPbc	**PKPbc**	**04 52 26.7**	**-0.6**
	comp=Z,5.3nm,0.8s,baz=18,slow=4.7,SNR=4.8						
ESDC	**Sonseca Array**	**151.57**	**344**	PKPbc	**PKiKP**	**04 52 34.4**	**0.0**
	comp=Z,0.5nm,0.6s,baz=16,slow=4.2,SNR=2.3						
TORD	**Torodi Ar. Bea**	**164.76**	**274**	PKPab	**PKPab**	**04 53 41.3**	**+1.2**
	comp=Z,0.8nm,1.0s,baz=87,slow=6.9,SNR=3.8						

DJA 17 04:35:12.1±0.3, 7°S×107°E±°, h88km±4km, M4.2/18, mb4.6/3, MLv4.0/18, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.09**	**301**	P	Pn	04 35 25.2	+0.7
SKJI				S	Sn	04 35 35.9	+2.1
DBJI	**Dramaga**	**0.51**	**14**	P	Pn	04 35 27.0	+0.3
CNJI	**Cibinong**	**0.56**	**117**	P	Pn	04 35 27.3	+0.2
CBJI	**Citeko**	**0.66**	**19**	P	Pn	04 35 26.8	-1.3
LEM	**Lembang**	**1.00**	**77**	P	Pn	04 35 32.5	+0.6
CGJI	**Cibinong**	**1.03**	**295**	P	Pn	04 35 32.5	+0.5
SBJI	**Serang**	**1.05**	**332**	P	Pn	04 35 32.1	-0.1
CMJI	**Cimerak**	**1.94**	**112**	P	Pn	04 35 43.3	-0.2
KASI	**Kota Agung**	**2.61**	**305**	P	Pn	04 35 52.4	+0.1
LWLI	**Liwa**	**3.26**	**308**	P	Pn	04 36 01.2	0.0
MDSI	**Maura Dua**	**3.53**	**316**	P	Pn	04 36 04.7	0.0
UGM	**Wanagama**	**3.95**	**103**	P	Pn	04 36 10.4	-0.2
MNAI	**Manna**	**4.53**	**306**	P	Pn	04 36 18.6	+0.3
PCJI	**Pacitan**	**4.65**	**104**	P	Pn	04 36 20.1	+0.1
GRJI	**Gresik**	**5.81**	**89**	P	Pn	04 36 36.2	+0.5
	101nm,0.6s						
GMJI	**Gumukmas**	**6.86**	**101**	P	Pn	04 36 51.5	+1.4
	0.2nm39nm,1.4s						
JAGI	**Jajag, Banyuwa**	**7.59**	**101**	P	Pn	04 37 00.0	0.0

BJI 17 04:35:10.5, 12°17S×167°09E, h13km, mB5.2/14, mb5.0/57, Ms4.8/13, Ms7 4.5/12

IDC 17 04:35:11.0±0.5, 12°48S×166°37E, h0km, mb4.6/19, mbtmp4.6/20, ML3.9/1, MS4.3/16, Error ellipse: s-maj=22.3km s-min=13.7km az=95.0

MOS 17 04:35:12.1±1.1, 12°42S×166°24E, h12km, mb5.3/26, Error ellipse: s-maj=12.0km s-min=8.4km az=125.1

NEIC 17 04:35:14.6±1.1, 12°36S±0°08×166°3E±0°1, h10km±1km, mb5.2/33, Error ellipse: s-maj=21.0km s-min=13.3km az=81.0

GCMT 17 04:35:18.6±0.2, 12°30S±0°02×165°94E±0°01, h20km, MW5.1/102, Moment Tension Solution. s50,c61; s102,c135; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr4.52±.21; Mθθ-0.57±.13; Mϕϕ-3.95±.14; Mrθ0.89±.31; Mθϕ1.45±.09; Mϕr-2.31±.24; Best double couple: M○5.13800×10^16 NP1,ϕs340.00000°, δ31.00000°, λ91.00000°. NP2,ϕs159.00000°, δ59.00000°, λ90.00000°. Principal axes: T 5.1550, Plg76.0000°, Azm68.0000°; N -0.0330, Plg0.0000°, Azm160.0000°; P -5.1210, Plg14.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 17 04:35:13.9±1.1, 12°40S±0°05×166°23E±0°07, h13km±6km, n211, σ1$31/215, mb5.1/61, MS4.3/24, 11C-11D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.17**	**163**	Pn	**Pn**	**04 36 04.9**	**+1.3**
SANVU				Sn	**Sn**	**04 36 44.7**	**+3.3**
DZM	**Mont Dzumac**	**9.62**	**179**	Pn	**Pn**	**04 37 33.5**	**+1.2**
DZM	**Mont Dzumac**	**9.62**	**179**	*e*Pn	**Pn**	**04 37 34.3**	**+2.1**
	168nm,1.1s						
DZM				*e*LR	LR	04 39 38.9	
	1μm,23.7s						
DZM	**Mont Dzumac**	**9.62**	**179**	Pn	**Pn**	**04 37 31.0**	**-1.3**
	1.2nm,0.3s,baz=0.0,slow=20,SNR=6.5						
DZM				Sn	**Sn**	**04 39 17.5**	**-2.8**
	0.7nm,0.3s,baz=0.0,slow=20,SNR=2.0 5.4nm,0.8s						
ONTNC	**Ouen Toro**	**9.85**	**179**	Pn	**Pn**	**04 37 37.3**	**+2.0**
PINNC	**Pines Island,**	**10.22**	**174**	Pn	**Pn**	**04 37 41.6**	**+1.2**
MSVF	**Nonsavu**	**12.59**	**116**	Pn	**Pn**	**04 38 13.2**	**+0.4**
MSVF	**Nonsavu**	**12.59**	**116**	P	**Pn**	**04 38 13.3**	**+0.4**
EIDS	**Eidsvold**	**19.25**	**226**		**Pn**	**04 39 39.2**	**-0.1**
CTAO	**Charters Tower**	**20.63**	**246**		**P**	**04 39 54.3**	**+1.0**
CTAO	**Charters Tower**	**20.63**	**246**	P	**P**	**04 39 54.3**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,27nm,1.2s						
PATS	**Pohnpei**	**20.67**	**337**		Pn	04 39 55.0	-1.0
PATS				lAmb	lAmb	04 39 56.6	
	comp=Z,128nm,1.0s						
MANU	**Manus Island**	**21.33**	**297**	P	**P**	**04 40 01.8**	**+0.8**
ARMA	**Armidale**	**22.45**	**215**	P	**P**	**04 40 13.7**	**+0.7**
JAY	**Jayapura**	**27.11**	**289**	LR	LR	04 52 55.8	
	comp=Z,396nm,18.9s,baz=342,slow=39						
STKA	**

KAPI Kappang 46.47 275 *i* P **P** **04 43 43.7 +2.5**
KAPI pmax pmax
comp=Z,6.0nm,1.1s
NWAO Narrogin (SRO) 49.11 237 LR LR 05 05 13.0
comp=Z,863nm,18.9s,baz=74,slow=37
TAOE Nuku Hiva Isla 52.76 92 *e*S **S** **04 51 55.7 -2.0**
comp=Z,166nm,28.5s
TAOE *e*LR LR 04 59 25.9
comp=Z,348nm,22.9s
INU Inuyama 54.96 331 P **P** **04 44 45.0 +0.1**
INU IAmb IAmb 04 44 46.3
comp=Z,40nm,1.3s
JGF Kuroka 55.00 331 **P** **04 44 45.1 -0.1**
JGF IAmb IAmb 04 44 46.3
comp=Z,15nm,0.7s
JMN Monobe 55.26 327 **P** **04 44 47.5 +0.4**
MJA0 Matsu Arr-Jizo 55.37 333 *e*P **P** **04 44 47.2 -0.7**
MJAR Matsushiro Arr 55.38 333 P **P** **04 44 47.2 -0.8**
MJAR IAmb IAmb 04 44 49.0
comp=Z,17nm,0.9s
MJAR Matsushiro Arr 55.38 333 P **P** **04 44 47.0 -0.9**
comp=Z,20nm,0.9s,baz=162,slow=7.6,SNR=38
MJAR PcP **PcP** **04 45 48.6 +0.3**
comp=Z,1.7nm,0.5s,baz=165,slow=5.0,SNR=2.0
comp=Z,20nm,0.9s
MJAR Matsushiro Arr 55.38 333 P **P** **04 44 47.2 -0.8**
MJAR pmax pmax
comp=Z,17nm,1.0s
MAJO Matsushiro 55.39 333 **P** **04 44 47.5 -0.5**
MAJO IAmb IAmb 04 44 49.2
comp=Z,28nm,0.9s
MAJO Matsushiro 55.39 333*c* *i*P **P** **04 44 47.3 -0.7**
MAJO pmax pmax
comp=Z,34nm,1.0s
MJB9 Matsu-Tunnel 55.39 333 P **P** **04 44 47.7 -0.3**
MJB9 IAmb IAmb 04 44 49.2
comp=Z,29nm,1.0s
JNU Nakatsue 56.45 324 **P** **04 44 55.3 -0.4**
JNU IAmb IAmb 04 44 58.0
comp=Z,21nm,0.9s
JTM Tennabayashi 57.82 338 P **P** **04 45 05.4 +0.3**
LEM Lembang 57.96 270 P **P** **04 45 07.8 +0.9**
comp=Z,13nm,0.4s,baz=163,slow=19,SNR=2.1
LEM LR LR 05 10 24.3
comp=Z,195nm,18.7s,baz=193,slow=36
comp=Z,13nm,0.4s
JKA Kamikawa-asahi 60.22 341 **P** **04 45 22.5 +0.8**
JKA IAmb IAmb 04 45 23.8
comp=Z,30nm,1.4s
ASAJ Asahikawa 60.22 341 P **P** **04 45 22.5 +0.7**
ASAJ pmax pmax
comp=Z,30nm,1.4s
KSRS Korea Array 61.26 326 P **P** **04 45 29.6 +0.6**
comp=Z,4.2nm,0.6s,baz=137,slow=7.3,SNR=20
KSRS PcP **PcP** **04 46 12.4 +1.0**
comp=Z,4.6nm,1.1s,baz=132,slow=5.1,SNR=4.3
comp=Z,4.2nm,0.6s
KSAR Wonju Array Be 61.27 326 **P** **04 45 29.4 +0.4**
KSAR Wonju Array Be 61.27 326 P **P** **04 45 29.4 +0.4**
YSS Yuzhno-Sakhali 62.72 342 *e*P **P** **04 45 39.2 +0.7**
YSS *e*S **S** **04 54 04.2 -2.7**
YSS pmax pmax
comp=Z,100nm,4.6s
YSS pmax pmax
comp=Z,20nm,1.4s
NJ2 Nanjing 63.31 316 *e*P **P** **04 45 44.3 +1.5**
NJ2 pmax pmax
comp=Z,18nm,0.9s
SKR Severo-Kuril's 63.44 353 *e*P P 04 45 54.4 +11
SKR *e*S S 04 54 43.1 +27
SKR pmax pmax
comp=Z,100nm,11.9s
SKR MLR MLR
comp=Z,300nm,17.0s
SKR MLR MLR
comp=Z,500nm,16.0s
MSHR Mys Shultsa 63.47 332⇑ *i*P **P** **04 45 43.5 -0.1**
MSHR pmax pmax
comp=Z,18nm,0.8s
VLA Vladivostok 63.56 333⇑ *i*P **P** **04 45 44.9 +0.7**
VLA pmax pmax
comp=Z,41nm,1.1s
PSTR Posyet 63.69 332⇑ *i*P **P** **04 45 45.8 +0.7**
USA0B Ussuriysk Arra 64.36 333 **P** **04 45 50.1 +0.6**
USA0B Ussuriysk Arra 64.36 333 P **P** **04 45 50.1 +0.6**
USA0B pmax pmax
comp=Z,62nm,1.1s
USRK Ussuriysk Ar. 64.36 333 **P** **04 45 50.2 +0.8**
USRK Ussuriysk Ar. 64.36 333 P **P** **04 45 49.8 +0.3**
comp=Z,33nm,0.9s,baz=134,slow=6.0,SNR=55
comp=Z,33nm,0.9s
USRK Ussuriysk Ar. 64.36 333 P **P** **04 45 50.3 +0.8**
VNDA Vanda 65.15 181 P **P** **04 45 53.8 -0.4**
VNDA Vanda 65.15 181 P **P** **04 45 52.8 -1.4**
comp=Z,2.9nm,1.0s,baz=345,slow=8.5,SNR=10.0
comp=Z,2.9nm,1.0s
VNDA Vanda 65.15 181 P **P** **04 45 53.8 -0.4**
VNDA pmax pmax
comp=Z,19nm,1.6s
SHEM Shemya Is, Ala 65.22 5 LR LR 05 08 47.4
comp=Z,225nm,21.4s,baz=170,slow=31
SBA Scott Base 65.45 180 **P** **04 45 57.1 +1.0**
SBA IAmb IAmb 04 45 58.0
comp=Z,25nm,1.2s
SBA Scott Base 65.45 180 P **P** **04 45 57.1 +1.0**
SBA pmax pmax
comp=Z,25nm,1.2s
PETK Petropavlovsk- 65.66 354 P **P** **04 45 57.0 -0.7**
comp=Z,1.4nm,0.6s,baz=174,slow=6.7,SNR=4.9
comp=Z,1.4nm,0.6s
MDJ Mudanjiang 65.76 332 **P** **04 45 59.2 +0.6**
MDJ Mudanjiang 65.76 332 P **P** **04 45 59.3 +0.7**
MDJ pmax pmax
comp=Z,26nm,1.2s
TIA Tai'an 66.94 318 P **P** **04 46 07.9 +1.6**
TIA pmax pmax
comp=Z,11nm,1.1s
CN2 Changchun 67.14 329 P **P** **04 46 08.1 +0.6**
CN2 *e*S **S** **04 55 00.8 -0.8**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,90nm,3.0s
CN2 LR LR
comp=Z,210nm,20.0s
CN2 LR LR
comp=Z,160nm,20.0s
BNX BinXian 67.62 332 ⇑P **P** **04 46 10.5 0.0**
BNX pmax pmax
comp=Z,43nm,1.3s
GRNR Gornyy 68.07 340⇑ *i*P **P** **04 46 14.2 +1.0**
GRNR pmax pmax
comp=Z,20nm,0.9s
LYN LuoYang 69.13 315 P **P** **04 46 22.5 +2.3**
LYN pmax pmax
comp=Z,26nm,1.0s
HNS HongShan 69.20 318 ⇓P **P** **04 46 22.0 +1.5**
HNS pmax pmax
comp=Z,16nm,1.2s
HNS LR LR
comp=Z,260nm,18.0s
HNS LR LR
comp=Z,160nm,16.3s
HNS LR LR
comp=Z,250nm,20.8s
HEH HeiHe 71.03 335 *e*P **P** **04 46 31.6 +0.1**
HEH pmax pmax
comp=Z,28nm,1.1s
XAN Xi'an 71.38 312 ⇓P **P** **04 46 34.8 +0.8**
XAN S **S** **04 55 52.6 +0.4**
XAN pmax pmax
comp=Z,10.0nm,1.2s
XAN pmax pmax
comp=Z,270nm,10.2s
KMI Kunming 72.23 302 P **P** **04 46 41.3 +1.8**
KMI pmax pmax
comp=Z,11nm,1.1s
XLT XiLinHaoTe 72.23 324 *e*P **P** **04 46 39.8 +0.8**
XLT pP pwP 04 46 45.9 -1.5
XLT sP sP 04 46 48.3 +5.7
XLT PcP **PcP** **04 46 51.8 -5.3**
XLT pmax pmax
comp=Z,26nm,1.0s
CMAR Chiang Mai Arr 73.08 294 P **P** **04 46 44.8 +0.3**
CMAR Chiang Mai Arr 73.08 294 P **P** **04 46 45.0 +0.5**
comp=Z,2.6nm,0.8s,baz=110,slow=6.0,SNR=14
comp=Z,2.6nm,0.8s
CMAR Chiang Mai Arr 73.08 294 *i* P **P** **04 46 46.0 +1.5**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
HHC Hu-ho-hao-te 73.17 320 *e*P **P** **04 46 46.4 +1.8**
HHC sP pwP 04 46 57.1 +4.0
HHC pmax pmax
comp=Z,13nm,0.7s
PZH PanZhiHua 73.60 303 P **P** **04 46 49.8 +2.3**
ZEA Zeya 73.77 337 *e*P **P** **04 46 49.4 +1.7**
ZEA *e*S **S** **04 56 24.9 +6.4**
ZEA pmax pmax
comp=N,20nm,1.5s
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA smax smax
comp=N,100nm,16.8s
HIA Hailar 73.78 330 **P** **04 46 48.5 +0.5**
HIA Hailar 73.78 330*d* *i*P **P** **04 46 49.1 +1.2**
HIA pmax pmax
comp=Z,39nm,1.1s
CD2 Chengdu 73.80 307 P **P** **04 46 50.8 +2.3**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
BTO Baotou 74.02 319 *e*P **P** **04 46 53.1 +3.5**
BTO pP **pwP** **04 46 58.0 -0.1**
BTO sP **PcP** **04 47 00.3 -4.6**
BTO pmax pmax
comp=Z,25nm,1.2s
BTO pmax pmax
comp=Z,320nm,10.0s
LZH Lanzhou 76.01 312 *e*P **P** **04 47 02.4 +1.0**
LZH sP pwP 04 47 09.4 -0.4
LZH PcP **PcP** **04 47 15.0 +1.3**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,77nm,3.8s
LZH LR LR
comp=Z,130nm,15.8s
LZH LR LR
comp=Z,250nm,16.5s
LZH LR LR
comp=Z,270nm,16.5s
QSPA South Pole Qui 77.61 180 P **P** **04 47 09.2 -0.6**
comp=Z,27nm,1.0s,baz=15,slow=3.4,SNR=33
comp=Z,27nm,1.0s
YAK Yakutsk 79.52 343 LR LR 05 23 50.5
comp=Z,148nm,18.0s,baz=243,slow=37
ULN Ulaanbaatar 79.67 324 **P** **04 47 21.9 +0.4**
ULN IAmb IAmb 04 47 23.6
comp=Z,40nm,1.2s
ULN Ulaanbaatar 79.67 324*c* *i*P **P** **04 47 22.3 +0.8**
ULN pmax pmax
comp=Z,26nm,1.1s
SONM Songino Array 80.03 324 **P** **04 47 23.4 0.0**
SONM IAmb IAmb 04 47 25.3
comp=Z,30nm,1.3s
SONM Songino Array 80.03 324 P **P** **04 47 23.5 +0.1**
comp=Z,3.8nm,0.6s,baz=138,slow=5.1,SNR=37
comp=Z,3.8nm,0.6s
SONM Songino Array 80.03 324 P **P** **04 47 23.4 0.0**
SONM pmax pmax
comp=Z,30nm,1.3s
GTA Gaotai 80.33 314 *e*P **P** **04 47 26.5 +1.3**
GTA sP pwP 04 47 37.3 +3.6
GTA pmax pmax
comp=Z,17nm,1.3s
GTA LR LR
comp=Z,120nm,13.4s
GTA LR LR
comp=Z,100nm,16.7s
GTA LR LR
comp=Z,200nm,17.4s
ZAK Zakamensk 83.08 325 *e*P **P** **04 47 38.9 -0.5**
ZAK pmax pmax
comp=Z,18nm,1.5s
MCK McKinley 83.27 18 P **P** **04 47 40.5 +0.5**
MCK IAmb IAmb 04 47 44.0
comp=Z,32nm,1.8s
MCK McKinley 83.27 18 P **P** **04 47 40.5 +0.5**
MCK pmax pmax
comp=Z,32nm,1.8s
MAW Mawson 83.65 202 P **P** **04 47 40.4 -1.5**
comp=Z,10.0nm,1.0s,baz=99,slow=5.2,SNR=12
MAW LR LR 05 19 46.4
comp=Z,160nm,20.0s,baz=348,slow=32
comp=Z,10.0nm,1.0s
HDA Harding Lake 84.37 19 P **P** **04 47 44.1 -1.5**
HDA IAmb IAmb 04 48 38.8
comp=Z,24nm,1.6s
YBH Yreka Blue Hor 84.50 45 LR LR 05 20 55.8
comp=Z,12nm,18.7s,baz=79,slow=32
IL31 84.64 18 P **P** **04 47 47.9 +1.0**
IL31 IAmb IAmb 04 48 36.5
comp=Z,23nm,1.9s
ILAR Eielson Array 84.64 18 P **P** **04 47 49.7 +2.7**
ILAR Eielson Array 84.64 18 P **P** **04 47 44.7 -2.2**
comp=Z,1.5nm,0.9s,baz=233,slow=6.0,SNR=11
comp=Z,1.5nm,0.9s
DOT Dot Lake 84.78 20 P **P** **04 47 48.8 +1.1**
DOT IAmb IAmb 04 48 39.9
comp=Z,24nm,1.8s
MOY Mondy 84.95 325 *e*P **P** **04 47 48.6 -0.4**
MOY pmax pmax
comp=Z,27nm,1.8s
NVAR Mina Array Bea 86.54 50 P **P** **04 47 55.6 -1.7**
comp=Z,0.2nm,0.3s,baz=255,slow=5.7,SNR=3.7
NVAR PKKP **PKKPdf** **05 05 47.7 -0.9**
comp=Z,0.3nm,0.3s,baz=35,slow=6.2,SNR=4.0
comp=Z,0.2nm,0.3s
DLBC Dease Lake 87.37 28 LR LR 05 20 17.5
comp=Z,11nm,21.4s,baz=219,slow=31
TIXI Tiksi 87.50 349 LR LR 05 24 10.9
comp=Z,79nm,20.6s,baz=10.0,slow=34
BELA Belgrano 2 89.11 176 P **P** **04 48 08.2 -0.4**
BELA IAmb IAmb 04 48 09.2
comp=Z,14nm,1.1s
WMQ Urumqi 90.38 315 *e*P **P** **04 48 15.8 +0.6**
U15A North Rim 90.54 53 P **P** **04 48 14.7 -1.7**
SYO Syowa Base 90.63 197⇓ *e*P **P** **04 48 15.0 -0.8**
SYO Syowa Base 90.63 197⇓ *e*PcP **PcP** **04 48 18.4 +1.5**
MK31 Makanchi Array 94.83 317*c* *i*P **P** **04 48 35.3 -0.4**
MKAR Makanchi Array 94.83 317 P **P** **04 48 35.0 -0.7**
MKAR Makanchi Array 94.83 317 P **P** **04 48 35.3 -0.4**
comp=Z,4.7nm,0.7s,baz=98,slow=6.4,SNR=33
comp=Z,4.7nm,0.7s
MKAR Makanchi Array 94.83 317 *i* P **P** **04 48 36.2 +0.5**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
ZAA0 Zalesovo Array 94.92 324 **P** **04 48 34.8 -1.1**
ZALV Zalesovo Beam 94.92 324 **P** **04 48 34.5 -1.4**
ZALV Zalesovo Beam 94.92 324 P **P** **04 48 34.7 -1.1**
comp=Z,10nm,0.9s,baz=104,slow=4.6,SNR=30
ZALV LR LR 05 30 50.3
comp=Z,83nm,20.6s,baz=52,slow=35
comp=Z,10nm,0.9s
MAKZ Makanchi 95.04 317 **P** **04 48 36.5 -0.1**
MAKZ Makanchi 95.04 317 P **P** **04 48 36.5 -0.1**
MAKZ pmax pmax
comp=Z,21nm,1.3s
TROLL Troll, Antarti 95.08 185 ⇑P **P** **04 48 35.0 -1.6**
comp=Z,292nm,0.8s
SNAA Sanae 95.80 183 ⇑P **P** **04 48 38.7 -1.1**
comp=Z,95nm,1.1s
SNAA Sanae 95.80 183 **P** **04 48 38.8 -0.9**
SNAA IAmb IAmb 04 48 44.4
comp=Z,10.0nm,1.2s
SNAA Sanae 95.80 183⇓ *i*P **P** **04 48 37.3 -2.5**
SNAA pmax pmax
comp=Z,3.0nm,1.3s
TXAR Lajitas Array 96.06 61 P **P** **04 48 44.2 +2.4**
comp=Z,0.3nm,0.8s,baz=255,slow=2.3,SNR=5.3
KURK Kurchatov 97.98 320 P **P** **04 48 49.5 -0.3**
KURBB Kurchatov Arra 98.02 320 P **P** **04 48 49.5 -0.4**
comp=Z,0.8nm,0.7s,baz=97,slow=4.2,SNR=7.1
comp=Z,0.8nm,0.7s
BVAR Borovoye Array 103.30 322 Pdiff **Pdif** **04 49 12.7 -0.8**
comp=Z,1.7nm,0.9s,baz=98,slow=4.4,SNR=4.5
APA Apatity 116.87 342 *i* PKIKP **PKPdf** **04 53 57.4 -0.4**
APA MLR MLR
comp=Z,436nm,20.2s
ARCES ARCESS Array B 117.76 345 PKP **PKPdf** **04 53 58.1 -1.4**
comp=Z,0.4nm,0.3s,baz=47,slow=2.2,SNR=22
VRH Novokhopyorsk 120.93 323 *e*PKIKP **PKPdf** **04 54 05.5 -0.6**
VRH pmax pmax
comp=Z,12nm,0.5s
GNI Garni 121.88 310 PKP **PKiKP** **04 54 09.5 +0.8**
LPSR Galich'ya Gora 122.02 325 *e*PKIKP **PKPdf** **04 54 06.1 -2.0**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 122.20 328 *e*PKIKP **PKPdf** **04 54 07.3 -1.1**
OBN *e* 04 55 42.9
OBN *e*PPP PPP 04 58 17.4
OBN pmax pmax
comp=Z,7.0nm,1.0s
VORR Voronezh 122.23 324 *e*PKIKP **PKiKP** **04 54 08.9 +0.2**
VORR pmax pmax
comp=Z,42nm,0.4s
KBZ Khabaz 122.42 314 PKP **PKiKP** **04 54 09.5 +0.1**
comp=Z,2.2nm,0.6s,baz=96,slow=3.3,SNR=4.5
VSR Storozhevoye 122.43 324 *e*PKIKP **PKPdf** **04 54 06.2 -2.8**
VSR pmax pmax
comp=Z,7.0nm,1.0s
VORD Divnogorie 122.45 323 *e*PKIKP **PKPdf** **04 54 06.1 -2.9**
VORD pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 122.51 314 *e*PKIKP **PKPdf** **04 54 08.5 -1.0**
KIV pmax pmax
comp=Z,5.0nm,1.0s
RAYN Ar Rayn 122.88 290 **PKPdf** **04 54 10.3 -0.5**
RAYN Ar Rayn 122.88 290 PKIKP **PKPdf** **04 54 10.3 -0.5**
FINES FINESS Array B 123.20 338 PKP **PKPdf** **04 54 09.9 -0.3**
comp=Z,3.0nm,0.9s,baz=57,slow=5.1,SNR=5.3
GEVA Gevas 123.52 308 **PKPdf** **04 54 11.6 -0.1**
BOSA Boshof 124.44 222 PKP **PKPdf** **04 54 12.7 -1.1**
comp=Z,1.5nm,0.8s,baz=127,slow=5.1,SNR=2.1
SOC Sochi 124.68 315 *i* PKIKP **PKPdf** **04 54 11.5 -2.1**
SOC *e* 04 55 59.0
SOC *e*SSS SSS 05 17 24.9
KOPT Kop Dagi 125.09 310 **PKiKP** **04 54 15.6 +0.4**
NOA NORSAR Array B 128.13 345 PKP **PKPdf** **04 54 19.1 -0.6**
comp=Z,1.4nm,1.1s,baz=33,slow=2.0,SNR=4.7
AK03 Malin Array Si 128.24 327 PKP **PKPdf** **04 54 19.7 -0.4**
AKASG Malin Array Be 128.25 326 PKP **PKPdf** **04 54 19.3 -0.9**
comp=Z,3.0nm,0.9s,baz=56,slow=3.9,SNR=13
AKASG PP **PP** **04 56 24.0 +0.2**
comp=Z,0.2nm,0.3s,baz=50,slow=7.6,SNR=4.9
AKBB Malin Array Si 128.25 326 **PKPdf** **04 54 20.0 -0.1**
AKBB Malin Array Si 128.25 326 PKIKP **PKPdf** **04 54 20.0 -0.1**
AKBB Malin Array Si 128.25 326 PKP **PKPdf** **04 54 19.8 -0.3**
KIEV Kiev 128.26 326 **PKPdf** **04 54 20.1 -0.1**
KIEV Kiev 128.26 326 PKIKP **PKPdf** **04 54 20.1 -0.1**
KIEV Kiev 128.26 326 PKP **PKPdf** **04 54 19.8 -0.4**
BNN Bunyan 128.87 310 **PKPdf** **04 54 21.0 -0.9**
LUBAR Lubar, Ukraine 129.46 326 PKP **PKPdf** **04 54 21.7 -0.8**
ILGA Ilgaz 129.71 314 **PKPdf** **04 54 23.0 -0.6**
BRTR Keskin Array B 130.22 312 **PKPdf** **04 54 23.3 -1.2**
BRTR Keskin Array B 130.22 312 PKP **PKPdf** **04 54 24.0 -0.5**
comp=Z,1.6nm,0.9s,baz=116,slow=1.9,SNR=9.3
BRTR Keskin Array B 130.22 312 PKIKP **PKPdf** **04 54 23.3 -1.2**
BR106 Keskin Array S 130.23 312 PKP **PKPdf** **04 54 23.9 -0.6**
BR105 Keskin Array S 130.24 312 PKP **PKPdf** **04 54 23.8 -0.7**
MMAI Mount Meron Ar 130.72 303 PKP **PKPdf** **04 54 24.7 -0.8**
comp=Z,3.6nm,0.7s,baz=108,slow=4.7,SNR=5.6
ANTO Ankara 130.78 312 PKP **PKiKP** **04 54 26.0 -0.3**
KMPD K-Podol'skiy 130.92 325 PKP **PKiKP** **04 54 25.9 -0.3**
KSV Kosov 131.82 326 PKP **PKPdf** **04 54 27.2 +0.1**
STNU Starunia 131.90 327 PKP **PKiKP** **04 54 28.1 -0.1**
BUR08 Bucovina Ar. S 132.13 325 **PKiKP** **04 54 29.1 +0.2**
BURAR Bucovina Array 132.14 325 **PKPdf** **04 54 28.1 +0.3**
CLL Collm 135.53 336 *e*PKIKP **PKiKP** **04 54 35.0 -0.4**
CLL pmax pmax
comp=Z,3.0nm,0.6s
MORH Mrgy, Hungar 136.57 327 PKP **PKPdf** **04 54 35.9 -0.1**
RONA Rosalia, Austr 136.76 330 *e*PKP **PKPdf** **04 54 36.7 +0.3**
comp=Z,7.3nm,1.2s
CONA Conrad Observa 136.81 331 *e*PKP **PKPdf** **04 54 36.8 +0.3**
comp=Z,4.8nm,1.2s
KHC Kasperske Hory 136.96 334 *e*SKP **SKPdf** **04 58 12.0 +0.3**
GERES GERESS Array B 137.12 333 PKP **PKPdf** **04 54 36.0 -1.1**
comp=Z,0.7nm,0.6s,baz=69,slow=5.7,SNR=7.4
GERES SKPbc **SKPbc** **04 58 09.8 -0.4**
comp=Z,1.4nm,0.9s,baz=54,slow=1.7,SNR=7.7
MOA Molln 137.61 332 *e*PKP **PKPdf** **04 54 38.4 +0.5**
comp=Z,2.2nm,1.0s
SOKA Soboth 138.09 330 *e*PKP **PKPdf** **04 54 39.2 +0.3**
comp=Z,5.9nm,1.0s
FNA Florina 138.20 319 **PKPdf** **04 54 37.2 -2.1**
FNA Florina 138.20 319 PKIKP **PKPdf** **04 54 37.2 -2.1**
OBKA Obir 138.44 330 *e*PKP **PKPdf** **04 54 40.0 +0.4**
comp=Z,0.4nm,0.4s
MEM Membach 138.61 341 *d*PKPdf **PKPdf** **04 54 39.4 -0.3**
LESA Schwarzleotal 138.64 333 *e*PKP **PKPdf** **04 54 39.5 -0.5**
comp=Z,5.2nm,1.2s
BGES Gesves 139.09 342 *d*PKPdf **PKPdf** **04 54 40.0 -0.5**
ABTA Abfaltersbach 139.22 332 *e*PKP **PKPdf** **04 54 40.3 -0.7**
comp=Z,0.2nm,0.2s
WTTA Watterg 139.22 333 *e*PKP **PKPdf** **04 54 40.8 -0.3**
comp=Z,5.8nm,1.0s
RCHB Rochefort 139.25 341 *d*PKPdf **PKPdf** **04 54 40.3 -0.5**
WLF Walferdange 139.38 340 *d*PKPdf **PKiKP** **04 54 43.6 +0.3**
MOTA Moosalm 139.39 334 *e*PKP **PKPdf** **04 54 41.1 -0.2**
comp=Z,3.3nm,1.0s
SQTA Sankt Quirin 139.44 334 *e*PKP **PKPdf** **04 54 41.3 -0.1**
comp=Z,3.7nm,0.7s
DOU Dourbes 139.50 342 *d*PKPdf **PKPdf** **04 54 41.7 +0.4**
FETA Feichten 139.81 334 *e*PKP **PKPdf** **04 54 42.3 +0.1**
comp=Z,2.5nm,0.9s
DAVA Damuels 139.96 335 *e*PKP **PKPdf** **04 54 42.3 -0.1**
comp=Z,1.4nm,0.5s
BNI Bardonecchia 143.07 336 PKPbc 04 54 45.1 +0.3
BNI Bardonecchia 143.07 336 PKIKP PKPbc 04 54 45.1 +0.3
RAFF Raffo Rosso 144.71 319 **PKPdf** **04 54 51.0 +0.1**
VSL Villasalto 146.12 327 **PKPdf** **04 54 53.8 +0.4**
KEST Kesra 148.77 322 PKPbc **PKPbc** **04 55 01.2 -0.6**
comp=Z,33nm,1.0s,baz=20,slow=2.3,SNR=20
ESDC Sonseca Array 151.48 344 PKPdf **PKPdf** **04 55 00.7 -1.3**
ESDC Sonseca Array 151.48 344 PKPbc **PKPbc** **04 55 07.9 -0.3**
comp=Z,3.2nm,1.0s,baz=12,slow=1.8,SNR=12
ESDC PKPab **PKPab** **04 55 16.7 +0.2**
comp=Z,1.6nm,1.0s,baz=11,slow=4.2,SNR=5.2
TORD Torodi Ar. Bea 164.89 275 PKPab **PKPab** **04 56 14.6 -0.5**
comp=Z,2.0nm,0.9s,baz=65,slow=5.2,SNR=6.9

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*IDC **17** 04:40:23.5±0.6, 0°.27N×126°.17E, h0km, mb4.2/15, mbtmp4.2/16, ML4.1/1, MS3.6/2, Error ellipse: s-maj=27.6km s-min=13.4km az=81.0*
*DJA **17** 04:40:30.2±1.5, 0°.1N±2°×12°.6E±°, h30km±16km, M4.3/16, mB4.5/2, mb4.4/6, MLv4.2/16, Mw(mB)3.7/2*
*NEIC **17** 04:40:31.0±1.1, 0°.3N±0°.1×126°.33E±0°.06, h41km±12km, mb4.5/12, Error ellipse: s-maj=16.7km s-min=6.3km az=154.0*

ISC 17 04:40:30.0±0.5, 0°.24N±0°.05×126°.20E±0°.06, h44km, n47, σ1°13/53, mb4.3/21, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.28**	**66**			**Pn**	**04 40 50.6**	**-0.8**
TNTI	**Ternate**	**1.28**	**66**	P		**Pn**	**04 40 52.4**	**+0.9**
TNTI				S		**Sn**	**04 41 10.9**	**+3.4**
KMSI	**Cibinong**	**2.24**	**279**	P		**Pn**	**04 41 05.2**	**+0.6**
SANI	**Sanana**	**2.28**	**185**	P		**Pn**	**04 41 04.4**	**-0.8**
SANI				S		**Sn**	**04 41 32.3**	**+0.2**
SGSI	**Sangihe**	**3.49**	**349**	P		**Pn**	**04 41 22.8**	**+1.0**
NLAI	**Namlea**	**3.57**	**165**	P		**Pn**	**04 41 23.0**	**+0.1**
NLAI				S		**Sn**	**04 42 05.1**	**+1.3**
MRSI	**Marisa**	**4.26**	**273**	P		**Pn**	**04 41 31.7**	**-0.7**
APSI	**Ampana**	**4.69**	**256**	P		**Pn**	**04 41 37.6**	**-0.7**
TOLI2	**Tolitoli**	**5.48**	**279**			**Pn**	**04 41 51.5**	**+2.3**
MPSI	**Mapaga**	**6.30**	**271**	P		**Pn**	**04 42 01.3**	**+0.9**
	0.1nm562nm14nm,0.7s							
FAKI	**Fak Fak**	**6.81**	**117**	P		**Pn**	**04 42 09.3**	**+1.8**
	38nm,1.4s							
DAV	**Davao City (W)**	**6.81**	**355**	LR		LR	04 44 54.7	
	comp=Z,203nm,20.4s,baz=164,slow=40							
BNSI	**Bone**	**7.63**	**233**	P		**Pn**	**04 42 19.9**	**+1.2**
	0.1nm42nm,1.1s							
SPSI	**Sidrap Palu**	**7.66**	**237**	P		**Pn**	**04 42 20.8**	**+1.7**
BKSI	**Bulukumba**	**8.20**	**228**	P		**Pn**	**04 42 27.6**	**+1.1**
	29nm,0.8s							
KAPI	**Kappang**	**8.29**	**231**	Pn		**Pn**	**04 42 29.9**	**+2.3**
KAPI	**Kappang**	**8.29**	**231**	Pn		**Pn**	**04 42 26.9**	**-0.8**
	2.4nm,0.3s,baz=42,slow=16,SNR=6.2							
KAPI				Sn		**Sn**	**04 44 01.4**	**+1.4**
	0.4nm,0.3s,baz=5.1,slow=7.6,SNR=1.9 5.5nm,0.5s							
KNRA	**Kununurra**	**16.02**	**171**	Pn		**Pn**	**04 44 12.9**	**+0.6**

WB0	**Warramunga Arr**	**21.44**	**158**			**P**		04 45 13.1	**-1.5**
WB0				IAmb		IAmb		04 45 31.6	
	comp=Z,14nm,0.7s								
WRA	**Warramunga Arr**	**21.58**	**159**	P		**P**		04 45 15.5	**-0.6**
WRA	**Warramunga Arr**	**21.58**	**159**	P		**P**		04 45 15.6	**-0.6**
	comp=Z,8.7nm,0.8s,baz=337,slow=10,SNR=28								
	comp=Z,8.7nm,0.8s								
WR8	**Warramunga Arr**	**21.66**	**158**			**P**		04 45 16.4	**-0.5**
WR8				IAmb		IAmb		04 45 20.3	
	comp=Z,9.3nm,0.6s								
COEN	**Coen**	**21.94**	**131**	P		**P**		04 45 19.3	**-0.7**
COEN				IAmb		IAmb		04 45 32.7	
	comp=Z,23nm,1.2s								
GUMO	**Guam**	**22.76**	**54**	P		**P**		04 45 28.3	**-0.5**
AS31	**Alice Springs**	**24.91**	**163**			**P**		04 45 50.5	**+1.3**
ASAR	**Alice Springs**	**24.91**	**163**			**P**		04 45 50.7	**+1.6**
ASAR	**Alice Springs**	**24.91**	**163**	P		**P**		04 45 49.1	**0.0**
	comp=Z,3.0nm,0.6s,baz=341,slow=11,SNR=23								
ASAR				PcP		**PcP**		04 49 23.9	**-0.2**
	comp=Z,0.6nm,0.6s,baz=347,slow=2.0,SNR=2.6								
	comp=Z,3.0nm,0.6s								
GIRL	**Giralia**	**25.55**	**206**	P		**P**		04 45 56.5	**+1.7**
FORT	**Forrest**	**30.90**	**177**	P		**P**		04 46 43.3	**+0.8**
FORT				IAmb		IAmb		04 46 58.5	
	comp=Z,14nm,1.5s								
STKA	**Stephens Creek**	**35.11**	**157**	P		**P**		04 47 19.9	**+0.6**
STKA	**Stephens Creek**	**35.11**	**157**	P		**P**		04 47 19.8	**+0.6**
	comp=Z,2.6nm,0.8s,baz=330,slow=12,SNR=4.8								
	comp=Z,2.6nm,0.8s								
JGF	**Kuroka**	**36.69**	**15**	P		**P**		04 47 32.7	**-0.1**
JGF				IAmb		IAmb		04 47 34.7	
	comp=Z,5.1nm,0.7s								
KSRS	**Korea Array**	**37.07**	**2**	P		**P**		04 47 36.4	**+0.5**
	comp=Z,2.9nm,0.7s,baz=183,slow=9.5,SNR=11								
	comp=Z,2.9nm,0.7s								
MJAR	**Matsushiro Arr**	**37.80**	**16**	P		**P**		04 47 41.0	**-1.2**
	comp=Z,1.4nm,0.4s,baz=189,slow=8.3,SNR=4.7								
	comp=Z,1.4nm,0.4s								
USRK	**Ussuriysk Ar.**	**44.07**	**6**	P		**P**		04 48 33.9	**+0.3**
	comp=Z,4.2nm,0.7s,baz=192,slow=5.1,SNR=6.2								
	comp=Z,4.2nm,0.7s								
HEH	**HeiHe**	**49.84**	**1**	*e*P		**P**		04 49 18.5	**-0.1**
SONM	**Songino Array**	**50.44**	**343**	P		**P**		04 49 23.6	**+0.2**
	comp=Z,2.0nm,0.8s,baz=159,slow=7.8,SNR=5.1								
SONM				PcP		**PcP**		04 50 39.8	**-1.3**
	comp=Z,0.3nm,0.3s,baz=145,slow=5.3,SNR=2.0								
	comp=Z,0.0nm,0.8s								
PETK	**Petropavlovsk-**	**58.85**	**22**	P		**P**		04 50 24.3	**+0.2**
	comp=Z,3.3nm,0.6s,baz=216,slow=7.5,SNR=7.1								
	comp=Z,3.3nm,0.6s								
MKAR	**Makanchi Array**	**60.13**	**327**	P		**P**		04 50 32.4	**-0.7**
	comp=Z,1.2nm,0.4s,baz=122,slow=8.2,SNR=12								
MKAR				PcP		**PcP**		04 51 18.6	**+0.1**
	comp=Z,1.1nm,0.6s,baz=132,slow=4.5,SNR=3.6								
	comp=Z,1.2nm,0.4s								
ZALV	**Zalesovo Beam**	**63.46**	**334**	P		**P**		04 50 54.4	**-0.9**
	comp=Z,2.5nm,0.9s,baz=105,slow=7.1,SNR=4.3								
	comp=Z,2.5nm,0.9s								
KURBB	**Kurchatov Arra**	**64.40**	**329**	P		**P**		04 51 00.5	**-1.0**
	comp=Z,2.3nm,0.6s,baz=125,slow=6.2,SNR=15								
	comp=Z,2.3nm,0.6s								
BVAR	**Borovoye Array**	**69.96**	**328**	P		**P**		04 51 36.7	**0.0**
	comp=Z,3.4nm,1.0s,baz=126,slow=7.3,SNR=7.1								
	comp=Z,3.4nm,1.0s								
VNDA	**Vanda**	**80.05**	**173**	P		**P**		04 52 33.8	**-0.7**
	comp=Z,0.6nm,0.8s,baz=311,slow=7.0,SNR=3.7								
	comp=Z,0.6nm,0.8s								
ILAR	**Eielson Array**	**88.47**	**25**	P		**P**		04 53 15.9	**-1.6**
	comp=Z,0.2nm,0.5s,baz=261,slow=5.5,SNR=5.1								
	comp=Z,0.2nm,0.5s								
QSPA	**South Pole Qui**	**90.17**	**180**	P		**P**		04 53 26.3	**+0.8**
QSPA				IAmb		IAmb		04 53 27.4	
	comp=Z,4.7nm,1.4s								
ARCES	**ARCESS Array B**	**93.52**	**340**	P		**P**		04 53 39.8	**-1.0**
	comp=Z,2.5nm,0.8s,baz=76,slow=5.0,SNR=4.7								
ARCES				LR		LR		05 42 18.0	
	comp=Z,67nm,19.9s,baz=55,slow=40								
	comp=Z,2.5nm,0.8s								
TORD	**Torodi Ar. Bea**	**123.42**	**286**	PKP		**PKPdf**		04 59 23.2	**-0.3**
	comp=Z,0.2nm,0.5s,baz=71,slow=1.2,SNR=3.7								

IDC ***17*** *04:44:37.6±0.8,55˚.52S×26˚.56W,h0km,mb4.0/6, mbtmp4.0/6,MS3.3/2,Error ellipse: s-maj=37.6km s-min=20.5km az=67.0*
NEIC ***17*** *04:44:47.1±1.1,56˚.0S±0˚.1×27˚.6W±0˚.2,h48km±8km, mb4.6/22,Error ellipse: s-maj=19.0km s-min=9.1km az=210.0*

ISC 17 04:44:45.1±0.5,55˚.90S±0˚.09×27˚.4W±0˚.1,h35km,n44, σ1§54/34,mb4.5/16,2C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.47**	**283**		**Pn**	**04 46 04.4**	**+0.5**
VNA1	**Neumayer--Stat**	**16.98**	**158**	⇑P	**Pn**	**04 48 41.1**	**+1.7**
	comp=Z,7.2nm,1.0s						
VNA3	**Neumayer Olymp**	**17.17**	**161**	⇑P	**Pn**	**04 48 41.2**	**-0.7**
	comp=Z,6.3nm,0.8s						
SMAI	**San Martin Ant**	**21.80**	**220**	P	**P**	**04 49 34.7**	**+1.1**
BELA	**Belgrano 2**	**22.22**	**184**	P	**P**	**04 49 36.8**	**-1.2**
TRQA	**Tornquist**	**29.16**	**293**	P	**P**	**04 50 43.0**	**+0.3**
TRQA				IAmb	IAmb	04 50 52.0	
	comp=Z,18nm,1.5s						
QSPA	**South Pole Qui**	**34.35**	**180**	P	**P**	**04 51 28.6**	**+0.4**
QSPA				IAmb	IAmb	04 51 40.5	
	comp=Z,14nm,1.5s						
QSPA	**South Pole Qui**	**34.35**	**180**	P	**P**	**04 51 28.8**	**+0.6**
	comp=Z,2.6nm,0.9s,baz=203,slow=2.1,SNR=19						
	comp=Z,2.6nm,0.9s						
CPUP	**Villa Florida**	**36.62**	**311**	P	**P**	**04 51 45.9**	**-1.9**
	comp=Z,1.9nm,1.2s,baz=141,slow=6.5,SNR=2.9						
CPUP				LR	LR	05 05 53.2	
	comp=Z,24nm,20.1s,baz=322,slow=35						
	comp=Z,1.9nm,1.2s						
CO03	**El Pedregal**	**39.28**	**291**	P	**P**	**04 52 10.0**	**-0.3**
CO03				IAmb	IAmb	04 52 14.5	
	comp=Z,15nm,1.4s						
CO01	**Juntas del Tor**	**39.65**	**293**	P	**P**	**04 52 14.3**	**+0.7**
CO01				IAmb	IAmb	04 52 30.6	
	comp=Z,9.7nm,1.3s						
GO04	**Tololo Observa**	**39.86**	**292**	P	**P**	**04 52 14.7**	**-0.7**
GO04				IAmb	IAmb	04 52 24.8	
	comp=Z,18nm,1.1s						
CO06	**Fray Jorge**	**39.91**	**290**	P	**P**	**04 52 15.4**	**0.0**
MAW	**Mawson**	**40.34**	**144**	P	**P**	**04 52 17.0**	**-1.6**
	comp=Z,2.4nm,0.7s,baz=235,slow=8.9,SNR=4.2						
	comp=Z,2.4nm,0.7s						
AC02	**Maricunga**	**41.70**	**297**	P	**P**	**04 52 30.4**	**-0.4**
AC02				IAmb	IAmb	04 52 32.2	
	comp=Z,11nm,1.1s						
AC06	**Mina Casimiro**	**41.90**	**295**	P	**P**	**04 52 31.4**	**-0.5**
AC06				IAmb	IAmb	04 52 32.5	
	comp=Z,17nm,1.3s						
GO02	**Mina Guanaco**	**43.32**	**297**	P	**P**	**04 52 44.4**	**+0.6**
GO02				IAmb	IAmb	04 52 46.1	
	comp=Z,21nm,1.5s						
VNDA	**Vanda**	**46.72**	**183**	P	**P**	**04 53 10.7**	**+0.9**
VNDA	**Vanda**	**46.72**	**183**	P	**P**	**04 53 10.4**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=186,slow=8.4,SNR=14						
	comp=Z,2.8nm,0.8s						
PB01	**IPOC Station P**	**46.73**	**301**	P	**P**	**04 53 11.2**	**+0.5**
PB01				IAmb	IAmb	04 53 11.9	
	comp=Z,12nm,1.2s						
SIV	**San Ignacio**	**47.39**	**314**	LR	LR	05 15 49.3	
	comp=Z,65nm,18.4s,baz=100,slow=39						
H04S2	**CROZET ISLANDS**	**47.72**	**114**	T	T	05 45 14.5	
	baz=232						
H04S3	**CROZET ISLANDS**	**47.72**	**114**	T	T	05 45 24.4	
	baz=232						
H04S1	**CROZET ISLANDS**	**47.73**	**114**	T	T	05 45 19.7	
	baz=232						
GO01	**Chusmiza**	**47.77**	**302**	P	**P**	**04 53 18.6**	**-0.6**
GO01				IAmb	IAmb	04 53 28.4	
	comp=Z,16nm,1.4s						
H10S2	**ASCENSION HYDR**	**47.89**	**17**	T	T	05 45 19.2	
	baz=189,slow=74,SNR=20						
H10S3	**ASCENSION HYDR**	**47.89**	**17**	T	T	05 45 20.7	
	baz=31,slow=74,SNR=16						
H10N1	**ASCENSION HYDR**	**49.01**	**17**	T	T	05 46 42.8	
	baz=189						
H10N3	**ASCENSION HYDR**	**49.01**	**17**	T	T	05 46 44.0	
	baz=189						
H10N2	**ASCENSION HYDR**	**49.02**	**17**	T	T	05 46 44.0	
	baz=189						
PB16	**IPOC Station P**	**49.06**	**303**	P	**P**	**04 53 28.9**	**-0.4**
PB16				IAmb	IAmb	04 53 31.9	
	comp=Z,5.3nm,1.2s						

LPAZ	**La Paz**		**50.19**	**305**	P		**P**	04 53 37.8	**-0.1**
LPAZ	**La Paz**		**50.19**	**305**	P		**P**	04 53 37.3	**-0.7**
	comp=Z,1.9nm,0.6s,baz=164,slow=4.7,SNR=6.4								
	comp=Z,1.9nm,0.6s								
RCBR	**Riachuelo**		**50.39**	**349**	P		**P**	04 53 40.0	**+1.2**
BOAV	**Boa Vista**		**64.09**	**323**	P		**P**	04 55 13.3	**-2.1**
DBIC	**Dimbokro**		**65.08**	**25**	P		**P**	04 55 22.9	**+1.1**
ABPO	**Ambohimpanom**		**65.86**	**88**	P		**P**	04 55 27.3	**+0.1**
SACV	**Santiago Islan**		**70.67**	**4**	P		**P**	04 55 57.7	**+0.7**
TORD	**Torodi Ar. Bea**		**72.98**	**30**	P		**P**	04 56 11.7	**+0.8**
TORD					IAmb		IAmb	04 56 16.5	
	comp=Z,8.1nm,1.4s								
TORD	**Torodi Ar. Bea**		**72.98**	**30**	P		P	04 56 05.1	-5.7
	comp=Z,0.4nm,0.6s,baz=192,slow=7.0,SNR=2.3								
	comp=Z,0.4nm,0.6s								
CMAR	**Chiang Mai Ar**		**125.23**	**111**	PKP		**PKPdf**	**05 03 39.3**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=218,slow=1.8,SNR=1.6								
MKAR	**Makanchi Array**		**136.95**	**71**	PKP		**PKPdf**	**05 03 58.1**	**-4.9**
	comp=Z,0.1nm,0.5s,baz=228,slow=2.5,SNR=1.1								
ILAR	**Eielson Array**		**149.93**	**312**	PKPbc		**PKPdf**	**05 04 28.5**	**+3.4**
	comp=Z,3.6nm,0.8s,baz=127,slow=1.5,SNR=31								
SONM	**Songino Array**		**150.84**	**86**	PKPbc		**PKPdf**	**05 04 29.7**	**+2.5**
	comp=Z,2.4nm,0.7s,baz=227,slow=2.6,SNR=9.5								

IDC ***17*** *04:52:36.9±0.7,30˚.00N×140˚.78E,h0km,mb3.8/16, mbtmp3.8/16,MS3.7/6,Error ellipse: s-maj=22.5km s-min=19.5km az=75.0*
JMA ***17*** *04:52:44.3±0.1,30˚.N±1˚×14˚1E±˚,h52km,MV4.2/22, NEAR TORISHIMA IS*
NEIC ***17*** *04:52:46.6±1.8,30˚.08N±0˚.03×140˚.6E±0˚.2,h66km±8km, mb4.5/28,Error ellipse: s-maj=20.0km s-min=3.7km az=81.0*

ISC 17 04:52:46.7±0.5,30˚.03N±0˚.05×140˚.81E±0˚.10,h78km,n77, σ1§98/74,mb4.2/29,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.58**	**340**	*e*P	**Pn**	**04 53 24.6**	**-1.8**
JHCJ	**Hachijojimakas**	**3.15**	**344**	*e*P	**Pn**	**04 53 32.2**	**-1.8**
JHCJ				*e*S	**Sn**	**04 54 05.6**	**-4.9**
CBIJ	**Chichi jima**	**3.17**	**157**	P	**Pn**	**04 53 33.4**	**-0.9**
CBIJ				*e*S	**Sn**	**04 54 06.8**	**-4.2**
JCJ	**Chichijima**	**3.17**	**157**	Pn	**Pn**	**04 53 34.5**	**+0.2**
JCJ	**Chichijima**	**3.17**	**157**	Pn	**Pn**	**04 53 31.5**	**-2.8**
	baz=0.0,slow=0.0						
JCJ				Sn	**Sn**	**04 54 04.4**	**-6.7**
	baz=0.0,slow=0.0						
JHJ2	**Mitsune**	**3.18**	**345**	Pn	**Pn**	**04 53 33.0**	**-1.5**
JHH2	**Haha-jima-NKT2**	**3.60**	**160**	P	**Pn**	**04 53 39.6**	**-0.6**
JHH2				*e*S	**Sn**	**04 54 18.9**	**-2.6**
BSO1	**Boso 1**	**4.61**	**2**	*e*P	**Pn**	**04 53 52.8**	**-0.6**
BSO3	**Boso 3**	**4.76**	**357**	*e*P	**Pn**	**04 53 54.0**	**-0.8**
BSO4	**Boso 4**	**4.96**	**356**	*e*P	**Pn**	**04 54 00.4**	**+1.9**
JOD2	**Odawara 2**	**5.41**	**345**	*e*P	**Pn**	**04 54 08.1**	**+3.2**
JGF	**Kuroka**	**6.26**	**333**	Pn	**Pn**	**04 54 15.4**	**-1.1**
JHO	**Hitachi**	**6.56**	**358**	*e*P	**Pn**	**04 54 18.5**	**-2.1**
JHO				*e*S	**Sn**	**04 55 27.8**	**-6.1**
MJAR	**Matsushiro Arr**	**6.84**	**342**	Pn	**Pn**	**04 54 23.0**	**-1.5**
	0.2nm,0.3s,baz=161,slow=12,SNR=6.1						
MJAR				LR	LR	04 56 54.8	
	comp=Z,120nm,20.5s,baz=334,slow=38						
JMM	**Marumori**	**7.81**	**360**	Pn	**Pn**	**04 54 34.9**	**-2.7**
JNU	**Nakatsue**	**9.01**	**293**	Pn	Pn	04 54 44.1	-10
	0.2nm,0.3s,baz=118,slow=17,SNR=4.0						
JNU				LR	LR	04 58 19.0	
	comp=Z,115nm,20.1s,baz=115,slow=38						
H11N2	**WAKE ISLAND Hy**	**25.74**	**107**	T	T	05 26 01.3	
	baz=300,slow=75,SNR=9.0						
H11N1	**WAKE ISLAND Hy**	**25.74**	**107**	T	T	05 26 01.1	
	baz=300,slow=75,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**25.76**	**107**	T	T	05 26 02.6	
	baz=300,slow=75,SNR=8.4						
H11S3	**WAKE ISLAND Hy**	**26.18**	**110**	T	T	05 26 06.4	
	baz=302,slow=75,SNR=3.9						
H11S1	**WAKE ISLAND Hy**	**26.18**	**110**	T	T	05 26 04.8	
	baz=302,slow=75,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**26.19**	**110**	T	T	05 26 05.9	
	baz=302,slow=75,SNR=4.1						
SONM	**Songino Array**	**31.79**	**314**	P	**P**	**04 59 04.8**	**+1.0**
	0.4nm,0.5s,baz=127,slow=9.6,SNR=2.6						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**39.67**	**263**	P	**P**	**05 00 12.4**	**+1.0**
	1.0nm,0.4s,baz=74,slow=7.5,SNR=8.4						
CMAR				LR	LR	05 19 18.1	
	comp=Z,55nm,18.4s,baz=105,slow=40						
	1.0nm,0.4s						
KAPI	**Kappang**	**40.27**	**214**	LR	LR	05 16 24.2	
	comp=Z,130nm,19.6s,baz=160,slow=36						
NIKH	**Nikolski High**	**43.00**	**43**	P	**P**	**05 00 38.6**	**+0.4**
SPIA	**Saint Paul Isl**	**43.29**	**37**	P	**P**	**05 00 41.3**	**+0.9**
ZALV	**Zalesovo Beam**	**46.50**	**318**	P	**P**	**05 01 05.8**	**-0.1**
	0.4nm,0.3s,baz=85,slow=3.0,SNR=1.6						
ZALV				PcP	**PcP**	**05 02 39.8**	**+0.6**
	0.4nm,0.3s,baz=122,slow=1.9,SNR=1.5						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**47.70**	**308**	P	**P**	**05 01 15.8**	**+0.3**
MKAR	**Makanchi Array**	**47.70**	**308**	P	**P**	**05 01 15.1**	**-0.4**
	0.7nm,0.8s,baz=79,slow=7.5,SNR=5.3						
MKAR				PcP	**PcP**	**05 02 44.6**	**+0.9**
	1.2nm,0.9s,baz=72,slow=4.7,SNR=5.9						
	0.7nm,0.8s						
C16K	**Lisburne Hills**	**49.26**	**23**	P	**P**	**05 01 25.2**	**-1.8**
M16K	**Timber Creek**	**49.86**	**34**	P	**P**	**05 01 32.4**	**+0.6**
M16K				IAmb	IAmb	05 01 40.6	
	comp=Z,6.5nm,1.2s						
WB0	**Warramunga Arr**	**49.90**	**188**	P	**P**	**05 01 32.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**50.03**	**199**	P	**P**	**05 01 33.8**	**+0.3**
WR8	**Warramunga Arr**	**50.07**	**188**	P	**P**	**05 01 32.9**	**-0.8**
WR8				IAmb	IAmb	05 01 35.1	
	comp=Z,7.5nm,1.3s						
WRA	**Warramunga Arr**	**50.08**	**188**	P	**P**	**05 01 32.6**	**-1.2**
WRA	**Warramunga Arr**	**50.08**	**188**	P	**P**	**05 01 33.0**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=6.9,slow=7.7,SNR=16						
	comp=Z,1.9nm,0.7s						
KURK	**Kurchatov**	**50.09**	**313**	P	**P**	**05 01 32.3**	**-1.3**
N17K	**Nushagak Hills**	**50.65**	**34**	P	**P**	**05 01 37.9**	**+0.2**
N17K				IAmb	IAmb	05 01 43.8	
	comp=Z,8.8nm,1.4s						
G18K	**Tagagawik**	**51.01**	**27**	P	**P**	**05 01 40.9**	**+0.5**
ACHA	**Angle Creek He**	**51.34**	**37**	P	**P**	**05 01 44.7**	**+1.7**
ACHA				IAmb	IAmb	05 02 04.3	
	comp=Z,5.9nm,1.2s						
P18K	**Big Mountain,**	**51.49**	**36**	P	**P**	**05 01 45.1**	**+1.1**
KDJ	**Kajisay**	**51.73**	**302**	P	**P**	**05 01 44.8**	**-1.5**
H19K	**Roundabout Mou**	**51.82**	**28**	P	**P**	**05 01 48.8**	**+2.4**
H19K				IAmb	IAmb	05 02 08.2	
	comp=Z,8.5nm,1.2s						
D19K	**Kuna River**	**51.86**	**24**	P	**P**	**05 01 49.0**	**+2.3**
D19K				IAmb	IAmb	05 02 04.1	
	comp=Z,7.3nm,1.4s						
SANVU	**Saraoutou**	**51.88**	**147**	P	**P**	**05 01 48.9**	**+1.5**
E19K	**Redstone River**	**51.93**	**26**	P	**P**	**05 01 49.8**	**+2.6**
E19K				IAmb	IAmb	05 02 05.8	
	comp=Z,5.5nm,1.2s						
K20K	**Telida**	**52.48**	**31**	P	**P**	**05 01 54.4**	**+3.1**
K20K				IAmb	IAmb	05 02 14.1	
	comp=Z,5.3nm,1.1s						
J20K	**Nowinta River**	**52.56**	**30**	P	**P**	**05 01 53.5**	**+1.6**
J20K				IAmb	IAmb	05 01 56.7	
	comp=Z,3.4nm,1.2s						
KDAK	**Kodiak Island**	**52.78**	**38**	P	**P**	**05 01 54.5**	**+0.9**
KDAK				IAmb	IAmb	05 02 09.2	
	comp=Z,5.4nm,0.9s						
IMAR	**Indian Mountai**	**53.00**	**28**	P	**P**	**05 01 56.6**	**+1.5**
ASAR	**Alice Springs**	**53.80**	**188**	P	**P**	**05 02 00.9**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=6.1,slow=6.1,SNR=4.8						
	comp=Z,0.5nm,0.5s						
MLY	**Manley**	**54.12**	**29**	P	**P**	**05 02 05.3**	**+1.9**
MLY				IAmb	IAmb	05 02 21.6	
	comp=Z,3.9nm,1.3s						
BVAR	**Borovoye Array**	**55.08**	**316**	P	**P**	**05 02 09.8**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=81,slow=9.3,SNR=2.0						
	comp=Z,0.5nm,0.3s						
F24K	**Squaw Lake**	**55.49**	**26**	P	**P**	**05 02 16.2**	**+3.0**
ILAR	**Eielson Array**	**55.74**	**30**	P	**P**	**05 02 16.5**	**+1.5**
ILAR	**Eielson Array**	**55.74**	**30**	P	**P**	**05 02 16.1**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=269,slow=7.5,SNR=6.1						
	comp=Z,0.5nm,0.7s						
F25K	**Christian Rive**	**56.35**	**26**	P	**P**	**05 02 20.6**	**+1.2**
BMAR	**Burnt Mountain**	**56.76**	**26**	P	**P**	**05 02 24.3**	**+2.1**
F26K	**Sheenjek River**	**56.93**	**26**	P	**P**	**05 02 26.2**	**+2.8**
F26K				IAmb	IAmb	05 02 42.5	
	comp=Z,6.5nm,1.2s						
J26L	**Joseph Creek**	**57.17**	**30**	P	**P**	**05 02 26.2**	**+0.9**

J26L					IAmb		IAmb	05 02 45.7	
	comp=Z,4.4nm,1.2s								
TGL	**Tana Glacier**		**57.71**	**34**	P		**P**	**05 02 30.6**	**+1.5**
ABKAR	**Akbulak array**		**62.20**	**313**	P		**P**	**05 03 00.3**	**+0.4**
RES	**Resolute Bay**		**69.50**	**14**	LR		LR	05 38 40.1	
	comp=Z,167nm,18.1s,baz=266,slow=40								
FINES	**FINESS Array B**		**74.79**	**333**	P		**P**	**05 04 17.3**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=54,slow=5.9,SNR=3.6								
	comp=Z,0.9nm,0.7s								
KBZ	**Khabaz**		**75.14**	**312**	P		**P**	**05 04 21.0**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=63,slow=4.5,SNR=3.5								
	comp=Z,1.3nm,0.5s								
AKASG	**Malin Array Be**		**79.55**	**323**	P		**P**	**05 04 44.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=48,slow=6.4,SNR=4.4								
	comp=Z,0.3nm,0.3s								
NVAR	**Mina Array Bea**		**79.65**	**52**	P		**P**	**05 04 48.3**	**+2.1**
	comp=Z,0.7nm,0.9s,baz=308,slow=4.7,SNR=3.6								
	comp=Z,0.7nm,0.9s								
NOA	**NORSAR Array B**		**80.44**	**338**	P		**P**	**05 04 49.9**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=42,slow=5.1,SNR=4.2								
	comp=Z,0.9nm,0.8s								
SFJD	**Kangerlussuaq**		**82.89**	**5**	LR		LR	05 45 26.3	
	comp=Z,207nm,19.1s,baz=315,slow=38								
PDAR	**Pinedale Array**		**82.97**	**44**	P		**P**	**05 05 05.5**	**+1.9**
	comp=Z,0.2nm,0.7s,baz=306,slow=4.0,SNR=2.4								
	comp=Z,0.2nm,0.7s								
BR131	**Keskin Array S**		**83.13**	**312**			**P**	**05 05 04.0**	**-0.4**
BR131					IAmb		IAmb	05 05 06.1	
	comp=Z,5.7nm,0.9s								
BRTR	**Keskin Array B**		**83.13**	**312**			**P**	**05 05 03.9**	**-0.5**
BRTR	**Keskin Array B**		**83.13**	**312**	P		**P**	**05 05 05.3**	**+0.9**
	comp=Z,2.9nm,0.9s,baz=95,slow=3.2,SNR=14								
	comp=Z,2.9nm,0.9s								
TXAR	**Lajitas Array**		**94.79**	**52**	P		**P**	**05 06 00.6**	**+0.4**
	comp=Z,3nm,0.8s,baz=317,slow=6.2,SNR=4.2								
	comp=Z,0.3nm,0.8s								
QSPA	**South Pole Qui**		**119.79**	**180**	PKP		**PKiKP**	**05 11 27.7**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=344,slow=4.1,SNR=5.1								
LPAZ	**La Paz**		**150.19**	**69**	PKPbc		**PKPbc**	**05 12 30.6**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=315,slow=1.4,SNR=4.5								

IDC ***17*** *05:03:05.4±1.2,29˚.10N×142˚.28E,h0km,mb3.8/6, mbtmp3.7/8,ML3.0/2,MS3.6/2,Error ellipse: s-maj=37.4km s-min=17.6km az=81.0*

ISC 17 05:03:09.2±0.9,29˚.03N±0˚.08×142˚.2E±0˚.2,h30km,n11, σ1§54/10,mb3.6/6,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.93**	**180**	Pn	**Pn**	**05 03 38.2**	**-1.8**
	baz=0.0,slow=0.0						
JCJ				Sn	**Sb**	**05 04 06.8**	**-0.6**
	baz=0.0,slow=0.0						
MJAR	**Matsushiro Arr**	**8.20**	**337**	Pn	**Pn**	**05 05 04.9**	**-1.2**
	0.1nm,0.3s,baz=169,slow=17,SNR=1.7						
	1.1nm,0.4s						
JNU	**Nakatsue**	**10.50**	**296**	LR	LR	05 09 35.5	
	comp=Z,149nm,20.4s,baz=170,slow=37						
KSRS	**Korea Array**	**14.57**	**309**	Pn	**Pn**	**05 06 32.3**	**-0.9**
	0.1nm,0.3s,baz=113,slow=12,SNR=1.1						
	0.3nm,0.3s						
PETK	**Petropavlovsk-**	**26.63**	**21**	P	**P**	**05 08 44.6**	**-0.4**
	1.4nm,0.7s,baz=216,slow=7.4,SNR=2.4						

comp=Z,299nm,18.9s,baz=178,slow=34
comp=Z,5.6nm,0.9s
JAY Jayapura 47.84 285 P P 05 18 43.5 +4.5
comp=Z,88nm,0.8s,baz=105,slow=2.1,SNR=19
AS31 Alice Springs 48.66 256 **P** **05 18 45.0 -0.2**
ASAR Alice Springs 48.66 256 **P** **05 18 44.8 -0.4**
ASAR Alice Springs 48.66 256 P P **05 18 46.5 +1.3**
comp=Z,4.5nm,0.6s,baz=95,slow=7.6,SNR=38
ASAR PcP **PcP** **05 20 14.8 +4.3**
comp=Z,3.5nm,0.9s,baz=97,slow=4.2,SNR=7.0
comp=Z,4.5nm,0.6s
WB0 Warramunga Arr 48.74 261 P **P** **05 18 43.5 -2.4**
WB0 IAmb IAmb 05 18 48.6
comp=Z,26nm,1.4s
WRA Warramunga Arr 48.77 261 P **P** **05 18 43.6 -2.5**
WRA Warramunga Arr 48.77 261 P **P** **05 18 47.5 +1.5**
comp=Z,4.6nm,0.9s,baz=99,slow=7.9,SNR=16
comp=Z,4.6nm,0.9s
FORT Forrest 53.30 246 P **P** **05 19 19.8 -0.2**
FORT IAmb IAmb 05 19 24.2
comp=Z,22nm,1.6s
FITZ Fitzroy Crossi 57.19 261 P **P** **05 19 48.5 +0.2**
FITZ IAmb IAmb 05 20 20.6
comp=Z,14nm,1.9s
FITZ Fitzroy Crossi 57.19 261 P **P** **05 19 50.9 +2.7**
comp=Z,2.5nm,0.6s,baz=133,slow=4.1,SNR=6.1
comp=Z,2.5nm,0.6s
SBA Scott Base 58.72 185 **P** **05 19 57.9 0.0**
SBA IAmb IAmb 05 20 19.1
comp=Z,11nm,1.1s
VNDA Vanda 58.85 186 **P** **05 19 58.0 -0.9**
VNDA IAmb IAmb 05 20 28.7
comp=Z,16nm,1.6s
VNDA Vanda 58.85 186 P **P** **05 20 02.2 +3.3**
comp=Z,2.2nm,1.0s,baz=9.8,slow=9.7,SNR=11
comp=Z,2.2nm,1.0s
TNTI Ternate 61.35 282 P **P** **05 20 16.4 -0.7**
PSA00 Pilbara Seismi 61.81 256 P **P** **05 20 18.8 -1.2**
MBWA Marble Bar 62.00 256 P **P** **05 20 18.8 -2.6**
NWAO Narrogin (SRO) 62.29 243 LR LR 05 47 12.1
comp=Z,164nm,18.5s,baz=68,slow=36
CASY Casey 66.22 205 P **P** **05 20 47.7 -0.6**
CASY IAmb IAmb 05 23 04.3
comp=Z,11nm,1.0s
QSPA South Pole Qui 70.11 180 P **P** **05 21 11.7 -1.2**
QSPA IAmb IAmb 05 21 47.1
comp=Z,9.7nm,1.1s
QSPA South Pole Qui 70.11 180 P **P** **05 21 15.7 +2.9**
comp=Z,4.2nm,0.9s,baz=43,slow=3.9,SNR=8.1
comp=Z,4.2nm,0.9s
JMZ Minamidaito 2 70.30 308 P **P** **05 21 12.3 -2.1**
MJAR Matsushiro Arr 72.31 321 P **P** **05 21 25.5 -0.9**
MJAR Matsushiro Arr 72.31 321 P P 05 21 31.8 +5.3
comp=Z,3.4nm,0.6s,baz=151,slow=6.4,SNR=7.5
comp=Z,3.4nm,0.6s
MAJO Matsushiro 72.31 321 P **P** **05 21 26.0 -0.5**
MAJO IAmb IAmb 05 21 35.4
comp=Z,5.4nm,0.6s
MJB9 Matsu-Tunnel 72.31 321 P **P** **05 21 26.0 -0.5**
MJB9 IAmb IAmb 05 21 34.0
comp=Z,22nm,1.6s
JOW Kunigami 73.05 308 P **P** **05 21 30.3 -0.7**
ASAJ Asahikawa 75.31 329 LR LR 05 49 58.1
comp=Z,71nm,20.6s,baz=152,slow=32
PFO Pinyon Flats O 76.17 46 LR LR 05 50 57.4
comp=Z,106nm,18.2s,baz=212,slow=32
PET Petropavlovsk 76.56 343 P P 05 21 55.7 +5.0
comp=Z,34nm,0.9s
PETK Petropavlovsk- 76.89 343 P P 05 21 56.8 +4.2
comp=Z,4.3nm,1.0s,baz=163,slow=6.0,SNR=4.5
comp=Z,4.3nm,1.0s
YBH Yreka Blue Hor 77.34 37 LR LR 05 49 42.8
comp=Z,9.6nm,20.2s,baz=266,slow=31
GWY Greenwater Val 77.54 44 P **P** **05 21 57.8 +1.0**
LHV Little Huntoon 77.61 41 P **P** **05 21 57.1 +0.2**
LHV IAmb IAmb 05 22 20.5
comp=Z,8.6nm,1.0s
GMN Gold Mountain 77.82 43 P **P** **05 21 57.7 -0.8**
RYN Ryan 77.83 41 P **P** **05 21 57.1 -1.3**
RYN IAmb IAmb 05 22 16.8
comp=Z,9.1nm,1.2s
NVAR Mina Array Bea 77.84 41 P P 05 22 04.9 +6.4
comp=Z,4.1nm,0.8s,baz=244,slow=7.0,SNR=16
comp=Z,4.1nm,0.8s
MZP Montezuma Peak 77.98 42 P **P** **05 21 57.4 -2.0**
MZP IAmb IAmb 05 24 52.0
comp=Z,4.5nm,0.6s
W13A Hualapai Mount 78.77 46 P **P** **05 22 03.0 -0.8**
J05D Fort Rock, OR 79.19 36 P **P** **05 22 05.1 -0.7**
KSRS Korea Array 79.28 316 P P 05 22 13.1 +6.9
comp=Z,2.8nm,0.8s,baz=133,slow=5.7,SNR=12
comp=Z,2.8nm,0.8s
PINE Pine Mountain 79.68 36 **P** **05 22 07.2 -1.3**
PINE IAmb IAmb 05 22 27.6
comp=Z,10nm,1.1s
X16A Lo Mia Camp, P 80.08 48 P **P** **05 22 11.4 +0.5**
I07A Izee 80.66 36 P **P** **05 22 15.1 +1.4**
ELK Elko 81.12 41 LR LR 05 54 03.4
comp=Z,133nm,18.0s,baz=249,slow=32
Q16A Castle Valley 82.68 44 P **P** **05 22 23.8 -0.8**
Q16A IAmb IAmb 05 22 44.4
comp=Z,11nm,1.3s
NJ2 Nanjing 82.77 308 *e*P **P** **05 22 25.3 +0.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
VHRN Van Horn 82.97 54 **P** **05 22 27.4 +1.2**
TXAR Lajitas Array 83.31 56 P P 05 22 34.2 +6.2
comp=Z,1.4nm,0.9s,baz=248,slow=4.1,SNR=8.7
comp=Z,1.4nm,0.9s
P18A Preston Nutter 83.67 44 P **P** **05 22 28.8 -1.1**
P18A IAmb IAmb 05 23 06.0
comp=Z,8.4nm,1.1s
PV18 Skein Mesa, Pa 83.83 46 **P** **05 22 30.4 -0.2**
PV20 West Nyswonger 83.84 46 **P** **05 22 30.1 -0.5**
ANMO Albuquerque 83.88 50 **P** **05 22 30.5 -0.3**
ANMO IAmb IAmb 05 22 50.0
comp=Z,7.8nm,1.2s
ANMO Albuquerque 83.88 50 LR LR 05 55 15.4
comp=Z,86nm,18.2s,baz=24,slow=32
PV02 Paradox Valley 83.93 46 P **P** **05 22 30.4 -0.7**
PV02 IAmb IAmb 05 22 50.0
comp=Z,18nm,1.2s
PV22 Blue Mesa, Par 84.06 46 P **P** **05 22 31.2 -0.5**
PV22 IAmb IAmb 05 22 50.7
comp=Z,9.3nm,1.2s
BNX BinXian 84.43 323 ⇑P P 05 22 37.4 +4.3
BNX pmax pmax
comp=Z,11nm,1.1s
NEW Newport 84.57 34 LR LR 05 55 59.1
comp=Z,204nm,18.7s,baz=242,slow=32
MCMT McKenzie Canyo 84.91 39 **P** **05 22 35.7 -0.2**
PDAR Pinedale Array 85.78 42 **P** **05 22 38.2 -2.1**
PDAR Pinedale Array 85.78 42 P P 05 22 45.8 +5.5
comp=Z,1.1nm,0.9s,baz=238,slow=5.7,SNR=7.3
comp=Z,1.1nm,0.9s
PLCA Paso Flores 86.61 132 LR LR 05 53 28.4
comp=Z,104nm,18.8s,baz=204,slow=30
CCB Clear Creek Bu 86.65 11 **P** **05 22 44.4 +0.7**
CCB IAmb IAmb 05 23 24.2
comp=Z,7.3nm,1.1s
ILAR Eielson Array 86.93 11 P P 05 22 51.6 +6.4
comp=Z,0.8nm,0.8s,baz=208,slow=5.9,SNR=11
comp=Z,0.8nm,0.8s
HEH HeiHe 87.08 327 *e*P P 05 22 52.6 +6.4
XLT XiLinHaoTe 90.31 317 *e*P P 05 23 08.5 +6.7
XLT pP pwP 05 23 13.8 -0.2
XLT pmax pmax
comp=Z,5.0nm,0.9s
XAN Xi'an 91.13 306 ⇓P P 05 23 13.0 +7.2
XAN pmax pmax
comp=Z,12nm,1.4s
XAN pmax pmax
comp=Z,230nm,3.9s
HHC Hu-ho-hao-te 91.97 313 *e*P **P** **05 23 10.5 +0.9**
HHC pmax pmax
comp=Z,12nm,0.7s
NNA Nana 92.19 103 LR LR 05 55 25.3
comp=Z,58nm,21.1s,baz=182,slow=30
CMAR Chiang Mai Arr 93.85 288 **P** **05 23 15.6 -3.1**
CMAR Chiang Mai Arr 93.85 288 P P 05 23 24.3 +5.7
comp=Z,1.1nm,0.7s,baz=115,slow=4.0,SNR=9.9
comp=Z,1.1nm,0.7s
PZH PanZhiHua 94.14 297 P **P** **05 23 20.8 +0.9**
LZH Lanzhou 95.75 306 *e*P **P** **05 23 22.9 -4.3**
LZH sP sP 05 23 34.5 -1.9
LZH pmax pmax
comp=Z,19nm,1.2s
MKAR Makanchi Array 113.83 313 PKiKP **PKiKP** **05 28 43.0 +3.5**
comp=Z,0.2nm,0.5s,baz=101,slow=2.9,SNR=1.7
MKAR PP **PP** **05 29 36.4 +3.3**
comp=Z,1.0nm,1.1s,baz=96,slow=4.3,SNR=5.0
KURBB Kurchatov Arra 116.45 317 PP **PP** **05 29 54.7 +3.4**
comp=Z,0.3nm,0.3s,baz=106,slow=6.1,SNR=5.2
BVAR Borovoye Array 121.31 321 PKP **PKiKP** **05 28 58.6 +4.9**
comp=Z,0.5nm,0.5s,baz=88,slow=4.8,SNR=1.8
BVAR PP PP 05 30 34.2 +9.5
comp=Z,0.4nm,0.5s,baz=64,slow=6.6,SNR=1.4
EKA Eskdalemuir Ar 143.95 9 PKP **PKiKP** **05 29 40.9 +1.6**
comp=Z,1.3nm,0.7s,baz=341,slow=1.7,SNR=3.2
AKASG Malin Array Be 144.41 335 PKP **PKiKP** **05 29 40.0 -0.4**
comp=Z,1.6nm,0.5s,baz=40,slow=4.5,SNR=15
BRTR Keskin Array B 149.43 316 PKPbc **PKPab** **05 29 55.9 +0.9**
comp=Z,1.0nm,0.9s,baz=131,slow=3.9,SNR=5.3
GERES GERESS Array B 150.59 350 PKPbc **PKPab** **05 29 57.6 -1.7**
comp=Z,0.3nm,0.2s,baz=341,slow=2.1,SNR=5.3

*ASRS **17** 05:10:16.0±1.2,54.°08N×87.°44E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 17 05:10:24.8±3.1,53.°94N×86.°70E,h0km,mbtmp2.9/2, ML2.4/2,Error ellipse: s-maj=26.0km s-min=15.1km az=64.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.11**	**271**	I	I	05 17 30.0	
	baz=87,slow=323,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.11**	**271**	Pg	Pg	05 10 45.5	-0.5
	2.2nm,0.3s,baz=91,slow=17,SNR=35						
ZALV				Lg	Lg	05 11 01.2	
	0.8nm,0.3s,baz=95,slow=35,SNR=4.5						
KURBB	**Kurchatov Arra**	**6.01**	**240**	Pn	Pn	05 11 56.3	+1.4
	0.1nm,0.3s,baz=54,slow=13,SNR=2.2						
	0.9nm,0.2s						
MKAR	**Makanchi Array**	**7.68**	**203**	Pn	Pn	05 12 18.5	+0.7
	0.1nm,0.3s,baz=22,slow=12,SNR=1.4						
	0.1nm,0.3s						

*IDC **17** 05:11:57.0±1.2,0.°16N×125.°85E,h0km,mb3.8/5, mbtmp3.9/6,ML3.2/1,Error ellipse: s-maj=107.6km s-min=19.1km az=69.0*
ISC 17 05:12:03.0±1.3,0.°1N±0.°3×125.°8E±0.°7,h44km,n6,σ0s56/6, mb3.7/5,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.06**	**180**	P	**P**	**05 16 10.7**	**-0.1**
	0.1nm,0.3s,baz=356,slow=14,SNR=1.4						
	2.5nm,0.9s						
WRA	**Warramunga Arr**	**21.59**	**158**	P	**P**	**05 16 48.9**	**-0.3**
	1.3nm,0.5s,baz=336,slow=10,SNR=12						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**24.89**	**162**	P	**P**	**05 17 22.4**	**+0.5**
	0.8nm,0.5s,baz=343,slow=11,SNR=10						
	0.8nm,0.5s						
SONM	**Songino Array**	**50.47**	**343**	P	**P**	**05 20 56.5**	**-0.1**
	0.3nm,0.4s,baz=150,slow=6.1,SNR=1.9						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**60.04**	**327**	P	**P**	**05 22 05.0**	**-0.5**
	0.4nm,0.5s,baz=125,slow=6.8,SNR=6.6						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**64.31**	**329**	P	**P**	**05 22 34.6**	**+0.6**
	2.1nm,0.2s,baz=128,slow=5.0,SNR=4.6						
	2.1nm,0.2s						

IDC 17 05:15:22.3±2.0,0.°87N×127.°30E,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=181.6km s-min=23.5km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.80**	**162**	P	P	05 20 16.2	0.0
	0.8nm,0.4s,baz=341,slow=9.8,SNR=6.6						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**25.22**	**166**	P	P	05 20 50.2	+0.2
	0.5nm,0.4s,baz=345,slow=8.9,SNR=5.1						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**60.22**	**326**	P	P	05 25 32.9	+0.6
	0.5nm,0.6s,baz=123,slow=8.6,SNR=4.8						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**64.44**	**328**	P	P	05 25 59.5	-1.0
	1.3nm,0.2s,baz=117,slow=7.0,SNR=0.8						
	1.3nm,0.2s						

*NEIC **17** 05:49:51.9±1.4,35.°848N±0.°008×117.°67W±0.°01, h5km±2km,Error ellipse: s-maj=1.3km s-min=1.2km az=111.0*
PAS 17 05:49:52.3±1.1,35.°857N±0.°008×117.°686W±0.°009, h4km±2km,ML3.1/23,ML2.9/106(NEIC),Error ellipse: s-maj=1.2km s-min=1.0km az=176.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOW	**Tower One**	**0.08**	**233**		Pg	05 49 54.5	+0.6
CLC	**China Lake**	**0.08**	**120**		Pg	05 49 54.0	0.0
WVPM	**Volcano Peak E**	**0.14**	**311**		Pg	05 49 55.3	+0.1
JRC2	**Joshua Ridge**	**0.16**	**322**		Pg	05 49 55.6	+0.1
SRTC	**Snort**	**0.17**	**197**		Pg	05 49 56.1	+0.4
WNMM	**Nine Mile Cany**	**0.18**	**266**		Pg	05 49 56.0	+0.2
WRVM	**Rose V. Centra**	**0.22**	**312**		Pg	05 49 56.7	0.0
MPMC	**Manual Prospec**	**0.26**	**38**		Pg	05 49 57.2	-0.1
MPMC				IAML		05 50 01.4	
	comp=E,3μm,0.6s						
MPMC				IAML		05 50 02.7	
	comp=N,3μm,0.6s						
MFS	**McCloud Flat S**	**0.29**	**332**		Pg	05 49 58.0	-0.1
WSHM	**Spangler Hills**	**0.30**	**148**	Pg	Pg	05 49 58.0	-0.1
WSHM				IAML		05 50 03.2	
	comp=N,3μm,0.4s						
WSHM				IAML		05 50 03.4	
	comp=N,2μm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.38**	**180**		Pg	05 49 59.5	-0.1
LRMC				IAML		05 50 05.7	
	comp=E,2μm,0.6s						
LRMC				IAML		05 50 06.0	
	comp=N,1μm,0.6s						
CCCA	**Chr Cany lake**	**0.42**	**142**		Pg	05 50 00.8	+0.3
WORM	**Onyx Ranch**	**0.48**	**251**		Pg	05 50 01.4	-0.2
WBSM	**Bird Springs**	**0.49**	**229**		Pg	05 50 01.6	-0.1
WHFM	**Hanning Flat**	**0.56**	**254**		Pg	05 50 02.9	-0.2
DTP	**Desert Tortois**	**0.60**	**192**		Pg	05 50 03.5	-0.3
DTP					Sg	05 50 11.9	+0.3
CWC	**Cottonwood Cre**	**0.66**	**331**		Pg	05 50 04.5	-0.5
CWC				IAML		05 50 14.4	
	comp=E,382nm,0.3s						
ISA	**Isabella, Lake**	**0.67**	**253**		Sg	05 50 13.8	0.0
ISA	**Isabella, Lake**	**0.67**	**253**		Pg	05 50 04.9	-0.2
ISA				IAML		05 50 14.1	
	comp=N,1μm,0.5s						
ISA				IAML		05 50 16.4	
	comp=E,530nm,0.3s						
QSM	**Queen of Sheba**	**0.67**	**81**		Sg	05 50 13.8	-0.1
QSM	**Queen of Sheba**	**0.67**	**81**		Pg	05 50 04.9	-0.3
QSM				IAML		05 50 17.1	
	comp=N,980nm,0.8s						
QSM				IAML		05 50 17.8	
	comp=E,1μm,0.6s						
CGO	**Cerro Gordo**	**0.70**	**352**		Pg	05 50 05.5	-0.3
CGO					Sg	05 50 15.9	+1.1
WASM	**Alta Sierra Ca**	**0.72**	**261**		Pg	05 50 05.8	-0.2
GWY	**Greenwater Val**	**0.89**	**68**		Sg	05 50 20.9	+0.1
GWY	**Greenwater Val**	**0.89**	**68**		Pg	05 50 08.8	-0.5
GWY				IAML		05 50 24.2	
	comp=E,561nm,0.5s						
GWY				IAML		05 50 26.2	
	comp=N,549nm,0.6s						
GSC	**Goldstone, Bar**	**0.91**	**127**		Sg	05 50 21.5	0.0
GSC	**Goldstone, Bar**	**0.91**	**127**	Pg	Pg	05 50 09.1	-0.6
GSC				IAML		05 50 23.8	
	comp=N,585nm,0.8s						
GSC				IAML		05 50 24.0	
	comp=E,657nm,0.5s						
SPG2	**Springville 2**	**0.94**	**292**		Pg	05 50 09.5	-0.9
SPG2					Sg	05 50 22.0	-0.5
HYS	**Haystack Butte**	**0.99**	**174**		Pg	05 50 10.8	-0.6
EDW2	**Edwards Air Fo**	**1.01**	**195**		Pg	05 50 10.7	-0.9
TPO	**Tropico Hills**	**1.07**	**205**		Sg	05 50 26.7	0.0
TPO	**Tropico Hills**	**1.07**	**205**		Pg	05 50 12.1	-0.7
TPO				IAML		05 50 29.6	
	comp=N,474nm,0.9s						
SHOC	**Shoshone, Teco**	**1.15**	**87**		Sg	05 50 29.2	0.0
GRAC	**Grapevine Hwy**	**1.17**	**13**		Pg	05 50 14.0	-0.6
SBB	**Saddle Back Bu**	**1.17**	**186**		Pg	05 50 14.0	-0.8
SGV	**South Grapevin**	**1.24**	**25**		Pg	05 50 15.3	-0.7
WCT	**Wildcat Mounta**	**1.27**	**42**		Pg	05 50 15.5	-1.1
TIN	**Tinemaha, Big**	**1.27**	**340**		Pg	05 50 16.5	-0.2
AMDNV	**Amargosa**	**1.28**	**62**		Pg	05 50 15.3	-1.6
AMDNV					Sg	05 50 32.8	-0.7
LCH	**Last Change Ra**	**1.37**	**1**		Pn	05 50 18.2	-0.2
CJV	**Casa Juvan**	**1.38**	**196**		Pn	05 50 19.0	+0.3
HOLC	**Holcomb Ridge**	**1.40**	**185**		Pn	05 50 18.5	-0.3
JNH	**Juniper Hills**	**1.42**	**189**		Pg	05 50 19.7	+0.1
VOG	**Valley Oaks Go**	**1.45**	**289**		Pn	05 50 18.9	-0.4
GMN	**Gold Mountain**	**1.48**	**13**		Pn	05 50 19.5	-0.5
GMN				IAML		05 50 42.8	
	comp=N,150nm,0.7s						
TUQ	**Turquoise Moun**	**1.50**	**106**		Sb	05 50 40.1	0.0
DSP	**Deep Springs**	**1.53**	**351**		Pn	05 50 19.8	-0.5
DSP				IAML		05 50 42.9	
	comp=N,113nm,0.5s						
DSP	**Deep Springs**	**1.53**	**351**		Sn	05 50 40.1	-0.6
CHFC	**Chilao Flat St**	**1.54**	**190**		Pb	05 50 21.6	0.0
CHFC					Sg	05 50 41.8	-0.1
BHPR	**Bishop**	**1.58**	**336**		Pn	05 50 21.6	+0.3
TPNV	**Topopah Spring**	**1.59**	**46**		Pn	05 50 20.4	-1.1
TPNV				IAML		05 50 48.4	
	comp=N,112nm,0.7s						
TPNV				IAML		05 50 51.6	
	comp=N,114nm,0.8s						
BFSC	**Mount Baldy Ra**	**1.61**	**179**		Pn	05 50 21.4	-0.4
BFSC				IAML		05 50 44.3	
	comp=E,103nm,0.7s						
BFSC				IAML		05 50 50.1	
	comp=N,133nm,0.8s						
SSK	**Sunset Peak**	**1.64**	**180**		Pg	05 50 23.5	-0.2
MWC	**Mount Wilson**	**1.66**	**191**		Pn	05 50 21.7	-0.6
MWC				IAML		05 50 51.1	
	comp=E,145nm,0.9s						
MWC				IAML		05 50 51.7	
	comp=N,144nm,0.7s						
BBRC	**Big Bear Solar**	**1.71**	**158**		Pg	05 50 24.8	-0.3
PASC	**Pasadena Art C**	**1.73**	**194**		Pn	05 50 23.0	-0.2
PSRC	**Puddingstone R**	**1.76**	**183**		Pg	05 50 25.8	-0.3
MTPC	**Mountain Pass**	**1.78**	**101**		Pn	05 50 23.6	-0.4
MTPC				IAML		05 50 51.1	
	comp=E,186nm,0.5s						
MZP	**Montezuma Peak**	**1.86**	**7**		Pn	05 50 24.5	-0.7
KCC	**Kaiser Creek**	**1.97**	**319**		Pb	05 50 28.1	-0.6
BENR	**Benton**	**1.99**	**339**		Pb	05 50 29.2	0.0
MLAC	**Mammoth, Mammo**	**2.00**	**333**		Pb	05 50 29.3	0.0
MCSM	**Casa Diablo Ho**	**2.04**	**332**		Pb	05 50 30.2	0.0
SHPR	**Sheep Range**	**2.14**	**72**		Pn	05 50 28.1	-0.9
ELS	**Elsinore Mount**	**2.21**	**174**		Pn	05 50 29.0	-0.9
ELS				IAML		05 51 07.0	
	comp=E,44nm,0.8s						
POB	**Polly Butte**	**2.25**	**164**		Pn	05 50 29.9	-0.5
V12A	**Nelson**	**2.31**	**92**		Pn	05 50 29.8	-1.4
V12A				IAML		05 51 07.4	
	comp=N,112nm,1.2s						
V12A				IAML		05 51 09.0	
	comp=E,97nm,0.6s						
PMD	**Palm Desert**	**2.45**	**154**		Pn	05 50 31.6	-1.6
PMD				IAML		05 51 15.4	
	comp=E,38nm,1.1s						
PFO	**Pinyon Flats O**	**2.46**	**155**	Pn	Pn	05 50 31.4	-1.9
PFO				IAML		05 51 15.9	
	comp=E,42nm,1.2s						
PFO				IAML		05 51 22.2	
	comp=E,36nm,0.9s						
LHV	**Little Huntoon**	**2.48**	**345**		Pn	05 50 32.2	-1.3
LHV				IAML		05 51 17.8	
	comp=E,64nm,0.7s						
LHV				IAML		05 51 27.6	
	comp=N,47nm,1.4s						
NV11	**Mina Array Sit**	**2.60**	**352**		Pn	05 50 34.9	-0.4
NVAR	**Mina Array Bea**	**2.62**	**349**		Pn	05 50 35.3	-0.3
PRN	**Pahroc Range**	**2.62**	**53**		Pn	05 50 34.7	-0.9
PRN				IAML		05 51 24.5	
	comp=E,63nm,0.9s						
PRN				IAML		05 51 24.5	
	comp=N,64nm,0.6s						
BBGB	**Big Mountain B**	**2.81**	**286**		Pn	05 50 36.5	-1.5
RYN	**Ryan**	**2.85**	**347**		Pn	05 50 37.9	-0.8
R11B	**Troy Canyon, C**	**3.00**	**33**		Pn	05 50 39.4	-1.5
R11B				IAML		05 51 29.6	
	comp=E,28nm,1.0s						
YUH	**Yuha Desert**	**3.52**	**155**		Pn	05 50 48.1	+0.3
LCMT	**Little Creek M**	**3.76**	**71**		Pn	05 50 49.7	-1.6
CCUT	**Cedar City**	**3.86**	**63**		Pn	05 50 51.8	-1.0
CCUT				IAML		05 52 01.4	
	comp=N,10nm,1.4s						
KNB	**Kanab**	**4.09**	**72**		Pn	05 50 55.1	-0.7
KNB				IAML		05 52 08.6	
	comp=N,16nm,1.7s						
KNB				IAML		05 52 20.0	
	comp=E,11nm,1.2s						
SPR3	**Spring Creek 3**	**4.12**	**39**		Pn	05 50 55.1	-1.2
SPR3				IAML		05 52 10.2	
	comp=N,10nm,1.0s						
SPR3				IAML		05 52 11.6	
	comp=E,10nm,0.9s						
U15A	**North Rim**	**4.40**	**81**	Pn	Pn	05 50 59.9	-0.3
U15A				IAML		05 52 09.8	
	comp=E,17nm,0.8s						
U15A				IAML		05 52 14.6	
	comp=N,14nm,1.1s						
ELK	**Elko**	**5.25**	**21**		Pn	05 51 11.6	-0.2
ELK				IAML		05 52 39.9	
	comp=N,3.9nm,0.6s						
HVU	**Hansel Valley**	**7.05**	**31**	Pn	Pn	05 51 38.1	+1.7
YBH	**Yreka Blue Hor**	**7.06**	**328**	Pn	Pn	05 51 38.2	+1.8
PV20	**West Nyswonger**	**7.39**	**68**	Pn	Pn	05 51 42.1	+0.8

*IDC **17** 05:58:07.4±0.5,3.°64S×151.°08E,h0km,mb4.4/20, mbtmp4.3/20,MS3.8/6,Error ellipse: s-maj=16.5km s-min=11.1km az=82.0*
*NEIC **17** 05:58:08.6±1.6,3.°76S±0.°06×151.°36E±0.°06,h10km±1km, mb4.9/49,Error ellipse: s-maj=13.9km s-min=2.9km az=44.0*
*DJA **17** 05:58:27.4±2.2,4.°5S±7.°1×15.°1E±1.°3,h156km±17km, M4.6/14,mb4.6/14,mB6.9/1,Mw(mB)6.8/1*
ISC 17 05:58:08.6±0.4,3.°71S±0.°06×151.°29E±0.°06,h10km,n103, σ1s51/101,mb4.8/55,MS3.7/8,1C-2D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.99**	**119**		**Pg**	**05 58 25.5**	**-2.2**
MANU	**Manus Island**	**4.25**	**293**		**Pn**	**05 59 12.1**	**-1.4**
JAY	**Jayapura**	**10.63**	**276**	LR	LR	06 04 12.9	
	comp=Z,2μm,19.7s,baz=50,slow=35						
PATS	**Pohnpei**	**12.61**	**34**	Pn	**Pn**	**06 01 05.6**	**-2.6**
SMPI	**Sarmi**	**12.68**	**277**	P	Pn	06 01 21.5	+12
	69nm,0.9s						
COEN	**Coen**	**12.95**	**218**	Pn	**Pn**	**06 01 11.4**	**-1.5**
CTAO	**Charters Tower**	**17.00**	**196**		**Pn**	**06 02 04.8**	**-1.8**
FAKI	**Fak Fak**	**19.02**	**272**	P	**Pn**	**06 02 30.3**	**-1.3**
FAKI				IAmb	IAmb	06 02 36.1	
	comp=Z,102nm,1.3s						
MTN	**Manton Dam**	**21.89**	**244**	P	**P**	**06 03 02.0**	**-0.1**
MTN				IAmb	IAmb	06 03 05.3	
	comp=Z,124nm,1.8s						
WB0	**Warramunga Arr**	**22.94**	**225**		**P**	**06 03 11.6**	**-1.6**
WB0				IAmb	IAmb	06 03 18.6	
	comp=Z,27nm,0.9s						
WR8	**Warramunga Arr**	**22.99**	**224**	P	**P**	**06 03 13.0**	**-0.8**
WR8				IAmb	IAmb	06 03 22.9	
	comp=Z,39nm,1.2s						
WRA	**Warramunga Arr**	**23.10**	**224**	P	**P**	**06 03 12.6**	**-2.2**
WRA	**Warramunga Arr**	**23.10**	**224**	P	**P**	**06 03 13.7**	**-1.1**
	comp=Z,11nm,0.8s,baz=48,slow=11,SNR=38						
WRA				S	**S**	**06 07 29.5**	**+3.3**
	comp=Z,0.7nm,1.0s,baz=55,slow=14,SNR=2.0						
WRA				LR	LR	06 12 20.5	
	comp=Z,188nm,21.4s,baz=340,slow=37						
	comp=Z,11nm,0.8s						
DZM

comp=Z,57nm,0.9s
ONTNC Ouen Toro 23.62 143 P P 06 03 18.6 -1.4
ONTNC IAmb IAmb 06 03 33.2
comp=Z,41nm,1.0s
KNRA Kununurra 25.15 240 P P 06 03 34.6 +0.5
KNRA IAmb IAmb 06 03 41.8
comp=Z,46nm,1.6s
AS31 Alice Springs 25.99 219 P 06 03 42.2 +0.3
ASAR Alice Springs 25.99 219 P 06 03 41.6 -0.2
ASAR Alice Springs 25.99 219 P P 06 03 41.1 -0.8
comp=Z,3.1nm,0.8s,baz=42,slow=9.9,SNR=16
ASAR LR LR 06 13 48.2
comp=Z,214nm,21.6s,baz=44,slow=36
comp=Z,3.1nm,0.8s
STKA Stephens Creek 29.46 197 P P 06 04 12.0 -0.8
STKA Stephens Creek 29.46 197 P P 06 04 12.2 -0.6
comp=Z,2.0nm,0.5s,baz=17,slow=12,SNR=4.9
STKA LR LR 06 15 58.3
comp=Z,186nm,18.4s,baz=354,slow=36
comp=Z,2.0nm,0.5s
KAPI Kappang 31.47 266 LR LR 06 17 02.5
comp=Z,193nm,21.9s,baz=90,slow=36
FORT Forrest 34.71 217 P P 06 04 57.5 -1.4
PSA00 Pilbara Seismi 35.31 237 P P 06 05 03.9 -0.3
PSA00 IAmb IAmb 06 05 46.7
comp=Z,20nm,1.4s
SBUM Sibu 39.52 278 P P 06 05 39.3 -0.7
MJAR Matsushiro Arr 41.87 344 P P 06 05 57.2 -1.8
comp=Z,0.6nm,0.3s,baz=163,slow=8.8,SNR=1.8
MJAR LR LR 06 24 01.3
comp=Z,60nm,18.6s,baz=167,slow=37
comp=Z,0.6nm,0.3s
KSRS Korea Array 46.36 334 P P 06 06 34.2 -0.9
comp=Z,0.8nm,0.6s,baz=159,slow=9.2,SNR=4.1
comp=Z,0.8nm,0.6s
MDSI Maura Dua 46.99 267 P P 06 06 43.4 +3.0
comp=Z,12nm,1.2s
NJ2 Nanjing 47.06 322 *e*P **P 06 06 42.3 +1.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
USRK Ussuriysk Ar. 50.75 342 P P 06 07 09.8 +1.1
comp=Z,3.0nm,0.7s,baz=149,slow=6.7,SNR=5.5
comp=Z,3.0nm,0.7s
SLVN Son La 52.65 300 P 06 07 22.9 -0.6
BNX BinXian 53.62 339 ⇓P **P 06 07 29.9 -0.2**
BNX pmax pmax
comp=Z,7.0nm,0.8s
XAN Xi'an 54.80 317 ⇑P **P 06 07 38.3 -0.7**
XAN pP pwP 06 07 43.3 -1.3
XAN pmax pmax
comp=Z,10.0nm,0.7s
XAN pmax pmax
comp=Z,130nm,4.9s
CM31 Chiang Mai Arr 56.05 295 P P 06 07 48.2 0.0
CMAR Chiang Mai Arr 56.05 295 P 06 07 48.0 -0.3
CMAR Chiang Mai Arr 56.05 295 P P 06 07 48.6 +0.3
comp=Z,7.8nm,0.8s,baz=108,slow=7.1,SNR=34
comp=Z,7.8nm,0.8s
CHTO Chiang Mai 56.16 295 P 06 07 49.4 +0.3
CHTO IAmb IAmb 06 07 55.7
comp=Z,13nm,1.1s
PZH PanZhiHua 56.52 305 P P 06 07 53.8 +2.2
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.7s
PEA0B Petropavlovsk- 56.87 5 P 06 07 53.1 -0.3
PEA0B IAmb IAmb 06 08 06.0
comp=Z,18nm,1.1s
PETK Petropavlovsk- 56.87 5 P P 06 07 53.7 +0.3
PETK Petropavlovsk- 56.87 5 P P 06 07 55.1 +1.7
comp=Z,6.0nm,0.7s,baz=186,slow=7.1,SNR=10
comp=Z,6.0nm,0.7s
CD2 Chengdu 56.89 311 P P 06 07 54.9 +0.8
CD2 pmax pmax
comp=Z,90nm,0.5s
XLT XiLinHaoTe 56.98 330 *e*P **P 06 07 53.9 -0.6**
XLT pP pwP 06 07 59.3 -0.8
XLT pmax pmax
comp=Z,7.0nm,0.6s
HHC Hu-ho-hao-te 57.29 325 *e*P **P 06 07 59.8 +3.0**
HHC pmax pmax
comp=Z,9.0nm,0.8s
HEH HeiHe 57.56 342 *e*P **P 06 07 57.8 -0.5**
HEH pmax pmax
comp=Z,6.0nm,0.7s
LZH Lanzhou 59.41 316 *e*P **P 06 08 13.4 +1.6**
LZH pP pwP 06 08 17.5 +0.1
LZH sP sP 06 08 21.3 +6.2
LZH pmax pmax
comp=Z,10.0nm,1.2s
LZH LR LR
comp=N,360nm,14.8s
LZH LR LR
comp=E,400nm,15.1s
LZH LR LR
comp=Z,220nm,14.4s
KIWB Kanaga Island 61.51 22 P 06 08 26.8 +1.2
GTA Gaotai 63.84 318 *e*P **P 06 08 42.9 +1.3**
GTA pmax pmax
comp=Z,4.0nm,0.7s
GTA LR LR
comp=N,230nm,15.6s
GTA LR LR
comp=E,360nm,17.4s
GTA LR LR
comp=Z,180nm,18.2s
SHL Shillong 64.46 300 P 06 08 44.9 -1.1
SONM Songino Array 64.61 328 P P 06 08 46.4 -0.1
comp=Z,1.7nm,0.7s,baz=140,slow=6.7,SNR=11
comp=Z,1.7nm,0.7s
CASY Casey 68.61 196 P 06 09 10.6 -1.0
WMQ Urumqi 73.93 318 *e*P **P 06 09 46.8 +2.6**
WMQ LR LR
comp=Z,130nm,19.9s
VNDA Vanda 73.97 178 P P 06 09 43.8 +0.1
comp=Z,0.9nm,0.8s,baz=345,slow=6.9,SNR=6.5
comp=Z,0.9nm,0.8s
ACHA Angle Creek He 74.90 26 P P 06 09 49.3 -0.3
ACHA IAmb IAmb 06 09 57.6
comp=Z,6.3nm,0.8s
M19K Big River Lodg 77.36 23 P P 06 10 02.6 -0.8
CNPM China Poot 77.40 26 P 06 10 04.5 +0.8
SLKM Skilak Lake 78.34 26 P 06 10 08.8 -0.2
SLKM IAmb IAmb 06 10 16.0
comp=Z,12nm,0.7s
MKAR Makanchi Array 78.52 319 P 06 10 09.6 -0.7
MKAR Makanchi Array 78.52 319 P P 06 10 10.3 0.0
comp=Z,2.2nm,0.6s,baz=106,slow=6.7,SNR=22
comp=Z,2.2nm,0.6s
MAKZ Makanchi 78.73 319 P 06 10 10.8 -0.6
MAKZ IAmb IAmb 06 10 17.1
comp=Z,10nm,0.8s
ZALV Zalesovo Beam 79.42 327 P P 06 10 13.5 -1.4
ZALV Zalesovo Beam 79.42 327 P P 06 10 13.7 -1.3
comp=Z,1.0nm,0.5s,baz=108,slow=4.7,SNR=5.8
comp=Z,1.0nm,0.5s
KTH Kantishna Hill 79.59 23 P P 06 10 16.3 +0.5
KTH IAmb IAmb 06 10 21.8
comp=Z,34nm,1.8s
TRF Thorofare Moun 79.78 23 P 06 10 18.1 +1.1
TRF IAmb IAmb 06 10 22.2
comp=Z,33nm,1.8s
BPAW Bear Paw Mtn. 79.85 22 P 06 10 17.7 +0.6
IMAR Indian Mountai 79.88 20 P P 06 10 18.3 +1.0
I21K Tanana 80.05 21 P P 06 10 19.1 +1.0
I21K IAmb IAmb 06 10 32.3
comp=Z,11nm,1.1s
SCM Sheep Creek Mo 80.20 25 P P 06 10 20.0 +0.8
RND Reindeer 80.32 23 P 06 10 19.9 +0.1
RND IAmb IAmb 06 10 30.8
comp=Z,10.0nm,0.8s
MLY Manley 80.42 21 P 06 10 20.8 +0.6
MLY IAmb IAmb 06 10 24.0
comp=Z,6.5nm,0.6s
MCK McKinley 80.45 23 P 06 10 19.6 -0.8
MCK IAmb IAmb 06 10 31.5
comp=Z,15nm,0.8s
KDJ Kajisay 80.78 314 P P 06 10 22.8 -0.1
KDJ IAmb IAmb 06 10 29.6
comp=Z,7.8nm,0.8s
KSH Kashi 81.09 311 P P 06 10 26.9 +2.4
KSH pP PcP 06 10 31.8 +0.9
KSH pmax pmax
comp=Z,7.0nm,0.8s
WRH Wood River Hil 81.13 22 P P 06 10 23.5 -0.5
WRH IAmb IAmb 06 10 34.5
comp=Z,10nm,1.0s
CCB Clear Creek Bu 81.32 22 P 06 10 24.6 -0.4
HDA Harding Lake 81.54 23 P P 06 10 26.4 +0.2
ILAR Eielson Array 81.73 22 P 06 10 26.4 -0.7
ILAR Eielson Array 81.73 22 P P 06 10 26.2 -1.0
comp=Z,3.6nm,0.6s,baz=251,slow=5.5,SNR=37
comp=Z,3.6nm,0.6s
COLD Coldfoot 81.74 20 P 06 10 29.1 +1.9
KURBB Kurchatov Arra 82.02 322 P P 06 10 28.1 -0.8
comp=Z,1.8nm,0.2s,baz=110,slow=4.7,SNR=9.8
comp=Z,1.8nm,0.2s
RIDG Independent Ri 82.07 24 P 06 10 29.4 +0.4
RIDG IAmb IAmb 06 10 43.0
comp=Z,22nm,1.5s
DOT Dot Lake 82.35 24 P 06 10 31.0 +0.5
DOT IAmb IAmb 06 10 47.4
comp=Z,6.5nm,0.8s
SCRK Sand Creek 82.52 24 P 06 10 31.1 -0.4
ARSB Arslanbob 83.68 312 P 06 10 36.9 -1.1
HYT Haines Junctio 84.18 28 P 06 10 40.7 +0.6
HYT IAmb IAmb 06 10 53.2
comp=Z,8.6nm,1.0s
BTK Batken 85.09 311 P P 06 10 44.8 -0.4
BTK IAmb IAmb 06 10 58.2
comp=Z,8.8nm,1.0s
F28M Old Crow 85.49 21 P P 06 10 45.5 -1.0
KK31 Karatay Array 85.79 314 P 06 10 48.1 -0.3
KKAR Karatay Array 85.79 314 P 06 10 48.3 -0.2
QSPA South Pole Qui 86.24 180 P P 06 10 49.3 -1.1
comp=Z,6.0nm,1.0s,baz=17,slow=2.9,SNR=10.0
comp=Z,6.0nm,1.0s
SIMJ Simiganj 86.28 309 P P 06 10 51.0 -0.1
SIMJ IAmb IAmb 06 11 00.8
comp=Z,12nm,1.1s
BVAR Borovoye Array 87.47 323 P P 06 10 54.7 -1.7
comp=Z,1.7nm,0.6s,baz=121,slow=5.6,SNR=11
comp=Z,1.7nm,0.6s
NVAR Mina Array Bea 92.60 52 P P 06 11 21.7 +0.6
comp=Z,0.4nm,0.6s,baz=274,slow=4.1,SNR=3.3
comp=Z,0.4nm,0.6s
SYO Syowa Base 94.18 200‖*es*P P 06 11 32.6 +5.2
YKA Yellowknife Ar 95.17 28 P P 06 11 34.1 +2.1
comp=Z,0.7nm,0.8s,baz=276,slow=4.7,SNR=5.4
comp=Z,0.7nm,0.8s
PDAR Pinedale Array 99.23 47 P Pdif 06 11 53.3 +2.1
comp=Z,0.4nm,0.6s,baz=256,slow=3.8,SNR=5.5
comp=Z,0.4nm,0.6s
CLL Collm 121.17 331 *e*PKPdf **PKiKP 06 17 04.0 +2.0**
PLCA Paso Flores 121.55 144 PKP **PKiKP 06 17 04.6 +1.4**
comp=Z,3.0nm,1.1s,baz=248,slow=5.4,SNR=3.2
GERES GERESS Array B 122.34 328 PKP **PKPdf 06 17 03.8 -0.5**
comp=Z,0.3nm,0.2s,baz=66,slow=1.2,SNR=3.7
CPUP Villa Florida 139.27 139 PKP **PKPdf 06 17 35.6 -1.2**
comp=Z,0.9nm,1.1s,baz=225,slow=2.9,SNR=2.9
TORD Torodi Ar. Bea 148.53 289 PKPbc **PKPbc 06 17 54.9 -1.9**
comp=Z,4.0nm,1.0s,baz=66,slow=3.5,SNR=9.8
BDFB Brasília 152.89 136 PKPbc **PKiKP 06 18 07.5 0.0**
comp=Z,5.2nm,1.0s,baz=180,slow=4.0,SNR=3.4

*IDC **17** 06:03:34.0±1.0, 30.°57S×177.°64W, h0km, mb4.2/4, mbtmp4.2/5, ML3.6/1, Error ellipse: s-maj=34.9km s-min=22.4km az=130.0*
*NEIC **17** 06:03:44.7±2.3, 30.°09S±0.°09×178.°1W±0.°2, h35km±1km, mb4.8/11, Error ellipse: s-maj=27.6km s-min=14.5km az=101.0*

ISC 17 06:03:41.5±0.8, 30.°44S±0.°08×177.°8W±0.°1, h46km, n39, σ1§62/33, mb4.7/12, 3D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.19**	**356**		**Pn**	**06 04 00.4**	**-1.4**
RAO	**Raoul Island**	**1.19**	**356**	Pn	**Pn**	**06 03 59.8**	**-2.0**
	210nm,0.3s,baz=107,slow=19,SNR=14						
RAO				Sn	**Sn**	**06 04 14.0**	**-2.8**
	2µm,0.3s,baz=169,slow=21,SNR=13						
URZ	**Urewera**	**8.85**	**207**	Pn	Pn	06 05 41.6	-5.1
	0.6nm,0.3s,baz=56,slow=3.6,SNR=9.0						
URZ				Sn	**Sn**	**06 07 20.5**	**-4.5**
	3.6nm,0.3s,baz=342,slow=20,SNR=12						
	12nm,0.9s						
THZ	**Tophouse**	**13.54**	**211**	Pn	**P**	**06 06 56.8**	**-2.2**
AFI	**Afiamalu**	**17.38**	**20**		**PcP**	**06 12 23.2**	**+2.4**
CTAO	**Charters Tower**	**33.95**	**279**	P	**P**	**06 10 22.9**	**+2.2**
CTAO				IAmb	IAmb	06 10 23.6	
	comp=Z,8.8nm,0.8s						
STKA	**Stephens Creek**	**34.62**	**257**	P	**P**	**06 10 28.9**	**+2.6**
STKA	**Stephens Creek**	**34.62**	**257**	P	**P**	**06 10 26.6**	**+0.3**
	comp=Z,8.0nm,0.8s,baz=96,slow=10,SNR=9.7						
	comp=Z,8.0nm,0.8s						
COEN	**Coen**	**39.43**	**286**	P	**P**	**06 11 09.1**	**+1.8**
COEN				IAmb	IAmb	06 12 36.9	
	comp=Z,97nm,2.0s						
ASAR	**Alice Springs**	**43.26**	**267**	P	**P**	**06 11 38.8**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=105,slow=7.7,SNR=18						
ASAR				PcP	**PcP**	**06 13 27.5**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=126,slow=4.2,SNR=1.9						
	comp=Z,0.8nm,0.5s						
WR8	**Warramunga Arr**	**44.11**	**272**	P	**P**	**06 11 45.5**	**0.0**
WR8				IAmb	IAmb	06 11 46.9	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**44.25**	**272**	P	**P**	**06 11 46.6**	**0.0**
WRA	**Warramunga Arr**	**44.25**	**272**	P	**P**	**06 11 46.2**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=111,slow=8.0,SNR=95						
	comp=Z,2.1nm,0.3s						
WB0	**Warramunga Arr**	**44.27**	**272**	P	**P**	**06 11 47.1**	**+0.2**
WB0				IAmb	IAmb	06 12 57.9	
	comp=Z,25nm,1.6s						
FORT	**Forrest**	**46.18**	**255**	P	**P**	**06 12 01.7**	**-0.2**
FORT				IAmb	IAmb	06 13 15.0	
	comp=Z,16nm,1.5s						
VNDA	**Vanda**	**48.07**	**186**	P	P	06 12 22.8	+6.9
KNRA	**Kununurra**	**50.86**	**274**	P	**P**	**06 12 38.6**	**+0.6**
KNRA				IAmb	IAmb	06 13 06.9	
	comp=Z,34nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.51**	**270**	P	**P**	**06 12 51.4**	**+1.0**
GUMO	**Guam**	**56.62**	**315**	P	**P**	**06 13 20.9**	**+0.9**
QSPA	**South Pole Qui**	**59.67**	**180**	P	P	06 13 47.6	+6.7
QSPA				IAmb	IAmb	06 13 50.4	
	comp=Z,7.8nm,0.9s						
TROLL	**Troll, Antarti**	**77.83**	**180**	⇓P	**P**	**06 15 34.5**	**+0.8**
	comp=Z,1.6nm,0.1s						
SNAA	**Sanae**	**78.11**	**178**	⇓P	**P**	**06 15 36.0**	**+0.7**
	comp=Z,0.9nm,0.2s						
VNA3	**Neumayer Olymp**	**78.25**	**176**	⇓P	**P**	**06 15 39.5**	**+3.5**
	comp=Z,0.2nm,0.2s						
H03S2	**Juan Fernandez**	**80.31**	**123**	T	T	07 45 04.5	
	baz=238,slow=74,SNR=19						
H03S1	**Juan Fernandez**	**80.33**	**123**	T	T	07 45 01.8	
	baz=238,slow=74,SNR=19						
H03S3	**Juan Fernandez**	**80.33**	**123**	T	T	07 45 01.7	
	baz=238,slow=74,SNR=18						
TXAR	**Lajitas Array**	**92.28**	**57**	P	**P**	**06 16 46.7**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=237,slow=3.8,SNR=2.7						
	comp=Z,0.2nm,0.6s						
MKAR	**Makanchi Array**	**117.92**	**310**	PKP	**PKPdf**	**06 22 21.5**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=117,slow=1.9,SNR=2.5						
KURBB	**Kurchatov Arra**	**121.23**	**314**	PKP	**PKPdf**	**06 22 28.2**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=114,slow=2.1,SNR=7.5						
BVAR	**Borovoye Array**	**126.54**	**316**	PKP	**PKPdf**	**06 22 39.0**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=75,slow=3.5,SNR=5.9						
H10N3	**ASCENSION HYDR**	**138.71**	**154**	T	T	08 58 52.0	
	baz=203,slow=75,SNR=26						
H10N1	**ASCENSION HYDR**	**138.71**	**155**	T	T	08 58 40.6	
	baz=203,slow=75,SNR=34						
H10N2	**ASCENSION HYDR**	**138.72**	**154**	T	T	08 58 55.0	
	baz=203,slow=75,SNR=38						
FINES	**FINESS Array B**	**145.24**	**340**	PKPbc	**PKPbc**	**06 23 12.5**	**-0.6**
	comp=Z,6.4nm,0.5s,baz=52,slow=4.3,SNR=52						
NB2	**NORSAR Subarra**	**148.82**	**352**	PKP	**PKPbc**	**06 23 23.6**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=11,slow=2.8						
NOA	**NORSAR Array B**	**148.82**	**352**	PKPbc	**PKPbc**	**06 23 22.6**	**-0.8**
	comp=Z,1.6nm,0.9s,baz=16,slow=4.3,SNR=5.5						
HFS	**Hagfors**	**149.32**	**349**	PKPbc	**PKPbc**	**06 23 24.2**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=20,slow=4.6,SNR=4.6						
AKASG	**Malin Array Be**	**151.43**	**323**	PKPbc	**PKPbc**	**06 23 29.5**	**-0.4**
	comp=Z,2.2nm,0.4s,baz=51,slow=2.8,SNR=22						
MMAI	**Mount Meron Ar**	**151.69**	**284**	PKPbc	**PKiKP**	**06 23 31.5**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=124,slow=0.5,SNR=3.5						

*IDC **17** 06:10:44.3±0.4, 17.°24S×176.°82W, h0km, mb4.4/21, mbtmp4.4/23, ML2.8/2, MS5.0/35, Error ellipse: s-maj=17.4km s-min=13.3km az=134.0*

*MOS **17** 06:10:45.6±1.4, 17.°13S×176.°96W, h10km, mb5.2/29, MS5.3/9, Error ellipse: s-maj=11.2km s-min=9.9km az=53.2*
*NEIC **17** 06:10:46.3±1.6, 17.°03S±0.°07×176.°89W±0.°07, h10km±1km, mb5.2/112, Ms_20 5.3/773, Mwb5.5/29, Mww5.6/26, Error ellipse: s-maj=12.7km s-min=11.7km az=189.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; M_{rr}0.10; $M_{\theta\theta}$-1.75; $M_{\phi\phi}$1.65; $M_{r\theta}$0.73; $M_{\theta\phi}$0.47; $M_{\phi r}$0.67; Fault plane solution: $M_0$2.02000×10¹⁷ NP1:ϕ_s53.61000°, δ86.96000°, λ29.34000°. NP2:ϕ_s321.90000°, δ60.71000°, λ176.51000°. Principal axes: T 2.0291, Plg23.0000°, Azm282.0000°; N -0.0122, Plg61.0000°, Azm59.0000°; P -2.0169, Plg18.0000°, Azm184.0000°;*
*NEIC **17** 06:10:46.3, 17.°02S×176.°37W, h22km, Moment Tensor Solution. Duration: 2s1.0 Moment tensor: Scale 10¹⁷ Nm; M_{rr}-0.03; $M_{\theta\theta}$-2.80; $M_{\phi\phi}$2.83; $M_{r\theta}$0.26; $M_{\theta\phi}$0.57; $M_{\phi r}$-0.79; Fault plane solution: $M_0$2.99000×10¹⁷ NP1: ϕ_s231.44000°, δ75.21000°, λ4.91000°. NP2:ϕ_s140.18000°, δ85.25000°, λ165.16000°. Principal axes: T 3.0751, Plg14.0000°, Azm95.0000°; N -0.1790, Plg74.0000°, Azm303.0000°; P -2.8961, Plg7.0000°, Azm187.0000°;*
*NEIC **17** 06:10:46.3, 17.°02S×176.°89W, h22km*
*BJI **17** 06:10:46.3, 17.°11S×176.°92W, h15km, mB5.3/17, mb4.9/36, Ms5.2/35, Ms7 5.0/34*
*NEIC **17** 06:10:46.4, 17.°03S×176.°87W, h10km*
*GCMT **17** 06:10:52.2±0.1, 17.°12S±0.°01×176.°77W±0.°01, h16km, MW5.6/164, Moment Tensor Solution. s117,c196; s164,c323; Duration: 1s5 Moment tensor: Scale 10¹⁷ Nm; M_{rr}-0.31±.03; $M_{\theta\theta}$-2.33±.03; $M_{\phi\phi}$2.64±.03; $M_{r\theta}$0.17±.08; $M_{\theta\phi}$1.07±.02; $M_{\phi r}$0.49±.09; Best double couple: $M_0$2.74800×10¹⁷ NP1:ϕ_s326.00000°, δ82.00000°, λ175.00000°. NP2:ϕ_s57.00000°, δ85.00000°, λ8.00000°. Principal axes: T 2.9440, Plg9.0000°, Azm282.0000°; N -0.3870, Plg81.0000°, Azm90.0000°; P -2.5530, Plg2.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 06:10:45.8±0.3, 17.°21S±0.°06×176.°76W±0.°04, h10km, n981, σ1§07/620, mb5.1/100, MS5.3/427, 27C-25D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.17**	**335**		Pn	06 11 30.1	-5.7
MSVF	**Nonsavu**	**4.98**	**263**		**Pn**	**06 11 58.1**	**-2.6**
MSVF	**Nonsavu**	**4.98**	**263**	P	**Pn**	**06 11 58.1**	**-2.6**
AFI	**Afiamalu**	**5.82**	**56**	Pn	**Pn**	**06 12 10.5**	**-1.8**
AFI	**Afiamalu**	**5.82**	**56**	P	**Pn**	**06 12 10.5**	**-1.8**
NIUE	**Niue**	**6.76**	**107**	Pn	**Pn**	**06 12 24.4**	**-0.7**
SANVU	**Saraoutou**	**15.49**	**274**		**Pn**	**06 14 21.7**	**-2.8**
SANVU				IAmb	IAmb	06 14 29.1	
	comp=Z,160nm,1.4s						
PINNC	**Pines Island,**	**15.79**	**248**		**Pn**	**06 14 27.8**	**-0.6**
RAR	**Rarotonga**	**16.53**	**107**	Pn	**Pn**	**06 14 39.6**	**+1.7**
RAR				IAmb	IAmb	06 14 48.0	
	comp=Z,490nm,2.0s						
RAR	**Rarotonga**	**16.53**	**107**	Pn	**Pn**	**06 14 37.3**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=248,slow=9.6,SNR=4.6						
RAR				Sn	**Sn**	**06 17 42.0**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=60,slow=14,SNR=1.2						
RAR				LR	LR	06 19 44.3	
	comp=Z,6µm,20.2s,baz=271,slow=33						
	comp=Z,41nm,1.1s						
DZM	**Mont Dzumac**	**16.54**	**250**		**Pn**	**06 14 38.2**	**+0.1**
DZM	**Mont Dzumac**	**16.54**	**250**	*e*P	**P**	**06 14 40.0**	**-0.7**
	comp=Z,192nm,1.4s						
DZM				*e*LR	LR	06 18 28.0	
	comp=Z,15µm,25.6s						
DZM	**Mont Dzumac**	**16.54**	**250**	Pn	**Pn**	**06 14 37.2**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=72,slow=17,SNR=3.8						
DZM				Sn	**Sn**	**06 17 40.1**	**-1.7**
	baz=102,slow=18						
DZM				LR	LR	06 19 49.1	
	comp=Z,12µm,21.0s,baz=80,slow=33						
	comp=Z,26nm,1.2s						
ONTNC	**Ouen Toro**	**16.59**	**250**	Pn	**Pn**	**06 14 38.2**	**-0.4**
OUZ	**Omahuta**	**19.89**	**204**	IAMs_20	IAMs_20	06 20 51.8	
	comp=Z,12µm,21.0s						
MXZ	**Matakaoa Point**	**20.73**	**191**	IAMs_20	IAMs_20	06 23 08.0	
	comp=Z,11µm,18.0s						
TOZ	**Tahuroa Road**	**21.54**	**197**		**P**	**06 15 36.0**	**+0.8**
TOZ				IAMs_20	IAMs_20	06 22 50.1	
	comp=Z,12µm,19.0s						
URZ	**Urewera**	**21.64**	**193**	P	**P**	**06 15 34.9**	**-1.4**
	comp=Z,28nm,0.8s,baz=357,slow=4.2,SNR=7.4						
URZ				LR	LR	06 22 46.6	
	comp=Z,11µm,21.3s,baz=36,slow=33						
	comp=Z,28nm,0.8s						
RTZ	**Ruatahuna**	**22.02**	**193**	IAMs_20	IAMs_20	06 22 36.8	
	comp=Z,9µm,19.0s						
HIZ	**Hauiti**	**22.45**	**197**	IAMs_20	IAMs_20	06 23 19.2	
	comp=Z,10µm,18.0s						
BKZ	**Black Stump Fm**	**22.65**	**194**	IAMs_20	IAMs_20	06 22 57.6	
	comp=Z,9µm,20.0s						
HNR	**Honiara**	**23.93**	**286**	IAMs_20	IAMs_20	06 23 30.5	
	comp=Z,10µm,22.0s						
HNR	**Honiara**	**23.93**	**286**	LR	LR	06 23 51.3	
	comp=Z,9µm,20.0s,baz=118,slow=33						
BFZ	**Birch Farm**	**24.16**	**193**	IAMs_20	IAMs_20	06 24 38.4	
	comp=Z,10µm,20.0s						
MRZ	**Mangatainoka R**	**24.29**	**194**	P	**P**	**06 16 02.1**	**-1.3**
MRZ				IAmb	IAmb	06 16 20.1	
	comp=Z,144nm,1.8s						
MRZ				IAMs_20	IAMs_20	06 23 58.9	
	comp=Z,8µm,20.0s						
SNZO	**South Karori**	**25.11**	**195**	IAMs_20	IAMs_20	06 25 14.7	
	comp=Z,9µm,20.0s						
BHW	**Baring Head**	**25.16**	**195**	IAMs_20	IAMs_20	06 24 26.1	
	comp=Z,7µm,22.0s						
TUWZ	**Tuamarina**	**25.42**	**196**	P	**P**	**06 16 14.6**	**+1.0**
PPT2	**Papeete2**	**25.94**	**95**	*e*P	**P**	**06 16 16.9**	**-1.8**
PPT2	comp=Z,458nm,24.2s			*e*S	**S**	**06 20 49.9**	**+0.7**
	comp=Z,1µm,26.5s						
PPT2				*e*LQ	LQ	06 21 41.4	
	comp=Z,5µm,25.8s						
PPT2				*e*LR	LR	06 22 46.9	
	comp=Z,18µm,27.0s						
PPT2				*e*LR	LR	06 22 48.6	
	comp=Z,12µm,27.0s						
PPT	**Papeete**	**25.94**	**95**	LR	LR	06 23 51.9	
	comp=Z,4µm,21.1s,baz=259,slow=30						
TBI	**Tubuai**	**26.30**	**108**	*e*P	**P**	**06 16 25.3**	**+3.5**
	comp=Z,2µm,27.0s						
TBI				*e*S	**S**	**06 20 55.6**	**+0.9**
	comp=Z,4µm,24.5s						
TBI				*e*LQ	LQ	06 21 39.5	
TBI				*e*LR	LR	06 22 59.8	
	comp=Z,18µm,27.2s						
KHZ	**Kahutara**	**26.45**	**196**	IAMs_20	IAMs_20	06 26 11.1	
	comp=Z,10µm,19.0s						
GVZ	**Greta Valley S**	**27.10**	**197**	IAMs_20	IAMs_20	06 26 37.2	
	comp=Z,8µm,18.0s						
FOZ	**Fox Glacier**	**28.60**	**201**	IAMs_20	IAMs_20	06 28 13.5	
	comp=Z,7µm,20.0s						
WKZ	**Wanaka**	**30.01**	**200**	IAMs_20	IAMs_20	06 29 33.0	
	comp=Z,8µm,20.0s						
EIDS	**Eidsvold**	**30.98**	**249**	P	**P**	**06 17 02.6**	**-0.9**
EIDS				IAmb	IAmb	06 17 19.3	
	comp=Z,30nm,1.3s						
WHZ	**Wether Hill Ro**	**31.31**	**201**	IAMs_20	IAMs_20	06 30 22.2	
	comp=Z,5µm,18.0s						
PYZ	**Puysegur Point**	**31.99**	**202**	IAMs_20	IAMs_20	06 30 06.9	
	comp=Z,6µm,22.0s						
RABL	**Rabaul**	**33.09**	**289**	IAMs_20	IAMs_20	06 28 49.1	
	comp=Z,6µm,22.0s						
JOHN	**Johnston Islan**	**34.48**	**12**	IAMs_20	IAMs_20	06 27 33.7	
	comp=Z,5µm,22.0s						
CTAO	**Charters Tower**	**35.11**	**259**		**P**	**06 17 38.8**	**-0.9**
CTAO	**Charters Tower**	**35.11**	**259**	IAMs_20	IAMs_20	06 29 46.1	
	comp=Z,6µm,20.0s						
CTAO	**Charters Tower**	**35.11**	**259**	P	**P**	**06 17 38.8**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,121nm,2.0s						
TAOE	**Nuku Hiva Isla**	**36.57**	**82**	*e*P	**P**	**06 17 48.2**	**-4.2**
	comp=Z,207nm,26.4s						
TAOE				*e*S	**S**	**06 23 28.9**	**-6.4**
	comp=Z,634nm,26.4s						
TAOE				*e*LR	LR	06 27 34.0	
	comp=Z,6µm,26.2s

comp=Z,4µm,22.0s
TOO Toolangi 38.82 231 P **P** **06 18 12.2 +1.1**
TOO Toolangi 38.82 231 P **P** **06 18 12.2 +1.1**
TOO pmax pmax
comp=Z,22nm,1.3s
STKA Stephens Creek 40.34 241 P **P** **06 18 23.6 -0.2**
STKA Stephens Creek 40.34 241 P **P** **06 18 23.7 -0.1**
comp=Z,5.2nm,1.0s,baz=106,slow=8.2,SNR=4.2
STKA LR LR 06 34 18.6
comp=Z,1µm,18.7s,baz=71,slow=35
comp=Z,5.2nm,1.0s
STKA Stephens Creek 40.34 241 *e*P **P** **06 18 23.3 -0.5**
STKA pmax pmax
comp=Z,5.0nm,1.0s
JAY Jayapura 44.24 285 LR LR 06 36 27.5
comp=Z,2µm,21.9s,baz=98,slow=35
MIDW Midway 45.16 359 IAMs_20 IAMs_20 06 33 06.1
comp=Z,3µm,21.0s
WB0 Warramunga Arr 46.27 259 P **P** **06 19 09.9 -2.0**
WB0 IAmb IAmb 06 19 35.4
comp=Z,35nm,1.5s
WRAB Tennant Creek 46.29 259 *i* P **P** **06 19 10.8 -1.3**
WRAB pmax pmax
comp=Z,31nm,1.6s
WRA Warramunga Arr 46.30 259 P **P** **06 19 09.9 -2.2**
WRA Warramunga Arr 46.30 259 P **P** **06 19 10.6 -1.6**
comp=Z,7.6nm,1.2s,baz=90,slow=6.7,SNR=12
WRA LR LR 06 37 34.1
comp=Z,4µm,18.3s,baz=105,slow=35
comp=Z,7.6nm,1.2s
WRA Warramunga Arr 46.30 259 *e*P **P** **06 19 10.7 -1.5**
WRA pmax pmax
comp=Z,8.0nm,1.2s
AS31 Alice Springs 46.49 254 **P** **06 19 12.8 -0.8**
ASAR Alice Springs 46.49 254 **P** **06 19 12.1 -1.6**
ASAR Alice Springs 46.49 254 P **P** **06 19 12.5 -1.1**
comp=Z,15nm,0.8s,baz=86,slow=8.3,SNR=108
ASAR LR LR 06 37 56.7
comp=Z,6µm,18.8s,baz=95,slow=35
comp=Z,15nm,0.8s
FORT Forrest 51.72 244 **P** **06 19 53.2 -0.4**
KNRA Kununurra 52.12 263 IAMs_20 IAMs_20 06 40 33.5
comp=Z,3µm,20.0s
FITZ Fitzroy Crossi 54.69 260 LR LR 06 42 06.2
comp=Z,5µm,19.7s,baz=104,slow=34
SOEI Soe 57.64 269 **P** **06 20 35.2 -1.7**
BATI Baumata 58.11 269 LR LR 06 45 55.4
comp=Z,2µm,18.2s,baz=115,slow=36
MBWA Marble Bar 59.77 255 IAMs_20 IAMs_20 06 45 08.5
comp=Z,2µm,19.0s
NWAO Narrogin (SRO) 60.92 242 IAMs_20 IAMs_20 06 49 08.8
comp=Z,2µm,18.0s
NWAO Narrogin (SRO) 60.92 242 LR LR 06 46 02.0
comp=Z,1µm,18.5s,baz=86,slow=35
SBA Scott Base 61.21 184 **P** **06 21 02.4 +2.0**
SBA IAmb IAmb 06 21 24.1
comp=Z,30nm,1.6s
SBA Scott Base 61.21 184 P **P** **06 21 02.4 +2.0**
SBA pmax pmax
comp=Z,30nm,1.6s
VNDA Vanda 61.27 185 **P** **06 21 02.4 +1.5**
VNDA Vanda 61.27 185 P **P** **06 21 01.6 +0.7**
comp=Z,0.9nm,0.8s,baz=359,slow=7.9,SNR=6.3
VNDA LR LR 06 42 59.0
comp=Z,719nm,20.8s,baz=22,slow=32
comp=Z,0.9nm,0.8s
VNDA Vanda 61.27 185 P **P** **06 21 02.4 +1.5**
VNDA pmax pmax
comp=Z,10.0nm,1.4s
DAV Davao City (W) 61.87 288 LR LR 06 45 37.3
comp=Z,480nm,19.8s,baz=144,slow=34
KAPI Kappang 63.22 273 LR LR 06 46 42.0
comp=Z,1µm,21.9s,baz=94,slow=34
CASY Casey 67.42 205 P **P** **06 21 41.0 -0.3**
CASY Casey 67.42 205 IAMs_20 IAMs_20 06 45 45.7
comp=Z,2µm,21.0s
MJA0 Matsu Arr-Jizo 68.28 322 *e*P **P** **06 21 48.9 +1.7**
MJA0 pmax pmax
comp=Z,6.0nm,0.9s
MJAR Matsushiro Arr 68.31 322 P **P** **06 21 44.9 -2.4**
MJAR Matsushiro Arr 68.31 322 P **P** **06 21 47.2 -0.1**
comp=Z,2.8nm,0.6s,baz=161,slow=5.0,SNR=6.1
comp=Z,2.8nm,0.6s
MJAR Matsushiro Arr 68.31 322 P **P** **06 21 44.9 -2.4**
MJAR pmax pmax
comp=Z,14nm,1.4s
MAJO Matsushiro 68.31 322 P **P** **06 21 46.2 -1.1**
MAJO IAmb IAmb 06 21 53.3
comp=Z,12nm,0.9s
MAJO Matsushiro 68.31 322 *i* P **P** **06 21 47.3 0.0**
MAJO pmax pmax
comp=Z,13nm,1.0s
MJB9 Matsu-Tunnel 68.31 322 P **P** **06 21 45.5 -1.8**
MJB9 IAmb IAmb 06 21 53.3
comp=Z,12nm,1.0s
KIWB Kanaga Island 68.77 360 P **P** **06 21 50.3 +0.5**
KIWB IAMs_20 IAMs_20 06 44 52.3
comp=Z,2µm,21.0s
TGY Tagaytay City 68.91 293 LR LR 06 48 05.4
comp=Z,1µm,21.3s,baz=136,slow=32
GSTR Great Sitkin T 69.01 0 IAMs_20 IAMs_20 06 45 10.7
comp=Z,2µm,21.0s
ATKA Atka Island 69.16 2 **P** **06 21 51.4 -0.7**
JTM Tenmabayashi 69.73 327 IAMs_20 IAMs_20 06 45 39.4
comp=Z,1µm,22.0s
SMY Shemya 70.10 354 IAMs_20 IAMs_20 06 45 19.2
comp=Z,2µm,22.0s
NIKH Nikolski High 70.23 5 P **P** **06 21 59.2 +0.4**
baz=188
UNV Unalaska Valle 71.31 6 IAMs_20 IAMs_20 06 46 33.9
comp=Z,2µm,21.0s
UNV Unalaska Valle 71.31 6 P **P** **06 22 05.6 +0.3**
baz=190
LVA Lava Point 71.68 7 IAMs_20 IAMs_20 06 46 55.5
comp=Z,2µm,20.0s
SKR Severo-Kuril's 71.68 342 *e*P P 06 22 00.2 -7.5
SKR *e*S **S** **06 31 31.2 +3.9**
SKR pmax pmax
comp=Z,200nm,8.2s
QSPA South Pole Qui 72.84 180 P **P** **06 22 15.3 +0.6**
comp=Z,5.7nm,0.8s,baz=46,slow=1.5,SNR=26
QSPA LR LR 06 49 56.2
comp=Z,342nm,21.3s,baz=38,slow=32
comp=Z,5.7nm,0.8s
CNBA Chernabura Isl 73.22 10 IAMs_20 IAMs_20 06 46 43.0
comp=Z,2µm,20.0s
CHNA Chernabura Isl 73.23 10 P **P** **06 22 17.0 +0.2**
baz=197
PEA0B Petropavlovsk- 73.42 344 P **P** **06 22 16.6 -1.4**
PEA0B IAmb IAmb 06 22 32.2
comp=Z,35nm,1.2s
PEA0B Petropavlovsk- 73.42 344 P **P** **06 22 16.6 -1.4**
PEA0B pmax pmax
comp=Z,35nm,1.3s
PETK Petropavlovsk- 73.42 344 **P** **06 22 17.0 -1.0**
PETK Petropavlovsk- 73.42 344 P **P** **06 22 18.6 +0.6**
comp=Z,3.7nm,0.7s,baz=126,slow=7.5,SNR=6.3
comp=Z,3.7nm,0.7s
YSS Yuzhno-Sakhali 73.52 332 P **P** **06 22 16.9 -1.8**
YSS IAmb IAmb 06 22 31.6
comp=Z,43nm,1.5s
YSS Yuzhno-Sakhali 73.52 332 *e*P **P** **06 22 19.5 +0.8**
YSS *e* 06 25 04.7
YSS *e*S **S** **06 31 44.9 -3.5**
YSS pmax pmax
comp=Z,200nm,4.3s
YSS pmax pmax
comp=Z,20nm,1.2s
SDPT Sand Point 73.59 10 P **P** **06 22 19.3 +0.4**
baz=196
S12K Black Hills 73.69 9 P **P** **06 22 19.3 -0.2**
baz=195
P08K Saint George I 73.78 4 P **P** **06 22 19.6 -0.4**
baz=187
SPIA Saint Paul Isl 74.31 4 P **P** **06 22 23.2 +0.1**
baz=187
LEM Lembang 74.31 268 LR LR 06 55 46.4
comp=Z,618nm,18.6s,baz=128,slow=36
S14K Fog Glacier 74.63 10 P **P** **06 22 24.9 -0.2**
baz=197
CHGN Chignik 74.84 10 P **P** **06 22 25.8 -0.4**
CHGN IAmb IAmb 06 22 50.9
comp=Z,49nm,1.5s
CHGN IAMs_20 IAMs_20 06 49 04.5
comp=Z,1µm,21.0s
CHGN Chignik 74.84 10 P **P** **06 22 26.4 +0.3**
baz=198
CHIR Chirikof Islan 74.91 12 P **P** **06 22 26.7 +0.1**
baz=201
BBGB Big Mountain B 75.00 44 P **P** **06 22 28.6 +0.8**
BBGB IAmb IAmb 06 22 51.1
comp=Z,33nm,1.0s
KSRS Korea Array 75.24 317 P **P** **06 22 29.4 +0.5**
comp=Z,0.7nm,0.8s,baz=134,slow=8.9,SNR=5.3
comp=Z,0.7nm,0.8s
KSAR Wonju Array Be 75.26 317 **P** **06 22 27.5 -1.5**
KSAR Wonju Array Be 75.26 317 P **P** **06 22 27.5 -1.5**
MTOS Mt Oso, Westle 75.35 43 IAMs_20 IAMs_20 06 44 46.2
comp=Z,2µm,19.0s
KMRM Mail Ridge 75.48 39 P **P** **06 22 31.7 +1.3**
ELS Elsinore Mount 75.85 48 P **P** **06 22 32.4 -0.3**
ELS IAmb IAmb 06 22 43.1
comp=Z,30nm,1.4s
KHMM Horse Mountain 75.87 39 IAMs_20 IAMs_20 06 47 51.3
comp=Z,2µm,20.0s
KRPM Rodgers 75.87 38 IAMs_20 IAMs_20 06 47 50.4
comp=Z,2µm,21.0s
VTX Valle De La Tr 75.87 50 P **P** **06 22 32.9 +0.1**
VTX IAmb IAmb 06 22 44.1
comp=Z,23nm,1.2s
SII Sitkinak Islan 75.90 13 IAMs_20 IAMs_20 06 48 10.5
comp=Z,2µm,21.0s
SII Sitkinak Islan 75.90 13 P **P** **06 22 32.8 +0.5**
baz=202
O02D Mt. Diablo Mer 76.01 40 P **P** **06 22 33.8 +0.3**
O02D IAmb IAmb 06 22 45.9
comp=Z,27nm,1.3s
CMB Columbia Colle 76.26 43 **P** **06 22 35.5 +0.6**
CMB Columbia Colle 76.26 43 P **P** **06 22 35.5 +0.6**
CMB pmax pmax
comp=Z,11nm,1.2s
BORC Borrego Spring 76.37 49 **P** **06 22 36.2 +0.7**
KSXB Camp Six Broad 76.37 38 IAMs_20 IAMs_20 06 48 05.6
comp=Z,2µm,20.0s
KBO Bosley Butte 76.41 37 IAMs_20 IAMs_20 06 47 55.5
comp=Z,1µm,19.0s
YUH Yuha Desert 76.41 49 P **P** **06 22 36.6 +0.8**
YUH IAmb IAmb 06 24 56.1
comp=Z,16nm,0.5s
R17L Mt. Peulik Vol 76.47 11 P **P** **06 22 35.9 +0.3**
baz=200
PLK4 Peulik 4 76.47 11 IAMs_20 IAMs_20 06 49 25.6
comp=Z,1µm,21.0s
SSE Sheshan 76.52 309 P **P** **06 22 36.4 0.0**
SSE S **S** **06 32 23.3 +0.8**
SSE pmax pmax
comp=Z,12nm,0.5s
SSE pmax pmax
comp=Z,42nm,3.0s
SSE LR LR
comp=Z,150nm,19.5s
SSE LR LR
comp=Z,190nm,19.4s
PFO Pinyon Flats O 76.52 48 P **P** **06 22 36.8 +0.3**
PFO IAmb IAmb 06 25 04.6
comp=Z,13nm,0.5s
PFO Pinyon Flats O 76.52 48 P **P** **06 22 36.9 +0.3**
comp=Z,3.5nm,0.9s,baz=296,slow=6.7,SNR=4.9
comp=Z,3.5nm,0.9s
PFO Pinyon Flats O 76.52 48 *i* P **P** **06 22 36.9 +0.3**
PFO pmax pmax
comp=Z,8.0nm,1.0s
N02D Trinity Center 76.55 39 IAMs_20 IAMs_20 06 48 02.5
comp=Z,2µm,21.0s
TYV Tymovskoe 76.56 335 *e*P P 06 22 41.1 +5.0
TYV *e*S **S** **06 32 26.8 +4.7**
TYV pmax pmax
comp=Z,18nm,1.3s
TYV pmax pmax
comp=Z,200nm,2.7s
TYV smax smax
comp=N,300nm,6.1s
TYV smax smax
comp=E,600nm,6.1s
PSTR Posyet 76.62 323 *i* P **P** **06 22 39.9 +3.2**
OHAK Old Harbor 76.70 13 IAMs_20 IAMs_20 06 48 19.7
comp=Z,2µm,22.0s
OHAK Old Harbor 76.70 13 P **P** **06 22 36.8 0.0**
baz=203
L02F Cave Junction 76.73 38 IAMs_20 IAMs_20 06 47 56.1
comp=Z,1µm,20.0s
KEBM Edson Butte 76.76 37 IAMs_20 IAMs_20 06 48 24.7
comp=Z,1µm,19.0s
R18K Karluk 76.78 12 P **P** **06 22 37.2 0.0**
baz=202
CWC Cottonwood Cre 76.90 45 P **P** **06 22 38.8 +0.1**
CWC IAmb IAmb 06 22 51.8
comp=Z,21nm,1.5s
USA0B Ussuriysk Arra 76.94 325 *i* P **P** **06 22 40.3 +1.8**
USRK Ussuriysk Ar. 76.94 325 P **P** **06 22 39.1 +0.6**
comp=Z,1.1nm,0.7s,baz=85,slow=4.8,SNR=5.4
comp=Z,1.1nm,0.7s
YBH Yreka Blue Hor 77.00 38 **P** **06 22 39.9 +0.9**
YBH Yreka Blue Hor 77.00 38 P **P** **06 22 39.8 +0.7**
comp=Z,0.4nm,0.9s,baz=183,slow=4.0,SNR=8.1
YBH Yreka Blue Hor 77.00 38 P **P** **06 22 39.9 +0.9**
YBH pmax pmax
comp=Z,17nm,1.2s
MPMC Manual Prospec 77.09 46 P **P** **06 22 39.5 -0.4**
MPMC IAmb IAmb 06 25 27.7
comp=Z,15nm,1.0s
WAKR Walker 77.15 43 **P** **06 22 41.4 +1.3**
Q17K Contact Creek 77.15 11 P **P** **06 22 39.6 +0.1**
baz=201
J01E Myrtle Point 77.17 37 IAMs_20 IAMs_20 06 52 04.6
comp=Z,1µm,18.0s
HATC Hat Creek Radi 77.21 40 **P** **06 22 39.9 -0.3**
ACHA Angle Creek He 77.21 11 P **P** **06 22 39.5 -0.3**
MPK Martis Peak 77.22 42 P **P** **06 22 39.4 -1.1**
MPK IAmb IAmb 06 22 52.2
comp=Z,40nm,1.3s
O14K Tigyukauivet M 77.24 8 IAMs_20 IAMs_20 06 49 12.7
comp=Z,1µm,22.0s
O14K Tigyukauivet M 77.24 8 P **P** **06 22 40.0 +0.2**
baz=195
BEKR Beckworth 77.33 41 P **P** **06 22 41.2 +0.2**
BEKR IAmb IAmb 06 22 57.9
comp=Z,35nm,1.8s
KDAK Kodiak Island 77.37 13 IAMs_20 IAMs_20 06 48 42.4
comp=Z,2µm,22.0s
KDAK Kodiak Island 77.37 13 *i* P **P** **06 22 41.4 +0.9**
KDAK pmax pmax
comp=Z,63nm,1.7s
KDAK Kodiak Island 77.37 13 P **P** **06 22 41.0 +0.4**
baz=204
O15K Ungalikthiuk R 77.37 9 P **P** **06 22 40.4 -0.1**
baz=197
Q16K King Salmon 77.40 11 P **P** **06 22 40.8 +0.1**
baz=200
P16K Nushagak River 77.51 10 IAMs_20 IAMs_20 06 48 54.0
comp=Z,1µm,22.0s
P16K Nushagak River 77.51 10 P **P** **06 22 41.3 0.0**
baz=198
L04D Klamath Falls 77.54 38 IAMs_20 IAMs_20 06 49 14.4
comp=Z,2µm,19.0s
Q18K Katmai Hardscr 77.68 11 P **P** **06 22 42.4 -0.1**
baz=201
BBOR Butler Butte 77.72 38 IAMs_20 IAMs_20 06 48 14.3
comp=Z,1µm,22.0s
M11K Mekoryuk 77.80 5 P **P** **06 22 43.1 +0.2**
baz=190
N14K Kuskokwak Cree 77.83 8 P **P** **06 22 43.2 +0.1**
baz=195
I03D Drain, OR 77.84 37 IAMs_20 IAMs_20 06 48 40.2
comp=Z,1µm,22.0s
NVAR Mina Array Bea 77.84 43 P **P** **06 22 44.9 +0.9**
comp=Z,3.3nm,0.9s,baz=228,slow=9.6,SNR=16
comp=Z,3.3nm,0.9s
PAHR Pah Rah Range 77.86 42 **P** **06 22 42.6 -1.4**
PAHR IAmb IAmb 06 22 55.0
comp=Z,25nm,1.5s
TULE Intermountain 77.88 39 IAMs_20 IAMs_20 06 49 08.8
comp=Z,2µm,21.0s
GMN Gold Mountain 77.92 45 P **P** **06 22 43.6 -0.9**
P17K Kvichak River 77.93 11 P **P** **06 22 43.9 +0.2**
baz=200
BLYC Blythe 77.98 49 **P** **06 22 43.6 -0.9**
BLYC IAmb IAmb 06 22 48.6
comp=Z,14nm,1.0s
O16K Kokwok River B 78.03 10 IAMs_20 IAMs_20 06 50 26.8
comp=Z,1µm,21.0s
O16K Kokwok River B 78.03 10 P **P** **06 22 44.4 +0.2**
baz=198
113A Mohawk Valley, 78.04 50 **P** **06 22 44.1 -0.8**
113A IAmb IAmb 06 23 02.0
comp=Z,32nm,1.5s
K04D Chiloquin, OR 78.11 38 IAMs_20 IAMs_20 06 49 03.5
comp=Z,2µm,21.0s
M13K Dall Lake 78.11 7 IAMs_20 IAMs_20 06 50 25.7
comp=Z,1µm,21.0s
M13K Dall Lake 78.11 7 P **P** **06 22 45.0 +0.3**
baz=193
Q20K Shuyak Island 78.17 13 P **P** **06 22 45.4 +0.4**
baz=204
SYI Shuyak Island 78.17 13 IAMs_20 IAMs_20 06 49 10.5
comp=Z,1µm,22.0s
Q19K Cape Douglas, 78.20 12 P **P** **06 22 45.1 -0.2**
baz=203
J04A Umpqua Nationa 78.27 38 IAMs_20 IAMs_20 06 49 34.8
comp=Z,2µm,18.0s
N15K Kwethluk River 78.28 8 IAMs_20 IAMs_20 06 49 34.3
comp=Z,1µm,22.0s
N15K Kwethluk River 78.28 8 P **P** **06 22 46.0 +0.4**
baz=196
P18K Big Mountain, 78.33 11 **P** **06 22 44.8 -1.2**
P18K IAmb IAmb 06 22 48.1
comp=Z,23nm,1.1s
P18K Big Mountain, 78.33 11 P **P** **06 22 45.9 -0.1**
baz=201
BUCK Buck Mountain 78.35 36 IAMs_20 IAMs_20 06 48 19.8
comp=Z,2µm,22.0s
O17K Koliganek Bris 78.36 10 P **P** **06 22 46.2 +0.2**
baz=199
COR Corvallis 78.41 36 IAMs_20 IAMs_20 06 50 28.3
comp=Z,1µm,18.0s
TPNV Topopah Spring 78.41 45 P **P** **06 22 47.0 -0.1**
TPNV IAmb IAmb 06 23 03.4
comp=Z,19nm,1.2s
TPNV Topopah Spring 78.41 45 P **P** **06 22 47.1 -0.1**
TPNV pmax pmax
comp=Z,19nm,1.2s
HEBO Mount Hebo 78.55 35 IAMs_20 IAMs_20 06 48 33.0
comp=Z,2µm,20.0s
M14K Bethel 78.60 7 P **P** **06 22 48.3 +0.9**
baz=194
M15K Kasigluk River 78.71 8 P **P** **06 22 48.8 +0.8**
baz=196
NJ2 Nanjing 78.72 309 *e*P **P** **06 22 47.8 -0.9**
NJ2 pmax pmax
comp=Z,16nm,0.7s
NJ2 pmax pmax
comp=Z,260nm,6.4s
NJ2 LR LR
comp=Z,500nm,24.2s
NJ2 LR LR
comp=Z,360nm,18.5s
NJ2 LR LR
comp=Z,1µm,24.1s
V12A Nelson 78.75 47 **P** **06 22 48.1 -0.8**
N16K Nishlik Lake 78.77 9 P **P** **06 22 48.6 +0.2**
baz=198
O18K Koktuh Hills 78.77 11 P **P** **06 22 48.7 +0.4**
baz=201
J05D Fort Rock, OR 78.81 38 IAMs_20 IAMs_20 06 49 55.0
comp=Z,1µm,20.0s
G03D McMinnville, O 78.82 35 IAMs_20 IAMs_20 06 48 31.1
comp=Z,1µm,20.0s
P19K Oil Pt 78.95 12 P **P** **06 22 49.5 +0.1**
baz=203
N17K Nushagak Hills 79.06 10 IAMs_20 IAMs_20 06 51 20.1
comp=Z,1µm,20.0s
N17K Nushagak Hills 79.06 10 P **P** **06 22 50.2 +0.2**
baz=199
L14K Kuka Creek 79.09 7 P **P** **06 22 50.9 +0.9**
baz=194
F03A Seaside 79.11 35 IAMs_20 IAMs_20 06 49 53.7
comp=Z,1µm,20.0s
CNPM China Poot 79.25 13 IAMs_20 IAMs_20 06 50 48.1
comp=Z,1µm,20.0s
O19K Port Alsworth 79.25 11 P **P** **06 22 50.9 0.0**
baz=202
G04A Mulino 79.26 36 IAMs_20 IAMs_20 06 48 46.7
comp=Z,2µm,22.0s
M16K Timber Creek 79.27 9 IAMs_20 IAMs_20 06 50 03.3
comp=Z,1µm,22.0s
M16K Timber Creek 79.27 9 P **P** **06 22 52.2 +1.2**
baz=197
HOM Homer 79.28 13 IAMs_20 IAMs_20 06 50 08.0
comp=Z,1µm,22.0s
HOM Homer 79.28 13 P **P** **06 22 51.4 +0.3**
baz=204
RADR Rader Ridge 79.29 34 IAMs_20 IAMs_20 06 49 28.3
comp=Z,2µm,20.0s
I05D Terrebonne, OR 79.38 37 IAMs_20 IAMs_20 06 49 28.0
comp=Z,2µm,19.0s
N18K Kilae Creek 79.42 10 P **P** **06 22 52.3 +0.4**
baz=200
K13K Kusilvak Mount 79.46 6 IAMs_20 IAMs_20 06 50 47.4
comp=Z,2µm,22.0s
K13K Kusilvak Mount 79.46 6 P **P** **06 22 52.0 0.0**
baz=192
O20K Slope Mountain 79.47 12 P **P** **06 22 52.3 +0.1**
baz=204
F04D Rainier, OR 79.50 35 IAMs_20 IAMs_20 06 49 35.1
comp=Z,1µm,20.0s
BRLK Bradley Lake 79.54 13 IAMs_20 IAMs_20 06 50 35.5
comp=Z,1µm,21.0s
L15K Ungalak Mounta 79.56 7 P **P** **06 22 53.2 +0.6**
baz=195
N19K Bonanza Creek 79.80 11 P **P** **06 22 54.2 +0.1**
baz=202
L16K Owhat River 79.85 8 IAMs_20 IAMs_20 06 50 53.8
comp=Z,1µm,22.0s
L16K Owhat River 79.85 8 P **P** **06 22 54.7 +0.5**
baz=197
M17K Holitna River 79.86 9 IAMs_20 IAMs_20 06 52 04.9
comp=Z,1µm,20.0s
M17K Holitna River 79.86 9 P **P** **06 22 54.8 +0.6**
baz=199
C03A Quillayute Air 79.86 33 IAMs_20 IAMs_20 06 49 44.2
comp=Z,1µm,20.0s
TUC Tucson 80.04 52 IAMs_20 IAMs_20 06 50 16.3
comp=Z,1µm,19.0s
K15K Wolf Creek Mou 80.15 7 P **P** **06 22 55.7 -0.1**
baz=195
SEW Seward 80.16 13 IAMs_20 IAMs_20 06 50 06.4
comp=Z,1µm,22.0s
SEW Seward 80.16 13 P **P** **06 22 56.2 +0.3**
baz=206
DL2 Dalian 80.17 316 *e*P **P** **06 22 56.6 +0.1**
DL2 pmax pmax
comp=Z,40nm,1.1s
DL2 LR LR
comp=Z,940nm,15.6s
DL2 LR LR
comp=Z,240nm,18.7s
DL2 LR LR
comp=Z,650nm,19.6s
M18K Stony River 80.20 10 P **P** **06 22 56.3 +0.2**
baz=200
I07A Izee 80.29 38 **P** **06 22 57.0 -0.1**
I07A IAmb IAmb 06 23 13.3
comp=Z,34nm,1.8s
Q23K Middleton Isla 80.30 15 P **P** **06 22 57.0 +0.4**
baz=210
KLR Kul'dur 80.33 329 LR LR 06 52 40.8
comp=Z,202nm,20.2s,baz=13,slow=31
SLKM Skilak Lake 80.36 13 **P** **06 22 56.2 -0.8**
SLKM IAmb IAmb 06 22 59.4
comp=Z,27nm,1.1s
SLKM IAMs_20 IAMs_20 06 50 28.6
comp=Z,1µm,22.0s
J14K Nanvaranak Lak 80.37 6 IAMs_20 IAMs_20 06 51 14.4
comp=Z,2µm,22.0s
J14K Nanvaranak Lak 80.37 6 P **P** **06 22 56.7 -0.3**
baz=193
CAPN Captain Cook N 80.40 12 P **P** **06 22 57.3 +0.2**
baz=205
L17K Donlin 80.43 9 P **P** **06 22 57.9 +0.6**
baz=198
O22K Cooper Landing 80.44 13 IAMs_20 IAMs_20 06 51 42.7
comp=Z,1µm,20.0s
CN2 Changchun 80.44 322 P **P** **06 23 01.0 +3.2**
CN2 pmax pmax
comp=Z,10.0nm,1.5s
CN2 LR LR
comp=Z,360nm,18.0s
CN2 LR LR
comp=Z,310nm,18.0s
BNX BinXian 80.45 324 ⇑P **P** **06 22 58.1 +0.3**
BNX S **S** **06 33 05.9 +1.8**
BNX pmax pmax

	comp=Z,6.0nm,1.7s								
BNX					pmax	pmax			
	comp=Z,85nm,5.4s								
BNX					LR	LR			
	comp=Z,1µm,21.1s								
BNX					LR	LR			
	comp=Z,3µm,19.6s								
BNX					LR	LR			
	comp=Z,350nm,16.3s								
J08A	**Circle Bar Ran**	**80.49**	**39**		IAMs_20	IAMs_20	06 50 54.7		
	comp=Z,1µm,21.0s								
GNW	**Green Mountain**	**80.53**	**34**		IAMs_20	IAMs_20	06 50 47.0		
	comp=Z,2µm,19.0s								
X16A	**Lo Mia Camp, P**	**80.54**	**50**		P	**P**	**06 22 59.0**	**+0.2**	
X16A					IAMs_20	IAMs_20	06 50 42.2		
	comp=Z,1µm,19.0s								
P23K	**Montague Islan**	**80.54**	**14**		P	**P**	**06 22 58.1**	**+0.1**	
	baz=208								
LON	**Longmire**	**80.57**	**35**		IAMs_20	IAMs_20	06 49 45.3		
	comp=Z,1µm,21.0s								
SPCR	**Spurr Chakacha**	**80.58**	**12**		P	**P**	**06 22 58.4**	**+0.2**	
	baz=204								
QIZ	**Qiongzhong**	**80.61**	**293**		P	**P**	**06 22 58.6**	**-0.7**	
QIZ					S	**S**	**06 33 05.8**	**-1.1**	
QIZ					SS	**SS**	**06 38 19.3**	**-0.7**	
QIZ					pmax	pmax			
	comp=Z,6.0nm,1.2s								
QIZ					LR	LR			
	comp=Z,380nm,26.0s								
QIZ					LR	LR			
	comp=Z,590nm,26.5s								
QIZ					LR	LR			
	comp=Z,2µm,23.5s								
CLRS	**Cowichan Lake**	**80.64**	**32**		IAMs_20	IAMs_20	06 51 18.8		
	comp=Z,1µm,19.0s								
CCUT	**Cedar City**	**80.70**	**46**			**P**	**06 22 59.2**	**-0.4**	
D05A	**Enumclaw**	**80.74**	**34**		IAMs_20	IAMs_20	06 50 44.8		
	comp=Z,1µm,21.0s								
L18K	**Granite Mounta**	**80.75**	**9**		IAMs_20	IAMs_20	06 52 31.5		
	comp=Z,1µm,20.0s								
L18K	**Granite Mounta**	**80.75**	**9**		P	**P**	**06 22 59.4**	**+0.4**	
	baz=200								
319A	**Douglas**	**80.75**	**53**			**P**	**06 22 59.7**	**-0.2**	
319A					IAmb	IAmb	06 23 04.3		
	comp=Z,16nm,0.9s								
319A					IAMs_20	IAMs_20	06 50 28.4		
	comp=Z,1µm,21.0s								
SPR3	**Spring Creek 3**	**80.77**	**44**			**P**	**06 23 00.0**	**-0.1**	
CBB	**Campbell River**	**80.81**	**31**		IAMs_20	IAMs_20	06 51 05.1		
	comp=Z,1µm,20.0s								
KNB	**Kanab**	**80.81**	**47**			**P**	**06 23 00.2**	**+0.1**	
KNB					IAmb	IAmb	06 23 13.8		
	comp=Z,45nm,1.7s								
KNB	**Kanab**	**80.81**	**47**		P	**P**	**06 23 00.3**	**+0.1**	
KNB					pmax	pmax			
	comp=Z,45nm,1.7s								
GAMB	**Gambell**	**80.82**	**2**		IAMs_20	IAMs_20	06 51 38.1		
	comp=Z,2µm,22.0s								
GAMB	**Gambell**	**80.82**	**2**		P	**P**	**06 22 59.6**	**+0.3**	
	baz=185								
M19K	**Big River Lodg**	**80.83**	**11**		P	**P**	**06 22 59.5**	**0.0**	
	baz=202								
PSUT	**Pine Spring**	**80.86**	**45**			**P**	**06 22 59.8**	**-0.7**	
PGC	**Sidney**	**80.88**	**33**		IAMs_20	IAMs_20	06 50 48.2		
	comp=Z,1µm,20.0s								
STLK	**Strandline Lak**	**80.93**	**12**		P	**P**	**06 22 58.7**	**-1.4**	
FIS	**Fire Island**	**80.93**	**13**		IAMs_20	IAMs_20	06 51 13.7		
	comp=Z,1µm,21.0s								
BBB	**Bella Bella**	**80.97**	**28**		IAMs_20	IAMs_20	06 49 43.0		
	comp=Z,1µm,22.0s								
K17K	**Iditarod**	**80.98**	**8**		IAMs_20	IAMs_20	06 51 26.6		
	comp=Z,1µm,22.0s								
K17K	**Iditarod**	**80.98**	**8**		P	**P**	**06 23 00.8**	**+0.6**	
	baz=198								
RC01	**Rabbit Creek A**	**80.99**	**13**		P	**P**	**06 23 00.6**	**+0.2**	
	baz=206								
L19K	**White Mountain**	**81.01**	**10**		P	**P**	**06 23 00.4**	**0.0**	
	baz=201								
M20K	**Styx River**	**81.04**	**11**		IAMs_20	IAMs_20	06 51 18.3		
	comp=Z,1µm,22.0s								
M20K	**Styx River**	**81.04**	**11**		P	**P**	**06 23 00.4**	**-0.3**	
	baz=203								
ELK	**Elko**	**81.08**	**43**		P	**P**	**06 23 01.4**	**-0.2**	
	comp=Z,2.4nm,0.9s,baz=211,slow=4.6,SNR=8.8								
	comp=Z,2.4nm,0.9s								
PWL	**Port Wells**	**81.09**	**14**		IAMs_20	IAMs_20	06 50 21.9		
	comp=Z,1µm,22.0s								
PWL	**Port Wells**	**81.09**	**14**		P	**P**	**06 23 00.5**	**-0.3**	
	baz=208								
WUAZ	**Wupatki**	**81.11**	**49**		P	**P**	**06 23 00.5**	**-1.3**	
KAIM	**Kayak Island**	**81.22**	**16**		P	**P**	**06 23 01.6**	**0.0**	
	baz=211								
J16K	**Anvik River**	**81.22**	**7**		P	**P**	**06 23 01.8**	**+0.3**	
	baz=196								
SMAI	**San Martin Ant**	**81.24**	**159**		P	**P**	**06 23 02.9**	**+1.1**	
CRAG	**Craig**	**81.25**	**23**		P	**P**	**06 23 02.1**	**+0.3**	
	baz=222								
MXC	**Moxie City**	**81.30**	**36**		IAMs_20	IAMs_20	06 50 12.7		
	comp=Z,1µm,19.0s								
G08A	**Pilot Rock**	**81.31**	**37**		IAMs_20	IAMs_20	06 49 14.1		
	comp=Z,2µm,21.0s								
A04D	**Lummi Island**	**81.31**	**33**		IAMs_20	IAMs_20	06 52 37.6		
	comp=Z,969nm,18.0s								
GLI	**Glacier Island**	**81.39**	**14**		IAMs_20	IAMs_20	06 50 51.9		
	comp=Z,2µm,22.0s								
GLI	**Glacier Island**	**81.39**	**14**		P	**P**	**06 23 02.3**	**-0.2**	
	baz=209								
EYAK	**Cordova Ski Ar**	**81.42**	**15**		P	**P**	**06 23 02.8**	**+0.2**	
	baz=210								
SKT	**Skwentna**	**81.43**	**12**		IAMs_20	IAMs_20	06 51 51.7		
	comp=Z,1µm,21.0s								
SKT	**Skwentna**	**81.43**	**12**		P	**P**	**06 23 02.2**	**-0.5**	
	baz=204								
L20K	**Farewell, AK**	**81.45**	**11**		P	**P**	**06 23 02.5**	**-0.4**	
	baz=202								
LTY	**Liberty**	**81.50**	**35**		IAMs_20	IAMs_20	06 50 44.9		
	comp=Z,1µm,20.0s								
M22K	**Willow**	**81.50**	**12**		P	**P**	**06 23 02.7**	**-0.3**	
	baz=206								
J17K	**VABM Dome**	**81.53**	**8**		P	**P**	**06 23 03.0**	**-0.1**	
	baz=197								
KNK	**Knik Glacier**	**81.55**	**13**		IAMs_20	IAMs_20	06 52 37.2		
	comp=Z,1µm,20.0s								
KNK	**Knik Glacier**	**81.55**	**13**		P	**P**	**06 23 03.2**	**-0.1**	
	baz=207								
PMR	**Palmer**	**81.57**	**13**		P	**P**	**06 23 03.4**	**+0.1**	
	baz=207								
SIT	**Sitka**	**81.65**	**21**		P	**P**	**06 23 04.2**	**+0.4**	
	baz=220								
X18A	**Snowflake**	**81.68**	**50**			**P**	**06 23 04.1**	**-0.7**	
X18A					IAmb	IAmb	06 23 18.6		
	comp=Z,27nm,1.6s								
BGLC	**Bering Glacier**	**81.69**	**16**		P	**P**	**06 23 04.2**	**+0.2**	
	baz=212								
V35K	**Ketchikan**	**81.73**	**24**		IAMs_20	IAMs_20	06 50 27.8		
	comp=Z,1µm,21.0s								
V35K	**Ketchikan**	**81.73**	**24**		P	**P**	**06 23 04.3**	**0.0**	
	baz=223								
U33K	**Whale Pass**	**81.73**	**23**		P	**P**	**06 23 04.1**	**-0.2**	
	baz=222								
YPT	**Yellepit**	**81.74**	**37**		IAMs_20	IAMs_20	06 49 53.5		
	comp=Z,2µm,22.0s								
I17K	**Unalakleet**	**81.80**	**7**		IAMs_20	IAMs_20	06 51 46.1		
	comp=Z,1µm,22.0s								
I17K	**Unalakleet**	**81.80**	**7**		P	**P**	**06 23 04.5**	**0.0**	
	baz=196								
WAH2	**Wahluke Slope**	**81.81**	**36**		IAMs_20	IAMs_20	06 54 52.2		
	comp=Z,1µm,18.0s								
J18K	**Innoko River**	**81.92**	**9**		IAMs_20	IAMs_20	06 51 44.6		
	comp=Z,1µm,22.0s								
J18K	**Innoko River**	**81.92**	**9**		P	**P**	**06 23 05.0**	**-0.3**	
	baz=199								
DIV	**Divide**	**81.92**	**15**		IAMs_20	IAMs_20	06 51 08.0		
	comp=Z,2µm,22.0s								
E08A	**Dider Farm, El**	**81.94**	**36**		IAMs_20	IAMs_20	06 52 37.8		
	comp=Z,1µm,20.0s								
TIA	**Tai'an**	**81.95**	**312**		P	**P**	**06 23 09.1**	**+3.1**	
TIA					SS	SS	06 38 39.1	-0.3	
TIA					pmax	pmax			
	comp=Z,240nm,7.7s								
TIA					LR	LR			
	comp=Z,350nm,16.4s								
TIA					LR	LR			
	comp=Z,450nm,21.6s								
TIA					LR	LR			
	comp=Z,680nm,21.4s								
ANM	**Nome**	**81.99**	**5**		IAMs_20	IAMs_20	06 52 59.1		
	comp=Z,2µm,21.0s								
ANM	**Nome**	**81.99**	**5**		P	**P**	**06 23 05.6**	**0.0**	
	baz=191								
BMO	**Blue Mountains**	**82.03**	**38**		IAMs_20	IAMs_20	06 49 24.2		
	comp=Z,1µm,21.0s								
LNOR	**Lincton Mounta**	**82.03**	**37**		IAMs_20	IAMs_20	06 50 25.1		
	comp=Z,1µm,22.0s								
S31K	**Pelican**	**82.05**	**20**		P	**P**	**06 23 06.1**	**+0.1**	
	baz=219								
M23K	**Glacier View**	**82.05**	**13**		P	**P**	**06 23 06.0**	**0.0**	
	baz=208								
CUT	**Chulitna**	**82.06**	**12**		P	**P**	**06 23 05.8**	**-0.1**	
	baz=206								
BMRM	**Bremner River**	**82.07**	**15**		IAMs_20	IAMs_20	06 50 58.0		
	comp=Z,1µm,22.0s								
BMRM	**Bremner River**	**82.07**	**15**		P	**P**	**06 23 06.5**	**+0.4**	
	baz=211								
MESA	**MESA**	**82.10**	**17**		P	**P**	**06 23 05.9**	**-0.6**	
	baz=214								
W18A	**Petrified Fore**	**82.11**	**50**			**P**	**06 23 06.7**	**-0.4**	
W18A					IAmb	IAmb	06 23 18.6		
	comp=Z,32nm,1.5s								
MFID	**Camas Ranch**	**82.13**	**40**			**P**	**06 23 06.5**	**-0.5**	
MFID					IAmb	IAmb	06 23 23.6		
	comp=Z,20nm,1.4s								
PPLA	**Purkeypile**	**82.14**	**11**		IAMs_20	IAMs_20	06 52 14.6		
	comp=Z,1µm,21.0s								
PPLA	**Purkeypile**	**82.14**	**11**		P	**P**	**06 23 06.3**	**-0.3**	
	baz=204								
SCM	**Sheep Creek Mo**	**82.18**	**14**		IAMs_20	IAMs_20	06 51 42.7		
	comp=Z,1µm,22.0s								
SCM	**Sheep Creek Mo**	**82.18**	**14**		P	**P**	**06 23 06.5**	**-0.2**	
	baz=208								
KLU	**Klutina**	**82.20**	**14**		IAMs_20	IAMs_20	06 51 17.4		
	comp=Z,2µm,22.0s								
KLU	**Klutina**	**82.20**	**14**		P	**P**	**06 23 06.9**	**0.0**	
	baz=210								
S32K	**Killisnoo**	**82.23**	**21**		P	**P**	**06 23 07.0**	**+0.1**	
	baz=220								
K20K	**Telida**	**82.24**	**10**		P	**P**	**06 23 07.0**	**+0.1**	
	baz=202								
WRAK	**Wrangell Islan**	**82.25**	**23**		P	**P**	**06 23 06.9**	**-0.1**	
	baz=223								
CRQE	**Cirque**	**82.28**	**16**		P	**P**	**06 23 07.0**	**-0.3**	
	baz=212								
D08A	**Wollman Farm,**	**82.35**	**36**		P	**P**	**06 23 07.1**	**-0.7**	
D08A					IAmb	IAmb	06 23 18.7		
	comp=Z,21nm,1.2s								
H16K	**Elim**	**82.35**	**6**		P	**P**	**06 23 07.8**	**+0.4**	
	baz=194								
PNL	**Peninsula**	**82.41**	**18**		P	**P**	**06 23 08.0**	**+0.1**	
	baz=216								
E09A	**Wood Farm, Sta**	**82.47**	**36**		IAMs_20	IAMs_20	06 50 49.8		
	comp=Z,1µm,19.0s								
PINM	**Pinnacle**	**82.51**	**17**		P	**P**	**06 23 08.7**	**+0.2**	
	baz=215								
G15K	**Nikluk**	**82.53**	**5**		P	**P**	**06 23 09.0**	**+0.7**	
	baz=192								
VRDI	**Verde Repeater**	**82.59**	**16**		IAMs_20	IAMs_20	06 50 39.6		
	comp=Z,1µm,22.0s								
J19K	**Poorman**	**82.59**	**9**		IAMs_20	IAMs_20	06 52 05.2		
	comp=Z,1µm,22.0s								
J19K	**Poorman**	**82.59**	**9**		P	**P**	**06 23 09.1**	**+0.4**	
	baz=200								
N25K	**Chitina, Valde**	**82.62**	**15**		IAMs_20	IAMs_20	06 51 06.5		
	comp=Z,2µm,22.0s								
N25K	**Chitina, Valde**	**82.62**	**15**		P	**P**	**06 23 09.4**	**+0.3**	
	baz=211								
GLB	**Gilahina Butte**	**82.68**	**15**		IAMs_20	IAMs_20	06 51 06.0		
	comp=Z,1µm,22.0s								
M24K	**Tolsona, Glenn**	**82.68**	**14**		P	**P**	**06 23 09.8**	**+0.5**	
	baz=210								
MOIG	**Morelia**	**82.77**	**67**		IAMs_20	IAMs_20	06 51 53.2		
	comp=Z,1µm,20.0s								
TNA	**Tin City**	**82.79**	**4**		P	**P**	**06 23 10.3**	**+0.6**	
	baz=189								
F14K	**Arctic Creek**	**82.81**	**4**		P	**P**	**06 23 10.5**	**+0.7**	
	baz=190								
MCARA	**McCarthy VSAT**	**82.83**	**16**		IAMs_20	IAMs_20	06 50 57.0		
	comp=Z,1µm,21.0s								
MCARA	**McCarthy VSAT**	**82.83**	**16**		P	**P**	**06 23 10.2**	**+0.1**	
	baz=212								
R32K	**Eaglecrest**	**82.87**	**21**		P	**P**	**06 23 10.7**	**+0.4**	
	baz=220								
Q16A	**Castle Valley**	**82.87**	**46**			**P**	**06 23 10.6**	**-0.5**	
Q16A					IAmb	IAmb	06 23 23.8		
	comp=Z,32nm,1.4s								
B08A	**Colville Reser**	**82.88**	**35**		IAMs_20	IAMs_20	06 51 42.3		
	comp=Z,1µm,18.0s								
P29M	**Windy Craggy**	**82.88**	**19**		P	**P**	**06 23 10.7**	**+0.3**	
	baz=217								
LLLB	**Lillooet**	**82.90**	**32**		IAMs_20	IAMs_20	06 50 56.5		
	comp=Z,1µm,20.0s								
H17K	**Grite Mounta**	**82.90**	**7**		IAMs_20	IAMs_20	06 53 04.4		
	comp=Z,990nm,21.0s								
H17K	**Granite Mounta**	**82.90**	**7**		P	**P**	**06 23 10.6**	**+0.3**	
	baz=196								
BARN	**Barnard Glacie**	**82.92**	**16**		IAMs_20	IAMs_20	06 52 18.4		
	comp=Z,2µm,20.0s								
CTG	**Chitna Glacier**	**82.92**	**17**		P	**P**	**06 23 10.9**	**+0.2**	
	baz=214								
PLID	**Pearl Lake**	**82.93**	**39**			**P**	**06 23 10.3**	**-0.9**	
PLID					IAmb	IAmb	06 23 26.8		
	comp=Z,45nm,1.9s								
KTH	**Kantishna Hill**	**82.98**	**11**		P	**P**	**06 23 09.6**	**-1.2**	
KTH					IAMs_20	IAMs_20	06 52 19.7		
	comp=Z,1µm,22.0s								
J20K	**Nowinta River**	**82.99**	**10**		P	**P**	**06 23 11.1**	**+0.3**	
	baz=202								
TRF	**Thorofare Moun**	**83.01**	**12**		P	**P**	**06 23 10.8**	**-0.3**	
	baz=206,SNR=12								
CHUM	**Lake Minchumin**	**83.03**	**11**		P	**P**	**06 23 10.8**	**-0.2**	
	baz=204								
G16K	**Koyuk River**	**83.08**	**6**		P	**P**	**06 23 11.3**	**+0.1**	
	baz=194								
O28M	**Mount Upton**	**83.08**	**17**		P	**P**	**06 23 11.7**	**0.0**	
	baz=215								
HLID	**Hailey**	**83.08**	**40**			**P**	**06 23 12.2**	**+0.2**	
HLID					IAmb	IAmb	06 23 23.3		
	comp=Z,20nm,1.4s								
GCSA	**Galena City Sc**	**83.11**	**8**		P	**P**	**06 23 11.7**	**+0.3**	
	baz=199								
C09A	**Chisman Ranch**	**83.13**	**35**		IAMs_20	IAMs_20	06 50 44.2		
	comp=Z,1µm,21.0s								
HEH	**HeiHe**	**83.16**	**328**	*e*	P	**P**	**06 23 13.3**	**+1.4**	
HEH					pP	**pwP**	**06 23 16.8**	**-0.7**	
HEH					pmax	pmax			
	comp=Z,12nm,1.3s								
HEH					pmax	pmax			
	comp=Z,150nm,5.7s								
HEH					LR	LR			
	comp=Z,740nm,17.0s								
HEH					LR	LR			
	comp=Z,530nm,17.9s								
HEH					LR	LR			
	comp=Z,1µm,18.3s								
O29M	**Mount Kennedy**	**83.17**	**18**		P	**P**	**06 23 12.0**	**0.0**	
	baz=217								
PLBC	**Pleasant Camp**	**83.17**	**19**		P	**P**	**06 23 12.6**	**+0.8**	
	baz=219								
HARP	**HAARP**	**83.17**	**14**		P	**P**	**06 23 12.1**	**+0.3**	
	baz=210								
F15K	**North Star Dit**	**83.18**	**5**		IAMs_20	IAMs_20	06 52 40.4		
	comp=Z,2µm,22.0s								
F15K	**North Star Dit**	**83.18**	**5**		P	**P**	**06 23 12.3**	**+0.5**	
	baz=192								
H18K	**Honhosa River**	**83.30**	**8**		P	**P**	**06 23 12.9**	**+0.5**	
	baz=198								
G17K	**Kiwalik Mounta**	**83.36**	**7**		P	**P**	**06 23 13.0**	**+0.3**	
	baz=196								
T35M	**Bob Quinn**	**83.45**	**24**		P	**P**	**06 23 13.7**	**+0.3**	
	baz=224								
SEY	**Seymchan**	**83.46**	**346**	*i*	P	**P**	**06 23 13.8**	**+0.6**	
SEY					pmax	pmax			
	comp=Z,36nm,1.2s								
BPAW	**Bear Paw Mtn.**	**83.47**	**11**		P	**P**	**06 23 13.2**	**-0.1**	
	baz=205								
SKAG	**Skagway**	**83.51**	**20**		P	**P**	**06 23 14.2**	**+0.7**	
	baz=220								
P30M	**Million Dollar**	**83.51**	**19**		P	**P**	**06 23 14.2**	**+0.5**	
	baz=218								
I20K	**Naaghedeneel**	**83.52**	**9**		P	**P**	**06 23 13.4**	**0.0**	
	baz=202								
MCK	**McKinley**	**83.53**	**12**			**P**	**06 23 13.2**	**-0.4**	
MCK	**McKinley**	**83.53**	**12**		P	**P**	**06 23 13.2**	**-0.4**	
MCK					pmax	pmax			
	comp=Z,45nm,1.6s								
MCK	**McKinley**	**83.53**	**12**		P	**P**	**06 23 13.7**	**0.0**	
	baz=207,SNR=7.6								
PAX	**Paxson**	**83.60**	**14**		IAMs_20	IAMs_20	06 52 02.2		
	comp=Z,1µm,22.0s								
PAX	**Paxson**	**83.60**	**14**		P	**P**	**06 23 14.2**	**+0.1**	
	baz=210								
YUK8	**Steele Glacier**	**83.62**	**17**		P	**P**	**06 23 14.7**	**+0.3**	
	baz=216								
M26K	**Nabesna, AK**	**83.70**	**15**		IAMs_20	IAMs_20	06 51 41.0		
	comp=Z,2µm,22.0s								
M26K	**Nabesna, AK**	**83.70**	**15**		P	**P**	**06 23 14.9**	**+0.3**	
	baz=212								
Y22D	**IRIS PASSCAL I**	**83.72**	**52**		P	**P**	**06 23 15.4**	**-0.1**	
	baz=245								
YUK6	**Outpost Mounta**	**83.74**	**18**		P	**P**	**06 23 15.3**	**+0.2**	
	baz=217								
S34M	**Telegraph Cree**	**83.80**	**23**		P	**P**	**06 23 14.9**	**-0.2**	
	baz=224								
CRNM	**Carthage**	**83.81**	**52**		P	**P**	**06 23 15.2**	**-0.7**	
BWN	**Browne**	**83.82**	**12**		P	**P**	**06 23 14.4**	**-0.6**	
YUK3	**Moose Creek**	**83.83**	**16**		P	**P**	**06 23 15.4**	**-0.1**	
	baz=215								
P18A	**Preston Nutter**	**83.84**	**45**		P	**P**	**06 23 16.0**	**-0.2**	
P18A					IAmb	IAmb	06 23 55.0		
	comp=Z,20nm,1.3s								
IPM	**Ipoh**	**83.90**	**277**		IAMs_20	IAMs_20	07 04 44.8		
	comp=Z,959nm,18.0s								
MNTX	**Cornudas Mount**	**83.90**	**54**			**P**	**06 23 15.9**	**-0.4**	
MNTX					IAmb	IAmb	06 23 27.9		
	comp=Z,35nm,1.6s								
HYT	**Haines Junctio**	**83.90**	**18**		P	**P**	**06 23 15.4**	**-0.3**	
	baz=218								
H19K	**Roundabout Mou**	**83.92**	**8**		IAMs_20	IAMs_20	07 04 14.2		
	comp=Z,1µm,19.0s								
H19K	**Roundabout Mou**	**83.92**	**8**		P	**P**	**06 23 15.5**	**0.0**	
	baz=200,SNR=9.8								
PV05	**Paradox Valley**	**83.92**	**47**		P	**P**	**06 23 16.1**	**-0.4**	
BSUT	**Blindstream Ca**	**83.92**	**44**			**P**	**06 23 16.0**	**-0.7**	
BSUT					IAmb	IAmb	06 23 27.8		
	comp=Z,24nm,1.2s								
M27K	**Edge Creek, AK**	**83.94**	**16**		IAMs_20	IAMs_20	06 59 24.5		
	comp=Z,1µm,19.0s								
M27K	**Edge Creek, AK**	**83.94**	**16**		P	**P**	**06 23 16.0**	**+0.1**	
	baz=214								
BNM	**Barren Site**	**83.97**	**52**		P	**P**	**06 23 17.2**	**+0.3**	
G18K	**Tagagawik**	**83.98**	**7**		P	**P**	**06 23 15.6**	**-0.2**	
	baz=198,SNR=7.9								
MENT	**Mentasta**	**83.98**	**15**		IAMs_20	IAMs_20	06 52 00.4		
	comp=Z,1µm,20.0s								
YUK4	**Talbot Arm**	**83.99**	**17**		P	**P**	**06 23 16.5**	**+0.3**	
	baz=217								
NEW	**Newport**	**84.03**	**35**		IAMs_20	IAMs_20	06 51 21.0		
	comp=Z,1µm,21.0s								
PV19	**Morning Glory**	**84.10**	**47**		P	**P**	**06 23 16.5**	**-0.9**	
H20K	**Anotleneega Mo**	**84.11**	**9**		P	**P**	**06 23 16.7**	**+0.2**	
	baz=201,SNR=11								
PV18	**Skein Mesa, Pa**	**84.12**	**47**			**P**	**06 23 17.0**	**-0.5**	
P32M	**Atlin**	**84.14**	**20**		P	**P**	**06 23 17.3**	**+0.4**	
	baz=221								
L26K	**Log Cabin Wild**	**84.14**	**15**		P	**P**	**06 23 16.2**	**-0.6**	
L26K					IAMs_20	IAMs_20	06 55 04.7		
	comp=Z,1µm,20.0s								
L26K	**Log Cabin Wild**	**84.14**	**15**		P	**P**	**06 23 17.3**	**+0.5**	
	baz=212,SNR=5.8								
PV16	**Nyswonger Mesa**	**84.15**	**47**		P	**P**	**06 23 17.9**	**+0.2**	
PV16					IAmb	IAmb	06 23 29.4		
	comp=Z,29nm,1.4s								
Q32M	**Nakina River**	**84.16**	**21**		P	**P**	**06 23 17.7**	**+0.6**	
	baz=222								
PV11	**David Mesa, Pa**	**84.17**	**47**		P	**P**	**06 23 17.0**	**-0.7**	
PV04	**Paradox Valley**	**84.19**	**47**		P	**P**	**06 23 16.7**	**-1.1**	
PV04					IAmb	IAmb	06 23 31.2		
	comp=Z,30nm,1.3s								
F17K	**Baldwin Pennin**	**84.21**	**6**		IAMs_20	IAMs_20	06 53 43.9		
	comp=Z,2µm,22.0s								
F17K	**Baldwin Pennin**	**84.21**	**6**		P	**P**	**06 23 17.4**	**+0.5**	
	baz=195								
HNS	**HongShan**	**84.22**	**312**	⇑	P	P	06 23 24.5	+6.8	
HNS					PP	**PP**	**06 26 38.3**	**+5.9**	
HNS	**HongShan**	**84.22**	**312**		S	**S**	**06 33 47.0**	**+3.9**	
HNS					pmax	pmax			
	comp=Z,14nm,0.9s								
HNS					LR	LR			
	comp=N,290nm,17.8s								
HNS					LR	LR			
	comp=E,570nm,17.2s								
HNS					LR	LR			
	comp=Z,540nm,19.2s								
K24K	**Donnelly Dome**	**84.25**	**13**		P	**P**	**06 23 16.9**	**-0.5**	
K24K	**Donnelly Dome**	**84.25**	**13**		P	**P**	**06 23 17.7**	**+0.4**	
	baz=210								
BVCY	**Beaver Creek**	**84.25**	**16**		P	**P**	**06 23 17.6**	**+0.2**	
	baz=214								
NEA2	**Nenana**	**84.28**	**12**		P	**P**	**06 23 16.4**	**-1.0**	
NEA2					IAmb	IAmb	06 23 59.4		
	comp=Z,25nm,1.6s								
NEA2	**Nenana**	**84.28**	**12**		P	**P**	**06 23 17.4**	**+0.1**	
	baz=207								
I21K	**Tanana**	**84.28**	**10**		P	**P**	**06 23 17.5**	**+0.2**	
	baz=204,SNR=7.3								
O30N	**Mendenhall**	**84.29**	**19**		P	**P**	**06 23 17.9**	**+0.4**	
	baz=219								
TXAR	**Lajitas Array**

N31M	**Braeburn, Yuko**	**84.94**	**18**	P	**P**	**06 23 21.5**	**+0.6**	
	baz=219							
F19K	**Shaleruckik Mo**	**84.98**	**7**	IAMs_20	IAMs_20	06 54 40.3		
	comp=Z,949nm,21.0s							
F19K	**Shaleruckik Mo**	**84.98**	**7**	P	**P**	**06 23 21.1**	**+0.2**	
	baz=198,SNR=7.2							
MAW	**Mawson**	**85.04**	**199**	LR	LR	06 58 39.8		
	comp=Z,1µm,20.4s,baz=106,slow=34							
H22K	**Ishtalitna Cre**	**85.04**	**10**	P	**P**	**06 23 21.7**	**+0.5**	
	baz=204,SNR=12							
J25K	**Salcha River,**	**85.05**	**13**	P	**P**	**06 23 21.1**	**-0.2**	
	baz=210,SNR=16							
MSO	**Missoula**	**85.07**	**38**	IAMs_20	IAMs_20	06 54 41.8		
	comp=Z,1µm,20.0s							
DLMT	**Dillon**	**85.12**	**40**		**P**	**06 23 22.1**	**-0.2**	
BPMT	**Black Pine Rid**	**85.16**	**38**		**P**	**06 23 21.6**	**-1.0**	
ENH	**Enshi**	**85.19**	**304**		**P**	**06 23 20.8**	**-2.1**	
TPAW	**Teton Pass**	**85.22**	**42**		**P**	**06 23 21.5**	**-1.5**	
TPAW				IAmb	IAmb	06 23 34.2		
	comp=Z,25nm,1.3s							
E18K	**Tukpahlearik C**	**85.23**	**6**	IAMs_20	IAMs_20	06 56 12.7		
	comp=Z,1µm,20.0s							
E18K	**Tukpahlearik C**	**85.23**	**6**	P	**P**	**06 23 22.8**	**+0.7**	
	baz=196							
D17K	**Noatak River**	**85.26**	**5**	P	**P**	**06 23 22.3**	**+0.1**	
	baz=193							
G21K	**Allakaket**	**85.27**	**9**	IAMs_20	IAMs_20	06 55 03.1		
	comp=Z,972nm,21.0s							
G21K	**Allakaket**	**85.27**	**9**	P	**P**	**06 23 23.0**	**+0.6**	
	baz=202,SNR=7.9							
H23K	**Yukon River**	**85.30**	**11**	P	**P**	**06 23 22.6**	**+0.1**	
	baz=206							
K27K	**Chicken**	**85.30**	**15**	IAMs_20	IAMs_20	06 53 17.2		
	comp=Z,2µm,22.0s							
K27K	**Chicken**	**85.30**	**15**	P	**P**	**06 23 23.1**	**+0.5**	
	baz=213							
J26L	**Joseph Creek**	**85.35**	**14**	IAMs_20	IAMs_20	06 54 53.6		
	comp=Z,1µm,20.0s							
J26L	**Joseph Creek**	**85.35**	**14**	P	**P**	**06 23 23.8**	**+0.8**	
	baz=212,SNR=21							
ZEA	**Zeya**	**85.35**	**330**	*e*P	**P**	**06 23 24.5**	**+1.5**	
ZEA				*e*		06 26 43.0		
ZEA				*e*S	**S**	**06 33 57.9**	**+4.2**	
ZEA				pmax	pmax			
	comp=Z,100nm,5.0s							
ZEA				pmax	pmax			
	comp=Z,10.0nm,1.3s							
ZEA				pmax	pmax			
	comp=Z,100nm,6.2s							
ZEA				smax	smax			
	comp=N,200nm,9.7s							
ZEA				smax	smax			
	comp=E,200nm,8.2s							
S22A	**4UR Ranch, Cre**	**85.37**	**48**	IAMs_20	IAMs_20	06 53 09.1		
	comp=Z,1µm,20.0s							
PSI	**Prapat**	**85.39**	**274**	LR	LR	07 03 04.6		
	comp=Z,772nm,18.7s,baz=129,slow=37							
LRM	**Limekiln Ridge**	**85.44**	**39**	P	**P**	**06 23 22.9**	**-1.2**	
F20K	**Avaraart Lake**	**85.45**	**8**	P	**P**	**06 23 23.9**	**+0.7**	
	baz=200							
M30M	**Minto, Yukon**	**85.50**	**17**	P	**P**	**06 23 23.8**	**+0.1**	
M30M	**Minto, Yukon**	**85.50**	**17**	P	**P**	**06 23 24.0**	**+0.4**	
	baz=218,SNR=8.9							
N32M	**Quiet Lake**	**85.53**	**20**	P	**P**	**06 23 24.3**	**+0.5**	
	baz=222							
L29M	**L29M**	**85.55**	**17**	IAMs_20	IAMs_20	06 54 24.1		
	comp=Z,1µm,20.0s							
L29M	**L29M**	**85.55**	**17**	P	**P**	**06 23 24.5**	**+0.6**	
	baz=217,SNR=15							
H24K	**Noodor Dome**	**85.62**	**12**	P	**P**	**06 23 24.0**	**-0.1**	
	baz=208							
E19K	**Redstone River**	**85.64**	**7**	P	**P**	**06 23 24.5**	**+0.3**	
	baz=199							
C16K	**Lisburne Hills**	**85.65**	**4**	P	**P**	**06 23 24.4**	**+0.2**	
	baz=191							
PDAR	**Pinedale Array**	**85.77**	**43**	P	**P**	**06 23 25.4**	**-0.3**	
	comp=Z,0.9nm,0.8s,baz=207,slow=1.7,SNR=8.4							
	comp=Z,0.9nm,0.8s							
SAND	**Sanderson**	**85.78**	**57**		**P**	**06 23 25.6**	**-0.3**	
SAND				IAmb	IAmb	06 23 37.1		
	comp=Z,23nm,1.5s							
PRP	**Porcupine Dome**	**85.80**	**13**	IAMs_20	IAMs_20	06 54 06.4		
	comp=Z,1µm,22.0s							
PRP	**Porcupine Dome**	**85.80**	**13**	P	**P**	**06 23 25.1**	**-0.1**	
	baz=210,SNR=17							
BOZ	**Bozeman (W)**	**85.83**	**40**	P	**P**	**06 23 25.3**	**-0.5**	
BOZ				IAmb	IAmb	06 23 36.9		
	comp=Z,39nm,1.6s							
BOZ	**Bozeman (W)**	**85.83**	**40**	P	**P**	**06 23 25.3**	**-0.5**	
BOZ				pmax	pmax			
	comp=Z,39nm,1.6s							
BILL	**Bilibino**	**85.91**	**354**	*i* P	**P**	**06 23 25.6**	**+0.1**	
BILL				pmax	pmax			
	comp=Z,37nm,1.3s							
M31M	**Drury Creek, Y**	**85.92**	**18**	P	**P**	**06 23 26.0**	**+0.3**	
	baz=220							
F21K	**Alatna River**	**85.93**	**9**	IAMs_20	IAMs_20	06 55 55.5		
	comp=Z,1µm,21.0s							
F21K	**Alatna River**	**85.93**	**9**	P	**P**	**06 23 26.1**	**+0.5**	
	baz=202							
G22K	**Bettles**	**85.96**	**10**	P	**P**	**06 23 26.5**	**+0.8**	
	baz=204							
DAWY	**Dawson**	**86.00**	**16**		**P**	**06 23 26.1**	**0.0**	
DAWY				IAmb	IAmb	06 23 36.4		
	comp=Z,11nm,0.9s							
DAWY				IAMs_20	IAMs_20	07 01 56.7		
	comp=Z,1µm,18.0s							
DAWY	**Dawson**	**86.00**	**16**	P	**P**	**06 23 26.3**	**+0.3**	
	baz=216,SNR=11							
G23K	**Bananza Creek**	**86.01**	**10**	P	**P**	**06 23 26.4**	**+0.3**	
	baz=206,SNR=8.4							
C17K	**DeLong Mountai**	**86.02**	**5**	P	**P**	**06 23 26.1**	**+0.1**	
	baz=193							
I26K	**Coal Creek Min**	**86.13**	**13**	P	**P**	**06 23 27.0**	**+0.3**	
	baz=212							
USHA	**Ushuaia**	**86.22**	**147**	LR	LR	06 54 04.5		
	comp=Z,232nm,20.9s,baz=258,slow=30							
WTLY	**Watson Lake, Y**	**86.22**	**22**	P	**P**	**06 23 27.5**	**+0.2**	
	baz=226							
FARO	**Faro, Yukon**	**86.25**	**19**	P	**P**	**06 23 27.9**	**+0.5**	
	baz=221							
XLT	**XiLinHaoTe**	**86.27**	**318**	*e*P	**P**	**06 23 27.8**	**-0.2**	
XLT				sP	pwP	06 23 34.1	+0.6	
XLT				SKS	**SKSac**	**06 33 52.3**	**-2.1**	
XLT				S	**S**	**06 34 05.0**	**+1.6**	
XLT				sS	ScS	06 34 12.3	+0.2	
XLT				SS	**SS**	**06 39 38.5**	**-4.7**	
XLT				pmax	pmax			
	comp=Z,6.0nm,0.8s							
XLT				LR	LR			
	comp=Z,54nm,16.2s							
XLT				LR	LR			
	comp=Z,240nm,17.0s							
XLT				LR	LR			
	comp=Z,260nm,21.7s							
K29M	**Barlow Dome**	**86.31**	**16**	IAMs_20	IAMs_20	06 56 05.0		
	comp=Z,1µm,20.0s							
K29M	**Barlow Dome**	**86.31**	**16**	P	**P**	**06 23 28.4**	**+0.7**	
	baz=217,SNR=12							
C18K	**Utukok River**	**86.36**	**6**	P	**P**	**06 23 28.0**	**+0.3**	
	baz=195							
F22K	**John River**	**86.39**	**9**	P	**P**	**06 23 28.5**	**+0.6**	
	baz=204							
H25L	**Birch Creek**	**86.40**	**12**	P	**P**	**06 23 28.5**	**+0.6**	
	baz=210							
COLD	**Coldfoot**	**86.45**	**10**	P	**P**	**06 23 28.9**	**+0.7**	
	baz=206							
G24K	**Hadweenzic Riv**	**86.46**	**11**	IAMs_20	IAMs_20	07 00 33.7		
	comp=Z,1µm,19.0s							
G24K	**Hadweenzic Riv**	**86.46**	**11**	P	**P**	**06 23 28.4**	**+0.1**	
	baz=208							
SRIT	**Nakonsritamara**	**86.50**	**280**	IAMs_20	IAMs_20	06 59 52.4		
	comp=Z,864nm,18.0s							
D19K	**Kuna River**	**86.53**	**7**	IAMs_20	IAMs_20	06 55 21.2		
	comp=Z,2µm,22.0s							
D19K	**Kuna River**	**86.53**	**7**	P	**P**	**06 23 29.2**	**+0.5**	
	baz=198							
E20K	**Nigu River**	**86.53**	**8**	P	**P**	**06 23 28.8**	**+0.2**	
	baz=200							
MAYO	**Mayo, Yukon**	**86.56**	**17**	P	**P**	**06 23 28.7**	**-0.1**	
MAYO	**Mayo, Yukon**	**86.56**	**17**	P	**P**	**06 23 29.4**	**+0.6**	
	baz=219							
J29N	**Klondike Camp**	**86.61**	**16**	IAMs_20	IAMs_20	06 54 38.0		
	comp=Z,1µm,22.0s							
J29N	**Klondike Camp**	**86.61**	**16**	P	**P**	**06 23 29.7**	**+0.5**	
	baz=217							
LIRD	**Liard River Hi**	**86.73**	**23**	P	**P**	**06 23 29.8**	**+0.1**	
	baz=228							
I27K	**Kandik River**	**86.73**	**14**	P	**P**	**06 23 29.8**	**+0.2**	
	baz=214							
G25K	**Bearman Lake**	**86.78**	**12**	P	**P**	**06 23 30.3**	**+0.5**	
	baz=209							
MSTX	**Muleshoe**	**86.82**	**53**	IAMs_20	IAMs_20	06 54 22.0		
	comp=Z,1µm,20.0s							
T25A	**Trinidad**	**86.86**	**50**	IAMs_20	IAMs_20	06 52 59.7		
	comp=Z,1µm,22.0s							
H03S2	**Juan Fernandez**	**86.87**	**124**	T	T	07 59 43.6		
	baz=250,slow=75,SNR=4.0							
H03S1	**Juan Fernandez**	**86.89**	**124**	T	T	07 59 47.7		
	baz=250,slow=75,SNR=3.7							
H03S3	**Juan Fernandez**	**86.89**	**124**	T	T	07 59 45.8		
	baz=250,slow=75,SNR=3.5							
D20K	**Etivluk River**	**86.91**	**7**	IAMs_20	IAMs_20	07 01 21.4		
	comp=Z,987nm,19.0s							
D20K	**Etivluk River**	**86.91**	**7**	P	**P**	**06 23 31.0**	**+0.6**	
	baz=199							
OZNA	**Ozona**	**86.94**	**56**	P	**P**	**06 23 30.8**	**-0.7**	
OZNA				IAmb	IAmb	06 23 42.7		
	comp=Z,30nm,1.5s							
C19K	**Lookout Ridge**	**86.96**	**6**	P	**P**	**06 23 31.1**	**+0.4**	
	baz=196							
I28M	**Miner Creek**	**86.99**	**15**	P	**P**	**06 23 31.1**	**+0.1**	
	baz=215,SNR=5.8							
E21K	**Killik River**	**87.00**	**8**	IAMs_20	IAMs_20	06 55 38.6		
	comp=Z,1µm,21.0s							
B18K	**Kokolik River**	**87.00**	**5**	P	**P**	**06 23 31.5**	**+0.7**	
	baz=194							
E22K	**Anaktuvuk Pass**	**87.02**	**9**	P	**P**	**06 23 31.3**	**+0.3**	
	baz=204							
RLMT	**Red Lodge**	**87.06**	**41**		**P**	**06 23 31.9**	**-0.1**	
XAN	**Xi'an**	**87.09**	**307**	P	**P**	**06 23 32.8**	**+0.6**	
XAN				sP	pwP	06 23 37.9	+0.2	
XAN				pmax	pmax			
	comp=Z,16nm,1.2s							
XAN				pmax	pmax			
	comp=Z,240nm,5.7s							
XAN				LR	LR			
	comp=Z,510nm,13.7s							
XAN				LR	LR			
	comp=Z,430nm,19.2s							
XAN				LR	LR			
	comp=Z,1µm,24.0s							
F24K	**Squaw Lake**	**87.11**	**11**	IAMs_20	IAMs_20	06 57 04.9		
	comp=Z,891nm,20.0s							
F24K	**Squaw Lake**	**87.11**	**11**	P	**P**	**06 23 31.9**	**+0.4**	
	baz=208							
MMPY	**Sheldon Lake,**	**87.19**	**19**	P	**P**	**06 23 32.8**	**+0.8**	
	baz=223,SNR=7.0							
J30M	**Hart River**	**87.21**	**16**	IAMs_20	IAMs_20	06 59 05.8		
	comp=Z,1µm,20.0s							
J30M	**Hart River**	**87.21**	**16**	P	**P**	**06 23 32.6**	**+0.5**	
	baz=218							
H27K	**Steamboat Moun**	**87.27**	**14**	IAMs_20	IAMs_20	07 02 05.4		
	comp=Z,846nm,19.0s							
H27K	**Steamboat Moun**	**87.27**	**14**	P	**P**	**06 23 32.9**	**+0.6**	
	baz=214							
E23K	**Chandalar**	**87.30**	**10**	P	**P**	**06 23 32.7**	**+0.3**	
	baz=206							
I29M	**Ogilvie Camp,**	**87.32**	**15**	IAMs_20	IAMs_20	06 54 40.7		
	comp=Z,1µm,21.0s							
I29M	**Ogilvie Camp,**	**87.32**	**15**	P	**P**	**06 23 32.7**	**+0.2**	
	baz=217							
TGTN	**Hyland Airport**	**87.40**	**21**	P	**P**	**06 23 33.7**	**+0.7**	
	baz=226							
G26K	**Porcupine Rive**	**87.40**	**12**	IAMs_20	IAMs_20	06 55 04.6		
	comp=Z,1µm,22.0s							
G26K	**Porcupine Rive**	**87.40**	**12**	P	**P**	**06 23 33.6**	**+0.8**	
	baz=212							
E24K	**Your Creek**	**87.50**	**10**	P	**P**	**06 23 34.0**	**+0.6**	
	baz=207							
CMIG	**Matias Romero**	**87.52**	**71**	LR	LR	06 53 20.0		
	comp=Z,1µm,21.5s,baz=255,slow=29							
C21K	**Knifeblade Rid**	**87.56**	**8**	P	**P**	**06 23 34.2**	**+0.7**	
	baz=201							
D22K	**Ayikyak River**	**87.58**	**9**	IAMs_20	IAMs_20	06 58 49.2		
	comp=Z,961nm,20.0s							
D22K	**Ayikyak River**	**87.58**	**9**	P	**P**	**06 23 34.2**	**+0.5**	
	baz=203							
F25K	**Christian Rive**	**87.59**	**11**	P	**P**	**06 23 34.4**	**+0.6**	
	baz=210							
BMAR	**Burnt Mountain**	**87.65**	**12**		**P**	**06 23 33.6**	**-0.5**	
I30M	**Mount Dempster**	**87.70**	**16**	IAMs_20	IAMs_20	06 55 43.9		
	comp=Z,1µm,21.0s							
I30M	**Mount Dempster**	**87.70**	**16**	P	**P**	**06 23 34.6**	**+0.1**	
	baz=218,SNR=5.9							
G27K	**Doyon Strip**	**87.73**	**13**	P	**P**	**06 23 34.7**	**+0.3**	
	baz=214							
TOLK	**Toolik Lake Re**	**87.83**	**10**	IAMs_20	IAMs_20	06 55 29.9		
	comp=Z,989nm,20.0s							
TOLK	**Toolik Lake Re**	**87.83**	**10**	P	**P**	**06 23 35.1**	**+0.1**	
	baz=206							
A19K	**Wainwright**	**87.88**	**5**	P	**P**	**06 23 35.3**	**+0.3**	
	baz=195							
HHC	**Hu-ho-hao-te**	**87.92**	**314**	*e*P	**P**	**06 23 35.8**	**-0.3**	
HHC				sP	pwP	06 23 45.4	+3.8	
HHC				S	**S**	**06 34 17.8**	**-1.7**	
HHC				sS	ScS	06 34 27.0	+1.1	
HHC				pmax	pmax			
	comp=Z,13nm,0.8s							
HHC				pmax	pmax			
	comp=Z,120nm,5.0s							
HHC				LR	LR			
	comp=Z,400nm,17.7s							
HHC				LR	LR			
	comp=Z,380nm,20.2s							
HHC				LR	LR			
	comp=Z,630nm,23.5s							
D23K	**Nanushuk River**	**87.96**	**9**	IAMs_20	IAMs_20	06 57 12.1		
	comp=Z,1µm,19.0s							
D23K	**Nanushuk River**	**87.96**	**9**	P	**P**	**06 23 35.6**	**+0.1**	
	baz=205							
F26K	**Sheenjek River**	**87.97**	**12**	P	**P**	**06 23 36.0**	**+0.4**	
	baz=211							
KOTAN	**Kotaneelee Air**	**87.98**	**23**	P	**P**	**06 23 36.0**	**+0.3**	
	baz=230							
H29M	**Whitestone**	**88.00**	**15**	IAMs_20	IAMs_20	06 54 36.6		
	comp=Z,2µm,22.0s							
H29M	**Whitestone**	**88.00**	**15**	P	**P**	**06 23 36.0**	**+0.3**	
	baz=217							
AMTX	**Amarillo**	**88.00**	**53**	IAMs_20	IAMs_20	06 54 17.3		
	comp=Z,1µm,21.0s							
B21K	**Ikpikpuk River**	**88.02**	**8**	IAMs_20	IAMs_20	06 55 44.5		
	comp=Z,1µm,22.0s							
B21K	**Ikpikpuk River**	**88.02**	**8**	P	**P**	**06 23 35.7**	**0.0**	
	baz=201							
B20K	**Meade River**	**88.08**	**7**	IAMs_20	IAMs_20	06 57 16.1		
	comp=Z,1µm,20.0s							
B20K	**Meade River**	**88.08**	**7**	P	**P**	**06 23 35.8**	**-0.2**	
	baz=199							
D24K	**Happy Valley**	**88.42**	**10**	IAMs_20	IAMs_20	06 57 15.3		
	comp=Z,1µm,21.0s							
D24K	**Happy Valley**	**88.42**	**10**	P	**P**	**06 23 38.1**	**+0.4**	
	baz=207							
EPYK	**Eagle Plains**	**88.52**	**15**	IAMs_20	IAMs_20	06 55 16.5		
	comp=Z,1µm,22.0s							
EPYK	**Eagle Plains**	**88.52**	**15**	P	**P**	**06 23 38.6**	**+0.4**	
	baz=218							
G29M	**Pine Creek**	**88.64**	**14**	IAMs_20	IAMs_20	06 55 19.5		
	comp=Z,1µm,22.0s							
G29M	**Pine Creek**	**88.64**	**14**	P	**P**	**06 23 38.8**	**0.0**	
	baz=217							
H31M	**Peel River**	**88.69**	**16**	IAMs_20	IAMs_20	06 56 24.1		
	comp=Z,1µm,21.0s							
H31M	**Peel River**	**88.69**	**16**	P	**P**	**06 23 39.3**	**+0.2**	
	baz=220							
LL01	**San Ignacio de**	**88.74**	**134**	IAMs_20	IAMs_20	06 52 30.5		
	comp=Z,981nm,19.0s							
C23K	**Itkillik River**	**88.76**	**9**	IAMs_20	IAMs_20	06 59 58.3		
	comp=Z,1µm,19.0s							
C23K	**Itkillik River**	**88.76**	**9**	P	**P**	**06 23 39.4**	**+0.2**	
	baz=205							
F28M	**Old Crow**	**88.79**	**13**	IAMs_20	IAMs_20	06 58 20.4		
	comp=Z,834nm,20.0s							
F28M	**Old Crow**	**88.79**	**13**	P	**P**	**06 23 39.6**	**+0.2**	
	baz=215							
B22K	**Teshekpuk Lake**	**88.84**	**8**	IAMs_20	IAMs_20	07 00 52.3		
	comp=Z,1µm,19.0s							
B22K	**Teshekpuk Lake**	**88.84**	**8**	P	**P**	**06 23 39.7**	**+0.1**	
	baz=202							
BTO	**Baotou**	**88.89**	**313**	*e*P	**P**	**06 23 43.5**	**+2.9**	
BTO				pP	**pwP**	**06 23 48.4**	**+2.2**	
BTO				sP	**sP**	**06 23 50.5**	**+6.3**	
BTO				S	**S**	**06 34 29.0**	**+0.4**	
BTO				sS	**ScS**	**06 34 38.1**	**+4.2**	
BTO				SS	**SS**	**06 40 19.9**	**-1.6**	
BTO				pmax	pmax			
	comp=Z,14nm,1.4s							
BTO				pmax	pmax			
	comp=Z,410nm,5.0s							
BTO				LR	LR			
	comp=Z,960nm,15.8s							
BTO				LR	LR			
	comp=Z,1µm,19.3s							
BTO				LR	LR			
	comp=Z,1µm,20.8s							
E27K	**Coleen River**	**88.90**	**12**	IAMs_20	IAMs_20	06 56 01.2		
	comp=Z,1µm,22.0s							
E27K	**Coleen River**	**88.90**	**12**	P	**P**	**06 23 40.4**	**+0.5**	
	baz=214							
KSCO	**Kaye Shedlock'**	**88.90**	**49**	IAMs_20	IAMs_20	06 55 15.6		
	comp=Z,904nm,21.0s							
KMI	**Kunming**	**88.92**	**297**	P	**P**	**06 23 44.3**	**+3.0**	
KMI				SS	SS	06 40 17.6	-5.2	
KMI				pmax	pmax			
	comp=Z,13nm,0.7s							
KMI				LR	LR			
	comp=Z,400nm,17.9s							
KMI				LR	LR			
	comp=Z,460nm,22.8s							
KMI				LR	LR			
	comp=Z,1µm,24.4s							
C24K	**Franklin Bluff**	**88.94**	**9**	IAMs_20	IAMs_20	06 58 14.2		
	comp=Z,928nm,20.0s							
C24K	**Franklin Bluff**	**88.94**	**9**	P	**P**	**06 23 40.5**	**+0.5**	
	baz=207							
D25K	**Kavik River**	**88.97**	**10**	IAMs_20	IAMs_20	06 56 24.0		
	comp=Z,920nm,22.0s							
D25K	**Kavik River**	**88.97**	**10**	P	**P**	**06 23 40.4**	**0.0**	
	baz=209							
G30M	**tAoh Zraii Nji**	**89.13**	**15**	IAMs_20	IAMs_20	06 56 39.5		
	comp=Z,1µm,20.0s							
G30M	**tAoh Zraii Nji**	**89.13**	**15**	P	**P**	**06 23 41.1**	**0.0**	
	baz=218							
A22K	**Sinclair Lake**	**89.27**	**7**	P	**P**	**06 23 41.9**	**+0.4**	
	baz=201							
A21K	**Barrow**	**89.39**	**6**	P	**P**	**06 23 42.5**	**+0.4**	
	baz=199							
YAK	**Yakutsk**	**89.52**	**338**	LR	LR	06 58 59.5		
	comp=Z,238nm,21.4s,baz=120,slow=32							
G31M	**Satah River**	**89.57**	**15**	IAMs_20	IAMs_20	06 56 00.2		
	comp=Z,1µm,22.0s							
G31M	**Satah River**	**89.57**	**15**	P	**P**	**06 23 43.4**	**+0.3**	
	baz=220							
E28M	**Babbage River**	**89.68**	**13**	P	**P**	**06 23 43.9**	**+0.3**	
	baz=215							
C27K	**Jago River**	**89.71**	**11**	IAMs_20	IAMs_20	06 55 58.5		
	comp=Z,2µm,22.0s							
C27K	**Jago River**	**89.71**	**11**	P	**P**	**06 23 44.1**	**+0.4**	
	baz=212							
F30M	**Barrier River**	**89.73**	**15**	IAMs_20	IAMs_20	06 57 19.3		
	comp=Z,1µm,21.0s							
F30M	**Barrier River**	**89.73**	**15**	P	**P**	**06 23 44.3**	**+0.5**	
	baz=219							
C26K	**Camden Bay**	**89.75**	**11**	P	**P**	**06 23 44.3**	**+0.4**	
	baz=210							
E29M	**Blow River**	**89.86**	**13**	IAMs_20	IAMs_20	07 00 20.6		
	comp=Z,942nm,19.0s							
E29M	**Blow River**	**89.86**	**13**	P	**P**	**06 23 44.7**	**+0.3**	
	baz=217							
D27M	**Malcolm River**	**89.91**	**12**	P	**P**	**06 23 45.2**	**+0.4**	
	baz=214							
RSSD	**Black Hills**	**89.98**	**43**	IAMs_20	IAMs_20	06 59 53.4		
	comp=Z,754nm,18.0s							
F31M	**Tsiigehtchic**	**90.10**	**15**	IAMs_20	IAMs_20	06 56 37.2		
	comp=Z,1µm,20.0s							
F31M	**Tsiigehtchic**	**90.10**	**15**	P	**P**	**06 23 46.1**	**+0.6**	
	baz=221							
CMAR	**Chiang Mai Arr**	**90.13**	**289**	P	**P**	**06 23 46.1**	**-0.7**	
	comp=Z,2.8nm,0.3s,baz=88,slow=2.5,SNR=6.4							
CMAR				LR	LR	07 00 23.6		
	comp=Z,257nm,21.8s,baz=130,slow=33							
	comp=Z,2.8nm,0.3s							
CMAR	**Chiang Mai Arr**	**90.13**	**289**	*e*P	**P**	**06 23 48.0**	**+1.1**	
CMAR				pmax	pmax			
	comp=Z,3.0nm,0.3s							
SYO	**Syowa Base**	**90.17**	**192**	⇓*e*P	**P**	**06 23 47.0**	**+0.9**	
WRGLY	**Wrigley**	**90.21**	**21**	P	**P**	**06 23 46.7**	**+0.6**	
	baz=230							
PZH	**PanZhiHua**	**90.22**	**298**	P	**P**	**06 23 47.8**	**+0.5**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,110nm,5.3s							
INK	**Inuvik**	**90.81**	**15**	IAMs_20	IAMs_20	06 56 37.0		
	comp=Z,1µm,22.0s							
INK	**Inuvik**	**90.81**	**15**	LR	LR	06 57 21.1		
	comp=Z,787nm,21.3s,baz=217,slow=31							
INK	**Inuvik**	**90.81**	**15**	P	**P**	**06 23 49.1**	**+0.3**	
	baz=221							
HKT	**Hockley**	**90.88**	**59**	*i* P	**P**	**06 23 52.6**	**+2.6**	
HKT				pmax	pmax			
	comp=Z,33nm,2.1s							
TROLL	**Troll, Antarti**	**91.00**	**180**	⇑P	**P**	**06 23 50.5**	**+0.4**	
	comp=Z,154nm,0.8s							
SNAA	**Sanae**	**91.24**	**178**	⇑P	**P**	**06 23 50.5**	**-0.6**	
	comp=Z,57nm,0.9s							
SNAA	**Sanae**	**91.24**	**178**	P	**P**	**06 23 49.8**	**-1.3**	
	comp=Z,2.7nm,1.0s,baz=169,slow=3.0,SNR=6.6							
SNAA				LR	LR	07 02 52.8		
	comp=Z,471nm,19.2s,baz=170,slow=34							
	comp=Z,2.7nm,1.0s							
SNAA	**Sanae**	**91.24**	**178**	*i* P	**P**	**06 23 51.0**	**-0.1**	
SNAA				pmax	pmax			
	comp=Z,9.0nm,1.4s							
VNA3	**Neumayer Olymp**	**91.32**	**176**	⇑P	**P**	**06 23 49.3**	**-2.1**	
	comp=Z,6.5nm,0.8s							
CROK	**Carrier**	**91.40**	**52**	IAMs_20	IAMs_20	06 57 00.1		
	comp=Z,1µm,22.0s							
R32A	**Long Quarter,**	**91.53**	**50**	IAMs_20	IAMs_20	06 55 44.2		
	comp=Z,984nm,22.0s							
LZH	**Lanzhou**	**91.72**	**307**	*e*P	**P**	**06 23 53.6**	**-0.4**	
LZH				sP	pwP	06 24 00.1	+0.5	
LZH				sS	sS	06 35 06.0	+6.5	
LZH				SS	**SS**	**06 41 00.3**	**-2.5**	
LZH				pmax	pmax			
	comp=Z,14nm,1.3s							
LZH				LR	LR			
	comp=Z,410nm,18.9s							
LZH				LR	LR			
	comp=Z,420nm,19.9s							
LZH				LR	LR			
	comp=Z,670nm,19.6s							
VNA1	**Neumayer--Stat**	**92.00**	**176**	⇑P	**P**	**06 23 53.0**	**-1.6**	
	comp=Z,11nm,1.0s							
PETF	**Flores**	**92.04

JTS	**Las Juntas de**	**94.70**	**81**	LR	LR	06 56 25.1			
	comp=Z,588nm,21.3s,baz=250,slow=29								
S39A	**Bolivar**	**95.31**	**52**	IAMs_20	IAMs_20	07 01 17.1			
	comp=Z,879nm,19.0s								
545A	**Edgard**	**95.32**	**60**	IAMs_20	IAMs_20	06 59 46.0			
	comp=Z,1µm,21.0s								
WHAR	**Wooly Hollow**	**95.39**	**55**	IAMs_20	IAMs_20	07 02 16.1			
	comp=Z,818nm,19.0s								
FFC	**Flin Flon**	**95.40**	**34**	IAMs_20	IAMs_20	06 58 27.4			
	comp=Z,999nm,21.0s								
A36M	**Sachs Harbour**	**95.42**	**14**	P	**P**	**06 24 10.2**	**+0.2**		
	baz=229								
P38A	**Dawn**	**95.73**	**50**	IAMs_20	IAMs_20	07 01 22.5			
	comp=Z,850nm,19.0s								
NNA	**Nana**	**95.77**	**104**	LR	LR	06 57 45.8			
	comp=Z,392nm,21.2s,baz=234,slow=29								
GTA	**Gaotai**	**95.81**	**309**	*eP*	**P**	**06 24 14.6**	**+1.9**		
GTA				sS	sS	06 35 36.3	+1.0		
GTA				pmax	pmax				
	comp=Z,3.0nm,0.7s								
GTA				LR	LR				
	comp=Z,300nm,19.3s								
GTA				LR	LR				
	comp=Z,280nm,18.5s								
GTA				LR	LR				
	comp=Z,480nm,20.0s								
ATAH	**Atahualpa**	**95.84**	**99**	LR	LR	06 56 59.8			
	comp=Z,2µm,21.8s,baz=237,slow=29								
TIXI	**Tiksi**	**95.89**	**345**	IAMs_20	IAMs_20	07 01 20.6			
	comp=Z,1µm,21.0s								
TIXI	**Tiksi**	**95.89**	**345**	LR	LR	07 03 46.6			
	comp=Z,932nm,20.4s,baz=138,slow=33								
MGMO	**Mountain Grove**	**95.95**	**53**	IAMs_20	IAMs_20	06 58 55.7			
	comp=Z,1µm,21.0s								
CFA	**Coronel Fontan**	**96.07**	**126**	LR	LR	07 00 49.6			
	comp=Z,103nm,18.3s,baz=180,slow=31								
R40A	**Maddies Statio**	**96.28**	**52**	P	**P**	**06 24 14.1**	**-0.7**		
R40A				IAMs_20	IAMs_20	07 03 45.3			
	comp=Z,969nm,18.0s								
SCIA	**State Center**	**96.64**	**48**	IAMs_20	IAMs_20	07 00 00.2			
	comp=Z,1µm,22.0s								
AGMN	**Agassiz Nation**	**96.78**	**42**	IAMs_20	IAMs_20	07 06 06.0			
	comp=Z,779nm,19.0s								
P40A	**Paris**	**96.80**	**51**		**P**	**06 24 14.6**	**-2.4**		
P40A				IAMs_20	IAMs_20	06 59 33.9			
	comp=Z,857nm,21.0s								
CCM	**Cathedral Cave**	**96.98**	**52**	IAMs_20	IAMs_20	06 59 49.0			
	comp=Z,1µm,22.0s								
I37A	**Lemond, Waseca**	**97.12**	**46**	P	**P**	**06 24 18.1**	**-0.4**		
OXF	**Oxford**	**97.44**	**56**	IAMs_20	IAMs_20	07 00 50.6			
	comp=Z,802nm,22.0s								
FVM	**French Village**	**97.59**	**53**	IAMs_20	IAMs_20	07 02 20.9			
	comp=Z,812nm,20.0s								
SPMN	**Marine on St.**	**97.88**	**45**		**P**	**06 24 20.8**	**-0.9**		
SPMN				IAMs_20	IAMs_20	07 00 52.5			
	comp=Z,1µm,21.0s								
BRDH	**Bariadhala**	**97.89**	**291**	LR	LR	07 06 35.8			
	comp=Z,309nm,20.2s,baz=155,slow=34								
SLM	**Saint Louis**	**97.91**	**52**	IAMs_20	IAMs_20	07 01 04.4			
	comp=Z,780nm,21.0s								
CGM3	**Cape Girardeau**	**97.99**	**54**	IAMs_20	IAMs_20	07 00 10.8			
	comp=Z,782nm,22.0s								
N41A	**Harden Midland**	**98.00**	**50**	IAMs_20	IAMs_20	07 03 12.6			
	comp=Z,920nm,20.0s								
L40A	**Anamosa**	**98.11**	**49**		**P**	**06 24 22.5**	**-0.4**		
L40A				IAMs_20	IAMs_20	07 01 16.1			
	comp=Z,904nm,20.0s								
S44A	**Carbondale**	**98.40**	**53**	IAMs_20	IAMs_20	07 00 22.7			
	comp=Z,788nm,21.0s								
SIUC	**Southern Illin**	**98.44**	**53**	IAMs_20	IAMs_20	07 00 22.6			
	comp=Z,842nm,22.0s								
T45A	**Paducah**	**98.70**	**54**	IAMs_20	IAMs_20	07 00 51.6			
	comp=Z,773nm,21.0s								
P43A	**Skaggs, Pawnee**	**98.71**	**51**	IAMs_20	IAMs_20	07 03 42.5			
	comp=Z,948nm,19.0s								
Q44A	**Meyer Farm, Va**	**98.90**	**52**	IAMs_20	IAMs_20	07 01 21.6			
	comp=Z,1µm,22.0s								
I40A	**Norwalk**	**99.02**	**47**	IAMs_20	IAMs_20	07 03 41.0			
	comp=Z,697nm,19.0s								
JFWS	**Jewell Farm**	**99.03**	**48**	IAMs_20	IAMs_20	07 02 36.4			
	comp=Z,999nm,20.0s								
HDIL	**Hopedale**	**99.11**	**50**	IAMs_20	IAMs_20	07 03 27.0			
	comp=Z,708nm,20.0s								
X48A	**Hartselle**	**99.31**	**57**	IAMs_20	IAMs_20	07 01 47.2			
	comp=Z,825nm,22.0s								
EYMN	**Ely**	**99.48**	**43**	IAMs_20	IAMs_20	07 03 33.7			
	comp=Z,703nm,20.0s								
OLIL	**Olney**	**99.55**	**52**	IAMs_20	IAMs_20	07 04 34.9			
	comp=Z,811nm,19.0s								
USIN	**University of**	**99.69**	**53**	IAMs_20	IAMs_20	07 02 17.7			
	comp=Z,758nm,21.0s								
PB08	**IPOC Station P**	**99.85**	**115**	IAMs_20	IAMs_20	06 58 38.4			
	comp=Z,906nm,21.0s								
I42A	**Draeger Farm,**	**100.21**	**47**	IAMs_20	IAMs_20	07 04 28.6			
	comp=Z,693nm,20.0s								
K43A	**Burlington**	**100.34**	**49**	IAMs_20	IAMs_20	07 02 32.2			
	comp=Z,909nm,22.0s								
P46A	**Rosedale**	**100.43**	**52**	IAMs_20	IAMs_20	07 02 07.2			
	comp=Z,1µm,21.0s								
COWI	**Conover**	**100.58**	**45**	IAMs_20	IAMs_20	07 04 38.2			
	comp=Z,1µm,19.0s								
SFIN	**Lafayette**	**100.69**	**51**	IAMs_20	IAMs_20	07 04 46.0			
	comp=Z,905nm,19.0s								
WCI	**Wyandotte Cave**	**100.80**	**53**	IAMs_20	IAMs_20	07 02 08.2			
	comp=Z,845nm,22.0s								
BLO	**Bloomington**	**100.84**	**52**	IAMs_20	IAMs_20	07 01 57.2			
	comp=Z,948nm,21.0s								
CAMR	**Camarioca**	**101.38**	**69**	IAMs_20	IAMs_20	07 01 38.7			
	comp=Z,3µm,22.0s								
BLKN	**Baker Lake**	**101.41**	**26**	IAMs_20	IAMs_20	07 04 31.4			
	comp=Z,1µm,20.0s								
P48A	**Milroy**	**101.74**	**52**	IAMs_20	IAMs_20	07 05 53.8			
	comp=Z,941nm,19.0s								
N47A	**Urbana**	**101.85**	**51**	IAMs_20	IAMs_20	07 05 40.5			
	comp=Z,864nm,19.0s								
O48B	**Farmland**	**102.11**	**51**	IAMs_20	IAMs_20	07 05 40.6			
	comp=Z,908nm,19.0s								
I45A	**Fountain**	**102.13**	**48**	IAMs_20	IAMs_20	07 05 36.4			
	comp=Z,781nm,20.0s								
R50A	**Paris**	**102.32**	**54**	IAMs_20	IAMs_20	07 03 49.6			
	comp=Z,768nm,22.0s								
S51A	**Beattyville**	**102.76**	**54**	IAMs_20	IAMs_20	07 03 29.2			
	comp=Z,768nm,22.0s								
J47A	**Sunmer**	**102.97**	**49**	IAMs_20	IAMs_20	07 03 30.9			
	comp=Z,869nm,22.0s								
N49A	**Columbus Grove**	**102.97**	**51**	IAMs_20	IAMs_20	07 05 19.4			
	comp=Z,881nm,20.0s								
Q51A	**Peebles**	**103.23**	**53**	IAMs_20	IAMs_20	07 03 22.4			
	comp=Z,847nm,22.0s								
GLMI	**Grayling**	**103.42**	**47**	IAMs_20	IAMs_20	07 04 24.6			
	comp=Z,829nm,22.0s								
P51A	**Williamsport**	**103.53**	**53**	IAMs_20	IAMs_20	07 04 27.5			
	comp=Z,973nm,22.0s								
AAM	**Ann Arbor**	**103.63**	**50**	IAMs_20	IAMs_20	07 03 25.5			
	comp=Z,757nm,22.0s								
ACSO	**Alum Creek Sta**	**103.74**	**52**	IAMs_20	IAMs_20	07 05 13.7			
	comp=Z,855nm,20.0s								
M50A	**Fremont**	**103.91**	**51**	IAMs_20	IAMs_20	07 06 53.2			
	comp=Z,734nm,20.0s								
E46A	**Sault Ste Mari**	**103.92**	**45**	IAMs_20	IAMs_20	07 04 17.6			
	comp=Z,974nm,21.0s								
Q52A	**Bidwell**	**104.04**	**53**	IAMs_20	IAMs_20	07 03 47.0			
	comp=Z,703nm,22.0s								
P52A	**Corning**	**104.27**	**53**	IAMs_20	IAMs_20	07 04 48.9			
	comp=Z,1µm,21.0s								
N51A	**Ashland**	**104.32**	**51**	IAMs_20	IAMs_20	07 06 20.0			
	comp=Z,968nm,20.0s								
RES	**Resolute Bay**	**104.33**	**16**	IAMs_20	IAMs_20	07 10 36.4			
	comp=Z,849nm,19.0s								
I49A	**Point Hope**	**104.53**	**48**	IAMs_20	IAMs_20	07 07 18.0			
	comp=Z,677nm,19.0s								
O52A	**Adamsville**	**104.58**	**52**	IAMs_20	IAMs_20	07 04 03.2			
	comp=Z,931nm,22.0s								
P53A	**Whipple**	**104.81**	**53**	IAMs_20	IAMs_20	07 05 16.2			
	comp=Z,854nm,21.0s								
O53A	**New Philadelph**	**105.07**	**52**	IAMs_20	IAMs_20	07 06 05.1			
	comp=Z,752nm,20.0s								
Q54A	**Coxs Mills**	**105.14**	**53**	IAMs_20	IAMs_20	07 04 32.2			
	comp=Z,830nm,22.0s								
CHIV	**Chivirico**	**105.15**	**73**	IAMs_20	IAMs_20	07 05 17.2			
	comp=Z,540nm,22.0s								
BLA	**Blacksburg**	**105.15**	**55**	IAMs_20	IAMs_20	07 09 40.8			
	comp=Z,646nm,19.0s								
M52A	**Chesterland**	**105.18**	**51**	IAMs_20	IAMs_20	07 07 52.8			
	comp=Z,971nm,19.0s								
N53A	**Lisbon**	**105.45**	**52**	IAMs_20	IAMs_20	07 07 32.0			
	comp=Z,795nm,19.0s								
R55A	**Marlinton**	**105.57**	**54**	IAMs_20	IAMs_20	07 06 00.7			
	comp=Z,708nm,22.0s								
WMQ	**Urumqi**	**105.65**	**312**	Pdif	**Pdif**	**06 24 56.8**	**+0.3**		
WMQ				LR	LR				
	comp=Z,400nm,17.5s								
WMQ				LR	LR				
	comp=Z,420nm,20.1s								
WMQ				LR	LR				
	comp=Z,370nm,20.9s								
O54A	**Avella**	**105.69**	**52**	IAMs_20	IAMs_20	07 06 25.5			
	comp=Z,894nm,20.0s								
MCWV	**Mont Chateau**	**106.01**	**53**	IAMs_20	IAMs_20	07 05 00.1			
	comp=Z,1µm,22.0s								
Q56A	**Snyder Ridge,**	**106.42**	**54**	IAMs_20	IAMs_20	07 06 07.9			
	comp=Z,843nm,22.0s								
BUKO	**Buck Lake**	**107.17**	**47**	IAMs_20	IAMs_20	07 06 36.7			
	comp=Z,1µm,22.0s								
WVNY	**West Valley, N**	**107.34**	**50**	IAMs_20	IAMs_20	07 11 53.9			
	comp=Z,599nm,19.0s								
P57A	**Homestead Farm**	**107.39**	**53**	IAMs_20	IAMs_20	07 06 38.5			
	comp=Z,846nm,21.0s								
MEDO	**Medina**	**107.55**	**49**	IAMs_20	IAMs_20	07 06 33.2			
	comp=Z,938nm,22.0s								
SSPA	**Standing Stone**	**107.64**	**52**	IAMs_20	IAMs_20	07 06 55.0			
	comp=Z,825nm,21.0s								
J55A	**Hilton**	**108.03**	**49**	IAMs_20	IAMs_20	07 06 47.8			
	comp=Z,962nm,22.0s								
L56A	**Greenwood**	**108.08**	**51**	IAMs_20	IAMs_20	07 08 55.4			
	comp=Z,748nm,20.0s								
M57A	**Sunshine Farm,**	**108.30**	**51**	IAMs_20	IAMs_20	07 09 30.4			
	comp=Z,925nm,19.0s								
N58A	**Sunbury**	**108.55**	**52**	IAMs_20	IAMs_20	07 08 03.1			
	comp=Z,773nm,20.0s								
MVL	**Millersville**	**108.72**	**53**	IAMs_20	IAMs_20	07 07 29.9			
	comp=Z,963nm,22.0s								
VLDQ	**Val d'Or**	**108.78**	**44**	IAMs_20	IAMs_20	07 11 42.7			
	comp=Z,940nm,19.0s								
K57A	**Scipio Center**	**108.91**	**50**	IAMs_20	IAMs_20	07 10 53.4			
	comp=Z,641nm,19.0s								
WUPA	**West Chester U**	**109.28**	**53**	IAMs_20	IAMs_20	07 07 45.7			
	comp=Z,645nm,22.0s								
KSPA	**Keystone Colle**	**109.34**	**51**	IAMs_20	IAMs_20	07 09 05.9			
	comp=Z,880nm,20.0s								
J57A	**Williamstown**	**109.36**	**49**	IAMs_20	IAMs_20	07 07 50.2			
	comp=Z,958nm,20.0s								
P61A	**Hammonton**	**109.88**	**53**	IAMs_20	IAMs_20	07 07 51.5			
	comp=Z,998nm,22.0s								
WBO	**Williamsburg**	**110.02**	**48**	IAMs_20	IAMs_20	07 08 23.3			
	comp=Z,643nm,22.0s								
J59A	**Piesco**	**110.45**	**49**	IAMs_20	IAMs_20	07 08 44.0			
	comp=Z,859nm,21.0s								
LONY	**Lake Ozonia**	**110.48**	**48**	IAMs_20	IAMs_20	07 10 01.6			
	comp=Z,698nm,20.0s								
PAL	**Palisades**	**110.68**	**52**	IAMs_20	IAMs_20	07 11 12.6			
	comp=Z,692nm,19.0s								
TULEG	**Thule**	**110.79**	**14**	IAMs_20	IAMs_20	07 08 11.7			
	comp=Z,877nm,21.0s								
TRY	**Troy**	**111.00**	**50**	IAMs_20	IAMs_20	07 12 50.8			
	comp=Z,633nm,18.0s								
N62A	**Caumsett State**	**111.01**	**52**	IAMs_20	IAMs_20	07 07 53.2			
	comp=Z,977nm,22.0s								
FRNY	**Flat Rock**	**111.20**	**48**	IAMs_20	IAMs_20	07 10 51.7			
	comp=Z,800nm,19.0s								
MNTQ	**Montreal, Queb**	**111.22**	**47**	IAMs_20	IAMs_20	07 15 06.9			
	comp=Z,845nm,18.0s								
VT1	**Waterbury**	**111.77**	**49**	IAMs_20	IAMs_20	07 10 52.8			
	comp=Z,659nm,19.0s								
UCCT	**U. Connecticut**	**112.00**	**51**	IAMs_20	IAMs_20	07 12 29.4			
	comp=Z,806nm,19.0s								
K62A	**Royalston**	**112.05**	**50**	IAMs_20	IAMs_20	07 12 56.5			
	comp=Z,782nm,18.0s								
HNH	**Hanover**	**112.07**	**49**	IAMs_20	IAMs_20	07 09 51.9			
	comp=Z,828nm,21.0s								
M63A	**Gas Ferry**	**112.11**	**52**	IAMs_20	IAMs_20	07 12 05.4			
	comp=Z,773nm,19.0s								
LBNH	**Lisbon**	**112.36**	**49**	IAMs_20	IAMs_20	07 11 40.4			
	comp=Z,855nm,20.0s								
HRV	**Adam Dziewonsk**	**112.54**	**51**	IAMs_20	IAMs_20	07 13 19.5			
	comp=Z,849nm,19.0s								
I62A	**Tamworth**	**112.77**	**49**	IAMs_20	IAMs_20	07 11 03.3			
	comp=Z,886nm,21.0s								
H62A	**Milan**	**112.92**	**48**	IAMs_20	IAMs_20	07 14 03.2			
	comp=Z,632nm,20.0s								
LDAQ	**Lac Daran**	**112.93**	**45**	IAMs_20	IAMs_20	07 15 07.9			
	comp=Z,747nm,19.0s								
M65A	**Busby, Falmout**	**113.17**	**52**	IAMs_20	IAMs_20	07 11 33.4			
	comp=Z,726nm,19.0s								
I63A	**Otisfield**	**113.32**	**49**	IAMs_20	IAMs_20	07 11 59.8			
	comp=Z,846nm,20.0s								
WVL	**Waterville**	**113.99**	**48**	IAMs_20	IAMs_20	07 14 44.5			
	comp=Z,753nm,19.0s								
PKME	**Peaks-Kenny Pk**	**114.26**	**48**	IAMs_20	IAMs_20	07 18 14.5			
	comp=Z,747nm,18.0s								
G65A	**Princeton**	**115.48**	**48**	IAMs_20	IAMs_20	07 13 52.8			
	comp=Z,634nm,20.0s								
ICQ	**Pointe Anglais**	**115.53**	**43**	IAMs_20	IAMs_20	07 17 14.2			
	comp=Z,508nm,19.0s								
EMMW	**East Machias**	**115.56**	**48**	IAMs_20	IAMs_20	07 19 15.1			
	comp=Z,700nm,18.0s								
GGN	**Saint George**	**115.99**	**48**	IAMs_20	IAMs_20	07 12 58.4			
	comp=Z,700nm,20.0s								
SABA	**Saba**	**116.89**	**79**	IAMs_20	IAMs_20	07 13 03.8			
	comp=Z,549nm,18.0s								
BVAR	**Borovoye Array**	**117.29**	**321**	PKP	**PKPdf**	**06 29 30.7**	**-0.7**		
	comp=Z,1.4nm,0.8s,baz=101,slow=1.5,SNR=5.4								
GAR	**Garm**	**118.32**	**305**	IAMs_20	IAMs_20	07 26 43.8			
	comp=Z,608nm,20.0s								
HAL	**Halifax**	**118.32**	**48**	IAMs_20	IAMs_20	07 14 41.1			
	comp=Z,676nm,21.0s								
SUMG	**Summit**	**119.70**	**13**	IAMs_20	IAMs_20	07 18 25.1			
	comp=Z,803nm,20.0s								
ARTI	**Arti**	**123.24**	**327**	*i* PKIKP	**PKiKP**	**06 29 48.9**	**+6.0**		
KEV	**Kevo**	**125.46**	**350**	IAMs_20	IAMs_20	07 20 17.2			
	comp=Z,624nm,22.0s								
LVZ	**Lovozero**	**125.52**	**346**	IAMs_20	IAMs_20	07 22 01.6			
	comp=Z,685nm,22.0s								
ARCES	**ARCESS Array B**	**125.90**	**351**	PKP	**PKPdf**	**06 29 47.0**	**-0.4**		
	comp=Z,2.7nm,0.8s,baz=40,slow=2.2,SNR=6.6								
ARCES	**ARCESS Array B**	**125.90**	**351**	*e*PKIKP	**PKPdf**	**06 29 47.4**	**-0.1**		
ARCES				pmax	pmax				
	comp=Z,3.0nm,0.8s								
KLMR	**Klimovskoe**	**129.32**	**338**	*e*PKIKP	**PKPdf**	**06 29 54.2**	**+0.1**		
KLMR				pmax	pmax				
	comp=Z,19nm,1.2s								
BOSA	**Boshof**	**129.71**	**205**	PKP	**PKPdf**	**06 29 55.5**	**-0.6**		
	comp=Z,2.0nm,0.8s,baz=153,slow=9.0,SNR=1.9								
FINES	**FINESS Array B**	**132.94**	**345**	PKP	**PKPdf**	**06 30 00.7**	**-0.2**		
	comp=Z,1.5nm,0.8s,baz=17,slow=1.9,SNR=4.3								
FINES	**FINESS Array B**	**132.94**	**345**	*e*PKIKP	**PKPdf**	**06 30 00.9**	**-0.1**		
FINES				pmax	pmax				
	comp=Z,2.0nm,0.8s								
OBN	**Obninsk**	**134.39**	**334**	*e*PKIKP	**PKiKP**	**06 30 04.7**	**-0.6**		
OBN				*e*		06 32 36.8			
OBN				*e*PPP	PPP	06 35 31.0			
OBN				pmax	pmax				
	comp=Z,7.0nm,0.9s								
MAK	**Makhachkala**	**134.60**	**314**	*d i* P	**Pdif**	**06 27 02.6**	**-2.6**		
MAK				pmax	pmax				
	comp=Z,105nm,0.8s								
AKT	**Akhty**	**134.94**	**312**	*i* PKIKP	**PKPdf**	**06 30 05.3**	**-0.3**		
AKT				MLR	MLR				
	comp=Z,421nm,25.0s								
NOA	**NORSAR Array B**	**135.86**	**354**	PKP	**PKPdf**	**06 30 06.1**	**-0.5**		
	comp=Z,0.4nm,0.9s,baz=14,slow=4.0,SNR=3.3								
NOA	**NORSAR Array B**	**135.86**	**354**	*e*PKIKP	**PKiKP**	**06 30 09.9**	**+1.7**		
KIV	**Kislovodsk**	**137.43**	**317**	*i* PKIKP	**PKPdf**	**06 30 10.7**	**+0.6**		
KIV				pmax	pmax				
	comp=Z,4.0nm,1.0s								
SUW	**Suwalki**	**140.15**	**342**	IAMs_20	IAMs_20	07 29 18.5			
	comp=Z,492nm,22.0s								
KOPT	**Kop Dagi**	**140.58**	**313**	IAMs_20	IAMs_20	07 41 42.2			
	comp=Z,422nm,20.0s								
AKASG	**Malin Array Be**	**140.65**	**334**	PKP	**PKPdf**	**06 30 15.1**	**-0.5**		
	comp=Z,0.2nm,0.3s,baz=35,slow=1.8,SNR=5.6								
KIEV	**Kiev**	**140.66**	**334**	IAMs_20	IAMs_20	07 31 03.5			
	comp=Z,684nm,22.0s								
ATD	**Arta Tunnel**	**141.27**	**267**	IAMs_20	IAMs_20	07 33 27.8			
	comp=Z,440nm,19.0s								
LUBAR	**Lubar, Ukraine**	**141.86**	**334**	PKP	**PKPdf**	**06 30 16.8**	**-1.0**		
RGN	**Rugen**	**141.93**	**350**	IAMs_20	IAMs_20	07 30 42.5			
	comp=Z,450nm,22.0s								
OJC	**Ojcow**	**144.48**	**342**	*e*PKPdf	**PKPdf**	**06 30 21.5**	**-0.9**		
ILGA	**Ilgaz**	**144.62**	**318**	IAMs_20	IAMs_20	07 40 55.3			
	comp=Z,376nm,20.0s								
BUR08	**Bucovina Ar. S**	**144.69**	**334**		PKPbc	06 30 21.6	-0.2		
BURAR	**Bucovina Array**	**144.71**	**334**	PKPdf	**PKPdf**	**06 30 22.6**	**-0.5**		
BURAR	**Bucovina Array**	**144.71**	**334**	⇑P	**PKiKP**	**06 30 28.3**	**+1.5**		
BURAR	**Bucovina Array**	**144.71**	**334**	⇑PKIKP	**PKiKP**	**06 30 28.3**	**+1.5**		
STHS	**Stebnicka Huta**	**144.72**	**340**	*e*PKIKP	**PKPdf**	**06 30 22.5**	**-0.4**		
STHS	**Stebnicka Huta**	**144.72**	**340**	*e*PKP	**PKPdf**	**06 30 22.5**	**-0.4**		
NIE	**Niedzica**	**145.03**	**340**	PKP	**PKPab**	**06 30 22.1**	**-0.7**		
CLL	**Collm**	**145.10**	**349**	IAMs_20	IAMs_20	07 32 47.4			
	comp=Z,546nm,21.0s								
CLL	**Collm**	**145.10**	**349**	*i* PKIKP	**PKPdf**	**06 30 23.1**	**-0.4**		
CLL				*i*		06 30 27.0			
CLL				pmax	pmax				
	comp=Z,15nm,1.6s								
CLL	**Collm**	**145.10**	**349**	PKP	**PKPbc**	**06 30 21.5**	**-1.4**		
OSTC	**Ostas**	**145.14**	**345**	AMS	AMS	07 26 40.0			
	comp=Z,700nm,24.9s								
CHVC	**Chvalec**	**145.15**	**346**	AMS	AMS	07 26 30.0			
	comp=Z,800nm,23.8s								
ONER	**Baraj Valea Uz**	**145.18**	**331**	⇑P	**PKPdf**	**06 30 23.9**	**+0.1**		
CFR	**Carcaliu**	**145.19**	**329**	⇓P	**PKPdf**	**06 30 24.9**	**+1.1**		
CFR	**Carcaliu**	**145.19**	**329**	⇓PKIKP	**PKPdf**	**06 30 24.9**	**+1.1**		
UPC	**Upice**	**145.24**	**346**	*e*PKP	**PKPdf**	**06 30 24.4**	**+0.6**		
UPC				AMS	AMS	07 26 40.0			
	comp=Z,800nm,21.3s								
UPC	**Upice**	**145.24**	**346**	*e*PKIKP	**PKPdf**	**06 30 24.4**	**+0.6**		
UPC				MLR	MLR				
	comp=Z,800nm,21.3s								
TPGR	**Topolog**	**145.28**	**328**	⇑P	**PKPdf**	**06 30 25.2**	**+1.2**		
OKC	**Ostrava-Krasne**	**145.30**	**343**	AMS	AMS	07 32 10.0			
	comp=Z,500nm,20.4s								
DPC	**Dobruska-Polom**	**145.31**	**345**	*e*PKP	**PKPdf**	**06 30 24.0**	**+0.1**		
DPC				AMS	AMS	07 26 40.0			
	comp=Z,600nm,22.8s								
DPC	**Dobruska-Polom**	**145.31**	**345**	*e*PKIKP	**PKPdf**	**06 30 24.0**	**+0.1**		
DPC				MLR	MLR				
	comp=Z,600nm,22.8s								
STEB	**Steborice**	**145.32**	**343**	*e*PKP	**PKPdf**	**06 30 23.8**	**-0.1**		
BRG	**Berggiesshubel**	**145.34**	**348**	*e*PKP	**PKPdf**	**06 30 25.0**	**+1.1**		
BRG				Amp		06 30 29.6			
	comp=Z,9.0nm,1.2s								
BRG	**Berggiesshubel**	**145.34**	**348**	P	PKiKP	06 30 35.5	+7.6		
BRG				Amp		06 30 40.9			
	comp=Z,18nm,1.3s								
BMR	**Baia Mare**	**145.36**	**336**	⇑P	**PKiKP**	**06 30 29.9**	**+1.9**		
BMR	**Baia Mare**	**145.36**	**336**	⇑PKIKP	**PKiKP**	**06 30 29.9**	**+1.9**		
VRI	**Vrincioaia**	**145.38**	**331**	⇑P	**PKPbc**	**06 30 23.6**	**-0.4**		
VRI	**Vrincioaia**	**145.38**	**331**	⇑PKIKP	**PKPbc**	**06 30 23.6**	**-0.4**		
BR131	**Keskin Array S**	**145.38**	**317**		**PKPdf**	**06 30 24.6**	**+0.1**		
BR131	**Keskin Array S**	**145.38**	**317**	PKIKP	**PKPdf**	**06 30 24.6**	**+0.1**		
BRTR	**Keskin Array B**	**145.38**	**317**		**PKPdf**	**06 30 25.0**	**+0.4**		
BRTR	**Keskin Array B**	**145.38**	**317**	PKPbc	**PKPdf**	**06 30 24.8**	**+0.3**		
	comp=Z,4.9nm,0.8s,baz=80,slow=3.0,SNR=27								
BRTR	**Keskin Array B**	**145.38**	**317**	*e*

MOA	**Mollη**	**148.13**	**346**	*e*PKP	**PKPbc**	**06 30 32.6**	**+0.6**		
	comp=Z,0.9nm,0.5s								
STU	**Stuttgart**	**148.15**	**353**	IAMs_20	IAMs_20	07 36 21.5			
	comp=Z,452nm,21.0s								
ARSA	**Arzberg**	**148.38**	**344**	IAMs_20	IAMs_20	07 40 30.6			
	comp=Z,578nm,20.0s								
ARSA	**Arzberg**	**148.38**	**344**	*e*PKiKP	**PKPbc**	**06 30 33.1**	**+0.5**		
	comp=Z,0.5nm,0.4s								
BFO	**Black Forest**	**148.69**	**353**	IAMs_20	IAMs_20	07 37 06.7			
	comp=Z,460nm,20.0s								
LESA	**Schwarzleotal**	**148.88**	**348**	*e*PKiKP	**PKPbc**	**06 30 34.0**	**0.0**		
	comp=Z,5.7nm,1.0s								
KOGS	**Kog**	**148.91**	**342**	*i* PKPbc	**PKPbc**	**06 30 33.7**	**-0.3**		
ECH	**Echery**	**148.91**	**355**	PKPdf	**PKPdf**	**06 30 29.9**	**-0.1**		
ECH				IAMs_20	IAMs_20	07 38 10.7			
	comp=Z,500nm,20.0s								
ECH	**Echery**	**148.91**	**355**	PKiKP	**PKPdf**	**06 30 29.9**	**-0.1**		
ECH				MLR	MLR				
	comp=Z,500nm,20.0s								
SOKA	**Soboth**	**149.03**	**344**	*e*PKiKP	**PKPbc**	**06 30 34.5**	**+0.1**		
	comp=Z,5.8nm,1.0s								
KBA	**Koelnbreinsper**	**149.07**	**347**	*e*PKiKP	**PKPbc**	**06 30 34.3**	**-0.2**		
	comp=Z,5.6nm,0.9s								
RETA	**Reutte**	**149.18**	**350**	*e*PKiKP	**PKiKP**	**06 30 35.6**	**-0.4**		
	comp=Z,4.4nm,0.8s								
WATA	**Walderalm**	**149.18**	**349**	PKiKP	**PKPbc**	**06 30 34.9**	**+0.1**		
	comp=Z,2.7nm,0.5s								
WTTA	**Wattenberg**	**149.24**	**349**	PKiKP	**PKPbc**	**06 30 34.9**	**-0.1**		
	comp=Z,9.4nm,1.0s								
MOTA	**Moosalm**	**149.26**	**350**	*e*PKiKP	**PKPbc**	**06 30 34.9**	**-0.1**		
	comp=Z,0.2nm,0.3s								
ALN	**Alexandroupoli**	**149.28**	**325**	IAMs_20	IAMs_20	07 35 57.3			
	comp=Z,436nm,20.0s								
OBKA	**Obir**	**149.31**	**345**	*e*PKiKP	**PKPbc**	**06 30 34.8**	**-0.3**		
	comp=Z,0.8nm,0.6s								
RDO	**Rodhopi**	**149.38**	**326**	IAMs_20	IAMs_20	07 39 59.7			
	comp=Z,467nm,21.0s								
MYKA	**Terra Mystica**	**149.42**	**346**	*e*PKP	**PKPbc**	**06 30 34.8**	**-0.5**		
	comp=Z,1.4nm,0.5s								
DAVA	**Damuels**	**149.51**	**351**	*e*PKiKP	**PKiKP**	**06 30 36.3**	**-0.4**		
	comp=Z,4.5nm,0.8s								
ABTA	**Abfaltersbach**	**149.56**	**347**	*e*PKiKP	**PKPbc**	**06 30 35.8**	**+0.1**		
	comp=Z,2.3nm,0.5s								
FETA	**Feichten**	**149.64**	**350**	*e*PKiKP	**PKPbc**	**06 30 36.1**	**+0.1**		
	comp=Z,0.8nm,0.3s								
LJU	**Ljubljana**	**149.75**	**344**	*i* PKPbc	**PKPbc**	**06 30 36.0**	**-0.1**		
STAL	**STALIGIAL**	**149.98**	**347**	IAMs_20	IAMs_20	07 32 39.0			
	comp=Z,560nm,21.0s								
BOJS	**Bojanci**	**150.06**	**343**	*i* PKPbc	**PKiKP**	**06 30 37.9**	**+0.1**		
FUORN	**Ofenpass-Fuorn**	**150.10**	**350**		**PKiKP**	**06 30 37.8**	**-0.4**		
TUE	**Stuetta**	**150.39**	**351**		**PKPbc**	**06 30 37.3**	**-0.6**		
TUE				IAMs_20	IAMs_20	07 36 22.6			
	comp=Z,588nm,21.0s								
PDG	**Podgorica**	**151.38**	**335**	IAMs_20	IAMs_20	07 43 08.6			
	comp=Z,569nm,20.0s								
KARP	**Karpathos**	**151.97**	**315**	IAMs_20	IAMs_20	07 48 47.3			
	comp=Z,456nm,22.0s								
SSB	**Saint Sauveur**	**152.00**	**358**		**PKiKP**	**06 30 42.3**	**+0.5**		
SSB				IAMs_20	IAMs_20	07 42 57.3			
	comp=Z,501nm,19.0s								
SSB	**Saint Sauveur**	**152.00**	**358**	PKiKP	**PKiKP**	**06 30 42.3**	**+0.5**		
BNI	**Bardonecchia**	**152.09**	**355**	IAMs_20	IAMs_20	07 41 58.8			
	comp=Z,529nm,20.0s								
KEK	**Kerkira**	**153.36**	**331**	IAMs_20	IAMs_20	07 39 57.4			
	comp=Z,571nm,21.0s								
CESX	**Cesi**	**153.46**	**344**	IAMs_20	IAMs_20	07 42 19.0			
	comp=Z,494nm,21.0s								
CUC	**Castrocucco**	**154.81**	**337**	IAMs_20	IAMs_20	07 41 02.3			
	comp=Z,356nm,21.0s								
TIP	**Timpagrande**	**155.14**	**334**	IAMs_20	IAMs_20	07 42 31.1			
	comp=Z,445nm,21.0s								
CEL	**Celeste**	**156.28**	**335**	IAMs_20	IAMs_20	07 45 27.2			
	comp=Z,494nm,20.0s								
MAHO	**Mahon**	**157.38**	**358**	IAMs_20	IAMs_20	07 36 12.8			
	comp=Z,587nm,22.0s								
TORD	**Torodi Ar. Bea**	**175.69**	**160**	PKP	**PKPdf**	**06 30 57.2**	**0.0**		
	comp=Z,0.2nm,0.4s,baz=202,slow=3.1,SNR=2.7								
TORD				PKPab	**PKPab**	**06 32 35.5**	**+0.7**		
	comp=Z,2.0nm,1.0s,baz=187,slow=4.7,SNR=5.3								

IDC ***17*** *06:25:43.1±0.6,15.˝63N×94.˝96W,h0km,mb4.2/20, mbtmp4.2/23,ML4.4/3,MS4.4/15,Error ellipse: s-maj=20.4km s-min=9.9km az=64.0*

MEX ***17*** *06:25:46.7±0.7,15.˝52N×95.˝05W,h16km±7km,MD5.2*

NEIC ***17*** *06:25:48.2±2.6,15.˝64N±0.˝05×94.˝98W±0.˝04,h28km±5km, mb4.8/138,Md5.2/195(MEX),Error ellipse: s-maj=8.2km s-min=5.6km az=205.0*

GCMT ***17*** *06:25:48.2±0.2,15.˝59N±0.˝01×94.˝94W±0.˝01,h28km±1km, MW5.2/113,Moment Tensor Solution. s48,c60; s113,c178; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.30±.21; Mθθ-6.34±.16; Mφφ6.04±.16; Mrθ3.11±.31; Mθφ0.12±.12; Mφr-0.05±.24; Best double couple: M₀6.80600×10¹⁶ NP1:φs223.00000°,δ75.00000°, λ-15.00000°. NP2:φs318.00000°,δ75.00000°, λ-164.00000°. Principal axes: T 6.0410, Plg0.0000°, Azm91.0000°; N 1.5310, Plg68.0000°, Azm360.0000°; P -7.5700, Plg22.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

CATAC ***17*** *06:25:48.6±0.5,16˚N±2˚×97˚5W±˚,h15km±4km,M5.3/24, mb5.7/13,mB5.6/13,MLv5.6/24,Mw(mB)5.2/13, MwMwp4.8/2,Mwp5.1/2 Error ellipse: s-maj=6.0km s-min=3.1km az=54.3,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.57; Mθθ-5.31; Mφφ4.74; Mrθ0.45; Mθφ0.75; Mφr-1.25; Fault plane solution: M₀5.27730×10¹⁶ NP1:φs138.33091°,δ83.22582°, λ165.49443°. NP2:φs230.07891°,δ75.59789°,λ6.99505°. Principal axes: T 5.1234, Plg15.0275°, Azm93.4688°; N 0.2954, Plg74.0214°, Azm293.8217°; P -5.4188, Plg5.3056°, Azm184.8974°; confirmed*

SNET ***17*** *06:25:50.8±0.9,15.˝62N×94.˝72W,h28km±185km,ML5.2*

ISC 17 06:25:46.7±0.9,15.˝54N±0.˝04×95.˝01W±0.˝03,h25km±6km, n611,σ2ᵎ23/715,mb4.8/106,MS4.3/14,32C-11D,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.08**	**282**		**Pn**	**06 26 02.9**	**-3.4**
HUIG					**Sn**	**06 26 14.9**	**-5.5**
HUIG	**Huatulco**	**1.08**	**282**	⇑*e*P	**Pn**	**06 26 02.9**	**-3.4**
HUIG				*e*S	**Sn**	**06 26 14.9**	**-5.5**
NILT	**Santiago Nilte**	**1.09**	**20**		**Pn**	**06 26 03.3**	**-3.0**
NILT					**Sn**	**06 26 16.2**	**-4.4**
NILT	**Santiago Nilte**	**1.09**	**20**	*e*P	**Pn**	**06 26 03.3**	**-3.0**
NILT				*e*S	**Sn**	**06 26 16.2**	**-4.4**
CMIG	**Matias Romero**	**1.55**	**5**		**Pn**	**06 26 10.7**	**-2.0**
CMIG					**Sn**	**06 26 28.8**	**-3.2**
CMIG	**Matias Romero**	**1.55**	**5**	Pg	**Pn**	**06 26 10.5**	**-2.2**
	955nm,0.3s,baz=186,slow=12,SNR=664						
CMIG				Lg	Lg	06 26 29.6	
	baz=90,slow=19						
CMIG	**Matias Romero**	**1.55**	**5**	⇓*e*P	**Pn**	**06 26 10.7**	**-2.0**
CMIG				*i* S	**Sn**	**06 26 28.8**	**-3.2**
PCIG		**1.74**	**84**		**Pn**	**06 26 13.6**	**-1.6**
PCIG					Pb	06 26 13.7	-4.2
PCIG					**Sn**	**06 26 33.4**	**-3.2**
PCIG					**Sb**	**06 26 33.9**	**-5.4**
PCIG		**1.74**	**84**	⇑*i*P	**Pn**	**06 26 13.6**	**-1.6**
PCIG				⇑*e*P	Pb	06 26 13.7	-4.2
PCIG				*i* S	**Sn**	**06 26 33.4**	**-3.2**
PCIG				*e*S	**Sb**	**06 26 33.9**	**-5.4**
UXUV	**UXUV**	**1.95**	**25**		**Pn**	**06 26 17.2**	**-1.0**
UXUV	**UXUV**	**1.95**	**25**	⇓*e*P	**Pn**	**06 26 17.2**	**-1.0**
PEIG	**Puerto Escondi**	**2.10**	**283**		**Pn**	**06 26 17.2**	**-3.1**
PEIG	**Puerto Escondi**	**2.10**	**283**	⇑*e*P	**Pn**	**06 26 17.2**	**-3.1**
PEIG				*e*S	**Sn**	**06 26 39.2**	**-6.6**
TGIG		**2.19**	**56**		**Pn**	**06 26 21.1**	**-0.6**
TGIG					**Sn**	**06 26 46.7**	**-1.4**
TGIG		**2.19**	**56**	⇑*e*P	**Pn**	**06 26 21.1**	**-0.6**
TGIG				*e*S	**Sn**	**06 26 46.7**	**-1.4**
TGBT	**Tuxtla Gutierr**	**2.22**	**56**		**Pn**	**06 26 21.8**	**-0.1**
TGBT					**Sn**	**06 26 47.2**	**-1.3**
TGBT	**Tuxtla Gutierr**	**2.22**	**56**	*e*P	**Pn**	**06 26 21.8**	**-0.1**
TGBT				*e*S	**Sn**	**06 26 47.2**	**-1.3**
OXLC	**Oaxaca**	**2.22**	**313**		**Pn**	**06 26 20.3**	**-1.8**
OXLC					**Sn**	**06 26 45.3**	**-3.6**
OXLC	**Oaxaca**	**2.22**	**313**	⇑*e*P	**Pn**	**06 26 20.3**	**-1.8**
OXLC				*e*S	**Sn**	**06 26 45.3**	**-3.6**
OXBJ	**Oaxaca**	**2.24**	**313**		**Pn**	**06 26 20.8**	**-1.6**
OXBJ					**Sn**	**06 26 46.7**	**-2.7**
OXBJ	**Oaxaca**	**2.24**	**313**	*e*P	**Pn**	**06 26 20.8**	**-1.6**
OXBJ				*e*S	**Sn**	**06 26 46.7**	**-2.7**
OXIG	**Oaxaca**	**2.25**	**313**		**Pn**	**06 26 21.7**	**-0.8**
OXIG					**Sn**	**06 26 45.6**	**-4.0**
VHO	**Vista Hermosa**	**2.25**	**313**	⇑*e*P	**Pn**	**06 26 21.7**	**-0.8**
VHO				*e*S	**Sn**	**06 26 45.6**	**-3.9**
NEUV	**Arroyo Zacate**	**2.29**	**341**		**Pn**	**06 26 21.3**	**-1.5**
NEUV					**Sn**	**06 26 50.0**	**-0.3**
NEUV	**Arroyo Zacate**	**2.29**	**341**	⇓*e*P	**Pn**	**06 26 21.3**	**-1.5**
NEUV				*e*S	**Sn**	**06 26 50.0**	**-0.3**
MIHL	**Minatitlan**	**2.48**	**10**		**Pn**	**06 26 24.8**	**-0.7**
MIHL					**Sn**	**06 26 54.2**	**-0.6**
MIHL	**Minatitlan**	**2.48**	**10**	*e*P	**Pn**	**06 26 24.8**	**-0.7**
MIHL				*e*S	**Sn**	**06 26 54.2**	**-0.6**
TUIG	**Tuzandepetl**	**2.54**	**13**	⇓*e*P	**Pn**	**06 26 25.4**	**-1.0**
TUIG				*e*S	**Sn**	**06 26 54.9**	**-1.7**
TUIG	**Tuzandepetl**	**2.54**	**13**	P	**Pn**	**06 26 25.6**	**-0.8**
PATR	**El Naranjo**	**2.71**	**99**		**Pn**	**06 26 27.6**	**-1.4**
PATR					**Sn**	**06 26 58.4**	**-2.7**
PATR	**El Naranjo**	**2.71**	**99**	⇑*e*P	**Pn**	**06 26 27.6**	**-1.4**
PATR				*e*S	**Sn**	**06 26 58.4**	**-2.7**
THIG		**2.73**	**103**		**Pn**	**06 26 27.9**	**-1.0**
THIG					**Sn**	**06 26 58.4**	**-2.7**
THIG		**2.73**	**103**	⇑*e*P	**Pn**	**06 26 27.9**	**-1.0**
THIG				*e*S	**Sn**	**06 26 58.4**	**-2.7**
PAVE	**Pavencul**	**2.76**	**97**		**Pn**	**06 26 28.9**	**-0.7**
PAVE					**Sn**	**06 26 59.9**	**-2.3**
PAVE	**Pavencul**	**2.76**	**97**	⇑*e*P	**Pn**	**06 26 28.9**	**-0.7**
PAVE				*e*S	**Sn**	**06 26 59.9**	**-2.3**
YOIG	**Yosondua**	**2.76**	**299**		**Pn**	**06 26 28.5**	**-1.2**
YOIG					**Sn**	**06 27 00.1**	**-2.3**
YOIG	**Yosondua**	**2.76**	**299**	⇑*e*P	**Pn**	**06 26 28.5**	**-1.2**
YOIG				*e*S	**Sn**	**06 27 00.1**	**-2.3**
CCIG	**Comitan**	**2.86**	**75**	Pn	**Pn**	**06 26 30.8**	**-0.2**
CCIG	**Comitan**	**2.86**	**75**	⇑*e*P	**Pn**	**06 26 31.0**	**+0.1**
CCIG				*e*S	**Sn**	**06 27 04.7**	**-0.1**
CCIG	**Comitan**	**2.86**	**75**	P	**Pn**	**06 26 31.2**	**+0.2**
CCIG	**Comitan**	**2.86**	**75**	S	**Sn**	**06 27 06.5**	**+1.8**
PMUV	**Sontecomapan**	**2.99**	**358**		**Pn**	**06 26 30.1**	**-2.5**
PMUV	**Sontecomapan**	**2.99**	**358**	⇓*e*P	**Pn**	**06 26 30.1**	**-2.5**
PMUV				*e*P	Pb	06 26 31.2	-8.2
PNIG	**Pinotepa**	**3.11**	**286**		**Pn**	**06 26 32.0**	**-2.2**
PNIG	**Pinotepa**	**3.11**	**286**	⇑*e*P	**Pn**	**06 26 32.0**	**-2.2**
PNIG				*e*S	**Sn**	**06 27 03.3**	**-7.4**
PNIG				*e*S	**Sn**	**06 27 04.8**	**-5.9**
VHSA	**Villahermosa**	**3.14**	**39**		**Pn**	**06 26 35.0**	**+0.4**
VHSA					**Sn**	**06 27 12.2**	**+0.9**
VHSA	**Villahermosa**	**3.14**	**39**	*e*P	**Pn**	**06 26 35.0**	**+0.4**
VHSA				*e*S	**Sn**	**06 27 12.2**	**+0.9**
TXIG	**Tlaxiaco**	**3.15**	**303**		**Pn**	**06 26 34.2**	**-0.7**
TXIG					**Sn**	**06 27 09.4**	**-2.4**
TXIG	**Tlaxiaco**	**3.15**	**303**	⇑*e*P	**Pn**	**06 26 34.2**	**-0.7**
TXIG				*e*S	**Sn**	**06 27 09.4**	**-2.4**
TOIG	**Toxpalan**	**3.21**	**323**		**Pn**	**06 26 36.5**	**+0.8**
TOIG					**Sn**	**06 27 13.9**	**+0.6**
TOIG	**Toxpalan**	**3.21**	**323**	⇓*e*P	**Pn**	**06 26 36.5**	**+0.8**
TOIG				*e*S	**Sn**	**06 27 13.9**	**+0.6**
RTAL	**Retalhuleu**	**3.36**	**107**		**Pn**	**06 26 38.3**	**+0.6**
RTAL	**Retalhuleu**	**3.36**	**107**	*e*P	**Pn**	**06 26 37.9**	**+0.2**
RTAL				*e*S	**Sn**	**06 27 15.1**	**-1.7**
RTAL	**Retalhuleu**	**3.36**	**107**	⇑*e*P	**Pn**	**06 26 37.7**	**0.0**
RTAL				*e*S	**Sn**	**06 27 15.4**	**-1.4**
RTAL	**Retalhuleu**	**3.36**	**107**	P	**Pn**	**06 26 39.5**	**+1.9**
RTAL	**Retalhuleu**	**3.36**	**107**	S	**Pn**	**06 27 19.3**	**+2.5**
HUEH	**Huehuetenango**	**3.39**	**93**		**Pn**	**06 26 39.3**	**+1.0**
HUEH	**Huehuetenango**	**3.39**	**93**	*e*P	**Pn**	**06 26 39.1**	**+0.8**
HUEH				*e*S	**Sn**	**06 27 19.9**	**+2.0**
HUEH	**Huehuetenango**	**3.39**	**93**	⇑*e*P	**Pn**	**06 26 39.4**	**+1.0**
HUEH				*e*S	**Sn**	**06 27 16.7**	**-1.2**
HUEH	**Huehuetenango**	**3.39**	**93**	P	**Pn**	**06 26 39.2**	**+1.0**
HLIG	**Huajuapan de L**	**3.51**	**311**		**Pn**	**06 26 39.8**	**-0.1**
HLIG					**Sn**	**06 27 16.3**	**-4.5**
HLIG	**Huajuapan de L**	**3.51**	**311**	⇑*e*P	**Pn**	**06 26 39.8**	**-0.1**
HLIG				*e*S	**Sn**	**06 27 16.3**	**-4.5**
TPIG	**Tehuac#an**	**3.64**	**322**		**Pn**	**06 26 43.0**	**+1.3**
TPIG					**Sn**	**06 27 25.6**	**+1.7**
TPIG	**Tehuac#an**	**3.64**	**322**	*e*P	**Pn**	**06 26 43.0**	**+1.3**
TPIG				*e*S	**Sn**	**06 27 25.6**	**+1.7**
MGIG	**Malinaltepec**	**3.86**	**296**		**Pn**	**06 26 44.2**	**-0.5**
MGIG					**Sn**	**06 27 24.8**	**-4.6**
MGIG	**Malinaltepec**	**3.86**	**296**	⇑*e*P	**Pn**	**06 26 44.2**	**-0.5**
MGIG				*e*S	**Sn**	**06 27 24.8**	**-4.6**
TLIG	**Tlapa**	**3.96**	**301**		**Pn**	**06 26 46.2**	**+0.3**
TLIG	**Tlapa**	**3.96**	**301**	⇑*e*P	**Pn**	**06 26 45.2**	**0.0**
TLIG				*e*S	**Sn**	**06 27 26.7**	**-5.0**
HMTT	**Tlapaneco**	**4.07**	**304**		**Pn**	**06 26 46.7**	**-0.9**
HMTT	**Tlapaneco**	**4.07**	**304**	*e*P	**Pn**	**06 26 46.7**	**-0.9**
POHV	**Veracruz**	**4.12**	**329**		**Pn**	**06 26 50.3**	**+1.7**
POHV	**Veracruz**	**4.12**	**329**	*e*P	**Pn**	**06 26 50.3**	**+1.7**
JAUV	**Jalcomulco**	**4.17**	**336**		**Pn**	**06 26 46.9**	**-2.0**
JAUV					**Sn**	**06 27 31.8**	**-5.1**
JAUV	**Jalcomulco**	**4.17**	**336**	⇓*e*P	**Pn**	**06 26 46.9**	**-2.0**
JAUV				*e*S	**Sn**	**06 27 31.8**	**-5.1**
XALA	**Xalapa**	**4.36**	**336**		**Pn**	**06 26 48.9**	**-2.6**
XALA					**Sn**	**06 27 37.0**	**-4.6**
XALA	**Xalapa**	**4.36**	**336**	*e*P	**Pn**	**06 26 48.9**	**-2.6**
XALA				*e*S	**Sn**	**06 27 37.0**	**-4.6**
LVIG	**Laguna Verde**	**4.37**	**342**	⇑*e*P	**Pn**	**06 26 48.9**	**-2.6**
LVIG				*e*S	**Sn**	**06 27 36.5**	**-5.2**
PHPU	**Puebla**	**4.61**	**320**		Pn	06 27 00.4	+5.4
PHPU	**Puebla**	**4.61**	**320**	*e*P	Pn	06 27 00.4	+5.4
DAIG	**Los Arroyos**	**4.69**	**289**		**Pn**	**06 26 54.5**	**-1.4**
DAIG	**Los Arroyos**	**4.69**	**289**	⇑*e*P	**Pn**	**06 26 54.5**	**-1.4**
DAIG				*e*S	Sn	06 27 40.3	-9.3
PBCV	**Popocatepetl**	**4.82**	**316**	⇑*e*P	**Pn**	**06 26 59.4**	**+1.4**
PBCV				*e*S	**Sn**	**06 27 59.1**	**+5.9**
ACP2	**Acapulco**	**4.87**	**286**		**Pn**	**06 26 56.8**	**-1.5**
ACP2	**Acapulco**	**4.87**	**286**	⇓*e*P	**Pn**	**06 26 56.8**	**-1.5**
PBXN	**Popocatepetl**	**4.90**	**315**	*e*P	**Pn**	**06 27 01.2**	**+1.9**
PBXN				*e*S	**Sn**	**06 27 55.8**	**+0.3**
PPM	**Popocatepetl**	**4.92**	**316**	*e*P	**Pn**	**06 27 00.4**	**+0.9**
PPM				*e*S	**Sn**	**06 27 56.4**	**+0.4**
PPIG	**Popocatepetl**	**4.92**	**316**		**Pn**	**06 27 00.4**	**+0.8**
PPIG					**Sn**	**06 27 56.4**	**+0.4**
SCIG	**Sabancuy**	**5.00**	**46**	⇑*e*P	**Pn**	**06 26 59.2**	**-0.9**
SCIG				*e*S	**Sn**	**06 27 51.0**	**-6.2**
SCIG	**Sabancuy**	**5.00**	**46**	P	**Pn**	**06 26 59.0**	**-1.2**
SCIG	**Sabancuy**	**5.00**	**46**	S	**Sn**	**06 27 53.5**	**-3.7**
MEIG	**Mezcala**	**5.01**	**299**		**Pn**	**06 27 00.7**	**+0.2**
MEIG					**Sn**	**06 27 51.9**	**-5.7**
MEIG	**Mezcala**	**5.01**	**299**	⇑*e*P	**Pn**	**06 27 00.7**	**+0.2**
MEIG				*e*S	**Sn**	**06 27 51.9**	**-5.7**
AMVM	**AMECAMECA**	**5.07**	**315**		**Pn**	**06 27 03.2**	**+1.7**
AMVM					**Sn**	**06 28 04.3**	**+4.8**
AMVM	**AMECAMECA**	**5.07**	**315**	*e*P	**Pn**	**06 27 03.2**	**+1.7**
AMVM				*e*S	**Sn**	**06 28 04.3**	**+4.8**
YAIG	**Yautepec**	**5.09**	**311**		**Pn**	**06 27 02.5**	**+0.9**
YAIG					**Sn**	**06 27 54.5**	**-5.2**
YAIG	**Yautepec**	**5.09**	**311**	⇑*e*P	**Pn**	**06 27 02.5**	**+0.9**
YAIG				*e*S	**Sn**	**06 27 54.5**	**-5.2**
FAME	**Alcaldia de Sa**	**5.12**	**109**	S	**Sn**	**06 28 01.7**	**+1.4**
PETF	**Flores**	**5.13**	**74**		**Pn**	**06 27 01.7**	**-0.3**
PETF	**Flores**	**5.13**	**74**	*e*P	**Pn**	**06 27 02.1**	**+0.1**
PETF				*e*S	**Sn**	**06 27 57.7**	**-2.7**
PETF	**Flores**	**5.13**	**74**	⇑*e*P	**Pn**	**06 27 01.9**	**-0.1**
PETF	**Flores**	**5.13**	**74**	S	**Sn**	**06 28 01.5**	**+1.1**
PETF	**Flores**	**5.13**	**74**	P	**Pn**	**06 27 02.0**	**+0.1**
PLIG	**Platanillo**	**5.15**	**304**		**Pn**	**06 27 03.0**	**+0.7**
PLIG					**Sn**	**06 27 55.8**	**-5.2**
PLIG	**Platanillo**	**5.15**	**304**	⇑*e*P	**Pn**	**06 27 03.0**	**+0.7**
PLIG				*e*S	**Sn**	**06 27 55.8**	**-5.2**
CXUV	**Coxquihui**	**5.22**	**332**		**Pn**	**06 27 02.1**	**-1.1**
CXUV					**Sn**	**06 28 01.5**	**-1.2**
CXUV	**Coxquihui**	**5.22**	**332**	⇓*e*P	**Pn**	**06 27 02.1**	**-1.1**
CXUV				*e*S	**Sn**	**06 28 01.5**	**-1.2**
CAIG	**El Cayaco**	**5.26**	**287**		**Pn**	**06 27 02.3**	**-1.5**
CAIG	**El Cayaco**	**5.26**	**287**	⇑*e*P	**Pn**	**06 27 02.3**	**-1.5**
CAIG				*e*S	Sn	06 27 53.7	-10
MPVM	**San Francisco**	**5.28**	**314**		**Pn**	**06 27 05.4**	**+1.2**
MPVM					**Sn**	**06 28 03.3**	**-1.0**
MPVM	**San Francisco**	**5.28**	**314**	*e*P	**Pn**	**06 27 05.4**	**+1.2**
MPVM				*e*S	**Sn**	**06 28 03.3**	**-1.0**
SLOZ	**Alcaldia de Sa**	**5.28**	**106**	*e*P	**Pn**	**06 27 04.8**	**+0.7**
SLOZ	**Alcaldia de Sa**	**5.28**	**106**	P	**Pn**	**06 27 05.9**	**+1.9**
SLOZ	**Alcaldia de Sa**	**5.28**	**106**	S	**Sn**	**06 28 07.9**	**+3.7**
NUBE	**Las Nubes**	**5.32**	**107**	*e*P	**Pn**	**06 27 05.2**	**+0.4**
NUBE	**Las Nubes**	**5.32**	**107**	S	**Sn**	**06 28 07.8**	**+2.4**
THVM	**De Xico**	**5.32**	**315**		**Pn**	**06 27 07.0**	**+2.1**
THVM					**Sn**	**06 28 03.8**	**-1.8**
THVM	**De Xico**	**5.32**	**315**	*e*P	**Pn**	**06 27 07.0**	**+2.1**
THVM				*e*S	**Sn**	**06 28 03.8**	**-1.8**
TXVM	**Universitario**	**5.37**	**317**		Pn	06 27 12.5	+7.0
TXVM					**Sn**	**06 28 08.8**	**+1.9**
TXVM	**Universitario**	**5.37**	**317**	*e*P	Pn	06 27 12.5	+7.0
TXVM				*e*S	**Sn**	**06 28 08.8**	**+1.9**
TLVM	**San Miguel Top**	**5.38**	**313**		**Pn**	**06 27 07.8**	**+2.0**
TLVM					**Sn**	**06 28 04.3**	**-2.8**
TLVM	**San Miguel Top**	**5.38**	**313**	*e*P	**Pn**	**06 27 07.8**	**+2.0**
TLVM				*e*S	**Sn**	**06 28 04.3**	**-2.8**
RTR	**El Retiro**	**5.44**	**107**	*e*P	**Pn**	**06 27 08.5**	**+2.1**
ATYC	**Atoyac**	**5.46**	**288**		**Pn**	**06 27 05.5**	**-1.1**
ATYC	**Atoyac**	**5.46**	**288**	*e*P	**Pn**	**06 27 05.5**	**-1.1**
ATYC				*e*S	**Sn**	**06 28 00.5**	**-9.1**
CNCY	**Coyoacan**	**5.46**	**314**	*e*P	**Pn**	**06 27 08.4**	**+1.6**
CNCY				*e*S	**Sn**	**06 28 03.8**	**-5.3**
MAVM	**Malinalco, Edo**	**5.47**	**309**		**Pn**	**06 27 07.9**	**+1.1**
MAVM					**Sn**	**06 28 07.0**	**-2.0**
MAVM	**Malinalco, Edo**	**5.47**	**309**	*e*P	**Pn**	**06 27 07.9**	**+1.1**
MAVM				*e*S	**Sn**	**06 28 07.0**	**-2.0**
COVM	**Coyoacan**	**5.48**	**314**		**Pn**	**06 27 07.4**	**+0.4**
COVM					**Sn**	**06 28 12.2**	**+2.8**
COVM	**Coyoacan**	**5.48**	**314**	*e*P	**Pn**	**06 27 07.4**	**+0.4**
COVM				*e*S	**Sn**	**06 28 12.2**	**+2.8**
UNM	**Universidad Na**	**5.48**	**314**		**Pn**	**06 27 09.2**	**+2.2**
UNM	**Universidad Na**	**5.48**	**314**	*e*P	**Pn**	**06 27 07.1**	**+0.1**
UNM				*e*S	**Sn**	**06 28 09.0**	**-0.3**
SBLS	**San Blas**	**5.48**	**107**	*e*P	**Pn**	**06 27 08.0**	**+0.9**
CEVE	**Cerro Verde**	**5.49**	**107**	*e*P	**Pn**	**06 27 09.0**	**+1.9**
CEVE				*e*S	**Sn**	**06 28 09.2**	**-0.4**
CEVE				IAML		06 28 37.1	
	comp=Z,1μm,0.7s						
SNJE	**San Jose**	**5.49**	**107**	*e*P	**Pn**	**06 27 08.7**	**+1.5**
BJVM	**Benito Juarez**	**5.50**	**314**		**Pn**	**06 27 07.5**	**+0.1**
BJVM					**Sn**	**06 28 09.4**	**-0.6**
BJVM	**Benito Juarez**	**5.50**	**314**	*e*P	**Pn**	**06 27 07.5**	**+0.1**
BJVM				*e*S	**Sn**	**06 28 09.4**	**-0.6**
VTVM	**Tizayuca**	**5.53**	**320**		**Pn**

SOMAC eS Sn 06 29 42.6 +3.2
CDAR Ciudad de Arme 9.24 293 eP Pn 06 27 59.6 +1.2
CDAR eS Sn 06 29 44.5 +2.9
CEGR Campo Tres 9.27 296 eP Pn 06 28 01.2 +2.2
CEGR eS Sn 06 29 48.6 +6.1
BOAB BOACO BROADBAN 9.58 108 Pn 06 28 05.6 +2.5
CIHU Emiliano Zapat 9.99 293 Pn 06 28 09.7 +0.9
CIHU Sn 06 30 02.7 +2.5
CIHU Emiliano Zapat 9.99 293 eP Pn 06 28 09.7 +0.9
CIHU eS Sn 06 30 02.7 +2.5
ZAIG Zacatecas 10.13 316 Pn 06 28 11.9 +1.0
ZAIG Zacatecas 10.13 316 eP Pn 06 28 12.3 +1.4
ZAIG eS Sn 06 30 02.5 -1.4
LCRUZ La Cruz 10.15 115 eP Pn 06 28 12.6 +1.6
ACON Acoyapa 10.20 109 Pn 06 28 13.1 +1.5
ACON Acoyapa 10.20 109 eP Pn 06 28 13.6 +2.1
ACON Acoyapa 10.20 109 P Pn 06 28 11.8 +0.2
comp=Z,61nm,1.4s
LNIG Linares 10.20 337 eP Pn 06 28 14.2 +2.5
LNIG eS Sn 06 30 01.3 -4.0
CJM Chamela 10.35 294 eP Pn 06 28 14.0 +0.4
CJM eS Sn 06 30 10.4 +1.6
ALIBA Liberia Airpor 10.45 117 eP Pn 06 28 17.9 +2.8
LAPC Finca la Perla 10.46 116 eP Pn 06 28 19.6 +4.3
GPS1 Guardaparques 10.53 116 eP Pn 06 28 20.3 +4.0
GPS2 Hotel Rincn d 10.54 116 eP Pn 06 28 20.5 +4.1
ANIG Ahuacatlan 10.56 303 Pn 06 28 19.4 +2.8
ANIG Sn 06 30 18.5 +4.2
ANIG Ahuacatlan 10.56 303 eP Pn 06 28 19.4 +2.8
ANIG eS Sn 06 30 18.5 +4.2
JUD3 Juan Diaz 3 10.67 119 eP Pn 06 28 20.0 +1.8
MESS Mesas 10.69 115 eP Pn 06 28 20.1 +1.8
ELVJ El Viejo (Barb 10.71 117 eP Pn 06 28 20.7 +2.1
COLC Colonia 10.71 116 eP Pn 06 28 23.5 +4.8
HORNC Hornillas 10.71 115 eP Pn 06 28 22.8 +4.1
VMAR Armenia, Volca 10.72 115 eP Pn 06 28 22.6 +3.8
PLVR Palo Verde 10.74 118 eP Pn 06 28 23.0 +3.8
CUI Cuipilapa 10.75 116 eP Pn 06 28 22.2 +3.0
TENO El Achiote 10.89 115 eP Pn 06 28 24.2 +3.0
TIMP Tierras Morena 10.91 116 eP Pn 06 28 25.1 +3.6
ESPN Las Esperanzas 10.92 106 Pn 06 28 23.1 +1.6
ESPN Las Esperanzas 10.92 106 eP Pn 06 28 22.3 +0.8
ESPN Las Esperanzas 10.92 106 P Pn 06 28 17.5 -4.0
comp=Z,1µmcomp=Z,113nm,1.2s
INVE Universidad In 10.92 116 eP Pn 06 28 25.2 +3.7
NYURE Nandayure 11.00 116 eP Pn 06 28 24.5 +2.0
TILA Tilaran 11.01 116 eP Pn 06 28 26.5 +3.8
JUNT Juntas 11.11 117 eP Pn 06 28 28.1 +4.0
JTS Las Juntas de 11.11 117 Pn 06 28 26.0 +1.9
JTS Las Juntas de 11.11 117 Pn Pn 06 28 25.1 +1.0
comp=Z,3.4nm,0.3s,baz=296,slow=9.1,SNR=14
comp=Z,4.5nm,0.3s
JTS Las Juntas de 11.11 117 eP Pn 06 28 25.1 +1.0
JTS Las Juntas de 11.11 117 P Pn 06 28 24.7 +0.6
comp=Z,1µmcomp=Z,93nm,1.0s
MNIG Monterrey 11.17 335 Pn 06 28 30.3 +5.4
MNIG Monterrey 11.17 335 eP Pn 06 28 30.3 +5.4
MTEVE Monteverde 11.20 116 eP Pn 06 28 32.1 +6.6
CASO Castillo 11.23 116 eP Pn 06 28 28.9 +3.2
VARE2 V. Arenal 11.23 115 eP Pn 06 28 28.9 +3.2
VACR Volcan Arenal 11.26 115 eP Pn 06 28 29.5 +3.3
FORC Fortuna 11.27 115 eP Pn 06 28 29.8 +3.6
TUNA La Fortuna 11.29 115 eP Pn 06 28 30.5 +4.0
CBL1 Cabuya 11.35 120 eP Pn 06 28 32.1 +4.8
SOCE Pocosol 11.35 116 Pn 06 28 29.8 +2.4
SOCE Pocosol 11.35 116 eP Pn 06 28 29.8 +2.4
PAQE Paquera 11.36 119 eP Pn 06 28 30.7 +3.2
VPL2 V. Platanar 11.59 115 eP Pn 06 28 31.4 +0.6
SRA1 San Ramn 11.61 117 eP Pn 06 28 32.8 +1.7
PALD Palmares 11.67 117 eP Pn 06 28 34.8 +2.9
ATEO Atenas 11.75 117 eP Pn 06 28 35.5 +2.6
GREC Grecia 11.77 116 eP Pn 06 28 37.0 +3.9
BELE Belen 11.92 116 eP Pn 06 28 38.3 +3.1
VBV1 V. Barva 11.93 116 eP Pn 06 28 37.8 +2.2
SANTA Santa Ana 11.94 117 eP Pn 06 28 38.3 +2.7
HEME Heredia, Merce 11.95 116 eP Pn 06 28 39.5 +3.8
HBVL Hebbronville 11.96 344 Pn 06 28 34.3 -1.4
HDC Heredia 11.97 116 Pn 06 28 37.2 +1.3
HDC Heredia 11.97 116 eP Pn 06 28 36.2 +0.2
HDC Heredia 11.97 116 eP Pn 06 28 39.3 +3.3
ACOS Acosta 12.02 117 eP Pn 06 28 39.0 +2.3
PAR1A Puntarenas Pro 12.05 118 eP Pn 06 28 39.3 +2.4
TRT2 Tortugero 12.05 113 eP Pn 06 28 40.0 +3.1
ECI Escuela Centro 12.05 116 eP Pn 06 28 38.5 +1.3
SJS3 Mercedes San J 12.05 116 eP Pn 06 28 40.0 +2.9
CORON Coronado 12.08 116 eP Pn 06 28 39.9 +2.4
PICV PH. Pirrs 12.08 118 eP Pn 06 28 40.6 +3.1
CVIMO Finca Echandi 12.11 116 eP Pn 06 28 40.4 +2.5
PISJ San Jernim 12.14 118 eP Pn 06 28 40.2 +1.9
LCR2 La Lucha 2 12.19 117 Pn 06 28 41.5 +2.4
LCR2 La Lucha 2 12.19 117 eP Pn 06 28 38.8 -0.2
VICA Volcano Irazu 12.21 116 eP Pn 06 28 42.2 +2.6
RAZU San Marcos de 12.21 117 eP Pn 06 28 41.6 +2.3
LLNJ Naranjito 12.24 118 eP Pn 06 28 45.1 +5.6
REPA Paraso 12.26 116 eP Pn 06 28 43.7 +3.7
PCAYA Pacayas 12.27 116 eP Pn 06 28 43.6 +3.4
PIEC Cerro El Cedra 12.29 117 eP Pn 06 28 42.7 +2.3
VTCV VTCV, Calle Va 12.31 115 eP Pn 06 28 43.2 +2.5
VERB Verbena 12.36 115 eP Pn 06 28 44.3 +3.0
RESJ San Isidro (Tu 12.37 115 eP Pn 06 28 43.0 +1.7
LCOCO El Coco 12.42 115 eP Pn 06 28 43.4 +1.4
IRES Siquirres 12.46 114 eP Pn 06 28 43.2 +0.7
SAJE San Jernim 12.81 117 eP Pn 06 28 48.3 +0.9
EDPE Pejibaye, P 12.85 118 eP Pn 06 28 50.4 +2.5
BURE Buenos Aires 13.04 118 eP Pn 06 28 52.2 +1.7
FIMO Fila Mora 13.12 118 eP Pn 06 28 51.1 -0.5
EDP2 Potrero Grande 13.26 118 eP Pn 06 28 56.4 +3.0
833A Chaparral WMA, 13.35 343 Pn 06 28 54.4 -0.3
735A Kenedy 13.50 349 Pn 06 28 54.5 -2.2
ALCO Alturas Coton, 13.58 117 eP Pn 06 29 00.5 +2.4
NELY Ciudad Neily 13.58 119 eP Pn 06 28 58.9 +0.2
BRU2 Volcan 13.78 118 Pn 06 29 02.1 +1.3
BRU2 Volcan 13.78 118 eP Pn 06 29 01.0 +0.2
CLLRA Cordillera, 13.87 118 eP Pn 06 29 03.6 +1.6
BQTLY Boquete Panama 14.00 117 eP Pn 06 29 05.2 +1.5
MLDN Muldoon 14.30 353 Pn 06 29 06.7 -0.9
HKT Hockley 14.36 357 Pn 06 29 08.5 +0.1
HNDO Hondo 14.47 345 Pn 06 29 09.5 -0.4
DRIO Del Rio 14.75 340 Pn 06 29 12.2 -1.6
CAMR Camarioca 14.88 58 i P Pn 06 29 17.3 +1.7
CAMR IAmb IAmb 06 29 44.1
comp=Z,180nm,1.5s
HPIG 15.06 321 Pn Pn 06 29 18.9 +0.8
CBCY The Bluff, Cay 15.13 72 i P Pn 06 29 16.9 -1.9
CBCY IVmB_BB 06 29 20.0
comp=Z,4µm,1.0s
CBCY IAmb IAmb 06 29 24.2
comp=Z,360nm,0.9s
441A DeRidder 15.23 6 Pn 06 29 18.7 -1.5
441A IAmb IAmb 06 29 24.3
comp=Z,72nm,0.9s
435B Jarrell 15.35 352 Pn Pn 06 29 22.1 +0.3
BCIG La Boquilla 15.36 323 P P 06 29 26.1 -0.4
BCIG La Boquilla 15.36 323 eP P 06 29 26.1 -0.4
JCT Junction City 15.51 344 eP Pn 06 29 23.8 0.0
GMAL Guarumal, Vera 15.54 118 P Pn 06 29 26.4 +2.0
comp=Z,3µmcomp=Z,170nm,1.9s
TXAR Lajitas Array 15.88 331 Pn Pn 06 29 29.5 +0.8
TXAR Lajitas Array 15.88 331 Pn Pn 06 29 29.0 +0.3
comp=Z,0.3nm,0.3s,baz=147,slow=13,SNR=33
TXAR LR LR 06 35 52.7
comp=Z,653nm,18.9s,baz=151,slow=38
comp=Z,6.0nm,0.9s
CACAO El Cacao, Vera 16.08 119 P P 06 29 35.9 +1.5
comp=Z,28nmcomp=Z,0.6nm,1.5s
BCIP Isla Barro Col 16.12 111 P Pn 06 29 31.0 -0.7
comp=Z,45nm,1.1s
CAIB Caibarien 16.23 62 i P Pn 06 29 33.1 -0.1
CAIB IVmB_BB 06 29 49.5
comp=Z,2µm,1.0s
CAIB IAmb IAmb 06 29 50.5
comp=Z,150nm,1.1s
OZNA Ozona 16.30 341 Pn Pn 06 29 34.1 +0.1
OZNA IAmb IAmb 06 29 42.1
comp=Z,103nm,1.3s
AZU Azuero 16.35 116 P Pn 06 29 36.7 +2.0
comp=Z,47nm,1.4s
061Z Ochoppi 16.71 50 Pn Pn 06 29 39.2 0.0
LPIG La Paz 16.71 303 Pn Pn 06 29 38.8 -0.4
comp=Z,0.9nm,0.3s,baz=187,slow=5.4,SNR=5.0
LPIG LR LR 06 35 22.5
comp=Z,2µm,18.3s,baz=102,slow=35
comp=Z,8.3nm,0.5s
MTDJ Mount Denham 16.94 78 Pn 06 29 43.4 +1.1
MTDJ IAmb IAmb 06 29 50.1
comp=Z,149nm,1.1s
MTDJ Mount Denham 16.94 78 P Pn 06 29 42.9 +0.6
comp=Z,158nm,1.2s
SGCY Sterling City 17.23 342 Pn 06 29 44.9 -0.8
PILO Pilon 17.32 73 i P Pn 06 29 46.0 -1.0
PILO IAmb IAmb 06 29 50.5
comp=Z,150nm,1.4s
PILO IVmB_BB 06 30 41.1
comp=Z,4µm,1.0s
143A Socs Landing, 17.40 10 P Pn 06 29 47.1 -0.6
LMGC Las Mercedes 17.72 73 i P Pn 06 29 51.6 -0.3
LMGC IVmB_BB 06 29 52.4
comp=Z,2µm,1.0s
LMGC IAmb IAmb 06 30 04.7
comp=Z,110nm,1.0s
SN05 Snyder 5 18.07 344 P Pn 06 29 55.3 -0.8
SN05 IAmb IAmb 06 30 05.0
comp=Z,58nm,0.9s
WLAR White Oak Lake 18.15 5 P Pn 06 29 55.9 -1.2
WLAR IAmb IAmb 06 30 01.7
comp=Z,63nm,1.1s
YAR Yar 18.38 72 i P P 06 29 58.4 -1.5
YAR IVmB_BB 06 30 10.6
comp=Z,2µm,1.0s
YAR IAmb IAmb 06 30 11.0
comp=Z,270nm,1.3s
WTFS Witchita Falls 18.41 351 P 06 29 58.6 -1.5
WTFS IAmb IAmb 06 30 11.0
comp=Z,86nm,0.8s
CCAR Cane Creek 18.53 9 P P 06 29 59.7 -1.7
CCAR IAmb IAmb 06 30 09.0
comp=Z,85nm,1.5s
MNTX Cornudas Mount 18.66 331 eP P 06 30 02.0 -0.9
Z47A Carrollton 18.67 18 P P 06 30 01.8 -1.2
MARVS Santiago de Cu 18.73 74 i P P 06 30 00.7 -3.0
MARVS IAmb IAmb 06 30 08.1
comp=Z,90nm,1.3s
RCC Rio Carpintero 18.92 74 i P P 06 30 03.1 -2.7
RCC IAmb IAmb 06 30 09.9
comp=Z,68nm,1.3s
PINC Pinares de May 18.93 72 i P P 06 30 03.4 -2.4
PINC IAmb IAmb 06 30 16.2
comp=Z,69nm,1.1s
PINC IVmB_BB 06 30 18.0
comp=Z,630nm,1.0s
GTBY Guantanamo Bay 19.45 74 i P P 06 30 07.1 -4.5
GTBY Guantanamo Bay 19.45 74 P P 06 30 04.5 -7.1
comp=Z,70nm,0.9s
APAC Apartado, Choc 19.57 111 P P 06 30 12.6 -0.3
comp=Z,41nm,1.5s
QMBU Quimbuelo 19.77 73 i P P 06 30 11.1 -4.1
QMBU IAmb IAmb 06 30 31.2
comp=Z,66nm,1.2s
NZIG Nacozari, Sono 19.90 320 P Pn 06 30 19.9 +1.6
NZIG Nacozari, Sono 19.90 320 eP Pn 06 30 19.9 +1.6
SJCC San Jacinto, C 20.14 104 P P 06 30 16.6 -2.6
comp=Z,68nm,1.1s
DBBC Dabelba 20.28 113 P Pn 06 30 22.7 -0.1
OK052 Battle Ridge R 20.43 356 P P 06 30 20.4 -1.8
319A Douglas 20.45 323 Pn 06 30 25.4 +0.6
319A IAmb IAmb 06 30 38.0
comp=Z,77nm,1.1s
UREC San Jos de Ur 20.58 110 P P 06 30 23.4 -0.5
comp=Z,27nm,0.9s
GOGA Godfrey 20.63 28 P P 06 30 23.2 -1.1
GOGA IAmb IAmb 06 30 29.7
comp=Z,37nm,1.1s
GR1C Gorgona, Isla 20.75 125 P P 06 30 25.1 -0.7
Y52A Lilburn 20.75 26 P P 06 30 24.5 -1.1
Y52A IAmb IAmb 06 30 39.0
comp=Z,92nm,1.4s
ELIS Ellis County 20.82 350 P P 06 30 25.9 -0.5
OK051 E0350 and S346 20.94 356 P P 06 30 26.6 -1.1
CBOC Ciudad Bolivar 20.98 115 P P 06 30 29.1 +0.6
comp=Z,1µmcomp=Z,117nm,1.0s
CROK Carrier 21.05 353 P P 06 30 27.4 -1.4
DUN6 Lazy B Ranch 21.22 325 P 06 30 32.0 +1.1
PLMC San Jos del P 21.22 118 P P 06 30 30.6 -0.4
comp=Z,806nmcomp=Z,63nm,1.1s
HELC Santa Helena 21.25 114 P P 06 30 30.4 -1.2
comp=Z,821nmcomp=Z,46nm,1.8s
ZARC Zacoza, Cauc 21.29 110 P P 06 30 31.0 -0.7
comp=Z,29nm,1.0s
SBM South Baldy 21.39 331 P P 06 30 34.2 +1.2
WVT Waverly 21.48 16 P P 06 30 31.6 -1.9
KAN13 South Haven SW 21.50 355 P P 06 30 31.7 -2.0
YOTC Yotoco, Valle 21.66 120 P P 06 30 35.2 -0.5
comp=Z,534nmcomp=Z,26nm,0.8s
FLF1 Flavio Alfaro- 21.77 135 P P 06 30 42.7 +5.8
comp=Z,86nm,1.5s
JAMC Jamundi, Valle 21.82 122 P P 06 30 37.8 +0.2
comp=Z,52nm,1.0s
GUY2C Guayana, Caldas 21.85 116 P P 06 30 38.0 -0.2
comp=Z,2µmcomp=Z,116nm,0.8s
ANMO Albuquerque 21.89 334 P P 06 30 37.8 -0.3
comp=Z,5.4nm,0.5s,baz=224,slow=11,SNR=20
comp=Z,5.4nm,0.5s
ANMO Albuquerque 21.89 334 eP P 06 30 38.2 +0.1
CRJC Cerrejon, Guaj 22.00 99 P P 06 30 35.7 -3.6
comp=Z,26nm,1.0s
TUC Tucson 22.01 322 eP P 06 30 39.2 -0.1
PTBC PUERTO BERRIO, 22.05 112 P P 06 30 39.7 -0.1
comp=Z,242nmcomp=Z,26nm,1.0s
BBAC Balboa, Cauca 22.07 126 P P 06 30 41.0 +0.7
comp=Z,712nmcomp=Z,69nm,1.0s
NORC Norcasia 22.12 114 P P 06 30 39.9 -0.7
comp=Z,904nmcomp=Z,89nm,1.1s
ANIL Santa Ana 22.19 118 P P 06 30 44.1 +2.5
POPC Popayan, Colom 22.21 124 P P 06 30 42.0 +0.2
comp=Z,575nmcomp=Z,46nm,1.2s
OTAV Otavalo 22.33 131 P P 06 30 44.6 +1.3
OTAV IAmb IAmb 06 31 00.6
comp=Z,34nm,1.2s
OTAV Otavalo 22.33 131 eP P 06 30 44.1 +0.8
OTAV Otavalo 22.33 131 P P 06 30 43.9 +0.6
comp=Z,513nmcomp=Z,19nm,1.2s
TKL Tuckaleechee C 22.42 25 P P 06 30 41.6 -2.0
TKL IAmb IAmb 06 30 52.1
comp=Z,36nm,1.1s
TKL Tuckaleechee C 22.42 25 P P 06 30 41.4 -2.2
comp=Z,4.1nm,0.8s,baz=188,slow=13,SNR=9.7
TKL LR LR 06 42 27.8
comp=Z,793nm,18.2s,baz=207,slow=45
comp=Z,4.1nm,0.8s
U49A Red Boiling Sp 22.45 20 P P 06 30 41.1 -2.8
U49A IAmb IAmb 06 30 59.4
comp=Z,25nm,0.8s
T47A Sharon Grove 22.49 17 P P 06 30 43.0 -1.3
T47A IAmb IAmb 06 30 58.5
comp=Z,23nm,0.7s
TULM Tun-Chalpat 22.50 129 P P 06 30 50.9 +5.8
comp=Z,93nm,1.0s
GCUF Volcan Galeras 22.50 128 P P 06 30 47.3 +2.2
comp=Z,964nmcomp=Z,39nm,1.0s
BRJC Barrancabermej 22.51 110 P P 06 30 46.0 +1.2
comp=Z,4µmcomp=Z,49nm,0.7s
ORTC Ortega, Tolima 22.62 119 P P 06 30 47.1 +1.1
comp=Z,1µmcomp=Z,138nm,1.1s
S44A Carbondale 22.65 12 P P 06 30 44.9 -1.1
CCM Cathedral Cave 22.67 8 P P 06 30 44.0 -2.2
CCM IAmb IAmb 06 30 57.3
comp=Z,26nm,1.0s
URIC Uribia, Colomb 22.69 97 P P 06 30 51.6 +4.9
comp=Z,42nm,1.3s
FVM French Village 22.72 9 P P 06 30 46.0 -0.8
ROSC El Rosal 22.95 115 P P 06 30 51.2 +1.5
comp=Z,114nm,1.0s,baz=305,slow=12,SNR=53
ROSC El Rosal 22.95 115 P P 06 30 51.3 +1.5
comp=Z,2µmcomp=Z,173nm,1.3s
R32A Long Quarter, 23.03 353 P P 06 30 49.5 -0.4
PRAC Prado 23.03 119 P P 06 30 50.1 -0.1
comp=Z,1µmcomp=Z,65nm,1.3s
BARC Barichara 23.18 110 P P 06 30 52.8 +0.9
CVER Cruz Verde, Cu 23.32 116 P P 06 30 56.4 +2.8
comp=Z,3µmcomp=Z,108nm,1.0s
PAMC Pamplona, Colo 23.32 108 P P 06 30 54.3 +0.7
PIAT Ana Tenorio 23.33 133 P P 06 30 57.3 +3.7
comp=Z,592nmcomp=Z,13nm,1.0s
RUSC La Rusia 23.56 112 P P 06 30 56.6 +0.6
CHIC Chingaza 23.56 115 P P 06 30 57.9 +2.0
comp=Z,3µmcomp=Z,299nm,1.1s
FLOC Florencia 23.60 124 P P 06 30 58.5 +2.6
FLOC IAmb IAmb 06 31 07.2
comp=Z,55nm,1.1s
FLOC Florencia 23.60 124 P P 06 30 57.9 +2.0
comp=Z,737nmcomp=Z,52nm,1.2s
URMC La Uribe, Meta 23.71 119 P P 06 30 59.0 +2.0
comp=Z,48nm,1.0s
COHC Cochancay 23.73 138 P 06 30 58.7 +1.6
VILC Villavicencio, 23.85 116 P P 06 31 01.1 +2.7
comp=Z,406nmcomp=Z,42nm,0.8s
X16A Lo Mia Camp, P 23.92 325 P 06 31 00.6 +1.7
X16A IAmb IAmb 06 31 17.1
comp=Z,30nm,1.0s
113A Mohawk Valley, 24.16 319 P 06 30 59.4 -1.6
KSCO Kaye Shedlock 24.32 345 P 06 31 02.5 -0.1
KSCO IAmb IAmb 06 31 06.8
comp=Z,68nm,1.3s
Y14A Wickenburg 24.48 322 P 06 31 05.2 +1.2
Y14A IAmb IAmb 06 31 08.1
comp=Z,47nm,1.5s
TAMC Tame, Arauca 24.50 109 P P 06 31 05.1 +0.8
comp=Z,2µmcomp=Z,177nm,1.0s
MVCO Mesa Verde 24.68 334 P 06 31 08.3 +2.3
MVCO IAmb IAmb 06 31 21.4
comp=Z,32nm,0.9s
WUAZ Wupatki 24.70 327 P 06 31 07.8 +1.7
WUAZ IAmb IAmb 06 31 10.7
comp=Z,49nm,1.1s
SDV Santo Domingo 24.71 103 P 06 31 06.5 0.0
SDV IAmb IAmb 06 31 37.9
comp=Z,23nm,0.8s
SDV Santo Domingo 24.71 103 LR LR 06 41 49.1
comp=Z,500nm,19.4s,baz=274,slow=39
SDV Santo Domingo 24.71 103 eP P 06 31 04.7 -1.7
SDV Santo Domingo 24.71 103 P P 06 31 08.1 +1.7
comp=Z,36nm,0.9s
MACC Macarena, Meta 24.75 120 P P 06 31 06.8 +0.3
comp=Z,775nmcomp=Z,43nm,0.8s
MCRA Macar, Loja 24.77 142 P P 06 31 06.0 -0.8
comp=Z,14nm,1.2s
PTLC Puerto Leguiza 25.14 126 P P 06 31 14.2 +4.2
N38A Joes South For 25.21 3 P 06 31 08.8 -1.6
P48A Milroy 25.27 18 P 06 31 09.2 -1.7
P48A IAmb IAmb 06 31 28.3
comp=Z,16nm,0.8s
BLYC Blythe 25.28 319 P P 06 31 10.4 -0.7
HDIL Hopedale 25.42 10 P P 06 31 10.1 -2.2
HDIL IAmb IAmb 06 31 41.2
comp=Z,22nm,0.8s
YUH Yuha Desert 25.50 316 P P 06 31 14.1 +0.9
YUH IAmb IAmb 06 31 37.3
comp=Z,46nm,1.8s
GUVC San Jose del G 25.56 118 P P 06 31 15.1 +1.2
SFIN Lafayette 25.69 14 P P 06 31 12.8 -2.0
SFIN IAmb IAmb 06 31 45.2
comp=Z,27nm,1.3s
PV18 Skein Mesa, Pa 25.73 334 P 06 31 16.2 +0.7
W13A Hualapai Mount 25.80 322 P 06 31 19.6 +3.4
PV20 West Nyswonger 25.83 334 P 06 31 16.4 +0.1
U15A North Rim 25.88 327 P 06 31 17.6 +0.7
ISCO Idaho Springs 25.89 341 P 06 31 18.1 +1.1
ISCO IAmb IAmb 06 31 36.6
comp=Z,21nm,1.1s
PV22 Blue Mesa, Par 25.92 335 P 06 31 18.1 +0.9
PV22 IAmb IAmb 06 31 40.8
comp=Z,47nm,1.3s
OGNE Ogallala 26.04 348 P 06 31 18.8 +0.8
O48B Farmland 26.08 17 P 06 31 18.3 0.0
O48B IAmb IAmb 06 31 50.1
comp=Z,31nm,0.7s
PMD Palm Desert 26.41 317 P 06 31 23.4 +2.0
PMD IAmb IAmb 06 31 34.3
comp=Z,20nm,1.1s
PFO Pinyon Flats O 26.44 317 P P 06 31 22.3 +0.5
comp=Z,2.0nm,0.7s,baz=127,slow=6.7,SNR=3.6
comp=Z,2.0nm,0.7s
KNB Kanab 26.60 327 P 06 31 24.9 +1.5
KNB IAmb IAmb 06 31 48.2
comp=Z,53nm,1.6s
L40A Anamosa 26.63 6 P 06 31 21.7 -1.6
L40A IAmb IAmb 06 31 42.4
comp=Z,31nm,0.8s
V12A Nelson 26.81 322 P 06 31 26.9 +1.8
SZCU Shurtz Canyon 27.18 327 P 06 31 31.8 +3.3
SZCU IAmb IAmb 06 31 47.6
comp=Z,40nm,1.9s
Q16A Castle Valley 27.27 332 P 06 31 30.6 +1.2
Q16A IAmb IAmb 06 31 48.4
comp=Z,24nm,1.3s
CCUT Cedar City 27.29 327 P 06 31 31.4 +1.9
K30B Basset 27.33 353 P 06 31 30.1 +0.5
SHPR Sheep Range 27.52 323 P 06 31 33.0 +1.4
JFWS Jewell Farm 27.59 8 P 06 31 29.4 -2.5
JFWS IAmb IAmb 06 32 01.4
comp=Z,26nm,0.7s
TMUT Trail Mountain 27.60 332 P 06 31 30.6 -1.8
SJG San Juan 27.73 81 LR LR 06 42 40.3
comp=Z,424nm,20.6s,baz=250,slow=37
ATAH Atahualpa 27.90 143 LR LR 06 40 46.1
comp=Z,316nm,18.8s,baz=330,slow=32
ECSD EROS Data Cent 28.13 358 P 06 31 34.8 -2.0
ECSD IAmb IAmb 06 32 24.4
comp=Z,27nm,0.9s
PSUT Pine Spring 28.28 328 P 06 31 38.8 +0.4
I42A Draeger Farm, 28.73 9 P 06 31 42.3 +0.2
I42A IAmb IAmb 06 32 09.8
comp=Z,16nm,1.1s
K22A Casper 28.77 342 P 06 31 42.5 -0.1
K22A IAmb IAmb 06 32 37.0
comp=Z,25nm,1.3s
SPR3 Spring Creek 3 28.88 328 P 06 31 44.6 +0.8
R11B Troy Canyon, C 29.07 325 P 06 31 47.7 +2.4
SPMN Marine on St. 29.65 3 P 06 31 48.3 -1.9
SPMN IAmb IAmb 06 31 51.2
comp=Z,20nm,0.7s
DSP Deep Springs 29.77 321 P 06 31 53.2 +1.9
PDAR Pinedale Array 29.86 338 P 06 31 52.5 +0.1
PDAR Pinedale Array 29.86 338 P P 06 31 52.4 -0.1
comp=Z,1.1nm,0.9s,baz=150,slow=6.8,SNR=6.6
comp=Z,1.1nm,0.9s
M57A Sunshine Farm, 30.01 28 P 06 31 57.3 +3.9
M57A IAmb IAmb 06 32 24.0
comp=Z,15nm,1.4s
PCRV Puerto La Cruz 30.07 97 LR LR 06 45 11.1
comp=Z,727nm,21.5s,slow=39
NV11 Mina Array Sit 30.58 323 P 06 32 00.2 +1.5
NV11 IAmb IAmb 06 32 19.6
comp=Z,19nm,1.0s
ELK Elko 30.65 329 P 06 32 00.3 +0.9
ELK Elko 30.65 329 P P 06 31 59.5 +0.1
comp=Z,3.2nm,0.9s,baz=149,slow=6.4,SNR=8.9
comp=Z,3.2nm,0.9s
LHV Little Huntoon 30.66 322 P P 06 31 59.4 +0.1
LHV IAmb IAmb 06 32 27.1
comp=Z,16nm,0.9s
NVAR Mina Array Bea 30.66 322 P 06 32 00.9 +1.3
NVAR Mina Array Bea 30.66 322 P P 06 31 59.9 +0.3
comp=Z,3.6nm,0.7s,baz=136,slow=8.7,SNR=37
comp=Z,3.6nm,0.7s
SNOW Snow King Moun 30.91 337 P P 06 32 00.6 -1.0
SNOW IAmb IAmb 06 32 22.4
comp=Z,26nm,1.0s
TPAW Teton Pass 31.00 337 P 06 32 01.7 -0.9
TPAW IAmb IAmb 06 32 32.5
comp=Z,21nm,1.2s
E28A Huff 31.30 352 P 06 32 05.3 +0.5
TBTG Tabatinga, AM 31.65 126 eP P 06 32 08.4 +0.2
RLMT Red Lodge 31.85 341 P 06 32 10.1 +0.2
RLMT IAmb IAmb 06 32 26.4
comp=Z,9.6nm,1.0s
CZSB Cruzeiro do Su 31.98 135 eP P 06 32 13.0 +1.8
SADO Sadowa 32.08 22 LR LR 06 47 52.1
comp=Z,576nm,18.2s,baz=210,slow=42
PAHR Pah Rah Range 32.14 323 P 06 32 13.4 +0.9
PAHR IAmb IAmb 06 32 25.3
comp=Z,9.2nm,1.0s
MDND Maddock 32.44 354 P 06 32 14.8 0.0
EYMN Ely 32.44 4 P 06 32 11.9 -2.9
EYMN IAmb IAmb 06 32 23.0
comp=Z,9.1nm,0.6s
HLID Hailey 32.46 333 P 06 32 15.6 +0.4
AGMN Agassiz Nation 32.67 359 P 06 32 15.0 -1.8
MCMT McKenzie Canyo 32.86 336 P 06 32 20.6 +1.8
MFID Camas Ranch 32.98 332 P 06 32 21.2 +1.5
DLMT Dillon 33.21 337 P 06 32 22.6 +0.8
DLMT IAmb IAmb 06 32 25.5

comp=Z,17nm,1.0s
TBO Thunder Bay 33.34 7 P 06 32 20.7 -1.9
TBO IAmb IAmb 06 32 25.5
comp=Z,15nm,0.9s
J08A Circle Bar Ran 34.20 329 P 06 32 31.4 +1.0
J08A IAmb IAmb 06 32 47.8
comp=Z,15nm,0.7s
PLID Pearl Lake 34.37 333 P 06 32 32.0 +0.1
BPMT Black Pine Rid 34.44 337 P 06 32 33.4 +0.9
EGMT Eagleton 34.60 342 P 06 32 34.2 +0.5
BMO Blue Mountains 34.76 332 P 06 32 36.0 +0.8
BMO IAmb IAmb 06 32 37.1
comp=Z,12nm,1.4s
MSO Missoula 34.95 337 P 06 32 37.4 +0.6
I07A Izee 35.24 329 P 06 32 40.2 +0.9
YBH Yreka Blue Hor 35.38 323 P P 06 32 39.7 -0.8
comp=Z,0.1nm,0.7s,baz=109,slow=1.0,SNR=6.4
L04D Klamath Falls 35.46 324 P 06 32 41.7 +0.5
L04D IAmb IAmb 06 33 03.8
comp=Z,37nm,1.6s
TEFE Tefe 35.53 120 *e*P **P 06 32 42.4 +0.4**
PINE Pine Mountain 35.77 327 P 06 32 43.8 -0.1
JTMT Jette 35.85 338 P 06 32 45.0 +0.5
G08A Pilot Rock 35.86 331 P 06 32 45.0 +0.4
BOAV Boa Vista 36.41 108 P 06 32 48.3 -1.3
BOAV IAmb IAmb 06 32 50.8
comp=Z,9.8nm,0.9s
BOAV Boa Vista 36.41 108 *e*P **P 06 32 48.9 -0.6**
I03D Drain, OR 37.00 325 P P **06 32 54.6 +0.4**
I03D IAmb IAmb 06 32 58.0
comp=Z,15nm,1.0s
H04A Detroit Lake 37.03 327 P 06 32 53.6 -0.9
H04A IAmb IAmb 06 33 27.5
comp=Z,23nm,1.2s
H04D Lebanon 37.21 327 P 06 32 54.4 -1.7
H04D IAmb IAmb 06 33 37.4
comp=Z,14nm,1.0s
NEW Newport 37.36 336 P 06 32 57.7 +0.3
B08A Colville Reser 38.35 334 P 06 33 06.3 +0.7
MACA Manacapuru-AM 38.72 116 P 06 33 09.0 -0.1
MACA IAmb IAmb 06 33 32.5
comp=Z,34nm,1.2s
MACA Manacapuru-AM 38.72 116 *e*P **P 06 33 08.2 -0.9**
GNW Green Mountain 39.35 330 P 06 33 14.8 +0.8
FFC Flin Flon 39.48 354 P 06 33 14.3 -0.6
FFC IAmb IAmb 06 33 29.6
comp=Z,44nm,1.8s
NLWA Neilton Lookou 39.74 329 P 06 33 19.1 +1.9
LLLB Lillooet 41.14 334 P P **06 33 29.3 +0.4**
LPAZ La Paz 41.28 139 P P **06 33 30.6 -0.4**
LPAZ La Paz 41.28 139 P P **06 33 31.1 +0.1**
comp=Z,2.6nm,0.6s,baz=342,slow=4.2,SNR=16
comp=Z,2.6nm,0.6s
LPAZ La Paz 41.28 139 *e*P P **06 33 31.1 +0.1**
PB18 Visviri 41.44 142 P P **06 33 34.0 +1.8**
PB16 IPOC Station P 42.00 142 P P **06 33 37.7 +0.8**
PB16 IAmb IAmb 06 33 53.2
comp=Z,18nm,1.3s
CBB Campbell River 42.28 331 P P **06 33 37.9 -0.2**
CBB IAmb IAmb 06 33 40.9
comp=Z,25nm,1.4s
MDP Montagnes des 42.87 99 LR LR 06 53 31.9
comp=Z,340nm,20.6s,baz=294,slow=39
GO01 Chusmiza 43.23 143 P P **06 33 47.6 +0.9**
GO01 IAmb IAmb 06 34 01.0
comp=Z,27nm,1.4s
ITTB Itaituba 43.63 114 *e*P P **06 33 46.9 -2.6**
PB08 IPOC Station P 43.63 144 P P **06 33 52.0 +2.2**
PB08 IAmb IAmb 06 34 19.3
comp=Z,41nm,1.8s
MAL2 Monte Alegre, 43.98 110 P P **06 33 52.0 -0.4**
VILB Vilhena 44.59 128 P P **06 33 57.9 +0.7**
VILB Vilhena 44.59 128 *e*P P **06 33 57.4 +0.2**
SCHQ Schefferville 44.87 23 LR LR 06 55 49.4
comp=Z,659nm,18.4s,baz=239,slow=40
NPGB Novo Progresso 45.24 117 *e*P P **06 34 00.5 -1.9**
AF01 San Pedro de A 46.40 145 P P **06 34 12.4 +0.7**
PDRB Porto dos Gac 46.52 123 *e*P P **06 34 12.5 0.0**
CLDB Colider 46.87 122 *e*P P **06 34 13.3 -1.9**
PTLB Pontes e Lacer 46.95 129 P P **06 34 15.8 0.0**
PTLB IAmb IAmb 06 34 18.1
comp=Z,16nm,1.3s
PTLB Pontes e Lacer 46.95 129 *e*P P **06 34 15.0 -0.7**
YKA Yellowknife Ar 48.90 348 P P **06 34 30.7 +0.4**
YKA Yellowknife Ar 48.90 348 P P **06 34 29.6 -0.6**
comp=Z,2.8nm,0.8s,baz=152,slow=7.0,SNR=18
comp=Z,2.8nm,0.8s
YKAW3 Yellowknife Wh 48.96 348 P P **06 34 29.8 -0.9**
YKAW3 IAmb IAmb 06 34 32.7
comp=Z,21nm,1.4s
AC02 Maricunga 49.06 149 P P **06 34 33.7 +1.2**
PRPB Parauapebas 49.69 112 *e*P P **06 34 36.6 -0.5**
SALV Santo Antonio 49.83 127 *e*P P **06 34 37.2 -0.8**
TAOE Nuku Hiva Isla 50.86 245 *e*S S **06 42 01.1 -0.1**
comp=Z,295nm,26.3s
TAOE *e*LR LR 06 49 24.0
comp=Z,536nm,22.5s
SNDB Serra Nova Dou 51.19 120 *e*P P **06 34 47.6 -0.7**
BDQN Bodoquena, MS 51.88 132 *e*P P **06 34 54.7 +1.2**
ARAG Araguaiana, MT 52.76 124 *e*P P **06 35 00.0 0.0**
SMTB Santa Maria do 52.86 114 *e*P P **06 35 00.2 -0.6**
ZON Zonda 53.21 152 P P **06 35 03.7 +0.6**
AMBA Amambai (Brazi 54.73 133 *e*P P **06 35 16.1 +1.7**
SJPY San Joaquin 55.34 136 *e*P P **06 35 18.4 -0.3**
CPUP Villa Florida 55.45 138 P P **06 35 20.6 +1.1**
comp=Z,1.7nm,1.1s,baz=326,slow=1.7,SNR=3.0
comp=Z,1.7nm,1.1s
CPUP Villa Florida 55.45 138 *e*P P **06 35 19.8 +0.3**
BDFB Brasilia 55.80 122 P P **06 35 24.2 +1.8**
BDFB Brasilia 55.80 122 P P **06 35 22.8 +0.5**
comp=Z,19nm,0.9s,baz=267,slow=6.5,SNR=16
comp=Z,19nm,0.9s
SDBA SAO DESIDERIO 56.83 116 *e*P P **06 35 29.1 -0.6**
BCAR Beaver Creek A 57.47 337 P P **06 35 34.0 +0.5**
JANB Januaria 58.60 119 *e*P P **06 35 41.5 -0.5**
ILAR Eielson Array 60.29 337 P P **06 35 52.6 -0.3**
comp=Z,1.5nm,0.7s,baz=141,slow=4.1,SNR=13
comp=Z,1.5nm,0.7s
PLCA Paso Flores 60.42 159 P P **06 35 54.4 +0.2**
comp=Z,3.9nm,0.8s,baz=329,slow=6.1,SNR=9.9
comp=Z,3.9nm,0.8s
PPT Papeete 63.05 241 LR LR 06 56 05.6
comp=Z,254nm,18.9s,baz=32,slow=29
PPT2 Papeete2 63.06 241 *e*LR LR 06 54 45.8
comp=Z,317nm,25.2s
PPT2 *e*LR LR 06 55 05.2
comp=Z,264nm,21.8s
SUMG Summit 65.55 16 *i* P P **06 36 28.5 +0.3**
SUMG IAmb IAmb 06 36 41.2
comp=Z,48nm,1.9s
NEEM North Greenlan 65.69 10 *i* P P **06 36 31.4 +2.4**
NEEM IAmb IAmb 06 36 41.9
comp=Z,12nm,0.8s
TBI Tubuai 65.78 235 *e*LR LR 06 56 06.6
comp=Z,2μm,25.2s
PMOZ Porto Moniz, M 71.64 60 *e*LR LR 07 25 04.6
PMOZ *i* IAMs_20 IAMs_20 07 30 25.4
comp=Z,363nm,22.0s
DAG Danmarks Havn 71.85 14 *i* P P **06 37 05.0 -2.0**
DAG IAmb IAmb 06 37 22.7
comp=Z,6.5nm,0.8s
NOR Nord 73.02 9 *i* P P **06 37 11.4 -2.5**
NOR IAmb IAmb 06 37 30.8
comp=Z,5.9nm,1.0s
RAR Rarotonga 73.28 242 LR LR 07 00 34.9
comp=Z,150nm,21.2s,baz=20,slow=28
PGAV Gavieira, Arco 77.40 50 *e*LR LR 07 23 00.1
PGAV *i* IAMs_20 IAMs_20 07 34 17.2
comp=Z,693nm,20.0s
PSARD Sardoal 77.88 52 *e*P P **06 37 40.2 -2.3**
PVIS Viseu 77.89 51 *e*P P **06 37 41.8 -0.8**
PMTG Montargil 77.93 53 *e*P P **06 37 41.9 -1.0**
MTE Manteigas 78.21 51 *e*P P **06 37 43.3 -1.2**
MTE *e*LR LR 07 23 40.6
MTE *i* IAMs_20 IAMs_20 07 32 35.0
comp=Z,707nm,22.0s
EKA Eskdalemuir Ar 78.42 36 P P **06 37 44.3 -0.9**
comp=Z,0.9nm,0.4s,baz=276,slow=5.6,SNR=7.8
comp=Z,0.9nm,0.4s
MVO Moncorvo 78.45 50 *e*LR LR 07 23 38.8
MVO *i* IAMs_20 IAMs_20 07 33 36.5
comp=Z,768nm,22.0s
PMRV Marv??o 78.50 52 *e*P P **06 37 44.0 -2.0**
PMRV *e*LR LR 07 23 57.4
PMRV *i* IAMs_20 IAMs_20 07 29 50.4
comp=Z,383nm,26.0s
PVAQ Vaqueiros 78.62 54 *e*LR LR 07 24 48.9
PVAQ *i* IAMs_20 IAMs_20 07 32 57.0
comp=Z,1μm,24.0s
SPITS Spitsbergen Ar 79.16 11 LR LR 07 15 11.5
comp=Z,787nm,20.9s,baz=335,slow=38
ESDC Sonseca Array 81.04 51 P P **06 37 59.0 -0.9**
ESDC IAmb IAmb 06 38 13.0
comp=Z,10.0nm,1.1s
ESDC Sonseca Array 81.04 51 P P **06 37 58.6 -1.3**
comp=Z,2.5nm,0.9s,baz=292,slow=4.3,SNR=12
comp=Z,2.5nm,0.9s
ESBB Sonseca Array 81.05 51 P **06 37 59.0 -0.9**
ESBB IAmb IAmb 06 38 07.0
comp=Z,9.8nm,1.1s
KONO Kongsberg 83.92 30 P 06 38 19.2 +4.8
NB2 NORSAR Subarra 84.17 28 P P **06 38 15.7 0.0**
comp=Z,7.8nm,1.0s,baz=291,slow=5.1
NOA NORSAR Array B 84.17 28 P P **06 38 15.2 -0.5**
comp=Z,3.6nm,1.0s,baz=292,slow=5.1,SNR=13
comp=Z,3.6nm,1.0s
ARCES ARCESS Array B 85.58 18 P P **06 38 22.7 +0.1**
comp=Z,2.9nm,0.7s,baz=285,slow=4.0,SNR=15
ARCES LR LR 07 19 22.2
comp=Z,498nm,20.2s,baz=3.0,slow=38
comp=Z,2.9nm,0.7s
HFS Hagfors 85.65 28 P P **06 38 22.7 -0.4**
comp=Z,0.6nm,0.6s,baz=268,slow=7.2,SNR=1.6
comp=Z,0.6nm,0.6s
SENIN Lac Senin/Sane 87.15 43 P **06 38 35.3 +4.2**
SENIN IAmb IAmb 06 38 36.8
comp=Z,7.6nm,1.0s
CLL Collm 88.85 37 *e*P P **06 38 40.0 +1.3**
CLL *es*P **sP 06 38 52.0 +2.5**
GERES GERESS Array B 90.25 39 P P **06 38 46.7 +1.2**
comp=Z,0.3nm,0.2s,baz=285,slow=5.1,SNR=4.5
comp=Z,0.3nm,0.2s
FINES FINESS Array B 90.33 24 P P **06 38 46.0 +0.7**
comp=Z,1.6nm,1.0s,baz=328,slow=4.9,SNR=3.9
comp=Z,1.6nm,1.0s
TORD Torodi Ar. Bea 92.84 76 P P **06 38 57.9 -0.1**
comp=Z,0.4nm,0.7s,baz=295,slow=4.0,SNR=2.6
comp=Z,0.4nm,0.7s
URZ Urewera 97.82 233 LR LR 07 14 43.5
comp=Z,252nm,19.1s,baz=262,slow=30
DZM Mont Dzumac 103.43 251 *e*LR LR 07 13 46.1
comp=Z,370nm,22.8s
MKAR Makanchi Array 117.91 2 PKP **PKPdf 06 44 31.1 -0.3**
comp=Z,0.2nm,0.5s,baz=0.6,slow=3.9,SNR=2.6
HHC Hu-ho-hao-te 118.72 337 *e*P **PKPdf 06 44 33.4 +0.2**
NJ2 Nanjing 122.62 326 *e*P **PKPdf 06 44 39.9 -0.8**
NJ2 pmax pmax
comp=Z,12nm,0.5s
LZH Lanzhou 125.64 341 *e*PKP **PKiKP 06 44 49.0 +1.9**
LZH sPKP 06 45 04.9
LZH LR LR
comp=N,180nm,17.5s
LZH LR LR
comp=E,210nm,17.5s
LZH LR LR
comp=Z,250nm,17.5s
WRA Warramunga Arr 132.92 257 PKP **PKPdf 06 45 00.6 -0.1**
comp=Z,0.7nm,1.0s,baz=78,slow=1.9,SNR=2.2
ASAR Alice Springs 133.40 252 PKP **PKPdf 06 45 01.8 +0.3**
comp=Z,0.7nm,0.8s,baz=60,slow=2.8,SNR=4.1
PZH PanZhiHua 135.15 339 PKP **PKPdf 06 45 03.6 -1.3**
CMAR Chiang Mai Arr 143.53 337 PKP **PKPdf 06 45 19.6 -0.5**
comp=Z,1.1nm,0.3s,baz=30,slow=2.4,SNR=4.1

*AFAD **17** 06:28:33.7,37.40N×26.98E, h7km±3km, ML2.3*
ISK 17 06:28:32.9,37.40N×26.98E, h5km, ML2.4/22,
Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIDI	**Didim-Aydin**	**0.21**	**97**	Pg	Pg	06 28 38.2	+1.2
DDIM	**Aydin, Didim**	**0.22**	**76**	P	Pg	06 28 38.9	+1.8
DDIM				*i* IAML		06 28 43.0	
	comp=E,561nm,0.2s						
DDIM				*i* IAML		06 28 43.0	
	comp=N,559nm,0.2s						
DDIM				S	Sg	06 28 43.4	+3.4
GCAM	**G?zelcaml?**	**0.36**	**34**	Pg	Pb	06 28 41.4	-0.4
GCAM				Sg	Sb	06 28 47.3	-0.4
GCAM	**G?zelcaml?**	**0.36**	**34**	P	Pb	06 28 41.2	-0.5
GCAM				S	Sb	06 28 47.1	-0.6
GCAM				*i* IAML		06 28 48.0	
	comp=N,1μm,0.2s						
GCAM				*i* IAML		06 28 48.0	
	comp=E,2μm,0.4s						
YKAV	**Yalikavak-Bodr**	**0.37**	**139**	Pg	Pb	06 28 41.5	-0.4
BODT	**Bodrum**	**0.43**	**142**	Pg	Pb	06 28 42.4	-0.6
MLSB	**Milas**	**0.65**	**99**	Pg	Pb	06 28 46.4	-0.3
DGB	**zmir**	**0.65**	**353**	P	Pb	06 28 46.2	-0.5
DGB				S	Sb	06 28 55.5	-0.6
DGB				*i* IAML		06 28 58.0	
	comp=N,97nm,0.3s						
DGB				*i* IAML		06 28 58.0	
	comp=E,172nm,0.4s						
AYDN	**Tasoluk**	**0.76**	**70**	P	Pb	06 28 48.5	-0.2
AYDN				S	Sb	06 28 59.1	-0.3
AYDN				*i* IAML		06 29 03.0	
	comp=N,147nm,0.3s						
AYDN				*i* IAML		06 29 05.0	
	comp=E,117nm,0.4s						
YAZI	**Mula-Dat§a-**	**0.81**	**152**	P	Pb	06 28 49.8	+0.3
YAZI				S	Sb	06 29 01.2	+0.4
YAZI				*i* IAML		06 29 04.0	
	comp=N,52nm,0.3s						
YAZI				*i* IAML		06 29 04.0	
	comp=E,132nm,0.5s						
DAT	**Datca**	**0.83**	**144**	Pg	Pb	06 28 50.1	+0.3
DATC	**Datca-Mugla**	**0.84**	**139**	Pg	Pb	06 28 50.4	+0.4
AYDB	**Zeytinkoy-Aydi**	**0.90**	**53**	Pg	Pb	06 28 51.2	0.0
ZEYE	**Izmir, Urla-Ze**	**0.92**	**336**	P	Pb	06 28 51.6	+0.3
ZEYE				S	Sn	06 29 04.9	-1.0
ZEYE				*i* IAML		06 29 07.0	
	comp=E,64nm,0.2s						
ZEYE				*i* IAML		06 29 09.0	
	comp=N,139nm,0.6s						
BLCB	**Balcova**	**0.98**	**3**	Pg	Pb	06 28 52.6	+0.2
URLA	**Izmir**	**1.00**	**343**	Pg	Pn	06 28 53.4	-0.3
NAZL	**Nazilli-Aydin**	**1.18**	**61**	Pn	Pn	06 28 56.7	+0.5
TURN	**Turunc**	**1.19**	**121**	Pn	Pn	06 28 57.1	+0.9
APE	**Apeiranthos**	**1.20**	**254**	Pn	Pn	06 28 57.1	+0.7
CHOS	**Chios island**	**1.22**	**324**	Pn	Pn	06 28 57.7	+0.9
ODEM	**Odemis-Izmir**	**1.23**	**45**	Pn	Pn	06 28 57.9	+1.1
DALY	**Dalyan (Mula)**	**1.46**	**113**	Pn	Pg	06 29 01.7	+0.8
ARG	**Arkhangelos**	**1.50**	**142**	Pn	Pg	06 29 02.1	+0.4
KULA	**Kula-Manisa**	**1.73**	**50**	Pn	Pb	06 29 05.4	+0.2
GORD	**Gordes-Manisa**	**1.77**	**32**	Pn	Pb	06 29 06.0	0.0
APMY	**Acipayam-Deniz**	**1.85**	**87**	Pn	Pb	06 29 07.1	-0.2
FETY	**Fethiye**	**1.85**	**114**	Pn	Pb	06 29 07.3	+0.1
CAME	**Cameli-Denizli**	**1.91**	**103**	Pn	Pb	06 29 07.7	-0.7

RSNC 17 06:28:38.7±0.0, 9°N±2°×7°7W±°, h58km±12km, M2.6, ML2.6,
Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCBC	**Los crdobas,**	**0.94**	**99**	P	Pn	06 28 56.9	+1.0
LCBC				S	Sn	06 29 08.2	-0.4
APAC	**Apartado, Choc**	**1.32**	**147**	P	Pn	06 29 00.9	0.0
APAC				S	Sn	06 29 18.4	+0.9
UREC	**San Jos de Ur**	**2.16**	**125**	P	Pn	06 29 12.3	0.0
UREC				S	Sn	06 29 37.1	-0.9
SJCC	**San Jacinto, C**	**2.28**	**67**	P	Pn	06 29 14.2	+0.2
SJCC				S	Sn	06 29 40.0	-1.0
BCIP	**Isla Barro Col**	**2.50**	**274**	P	Pn	06 29 16.8	-0.2
BCIP				S	Sn	06 29 45.1	-1.2
SOLC	**Bahia Solano**	**2.77**	**182**	P	Pn	06 29 17.7	-2.9
SOLC				S	Sn	06 29 47.3	-5.6
ZARC	**Zaragoza, Cauc**	**2.86**	**122**	P	Pn	06 29 21.4	-0.5
ZARC				S	Sn	06 29 53.1	-2.0
ARGC	**Ariguani, Magd**	**3.14**	**74**	P	Pn	06 29 26.1	+0.4
ARGC				S	Sn	06 30 01.0	-1.0
AZU	**Azuero**	**3.17**	**248**	P	Pn	06 29 26.2	0.0
CBOC	**Ciudad Bolivar**	**3.38**	**158**	P	Pn	06 29 30.8	+1.6
PTBC	**PUERTO BERRIO,**	**3.74**	**131**	P	Pn	06 29 33.2	-0.8
PTBC				S	Sn	06 30 15.8	-1.1
OCAC	**Ocana**	**4.02**	**101**	P	Pn	06 29 39.1	+1.2
OCAC				S	Sn	06 30 22.5	-1.4
CRJC	**Cerrejon, Guaj**	**4.80**	**65**	P	Pn	06 29 47.9	-0.6
CRJC				S	Sn	06 30 38.8	-4.1

IDC 17 06:43:30.9±4.4, 5°43S×129°25E, h251km±41km, mb2.9/2,
mbtmp3.9/5, Error ellipse: s-maj=90.1km s-min=14.1km
az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi 13.07 195**			P	Pn	06 46 27.9	+0.1
	3.4nm,0.5s,baz=5.2,slow=11,SNR=10						
FITZ				S	S	06 48 47.8	-5.3
	3.7nm,1.0s,baz=277,slow=16,SNR=2.2						
WRA	**Warramunga Arr 15.25 162**			P	P	06 46 52.8	-0.7
	0.8nm,0.3s,baz=343,slow=13,SNR=25						
WRA				S	S	06 49 34.0	-8.0
	0.4nm,0.4s,baz=337,slow=19,SNR=1.1						
ASAR	**Alice Springs 18.68 167**			P	P	06 47 32.1	+1.2
	3.8nm,0.3s,baz=349,slow=11,SNR=62						
ASAR				S	S	06 50 50.4	+0.2
	1.0nm,0.7s,baz=348,slow=20,SNR=5.8						
MKAR	**Makanchi Array 66.52 327**			P	P	06 53 53.7	-0.2
	0.2nm,0.3s,baz=117,slow=7.6,SNR=5.1						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra 70.79 329**			P	P	06 54 20.1	0.0
	0.2nm,0.4s,baz=122,slow=4.4,SNR=2.4						
	0.2nm,0.4s						

NEIC 17 07:08:57.6±1.9, 43.37N±0.06×127.1W±0.2, h10km±2km,
ML2.7/72, Error ellipse: s-maj=20.8km s-min=3.1km
az=243.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte 2.08 103**			Pn	Pn	07 09 30.9	-1.8
KEBM				IAML		07 09 51.3	
	comp=N,42nm,2.2s						
KEBM				IAML		07 10 13.4	
	comp=E,43nm,2.4s						
KBO	**Bosley Butte 2.41 118**			Pn	Pn	07 09 36.8	-0.4
KBO				IAML		07 10 06.7	
	comp=E,63nm,2.3s						
KBO				IAML		07 11 07.0	
	comp=N,44nm,2.0s						
I02E	**Swisshome, OR 2.47 72**			Pn	Pn	07 09 36.3	-1.6
I03D	**Drain, OR 2.75 82**				Pn	07 09 41.0	-0.7
L02F	**Cave Junction 2.88 114**			Pn	Pn	07 09 43.5	-0.2
COR	**Corvallis 3.00 65**			Pn	Pn	07 09 45.3	+0.2
HEBO	**Mount Hebo 3.03 51**			Pn	Pn	07 09 44.0	-1.7
HEBO				IAML		07 11 08.2	
	comp=N,26nm,1.4s						
BUCK	**Buck Mountain 3.09 73**				Pn	07 09 46.4	-0.2
BUCK				IAML		07 10 20.7	
	comp=N,12nm,2.6s						
BUCK				IAML		07 10 56.1	
	comp=E,13nm,2.5s						
BBOR	**Butler Butte 3.27 97**				Pn	07 09 49.2	+0.1
G03D	**McMinnville, O 3.31 55**				Pn	07 09 49.1	-0.4
G03D				IAML		07 10 12.4	
	comp=E,14nm,1.5s						
G03D				IAML		07 10 38.2	
	comp=N,17nm,1.4s						
H04D	**Lebanon 3.35 68**				Pn	07 09 50.4	+0.3
H04D				IAML		07 10 14.4	
	comp=E,15nm,0.6s						
H04D				IAML		07 10 17.9	
	comp=N,10nm,0.7s						
F03A	**Seaside 3.60 43**				Pn	07 09 52.7	-0.7
YBH	**Yreka Blue Hor 3.63 115**			Pn	Pn	07 09 54.7	+0.7
J04A	**Umpqua Nationa 3.64 90**				Pn	07 09 55.2	+1.0
L04D	**Klamath Falls 3.71 106**			Pn	Pn	07 09 56.8	+1.7
L04D				IAML		07 10 57.0	
	comp=N,9.4nm,3.0s						
L04D				IAML		07 11 16.2	
	comp=E,12nm,1.9s						
H04A	**Detroit Lake 3.78 68**			Pn	Pn	07 09 55.8	-0.2
H04A				IAML		07 10 21.7	
	comp=N,9.6nm,0.4s						
H04A				IAML		07 10 43.9	
	comp=E,9.0nm,0.4s						
G04A	**Mulino 3.79 59**				Pn	07 09 56.2	+0.2
G04A				IAML		07 10 25.2	
	comp=E,16nm,0.8s						
G04A				IAML		07 10 25.4	
	comp=N,18nm,0.8s						
RADR	**Rader Ridge 3.85 36**			Pn	Pn	07 09 55.7	-1.2
E03A	**Lebam 4.05 37**				Pn	07 09 58.7	-0.9
I05D	**Terrebonne, OR 4.28 75**				Pn	07 10 02.7	-0.1
I05D				IAML		07 11 16.3	
	comp=E,8.0nm,4.2s						
I05D				IAML		07 11 24.4	
	comp=N,7.2nm,4.5s						
J05D	**Fort Rock, OR 4.28 89**				Pn	07 10 04.2	+1.2
J05D				IAML		07 10 55.4	
	comp=E,6.6nm,3.4s						
J05D				IAML		07 10 59.2	
	comp=N,7.3nm,4.8s						
HOOD	**Mount Hood Mea 4.37 62**				Pn	07 10 04.8	+0.6
WISH	**Wishkah 4.42 31**			Pn	Pn	07 10 04.0	-0.7
PINE	**Pine Mountain 4.49 82**				Pn	07 10 05.4	-0.5
PINE				IAML		07 10 44.3	
	comp=N,5.4nm,3.0s						
PINE				IAML		07 11 15.4	
	comp=E,6.2nm,4.8s						
K05A	**Summer Lake 4.59 96**			Pn	Pn	07 10 07.9	+0.6
K05A				IAML		07 10 45.3	
	comp=N,6.7nm,4.4s						
NLWA	**Neilton Lookou 4.62 28**			Pn	Pn	07 10 07.1	-0.4
NLWA				IAML		07 11 01.2	
	comp=N,7.9nm,0.8s						
NLWA				IAML		07 11 01.9	
	comp=N,10nm,0.5s						
G06A	**Carlson Farm, 5.00 66**				Pn	07 10 12.8	0.0
G06A				IAML		07 12 29.7	
	comp=N,3.3nm,3.5s						
G06A				IAML		07 12 43.1	
	comp=E,3.8nm,4.9s						
LON	**Longmire 5.04 46**				Pn	07 10 12.9	-0.4
LON				IAML		07 11 17.0	
	comp=E,4.2nm,0.7s						
LON				IAML		07 11 19.4	
	comp=N,5.3nm,0.9s						
GNW	**Green Mountain 5.16 34**				Pn	07 10 14.1	-0.8
GNW				IAML		07 11 14.6	
	comp=E,6.4nm,0.3s						
GNW				IAML		07 11 15.2	
	comp=N,5.1nm,0.4s						
D05A	**Enumclaw 5.25 42**				Pn	07 10 17.0	+0.9
I07A	**Izee 5.55 80**				Pn	07 10 21.2	+0.8
MXC	**Moxie City 5.79 54**				Pn	07 10 23.7	+0.1
PGC	**Sidney 5.86 24**			Pn	Pn	07 10 24.3	-0.2
LTY	**Liberty 5.97 47**			Pn	Pn	07 10 26.1	0.0
G08A	**Pilot Rock 6.15 69**				Pn	07 10 28.9	+0.3
BMO	**Blue Mountains 7.20 75**				Pn	07 10 43.5	+0.4
PLID	**Pearl Lake 8.15 74**			Pn	Pn	07 10 56.7	+0.5
LRM	**Limekiln Ridge 10.73 72**			Pn	Pn	07 11 32.1	+0.6

*ASRS **17** 07:10:13.0±1.1, 54.20N×87.13E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 17 07:10:16.3±3.6, 54.31N×87.22E, h0km, mbtmp2.8/2,
ML2.2/2, Error ellipse: s-maj=32.4km s-min=21.0km
az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA 1.46 257**			I	I	07 19 15.4	
	baz=78,slow=321,SNR=5.4						
ZALV	**Zalesovo Beam 1.46 257**			Pg	Pn	07 10 41.6	-2.3
	1.4nm,0.3s,baz=76,slow=15,SNR=14						
ZALV				Lg	Lg	07 11 03.1	
	0.8nm,0.3s,baz=72,slow=26,SNR=5.4						
KURBB	**Kurchatov Arra 6.46 239**			Pn	Pn	07 11 53.4	+0.7
	0.1nm,0.3s,baz=53,slow=13,SNR=3.6						
	0.5nm,0.5s						
MKAR	**Makanchi Array 8.15 205**			Pn	Pn	07 12 17.4	+1.6
	baz=20,slow=13,SNR=1.8						
	0.1nm,0.3s						

AUST 17 07:17:03.1±1.2, 18°S±9°×12°1E±°, h14km±14km, mb4.0/8,
ML3.0/6, Error ellipse: s-maj=23.4km s-min=6.3km
az=147.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.90**	**194**	P	Pn	07 17 50.0	+1.1
MBWA				S	Sn	07 18 25.4	+1.8
PSAC1	**Pilbara Seismi**	**3.25**	**192**	P	Pn	07 17 54.4	+0.8
PSAC1				S	Sn	07 18 33.6	+1.4
PSA00	**Pilbara Seismi**	**3.28**	**191**	P	Pn	07 17 55.1	+1.0
PSA00				S	Sn	07 18 33.4	+0.5
FITZ	**Fitzroy Crossi**	**4.88**	**88**	P	Pn	07 18 16.7	+0.5
GIRL	**Giralia**	**7.27**	**233**	P	Pn	07 18 47.6	-1.4
GIRL				S	Sn	07 20 04.8	-6.7
KNRA	**Kununurra**	**8.33**	**73**	P	Pn	07 19 03.3	-0.2
	comp=Z,17nm,1.6s,comp=Z,0.1nm						
KNRA				S	Sn	07 20 35.3	-2.2
MEEK	**Meekatharra**	**8.44**	**192**	P	Pn	07 19 05.2	+0.1
	comp=Z,13nm,1.8s,comp=Z,0.0nm						
MEEK	**Meekatharra**	**8.44**	**192**	S	Sn	07 20 37.2	-3.2
WRKA	**Warakurna**	**9.84**	**134**	P	Pn	07 19 25.9	+1.5
	comp=Z,2.3nm,2.4s,comp=Z,0.0nm						
WRKA				S	Sn	07 21 14.5	-0.2
MORW	**Morawa**	**11.44**	**200**	P	Pn	07 19 44.0	-2.1
	comp=Z,12nm,2.4s						
MORW	**Morawa**	**11.44**	**200**	S	Sn	07 21 43.5	-10
BLDU	**Ballidu**	**12.70**	**195**	P	Pn	07 20 02.0	-1.4
	comp=Z,13nm,2.0s						
BLDU	**Ballidu**	**12.70**	**195**	S	Sn	07 22 12.8	-12
WRAB	**Tennant Creek**	**13.18**	**99**	P	Pn	07 20 10.2	+0.2
	comp=Z,5.9nm,0.7s						
WRAB				S	Sn	07 22 29.4	-7.1
KLBR	**Kellerberrin**	**13.43**	**190**	P	Pn	07 20 12.0	-1.3
	comp=Z,11nm,1.2s						
KLBR	**Kellerberrin**	**13.43**	**190**	S	Sn	07 22 29.7	-13
FORT	**Forrest**	**14.16**	**152**	P	Pn	07 20 22.9	-0.4
	comp=Z,5.3nm,1.4s						
FORT				S	Sn	07 22 53.9	-6.3

NNC 17 07:17:55.0±5.1, 37°08N×69°72E, h0km, mb3.8, mpv3.5, 4D, Error ellipse: s-maj=71.2km s-min=31.6km az=119.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.04**	**6**	⇓P	Pn	07 19 25.8	+0.1
	2.0nm,0.4s,baz=184,slow=16,SNR=20						
KK31				⇓S	Sn	07 20 36.7	+1.1
	2.3nm,0.3s,baz=183,slow=19,SNR=11						
AB31	**Akbulak array**	**14.09**	**333**	⇓P	Pn	07 21 16.6	+0.9
	1.0nm,0.5s,baz=149,slow=12,SNR=14						
AKTO	**Aktyubinsk**	**15.77**	**332**	⇓P	Pn	07 21 37.0	-1.3
	0.4nm,0.3s						

GCG 17 07:25:18.3±0.4, 14°44N×91°74W, h71km±5km, MD3.6, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	**0.35**	**91**	eP	Pn	07 25 30.0	-0.1
STG2				eS	Sn	07 25 39.2	+0.4
STG0	**El Palmar, Qui**	**0.38**	**92**	eP	Pn	07 25 30.0	-0.4
STG0				eS	Sn	07 25 39.6	+0.3
SMCA	**Catarina**	**0.53**	**321**	eP	Pn	07 25 31.6	+0.2
SMCA				eS	Sn	07 25 42.1	+1.0
FG8	**Yepocapa, Chim**	**1.15**	**99**	eP	Pn	07 25 34.7	-4.2
FG8				eS	Sn	07 25 47.2	-7.1

ASRS 17 07:30:14.0±1.6, 53°66N×88°16E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 17 07:30:16.6±3.4, 53°64N×88°01E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=30.8km s-min=18.5km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.92**	**281**	I	I	07 42 40.0	
	0.1nm,0.8s,baz=95,slow=322,SNR=28						
ZALV	**Zalesovo Beam**	**1.92**	**281**	Pg	Pn	07 30 51.0	+0.5
	0.8nm,0.3s,baz=97,slow=12,SNR=18						
ZALV				Lg	Lg	07 31 18.1	
	1.7nm,0.3s,baz=99,slow=19,SNR=12						
KURBB	**Kurchatov Arra**	**6.57**	**246**	Pn	Pn	07 31 55.2	+0.8
	baz=61,slow=14,SNR=5.6						
KURBB				Lg	Lg	07 33 44.0	
	0.1nm,0.3s,baz=63,slow=32,SNR=5.3						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**7.77**	**210**	Pn	Pn	07 32 12.1	+1.2
	0.1nm,0.3s,baz=28,slow=12,SNR=2.7						
MKAR				Lg	Lg	07 34 20.2	
	0.1nm,0.3s,baz=24,slow=33,SNR=2.2						
	0.1nm,0.3s						

IDC 17 07:43:56.7±0.9, 7°37S×154°58E, h0km, mb4.0/11, mbtmp4.0/11, MS3.2/1, Error ellipse: s-maj=33.3km s-min=19.0km az=110.0
NEIC 17 07:43:58.0±2.0, 7°45S±0°1×154°5E±0°1, h10km±1km, mb4.5/17, Error ellipse: s-maj=26.9km s-min=15.9km az=63.0

ISC 17 07:44:00.9±0.7, 7°37S±0°08×154°5E±0°1, h27km, n33, σ1s24/34, mb4.2/18, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.89**	**324**	Pn	**Pn**	**07 44 58.3**	**-0.7**
RABL				Sn	**Sn**	**07 45 45.7**	**+1.9**
WB0	**Warramunga Arr**	**23.03**	**236**	P	**P**	**07 49 04.4**	**+0.3**
WB0				IAmb	IAmb	07 49 06.2	
	comp=Z,6.5nm,0.8s						
WR8	**Warramunga Arr**	**23.04**	**235**	P	**P**	**07 49 04.6**	**+0.4**
WR8				IAmb	IAmb	07 49 06.3	
	comp=Z,7.7nm,0.8s						
WRA	**Warramunga Arr**	**23.16**	**235**	P	**P**	**07 49 05.1**	**-0.4**
WRA	**Warramunga Arr**	**23.16**	**235**	P	**P**	**07 49 05.8**	**+0.3**
	comp=Z,7.6nm,0.9s,baz=58,slow=9.3,SNR=25						
WRA				PcP	**PcP**	**07 52 54.2**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=60,slow=2.5,SNR=1.7						
	comp=Z,7.6nm,0.9s						
AS31	**Alice Springs**	**25.52**	**228**	P	**P**	**07 49 27.3**	**-0.1**
ASAR	**Alice Springs**	**25.52**	**228**	P	**P**	**07 49 27.5**	**0.0**
	comp=Z,0.7nm,0.4s,baz=57,slow=9.6,SNR=13						
	comp=Z,0.7nm,0.4s						
KNRA	**Kununurra**	**26.46**	**250**	P	**P**	**07 49 34.0**	**-2.0**
KNRA				IAmb	IAmb	07 49 39.5	
	comp=Z,10nm,0.8s						
STKA	**Stephens Creek**	**27.17**	**204**	P	**P**	**07 49 41.2**	**-1.1**
STKA				IAmb	IAmb	07 50 22.9	
	comp=Z,28nm,1.1s						
STKA	**Stephens Creek**	**27.17**	**204**	P	**P**	**07 49 42.7**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=25,slow=9.8,SNR=3.3						
	comp=Z,1.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**30.01**	**246**	P	**P**	**07 50 05.7**	**-1.9**
TOO	**Toolangi**	**31.15**	**194**	P	**P**	**07 50 21.0**	**+3.4**
TOO				IAmb	IAmb	07 50 23.6	
	comp=Z,14nm,1.3s						
FORT	**Forrest**	**33.95**	**223**	P	**P**	**07 50 40.3**	**-1.8**
FORT				IAmb	IAmb	07 50 56.8	
	comp=Z,7.0nm,0.9s						
MBWA	**Marble Bar**	**36.23**	**244**	P	**P**	**07 51 01.4**	**-0.5**
KSRS	**Korea Array**	**51.02**	**333**	P	**P**	**07 53 00.7**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=153,slow=7.9,SNR=4.1						
	comp=Z,0.9nm,0.7s						
PPT	**Papeete**	**55.41**	**106**	LR	LR	08 14 17.9	
	comp=Z,20nm,20.5s,baz=56,slow=33						
PETK	**Petropavlovsk-**	**60.30**	**2**	P	**P**	**07 54 06.8**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=182,slow=6.8,SNR=2.3						
	comp=Z,1.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**60.46**	**296**	P	**P**	**07 54 10.3**	**+1.6**
	comp=Z,1.3nm,0.4s,baz=123,slow=5.7,SNR=5.3						
	comp=Z,1.3nm,0.4s						
SONM	**Songino Array**	**69.36**	**328**	P	**P**	**07 55 06.7**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=134,slow=6.4,SNR=4.0						
	comp=Z,0.9nm,0.7s						
Q19K	**Cape Douglas,**	**77.97**	**25**	P	**P**	**07 55 55.5**	**-1.0**
CNPM	**China Poot**	**79.32**	**25**	P	**P**	**07 56 02.3**	**-1.6**
PWL	**Port Wells**	**81.27**	**25**	P	**P**	**07 56 12.9**	**-1.5**
IMAR	**Indian Mountai**	**82.25**	**19**	P	**P**	**07 56 19.3**	**-0.1**
QSPA	**South Pole Qui**	**82.61**	**180**	P	**P**	**07 56 22.0**	**+0.5**
QSPA				IAmb	IAmb	07 56 31.8	
	comp=Z,2.8nm,1.0s						
QSPA	**South Pole Qui**	**82.61**	**180**	P	**P**	**07 56 21.9**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=0.5,slow=6.2,SNR=9.8						
	comp=Z,1.4nm,0.7s						
MLY	**Manley**	**82.69**	**20**	P	**P**	**07 56 20.7**	**-1.1**
MLY				IAmb	IAmb	07 56 32.1	
	comp=Z,1.3nm,0.7s						
MKAR	**Makanchi Array**	**83.32**	**319**	P	**P**	**07 56 23.5**	**-2.0**
MKAR	**Makanchi Array**	**83.32**	**319**	P	**P**	**07 56 26.4**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=90,slow=6.9,SNR=8.8						
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**83.92**	**22**	P	**P**	**07 56 26.9**	**-1.2**
	comp=Z,0.7nm,0.9s,baz=249,slow=5.7,SNR=5.1						
	comp=Z,0.7nm,0.9s						
CTGM	**Chitina Glacie**	**84.30**	**26**	P	**P**	**07 56 29.8**	**-0.5**
J25K	**Salcha River,**	**84.39**	**22**	P	**P**	**07 56 29.4**	**-1.2**
J25K				IAmb	IAmb	07 56 40.9	
	comp=Z,2.9nm,0.7s						
NVAR	**Mina Array Bea**	**92.37**	**52**	P	**P**	**07 57 10.1**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=248,slow=5.8,SNR=5.8						
	comp=Z,0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**152.59**	**284**	PKPbc	**PKPbc**	**08 03 56.3**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=68,slow=2.0,SNR=5.2						

IDC 17 07:46:19.4±2.9, 6°25S×108°78E, h222km±49km, mb3.2/5, mbtmp3.8/5, Error ellipse: s-maj=131.1km s-min=16.8km az=49.0

ISC 17 07:46:18.0±1.1, 6°0S±0°2×109°1E±0°1, h200km, n6, σ0s58/7, mb3.4/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**1.66**	**240**	P	**Pn**	**07 46 54.0**	**+0.7**
	81nm,0.6s,baz=15,slow=5.9,SNR=11						
LEM				S	**Sn**	**07 47 20.2**	**-0.6**
	61nm,0.6s,baz=118,slow=17,SNR=6.6						
WRA	**Warramunga Arr**	**28.19**	**122**	P	**P**	**07 51 52.8**	**+0.5**
	0.3nm,0.4s,baz=311,slow=8.7,SNR=9.1						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**29.65**	**129**	P	**P**	**07 52 05.1**	**0.0**
	1.1nm,0.6s,baz=304,slow=8.9,SNR=11						
	1.1nm,0.6s						
STKA	**Stephens Creek**	**39.82**	**134**	P	**P**	**07 53 31.6**	**-0.5**
	2.9nm,0.5s,baz=315,slow=9.0,SNR=8.9						
	2.9nm,0.5s						
MKAR	**Makanchi Array**	**57.68**	**339**	P	**P**	**07 55 47.5**	**-0.1**
	0.3nm,0.5s,baz=148,slow=7.1,SNR=3.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**62.25**	**339**	P	**P**	**07 56 18.4**	**-0.2**
	0.2nm,0.4s,baz=158,slow=5.7,SNR=2.7						
	0.2nm,0.4s						

FUNV 17 07:46:57.2, 10°90N×62°21W, h99km, MW3.7

ISC 17 07:47:00.1±3.3, 11°1N±0°2×62°6W±0°2, h100km, n9, σ1s12/11, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**2.17**	**245**	eP	**Pn**	**07 47 35.6**	**+0.6**
PCRV				eS	**Sn**	**07 48 03.0**	**+1.3**
TACV	**Tcata**	**4.42**	**258**	eP	**Pn**	**07 48 05.9**	**+0.8**
TACV				eS	**Sn**	**07 48 56.5**	**+0.9**
BENV	**Beln**	**5.01**	**257**	eP	**Pn**	**07 48 13.4**	**+0.3**
BENV				eS	**Sn**	**07 49 09.6**	**-0.4**
CACV	**CAICARA DEL OR**	**5.22**	**228**	eP	Pn	07 48 08.2	-7.6
CACV				eS	Sn	07 49 01.6	-13
MLYT	**Lee's Yard**	**5.60**	**4**	eP	**Pn**	**07 48 20.3**	**-0.8**
MBFL	**Flemmings, Mon**	**5.63**	**4**	eP	**Pn**	**07 48 21.4**	**0.0**
BAUV	**El Baul**	**5.74**	**249**	eP	**Pn**	**07 48 22.2**	**-0.7**
BAUV				eS	**Sn**	**07 49 25.3**	**-2.2**
ANBD	**Bethesda, Anti**	**5.97**	**8**	eP	**Pn**	**07 48 25.8**	**-0.3**
SKI	**Saint Kitts**	**6.20**	**359**	eP	Pn	07 48 17.9	-11

VAO 17 07:47:08.0±1.0, 2°74N×59°80W, h0km, mbR3.8, Guyana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAV	**Boa Vista**	**0.80**	**245**	eP	Pg	07 47 23.4	+0.1
BOAV				eS	Sg	07 47 33.9	+0.2
MACA	**Manacapuru-AM**	**5.93**	**189**	eP	Pn	07 48 37.5	+0.3
MACA				eS	Sn	07 49 46.0	+0.2
TEFE	**Tefe**	**7.87**	**218**	eP	Pn	07 49 03.3	-0.5
TEFE				eS	Sn	07 50 34.4	+0.8
ITTB	**Itaituba**	**8.15**	**150**	eP	Pn	07 49 06.6	-1.0

SJA 17 07:51:34.4±1.7, 20°47S×66°66W, h210km, ML3.9, MW3.6
NEIC 17 07:51:35.1±1.1, 20°43S±0°09×67°0W±0°2, h255km±22km, mb4.2/3, Error ellipse: s-maj=23.3km s-min=12.2km az=102.0
SCB 17 07:51:35.1±1.3, 20°46S×66°83W, h233km±10km, ML3.7/3, MW3.1, Error ellipse: s-maj=4.6km s-min=3.9km az=0.0
IDC 17 07:51:36.7±3.7, 20°08S×67°08W, h278km±21km, mb3.9/1, mbtmp3.8/4, Error ellipse: s-maj=77.1km s-min=25.8km az=55.0

ISC 17 07:51:33.9±0.8, 20°44S±0°04×66°85W±0°05, h249km±9km, n60, σ1s47/82, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.40**	**126**	Pg	**Pn**	**07 52 12.0**	**+0.1**
MOCB				Sg	**S**	**07 52 39.3**	**-2.4**
MOCB				IAML		07 52 41.4	
	198nm,0.4s						
SOEO	**Opoqueri**	**2.10**	**332**	Pg	**Pn**	**07 52 18.9**	**+1.0**
PB08	**IPOC Station P**	**2.18**	**277**		**Pn**	**07 52 19.3**	**+0.9**
PB08				Sn	**S**	**07 52 53.1**	**-0.3**
AOVT	**TarijaAcel**	**2.29**	**119**	Pg	**Pn**	**07 52 18.7**	**-0.5**
GO01	**Chusmiza**	**2.33**	**289**		**Pn**	**07 52 20.5**	**+0.6**
GO01	**Chusmiza**	**2.33**	**289**	eP	**Pn**	**07 52 20.5**	**+0.6**
GO01				eS	**S**	**07 53 02.5**	**+6.4**
GO01	**Chusmiza**	**2.33**	**289**	Pg	**Pn**	**07 52 20.6**	**+0.6**
PB01	**IPOC Station P**	**2.54**	**256**		**Pn**	**07 52 21.9**	**+0.3**
PB01				Sn	**S**	**07 52 57.8**	**-1.4**
PB01	**IPOC Station P**	**2.54**	**256**	eP	**Pn**	**07 52 22.0**	**+0.4**
PB01				eS	**S**	**07 52 58.3**	**-0.9**
PB01				IAML		07 52 59.5	
	comp=Z,152nm,0.2s						
PB01	**IPOC Station P**	**2.54**	**256**	Pg	**Pn**	**07 52 22.0**	**+0.4**
PB01				Sg	**S**	**07 52 58.1**	**-1.1**
PB01				IAML		07 53 00.1	
	comp=Z,163nm,0.2s						
PB09	**IPOC Station P**	**2.61**	**238**		**Pn**	**07 52 23.4**	**+1.1**
PB09	**IPOC Station P**	**2.61**	**238**	eP	**Pn**	**07 52 23.5**	**+1.1**
PB09				eS	**S**	**07 53 01.2**	**+0.6**
PB09	**IPOC Station P**	**2.61**	**238**	Pg	**Pn**	**07 52 23.6**	**+1.2**
PB11	**IPOC Station P**	**2.72**	**284**		**Pn**	**07 52 23.8**	**+0.3**
PB11				Sn	**S**	**07 53 00.7**	**-2.0**
PB11	**IPOC Station P**	**2.72**	**284**	eP	**Pn**	**07 52 23.8**	**+0.3**
PB11				eS	**S**	**07 53 01.9**	**-0.8**
PB11				IAML		07 53 05.9	
	comp=Z,128nm,0.2s						
PB11	**IPOC Station P**	**2.72**	**284**	Pg	**Pn**	**07 52 23.8**	**+0.3**
PB11				Sg	**S**	**07 53 00.9**	**-1.8**
PB11				IAML		07 53 04.8	
	comp=Z,230nm,0.2s						
PB02	**IPOC Station P**	**2.98**	**252**		**Pn**	**07 52 27.0**	**+0.8**
PB02				Sn	**S**	**07 53 05.5**	**-2.1**
PB02	**IPOC Station P**	**2.98**	**252**	eP	**Pn**	**07 52 26.7**	**+0.5**
PB02				eS	**S**	**07 53 05.8**	**-1.7**
PB02				IAML		07 53 07.4	
	comp=Z,937nm,0.3s						
PB02	**IPOC Station P**	**2.98**	**252**	Pg	**Pn**	**07 52 27.1**	**+0.8**
TA02	**Huaiquique**	**3.08**	**272**		**Pn**	**07 52 27.3**	**+0.1**
TA02	**Huaiquique**	**3.08**	**272**	eP	**Pn**	**07 52 27.5**	**+0.3**
TA02				eP		07 52 27.8	
TA02				eS	**S**	**07 53 07.1**	**-2.2**
TA02				IAML		07 53 08.2	
	comp=Z,306nm,0.2s						
PATCX	**Punta Patache**	**3.11**	**262**		**Pn**	**07 52 28.1**	**+0.4**
TA01	**Diego Aracena**	**3.12**	**267**		**Pn**	**07 52 27.8**	**+0.2**
TA01	**Diego Aracena**	**3.12**	**267**	eP	**Pn**	**07 52 27.8**	**+0.2**
TA01				eS	**S**	**07 53 07.7**	**-2.4**
PB03	**IPOC Station P**	**3.14**	**239**		**Pn**	**07 52 28.8**	**+0.7**
PB03	**IPOC Station P**	**3.14**	**239**	eP	**Pn**	**07 52 28.9**	**+0.7**
PB03				eS	**S**	**07 53 09.4**	**-1.5**
PB03				IAML		07 53 10.5	
	comp=Z,206nm,0.2s						
PB03	**IPOC Station P**	**3.14**	**239**	Pg	**Pn**	**07 52 29.3**	**+1.2**
PB16	**IPOC Station P**	**3.26**	**309**		**Pn**	**07 52 31.3**	**+1.4**
PB16	**IPOC Station P**	**3.26**	**309**	eP	**Pn**	**07 52 30.6**	**+0.7**
PB16				eS	**S**	**07 53 11.3**	**-2.8**
PB16				eS	S	07 53 15.7	+1.7
PB16	**IPOC Station P**	**3.26**	**309**	Pg	**Pn**	**07 52 31.5**	**+1.6**
PB06	**IPOC Station P**	**3.39**	**228**		**Pn**	**07 52 32.4**	**+1.6**
PB06	**IPOC Station P**	**3.39**	**228**	eP	**Pn**	**07 52 32.0**	**+1.2**
PB06				eS	**S**	**07 53 15.7**	**-0.2**
PB06				IAML		07 53 17.4	
	comp=Z,133nm,0.2s						
PB06	**IPOC Station P**	**3.39**	**228**	Pg	**Pn**	**07 52 32.4**	**+1.6**
BBOJ	**La Paz, Jacaqu**	**3.67**	**340**	Pg	**Pn**	**07 52 36.2**	**+1.7**
SOEJ	**Jacaque**	**3.67**	**340**	Pg	**Pn**	**07 52 36.1**	**+1.7**
BBOE	**La Paz, Chanca**	**3.76**	**343**	Pg	**Pn**	**07 52 36.8**	**+1.3**
PB18	**Visviri**	**3.77**	**318**		**Pn**	**07 52 37.0**	**+1.4**
PB05	**IPOC Station P**	**3.94**	**232**		**Pn**	**07 52 37.8**	**+0.8**
PB05	**IPOC Station P**	**3.94**	**232**	eP	**Pn**	**07 52 37.3**	**+0.3**
PB05				eS	**S**	**07 53 24.9**	**-2.3**
PB05	**IPOC Station P**	**3.94**	**232**	Pg	**Pn**	**07 52 38.0**	**+1.0**
BBOD	**La Paz, Gloria**	**4.12**	**336**	Pg	**Pn**	**07 52 41.3**	**+1.5**
LPAZ	**La Paz**	**4.30**	**343**		**Pn**	**07 52 42.6**	**+0.8**
LPAZ	**La Paz**	**4.30**	**343**	P	**Pn**	**07 52 42.4**	**+0.4**
	comp=Z,4.7nm,0.5s,baz=168,slow=11,SNR=30						
LPAZ				S	**S**	**07 53 33.1**	**-2.8**
	comp=Z,4.6nm,0.6s,baz=13,slow=24,SNR=8.4						
LPAZ	**La Paz**	**4.30**	**343**	eP	**Pn**	**07 52 42.7**	**+0.8**
LPAZ				eS	**S**	**07 53 33.8**	**-2.1**
LPAZ	**La Paz**	**4.30**	**343**	Pg	**Pn**	**07 52 42.5**	**+0.6**
PB10	**IPOC Station P**	**4.60**	**228**	Pn	**Pn**	**07 52 45.3**	**+0.5**
PB10	**IPOC Station P**	**4.60**	**228**	eP	**Pn**	**07 52 45.3**	**+0.5**
PB10				eS	**S**	**07 53 37.9**	**-3.3**
PB14	**IPOC Station P**	**5.31**	**218**	Pn	**Pn**	**07 52 54.5**	**+0.8**
GO02	**Mina Guanaco**	**5.34**	**208**	eP	**Pn**	**07 52 55.1**	**+1.0**
GO02				eS	**S**	**07 53 56.4**	**-1.7**
AC01	**Pan de Azucar**	**6.65**	**210**	Pn	**Pn**	**07 53 09.6**	**-0.5**
AC02	**Maricunga**	**6.70**	**198**	Pn	**Pn**	**07 53 12.6**	**+1.2**
AC06	**Mina Casimiro**	**7.60**	**204**	Pn	**Pn**	**07 53 21.7**	**-0.4**
PTLB	**Pontes e Lacer**	**8.86**	**57**		**Pn**	**07 53 39.1**	**+0.9**
LCO	**Las Campanas**	**9.22**	**202**	Pn	**Pn**	**07 53 43.2**	**+0.2**
CPUP	**Villa Florida**	**10.53**	**126**	P	**P**	**07 54 05.7**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=320,slow=2.4,SNR=3.7						
ITAB	**Concordia**	**15.07**	**119**		**P**	**07 54 56.6**	**+2.0**
ITAB				IAmb	IAmb	07 54 58.1	
	comp=Z,22nm,1.1s						
PLTB	**Pedras Altas**	**16.38**	**136**		**Pn**	**07 55 09.9**	**-0.6**
PLTB				IAmb	IAmb	07 55 21.8	
	comp=Z,12nm,1.4s						
BDFB	**Brasilia**	**18.54**	**78**	P	**Pn**	**07 55 35.3**	**-0.8**
BDFB				IAmb	IAmb	07 56 10.5	
	comp=Z,9.9nm,1.2s						
BDFB	**Brasilia**	**18.54**	**78**	P	**Pn**	**07 55 35.4**	**-0.8**
	comp=Z,2.8nm,0.5s,baz=238,slow=9.5,SNR=5.1						
TORD	**Torodi Ar. Bea**	**75.19**	**70**	P	**P**	**08 02 49.8**	**+0.1**
	comp=Z,2.4nm,0.5s,baz=255,slow=5.4,SNR=27						
	comp=Z,2.4nm,0.5s						

ASRS 17 07:54:42.0±1.6, 53°75N×88°29E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 17 07:54:44.6±3.4, 53°79N×88°13E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=30.2km s-min=18.7km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.97**	**276**	I	I	08 07 18.1	
	0.1nm,1.3s,baz=92,slow=318,SNR=3.8						
ZALV	**Zalesovo Beam**	**1.97**	**276**	Pg	Pb	07 55 20.3	-0.9
	1.7nm,0.3s,baz=93,slow=14,SNR=13						
ZALV				Lg	Lg	07 55 46.9	
	3.2nm,0.3s,baz=90,slow=26,SNR=10						
ZALV				I	I	08 07 17.9	
	baz=115,slow=24,SNR=5.4						
KURBB	**Kurchatov Arra**	**6.70**	**246**	Pn	Pn	07 56 24.9	+0.8
	0.1nm,0.3s,baz=61,slow=14,SNR=6.0						
KURBB				Lg	Lg	07 58 16.5	
	baz=58,slow=30,SNR=3.6						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.94**	**210**	Pn	Pn	07 56 42.1	+1.0
	0.1nm,0.3s,baz=28,slow=14,SNR=4.7						
MKAR				Lg	Lg	07 58 54.0	
	baz=30,slow=32,SNR=2.0						
	0.2nm,0.5s						

ASRS 17 08:00:02.0±0.8, 53°67N×87°87E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 17 07:59:58.0±3.0, 54°10N×86°55E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=24.2km s-min=13.8km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**262**	I	I	08 06 39.3	
	baz=79,slow=322,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.03**	**262**	Pg	Pg	08 00 16.3	-1.5
	0.9nm,0.3s,baz=77,slow=17,SNR=9.4						
ZALV				Lg	Lg	08 00 33.0	
	1.6nm,0.3s,baz=73,slow=30,SNR=9.5						
KURBB	**Kurchatov Arra**	**6.02**	**238**	Pn	Pn	08 01 29.4	+1.1
	0.1nm,0.3s,baz=54,slow=13,SNR=6.0						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**7.80**	**202**	Pn	Pn	08 01 54.6	+1.8
	0.1nm,0.3s,baz=21,slow=13,SNR=4.2						
MKAR				Sn	Sn	08 03 18.9	-3.0
	0.1nm,0.3s,baz=23,slow=30,SNR=3.5						
MKAR				Lg	Lg	08 04 06.6	
	0.1nm,0.3s,baz=19,slow=28,SNR=3.3						
	0.1nm,0.3s						

*IDC 17 08:02:46.

NWAO				Sn	Sn	08 06 08.4	-4.1	
	comp=Z,9.6nm,0.3s,baz=234,slow=20,SNR=8.4							
NWAO				Lg	Lg	08 06 57.5		
	comp=Z,8.2nm,0.3s,baz=288,slow=20,SNR=4.2							
NWAO	**Narrogin (SRO)**	**7.88**	**153**	P	**Pn**	**08 04 42.7**	**-0.5**	
H01W3	**Cape Leeuwin H**	**8.97**	**174**	T	T	08 14 11.4		
	baz=352,slow=76,SNR=10							
H01W1	**Cape Leeuwin H**	**8.98**	**174**	T	T	08 14 08.5		
	baz=352,slow=76,SNR=11							
H01W2	**Cape Leeuwin H**	**8.99**	**174**	T	T	08 14 06.7		
	baz=352,slow=76,SNR=9.5							
RKGY	**Rocky Gully**	**9.30**	**159**	P	**Pn**	**08 05 03.3**	**+0.5**	
	comp=Z,8.4nm,0.9s,comp=Z,0.1nm							
RKGY				S	**Sn**	**08 06 46.9**	**-0.6**	
DNDOZ	**Balladonia**	**11.48**	**127**	P	**Pn**	**08 05 32.9**	**+0.2**	
	comp=Z,86nm,0.4s							
WRKA	**Warakurna**	**13.82**	**90**	P	**Pn**	**08 06 04.0**	**-0.7**	
	comp=Z,7.0nm,0.6s							
FITZ	**Fitzroy Crossi**	**14.04**	**59**	P	**Pn**	**08 06 06.8**	**-1.0**	
	comp=Z,2.6nm,0.8s							
FITZ	**Fitzroy Crossi**	**14.04**	**59**	Pn	**Pn**	**08 06 06.8**	**-1.0**	
	comp=Z,1.3nm,0.3s,baz=241,slow=11,SNR=47							
FITZ				Sn	Sn	08 08 29.7	-14	
	comp=Z,3.2nm,0.3s,baz=236,slow=9.5,SNR=9.7							
FITZ				Lg	Lg	08 09 59.3		
	baz=211,slow=17							
	comp=Z,4.0nm,0.4s							
FORT	**Forrest**	**14.08**	**113**	P	**Pn**	**08 06 07.7**	**-0.6**	
	comp=Z,14nm,0.6s							
KNRA	**Kununurra**	**17.88**	**58**	P	**Pn**	**08 06 59.1**	**+1.5**	
	comp=Z,15nm,1.6s							
MULG	**Mulgathing**	**19.04**	**108**	P	**P**	**08 07 11.0**	**0.0**	
	comp=Z,7.1nm,1.9s							
ASAR	**Alice Springs**	**19.08**	**88**	P	**P**	**08 07 11.8**	**+0.3**	
	comp=Z,0.3nm,0.3s,baz=258,slow=11,SNR=20							
ASAR				Sn	Sn	08 10 35.4	-11	
	comp=Z,0.4nm,0.3s,baz=262,slow=24,SNR=5.1							
ASAR				Lg	Lg	08 12 44.2		
	baz=178,slow=34							
	comp=Z,1.0nm,0.5s							
AS31	**Alice Springs**	**19.09**	**88**	P	**Pn**	**08 07 13.9**	**+1.6**	
WRA	**Warramunga Arr**	**20.50**	**77**	P	**P**	**08 07 28.3**	**+1.3**	
	comp=Z,0.7nm,0.5s,baz=257,slow=12,SNR=7.5							
WRA				S	S	08 11 07.2	-9.3	
	comp=Z,0.6nm,0.5s,baz=258,slow=23,SNR=5.0							
	comp=Z,0.7nm,0.5s							
H08S2	**Diego Garcia H**	**42.62**	**288**	T	T	08 55 34.6		
	baz=120,slow=76,SNR=478							
H08S1	**Diego Carcia H**	**42.64**	**288**	T	T	08 55 26.2		
	baz=120,slow=76,SNR=172							
H08S3	**Diego Garcia H**	**42.64**	**288**	T	T	08 55 35.9		
	baz=120,slow=76,SNR=740							
H04S1	**CROZET ISLANDS**	**52.06**	**230**	T	T	09 07 39.7		
	baz=88,slow=76,SNR=51							
H04S2	**CROZET ISLANDS**	**52.08**	**230**	T	T	09 07 40.0		
	baz=88,slow=76,SNR=237							
H04S3	**CROZET ISLANDS**	**52.08**	**230**	T	T	09 07 38.7		
	baz=88,slow=76,SNR=201							
H04N2	**CROZET ISLANDS**	**52.13**	**231**	T	T	09 07 49.4		
	baz=88,slow=75,SNR=820							
H04N3	**CROZET ISLANDS**	**52.14**	**230**	T	T	09 07 48.9		
	baz=88,slow=75,SNR=761							
H04N1	**CROZET ISLANDS**	**52.14**	**231**	T	T	09 07 52.3		
	baz=88,slow=75,SNR=770							
QSPA	**South Pole Qui**	**64.16**	**180**	P	**P**	**08 13 23.2**	**0.0**	
	comp=Z,4.5nm,1.2s,baz=321,slow=6.5,SNR=9.7							
	comp=Z,4.5nm,1.2s							
MKAR	**Makanchi Array**	**77.54**	**339**	P	**P**	**08 14 43.4**	**-1.1**	
	comp=Z,0.3nm,0.5s,baz=150,slow=6.1,SNR=2.9							
	comp=Z,0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**82.10**	**339**	P	**P**	**08 15 07.4**	**-1.6**	
	comp=Z,0.4nm,0.6s,baz=162,slow=4.9,SNR=3.5							
	comp=Z,0.4nm,0.6s							
TXAR	**Lajitas Array**	**147.40**	**76**	PKPbc	**PKPbc**	**08 22 33.5**	**+0.2**	
	comp=Z,0.5nm,0.9s,baz=252,slow=4.5,SNR=4.5							

IDC 17 08:05:08.5±2.7, 53°.81N×86°.52E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=22.0km s-min=13.1km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**279**	I	I	08 11 20.0	
	baz=99,slow=324,SNR=7.0						
ZALV	**Zalesovo Beam**	**1.01**	**279**	Pg	Pg	08 05 26.7	-1.2
	0.4nm,0.3s,baz=95,slow=18,SNR=4.5						
ZALV				Lg	Lg	08 05 42.7	
	0.8nm,0.3s,baz=97,slow=30,SNR=6.4						
KURBB	**Kurchatov Arra**	**5.85**	**240**	Pn	Pn	08 06 37.3	+0.8
	baz=54,slow=13,SNR=2.9						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**7.53**	**203**	Pn	Pn	08 07 00.7	+1.3
	0.1nm,0.3s,baz=24,slow=14,SNR=1.8						
	0.1nm,0.3s						

SLM 17 08:07:36.4±1.2, 34°.13N±0°.01×81°.14W±0°.02, h6km±7km, Error ellipse: s-maj=2.1km s-min=2.0km az=216.0

NEIC 17 08:07:37.1±1.1, 34°.14N±0°.01×81°.12W±0°.01, h5km±1km, mb_Lg2.4/5, ML2.0/14, Md2.2/11(SLM), Error ellipse: s-maj=2.6km s-min=2.4km az=235.0, South Carolina

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSC	**Jenkinsville**	**0.18**	**322**		Pg	08 07 40.5	-0.2
JSC	**Jenkinsville**	**0.18**	**322**	IAML		08 07 43.8	
	comp=N,4.2nm,0.0s						
JSC				IAML		08 07 44.0	
	comp=E,149nm,0.2s						
BIRD	**Birdtown, Kers**	**0.74**	**47**		Pg	08 07 50.2	-1.2
BIRD	**Birdtown, Kers**	**0.74**	**47**	Sg	Sg	08 08 00.4	-0.6
BIRD				IAML		08 08 02.2	
	comp=E,89nm,0.1s						
PAULI	**Pauline**	**0.89**	**320**		Pg	08 07 52.9	-1.3
PAULI	**Pauline**	**0.89**	**320**	Sg	Sg	08 08 05.8	+0.1
PAULI				IAML		08 08 10.9	
	comp=N,67nm,0.1s						
PAULI				IAML		08 08 11.4	
	comp=E,57nm,0.2s						
HODGE	**Hodges**	**0.95**	**276**		Pg	08 07 54.0	-1.2
HODGE	**Hodges**	**0.95**	**276**	Sg	Sg	08 08 06.5	-1.0
HODGE				IAML		08 08 10.8	
	comp=E,64nm,0.1s						
KMSC	**Kings Mountain**	**1.02**	**350**		Pg	08 07 55.4	-1.2
KMSC	**Kings Mountain**	**1.02**	**350**	Sg	Sg	08 08 09.2	-0.5
KMSC				IAML		08 08 13.2	
	comp=E,59nm,0.1s						
Y58A	**Scranton**	**1.23**	**100**		Pg	08 07 59.2	-1.5
Y58A	**Scranton**	**1.23**	**100**	Sg	Sg	08 08 15.0	-1.6
Y58A				IAML		08 08 18.3	
	comp=E,23nm,0.2s						
Y58A				IAML		08 08 18.4	
	comp=E,31nm,0.5s						
W57A	**Gilead**	**1.38**	**42**		Pn	08 08 01.6	-1.3
SMNC	**South Mountain**	**1.50**	**344**		Pn	08 08 04.5	-0.2
X58A	**Rowland**	**1.53**	**74**		Pn	08 08 04.6	-0.5
V55A	**Taylorsville**	**1.71**	**357**		Pn	08 08 07.5	-0.1
BG3	**Lake Jocassee**	**1.72**	**300**		Pn	08 08 07.6	-0.1
MGNC	**Mount Gibbes**	**1.86**	**329**		Pn	08 08 10.1	+0.3
TVNC	**Taylorsville**	**1.89**	**358**		Pn	08 08 10.1	0.0
V53A	**Saluda**	**2.06**	**318**	Pn	Pn	08 08 10.1	-2.4
GOGA	**Godfrey**	**2.08**	**250**		Pn	08 08 11.5	-1.1
U54A	**Nelsons Funny**	**2.45**	**347**	Pn	Pn	08 08 16.9	-0.8
W52A	**Murphy**	**2.50**	**293**	Pn	Pn	08 08 17.5	-1.0
TKL	**Tuckaleechee C**	**2.66**	**306**	Pn	Pn	08 08 20.7	+0.2
TZTN	**Tazewell**	**3.11**	**321**	Pn	Pn	08 08 26.7	-0.2
T57A	**Hurt**	**3.23**	**28**	IAmb_Lg		08 09 22.1	
	comp=Z,1.8nm,0.8s						
W50A	**Signal Mountai**	**3.61**	**288**	Pn	Pn	08 08 33.1	-0.6
FVM	**French Village**	**8.45**	**300**	IAmb_Lg		08 12 25.6	
	comp=Z,6.1nm,0.8s						

NEIC 17 08:09:01.2±1.2, 39°.88N±0°.02×98°.36W±0°.04, h5km±1km, mb_Lg2.7/106, Error ellipse: s-maj=5.3km s-min=3.4km az=280.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R32A	**Long Quarter,**	**1.48**	**191**		Pn	08 09 27.7	-0.8
R32A					Sn	08 09 47.4	-0.9
CBKS	**Cedar Bluff**	**1.51**	**225**		Pn	08 09 28.1	-0.8
CBKS					Sn	08 09 48.0	-0.9
BGNE	**Belgrade**	**1.53**	**6**		Pn	08 09 28.7	-0.6
BGNE					Sn	08 09 49.0	-0.6
BGNE				IAmb_Lg		08 09 49.7	
	comp=Z,50nm,0.7s						
KSU1	**Kansas State U**	**1.56**	**119**		Pn	08 09 29.1	-0.6
KSU1					Sn	08 09 48.3	-2.0
N35A	**Tabor**	**2.30**	**64**		Pn	08 09 39.8	+0.1
N35A				IAmb_Lg		08 10 12.2	
	comp=Z,37nm,0.7s						
L34A	**Svendsen Farm,**	**2.57**	**35**	Pn	Pn	08 09 42.6	-0.9
KAN12	**Harper NE Stat**	**2.60**	**174**	Pn	Pn	08 09 42.5	-1.3
KAN08	**Anthony NE Sta**	**2.67**	**173**	Pn	Pn	08 09 43.0	-1.9
KAN01	**Argonia South**	**2.76**	**170**	Pn	Pn	08 09 45.2	-0.9
KAN01				IAmb_Lg		08 10 35.7	
	comp=Z,32nm,0.7s						
KAN09	**Caldwell North**	**2.80**	**168**		Pn	08 09 45.6	-1.1
KAN17	**Caldwell West**	**2.87**	**170**		Pn	08 09 47.3	-0.3
K30B	**Basset**	**2.94**	**342**	Pn	Pn	08 09 48.0	-0.7
OGNE	**Ogallala**	**3.00**	**292**	IAmb_Lg		08 10 39.4	
	comp=Z,33nm,0.8s						
GC02	**Grant County #**	**3.05**	**172**		Pn	08 09 49.9	-0.2
T35A	**Sooner Cattle**	**3.30**	**153**	Pn	Pn	08 09 53.6	+0.1
CROK	**Carrier**	**3.38**	**175**		Pn	08 09 54.0	-0.6
OK038	**West end E0370**	**3.41**	**185**		Pn	08 09 54.0	-1.0
KSCO	**Kaye Shedlock'**	**3.41**	**257**		Pn	08 09 54.4	-0.8
OK051	**E0350 and S346**	**3.58**	**160**		Pn	08 09 57.0	-0.4
OK051				IAmb_Lg		08 11 03.4	
	comp=Z,21nm,0.7s						
P38A	**Dawn**	**3.73**	**92**		Pn	08 09 58.6	-0.9
ELIS	**Ellis County**	**3.90**	**193**	IAmb_Lg		08 11 14.5	
	comp=Z,16nm,0.7s						
QUOK	**Quay**	**3.93**	**160**		Pn	08 10 00.4	-1.7
QUOK				IAmb_Lg		08 11 06.2	
	comp=Z,20nm,1.1s						
N38A	**Joes South For**	**4.02**	**75**		Pn	08 10 02.6	-0.8
N38A				IAmb_Lg		08 11 10.3	
	comp=Z,22nm,0.7s						
ECSD	**EDS Data Cent**	**4.07**	**18**		Pn	08 10 04.0	0.0
OK052	**Battle Ridge R**	**4.07**	**162**	IAmb_Lg		08 11 17.0	
	comp=Z,13nm,0.8s						
SCIA	**State Center**	**4.39**	**61**	Pn	Pn	08 10 08.2	-0.4
SCIA				IAmb_Lg		08 11 22.5	
	comp=Z,11nm,0.8s						
TUL3	**Leonard**	**4.46**	**152**		Pn	08 10 07.2	-2.2
OKCSW	**OKLAHOMA CITY**	**4.53**	**170**		Pn	08 10 08.1	-2.2
RLO	**Rose Lookout**	**4.55**	**144**	IAmb_Lg		08 11 28.3	
	comp=Z,17nm,0.7s						
U38A	**Gravette**	**4.65**	**136**	Pn	Pn	08 10 10.6	-1.5
U38A				IAmb_Lg		08 11 24.5	
	comp=Z,17nm,0.7s						
FNO	**Franklin**	**4.68**	**170**	IAmb_Lg		08 11 39.5	
	comp=Z,20nm,0.8s						
RTBA	**Rita Blanca**	**4.87**	**226**		Pn	08 10 13.5	-1.6
RTBA				IAmb_Lg		08 11 48.8	
	comp=Z,14nm,0.8s						
P40A	**Paris**	**4.88**	**92**	Pn	Pn	08 10 14.6	-0.7
P40A				IAmb_Lg		08 11 36.9	
	comp=Z,15nm,0.8s						
SMWD	**Samnorwood**	**5.00**	**198**	Pn	Pn	08 10 16.4	-0.5
SMWD				IAmb_Lg		08 11 43.0	
	comp=Z,18nm,0.7s						
R40A	**Maddies Statio**	**5.00**	**107**	Pn	Pn	08 10 16.5	-0.4
R40A				IAmb_Lg		08 11 48.3	
	comp=Z,15nm,0.9s						
HHAR	**Hobbs**	**5.01**	**134**		Pn	08 10 15.4	-1.6
HHAR				IAmb_Lg		08 11 37.1	
	comp=Z,16nm,0.7s						
WMOK	**Wichita Mounta**	**5.14**	**184**	Pn	Pn	08 10 17.0	-1.8
WMOK				IAmb_Lg		08 11 48.1	
	comp=Z,10.0nm,0.7s						
X34A	**Smith Ranch, M**	**5.29**	**175**	IAmb_Lg		08 11 56.4	
	comp=Z,15nm,0.8s						
Q24A	**Divide**	**5.33**	**262**	Pn	Pn	08 10 19.4	-2.3
T25A	**Trinidad**	**5.48**	**242**	IAmb_Lg		08 12 02.2	
	comp=Z,13nm,0.8s						
MGMO	**Mountain Grove**	**5.50**	**118**	IAmb_Lg		08 11 54.7	
	comp=Z,10.0nm,0.8s						
I37A	**Lemond, Waseca**	**5.54**	**40**	IAmb_Lg		08 12 05.8	
	comp=Z,13nm,0.8s						
AMTX	**Amarillo**	**5.64**	**209**		Pn	08 10 25.4	-0.4
N41A	**Harden Midland**	**5.80**	**79**	IAmb_Lg		08 12 05.5	
	comp=Z,16nm,1.0s						
L40A	**Anamosa**	**5.83**	**66**	IAmb_Lg		08 12 02.5	
	comp=Z,8.0nm,0.8s						
RSSD	**Black Hills**	**5.98**	**317**	IAmb_Lg		08 12 13.9	
	comp=Z,10.0nm,0.9s						
F33A	**5 Mile Ranch,**	**6.15**	**14**	Pn	Pn	08 10 31.1	-1.5
F33A				IAmb_Lg		08 12 13.7	
	comp=Z,9.2nm,0.7s						
SLM	**Saint Louis**	**6.43**	**99**	IAmb_Lg		08 12 29.7	
	comp=Z,10nm,0.8s						
FVM	**French Village**	**6.47**	**105**	Pn	Pn	08 10 35.7	-1.3
DKNS	**Dickens**	**6.53**	**199**	IAmb_Lg		08 12 37.0	
	comp=Z,12nm,0.9s						
MIAR	**Mount Ida**	**6.55**	**143**	Pn	Pn	08 10 36.8	-1.4
MIAR				IAmb_Lg		08 12 45.1	
	comp=Z,8.8nm,0.8s						
WHAR	**Wooly Hollow**	**6.65**	**132**	Pn	Pn	08 10 38.0	-1.6
SPMN	**Marine on St.**	**6.73**	**36**	IAmb_Lg		08 12 48.4	
	comp=Z,6.8nm,0.8s						
K22A	**Casper**	**6.74**	**297**	IAmb_Lg		08 12 47.5	
	comp=Z,9.6nm,0.7s						
JFWS	**Jewell Farm**	**6.81**	**61**	Pn	Pn	08 10 39.9	-1.9
P43A	**Skaggs, Pawnee**	**6.82**	**89**	IAmb_Lg		08 12 35.8	
	comp=Z,20nm,0.9s						
LCAR	**Lake Charles**	**6.85**	**121**	IAmb_Lg		08 12 33.5	
	comp=Z,8.7nm,0.8s						
L42A	**Oliver, Polo**	**6.92**	**69**	IAmb_Lg		08 12 47.6	
	comp=Z,8.1nm,0.7s						
S22A	**4UR Ranch, Cre**	**6.95**	**255**	Pn	Pn	08 10 42.7	-1.1
X40A	**Basin Creek Fa**	**6.96**	**139**	IAmb_Lg		08 12 53.6	
	comp=Z,7.3nm,0.7s						
PBMO	**Poplar Bluff**	**6.96**	**114**	IAmb_Lg		08 12 42.2	
	comp=Z,10.0nm,0.7s						
HDIL	**Hopedale**	**6.97**	**82**	IAmb_Lg		08 12 47.2	
	comp=Z,13nm,0.9s						
UALR	**University of**	**7.00**	**135**	IAmb_Lg		08 12 54.4	
	comp=Z,9.3nm,0.8s						
SN07	**Snyder 07**	**7.08**	**197**	IAmb_Lg		08 12 50.2	
	comp=Z,8.9nm,0.9s						
POST	**Post**	**7.25**	**201**	IAmb_Lg		08 13 02.0	
	comp=Z,10nm,0.8s						
CGM3	**Cape Girardeau**	**7.29**	**108**	Pn	Pn	08 10 46.0	-2.3
CGM3				IAmb_Lg		08 12 53.5	
	comp=Z,6.0nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.30**	**95**	IAmb_Lg		08 13 06.8	
	comp=Z,7.3nm,0.8s						
S44A	**Carbondale**	**7.44**	**104**	IAmb_Lg		08 12 58.3	
	comp=Z,11nm,0.7s						
WLAR	**White Oak Lake**	**7.48**	**144**	IAmb_Lg		08 12 57.4	
	comp=Z,9.5nm,0.7s						
E38A	**The Farm, Brul**	**8.36**	**34**	IAmb_Lg		08 13 30.0	
	comp=Z,9.6nm,1.0s						
AGMN	**Agassiz Nation**	**8.60**	**11**	IAmb_Lg		08 13 35.8	
	comp=Z,6.6nm,1.0s						
COWI	**Conover**	**9.18**	**44**	IAmb_Lg		08 13 45.3	
	comp=Z,4.9nm,1.2s						
EYMN	**Ely**	**9.46**	**29**	IAmb_Lg		08 14 04.8	
	comp=Z,5.3nm,1.0s						

ASRS 17 08:09:21.0±0.9, 54°.11N×87°.11E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 17 08:09:27.4±2.8, 54°.03N×86°.62E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=23.3km s-min=14.5km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.07**	**266**	I	I	08 16 20.0	
	baz=83,slow=316,SNR=9.6						
ZALV	**Zalesovo Beam**	**1.07**	**266**	Pg	Pg	08 09 47.4	-0.4
	1.9nm,0.3s,baz=89,slow=17,SNR=13						
ZALV				Lg	Lg	08 10 02.4	
	1.9nm,0.3s,baz=84,slow=28,SNR=6.6						
KURBB	**Kurchatov Arra**	**6.02**	**239**	Pn	Pn	08 10 58.8	+1.2
	0.1nm,0.3s,baz=57,slow=14,SNR=6.1						
KURBB				Lg	Lg	08 12 38.0	
	baz=56,slow=34,SNR=2.0						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**7.75**	**203**	Pn	Pn	08 11 22.3	+0.9
	0.2nm,0.3s,baz=21,slow=17,SNR=7.3						
MKAR				Lg	Lg	08 13 31.5	
	baz=21,slow=28,SNR=1.9						
	0.2nm,0.3s						

ASRS 17 08:14:41.0±1.0, 54°.22N×87°.06E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 17 08:14:42.4±3.3, 54°.33N×87°.26E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=27.1km s-min=18.5km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.48**	**256**	I	I	08 23 30.0	
	baz=77,slow=318,SNR=4.3						
ZALV	**Zalesovo Beam**	**1.48**	**256**	Pg	Pn	08 15 08.9	-1.4
	0.9nm,0.3s,baz=74,slow=17,SNR=7.3						
ZALV				Lg	Lg	08 15 28.6	
	1.8nm,0.3s,baz=73,slow=24,SNR=9.5						
KURBB	**Kurchatov Arra**	**6.49**	**239**	Pn	Pn	08 16 20.0	+0.8
	0.1nm,0.3s,baz=54,slow=14,SNR=5.6						
KURBB				Lg	Lg	08 18 12.1	
	baz=54,slow=28,SNR=4.4						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**8.18**	**205**	Pn	Pn	08 16 43.1	+0.8
	0.1nm,0.3s,baz=25,slow=12,SNR=2.4						
MKAR				Sn	Sn	08 18 15.4	+0.1
	0.1nm,0.3s,baz=27,slow=30,SNR=2.3						
	0.1nm,0.4s						

CATAC 17 08:15:19.0±0.6, 16°.N±3°×9°.5W±°, h1km, M4.1/7, MLv4.1/7, Error ellipse: s-maj=8.3km s-min=4.6km az=42.3, confirmed
GCG 17 08:15:19.6±2.8, 15°.59N×95°.14W, h38km±45km, ML4.1
MEX 17 08:15:20.7±1.2, 15°.53N×95°.08W, h18km±13km, MD4.2

ISC 17 08:15:15.8±1.3, 15°.56N±0°.04×95°.07W±0°.02, h10km±10km, n44, σ2°.08/70, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.03**	**282**	*e*P	**Pg**	**08 15 36.5**	**+1.0**
HUIG				*e*S	**Sg**	**08 15 49.0**	**+0.1**
HUIG	**Huatulco**	**1.03**	**282**	*i* P	**Pg**	**08 15 36.4**	**+0.8**
HUIG				*i* S	**Sg**	**08 15 48.9**	**-0.1**
HUIG				IAML		08 15 49.3	
	comp=N,838nm,0.4s						
NILT	**Santiago Nilte**	**1.09**	**23**	*e*P	**Pg**	**08 15 36.9**	**+0.1**
NILT				*e*S	**Sg**	**08 15 49.4**	**-1.6**
CMIG	**Matias Romero**	**1.53**	**7**	*e*P	**Pn**	**08 15 44.2**	**+0.9**
CMIG				*e*S	**Sn**	**08 16 02.6**	**-0.7**
PCIG		**1.79**	**85**	*e*P	**Pn**	**08 15 46.7**	**0.0**
PCIG				*e*S	**Sn**	**08 16 07.6**	**-1.9**
UXUV	**UXUV**	**1.96**	**27**	*e*P	**Pn**	**08 15 50.8**	**+1.7**
UXUV				*e*S	**Sn**	**08 16 14.0**	**+0.2**
PEIG	**Puerto Escondi**	**2.05**	**283**	*e*P	**Pn**	**08 15 51.1**	**+0.6**
PEIG				*e*S	**Sn**	**08 16 13.1**	**-3.0**
OXLC	**Oaxaca**	**2.17**	**314**	*e*P	**Pg**	**08 15 58.4**	**+0.9**
OXLC				*e*S	**Sn**	**08 16 19.7**	**+0.4**
VHO	**Vista Hermosa**	**2.20**	**313**	*e*P	**Pb**	**08 15 55.5**	**-0.3**
VHO				*e*S	**Sn**	**08 16 20.3**	**+0.3**
TGIG		**2.23**	**57**	*e*P	**Pn**	**08 15 55.4**	**+2.5**
TGIG				*e*S	**Sn**	**08 16 21.7**	**+1.2**
TGIG		**2.23**	**57**	*e*P	**Pn**	**08 15 55.2**	**+2.4**
TGIG				*i* S	**Sn**	**08 16 21.5**	**+1.1**
TGIG				IAML		08 16 24.1	
	comp=E,2μm,0.4s						
TGBT	**Tuxtla Gutierr**	**2.25**	**57**	*e*P	**Pb**	**08 15 56.2**	**-0.4**
TGBT				*e*S	**Sn**	**08 16 22.7**	**+1.7**
NEUV	**Arroyo Zacate**	**2.25**	**342**	*e*P	**Pn**	**08 15 54.3**	**+1.1**
NEUV				*e*S	**Sn**	**08 16 20.9**	**-0.2**
TUIG	**Tuzandepetl**	**2.54**	**14**	*e*P	**Pn**	**08 15 59.5**	**+2.5**
TUIG				*e*S	**Sn**	**08 16 30.2**	**+2.2**
TUIG	**Tuzandepetl**	**2.54**	**14**	P	**Pn**	**08 15 59.6**	**+2.5**
TUIG	**Tuzandepetl**	**2.54**	**14**	S	**Sn**	**08 16 28.5**	**+0.4**
YOIG	**Yosondua**	**2.71**	**299**	*e*P	**Pn**	**08 16 03.1**	**+3.4**
YOIG				*e*S	**Sn**	**08 16 33.1**	**+0.4**
PATR	**El Naranjo**	**2.77**	**99**	*e*P	**Pn**	**08 16 01.4**	**+0.9**
PATR				*e*S	**Sn**	**08 16 32.2**	**-1.8**
THIG		**2.78**	**103**	*e*P	**Pn**	**08 16 01.6**	**+1.1**
THIG				*e*S	**Sn**	**08 16 30.9**	**-3.2**
PAVE	**Pavencul**	**2.81**	**97**	*e*P	**Pn**	**08 16 02.3**	**+1.2**
PAVE				*e*S	**Sn**	**08 16 34.2**	**-0.9**
CCIG	**Comitan**	**2.91**	**75**	*e*P	**Pn**	**08 16 04.8**	**+2.4**
CCIG				*e*S	**Sn**	**08 16 36.8**	**-0.7**
CCIG	**Comitan**	**2.91**	**75**	*e*P	**Pn**	**08 16 04.5**	**+2.1**
CCIG				*i* S	**Sn**	**08 16 36.8**	**-0.7**
CCIG				IAML		08 16 48.4	
	comp=N,378nm,0.5s						
CCIG	**Comitan**	**2.91**	**75**	S	**Sn**	**08 16 37.5**	**0.0**
CCIG	**Comitan**	**2.91**	**75**	P	**Pn**	**08 16 04.6**	**+2.3**
PNIG	**Pinotepa**	**3.06**	**286**	*e*P	**Pn**	**08 16 05.5**	**+1.2**
PNIG				*e*S	**Sn**	**08 16 37.1**	**-3.9**
TXIG	**Tlaxiaco**	**3.09**	**303**	*e*P	**Pn**	**08 16 08.8**	**+3.9**
TXIG				*e*S	**Sn**	**08 16 41.3**	**-0.9**
TOIG	**Toxpalan**	**3.17**	**323**	*e*P	**Pn**	**08 16 09.5**	**+3.7**
TOIG				*e*S	**Sn**	**08 16 45.9**	**+2.1**
RTAL	**Retalhuleu**	**3.42**	**107**	P	**Pn**	**08 16 12.5**	**+3.3**
RTAL	**Retalhuleu**	**3.42**	**107**	S	**Sn**	**08 16

SHRT	**Shahrakht**	**5.02**	**132**	Pn	**Pn**	**08 17 35.7**	**+0.2**
IKOO	**Kooshah**	**5.35**	**150**	Pn	**Pn**	**08 17 40.8**	**+0.7**
KBZ	**Khabaz**	**11.86**	**308**	Pn	**Pn**	**08 19 07.8**	**-1.2**
	0.1nm,0.3s,baz=131,slow=19,SNR=1.4						
KBZ				Sn	**Sn**	**08 21 18.1**	**-3.3**
	0.2nm,0.3s,baz=142,slow=19,SNR=1.7						
	0.7nm,0.3s						
AKTO	**Aktyubinsk**	**13.44**	**6**	Pn	**Pn**	**08 19 30.0**	**-0.6**
	0.3nm,0.3s,baz=192,slow=13,SNR=3.8						
AKTO				Sn	**Sn**	**08 21 53.5**	**-6.6**
	0.2nm,0.3s,baz=202,slow=16,SNR=2.2						
	1.2nm,0.6s						
EIL	**Elat**	**18.90**	**253**	LR	LR	08 28 44.1	
	comp=Z,75nm,18.6s,baz=66,slow=40						
BVAR	**Borovoye Array**	**18.92**	**28**	P	**P**	**08 20 41.9**	**+1.1**
	baz=213,slow=11,SNR=6.4						
	0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**21.14**	**43**	P	**P**	**08 21 07.1**	**+2.1**
	0.3nm,0.6s,baz=245,slow=11,SNR=3.0						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**21.87**	**55**	P	**P**	**08 21 15.0**	**+2.1**
	0.6nm,0.8s,baz=245,slow=10,SNR=7.6						
	0.6nm,0.8s						
AKASG	**Malin Array Be**	**23.34**	**314**	P	**P**	**08 21 29.4**	**+1.2**
	0.4nm,0.4s,baz=114,slow=10,SNR=4.7						
	0.4nm,0.4s						

IDC 17 08:25:15.0±3.8, 54°21N×87°33E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=34.2km s-min=21.2km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**261**	I	I	08 34 31.8	
	baz=81,slow=322,SNR=6.1						
ZALV	**Zalesovo Beam**	**1.50**	**261**	Pg	Pn	08 25 41.0	-2.2
	0.7nm,0.3s,baz=78,slow=12,SNR=5.6						
ZALV				Lg	Lg	08 26 03.2	
	0.6nm,0.3s,baz=80,slow=25,SNR=2.3						
KURBB	**Kurchatov Arra**	**6.47**	**240**	Pn	Pn	08 26 52.0	+0.6
	baz=54,slow=13,SNR=1.3						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**8.09**	**205**	Pn	Pn	08 27 15.4	+1.7
	0.1nm,0.3s,baz=26,slow=14,SNR=1.9						
	0.2nm,0.5s						

HEL 17 08:29:02.5±0.2, 62°75N×22°95E, h0km, ML1.1, Explosion Hypocentre not reviewed by the ISC
IDC 17 08:29:02.6±2.4, 62°73N×23°12E, h0km, mbtmp3.3/1, ML2.4/1, Error ellipse: s-maj=38.7km s-min=14.4km az=67.0, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	**Keuruu**	**0.99**	**124**	PG		08 29 22.0	
KEF				MSG		08 29 35.2	
	comp=Z,1.4nm,0.2s						
KEF				SB		08 29 36.8	
KPF	**Kankaanpaa**	**1.02**	**209**	PG		08 29 20.5	
KPF				SG		08 29 33.7	
SUF	**Sumiainen**	**1.40**	**89**	PN		08 29 29.4	
SUF				MSG		08 29 46.8	
	comp=Z,0.5nm,0.2s						
SUF				SN		08 29 50.2	
UMAU	**Umeaa**	**1.60**	**318**	PN		08 29 30.4	
	baz=139						
KAF	**Kangasniemi**	**1.61**	**111**	PG		08 29 33.1	
KAF				MSG		08 29 53.0	
	comp=Z,1.0nm,0.2s						
KAF				SN		08 29 55.4	
OBF8	**Ulkokalla**	**1.61**	**5**	PN		08 29 32.2	
OBF8				MSG		08 29 50.5	
	comp=Z,1.3nm,0.2s						
OBF8				SN		08 29 53.2	
RAF	**Rauma**	**1.83**	**201**	PG		08 29 35.4	
RAF				MSG		08 29 56.9	
	comp=Z,1.6nm,0.2s						
RAF				SG		08 29 58.4	
HUSU	**Husum**	**1.88**	**291**	SG		08 29 58.2	
FIA0	**FINESS Array S**	**1.90**	**132**	PG		08 29 37.3	
FIA0				MSG		08 30 01.1	
	comp=Z,1.0nm,0.2s						
FIA0				SG		08 30 03.6	
FINES	**FINESS Array B**	**1.90**	**132**	Pn	Pb	08 29 38.0	-0.1
	comp=Z,0.2nm,0.3s,baz=315,slow=17,SNR=8.7						
FINES				Sn	Sg	08 30 04.1	+0.6
	comp=Z,1.5nm,0.3s,baz=316,slow=24,SNR=31						
OUL	**Oulu**	**2.67**	**26**	SN		08 30 16.9	
I37NO	**I37NO**	**6.63**	**346**	I	I	09 08 01.3	
	baz=164,slow=322,SNR=0.3						
ARCES	**ARCESS Array B**	**6.90**	**7**	Pn	Pn	08 30 43.7	-1.3
	comp=Z,0.1nm,0.3s,baz=176,slow=16,SNR=1.5						
	comp=Z,2.8nm,1.0s						

ASRS 17 08:36:17.0±1.7, 53°77N×91°09E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.
IDC 17 08:36:22.1±3.3, 53°71N×90°78E, h0km, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=27.2km s-min=22.5km az=60.0
NNC 17 08:36:24.0±6.0, 53°02N×91°17E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=42.2km s-min=26.6km az=85.0, Suspected Mining explosion.
ISC 17 08:36:22.1±3.4, 53°8N±0°1×90°7E±0°2, h0km, n10, σ2s29/13, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.48**	**276**	I	I	08 57 41.9	
	0.1nm,1.2s,baz=91,slow=321,SNR=9.8						
ZAA0	**Zalesovo Array**	**3.48**	**276**	⇑Pn	**Pb**	**08 37 25.3**	**+0.9**
	0.9nm,0.7s						
ZAA0				⇑Sn	**Sg**	**08 38 13.7**	**+0.1**
	7.9nm,1.1s						
ZALV	**Zalesovo Beam**	**3.48**	**276**	Pn	**Pn**	**08 37 17.6**	**+0.2**
	0.2nm,0.3s,baz=93,slow=19,SNR=1.7						
ZALV				Pg	**Pb**	**08 37 24.8**	**+0.3**
	0.9nm,0.3s,baz=90,slow=15,SNR=12						
ZALV				Lg	Lg	08 38 14.6	
	2.5nm,0.3s,baz=90,slow=30,SNR=10						
	0.6nm,0.5s						
KURK	**Kurchatov**	**8.00**	**253**	⇓Sn	**Sn**	**08 39 54.1**	**+3.4**
	4.3nm,0.9s						
KURK				⇑Lg	Lg	08 40 41.7	
	22nm,1.4s						
KURBB	**Kurchatov Arra**	**8.10**	**252**	⇑Pn	**Pn**	**08 38 22.1**	**+1.2**
	1.4nm,0.5s,baz=66,slow=15						
KURBB				⇑Sn	**Sn**	**08 39 55.6**	**+2.7**
	18nm,0.9s,baz=69,slow=23						
KURBB				⇓Lg	Lg	08 40 43.9	
	27nm,1.1s,baz=70,slow=31						
KURBB	**Kurchatov Arra**	**8.10**	**252**	Pn	**Pn**	**08 38 21.6**	**+0.7**
	0.1nm,0.3s,baz=65,slow=15,SNR=9.4						
KURBB				Sn	**Sn**	**08 39 52.9**	**-0.1**
	baz=67,slow=22,SNR=8.2						
KURBB				Lg	Lg	08 40 41.2	
	baz=65,slow=33,SNR=8.1						
	1.1nm,0.6s						
MK31	**Makanchi Array**	**8.79**	**221**	⇑Sn	**Sn**	**08 40 08.6**	**-1.6**
	0.4nm,0.5s						
MK31				⇓Lg	Lg	08 40 59.4	
	14nm,1.2s,baz=37,slow=27,SNR=4.1						
MKAR	**Makanchi Array**	**8.79**	**221**	Pn	**Pn**	**08 38 31.3**	**+0.8**
	0.1nm,0.3s,baz=35,slow=11,SNR=5.3						
MKAR				Sn	**Sn**	**08 40 09.0**	**-1.2**
	0.1nm,0.3s,baz=36,slow=25,SNR=3.0						
MKAR				Lg	Lg	08 40 59.1	
	0.1nm,0.3s,baz=39,slow=30,SNR=6.5						
	0.5nm,0.6s						
SONM	**Songino Array**	**11.57**	**114**	Lg	Lg	08 42 15.0	
	0.1nm,0.3s,baz=302,slow=25,SNR=6.5						
BVAR	**Borovoye Array**	**12.13**	**275**	Sn	**Sn**	**08 41 26.9**	**-5.0**
	0.1nm,0.3s,baz=78,slow=21,SNR=2.3						

IDC 17 08:50:40.8±13.0, 34°45S×126°50E, h632km±225km, mb2.4/3, mbtmp3.5/5, Error ellipse: s-maj=129.5km s-min=59.6km az=43.0, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.59**	**183**	P	P	08 53 44.7	+0.7
	3.3nm,1.0s,baz=348,slow=9.3,SNR=1.5						

WRA	**Warramunga Arr**	**18.09**	**156**	P	P	08 54 15.8	-0.1
	0.3nm,0.4s,baz=333,slow=11,SNR=9.9						
ASAR	**Alice Springs**	**21.34**	**161**	P	P	08 54 46.0	+0.8
	0.1nm,0.3s,baz=337,slow=6.8,SNR=9.0						
	0.1nm,0.3s						
STKA	**Stephens Creek**	**31.64**	**155**	P	P	08 56 14.2	-0.7
	2.6nm,0.8s,baz=333,slow=9.0,SNR=3.3						
	2.6nm,0.8s						
MKAR	**Makanchi Array**	**63.37**	**328**	P	P	09 00 10.3	+0.2
	0.1nm,0.4s,baz=131,slow=5.9,SNR=2.3						
	0.1nm,0.4s						

CATAC 17 08:54:20.9±0.6, 9°N±3°×8°4W±°, h14km±4km, M4.1/8, MLv4.1/8, Error ellipse: s-maj=9.7km s-min=3.3km az=45.7, confirmed
UCR 17 08:54:22.6±0.9, 9°55N×84°17W, h36km±2km, MW4.4
UPA 17 08:54:22.7±2.5, 9°68N×84°09W, h10km±11km
ISC 17 08:54:23.6±0.9, 9°55N±0°03×84°17W±0°03, h32km±3km, n101, σ1s18/130, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICV	**PH. Pirrs**	**0.09**	**340**	*e*P	**Pn**	**08 54 28.7**	**-0.5**
PICV				*e*S	**Sb**	**08 54 33.4**	**+0.4**
PISJ	**San Jernim**	**0.10**	**26**	*e*P	**Pn**	**08 54 28.8**	**-0.6**
PAR1A	**Puntarenas Pro**	**0.10**	**300**	*e*P	**Pb**	**08 54 28.8**	**-0.4**
SVQ2	**Quepos**	**0.11**	**181**	*e*P	**Pb**	**08 54 28.4**	**-0.8**
SVQ2				*e*S	**Sb**	**08 54 32.7**	**-0.4**
QUEP	**Quepos**	**0.11**	**180**	*e*P	**Pn**	**08 54 28.4**	**-0.8**
QUEP				*e*S	**Sb**	**08 54 32.7**	**-0.4**
RAZU	**San Marcos de**	**0.18**	**51**	*e*P	**Pb**	**08 54 29.4**	**-0.6**
RAZU				*e*S	**Sb**	**08 54 34.4**	**0.0**
PITB	**Pirrs, San**	**0.18**	**50**	*e*P	**Pb**	**08 54 29.3**	**-0.7**
PITB				*e*S	**Sb**	**08 54 34.6**	**+0.1**
PIEC	**Cerro El Cedra**	**0.22**	**69**	*e*P	**Pb**	**08 54 29.8**	**-0.7**
ACOS	**Acosta**	**0.25**	**0**	*e*P	**Pb**	**08 54 29.9**	**-0.8**
ACOS				*e*S	**Sb**	**08 54 35.4**	**-0.2**
LCR2	**La Lucha 2**	**0.25**	**39**	*e*P	**Pb**	**08 54 29.8**	**-1.0**
LCR2				*e*S	**Sb**	**08 54 35.2**	**-0.5**
PURI	**Puriscal**	**0.33**	**334**	*e*P	**Pb**	**08 54 31.0**	**-0.8**
AMPA	**Desamparados**	**0.36**	**16**	*e*P	**Pb**	**08 54 31.2**	**-1.0**
SANTA	**Santa Ana**	**0.39**	**357**	*e*P	**Pb**	**08 54 31.6**	**-0.9**
LUJA	**Lujan**	**0.39**	**14**	*e*P	**Pb**	**08 54 31.6**	**-1.0**
CENT	**San Jose**	**0.39**	**12**	*e*P	**Pb**	**08 54 31.7**	**-1.0**
PAVB	**Pavas, San Jos**	**0.40**	**7**	*e*P	**Pb**	**08 54 31.8**	**-0.9**
TAGO	**Cartago**	**0.40**	**37**	*e*P	**Pb**	**08 54 32.0**	**-0.7**
MEXI	**Barrio Mexico**	**0.40**	**11**	*e*P	**Pb**	**08 54 31.8**	**-1.0**
REPA	**Paraso**	**0.41**	**46**	*e*P	**Pb**	**08 54 31.9**	**-0.9**
ECI	**Escuela Centro**	**0.41**	**16**	*e*P	**Pb**	**08 54 32.0**	**-0.8**
SJS	**Escuela Geolog**	**0.41**	**16**	*e*P	**Pb**	**08 54 32.0**	**-0.8**
LUPE	**Guadalupe**	**0.41**	**15**	*e*P	**Pb**	**08 54 32.2**	**-0.7**
BELE	**Belen**	**0.43**	**357**	*e*P	**Pb**	**08 54 32.2**	**-0.9**
DOMI	**Santo Domingo**	**0.44**	**10**	*e*P	**Pb**	**08 54 32.2**	**-0.6**
HEME	**Heredia, Merce**	**0.45**	**4**	*e*P	**Pb**	**08 54 32.8**	**-0.7**
CORON	**Coronado**	**0.46**	**21**	*e*P	**Pb**	**08 54 33.0**	**-0.5**
HDC	**Heredia**	**0.46**	**6**	*e*P	**Pb**	**08 54 32.6**	**-0.9**
ATEO	**Atenas**	**0.48**	**334**	*e*P	**Pb**	**08 54 32.7**	**-1.2**
PCAYA	**Pacayas**	**0.51**	**43**	*e*P	**Pb**	**08 54 33.3**	**-1.1**
TCS1	**Tacares**	**0.51**	**345**	*e*P	**Pb**	**08 54 33.6**	**-0.8**
CVIMO	**Finca Echandi**	**0.52**	**25**	*e*P	**Pb**	**08 54 34.0**	**-0.7**
GREC	**Grecia**	**0.55**	**345**	*e*P	**Pb**	**08 54 34.1**	**-0.9**
VBV1	**V. Barva**	**0.57**	**6**	*e*P	**Pb**	**08 54 34.5**	**-0.9**
SARCI	**Sarchi**	**0.57**	**342**	*e*P	**Pb**	**08 54 34.4**	**-0.9**
PALD	**Palmares**	**0.57**	**332**	*e*P	**Pb**	**08 54 34.0**	**-1.4**
VTCV	**VTCV, Calle Va**	**0.61**	**45**	*e*P	**Pb**	**08 54 35.0**	**-1.1**
RAMO	**San Ramon**	**0.62**	**331**	*e*P	**Pb**	**08 54 35.0**	**-1.1**
VTR0	**Volcan Turrial**	**0.62**	**40**	*e*P	**Pb**	**08 54 35.3**	**-1.0**
CVTR	**Volcan Turrial**	**0.62**	**40**	*e*P	**Pb**	**08 54 35.1**	**-1.3**
SAJE	**San Jernim**	**0.68**	**107**	*e*P	**Pn**	**08 54 35.5**	**-1.6**
EDPE	**Pejibaye, P**	**0.70**	**123**	*e*P	**Pn**	**08 54 35.9**	**-1.4**
RESJ	**San Isidro (Tu**	**0.70**	**47**	*e*P	**Pn**	**08 54 36.5**	**-1.0**
RVLA	**Villa Bonita**	**0.80**	**45**	*e*P	**Pn**	**08 54 37.9**	**-0.8**
LCOCO	**El Coco**	**0.80**	**48**	*e*P	**Pn**	**08 54 37.7**	**-1.0**
LCOCO				*e*S	**Sn**	**08 54 49.4**	**-0.2**
PAQE	**Paquera**	**0.81**	**290**	*e*P	**Pn**	**08 54 37.9**	**-0.8**
QUEU	**Ciudad Quesada**	**0.82**	**341**	*e*P	**Pn**	**08 54 38.5**	**-0.5**
IRES	**Siquirres**	**0.85**	**50**	*e*P	**Pn**	**08 54 38.5**	**-0.9**
BURE	**Buenos Aires**	**0.90**	**114**	*e*P	**Pn**	**08 54 39.0**	**-1.0**
CBL1	**Cabuya**	**0.92**	**273**	*e*P	**Pn**	**08 54 38.3**	**-1.9**
CARI	**Cariari**	**0.92**	**27**	*e*P	**Pn**	**08 54 39.6**	**-0.7**
SOCE	**Pocosol**	**0.94**	**332**	*e*P	**Pn**	**08 54 40.0**	**-0.7**
SOCE	**Pocosol**	**0.94**	**332**	P	**Pn**	**08 54 40.4**	**-0.3**
SOCE	**Pocosol**	**0.94**	**332**	S	**Sb**	**08 54 53.4**	**-0.4**
DRK0	**Durika**	**0.95**	**107**	*e*P	**Pn**	**08 54 39.6**	**-1.3**
DRK0	**Durika**	**0.95**	**107**	*e*P	**Pn**	**08 54 39.8**	**-1.1**
DRK0				*e*S	**Sn**	**08 54 52.8**	**-0.7**
TAAN	**Batan**	**0.97**	**56**	*e*P	**Pn**	**08 54 40.6**	**-0.4**
FIMO	**Fila Mora**	**0.97**	**124**	*e*P	**Pn**	**08 54 40.5**	**-0.6**
VACR	**Volcan Arenal**	**1.05**	**331**	*e*P	**Pn**	**08 54 41.7**	**-0.5**
JUNT	**Juntas**	**1.07**	**313**	*e*P	**Pn**	**08 54 41.9**	**-0.5**
JTS	**Las Juntas de**	**1.07**	**314**	*e*P	**Pn**	**08 54 42.2**	**-0.2**
JTS				*e*S	**Sb**	**08 54 56.4**	**-1.0**
JTS	**Las Juntas de**	**1.07**	**314**	P	**Pn**	**08 54 42.1**	**-0.4**
JTS				S	**Sb**	**08 54 56.8**	**-0.5**
TRT2	**Tortugero**	**1.09**	**23**	*e*P	**Pn**	**08 54 42.1**	**-0.6**
COVE	**Coope Vega, Sa**	**1.19**	**349**	S	**Sb**	**08 55 01.0**	**+0.3**
COVE	**Coope Vega, Sa**	**1.19**	**349**	P	**Pn**	**08 54 43.7**	**-0.4**
INDI	**Punta indio, G**	**1.36**	**284**	S	**Sn**	**08 55 02.8**	**-0.5**
ALCO	**Alturas Coton,**	**1.44**	**114**	*e*P	**Pn**	**08 54 46.1**	**-1.5**
MLIR3	**Monte Lirio, C**	**1.52**	**119**	*e*P	**Pn**	**08 54 49.2**	**+0.5**
MLIR3				*e*S	**Sb**	**08 55 10.9**	**+0.7**
RGM0	**Gandoca**	**1.54**	**88**	*e*P	**Pn**	**08 54 49.6**	**+0.9**
RGM0				*e*S	**Sn**	**08 55 07.5**	**-0.1**
CDITO	**Canoas**	**1.60**	**127**	S	**Sn**	**08 55 08.8**	**-0.4**
CDITO	**Canoas**	**1.60**	**127**	P	**Pn**	**08 54 48.6**	**-1.1**
BRU2	**Volcan**	**1.64**	**117**	*e*P	**Pn**	**08 54 50.1**	**-1.0**
BRU2	**Volcan**	**1.64**	**117**	*e*P	**Pn**	**08 54 50.9**	**+0.6**
BRU2				*e*S	**Sn**	**08 55 11.7**	**+1.3**
BRU2	**Volcan**	**1.64**	**117**	S	**Sn**	**08 55 10.9**	**+0.5**
BRU2	**Volcan**	**1.64**	**117**	P	**Pn**	**08 54 49.7**	**-0.6**
BC3P	**Paso Ancho**	**1.70**	**115**	*e*P	**Pn**	**08 54 50.9**	**-0.3**
BC3P				*e*S	**Sb**	**08 55 14.3**	**-1.1**
LESP3	**La Esperanza,**	**1.77**	**130**	*e*P	**Pn**	**08 54 51.8**	**-0.2**
LESP3				*e*S	**Sn**	**08 55 14.8**	**+1.4**
PTAR3	**Potrerillos Ar**	**1.85**	**117**	*e*P	**Pn**	**08 54 53.8**	**+0.5**
PTAR3				*e*S	**Sb**	**08 55 19.4**	**-0.3**
LNBQ3	**Los Naranjos,**	**1.86**	**114**	*e*P	**Pn**	**08 54 52.9**	**-0.4**
LNBQ3				*e*S	**Sn**	**08 55 16.9**	**+1.0**
BQSF3	**Alto Boquete,**	**1.89**	**115**	*e*P	**Pn**	**08 54 53.6**	**-0.1**
BQSF3				*e*S	**Sn**	**08 55 18.7**	**+2.2**
PSOM3	**Paja de Sombre**	**2.01**	**115**	*e*P	**Pn**	**08 54 54.9**	**-0.5**
PSOM3				*e*S	**Sb**	**08 55 22.9**	**-1.3**
DVD	**David**	**2.02**	**123**	*e*P	**Pn**	**08 54 56.6**	**+1.2**
DVD				*e*S	**Sn**	**08 55 21.6**	**+2.0**
PEDE3	**Pedregal, Chir**	**2.07**	**124**	*e*P	**Pn**	**08 54 57.1**	**+0.9**
PEDE3				*e*S	**Sn**	**08 55 23.4**	**+2.5**
CHGR2	**Aguacate**	**2.08**	**107**	*e*P	**Pn**	**08 54 53.9**	**-2.5**
CHGR2				*e*S	**Sn**	**08 55 16.8**	**-4.4**
CHIR3	**Chiriqui UPA,**	**2.14**	**122**	*e*P	**Pn**	**08 54 57.6**	**+0.4**
CHIR3				*e*S	**Sb**	**08 55 28.6**	**+0.7**
ACON	**Acoyapa**	**2.60**	**338**	P	**Pn**	**08 55 03.4**	**-0.1**
ACON	**Acoyapa**	**2.60**	**338**	S	**Sn**	**08 55 36.3**	**+2.2**
ESPN	**Las Esperanzas**	**2.64**	**357**	P	**Pn**	**08 55 03.9**	**-0.1**
ESPN	**Las Esperanzas**	**2.64**	**357**	S	**Sn**	**08 55 38.1**	**+3.2**
BOAB	**BOACO BROADBAN**	**2.24**	**333**	S	**Sn**	**08 55 52.6**	**+2.8**
BOAB	**BOACO BROADBAN**	**2.24**	**333**	P	**Pn**	**08 55 12.3**	**0.0**
GMAL	**Guarumal, Vera**	**3.40**	**121**	*e*P	**Pn**	**08 55 14.5**	**+0.1**
GMAL				*e*S	**Sn**	**08 55 55.5**	**+1.9**
CALO3	**Calobre, Verag**	**3.50**	**110**	*e*P	**Pn**	**08 55 17.6**	**+1.8**
CRIS3	**El Cristo, Coc**	**3.73**	**110**	*e*P	**Pn**	**08 55 21.2**	**+2.2**
MATN	**Matagalpa**	**3.78**	**333**	P	**Pn**	**08 55 19.0**	**-0.8**
MATN	**Matagalpa**	**3.78**	**333**	S	**Sn**	**08 56 05.8**	**+2.5**
CACAO	**El Cacao, Vera**	**3.93**	**124**	*e*P	**Pn**	**08 55 23.6**	**+1.9**
CACAO				*e*S	**Sn**	**08 56 09.6**	**+2.8**
CHIT3	**Chitre**	**4.03**	**113**	*e*P	**Pn**	**08 55 24.3**	**+1.2**
CHIT3				*e*S	**Sn**	**08 56 09.6**	**+0.4**
AZU	**Azuero**	**4.22**	**114**	*e*P	**Pn**	**08 55 27.5**	**+1.7**
AZU				*e*S	**Sn**	**08 56 16.4**	**+2.4**
BCIP	**Isla Barro Col**	**4.29**	**95**	*e*P	**Pn**	**08 55 27.0**	**+0.3**
BCIP				*e*S	**Sn**	**08 56 14.8**	**-0.8**
CHOR3	**La Chorrera**	**4.39**	**98**	*e*P	**Pn**	**08 55 28.4**	**+0.3**
GAMB1	**Gamboa**	**4.42**	**95**	*e*P	**Pn**	**08 55 28.5**	**+0.1**

BJI 17 09:00:17.5, 38°95N×141°73E, h86km, mB4.9/13, mb4.9/68, Ms3.9/6, Ms7 3.6/5
MOS 17 09:00:18.5±0.9, 39°07N×141°66E, h75km, mb5.0/40, Error ellipse: s-maj=6.1km s-min=4.5km az=99.1

NIED 17 09:00:20.6, 38°97N×141°61E, h78km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr3.82; Mθθ-0.64; Mφφ-3.18; Mrθ1.01; Mθφ-5.12; Mφr-3.80; Fault plane solution: Mo7.33000×10^15 NP1:φs73.00000°, δ47.00000°, λ149.00000°. NP2:φs185.00000°, δ68.00000°, λ47.00000°.
JMA 17 09:00:20.6±0.1, 39°0N±0°2×141°6E±0°4, h78km, MD4.7/39, MW4.6/39, NORTHERN MIYAGI PREF
JMA Felt III J1 at NORTHERN MIYAGI PREF .
NEIC 17 09:00:20.6±1.7, 39°00N±0°05×141°6E±0°1, h77km±6km, mb4.8/314, Error ellipse: s-maj=12.3km s-min=6.2km az=108.0
IDC 17 09:00:20.2±0.4, 39°02N×141°60E, h74km±2km, mb4.4/32, mbtmp4.7/37, MS3.5/24, Error ellipse: s-maj=8.9km s-min=7.5km az=114.0
ISC 17 09:00:19.9±0.3, 39°00N±0°03×141°67E±0°03, h77km±2km, h77km:pP-P, n747, σ1s61/634, mb4.8/225, 14C-10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.08**	**0**	P	**Pn**	**09 00 31.9**	**+0.9**
OFUJ				S	**Sn**	**09 00 40.0**	**+0.9**
OFUJ	**Ofunato**	**0.08**	**0**	A	A	09 00 31.9	
	comp=N,62nm,0.3s,comp=E,69nm,0.9s						
JKMT	**Kesennumamotoy**	**0.24**	**219**	*i* P	**Pn**	**09 00 32.2**	**+0.7**
JKMT				S	**Sn**	**09 00 40.5**	**+0.5**
JKMT	**Kesennumamotoy**	**0.24**	**219**	A	A	09 00 32.2	
	comp=N,41nm,0.2s,comp=E,94nm,0.6s						
JMK	**Ichinoseki**	**0.35**	**263**	P	**Pn**	**09 00 32.5**	**+0.3**
JMK				S	**Sn**	**09 00 41.5**	**+0.3**
JMK	**Ichinoseki**	**0.35**	**263**	A	A	09 00 32.5	
	comp=N,39nm,0.6s,comp=E,25nm,0.2s						
JOM	**Ohasama**	**0.56**	**328**	*i* P	**Pn**	**09 00 34.8**	**+0.9**
JOM				S	**Sn**	**09 00 45.2**	**+1.0**
JOM	**Ohasama**	**0.56**	**328**	A	A	09 00 34.8	
	comp=N,93nm,0.3s,comp=E,94nm,0.6s						
MIYJ	**Miyakonagasawa**	**0.59**	**11**	A	A	09 00 35.4	
	comp=N,10.0nm,0.5s,comp=E,13nm,0.3s						
JIO	**Ouri**	**0.60**	**205**	P	**Pn**	**09 00 34.4**	**+0.1**
JIO				S	**Sn**	**09 00 44.5**	**-0.4**
JIO	**Ouri**	**0.60**	**205**	A	A	09 00 34.4	
	comp=N,81nm,0.8s,comp=E,108nm,0.3s						
JIKH	**Ishinomakikobu**	**0.70**	**193**	A	A	09 00 35.8	
	comp=N,75nm,0.3s,comp=E,46nm,0.3s						
JOFO	**Osakifurukawao**	**0.71**	**236**	A	A	09 00 35.7	
	comp=N,130nm,0.2s,comp=E,152nm,1.1s						
JRG	**Rokugo**	**0.90**	**297**	⇓P	**Pn**	**09 00 38.1**	**+0.6**
JRG				⇓S	**Sn**	**09 00 51.4**	**+0.7**
JRG	**Rokugo**	**0.90**	**297**	A	A	09 00 38.1	
	comp=N,66nm,1.3s,comp=E,87nm,0.4s						
JSZI	**Iwateshizukuis**	**0.93**	**323**	A	A	09 00 38.8	
	comp=N,45nm,2.7s,comp=E,45nm,0.7s						
JTH	**Tanohata**	**0.95**	**9**	A	A	09 00 39.6	
	comp=N,34nm,0.3s,comp=E,24nm,0.3s						
JOU	**Okura**	**1.01**	**232**	P	**Pn**	**09 00 39.2**	**+0.3**
JOU				S	**Sn**	**09 00 53.4**	**+0.3**
JOU	**Okura**	**1.01**	**232**	A	A	09 00 39.2	
	comp=N,91nm,0.6s,comp=E,131nm,0.4s						
JKZ	**Kuzumaki**	**1.02**	**345**	A	A	09 00 40.2	
	comp=N,24nm,1.2s,comp=E,16nm,0.3s						
JYK	**Kaneyama**	**1.02**	**266**	P	**Pn**	**09 00 39.5**	**+0.4**
JYK				S	**Sn**	**09 00 53.4**	**+0.1**
JYK	**Kaneyama**	**1.02**	**266**	A	A	09 00 39.5	
	comp=N,34nm,1.7s,comp=E,38nm,2.5s						
JKEN	**Kujiedanarisaw**	**1.21**	**1**	A	A	09 00 42.7	
	comp=N,44nm,0.9s,comp=E,39nm,0.6s						
JYW	**Yuwa**	**1.26**	**296**	A	A	09 00 42.7	
	comp=N,67nm,1.7s,comp=E,109nm,0.6s						
JMM	**Marumori**	**1.32**	**212**		**Pn**	**09 00 42.6**	**-0.2**
JMM				Sn	**Sn**	**09 00 58.8**	**-1.2**
JMM	**Marumori**	**1.32**	**212**	P	**Pn**	**09 00 43.0**	**+0.2**
JMM	**Marumori**	**1.32**	**212**	*i* P	**Pn**	**09 00 42.6**	**-0.2**
JMM				S	**Sn**

GLVR pmax pmax
comp=Z,327nm,0.1s
GLVR smax smax
comp=E,2µm,0.5s
GLVR smax smax
comp=N,2µm,0.3s
RUSJ Misakicho 5.76 27 *e*P **Pn 09 01 42.2 -0.6**
RUSJ *e*S **Sn 09 02 44.9 -2.6**
YUK Yuzh-Kuril'sk 5.93 31 *d i*P **Pn 09 01 43.8 -1.3**
YUK *e*S **Sn 09 02 47.4 -4.2**
YUK pmax pmax
comp=N,159nm,0.2s
YUK pmax pmax
comp=Z,549nm,0.2s
YUK smax smax
comp=N,1µm,0.3s
YUK smax smax
comp=E,2µm,0.4s
JHJ2 Mitsune 6.06 195 Pn 09 01 45.4 -1.5
SHO Shikotan 6.22 37 *d i*P **Pn 09 01 48.8 -0.3**
SHO *e*S **Sn 09 02 54.1 -4.6**
SHO pmax pmax
comp=Z,73nm,0.4s
SHO pmax pmax
comp=N,17nm,0.2s
SHO pmax pmax
comp=E,59nm,0.3s
SHO smax smax
comp=N,857nm,0.2s
SHO smax smax
comp=E,993nm,0.3s
KUR Kuril'sk 7.75 34 *e*P **Pn 09 02 09.2 -0.7**
KUR *e*S **Sn 09 03 31.9 -4.0**
KUR pmax pmax
comp=Z,212nm,0.5s
KUR pmax pmax
comp=E,82nm,0.3s
KUR pmax pmax
comp=N,71nm,0.5s
KUR smax smax
comp=N,372nm,0.5s
KUR smax smax
comp=E,141nm,0.4s
YSS Yuzhno-Sakhali 7.99 5 P **Pn 09 02 13.6 +0.4**
YSS Yuzhno-Sakhali 7.99 5 ||*e*P **Pn 09 02 13.3 +0.1**
YSS *e*S **Sn 09 03 39.4 -2.5**
YSS pmax pmax
comp=Z,100nm,3.5s
YSS pmax pmax
comp=N,50nm,1.0s
YSS pmax pmax
comp=Z,50nm,1.0s
YSS pmax pmax
comp=E,40nm,0.9s
YSS smax smax
comp=N,100nm,3.6s
YSS smax smax
comp=E,200nm,2.8s
YSS smax smax
comp=N,80nm,1.1s
YSS smax smax
comp=E,30nm,0.9s
YSS MLR MLR
comp=Z,200nm,12.0s
JMN Monobe 8.19 232 Pn 09 02 16.6 +0.6
JMN Monobe 8.19 232 P **Pn 09 02 18.1 +2.0**
VLA Vladivostok 8.46 302 *i* P **Pn 09 02 21.8 +2.2**
MSHR Mys Shultsa 8.74 298 *ce*P **Pn 09 02 23.3 -0.1**
MSHR pmax pmax
comp=Z,159nm,0.7s
USA0B Ussuriysk Arra 8.92 309 Pn 09 02 27.5 +1.7
USA0B Ussuriysk Arra 8.92 309 *i* P **Pn 09 02 27.6 +1.7**
USRK Ussuriysk Ar. 8.92 309 Pn 09 02 27.1 +1.3
USRK Ussuriysk Ar. 8.92 309 P **Pn 09 02 27.3 +1.4**
comp=Z,24nm,0.3s,baz=115,slow=14,SNR=79
USRK S **Sn 09 04 05.4 +0.8**
comp=Z,2.4nm,0.5s,baz=98,slow=19,SNR=1.3
USRK LR LR 09 05 54.9
comp=Z,65nm,19.4s,baz=109,slow=38
PSTR Posyet 9.01 297 *i* P **Pn 09 02 28.2 +1.1**
JNU Nakatsue 10.52 239 Pn 09 02 46.7 -1.1
JNU Nakatsue 10.52 239 P **Pn 09 02 48.4 +0.6**
comp=Z,6.5nm,0.7s,baz=66,slow=15,SNR=6.6
JNU S **Sn 09 04 39.4 -4.5**
comp=Z,4.2nm,0.8s,baz=66,slow=20,SNR=1.1
JNU Nakatsue 10.52 239 P **Pn 09 02 50.1 +2.3**
MDJ Mudanjiang 10.62 306 Pn 09 02 49.1 +0.1
MDJ Mudanjiang 10.62 306 P **Pn 09 02 50.1 +1.1**
MDJ pmax pmax
comp=Z,18nm,1.1s
MDJ Mudanjiang 10.62 306 P **Pn 09 02 52.7 +3.7**
KSRS Korea Array 10.92 266 P **Pn 09 02 55.1 +1.9**
comp=Z,16nm,0.7s,baz=79,slow=14,SNR=35
KSRS S **Sn 09 04 55.6 +2.0**
comp=Z,8.6nm,0.6s,baz=76,slow=24,SNR=8.1
KSAR Wonju Array Be 10.96 266 Pn 09 02 53.6 -0.1
KSAR Wonju Array Be 10.96 266 P **Pn 09 02 53.6 -0.1**
KS19 Wonju Array Si 10.96 266 Pn 09 02 53.1 -0.6
TJN Taejon 11.63 261 Pn 09 03 02.5 -0.4
TJN Taejon 11.63 261 P **Pn 09 03 06.8 +3.9**
TJN Taejon 11.63 261 P **Pn 09 03 02.5 -0.4**
JCJ Chichijima 11.88 178 Pn 09 03 02.2 -4.1
JCJ Chichijima 11.88 178 P Pn 09 03 01.3 -5.0
JCJ S Sn 09 05 04.6 -12
TYV Tymovskoe 11.88 3 *e*P **Pn 09 03 08.4 +2.2**
TYV pmax pmax
comp=Z,8.0nm,1.2s
TYV pmax pmax
comp=Z,200nm,3.1s
GRNR Gornyy 12.34 344 *e*P **Pn 09 03 11.5 -1.0**
BNX BinXian 12.51 307 ⇑P **Pn 09 03 14.4 -0.3**
BNX pmax pmax
comp=Z,8.0nm,0.6s
BNX pmax pmax
comp=Z,63nm,3.7s
CN2 Changchun 13.09 297 P **P 09 03 27.3 -2.6**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=Z,140nm,9.0s
CN2 LR LR
comp=Z,60nm,9.0s
HEH HeiHe 15.12 323 *e*P **Pn 09 03 46.5 -2.6**
HEH pmax pmax
comp=Z,27nm,0.7s
DL2 Dalian 15.60 276 P **P 09 03 56.6 -1.2**
DL2 *e*S **Sn 09 06 46.8 -0.3**
DL2 pmax pmax
comp=Z,51nm,0.8s
DL2 LR LR
comp=Z,190nm,13.6s
DL2 LR LR
comp=Z,270nm,11.4s
DL2 LR LR
comp=Z,170nm,12.5s
ZEA Zeya 17.73 331 *e*P **P 09 04 19.0 -2.3**
ZEA pmax pmax
comp=N,40nm,0.7s
ZEA pmax pmax
comp=E,40nm,0.7s
ZEA pmax pmax
comp=Z,70nm,0.6s
PEA0B Petropavlovsk- 17.91 33 P **P 09 04 20.9 -2.4**
PEA0B Petropavlovsk- 17.91 33 P **P 09 04 20.9 -2.4**
PEA0B pmax pmax
comp=Z,15nm,1.0s
PETK Petropavlovsk- 17.91 33 P **P 09 04 21.1 -2.1**
comp=Z,5.2nm,0.7s,baz=209,slow=7.0,SNR=12
PETK LR LR 09 11 59.6
comp=Z,34nm,18.2s,baz=231,slow=39
TIA Tai'an 19.63 270 P **P 09 04 40.5 -1.8**
TIA SS **sS 09 08 48.9 +4.0**
TIA pmax pmax
comp=Z,31nm,0.9s
BJI Beijing 19.68 281 P **P 09 04 40.8 -1.9**
BJI pmax pmax
comp=Z,8.0nm,0.7s
BJT Baijiatuau 19.69 281 P 09 04 40.5 -2.3
BJT Baijiatuau 19.69 281 P **P 09 04 40.5 -2.3**
BJT pmax pmax
comp=Z,12nm,0.7s
XLT XiLinHaoTe 19.76 293 *e*P **P 09 04 41.6 -2.1**
XLT pP pP 09 04 58.6 -0.7
XLT PP **PnPn 09 05 03.8 +1.4**
XLT sP sP 09 05 07.8 -1.3
XLT S **S 09 08 16.6 -5.7**
XLT sS sS 09 08 38.3 -9.3
XLT pmax pmax
comp=Z,31nm,0.9s
XLT pmax pmax
comp=Z,110nm,4.1s
NJ2 Nanjing 19.79 257 *e*P **P 09 04 44.3 +0.3**
NJ2 pmax pmax
comp=Z,16nm,0.5s
HNS HongShan 21.23 274 ⇑P **P 09 04 57.0 -2.4**
HNS pmax pmax
comp=Z,16nm,0.5s
MA2 Magadan 21.39 13 P **P 09 05 01.7 +0.7**
MA2 IAmb IAmb 09 05 04.9
comp=Z,24nm,0.7s
MA2 Magadan 21.39 13 P **P 09 05 01.3 +0.3**
comp=Z,20nm,0.6s,baz=204,slow=9.9,SNR=14
MA2 LR LR 09 12 58.9
comp=Z,54nm,20.5s,baz=182,slow=36
comp=Z,20nm,0.6s
MA2 Magadan 21.39 13 P **P 09 05 01.7 +0.7**
MA2 pmax pmax
comp=Z,24nm,0.7s
YHNB Yeheng 22.32 236 P **P 09 05 08.1 -3.2**
YHNB IAmb IAmb 09 05 29.5
comp=Z,78nm,1.4s
NACB Ninganchiao 22.53 235 P **P 09 05 11.1 -2.4**
HHC Hu-ho-hao-te 23.11 284 *e*P **P 09 05 16.8 -2.6**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,130nm,5.9s
SSLB Suanglung 23.21 235 P **P 09 05 16.4 -4.0**
SSLB IAmb IAmb 09 05 22.7
comp=Z,49nm,1.3s
LYN LuoYang 23.76 268 P **P 09 05 23.3 -1.9**
LYN pmax pmax
comp=Z,69nm,0.6s
WHN Wuhan 23.91 258 P **P 09 05 25.8 -0.8**
WHN pmax pmax
comp=Z,70nm,0.6s
YAK Yakutsk 24.21 346 P **P 09 05 29.0 0.0**
YAK Yakutsk 24.21 346 *e*P **P 09 05 28.5 -0.5**
YAK *e**PP **pP 09 05 45.9 -0.9**
YAK *e* 09 09 07.4
YAK *e*S **S 09 09 41.5 -0.1**
YAK *e**SS **sS 09 10 12.1 0.0**
YAK *e*SS **SnSn 09 10 31.9 +0.6**
YAK pmax pmax
comp=Z,63nm,1.1s
YAK pmax pmax
comp=N,26nm,1.4s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK smax smax
comp=N,96nm,1.9s
YAK smax smax
comp=E,65nm,1.3s
SEY Seymchan 24.83 12 *i* P **P 09 05 35.3 +0.7**
SEY pmax pmax
comp=Z,21nm,0.9s
BOD Bodaibo 26.00 325 *e*P **P 09 05 44.9 -0.4**
BOD pmax pmax
comp=Z,31nm,1.4s
SHEM Shemya Is, Ala 26.17 48 LR LR 09 19 33.5
comp=Z,23nm,19.2s,baz=289,slow=44
ULN Ulaanbaatar 26.47 301 P **P 09 05 50.2 +0.3**
ULN Ulaanbaatar 26.47 301 *ce*P **P 09 05 49.5 -0.4**
ULN pmax pmax
comp=Z,3.0nm,0.9s
XAN Xi'an 26.69 270 ⇑P **P 09 05 51.1 -0.8**
XAN pmax pmax
comp=Z,44nm,0.6s
SONM Songino Array 26.91 301 P **P 09 05 53.7 -0.1**
SONM Songino Array 26.91 301 P **P 09 05 54.0 +0.2**
comp=Z,3.8nm,0.5s,baz=103,slow=9.0,SNR=18
SONM ScP **ScP 09 12 47.0 -0.2**
comp=Z,1.1nm,0.9s,baz=108,slow=3.3,SNR=4.7
SONM LR LR 09 17 14.4
comp=Z,63nm,18.6s,baz=112,slow=38
comp=Z,3.8nm,0.5s
SONM Songino Array 26.91 301 P **P 09 05 53.7 -0.1**
SONM pmax pmax
comp=Z,6.0nm,1.0s
ENH Enshi 27.76 262 P 09 06 00.5 -1.0
ENH IAmb IAmb 09 06 03.4
comp=Z,27nm,0.8s
H11N2 WAKE ISLAND Hy 29.03 124 T T 09 36 49.3
baz=317,slow=76,SNR=2663
H11N1 WAKE ISLAND Hy 29.04 124 T T 09 36 38.6
baz=317,slow=76,SNR=4158
H11N3 WAKE ISLAND Hy 29.05 124 T T 09 36 50.6
baz=317,slow=76,SNR=2808
ZAK Zakamensk 29.25 306 *e*P **P 09 06 14.2 -0.4**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
H11S1 WAKE ISLAND Hy 29.80 126 T T 09 37 37.9
baz=318,slow=76,SNR=1155
H11S3 WAKE ISLAND Hy 29.81 126 T T 09 37 37.4
baz=318,slow=76,SNR=1612
H11S2 WAKE ISLAND Hy 29.82 126 T T 09 37 40.0
baz=318,slow=76,SNR=967
LZH Lanzhou 29.99 276 *e*P **P 09 06 20.8 -0.6**
LZH pP pP 09 06 38.6 -0.8
LZH sP sP 09 06 48.3 -0.1
LZH pmax pmax
comp=Z,18nm,1.2s
LZH LR LR
comp=Z,150nm,13.4s
LZH LR LR
comp=Z,160nm,13.1s
LZH LR LR
comp=Z,130nm,13.7s
KIWB Kanaga Island 31.20 52 P **P 09 06 31.1 -0.5**
ADK Adak 31.49 52 P **P 09 06 35.2 +1.0**
ADK IAmb IAmb 09 06 35.9
comp=Z,13nm,0.9s
ADK Adak 31.49 52 P **P 09 06 35.2 +1.0**
ADK pmax pmax
comp=Z,13nm,1.0s
GYA Guiyang 31.80 257 ⇑P **P 09 06 36.6 -0.7**
GYA pmax pmax
comp=Z,39nm,1.2s
GSTR Great Sitkin T 31.90 52 P **P 09 06 38.8 +0.9**
GSTR IAmb IAmb 09 06 58.1
comp=Z,29nm,1.1s
CD2 Chengdu 31.92 267 P **P 09 06 37.3 -1.0**
CD2 pmax pmax
comp=Z,30nm,0.5s
BILL Bilibino 32.09 17 *ce*P **P 09 06 39.8 +0.5**
BILL pmax pmax
comp=Z,6.0nm,0.9s
GTA Gaotai 32.23 284 *e*P **P 09 06 40.0 -1.0**
GTA pmax pmax
comp=Z,6.0nm,0.6s
ATKA Atka Island 33.05 52 P **P 09 06 47.0 -0.8**
KMI Kunming 35.50 259 P **P 09 07 09.5 -0.1**
KMI pmax pmax
comp=Z,24nm,0.9s
PZH PanZhiHua 35.55 262 P **P 09 07 11.6 +1.8**
PZH pmax pmax
comp=Z,11nm,1.2s
PZH pmax pmax
comp=Z,100nm,4.8s
SPIA Saint Paul Isl 35.99 44 P **P 09 07 13.5 +0.4**
baz=260
P08K Saint George I 36.28 45 P **P 09 07 16.0 +0.5**
baz=262
NIKH Nikolski High 36.36 51 P **P 09 07 15.2 -1.1**
baz=268
GAMB Gambell 36.94 33 P **P 09 07 21.2 +0.1**
baz=250
M11K Mekoryuk 38.60 39 P **P 09 07 36.3 +1.2**
baz=260
TNA Tin City 39.05 31 P **P 09 07 40.2 +1.4**
baz=252
K13K Kusilvak Mount 39.60 37 P **P 09 07 45.1 +1.7**
baz=260
F14K Arctic Creek 39.67 31 P **P 09 07 46.4 +2.4**
baz=254
ANM Nome 39.83 33 P **P 09 07 47.3 +2.0**
baz=256
M13K Dall Lake 40.00 39 P **P 09 07 49.0 +2.2**
baz=263
WMQ Urumqi 40.17 295 *e*P **P 09 07 50.8 +2.3**
WMQ pmax pmax
comp=Z,49nm,0.9s
J14K Nanvaranak Lak 40.25 36 P **P 09 07 50.6 +1.8**
baz=260
S12K Black Hills 40.40 47 P **P 09 07 52.0 +1.9**
baz=270
F15K North Star Dit 40.40 31 P **P 09 07 52.6 +2.5**
baz=256,SNR=6.5
L14K Kuka Creek 40.44 38 P **P 09 07 52.8 +2.4**
baz=262
G15K Niukluk 40.48 32 P **P 09 07 53.0 +2.3**
baz=257
M14K Bethel 40.72 39 P **P 09 07 55.0 +2.3**
baz=264,SNR=7.4
ZAA0 Zalesovo Array 40.76 311 P 09 07 53.8 +0.6
ZALV Zalesovo Beam 40.76 311 P **P 09 07 53.5 +0.3**
comp=Z,52nm,0.4s,baz=87,slow=7.8,SNR=125
ZALV ScP **ScP 09 13 35.0 -0.6**
comp=Z,1.0nm,0.7s,baz=99,slow=8.9,SNR=2.3
ZALV LR LR 09 25 19.3
comp=Z,48nm,18.1s,baz=82,slow=37
comp=Z,52nm,0.4s
C16K Lisburne Hills 40.86 27 P **P 09 07 55.1 +1.4**
C16K Lisburne Hills 40.86 27 P **P 09 07 55.4 +1.6**
baz=252
O14K Tigyukauivet M 40.94 41 P **P 09 07 57.0 +2.4**
O14K IAmb IAmb 09 07 57.3
comp=Z,13nm,0.9s
O14K Tigyukauivet M 40.94 41 P **P 09 07 56.3 +1.8**
baz=266
L15K Ungalak Mounta 41.05 37 P **P 09 07 57.5 +2.1**
baz=263
K15K Wolf Creek Mou 41.11 37 P **P 09 07 57.9 +2.0**
baz=262
H16K Elim 41.16 33 P **P 09 07 58.2 +1.9**
baz=259
G16K Koyuk River 41.26 32 P **P 09 07 59.1 +2.0**
baz=258
M15K Kasigluk River 41.34 39 P **P 09 07 59.9 +2.1**
baz=265
ZSN Zaisan 41.42 301 *e*P **P 09 07 58.8 +0.1**
ZSN pmax pmax
comp=Z,16nm,0.7s
ZSN Zaisan 41.42 301 *e*P **P 09 07 58.8 +0.1**
comp=Z,16nm,0.7s
D17K Noatak River 41.51 28 P **P 09 08 00.8 +1.7**
baz=255
N15K Kwethluk River 41.59 40 P **P 09 08 02.1 +2.2**
baz=266
J16K Anvik River 41.66 35 P **P 09 08 01.9 +1.5**
baz=262
O15K Ungalikthiuk R 41.68 41 P **P 09 08 02.6 +2.0**
baz=268
C17K DeLong Mountai 41.69 27 P **P 09 08 02.2 +1.6**
baz=254
I17K Unalakleet 41.70 34 P **P 09 07 58.2 -2.5**
I17K IAmb IAmb 09 07 59.0
comp=Z,18nm,1.0s
I17K Unalakleet 41.70 34 P **P 09 08 02.8 +2.1**
baz=262
S14K Fog Glacier 41.80 46 P **P 09 08 02.9 +1.2**
baz=271
CHNA Chernabura Isl 41.83 48 P **P 09 08 03.1 +1.3**
baz=273
E17K Hotham Inlet 41.83 29 P **P 09 08 03.7 +2.0**
baz=257,SNR=6.5
F17K Baldwin Pennin 41.92 30 P **P 09 08 04.4 +2.0**
baz=258
G17K Kiwalik Mounta 41.98 32 P **P 09 08 05.1 +2.1**
baz=260
CHTO Chiang Mai 42.00 254 P **P 09 08 03.5 -0.3**
CHTO IAmb IAmb 09 08 09.7
comp=Z,9.4nm,0.7s
CHTO Chiang Mai 42.00 254 P **P 09 08 03.5 -0.3**
CHTO pmax pmax
comp=Z,9.0nm,0.7s
L16K Owhat River 42.01 38 IAmb IAmb 09 08 06.1
comp=Z,8.9nm,0.8s
L16K Owhat River 42.01 38 P **P 09 08 05.3 +2.0**
baz=265
H17K Granite Mounta 42.20 33 P **P 09 08 06.9 +2.1**
baz=261,SNR=5.1
M16K Timber Creek 42.21 39 P **P 09 08 07.1 +2.2**
baz=266
CMAR Chiang Mai Arr 42.22 253 P **P 09 08 05.7 +0.2**
comp=Z,1.3nm,0.5s,baz=48,slow=6.6,SNR=9.7
CMAR LR LR 09 25 03.6
comp=Z,30nm,19.0s,baz=40,slow=35
comp=Z,1.3nm,0.5s
CMAR Chiang Mai Arr 42.22 253 *i* P **P 09 08 08.6 +3.1**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
N16K Nishlik Lake 42.27 39 P **P 09 08 07.8 +2.3**
baz=267
J17K VABM Dome 42.35 35 P **P 09 08 08.6 +2.5**
baz=264
E18K Tukpahlearik C 42.37 29 P **P 09 08 08.5 +2.3**
baz=258,SNR=7.2
B18K Kokolik River 42.41 26 P **P 09 08 08.4 +2.0**
baz=254
CHGN Chignik 42.43 46 P **P 09 08 03.0 -3.8**
CHGN IAmb IAmb 09 08 11.2
comp=Z,9.9nm,0.9s
C18K Utukok River 42.43 27 P **P 09 08 08.1 +1.4**
baz=256
F18K Selawik 42.58 30 P **P 09 08 10.0 +2.2**
baz=260,SNR=8.2
O16K Kokwok River B 42.58 41 P **P 09 08 09.9 +2.0**
baz=269
L17K Donlin 42.60 37 P **P 09 08 09.4 +1.4**
baz=266,SNR=5.6
P16K Nushagak River 42.62 42 P **P 09 08 10.2 +1.9**
baz=269
K17K Iditarod 42.64 36 P **P 09 08 10.2 +1.8**
baz=265,SNR=5.7
G18K Tagagawik 42.86 31 P **P 09 08 11.9 +1.8**
baz=261
H18K Honhosa River 42.88 33 P **P 09 08 12.0 +1.7**
baz=262,SNR=6.0
A19K Wainwright 42.88 25 P **P 09 08 11.9 +1.7**
baz=254
M17K Holitna River 42.96 38 P **P 09 08 13.2 +2.2**
baz=267,SNR=8.9
N17K Nushagak Hills 43.05 39 P **P 09 08 13.9 +2.1**
baz=268
O17K Koliganek Bris 43.09 40 P **P 09 08 14.0 +2.0**
baz=269
C19K Lookout Ridge 43.11 27 P **P 09 08 13.7 +1.6**
baz=257
MK31 Makanchi Array 43.27 300 *d i*P **P 09 08 13.9 +0.1**
MKAR Makanchi Array 43.27 300 P **P 09 08 14.3 +0.6**
MKAR Makanchi Array 43.27 300 P **P 09 08 13.9 +0.2**
comp=Z,50nm,0.7s,baz=85,slow=10.0,SNR=366
MKAR pP **pP 09 08 31.5 -1.0**
comp=Z,5.6nm,0.6s,baz=94,slow=24,SNR=3.5
MKAR LR LR 09 25 17.1
comp=Z,39nm,19.0s,baz=112,slow=35
comp=Z,50nm,0.7s
MKAR Makanchi Array 43.27 300 *i* P **P 09 08 13.8 0.0**
MKAR pmax pmax
comp=Z,50nm,0.7s
Q16K King Salmon 43.32 42 P **P 09 08 15.7 +1.8**
baz=271
F19K Shaleruckik Mo 43.35 30 P **P 09 08 15.7 +1.6**
F19K Shaleruckik Mo 43.35 30 P **P 09 08 15.4 +1.3**
baz=261,SNR=8.3
L18K Granite Mounta 43.36 37 P **P 09 08 16.5 +2.3**
baz=267
J18K Innoko River 43.42 35 P **P 09 08 16.7 +2.0**
J18K Innoko River 43.42 35 P **P 09 08 16.3 +1.7**
baz=266
P17K Kvichak River 43.42 41 P **P 09 08 16.4 +1.7**
baz=270
GCSA Galena City Sc 43.46 33 P **P 09 08 16.1 +1.2**
baz=264
MAKZ Makanchi 43.48 300 P **P 09 08 15.7 +0.3**
MAKZ Makanchi 43.48 300 P **P 09 08 15.7 +0.3**
MAKZ pmax pmax
comp=Z,50nm,0.9s
MAKZ Makanchi 43.48 300 P **P 09 08 15.6 +0.1**
MAKZ pP **pP 09 08 34.3 +0.1**
MAKZ sP **sP 09 08 42.2 -0.8**
R17L Mt. Peulik Vol 43.51 44 P **P 09 08 15.8 +0.3**
baz=272
D19K Kuna River 43.51 28 P **P 09 08 17.1 +1.7**
D19K IAmb IAmb 09 08 18.1
comp=Z,26nm,0.9s
D19K Kuna River 43.51 28 P **P 09 08 16.8 +1.5**
baz=259

G19K **Purcell Mounta** 43.53 31 P P 09 08 17.2 +1.7
baz=263,SNR=8.6
E19K **Redstone River** 43.66 29 P P 09 08 18.2 +1.7
baz=261
SHL **Shillong** 43.66 267 P P 09 08 16.8 -0.5
SHL IAmb IAmb 09 08 21.3
comp=Z,18nm,1.1s
SHL **Shillong** 43.66 267 P P 09 08 16.8 -0.5
SHL pmax pmax
comp=Z,18nm,1.1s
N18K **Kilae Creek** 43.70 39 P P 09 08 19.1 +2.1
baz=269,SNR=9.7
H19K **Roundabout Mou** 43.72 32 P P 09 08 19.1 +2.1
baz=264,SNR=20
Q17K **Contact Creek** 43.73 43 P P 09 08 18.1 +0.7
baz=272
M18K **Stony River** 43.74 38 P P 09 08 19.6 +2.3
baz=269,SNR=5.1
J19K **Poorman** 43.94 34 P P 09 08 20.3 +1.5
baz=266,SNR=12
O18K **Koktuh Hills** 44.04 40 IAmb IAmb 09 08 24.7
comp=Z,13nm,0.6s
O18K **Koktuh Hills** 44.04 40 P P 09 08 21.4 +1.6
baz=271
P18K **Big Mountain,** 44.04 41 IAmb IAmb 09 08 22.1
comp=Z,12nm,0.7s
P18K **Big Mountain,** 44.04 41 P P 09 08 21.5 +1.7
baz=271
D20K **Etivluk River** 44.09 28 P P 09 08 21.6 +1.6
baz=260,SNR=15
B20K **Meade River** 44.13 26 P P 09 08 21.6 +1.3
baz=258
E20K **Nigu River** 44.17 28 P P 09 08 22.4 +1.7
baz=261
Q18K **Katmai Hardscr** 44.18 42 P P 09 08 21.9 +1.0
baz=272
F20K **Avaraart Lake** 44.18 30 P P 09 08 22.4 +1.7
baz=263
L19K **White Mountain** 44.21 37 P P 09 08 23.1 +2.0
baz=269
H20K **Anotleneega Mo** 44.37 32 P P 09 08 24.1 +1.8
baz=265,SNR=9.0
N19K **Bonanza Creek** 44.39 39 P P 09 08 24.6 +2.0
baz=270
M19K **Big River Lodg** 44.43 37 P P 09 08 24.8 +2.0
baz=270
I20K **Naaghedeneel** 44.49 33 P P 09 08 25.0 +1.9
baz=266
R18K **Karluk** 44.53 44 P P 09 08 24.7 +1.1
baz=274
J20K **Nowinta River** 44.60 34 P P 09 08 26.0 +1.9
baz=267,SNR=15
K20K **Telida** 44.60 35 P P 09 08 26.1 +2.0
baz=268,SNR=8.9
L20K **Farewell, AK** 44.67 37 P P 09 08 27.0 +2.3
baz=269,SNR=5.4
C21K **Knifeblade Rid** 44.81 27 P P 09 08 28.0 +2.3
baz=262,SNR=6.0
IMAR **Indian Mountai** 44.87 32 P P 09 08 27.7 +1.5
Q19K **Cape Douglas,** 44.87 42 P P 09 08 25.9 -0.5
Q19K **Cape Douglas,** 44.87 42 P P 09 08 27.0 +0.6
baz=273
KURK **Kurchatov** 44.90 307 P P 09 08 26.8 +0.1
KURK **Kurchatov** 44.90 307 *ceP* P 09 08 26.1 -0.6
KURK pmax pmax
comp=Z,74nm,0.8s
KURK **Kurchatov** 44.90 307 P P 09 08 26.5 -0.2
KURK pP pP 09 08 44.7 -0.8
B21K **Ikpikpuk River** 44.94 26 P P 09 08 28.6 +2.0
baz=261,SNR=6.5
KURBB **Kurchatov Arra** 44.98 306 P P 09 08 27.4 +0.1
comp=Z,40nm,0.5s,baz=82,slow=8.4,SNR=110
KURBB pP pP 09 08 44.3 -1.8
comp=Z,6.9nm,0.4s,baz=81,slow=8.3,SNR=2.4
comp=Z,40nm,0.5s
G21K **Allakaket** 45.01 31 P P 09 08 29.3 +2.0
baz=266,SNR=7.2
E21K **Killik River** 45.01 28 P P 09 08 28.8 +1.4
baz=263
M20K **Styx River** 45.02 37 P P 09 08 29.3 +1.7
baz=271
A22K **Sinclair Lake** 45.04 24 P P 09 08 29.5 +2.0
baz=260
P19K **Oil Pt** 45.05 41 P P 09 08 29.0 +1.3
baz=273
F21K **Alatna River** 45.07 30 P P 09 08 29.3 +1.5
baz=265
OHAK **Old Harbor** 45.19 44 P P 09 08 29.6 +0.7
OHAK IAmb IAmb 09 08 30.2
comp=Z,9.7nm,0.8s
OHAK **Old Harbor** 45.19 44 P P 09 08 29.9 +1.1
baz=275
H21K **Melozitna Rive** 45.24 32 P P 09 08 31.2 +2.0
baz=267,SNR=8.8
RED **Redoubt Volcan** 45.24 40 IAmb IAmb 09 08 31.7
comp=Z,18nm,0.8s
O20K **Slope Mountain** 45.33 40 P P 09 08 31.5 +1.5
baz=273
BRDH **Bariadhala** 45.36 264 LR LR 09 29 30.3
comp=Z,314nm,18.4s,baz=167,slow=39
CHUM **Lake Minchumin** 45.40 35 P P 09 08 32.5 +2.1
baz=269,SNR=9.6
B22K **Teshekpuk Lake** 45.45 25 P P 09 08 32.3 +1.7
baz=262
PPLA **Purkeypile** 45.45 36 IAmb IAmb 09 08 37.5
comp=Z,9.7nm,1.0s
PPLA **Purkeypile** 45.45 36 P P 09 08 33.4 +2.3
baz=270
SPCR **Spurr Chakacha** 45.48 38 P P 09 08 33.3 +2.0
baz=272
KDAK **Kodiak Island** 45.52 43 P P 09 08 32.6 +1.2
KDAK **Kodiak Island** 45.52 43 P P 09 08 32.6 +1.2
KDAK pmax pmax
comp=Z,28nm,0.9s
KDAK **Kodiak Island** 45.52 43 P P 09 08 32.2 +0.8
baz=275
KDAK **Kodiak Island** 45.52 43 P P 09 08 32.4 +1.0
D22K **Ayikyak River** 45.53 28 P P 09 08 33.4 +2.0
baz=264
Q20K **Shuyak Island** 45.55 42 P P 09 08 32.3 +0.6
baz=274
SYI **Shuyak Island** 45.55 42 P P 09 08 32.7 +1.1
SPU **Mount Spurr** 45.56 38 IAmb IAmb 09 08 34.9
comp=Z,20nm,1.2s
I21K **Tanana** 45.56 33 P P 09 08 33.6 +1.9
baz=268,SNR=6.2
F22K **John River** 45.60 30 P P 09 08 34.0 +2.1
baz=266
E22K **Anaktuvuk Pass** 45.78 29 P P 09 08 35.6 +2.2
baz=266,SNR=15
SKT **Skwentna** 45.78 37 P P 09 08 35.1 +1.6
SKT **Skwentna** 45.78 37 P P 09 08 34.8 +1.3
baz=272
G22K **Bettles** 45.82 30 P P 09 08 35.1 +1.4
baz=267,SNR=11
H22K **Ishtalitna Cre** 45.84 32 P P 09 08 35.8 +1.9
baz=268,SNR=6.7
BPAW **Bear Paw Mtn.** 45.98 34 P P 09 08 36.9 +1.8
baz=270,SNR=6.4
MLY **Manley** 46.09 33 IAmb IAmb 09 08 39.0
comp=Z,10nm,0.8s
MLY **Manley** 46.09 33 P P 09 08 37.8 +1.9
baz=270,SNR=17
SHLS **Shalkode** 46.13 296 *eP* P 09 08 34.1 -2.5
SHLS pmax pmax
comp=Z,8.0nm,0.5s
SHLS **Shalkode** 46.13 296 *eP* P 09 08 34.2 -2.5
comp=Z,8.5nm,0.5s
D23K **Nanushuk River** 46.26 28 P P 09 08 39.2 +2.1
baz=266
TRF **Thorofare Moun** 46.30 35 IAmb IAmb 09 08 41.5
comp=Z,9.5nm,0.9s
TRF **Thorofare Moun** 46.30 35 P P 09 08 39.7 +2.0
baz=272,SNR=6.6
TDK **Taldyqorghan** 46.34 299 *eP* P 09 08 38.2 +0.1
TDK pmax pmax
comp=Z,6.0nm,0.4s
TDK **Taldyqorghan** 46.34 299 *eP* P 09 08 38.3 +0.1
comp=Z,5.7nm,0.4s
C23K **Itkillik River** 46.35 26 P P 09 08 39.7 +1.9
baz=265
COLD **Coldfoot** 46.35 30 P P 09 08 39.6 +1.7
baz=268
CUT **Chulitna** 46.35 37 P P 09 08 39.1 +1.2
baz=273
G23K **Bananza Creek** 46.40 31 P P 09 08 39.9 +1.5
baz=269,SNR=8.0
M22K **Willow** 46.46 38 P P 09 08 40.5 +1.7
baz=273
H23K **Yukon River** 46.59 32 IAmb IAmb 09 08 43.3
comp=Z,16nm,0.9s
H23K **Yukon River** 46.59 32 P P 09 08 42.2 +2.4
baz=270,SNR=18
E23K **Chandalar** 46.60 29 P P 09 08 42.0 +2.1
baz=268,SNR=19
TOLK **Toolik Lake Re** 46.64 28 IAmb IAmb 09 09 09.9
comp=Z,9.1nm,0.8s
TOLK **Toolik Lake Re** 46.64 28 P P 09 08 41.9 +1.7
baz=267
I23K **Minto, Yukon-K** 46.67 33 P P 09 08 42.3 +1.9
baz=271,SNR=5.5
RC01 **Rabbit Creek A** 46.69 38 IAmb IAmb 09 08 42.6
comp=Z,14nm,0.6s
RC01 **Rabbit Creek A** 46.69 38 P P 09 08 41.7 +1.1
baz=274
O22K **Cooper Landing** 46.74 39 P P 09 08 42.3 +1.3
baz=275
NEA2 **Nenana** 46.81 34 IAmb IAmb 09 08 43.8
comp=Z,9.5nm,0.6s
NEA2 **Nenana** 46.81 34 P P 09 08 42.8 +1.3
baz=272,SNR=9.9
SATY **Saty** 46.90 296 *eP* P 09 08 42.6 0.0
SATY **Saty** 46.90 296 *eP* P 09 08 42.7 0.0
MCK **McKinley** 46.90 35 IAmb IAmb 09 08 44.5
comp=Z,11nm,0.8s
MCK **McKinley** 46.90 35 P P 09 08 43.6 +1.3
baz=272,SNR=7.6
SEW **Seward** 46.91 40 P P 09 08 43.3 +1.0
baz=276
D24K **Happy Valley** 46.93 27 P P 09 08 44.2 +1.8
baz=268,SNR=11
PMR **Palmer** 46.94 38 IAmb IAmb 09 08 44.4
comp=Z,14nm,1.0s
PMR **Palmer** 46.94 38 P P 09 08 43.4 +0.9
baz=274,SNR=6.9
ARXS **Arharly** 46.96 298 *eP* P 09 08 43.0 0.0
C24K **Franklin Bluff** 47.00 27 P P 09 08 44.7 +1.8
baz=267
E24K **Your Creek** 47.02 29 P P 09 08 45.3 +2.1
baz=269
GHO **Glory Hole Cre** 47.02 37 IAmb IAmb 09 08 45.6
comp=Z,21nm,1.0s
F24K **Squaw Lake** 47.25 30 P P 09 08 46.7 +1.8
baz=270
H24K **Noodor Dome** 47.27 32 P P 09 08 47.3 +2.2
baz=272
KNK **Knik Glacier** 47.28 38 P P 09 08 46.4 +1.2
baz=275
COLA **College** 47.32 33 P P 09 08 47.3 +1.9
baz=272
PWL **Port Wells** 47.39 39 P P 09 08 46.8 +0.7
baz=276
G24K **Hadweenzic Riv** 47.42 31 P P 09 08 48.5 +2.3
baz=271,SNR=8.4
M23K **Glacier View** 47.59 37 P P 09 08 49.0 +1.4
baz=275
HDA **Harding Lake** 47.73 34 IAmb IAmb 09 08 50.5
comp=Z,17nm,0.9s
HDA **Harding Lake** 47.73 34 P P 09 08 50.2 +1.5
baz=274,SNR=13
ILAR **Eielson Array** 47.74 33 P 09 08 50.0 +1.3
ILAR **Eielson Array** 47.74 33 P P 09 08 49.6 +1.0
comp=Z,12nm,0.7s,baz=271,slow=6.4,SNR=149
ILAR sP sP 09 09 17.6 +1.1
comp=Z,3.1nm,0.6s,baz=266,slow=6.0,SNR=3.8
ILAR PcP PcP 09 10 16.0 -0.6
comp=Z,0.8nm,0.9s,baz=261,slow=3.5,SNR=1.1
comp=Z,12nm,0.7s
TARG **Taragay, Kyrgy** 47.74 295 IAmb IAmb 09 08 52.3
comp=Z,16nm,0.8s
SCM **Sheep Creek Mo** 47.77 37 P P 09 08 50.8 +1.7
SCM IAmb IAmb 09 08 51.6
comp=Z,12nm,0.8s
SCM **Sheep Creek Mo** 47.77 37 P P 09 08 50.8 +1.7
SCM pmax pmax
comp=Z,12nm,0.8s
SCM **Sheep Creek Mo** 47.77 37 P P 09 08 50.6 +1.4
baz=276
D25K **Kavik River** 47.81 27 P P 09 08 51.1 +1.8
D25K IAmb IAmb 09 09 19.2
comp=Z,13nm,0.6s
D25K **Kavik River** 47.81 27 P P 09 08 50.9 +1.7
baz=270,SNR=7.9
AAA **Alma-Ata** 47.89 297 *eP* P 09 08 50.4 +0.1
AAA **Alma-Ata** 47.89 297 *eP* P 09 08 50.4 +0.1
TNSS **Tian-Shan** 47.92 297 *eP* P 09 08 50.6 -0.3
TNSS **Tian-Shan** 47.92 297 *eP* P 09 08 50.6 -0.3
P23K **Montague Islan** 47.95 40 P P 09 08 52.0 +1.6
baz=277
G25K **Bearman Lake** 47.96 31 P P 09 08 52.9 +2.5
baz=272,SNR=6.4
GLI **Glacier Island** 47.99 39 IAmb IAmb 09 08 53.3
comp=Z,12nm,0.6s
GLI **Glacier Island** 47.99 39 P P 09 08 51.9 +1.2
baz=277
KUU **Kurty** 48.08 298 *eP* P 09 08 51.7 +0.1
KUU pmax pmax
comp=Z,7.0nm,0.6s
KUU **Kurty** 48.08 298 *eP* P 09 08 51.7 +0.1
comp=Z,7.0nm,0.6s
H25L **Birch Creek** 48.10 31 P P 09 08 54.2 +2.8
baz=273,SNR=6.6
F25K **Christian Rive** 48.11 29 P P 09 08 54.1 +2.5
baz=272,SNR=14
PRP **Porcupine Dome** 48.26 32 IAmb IAmb 09 08 55.7
comp=Z,15nm,0.8s
PRP **Porcupine Dome** 48.26 32 P P 09 08 54.8 +1.9
baz=274,SNR=26
M24K **Tolsona, Glenn** 48.29 37 P P 09 08 54.9 +1.8
baz=276
K24K **Donnelly Dome** 48.29 35 P P 09 08 53.9 +0.8
baz=275,SNR=8.2
C26K **Camden Bay** 48.32 26 P P 09 08 55.2 +2.1
baz=270
J25K **Salcha River,** 48.40 33 P P 09 08 54.5 +0.6
baz=275
KLU **Klutina** 48.48 38 IAmb IAmb 09 08 56.8
comp=Z,11nm,0.6s
KLU **Klutina** 48.48 38 P P 09 08 56.1 +1.6
baz=277,SNR=7.6
PAX **Paxson** 48.52 36 P P 09 08 55.4 +0.5
baz=276
BMAR **Burnt Mountain** 48.52 30 P 09 08 57.3 +2.6
Q23K **Middleton Isla** 48.56 40 P P 09 08 56.4 +1.3
baz=279
DIV **Divide** 48.60 38 IAmb IAmb 09 08 58.2
comp=Z,14nm,0.8s
F26K **Sheenjek River** 48.67 29 P P 09 08 58.5 +2.6
baz=273,SNR=34
EYAK **Cordova Ski Ar** 48.69 39 P P 09 08 57.6 +1.5
baz=278,SNR=5.7
RIDG **Independent Ri** 48.71 35 IAmb IAmb 09 08 58.7
comp=Z,9.7nm,1.0s
RIDG **Independent Ri** 48.71 35 P P 09 08 57.0 +0.7
baz=276,SNR=7.9
HARP **HAARP** 48.73 36 P P 09 08 57.4 +1.1
baz=277
C27K **Jago River** 48.74 27 P P 09 08 58.7 +2.3
baz=272,SNR=9.1
BRZS **Berezniki** 48.78 307 *eP* P 09 08 56.7 -0.2
BRZS **Berezniki** 48.78 307 *eP* P 09 08 56.8 -0.2
BOOM **Boomskoye usch** 48.80 296 P 09 08 57.8 +0.4
BOOM IAmb IAmb 09 09 00.6
comp=Z,10.0nm,0.7s
BOOM **Boomskoye usch** 48.80 296 P P 09 08 57.8 +0.4
BOOM pmax pmax
comp=Z,10.0nm,0.7s
G26K **Porcupine Rive** 48.86 30 P P 09 08 59.9 +2.6
baz=274
SCRK **Sand Creek** 49.06 34 P P 09 09 00.1 +1.1
baz=276,SNR=26
DOT **Dot Lake** 49.07 35 IAmb IAmb 09 09 00.8
comp=Z,7.7nm,0.9s
N25K **Chitina, Valde** 49.09 37 P P 09 09 01.0 +1.7
baz=278
NRN **Naryn** 49.11 295 IAmb IAmb 09 09 03.2
comp=Z,5.8nm,0.8s
BMRM **Bremner River** 49.18 38 IAmb IAmb 09 09 02.7
comp=Z,16nm,1.0s
BMRM **Bremner River** 49.18 38 P P 09 09 01.7 +1.8
baz=279,SNR=6.1
J26L **Joseph Creek** 49.19 33 P P 09 09 01.1 +1.1
baz=276,SNR=6.1
I26K **Coal Creek Min** 49.27 32 P P 09 09 01.7 +1.3
baz=276
BTLS **Baital** 49.28 300 *eP* P 09 09 00.5 -0.3
BTLS **Baital** 49.28 300 *eP* P 09 09 00.6 -0.3
SGDS **Sogindy** 49.39 298 *eP* P 09 09 01.7 -0.1
BVAR **Borovoye Array** 49.42 311 P P 09 09 01.8 +0.1
comp=Z,13nm,0.5s,baz=70,slow=7.8,SNR=31
comp=Z,13nm,0.5s
KAIM **Kayak Island** 49.44 40 P P 09 09 03.2 +1.4
baz=280
L26K **Log Cabin Wild** 49.47 35 IAmb IAmb 09 09 05.1
comp=Z,12nm,0.7s
L26K **Log Cabin Wild** 49.47 35 P P 09 09 04.1 +2.1
baz=278,SNR=12
BRVK **Borovoye** 49.47 311 P P 09 09 02.3 +0.2
BRVK IAmb IAmb 09 09 03.6
comp=Z,8.6nm,0.6s
BRVK **Borovoye** 49.47 311 *ceP* P 09 09 02.3 +0.2
BRVK pmax pmax
comp=Z,7.0nm,0.6s
E27K **Coleen River** 49.60 29 P P 09 09 05.4 +2.4
baz=275,SNR=7.4
G27K **Doyon Strip** 49.71 30 P P 09 09 06.2 +2.3
baz=276,SNR=5.7
M26K **Nabesna, AK** 49.72 36 P P 09 09 06.3 +2.2
baz=279
D27M **Malcolm River** 49.73 27 P P 09 09 06.1 +2.1
baz=275
AAK **Ala-Archa** 49.76 297 P P 09 09 04.6 0.0
AAK **Ala-Archa** 49.76 297 P P 09 09 04.9 +0.1
comp=Z,9.5nm,0.5s,baz=63,slow=15,SNR=7.4
AAK LR LR 09 33 16.9
comp=Z,48nm,18.6s,baz=126,slow=40
comp=Z,9.5nm,0.5s
AAK **Ala-Archa** 49.76 297 *ceP* P 09 09 04.8 +0.1
AAK pmax pmax
comp=Z,7.0nm,0.5s
AAK **Ala-Archa** 49.76 297 P P 09 09 04.7 0.0
KSH **Kashi** 49.81 293 P P 09 09 09.4 +4.3
KSH pP pP 09 09 26.8 +2.5
KSH pmax pmax
comp=Z,12nm,0.6s
H27K **Steamboat Moun** 49.83 31 P P 09 09 07.2 +2.5
baz=277
I27K **Kandik River** 49.87 32 P P 09 09 07.1 +2.0
baz=277
MCARA **McCarthy VSAT** 49.87 38 IAmb IAmb 09 09 08.3
comp=Z,16nm,1.0s
MCARA **McCarthy VSAT** 49.87 38 P P 09 09 07.0 +1.9
baz=280
K27K **Chicken** 49.89 34 IAmb IAmb 09 09 08.0
comp=Z,9.8nm,0.9s
K27K **Chicken** 49.89 34 P P 09 09 07.2 +2.0
baz=278,SNR=12
CRQE **Cirque** 49.95 38 P P 09 09 07.3 +1.5
baz=280
L27K **Beaver Creek,** 50.15 35 P P 09 09 09.5 +2.3
baz=279
BCAR **Beaver Creek A** 50.17 35 P 09 09 09.2 +1.9
M27K **Edge Creek, AK** 50.24 36 P P 09 09 10.0 +2.0
baz=280,SNR=9.8
F28M **Old Crow** 50.31 29 IAmb IAmb 09 09 11.7
comp=Z,8.0nm,0.8s
F28M **Old Crow** 50.31 29 P P 09 09 10.7 +2.4
baz=277,SNR=9.9
E28M **Babbage River** 50.31 28 P P 09 09 10.5 +2.1
baz=276
I28M **Miner Creek** 50.59 32 P P 09 09 12.6 +2.0
baz=279,SNR=12
MESA **MESA** 50.61 39 P P 09 09 12.3 +1.3
baz=281
BVCY **Beaver Creek** 50.70 36 P P 09 09 13.3 +1.9
baz=280
CTG **Chitna Glacier** 50.75 38 P P 09 09 13.5 +1.6
baz=281
E29M **Blow River** 50.94 28 P P 09 09 15.5 +2.5
baz=278
YUK3 **Moose Creek** 51.01 37 P P 09 09 15.5 +1.6
baz=281
DAWY **Dawson** 51.05 34 P P 09 09 15.8 +1.8
baz=280
H29M **Whitestone** 51.10 31 P P 09 09 16.4 +2.2
baz=280
G29M **Pine Creek** 51.12 30 P P 09 09 16.9 +2.5
baz=279,SNR=13
I29M **Ogilvie Camp,** 51.27 32 P P 09 09 17.4 +1.8
baz=280
EPYK **Eagle Plains** 51.73 31 P P 09 09 20.8 +1.8
baz=281,SNR=24
M29M **Somme Creek** 51.79 36 P P 09 09 21.8 +2.2
baz=282,SNR=12
L29M **L29M** 51.79 35 P P 09 09 22.2 +2.6
baz=282,SNR=16
G30M **tAoh Zraii Nji** 51.81 30 P P 09 09 21.5 +1.9
baz=281,SNR=13
DZA **Taraz** 51.85 298 *eP* P 09 09 20.2 0.0
DZA pmax pmax
comp=Z,8.0nm,0.8s
DZA **Taraz** 51.85 298 *eP* P 09 09 20.3 0.0
comp=Z,8.4nm,0.8s
F30M **Barrier River** 51.85 29 P P 09 09 22.2 +2.3
baz=281
K29M **Barlow Dome** 51.91 34 P P 09 09 22.9 +2.4
baz=282,SNR=19
YUK4 **Talbot Arm** 51.95 37 P P 09 09 23.2 +2.3
baz=283
I30M **Mount Dempster** 52.10 32 P P 09 09 24.0 +2.1
baz=282,SNR=70
YUK6 **Outpost Mounta** 52.17 37 P P 09 09 24.9 +2.3
baz=284
O29M **Mount Kennedy** 52.23 38 P P 09 09 25.2 +2.3
baz=284
J30M **Hart River** 52.26 33 P P 09 09 25.3 +2.3
baz=282,SNR=7.1
KK31 **Karatay Array** 52.33 299 IAmb IAmb 09 09 24.6
comp=Z,9.6nm,0.7s
KKAR **Karatay Array** 52.33 299 P P 09 09 23.8 0.0
KKAR **Karatay Array** 52.33 299 P P 09 09 23.8 0.0
M30M **Minto, Yukon** 52.51 35 IAmb IAmb 09 09 27.9
comp=Z,6.5nm,0.7s
M30M **Minto, Yukon** 52.51 35 P P 09 09 27.1 +2.2
baz=284,SNR=8.3
INK **Inuvik** 52.55 28 IAmb IAmb 09 09 27.3
comp=Z,9.5nm,0.7s
INK **Inuvik** 52.55 28 P P 09 09 26.6 +1.6
baz=282,SNR=11
G31M **Satah River** 52.57 30 IAmb IAmb 09 09 27.1
comp=Z,8.7nm,0.6s
G31M **Satah River** 52.57 30 P P 09 09 26.6 +1.4
baz=282,SNR=7.8
HYT **Haines Junctio** 52.61 38 P P 09 09 28.3 +2.6
baz=284,SNR=13
N30M **Aishikik Lake** 52.65 37 P P 09 09 28.6 +2.6
baz=284
F31M **Tsiigehtchic** 52.66 29 P 09 09 27.0 +1.2
F31M IAmb IAmb 09 09 28.3
comp=Z,22nm,1.5s
F31M **Tsiigehtchic** 52.66 29 P P 09 09 27.3 +1.5
baz=283,SNR=6.3
MAYO **Mayo, Yukon** 52.67 34 P P 09 09 28.0 +2.1
baz=284
H31M **Peel River** 52.80 31 P P 09 09 28.8 +1.9
baz=283
P29M **Windy Craggy** 52.81 39 P P 09 09 29.7 +2.7
baz=285
BRLS **Borolday** 52.82 299 *eP* P 09 09 28.7 +1.3
BRLS **Borolday** 52.82 299 *eP* P 09 09 28.7 +1.3
PSI **Prapat** 52.99 238 LR LR 09 33 42.2
comp=Z,114nm,18.5s,baz=166,slow=38
IUG **Iuzhnay** 53.02 298 *eP* P 09 09 28.9 -0.1
IUG **Iuzhnay** 53.02 298 *eP* P 09 09 28.9 -0.1
P30M **Million Dollar** 53.05 38 P P 09 09 31.4 +2.5
baz=285
CHM **Chimkent** 53.25 298 *eP* P 09 09 30.7 +0.2
CHM pmax pmax
comp=Z,6.0nm,0.3s
CHM **Chimkent** 53.25 298 *eP* P 09 09 30.8 +0.2
comp=Z,5.7nm,0.3s
N31M **Braeburn, Yuko** 53.25 36 P P 09 09 32.9 +2.6
baz=285,SNR=7.7
O30N **Mendenhall** 53.30 37 P P 09 09 32.7 +2.1
baz=286
PLBC **Pleasant Camp** 53.53 39 P P 09 09 34.6 +2.4
baz=286
M31M **Drury Creek, Y** 53.69 35 P P 09 09 35.6 +2.1
baz=286
SVE **Sverdlovsk** 53.82 318 *eP* P 09 09 35.0 +0.5
SVE pmax pmax
comp=Z,29nm,0.7s
WHY **Whitehorse** 53.90 37 P P 09 09 37.4 +2.3

baz=287,SNR=5.2
SKAG Skagway 54.03 39 P P 09 09 37.7 +1.7
baz=287
GAR Garm 54.06 294 P P 09 09 36.6 -0.1
FARO Faro, Yukon 54.15 35 IAmb IAmb 09 09 39.4
comp=Z,6.7nm,0.6s
FARO Faro, Yukon 54.15 35 P P 09 09 38.5 +1.7
baz=287,SNR=8.6
NIL Nilore 54.21 287 P 09 09 38.5 +0.8
NIL Nilore 54.21 287 P P 09 09 38.5 +0.8
NIL pmax pmax
comp=Z,32nm,0.7s
A36M Sachs Harbour 54.37 22 IAmb IAmb 09 09 41.0
comp=Z,11nm,0.8s
A36M Sachs Harbour 54.37 22 P P 09 09 39.8 +1.6
baz=287
N32M Quiet Lake 54.59 36 P P 09 09 41.8 +1.7
baz=288
P32M Atlin 54.78 38 P P 09 09 43.5 +2.1
baz=288
R32K Eaglecrest 54.80 40 P P 09 09 43.8 +2.2
baz=288
MMPY Sheldon Lake, 54.96 34 P P 09 09 45.0 +2.3
baz=288,SNR=5.2
P33M Teslin, Yukon 55.01 37 IAmb IAmb 09 09 46.6
comp=Z,13nm,1.1s
P33M Teslin, Yukon 55.01 37 P P 09 09 45.7 +2.5
baz=288,SNR=8.0
SIMJ Simiganj 55.13 294 P P 09 09 44.3 -0.1
SIMJ IAmb IAmb 09 09 48.2
comp=Z,9.8nm,0.7s
SIMJ Simiganj 55.13 294 P P 09 09 43.9 -0.6
ARTI Arti 55.14 318 P P 09 09 44.3 +0.2
comp=Z,53nm,0.6s,baz=80,slow=3.5,SNR=49
ARTI pP pP 09 10 03.2 -0.3
comp=Z,13nm,0.5s,baz=93,slow=6.0,SNR=3.5
ARTI sP sP 09 10 11.5 -0.7
comp=Z,12nm,0.5s,baz=83,slow=2.1,SNR=2.7
ARTI LR LR 09 34 48.9
comp=Z,54nm,18.3s,baz=62,slow=38
comp=Z,53nm,0.6s
ARTI Arti 55.14 318 *d i* P P 09 09 44.1 0.0
ARTI *PP pP 09 10 02.7 -0.9
ARTI 09 10 44.1
ARTI 09 11 44.3
ARTI S S 09 17 21.1 +0.1
ARTI SS SS 09 20 57.9 -7.4
ARTI pmax pmax
comp=Z,27nm,0.5s
ARTI Arti 55.14 318 P P 09 09 44.3 +0.2
ARTI pP pP 09 10 03.0 -0.6
Q32M Nakina River 55.68 39 P P 09 09 50.9 +2.7
baz=290
R33M Jennings River 56.16 38 P P 09 09 54.0 +2.5
baz=290
U33K Whale Pass 56.24 42 P P 09 09 54.7 +2.8
baz=291
WRAK Wrangell Islan 56.54 42 P P 09 09 56.5 +2.5
baz=291
S34M Telegraph Cree 56.61 40 P P 09 09 57.2 +2.6
baz=291
TGTN Hyland Airport 56.65 35 P P 09 09 56.8 +1.9
baz=291
AB31 Akbulak array 56.84 309 P P 09 09 56.4 +0.1
ABKAR Akbulak array 56.84 309 P P 09 09 56.2 -0.1
KBL Kabul 56.92 290 P P 09 09 57.1 -0.2
KBL IAmb IAmb 09 09 58.9
comp=Z,7.3nm,0.7s
KBL Kabul 56.92 290 P P 09 09 57.1 -0.2
KBL pmax pmax
comp=Z,7.0nm,0.7s
WTLY Watson Lake, Y 56.93 37 IAmb IAmb 09 09 60.0
comp=Z,10nm,1.0s
WTLY Watson Lake, Y 56.93 37 P P 09 09 58.8 +1.9
baz=292,SNR=5.8
DLBC Dease Lake 56.96 39 P P 09 09 59.8 +2.7
baz=292
V35K Ketchikan 57.33 43 P P 09 10 01.7 +2.1
baz=292
T35M Bob Quinn 57.40 41 P P 09 10 03.0 +2.9
baz=292
AKTO Aktyubinsk 57.52 311 P P 09 10 01.1 0.0
comp=Z,9.6nm,0.6s,baz=74,slow=5.9,SNR=27
comp=Z,9.6nm,0.6s
WRGLY Wrigley 58.07 32 P P 09 10 06.8 +2.1
baz=294
LIRD Liard River Hi 58.46 37 P P 09 10 09.8 +2.3
baz=294
SPITS Spitsbergen Ar 58.64 349 P P 09 10 09.2 +0.7
comp=Z,10nm,1.1s,baz=82,slow=11,SNR=2.3
comp=Z,10nm,1.1s
KIRV Kirov 58.81 322 P P 09 10 09.8 0.0
comp=Z,26nm,0.6s,baz=18,slow=3.5,SNR=8.8
KIRV pP pP 09 10 28.8 -0.8
comp=Z,16nm,0.7s,baz=73,slow=8.7,SNR=2.6
comp=Z,26nm,0.6s
KIRV Kirov 58.81 322 *i* P P 09 10 10.1 +0.2
WB0 Warramunga Arr 58.85 188 P 09 10 10.2 -0.4
WR0 Warramunga Arr 59.03 188 P P 09 10 11.4 -0.4
WR0 IAmb IAmb 09 10 31.2
comp=Z,8.3nm,0.6s
WR8 Warramunga Arr 59.03 188 P 09 10 11.4 -0.4
WB2 Warramunga Arr 59.03 188 P P 09 10 11.2 -0.7
WB2 IAmb IAmb 09 10 31.3
comp=Z,8.0nm,0.7s
WRA Warramunga Arr 59.03 188 P P 09 10 11.2 -0.6
WRA Warramunga Arr 59.03 188 P P 09 10 11.2 -0.6
comp=Z,4.7nm,0.6s,baz=5.4,slow=7.0,SNR=69
WRA pP pP 09 10 30.3 -1.1
comp=Z,5.8nm,0.5s,baz=5.6,slow=7.1,SNR=12
comp=Z,4.7nm,0.6s
TOAD Toad River Com 59.10 37 P P 09 10 14.0 +2.0
baz=295,SNR=8.6
NOR Nord 59.11 356 *i* P P 09 10 11.9 +0.2
NOR IAmb IAmb 09 10 40.7
comp=Z,5.6nm,0.9s
SANVU Saraoutou 59.19 151 P P 09 10 12.8 -0.2
RES Resolute Bay 60.65 15 P P 09 10 22.7 +0.4
RES IAmb IAmb 09 10 28.7
comp=Z,18nm,1.3s
RES Resolute Bay 60.65 15 P P 09 10 22.7 +0.4
RES pmax pmax
comp=Z,18nm,1.3s
YKA Yellowknife Ar 62.02 31 P P 09 10 32.6 +0.9
comp=Z,1.7nm,0.9s,baz=302,slow=7.3,SNR=13
YKA pP pP 09 10 51.2 -0.3
comp=Z,0.3nm,0.7s,baz=316,slow=16,SNR=2.5
comp=Z,1.7nm,0.9s
KLMR Klimovskoe 62.21 327 *e*P P 09 10 31.6 -1.4
KLMR *e**PP pP 09 10 51.5 -1.4
KLMR *e* 09 12 49.9
KLMR pmax pmax
comp=Z,16nm,1.4s
ARCES ARCESS Array B 62.23 339 P P 09 10 33.4 +0.3
ARCES IAmb IAmb 09 10 34.2
comp=Z,10nm,1.3s
ARCES ARCESS Array B 62.23 339 P P 09 10 33.6 +0.5
comp=Z,1.6nm,0.7s,baz=62,slow=7.9,SNR=9.7
ARCES pP pP 09 10 51.6 -1.4
comp=Z,1.1nm,0.4s,baz=41,slow=8.1,SNR=2.2
ARCES LR LR 09 42 38.4
comp=Z,28nm,19.1s,baz=32,slow=41
comp=Z,1.6nm,0.7s
ARCES ARCESS Array B 62.23 339 P P 09 10 33.4 +0.3
ARCES pmax pmax
comp=Z,10.0nm,1.3s
BELG Belogornoye 62.51 316 P P 09 10 33.8 -1.3
comp=Z,13nm,0.6s,baz=137,slow=2.4,SNR=5.9
BELG LR LR 09 40 00.4
comp=Z,50nm,18.1s,baz=353,slow=38
comp=Z,13nm,0.6s
AS31 Alice Springs 62.76 188 P P 09 10 37.0 -0.1
ASAR Alice Springs 62.76 188 P P 09 10 37.0 -0.1
ASAR Alice Springs 62.76 188 P P 09 10 37.0 -0.1
comp=Z,1.8nm,0.7s,baz=5.7,slow=6.5,SNR=27
ASAR pP pP 09 10 56.4 -0.4
comp=Z,3.0nm,0.6s,baz=6.6,slow=5.0,SNR=12
comp=Z,1.8nm,0.7s
TULEG Thule 63.13 8 P P 09 10 39.1 +0.2
TULEG IAmb IAmb 09 10 39.3
comp=Z,8.6nm,0.6s
NEEM North Greenlan 63.56 3 *i* P P 09 10 41.9 -0.2
NEEM IAmb IAmb 09 10 43.0
comp=Z,7.5nm,0.8s
DAG Danmarks Havn 63.84 355 *i* P P 09 10 43.0 -0.6
DAG IAmb IAmb 09 11 09.2
comp=Z,4.8nm,0.8s
NLWA Neilton Lookou 65.25 48 P P 09 10 55.6 +2.3
NLWA IAmb IAmb 09 10 56.8
comp=Z,20nm,1.0s
D05A Enumclaw 66.44 48 P P 09 11 02.4 +1.4
D05A IAmb IAmb 09 11 04.0
comp=Z,11nm,0.8s
COR Corvallis 67.07 51 P P 09 11 04.2 -0.6
COR Corvallis 67.07 51 P P 09 11 04.3 -0.6
COR pmax pmax
comp=Z,25nm,1.0s
LTY Liberty 67.16 47 IAmb IAmb 09 11 07.5
comp=Z,6.0nm,0.6s
FIA1 FINESS Array S 67.17 332 P P 09 11 06.1 +0.8
FINES FINESS Array B 67.17 332 P P 09 11 05.5 +0.3
comp=Z,5.4nm,0.7s,baz=46,slow=8.2,SNR=14
FINES pP pP 09 11 24.5 -0.9
comp=Z,6.6nm,0.7s,baz=65,slow=8.4,SNR=7.8
FINES sP PcP 09 11 32.1 -0.6
comp=Z,4.5nm,0.6s,baz=47,slow=8.4,SNR=4.3
FINES LR LR 09 41 32.3
comp=Z,29nm,18.3s,baz=42,slow=37
comp=Z,5.4nm,0.7s
ILON Igloolik, Nuna 67.31 15 P P 09 11 06.1 +0.1
BLKN Baker Lake 67.51 23 P P 09 11 07.8 +0.4
H04A Detroit Lake 67.68 50 IAmb IAmb 09 11 11.6
comp=Z,11nm,0.8s
AKT Akhty 68.08 306 *e*P P 09 11 10.2 -1.3
AKT pmax pmax
comp=Z,8.0nm,0.5s
D08A Wollman Farm, 68.27 47 IAmb IAmb 09 11 14.4
comp=Z,6.2nm,0.6s
BBOR Butler Butte 68.37 52 P 09 11 13.7 +0.3
SUMG Summit 68.72 0 P 09 11 16.2 +0.9
SUMG IAmb IAmb 09 11 17.1
comp=Z,8.1nm,0.9s
SUMG Summit 68.72 0 P P 09 11 16.2 +0.9
SUMG pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 68.72 0 *i* P P 09 11 15.3 0.0
SUMG IAmb IAmb 09 11 16.7
comp=Z,172nm,2.9s
PINE Pine Mountain 68.92 50 IAmb IAmb 09 11 20.2
comp=Z,15nm,0.9s
YBH Yreka Blue Hor 68.99 53 IAmb IAmb 09 11 20.4
comp=Z,9.6nm,0.9s
J05D Fort Rock, OR 69.03 51 IAmb IAmb 09 11 20.8
comp=Z,16nm,1.1s
K05A Summer Lake 69.55 51 IAmb IAmb 09 11 24.1
comp=Z,19nm,0.9s
KVAR Kislovodsk Arr 69.77 311 P P 09 11 22.2 +0.3
comp=Z,3.4nm,0.4s,baz=276,slow=21,SNR=5.2
comp=Z,3.4nm,0.4s
KIV Kislovodsk 69.78 311 *e*P P 09 11 22.8 +0.8
KIV pmax pmax
comp=Z,25nm,1.1s
KIV Kislovodsk 69.78 311 P P 09 11 22.4 +0.4
KIV pP pP 09 11 42.4 +0.2
KBZ Khabaz 69.78 310 P P 09 11 22.8 +0.9
comp=Z,8.7nm,0.8s,baz=52,slow=4.4,SNR=17
comp=Z,8.7nm,0.8s
KBZ Khabaz 69.78 310 *d i* P P 09 11 22.0 +0.2
KBZ pmax pmax
comp=Z,10.0nm,0.9s
STKA Stephens Creek 70.52 180 P P 09 11 26.6 +0.4
comp=Z,3.0nm,1.0s,baz=4.8,slow=12,SNR=2.6
STKA pP pP 09 11 46.4 0.0
comp=Z,1.0nm,0.6s,baz=341,slow=6.0,SNR=1.4
comp=Z,3.0nm,1.0s
J08A Circle Bar Ran 70.64 50 IAmb IAmb 09 11 30.4
comp=Z,12nm,1.1s
MNK Minsk 70.99 326 *i* LRM MLR 09 46 23.9
comp=N,152nm,21.8s
MNK Minsk 70.99 326 *i* P P 09 11 28.6 -0.3
MNK *i* *PP pP 09 11 50.1 +0.8
MNK *i* 09 14 07.0
MNK *i* PPP PPP 09 15 50.0
MNK *i* S S 09 20 39.8 +1.2
MNK *i* SS SS 09 25 13.7 +1.8
MNK pmax pmax
comp=E,16nm,0.7s
MNK pmax pmax
comp=Z,26nm,0.6s
MNK pmax pmax
comp=N,12nm,0.7s
MNK MLR MLR
comp=Z,38nm,16.0s
MNK MLR MLR
comp=E,89nm,20.0s
MNK MLR MLR
comp=N,152nm,22.0s
MNK Minsk 70.99 326 *i* P P 09 11 28.7 -0.3
comp=Z,26nm,0.6s,baz=49
MNK Minsk 70.99 326 *i* P P 09 11 28.7 -0.3
comp=N,12nm,0.7s
MNK Minsk 70.99 326 *i* P P 09 11 28.7 -0.3
comp=E,16nm,0.7s
MNK Minsk 70.99 326 *i* pP pP 09 11 50.1 +0.8
MNK Minsk 70.99 326 *i* PP PP 09 14 07.1 +0.5
MNK Minsk 70.99 326 *i* PPP PPP 09 15 50.0
MNK Minsk 70.99 326 *i* S S 09 20 39.8 +1.2
MNK Minsk 70.99 326 *i* SS SS 09 25 13.7 +1.8
MNK Minsk 70.99 326 *i* SSS SSS 09 28 32.9
MNK Minsk 70.99 326 *i* LQ LQ 09 38 51.4
MNK Minsk 70.99 326 *i* LR LR 09 43 20.1
MNK Minsk 70.99 326 *i* LRM MLR 09 45 21.9
comp=Z,38nm,16.3s
MNK Minsk 70.99 326 *i* LRM MLR 09 45 44.2
comp=E,89nm,20.0s
NACGM Naroch 71.20 326 LRM MLR 09 45 29.4
comp=Z,176nm,19.4s
NACGM Naroch 71.20 326 *e*P P 09 11 36.5 +6.2
comp=Z,9.0nm,0.9s,baz=48
NACGM Naroch 71.20 326 *e*pP pP 09 11 50.7 +0.1
NACGM Naroch 71.20 326 *e*sP sP 09 11 56.6 -2.5
NACGM Naroch 71.20 326 PP PP 09 15 10.5 +62
NACGM Naroch 71.20 326 PPP PPP 09 17 24.5
NACGM Naroch 71.20 326 S S 09 20 50.6 +10
NACGM Naroch 71.20 326 SS SS 09 25 14.3 -0.9
NACGM Naroch 71.20 326 SSS SSS 09 29 13.9
FFC Flin Flon 71.95 33 P 09 11 35.5 +0.7
FFC Flin Flon 71.95 33 P P 09 11 35.5 +0.7
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC Flin Flon 71.95 33 P P 09 11 35.6 +0.8
FFC sP sP 09 12 04.1 +0.7
MPK Martis Peak 72.06 54 IAmb IAmb 09 11 38.8
comp=Z,15nm,0.7s
PAHR Pah Rah Range 72.22 53 IAmb IAmb 09 11 39.5
comp=Z,13nm,0.9s
NC405 NORSAR Array S 72.25 337 IAmb IAmb 09 11 57.3
comp=Z,6.2nm,0.6s
ANN Anapa 72.32 314 *e*P P 09 11 37.3 +0.1
ANN *e**PP PcP 09 11 54.5 -0.3
ANN *e*S S 09 20 54.9 +0.6
ANN *e*SS SS 09 25 36.5 +3.7
ANN pmax pmax
comp=Z,28nm,0.8s
HFS Hagfors 72.39 336 P P 09 11 37.4 +0.1
comp=Z,4.1nm,0.5s,baz=53,slow=5.9,SNR=28
HFS pP pP 09 11 57.5 -0.1
comp=Z,4.4nm,0.4s,baz=46,slow=6.4,SNR=6.8
HFS sP sP 09 12 05.5 -0.6
comp=Z,2.8nm,0.6s,baz=46,slow=6.4,SNR=2.6
HFS LR LR 09 46 31.5
comp=Z,40nm,18.1s,baz=55,slow=38
comp=Z,4.1nm,0.5s
NC204 NORSAR Array S 72.41 337 P 09 11 37.9 +0.4
NC204 IAmb IAmb 09 11 58.6
comp=Z,14nm,0.8s
NB2 NORSAR Subarra 72.46 337 P P 09 11 37.8 0.0
comp=Z,5.8nm,0.7s,baz=39,slow=6.2
NOA NORSAR Array B 72.46 337 P P 09 11 38.0 +0.3
comp=Z,2.7nm,0.7s,baz=38,slow=5.9,SNR=10
NOA LR LR 09 46 55.3
comp=Z,19nm,20.5s,baz=30,slow=39
comp=Z,2.7nm,0.7s
CMB Columbia Colle 72.57 55 IAmb IAmb 09 11 41.5
comp=Z,8.6nm,0.9s
EGMT Eagleton 72.67 42 IAmb IAmb 09 11 41.5
comp=Z,13nm,0.8s
AK03 Malin Array Si 72.86 322 P P 09 11 40.0 -0.2
AKASG Malin Array Be 72.87 322 P P 09 11 40.2 -0.1
comp=Z,3.3nm,0.4s,baz=47,slow=6.1,SNR=23
AKASG pP pP 09 12 00.4 -0.3
comp=Z,1.4nm,0.3s,baz=46,slow=6.0,SNR=4.2
AKASG sP sP 09 12 08.5 -0.7
comp=Z,1.5nm,0.4s,baz=47,slow=5.8,SNR=2.6
AKASG LR LR 09 44 47.7
comp=Z,43nm,19.5s,baz=56,slow=37
comp=Z,3.3nm,0.4s
AKBB Malin Array Si 72.87 322 P P 09 11 40.2 -0.1
AKBB IAmb IAmb 09 12 00.6
comp=Z,8.8nm,0.9s
AKBB Malin Array Si 72.87 322 P P 09 11 40.3 -0.1
AKBB pmax pmax
comp=Z,9.0nm,0.9s
AKBB Malin Array Si 72.87 322 P P 09 11 40.2 -0.1
AK01 Malin Array Si 72.88 322 P P 09 11 40.3 -0.1
KIEV Kiev 72.88 322 P P 09 11 40.4 0.0
KIEV Kiev 72.88 322 P P 09 11 40.4 0.0
KIEV pmax pmax
comp=Z,7.0nm,0.9s
KIEV Kiev 72.88 322 P P 09 11 40.2 -0.2
comp=Z,32nm,0.8s
BOZ Bozeman (W) 73.20 45 IAmb IAmb 09 11 45.0
comp=Z,16nm,0.7s
RYN Ryan 73.40 54 IAmb IAmb 09 11 46.2
comp=Z,6.8nm,0.7s
NVAR Mina Array Bea 73.66 54 P P 09 11 47.6 +2.1
NVAR Mina Array Bea 73.66 54 P P 09 11 47.1 +1.6
comp=Z,7.5nm,0.7s,baz=294,slow=5.7,SNR=67
comp=Z,7.5nm,0.7s
NV11 Mina Array Sit 73.75 54 IAmb IAmb 09 11 48.7
comp=Z,11nm,1.2s
YHL Hebgen Lake 73.91 45 IAmb IAmb 09 11 49.7
comp=Z,10.0nm,0.8s
SFJD Kangerlussuaq 73.92 5 LR LR 09 47 48.1
comp=Z,34nm,18.1s,baz=256,slow=38
YHB Horse Butte 73.97 45 IAmb IAmb 09 11 49.9
comp=Z,13nm,0.8s
RNPP8 Varash 74.02 324 P P 09 11 47.3 +0.2
LUBAR Lubar, Ukraine 74.09 322 P P 09 11 46.9 -0.6
YNE Yellowstone No 74.46 44 IAmb IAmb 09 11 52.6
comp=Z,9.4nm,0.7s
DSP Deep Springs 74.51 54 IAmb IAmb 09 11 53.3
comp=Z,11nm,0.9s
FXWY Fox Creek 74.77 46 IAmb IAmb 09 11 55.2
comp=Z,8.3nm,0.8s
RLMT Red Lodge 74.78 44 IAmb IAmb 09 11 54.6
comp=Z,8.5nm,0.8s
HVU Hansel Valley 74.95 48 IAmb IAmb 09 11 55.7
comp=Z,12nm,0.9s
SNOW Snow King Moun 75.03 46 IAmb IAmb 09 11 56.6
comp=Z,8.5nm,0.9s
GRAC Grapevine Rang 75.12 54 IAmb IAmb 09 11 56.6
comp=Z,15nm,0.8s
LAO LASA Array 75.36 41 IAmb IAmb 09 11 57.6
comp=Z,16nm,0.9s
R11B Troy Canyon, C 75.40 52 IAmb IAmb 09 11 58.2
comp=Z,20nm,1.2s
HWUT Hardware Ranch 75.76 48 IAmb IAmb 09 12 00.5
comp=Z,16nm,1.1s
TPNV Topopah Spring 75.85 54 IAmb IAmb 09 12 00.8
comp=Z,18nm,1.1s
TPO Tropico Hills 75.85 57 IAmb IAmb 09 12 00.7
comp=Z,13nm,0.7s
GWY Greenwater Val 76.06 55 IAmb IAmb 09 12 01.6
comp=Z,13nm,0.6s
BW06 Boulder Array 76.15 46 IAmb IAmb 09 12 01.9
comp=Z,7.5nm,0.7s
PD31 Pinedale Array 76.15 46 IAmb IAmb 09 12 01.9
comp=Z,7.2nm,0.7s
PDAR Pinedale Array 76.15 46 P P 09 12 01.1 +1.2
PDAR Pinedale Array 76.15 46 P P 09 12 00.9 +1.1
comp=Z,5.8nm,0.6s,baz=264,slow=2.2,SNR=92
PDAR pP pP 09 12 22.9 +2.8
comp=Z,1.8nm,0.6s,baz=241,slow=0.4,SNR=4.6
comp=Z,5.8nm,0.6s
PRN Pahroc Range 76.32 53 IAmb IAmb 09 12 03.7
comp=Z,14nm,1.0s
PSUT Pine Spring 76.35 51 IAmb IAmb 09 12 03.6
comp=Z,8.5nm,0.9s
BFSC Mount Baldy Ra 76.62 57 IAmb IAmb 09 12 04.9
comp=Z,12nm,1.3s
MPU Maple Canyon 76.73 49 IAmb IAmb 09 12 05.8
comp=Z,15nm,0.7s
BNN Bunyan 76.96 310 P P 09 12 05.2 +0.8
BNN IAmb IAmb 09 12 05.9
comp=Z,7.3nm,0.8s
MTPC Mountain Pass 77.20 55 IAmb IAmb 09 12 08.3
comp=Z,10.0nm,1.1s
CCUT Cedar City 77.27 52 IAmb IAmb 09 12 09.1
comp=Z,7.6nm,0.7s
TMUT Trail Mountain 77.45 49 IAmb IAmb 09 12 09.4
comp=Z,5.7nm,0.6s
LCMT Little Creek M 77.68 52 IAmb IAmb 09 12 11.4
comp=Z,11nm,0.9s
BR131 Keskin Array S 77.70 311 *i* P P 09 12 09.1 +0.6
BRTR Keskin Array B 77.70 311 P P 09 12 08.8 +0.3
BRTR Keskin Array B 77.70 311 P P 09 12 09.2 +0.6
comp=Z,1.3nm,0.5s,baz=77,slow=3.3,SNR=7.2
BRTR PP PP 09 15 03.0 -1.1
comp=Z,0.4nm,0.5s,baz=54,slow=7.3,SNR=5.9
comp=Z,1.3nm,0.5s
BRTR Keskin Array B 77.70 311 *i* P P 09 12 11.5 +3.0
BRTR pmax pmax
comp=Z,1.0nm,0.5s
Q16A Castle Valley 77.72 50 IAmb IAmb 09 12 11.5
comp=Z,14nm,1.2s
P18A Preston Nutter 77.80 49 IAmb IAmb 09 12 12.6
comp=Z,10nm,0.8s
KNB Kanab 77.94 52 IAmb IAmb 09 12 13.1
comp=Z,10nm,1.0s
MLR Muntele Rosu 78.02 320 LR LR 09 49 12.6
comp=Z,36nm,18.6s,baz=56,slow=38
RSSD Black Hills 78.23 42 P P 09 12 11.6 +0.2
RSSD Black Hills 78.23 42 P P 09 12 11.6 +0.2
RSSD pmax pmax
comp=Z,8.0nm,1.1s
VOIR 78.51 320 P P 09 12 14.3 +1.6
comp=Z,3.6nm,0.7s
U15A North Rim 78.64 52 IAmb IAmb 09 12 17.0
comp=Z,13nm,1.0s
BLYC Blythe 78.95 56 IAmb IAmb 09 12 17.8
comp=Z,13nm,0.7s
EPLO Experimental L 79.11 33 IAmb IAmb 09 12 16.8
comp=Z,7.9nm,0.8s
ESJX Sierra Juarez 79.13 58 IAmb IAmb 09 12 19.6
comp=Z,11nm,1.1s
GLA Glamis 79.20 56 IAmb IAmb 09 12 19.2
comp=Z,9.2nm,0.7s
PV21 Cone Mtn., Par 79.25 49 IAmb IAmb 09 12 19.7
comp=Z,16nm,0.8s
PV22 Blue Mesa, Par 79.37 49 IAmb IAmb 09 12 20.8
comp=Z,17nm,1.1s
PV04 Paradox Valley 79.40 49 IAmb IAmb 09 12 20.6
comp=Z,11nm,0.8s
PV16 Nysw onger Mesa 79.45 49 IAmb IAmb 09 12 20.8
comp=Z,14nm,0.8s
CLL Collm 79.50 330 *i* P P 09 12 18.9 +1.0
CLL *i* *PP pP 09 12 38.3 -0.3
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 79.50 330 *i* P P 09 12 18.9 +1.0
comp=Z,4.0nm,0.8s
CLL *i* pP pP 09 12 38.3 -0.3
comp=Z,7.0nm,0.8s
CLL *e*sP sP 09 12 48.0 +1.0
PV12 Saucer Basin, 79.51 49 IAmb IAmb 09 12 25.8
comp=Z,11nm,0.7s
PV07 Paradox Valley 79.52 49 IAmb IAmb 09 12 21.1
comp=Z,10nm,1.2s
PV03 Paradox Valley 79.52 49 IAmb IAmb 09 12 21.2
comp=Z,11nm,0.7s
PV13 Radium Mtn., P 79.60 49 IAmb IAmb 09 12 21.7
comp=Z,19nm,0.9s
WUAZ Wupatki 79.80 52 IAmb IAmb 09 12 23.0
comp=Z,13nm,0.9s
Y14A Wickenburg 79.80 55 IAmb IAmb 09 12 22.5
comp=Z,8.9nm,0.9s
113A Mohawk Valley, 80.07 56 IAmb IAmb 09 12 23.6
comp=Z,7.3nm,0.8s
MVCO Mesa Verde 80.42 50 IAmb IAmb 09 12 26.1
comp=Z,9.2nm,0.8s
X16A Lo Mia Camp, P 80.48 53 IAmb IAmb 09 12 26.8
comp=Z,11nm,1.0s
F33A 5 Mile Ranch, 80.84 37 IAmb IAmb 09 12 26.6
comp=Z,18nm,1.5s
MMAI Mount Meron Ar 81.00 305 P P 09 12 27.5 +1.1
comp=Z,1.2nm,0.5s,baz=34,slow=10,SNR=1.8
MMAI LR LR 09 51 14.0
comp=Z,49nm,19.8s,baz=132,slow=38
comp=Z,1.2nm,0.5s
GERES GERESS Array B 81.15 328 P P 09 12 27.3 +0.3

	comp=Z,0.4nm,0.4s,baz=55,slow=8.8,SNR=2.0							
GERES					pP		**pP**	**09 12 47.9 +0.2**
	comp=Z,1.1nm,0.6s,baz=3.3,slow=4.7,SNR=3.4							
GERES					LR		LR	09 52 38.8
	comp=Z,33nm,18.1s,baz=48,slow=39							
	comp=Z,0.4nm,0.4s							
EKA	**Eskdalemuir Ar**	**81.35**	**341**		P		**P**	**09 12 28.2 +0.4**
	comp=Z,0.8nm,0.5s,baz=30,slow=4.8,SNR=5.0							
EKA					pP		**pP**	**09 12 48.5 +0.1**
	comp=Z,1.3nm,0.6s,baz=27,slow=5.6,SNR=3.4							
	comp=Z,0.8nm,0.5s							
ECSD	**EROS Data Cent**	**82.25**	**38**		P		**P**	**09 12 33.2 +0.4**
E38A	**The Farm, Brul**	**82.40**	**34**		IAmb		IAmb	09 12 34.3
	comp=Z,7.2nm,0.7s							
T25A	**Trinidad**	**82.86**	**47**		IAmb		IAmb	09 12 38.6
	comp=Z,9.8nm,0.8s							
ANMO	**Albuquerque**	**83.17**	**50**		P		**P**	**09 12 37.6 -0.4**
ANMO	**Albuquerque**	**83.17**	**50**	*ce*	P		**P**	**09 12 39.9 +2.0**
ANMO					pmax		pmax	
	comp=Z,12nm,1.7s							
BMRD	**Maredsous**	**83.34**	**334**	*d*	P		**P**	**09 12 38.2 0.0**
319A	**Douglas**	**83.85**	**54**		IAmb		IAmb	09 12 43.8
	comp=Z,12nm,0.8s							
G40A	**Rib Lake**	**84.03**	**34**		IAmb		IAmb	09 12 43.1
	comp=Z,6.2nm,0.9s							
RTBA	**Rita Blanca**	**84.31**	**47**		IAmb		IAmb	09 12 45.6
	comp=Z,8.9nm,1.2s							
N35A	**Tabor**	**84.88**	**40**		IAmb		IAmb	09 12 47.9
	comp=Z,14nm,0.8s							
PPT2	**Papeete2**	**85.35**	**117**	*e*	LR		LR	09 39 44.5
	comp=Z,49nm,24.5s							
I42A	**Draeger Farm,**	**85.68**	**34**		IAmb		IAmb	09 12 51.5
	comp=Z,8.0nm,0.9s							
JFWS	**Jewell Farm**	**85.86**	**35**		IAmb		IAmb	09 12 51.9
	comp=Z,8.0nm,1.1s							
P38A	**Dawn**	**86.87**	**39**		IAmb		IAmb	09 12 57.6
	comp=Z,8.1nm,0.6s							
P40A	**Paris**	**87.67**	**39**		IAmb		IAmb	09 13 01.2
	comp=Z,7.6nm,0.7s							
SGCY	**Sterling City**	**88.47**	**49**		IAmb		IAmb	09 13 06.5
	comp=Z,9.9nm,0.8s							
TX31	**Lajitas Ar. Si**	**88.77**	**53**		IAmb		IAmb	09 13 07.5
	comp=Z,4.3nm,0.8s							
TXAR	**Lajitas Array**	**88.77**	**53**		P		**P**	**09 13 06.0 +0.5**
TXAR	**Lajitas Array**	**88.77**	**53**		P		**P**	**09 13 06.5 +1.1**
	comp=Z,3.4nm,0.6s,baz=297,slow=3.5,SNR=58							
TXAR					pP		**pP**	**09 13 26.8 +0.4**
	comp=Z,1.4nm,0.8s,baz=299,slow=3.4,SNR=1.9							
	comp=Z,3.4nm,0.6s							
U38A	**Gravette**	**88.87**	**42**		IAmb		IAmb	09 13 07.1
	comp=Z,5.0nm,0.9s							
CCM	**Cathedral Cave**	**89.21**	**39**		P		**P**	**09 13 07.2 -0.1**
CCM	**Cathedral Cave**	**89.21**	**39**		P		**P**	**09 13 07.2 -0.1**
CCM					pmax		pmax	
	comp=Z,9.0nm,0.8s							
MGMO	**Mountain Grove**	**89.40**	**40**		IAmb		IAmb	09 13 09.4
	comp=Z,4.3nm,0.8s							
FCAR	**Ozark Folk Cen**	**90.46**	**41**		IAmb		IAmb	09 13 14.3
	comp=Z,4.8nm,0.9s							
DRIO	**Del Rio**	**90.56**	**51**		IAmb		IAmb	09 13 16.6
	comp=Z,6.3nm,1.0s							
PBMO	**Poplar Bluff**	**90.61**	**39**		IAmb		IAmb	09 13 15.5
	comp=Z,7.1nm,0.9s							
T47A	**Sharon Grove**	**92.05**	**37**		IAmb		IAmb	09 13 21.6
	comp=Z,4.2nm,0.7s							
T50A	**Nancy**	**93.07**	**36**		IAmb		IAmb	09 13 26.1
	comp=Z,3.2nm,0.7s							
ESDC	**Sonseca Array**	**95.62**	**334**		LR		LR	10 00 02.1
	comp=Z,42nm,18.8s,baz=40,slow=38							
TORD	**Torodi Ar. Bea**	**116.08**	**316**		PKP		**PKPdf**	**09 18 54.6 0.0**
	comp=Z,0.5nm,0.8s,baz=27,slow=3.8,SNR=2.9							
VNDA	**Vanda**	**116.91**	**175**		PKP		**PKPdf**	**09 18 54.0 -0.3**
	comp=Z,0.3nm,0.5s,baz=75,slow=8.2,SNR=2.3							
QSPA	**South Pole Qui**	**128.74**	**180**		PKP		**PKPdf**	**09 19 17.3 0.0**
	comp=Z,0.7nm,0.5s,baz=280,slow=0.9,SNR=18							
QSPA					pPKP		**pPKPdf**	**09 19 38.9 -0.1**
	comp=Z,1.8nm,1.0s,baz=313,slow=4.7,SNR=3.1							
ATAH	**Atahualpa**	**132.00**	**59**		PKP		**PKiKP**	**09 19 27.5 +0.8**
	comp=Z,5.4nm,0.8s,baz=108,slow=12,SNR=3.7							
SNAA	**Sanae**	**142.68**	**198**		PKhKP		PKPpre	09 19 38.5
	comp=Z,0.8nm,0.5s,baz=204,slow=4.5,SNR=27							
SNAA					pPKP		pPKPdf	09 20 00.7 -4.1
	comp=Z,1.3nm,0.5s,baz=144,slow=7.3,SNR=3.9							
LPAZ	**La Paz**	**145.50**	**57**		PKPbc		**PKPab**	**09 19 50.9 +0.1**
	comp=Z,10nm,0.7s,baz=344,slow=4.6,SNR=48							
LPAZ					pPKPbc		pPKPab	09 20 11.7 -0.2
	comp=Z,5.5nm,0.7s,baz=344,slow=6.8,SNR=5.1							
PB11	**IPOC Station P**	**146.88**	**64**				**PKPab**	**09 19 55.0 -0.5**
VILB	**Vilhena**	**147.63**	**43**				**PKiKP**	**09 19 57.5 -0.5**
SIV	**San Ignacio**	**149.63**	**47**		PKPbc		**PKiKP**	**09 20 01.7 -0.4**
	comp=Z,7.5nm,0.8s,baz=256,slow=2.8,SNR=5.2							
SIV					PKPab		**PKPab**	**09 20 07.0 +0.6**
	comp=Z,4.6nm,0.7s,baz=296,slow=4.7,SNR=12							
SIV					pPKPbc		**pPKPbc**	**09 20 23.1 +0.4**
	comp=Z,4.3nm,0.7s,baz=305,slow=3.1,SNR=4.7							
CFA	**Coronel Fontan**	**154.58**	**82**		PKPbc		**PKiKP**	**09 20 12.1 +0.1**
	comp=Z,0.6nm,0.5s,baz=193,slow=1.0,SNR=5.0							
CFA					PKPab		**PKPab**	**09 20 27.8 +0.9**
	comp=Z,1.4nm,0.5s,baz=279,slow=4.9,SNR=7.6							
CPUP	**Villa Florida**	**159.67**	**57**		PKPab		**PKPab**	**09 20 48.9 0.0**
	comp=Z,0.4nm,0.6s,baz=211,slow=3.5,SNR=3.7							

*IPEC **17** 09:09:30.8±0.3, 49.84N×18.44E, h1km, ML1.8/4, Error ellipse: s-maj=2.3km s-min=1.9km az=114.0*

PRU 17 09:09:32.2, 49.83N×18.37E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.14**	**273**	*e*PG	Pg	09 09 34.7	-0.3
OKC				*e*SG	Sg	09 09 37.9	+1.1
	comp=Z,116nm,0.2s						
STEB	**Steborice**	**0.40**	**285**	*e*PG	Pg	09 09 39.3	-0.6
STEB				*e*SG	Sg	09 09 45.3	+0.3
MORC	**Moravsky Berou**	**0.54**	**265**	*e*PG	Pg	09 09 42.4	-0.1
MORC				*e*SG	Sg	09 09 49.2	-0.3
MORC	**Moravsky Berou**	**0.54**	**265**	*e*Pg	Pg	09 09 42.3	-0.2
	baz=84						
MORC				*e*Sg	Sg	09 09 49.1	-0.4
	20nm,0.2s,baz=84						
LANS	**Liptovska Anna**	**0.99**	**133**	*e*PG	Pg	09 09 49.6	-1.5
LANS				*e*LG	Lg	09 10 07.4	
OJC	**Ojcow**	**1.00**	**67**	*e*Pg	Pg	09 09 48.4	-3.0
OJC				*e*Sg	Sg	09 10 02.8	-1.6
KRLC	**Kraliky**	**1.05**	**284**	*e*PG	Pg	09 09 50.1	-2.3
KRLC				*e*SG	Sg	09 10 05.3	-0.8
	comp=Z,19nm,0.4s						
VRAC	**Vranov**	**1.27**	**246**	*e*Pg	Pg	09 09 55.4	-1.1
	baz=66						
VRAC				*e*Sg	Sg	09 10 12.0	-0.9
	13nm,0.2s,baz=66						
VYHS	**Vyhne**	**1.37**	**167**	*e*PG	Pg	09 09 56.2	-2.3
VYHS				*e*SG	Sg	09 10 14.9	-1.3
DPC	**Dobruska-Polom**	**1.42**	**292**	*e*PG	Pn	09 09 57.6	-1.7
DPC				*e*SG	Sg	09 10 17.1	-0.6
	comp=Z,7.4nm,0.4s						
KRUC	**Moravsky**	**1.50**	**240**	*e*Pg	Pn	09 09 58.9	-1.5
	baz=59						
KRUC				*e*Sg	Sg	09 10 19.0	-1.4
	8.3nm,0.2s,baz=59						
OSTC	**Ostas**	**1.56**	**299**	*e*PG	Pn	09 10 00.3	-1.0
OSTC				*e*SG	Sn	09 10 22.3	0.0
	comp=Z,6.3nm,0.4s						
UPC	**Upice**	**1.66**	**295**	*e*SG	Sn	09 10 24.7	+0.1
	comp=Z,5.7nm,0.5s						
GOPC	**GO Pecny, Ondr**	**2.32**	**273**	*e*SG	Sb	09 10 44.3	+0.2
	comp=Z,5.4nm,0.2s						
PRU	**Pruhonice**	**2.48**	**275**	*e*SG	Sb	09 10 49.4	+0.7
	comp=Z,3.3nm,0.4s						
CKRC	**Cesky Krumlov**	**2.84**	**251**	*e*SG	Sg	09 11 02.3	-1.2
	comp=Z,2.3nm,0.3s						

NEIC 17 09:13:30.0±0.9, 36.62N±0.02×112.36W±0.04, h19km±4km, ML2.7/54, Error ellipse: s-maj=5.5km s-min=1.5km az=67.0, Western Arizona

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
U15A	**North Rim**	**0.20**	**164**		Pg	09 13 35.5	+0.3
U15A				Sg	Sg	09 13 39.2	+0.4
U15A				IAML		09 13 39.9	
	comp=N,690nm,0.7s						
KNB	**Kanab**	**0.55**	**317**		Pb	09 13 41.0	0.0
KNB				Sg	Sb	09 13 48.5	0.0
KNB				IAML		09 13 49.2	
	comp=E,316nm,0.3s						
LCMT	**Little Creek M**	**0.81**	**299**		Pb	09 13 45.6	0.0
LCMT				Sg	Sb	09 13 56.5	+0.2
LCMT				IAML		09 13 57.1	
	comp=E,257nm,0.2s						
LCMT				IAML		09 13 57.8	
	comp=N,200nm,0.1s						
SZCU	**Shurtz Canyon**	**1.14**	**329**		Pn	09 13 50.7	-0.4
SZCU				Sg	Sn	09 14 06.0	-0.3
SZCU				IAML		09 14 06.8	
	comp=E,241nm,0.2s						
SZCU				IAML		09 14 07.0	
	comp=N,244nm,0.2s						
CCUT	**Cedar City**	**1.23**	**319**		Pb	09 13 52.9	+0.1
WUAZ	**Wupatki**	**1.36**	**144**		Pb	09 13 55.0	0.0
HMU	**Henry Mountain**	**1.84**	**44**		Pn	09 14 01.7	+0.8
W13A	**Hualapai Mount**	**1.96**	**220**		Pn	09 14 03.3	+0.9
W13A				IAML		09 14 33.2	
	comp=E,28nm,0.5s						
W13A				IAML		09 14 34.0	
	comp=N,35nm,0.5s						
V12A	**Nelson**	**2.21**	**247**		Pn	09 14 05.8	+0.1
X16A	**Lo Mia Camp, P**	**2.32**	**161**		Pn	09 14 07.9	+0.5
X16A				IAML		09 14 44.6	
	comp=E,22nm,0.4s						
Q16A	**Castle Valley**	**2.48**	**22**		Pb	09 14 13.2	-0.9
Q16A				IAML		09 14 45.8	
	comp=N,33nm,0.5s						
Q16A				IAML		09 14 46.7	
	comp=E,28nm,0.4s						
W18A	**Petrified Fore**	**2.60**	**124**	Pn	Pn	09 14 09.8	-1.4
W18A				IAML		09 14 57.7	
	comp=N,43nm,0.6s						
Y14A	**Wickenburg**	**2.73**	**191**	Pn	Pn	09 14 12.4	-0.4
TMUT	**Trail Mountain**	**2.82**	**18**		Pn	09 14 14.5	+0.1
TMUT				IAML		09 14 60.0	
	comp=E,26nm,0.6s						
TMUT				IAML		09 15 02.7	
	comp=N,28nm,0.5s						
SPR3	**Spring Creek 3**	**2.84**	**327**		Pn	09 14 15.3	+0.6
X18A	**Snowflake**	**2.86**	**136**		Pb	09 14 21.8	+1.2
X18A				IAML		09 14 58.9	
	comp=E,37nm,0.3s						
X18A				IAML		09 15 02.5	
	comp=N,38nm,0.8s						
SRU	**San Rafael Swe**	**2.88**	**30**		Pb	09 14 18.7	-2.2
SRU				IAML		09 15 03.1	
	comp=E,27nm,0.4s						
SRU				IAML		09 15 03.4	
	comp=N,28nm,0.6s						
MVCO	**Mesa Verde**	**3.15**	**78**		Pn	09 14 21.9	+3.2
MVCO				IAML		09 15 16.3	
	comp=N,28nm,0.8s						
PV20	**West Nyswonger**	**3.20**	**56**		Pn	09 14 22.3	+2.9
PV12	**Saucer Basin,**	**3.30**	**58**		Pb	09 14 25.0	-3.1
PV01	**Paradox Valley**	**3.38**	**62**		Pn	09 14 24.4	+2.5
PV01				IAML		09 15 22.3	
	comp=E,23nm,1.0s						
PV22	**Blue Mesa, Par**	**3.42**	**55**		Pn	09 14 25.5	+3.0

IDC 17 09:14:49.8±10.0, 32.22S×178.06W, h237km±111km, mb2.9/2, mbtmp3.6/3, Error ellipse: s-maj=116.2km s-min=54.1km az=176.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.21**	**212**	P	Pn	09 16 34.5	+1.7
	17nm,1.1s,baz=36,slow=9.5,SNR=2.0						
URZ				S	S	09 17 53.3	-2.2
	13nm,1.0s,baz=117,slow=11,SNR=1.7						
ASAR	**Alice Springs**	**42.99**	**269**	P	P	09 22 26.4	+0.2
	0.6nm,0.8s,baz=104,slow=7.4,SNR=4.7						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**44.15**	**274**	P	P	09 22 35.4	0.0
	0.6nm,1.0s,baz=112,slow=8.0,SNR=7.8						
	0.6nm,1.0s						
FINES	**FINESS Array B**	**146.83**	**339**	PKPbc	PKPdf	09 34 01.9	+0.9
	1.4nm,0.9s,baz=5.6,slow=5.7,SNR=3.6						

*SDD **17** 09:21:20.6±1.0, 18.64N×69.49W, h129km±7km, MD2.6, ML2.6, MW2.7*

*OSPL **17** 09:21:23.3±1.4, 18.67N×69.55W, h109km±10km, ML2.7*

ISC 17 09:21:21.0±1.8, 18.69N±0.06×69.57W±0.05, h116km±10km, n15, σ1s00/26, 4C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATOM	**Hato Mayor del**	**0.20**	**60**	*e*Pg	**Pn**	**09 21 36.6**	**-0.7**
HATOM				*e*Sg	**Sn**	**09 21 49.7**	**+0.2**
HATOM				IAML		09 21 50.0	
	comp=N,32nm,0.1s						
SPM1	**San Pedro UASD**	**0.34**	**134**	*i* P	**Pn**	**09 21 37.8**	**+0.1**
SDD	**Santo Domingo**	**0.40**	**236**	*i* P	**Pn**	**09 21 37.6**	**-0.4**
SDD				*e*S	**Sn**	**09 21 50.0**	**-0.8**
DR08	**Loma La Naviza**	**0.51**	**303**	*e*Pg	**Pn**	**09 21 38.5**	**-0.2**
DR08				*e*Sg	**Sn**	**09 21 52.9**	**+0.9**
DR08				IAML		09 21 53.5	
	comp=N,2μm,0.1s						
MIDR	**Miches**	**0.57**	**59**	*i* P	**Pn**	**09 21 39.3**	**+0.2**
MIDR				*e*Sg	**Sn**	**09 21 52.3**	**-0.3**
MIDR				IAML		09 21 54.2	
	comp=N,49nm,0.2s						
MIDR				IAML		09 21 54.2	
	comp=N,49nm,0.2s						
SMDR	**Samana, DR**	**0.70**	**31**	*e*Pg	**Pn**	**09 21 40.1**	**+0.1**
SMDR				*e*Sg	**Sn**	**09 21 54.3**	**-0.1**
SMDR				IAML		09 21 59.4	
	comp=N,69nm,0.7s						
BANI	**BANI**	**0.81**	**249**	*e*Pg	**Pn**	**09 21 41.5**	**+0.4**
BANI				*e*Sg	**Sn**	**09 21 56.7**	**+0.6**
BANI				IAML		09 21 58.1	
	comp=N,62nm,0.4s						
SFDR	**San Fco. de Ma**	**0.88**	**313**	*e*Pg	**Pn**	**09 21 42.1**	**+0.6**
SFDR				*e*Sg	**Sn**	**09 21 58.1**	**+1.1**
SFDR				IAML		09 22 00.4	
	comp=N,113nm,0.2s						
SC01	**Santiago de lo**	**1.32**	**304**	*i* P	**Pn**	**09 21 47.1**	**+0.9**
SDDR	**Presa de Saban**	**1.66**	**281**	*i* P	**Pn**	**09 21 50.8**	**+0.7**
SDDR				*e*S	**Sn**	**09 22 12.4**	**+0.1**
LOVI	**El Cajuil, Ovi**	**1.93**	**243**	*i* P	**Pn**	**09 21 53.5**	**+0.1**
LOVI				*e*S	**Sn**	**09 22 16.4**	**-1.7**
LOVI				IAML		09 22 21.4	
	comp=Z,43nm,0.7s						
LOPP1	**Punta Rusia, P**	**1.93**	**307**	*i* P	**Pn**	**09 21 54.4**	**+0.9**
LOPP1				*e*S	**Sn**	**09 22 17.9**	**-0.3**
LOPP1				IAML		09 22 22.0	
	comp=Z,27nm,1.1s						
LOBH	**Bahia de las A**	**2.13**	**248**	*i* P	**Pn**	**09 21 57.0**	**+1.0**
LOBH				*e*S	**Sn**	**09 22 21.5**	**-1.3**
LOBH				IAML		09 22 24.3	
	comp=Z,40nm,1.1s						
CRPR	**Cabo Rojo, PR**	**2.43**	**106**	*i* P	**Pn**	**09 22 00.6**	**+0.9**
CRPR				IAML		09 22 38.6	
	comp=Z,34nm,1.1s						
GRTK	**Grand Turk**	**3.17**	**333**	*e*S	**Sn**	**09 22 43.9**	**-3.1**
GRTK				IAML		09 22 44.6	
	comp=Z,34nm,1.2s						

*IDC **17** 09:36:35.0±1.4, 3.70N×127.59E, h0km, mb3.6/6, mbtmp3.7/6, Error ellipse: s-maj=98.4km s-min=18.4km az=72.0*

*DJA **17** 09:36:39.3±1.0, 4.7N±7.7×12.8E±*, h10km, M4.3/7, mB5.1/1, mb4.8/1, MLv4.0/7, Mw(mB)4.4/1*

ISC 17 09:36:39.9±1.2, 3.9N±0.1×128.5E±0.1, h46km, n8, σ0s77/9, mb3.8/6, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.93**	**266**	P	**Pn**	**09 37 24.1**	**+0.1**
SGSI				S	**Sn**	**09 37 58.2**	**+0.2**
MRSI	**Marisa**	**7.35**	**243**	P	**Pn**	**09 38 25.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**22.04**	**187**	P	**P**	**09 41 29.6**	**-1.2**
	4.9nm,1.2s,baz=0.0,slow=11,SNR=1.7						
	4.9nm,1.2s						
WRA	**Warramunga Arr**	**24.40**	**167**	P	**P**	**09 41 55.2**	**+1.1**
	0.6nm,0.7s,baz=343,slow=10,SNR=20						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**27.92**	**169**	P	**P**	**09 42 26.4**	**+0.5**
	0.4nm,0.8s,baz=353,slow=8.9,SNR=5.2						
	0.4nm,0.8s						
SONM	**Songino Array**	**47.70**	**340**	P	**P**	**09 45 12.4**	**+0.2**
	0.5nm,0.4s,baz=159,slow=6.2,SNR=2.2						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**58.40**	**324**	P	**P**	**09 46 30.8**	**0.0**
	0.4nm,0.4s,baz=106,slow=8.6,SNR=7.2						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**62.53**	**327**	P	**P**	**09 46 58.2**	**-0.7**
	0.9nm,0.6s,baz=123,slow=6.4,SNR=9.4						
	0.9nm,0.6s						

*NEIC **17** 09:37:56.6±0.6, 19.25N±0.04×155.41W±0.03, h39km±3km, Error ellipse: s-maj=6.0km s-min=4.4km az=178.0*

HVO 17 09:37:56.8±0.6, 19.16N±0.06×155.44W±0.06, h39km±2km, Md2.7/18, ML2.5/26(NEIC), Error ellipse: s-maj=10.6km s-min=5.6km az=136.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.09**	**28**		Pn	09 38 02.9	-0.5
HLP	**Hilina Pali**	**0.18**	**43**		Pn	09 38 03.4	-1.7
HLP				IAML		09 38 17.4	
	comp=E,693nm,0.9s						
KHU	**Kahuku**	**0.19**	**297**		Pn	09 38 07.6	+2.4
AIN	**Ainahou**	**0.21**	**356**		Pn	09 38 03.5	-1.7
AIN					Sn	09 38 03.7	-8.0
AIN				IAML		09 38 10.2	
	comp=N,663nm,0.4s						
SDHHI	**Sand Hill**	**0.27**	**31**		Pn	09 38 03.9	-1.2
WRMHI	**West Rim**	**0.28**	**28**		Pn	09 38 04.0	-1.2
RIM	**Rim**	**0.28**	**34**		Pn	09 38 04.0	-1.1
KKO	**Keanakako'i**	**0.29**	**35**		Pn	09 38 04.1	-1.1
UWE	**Uwekahuna**	**0.29**	**28**		Pn	09 38 04.0	-1.2
OBL	**Observatory Le**	**0.30**	**30**		Pn	09 38 03.9	-1.3
PUH	**Pauahi**	**0.30**	**45**		Pn	09 38 04.1	-1.2
PUH				IAML		09 38 10.7	
	comp=N,422nm,0.8s						
BYL	**Byron's Ledge**	**0.30**	**34**	Pn	Pn	09 38 04.1	-1.2
BYL				IAML		09 38 10.9	
	comp=N,334nm,2.6s						
BYL				IAML		09 38 16.4	
	comp=E,394nm,0.9s						
UWB	**Uwekahuna Bluf**	**0.30**	**30**		Pn	09 38 04.2	-1.1
SBLHI	**Steaming Bluff**	**0.31**	**32**		Pn	09 38 04.1	-1.2
HATHI	**Halema'uma'u T**	**0.31**	**33**	Pn	Pn	09 38 04.1	-1.3
HATHI				IAML		09 38 10.4	
	comp=E,465nm,0.7s						
HATHI				IAML		09 38 16.9	
	comp=N,486nm,1.0s						
KNHH	**Kane Nui o Ham**	**0.34**	**50**		Pn	09 38 04.6	-0.9
MLH	**Mauna Loa**	**0.34**	**9**		Pn	09 38 04.2	-1.5
MLH				Sn	Sn	09 38 10.7	-1.6
MLH				IAML		09 38 11.0	
	comp=E,302nm,0.6s						
MLH				IAML		09 38 16.7	
	comp=N,406nm,0.6s						
STCH	**Steam Cracks**	**0.37**	**53**		Pn	09 38 04.7	-1.2
STCH				IAML		09 38 11.7	
	comp=E,277nm,0.6s						
STCH				IAML		09 38 12.0	
	comp=N,335nm,0.9s						
NPOC	**North of Pu'u**	**0.39**	**53**		Pn	09 38 04.9	-1.2
JCUZ	**Jacuzzi**	**0.39**	**55**		Pn	09 38 05.4	-0.7
JOKA	**Jonika Flow**	**0.49**	**56**		Pn	09 38 06.0	-1.5

*ISK **17** 09:41:10.3, 39.65N×38.57E, h8km, ML1.9/8*

AFAD 17 09:41:10.2, 39.62N×38.60E, h7km±2km, ML1.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILIC	**ilic-Erzincan**	**0.17**	**187**	Pg	Pg	09 41 14.8	+1.0
ILIC				Sg	Sg	09 41 18.3	+2.1
ARPR	**Arapgir-MALATY**	**0.57**	**201**	Pg	Pb	09 41 21.9	-0.7
ARPR				Sg	Sb	09 41 31.0	+0.1
SUSE	**Susehri**	**0.66**	**333**	P	Pg	09 41 22.6	-0.3
SUSE				S	Sb	09 41 32.6	-1.0
SUSE				*i* IAML		09 41 36.0	
	comp=E,17nm,0.4s						
KELT	**Kelkit**	**0.73**	**44**	P	Pg	09 41 24.3	0.0
KELT				S	Sb	09 41 34.7	-0.9
KELT				*i* IAML		09 41 35.0	
	comp=E,28nm,0.4s						
HEKM	**Malatya_Hekimh**	**0.89**	**214**	P	Pb	09 41 28.0	-0.1
HEKM				S	Sn	09 41 42.2	-0.4
HEKM				*i* IAML		09 41 43.0	
	comp=N,38nm,0.2s						
HEKM				*i* IAML		09 41 49.0	
	comp=E,41nm,0.6s						
HEKM	**Malatya_Hekimh**	**0.89**	**214**	P	Pb	09 41 27.9	-0.2
HEKM				S	Sn	09 41 42.3	-0.4
HEKM				*i* IAML		09 41 43.0	
	comp=N,38nm,0.2s						
HEKM				*i* IAML		09 41 49.0	
	comp=E,41nm,0.6s						
TNCL	**Tunceli-Merkez**	**0.89**	**124**	P	Pn	09 41 29.2	-0.1
TNCL				S	Sb	09 41 40.5	+0.3
TNCL				*i* IAML		09 41 46.0	
	comp=E,23nm,0.2s						
ELZG	**Elazig**	**1.17**	**165**	P	Pb	09 41 32.9	+0.1
ELZG				S	Sn	09 41 49.1	-0.2
ELZG	**Elazig**	**1.17**	**165**	P	Pn	09 41 32.9	-0.1
ELZG				S	Sn	09 41 49.3	0.0
ELZG				*i* IAML		09 41 50.0	
	comp=E,92nm,0.4s						
ELZG				*i* IAML		09 41 53.0	
	comp=N,51nm,0.3s						
RSDY	**Resadiye-TOKAT**	**1.24**	**309**	Pn	Pb	09 41 33.9	-0.1
SVSK	**Karacayir**	**1.27**	**284**	Pn	Pg	09 41 34.5	0.0
ESPY	**Espiye-Giresun**	**1.29**	**4**	Pn	Pg	09 41 35.1	+0.1
DARE	**Darende-Malaty**	**1.36**	**220**	Pn	Pb	09 41 36.0	-0.1
AKCD	**Akcadag**	**1.43**	**202**	P	Pg	09 41 37.9	+0.3
AKCD				S	Sg	09 41 59.5

TBTG					IAmb	IAmb	09 47 58.2		
	comp=Z,30nm,1.4s								
CMIG	**Matias Romero**	**18.01**	**320**	LR	LR	LR	09 54 15.0		
	comp=Z,76nm,21.2s,baz=185,slow=33								
PCRV	**Puerto La Cruz**	**19.46**	**69**	LR	LR	LR	09 57 25.9		
	comp=Z,55nm,21.0s,slow=41								
SJG	**San Juan**	**22.12**	**47**	LR	LR	LR	09 57 09.5		
	comp=Z,61nm,21.6s,baz=254,slow=35								
MACA	**Manacapuru-AM**	**23.20**	**106**	P		**P**	**09 49 24.4**	**-0.5**	
MACA					IAmb	IAmb	09 49 26.6		
	comp=Z,13nm,1.1s								
LPAZ	**La Paz**	**24.38**	**143**			**P**	**09 49 36.8**	**0.0**	
LPAZ					IAmb	IAmb	09 49 41.0		
	comp=Z,18nm,1.5s								
LPAZ	**La Paz**	**24.38**	**143**	P		**P**	**09 49 37.9**	**+1.1**	
	comp=Z,9.1nm,1.2s,baz=359,slow=10,SNR=11								
LPAZ					LR	LR	10 00 04.7		
	comp=Z,75nm,20.0s,baz=272,slow=39								
	comp=Z,9.1nm,1.2s								
VILB	**Vilhena**	**27.80**	**126**	P		**P**	**09 50 07.4**	**+0.3**	
VILB					IAmb	IAmb	09 50 09.4		
	comp=Z,8.5nm,1.0s								
BRAL	**Brewton**	**27.99**	**353**	P		**P**	**09 50 06.9**	**-1.6**	
SIV	**San Ignacio**	**28.93**	**132**	LR		LR	10 02 34.9		
	comp=Z,116nm,18.2s,baz=292,slow=38								
JSC	**Jenkinsville**	**30.88**	**3**	P		**P**	**09 50 33.8**	**-0.3**	
JSC					IAmb	IAmb	09 50 35.1		
	comp=Z,5.4nm,1.3s								
DRIO	**Del Rio**	**30.91**	**329**	P		**P**	**09 50 34.2**	**-0.3**	
TKL	**Tuckaleechee C**	**32.21**	**359**	LR		LR	10 02 10.4		
	comp=Z,83nm,21.8s,baz=186,slow=33								
TXAR	**Lajitas Array**	**32.50**	**325**	PcP		**PcP**	**09 53 36.4**	**+1.1**	
	comp=Z,0.8nm,1.0s,baz=136,slow=4.6,SNR=5.1								
LCAR	**Lake Charles**	**33.48**	**348**			**P**	**09 50 56.2**	**-0.7**	
LCAR					IAmb	IAmb	09 50 57.4		
	comp=Z,4.7nm,1.1s								
FCAR	**Ozark Folk Cen**	**33.52**	**347**	P		**P**	**09 50 55.4**	**-1.9**	
FCAR					IAmb	IAmb	09 51 02.5		
	comp=Z,5.0nm,1.3s								
S51A	**Beattyville**	**34.19**	**359**	P		**P**	**09 51 02.3**	**-0.8**	
S51A					IAmb	IAmb	09 51 03.6		
	comp=Z,7.7nm,1.2s								
POST	**Post**	**34.32**	**332**	P		**P**	**09 51 04.0**	**-0.3**	
DKNS	**Dickens**	**34.55**	**333**	P		**P**	**09 51 05.7**	**-0.7**	
DKNS					IAmb	IAmb	09 51 09.7		
	comp=Z,7.1nm,1.1s								
MGMO	**Mountain Grove**	**34.76**	**347**	P		**P**	**09 51 08.0**	**-0.1**	
R50A	**Paris**	**34.85**	**358**	P		**P**	**09 51 07.8**	**-1.0**	
R50A					IAmb	IAmb	09 51 10.0		
	comp=Z,11nm,1.5s								
OLIL	**Olney**	**35.58**	**353**	P		**P**	**09 51 14.8**	**-0.3**	
OLIL					IAmb	IAmb	09 51 36.9		
	comp=Z,6.1nm,0.9s								
H03N2	**Juan Fernandez**	**36.73**	**174**	T		T	10 30 19.4		
	baz=354,slow=76,SNR=4.7								
H03N1	**Juan Fernandez**	**36.74**	**174**	T		T	10 30 20.8		
	baz=354,slow=76,SNR=8.0								
H03N3	**Juan Fernandez**	**36.75**	**174**	T		T	10 30 23.2		
	baz=354,slow=76,SNR=7.2								
RTBA	**Rita Blanca**	**37.68**	**334**			**P**	**09 51 32.9**	**-0.3**	
RTBA					IAmb	IAmb	09 51 35.8		
	comp=Z,15nm,1.5s								
BNM	**Barren Site**	**37.78**	**327**	P		**P**	**09 51 32.5**	**-1.7**	
ANMO	**Albuquerque**	**38.29**	**328**	LR		LR	10 07 23.8		
	comp=Z,33nm,20.1s,baz=276,slow=36								
CPUP	**Villa Florida**	**38.52**	**141**	LR		LR	10 10 10.6		
	comp=Z,14nm,18.4s,baz=164,slow=40								
L42A	**Oliver, Polo**	**39.01**	**352**	P		**P**	**09 51 44.0**	**-0.1**	
T25A	**Trinidad**	**39.01**	**332**	P		**P**	**09 51 42.5**	**-2.1**	
L40A	**Anamosa**	**39.30**	**350**			**P**	**09 51 45.6**	**-0.9**	
SADO	**Sadowa**	**41.45**	**4**	LR		LR	10 08 46.5		
	comp=Z,58nm,19.7s,baz=168,slow=36								
PV03	**Paradox Valley**	**42.06**	**329**	IAmb		IAmb	09 52 12.4		
	comp=Z,11nm,1.4s								
U15A	**North Rim**	**42.62**	**324**			**P**	**09 52 16.5**	**+2.1**	
SPMN	**Marine on St.**	**42.64**	**350**	P		**P**	**09 52 13.0**	**-1.0**	
SPMN					IAmb	IAmb	09 52 13.5		
	comp=Z,6.8nm,1.2s								
HMU	**Henry Mountain**	**42.82**	**327**	IAmb		IAmb	09 52 20.5		
	comp=Z,16nm,1.5s								
SHPR	**Sheep Range**	**44.38**	**322**			**P**	**09 52 31.1**	**+2.6**	
WCT	**Wildcat Mounta**	**45.47**	**321**	P		**P**	**09 52 39.9**	**+2.8**	
WCT					IAmb	IAmb	09 52 40.2		
	comp=Z,4.6nm,1.3s								
CLC	**China Lake**	**45.48**	**320**	P		**P**	**09 52 38.4**	**+1.2**	
R11B	**Troy Canyon, C**	**45.84**	**324**			**P**	**09 52 42.1**	**+2.0**	
PDAR	**Pinedale Array**	**45.88**	**333**	P		**P**	**09 52 40.7**	**+0.3**	
	comp=Z,0.6nm,0.9s,baz=134,slow=8.5,SNR=4.5								
PDAR				PcP		**PcP**	**09 54 17.8**	**+0.5**	
	comp=Z,0.1nm,0.3s,baz=126,slow=4.9,SNR=3.1								
	comp=Z,0.6nm,0.9s								
NVAR	**Mina Array Bea**	**47.53**	**322**	P		**P**	**09 52 54.4**	**+1.1**	
	comp=Z,2.5nm,1.1s,baz=128,slow=7.5,SNR=9.3								
	comp=Z,2.5nm,1.1s								
YHL	**Hebgen Lake**	**48.24**	**333**	IAmb		IAmb	09 53 02.4		
	comp=Z,3.7nm,1.1s								
BOZ	**Bozeman (W)**	**49.02**	**334**	IAmb		IAmb	09 53 06.8		
	comp=Z,3.1nm,1.1s								
WVOR	**Wild Horse Val**	**50.29**	**326**	IAmb		IAmb	09 53 20.6		
	comp=Z,8.2nm,1.3s								
PLID	**Pearl Lake**	**50.70**	**330**			**P**	**09 53 17.5**	**0.0**	
BMO	**Blue Mountains**	**51.20**	**329**	P		**P**	**09 53 20.7**	**-0.4**	
G08A	**Pilot Rock**	**52.35**	**328**	P		**P**	**09 53 31.6**	**+1.9**	
YKA	**Yellowknife Ar**	**63.56**	**344**	P		**P**	**09 54 47.7**	**-0.2**	
	comp=Z,1.3nm,1.0s,baz=145,slow=6.2,SNR=8.6								
	comp=Z,1.3nm,1.0s								
RES	**Resolute Bay**	**71.66**	**357**	LR		LR	10 26 18.9		
	comp=Z,49nm,20.3s,baz=28,slow=35								
H31M	**Peel River**	**72.00**	**340**			**P**	**09 55 42.9**	**+1.8**	
SUMG	**Summit**	**74.41**	**13**			**P**	**09 55 55.3**	**-0.3**	
H27K	**Steamboat Moun**	**74.73**	**339**			**P**	**09 55 58.5**	**+1.3**	
H27K					IAmb	IAmb	09 55 59.6		
	comp=Z,9.2nm,1.4s								
ILAR	**Eielson Array**	**76.12**	**337**			**P**	**09 56 05.5**	**+0.3**	
ILAR	**Eielson Array**	**76.12**	**337**	P		**P**	**09 56 05.2**	**+0.1**	
	comp=Z,1.5nm,1.1s,baz=122,slow=4.1,SNR=9.2								
	comp=Z,1.5nm,1.1s								
BPAW	**Bear Paw Mtn.**	**77.55**	**335**			**P**	**09 56 13.3**	**0.0**	
BPAW					IAmb	IAmb	09 56 14.4		
	comp=Z,5.5nm,1.0s								
MLY	**Manley**	**77.75**	**336**			**P**	**09 56 13.9**	**-0.5**	
MLY					IAmb	IAmb	09 56 15.6		
	comp=Z,6.9nm,1.4s								
TORD	**Torodi Ar. Bea**	**84.09**	**77**	P		**P**	**09 56 49.0**	**-0.1**	
	comp=Z,2.7nm,1.2s,baz=294,slow=4.8,SNR=5.2								
	comp=Z,2.7nm,1.2s								
MEM	**Membach**	**86.84**	**40**	*d*P		**P**	**09 57 01.9**	**-0.2**	
	comp=Z,6.1nm,0.9s								
WLF	**Walferdange**	**86.96**	**41**	*d*P		**P**	**09 57 03.7**	**+1.0**	
H01W1	**Cape Leeuwin H**	**144.75**	**205**	T		T	12 46 53.0		
	baz=138,slow=77,SNR=5.2								
H01W2	**Cape Leeuwin H**	**144.76**	**205**	T		T	12 46 44.9		
	baz=138,slow=77,SNR=4.5								
H01W3	**Cape Leeuwin H**	**144.77**	**205**	T		T	12 46 54.6		
	baz=138,slow=77,SNR=4.6								

*IDC **17** 09:51:33.1±1.8,6.41S×147.72E,h0km, mb3.7/4, mbtmp3.6/5, ML3.4/1, MS3.0/2, Error ellipse: s-maj=64.9km s-min=30.3km az=101.0*

ISC 17 09:51:42.2±1.7,**6.5S**±0.2×**147.3E**±0.4,**h63**km,**n8**,σ1§**13**/6, **mb3.6**/4,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**7.62**	**301**	LR	LR	09 57 03.8	
	comp=Z,102nm,19.1s,baz=328,slow=41						
HNR	**Honiara**	**12.91**	**104**	LR	LR	09 58 52.9	
	comp=Z,56nm,19.2s,baz=6.5,slow=35						
WRA	**Warramunga Arr**	**18.34**	**222**	P		**Pn**	**09 55 51.6**	**-0.7**
	0.1nm,0.3s,baz=49,slow=11,SNR=6.4						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**21.38**	**216**	P		**P**	**09 56 25.5**	**+0.9**
	0.4nm,0.5s,baz=47,slow=8.9,SNR=7.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**78.02**	**320**	P		**P**	**10 03 34.6**	**+0.6**
	0.2nm,0.6s,baz=101,slow=6.0,SNR=1.7						
	0.2nm,0.6s						
QSPA	**South Pole Qui**	**83.50**	**180**	P		**P**	**10 04 03.2**	**+0.2**
	2.0nm,1.2s,baz=2.4,slow=6.9,SNR=2.3						
	2.0nm,1.2s						
BVAR	**Borovoye Array**	**87.30**	**324**	P		**P**	**10 04 22.0**	**0.0**
	0.6nm,0.4s,baz=115,slow=5.1,SNR=2.4						
	0.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**145.45**	**284**	PKPbc		**PKiKP**	**10 11 16.7**	**-1.5**
	0.8nm,0.5s,baz=102,slow=3.2,SNR=9.7						

*NEIC **17** 09:53:40.1±1.1,19.17N±0.02×155.52W±0.03,h46km±4km, Error ellipse: s-maj=3.8km s-min=3.6km az=101.0*

HVO 17 09:53:41.9±1.2,**19.14N**±0.02×**155.53W**±0.02,**h40**km±1km, **ML2.3**/5,**ML2.9**/22(NEIC),**Error ellipse: s-maj=3.7km s-min=2.1km az=121.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.06**	**205**		Pn	09 53 48.0	-0.4
HPO				Sn	Sn	09 53 52.0	-0.8
KHU	**Kahuku**	**0.13**	**322**		Pn	09 53 48.3	-0.9
KHU					Sn	09 53 53.1	-1.2
HTC	**Hot Caves**	**0.16**	**52**		Pn	09 53 47.9	-1.1
AIN	**Ainahou**	**0.24**	**16**		Pn	09 53 49.2	-0.6
AIN				IAML		09 53 54.9	
	comp=E,2μm,0.4s						
SDHHI	**Sand Hill**	**0.33**	**42**		Sn	09 53 55.2	-1.5
WRMHI	**West Rim**	**0.34**	**39**		Sn	09 53 55.5	-1.5
MWH	**Mokuaweoweo**	**0.35**	**349**	Pn	Pn	09 53 49.6	-1.6
MWH				IAML		09 53 56.5	
	comp=N,937nm,0.6s						
MWH				IAML		09 54 00.9	
	comp=E,1μm,0.7s						
UWE	**Uwekahuna**	**0.36**	**39**	Pn	Pn	09 53 49.1	-1.8
MLH	**Mauna Loa**	**0.38**	**21**		Pn	09 53 49.9	-1.4
MLH				IAML		09 53 56.7	
	comp=N,847nm,0.5s						
MLH				IAML		09 54 04.1	
	comp=E,554nm,0.8s						
PUH	**Pauahi**	**0.38**	**52**		Pn	09 53 49.0	-2.1
PUH				IAML		09 54 02.2	
	comp=N,792nm,0.6s						
HATHI	**Halema'uma'u T**	**0.38**	**42**	Pn	Pn	09 53 49.2	-1.9
HATHI				IAML		09 53 58.5	
	comp=N,610nm,0.8s						
HATHI				IAML		09 53 59.8	
	comp=E,724nm,0.9s						
ALEP	**Alea Permanent**	**0.41**	**345**		Sn	09 53 57.0	-1.8
KNHH	**Kane Nui o Ham**	**0.41**	**55**		Pn	09 53 49.5	-2.1
STCH	**Steam Cracks**	**0.45**	**58**		Pn	09 53 49.8	-2.3
STCH				IAML		09 53 58.3	
	comp=N,543nm,0.6s						
NPOC	**North of Pu'u**	**0.47**	**58**		Sn	09 53 57.6	-2.0

*NEIC **17** 10:06:56.2±1.4,55.96S±0.08×27.7W±0.2,h100km±6km, mb4.3/22, Error ellipse: s-maj=13.9km s-min=10.8km az=69.0*

*IDC **17** 10:07:04.5±5.1,56.04S×27.48W,h184km±48km,mb3.9/7, mbtmp4.5/8, Error ellipse: s-maj=25.8km s-min=12.3km az=73.0*

ISC 17 10:06:57.6±0.5,**56.00S**±0.08×**27.89W**±0.08,**h121**km,**n47**, σ1§**41**/44,**mb4.3**/16,**4D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.22**	**286**		**Pn**	**10 08 13.2**	**-0.2**
HOPE				Sn	**Sn**	**10 09 07.8**	**-4.6**
VNA1	**Neumayer--Stat**	**17.00**	**157**	⇓P	**P**	**10 10 46.6**	**-0.8**
	comp=Z,31nm,0.9s						
VNA3	**Neumayer Olymp**	**17.18**	**160**	⇓P	**P**	**10 10 49.0**	**-0.5**
	comp=Z,24nm,0.7s						
SNAA	**Sanae**	**18.95**	**156**	⇓P	**P**	**10 11 08.7**	**-0.2**
	comp=Z,1μm,0.4s						
SNAA	**Sanae**	**18.95**	**156**	P	**P**	**10 11 08.9**	**-0.1**
SNAA	**Sanae**	**18.95**	**156**	P	**P**	**10 11 08.5**	**-0.4**
	comp=Z,41nm,0.4s,baz=306,slow=10,SNR=1704						
SNAA				S	**S**	**10 14 33.3**	**-4.2**
	comp=Z,2.6nm,1.2s,baz=99,slow=17,SNR=2.3						
TROLL	**Troll, Antarti**	**20.47**	**153**	⇓P	**P**	**10 11 25.0**	**-0.4**
	comp=Z,1μm,0.3s						
BELA	**Belgrano 2**	**22.11**	**184**	P	**P**	**10 11 42.5**	**-0.1**
BELA				IAmb	IAmb	10 11 44.0	
	comp=Z,9.4nm,0.6s						
GO09	**Cerro Castillo**	**26.41**	**261**	P	**P**	**10 12 23.0**	**+0.4**
TRQA	**Tornquist**	**28.94**	**294**	P	**P**	**10 12 45.7**	**+0.5**
TRQA				IAmb	IAmb	10 13 15.6	
	comp=Z,5.2nm,1.1s						
PLTB	**Pedras Altas**	**30.17**	**313**	P	**P**	**10 12 56.9**	**+0.8**
QSPA	**South Pole Qui**	**34.26**	**180**	P	**P**	**10 13 32.4**	**+0.8**
QSPA				IAmb	IAmb	10 13 33.6	
	comp=Z,5.6nm,0.8s						
QSPA	**South Pole Qui**	**34.26**	**180**	P	**P**	**10 13 32.8**	**+1.2**
	comp=Z,4.7nm,0.7s,baz=214,slow=1.6,SNR=59						
	comp=Z,4.7nm,0.7s						
MT09	**Talagante**	**36.92**	**289**	P	**P**	**10 13 54.5**	**-0.1**
MT09				IAmb	IAmb	10 14 11.2	
	comp=Z,5.5nm,1.1s						
CO01	**Juntas del Tor**	**39.43**	**293**	P	**P**	**10 14 17.4**	**+1.5**
CO01				IAmb	IAmb	10 14 21.5	
	comp=Z,4.6nm,1.1s						
MAW	**Mawson**	**40.43**	**144**	P	**P**	**10 14 23.3**	**0.0**
	comp=Z,5.0nm,0.6s,baz=230,slow=8.8,SNR=15						
	comp=Z,5.0nm,0.6s						
AC04	**Llanos de Chal**	**41.37**	**294**	P	**P**	**10 14 34.1**	**+2.6**
AC02	**Maricunga**	**41.50**	**297**	P	**P**	**10 14 34.8**	**+1.6**
AC02				IAmb	IAmb	10 14 44.1	
	comp=Z,6.4nm,1.1s						
GO02	**Mina Guanaco**	**43.12**	**298**	P	**P**	**10 14 47.5**	**+1.4**
GO02				IAmb	IAmb	10 15 16.2	
	comp=Z,3.5nm,0.7s						
SBA	**Scott Base**	**46.11**	**184**	P	**P**	**10 15 11.0**	**+2.2**
VNDA	**Vanda**	**46.61**	**183**	P	**P**	**10 15 14.1**	**+1.3**
VNDA	**Vanda**	**46.61**	**183**	P	**P**	**10 15 13.2**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=183,slow=7.3,SNR=16						
	comp=Z,1.8nm,0.7s						
PB11	**IPOC Station P**	**47.72**	**302**	P	**P**	**10 15 23.4**	**+1.1**
PB11				IAmb	IAmb	10 15 54.1	
	comp=Z,6.2nm,0.9s						
H10S2	**ASCENSION HYDR**	**48.06**	**18**	T	T	11 08 16.5	
	baz=32,slow=74,SNR=18						
H10S3	**ASCENSION HYDR**	**48.07**	**18**	T	T	11 08 16.0	
	baz=188,slow=74,SNR=16						
PB16	**IPOC Station P**	**48.88**	**303**	P	**P**	**10 15 32.2**	**+0.6**
H10N1	**ASCENSION HYDR**	**49.18**	**18**	T	T	11 09 41.1	
	baz=189						
H10N3	**ASCENSION HYDR**	**49.18**	**18**	T	T	11 09 40.7	
	baz=189,slow=74						
H10N2	**ASCENSION HYDR**	**49.20**	**18**	T	T	11 09 42.2	
	baz=189,slow=74						
LPAZ	**La Paz**	**50.02**	**306**	P	**P**	**10 15 41.7**	**+1.4**
LPAZ				IAmb	IAmb	10 15 51.9	
	comp=Z,3.4nm,1.1s						
LPAZ	**La Paz**	**50.02**	**306**	P	**P**	**10 15 41.6**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=124,slow=4.5,SNR=8.5						
	comp=Z,1.2nm,0.6s						
MREMI	**Moremi**	**52.34**	**74**	P	**P**	**10 15 56.7**	**-0.2**
MREMI				IAmb	IAmb	10 15 56.7	
	comp=Z,3.8nm,0.8s						
CASY	**Casey**	**54.09**	**161**	P	**P**	**10 16 09.9**	**+0.8**
BOAV	**Boa Vista**	**64.00**	**323**	P	**P**	**10 17 17.4**	**-0.6**
BOAV				IAmb	IAmb	10 17 45.7	
	comp=Z,2.7nm,1.1s						
DBIC	**Dimbokro**	**65.28**	**25**	P	**P**	**10 17 26.4**	**+0.1**
DBIC	**Dimbokro**	**65.28**	**25**	P	**P**	**10 17 25.7**	**-0.6**
	comp=Z,3.4nm,0.8s,baz=347,slow=4.7,SNR=2.0						
	comp=Z,3.4nm,0.8s						
MBO	**M'Bour**	**70.72**	**11**	P	**P**	**10 18 00.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**73.20**	**30**	P	**P**	**10 18 15.3**	**+0.2**
TORD				IAmb	IAmb	10 18 15.9	
	comp=Z,3.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.20**	**30**	P	**P**	**10 18 15.2**	**+0.1**
	comp=Z,4.3nm,0.5s,baz=201,slow=6.2,SNR=46						
	comp=Z,4.3nm,0.5s						
ESDC	**Sonseca Array**	**97.45**	**18**	P	**P**	**10 20 15.0**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=168,slow=5.4,SNR=2.4						
	comp=Z,0.2nm,0.3s						
A36M	**Sachs Harbour**	**143.96**	**328**	PKPdf	**PKPdf**	**10 26 16.2**	**-0.6**
HYT	**Haines Junctio**	**144.44**	**307**	PKPdf	**PKPdf**	**10 26 19.3**	**+1.1**
N30M	**Aishikik Lake**	**144.52**	**309**	PKPdf	**PKPdf**	**10 26 18.5**	**+0.3**
M30M	**Minto, Yukon**	**144.84**	**310**		**PKPdf**	**10 26 18.9**	**+0.1**
H31M	**Peel River**	**145.01**	**316**		**PKPdf**	**10 26 19.0**	**+0.1**
ILAR	**Eielson Array**	**149.78**	**312**	PKPbc	**PKPbc**	**10 26 31.7**	**0.0**
	comp=Z,0.9nm,0.6s,baz=138,slow=2.9,SNR=17						
SONM	**Songino Array**	**151.12**	**87**	PKPbc	**PKPbc**	**10 26 33.2**	**-2.3**
	comp=Z,1.1nm,0.5s,baz=222,slow=2.3,SNR=4.4						

*IDC **17** 10:09:17.7±0.5,15.14S×173.51W,h0km, mb4.4/17, mbtmp4.4/18, ML3.7/1, MS4.1/47, Error ellipse: s-maj=21.7km s-min=14.3km az=131.0*

*NEIC **17** 10:09:19.5±2.2,15.14S±0.08×173.35W±0.07,h10km±1km, mb4.9/201, Error ellipse: s-maj=15.0km s-min=10.9km az=152.0*

*GCMT **17** 10:09:28.5±0.2,15.06S±0.01×173.39W±0.01,h12km, MW5.4/116, Moment Tensor Solution. s49,c56; s116,c172; Duration: 1§2 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.08±.01; $M_{\theta\theta}$=0.15±.01; $M_{\phi\phi}$=-0.07±.01; $M_{r\theta}$=-1.36±.03; $M_{r\phi}$=0.07±.01; $M_{\theta\phi}$=0.56±.02; Best double couple: M_0=1.47800×10^{17} NP1:ϕ_S=219.00000°,δ5.00000°, λ=-164.00000°. NP2:ϕ_S=112.00000°,δ89.00000°, λ=-85.00000°. Principal axes: T 1.4740, Plg43.0000°, Azm198.0000°; N 0.0080, Plg5.0000°, Azm292.0000°; P -1.4820, Plg46.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 10:09:21.7±0.3,**15.22S**±0.07×**173.36W**±0.06,**h30**km, **n213**,σ1§**50**/104,**mb4.8**/111,**MS4.3**/47,**2C-14D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.01**	**50**		**Pn**	**10 09 52.7**	**-1.0**
FUTU	**Fugatoga**	**4.70**	**281**	Pn	**Pn**	**10 10 30.4**	**-0.2**
NIUE	**Niue**	**5.05**	**140**		**Pn**	**10 10 36.2**	**+0.7**
RAR	**Rarotonga**	**14.21**	**117**	Pn	**Pn**	**10 12 40.6**	**-0.5**
	3.4nm,0.3s,baz=271,slow=8.2,SNR=7.9						
RAR				Sn	Sn	10 15 07.6	-10
	2.7nm,0.3s,baz=104,slow=19,SNR=1.4						
RAR				LR	LR	10 16 50.1	
	comp=Z,190nm,19.3s,baz=296,slow=32						
	18nm,0.6s						
PINNC	**Pines Island,**	**19.58**	**245**	P	**P**	**10 13 47.2**	**-0.3**
DZM	**Mont Dzumac**	**20.30**	**247**	*e*P	Pn	10 13 57.0	-0.6
	106nm,1.4s						
DZM				*e*S	**S**	**10 17 33.9**	**-7.9**
	343nm,29.8s						
DZM				*e*LQ	LQ	10 17 45.0	
	1μm,28.1s						
DZM				*e*LR	LR	10 18 40.1	
	3μm,26.6s						
DZM	**Mont Dzumac**	**20.30**	**247**	P	**P**	**10 13 54.4**	**-1.1**
	4.2nm,0.9s,baz=88,slow=18,SNR=7.4						
	4.2nm,0.9s						
PPT	**Papeete**	**22.93**	**99**	LR	LR	10 22 16.3	
	comp=Z,58nm,18.7s,baz=268,slow=34						
PPT2	**Papeete2**	**22.93**	**99**	*e*S	**S**	**10 18 24.3**	**-7.8**
	1μm,28.2s						
PPT2				*e*LR	LR	10 19 49.5	
	467nm,26.8s						
PPT2				*e*LR	LR	10 19 55.8	
	354nm,27.2s						
TBI	**Tubuai**	**23.94**	**113**	*e*S	**S**	**10 18 44.5**	**-3.7**
	3μm,25.5s						
TBI				*e*LR	LR	10 20 28.6	
	1μm,25.0s						
URZ	**Urewera**	**24.45**	**198**	LR	LR	10 22 59.7	
	comp=Z,1μm,19.4s,baz=20,slow=34						
TOZ	**Tahuroa Road**	**24.50**	**202**	P	**P**	**10 14 38.4**	**0.0**
RTZ	**Ruatahuna**	**24.81**	**198**	P	**P**	**10 14 42.1**	**+0.8**
HNR	**Honiara**	**26.69**	**279**	LR	LR	10 22 49.3	
	comp=Z,176nm,22.0s,baz=121,slow=31						
RPZ	**Rata Peaks**	**31.36**	**202**	LR	LR	10 28 02.1	
	comp=Z,913nm,19.2s,baz=24,slow=36						
TAOE	**Nuku Hiva Isla**	**33.06**	**83**	*e*LR	LR	10 24 31.6	
	788nm,26.2s						
EIDS	**Eidsvold**	**34.75**	**247**	P	**P**	**10 16 10.0**	**+0.4**
ARMA	**Armidale**	**35.47**	**239**	P	**P**	**10 16 15.3**	**-0.6**
CTAO	**Charters Tower**	**38.72**	**257**	P	**P**	**10 16 43.4**	**-0.1**
H11S2	**WAKE ISLAND Hy**	**38.83**	**329**	T	T	10 57 35.5	
	baz=146,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**38.84**	**329**	T	T	10 57 31.7	
	baz=146,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**38.85**	**329**	T	T	10 57 36.5	
	baz=146,slow=76,SNR=19						
CAN	**Canberra**	**39.17**	**232**	P	**P**	**10 16 46.1**	**-1.1**
CAN				IAmb	IAmb	10 18 06.7	
	comp=Z,67nm,1.6s						
COEN	**Coen**	**42.03**	**266**	P	**P**	**10 17 11.5**	**+0.5**
COEN				IAmb	IAmb	10 17 20.9	
	comp=Z,56nm,1.8s						
TOO	**Toolangi**	**42.61**	**231**	P	**P**	**10 17 14.7**	**-0.7**
TOO				IAmb	IAmb	10 17 39.7	
	comp=Z,49nm,1.9s						
STKA	**Stephens Creek**	**44.16**	**240**	P	**P**	**10 17 27.6**	**-0.4**
STKA	**Stephens Creek**	**44.16**	**240**	P	**P**	**10 17 27.1**	**-0.8**
	comp=Z,5.3nm,0.7s,baz=98,slow=11,SNR=9.7						
STKA				LR	LR	10 33 30.0	
	comp=Z,291nm,20.8s,baz=47,slow=33						
	comp=Z,5.3nm,0.7s						
WR8	**Warramunga Arr**	**49.77**	**257**	P	**P**	**10 18 10.8**	**-1.2**
WR8				IAmb	IAmb	10 18

NVAR	**Mina Array Bea**	**74.17**	**42**	P		**P**	**10 20 57.0**	**+1.1**
	comp=Z,6.1nm,0.8s,baz=230,slow=8.8,SNR=39							
NVAR				LR		LR	10 45 52.2	
	comp=Z,329nm,21.3s,baz=200,slow=30							
	comp=Z,6.1nm,0.8s							
BBOR	**Butler Butte**	**74.17**	**36**	IAmb		IAmb	10 20 58.4	
	comp=Z,17nm,1.5s							
PAHR	**Pah Rah Range**	**74.22**	**40**	IAmb		IAmb	10 20 58.5	
	comp=Z,13nm,1.1s							
NV11	**Mina Array Sit**	**74.27**	**42**	IAmb		IAmb	10 20 58.8	
	comp=Z,18nm,1.2s							
113A	**Mohawk Valley,**	**74.27**	**49**	IAmb		IAmb	10 20 58.6	
	comp=Z,11nm,1.1s							
I03D	**Drain, OR**	**74.31**	**35**	IAmb		IAmb	10 20 58.9	
	comp=Z,16nm,1.1s							
MTPC	**Mountain Pass**	**74.39**	**46**	IAmb		IAmb	10 20 59.7	
	comp=Z,17nm,1.4s							
K04D	**Chiloquin, OR**	**74.54**	**37**	IAmb		IAmb	10 21 00.5	
	comp=Z,17nm,1.0s							
KDAK	**Kodiak Island**	**74.74**	**11**	LR		LR	10 46 44.2	
	comp=Z,289nm,22.0s,baz=212,slow=30							
QSPA	**South Pole Qui**	**74.82**	**180**	P		**P**	**10 21 00.8**	**+1.6**
	comp=Z,7.0nm,0.7s,baz=62,slow=3.7,SNR=27							
QSPA				LR		LR	10 49 10.3	
	comp=Z,93nm,21.4s,baz=36,slow=32							
	comp=Z,7.0nm,0.7s							
BUCK	**Buck Mountain**	**74.83**	**35**	IAmb		IAmb	10 21 01.6	
	comp=Z,17nm,1.1s							
Y14A	**Wickenburg**	**75.40**	**48**	IAmb		IAmb	10 21 05.3	
	comp=Z,13nm,1.2s							
S11A	**Rachel**	**75.41**	**44**	IAmb		IAmb	10 21 08.8	
	comp=Z,8.8nm,0.9s							
PRN	**Pahroc Range**	**75.75**	**44**	IAmb		IAmb	10 21 07.8	
	comp=Z,13nm,1.1s							
I07A	**Izee**	**76.73**	**37**	IAmb		IAmb	10 21 13.0	
	comp=Z,14nm,1.1s							
X16A	**Lo Mia Camp, P**	**76.77**	**49**	IAmb		IAmb	10 21 13.7	
	comp=Z,12nm,1.0s							
G06A	**Carlson Farm,**	**76.79**	**35**	IAmb		IAmb	10 21 12.8	
	comp=Z,16nm,1.3s							
J08A	**Circle Bar Ran**	**76.91**	**38**	IAmb		IAmb	10 21 13.8	
	comp=Z,17nm,1.1s							
CCUT	**Cedar City**	**76.97**	**45**	IAmb		IAmb	10 21 15.0	
	comp=Z,11nm,1.2s							
KNB	**Kanab**	**77.08**	**46**	IAmb		IAmb	10 21 14.7	
	comp=Z,12nm,1.2s							
SPR3	**Spring Creek 3**	**77.08**	**43**	IAmb		IAmb	10 21 14.6	
	comp=Z,12nm,1.3s							
U15A	**North Rim**	**77.15**	**46**	IAmb		IAmb	10 21 16.1	
	comp=Z,19nm,1.3s							
USRK	**Ussuriysk Ar.**	**77.26**	**323**	LR		LR	10 49 07.8	
	comp=Z,149nm,20.9s,baz=140,slow=31							
WUAZ	**Wupatki**	**77.35**	**48**	IAmb		IAmb	10 21 17.0	
	comp=Z,18nm,1.3s							
ELK	**Elko**	**77.42**	**41**	IAmb		IAmb	10 21 16.6	
	comp=Z,11nm,1.1s							
G08A	**Pilot Rock**	**77.77**	**36**	IAmb		IAmb	10 21 18.5	
	comp=Z,20nm,1.3s							
HPIG		**77.90**	**58**	IAmb		IAmb	10 21 19.8	
	comp=Z,17nm,1.5s							
X18A	**Snowflake**	**77.90**	**49**	IAmb		IAmb	10 21 20.0	
	comp=Z,10nm,1.2s							
HAWA	**Hanford**	**78.11**	**35**	IAmb		IAmb	10 21 20.2	
	comp=Z,14nm,1.3s							
E08A	**Dider Farm, El**	**78.43**	**35**	IAmb		IAmb	10 21 21.9	
	comp=Z,15nm,1.4s							
BMO	**Blue Mountains**	**78.46**	**37**	IAmb		IAmb	10 21 22.0	
	comp=Z,13nm,1.4s							
MFID	**Camas Ranch**	**78.52**	**39**	IAmb		IAmb	10 21 22.5	
	comp=Z,13nm,1.1s							
DUG	**Dugway, Tooele**	**78.70**	**43**	IAmb		IAmb	10 21 23.7	
	comp=Z,13nm,1.2s							
D08A	**Wollman Farm,**	**78.84**	**35**	IAmb		IAmb	10 21 45.5	
	comp=Z,13nm,1.3s							
HMU	**Henry Mountain**	**78.97**	**46**	IAmb		IAmb	10 21 25.5	
	comp=Z,15nm,1.2s							
TMUT	**Trail Mountain**	**79.32**	**44**	IAmb		IAmb	10 21 28.1	
	comp=Z,22nm,1.1s							
HLID	**Hailey**	**79.46**	**39**	IAmb		IAmb	10 21 28.2	
	comp=Z,16nm,1.1s							
J18K	**Innoko River**	**79.49**	**8**	IAmb		IAmb	10 21 40.2	
	comp=Z,16nm,1.4s							
SRU	**San Rafael Swe**	**79.69**	**45**	IAmb		IAmb	10 21 29.4	
	comp=Z,20nm,1.3s							
MA2	**Magadan**	**80.00**	**342**	LR		LR	10 52 21.8	
	comp=Z,79nm,20.3s,baz=132,slow=32							
MNTX	**Cornudas Mount**	**80.09**	**53**	IAmb		IAmb	10 21 31.7	
	comp=Z,17nm,1.4s							
NJ2	**Nanjing**	**80.09**	**307**	*e*P		**P**	**10 21 30.3**	**+1.3**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.6s							
PV13	**Radium Mtn., P**	**80.41**	**46**	IAmb		IAmb	10 21 33.4	
	comp=Z,17nm,1.2s							
PV11	**David Mesa, Pa**	**80.44**	**46**	IAmb		IAmb	10 21 34.7	
	comp=Z,10nm,1.0s							
PV04	**Paradox Valley**	**80.46**	**46**	IAmb		IAmb	10 21 33.7	
	comp=Z,17nm,1.3s							
TXAR	**Lajitas Array**	**80.48**	**56**			**P**	**10 21 31.8**	**+0.5**
TXAR	**Lajitas Array**	**80.48**	**56**	P		**P**	**10 21 32.3**	**+1.0**
	comp=Z,5.0nm,1.1s,baz=230,slow=5.9,SNR=29							
TXAR				LR		LR	10 50 38.6	
	comp=Z,105nm,19.2s,baz=248,slow=31							
	comp=Z,5.0nm,1.1s							
J20K	**Nowinta River**	**80.52**	**8**	IAmb		IAmb	10 21 45.5	
	comp=Z,19nm,1.5s							
NEW	**Newport**	**80.54**	**34**	LR		LR	10 49 53.7	
	comp=Z,164nm,20.7s,baz=240,slow=30							
PV01	**Paradox Valley**	**80.57**	**46**	IAmb		IAmb	10 21 34.3	
	comp=Z,24nm,1.4s							
ANMO	**Albuquerque**	**80.66**	**50**			**P**	**10 21 32.6**	**+0.4**
ANMO				IAmb		IAmb	10 21 35.0	
	comp=Z,14nm,1.4s							
ANMO	**Albuquerque**	**80.66**	**50**	LR		LR	10 49 18.3	
	comp=Z,298nm,21.4s,baz=322,slow=30							
PV07	**Paradox Valley**	**80.66**	**46**	IAmb		IAmb	10 22 44.1	
	comp=Z,17nm,1.6s							
PV15	**Paradox Valley**	**80.73**	**46**	IAmb		IAmb	10 21 35.0	
	comp=Z,17nm,1.4s							
MCK	**McKinley**	**80.94**	**11**	IAmb		IAmb	10 21 51.9	
	comp=Z,14nm,1.0s							
M27K	**Edge Creek, AK**	**81.19**	**14**	IAmb		IAmb	10 21 56.1	
	comp=Z,18nm,1.2s							
MSO	**Missoula**	**81.51**	**37**	IAmb		IAmb	10 21 37.9	
	comp=Z,14nm,1.4s							
DLBC	**Dease Lake**	**81.52**	**21**	LR		LR	10 53 40.4	
	comp=Z,14nm,18.1s,baz=202,slow=33							
DLMT	**Dillon**	**81.52**	**38**	IAmb		IAmb	10 21 39.0	
	comp=Z,19nm,1.4s							
TPAW	**Teton Pass**	**81.57**	**41**	IAmb		IAmb	10 21 39.5	
	comp=Z,18nm,1.2s							
FXWY	**Fox Creek**	**81.60**	**41**	IAmb		IAmb	10 21 39.7	
	comp=Z,11nm,1.1s							
S22A	**4UR Ranch, Cre**	**81.62**	**47**	IAmb		IAmb	10 21 40.5	
	comp=Z,20nm,1.3s							
SNOW	**Snow King Moun**	**81.68**	**41**	IAmb		IAmb	10 21 40.1	
	comp=Z,21nm,1.3s							
LOHW	**Long Hollow**	**81.85**	**41**	IAmb		IAmb	10 21 40.8	
	comp=Z,14nm,1.3s							
HDA	**Harding Lake**	**81.92**	**11**	IAmb		IAmb	10 22 07.4	
	comp=Z,10nm,1.1s							
SAND	**Sanderson**	**81.96**	**56**	IAmb		IAmb	10 21 41.2	
	comp=Z,14nm,1.4s							
CCB	**Clear Creek Bu**	**81.98**	**11**	IAmb		IAmb	10 21 39.3	
	comp=Z,7.9nm,0.9s							
YHB	**Horse Butte**	**82.06**	**40**	IAmb		IAmb	10 21 42.5	
	comp=Z,18nm,1.3s							
PDAR	**Pinedale Array**	**82.10**	**42**			**P**	**10 21 39.0**	**-0.8**
PDAR	**Pinedale Array**	**82.10**	**42**	P		**P**	**10 21 40.5**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=208,slow=2.9,SNR=21							
PDAR				LR		LR	10 52 44.8	
	comp=Z,149nm,19.4s,baz=250,slow=32							
	comp=Z,2.7nm,0.9s							
H21K	**Melozitna Rive**	**82.11**	**8**	P		**P**	**10 21 39.1**	**+0.1**
I23K	**Minto, Yukon-K**	**82.17**	**10**	IAmb		IAmb	10 22 14.0	
	comp=Z,11nm,1.2s							
COLA	**College**	**82.18**	**11**	P		**P**	**10 21 39.3**	**-0.1**
BOZ	**Bozeman (W)**	**82.23**	**39**	IAmb		IAmb	10 21 42.8	
	comp=Z,14nm,1.4s							
IL31		**82.26**	**11**	IAmb		IAmb	10 21 57.9	
	comp=Z,26nm,1.9s							
ILAR	**Eielson Array**	**82.26**	**11**			**P**	**10 21 39.2**	**-0.6**
ILAR	**Eielson Array**	**82.26**	**11**	P		**P**	**10 21 39.6**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=228,slow=6.3,SNR=19							
ILAR				LR		LR	10 51 13.9	
	comp=Z,159nm,21.9s,baz=210,slow=31							
	comp=Z,1.3nm,0.8s							
SEY	**Seymchan**	**82.36**	**345**	LR		LR	10 53 33.1	
	comp=Z,138nm,20.5s,baz=158,slow=32							
J25K	**Salcha River,**	**82.41**	**12**	IAmb		IAmb	10 22 09.8	
	comp=Z,11nm,1.2s							
F19K	**Shaleruckik Mo**	**82.63**	**6**	IAmb		IAmb	10 22 05.8	
	comp=Z,6.8nm,0.9s							
J26L	**Joseph Creek**	**82.68**	**13**	IAmb		IAmb	10 22 02.2	
	comp=Z,8.4nm,1.1s							
L29M	**L29M**	**82.75**	**15**	IAmb		IAmb	10 22 02.9	
	comp=Z,15nm,1.2s							
YNE	**Yellowstone No**	**82.92**	**40**	IAmb		IAmb	10 22 06.4	
	comp=Z,11nm,1.3s							
DRIO	**Del Rio**	**82.97**	**57**	IAmb		IAmb	10 22 04.6	
	comp=Z,13nm,1.1s							
DAWY	**Dawson**	**83.24**	**14**	IAmb		IAmb	10 22 06.6	
	comp=Z,7.9nm,1.2s							
E19K	**Redstone River**	**83.29**	**6**	IAmb		IAmb	10 22 00.4	
	comp=Z,12nm,1.2s							
ISCO	**Idaho Springs**	**83.38**	**46**	IAmb		IAmb	10 22 05.8	
	comp=Z,23nm,2.0s							
RLMT	**Red Lodge**	**83.43**	**40**	IAmb		IAmb	10 22 07.5	
	comp=Z,11nm,1.2s							
K29M	**Barlow Dome**	**83.51**	**15**	IAmb		IAmb	10 22 09.4	
	comp=Z,7.0nm,1.1s							
CMIG	**Matias Romero**	**83.78**	**71**	LR		LR	10 50 57.9	
	comp=Z,115nm,18.8s,baz=226,slow=30							
BELA	**Belgrano 2**	**84.17**	**172**			**P**	**10 21 50.5**	**+0.8**
BELA				IAmb		IAmb	10 22 09.0	
	comp=Z,7.5nm,1.1s							
PMSA	**Palmer Station**	**84.32**	**156**	LR		LR	10 54 43.2	
	comp=Z,176nm,18.8s,baz=231,slow=32							
EGMT	**Eagleton**	**84.56**	**37**	IAmb		IAmb	10 22 15.7	
	comp=Z,7.1nm,1.0s							
I30M	**Mount Dempster**	**84.93**	**15**	IAmb		IAmb	10 22 08.4	
	comp=Z,10nm,1.2s							
BRDY	**Brady**	**84.95**	**56**	IAmb		IAmb	10 21 56.2	
	comp=Z,14nm,1.6s							
BMAR	**Burnt Mountain**	**85.07**	**11**			**P**	**10 21 55.2**	**+1.0**
H29M	**Whitestone**	**85.28**	**13**	IAmb		IAmb	10 22 24.9	
	comp=Z,14nm,1.2s							
G29M	**Pine Creek**	**85.94**	**13**	IAmb		IAmb	10 22 26.8	
	comp=Z,11nm,1.2s							
RSSD	**Black Hills**	**86.30**	**42**	P		**P**	**10 22 03.3**	**+2.2**
RSSD				IAmb		IAmb	10 22 24.2	
	comp=Z,10.0nm,1.2s							
G31M	**Satah River**	**86.81**	**14**	IAmb		IAmb	10 22 31.6	
	comp=Z,11nm,1.1s							
XLT	**XiLinHaoTe**	**87.02**	**317**	*e*P		**P**	**10 22 05.6**	**+1.1**
XLT				pP		pP	10 22 10.1	-3.5
XLT				pmax		pmax		
	comp=Z,6.0nm,0.7s							
MAW	**Mawson**	**87.98**	**199**	P		**P**	**10 22 08.9**	**+0.4**
	comp=Z,4.7nm,0.6s,baz=142,slow=9.0,SNR=16							
MAW				LR		LR	10 58 50.5	
	comp=Z,272nm,20.7s,baz=118,slow=34							
	comp=Z,4.7nm,0.6s							
INK	**Inuvik**	**88.08**	**14**	LR		LR	10 54 24.6	
	comp=Z,181nm,21.8s,baz=239,slow=31							
XAN	**Xi'an**	**88.56**	**306**	⇑P		**P**	**10 22 09.6**	**-2.4**
XAN				pmax		pmax		
	comp=Z,5.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**88.93**	**313**	*e*P		**P**	**10 22 14.6**	**+0.9**
HHC				pmax		pmax		
	comp=Z,17nm,0.7s							
YAK	**Yakutsk**	**88.96**	**337**	LR		LR	10 55 32.5	
	comp=Z,58nm,21.0s,baz=140,slow=31							
PLCA	**Paso Flores**	**89.60**	**132**	LR		LR	10 55 00.6	
	comp=Z,82nm,19.7s,baz=232,slow=31							
YKA	**Yellowknife Ar**	**89.92**	**23**	P		**P**	**10 22 17.3**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=246,slow=4.1,SNR=7.4							
YKA				LR		LR	10 55 44.9	
	comp=Z,209nm,20.7s,baz=217,slow=31							
	comp=Z,0.8nm,0.8s							
JTS	**Las Juntas de**	**91.14**	**80**	LR		LR	10 53 29.9	
	comp=Z,129nm,21.1s,baz=260,slow=29							
PZH	**PanZhiHua**	**92.23**	**297**	P		**P**	**10 22 30.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**92.60**	**288**	P		**P**	**10 22 29.9**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=130,slow=9.0,SNR=1.3							
CMAR				LR		LR	10 58 37.0	
	comp=Z,25nm,21.7s,baz=235,slow=32							
	comp=Z,0.4nm,0.3s							
SYO	**Syowa Base**	**92.78**	**191**	⇑*i*PcP		**PcP**	**10 22 32.0**	**+0.4**
ATAH	**Atahualpa**	**92.91**	**98**	LR		LR	10 53 58.8	
	comp=Z,73nm,21.6s,baz=267,slow=29							
TROLL	**Troll, Antarti**	**92.94**	**179**	⇓P		**P**	**10 22 31.4**	**-0.5**
	comp=Z,70nm,0.7s							
VNA3	**Neumayer Olymp**	**93.03**	**175**	⇓P		**P**	**10 22 33.0**	**+0.8**
	comp=Z,3.5nm,0.7s							
NNA	**Nana**	**93.06**	**103**	LR		LR	10 54 47.5	
	comp=Z,46nm,20.8s,baz=241,slow=29							
SNAA	**Sanae**	**93.08**	**177**	⇓P		**P**	**10 22 33.0**	**+0.6**
	comp=Z,38nm,0.8s							
SNAA	**Sanae**	**93.08**	**177**	P		**P**	**10 22 33.5**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=227,slow=9.3,SNR=9.0							
SNAA				LR		LR	10 58 51.8	
	comp=Z,104nm,21.7s,baz=139,slow=32							
	comp=Z,1.0nm,0.7s							
LZH	**Lanzhou**	**93.15**	**306**	*e*P		**P**	**10 22 31.8**	**-1.7**
LZH				pP		PcP	10 22 37.5	+3.4
LZH				pmax		pmax		
	comp=Z,11nm,1.2s							
VNA1	**Neumayer--Stat**	**93.73**	**175**	⇓P		**P**	**10 22 36.6**	**+1.3**
	comp=Z,1.7nm,0.3s							
TIXI	**Tiksi**	**94.84**	**344**	LR		LR	11 01 20.7	
	comp=Z,131nm,20.7s,baz=176,slow=33							
TKL	**Tuckaleechee C**	**98.38**	**55**	LR		LR	10 59 59.4	
	comp=Z,106nm,20.7s,baz=272,slow=31							
WMQ	**Urumqi**	**106.78**	**312**	*e*Pdif		**Pdif**	**10 23 36.4**	**+2.0**
WMQ				LR		LR		
	comp=N,550nm,20.9s							
WMQ				LR		LR		
	comp=E,520nm,17.9s							
WMQ				LR		LR		
	comp=Z,150nm,23.9s							
ARCES	**ARCESS Array B**	**124.44**	**352**	PKP		**PKiKP**	**10 28 17.4**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=129,slow=1.7,SNR=4.8							
FINES	**FINESS Array B**	**131.78**	**348**	PKP		**PKiKP**	**10 28 32.1**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=129,slow=5.2,SNR=4.3							
NOA	**NORSAR Array B**	**134.13**	**357**	PKP		**PKiKP**	**10 28 37.8**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=271,slow=3.3,SNR=1.9							
HFS	**Hagfors**	**134.86**	**355**	PKP		**PKiKP**	**10 28 39.0**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=127,slow=3.8,SNR=2.8							
AKASG	**Malin Array Be**	**140.19**	**338**	PKP		**PKPdf**	**10 28 48.1**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=32,slow=3.6,SNR=5.1							
MEM	**Membach**	**144.70**	**1**	*d*PKPdf		**PKPdf**	**10 28 55.4**	**-0.1**
BTNL	**Ternell**	**144.72**	**1**	*d*PKP		**PKPdf**	**10 28 54.9**	**-0.7**
BCLA	**Clavier**	**144.87**	**1**	*d*PKP		**PKiKP**	**10 28 57.5**	**-2.2**
BGES	**Gesves**	**144.90**	**2**	*d*PKPdf		**PKPdf**	**10 28 55.1**	**-0.8**
BGES				*d*PKP		**PKiKP**	**10 28 57.8**	**-1.9**
BMRD	**Maredsous**	**144.97**	**2**	*d*PKPdf		**PKPdf**	**10 28 55.9**	**-0.1**
BMRD				*d*PKP		**PKiKP**	**10 28 59.2**	**-0.6**
RCHB	**Rochefort**	**145.14**	**2**	*d*PKPdf		**PKPdf**	**10 28 56.2**	**-0.1**
DOU	**Dourbes**	**145.18**	**2**	*d*PKPdf		**PKPdf**	**10 28 56.5**	**+0.2**
WLF	**Walferdange**	**145.65**	**1**	*d*PKP		**PKPab**	**10 28 58.1**	**+0.3**
GERES	**GERESS Array B**	**145.97**	**352**	PKPbc		**PKPab**	**10 28 59.0**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=20,slow=4.3,SNR=18							
BRTR	**Keskin Array B**	**146.04**	**321**	PKPbc		**PKPab**	**10 29 00.1**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=85,slow=2.0,SNR=26							
CONA	**Conrad Observa**	**146.50**	**349**	*e*PKP		**PKPab**	**10 29 01.4**	**+0.2**
	comp=Z,3.6nm,0.9s							
RONA	**Rosalia, Austr**	**146.64**	**348**	*e*PKP		**PKPab**	**10 29 01.7**	**0.0**
	comp=Z,2.8nm,0.8s							
MOA	**Molln**	**146.86**	**351**	*e*PKP		**PKPab**	**10 29 02.1**	**-0.4**
	comp=Z,4.8nm,1.0s							
ARSA	**Arzberg**	**147.22**	**349**	*e*PKP		**PKPab**	**10 29 02.9**	**-1.0**
	comp=Z,5.2nm,1.0s							
LESA	**Schwarzeotal**	**147.50**	**352**	*e*PKP		**PKPab**	**10 29 03.7**	**-1.4**
	comp=Z,2.8nm,0.8s							
KBA	**Koelnbreinsper**	**147.75**	**351**	*e*PKP		**PKPbc**	**10 29 04.1**	**+0.2**
	comp=Z,0.8nm,0.4s							
MOTA	**Moosalm**	**147.75**	**354**	*e*PKiKP		**PKPab**	**10 29 06.6**	**+0.4**
	comp=Z,0.2nm,0.3s							
WTTA	**Wattenberg**	**147.78**	**354**	*e*PKP		**PKPbc**	**10 29 04.3**	**+0.3**
	comp=Z,7.2nm,0.8s							
SOKA	**Soboth**	**147.86**	**349**	*e*PKP		**PKPbc**	**10 29 04.2**	**+0.2**
	comp=Z,3.0nm,0.8s							
SQTA	**Sankt Quirin**	**147.87**	**354**	*e*PKP		**PKiKP**	**10 29 04.7**	**-1.4**
	comp=Z,3.3nm,0.6s							
DAVA	**Damuels**	**147.91**	**356**	*e*PKP		**PKPbc**	**10 29 04.7**	**+0.4**
	comp=Z,4.1nm,0.9s							
FETA	**Feichten**	**148.11**	**355**	*e*PKP		**PKiKP**	**10 29 05.4**	**-1.2**
	comp=Z,4.4nm,1.3s							
MYKA	**Terra Mystica**	**148.14**	**351**	*e*PKP		**PKPbc**	**10 29 04.3**	**-0.5**
	comp=Z,2.3nm,0.4s							
ABTA	**Abfaltersbach**	**148.19**	**352**	*e*PKP		**PKPbc**	**10 29 04.7**	**-0.2**
	comp=Z,6.7nm,0.8s							
MMAI	**Mount Meron Ar**	**148.49**	**309**	PKPbc		**PKPbc**	**10 29 06.3**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=43,slow=8.7,SNR=5.2							
ESDC	**Sonseca Array**	**153.93**	**19**	PKPab		**PKPab**	**10 29 31.2**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=318,slow=3.7,SNR=7.1							

NOU ***17*** *10:20:05.4, 18°.16S×119°.84E, h0km, mb5.1/15, Northwest of Australia*
NEIC ***17*** *10:20:10.4±2.1, 18°.45S±0°.07×120°.28E±0°.09, h10km±1km, mb4.6/7, Error ellipse: s-maj=14.9km s-min=10.4km az=296.0*
AUST ***17*** *10:20:12.8±1.1, 19°S±5°×12°E±°, h21km±11km, mb5.0/30, ML4.4/6, Error ellipse: s-maj=13.6km s-min=4.1km az=136.6*
IDC ***17*** *10:20:13.2±0.7, 18°.96S×120°.49E, h0km, mb4.1/11, mbtmp4.2/17, ML4.2/6, MS3.8/9, Error ellipse: s-maj=19.2km s-min=13.4km az=70.0*

ISC 17 10:20:12.5±0.4, 18°.69S±0°.04×120°.39E±0°.05, h10km, n107, σ2s 40/106, mb4.4/24, MS3.9/8, 2C, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**2.53**	**194**		**Pn**	**10 20 55.6**	**+1.9**
MBWA	**Marble Bar**	**2.53**	**194**	P	**Pn**	**10 20 56.1**	**+2.4**
MBWA				S	**Sn**	**10 21 28.5**	**+3.9**
MBWA	**Marble Bar**	**2.53**	**194**	P	**Pn**	**10 20 55.6**	**+1.9**
PSAC1	**Pilbara Seismi**	**2.88**	**191**	P	**Pn**	**10 20 57.0**	**+2.2**
PSAC1				S	**Sn**	**10 21 35.0**	**+1.8**
PSA00	**Pilbara Seismi**	**2.91**	**190**		**Pn**	**10 21 00.6**	**+1.7**
PSA00				Sn	**Sn**	**10 21 36.2**	**+2.2**
PSA00	**Pilbara Seismi**	**2.91**	**190**		**Pn**	**10 21 00.4**	**+1.5**
PSA00	**Pilbara Seismi**	**2.91**	**190**	P	**Pn**	**10 21 01.3**	**+2.4**
PSA00				S	**Sn**	**10 21 36.3**	**+2.3**
PSA00	**Pilbara Seismi**	**2.91**	**190**	P	**Pn**	**10 21 01.4**	**+2.5**
FITZ	**Fitzroy Crossi**	**5.02**	**84**		**Pn**	**10 21 27.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**5.02**	**84**	P	**Pn**	**10 21 28.5**	**+0.7**
	comp=Z,28nm,0.6s						
FITZ	**Fitzroy Crossi**	**5.02**	**84**	S	**Sn**	**10 22 24.1**	**-1.8**
FITZ	**Fitzroy Crossi**	**5.02**	**84**	Pn	**Pn**	**10 21 28.6**	**+0.7**
	comp=Z,7.3nm,0.3s,baz=280,slow=8.6,SNR=188						
FITZ				Sn	**Sn**	**10 22 25.9**	**0.0**
	comp=Z,38nm,0.3s,baz=336,slow=20,SNR=9.5						
FITZ				LR	LR	10 23 51.4	
	comp=Z,280nm,18.7s,baz=192,slow=44						
	comp=Z,25nm,0.4s						
FITZ	**Fitzroy Crossi**	**5.02**	**84**	P	**Pn**	**10 21 28.5**	**+0.7**
GIRL	**Giralia**	**6.98**	**235**		**Pn**	**10 21 53.7**	**-1.1**
GIRL	**Giralia**	**6.98**	**235**	P	**Pn**	**10 21 53.9**	**-1.0**
	comp=Z,102nm,0.9s						
GIRL				S	**Sn**	**10 23 07.2**	**-7.1**
MEEK	**Meekatharra**	**8.08**	**191**	P	**Pn**	**10 22 11.0**	**+1.1**
	comp=Z,71nm,0.5s,comp=Z,1.0nm						
MEEK	**Meekatharra**	**8.08**	**191**	S	**Sn**	**10 23 37.8**	**-3.6**
MEEK	**Meekatharra**	**8.08**	**191**	P	**Pn**	**10 22 11.2**	**+1.3**
CVQOZ	**Cooralya Stati**	**8.20**	**225**	P	**Pn**	**10 22 10.8**	**-0.9**
	comp=Z,373nm,0.8s,comp=Z,2.9nm						
CVQOZ				S	Sn	10 23 36.7	-7.8
KNRA	**Kununurra**	**8.54**	**71**		**Pn**	**10 22 14.9**	**-1.4**
KNRA	**Kununurra**	**8.54**	**71**	P	**Pn**	**10 22 15.6**	**-0.7**
	comp=Z,70nm,0.7s,comp=Z,0.4nm						
KNRA				S	**Sn**	**10 23 47.6**	**-5.2**
BATI	**Baumata**	**9.01**	**21**	Pn	**Pn**	**10 22 26.9**	**+4.2**
	comp=Z,8.3nm,0.3s,baz=227,slow=4.7,SNR=6.4						
BATI				Sn	**Sn**	**10 24 09.2**	**+4.9**
	comp=Z,8.2nm,0.3s,baz=165,slow=18,SNR=5.8						
	comp=Z,17nm,0.3s						
SOEI	**Soe**	**9.64**	**23**	Pn	Pn	10 22 26.5	-5.1
WRKA	**Warakurna**	**9.68**	**132**	P	**

COEN Coen 22.36 81 P **P** **10 25 09.7 -1.2**
COEN IAmb IAmb 10 25 36.5
comp=Z,21nm,1.1s

SDAN Sedan 23.07 137 P **P** **10 25 20.2 +1.9**
comp=Z,13nm,1.3s

STKA Stephens Creek 23.18 129 P **P** **10 25 20.3 +0.9**
comp=Z,10nm,0.8s,baz=306,slow=9.4,SNR=11
STKA S **S** **10 29 37.9 +6.6**
comp=Z,6.2nm,0.7s,baz=262,slow=15,SNR=3.5
comp=Z,10nm,0.8s

CTAO Charters Tower 24.43 98 P **P** **10 25 31.1 -0.5**
CTAO IAmb IAmb 10 25 42.2
comp=Z,14nm,1.4s

CMAR Chiang Mai Arr 42.51 329 P P 10 28 13.6 +5.3
comp=Z,0.4nm,0.3s,baz=167,slow=7.8,SNR=1.7
comp=Z,0.4nm,0.3s

CASY Casey 48.00 185 P **P** **10 28 50.2 -1.2**
CASY IAmb IAmb 10 29 06.8
comp=Z,8.8nm,1.1s

PZH PanZhiHua 48.44 337 P **P** **10 28 54.3 -1.0**
NJ2 Nanjing 50.48 358 *eP* **P** **10 29 08.0 -2.6**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s

XAN Xi'an 53.56 348 P **P** **10 29 38.3 +4.6**
XAN pmax pmax
comp=Z,5.0nm,0.7s

KSRS Korea Array 56.29 7 P **P** **10 29 57.8 +4.5**
comp=Z,1.3nm,0.6s,baz=190,slow=7.9,SNR=5.9
comp=Z,1.3nm,0.6s

HHC Hu-ho-hao-te 59.80 352 *eP* **P** **10 30 17.1 -0.9**
HHC pmax pmax
comp=Z,13nm,0.7s

VNDA Vanda 62.26 171 P **P** **10 30 34.3 +0.2**
VNDA Vanda 62.26 171 P **P** **10 30 34.9 +0.8**
comp=Z,1.1nm,0.8s,baz=302,slow=7.1,SNR=6.3
comp=Z,1.1nm,0.8s

XLT XiLinHaoTe 62.41 356 *eP* **P** **10 30 31.3 -4.3**
XLT sP pP 10 30 39.5 +0.7
XLT pmax pmax
comp=Z,9.0nm,0.4s

USRK Ussuriysk Ar. 63.48 9 P **P** **10 30 46.4 +3.8**
comp=Z,2.0nm,0.8s,baz=216,slow=6.9,SNR=5.4
comp=Z,2.0nm,0.8s

SONM Songino Array 67.40 350 P **P** **10 31 12.5 +4.4**
comp=Z,1.2nm,0.8s,baz=162,slow=6.1,SNR=5.2
comp=Z,1.2nm,0.8s

WMQ Urumqi 69.05 335 *eP* **P** **10 31 18.1 -0.4**
WMQ pmax pmax
comp=Z,42nm,0.9s

QSPA South Pole Qui 71.36 180 P **P** **10 31 31.3 -1.2**
QSPA IAmb IAmb 10 31 34.4
comp=Z,6.8nm,1.1s

QSPA South Pole Qui 71.36 180 P **P** **10 31 32.7 +0.2**
comp=Z,3.4nm,0.9s,baz=328,slow=1.8,SNR=13
comp=Z,3.4nm,0.9s

MKAR Makanchi Array 73.68 334 P **P** **10 31 49.7 +3.4**
comp=Z,1.1nm,0.7s,baz=139,slow=7.7,SNR=7.7
MKAR LR LR 11 10 07.3
comp=Z,30nm,18.1s,baz=16,slow=40
comp=Z,1.1nm,0.7s

KURBB Kurchatov Arra 78.22 334 P **P** **10 32 16.0 +3.9**
comp=Z,1.2nm,0.7s,baz=147,slow=4.8,SNR=8.3
KURBB LR LR 11 10 52.1
comp=Z,56nm,18.8s,baz=166,slow=39
comp=Z,1.2nm,0.7s

ZALV Zalesovo Beam 78.53 339 P **P** **10 32 18.4 +4.6**
comp=Z,1.0nm,0.6s,baz=116,slow=3.4,SNR=3.9
ZALV LR LR 11 08 26.5
comp=Z,55nm,21.9s,baz=72,slow=37
comp=Z,1.0nm,0.6s

SNAA Sanae 82.08 195 ⇑P **P** **10 32 33.1 +0.2**
SNAA Sanae 82.08 195 P **P** **10 32 33.1 +0.2**
comp=Z,1.6nm,0.9s,baz=148,slow=4.8,SNR=5.5
comp=Z,1.6nm,0.9s

BELA Belgrano 2 82.55 185 P **P** **10 32 35.0 -0.1**
BELA IAmb IAmb 10 32 36.2
comp=Z,3.7nm,1.0s

BVAR Borovoye Array 83.45 332 LR LR 11 15 00.1
comp=Z,80nm,20.2s,baz=59,slow=39

VNA3 Neumayer Olymp 84.03 194 ⇑P **P** **10 32 43.1 +0.2**
AKTO Aktyubinsk 87.93 325 LR LR 11 18 04.0
comp=Z,56nm,20.4s,baz=298,slow=39

ARTI Arti 90.99 331 LR LR 11 18 27.7
comp=Z,85nm,20.8s,baz=48,slow=38

BELG Belogornoye 94.57 324 LR LR 11 25 01.0
comp=Z,35nm,18.1s,baz=343,slow=41

KIRV Kirov 96.29 330 LR LR 11 22 39.0
comp=Z,66nm,19.5s,baz=33,slow=39

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*RSNC **17** 10:25:41.7±0.6, 10°N±3°×7°0W±°, h0km, M3.7, mB4.7, mb4.6, ML3.4, Mw(mB)3.9*
*FUNV **17** 10:25:42.2,9.2°N×69.7°1W, h5km, MW3.7*
ISC 17 10:25:39.7±1.1, 10°08N±0°06×69°73W±0°04, h6km, n28, σ1°79/42, 1C-2D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**1.49**	**217**	P	**Pn**	**10 26 06.6**	**-0.6**
SDV				S	**Sn**	**10 26 25.1**	**-2.0**
BAUV	**El Baul**	**2.01**	**124**	⇓*eP*	**Pn**	**10 26 14.9**	**+0.6**
BAUV				*eS*	**Sn**	**10 26 39.6**	**-0.1**
BENV	**Beln**	**2.10**	**93**	*eP*	**Pn**	**10 26 17.4**	**+1.9**
BENV				*eS*	**Sn**	**10 26 43.2**	**+1.2**
TACV	**Tcata**	**2.66**	**89**	⇑*eP*	**Pn**	**10 26 24.5**	**+1.3**
TACV				*eS*	**Sn**	**10 26 57.0**	**+1.2**
URIC	**Uribia, Colomb**	**2.75**	**306**	P	**Pn**	**10 26 24.8**	**+0.5**
MCQV	**Machiques**	**2.77**	**270**	*eP*	**Pn**	**10 26 26.7**	**+2.0**
FUNV	**FUNVISIS**	**2.90**	**82**	*eP*	**Pn**	**10 26 27.9**	**+1.4**
CRJC	**Cerrejon, Guaj**	**3.24**	**287**	P	**Pn**	**10 26 31.4**	**+0.2**
CRJC				S	**Sn**	**10 27 10.1**	**-0.1**
CAPV	**Capacho**	**3.38**	**229**	*eP*	**Pn**	**10 26 32.9**	**-0.3**
CAPV				*eS*	**Sn**	**10 27 12.0**	**-1.7**
OCAC	**Ocana**	**3.99**	**243**	P	**Pn**	**10 26 43.2**	**+1.6**
OCAC				S	**Sn**	**10 27 29.8**	**+0.9**
PAMC	**Pamplona, Colo**	**4.01**	**227**	P	**Pn**	**10 26 43.8**	**+1.6**
PAMC				S	**Sn**	**10 27 30.6**	**+0.9**
CACV	**CAICARA DEL OR**	**4.02**	**128**	⇓*eP*	**Pb**	**10 26 48.1**	**-3.0**
TAMC	**Tame, Arauca**	**4.16**	**210**	P	**Pn**	**10 26 46.1**	**+2.2**
TAMC				S	**Sn**	**10 27 35.0**	**+2.1**
ARGC	**Ariguani, Magd**	**4.46**	**268**	P	**Pn**	**10 26 48.8**	**+0.9**
ARGC				S	**Sn**	**10 27 41.1**	**+1.0**
BARC	**Barichara**	**4.87**	**225**	P	**Pn**	**10 26 56.8**	**+3.0**
BARC				S	**Sn**	**10 27 48.4**	**-2.3**
PCRV	**Puerto La Cruz**	**5.01**	**89**	*eP*	**Pn**	**10 26 56.6**	**+1.0**
BRJC	**Barrancabermej**	**5.03**	**232**	P	**Pn**	**10 26 58.0**	**+2.2**
BRJC				S	**Sn**	**10 27 56.6**	**+2.2**
RUSC	**La Rusia**	**5.33**	**219**	P	**Pn**	**10 27 01.9**	**+1.6**
RUSC	790nm34nm,0.5s			P	**Pn**	**10 27 02.7**	**+2.4**
RUSC	790nm34nm,0.5s			P	**Pn**	**10 27 02.8**	**+2.4**
ZARC	**Zaragoza, Cauc**	**5.69**	**243**	P	**Pn**	**10 27 05.0**	**+0.2**
	1µm29nm,0.5s						
PTBC	**PUERTO BERRIO,**	**5.86**	**233**	P	**Pn**	**10 27 06.9**	**-0.3**
UREC	**San Jose de Ur**	**6.19**	**248**	P	**Pn**	**10 27 10.3**	**-1.4**
	437nm17nm,0.5s						
NORC	**Norcasia**	**6.79**	**229**	P	**Pn**	**10 27 20.9**	**+0.9**
	22nm,0.6s						
ROSC	**El Rosal**	**6.92**	**221**	P	**Pn**	**10 27 26.6**	**+4.5**
	33nm,0.6s						
HELC	**Santa Helena**	**6.92**	**236**	P	**Pn**	**10 27 24.1**	**+2.0**
GUY2C	**Guyana, Caldas**	**7.38**	**230**	P	**Pn**	**10 27 30.4**	**+1.8**
	461nm28nm,0.5s						
PRAC	**Prado**	**8.14**	**219**	P	**Pn**	**10 27 39.5**	**+0.9**
	18nm,0.5s						
ORTC	**Ortega, Tolima**	**8.22**	**222**	P	**Pn**	**10 27 40.7**	**+1.0**
	28nm,0.8s						
PLMC	**San Jos del P**	**8.29**	**232**	P	**Pn**	**10 27 42.6**	**+2.0**

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*IDC **17** 10:31:24.0±1.9, 31°30S×177°65W, h0km, mb3.6/4, mbtmp3.7/6, ML3.7/2, Error ellipse: s-maj=46.9km s-min=21.3km az=90.0*
ISC 17 10:31:27.6±1.4, 31°24S±0°08×177°7W±0°3, h27km, n6, σ1°33/8, mb3.6/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.99**	**355**	Pn	**Pn**	**10 31 59.6**	**+0.1**
	62nm,0.3s,baz=105,slow=20,SNR=1.4						
RAO				Sn	**Sb**	**10 32 26.4**	**-1.2**
	97nm,0.3s,baz=114,slow=20,SNR=2.4						
	156nm,0.3s						
URZ	**Urewera**	**8.19**	**210**	Pn	**Pn**	**10 33 23.2**	**-1.4**
	0.4nm,0.3s,baz=19,slow=17,SNR=6.1						
URZ				Sn	**Sn**	**10 34 55.8**	**-0.3**
	0.7nm,0.3s,baz=184,slow=16,SNR=1.3						
	9.4nm,1.0s						
ASAR	**Alice Springs**	**43.30**	**268**	P	**P**	**10 39 28.3**	**+0.9**
	0.4nm,0.7s,baz=108,slow=7.2,SNR=4.7						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**44.37**	**273**	P	**P**	**10 39 36.9**	**+0.9**
	0.2nm,0.4s,baz=113,slow=7.8,SNR=5.8						
	0.2nm,0.4s						
QSPA	**South Pole Qui**	**58.87**	**180**	P	**P**	**10 41 23.1**	**-0.8**
	1.2nm,1.1s,baz=72,slow=3.2,SNR=2.1						
	1.2nm,1.1s						
MAW	**Mawson**	**71.60**	**201**	P	**P**	**10 42 47.9**	**+1.7**
	0.6nm,0.5s,baz=142,slow=18,SNR=1.8						
	0.6nm,0.5s						

AUST 17 10:44:10.5±0.7, 19°S±5°×12°1E±°, h10km, mb4.0/3, ML2.9/6, Error ellipse: s-maj=13.1km s-min=5.1km az=139.8, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.75**	**196**	P	Pn	10 44 55.4	+0.8
MBWA				S	Sn	10 45 28.8	+0.9
PSAC1	**Pilbara Seismi**	**3.09**	**193**	P	Pn	10 44 59.2	-0.2
PSAC1				S	Sn	10 45 36.6	+0.2
PSA00	**Pilbara Seismi**	**3.12**	**192**	P	Pn	10 45 00.4	+0.7
PSA00				S	Sn	10 45 37.6	+0.5
FITZ	**Fitzroy Crossi**	**4.85**	**86**	P	Pn	10 45 24.9	+1.3
FITZ	**Fitzroy Crossi**	**4.85**	**86**	S	Sn	10 46 19.8	-0.1
GIRL	**Giralia**	**7.21**	**234**	P	Pn	10 45 52.8	-3.1
GIRL				S	Sn	10 47 10.4	-7.5
MEEK	**Meekatharra**	**8.29**	**192**	P	Pn	10 46 11.3	+0.5
	comp=Z,17nm,2.0s,comp=Z,0.0nm						
MEEK	**Meekatharra**	**8.29**	**192**	S	Sn	10 47 40.7	-3.9
KNRA	**Kununurra**	**8.34**	**72**	P	Pn	10 46 10.3	-1.2
	comp=Z,20nm,2.1s,comp=Z,0.0nm						
KNRA				S	Sn	10 47 44.1	-1.7
WRKA	**Warakurna**	**9.69**	**133**	P	Pn	10 46 32.1	+2.0
WRKA				S	Sn	10 48 20.0	+0.8
MORW	**Morawa**	**11.29**	**201**	P	Pn	10 46 50.1	-1.8
	comp=Z,7.9nm,1.5s						
MORW	**Morawa**	**11.29**	**201**	S	Sn	10 48 47.3	-11

IDC 17 10:46:10.4±10.0, 31°32S×177°17W, h0km, mb3.9/3, mbtmp4.0/5, ML3.6/2, Error ellipse: s-maj=186.5km s-min=27.2km az=96.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.16**	**342**	Pn	Pn	10 46 47.6	0.0
	68nm,0.3s,baz=197,slow=19,SNR=1.6						
RAO				Sn	Sn	10 47 15.1	+0.1
	381nm,0.3s,baz=150,slow=20,SNR=6.7						
	169nm,0.3s						
URZ	**Urewera**	**8.37**	**213**	Pn	Pn	10 48 10.7	-2.2
	0.2nm,0.3s,baz=59,slow=5.9,SNR=2.1						
URZ				Sn	Sn	10 49 42.7	-5.4
	2.0nm,0.3s,baz=349,slow=22,SNR=6.1						
	16nm,1.0s						
STKA	**Stephens Creek**	**34.98**	**258**	P	P	10 53 04.7	+0.3
	3.0nm,0.8s,baz=102,slow=9.3,SNR=3.5						
	3.0nm,0.8s						
ASAR	**Alice Springs**	**43.78**	**268**	P	P	10 54 18.1	+0.1
	0.7nm,0.6s,baz=104,slow=7.4,SNR=10						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**44.85**	**273**	P	P	10 54 26.6	0.0
	1.0nm,0.6s,baz=112,slow=7.9,SNR=13						
	1.0nm,0.6s						

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*UCR **17** 11:10:17.6±1.1, 10°14N×85°71W, h23km±2km, MW3.9*
*CATAC **17** 11:10:17.3±0.4, 10°N±3°×8°6W±°, h14km±4km, M3.4/10, MLv3.4/10, Error ellipse: s-maj=7.3km s-min=5.5km az=18.9, confirmed*
ISC 17 11:10:18.2±1.1, 10°13N±0°03×85°69W±0°04, h26km±6km, n102, σ0°80/145, 22C-23D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUD3	**Juan Diaz 3**	**0.15**	**78**	⇑*iP*	**Pb**	**11 10 23.4**	**-0.2**
JUD3				*eS*	**Sb**	**11 10 27.6**	**+0.3**
SACU	**Santa Cruz**	**0.17**	**39**	⇑*iP*	**Pb**	**11 10 23.4**	**-0.2**
SACU				*eS*	**Sb**	**11 10 27.8**	**+0.5**
INDI	**Punta indio, G**	**0.32**	**145**	P	**Pb**	**11 10 25.3**	**-0.4**
INDI				S	**Sb**	**11 10 31.3**	**+0.5**
PLVR	**Palo Verde**	**0.40**	**57**	⇓*eP*	**Pb**	**11 10 26.6**	**-0.3**
PLVR				*eS*	**Sb**	**11 10 33.5**	**+0.8**
NYURE	**Nandayure**	**0.45**	**107**	⇓*iP*	**Pb**	**11 10 27.1**	**-0.6**
NYURE				*eS*	**Sb**	**11 10 34.3**	**+0.1**
ALIBA	**Liberia Airpor**	**0.48**	**17**	⇑*iP*	**Pb**	**11 10 28.5**	**+0.3**
ALIBA				*eS*	**Sn**	**11 10 36.1**	**-0.8**
ELVJ	**El Viejo (Barb**	**0.48**	**49**	⇑*iP*	**Pb**	**11 10 25.9**	**-2.3**
ELVJ				*eS*	**Sb**	**11 10 32.0**	**-2.9**
ELI1	**Hacienda Flor**	**0.53**	**15**	⇑*iP*	**Pn**	**11 10 29.4**	**-0.7**
ELI1				*eS*	**Sn**	**11 10 38.7**	**+0.6**
ERIA	**Liberia**	**0.56**	**26**	⇑*iP*	**Pb**	**11 10 29.6**	**+0.1**
ERIA				*eS*	**Sn**	**11 10 38.0**	**-0.9**
CNAS	**Canas**	**0.66**	**63**	⇓*iP*	**Pn**	**11 10 32.1**	**+0.2**
CNAS				*eS*	**Sn**	**11 10 42.2**	**+0.7**
LAPC	**Finca la Perla**	**0.68**	**22**	⇑*iP*	**Pb**	**11 10 31.0**	**-0.5**
LAPC				*eS*	**Sb**	**11 10 40.7**	**+0.1**
GPS3	**Bodega del ICE**	**0.70**	**27**	⇑*iP*	**Pn**	**11 10 35.3**	**+2.8**
GPS2	**Hotel Rincn d**	**0.70**	**28**	⇑*iP*	**Pb**	**11 10 31.5**	**-0.4**
GPS2				*eS*	**Sn**	**11 10 41.9**	**-0.7**
INVE	**Universidad In**	**0.71**	**61**	⇓*iP*	**Pb**	**11 10 31.8**	**-0.9**
INVE				*eS*	**Sn**	**11 10 42.1**	**-0.5**
COLC	**Colonia**	**0.71**	**42**	⇑*eP*	**Pb**	**11 10 31.7**	**-0.4**
COLC				*eS*	**Sn**	**11 10 42.7**	**-0.2**
GPS1	**Guardaparques**	**0.72**	**28**	⇑*iP*	**Pb**	**11 10 31.8**	**-0.5**
GPS1				*eS*	**Sb**	**11 10 42.1**	**+0.3**
VRLE	**La Escondida,**	**0.73**	**26**	⇑*iP*	**Pb**	**11 10 31.8**	**-0.6**
VRLE				*eS*	**Sb**	**11 10 42.2**	**+0.2**
CUI	**Cuipilapa**	**0.73**	**45**	⇑*iP*	**Pb**	**11 10 32.0**	**-0.5**
CUI				*eS*	**Sn**	**11 10 42.7**	**-0.7**
JUNT	**Juntas**	**0.74**	**78**	⇓*iP*	**Pb**	**11 10 31.7**	**-0.8**
JUNT				*eS*	**Sb**	**11 10 42.1**	**0.0**
JTS	**Las Juntas de**	**0.74**	**78**	⇓*iP*	**Pb**	**11 10 31.7**	**-0.8**
JTS				*eS*	**Sb**	**11 10 42.1**	**-0.3**
JTS	**Las Juntas de**	**0.74**	**78**	P	**Pb**	**11 10 31.8**	**-0.8**
JTS				S	**Sb**	**11 10 42.7**	**+0.3**
PG27	**Guanacaste Pro**	**0.76**	**23**	⇑*iP*	**Pb**	**11 10 32.5**	**-0.5**
PG27				*eS*	**Sb**	**11 10 43.1**	**+0.2**
VORI	**VORI**	**0.76**	**26**	*eP*	**Pb**	**11 10 32.5**	**-0.5**
VORI				*eS*	**Sb**	**11 10 43.2**	**+0.1**
HORNC	**Hornillas**	**0.77**	**41**	⇑*iP*	**Pb**	**11 10 32.3**	**-0.7**
HORNC				*eS*	**Sb**	**11 10 43.0**	**-0.1**
MESS	**Mesas**	**0.78**	**39**	⇑*iP*	**Pb**	**11 10 32.7**	**-0.5**
MESS				*eS*	**Sb**	**11 10 43.6**	**+0.2**
TILA	**Tilaran**	**0.78**	**65**	⇓*iP*	**Pb**	**11 10 32.7**	**-0.6**
TILA				*eS*	**Sb**	**11 10 43.6**	**0.0**
TIMP	**Tierras Morena**	**0.80**	**56**	⇓*iP*	**Pb**	**11 10 32.9**	**-0.7**
TIMP				*eS*	**Sb**	**11 10 44.1**	**+0.1**
CBL1	**Cabuya**	**0.80**	**132**	⇓*eP*	**Pb**	**11 10 31.9**	**-1.7**
PAQE	**Paquera**	**0.81**	**113**	⇓*iP*	**Pb**	**11 10 32.6**	**-1.0**
PAQE				*eS*	**Sb**	**11 10 44.4**	**+0.2**
BUAI	**Buenos Aires**	**0.82**	**26**	*eP*	**Pb**	**11 10 33.4**	**-0.5**
BUAI				*eS*	**Sb**	**11 10 43.8**	**-0.8**
MOTZ	**Rio Naranjo**	**0.82**	**48**	*iP*	**Pb**	**11 10 33.5**	**-0.4**
MOTZ				*eS*	**Sn**	**11 10 45.4**	**-0.1**
PEJA	**Penjamo Buenos**	**0.84**	**26**	⇑*iP*	**Pb**	**11 10 34.2**	**-0.3**
PEJA				*eS*	**Sb**	**11 10 45.2**	**+0.1**
MTEVE	**Monteverde**	**0.87**	**78**	⇓*iP*	**Pb**	**11 10 33.9**	**-0.9**
MTEVE				*eS*	**Sb**	**11 10 46.1**	**0.0**
VMAR	**Armenia, Volca**	**0.88**	**40**	⇑*eP*	**Pb**	**11 10 34.5**	**-0.5**
VMAR				*eS*	**Sn**	**11 10 46.8**	**-0.2**
TENO	**El Achiote**	**0.90**	**51**	⇓*iP*	**Pb**	**11 10 33.7**	**-1.6**
TENO				*eS*	**Sb**	**11 10 45.5**	**-1.5**
QUEB	**Quebradon, Cot**	**0.92**	**58**	⇓*iP*	**Pb**	**11 10 35.0**	**-0.6**
QUEB				*eS*	**Sn**	**11 10 47.7**	**-0.3**
LCRUZ	**La Cruz**	**0.94**	**4**	⇓*iP*	**Pb**	**11 10 35.3**	**-0.6**
LCRUZ				*eS*	**Sn**	**11 10 50.6**	**+2.2**
TABAC	**Tabacon**	**0.98**	**68**	⇓*iP*	**Pb**	**11 10 36.2**	**-0.4**
TABAC				*eS*	**Sn**	**11 10 50.5**	**+1.0**
CASO	**Castillo**	**0.99**	**72**	⇓*eP*	**Pb**	**11 10 36.0**	**-0.8**
CASO				*eS*	**Sn**	**11 10 49.7**	**+0.1**
UPAL	**Upala**	**1.01**	**41**	*eP*	**Pn**	**11 10 36.9**	**+0.1**
VARE2	**V. Arenal**	**1.01**	**71**	⇓*iP*	**Pb**	**11 10 36.7**	**-0.5**
ARZA	**Esparza**	**1.02**	**98**	⇓*iP*	**Pn**	**11 10 35.8**	**-1.0**
ARZA				*eS*	**Sb**	**11 10 49.5**	**-0.7**
CEDE	**Laguna Cedeo**	**1.03**	**70**	⇑*iP*	**Pb**	**11 10 37.4**	**-0.1**
CEDE				*eS*	**Sn**	**11 10 51.7**	**+0.9**
VACR	**Volcan Arenal**	**1.05**	**71**	⇓*eP*	**Pn**	**11 10 37.1**	**-0.2**
VACR				*eS*	**Sn**	**11 10 52.8**	**+1.6**
FORC	**Fortuna**	**1.06**	**72**	*eP*	**Pn**	**11 10 37.3**	**-0.1**
FORC				*eS*	**Sn**	**11 10 51.9**	**+0.6**
CARN	**Rivas**	**1.06**	**9**	*eP*	**Pn**	**11 10 37.9**	**-0.1**
CARN	**Rivas**	**1.06**	**9**	P	**Pn**	**11 10 37.2**	**-0.3**
CARN				S	**Sn**	**11 10 51.2**	**-0.2**
SOCE	**Pocosol**	**1.08**	**77**	⇓*eP*	**Sn**	**11 10 37.3**	**-0.5**
SOCE				*eS*	**Sn**	**11 10 53.9**	**+1.9**
SOCE	**Pocosol**	**1.08**	**77**	P	**Sn**	**11 10 37.2**	**-0.5**
SOCE	**Pocosol**	**1.08**	**77**	S	**Sn**	**11 10 52.0**	**0.0**
SRA1	**San Ramn**	**1.19**	**92**	⇓*iP*	**Pn**	**11 10 38.8**	**-0.6**
RAMO	**San Ramon**	**1.21**	**92**	⇑*iP*	**Pn**	**11 10 39.3**	**-0.2**
PALD	**Palmares**	**1.24**	**94**	⇑*iP*	**Pn**	**11 10 39.6**	**-0.4**
QUEU	**Ciudad Quesada**	**1.25**	**81**	*eP*	**Pb**	**11 10 41.1**	**-0.1**
ZARE	**Zarcero**	**1.28**	**88**	*eP*	**Pn**	**11 10 41.0**	**+0.3**
ATEO	**Atenas**	**1.30**	**97**	⇓*iP*	**Pn**	**11 10 40.1**	**-0.6**
ATEO				*eS*	**Sn**	**11 10 56.2**	**-1.1**
VPL2	**V. Platanar**	**1.30**	**82**	*eP*	**Pn**	**11 10 41.2**	**+0.4**
LCHIL	**Los Chiles**	**1.31**	**47**	*eP*	**Pn**	**11 10 40.8**	**-0.1**
ARIN	**Rivas**	**1.32**	**354**	S	**Sn**	**11 10 57.9**	**+0.1**
ARIN	**Rivas**	**1.32**	**354**	P	**Pn**	**11 10 40.5**	**-0.5**
SARCI	**Sarchi**	**1.32**	**92**	*eP*	**Pn**	**11 10 40.6**	**-0.6**
TCS1	**Tacares**	**1.37**	**94**	*eP*	**Pn**	**11 10 41.9**	**+0.1**
JAPN	**Al SSO del Vol**	**1.38**	**1**	*eP*	Pn	11 10 32.2	-10
COVE	**Coope Vega, Sa**	**1.40**	**65**	P	**Pn**	**11 10 41.9**	**-0.1**
COVE	**Coope Vega, Sa**	**1.40**	**65**	S	**Sb**	**11 11 00.2**	**-0.8**
BELE	**Belen**	**1.49**	**96**	*eP*	**Pn**	**11 10 43.2**	**-0.2**
SANTA	**Santa Ana**	**1.50**	**98**	*eP*	**Pn**	**11 10 43.0**	**-0.6**
PAR1A	**Puntarenas Pro**	**1.51**	**111**	*eP*	**Pn**	**11 10 43.2**	**-0.5**
ACOS	**Acosta**	**1.54**	**102**	*eP*	**Pn**	**11 10 44.2**	**0.0**
PICV	**PH. Pirrs**	**1.56**	**109**	*eP*	**Pn**	**11 10 44.0**	**-0.3**
HDC	**Heredia**	**1.56**	**95**	*eP*	**Pn**	**11 10 44.4**	**0.0**
VBV1	**V. Barva**	**1.57**	**91**	*eP*	**Pn**	**11 10 44.7**	**+0.1**
AMPA	**Desamparados**	**1.62**	**98**	*eP*	**Pn**	**11 10 48.8**	**+1.2**
LCR2	**La Lucha 2**	**1.71**	**103**	⇓*eP*	**Pn**	**11 10 46.1**	**-0.4**
CVIMO	**Finca Echandi**	**1.73**	**93**	*eP*	**Pn**	**11 10 46.8**	**+0.1**
PIEC	**Cerro El Cedra**	**1.78**	**106**	⇑*eP*	**Pn**	**11 10 47.6**	**+0.1**
VICA	**Volcano Irazu**	**1.82**	**94**	*eP*	**Pn**	**11 10 48.1**	**-0.2**
NANN	**Nandasmo**	**1.84**	**347**	P	**Pn**	**11 10 49.3**	**+1.1**
NANN	**Nandasmo**	**1.84**	**347**	S	**Sn**	**11 11 11.6**	**+0.8**
PCAYA	**Pacayas**	**1.86**	**96**	*eP*	**Pn**	**11 10 49.7**	**+1.0**
VTLA	**Turrialba Volc**	**1.89**	**94**	*eP*	**Pn**	**11 10 50.7**	**+1.5**
ACON	**Acoyapa**	**1.89**	**16**	*eP*	**Pn**	**11 10 49.3**	**+0.4**
ACON	**Acoyapa**	**1.89**	**16**	P	**Pn**	**11 10 49.4**	**+0.4**
CVTQ	**Turrialba Volc**	**1.90**	**94**	*eP*	**Pn**	**11 10 50.1**	**+0.8**
VTR0	**Volcan Turrial**	**1.91**	**93**	*eP*	**Pn**	**11 10 54.5**	**+1.9**
CVTR	**Volcan Turrial**	**1.91**	**93**	*eP*	**Pn**	**11 10 49.8**	**+0.3**
CVTV	**Tajo**	**1.92**	**94**	*eP*	**Pn**	**11 10 50.6**	**+1.1**
VTCV	**VTCV, Calle Va**	**1.94**	**94**	*eP*	**Pn**	**11 10 50.7**	**+1.0**
TRT2	**Tortugero**	**1.97**	**77**	*eP*	**Pb**	**11 10 55.2**	**+1.8**
RESJ	**San Isidro (Tu**	**2.02**	**93**	*eP*	**Pn**	**11 10 51.5**	**+0.8**
LCOCO	**El Coco**	**2.10**	**91**	*eP*	**Pn**	**11 10 53.7**	**+1.9**
COPN	**Copaltepe**	**2.22**	**337**	*eP*	**Pn**	**11 10 52.9**	**-0.5**
COPN	**Copaltepe**	**2.22**	**337**	P	**Pn**	**11 10 52.8**	**-0.5**
SAJE	**San Jernim**	**2.29**	**110**	*eP*	**Pn**	**11 10 54.4**	**-0.1**
BOAB	**BOACO BROADBAN**	**2.30**	**1**	P	**Pn**	**11 10 54.0**	**-0.5**
EDPE	**Pejibaye, P**	**2.30**	**115**	*eP*	**Pn**	**11 10 55.2**	**+0.6**
MOMN	**Momotombo**	**2.41**	**340**	P	**Pn**	**11 10 56.1**	**+0.1**
CNGN	**Cerro Negro**	**2.55**	**337**	*eP*	**Pn**	**11 10 57.8**	**-0.2**
DRK0	**Durika**	**2.56**	**110**	*eP*	**Pn**	**11 10 58.0**	**-0.3**
ALCO	**Alturas Coton,**	**3.05**	**112**	*eP*	**Pn**	**11 11 04.5**	**-0.5**
CLLRA	**Cordillera,**	**3.33**	**114**	*eP*	**Pn**	**11 11 09.9**	**+1.1**
KKNTU	**Kakint**[a]	**4.04**	**108**	*eP*	**Pn**	**11 11 18.2**	**-0.3**

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*IDC **17** 11:43:10.1±2.5, 39°28N×74°73E, h0km, mb3.7/6, mbtmp3.6/12, ML3.2/4, MS3.1/4, Error ellipse: s-maj=38.8km s-min=18.5km az=133.0*
*KRNET **17** 11:43:12.3±0.1, 39°49N×74°62E, mb4.1*
*SOME **17** 11:43:13.1, 39°58N×74°55E, h5km*
*NNC **17** 11:43:16.1±2.6, 39°75N×74°66E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=19.7km s-min=12.2km az=166.0*
ISC 17 11:43:12.0±2.8, 39°31N±0°06×74°58E±0°03, h7km±19km, n71, σ1°49/103, mb3.7/5, MS3.2/3, 37C-19D, Southern Xinjiang

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s | Res ISC |

	26nm,0.4s								
KST					*e*S		**Sb**	**11 45 07.7**	**0.0**
	103nm,0.6s								
USP	**Ospenovka**	**3.95**	**359**⇑		*e*P		**Pn**	**11 44 14.0**	**+1.0**
USP			⇑		*e*S		**Sn**	**11 44 59.1**	**-0.5**
IZV	**Izvestkoviy**	**4.02**	**22**		Pg		**Pb**	**11 44 23.0**	**-0.3**
	15nm,0.3s								
IZV					Lg		Lg	11 45 13.3	
	101nm,0.7s								
IZV	**Izvestkoviy**	**4.02**	**22**		*e*P		**Pb**	**11 44 23.0**	**-0.3**
	15nm,0.3s								
IZV					*e*S		**Sb**	**11 45 13.3**	**+1.2**
	101nm,0.7s								
DGS	**Degeres**	**4.03**	**13**		Pg		**Pn**	**11 44 16.6**	**+2.5**
	24nm,0.5s								
DGS					Lg		Lg	11 45 03.2	
	52nm,0.5s								
MTBS	**Maitube**	**4.06**	**20**		Pg		**Pb**	**11 44 23.5**	**-0.3**
	18nm,0.4s								
MTBS					Lg		Lg	11 45 14.2	
	46nm,0.6s								
MTBS	**Maitube**	**4.06**	**20**		*e*P		**Pb**	**11 44 23.5**	**-0.3**
	18nm,0.4s								
MTBS					*e*S		**Sb**	**11 45 14.2**	**+1.0**
	46nm,0.6s								
TNSS	**Tian-Shan**	**4.13**	**25**		Pg		**Pb**	**11 44 24.3**	**-0.9**
	9.3nm,0.5s								
TNSS					Lg		Lg	11 45 15.4	
	17nm,1.0s								
TNSS	**Tian-Shan**	**4.13**	**25**		*e*P		**Pb**	**11 44 24.3**	**-0.9**
	9.3nm,0.5s								
TNSS					*e*S		**Sb**	**11 45 15.4**	**+0.1**
	17nm,1.0s								
PRZ	**Przheval'sk**	**4.29**	**41**⇓		*e*P		**Pn**	**11 44 19.3**	**+1.5**
PRZ			⇓		*e*S		**Sn**	**11 45 08.2**	**0.0**
KOTS	**Kotyrbulak**	**4.36**	**25**		Pg		**Pb**	**11 44 28.9**	**-0.1**
	20nm,0.7s								
KOTS					Lg		Lg	11 45 23.4	
	96nm,0.7s								
KOTS	**Kotyrbulak**	**4.36**	**25**		*e*P		**Pb**	**11 44 28.9**	**-0.1**
	9.8nm,0.5s								
KOTS					*e*S		**Sb**	**11 45 23.6**	**+1.8**
	96nm,0.7s								
KTBS	**Karatobe**	**4.67**	**19**		Pg		**Pb**	**11 44 34.7**	**+0.5**
	13nm,0.5s								
KTBS					Lg		Lg	11 45 33.7	
	96nm,0.6s								
SATY	**Saty**	**4.73**	**36**		Pg		**Pb**	**11 44 35.5**	**+0.3**
	22nm,0.6s								
SATY					Lg		Lg	11 45 34.8	
	56nm,0.6s								
KUU	**Kurty**	**4.76**	**16**		Pg		**Pb**	**11 44 36.0**	**+0.3**
	2.7nm,0.1s								
KUU					Lg		Lg	11 45 35.6	
	82nm,0.7s								
KUU	**Kurty**	**4.76**	**16**		*e*P		**Pb**	**11 44 36.0**	**+0.3**
	2.7nm,0.1s								
KUU					*e*S		**Sb**	**11 45 35.6**	**+2.4**
	82nm,0.7s								
KK31	**Karatay Array**	**4.87**	**322**		Pn		**Pn**	**11 44 27.2**	**+1.5**
	1.0nm,0.2s,baz=127,slow=12,SNR=41								
KK31					⇓Pg		**Pb**	**11 44 39.0**	**+1.4**
	5.2nm,0.5s,baz=138,slow=16,SNR=8.5								
KK31					⇓Sn		**Sn**	**11 45 21.8**	**-0.4**
	4.3nm,0.5s								
KK31					⇑Lg		Lg	11 45 41.9	
	11nm,0.6s								
CHKK	**Chushkaly**	**4.88**	**21**		Pg		**Pb**	**11 44 39.4**	**+1.6**
	9.9nm,0.4s								
CHKK					Lg		Lg	11 45 41.5	
	32nm,0.4s								
CHKK	**Chushkaly**	**4.88**	**21**		*e*P		**Pb**	**11 44 39.4**	**+1.6**
	9.9nm,0.4s								
CHKK					*e*S		**Sb**	**11 45 41.5**	**+4.8**
	32nm,0.4s								
PDGK	**Podgornoye**	**5.46**	**41**	⇓	Pn		**Pn**	**11 44 32.7**	**-1.0**
	3.2nm,0.6s								
PDGK				⇓	Pg		**Pb**	**11 44 46.5**	**-1.1**
	13nm,0.7s								
PDGK				⇑	Lg		Lg	11 45 57.7	
	49nm,1.0s								
ARXS	**Arharly**	**5.46**	**25**		Pg		**Pb**	**11 44 48.6**	**+0.8**
	9.4nm,0.7s								
ARXS					Lg		Lg	11 45 58.7	
	27nm,0.7s								
BLB	**Baldybastay**	**5.60**	**30**		Pg		**Pb**	**11 44 50.4**	**+0.3**
	25nm,0.4s								
BLB					Lg		Lg	11 46 00.4	
	31nm,0.7s								
MKAR	**Makanchi Array**	**9.36**	**35**		Pn		**Pn**	**11 45 27.1**	**-0.2**
	0.1nm,0.3s,baz=291,slow=22,SNR=2.3								
MKAR					Lg		Lg	11 48 03.9	
	0.1nm,0.3s,baz=220,slow=28,SNR=3.7								
	0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**11.65**	**13**		Pn		**Pn**	**11 45 57.9**	**-0.6**
	0.1nm,0.4s,baz=198,slow=12,SNR=1.4								
KURBB					Lg		Lg	11 49 09.2	
	baz=194,slow=29,SNR=4.1								
BVAR	**Borovoye Array**	**14.01**	**350**		Pn		**Pn**	**11 46 29.8**	**-1.0**
	0.4nm,0.5s,baz=153,slow=41,SNR=1.3								
AB31	**Akbulak array**	**14.42**	**318**	⇓	P		**Pn**	**11 46 34.4**	**-1.9**
	2.8nm,0.7s,baz=129,slow=12,SNR=22								
AKTO	**Aktyubinsk**	**16.13**	**319**	⇑	P		**Pn**	**11 46 58.1**	**-0.9**
	2.7nm,1.0s								
AKTO	**Aktyubinsk**	**16.13**	**319**		Pn		**Pn**	**11 46 58.5**	**-0.4**
	0.3nm,0.3s,baz=108,slow=12,SNR=5.6								
	1.7nm,0.5s								
ZALV	**Zalesovo Beam**	**16.21**	**22**		Pn		**Pn**	**11 46 59.3**	**-0.8**
	0.1nm,0.3s,baz=290,slow=42,SNR=1.7								
	0.4nm,0.3s								
ARTI	**Arti**	**20.16**	**333**		P		**P**	**11 47 46.1**	**-0.5**
	1.4nm,0.3s,baz=144,slow=7.4,SNR=3.9								
	1.4nm,0.3s								
SONM	**Songino Array**	**24.44**	**59**		LR		LR	11 59 10.2	
	comp=Z,70nm,18.9s,baz=232,slow=39								
BRTR	**Keskin Array B**	**31.39**	**284**		P		**P**	**11 49 34.1**	**+0.6**
	0.6nm,0.5s,baz=90,slow=9.9,SNR=3.9								
	0.6nm,0.5s								
FINES	**FINESS Array B**	**36.83**	**323**		P		**P**	**11 50 19.9**	**-0.4**
	0.9nm,0.7s,baz=101,slow=9.9,SNR=7.3								
	0.9nm,0.7s								
ARCES	**ARCESS Array B**	**39.70**	**335**		P		**P**	**11 50 43.5**	**-0.9**
	1.5nm,0.7s,baz=96,slow=9.9,SNR=5.8								
	1.5nm,0.7s								
GERES	**GERESS Array B**	**43.68**	**303**		P		**P**	**11 51 17.8**	**+0.4**
	0.5nm,0.4s,baz=117,slow=3.4,SNR=1.9								
	0.5nm,0.4s								
NOA	**NORSAR Array B**	**43.90**	**321**		P		**P**	**11 51 17.5**	**-1.4**
	0.3nm,0.5s,baz=100,slow=8.0,SNR=2.7								
	0.3nm,0.5s								
YKA	**Yellowknife Ar**	**78.27**	**4**		LR		LR	12 32 09.6	
	comp=Z,44nm,20.8s,baz=37,slow=38								
DLBC	**Dease Lake**	**80.46**	**13**		LR		LR	12 34 45.9	
	comp=Z,6.5nm,19.0s,baz=157,slow=38								

*IDC **17** 11:53:37.4±1.9, 32°.79S×178°.39W, h0km, mb3.7/4, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=46.7km s-min=29.9km az=61.0*
*NEIC **17** 11:53:39.9±1.0, 33°.00S±0°.08×178°.4W±0°.2, h10km±2km, mb4.3/12, Error ellipse: s-maj=28.2km s-min=7.0km az=113.0*
ISC 17 11:53:42.7±1.2**, 32°.93S**±0°.09×**178°.5W**±0°.2**, h32**km**, n20, σ0s95/21, mb4.0/8, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.39**	**212**	Pn	**Pn**	**11 55 14.3**	**-0.2**
	1.9nm,0.3s,baz=11,slow=16,SNR=7.4						
URZ				Sn	**Sn**	**11 56 25.9**	**-0.4**
	2.4nm,0.3s,baz=97,slow=24,SNR=7.4						
	4.2nm,0.3s						
RTZ	**Ruatahuna**	**6.74**	**211**	Pn	**Pn**	**11 55 18.4**	**-1.1**
FUTU	**Fugatoga**	**18.55**	**1**	P	**P**	**11 57 54.2**	**-2.6**
FUTU				IAmb	IAmb	11 58 06.1	
	comp=Z,53nm,1.1s						
CAN	**Canberra**	**26.91**	**256**	P	**P**	**11 59 19.6**	**-1.4**
RABL	**Rabaul**	**39.58**	**310**	P	**P**	**12 01 12.3**	**+1.2**
COEN	**Coen**	**39.60**	**289**	P	**P**	**12 01 12.2**	**+0.8**
AS31	**Alice Springs**	**42.58**	**270**	P	**P**	**12 01 36.2**	**+0.4**
ASAR	**Alice Springs**	**42.58**	**270**	P	**P**	**12 01 34.9**	**-1.0**
ASAR	**Alice Springs**	**42.58**	**270**	P	**P**	**12 01 36.4**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=109,slow=7.2,SNR=12						
	comp=Z,0.4nm,0.5s						
WR8	**Warramunga Arr**	**43.66**	**275**	P	**P**	**12 01 44.7**	**+0.1**
WR8				IAmb	IAmb	12 01 57.8	
	comp=Z,4.0nm,1.1s						
WRAB	**Tennant Creek**	**43.79**	**275**	P	**P**	**12 01 45.9**	**+0.2**
WRAB				IAmb	IAmb	12 01 55.5	
	comp=Z,6.3nm,1.1s						
WRA	**Warramunga Arr**	**43.80**	**275**	P	**P**	**12 01 45.9**	**+0.1**
WRA	**Warramunga Arr**	**43.80**	**275**	P	**P**	**12 01 46.1**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=116,slow=7.6,SNR=25						
	comp=Z,1.1nm,0.5s						
WB0	**Warramunga Arr**	**43.83**	**275**	P	**P**	**12 01 46.4**	**+0.4**
WB0				IAmb	IAmb	12 01 47.3	
	comp=Z,3.1nm,0.7s						
FORT	**Forrest**	**45.01**	**258**	P	**P**	**12 01 55.7**	**+0.5**
FORT				IAmb	IAmb	12 02 14.2	
	comp=Z,4.9nm,1.1s						
VNDA	**Vanda**	**45.54**	**186**	P	**P**	**12 01 59.0**	**+0.2**
VNDA	**Vanda**	**45.54**	**186**	P	**P**	**12 01 59.3**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=9.5,slow=6.1,SNR=5.0						
	comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**57.18**	**180**	P	**P**	**12 03 26.1**	**-0.2**
QSPA				IAmb	IAmb	12 03 46.4	
	comp=Z,2.1nm,1.1s						
QSPA	**South Pole Qui**	**57.18**	**180**	P	**P**	**12 03 27.4**	**+1.0**
	comp=Z,1.3nm,1.0s,baz=23,slow=7.7,SNR=2.5						
	comp=Z,1.3nm,1.0s						
FINES	**FINESS Array B**	**147.34**	**338**	PKPbc	**PKPdf**	**12 13 20.9**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=59,slow=6.0,SNR=7.9						

*IDC **17** 11:56:55.6±1.5, 50°.05S×166°.00E, h0km, mb4.0/3, mbtmp4.1/5, ML4.2/2, MS3.6/4, Error ellipse: s-maj=40.4km s-min=27.0km az=109.0*
*NOU **17** 11:57:46.9, 46°.66S×167°.77E, h17km, mb4.4/6, Off W. Coast of S. Island, N.Z.*
ISC 17 11:57:06.4±1.3**, 48°.8S**±0°.1×**164°.70E**±0°.10**, h18**km**, n50, σ1s94/58, mb3.9/3, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**2.94**	**28**	P	**Pn**	**11 57 52.0**	**-0.2**
APZ	**The Paps**	**2.95**	**50**	P	**Pn**	**11 57 54.2**	**+1.8**
APZ				S	**Sn**	**11 58 27.8**	**+0.4**
WHZ	**Wether Hill Ro**	**3.63**	**39**	P	**Pn**	**11 58 02.7**	**+1.0**
WHZ				S	**Sn**	**11 58 43.4**	**-0.8**
DCZ	**Deep Cove**	**3.72**	**28**	P	**Pn**	**11 58 03.0**	**+0.2**
DCZ				S	**Sn**	**11 58 46.7**	**+0.6**
SYZ	**Scrubby Hill**	**3.75**	**55**	P	**Pn**	**11 58 05.1**	**+1.9**
SYZ	**Scrubby Hill**	**3.75**	**55**	P	**Pn**	**11 58 05.6**	**+2.4**
SYZ				S	**Sn**	**11 58 46.2**	**-0.6**
MOSS	**Mossburn Schoo**	**3.94**	**39**	P	**Pn**	**11 58 08.2**	**+2.3**
MOSS				S	**Sn**	**11 58 52.6**	**+1.0**
MLZ	**Mavora Lakes**	**4.14**	**36**	P	**Pn**	**11 58 10.4**	**+1.7**
MLZ				S	**Sn**	**11 58 55.6**	**-1.0**
MSZ	**Milford Sound**	**4.67**	**30**	P	**Pn**	**11 58 17.8**	**+1.9**
MSZ				S	**Sn**	**11 59 08.1**	**-1.5**
EAZ	**Earnscleugh**	**4.75**	**43**	P	**Pn**	**11 58 18.0**	**+1.0**
EAZ				S	**Sn**	**11 59 11.3**	**-0.3**
WKZ	**Wanaka**	**4.94**	**38**	P	**Pn**	**11 58 22.2**	**+2.5**
WKZ				S	**Sn**	**11 59 19.1**	**+2.7**
JCZ	**Jackson Bay**	**5.49**	**32**	P	**Pn**	**11 58 29.3**	**+2.0**
JCZ	**Jackson Bay**	**5.49**	**32**	P	**Pn**	**11 58 29.7**	**+2.3**
ODZ	**Otahua Downs**	**5.53**	**50**	P	**Pn**	**11 58 28.0**	**+0.3**
LBZ	**Lake Benmore**	**5.80**	**43**	P	**Pn**	**11 58 31.3**	**-0.1**
FOZ	**Fox Glacier**	**6.34**	**36**	P	**Pn**	**11 58 39.9**	**+1.0**
ARCZ	**Arundel**	**6.59**	**45**	P	**Pn**	**11 58 43.1**	**+0.8**
ARCZ				S	**Sn**	**11 59 54.3**	**-2.6**
RPZ	**Rata Peaks**	**6.71**	**43**	Pn	**Pn**	**11 58 43.0**	**-1.0**
	7.6nm,0.3s,baz=182,slow=3.2,SNR=22						
RPZ				Sn	**Sn**	**11 59 56.9**	**-3.1**
	4.3nm,0.3s,baz=352,slow=14,SNR=5.6						
RPZ				LR	LR	12 01 38.4	
	comp=Z,539nm,19.3s,baz=213,slow=39						
	10nm,0.3s						
RPZ	**Rata Peaks**	**6.71**	**43**	P	**Pn**	**11 58 43.3**	**-0.7**
GCSZ	**Gaunt Creek Bo**	**6.72**	**38**	P	**Pn**	**11 58 45.0**	**+0.8**
GCSZ				S	**Sn**	**11 59 58.9**	**-1.3**
WVZ	**Waitaha Valley**	**7.09**	**39**	P	**Pn**	**11 58 50.8**	**+1.7**
RACZ	**Rakaia**	**7.22**	**48**	P	**Pn**	**11 58 52.5**	**+1.6**
INZ	**Inchbonnie**	**7.67**	**40**	P	**Pn**	**11 58 58.1**	**+0.9**
INZ				S	**Sn**	**12 00 22.0**	**-1.6**
OKCZ	**Okains Bay**	**7.69**	**52**	P	Pn	11 59 01.6	+4.2
OKCZ				S	**Sn**	**12 00 22.3**	**-1.7**
LTZ	**Lake Taylor**	**8.00**	**44**	P	**Pn**	**11 59 03.0**	**+1.4**
DSZ	**Denniston Nort**	**8.63**	**38**	P	**Pn**	**11 59 09.5**	**-0.9**
DSZ				S	**Sn**	**12 00 45.1**	**-2.1**
THZ	**Tophouse**	**9.09**	**43**	P	**Pn**	**11 59 16.3**	**-0.3**
THZ				S	**Sn**	**12 00 57.4**	**-1.1**
MRNZ	**Matariki Terra**	**9.32**	**41**	P	**Pn**	**11 59 20.5**	**+0.7**
QRZ	**Quartz Range**	**9.70**	**38**	P	**Pn**	**11 59 25.8**	**+0.8**
QRZ	**Quartz Range**	**9.70**	**38**	P	**Pn**	**11 59 25.3**	**+0.3**
TKNZ	**Takaka Hill**	**9.71**	**40**	P	**Pn**	**11 59 26.7**	**+1.6**
NNZ	**Nelson**	**9.74**	**42**	P	**Pn**	**11 59 27.7**	**+2.2**
TCW	**Tory Channel**	**10.15**	**45**	P	**Pn**	**11 59 33.8**	**+2.6**
DUWZ	**D'Urville Isla**	**10.32**	**43**	P	**Pn**	**11 59 36.2**	**+2.7**
CAW	**Cannon Point**	**10.61**	**48**	P	**Pn**	**11 59 40.0**	**+2.5**
OGWZ	**Otaki Gorge**	**10.89**	**47**	P	**Pn**	**11 59 43.3**	**+2.1**
MRZ	**Mangatainoka R**	**11.21**	**48**	P	**Pn**	**11 59 47.8**	**+2.2**
KHEZ	**Kahui Hut**	**11.60**	**39**	P	**Pn**	**11 59 51.9**	**+0.8**
URZ	**Urewera**	**13.82**	**45**	Pn	**Pn**	**12 00 18.0**	**-3.4**
	0.7nm,0.3s,baz=137,slow=13,SNR=1.0						
URZ				LR	LR	12 06 20.8	
	comp=Z,426nm,19.9s,baz=230,slow=40						
	4.9nm,0.8s						
ASAR	**Alice Springs**	**34.88**	**305**	P	P	12 04 01.6	+4.9
	1.4nm,0.9s,baz=136,slow=8.2,SNR=9.2						
	1.4nm,0.9s						
WRA	**Warramunga Arr**	**37.70**	**309**	P	**P**	**12 04 24.6**	**+3.7**
	1.9nm,1.0s,baz=141,slow=8.8,SNR=8.0						
	1.9nm,1.0s						
HNR	**Honiara**	**39.42**	**353**	LR	LR	12 20 23.0	
	comp=Z,53nm,19.1s,baz=192,slow=34						
PPT	**Papeete**	**48.28**	**66**	LR	LR	12 24 21.8	
	comp=Z,44nm,18.4s,baz=200,slow=34						
MAW	**Mawson**	**50.15**	**209**	P	P	12 05 47.0	-13
	1.9nm,0.4s,baz=113,slow=7.7,SNR=14						
	1.9nm,0.4s						
H08S2	**Diego Garcia H**	**85.77**	**263**	T	T	13 44 21.7	
	baz=138,slow=76,SNR=12						
H08S1	**Diego Carcia H**	**85.78**	**263**	T	T	13 44 25.9	
	baz=138,slow=76,SNR=8.8						
H08S3	**Diego Garcia H**	**85.78**	**263**	T	T	13 44 23.1	
	baz=138,slow=76,SNR=17						
BRTR	**Keskin Array B**	**144.34**	**274**	PKPbc	**PKPab**	**12 16 33.7**	**-5.4**
	0.3nm,0.3s,baz=108,slow=9.3,SNR=1.5						
ARCES	**ARCESS Array B**	**151.42**	**331**	PKPbc	**PKPdf**	**12 16 53.5**	**+2.0**
	1.1nm,0.6s,baz=70,slow=3.0,SNR=2.4						
FINES	**FINESS Array B**	**153.67**	**314**	PKPab	**PKPab**	**12 17 12.2**	**-3.5**
	1.7nm,0.7s,baz=98,slow=3.9,SNR=3.6						

*IDC **17** 11:59:29.9±1.5, 33°.00S×178°.37W, h0km, mb3.8/4, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=37.4km s-min=29.2km az=63.0*
ISC 17 11:59:34.8±1.4**, 33°.0S**±0°.2×**178°.4W**±0°.2**, h32**km**, n6, σ0s75/7, mb3.6/4, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.38**	**213**	Pn	**Pn**	**12 01 05.5**	**-1.0**
	1.6nm,0.3s,baz=4.1,slow=18,SNR=14						
URZ				Sn	**Sn**	**12 02 19.0**	**+0.7**
	2.6nm,0.3s,baz=66,slow=20,SNR=9.3						
	4.0nm,0.3s						
ASAR	**Alice Springs**	**42.67**	**270**	P	**P**	**12 07 29.1**	**+0.4**
	0.7nm,0.6s,baz=112,slow=7.6,SNR=13						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**43.90**	**275**	P	**P**	**12 07 38.8**	**+0.2**
	1.6nm,0.5s,baz=116,slow=7.6,SNR=23						
	1.6nm,0.5s						
QSPA	**South Pole Qui**	**57.12**	**180**	P	**P**	**12 09 18.7**	**+0.7**
	0.6nm,0.7s,baz=18,slow=1.5,SNR=1.9						
	0.6nm,0.7s						
SNAA	**Sanae**	**75.58**	**179**	P	**P**	**12 11 15.7**	**-0.2**
	0.4nm,0.6s,baz=195,slow=16,SNR=7.3						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**147.43**	**338**	PKPbc	**PKPbc**	**12 19 14.2**	**-0.3**
	1.9nm,0.7s,baz=28,slow=3.2,SNR=9.7						

*IDC **17** 12:05:34.1±2.8, 48°.21S×164°.86E, h0km, mb3.9/2, mbtmp4.0/3, ML3.9/1, Error ellipse: s-maj=68.8km s-min=31.1km az=163.0*
*NOU **17** 12:06:00.1, 47°.41S×166°.87E, h78km, MLv4.4/7, Off W. Coast of S. Island, N.Z.*
ISC 17 12:05:36.6±1.4**, 48°.6S**±0°.1×**164°.95E**±0°.09**, h35**km**, n37, σ1s21/49, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**2.73**	**50**	P	**Pn**	**12 06 17.6**	**-0.3**
APZ				S	**Sn**	**12 06 50.6**	**+0.9**
PYZ	**Puysegur Point**	**2.73**	**26**	P	**Pn**	**12 06 15.6**	**-2.3**
WHZ	**Wether Hill Ro**	**3.41**	**38**	P	**Pn**	**12 06 26.6**	**-0.7**
WHZ				S	**Sn**	**12 07 06.6**	**0.0**
DCZ	**Deep Cove**	**3.50**	**26**	P	**Pn**	**12 06 27.1**	**-1.4**
DCZ				S	**Sn**	**12 07 10.8**	**+2.1**
SYZ	**Scrubby Hill**	**3.52**	**55**	P	**Pn**	**12 06 29.1**	**+0.3**
SYZ	**Scrubby Hill**	**3.52**	**55**	P	**Pn**	**12 06 29.2**	**+0.4**
SYZ				S	**Sn**	**12 07 08.9**	**-0.2**
GODC	**Gore District**	**3.71**	**49**	S	**Sn**	**12 07 15.1**	**+1.4**
MOSS	**Mossburn Schoo**	**3.71**	**38**	P	**Pn**	**12 06 33.1**	**+1.6**
MOSS				S	**Sn**	**12 07 15.0**	**+1.1**
MLZ	**Mavora Lakes**	**3.91**	**35**	P	**Pn**	**12 06 34.3**	**+0.1**
MLZ				S	**Sn**	**12 07 18.9**	**-0.1**
TUZ	**Tuapeka**	**4.16**	**52**	P	**Pn**	**12 06 37.4**	**-0.1**
TUZ				S	**Sn**	**12 07 24.9**	**0.0**
MSZ	**Milford Sound**	**4.45**	**29**	P	**Pn**	**12 06 41.7**	**+0.1**
EAZ	**Earnscleugh**	**4.52**	**43**	P	**Pn**	**12 06 42.8**	**+0.2**
EAZ				S	**Sn**	**12 07 33.8**	**-0.1**
WKZ	**Wanaka**	**4.72**	**38**	P	**Pn**	**12 06 45.7**	**+0.4**
HHSZ	**Highcliff Hill**	**4.72**	**57**	P	**Pn**	**12 06 45.8**	**+0.5**
HHSZ				S	**Sn**	**12 07 39.0**	**+0.1**
JCZ	**Jackson Bay**	**5.27**	**32**	P	**Pn**	**12 06 53.5**	**+0.6**
JCZ	**Jackson Bay**	**5.27**	**32**	P	**Pn**	**12 06 53.6**	**+0.6**
JCZ				S	**Sn**	**12 07 53.8**	**+1.4**
ODZ	**Otahua Downs**	**5.30**	**50**	P	**Pn**	**12 06 52.4**	**-0.9**
ODZ	**Otahua Downs**	**5.30**	**50**	P	**Pn**	**12 06 52.4**	**-0.9**
ODZ				S	**Sn**	**12 07 53.2**	**+0.2**
LBZ	**Lake Benmore**	**5.57**	**42**	P	**Pn**	**12 06 55.2**	**-1.8**
TMZ	**Timaru**	**5.96**	**47**	P	**Pn**	**12 07 00.7**	**-1.6**
FOZ	**Fox Glacier**	**6.11**	**35**	P	**Pn**	**12 07 04.6**	**+0.1**
ARCZ	**Arundel**	**6.36**	**45**	P	**Pn**	**12 07 06.9**	**-0.9**
RPZ	**Rata Peaks**	**6.49**	**43**	Pn	**Pn**	**12 07 07.5**	**-2.0**
	3.1nm,0.3s,baz=216,slow=1.8,SNR=7.6						
RPZ				Sn	**Sn**	**12 08 19.8**	**-2.5**
	4.3nm,0.3s,baz=52,slow=17,SNR=5.0						
	13nm,0.3s						
RPZ	**Rata Peaks**	**6.49**	**43**	P	**Pn**	**12 07 09.0**	**-0.6**
RPZ	**Rata Peaks**	**6.49**	**43**	P	**Pn**	**12 07 06.9**	**-2.6**
WACZ	**Wakanui South**	**6.69**	**48**	P	**Pn**	**12 07 11.2**	**-1.1**
WVZ	**Waitaha Valley**	**6.86**	**38**	P	**Pn**	**12 07 14.9**	**+0.2**
RACZ	**Rakaia**	**6.99**	**48**	P	**Pn**	**12 07 16.0**	**-0.5**
OXZ	**Oxford**	**7.24**	**46**	P	**Pn**	**12 07 19.6**	**-0.3**
MQZ	**McQueen's Vall**	**7.26**	**50**	P	**Pn**	**12 07 19.4**	**-0.8**
QRZ	**Quartz Range**	**9.48**	**37**	P	**Pn**	**12 07 49.4**	**-1.1**
KHEZ	**Kahui Hut**	**11.38**	**38**	P	**Pn**	**12 08 16.6**	**-0.1**
HIZ	**Hauiti**	**12.39**	**39**	P	**Pn**	**12 08 29.1**	**-1.3**
ASAR	**Alice Springs**	**34.93**	**304**	P	**P**	**12 12 25.6**	**+0.5**
	1.6nm,0.9s,baz=139,slow=7.8,SNR=14						
	1.6nm,0.9s						
WRA	**Warramunga Arr**	**37.73**	**308**	P	**P**	**12 12 48.2**	**-0.8**
	1.4nm,0.8s,baz=140,slow=8.3,SNR=9.5						
	1.4nm,0.8s						
BRTR	**Keskin Array B**	**144.49**	**274**	PKP	**PKiKP**	**12 25 10.3**	**-2.2**
	0.8nm,0.8s,baz=143,slow=5.0,SNR=4.0						
FINES	**FINESS Array B**	**153.67**	**315**	PKPbc	**PKiKP**	**12 25 33.5**	**+3.0**
	1.0nm,0.6s,baz=230,slow=3.5,SNR=3.6						

*DNK **17** 12:18:23.4±0.4, 57°.97N×12°.40E, h0km, ML1.6(UPP), Explosion*
UPP 17 12:18:23.0±0.1**, 57°.97N**×**12°.42E, h0**km**, ML1.6, 1D, Unknown, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORU	**Boraas**	**0.39**	**151**	P	Pg	12 18 30.6	+0.1
BORU				S	Sg	12 18 35.8	+0.3
BORU	**Boraas**	**0.39**	**151**	*i* P	Pg	12 18 29.6	-0.9
BORU				*i* S	Sg	12 18 34.8	-0.6
BORU	**Boraas**	**0.39**	**151**	P	Pg	12 18 30.6	+0.1
BORU				S	Sg	12 18 35.8	+0.3
VANU	**Vaenersborg**	**0.55**	**341**	P	Pg	12 18 33.5	-0.1
VANU	**Vaenersborg**	**0.55**	**341**	P	Pg	12 18 33.5	-0.1
ONAU	**Onsala**	**0.64**	**205**	P	Pg	12 18 35.1	-0.1

FORT				S	Sn	12 50 10.7	-6.8		
NWAO	**Narrogin (SRO)**	**14.83**	**190**	P	**Pn**	**12 47 47.9**	**+0.2**		
NWAO	**Narrogin (SRO)**	**14.83**	**190**	P	**Pn**	**12 47 47.3**	**-0.4**		

*CNRM **17** 12:47:11.2, 36.°30N×8.°07W, h56km, ML2.7*
*SFS **17** 12:47:15.8, 36.°52N×8.°03W, h26km, ML2.8/6, ML2.4/9, MLv2.2/9*
*INMG **17** 12:47:15.4±1.7, 36.°51N×8.°03W, h15km±4km, ML2.1, Error ellipse: s-maj=6.1km s-min=3.5km az=47.0, #DIST_RANGE: LOCAL #IPMA_REGION: S Faro*
*IGIL **17** 12:47:15.7, 36.°51N×8.°01W, h15km, ML2.1*
*MDD **17** 12:47:15.0±0.8, 36.°58N×7.°97W, h13km, mb_Lg2.5/10, Error ellipse: s-maj=6.5km s-min=3.4km az=19.0*

ISC 17 12:47:13.8±1.5,**36.°57N**±0.°06×**7.°93W**±0.°04,**h16**km±10km,
n62,σ1°19/85,1C-4D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBDV	**Barranco-do-Ve**	**0.67**	**0**	*e*P	**Pn**	**12 47 29.7**	**+1.1**
PBDV				*e*S	**Sn**	**12 47 38.5**	**-0.4**
PBDV				*i* IAML		12 47 41.0	
PBDV				*i* IAML		12 47 42.5	
PBDV				*i* IAML		12 47 45.6	
PVAQ	**Vaqueiros**	**0.85**	**12**	Pg	**Pn**	**12 47 32.3**	**+1.2**
PVAQ	**Vaqueiros**	**0.85**	**12**	*e*P	**Pn**	**12 47 32.3**	**+1.2**
PVAQ				*e*S	**Sn**	**12 47 44.5**	**+1.3**
PVAQ				*i* IAML		12 47 45.8	
PVAQ				*i* IAML		12 47 46.3	
PVAQ				*i* IAML		12 47 47.7	
PVAQ	**Vaqueiros**	**0.85**	**12**	P	**Pn**	**12 47 31.7**	**+0.6**
PVAQ	**Vaqueiros**	**0.85**	**12**	S	**Sn**	**12 47 45.2**	**+2.0**
PFVI	**Vila Bisbo**	**0.91**	**308**	Pg	**Pb**	**12 47 31.5**	**+0.3**
PFVI				Sg	**Sg**	**12 47 43.1**	**-0.3**
PFVI	**Vila Bisbo**	**0.91**	**308**	*e*P	**Pb**	**12 47 31.5**	**+0.3**
PFVI				*e*S	**Sg**	**12 47 43.2**	**-0.3**
PFVI				*i* IAML		12 47 44.9	
PFVI				*i* IAML		12 47 45.3	
PFVI				*i* IAML		12 47 48.6	
PFVI	**Vila Bisbo**	**0.91**	**308**	P	**Pb**	**12 47 30.4**	**-0.8**
PFVI	**Vila Bisbo**	**0.91**	**308**	S	**Sg**	**12 47 42.9**	**-0.5**
MORF	**Marmelete**	**0.93**	**322**	*e*P	**Pg**	**12 47 32.2**	**+0.3**
MORF				*e*S	**Sn**	**12 47 44.5**	**-0.8**
MORF				IAML		12 47 45.9	
	comp=E,52nm,0.2s						
MORF	**Marmelete**	**0.93**	**322**	*e*P	**Pg**	**12 47 32.2**	**+0.3**
MORF				*e*S	**Sn**	**12 47 44.8**	**-0.5**
MORF				*i* IAML		12 47 46.0	
MORF				*i* IAML		12 47 46.2	
MORF				*i* IAML		12 47 46.9	
EGRO	**El Granado**	**1.03**	**20**	Pg	**Pn**	**12 47 34.9**	**+1.4**
EGRO				Sg	**Sn**	**12 47 48.7**	**+1.1**
EGRO	**El Granado**	**1.03**	**20**	Pg	**Pn**	**12 47 34.6**	**+1.1**
EGRO				Sg	**Sn**	**12 47 47.5**	**0.0**
EGRO				*i* IVmb_Lg		12 47 50.7	
PCVE	**Castro Verde**	**1.06**	**355**	Pg	**Pn**	**12 47 35.2**	**+1.2**
PCVE				Sg	**Sn**	**12 47 49.7**	**+1.2**
PCVE	**Castro Verde**	**1.06**	**355**	*e*P	**Pn**	**12 47 35.3**	**+1.2**
PCVE				*e*S	**Sn**	**12 47 49.6**	**+1.0**
PCVE				*i* IAML		12 47 50.2	
PCVE				*i* IAML		12 47 51.0	
PCVE				*i* IAML		12 47 51.1	
PTEO	**Sao Teotonio**	**1.16**	**327**	*e*P	**Pb**	**12 47 35.7**	**+0.3**
PTEO				*e*S	**Sn**	**12 47 51.0**	**+0.1**
PTEO				*i* IAML		12 47 52.2	
PTEO				*i* IAML		12 47 52.6	
PTEO				*i* IAML		12 47 52.7	
MESJ	**Messejana**	**1.29**	**350**	*e*P	**Pb**	**12 47 38.1**	**+0.5**
MESJ				*e*S	**Sg**	**12 47 54.6**	**-0.7**
MESJ				IAML		12 47 55.4	
	comp=N,23nm,0.2s						
MESJ	**Messejana**	**1.29**	**350**	*e*P	**Pb**	**12 47 38.1**	**+0.5**
MESJ				*e*S	**Sg**	**12 47 54.7**	**-0.7**
MESJ				*i* IAML		12 47 55.6	
MESJ				*i* IAML		12 47 55.8	
MESJ				*i* IAML		12 47 56.1	
PBEJ	**Beja**	**1.45**	**2**	*e*S	**Sg**	**12 47 59.1**	**-1.6**
PBEJ				*i* IAML		12 48 01.8	
PBEJ				*i* IAML		12 48 02.6	
PBEJ				*i* IAML		12 48 02.8	
EMIN	**Mina Concepcio**	**1.56**	**40**	Pn	**Pn**	**12 47 40.8**	**-0.1**
EMIN				Sn	**Sb**	**12 48 01.7**	**-0.1**
EMIN				*i* IVmb_Lg		12 48 05.6	
ESPR	**Espera**	**1.69**	**79**	Pn	**Pn**	**12 47 43.8**	**+1.1**
ESPR				Sn	**Sn**	**12 48 04.8**	**+0.7**
ESPR	**Espera**	**1.69**	**79**	Pn	**Pn**	**12 47 42.9**	**+0.3**
ESPR				Sn	**Sn**	**12 48 04.3**	**+0.2**
ESPR				*i* IVmb_Lg		12 48 06.2	
PBAR	**Barrancos**	**1.75**	**24**	Pn	**Pn**	**12 47 44.6**	**+1.1**
PBAR				Sn	**Sb**	**12 48 07.1**	**-0.2**
PBAR	**Barrancos**	**1.75**	**24**	*e*P	**Pn**	**12 47 45.0**	**+1.5**
PBAR				*e*S	**Sb**	**12 48 07.2**	**-0.2**
PBAR				*i* IAML		12 48 07.7	
PBAR				*i* IAML		12 48 07.8	
PBAR				*i* IAML		12 48 07.9	
EVO	**Evora**	**1.96**	**358**	*e*S	**Sn**	**12 48 11.1**	**+0.5**
EVO				*i* IAML		12 48 13.0	
EVO				*i* IAML		12 48 13.9	
EVO				*i* IAML		12 48 14.0	
EBAD	**Badajoz**	**2.30**	**18**	Pn	**Pn**	**12 47 52.1**	**+1.1**
EBAD				Sn	**Sn**	**12 48 19.7**	**+0.7**
EBAD	**Badajoz**	**2.30**	**18**	Pn	**Pn**	**12 47 51.3**	**+0.3**
EBAD				Sn	**Sn**	**12 48 19.4**	**+0.4**
EBAD				*i* IVmb_Lg		12 48 22.6	
PACT	**Alcochete**	**2.31**	**342**	*e*S	**Sn**	**12 48 20.1**	**+0.9**
PESTR	**Estremoz**	**2.31**	**7**	*e*P	**Pn**	**12 47 52.1**	**+0.9**
PESTR				*e*S	**Sn**	**12 48 20.2**	**+0.9**
PESTR				*i* IAML		12 48 20.6	
PESTR				*i* IAML		12 48 21.1	
PESTR				*i* IAML		12 48 21.6	
PESTR	**Estremoz**	**2.31**	**7**	P	**Pn**	**12 47 49.9**	**-1.3**
PARRA	**Arraiolos**	**2.41**	**339**	*e*P	**Pn**	**12 47 51.2**	**-1.3**
PARRA				*e*S	**Sn**	**12 48 17.2**	**-4.5**
PARRA				*i* IAML		12 48 19.1	
PARRA				*i* IAML		12 48 19.5	
PARRA				*i* IAML		12 48 20.8	
ECAB	**El Cabril**	**2.50**	**52**	Pn	**Pn**	**12 47 55.0**	**+1.2**
ECAB				Sn	**Sn**	**12 48 23.1**	**-1.1**
ECAB	**El Cabril**	**2.50**	**52**	Pn	**Pn**	**12 47 55.4**	**+1.5**
ECAB				Sn	**Sn**	**12 48 23.0**	**-1.1**
ECAB				*i* IVmb_Lg		12 48 32.8	
PMTG	**Montargil**	**2.50**	**355**	*e*P	**Pn**	**12 47 54.7**	**+0.9**
PMTG				*e*S	**Sn**	**12 48 24.1**	**+0.1**
PMTG				*i* IAML		12 48 25.5	
PMTG				*i* IAML		12 48 25.6	
PMTG				*i* IAML		12 48 25.6	
PMAFR	**Mafra**	**2.61**	**336**	*e*P	**Pn**	**12 47 56.8**	**+1.5**
PMAFR				*e*S	**Sn**	**12 48 27.5**	**+0.8**
PMAFR				*i* IAML		12 48 27.8	
PMAFR				*i* IAML		12 48 27.9	
PMAFR				*i* IAML		12 48 28.5	
PMRV	**Marv??o**	**2.88**	**8**	⇑*e*P	**Pn**	**12 48 00.2**	**+1.1**
PMRV				*e*S	**Sn**	**12 48 33.6**	**+0.1**
PMRV				*i* IAML		12 48 36.1	
PMRV				*i* IAML		12 48 36.1	
PMRV				*i* IAML		12 48 36.1	
PSARD	**Sardoal**	**3.03**	**357**	*e*P	**Pn**	**12 48 02.2**	**+1.1**
PSARD				*e*S	**Sn**	**12 48 36.2**	**-0.9**
PSARD				*i* IAML		12 48 38.5	
PSARD				*i* IAML		12 48 39.0	
PSARD				*i* IAML		12 48 39.3	
EADA	**Adamuz**	**3.11**	**58**	Pn	**Pn**	**12 48 03.8**	**+1.6**
EADA				Sn	**Sn**	**12 48 39.0**	**-0.1**
EADA	**Adamuz**	**3.11**	**58**	Pn	**Pn**	**12 48 03.8**	**+1.6**
EADA				Sn	**Sn**	**12 48 38.9**	**-0.2**
EADA				*i* IVmb_Lg		12 48 40.4	
PCBR	**Castelo Branco**	**3.28**	**6**	*e*S	**Sn**	**12 48 42.7**	**-0.6**
PCBR				*i* IAML		12 48 45.0	
PCBR				*i* IAML		12 48 45.0	
PCBR				*i* IAML		12 48 45.5	
ZHG	**ZHG**	**3.29**	**161**	P	Pn	12 47 59.7	-5.0
ZHG	**ZHG**	**3.29**	**161**	S	Sn	12 48 35.1	-8.5
PCAS	**Casmilo, Conde**	**3.51**	**353**	*e*S	**Sn**	**12 48 48.9**	**+0.1**
PCAS				*i* IAML		12 48 49.4	
PCAS				*i* IAML		12 48 52.1	
PCAS				*i* IAML		12 48 54.1	
EPLA	**Plasencia**	**3.78**	**22**	Pn	**Pn**	**12 48 11.4**	**0.0**
EPLA				Sn	**Sn**	**12 48 55.0**	**-0.5**
EPLA				*i* IVmb_Lg		12 48 59.5	

AKLM	**AKL**	**3.90**	**121**	P	Pn	12 48 06.4	-6.7		
AKLM	**AKL**	**3.90**	**121**	S	Sn	12 48 50.0	-8.6		
PSIM	**Granatula de C**	**4.00**	**55**	Pn	**Pn**	**12 48 14.9**	**+0.4**		
PSIM				Sn	**Sn**	**12 48 59.1**	**-2.0**		
EQES	**Quesada**	**4.07**	**71**	Pn	**Pn**	**12 48 15.9**	**+0.4**		
EQES				Sn	**Sn**	**12 49 00.6**	**-2.2**		
EQES				*i* IVmb_Lg		12 49 03.0			
PAB	**San Pablo**	**4.10**	**43**	Pn	**Pn**	**12 48 16.3**	**+0.5**		
PAB				Sn	**Sn**	**12 49 00.6**	**-3.0**		
PAB				*i* IVmb_Lg		12 49 08.3			
MD31	**MD31**	**4.53**	**144**	P	Pn	12 48 16.8	-4.9		
MD31	**MD31**	**4.53**	**144**	S	Sn	12 49 05.7	-8.4		
MDT	**Midelt**	**4.64**	**143**	P	Pn	12 48 19.2	-4.1		
MDT	**Midelt**	**4.64**	**143**	S	Sn	12 49 08.0	-8.9		
MVO	**Moncorvo**	**4.64**	**8**	*e*S	**Sn**	**12 49 14.3**	**-2.6**		
MVO				*i* IAML		12 49 16.9			
MVO				*i* IAML		12 49 17.3			
MVO				*i* IAML		12 49 19.3			
POLO	**Lamas de Olo**	**4.80**	**1**	*e*P	**Pn**	**12 48 25.8**	**+0.3**		
POLO				*e*S	**Sn**	**12 49 19.1**	**-1.7**		
POLO				*i* IAML		12 49 21.6			
POLO				*i* IAML		12 49 21.7			
POLO				*i* IAML		12 49 22.0			
PCAB	**Cabril**	**5.13**	**359**	*e*S	**Sn**	**12 49 28.7**	**-0.3**		
PCAB				*i* IAML		12 49 29.6			
PCAB				*i* IAML		12 49 30.2			
PCAB				*i* IAML		12 49 30.3			
PGAV	**Gavieira, Arco**	**5.39**	**357**	*e*P	**Pn**	**12 48 34.8**	**+1.1**		
PGAV				*e*S	**Sn**	**12 49 32.7**	**-2.7**		
OUZM	**OUZ**	**5.73**	**170**	P	Pn	12 48 32.6	-5.8		
OUZM	**OUZ**	**5.73**	**170**	S	Sn	12 49 32.5	-11		
TTIG	**Tnine Tigouga,**	**6.02**	**184**	P	Pn	12 48 34.6	-7.8		
ZGR	**Zagora**	**6.72**	**163**	P	Pn	12 48 45.0	-6.9		
ZGR	**Zagora**	**6.72**	**163**	S	Sn	12 49 56.3	-12		

*NEIC **17** 12:57:33.0±1.0, 35.°920N×0.°005×117.°681W±0.°009, h2km±1km, Error ellipse: s-maj=1.1km s-min=0.4km az=125.0*

PAS 17 12:57:33.5±1.0,**35.°927N**±0.°006×**117.°68W**±0.°01,
h3km±2km,ML3.0/85,**ML2.9**/64(NEIC),**Error ellipse: s-maj=1.2km s-min=0.8km az=94.0,Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WCSM	**Coso Springs S**	**0.12**	**325**		Pg	12 57 36.0	+0.1
CLC	**China Lake**	**0.13**	**149**	Pg	Pg	12 57 36.1	+0.1
WRVM	**Rose V. Centra**	**0.19**	**296**		Pg	12 57 37.3	+0.1
WNMM	**Nine Mile Cany**	**0.20**	**245**		Pg	12 57 37.5	+0.2
WNMM					Sg	12 57 40.8	+0.9
MPMC	**Manual Prospec**	**0.20**	**50**		Pg	12 57 37.7	+0.2
MPMC					Sg	12 57 40.9	+0.7
MPMC				IAML		12 57 41.1	
	comp=E,3μm,0.7s						
MPMC				IAML		12 57 42.5	
	comp=N,4μm,0.7s						
MFS	**McCloud Flat S**	**0.24**	**323**		Pg	12 57 38.2	+0.1
MFS					Sg	12 57 41.7	+0.5
SRTC	**Snort**	**0.24**	**193**		Pg	12 57 38.6	+0.5
SRTC					Sg	12 57 42.8	+1.5
GPO	**China Lake**	**0.28**	**177**		Sg	12 57 43.6	+1.1
WSHM	**Spangler Hills**	**0.36**	**155**		Pg	12 57 40.4	0.0
WSHM				IAML		12 57 46.1	
	comp=N,2μm,0.4s						
WSHM				IAML		12 57 46.5	
	comp=N,913nm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.45**	**180**		Pg	12 57 41.9	-0.2
LRMC				IAML		12 57 48.8	
	comp=E,837nm,0.3s						
LRMC				IAML		12 57 49.4	
	comp=N,915nm,0.2s						
CCCA	**Chr Cany lake**	**0.48**	**147**		Pg	12 57 43.0	+0.4
WORM	**Onyx Ranch**	**0.51**	**243**		Pg	12 57 43.1	-0.2
WORM					Sg	12 57 49.9	0.0
WBSM	**Bird Springs**	**0.54**	**224**		Pg	12 57 43.8	0.0
WBSM					Sg	12 57 51.1	+0.3
WHFM	**Hanning Flat**	**0.59**	**247**		Pg	12 57 44.6	-0.2
WHFM					Sg	12 57 52.3	-0.1
CWC	**Cottonwood Cre**	**0.60**	**328**		Pg	12 57 45.1	0.0
CGO	**Cerro Gordo**	**0.63**	**351**		Pg	12 57 45.5	-0.1
QSM	**Queen of Sheba**	**0.66**	**86**		Pg	12 57 46.4	+0.2
QSM					Sg	12 57 54.8	0.0
QSM				IAML		12 57 59.2	
	comp=N,877nm,0.6s						
DTP	**Desert Tortois**	**0.67**	**192**		Pg	12 57 46.0	-0.3
DTP					Sg	12 57 55.3	+0.3
ISA	**Isabella, Lake**	**0.70**	**248**		Pg	12 57 46.6	-0.2
ISA				IAML		12 57 56.4	
	comp=N,706nm,0.3s						
ISA				IAML		12 57 57.0	
	comp=E,514nm,0.3s						
ISA	**Isabella, Lake**	**0.70**	**248**		Sg	12 57 56.0	+0.1
WASM	**Alta Sierra Ca**	**0.74**	**255**		Pg	12 57 47.4	-0.2
WASM					Sg	12 57 57.4	+0.2
CCAC	**Calif City Air**	**0.82**	**200**		Pg	12 57 48.6	-0.5
CCAC					Sg	12 58 00.1	+0.3
FURC	**Furnace Creek,**	**0.85**	**51**		Pg	12 57 50.1	+0.3
FURC					Sg	12 58 01.7	+0.8
GWY	**Greenwater Val**	**0.86**	**72**		Pg	12 57 50.2	+0.2
GWY				IAML		12 58 02.3	
	comp=E,690nm,0.5s						
GWY				IAML		12 58 02.3	
	comp=N,445nm,0.5s						
SPG2	**Springville 2**	**0.92**	**288**		Pg	12 57 50.4	-0.7
GSC	**Goldstone, Bar**	**0.95**	**131**		Pg	12 57 51.1	-0.5
GSC				IAML		12 58 06.6	
	comp=N,503nm,1.0s						
GSC				IAML		12 58 06.9	
	comp=E,478nm,0.8s						
GSC	**Goldstone, Bar**	**0.95**	**131**		Sg	12 58 04.0	0.0
GSC	**Goldstone, Bar**	**0.95**	**131**		Pg	12 57 51.3	-0.4
HYS	**Haystack Butte**	**1.06**	**175**		Pg	12 57 54.1	+0.3
TEJ	**El Tejon**	**1.08**	**230**		Pg	12 57 53.2	-0.9
GRAC	**Grapevine Rang**	**1.10**	**13**		Pg	12 57 54.3	-0.2
GRAC				IAML		12 58 12.4	
	comp=N,242nm,1.1s						
GRAC				IAML		12 58 14.9	
	comp=E,330nm,0.4s						
SHOC	**Shoshone, Teco**	**1.14**	**91**		Sb	12 58 10.8	-0.3
VES	**Vestal, Richgr**	**1.14**	**266**		Pg	12 57 54.9	-0.4
VES					Sg	12 58 09.9	-0.3
SGV	**South Grapevin**	**1.17**	**26**		Pg	12 57 55.6	-0.4
WCT	**Wildcat Mounta**	**1.21**	**44**		Pg	12 57 56.3	-0.5
WCT				IAML		12 58 17.8	
	comp=E,174nm,1.2s						
AMDNV	**Amargosa**	**1.25**	**65**		Pg	12 57 56.6	-0.8
AMDNV					Sg	12 58 13.6	0.0
LCH	**Last Change Ra**	**1.30**	**1**		Pg	12 57 58.2	-0.2
GMN	**Gold Mountain**	**1.41**	**14**		Pn	12 57 59.8	-0.5
GMN				IAML		12 58 26.0	
	comp=N,84nm,0.5s						
DSP	**Deep Springs**	**1.46**	**351**		Pn	12 58 00.5	-0.2
DSP				IAML		12 58 22.0	
	comp=E,124nm,0.8s						
BHPR	**Bishop**	**1.52**	**335**		Pb	12 58 02.2	-0.2
TPNV	**Topopah Spring**	**1.54**	**48**		Pn	12 58 01.6	-0.4
TPNV				IAML		12 58 27.1	
	comp=E,150nm,0.5s						
TPNV				IAML		12 58 27.4	
	comp=E,126nm,0.7s						
MZP	**Montezuma Peak**	**1.79**	**8**		Pn	12 58 05.4	-0.1
MTPC	**Mountain Pass**	**1.79**	**104**	Pn	Pn	12 58 04.3	-1.1
MTPC				IAML		12 58 32.0	
	comp=E,188nm,0.4s						
MTPC				IAML		12 58 33.1	
	comp=N,139nm,0.6s						
CRGC	**Crocker Grade**	**1.80**	**248**		Pb	12 58 06.4	-0.7
SHPR	**Sheep Range**	**2.12**	**73**		Pn	12 58 09.8	-0.2
TPH	**Tonopah**	**2.17**	**10**		Pn	12 58 10.8	+0.1
PSMM	**Smith Mountain**	**2.37**	**274**		Pb	12 58 15.5	-1.3
PFO	**Pinyon Flats O**	**2.52**	**156**		Pn	12 58 14.8	-0.6
PMPB	**Monarch Peak**	**2.54**	**277**	Pn	Pn	12 58 14.6	-1.1
PMPB				IAML		12 58 56.5	
	comp=E,84nm,0.8s						
PMPB				IAML		12 59 05.3	
	comp=N,73nm,0.9s						
PRN	**Pahroc Range**	**2.58**	**54**		Pn	12 58 16.2	0.0
PRN				IAML		12 59 03.5	
	comp=N,58nm,0.7s						
PRN				IAML		12 59 04.0	
	comp=E,74nm,1.0s						
FRD	**Ford Ranch, An**	**2.58**	**160**		Pn	12 58 14.2	-2.1

SBI	**Santa Barbara**	**2.68**	**205**		Pb	12 58 19.8	-2.2		
R11B	**Troy Canyon, C**	**2.94**	**34**		Pn	12 58 20.7	-0.5		
R11B				IAML		12 59 08.5			
	comp=E,22nm,1.0s								

*NOU **17** 13:25:32.9, 16.°78S×177.°96W, h568km, mb4.2/18, Fiji Islands Region*
*IDC **17** 13:25:34.9±5.4, 17.°38S×178.°63W, h509km±61km, mb3.4/11, mbtmp4.2/12, Error ellipse: s-maj=28.0km s-min=17.7km az=70.0*
*NEIC **17** 13:25:37.5±1.1, 17.°56S±0.°07×178.°5W±0.°1, h547km±9km, mb4.3/23, Error ellipse: s-maj=16.7km s-min=4.8km az=56.0*

ISC 17 13:25:38.0±0.6,**17.°41S**±0.°09×**178.°62W**±0.°09,**h547**km,
n64,σ0°99/63,mb4.3/25,3C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUTU	**Fugatoga**	**3.12**	**9**	P	**P**	**13 26 54.2**	**+0.4**
MSVF	**Nonsavu**	**3.19**	**264**	P	**P**	**13 26 55.4**	**+1.2**
MSVF	**Nonsavu**	**3.19**	**264**	P	**P**	**13 26 55.8**	**+1.7**
AFI	**Afiamalu**	**7.46**	**63**	P	**P**	**13 27 29.2**	**-1.3**
NIUE	**Niue**	**8.43**	**103**	P	**P**	13 27 36.3	-3.7
FUNA	**Funafuti**	**9.08**	**346**	P	**P**	**13 27 47.4**	**+0.7**
VLAKA	**Lakatoro**	**13.43**	**274**	P	**P**	**13 28 32.0**	**+0.6**
PINNC	**Pines Island,**	**14.07**	**246**	P	**P**	**13 28 35.2**	**-2.8**
DZM	**Mont Dzumac**	**14.80**	**249**	P	**P**	**13 28 44.4**	**-1.2**
	11nm,0.9s,baz=76,slow=19,SNR=11						
DZM	**Mont Dzumac**	**14.80**	**249**	P	**P**	**13 28 48.3**	**+2.7**
KOUNC	**Koumac, New Ca**	**16.46**	**256**	P	**P**	**13 29 02.9**	**+0.8**
OUZ	**Omahuta**	**19.04**	**200**	P	**P**	**13 29 27.4**	**+2.0**
KUZ	**Kuaotunu**	**19.90**	**193**	P	**P**	**13 29 34.7**	**+1.5**
URZ	**Urewera**	**21.10**	**189**	P	**P**	**13 29 42.3**	**-1.8**
	3.3nm,0.4s,baz=58,slow=19,SNR=6.7 3.3nm,0.4s						
URZ	**Urewera**	**21.10**	**189**	P	**P**	**13 29 43.4**	**-0.7**
LTZ	**Lake Taylor**	**26.45**	**195**	P	**P**	**13 30 29.9**	**-1.8**
JCZ	**Jackson Bay**	**28.62**	**199**	P	**P**	**13 30 50.6**	**-0.1**
EIDS	**Eidsvold**	**29.25**	**249**	P	**P**	**13 30 55.3**	**-1.0**
EIDS				IAmb	IAmb	13 30 56.4	
	comp=Z,9.2nm,0.9s						
EIDS	**Eidsvold**	**29.25**	**249**	P	**P**	**13 30 56.5**	**+0.2**
ARMA	**Armidale**	**30.02**	**239**	P	**P**	**13 31 02.5**	**-0.4**
ARMA				IAmb	IAmb	13 31 03.1	
	comp=Z,26nm,1.4s						
ARMA	**Armidale**	**30.02**	**239**	P	**P**	**13 31 03.5**	**+0.5**
CTAO	**Charters Tower**	**33.33**	**260**	P	**P**	**13 31 30.2**	**-1.1**
CTAO				IAmb	IAmb	13 31 32.0	
	comp=Z,4.9nm,0.8s						
CNB	**Canberra Magne**	**33.57**	**232**	P	**P**	**13 31 33.8**	**+0.7**
CAN	**Canberra**	**33.84**	**232**	P	**P**	**13 31 35.2**	**-0.3**
CMSA	**Cobar Meteorol**	**35.22**	**240**	P	**P**	**13 31 47.3**	**+0.4**
MTSU	**Mount Surprise**	**35.26**	**263**	P	**P**	**13 31 46.9**	**-0.6**
COEN	**Coen**	**36.90**	**270**	P	**P**	**13 32 00.2**	**-0.8**
COEN				IAmb	IAmb	13 32 11.0	
	comp=Z,19nm,1.2s						
COEN	**Coen**	**36.90**	**270**	P	**P**	**13 31 59.9**	**-1.1**
TOO	**Toolangi**	**37.33**	**230**	P	**P**	**13 32 04.0**	**-0.3**
TOO				IAmb	IAmb	13 32 06.0	
	comp=Z,8.9nm,1.1s						
STKA	**Stephens Creek**	**38.69**	**241**	P	**P**	**13 32 15.2**	**-0.2**
STKA	**Stephens Creek**	**38.69**	**241**	P	**P**	**13 32 15.2**	**-0.2**
	comp=Z,5.0nm,0.3s,baz=94,slow=7.3,SNR=45 comp=Z,5.0nm,0.3s						
STKA	**Stephens Creek**	**38.69**	**241**	P	**P**	**13 32 15.7**	**+0.3**
QIS	**Mount Isa**	**39.55**	**259**	P	**P**	**13 32 22.3**	**-0.2**
HTT	**Hallett**	**41.22**	**239**	P	**P**	**13 32 36.3**	**+0.6**
WB0	**Warramunga Arr**	**44.49**	**259**	P	**P**	**13 33 00.2**	**-1.1**
WB0				IAmb	IAmb	13 33 05.8	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**44.52**	**259**	P	**P**	**13 33 00.1**	**-1.5**
WRA	**Warramunga Arr**	**44.52**	**259**	P	**P**	**13 33 00.3**	**-1.3**
	comp=Z,2.3nm,0.3s,baz=91,slow=7.8,SNR=106 comp=Z,2.3nm,0.3s						
AS31	**Alice Springs**	**44.73**	**254**	P	**P**	**13 33 02.4**	**-0.8**
AS31				IAmb	IAmb	13 33 03.8	
	comp=Z,5.4nm,0.6s						
ASAR	**Alice Springs**	**44.73**	**254**	P	**P**	**13 33 02.3**	**-0.9**
ASAR	**Alice Springs**	**44.73**	**254**	P	**P**	**13 33 02.6**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=89,slow=7.8,SNR=770 comp=Z,1.5nm,0.3s						
MTN	**Manton Dam**	**48.61**	**268**	P	**P**	**13 33 31.9**	**-0.7**
FORT	**Forrest**	**50.03**	**244**	P	**P**	**13 33 41.9**	**-0.9**
FORT				IAmb	IAmb	13 33 46.0	
	comp=Z,6.7nm,1.1s						
KNRA	**Kununurra**	**50.34**	**264**	P	**P**	**13 33 44.9**	**-0.4**
KNRA				IAmb	IAmb	13 33 58.2	
	comp=Z,38nm,1.5s						
FITZ	**Fitzroy Crossi**	**52.91**	**260**	P	**P**	**13 34 03.1**	**-0.6**
MBWA	**Marble Bar**	**58.00**	**256**	P	**P**	**13 34 38.5**	**-0.6**
MBWA				IAmb	IAmb	13 35 18.4	
	comp=Z,22nm,1.2s						
MORW	**Morawa**	**60.49**	**246**	P	**P**	**13 34 54.8**	**-0.9**
MORW				IAmb	IAmb	13 35 25.9	
	comp=Z,23nm,1.4s						
VNDA	**Van

HATOM	**Hato Mayor del**	**0.72**	**257**	*e*Pg	**Pb**	**13 34 18.8**	**0.0**	
HATOM				eSg	**Sb**	**13 34 28.8**	**0.0**	
HATOM				IAML		13 34 31.1		
	comp=N,30nm,0.6s							
IDE	**Isla Desecheo**	**1.24**	**117**		**Pn**	**13 34 26.8**	**-0.7**	
IDE					**Sn**	**13 34 44.8**	**+0.4**	
IDE	**Isla Desecheo**	**1.24**	**117**	*e*P	**Pn**	**13 34 26.8**	**-0.7**	
IDE	**Isla Desecheo**	**1.24**	**117**	*e*S	**Sn**	**13 34 44.8**	**+0.4**	
DR08	**Loma La Naviza**	**1.31**	**271**	*e*Pg	**Pb**	**13 34 28.4**	**-0.4**	
DR08				eSg	**Sn**	**13 34 47.4**	**+1.1**	
DR08				IAML		13 34 53.1		
	comp=N,932nm,0.2s							
AGPR	**Aguadilla, PR**	**1.52**	**108**		**Pg**	**13 34 33.3**	**+0.2**	
AGPR					**Sg**	**13 34 52.9**	**+0.1**	
AGPR	**Aguadilla, PR**	**1.52**	**108**	IAML		13 34 59.7		
	comp=N,47nm,1.4s							
AGPR				IAML		13 35 00.8		
	comp=E,57nm,0.7s							
AGPR	**Aguadilla, PR**	**1.52**	**108**	⇓*e*P	**Pg**	**13 34 33.3**	**+0.2**	
AGPR	**Aguadilla, PR**	**1.52**	**108**	*e*S	**Sg**	**13 34 52.9**	**+0.1**	
MLPR	**Magueyes Islan**	**1.80**	**123**	⇓*e*P	**Pb**	**13 34 36.5**	**-0.5**	
MLPR	**Magueyes Islan**	**1.80**	**123**	*e*S	**Sb**	**13 34 59.5**	**-0.3**	
AOPR	**Arecibo Observ**	**1.88**	**108**		**Sb**	**13 35 03.0**	**+0.7**	
AOPR	**Arecibo Observ**	**1.88**	**108**		**Pb**	**13 34 37.9**	**-0.6**	
AOPR				IAML		13 35 10.6		
	comp=E,78nm,0.4s							
AOPR				IAML		13 35 13.1		
	comp=N,42nm,0.2s							
AOPR	**Arecibo Observ**	**1.88**	**108**	⇑*e*P	**Pg**	**13 34 39.1**	**-0.8**	
AOPR	**Arecibo Observ**	**1.88**	**108**	*e*S	**Sb**	**13 35 03.0**	**+0.7**	
AOPR	**Arecibo Observ**	**1.88**	**108**	⇓*e*Pg	**Pb**	**13 34 38.8**	**+0.3**	
AOPR				eSg	**Sg**	**13 35 06.0**	**+1.6**	
AOPR				IAML		13 35 09.9		
	comp=N,38nm,0.1s							
ABDR	**Alto Bandera**	**1.89**	**266**	*e*Pg	**Pg**	**13 34 40.1**	**+0.1**	
ABDR				⇓eSg	**Sg**	**13 35 04.2**	**-0.4**	
ABDR				IAML		13 35 36.2		
	comp=N,23nm,2.0s							
UUPR	**Utuado, UPR, P**	**1.94**	**111**		**Pb**	**13 34 38.5**	**-1.0**	
EMPR	**Esperanza - Ma**	**2.05**	**103**		**Pb**	**13 34 40.9**	**-0.5**	
EMPR	**Esperanza - Ma**	**2.05**	**103**		**Sb**	**13 35 06.4**	**-0.6**	
EMPR	**Esperanza - Ma**	**2.05**	**103**	IAML		13 34 55.7		
	comp=N,111nm,1.2s							
EMPR	**Esperanza - Ma**	**2.05**	**103**	⇓*e*P	**Pb**	**13 34 40.9**	**-0.5**	
EMPR	**Esperanza - Ma**	**2.05**	**103**	*e*S	**Sb**	**13 35 06.4**	**-0.6**	
OBIP	**Obispado Ponce**	**2.13**	**115**	Pn	**Pb**	**13 34 42.1**	**-0.5**	
OBIP				IAML		13 35 15.1		
	comp=N,28nm,1.8s							
CELP	**Cerrillos**	**2.14**	**114**		**Pb**	**13 34 42.6**	**-0.3**	
CELP					**Sn**	**13 35 07.2**	**+0.6**	
CELP	**Cerrillos**	**2.14**	**114**	IAML		13 35 17.3		
	comp=N,20nm,0.2s							
CELP	**Cerrillos**	**2.14**	**114**	⇓*e*P	**Pb**	**13 34 42.6**	**-0.3**	
CELP	**Cerrillos**	**2.14**	**114**	*e*S	**Sn**	**13 35 07.2**	**+0.6**	
ECPR	**Experimental S**	**2.25**	**106**	⇓*e*P	**Pn**	**13 34 42.0**	**+0.6**	
ECPR	**Experimental S**	**2.25**	**106**	*e*S	**Sn**	**13 35 09.1**	**-0.2**	
PDPR	**Patillas Dam,**	**2.65**	**110**	Pn	**Pn**	**13 34 47.1**	**+0.2**	
PDPR				IAML		13 35 38.0		
	comp=E,12nm,1.1s							

AUST 17 13:41:14.8±1.1,18°S±8′×12°1E±′, h15km±12km, mb4.0/8, ML2.8/7, Error ellipse: s-maj=21.1km s-min=5.2km az=142.1, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**2.79**	**195**	P	Pn	13 41 60.0	+1.1
MBWA				S	Sn	13 42 34.6	+2.3
PSAC1	**Pilbara Seismi**	**3.13**	**192**	P	Pn	13 42 04.7	+1.1
PSAC1				S	Sn	13 42 42.9	+2.1
PSA00	**Pilbara Seismi**	**3.17**	**191**	P	Pn	13 42 05.3	+1.2
PSA00				S	Sn	13 42 43.9	+2.3
FITZ	**Fitzroy Crossi**	**4.88**	**87**	P	Pn	13 42 28.6	+1.0
FITZ	**Fitzroy Crossi**	**4.88**	**87**	S	Sn	13 43 25.8	+1.9
GIRL	**Giralia**	**7.21**	**234**	P	Pn	13 42 58.0	-1.7
GIRL				S	Sn	13 44 13.0	-8.4
MEEK	**Meekatharra**	**8.33**	**192**	P	Pn	13 43 15.3	+0.2
	comp=Z,14nm,1.9s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.33**	**192**	S	Sn	13 44 47.6	-1.4
KNRA	**Kununurra**	**8.35**	**72**	P	Pn	13 43 15.4	0.0
	comp=Z,19nm,1.8s,comp=Z,0.0nm						
KNRA				S	Sn	13 44 48.5	-1.1
CVQOZ	**Cooralya Stati**	**8.46**	**224**	P	Pn	13 43 15.1	-1.7
WRKA	**Warakurna**	**9.75**	**134**	P	Pn	13 43 34.8	+0.1
	comp=Z,3.3nm,1.4s,comp=Z,0.0nm						
WRKA				S	Sn	13 45 25.2	+1.3
MORW	**Morawa**	**11.33**	**200**	P	Pn	13 43 53.1	-3.1
	comp=Z,11nm,1.5s						
MORW	**Morawa**	**11.33**	**200**	S	Sn	13 45 54.8	-7.8
BLDU	**Ballidu**	**12.59**	**195**	P	Pn	13 44 11.2	-2.3
	comp=Z,11nm,1.7s						
BLDU	**Ballidu**	**12.59**	**195**	S	Sn	13 46 24.2	-9.2
KLBR	**Kellerberrin**	**13.32**	**190**	P	Pn	13 44 21.1	-2.3
	comp=Z,12nm,1.2s						
KLBR	**Kellerberrin**	**13.32**	**190**	S	Sn	13 46 42.6	-8.5
FORT	**Forrest**	**14.05**	**152**	P	Pn	13 44 35.1	+1.8
	comp=Z,6.6nm,1.5s						
FORT				S	Sn	13 47 06.7	-2.3
NWAO	**Narrogin (SRO)**	**14.71**	**191**	P	Pn	13 44 39.6	-2.8
	comp=Z,28nm,1.3s						

IDC 17 14:14:15.5±2.3,7.71S×130.17E, h0km, mb3.2/1, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=108.8km s-min=27.2km az=70.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.81**	**162**	Pn	Pn	14 17 19.2	+0.1
	0.3nm,0.3s,baz=344,slow=14,SNR=9.9						
WRA				Sn	Sn	14 19 42.3	-0.3
	0.4nm,0.3s,baz=340,slow=20,SNR=7.7						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**16.26**	**168**	Pn	Pn	14 18 06.3	+0.7
	0.2nm,0.3s,baz=341,slow=9.8,SNR=14						
ASAR				Sn	Sn	14 21 07.7	+0.9
	0.1nm,0.3s,baz=351,slow=23,SNR=4.3						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**68.91**	**327**	P	P	14 25 22.3	0.0
	0.1nm,0.5s,baz=125,slow=5.9,SNR=1.8						
	0.1nm,0.5s						

*IDC **17** 14:35:33.2±2.3,28°2S×176°35W, h0km, mb3.7/3, mbtmp3.7/3, MS3.9/2, Error ellipse: s-maj=93.7km s-min=30.2km az=147.0*

ISC 17 14:35:35.5±1.4,29°3S±0′.1×176°1W±0′.1, h28km, n7, σ0s88/7, mb3.8/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.60**	**271**	Pn	**Pb**	**14 36 05.1**	**+0.8**
	77nm,0.3s,baz=101,slow=16,SNR=6.9						
RAO				Sn	**Sn**	**14 36 20.3**	**-1.3**
	211nm,0.3s,baz=282,slow=23,SNR=6.1						
URZ	**Urewera**	**10.59**	**211**	Pn	Pn	14 37 53.9	-11
	0.9nm,0.3s,baz=326,slow=3.6,SNR=6.3						
URZ				Sn	**Sn**	**14 40 02.6**	**-0.2**
	1.4nm,0.3s,baz=351,slow=18,SNR=10.0						
URZ				LR	LR	14 42 02.8	
	comp=Z,98nm,18.2s,baz=226,slow=34						
ASAR	**Alice Springs**	**44.84**	**265**	P	**P**	**14 43 48.0**	**+0.5**
	0.8nm,0.6s,baz=105,slow=7.7,SNR=18						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**45.74**	**270**	P	**P**	**14 43 54.8**	**+0.2**
	0.3nm,0.3s,baz=109,slow=8.0,SNR=13						
	0.3nm,0.3s						
JOW	**Kunigami**	**77.17**	**311**	LR	LR	15 17 51.6	
	comp=Z,321nm,19.1s,baz=148,slow=33						
NVAR	**Mina Array Bea**	**86.30**	**42**	P	**P**	**14 48 14.4**	**-0.6**
	0.2nm,0.3s,baz=209,slow=5.1,SNR=1.9						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**144.64**	**342**	PKP	**PKPab**	**14 55 07.6**	**+0.2**
	0.7nm,0.7s,baz=19,slow=4.7,SNR=4.1						

*SJA **17** 14:43:39.8±0.5, 19°99S×69°17W, h102km±2km, ML3.6, MW3.5*

*GUC **17** 14:43:42.0±0.7, 20°00S×69°18W, h94km±3km, ML3.2*

ISC 17 14:43:43.7±1.4,20°02S±0′.03×69°25W±0′.06, h83km±7km, n31, σ1s41/50, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.15**	**142**	*i* P	**Pn**	**14 43 55.6**	**-0.7**
PB08				eS	**Sn**	**14 44 06.3**	**+0.9**
PB08				IAML		14 44 07.1	
	comp=E,3μm,0.1s						
PB08	**IPOC Station P**	**0.15**	**142**	*e*P	**Pn**	**14 43 55.2**	**-1.0**
PB08				eS	**Sn**	**14 44 06.6**	**+1.1**
PB08				IAML		14 44 07.4	
	comp=Z,2μm,0.1s						
GO01	**Chusmiza**	**0.35**	**9**	*i* P	**Pn**	**14 43 56.3**	**-1.0**
GO01				eS	**Sn**	**14 44 07.8**	**+0.5**
GO01	**Chusmiza**	**0.35**	**9**	*e*P	**Pn**	**14 43 56.3**	**-1.0**
GO01				eS	Sn	14 43 56.4	-11
PB11	**IPOC Station P**	**0.46**	**304**	*i* P	**Pn**	**14 43 56.8**	**-0.8**
PB11				eS	**Sn**	**14 44 08.9**	**+0.9**
PB11				IAML		14 44 09.3	
	comp=E,2μm,0.2s						
PB11	**IPOC Station P**	**0.46**	**304**	*e*P	**Pn**	**14 43 56.6**	**-1.0**
PB11				eS	**Sn**	**14 44 09.4**	**+1.5**
PB11				IAML		14 44 12.2	
	comp=Z,911nm,0.3s						
PX03	**IPOC Station P**	**0.52**	**223**	*i* P	**Pn**	**14 43 56.7**	**-1.3**
PX03				eS	**Sn**	**14 44 09.2**	**+0.5**
PX03				IAML		14 44 10.9	
	comp=N,1μm,0.1s						
HMBC	**Humberstone**	**0.65**	**247**	*i* P	**Pn**	**14 43 58.5**	**-0.8**
HMBC				eS	**Sn**	**14 44 11.8**	**+0.9**
HMBC				IAML		14 44 13.0	
	comp=E,2μm,0.3s						
HMBC	**Humberstone**	**0.65**	**247**	*e*P	**Pn**	**14 43 57.7**	**-1.5**
HMBC				eS	**Sn**	**14 44 12.4**	**+1.6**
HMBC				IAML		14 44 13.8	
	comp=Z,2μm,0.5s						
TA02	**Huaiquique**	**0.86**	**253**	*i* P	Pn	14 43 54.3	-7.0
TA02				eS	**Sn**	**14 44 16.2**	**+1.8**
TA02	**Huaiquique**	**0.86**	**253**	*e*P	**Pn**	**14 44 00.7**	**-0.6**
TA02				eS	**Sn**	**14 44 16.3**	**+1.8**
TA02				IAML		14 44 16.9	
	comp=Z,2μm,0.2s						
TA01	**Diego Aracena**	**1.02**	**238**	⇑*i* P	**Pn**	**14 44 02.2**	**-1.0**
TA01				eS	**Sn**	**14 44 18.3**	**+0.4**
TA01				IAML		14 44 19.0	
	comp=E,678nm,0.2s						
TA01	**Diego Aracena**	**1.02**	**238**	*e*P	**Pn**	**14 44 01.5**	**-1.8**
TA01				eS	Sn	14 44 02.2	-16
TA01				IAML		14 44 20.4	
	comp=Z,397nm,0.2s						
PB01	**IPOC Station P**	**1.04**	**192**	*i* P	**Pn**	**14 44 02.5**	**-1.1**
PB01				eS	**Sn**	**14 44 18.6**	**+0.2**
PB01				IAML		14 44 19.4	
	comp=N,973nm,0.2s						
PB01	**IPOC Station P**	**1.04**	**192**	*e*P	**Pn**	**14 44 02.2**	**-1.3**
PB01				eS	**Sn**	**14 44 19.1**	**+0.7**
PB01				IAML		14 44 21.2	
	comp=Z,898nm,0.1s						
PATCX	**Punta Patache**	**1.16**	**227**	⇑*i* P	**Pn**	**14 44 03.8**	**-1.1**
PATCX				eS	**Sn**	**14 44 21.5**	**+0.5**
PATCX				IAML		14 44 24.8	
	comp=E,628nm,0.5s						
PX02	**IPOC Station P**	**1.38**	**320**	*e*P	**Pn**	**14 44 05.5**	**-2.3**
PB02	**IPOC Station P**	**1.43**	**205**	*i* P	**Pn**	**14 44 07.2**	**-1.1**
PB02	**IPOC Station P**	**1.43**	**205**	*e*P	**Pn**	**14 44 07.2**	**-1.1**
PB02				eS	**Sn**	**14 44 29.2**	**+2.4**
PB02				IAML		14 44 36.9	
	comp=Z,1μm,0.2s						
PB16	**IPOC Station P**	**1.69**	**352**	*e*P	**Pn**	**14 44 11.8**	**-0.4**
PB16				eS	**Sn**	**14 44 34.6**	**+0.8**
PB16	**IPOC Station P**	**1.69**	**352**	*e*P	**Pn**	**14 44 11.6**	**-0.7**
PB16				eS	**Sn**	**14 44 35.0**	**+1.2**
PB09	**IPOC Station P**	**1.77**	**180**	*e*P	**Pn**	**14 44 12.3**	**-0.6**
PB09				eS	**Sn**	**14 44 35.9**	**+1.0**
PB09	**IPOC Station P**	**1.77**	**180**	*e*P	**Pn**	**14 44 11.8**	**-1.0**
PB09				eS	**Sn**	**14 44 36.8**	**+1.9**
PB09				IAML		14 44 38.9	
	comp=Z,224nm,0.8s						
AP01	**Chacalluta**	**1.94**	**328**	*e*P	**Pn**	**14 44 15.0**	**+0.1**
AP01				IAML		14 44 47.5	
	comp=Z,519nm,0.2s						
PB03	**IPOC Station P**	**2.07**	**193**	*i* P	**Pn**	**14 44 15.8**	**-1.0**
PB03				eS	**Sn**	**14 44 46.1**	**+4.1**
PB03	**IPOC Station P**	**2.07**	**193**	*e*P	**Pn**	**14 44 15.4**	**-1.4**
PB03				eS	**Sn**	**14 44 44.0**	**+2.0**
PB03				IAML		14 44 49.7	
	comp=Z,288nm,0.5s						
PB06	**IPOC Station P**	**2.69**	**186**	*e*P	**Pn**	**14 44 24.0**	**-1.1**
PB06	**IPOC Station P**	**2.69**	**186**	*e*P	**Pn**	**14 44 23.6**	**-1.5**
PB06				eS	Sn	14 44 46.0	-11
PB06				IAML		14 45 03.4	
	comp=Z,156nm,0.2s						
PB05	**IPOC Station P**	**2.95**	**197**	*e*P	**Pn**	**14 44 26.9**	**-1.7**
PB05				eS	Sn	14 45 11.7	+8.5
PB05				IAML		14 45 14.6	
	comp=Z,60nm,0.3s						
AF01	**San Pedro de A**	**3.08**	**161**	*e*P	Pn	14 44 10.1	-20
AF01				IAML		14 44 42.8	
	comp=Z,176nm,0.1s						
GO02	**Mina Guanaco**	**5.13**	**183**	*e*P	**Pn**	**14 44 56.3**	**-2.0**
GO02				eS	Sn	14 46 11.1	+15

IDC 17 14:46:53.2±337.0,48°09N×47°16E, h0km, Error ellipse: s-maj=187.2km s-min=111.7km az=2.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**7.49**	**68**	I	I	15 31 50.0	
	baz=256,slow=318,SNR=1.5						
I26DE	**FREYUNG INFRAS**	**22.09**	**285**	I	I	16 59 30.0	
	baz=78,slow=306,SNR=2.7						
I48TN	**KESRA INFRASON**	**30.39**	**260**	I	I	17 52 10.0	
	baz=55,slow=306,SNR=1.1						

*NEIC **17** 14:48:46.5±1.2,35°676N±0°006×117°46W±0°01, h7km±3km, Error ellipse: s-maj=1.2km s-min=0.9km az=108.0*

PAS 17 14:48:47.0±1.1,35°682N±0°008×117°47W±0°01, h6km±2km, ML3.1/82, ML2.8/106(NEIC), Error ellipse: s-maj=1.2km s-min=1.1km az=139.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.08**	**192**		Pg	14 48 49.0	+0.1
GPO	**China Lake**	**0.16**	**258**		Pg	14 48 50.4	+0.2
GPO					Sg	14 48 52.8	+0.5
CLC	**China Lake**	**0.17**	**323**		Pg	14 48 50.3	-0.1
CLC				IAML		14 48 53.2	
	comp=E,4μm,0.2s						
CCCA	**Chr Cany lake**	**0.18**	**151**		Pg	14 48 51.0	+0.5
SRTC	**Snort**	**0.23**	**272**		Pg	14 48 51.8	+0.4
SRTC					Sg	14 48 56.0	+1.5
LRMC	**Laurel Mtn Rad**	**0.27**	**220**		Pg	14 48 52.1	-0.1
LRMC				IAML		14 48 56.5	
	comp=E,2μm,0.1s						
TOW	**Tower One**	**0.27**	**298**		Pg	14 48 52.7	+0.4
TOW					Sg	14 48 57.3	+1.5
MPMC	**Manual Prospec**	**0.38**	**358**		Pg	14 48 54.0	-0.3
MPMC				IAML		14 48 59.9	
	comp=N,1μm,0.5s						
MPMC				IAML		14 49 01.4	
	comp=E,915nm,0.7s						
MPMC	**Manual Prospec**	**0.38**	**358**		Sg	14 48 59.3	0.0
WNMM	**Nine Mile Cany**	**0.39**	**295**		Pg	14 48 54.5	0.0
WNMM					Sg	14 49 00.1	+0.6
WVPM	**Volcano Peak E**	**0.39**	**314**		Pg	14 48 54.4	-0.1
WVPM					Sg	14 49 00.0	+0.4
JRC2	**Joshua Ridge**	**0.41**	**318**		Pg	14 48 54.8	0.0
JRC2					Sg	14 49 00.8	+0.6
WCSM	**Coso Springs S**	**0.42**	**325**		Pg	14 48 54.9	-0.2
WCSM					Sg	14 49 00.8	+0.2
WRVM	**Rose V. Centra**	**0.47**	**314**		Pg	14 48 55.9	-0.2
WRVM					Sg	14 49 02.4	+0.2
DTP	**Desert Tortois**	**0.51**	**216**		Pg	14 48 56.4	-0.5
DTP					Sg	14 49 04.0	+0.4
MFS	**McCloud Flat S**	**0.53**	**324**		Pg	14 48 57.1	-0.2
MFS					Sg	14 49 04.6	+0.3
WBSM	**Bird Springs**	**0.56**	**255**		Pg	14 48 57.5	-0.3
WBSM					Sg	14 49 05.2	+0.1
QSM	**Queen of Sheba**	**0.57**	**60**		Pg	14 48 57.7	-0.2
QSM					Sg	14 49 05.4	+0.2
WORM	**Onyx Ranch**	**0.63**	**271**		Pg	14 48 58.6	-0.5
WORM					Sg	14 49 06.8	-0.4
GSC	**Goldstone, Bar**	**0.66**	**125**		Sg	14 49 08.5	+0.1
GSC	**Goldstone, Bar**	**0.66**	**125**		Pg	14 48 59.4	-0.3
GSC				IAML		14 49 08.8	
	comp=N,289nm,0.3s						
GSC				IAML		14 49 09.0	
	comp=E,576nm,0.5s						
CCAC	**Calif City Air**	**0.69**	**220**		Pg	14 48 59.8	-0.5
CCAC					Sg	14 49 09.2	0.0
WHFM	**Hanning Flat**	**0.71**	**271**		Pg	14 49 00.2	-0.4
WHFM					Sg	14 49 09.6	-0.3
ISA	**Isabella, Lake**	**0.82**	**269**		Pg	14 49 02.1	-0.5
ISA				IAML		14 49 13.4	
	comp=E,361nm,0.3s						
ISA				IAML		14 49 13.5	
	comp=N,371nm,0.3s						
ISA	**Isabella, Lake**	**0.82**	**269**		Sg	14 49 12.5	-0.7
HYS	**Haystack Butte**	**0.82**	**186**		Pg	14 49 02.0	-0.7
HYS					Sg	14 49 13.0	-0.4
GWY	**Greenwater Val**	**0.82**	**52**		Pg	14 49 02.3	-0.5
GWY				IAML		14 49 16.8	
	comp=N,448nm,0.3s						
GWY				IAML		14 49 17.5	
	comp=E,509nm,0.3s						
WASM	**Alta Sierra Ca**	**0.89**	**274**		Pg	14 49 03.4	-0.6
WASM					Sg	14 49 15.3	-0.2
RRX	**Edison Barstow**	**0.89**	**154**		Pb	14 49 04.9	0.0
CWC	**Cottonwood Cre**	**0.90**	**327**		Pg	14 49 04.0	-0.3
CWC				IAML		14 49 17.0	
	comp=N,230nm,0.2s						
CWC				IAML		14 49 17.9	
	comp=E,209nm,0.3s						
CWC	**Cottonwood Cre**	**0.90**	**327**		Sg	14 49 16.0	0.0
EDW2	**Edwards Air Fo**	**0.91**	**208**		Pg	14 49 03.5	-0.9
CGO	**Cerro Gordo**	**0.91**	**343**		Pg	14 49 03.6	-0.8
CGO					Sg	14 49 16.4	+0.2
FURC	**Furnace Creek,**	**0.93**	**32**		Pg	14 49 04.2	-0.5
SHOC	**Shoshone, Teco**	**1.00**	**77**		Pg	14 49 05.7	-0.3
SHOC					Sg	14 49 19.0	0.0
TPO	**Tropico Hills**	**1.01**	**218**		Pg	14 49 05.6	-0.8
TPO				IAML		14 49 21.9	
	comp=E,413nm,0.6s						
TPO				IAML		14 49 25.8	
	comp=N,380nm,0.5s						
SBB	**Saddle Back Bu**	**1.03**	**196**		Pg	14 49 05.8	-0.9
SBB					Sg	14 49 20.3	+0.1
TEJ	**El Tejon**	**1.09**	**246**		Pg	14 49 06.6	-1.3
VTV	**Victorville**	**1.12**	**174**		Sg	14 49 22.6	-0.5
ADO	**Adelanto Recei**	**1.13**	**178**		Pb	14 49 08.9	0.0
SPG2	**Springville 2**	**1.17**	**297**		Pg	14 49 08.3	-1.1
SPG2					Sg	14 49 23.6	-1.0
ALPC	**Antelope**	**1.20**	**215**		Pg	14 49 10.0	0.0
AMDNV	**Amargosa**	**1.23**	**51**		Pg	14 49 09.2	-1.4
ARVC	**Arvin**	**1.24**	**244**		Sg	14 49 26.4	-0.4
DSCC	**Desert Studies**	**1.24**	**115**		Pg	14 49 08.9	-1.8
LRRC	**Littlerock Res**	**1.24**	**202**		Pg	14 49 10.3	-0.5
THC	**Tehachapi Micr**	**1.24**	**232**		Pg	14 49 09.9	-0.9
LEOC	**Leona Valley**	**1.25**	**213**		Pg	14 49 09.9	-1.0
HOLC	**Holcomb Ridge**	**1.26**	**194**		Pg	14 49 09.8	-1.3
HEC	**Hector,Ludlow**	**1.26**	**132**		Pg	14 49 09.7	-1.5
CJV	**Casa Juvan**	**1.27**	**206**		Pg	14 49 11.1	-0.3
TUQ	**Turquoise Moun**	**1.29**	**101**		Pg	14 49 10.2	-1.4
TUQ					Sb	14 49 28.8	+0.3
JNH	**Juniper Hills**	**1.29**	**198**		Pn	14 49 10.5	-1.2
JNH					Sn	14 49 29.1	-0.4
WCT	**Wildcat Mounta**	**1.30**	**31**		Pn	14 49 10.7	-1.1
GRAC	**Grapevine Rang**	**1.31**	**4**		Pn	14 49 11.3	-0.7
GRAC				IAML		14 49 34.5	
	comp=E,249nm,0.6s						
SGV	**South Grapevin**	**1.34**	**15**		Pn	14 49 11.4	-1.1
CHFC	**Chilao Flat St**	**1.42**	**199**		Pn	14 49 12.3	-1.2
SIL	**Silver Peak**	**1.43**	**158**		Pn	14 49 13.9	+0.2
BFSC	**Mount Baldy Ra**	**1.45**	**186**		Pn	14 49 12.9	-0.9
BFSC				IAML		14 49 34.6	
	comp=E,129nm,0.3s						
BFSC				IAML		14 49 34.6	
	comp=N,156nm,0.5s						
SSK	**Sunset Peak**	**1.48**	**187**		Pn	14 49 14.1	-0.2
BBRC	**Big Bear Solar**	**1.49**	**162**		Sg	14 49 35.0	+0.2
MWC	**Mount Wilson**	**1.53**	**198**		Pn	14 49 14.1	-0.9
MWC				IAML		14 49 39.9	
	comp=E,145nm,0.5s						
MWC				IAML		14 49 41.9	
	comp=N,145nm,0.6s						
LCH	**Last Change Ra**	**1.55**	**355**		Pn	14 49 14.7	-0.6
MTPC	**Mountain Pass**	**1.58**	**97**		Pn	14 49 13.3	-2.3
MTPC				IAML		14 49 37.2	
	comp=N,104nm,0.3s						
MTPC				IAML		14 49 39.9	
	comp=E,113nm,0.3s						
SVD	**Seven Oaks Dam**	**1.60**	**169**		Pg	14 49 17.4	-0.3
SVD					Sg	14 49 38.2	-0.2
TPNV	**Topopah Spring**	**1.60**	**38**		Pn	14 49 15.1	-1.0
TPNV				IAML		14 49 41.9	
	comp=E,82nm,0.5s						
TPNV				IAML		14 49 44.1	
	comp=E,77nm,0.5s						
PSRC	**Puddingstone R**	**1.61**	**190**		Pb	14 49 17.1	0.0
PASC	**Pasadena Art C**	**1.62**	**201**		Pn	14 49 15.2	-0.8
PASC				IAML		14 49 44.4	
	comp=E,65nm,0.5s						
GMN	**Gold Mountain**	**1.62**	**6**		Pn	14 49 15.8	-0.6
GTM	**Goat Mountain**	**1.66**	**146**		Pn	14 49 15.5	-1.2
VOG	**Valley Oaks Go**	**1.68**	**293**		Pn	14 49 16.8	-0.1
DSP	**Deep Springs**	**1.73**	**347**		Pn	14 49

U15A IAML 14 51 09.6
comp=E,8.4nm,1.6s

*IDC **17** 14:57:54.8±0.5, 1°.08S×128°.62E, h0km, mb4.5/20, mbtmp4.5/24, ML4.5/4, MS4.0/19, Error ellipse: s-maj=20.9km s-min=10.9km az=80.0*
*NEIC **17** 14:57:55.7±1.5, 0°.97S±0°.05×128°.78E±0°.06, h11km±4km, mb5.1/70, Mww5.0/23, Error ellipse: s-maj=9.2km s-min=6.3km az=51.0*
*GCMT **17** 14:57:56.7±0.2, 0°.96S±0°.01×128°.68E±0°.02, h12km, MW5.0/99, Moment Tensor Solution. s49,c65; s99,c168; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.78±.12; Mθθ3.86±.09; Mϕϕ-0.07±.12; Mrθ0.83±.31; Mϕθ2.01±.09; Mrϕ0.23±.47; Best double couple: Mo4.33000×10¹⁶ NP1:ϕs249.00000°, δ39.00000°, λ-93.00000°. NP2: ϕs249.00000°, δ51.00000°, λ-87.00000°. Principal axes: T 4.7910, Plg6.0000°, Azm337.0000°; N -0.9180, Plg2.0000°, Azm68.0000°; P -3.8700, Plg84.0000°, Azm178.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **17** 14:57:56.2, 1°.17S×128°.79E, h12km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10¹⁶Nm; Mrr-2.77; Mθθ2.88; Mϕϕ-0.12; Mrθ-2.93; Mθθ1.47; Mθr-0.90; Fault plane solution: Mo4.42000×10¹⁶ NP1: ϕs241.72000°, δ23.05000°, λ-99.49000°. NP2:ϕs72.02000°, δ67.29000°, λ-85.99000°. Principal axes: T 4.7309, Plg22.0000°, Azm159.0000°; N -0.7027, Plg4.0000°, Azm250.0000°; P -4.0281, Plg67.0000°, Azm349.0000°;*
*MOS **17** 14:57:56.1±1.1, 1°.16S×128°.51E, h22km, mb5.2/44 Error ellipse: s-maj=11.2km s-min=5.4km az=117.7*
*NEIC **17** 14:57:56.2, 0°.97S×128°.79E, h12km*
*DJA **17** 14:57:58.6±0.3, 1°.S±2°×12°.9E±°, h18km±2km, M5.2/71, mb5.3/71, mB5.7/43, MLv5.3/23, Mw(mB)5.2/43, MwMwp4.8/6, Mwp5.1/6*
ISC 17 14:57:58.9±0.4, **1°.07S**±0°.03×**128°.71E**±0°.04, **h26**km±2km, **h27**km:**pP-P, n363,** σ**2°03**/385, **mb5.0**/110, **MS4.3**/33, **16C-15D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.27**	**324**		**Pn**	**14 58 33.2**	**-1.5**
TNTI				Sn	**Sn**	**14 59 00.9**	**-0.8**
TNTI	**Ternate**	**2.27**	**324**	P	**Pn**	**14 58 35.0**	**+0.4**
TNTI	**Ternate**	**2.27**	**324**	P	**Pn**	**14 58 34.2**	**-0.4**
MSAI	**Masohi**	**2.28**	**174**	P	**Pb**	**14 58 37.7**	**-1.6**
SWI	**Sorong**	**2.56**	**86**	P	**Pn**	**14 58 38.3**	**-0.3**
AAI	**Ambon**	**2.66**	**191**	P	**Pn**	**14 58 42.9**	**+2.9**
NLAI	**Namlea**	**2.69**	**217**	P	**Pn**	**14 58 42.6**	**+2.1**
SANI	**Sanana**	**2.89**	**250**	P	**Pn**	**14 58 43.1**	**-0.1**
SANI	**Sanana**	**2.89**	**250**	P	**Pn**	**14 58 43.1**	**-0.1**
BNDI	**Bandanaira**	**3.64**	**161**	P	**Pn**	**14 58 56.4**	**+2.9**
BNDI	**Bandanaira**	**3.64**	**161**	P	**Pn**	**14 58 55.2**	**+1.7**
FAKI	**Fak Fak**	**3.99**	**118**		**Pn**	**14 58 57.1**	**-1.2**
FAKI				Sn	**Sn**	**14 59 42.7**	**-1.6**
FAKI	**Fak Fak**	**3.99**	**118**	P	**Pn**	**14 58 57.6**	**-0.8**
KMSI	**Cibinong**	**5.00**	**289**	P	**Pn**	**14 59 13.6**	**+1.3**
RKPI	**Ransiki, Papua** 3.2nm300nm,0.8s	**5.49**	**95**	P	**Pn**	**14 59 19.7**	**+0.8**
KMPI	**Kaimana, Papua** 3.9nm6µm7µm509nm,0.8s	**5.62**	**117**	P	**Pn**	**14 59 20.6**	**-0.1**
SGSI	**Sangihe** 4.0nm5µm6µm529nm,0.9s	**5.69**	**326**	P	**Pn**	**14 59 22.0**	**+0.2**
KDI	**Kendari**	**6.73**	**245**	P	**Pn**	**14 59 38.0**	**+2.0**
MRSI	**Marisa** 1.2nm263nm,1.0s	**6.94**	**283**	P	**Pn**	**14 59 39.3**	**+0.4**
APSI	**Ampana**	**7.06**	**271**	P	**Pn**	**14 59 41.7**	**+1.1**
SAUI	**Saumlaki**	**7.34**	**159**		**Pn**	**14 59 44.4**	**-0.1**
SAUI				Sn	**Sn**	**15 01 07.7**	**+0.7**
SAUI	**Saumlaki** 578nm,1.1s	**7.34**	**159**	P	**Pn**	**14 59 47.2**	**+2.8**
BAKI	**Biak** 0.5nm127nm,1.1s	**7.40**	**91**	P	**Pn**	**14 59 45.3**	**+0.1**
BBSI	**Bau Bau**	**7.54**	**234**	P	**Pn**	**14 59 51.5**	**+4.3**
TOLI2	**Tolitoli**	**8.22**	**285**		**Pn**	**14 59 56.6**	**+0.1**
TOLI2				Sn	**Sn**	**15 01 27.5**	**-1.0**
TOLI2	**Tolitoli**	**8.22**	**285**	P	**Pn**	**14 59 57.1**	**+0.6**
PCI	**Palu**	**8.87**	**271**	P	**Pn**	**15 00 05.8**	**+0.3**
MPSI	**Mapaga** 2µm234nm,1.1s	**8.92**	**279**	P	**Pn**	**15 00 07.3**	**+1.2**
TTSI	**Tana Toraja** 4µm409nm,0.9s	**9.10**	**257**	P	**Pn**	**15 00 09.1**	**+0.5**
BNSI	**Bone** 3µm225nm,0.8s	**9.21**	**249**	P	**Pn**	**15 00 11.7**	**+1.6**
SPSI	**Sidrap Palu** 4µm406nm,1.0s	**9.38**	**252**	P	**Pn**	**15 00 14.2**	**+1.7**
BKSI	**Bulukumba**	**9.56**	**244**	P	**Pn**	**15 00 18.0**	**+3.1**
BSSI	**Bau Bau, Buton** 6µm432nm,1.2s	**9.63**	**238**	P	**Pn**	**15 00 18.3**	**+2.5**
SOEI	**Soe**	**9.70**	**207**		**Pn**	**15 00 17.4**	**+0.5**
SOEI	**Soe**	**9.70**	**207**	P	**Pn**	**15 00 19.7**	**+2.8**
SOEI	**Soe** 4µm327nm,1.0s	**9.70**	**207**	P	**Pn**	**15 00 20.2**	**+3.3**
KAPI	**Kappang**	**9.77**	**246**		**Pn**	**15 00 19.7**	**+2.0**
KAPI	**Kappang** 8.0nm,0.3s,baz=62,slow=7.1,SNR=56	**9.77**	**246**	Pn	**Pn**	**15 00 20.0**	**+2.2**
KAPI	1.1nm,0.3s,baz=63,slow=23,SNR=0.9			Sn	**Sn**	**15 02 11.2**	**+4.6**
KAPI	**Kappang**	**9.77**	**246**	P	**Pn**	**15 00 19.9**	**+2.2**
KAPI	**Kappang**	**9.77**	**246**	*d* iP	**Pn**	**15 00 20.6**	**+2.9**
MMRI	**Maumere**	**9.90**	**220**		**Pn**	**15 00 20.8**	**+1.1**
MMRI	**Maumere**	**9.90**	**220**	P	**Pn**	**15 00 22.0**	**+2.4**
MMRI	**Maumere** 3µm223nm,1.3s	**9.90**	**220**	P	**Pn**	**15 00 22.8**	**+3.2**
EDFI	**Ende, Flores** 2µm128nm,1.3s	**10.35**	**222**	P	**Pn**	**15 00 28.8**	**+3.0**
BATI	**Baumata** 5.1nm,0.3s,baz=36,slow=0.6,SNR=5.6 21nm,0.8s	**10.38**	**209**	Pn	**Pn**	**15 00 25.2**	**-0.9**
BATI	**Baumata** 141nm,1.2s	**10.38**	**209**	P	**Pn**	**15 00 29.5**	**+3.4**
DRS	**Darwin Rock St**	**11.50**	**169**	P	**Pn**	**15 00 44.1**	**+2.6**
GENI	**Genyem**	**11.55**	**98**	P	Pn	15 00 46.3	+4.1
GENI	**Genyem** 3µm148nm,1.3s	**11.55**	**98**	P	**Pn**	**15 00 44.2**	**+2.0**
BKB	**Balikpapan**	**11.81**	**269**	P	**Pn**	**15 00 46.5**	**+0.7**
BKB	**Balikpapan**	**11.81**	**269**	P	**Pn**	**15 00 49.3**	**+3.5**
MTN	**Manton Dam**	**11.95**	**169**		**Pn**	**15 00 46.3**	**-1.3**
MTN	**Manton Dam**	**11.95**	**169**	P	**Pn**	**15 00 46.8**	**-0.8**
WSI	**Waingapu** 553nm,1.4s	**11.96**	**224**	P	**Pn**	**15 00 51.6**	**+3.8**
JAY	**Jayapura** 1.1nm,0.3s,baz=247,slow=9.2,SNR=6.2	**12.08**	**97**	Pn	**Pn**	**15 00 51.6**	**+2.2**
JAY	comp=Z,2µm,18.4s,baz=302,slow=47 20nm,0.9s			LR	LR	15 07 20.9	
JAY	**Jayapura**	**12.08**	**97**	P	**Pn**	**15 00 51.2**	**+1.8**
KDU	**Kakadu**	**12.13**	**162**	P	**Pn**	**15 00 46.9**	**-3.3**
BASI	**Baing, Sumba** 4µm332nm,1.7s	**12.17**	**221**	P	**Pn**	**15 00 52.5**	**+1.9**
WBSI	**Waikabubak, Su** 2µm240nm,1.0s	**12.59**	**227**	P	**Pn**	**15 00 58.9**	**+2.4**
PLAI	**Plampang**	**13.34**	**234**	P	**Pn**	**15 01 07.9**	**+1.2**
PLAI	**Plampang** 4µm232nm,0.9s	**13.34**	**234**	P	**Pn**	**15 01 10.2**	**+3.5**
KKM	**Kota Kinabalu**	**14.34**	**300**		**Pn**	**15 01 18.3**	**-2.1**
KKM	**Kota Kinabalu**	**14.34**	**300**	P	**Pn**	**15 01 22.4**	**+2.0**
KNRA	**Kununurra**	**14.52**	**180**		**Pn**	**15 01 20.8**	**-2.0**
KNRA	**Kununurra**	**14.52**	**180**	P	**Pn**	**15 01 20.5**	**-2.2**
SRBI	**Singaraja** 2µm193nm,1.2s	**15.15**	**242**	P	**Pn**	**15 01 33.9**	**+2.7**
KMMI	**Kalianget** 3µm161nm,1.4s	**15.86**	**248**	P	**P**	**15 01 43.2**	**-0.8**
JAGI	**Jajag, Banyuwa** comp=Z,275nm,1.1s	**16.26**	**243**	P	**Pn**	**15 01 46.5**	**+0.9**
JAGI				IAmb	IAmb	15 01 52.5	
JAGI	**Jajag, Banyuwa**	**16.26**	**243**	P	**P**	**15 01 47.9**	**-0.5**
JAGI	**Jajag, Banyuwa** comp=Z,4µmcomp=Z,285nm,1.3s	**16.26**	**243**	P	**P**	**15 01 48.2**	**-0.2**
GMJI	**Gumukmas** comp=Z,4µmcomp=Z,277nm,1.5s	**16.81**	**244**	P	**P**	**15 01 55.3**	**+0.8**
SBUM	**Sibu**	**16.85**	**282**		**Pn**	**15 01 51.5**	**-1.6**
SBUM	**Sibu**	**16.85**	**282**	P	**P**	**15 01 55.2**	**+0.2**
TGY	**Tagaytay City** comp=Z,614nm,21.5s,baz=114,slow=40	**16.92**	**333**	LR	LR	15 09 03.9	
FITZ	**Fitzroy Crossi**	**17.19**	**190**		**Pn**	**15 01 55.0**	**-2.3**
FITZ	**Fitzroy Crossi**	**17.19**	**190**	P	**Pn**	**15 01 53.1**	**-4.3**
FITZ	**Fitzroy Crossi** comp=Z,0.5nm,0.3s,baz=19,slow=8.8,SNR=9.8	**17.19**	**190**	Pn	**Pn**	**15 01 54.1**	**-3.2**
FITZ	comp=Z,752nm,18.4s,baz=21,slow=41 comp=Z,7.7nm,0.8s			LR	LR	15 09 38.1	
STKI	**Sintang** comp=Z,91nm,1.1s	**17.27**	**274**	P	**P**	**15 01 59.9**	**+0.2**
NGJI	**Ngawi** comp=Z,122nm,1.4s	**18.30**	**250**	P	**Pn**	**15 02 13.2**	**+2.2**
KSM	**Kuching**	**18.57**	**278**		**Pn**	**15 02 14.3**	**-0.1**
KSM	**Kuching** comp=Z,107nm,1.0s	**18.57**	**278**	P	**Pn**	**15 02 15.5**	**+1.1**
MANU	**Manus Island**	**18.68**	**93**	P	**P**	**15 02 13.2**	**-2.0**
PCJI	**Pacitan** comp=Z,4µmcomp=Z,369nm,1.2s	**18.84**	**247**	P	**Pn**	**15 02 18.1**	**+0.4**
WOJI	**Wonogiri, Jawa** comp=Z,142nm,1.4s	**18.96**	**249**	P	**Pn**	**15 02 20.0**	**+1.0**
SMRI	**Semarang**	**19.16**	**251**	P	**P**	**15 02 20.3**	**-0.2**
SMRI	comp=Z,215nm,1.3s			IAmb	IAmb	15 02 24.7	
SMRI	**Semarang**	**19.16**	**251**	P	**Pn**	**15 02 21.7**	**+0.2**
SMRI	**Semarang** comp=Z,148nm,1.1s	**19.16**	**251**	P	**Pn**	**15 02 22.8**	**+1.3**
COEN	**Coen**	**19.21**	**133**		**P**	**15 02 19.7**	**-1.3**
COEN	comp=Z,161nm,1.2s			IAmb	IAmb	15 02 28.7	
COEN	**Coen**	**19.21**	**133**	P	**Pn**	**15 02 24.3**	**+2.2**
UGM	**Wanagama**	**19.35**	**249**		**P**	**15 02 21.6**	**-1.1**
UGM	**Wanagama**	**19.35**	**249**	P	**Pn**	**15 02 25.2**	**+1.3**
UGM	**Wanagama** comp=Z,188nm,1.5s	**19.35**	**249**	P	**Pn**	**15 02 24.5**	**+0.6**
WB0	**Warramunga Arr**	**19.40**	**164**		**P**	**15 02 21.1**	**-2.0**
WB0	comp=Z,145nm,1.1s			IAmb	IAmb	15 02 31.1	
WRAB	**Tennant Creek**	**19.55**	**164**	P	**P**	**15 02 23.1**	**-1.6**
WRAB	**Tennant Creek**	**19.55**	**164**	*c* iP	**P**	**15 02 23.3**	**-1.4**
WRA	**Warramunga Arr**	**19.55**	**164**	P	**P**	**15 02 21.5**	**-3.3**
WRA	**Warramunga Arr** comp=Z,3.1nm,0.3s,baz=347,slow=12,SNR=79	**19.55**	**164**	P	**P**	**15 02 23.2**	**-1.6**
WRA	comp=Z,7.6nm,0.9s,baz=335,slow=23,SNR=3.8			S	S	15 05 48.6	-16
WRA	comp=Z,1µm,20.1s,baz=14,slow=39 comp=Z,36nm,0.9s			LR	LR	15 10 41.6	
WRA	**Warramunga Arr**	**19.55**	**164**	*i* P	**P**	**15 02 23.2**	**-1.6**
WRA	comp=Z,38nm,0.7s			pmax	pmax		
WR8	**Warramunga Arr**	**19.61**	**164**		**P**	**15 02 24.1**	**-1.3**
WR8	comp=Z,176nm,1.6s			IAmb	IAmb	15 02 33.8	
CMJI	**Cimerak** comp=Z,169nm,1.2s	**21.26**	**251**	P	**P**	**15 02 43.2**	**-0.2**
GUMO	**Guam** comp=Z,276nm,18.5s,baz=229,slow=39	**21.65**	**47**	LR	LR	15 12 05.0	
LEM	**Lembang** comp=Z,57nm,1.1s,baz=129,slow=17,SNR=6.2 comp=Z,57nm,1.1s	**21.80**	**254**	P	**P**	**15 02 48.8**	**-0.5**
LEM	**Lembang** comp=Z,2µmcomp=Z,87nm,1.0s	**21.80**	**254**	P	**P**	**15 02 50.7**	**+1.4**
MBWA	**Marble Bar**	**21.81**	**203**		**P**	**15 02 47.3**	**-1.8**
MBWA	comp=Z,80nm,1.1s			IAmb	IAmb	15 03 01.3	
MBWA	**Marble Bar**	**21.81**	**203**	P	**P**	**15 02 51.9**	**+2.7**
BBJI	**Bungbulang**	**21.93**	**253**	P	**P**	**15 02 52.8**	**+2.2**
PSA00	**Pilbara Seismi**	**22.14**	**202**	P	**P**	**15 02 50.8**	**-1.9**
PSA00	**Pilbara Seismi**	**22.14**	**202**	P	**P**	**15 02 55.8**	**+3.1**
CNJI	**Cibinong** comp=Z,79nm,1.1s	**22.39**	**253**	P	**P**	**15 02 55.3**	**-0.2**
MTSU	**Mount Surprise**	**22.86**	**139**	P	**P**	**15 03 04.8**	**+4.3**
AS31	**Alice Springs**	**23.02**	**168**	P	**P**	**15 03 00.7**	**-1.4**
AS31	comp=Z,63nm,1.2s			IAmb	IAmb	15 03 14.8	
ASAR	**Alice Springs**	**23.02**	**168**	P	**P**	**15 03 00.6**	**-1.5**
ASAR	**Alice Springs** comp=Z,18nm,0.5s,baz=350,slow=12,SNR=143	**23.02**	**168**	P	**P**	**15 02 60.0**	**-2.2**
ASAR	comp=Z,1.9nm,0.8s,baz=5.5,slow=2.9,SNR=2.6			PcP	**PcP**	**15 06 52.2**	**+0.8**
ASAR	comp=Z,17nm,0.9s,baz=349,slow=20,SNR=5.3			S	**S**	**15 07 07.6**	**-3.8**
ASAR	comp=Z,881nm,19.6s,baz=344,slow=40 comp=Z,18nm,0.5s			LR	LR	15 13 10.5	
CGJI	**Cibinong** comp=Z,143nm,1.2s	**23.61**	**256**	P	**P**	**15 03 07.5**	**-0.5**
RABL	**Rabaul**	**23.63**	**98**	P	**P**	**15 03 05.4**	**-2.8**
DLV	**Lat**	**23.89**	**303**		**P**	**15 03 08.5**	**-2.3**
DLV	**Lat**	**23.89**	**303**	P	**P**	**15 03 13.1**	**+2.3**
KLI	**Kotabumi**	**24.11**	**261**	P	**P**	**15 03 14.4**	**+1.6**
KASI	**Kota Agung** comp=Z,1µmcomp=Z,112nm,1.4s	**24.57**	**259**	P	**P**	**15 03 17.7**	**+0.8**
MDSI	**Maura Dua** comp=Z,2µmcomp=Z,108nm,1.2s	**24.73**	**262**	P	**P**	**15 03 19.7**	**+1.3**
TWG	**Pinlang**	**24.88**	**343**	P	**P**	**15 03 16.7**	**-2.9**
TWG	comp=Z,68nm,1.1s			IAmb	IAmb	15 03 26.8	
LWLI	**Liwa** comp=Z,3µmcomp=Z,188nm,1.4s	**24.92**	**260**	P	**P**	**15 03 21.8**	**+1.5**
MYKOM	**Kota Tinggi**	**25.02**	**276**		**P**	**15 03 20.7**	**-0.3**
MYKOM	**Kota Tinggi**	**25.02**	**276**	P	**P**	**15 03 23.1**	**+2.1**
LHSI	**Lahat** comp=Z,67nm,1.1s	**25.31**	**263**	P	**P**	**15 03 25.1**	**+1.5**
TPUB	**Ta-pu**	**25.46**	**343**	P	**P**	**15 03 22.7**	**-2.2**
TPUB	**Ta-pu**	**25.46**	**343**	P	**P**	**15 03 28.6**	**+3.7**
CTAO	**Charters Tower**	**25.53**	**139**	P	**P**	**15 03 25.5**	**-0.1**
CTAO	**Charters Tower**	**25.53**	**139**	P	**P**	**15 03 30.1**	**+4.5**
CTAO	**Charters Tower**	**25.53**	**139**	P	**P**	**15 03 25.5**	**-0.1**
CTAO	comp=Z,98nm,1.3s			pmax	pmax		
GIRL	**Giralia**	**25.65**	**212**	P	**P**	**15 03 26.3**	**-0.4**
SSLB	**Suanglung**	**25.83**	**344**	P	**P**	**15 03 25.4**	**-2.8**
SSLB	comp=Z,94nm,1.3s			IAmb	IAmb	15 03 47.2	
SSLB	**Suanglung**	**25.83**	**344**	P	**P**	**15 03 31.4**	**+3.2**
MEEK	**Meekatharra**	**27.22**	**200**	P	**P**	**15 03 42.4**	**+1.6**
QIZ	**Qiongzhong**	**27.24**	**318**	P	**P**	**15 03 40.3**	**-0.7**
QIZ	comp=Z,53nm,1.4s			IAmb	IAmb	15 03 48.2	
QIZ	**Qiongzhong**	**27.24**	**318**	P	**P**	**15 03 40.8**	**-0.3**
QIZ				sP	sP	15 03 56.9	+5.2
QIZ				S	**S**	**15 08 18.3**	**-0.5**
QIZ	comp=Z,51nm,1.3s			pmax	pmax		
QIZ	comp=Z,370nm,6.3s			pmax	pmax		
QIZ	comp=Z,330nm,12.6s			LR	LR		
QIZ	comp=Z,270nm,17.4s			LR	LR		
QIZ	comp=Z,870nm,17.4s			LR	LR		
QIZ	**Qiongzhong**	**27.24**	**318**	P	**P**	**15 03 43.3**	**+2.2**
IPM	**Ipoh**	**28.20**	**281**		**P**	**15 03 48.2**	**-1.6**
IPM	**Ipoh**	**28.20**	**281**	P	**P**	**15 03 52.3**	**+2.5**
KULM	**Kulim**	**28.73**	**283**	P	**P**	**15 03 52.4**	**-2.0**
KULM	comp=Z,53nm,1.3s			IAmb	IAmb	15 03 56.3	
KULM	**Kulim**	**28.73**	**283**	P	**P**	**15 03 56.9**	**+2.5**
QLP	**Quilpie**	**29.44**	**151**	P	**P**	**15 04 04.8**	**+4.3**
FORT	**Forrest**	**29.56**	**181**	P	**P**	**15 04 01.0**	**-0.5**
RPSI	**Rantau Prapat**	**30.01**	**277**	P	**P**	**15 04 04.3**	**-1.5**
PSI	**Prapat** comp=Z,214nm,19.1s,baz=28,slow=41	**30.02**	**277**	LR	LR	15 18 18.6	
PSI	**Prapat**	**30.02**	**277**	P	**P**	**15 04 07.1**	**+1.1**
PSI	**Prapat**	**30.02**	**277**	P	**P**	**15 04 04.3**	**-1.7**
PSI	comp=Z,68nm,1.1s			pmax	pmax		
GSI	**Gunungsitoli**	**31.22**	**274**	P	**P**	**15 04 15.4**	**-1.1**
GSI	comp=Z,36nm,0.8s			IAmb	IAmb	15 04 16.8	
GSI	**Gunungsitoli**	**31.22**	**274**	P	**P**	**15 04 18.2**	**+1.7**
GSI	**Gunungsitoli** comp=Z,42nm,1.6s	**31.22**	**274**	P	**P**	**15 04 15.7**	**-0.8**
HNR	**Honiara** comp=Z,367nm,21.8s,baz=260,slow=37	**32.17**	**106**	LR	LR	15 17 53.9	
EIDS	**Eidsvold**	**32.40**	**140**	P	**P**	**15 04 30.8**	**+4.1**
MLSI	**Meulaboh, Aceh**	**32.71**	**280**	P	**P**	**15 04 29.5**	**-0.1**
WHYH	**Whyalla**	**32.87**	**166**	P	**P**	**15 04 34.8**	**+4.1**
SLVN	**Son La**	**32.92**	**314**	P	**P**	**15 04 29.9**	**-1.4**
SLVN	comp=Z,29nm,1.2s			IAmb	IAmb	15 04 38.7	
SLVN	**Son La**	**32.92**	**314**	P	**P**	**15 04 33.7**	**+2.4**
STKA	**Stephens Creek**	**32.98**	**160**	P	**P**	**15 04 31.5**	**-0.2**
STKA	**Stephens Creek** comp=Z,8.6nm,0.9s,baz=316,slow=9.3,SNR=9.4	**32.98**	**160**	P	**P**	**15 04 31.7**	**0.0**
STKA	comp=Z,411nm,18.3s,baz=343,slow=39 comp=Z,8.6nm,0.9s			LR	LR	15 19 14.9	
STKA	**Stephens Creek**	**32.98**	**160**	P	**P**	**15 04 35.4**	**+3.7**
STKA	**Stephens Creek**	**32.98**	**160**	P	**P**	**15 04 31.5**	**-0.2**
STKA	comp=Z,102nm,1.2s			pmax	pmax		
NWAO	**Narrogin (SRO)** comp=Z,204nm,20.3s,baz=338,slow=38	**33.48**	**198**	LR	LR	15 19 14.8	
HTT	**Hallett**	**33.59**	**164**	P	**P**	**15 04 40.8**	**+3.7**
JNU	**Nakatsue** comp=Z,302nm,20.9s,baz=166,slow=36	**34.06**	**3**	LR	LR	15 18 24.5	
JNU	**Nakatsue**	**34.06**	**3**	P	**P**	**15 04 44.4**	**+3.2**
NJ2	**Nanjing**	**34.23**	**345**	*e*P	**P**	**15 04 42.8**	**+0.2**
NJ2	comp=Z,9.0nm,0.5s			pmax	pmax		
WHN	**Wuhan**	**34.28**	**338**	P	**P**	**15 04 46.9**	**+3.9**
WHN				pP	**sP**	**15 04 51.6**	**-2.1**
WHN	comp=Z,710nm,9.4s			pmax	pmax		
WHN	comp=Z,2µm,24.3s			LR	LR		
CMSA	**Cobar Meteorol**	**34.30**	**154**	P	**P**	**15 04 47.2**	**+4.0**
GYA	**Guiyang**	**34.66**	**324**	⇓P	**P**	**15 04 50.1**	**+3.6**
GYA	comp=Z,21nm,1.1s			pmax	pmax		
JMN	**Monobe**	**34.95**	**8**	P	**P**	**15 04 46.2**	**-2.6**
JMN	**Monobe**	**34.95**	**8**	P	**P**	**15 04 52.2**	**+3.4**
CM31	**Chiang Mai Arr**	**35.11**	**305**	P	**P**	**15 04 48.5**	**-1.9**
CM31	comp=Z,24nm,1.1s			IAmb	IAmb	15 04 57.9	
CMAR	**Chiang Mai Arr**	**35.11**	**305**		**P**	**15 04 48.9**	**-1.5**
CMAR	**Chiang Mai Arr** comp=Z,8.3nm,1.1s,baz=128,slow=7.5,SNR=30	**35.11**	**305**	P	**P**	**15 04 50.0**	**-0.4**
CMAR	comp=Z,4.4nm,0.9s,baz=172,slow=2.2,SNR=6.2			PcP	**PcP**	**15 07 20.8**	**-1.0**
CMAR	comp=Z,116nm,20.9s,baz=115,slow=39 comp=Z,8.3nm,1.1s			LR	LR	15 20 48.9	
CMAR	**Chiang Mai Arr**	**35.11**	**305**	*i* P	**P**	**15 04 51.7**	**+1.3**
CMAR	comp=Z,10.0nm,1.0s			pmax	pmax		
CHTO	**Chiang Mai**	**35.29**	**306**	P	**P**	**15 04 51.0**	**-0.9**
CHTO	comp=Z,23nm,0.8s			IAmb	IAmb	15 04 59.2	
CHTO	**Chiang Mai**	**35.29**	**306**	P	**P**	**15 04 53.0**	**+1.0**
CHTO	**Chiang Mai**	**35.29**	**306**	P	**P**	**15 04 51.0**	**-0.9**
CHTO	comp=Z,23nm,0.9s			pmax	pmax		
ENH	**Enshi**	**36.15**	**331**	P	**P**	**15 05 01.9**	**+2.7**
KMI	**Kunming**	**36.19**	**318**	P	**P**	**15 05 02.3**	**+2.4**
KMI				S	**S**	**15 10 37.8**	**-0.9**
KMI	comp=Z,39nm,1.3s			pmax	pmax		
KMI	comp=Z,220nm,3.4s			pmax	pmax		
KMI	comp=Z,250nm,10.7s			LR	LR		
KMI	comp=Z,220nm,11.4s			LR	LR		
KMI	comp=Z,360nm,18.1s			LR	LR		
INU	**Inuyama**	**37.05**	**11**	P	**P**	**15 05 04.0**	**-2.7**
INU	comp=Z,54nm,1.3s			IAmb	IAmb	15 05 12.0	
INU	**Inuyama**	**37.05**	**11**	P	**P**	**15 05 10.0**	**+3.3**
TJN	**Taejon**	**37.27**	**358**	P	**P**	**15 05 11.8**	**+3.2**
TJN	**Taejon**	**37.27**	**358**	⇑P	**P**	**15 05 10.1**	**+1.5**
JGF	**Kuroka**	**37.36**	**12**		**P**	**15 05 06.4**	**-3.0**
JGF	comp=Z,50nm,1.5s			IAmb	IAmb	15 05 15.1	
JGF	**Kuroka**	**37.36**	**12**	P	**P**	**15 05 12.8**	**+3.4**
PZH	**PanZhiHua**	**37.78**	**318**	P	**P**	**15 05 13.8**	**+0.6**
PZH	comp=Z,10.0nm,0.7s			pmax	pmax		
PZH	comp=Z,100nm,4.8s			pmax	pmax		
KSRS	**Korea Array** comp=Z,2.5nm,0.9s,baz=176,slow=10,SNR=12	**38.33**	**359**	P	**P**	**15 05 18.4**	**+0.8**
KSRS	comp=Z,2.3nm,0.9s,baz=185,slow=4.7,SNR=4.6 comp=Z,2.5nm,0.9s			PcP	**PcP**	**15 07 33.0**	**+1.9**
MAJO	**Matsushiro**	**38.45**	**12**	P	**P**	**15 05 16.4**	**-2.1**
MAJO	**Matsushiro**	**38.45**	**12**	P	**P**	**15 05 22.3**	**+3.8**
MAJO	**Matsushiro**	**38.45**	**12**	*d* iP	**P**	**15 05 18.1**	**-0.4**
MAJO	comp=Z,76nm,2.1s			pmax	pmax		
MJAR	**Matsushiro Arr**	**38.45**	**12**	P	**P**	**15 05 14.9**	**-3.7**
MJAR	**Matsushiro Arr** comp=Z,5.3nm,1.0s,baz=188,slow=8.7,SNR=11	**38.45**	**12**	P	**P**	**15 05 17.9**	**-0.7**
MJAR	comp=Z,3.0nm,1.0s,baz=184,slow=2.8,SNR=3.0			PcP	**PcP**	**15 07 31.9**	**+0.4**
MJAR	comp=Z,129nm,20.9s,baz=278,slow=33 comp=Z,5.3nm,1.0s			LR	LR	15 19 06.6	
MJAR	**Matsushiro Arr**	**38.45**	**12**	P	**P**	**15 05 14.9**	**-3.7**
MJAR	comp=Z,49nm,2.0s			pmax	pmax		
MJB9	**Matsu-Tunnel**	**38.45**	**12**	P	**P**	**15 05 15.4**	**-3.2**
LYN	**LuoYang**	**38.56**	**338**	*e*P	P	15 05 25.5	+5.9
LYN				S	S	15 11 26.3	+12
LYN				sS	ScP	15 11 42.0	+24
LYN	comp=Z,25nm,0.7s			pmax	pmax		
TNCH	**TengChong**	**39.08**	**314**	P	**P**	**15 05 25.3**	**+1.0**
TNCH	comp=Z,27nm,1.4s			pmax	pmax		
XAN	**Xi'an**	**39.56**	**334**	⇑P	**P**	**15 05 28.0**	**0.0**
XAN				pP	pP	15 05 33.1	-2.5
XAN	comp=Z,19nm,1.2s			pmax	pmax		
XAN	comp=Z,260nm,5.1s			pmax	pmax		
CD2	**Chengdu**	**39.67**	**325**	*e*P	**P**	**15 05 29.9**	**+0.9**
CD2	comp=Z,30nm,0.5s			pmax	pmax		
JSD	**Sado**	**39.90**	**12**	P	**P**	**15 05 34.0**	**+3.4**
JMM	**Marumori**	**40.32**	**15**	P	**P**	**15 05 37.0**	**+2.9**
HNS	**HongShan**	**40.41**	**343**	⇓P	**P**	**15 05 37.6**	**+2.7**
HNS				S	**S**	**15 11 42.6**	**+1.0**
HNS	comp=Z,350nm,15.0s			LR	LR		
HNS	comp=Z,250nm,14.5s			LR	LR		
HNS	comp=Z,290nm,14.6s			LR	LR		
DZM	**Mont Dzumac**

CN2 LR LR
comp=Z,290nm,18.0s
CN2 LR LR
comp=Z,360nm,18.0s
CN2 LR LR
comp=Z,400nm,20.0s
USRK Ussuriysk Ar. 45.16 3 P P 15 06 11.9 -1.3
USRK Ussuriysk Ar. 45.16 3 P **P 15 06 12.0 -1.3**
comp=Z,3.0nm,0.6s,baz=183,slow=7.6,SNR=11
comp=Z,3.0nm,0.6s
USA0B Ussuriysk Arra 45.16 3*ce*P **P 15 06 15.7 +2.4**
MDJ Mudanjiang 45.49 1 P **P 15 06 16.0 +0.1**
MDJ pmax pmax
comp=Z,13nm,1.8s
MDJ Mudanjiang 45.49 1 P **P 15 06 19.2 +3.3**
XLT XiLinHaoTe 46.17 347 *e*P **P 15 06 22.1 +0.7**
XLT sP sP 15 06 37.6 +5.3
XLT S **S 15 13 04.8 -1.3**
XLT pmax pmax
comp=Z,10.0nm,1.2s
XLT LR LR
comp=Z,21nm,13.6s
XLT LR LR
comp=Z,190nm,15.3s
XLT LR LR
comp=Z,160nm,14.9s
BNX BinXian 46.62 359 ⇑P **P 15 06 23.8 -1.0**
BNX PcP **PcP 15 07 57.4 -1.1**
BNX pmax pmax
comp=Z,11nm,1.7s
BNX pmax pmax
comp=Z,93nm,3.7s
BNX LR LR
comp=Z,310nm,18.1s
BNX LR LR
comp=Z,240nm,19.1s
BNX LR LR
comp=Z,160nm,20.6s
ASAJ Asahikawa 46.66 14 P **P 15 06 21.4 -3.8**
ASAJ pmax pmax
comp=Z,37nm,1.3s
JKA Kamikawa-asahi 46.66 14 P **P 15 06 21.4 -3.8**
JKA IAmb IAmb 15 06 41.3
comp=Z,37nm,1.3s
GTA Gaotai 48.20 330 *e*P **P 15 06 38.9 +1.5**
GTA sP sP 15 06 54.3 +5.9
GTA PcP **PcP 15 08 06.6 +2.1**
GTA S **S 15 13 32.9 -2.5**
GTA SS **SS 15 17 01.0 -4.0**
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA LR LR
comp=Z,270nm,20.0s
GTA LR LR
comp=Z,210nm,19.3s
GTA LR LR
comp=Z,450nm,21.8s
PALK Pallekele 48.60 281 LR LR 15 28 04.2
comp=Z,152nm,18.8s,baz=108,slow=37
GOMU GeErMu 48.67 323 P **P 15 06 39.9 -1.5**
GOMU S **S 15 13 39.6 -2.9**
GOMU pmax pmax
comp=Z,4.0nm,0.5s
GOMU LR LR
comp=Z,230nm,16.3s
GOMU LR LR
comp=Z,120nm,16.8s
GOMU LR LR
comp=Z,230nm,16.7s
YSS Yuzhno-Sakhali 49.38 13*ce*P **P 15 06 48.4 +2.2**
YSS pmax pmax
comp=Z,26nm,1.7s
EVN Everest 49.48 309 P **P 15 06 46.3 -1.7**
HEH HeiHe 51.13 359 *e*P **P 15 06 59.8 +0.4**
HEH sP **sP 15 07 11.8 +1.5**
HEH S **S 15 14 16.6 +0.9**
HEH pmax pmax
comp=Z,19nm,1.9s
HEH LR LR
comp=Z,72nm,15.5s
HEH LR LR
comp=Z,230nm,15.2s
HEH LR LR
comp=Z,350nm,17.2s
GRNR Gornyy 52.06 6⇑*i*P **P 15 07 07.2 +0.9**
GRNR pmax pmax
comp=Z,5.0nm,1.1s
ULN Ulaanbaatar 52.26 342*de*P **P 15 07 09.3 +1.2**
ULN pmax pmax
comp=Z,32nm,1.3s
SONM Songino Array 52.44 341 P **P 15 07 07.7 -1.7**
SONM Songino Array 52.44 341 P **P 15 07 08.9 -0.4**
comp=Z,1.6nm,0.8s,baz=155,slow=7.9,SNR=9.3
SONM PcP **PcP 15 08 21.7 +1.8**
comp=Z,7.8nm,0.9s,baz=163,slow=3.5,SNR=6.5
comp=Z,1.6nm,0.8s
SONM Songino Array 52.44 341 P **P 15 07 07.7 -1.7**
SONM pmax pmax
comp=Z,10.0nm,1.0s
HYB Hyderabad 52.69 293 *e*P **P 15 07 10.6 -1.0**
ZEA Zeya 54.63 359 *e*P **P 15 07 25.8 +0.7**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZAK Zakamensk 55.67 341 *e*P **P 15 07 33.6 +0.7**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
IRK Irkutsk 56.97 342 *e*P P 15 07 47.9 +6.0
IRK pmax pmax
comp=Z,23nm,1.7s
MOY Mondy 57.53 340 *e*P **P 15 07 47.8 +1.7**
MOY pmax pmax
comp=Z,23nm,2.6s
WMQ Urumqi 57.77 326 *e*P **P 15 07 48.8 +0.9**
WMQ pP pP 15 07 53.9 -1.9
WMQ pmax pmax
comp=Z,40nm,1.1s
WMQ pmax pmax
comp=Z,130nm,3.9s
WMQ LR LR
comp=Z,500nm,17.5s
WMQ LR LR
comp=Z,310nm,21.3s
WMQ LR LR
comp=Z,330nm,23.3s
PEA0B Petropavlovsk- 59.17 20‖*e*P **P 15 07 58.5 +1.2**
PETK Petropavlovsk- 59.17 20 P **P 15 07 55.5 -1.9**
PETK Petropavlovsk- 59.17 20 P **P 15 07 58.1 +0.8**
comp=Z,3.2nm,0.8s,baz=198,slow=3.8,SNR=5.4
comp=Z,3.2nm,0.8s
PETK Petropavlovsk- 59.17 20 P **P 15 07 55.5 -1.9**
PET Petropavlovsk 59.43 20‖*e*P **P 15 08 02.0 +2.9**
PET pmax pmax
comp=Z,33nm,1.2s
PET Petropavlovsk 59.43 20 P **P 15 08 00.4 +1.3**
comp=Z,26nm,1.1s
PET pP **sP 15 08 11.0 +1.0**
comp=Z,26nm,1.1s
BOD Bodaibo 59.87 351 *e*P **P 15 08 02.8 +0.7**
BOD pmax pmax
comp=Z,29nm,1.8s
ZSN Zaisan 61.59 328 *e*P **P 15 08 13.8 -0.2**
ZSN Zaisan 61.59 328 *e*P **P 15 08 13.8 -0.2**
SHLS Shalkode 62.29 321 *e*P **P 15 08 16.5 -2.5**
SHLS pmax pmax
comp=Z,18nm,1.2s
SHLS Shalkode 62.29 321 *e*P **P 15 08 16.5 -2.5**
comp=Z,18nm,1.2s
PDGK Podgornoye 62.36 321 P **P 15 08 19.2 -0.3**
MK31 Makanchi Array 62.60 326*d i*P **P 15 08 20.6 -0.3**
MKAR Makanchi Array 62.60 326 P **P 15 08 18.9 -2.0**
MKAR Makanchi Array 62.60 326 P **P 15 08 20.8 -0.1**
comp=Z,4.8nm,0.8s,baz=123,slow=8.2,SNR=22
comp=Z,4.8nm,0.8s
MAKZ Makanchi 62.79 326 P **P 15 08 20.7 -1.4**
MAKZ IAmb IAmb 15 08 28.8
comp=Z,16nm,1.1s
MAKZ Makanchi 62.79 326 P **P 15 08 20.7 -1.4**
MAKZ pmax pmax
comp=Z,15nm,1.1s
KSH Kashi 62.83 316 P **P 15 08 24.3 +1.6**
KSH sP sP 15 08 37.9 +4.0
KSH pmax pmax
comp=Z,9.0nm,1.4s
SATY Saty 62.90 321 *e*P **P 15 08 22.9 -0.2**
SATY pmax pmax
comp=Z,9.0nm,0.8s
SATY Saty 62.90 321 *e*P **P 15 08 22.9 -0.2**
comp=Z,9.1nm,0.8s
YAK Yakutsk 62.93 1 *e*P **P 15 08 24.4 +1.7**
YAK *e**PP **pP 15 08 28.4 -2.2**
YAK *e* 15 09 02.5
YAK *e* 15 10 40.7
YAK *e*S **S 15 16 56.4 +5.6**
YAK *e**SS sS 15 17 17.7 +14
YAK *e* 15 18 13.0
YAK *e*SS **SS 15 21 01.4 +4.8**
YAK *e*SSS SSS 15 23 50.9
YAK pmax pmax
comp=Z,38nm,1.1s
YAK pmax pmax
comp=N,24nm,2.4s
YAK pmax pmax
comp=E,4.0nm,2.0s
YAK pmax pmax
comp=Z,138nm,6.2s
YAK pmax pmax
comp=N,49nm,2.5s
YAK pmax pmax
comp=E,76nm,8.1s
YAK smax smax
comp=N,81nm,4.6s
YAK smax smax
comp=E,58nm,3.8s
YAK MLR MLR
comp=N,411nm,16.0s
YAK MLR MLR
comp=E,871nm,18.0s
TNSS Tian-Shan 63.82 320 *e*P **P 15 08 28.3 -1.2**
TNSS Tian-Shan 63.82 320 *e*P **P 15 08 28.4 -1.2**
TDK Taldyqorghan 63.89 323 *e*P **P 15 08 29.2 -0.2**
TDK pmax pmax
comp=Z,19nm,1.2s
TDK Taldyqorghan 63.89 323 *e*P **P 15 08 29.3 -0.2**
comp=Z,19nm,1.2s
AAA Alma-Ata 63.93 320 *e*P **P 15 08 29.1 -0.7**
AAA pmax pmax
comp=Z,20nm,1.0s
AAA Alma-Ata 63.93 320 *e*P **P 15 08 29.1 -0.7**
comp=Z,20nm,1.0s
KUU Kurty 64.62 321 *e*P **P 15 08 33.8 -0.4**
KUU pmax pmax
comp=Z,18nm,1.3s
KUU Kurty 64.62 321 *e*P **P 15 08 33.9 -0.4**
comp=Z,18nm,1.3s
AAK Ala-Archa 65.23 319 P **P 15 08 36.8 -1.7**
AAK IAmb IAmb 15 08 45.0
comp=Z,13nm,1.1s
AAK Ala-Archa 65.23 319 P **P 15 08 37.6 -0.8**
comp=Z,2.1nm,0.4s,baz=65,slow=14,SNR=5.6
comp=Z,2.1nm,0.4s
AAK Ala-Archa 65.23 319*ce*P **P 15 08 39.2 +0.8**
AAK pmax pmax
comp=Z,17nm,1.7s
SGDS Sogindy 65.51 320 *e*P **P 15 08 39.7 -0.5**
SHEM Shemya Is, Ala 65.65 28 LR LR 15 31 48.3
comp=Z,111nm,20.6s,baz=59,slow=31
ARSB Arslanbob 65.67 317 P **P 15 08 40.5 -0.8**
ARSB Arslanbob 65.67 317 P **P 15 08 40.5 -0.8**
ARSB pmax pmax
comp=Z,35nm,1.3s
ZALV Zalesovo Beam 65.73 333 P **P 15 08 39.7 -1.5**
ZALV Zalesovo Beam 65.73 333 P **P 15 08 40.1 -1.1**
comp=Z,0.9nm,0.4s,baz=129,slow=4.0,SNR=13
comp=Z,0.9nm,0.4s
ZALV Zalesovo Beam 65.73 333 P **P 15 08 39.7 -1.5**
KBL Kabul 66.02 309 P **P 15 08 41.6 -2.1**
KBL IAmb IAmb 15 08 49.9
comp=Z,9.4nm,0.8s
KBL Kabul 66.02 309 P **P 15 08 41.7 -2.1**
KBL pmax pmax
comp=Z,9.0nm,0.8s
CASY Casey 66.35 188 P **P 15 08 44.8 -0.2**
CASY IAmb IAmb 15 08 47.3
comp=Z,26nm,1.1s
BTLS Baital 66.61 321 *e*P **P 15 08 46.6 -0.4**
BTLS Baital 66.61 321 *e*P **P 15 08 46.6 -0.4**
GAR Garm 66.63 314 P **P 15 08 45.0 -2.4**
BTK Batken 66.67 315 P **P 15 08 46.7 -1.0**
BTK IAmb IAmb 15 08 54.4
comp=Z,19nm,1.1s
BTK Batken 66.67 315 P **P 15 08 46.7 -1.0**
BTK pmax pmax
comp=Z,19nm,1.1s
KURBB Kurchatov Arra 66.82 328 P **P 15 08 47.4 -0.8**
comp=Z,6.2nm,0.9s,baz=127,slow=5.9,SNR=26
KURBB PcP **PcP 15 09 18.6 +1.7**
comp=Z,6.7nm,0.9s,baz=130,slow=5.8,SNR=5.4
KURBB PKP2bc 15 37 18.9
comp=Z,0.2nm,0.4s,baz=285,slow=3.6,SNR=4.1
comp=Z,6.2nm,0.9s
KURK Kurchatov 66.82 328 P **P 15 08 46.7 -1.6**
KURK Kurchatov 66.82 328*d i*P **P 15 08 47.8 -0.5**
KURK pmax pmax
comp=Z,30nm,1.0s
DZA Taraz 67.44 318 *e*P **P 15 08 51.9 -0.5**
DZA pmax pmax
comp=Z,6.0nm,0.5s
DZA Taraz 67.44 318 *e*P **P 15 08 51.9 -0.5**
comp=Z,6.0nm,0.5s
SIMJ Simiganj 67.45 313 P **P 15 08 50.9 -1.8**
SIMJ IAmb IAmb 15 09 06.8
comp=Z,16nm,1.2s
IUG Iuzhnay 68.03 317 *e*P **P 15 08 55.8 -0.4**
IUG pmax pmax
comp=Z,14nm,0.9s
IUG Iuzhnay 68.03 317 *e*P **P 15 08 55.9 -0.3**
comp=Z,14nm,0.9s
KK31 Karatay Array 68.08 318 P **P 15 08 54.4 -2.0**
KK31 IAmb IAmb 15 09 03.4
comp=Z,10nm,0.9s
KK31 Karatay Array 68.08 318 P **P 15 08 54.4 -2.0**
KK31 pmax pmax
comp=Z,10.0nm,1.0s
KKAR Karatay Array 68.08 318 P **P 15 08 54.8 -1.6**
KKAR Karatay Array 68.08 318 P **P 15 08 54.8 -1.6**
CHM Chimkent 68.39 317 *e*P **P 15 08 58.0 -0.4**
CHM pmax pmax
comp=Z,8.0nm,0.7s
CHM Chimkent 68.39 317 *e*P **P 15 08 58.0 -0.4**
comp=Z,7.6nm,0.7s
BRLS Borolday 68.50 318 *e*P **P 15 08 58.7 -0.4**
BRLS Borolday 68.50 318 *e*P **P 15 08 58.7 -0.4**
BRZS Berezniki 69.72 325 *e*P **P 15 09 06.0 -0.5**
BRZS Berezniki 69.72 325 *e*P **P 15 09 06.1 -0.5**
BVAR Borovoye Array 72.39 327 P **P 15 09 22.6 -0.1**
comp=Z,3.9nm,1.0s,baz=116,slow=6.8,SNR=15
comp=Z,3.9nm,1.0s
BRVK Borovoye 72.47 327 P **P 15 09 21.5 -1.6**
BRVK IAmb IAmb 15 09 29.7
comp=Z,15nm,1.1s
BRVK Borovoye 72.47 327*de*P **P 15 09 22.8 -0.2**
BRVK pmax pmax
comp=Z,22nm,1.2s
BILL Bilibino 73.68 14*d i*P **P 15 09 32.5 +2.6**
BILL pmax pmax
comp=Z,19nm,1.9s
AB31 Akbulak array 77.10 321 P **P 15 09 47.0 -2.9**
AB31 Akbulak array 77.10 321 *i* P **P 15 09 48.8 -1.1**
ABKAR Akbulak array 77.10 321 **P 15 09 48.7 -1.3**
VNDA Vanda 78.45 173 P **P 15 09 56.4 -0.6**
VNDA Vanda 78.45 173 P **P 15 09 57.2 +0.2**
comp=Z,4.3nm,0.9s,baz=307,slow=6.5,SNR=15
VNDA LR LR 15 44 11.6
comp=Z,96nm,18.8s,baz=352,slow=35
comp=Z,4.3nm,0.9s
VNDA Vanda 78.45 173 P **P 15 09 56.4 -0.6**
VNDA pmax pmax
comp=Z,5.0nm,0.9s
AKTO Aktyubinsk 78.63 322 P **P 15 09 57.2 -1.2**
SVE Sverdlovsk 79.06 329 *e*P **P 15 10 00.7 +0.1**
SVE pmax pmax
comp=Z,36nm,1.5s
SBA Scott Base 79.35 172 P **P 15 10 02.0 +0.1**
SBA Scott Base 79.35 172 P **P 15 10 02.0 +0.1**
SBA pmax pmax
comp=Z,14nm,1.3s
MAW Mawson 79.99 201 P **P 15 10 05.2 -0.3**
comp=Z,19nm,1.0s,baz=68,slow=6.4,SNR=26
comp=Z,19nm,1.0s
ARTI Arti 80.10 328 P **P 15 10 03.8 -2.6**
ARTI Arti 80.10 328*d i*P **P 15 10 05.5 -0.8**
ARTI 15 13 06.2
ARTI S **S 15 20 07.4 -1.8**
ARTI SS **SS 15 25 15.6 -4.3**
ARTI pmax pmax
comp=Z,19nm,1.5s
ARTI MLR MLR
comp=Z,420nm,22.0s
PPT2 Papeete2 81.78 108 *e*LR LR 15 35 45.7
comp=Z,188nm,28.2s
PPT2 *e*LR LR 15 35 48.5
comp=Z,146nm,30.0s
TBI Tubuai 82.08 113 *e*LR LR 15 35 59.9
comp=Z,1μm,33.5s
J16K Anvik River 82.36 25 P **P 15 10 15.4 -2.8**
J16K IAmb IAmb 15 10 29.2
comp=Z,24nm,1.2s
N18K Kilae Creek 83.80 29 P **P 15 10 22.6 -3.1**
N18K IAmb IAmb 15 10 35.0
comp=Z,26nm,1.5s
AKT Akhty 83.94 312 *e*P **P 15 10 25.4 -1.6**
AKT MLR MLR
comp=Z,436nm,26.0s
RAYN Ar Rayn 84.19 294 P **P 15 10 27.0 -1.6**
RAYN IAmb IAmb 15 10 30.1
comp=Z,18nm,1.4s
RAYN Ar Rayn 84.19 294 P **P 15 10 27.0 -1.6**
RAYN pmax pmax
comp=Z,18nm,1.5s
MAK Makhachkala 84.28 313 *e*P **P 15 10 25.4 -3.1**
MAK *e* 15 13 37.5
MAK *e*SS SS 15 26 17.8 -4.7
MAK pmax pmax
comp=Z,33nm,0.3s
KDAK Kodiak Island 84.88 32 LR LR 15 42 30.3
comp=Z,140nm,21.4s,baz=248,slow=32
KIRV Kirov 85.32 329⇑*e*P **P 15 10 33.9 +0.5**
BELG Belogornoye 85.39 323‖*i*P **P 15 10 33.0 -0.9**
BELG pmax pmax
comp=Z,9.0nm,0.9s
SKT Skwentna 86.12 28 P **P 15 10 35.7 -1.7**
SKT IAmb IAmb 15 11 19.5
comp=Z,22nm,1.6s
SLKM Skilak Lake 86.52 29 P **P 15 10 35.9 -3.5**
G23K Bananza Creek 87.51 23 P **P 15 10 41.4 -2.7**
G23K IAmb IAmb 15 10 53.5
comp=Z,8.9nm,0.9s
COLD Coldfoot 87.52 23 P **P 15 10 41.1 -3.0**
COLD IAmb IAmb 15 10 53.8
comp=Z,7.8nm,0.9s
KBZ Khabaz 87.69 314 P **P 15 10 45.1 -0.2**
comp=Z,0.8nm,0.5s,baz=104,slow=7.3,SNR=4.4
comp=Z,0.8nm,0.5s
KBZ Khabaz 87.69 314⇑*e*P **P 15 10 45.6 +0.2**
KIV Kislovodsk 87.86 314 *e*P **P 15 10 43.7 -2.6**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,153nm,20.0s
ILAR Eielson Array 88.56 25 **P 15 10 47.5 -1.6**
ILAR Eielson Array 88.56 25 P **P 15 10 48.6 -0.5**
comp=Z,1.4nm,1.0s,baz=257,slow=4.4,SNR=11
comp=Z,1.4nm,1.0s
SYO Syowa Base 88.69 201‖*e*P **P 15 10 50.6 +1.0**
SYO Syowa Base 88.69 201‖*e*pP pP 15 10 54.2 -3.7
QSPA South Pole Qui 88.87 180 P **P 15 10 50.5 -0.1**
comp=Z,15nm,1.1s,baz=306,slow=1.8,SNR=27
comp=Z,15nm,1.1s
RIDG Independent Ri 89.37 26 P **P 15 10 51.2 -1.8**
RIDG IAmb IAmb 15 11 07.3
comp=Z,14nm,1.3s
BMAR Burnt Mountain 89.71 23 P **P 15 10 51.9 -2.6**
J26L Joseph Creek 89.97 26 P **P 15 10 55.0 -0.9**
SOC Sochi 90.00 313 *e*P **P 15 10 54.4 -1.8**
SOC *e* 15 14 26.5
SOC *e*PPP PPP 15 16 23.5
SOC *e*S **SKSac 15 21 22.1 -3.5**
SOC *e*SSS SSS 15 31 20.0
KLMR Klimovskoe 90.53 331 *e*P **P 15 10 55.8 -2.5**
KLMR *e**PP **sP 15 11 07.9 -1.4**
KLMR pmax pmax
comp=Z,18nm,1.4s
TAOE Nuku Hiva Isla 90.97 99 *e*LR LR 15 39 59.0
comp=Z,158nm,25.1s
OBN Obninsk 92.09 325 *e*P **P 15 11 07.3 +1.6**
OBN *e* 15 14 47.6
OBN *e*PPP PPP 15 16 45.2
OBN pmax pmax
comp=Z,47nm,2.3s
OBN MLR MLR
comp=Z,168nm,15.0s
I30M Mount Dempster 93.03 25 P **P 15 11 08.8 -1.3**
I30M IAmb IAmb 15 11 17.6
comp=Z,9.5nm,1.4s
G31M Satah River 93.73 23 P **P 15 11 11.9 -1.1**
G31M IAmb IAmb 15 11 20.9
comp=Z,7.7nm,0.8s
BR131 Keskin Array S 94.58 310⇑*e*P **P 15 11 16.4 -1.4**
BR105 Keskin Array S 94.60 310 P **P 15 11 17.8 0.0**
comp=Z,2.6nm,1.0s
ARCES ARCESS Array B 95.60 340 P **P 15 11 21.9 +0.3**
comp=Z,5.3nm,0.9s,baz=64,slow=5.5,SNR=3.8
comp=Z,5.3nm,0.9s
DLBC Dease Lake 96.80 31 LR LR 15 52 16.7
comp=Z,10nm,19.1s,baz=190,slow=34
BBB Bella Bella 98.91 37 LR LR 15 50 19.9
comp=Z,109nm,19.1s,baz=268,slow=32
VRI Vrincioaia 99.11 316 P **Pdif 15 11 38.6 +0.7**
TROLL Troll, Antarti 99.55 195⇑P **Pdif 15 11 41.4 +1.9**
comp=Z,87nm,1.1s
SNAA Sanae 101.09 194⇑P **Pdif 15 11 48.0 +1.7**
comp=Z,24nm,1.0s
SNAA Sanae 101.09 194⇑*e*P **Pdif 15 11 47.4 +1.1**
SNAA pmax pmax
comp=Z,5.0nm,1.5s
VNA3 Neumayer Olymp 102.96 193⇑P **Pdif 15 11 56.2 +1.7**
comp=Z,1.4nm,0.8s
YKA Yellowknife Ar 102.99 25 Pdiff **Pdif 15 11 57.2 +2.4**
comp=Z,0.7nm,1.0s,baz=305,slow=5.5,SNR=3.8
TXAR Lajitas Array 122.82 55 PKP **PKPdf 15 16 53.0 -0.4**
comp=Z,0.7nm,0.9s,baz=256,slow=2.1,SNR=4.7
TXAR PKKPbc **PKKPab 15 26 46.3 0.0**
comp=Z,1.0nm,0.9s,baz=112,slow=6.3,SNR=6.9
TORD Torodi Ar. Bea 126.19 285 PKP **PKiKP 15 17 00.6 0.0**
comp=Z,2.0nm,0.5s,baz=42,slow=4.1,SNR=9.2
CPUP Villa Florida 152.15 168 PKP **PKPdf 15 17 47.5 +1.3**
comp=Z,3.9nm,1.1s,baz=109,slow=3.8,SNR=2.8
CPUP PKPbc **sPKPdf 15 17 54.5 -2.8**
comp=Z,4.1nm,1.1s,baz=243,slow=2.3,SNR=12

*IDC **17** 14:59:57.2±0.5, 43.˚45N×127.˚14W, h0km, mb4.5/24, mbtmp4.4/30, ML3.5/6, MS4.6/66, Error ellipse: s-maj=13.7km s-min=7.9km az=39.0*
*MOS **17** 14:59:58.3±1.0, 43.˚42N×127.˚24W, h16km, mb5.2/46, MS4.6/6, Error ellipse: s-maj=8.4km s-min=5.0km az=117.6*
*NEIC **17** 14:59:59.5, 43.˚42N×127.˚19W, h18km*
*BJI **17** 14:59:59.0, 43.˚50N×127.˚20W, h10km, mB5.3/16, mb5.0/50, Ms5.2/43, Ms7 4.9/43*
*NEIC **17** 14:59:59.5±1.7, 43.˚42N±0.˚07×127.˚2W±0.˚1, h10km±1km, mb5.1/114, ML4.1/94, Mww5.4/103, Error ellipse: s-maj=14.2km s-min=10.1km az=243.0*
*NEIC **17** 14:59:59.5, 43.˚32N×127.˚74W, h18km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.04; $M_{\theta\theta}$=1.05; $M_{\phi\phi}$1.08; $M_{r\theta}$=0.32; $M_{\theta\phi}$=1.10; $M_{r\phi}$=0.50; Fault plane solution: $M_0$1.64000×10^{17} NP1:ϕ_s23.63000°, δ74.03000°, λ10.08000°. NP2:ϕ_s290.83000°, δ80.31000°, λ163.79000°. Principal axes: T 1.7431, Plg18.0000°, Azm246.0000°; N -0.2214, Plg71.0000°, Azm81.0000°; P -1.5216, Plg4.0000°, Azm338.0000°;*
*GCMT **17** 15:00:01.5±0.1, 43.˚39N±0.˚01×127.˚51W±0.˚01, h19km, MW5.4/161, Moment Tensor Solution. s116,c182; s161,c309; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}0.03±.02; $M_{\theta\theta}$-1.30±.02; $M_{\phi\phi}$1.27±.02; $M_{r\theta}$-0.05±.04; $M_{\theta\phi}$-1.21±.02; $M_{r\phi}$-0.26±.04; Best double couple: $M_0$1.78500×10^{17} NP1:ϕ_s113.00000°, δ82.00000°, λ178.00000°. NP2:ϕ_s204.00000°, δ88.00000°, λ8.00000°. Principal axes: T 1.7790, Plg7.0000°, Azm69.0000°; N 0.0150, Plg81.0000°, Azm217.0000°; P -1.7910, Plg4.0000°, Azm338.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

Triangular moment-rate function

ISC 17 14:59:59.1±0.6, 43°27N±0.04°×127°25W±0.04, h12km×3km, n745, σ1870/938, mb5.1/128, MS4.7/75, 8C-11D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
KEBM	**Edson Butte**	**2.18**	**100**	**Pn**	**15 00 33.5**	**-1.6**
KEBM				IAML	15 01 06.2	
	comp=N,1μm,0.8s					
KEBM				IAML	15 01 17.9	
	comp=E,1μm,1.0s					
J01E	**Myrtle Point**	**2.43**	**92**	**Pn**	**15 00 36.6**	**-1.9**
J01E				IAML	15 01 16.1	
	comp=E,641nm,1.0s					
J01E				IAML	15 01 18.9	
	comp=N,700nm,0.7s					
KBO	**Bosley Butte**	**2.47**	**114**	**Pn**	**15 00 39.1**	**-0.1**
KBO				IAML	15 01 12.8	
	comp=E,508nm,2.4s					
I02E	**Swisshome, OR**	**2.61**	**70**	**Pn**	**15 00 39.0**	**-2.0**
I02E				IAML	15 01 17.2	
	comp=E,522nm,0.7s					
K02D	**Willamette Mer**	**2.69**	**101**	**Pn**	**15 00 41.4**	**-0.9**
I03D	**Drain, OR**	**2.87**	**80**	**Pn**	**15 00 42.9**	**-1.7**
I03D				IAML	15 01 21.8	
	comp=N,528nm,0.7s					
KSXB	**Camp Six Broad**	**2.88**	**119**	**Pn**	**15 00 44.4**	**-0.4**
L02F	**Cave Junction**	**2.95**	**112**	**Pn**	**15 00 45.2**	**-0.5**
COR	**Corvallis**	**3.14**	**64**	**Pn**	**15 00 46.8**	**-1.5**
COR				IAML	15 01 28.1	
	comp=N,446nm,0.6s					
COR				IAML	15 01 43.6	
	comp=N,491nm,1.6s					
COR	**Corvallis**	**3.14**	**64**	P **Pn**	**15 00 46.8**	**-1.5**
BUCK	**Buck Mountain**	**3.23**	**72**	**Pn**	**15 00 48.6**	**-1.0**
BUCK				IAML	15 01 31.5	
	comp=E,496nm,0.6s					
BUCK				IAML	15 02 10.4	
	comp=N,372nm,1.8s					
BBOR	**Butler Butte**	**3.37**	**95**	Pn **Pn**	**15 00 50.6**	**-1.1**
BBOR				IAML	15 01 42.1	
	comp=E,320nm,1.1s					
BBOR				IAML	15 01 46.0	
	comp=N,286nm,0.7s					
JCC	**Jacoby Creek,**	**3.43**	**135**	**Pn**	**15 00 52.3**	**0.0**
G03D	**McMinnville, O**	**3.46**	**55**	**Pn**	**15 00 50.6**	**-2.1**
G03D				IAML	15 01 34.2	
	comp=N,830nm,0.5s					
G03D				IAML	15 01 41.8	
	comp=E,648nm,0.7s					
H04D	**Lebanon**	**3.49**	**67**	**Pn**	**15 00 52.4**	**-0.8**
H04D				IAML	15 01 27.8	
	comp=N,480nm,1.0s					
H04D				IAML	15 01 42.7	
	comp=E,632nm,1.4s					
KHMM	**Horse Mountain**	**3.55**	**131**	**Pn**	**15 00 55.1**	**+1.0**
YBH	**Yreka Blue Hor**	**3.69**	**113**	**Pn**	**15 00 57.2**	**+1.1**
YBH	**Yreka Blue Hor**	**3.69**	**113**	Pn **Pn**	**15 00 56.7**	**+0.6**
	comp=E,1.0nm,0.3s,baz=314,slow=9.0,SNR=180					
YBH				Sn **Sn**	**15 01 35.5**	**-4.0**
	comp=E,0.2nm,0.3s,baz=350,slow=19,SNR=4.3					
YBH				LR LR	15 02 18.5	
	comp=E,210nm,19.6s,baz=285,slow=38					
F03A	**Seaside**	**3.74**	**44**	**Pn**	**15 00 54.7**	**-2.0**
J04A	**Umpqua Nationa**	**3.76**	**89**	**Pn**	**15 00 56.8**	**-0.2**
L04D	**Klamath Falls**	**3.79**	**104**	**Pn**	**15 00 58.4**	**+1.0**
L04D				IAML	15 01 50.3	
	comp=N,284nm,2.1s					
L04D				IAML	15 02 09.0	
	comp=E,330nm,1.7s					
H04A	**Detroit Lake**	**3.92**	**67**	**Pn**	**15 00 58.0**	**-1.1**
H04A				IAML	15 01 23.9	
	comp=E,394nm,0.6s					
H04A				IAML	15 01 26.7	
	comp=N,309nm,0.3s					
G04A	**Mulino**	**3.94**	**59**	**Pn**	**15 00 58.7**	**-0.6**
RADR	**Rader Ridge**	**3.99**	**37**	**Pn**	**15 00 58.3**	**-1.8**
RADR				IAML	15 01 47.2	
	comp=N,742nm,1.1s					
RADR				IAML	15 01 54.7	
	comp=E,720nm,1.5s					
KMRM	**Mail Ridge**	**4.04**	**138**	**Pn**	**15 01 02.5**	**+1.7**
KMRM				IAML	15 01 40.2	
	comp=E,139nm,1.3s					
K04D	**Chiloquin, OR**	**4.09**	**97**	**Pn**	**15 01 01.0**	**-0.5**
K04D				IAML	15 02 07.3	
	comp=E,443nm,2.1s					
F04D	**Rainier, OR**	**4.13**	**46**	**Pn**	**15 01 00.8**	**-1.1**
E03A	**Lebam**	**4.19**	**37**	**Pn**	**15 01 00.7**	**-2.1**
J05D	**Fort Rock, OR**	**4.39**	**88**	**Pn**	**15 01 06.0**	**+0.3**
J05D				IAML	15 02 46.3	
	comp=E,185nm,2.6s					
J05D				IAML	15 03 05.4	
	comp=N,147nm,4.3s					
I05D	**Terrebonne, OR**	**4.41**	**74**	**Pn**	**15 01 04.9**	**-1.0**
I05D				IAML	15 01 41.6	
	comp=E,266nm,1.0s					
I05D				IAML	15 02 19.1	
	comp=N,228nm,2.0s					
HOOD	**Mount Hood Mea**	**4.51**	**61**	**Pn**	**15 01 06.7**	**-0.6**
HOOD				IAML	15 01 43.6	
	comp=N,457nm,1.3s					
KCPM	**Cahto Peak**	**4.52**	**141**	**Pn**	**15 01 10.1**	**+2.7**
KCPM				IAML	15 02 52.0	
	comp=E,115nm,4.7s					
KCPM				IAML	15 03 42.5	
	comp=N,169nm,4.9s					
O02D	**Mt. Diablo Mer**	**4.55**	**131**	**Pn**	**15 01 09.9**	**+2.0**
WISH	**Wishkah**	**4.56**	**31**	**Pn**	**15 01 06.3**	**-1.5**
PINE	**Pine Mountain**	**4.62**	**81**	**Pn**	**15 01 08.3**	**-0.5**
PINE				IAML	15 01 47.7	
	comp=N,134nm,2.1s					
PINE				IAML	15 02 36.1	
	comp=E,139nm,3.1s					
K05A	**Summer Lake**	**4.70**	**95**	**Pn**	**15 01 10.1**	**+0.2**
K05A				IAML	15 02 32.6	
	comp=N,127nm,2.8s					
K05A				IAML	15 03 27.4	
	comp=E,132nm,4.1s					
NLWA	**Neilton Lookou**	**4.76**	**29**	**Pn**	**15 01 08.1**	**-2.5**
NLWA				IAML	15 02 04.9	
	comp=E,360nm,0.5s					
NLWA				IAML	15 02 06.1	
	comp=E,361nm,1.4s					
HATC	**Hat Creek Radi**	**4.96**	**118**	**Pn**	**15 01 14.3**	**+0.8**
C03A	**Quillayute Air**	**5.04**	**21**	**Pn**	**15 01 12.6**	**-1.8**
G06A	**Carlson Farm,**	**5.14**	**65**	**Pn**	**15 01 15.2**	**-0.7**
G06A				IAML	15 01 58.2	
	comp=E,140nm,2.2s					
G06A				IAML	15 01 59.6	
	comp=N,107nm,2.1s					
LON	**Longmire**	**5.19**	**46**	**Pn**	**15 01 15.1**	**-1.5**
LON				IAML	15 02 24.2	
	comp=E,223nm,0.9s					
LON	**Longmire**	**5.19**	**46**	P **Pn**	**15 01 15.1**	**-1.5**
GNW	**Green Mountain**	**5.30**	**34**	**Pn**	**15 01 15.6**	**-2.4**
GNW				IAML	15 02 19.4	
	comp=E,259nm,0.8s					
GNW				IAML	15 02 19.8	
	comp=N,199nm,0.7s					
HOPS	**Hopland Field**	**5.31**	**142**	**Pn**	**15 01 20.1**	**+1.8**
D05A	**Enumclaw**	**5.40**	**42**	**Pn**	**15 01 18.0**	**-1.3**
GDXM	**Geysers**	**5.59**	**141**	**Pn**	**15 01 25.8**	**+3.7**
I07A	**Izee**	**5.68**	**79**	**Pn**	**15 01 22.5**	**-0.8**
ORV	**Oroville**	**5.70**	**129**	**Pn**	**15 01 27.8**	**+4.3**
ORV	**Oroville**	**5.70**	**129**	P **Pn**	**15 01 27.8**	**+4.3**
OZB	**Mount Ozzard**	**5.82**	**12**	**Pn**	**15 01 22.8**	**-2.3**
F07A	**Phinny Hill Vi**	**5.85**	**61**	**Pn**	**15 01 24.9**	**-0.6**
MXC	**Moxie City**	**5.94**	**54**	**Pn**	**15 01 25.9**	**-1.0**
CLRS	**Cowichan Lake**	**5.96**	**20**	**Pn**	**15 01 25.3**	**-1.7**
PGC	**Sidney**	**5.99**	**25**	**Pn**	**15 01 25.4**	**-2.0**
LTY	**Liberty**	**6.12**	**47**	**Pn**	**15 01 28.1**	**-1.3**
BEKR	**Beckworth**	**6.19**	**121**	**Pn**	**15 01 31.6**	**+1.1**
E07A	**Sunnyside**	**6.19**	**55**	**Pn**	**15 01 30.2**	**-0.1**
G08A	**Pilot Rock**	**6.29**	**68**	**Pn**	**15 01 30.8**	**-0.9**
A04D	**Lummi Island**	**6.30**	**29**	**Pn**	**15 01 28.5**	**-3.2**
HAWA	**Hanford**	**6.31**	**58**	**Pn**	**15 01 30.5**	**-1.4**
WVOR	**Wild Horse Val**	**6.39**	**95**	**Pn**	**15 01 32.4**	**-0.7**
WVOR	**Wild Horse Val**	**6.39**	**95**	P **Pn**	**15 01 32.4**	**-0.7**
J08A	**Circle Bar Ran**	**6.41**	**86**	**Pn**	**15 01 33.2**	**-0.1**
AFDM	**Forest Hills D**	**6.42**	**130**	**Pn**	**15 01 36.9**	**+3.5**
WAH2	**Wahluke Slope**	**6.46**	**55**	**Pn**	**15 01 33.3**	**-0.7**
YPT	**Yellepit**	**6.53**	**62**	**Pn**	**15 01 33.9**	**-1.0**
E08A	**Dider Farm, El**	**6.65**	**58**	**Pn**	**15 01 36.5**	**0.0**
CBB	**Campbell River**	**6.88**	**10**	**Pn**	**15 01 39.3**	**-0.4**
D08A	**Wollman Farm,**	**7.00**	**54**	**Pn**	**15 01 40.1**	**-1.2**
CMB	**Columbia Colle**	**7.39**	**133**	**Pn**	**15 01 50.5**	**+3.7**
CMB	**Columbia Colle**	**7.39**	**133**	P **Pn**	**15 01 50.5**	**+3.7**
B08A	**Colville Reser**	**7.51**	**45**	**Pn**	**15 01 46.2**	**-2.2**
C09A	**Chrisman Ranch**	**7.76**	**51**	**Pn**	**15 01 50.4**	**-1.4**
SAO	**San Andreas Ge**	**7.88**	**144**	**Pn**	**15 01 56.2**	**+2.7**
SAO	**San Andreas Ge**	**7.88**	**144**	P **Pn**	**15 01 56.2**	**+2.7**
MFID	**Camas Ranch**	**8.33**	**85**	**Pn**	**15 01 59.2**	**-0.6**
NVAR	**Mina Array Bea**	**8.33**	**122**	**Pn**	**15 02 02.6**	**+2.8**
NVAR	**Mina Array Bea**	**8.33**	**122**	Pn **Pn**	**15 02 01.1**	**+1.2**
	comp=N,0.6nm,0.3s,baz=298,slow=13,SNR=30					
NVAR				LR LR	15 05 21.1	
	comp=N,4μm,18.3s,baz=306,slow=38					
	comp=N,3.8nm,0.7s					
NEW	**Newport**	**8.66**	**51**	Pn **Pn**	**15 02 02.0**	**-2.2**
	comp=N,43nm,0.4s,baz=237,slow=12,SNR=67					
NEW				LR LR	15 05 24.2	
	comp=N,11μm,20.6s,baz=242,slow=38					
NEW	**Newport**	**8.66**	**51**	P **Pn**	**15 02 02.0**	**-2.2**
BBB	**Bella Bella**	**8.94**	**357**	Pn **Pn**	**15 02 07.1**	**-0.7**
	comp=N,6.2nm,0.3s,baz=184,slow=9.6,SNR=20					
BBB				LR LR	15 04 52.4	
	comp=N,7μm,19.0s,baz=179,slow=34					
ELK	**Elko**	**9.29**	**102**	Pn **Pn**	**15 02 14.9**	**+1.9**
	comp=N,0.4nm,0.3s,baz=299,slow=13,SNR=36					
	comp=N,7.7nm,0.7s					
MSO	**Missoula**	**10.07**	**65**	**Pn**	**15 02 22.4**	**-1.1**
H02S1	**DAWSON INLET T**	**10.53**	**343**	Pn **Pn**	**15 02 30.8**	**+1.2**
DLMT	**Dillon**	**10.71**	**74**	**Pn**	**15 02 32.0**	**-0.4**
WSHM	**Spangler Hills**	**10.75**	**132**	**Pn**	**15 02 37.2**	**+4.3**
OVMT	**Ovando**	**10.75**	**64**	**Pn**	**15 02 31.4**	**-1.5**
HVU	**Hansel Valley**	**10.79**	**93**	**Pn**	**15 02 34.4**	**+0.9**
HVU	**Hansel Valley**	**10.79**	**93**	P **Pn**	**15 02 34.4**	**+0.9**
PSUT	**Pine Spring**	**11.19**	**111**	**Pn**	**15 02 40.8**	**+1.8**
LYMT	**Lyon Mountain**	**11.20**	**66**	**Pn**	**15 02 38.0**	**-1.1**
DUG	**Dugway, Tooele**	**11.22**	**101**	**Pn**	**15 02 40.2**	**+0.9**
DUG	**Dugway, Tooele**	**11.22**	**101**	P **Pn**	**15 02 40.2**	**+0.9**
RUBB	**Prince Rupert**	**11.24**	**351**	**Pn**	**15 02 39.4**	**+0.1**
GSC	**Goldstone, Bar**	**11.35**	**131**	**Pn**	**15 02 44.8**	**+3.8**
GSC	**Goldstone, Bar**	**11.35**	**131**	P **Pn**	**15 02 44.8**	**+3.8**
QLMT	**Earthquake Lak**	**11.50**	**77**	**Pn**	**15 02 43.8**	**+0.7**
MWC	**Mount Wilson**	**11.53**	**139**	**Pn**	**15 02 46.2**	**+2.5**
MWC	**Mount Wilson**	**11.53**	**139**	P **Pn**	**15 02 46.2**	**+2.5**
YHB	**Horse Butte**	**11.66**	**77**	**Pn**	**15 02 45.1**	**-0.3**
YHL	**Hebgen Lake**	**11.67**	**77**	**Pn**	**15 02 46.8**	**+1.1**
HWUT	**Hardware Ranch**	**11.71**	**93**	**Pn**	**15 02 47.4**	**+1.2**
FXWY	**Fox Creek**	**11.80**	**83**	**Pn**	**15 02 48.8**	**+1.4**
AHID	**Auburn Hatcher**	**11.84**	**87**	**Pn**	**15 02 49.1**	**+1.3**
TPAW	**Teton Pass**	**11.87**	**83**	**Pn**	**15 02 50.8**	**+2.4**
YFT	**Old Faithful**	**11.91**	**79**	**Pn**	**15 02 50.5**	**+1.6**
SNOW	**Snow King Moun**	**12.01**	**83**	**Pn**	**15 02 52.1**	**+1.9**
CCUT	**Cedar City**	**12.03**	**114**	**Pn**	**15 02 54.1**	**+3.6**
YNR	**Norris Junctio**	**12.03**	**77**	**Pn**	**15 02 50.5**	**+0.1**
LOHW	**Long Hollow**	**12.11**	**83**	**Pn**	**15 02 52.9**	**+1.3**
V35K	**Ketchikan**	**12.39**	**348**	P **Pn**	**15 02 56.7**	**+1.6**
	baz=164,SNR=15					
V35K				S **Sn**	**15 05 10.9**	**-2.1**
	baz=164					
YMP	**Mirror Lake Pl**	**12.40**	**77**	**Pn**	**15 02 56.1**	**+0.5**
BSUT	**Blindstream Ca**	**12.59**	**97**	**Pn**	**15 02 59.6**	**+1.3**
U35K	**Hyder**	**12.78**	**353**	P **Pn**	**15 03 02.6**	**+2.2**
	baz=170					
U35K				S **Sn**	**15 05 23.0**	**+0.5**
	baz=170					
CRAG	**Craig**	**12.79**	**345**	P **Pn**	**15 03 02.6**	**+2.1**
CRAG	**Craig**	**12.79**	**345**	P **Pn**	**15 03 02.4**	**+1.9**
	baz=160,SNR=14					
CRAG				S **Sn**	**15 05 20.7**	**-1.9**
	baz=160					
PFO	**Pinyon Flats O**	**12.82**	**135**	**Pn**	**15 03 04.1**	**+2.9**
PFO	**Pinyon Flats O**	**12.82**	**135**	Pn **Pn**	**15 03 03.7**	**+2.5**
	comp=N,0.2nm,0.3s,baz=317,slow=12,SNR=7.8					
PFO				LR LR	15 07 55.6	
	comp=N,6μm,19.7s,baz=314,slow=37					
	comp=N,2.0nm,0.6s					
PMD	**Palm Desert**	**12.83**	**135**	**Pn**	**15 03 04.3**	**+3.0**
Q16A	**Castle Valley**	**12.88**	**104**	**Pn**	**15 03 03.1**	**+0.9**
BW06	**Boulder Array**	**12.96**	**86**	**Pn**	**15 03 04.4**	**+1.2**
PD31	**Pinedale Array**	**12.96**	**86**	**Pn**	**15 03 03.7**	**+0.5**
PDAR	**Pinedale Array**	**12.96**	**86**	**Pn**	**15 03 04.4**	**+1.2**
PDAR	**Pinedale Array**	**12.96**	**86**	Pn **Pn**	**15 03 04.8**	**+1.6**
	comp=N,0.2nm,0.3s,baz=274,slow=12,SNR=56					
PDAR				LR LR	15 08 27.1	
	comp=N,4μm,20.9s,baz=268,slow=40					
	comp=N,9.5nm,0.8s					
RLMT	**Red Lodge**	**13.04**	**76**	**Pn**	**15 03 04.2**	**0.0**
BORC	**Borrego Spring**	**13.11**	**136**	**Pn**	**15 03 08.3**	**+3.2**
EGMT	**Eagleton**	**13.12**	**63**	**Pn**	**15 03 04.3**	**-0.9**
SRU	**San Rafael Swe**	**13.27**	**103**	**Pn**	**15 03 09.2**	**+1.9**
SRU	**San Rafael Swe**	**13.27**	**103**	P **Pn**	**15 03 09.2**	**+1.9**
P18A	**Preston Nutter**	**13.27**	**100**	**Pn**	**15 03 08.8**	**+1.3**
U33K	**Whale Pass**	**13.40**	**346**	**Pn**	**15 03 09.6**	**+0.8**
U33K	**Whale Pass**	**13.40**	**346**	P **Pn**	**15 03 10.5**	**+1.7**
	baz=161,SNR=7.0					
U33K				S **Sn**	**15 05 35.1**	**-2.4**
	baz=161					
WRAK	**Wrangell Islan**	**13.56**	**348**	**Pn**	**15 03 11.0**	**0.0**
WRAK	**Wrangell Islan**	**13.56**	**348**	P **Pn**	**15 03 12.5**	**+1.5**
	baz=164,SNR=20					
WRAK				S **Sn**	**15 05 39.5**	**-1.9**
	baz=164					
BLYC	**Blythe**	**13.76**	**129**	**P**	**15 03 18.9**	**-3.5**
T35M	**Bob Quinn**	**13.86**	**353**	P **Pn**	**15 03 17.1**	**+2.0**
	baz=170,SNR=7.9					
YUH	**Yuha Desert**	**13.86**	**136**	**Pn**	**15 03 18.8**	**+3.6**
T33K	**Petersburg**	**14.03**	**347**	P **Pn**	**15 03 19.0**	**+1.5**
	baz=162					
PV04	**Paradox Valley**	**14.71**	**103**	**Pn**	**15 03 27.8**	**+0.6**
SIT	**Sitka**	**14.72**	**342**	P **Pn**	**15 03 27.3**	**+0.4**
SIT	**Sitka**	**14.72**	**342**	P **Pn**	**15 03 26.4**	**-0.5**
	baz=156					
SIT				S **Sn**	**15 06 13.4**	**+3.7**
	baz=156					
S34M	**Telegraph Cree**	**14.86**	**352**	P **Pn**	**15 03 30.5**	**+1.7**
	baz=169,SNR=24					
S34M				S **Sn**	**15 06 16.8**	**+3.7**
	baz=169					
S32K	**Killisnoo**	**14.95**	**345**	P **Pn**	**15 03 30.3**	**+0.3**
	baz=158,SNR=14					
DLBC	**Dease Lake**	**15.28**	**354**	Pn **Pn**	**15 03 33.4**	**-1.2**
	baz=166,slow=12,SNR=14					
DLBC				LR LR	15 08 43.7	
	comp=N,357nm,18.4s,baz=155,slow=35					
	comp=N,1.5nm,1.1s					
DLBC	**Dease Lake**	**15.28**	**354**	P **Pn**	**15 03 36.1**	**+1.6**
	baz=172,SNR=32					
DLBC				S **Sn**	**15 06 27.9**	**+4.3**
	baz=172					
TOAD	**Toad River Com**	**15.65**	**4**	P **Pn**	**15 03 40.1**	**+0.9**
	baz=185,SNR=9.7					
TOAD				S **Sn**	**15 06 35.2**	**+2.8**
	baz=185					
JIS	**Juneau Island**	**15.67**	**346**	P **Pn**	**15 03 40.7**	**+1.3**
R32K	**Eaglecrest**	**15.69**	**346**	P **Pn**	**15 03 40.5**	**+0.7**
	baz=160,SNR=16					
R32K				S **Sn**	**15 06 36.3**	**+2.9**
	baz=160					
S31K	**Pelican**	**15.75**	**342**	**Pn**	**15 03 36.6**	**-3.9**
S31K	**Pelican**	**15.75**	**342**	P **Pn**	**15 03 39.6**	**-0.8**
	baz=155					
S31K				S **Sn**	**15 06 40.8**	**+6.0**
	baz=155					
Q32M	**Nakina River**	**16.01**	**351**	P **Pn**	**15 03 45.8**	**+1.6**
	baz=166,SNR=25					
Q32M				S **Sn**	**15 06 48.0**	**+6.5**
	baz=166					
R31K	**City Hall, Gus**	**16.06**	**344**	P **Pn**	**15 03 44.7**	**+0.3**
	baz=157					
R31K				S **Sn**	**15 06 48.5**	**+6.3**
	baz=157					
LIRD	**Liard River Hi**	**16.18**	**2**	P **Pn**	**15 03 46.8**	**+0.8**
	baz=183,SNR=14					
LIRD				S **Sn**	**15 06 50.3**	**+5.2**
	baz=183					
R33M	**Jennings River**	**16.30**	**353**	P **P**	**15 03 49.2**	**-1.5**
	baz=170,SNR=28					
R33M				S **S**	**15 06 54.8**	**-6.4**
	baz=170					
P32M	**Atlin**	**16.81**	**349**	P **Pn**	**15 03 54.1**	**0.0**
P32M				IAmb IAmb	15 03 57.0	
	comp=Z,176nm,1.4s					
P32M	**Atlin**	**16.81**	**349**	P **P**	**15 03 55.5**	**-0.9**
	baz=163,SNR=35					
P32M				S **S**	**15 07 07.3**	**-4.1**
	baz=163					
DGMT	**Dagmar**	**16.85**	**64**	**Pn**	**15 03 53.9**	**-0.9**
DGMT				IAmb IAmb	15 04 01.1	
	comp=Z,138nm,1.1s					
WTLY	**Watson Lake, Y**	**16.89**	**357**	P **P**	**15 03 56.3**	**-0.8**
	baz=176,SNR=27					
WTLY				S **S**	**15 07 08.4**	**-4.6**
	baz=176					
SKAG	**Skagway**	**16.95**	**346**	P **Pn**	**15 03 55.7**	**-0.1**
SKAG				IAmb IAmb	15 04 00.5	
	comp=Z,189nm,1.6s					
SKAG	**Skagway**	**16.95**	**346**	P **P**	**15 03 57.2**	**-0.5**
SKAG	**Skagway**	**16.95**	**346**	P **Pn**	**15 03 56.5**	**+0.7**
	baz=159,SNR=11					
SKAG				S **S**	**15 07 10.5**	**-3.6**
	baz=159					
KOTAN	**Kotaneelee Air**	**16.99**	**5**	P **P**	**15 03 57.2**	**-1.0**
	baz=188,SNR=15					
KOTAN				S **Sn**	**15 07 06.1**	**+1.1**
	baz=188					
PLBC	**Pleasant Camp**	**17.15**	**344**	P **Pn**	**15 03 58.4**	**+0.1**
	baz=156,SNR=21					
PLBC				S **S**	**15 07 16.7**	**-1.4**
	baz=156					
P33M	**Teslin, Yukon**	**17.30**	**351**	P **Pn**	**15 04 00.1**	**-0.1**
P33M	**Teslin, Yukon**	**17.30**	**351**	P **P**	**15 04 01.2**	**-0.5**
	baz=166,SNR=18					
P33M				S **S**	**15 07 19.4**	**-1.9**
	baz=166					
P29M	**Windy Craggy**	**17.60**	**342**	P **Pn**	**15 04 04.1**	**+0.2**
	baz=154,SNR=20					
P29M				S **S**	**15 07 27.6**	**+0.3**
	baz=154					
P30M	**Million Dollar**	**17.88**	**344**	P **P**	**15 04 08.0**	**-0.1**
	baz=156					
P30M				S **S**	**15 07 34.9**	**+1.8**
	baz=156					
WHY	**Whitehorse**	**18.01**	**348**	P **Pn**	**15 04 07.9**	**-1.2**
WHY	**Whitehorse**	**18.01**	**348**	P **P**	**15 04 09.9**	**+0.3**
	baz=161,SNR=12					
WHY				S **S**	**15 07 37.4**	**+1.4**
	baz=161					
PNL	**Peninsula**	**18.02**	**340**	P **P**	**15 04 09.4**	**-0.2**
PNL	**Peninsula**	**18.02**	**340**	P **P**	**15 04 10.7**	**+1.0**
	baz=150,SNR=9.9					
ANMO	**Albuquerque**	**18.12**	**110**	P **P**	**15 04 12.4**	**+1.3**
ANMO	**Albuquerque**	**18.12**	**110**	P **P**	**15 04 13.4**	**+2.3**
	comp=Z,6.1nm,0.7s,baz=32,slow=12,SNR=15					
ANMO				LR LR	15 10 58.5	
	comp=Z,2μm,21.0s,baz=29,slow=36					
ANMO	**Albuquerque**	**18.12**	**110**	P **P**	**15 04 12.4**	**+1.3**
ANMO				pmax pmax		
	comp=Z,18nm,1.3s					
LENM	**Lemitar**	**18.21**	**113**	P **Pn**	**15 04 12.0**	**+0.2**
N32M	**Quiet Lake**	**18.25**	**351**	S **S**	**15 07 42.9**	**+2.4**
	baz=166					
TGTN	**Hyland Airport**	**18.29**	**358**	P **P**	**15 04 14.2**	**+1.6**
	baz=177,SNR=7.6					
TGTN				S **S**	**15 07 40.9**	**-0.5**
	baz=177					
Y22D	**IRIS PASSCAL I**	**18.30**	**113**	P **P**	**15 04 17.7**	**+4.7**
	baz=307					
O30N	**Mendenhall**	**18.32**	**346**	P **P**	**15 04 13.6**	**+0.7**
	baz=159,SNR=33					
O30N				S **S**	**15 07 44.1**	**+2.1**
	baz=159					
O29M	**Mount Kennedy**	**18.39**	**342**	P **Pn**	**15 04 13.1**	**-0.7**
O29M	**Mount Kennedy**	**18.39**	**342**	P **P**	**15 04 14.0**	**+0.2**
	baz=153,SNR=11					
O29M				S **S**	**15 07 46.5**	**+2.9**
	baz=153					
T25A	**Trinidad**	**18.46**	**102**	P **Pn**	**15 04 15.3**	**+0.3**
PINM	**Pinnacle**	**18.61**	**339**	P **Pn**	**15 04 16.3**	**-0.1**
	baz=149,SNR=15					
HYT	**Haines Junctio**	**18.63**	**344**	P **Pn**	**15 04 17.0**	**+0.3**
	baz=156,SNR=41					
HYT				S **S**	**15 07 51.0**	**+2.5**
	baz=156					
YUK6	**Outpost Mounta**	**18.92**	**343**	P **Pn**	**15 04 20.2**	**-0.1**
	baz=154,SNR=15					
YUK6				S **S**	**15 07 58.0**	**+3.6**
	baz=154					
N31M	**Braeburn, Yuko**	**18.94**	**347**	P **Pn**	**15 04 20.4**	**0.0**
	baz=160,SNR=23					
N31M				S **S**	**15 07 57.5**	**+3.0**
	baz=160					
KSCO	**Kaye Shedlock'**	**19.00**	**95**	P **P**	**15 04 20.7**	**0.0**
KSCO				IAmb IAmb	15 04 26.0	
	comp=Z,242nm,1.6s					
E28A	**Huff**	**19.06**	**71**	P **P**	**15 04 21.2**	**0.0**
N30M	**Aishikik Lake**	**19.14**	**346**	P **P**	**15 04 21.6**	**-0.3**
N30M				IAmb IAmb	15 04 26.4	
	comp=Z,236nm,1.6s					
N30M	**Aishikik Lake**	**19.14**	**346**	P **Pn**	**15 04 23.1**	**+0.3**
	baz=157,SNR=32					
N30M				S **S**	**15 08 03.4**	**+4.9**
	baz=157					
MESA	**MESA**	**19.14**	**337**	P **Pn**	**15 04 22.9**	**0.0**
	baz=145,SNR=13					
O28M	**Mount Upton**	**19.18**	**340**	P **P**	**15 04 22.4**	**-0.3**
O28M	**Mount Upton**	**19.18**	**340**	P **Pn**	**15 04 23.1**	**-0.4**
	baz=150,SNR=18					
O28M				S **S**	**15 08 03.9**	**+4.1**
	baz=150					
FARO	**Faro, Yukon**	**19.33**	**351**	P **Pn**	**15 04 24.8**	**-0.2**
	baz=166,SNR=14					
FARO				S **S**	**15 08 09.3**	**+7.0**
	baz=166					
YUK4	**Talbot Arm**	**19.34**	**343**	P **Pn**	**15 04 25.4**	**+0.1**
	baz=154,SNR=18					
YUK4				S **S**	**15 08 09.3**	**+6.5**
	baz=154					
M31M	**Drury Creek, Y**	**19.43**	**350**	P **P**	**15 04 24.6**	**-0.3**
M31M	**Drury Creek, Y**	**19.43**	**350**	P **Pn**	**15 04 25.9**	**-0.3**
	baz

comp=Z,62nm,0.8s
MCARA **McCarthy VSAT** **20.44 338** P **P** **15 04 36.3 +0.3**
baz=145,SNR=22
MCARA S Sn 15 08 30.4 +2.3
baz=145
BMRM Bremner River **20.56 336** P **P** **15 04 37.9 +0.6**
baz=141,SNR=8.0
BMRM S Sn 15 08 32.4 +1.4
baz=141
EYAK Cordova Ski Ar **20.59 334** P **P** **15 04 38.6 +0.9**
EYAK Cordova Ski Ar **20.59 334** P **P** **15 04 38.1 +0.5**
baz=138,SNR=9.4
EYAK S Sn 15 08 32.1 +0.3
baz=138
YKA Yellowknife Ar **20.64 17** P **P** **15 04 37.4 -0.8**
YKA Yellowknife Ar **20.64 17** P **P** **15 04 36.7 -1.4**
comp=Z,7.1nm,0.9s,baz=213,slow=11,SNR=34
YKA S **S** **15 08 26.1 -2.2**
comp=Z,0.2nm,0.6s,baz=240,slow=26,SNR=1.3
comp=Z,7.1nm,0.9s
YKA Yellowknife Ar **20.64 17** *i* P **P** **15 04 37.9 -0.2**
YKA pmax pmax
comp=Z,3.0nm,0.5s
YKAW1 **Yellowknife Wh** **20.65 17** P **P** **15 04 36.7 -1.6**
YKAW1 IAmb IAmb 15 04 42.0
comp=Z,185nm,1.9s
P23K Montague Islan **20.75 331** P **P** **15 04 40.0 +0.6**
baz=134,SNR=39
P23K S Sn 15 08 39.1 +3.4
baz=134
BVCY Beaver Creek **20.78 342** P **P** **15 04 40.2 +0.5**
baz=151,SNR=14
BVCY S Sn 15 08 34.0 -2.2
baz=151
MNTX Cornudas Mount **20.78 117** P Pn 15 04 43.3 +0.8
L29M L29M **20.85 346** P **P** **15 04 41.5 +0.9**
baz=157,SNR=42
L29M S Sn 15 08 37.2 -1.0
baz=157
MAYO Mayo, Yukon **20.96 349** P **P** **15 04 42.7 +1.0**
baz=162
MAYO S Sn 15 08 41.4 +0.7
baz=162
M27K Edge Creek, AK **20.96 341** P **P** **15 04 42.4 +0.6**
baz=149,SNR=36
M27K S Sn 15 08 39.8 -1.1
baz=149
FID Port Fidalgo **20.98 333** P **P** **15 04 41.4 -0.5**
DIV Divide **21.04 335** P **P** **15 04 42.4 -0.2**
DIV IAmb IAmb 15 04 47.7
comp=Z,126nm,1.1s
N25K Chitina, Valde **21.06 337** P **P** **15 04 43.9 +1.0**
baz=142,SNR=30
N25K S Sn 15 08 40.9 -2.3
baz=142
M26K Nabesna, AK **21.28 340** P **P** **15 04 45.8 +0.7**
baz=147,SNR=24
M26K S **S** **15 08 43.2 +2.1**
baz=147
GLI Glacier Island **21.28 333** P **P** **15 04 44.9 -0.2**
GLI IAmb IAmb 15 04 57.0
comp=Z,123nm,1.2s
GLI Glacier Island **21.28 333** P **P** **15 04 45.2 +0.1**
baz=137,SNR=17
GLI S Sn 15 08 45.6 -2.8
baz=137
KLU Klutina **21.37 335** P **P** **15 04 46.8 +0.7**
baz=140,SNR=32
KLU S **S** **15 08 45.7 +2.8**
baz=140
K29M Barlow Dome **21.44 348** P **P** **15 04 45.4 -1.5**
K29M Barlow Dome **21.44 348** P **P** **15 04 47.6 +0.7**
baz=159,SNR=58
K29M S Sn 15 08 49.5 -2.8
baz=159
KDAK Kodiak Island **21.50 321** P **P** **15 04 47.2 -0.2**
KDAK IAmb IAmb 15 04 49.1
comp=Z,124nm,1.0s
KDAK Kodiak Island **21.50 321** P **P** **15 04 47.2 -0.2**
comp=Z,113nm,1.1s,baz=118,slow=5.9,SNR=33
KDAK LR LR 15 10 55.3
comp=Z,5µm,21.4s,baz=117,slow=31
comp=Z,113nm,1.1s
KDAK Kodiak Island **21.50 321** *i* P **P** **15 04 47.5 0.0**
KDAK pmax pmax
comp=Z,178nm,1.0s
KDAK Kodiak Island **21.50 321** P **P** **15 04 47.7 +0.3**
baz=121
KDAK S Sn 15 08 51.1 -2.6
baz=121
OHAK Old Harbor **21.55 319** P **P** **15 04 48.3 +0.4**
OHAK IAmb IAmb 15 04 49.5
comp=Z,110nm,1.0s
OHAK Old Harbor **21.55 319** P **P** **15 04 48.6 +0.7**
OHAK Old Harbor **21.55 319** P **P** **15 04 47.8 -0.1**
baz=119,SNR=15
BCAR Beaver Creek A **21.55 342** P **P** **15 04 47.3 -0.8**
L27K Beaver Creek, **21.56 342** P **P** **15 04 47.6 -0.5**
L27K IAmb IAmb 15 04 50.4
comp=Z,110nm,1.1s
L27K Beaver Creek, **21.56 342** P **P** **15 04 48.9 +0.8**
baz=150,SNR=105
L27K S Sn 15 08 51.5 -3.6
baz=150
SEW Seward **21.58 329** P **P** **15 04 48.2 -0.1**
baz=131,SNR=65
SEW S **S** **15 08 50.3 +3.4**
baz=131
SII Sitkinak Islan **21.67 317** P **P** **15 04 50.1 +0.8**
SII Sitkinak Islan **21.67 317** P **P** **15 04 49.1 -0.3**
baz=116,SNR=8.4
SII S Sn 15 08 54.4 -3.5
baz=116
PWL Port Wells **21.69 332** P **P** **15 04 49.5 0.0**
baz=134,SNR=24
PWL S **S** **15 08 51.2 +2.0**
baz=134
HARP HAARP **21.85 337** P **P** **15 04 52.3 +1.1**
baz=143,SNR=19
HARP S **S** **15 08 57.1 +4.7**
baz=143
SYI Shuyak Island **21.86 323** P **P** **15 04 51.2 -0.1**
Q20K Shuyak Island **21.86 323** P **P** **15 04 51.7 +0.3**
baz=123,SNR=15
Q20K S **S** **15 08 56.8 +4.3**
baz=123
L26K Log Cabin Wild **21.89 340** P **P** **15 04 52.8 +1.2**
baz=147,SNR=83
L26K S Sn 15 08 58.0 -5.0
baz=147
CNPM China Poot **21.91 326** P **P** **15 04 50.0 -1.9**
CNPM IAmb IAmb 15 04 53.5
comp=Z,85nm,1.1s
MENT Mentasta **21.91 340** P **P** **15 04 53.9 +2.0**
M24K Tolsona, Glenn **21.92 336** P **P** **15 04 53.5 +1.5**
baz=140,SNR=16
M24K S Sn 15 09 00.3 -3.4
baz=140
O22K Cooper Landing **21.93 330** P **P** **15 04 50.7 -1.4**
O22K Cooper Landing **21.93 330** P **P** **15 04 52.7 +0.6**
baz=131,SNR=12
O22K S **S** **15 08 58.5 +4.7**
baz=131
J30M Hart River **21.96 350** P **P** **15 04 53.5 +1.0**
baz=162,SNR=69
J30M S **S** **15 08 58.2 +3.7**
baz=162
DAWY Dawson **21.96 346** P **P** **15 04 52.8 +0.4**
baz=156,SNR=51
DAWY S **S** **15 08 59.2 +4.8**
baz=156
SCM Sheep Creek Mo **22.07 334** P **P** **15 04 54.0 +0.4**
baz=138,SNR=45
SCM S **S** **15 09 01.4 +4.9**
baz=138
R32A Long Quarter, **22.07 93** P **P** **15 04 52.9 -0.9**
CHIR Chirikof Islan **22.10 315** P **P** **15 04 53.6 -0.3**
baz=112
J29N Klondike Camp **22.12 347** P **P** **15 04 55.1 +0.9**
baz=158,SNR=10
J29N S **S** **15 09 02.5 +5.0**
baz=158
KNK Knik Glacier **22.13 332** P **P** **15 04 54.7 +0.5**
baz=135,SNR=29
KNK S Sn 15 09 03.6 -5.1
baz=135
HOM Homer **22.15 326** P **P** **15 04 55.0 +0.5**
baz=126
HOM S **S** **15 09 01.9 +3.9**
baz=126
M23K Glacier View **22.16 334** P **P** **15 04 55.3 +0.7**
baz=137,SNR=51
M23K S **S** **15 09 00.9 +2.6**
baz=137
R18K Karluk **22.27 319** P **P** **15 04 56.1 +0.4**
baz=118
R18K S **S** **15 09 04.1 +4.0**
baz=118
RC01 Rabbit Creek A **22.34 331** P **P** **15 04 54.7 -1.8**
RC01 IAmb IAmb 15 05 05.2
comp=Z,102nm,1.2s
RC01 Rabbit Creek A **22.34 331** P **P** **15 04 56.5 0.0**
baz=132,SNR=7.3
RC01 S **S** **15 09 04.9 +3.2**
baz=132
PAX Paxson **22.40 338** P **P** **15 04 56.8 -0.4**
PAX IAmb IAmb 15 05 05.4
comp=Z,198nm,1.9s
PAX Paxson **22.40 338** P **P** **15 04 56.8 -0.4**
PAX pmax pmax
comp=Z,198nm,1.9s
PAX Paxson **22.40 338** P **P** **15 04 57.5 +0.4**
baz=143,SNR=26
PAX S **S** **15 09 05.5 +2.6**
baz=143
ODSA Odessa **22.41 112** P **P** **15 04 58.6 +1.0**
ODSA IAmb IAmb 15 05 21.2
comp=Z,121nm,1.6s
K27K Chicken **22.46 343** P **P** **15 04 57.9 +0.2**
K27K Chicken **22.46 343** P **P** **15 04 58.3 +0.6**
baz=150
K27K S **S** **15 09 07.5 +3.7**
baz=150
PMR Palmer **22.48 332** P **P** **15 04 57.6 -0.4**
PMR IAmb IAmb 15 04 59.6
comp=Z,72nm,1.1s
PMR Palmer **22.48 332** P **P** **15 04 58.3 +0.4**
PMR Palmer **22.48 332** P **P** **15 04 57.6 -0.4**
PMR pmax pmax
comp=Z,72nm,1.1s
PMR Palmer **22.48 332** P **P** **15 04 58.4 +0.5**
baz=134,SNR=23
PMR S **S** **15 09 07.9 +3.8**
baz=134
I30M Mount Dempster **22.58 350** P **P** **15 04 59.5 +0.3**
baz=162,SNR=75
I30M S **S** **15 09 08.5 +2.2**
baz=162
POST Post **22.58 108** P **P** **15 05 00.6 +1.2**
Q19K Cape Douglas, **22.58 323** P **P** **15 04 59.7 +0.6**
baz=122,SNR=5.1
Q19K S **S** **15 09 08.1 +1.9**
baz=122
CAPN Captain Cook N **22.65 329** P **P** **15 05 00.6 +0.8**
baz=129
CAPN S **S** **15 09 09.8 +2.5**
baz=129
L34A Svendsen Farm, **22.70 83** P **P** **15 04 59.8 -0.7**
L34A IAmb IAmb 15 05 09.7
comp=Z,52nm,0.7s
MNHN Monahans **22.75 113** P **P** **15 05 01.9 +0.8**
ALPN Alpine **22.78 117** P **P** **15 05 03.5 +2.0**
ALPN IAmb IAmb 15 05 10.5
comp=Z,98nm,1.6s
O20K Slope Mountain **22.80 326** P **P** **15 05 02.1 +0.6**
baz=126,SNR=17
O20K S **S** **15 09 12.5 +2.2**
baz=126
P19K Oil Pt **22.81 325** P **P** **15 05 01.8 +0.3**
baz=124,SNR=8.5
P19K S **S** **15 09 12.0 +1.8**
baz=124
SCRK Sand Creek **22.85 341** P **P** **15 05 01.4 -0.6**
SCRK IAmb IAmb 15 05 10.8
comp=Z,65nm,1.4s
SCRK Sand Creek **22.85 341** P **P** **15 05 02.1 +0.2**
baz=147,SNR=36
SCRK S **S** **15 09 14.4 +3.3**
baz=147
RIDG Independent Ri **22.86 340** P **P** **15 05 01.6 -0.5**
RIDG IAmb IAmb 15 05 07.7
comp=Z,98nm,1.1s
RIDG Independent Ri **22.86 340** P **P** **15 05 02.5 +0.5**
baz=145,SNR=54
RIDG S **S** **15 09 14.0 +2.8**
baz=145
H31M Peel River **22.92 352** P **P** **15 05 01.9 -0.7**
H31M IAmb IAmb 15 05 12.4
comp=Z,100nm,1.1s
H31M Peel River **22.92 352** P **P** **15 05 02.7 +0.1**
baz=166,SNR=52
H31M S **S** **15 09 14.2 +2.1**
baz=166
M22K Willow **22.93 332** P **P** **15 05 01.6 -1.1**
M22K Willow **22.93 332** P **P** **15 05 02.5 -0.2**
baz=133,SNR=18
ILSW Iliamna Southw **22.96 326** P **P** **15 05 02.0 -1.1**
SUA Susitna One **22.96 331** P **P** **15 05 02.5 -0.6**
SUA Susitna One **22.96 331** P **P** **15 05 02.9 -0.2**
baz=131
SUA S **S** **15 09 15.8 +2.8**
baz=131
ACHA Angle Creek He **22.98 320** P **P** **15 05 02.3 -1.1**
ACHA IAmb IAmb 15 05 12.4
comp=Z,67nm,1.0s
I29M Ogilvie Camp, **22.98 348** P **P** **15 05 02.4 -0.9**
I29M IAmb IAmb 15 05 05.6
comp=Z,60nm,1.2s
I29M Ogilvie Camp, **22.98 348** P **P** **15 05 03.3 0.0**
baz=159,SNR=40
SN07 Snyder 07 **22.99 107** P **P** **15 05 04.7 +1.0**
SN07 IAmb IAmb 15 05 08.7
comp=Z,158nm,1.8s
Q18K Katmai Hardscr **23.05 322** P **P** **15 05 03.9 -0.2**
baz=119,SNR=27
Q18K S **S** **15 09 15.6 +1.1**
baz=119
RED Redoubt Volcan **23.06 327** P **P** **15 05 03.1 -1.1**
RED IAmb IAmb 15 05 20.5
comp=Z,92nm,1.3s
K24K Donnelly Dome **23.16 339** P **P** **15 05 05.6 +0.5**
baz=144,SNR=17
K24K S **S** **15 09 16.6 +0.4**
baz=144
J26L Joseph Creek **23.20 342** P **P** **15 05 05.6 +0.1**
J26L Joseph Creek **23.20 342** P **P** **15 05 06.0 +0.4**
baz=148,SNR=43
J26L S **S** **15 09 16.5 -0.4**
baz=148
PLK4 Peulik 4 **23.21 318** P **P** **15 05 04.5 -1.3**
PLK4 IAmb IAmb 15 05 14.7
comp=Z,105nm,1.2s
R17L Mt. Peulik Vol **23.21 318** P **P** **15 05 05.5 -0.1**
baz=115
R17L S **S** **15 09 17.9 +0.8**
baz=115
Q17K Contact Creek **23.27 320** P **P** **15 05 06.1 -0.2**
baz=117,SNR=12
Q17K S **S** **15 09 16.4 -1.8**
baz=117
I28M Miner Creek **23.32 347** P **P** **15 05 06.5 -0.3**
baz=156,SNR=23
I28M S **S** **15 09 19.4 +0.4**
baz=156
N20K Mount Spurr **23.33 329** P **P** **15 05 06.5 -0.4**
baz=128
SPCR Spurr Chakacha **23.33 329** P **P** **15 05 06.6 -0.3**
baz=128,SNR=14
SPCR S **S** **15 09 21.6 +2.5**
baz=128
CROK Carrier **23.38 97** P **P** **15 05 07.8 +0.3**
CROK IAmb IAmb 15 05 14.3
comp=Z,118nm,1.4s
APMT Aspermont **23.40 106** P **P** **15 05 08.0 +0.2**
CUT Chulitna **23.44 333** P **P** **15 05 08.2 +0.4**
CUT Chulitna **23.44 333** P **P** **15 05 07.7 -0.1**
baz=134,SNR=12
CUT S **S** **15 09 23.2 +2.5**
baz=134
TX31 Lajitas Ar. Si **23.45 119** P **P** **15 05 11.0 +2.6**
TX31 IAmb IAmb 15 05 15.8
comp=Z,162nm,1.9s
TXAR Lajitas Array **23.45 119** P **P** **15 05 08.8 +0.4**
comp=Z,2.7nm,0.7s,baz=297,slow=8.8,SNR=43
TXAR PcP **PcP** **15 08 55.1 +0.8**
comp=Z,0.6nm,0.8s,baz=178,slow=0.9,SNR=4.5
TXAR LR LR 15 14 30.3
comp=Z,684nm,20.0s,baz=301,slow=37
comp=Z,2.7nm,0.7s
P18K Big Mountain, **23.52 323** P **P** **15 05 07.8 -1.0**
baz=120,SNR=10
P18K S **S** **15 09 22.7 +0.5**
baz=120
O19K Port Alsworth **23.57 325** P **P** **15 05 08.5 -0.6**
O19K Port Alsworth **23.57 325** P **P** **15 05 09.0 -0.1**
baz=123,SNR=15
O19K S **S** **15 09 24.6 +1.9**
baz=123
SKT Skwentna **23.58 331** P **P** **15 05 07.5 -1.8**
SKT Skwentna **23.58 331** P **P** **15 05 09.4 +0.1**
baz=131,SNR=25
SKT S **S** **15 09 21.1 -2.0**
baz=131
LPIG La Paz **23.67 138** LR LR 15 13 47.3
comp=Z,2µm,20.4s,baz=324,slow=35
RND Reindeer **23.71 336** P **P** **15 05 10.4 -0.2**
RND IAmb IAmb 15 05 11.8
comp=Z,54nm,1.1s
RND Reindeer **23.71 336** P **P** **15 05 10.4 -0.2**
RND pmax pmax
comp=Z,55nm,1.1s
J25K Salcha River, **23.71 341** P **P** **15 05 10.2 -0.4**
J25K Salcha River, **23.71 341** P **P** **15 05 10.7 +0.1**
baz=145,SNR=69
J25K S **S** **15 09 25.6 +0.3**
baz=145
EPYK Eagle Plains **23.73 351** P **P** **15 05 10.6 -0.1**
baz=162,SNR=5.8
EPYK S **S** **15 09 25.2 -0.1**
baz=162
CHGN Chignik **23.73 314** P **P** **15 05 10.8 +0.1**
CHGN Chignik **23.73 314** P **P** **15 05 10.6 -0.1**
baz=110,SNR=9.2
O18K Koktuh Hills **23.75 324** P **P** **15 05 10.6 -0.4**
baz=121,SNR=10.0
O18K S **S** **15 09 29.2 +3.4**
baz=121
I27K Kandik River **23.76 345** P **P** **15 05 11.4 +0.3**
baz=153,SNR=30
I27K S **S** **15 09 27.1 +1.1**
baz=153
H29M Whitestone **23.80 349** P **P** **15 05 10.9 -0.4**
H29M Whitestone **23.80 349** P **P** **15 05 11.3 0.0**
baz=159,SNR=51
H29M S **S** **15 09 27.5 +1.1**
baz=159
I26K Coal Creek Min **23.80 343** P **P** **15 05 11.7 +0.3**
I26K Coal Creek Min **23.80 343** P **P** **15 05 12.2 +0.8**
baz=150
I26K S **S** **15 09 28.5 +1.9**
baz=150
Q16K King Salmon **23.82 321** P **P** **15 05 11.9 +0.3**
baz=117,SNR=10
CHNA Chernabura Isl **23.91 310** P **P** **15 05 12.8 +0.3**
CHNA Chernabura Isl **23.91 310** P **P** **15 05 12.0 -0.5**
baz=105
HDA Harding Lake **23.95 339** P **P** **15 05 12.8 0.0**
baz=142,SNR=18
HDA S **S** **15 09 30.1 +1.2**
baz=142
P17K Kvichak River **23.96 322** P **P** **15 05 12.8 -0.1**
baz=118,SNR=11
P17K S **S** **15 09 33.5 +4.4**
baz=118
MCK McKinley **23.98 336** P **P** **15 05 13.3 +0.1**
MCK IAmb IAmb 15 05 14.9
comp=Z,63nm,1.1s
MCK McKinley **23.98 336** P **P** **15 05 13.3 +0.1**
MCK pmax pmax
comp=Z,63nm,1.1s
MCK McKinley **23.98 336** P **P** **15 05 13.2 +0.1**
baz=138,SNR=24
MCK S **S** **15 09 32.9 +3.5**
baz=138
N19K Bonanza Creek **23.98 327** P **P** **15 05 13.1 -0.1**
baz=124,SNR=16
N19K S **S** **15 09 29.9 +0.3**
baz=124
G31M Satah River **24.01 353** P **P** **15 05 12.9 -0.4**
baz=167,SNR=18
G31M S **S** **15 09 30.1 +0.5**
baz=167
M20K Styx River **24.10 330** P **P** **15 05 14.5 +0.2**
baz=128,SNR=50
M20K S **S** **15 09 33.0 +1.6**
baz=128
TRF Thorofare Moun **24.18 335** P **P** **15 05 15.0 -0.2**
baz=135,SNR=41
TRF S **S** **15 09 34.8 +1.9**
baz=135
IL31 **24.22 339** P **P** **15 05 14.8 -0.5**
IL31 IAmb IAmb 15 05 16.7
comp=Z,47nm,0.9s
ILAR Eielson Array **24.22 339** P **P** **15 05 14.3 -1.0**
ILAR Eielson Array **24.22 339** P **P** **15 05 13.5 -1.9**
comp=Z,26nm,0.8s,baz=152,slow=8.7,SNR=335
ILAR PcP **PcP** **15 08 55.9 +0.6**
comp=Z,1.2nm,0.6s,baz=185,slow=2.1,SNR=9.9
ILAR LR LR 15 13 14.0
comp=Z,2µm,19.6s,baz=139,slow=33
comp=Z,26nm,0.8s
G30M tAoh Zraii Nji **24.25 351** P **P** **15 05 15.1 -0.5**
baz=164,SNR=12
G30M S **S** **15 09 32.9 -0.9**
baz=164
H27K Steamboat Moun **24.31 346** P **P** **15 05 16.2 0.0**
baz=154,SNR=24
H27K S **S** **15 09 36.5 +1.7**
baz=154
S14K Fog Glacier **24.32 314** P **P** **15 05 16.5 +0.1**
baz=108
S14K S **S** **15 09 39.5 +4.4**
baz=108
G29M Pine Creek **24.41 350** P **P** **15 05 17.1 0.0**
baz=160,SNR=57
G29M S **S** **15 09 36.8 +0.7**
baz=160
I37A Lemond, Waseca **24.41 77** P **P** **15 05 18.7 +1.4**
PPLA Purkeypile **24.42 332** P **P** **15 05 17.7 +0.3**
PPLA Purkeypile **24.42 332** P **P** **15 05 17.9 +0.5**
baz=132,SNR=52
PPLA S **S** **15 09 38.5 +1.8**
baz=132
F31M Tsiigehtchic **24.47 354** P **P** **15 05 17.4 -0.2**
baz=168,SNR=12
F31M S **S** **15 09 37.0 -0.2**
baz=168
N18K Kilae Creek **24.48 325** P **P** **15 05 17.8 0.0**
baz=122,SNR=21
N18K S **S** **15 09 40.2 +2.7**
baz=122
PRP Porcupine Dome **24.50 342** P **P** **15 05 17.4 -0.7**
PRP Porcupine Dome **24.50 342** P **P** **15 05 18.3 +0.2**
baz=146,SNR=28
PRP S **S** **15 09 38.8 +0.7**
baz=146
O17K Koliganek Bris **24.54 323** P **P** **15 05 18.4 +0.2**
baz=118,SNR=24
O17K S **S** **15 09 40.7 +2.4**
baz=118
SDPT Sand Point **24.55 311** P **P** **15 05 18.8 +0.5**
SDPT Sand Point **24.55 311** P **P** **15 05 18.0 -0.3**
baz=105
SDPT S **S** **15 09 38.5 0.0**
baz=105
COLA College **24.56 339** P **P** **15 05 18.5 +0.2**
COLA IAmb IAmb 15 05 20.4
comp=Z,84nm,1.4s
COLA College **24.56 339** P **P** **15 05 18.7 +0.4**
COLA College **24.56 339** *i* P **P** **15 05 17.9 -0.4**
COLA pmax pmax
comp=Z,44nm,1.1s
COLA College **24.56 339** P **P** **15 05 18.2 -0.1**
baz=142
COLA S **S** **15 09 38.7 +0.2**
baz=142
M19K Big River Lodg **24.58 329** P **P** **15 05 19.1 +0.4**
baz=126,SNR=37
M19K S **S** **15 09 40.1 +0.9**
baz=126
P16K Nushagak River **24.60 321** P **P** **15 05 18.9 +0.1**

baz=116
NEA2 **Nenana** 24.67 337 P P 15 05 19.7 +0.2
baz=139,SNR=101
NEA2 S S 15 09 41.3 +0.8
baz=139
L20K **Farewell, AK** 24.75 330 P P 15 05 20.2 +0.1
baz=128,SNR=34
L20K S S 15 09 42.0 +0.2
baz=128
F30M **Barrier River** 24.82 352 P P 15 05 20.2 -0.6
baz=165,SNR=16
F30M S S 15 09 44.8 +2.0
baz=165
G27K **Doyon Strip** 24.86 346 P P 15 05 21.4 +0.3
baz=154,SNR=25
G27K S S 15 09 45.1 +1.6
baz=154
BPAW **Bear Paw Mtn.** 24.87 335 P P 15 05 20.9 -0.3
baz=135,SNR=80
BPAW S S 15 09 43.6 -0.1
baz=135
O16K **Kokwok River B** 24.90 322 P P 15 05 21.7 +0.2
baz=117,SNR=34
O16K S S 15 09 42.0 -2.2
baz=117
M18K **Stony River** 24.90 327 P P 15 05 21.2 -0.3
baz=124,SNR=25
M18K S S 15 09 43.5 -0.7
baz=124
L19K **White Mountain** 24.93 329 P P 15 05 22.4 +0.6
baz=126,SNR=54
L19K S S 15 09 44.7 0.0
baz=126
N17K **Nushagak Hills** 24.95 324 P P 15 05 22.4 +0.5
baz=120,SNR=47
N17K S S 15 09 45.5 +0.5
baz=120
CHUM **Lake Minchumin** 25.13 334 P P 15 05 23.7 +0.2
baz=133,SNR=56
CHUM S S 15 09 49.1 +1.3
baz=133
I23K **Minto, Yukon-K** 25.18 338 P P 15 05 24.5 +0.6
baz=140,SNR=113
I23K S S 15 09 50.0 +1.5
baz=140
H25L **Birch Creek** 25.20 342 P P 15 05 25.2 +1.1
baz=147,SNR=75
H25L S S 15 09 51.8 +2.9
baz=147
INK **Inuvik** 25.31 355 LR LR 15 14 48.3
comp=Z,3µm,19.5s,baz=175,slow=35
INK **Inuvik** 25.31 355 P P 15 05 24.5 -0.6
baz=169,SNR=12
INK S S 15 09 48.7 -1.8
baz=169
F28M **Old Crow** 25.32 349 P P 15 05 25.4 +0.2
baz=158,SNR=9.9
F28M S S 15 09 50.8 0.0
baz=158
H24K **Noodor Dome** 25.33 340 P P 15 05 26.1 +0.7
baz=143,SNR=110
H24K S S 15 09 51.4 +0.3
baz=143
G26K **Porcupine Rive** 25.37 345 P P 15 05 26.5 +0.8
baz=151,SNR=27
G26K S S 15 09 54.4 +2.8
baz=151
K20K **Telida** 25.37 332 P P 15 05 25.8 0.0
baz=129
K20K S S 15 09 52.9 +1.2
baz=129
MLY **Manley** 25.47 337 P P 15 05 27.2 +0.5
baz=137,SNR=141
MLY S S 15 09 54.3 +0.9
baz=137
M17K **Holitna River** 25.50 326 P P 15 05 27.4 +0.5
baz=121,SNR=24
M17K S S 15 09 55.7 +1.9
baz=121
S12K **Black Hills** 25.51 311 P P 15 05 26.8 -0.2
baz=104
O15K **Ungalikthiuk R** 25.52 320 P P 15 05 26.9 -0.2
baz=114
O15K S S 15 09 54.3 +0.3
baz=114
N16K **Nishlik Lake** 25.61 323 P P 15 05 28.2 +0.2
baz=118,SNR=15
N16K S S 15 09 57.2 +1.6
baz=118
L18K **Granite Mounta** 25.65 328 P P 15 05 29.0 +0.7
baz=124,SNR=64
L18K S S 15 09 57.0 +0.9
baz=124
G25K **Bearman Lake** 25.68 343 P P 15 05 29.8 +1.3
baz=147,SNR=41
G25K S S 15 10 00.3 +3.8
baz=147
H23K **Yukon River** 25.75 339 P P 15 05 30.0 +0.8
baz=140,SNR=44
H23K S S 15 09 58.3 +0.7
baz=140
E29M **Blow River** 25.80 351 P P 15 05 29.8 +0.2
baz=162,SNR=34
E29M S S 15 10 00.3 +2.0
baz=162
J20K **Nowinta River** 25.93 333 P P 15 05 31.1 +0.3
baz=131,SNR=64
J20K S S 15 09 59.5 -1.0
baz=131
G24K **Hadweenzic Riv** 25.93 342 P P 15 05 31.8 +1.0
baz=144,SNR=72
G24K S S 15 10 01.5 +1.0
baz=144
BMAR **Burnt Mountain** 25.94 345 P P 15 05 31.0 +0.1
I21K **Tanana** 25.94 336 P P 15 05 31.4 +0.5
baz=135,SNR=102
I21K S S 15 10 00.6 -0.1
baz=135
M16K **Timber Creek** 25.95 324 P P 15 05 31.9 +0.8
baz=118,SNR=13
M16K S S 15 10 02.3 +1.4
baz=118
N15K **Kwethluk River** 26.06 322 P P 15 05 32.5 +0.5
baz=115,SNR=6.4
N15K S S 15 10 03.9 +1.2
baz=115
N15K S S 15 10 05.9 +3.3
baz=115
F26K **Sheenjek River** 26.09 345 P P 15 05 33.5 +1.3
baz=151,SNR=20
F26K S S 15 10 04.0 +0.9
baz=151
E27K **Coleen River** 26.10 348 P P 15 05 33.4 +1.1
baz=156,SNR=26
E27K S S 15 10 03.6 +0.4
baz=156
E28M **Babbage River** 26.20 350 P P 15 05 33.4 +0.2
baz=159,SNR=20
E28M S S 15 10 06.6 +1.8
baz=159
O14K **Tigyukauivet M** 26.23 319 P P 15 05 32.8 -0.7
baz=112
O14K S S 15 10 07.5 +2.3
baz=112
L17K **Donlin** 26.24 327 P P 15 05 34.0 +0.4
baz=121,SNR=41
L17K S S 15 10 07.5 +2.1
baz=121
F25K **Christian Rive** 26.29 344 P P 15 05 34.9 +0.8
baz=148,SNR=39
F25K S S 15 10 08.9 +2.6
baz=148
H22K **Ishtalitna Cre** 26.29 338 P P 15 05 34.9 +0.7
baz=137,SNR=91
H22K S S 15 10 05.8 -0.4
baz=137
J19K **Poorman** 26.31 332 P P 15 05 34.6 +0.4
baz=128,SNR=81
J19K S S 15 10 07.1 +0.5
baz=128
J18K **Innoko River** 26.38 330 P P 15 05 35.0 +0.2
baz=126,SNR=71
J18K S S 15 10 08.7 +1.1
baz=126
I20K **Naaghedeneel** 26.45 334 P P 15 05 35.6 +0.2
baz=131,SNR=58
I20K S S 15 10 10.3 +1.7
baz=131
L16K **Owhat River** 26.50 325 P P 15 05 36.8 +0.8
baz=119,SNR=60
L16K S S 15 10 11.4 +1.9
baz=119
H21K **Melozitna Rive** 26.53 336 P P 15 05 36.8 +0.5
baz=135,SNR=78
H21K S S 15 10 10.0 +0.1
baz=135
K17K **Iditarod** 26.55 328 P P 15 05 36.9 +0.4
baz=122
K17K S S 15 10 09.6 -0.7
baz=122
M15K **Kasigluk River** 26.55 323 P P 15 05 36.5 0.0
baz=116,SNR=14
M15K S S 15 10 12.5 +2.1
baz=116
G23K **Bananza Creek** 26.56 340 P P 15 05 37.2 +0.7
baz=140,SNR=66
G23K S S 15 10 11.3 +0.9
baz=140
N14K **Kuskokwak Cree** 26.68 321 P P 15 05 37.5 -0.1
baz=113,SNR=7.8
N14K S S 15 10 14.2 +1.8
baz=113
F24K **Squaw Lake** 26.70 342 P P 15 05 38.5 +0.7
baz=145,SNR=15
F24K S S 15 10 14.1 +1.4
baz=145
D28M **Stokes Point** 26.79 351 P P 15 05 38.3 -0.2
baz=161
D28M S S 15 10 17.0 +3.2
baz=161
D27M **Malcolm River** 26.99 349 P P 15 05 41.0 +0.6
baz=157
D27M S S 15 10 19.9 +2.6
baz=157
COLD **Coldfoot** 27.00 340 P P 15 05 41.5 +1.0
baz=141,SNR=9.4
COLD S S 15 10 19.5 +2.1
baz=141
IMAR **Indian Mountai** 27.03 336 P P 15 05 40.4 -0.3
H20K **Anotleneega Mo** 27.04 335 P P 15 05 41.2 +0.4
baz=132,SNR=85
H20K S S 15 10 20.3 +2.3
baz=132
G22K **Bettles** 27.10 339 P P 15 05 42.0 +0.7
baz=138,SNR=66
G22K S S 15 10 20.8 +2.0
baz=138
M14K **Bethel** 27.14 322 P P 15 05 41.8 +0.1
baz=114,SNR=13
M14K S S 15 10 23.5 +3.8
baz=114
GCSA **Galena City Sc** 27.21 332 P P 15 05 42.6 +0.3
baz=128
GCSA S S 15 10 23.9 +3.3
baz=128
J17K **VABM Dome** 27.22 329 P P 15 05 42.5 0.0
baz=122,SNR=10.0
J17K S S 15 10 24.0 +3.2
baz=122
E24K **Your Creek** 27.29 343 P P 15 05 44.2 +1.1
baz=144,SNR=24
E24K S S 15 10 26.2 +4.2
baz=144
L15K **Ungalak Mounta** 27.34 324 P P 15 05 43.3 -0.2
baz=116,SNR=5.1
L15K S S 15 10 24.9 +2.2
baz=116
G21K **Allakaket** 27.34 337 P P 15 05 44.2 +0.7
baz=135
G21K S S 15 10 22.4 -0.3
baz=135
E23K **Chandalar** 27.52 342 P P 15 05 46.1 +0.8
baz=143,SNR=30
E23K S S 15 10 30.9 +5.1
baz=143
H19K **Roundabout Mou** 27.56 334 P P 15 05 45.8 +0.3
baz=129,SNR=65
H19K S S 15 10 30.7 +4.6
baz=129
K15K **Wolf Creek Mou** 27.64 325 P P 15 05 46.6 +0.4
baz=117
K15K S S 15 10 31.4 +4.0
baz=117
M13K **Dall Lake** 27.64 321 P P 15 05 46.4 +0.2
baz=112
M13K S S 15 10 31.6 +4.1
baz=112
UNV **Unalaska Valle** 27.71 306 P P 15 05 47.2 +0.3
UNV **Unalaska Valle** 27.71 306 P P 15 05 46.6 -0.3
baz=96,SNR=5.5
L14K **Kuka Creek** 27.71 323 P P 15 05 46.8 0.0
baz=114,SNR=8.6
L14K S S 15 10 33.2 +4.7
baz=114
F22K **John River** 27.71 340 P P 15 05 48.0 +1.1
baz=138
F22K S S 15 10 29.4 +0.8
baz=138
C27K **Jago River** 27.74 348 P P 15 05 47.9 +0.9
baz=153
C27K S S 15 10 31.2 +2.3
baz=153
J16K **Anvik River** 27.74 328 P P 15 05 47.3 +0.2
baz=120,SNR=12
J16K S S 15 10 32.4 +3.3
baz=120
F21K **Alatna River** 27.84 338 P P 15 05 48.6 +0.6
baz=136,SNR=19
F21K S S 15 10 30.1 -0.6
baz=136
D25K **Kavik River** 27.92 346 P P 15 05 49.9 +1.2
baz=149,SNR=11
D25K S S 15 10 32.8 +1.0
baz=149
H18K **Honhosa River** 27.96 332 P P 15 05 49.3 +0.2
baz=126
H18K S S 15 10 33.5 +1.0
baz=126
TOLK **Toolik Lake Re** 27.98 343 P P 15 05 50.8 +1.5
baz=144,SNR=21
TOLK S S 15 10 38.6 +5.7
baz=144
I17K **Unalakleet** 28.09 329 P P 15 05 50.6 +0.4
baz=121
I17K S S 15 10 38.6 +4.1
baz=121
E22K **Anaktuvuk Pass** 28.10 341 P P 15 05 51.3 +1.0
baz=140,SNR=51
E22K S S 15 10 35.5 +0.7
baz=140
G19K **Purcell Mounta** 28.15 335 P P 15 05 50.6 -0.2
baz=129,SNR=33
G19K S S 15 10 34.9 -0.6
baz=129
C26K **Camden Bay** 28.19 347 P P 15 05 52.4 +1.3
baz=152
C26K S S 15 10 36.8 +0.8
baz=152
D24K **Happy Valley** 28.25 344 P P 15 05 52.4 +0.8
baz=145,SNR=5.9
D24K S S 15 10 38.3 +1.4
baz=145
HKT **Hockley** 28.33 108 *i* P P 15 05 55.9 +3.3
HKT pmax pmax
comp=Z,50nm,1.5s
F20K **Avaraart Lake** 28.34 337 P P 15 05 53.0 +0.5
baz=133,SNR=16
F20K S S 15 10 38.7 +0.2
baz=133
H17K **Granite Mounta** 28.37 331 P P 15 05 52.4 -0.3
baz=124,SNR=8.3
H17K S S 15 10 41.4 +2.4
baz=124
D23K **Nanushuk River** 28.49 342 P P 15 05 55.5 +1.8
baz=142,SNR=14
D23K S S 15 10 44.9 +4.1
baz=142
G18K **Tagagawik** 28.50 333 P P 15 05 53.7 -0.2
baz=127,SNR=10
G18K S S 15 10 44.6 +3.6
baz=127
J14K **Nanvaranak Lak** 28.68 325 P P 15 05 55.7 +0.3
baz=115
J14K S S 15 10 46.9 +3.2
baz=115
C24K **Franklin Bluff** 28.69 345 P P 15 05 56.2 +0.6
baz=146
C24K S S 15 10 43.5 -0.4
baz=146
F19K **Shaleruckik Mo** 28.81 335 P P 15 05 56.5 -0.1
baz=129,SNR=15
F19K S S 15 10 49.0 +3.2
baz=129
A36M **Sachs Harbour** 28.81 1 P P 15 05 56.4 -0.1
baz=183,SNR=8.3
A36M S S 15 10 45.8 +0.1
baz=183
K13K **Kusilvak Mount** 28.81 323 P P 15 05 55.9 -0.8
baz=113
K13K S S 15 10 47.0 +1.1
baz=113
E21K **Killik River** 28.86 340 P P 15 05 57.2 +0.1
baz=137,SNR=11
E21K S S 15 10 47.3 +0.7
baz=137
D22K **Ayikyak River** 28.88 341 P P 15 05 58.2 +1.0
baz=139,SNR=13
D22K S S 15 10 47.5 +0.6
baz=139
G17K **Kiwalik Mounta** 28.95 332 P P 15 05 57.7 -0.1
baz=124,SNR=12
G17K S S 15 10 49.8 +1.8
baz=124
M11K **Mekoryuk** 28.96 320 P P 15 05 57.8 -0.1
baz=108
M11K S S 15 10 50.5 +2.3
baz=108
NIKH **Nikolski High** 29.04 304 P P 15 06 01.0 +2.2
baz=92
E19K **Redstone River** 29.05 337 P P 15 05 59.2 +0.4
baz=131
E19K S S 15 10 52.3 +2.6
baz=131
H16K **Elim** 29.05 329 P P 15 05 59.2 +0.4
baz=120
H16K S S 15 10 52.5 +2.8
baz=120
C23K **Itkillik River** 29.17 344 P P 15 06 01.0 +1.2
baz=143,SNR=7.3
C23K S S 15 10 50.1 -1.3
baz=143
F18K **Selawik** 29.25 334 P P 15 06 01.1 +0.7
baz=126,SNR=11
F18K S S 15 10 53.7 +1.1
baz=126
E20K **Nigu River** 29.31 338 P P 15 06 01.8 +0.7
baz=134
E20K S S 15 10 53.6 -0.1
baz=134
G16K **Koyuk River** 29.49 331 P P 15 06 02.8 +0.2
baz=121
G16K S S 15 10 58.4 +1.9
baz=121
C21K **Knifeblade Rid** 29.59 340 P P 15 06 04.5 +1.0
baz=137,SNR=22
C21K S S 15 10 57.5 -0.5
baz=137
F17K **Baldwin Pennin** 29.68 333 P P 15 06 05.4 +1.1
baz=124
F17K S S 15 11 02.6 +3.2
baz=124
D20K **Etivluk River** 29.74 339 P P 15 06 05.0 +0.2
baz=134
D20K S S 15 11 02.9 +2.5
baz=134
P08K **Saint George I** 29.79 311 P P 15 06 04.9 -0.5
baz=98
B21K **Ikpikpuk River** 29.89 341 P P 15 06 06.7 +0.6
baz=137,SNR=13
B21K S S 15 11 06.1 +3.4
baz=137
G15K **Niukluk** 29.90 329 P P 15 06 06.4 +0.2
baz=118
G15K S S 15 11 05.0 +2.0
baz=118
D19K **Kuna River** 29.99 338 P P 15 06 07.3 +0.2
baz=131
D19K S S 15 11 05.6 +1.1
baz=131
E18K **Tukpahlearik C** 30.04 335 P P 15 06 07.9 +0.4
baz=126
E18K S S 15 11 07.5 +2.3
baz=126
B22K **Teshekpuk Lake** 30.16 343 P P 15 06 08.9 +0.4
baz=140
B22K S S 15 11 07.7 +0.7
baz=140
ANM **Nome** 30.21 328 P P 15 06 09.5 +0.5
baz=116
ANM S S 15 11 11.1 +3.2
baz=116
E17K **Hotham Inlet** 30.23 334 P P 15 06 09.2 0.0
baz=124
E17K S S 15 11 09.9 +1.8
baz=124
SPIA **Saint Paul Isl** 30.25 313 P P 15 06 10.5 +1.0
baz=98
F15K **North Star Dit** 30.47 330 P P 15 06 12.2 +0.9
baz=119,SNR=11
F15K S S 15 11 14.6 +2.7
baz=119
B20K **Meade River** 30.78 340 P P 15 06 14.9 +0.9
baz=134,SNR=8.6
B20K S S 15 11 14.8 -1.9
baz=134
C19K **Lookout Ridge** 30.80 338 P P 15 06 14.6 +0.4
baz=130,SNR=17
C19K S S 15 11 16.6 -0.5
baz=130
WVT **Waverly** 30.94 90 P P 15 06 15.8 +0.1
WVT **Waverly** 30.94 90 P P 15 06 15.8 +0.1
WVT pmax pmax
comp=Z,27nm,1.7s
C18K **Utukok River** 30.96 337 P P 15 06 15.6 -0.1
baz=127,SNR=12
C18K S S 15 11 17.2 -2.5
baz=127
F14K **Arctic Creek** 30.98 329 P P 15 06 16.2 +0.4
baz=116,SNR=7.9
F14K S S 15 11 22.8 +3.0
baz=116
D17K **Noatak River** 30.98 334 P P 15 06 16.2 +0.5
baz=124
D17K S S 15 11 21.2 +1.3
baz=124
A22K **Sinclair Lake** 31.01 343 P P 15 06 16.5 +0.5
baz=138
A22K S S 15 11 22.6 +2.5
baz=138
RDOG **Red Dog Mine** 31.13 335 P P 15 06 17.1 0.0
baz=124
C17K **DeLong Mountai** 31.45 335 P P 15 06 20.5 +0.5
baz=124,SNR=6.8
C17K S S 15 11 27.8 +0.5
baz=124
B18K **Kokolik River** 31.58 337 P P 15 06 21.6 +0.6
baz=128
B18K S S 15 11 30.5 +1.3
baz=128
A21K **Barrow** 31.60 342 P P 15 06 21.9 +0.7
baz=137
TNA **Tin City** 31.61 329 P P 15 06 21.1 -0.3
baz=114
TNA S S 15 11 34.3 +4.6
baz=114
A19K **Wainwright** 31.91 339 P P 15 06 24.7 +0.8
baz=130
C16K **Lisburne Hills** 32.01 334 P P 15 06 25.6 +0.8
C16K **Lisburne Hills** 32.01 334 P P 15 06 25.1 +0.3
baz=122,SNR=7.5
C16K S S 15 11 38.1 +2.3
baz=122
X48A **Hartselle** 32.27 92 P P 15 06 27.5 +0.1
X48A IAmb IAmb 15 06 31.0
comp=Z,50nm,1.7s
ATKA **Atka Island** 32.30 303 P P 15 06 26.6 -0.9
GAMB **Gambell** 32.48 325 P P 15 06 29.3 +0.3
baz=108
GAMB S S 15 11 46.1 +2.9
baz=108
LRAL **Lakeview Retre** 32.98 94 P P 15 06 33.0 -0.7
ADK **Adak** 33.86 302 P P 15 06 40.8 -0.3
TKL **Tuckaleechee C** 34.10 88 LR LR 15 21 15.0
comp=Z,4µm,21.7s,baz=300,slow=38

SADO Sadowa 34.23 70 LR LR 15 20 58.1
comp=Z,3µm,18.2s,baz=302,slow=37
V53A Saluda 34.80 87 P **P** **15 06 49.1 -0.5**
V53A IAmb IAmb 15 06 52.7
comp=Z,35nm,1.5s
Q54A Coxs Mills 34.88 81 P **P** **15 06 49.7 -0.4**
CMIG Matias Romero 37.86 123 LR LR 15 23 26.0
comp=Z,1µm,21.1s,baz=317,slow=37
FRB Frobisher Bay 38.69 37 LR LR 15 23 44.9
comp=Z,2µm,16.1s,baz=270,slow=37
SHEM Shemya Is, Ala 39.35 305 LR LR 15 20 48.7
comp=Z,480nm,18.5s,baz=97,slow=32
TEIG Tepich 39.83 113 P **P** **15 07 32.2 -0.1**
SCHQ Schefferville 40.03 51 LR LR 15 24 12.8
comp=Z,3µm,18.5s,baz=278,slow=36
TULEG Thule 41.09 18 *i* P **P** **15 07 42.0 -0.1**
TULEG IAmb IAmb 15 08 15.5
comp=Z,20nm,1.2s
M65A Busby, Falmout 41.14 72 P **P** **15 07 45.0 +2.1**
baz=292
BILL Bilibino 42.05 329 P **P** **15 07 48.8 -1.3**
BILL IAmb IAmb 15 07 50.9
comp=Z,39nm,1.2s
BILL Bilibino 42.05 329 *ce*P **P** **15 07 49.7 -0.4**
BILL pmax pmax
comp=Z,45nm,1.4s
NEEM North Greenlan 45.20 17 *i* P **P** **15 08 15.3 -0.4**
NEEM IAmb IAmb 15 08 22.1
comp=Z,26nm,0.9s
CHIV Chivirico 48.26 102 P **P** **15 08 39.8 -0.2**
CHIV IAmb IAmb 15 08 44.3
comp=Z,60nm,1.3s
PET Petropavlovsk 48.30 309 *e*P **P** **15 08 39.1 -0.7**
PET *e*S **S** **15 15 36.1 -3.1**
PET pmax pmax
comp=Z,43nm,1.4s
PET MLR MLR
comp=Z,200nm,13.0s
PET MLR MLR
comp=Z,200nm,14.0s
PET Petropavlovsk 48.30 309 P **P** **15 08 39.3 -0.5**
comp=Z,37nm,1.0s
PET pP **pP** **15 08 43.2 +0.5**
comp=Z,37nm,1.0s
IVI Ivigtut 48.35 40 *i* P **P** **15 08 40.9 +0.8**
IVI IAmb IAmb 15 08 42.2
comp=Z,48nm,1.2s
SEY Seymchan 48.45 323 LR LR 15 28 39.5
comp=Z,2µm,18.0s,baz=84,slow=36
SEY Seymchan 48.45 323 *i* P **P** **15 08 40.0 -0.9**
SEY pmax pmax
comp=Z,41nm,1.4s
PEA0B Petropavlovsk- 48.81 309 *i* P **P** **15 08 42.8 -1.0**
PETK Petropavlovsk- 48.81 309 P **P** **15 08 42.4 -1.4**
comp=Z,14nm,0.7s,baz=80,slow=12,SNR=29
PETK LR LR 15 25 57.2
comp=Z,380nm,21.8s,baz=73,slow=32
comp=Z,14nm,0.7s
SUMG Summit 49.01 24 P **P** **15 08 45.0 -0.6**
SUMG IAmb IAmb 15 08 56.2
comp=Z,26nm,0.9s
SUMG Summit 49.01 24 P **P** **15 08 45.0 -0.6**
SUMG pmax pmax
comp=Z,26nm,0.9s
SUMG Summit 49.01 24 *i* P **P** **15 08 44.6 -0.9**
SUMG IAmb IAmb 15 08 55.8
comp=Z,32nm,1.0s
JTS Las Juntas de 49.24 119 LR LR 15 32 58.5
comp=Z,334nm,18.6s,baz=310,slow=40
MA2 Magadan 50.22 319 LR LR 15 28 50.4
comp=Z,941nm,19.8s,baz=78,slow=35
MA2 Magadan 50.22 319 P **P** **15 08 54.9 +0.4**
MA2 Magadan 50.22 319 *ce*P **P** **15 08 52.7 -1.8**
MA2 pmax pmax
comp=Z,50nm,1.2s
MA2 Magadan 50.22 319 P **P** **15 08 54.5 0.0**
comp=Z,45nm,1.2s
NOR Nord 50.37 10 *i* P **P** **15 08 58.2 +2.9**
NOR IAmb IAmb 15 09 10.3
comp=Z,74nm,2.3s
DAG Danmarks Havn 52.34 16 *i* P **P** **15 09 08.9 -1.2**
DAG IAmb IAmb 15 09 26.0
comp=Z,11nm,0.9s
TAOE Nuku Hiva Isla 53.19 196 *e*LR LR 15 24 48.9
comp=Z,357nm,22.8s
DBG Daneborg 53.20 19 *i* P **P** **15 09 16.2 -0.3**
DBG IAmb IAmb 15 09 26.7
comp=Z,26nm,1.0s
TIXI Tiksi 53.67 338 LR LR 15 32 42.0
comp=Z,1µm,20.5s,baz=90,slow=37
TIXI Tiksi 53.67 338 *i* P **P** **15 09 19.0 -1.0**
TIXI pmax pmax
comp=Z,30nm,1.5s
KBS Kingsbay 55.72 9 *i* P **P** **15 09 39.2 +4.5**
SPITS Spitsbergen Ar 56.83 8 P **P** **15 09 41.2 -1.5**
comp=Z,2.7nm,0.6s,baz=35,slow=2.0,SNR=2.1
SPITS LR LR 15 35 11.2
comp=Z,466nm,18.3s,baz=322,slow=37
comp=Z,2.7nm,0.6s
SJG San Juan 56.86 96 P **P** **15 09 45.4 +1.7**
SJG San Juan 56.86 96 LR LR 15 34 09.9
comp=Z,600nm,22.0s,baz=299,slow=36
SJG San Juan 56.86 96 P **P** **15 09 45.4 +1.7**
SJG pmax pmax
comp=Z,48nm,1.4s
BORG Borgarnes 57.92 29 LR LR 15 33 30.2
comp=Z,473nm,21.4s,baz=306,slow=35
JMIC Jan Mayen 57.98 20 LR LR 15 34 18.8
comp=Z,529nm,19.6s,baz=311,slow=36
TYV Tymovskoe 58.16 312 *e*P **P** **15 09 51.8 -0.6**
TYV pmax pmax
comp=Z,36nm,1.2s
TYV pmax pmax
comp=Z,200nm,3.5s
YAK Yakutsk 58.36 327 *ce*P **P** **15 09 53.0 -0.7**
YAK pmax pmax
comp=Z,50nm,1.1s
H11N3 WAKE ISLAND Hy 59.29 269 T T 16 14 02.1
baz=50,slow=75,SNR=2577
H11N2 WAKE ISLAND Hy 59.29 269 T T 16 13 56.7
baz=50,slow=75,SNR=1680
H11N1 WAKE ISLAND Hy 59.30 269 T T 16 14 04.9
baz=50,slow=75,SNR=1352
SDV Santo Domingo 59.87 107 P **P** **15 10 06.2 +1.1**
SDV IAmb IAmb 15 10 27.6
comp=Z,11nm,1.0s
SDV Santo Domingo 59.87 107 LR LR 15 38 13.5
comp=Z,457nm,20.8s,baz=330,slow=38
YSS Yuzhno-Sakhali 60.15 308 P **P** **15 10 06.1 -0.2**
YSS Yuzhno-Sakhali 60.15 308 *e*P **P** **15 10 05.5 -0.8**
YSS *e*S **S** **15 18 14.1 -5.2**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS pmax pmax
comp=Z,100nm,2.7s
YSS smax smax
comp=N,300nm,12.8s
YSS smax smax
comp=E,200nm,10.6s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS MLR MLR
comp=E,200nm,15.0s
H11S1 WAKE ISLAND Hy 60.20 268 T T 16 15 05.6
baz=50,slow=75
H11S2 WAKE ISLAND Hy 60.21 268 T T 16 15 02.4
baz=50,slow=75
H11S3 WAKE ISLAND Hy 60.22 268 T T 16 15 04.0
baz=50,slow=75
ROSC El Rosal 60.27 114 P **P** **15 10 09.6 +1.6**
comp=E,8.0nm,0.3s,baz=78,slow=4.2,SNR=4.8
ROSC LR LR 15 41 35.3
comp=E,266nm,18.2s,baz=276,slow=42
comp=E,8.0nm,0.3s
RUSC La Rusia 60.33 112 P **P** **15 10 09.0 +0.5**
RUSC IAmb IAmb 15 10 24.3
comp=Z,26nm,1.2s
OTAV Otavalo 61.06 121 P **P** **15 10 13.3 -0.1**
OTAV IAmb IAmb 15 10 28.2
comp=Z,21nm,1.3s
OTAV Otavalo 61.06 121 P **P** **15 10 13.3 -0.1**
OTAV pmax pmax
comp=Z,21nm,1.3s
GRNR Gornyy 61.54 314 ⇓ *i* P **P** **15 10 15.2 -0.5**
GRNR pmax pmax
comp=Z,30nm,1.3s
ERM Erimo 62.65 303 P **P** **15 10 23.5 +0.2**
ERM Erimo 62.65 303 *ce*P **P** **15 10 22.9 -0.4**
ERM pmax pmax
comp=Z,30nm,1.0s
PCRV Puerto La Cruz 63.22 102 LR LR 15 40 36.9
comp=Z,349nm,19.6s,slow=39
PPT Papeete 63.92 204 LR LR 15 32 22.1
comp=Z,166nm,21.9s,baz=14,slow=30
PPT2 Papeete2 63.94 204 *e*S **S** **15 19 04.3 -3.4**
comp=Z,35nm,23.5s
PPT2 *e*SS **SS** **15 23 20.8 +4.1**
comp=Z,505nm,39.5s
PPT2 *e*LQ LQ 15 26 38.4
comp=Z,4µm,30.0s
PPT2 *e*LR LR 15 29 24.9
comp=Z,412nm,27.5s
PPT2 *e*LR LR 15 29 26.0
comp=Z,281nm,29.2s
ZEA Zeya 64.31 321 *e*P **P** **15 10 33.1 -1.0**
ZEA *e*S **S** **15 19 11.7 +0.2**
ZEA *e* 15 20 31.1
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA smax smax
comp=N,200nm,14.4s
ARCES ARCESS Array B 65.73 10 P **P** **15 10 42.3 -0.8**
comp=N,3.4nm,1.0s,baz=348,slow=5.4,SNR=4.0
ARCES LR LR 15 40 07.6
comp=N,395nm,20.3s,baz=336,slow=37
comp=N,3.4nm,1.0s
HEH HeiHe 66.44 318 *e*P **P** **15 10 46.6 -1.3**
HEH pP **sP** **15 10 52.4 +0.4**
HEH S **S** **15 19 37.6 -0.1**
HEH pmax pmax
comp=N,31nm,1.0s
HEH LR LR
comp=N,260nm,17.1s
HEH LR LR
comp=N,450nm,15.0s
HEH LR LR
comp=N,520nm,17.7s
BOD Bodaibo 67.11 329 *e*P **P** **15 10 50.1 -1.9**
BOD pmax pmax
comp=Z,26nm,1.0s
USA0B Ussuriysk Arra 67.88 310 P **P** **15 10 56.5 -0.7**
USA0B Ussuriysk Arra 67.88 310 P **P** **15 10 56.5 -0.7**
USA0B pmax pmax
comp=Z,79nm,1.6s
USRK Ussuriysk Ar. 67.88 310 P **P** **15 10 56.4 -0.8**
USRK Ussuriysk Ar. 67.88 310 P **P** **15 10 56.8 -0.4**
comp=Z,19nm,1.1s,baz=50,slow=6.0,SNR=17
USRK LR LR 15 38 01.6
comp=Z,334nm,21.6s,baz=40,slow=34
comp=Z,19nm,1.1s
JSD Sado 68.04 302 P **P** **15 10 57.3 -1.0**
MDJ Mudanjiang 68.94 312 P **P** **15 11 02.9 -0.9**
MDJ S **S** **15 20 10.4 +2.6**
MDJ pmax pmax
comp=Z,13nm,1.2s
MDJ LR LR
comp=Z,260nm,17.8s
MDJ LR LR
comp=Z,270nm,18.0s
MDJ LR LR
comp=Z,250nm,20.1s
MJAR Matsushiro Arr 69.00 301 P **P** **15 11 03.0 -1.3**
MJAR IAmb IAmb 15 11 10.1
comp=Z,16nm,1.4s
MJAR Matsushiro Arr 69.00 301 P **P** **15 11 03.2 -1.1**
comp=Z,4.8nm,0.8s,baz=39,slow=5.8,SNR=9.3
comp=Z,4.8nm,0.8s
MJAR Matsushiro Arr 69.00 301 P **P** **15 11 03.1 -1.3**
MJAR pmax pmax
comp=Z,17nm,1.4s
MAJO Matsushiro 69.00 301 P **P** **15 11 03.2 -1.1**
MAJO IAmb IAmb 15 11 10.2
comp=Z,16nm,0.9s
MAJO Matsushiro 69.00 301 P **P** **15 11 04.1 -0.2**
MAJO Matsushiro 69.00 301 *i* P **P** **15 11 03.2 -1.1**
MAJO pmax pmax
comp=Z,20nm,1.0s
MJB9 Matsu-Tunnel 69.00 301 P **P** **15 11 03.3 -1.0**
MJB9 IAmb IAmb 15 11 10.1
comp=Z,16nm,0.9s
TBI Tubuai 69.37 202 *e*S S 15 20 22.9 +10
comp=Z,992nm,36.0s
TBI *e*SS **SS** **15 24 45.8 +5.0**
comp=Z,851nm,29.5s
TBI *e*LQ LQ 15 28 42.9
comp=Z,5µm,28.0s
TBI *e*LR LR 15 32 04.2
comp=Z,933nm,22.8s
BNX BinXian 69.38 314 ⇓ P **P** **15 11 05.5 -1.0**
BNX PcP **PcP** **15 11 29.6 -0.3**
BNX pmax pmax
comp=Z,22nm,1.0s
BNX pmax pmax
comp=Z,89nm,3.3s
BNX LR LR
comp=Z,180nm,14.1s
BNX LR LR
comp=Z,150nm,14.1s
BNX LR LR
comp=Z,220nm,18.4s
PSTR Posyet 69.54 310 *i* P **P** **15 11 07.1 -0.4**
NB2 NORSAR Subarra 70.70 20 P **P** **15 11 14.6 +0.2**
comp=Z,36nm,2.0s,baz=331,slow=5.9
NB2 NORSAR Subarra 70.70 20 P **P** **15 11 14.6 +0.2**
baz=331,slow=5.9
NOA NORSAR Array B 70.70 20 P **P** **15 11 13.9 -0.5**
comp=Z,4.1nm,1.0s,baz=331,slow=6.0,SNR=14
NOA LR LR 15 40 46.3
comp=Z,254nm,20.9s,baz=330,slow=35
comp=Z,4.1nm,1.0s
RAR Rarotonga 70.80 212 LR LR 15 36 01.0
comp=Z,327nm,18.5s,baz=19,slow=30
NNA Nana 71.67 127 LR LR 15 39 17.5
comp=Z,161nm,21.8s,baz=314,slow=33
HFS Hagfors 72.09 19 P **P** **15 11 22.6 -0.2**
comp=Z,6.7nm,1.0s,baz=40,slow=5.8,SNR=8.7
comp=Z,6.7nm,1.0s
FIA1 FINESS Array S 73.42 13 P **P** **15 11 30.2 -0.4**
FINES FINESS Array B 73.42 13 P **P** **15 11 30.4 -0.2**
FINES FINESS Array B 73.42 13 P **P** **15 11 30.2 -0.4**
comp=Z,3.9nm,0.7s,baz=350,slow=7.7,SNR=14
FINES LR LR 15 41 48.8
comp=Z,529nm,20.9s,baz=350,slow=34
comp=Z,3.9nm,0.7s
FINES FINESS Array B 73.42 13 P **P** **15 11 30.2 -0.4**
FINES FINESS Array B 73.42 13 P **P** **15 11 30.4 -0.2**
KSRS Korea Array 74.64 307 P **P** **15 11 37.6 -0.5**
comp=Z,4.1nm,1.1s,baz=57,slow=5.6,SNR=13
comp=Z,4.1nm,1.1s
IRK Irkutsk 74.98 330 *e*P **P** **15 11 37.6 -2.3**
IRK pmax pmax
comp=Z,42nm,2.0s
MDP Montagnes des 75.32 97 LR LR 15 48 24.2
comp=Z,484nm,19.4s,baz=294,slow=39
KLMR Klimovskoe 75.67 7 *e*P **P** **15 11 42.2 -1.5**
KLMR S **S** **15 21 23.5 -0.8**
KLMR pmax pmax
comp=Z,27nm,1.2s
KLMR MLR MLR
comp=Z,365nm,16.0s
TJN Taejon 75.70 307 *i* P **P** **15 11 44.2 -0.1**
JNU Nakatsue 75.80 302 LR LR 15 40 23.3
comp=Z,210nm,21.8s,baz=66,slow=32
XLT XiLinHaoTe 76.41 318 *e*P **P** **15 11 48.4 +0.1**
XLT sP pwP 15 11 56.9 +1.4
XLT S **S** **15 21 28.0 -5.3**
XLT SS **SS** **15 26 26.5 -0.1**
XLT pmax pmax
comp=Z,17nm,1.1s
XLT pmax pmax
comp=Z,84nm,3.3s
XLT LR LR
comp=Z,530nm,17.9s
XLT LR LR
comp=Z,330nm,23.0s
ZAK Zakamensk 76.85 330 *e*P **P** **15 11 49.9 -0.8**
ZAK pmax pmax
comp=Z,6.0nm,15.0s
ULN Ulaanbaatar 77.41 326 P **P** **15 11 53.3 -0.7**
ULN Ulaanbaatar 77.41 326 *ce*P **P** **15 11 54.1 +0.1**
ULN pmax pmax
comp=Z,11nm,1.1s
SONM Songino Array 77.70 326 P **P** **15 11 54.9 -0.7**
SONM IAmb IAmb 15 11 56.8
comp=Z,16nm,1.1s
SONM Songino Array 77.70 326 P **P** **15 11 55.3 -0.3**
comp=Z,8.2nm,0.9s,baz=44,slow=4.0,SNR=29
comp=Z,8.2nm,0.9s
SONM Songino Array 77.70 326 P **P** **15 11 54.9 -0.7**
SONM pmax pmax
comp=Z,16nm,1.1s
BMRD Maredsous 77.84 29 *d*P **P** **15 11 57.1 +1.0**
comp=Z,5.7nm,1.0s
BGES Gesves 77.89 29 *d*P **P** **15 11 56.8 +0.4**
comp=Z,6.5nm,1.1s
BCLA Clavier 77.94 29 *d*P **P** **15 11 54.9 -1.7**
comp=Z,8.0nm,0.9s
DOU Dourbes 77.95 29 *d*P **P** **15 11 54.6 -2.2**
comp=Z,4.9nm,1.0s
MEM Membach 78.02 28 *d*P **P** **15 11 56.6 -0.5**
RCHB Rochefort 78.13 29 *d*P **P** **15 11 56.3 -1.5**
comp=Z,4.6nm,1.0s
BHOU Houvegnez 78.24 28 *d*P **P** **15 11 57.9 -0.5**
KIRV Kirov 78.47 2 LR LR 15 51 12.9
comp=Z,218nm,18.9s,baz=358,slow=39
KIRV Kirov 78.47 2 *i* P **P** **15 12 00.0 +0.6**
ZALV Zalesovo Beam 79.33 341 P **P** **15 12 02.6 -1.7**
comp=Z,1.5nm,0.6s,baz=23,slow=4.8,SNR=4.1
ZALV LR LR 15 49 19.0
comp=Z,271nm,18.8s,baz=32,slow=37
comp=Z,1.5nm,0.6s
CLL Collm 79.68 24 P **P** **15 12 06.3 +0.1**
CLL Collm 79.68 24 *i* P **P** **15 12 06.6 +0.4**
CLL *e*S **S** **15 22 10.0 +2.0**
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL MLR MLR
comp=Z,400nm,20.3s
CLL Collm 79.68 24 P **P** **15 12 06.4 +0.2**
comp=Z,7.4nm,0.9s
CLL Collm 79.68 24 *i* P **P** **15 12 06.6 +0.4**
comp=Z,8.0nm,1.1s
CLL *i* PcP **pwP** **15 12 13.2 -0.2**
comp=Z,10.0nm,1.2s
CLL *e*S **S** **15 22 10.0 +2.0**
CLL *e*PS **PnS** **15 22 54.0 +2.6**
CLL *e*SS **SS** **15 27 20.0 +5.0**
CLL *ex* x 15 32 15.0
CLL AMS AMS 15 46 00.0
comp=N,300nm,20.8s
CLL AMS AMS 15 46 00.0
comp=E,200nm,21.1s
CLL AMS AMS 15 46 00.0
comp=Z,400nm,20.3s
LPAZ La Paz 80.23 123 P **P** **15 12 10.2 -0.2**
LPAZ La Paz 80.23 123 P **P** **15 12 09.5 -0.9**
comp=Z,2.4nm,0.9s,baz=332,slow=4.9,SNR=10
LPAZ LR LR 15 48 24.5
comp=Z,176nm,21.4s,baz=322,slow=36
comp=Z,2.4nm,0.9s
LPAZ La Paz 80.23 123 P **P** **15 12 10.2 -0.2**
LPAZ pmax pmax
comp=Z,5.0nm,0.9s
MNK Minsk 80.31 14 *i* P **P** **15 12 07.3 -2.3**
MNK *i* 15 15 11.6
MNK *i* PPP PPP 15 16 59.5
MNK *i* S **S** **15 22 12.8 -1.8**
MNK *i* SS **SS** **15 27 22.9 -1.4**
MNK *i* SSS SSS 15 30 50.5
MNK pmax pmax
comp=Z,10.0nm,0.9s
MNK pmax pmax
comp=E,18nm,0.9s
MNK pmax pmax
comp=N,14nm,1.1s
MNK MLR MLR
comp=Z,541nm,19.0s
MNK MLR MLR
comp=E,365nm,18.0s
MNK MLR MLR
comp=N,338nm,25.0s
BRG Berggiesshubel 80.34 24 *e*P **P** **15 12 10.6 +0.7**
BRG Amp 15 12 11.8
comp=Z,7.0nm,1.0s
BRG Berggiesshubel 80.34 24 P P 15 12 17.9 +8.0
BRG Amp 15 12 19.0
comp=Z,9.0nm,0.9s
BRG Berggiesshubel 80.34 24 S **S** **15 22 18.0 +3.0**
ARTI Arti 80.59 357 *d* iP **P** **15 12 10.4 -0.7**
ARTI S **S** **15 22 17.6 +0.1**
ARTI pmax pmax
comp=Z,9.0nm,1.3s
BFO Black Forest 80.76 28 P **P** **15 12 13.1 +0.9**
BFO IAmb IAmb 15 12 37.0
comp=Z,21nm,1.4s
BFO Black Forest 80.76 28 P **P** **15 12 13.1 +0.9**
BFO pmax pmax
comp=Z,21nm,1.4s
HHC Hu-ho-hao-te 80.90 319 *e*P **P** **15 12 11.5 -1.7**
HHC sP PcP 15 12 19.8 +0.1
HHC pmax pmax
comp=Z,21nm,1.1s
HHC pmax pmax
comp=Z,86nm,6.7s
HHC LR LR
comp=Z,280nm,16.8s
HHC LR LR
comp=Z,360nm,19.3s
HHC LR LR
comp=Z,490nm,21.9s
OBN Obninsk 81.02 9 LR LR 15 50 38.7
comp=Z,242nm,18.6s,baz=272,slow=38
OBN Obninsk 81.02 9 *e*P **P** **15 12 13.4 +0.1**
OBN *e* 15 12 19.2
OBN *e* 15 15 18.1
OBN *e*PPP PPP 15 17 06.4
OBN pmax pmax
comp=Z,40nm,1.7s
OBN MLR MLR
comp=Z,264nm,19.0s
KSP Ksiaz 81.04 22 P **P** **15 12 14.7 +1.1**
comp=Z,10nm,1.3s
DPC Dobruska-Polom 81.49 23 P **P** **15 12 16.8 +0.8**
comp=Z,187nmcomp=Z,9.0nm,1.1s
TIA Tai'an 81.59 313 P **P** **15 12 16.4 -0.4**
TIA pmax pmax
comp=Z,15nm,1.7s
BTO Baotou 81.83 320 *e*P **P** **15 12 17.3 -0.8**
BTO pP **sP** **15 12 21.8 -0.5**
BTO sP **PcP** **15 12 24.4 +0.6**
BTO S **S** **15 22 33.8 +2.7**
BTO sS **ScS** **15 22 46.6 -1.3**
BTO pmax pmax
comp=Z,23nm,1.4s
BTO pmax pmax
comp=Z,220nm,3.9s
BTO LR LR
comp=Z,980nm,17.5s
BTO LR LR
comp=Z,2µm,18.4s
BTO LR LR
comp=Z,1µm,19.8s
HNS HongShan 81.97 315 ⇑ P **P** **15 12 19.3 +0.6**
HNS pmax pmax
comp=Z,18nm,1.0s
HNS LR LR
comp=Z,250nm,18.0s
HNS LR LR
comp=Z,370nm,17.1s
HNS LR LR
comp=Z,390nm,17.2s
GERES GERESS Array B 82.06 25 P **P** **15 12 18.0 -1.1**
comp=Z,1.6nm,0.8s,baz=328,slow=4.7,SNR=7.9
GERES LR LR 15 50 26.8
comp=Z,436nm,18.0s,baz=343,slow=37
comp=Z,1.6nm,0.8s
MORC Moravsky Berou 82.35 22 *e*P **P** **15 12 18.7 -1.9**
VRAC Vranov 82.51 23 *e*P **P** **15 12 21.1 -0.2**
VRAC Vranov 82.51 23 P **P** **15 12 21.2 -0.2**
comp=Z,1.7nm,0.4s,baz=306,slow=8.4,SNR=7.2
VRAC LR LR 15 48 30.5
comp=Z,237nm,20.7s,baz=330,slow=35
comp=Z,1.7nm,0.4s
OJC Ojcow 82.55 21 P **P** **15 12 21.7 +0.2**
OJC Ojcow 82.55 21 P **P** **15 12 21.7 +0.2**
DAVOX Davos/Dischmat 82.63 28 LR LR 15 48 16.1
comp=Z,347nm,19.2s,baz=264,slow=35
KRUC Moravsky 82.67 23 *e*P **P** **15 12 22.5 +0.3**
FETA Feichten 82.71 27 P **P** **15 12 20.1 -2.6**

	comp=Z,4.0nm,1.0s								
WTTA	**Wattenberg**	**82.80**	**27**	P		**P**	**15 12 21.4**	**-1.7**
	comp=Z,4.9nm,0.8s								
ESDC	**Sonseca Array**	**82.82**	**41**	P		**P**	**15 12 23.3**	**0.0**
ESDC	**Sonseca Array**	**82.82**	**41**	P		**P**	**15 12 22.3**	**-0.9**
	comp=Z,1.6nm,1.1s,baz=320,slow=6.6,SNR=6.2								
	comp=Z,1.6nm,1.1s								
BRVK	**Borovoye**	**82.86**	**349**	P		**P**	**15 12 22.6**	**-0.6**
BRVK				IAmb		IAmb	15 12 30.4		
	comp=Z,14nm,1.1s								
BRVK	**Borovoye**	**82.86**	**349**	*i* P		**P**	**15 12 23.5**	**+0.4**
BRVK				pmax		pmax			
	comp=Z,18nm,1.2s								
BVAR	**Borovoye Array**	**82.88**	**349**	P		**P**	**15 12 23.0**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=11,slow=5.2,SNR=7.4								
BVAR				LR		LR	15 53 56.9		
	comp=Z,407nm,18.2s,baz=15,slow=39								
	comp=Z,1.6nm,0.6s								
FUORN	**Ofenpass-Fuorn**	**82.90**	**28**	P		**P**	**15 12 23.6**	**-0.2**
FUORN				IAmb		IAmb	15 12 51.1		
	comp=Z,21nm,1.4s								
RNPP5	**Staryi Chortor**	**83.03**	**17**	P		**P**	**15 12 24.4**	**+0.4**
NIE	**Niedzica**	**83.41**	**21**	P		**P**	**15 12 27.5**	**+1.4**
	comp=Z,4.2nm,1.1s								
LANS	**Liptovska Anna**	**83.44**	**21**	*e*P		**P**	**15 12 27.0**	**+0.8**
LANS	**Liptovska Anna**	**83.44**	**21**	*e*P		**P**	**15 12 27.0**	**+0.8**
KBA	**Koelnbreinsper**	**83.52**	**26**	*e*P		**P**	**15 12 28.6**	**+1.8**
	comp=Z,6.0nm,1.2s								
CONA	**Conrad Observa**	**83.53**	**24**	*e*P		**P**	**15 12 25.2**	**-1.6**
	comp=Z,6.3nm,1.2s								
ABTA	**Abfaltersbach**	**83.54**	**27**	*e*P		**P**	**15 12 28.5**	**+1.6**
	comp=Z,9.4nm,1.5s								
MODS	**Modra-Piesok**	**83.54**	**23**	*e*P		**P**	**15 12 26.2**	**-0.6**
MODS				pmax		pmax			
	comp=Z,24nm,1.3s								
MODS	**Modra-Piesok**	**83.54**	**23**	*e*P		**P**	**15 12 26.2**	**-0.6**
STHS	**Stebnicka Huta**	**83.65**	**20**	*e*P		**P**	**15 12 27.2**	**-0.1**
STHS				pmax		pmax			
	comp=Z,5.0nm,0.9s								
STHS	**Stebnicka Huta**	**83.65**	**20**	*e*P		**P**	**15 12 27.2**	**-0.1**
NJ2	**Nanjing**	**83.71**	**309**	*e*P		**P**	**15 12 27.6**	**-0.3**
NJ2				pmax		pmax			
	comp=Z,14nm,0.6s								
KURK	**Kurchatov**	**83.72**	**344**	P		**P**	**15 12 27.4**	**-0.1**
KURK				IAmb		IAmb	15 12 34.3		
	comp=Z,23nm,1.3s								
KURK	**Kurchatov**	**83.72**	**344**	*ce*P		**P**	**15 12 28.8**	**+1.3**
KURK				pmax		pmax			
	comp=Z,15nm,1.7s								
KURBB	**Kurchatov Arra**	**83.82**	**344**	P		**P**	**15 12 27.6**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=17,slow=4.8,SNR=12								
KURBB				LR		LR	15 54 25.9		
	comp=Z,282nm,18.7s,baz=192,slow=39								
	comp=Z,2.2nm,0.7s								
RONA	**Rosalia, Austr**	**83.87**	**24**	*e*P		**P**	**15 12 28.4**	**0.0**
	comp=Z,7.1nm,1.5s								
VYHS	**Vyhne**	**83.87**	**22**	*e*P		**P**	**15 12 29.3**	**+0.9**
VYHS				pmax		pmax			
	comp=Z,5.0nm,1.2s								
VYHS	**Vyhne**	**83.87**	**22**	*e*P		**P**	**15 12 29.3**	**+0.9**
MYKA	**Terra Mystica**	**84.01**	**26**	P		**P**	**15 12 30.2**	**+1.0**
	comp=Z,4.7nm,1.2s								
ARSA	**Arzberg**	**84.04**	**24**	P		**P**	**15 12 29.2**	**-0.2**
ARSA	**Arzberg**	**84.04**	**24**	*e*P		**P**	**15 12 30.6**	**+1.3**
	comp=Z,2.3nm,0.6s								
AK20	**Malin Array Si**	**84.11**	**15**	P		**P**	**15 12 29.3**	**-0.2**
HNR	**Honiara**	**84.15**	**251**	LR		LR	15 43 58.3		
	comp=Z,550nm,19.6s,baz=46,slow=31								
AK04	**Malin Array Si**	**84.16**	**15**	P		**P**	**15 12 29.3**	**-0.5**
AKASG	**Malin Array Be**	**84.19**	**15**	P		**P**	**15 12 29.2**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=349,slow=4.5,SNR=12								
AKASG				LR		LR	15 51 17.8		
	comp=Z,393nm,18.8s,baz=338,slow=37								
	comp=Z,1.1nm,0.5s								
AKASG	**Malin Array Be**	**84.19**	**15**	*i* P		**P**	**15 12 29.7**	**-0.2**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.5s								
AKBB	**Malin Array Si**	**84.19**	**15**	P		**P**	**15 12 29.2**	**-0.7**
AKBB				IAmb		IAmb	15 12 33.6		
	comp=Z,21nm,1.6s								
AKBB	**Malin Array Si**	**84.19**	**15**	P		**P**	**15 12 29.2**	**-0.7**
AKBB				pmax		pmax			
	comp=Z,21nm,1.6s								
AKBB	**Malin Array Si**	**84.19**	**15**	P		**P**	**15 12 29.6**	**-0.3**
AK01	**Malin Array Si**	**84.19**	**15**	P		**P**	**15 12 29.7**	**-0.3**
OBKA	**Obir**	**84.40**	**25**	*e*P		**P**	**15 12 31.5**	**+0.2**
	comp=Z,11nm,1.0s								
SOKA	**Soboth**	**84.40**	**25**	P		**P**	**15 12 30.7**	**-0.6**
	comp=Z,12nm,1.3s								
SIV	**San Ignacio**	**84.45**	**118**	LR		LR	15 54 26.3		
	comp=Z,177nm,18.1s,baz=330,slow=39								
PSZ	**Piszkesteto**	**84.68**	**21**	P		**P**	**15 12 33.2**	**+0.7**
PSZ				IAmb		IAmb	15 12 55.3		
	comp=Z,16nm,1.1s								
PSZ	**Piszkesteto**	**84.68**	**21**	P		**P**	**15 12 33.3**	**+0.7**
PSZ				pmax		pmax			
	comp=Z,16nm,1.1s								
MPLH	**Magyarpolny**	**84.71**	**23**	P		**P**	**15 12 34.2**	**+1.5**
RAO	**Raoul Island**	**85.84**	**223**	LR		LR	15 42 30.3		
	comp=Z,339nm,21.9s,baz=305,slow=30								
AKTO	**Aktyubinsk**	**86.56**	**357**	LR		LR	15 55 36.5		
	comp=Z,250nm,18.1s,baz=35,slow=39								
MK31	**Makanchi Array**	**86.58**	**340**	*i* P		**P**	**15 12 40.2**	**-1.8**
MKAR	**Makanchi Array**	**86.58**	**340**	P		**P**	**15 12 41.0**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=355,slow=2.8,SNR=4.5								
MKAR				LR		LR	15 53 11.0		
	comp=Z,224nm,19.8s,baz=18,slow=37								
	comp=Z,0.6nm,0.6s								
MKAR	**Makanchi Array**	**86.58**	**340**	*i* P		**P**	**15 12 42.0**	**0.0**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
MAKZ	**Makanchi**	**86.64**	**340**	P		**P**	**15 12 41.6**	**-0.7**
MAKZ				IAmb		IAmb	15 12 51.8		
	comp=Z,16nm,1.2s								
MAKZ	**Makanchi**	**86.64**	**340**	P		**P**	**15 12 41.6**	**-0.7**
MAKZ				pmax		pmax			
	comp=Z,16nm,1.3s								
GTA	**Gaotai**	**87.33**	**325**	*e*P		**P**	**15 12 45.8**	**-0.2**
GTA				pmax		pmax			
	comp=Z,7.0nm,0.9s								
GTA				LR		LR			
	comp=Z,630nm,18.9s								
GTA				LR		LR			
	comp=Z,470nm,19.3s								
GTA				LR		LR			
	comp=Z,1µm,19.6s								
XAN	**Xi'an**	**87.54**	**316**	⇑P		**P**	**15 12 46.5**	**-0.4**
XAN				pP		pP	15 12 50.3	+0.3	
XAN				pmax		pmax			
	comp=Z,17nm,1.4s								
XAN				pmax		pmax			
	comp=Z,210nm,3.6s								
ABKAR	**Akbulak array**	**87.64**	**355**	P		**P**	**15 12 45.8**	**-1.3**
WMQ	**Urumqi**	**87.83**	**335**	*e*P		**P**	**15 12 50.1**	**+1.9**
WMQ				LR		LR			
	comp=Z,490nm,22.7s								
WMQ				LR		LR			
	comp=Z,460nm,15.9s								
WMQ				LR		LR			
	comp=Z,630nm,20.5s								
LZH	**Lanzhou**	**88.34**	**321**	*e*P		**P**	**15 12 51.8**	**+0.9**
LZH				pP		pwP	15 12 57.3	-0.7	
LZH				sP		sP	15 12 59.8	+4.7	
LZH				pmax		pmax			
	comp=Z,23nm,1.2s								
LZH				LR		LR			
	comp=Z,580nm,16.8s								
LZH				LR		LR			
	comp=Z,610nm,16.8s								
LZH				LR		LR			
	comp=Z,620nm,16.5s								
MLR	**Muntele Rosu**	**88.46**	**18**	LR		LR	15 52 17.6		
	comp=Z,632nm,19.6s,baz=348,slow=36								
DZM	**Mont Dzumac**	**89.02**	**238**	*e*LR		LR	15 40 55.9		
	comp=Z,1µm,22.2s								
KEST	**Kesra**	**91.98**	**34**	LR		LR	15 55 03.0		
	comp=Z,275nm,18.4s,baz=0.2,slow=36								
AAK	**Ala-Archa**	**92.27**	**344**	*i* P		**P**	**15 13 07.2**	**-1.9**
AAK				pmax		pmax			
	comp=Z,2.0nm,0.7s								
VAE	**Valguarnera**	**92.40**	**30**	LR		LR	15 55 02.9		
	comp=Z,430nm,18.3s,baz=342,slow=36								
KIV	**Kislovodsk**	**92.69**	**7**	*e*P		**P**	**15 13 10.7**	**-0.2**
KIV				pmax		pmax			
	comp=Z,5.0nm,1.1s								
SOC	**Sochi**	**92.74**	**9**	*e*P		**P**	**15 13 11.7**	**+0.7**
SOC				*e*			15 16 52.9		
SOC				*e*PPP		PPP	15 18 49.9		
SOC				*e*S		**SKSac**	**15 23 45.0**	**+0.5**
SOC				MLR		MLR			
	comp=Z,363nm,19.0s								
KBZ	**Khabaz**	**92.93**	**7**	*i* P		**P**	**15 13 09.5**	**-2.4**
KBZ				pmax		pmax			
	comp=Z,5.0nm,1.4s								
BDFB	**Brasilia**	**92.96**	**109**	LR		LR	15 58 23.8		
	comp=Z,453nm,20.8s,baz=320,slow=38								
JAY	**Jayapura**	**93.20**	**270**	LR		LR	15 46 40.0		
	comp=Z,322nm,21.7s,baz=28,slow=30								
CPUP	**Villa Florida**	**94.38**	**122**	LR		LR	15 59 00.5		
	comp=Z,28nm,18.2s,baz=189,slow=38								
BBTS	**Babate**	**94.49**	**65**	LR		LR	15 53 23.6		
	comp=Z,431nm,19.6s,baz=305,slow=34								
RCBR	**Riachuelo**	**94.94**	**93**	LR		LR	15 55 10.5		
	comp=Z,85nm,20.9s,baz=304,slow=35								
BRTR	**Keskin Array B**	**95.59**	**15**	LR		LR	15 58 10.2		
	comp=Z,265nm,20.3s,baz=347,slow=37								
GNI	**Garni**	**96.64**	**6**	LR		LR	15 58 24.9		
	comp=Z,182nm,21.8s,baz=355,slow=36								
PZH	**PanZhiHua**	**97.25**	**317**	P		**P**	**15 13 31.4**	**-0.7**
PZH				pmax		pmax			
	comp=Z,7.0nm,0.8s								
PZH				pmax		pmax			
	comp=Z,100nm,5.1s								
DAV	**Davao City (W)**	**97.50**	**287**	LR		LR	15 51 20.5		
	comp=Z,329nm,20.4s,baz=66,slow=32								
PLCA	**Paso Flores**	**98.00**	**140**	LR		LR	15 51 20.3		
	comp=Z,115nm,18.8s,baz=311,slow=31								
VNDA	**Vanda**	**127.93**	**195**	PKP		**PKPdf**	**15 19 03.3**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=22,slow=5.4,SNR=3.6								
QSPA	**South Pole Qui**	**133.08**	**180**	PKP		**PKPdf**	**15 19 13.3**	**0.0**
	comp=Z,2.0nm,0.8s,baz=121,slow=2.5,SNR=6.2								
SNAA	**Sanae**	**141.13**	**155**	PKP		**PKPdf**	**15 19 27.7**	**-0.4**
	comp=Z,1.5nm,1.1s,baz=180,slow=4.0,SNR=2.6								
SYO	**Syowa Base**	**153.31**	**169**	*e*PKPdf		**PKPdf**	**15 19 50.4**	**+2.3**
BOSA	**Boshof**	**153.52**	**66**	PKPbc		**PKiKP**	**15 19 57.7**	**0.0**
	comp=Z,3.6nm,1.0s,baz=263,slow=5.0,SNR=4.0								

RSNC 17 15:01:53.3±0.0, 7°N±1′×7°3W±°, h144km±1km, M1.9, ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.21**	**189**	P	Pn	15 02 12.6	-0.6
BARC				S	Sn	15 02 27.7	-0.6
PAMC	**Pamplona, Colo**	**0.70**	**40**	P	Pn	15 02 15.4	-0.3
PAMC				S	Sn	15 02 32.7	-0.1
RUSC	**La Rusia**	**0.90**	**176**	P	Pn	15 02 16.6	-0.7
RUSC				S	Sn	15 02 35.8	+0.3
PTBC	**PUERTO BERRIO,**	**1.32**	**259**	P	Pn	15 02 19.7	-0.9
TAMC	**Tame, Arauca**	**1.40**	**105**	P	Pn	15 02 20.9	-0.5
TAMC				S	Sn	15 02 42.6	-0.2
OCAC	**Ocana**	**1.44**	**353**	P	Pn	15 02 22.2	+0.2
CHIC	**Chingaza**	**2.23**	**195**	P	Pn	15 02 30.7	-0.6
ROSC	**El Rosal**	**2.27**	**211**	P	Pn	15 02 32.8	+1.1
SDV	**Santo Domingo**	**3.24**	**50**	P	Pn	15 02 42.3	-1.4
PRAC	**Prado**	**3.52**	**210**	P	Pn	15 02 46.8	-0.4
PRAC				S	Sn	15 03 29.5	+0.5
ORTC	**Ortega, Tolima**	**3.55**	**216**	P	Pn	15 02 47.1	-0.5
ORTC				S	Sn	15 03 28.5	-1.2
SJCC	**San Jacinto, C**	**3.67**	**327**	P	Pn	15 02 46.9	-2.3
SJCC				S	Sn	15 03 29.9	-2.7

NEIC ***17*** *15:07:20.4±1.3, 35°.896N±0°.005×117°.71W±0°.01, h10km±4km, Error ellipse: s-maj=1.4km s-min=0.7km az=81.0*

PAS 17 15:07:20.9±1.3, 35°.897N±0°.007×117°.72W±0°.01, h8km±5km, ML3.0/73, ML2.8/90(NEIC), Error ellipse: s-maj=1.4km s-min=1.1km az=78.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOW	**Tower One**	**0.10**	**203**		Pg	15 07 23.7	+0.4
TOW					Sg	15 07 26.5	+1.5
WVPM	**Volcano Peak E**	**0.10**	**304**		Pg	15 07 25.4	+2.0
JRC2	**Joshua Ridge**	**0.11**	**320**		Pg	15 07 25.8	+2.1
CLC	**China Lake**	**0.13**	**129**		Pg	15 07 23.8	0.0
CLC				Sg	Sg	15 07 25.9	+0.1
CLC				IAML		15 07 26.2	
	comp=N,5µm,0.2s						
CLC				IAML		15 07 26.4	
	comp=E,3µm,0.2s						
WCSM	**Coso Springs S**	**0.14**	**343**		Pg	15 07 26.1	+2.1
WNMM	**Nine Mile Cany**	**0.16**	**251**		Pg	15 07 27.0	+2.7
WRVM	**Rose V. Centra**	**0.18**	**309**		Sg	15 07 27.4	+0.1
SRTC	**Snort**	**0.21**	**187**		Pg	15 07 25.5	+0.3
SRTC					Sg	15 07 29.4	+1.3
MFS	**McCloud Flat S**	**0.25**	**333**		Sg	15 07 29.5	+0.2
MPMC	**Manual Prospec**	**0.25**	**49**	Pg	Pg	15 07 25.9	-0.1
MPMC				Sg	Sg	15 07 29.3	0.0
MPMC				IAML		15 07 29.7	
	comp=N,2µm,0.5s						
MPMC				IAML		15 07 30.6	
	comp=E,1µm,0.3s						
GPO	**China Lake**	**0.25**	**169**		Pg	15 07 25.9	-0.1
GPO					Sg	15 07 29.8	+0.4
WSHM	**Spangler Hills**	**0.35**	**148**	Pg	Pg	15 07 27.6	-0.2
WSHM				Sg	Sg	15 07 30.8	-1.7
LRMC	**Laurel Mtn Rad**	**0.42**	**176**	Pg	Pg	15 07 28.8	-0.3
LRMC				Sg	Sg	15 07 34.6	0.0
LRMC				IAML		15 07 35.4	
	comp=E,1µm,0.3s						
LRMC				IAML		15 07 35.6	
	comp=N,2µm,0.2s						
CCCA	**Chr Cany lake**	**0.47**	**142**	Pg	Pg	15 07 30.2	+0.1
CCCA				Sg	Sg	15 07 36.9	+0.7
WORM	**Onyx Ranch**	**0.47**	**245**		Pg	15 07 29.7	-0.4
WORM					Sg	15 07 36.0	-0.3
WBSM	**Bird Springs**	**0.50**	**224**		Pg	15 07 30.3	-0.3
WBSM					Sg	15 07 37.1	0.0
WHFM	**Hanning Flat**	**0.55**	**249**		Pg	15 07 31.3	-0.3
WHFM					Sg	15 07 38.6	-0.2
CWC	**Cottonwood Cre**	**0.62**	**332**	Pg	Pg	15 07 32.2	-0.7
CWC				Sg	Sg	15 07 40.5	-0.5
CWC				IAML		15 07 42.4	
	comp=N,457nm,0.2s						
CWC				IAML		15 07 43.0	
	comp=E,324nm,0.2s						
DTP	**Desert Tortois**	**0.64**	**189**		Pg	15 07 32.6	-0.6
CGO	**Cerro Gordo**	**0.66**	**354**		Pg	15 07 33.1	-0.6
CGO					Sg	15 07 42.6	+0.3
ISA	**Isabella, Lake**	**0.66**	**249**	Pg	Pg	15 07 33.0	-0.7
ISA				IAML		15 07 42.6	
	comp=N,522nm,0.3s						
ISA				IAML		15 07 43.0	
	comp=E,623nm,0.2s						
QSM	**Queen of Sheba**	**0.69**	**84**	Pg	Pg	15 07 33.7	-0.6
QSM				Sg	Sg	15 07 42.7	-0.6
QSM				IAML		15 07 46.7	
	comp=E,521nm,0.5s						
QSM				IAML		15 07 47.0	
	comp=N,604nm,0.3s						
WASM	**Alta Sierra Ca**	**0.70**	**257**		Pg	15 07 34.1	-0.4
WASM					Sg	15 07 43.0	-0.6
CCAC	**Calif City Air**	**0.78**	**198**		Pg	15 07 35.4	-0.6
CCAC					Sg	15 07 46.2	0.0
FURC	**Furnace Creek,**	**0.90**	**50**		Pg	15 07 38.1	-0.1
FURC					Sg	15 07 49.3	-0.5
GWY	**Greenwater Val**	**0.90**	**71**	Pg	Pg	15 07 37.8	-0.5
GWY				Sg	Sg	15 07 49.4	-0.5
GWY				IAML		15 07 51.3	
	comp=E,399nm,0.3s						
GWY				IAML		15 07 51.7	
	comp=N,303nm,0.2s						
SPG2	**Springville 2**	**0.90**	**290**		Pg	15 07 37.3	-1.0
SPG2					Sg	15 07 49.1	-0.9
GSC	**Goldstone, Bar**	**0.95**	**128**	Pg	Pg	15 07 38.2	-1.0
GSC				IAML		15 07 53.6	
	comp=E,340nm,0.6s						
GSC				IAML		15 07 53.6	
	comp=N,282nm,0.3s						
TEJ	**El Tejon**	**1.03**	**230**		Pg	15 07 39.6	-1.2
TEJ					Sg	15 07 52.9	-1.3
EDW2	**Edwards Air Fo**	**1.04**	**193**		Pg	15 07 39.8	-1.1
EDW2					Sg	15 07 53.3	-1.0
HYS	**Haystack Butte**	**1.04**	**173**		Pg	15 07 40.0	-0.9
HYS					Sg	15 07 53.6	-0.7
TPO	**Tropico Hills**	**1.10**	**202**	Pg	Pg	15 07 40.8	-1.2
TPO					Sg	15 07 55.6	-0.7
TPO				IAML		15 07 59.0	
	comp=N,211nm,0.5s						
TPO				IAML		15 08 04.0	
	comp=E,205nm,1.0s						
VES	**Vestal, Richgr**	**1.11**	**268**		Pg	15 07 41.5	-0.7
VES					Sg	15 07 55.1	-1.6
GRAC	**Grapevine Rang**	**1.13**	**14**	Pg	Pg	15 07 42.0	-0.8
GRAC				IAML		15 08 04.7	
	comp=E,144nm,0.4s						
GRAC				IAML		15 08 06.5	
	comp=N,136nm,0.8s						
SHOC	**Shoshone, Teco**	**1.17**	**89**		Sb	15 07 59.1	+0.4
RRX	**Edison Barstow**	**1.18**	**150**		Pb	15 07 43.5	0.0
SBB	**Saddle Back Bu**	**1.21**	**184**		Pb	15 07 43.6	-0.5
SGV	**South Grapevin**	**1.22**	**27**		Pb	15 07 43.4	-0.9
SGV					Sg	15 07 59.6	-0.5
THC	**Tehachapi Micr**	**1.25**	**218**		Pn	15 07 43.6	-1.2
WCT	**Wildcat Mounta**	**1.26**	**44**		Pn	15 07 43.7	-1.2
WCT				IAML		15 08 02.5	
	comp=E,159nm,0.4s						
AMDNV	**Amargosa**	**1.29**	**64**		Pn	15 07 43.8	-1.4
AMDNV					Sb	15 08 01.5	-0.6
LEOC	**Leona Valley**	**1.35**	**201**		Pn	15 07 46.2	+0.1
HOLC	**Holcomb Ridge**	**1.44**	**184**		Pn	15 07 47.4	0.0
GMN	**Gold Mountain**	**1.45**	**15**		Pn	15 07 47.0	-0.7
JNH	**Juniper Hills**	**1.46**	**188**		Pn	15 07 47.5	-0.2
DSP	**Deep Springs**	**1.48**	**352**		Pn	15 07 47.3	-0.6
DSCC	**Desert Studies**	**1.52**	**119**		Pn	15 07 46.7	-1.7
OSI	**Osito Audit: C**	**1.52**	**213**		Pn	15 07 48.0	-0.5
OSI				IAML		15 08 17.3	
	comp=N,69nm,0.6s						
OSI				IAML		15 08 22.1	
	comp=E,72nm,0.8s						
TUQ	**Turquoise Moun**	**1.53**	**107**		Pn	15 07 47.2	-1.5
HEC	**Hector,Ludlow**	**1.55**	**133**		Pn	15 07 49.3	+0.4
CHFC	**Chilao Flat St**	**1.58**	**189**		Pb	15 07 50.8	+0.3
TPNV	**Topopah Spring**	**1.58**	**48**		Pn	15 07 48.5	-1.0
TPNV				IAML		15 08 13.6	
	comp=E,136nm,0.9s						
TPNV				IAML		15 08 14.3	
	comp=E,108nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.66**	**178**	Pn	Pn	15 07 50.0	-0.4
BFSC				IAML		15 08 15.7	
	comp=N,66nm,0.5s						
SSK	**Sunset Peak**	**1.68**	**179**		Pb	15 07 52.2	-0.1
MWC	**Mount Wilson**	**1.69**	**190**	Pn	Pn	15 07 50.6	-0.3
MWC				IAML		15 08 16.2	
	comp=N,105nm,0.4s						
MWC				IAML		15 08 17.4	
	comp=E,93nm,0.5s						
SIL	**Silver Peak**	**1.71**	**154**		Pg	15 07 53.3	-0.5
CRGC	**Crocker Grade**	**1.76**	**249**		Pb	15 07 53.7	+0.2
PASC	**Pasadena Art C**	**1.76**	**193**	Pn	Pn	15 07 51.1	-0.7
MTPC	**Mountain Pass**	**1.81**	**102**	Pn	Pn	15 07 51.0	-1.6
MTPC				IAML		15 08 19.3	
	comp=N,60nm,0.2s						
MTPC				IAML		15 08 21.1	
	comp=E,66nm,0.2s						
MZP	**Montezuma Peak**	**1.82**	**8**	Pn	Pn	15 07 52.0	-0.9
BENR	**Benton**	**1.94**	**340**		Pb	15 07 56.7	0.0
SHPR	**Sheep Range**	**2.16**	**73**	Pn	Pn	15 07 55.7	-1.6
TPH	**Tonopah**	**2.21**	**10**	Pn	Pn	15 07 57.1	-1.0
TPC	**Twentynine Pal**	**2.25**	**142**		Pn	15 07 57.6	-1.0
ELS	**Elsinore Mount**	**2.26**	**174**	Pn	Pn	15 07 58.0	-0.6
ELS				IAML		15 08 34.6	
	comp=E,36nm,0.2s						
V12A	**Nelson**	**2.34**	**93**	Pn	Pn	15 07 58.5	-1.3
LHV	**Little Huntoon**	**2.43**	**345**	Pn	Pn	15 08 00.3	-0.6
LHV				IAML		15 08 43.7	
	comp=E,33nm,4.0s						
LHV				IAML		15 08 58.4	
	comp=N,36nm,4.3s						
PMD	**Palm Desert**	**2.50**	**153**	Pn	Pn	15 08 00.7	-1.2
PMD				IAML		15 08 42.4	
	comp=E,44nm,0.7s						
PFO	**Pinyon Flats O**	**2.50**	**155**	Pn	Pn	15 08 00.8	-1.2
PFO				IAML		15 08 45.7	
	comp=E,29nm,0.9s						
NV11	**Mina Array Sit**	**2.56**	**352**	Pn	Pn	15 08 02.2	-0.6
FRD	**Ford Ranch, An**	**2.57**	**159**		Pn	15 08 00.4	-2.5
NVAR	**Mina Array Bea**	**2.57**	**350**	Pn	Pn	15 08 02.3	-0.8
PRN	**Pahroc Range**	**2.62**	**54**	Pn	Pn	15 08 03.0	-0.7
PRN				IAML		15 08 50.4	
	comp=N,42nm,0.9s						
PRN				IAML		15 08 54.9	
	comp=E,54nm,1.1s						
NEE2	**Needles Airpor**	**2.77**	**113**	Pn	Pn	15 08 03.9	-1.7
RYN	**Ryan**	**2.80**	**347**	Pn	Pn	15 08 05.8	-0.4
BORC	**Borrego Spring**	**2.83**	**157**	Pn	Pn	15 08 06.2	-0.3
BSGM	**Shirttail Gulc**	**2.91**	**281**		Pb	15 08 10.9	-2.1
WAKR	**Walker**	**2.94**	**333**	Pn	Pn	15 08 08.0	-0.1
DPP	**Dos Picos Cty**	**2.96**	**167**	Pn	Pn	15 08 08.1	-0.2
R11B	**Troy Canyon, C**	**2.98**	**34**	Pn	Pn	15 08 08.2	-0.5
CMB	**Columbia Colle**	**3.02**	**316**	Pn	Pn	15 08 09.1	0.0
CMB				IAML		15 09 03.7	
	comp=N,17nm,3.6s						
W13A	**Hualapai Mount**	**3.23**	**103**	Pn	Pn	15 08 10.6	-1.5
LCMT	**Little Creek M**	**3.77**	**72**	Pn	Pn	15 08

ISA	**Isabella, Lake**	**0.66**	**250**	Pg		Pg	15 12 03.1	-0.4
ISA	**Isabella, Lake**	**0.66**	**250**			Sg	15 12 11.8	-0.3
CGO	**Cerro Gordo**	**0.66**	**354**			Pg	15 12 03.0	-0.6
CGO						Sg	15 12 13.1	+0.7
QSM	**Queen of Sheba**	**0.69**	**84**	Pg		Pg	15 12 03.6	-0.7
QSM				Sg		Sg	15 12 12.8	-0.5
QSM				IAML			15 12 15.2	
	comp=N,1μm,0.6s							
QSM				IAML			15 12 16.4	
	comp=E,1μm,0.5s							
WASM	**Alta Sierra Ca**	**0.70**	**257**			Pg	15 12 04.0	-0.4
WASM						Sg	15 12 13.0	-0.5
CCAC	**Calif City Air**	**0.78**	**198**			Pg	15 12 05.3	-0.6
CCAC						Sg	15 12 15.9	-0.1
FURC	**Furnace Creek,**	**0.90**	**50**			Pg	15 12 08.0	-0.1
FURC						Sg	15 12 19.8	0.0
GWY	**Greenwater Val**	**0.90**	**71**	Pg		Pg	15 12 07.6	-0.6
GWY				IAML			15 12 20.2	
	comp=N,481nm,0.4s							
GWY				IAML			15 12 21.3	
	comp=E,690nm,0.4s							
SPG2	**Springville 2**	**0.90**	**290**			Pg	15 12 07.3	-1.0
SPG2						Sg	15 12 19.2	-0.7
GSC	**Goldstone, Bar**	**0.95**	**128**			Sg	15 12 21.2	-0.3
GSC	**Goldstone, Bar**	**0.95**	**128**	Pg		Pg	15 12 08.2	-1.0
GSC				IAML			15 12 23.6	
	comp=E,699nm,0.6s							
GSC				IAML			15 12 23.6	
	comp=N,578nm,0.3s							
TEJ	**El Tejon**	**1.03**	**230**			Pg	15 12 09.6	-1.1
TEJ						Sg	15 12 23.1	-1.0
EDW2	**Edwards Air Fo**	**1.04**	**193**			Pg	15 12 09.7	-1.1
EDW2						Sg	15 12 23.4	-0.9
HYS	**Haystack Butte**	**1.04**	**173**			Pg	15 12 10.0	-0.8
TPO	**Tropico Hills**	**1.10**	**202**	Pg		Pg	15 12 10.9	-1.1
TPO				IAML			15 12 28.6	
	comp=N,470nm,0.6s							
TPO				IAML			15 12 33.9	
	comp=E,529nm,1.0s							
VES	**Vestal, Richgr**	**1.11**	**268**			Pg	15 12 11.4	-0.8
VES						Sg	15 12 24.7	-2.0
GRAC	**Grapevine Rang**	**1.14**	**14**	Pg		Pg	15 12 11.8	-0.9
GRAC				IAML			15 12 30.9	
	comp=E,361nm,0.4s							
GRAC				IAML			15 12 36.0	
	comp=N,317nm,0.8s							
SHOC	**Shoshone, Teco**	**1.17**	**89**			Sb	15 12 29.2	+0.5
RRX	**Edison Barstow**	**1.18**	**150**			Pb	15 12 12.7	-0.8
RRX						Sb	15 12 29.1	+0.2
ARVC	**Arvin**	**1.19**	**230**			Pn	15 12 13.8	+0.1
ARVC						Sg	15 12 28.2	-0.9
TJR	**Tejon Ranch**	**1.20**	**224**			Pb	15 12 12.5	-1.4
TJR						Sg	15 12 28.6	-1.0
SBB	**Saddle Back Bu**	**1.21**	**184**			Pb	15 12 12.7	-1.3
SGV	**South Grapevin**	**1.22**	**27**			Pb	15 12 13.3	-0.9
THC	**Tehachapi Micr**	**1.25**	**218**			Pn	15 12 13.4	-1.5
BAKC	**Calstate**	**1.25**	**244**			Sg	15 12 31.5	+0.2
WCT	**Wildcat Mounta**	**1.26**	**44**			Pn	15 12 13.6	-1.2
WCT				IAML			15 12 32.3	
	comp=E,332nm,0.4s							
AMDNV	**Amargosa**	**1.29**	**64**			Pn	15 12 13.8	-1.4
AMDNV						Sb	15 12 32.0	-0.1
LCH	**Last Change Ra**	**1.34**	**3**			Pb	15 12 16.4	+0.1
LEOC	**Leona Valley**	**1.35**	**201**			Pn	15 12 17.2	-0.1
VTV	**Victorville**	**1.37**	**166**			Sn	15 12 34.7	0.0
VOG	**Valley Oaks Go**	**1.41**	**288**			Sb	15 12 32.8	-2.8
HOLC	**Holcomb Ridge**	**1.44**	**184**			Pn	15 12 16.2	-1.2
GMN	**Gold Mountain**	**1.45**	**15**			Pn	15 12 16.8	-0.9
JNH	**Juniper Hills**	**1.46**	**188**			Pn	15 12 17.8	+0.1
DSP	**Deep Springs**	**1.49**	**352**			Pn	15 12 17.1	-0.7
DSCC	**Desert Studies**	**1.52**	**119**			Pn	15 12 16.7	-1.7
OSI	**Osito Audit: C**	**1.52**	**213**			Pn	15 12 18.3	-0.1
OSI				IAML			15 12 47.2	
	comp=N,173nm,0.6s							
OSI				IAML			15 12 52.1	
	comp=E,195nm,0.8s							
BHPR	**Bishop**	**1.53**	**336**			Pb	15 12 19.3	-0.3
POCCA	**Poleta Canyon**	**1.53**	**343**			Pb	15 12 19.5	-0.2
TUQ	**Turquoise Moun**	**1.53**	**107**			Pn	15 12 17.2	-1.5
HEC	**Hector,Ludlow**	**1.55**	**133**			Pn	15 12 17.5	-1.4
CHFC	**Chilao Flat St**	**1.58**	**189**			Pb	15 12 20.6	+0.2
TPNV	**Topopah Spring**	**1.58**	**48**			Pn	15 12 18.4	-1.0
TPNV				IAML			15 12 43.3	
	comp=E,309nm,0.8s							
TPNV				IAML			15 12 44.3	
	comp=E,251nm,0.5s							
MTUM	**Tungsten Hills**	**1.61**	**335**			Pb	15 12 20.7	-0.2
PDE	**Pardee, Santa**	**1.61**	**206**			Pn	15 12 16.7	-2.9
BFSC	**Mount Baldy Ra**	**1.65**	**178**	Pn		Pn	15 12 19.6	-0.8
BFSC				IAML			15 12 45.7	
	comp=N,158nm,0.5s							
BFSC				IAML			15 12 47.2	
	comp=E,132nm,0.7s							
SSK	**Sunset Peak**	**1.68**	**179**			Pg	15 12 22.8	-0.4
MWC	**Mount Wilson**	**1.69**	**190**	Pn		Pn	15 12 20.4	-0.5
MWC				IAML			15 12 46.2	
	comp=N,235nm,0.4s							
MWC				IAML			15 12 47.4	
	comp=E,239nm,0.5s							
SIL	**Silver Peak**	**1.71**	**154**			Pg	15 12 23.2	-0.5
CRGC	**Crocker Grade**	**1.76**	**249**			Pb	15 12 23.7	+0.2
PASC	**Pasadena Art C**	**1.76**	**193**	Pn		Pn	15 12 20.8	-0.9
MTPC	**Mountain Pass**	**1.81**	**102**	Pn		Pn	15 12 20.9	-1.6
MTPC				IAML			15 12 51.1	
	comp=E,152nm,0.5s							
MTPC				IAML			15 12 51.4	
	comp=N,126nm,0.6s							
MZP	**Montezuma Peak**	**1.82**	**8**	Pn		Pn	15 12 22.0	-0.8
SVD	**Seven Oaks Dam**	**1.86**	**164**			Pb	15 12 25.2	+0.1
BENR	**Benton**	**1.94**	**340**			Pb	15 12 26.7	0.0
GTM	**Goat Mountain**	**1.95**	**145**			Pb	15 12 27.0	+0.3
MCSM	**Casa Diablo Ho**	**2.00**	**332**			Pb	15 12 27.8	+0.2
GMRC	**Granite Mounta**	**2.02**	**123**			Pn	15 12 23.3	-2.0
SHPR	**Sheep Range**	**2.16**	**73**	Pn		Pn	15 12 26.5	-0.8
TSCN	**Private Proper**	**2.17**	**261**			Pb	15 12 28.9	-1.5
TPH	**Tonopah**	**2.21**	**10**	Pn		Pn	15 12 28.0	-0.1
TPH				IAML			15 13 10.1	
	comp=E,155nm,1.0s							
TPC	**Twentynine Pal**	**2.25**	**142**			Pn	15 12 27.3	-1.2
ELS	**Elsinore Mount**	**2.25**	**174**	Pn		Pn	15 12 27.8	-0.7
ELS				IAML			15 13 04.6	
	comp=E,86nm,0.3s							
ELS				IAML			15 13 08.2	
	comp=N,71nm,0.7s							
DANC	**Danby, Needles**	**2.29**	**123**			Pn	15 12 27.3	-1.7
MURC	**Murrieta**	**2.33**	**169**			Pb	15 12 33.7	+0.5
V12A	**Nelson**	**2.34**	**93**	Pn		Pn	15 12 28.2	-1.5
V12A				IAML			15 13 14.5	
	comp=N,64nm,1.0s							
PSMM	**Smith Mountain**	**2.34**	**275**			Pb	15 12 32.6	-0.7
S11A	**Rachel**	**2.36**	**42**	Pn		Pn	15 12 29.3	-0.8
S11A				IAML			15 13 16.5	
	comp=N,165nm,0.8s							
LHV	**Little Huntoon**	**2.43**	**345**	Pn		Pn	15 12 30.9	0.0
PMD	**Palm Desert**	**2.50**	**153**	Pn		Pn	15 12 30.4	-1.5
PMD				IAML			15 13 12.4	
	comp=E,103nm,0.7s							
PFO	**Pinyon Flats O**	**2.50**	**155**	Pn		Pn	15 12 30.8	-1.2
PFO				IAML			15 13 15.1	
	comp=E,76nm,0.9s							
PMPB	**Monarch Peak**	**2.52**	**278**	Pn		Pn	15 12 32.1	-0.1
PMPB				IAML			15 13 13.0	
	comp=E,145nm,1.0s							
PMPB				IAML			15 13 22.3	
	comp=N,126nm,0.8s							
NV11	**Mina Array Sit**	**2.56**	**352**	Pn		Pn	15 12 32.1	-0.7
PRN	**Pahroc Range**	**2.62**	**54**	Pn		Pn	15 12 33.1	-0.6
PRN				IAML			15 13 23.4	
	comp=N,103nm,0.9s							
MYLM	**Yosemite Lake**	**2.63**	**305**			Pb	15 12 37.6	-0.7
BBGB	**Big Mountain B**	**2.77**	**285**	Pn		Pn	15 12 35.1	-0.6
NEE2	**Needles Airpor**	**2.77**	**113**	Pn		Pn	15 12 33.8	-1.8
NEE2				IAML			15 13 29.7	
	comp=N,114nm,0.8s							
NEE2				IAML			15 13 35.7	
	comp=E,108nm,0.6s							
RYN	**Ryan**	**2.80**	**347**	Pn		Pn	15 12 35.2	-0.9
MATG	**Mataguay Scout**	**2.83**	**161**			Pn	15 12 36.5	0.0
BORC	**Borrego Spring**	**2.83**	**157**	Pn		Pn	15 12 36.3	-0.1
BORC				IAML			15 13 23.2	
	comp=N,68nm,0.8s							
WAKR	**Walker**	**2.94**	**333**	Pn		Pn	15 12 37.8	-0.4
DPP	**Dos Picos Cty**	**2.96**	**167**	Pn		Pn	15 12 37.5	-0.7
DPP				IAML			15 13 26.2	
	comp=E,58nm,0.8s							
R11B	**Troy Canyon, C**	**2.98**	**34**	Pn		Pn	15 12 38.9	+0.2
R11B				IAML			15 13 27.1	
	comp=E,45nm,0.2s							
CMB	**Columbia Colle**	**3.02**	**316**	Pn		Pn	15 12 38.8	-0.2
CMB				IAML			15 13 29.7	
	comp=E,38nm,0.5s							
CMB				IAML			15 13 30.2	
	comp=N,41nm,1.1s							
SAO	**San Andreas Ge**	**3.13**	**287**	Pn		Pn	15 12 40.9	+0.4
W13A	**Hualapai Mount**	**3.23**	**103**	Pn		Pn	15 12 40.6	-1.4
YUH	**Yuha Desert**	**3.56**	**155**	Pn		Pn	15 12 45.8	-0.7
LCMT	**Little Creek M**	**3.78**	**72**	Pn		Pn	15 12 49.0	-0.5
MPK	**Martis Peak**	**3.86**	**332**	Pn		Pn	15 12 50.7	-0.1
MPK				IAML			15 14 11.2	
	comp=E,40nm,2.6s							
MPK				IAML			15 14 11.6	
	comp=N,44nm,0.6s							
CCUT	**Cedar City**	**3.87**	**63**	Pn		Pn	15 12 50.2	-0.7
AFDM	**Forest Hills D**	**4.00**	**321**	Pn		Pn	15 12 53.1	+0.6
AFDM				IAML			15 13 56.6	
	comp=N,22nm,0.4s							
AFDM				IAML			15 14 00.1	
	comp=E,32nm,1.5s							
PSUT	**Pine Spring**	**4.06**	**48**	Pn		Pn	15 12 55.3	+1.8
PSUT				IAML			15 14 05.5	
	comp=E,23nm,1.2s							
PSUT				IAML			15 14 08.4	
	comp=N,33nm,1.0s							
KNB	**Kanab**	**4.10**	**73**	Pn		Pn	15 12 51.5	-2.5
KNB				IAML			15 14 00.2	
	comp=E,18nm,0.8s							
KNB				IAML			15 14 16.9	
	comp=N,17nm,1.8s							
SPR3	**Spring Creek 3**	**4.11**	**40**	Pn		Pn	15 12 55.2	+0.9
SPR3				IAML			15 14 02.1	
	comp=N,20nm,0.7s							
SPR3				IAML			15 14 05.4	
	comp=E,19nm,4.1s							
ESJX	**Sierra Juarez**	**4.15**	**159**	Pn		Pn	15 12 55.1	+0.4
ESJX				IAML			15 14 02.3	
	comp=N,17nm,1.2s							
ESJX				IAML			15 15 31.5	
	comp=E,37nm,0.1s							
Y14A	**Wickenburg**	**4.34**	**115**	Pn		Pn	15 12 54.2	-3.0
Y14A				IAML			15 14 16.0	
	comp=E,18nm,0.8s							
Y14A				IAML			15 14 23.8	
	comp=N,23nm,2.2s							
U15A	**North Rim**	**4.42**	**82**	Pn		Pn	15 12 58.6	+0.1
U15A				IAML			15 14 14.3	
	comp=E,22nm,2.4s							
U15A				IAML			15 14 31.8	
	comp=N,18nm,4.1s							
ELK	**Elko**	**5.22**	**21**	Pn		Pn	15 13 09.3	-0.1
X16A	**Lo Mia Camp, P**	**5.35**	**104**	Pn		Pn	15 13 10.9	-0.3

***IDC* 17 15:11:53.9±2.4, 10°.97N×93°.74E, *h0*km, *mb3.4*/3, *mbtmp3.4*/4, *ML4.3*/1, *MS4.1*/2, Error ellipse: *s-maj=75.6km s-min=28.5km az=68.0*, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.98**	**33**	Pn	Pn	15 14 06.3	+1.2
	0.8nm,0.3s,baz=210,slow=14,SNR=4.9 1.1nm,0.3s						
MKAR	**Makanchi Array**	**37.00**	**347**	P	P	15 19 04.1	-1.1
	0.3nm,0.7s,baz=178,slow=8.7,SNR=3.2 0.3nm,0.7s						
GUMO	**Guam**	**49.96**	**81**	LR	LR	15 39 05.8	
	comp=Z,371nm,22.0s,baz=60,slow=33						
WRA	**Warramunga Arr**	**50.41**	**127**	P	P	15 20 54.1	+0.5
	0.3nm,0.3s,baz=307,slow=8.8,SNR=8.9 0.3nm,0.3s						
ASAR	**Alice Springs**	**52.22**	**132**	P	P	15 21 06.7	-0.4
	0.3nm,0.6s,baz=310,slow=7.0,SNR=1.3 0.3nm,0.6s						
NOA	**NORSAR Array B**	**76.86**	**330**	LR	LR	16 02 23.5	
	comp=Z,71nm,20.1s,baz=290,slow=39						

NEIC ***17*** *15:11:59.5±0.9, 35°.913N×0°.010×117°.715W×0°.008, h10km, 3km, Error ellipse: s-maj=1.5km s-min=0.9km az=177.0*

PAS 17 15:12:00.0±0.8, 35°.900N×0°.010×117°.72W×0°.01, h9km, 3km, ML3.1/23, Error ellipse: s-maj=1.5km s-min=1.3km az=211.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.10**	**302**		Pg	15 12 02.5	0.0
WVPM					Sg	15 12 04.3	0.0
JRC2	**Joshua Ridge**	**0.11**	**318**		Pg	15 12 02.7	-0.1
JRC2					Sg	15 12 04.8	+0.1
CLC	**China Lake**	**0.13**	**131**		Pg	15 12 02.7	-0.2
CLC					Sg	15 12 04.9	0.0
WCSM	**Coso Springs S**	**0.13**	**342**		Pg	15 12 02.9	-0.1
WCSM					Sg	15 12 05.1	-0.1
WNMM	**Nine Mile Cany**	**0.16**	**250**		Pg	15 12 06.0	+2.6
WRVM	**Rose V. Centra**	**0.18**	**308**		Pg	15 12 03.8	0.0
WRVM					Sg	15 12 06.5	+0.1
SRTC	**Snort**	**0.21**	**187**		Sg	15 12 08.3	+1.1
MFS	**McCloud Flat S**	**0.24**	**333**		Sg	15 12 08.7	+0.4
MPMC	**Manual Prospec**	**0.24**	**50**	Pg	Pg	15 12 05.3	+0.3
MPMC				Sg	Sg	15 12 08.5	+0.1
GPO	**China Lake**	**0.25**	**170**		Sg	15 12 09.2	+0.7
LRMC	**Laurel Mtn Rad**	**0.42**	**176**	Pg	Pg	15 12 08.6	+0.4
WORM	**Onyx Ranch**	**0.47**	**245**		Sg	15 12 15.1	-0.4
WBSM	**Bird Springs**	**0.50**	**224**		Sg	15 12 16.2	-0.1
WHFM	**Hanning Flat**	**0.55**	**249**		Sg	15 12 17.2	-0.8
CGO	**Cerro Gordo**	**0.65**	**354**		Sg	15 12 22.1	+0.8
ISA	**Isabella, Lake**	**0.66**	**249**		Sg	15 12 21.0	-0.4
WASM	**Alta Sierra Ca**	**0.70**	**257**		Sg	15 12 22.4	-0.3
FURC	**Furnace Creek,**	**0.89**	**50**		Pb	15 12 17.6	-0.1
GSC	**Goldstone, Bar**	**0.95**	**128**	Pg	Pg	15 12 17.8	-0.6
EDW2	**Edwards Air Fo**	**1.04**	**193**		Pg	15 12 19.9	-0.1
EDW2					Sb	15 12 34.7	+0.6
VES	**Vestal, Richgr**	**1.11**	**267**		Pg	15 12 20.6	-0.8

IDC ***17*** *15:13:53.4±1.1, 0°.27S×132°.76E, h0km, mb3.8/5, mbtmp3.7/7, ML3.6/2, Error ellipse: s-maj=61.3km s-min=18.4km az=82.0*

DJA ***17*** *15:13:55.9±0.5, 0°.5×5°×13°.2E±°, h10km, M4.3/8, mB5.2/1, mb4.5/4, MLv4.2/8, Mw(mB)4.5/1*

ISC 17 15:13:58.2±0.9, 0°.31S×0°.09×132°.54E±0°.06, h33km, n16, σ0.9 94/15, mb3.9/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.39**	**247**	P	**Pn**	**15 14 19.8**	**-1.5**
SWI				S	**Sn**	**15 14 38.5**	**0.0**
RKPI	**Ransiki, Papua**	**2.03**	**126**	P	**Pn**	**15 14 29.8**	**-0.3**
RKPI				S	**Sb**	**15 14 58.1**	**-1.2**
FAKI	**Fak Fak**	**2.60**	**186**	P	**Pn**	**15 14 38.1**	**0.0**
MSAI	**Masohi**	**4.70**	**230**	P	**Pn**	**15 15 07.5**	**+0.6**
AAI	**Ambon**	**5.48**	**232**	P	**Pn**	**15 15 16.9**	**-0.7**
	0.3nm44nm,1.8s						
FITZ	**Fitzroy Crossi**	**18.93**	**201**	P	**Pn**	**15 18 17.6**	**+0.3**
	0.1nm,0.3s,baz=26,slow=11,SNR=1.5 1.9nm,0.8s						
WRA	**Warramunga Arr**	**19.59**	**175**	P	**P**	**15 18 23.1**	**-0.6**
	0.2nm,0.3s,baz=355,slow=12,SNR=10.0						
WRA				S	S	15 21 53.0	-10
	1.0nm,1.0s,baz=357,slow=24,SNR=2.9 0.8nm,0.5s						
ASAR	**Alice Springs**	**23.25**	**177**	P	**P**	**15 19 02.1**	**-0.8**
	1.2nm,0.6s,baz=356,slow=9.4,SNR=24 1.2nm,0.6s						
STKA	**Stephens Creek**	**32.54**	**166**	P	**P**	**15 20 27.7**	**+1.4**
	3.0nm,1.0s,baz=355,slow=11,SNR=2.1 3.0nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**39.11**	**57**	T	T	16 03 02.4	
	baz=247,slow=75,SNR=6.9						
H11N2	**WAKE ISLAND Hy**	**39.12**	**57**	T	T	16 02 57.0	
	baz=247,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**39.13**	**57**	T	T	16 03 04.9	
	baz=247,slow=75,SNR=20						
PETK	**Petropavlovsk-**	**57.23**	**18**	P	**P**	**15 23 41.3**	**-0.9**
	1.1nm,0.8s,baz=228,slow=8.1,SNR=1.6 1.1nm,0.8s						
MKAR	**Makanchi Array**	**64.19**	**324**	P	**P**	**15 24 30.8**	**+1.0**
	0.7nm,0.8s,baz=115,slow=7.1,SNR=5.3 0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**68.28**	**326**	P	**P**	**15 24 57.0**	**+1.1**
	0.4nm,0.5s,baz=123,slow=5.7,SNR=5.5 0.4nm,0.5s						
ARCES	**ARCESS Array B**	**96.21**	**340**	P	**P**	**15 27 22.8**	**0.0**
	7.2nm,1.1s,baz=105,slow=10,SNR=2.0						

NAO ***17*** *15:19:25.7, 33°.42N×46°.12E, h33km, mb4.1*

IDC ***17*** *15:19:31.3±0.5, 34°.51N×45°.54E, h0km, mb4.3/27, mbtmp4.3/33, ML4.0/6, MS3.6/3, Error ellipse: s-maj=13.6km s-min=9.4km az=156.0*

NEIC ***17*** *15:19:32.7±1.9, 34°.34N±0°.06×45°.65E±0°.07, h10km±1km, mb4.5/45, Error ellipse: s-maj=11.1km s-min=9.6km az=219.0*

ISN ***17*** *15:19:32.2±1.5, 34°.46N×45°.57E, h1km±11km, ML4.1*

THR ***17*** *15:19:33.2±0.0, 34°.40N×45°.52E, h9km±2km, ML4.4*

TEH ***17*** *15:19:33.8, 34°.45N×45°.61E, h12km±12km*

GII ***17*** *15:20:18.4±0.0, 34°.36N×45°.62E, h10km, confirmed*

ISC 17 15:19:33.9±0.8, 34°.39N±0°.02×45°.61E±0°.03, h18km±3km, n441, σ1.209/438, mb4.5/65, MS4.1/3, 8C-8D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.11**	**353**	Pg	**Pb**	**15 19 36.5**	**+0.5**
GLG1	**Gilan-e-Gharb**	**0.38**	**138**	Pg	**Pg**	**15 19 42.2**	**+0.4**
IDHR	**Dehrash**	**0.71**	**64**	Pg	**Pb**	**15 19 47.1**	**-0.9**
IGHG	**Ghaleghazi**	**0.80**	**94**	Pg	**Pb**	**15 19 49.3**	**-0.1**
IGHG				Sg	**Sg**	**15 20 01.5**	**+1.2**
ILBA	**Ilam Banvizeh**	**0.92**	**147**	Pg	**Pg**	**15 19 51.9**	**+0.1**
ILBA	**Ilam Banvizeh**	**0.92**	**147**	*e*PgA		15 19 52.1	
ILBA				IAML		15 20 26.1	
	comp=Z,2.2nm,1.0s						
KCHF	**Cheshme Sefid,**	**1.19**	**95**	Pg	**Pn**	**15 19 56.3**	**+0.4**
KCHF				Sg	**Sg**	**15 20 14.2**	**+1.5**
ILIN	**Lien**	**1.23**	**65**	Pg	**Pn**	**15 19 56.6**	**+0.1**
IBDR	**Badra**	**1.31**	**168**	*e*Pn	**Pg**	**15 20 00.0**	**+0.8**
IBDR				*e*Sn	**Sg**	**15 20 20.0**	**+3.7**
IBDR				AML	AML	15 20 23.5	
	comp=E,4μm,0.5s						
IBDR				AML	AML	15 20 24.0	
	comp=N,2μm,0.4s						
IKRK	**Kirkuk**	**1.45**	**314**	*e*Pn	**Pb**	**15 20 01.0**	**+0.7**
IKRK				*e*Sn	**Sg**	**15 20 21.0**	**+0.3**
BHD	**Baghdad**	**1.52**	**223**	*e*Pn	**Pb**	**15 20 02.0**	**+0.5**
BHD				*e*Sn	**Sg**	**15 20 25.0**	**+2.1**
SNGE	**Sanandaj**	**1.59**	**64**	*e*PnA		15 20 02.6	
SNGE				*e*Sg	**Sg**	**15 20 26.7**	**+1.2**
SNGE				IAML		15 20 28.9	
	comp=Z,20nm,1.0s						
SNQR	**Sonqor, Kerman**	**1.73**	**74**	Pg	**Pb**	**15 20 05.5**	**+0.1**
SNQR				Sg	**Sg**	**15 20 29.3**	**-0.5**
SRSL	**SARDASHT**	**1.82**	**356**	*e*PnA		15 20 06.0	
SRSL				*e*Sg	**Sb**	**15 20 31.3**	**+2.0**
SRSL				IAML		15 20 32.2	
	comp=Z,25nm,1.0s						
IBZA	**Bozab**	**1.86**	**87**	Pn	**Pb**	**15 20 07.2**	**-0.4**
IKFM	**Kafar-mosalman**	**2.06**	**114**	Pn	**Pb**	**15 20 10.1**	**-0.5**
IDOB	**Doab**	**2.22**	**105**	Pn	**Pb**	**15 20 12.5**	**-1.1**
MAHB	**Mahabad**	**2.37**	**2**	Pn	**Pn**	**15 20 13.7**	**+1.7**
RAFI	**Al-Rafai**	**2.70**	**171**	*e*Pn	**Pb**	**15 20 20.0**	**-1.6**
RAFI				*e*Sn	**Sb**	**15 20 55.0**	**+0.7**
BDRS	**Dareh Seyedi**	**2.75**	**98**	Pn	**Pn**	**15 20 19.3**	**+1.9**
HAGD	**Aghdareh**	**2.95**	**81**	Pn	**Pn**	**15 20 22.4**	**+2.4**
IHSH	**Hashtrud**	**3.20**	**24**	Pn	**Pn**	**15 20 25.0**	**+1.4**
IAZR	**Azarshahr**	**3.29**	**5**	Pn	**Pn**	**15 20 26.5**	**+1.7**
ZNJK	**Zanjan**	**3.39**	**47**	*e*PnA		15 20 29.3	
ZNJK				IAML		15 21 03.6	
	comp=Z,0.9nm,1.0s						
GTMR	**Gotvand**	**3.50**	**122**	*e*PnA		15 20 30.0	
GTMR				IAML		15 21 53.0	
	comp=Z,0.9nm,1.0s						
QABG	**Abgarm-Qazvin**	**3.52**	**67**	Pn	**Pn**	**15 20 29.8**	**+1.9**
ASAO	**Ashtian**	**3.65**	**86**	*e*PnA		15 20 33.1	
ASAO				IAML		15 21 42.3	
	comp=Z,1.0nm,1.0s						
KHMZ	**Khomeyn**	**3.67**	**99**	*e*PnA		15 20 33.5	
KHMZ				IAML		15 21 46.2	
	comp=Z,0.7nm,1.0s						
ITBZ	**Tabriz**	**3.86**	**6**	Pn	**Pn**	**15 20 33.6**	**+1.1**
ISHB	**Shabestar**	**3.88**	**0**	Pn	**Pn**	**15 20 33.6**	**+0.8**
IHRS	**Heris**	**4.08**	**16**	Pn	**Pn**	**15 20 37.2**	**+1.6**
GEVA	**Gevas**	**4.42**	**333**	Pn	**Pn**	**15 20 42.0**	**+1.8**
OZAP	**Van, Ozalp-Mer**	**4.45**	**344**	⇓P	**Pn**	**15 20 43.7**	**+2.9**
IQOM	**Qom**	**4.53**	**83**	Pn	**Pn**	**15 20 44.2**	**+2.4**
IPIR	**Pirpir**	**4.73**	**110**	Pn	**Pn**	**15 20 45.7**	**+1.1**
JHBN	**Jahan bin**	**4.75**	**116**	Pn	**Pn**	**15 20 46.1**	**+1.1**
GAS1	**Astara - Iran**	**4.76**	**32**	Pn	**Pn**	**15 20 46.7**	**+1.9**
KLST	**Kelarasht - M**	**4.93**	**63**	Pn	**Pn**	**15 20 49.3**	**+1.9**
ZNGN	**Zangian**	**4.95**	**116**	Pn	**Pn**	**15 20 48.8**	**+1.2**
IVRN	**Varamin**	**5.08**	**81**	Pn	**Pn**	**15 20 51.6**	**+2.4**
IKLH	**Kolahrood**

KZIT Kziot 10.07 253 P Pn 15 22 43.6 +46
KRMI Paran Flat 10.15 248 P Pn 15 22 44.6 +46
MBRI Mt Berech 10.16 246 P Pn 15 22 45.1 +46
EIL Elat 10.19 245 Pn **Pn** **15 21 59.5 +0.1**
comp=Z,1.3nm,0.3s,baz=128,slow=5.4,SNR=11
EIL Lg Lg 15 24 53.5
comp=Z,1.3nm,0.3s,baz=54,slow=19,SNR=3.9
EIL LR LR 15 26 51.3
comp=Z,161nm,18.8s,baz=76,slow=43
comp=Z,3.7nm,0.4s
EIL Elat 10.19 245 P Pn 15 22 45.1 +46
SMRA Abu-Samra 10.63 153 P **Pn** **15 22 05.3 0.0**
RAYN Ar Rayn 10.83 180 Pn **Pn** **15 22 06.2 -1.9**
RAYN Ar Rayn 10.83 180 Pn **Pn** **15 22 07.0 -1.2**
RAYN Ar Rayn 10.83 180 P **Pn** **15 22 06.7 -1.5**
RAYN S **Sn** **15 24 03.9 -5.1**
BRTR Keskin Array B 10.94 303 Pn **Pn** **15 22 09.4 -0.2**
comp=Z,0.1nm,0.3s,baz=128,slow=16,SNR=4.3
SHME Shamm 12.33 130 P **Pn** **15 22 27.8 -0.8**
SHME Shamm 12.33 130 Pn **Pn** **15 22 27.2 -1.4**
AJN Ajban 12.75 138 P **Pn** **15 22 34.4 +0.1**
NAZ Nazwa, Dubai 12.81 134 P **Pn** **15 22 34.7 -0.4**
SNR=7.2
MASF Masafi 12.82 132 P **Pn** **15 22 35.4 0.0**
MSFE Esma-Masafi 12.83 132 Pn **Pn** **15 22 33.8 -1.7**
ASUD Al Ashush, Dub 12.89 136 P **Pn** **15 22 35.1 -1.2**
FAQ Al Faqa, Dubai 12.95 135 P **Pn** **15 22 37.1 0.0**
FAQ P **Pn** **15 22 37.1 0.0**
MDH Madha 12.96 132 P **Pn** **15 22 36.5 -0.7**
MDH Madha 12.96 132 Pn **Pn** **15 22 35.9 -1.4**
UOSS Minazif 13.16 133 Pn **Pn** **15 22 37.4 -2.6**
UOSS Minazif 13.16 133 P **Pn** **15 22 39.0 -1.0**
HATD Hatta, Dubai 13.21 133 P **Pn** **15 22 40.0 -0.6**
ASHO Ashiyiah 13.27 134 P **Pn** **15 22 40.7 -0.8**
SNR=8.4
ASHO Ashiyiah 13.27 134 Pn **Pn** **15 22 40.2 -1.3**
MZR Muzera 13.28 147 Pn **Pn** **15 22 40.5 -1.0**
ALNE Al Ain 13.57 137 P **Pn** **15 22 44.8 -0.8**
SNR=5.7
ALNE Al Ain 13.57 137 Pn **Pn** **15 22 44.7 -0.9**
SOHO SOHO 13.97 134 P **Pn** **15 22 50.5 -0.4**
SOHO SOHO 13.97 134 Pn **Pn** **15 22 50.1 -0.9**
MANT Manisa 14.32 292 P **P** **15 23 03.6 +0.6**
UMZA Um Al Zommool 14.34 142 P **Pn** **15 22 56.0 0.0**
ARQ Araqi 14.58 136 P **Pn** **15 22 58.7 -0.6**
SNR=5.1
HOQ Hoqain 14.85 133 P **Pn** **15 23 02.8 -0.2**
HOQ P **Pn** **15 23 02.8 -0.2**
BIDO Bidbid 15.39 131 P **Pn** **15 23 09.5 -0.7**
BSY Bisya 15.43 136 P **Pn** **15 23 09.8 -0.8**
BSY P **Pn** **15 23 09.8 -0.8**
SMDO Samad 15.69 133 P **Pn** **15 23 14.5 +0.4**
WSAR Wadi Sarin 15.91 131 Pn **Pn** **15 23 14.7 -2.3**
baz=332,slow=24,SNR=11
WSAR Sn Sn 15 26 01.4 -12
baz=229,slow=24,SNR=3.3
JMDO Jabal Madar 16.24 134 P **Pn** **15 23 20.9 -0.3**
TPGR Topolog 16.83 313 ⇓P **P** **15 23 31.4 +0.8**
CFR Carcaliu 17.18 314 ⇑P **P** **15 23 34.7 +0.4**
JLN Jalan Bani Buh 17.20 132 P **Pn** **15 23 33.4 +0.1**
RDO Rodhopi 17.22 299 **P** **15 23 35.5 +0.6**
MHTO MHTO 17.25 138 P **Pn** **15 23 31.5 -2.3**
DOK Doka 17.45 152 P **Pn** **15 23 33.6 -2.9**
DQM DQM 17.87 141 P **Pn** **15 23 41.5 -0.2**
WHFO Wadi Hawf 17.95 154 P **Pn** **15 23 40.4 -2.3**
BELG Belogornoye 18.05 4 P **Pn** **15 23 40.8 -2.8**
comp=Z,1.9nm,0.3s,baz=205,slow=17,SNR=5.2
comp=Z,17nm,0.7s
AB31 Akbulak array 18.25 31 P **Pn** **15 23 46.1 +0.1**
ABKAR Akbulak array 18.25 31 P **Pn** **15 23 46.4 +0.3**
ABTO Aybut 18.31 156 P **Pn** **15 23 44.0 -3.1**
AKTO Aktyubinsk 18.42 26 P **P** **15 23 47.0 -1.0**
comp=Z,0.5nm,0.3s,baz=211,slow=9.8,SNR=10
comp=Z,3.3nm,0.6s
RBK Rabkut 18.50 153 P **P** **15 23 46.9 -2.2**
DMTO DMTO 18.59 151 P **P** **15 23 49.1 -1.0**
SNR=12
MLR Muntele Rosu 18.66 312 ⇓P **Pn** **15 23 52.5 +1.2**
ONER Baraj Valea Uz 18.83 315 ⇑P **Pn** **15 23 53.6 +0.4**
VOIR 19.19 311 ⇓P **Pn** **15 23 58.5 +0.9**
DOPR Dopca 19.23 313 ⇑P **Pn** **15 23 58.4 +0.3**
KBL Kabul 19.32 83 Pn **P** **15 23 59.2 +0.9**
NDNU Novodnistrovsk 19.63 322 P **P** **15 24 00.8 -0.5**
AK07 Malin Array Si 20.10 328 P **P** **15 24 05.7 -0.7**
AK09 Malin Array Si 20.11 329 P **P** **15 24 05.7 -0.9**
AK10 Malin Array Si 20.12 329 P **P** **15 24 06.1 -0.5**
AK06 Malin Array Si 20.13 328 P **P** **15 24 05.9 -0.8**
AK05 Malin Array Si 20.15 329 P **P** **15 24 06.3 -0.7**
BURAR Bucovina Array 20.20 317 P **P** **15 24 07.7 0.0**
BURAR Bucovina Array 20.20 317 ⇓P **P** **15 24 08.6 +0.9**
FNA Florina 20.20 296 P **P** **15 24 06.2 -0.5**
AKASG Malin Array Be 20.20 329 P **P** **15 24 06.4 -1.2**
AKASG Malin Array Be 20.20 329 P **P** **15 24 06.3 -1.2**
comp=Z,2.8nm,0.7s,baz=142,slow=9.1,SNR=19
AKASG PcP **PcP** **15 28 19.6 -1.7**
comp=Z,1.0nm,0.5s,baz=89,slow=2.2,SNR=5.9
comp=Z,2.8nm,0.7s
AKBB Malin Array Si 20.20 329 P **P** **15 24 06.4 -1.2**
AKBB lAmb lAmb 15 24 12.1
comp=Z,21nm,1.1s
AKBB Malin Array Si 20.20 329 P **P** **15 24 07.1 -0.4**
KIEV Kiev 20.21 329 P **P** **15 24 06.5 -1.1**
KIEV lAmb lAmb 15 24 12.0
comp=Z,18nm,1.1s
KIEV Kiev 20.21 329 ⇓P **P** **15 24 07.1 -0.5**
KIEV Kiev 20.21 329 P **P** **15 24 07.1 -0.5**
comp=Z,47nm,0.7s
BUR08 Bucovina Ar. S 20.23 317 P **P** **15 24 07.6 -0.4**
LUBAR Lubar, Ukraine 20.31 325 P **P** **15 24 07.9 -0.8**
GAR Garm 20.32 70 P **P** **15 24 08.7 -0.4**
HORU Horodok 20.50 322 P **P** **15 24 10.1 -0.7**
GZR Gura Zlata 20.61 309 ⇑P **P** **15 24 12.6 +0.6**
KSV Kosov 20.68 318 P **P** **15 24 11.3 -1.4**
MI30 MI30,Zelenitsa 20.69 327 P **P** **15 24 11.9 -0.9**
comp=Z,48nm,1.0s
BTK Batken 20.82 67 P **P** **15 24 15.2 +0.7**
MARR Marisel-Cluj 20.95 313 ⇑P **P** **15 24 17.3 +1.4**
MI28 Mi28,Pidlybu 21.05 327 P **P** **15 24 16.0 -0.7**
STNU Starunia 21.21 319 P **P** **15 24 18.2 -0.3**
KK31 Karatay Array 21.22 58 P **P** **15 24 18.6 -0.1**
KKAR Karatay Array 21.22 58 P **P** **15 24 19.2 +0.5**
DRGR 21.26 312 ⇑P **P** **15 24 20.3 +1.2**
TIR Tirane 21.43 296 P **P** **15 24 20.2 -0.7**
comp=Z,22nm,0.6s
DRK Karamyk 21.51 69 P **P** **15 24 23.1 +1.0**
OBN Obninsk 21.65 346 P **P** **15 24 24.8 +1.7**
OBN Obninsk 21.65 346 P **P** **15 24 22.1 -1.0**
comp=Z,24nm,0.5s,baz=63,slow=4.5,SNR=3.8
comp=Z,24nm,0.5s
SIRR Siria 21.68 310 ⇓P **P** **15 24 25.0 +1.5**
BRIU Brid 21.83 316 P **P** **15 24 25.2 +0.1**
RNPP5 Staryi Chortor 22.08 326 P **P** **15 24 26.8 -0.9**
RNPP8 Varash 22.16 326 P **P** **15 24 28.1 -0.5**
RNPP9 Sopachiv 22.20 326 P **P** **15 24 28.5 -0.5**
HOLU Holmets 22.30 316 P **P** **15 24 29.8 -0.3**
KOLS Kolonicke sedl 22.57 317 eP **P** **15 24 36.0 +2.9**
ARSB Arslanbob 22.64 64 P **P** **15 24 35.0 +1.0**
ARSB lAmb lAmb 15 24 51.3
comp=Z,17nm,1.4s
MORH Mrgy, Hungar 23.59 308 ⇓P **P** **15 24 43.6 +0.1**
MNK Minsk 23.63 334 iP **P** **15 24 42.6 -1.2**
comp=E,14nm,0.9s
MNK iP **P** **15 24 42.6 -1.2**
comp=N,19nm,1.0s
MNK iP **P** **15 24 42.6 -1.2**
comp=Z,20nm,0.9s,baz=141
MNK iPP **PnPn** **15 25 09.5 -1.5**
MNK iPPP PPP 15 25 17.6
MNK iS **S** **15 28 57.6 +0.4**
MNK iSS **SnSn** **15 29 35.6 +0.9**
MNK iSSS SSS 15 29 48.5
MNK iLQ LQ 15 32 13.0
MNK iLR LR 15 33 23.4
MNK iLRM MLR 15 34 55.2
comp=N,434nm,22.1s
MNK iLRM MLR 15 35 00.7
comp=Z,58nm,14.6s
MNK iLRM MLR 15 35 01.3
comp=E,274nm,20.8s
ARTI Arti 23.68 18 P **P** **15 24 46.5 +2.2**
ARTI lAmb lAmb 15 24 59.9
comp=Z,11nm,0.7s
ARTI Arti 23.68 18 P **P** **15 24 43.0 -1.3**
comp=Z,1.9nm,0.5s,baz=218,slow=6.5,SNR=4.8
comp=Z,1.9nm,0.5s
KIRV Kirov 24.33 5 P **P** **15 24 49.5 -0.9**
comp=Z,14nm,0.6s,baz=168,slow=6.4,SNR=6.6
comp=Z,14nm,0.6s
NACGM Naroch 24.34 333 eP **P** **15 24 50.2 -0.3**
comp=Z,12nm,0.8s,baz=141
VYHS Vyhne 24.36 313 eP **P** **15 24 52.5 +1.7**
OJC Ojcow 24.61 318 P **P** **15 24 52.0 -0.9**
OJC Ojcow 24.61 318 P **P** **15 24 53.3 +0.3**
comp=Z,12nm,0.9s
KSH Kashi 24.73 69 P **P** **15 24 53.3 -1.1**
KSH pmax pmax
comp=Z,5.0nm,1.0s
NRN Naryn 24.90 65 P **P** **15 24 57.1 +1.1**
NRN lAmb lAmb 15 25 05.8
comp=Z,11nm,0.8s
SUW Suwalki 25.17 328 P **P** **15 24 57.6 -0.4**
JAVC Velka Javorina 25.21 313 eP **P** **15 24 58.5 0.0**
MODS Modra-Piesok 25.26 312 eP **P** **15 24 57.8 -1.1**
BRVK Borovoye 25.60 36 P **P** **15 25 01.7 -0.2**
RONA Rosalia, Austr 25.62 310 eP **P** **15 25 01.9 -0.3**
comp=Z,5.3nm,1.0s
BVAR Borovoye Array 25.63 36 P **P** **15 25 01.6 -0.6**
comp=Z,3.4nm,0.7s,baz=236,slow=8.0,SNR=16
BVAR PcP **PcP** **15 28 32.8 +0.3**
comp=Z,1.3nm,0.7s,baz=259,slow=1.5,SNR=4.5
comp=Z,3.4nm,0.7s
MORC Moravsky Berou 25.68 315 P **P** **15 25 02.4 -0.3**
MORC lAmb lAmb 15 25 10.6
comp=Z,7.3nm,0.9s
MORC Moravsky Berou 25.68 315 eP **P** **15 25 02.4 -0.3**
MORC Moravsky Berou 25.68 315 ⇑P **P** **15 25 02.5 -0.3**
PABE Paberze 25.88 331 P **P** **15 25 03.5 -0.9**
ARSA Arzberg 25.96 309 eP **P** **15 25 05.6 +0.4**
comp=Z,1.3nm,0.5s
CONA Conrad Observa 25.97 310 eP **P** **15 25 05.4 -0.1**
comp=Z,5.6nm,1.1s
VRAC Vranov 26.05 314 eP **P** **15 25 06.1 +0.1**
KRUC Moravsky 26.07 313 eP **P** **15 25 05.5 -0.7**
SOKA Sobotin 26.10 307 eP **P** **15 25 07.5 +0.9**
comp=Z,1.6nm,0.6s
DPC Dobruska-Polom 26.64 316 P **P** **15 25 11.4 0.0**
comp=Z,4.1nm,0.8s
KSP Ksiaz 26.88 317 P **P** **15 25 13.5 0.0**
comp=Z,6.3nm,1.1s
MOA Molln 26.96 309 eP **P** **15 25 14.5 +0.2**
comp=Z,6.5nm,1.0s
GERES GERESS Array B 27.64 311 P **P** **15 25 20.1 -0.4**
comp=Z,0.5nm,0.6s,baz=109,slow=12,SNR=3.8
GERES PcP **PcP** **15 28 37.8 +0.4**
comp=Z,1.2nm,0.6s,baz=101,slow=2.7,SNR=7.4
comp=Z,0.5nm,0.6s
SQTA Sankt Quirin 28.77 307 eP **P** **15 25 29.7 -0.9**
comp=Z,4.2nm,0.6s
KURBB Kurchatov Arra 28.89 46 P **P** **15 25 32.8 +1.4**
comp=Z,6.0nm,0.7s,baz=253,slow=9.0,SNR=37
KURBB PcP **PcP** **15 28 41.2 +0.9**
comp=Z,1.7nm,0.7s,baz=243,slow=2.9,SNR=9.4
comp=Z,6.0nm,0.7s
KURK Kurchatov 28.97 46 P **P** **15 25 32.4 +0.3**
KURK lAmb lAmb 15 25 41.9
comp=Z,10nm,1.0s
KURK Kurchatov 28.97 46 P **P** **15 25 34.0 +1.9**
FINES FINESS Array B 29.82 341 P **P** **15 25 38.9 -0.7**
comp=Z,2.1nm,0.4s,baz=146,slow=11,SNR=33
FINES PcP **PcP** **15 28 42.5 +0.1**
comp=Z,1.0nm,0.8s,baz=103,slow=4.3,SNR=3.9
comp=Z,2.1nm,0.4s
MKAR Makanchi Array 30.21 55 P **P** **15 25 43.9 +0.6**
MKAR Makanchi Array 30.21 55 P **P** **15 25 44.0 +0.8**
comp=Z,2.3nm,0.6s,baz=253,slow=7.9,SNR=26
MKAR PcP **PcP** **15 28 43.9 0.0**
comp=Z,0.3nm,0.6s,baz=242,slow=3.1,SNR=3.1
comp=Z,2.3nm,0.6s
BNI Bardonecchia 31.50 302 P **P** **15 25 53.9 -0.9**
BNI lAmb lAmb 15 25 55.9
comp=Z,12nm,1.2s
HFS Hagfors 33.06 331 P **P** **15 26 07.7 -0.4**
comp=Z,12nm,0.6s,baz=134,slow=8.5,SNR=60
comp=Z,12nm,0.6s
ZAA0 Zalesovo Array 33.67 42 P **P** **15 26 13.2 -0.2**
ZAA0 lAmb lAmb 15 26 22.3
comp=Z,4.4nm,0.9s
ZALV Zalesovo Beam 33.67 42 P **P** **15 26 12.8 -0.7**
ZALV Zalesovo Beam 33.67 42 P **P** **15 26 13.3 -0.2**
comp=Z,3.1nm,0.6s,baz=247,slow=7.6,SNR=12
comp=Z,3.1nm,0.6s
WMQ Urumqi 33.68 61 eP **P** **15 26 17.1 +3.3**
WMQ pmax pmax
comp=Z,21nm,0.7s
NB2 NORSAR Subarra 34.58 331 P **P** **15 26 20.1 -1.3**
comp=Z,2.3nm,0.7s,baz=125,slow=8.6
NOA NORSAR Array B 34.58 331 P **P** **15 26 20.1 -1.3**
comp=Z,1.5nm,0.6s,baz=125,slow=8.7,SNR=14
comp=Z,1.5nm,0.6s
TAM Tamanrasset 36.83 262 P **P** **15 26 42.4 +1.2**
ARCES ARCESS Array B 36.92 348 P **P** **15 26 40.6 -0.6**
comp=Z,1.8nm,0.5s,baz=161,slow=7.7,SNR=20
comp=Z,1.8nm,0.5s
EKA Eskdalemuir Ar 39.38 317 P **P** **15 27 01.5 -0.7**
comp=Z,1.7nm,0.5s,baz=102,slow=8.8,SNR=12
EKA PcP **PcP** **15 29 11.2 +1.0**
comp=Z,0.3nm,0.4s,baz=131,slow=4.6,SNR=4.0
comp=Z,1.7nm,0.5s
ESDC Sonseca Array 39.52 293 P **P** **15 27 02.8 -0.8**
comp=Z,1.4nm,0.8s,baz=71,slow=8.6,SNR=8.6
ESDC PcP **PcP** **15 29 11.6 +0.6**
comp=Z,1.1nm,0.8s,baz=57,slow=3.4,SNR=5.8
comp=Z,1.4nm,0.8s
GTA Gaotai 43.10 67 eP **P** **15 27 34.3 +1.2**
GTA pP pP 15 27 39.4 +0.4
GTA pmax pmax
comp=Z,4.0nm,0.9s
TORD Torodi Ar. Bea 44.98 253 P **P** **15 27 48.3 +0.1**
TORD lAmb lAmb 15 27 57.5
comp=Z,7.8nm,1.5s
TORD Torodi Ar. Bea 44.98 253 P **P** **15 27 48.5 +0.2**
comp=Z,2.9nm,0.6s,baz=44,slow=8.2,SNR=21
TORD PcP **PcP** **15 29 28.8 -0.6**
comp=Z,0.7nm,0.7s,baz=36,slow=4.1,SNR=4.2
comp=Z,2.9nm,0.6s
SPITS Spitsbergen Ar 45.65 352 P **P** **15 27 52.6 -0.3**
comp=Z,3.3nm,0.6s,baz=147,slow=11,SNR=10
comp=Z,3.3nm,0.6s
LZH Lanzhou 46.97 70 eP **P** **15 28 02.8 -1.2**
LZH sP sP 15 28 11.5 -0.7
LZH pmax pmax
comp=Z,9.0nm,1.2s
LZH LR LR
comp=N,580nm,15.5s
LZH LR LR
comp=E,590nm,15.5s
LZH LR LR
comp=Z,620nm,15.5s
ULN Ulaanbaatar 47.01 54 P **P** **15 28 04.6 +0.4**
ULN lAmb lAmb 15 28 12.9
comp=Z,8.1nm,1.4s
PZH PanZhiHua 48.51 83 P **P** **15 28 16.5 +0.5**
CM31 Chiang Mai Arr 49.79 94 P **P** **15 28 24.9 -0.8**
CM31 lAmb lAmb 15 29 08.8
comp=Z,8.8nm,1.4s
CMAR Chiang Mai Arr 49.79 94 P **P** **15 28 25.5 -0.2**
CMAR Chiang Mai Arr 49.79 94 P **P** **15 28 25.3 -0.4**
comp=Z,2.3nm,0.7s,baz=292,slow=8.3,SNR=18
comp=Z,2.3nm,0.7s
HHC Hu-ho-hao-te 51.54 62 eP **P** **15 28 38.5 -0.3**
HHC pmax pmax
comp=Z,16nm,0.6s
XAN Xi'an 51.56 71 ⇑P **P** **15 28 38.8 -0.2**
XAN pmax pmax
comp=Z,16nm,1.1s
DBIC Dimbokro 54.00 251 P **P** **15 28 57.0 -0.1**
comp=Z,5.0nm,0.5s,baz=60,slow=7.0,SNR=12
comp=Z,5.0nm,0.5s
TIA Tai'an 57.13 66 P **P** **15 29 20.4 +0.9**
TIA pmax pmax
comp=Z,14nm,0.9s
HEH HeiHe 59.55 47 eP **P** **15 29 36.4 +0.3**
HEH pmax pmax
comp=Z,11nm,0.7s
NJ2 Nanjing 60.04 70 eP **P** **15 29 38.8 -1.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
LPHEP Lephephe 60.43 201 P **P** **15 29 43.8 +1.3**
KLR Kul'dur 62.54 47 P **P** **15 29 56.2 -0.3**
baz=310,slow=7.0
EUNU Eureka 62.77 352 P **P** **15 29 57.9 +0.3**
KSRS Korea Array 64.63 61 P **P** **15 30 09.8 -0.6**
comp=Z,1.7nm,0.6s,baz=290,slow=6.9,SNR=14
comp=Z,1.7nm,0.6s
USA0B Ussuriysk Arra 64.65 53 P **P** **15 30 10.0 -0.4**
USA0B lAmb lAmb 15 30 44.1
comp=Z,4.4nm,0.8s
USRK Ussuriysk Ar. 64.65 53 P **P** **15 30 09.8 -0.6**
comp=Z,3.8nm,0.6s,baz=284,slow=6.5,SNR=8.6
comp=Z,3.8nm,0.6s
BOSA Boshof 65.56 200 P **P** **15 30 17.7 +1.2**
comp=Z,3.5nm,0.6s,baz=4.9,slow=6.5,SNR=9.1
comp=Z,3.5nm,0.6s
SEY Seymchan 67.00 28 P **P** **15 30 26.1 +0.9**
comp=Z,6.6nm,0.6s,baz=279,slow=7.3,SNR=28
comp=Z,6.6nm,0.6s
A36M Sachs Harbour 73.72 357 P **P** **15 31 06.1 -0.1**
A36M Sachs Harbour 73.72 357 P **P** **15 31 06.2 +0.1**
baz=7.8,SNR=13
SCHQ Schefferville 73.98 326 P **P** **15 31 07.7 -0.3**
comp=Z,4.1nm,0.6s,baz=56,slow=5.4,SNR=5.4
comp=Z,4.1nm,0.6s
B20K Meade River 74.59 8 P **P** **15 31 11.0 -0.3**
baz=341
B18K Kokolik River 74.60 10 P **P** **15 31 11.4 0.0**
baz=337
B22K Teshekpuk Lake 74.66 7 P **P** **15 31 11.9 +0.2**
baz=344
PETK Petropavlovsk- 74.86 35 P **P** **15 31 12.5 -0.7**
comp=Z,3.0nm,1.1s,baz=318,slow=8.5,SNR=7.6
comp=Z,3.0nm,1.1s
C17K DeLong Mountai 75.22 11 P **P** **15 31 15.3 +0.3**
baz=336
B21K Ikpikpuk River 75.24 7 P **P** **15 31 15.1 +0.1**
baz=343
C18K Utukok River 75.35 10 P **P** **15 31 15.7 -0.1**
baz=337
C21K Knifeblade Rid 75.66 7 P **P** **15 31 17.9 +0.4**
baz=343
D20K Etivluk River 75.88 8 P **P** **15 31 19.2 +0.4**
baz=341
D19K Kuna River 75.91 9 P **P** **15 31 19.3 +0.3**
baz=340
D17K Noatak River 75.94 11 P **P** **15 31 19.3 +0.1**
baz=336
C27K Jago River 76.06 3 P **P** **15 31 19.7 -0.1**
baz=352
D22K Ayikyak River 76.14 7 P **P** **15 31 20.6 +0.3**
baz=344
D24K Happy Valley 76.21 5 P **P** **15 31 20.8 +0.1**
baz=348
D25K Kavik River 76.21 4 P **P** **15 31 20.6 -0.2**
baz=350
D23K Nanushuk River 76.24 6 P **P** **15 31 20.8 0.0**
baz=346
E20K Nigu River 76.37 8 P **P** **15 31 21.6 0.0**
baz=342
E21K Killik River 76.44 7 P **P** **15 31 22.2 +0.2**
baz=343
D28M Stokes Point 76.53 2 P **P** **15 31 22.6 +0.2**
baz=356
D27M Malcolm River 76.56 2 P **P** **15 31 22.8 +0.2**
baz=354
E18K Tukpahlearik C 76.58 10 P **P** **15 31 22.5 -0.2**
baz=338
TOLK Toolik Lake Re 76.66 6 P **P** **15 31 22.8 -0.4**
TOLK lAmb lAmb 15 31 27.5
comp=Z,4.7nm,0.8s
TOLK Toolik Lake Re 76.66 6 P **P** **15 31 23.4 +0.2**
baz=347
E22K Anaktuvuk Pass 76.95 7 P **P** **15 31 25.4 +0.5**
baz=345
E19K Redstone River 77.00 9 P **P** **15 31 25.1 0.0**
E19K lAmb lAmb 15 31 26.1
comp=Z,4.6nm,0.8s
E19K Redstone River 77.00 9 P **P** **15 31 25.4 +0.3**
baz=341
E23K Chandalar 77.22 6 P **P** **15 31 27.3 +0.8**
baz=347
E28M Babbage River 77.24 2 P **P** **15 31 26.9 +0.5**
E28M lAmb lAmb 15 31 28.2
comp=Z,5.3nm,0.9s
E28M Babbage River 77.24 2 P **P** **15 31 27.0 +0.5**
baz=356
E24K Your Creek 77.30 5 P **P** **15 31 27.4 +0.5**
E24K lAmb lAmb 15 31 29.4
comp=Z,6.7nm,1.2s
E24K Your Creek 77.30 5 P **P** **15 31 27.6 +0.7**
baz=348
F14K Arctic Creek 77.41 13 P **P** **15 31 28.5 +1.1**
baz=333
F18K Selawik 77.48 10 P **P** **15 31 28.5 +0.7**
baz=339
E29M Blow River 77.50 1 P **P** **15 31 28.2 +0.4**
E29M Blow River 77.50 1 P **P** **15 31 28.3 +0.4**
baz=357,SNR=14
F19K Shaleruckik Mo 77.52 9 P **P** **15 31 28.8 +0.8**
baz=340
F22K John River 77.52 7 P **P** **15 31 28.8 +0.7**
baz=345
F20K Avaraart Lake 77.58 8 P **P** **15 31 29.0 +0.7**
baz=342
E27K Coleen River 77.59 3 P **P** **15 31 28.9 +0.5**
baz=354
INK Inuvik 77.61 360 P **P** **15 31 28.9 +0.4**
baz=0.7
F21K Alatna River 77.67 7 P **P** **15 31 29.4 +0.5**
baz=344
F24K Squaw Lake 77.89 5 P **P** **15 31 30.9 +0.7**
baz=349
F26K Sheenjek River 77.96 4 P **P** **15 31 31.0 +0.5**
baz=352
F25K Christian Rive 77.97 4 P **P** **15 31 31.2 +0.6**
baz=350
COLD Coldfoot 77.98 6 P **P** **15 31 31.1 +0.5**
COLD lAmb lAmb 15 31 32.8
comp=Z,3.1nm,0.8s
COLD Coldfoot 77.98 6 P **P** **15 31 31.1 +0.5**
baz=347
G22K Bettles 78.16 7 P **P** **15 31 32.1 +0.6**
baz=346
F28M Old Crow 78.22 2 P **P** **15 31 32.1 +0.1**
F28M lAmb lAmb 15 31 35.3
comp=Z,6.0nm,1.1s
F28M Old Crow 78.22 2 P **P** **15 31 32.6 +0.6**
baz=355
G15K Niukluk 78.26 12 P **P** **15 31 33.0 +0.9**
baz=335
G19K Purcell Mounta 78.27 9 P **P** **15 31 32.9 +0.7**
baz=341
F30M Barrier River 78.31 1 P **P** **15 31 31.9 -0.5**
F30M Barrier River 78.31 1 P **P** **15 31 32.6 +0.2**
baz=359,SNR=8.1
G21K Allakaket 78.34 8 P **P** **15 31 32.9 +0.3**
baz=344
G17K Kiwalik Mounta 78.36 11 P **P** **15 31 33.7 +1.0**
baz=338
F31M Tsiigehtchic 78.48 360 P **P** **15 31 33.1 -0.2**
F31M Tsiigehtchic 78.48 360 P **P** **15 31 33.4 +0.1**
baz=0.5,SNR=6.4
G23K Bananza Creek 78.50 6 P **P** **15 31 34.3 +0.7**
baz=347
G26K Porcupine Rive 78.72 4 P **P** **15 31 35.5 +0.8**
baz=352,SNR=5.3
G24K Hadweenzic Riv 78.73 5 P **P** **15 31 35.3 +0.5**
baz=349
G25K Bearman Lake 78.76 5 P **P** **15 31 35.3 +0.4**
baz=350
G30M tAoh Zraii Nji 78.93 1 P **P** **15 31 35.5 -0.4**
G30M tAoh Zraii Nji 78.93 1 P **P** **15 31 36.1 +0.2**
baz=358,SNR=8.3
H19K Roundabout Mou 78.94 9 P **P** **15 31 36.5 +0.6**
baz=342
G27K Doyon Strip 78.96 3 P **P** **15 31 36.9 +0.9**
baz=354,SNR=6.1
G29M Pine Creek 78.97 1 P **P** **15 31 36.3 +0.2**
G29M Pine Creek 78.97 1 P **P** **15 31 36.3 +0.2**
baz=357,SNR=5.1
G31M Satah River 79.00 360 P **P** **15 31 36.2 0.0**
baz=0.1,SNR=11
H20K Anotleneega Mo 79.17 9 P **P** **15 31 37.9 +0.7**
baz=343,SNR=5.6
H22K Ishtalitna Cre 79.17 7 P **P** **15 31 37.7 +0.5**
baz=346
H21K Melozitna Rive 79.25 8 P **P** **15 31 38.4 +0.7**
baz=345,SNR=6.5
H25L Birch Creek 79.28 5 P **P** **15 31 38.3 +0.6**
baz=350

H23K	**Yukon River**	**79.42**	**6**	P	**P**	**15 31 39.3**	**+0.8**
	baz=347,SNR=5.1						
EPYK	**Eagle Plains**	**79.54**	**1**	P	**P**	**15 31 39.6**	**+0.4**
	baz=358						
H24K	**Noodor Dome**	**79.55**	**6**	P	**P**	**15 31 39.8**	**+0.5**
	baz=349						
H27K	**Steamboat Moun**	**79.55**	**3**	P	**P**	**15 31 40.2**	**+0.9**
H27K				IAmb	IAmb	15 31 41.3	
	comp=Z,4.6nm,0.8s						
H27K	**Steamboat Moun**	**79.55**	**3**	P	**P**	**15 31 40.1**	**+0.9**
	baz=354,SNR=8.5						
H29M	**Whitestone**	**79.66**	**2**	P	**P**	**15 31 40.2**	**+0.3**
	baz=357,SNR=7.4						
I21K	**Tanana**	**79.80**	**7**	P	**P**	**15 31 41.5**	**+0.9**
	baz=345,SNR=5.4						
I17K	**Unalakleet**	**79.85**	**11**	P	**P**	**15 31 42.4**	**+1.5**
	baz=338						
I20K	**Naaghedeneel**	**79.89**	**9**	P	**P**	**15 31 42.1**	**+1.0**
	baz=343						
PRP	**Porcupine Dome**	**80.04**	**5**	P	**P**	**15 31 42.5**	**+0.5**
	baz=351						
MLY	**Manley**	**80.08**	**7**	P	**P**	**15 31 43.0**	**+0.8**
	baz=346,SNR=6.0						
I23K	**Minto, Yukon-K**	**80.10**	**6**	P	**P**	**15 31 43.1**	**+0.9**
	baz=348						
H31M	**Peel River**	**80.12**	**360**	P	**P**	**15 31 42.8**	**+0.3**
	baz=0.0						
I27K	**Kandik River**	**80.17**	**3**	P	**P**	**15 31 43.3**	**+0.7**
	baz=354						
I28M	**Miner Creek**	**80.39**	**2**	P	**P**	**15 31 43.7**	**-0.2**
I28M				IAmb	IAmb	15 31 44.9	
	comp=Z,5.2nm,0.8s						
I28M	**Miner Creek**	**80.39**	**2**	P	**P**	**15 31 43.9**	**0.0**
	baz=355,SNR=5.2						
I26K	**Coal Creek Min**	**80.39**	**4**	P	**P**	**15 31 44.1**	**+0.3**
	baz=353						
J14K	**Nanvaranak Lak**	**80.40**	**13**	P	**P**	**15 31 45.0**	**+1.2**
	baz=336						
J16K	**Anvik River**	**80.43**	**12**	P	**P**	**15 31 45.0**	**+1.0**
	baz=338						
J19K	**Poorman**	**80.51**	**9**	P	**P**	**15 31 45.4**	**+0.9**
	baz=342						
I29M	**Ogilvie Camp,**	**80.52**	**2**	P	**P**	**15 31 45.0**	**+0.4**
	baz=357						
J20K	**Nowinta River**	**80.53**	**9**	P	**P**	**15 31 45.4**	**+0.8**
	baz=344						
J17K	**VABM Dome**	**80.57**	**11**	P	**P**	**15 31 45.5**	**+0.7**
	baz=340						
NEA2	**Nenana**	**80.67**	**6**	P	**P**	**15 31 45.7**	**+0.4**
	baz=348						
ILAR	**Eielson Array**	**80.68**	**5**	P	**P**	**15 31 45.4**	**0.0**
ILAR	**Eielson Array**	**80.68**	**5**	P	**P**	**15 31 45.6**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=325,slow=3.8,SNR=16						
	comp=Z,1.5nm,0.8s						
I30M	**Mount Dempster**	**80.70**	**1**	P	**P**	**15 31 45.6**	**0.0**
	baz=358,SNR=9.3						
J18K	**Innoko River**	**80.86**	**10**	P	**P**	**15 31 47.0**	**+0.7**
	baz=341						
J25K	**Salcha River,**	**80.94**	**5**	P	**P**	**15 31 47.3**	**+0.5**
	baz=351						
BPAW	**Bear Paw Mtn.**	**80.96**	**7**	P	**P**	**15 31 47.4**	**+0.4**
BPAW				IAmb	IAmb	15 31 48.2	
	comp=Z,6.4nm,1.0s						
BPAW	**Bear Paw Mtn.**	**80.96**	**7**	P	**P**	**15 31 47.3**	**+0.4**
	baz=346						
CHUM	**Lake Minchumin**	**81.03**	**8**	P	**P**	**15 31 48.1**	**+0.8**
	baz=345						
HDA	**Harding Lake**	**81.03**	**5**	P	**P**	**15 31 47.6**	**+0.4**
	baz=350						
J26L	**Joseph Creek**	**81.17**	**4**	P	**P**	**15 31 48.4**	**+0.3**
	baz=352						
K15K	**Wolf Creek Mou**	**81.19**	**12**	P	**P**	**15 31 49.3**	**+1.1**
	baz=338						
K20K	**Telida**	**81.32**	**9**	P	**P**	**15 31 49.6**	**+0.8**
	baz=344						
K17K	**Iditarod**	**81.34**	**11**	P	**P**	**15 31 49.7**	**+0.8**
	baz=340						
J30M	**Hart River**	**81.35**	**1**	P	**P**	**15 31 49.1**	**0.0**
	baz=358						
MCK	**McKinley**	**81.53**	**6**	P	**P**	**15 31 50.2**	**+0.2**
	baz=348						
SCRK	**Sand Creek**	**81.67**	**4**	P	**P**	**15 31 51.5**	**+0.7**
	baz=352,SNR=11						
K24K	**Donnelly Dome**	**81.72**	**5**	P	**P**	**15 31 51.2**	**+0.3**
	baz=350						
K27K	**Chicken**	**81.72**	**3**	P	**P**	**15 31 51.6**	**+0.7**
	baz=354						
DAWY	**Dawson**	**81.79**	**2**	P	**P**	**15 31 51.6**	**+0.3**
	baz=356						
RIDG	**Independent Ri**	**81.85**	**5**	P	**P**	**15 31 52.0**	**+0.4**
	baz=351						
PPLA	**Purkeypile**	**82.00**	**8**	P	**P**	**15 31 53.5**	**+0.9**
	baz=345						
L18K	**Granite Mounta**	**82.05**	**10**	P	**P**	**15 31 53.3**	**+0.6**
	baz=342						
K29M	**Barlow Dome**	**82.06**	**1**	P	**P**	**15 31 53.2**	**+0.3**
	baz=357						
L16K	**Owhat River**	**82.09**	**12**	P	**P**	**15 31 53.8**	**+0.9**
	baz=339						
YKA	**Yellowknife Ar**	**82.14**	**351**	P	**P**	**15 31 52.8**	**-0.3**
	comp=Z,2.3nm,1.0s,baz=14,slow=6.1,SNR=12						
	comp=Z,2.3nm,1.0s						
L20K	**Farewell, AK**	**82.19**	**9**	P	**P**	**15 31 54.1**	**+0.6**
	baz=344						
L19K	**White Mountain**	**82.35**	**10**	P	**P**	**15 31 55.5**	**+1.2**
	baz=343						
M14K	**Bethel**	**82.54**	**13**	P	**P**	**15 31 56.8**	**+1.5**
	baz=337						
PAX	**Paxson**	**82.57**	**5**	P	**P**	**15 31 56.2**	**+0.7**
	baz=351						
M19K	**Big River Lodg**	**82.68**	**9**	P	**P**	**15 31 57.9**	**+1.9**
	baz=343						
BCAR	**Beaver Creek A**	**82.69**	**3**	P	**P**	**15 31 56.0**	**-0.1**
L27K	**Beaver Creek,**	**82.70**	**3**	P	**P**	**15 31 56.8**	**+0.7**
	baz=354						
L29M	**L29M**	**82.79**	**2**	P	**P**	**15 31 57.5**	**+0.9**
	baz=357						
M20K	**Styx River**	**82.87**	**9**	P	**P**	**15 31 58.0**	**+0.9**
	baz=344						
M18K	**Stony River**	**82.88**	**10**	P	**P**	**15 31 58.4**	**+1.4**
	baz=342						
SKT	**Skwentna**	**82.97**	**8**	P	**P**	**15 31 58.1**	**+0.6**
	baz=346						
HARP	**HAARP**	**83.16**	**5**	P	**P**	**15 31 59.3**	**+0.9**
	baz=351						
MMPY	**Sheldon Lake,**	**83.29**	**359**	P	**P**	**15 31 59.7**	**+0.5**
	baz=2.6						
M26K	**Nabesna, AK**	**83.29**	**4**	P	**P**	**15 32 00.0**	**+0.8**
	baz=353						
M24K	**Tolsona, Glenn**	**83.37**	**6**	P	**P**	**15 32 00.7**	**+1.1**
	baz=350						
N16K	**Nishlik Lake**	**83.38**	**12**	P	**P**	**15 32 01.4**	**+1.8**
	baz=340						
BVCY	**Beaver Creek**	**83.39**	**3**	P	**P**	**15 32 00.9**	**+1.2**
	baz=355						
M27K	**Edge Creek, AK**	**83.40**	**4**	P	**P**	**15 32 00.8**	**+0.9**
	baz=354						
M29M	**Somme Creek**	**83.44**	**2**	P	**P**	**15 32 01.0**	**+1.0**
	baz=357						
SCM	**Sheep Creek Mo**	**83.54**	**6**	P	**P**	**15 32 01.8**	**+1.3**
	baz=349						
M23K	**Glacier View**	**83.54**	**6**	P	**P**	**15 32 01.2**	**+0.7**
	baz=349						
SUA	**Susitna One**	**83.56**	**8**	P	**P**	**15 32 01.3**	**+0.6**
	baz=346						
N18K	**Kilae Creek**	**83.64**	**10**	P	**P**	**15 32 02.4**	**+1.4**
	baz=342						
N20K	**Mount Spurr**	**83.64**	**9**	P	**P**	**15 32 01.2**	**+0.1**
	baz=345						
SPCR	**Spurr Chakacha**	**83.64**	**9**	P	**P**	**15 32 01.2**	**+0.1**
	baz=345						
FARO	**Faro, Yukon**	**83.71**	**360**	P	**P**	**15 32 01.8**	**+0.5**
	baz=0.8						
N19K	**Bonanza Creek**	**83.72**	**10**	P	**P**	**15 32 02.9**	**+1.4**
	baz=343						
M31M	**Drury Creek, Y**	**83.74**	**360**	P	**P**	**15 32 01.8**	**+0.3**
	baz=360						
KNK	**Knik Glacier**	**83.85**	**7**	P	**P**	**15 32 03.2**	**+1.2**
	baz=348						
KLU	**Klutina**	**83.99**	**6**	P	**P**	**15 32 03.9**	**+1.1**
KLU	**Klutina**	**83.99**	**6**	P	**P**	**15 32 04.0**	**+1.1**
	baz=350						
RC01	**Rabbit Creek A**	**84.03**	**7**	P	**P**	**15 32 03.5**	**+0.5**
	baz=347						
YUK3	**Moose Creek**	**84.04**	**3**	P	**P**	**15 32 04.2**	**+0.9**
	baz=355						
PWL	**Port Wells**	**84.41**	**7**	P	**P**	**15 32 05.8**	**+1.0**
	baz=348						
N30M	**Aishikik Lake**	**84.46**	**1**	P	**P**	**15 32 06.1**	**+0.9**
	baz=358						
YUK4	**Talbot Arm**	**84.54**	**2**	P	**P**	**15 32 06.3**	**+0.5**
	baz=356						
CTG	**Chitna Glacier**	**84.81**	**3**	P	**P**	**15 32 07.4**	**+0.3**
	baz=354						
P17K	**Kvichak River**	**84.97**	**11**	P	**P**	**15 32 07.6**	**-0.1**
	baz=342						
P18K	**Big Mountain,**	**84.97**	**11**	P	**P**	**15 32 08.1**	**+0.3**
	baz=343						
SEW	**Seward**	**85.03**	**8**	P	**P**	**15 32 08.8**	**+0.8**
	baz=348						
HYT	**Haines Junctio**	**85.09**	**2**	P	**P**	**15 32 09.2**	**+0.7**
	baz=357						
O30N	**Mendenhall**	**85.17**	**1**	P	**P**	**15 32 09.0**	**+0.2**
	baz=359						
P30M	**Million Dollar**	**85.81**	**1**	P	**P**	**15 32 13.3**	**+1.3**
	baz=358						
Q20K	**Shuyak Island**	**86.13**	**9**	P	**P**	**15 32 14.9**	**+1.4**
	baz=345						
PLBC	**Pleasant Camp**	**86.48**	**1**	P	**P**	**15 32 15.7**	**+0.5**
	baz=358						
R33M	**Jennings River**	**86.52**	**358**	P	**P**	**15 32 16.0**	**+0.4**
	baz=2.8						
SADO	**Sadowa**	**86.62**	**324**	LR	LR	16 12 39.5	
	comp=Z,69nm,18.9s,baz=332,slow=37						
KDAK	**Kodiak Island**	**86.91**	**10**	P	**P**	**15 32 18.7**	**+1.4**
	baz=345						
Q32M	**Nakina River**	**86.98**	**359**	P	**P**	**15 32 18.1**	**+0.2**
	baz=1.7						
SDPT	**Sand Point**	**87.86**	**15**	P	**P**	**15 32 23.6**	**+1.7**
	baz=339						
S34M	**Telegraph Cree**	**88.01**	**358**	P	**P**	**15 32 23.5**	**+0.8**
	baz=2.7						
T35M	**Bob Quinn**	**88.91**	**358**	P	**P**	**15 32 27.7**	**+0.7**
	baz=3.4						
SNAA	**Sanae**	**111.09**	**195**	Pdiff	**Pdif**	**15 34 06.3**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=56,slow=3.6,SNR=11						
QSPA	**South Pole Qui**	**124.23**	**180**	PKP	**PKiKP**	**15 38 31.4**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=268,slow=1.6,SNR=12						

*IDC **17** 15:23:04.7±1.2,46°38N×136°09E,h425km±22km,mb2.7/9, mbtmp3.6/14,Error ellipse: s-maj=31.4km s-min=14.5km az=175.0*
*JMA **17** 15:23:07.2±0.6,46°N±2°×13°7E±°,h452km,MV3.0/29, NEAR VLADIVOSTOK*
ISC 17 15:23:05.3±0.7,46°11N±0°07×136°40E±0°08,h450km,n31, σ1s70/35,mb3.1/8,Primorye

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USRK	**Ussuriysk Ar.**	**3.66**	**240**	P	**P**	**15 24 15.5**	**-2.1**
	7.2nm,0.6s,baz=46,slow=8.9,SNR=17						
JWK2	**Keihoku**	**3.93**	**100**	*eP*	**P**	**15 24 20.6**	**+0.8**
JSK	**Shakotan**	**4.01**	**132**	*eP*	**P**	**15 24 20.8**	**+0.3**
JSH	**Shimam**	**4.34**	**142**	*eP*	**P**	**15 24 23.2**	**-0.4**
JOSM	**Okushiri--Mats**	**4.60**	**150**	*eP*	**P**	**15 24 25.9**	**0.0**
ASAJ	**Asahikawa**	**4.82**	**112**	P	**P**	**15 24 28.4**	**+0.4**
	14nm,0.3s,baz=289,slow=7.9,SNR=90						
JTKR	**Abashiri--Toko**	**5.74**	**109**	*eP*	**P**	**15 24 37.6**	**+0.7**
JOT	**Ohata**	**5.80**	**143**	*eP*	**P**	**15 24 37.6**	**-0.1**
JCH	**Churui**	**6.09**	**123**	*eP*	**P**	**15 24 40.0**	**-0.6**
JCH				*eS*	**S**	**15 25 54.6**	**-3.9**
JIW	**Iwasaki**	**6.11**	**153**	*eP*	**P**	**15 24 40.8**	**-0.1**
NEM2	**Nemuro 2**	**7.20**	**109**	*eP*	**P**	**15 24 51.0**	**-1.1**
NEM2				*eS*	**S**	**15 26 14.9**	**-4.6**
JRG	**Rokugo**	**7.40**	**154**	*eP*	**P**	**15 24 54.4**	**0.0**
JMK	**Ichinoseki**	**7.99**	**152**	*eS*	**S**	**15 26 33.0**	**-2.3**
JSD	**Sado**	**8.19**	**170**	*eP*	**P**	**15 25 03.9**	**+1.1**
JMM	**Marumori**	**8.86**	**157**	*eP*	**P**	**15 25 10.9**	**+0.8**
JMM				*eS*	**S**	**15 26 52.0**	**-0.7**
JFK	**Kawauchi**	**9.36**	**158**	*eS*	**S**	**15 27 00.0**	**-2.5**
MJAR	**Matsushiro Arr**	**9.66**	**171**	P	**P**	**15 25 21.2**	**+2.4**
	2.1nm,0.6s,baz=356,slow=11,SNR=6.2						
KSRS	**Korea Array**	**10.71**	**219**	P	**P**	**15 25 31.4**	**+1.1**
	0.3nm,0.5s,baz=27,slow=14,SNR=2.3						
BSO4	**Boso 4**	**11.51**	**164**	*eS*	**S**	**15 27 46.5**	**+1.2**
BSO3	**Boso 3**	**11.72**	**163**	*eS*	**S**	**15 27 49.6**	**+0.2**
BSO1	**Boso 1**	**11.96**	**161**	*eS*	**S**	**15 27 54.1**	**+0.5**
PETK	**Petropavlovsk-**	**15.45**	**55**	P	**P**	**15 26 23.1**	**+2.1**
	2.3nm,0.9s,baz=238,slow=8.3,SNR=3.1						
SONM	**Songino Array**	**20.49**	**286**	P	**P**	**15 27 09.5**	**-1.6**
	0.9nm,0.5s,baz=86,slow=9.2,SNR=5.1						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**36.66**	**291**	P	**P**	**15 29 31.0**	**-1.1**
	0.3nm,0.7s,baz=68,slow=3.3,SNR=2.3						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**37.86**	**299**	P	**P**	**15 29 39.9**	**-2.0**
	0.3nm,0.5s,baz=72,slow=8.8,SNR=2.3						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**44.15**	**37**	P	**P**	**15 30 31.9**	**-0.2**
	0.3nm,0.3s,baz=267,slow=6.7,SNR=5.8						
	0.3nm,0.3s						
YKA	**Yellowknife Ar**	**57.92**	**31**	P	**P**	**15 32 12.8**	**+0.2**
	0.3nm,0.6s,baz=319,slow=7.3,SNR=4.2						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**59.08**	**328**	P	**P**	**15 32 19.1**	**-1.3**
	0.5nm,0.4s,baz=78,slow=8.8,SNR=7.0						
FINES				PcP	**PcP**	**15 33 03.9**	**+0.3**
	1.3nm,0.9s,baz=43,slow=5.5,SNR=4.0						
	0.5nm,0.4s						
NVAR	**Mina Array Bea**	**72.51**	**53**	P	**P**	**15 33 47.6**	**+2.1**
	0.3nm,0.5s,baz=304,slow=6.4,SNR=2.6						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**73.90**	**44**	P	**P**	**15 33 55.5**	**+2.1**
	0.4nm,0.6s,baz=60,slow=3.6,SNR=4.5						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**87.31**	**49**	P	**P**	**15 35 05.1**	**+1.7**
	0.1nm,0.6s,baz=312,slow=5.7,SNR=1.8						
	0.1nm,0.6s						

*SLM **17** 15:23:28.2±1.7,36°39N±0°02×83°65W±0°02,h13km±4km, Error ellipse: s-maj=2.5km s-min=2.3km az=112.0*
NEIC 17 15:23:28.5±1.2,36°39N±0°01×83°66W±0°02,h9km±3km, mb_Lg2.8/66,ML3.0/14,Md3.0/29(SLM),Error ellipse: s-maj=2.0km s-min=1.8km az=106.0,Tennessee

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASTN	**Avondale Sprin**	**0.16**	**113**		Pg	15 23 31.6	-0.4
ASTN					Sg	15 23 34.2	-0.2
TZTN	**Tazewell**	**0.18**	**30**		Pg	15 23 31.7	-0.6
TZTN				Sg	Sg	15 23 34.5	-0.4
TZTN				IAML		15 23 34.9	
	4μm,0.4s						
CPRT	**Copper Ridge**	**0.29**	**217**		Pg	15 23 34.0	-0.4
CPRT					Sg	15 23 38.6	+0.2
VHTN	**Van Hill**	**0.69**	**89**		Pg	15 23 40.8	-1.1
TKL	**Tuckaleechee C**	**0.74**	**187**	Pg	Pg	15 23 41.4	-1.3
TKL				Sg	Sg	15 23 51.2	-1.1
LRVA	**Lonesome Ridge**	**0.81**	**60**		Pg	15 23 42.7	-1.4
GRBT	**Greenback**	**0.84**	**211**		Pg	15 23 43.3	-1.3
BCRT	**Bacon Ridge**	**0.97**	**230**		Pg	15 23 45.8	-1.3
CCRT	**Cow Camps Rge**	**0.98**	**199**		Pg	15 23 45.6	-1.7
V53A	**Saluda**	**0.99**	**136**		Pg	15 23 46.0	-1.6
V53A				Sg	Sg	15 23 58.7	-1.8
V53A				IAML		15 24 07.4	
	356nm,0.1s						
V53A				IAML		15 24 08.1	
	324nm,0.2s						
T50A	**Nancy**	**1.14**	**304**		Pb	15 23 48.0	-2.3
T50A				Sg	Sg	15 24 03.7	-1.4
T50A				IAML		15 24 05.4	
	340nm,0.2s						
T50A				IAML		15 24 05.8	
	415nm,0.1s						
CPCT	**Cooper Cave**	**1.17**	**217**		Pb	15 23 49.0	-1.9
CPCT				Sg	Sb	15 24 04.9	-1.2
CPCT				IAML		15 24 05.9	
	comp=N,286nm,0.1s						
CPCT				IAML		15 24 06.3	
	comp=E,320nm,0.4s						
CPCT				IAmb_Lg		15 24 07.9	
	comp=Z,69nm,0.7s						
WSNC	**Winespring Bal**	**1.22**	**177**		Pb	15 23 50.1	-1.7
ETT	**Etowah**	**1.24**	**212**		Pn	15 23 50.2	-1.9
S51A	**Beattyville**	**1.25**	**2**		Pn	15 23 50.4	-1.8
S51A				Sg	Sb	15 24 07.2	-1.3
S51A				IAML		15 24 12.3	
	comp=Z,344nm,0.2s						
MGNC	**Mount Gibbes**	**1.29**	**120**		Pn	15 23 51.6	-1.3
W52A	**Murphy**	**1.31**	**190**		Pn	15 23 51.4	-1.6
W52A				Sg	Sb	15 24 08.2	-2.0
DYTN	**Dayton**	**1.47**	**233**		Pn	15 23 54.3	-0.9
U54A	**Nelsons Funny**	**1.49**	**84**		Pn	15 23 54.1	-1.4
U54A					Sn	15 24 15.2	+0.1
BG3	**Lake Jocassee**	**1.52**	**157**		Pn	15 23 55.1	-0.7
GFM	**Grandfather Mo**	**1.52**	**100**		Pn	15 23 55.3	-0.8
ROKY	**Rotten Point**	**1.53**	**352**		Pn	15 23 55.0	-1.0
U49A	**Red Boiling Sp**	**1.71**	**275**		Pn	15 23 58.2	-0.3
GMG	**Grassy Mountai**	**1.73**	**209**		Pn	15 23 58.6	-0.2
W50A	**Signal Mountai**	**1.79**	**229**		Pn	15 23 59.8	+0.2
W50A					Sb	15 24 23.7	-0.4
R50A	**Paris**	**1.96**	**344**		Pn	15 24 02.2	+0.3
RCG	**Rock City**	**1.97**	**225**		Pn	15 24 03.2	+1.1
TVNC	**Taylorsville**	**2.01**	**99**		Pn	15 24 03.0	+0.4
V55A	**Taylorsville**	**2.05**	**104**		Pn	15 24 04.0	+0.8
V55A				IAmb_Lg		15 24 36.4	
	comp=Z,29nm,0.7s						
X51A	**Calhoun**	**2.07**	**209**	Pn	Pn	15 24 03.5	+0.2
CMGA	**Chestnut Mount**	**2.08**	**213**		Pn	15 24 04.2	+0.6
PAULI	**Pauline**	**2.17**	**136**		Pn	15 24 05.8	+1.0
CLTN	**Cedars of Leba**	**2.18**	**263**		Pn	15 24 05.3	+0.4
SWET	**Sewanee**	**2.19**	**238**		Pn	15 24 04.7	-0.3
R49A	**Shelbyville**	**2.25**	**328**		Pn	15 24 06.5	+0.6
R49A				IAmb_Lg		15 24 45.1	
	comp=Z,30nm,0.8s						
KMSC	**Kings Mountain**	**2.27**	**123**		Pn	15 24 07.3	+1.2
S54A	**Dingess, Beckl**	**2.35**	**52**	Pn	Pn	15 24 07.4	+0.1
S54A				IAmb_Lg		15 24 43.7	
	comp=Z,36nm,0.9s						
HODGE	**Hodges**	**2.44**	**152**		Pn	15 24 08.4	-0.1
Y52A	**Lilburn**	**2.54**	**188**		Pn	15 24 09.5	-0.4
V48A	**Smith Brothers**	**2.64**	**257**		Pn	15 24 10.7	-0.6
Q51A	**Peebles**	**2.64**	**5**	Pn	Pn	15 24 10.8	-0.6
U56A	**King**	**2.65**	**90**		Pn	15 24 12.0	+0.6
BLA	**Blacksburg**	**2.73**	**72**	Pn	Pn	15 24 13.1	+0.6
WCI	**Wyandotte Cave**	**2.79**	**312**		Pn	15 24 13.6	+0.3
WCI				IAmb_Lg		15 24 56.3	
	comp=Z,26nm,0.7s						
Q52A	**Bidwell**	**2.80**	**23**		Pn	15 24 14.2	+0.8
T47A	**Sharon Grove**	**2.83**	**283**		Pn	15 24 13.8	-0.1
JSC	**Jenkinsville**	**2.88**	**136**		Pn	15 24 14.4	-0.1
GOGA	**Godfrey**	**2.98**	**177**		Pn	15 24 15.3	-0.6
GOGA				IAmb_Lg		15 25 02.5	
	comp=Z,20nm,0.9s						
P51A	**Williamsport**	**3.12**	**9**		Pn	15 24 17.9	0.0
BIRD	**Birdtown, Kers**	**3.14**	**123**	Pn	Pn	15 24 18.0	-0.1
W57A	**Gilead**	**3.23**	**111**		Pn	15 24 19.7	+0.4
W57A				IAmb_Lg		15 25 11.5	
	comp=Z,26nm,0.8s						
P48A	**Milroy**	**3.37**	**336**		Pn	15 24 19.7	-1.6
X48A	**Hartselle**	**3.37**	**236**		Pn	15 24 19.4	-1.9
X48A				IAmb_Lg		15 25 23.1	
	comp=Z,24nm,0.8s						
WVT	**Waverly**	**3.38**	**267**	Pn	Pn	15 24 19.8	-1.7
Y49A	**Blount Mountai**	**3.39**	**223**		Pn	15 24 19.6	-1.9
Y49A				IAmb_Lg		15 25 21.4	
	comp=Z,37nm,0.7s						
R55A	**Marlinton**	**3.40**	**55**		Pn	15 24 21.1	-0.6
Q54A	**Coxs Mills**	**3.42**	**40**		Pn	15 24 22.2	+0.1
Q54A				IAmb_Lg		15 24 24.6	
	comp=Z,19nm,0.8s						
P52A	**Corning**	**3.46**	**20**		Pn	15 24 23.2	+0.7
P52A				IAmb_Lg		15 25 20.6	
	comp=Z,28nm,0.8s						
Y57A	**Sumter**	**3.57**	**131**		Pn	15 24 23.4	-0.7
P53A	**Whipple**	**3.58**	**29**	Pn	Pn	15 24 23.6	-0.5
BLO	**Bloomington**	**3.58**	**322**	IAmb_Lg		15 25 23.3	
	comp=Z,19nm,0.8s						
T57A	**Hurt**	**3.59**	**79**		Pn	15 24 23.2	-1.2
V58A	**Windy Hill, Pi**	**3.73**	**98**		Pn	15 24 24.8	-1.5
154A	**Montrose**	**3.80**	**173**	Pn	Pn	15 24 24.0	-3.1
152A	**Waverly Hall**	**3.81**	**194**	Pn	Pn	15 24 22.9	-4.5
152A				IAmb_Lg		15 25 28.1	
	comp=Z,25nm,0.7s						
O49A	**Covington**	**3.83**	**352**	Pn	Pn	15 24 28.2	+0.6
PLAL	**Pickwick Lake**	**3.86**	**250**	Pn	Pn	15 24 26.3	-1.7
ACSO	**Alum Creek Sta**	**3.87**	**8**		Pn	15 24 28.2	0.0
ACSO				IAmb_Lg		15 25 40.4	
	comp=Z,19nm,0.7s						
X58A	**Rowland**	**3.97**	**116**	Pn	Pn	15 24 30.6	+1.0
X58A				IAmb_Lg		15 25 31.9	
	comp=Z,31nm,0.8s						
O52A	**Adamsville**	**3.99**	**21**		Pn	15 24 29.8	0.0
O52A				IAmb_Lg		15 25 35.8	
	comp=Z,24nm,0.9s						
S57A	**Dark Hollow, R**	**4.00**	**69**		Pn	15 24 29.4	-0.6
O48B	**Farmland**	**4.04**	**344**		Pn	15 24 30.7	+0.3
O48B				IAmb_Lg		15 25 39.4	
	comp=Z,25nm,0.8s						
LRAL	**Lakeview Retre**	**4.33**	**220**		Pn	15 24 33.2	-1.3
LRAL				IAmb_Lg		15 25 45.1	
	comp=Z,18nm,0.8s						
W59A	**Clinton**	**4.41**	**105**	IAmb_Lg		15 25 47.5	
	comp=Z,17nm,0.7s						
Q56A	**Snyder Ridge,**	**4.42**	**52**	IAmb_Lg		15 25 53.6	
	comp=Z,14nm,0.8s						
MCWV	**Mont Chateau**	**4.44**	**42**	IAmb_Lg		15 25 46.0	
	comp=Z,19nm,0.9s						
O54A	**Avella**	**4.58**	**33**	IAmb_Lg		15 26 03.4	
	comp=Z,18nm,0.7s						
N51A	**Ashland**	**4.63**	**12**	IAmb_Lg		15 25 51.7	
	comp=Z,21nm,0.9s						
SIUC	**Southern Illin**	**4.64**	**288**	IAmb_Lg		15 26 00.7	
	comp=Z,21nm,0.9s						
**SFIN

LUWI	Luwuk	5.86 271	P	Pn	15 47 27.4	+1.4
	0.4nm1μm93nm,0.6s					
APSI	Ampana	6.98 272	P	Pn	15 47 42.8	+1.3
TOLI2	Tolitoli	8.17 286	P	Pn	15 48 00.9	+3.1
SPSI	Sidrap Palu	9.27 253	P	Pn	15 48 17.3	+4.4
BKSI	Bulukumba	9.43 244	P	Pn	15 48 20.3	+5.2
KAPI	Kappang	9.64 247	Pn	Pn	15 48 14.3	-3.7
	2.7nm,0.3s,baz=141,slow=3.6,SNR=6.5					
	5.8nm,0.5s					
DRS	Darwin Rock St	11.39 169	P	Pn	15 48 43.8	+1.8
MTN	Manton Dam	11.84 168	P	Pn	15 48 48.9	+0.7
KDU	Kakadu	12.04 162	P	Pn	15 48 49.4	-1.5
PLAI	Plampang	13.20 235	P	Pn	15 49 09.1	+2.3
FITZ	Fitzroy Crossi	17.06 190	Pn	Pn	15 49 54.1	-3.7
	0.1nm,0.3s,baz=27,slow=11,SNR=2.5					
	3.8nm,1.0s					
WRA	Warramunga Arr	19.46 164	P	P	15 50 24.6	-1.4
	0.4nm,0.3s,baz=347,slow=13,SNR=24					
	3.5nm,0.8s					
ASAR	Alice Springs	22.92 167	P	P	15 51 02.4	-1.0
	2.9nm,0.5s,baz=349,slow=11,SNR=19					
	2.9nm,0.5s					
MKAR	Makanchi Array	62.66 326	P	P	15 56 25.5	+1.8
	0.7nm,0.8s,baz=119,slow=7.1,SNR=6.3					
	0.7nm,0.8s					
ZALV	Zalesovo Beam	65.80 333	P	P	15 56 45.0	+0.9
	0.4nm,0.4s,baz=86,slow=20,SNR=1.9					
	0.4nm,0.4s					
KURBB	Kurchatov Arra	66.88 328	P	P	15 56 49.7	-1.4
	0.7nm,0.7s,baz=134,slow=6.6,SNR=6.5					
	0.7nm,0.7s					
BVAR	Borovoye Array	72.45 327	P	P	15 57 26.0	+0.6
	0.3nm,0.5s,baz=140,slow=7.5,SNR=2.4					
	0.3nm,0.5s					
VNDA	Vanda	78.34 173	P	P	15 57 59.4	+0.6
	0.4nm,0.6s,baz=268,slow=17,SNR=5.6					
	0.4nm,0.6s					
MAW	Mawson	79.84 201	P	P	15 58 08.0	+0.8
	1.8nm,0.8s,baz=35,slow=12,SNR=3.5					
	1.8nm,0.8s					
QSPA	South Pole Qui	88.75 180	P	P	15 58 53.3	+0.7
	1.0nm,0.6s,baz=321,slow=8.6,SNR=16					
	1.0nm,0.6s					

IDC ***17*** *15:53:44.5±3.1, 44°32N×105°47W, h0km, mbtmp2.9/3, ML3.4/3, Error ellipse: s-maj=35.4km s-min=19.8km az=6.0*

NEIC ***17*** *15:53:45.8±1.7, 43°40N±0°04×105°12W±0°03, h0km±1km, ML3.3/56, Error ellipse: s-maj=7.5km s-min=3.5km az=202.0*

ISC 17 15:53:47.8±1.0, 43°50N±0°06×105°13W±0°07, h0km, n48, σ1$41/47, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	Black Hills	1.01	51	Pg	Pg	15 54 06.5	-0.6
K22A	Casper	1.33	231		Pn	15 54 12.6	-1.2
LAO	LASA Array	3.29	347	Pn	Pn	15 54 40.5	-0.2
BW06	Boulder Array	3.33	259	Pn	Pn	15 54 41.4	+0.1
PD31	Pinedale Array	3.33	259	Pn	Pn	15 54 41.4	+0.1
PDAR	Pinedale Array	3.33	259	Pn	Pn	15 54 40.7	-0.6
PDAR	Pinedale Array	3.33	259	Pn	Pn	15 54 41.7	+0.4
	1.1nm,0.3s,baz=72,slow=17,SNR=32						
PDAR				Lg	Lg	15 55 29.2	
	5.5nm,0.3s,baz=68,slow=33,SNR=2.3						
	0.9nm,0.3s						
RLMT	Red Lodge	3.39	300	Pn	Pn	15 54 41.7	-0.5
RLMT				IAML		15 55 51.1	
	57nm,0.8s						
RLMT				IAML		15 56 30.0	
	48nm,1.5s						
OGNE	Ogallala	3.43	137	Pn	Pn	15 54 41.3	-1.3
ISCO	Idaho Springs	3.71	186	Pn	Pn	15 54 44.9	-1.8
ISCO				IAML		15 56 04.1	
	36nm,1.1s						
YNE	Yellowstone No	3.82	295	Pn	Pn	15 54 47.1	-1.0
YNE				IAML		15 55 56.8	
	comp=N,58nm,0.8s						
YNE				IAML		15 55 58.0	
	comp=E,52nm,1.0s						
YMP	Mirror Lake Pl	3.83	291	Pn	Pn	15 54 47.9	-0.5
LOHW	Long Hollow	3.98	274	Pn	Pn	15 54 49.2	-1.1
H17A	Grant Village	4.04	285	Pn	Pn	15 54 49.8	-1.3
H17A				IAML		15 55 38.5	
	comp=N,42nm,0.2s						
H17A				IAML		15 56 02.0	
	comp=E,44nm,0.7s						
SNOW	Snow King Moun	4.10	271	Pn	Pn	15 54 50.6	-1.4
SNOW				IAML		15 56 17.0	
	comp=E,51nm,0.9s						
SNOW				IAML		15 56 19.7	
	comp=E,56nm,1.3s						
YFT	Old Faithful	4.23	285	Pn	Pn	15 54 52.6	-1.2
YFT				IAML		15 56 10.2	
	comp=N,26nm,1.2s						
TPAW	Teton Pass	4.24	272	Pn	Pn	15 54 52.7	-1.2
TPAW				IAML		15 56 20.8	
	comp=N,31nm,1.1s						
TPAW				IAML		15 56 23.0	
	comp=N,47nm,1.0s						
FXWY	Fox Creek	4.29	274	Pn	Pn	15 54 54.9	+0.3
YHH	Holmes Hill	4.32	289	Pn	Pn	15 54 56.0	+1.0
E28A	Huff	4.40	44	Pn	Pn	15 54 55.8	0.0
YHB	Horse Butte	4.55	288	Pn	Pn	15 54 58.4	+0.3
YHB				IAML		15 56 16.1	
	comp=N,22nm,1.2s						
YHB				IAML		15 56 25.2	
	comp=E,18nm,1.4s						
SUSD	Miller	4.55	76	Pn	Pn	15 54 57.4	-0.6
YHL	Hebgen Lake	4.56	289	Pn	Pn	15 54 58.8	+0.4
YHL				IAML		15 56 30.4	
	comp=N,34nm,1.1s						
YHL				IAML		15 56 38.8	
	comp=E,40nm,1.0s						
QLMT	Earthquake Lak	4.73	289	Pn	Pn	15 54 59.6	-0.9
DGMT	Dagmar	5.02	7	Pn	Pn	15 55 04.3	0.0
BOZ	Bozeman (W)	5.10	297	Pn	Pn	15 55 02.4	-3.2
BOZ				IAML		15 56 38.8	
	comp=E,20nm,1.1s						
BOZ				IAML		15 58 14.3	
	comp=E,14nm,4.5s						
HWUT	Hardware Ranch	5.12	251	Pn	Pn	15 55 05.4	-0.5
BSUT	Blindstream Ca	5.13	237	Pn	Pn	15 55 05.1	-1.2
BSUT				IAML		15 56 51.1	
	comp=N,16nm,1.1s						
BSUT				IAML		15 56 54.2	
	comp=E,18nm,1.1s						
TCUT	Toone Canyon	5.23	245	Pn	Pn	15 55 05.5	-2.0
EGMT	Eagleton	5.57	326	Pn	Pn	15 55 11.8	-0.2
LRM	Limekiln Ridge	5.72	297	Pn	Pn	15 55 14.8	+0.5
MDND	Maddock	5.82	40	Pn	Pn	15 55 17.1	+1.7
PV23	Carpenter Ridg	5.83	212	Pn	Pn	15 55 14.2	-1.6
PV04	Paradox Valley	5.84	211	Pn	Pn	15 55 13.9	-2.0
PV14	Lion Creek, Pa	5.91	211	Pn	Pn	15 55 14.5	-2.3
PV20	West Nyswonger	5.91	211	Pn	Pn	15 55 14.0	-2.8
PV11	David Mesa, Pa	5.92	210	Pn	Pn	15 55 14.0	-2.9
PV03	Paradox Valley	5.95	210	Pn	Pn	15 55 17.1	-0.2
PV18	Skein Mesa, Pa	5.98	210	Pn	Pn	15 55 19.2	+1.5
PV13	Radium Mtn., P	6.02	209	Pn	Pn	15 55 15.9	-2.5
LYMT	Lyon Mountain	6.14	307	Pn	Pn	15 55 18.7	-1.2
ECSD	EROS Data Cent	6.18	85	Pn	Pn	15 55 20.3	0.0
BPMT	Black Pine Rid	6.59	299	Pn	Pn	15 55 24.3	-1.9
OVMT	Ovando	6.60	305	Pn	Pn	15 55 24.7	-1.5
HMU	Henry Mountain	7.00	219	Pn	Pn	15 55 32.7	+0.9
I56US	NEWPORT INFRAS	9.63	304	I	I	16 47 20.0	
	baz=116,slow=305,SNR=2.8						
NVAR	Mina Array Bea	11.17	248	Pn	Pn	15 56 28.5	-0.5
	comp=E,0.1nm,0.3s,baz=49,slow=14,SNR=1.9						
	comp=E,0.3nm,0.4s						
TXAR	Lajitas Array	14.18	175	Pn	P	15 57 19.7	+1.9
	baz=353,slow=10,SNR=3.0						
TXAR				Pg		15 58 19.7	
	baz=1.6,slow=17,SNR=4.9						
TXAR				Lg	Lg	16 01 27.6	
	baz=352,slow=21,SNR=5.5						
	comp=E,0.2nm,0.7s						

AUST ***17*** *15:58:33.6±1.2, 18°S×129°E, h15km±14km, mb3.8/8, ML3.0/7, Error ellipse: s-maj=23.6km s-min=5.2km az=142.0*

IDC ***17*** *15:58:48.8±2.7, 17°S×121°E, h0km, mb3.3/2, mbtmp3.2/5, ML2.9/3, Error ellipse: s-maj=82.9km s-min=18.6km az=24.0*

ISC 17 15:58:39.9±1.3, 18°S×120°E±0°07, h10km, n25, σ1$95/26, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	Marble Bar	2.23	194	P	Pb	15 59 20.2	-0.1
MBWA				S	Sg	15 59 55.7	+4.1
PSAC1	Pilbara Seismi	2.58	191	P	Pb	15 59 24.9	-1.4
PSAC1				S	Sg	16 00 04.4	+1.6
PSAA2	Pilbara Seismi	2.60	190	P	Pb	15 59 25.3	-1.3
PSAA2				S	Sg	16 00 04.1	+0.7
FITZ	Fitzroy Crossi	5.12	81	P	Pn	15 59 47.0	-10
FITZ	Fitzroy Crossi	5.12	81	S	Sn	16 00 41.4	-14
FITZ	Fitzroy Crossi	5.12	81	Pn	Pn	15 59 46.8	-10
	0.5nm,0.3s,baz=270,slow=11,SNR=22						
FITZ				Lg	Lg	16 00 41.2	
	1.5nm,0.3s,baz=280,slow=11,SNR=7.6						
	1.5nm,0.3s						
GIRL	Giralia	6.76	236	P	Pn	16 00 17.8	-1.4
GIRL				S	Sn	16 01 35.0	-1.3
MEEK	Meekatharra	7.77	191	P	Pn	16 00 35.4	+2.2
	comp=Z,6.2nm,1.2s,comp=Z,0.1nm						
MEEK	Meekatharra	7.77	191	S	Sn	16 02 06.7	+5.4
CVQOZ	Cooralya Stati	7.95	226	P	Pn	16 00 34.7	-0.9
CVQOZ				S	Sn	16 02 06.1	+0.5
KNRA	Kununurra	8.70	69	P	Pn	16 00 33.6	-12
	comp=Z,8.8nm,1.9s,comp=Z,0.0nm						
KNRA				S	Sn	16 02 05.2	-19
WRKA	Warakurna	9.53	131	P	Pn	16 00 56.8	-0.5
	comp=Z,2.8nm,1.8s,comp=Z,0.0nm						
WRKA				S	Sn	16 02 45.2	+0.7
MORW	Morawa	10.77	201	P	Pn	16 01 14.2	0.0
	comp=Z,10nm,2.7s						
MORW	Morawa	10.77	201	S	Sn	16 03 13.9	-1.0
BLDU	Ballidu	12.03	195	P	Pn	16 01 32.1	+0.6
	comp=Z,14nm,1.6s						
BLDU	Ballidu	12.03	195	S	Sn	16 03 43.9	-1.9
KLBR	Kellerberrin	12.76	190	P	Pn	16 01 42.3	+0.9
	comp=Z,22nm,1.0s						
KLBR	Kellerberrin	12.76	190	S	Sn	16 04 00.6	-3.1
WRA	Warramunga Arr	13.25	96	Pn	Pn	16 01 39.4	-8.8
	comp=Z,0.1nm,0.3s,baz=280,slow=14,SNR=7.6						
WRA				Sn	Sn	16 03 56.7	-19
	comp=Z,0.3nm,0.3s,baz=279,slow=24,SNR=5.2						
	comp=Z,0.2nm,0.5s						
MUN	Mundaring	13.45	195	P	Pn	16 01 50.9	-0.1
	comp=Z,21nm,1.9s						
MUN	Mundaring	13.45	195	S	Sn	16 04 19.3	-1.3
ASAR	Alice Springs	13.48	113	Pn	Pn	16 01 50.4	-1.0
	comp=Z,0.1nm,0.3s,baz=292,slow=12,SNR=8.2						
ASAR				Sn	Sn	16 04 09.8	-11
	comp=Z,0.2nm,0.3s,baz=280,slow=22,SNR=6.9						
	comp=Z,0.4nm,0.6s						
FORT	Forrest	13.67	151	P	Pn	16 01 53.4	-0.4
	comp=Z,8.4nm,1.8s						
FORT				S	Sn	16 04 24.5	-1.2
SONM	Songino Array	67.68	350	P	P	16 09 39.6	+2.2
	comp=Z,3nm,0.4s,baz=155,slow=7.2,SNR=1.7						
	comp=Z,0.3nm,0.4s						
MKAR	Makanchi Array	73.92	334	P	P	16 10 23.6	+8.4
	comp=Z,0.1nm,0.7s,baz=132,slow=2.1,SNR=1.9						
	comp=Z,0.1nm,0.7s						

IDC 17 16:00:15.5±3.2, 22°28N×12°76W, h0km, mbtmp3.9/2, ML3.5/2, Error ellipse: s-maj=146.9km s-min=57.0km az=59.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	Torodi Ar. Bea	16.48	121	Pn	Pn	16 04 08.0	-0.3
	0.1nm,0.3s,baz=306,slow=12,SNR=5.0						
	0.5nm,0.6s						
DBIC	Dimbokro	17.29	153	P	Pn	16 04 18.9	+0.4
	0.2nm,0.3s,baz=7.9,slow=10,SNR=2.9						
	7.7nm,1.0s						
I42PT	GRACIOSA ISLAN	21.19	325	I	I	18 09 10.0	
	baz=140,slow=320,SNR=2.1						
WRA	Warramunga Arr	149.25	92	PKPbc	PKPbc	16 20 06.4	-0.6
	0.5nm,0.9s,baz=296,slow=1.5,SNR=2.0						
ASAR	Alice Springs	149.31	99	PKPbc	PKPbc	16 20 06.6	-0.5
	0.3nm,0.9s,baz=291,slow=2.1,SNR=1.6						

IDC 17 16:01:01.7±1.2, 46°72N×155°76E, h0km, mb3.4/4, mbtmp3.4/5, ML2.3/1, Error ellipse: s-maj=34.2km s-min=28.1km az=114.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	Petropavlovsk-	6.51	10	Pn	Pn	16 02 39.0	+0.2
	0.3nm,0.3s,baz=177,slow=12,SNR=7.9						
PETK				Sn	Sn	16 03 53.7	0.0
	0.2nm,0.3s,baz=96,slow=15,SNR=4.3						
	1.2nm,0.5s						
MKAR	Makanchi Array	48.56	299	P	P	16 09 45.4	-1.2
	0.1nm,0.7s,baz=70,slow=12,SNR=1.4						
	0.1nm,0.7s						
KURBB	Kurchatov Arra	48.98	305	P	P	16 09 50.0	+0.4
	0.4nm,0.8s,baz=70,slow=8.8,SNR=2.3						
	0.4nm,0.8s						
ASAR	Alice Springs	72.80	201	P	P	16 12 31.9	0.0
	0.3nm,0.8s,baz=21,slow=5.7,SNR=4.6						
	0.3nm,0.8s						
TXAR	Lajitas Array	75.91	62	P	P	16 12 50.7	+0.4
	0.6nm,0.6s,baz=305,slow=4.6,SNR=10						
	0.6nm,0.6s						

AUST 17 16:27:21.3±0.7, 19°S±5°×12°1E±°, h10km, mb3.9/5, ML2.6/5, Error ellipse: s-maj=13.2km s-min=5.4km az=141.1, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	Marble Bar	2.67	197	P	Pn	16 28 05.3	+0.9
PSAC1	Pilbara Seismi	3.01	193	P	Pn	16 28 08.8	-0.3
PSAC1				S	Sn	16 28 46.4	+1.2
PSA00	Pilbara Seismi	3.04	192	P	Pn	16 28 09.6	+0.1
PSA00				S	Sn	16 28 46.8	+0.8
FITZ	Fitzroy Crossi	4.86	85	P	Pn	16 28 34.8	+0.3
FITZ	Fitzroy Crossi	4.86	85	S	Sn	16 29 31.4	+0.6
GIRL	Giralia	7.16	235	P	Pn	16 29 02.6	-3.5
GIRL				S	Sn	16 30 17.3	-10
MEEK	Meekatharra	8.21	192	P	Pn	16 29 20.2	-0.3
	comp=Z,21nm,2.6s,comp=Z,0.0nm						
MEEK	Meekatharra	8.21	192	S	Sn	16 30 49.9	-3.5
KNRA	Kununurra	8.37	71	P	Pn	16 29 23.1	+0.3
	comp=Z,12nm,2.0s,comp=Z,0.0nm						
KNRA				S	Sn	16 30 54.2	-3.1
WRKA	Warakurna	9.64	133	P	Pn	16 29 43.2	+3.1
	comp=Z,2.2nm,2.4s						
WRKA				S	Sn	16 31 29.7	+1.2
MORW	Morawa	11.21	201	P	Pn	16 30 01.9	+0.2
	comp=Z,12nm,2.2s						
MORW	Morawa	11.21	201	S	Sn	16 31 57.1	-10
BLDU	Ballidu	12.47	196	P	Pn	16 30 17.3	-1.6
	comp=Z,14nm,2.4s						
BLDU	Ballidu	12.47	196	S	Sn	16 32 26.1	-12

IDC 17 16:31:43.8±2.4, 0°31S×132°84E, h0km, mb3.6/2, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=99.6km s-min=25.4km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	19.04	201	P	Pn	16 36 08.5	+0.1
	0.1nm,0.3s,baz=42,slow=12,SNR=2.3						
	4.9nm,1.1s						
WRA	Warramunga Arr	19.57	176	P	P	16 36 13.6	+0.1
	0.2nm,0.3s,baz=354,slow=11,SNR=8.7						
WRA				S	Sn	16 39 44.0	-11
	0.4nm,0.5s,baz=357,slow=23,SNR=5.7						
	0.5nm,0.5s						
ASAR	Alice Springs	23.24	178	P	P	16 36 52.6	-0.4
	0.9nm,0.5s,baz=350,slow=12,SNR=19						
	0.9nm,0.5s						
H11N1	WAKE ISLAND Hy	38.85	57	T	T	17 20 46.1	
	baz=247,slow=75,SNR=7.4						
H11N2	WAKE ISLAND Hy	38.86	57	T	T	17 20 45.1	
	baz=247,slow=75,SNR=8.5						
H11N3	WAKE ISLAND Hy	38.87	57	T	T	17 20 46.1	
	baz=247,slow=75,SNR=9.4						
MKAR	Makanchi Array	64.36	324	P	P	16 42 21.6	-0.1
	0.4nm,0.5s,baz=111,slow=8.2,SNR=6.2						
	0.4nm,0.5s						

FCIAR ***17*** *16:37:19.0, 78°25N×21°00E, h10km, station ZFI2 has station magnitude of 3.20 station OMEGA has station magnitude of 3.20*

NAO ***17*** *16:37:20.0±1.1, 78°17N×21°16E, h11km±7km, ML2.7*

KOLA ***17*** *16:37:21.8, 77°99N×20°29E, h0km, ML2.6, Error ellipse: s-maj=15.2km s-min=7.9km az=70.0, Storfjorden zone*

BER ***17*** *16:37:21.8±3.4, 78°07N×20°99E, h15km±14km, ML2.7, Confirmed Earthquake*

ISC 17 16:37:19.1±1.2, 78°09N±0°04×21°06E±0°03, h17km±10km, n25, σ0$86/53, 1C-1D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPA0	Spitsbergen Ar	0.97	278	Pg	Pn	16 37 38.0	+0.1
	baz=103,slow=22						
SPA0				Sg	Sb	16 37 50.0	-0.1
	baz=103,slow=56						
SPA0	Spitsbergen Ar	0.97	278	*i*P	Pn	16 37 38.2	+0.2
SPA0				*i* S	Sb	16 37 50.0	-0.1
SPA0	Spitsbergen Ar	0.97	278	Pg	Pn	16 37 38.0	+0.1
	baz=103,slow=22						
SPA0				Sg	Sb	16 37 50.0	-0.1
	baz=103,slow=56						
SPA0				IAML		16 37 53.4	
	comp=Z,158nm,0.3s						
SPITS	Spitsbergen Ar	0.97	278	P	Pn	16 37 38.1	+0.1
SPITS				S	Sb	16 37 50.0	-0.1
BRBA	Barentsburg A	1.42	272	Pb	Pb	16 37 45.3	+0.2
BRBA				Sb	Sg	16 38 04.6	-0.4
BRBA	Barentsburg A	1.42	272	*e*P	Pb	16 37 45.2	+0.2
BRBA				*e*Pg	Pg	16 37 47.0	+0.5
BRBA				*e*S	Sb	16 38 02.7	-0.2
BRBA				*e*Sg	Sg	16 38 04.8	-0.2
BRBA				IAML		16 38 05.4	
	comp=Z,484nm,0.3s						
BRBB	Barentsburg B	1.42	274	Pb	Pb	16 37 45.5	+0.5
BRBB				Sb	Sg	16 38 04.8	-0.1
BRBB	Barentsburg B	1.42	274	P	Pg	16 37 46.7	+0.3
BRBB				S	Sn	16 38 02.0	-0.4
BRBB	Barentsburg B	1.42	274	*e*P	Pb	16 37 45.5	+0.5
BRBB				*e*Pg	Pg	16 37 46.8	+0.3
BRBB				*e*S	Sn	16 38 02.5	+0.1
BRBB				*e*Sg	Sg	16 38 04.7	-0.2
HSPB	Hornsund (broa	1.62	230	Pn	Pn	16 37 47.5	+0.7
HSPB				Sn	Sb	16 38 09.6	+1.0
HSPB	Hornsund (broa	1.62	230	P	Pn	16 37 47.5	+0.7
HSPB				S	Sb	16 38 08.6	0.0
HSPB	Hornsund (broa	1.62	230	*i*P	Pn	16 37 47.4	+0.6
HSPB				*i* S	Sb	16 38 09.1	+0.6
HSPB	Hornsund (broa	1.62	230	*e*P	Pn	16 37 47.4	+0.6
HSPB				*e*Pg	Pg	16 37 49.5	-0.7
HSPB				*e*Sg	Sb	16 38 09.7	+1.1
HSPB				IAML		16 38 10.4	
	comp=Z,126nm,0.5s						
HOPEN	Hopen	1.81	149	Pn	Pn	16 37 50.3	+0.9
HOPEN				Pg	Pg	16 37 53.8	0.0
HOPEN				Sn	Sg	16 38 16.1	-0.9
HOPEN	Hopen	1.81	149	*e*P	Pn	16 37 50.2	+0.9
HOPEN				*e*S	Sb	16 38 14.5	+0.4
HOPEN	Hopen	1.81	149	*e*P	Pn	16 37 50.4	+0.9
HOPEN				*e*Pg	Pg	16 37 53.8	0.0
HOPEN				*e*Sg	Sg	16 38 17.6	+0.3
HOPEN				IAML		16 38 20.4	
	comp=Z,125nm,0.7s						
KBS	Kingsbay	2.01	299	Pn	Pn	16 37 53.3	+1.2
KBS				Pg	Pg	16 37 57.4	-0.2
KBS				Lg	Lg	16 38 22.5	
KBS	Kingsbay	2.01	299	S	Sb	16 38 21.5	+1.7
KBS	Kingsbay	2.01	299	*e*P	Pn	16 37 53.1	+1.0
KBS				*e*Pg	Pg	16 37 58.0	+0.3
KBS				*e*Sg	Sg	16 38 22.1	-1.5
KBS				IAML		16 38 23.9	
	comp=Z,102nm,0.4s						
ZFI2	Zemlya Franca-	5.54	48	*e*P	Pn	16 38 42.4	+1.8
ZFI2				*e*S	Sn	16 39 42.3	-1.5
	comp=Z,12nm,3.7s						
OMEGA	Omega	5.55	48	*e*P	Pn	16 38 42.5	+1.8
OMEGA				*e*S	Sn	16 39 42.5	-1.4
	comp=Z,14nm,2.7s						
NOR	Nord	7.38	316	Pn	Pn	16 39 05.0	-0.8
NOR	Nord	7.38	316	Pn	Pn	16 39 05.0	-0.8
JETT	Jettan, Norway	8.58	182	Pn	Pn	16 39 20.4	-1.9
JETT	Jettan, Norway	8.58	182	Pn	Pn	16 39 20.4	-1.9

KOLA ***17*** *16:37:59.7, 67°70N×34°17E, h0km, ML2.2, Error ellipse: s-maj=3.3km s-min=1.4km az=120.0, Khibiny, mines Koashva, Nyurkpakh*

IDC ***17*** *16:38:02.0±2.8, 67°67N×33°69E, h0km, mbtmp2.8/2, ML2.1/2, Error ellipse: s-maj=30.0km s-min=10.5km az=78.0*

ISC 17 16:37:58.4±1.1, 67°66N±0°04×34°21E±0°05, h0km, n11, σ1$41/20, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVZ	Lovozero	0.29	35	P	Pg	16 38 04.5	+0.5
LVZ				S	Sg	16 38 08.2	+0.4
APA	Apatity	0.32	254	P	Pg	16 38 05.2	+0.7
APA				S	Sg	16 38 09.9	+1.2
APA0	Apatity Array	0.47	264	P	Pg	16 38 07.7	+0.3
APA0				S	Sg	16 38 14.3	+1.0
KVDA	Kovda	1.10	209	P	Pg	16 38 19.7	+0.2
KVDA				S	Sg	16 38 34.6	+0.9
TERR	Teriberka	1.58	12	P	Pn	16 38 27.4	-0.2
TERR				S	Sn	16 38 47.5	-1.3
VADS	Vadso	3.03	327	P	Pn	16 38 48.1	+0.6
VADS				S	Sn	16 39 23.9	-0.6
ARCES	ARCESS Array B	3.70	305	Pn	Pn	16 38 57.3	+0.5
	0.2nm,0.3s,baz=118,slow=14,SNR=104						
ARCES				Pg	Pb	16 39 05.1	+0.5
	0.2nm,0.3s,baz=114,slow=14,SNR=15						
ARCES				Sn	Sn	16 39 39.8	-1.3
	0.4nm,0.3s,baz=117,slow=26,SNR=8.6						
ARCES				Lg	Lg	16 39 52.7	
	0.6nm,0.3s,baz=120,slow=27,SNR=3.5						
	0.6nm,0.3s						
ARCES	ARCESS Array B	3.70	305	P	Pn	16 38 57.2	+0.5
ARCES				S	Sn	16 39 38.4	-2.7
I37NO	I37NO	5.94	291	I	I	17 11 40.0	
	baz=96,slow=325,SNR=1.7						
FINES	FINESS Array B	7.15	213	Pn	Pn	16 39 44.4	+0.3
	0.1nm,0.3s,baz=38,slow=12,SNR=1.4						
FINES				Sn	Sn	16 41 03.7	-2.1
	0.1nm,0.3s,baz=46,slow=24,SNR=2.6						

CMAR Chiang Mai Arr 7.76 31 Pn **Pn** **16 57 27.1 -1.2**
comp=N,0.7nm,0.3s,baz=222,slow=15,SNR=26
CMAR Lg Lg 16 59 40.7
comp=N,0.1nm,0.3s,baz=126,slow=30,SNR=2.6
CMAR LR LR 17 00 34.5
comp=N,455nm,18.1s,baz=210,slow=39
comp=N,4.5nm,0.8s
CHTO Chiang Mai 8.07 29 **Pn** **16 57 31.3 -1.1**
KULM Kulim 8.67 138 **Pn** **16 57 39.4 -1.3**
IPM Ipoh 9.53 139 Pn **Pn** **16 57 51.1 -1.4**
PSI Prapat 9.82 155 LR LR 17 01 55.1
comp=N,183nm,21.2s,baz=320,slow=38
UBPT Khong Chiam 10.96 70 Pn **Pn** **16 58 08.9 -3.2**
BRDH Bariadhala 11.25 345 LR LR 17 04 03.7
comp=N,668nm,19.3s,baz=159,slow=45
AZL Aizawl 12.06 351 *e*P **Pn** **16 58 24.4 -2.8**
AZL IAmb IAmb 16 58 36.6
comp=Z,35nm,1.1s
AZL eS Sn 17 00 25.2 -16
VIS Vishakhapatnam 12.55 299 *e*P **Pn** **16 58 35.7 +1.9**
VIS eS **Sn** **17 00 48.3 -4.7**
SLVN Son La 12.91 41 Pn **Pn** **16 58 37.5 -1.3**
IMP Imphal 13.01 357 *e*P **Pn** **16 58 36.5 -3.7**
IMP IAmb IAmb 16 58 39.5
comp=Z,31nm,0.9s
TNCH TengChong 13.65 15 P **Pn** **16 58 49.8 +0.8**
TNCH S **Sn** **17 01 23.4 +3.2**
TNCH pmax pmax
comp=Z,19nm,0.4s
TNCH pmax pmax
comp=Z,290nm,6.0s
TNCH LR LR
comp=Z,1μm,10.1s
TNCH LR LR
comp=Z,810nm,9.6s
TNCH LR LR
comp=Z,1μm,14.8s
KOHI KOHIMA 13.88 357 *e*P **Pn** **16 58 47.4 -4.8**
KOHI IAmb IAmb 16 58 55.4
comp=Z,31nm,0.9s
KOHI IAML 16 59 05.5
comp=E,27nm,1.1s
KOHI eS **Sn** **17 01 18.1 -7.8**
SHL Shillong 13.99 349 *e*P **Pn** **16 58 49.2 -4.4**
SHL IAmb IAmb 16 59 02.5
comp=Z,18nm,0.8s
PALK Pallekele 14.58 253 LR LR 17 04 42.2
comp=Z,266nm,18.5s,baz=78,slow=38
BOK Bokaro 14.64 326 *e*P **Pn** **16 59 02.0 -0.4**
BOK IAmb IAmb 16 59 13.4
comp=Z,33nm,0.6s
TEZP TEZPUR 14.88 353 *e*P **Pn** **16 59 01.2 -4.5**
TEZP IAmb IAmb 16 59 10.6
comp=Z,15nm,0.9s
SHBG Sahibganj 14.97 334 *e*P **Pn** **16 59 06.5 -0.3**
KMI Kunming 15.27 28 P **P** **16 59 16.1 +0.3**
KMI S **Sn** **17 02 05.6 +5.9**
KMI pmax pmax
comp=Z,11nm,1.0s
KMI LR LR
comp=Z,810nm,11.3s
KMI LR LR
comp=Z,790nm,12.3s
KMI LR LR
comp=Z,790nm,11.1s
ZIRO ZIRO 15.69 357 *e*P **Pn** **16 59 10.4 -6.1**
ZIRO IAmb IAmb 16 59 29.6
comp=Z,54nm,1.1s
BLSP Bilaspur 15.87 312 *e*P **Pn** **16 59 18.9 +0.2**
BLSP IAmb IAmb 16 59 25.6
comp=Z,38nm,0.8s
PZH PanZhiHua 16.05 23 P **P** **16 59 31.3 +6.9**
PZH S **Sn** **17 02 23.1 +4.5**
PZH pmax pmax
comp=Z,10.0nm,1.6s
PZH pmax pmax
comp=Z,140nm,6.8s
PZH LR LR
comp=N,720nm,11.4s
PZH LR LR
comp=E,680nm,12.8s
PZH LR LR
comp=Z,910nm,11.8s
QIZ Qiongzhong 16.21 62 Pn **Pn** **16 59 22.0 -1.0**
QIZ Qiongzhong 16.21 62 P **P** **16 59 24.8 -1.2**
QIZ S **Sn** **17 02 25.0 +2.6**
QIZ SS **SnSn** **17 02 40.8 +5.2**
QIZ pmax pmax
comp=Z,26nm,1.2s
QIZ LR LR
comp=Z,570nm,9.4s
QIZ LR LR
comp=Z,560nm,10.2s
QIZ LR LR
comp=Z,910nm,10.0s
GTK Tadong 16.51 340 *e*P **Pn** **16 59 25.4 -1.6**
GTK IAmb IAmb 16 59 31.1
comp=Z,34nm,0.8s
GYA Guiyang 18.40 36 ⇑P **Pn** **16 59 50.9 +0.4**
GYA pmax pmax
comp=Z,12nm,1.3s
AKL Akola 19.21 300 *e*P **Pn** **17 00 02.1 +1.9**
SBUM Sibu 19.62 117 **P** **17 00 03.0 -0.7**
NRDN NARMADA NAGAR 20.01 305 *e*P Pn 17 00 10.9 +1.2
NRDN IAmb IAmb 17 00 20.1
comp=Z,52nm,1.2s
BHPL Bhopal 20.07 307 *e*P Pn 17 00 12.0 +1.5
BHPL IAmb IAmb 17 00 16.9
comp=Z,28nm,0.9s
JHNI Jhansi 20.52 314 *e*P Pn 17 00 14.5 -1.2
JHNI IAmb IAmb 17 00 19.1
comp=Z,38nm,1.1s
KAD Karad 20.67 288 *e*P Pn 17 00 18.6 +1.0
KAD IAmb IAmb 17 00 21.9
comp=Z,71nm,1.3s
CD2 Chengdu 20.78 22 P **P** **17 00 15.6 -0.6**
CD2 sS sS 17 04 14.8 -0.6
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,320nm,4.4s
CD2 LR LR
comp=Z,690nm,12.0s
CD2 LR LR
comp=Z,1μm,12.3s
CD2 LR LR
comp=Z,850nm,9.5s
GUNA GUNA 20.91 310 *e*P Pn 17 00 20.7 +0.4
POO Poona 21.27 291 *e*P **P** **17 00 25.8 +4.1**
KKM Kota Kinabalu 21.92 103 P **P** **17 00 28.2 -0.5**
PTH Pithoragarh 22.28 325 *e*P **P** **17 00 34.0 +1.4**
LEM Lembang 22.46 145 LR LR 17 10 18.9
comp=Z,193nm,18.6s,baz=298,slow=39
ENH Enshi 22.91 34 P **P** **17 00 36.9 -2.2**
ENH IAmb IAmb 17 00 57.9
comp=Z,24nm,1.1s
SONA Sohna 23.29 317 *e*P **P** **17 00 44.8 +1.9**
NDI New Delhi 23.49 318 *e*P **P** **17 00 46.1 +1.2**
NDI IAmb IAmb 17 00 47.9
comp=Z,41nm,0.9s
NPLP NPLP New Delhi 23.49 318 *e*P **P** **17 00 47.0 +2.0**
KUDL Kundal 23.62 316 *e*P **P** **17 00 47.4 +1.3**
KUDL IAmb IAmb 17 00 48.3
comp=Z,33nm,1.3s
GOMU GeErMu 24.32 0 P **P** **17 00 52.1 -0.9**
GOMU sP pP 17 00 59.4 +0.3
GOMU S **S** **17 05 08.9 -2.5**
GOMU pmax pmax
comp=Z,3.0nm,0.6s
GOMU LR LR
comp=Z,100nm,13.6s
GOMU LR LR
comp=Z,40nm,13.5s
GOMU LR LR
comp=Z,120nm,13.7s
KLP Kalpa 24.89 325 *e*P **P** **17 00 58.8 +0.5**
KLP IAmb IAmb 17 01 22.9
comp=Z,61nm,1.0s
SMLA Simla 25.22 322 *e*P **P** **17 01 01.7 +0.9**
SMLA IAmb IAmb 17 01 16.3
comp=Z,47nm,1.3s
LZH Lanzhou 25.55 17 *e*P **P** **17 01 03.6 -0.4**
LZH sP sP 17 01 12.3 +0.1
LZH pmax pmax
comp=Z,20nm,1.3s
LZH LR LR
comp=Z,370nm,13.1s
LZH LR LR
comp=Z,540nm,13.4s
LZH LR LR
comp=Z,400nm,13.1s
XAN Xi'an 25.65 28 ⇓P **P** **17 01 02.9 -1.9**
XAN pmax pmax
comp=Z,18nm,0.8s
XAN pmax pmax
comp=Z,210nm,4.9s
XAN LR LR
comp=Z,970nm,13.7s
XAN LR LR
comp=Z,980nm,13.4s
XAN LR LR
comp=Z,1μm,13.9s
WHN Wuhan 26.03 41 P P 17 01 15.5 +7.2
WHN pmax pmax
comp=Z,32nm,0.6s
GTA Gaotai 27.88 8 *e*P **P** **17 01 25.9 +0.9**
GTA sP sP 17 01 33.8 +0.5
GTA pmax pmax
comp=Z,10.0nm,1.1s
GTA LR LR
comp=Z,150nm,10.9s
GTA LR LR
comp=Z,170nm,9.1s
GTA LR LR
comp=Z,170nm,11.6s
NIL Nilore 29.34 321 P **P** **17 01 36.2 -1.7**
NIL IAmb IAmb 17 01 53.9
comp=Z,19nm,1.1s
H08S3 Diego Garcia H 29.38 230 T T 17 32 24.6
baz=49,slow=76,SNR=5.1
H08S2 Diego Garcia H 29.39 230 T T 17 32 24.4
baz=49,slow=76,SNR=3.8
H08S1 Diego Garcia H 29.40 230 T T 17 32 26.5
baz=49,slow=76,SNR=4.2
KAPI Kappang 29.92 123 LR LR 17 13 41.2
comp=Z,225nm,19.7s,baz=282,slow=36
NJ2 Nanjing 29.97 44 *e*P **P** **17 01 43.9 +0.5**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
KSH Kashi 32.27 332 P **P** **17 02 03.1 -0.7**
KSH sP sP 17 02 11.8 -0.6
KSH pmax pmax
comp=Z,13nm,0.6s
HHC Hu-ho-hao-te 32.51 24 *e*P **P** **17 02 07.3 +1.4**
HHC pmax pmax
comp=Z,23nm,0.7s
WMQ Urumqi 32.51 350 *e*P **P** **17 02 08.0 +2.2**
WMQ LR LR
comp=Z,120nm,18.5s
KBL Kabul 32.58 318 P **P** **17 02 06.5 -0.2**
TARG Taragay, Kyrgy 33.33 337 P **P** **17 02 13.4 0.0**
TARG IAmb IAmb 17 02 16.1
comp=Z,18nm,0.8s
PRZ Przheval'sk 33.76 338 P **P** **17 02 18.1 +1.3**
NRN Naryn 33.82 334 P **P** **17 02 17.4 -0.2**
SHLS Shalkode 33.97 340 *e*P **P** **17 02 16.8 -1.8**
comp=Z,14nm,1.3s
SATY Saty 34.25 338 *e*P **P** **17 02 20.5 -0.6**
comp=Z,9.8nm,0.9s
DRK Karamyk 34.30 328 P **P** **17 02 22.1 +0.4**
GAR Garm 34.75 326 P **P** **17 02 25.1 -0.3**
GAR IAmb IAmb 17 02 26.9
comp=Z,29nm,1.2s
TNSS Tian-Shan 34.78 337 *e*P **P** **17 02 25.2 -0.7**
AAA Alma-Ata 34.94 337 *e*P **P** **17 02 26.3 -0.6**
comp=Z,13nm,1.1s
ARSB Arslanbob 35.09 331 P **P** **17 02 27.7 -0.7**
ARSB IAmb IAmb 17 02 30.4
comp=Z,27nm,1.3s
BTK Batken 35.23 327 P **P** **17 02 30.0 +0.4**
BTK IAmb IAmb 17 02 44.9
comp=Z,15nm,0.8s
SIMJ Simiganj 35.26 324 P **P** **17 02 29.1 -0.7**
SIMJ IAmb IAmb 17 02 30.8
comp=Z,12nm,0.8s
AAK Ala-Archa 35.45 334 P **P** **17 02 32.4 +0.9**
AAK IAmb IAmb 17 02 34.0
comp=Z,10nm,1.1s
AAK Ala-Archa 35.45 334 LR LR 17 18 30.9
comp=Z,211nm,21.7s,baz=148,slow=39
BATI Baumata 36.07 126 LR LR 17 21 14.4
comp=Z,489nm,18.6s,baz=278,slow=43
SOEI Soe 36.29 125 P **P** **17 02 39.1 +0.2**
MKAR Makanchi Array 36.47 346 **P** **17 02 39.6 -0.3**
MKAR Makanchi Array 36.47 346 P **P** **17 02 40.4 +0.5**
comp=Z,2.9nm,0.7s,baz=156,slow=9.3,SNR=25
MKAR LR LR 17 21 56.4
comp=Z,96nm,19.0s,baz=158,slow=43
comp=Z,2.9nm,0.7s
ZSN Zaisan 36.52 349 *e*P **P** **17 02 40.0 -0.4**
MAKZ Makanchi 36.56 345 P **P** **17 02 40.9 +0.2**
XLT XiLinHaoTe 36.91 26 *e*P **P** **17 02 44.0 +0.2**
XLT sP sP 17 02 51.6 -0.7
XLT pmax pmax
comp=Z,8.0nm,1.1s
XLT LR LR
comp=Z,500nm,14.0s
XLT LR LR
comp=Z,510nm,12.3s
DZA Taraz 37.09 331 *e*P **P** **17 02 44.9 -0.3**
IUG Iuzhnay 37.16 329 *e*P **P** **17 02 45.6 -0.4**
comp=Z,13nm,0.7s
SONM Songino Array 37.24 13 **P** **17 02 45.7 -0.9**
SONM Songino Array 37.24 13 P **P** **17 02 46.1 -0.5**
comp=Z,5.2nm,1.0s,baz=200,slow=9.0,SNR=22
comp=Z,5.2nm,1.0s
ULN Ulaanbaatar 37.42 14 P **P** **17 02 47.5 -0.7**
CHM Chimkent 37.51 329 *e*P **P** **17 02 48.8 0.0**
BTLS Baital 37.60 336 *e*P **P** **17 02 49.2 -0.3**
KK31 Karatay Array 37.64 330 P **P** **17 02 50.1 +0.2**
KKAR Karatay Array 37.64 330 **P** **17 02 49.5 -0.4**
BRLS Borolday 37.91 330 *e*P **P** **17 02 51.2 -1.1**
KSRS Korea Array 39.17 44 P **P** **17 03 01.4 -1.4**
comp=Z,0.9nm,0.7s,baz=242,slow=8.4,SNR=4.7
comp=Z,0.9nm,0.7s
JNU Nakatsue 39.26 51 LR LR 17 21 01.1
comp=Z,67nm,18.6s,baz=233,slow=39
KURBB Kurchatov Arra 40.96 344 P **P** **17 03 18.0 +0.5**
comp=Z,3.7nm,0.7s,baz=165,slow=7.5,SNR=15
KURBB LR LR 17 24 06.8
comp=Z,124nm,18.3s,baz=179,slow=42
comp=Z,3.7nm,0.7s
KURK Kurchatov 41.02 344 **P** **17 03 17.9 -0.2**
KURK IAmb IAmb 17 03 27.8
comp=Z,18nm,1.2s
CN2 Changchun 41.44 34 P **P** **17 03 21.3 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,80nm,4.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,230nm,17.0s
BRZS Berezniki 42.22 339 *e*P **P** **17 03 27.4 -0.5**
FITZ Fitzroy Crossi 42.53 134 P **P** **17 03 29.9 -0.9**
comp=Z,2.7nm,0.9s,baz=328,slow=7.9,SNR=1.8
comp=Z,2.7nm,0.9s
ZAA0 Zalesovo Array 42.81 351 P **P** **17 03 31.7 -0.8**
ZAA0 IAmb IAmb 17 03 45.3
comp=Z,14nm,0.9s
ZALV Zalesovo Beam 42.81 351 **P** **17 03 31.9 -0.6**
ZALV Zalesovo Beam 42.81 351 P **P** **17 03 32.6 +0.1**
comp=Z,4.4nm,0.9s,baz=187,slow=7.0,SNR=13
ZALV LR LR 17 24 09.3
comp=Z,72nm,21.1s,baz=168,slow=40
comp=Z,4.4nm,0.9s
BNX BinXian 43.76 33 ⇑P **P** **17 03 40.4 0.0**
BNX pmax pmax
comp=Z,9.0nm,1.3s
BNX pmax pmax
comp=Z,63nm,4.3s
BNX LR LR
comp=Z,140nm,13.6s
BNX LR LR
comp=Z,150nm,13.6s
BNX LR LR
comp=Z,200nm,11.4s
USRK Ussuriysk Ar. 45.43 38 LR LR 17 24 28.8
comp=Z,102nm,19.8s,baz=237,slow=38
BVAR Borovoye Array 45.55 340 P **P** **17 03 54.6 +0.1**
comp=Z,5.0nm,0.7s,baz=131,slow=6.7,SNR=23
BVAR LR LR 17 26 32.2
comp=Z,91nm,20.0s,baz=149,slow=41
comp=Z,5.0nm,0.7s
BRVK Borovoye 45.61 340 **P** **17 03 54.9 -0.2**
BRVK IAmb IAmb 17 03 56.5
comp=Z,18nm,1.4s
MJAR Matsushiro Arr 46.14 50 P **P** **17 03 59.1 -0.4**
comp=Z,0.6nm,0.6s,baz=214,slow=5.7,SNR=4.2
MJAR LR LR 17 23 38.4
comp=Z,57nm,21.0s,baz=259,slow=37
comp=Z,0.6nm,0.6s
HEH HeiHe 46.78 28 *e*P **P** **17 04 03.3 -1.0**
HEH LR LR
comp=Z,230nm,13.1s
HEH LR LR
comp=Z,250nm,13.4s
HEH LR LR
comp=Z,240nm,15.7s
AB31 Akbulak array 47.17 329 P **P** **17 04 07.4 0.0**
AB31 IAmb IAmb 17 04 09.2
comp=Z,12nm,1.2s
ABKAR Akbulak array 47.17 329 **P** **17 04 07.0 -0.3**
RAYN Ar Rayn 48.17 291 P **P** **17 04 15.4 -0.2**
GUMO Guam 48.84 82 LR LR 17 23 56.7
comp=Z,29nm,21.4s,baz=273,slow=35
AKTO Aktyubinsk 48.88 329 LR LR 17 26 29.6
comp=Z,88nm,21.9s,baz=252,slow=38
WB0 Warramunga Arr 50.04 128 **P** **17 04 29.5 -0.4**
WB0 IAmb IAmb 17 04 50.4
comp=Z,13nm,0.8s
WRA Warramunga Arr 50.10 129 P **P** **17 04 30.1 -0.2**
comp=Z,6.7nm,0.9s,baz=307,slow=8.4,SNR=31
WRA PcP **PcP** **17 05 50.5 +0.7**
comp=Z,1.3nm,0.7s,baz=293,slow=5.3,SNR=4.7
comp=Z,6.7nm,0.9s
WRAB Tennant Creek 50.10 129 P **P** **17 04 30.1 -0.3**
WRAB IAmb IAmb 17 05 02.0
comp=Z,10.0nm,0.8s
WR8 Warramunga Arr 50.23 129 **P** **17 04 30.2 -1.1**
WR8 IAmb IAmb 17 04 52.0
comp=Z,12nm,0.8s
ERM Erimo 51.69 45 P **P** **17 04 41.6 -0.4**
AS31 Alice Springs 52.01 133 P **P** **17 04 44.6 -0.1**
ASAR Alice Springs 52.01 133 P **P** **17 04 44.6 -0.1**
ASAR Alice Springs 52.01 133 P **P** **17 04 44.9 +0.2**
comp=Z,5.7nm,0.8s,baz=312,slow=6.8,SNR=55
comp=Z,5.7nm,0.8s
ASAJ Asahikawa 52.10 43 LR LR 17 27 42.5
comp=Z,59nm,20.2s,baz=256,slow=37
GNI Garni 52.24 312 **P** **17 04 46.9 +0.5**
GNI Garni 52.24 312 LR LR 17 29 36.8
comp=Z,55nm,20.6s,baz=123,slow=39
ARTI Arti 52.63 335 P **P** **17 04 48.6 -0.2**
ARTI IAmb IAmb 17 04 51.3
comp=Z,18nm,1.1s
ARTI Arti 52.63 335 LR LR 17 29 42.8
comp=Z,41nm,20.3s,baz=136,slow=39
GURO Guroymak-BITLI 53.80 309 P **P** **17 04 58.2 +0.4**
GURO IAmb IAmb 17 05 13.3
comp=Z,20nm,1.0s
KBZ Khabaz 54.70 316 P **P** **17 05 05.9 +1.8**
comp=Z,1.2nm,0.5s,baz=145,slow=3.2,SNR=2.7
comp=Z,1.2nm,0.5s
KIV Kislovodsk 54.92 316 **P** **17 05 05.5 -0.4**
YAK Yakutsk 56.12 19 P **P** **17 05 12.4 -1.6**
YAK IAmb IAmb 17 05 23.5
comp=Z,10nm,1.1s
YAK Yakutsk 56.12 19 LR LR 17 31 54.3
comp=Z,141nm,18.7s,baz=216,slow=39
ASF Jabal al Asfar 56.70 301 LR LR 17 33 59.9
comp=Z,47nm,18.1s,baz=133,slow=41
ARPR Arapgir-MALATY 56.73 309 P **P** **17 05 20.1 +1.1**
GAZ Gaziantep 57.21 307 P **P** **17 05 22.1 -0.3**
KIRV Kirov 57.78 334 LR LR 17 32 55.7
comp=Z,69nm,19.6s,baz=137,slow=39
MMAI Mount Meron Ar 58.06 302 LR LR 17 33 50.0
comp=Z,64nm,18.3s,baz=102,slow=40
EIL Elat 58.12 298 LR LR 17 34 03.2
comp=Z,51nm,18.1s,baz=104,slow=40
BR131 Keskin Array S 60.42 309 P **P** **17 05 44.4 -0.3**
BR131 IAmb IAmb 17 05 52.1
comp=Z,6.6nm,0.7s
BRTR Keskin Array B 60.42 309 **P** **17 05 44.1 -0.6**
BRTR Keskin Array B 60.42 309 P **P** **17 05 44.3 -0.5**
comp=Z,4.0nm,0.7s,baz=126,slow=7.7,SNR=27
comp=Z,4.0nm,0.7s
ANTO Ankara 61.09 309 P **P** **17 05 47.9 -1.3**
ANTO IAmb IAmb 17 06 03.7
comp=Z,25nm,1.6s
STKA Stephens Creek 62.38 136 P **P** **17 05 58.0 +0.1**
comp=Z,7.1nm,0.9s,baz=320,slow=13,SNR=9.2
STKA LR LR 17 34 44.5
comp=Z,54nm,19.9s,baz=321,slow=38
comp=Z,7.1nm,0.9s
SEY Seymchan 65.14 25 LR LR 17 35 50.5
comp=Z,76nm,19.8s,baz=244,slow=37
AKASG Malin Array Be 65.53 321 P **P** **17 06 16.9 -1.4**
AKASG Malin Array Be 65.53 321 P **P** **17 06 17.7 -0.6**
comp=Z,0.2nm,0.3s,baz=90,slow=5.0,SNR=8.6
comp=Z,0.2nm,0.3s
MLR Muntele Rosu 66.87 314 P **P** **17 06 27.8 +0.6**
MLR IAmb IAmb 17 06 42.1
comp=Z,17nm,1.2s
MLR Muntele Rosu 66.87 314 LR LR 17 38 52.4
comp=Z,67nm,21.7s,baz=100,slow=39
BURAR Bucovina Array 67.62 317 P **P** **17 06 32.0 +0.1**
BUR08 Bucovina Ar. S 67.64 317 P **P** **17 06 31.7 -0.3**
BUR08 IAmb IAmb 17 06 48.8
comp=Z,10nm,1.5s
PABE Paberze 69.52 325 **P** **17 06 42.1 -1.3**
FINES FINESS Array B 69.59 331 P **P** **17 06 43.6 -0.2**
comp=Z,4.1nm,0.8s,baz=89,slow=6.3,SNR=19
FINES LR LR 17 40 07.3
comp=Z,66nm,18.3s,baz=129,slow=38
comp=Z,4.1nm,0.8s
SUW Suwalki 69.75 323 P **P** **17 06 45.1 +0.2**
LSZ Lusaka 71.19 249 LR LR 17 33 53.6
comp=Z,50nm,20.1s,baz=120,slow=32
OJC Ojcow 71.43 319 P **P** **17 06 55.0 -0.2**
ARCES ARCESS Array B 71.84 340 P **P** **17 06 58.0 +0.6**
comp=Z,2.5nm,0.9s,baz=86,slow=3.9,SNR=4.8
ARCES LR LR 17 41 42.4
comp=Z,62nm,20.7s,baz=115,slow=38
comp=Z,2.5nm,0.9s
VYHS Vyhne 71.96 317 *e*P **P** **17 06 59.6 +1.1**
JAVC Velka Javorina 72.75 318 *e*P **P** **17 07 04.0 +0.8**
MORC Moravsky Berou 72.86 319 P **P** **17 07 04.4 +0.5**
MORC IAmb IAmb 17 07 06.5
comp=Z,9.6nm,1.2s
MORC Moravsky Berou 72.86 319 *e*P **P** **17 07 04.6 +0.7**
MODS Modra-Piesok 73.00 317 *e*P **P** **17 07 04.3 -0.4**
KRUC Moravsky 73.59 318 *e*P **P** **17 07 08.6 +0.5**
DPC Dobruska-Polom 73.67 319 *e*P **P** **17 07 10.9 +2.3**
CKRC Cesky Krumlov 74.97 318 *e*P **P** **17 07 16.7 +0.5**
ZVC Zvikov 75.04 318 *e*P **P** **17 07 17.9 +1.3**
BRG Berggiesshubel 75.18 320 *e*P **P** **17 07 18.7 +1.3**
BRG Amp 17 07 19.4
comp=Z,6.9nm,1.1s
BRG Berggiesshubel 75.18 320 P P 17 07 25.5 +8.1
BRG Amp 17 07 26.9
comp=Z,2.9nm,0.8s
GEC2 GERESS Array S 75.37 318 P **P** **17 07 18.8 +0.2**
GERES GERESS Array B 75.37 318 P **P** **17 07 18.6 0.0**
GERES GERESS Array B 75.37 318 P **P** **17 07 19.1 +0.5**
comp=Z,2.8nm,0.7s,baz=90,slow=5.3,SNR=24
comp=Z,2.8nm,0.7s
HFS Hagfors 75.43 329 P **P** **17 07 19.3 +0.7**
comp=Z,3.3nm,0.6s,baz=116,slow=6.8,SNR=14
HFS LR LR 17 45 01.4
comp=Z,67nm,18.2s,baz=96,slow=39
comp=Z,3.3nm,0.6s
KHC Kasperske Hory 75.44 318 *e*P **P** **17 07 19.5 +0.5**
KHC *e*PCP **PcP** **17 07 32.0 0.0**
CLL Collm 75.77 320 P **P** **17 07 20.4 -0.3**
CLL IAmb IAmb 17 07 23.6
comp=Z,13nm,1.5s
CLL Collm 75.77 320 *i* P **P** **17 07 21.6 +0.9**
comp=Z,9.0nm,1.3s
CLL *e*PP **PP** **17 10 11.0 +0.4**
SPITS Spitsbergen Ar 76.17 348 P **P** **17 07 22.9 +0.3**
comp=Z,12nm,1.0s,baz=106,slow=12,SNR=5.4
SPITS LR LR 17 48 21.3
comp=Z,78nm,18.6s,baz=106,slow=42
comp=Z,12nm,1.0s
NB2 NORSAR Subarra 76.67 330 P **P** **17 07 25.5 -0.2**
comp=Z,12nm,1.7s,baz=88,slow=5.6

NOA	**NORSAR Array B**	**76.67**	**330**	P		**P**	**17 07 25.6**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=90,slow=5.7,SNR=6.6							
NOA				LR		LR	17 44 07.6	
	comp=Z,25nm,21.8s,baz=105,slow=38							
	comp=Z,2.0nm,0.9s							
CTI	**Castel Tesino**	**76.87**	**315**	P		**P**	**17 07 27.5**	**+0.3**
CTI				IAmb		IAmb	17 07 28.8	
	comp=Z,6.8nm,0.9s							
BOSA	**Boshof**	**78.19**	**237**	P		**P**	**17 07 34.4**	**-0.5**
	comp=Z,2.8nm,0.9s,baz=137,slow=4.8,SNR=3.9							
	comp=Z,2.8nm,0.9s							
TUE	**Stuetta**	**78.44**	**315**	P		**P**	**17 07 36.4**	**+0.3**
KEST	**Kesra**	**79.55**	**304**	P		**P**	**17 07 43.0**	**+0.7**
	comp=Z,3.1nm,0.9s,baz=56,slow=7.3,SNR=3.5							
	comp=Z,3.1nm,0.9s							
BGES	**Gesves**	**80.84**	**320**	*d*P		**P**	**17 07 48.5**	**-0.3**
MAW	**Mawson**	**82.46**	**192**	P		**P**	**17 07 59.0**	**+2.2**
	comp=Z,5.7nm,1.0s,baz=22,slow=7.5,SNR=7.7							
	comp=Z,5.7nm,1.0s							
EKA	**Eskdalemuir Ar**	**84.89**	**325**	P		**P**	**17 08 10.5**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=73,slow=6.5,SNR=3.6							
	comp=Z,2.6nm,0.8s							
F20K	**Avaraart Lake**	**86.65**	**22**			**P**	**17 08 18.5**	**+0.3**
F20K				IAmb		IAmb	17 08 36.3	
	comp=Z,8.3nm,1.1s							
E21K	**Killik River**	**86.72**	**20**	P		**P**	**17 08 17.7**	**-0.8**
E21K				IAmb		IAmb	17 08 26.4	
	comp=Z,17nm,1.5s							
G21K	**Allakaket**	**87.67**	**22**	P		**P**	**17 08 22.8**	**-0.4**
G21K				IAmb		IAmb	17 08 41.8	
	comp=Z,6.6nm,0.9s							
IMAR	**Indian Mountai**	**87.81**	**22**	P		**P**	**17 08 22.9**	**-0.9**
H21K	**Melozitna Rive**	**88.30**	**23**	P		**P**	**17 08 26.1**	**0.0**
H21K				IAmb		IAmb	17 08 45.5	
	comp=Z,9.7nm,1.1s							
I21K	**Tanana**	**88.81**	**23**	P		**P**	**17 08 28.9**	**+0.3**
I21K				IAmb		IAmb	17 08 48.0	
	comp=Z,9.3nm,1.1s							
ESDC	**Sonseca Array**	**89.19**	**310**	P		**P**	**17 08 30.9**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=62,slow=4.2,SNR=7.0							
	comp=Z,0.5nm,0.8s							
MLY	**Manley**	**89.35**	**23**	P		**P**	**17 08 31.4**	**+0.2**
BPAW	**Bear Paw Mtn.**	**89.68**	**24**			**P**	**17 08 32.5**	**-0.2**
BPAW				IAmb		IAmb	17 09 07.3	
	comp=Z,12nm,1.2s							
BMAR	**Burnt Mountain**	**90.32**	**19**	P		**P**	**17 08 36.9**	**+1.2**
SKT	**Skwentna**	**90.40**	**26**	P		**P**	**17 08 35.7**	**-0.5**
SKT				IAmb		IAmb	17 08 52.6	
	comp=Z,6.9nm,1.0s							
ILAR	**Eielson Array**	**90.92**	**22**	P		**P**	**17 08 37.9**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=303,slow=5.6,SNR=4.0							
	comp=Z,0.2nm,0.4s							
M22K	**Willow**	**91.10**	**26**	P		**P**	**17 08 39.6**	**+0.3**
MDT	**Midelt**	**91.44**	**304**	LR		LR	17 55 10.5	
	comp=Z,24nm,18.2s,baz=36,slow=39							
RES	**Resolute Bay**	**93.50**	**3**	LR		LR	17 54 50.2	
	comp=Z,38nm,20.1s,baz=20,slow=38							
U56A	**King**	**131.92**	**355**	PKPpre		PKPpre	17 14 39.3	
TKL	**Tuckaleechee C**	**132.80**	**358**	PKPpre		PKPpre	17 14 35.8	
PTCN	**Pitcairn Islan**	**135.62**	**114**	PKPdf		**PKPdf**	**17 14 54.5**	**-1.5**
PLCA	**Paso Flores**	**148.40**	**202**	PKPbc		**PKPbc**	**17 15 21.0**	**-0.8**
	comp=Z,5.5nm,1.0s,baz=169,slow=5.5,SNR=5.2							
CPUP	**Villa Florida**	**150.01**	**237**	PKPbc		**PKPbc**	**17 15 25.6**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=54,slow=2.3,SNR=3.4							

IDC 17 16:56:23.9±2.6, 1°.02N×129°.44E, h0km, mb3.1/3, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=138.8km s-min=28.0km az=72.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.36**	**191**	P		P	17 00 50.8	-0.5
	0.1nm,0.3s,baz=3.4,slow=19,SNR=1.4							
	1.9nm,0.9s							
WRA	**Warramunga Arr**	**21.38**	**167**	P		P	17 01 11.9	-1.3
	0.5nm,0.8s,baz=351,slow=11,SNR=4.7							
	0.5nm,0.8s							
ASAR	**Alice Springs**	**24.92**	**170**	P		P	17 01 49.9	+1.0
	0.4nm,0.5s,baz=344,slow=9.9,SNR=12							
	0.4nm,0.5s							
MKAR	**Makanchi Array**	**61.31**	**325**	P		P	17 06 41.3	-0.1
	0.2nm,0.6s,baz=125,slow=9.0,SNR=1.7							
	0.2nm,0.6s							

*SOME **17** 17:05:07.9, 41°.35N×78°.72E, h0km*
*KRNET **17** 17:05:08.6±0.1, 41°.33N×78°.81E, mb2.6*
*NNC **17** 17:05:09.3±0.9, 41°.31N×78°.73E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=5.9km s-min=3.5km az=170.0*
ISC 17 17:05:09.8±2.0, 41°.32N±0°.08×78°.69E±0°.04, h10km±13km, n28, σ1°06/43, 10C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.18**	**350**	⇓*i*P		**Pb**	**17 05 31.4**	**-0.9**
PRZ				⇓*i*S		**Sn**	**17 05 47.9**	**-0.8**
KDJ	**Kajisay**	**1.39**	**306**	⇑*i*P		**Pb**	**17 05 35.5**	**-0.3**
KDJ				⇑*i*S		**Sg**	**17 05 55.2**	**+0.8**
SATY	**Saty**	**1.75**	**353**	P		**Pb**	**17 05 41.4**	**-0.5**
	3.9nm,0.3s							
SATY				S		**Sg**	**17 06 05.4**	**-0.5**
	16nm,0.3s							
SHLS	**Shalkode**	**1.92**	**17**	Pg		**Pg**	**17 05 46.8**	**+0.2**
	13nm,0.4s							
SHLS				Lg		Lg	17 06 15.2	
	22nm,0.7s							
SHLS	**Shalkode**	**1.92**	**17**	*e*P		**Pg**	**17 05 46.3**	**-0.3**
	13nm,0.3s							
SHLS				*e*S		**Sg**	**17 06 13.8**	**+2.2**
	11nm,0.0s							
NRN	**Naryn**	**2.02**	**274**	⇑*i*P		**Pb**	**17 05 46.7**	**-0.1**
NRN				⇑*i*S		**Sg**	**17 06 14.6**	**-0.2**
ULHL	**Ulahol**	**2.05**	**298**	⇑*e*P		**Pb**	**17 05 46.6**	**-0.5**
ULHL				⇑*i*S		**Sg**	**17 06 14.4**	**-1.2**
PDGK	**Podgornoye**	**2.09**	**16**	⇑Pg		**Pb**	**17 05 47.2**	**-0.7**
	3.2nm,0.3s							
PDGK				⇑Lg		Lg	17 06 14.8	
	13nm,0.6s							
TNSS	**Tian-Shan**	**2.15**	**324**	Pg		**Pb**	**17 05 49.5**	**+0.6**
	4.3nm,0.4s							
TNSS				Lg		Lg	17 06 19.3	
	3.7nm,0.4s							
TNSS	**Tian-Shan**	**2.15**	**324**	*e*P		**Pb**	**17 05 49.5**	**+0.6**
	4.3nm,0.2s							
TNSS				*e*S		**Sg**	**17 06 19.3**	**+0.5**
	4.5nm,0.3s							
KOTS	**Kotyrbulak**	**2.24**	**329**	Pg		**Pb**	**17 05 51.1**	**+0.7**
	4.2nm,0.4s							
KOTS				Lg		Lg	17 06 21.9	
	24nm,0.3s							
KOTS	**Kotyrbulak**	**2.24**	**329**	*e*P		**Pb**	**17 05 51.1**	**+0.7**
	4.2nm,0.4s							
KOTS				*e*S		**Sg**	**17 06 21.9**	**+0.2**
	24nm,0.3s							
IZV	**Izvestkoviy**	**2.30**	**319**	Pg		**Pb**	**17 05 52.1**	**+0.7**
	8.4nm,0.6s							
IZV				Lg		Lg	17 06 24.1	
	13nm,0.4s							
IZV	**Izvestkoviy**	**2.30**	**319**	*e*P		**Pb**	**17 05 52.1**	**+0.7**
	8.4nm,0.6s							
IZV				*e*S		**Sg**	**17 06 24.1**	**+0.4**
	13nm,0.4s							
BOOM	**Boomskoye usch**	**2.36**	**301**	⇓*i*P		**Pb**	**17 05 50.9**	**-1.5**
BOOM				⇓*i*S		**Sb**	**17 06 21.7**	**+0.1**
KTMS	**Ketmen**	**2.46**	**30**	Pg		**Pb**	**17 05 53.8**	**-0.3**
	3.6nm,0.3s							
KTMS				Lg		Lg	17 06 27.0	
	6.5nm,0.3s							
KTMS	**Ketmen**	**2.46**	**30**	*e*P		**Pb**	**17 05 53.8**	**-0.3**
	3.6nm,0.3s							
KTMS				*e*S		**Sg**	**17 06 27.0**	**-1.6**
	6.5nm,0.3s							
MTBS	**Maitube**	**2.46**	**318**	Pg		**Pb**	**17 05 54.7**	**+0.5**
	3.6nm,0.2s							
MTBS				Lg		Lg	17 06 28.1	
	4.5nm,0.3s							
MTBS	**Maitube**	**2.46**	**318**	*e*P		**Pb**	**17 05 54.7**	**+0.5**
	3.6nm,0.2s							
MTBS				*e*S		**Sg**	**17 06 28.1**	**-0.8**
	4.5nm,0.3s							
KST	**Kastek**	**2.65**	**311**	Pg		**Pb**	**17 05 58.2**	**+0.8**
	1.9nm,0.3s							
KST				Lg		Lg	17 06 34.2	
	17nm,0.5s							
KST	**Kastek**	**2.65**	**311**	*e*P		**Pb**	**17 05 58.2**	**+0.8**
	1.9nm,0.3s							
KST				*e*S		**Sg**	**17 06 34.2**	**-0.8**
	17nm,0.5s							
BLB	**Baldybastay**	**2.78**	**357**	Pg		**Pb**	**17 05 59.7**	**+0.2**
	11nm,0.3s							
BLB				Lg		Lg	17 06 37.2	
	24nm,0.7s							
KTBS	**Karatobe**	**2.81**	**329**	Pg		**Pb**	**17 06 00.6**	**+0.6**
	5.0nm,0.4s							
KTBS				Lg		Lg	17 06 38.6	
	19nm,0.3s							
CHKK	**Chushkaly**	**2.82**	**334**	Pg		**Pb**	**17 06 00.9**	**+0.7**
	3.4nm,0.8s							
CHKK				Lg		Lg	17 06 39.0	
	17nm,0.5s							
CHKK	**Chushkaly**	**2.82**	**334**	*e*P		**Pb**	**17 06 00.9**	**+0.7**
	3.4nm,0.8s							
CHKK				*e*S		**Sg**	**17 06 39.0**	**-1.4**
	17nm,0.5s							
DGS	**Degeres**	**2.89**	**313**	Pg		**Pb**	**17 06 01.9**	**+0.5**
	2.7nm,0.3s							
DGS				Lg		Lg	17 06 40.8	
	9.4nm,0.3s							
KNOS	**Konyrlen**	**3.06**	**7**	Pg		**Pb**	**17 06 04.3**	**0.0**
	1.5nm,0.1s							
KNOS				Lg		Lg	17 06 44.9	
	6.3nm,0.3s							
UCH	**Uchtor**	**3.25**	**288**	⇑*e*P		**Pn**	**17 06 03.5**	**+2.3**
UCH				⇑*i*S		**Sb**	**17 06 43.8**	**-3.7**

GCG 17 17:06:54.8±3.4, 16°.71N×95°.62W, h31km±483km, MD3.5, ML2.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HUIG	**Huatulco**	**1.04**	**207**	*i* P		Pn	17 07 13.4	0.0
HUIG				*e*S		Sb	17 07 27.5	-0.2
HUIG				IAML			17 07 30.3	
	comp=E,107nm,0.2s							
TGIG		**2.39**	**88**	*e*P		Pn	17 07 32.1	+0.1
TGIG				*e*S		Sn	17 07 59.4	-0.9
TGIG				IAML			17 08 08.9	
	comp=N,45nm,0.5s							
CCIG	**Comitan**	**3.37**	**97**	*e*S		Sn	17 08 25.8	+1.3

*SNET **17** 17:11:33.5±1.8, 12°.74N×88°.91W, h26km, ML3.1*
*GCG **17** 17:11:33.4±0.3, 12°.64N×89°.11W, h25km±3km, MD3.7*
ISC 17 17:11:32.5±4.0, 12°.7N±0°.2×88°.87W±0°.09, h28km±19km, n13, σ0°95/18, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LFRS	**El Faro**	**0.94**	**349**	*e*P		**Pb**	**17 11 51.2**	**+0.9**
PQSS	**Presa 15 de Se**	**0.97**	**18**	*e*P		**Pb**	**17 11 50.5**	**-0.2**
LOMA	**Loma Larga**	**0.99**	**343**	*e*P		**Pn**	**17 11 50.6**	**0.0**
JAYA	**Jayaque - finc**	**1.11**	**330**	*e*P		**Pn**	**17 11 52.3**	**0.0**
JAYA				*e*S		**Sb**	**17 12 08.3**	**+1.0**
JAYA	**Jayaque - finc**	**1.11**	**330**	*e*P		**Pn**	**17 11 52.2**	**0.0**
JAYA				*e*S		**Sb**	**17 12 07.0**	**-0.3**
BOQS	**Boqueron**	**1.11**	**339**	*e*P		**Pb**	**17 11 53.0**	**-0.3**
LCND	**La Caada**	**1.14**	**57**	*e*S		**Sb**	**17 12 07.6**	**-0.2**
CNCH	**Conchagua**	**1.17**	**60**	*e*P		**Pb**	**17 11 54.0**	**0.0**
CEVE	**Cerro Verde**	**1.35**	**327**	*e*P		**Pn**	**17 11 56.2**	**+0.6**
CEVE				*e*S		**Sb**	**17 12 16.0**	**+1.8**
NUBE	**Las Nubes**	**1.50**	**324**	*e*P		**Pn**	**17 11 57.5**	**-0.1**
NUBE				*e*S		**Sn**	**17 12 16.8**	**+0.6**
NUBE	**Las Nubes**	**1.50**	**324**	*e*P		**Pn**	**17 11 57.9**	**+0.3**
NUBE				*e*S		**Sb**	**17 12 17.0**	**-1.3**
MTO3	**Montecristo**	**1.76**	**344**	*e*P		**Pb**	**17 12 02.5**	**-1.8**
MTO3	**Montecristo**	**1.76**	**344**	*e*P		**Pb**	**17 12 03.0**	**-1.3**

*SLM **17** 17:12:11.4±0.7, 36°.447N±0°.009×89°.54W±0°.01, h9km±2km, Error ellipse: s-maj=1.5km s-min=1.3km az=116.0*
NEIC 17 17:12:12.0±1.2, 36°.468N±0°.004×89°.55W±0°.01, h5km±1km, mb_Lg2.0/18, ML2.3/22, Md2.5/39(SLM), Error ellipse: s-maj=2.6km s-min=1.6km az=116.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PENMO	**Penman**	**0.06**	**254**			Pg	17 12 13.7	+0.3
PENMO						Sg	17 12 15.9	+1.4
PPLM	**Point Pleasant**	**0.07**	**201**			Pg	17 12 13.5	0.0
PPLM						Sg	17 12 15.5	+0.9
WALK	**Watson Lake**	**0.07**	**6**			Pg	17 12 14.1	+0.5
WALK						Sg	17 12 16.4	+1.6
POBM	**Portage Bay**	**0.11**	**236**			Pg	17 12 14.2	0.0
POBM						Sg	17 12 16.8	+1.1
MARMO	**Marston**	**0.11**	**304**			Pg	17 12 14.8	+0.4
MARMO						Sg	17 12 17.6	+1.7
NMMO	**New Madrid**	**0.12**	**0**			Pg	17 12 14.9	+0.4
NMMO						Sg	17 12 17.7	+1.6
WYBT	**Wynnburg**	**0.13**	**160**			Pg	17 12 14.1	-0.5
WYBT						Sg	17 12 16.6	+0.3
PVMO	**Portageville**	**0.13**	**246**	Pg		Pg	17 12 14.4	-0.2
PVMO	**Portageville**	**0.13**	**246**			Sg	17 12 17.5	+1.1
PGVM	**Portageville**	**0.14**	**267**			Sg	17 12 15.0	+0.2
PGVM						Sg	17 12 18.0	+1.2
CATM	**Catron**	**0.16**	**332**			Pg	17 12 15.7	+0.4
CATM						Sg	17 12 19.0	+1.5
SJMO	**Saint John's B**	**0.17**	**21**			Pg	17 12 15.7	+0.2
SJMO						Sg	17 12 19.0	+1.3
FLPT	**Flippin**	**0.20**	**107**			Pg	17 12 15.4	-0.5
FLPT						Sg	17 12 18.6	+0.2
WADM	**Wardell**	**0.22**	**243**			Pg	17 12 16.1	-0.1
WADM						Sg	17 12 20.1	+0.9
KEWM	**Kewanee**	**0.23**	**352**			Pg	17 12 16.7	+0.2
KEWM						Sg	17 12 20.8	+1.2
PARMO	**Parma**	**0.25**	**321**			Pg	17 12 17.1	+0.2
PARMO						Sg	17 12 21.7	+1.4
PARMO	**Parma**	**0.25**	**321**	IAML			17 12 21.8	
	comp=N,379nm,0.3s							
PARMO				IAML			17 12 21.9	
	comp=E,375nm,0.2s							
HENM	**Henderson Moun**	**0.26**	**15**			Pg	17 12 17.2	+0.2
HENM						Sg	17 12 21.4	+1.0
HICK	**Hickman**	**0.27**	**74**			Pg	17 12 16.8	-0.5
HICK				IAML			17 12 25.4	
	comp=N,428nm,0.2s							
HICK	**Hickman**	**0.27**	**74**			Sg	17 12 21.3	+0.4
TOPM	**Tallapoosa**	**0.28**	**282**			Pg	17 12 17.4	0.0
TOPM						Sg	17 12 22.0	+1.0
COKM	**Charter Oak**	**0.28**	**330**			Pg	17 12 17.7	+0.3
COKM						Sg	17 12 22.4	+1.3
GLAT	**Glass**	**0.29**	**133**			Pg	17 12 16.9	-0.7
GLAT	**Glass**	**0.29**	**133**			Sg	17 12 21.5	0.0
MIST	**Miston**	**0.30**	**172**			Pg	17 12 17.1	-0.7
MIST						Sg	17 12 21.6	-0.1
DWDM	**Dogwood**	**0.33**	**8**			Pg	17 12 18.6	+0.1
MLDM	**Malden**	**0.34**	**298**			Pg	17 12 18.5	0.0
BRGM	**Braggadocio**	**0.36**	**223**			Pg	17 12 18.5	-0.4
LNXT	**Lenox**	**0.37**	**172**			Pg	17 12 18.4	-0.7
LNXT	**Lenox**	**0.37**	**172**	IAML			17 12 28.0	
	comp=E,215nm,0.4s							
LNXT				IAML			17 12 28.7	
	comp=N,153nm,0.3s							
PEBM	**Pemiscott Bayo**	**0.43**	**215**			Pg	17 12 19.9	-0.5
PEBM						Sg	17 12 26.3	+0.3
PEBM	**Pemiscott Bayo**	**0.43**	**215**	IAML			17 12 28.4	
	comp=E,162nm,0.8s							
PEBM				IAML			17 12 31.2	
	comp=N,139nm,0.7s							
HALT	**Halls**	**0.58**	**163**			Pg	17 12 22.9	-0.2
GNAR	**Gosnell**	**0.63**	**217**			Pg	17 12 23.5	-0.5
GNAR				IAML			17 12 32.9	
	comp=N,194nm,0.7s							
GNAR				IAML			17 12 34.9	
	comp=E,185nm,0.8s							
PBMO	**Poplar Bluff**	**0.77**	**294**			Sg	17 12 35.4	-1.4
PBMO				IAML			17 12 37.0	
	comp=N,127nm,0.3s							
PBMO	**Poplar Bluff**	**0.77**	**294**	Pg		Pg	17 12 25.2	-1.5
PBMO	**Poplar Bluff**	**0.77**	**294**			Pg	17 12 26.1	-0.7
CGM3	**Cape Girardeau**	**0.83**	**354**			Pg	17 12 27.8	-0.2
CGM3	**Cape Girardeau**	**0.83**	**354**	IAML			17 12 46.2	
	comp=E,140nm,0.2s							
CGM3				IAML			17 12 46.5	
	comp=N,119nm,0.2s							
LPAR	**Lepanto**	**1.05**	**215**			Pg	17 12 30.8	-1.4
SIUC	**Southern Illin**	**1.27**	**12**			Pg	17 12 33.2	-3.2
SIUC	**Southern Illin**	**1.27**	**12**	IAML			17 12 54.1	
	comp=E,54nm,0.1s							
SIUC				IAML			17 12 54.4	
	comp=N,72nm,0.1s							
LCAR	**Lake Charles**	**1.35**	**253**			Pn	17 12 35.8	-1.8
WVT	**Waverly**	**1.43**	**103**			Pn	17 12 37.0	-1.6
PWLA	**Pickwick Lake**	**1.92**	**140**			Pn	17 12 43.4	-1.9
CCM	**Cathedral Cave**	**2.08**	**320**	IAmb_Lg			17 13 21.6	
	comp=Z,5.9nm,0.7s							
FCAR	**Ozark Folk Cen**	**2.16**	**255**			Pb	17 12 50.4	-1.2
MGMO	**Mountain Grove**	**2.29**	**288**	IAmb_Lg			17 13 30.6	
	comp=Z,5.2nm,0.9s							
WHAR	**Wooly Hollow**	**2.51**	**243**	IAmb_Lg			17 13 30.1	
	comp=Z,8.0nm,0.8s							
U49A	**Red Boiling Sp**	**3.04**	**88**	IAmb_Lg			17 13 56.1	
	comp=Z,3.1nm,0.9s							
Y49A	**Blount Mountai**	**3.66**	**134**	IAmb_Lg			17 14 07.9	
	comp=Z,5.2nm,0.9s							
W50A	**Signal Mountai**	**3.67**	**109**	IAmb_Lg			17 14 06.1	
	comp=Z,5.0nm,0.7s							
FPAL	**Fort Paine**	**3.75**	**120**	IAmb_Lg			17 14 15.1	
	comp=Z,2.3nm,0.9s							
MIAR	**Mount Ida**	**3.80**	**241**	IAmb_Lg			17 14 18.2	
	comp=Z,3.1nm,1.0s							
GMG	**Grassy Mountai**	**4.29**	**111**			Pn	17 13 21.3	+3.4
CCRT	**Cow Camps Rge**	**4.57**	**101**			Pn	17 13 19.5	-2.4
TKL	**Tuckaleechee C**	**4.75**	**98**	IAmb_Lg			17 14 42.2	
	comp=Z,3.2nm,0.7s							
BRAL	**Brewton**	**5.68**	**158**			Pn	17 13 30.0	-7.0
JFWS	**Jewell Farm**	**6.46**	**355**	IAmb_Lg			17 15 52.2	
	comp=Z,4.7nm,0.8s							
JSC	**Jenkinsville**	**7.12**	**105**			Pn	17 13 58.7	+1.9

*IDC **17** 17:20:46.0±1.0, 0°.28N×126°.11E, h0km, mb3.6/6, mbtmp3.7/7, ML3.3/1, Error ellipse: s-maj=60.9km s-min=18.2km az=73.0*
ISC 17 17:20:51.9±1.0, 0°.2N±0°.1×126°.2E±0°.4, h44km, n7, σ0°47/7, mb3.6/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.23**	**182**	P		**P**	**17 25 01.6**	**0.0**
	0.1nm,0.3s,baz=346,slow=12,SNR=1.5							
	3.7nm,1.2s							
WRA	**Warramunga Arr**	**21.59**	**159**	P		**P**	**17 25 37.6**	**-0.6**
	1.9nm,0.6s,baz=336,slow=11,SNR=16							
	1.9nm,0.6s							
ASAR	**Alice Springs**	**24.92**	**163**	P		**P**	**17 26 11.9**	**+0.7**
	0.5nm,0.5s,baz=343,slow=12,SNR=21							
	0.5nm,0.5s							
SONM	**Songino Array**	**50.43**	**343**	P		**P**	**17 29 45.2**	**0.0**
	0.3nm,0.5s,baz=161,slow=9.2,SNR=1.3							
	0.3nm,0.5s							
PETK	**Petropavlovsk-**	**58.85**	**22**	P		**P**	**17 30 46.1**	**0.0**
	1.7nm,0.8s,baz=231,slow=8.4,SNR=2.5							
	1.7nm,0.8s							
MKAR	**Makanchi Array**	**60.12**	**327**	P		**P**	**17 30 54.8**	**-0.2**
	0.6nm,0.6s,baz=116,slow=8.2,SNR=8.7							
	0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**64.39**	**329**	P		**P**	**17 31 23.5**	**+0.1**
	0.2nm,0.4s,baz=128,slow=6.3,SNR=5.2							
	0.2nm,0.4s							

*NEIC **17** 17:38:36.4±1.7, 16°.07N±0°.05×98°.77W±0°.03, h10km±1km, mb4.6/10, Md4.3/94(MEX), Error ellipse: s-maj=8.1km s-min=3.6km az=196.0*
*MEX **17** 17:38:39.0±0.5, 15°.98N×98°.78W, h17km±269km, MD4.3*
ISC 17 17:38:34.3±2.9, 15°.99N±0°.04×98°.77W±0°.03, h9km±20km, n97, σ2°08/171, mb4.4/5, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.74**	**57**			**Pb**	**17 38 51.1**	**+1.7**
PNIG						**Sb**	**17 38 59.7**	**+0.1**
PNIG	**Pinotepa**	**0.74**	**57**	*e*P		**Pb**	**17 38 51.1**	**+1.7**
PNIG				*e*S		**Sb**	**17 38 59.7**	**+0.1**
CRIG	**Cruz Grande**	**0.82**	**335**			**Pb**	**17 38 51.9**	**+1.2**
CRIG						**Sb**	**17 39 01.7**	**-0.1**
CRIG	**Cruz Grande**	**0.82**	**335**	*e*P		**Pb**	**17 38 51.9**	**+1.2**
CRIG				*e*S		**Sb**	**17 39 01.7**	**-0.1**
MGIG	**Malinaltepec**	**1.24**	**6**			**Pb**	**17 38 58.4**	**+0.3**
MGIG						**Sb**	**17 39 13.7**	**-0.7**
MGIG	**Malinaltepec**	**1.24**	**6**	*e*P		**Pb**	**17 38 58.4**	**+0.3**
MGIG				*e*S		**Sb**	**17 39 13.7**	**-0.7**
DAIG	**Los Arroyos**	**1.32**	**321**			**Pn**	**17 38 59.8**	**+0.7**
DAIG						**Sb**	**17 39 15.7**	**-0.9**
DAIG	**Los Arroyos**	**1.32**	**321**	*e*P		**Pn**	**17 38 59.8**	**+0.7**
DAIG				*e*S		**Sb**	**17 39 15.7**	**-0.9**
YOIG	**Yosondua**	**1.46**	**54**			**Pn**	**17 39 02.2**	**+1.0**
YOIG						**Sb**	**17 39 20.4**	**-0.2**
YOIG	**Yosondua**	**1.46**	**54**	*e*P		**Pn**	**17 39 02.2**	**+1.0**
YOIG				*e*S		**Sb**	**17 39 20.4**	**-0.2**
PEIG	**Puerto Escondi**	**1.56**	**90**			**Pn**	**17 39 04.1**	**+1.8**
PEIG						**Sn**	**17 39 22.5**	**-0.3**
PEIG	**Puerto Escondi**	**1.56**	**90**	*e*P		**Pn**	**17 39 04.1**	**+1.8**
PEIG				*e*S		**Sn**	**17 39 22.5**	**-0.3**

PPIG					Sn	17 40 00.4	0.0
PPM	**Popocatepetl**	**3.06**	**3**	*eP*	**Pn**	**17 39 22.4**	**-1.0**
PPM				*eS*	**Sn**	**17 40 00.4**	**0.0**
AMVM	**AMECAMECA**	**3.12**	**360**		**Sn**	**17 40 03.6**	**+2.0**
AMVM	**AMECAMECA**	**3.12**	**360**	*eS*	**Sn**	**17 40 03.6**	**+2.0**
MPVM	**San Francisco**	**3.20**	**356**		**Pb**	**17 39 33.0**	**+1.5**
MPVM					**Sn**	**17 40 06.7**	**+3.2**
MPVM	**San Francisco**	**3.20**	**356**	*eP*	**Pb**	**17 39 33.0**	**+1.5**
MPVM				*eS*	**Sn**	**17 40 06.7**	**+3.2**
TLVM	**San Miguel Top**	**3.22**	**354**		**Pb**	**17 39 32.0**	**0.0**
TLVM					**Sn**	**17 40 03.9**	**-0.2**
TLVM	**San Miguel Top**	**3.22**	**354**	*eP*	**Pb**	**17 39 32.0**	**0.0**
TLVM				*eS*	**Sn**	**17 40 03.9**	**-0.2**
AOVM	**Tlapan**	**3.30**	**351**		**Pb**	**17 39 34.0**	**+0.7**
AOVM					**Sn**	**17 40 07.6**	**+1.3**
AOVM	**Tlapan**	**3.30**	**351**	*eP*	**Pb**	**17 39 34.0**	**+0.7**
AOVM				*eS*	**Sn**	**17 40 07.6**	**+1.3**
THVM	**De Xico**	**3.31**	**357**		**Pb**	**17 39 34.5**	**+1.2**
THVM					**Sn**	**17 40 06.2**	**0.0**
THVM	**De Xico**	**3.31**	**357**	*eP*	**Pb**	**17 39 34.5**	**+1.2**
THVM				*eS*	**Sn**	**17 40 06.2**	**0.0**
NEUV	**Arroyo Zacate**	**3.32**	**59**		**Pn**	**17 39 28.6**	**+2.1**
NEUV					**Sn**	**17 40 03.6**	**-2.5**
NEUV	**Arroyo Zacate**	**3.32**	**59**	*eP*	**Pn**	**17 39 28.6**	**+2.1**
NEUV				*eS*	**Sn**	**17 40 03.6**	**-2.5**
CNCY	**Coyoacan**	**3.33**	**353**	*eS*	**Sn**	**17 40 06.3**	**-0.4**
UNM	**Universidad Na**	**3.34**	**353**	Pn	**Pn**	**17 39 27.1**	**0.0**
UNM	**Universidad Na**	**3.34**	**353**	*eS*	**Sn**	**17 40 09.1**	**+2.1**
POHV	**Veracruz**	**3.38**	**25**		**Pn**	**17 39 28.8**	**+1.1**
POHV					**Sn**	**17 40 10.4**	**+2.1**
POHV	**Veracruz**	**3.38**	**25**	*eP*	**Pn**	**17 39 28.8**	**+1.1**
POHV				*eS*	**Sn**	**17 40 10.4**	**+2.1**
CJVM	**Cuajimalpa**	**3.39**	**352**		**Sn**	**17 40 02.9**	**-5.3**
CJVM	**Cuajimalpa**	**3.39**	**352**	*eS*	**Sn**	**17 40 02.9**	**-5.3**
AZVM	**Cuida Lopez Ma**	**3.61**	**352**		**Pb**	**17 39 36.3**	**-2.2**
AZVM					**Sn**	**17 40 14.8**	**+1.2**
AZVM	**Cuida Lopez Ma**	**3.61**	**352**	*eP*	**Pb**	**17 39 36.3**	**-2.2**
AZVM				*eS*	**Sn**	**17 40 14.8**	**+1.2**
VTVM	**Tizayuca**	**3.76**	**360**		**Pb**	**17 39 39.6**	**-1.5**
VTVM					**Sn**	**17 40 18.5**	**+1.2**
VTVM	**Tizayuca**	**3.76**	**360**	*eP*	**Pb**	**17 39 39.6**	**-1.5**
VTVM				*eS*	**Sn**	**17 40 18.5**	**+1.2**
ZUVM	**ZUMPANGO**	**3.83**	**356**		**Sn**	**17 40 16.5**	**-2.5**
ZUVM	**ZUMPANGO**	**3.83**	**356**	*eS*	**Sn**	**17 40 16.5**	**-2.5**
JAUV	**Jalcomulco**	**3.85**	**29**		**Pn**	**17 39 34.6**	**+0.8**
JAUV					**Sn**	**17 40 17.4**	**-1.8**
JAUV	**Jalcomulco**	**3.85**	**29**	*eP*	**Pn**	**17 39 34.6**	**+0.8**
JAUV				*eS*	**Sn**	**17 40 17.4**	**-1.8**
ATVM	**ATLACOMULCO**	**3.88**	**345**		**Sn**	**17 40 16.1**	**-4.4**
ATVM	**ATLACOMULCO**	**3.88**	**345**	*eS*	**Sn**	**17 40 16.1**	**-4.4**
CMIG	**Matias Romero**	**3.89**	**73**		**Pn**	**17 39 35.7**	**+1.4**
CMIG					**Sn**	**17 40 18.7**	**-1.4**
CMIG	**Matias Romero**	**3.89**	**73**	*eP*	**Pn**	**17 39 35.7**	**+1.4**
CMIG				*eS*	**Sn**	**17 40 18.7**	**-1.4**
ACIG	**Acambay**	**4.10**	**345**		**Pn**	**17 39 40.9**	**+3.5**
ACIG					**Sn**	**17 40 23.4**	**-2.4**
ACIG	**Acambay**	**4.10**	**345**	*eP*	**Pn**	**17 39 40.9**	**+3.5**
ACIG				*eS*	**Sn**	**17 40 23.4**	**-2.4**
DHIG	**Demacu**	**4.29**	**357**		**Pn**	**17 39 43.8**	**+3.6**
DHIG					**Sn**	**17 40 32.3**	**+1.9**
DEIG	**Demacu**	**4.29**	**357**	*eP*	**Pn**	**17 39 43.8**	**+3.6**
DEIG				*eS*	**Sn**	**17 40 32.3**	**+1.8**
CXUV	**Coxquihui**	**4.31**	**15**		**Pb**	**17 39 48.1**	**-2.3**
CXUV					**Sn**	**17 40 35.1**	**+4.5**
CXUV	**Coxquihui**	**4.31**	**15**	*eP*	**Pb**	**17 39 48.1**	**-2.3**
CXUV				*eS*	**Sn**	**17 40 35.1**	**+4.5**
MOIG	**Morelia**	**4.33**	**328**	Pn	**Pn**	**17 39 42.4**	**+1.8**
MOIG					**Pb**	**17 39 51.8**	**+1.0**
LVIG	**Laguna Verde**	**4.34**	**31**	*eP*	**Pb**	**17 39 46.8**	**-4.0**
LVIG				*eS*	**Sn**	**17 40 35.6**	**+4.4**
JRQG	**Juriquilla Cam**	**4.95**	**342**	Pn	**Pn**	**17 39 49.4**	**+0.2**
CTUV	**Llano Grande**	**5.47**	**4**		Pb	17 40 04.0	-6.0
CTUV					**Sn**	**17 41 05.7**	**+6.6**
CTUV	**Llano Grande**	**5.47**	**4**	*eP*	Pb	17 40 04.0	-6.0
CTUV				*eS*	**Sn**	**17 41 05.7**	**+6.6**
PETF	**Flores**	**8.60**	**83**	Pn	**Pn**	**17 40 41.2**	**+2.2**
VHRN	**Van Horn**	**15.79**	**340**		**P**	**17 42 21.1**	**+0.1**
FW14	**Alvarado**	**16.40**	**5**		**Pn**	**17 42 22.5**	**-2.3**
FW14				IAmb	IAmb	17 42 23.6	
	comp=Z,65nm,0.6s						
R40A	**Maddies Statio**	**22.94**	**13**	P	**P**	**17 43 39.5**	**+0.7**
CPCT	**Cooper Cave**	**23.19**	**31**		**P**	**17 43 41.5**	**0.0**
CPCT				IAmb	IAmb	17 43 47.2	
	comp=Z,5.9nm,1.1s						
W52A	**Murphy**	**23.21**	**32**	P	**P**	**17 43 46.8**	**+5.1**
HODGE	**Hodges**	**23.47**	**36**	P	**P**	**17 43 40.7**	**-3.6**
HODGE				IAmb	IAmb	17 43 43.5	
	comp=Z,15nm,1.2s						
PV03	**Paradox Valley**	**23.89**	**340**	P	**P**	**17 43 46.5**	**-2.2**
PV03				IAmb	IAmb	17 43 47.4	
	comp=Z,5.7nm,0.9s						
MCWV	**Mont Chateau**	**28.79**	**31**	P	**P**	**17 44 31.6**	**-1.1**
MCWV				IAmb	IAmb	17 44 33.7	
	comp=Z,15nm,0.4s						
YNE	**Yellowstone No**	**30.44**	**344**	P	**P**	**17 44 50.0**	**+2.5**
YNE				IAmb	IAmb	17 44 55.8	
	comp=Z,12nm,1.0s						

BGSI **17** *17:43:26.0±1.5,25°.76S×29°.12E, h362km±58km, ML2.8*
PRE **17** *17:43:27.4±1.3,25°.95S×29°.27E, h0km, ML2.2, Suspected explosion*
IDC **17** *17:43:27.8±8.1,25°.64S×28°.46E, h0km, mbtmp2.6/1, ML2.1/1, Error ellipse: s-maj=91.8km s-min=55.6km az=133.0*

ISC 17 17:43:26.7±0.8,**25°.97S**±0°.03×**29°.23E**±0°.03,**h0**km,**n18,** σ1§**76**/32,**South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**0.71**	**93**	*eP*	**Pg**	**17 43 40.2**	**-0.1**
CRLN				*eS*	**Sg**	**17 43 49.9**	**+0.3**
CRLN				IAML		17 43 58.3	
	comp=Z,66nm,0.7s						
HRAO	**HartRAO**	**1.40**	**273**	*eP*	**Pg**	**17 43 54.0**	**+0.4**
HRAO				*eS*	**Sn**	**17 44 14.5**	**+1.7**
HRAO				IAML		17 44 15.5	
	comp=Z,35nm,0.6s						
PILG	**Pilgrimsrest,**	**1.68**	**53**	*eP*	**Pn**	**17 43 58.6**	**+0.9**
PILG				*eS*	**Sn**	**17 44 20.6**	**+0.5**
PILG				IAML		17 44 23.0	
	comp=Z,79nm,0.4s						
PRYS	**Parys**	**1.93**	**240**	*eP*	**Pn**	**17 44 02.0**	**+1.0**
PRYS				*eS*	**Sb**	**17 44 28.2**	**+0.5**
PRYS				IAML		17 44 28.8	
	comp=Z,28nm,0.4s						
LEPH	**Lephalale, Lim**	**2.47**	**328**	*eP*	**Pn**	**17 44 09.3**	**+0.9**
LEPH				*eS*	**Sn**	**17 44 40.5**	**+1.1**
LEPH				IAML		17 44 45.1	
	comp=Z,31nm,0.3s						
POGA	**Pongola**	**2.60**	**122**	*eP*	**Pn**	**17 44 11.1**	**+1.0**
POGA				*eS*	**Sn**	**17 44 43.3**	**+0.8**
POGA				IAML		17 44 52.8	
	comp=Z,19nm,0.4s						
MOPA	**Mopani**	**3.13**	**39**	*eP*	**Pn**	**17 44 17.7**	**+0.3**
MOPA				*eS*	**Sn**	**17 44 56.0**	**+0.5**
MOPA				IAML		17 45 10.4	
	comp=Z,24nm,0.4s						
LBTB	**Lobatse**	**3.42**	**285**	*eP*	**Pn**	**17 44 23.6**	**+2.1**
LBTB				*eS*	**Sn**	**17 45 05.0**	**+2.2**
LBTB				IAML		17 45 13.0	
	comp=Z,12nm,0.4s						
MUSN	**Musina, Limpop**	**3.71**	**9**	*eP*	**Pn**	**17 44 27.2**	**+1.9**
MUSN				*eS*	**Sn**	**17 45 10.2**	**+0.5**
MUSN				IAML		17 45 28.4	
	comp=Z,14nm,0.4s						
PMBG	**Pietermaritzbu**	**3.71**	**163**	*eP*	**Pn**	**17 44 27.8**	**+2.4**
PMBG				*eS*	**Sn**	**17 45 09.7**	**-0.1**
PMBG				IAML		17 45 32.9	
	comp=Z,5.1nm,0.4s						
MREMI	**Moremi**	**3.75**	**334**	*i* P	**Pn**	**17 44 30.0**	**+4.0**
MREMI				*i* S	**Sb**	**17 45 19.0**	**-1.1**
MREMI				IAML		17 45 28.1	
	comp=N,102nm,0.3s						
MAKGR	**Makgori**	**4.00**	**271**	*i* P	**Pb**	**17 44 35.5**	**-2.7**
MAKGR				*i* S	**Sb**	**17 45 24.5**	**-2.6**
MAKGR				IAML		17 45 34.1	
	comp=N,58nm,0.4s						
BOSA	**Boshof**	**4.42**	**232**	Pn	**Pn**	**17 44 31.7**	**-3.4**
	comp=N,0.1nm,0.3s,baz=41,slow=9.3,SNR=1.2						
BOSA				Pg	**Pb**	**17 44 43.5**	**-1.7**
	comp=N,0.4nm,0.3s,baz=42,slow=16,SNR=8.5						
BOSA				Lg	Lg	17 45 38.6	
	comp=N,1.9nm,0.3s,baz=156,slow=20,SNR=12						
	comp=N,1.6nm,1.0s						
BOSA	**Boshof**	**4.42**	**232**	*eP*	**Pn**	**17 44 37.9**	**+2.7**
BOSA				*eS*	**Sn**	**17 45 28.4**	**+1.1**
BOSA				IAML		17 45 42.8	
	comp=Z,5.5nm,0.3s						
I47ZA	**BOSHOF INFRASO**	**4.43**	**232**	I	I	18 09 10.0	
	baz=43,slow=302,SNR=1.5						
KSTD	**Kokstad**	**4.63**	**179**	*eP*	**Pn**	**17 44 40.5**	**+2.2**
KSTD				*eS*	**Sn**	**17 45 33.9**	**+1.0**
KSTD				IAML		17 45 51.6	
	comp=Z,3.7nm,0.4s						
BROLN	**Tlhalogang**	**5.15**	**340**	*i* P	**Pn**	**17 44 45.1**	**-0.1**
BROLN				*i* S	**Sn**	**17 45 44.3**	**-1.1**
BROLN				IAML		17 46 10.6	
	comp=N,2.8nm,0.4s						
I35NA	**TSUMEB INFRASO**	**12.70**	**300**	I	I	19 00 10.0	
	baz=126,slow=314,SNR=2.2						

IDC **17** *17:58:27.0±2.2,16°.08N×119°.72E, h130km±22km, mb3.4/7, mbtmp3.8/10, MS2.9/1, Error ellipse: s-maj=27.7km s-min=13.9km az=68.0*

ISC 17 17:58:28.0±0.8,**16°.1N**±0°.1×**119°.7E**±0°.2,**h150**km,**n11,** σ1§**53**/10,**mb3.6/7,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.27**	**148**	P	**Pn**	**17 59 04.2**	**-2.3**
	212nm,0.3s,baz=338,slow=5.4,SNR=5.1						
DAV	**Davao City (W)**	**10.62**	**147**	LR	LR	18 06 21.3	
	comp=Z,61nm,20.5s,baz=26,slow=45						
JNU	**Nakatsue**	**19.78**	**29**	P	**Pn**	**18 02 48.3**	**-1.3**
	4.0nm,0.8s,baz=209,slow=19,SNR=2.5						
CMAR	**Chiang Mai Arr**	**19.97**	**280**	P	**Pn**	**18 02 50.7**	**-1.3**
	1.0nm,0.7s,baz=90,slow=8.2,SNR=9.4						
SONM	**Songino Array**	**33.54**	**344**	P	**P**	**18 04 52.4**	**-1.1**
	0.2nm,0.4s,baz=137,slow=9.5,SNR=1.9						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**38.55**	**158**	P	**P**	**18 05 37.0**	**+0.7**
	0.9nm,0.6s,baz=340,slow=9.1,SNR=11						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**41.84**	**160**	P	**P**	**18 06 04.8**	**+1.5**
	1.0nm,0.6s,baz=336,slow=7.0,SNR=24						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**43.58**	**323**	P	**P**	**18 06 17.6**	**+0.4**
	0.5nm,0.9s,baz=134,slow=8.8,SNR=4.4						
	0.5nm,0.9s						
PETK	**Petropavlovsk-**	**47.47**	**30**	P	**P**	**18 06 48.7**	**+1.2**
	1.6nm,0.9s,baz=263,slow=8.0,SNR=1.4						
	1.6nm,0.9s						
STKA	**Stephens Creek**	**52.08**	**156**	P	**P**	**18 07 23.6**	**+1.1**
	1.4nm,0.6s,baz=330,slow=7.0,SNR=6.2						
	1.4nm,0.6s						
FINES	**FINESS Array B**	**77.78**	**331**	P	**P**	**18 10 09.3**	**+1.0**
	0.6nm,0.6s,baz=60,slow=7.7,SNR=4.7						
	0.6nm,0.6s						

IDC **17** *18:02:47.8±1.2, 17°.92S×177°.94W, h568km±12km, mb3.9/20, mbtmp4.8/22, Error ellipse: s-maj=11.9km s-min=9.5km az=100.0*
NEIC **17** *18:02:48.8±1.8, 17°.90S±0°.09×177°.92W±0°.07, h579km±7km, mb4.6/247, Error ellipse: s-maj=16.1km s-min=2.7km az=147.0*
NOU **17** *18:02:48.5, 18°.03S×177°.81W, h586km, mb4.9/92, Fiji Islands Region*
ANF **17** *18:02:59.2±0.6, 16°.62S×178°.16W, h650km, Mb4.6/107, Error ellipse: s-maj=16.6km s-min=13.3km az=55.0*

ISC 17 18:02:49.2±0.3,**18°.04S**±0°.05×**177°.92W**±0°.05,**h590**km, **n782,** σ1§**12**/703,**mb4.6**/187,**54C-26D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.72**	**357**		**P**	**18 04 09.2**	**-2.9**
FUTU	**Fugatoga**	**3.72**	**357**	P	**P**	**18 04 10.1**	**-2.0**
MSVF	**Nonsavu**	**3.85**	**274**		**P**	**18 04 13.2**	**+0.2**
MSVF	**Nonsavu**	**3.85**	**274**	P	**P**	**18 04 13.0**	**0.0**
AFI	**Afiamalu**	**7.19**	**56**	P	**P**	**18 04 37.5**	**-3.2**
NIUE	**Niue**	**7.65**	**99**	P	**P**	**18 04 44.2**	**-0.6**
NIUE	**Niue**	**7.65**	**99**	P	**P**	**18 04 45.0**	**+0.2**
DVP	**Devils Point**	**13.23**	**269**	P	**P**	**18 05 40.9**	**+0.4**
DVP	**Devils Point**	**13.23**	**269**	S	**S**	**18 08 04.4**	**+3.1**
VLAKA	**Lakatoro**	**14.15**	**276**	P	**P**	**18 05 49.8**	**+0.1**
PINNC	**Pines Island,**	**14.46**	**249**		**P**	**18 05 51.6**	**-1.0**
PINNC	**Pines Island,**	**14.46**	**249**	P	**P**	**18 05 52.2**	**-0.4**
SANVU	**Saraoutou**	**14.48**	**278**	P	**P**	**18 05 51.7**	**-1.2**
SANVU	**Saraoutou**	**14.48**	**278**	P	**P**	**18 05 54.7**	**+1.8**
YATNC	**Mamie plateau,**	**14.82**	**252**	P	**P**	**18 05 55.2**	**-0.8**
OUENC	**Ouen Island, N**	**14.95**	**251**	P	**P**	**18 05 56.8**	**-0.4**
DZM	**Mont Dzumac**	**15.23**	**252**		**P**	**18 05 58.7**	**-1.2**
DZM				IAmb	IAmb	18 06 06.2	
	comp=Z,28nm,0.8s						
DZM	**Mont Dzumac**	**15.23**	**252**	P	**P**	**18 05 59.1**	**-0.8**
	comp=Z,24nm,0.5s,baz=102,slow=2.1,SNR=36						
DZM	**Mont Dzumac**	**15.23**	**252**	P	**P**	**18 05 59.4**	**-0.5**
ONTNC	**Ouen Toro**	**15.27**	**251**		**P**	**18 05 59.0**	**-1.2**
ONTNC	**Ouen Toro**	**15.27**	**251**	P	**P**	**18 06 00.3**	**+0.1**
KOUNC	**Koumac, New Ca**	**16.98**	**259**	P	**P**	**18 06 17.5**	**+1.5**
RAR	**Rarotonga**	**17.38**	**103**	P	**P**	**18 06 19.5**	**-0.1**
RAR	**Rarotonga**	**17.38**	**103**	P	**P**	**18 06 19.4**	**-0.1**
	comp=Z,54nm,0.8s,baz=248,slow=8.7,SNR=7.5						
OUZ	**Omahuta**	**18.70**	**202**	P	**P**	**18 06 33.9**	**+2.5**
GRZ	**Great Barrier**	**19.06**	**197**	P	**P**	**18 06 36.1**	**+1.5**
KUZ	**Kuaotunu**	**19.46**	**196**	P	**P**	**18 06 39.8**	**+1.5**
KUZ	**Kuaotunu**	**19.46**	**196**	P	**P**	**18 06 39.7**	**+1.4**
MBAZ	**Motutapu North**	**19.70**	**197**	P	**P**	**18 06 42.4**	**+2.0**
ETAZ	**East Tamaki Re**	**19.86**	**197**	P	**P**	**18 06 43.3**	**+1.4**
MKAZ	**Moumakai**	**19.94**	**196**	P	**P**	**18 06 44.3**	**+1.7**
WMGZ	**Waiomatatini S**	**19.96**	**189**	P	**P**	**18 06 43.2**	**+0.4**
HAZ	**Te Kaha**	**20.00**	**190**	P	**P**	**18 06 42.1**	**-1.1**
HAZ				S	**S**	**18 09 46.0**	**-6.3**
AWAZ	**Awhitu Peninsu**	**20.05**	**198**	P	**P**	**18 06 45.4**	**+1.8**
PKGZ	**Pakihiroa**	**20.06**	**189**	P	**P**	**18 06 43.4**	**-0.4**
PUZ	**Puketiti**	**20.23**	**189**	P	**P**	**18 06 44.6**	**-0.7**
PUZ				S	**S**	**18 09 52.6**	**-3.5**
TGRZ	**Tauranga**	**20.27**	**193**	P	**P**	**18 06 47.4**	**+1.9**
TWGZ	**Tauwhareparae**	**20.38**	**189**	P	**P**	**18 06 46.7**	**+0.1**
TWGZ				S	**S**	**18 09 55.4**	**-3.0**
TOZ	**Tahuroa Road**	**20.45**	**195**	P	**P**	**18 06 48.2**	**+1.0**
TOZ	**Tahuroa Road**	**20.45**	**195**	P	**P**	**18 06 48.4**	**+1.2**
MWZ	**Matawai**	**20.60**	**190**	P	**P**	**18 06 46.8**	**-1.9**
MWZ				S	**S**	**18 09 55.5**	**-6.5**
URZ	**Urewera**	**20.61**	**191**	P	**P**	**18 06 46.4**	**-2.2**
	comp=Z,21nm,0.3s,baz=274,slow=3.1,SNR=51						
URZ				S	**S**	**18 09 55.7**	**-6.2**
	comp=Z,16nm,1.1s,baz=309,slow=9.7,SNR=2.6						
URZ	**Urewera**	**20.61**	**191**	P	**P**	**18 06 46.4**	**-2.2**
URZ	**Urewera**	**20.61**	**191**	P	**P**	**18 06 46.5**	**-2.1**
CNGZ	**Carnagh Statio**	**20.64**	**189**	P	**P**	**18 06 48.9**	**0.0**
TKGZ	**Te Karaka**	**20.65**	**189**	P	**P**	**18 06 48.4**	**-0.7**
RIGZ	**Rimuhau**	**20.93**	**189**	P	**P**	**18 06 50.2**	**-1.3**
RTZ	**Ruatahuna**	**20.97**	**191**	P	**P**	**18 06 50.4**	**-1.7**
RTZ				IAmb	IAmb	18 06 56.7	
	comp=Z,23nm,1.1s						
SNGZ	**Shannon Statio**	**21.07**	**190**	P	**P**	**18 06 52.0**	**-0.8**
BKZ	**Black Stump Fm**	**21.60**	**192**	P	**P**	**18 06 54.8**	**-2.8**
BKZ	**Black Stump Fm**	**21.60**	**192**	P	**P**	**18 06 55.7**	**-2.0**
BKZ	**Black Stump Fm**	**21.60**	**192**	P	**P**	**18 06 55.6**	**-2.0**
BKZ				S	**S**	**18 10 13.9**	**-3.8**
VRZ	**Vera Road**	**21.95**	**195**	P	**P**	**18 07 00.9**	**+0.2**
PXZ	**Pawanui**	**22.37**	**191**	P	**P**	**18 07 03.3**	**-1.1**
PXZ				S	**S**	**18 10 28.3**	**-1.5**
TSZ	**Takapari Road**	**22.57**	**192**	P	**P**	**18 07 05.4**	**-0.8**
TSZ				S	**S**	**18 10 30.8**	**-2.2**
BFZ	**Birch Farm**	**23.11**	**191**	P	**P**	**18 07 09.1**	**-1.9**
BFZ	**Birch Farm**	**23.11**	**191**	P	**P**	**18 07 09.8**	**-1.2**
MRZ	**Mangatainoka R**	**23.23**	**193**	P	**P**	**18 07 09.5**	**-2.5**
TATA	**Tatamba Isabel**	**23.69**	**291**	P	**P**	**18 07 17.1**	**+0.6**
MSWZ	**Moikau Station**	**24.02**	**193**	P	**P**	**18 07 18.2**	**-0.9**
SNZO	**South Karori**	**24.04**	**194**	P	**P**	**18 07 17.0**	**-2.1**
SNZO	**South Karori**	**24.04**	**194**	P	**P**	**18 07 17.7**	**-1.4**
TCW	**Tory Channel**	**24.04**	**195**	P	**P**	**18 07 18.1**	**-1.1**
QRZ	**Quartz Range**	**24.15**	**198**	P	**P**	**18 07 20.5**	**+0.3**
QRZ	**Quartz Range**	**24.15**	**198**	P	**P**	**18 07 20.4**	**+0.3**
QRZ				S	**S**	**18 10 57.9**	**+0.2**
NNZ	**Nelson**	**24.27**	**196**	P	**P**	**18 07 20.1**	**-1.1**
NNZ				S	**S**	**18 10 53.2**	**-6.5**
THZ	**Tophouse**	**24.91**	**196**	P	**P**	**18 07 25.7**	**-1.2**
THZ				S	**S**	**18 11 06.1**	**-3.6**
KHZ	**Kahutara**	**25.36**	**195**	P	**P**	**18 07 29.6**	**-1.2**
KHZ	**Kahutara**	**25.36**	**195**	P	**P**	**18 07 29.4**	**-1.4**
KHZ				S	**S**	**18 11 12.4**	**-4.2**
GVZ	**Greta Valley S**	**26.00**	**195**	P	**P**	**18 07 35.2**	**-1.3**
GVZ				S	**S**	**18 11 20.4**	**-6.3**
LTZ	**Lake Taylor**	**26.03**	**197**		**P**	**18 07 34.9**	**-1.9**
LTZ				IAmb	IAmb	18 07 38.3	
	comp=Z,29nm,1.1s						
LTZ	**Lake Taylor**	**26.03**	**197**	P	**P**	**18 07 35.9**	**-0.8**
LTZ				S	**S**	**18 11 21.5**	**-5.7**
INZ	**Inchbonnie**	**26.21**	**198**	P	**P**	**18 07 37.3**	**-1.0**
INZ				S	**S**	**18 11 26.2**	**-3.7**
OXZ	**Oxford**	**26.60**	**197**	P	**P**	**18 07 40.3**	**-1.4**
OXZ				IAmb	IAmb	18 07 59.2	
	comp=Z,16nm,0.7s						
OXZ	**Oxford**	**26.60**	**197**	P	**P**	**18 07 40.5**	**-1.2**
WVZ	**Waitaha Valley**	**26.74**	**199**	P	**P**	**18 07 42.6**	**-0.3**
MQZ	**McQueen's Vall**	**26.79**	**195**	P	**P**	**18 07 41.0**	**-2.3**
MQZ				S	**S**	**18 11 38.0**	**-0.9**
RPZ	**Rata Peaks**	**27.23**	**198**	P	**P**	**18 07 48.2**	**+0.9**
RPZ	**Rata Peaks**	**27.23**	**198**	P	**P**	**18 07 47.9**	**+0.7**
FOZ	**Fox Glacier**	**27.44**	**200**	P	**P**	**18 07 48.3**	**-0.8**
TMZ	**Timaru**	**27.86**	**197**	P	**P**	**18 07 52.0**	**-0.7**
LBZ	**Lake Benmore**	**28.10**	**198**	P	**P**	**18 07 53.4**	**-1.4**
LBZ				S	**S**	**18 11 53.4**	**-6.0**
JCZ	**Jackson Bay**	**28.26**	**200**	P	**P**	**18 07 55.9**	**-0.4**
JCZ	**Jackson Bay**	**28.26**	**200**	P	**P**	**18 07 55.9**	**-0.4**
ODZ	**Otahua Downs**	**28.57**	**197**	P	**P**	**18 07 58.1**	**-0.8**
WKZ	**Wanaka**	**28.86**	**199**	P	**P**	**18 08 00.4**	**-1.0**
WKZ				S	**S**	**18 12 07.0**	**-4.1**
MSZ	**Milford Sound**	**29.08**	**201**	P	**P**	**18 08 03.9**	**+0.7**
EAZ	**Earnscleugh**	**29.13**	**199**	P	**P**	**18 08 03.7**	**0.0**
MLZ	**Mavora Lakes**	**29.63**	**200**		**P**	**18 08 08.1**	**0.0**
MLZ	**Mavora Lakes**	**29.63**	**200**	P	**P**	**18 08 08.2**	**+0.2**
EIDS	**Eidsvold**	**29.66**	**250**		**P**	**18 08 08.3**	**-0.3**
EIDS	**Eidsvold**	**29.66**	**250**	P	**P**	**18 08 07.9**	**-0.7**
	comp=Z,55nm,0.9s						
EIDS	**Eidsvold**	**29.66**	**250**	P	**P**	**18 08 08.6**	**0.0**
WHZ	**Wether Hill Ro**	**30.15**	**200**		**P**	**18 08 12.4**	**-0.1**
ARMA	**Armidale**	**30.28**	**240**		**P**	**18 08 14.8**	**+0.8**
ARMA	**Armidale**	**30.28**	**240**	P	**P**	**18 08 14.5**	**+0.5**
	comp=Z,70nm,0.8s						
ARMA	**Armidale**	**30.28**	**240**	P	**P**	**18 08 15.0**	**+1.0**
SYZ	**Scrubby Hill**	**30.36**	**198**	P	**P**	**18 08 14.2**	**0.0**
MGCD	**Mangrove Creek**	**31.60**	**235**	P	**P**	**18 08 26.8**	**+1.7**
RABL	**Rabaul**	**32.35**	**292**		**P**	**18 08 30.3**	**-1.4**
CNB	**Canberra Magne**	**33.72**	**233**	P	**P**	**18 08 43.8**	**+0.9**
	comp=Z,185nm,0.8s						
CNB	**Canberra Magne**	**33.72**	**233**	P	**P**	**18 08 43.6**	**+0.6**
CTAO	**Charters Tower**	**33.89**	**261**		**P**	**18 08 44.3**	**-0.2**
CTAO	**Charters Tower**	**33.89**	**261**	P	**P**	**18 08 44.5**	**0.0**
CAN	**Canberra**	**33.99**	**233**		**P**	**18 08 45.9**	**+0.6**
CAN	**Canberra**	**33.99**	**233**	P	**P**	**18 08 45.6**	**+0.3**
	comp=Z,106nm,0.8s						
CAN	**Canberra**	**33.99**	**233**	P	**P**	**18 08 46.1**	**+0.8**
CMSA	**Cobar Meteorol**	**35.49**	**241**	P	**P**	**18 08 57.6**	**-0.1**
	comp=Z,108nm,0.9s						
CMSA	**Cobar Meteorol**	**35.49**	**241**	P	**P**	**18 08 57.7**	**0.0**
MTSU	**Mount Surprise**	**35.86**	**264**	P	**P**	**18 09 00.2**	**-0.8**
	comp=Z,27nm,0.7s						
MTSU	**Mount Surprise**	**35.86**	**264**	P	**P**	**18 09 00.8**	**-0.1**
QLP	**Quilpie**	**35

MEEK Meekatharra 58.82 249 P P 18 11 51.7 -0.7
KLBR Kellerberrin 59.19 244 P P 18 11 54.0 -0.8
comp=Z,191nm,0.7s
KLBR Kellerberrin 59.19 244 P P 18 11 54.4 -0.4
EDFI Ende, Flores 59.26 270 P P 18 11 54.8 -0.8
comp=Z,89nm,1.0s
NWAO Narrogin (SRO) 59.56 242 P P 18 11 57.3 +0.1
NWAO Narrogin (SRO) 59.56 242 P P 18 11 57.2 +0.1
BLDU Ballidu 60.15 245 P P 18 12 00.5 -0.7
comp=Z,47nm,1.1s
BLDU Ballidu 60.15 245 P P 18 12 00.8 -0.3
WSI Waingapu 60.34 269 P P 18 12 03.0 +0.4
VNDA Vanda 60.35 185 P 18 12 03.4 +1.8
VNDA Vanda 60.35 185 P P 18 12 03.6 +2.0
comp=Z,1.4nm,0.4s,baz=360,slow=6.4,SNR=17
comp=Z,1.4nm,0.4s
MUN Mundaring 60.48 243 P P 18 12 03.2 -0.1
comp=Z,60nm,0.9s
MUN Mundaring 60.48 243 P P 18 12 04.0 +0.7
MORW Morawa 60.85 246 P 18 12 05.2 -0.7
MORW IAmb IAmb 18 12 06.0
comp=Z,13nm,0.7s
MORW Morawa 60.85 246 P P 18 12 05.1 -0.7
comp=Z,23nm,0.9s
MORW Morawa 60.85 246 P P 18 12 05.7 -0.1
APSI Ampana 61.69 279 P P 18 12 13.3 +1.8
comp=Z,928nmcomp=Z,83nm,1.1s
BNSI Bone 62.02 275 P P 18 12 14.2 +0.6
comp=Z,75nm,1.1s
KAPI Kappang 62.17 274 P P 18 12 14.2 -0.3
comp=Z,10.0nm,0.4s,baz=113,slow=7.6,SNR=4.6
comp=Z,10.0nm,0.4s
SPSI Sidrap Palu 62.47 275 P P 18 12 15.7 -0.8
comp=Z,51nm,0.9s
PLAI Plampang 62.96 269 P P 18 12 19.6 -0.1
PLAI Plampang 62.96 269 P P 18 12 19.3 -0.4
comp=Z,124nm,0.9s
TOLI2 Tolitoli 63.20 281 P 18 12 21.3 +0.1
TOLI2 IAmb IAmb 18 12 21.9
comp=Z,34nm,0.9s
TOLI2 Tolitoli 63.20 281 P P 18 12 21.6 +0.4
PCI Palu 63.40 278 P P 18 12 24.3 +1.8
comp=Z,1µmcomp=Z,116nm,1.1s
MPSI Mapaga 63.76 280 P P 18 12 24.3 -0.5
comp=Z,62nm,0.8s
CASY Casey 66.21 205 P 18 12 39.9 +0.7
CASY IAmb IAmb 18 12 41.0
comp=Z,21nm,1.2s
JAGI Jajag, Banyuwa 66.50 268 P 18 12 40.7 -1.2
JAGI Jajag, Banyuwa 66.50 268 P P 18 12 40.9 -1.1
JAGI Jajag, Banyuwa 66.50 268 P P 18 12 40.7 -1.2
comp=Z,132nm,0.9s
JGF Kuroka 68.13 322 IAmb IAmb 18 12 51.9
comp=Z,29nm,1.5s
JGF Kuroka 68.13 322 P P 18 12 51.5 0.0
MJAR Matsushiro Arr 68.30 323 P 18 12 51.8 -0.6
MJAR IAmb IAmb 18 12 52.6
comp=Z,8.7nm,0.8s
MJAR Matsushiro Arr 68.30 323 P P 18 12 51.6 -0.8
comp=Z,10nm,0.6s,baz=155,slow=5.8,SNR=30
comp=Z,10nm,0.6s
MAJO Matsushiro 68.30 323 P 18 12 51.9 -0.5
MAJO IAmb IAmb 18 12 52.8
comp=Z,25nm,1.1s
MAJO Matsushiro 68.30 323 P P 18 12 52.2 -0.2
MJB9 Matsu-Tunnel 68.30 323 IAmb IAmb 18 12 52.8
comp=Z,26nm,1.1s
JMN Monobe 69.00 318 P 18 12 56.5 -0.2
JMN IAmb IAmb 18 12 58.4
comp=Z,25nm,1.0s
KKM Kota Kinabalu 69.23 284 P P 18 12 58.8 +0.2
PCJI Pacitan 69.41 268 P P 18 12 59.8 +0.3
KIWB Kanaga Island 69.60 1 P 18 12 59.2 -0.6
KIWB IAmb IAmb 18 13 01.1
comp=Z,33nm,1.3s
ADK Adak 69.64 1 P P 18 12 59.1 -0.9
ADK IAmb IAmb 18 12 59.5
comp=Z,23nm,0.7s
ADK Adak 69.64 1 P P 18 12 59.1 -0.9
GSTR Great Sitkin T 69.86 1 P P 18 13 00.7 -0.6
GSTR IAmb IAmb 18 13 26.4
comp=Z,27nm,0.9s
ATKA Atka Island 70.02 2 P P 18 13 01.3 -1.0
UGM Wanagama 70.11 268 P 18 13 03.9 +0.1
UGM Wanagama 70.11 268 P P 18 13 03.8 +0.1
JNU Nakatsue 70.56 316 IAmb IAmb 18 13 06.8
comp=Z,9.0nm,0.7s
JNU Nakatsue 70.56 316 P P 18 13 05.7 -0.3
comp=Z,7.8nm,0.7s,baz=130,slow=3.7,SNR=9.0
comp=Z,7.8nm,0.7s
JNU Nakatsue 70.56 316 P P 18 13 06.1 +0.1
NIKH Nikolski High 71.15 6 P P 18 13 08.1 -0.8
NIKH Nikolski High 71.15 6 P P 18 13 07.8 -1.2
baz=189
STKI Sintang 71.60 276 P P 18 13 13.1 +0.6
comp=Z,96nm,0.8s
JKA Kamikawa-asahi 71.62 331 IAmb IAmb 18 13 15.1
comp=Z,14nm,0.8s
SBUM Sibu 71.69 279 IAmb IAmb 18 13 14.7
comp=Z,18nm,0.7s
SBUM Sibu 71.69 279 P P 18 13 14.1 +1.1
QSPA South Pole Qui 72.01 180 P P 18 13 15.8 +1.8
comp=Z,5.8nm,0.5s,baz=92,slow=2.9,SNR=116
QSPA S S 18 21 51.6 +2.6
comp=Z,0.7nm,1.0s,baz=323,slow=20,SNR=11
comp=Z,5.8nm,0.5s
YULB Yu-li 72.24 303 P P 18 13 15.6 -0.3
UNV Unalaska Valle 72.27 7 P P 18 13 14.5 -0.8
baz=191
NACB Ninganchiao 72.38 303 P P 18 13 17.9 +1.2
JTU Tsushima 72.39 316 P P 18 13 16.3 -0.2
SSLB Suanglung 72.70 303 P P 18 13 18.0 -0.6
TPUB Ta-pu 72.73 302 P 18 13 17.4 -1.3
TPUB Ta-pu 72.73 302 P P 18 13 17.9 -0.9
BBJI Bungbulang 72.97 268 P P 18 13 20.2 -0.2
KSM Kuching 73.17 277 P P 18 13 22.4 +0.9
YSS Yuzhno-Sakhali 73.75 333 P 18 13 24.2 +0.3
YSS IAmb IAmb 18 13 25.6
comp=Z,20nm,1.0s
PETK Petropavlovsk- 73.93 345 P 18 13 24.1 -0.8
PETK Petropavlovsk- 73.93 345 P P 18 13 24.3 -0.6
comp=Z,15nm,0.7s,baz=130,slow=8.3,SNR=24
comp=Z,15nm,0.7s
CHNA Chernabura Isl 74.25 11 P P 18 13 26.5 -0.1
baz=198
SDPT Sand Point 74.59 10 P P 18 13 27.8 -0.7
baz=197
S12K Black Hills 74.68 9 P P 18 13 28.3 -0.7
baz=196
P08K Saint George I 74.69 5 P P 18 13 28.0 -1.1
baz=188
CGJI Cibinong 75.07 268 P P 18 13 31.3 -0.9
KSRS Korea Array 75.11 318 P P 18 13 32.7 +0.8
comp=Z,3.9nm,0.7s,baz=132,slow=6.1,SNR=19
comp=Z,3.9nm,0.7s
KSAR Wonju Array Be 75.13 318 P 18 13 31.8 -0.1
S14K Fog Glacier 75.64 10 P P 18 13 34.0 -0.5
baz=198
CHGN Chignik 75.86 11 P P 18 13 35.0 -0.5
baz=199
KASI Kota Agung 76.53 269 P P 18 13 39.4 -0.8
comp=Z,68nm,0.9s
SII Sitkinak Islan 76.95 13 P P 18 13 41.4 -0.1
baz=203
USRK Uesuriysk Ar. 76.99 326 P P 18 13 43.2 +1.2
comp=Z,2.7nm,0.7s,baz=112,slow=3.2,SNR=5.7
comp=Z,2.7nm,0.7s
LWLI Liwa 77.09 269 P P 18 13 43.4 0.0
comp=Z,122nm,0.8s
MDSI Maura Dua 77.13 269 P P 18 13 43.1 -0.4
comp=Z,38nm,0.8s
R17L Mt. Peulik Vol 77.50 12 P P 18 13 44.1 -0.4
baz=201
PLK4 Peulik 4 77.50 12 IAmb IAmb 18 13 45.1
comp=Z,29nm,0.8s
CMB Columbia Colle 77.62 43 P 18 13 45.7 0.0
OHAK Old Harbor 77.75 13 P P 18 13 45.7 -0.1
OHAK Old Harbor 77.75 13 P P 18 13 45.7 -0.1
baz=204
AFDM Forest Hills D 77.77 42 P P 18 13 44.7 -1.7
R18K Karluk 77.82 13 P P 18 13 45.9 -0.3
baz=203
Q17K Contact Creek 78.18 12 P P 18 13 47.7 -0.5
baz=201
O14K Tigyukauivet M 78.22 9 P P 18 13 47.8 -0.5
baz=196

CLC China Lake 78.26 46 IAmb IAmb 18 13 46.6
comp=Z,8.4nm,0.4s
YBH Yreka Blue Hor 78.33 39 P 18 13 50.1 +0.7
O15K Ungalikthiuk R 78.36 9 P P 18 13 48.3 -0.7
baz=198
KDAK Kodiak Island 78.42 14 P P 18 13 49.5 +0.1
baz=205
Q16K King Salmon 78.42 11 P P 18 13 49.2 -0.1
baz=201
P16K Nushagak River 78.52 10 P P 18 13 49.5 -0.3
baz=199
MDJ Mudanjiang 78.57 325 IAmb IAmb 18 13 52.5
comp=Z,22nm,0.8s
Q18K Katmai Hardscr 78.71 12 P P 18 13 50.4 -0.7
baz=202
M11K Mekoryuk 78.73 6 P P 18 13 50.4 -0.5
baz=191
N14K Kuskokwak Cree 78.81 8 P P 18 13 51.3 0.0
baz=196
L04D Klamath Falls 78.87 39 IAmb IAmb 18 13 54.1
comp=Z,11nm,0.8s
P17K Kvichak River 78.95 11 P P 18 13 51.7 -0.4
baz=201
O16K Kokwok River B 79.04 10 P P 18 13 51.5 -1.1
baz=199
M13K Dall Lake 79.07 7 P P 18 13 51.6 -1.1
baz=194
NVAR Mina Array Bea 79.20 44 P 18 13 54.9 +0.6
NVAR Mina Array Bea 79.20 44 P P 18 13 54.6 +0.3
comp=Z,3.0nm,0.6s,baz=224,slow=8.8,SNR=19
NVAR PKiKP PKiKP 18 19 21.6 +0.2
comp=Z,0.5nm,0.6s,baz=234,slow=7.1,SNR=3.8
comp=Z,3.0nm,0.6s
Q20K Shuyak Island 79.22 13 P P 18 13 52.7 -0.9
baz=205
Q19K Cape Douglas, 79.25 13 P P 18 13 53.2 -0.6
baz=204
N15K Kwethluk River 79.27 9 P P 18 13 53.7 -0.2
baz=197
P18K Big Mountain, 79.36 12 IAmb IAmb 18 13 54.6
comp=Z,23nm,0.8s
P18K Big Mountain, 79.36 12 P P 18 13 53.6 -0.8
baz=202
O17K Koliganek Bris 79.38 11 P P 18 13 53.7 -0.7
baz=200
M14K Bethel 79.57 8 IAmb IAmb 18 13 56.7
comp=Z,28nm,1.2s
M14K Bethel 79.57 8 P P 18 13 55.6 +0.2
baz=195
J04A Umpqua Nationa 79.60 38 IAmb IAmb 18 13 58.2
comp=Z,28nm,0.6s
M15K Kasigluk River 79.69 9 P P 18 13 56.0 0.0
baz=197
N16K Nishlik Lake 79.76 10 P P 18 13 56.6 +0.1
baz=198
O18K Koktuh Hills 79.79 11 IAmb IAmb 18 13 57.1
comp=Z,34nm,0.9s
O18K Koktuh Hills 79.79 11 P P 18 13 56.4 -0.3
baz=202
P19K Oil Pt 80.00 12 P P 18 13 57.2 -0.5
baz=204
K05A Summer Lake 80.01 39 IAmb IAmb 18 14 00.6
comp=Z,16nm,1.0s
L14K Kuk Creek 80.05 7 P P 18 13 58.3 +0.5
baz=195
N17K Nushagak Hills 80.07 10 P P 18 13 57.5 -0.5
baz=200
J05D Fort Rock, OR 80.14 38 IAmb IAmb 18 14 01.1
comp=Z,17nm,0.7s
M16K Timber Creek 80.25 9 IAmb IAmb 18 14 00.9
comp=Z,42nm,1.1s
M16K Timber Creek 80.25 9 P P 18 13 59.9 +0.9
baz=198,SNR=9.2
O19K Port Alsworth 80.28 12 P P 18 13 58.5 -0.6
baz=203
ILSW Iliamna Southw 80.32 12 IAmb IAmb 18 13 59.5
comp=Z,23nm,0.8s
HOM Homer 80.34 13 P P 18 13 59.1 -0.3
baz=205
K13K Kusilvak Mount 80.40 6 P P 18 13 59.6 -0.1
baz=193
N18K Kilae Creek 80.44 11 P P 18 13 59.5 -0.4
baz=201
O20K Slope Mountain 80.51 13 P P 18 13 59.6 -0.8
baz=204
L15K Ungalak Mounta 80.53 8 P P 18 14 00.3 0.0
baz=196
PINE Pine Mountain 80.61 38 IAmb IAmb 18 14 03.7
comp=Z,13nm,0.9s
N19K Bonanza Creek 80.82 11 P P 18 14 01.0 -1.0
baz=202
L16K Owhat River 80.83 9 IAmb IAmb 18 14 03.5
comp=Z,18nm,1.1s
L16K Owhat River 80.83 9 P P 18 14 02.5 +0.5
baz=198,SNR=7.5
M17K Holitna River 80.85 10 IAmb IAmb 18 14 04.0
comp=Z,30nm,0.9s
M17K Holitna River 80.85 10 P P 18 14 02.8 +0.7
baz=200,SNR=8.2
SMAI San Martin Ant 80.86 159 P P 18 14 03.8 +1.7
SMAI IAmb IAmb 18 14 05.2
comp=Z,23nm,0.8s
K15K Wolf Creek Mou 81.11 8 P P 18 14 04.3 +0.9
baz=196,SNR=13
M18K Stony River 81.21 11 P P 18 14 03.9 0.0
baz=201
SEW Seward 81.23 14 P P 18 14 03.9 0.0
baz=207
J14K Nanvaranak Lak 81.32 7 P P 18 14 04.5 +0.1
baz=194
L17K Donlin 81.41 9 P P 18 14 06.1 +1.1
baz=199,SNR=7.8
SLKM Skilak Lake 81.41 13 IAmb IAmb 18 14 05.4
comp=Z,18nm,0.6s
P23K Montague Islan 81.62 15 P P 18 14 06.3 +0.2
baz=209
I07A Izee 81.62 38 IAmb IAmb 18 14 08.6
comp=Z,9.8nm,0.8s
GAMB Gambell 81.70 3 P P 18 14 06.5 +0.3
baz=186
L18K Granite Mounta 81.75 10 IAmb IAmb 18 14 07.8
comp=Z,12nm,0.7s
L18K Granite Mounta 81.75 10 P P 18 14 07.1 +0.4
baz=200,SNR=11
M19K Big River Lodg 81.85 11 P P 18 14 06.6 -0.6
baz=203
K17K Iditarod 81.97 9 IAmb IAmb 18 14 08.7
comp=Z,7.2nm,0.7s
K17K Iditarod 81.97 9 P P 18 14 08.0 +0.3
baz=199
STLK Strandline Lak 81.97 12 IAmb IAmb 18 14 07.4
comp=Z,9.1nm,0.8s
BELA Belgrano 2 81.97 173 P 18 14 07.6 -0.1
L19K White Mountain 82.02 11 P P 18 14 07.8 -0.3
baz=202
RC01 Rabbit Creek A 82.04 13 P P 18 14 07.8 -0.4
baz=207
M20K Strut River 82.06 12 P P 18 14 08.1 -0.2
baz=204
PWL Port Wells 82.16 14 IAmb IAmb 18 14 09.0
comp=Z,15nm,1.0s
PWL Port Wells 82.16 14 P P 18 14 07.9 -0.8
baz=208
SUA Susitna One 82.16 13 IAmb IAmb 18 14 09.0
comp=Z,14nm,0.6s
SUA Susitna One 82.16 13 P P 18 14 08.0 -0.9
baz=206
J16K Anvik River 82.19 8 IAmb IAmb 18 14 10.3
comp=Z,15nm,0.9s
J16K Anvik River 82.19 8 P P 18 14 09.4 +0.6
baz=197
U15A North Rim 82.26 48 IAmb IAmb 18 14 12.7
comp=Z,11nm,0.8s
KAIM Kayak Island 82.32 16 P P 18 14 09.5 -0.1
baz=212
UBPT Khong Chiam 82.42 289 IAmb IAmb 18 14 12.7
comp=Z,19nm,1.0s
UBPT Khong Chiam 82.42 289 P P 18 14 11.8 +0.8
GLI Glacier Island 82.47 15 IAmb IAmb 18 14 10.5
comp=Z,19nm,0.8s
GLI Glacier Island 82.47 15 P P 18 14 09.5 -0.8
baz=210,SNR=5.8
SKT Skwentna 82.47 12 P P 18 14 09.0 -1.3
baz=205
L20K Farewell, AK 82.47 11 P P 18 14 09.6 -0.7
baz=203,SNR=6.0
J17K VABM Dome 82.50 8 IAmb IAmb 18 14 11.3
comp=Z,11nm,0.7s

J17K VABM Dome 82.50 8 P P 18 14 10.7 +0.3
baz=198,SNR=6.1
EYAK Cordova Ski Ar 82.51 15 P P 18 14 10.0 -0.5
baz=211
M22K Willow 82.55 13 P P 18 14 10.6 -0.1
baz=207
KNK Knik Glacier 82.62 14 P P 18 14 10.6 -0.5
baz=208
PMR Palmer 82.62 13 IAmb IAmb 18 14 11.6
comp=Z,25nm,1.4s
PMR Palmer 82.62 13 P P 18 14 10.4 -0.7
baz=208
G08A Pilot Rock 82.63 38 IAmb IAmb 18 14 13.4
comp=Z,17nm,1.4s
BGLC Bering Glacier 82.79 17 P P 18 14 12.0 +0.1
baz=213
SIT Sitka 82.83 22 P P 18 14 12.5 +0.3
baz=220
GHO Glory Hole Cre 82.83 13 IAmb IAmb 18 14 12.6
comp=Z,22nm,0.7s
IPM Ipoh 82.90 277 P P 18 14 14.6 +1.0
J18K Innoko River 82.92 9 IAmb IAmb 18 14 13.5
comp=Z,16nm,0.8s
J18K Innoko River 82.92 9 P P 18 14 12.7 +0.2
baz=200,SNR=18
U33K Whale Pass 82.93 23 P P 18 14 13.4 +0.7
baz=222
HAWA Hanford 82.94 36 IAmb IAmb 18 14 14.8
comp=Z,15nm,1.1s
DIV Divide 83.01 15 IAmb IAmb 18 14 13.6
comp=Z,14nm,0.7s
CUT Chulitna 83.11 13 P P 18 14 12.9 -0.6
baz=206
M23K Glacier View 83.12 14 P P 18 14 12.8 -0.7
baz=209
BMRM Bremner River 83.16 16 IAmb IAmb 18 14 14.4
comp=Z,16nm,1.0s
BMRM Bremner River 83.16 16 P P 18 14 13.5 -0.3
baz=212,SNR=5.7
PPLA Purkeypile 83.17 12 P P 18 14 13.1 -0.9
baz=205
WAX Waxell Ridge 83.19 17 IAmb IAmb 18 14 15.1
comp=Z,25nm,0.8s
S31K Pelican 83.21 21 P P 18 14 14.0 0.0
baz=220
MESA MESA 83.21 17 P P 18 14 14.5 +0.3
baz=214
SCM Sheep Creek Mo 83.25 14 IAmb IAmb 18 14 14.8
comp=Z,21nm,0.7s
SCM Sheep Creek Mo 83.25 14 P P 18 14 13.9 -0.4
baz=209,SNR=10
K20K Telida 83.25 11 IAmb IAmb 18 14 14.9
comp=Z,16nm,0.8s
K20K Telida 83.25 11 P P 18 14 13.9 -0.3
baz=203,SNR=16
HEH HeiHe 83.28 328 eP P 18 14 13.9 -0.7
HEH pmax pmax
comp=Z,11nm,1.3s
KLU Klutina 83.28 15 P P 18 14 14.2 -0.3
baz=210
H16K Elim 83.30 7 P P 18 14 14.1 -0.3
baz=195
CRQM Cirque 83.37 16 IAmb IAmb 18 14 15.9
comp=Z,12nm,0.8s
CRQE Cirque 83.38 16 P P 18 14 15.0 0.0
baz=213
YAH Yahtse 83.42 17 IAmb IAmb 18 14 16.5
comp=Z,20nm,0.7s
TGL Tana Glacier 83.45 17 IAmb IAmb 18 14 16.2
comp=Z,18nm,1.1s
G15K Niukluk 83.46 6 P P 18 14 15.3 +0.1
baz=193
KULM Kulim 83.52 278 P P 18 14 17.9 +1.3
PNL Peninsula 83.54 19 P P 18 14 16.0 +0.3
PNL Peninsula 83.54 19 P P 18 14 15.7 0.0
baz=217
J19K Poorman 83.58 10 IAmb IAmb 18 14 16.5
comp=Z,6.3nm,0.6s
J19K Poorman 83.58 10 P P 18 14 16.1 +0.3
baz=201,SNR=5.3
PINM Pinnacle 83.63 18 P P 18 14 16.0 -0.2
baz=216
TABL Table Mountain 83.66 17 IAmb IAmb 18 14 17.4
comp=Z,20nm,0.7s
VRDI Verde Repeater 83.68 16 IAmb IAmb 18 14 17.3
comp=Z,22nm,1.4s
TNA Tin City 83.69 4 P P 18 14 16.1 -0.2
baz=190
N25K Chitina, Valde 83.71 15 IAmb IAmb 18 14 17.3
comp=Z,17nm,0.7s
N25K Chitina, Valde 83.71 15 P P 18 14 16.4 -0.2
baz=212,SNR=14
F14K Arctic Creek 83.73 5 P P 18 14 16.6 +0.1
baz=191
M24K Tolsona, Glenn 83.75 14 P P 18 14 17.1 +0.3
baz=210,SNR=6.4
GLB Gilahina Butte 83.77 16 IAmb IAmb 18 14 17.4
comp=Z,11nm,0.7s
H17K Granite Mounta 83.86 8 P P 18 14 16.9 -0.3
baz=197
MAW Mawson 83.89 200 P P 18 14 18.6 +1.3
comp=Z,6.3nm,0.7s,baz=140,slow=6.3,SNR=12
comp=Z,6.3nm,0.7s
MCARA McCarthy VSAT 83.92 16 P P 18 14 17.6 0.0
baz=213
J20K Nowinta River 84.00 10 IAmb IAmb 18 14 18.6
comp=Z,10nm,0.7s
J20K Nowinta River 84.00 10 P P 18 14 17.7 -0.1
baz=203,SNR=12
LOGN Logan Glacier 84.01 17 IAmb IAmb 18 14 19.0
comp=Z,14nm,0.9s
KTH Kantishna Hill 84.01 12 IAmb IAmb 18 14 17.6
comp=Z,12nm,0.9s
P29M Windy Craggy 84.02 19 IAmb IAmb 18 14 19.5
comp=Z,12nm,0.8s
P29M Windy Craggy 84.02 19 P P 18 14 18.7 +0.6
baz=218
G16K Koyuk River 84.02 6 P P 18 14 18.1 +0.3
baz=195
BARN Barnard Glacie 84.02 17 IAmb IAmb 18 14 19.3
comp=Z,14nm,0.8s
CTG Chitna Glacier 84.03 17 P P 18 14 18.1 -0.1
baz=215
CTGM Chitina Glacie 84.03 17 IAmb IAmb 18 14 19.1
comp=Z,15nm,0.9s
TRF Thorofare Moun 84.04 12 IAmb IAmb 18 14 18.6
comp=Z,20nm,0.7s
TRF Thorofare Moun 84.04 12 P P 18 14 17.2 -1.1
baz=206,SNR=20
JIS Juneau Island 84.08 21 P P 18 14 17.4 -0.9
F15K North Star Dit 84.10 5 P P 18 14 17.9 -0.4
baz=193
O28M Mount Upton 84.20 18 IAmb IAmb 18 14 20.1
comp=Z,11nm,0.8s
O28M Mount Upton 84.20 18 P P 18 14 19.3 0.0
baz=216,SNR=5.2
HARP HAARP 84.25 15 P P 18 14 19.1 -0.1
baz=211
H18K Honhosa River 84.27 8 P P 18 14 18.7 -0.5
baz=199
O29M Mount Kennedy 84.30 18 P P 18 14 19.8 +0.2
baz=217
G17K Kiwalik Mounta 84.32 7 P P 18 14 19.1 -0.3
baz=196
PLBC Pleasant Camp 84.32 20 P P 18 14 20.2 +0.7
baz=219
BPAW Bear Paw Mtn. 84.49 12 P P 18 14 18.9 -1.4
baz=206
I20K Naaghedeneel 84.52 10 P P 18 14 19.0 -1.3
baz=202
MCK McKinley 84.57 13 IAmb IAmb 18 14 20.9
comp=Z,22nm,1.2s
MCK McKinley 84.57 13 P P 18 14 20.1 -0.6
baz=208,SNR=7.6
P30M Million Dollar 84.65 19 P P 18 14 21.6 +0.4
baz=219
T35M Bob Quinn 84.66 24 P P 18 14 22.1 +0.9
baz=225
SKAG Skagway 84.66 20 P P 18 14 22.0 +0.8
baz=220
PAX Paxson 84.67 14 P P 18 14 20.5 -0.7
baz=211,SNR=7.1
YUK8 Steele Glacier 84.74 17 P P 18 14 22.1 +0.2
baz=216,SNR=6.1
M26K Nabesna, AK 84.79 16 IAmb IAmb 18 14 22.8
comp=Z,14nm,0.9s
M26K Nabesna, AK 84.79 16 P P 18 14 21.9 +0.1
baz=213,SNR=9.9

BWN	Browne	84.86	12	IAmb	IAmb	18 14 22.9		
	comp=Z,20nm,1.0s							
YUK6	Outpost Mounta	84.87	18	P	P	18 14 22.7	+0.2	
	baz=218							
H19K	Roundabout Mou	84.90	9	P	P	18 14 22.1	-0.1	
	baz=200							
YUK3	Moose Creek	84.94	17	P	P	18 14 22.7	0.0	
	baz=216,SNR=11							
G18K	Tagagawik	84.94	8	P	P	18 14 21.6	-0.8	
	baz=198							
S34M	Telegraph Cree	84.99	23	IAmb	IAmb	18 14 24.6		
	comp=Z,12nm,0.8s							
S34M	Telegraph Cree	84.99	23	P	P	18 14 23.9	+1.1	
	baz=224,SNR=7.3							
HYT	Haines Junctio	85.03	19	IAmb	IAmb	18 14 24.4		
	comp=Z,7.8nm,0.9s							
HYT	Haines Junctio	85.03	19	P	P	18 14 23.4	+0.3	
	baz=218,SNR=5.5							
M27K	Edge Creek, AK	85.04	16	IAmb	IAmb	18 14 24.4		
	comp=Z,19nm,1.1s							
M27K	Edge Creek, AK	85.04	16	P	P	18 14 23.3	+0.2	
	baz=214,SNR=10							
H20K	Anotleneega Mo	85.10	9	P	P	18 14 22.4	-0.8	
	baz=202							
YUK4	Talbot Arm	85.11	18	P	P	18 14 24.0	+0.4	
	baz=217							
F17K	Baldwin Pennin	85.16	7	P	P	18 14 23.2	-0.1	
	baz=196							
GSI	Gunungsitoli	85.18	273	P	P	18 14 26.4	+1.6	
GSI	Gunungsitoli	85.18	273	P	P	18 14 25.8	+1.0	
	comp=Z,102nm,1.0s							
L26K	Log Cabin Wild	85.22	15	P	P	18 14 23.9	0.0	
	baz=213							
I21K	Tanana	85.29	11	IAmb	IAmb	18 14 24.8		
	comp=Z,21nm,1.4s							
I21K	Tanana	85.29	11	P	P	18 14 23.2	-0.9	
	baz=205,SNR=7.8							
P32M	Atlin	85.30	21	P	P	18 14 24.9	+0.5	
	baz=222							
NEA2	Nenana	85.31	12	P	P	18 14 22.7	-1.5	
	baz=207							
K24K	Donnelly Dome	85.31	14	P	P	18 14 24.2	-0.1	
	baz=210,SNR=12							
Q32M	Nakina River	85.33	22	P	P	18 14 25.3	+0.6	
	baz=223							
BVCY	Beaver Creek	85.36	16	P	P	18 14 24.9	+0.4	
	baz=215,SNR=5.9							
MLY	Manley	85.38	11	P	P	18 14 23.4	-1.3	
	baz=206,SNR=9.0							
G19K	Purcell Mounta	85.39	8	P	P	18 14 24.2	-0.3	
	baz=200							
WRH	Wood River Hil	85.40	12	IAmb	IAmb	18 14 25.5		
	comp=Z,13nm,0.8s							
O30N	Mendenhall	85.43	19	IAmb	IAmb	18 14 26.3		
	comp=Z,7.6nm,0.8s							
O30N	Mendenhall	85.43	19	P	P	18 14 25.4	+0.5	
	baz=220,SNR=6.1							
RIDG	Independent Ri	85.47	14	IAmb	IAmb	18 14 25.7		
	comp=Z,7.5nm,0.8s							
RIDG	Independent Ri	85.47	14	P	P	18 14 24.9	-0.2	
	baz=211,SNR=6.3							
F18K	Selawik	85.49	7	P	P	18 14 23.9	-1.1	
	baz=197							
DOT	Dot Lake	85.58	14	IAmb	IAmb	18 14 26.2		
	comp=Z,8.8nm,0.9s							
HDA	Harding Lake	85.58	13	IAmb	IAmb	18 14 25.7		
	comp=Z,8.9nm,0.8s							
HDA	Harding Lake	85.58	13	P	P	18 14 25.0	-0.5	
	baz=209,SNR=12							
H21K	Melozitna Rive	85.59	10	P	P	18 14 25.3	-0.3	
	baz=204							
CCB	Clear Creek Bu	85.61	13	IAmb	IAmb	18 14 25.7		
	comp=Z,24nm,1.4s							
L27K	Beaver Creek,	85.64	16	P	P	18 14 25.9	0.0	
	baz=214							
N30M	Aishikik Lake	85.66	18	P	P	18 14 26.2	+0.2	
	baz=219							
TXAR	Lajitas Array	85.67	57		P	18 14 28.7	+1.8	
TXAR	Lajitas Array	85.67	57	P	P	18 14 28.9	+2.0	
	comp=Z,4.0nm,0.8s,baz=219,slow=6.3,SNR=37							
	comp=Z,4.0nm,0.8s							
E17K	Hotham Inlet	85.71	6	P	P	18 14 25.8	-0.2	
	baz=195							
WHY	Whitehorse	85.72	20	IAmb	IAmb	18 14 27.3		
	comp=Z,12nm,0.8s							
WHY	Whitehorse	85.72	20	P	P	18 14 26.9	+0.4	
	baz=221							
IMAR	Indian Mountai	85.73	10	P	P	18 14 25.4	-0.8	
I23K	Minto, Yukon-K	85.75	12	P	P	18 14 25.4	-0.9	
	baz=207,SNR=6.3							
DLBC	Dease Lake	85.77	23	P	P	18 14 27.0	+0.4	
	baz=225							
COLA	College	85.81	12	P	P	18 14 25.6	-1.0	
SCRK	Sand Creek	85.88	14	P	P	18 14 27.0	-0.1	
	baz=212,SNR=5.3							
IL31		85.92	13	IAmb	IAmb	18 14 27.2		
	comp=Z,12nm,1.2s							
ILAR	Eielson Array	85.92	13		P	18 14 25.7	-1.4	
ILAR	Eielson Array	85.92	13	P	P	18 14 26.1	-0.9	
	comp=Z,2.8nm,0.4s,baz=219,slow=5.2,SNR=36							
	comp=Z,2.8nm,0.4s							
F19K	Shaleruckik M	85.95	8	P	P	18 14 26.7	-0.5	
	baz=199,SNR=5.8							
SLVN	Son La	85.97	294	IAmb	IAmb	18 14 30.8		
	comp=Z,12nm,1.2s							
M29M	Somme Creek	86.04	17	P	P	18 14 28.1	+0.2	
	baz=217,SNR=6.3							
H22K	Ishtalitna Cre	86.05	11	P	P	18 14 27.4	-0.3	
	baz=205							
P33M	Teslin, Yukon	86.07	21	P	P	18 14 28.2	+0.2	
	baz=222							
N31M	Braeburn, Yuko	86.08	19	P	P	18 14 27.8	-0.2	
	baz=220							
J25K	Salcha River,	86.11	13	IAmb	IAmb	18 14 28.1		
	comp=Z,4.6nm,0.7s							
J25K	Salcha River,	86.11	13	P	P	18 14 27.6	-0.4	
	baz=211,SNR=9.1							
R33M	Jennings River	86.11	22	IAmb	IAmb	18 14 30.1		
	comp=Z,15nm,1.5s							
R33M	Jennings River	86.11	22	P	P	18 14 28.9	+0.6	
	baz=224							
E18K	Tukpahlearik C	86.17	7	IAmb	IAmb	18 14 28.5		
	comp=Z,4.8nm,0.7s							
E18K	Tukpahlearik C	86.17	7	P	P	18 14 28.0	-0.3	
	baz=196							
D17K	Noatak River	86.19	6	P	P	18 14 28.0	-0.3	
	baz=194							
G21K	Allakaket	86.27	10	IAmb	IAmb	18 14 29.4		
	comp=Z,6.0nm,0.7s							
G21K	Allakaket	86.27	10	P	P	18 14 28.6	-0.1	
	baz=203							
H23K	Yukon River	86.32	11	P	P	18 14 28.6	-0.4	
	baz=207							
K27K	Chicken	86.38	15	P	P	18 14 29.3	0.0	
	baz=214							
J26L	Joseph Creek	86.42	14	IAmb	IAmb	18 14 31.6		
	comp=Z,6.4nm,0.7s							
J26L	Joseph Creek	86.42	14	P	P	18 14 29.9	+0.3	
	baz=213,SNR=14							
F20K	Avaraart Lake	86.43	9	P	P	18 14 29.3	-0.1	
	baz=201							
DLMT	Dillon	86.46	40	IAmb	IAmb	18 14 32.3		
	comp=Z,7.6nm,0.9s							
E19K	Redstone River	86.61	8	IAmb	IAmb	18 14 30.9		
	comp=Z,7.2nm,0.7s							
E19K	Redstone River	86.61	8	P	P	18 14 30.2	-0.2	
	baz=200							
M30M	Minto, Yukon	86.62	18	P	P	18 14 30.6	0.0	
	baz=219,SNR=12							
H24K	Noodor Dome	86.65	12	P	P	18 14 28.6	-2.0	
	baz=208							
L29M	L29M	86.66	17	IAmb	IAmb	18 14 32.3		
	comp=Z,17nm,1.1s							
L29M	L29M	86.66	17	P	P	18 14 31.2	+0.5	
	baz=218,SNR=8.0							
N32M	Quiet Lake	86.68	20	P	P	18 14 31.4	+0.6	
	baz=222							
PRP	Porcupine Dome	86.85	13	P	P	18 14 31.4	-0.3	
	baz=211							
F21K	Alatna River	86.92	9	P	P	18 14 31.3	-0.5	
	baz=203							
G22K	Bettles	86.96	10	P	P	18 14 31.8	-0.2	
	baz=205							
LHMI	Lhok Sumawe	86.99	276	P	P	18 14 34.1	+0.8	
G23K	Bananza Creek	87.03	11	P	P	18 14 32.1	-0.3	
	baz=206							
M31M	Drury Creek, Y	87.05	19	P	P	18 14 32.3	-0.3	
	baz=221							
YHL	Hebgen Lake	87.08	41	IAmb	IAmb	18 14 36.0		
	comp=Z,7.7nm,0.8s							
DAWY	Dawson	87.09	16	IAmb	IAmb	18 14 33.8		
	comp=Z,11nm,1.3s							
DAWY	Dawson	87.09	16	P	P	18 14 32.9	+0.2	
	baz=216							
PDAR	Pinedale Array	87.13	43		P	18 14 33.4	-0.2	
PDAR	Pinedale Array	87.13	43	P	P	18 14 34.0	+0.3	
	comp=Z,21nm,0.7s,baz=222,slow=2.7,SNR=20							
	comp=Z,21nm,0.7s							
I26K	Coal Creek Min	87.19	14	P	P	18 14 33.0	-0.1	
	baz=213							
MLSI	Meulaboh, Aceh	87.21	275	P	P	18 14 34.8	+0.4	
F22K	John River	87.39	10	P	P	18 14 33.9	-0.1	
	baz=204,SNR=5.3							
FARO	Faro, Yukon	87.39	19	P	P	18 14 33.9	-0.2	
	baz=222							
K29M	Barlow Dome	87.41	17	P	P	18 14 34.5	+0.2	
	baz=218,SNR=7.6							
H25L	Birch Creek	87.44	12	P	P	18 14 33.5	-0.7	
	baz=210							
COLD	Coldfoot	87.46	10	IAmb	IAmb	18 14 35.4		
	comp=Z,8.0nm,0.8s							
COLD	Coldfoot	87.46	10	P	P	18 14 34.7	+0.4	
	baz=206,SNR=9.9							
D19K	Kuna River	87.48	7	IAmb	IAmb	18 14 34.5		
	comp=Z,5.3nm,0.8s							
D19K	Kuna River	87.48	7	P	P	18 14 34.0	-0.5	
	baz=199							
G24K	Hadweenzic Riv	87.49	12	P	P	18 14 33.9	-0.6	
	baz=209							
E20K	Nigu River	87.50	8	P	P	18 14 34.4	-0.2	
	baz=201							
MAYO	Mayo, Yukon	87.67	17	P	P	18 14 36.3	+0.9	
	baz=220							
J29N	Klondike Camp	87.71	16	IAmb	IAmb	18 14 38.0		
	comp=Z,9.0nm,0.8s							
J29N	Klondike Camp	87.71	16	P	P	18 14 36.3	+0.7	
	baz=218							
I27K	Kandik River	87.80	14	P	P	18 14 35.6	-0.4	
	baz=214							
G25K	Bearman Lake	87.81	12	P	P	18 14 36.0	0.0	
	baz=210							
D20K	Etivluk River	87.88	8	IAmb	IAmb	18 14 36.6		
	comp=Z,8.4nm,0.8s							
D20K	Etivluk River	87.88	8	P	P	18 14 35.9	-0.4	
	baz=200							
TOAD	Toad River Com	87.89	24	P	P	18 14 37.2	+0.6	
	baz=229							
C19K	Lookout Ridge	87.90	6	P	P	18 14 36.2	-0.2	
	baz=197							
B18K	Kokolik River	87.93	6	P	P	18 14 36.3	-0.1	
	baz=195							
E21K	Killik River	87.98	9	IAmb	IAmb	18 14 37.1		
	comp=Z,5.3nm,0.9s							
E21K	Killik River	87.98	9	P	P	18 14 36.2	-0.5	
	baz=203							
E22K	Anaktuvuk Pass	88.02	9	IAmb	IAmb	18 14 37.7		
	comp=Z,12nm,1.1s							
E22K	Anaktuvuk Pass	88.02	9	P	P	18 14 36.7	-0.2	
	baz=205,SNR=9.2							
I28M	Miner Creek	88.07	15	P	P	18 14 37.0	-0.4	
	baz=216,SNR=6.5							
F24K	Squaw Lake	88.13	11	IAmb	IAmb	18 14 38.5		
	comp=Z,7.7nm,0.7s							
F24K	Squaw Lake	88.13	11	P	P	18 14 37.7	+0.2	
	baz=208,SNR=11							
E23K	Chandalar	88.31	10	IAmb	IAmb	18 14 39.2		
	comp=Z,7.0nm,0.9s							
E23K	Chandalar	88.31	10	P	P	18 14 38.2	-0.2	
	baz=207,SNR=6.1							
J30M	Hart River	88.31	17	P	P	18 14 38.5	0.0	
	baz=219,SNR=5.1							
H27K	Steamboat Moun	88.34	14	P	P	18 14 38.6	+0.2	
	baz=214							
MMPY	Sheldon Lake,	88.34	20	IAmb	IAmb	18 14 40.1		
	comp=Z,9.3nm,0.9s							
MMPY	Sheldon Lake,	88.34	20	P	P	18 14 39.2	+0.7	
	baz=224,SNR=11							
I29M	Ogilvie Camp,	88.41	16	IAmb	IAmb	18 14 39.3		
	comp=Z,6.5nm,1.1s							
I29M	Ogilvie Camp,	88.41	16	P	P	18 14 38.5	-0.3	
	baz=217							
G26K	Porcupine Rive	88.45	13	IAmb	IAmb	18 14 40.2		
	comp=Z,13nm,1.1s							
G26K	Porcupine Rive	88.45	13	P	P	18 14 39.1	+0.2	
	baz=212,SNR=12							
E24K	Your Creek	88.52	11	P	P	18 14 39.3	0.0	
	baz=208							
C21K	Knifeblade Rid	88.53	8	P	P	18 14 39.5	+0.3	
	baz=202,SNR=6.8							
TGTN	Hyland Airport	88.57	21	P	P	18 14 40.2	+0.5	
	baz=226							
D22K	Ayikyak River	88.57	9	P	P	18 14 39.7	+0.2	
	baz=204,SNR=7.1							
F25K	Christian Rive	88.62	12	P	P	18 14 40.0	+0.2	
	baz=211							
BMAR	Burnt Mountain	88.69	12		P	18 14 40.6	+0.5	
G27K	Doyon Strip	88.79	14	P	P	18 14 40.7	+0.1	
	baz=214							
I30M	Mount Dempster	88.80	16	IAmb	IAmb	18 14 41.6		
	comp=Z,6.8nm,1.0s							
I30M	Mount Dempster	88.80	16	P	P	18 14 40.6	-0.2	
	baz=219,SNR=9.5							
A19K	Wainwright	88.81	6	P	P	18 14 40.1	-0.4	
	baz=196							
TOLK	Toolik Lake Re	88.84	10	P	P	18 14 40.5	-0.2	
	baz=207							
D23K	Nanushuk River	88.95	10	IAmb	IAmb	18 14 42.5		
	comp=Z,11nm,1.0s							
D23K	Nanushuk River	88.95	10	P	P	18 14 41.5	+0.3	
	baz=206							
B21K	Ikpikpuk River	88.98	8	P	P	18 14 41.4	+0.1	
	baz=202							
F26K	Sheenjek River	89.01	12	P	P	18 14 41.8	+0.3	
	baz=212							
B20K	Meade River	89.03	7	P	P	18 14 42.1	+0.6	
	baz=200							
H29M	Whitestone	89.08	15	IAmb	IAmb	18 14 42.8		
	comp=Z,10nm,0.8s							
H29M	Whitestone	89.08	15	P	P	18 14 42.1	+0.2	
	baz=217,SNR=10							
CMAR	Chiang Mai Arr	89.37	290		P	18 14 45.4	+1.1	
CMAR	Chiang Mai Arr	89.37	290	P	P	18 14 45.6	+1.3	
	comp=Z,9.7nm,0.9s,baz=109,slow=2.8,SNR=65							
	comp=Z,9.7nm,0.9s							
D24K	Happy Valley	89.42	10	P	P	18 14 43.3	-0.1	
	baz=208							
CHTO	Chiang Mai	89.49	290		P	18 14 45.8	+0.9	
CHTO	Chiang Mai	89.49	290	P	P	18 14 46.0	+1.1	
EPYK	Eagle Plains	89.61	15	IAmb	IAmb	18 14 45.1		
	comp=Z,11nm,1.1s							
EPYK	Eagle Plains	89.61	15	P	P	18 14 44.3	-0.1	
	baz=219							
G29M	Pine Creek	89.72	15	IAmb	IAmb	18 14 45.6		
	comp=Z,5.0nm,0.8s							
G29M	Pine Creek	89.72	15	P	P	18 14 44.6	-0.2	
	baz=218							
C23K	Itkillik River	89.75	9	P	P	18 14 45.0	+0.1	
	baz=206							
H31M	Peel River	89.80	17	IAmb	IAmb	18 14 45.8		
	comp=Z,4.1nm,0.9s							
H31M	Peel River	89.80	17	P	P	18 14 45.0	-0.2	
	baz=221							
B22K	Teshekpuk Lake	89.81	8	P	P	18 14 44.8	-0.3	
	baz=203							
F28M	Old Crow	89.85	14	IAmb	IAmb	18 14 46.3		
	comp=Z,6.9nm,1.2s							
F28M	Old Crow	89.85	14	P	P	18 14 45.4	-0.1	
	baz=216							
YAK	Yakutsk	89.88	338		P	18 14 44.2	-1.3	
C24K	Franklin Bluff	89.94	10	P	P	18 14 45.6	-0.2	
	baz=208							
E27K	Coleen River	89.95	13	P	P	18 14 45.3	-0.5	
	baz=214							
D25K	Kavik River	89.99	11	P	P	18 14 45.7	-0.4	
	baz=210							
TROLL	Troll, Antarti	90.17	180	⇑P	P	18 14 48.2	+1.0	
	comp=Z,148nm,0.5s							
G30M	tAoh Zraii Nji	90.21	15	P	P	18 14 46.8	-0.4	
	baz=219,SNR=17							
A22K	Sinclair Lake	90.23	7	P	P	18 14 46.5	-0.5	
	baz=202							
A21K	Barrow	90.34	7	P	P	18 14 46.9	-0.6	
	baz=200							
SNAA	Sanae	90.45	178	⇑P	P	18 14 48.9	+0.5	
	comp=Z,42nm,0.6s							
SNAA	Sanae	90.45	178	P	P	18 14 48.7	+0.3	
	comp=Z,1.6nm,0.6s,baz=206,slow=9.8,SNR=36							
SNAA				S	SKSac	18 24 24.5	+1.0	
	comp=Z,1.2nm,0.9s,baz=162,slow=14,SNR=7.3							
	comp=Z,1.6nm,0.6s							
VNA3	Neumayer Olymp	90.57	176	⇑P	P	18 14 49.5	+0.6	
	comp=Z,6.6nm,0.7s							
G31M	Satah River	90.66	16	P	P	18 14 49.0	-0.2	
	baz=221,SNR=13							
E28M	Babbage River	90.73	13	IAmb	IAmb	18 14 50.5		
	comp=Z,6.6nm,1.0s							
E28M	Babbage River	90.73	13	P	P	18 14 49.2	-0.3	
	baz=216							
C27K	Jago River	90.73	11	P	P	18 14 49.2	-0.3	
	baz=212							
F30M	Barrier River	90.81	15	IAmb	IAmb	18 14 51.3		
	comp=Z,7.4nm,1.0s							
F30M	Barrier River	90.81	15	P	P	18 14 50.4	+0.6	
	baz=220							
PLCA	Paso Flores	90.90	134	P	P	18 14 51.3	+0.2	
	comp=Z,1.5nm,0.6s,baz=210,slow=5.3,SNR=3.7							
	comp=Z,1.5nm,0.6s							
E29M	Blow River	90.92	14	P	P	18 14 50.9	+0.5	
	baz=218							
D27M	Malcolm River	90.95	12	P	P	18 14 50.5	0.0	
	baz=215							
F31M	Tsiigehtchic	91.19	16	P	P	18 14 51.5	0.0	
	baz=222,SNR=10							
VNA1	Neumayer--Stat	91.24	177	⇑P	P	18 14 52.5	+0.6	
	comp=Z,5.3nm,1.0s							
INK	Inuvik	91.89	15	IAmb	IAmb	18 14 55.1		
	comp=Z,14nm,1.2s							
INK	Inuvik	91.89	15	P	P	18 14 54.2	-0.5	
	baz=222							
ULN	Ulaanbaatar	93.56	319		P	18 15 02.2	-0.9	
ULN				IAmb	IAmb	18 15 04.1		
	comp=Z,5.1nm,0.9s							
SONM	Songino Array	93.96	319	P	P	18 15 04.5	-0.4	
	comp=Z,1.4nm,0.8s,baz=122,slow=3.5,SNR=7.7							
	comp=Z,1.4nm,0.8s							
YKA	Yellowknife Ar	94.26	25	P	P	18 15 05.1	-0.6	
	comp=Z,1.2nm,0.7s,baz=254,slow=4.3,SNR=12							
	comp=Z,1.2nm,0.7s							
A36M	Sachs Harbour	96.49	14	P	P	18 15 15.4	-0.2	
	baz=230							
ZALV	Zalesovo Beam	108.63	322	PKiKP	PKiKP	18 20 10.3	-1.2	
	comp=Z,1.6nm,0.6s,baz=50,slow=2.3,SNR=6.3							
MKAR	Makanchi Array	109.57	314	Pdiff	Pdif	18 16 13.4	-1.0	
	comp=Z,0.1nm,0.4s,baz=180,slow=3.7,SNR=2.0							
MKAR				PKiKP	PKiKP	18 20 12.7	-0.9	
	comp=Z,1.2nm,0.4s,baz=77,slow=1.4,SNR=22							
KURBB	Kurchatov Arra	112.29	318	PKiKP	PKiKP	18 20 17.7	-0.9	
	comp=Z,0.4nm,0.3s,baz=91,slow=1.8,SNR=5.3							
KURBB				PP	PP	18 21 11.0	-4.8	
	comp=Z,0.4nm,0.5s,baz=93,slow=7.6,SNR=5.1							
BVAR	Borovoye Array	117.25	321	PKP	PKPdf	18 20 27.6	-0.4	
	comp=Z,3.8nm,0.5s,baz=102,slow=1.6,SNR=26							
KK31	Karatay Array	117.76	310		PKPdf	18 20 28.6	-0.7	
KKAR	Karatay Array	117.76	310		PKPdf	18 20 28.8	-0.6	
SPITS	Spitsbergen Ar	119.43	357	PKP	PKPdf	18 20 31.0	-0.6	
	comp=Z,1.7nm,0.6s,baz=72,slow=2.7,SNR=6.7							
ARTI	Arti	123.33	326		PKPdf	18 20 39.4	-0.2	
ABKAR	Akbulak array	124.35	318		PKPdf	18 20 41.3	-0.5	
ARCES	ARCESS Array B	126.53	350	PKP	PKPdf	18 20 45.1	-0.3	
	comp=Z,1.8nm,0.4s,baz=43,slow=1.5,SNR=29							
BOSA	Boshof	128.49	206	PKP	PKiKP	18 20 51.7	+0.4	
	comp=Z,2.4nm,0.8s,baz=164,slow=7.5,SNR=3.8							
FINES	FINESS Array B	133.45	344	PKhKP	PKPpre	18 20 48.2		
	comp=Z,2.1nm,0.8s,baz=45,slow=3.0,SNR=7.2							
FINES				PKP	PKPdf	18 20 59.1	+0.5	
	comp=Z,2.4nm,0.8s,baz=26,slow=2.3,SNR=10							
FINES				SKPbc	SKPab	18 23 34.8	-0.9	
	comp=Z,2.5nm,1.0s,baz=26,slow=14,SNR=4.6							
NB2	NORSAR Subarra	136.56	354	PKP	PKPpre	18 20 54.9		
	comp=Z,0.6nm,0.7s,baz=16,slow=3.2							
NOA	NORSAR Array B	136.56	354	PKhKP	PKPpre	18 20 54.1		
	comp=Z,0.3nm,0.7s,baz=312,slow=20,SNR=1.3							
NOA				PKP	PKPdf	18 21 04.8	+0.3	
	comp=Z,0.6nm,0.7s,baz=16,slow=5.1,SNR=5.9							
NOA				SKPbc	SKiKP	18 23 45.0	-2.2	
	comp=Z,1.1nm,1.0s,baz=8.8,slow=4.1,SNR=3.6							
HFS	Hagfors	137.14	351	PKiKP	PKPpre	18 20 55.7		
	comp=Z,1.8nm,0.5s,baz=67,slow=5.0,SNR=10							
HFS				PKP	PKPdf	18 21 06.2	+0.7	
	comp=Z,2.2nm,0.7s,baz=48,slow=4.3,SNR=3.8							
KBZ	Khabaz	137.23	316	PKP	PKPdf	18 21 06.3	+0.1	
	comp=Z,0.7nm,0.5s,baz=90,slow=2.0,SNR=4.1							
OZAP	Van, Ozalp-Mer	138.23	308	⇓P	PKiKP	18 21 12.1	+1.2	
NACGM	Naroch	138.64	339	*e*PKP	PKPpre	18 21 02.2		
	comp=Z,6.0nm,0.9s,baz=37							
AKASG	Malin Array Be	140.90	333	PKhKP	PKPpre	18 21 06.7		
	comp=Z,1.7nm,0.4s,baz=46,slow=4.0,SNR=12							
KIEV	Kiev	140.91	333	⇓P	PKPpre	18 21 06.3		
EKA	Eskdalemuir Ar	142.56	5	PKhKP	PKPpre	18 21 11.4		
	comp=Z,1.5nm,0.6s,baz=309,slow=2.8,SNR=5.2							
LVV	L'vov	143.72	336	PKP	PKPbc	18 21 16.6	-0.3	
MILM	Milestii Mici	143.77	329	⇓P	PKPbc	18 21 16.5	-0.6	
STNU	Starunia	144.41	334	PKP	PKPdf	18 21 18.7	-0.3	
VASR	Vaslui	144.47	329	⇓P	PKPab	18 21 19.8	0.0	
ILGA	Ilgaz	144.50	317		PKPab	18 21 20.4	-0.1	
VLDR	Vladesti	144.88	328	⇑P	PKPab	18 21 21.3	-0.1	
OJC	Ojcow	144.90	340	PKP	PKPdf	18 21 19.9	+0.1	
BUR08	Bucovina Ar. S	144.94	332		PKPbc	18 21 21.0	+0.2	
TLCR		144.94	326	⇑P	PKPab	18 21 21.4	-0.4	
BURAR	Bucovina Array	144.95	332		PKPbc	18 21 20.6	-0.3	
BURAR	Bucovina Array	144.95	332	⇑P	PKPab	18 21 21.4	-0.5	
MEZ	Mezhgor'ye	144.97	335	PKP	PKPbc	18 21 20.8	0.0	
SCTR	Scanteiesti	145.04	328	⇑P	PKPab	18 21 21.7	-0.4	
GHRR		145.06	329	⇓P	PKPab	18 21 21.9	-0.3	
RAKU	Rahkiv	145.09	334	PKP	PKPbc	18 21 20.7	-0.4	
STHS	Stebnicka Huta	145.09	338	*e*

	comp=Z,5.4nm,0.9s								
LANS	Liptovska Anna	145.93	340	*e*PKP		PKPab	18 21 24.9	-0.7	
KRLC	Kraliky	145.94	343	*e*PKP		PKPbc	18 21 24.2	+0.7	
MANR	Mangalia	145.97	325			PKPbc	18 21 24.5	+0.8	
MORC	Moravsky Berou	145.99	342	*e*PKP		PKPbc	18 21 23.9	+0.2	
MORC	Moravsky Berou	145.99	342			PKPbc	18 21 24.3	+0.6	
NEHR	Nehoiu	146.06	329			PKPbc	18 21 24.1	0.0	
PVCC	Panska Ves	146.09	346	*e*PKP		PKPbc	18 21 24.7	+0.8	
DOPR	Dopca	146.11	330			PKPbc	18 21 25.1	+1.0	
ISR	Istrita	146.16	328			PKPbc	18 21 24.9	+0.6	
RICC	Richard	146.18	346	*e*PKP		PKPbc	18 21 25.2	+1.1	
MLR	Muntele Rosu	146.19	329			PKPbc	18 21 24.9	+0.4	
MAUC	Maruska	146.27	341	*e*PKP		PKPbc	18 21 25.9	+0.7	
MBAR	Mbarara	146.27	240			PKPbc	18 21 26.7	+1.0	
CJR	Cluj-Napoca	146.35	333			PKPbc	18 21 25.8	+1.0	
PRA	Prague	146.55	346	*e*PKP		PKPbc	18 21 25.9	+0.8	
MARR	Marisel-Cluj	146.59	333			PKPbc	18 21 26.1	+0.6	
PRU	Pruhonice	146.60	345	*e*PKP		PKPbc	18 21 25.9	+0.6	
GOPC	GO Pecny, Ondr	146.61	345	*e*PKP		PKPbc	18 21 26.0	+0.7	
MMAI	Mount Meron Ar	146.61	303	PKPbc		PKPbc	18 21 26.2	+0.2	
	comp=Z,20nm,0.5s,baz=71,slow=5.4,SNR=66								
VOIR		146.66	330			PKPbc	18 21 26.3	+0.6	
DRGR		146.67	334			PKPbc	18 21 26.1	+0.4	
VRAC	Vranov	146.68	343	*e*PKP		PKPbc	18 21 25.8	+0.2	
VRAC	Vranov	146.68	343			PKPbc	18 21 25.8	+0.2	
VYHS	Vyhne	146.71	340	*e*		PKPab	18 21 29.2	+0.5	
VYHS	Vyhne	146.71	340	*e*PKP		PKPbc	18 21 26.2	+0.5	
JAVC	Velka Javorina	146.76	341	*e*PKP		PKPbc	18 21 27.3	-0.5	
PSZ	Piszkesteto	146.84	338			PKPbc	18 21 25.9	-0.2	
PSZ	Piszkesteto	146.84	338			PKPbc	18 21 26.1	0.0	
ARR	Arges	146.91	330			PKiKP	18 21 27.8	-0.4	
KRUC	Moravsky	146.96	343	*e*PKP		PKPbc	18 21 26.4	+0.1	
TREC	Trest	147.00	344	*e*PKP		PKPbc	18 21 26.9	+0.5	
ZVC	Zvikov	147.19	345	*e*PKP		PKPbc	18 21 27.5	+0.6	
ZVC				*e*PKPAB		PKPab	18 21 31.0	+0.4	
LOT	Lotru	147.25	331			PKPbc	18 21 26.9	-0.4	
RAZG	Razgrad	147.26	326			PKPbc	18 21 27.8	+0.5	
MODS	Modra-Piesok	147.31	341	*e*PKP		PKPbc	18 21 26.5	-0.8	
MODS				*e*			18 21 30.2		
SIRR	Siria	147.52	334			PKPbc	18 21 28.5	+0.6	
KHC	Kasperske Hory	147.62	346	*e*PKP		PKPbc	18 21 28.5	+0.4	
CKRC	Cesky Krumlov	147.74	345	*e*PKP		PKiKP	18 21 29.0	-0.8	
GZR	Gura Zlata	147.74	332			PKPbc	18 21 28.3	-0.2	
SURR	Surduc	147.74	333			PKPbc	18 21 28.0	-0.4	
GERES	GERESS Array B	147.86	346	PKPbc		PKPbc	18 21 28.8	0.0	
	comp=Z,14nm,0.7s,baz=23,slow=3.4,SNR=70								
PHSR	Pinarhisar	147.98	323			PKPab	18 21 35.2	+1.2	
ELND	Elena	148.03	326			PKPab	18 21 34.7	+0.5	
BZS	Buzias	148.06	334			PKPbc	18 21 29.1	-0.1	
CONA	Conrad Observa	148.14	342	*i* PKP		PKiKP	18 21 30.0	-0.7	
	comp=Z,7.3nm,0.6s,SNR=13								
RONA	Rosalia, Austr	148.21	342	*i* PKP		PKPbc	18 21 30.1	+0.5	
	comp=Z,11nm,0.6s,SNR=12								
HERR	Herculane	148.30	332			PKPbc	18 21 29.8	0.0	
PLVB	Pleven	148.36	328			PKPbc	18 21 30.1	+0.1	
BAND	Balkesir-Ban	148.43	320			PKPbc	18 21 30.3	0.0	
MDVR	Moldovita	148.69	333			PKPbc	18 21 30.7	-0.2	
MORH	Mrgy, Hungar	148.74	338			PKPbc	18 21 30.7	-0.1	
ARSA	Arzberg	148.85	342	*e*PKP		PKiKP	18 21 31.8	-0.3	
	comp=Z,8.3nm,1.2s								
BIOA	Bad Ischl, Aus	148.95	345	*e*PKP		PKPdf	18 21 27.4	+0.8	
	comp=Z,1.9nm,0.7s								
BIOA				*i* PKP		PKPbc	18 21 31.3	-0.1	
	comp=Z,10nm,0.9s,SNR=5.9								
LESA	Schwarzleotal	149.44	346	*i* PKP		PKPdf	18 21 27.7	+0.2	
	comp=Z,3.6nm,1.1s								
LESA				*e*PKP		PKPbc	18 21 32.4	-0.2	
	comp=Z,7.0nm,0.5s,SNR=7.4								
SOKA	Soboth	149.51	342	*i* PKP		PKPbc	18 21 32.6	-0.2	
	comp=Z,8.9nm,1.0s,SNR=7.8								
PERS	Pernice	149.52	342	*i* PKPbc		PKPbc	18 21 32.4	-0.4	
TAVA	DENIZLI_Tavas	149.54	315			PKiKP	18 21 33.9	0.0	
BOVS	Bovan	149.59	331			PKPbc	18 21 32.9	-0.1	
KBA	Koelnbreinsper	149.60	345	*i* PKP		PKPbc	18 21 32.5	-0.6	
	comp=Z,12nm,0.5s								
WATA	Walderalm	149.76	347	*i* PKP		PKPbc	18 21 33.3	-0.1	
	comp=Z,14nm,0.6s,SNR=6.8								
RETA	Reutte	149.78	348	*e*PKP		PKPbc	18 21 33.6	+0.2	
	comp=Z,6.7nm,0.6s								
OBKA	Obir	149.80	343	*e*PKP		PKPbc	18 21 33.1	-0.4	
	comp=Z,5.9nm,0.8s								
WTTA	Wattenberg	149.82	347	*i* PKP		PKPbc	18 21 33.7	+0.1	
	comp=Z,33nm,0.6s,SNR=14								
EZN	Ezine	149.82	321			PKPbc	18 21 33.7	+0.1	
MOTA	Moosalm	149.85	348	*e*PKP		PKPdf	18 21 28.1	-0.1	
	comp=Z,4.5nm,1.0s								
MOTA				*i* PKP		PKPbc	18 21 33.6	-0.1	
	comp=Z,19nm,0.9s,SNR=8.1								
MYKA	Terra Mystica	149.94	344	*i* PKP		PKPbc	18 21 33.3	-0.5	
	comp=Z,14nm,0.6s,SNR=8.4								
SQTA	Sankt Quirin	149.95	348	*i* PKP		PKPbc	18 21 34.0	+0.1	
	comp=Z,20nm,0.6s,SNR=9.8								
ABTA	Abfaltersbach	150.11	346	*i* PKP		PKPbc	18 21 34.1	-0.1	
	comp=Z,28nm,0.6s,SNR=12								
DAVA	Damuels	150.14	349	*e*PKP		PKPdf	18 21 30.0	+1.3	
	comp=Z,5.7nm,1.2s								
DAVA				*e*PKP		PKPbc	18 21 34.5	+0.1	
	comp=Z,28nm,1.0s,SNR=8.3								
LJU	Ljubljana	150.23	342	*i* PKPbc		PKPbc	18 21 34.5	+0.1	
FETA	Feichten	150.24	348	*e*PKP		PKPdf	18 21 29.2	+0.4	
	comp=Z,5.1nm,0.7s								
FETA				*i* PKP		PKPbc	18 21 34.8	+0.2	
	comp=Z,18nm,0.8s,SNR=6.6								
BOJS	Bojanci	150.50	341	*i* PKPbc		PKiKP	18 21 35.5	-0.1	
BLY	Banja Luka	150.52	338			PKiKP	18 21 36.1	+0.5	
PDG	Podgorica	151.64	333			PKPbc	18 21 37.6	-0.1	
ESDC	Sonseca Array	157.82	12	PKPab		PKPab	18 22 15.4	-0.5	
	comp=Z,1.6nm,0.8s,baz=341,slow=5.2,SNR=11								

DJA 17 18:08:00.2±0.4,2°N±5°×12°2E±°,h10km,M4.0/11,mB5.0/1, mb4.7/1,MLv3.7/11,Mw(mB)4.3/1,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	1.47	199	P	Pn	18 08 26.4	-0.4
MRSI				S	Sn	18 08 44.6	-1.6
KMSI	Cibinong	2.03	130	P	Pn	18 08 34.4	-0.1
APSI	Ampana	2.88	196	P	Pn	18 08 47.9	+1.7
LUWI	Luwuk	2.92	173	P	Pn	18 08 47.6	+0.8
MPSI	Mapaga	2.95	239	P	Pn	18 08 47.4	+0.2
SGSI	Sangihe	3.59	60	P	Pn	18 08 54.2	-1.7
PCI	Palu	3.79	223	P	Pn	18 08 58.6	-0.1
TNTI	Ternate	5.07	102	P	Pn	18 09 10.4	-5.9
TTSI	Tana Toraja	5.54	208	P	Pn	18 09 17.6	-5.2

CATAC 17 18:15:06.8±0.8,13°N±5°×9°0W±°,h23km±4km,M3.3/11, MLv3.3/11,Error ellipse: s-maj=11.3km s-min=6.1km az=22.6,confirmed
SNET 17 18:15:07.3±1.0,13°.37N×89°.98W,h53km,ML3.1
GCG 17 18:15:07.3±0.5,13°.36N×89°.99W,h48km±10km,MD3.8, MW3.5

ISC 17 18:15:06.5±2.5,13°3N±0°.1×89°.99W±0°.09,h58km,n43, σ0§48/46,3C,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	Alcaldia de Sa	0.55	358	P	Pn	18 15 18.8	-0.1
JAYA	Jayaque - finc	0.64	56	*e*P	Pn	18 15 19.6	-0.5
JAYA	Jayaque - finc	0.64	56	*e*P	Pn	18 15 19.6	-0.5
JAYA	Jayaque - finc	0.64	56	S	Sn	18 15 28.9	-1.1
JAYA	Jayaque - finc	0.64	56	P	Pn	18 15 19.7	-0.5
NUBE	Las Nubes	0.64	19	*e*P	Pn	18 15 20.0	-0.2
NUBE				*e*S	Sn	18 15 29.4	-0.6
NUBE	Las Nubes	0.64	19	*i* P	Pn	18 15 19.9	-0.2
NUBE				*e*S	Sn	18 15 29.6	-0.3
NUBE	Las Nubes	0.64	19	P	Pn	18 15 19.9	-0.2
CEVE	Cerro Verde	0.64	34	*e*P	Pn	18 15 20.0	-0.2
CEVE	Cerro Verde	0.64	34	P	Pn	18 15 20.3	+0.1
SBLS	San Blas	0.65	34	*e*P	Pn	18 15 20.0	-0.3
LALI	Alcalda de L	0.68	74	*e*P	Pn	18 15 19.9	-0.5
LALI	Alcalda de L	0.68	74	S	Sn	18 15 29.5	-1.0
LALI	Alcalda de L	0.68	74	P	Pn	18 15 19.9	-0.5
SNJE	San Jose	0.68	33	*e*P	Pn	18 15 20.5	-0.2
RTR	El Retiro	0.69	29	*e*P	Pn	18 15 20.7	0.0
SLOZ	Alcaldia de Sa	0.75	16	*e*P	Pn	18 15 21.6	+0.2
SLOZ				*e*S	Sn	18 15 32.4	+0.2
SLOZ	Alcaldia de Sa	0.75	16	P	Pn	18 15 21.7	+0.3
PMON	Piamonte	0.78	58	*e*P	Pn	18 15 22.7	+0.9
PMON	Piamonte	0.78	58	S	Sn	18 15 32.4	-0.5
PMON	Piamonte	0.78	58	P	Pn	18 15 21.5	-0.3
BOQS	Boqueron	0.82	58	*e*P	Pn	18 15 22.3	-0.1
LOMA	Loma Larga	0.87	66	*e*P	Pn	18 15 22.6	-0.4
LOMA	Loma Larga	0.87	66	P	Pn	18 15 22.6	-0.4
LOMA	Loma Larga	0.87	66	S	Sn	18 15 34.9	-0.1
LFRS	El Faro	0.96	70	*e*P	Pn	18 15 23.9	-0.2
LFU	La Fuente	0.97	62	*e*P	Pn	18 15 24.5	+0.4
LBRS	Las Brisas	1.02	64	*e*P	Pn	18 15 25.3	+0.4
PAVA	Las Pavas	1.11	68	*e*P	Pn	18 15 26.5	+0.5
PAVA	Las Pavas	1.11	68	P	Pn	18 15 26.8	+0.7
PAVA	Las Pavas	1.11	68	S	Sn	18 15 41.5	+1.0
COEG	Centro de Oper	1.13	73	*e*P	Pn	18 15 26.4	+0.1
COEG	Centro de Oper	1.13	73	P	Pn	18 15 26.5	+0.2
COEG	Centro de Oper	1.13	73	S	Sn	18 15 40.7	-0.3
MTO3	Montecristo	1.26	29	*e*P	Pn	18 15 28.3	+0.2
MTO3	Montecristo	1.26	29	*e*P	Pn	18 15 28.3	+0.2
MTO3	Montecristo	1.26	29	P	Pn	18 15 28.3	+0.2
ESSG	Sabana Grande	1.35	323	eS	Sn	18 15 46.6	+0.3
ESQI	Esquipulas	1.41	27	P	Pn	18 15 30.6	+0.6
PQSS	Presa 15 de Se	1.43	77	*e*P	Pn	18 15 30.4	+0.1
PQSS	Presa 15 de Se	1.43	77	P	Pn	18 15 30.3	+0.1
PQSS	Presa 15 de Se	1.43	77	S	Sn	18 15 48.9	+0.8
BLLM	Bellamira	1.71	85	*e*P	Pn	18 15 34.9	+0.8

NOU 17 18:28:05.4,47°.89S×165°.49E,h0km,mb4.7/16,Off W. Coast of S. Island, N.Z.
IDC 17 18:28:08.7±0.6,47°.36S×165°.49E,h0km,mb4.2/7, mbtmp4.3/9,ML4.1/2,MS3.9/21,Error ellipse: s-maj=23.2km s-min=18.2km az=81.0
NEIC 17 18:28:13.7±1.9,47°.5S±0°.1×165°.6E±0°.2,h35km±2km, mb4.5/6,Error ellipse: s-maj=24.2km s-min=17.3km az=107.0

ISC 17 18:28:09.4±1.8,47°38S±0°.06×165°53E±0°.05,h8km±11km, n118,σ1§71/114,mb4.4/12,MS3.9/19,4C,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	1.45	34		Pg	18 28 37.6	+0.5
PYZ	Puysegur Point	1.45	34	P	Pb	18 28 36.9	+0.3
PYZ				S	Sg	18 28 57.2	+1.3
APZ	The Paps	1.77	73	P	Pb	18 28 41.2	-0.8
APZ				S	Sb	18 29 04.9	+0.5
RRKS	Rarakau	1.82	48	P	Pb	18 28 42.9	0.0
DCZ	Deep Cove	2.22	31		Pb	18 28 48.3	-1.4
DCZ	Deep Cove	2.22	31	P	Pn	18 28 47.5	+1.0
WHZ	Wether Hill Ro	2.23	49		Pb	18 28 48.6	-1.3
WHZ	Wether Hill Ro	2.23	49	P	Pn	18 28 47.9	+1.2
WHZ				S	Sb	18 29 17.4	-0.4
TAFS	Te Anau Fire S	2.48	38	P	Pb	18 28 52.5	-1.7
TAFS				S	Sb	18 29 24.8	-0.1
MOSS	Mossburn Schoo	2.54	49	P	Pb	18 28 53.2	-1.9
MOSS				S	Sb	18 29 26.9	+0.4
SYZ	Scrubby Hill	2.61	72	P	Pn	18 28 53.3	+1.4
SYZ	Scrubby Hill	2.61	72	P	Pb	18 28 54.1	-2.3
SYZ				S	Sb	18 29 27.6	-1.0
GODC	Gore District	2.67	63	P	Pn	18 28 54.6	+1.9
GODC				S	Sb	18 29 28.7	-1.7
MLZ	Mavora Lakes	2.70	43		Pb	18 28 55.7	-2.2
MLZ	Mavora Lakes	2.70	43	P	Pb	18 28 55.5	-2.4
MLZ				S	Sb	18 29 30.7	-0.4
TUZ	Tuapeka	3.16	65	P	Pn	18 29 00.7	+1.3
TUZ				S	Sn	18 29 39.6	+2.3
MSZ	Milford Sound	3.18	33	P	Pb	18 29 03.4	-2.7
EAZ	Earnscleugh	3.39	52	P	Pn	18 29 04.9	+2.4
WKZ	Wanaka	3.52	45		Pn	18 29 07.5	+3.1
WKZ	Wanaka	3.52	45	P	Pn	18 29 07.6	+3.1
WKZ				S	Sb	18 29 51.4	-3.5
HHSZ	Highcliff Hill	3.80	69	P	Pn	18 29 10.4	+2.2
HHSZ				S	Sn	18 29 55.9	+2.9
JCZ	Jackson Bay	4.02	36	P	Pn	18 29 14.8	+3.5
JCZ	Jackson Bay	4.02	36	P	Pn	18 29 15.1	+3.9
ODZ	Otahua Downs	4.25	59		Pn	18 29 14.5	0.0
ODZ	Otahua Downs	4.25	59	P	Pn	18 29 14.4	0.0
ODZ	Otahua Downs	4.25	59	P	Pn	18 29 14.8	+0.4
LBZ	Lake Benmore	4.42	49		Pn	18 29 17.2	+0.5
LBZ	Lake Benmore	4.42	49	P	Pn	18 29 17.1	+0.3
TMZ	Timaru	4.86	54	P	Pn	18 29 23.4	+0.6
FOZ	Fox Glacier	4.89	40		Pn	18 29 25.5	+2.3
FOZ	Fox Glacier	4.89	40	P	Pn	18 29 25.4	+2.3
RPZ	Rata Peaks	5.34	49		Pn	18 29 28.9	-0.4
RPZ	Rata Peaks	5.34	49	Pn	Pn	18 29 28.6	-0.7
	4.4nm,0.3s,baz=234,slow=2.8,SNR=33						
RPZ				Sn	Sn	18 30 32.6	+1.7
	13nm,0.3s,baz=217,slow=20,SNR=4.1						
RPZ				LR	LR	18 31 51.7	
	comp=Z,3μm,19.2s,baz=206,slow=42 14nm,0.3s						
RPZ	Rata Peaks	5.34	49	P	Pn	18 29 29.2	-0.1
RPZ	Rata Peaks	5.34	49	P	Pn	18 29 29.0	-0.4
WVZ	Waitaha Valley	5.66	42	P	Pn	18 29 36.5	+2.7
MHCZ	Mount Hutt	5.73	50	P	Pn	18 29 37.8	+3.0
MHCZ				S	Sn	18 30 40.4	-0.3
RACZ	Rakaia	5.91	54	P	Pn	18 29 37.8	+0.6
OXZ	Oxford	6.12	51		Pn	18 29 41.5	+1.4
OXZ	Oxford	6.12	51	P	Pn	18 29 41.7	+1.6
MQZ	McQueen's Vall	6.21	56		Pn	18 29 41.3	0.0
MQZ	McQueen's Vall	6.21	56	P	Pn	18 29 41.2	0.0
AKCZ	Akaroa Harbour	6.25	59	P	Pn	18 29 42.6	+0.7
INZ	Inchbonnie	6.26	44	Pn	Pn	18 29 43.6	+1.6
OKCZ	Okains Bay	6.43	58	P	Pn	18 29 45.5	+1.1
AMCZ	Amberley	6.55	53	Pn	Pn	18 29 48.7	+2.7
AMCZ	Amberley	6.55	53	P	Pn	18 29 47.6	+1.7
LTZ	Lake Taylor	6.62	49		Pn	18 29 50.1	+3.0
DSZ	Dennistion Nort	7.20	41	Pn	Pn	18 29 56.5	+1.5
KHZ	Kahutara	7.54	52	Pn	Pn	18 30 01.9	+2.3
THZ	Tophouse	7.70	46		Pn	18 30 03.0	+1.2
MRNZ	Matariki Terra	7.91	43		Pn	18 30 06.9	+2.3
BSWZ	Blackbirch Sta	8.22	49	Pn	Pn	18 30 11.6	+2.7
QRZ	Quartz Range	8.26	40		Pn	18 30 11.0	+1.5
QRZ	Quartz Range	8.26	40	P	Pn	18 30 11.3	+1.8
TKNZ	Takaka Hill	8.29	43	Pn	Pn	18 30 10.9	+1.0
NNZ	Nelson	8.34	45	Pn	Pn	18 30 12.3	+1.8
KHEZ	Kahui Hut	10.17	40	P	Pn	18 30 38.3	+2.6
BFZ	Birch Farm	10.21	53	P	Pn	18 30 38.5	+2.3
HIZ	Hauiti	11.18	41	P	Pn	18 30 50.9	+1.4
BKZ	Black Stump Fm	11.45	48	P	Pn	18 30 55.4	+2.2
URZ	Urewera	12.45	47	Pn	Pn	18 31 07.0	+0.2
	1.3nm,0.3s,baz=223,slow=8.9,SNR=4.0						
URZ				Sn	Sn	18 33 19.8	-5.9
	1.1nm,0.3s,baz=234,slow=19,SNR=6.1						
URZ				LR	LR	18 36 31.1	
	comp=Z,2μm,19.2s,baz=226,slow=40 13nm,0.8s						
URZ	Urewera	12.45	47	P	Pn	18 31 09.2	+2.4
OUZ	Omahuta	13.57	29	P	Pn	18 31 25.2	+3.2
TAU	Tasmania Unive	13.60	283	P	Pn	18 31 19.3	-3.2
MOO	Moorlands	13.89	284	P	Pn	18 31 25.6	-0.9
GLD	Gladstone	14.09	291	P	Pn	18 31 27.3	-1.9
CNB	Canberra Magne	17.07	309	P	P	18 32 09.6	-0.5
CAN	Canberra	17.25	308	P	P	18 32 12.6	+0.4
RAO	Raoul Island	22.20	41	LR	LR	18 42 25.1	
	comp=Z,488nm,20.0s,baz=190,slow=39						
STKA	Stephens Creek	23.94	302	P	P	18 33 24.4	+0.6
	2.0nm,0.7s,baz=135,slow=5.1,SNR=4.5						
STKA				LR	LR	18 41 20.7	
	comp=Z,308nm,20.1s,baz=153,slow=33 2.0nm,0.7s						
DZM	Mont Dzumac	25.26	2	LR	LR	18 41 16.3	
	comp=Z,245nm,20.4s,baz=183,slow=31						
VNDA	Vanda	30.28	182	LR	LR	18 44 06.5	
	comp=Z,198nm,18.8s,baz=12,slow=32						
AS31	Alice Springs	34.58	302		P	18 34 58.1	-0.6
ASAR	Alice Springs	34.58	302		P	18 34 58.2	-0.4
ASAR	Alice Springs	34.58	302	P	P	18 34 58.4	-0.3
	6.1nm,0.7s,baz=133,slow=7.9,SNR=78						
ASAR				PcP	PcP	18 37 33.0	-0.2
	1.2nm,0.9s,baz=138,slow=3.9,SNR=3.8						
ASAR				LR	LR	18 48 57.4	
	comp=Z,177nm,18.5s,baz=146,slow=36 6.1nm,0.7s						
WR8	Warramunga Arr	37.19	307		P	18 35 20.8	-0.2
WR8				IAmb	IAmb	18 35 31.3	
	comp=Z,5.5nm,0.8s						
WRA	Warramunga Arr	37.28	306	P	P	18 35 20.9	-0.9
	comp=Z,2.1nm,0.7s,baz=139,slow=7.7,SNR=25						
WRA				PcP	PcP	18 37 41.4	+0.2
	comp=Z,2.3nm,1.1s,baz=148,slow=2.7,SNR=6.5						
	comp=Z,2.1nm,0.7s						
WB0	Warramunga Arr	37.40	307	P	P	18 35 22.3	-0.5
WB0				IAmb	IAmb	18 35 39.7	
	comp=Z,13nm,1.2s						
HNR	Honiara	38.11	351	LR	LR	18 48 55.8	
	comp=Z,210nm,19.7s,baz=206,slow=33						
RAR	Rarotonga	38.26	59	LR	LR	18 50 00.2	
	comp=Z,178nm,20.0s,baz=218,slow=34						
NWAO	Narrogin (SRO)	39.00	274	LR	LR	18 47 52.0	
	comp=Z,69nm,20.0s,baz=184,slow=30						
H01W1	Cape Leeuwin H	39.96	269	T	T	19 18 04.6	
	baz=124,slow=75,SNR=44						
H01W2	Cape Leeuwin H	39.97	269	T	T	19 17 56.1	
	baz=124,slow=75,SNR=52						
H01W3	Cape Leeuwin H	39.98	269	T	T	19 17 59.2	
	baz=124,slow=75,SNR=8.6						
QSPA	South Pole Qui	42.74	180		P	18 36 07.0	+0.1
QSPA				IAmb	IAmb	18 36 32.2	
	comp=Z,15nm,1.4s						
QSPA	South Pole Qui	42.74	180	P	P	18 36 07.1	+0.3
	comp=Z,4.6nm,1.2s,baz=27,slow=1.9,SNR=6.9						
QSPA				PcP	PcP	18 37 59.4	+1.3
	comp=Z,1.5nm,0.8s,baz=62,slow=1.3,SNR=5.2						
QSPA				LR	LR	18 50 39.2	
	comp=Z,107nm,18.8s,baz=22,slow=32 comp=Z,4.6nm,1.2s						
FITZ	Fitzroy Crossi	43.74	298	LR	LR	18 54 40.7	
	comp=Z,380nm,18.2s,baz=141,slow=36						
PPT	Papeete	47.21	67	LR	LR	18 54 47.2	
	comp=Z,119nm,18.4s,baz=202,slow=34						
MAW	Mawson	51.65	208	P	P	18 37 16.9	+1.0
	comp=Z,0.8nm,0.6s,baz=108,slow=16,SNR=2.0						
MAW				PcP	PcP	18 38 30.5	+1.1
	comp=Z,1.1nm,0.6s,baz=209,slow=3.4,SNR=4.4						
MAW				LR	LR	18 57 33.4	
	comp=Z,164nm,18.8s,baz=105,slow=34 comp=Z,0.8nm,0.6s						
BELA	Belgrano 2	54.40	175	P	P	18 37 36.2	0.0
BELA				IAmb	IAmb	18 37 38.5	
	comp=Z,8.4nm,1.5s						
KAPI	Kappang	57.60	302	LR	LR	19 01 53.8	
	comp=Z,146nm,19.6s,baz=112,slow=35						
TROLL	Troll, Antarti	60.31	186	P	P	18 38 17.9	-0.2
	comp=Z,73nm,0.6s						
SNAA	Sanae	60.97	184	P	P	18 38 22.4	-0.1
	comp=Z,87nm,0.9s						
SNAA	Sanae	60.97	184	P	P	18 38 22.6	+0.1
SNAA	Sanae	60.97	184	P	P	18 38 22.4	-0.1
	comp=Z,6.2nm,1.1s,baz=202,slow=10,SNR=19						
SNAA				LR	LR	19 02 25.0	
	comp=Z,88nm,18.4s,baz=246,slow=34 comp=Z,6.2nm,1.1s						
VNA3	Neumayer Olymp	61.64	182	P	P	18 38 26.7	-0.3
	comp=Z,2.2nm,0.9s						
VNA1	Neumayer--Stat	62.20	182	P	P	18 38 31.0	+0.3
	comp=Z,9.0nm,1.0s						
LEM	Lembang	63.57	290	LR	LR	19 07 07.8	
	comp=Z,69nm,18.1s,baz=237,slow=37						
H04S1	CROZET ISLANDS	69.72	222	T	T	19 56 09.5	
	baz=139,slow=74,SNR=17						
H04S2	CROZET ISLANDS	69.72	222	T	T	19 56 12.8	
	baz=139,slow=74,SNR=19						
H04S3	CROZET ISLANDS	69.74	222	T	T	19 56 12.2	
	baz=139,slow=74,SNR=13						
H08S2	Diego Garcia H	86.49	263	T	T	20 16 01.6	
	baz=138,slow=76,SNR=43						
H08S1	Diego Carcia H	86.50	263	T	T	20 16 06.4	
	baz=138,slow=76,SNR=45						
H08S3	Diego Garcia H	86.51	263	T	T	20 15 54.0	
	baz=138,slow=76,SNR=70						
CMAR	Chiang Mai Arr	88.54	299		P	18 41 03.1	+0.

CHKK					Lg	Lg	18 35 56.4	
	12nm,0.3s							
CHKK	**Chushkaly**	**3.50**	**301**	*e*P	**Pb**	**18 35 08.3**	**+1.0**
	2.0nm,0.4s							
CHKK				*e*S	**Sg**	**18 35 56.4**	**-1.3**
	12nm,0.3s							
MTBS	**Maitube**	**3.62**	**288**	Pg	**Pb**	**18 35 09.2**	**-0.2**
	3.9nm,0.4s							
MTBS				Lg	Lg	18 35 58.0		
	15nm,0.4s							
MTBS	**Maitube**	**3.62**	**288**	*e*P	**Pb**	**18 35 09.2**	**-0.2**
	3.9nm,0.4s							
MTBS				*e*S	**Sb**	**18 35 58.0**	**+4.7**
	15nm,0.4s							
KTBS	**Karatobe**	**3.63**	**297**	Pg	**Pb**	**18 35 10.1**	**+0.5**
	2.5nm,0.4s							
KTBS				Lg	Lg	18 36 00.2		
	26nm,0.4s							
KST	**Kastek**	**3.93**	**285**	Pg	**Pb**	**18 35 15.5**	**+0.8**
	4.1nm,0.6s							
KST				Lg	Lg	18 36 09.7		
	13nm,0.7s							
KST	**Kastek**	**3.93**	**285**	*e*P	**Pb**	**18 35 15.5**	**+0.8**
	4.1nm,0.6s							
KST				*e*S	**Sg**	**18 36 09.7**	**-1.7**
	13nm,0.7s							
MK31	**Makanchi Array**	**4.74**	**10**	Pn	**Pn**	**18 35 17.0**	**+0.2**
	0.3nm,0.2s,baz=192,slow=13,SNR=142							
MK31				Pg	**Pb**	**18 35 27.8**	**-0.7**
	1.1nm,0.4s,baz=186,slow=16,SNR=5.3							
MK31				⇑Sn	**Sn**	**18 36 13.7**	**+1.9**
	0.9nm,0.3s,baz=185,slow=25,SNR=4.1							
MK31				⇑Lg	Lg	18 36 30.6		
	4.2nm,0.6s,baz=189,slow=30,SNR=6.0							
KURBB	**Kurchatov Arra**	**8.68**	**349**	⇑Lg	Lg	18 38 43.1		
	5.7nm,0.8s							
KURK	**Kurchatov**	**8.76**	**349**	⇑Lg	Lg	18 38 45.2		
	4.8nm,0.8s							

IDC 17 18:34:13.6±30.0, 10°98S×66°15E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=904.6km s-min=51.4km az=67.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**7.07**	**63**	T	T	18 42 46.7	
	baz=246,slow=74,SNR=5.0						
H08S2	**Diego Garcia H**	**7.09**	**63**	T	T	18 42 43.1	
	baz=246,slow=74,SNR=4.9						
H08S3	**Diego Garcia H**	**7.09**	**63**	T	T	18 42 45.5	
	baz=246,slow=74,SNR=6.1						
ASAR	**Alice Springs**	**65.40**	**111**	P	P	18 44 58.7	+0.1
	0.4nm,0.7s,baz=270,slow=5.6,SNR=4.3						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**65.96**	**107**	P	P	18 45 02.2	-0.1
	0.5nm,0.7s,baz=273,slow=5.7,SNR=4.5						
	0.5nm,0.7s						
SONM	**Songino Array**	**68.59**	**28**	P	P	18 45 18.5	+0.1
	0.5nm,0.8s,baz=243,slow=6.3,SNR=3.4						
	0.5nm,0.8s						

AUST 17 18:41:25.7±1.5, 19°S±10°×12°1E±°, h14km±16km, mb3.8/6, ML2.9/6, Error ellipse: s-maj=23.5km s-min=7.4km az=152.9, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.69**	**197**	P	Pn	18 42 08.2	-0.4
MBWA				S	Sn	18 42 42.6	+1.6
PSAC1	**Pilbara Seismi**	**3.03**	**194**	P	Pn	18 42 12.9	-0.3
PSAC1				S	Sn	18 42 50.2	+0.8
PSA00	**Pilbara Seismi**	**3.06**	**193**	P	Pn	18 42 13.6	0.0
PSA00				S	Sn	18 42 51.7	+1.6
GIRL	**Giralia**	**7.19**	**235**	P	Pn	18 43 06.6	-3.9
GIRL				S	Sn	18 44 21.6	-10
MEEK	**Meekatharra**	**8.23**	**192**	P	Pn	18 43 23.8	-0.9
	comp=Z,15nm,2.1s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.23**	**192**	S	Sn	18 44 52.1	-5.4
KNRA	**Kununurra**	**8.34**	**71**	P	Pn	18 43 25.8	-0.4
	comp=Z,10nm,1.8s,comp=Z,0.0nm						
KNRA				S	Sn	18 44 57.0	-3.2
CVQOZ	**Cooralya Stati**	**8.41**	**225**	P	Pn	18 43 23.4	-3.8
WRKA	**Warakurna**	**9.63**	**133**	P	Pn	18 43 46.4	+2.5
	comp=Z,3.6nm,1.8s,comp=Z,0.0nm						
WRKA				P	Sn	18 45 33.1	+1.2
MORW	**Morawa**	**11.24**	**201**	P	Pn	18 44 01.7	-4.3
	comp=Z,11nm,2.0s						
MORW	**Morawa**	**11.24**	**201**	S	Sn	18 46 02.9	-8.5
KLBR	**Kellerberrin**	**13.21**	**191**	P	Pn	18 44 31.2	-1.7
	comp=Z,13nm,1.0s						
KLBR	**Kellerberrin**	**13.21**	**191**	S	Sn	18 46 49.8	-10
FORT	**Forrest**	**13.91**	**152**	S	Sn	18 47 16.1	-0.7
	comp=Z,7.5nm,1.9s						

TIR 17 19:03:01.1, 41°.98N×20°.90E, h2km±1km, Ml2.6/5
SKO 17 19:03:02.3, 41°.96N×20°.80E, h9km, ML2.4
BEO 17 19:03:04.4±0.5, 41°.99N×20°.84E, h6km±3km, ML2.2/12
PDG 17 19:03:05.7±0.1, 42°.11N×20°.72E, h10km, ML2.4/12, Error ellipse: s-maj=0.2km s-min=0.7km az=0.0

ISC 17 19:03:02.9±1.0, 41°.97N±0°.02×20°.84E±0°.02, h7km±9km, n47, σ0s79/85, 9C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.41**	**226**	⇑*i*Pg	**Pg**	**19 03 10.3**	**-0.6**
PHP				Sg	**Sg**	**19 03 16.1**	**-0.2**
PHP				AML	AML	19 03 16.7	
	2.0nm,0.4s						
SKO	**Skopje**	**0.45**	**90**	*i* Pg	**Pg**	**19 03 11.9**	**+0.2**
SKO				*i* Sg	**Sg**	**19 03 18.2**	**+0.7**
BCI	**Bajram Curri**	**0.69**	**305**	Pg	**Pg**	**19 03 16.0**	**-0.3**
BCI				Sg	**Sb**	**19 03 27.0**	**-0.1**
BCI				AML	AML	19 03 29.5	
	1.4nm,0.4s						
PUK	**Puka**	**0.71**	**276**	⇑*e*Pg	**Pg**	**19 03 15.9**	**-0.6**
PUK				Sg	**Sb**	**19 03 26.7**	**-0.7**
PUK				AML	AML	19 03 31.7	
	0.7nm,0.5s						
OHR	**Ohrid**	**0.86**	**182**	*i* Pg	**Pg**	**19 03 19.2**	**-0.2**
OHR				*i* Sg	**Sb**	**19 03 31.9**	**+0.1**
OHR				*e*Lg	Lg	19 03 32.4	
	comp=N,48nm,0.4s						
OHR				*e*Lg	Lg	19 03 32.6	
	comp=E,65nm,0.5s						
OHR	**Ohrid**	**0.86**	**182**	*i* Pg	**Pg**	**19 03 18.9**	**-0.5**
OHR				*i* Sg	**Sb**	**19 03 31.8**	**-0.1**
OHR				*e*Lg	Lg	19 03 32.2	
	comp=N,48nm,0.4s						
OHR				*e*Lg	Lg	19 03 32.4	
	comp=E,68nm,0.5s						
PVY	**Plav**	**0.90**	**314**	⇑*i*Pg	**Pg**	**19 03 19.1**	**-1.1**
PVY				*i* Sg	**Sg**	**19 03 31.4**	**-0.5**
TIR	**Tirane**	**0.96**	**230**	P	**Pg**	**19 03 21.3**	**0.0**
TIR				S	**Sn**	**19 03 36.4**	**-0.2**
BARS	**Barje**	**1.11**	**40**	*i* Pg	**Pb**	**19 03 24.4**	**-0.1**
BARS				*i* Sg	**Sn**	**19 03 39.8**	**-0.7**
BARS	**Barje**	**1.11**	**40**	*i* Pg	**Pb**	**19 03 24.4**	**-0.1**
BARS				*i* Sg	**Sn**	**19 03 40.9**	**+0.5**
BARS	**Barje**	**1.11**	**40**	*e*Pg	**Pb**	**19 03 24.2**	**-0.3**
BARS				*e*Sg	**Sb**	**19 03 39.2**	**0.0**
IVA	**Berane**	**1.14**	**323**	⇓*i*Pg	**Pb**	**19 03 24.6**	**-0.3**
IVA				*i* Sg	**Sb**	**19 03 39.4**	**-0.6**
ULC	**Ulcinj**	**1.19**	**270**	⇑*i*Pg	**Pg**	**19 03 26.6**	**+1.0**
ULC				*i* Sg	**Sn**	**19 03 43.7**	**+1.4**
DRME	**Dracevica, Mon**	**1.25**	**280**	⇓*i*Pg	**Pb**	**19 03 26.6**	**-0.1**
DRME				*i* Sg	**Sn**	**19 03 45.0**	**+1.2**
FNA	**Florina**	**1.25**	**161**	⇑*e*Pn	**Pn**	**19 03 25.9**	**-1.0**
FNA				Sn	**Sg**	**19 03 44.6**	**+1.4**
FNA				AML	AML	19 03 47.8	
	comp=E,0.5nm,0.4s						
FNA	**Florina**	**1.25**	**161**	*i* Pg	**Pn**	**19 03 25.9**	**-1.0**
FNA				*i* Sg	**Sg**	**19 03 44.3**	**+1.1**
FNA	**Florina**	**1.25**	**161**	*i* Pg	**Pn**	**19 03 25.9**	**-1.0**
FNA				*i* Sg	**Sg**	**19 03 44.5**	**+1.2**
PDG	**Podgorica**	**1.26**	**292**	*e*Pg	**Pn**	**19 03 25.8**	**-1.1**
PDG				*e*Sg	**Sg**	**19 03 45.3**	**+1.9**
PDG	**Podgorica**	**1.26**	**292**	⇓*i*Pg	**Pn**	**19 03 26.5**	**-0.4**
PDG				*i* Sg	**Sg**	**19 03 44.6**	**+1.2**
SELS	**Selova**	**1.27**	**9**	*e*Pg	**Pb**	**19 03 27.2**	**+0.1**
SELS				*e*Sg	**Sn**	**19 03 43.7**	**-0.6**
KOME	**Kolasin**	**1.31**	**312**	⇑*i*Pg	**Pn**	**19 03 27.2**	**-0.5**
KOME				*i* Sg	**Sg**	**19 03 45.1**	**-0.1**
BOSS	**Bosilegrad**	**1.33**	**66**	*e*Pg	**Pn**	**19 03 27.7**	**-0.2**
BOSS				*e*Sg	**Sg**	**19 03 46.4**	**+0.8**
KBN	**Korca**	**1.35**	**182**	Pn	**Pn**	**19 03 27.8**	**-0.3**
KBN				Sn	**Sg**	**19 03 47.5**	**+1.3**
KBN				AML	AML	19 03 49.7	
	comp=E,0.3nm,0.5s						
SJES	**Sjenica**	**1.44**	**334**	*e*Pg	**Pb**	**19 03 30.0**	**-0.1**
SJES				*e*Sg	**Sg**	**19 03 51.3**	**+2.2**
VAY	**Valandovo**	**1.45**	**116**	*i* Pg	**Pb**	**19 03 30.2**	**0.0**
VAY				*i* Sg	**Sg**	**19 03 49.4**	**-0.2**
VAY				*e*Lg	Lg	19 03 49.9	
	comp=E,33nm,0.4s						
VAY				*e*Lg	Lg	19 03 50.0	
	comp=N,57nm,0.7s						
VAY	**Valandovo**	**1.45**	**116**	*i* Pg	**Pb**	**19 03 30.3**	**+0.1**
VAY				*i* Sg	**Sg**	**19 03 49.4**	**-0.2**
VAY				*e*Lg	Lg	19 03 49.8	
	comp=E,33nm,0.4s						
VAY				*e*Lg	Lg	19 03 49.9	
	comp=N,57nm,0.7s						
BUM	**Brajici-Budva**	**1.48**	**283**	⇑*i*Pg	**Pb**	**19 03 30.8**	**0.0**
BUM				*i* Sg	**Sg**	**19 03 52.1**	**+1.6**
CEME	**Cevo**	**1.54**	**293**	⇓*i*Pg	**Pb**	**19 03 31.5**	**-0.2**
CEME				*i* Sg	**Sg**	**19 03 53.5**	**+1.3**
GOCS	**Kraljevo Serbi**	**1.59**	**1**	*e*Pn	**Pb**	**19 03 32.3**	**-0.4**
GOCS				*e*Sg	**Sg**	**19 03 54.3**	**+0.3**
NKME	**Niksic**	**1.61**	**300**	⇓*i*Pg	**Pb**	**19 03 32.7**	**-0.2**
NKME				*i* Sg	**Sg**	**19 03 55.0**	**+0.5**
IVAS	**Ivanjica**	**1.68**	**343**	*e*Pn	**Pn**	**19 03 32.9**	**+0.2**
IVAS				*e*Sg	**Sg**	**19 03 56.8**	**-0.1**
KKB	**Krupnik**	**1.72**	**94**	*i* Pg	**Pb**	**19 03 34.6**	**-0.2**
KKB	**Krupnik**	**1.72**	**94**	*i* Pn	**Pb**	**19 03 34.6**	**-0.2**
PLE	**Pljevlja**	**1.73**	**322**	⇑*i*Pg	**Pb**	**19 03 34.5**	**-0.5**
PLE				*i* Sg	**Sg**	**19 03 57.5**	**-0.9**
KNT	**Kendrikon**	**1.75**	**117**	*i* Pg	**Pb**	**19 03 34.4**	**-0.9**
KNT				*i* Sg	**Sb**	**19 03 57.3**	**-0.1**
BOVS	**Bovan**	**1.78**	**21**	*e*Pn	**Pb**	**19 03 36.4**	**+0.6**
BOVS				*e*Sg	**Sg**	**19 03 59.6**	**-0.6**
HCY	**Herceg Novi**	**1.80**	**286**	⇓*i*Pn	**Pb**	**19 03 35.0**	**-1.2**
HCY				*i* Sn	**Sg**	**19 04 00.0**	**-0.2**
ZAPS	**Zavoj**	**1.86**	**45**	*e*Pn	**Pb**	**19 03 36.3**	**-0.9**
UPM	**Unac-Piva**	**1.88**	**311**	⇑*i*Pn	**Pb**	**19 03 36.9**	**-0.8**
UPM				*i* Sn	**Sb**	**19 04 01.3**	**-0.2**
GRUS	**Gruza**	**1.92**	**357**	*e*Pn	**Pb**	**19 03 37.6**	**-0.6**
GRUS				*e*Sg	**Sg**	**19 04 04.9**	**+0.4**
BRY	**Bratogost**	**1.94**	**299**	⇓*i*Pn	**Pb**	**19 03 37.6**	**-1.0**
BRY				*i* Sn	**Sb**	**19 04 03.1**	**+0.1**
ZAGS	**Zajecar**	**2.11**	**29**	*e*Pn	**Pb**	**19 03 41.0**	**-0.4**
BBLS	**Lazi&#263i**	**2.17**	**331**	*e*Pn	**Pn**	**19 03 40.6**	**+1.2**
TRUS	**Trudelj**	**2.27**	**352**	*e*Pn	**Pn**	**19 03 41.4**	**+0.6**
BORS2	**Bor- Borsko je**	**2.29**	**22**	*e*Pn	**Pb**	**19 03 42.9**	**-1.6**
KUBS	**Kucevo**	**2.52**	**14**	*e*Pn	**Pn**	**19 03 45.2**	**+1.0**
VRSS	**Vrsac**	**3.17**	**6**	*e*Pn	**Pn**	**19 03 54.6**	**+1.4**

GCG 17 19:05:35.6±1.5, 14°.66N×92°.48W, h68km±9km, MD4.0, ML4.1, MW3.4
CATAC 17 19:05:35.4±0.6, 15°N±4°×9°3W±°, h33km±4km, M4.0/12, MLv4.0/12, Error ellipse: s-maj=9.6km s-min=4.1km az=41.8, confirmed
SNET 17 19:05:36.8±1.7, 14°.60N×92°.45W, h33km, ML3.9, ML4.1
MEX 17 19:05:36.1±0.6, 14°.56N×92°.62W, h60km±19km, MD4.2

ISC 17 19:05:33.4±1.3, 14°44N±0°.06×92°66W±0°.04, h50km±17km, n50, σ2s17/72, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.60**	**39**	*e*P	**Pn**	**19 05 46.2**	**+0.2**
THIG				*e*S	**Sn**	**19 05 55.3**	**+0.3**
THIG		**0.60**	**39**	*i* P	**Pn**	**19 05 46.4**	**+0.4**
	comp=Z,1μm,0.4s						
THIG				*i* S	**Sn**	**19 05 55.6**	**+0.6**
THIG				IAML		19 05 56.0	
	comp=N,3μm,0.4s						
SMCA	**Catarina**	**0.70**	**54**	*e*P	**Pn**	**19 05 47.6**	**+0.3**
SMCA				*e*S	**Sn**	**19 05 56.7**	**-0.6**
SMCA				IAML		19 05 58.8	
	comp=E,6μm,0.1s						
PATR	**El Naranjo**	**0.79**	**31**	*e*P	**Pn**	**19 05 48.2**	**-0.5**
PATR				*e*S	**Sn**	**19 05 58.2**	**-1.5**
PAVE	**Pavencul**	**0.89**	**32**	*e*P	**Pn**	**19 05 49.4**	**-0.5**
PAVE				*e*S	**Sn**	**19 06 00.7**	**-1.2**
RTAL	**Retalhuleu**	**0.94**	**85**	*e*P	**Pn**	**19 05 51.3**	**+0.9**
RTAL				*e*S	**Sn**	**19 06 03.6**	**+0.8**
RTAL	**Retalhuleu**	**0.94**	**85**	P	**Pn**	**19 05 51.4**	**+1.0**
RTAL				S	**Sn**	**19 06 04.3**	**+1.4**
STG2	**El Palmar, Qui**	**1.25**	**90**	*e*P	**Pn**	**19 05 51.9**	**-2.7**
STG2				*e*S	**Sn**	**19 06 05.2**	**-5.2**
SOKI	**Kika Raxquin**	**1.28**	**72**	*e*P	**Pn**	**19 05 56.4**	**+1.1**
STG0	**El Palmar, Qui**	**1.28**	**90**	*e*P	**Pn**	**19 05 52.7**	**-2.4**
STG0				*e*S	**Sn**	**19 06 06.2**	**-5.0**
STG0				IAML		19 06 09.4	
	comp=E,34μm,0.2s						
PCIG		**1.37**	**337**	*e*P	**Pn**	**19 05 56.5**	**+0.3**
PCIG				*e*S	**Sn**	**19 06 12.1**	**-1.1**
CCIG	**Comitan**	**1.90**	**15**	*e*P	**Pn**	**19 06 05.0**	**+1.3**
CCIG				*e*S	**Sn**	**19 06 26.8**	**+0.2**
CCIG	**Comitan**	**1.90**	**15**	*i* P	**Pn**	**19 06 05.2**	**+1.6**
	comp=Z,809nm,0.4s						
CCIG	**Comitan**	**1.90**	**15**	S	**Sn**	**19 06 29.4**	**+2.8**
CCIG	**Comitan**	**1.90**	**15**	P	**Pn**	**19 06 05.3**	**+1.6**
FG8	**Yepocapa, Chim**	**2.04**	**95**	*i* P	**Pn**	**19 06 01.4**	**-4.1**
FG16	**Alotenango, Sa**	**2.09**	**94**	*i* P	**Pn**	**19 06 02.5**	**-3.8**
FG16				IAML		19 06 25.3	
	comp=Z,2μm,0.1s						
TGBT	**Tuxtla Gutierr**	**2.36**	**350**	*e*P	**Pn**	**19 06 10.8**	**+1.0**
TGBT				*e*S	**Sn**	**19 06 33.0**	**-4.5**
TGIG		**2.37**	**349**	*e*P	**Pn**	**19 06 09.3**	**-0.7**
TGIG				*e*S	**Sn**	**19 06 35.5**	**-2.3**
TGIG		**2.37**	**349**	*e*P	**Pn**	**19 06 09.6**	**-0.3**
TGIG				*e*S	**Sn**	**19 06 36.7**	**-1.2**
TGIG				IAML		19 06 48.6	
	comp=E,620nm,0.4s						
TGIG				IAML		19 06 53.1	
	comp=Z,264nm,0.7s						
FAME	**Alcaldia de Sa**	**2.63**	**103**	P	**Pn**	**19 06 15.6**	**+2.1**
SLOZ	**Alcaldia de Sa**	**2.82**	**98**	P	**Pn**	**19 06 18.0**	**+1.9**
NILT	**Santiago Nilte**	**2.83**	**319**	*e*P	**Pn**	**19 06 17.3**	**+1.1**
NILT				*e*S	**Sn**	**19 06 49.0**	**-0.2**
NUBE	**Las Nubes**	**2.85**	**100**	*e*P	**Pn**	**19 06 17.9**	**+1.4**
NUBE	**Las Nubes**	**2.85**	**100**	S	**Sn**	**19 06 50.2**	**+0.5**
NUBE	**Las Nubes**	**2.85**	**100**	P	**Pn**	**19 06 18.2**	**+1.6**
CEVE	**Cerro Verde**	**3.01**	**101**	*e*P	**Pn**	**19 06 21.4**	**+2.5**
CEVE				*e*S	**Sn**	**19 06 55.1**	**+1.3**
CEVE				IAML		19 07 06.1	
	comp=Z,373nm,0.3s						
CEVE	**Cerro Verde**	**3.01**	**101**	S	**Sn**	**19 06 56.4**	**+2.6**
CEVE	**Cerro Verde**	**3.01**	**101**	P	**Pn**	**19 06 21.2**	**+2.4**
UXUV	**UXUV**	**3.20**	**334**	*e*P	**Pn**	**19 06 22.3**	**+1.0**
UXUV				*e*S	**Sn**	**19 07 00.3**	**+2.1**
JAYA	**Jayaque - finc**	**3.21**	**104**	*e*P	**Pn**	**19 06 23.6**	**+2.0**
JAYA				*e*S	**Sn**	**19 06 57.8**	**-1.0**
JAYA				IAML		19 07 03.3	
	comp=Z,320nm,0.2s						
JAYA	**Jayaque - finc**	**3.21**	**104**	P	**Pn**	**19 06 23.4**	**+1.8**
PMON	**Piamonte**	**3.33**	**102**	P	**Pn**	**19 06 25.6**	**+2.5**
BOQS	**Boqueron**	**3.35**	**102**	*e*P	**Pn**	**19 06 25.8**	**+2.2**
LALI	**Alcalda de L**	**3.38**	**106**	*e*P	**Pn**	**19 06 25.7**	**+2.0**
CMIG	**Matias Romero**	**3.40**	**321**	*e*P	**Pn**	**19 06 24.2**	**+0.2**
CMIG				*e*S	**Sn**	**19 07 02.6**	**-0.5**
LOMA	**Loma Larga**	**3.48**	**103**	P	**Pn**	**19 06 28.0**	**+2.7**
HUIG	**Huatulco**	**3.58**	**292**	*e*P	**Pn**	**19 06 26.9**	**+0.4**
HUIG				*e*S	Sn	19 07 00.8	-6.8
LFRS	**El Faro**	**3.59**	**103**	*e*P	**Pn**	**19 06 29.6**	**+2.9**
PETF	**Flores**	**3.65**	**47**	*e*P	**Pn**	**19 06 28.4**	**+0.9**
PETF				*e*S	**Sn**	**19 07 07.4**	**-1.8**
PQSS	**Presa 15 de Se**	**4.06**	**101**	P	**Pn**	**19 06 35.9**	**+2.8**
NEUV	**Arroyo Zacate**	**4.44**	**318**	*e*P	**Pn**	**19 06 39.6**	**+1.3**
NEUV				*e*S	**Sn**	**19 07 26.1**	**-2.7**
PEIG	**Puerto Escondi**	**4.60**	**290**	*e*P	**Pn**	**19 06 41.6**	**+1.1**
PEIG				*e*S	Sn	19 07 25.0	-7.7
CNCH	**Conchagua**	**4.83**	**103**	P	**Pn**	**19 06 46.5**	**+2.8**
YOIG	**Yosondua**	**5.28**	**298**	*e*P	**Pn**	**19 06 52.8**	**+2.7**
YOIG				*e*S	**Sn**	**19 07 46.9**	**-3.0**
TOIG	**Toxpalan**	**5.58**	**311**	*e*P	**Pn**	**19 06 56.0**	**+2.0**
TOIG				*e*S	**Sn**	**19 07 56.2**	**-0.7**
PNIG	**Pinotepa**	**5.62**	**291**	*e*S	Sn	19 07 52.5	-5.2
TXIG	**Tlaxiaco**	**5.66**	**300**	*e*P	**Pn**	**19 06 58.4**	**+3.2**
TXIG				*e*S	Sn	19 07 53.0	-6.0
JAUV	**Jalcomulco**	**6.30**	**322**	*e*P	**Pn**	**19 07 03.3**	**-0.7**
JAUV				*e*S	Sn	19 08 07.9	-6.7
CXUV	**Coxquihui**	**7.39**	**321**	*e*P	Pn	19 07 13.0	-5.8
CXUV				*e*S	**Sn**	**19 08 36.3**	**-5.2**

IDC 17 19:18:14.3±1.5, 0°.13S×67°.05E, h0km, mb3.8/8, mbtmp3.9/9, ML3.9/1, MS3.6/9, Error ellipse: s-maj=42.0km s-min=24.6km az=55.0

ISC 17 19:18:17.6±1.6, 0°.1S±0°.2×67°.1E±0°.2, h22km, n19, σ0s57/10, mb3.9/8, MS3.6/8, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.47**	**61**	Pn	**Pn**	**19 21 54.0**	**-0.7**
	0.5nm,0.3s,baz=241,slow=15,SNR=2.2						
PALK				LR	LR	19 26 23.6	
	comp=Z,179nm,20.6s,baz=245,slow=32						
	12nm,1.0s						
BRDH	**Bariadhala**	**32.96**	**45**	LR	LR	19 40 45.9	
	comp=Z,127nm,18.4s,baz=180,slow=41						
CMAR	**Chiang Mai Arr**	**36.36**	**58**	P	**P**	**19 25 20.8**	**+0.3**
	1.3nm,1.1s,baz=248,slow=10,SNR=7.6						
CMAR				LR	LR	19 38 41.1	
	comp=Z,48nm,18.2s,baz=225,slow=34						
	1.3nm,1.1s						
LSZ	**Lusaka**	**41.23**	**247**	LR	LR	19 40 47.3	
	comp=Z,95nm,18.3s,baz=146,slow=33						
LBTB	**Lobatse**	**47.09**	**235**	LR	LR	19 43 52.2	
	comp=Z,39nm,18.8s,baz=76,slow=33						
MKAR	**Makanchi Array**	**48.58**	**14**	P	**P**	**19 26 59.0**	**-0.5**
	0.6nm,1.0s,baz=189,slow=5.7,SNR=2.1						
	0.6nm,1.0s						
BOSA	**Boshof**	**48.97**	**231**	LR	LR	19 44 43.7	
	comp=Z,36nm,18.2s,baz=29,slow=32						
BRTR	**Keskin Array B**	**50.02**	**326**	P	**P**	**19 27 10.6**	**-0.1**
	0.4nm,0.7s,baz=111,slow=9.0,SNR=2.4						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**51.48**	**9**	P	**P**	**19 27 21.1**	**-0.2**
	2.7nm,0.2s,baz=210,slow=6.7,SNR=1.7						
	2.7nm,0.2s						
ZALV	**Zalesovo Beam**	**55.85**	**13**	P	**P**	**19 27 52.8**	**-0.4**
	0.6nm,0.5s,baz=206,slow=9.9,SNR=4.4						
	0.6nm,0.5s						
H01W3	**Cape Leeuwin H**	**55.89**	**133**	T	T	20 28 03.9	
	baz=298,slow=74						
H01W2	**Cape Leeuwin H**	**55.89**	**133**	T	T	20 28 04.3	
	baz=298,slow=74						
H01W1	**Cape Leeuwin H**	**55.90**	**133**	T	T	20 28 05.8	
	baz=298						
SONM	**Songino Array**	**58.69**	**30**	P	**P**	**19 28 14.7**	**+1.0**
	1.4nm,0.8s,baz=231,slow=7.8,SNR=8.1						
SONM				LR	LR	19 53 25.8	
	comp=Z,114nm,18.3s,baz=250,slow=36						
	1.4nm,0.8s						
KIRV	**Kirov**	**60.16**	**349**	LR	LR	19 53 35.9	
	comp=Z,45nm,20.5s,baz=86,slow=35						
WRA	**Warramunga Arr**	**68.67**	**111**	P	**P**	**19 29 20.0**	**+0.1**
	1.5nm,0.7s,baz=286,slow=5.7,SNR=11						
	1.5nm,0.7s						
FINES	**FINESS Array B**	**68.83**	**340**	LR	LR	19 59 30.2	
	comp=Z,35nm,21.8s,baz=348,slow=36						
ASAR	**Alice Springs**	**68.83**	**115**	P	**P**	**19 29 20.8**	**-0.1**
	0.7nm,0.8s,baz=280,slow=6.4,SNR=7.3						
	0.7nm,0.8s						
TXAR	**Lajitas Array**	**149.62**	**344**	PKPbc	**PKiKP**	**19 38 07.0**	**-0.4**
	0.8nm,0.8s,baz=57,slow=4.6,SNR=8.0						

ISK 17 19:20:09.1, 38°.64N×39°.87E, h5km, ML2.7/11
AFAD 17 19:20:10.1, 38°.65N×39°.86E, h21km, ML2.6

ISC 17 19:20:10.5±0.9, 38°66N±0°.03×39°86E±0°.03, h18km±5km, n18, σ1s24/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOVA	**Elazig, Kovanc**	**0.06**	**318**	P	**Pg**	**19 20 14.1**	**+0.2**
KOVA				S	**Sg**	**19 20 17.0**	**+0.7**
KOVA				*i* IAML		19 20 17.0	
	comp=N,5μm,0.4s						
KOVA				*i* IAML		19 20 17.0	
	comp=E,5μm,0.6s						
TNCL	**Tunceli-Merkez**	**0.51**	**331**	P	**Pb**	**19 20 20.8**	**-0.4**
TNCL				S	**Sb**	**19 20 28.8**	**+0.4**
TNCL				*i* IAML		19 20 30.0	
	comp=E,529nm,0.6s						
TNCL				*i* IAML		19 20 32.0	
	comp=N,627nm,0.4s						
ELZG	**Elazig**	**0.71**	**257**	P	**Pb**	**19 20 23.6**	**-0.8**
ELZG				S	**Sn**	**19

GO04	**Tololo Observa**	**1.10**	**43**	*eP*		**Pn**	**19 35 34.0**	**-0.1**
CO05	**La Serena**	**1.12**	**19**			**Pn**	**19 35 34.8**	**+0.6**
CO05	**La Serena**	**1.12**	**19**	*eP*		**Pn**	**19 35 35.0**	**+0.8**
CO05				*eS*		**Sn**	**19 35 50.1**	**+1.9**
CO05				IAML			19 35 56.0	
	comp=N,5µm,0.3s							
VA06	**Catapilco**	**1.60**	**169**			**Pn**	**19 35 40.4**	**-0.3**
VA06	**Catapilco**	**1.60**	**169**	*eP*		**Pn**	**19 35 40.8**	**0.0**
VA06				IAML			19 36 08.4	
	comp=N,5µm,0.5s							
CO01	**Juntas del Tor**	**1.68**	**54**			**Pn**	**19 35 42.4**	**+0.3**
CO01	**Juntas del Tor**	**1.68**	**54**	*eP*		**Pn**	**19 35 42.8**	**+0.7**
CO01				*eS*		**Sn**	**19 36 03.5**	**+1.0**
CO01	**Juntas del Tor**	**1.68**	**54**	*eP*		**Pn**	**19 35 42.3**	**+0.3**
CO01				IAML			19 36 08.1	
	comp=Z,1µm,0.5s							
VA03	**San Esteban**	**2.01**	**152**			**Pn**	**19 35 47.3**	**+0.8**
VA03	**San Esteban**	**2.01**	**152**	*eP*		**Pn**	**19 35 46.7**	**+0.3**
VA03				IAML			19 36 19.9	
	comp=N,3µm,0.3s							
VA03	**San Esteban**	**2.01**	**152**	*eP*		**Pn**	**19 35 47.0**	**+0.5**
VA03				*eS*		**Sn**	**19 36 15.5**	**+5.1**
VA03				IAML			19 36 21.5	
	comp=Z,1µm,0.7s							
VA01	**Torpederas**	**2.03**	**180**			**Pn**	**19 35 46.0**	**-0.7**
VA01	**Torpederas**	**2.03**	**180**	*eP*		Pn	19 35 40.7	-6.0
VA01				*eS*		Sn	19 36 18.8	+8.0
VA01				IAML			19 36 20.1	
	comp=Z,559nm,0.5s							
AROD	**Rodeo**	**2.05**	**67**	*eP*		**Pn**	**19 35 49.6**	**+2.3**
AROD				*eS*		**Sn**	**19 36 15.9**	**+4.2**
ROCH	**El Roble**	**2.06**	**165**	*eP*		**Pn**	**19 35 47.5**	**+0.2**
ROCH				IAML			19 36 17.8	
	comp=E,2µm,0.4s							
ROC1	**El Roble**	**2.06**	**165**	*eP*		**Pn**	**19 35 47.5**	**+0.2**
ROC1				*eS*		**Sn**	**19 36 16.5**	**+4.6**
LCO	**Las Campanas**	**2.13**	**23**			**Pn**	**19 35 49.0**	**+0.7**
LCO	**Las Campanas**	**2.13**	**23**	*i P*		**Pn**	**19 35 49.4**	**+1.1**
LCO	**Las Campanas**	**2.13**	**23**	*eP*		**Pn**	**19 35 49.4**	**+1.1**
LCO				*eS*		**Sn**	**19 36 16.4**	**+2.7**
LCO				IAML			19 36 21.3	
	comp=Z,2µm,0.3s							
RTLS	**Leoncito**	**2.18**	**113**	*eP*		**Pn**	**19 35 51.5**	**+2.5**
RTLS				*eS*		**Sn**	**19 36 20.3**	**+5.5**
RTLS				IAML			19 36 23.4	
	comp=Z,3µm,0.3s							
ACCO	**Cerro Coronel**	**2.27**	**81**	*eP*		**Pn**	**19 35 52.6**	**+2.4**
ACCO				*eS*		Sn	19 36 04.1	-13
PEL	**Peldehue**	**2.31**	**159**			**Pn**	**19 35 51.2**	**+0.7**
PEL	**Peldehue**	**2.31**	**159**	*eP*		**Pn**	**19 35 51.2**	**+0.7**
PEL				IAML			19 36 28.7	
	comp=E,1µm,0.4s							
PEL	**Peldehue**	**2.31**	**159**	*eP*		**Pn**	**19 35 51.4**	**+0.8**
PEL				*eS*		Sn	19 36 03.0	-15
MT02	**Curacav**	**2.31**	**169**			**Pn**	**19 35 50.7**	**+0.2**
MT02	**Curacav**	**2.31**	**169**	*eP*		**Pn**	**19 35 50.3**	**-0.2**
MT02	**Curacav**	**2.31**	**169**	*eP*		**Pn**	**19 35 50.5**	**0.0**
MT02				*eS*		Sn	19 36 03.3	-14
MT02				IAML			19 36 33.2	
	comp=Z,651nm,0.4s							
ACDV	**Cuesta del Vie**	**2.33**	**70**	*eP*		**Pn**	**19 35 53.7**	**+2.7**
ACDV				*eS*		Sn	19 36 05.5	-13
ACDV				IAML			19 36 06.4	
	comp=Z,515nm,0.7s							
MT10	**Hacienda Santa**	**2.47**	**158**	*eP*		**Pn**	**19 35 53.6**	**+0.7**
MT05	**Renca**	**2.53**	**162**			**Pn**	**19 35 54.3**	**+0.8**
MT05	**Renca**	**2.53**	**162**	*eP*		**Pn**	**19 35 54.2**	**+0.7**
MT05				IAML			19 36 36.5	
	comp=E,3µm,0.3s							
MT05	**Renca**	**2.53**	**162**	*eP*		**Pn**	**19 35 49.7**	**-3.8**
MT05				*eP*			19 35 55.1	
MT05				*eS*		**Sn**	**19 36 24.7**	**+1.6**
MT05				IAML			19 36 38.8	
	comp=Z,716nm,0.9s							
MT14	**Cerro Cal¡n**	**2.59**	**159**	*eP*		**Pn**	**19 35 55.5**	**+1.1**
FCH	**Farellones**	**2.61**	**154**	*eP*		**Pn**	**19 35 56.2**	**+1.3**
FCH				IAML			19 36 37.6	
	comp=N,440nm,0.3s							
ZON	**Zonda**	**2.61**	**103**			**Pn**	**19 35 56.9**	**+2.2**
ZON	**Zonda**	**2.61**	**103**	*eP*		**Pn**	**19 35 57.5**	**+2.8**
ZON				*eS*		Sn	19 36 32.0	+6.8
ZON				IAML			19 36 43.3	
	comp=Z,519nm,0.7s							
MT16	**CCHEN**	**2.62**	**159**			**Pn**	**19 35 55.9**	**+1.1**
MT16	**CCHEN**	**2.62**	**159**	*eP*		**Pn**	**19 35 56.7**	**+1.9**
MT16				IAML			19 36 37.1	
	comp=N,632nm,0.5s							
VA05	**Santo Domingo**	**2.67**	**179**			**Pn**	**19 35 55.7**	**+0.3**
MT03	**Universidad Ad**	**2.69**	**159**			**Pn**	**19 35 56.8**	**+1.0**
SJA	**San Juan**	**2.71**	**102**	*eP*		Pn	19 35 49.7	-6.3
SJA				*eS*		Sn	19 36 17.2	-10
MT04	**Ro Olivares**	**2.74**	**152**	*eP*		**Pn**	**19 35 58.4**	**+1.8**
MT04				IAML			19 36 42.0	
	comp=E,511nm,0.3s							
MT04	**Ro Olivares**	**2.74**	**152**	*eP*		**Pn**	**19 35 58.5**	**+1.8**
MT04				*eS*		**Sn**	**19 36 34.0**	**+5.4**
MT04				IAML			19 36 41.9	
	comp=Z,475nm,0.4s							
RTLL	**Cerro Villicun**	**2.75**	**98**	*eP*		**Pn**	**19 35 53.0**	**-3.6**
RTLL				*eS*		Sn	19 36 52.9	+24
MT15	**Las Vizcachas**	**2.79**	**160**	IAML			19 36 40.9	
	comp=E,2µm,0.5s							
AC04	**Llanos de Chal**	**2.81**	**11**			**Pn**	**19 35 58.2**	**+0.8**
AC04	**Llanos de Chal**	**2.81**	**11**	*eS*		**Sn**	**19 36 33.3**	**+3.2**
AC04				IAML			19 36 48.5	
	comp=Z,484nm,0.8s							
MT08	**Bocatoma Ro**	**2.82**	**151**			**Pn**	**19 36 00.2**	**+2.4**
MT08	**Bocatoma Ro**	**2.82**	**151**	*eP*		**Pn**	**19 36 00.2**	**+2.4**
MT08				IAML			19 36 44.5	
	comp=E,406nm,0.6s							
MT08	**Bocatoma Ro**	**2.82**	**151**	*eP*		**Pn**	**19 35 55.1**	**-2.7**
MT08				*eP*			19 36 00.3	
MT08				*eS*		**Sn**	**19 36 35.1**	**+4.5**
MT08				IAML			19 36 47.9	
	comp=Z,487nm,0.7s							
MT09	**Talagante**	**2.84**	**169**			**Pn**	**19 35 58.3**	**+0.4**
MT09	**Talagante**	**2.84**	**169**	*eP*		**Pn**	**19 35 58.5**	**+0.6**
MT09				IAML			19 36 49.2	
	comp=N,936nm,0.5s							
ASAL	**Salagasta**	**2.89**	**124**	*eP*		**Pn**	**19 36 01.7**	**+3.1**
ASAL				*eS*		Sn	19 36 41.0	+8.9
MT01	**Popeta**	**2.89**	**173**			**Pn**	**19 35 58.5**	**0.0**
MT01	**Popeta**	**2.89**	**173**	*eP*		**Pn**	**19 35 58.5**	**0.0**
MT01				IAML			19 36 41.5	
	comp=E,484nm,0.5s							
MT01	**Popeta**	**2.89**	**173**	*eP*		**Pn**	**19 35 58.8**	**+0.3**
MT01				*eS*		**Sn**	**19 36 36.3**	**+4.2**
MT01				IAML			19 36 42.5	
	comp=Z,401nm,0.6s							
MT12	**Pirque**	**2.90**	**161**	*eP*		**Pn**	**19 35 59.4**	**+0.7**
CFA	**Coronel Fontan**	**2.99**	**103**	P		**Pn**	**19 36 02.0**	**+2.1**
	comp=Z,22nm,0.3s,baz=291,slow=8.9,SNR=132							
CFA				S		**Sn**	**19 36 39.0**	**+4.4**
	comp=Z,196nm,0.4s,baz=50,slow=22,SNR=10							
	comp=Z,69nm,0.3s							
CFA	**Coronel Fontan**	**2.99**	**103**	*eP*		**Pn**	**19 36 02.3**	**+2.3**
CFA				*eS*		**Sn**	**19 36 40.3**	**+5.7**
LMEL	**Las Melosas**	**3.11**	**157**			**Pn**	**19 36 02.8**	**+1.2**
LMEL	**Las Melosas**	**3.11**	**157**	*eP*		**Pn**	**19 36 03.0**	**+1.4**
LMEL				IAML			19 36 50.9	
	comp=N,625nm,0.5s							
LMEL	**Las Melosas**	**3.11**	**157**	*eP*		**Pn**	**19 36 03.3**	**+1.6**
LMEL				*eS*		**Sn**	**19 36 42.0**	**+4.3**
AGUA	**GUANDACOL**	**3.12**	**62**	*eP*		Pn	19 36 05.6	+3.8
AGUA				*eS*		Sn	19 36 49.7	+12
AGUA				IAML			19 36 55.3	
	comp=Z,933nm,1.0s							
BO04	**La Punta**	**3.13**	**164**	*eP*		**Pn**	**19 36 02.5**	**+0.7**
BO04				IAML			19 36 51.1	
	comp=E,481nm,0.5s							
BO01	**Tunca**	**3.43**	**172**			**Pn**	**19 36 07.2**	**+1.3**
BO01	**Tunca**	**3.43**	**172**	*eP*		**Pn**	**19 36 06.2**	**+0.2**
BO01				IAML			19 37 08.8	
	comp=Z,155nm,0.7s							
GO03	**Copiapo**	**3.60**	**21**	*eP*		**Pn**	**19 36 09.3**	**+1.0**
GO03				IAML			19 37 07.5	
	comp=N,663nm,0.4s							
AC06	**Mina Casimiro**	**3.79**	**18**			**Pn**	**19 36 11.4**	**+0.6**
BO02	**Sierra Bellavi**	**3.87**	**169**			**Pn**	**19 36 13.1**	**+1.1**
ACLC	**CERRO LA CRUZ**	**4.36**	**70**	*eP*		**Pn**	**19 36 20.6**	**+1.7**
ACLC				IAML			19 37 34.2	
	comp=Z,124nm,0.3s							
RFA	**San Rafael**	**4.63**	**145**	*eP*		**Pn**	**19 36 24.8**	**+2.3**
RFA				*eS*		Sn	19 37 35.6	+20
RFA				*eS*		Sn	19 37 35.6	+20
RFA				IAML			19 37 59.7	
	comp=Z,61nm,0.9s							
H03N1	**Juan Fernandez**	**6.62**	**246**	P		**Pn**	**19 36 49.8**	**+0.4**
	baz=110,slow=16,SNR=42							
H03N1				T		T	19 43 38.8	
	baz=74,slow=72,SNR=2564							
H03N3	**Juan Fernandez**	**6.63**	**246**	P		**Pn**	**19 36 49.7**	**+0.1**
	baz=110,slow=16,SNR=25							
H03N3				T		T	19 43 38.1	
	baz=74,slow=72,SNR=2419							
H03N2	**Juan Fernandez**	**6.63**	**246**	P		**Pn**	**19 36 50.0**	**+0.4**
	baz=110,slow=16,SNR=51							
H03N2				T		T	19 43 39.4	
	baz=74,slow=72,SNR=2508							
H03S3	**Juan Fernandez**	**6.75**	**243**	P		**Pn**	**19 36 50.1**	**-1.2**
	baz=53,slow=74,SNR=3.0							
H03S1	**Juan Fernandez**	**6.76**	**243**	P		**Pn**	**19 36 50.2**	**-1.2**
H03S2	**Juan Fernandez**	**6.77**	**243**	P		**Pn**	**19 36 50.2**	**-1.3**
	baz=247,slow=74,SNR=5.7							
PLCA	**Paso Flores**	**9.77**	**175**	P		**Pn**	**19 37 33.9**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=335,slow=14,SNR=1.4							
	comp=Z,1.4nm,0.8s							
TRQA	**Tornquist**	**10.65**	**134**			**Pn**	**19 37 45.8**	**+0.8**
CPUP	**Villa Florida**	**13.41**	**73**	P		**Pn**	**19 38 21.3**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=115,slow=10.0,SNR=3.2							
CPUP				S		**Sn**	**19 40 48.6**	**-1.8**
	comp=Z,1.8nm,0.9s,baz=200,slow=3.9,SNR=3.4							
LPAZ	**La Paz**	**14.98**	**13**			**Pn**	**19 38 45.3**	**+0.6**
LPAZ	**La Paz**	**14.98**	**13**	P		**Pn**	**19 38 45.6**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=172,slow=1.4,SNR=7.6							
	comp=Z,2.4nm,0.9s							
SIV	**San Ignacio**	**17.79**	**35**	P		**Pn**	**19 39 19.3**	**-0.4**
	baz=215,slow=11,SNR=11							
	comp=Z,2.6nm,0.8s							
BDFB	**Brasilia**	**26.46**	**60**	P		**P**	**19 40 47.2**	**-1.6**
	comp=Z,2.8nm,0.5s,baz=217,slow=10,SNR=5.2							
	comp=Z,2.8nm,0.5s							
SNAA	**Sanae**	**54.26**	**159**	⇑P		**P**	**19 44 36.3**	**-0.6**
SNAA	**Sanae**	**54.26**	**159**	P		**P**	**19 44 36.0**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=281,slow=8.1,SNR=26							
	comp=Z,1.1nm,0.5s							
TROLL	**Troll, Antarti**	**55.97**	**159**	⇑P		**P**	**19 44 48.4**	**-1.0**
	comp=Z,37nm,0.3s							
QSPA	**South Pole Qui**	**59.24**	**180**	P		**P**	**19 45 12.5**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=193,slow=2.3,SNR=6.1							
	comp=Z,0.7nm,0.7s							
TXAR	**Lajitas Array**	**67.28**	**330**	P		**P**	**19 46 07.1**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=146,slow=6.1,SNR=2.2							
	comp=Z,0.2nm,0.7s							
DBIC	**Dimbokro**	**73.92**	**72**	P		**P**	**19 46 45.2**	**-1.5**
	comp=Z,5.0nm,0.7s,baz=255,slow=6.6,SNR=9.6							
	comp=Z,5.0nm,0.7s							
WRA	**Warramunga Arr**	**123.54**	**210**	PKP		**PKPdf**	**19 54 08.2**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=164,slow=1.4,SNR=8.4							
H11S2	**WAKE ISLAND Hyl**	**26.08**	**271**	T		T	22 13 04.3	
	baz=116,slow=75,SNR=37							
H11S1	**WAKE ISLAND Hyl**	**26.10**	**271**	T		T	22 12 57.0	
	baz=116,slow=75,SNR=34							
H11S3	**WAKE ISLAND Hyl**	**26.10**	**271**	T		T	22 12 59.0	
	baz=116,slow=75,SNR=39							
H11N3	**WAKE ISLAND Hyl**	**26.42**	**273**	T		T	22 13 23.8	
	baz=116,slow=75,SNR=21							
H11N1	**WAKE ISLAND Hyl**	**26.44**	**273**	T		T	22 13 24.4	
	baz=116,slow=75,SNR=10							
H11N2	**WAKE ISLAND Hyl**	**26.44**	**273**	T		T	22 13 25.1	
	baz=116,slow=75,SNR=27							
BVAR	**Borovoye Array**	**144.81**	**40**	PKP		PKPbc	19 54 46.7	+0.1
	comp=Z,1.0nm,0.5s,baz=335,slow=2.6,SNR=5.2							
ZALV	**Zalesovo Beam**	**151.48**	**30**	PKPbc		**PKPbc**	**19 55 04.0**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=310,slow=1.1,SNR=5.8							
MKAR	**Makanchi Array**	**154.47**	**44**	PKPab		**PKPab**	**19 55 26.0**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=275,slow=4.4,SNR=3.6							
SONM	**Songino Array**	**163.10**	**5**	PKPab		**PKPab**	**19 56 02.2**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=298,slow=3.1,SNR=3.7							

*NEIC **17** 19:42:14.7±0.8, 35.653N±0.009×117.468W±0.009, h4km±2km, Error ellipse: s-maj=1.3km s-min=1.1km az=169.0*

PAS 17 19:42:15.1±0.7, 35.650N±0.009×117.46W±0.01, h2km±3km, Mwr3.6/4, ML3.5/162(NEIC), **Error ellipse: s-maj=1.5km s-min=1.2km az=115.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.06**	**208**			Pg	19 42 16.5	+0.2
WSHM						Sg	19 42 17.6	+0.5
WSHM	**Spangler Hills**	**0.06**	**208**	IAML			19 42 17.9	
	60µm,0.3s							
WSHM				IAML			19 42 18.0	
	76µm,0.2s							
CCCA	**Chr Cany lake**	**0.15**	**148**			Pg	19 42 18.6	+0.7
CCCA						Sg	19 42 21.2	+1.3
CCCA	**Chr Cany lake**	**0.15**	**148**	IAML			19 42 21.6	
	comp=E,35µm,0.6s							
CCCA				IAML			19 42 22.1	
	comp=N,59µm,0.7s							
GPO	**China Lake**	**0.17**	**270**			Pg	19 42 18.7	+0.4
GPO						Sg	19 42 21.5	+1.0
CLC	**China Lake**	**0.20**	**326**			Pg	19 42 19.2	+0.2
CLC						Sg	19 42 22.3	+0.7
CLC	**China Lake**	**0.20**	**326**	IAML			19 42 22.6	
	comp=N,19µm,0.4s							
CLC				IAML			19 42 22.6	
	comp=E,17µm,0.7s							
SRTC	**Snort**	**0.24**	**280**			Pg	19 42 20.3	+0.6
LRMC	**Laurel Mtn Rad**	**0.25**	**227**			Pg	19 42 20.1	+0.2
LRMC	**Laurel Mtn Rad**	**0.25**	**227**	IAML			19 42 24.1	
	comp=N,24µm,0.5s							
LRMC				IAML			19 42 24.4	
	comp=E,24µm,0.4s							
TOW	**Tower One**	**0.29**	**303**			Pg	19 42 21.4	+0.6
MPMC	**Manual Prospec**	**0.41**	**357**			Pg	19 42 22.9	0.0
MPMC				IAML			19 42 29.2	
	comp=N,3µm,0.6s							
MPMC				IAML			19 42 30.9	
	comp=E,3µm,0.7s							
MPMC	**Manual Prospec**	**0.41**	**357**			Sg	19 42 28.7	+0.4
WNMM	**Nine Mile Cany**	**0.41**	**298**			Pg	19 42 23.2	+0.2
WVPM	**Volcano Peak E**	**0.42**	**316**			Pg	19 42 23.4	+0.2
WVPM						Sg	19 42 29.5	+1.0
JRC2	**Joshua Ridge**	**0.44**	**320**			Pg	19 42 23.8	+0.2
JRC2						Sg	19 42 30.3	+1.0
WCSM	**Coso Springs S**	**0.45**	**326**			Pg	19 42 23.9	+0.1
WCSM						Sg	19 42 30.2	+0.6
DTP	**Desert Tortois**	**0.49**	**220**			Pg	19 42 24.4	-0.1
DTP						Sg	19 42 31.1	+0.1
WRVM	**Rose V. Centra**	**0.50**	**316**			Pg	19 42 24.8	+0.1
WRVM						Sg	19 42 32.0	+0.8
WBSM	**Bird Springs**	**0.56**	**259**			Sg	19 42 33.2	0.0
MFS	**McCloud Flat S**	**0.57**	**326**			Pg	19 42 26.0	+0.1
MFS						Sg	19 42 34.1	+0.8
QSM	**Queen of Sheba**	**0.57**	**57**			Pg	19 42 26.3	+0.1
QSM						Sg	19 42 33.7	+0.1
QSM	**Queen of Sheba**	**0.57**	**57**	IAML			19 42 35.5	
	comp=N,3µm,1.4s							
QSM				IAML			19 42 35.6	
	comp=E,3µm,0.6s							
GSC	**Goldstone, Bar**	**0.64**	**123**			Pg	19 42 27.3	0.0
GSC						Sg	19 42 35.9	+0.3
GSC	**Goldstone, Bar**	**0.64**	**123**	IAML			19 42 36.7	
	comp=N,5µm,0.4s							
GSC				IAML			19 42 37.1	
	comp=E,5µm,0.5s							
WORM	**Onyx Ranch**	**0.64**	**274**			Pg	19 42 27.1	-0.2
WORM						Sg	19 42 35.6	0.0
CCAC	**Calif City Air**	**0.67**	**223**			Pg	19 42 27.9	-0.1
CCAC						Sg	19 42 37.2	+0.5
WHFM	**Hanning Flat**	**0.72**	**274**			Pg	19 42 28.8	-0.2
WHFM						Sg	19 42 38.4	0.0
HYS	**Haystack Butte**	**0.79**	**187**			Pg	19 42 29.7	-0.5
HYS						Sg	19 42 40.4	-0.1
ISA	**Isabella, Lake**	**0.83**	**271**			Pg	19 42 30.6	-0.3
ISA				IAML			19 42 42.4	
	comp=E,2µm,0.5s							
ISA				IAML			19 42 46.2	
	comp=N,1µm,0.5s							
GWY	**Greenwater Val**	**0.84**	**50**			Pg	19 42 30.9	-0.2
GWY						Sg	19 42 42.1	+0.1
GWY	**Greenwater Val**	**0.84**	**50**	IAML			19 42 45.5	
	comp=N,2µm,0.6s							
GWY				IAML			19 42 47.6	
	comp=E,3µm,0.8s							
RRX	**Edison Barstow**	**0.86**	**154**			Sg	19 42 42.1	-0.7
EDW2	**Edwards Air Fo**	**0.88**	**210**			Pg	19 42 31.4	-0.6
EDW2						Sg	19 42 43.1	-0.3
WASM	**Alta Sierra Ca**	**0.90**	**276**			Pg	19 42 32.0	-0.3
CWC	**Cottonwood Cre**	**0.94**	**328**			Pg	19 42 33.0	-0.1
CWC						Sg	19 42 45.7	+0.5
CGO	**Cerro Gordo**	**0.94**	**343**			Pg	19 42 32.6	-0.6
CGO						Sb	19 42 46.4	-1.0
FURC	**Furnace Creek,**	**0.95**	**30**			Pg	19 42 33.4	+0.2
FURC						Sg	19 42 46.3	+0.7
TPO	**Tropico Hills**	**0.99**	**219**			Pg	19 42 33.6	-0.5
TPO	**Tropico Hills**	**0.99**	**219**	IAML			19 42 52.2	
	comp=N,2µm,0.7s							
SHOC	**Shoshone, Teco**	**0.99**	**75**			Pg	19 42 34.3	+0.1
SHOC						Sg	19 42 47.6	+0.5
SBB	**Saddle Back Bu**	**1.00**	**197**			Pg	19 42 33.7	-0.7
SBB						Sg	19 42 47.4	0.0
TEJ	**El Tejon**	**1.09**	**248**			Pg	19 42 35.0	-0.9
VTV	**Victorville**	**1.09**	**174**			Pg	19 42 35.5	-0.5
VTV						Sb	19 42 51.5	+0.1
ADO	**Adelanto Recei**	**1.10**	**179**			Pg	19 42 35.9	-0.3
ADO						Sb	19 42 52.2	+0.6
AMDNV	**Amargosa**	**1.25**	**50**			Pg	19 42 38.1	-0.9
TUQ	**Turquoise Moun**	**1.27**	**99**			Pg	19 42 38.5	-0.9
WCT	**Wildcat Mounta**	**1.32**	**30**			Pg	19 42 39.4	-1.1
WCT				IAML			19 42 59.7	
	comp=N,507nm,0.5s							
WCT				IAML			19 43 00.5	
	comp=E,790nm,0.5s							
GRAC	**Grapevine Rang**	**1.35**	**3**	IAML			19 43 03.4	
	comp=E,1µm,0.8s							
BFSC	**Mount Baldy Ra**	**1.42**	**187**			Pn	19 42 40.8	-1.1
BFSC				IAML			19 43 02.1	
	comp=N,487nm,0.6s							
BFSC				IAML			19 43 02.8	
	comp=E,494nm,0.5s							
OSI	**Osito Audit: C**	**1.46**	**225**			Pn	19 42 41.6	-0.9
MWC	**Mount Wilson**	**1.50**	**199**	IAML			19 43 05.6	
	comp=N,957nm,0.5s							
MWC				IAML			19 43 06.3	
	comp=E,1µm,0.5s							
MTPC	**Mountain Pass**	**1.56**	**95**			Pn	19 42 43.1	-0.8
PASC	**Pasadena Art C**	**1.59**	**202**	IAML			19 43 10.4	
	comp=E,547nm,0.6s							
PASC				IAML			19 43 11.5	
	comp=N,402nm,0.7s							
TPNV	**Topopah Spring**	**1.62**	**37**	IAML			19 43 10.9	
	comp=N,768nm,0.7s							
TPNV				IAML			19 43 11.3	
	comp=N,516nm,0.7s							
VOG	**Valley Oaks Go**	**1.70**	**294**			Pb	19 42 46.4	-0.6
GMRC	**Granite Mounta**	**1.71**	**120**			Pn	19 42 43.9	-2.1
DSP	**Deep Springs**	**1.77**	**347**			Pn	19 42 46.5	-0.1
ELS	**Elsinore Mount**	**2.00**	**179**			Pn	19 42 49.0	-0.9
ELS				IAML			19 43 27.2	
	comp=N,262nm,0.6s							
PMD	**Palm Desert**	**2.19**	**156**	IAML			19 43 26.6	
	comp=N,207nm,0.5s							
PMD				IAML			19 43 26.8	
	comp=E,273nm,0.7s							
PFO	**Pinyon Flats O**	**2.19**	**158**	IAML			19 43 28.3	
	comp=E,182nm,0.8s							
PFO				IAML			19 43 30.1	
	comp=E,215nm,0.9s							
S11A	**Rachel**	**2.42**	**34**	IAML			19 43 40.3	
	comp=N,347nm,1.0s							
S11A				IAML			19 43 44.5	
	comp=E,320nm,0.7s							
NEE2	**Needles Airpor**	**2.49**	**110**	IAML			19 43 56.5	
	comp=E,374nm,0.7s							
BORC	**Borrego Spring**	**2.53**	**160**	IAML			19 43 36.9	
	comp=E,213nm,0.4s							
BORC				IAML			19 43 40.6	
	comp=N,171nm,0.6s							
PRN	**Pahroc Range**	**2.62**	**47**	IAML			19 43 46.7	
	comp=N,330nm,0.9s							
PRN				IAML			19 43 48.4	
	comp=E,321nm,0.9s							
DPP	**Dos Picos Cty**	**2.68**	**171**	IAML			19 43 40.0	
	comp=E,224nm,0.8s							
LHV	**Little Huntoon**	**2.73**	**342**	IAML			19 43 48.3	
	comp=N,119nm,0.8s							
LHV				IAML			19 43 50.0	
	comp=E,153nm,1.4s							
PMPB	**Monarch Peak**	**2.77**	**283**	IAML			19 43 49.5	
	comp=E,268nm,0.8s							
W13A	**Hualapai Mount**	**2.97**	**100**	IAML			19 44 01.7	
	comp=N,96nm,1

comp=Z,58nm,20.2s,baz=306,slow=32
PPT Papeete 43.25 102 LR LR 20 11 21.9
comp=Z,46nm,21.5s,baz=343,slow=30
QSPA South Pole Qui 77.42 180 P **P** **20 01 10.8 -0.7**
3.2nm,1.0s,baz=345,slow=4.9,SNR=6.3
3.2nm,1.0s
SONM Songino Array 79.97 324 P **P** **20 01 25.4 -0.5**
0.3nm,0.4s,baz=140,slow=5.0,SNR=4.9
0.3nm,0.4s
ILAR Eielson Array 84.94 18 P **P** **20 01 52.1 +0.9**
0.4nm,0.7s,baz=226,slow=4.9,SNR=4.4
0.4nm,0.7s
MKAR Makanchi Array 94.72 317 P **P** **20 02 37.3 -0.6**
0.5nm,0.6s,baz=87,slow=6.6,SNR=6.4
0.5nm,0.6s

NEIC ***17*** *19:54:03.4±0.5,35.906N±0.008×117.684W±0.009, h6km±1km, Error ellipse: s-maj=1.2km s-min=0.9km az=205.0*

PAS 17 19:54:03.8±0.7,35.903N±0.006×117.69W±0.01, h3km±4km, ML3.4/101, **ML3.1**/122(NEIC), **Error ellipse: s-maj=1.1km s-min=0.9km az=72.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.11**	**212**			Pg	19 54 06.6	+0.6
TOW						Sg	19 54 09.0	+1.6
WVPM	**Volcano Peak E**	**0.11**	**295**			Pg	19 54 06.2	+0.2
WVPM						Sg	19 54 08.3	+0.7
CLC	**China Lake**	**0.12**	**138**			Pg	19 54 06.3	+0.2
CLC						Sg	19 54 08.2	+0.5
CLC	**China Lake** comp=N,4μm,0.7s	**0.12**	**138**	IAML			19 54 08.5	
CLC	comp=E,3μm,0.6s			IAML			19 54 08.6	
WCSM	**Coso Springs S**	**0.14**	**334**			Pg	19 54 06.6	+0.1
WCSM						Sg	19 54 08.6	+0.2
WNMM	**Nine Mile Cany**	**0.18**	**251**			Pg	19 54 07.6	+0.3
WNMM						Sg	19 54 10.6	+0.9
WRVM	**Rose V. Centra**	**0.19**	**303**			Pg	19 54 07.7	+0.2
WRVM						Sg	19 54 10.6	+0.5
SRTC	**Snort**	**0.22**	**192**			Pg	19 54 08.6	+0.6
SRTC						Sg	19 54 12.6	+1.8
MPMC	**Manual Prospec**	**0.23**	**47**			Pg	19 54 08.2	0.0
MPMC	**Manual Prospec**	**0.23**	**47**			Sg	19 54 11.8	+0.6
MFS	**McCloud Flat S**	**0.25**	**328**			Pg	19 54 08.8	+0.1
MFS						Sg	19 54 12.3	+0.4
GPO	**China Lake**	**0.26**	**174**			Pg	19 54 08.9	+0.2
GPO						Sg	19 54 13.3	+1.3
WSHM	**Spangler Hills**	**0.34**	**152**			Pg	19 54 10.5	+0.1
WSHM						Sg	19 54 15.8	+0.9
WSHM	**Spangler Hills** comp=E,7μm,0.5s	**0.34**	**152**	IAML			19 54 16.1	
WSHM	comp=E,6μm,0.4s			IAML			19 54 16.4	
LRMC	**Laurel Mtn Rad**	**0.42**	**179**			Pg	19 54 12.0	0.0
LRMC						Sg	19 54 18.1	+0.7
LRMC	**Laurel Mtn Rad** comp=N,2μm,0.6s	**0.42**	**179**	IAML			19 54 18.9	
LRMC	comp=E,2μm,0.5s			IAML			19 54 19.4	
CCCA	**Chr Cany lake**	**0.46**	**145**			Pg	19 54 13.1	+0.5
CCCA						Sb	19 54 20.4	-1.5
CCCA	**Chr Cany lake** comp=E,3μm,0.7s	**0.46**	**145**	IAML			19 54 20.7	
CCCA	comp=N,3μm,0.5s			IAML			19 54 23.4	
WORM	**Onyx Ranch**	**0.49**	**245**			Pg	19 54 13.1	-0.2
WORM						Sg	19 54 19.8	+0.1
WBSM	**Bird Springs**	**0.52**	**225**			Sg	19 54 20.9	+0.5
WHFM	**Hanning Flat**	**0.57**	**249**			Pg	19 54 14.7	-0.1
WHFM						Sg	19 54 22.5	+0.3
CWC	**Cottonwood Cre**	**0.62**	**330**			Pg	19 54 15.9	+0.2
CWC						Sg	19 54 24.5	+0.7
CWC	**Cottonwood Cre** comp=E,1μm,0.3s	**0.62**	**330**	IAML			19 54 24.9	
CWC	comp=N,1μm,0.2s			IAML			19 54 27.8	
DTP	**Desert Tortois**	**0.65**	**191**			Pg	19 54 16.0	-0.2
DTP						Sg	19 54 24.8	+0.3
CGO	**Cerro Gordo**	**0.65**	**352**			Pg	19 54 16.2	-0.2
CGO						Sg	19 54 25.6	+0.8
QSM	**Queen of Sheba**	**0.67**	**84**			Pg	19 54 16.5	-0.2
QSM						Sg	19 54 25.6	+0.2
QSM	**Queen of Sheba** comp=N,1μm,0.6s	**0.67**	**84**	IAML			19 54 30.0	
ISA	**Isabella, Lake**	**0.68**	**250**			Pg	19 54 16.5	-0.4
ISA						Sg	19 54 25.7	+0.1
ISA	**Isabella, Lake** comp=N,1μm,0.3s	**0.68**	**250**	IAML			19 54 26.3	
ISA	comp=E,1μm,0.3s			IAML			19 54 26.8	
WASM	**Alta Sierra Ca**	**0.72**	**257**			Pg	19 54 17.5	-0.1
WASM						Sg	19 54 27.2	+0.2
CCAC	**Calif City Air**	**0.79**	**200**			Pg	19 54 18.6	-0.4
CCAC						Sg	19 54 29.8	+0.5
FURC	**Furnace Creek,**	**0.88**	**50**			Pg	19 54 20.8	+0.2
GWY	**Greenwater Val**	**0.88**	**71**			Pg	19 54 20.6	0.0
GWY						Sg	19 54 32.1	+0.1
GWY	**Greenwater Val** comp=E,1μm,0.4s	**0.88**	**71**	IAML			19 54 37.2	
GWY	comp=N,1μm,0.4s			IAML			19 54 38.5	
SPG2	**Springville 2**	**0.92**	**289**			Pg	19 54 20.7	-0.7
SPG2						Sg	19 54 32.9	-0.4
GSC	**Goldstone, Bar**	**0.94**	**129**			Pg	19 54 21.2	-0.6
GSC						Sg	19 54 33.7	-0.3
GSC	**Goldstone, Bar** comp=N,539nm,0.6s	**0.94**	**129**	IAML			19 54 36.8	
GSC	comp=E,859nm,0.5s			IAML			19 54 38.4	
HYS	**Haystack Butte**	**1.04**	**174**			Pg	19 54 23.2	-0.6
EDW2	**Edwards Air Fo**	**1.05**	**194**			Pg	19 54 22.9	-1.0
EDW2						Sg	19 54 36.8	-0.7
TEJ	**El Tejon**	**1.05**	**231**			Pg	19 54 23.2	-0.8
TPO	**Tropico Hills**	**1.11**	**203**			Pg	19 54 24.4	-0.7
TPO						Sg	19 54 39.6	+0.1
TPO	**Tropico Hills** comp=E,740nm,0.8s	**1.11**	**203**	IAML			19 54 46.9	
VES	**Vestal, Richgr**	**1.13**	**267**			Sg	19 54 39.4	-0.8
SGV	**South Grapevin**	**1.20**	**26**			Pg	19 54 26.4	-0.4
WCT	**Wildcat Mounta**	**1.24**	**44**			Pg	19 54 26.9	-0.6
WCT	**Wildcat Mounta** comp=N,225nm,0.5s	**1.24**	**44**	IAML			19 54 44.1	
WCT	comp=E,440nm,1.1s			IAML			19 54 48.8	
GMN	**Gold Mountain**	**1.44**	**14**			Pb	19 54 31.7	+0.3
DSP	**Deep Springs** comp=E,203nm,0.6s	**1.48**	**351**	IAML			19 54 52.7	
BHPR	**Bishop**	**1.53**	**336**			Pg	19 54 33.3	+0.1
OSI	**Osito Audit: C**	**1.54**	**214**			Pn	19 54 31.7	-0.5
OSI	comp=N,162nm,0.8s			IAML			19 54 59.7	
OSI	comp=E,197nm,0.8s			IAML			19 55 01.7	
MTUM	**Tungsten Hills**	**1.61**	**334**			Pb	19 54 34.1	-0.1
BFSC	**Mount Baldy Ra**	**1.66**	**179**			Pn	19 54 33.6	-0.3
BFSC	comp=N,133nm,0.4s			IAML			19 54 58.9	
BFSC	comp=E,129nm,0.5s			IAML			19 55 03.8	
MWC	**Mount Wilson**	**1.70**	**190**			Pn	19 54 34.3	-0.3
MWC	comp=N,230nm,0.5s			IAML			19 55 00.8	
MWC	comp=E,246nm,0.5s			IAML			19 55 01.4	
CRGC	**Crocker Grade**	**1.78**	**249**			Pb	19 54 36.5	-0.7
MTPC	**Mountain Pass**	**1.79**	**103**			Pn	19 54 34.4	-1.4
MTPC	comp=N,148nm,0.6s			IAML			19 55 02.0	
MTPC	comp=E,217nm,0.4s			IAML			19 55 02.4	
SHPR	**Sheep Range**	**2.13**	**73**			Pn	19 54 40.2	-0.4
V12A	**Nelson**	**2.32**	**94**			Pn	19 54 42.6	-0.3
V12A	comp=N,119nm,0.6s			IAML			19 55 19.3	
V12A	comp=E,79nm,0.5s			IAML			19 55 24.5	
PMD	**Palm Desert**	**2.50**	**154**			Pb	19 54 50.3	+1.0
PFO	**Pinyon Flats O**	**2.50**	**156**			Pn	19 54 45.1	-0.5
PFO	comp=E,58nm,1.4s			IAML			19 55 29.2	
NV11	**Mina Array Sit**	**2.55**	**352**			Pn	19 54 45.8	-0.4
NVAR	**Mina Array Bea**	**2.57**	**349**			Pn	19 54 46.3	-0.3
PRN	**Pahroc Range**	**2.60**	**54**			Pn	19 54 46.9	0.0
PRN	comp=E,134nm,0.8s			IAML			19 55 39.0	
PRN	comp=N,128nm,0.7s			IAML			19 55 40.0	
NEE2	**Needles Airpor** comp=E,125nm,0.7s	**2.76**	**113**	IAML			19 55 40.7	
BORC	**Borrego Spring** comp=E,75nm,0.8s	**2.83**	**158**	IAML			19 55 37.7	
BORC	comp=N,45nm,0.9s			IAML			19 55 38.6	
R11B	**Troy Canyon, C** comp=E,43nm,0.8s	**2.97**	**34**	IAML			19 55 39.9	
W13A	**Hualapai Mount**	**3.21**	**103**			Pn	19 54 54.0	-1.3
BLYC	**Blythe** comp=E,36nm,0.8s	**3.38**	**129**	IAML			19 55 55.8	
BLYC	comp=N,37nm,0.6s			IAML			19 55 56.0	
AFDM	**Forest Hills D** comp=E,32nm,0.4s	**4.01**	**320**	IAML			19 56 11.6	
AFDM	comp=N,32nm,0.4s			IAML			19 56 12.5	
PSUT	**Pine Spring** comp=E,47nm,1.3s	**4.03**	**48**	IAML			19 56 23.0	
PSUT	comp=N,25nm,1.4s			IAML			19 56 31.3	
KNB	**Kanab** comp=E,17nm,0.8s	**4.08**	**73**	IAML			19 56 16.2	
KNB	comp=N,19nm,1.3s			IAML			19 56 26.2	
SPR3	**Spring Creek 3** comp=N,21nm,0.5s	**4.09**	**40**	IAML			19 56 16.6	
SPR3	comp=E,25nm,1.0s			IAML			19 56 18.9	
ESJX	**Sierra Juarez** comp=N,24nm,0.1s	**4.15**	**159**			Pn	19 55 07.4	-0.8
ESJX	comp=E,31nm,0.1s			IAML			19 56 34.1	
ESJX				IAML			19 56 45.1	
Y14A	**Wickenburg** comp=E,20nm,0.9s	**4.32**	**116**			Pn	19 55 09.4	-1.1
Y14A	comp=N,30nm,0.8s			IAML			19 56 28.1	
Y14A				IAML			19 56 28.1	
BEKR	**Beckworth** comp=E,27nm,0.5s	**4.48**	**333**	IAML			19 56 30.4	
BEKR	comp=N,11nm,1.3s			IAML			19 56 38.1	
ELK	**Elko**	**5.20**	**21**			Pn	19 55 21.9	-0.9

IDC ***17*** *20:00:15.6±1.1,0.745N×126.719E, h0km, mb4.0/8, mbtmp4.0/9, ML3.3/1, Error ellipse: s-maj=119.8km s-min=15.4km az=68.0*

NEIC ***17*** *20:00:20.7±1.1,0.758N±0.145×126.641E±0.705, h35km±1km, mb4.1/12, Error ellipse: s-maj=23.0km s-min=8.7km az=171.0*

DJA ***17*** *20:00:20.3±0.4,1.745°N×12.676°E±1°, h10km, M3.8/7, MLv3.8/7*

ISC 17 20:00:21.6±0.7, 0.51N±0.10×126.39E±0.05, h47km, n33, σ1°92/32, mb4.0/14, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.01**	**75**			**Pn**	**20 00 38.8**	**-0.6**
TNTI	**Ternate**	**1.01**	**75**	P		**Pn**	**20 00 39.5**	**+0.1**
TNTI				S		**Sn**	**20 00 54.6**	**+2.1**
KMSI	**Cibinong**	**2.41**	**272**	P		**Pn**	**20 00 57.5**	**-1.2**
LUWI	**Luwuk**	**3.94**	**247**	P		Pn	20 01 26.3	+6.7
MRSI	**Marisa**	**4.45**	**270**	P		Pn	20 01 32.0	+5.3
APSI	**Ampana**	**4.95**	**253**	P		**Pn**	**20 01 36.1**	**+2.6**
TOLI2	**Tolitoli**	**5.64**	**276**	Pn		**Pn**	**20 01 43.3**	**+0.3**
SBUM	**Sibu**	**14.30**	**278**			**P**	**20 03 47.1**	**-0.4**
KSM	**Kuching**	**16.11**	**274**			**Pn**	**20 04 04.3**	**-0.8**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=347,slow=14,SNR=1.3 1.6nm,0.7s	**18.50**	**182**	P		**P**	**20 04 32.6**	**-1.5**
WB0	**Warramunga Arr**	**21.62**	**159**			**P**	**20 05 07.9**	**-0.1**
WB0	comp=Z,10nm,1.0s			IAmb		IAmb	20 05 21.1	
WRA	**Warramunga Arr**	**21.77**	**159**	P		**P**	**20 05 08.2**	**-1.3**
WRA	**Warramunga Arr** comp=Z,4.5nm,0.7s,baz=339,slow=11,SNR=24 comp=Z,4.5nm,0.7s	**21.77**	**159**	P		**P**	**20 05 08.9**	**-0.6**
WR8	**Warramunga Arr**	**21.83**	**159**			**P**	**20 05 09.6**	**-0.7**
WR8	comp=Z,10nm,1.2s			IAmb		IAmb	20 05 15.7	
AS31	**Alice Springs**	**25.11**	**164**	P		**P**	**20 05 43.3**	**+1.0**
ASAR	**Alice Springs**	**25.11**	**164**	P		**P**	**20 05 43.0**	**+0.7**
ASAR	**Alice Springs** comp=Z,2.9nm,0.6s,baz=344,slow=11,SNR=24 comp=Z,2.3nm,0.6s	**25.11**	**164**	P		**P**	**20 05 42.5**	**+0.2**
STKA	**Stephens Creek**	**35.28**	**157**	P		**P**	**20 07 10.5**	**-1.6**
STKA	**Stephens Creek** comp=Z,2.9nm,0.9s,baz=5.7,slow=10,SNR=3.8 comp=Z,2.9nm,0.9s	**35.28**	**157**	P		**P**	**20 07 12.7**	**+0.5**
SONM	**Songino Array**	**50.24**	**343**	P		**P**	**20 09 14.4**	**+1.2**
SONM	**Songino Array** comp=Z,0.6nm,0.6s,baz=166,slow=6.7,SNR=5.1 comp=Z,0.6nm,0.6s	**50.24**	**343**	P		**P**	**20 09 13.4**	**+0.2**
MK31	**Makanchi Array**	**60.02**	**326**	P		**P**	**20 10 23.6**	**0.0**
MK31	comp=Z,0.9nm,0.7s			IAmb		IAmb	20 10 24.0	
MKAR	**Makanchi Array**	**60.02**	**326**	P		**P**	**20 10 22.9**	**-0.7**
MKAR	**Makanchi Array** comp=Z,0.9nm,0.3s,baz=119,slow=8.1,SNR=22 comp=Z,0.9nm,0.3s	**60.02**	**326**	P		**P**	**20 10 23.5**	**-0.1**
MAKZ	**Makanchi**	**60.20**	**326**	P		**P**	**20 10 24.5**	**-0.4**
MAKZ	comp=Z,1.3nm,0.7s			IAmb		IAmb	20 10 37.2	
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.4s,baz=126,slow=7.3,SNR=2.1 comp=Z,0.5nm,0.4s	**63.30**	**334**	P		**P**	**20 10 46.0**	**+0.4**
KURBB	**Kurchatov Arra** comp=Z,1.8nm,0.7s,baz=131,slow=6.1,SNR=16 comp=Z,1.8nm,0.7s	**64.27**	**328**	P		**P**	**20 10 51.5**	**-0.5**
KURK	**Kurchatov**	**64.28**	**328**	P		**P**	**20 10 51.8**	**-0.3**
KK31	**Karatay Array**	**65.37**	**318**	P		**P**	**20 10 58.7**	**-0.7**
KK31	comp=Z,1.1nm,0.8s			IAmb		IAmb	20 10 59.5	
KKAR	**Karatay Array**	**65.37**	**318**	P		**P**	**20 10 58.8**	**-0.5**
BVAR	**Borovoye Array** comp=Z,1.6nm,0.9s,baz=107,slow=5.0,SNR=4.6 comp=Z,1.6nm,0.9s	**69.83**	**328**	P		**P**	**20 11 29.3**	**+2.0**
AB31	**Akbulak array**	**74.43**	**321**	P		**P**	**20 11 54.8**	**-0.1**
AB31	comp=Z,1.7nm,0.9s			IAmb		IAmb	20 12 01.0	
ABKAR	**Akbulak array**	**74.43**	**321**	P		**P**	**20 11 54.8**	**-0.1**

IDC ***17*** *20:03:31.7±1.2,22.759S×70.730W, h0km, mb4.0/2, mbtmp3.8/5, ML3.6/3, Error ellipse: s-maj=41.4km s-min=28.6km az=120.0*

SJA ***17*** *20:03:39.6±0.8,22.729S×70.725W, h64km±6km, ML3.8, MW3.8*

NEIC ***17*** *20:03:42.1±1.5,22.725S±0.703×70.732W±0.707, h35km±2km, mb4.0/1, ML3.9(GUC), Error ellipse: s-maj=12.5km s-min=3.1km az=110.0*

GUC ***17*** *20:03:42.0±0.9,22.727S×70.716W, h69km±5km, ML3.9*

ISC 17 20:03:41.3±0.9, 22.726S±0.702×70.726W±0.705, h65km±7km, n75, σ1°45/84, 5C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB03	**IPOC Station P**	**0.52**	**66**			**Pn**	**20 03 54.2**	**+0.2**
PB03					Sn	**Sn**	**20 04 03.2**	**-0.1**
PB03	**IPOC Station P**	**0.52**	**66**	⇓*iP*		**Pn**	**20 03 54.3**	**+0.2**
PB03				*eS*		**Sn**	**20 04 03.0**	**-0.3**
PB03	comp=E,14μm,0.5s			IAML			20 04 04.3	
PB03	**IPOC Station P**	**0.52**	**66**	*eP*		**Pn**	**20 03 54.2**	**+0.2**
PB03				*eS*		**Sn**	**20 04 03.4**	**+0.1**
PB03	comp=Z,12μm,0.6s			IAML			20 04 03.7	
PB05	**IPOC Station P**	**0.59**	**175**			**Pn**	**20 03 55.6**	**+0.8**
PB05	**IPOC Station P**	**0.59**	**175**	⇓*iP*		**Pn**	**20 03 55.6**	**+0.8**
PB05				*eS*		**Sn**	**20 04 05.3**	**+0.7**
PB05	comp=N,7μm,0.4s			IAML			20 04 06.6	
PB05	**IPOC Station P**	**0.59**	**175**	*eP*		Pn	20 03 41.8	-13
PB05				*eS*		**Sn**	**20 04 05.5**	**+0.9**
PB05	comp=Z,4μm,0.3s			IAML			20 04 06.4	
PB06	**IPOC Station P**	**0.78**	**125**			**Pn**	**20 03 56.7**	**-0.2**
PB06	**IPOC Station P**	**0.78**	**125**	⇓*iP*		**Pn**	**20 03 56.7**	**-0.2**
PB06				*eS*		**Sn**	**20 04 07.5**	**-1.0**
PB06	comp=E,12μm,0.1s			IAML			20 04 08.3	
PB06	**IPOC Station P**	**0.78**	**125**	*eP*		Pn	20 03 36.3	-21
PB06	comp=Z,3μm,0.5s			IAML			20 04 07.7	
PB06				*eS*		**Sn**	**20 04 07.8**	**-0.6**
PB02	**IPOC Station P**	**1.00**	**20**			**Pn**	**20 04 00.1**	**+0.5**
PB02					Sn	**Sn**	**20 04 13.1**	**0.0**
PB02	**IPOC Station P**	**1.00**	**20**	*iP*		**Pn**	**20 04 00.2**	**+0.6**
PB02				*eS*		**Sn**	**20 04 13.5**	**+0.3**
PB02	comp=E,8μm,0.1s			IAML			20 04 14.9	
PB02	**IPOC Station P**	**1.00**	**20**	*eP*		Pn	20 03 55.1	-4.5
PB02				*eS*		**Sn**	**20 04 13.4**	**+0.3**
PB09	**IPOC Station P**	**1.05**	**64**			**Pn**	**20 04 00.3**	**0.0**
PB09					Sn	**Sn**	**20 04 14.4**	**-0.2**
PB09	**IPOC Station P**	**1.05**	**64**	⇑*iP*		**Pn**	**20 04 00.9**	**+0.5**
PB09				*eS*		**Sn**	**20 04 14.3**	**-0.3**
PB09	comp=E,4μm,0.3s			IAML			20 04 15.2	
PB09	**IPOC Station P**	**1.05**	**64**	*eP*		Pn	20 03 55.5	-4.9
PB09	comp=Z,7μm,0.3s			IAML			20 04 15.0	
PB10	**IPOC Station P**	**1.28**	**192**			**Pn**	**20 04 03.5**	**+0.3**
PB10					Sn	**Sn**	**20 04 19.4**	**-0.1**
PB10	**IPOC Station P**	**1.28**	**192**	⇓*iP*		**Pn**	**20 04 03.6**	**+0.4**
PB10	comp=N,2μm,0.5s			IAML			20 04 21.3	
PB10	**IPOC Station P**	**1.28**	**192**	*eP*		Pn	20 03 57.9	-5.2
PB10				*eS*		**Sn**	**20 04 19.4**	**-0.1**
PB10	comp=Z,808nm,0.3s			IAML			20 04 21.1	
PB01	**IPOC Station P**	**1.41**	**31**			**Pn**	**20 04 05.6**	**+0.6**
PB01	**IPOC Station P**	**1.41**	**31**	⇑*iP*		**Pn**	**20 04 05.6**	**+0.6**
PB01				*eS*		**Sn**	**20 04 22.9**	**+0.1**
PB01	comp=E,7μm,0.3s			IAML			20 04 24.0	
PB01	**IPOC Station P**	**1.41**	**31**	*eP*		**Pn**	**20 04 05.6**	**+0.6**
PB01				*eS*		**Sn**	**20 04 23.4**	**+0.6**
PB01	comp=Z,3μm,0.2s			IAML			20 04 23.7	
PATCX	**Punta Patache**	**1.44**	**4**			**Pn**	**20 04 05.8**	**+0.4**
PATCX	**Punta Patache**	**1.44**	**4**	⇑*iP*		**Pn**	**20 04 05.8**	**+0.4**
PATCX	**Punta Patache**	**1.44**	**4**	*eP*		**Pn**	**20 04 05.7**	**+0.4**
PATCX				*eS*		**Sn**	**20 04 23.0**	**-0.4**
PATCX	comp=Z,716nm,0.3s			IAML			20 04 29.6	
TA01	**Diego Aracena**	**1.69**	**3**			**Pn**	**20 04 08.5**	**-0.1**
TA01	**Diego Aracena**	**1.69**	**3**	*eP*		**Pn**	**20 04 08.7**	**0.0**
TA01	**Diego Aracena**	**1.69**	**3**	*eP*		**Pn**	**20 04 08.8**	**+0.2**
TA01				*eS*		**Sn**	**20 04 25.8**	**-3.5**
TA01	comp=Z,302nm,0.6s			IAML			20 04 38.6	
TA02	**Huaiquique**	**1.98**	**4**			**Pn**	**20 04 13.0**	**+0.4**
TA02	**Huaiquique**	**1.98**	**4**	*eP*		**Pn**	**20 04 13.6**	**+0.9**
TA02				*eS*		**Sn**	**20 04 40.5**	**+4.0**
TA02	comp=Z,327nm,0.1s			IAML			20 04 43.9	
HMBC	**Humberstone**	**2.00**	**10**			**Pn**	**20 04 14.1**	**+1.1**
HMBC	**Humberstone**	**2.00**	**10**	*eP*		**Pn**	**20 04 13.5**	**+0.5**
HMBC	comp=N,617nm,0.2s			IAML			20 04 46.2	
HMBC	**Humberstone**	**2.00**	**10**	*eP*		**Pn**	**20 04 13.7**	**+0.7**
HMBC				*eS*		Sn	20 04 23.0	-14
HMBC	comp=Z,514nm,0.4s			IAML			20 04 40.8	
AF01	**San Pedro de A**	**2.04**	**110**			**Pn**	**20 04 15.7**	**+2.0**
AF01	**San Pedro de A**	**2.04**	**110**	⇑*iP*		**Pn**	**20 04 15.7**	**+2.0**
AF01	**San Pedro de A**	**2.04**	**110**	*eP*		**Pn**	**20 04 11.5**	**-2.2**
AF01				*eS*		**Sn**	**20 04 38.7**	**+0.4**
PB08	**IPOC Station P**	**2.35**	**26**			**Pn**	**20 04 18.4**	**+0.5**
PB08	**IPOC Station P**	**2.35**	**26**	⇑*iP*		**Pn**	**20 04 18.9**	**+0.9**
PB08	comp=N,454nm,0.4s			IAML			20 05 04.8	
PB08	**IPOC Station P**	**2.35**	**26**	*eP*		Pn	20 04 13.4	-4.6
PB08				*eS*		**Sn**	**20 04 37.9**	**-8.0**
PB08	comp=Z,320nm,0.8s			IAML			20 04 38.5	
PB14	**IPOC Station P**	**2.36**	**183**			**Pn**	**20 04 17.4**	**-0.6**
PB14	**IPOC Station P**	**2.36**	**183**	*eP*		**Pn**	**20 04 17.5**	**-0.5**
PB14				*eS*		Sn	20 04 31.7	-14
PB14	comp=Z,275nm,0.7s			IAML			20 04 59.8	
PB11	**IPOC Station P**	**2.55**	**13**			**Pn**	**20 04 20.5**	**0.0**
PB11	**IPOC Station P**	**2.55**	**13**	*iP*		**Pn**	**20 04 20.6**	**0.0**
PB11	comp=N,461nm,0.3s			IAML			20 05 02.1	
PB11	**IPOC Station P**	**2.55**	**13**	*eP*		**Pn**	**20 04 20.7**	**+0.2**
PB11				*eS*		Sn	20 04 40.4	-10
PB11	comp=Z,266nm,0.4s			IAML			20 04 42.0	
GO01	**Chumsiza**	**2.77**	**21**			**Pn**	**20 04 24.5**	**+0.8**
GO01	**Chumsiza**	**2.77**	**21**	*eP*		**Pn**	**20 04 24.5**	**+0.8**
GO01	comp=E,562nm,0.2s			IAML			20 05 00.1	
GO01	**Chumsiza**	**2.77**	**21**	*eP*		**Pn**	**20 04 25.2**	**+1.6**
GO01				*eS*		**Sn**	**20 05 00.1**	**+3.9**
GO02	**Mina Guanaco**	**2.95**	**168**			**Pn**	**20 04 26.7**	**+0.6**
GO02	**Mina Guanaco**	**2.95**	**168**	*eP*		**Pn**	**20 04 26.6**	**+0.5**
GO02	**Mina Guanaco**	**2.95**	**168**	*eP*		**Pn**	**20 04 26.0**	**0.0**
GO02				*eS*		**Sn**	**20 05 01.1**	**+0.6**
AC01	**Pan de Azucar**	**3.88**	**184**	Pn		**Pn**	**20 04 37.3**	**-1.2**
AC01	**Pan de Azucar**	**3.88**	**184**	*eP*		**Pn**	**20 04 37.4**	**-1.2**
AC01				*eS*		**Sn**	**20 05 20.5**	**-2.4**
AC01	comp=Z,91nm,0.8s			IAML			20 05 46.3	
AC02	**Maricunga**	**4.67**	**167**			**Pn**	**20 04 49.9**	**+0.2**
AC02	**Maricunga**	**4.67**	**167**	*eP*		**Pn**	**20 04 50.7**	**+1.0**
AC02				*eS*		**Sn**	**20 05 44.1**	**+1.3**
AC02	comp=Z,74nm,0.8s			IAML			20 06 06.7	
AC06	**Mina Casimiro**	**5.08**	**181**	Pn		**Pn**	**20 04 55.9**	**+1.1**
AZAP	**Zapla**	**5.16**	**113**	*eP*		**Pn**	**20 04 57.9**	**+1.7**
LPAZ	**La Paz**	**6.27**	**19**			**Pn**	**20 05 11.4**	**-0.4**
LPAZ	**La Paz** comp=Z,0.6nm,0.3s,baz=205,slow=4.6,SNR=7.4 comp=Z,1.4nm,0.3s	**6.27**	**19**	Pn		**Pn**	**20 05 11.5**	**-0.3**
LCO	**Las Campanas**	**6.73**	**183**	Pn		**Pn**	**20 05 18.2**	**+0.5**
CFA	**Coronel Fontan** comp=Z,0.3nm,0.3s,baz=186,slow=8.8,SNR=3.6 comp=Z,1.0nm,0.4s	**9.48**	**169**	Pn		Pn	20 05 44.0	-11
SIV	**San Ignacio** comp=Z,0.1nm,0.3s,baz=246,slow=11,SNR=19 comp=Z,3.4nm,0.5s	**10.69**	**56**	Pn		**Pn**	**20 06 08.2**	**-3.5**
H03N1	**Juan Fernandez** baz=37,slow=72,SNR=103	**13.50**	**213**	T		T	20 20 36.1	
H03N2	**Juan Fernandez** baz=37,slow=72,SNR=76	**13.51**	**213**	T		T	20 20 41.1	
H03N3	**Juan Fernandez** baz=37,slow=72,SNR=81	**13.52**	**213**	T		T	20 20 40.0	
TRQA	**Tornquist** comp=Z,18nm,1.4s	**17.28**	**157**	Pn		**P**	**20 07 39.5**	**+0.7**
TRQA				IAmb		IAmb	20 08 08.8	
BDFB	**Brasilia** comp=Z,

ISC 17 20:33:17.2±3.8, 44°.4N±0°.1×148°.7E±0°.2, h55km, n17, σ2°.21/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.02**	**324**	*eP*	**Pn**	20 33 34.6	-0.7
KUR				AMB	AMB	20 33 35.8	
	110nm,0.3s						
KUR				*eS*	**Sn**	**20 33 45.0**	**-3.7**
KUR				A	A	20 33 47.7	
	790nm,0.2s						
KUR				A	A	20 33 47.7	
	400nm,0.2s						
SHO	**Shikotan**	**1.46**	**249**	*eP*	**Pn**	**20 33 42.9**	**+1.7**
SHO				AMB	AMB	20 33 43.9	
	20nm,0.3s						
SHO				*eS*	**Sn**	**20 33 58.1**	**-1.1**
SHO				A	A	20 34 03.9	
	90nm,0.3s						
SHO				A	A	20 34 03.9	
	180nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.08**	**261**	*eP*	**Pn**	**20 33 50.4**	**+0.7**
YUK				AMB	AMB	20 33 51.7	
	100nm,0.2s						
YUK				*eS*	**Sn**	**20 34 12.6**	**-1.9**
YUK				A	A	20 34 16.7	
	90nm,0.3s						
YUK				A	A	20 34 16.7	
	210nm,0.3s						
NEM2	**Nemuro 2**	**2.39**	**245**	P	**Pn**	**20 33 54.3**	**+0.4**
NEM2				*eS*	**Sn**	**20 34 19.0**	**-2.9**
NMR	**Nemuro--Hokkai**	**2.39**	**245**	*i* P	**Pn**	**20 33 54.4**	**+0.4**
NMR				*eS*	**Sn**	**20 34 19.5**	**-2.6**
GLVR	**Golovnino**	**2.40**	**255**	*eP*	**Pn**	**20 33 56.4**	**+2.4**
GLVR				AMB	AMB	20 33 56.9	
	20nm,0.1s						
GLVR				*eS*	**Sn**	**20 34 23.1**	**+1.0**
GLVR				A	A	20 34 31.5	
	300nm,0.4s						
GLVR				A	A	20 34 31.5	
	230nm,0.4s						
JRA	**Rausu**	**2.63**	**261**	P	**Pn**	**20 33 58.9**	**+1.8**
JNSB	**Nemuroshibetsu**	**2.75**	**258**	*eP*	**Pn**	**20 34 00.2**	**+1.4**
JNK	**Nakash**	**3.00**	**255**	P	**Pn**	**20 34 04.2**	**+2.0**
AKK	**Akkeshi**	**3.13**	**245**	*eP*	**Pn**	**20 34 05.3**	**+1.2**
JAK	**Akkeshi**	**3.24**	**246**	*eP*	**Pn**	**20 34 06.7**	**+1.2**
JAK				*eS*	**Sn**	**20 34 41.3**	**-1.5**
JAR	**Ashorobuto**	**3.74**	**254**	*eP*	**Pn**	**20 34 14.8**	**+2.3**
JAR				*eS*	**Sn**	**20 34 55.6**	**+0.3**
JCH	**Churui**	**4.28**	**247**	*eP*	**Pn**	**20 34 21.9**	**+2.1**
JKK2	**Kamakawa 2**	**4.33**	**265**	*eP*	**Pn**	**20 34 23.4**	**+2.9**
JNBK	**Urakawa-nobuka**	**4.84**	**246**	*eP*	**Pn**	**20 34 29.2**	**+1.7**
JOT	**Ohata**	**6.39**	**244**	*eP*	**Pn**	**20 34 50.3**	**+1.6**
JANG	**Nango**	**6.68**	**235**	*eS*	**Sn**	**20 36 02.9**	**-4.5**

AUST 17 20:39:44.0±1.2, 19°S±8°×12°1E±°, h13km±12km, mb4.0/6, ML2.9/6, Error ellipse: s-maj=22.7km s-min=5.1km az=141.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**2.72**	**195**	P	**Pn**	20 40 27.9	+0.5
MBWA				S	Sn	20 41 02.1	+1.9
PSAC1	**Pilbara Seismi**	**3.06**	**192**	P	Pn	20 40 32.6	+0.4
PSAC1				S	Sn	20 41 09.5	+0.7
PSAA2	**Pilbara Seismi**	**3.09**	**191**	P	Pn	20 40 33.0	+0.5
PSAA2				S	Sn	20 41 09.9	+0.7
FITZ	**Fitzroy Crossi**	**4.90**	**86**	P	Pn	20 40 57.1	-0.3
FITZ	**Fitzroy Crossi**	**4.90**	**86**	S	Sn	20 41 55.5	+1.6
GIRL	**Giralia**	**7.16**	**234**	P	Pn	20 41 25.8	-2.6
GIRL				S	Sn	20 42 40.4	-9.4
MEEK	**Meekatharra**	**8.26**	**192**	P	Pn	20 41 43.1	-0.6
	comp=Z,15nm,1.6s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.26**	**192**	S	Sn	20 43 13.0	-3.9
KNRA	**Kununurra**	**8.39**	**72**	P	Pn	20 41 44.8	-0.6
	comp=Z,11nm,1.5s,comp=Z,0.0nm						
KNRA				S	Sn	20 43 16.6	-3.4
WRKA	**Warakurna**	**9.72**	**133**	P	Pn	20 42 05.9	+2.3
	comp=Z,2.4nm,2.4s,comp=Z,0.0nm						
WRKA				S	Sn	20 43 52.2	-0.4
MORW	**Morawa**	**11.26**	**200**	P	Pn	20 42 22.0	-2.8
	comp=Z,9.4nm,2.5s						
MORW	**Morawa**	**11.26**	**200**	S	Sn	20 44 19.7	-11
BLDU	**Ballidu**	**12.52**	**195**	P	Pn	20 42 40.5	-1.5
	comp=Z,16nm,2.6s						
BLDU	**Ballidu**	**12.52**	**195**	S	Sn	20 44 52.0	-9.3
KLBR	**Kellerberrin**	**13.25**	**190**	P	Pn	20 42 50.7	-1.2
	comp=Z,24nm,1.5s						
KLBR	**Kellerberrin**	**13.25**	**190**	S	Sn	20 45 09.9	-9.1

IDC 17 20:46:51.9±3.9, 16°.89S×175°.77W, h0km, mb4.6/3, mbtmp4.6/3, Error ellipse: s-maj=159.5km s-min=78.7km az=154.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.32**	**241**	P	P	20 54 40.6	+1.0
	3.7nm,0.6s,baz=93,slow=11,SNR=8.1						
	3.7nm,0.6s						
WRA	**Warramunga Arr**	**47.30**	**258**	P	P	20 55 26.9	-0.7
	1.4nm,0.6s,baz=98,slow=7.4,SNR=28						
WRA				PcP	PcP	20 56 58.8	0.0
	0.3nm,0.4s,baz=94,slow=3.6,SNR=2.1						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**47.49**	**253**	P	P	20 55 28.6	-0.5
	19nm,0.6s,baz=89,slow=8.2,SNR=346						
ASAR				PcP	PcP	20 56 59.1	-0.5
	0.7nm,0.7s,baz=94,slow=3.3,SNR=3.9						
	19nm,0.6s						

SOME 17 20:58:23.3, 41°.70N×81°.47E, h15km
NNC 17 20:58:24.1±2.1, 41°.77N×81°.44E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=14.5km s-min=12.5km az=166.0
ISC 17 20:58:23.9±2.5, 41°.7N±0°.1×81°.29E±0°.07, h17km, n15, σ1°.78/26, 5C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.89**	**339**	P	**Pb**	**20 58 57.3**	**-0.7**
	10nm,0.2s						
KTMS				S	**Sb**	**20 59 22.2**	**+0.9**
	32nm,0.5s						
KTMS	**Ketmen**	**1.89**	**339**	*eP*	**Pb**	**20 58 57.9**	**-0.1**
	17nm,0.1s						
KTMS				*eS*	**Sb**	**20 59 22.8**	**+1.4**
	44nm,0.3s						
SHLS	**Shalkode**	**2.00**	**318**	P	**Pn**	**20 58 57.2**	**+0.2**
	12nm,0.2s						
SHLS				S	**Sn**	**20 59 21.7**	**+0.1**
	86nm,0.6s						
SHLS	**Shalkode**	**2.00**	**318**	*eP*	**Pn**	**20 58 57.2**	**+0.2**
	12nm,0.2s						
SHLS				*eS*	**Sn**	**20 59 21.7**	**+0.1**
	107nm,0.3s						
PDGK	**Podgornoye**	**2.11**	**321**	⇑Pn	**Pb**	**20 59 02.1**	**+0.3**
	7.1nm,0.3s						
PDGK				⇑Sn	**Sb**	**20 59 30.4**	**+2.6**
	54nm,0.3s						
SATY	**Saty**	**2.54**	**304**	Pg	**Pg**	**20 59 11.6**	**-1.0**
	6.4nm,0.4s						
SATY				Lg	Lg	20 59 47.0	
	35nm,0.5s						
TNSS	**Tian-Shan**	**3.49**	**294**	Pg	**Pg**	**20 59 29.2**	**-1.6**
	0.4nm,0.2s						
TNSS				Lg	Lg	21 00 16.7	
	3.5nm,0.5s						
TNSS	**Tian-Shan**	**3.49**	**294**	*eP*	**Pg**	**20 59 29.2**	**-1.6**
	0.4nm,0.2s						
TNSS				*eS*	**Sg**	**21 00 16.8**	**+0.7**
	3.5nm,0.5s						
CHKK	**Chushkaly**	**3.84**	**306**	Pg	**Pb**	**20 59 34.1**	**+3.0**
	1.0nm,0.2s						
CHKK				Lg	Lg	21 00 25.2	
	11nm,1.0s						
CHKK	**Chushkaly**	**3.84**	**306**	*eP*	**Pb**	**20 59 34.1**	**+3.0**
	1.0nm,0.2s						
CHKK				*eS*	**Sg**	**21 00 25.2**	**-1.8**
	11nm,1.0s						
MTBS	**Maitube**	**3.88**	**293**	Pg	**Pg**	**20 59 35.3**	**-2.8**
	1.6nm,0.2s						
MTBS				Lg	Lg	21 00 27.4	
	4.1nm,0.3s						
MTBS	**Maitube**	**3.88**	**293**	*eP*	**Pg**	**20 59 35.3**	**-2.8**
	1.6nm,0.2s						
MTBS				*eS*	**Sg**	**21 00 27.4**	**-1.0**
	4.1nm,0.3s						
KST	**Kastek**	**4.17**	**291**	Pg	**Pb**	**20 59 38.7**	**+1.8**
	1.9nm,0.6s						
KST				Lg	Lg	21 00 33.3	
	11nm,0.9s						
KST	**Kastek**	**4.17**	**291**	*eP*	**Pg**	**20 59 40.7**	**-3.1**
	1.6nm,0.3s						
KST				*eS*	**Sg**	**21 00 36.1**	**-1.8**
	11nm,0.6s						
MK31	**Makanchi Array**	**5.15**	**8**	⇑Pn	**Pn**	**20 59 41.1**	**+0.9**
	0.2nm,0.2s,baz=190,slow=11,SNR=21						
MK31				⇑Pg	**Pb**	**20 59 54.2**	**+0.7**
	0.7nm,0.4s,baz=192,slow=15,SNR=4.3						
MK31				⇓Sn	**Sn**	**21 00 39.4**	**+0.2**
	0.5nm,0.3s,baz=179,slow=26,SNR=5.0						
MK31				⇑Lg	Lg	21 00 59.0	
	2.7nm,0.5s						

KRNET 17 21:01:49.4±0.1, 41°.42N×71°.95E, h14km, mb2.8
SOME 17 21:01:49.3, 41°.28N×71°.88E, h15km
NNC 17 21:01:50.5±2.3, 41°.28N×71°.86E, h0km, mb3.3, mpv3.2, Error ellipse: s-maj=20.9km s-min=6.7km az=178.0
ISU 17 21:01:51, 41°.51N×71°.89E, h12km
ISC 17 21:01:50.2±1.0, 41°.44N±0°.02×71°.98E±0°.02, h14km±9km, n32, σ2°.39/57, 23C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.35**	**358**	*i*P	**Pg**	**21 01 56.8**	**-0.7**
ARK				⇑*i*S	**Sg**	**21 02 02.1**	**-0.3**
KSNS	**Kasansay**	**0.45**	**231**	P	**Pb**	**21 01 59.3**	**-0.6**
KSNS				S	**Sb**	**21 02 06.3**	**-0.2**
TRKS	**Terek-Say**	**0.64**	**278**	*i*P	**Pg**	**21 02 00.6**	**-2.1**
TRKS				⇓*i*S	**Sg**	**21 02 08.7**	**-2.5**
ARSB	**Arslanbob**	**0.76**	**99**	⇑*e*P	**Pg**	**21 02 04.3**	**-0.7**
ARSB				⇑*e*S	**Sg**	**21 02 15.1**	**+0.1**
FRG	**Fergana**	**1.08**	**188**	P	**Pn**	**21 02 12.4**	**+1.5**
FRG				S	**Sn**	**21 02 28.7**	**+3.0**
OHH	**Osh**	**1.10**	**146**	⇑*e*P	**Pb**	**21 02 10.2**	**-0.8**
OHH				⇑*e*S	**Sn**	**21 02 25.3**	**-1.0**
MNAS	**Manas**	**1.11**	**20**	⇑*e*P	**Pn**	**21 02 11.1**	**-0.4**
MNAS				⇑*e*S	**Sn**	**21 02 26.7**	**0.0**
CHMI	**Chimion**	**1.22**	**197**	P	**Pg**	**21 02 15.5**	**+1.8**
CHMI				S	**Sg**	**21 02 33.3**	**+3.6**
PSK	**Pskem**	**1.30**	**292**	S	**Sg**	**21 02 37.5**	**+5.4**
CHMG	**Chimgan**	**1.49**	**275**	S	**Sg**	**21 02 42.2**	**+4.1**
SALK	**Salom-Alik**	**1.50**	**111**	⇑*e*P	**Pg**	**21 02 17.6**	**-0.2**
SALK				⇑*e*S	**Sg**	**21 02 38.1**	**-0.3**
CHRV	**Charvak**	**1.54**	**278**	S	**Sg**	**21 02 40.4**	**+0.7**
MRKS	**Merke**	**1.60**	**35**	P	**Pg**	**21 02 23.3**	**+2.5**
	8.8nm,0.5s						
MRKS				S	**Sg**	**21 02 48.1**	**+6.5**
	38nm,0.6s						
MRKS	**Merke**	**1.60**	**35**	*e*P	**Pg**	**21 02 23.3**	**+2.5**
	8.8nm,0.5s						
MRKS				*e*S	**Sg**	**21 02 48.1**	**+6.5**
	38nm,0.6s						
IUG	**Iuzhnay**	**1.62**	**296**	P	**Pg**	**21 02 20.2**	**-1.1**
	23nm,0.2s						
IUG				S	**Sg**	**21 02 42.6**	**+0.3**
	99nm,0.5s						
EKS2	**Erkin-Say**	**1.81**	**47**	⇑*e*P	**Pb**	**21 02 23.4**	**+0.3**
EKS2				⇑*e*S	**Sg**	**21 02 48.1**	**-0.3**
SFK	**Sufi-Kurgan**	**1.84**	**141**	⇑*e*P	**Pb**	**21 02 23.4**	**-0.3**
SFK				⇑*e*S	**Sg**	**21 02 48.1**	**-1.2**
TGS	**TashGRES**	**1.85**	**270**	S	**Sg**	**21 02 56.4**	**+6.6**
KK31	**Karatay Array**	**1.99**	**327**	⇓Pn	**Pg**	**21 02 26.9**	**-1.4**
	4.7nm,0.3s,baz=140,slow=14,SNR=121						
KK31				⇓Sn	**Sg**	**21 02 53.0**	**-1.1**
	8.4nm,0.3s,baz=144,slow=27,SNR=14						
UCH	**Uchtor**	**2.05**	**67**	⇑*e*P	**Pb**	**21 02 27.2**	**-0.2**
UCH				⇑*e*S	**Sb**	**21 02 54.6**	**+1.7**
AAK	**Ala-Archa**	**2.22**	**57**	⇑Pn	**Pg**	**21 02 31.4**	**-1.4**
	1.3nm,0.4s						
AAK				⇑Sn	**Sg**	**21 03 02.2**	**+0.7**
	1.4nm,0.4s						
AAK	**Ala-Archa**	**2.22**	**57**	⇓*e*P	**Pb**	**21 02 29.3**	**-0.9**
AAK				⇓*e*S	**Sb**	**21 02 58.5**	**+0.9**
BRLS	**Boroldaу**	**2.25**	**316**	Pg	**Pb**	**21 02 30.4**	**-0.2**
	26nm,0.4s						
BRLS				Lg	Lg	21 03 00.1	
	39nm,0.4s						
BRLS	**Boroldaу**	**2.25**	**316**	*e*P	**Pb**	**21 02 30.4**	**-0.2**
	26nm,0.4s						
BRLS				*e*S	**Sg**	**21 03 00.1**	**-2.4**
	39nm,0.4s						
FRU1	**Bishkek**	**2.40**	**54**	⇑*e*P	**Pb**	**21 02 31.9**	**-1.2**
FRU1				⇑*e*S	**Sb**	**21 03 02.6**	**0.0**
CHMS	**Chumysh**	**2.58**	**52**	⇓*e*P	**Pb**	**21 02 34.2**	**-2.0**
CHMS				⇓*e*S	**Sb**	**21 03 06.1**	**-0.9**
USP	**Ospenovka**	**2.61**	**45**	⇓*e*P	**Pb**	**21 02 34.6**	**-2.1**
USP				⇓*e*S	**Sb**	**21 03 07.6**	**-1.0**
GAR	**Garm**	**2.75**	**208**	*e*P	**Pb**	**21 02 35.8**	**-3.5**
GAR				⇑*e*S	**Sb**	**21 03 09.7**	**-3.2**
KST	**Kastek**	**3.36**	**60**	Pg	**Pg**	**21 02 51.9**	**-2.6**
	1.5nm,0.5s						
KST				Lg	Lg	21 03 37.2	
	8.6nm,0.8s						
KST	**Kastek**	**3.36**	**60**	*e*P	**Pg**	**21 02 51.9**	**-2.6**
	1.8nm,0.3s						
KST				*e*S	**Sg**	**21 03 37.2**	**-0.8**
	12nm,0.5s						
BTLS	**Baital**	**3.90**	**22**	Pg	**Pg**	**21 03 04.1**	**-0.8**
BTLS				Lg	Lg	21 03 57.8	
BTLS	**Baital**	**3.90**	**22**	*e*P	**Pg**	**21 03 04.1**	**-0.8**
	1.4nm,0.3s						
BTLS				*e*S	**Sg**	**21 03 57.8**	**+2.4**

IDC 17 21:06:23.0±5.0, 27°.11S×66°.81E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=147.2km s-min=35.5km az=54.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**20.09**	**17**	T	T	21 31 59.1	
	baz=196,slow=76,SNR=4.1						
H08S2	**Diego Garcia H**	**20.09**	**17**	T	T	21 31 57.2	
	baz=196,slow=76,SNR=4.4						
H08S3	**Diego Garcia H**	**20.11**	**17**	T	T	21 32 01.1	
	baz=196,slow=76,SNR=4.5						
H04N2	**CROZET ISLANDS**	**22.45**	**208**	T	T	21 34 33.2	
	baz=37,slow=74,SNR=63						
H04N1	**CROZET ISLANDS**	**22.45**	**208**	T	T	21 34 34.0	
	baz=37,slow=74,SNR=81						
H04N3	**CROZET ISLANDS**	**22.46**	**208**	T	T	21 34 22.6	
	baz=37,slow=74,SNR=109						
CMAR	**Chiang Mai Arr**	**54.98**	**38**	P	P	21 15 56.1	0.0
	0.4nm,0.6s,baz=219,slow=7.4,SNR=2.0						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**60.06**	**103**	P	P	21 16 32.0	-0.2
	1.5nm,0.8s,baz=250,slow=6.3,SNR=18						
	1.5nm,0.8s						
WRA	**Warramunga Arr**	**61.69**	**99**	P	P	21 16 43.4	+0.1
	1.8nm,0.8s,baz=250,slow=6.3,SNR=8.9						
	1.8nm,0.8s						
MKAR	**Makanchi Array**	**74.87**	**11**	P	P	21 18 04.5	-0.8
	0.2nm,0.7s,baz=210,slow=7.6,SNR=1.8						
	0.2nm,0.7s						
ZALV	**Zalesovo Beam**	**82.21**	**11**	P	P	21 18 46.4	+0.9
	0.4nm,0.4s,baz=234,slow=5.0,SNR=3.7						
	0.4nm,0.4s						

NEIC 17 21:11:59.3±0.7, 36°.728N±0°.009×98°.366W±0°.009, h5km±1km, mb_Lg2.2/11, ML2.5/24, ML2.4/22, Error ellipse: s-maj=2.9km s-min=1.6km az=232.0
NEIC 17 21:11:59.2±0.7, 36°.73N±0°.01×98°.37W±0°.02, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.8km az=317.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.39**	**126**		Pg	21 12 07.3	+0.6
CROK					Sg	21 12 12.8	+1.0
CROK				IAML		21 12 13.1	
	comp=N,434nm,0.2s						
CROK				IAML		21 12 13.1	
	comp=E,569nm,0.3s						
KAN14	**Manchester OK**	**0.39**	**56**		Pg	21 12 07.6	+0.7
KAN14					Sg	21 12 12.9	+0.9
KAN14				IAML		21 12 13.6	
	comp=N,364nm,0.1s						
KAN14				IAML		21 12 13.6	
	comp=E,404nm,0.1s						
OK038	**West end E0370**	**0.39**	**230**		Pg	21 12 07.5	+0.6
OK038					Sg	21 12 13.1	+1.1
OK038				IAML		21 12 20.5	
	comp=E,557nm,0.3s						
GC02	**Grant County #**	**0.42**	**74**		Pg	21 12 07.9	+0.5
GC02					Sg	21 12 14.0	+0.9
KAN10	**Anthony SW Sta**	**0.45**	**29**		Pg	21 12 08.4	+0.5
KAN10					Sg	21 12 14.7	+1.0
KAN09	**Caldwell North**	**0.72**	**56**		Pg	21 12 13.4	+0.3
KAN09					Sg	21 12 23.0	+0.5
KAN09				IAML		21 12 34.9	
	comp=N,230nm,1.5s						
KAN13	**South Haven SW**	**0.77**	**68**		Pg	21 12 14.2	+0.3
KAN13					Sg	21 12 24.3	+0.4
KAN13				IAML		21 12 26.9	
	comp=N,186nm,0.2s						
BLOK	**Blackwell**	**0.93**	**88**		Pg	21 12 16.9	-0.1
BLOK					Sb	21 12 29.8	-0.7
CSTR	**Hydro, Custer**	**1.12**	**194**		Pg	21 12 20.8	+0.1
CSTR					Sb	21 12 35.8	-0.1
OK051	**E0350 and S346**	**1.25**	**100**		Pg	21 12 22.7	-0.6
QUOK	**Quay**	**1.45**	**112**		Pn	21 12 26.0	-0.2
OK052	**Battle Ridge R**	**1.46**	**120**		Pn	21 12 26.1	-0.2
T35A	**Sooner Cattle**	**1.50**	**82**		Pn	21 12 26.9	+0.1
FNO	**Franklin**	**1.67**	**152**		Pn	21 12 29.4	+0.2
DEOK	**Depew**	**1.75**	**120**		Pn	21 12 30.6	+0.3
DEOK				IAmb_Lg		21 12 54.4	
	comp=Z,6.3nm,0.7s						
WMOK	**Wichita Mounta**	**2.02**	**190**		Pn	21 12 34.5	+0.5
SMWD	**Samnorwood**	**2.23**	**224**		Pn	21 12 37.6	+0.7
SMWD				IAmb_Lg		21 13 13.7	
	comp=Z,5.1nm,0.8s						
CBKS	**Cedar Bluff**	**2.34**	**333**	Pn	Pn	21 12 38.8	+0.3
CBKS				IAmb_Lg		21 13 11.8	
	comp=Z,13nm,0.8s						
AMTX	**Amarillo**	**3.26**	**237**	IAmb_Lg		21 13 50.7	
	comp=Z,5.7nm,0.7s						
T25A	**Trinidad**	**4.86**	**277**	IAmb_Lg		21 14 36.2	
	comp=Z,3.5nm,0.8s						
HBAR	**Harrisburg**	**6.35**	**98**	IAmb_Lg		21 15 23.9	
	comp=Z,27nm,0.7s						
PBMO	**Poplar Bluff**	**6.37**	**87**	IAmb_Lg		21 15 38.3	
	comp=Z,5.3nm,0.7s						

RSNC 17 21:27:23.3±0.0, 9°N±1°×7°5W±°, h1km±2km, M2.9, mb3.9, ML2.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJCC	**San Jacinto, C**	**0.82**	**344**	P	Pg	21 27 38.4	-0.7
SJCC				S	Sg	21 27 50.4	+0.6
ARGC	**Ariguani, Magd**	**1.02**	**43**	P	Pg	21 27 42.2	-0.8
ARGC				S	Sg	21 27 55.3	-1.0
LCBC	**Los crdobas,**	**1.42**	**260**	P	Pn	21 27 47.3	-3.0
LCBC				S	Sg	21 28 07.3	-1.7
UREC	**San Jos de Ur**	**1.46**	**203**	P	Pn	21 27 48.3	-2.5
UREC				S	Sg	21 28 08.5	-1.7
ZARC	**Zaragoza, Cauc**	**1.60**	**177**	P	Pn	21 27 50.5	-2.3
ZARC				S	Sn	21 28 12.2	-1.9
OCAC	**Ocana**	**1.82**	**118**	P	Pn	21 27 54.2	-1.8
OCAC				S	Sn	21 28 17.8	-2.1
APAC	**Apartado, Choc**	**2.00**	**234**	P	Pn	21 27 58.0	-0.3
APAC				S	Sn	21 28 24.8	+0.7
SMRC	**Santa Marta, M**	**2.17**	**19**	P	Pn	21 27 59.7	-0.9
SMRC				S	Sn	21 28 26.2	-2.0
DBBC	**Dabeiba**	**2.42**	**211**	P	Pn	21 28 03.8	-0.3
DBBC				S	Sn	21 28 34.6	+0.1
PTBC	**PUERTO BERRIO,**	**2.59**	**169**	P	Pn	21 28 04.6	-1.8
PTBC				S	Sn	21 28 39.6	+1.0
CRJC	**Cerrejon, Guaj**	**2.79**	**47**	P	Pn	21 28 08.0	-1.2
CRJC				S	Sn	21 28 41.6	-2.0
PAMC	**Pamplona, Colo**	**2.83**	**128**	P	Pn	21 28 09.9	-0.2
PAMC				S	Sn	21 28 43.7	-1.5
HELC	**Santa Helena**	**2.95**	**191**	P	Pn	21 28 09.1	-2.5
HELC				S	Sn	21 28 49.2	+1.4
BARC	**Barichara**	**3.04**	**145**	P	Pn	21 28 12.4	-0.5
BARC				S	Sn	21 28 50.9	+0.8
CBOC	**Ciudad Bolivar**	**3.38**	**198**	P	Pn	21 28 15.6	-1.9
CBOC				S	Sn	21 28 55.8	-2.6
NORC	**Norcasia**	**3.52**	**179**	P	Pn	21 28 16.5	-2.7
NORC				S	Sb	21 29 06.1	-3.5
RUSC	**La Rusia**	**3.69**	**150**	P	Pn	21 28 21.2	-0.7
RUSC				S	Sn	21 29 04.3	-2.0
GUY2C	**Guyana, Caldas**	**3.87**	**186**	P	Pn	21 28 22.6	-1.9
URIC	**Uribia, Colomb**	**3.89**	**48**	P	Pn	21 28 23.5	-0.8
URIC				S	Sn	21 29 10.3	-0.4
SDV	**Santo Domingo**	**4.27**	**93**	P	Pn	21 28 28.0	-1.7
SDV				S	Sn	21 29 17.5	-2.8
CHIC	**Chingaza**	**4.60**	**165**	P	Pn	21 28 32.7	-1.8
CHIC				S	Sn	21 29 28.7	-0.1
PRAC	**Prado**	**5.35**	**179**	P	Pn	21 28 43.2	-1.2

NEIC 17 21:49:18.7±1.0, 36°.115N±0°.009×117°.82W±0°.01, h4km±3km, Error ellipse: s-maj=1.7km s-min=1.3km az=77.0
IDC 17 21:49:19.2±1.0, 36°.11N×117°.69W, h0km, mbtmp3.2/6, ML3.5/6, Error ellipse: s-maj=15.6km s-min=7.0km az=73.0
PAS 17 21:49:19.2±0.9, 36°.116N±0°.006×117°.84W±0°.01, h2km±2km, Mwr3.9/6, ML3.7/148(NEIC), Error ellipse: s-maj=1.6km s-min=0.9km az=102.0
ISC 17 21:49:19.2±1.0, 36°.11N±0°.02×117°.84W±0°.02, h5km±11km, n106, σ0°.71/120, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPMC	**Manual Prospec**	**0.29**	**101**	Pg	**Pg**	**21 49 24.8**	**0.0**
MPMC				Sg	**Sg**	**21 49 29.0**	**+0.4**
MPMC				IAML		21 49 29.5	
	comp=E,10μm,0.4s						
MPMC				IAML		21 49 30.7	
	comp=N,14μm,0.5s						
TOW	**Tower One**	**0.31**	**169**		**Pg**	**21 49 25.7**	**+0.5**
CLC	**China Lake**	**0.35**	**147**		**Pg**	**21 49 26.0**	**-0.1**
CLC					**Sg**	**21 49 31.1**	**+0.4**
CLC				IAML		21 49 33.9	
	comp=E,6μm,0.4s		

GWY IAML 21 50 01.2
comp=E,2µm,0.7s
GRAC Grapevine Rang 0.96 23 Pg 21 49 37.1 -0.5
GRAC IAML 21 49 54.8
comp=E,4µm,0.7s
GRAC IAML 21 49 56.1
comp=N,4µm,0.8s
TIN Tinemaha, Big 0.99 341 Sg 21 49 51.7 +0.7
VES Vestal, Richgr 1.05 255 Sg 21 49 53.2 +0.4
SGV South Grapevin 1.08 37 Pg 21 49 39.6 -0.3
SGV Sg **21 49 54.0 0.0**
TEJ El Tejon 1.12 218 Sg 21 49 54.7 -0.5
LCH Last Change Ra 1.13 8 Sg 21 49 55.2 -0.2
MAGC SCE Magundon P 1.16 230 Pg 21 49 40.2 -1.2
MAGC Sg **21 49 56.0 -0.4**
GSC Goldstone, Bar 1.17 134 Pg 21 49 40.8 -0.7
GSC IAML 21 50 00.8
comp=N,3µm,0.6s
GSC Goldstone, Bar 1.17 134 Sg 21 49 56.4 -0.2
WCT Wildcat Mounta 1.19 55 Pg 21 49 41.2 -0.7
WCT IAML 21 50 02.0
comp=N,875nm,0.6s
WCT IAML 21 50 04.0
comp=E,2µm,0.8s
DSP Deep Springs 1.26 355 Pg 21 49 42.0 -1.3
DSP Sg **21 49 59.2 -0.4**
DSP IAML 21 50 04.2
comp=E,776nm,0.7s
VOG Valley Oaks Go 1.27 280 Pg 21 49 42.8 -0.7
GMN Gold Mountain 1.27 21 Pg 21 49 42.8 -0.8
GMN IAML 21 50 02.4
comp=E,822nm,0.4s
GMN IAML 21 50 03.3
comp=N,969nm,0.5s
TPO Tropico Hills 1.27 195 Pg 21 49 42.8 -0.8
TPO Sg **21 49 59.6 -0.4**
TPO IAML 21 50 00.5
comp=E,2µm,0.5s
TPO IAML 21 50 02.3
comp=N,2µm,0.5s
ARVC Arvin 1.27 220 Pg 21 49 43.1 -0.5
SHOC Shoshone, Teco 1.28 99 Pg 21 49 42.6 -1.2
BAKC Calstate 1.29 234 Sb 21 50 01.4 +0.7
POCCA Poleta Canyon 1.30 344 Pg 21 49 43.2 -0.8
RRX Edison Barstow 1.41 151 Pn 21 49 45.6 0.0
SBB Saddle Back Bu 1.42 180 Pn 21 49 45.1 -0.7
TPNV Topopah Spring 1.53 56 Pn 21 49 47.0 -0.3
TPNV IAML 21 50 13.4
comp=N,1µm,0.7s
TPNV IAML 21 50 14.8
comp=N,924nm,0.8s
MZP Montezuma Peak 1.62 13 Pn 21 49 48.5 -0.3
OSI Osito Audit: C 1.66 206 Pn 21 49 48.9 -0.2
OSI IAML 21 50 17.9
comp=E,1µm,0.8s
KCC Kaiser Creek 1.70 316 Pn 21 49 50.1 +0.5
TUQ Turquoise Moun 1.70 113 Pn 21 49 48.8 -0.8
BENR Benton 1.70 340 Pn 21 49 50.6 +0.8
MLAC Mammoth, Mammo 1.71 332 Pb 21 49 51.1 -0.2
CRGC Crocker Grade 1.77 241 Pb 21 49 51.8 -0.3
HEC Hector,Ludlow 1.77 136 Pn 21 49 49.8 -0.8
CARC Carrizo Plain 1.82 244 Pb 21 49 52.8 -0.3
BFSC Mount Baldy Ra 1.88 175 Pn Pn 21 49 51.7 -0.4
MWC Mount Wilson 1.89 186 Pn Pn 21 49 52.4 0.0
MWC IAML 21 50 22.9
comp=E,553nm,1.0s
MWC IAML 21 50 24.9
comp=N,618nm,0.6s
PASC Pasadena Art C 1.96 188 Pn 21 49 52.8 -0.3
PASC IAML 21 50 24.7
comp=E,470nm,0.9s
MTPC Mountain Pass 1.96 108 Pn Pn 21 49 52.5 -0.8
MTPC IAML 21 50 23.7
comp=E,673nm,0.3s
MTPC IAML 21 50 30.0
comp=N,667nm,0.7s
BLCC Black Canyon 1.99 200 Pn 21 49 53.8 +0.3
TPH Tonopah 2.02 14 Pn 21 49 54.0 -0.1
DJJ Donna J Jenkin 2.07 194 Pn 21 49 54.6 0.0
SHPR Sheep Range 2.20 79 Pn 21 49 56.5 0.0
LHV Little Huntoon 2.20 346 Pn 21 49 56.8 +0.5
LHV IAML 21 50 36.5
comp=N,380nm,0.8s
LHV IAML 21 50 42.1
comp=E,407nm,0.9s
PKD Bear Valley Ra 2.20 266 Pn 21 49 57.4 +1.0
S11A Rachel 2.27 47 Pn 21 49 58.2 +0.7
NV11 Mina Array Sit 2.33 354 Pn Pn 21 49 58.8 +0.5
NVAR Mina Array Bea 2.34 351 Pn 21 49 59.3 +0.7
NVAR Mina Array Bea 2.34 351 Pn Pn 21 50 00.5 +1.9
comp=E,22nm,0.3s,baz=170,slow=18,SNR=56
NVAR Lg Lg 21 50 33.5
comp=E,24nm,0.3s,baz=92,slow=33,SNR=4.4
comp=E,41nm,0.5s
MYLM Yosemite Lake 2.43 302 Pb 21 50 02.4 -1.0
V12A Nelson 2.45 98 Pn 21 49 59.6 -0.4
V12A IAML 21 50 46.2
comp=E,206nm,0.9s
V12A IAML 21 50 47.3
comp=N,301nm,0.6s
EW2 E Wide Canyon 2.46 151 Pn 21 50 00.1 0.0
ELS Elsinore Mount 2.48 172 Pn 21 50 00.4 0.0
RAMR Ramage Ranch 2.51 260 Pn 21 50 02.0 +1.3
RYN Ryan 2.57 348 Pn 21 50 02.9 +1.3
PRN Pahroc Range 2.58 59 Pn 21 50 01.8 0.0
PRN IAML 21 50 48.6
comp=E,484nm,0.6s
PRN IAML 21 50 57.2
comp=N,474nm,0.8s
BBGB Big Mountain B 2.63 281 Pn 21 50 02.8 +0.4
PMD Palm Desert 2.74 154 Pn 21 50 03.4 -0.5
PFO Pinyon Flats O 2.74 155 Pn 21 50 03.6 -0.4
PFO Pinyon Flats O 2.74 155 Pn Pn 21 50 03.8 -0.2
comp=N,1.9nm,0.3s,baz=337,slow=15,SNR=18
PFO Lg Lg 21 50 45.0
comp=N,21nm,0.3s,baz=68,slow=17,SNR=7.5
comp=N,18nm,0.6s
CMB Columbia Colle 2.80 314 Pb 21 50 08.2 -1.5
CMB Columbia Colle 2.80 314 IAML 21 50 47.3
comp=N,451nm,0.5s
CMB IAML 21 50 47.7
comp=E,300nm,0.6s
R11B Troy Canyon, C 2.87 38 Pn Pn 21 50 05.4 -0.4
R11B IAML 21 50 52.0
comp=E,166nm,1.3s
NEE2 Needles Airpor 2.95 116 Pn 21 50 06.1 -0.6
SAO San Andreas Ge 2.98 284 Pn 21 50 07.5 +0.3
BORC Borrego Spring 3.07 157 Pn 21 50 07.1 -1.3
BORC IAML 21 51 02.2
comp=E,187nm,0.9s
BORC IAML 21 51 04.1
comp=N,130nm,0.8s
DPP Dos Picos Cty 3.19 166 Pn 21 50 10.3 +0.2
W13A Hualapai Mount 3.38 106 Pn 21 50 12.2 -0.6
W13A IAML 21 51 16.2
comp=E,134nm,1.3s
W13A IAML 21 51 19.5
comp=N,140nm,1.2s
BLYC Blythe 3.60 130 Pn 21 50 14.5 -1.1
BLYC IAML 21 51 15.8
comp=N,123nm,0.9s
BLYC IAML 21 51 17.6
comp=E,155nm,0.6s
PAHR Pah Rah Range 3.79 342 Pn 21 50 19.1 +0.6
YUH Yuha Desert 3.80 155 Pn 21 50 17.9 -0.6
LCMT Little Creek M 3.81 75 Pn 21 50 19.4 +0.7
CCUT Cedar City 3.87 67 Pn 21 50 20.1 +0.6
CBX Cerro Bola 3.91 165 Pn 21 50 20.8 +0.7
CBX IAML 21 51 33.0
comp=N,198nm,1.1s
GLA Glamis 3.94 140 Pn 21 50 18.6 -1.7
PSUT Pine Spring 3.99 52 Pn 21 50 21.4 +0.2
PSUT IAML 21 51 30.5
comp=E,166nm,0.9s
PSUT IAML 21 51 37.8
comp=N,158nm,1.5s
SPR3 Spring Creek 3 4.01 43 Pn 21 50 21.5 0.0
SPR3 IAML 21 51 26.3
comp=N,108nm,0.8s
SPR3 IAML 21 51 45.5
comp=N,115nm,1.0s
SZCU Shurtz Canyon 4.09 67 Pn 21 50 22.9 +0.4
KNB Kanab 4.14 76 Pn 21 50 24.2 +1.0
KNB IAML 21 51 38.3
comp=N,64nm,1.1s
ESJX Sierra Juarez 4.39 159 Pn 21 50 26.7 0.0
ESJX IAML 21 52 05.1
comp=N,47nm,0.1s
ESJX IAML 21 52 05.3
comp=E,62nm,0.1s
U15A North Rim 4.49 84 Pn 21 50 29.6 +1.4
U15A IAML 21 51 51.8
comp=E,61nm,1.2s
U15A IAML 21 51 59.0
comp=N,40nm,1.1s
Y14A Wickenburg 4.52 117 Pn 21 50 28.5 +0.1
Y14A IAML 21 51 47.6
comp=E,88nm,0.5s
113A Mohawk Valley, 4.74 134 Pn 21 50 32.7 +1.4
113A IAML 21 52 09.7
comp=N,36nm,1.7s
ELK Elko 5.05 23 Pn 21 50 37.2 +1.3
ELK IAML 21 52 01.1
comp=N,40nm,0.7s
ELK Elko 5.05 23 Pn Pn 21 50 37.2 +1.3
comp=N,4.1nm,0.3s,baz=210,slow=9.9,SNR=61
ELK Lg Lg 21 51 57.8
comp=N,7.0nm,0.3s,baz=286,slow=21,SNR=14
comp=N,8.8nm,0.3s
X16A Lo Mia Camp, P 5.50 106 Pn 21 50 42.4 +0.5
HMU Henry Mountain 5.96 70 Pn Pn 21 50 48.5 +0.1
YBH Yreka Blue Hor 6.77 327 Pn Pn 21 51 01.3 +1.9
baz=339,slow=8.1,SNR=1.5
YBH Lg Lg 21 52 52.4
baz=299,slow=6.2,SNR=5.1
PDAR Pinedale Array 9.22 41 Pn Pn 21 51 33.8 +0.7
comp=N,0.1nm,0.3s,baz=240,slow=12,SNR=4.2
PDAR Lg Lg 21 54 03.8
baz=244,slow=28,SNR=1.9
comp=N,0.2nm,0.6s
ANMO Albuquerque 9.35 94 Pn Pn 21 51 34.2 -0.6
comp=N,0.1nm,0.3s,baz=4.3,slow=13,SNR=1.4
ANMO Lg Lg 21 54 10.8
comp=N,0.1nm,0.3s,baz=263,slow=15,SNR=3.4
comp=N,0.5nm,0.3s
TXAR Lajitas Array 13.70 116 Pn Pn 21 52 36.2 +1.9
comp=N,0.1nm,0.3s,baz=292,slow=13,SNR=4.9
comp=N,0.1nm,0.4s

IDC ***17*** *22:00:21.7±5.0, 7°.34S×130°.33E, h215km±50km, mb3.1/1, mbtmp4.0/5, Error ellipse: s-maj=45.9km s-min=20.1km az=54.0*
ISC 17 22:00:18.6±1.0, 7°.17S±0°.07×130°.54E±0°.08, h200km, n15, σ2s87/19, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DRS	**Darwin Rock St**	**5.24**	**176**	P		**Pn**	**22 01 37.3**	**+1.2**
DRS	**Darwin Rock St**	**5.24**	**176**	S		**Sn**	**22 02 40.2**	**+2.9**
MTN	**Manton Dam**	**5.67**	**174**	P		**Pn**	**22 01 42.4**	**+0.8**
MTN	**Manton Dam**	**5.67**	**174**	S		**Sn**	**22 02 49.7**	**+2.4**
KDU	**Kakadu**	**5.80**	**161**	P		**Pn**	**22 01 43.0**	**-0.4**
BATI	**Baumata**	**7.43**	**246**	P		**Pn**	**22 02 04.3**	**-0.3**
	14nm,0.4s,baz=286,slow=13,SNR=1.8							
BATI				S		**Sn**	**22 03 27.9**	**-1.0**
	22nm,0.4s,baz=70,slow=20,SNR=1.5							
GENI	**Genyem**	**10.62**	**65**	P		**Pn**	**22 02 42.7**	**-3.2**
FITZ	**Fitzroy Crossi**	**11.86**	**203**	P		**Pn**	**22 03 02.1**	**+0.3**
	3.2nm,0.3s,baz=16,slow=11,SNR=67							
FITZ				S		**Sn**	**22 05 09.4**	**-4.7**
	3.1nm,0.4s,baz=217,slow=12,SNR=3.8							
FITZ	**Fitzroy Crossi**	**11.86**	**203**	P		**Pn**	**22 03 02.8**	**+1.0**
WRA	**Warramunga Arr**	**13.22**	**164**	P		**Pn**	**22 03 19.9**	**+0.9**
	3.0nm,0.5s,baz=339,slow=13,SNR=41							
WRA				S		**S**	**22 05 42.5**	**-3.9**
	3.8nm,0.6s,baz=339,slow=22,SNR=8.1							
COEN	**Coen**	**14.13**	**120**	P		**P**	**22 03 32.2**	**+0.2**
QIS	**Mount Isa**	**15.94**	**147**	P		**Pn**	**22 03 57.4**	**+5.0**
ASAR	**Alice Springs**	**16.71**	**169**	P		**Pn**	**22 04 02.6**	**+0.9**
	0.5nm,0.4s,baz=347,slow=9.0,SNR=48							
ASAR				S		**Sn**	**22 07 07.8**	**-2.1**
	0.7nm,0.6s,baz=360,slow=28,SNR=6.6							
AS01	**Alice Springs**	**16.72**	**169**	P		**Pn**	**22 04 07.4**	**+5.7**
MKAR	**Makanchi Array**	**68.66**	**327**	P		**P**	**22 11 01.8**	**+1.4**
	0.3nm,0.4s,baz=126,slow=7.5,SNR=6.7							
	0.3nm,0.4s							

NEIC ***17*** *22:01:35.0±1.4, 35°.64N±0°.01×117°.43W±0°.02, h8km±4km, Error ellipse: s-maj=2.1km s-min=1.5km az=126.0*
PAS 17 22:01:35.7±1.0, 35°.65N±0°.01×117°.45W±0°.01, h5km±1km, ML3.4/134**, ML3.1**/92(NEIC)**, Error ellipse: s-maj=1.7km s-min=1.3km az=135.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.06**	**219**	Pg		Pg	22 01 37.3	+0.1
WSHM						Sg	22 01 38.4	+0.2
CCCA	**Chr Cany lake**	**0.14**	**151**	Pg		Pg	22 01 38.9	+0.5
CCCA				Sg		Sg	22 01 41.4	+1.1
GPO	**China Lake**	**0.17**	**271**			Pg	22 01 39.4	+0.2
GPO						Sg	22 01 42.0	+0.5
CLC	**China Lake**	**0.21**	**324**			Pg	22 01 39.8	0.0
CLC					IAML		22 01 43.2	
	comp=E,4µm,0.3s							
CLC					IAML		22 01 43.2	
	comp=N,5µm,0.4s							
SRTC	**Snort**	**0.25**	**281**			Pg	22 01 41.0	+0.4
SRTC						Sg	22 01 45.1	+1.2
LRMC	**Laurel Mtn Rad**	**0.25**	**229**			Pg	22 01 40.6	0.0
LRMC					IAML		22 01 45.0	
	comp=N,7µm,0.6s							
TOW	**Tower One**	**0.30**	**302**			Pg	22 01 42.1	+0.4
TOW						Sb	22 01 47.5	-1.5
MPMC	**Manual Prospec**	**0.41**	**355**			Sg	22 01 49.4	+0.2
MPMC	**Manual Prospec**	**0.41**	**355**			Pg	22 01 43.4	-0.3
MPMC					IAML		22 01 49.6	
	comp=E,606nm,0.4s							
MPMC					IAML		22 01 49.8	
	comp=N,695nm,0.3s							
WVPM	**Volcano Peak E**	**0.43**	**315**			Pg	22 01 43.9	0.0
WVPM						Sg	22 01 50.3	+0.7
JRC2	**Joshua Ridge**	**0.45**	**319**			Sg	22 01 50.8	+0.6
WCSM	**Coso Springs S**	**0.46**	**326**			Pg	22 01 44.3	-0.3
WCSM						Sg	22 01 50.9	+0.3
DTP	**Desert Tortois**	**0.50**	**221**			Pg	22 01 45.0	-0.3
DTP						Sg	22 01 51.8	+0.1
WRVM	**Rose V. Centra**	**0.51**	**315**			Pg	22 01 45.4	-0.1
WRVM						Sg	22 01 52.6	+0.5
QSM	**Queen of Sheba**	**0.57**	**56**	Pg		Pg	22 01 46.5	-0.1
QSM						Sg	22 01 54.2	+0.2
QSM					IAML		22 01 55.1	
	comp=E,2µm,0.2s							
QSM					IAML		22 01 55.1	
	comp=N,2µm,0.2s							
WBSM	**Bird Springs**	**0.57**	**259**			Sg	22 01 54.4	+0.2
MFS	**McCloud Flat S**	**0.57**	**325**			Pg	22 01 46.5	-0.2
MFS						Sg	22 01 54.6	+0.4
GSC	**Goldstone, Bar**	**0.63**	**123**	Pg		Pg	22 01 47.5	-0.2
WORM	**Onyx Ranch**	**0.65**	**275**			Pg	22 01 47.7	-0.4
WORM						Sg	22 01 56.4	-0.2
CCAC	**Calif City Air**	**0.68**	**224**			Pg	22 01 48.2	-0.5
CCAC						Sg	22 01 57.2	-0.2
WHFM	**Hanning Flat**	**0.74**	**274**			Pg	22 01 49.4	-0.4
WHFM						Sg	22 01 59.3	-0.1
HYS	**Haystack Butte**	**0.79**	**187**			Pg	22 01 50.1	-0.6
HYS						Sg	22 02 00.7	-0.3
GWY	**Greenwater Val**	**0.83**	**49**			Pg	22 01 51.3	-0.4
GWY						Sg	22 02 02.2	-0.2
GWY					IAML		22 02 07.4	
	comp=N,1µm,0.4s							
GWY					IAML		22 02 07.5	
	comp=E,1µm,0.5s							
ISA	**Isabella, Lake**	**0.84**	**271**			Sg	22 02 02.8	+0.2
ISA	**Isabella, Lake**	**0.84**	**271**	Pg		Pg	22 01 51.2	-0.5
ISA					IAML		22 02 03.6	
	comp=N,321nm,0.2s							
RRX	**Edison Barstow**	**0.85**	**154**			Pg	22 01 51.5	-0.5
EDW2	**Edwards Air Fo**	**0.88**	**211**			Pg	22 01 51.9	-0.7
EDW2						Sg	22 02 03.3	-0.8
WASM	**Alta Sierra Ca**	**0.91**	**276**			Pg	22 01 52.5	-0.6
WASM						Sg	22 02 04.6	-0.3
CWC	**Cottonwood Cre**	**0.94**	**327**			Sg	22 02 06.1	0.0
CWC	**Cottonwood Cre**	**0.94**	**327**	Pg		Pg	22 01 53.3	-0.5
CWC					IAML		22 02 07.6	
	comp=N,351nm,0.2s							
CWC					IAML		22 02 08.4	
	comp=E,400nm,0.2s							
FURC	**Furnace Creek,**	**0.95**	**30**			Pg	22 01 53.7	-0.1
FURC						Sg	22 02 06.3	+0.2
CGO	**Cerro Gordo**	**0.95**	**342**			Pg	22 01 53.2	-0.7
SHOC	**Shoshone, Teco**	**0.99**	**75**			Pg	22 01 54.3	-0.3
SHOC						Sg	22 02 07.7	+0.3
TPO	**Tropico Hills**	**1.00**	**220**			Pg	22 01 54.5	-0.3
TPO					IAML		22 02 10.1	
	comp=N,940nm,0.8s							
TPO	**Tropico Hills**	**1.00**	**220**			Sg	22 02 07.7	0.0
SBB	**Saddle Back Bu**	**1.00**	**198**			Pg	22 01 54.0	-0.9
TEJ	**El Tejon**	**1.10**	**248**			Pg	22 01 55.4	-1.3
TEJ						Sg	22 02 10.0	-0.9
DSCC	**Desert Studies**	**1.21**	**114**			Pg	22 01 57.3	-1.5
AMDNV	**Amargosa**	**1.24**	**49**			Pg	22 01 59.2	-0.3
TUQ	**Turquoise Moun**	**1.26**	**99**			Pg	22 01 58.9	-1.0
WCT	**Wildcat Mounta**	**1.32**	**30**			Pn	22 01 59.7	-1.2
WCT						Sg	22 02 17.3	-0.9
WCT					IAML		22 02 19.7	
	comp=N,168nm,0.5s							
WCT					IAML		22 02 20.8	
	comp=E,349nm,0.4s							
GRAC	**Grapevine Rang**	**1.35**	**3**			Pn	22 02 00.8	-0.5
GRAC					IAML		22 02 24.6	
	comp=E,321nm,0.4s							
GRAC					IAML		22 02 24.6	
	comp=N,428nm,1.0s							
BFSC	**Mount Baldy Ra**	**1.41**	**187**			Pn	22 02 01.5	-0.7
BFSC					IAML		22 02 21.4	
	comp=E,344nm,0.5s							
BFSC					IAML		22 02 21.9	
	comp=N,304nm,0.6s							
MWC	**Mount Wilson**	**1.50**	**200**			Pn	22 02 02.9	-0.6
MWC					IAML		22 02 25.2	
	comp=E,345nm,0.5s							
MWC					IAML		22 02 25.2	
	comp=N,487nm,0.4s							
MTPC	**Mountain Pass**	**1.55**	**95**			Pn	22 02 02.4	-1.7
MTPC					IAML		22 02 26.5	
	comp=N,124nm,0.7s							
MTPC					IAML		22 02 30.0	
	comp=E,168nm,0.3s							
PASC	**Pasadena Art C**	**1.59**	**203**			Pn	22 02 04.2	-0.3
PASC					IAML		22 02 28.3	
	comp=N,180nm,0.4s							
PASC					IAML		22 02 29.6	
	comp=E,189nm,0.4s							
TPNV	**Topopah Spring**	**1.62**	**36**			Pn	22 02 04.1	-0.9
TPNV					IAML		22 02 31.0	
	comp=E,318nm,0.7s							
TPNV					IAML		22 02 31.4	
	comp=E,244nm,0.7s							
GMN	**Gold Mountain**	**1.66**	**5**			Pn	22 02 05.5	-0.2
DSP	**Deep Springs**	**1.77**	**346**	Pn		Pn	22 02 07.0	0.0
ELS	**Elsinore Mount**	**1.99**	**180**			Pn	22 02 09.4	-0.7
SHPR	**Sheep Range**	**2.04**	**64**			Pn	22 02 10.1	-0.8
V12A	**Nelson**	**2.12**	**87**			Pn	22 02 10.4	-1.4
V12A					IAML		22 02 45.2	
	comp=N,64nm,0.8s							
V12A					IAML		22 02 47.1	
	comp=E,60nm,0.5s							
PMD	**Palm Desert**	**2.18**	**156**	Pn		Pn	22 02 11.3	-1.3
PFO	**Pinyon Flats O**	**2.19**	**158**	Pn		Pn	22 02 11.7	-1.2
FRD	**Ford Ranch, An**	**2.26**	**162**			Pb	22 02 17.2	+0.3
S11A	**Rachel**	**2.42**	**34**			Pn	22 02 15.8	-0.2
S11A					IAML		22 02 57.1	
	comp=N,125nm,0.5s							
S11A					IAML		22 03 07.0	
	comp=E,158nm,0.7s							
TPH	**Tonopah**	**2.43**	**4**	Pn		Pn	22 02 15.8	-0.4
NEE2	**Needles Airpor**	**2.48**	**110**			Pn	22 02 15.4	-1.2
NEE2					IAML		22 02 56.7	
	comp=N,168nm,0.4s							
NEE2					IAML		22 02 59.4	
	comp=E,148nm,0.6s							
BORC	**Borrego Spring**	**2.52**	**160**	Pn		Pn	22 02 16.4	-0.9
BORC					IAML		22 03 01.7	
	comp=E,51nm,0.6s							
LHV	**Little Huntoon**	**2.73**	**342**			Pn	22 02 19.8	-0.4
LHV					IAML		22 03 14.5	
	comp=E,34nm,0.9s							
NV11	**Mina Array Sit**	**2.84**	**349**			Pn	22 02 21.2	-0.6
NVAR	**Mina Array Bea**	**2.86**	**346**			Pn	22 02 21.7	-0.5
BLYC	**Blythe**	**3.06**	**127**			Pn	22 02 22.9	-1.9
BLYC					IAML		22 03 13.7	
	comp=E,53nm,0.5s							
BLYC					IAML		22 03 15.5	
	comp=N,69nm,0.7s							
RYN	**Ryan**	**3.10**	**344**			Pn	22 02 25.0	-0.4
GLA	**Glamis**	**3.38**	**139**			Pn	22 02 28.3	-0.8
GLA					IAML		22 03 29.0	
	comp=E,67nm,0.5s							
GLA					IAML		22 03 31.3	
	comp=N,58nm,0.7s							
CBX	**Cerro Bola**	**3.39**	**169**	Pn		Pn	22 02 29.1	-0.2
LCMT	**Little Creek M**	**3.66**	**67**			Pn	22 02 34.6	+1.5
KNB	**Kanab**	**3.98**	**69**			Pn	22 02 37.4	-0.1
PSUT	**Pine Spring**	**4.07**	**44**			Pn	22 02 38.9	+0.1
U15A	**North Rim**	**4.25**	**78**			Pn	22 02 41.0	-0.3
AFDM	**Forest Hills D**	**4.33**	**321**			Pn	22 02 43.5	+1.2

IDC ***17*** *22:16:39.9±0.8, 8°.43N×102°.97W, h0km, mb4.3/10, mbtmp4.3/11, ML4.0/1, MS4.2/45, Error ellipse: s-maj=35.3km s-min=15.6km az=63.0*
GCMT ***17*** *22:16:44.2±0.2, 8°.50N±0°.01×102°.96W±0°.01, h12km, MW5.0/131, Moment Tensor Solution. s52,c61; s131,c193; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.08±.09; Mθθ2.03±.08; Mϕϕ-0.94±.09; Mrθ-0.67±.23; Mθϕ-3.44±.07; Mϕr1.84±.24; Best double couple: Mo4.25300×10¹⁶ NP1:ϕs259.00000°, δ60.00000°, λ-172.00000°. NP2:ϕs165.00000°, δ83.00000°, λ-30.00000°. Principal axes: T 4.7250, Plg16.0000°, Azm216.0000°; N -0.9420, Plg59.0000°, Azm333.0000°; P -3.7810, Plg26.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***17*** *22:16:44.2±1.5, 8°.52N±0°.10×102°.7W±0°.1, h10km±1km, mb4.8/130 Error ellipse: s-maj=19.6km s-min=15.5km az=240.0*
ISC 17 22:16:44.0±0.5, 8°.45N±0°.06×102°.86W±0°.07, h19km, n417, σ0s99/373, mb4.8/67**, MS4.2**/44**, Northern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**9.98**	**24**			**Pn**	**22 19 05.5**	**-1.0**
MOIG	**Morelia**	**11.28**	**8**		Pn	**Pn**	**22 19 25.2**	**+0.7**
UNM	**Universidad Na**	**11.39**	**18**		Pn	**Pn**	**22 19 26.3**	**+0.2**
CMIG	**Matias Romero**	**11.58**	**41**		Pn	**Pn**	**22 19 25.6**	**-2.8**
	1.0nm,0.3s,baz=246,slow=10,SNR=6.2							
CMIG					LR	LR	22 23 05.4	
	comp=Z,3µm,18.3s,baz=181,slow=33							
	2.3nm,0.4s							
JRQG	**Juriquilla Cam**	**12.41**	**11**		Pn	**Pn**	**22 19 41.2**	**+1.3**
HUEH	**Huehuetenango**	**13.04**	**57**		Pn	**Pn**	**22 19 48.1**	**-0.5**
CCIG	**Comitan**	**13.04**	**52**		Pn	**Pn**	**22 19 49.1**	**+0.5**
ZAIG	**Zacatecas**	**14.24**	**1**		Pn	**Pn**	**22 20 06.3**	**+1.2**
MTO3	**Montecristo**	**14.49**	**65**		Pn	**Pn**	**22 20 07.5**	**-0.9**
ESQI	**Esquipulas**	**14.57**	**64**		Pn	**Pn**	**22 20 09.4**	**+0.1**
PETF	**Flores**	**15.21**	**55**		Pn	**Pn**	**22 20 16.3**	**-1.5**
TGUH	**Tegucigalpa,Un**	**16.26**	**69**			**Pn**	**22 20 32.3**	**+0.6**
HERN	**Volcan Telica**	**16.29**	**74**			**Pn**	**22 20 33.5**	**+1.5**
HERN					IAmb	IAmb	22 20 39.4	
	comp=Z,26nm,0.9s							
LPIG	**La Paz**	**17.12**	**336**		LR	LR	22 25 42.4	
	comp=Z,956nm,19.0s,baz=163,slow=32							
BOAB	**BOACO BROADBAN**	**17.36**	**75**		P	**Pn**	**22 20 45.4**	**0.0**
BOAB					IAmb	IAmb	22 20 54.2	
	comp=Z,146nm,1.7s							
ACON	**Acoyapa**	**17.75**	**77**			**Pn**	**22 20 49.9**	**-0.3**
JTS	**Las Juntas de**	**17.76**	**83**			**Pn**	**22 20 50.1**	**-0.3**
JTS	**Las Juntas de**	**17.76**	**83**		LR	LR	22 25 56.8	
	comp=Z,649nm,19.5s,baz=257,slow=31							
SOCE	**Pocosol**	**18.09**	**82**		Pn	**Pn**	**22 20 52.8**	**-1.7**
TEIG	**Tepich**	**18.33**	**49**			**Pn**	**22 20 54.6**	**-2.7**
HPIG		**18.58**	**352**		P	**P**	**22 21 00.4**	**+0.1**
ESPN	**Las Esperanzas**	**18.63**	**77**		P	**P**	**22 21 00.5**	**-0.2**
HBVL	**Hebbronville**	**18.94**	**12**			**P**	**22 21 04.3**	**+0.4**
BRU2	**Volcan**	**19.94**	**88**		P	**P**	**22 21 14.9**	**-0.3**
BRU2					IAmb	IAmb	22 21 23.8	
	comp=Z,84nm,1.6s							

833A Chaparral WMA, 20.04 9 P **P** **22 21 16.4 +0.4**
833A IAmb IAmb 22 21 21.9
comp=Z,86nm,1.2s
TXAR Lajitas Array 20.79 358 P **P** **22 21 24.6 +0.3**
comp=Z,8.5nm,0.9s,baz=181,slow=13,SNR=40
TXAR LR LR 22 28 56.5
comp=Z,1µm,18.8s,baz=172,slow=35
comp=Z,8.5nm,0.9s
TX31 Lajitas Ar. Si 20.79 358 P **P** **22 21 24.3 0.0**
SAND Sanderson 21.41 2 **P** **22 21 32.0 +1.1**
SAND IAmb IAmb 22 21 36.1
comp=Z,70nm,1.3s
ALPN Alpine 21.83 358 P **P** **22 21 35.0 -0.5**
ALPN IAmb IAmb 22 21 41.6
comp=Z,49nm,1.2s
JCT Junction City 22.11 7 **P** **22 21 38.5 +0.1**
HKT Hockley 22.38 16 P **P** **22 21 42.7 +1.5**
MNHN Monahans 22.78 0 P **P** **22 21 46.6 +1.0**
MNHN IAmb IAmb 22 21 49.7
comp=Z,40nm,1.3s
MNTX Cornudas Mount 23.26 355 **P** **22 21 49.6 -0.8**
MNTX IAmb IAmb 22 21 53.8
comp=Z,27nm,1.2s
319A Douglas 23.59 346 P **P** **22 21 52.6 -1.2**
319A IAmb IAmb 22 21 56.8
comp=Z,78nm,1.8s
ABTX Abilene, Hawle 24.24 7 P **P** **22 21 59.2 -0.6**
DUN6 Lazy B Ranch 24.68 347 **P** **22 22 04.2 +0.3**
TUC Tucson 24.86 344 P **P** **22 22 07.1 +1.5**
TUC IAmb IAmb 22 22 09.6
comp=Z,24nm,1.1s
214A Organ Pipe Nat 25.16 340 **P** **22 22 07.7 -0.4**
214A IAmb IAmb 22 22 12.0
comp=Z,19nm,1.1s
CAMR Camarioca 25.22 52 P **P** **22 22 08.4 -0.3**
CAMR IAmb IAmb 22 22 13.5
comp=Z,153nm,1.3s
OTAV Otavalo 25.64 107 P **P** **22 22 13.8 +0.5**
OTAV Otavalo 25.64 107 *e*P **P** **22 22 14.5 +1.2**
COHC Cochancay 25.91 114 **P** **22 22 15.7 +0.5**
SLOR San Lorenzo - 25.93 109 P **P** **22 22 16.4 +0.5**
SLOR IAmb IAmb 22 22 34.0
comp=Z,23nm,1.2s
AMTX Amarillo 26.34 2 P **P** **22 22 18.7 -0.2**
AMTX IAmb IAmb 22 22 23.5
comp=Z,17nm,0.9s
143A Socs Landing, 26.37 22 P **P** **22 22 18.8 -0.3**
143A IAmb IAmb 22 22 24.0
comp=Z,30nm,1.0s
Z41A Richland Creek 26.38 19 P **P** **22 22 19.7 +0.5**
ESJX Sierra Juarez 26.41 334 P **P** **22 22 20.9 +1.1**
ANMO Albuquerque 26.58 353 P **P** **22 22 21.9 +0.7**
ANMO Albuquerque 26.58 353 LR LR 22 32 28.5
comp=Z,702nm,18.6s,baz=267,slow=36
SMWD Samnorwood 26.64 5 P **P** **22 22 22.0 +0.4**
SMWD IAmb IAmb 22 22 24.9
comp=Z,27nm,1.1s
X18A Snowflake 26.77 347 **P** **22 22 22.8 -0.1**
GLA Glamis 26.88 337 P **P** **22 22 24.8 +1.1**
GLA IAmb IAmb 22 22 29.7
comp=Z,19nm,0.9s
BRAL Brewton 26.99 31 P **P** **22 22 25.4 +0.7**
X16A Lo Mia Camp, P 27.03 344 P **P** **22 22 26.1 +0.9**
MIAR Mount Ida 27.34 17 P **P** **22 22 28.1 +0.3**
DEOK Depew 27.88 11 P **P** **22 22 32.5 -0.1**
DEOK IAmb IAmb 22 22 36.2
comp=Z,24nm,1.0s
UALR University of 27.93 19 P **P** **22 22 33.0 -0.1**
UALR IAmb IAmb 22 22 37.8
comp=Z,24nm,1.2s
FLOC Florencia 27.93 103 P **P** **22 22 34.8 +1.4**
FLOC IAmb IAmb 22 22 38.1
comp=Z,23nm,1.3s
PFO Pinyon Flats O 28.02 335 LR LR 22 31 34.4
comp=Z,621nm,20.3s,baz=143,slow=32
LRAL Lakeview Retre 28.53 29 P **P** **22 22 39.0 +0.5**
T25A Trinidad 28.60 357 **P** **22 22 40.4 +1.1**
T25A IAmb IAmb 22 22 42.9
comp=Z,20nm,1.3s
HHAR Hobbs 28.88 15 P **P** **22 22 40.9 -0.6**
ATAH Atahualpa 28.88 122 LR LR 22 31 57.8
comp=Z,1µm,20.2s,baz=289,slow=32
U38A Gravette 28.91 14 **P** **22 22 42.5 +0.6**
MVCO Mesa Verde 29.09 351 **P** **22 22 43.9 +0.2**
MVCO IAmb IAmb 22 22 46.7
comp=Z,20nm,1.1s
SDCO Great Sand Dun 29.27 356 P **P** **22 22 45.9 +0.5**
SDCO IAmb IAmb 22 23 35.5
comp=Z,16nm,1.2s
MTPC Mountain Pass 29.31 339 P **P** **22 22 47.0 +1.4**
Y49A Blount Mountai 29.48 29 **P** **22 22 46.5 -0.5**
Y49A IAmb IAmb 22 22 49.8
comp=Z,8.7nm,0.9s
RUSC La Rusia 29.64 93 P **P** **22 22 49.9 +0.7**
PLAL Pickwick Lake 29.69 25 P **P** **22 22 48.6 -0.2**
PLAL IAmb IAmb 22 22 51.7
comp=Z,21nm,1.1s
KNB Kanab 29.85 344 P **P** **22 22 50.7 +0.3**
KNB IAmb IAmb 22 22 54.1
comp=Z,16nm,1.2s
LCMT Little Creek M 29.96 343 P **P** **22 22 52.0 +0.7**
LCMT IAmb IAmb 22 23 44.0
comp=Z,7.7nm,0.8s
MGMO Mountain Grove 30.15 17 P **P** **22 22 52.4 -0.5**
MGMO IAmb IAmb 22 22 55.5
comp=Z,12nm,1.0s
PBMO Poplar Bluff 30.38 20 P **P** **22 22 54.8 -0.1**
PBMO IAmb IAmb 22 22 58.1
comp=Z,15nm,1.0s
FPAL Fort Paine 30.42 29 P **P** **22 22 55.3 -0.1**
GOGA Godfrey 30.62 33 P **P** **22 22 56.9 -0.2**
GOGA IAmb IAmb 22 23 00.7
comp=Z,32nm,1.6s
WVT Waverly 30.78 24 P **P** **22 22 57.7 -0.7**
WVT IAmb IAmb 22 23 00.9
comp=Z,13nm,0.9s
SWET Sewanee 30.83 28 P **P** **22 22 58.8 -0.1**
WCT Wildcat Mounta 30.87 338 P **P** **22 22 59.1 -0.2**
WCT IAmb IAmb 22 23 03.1
comp=Z,9.1nm,1.0s
CCM Cathedral Cave 31.29 18 P **P** **22 23 02.8 -0.1**
CCM IAmb IAmb 22 23 05.2
comp=Z,10nm,0.9s
ISCO Idaho Springs 31.32 356 P **P** **22 23 03.9 +0.4**
SDV Santo Domingo 31.85 87 P **P** **22 23 09.6 +1.2**
SDV Santo Domingo 31.85 87 LR LR 22 36 44.8
comp=Z,176nm,18.3s,baz=261,slow=38
TKL Tuckaleechee C 32.21 30 P **P** **22 23 10.9 -0.1**
TKL IAmb IAmb 22 23 14.0
comp=Z,9.1nm,0.9s
TKL Tuckaleechee C 32.21 30 LR LR 22 37 12.9
comp=Z,442nm,21.2s,baz=206,slow=38
TPH Tonopah 32.23 338 P **P** **22 23 11.8 +0.4**
NHSC New Hope 32.28 37 **P** **22 23 12.6 +1.0**
PAULI Pauline 32.59 33 **P** **22 23 14.2 -0.1**
PAULI IAmb IAmb 22 23 17.6
comp=Z,11nm,1.0s
DUG Dugway, Tooele 32.84 346 P **P** **22 23 16.9 +0.2**
DUG IAmb IAmb 22 23 20.7
comp=Z,20nm,1.2s
NNA Nana 32.88 128 LR LR 22 33 55.6
comp=Z,288nm,20.7s,baz=318,slow=31
NVAR Mina Array Bea 32.94 337 P **P** **22 23 18.7 +1.1**
NVAR Mina Array Bea 32.94 337 P **P** **22 23 18.1 +0.5**
comp=Z,2.4nm,0.8s,baz=164,slow=8.7,SNR=13
NVAR LR LR 22 34 54.1
comp=Z,199nm,21.4s,baz=149,slow=33
comp=Z,2.4nm,0.8s
TZTN Tazewell 33.03 29 P **P** **22 23 18.1 -0.1**
TZTN IAmb IAmb 22 23 22.9
comp=Z,15nm,1.1s
WCI Wyandotte Cave 33.20 24 **P** **22 23 19.1 -0.6**
HWUT Hardware Ranch 33.91 348 P **P** **22 23 26.5 +0.5**
HWUT IAmb IAmb 22 23 29.6
comp=Z,15nm,1.1s
ELK Elko 34.00 343 P **P** **22 23 28.0 +1.1**
CZSB Cruzeiro do Su 34.08 117 P **P** **22 23 28.9 +1.4**
CZSB Cruzeiro do Su 34.08 117 *e*P **P** **22 23 29.9 +2.3**
HDIL Hopedale 34.18 19 P **P** **22 23 28.2 +0.1**
SCIA State Center 34.40 13 P **P** **22 23 30.8 +0.7**
PDAR Pinedale Array 34.69 351 **P** **22 23 33.2 +0.4**
PDAR Pinedale Array 34.69 351 P **P** **22 23 33.0 +0.2**
comp=Z,9.6nm,0.9s,baz=159,slow=9.2,SNR=42
comp=Z,9.6nm,0.9s
ORV Oroville 35.19 335 P **P** **22 23 38.7 +1.8**

RSSD Black Hills 35.55 359 P **P** **22 23 40.9 +0.7**
ECSD EROS Data Cent 35.57 8 P **P** **22 23 40.5 +0.4**
ECSD IAmb IAmb 22 23 42.9
comp=Z,10.0nm,1.2s
LOHW Long Hollow 35.68 350 P **P** **22 23 41.0 -0.3**
LOHW IAmb IAmb 22 23 44.3
comp=Z,12nm,1.1s
JFWS Jewell Farm 36.07 16 P **P** **22 23 44.5 +0.1**
JFWS IAmb IAmb 22 23 46.4
comp=Z,14nm,1.2s
ACSO Alum Creek Sta 36.28 26 **P** **22 23 45.8 -0.5**
HLID Hailey 36.41 346 **P** **22 23 48.1 +0.5**
WVOR Wild Horse Val 36.59 340 P **P** **22 23 50.0 +0.9**
WVOR IAmb IAmb 22 23 52.2
comp=Z,14nm,1.1s
SJG San Juan 36.93 71 LR LR 22 38 37.7
comp=Z,202nm,19.5s,baz=278,slow=36
MCMT McKenzie Canyo 37.27 348 **P** **22 23 55.6 +0.7**
YBH Yreka Blue Hor 37.51 335 LR LR 22 37 10.1
comp=Z,12nm,21.9s,baz=135,slow=33
N53A Lisbon 37.70 28 P **P** **22 23 58.3 0.0**
N53A IAmb IAmb 22 24 00.6
comp=Z,19nm,1.0s
PCRV Puerto La Cruz 37.74 84 LR LR 22 39 38.7
comp=Z,118nm,20.0s,slow=36
L04D Klamath Falls 37.76 336 **P** **22 23 59.7 +0.7**
L04D IAmb IAmb 22 24 01.5
comp=Z,15nm,0.9s
BOZ Bozeman (W) 37.78 350 P **P** **22 24 00.1 +0.9**
G40A Rib Lake 38.28 14 P **P** **22 24 03.0 -0.2**
PINE Pine Mountain 38.59 339 **P** **22 24 06.8 +0.8**
PINE IAmb IAmb 22 24 09.4
comp=Z,22nm,0.9s
SSPA Standing Stone 39.00 31 **P** **22 24 09.1 -0.1**
SSPA IAmb IAmb 22 24 12.8
comp=Z,34nm,1.6s
COWI Conover 39.33 15 P **P** **22 24 12.7 +0.7**
H04A Detroit Lake 39.81 338 **P** **22 24 17.1 +1.1**
H04A IAmb IAmb 22 24 18.5
comp=Z,15nm,0.9s
DGMT Dagmar 39.91 359 P **P** **22 24 16.3 -0.5**
DGMT IAmb IAmb 22 24 19.6
comp=Z,25nm,1.1s
WVNY West Valley, N 40.00 28 **P** **22 24 16.9 -0.6**
WVNY IAmb IAmb 22 24 20.1
comp=Z,24nm,1.2s
AGMN Agassiz Nation 40.16 7 **P** **22 24 18.6 -0.1**
AGMN IAmb IAmb 22 24 21.4
comp=Z,22nm,1.0s
EYMN Ely 40.53 12 **P** **22 24 21.5 -0.4**
EYMN IAmb IAmb 22 24 23.6
comp=Z,19nm,1.0s
TAOE Nuku Hiva Isla 40.93 246 *e*LR LR 22 35 14.5
comp=Z,680nm,25.9s
SADO Sadowa 41.62 26 LR LR 22 42 46.7
comp=Z,186nm,21.5s,baz=158,slow=38
EPLO Experimental L 41.80 9 P **P** **22 24 32.9 +0.6**
EPLO IAmb IAmb 22 24 34.5
comp=Z,27nm,1.6s
ULM Lac du Bonnet 42.07 7 **P** **22 24 34.4 -0.2**
LPAZ La Paz 42.25 126 P **P** **22 24 37.7 +0.6**
LPAZ IAmb IAmb 22 24 42.8
comp=Z,13nm,1.1s
LPAZ La Paz 42.25 126 P **P** **22 24 38.1 +1.0**
comp=Z,8.7nm,1.0s,baz=317,slow=7.1,SNR=14
comp=Z,8.7nm,1.0s
LPAZ La Paz 42.25 126 *e*P **P** **22 24 38.6 +1.5**
BOAV Boa Vista 42.54 96 P **P** **22 24 38.6 -0.3**
WBO Williamsburg 43.53 28 P **P** **22 24 47.0 +0.5**
TRQ Mont Tremblant 44.78 28 P **P** **22 24 57.5 +1.0**
TRQ IAmb IAmb 22 24 59.7
comp=Z,23nm,1.4s
FFC Flin Flon 46.16 1 P **P** **22 25 07.5 +0.3**
FFC IAmb IAmb 22 25 09.1
comp=Z,14nm,1.4s
VILB Vilhena 47.41 116 **P** **22 25 17.8 +0.1**
VILB Vilhena 47.41 116 *e*P **P** **22 25 18.0 +0.4**
H03N2 Juan Fernandez 47.46 153 T T 23 16 09.8
baz=329,slow=77,SNR=164
H03N1 Juan Fernandez 47.47 153 T T 23 16 11.1
baz=329,slow=77,SNR=184
H03N3 Juan Fernandez 47.48 153 T T 23 16 10.2
baz=329,slow=77,SNR=163
SIV San Ignacio 47.97 120 LR LR 22 43 42.9
comp=Z,437nm,21.8s,baz=306,slow=34
BBB Bella Bella 48.25 339 LR LR 22 45 27.1
comp=Z,128nm,19.2s,baz=154,slow=36
ITTB Itaituba 48.69 103 *e*P **P** **22 25 26.0 -1.5**
PTLB Pontes e Lacer 49.39 119 P **P** **22 25 32.4 -0.4**
PTLB IAmb IAmb 22 25 38.4
comp=Z,7.3nm,0.9s
PTLB Pontes e Lacer 49.39 119 *e*P **P** **22 25 33.0 +0.1**
CO03 El Pedregal 49.77 143 P **P** **22 25 36.3 +0.7**
NPGB Novo Progresso 49.79 107 *e*P **P** **22 25 34.4 -1.6**
MDP Montagnes des 49.95 90 LR LR 22 47 16.2
comp=Z,111nm,18.7s,baz=281,slow=37
PDRB Porto dos Gac 50.01 113 *e*P **P** **22 25 38.4 +0.7**
CLDB Colider 50.60 111 *e*P **P** **22 25 40.8 -1.4**
V35K Ketchikan 52.02 340 P **P** **22 25 53.4 +1.3**
baz=143
SALV Santo Antonio 52.59 117 *e*P **P** **22 25 56.6 -0.4**
CRAG Craig 52.66 339 P **P** **22 25 58.7 +1.8**
baz=141
PPT Papeete 52.90 241 LR LR 22 42 45.4
comp=Z,319nm,18.2s,baz=52,slow=30
PPT2 Papeete2 52.91 241 *e*S **S** **22 33 25.0 -3.0**
comp=Z,131nm,26.5s
PPT2 *e*SS **SS** **22 37 09.8 +2.5**
comp=Z,44nm,27.5s
PPT2 *e*LQ LQ 22 38 53.3
comp=Z,217nm,21.8s
PPT2 *e*LR LR 22 40 51.2
comp=Z,447nm,23.8s
PPT2 *e*LR LR 22 40 57.0
comp=Z,463nm,22.2s
T35M Bob Quinn 52.91 342 P **P** **22 26 00.5 +1.8**
baz=145
TOAD Toad River Com 53.12 346 P **P** **22 26 01.7 +1.5**
baz=152
U33K Whale Pass 53.17 339 P **P** **22 26 02.7 +2.2**
baz=142
S34M Telegraph Cree 53.95 342 P **P** **22 26 07.7 +1.4**
baz=145
KOTAN Kotaneelee Air 53.98 347 P **P** **22 26 08.7 +2.2**
baz=154
DLBC Dease Lake 54.05 343 P **P** **22 26 08.9 +1.7**
baz=146
SCHQ Schefferville 54.41 25 P **P** **22 26 07.7 -2.1**
comp=Z,9.1nm,0.9s,baz=246,slow=9.0,SNR=5.5
SCHQ LR LR 22 51 24.0
comp=Z,362nm,18.7s,baz=250,slow=38
comp=Z,9.1nm,0.9s
YKA Yellowknife Ar 54.62 353 P **P** **22 26 11.3 +0.2**
YKA Yellowknife Ar 54.62 353 P **P** **22 26 09.4 -1.7**
comp=Z,2.5nm,0.9s,baz=167,slow=6.8,SNR=18
YKA LR LR 22 49 49.2
comp=Z,619nm,19.8s,baz=164,slow=36
comp=Z,2.5nm,0.9s
SIT Sitka 54.67 339 P **P** **22 26 13.3 +1.8**
baz=139
S32K Killisnoo 54.73 340 P **P** **22 26 14.1 +2.2**
baz=140
R33M Jennings River 55.12 343 P **P** **22 26 16.8 +1.9**
baz=145
SNDB Serra Nova Dou 55.13 111 *e*P **P** **22 26 15.3 -0.3**
Q32M Nakina River 55.16 342 P **P** **22 26 16.7 +1.4**
baz=144
R32K Eaglecrest 55.33 340 P **P** **22 26 18.3 +2.0**
baz=141
TBI Tubuai 55.45 234 *e*S **S** **22 34 01.8 -0.2**
comp=Z,1µm,26.8s
TBI *e*LR LR 22 42 07.1
comp=Z,760nm,41.8s
TBI *e*LR LR 22 42 14.8
comp=Z,3µm,27.0s
S31K Pelican 55.68 339 P **P** **22 26 20.1 +1.3**
baz=139
ARAG Araguaiana, MT 55.96 115 *e*P **P** **22 26 20.7 -0.8**
BLKN Baker Lake 55.99 4 **P** **22 26 20.1 -0.9**
P32M Atlin 56.11 342 P **P** **22 26 23.6 +1.7**
baz=142
CPUP Villa Florida 56.11 130 P **P** **22 26 22.6 +0.2**
comp=Z,0.6nm,0.4s,baz=189,slow=8.7,SNR=3.5
comp=Z,0.6nm,0.4s
AMBA Amambai (Brazi 56.26 125 *e*P **P** **22 26 25.2 +1.6**
P33M Teslin, Yukon 56.33 343 P **P** **22 26 24.9 +1.3**

baz=144
SKAG Skagway 56.52 341 P **P** **22 26 26.6 +1.8**
baz=140
PLBC Pleasant Camp 56.86 340 **P** **22 26 28.6 +1.4**
baz=139
N32M Quiet Lake 57.17 343 P **P** **22 26 30.8 +1.4**
baz=144
PLCA Paso Flores 57.28 151 P **P** **22 26 30.6 0.0**
comp=Z,2.7nm,0.9s,baz=311,slow=11,SNR=3.0
PLCA LR LR 22 45 04.3
comp=Z,140nm,20.6s,baz=305,slow=30
comp=Z,2.7nm,0.9s
WHY Whitehorse 57.31 342 P **P** **22 26 32.1 +1.5**
baz=141
P29M Windy Craggy 57.45 340 P **P** **22 26 32.9 +1.5**
baz=138
P30M Million Dollar 57.56 341 P **P** **22 26 33.9 +1.7**
baz=139
O30N Mendenhall 57.77 341 P **P** **22 26 35.3 +1.6**
baz=140
MMPY Sheldon Lake, 57.88 345 **P** **22 26 35.1 +0.6**
MMPY IAmb IAmb 22 26 37.6
comp=Z,13nm,1.0s
MMPY Sheldon Lake, 57.88 345 P **P** **22 26 36.2 +1.7**
baz=146
PNL Peninsula 58.05 339 P **P** **22 26 37.5 +1.8**
baz=136
FARO Faro, Yukon 58.12 344 P **P** **22 26 38.2 +2.1**
baz=144
N31M Braeburn, Yuko 58.23 342 P **P** **22 26 39.4 +2.5**
baz=141
O29M Mount Kennedy 58.23 340 P **P** **22 26 38.7 +1.7**
baz=137
HYT Haines Junctio 58.27 341 P **P** **22 26 39.1 +1.8**
baz=139
M31M Drury Creek, Y 58.39 343 P **P** **22 26 39.8 +1.8**
baz=143
N30M Aishikik Lake 58.61 342 P **P** **22 26 40.9 +1.3**
baz=139
YUK6 Outpost Mounta 58.63 341 P **P** **22 26 41.9 +1.9**
baz=138
YUK4 Talbot Arm 59.02 341 P **P** **22 26 44.5 +1.8**
baz=138
O28M Mount Upton 59.12 340 P **P** **22 26 45.3 +1.8**
baz=136
MESA MESA 59.33 339 P **P** **22 26 46.3 +1.6**
baz=134
YUK8 Steele Glacier 59.35 340 P **P** **22 26 46.1 +1.2**
baz=136
BDFB Brasilia 59.35 114 P **P** **22 26 44.2 -1.3**
comp=Z,3.7nm,0.9s,baz=247,slow=7.7,SNR=3.9
BDFB LR LR 22 51 29.2
comp=Z,149nm,18.1s,baz=302,slow=35
comp=Z,3.7nm,0.9s
M30M Minto, Yukon 59.38 343 P **P** **22 26 46.3 +1.4**
baz=140
PTGB Pitanga 59.46 125 *e*P **P** **22 26 47.2 +1.1**
CTG Chitna Glacier 59.66 339 P **P** **22 26 48.3 +1.3**
baz=134
BGLC Bering Glacier 59.78 338 P **P** **22 26 49.4 +1.8**
baz=132
M29M Somme Creek 59.78 342 P **P** **22 26 49.8 +2.0**
baz=138
YUK3 Moose Creek 59.94 340 P **P** **22 26 50.3 +1.3**
baz=136
CRQE Cirque 60.13 339 P **P** **22 26 51.7 +1.5**
baz=132
L29M L29M 60.18 342 P **P** **22 26 50.4 0.0**
L29M L29M 60.18 342 P **P** **22 26 51.8 +1.3**
baz=139,SNR=19
FRB Frobisher Bay 60.39 17 LR LR 22 55 04.8
comp=Z,155nm,19.6s,baz=210,slow=38
MCARA McCarthy VSAT 60.54 339 P **P** **22 26 54.6 +1.8**
baz=133
K29M Barlow Dome 60.56 343 P **P** **22 26 54.9 +1.8**
baz=140,SNR=8.4
J30M Hart River 60.80 344 P **P** **22 26 56.1 +1.3**
baz=141
M27K Edge Creek, AK 60.82 340 P **P** **22 26 56.2 +1.3**
baz=134
BMRM Bremner River 60.83 338 P **P** **22 26 56.6 +1.7**
baz=131
GLB Gilahina Butte 60.86 339 P **P** **22 26 55.1 0.0**
GLB IAmb IAmb 22 27 01.8
comp=Z,12nm,1.2s
EYAK Cordova Ski Ar 60.99 337 P **P** **22 26 57.1 +1.2**
baz=130
M26K Nabesna, AK 61.23 340 P **P** **22 26 58.1 +0.5**
M26K IAmb IAmb 22 26 59.8
comp=Z,8.3nm,1.1s
M26K Nabesna, AK 61.23 340 P **P** **22 26 59.1 +1.5**
baz=133
N25K Chitina, Valde 61.25 339 P **P** **22 26 57.9 +0.2**
baz=131
H31M Peel River 61.27 346 P **P** **22 26 58.4 +0.6**
baz=144,SNR=8.6
DAWY Dawson 61.28 343 **P** **22 26 58.2 +0.3**
DAWY IAmb IAmb 22 26 59.9
comp=Z,9.9nm,1.1s
DAWY Dawson 61.28 343 P **P** **22 26 58.9 +1.1**
baz=138,SNR=8.9
P23K Montague Islan 61.28 336 P **P** **22 26 58.6 +0.7**
baz=128
BCAR Beaver Creek A 61.29 341 P **P** **22 26 58.0 +0.1**
L27K Beaver Creek, 61.30 341 P **P** **22 26 59.6 +1.5**
baz=135,SNR=5.7
I30M Mount Dempster 61.32 345 P **P** **22 26 58.7 +0.4**
baz=142,SNR=5.6
KLU Klutina 61.66 338 P **P** **22 27 01.1 +0.6**
KLU IAmb IAmb 22 27 13.2
comp=Z,9.1nm,1.2s
KLU Klutina 61.66 338 P **P** **22 27 01.1 +0.6**
baz=130
GLI Glacier Island 61.71 337 P **P** **22 27 01.0 +0.3**
baz=128
L26K Log Cabin Wild 61.77 340 P **P** **22 27 01.7 +0.5**
baz=133
I29M Ogilvie Camp, 61.95 344 P **P** **22 27 03.2 +0.9**
baz=139,SNR=8.5
HARP HAARP 61.97 339 P **P** **22 27 03.5 +0.9**
baz=131
K27K Chicken 62.06 342 P **P** **22 27 03.8 +0.7**
baz=135
M24K Tolsona, Glenn 62.14 339 P **P** **22 27 04.1 +0.3**
baz=130
G31M Satah River 62.17 347 P **P** **22 27 04.9 +1.2**
baz=144
PWL Port Wells 62.18 337 P **P** **22 27 04.3 +0.3**
baz=127
KDAK Kodiak Island 62.24 332 P **P** **22 27 04.7 +0.3**
baz=122
EPYK Eagle Plains 62.31 345 P **P** **22 27 06.0 +1.2**
baz=142,SNR=6.1
SII Sitkinak Islan 62.37 331 P **P** **22 27 06.1 +0.8**
baz=119
DOT Dot Lake 62.44 341 **P** **22 27 06.0 +0.3**
DOT IAmb IAmb 22 27 07.1
comp=Z,7.7nm,0.9s
PAX Paxson 62.46 340 P **P** **22 27 06.5 +0.6**
baz=131
I28M Miner Creek 62.46 343 P **P** **22 27 06.4 +0.6**
baz=138
F31M Tsiigehtchic 62.47 347 P **P** **22 27 06.5 +0.8**
baz=145
H29M Whitestone 62.62 345 P **P** **22 27 07.6 +0.8**
baz=140,SNR=5.9
SCRK Sand Creek 62.63 341 P **P** **22 27 07.8 +0.7**
baz=133,SNR=6.1
G30M tAoh Zrail Nji 62.67 346 P **P** **22 27 08.7 +1.6**
baz=142
RIDG Independent Ri 62.76 340 **P** **22 27 07.7 -0.1**
RIDG Independent Ri 62.76 340 P **P** **22 27 08.8 +1.0**
baz=132,SNR=9.3
J26L Joseph Creek 62.86 342 P **P** **22 27 09.7 +1.2**
baz=134,SNR=6.8
RC01 Rabbit Creek A 62.86 337 P **P** **22 27 09.7 +1.2**
baz=126
R18K Karluk 62.99 332 P **P** **22 27 10.5 +1.1**
baz=120
I27K Kandik River 63.05 343 P **P** **22 27 10.6 +0.8**
baz=136,SNR=9.7
G29M Pine Creek 63.06 345 **P** **22 27 09.2 -0.5**
G29M Pine Creek 63.06 345 P **P** **22 27 09.8 +0.1**
baz=140,SNR=10
F30M Barrier River 63.07 346 P **P** **22 27 10.5 +0.7**
baz=143
K24K Donnelly Dome 63.11 340 P **P** **22 27 10.8 +0.7**
baz=131

INK	Inuvik	63.14	348	P	P	22 27 10.3	+0.1	
INK	Inuvik	63.14	348	LR	LR	22 54 54.7		
	comp=Z,255nm,18.9s,baz=144,slow=36							
INK	Inuvik	63.14	348	P	P	22 27 11.2	+1.0	
	baz=146,SNR=5.3							
RAR	Rarotonga	63.17	241	LR	LR	22 48 29.2		
	comp=Z,130nm,18.1s,baz=69,slow=30							
I26K	Coal Creek Min	63.30	342	P	P	22 27 12.1	+0.8	
	baz=134							
O20K	Slope Mountain	63.48	335	P	P	22 27 13.2	+0.6	
	baz=122							
H27K	Steamboat Moun	63.48	344	P	P	22 27 13.3	+0.7	
	baz=136,SNR=35							
P19K	Oil Pt	63.51	334	P	P	22 27 12.8	-0.1	
	baz=122							
J25K	Salcha River,	63.51	341	P	P	22 27 13.0	+0.2	
	baz=132							
Q18K	Katmai Hardscr	63.78	333	P	P	22 27 14.4	-0.4	
	baz=119							
RND	Reindeer	63.92	339	P	P	22 27 15.7	+0.1	
R17L	Mt. Peulik Vol	63.93	331	P	P	22 27 14.9	-0.7	
	baz=118							
G27K	Doyon Strip	63.94	344	P	P	22 27 15.8	+0.3	
	baz=136							
Q17K	Contact Creek	64.00	332	P	P	22 27 16.2	0.0	
	baz=118							
F28M	Old Crow	64.06	345	P	P	22 27 16.9	+0.5	
	baz=138							
SKT	Skwentna	64.08	337	P	P	22 27 16.9	+0.3	
	baz=124							
ILAR	Eielson Array	64.11	341		P	22 27 15.6	-1.1	
ILAR	Eielson Array	64.11	341	P	P	22 27 14.8	-1.8	
	comp=Z,6.8nm,0.9s,baz=153,slow=4.9,SNR=43							
	comp=Z,6.8nm,0.9s							
MCK	McKinley	64.15	339	P	P	22 27 17.1	+0.1	
	baz=128							
PRP	Porcupine Dome	64.17	342		P	22 27 16.3	-0.9	
PRP	Porcupine Dome	64.17	342	P	P	22 27 17.1	-0.1	
	baz=132,SNR=15							
E29M	Blow River	64.18	346	P	P	22 27 17.5	+0.5	
	baz=141							
P18K	Big Mountain,	64.25	333	P	P	22 27 18.1	+0.4	
	baz=120							
TRF	Thorofare Moun	64.46	338	P	P	22 27 18.8	-0.4	
	baz=126							
G26K	Porcupine Rive	64.63	343	P	P	22 27 20.0	0.0	
	baz=134							
N19K	Bonanza Creek	64.65	335	P	P	22 27 20.5	+0.1	
	baz=121							
M20K	Styx River	64.66	336	P	P	22 27 20.6	+0.2	
	baz=123							
P17K	Kvichak River	64.70	333	P	P	22 27 20.7	+0.1	
	baz=118							
E28M	Babbage River	64.73	346	P	P	22 27 19.8	-0.9	
	baz=139,SNR=7.1							
H25L	Birch Creek	64.76	342	P	P	22 27 20.8	0.0	
	baz=132							
PPLA	Purkeypile	64.85	337	P	P	22 27 21.7	-0.1	
	baz=124,SNR=6.9							
E27K	Coleen River	64.93	345	P	P	22 27 21.5	-0.5	
	baz=137,SNR=17							
A36M	Sachs Harbour	64.96	352	P	P	22 27 22.1	+0.1	
	baz=155							
H24K	Noodor Dome	65.11	341	P	P	22 27 23.0	-0.2	
	baz=130,SNR=14							
I23K	Minto, Yukon-K	65.17	340	P	P	22 27 23.6	+0.1	
	baz=128,SNR=11							
G25K	Bearman Lake	65.17	343	P	P	22 27 23.1	-0.5	
	baz=132							
M19K	Big River Lodg	65.17	336	P	P	22 27 23.2	-0.5	
	baz=121							
N18K	Kilae Creek	65.18	334	P	P	22 27 23.7	-0.1	
	baz=119							
BMAR	Burnt Mountain	65.19	344	P	P	22 27 23.9	+0.1	
F26K	Sheenjek River	65.25	344	P	P	22 27 23.7	-0.4	
	baz=134,SNR=9.4							
O17K	Koliganek Bris	65.27	333	P	P	22 27 23.8	-0.5	
	baz=118							
L20K	Farewell, AK	65.27	337	P	P	22 27 24.3	-0.1	
	baz=122							
L19K	White Mountain	65.51	336	P	P	22 27 25.8	-0.1	
	baz=121							
G24K	Hadweenzic Riv	65.55	342	P	P	22 27 25.7	-0.3	
	baz=130,SNR=10							
M18K	Stony River	65.55	335	P	P	22 27 25.9	-0.3	
	baz=120							
D27M	Malcolm River	65.56	346	P	P	22 27 26.1	0.0	
	baz=138							
MLY	Manley	65.56	340	P	P	22 27 25.8	-0.4	
MLY				IAmb	IAmb	22 27 27.7		
	comp=Z,11nm,1.2s							
MLY	Manley	65.56	340	P	P	22 27 26.0	-0.1	
	baz=126,SNR=7.8							
F25K	Christian Rive	65.60	343	P	P	22 27 26.2	-0.2	
	baz=132,SNR=11							
O16K	Kokwok River B	65.64	333	P	P	22 27 26.4	-0.3	
	baz=117							
H23K	Yukon River	65.64	341	P	P	22 27 27.0	+0.3	
	baz=128							
N17K	Nushagak Hills	65.66	334	P	P	22 27 26.2	-0.6	
	baz=118							
K20K	Telida	65.82	337	P	P	22 27 27.8	0.0	
	baz=122							
S12K	Black Hills	65.98	328	P	P	22 27 29.2	+0.2	
	baz=112							
I21K	Tanana	66.08	340	P	P	22 27 29.7	+0.3	
	baz=125							
M17K	Holitna River	66.19	335	P	P	22 27 30.7	+0.5	
	baz=118							
F24K	Squaw Lake	66.20	343	P	P	22 27 30.7	+0.4	
	baz=130							
L18K	Granite Mounta	66.27	336	P	P	22 27 30.6	-0.2	
	baz=119							
H22K	Ishtalitna Cre	66.29	340	P	P	22 27 30.8	-0.1	
	baz=126,SNR=5.2							
J20K	Nowinta River	66.29	338	P	P	22 27 30.8	0.0	
	baz=122,SNR=7.6							
N16K	Nishlik Lake	66.33	333	P	P	22 27 31.2	0.0	
	baz=116							
G23K	Bananza Creek	66.34	341	P	P	22 27 31.4	+0.2	
	baz=128,SNR=6.1							
RES	Resolute Bay	66.36	2	LR	LR	22 57 08.8		
	comp=Z,425nm,18.2s,baz=213,slow=37							
C27K	Jago River	66.50	346	P	P	22 27 32.6	+0.5	
	baz=135							
H21K	Melozitna Rive	66.63	340	P	P	22 27 33.1	+0.1	
	baz=124,SNR=9.3							
M16K	Timber Creek	66.67	334	P	P	22 27 33.2	-0.1	
	baz=117							
COLD	Coldfoot	66.71	342	P	P	22 27 33.7	+0.3	
	baz=128,SNR=7.4							
E24K	Your Creek	66.73	343	P	P	22 27 33.4	-0.3	
	baz=130,SNR=5.8							
I20K	Naaghedeneel	66.74	339	P	P	22 27 33.8	+0.1	
	baz=122							
J19K	Poorman	66.74	338	P	P	22 27 33.8	+0.1	
	baz=121							
N15K	Kwethluk River	66.79	333	P	P	22 27 34.0	-0.1	
	baz=115							
L17K	Donlin	66.89	335	P	P	22 27 34.6	-0.1	
	baz=118							
J18K	Innoko River	66.89	337	P	P	22 27 34.2	-0.5	
	baz=120							
G22K	Bettles	66.94	341	P	P	22 27 35.2	+0.3	
	baz=126							
O14K	Tigyukauivet M	66.95	332	P	P	22 27 35.4	+0.3	
	baz=114							
D25K	Kavik River	66.97	345	P	P	22 27 35.6	+0.4	
	baz=132,SNR=12							
E23K	Chandalar	67.05	343	P	P	22 27 36.1	+0.4	
	baz=128,SNR=8.9							
K17K	Iditarod	67.17	336	P	P	22 27 35.7	-0.7	
	baz=118							
H20K	Anotleneega Mo	67.26	339	P	P	22 27 36.5	-0.5	
	baz=122							
M15K	Kasigluk River	67.28	333	P	P	22 27 36.6	-0.6	
	baz=115							
G21K	Allakaket	67.35	340	P	P	22 27 37.6	0.0	
	baz=124							
TOLK	Toolik Lake Re	67.40	343	P	P	22 27 37.9	0.0	
	baz=129,SNR=6.3							
N14K	Kuskokwak Cree	67.42	332	P	P	22 27 38.1	0.0	
	baz=114							
F22K	John River	67.49	342	P	P	22 27 38.7	+0.2	
	baz=126							
D24K	Happy Valley	67.52	344	P	P	22 27 39.4	+0.8	
	baz=130							
F21K	Alatna River	67.74	341	P	P	22 27 40.9	+0.9	
	baz=124,SNR=5.2							
E22K	Anaktuvuk Pass	67.75	342	P	P	22 27 40.9	+0.7	
	baz=126							
J17K	VABM Dome	67.80	336	P	P	22 27 40.8	+0.4	
	baz=117							
H19K	Roundabout Mou	67.84	339	P	P	22 27 41.0	+0.4	
	baz=121							
C24K	Franklin Bluff	67.85	344	P	P	22 27 40.6	0.0	
	baz=130							
D23K	Nanushuk River	67.92	343	P	P	22 27 41.1	0.0	
	baz=128,SNR=7.8							
L15K	Ungalak Mounta	68.05	334	P	P	22 27 41.6	-0.4	
	baz=114							
SFJD	Kangerlussuaq	68.14	20	LR	LR	22 58 43.6		
	comp=Z,196nm,19.3s,baz=231,slow=37							
RCBR	Riachuelo	68.25	100	LR	LR	22 56 57.7		
	comp=Z,72nm,19.9s,baz=274,slow=35							
K15K	Wolf Creek Mou	68.32	335	P	P	22 27 43.9	+0.1	
	baz=114							
H18K	Honhosa River	68.35	338	P	P	22 27 44.0	+0.2	
	baz=119							
J16K	Anvik River	68.36	336	P	P	22 27 44.4	+0.5	
	baz=116							
G19K	Purcell Mounta	68.38	339	P	P	22 27 43.8	-0.3	
	baz=120							
M13K	Dall Lake	68.38	332	P	P	22 27 43.7	-0.4	
	baz=112							
F20K	Avaraart Lake	68.38	340	P	P	22 27 43.8	-0.2	
	baz=122,SNR=6.8							
L14K	Kuka Creek	68.44	333	P	P	22 27 44.0	-0.4	
	baz=113							
C23K	Itkillik River	68.44	344	P	P	22 27 44.5	+0.2	
	baz=128							
D22K	Ayikyak River	68.45	343	P	P	22 27 44.9	+0.4	
	baz=126							
G18K	Tagagawik	68.81	339	P	P	22 27 47.4	+0.6	
	baz=119							
H17K	Granite Mounta	68.83	337	P	P	22 27 47.5	+0.6	
	baz=117							
F19K	Shaleruckik Mo	68.96	340	P	P	22 27 48.4	+0.8	
	baz=120,SNR=5.6							
E19K	Redstone River	69.09	340	P	P	22 27 48.7	+0.2	
	baz=121,SNR=7.0							
E20K	Nigu River	69.17	341	P	P	22 27 49.4	+0.3	
	baz=122							
C21K	Knifeblade Rid	69.23	342	P	P	22 27 50.2	+0.9	
	baz=124							
G17K	Kiwalik Mounta	69.36	338	P	P	22 27 51.1	+1.0	
	baz=116							
B21K	Ikpikpuk River	69.44	343	P	P	22 27 51.0	+0.5	
	baz=124							
F18K	Selawik	69.50	339	P	P	22 27 51.5	+0.6	
	baz=118							
D20K	Etivluk River	69.55	342	P	P	22 27 51.6	+0.3	
	baz=122							
H16K	Elim	69.59	337	P	P	22 27 51.7	+0.2	
	baz=115							
D19K	Kuna River	69.91	341	P	P	22 27 54.1	+0.6	
	baz=120							
G16K	Koyuk River	69.96	337	P	P	22 27 54.6	+0.9	
	baz=115							
F17K	Baldwin Pennin	70.00	339	P	P	22 27 54.5	+0.4	
	baz=116							
E18K	Tukpahlearik C	70.22	340	P	P	22 27 55.4	+0.1	
	baz=117							
B20K	Meade River	70.39	343	P	P	22 27 57.8	+1.4	
	baz=121							
E17K	Hotham Inlet	70.49	339	P	P	22 27 58.2	+1.2	
	baz=116							
C19K	Lookout Ridge	70.68	341	P	P	22 27 59.4	+1.1	
	baz=119							
SPIA	Saint Paul Isl	70.76	328	P	P	22 28 00.1	+1.3	
	baz=105							
ANM	Nome	70.81	336	P	P	22 28 00.3	+1.2	
	baz=112							
F15K	North Star Dit	70.96	337	P	P	22 28 01.0	+1.0	
	baz=113							
C18K	Utukok River	70.98	341	P	P	22 28 01.1	+1.0	
	baz=117							
D17K	Noatak River	71.19	340	P	P	22 28 02.5	+1.2	
	baz=115							
B18K	Okolik River	71.50	341	P	P	22 28 04.0	+0.9	
	baz=117							
C17K	DeLong Mountai	71.56	340	P	P	22 28 04.1	+0.6	
	baz=115							
A19K	Wainwright	71.66	342	P	P	22 28 05.6	+1.6	
	baz=118							
C16K	Lisburne Hills	72.21	340	P	P	22 28 08.5	+1.1	
	baz=113							
NEEM	North Greenlan	73.96	10	*i* P	P	22 28 15.4	-2.6	
SUMG	Summit	74.46	16	P	P	22 28 21.0	-0.2	
SUMG				IAmb	IAmb	22 28 23.4		
	comp=Z,13nm,1.0s							
SUMG	Summit	74.46	16	*i* P	P	22 28 19.0	-2.1	
PMSA	Palmer Station	78.55	164	LR	LR	22 54 52.3		
	comp=Z,45nm,21.1s,baz=282,slow=29							
BORG	Borgarnes	78.80	26	LR	LR	23 03 12.8		
	comp=Z,81nm,19.8s,baz=262,slow=35							
SHEM	Shemya Is, Ala	79.12	322	LR	LR	22 56 10.2		
	comp=Z,119nm,21.8s,baz=128,slow=30							
RAO	Raoul Island	81.26	239	LR	LR	22 55 20.4		
	comp=Z,149nm,21.9s,baz=317,slow=29							
BBTS	Babate	84.37	76	LR	LR	23 00 41.4		
	comp=Z,132nm,20.6s,baz=269,slow=31							
URZ	Urewera	87.43	231	LR	LR	22 59 01.5		
	comp=Z,134nm,20.8s,baz=72,slow=29							
SPITS	Spitsbergen Ar	87.53	10	LR	LR	23 10 36.8		
	comp=Z,217nm,18.1s,baz=294,slow=37							
PETK	Petropavlovsk-	88.94	324	LR	LR	23 03 05.6		
	comp=Z,41nm,20.6s,baz=88,slow=31							
ESDC	Sonseca Array	91.45	50	LR	LR	23 07 57.8		
	comp=Z,113nm,18.6s,baz=290,slow=34							
MDT	Midelt	92.34	57	LR	LR	23 09 26.2		
	comp=Z,44nm,18.1s,baz=295,slow=34							
TIXI	Tiksi	93.19	346	LR	LR	23 14 13.3		
	comp=Z,97nm,18.4s,baz=10,slow=37							
DZM	Mont Dzumac	93.77	248	*e*LR	LR	22 59 54.8		
	comp=Z,112nm,27.5s							
NOA	NORAR Array B	93.95	26	LR	LR	23 10 26.6		
	comp=Z,154nm,21.5s,baz=285,slow=34							
ARCES	ARCESS Array B	94.55	16	LR	LR	23 12 50.5		
	comp=Z,246nm,21.9s,baz=296,slow=36							
DBIC	Dimbokro	96.89	82	LR	LR	23 13 24.3		
	comp=Z,48nm,18.4s,baz=320,slow=35							
QSPA	South Pole Qui	98.42	180	LR	LR	23 08 24.6		
	comp=Z,205nm,18.5s,baz=110,slow=32							
CLL	Collm	99.05	35	*e*PS	PS	22 43 19.0	-2.9	
CLL				*e*PPS	PPS	22 44 05.0		
CLL				*e*SS	SS	22 48 42.0	+1.2	
CLL				AMS	AMS	23 12 00.0		
	comp=Z,200nm,21.0s							
VNDA	Vanda	99.34	193	LR	LR	23 06 02.5		
	comp=Z,104nm,21.0s,baz=80,slow=30							
FINES	FINESS Array B	99.83	22	LR	LR	23 16 59.9		
	comp=Z,101nm,20.2s,baz=310,slow=36							
WRA	Warramunga Arr	123.62	252	PKP	PKPdf	22 35 38.3	-3.0	
	comp=Z,0.8nm,0.9s,baz=134,slow=2.0,SNR=2.8							
ASAR	Alice Springs	123.74	247	PKP	PKPdf	22 35 39.4	-2.1	
	comp=Z,0.6nm,0.8s,baz=122,slow=1.6,SNR=4.0							
MKAR	Makanchi Array	124.82	356	PKP	PKPdf	22 35 40.2	-2.7	
	comp=Z,1.1nm,0.8s,baz=258,slow=2.4,SNR=6.9							
CMAR	Chiang Mai Arr	145.69	321	PKPdf	PKPdf	22 36 21.4	-0.8	
CMAR	Chiang Mai Arr	145.69	321	PKPbc	PKPdf	22 36 21.0	-1.2	
	comp=Z,1.6nm,0.4s,baz=3.8,slow=3.0,SNR=12							

IDC 17 22:21:46.1±3.2, 8.65N×102.73W, h0km, mb3.3/5, mbtmp3.3/5, Error ellipse: s-maj=145.8km s-min=28.7km az=59.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	Lajitas Array	20.60	358	P	P	22 26 26.6	-0.3
	0.1nm,0.6s,baz=179,slow=12,SNR=4.2						
	0.1nm,0.6s						
PDAR	Pinedale Array	34.51	351	P	P	22 28 36.2	-0.1
	0.4nm,0.8s,baz=183,slow=7.4,SNR=4.6						
	0.4nm,0.8s						
LPAZ	La Paz	42.27	126	P	P	22 29 42.2	-0.1
	0.9nm,0.8s,baz=315,slow=5.7,SNR=3.6						
	0.9nm,0.8s						
H03N2	Juan Fernandez	47.58	153	T	T	23 21 16.1	
	baz=329,slow=77,SNR=30						
H03N1	Juan Fernandez	47.59	153	T	T	23 21 17.4	
	baz=329,slow=77,SNR=34						
H03N3	Juan Fernandez	47.60	153	T	T	23 21 14.2	
	baz=329,slow=77,SNR=30						
YKA	Yellowknife Ar	54.44	353	P	P	22 31 15.4	+0.5
	0.3nm,0.7s,baz=156,slow=6.9,SNR=3.8						
	0.3nm,0.7s						
ILAR	Eielson Array	63.96	341	P	P	22 32 20.6	-0.3
	0.8nm,0.8s,baz=163,slow=4.0,SNR=4.9						
	0.8nm,0.8s						

THE 17 22:30:13.9, 38°N±2°×2°1E±°, h23km±2km, M3.2/17, MLh3.2/17
ATH 17 22:30:13.6, 37.73N×21.39E, h26km±4km, ML3.2/21, Manual Solution by M.Charalampakis First location: 2019/07/17 22:31:09, This location: 2019/07/18 07:40:09 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km
IDC 17 22:30:18.1±4.8, 38.64N×22.30E, h0km, mb3.5/9, mbtmp3.6/9, Error ellipse: s-maj=92.1km s-min=26.8km az=26.0

ISC 17 22:30:14.1±0.8, 37.73N±0.03×21.37E±0.02, h26km±6km, n59, σ0.95/79, mb3.5/9, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLEM	Kyllini,Ilia,G	0.24	310	P	Pb	22 30 20.2	-0.2
CLEM				S	Sb	22 30 25.9	+1.2
RLS	Riolos of Patr	0.33	14	P	Pb	22 30 21.2	-0.5
RLS				S	Sb	22 30 27.3	+0.4
RLS	Riolos of Patr	0.33	14	P	Pb	22 30 21.2	-0.5
RLS				S	Sb	22 30 26.6	-0.3
ZARO	Zacharo	0.33	138	P	Pb	22 30 21.7	0.0
AMT	Artemida-Makis	0.34	126	P	Pb	22 30 21.3	-0.5
AMT				S	Sb	22 30 27.0	-0.1
YRMI	Loutra Irminis	0.37	358	P	Pb	22 30 21.7	-0.5
YRMI				S	Sb	22 30 27.4	-0.3
KYPS	Kipseli, Zakin	0.44	281	P	Pb	22 30 23.3	-0.1
KRI1	kERI	0.44	261	P	Pb	22 30 22.8	+0.6
KRI1				S	Sb	22 30 30.5	+0.8
ORTH	Orthonies,Zaky	0.54	283	P	Pb	22 30 24.3	-0.8
ORTH				S	Sb	22 30 32.9	+0.3
PATG	Patra B	0.58	29	P	Pb	22 30 25.9	+0.2
RTZL	Ratzakli, Kefa	0.58	306	P	Pb	22 30 24.8	-0.9
RTZL				S	Sb	22 30 34.6	+1.0
PATC	Patra C	0.62	30	P	Pb	22 30 26.5	+0.1
UPR	University Cam	0.64	31	P	Pb	22 30 26.5	-0.2
UPR				S	Sn	22 30 36.8	-0.1
UPR	University Cam	0.64	31	P	Pn	22 30 27.2	-0.3
KLV	Kalavryta, Ach	0.69	63	P	Pb	22 30 26.7	-1.0
KLV				S	Sn	22 30 38.2	-0.1
KLV	Kalavryta, Ach	0.69	63	P	Pb	22 30 26.9	-0.7
ITM	Ithomi	0.71	141	P	Pb	22 30 27.3	-0.6
ITM				S	Sn	22 30 38.6	0.0
ITM	Ithomi	0.71	141	P	Pb	22 30 27.3	-0.6
ITM				S	Sn	22 30 39.0	+0.4
PSDA	Pessada-Kefalo	0.73	302	P	Pb	22 30 27.3	-0.8
PSDA				S	Sn	22 30 38.7	-0.2
PSDA	Pessada-Kefalo	0.73	302	P	Pb	22 30 27.4	-0.7
PSDA				S	Sn	22 30 38.8	-0.2
VLS	Valsamata	0.76	306	P	Pb	22 30 28.0	-0.7
VLS				S	Sb	22 30 39.3	+0.7
VLS	Valsamata	0.76	306	P	Pb	22 30 28.2	-0.5
GUR	Goura	0.80	75	P	Pb	22 30 28.6	-0.8
GUR				S	Sn	22 30 41.4	+0.4
EFP	Efpalio	0.81	31	P	Pb	22 30 28.9	-0.7
EFP				S	Sn	22 30 41.6	+0.6
EFP	Efpalio	0.81	31	P	Pb	22 30 28.9	-0.7
EFP				S	Sn	22 30 41.7	+0.6
ARG2	Argostoli	0.82	303	S	Sb	22 30 40.2	-0.3
SERG	Sergoula	0.87	39	P	Pb	22 30 30.0	-0.6
SERG				S	Sn	22 30 42.6	0.0
VLX	Vlachokerasia	0.88	114	P	Pn	22 30 31.9	+0.9
PVO	Paravola	0.89	8	P	Pb	22 30 30.1	-0.5
PVO				S	Sn	22 30 44.3	+1.2
PVO	Paravola	0.89	8	P	Pb	22 30 30.7	-0.2
KALE	Kalithea	0.90	43	P	Pb	22 30 30.8	-0.3
DMLN	Damoulianata-K	0.93	303	P	Pb	22 30 31.3	-0.4
DMLN	Damoulianata-K	0.93	303	P	Pn	22 30 32.2	+0.6
ANX	Ano Chora	0.96	27	P	Pb	22 30 31.6	-0.6
ANX	Ano Chora	0.96	27	P	Pb	22 30 31.6	-0.6
FSK	Fiskardo	0.96	319	P	Pb	22 30 31.5	-0.7
EVGI	Lefkada island	1.05	328	P	Pn	22 30 32.6	-0.5
EVGI	Lefkada island	1.05	328	P	Pn	22 30 32.7	-0.5
NYDR	Nydri-Lefkada	1.11	332	P	Pn	22 30 33.2	-0.8
NYDR	Nydri-Lefkada	1.11	332	P	Pn	22 30 34.0	0.0
LKD2	Lefkada island	1.19	332	P	Pn	22 30 35.2	0.0
LKD2	Lefkada island	1.19	332	P	Pn	22 30 35.2	0.0
AMPL	Ampelaki	1.19	354	P	Pn	22 30 35.2	+0.1
TSLK	Tsoukalades, L	1.23	333	P	Pb	22 30 36.5	-0.1
EVR	Evrytania	1.23	16	P	Pb	22 30 37.5	+0.8
LOUT	Loutraki	1.30	78	P	Pb	22 30 38.2	+0.5
MAKR	Makrakomi, Fth	1.41	25	P	Pb	22 30 40.0	+0.2
AXAR	Agios Charalam	1.45	44	P	Pb	22 30 40.9	+0.5
AGG	Agios Georgios	1.49	30	P	Pb	22 30 41.8	+0.6
LKR	Lokris	1.58	54	P	Pb	22 30 42.5	-0.1
HFS	Hagfors	22.95	350	P	P	22 35 15.0	-1.1
	0.4nm,0.3s,baz=166,slow=11,SNR=8.2						
	0.4nm,0.3s						
FINES	FINESS Array B	23.92	6	P	P	22 35 24.6	-1.0
	0.6nm,0.4s,baz=180,slow=8.7,SNR=13						
	0.6nm,0.4s						
EKA	Eskdalemuir Ar	24.18	325	P	P	22 35 33.8	+5.7
	0.9nm,0.6s,baz=126,slow=9.3,SNR=3.9						
	0.9nm,0.6s						
NOA	NORSAR Array B	24.19	348	P	P	22 35 29.0	+0.8
	0.5nm,0.9s,baz=164,slow=10,SNR=3.5						
	0.5nm,0.9s						
ARCES	ARCESS Array B	31.94	3	P	P	22 36 35.9	-1.5
	2.0nm,0.9s,baz=184,slow=8.6,SNR=1.9						
	2.0nm,0.9s						
BVAR	Borovoye Array	36.90	49	P	P	22 37 18.4	-2.0
	0.4nm,0.6s,baz=287,slow=5.6,SNR=2.4						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	41.96	53	P	P	22 38 01.2	-1.4
	0.3nm,0.4s,baz=276,slow=8.8,SNR=4.1						
	0.3nm,0.4s						
MKAR	Makanchi Array	44.97	58	P	P	22 38 25.7	-1.3
	0.4nm,0.6s,baz=277,slow=7.5,SNR=6.5						
	0.4nm,0.6s						
ZALV	Zalesovo Beam	45.49	48	P	P	22 38 29.4	-1.5
	0.8nm,0.3s,baz=281,slow=8.6,SNR=3.9						
	0.8nm,0.3s						

NEIC 17 22:41:14.9±1.0, 35.366N±0.010×117.84W±0.01, h7km±4km, Error ellipse: s-maj=1.6km s-min=1.2km az=139.0

PAS 17 22:41:15.3±1.1, 35.371N±0.004×117.84W±0.01, h3km±2km, ML3.2/142, ML2.9/104(NEIC), Error ellipse: s-maj=1.4km s-min=0.5km az=108.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DTP	Desert Tortois	0.10	181		Pg	22 41 17.7	+

CLC **China Lake** 0.49 24 Pg 22 41 24.7 0.0
CLC Sg 22 41 31.0 0.0
EDW2 **Edwards Air Fo** 0.50 194 Pg 22 41 24.7 -0.3
EDW2 Sg 22 41 31.6 +0.1
WHFM **Hanning Flat** 0.53 308 Pg 22 41 25.4 -0.1
WHFM Sg 22 41 32.4 +0.1
HYS **Haystack Butte** 0.55 156 Pg 22 41 25.8 -0.1
HYS Sg 22 41 33.2 +0.1
WVPM **Volcano Peak E** 0.58 2 Pg 22 41 26.3 -0.1
WVPM Sg 22 41 34.3 +0.3
TPO **Tropico Hills** 0.58 213 Pg 22 41 26.6 +0.1
TPO Sg 22 41 34.8 +0.7
TPO IAML 22 41 35.5
comp=N,1µm,0.5s
ISA **Isabella, Lake** 0.59 300 Pg 22 41 26.6 -0.1
ISA Sg Sg 22 41 34.4 +0.1
ISA IAML 22 41 34.9
comp=N,778nm,0.3s
ISA IAML 22 41 35.0
comp=E,981nm,0.2s
JRC2 **Joshua Ridge** 0.61 3 Pg 22 41 26.9 -0.1
JRC2 Sg 22 41 35.6 +0.5
WRVM **Rose V. Centra** 0.64 357 Pg 22 41 27.3 -0.2
WRVM Sg 22 41 35.9 0.0
WCSM **Coso Springs S** 0.66 5 Pg 22 41 27.6 -0.4
WCSM Sg 22 41 36.5 0.0
SBB **Saddle Back Bu** 0.68 179 Pg 22 41 27.9 -0.5
SBB Sg 22 41 36.9 -0.3
WASM **Alta Sierra Ca** 0.69 302 Pg 22 41 28.4 -0.1
WASM Sg 22 41 37.8 +0.3
TEJ **El Tejon** 0.71 259 Sg 22 41 38.0 -0.1
MPMC **Manual Prospec** 0.74 23 Pg 22 41 29.4 -0.2
MFS **McCloud Flat S** 0.74 359 Pg 22 41 28.9 -0.7
MFS Sg 22 41 39.3 0.0
ALPC **Antelope** 0.78 209 Sg 22 41 40.0 -0.3
TJR **Tejon Ranch** 0.81 245 Pg 22 41 30.4 -0.5
TJR Sg 22 41 41.6 +0.2
THC **Tehachapi Micr** 0.81 236 Pg 22 41 30.5 -0.4
ARVC **Arvin** 0.84 254 Pg 22 41 31.1 -0.4
GSC **Goldstone, Bar** 0.85 94 Pg Pg 22 41 31.5 -0.2
RRX **Edison Barstow** 0.85 125 Pg 22 41 31.6 0.0
RRX Sg 22 41 43.6 +1.0
LRRC **Littlerock Res** 0.86 190 Pg 22 41 31.2 -0.5
CJV **Casa Juvan** 0.87 197 Sg 22 41 44.3 +0.9
HOLC **Holcomb Ridge** 0.91 180 Pg 22 41 32.1 -0.6
VTV **Victorville** 0.91 152 Pb 22 41 33.3 -0.5
VTV Sb 22 41 46.8 +0.5
BTPC **Burnt Peak** 0.91 221 Pg 22 41 32.7 -0.1
BTPC Sg 22 41 45.4 +0.8
JNH **Juniper Hills** 0.93 186 Pg 22 41 32.5 -0.6
JNH Sb 22 41 47.2 +0.4
QSM **Queen of Sheba** 0.99 53 Pg 22 41 34.0 -0.4
QSM Sg 22 41 47.1 -0.1
QSM IAML 22 41 49.8
comp=E,381nm,0.8s
QSM IAML 22 41 49.8
comp=N,463nm,0.5s
OSI **Osito Audit: C** 1.04 224 Pg 22 41 35.1 -0.2
OSI Sg 22 41 49.1 +0.3
OSI **Osito Audit: C** 1.04 224 Pg Pg 22 41 34.9 -0.5
OSI IAML 22 41 51.6
comp=E,647nm,0.7s
OSI IAML 22 41 52.4
comp=N,335nm,0.9s
CHFC **Chilao Flat St** 1.05 188 Pg 22 41 34.5 -0.9
CHFC Sg 22 41 48.3 -0.6
CWC **Cottonwood Cre** 1.08 350 Pg 22 41 35.4 -0.8
CWC Sg 22 41 49.4 -0.8
VES **Vestal, Richgr** 1.12 295 Pg 22 41 35.9 -0.8
VES Sg 22 41 50.4 -0.8
SPG2 **Springville 2** 1.12 318 Pg 22 41 35.8 -1.0
SPG2 Sg 22 41 50.4 -0.8
BFSC **Mount Baldy Ra** 1.14 172 Pg 22 41 36.3 -0.8
BFSC IAML 22 41 53.2
comp=E,493nm,0.7s
BFSC IAML 22 41 55.7
comp=N,345nm,0.4s
MWC **Mount Wilson** 1.16 189 Pg 22 41 36.9 -0.6
MWC IAML 22 41 54.2
comp=E,488nm,0.4s
PASC **Pasadena Art C** 1.23 193 Pg 22 41 38.0 -0.9
PASC IAML 22 41 57.9
comp=N,228nm,0.5s
PASC IAML 22 42 00.0
comp=E,227nm,0.5s
GWY **Greenwater Val** 1.25 49 Pg 22 41 38.4 -0.9
GWY IAML 22 42 00.3
comp=N,182nm,0.5s
GWY IAML 22 42 03.8
comp=E,206nm,0.5s
WCT **Wildcat Mounta** 1.73 34 Pn 22 41 45.3 -1.0
ELS **Elsinore Mount** 1.75 169 Pn 22 41 45.8 -0.9
ELS IAML 22 42 10.7
comp=E,93nm,0.4s
MTPC **Mountain Pass** 1.87 86 Pn 22 41 47.3 -1.1
MTPC IAML 22 42 15.5
comp=N,121nm,0.5s
MTPC IAML 22 42 16.8
comp=E,180nm,0.2s
TPC **Twentynine Pal** 1.94 130 Pn 22 41 47.8 -1.5
DSP **Deep Springs** 2.00 357 Pn 22 41 49.5 -0.5
TPNV **Topopah Spring** 2.04 39 Pn 22 41 50.0 -0.7
TPNV IAML 22 42 28.5
comp=E,55nm,0.6s
MTUM **Tungsten Hills** 2.06 344 Pb 22 41 53.5 0.0
PFO **Pinyon Flats O** 2.09 147 Pn 22 41 50.4 -1.0
PMD **Palm Desert** 2.10 144 Pn 22 41 50.1 -1.3
PMD IAML 22 42 28.2
comp=E,67nm,0.5s
MZP **Montezuma Peak** 2.35 9 Pn 22 41 53.4 -1.8
BORC **Borrego Spring** 2.41 150 Pn 22 41 54.6 -1.0
BORC IAML 22 42 36.4
comp=N,53nm,0.6s
BORC IAML 22 42 37.1
comp=E,45nm,0.7s
BENR **Benton** 2.41 346 Pb 22 41 59.8 +0.2
SHPR **Sheep Range** 2.45 62 Pn 22 41 55.1 -1.3
V12A **Nelson** 2.46 81 Pn 22 41 55.4 -1.2
V12A IAML 22 42 42.8
comp=N,40nm,0.5s
DPP **Dos Picos Cty** 2.48 162 Pn Pn 22 41 55.1 -1.6
DPP IAML 22 42 34.0
comp=E,43nm,0.4s
PMPB **Monarch Peak** 2.55 290 Pn 22 41 55.3 -2.4
PMPB IAML 22 42 46.8
comp=E,104nm,0.8s
BBGB **Big Mountain B** 2.86 296 Pn 22 42 00.7 -1.2
PRN **Pahroc Range** 3.03 47 Pn 22 42 02.7 -1.7
PRN IAML 22 43 02.4
comp=N,28nm,0.7s
PRN IAML 22 43 02.5
comp=E,45nm,0.8s
NVAR **Mina Array Bea** 3.08 353 Pn 22 42 04.2 -0.9
YUH **Yuha Desert** 3.15 149 Pn 22 42 04.9 -0.9
BLYC **Blythe** 3.18 120 Pn 22 42 04.6 -1.6
BLYC IAML 22 42 59.6
comp=N,45nm,0.6s
BLYC IAML 22 43 01.8
comp=E,45nm,0.6s
CBX **Cerro Bola** 3.20 162 Pn Pn 22 42 05.8 -0.9
SAO **San Andreas Ge** 3.23 297 Pn 22 42 06.5 -0.5
W13A **Hualapai Mount** 3.25 94 Pn 22 42 06.2 -1.2
W13A IAML 22 43 01.3
comp=E,25nm,0.6s
W13A IAML 22 43 04.1
comp=N,28nm,0.9s
ESJX **Sierra Juarez** 3.71 154 Pn 22 42 13.6 -0.1
Y14A **Wickenburg** 4.24 108 Pn 22 42 19.1 -1.8
Y14A IAML 22 43 33.2
comp=N,21nm,0.5s
Y14A IAML 22 43 37.1
comp=E,25nm,0.5s
U15A **North Rim** 4.63 75 Pn Pn 22 42 26.7 +0.2
U15A IAML 22 43 45.1
comp=E,7.1nm,0.9s
U15A IAML 22 43 49.8
comp=N,8.3nm,1.0s
BEKR **Beckworth** 4.91 337 Pn Pn 22 42 28.8 -1.5
BEKR IAML 22 43 53.8
comp=N,12nm,0.9s

*IDC **17** 22:45:33.9±1.2,31°.15N×48°.57E,h0km,mb3.9/20,*

mbtmp3.9/23,ML3.4/3,MS3.2/8,Error ellipse: s-maj=25.6km s-min=12.9km az=176.0
*TEH **17** 22:45:34.0,30°.96N×48°.60E,h15km±25km*
*ISN **17** 22:45:34.0±1.0,30°.80N×48°.52E,h0km±130km,ML4.2*
*NEIC **17** 22:45:35.0±1.2,30°.98N±0°.07×48°.70E±0°.08,h10km±1km, mb4.3/30,Error ellipse: s-maj=13.5km s-min=10.3km az=220.0*
*THR **17** 22:45:36.7±1.9,30°.96N×48°.62E,h9km±17km,ML4.3*
*NAO **17** 22:45:39.6,30°.66N×47°.28E,h33km,mb3.9*
*OMAN **17** 22:45:44.2±0.1,30°.64N×49°.34E,h10km,mb4.4/14,Error ellipse: s-maj=1.9km s-min=1.2km az=234.0*
*GII **17** 22:46:45.5±0.0,30°.97N×48°.73E,h15km,confirmed*

ISC 17 22:45:34.3±0.4,30°.93N±0°.04×48°.67E±0°.04,h10km,n251, σ1§93/237,mb4.2/41,MS3.2/4,8C-13D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
AHWZ	**Ahwaz**	0.40	357	Pg	**Pg**		22 45 42.0	-0.2
ABEH	**Behbahan**	1.40	103	Pg	**Pg**		22 46 03.2	+1.9
GTMR	**Gotvand**	1.58	14	*e*Pn	**Pn**		22 46 04.1	+1.6
GTMR				*e*Sg	**Sn**		22 46 25.4	+2.3
GTMR				IAML			22 46 33.4	
	comp=Z,10.0nm,1.0s							
JHBN	**Jahan bin**	2.15	52	Pn	**Pn**		22 46 12.6	+2.2
ZNGN	**Zangian**	2.21	57	Pn	**Pn**		22 46 13.8	+2.4
RAFI	**Al-Rafai**	2.33	291	*e*Pn	**Pb**		22 46 15.0	-1.3
RAFI				*e*Sn	**Sb**		22 46 44.0	-1.1
RAFI				AML	AML		22 47 01.2	
	comp=E,1µm,0.5s							
RAFI				AML	AML		22 47 02.1	
	comp=N,2µm,0.6s							
IBRJ	**Brojen**	2.42	66	Pn	**Pn**		22 46 16.7	+2.5
KLNJ	**Kolanjah**	2.51	87	Pn	**Pn**		22 46 18.2	+2.6
KLNJ	**Kolanjah**	2.51	87	*e*PnA			22 46 18.4	
KLNJ				IAML			22 47 07.8	
	comp=Z,1.4nm,1.0s							
IPIR	**Pirpir**	2.58	47	Pn	**Pn**		22 46 18.9	+2.5
IKFM	**Kafar-mosalman**	2.68	345	Pn	**Pn**		22 46 19.1	+1.6
KAZ2	**Kazeron-Fars-I**	2.90	116	Pn	**Pn**		22 46 24.3	+3.6
KHMZ	**Khomeyn**	3.01	21	*e*PnA			22 46 24.9	
KHMZ				IAML			22 47 19.3	
	comp=Z,0.9nm,1.0s							
BDRS	**Dareh Seyedi**	3.02	3	Pn	**Pn**		22 46 24.2	+1.7
IBDR	**Badra**	3.19	314	*e*Pn	**Pn**		22 46 27.0	+2.5
IBDR				*e*Sn	**Sb**		22 47 06.0	-3.9
IBDR				AML	AML		22 47 28.7	
	comp=E,1µm,0.5s							
IBDR				AML	AML		22 47 34.5	
	comp=N,1µm,0.8s							
IGAR	**Gharneh**	3.23	62	Pn	**Pn**		22 46 27.4	+2.1
IRAM	**Ramesheh**	3.30	74	Pn	**Pn**		22 46 29.1	+2.9
ILBA	**Ilam Banvizeh**	3.40	323	Pn	**Pn**		22 46 28.9	+1.4
ILBA	**Ilam Banvizeh**	3.40	323	*e*PnA			22 46 29.8	
ILBA				IAML			22 47 41.3	
	comp=Z,1.2nm,1.0s							
DSBU	**Dashti - Bushe**	3.41	138	Pn	**Pn**		22 46 30.9	+3.3
IKLH	**Kolahrood**	3.43	45	Pn	**Pn**		22 46 30.7	+2.5
SHI	**Shiraz**	3.56	110	Pn	**Pn**		22 46 33.1	+3.2
IBZA	**Bozab**	3.60	349	Pn	**Pn**		22 46 31.7	+1.3
KCHF	**Cheshme Sefid,**	3.61	338	Pn	**Pn**		22 46 31.6	+1.1
QAMS	**Qamsar**	3.63	39	Pn	**Pn**		22 46 33.6	+2.7
IZEF	**Zefreh**	3.68	57	Pn	**Pn**		22 46 34.2	+2.6
ASAO	**Ashtian**	3.79	17	*e*PnA			22 46 35.5	
ASAO				IAML			22 47 52.8	
	comp=Z,0.8nm,1.0s							
IGHG	**Ghaleghazi**	3.83	333	Pn	**Pn**		22 46 35.5	+2.0
HAGD	**Aghdareh**	3.91	6	Pn	**Pn**		22 46 36.3	+1.7
SNQR	**Sonqor, Kerman**	4.02	348	Pn	**Pn**		22 46 38.1	+1.9
GHVR	**GHOM**	4.18	31	*e*PnA			22 46 40.8	
GHVR				IAML			22 48 14.2	
	comp=Z,5.6nm,1.0s							
KRSH	**Karshahi**	4.22	43	Pn	**Pn**		22 46 41.2	+2.3
IDHR	**Dehrash**	4.22	334	Pn	**Pn**		22 46 39.9	+1.0
SNGE	**Sanandaj**	4.30	345	*e*PnA			22 46 41.8	
SNGE				IAML			22 47 58.4	
	comp=Z,0.8nm,1.0s							
BHD	**Baghdad**	4.32	304	*e*Pn	**Pn**		22 46 43.0	+2.9
BHD				*e*Sn	**Sn**		22 47 33.0	+2.4
IQOM	**Qom**	4.40	27	Pn	**Pn**		22 46 43.1	+1.8
ISAD	**Sadrabad**	4.40	76	Pn	**Pn**		22 46 43.6	+2.2
QIR1	**Qir**	4.52	122	Pn	**Pn**		22 46 45.6	+2.7
TAFT	**Taft - Yazd**	4.78	79	Pn	**Pn**		22 46 49.1	+2.5
IVRN	**Varamin**	4.80	32	Pn	**Pn**		22 46 48.7	+1.9
QABG	**Abgarm-Qazvin**	4.83	9	Pn	**Pn**		22 46 49.2	+1.9
ANAR	**Anarak**	4.85	61	Pn	**Pn**		22 46 49.8	+2.3
ICHK	**Chekchek**	5.07	74	Pn	**Pn**		22 46 52.2	+1.6
IMEH	**Mehriz**	5.12	83	Pn	**Pn**		22 46 53.7	+2.5
YZKH	**Yazd**	5.26	72	*e*PnA			22 46 55.7	
YZKH				IAML			22 47 49.4	
	comp=Z,0.0nm,1.0s							
THKV	**Tehran--Karaj**	5.31	20	*e*PnA			22 46 56.4	
THKV				IAML			22 48 58.9	
	comp=Z,0.4nm,1.0s							
CHTH	**Charan**	5.38	22	*e*PnA			22 46 56.3	
CHTH				IAML			22 48 40.7	
	comp=Z,120nm,1.0s							
IDMV	**Damavand**	5.43	30	Pn	**Pn**		22 46 57.1	+1.5
DAMV	**Damavand**	5.45	30	*e*PnA			22 46 57.0	
DAMV				IAML			22 48 43.8	
	comp=Z,100nm,1.0s							
ILAS	**Lasjerd**	5.72	38	Pn	**Pn**		22 47 00.8	+1.3
ZNJK	**Zanjan**	5.73	0	*e*PnA			22 47 01.1	
ZNJK				IAML			22 48 57.2	
	comp=Z,0.2nm,1.0s							
IKRK	**Kirkuk**	5.75	322	*e*Pn	**Pn**		22 47 03.0	+3.3
IKRK				*e*Sn	**Sn**		22 48 09.0	+3.2
IFIR	**Firoozkooh**	5.81	35	Pn	**Pn**		22 47 02.5	+1.6
KLST	**Kelardasht - M**	5.92	19	Pn	**Pn**		22 47 03.8	+1.4
SRSL	**SARDASHT**	5.92	334	*e*PnA			22 47 03.5	
SRSL				IAML			22 48 18.5	
	comp=Z,1.0nm,1.0s							
LAR1	**LAR**	5.95	122	Pn	**Pn**		22 47 04.7	+2.2
MZPU	**Pul - Mazandar**	6.01	23	Pn	**Pn**		22 47 05.7	+2.3
GIDE	**GILAN DEYLAMAN**	6.07	9	*e*Pn	**Pn**		22 47 07.5	+3.2
GIDE				IAML			22 49 11.6	
	comp=Z,540nm,1.0s							
IPRN	**Peran**	6.12	29	Pn	**Pn**		22 47 06.9	+1.9
MAHB	**Mahabad**	6.32	338	Pn	**Pn**		22 47 08.3	+0.6
SMRA	**Abu-Samra**	6.45	162	S	**Sn**		22 48 23.8	+0.9
TRNA	**Turayna**	6.57	159	P	**Pn**		22 47 13.4	+2.4
	SNR=6.2							
TRNA				S	**Sn**		22 48 27.2	+1.3
KHGB	**Koh Gabri**	6.75	93	Pn	**Pn**		22 47 15.8	+2.1
KRBR	**Kerman**	7.05	96	Pn	**Pn**		22 47 20.9	+3.0
KRBR	**Kerman**	7.05	96	*e*PnA			22 47 20.9	
KRBR				IAML			22 48 49.3	
	comp=Z,27nm,1.0s							
NGRK	**Negar Kerman**	7.09	98	Pn	**Pn**		22 47 21.9	+3.4
IAZR	**Azarshahr**	7.09	342	Pn	**Pn**		22 47 19.3	+0.9
TPRV	**Parvadeh(Tabas**	7.13	71	Pn	**Pn**		22 47 20.5	+1.8
SLWR	**Sila**	7.34	158	S	**Sn**		22 48 45.0	+0.1
KRM1	**Kerman Provinc**	7.42	91	Pn	**Pn**		22 47 25.3	+2.4
GAS1	**Astara - Iran**	7.44	1	Pn	**Pn**		22 47 23.6	+0.7
IHRS	**Heris**	7.49	350	Pn	**Pn**		22 47 25.2	+1.3
TABS	**Tabas**	7.65	67	*e*PnA			22 47 28.5	
TABS				IAML			22 49 54.0	
	comp=Z,0.0nm,1.0s							
ISHB	**Shabestar**	7.76	342	Pn	**Pn**		22 47 28.5	+1.0
RAYN	**Ar Rayn**	7.89	202	Pn	**Pn**		22 47 30.1	+0.8
RAYN	**Ar Rayn**	7.89	202	Pn	**Pn**		22 47 30.7	+1.4
RAYN	**Ar Rayn**	7.89	202	Pn	**Pn**		22 47 30.7	+1.4
SHRO	**Shahrood**	7.94	49	*e*PnA			22 47 32.8	
SHRO				IAML			22 48 12.2	
	comp=Z,0.0nm,1.0s							
SHME	**Shamm**	8.18	125	P	**Pn**		22 47 33.7	+0.6
SHME				S	**Sn**		22 49 01.3	-4.2
SHME	**Shamm**	8.18	125	Pn	**Pn**		22 47 32.9	-0.1
AJN	**Ajban**	8.46	137	P	**Pn**		22 47 39.7	+2.8
AJN				S	**Sn**		22 49 10.3	-2.1
NAZ	**Nazwa, Dubai**	8.56	132	P	**Pn**		22 47 39.7	+1.4
NAZ				S	**Sn**		22 49 11.6	-3.3
NAZ	**Nazwa, Dubai**	8.56	132	Pn	**Pn**		22 47 39.9	+1.6
ASUD	**Al Ashush, Dub**	8.61	135	P	**Pn**		22 47 41.4	+2.3
ASUD				S	**Sn**		22 49 13.8	-2.5
MASF	**Masafi**	8.62	128	P	**Pn**		22 47 40.9	+1.7
MASF				S	**Sn**		22 49 12.8	-3.7
MSFE	**Esma-Masafi**	8.63	128	Pn	**Pn**		22 47 40.6	+1.3
GEVA	**Gevas**	8.70	329	Pn	**Pn**		22 47 40.6	+0.3
MDH	**Madha**	8.76	128	P	**Pn**		22 47 42.5	+1.4
MDH				S	**Sn**		22 49 15.4	-4.6
MDH	**Madha**	8.76	128	Pn	**Pn**		22 47 41.5	+0.4
UOSS	**Minazif**	8.94	130	Pn	**Pn**		22 47 44.5	+0.9
UOSS	**Minazif**	8.94	130	P	**Pn**		22 47 44.4	+0.9
UOSS				S	**Sn**		22 49 19.5	-4.8
UOSS	**Minazif**	8.94	130	Pn	**Pn**		22 47 44.0	+0.5
HATD	**Hatta, Dubai**	8.97	131	P	**Pn**		22 47 45.6	+1.6
HATD				S	**Sn**		22 49 21.7	-3.5
MZR	**Muzera**	8.98	150	P	**Pn**		22 47 46.9	+2.8
MZR				S	**Sn**		22 49 22.9	-2.5
MZR	**Muzera**	8.98	150	Pn	**Pn**		22 47 46.8	+2.6
ASHO	**Ashiyiah**	9.03	132	P	**Pn**		22 47 46.4	+1.7
ASHO				S	**Sn**		22 49 22.2	-4.3
ASHO	**Ashiyiah**	9.03	132	Pn	**Pn**		22 47 46.5	+1.7
SBZV	**Sabzevar**	9.23	51	Pn	**Pn**		22 47 49.9	+2.2
SBZV	**Sabzevar**	9.23	51	*e*Pn	**Pn**		22 47 50.2	+2.5
ALNE	**Al Ain**	9.29	136	P	**Pn**		22 47 50.1	+1.7
	SNR=6.0							
ALNE				S	**Sn**		22 49 29.5	-3.6
ALNE	**Al Ain**	9.29	136	Pn	**Pn**		22 47 50.6	+2.2
GURO	**Guroymak-BITLI**	9.36	326	Pn	**Pn**		22 47 48.4	-1.0
SOHO	**SOHO**	9.72	132	P	**Pn**		22 47 55.0	+0.8
SOHO				S	**Sn**		22 49 38.5	-5.0
SOHO	**SOHO**	9.72	132	Pn	**Pn**		22 47 54.2	0.0
GNI	**Garni**	9.74	342	Pn	**Pn**		22 47 53.6	-1.0
GNI	**Garni**	9.74	342	LR	LR		22 52 31.3	
	comp=Z,100nm,20.9s,baz=158,slow=44							
UMZA	**Um Al Zommool**	10.02	143	P	**Pn**		22 48 00.6	+2.2
UMZA				S	**Sn**		22 49 47.3	-3.7
ASF	**Jabal al Asfar**	10.12	280	Pn	**Pn**		22 47 58.7	-1.1
	comp=Z,0.9nm,0.3s,baz=95,slow=3.3,SNR=6.5							
ASF				Sn	**Sn**		22 49 53.0	-0.5
	comp=Z,0.3nm,0.3s,baz=282,slow=6.7,SNR=3.4							
ASF				Lg	Lg		22 50 56.2	
	comp=Z,1.5nm,0.3s,baz=299,slow=22,SNR=3.5							
ASF				LR	LR		22 52 45.6	
	comp=Z,65nm,21.2s,baz=119,slow=43							
	comp=Z,1.0nm,0.4s							
ARQ	**Araqi**	10.30	135	P	**Pn**		22 48 04.0	+1.8
	SNR=9.3							
ARQ				S	**Sn**		22 49 52.9	-4.8
HOQ	**Hoqain**	10.61	132	Pn	**Pn**		22 48 10.3	+3.8
HOQ	**Hoqain**	10.61	132	P	**Pn**		22 48 07.0	+0.5
HOQ				S	**Sn**		22 49 59.7	-5.7
TBJM	**Torbat-e-JAM**	10.69	63	Pn	**Pn**		22 48 10.4	+2.7
KSHT	**Keshet**	11.11	284	P			22 49 24.7	
BSY	**Bisya**	11.15	135	P	**Pn**		22 48 14.6	+0.7
BSY				S	**Sn**		22 50 12.9	-5.8
NATI	**Neve Ativ**	11.21	285	P			22 49 26.6	
GHAJ	**Ghor Haditha**	11.24	275	Pn	**Pn**		22 48 15.7	+0.7
GHAJ	**Ghor Haditha**	11.24	275	P			22 49 25.9	
GEM	**Giv'at Ha'Em**	11.27	285	P			22 49 26.9	
HMDT	**Nahal Hemdat**	11.29	280	P			22 49 27.1	
MMLI	**Mount Malkishu**	11.38	281	P			22 49 28.4	
DSI	**Dead Sea**	11.39	277	P			22 49 28.1	
MSBI	**Mazada**	11.41	275	P			22 49 27.6	
MMA0B	**Mount Meron ar**	11.46	284	P			22 49 29.3	
MMAI	**Mount Meron Ar**	11.46	284	Lg	Lg		22 51 37.1	
	comp=Z,1.0nm,0.3s,baz=110,slow=37,SNR=1.4							
MMAI				LR	LR		22 53 50.2	
	comp=Z,75nm,21.1s,baz=88,slow=44							
SMDO	**Samad**	11.46	131	P	**Pn**		22 48 19.7	+1.6
SMDO				S	**Sn**		22 50 21.6	-4.7
BLGI	**Bet Lehem HaGe**	11.60	282	P			22 49 31.3	
ZFRI	**Zfri**	11.61	272	P			22 49 31.6	
YTIR	**Yattir**	11.62	276	P			22 49 32.0	
SLTI	**Sal'it**	11.70	280	P			22 49 32.9	
WSAR	**Wadi Sarin**	11.72	128	Pn	**Pn**		22 48 22.0	+0.4
	baz=123,slow=24,SNR=11							
WSAR				Sn	**Sn**		22 50 26.6	-6.0
	baz=192,slow=24,SNR=6.7							
ARPR	**Arapgir-MALATY**	11.74	317	Pn	**Pn**		22 48 23.3	+1.2
OFRI	**`Ofer**	11.77	282	P			22 49 33.9	
PRNI	**Paran**	11.78	271	P			22 49 33.6	
AMAZ	**Amatzia**	11.79	276	P			22 49 34.1	
HRFI	**Mount Harif**	11.79	269	P			22 49 34.6	
EIL	**Elat**	11.92	267	Pn	**Pn**		22 48 22.7	-1.7
	comp=Z,0.3nm,0.3s,baz=67,slow=16,SNR=1.5							
EIL				Lg	Lg		22 51 52.1	
	comp=Z,0.2nm,0.3s,baz=19,slow=20,SNR=2.5							
EIL				LR	LR		22 53 51.1	
	comp=Z,92nm,19.3s,baz=74,slow=42							
	comp=Z,2.5nm,0.8s							
EIL	**Elat**	11.92	267	P			22 49 35.9	
MBRI	**Mt Berech**	11.93	268	P			22 49 36.7	
JMDO	**Jabal Madar**	11.99	133	P	**Pn**		22 48 27.0	+1.7
KRMI	**Paran Flat**	12.05	270	P			22 49 38.0	
KZIT	**Kziot**	12.26	274	P			22 49 40.2	
BNN	**Bunyan**	13.15	310	Pn	**Pn**		22 48 43.0	+1.7
KIV	**Kislovodsk**	13.84	342	Pn	**Pn**		22 48 52.1	+1.5
BR104	**Keskin Array S**	15.06	310	Pn	**Pn**		22 49 07.8	+0.5
	comp=Z,3.0nm,0.8s							
BR131	**Keskin Array S**	15.07	310	Pn	**Pn**		22 49 08.1	+0.7
BRTR	**Keskin Array B**	15.07	310	Pn	**Pn**		22 49 07.5	+0.1
	baz=116,slow=11,SNR=4.7							
	comp=Z,1.0nm,0.9s							
SIMJ	**Simiganj**	18.38	60	P	**P**		22 49 49.6	+0.2
GAR	**Garm**	19.45	60	P	**P**		22 50 00.5	-0.7
GAR				IAmb	IAmb		22 50 20.1	
	comp=Z,5.9nm,0.8s							
AB31	**Akbulak array**	20.20	22	P	**P**		22 50 09.2	+0.1
ABKAR	**Akbulak array**	20.20	22	P	**P**		22 50 08.8	-0.3
IDI	**Anoyia**	20.37	289	P	**P**		22 50 12.1	+0.8
IDI				IAmb	IAmb		22 50 41.5	
	comp=E,65nm,1.3s							
IDI	**Anoyia**	20.37	289	P	**P**		22 50 10.3	-0.9
	comp=Z,17nm,1.2s,baz=282,slow=8.9,SNR=6.4							
	comp=Z,17nm,1.2s							
AKTO	**Aktyubinsk**	20.70	17	P	**P**		22 50 13.4	-1.2
	comp=Z,1.5nm,0.3s,baz=186,slow=4.9,SNR=7.4							
	comp=Z,1.5nm,0.3s							
NE56	**Odesa**	20.88	324	P	**P**		22 50 16.5	0.0
NIL	**Nilore**	20.95	76	P	**P**		22 50 16.1	-1.4
NIL				IAmb	IAmb		22 50 24.0	
	comp=Z,6.3nm,0.7s							
TPGR	**Topolog**	21.11	317	⇓P	**P**		22 50 19.6	+0.6
KK31	**Karatay Array**	21.19	49	P	**P**		22 50 17.9	-2.0
KKAR	**Karatay Array**	21.19	49	P	**P**		22 50 18.9	-1.0
HARR	**Harsova**	21.30	316	⇓P	**P**		22 50 21.9	+0.9
PURM	**Purcari**	21.31	322	⇑P	**P**		22 50 21.4	+0.2
PURM	**Purcari**	21.31	322	P	**P**		22 50 21.3	+0.2
	comp=Z,4µmcomp=Z,34nm,1.0s							
CFR	**Carcaliu**	21.45	317	⇓P	**P**		22 50 23.1	+0.5
BELG	**Belogornoye**	21.46	358	P	**P**		22 50 20.1	-2.6
	comp=Z,10.0nm,0.

AKBB					IAmb	IAmb	22 50 55.2	
	comp=Z,3.1nm,0.7s							
AKBB	**Malin Array Si**	**24.50 329**			P	**P**	**22 50 53.9**	**+0.3**
BURAR	**Bucovina Array**	**24.50 320**			P	**P**	**22 50 53.8**	**0.0**
BURAR	**Bucovina Array**	**24.50 320**		⇓	P	**P**	**22 50 55.2**	**+1.4**
KIEV	**Kiev**	**24.50 329**			P	**P**	**22 50 53.2**	**-0.4**
KIEV					IAmb	IAmb	22 50 55.2	
	comp=Z,2.8nm,0.7s							
KIEV	**Kiev**	**24.50 329**		⇓	P	**P**	**22 50 53.6**	**0.0**
KIEV	**Kiev**	**24.50 329**			P	**P**	**22 50 53.8**	**+0.2**
	comp=Z,27nm,2.4s							
BUR08	**Bucovina Ar. S**	**24.52 320**			P	**P**	**22 50 54.4**	**+0.3**
BUR08					IAmb	IAmb	22 51 36.0	
	comp=Z,6.3nm,1.4s							
AK22	**Malin Array Si**	**24.61 329**			P	**P**	**22 50 54.9**	**+0.3**
LUBAR	**Lubar, Ukraine**	**24.62 326**			P	**P**	**22 50 54.9**	**+0.2**
LUBAR					pP	**pP**	**22 50 58.2**	**+0.4**
GZR	**Gura Zlata**	**24.82 313**		⇓	P	**P**	**22 50 57.8**	**+1.1**
HERR	**Herculane**	**24.83 312**		⇓	P	**P**	**22 50 58.1**	**+1.4**
MARR	**Marisel-Cluj**	**25.22 316**		⇑	P	**P**	**22 51 01.8**	**+1.5**
MDVR	**Moldovita**	**25.24 311**		⇑	P	**P**	**22 51 01.9**	**+1.5**
MI28	**Mi28,Pidlybu**	**25.36 328**			P	**P**	**22 51 02.0**	**+0.7**
DRGR		**25.52 316**		⇓	P	**P**	**22 51 04.6**	**+1.6**
STNU	**Starunia**	**25.52 321**			P	**P**	**22 51 03.6**	**+0.7**
SIRR	**Siria**	**25.91 314**		⇑	P	**P**	**22 51 08.5**	**+2.0**
BRIU	**Brid**	**26.13 319**			P	**P**	**22 51 08.9**	**+0.5**
BERU	**Beregovo**	**26.29 319**			P	**P**	**22 51 10.3**	**+0.5**
ARTI	**Arti**	**26.35 12**			P	**P**	**22 51 09.9**	**-0.4**
ARTI					IAmb	IAmb	22 51 26.2	
	comp=Z,16nm,1.5s							
RNPP5	**Staryi Chortor**	**26.38 327**			P	**P**	**22 51 11.0**	**+0.3**
RNPP9	**Sopachiv**	**26.50 327**			P	**P**	**22 51 11.9**	**+0.1**
HOLU	**Holmets**	**26.59 319**			P	**P**	**22 51 13.1**	**+0.5**
KOLS	**Kolonicke sedl**	**26.87 320**		*e*	P	**P**	**22 51 17.5**	**+2.4**
KWP	**Kalwaria Pacla**	**27.01 321**			P	**P**	**22 51 17.1**	**+0.7**
	comp=Z,6.7nm,1.5s							
BVAR	**Borovoye Array**	**27.15 29**			P	**P**	**22 51 17.0**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=232,slow=7.1,SNR=3.3							
BVAR					LR	LR	23 04 13.6	
	comp=Z,62nm,18.1s,baz=206,slow=42							
	comp=Z,0.7nm,0.5s							
MORH	**Mrgy, Hungar**	**27.79 312**		⇓	P	**P**	**22 51 24.6**	**+1.2**
MORH	**Mrgy, Hungar**	**27.79 312**			P	**P**	**22 51 24.0**	**+0.6**
	comp=Z,2.7nm,2.5s							
MKAR	**Makanchi Array**	**30.32 49**			P	**P**	**22 51 45.8**	**-0.1**
MKAR	**Makanchi Array**	**30.32 49**			P	**P**	**22 51 47.0**	**+1.1**
	comp=Z,0.2nm,0.2s,baz=249,slow=6.8,SNR=11							
MKAR					LR	LR	23 04 11.0	
	comp=Z,49nm,20.1s,baz=182,slow=37							
	comp=Z,0.2nm,0.2s							
SABO	**M.te Sabotino**	**31.02 309**			P	**P**	**22 51 51.6**	**-0.5**
SABO					IAmb	IAmb	22 52 01.4	
	comp=Z,9.3nm,1.2s							
GERES	**GERESS Array B**	**31.88 314**			P	**P**	**22 51 59.1**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=93,slow=13,SNR=2.6							
	comp=Z,0.2nm,0.5s							
CLL	**Collm**	**33.24 318**		*i*	P	**P**	**22 52 12.5**	**+1.0**
	comp=Z,3.0nm,0.9s							
WMQ	**Urumqi**	**33.27 56**		*e*	P	**P**	**22 52 13.3**	**+1.3**
WMQ					pmax	pmax		
	comp=Z,14nm,0.7s							
FIA1	**FINESS Array S**	**33.93 341**			P	**P**	**22 52 16.8**	**-0.5**
FINES	**FINESS Array B**	**33.93 341**			P	**P**	**22 52 16.7**	**-0.6**
FINES	**FINESS Array B**	**33.93 341**			P	**P**	**22 52 17.1**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=141,slow=8.4,SNR=26							
	comp=Z,2.5nm,0.7s							
ZALV	**Zalesovo Beam**	**34.65 38**			P	**P**	**22 52 23.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=282,slow=7.2,SNR=2.0							
	comp=Z,0.3nm,0.3s							
SENIN	**Lac Senin/Sane**	**35.36 308**			P	**P**	**22 52 30.2**	**0.0**
SENIN					IAmb	IAmb	22 52 41.3	
	comp=Z,2.7nm,1.1s							
HFS	**Hagfors**	**37.33 332**			P	**P**	**22 52 46.2**	**-0.3**
	comp=Z,1.9nm,0.4s,baz=130,slow=9.7,SNR=40							
	comp=Z,1.9nm,0.4s							
NC405	**NORSAR Array S**	**38.69 332**			P	**P**	**22 52 57.5**	**-0.5**
NC405					IAmb	IAmb	22 52 58.3	
	comp=Z,5.1nm,0.9s							
NB2	**NORSAR Subarra**	**38.85 332**			P	**P**	**22 52 58.5**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=126,slow=8.6							
NOA	**NORSAR Array B**	**38.85 332**			P	**P**	**22 52 58.5**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=124,slow=8.3,SNR=6.3							
	comp=Z,0.8nm,0.6s							
ARCES	**ARCESS Array B**	**40.83 348**			P	**P**	**22 53 15.1**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=158,slow=10,SNR=7.4							
	comp=Z,1.6nm,0.8s							
ESDC	**Sonseca Array**	**43.30 297**			P	**P**	**22 53 36.1**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=83,slow=8.1,SNR=5.3							
	comp=Z,0.5nm,0.6s							
EKA	**Eskdalemuir Ar**	**43.68 319**			P	**P**	**22 53 38.8**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=100,slow=7.8,SNR=2.0							
	comp=Z,1.1nm,0.7s							
DSB	**Dublin**	**45.20 316**			P	**P**	**22 53 50.9**	**-0.5**
LZH	**Lanzhou**	**45.78 68**		*e*	P	P	22 53 51.3	-5.1
LZH					sP	sP	22 54 02.8	+2.0
LZH					pmax	pmax		
	comp=Z,11nm,1.3s							
SONM	**Songino Array**	**46.60 52**			P	**P**	**22 54 03.5**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=259,slow=7.1,SNR=3.6							
	comp=Z,0.5nm,0.5s							
TORD	**Torodi Ar. Bea**	**46.62 258**			P	**P**	**22 54 03.4**	**+0.3**
TORD					IAmb	IAmb	22 54 08.0	
	comp=Z,2.9nm,1.3s							
CMAR	**Chiang Mai Arr**	**46.98 93**			P	**P**	**22 54 07.1**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=305,slow=8.9,SNR=4.2							
	comp=Z,0.6nm,0.5s							
SPB2	**Spitsbergen Ar**	**49.44 352**			P	**P**	**22 54 23.9**	**-0.2**
SPITS	**Spitsbergen Ar**	**49.44 352**			P	**P**	**22 54 24.2**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=150,slow=10,SNR=12							
	comp=Z,3.2nm,0.7s							
HHC	**Hu-ho-hao-te**	**50.93 60**		*e*	P	**P**	**22 54 36.8**	**+0.8**
HHC					pmax	pmax		
	comp=Z,8.0nm,0.7s							
DBIC	**Dimbokro**	**55.50 256**			P	**P**	**22 55 10.2**	**+0.4**
DBIC	**Dimbokro**	**55.50 256**			P	**P**	**22 55 10.8**	**+1.0**
	comp=Z,4.1nm,0.7s,baz=59,slow=6.7,SNR=6.4							
	comp=Z,4.1nm,0.7s							
QIZ	**Qiongzhong**	**56.10 87**			P	**P**	**22 55 13.2**	**-0.9**
BOSA	**Boshof**	**63.28 203**			LR	LR	23 25 25.2	
	comp=Z,138nm,19.7s,baz=272,slow=38							
KSRS	**Korea Array**	**64.08 60**			P	**P**	**22 56 08.9**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=298,slow=6.6,SNR=4.8							
	comp=Z,0.8nm,0.5s							
A36M	**Sachs Harbour**	**77.28 358**			P	**P**	**22 57 28.8**	**+0.4**
B20K	**Meade River**	**77.63 9**			P	**P**	**22 57 30.8**	**+0.4**
B20K					IAmb	IAmb	22 58 06.5	
	comp=Z,8.7nm,1.4s							
IMAR	**Indian Mountai**	**81.87 9**			P	**P**	**22 57 53.6**	**+0.1**
J20K	**Nowinta River**	**83.52 10**			P	**P**	**22 58 02.1**	**0.0**
J20K					IAmb	IAmb	22 58 40.8	
	comp=Z,6.4nm,1.5s							
SCRK	**Sand Creek**	**84.89 6**			P	**P**	**22 58 10.2**	**+1.0**
SCRK					IAmb	IAmb	22 58 10.7	
	comp=Z,2.2nm,0.9s							

DMN 17 22:49:20.6±0.0, 26°.98N×89°.26E, h50km, MI4.1/11, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0,
India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODAN	**Odare**	**1.67**	**267**	Pg	Pn	22 49 47.6	-0.1
	baz=267,slow=0.0						
ODAN				Sg	Sn	22 50 07.6	-0.6
	3μm,0.4s,baz=267,slow=0.0						
RAMN	**Ramite**	**2.38**	**270**	Pg	Pn	22 49 57.7	+0.4
	baz=270,slow=0.0						
RAMN				Sg	Sn	22 50 25.8	+0.4
	255nm,0.3s,baz=270,slow=0.0						
GUN	**Gumba**	**3.15**	**288**	Pg	Pn	22 50 07.6	-0.4
	baz=288,slow=0.0						
GUN				Sg	Sn	22 50 42.7	-1.8
	317nm,0.5s,baz=288,slow=0.0						
PKI	**Pulchoki**	**3.48**	**281**	Pg	Pn	22 50 11.7	-0.8
	baz=281,slow=0.0						
PKI				Sg	Sn	22 50 49.9	-2.8
	137nm,0.6s,baz=281,slow=0.0						
PKIN	**Phulchoki**	**3.49**	**281**	Pn	Pn	22 50 11.7	-1.0
	baz=281,slow=0.0						
PKIN				Sn	Sn	22 50 50.5	-2.4
	140nm,0.4s,baz=281,slow=0.0						
KKN	**Kakani**	**3.63**	**284**	Pg	Pn	22 50 14.1	-0.4
	baz=284,slow=0.0						
KKN				Sg	Sn	22 50 53.2	-3.1
	98nm,0.2s,baz=284,slow=0.0						
KKN				Sg	Sn	22 50 54.2	-2.1
	baz=284,slow=0.0						
DMN	**Daman**	**3.75**	**281**	Pn	Pn	22 50 16.4	+0.2
	baz=281,slow=0.0						
DMN				Sn	Sn	22 50 57.3	-2.0
	58nm,0.3s,baz=281,slow=0.0						
GKN	**Gorkha**	**4.23**	**285**	Pn	Pn	22 50 22.5	-0.2
	baz=285,slow=0.0						
GKN				Sn	Sn	22 51 08.2	-2.8
	72nm,0.3s,baz=285,slow=0.0						
DANN	**Dangsing**	**5.07**	**287**	Pn	Pn	22 50 33.7	-0.6
	baz=287,slow=0.0						
DANN				Sn	Sn	22 51 26.9	-4.8
	33nm,0.4s,baz=287,slow=0.0						
KOLN	**Koldanda**	**5.10**	**280**	Pg	Pn	22 50 33.5	-1.1
	baz=280,slow=0.0						
KOLN				Sg	Sn	22 51 28.5	-3.8
	43nm,0.3s,baz=280,slow=0.0						
PYUN	**Piuthan**	**5.68**	**283**	Pn	Pn	22 50 41.6	-1.0
	baz=283,slow=0.0						
PYUN				Sn	Sn	22 51 42.1	-4.6
	40nm,0.4s,baz=283,slow=0.0						

ISN 17 22:53:08.9±0.8, 30°.98N×48°.48E, h10km±166km, ML2.8
TEH 17 22:53:09.8, 31°.00N×48°.62E, h16km±16km
ISC 17 22:53:10.5±1.1, 30°.98N±0°.06×48°.63E±0°.04, h10km, n33, σ0°47/38, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.35**	**3**	Pg	**Pg**	**22 53 17.1**	**-0.3**
AHWZ				Sg	**Sg**	22 53 21.3	-0.7
ABEH	**Behbahan**	**1.45**	**105**	Pg	**Pb**	**22 53 37.6**	**0.0**
ABEH				Sg	**Sg**	**22 53 57.7**	**+0.5**
JHBN	**Jahan bin**	**2.14**	**54**	Pn	**Pn**	**22 53 46.6**	**0.0**
ZNGN	**Zangian**	**2.21**	**59**	Pn	**Pn**	22 53 47.8	+0.2
RAFI	**Al-Rafai**	**2.27**	**290**	*e*Pn	**Pn**	**22 53 48.0**	**-0.1**
RAFI				*e*Sn	**Sn**	22 54 17.0	+0.9
IBRJ	**Brojen**	**2.43**	**67**	Pn	**Pn**	**22 53 50.7**	**+0.1**
KLNJ	**Kolanjah**	**2.55**	**89**	Pn	**Pn**	22 53 52.5	+0.3
IPIR	**Pirpir**	**2.57**	**68**	Pn	**Pn**	**22 53 52.9**	**+0.4**
IKFM	**Kafar-mosalman**	**2.62**	**346**	Pn	**Pn**	22 53 53.2	+0.4
BDRS	**Dareh Seyedi**	**2.97**	**4**	Pn	**Pn**	22 53 58.1	+0.1
IBDR	**Badra**	**3.12**	**314**	*e*Pn	**Pn**	**22 54 00.0**	**+0.2**
IBDR				*e*Sn	**Sn**	**22 54 38.0**	**+0.9**
IBDR				AML	AML	22 55 02.6	
	comp=E,53nm,1.0s						
IBDR				AML	AML	22 55 08.1	
	comp=N,46nm,0.6s						
IGAR	**Gharneh**	**3.24**	**63**	Pn	**Pn**	**22 54 02.0**	**+0.4**
IRAM	**Ramesheh**	**3.31**	**75**	Pn	**Pn**	22 54 03.3	+0.6
ILBA	**Ilam Banvizeh**	**3.34**	**323**	Pn	**Pn**	22 54 02.9	+0.1
IKLH	**Kolahrood**	**3.42**	**46**	Pn	**Pn**	22 54 04.8	+0.6
DSBU	**Dashti - Bushe**	**3.48**	**138**	Pn	**Pn**	22 54 04.5	-0.2
IBZA	**Bazab**	**3.54**	**350**	Pn	**Pn**	22 54 06.0	+0.3
QAMS	**Qamsar**	**3.61**	**40**	Pn	**Pn**	22 54 07.1	+0.4
IZEF	**Zefreh**	**3.68**	**58**	Pn	**Pn**	22 54 08.1	+0.4
IGHG	**Ghaleghazi**	**3.76**	**333**	Pn	**Pn**	22 54 08.9	+0.1
HAGD	**Aghdareh**	**3.85**	**6**	Pn	**Pn**	22 54 10.4	+0.3
GLG1	**Gilan-e-Gharb**	**3.87**	**324**	Pn	**Pn**	22 54 10.5	+0.3
SNQR	**Sonqor, Kerman**	**3.95**	**348**	Pn	**Pn**	22 54 12.3	+0.8
IDHR	**Dehrash**	**4.16**	**334**	Pn	**Pn**	22 54 14.2	0.0
KRSH	**Karshahi**	**4.20**	**44**	Pn	**Pn**	22 54 15.0	+0.1
BHD	**Baghdad**	**4.26**	**303**	*e*Pn	**Pn**	22 54 16.0	+0.5
BHD				*e*Sn	**Sn**	22 55 04.0	-1.3
IQOM	**Qom**	**4.36**	**27**	Pn	**Pn**	22 54 17.1	0.0
QABG	**Abgarm-Qazvin**	**4.78**	**9**	Pn	**Pn**	22 54 22.6	-0.2
TAFT	**Taft - Yazd**	**4.80**	**80**	Pn	**Pn**	22 54 23.0	-0.1
ANAR	**Anarak**	**4.86**	**62**	Pn	**Pn**	22 54 23.6	-0.2
ICHK	**Chekchek**	**5.09**	**74**	Pn	**Pn**	22 54 26.6	-0.5
IMEH	**Mehriz**	**5.15**	**84**	Pn	**Pn**	22 54 27.9	0.0
MZPU	**Pul - Mazandar**	**5.97**	**23**	Pn	**Pn**	**22 54 39.7**	**+0.5**

NEIC 17 22:59:46.6±1.6, 7°.28S±0°.08×123°.19E±0°.09, h545km±5km, mb4.7/94, Error ellipse: s-maj=13.3km s-min=11.8km az=59.0
DJA 17 22:59:46.6±0.1, 7°.3S±2°.×12°.3E±°, h550km±1km, M4.9/58, mb5.0/58, mB5.4/28, MLv5.3/25, Mw(mB)4.9/28, MwMwp4.8/1, Mwp5.2/1
IDC 17 22:59:47.3±0.5, 7°.32S×123°.23E, h560km±5km, mb4.0/28, mbtmp4.9/33, Error ellipse: s-maj=12.9km s-min=5.7km az=74.0
ISC 17 22:59:46.8±0.4, 7°.31S±0°.04×123°.22E±0°.05, h558km±4km, h559km:pP-P, n341, σ1°09/373, mb4.7/88, 6C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.64**	**216**		**P**	**23 00 55.4**	**-0.4**
MMRI	**Maumere**	**1.64**	**216**	P	**P**	23 00 55.4	-0.4
MMRI	**Maumere**	**1.64**	**216**	P	**P**	23 00 55.1	-0.7
MMRI				S	**S**	**23 01 49.7**	**-2.1**
BBSI	**Bau Bau**	**1.92**	**340**	P	**P**	**23 00 58.6**	**+1.7**
BBSI				S	**S**	23 01 55.5	+1.7
EDFI	**Ende, Flores**	**2.09**	**226**	P	**P**	23 00 56.6	-1.1
EDFI				S	**S**	23 01 52.2	-3.2
SOEI	**Soe**	**2.65**	**157**		**P**	**23 01 00.4**	**-0.2**
SOEI	**Soe**	**2.65**	**157**	P	**P**	23 01 00.4	-0.2
SOEI	**Soe**	**2.65**	**157**	S	**S**	23 01 59.8	-0.8
SOEI	**Soe**	**2.65**	**157**	P	**P**	**23 01 00.5**	**-0.1**
SOEI				S	**S**	**23 01 58.1**	**-2.5**
BATI	**Baumata**	**2.92**	**171**	P	**P**	**23 01 02.5**	**+0.5**
	2μm,0.4s,baz=357,slow=1.3,SNR=329						
BATI				S	**S**	**23 01 57.2**	**-6.0**
	2μm,0.5s,baz=331,slow=2.2,SNR=6.8						
BATI	**Baumata**	**2.92**	**171**	P	**P**	23 01 02.4	+0.4
BATI				S	**S**	23 02 00.5	-2.7
BSSI	**Bau Bau, Buton**	**2.95**	**293**	P	**P**	23 01 02.8	+0.6
KDI	**Kendari**	**3.38**	**350**	P	**P**	23 01 06.1	+1.1
KDI				S	**S**	23 02 09.1	+0.6
BKSI	**Bulukumba**	**3.66**	**302**	P	**P**	23 01 07.4	+0.6
BKSI				S	**S**	23 02 11.3	-0.6
WSI	**Waingapu**	**3.73**	**231**	P	**P**	23 01 06.0	-1.2
BASI	**Baing, Sumba**	**3.90**	**222**	P	**P**	23 01 08.1	+0.4
KAPI	**Kappang**	**4.13**	**303**		**P**	**23 01 11.8**	**+1.5**
KAPI	**Kappang**	**4.13**	**303**	P	**P**	**23 01 11.4**	**+1.1**
	479nm,0.5s,baz=139,slow=3.2,SNR=276						
KAPI				S	**S**	**23 02 16.6**	**-1.6**
	75nm,0.8s,baz=44,slow=24,SNR=7.5						
KAPI	**Kappang**	**4.13**	**303**	P	**P**	23 01 11.4	+1.1
BNSI	**Bone**	**4.23**	**313**	P	**P**	23 01 12.2	+1.2
WBSI	**Waikabubak, Su**	**4.44**	**238**	P	**P**	23 01 11.0	-1.6
SPSI	**Sidrap Palu**	**4.78**	**314**	P	**P**	23 01 16.0	+0.7
TTSI	**Tana Toraja**	**5.42**	**321**	P	**P**	23 01 21.8	+1.1
	0.9nm182nm,0.8s						
NLAI	**Namlea**	**5.59**	**44**	P	**P**	**23 01 23.0**	**+0.8**
PLAI	**Plampang**	**5.60**	**254**	P	**P**	23 01 20.7	-1.6
PLAI	**Plampang**	**5.60**	**254**	P	**P**	23 01 20.7	-1.6
SANI	**Sanana**	**5.91**	**28**	P	**P**	23 01 25.5	+0.5
SANI	**Sanana**	**5.91**	**28**	S	**S**	**23 02 45.1**	**-0.1**
SANI	**Sanana**	**5.91**	**28**	P	**P**	23 01 25.5	+0.5
	3.3nm11μm1μm,1.2s						
AAI	**Ambon**	**6.12**	**54**	P	**P**	**23 01 26.8**	**-0.1**
	2.9nm8μm762nm,1.1s						
APSI	**Ampana**	**6.54**	**346**	P	**P**	**23 01 32.2**	**+1.4**
	2.4nm8μm661nm,1.1s						
PCI	**Palu**	**7.20**	**332**	P	**P**	**23 01 38.8**	**+1.7**
MRSI	**Marisa**	**7.84**	**351**	P	**P**	23 01 43.9	+0.7
KMSI	**Cibinong**	**7.86**	**6**	P	**P**	23 01 45.1	+1.6
SRBI	**Singaraja**	**7.97**	**264**	P	**P**	**23 01 44.2**	**-0.3**
	1.0nm162nm,0.8s						
SAUI	**Saumlaki**	**8.04**	**95**	P	**P**	**23 01 44.2**	**-1.0**
	297nm,1.0s						
MPSI	**Mapaga**	**8.28**	**336**	P	**P**	**23 01 48.5**	**+0.9**
	15μm691nm,1.1s						
BKB	**Balikpapan**	**8.71**	**313**	P	**P**	**23 01 54.9**	**+3.0**
TOLI2	**Tolitoli**	**8.71**	**344**		**P**	**23 01 51.9**	**0.0**
TOLI2	**Tolitoli**	**8.71**	**344**	P	**P**	23 01 51.8	-0.1
TNTI	**Ternate**	**9.03**	**27**		**P**	**23 01 54.6**	**-0.5**
TNTI	**Ternate**	**9.03**	**27**	P	**P**	23 01 54.4	-0.7
TNTI	**Ternate**	**9.03**	**27**	P	**P**	**23 01 54.5**	**-0.5**
	5μm269nm,0.5s						
JAGI	**Jajag, Banyuwa**	**9.06**	**262**		**P**	**23 01 54.0**	**-1.4**
JAGI	**Jajag, Banyuwa**	**9.06**	**262**	P	**P**	**23 01 54.0**	**-1.4**
JAGI	**Jajag, Banyuwa**	**9.06**	**262**	P	**P**	**23 01 53.7**	**-1.7**
	5μm235nm,0.5s						
DRS	**Darwin Rock St**	**9.12**	**125**	P	**P**	**23 01 56.4**	**+0.5**
KMMI	**Kalianget**	**9.19**	**271**	P	**P**	**23 01 57.5**	**+0.9**
	120nm,0.8s						
MTN	**Manton Dam**	**9.54**	**126**	P	**P**	**23 02 00.1**	**-0.1**
MTN	**Manton Dam**	**9.54**	**126**	P	**P**	**23 02 00.3**	**+0.1**
MTN	**Manton Dam**	**9.54**	**126**	P	**P**	**23 02 00.1**	**-0.1**
GMJI	**Gumukmas**	**9.73**	**264**	P	**P**	**23 02 00.8**	**-1.4**
	46nm,0.5s						
KNRA	**Kununurra**	**9.93**	**147**		**P**	**23 02 04.2**	**+0.1**
KNRA	**Kununurra**	**9.93**	**147**	P	**P**	**23 02 04.3**	**+0.1**
	comp=Z,591nm,0.8s						
FAKI	**Fak Fak**	**9.99**	**65**		**P**	**23 02 03.5**	**-1.4**
FAKI	**Fak Fak**	**9.99**	**65**	P	**P**	**23 02 03.7**	**-1.1**
FAKI	**Fak Fak**	**9.99**	**65**	P	**P**	**23 02 03.2**	**-1.6**
	comp=Z,177nm,0.7s						
SWI	**Sorong**	**10.26**	**52**	P	**P**	**23 02 07.5**	**0.0**
	comp=Z,2μmcomp=Z,205nm,0.6s						
KDU	**Kakadu**	**10.56**	**121**	P	**P**	**23 02 10.0**	**-0.6**
	comp=Z,95nm,0.8s						
KDU	**Kakadu**	**10.56**	**121**	P	**P**	**23 02 10.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**10.98**	**168**		**P**	**23 02 14.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**10.98**	**168**	P	**P**	**23 02 14.8**	**-0.1**
	comp=Z,81nm,1.0s						
FITZ	**Fitzroy Crossi**	**10.98**	**168**	P	**P**	**23 02 14.8**	**-0.1**
	comp=Z,126nm,0.4s,baz=358,slow=6.8,SNR=560						
FITZ	**Fitzroy Crossi**	**10.98**	**168**	P	**P**	**23 02 15.0**	**+0.1**
SGSI	**Sangihe**	**11.16**	**12**	P	**P**	**23 02 16.0**	**-0.8**
PCJI	**Pacitan**	**11.97**	**265**	P	**P**	**23 02 22.9**	**-2.2**
	comp=Z,101nm,1.6s						
RKPI	**Ransiki, Papua**	**12.34**	**63**	P	**P**	**23 02 29.5**	**+0.5**
	comp=Z,104nm,0.7s						
UGM	**Wanagama**	**12.60**	**266**	P	**P**	**23 02 30.3**	**-1.4**
STKI	**Sintang**	**13.81**	**302**	P	**P**	**23 02 44.8**	**+0.6**
	comp=Z,6μmcomp=Z,109nm,0.9s						
MBWA	**Marble Bar**	**14.18**	**193**		**P**	**23 02 47.5**	**-0.3**
MBWA	**Marble Bar**	**14.18**	**193**	P	**P**	**23 02 47.5**	**-0.3**
	comp=Z,629nm,0.7s						
MBWA	**Marble Bar**	**14.18**	**193**	P	**P**	**23 02 47.3**	**-0.5**
DAV	**Davao City (W)**	**14.47**	**9**	P	**P**	**23 02 49.4**	**-1.4**
	comp=Z,268nm,0.4s,baz=233,slow=9.9,SNR=4.5						
DAV				S	**S**	**23 05 15.4**	**-7.0**
	comp=Z,130nm,0.4s,baz=67,slow=4.7,SNR=2.2						
SBUM	**Sibu**	**14.64**	**311**		**P**	**23 02 52.8**	**+0.1**
SBUM	**Sibu**	**14.64**	**311**	P	**P**	**23 02 53.3**	**+0.7**
KKM	**Kota Kinabalu**	**14.99**	**332**		**P**	**23 02 55.4**	**-0.9**
KKM	**Kota Kinabalu**	**14.99**	**332**	P	**P**	**23 02 55.5**	**-0.7**
KSM	**Kuching**	**15.56**	**304**		**P**	**23 03 01.6**	**-0.3**
KSM	**Kuching**	**15.56**	**304**	P	**P**	**23 03 02.0**	**+0.1**
CNJI	**Cibinong**	**15.96**	**269**	P	**P**	**23 03 05.5**	**-0.3**
	comp=Z,50nm,1.1s						
TPI	**Tanjungpandan**	**16.15**	**285**	P	**P**	**23 03 07.6**	**0.0**
SMPI	**Sarmi**	**16.31**	**72**	P	**P**	**23 03 09.0**	**-0.1**
	comp=Z,2μmcomp=Z,189nm,1.3s						
WB0	**Warramunga Arr**	**16.46**	**140**		**P**	**23 03 09.8**	**-0.6**
WRA	**Warramunga Arr**	**16.55**	**140**	P	**P**	**23 03 10.1**	**-1.2**
WRA	**Warramunga Arr**	**16.55**	**140**	P	**P**	**23 03 10.7**	**-0.6**
	comp=Z,28nm,0.5s,baz=312,slow=12,SNR=262						
WRA				S	**S**	**23 05 54.5**	**-3.4**
	comp=Z,21nm,0.8s,baz=314,slow=19,SNR=20						
WB1	**Warramunga Ar.**	**16.57**	**140**	P	**P**	**23 03 11.1**	**-0.3**
CGJI	**Cibinong**	**17.41**	**271**	P	**P**	**23 03 17.5**	**-1.6**
GENI	**Genyem**	**17.52**	**75**	P	**P**	**23 03 21.1**	**+1.1**
GENI	**Genyem**	**17.52**	**75**	P	**P**	**23 03 20.5**	**+0.5**
	comp=Z,138nm,0.7s						
GIRL	**Giralia**	**17.53**	**209**		**P**	**23 03 20.9**	**+0.9**
GIRL	**Giralia**	**17.53**	**209**	P	**P**	**23 03 21.1**	**+1.1**

KMI	**Kunming**	**37.90**	**329**	P	**P**	**23 06 19.4**	**+2.0**
KMI				pmax	pmax		
	comp=Z,12nm,0.7s						
WHN	**Wuhan**	**38.58**	**348**	P	**P**	**23 06 22.9**	**+0.4**
WHN				pmax	pmax		
	comp=Z,66nm,0.9s						
NJ2	**Nanjing**	**39.36**	**354**	⇑P	**P**	**23 06 29.3**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,21nm,0.8s						
PZH	**PanZhiHua**	**39.55**	**329**	P	**P**	**23 06 32.8**	**+2.3**
ENH	**Enshi**	**39.62**	**341**		**P**	**23 06 30.4**	**-0.5**
JNU	**Nakatsue**	**40.86**	**10**	P	**P**	**23 06 40.1**	**-0.6**
JMN	**Monobe**	**42.04**	**13**	P	**P**	**23 06 50.4**	**+0.3**
JMN				IAmb	IAmb	23 06 51.8	
	comp=Z,19nm,0.8s						
LYN	**LuoYang**	**42.85**	**347**	P	**P**	**23 06 56.8**	**+0.4**
LYN				pmax	pmax		
	comp=Z,36nm,0.8s						
XAN	**Xi'an**	**43.30**	**343**	⇑P	**P**	**23 06 59.5**	**-0.4**
XAN				pP	PcP	23 08 36.1	-0.1
XAN				pmax	pmax		
	comp=Z,82nm,0.7s						
XAN				pmax	pmax		
	comp=Z,300nm,4.5s						
SANVU	**Saraoutou**	**43.80**	**105**		**P**	**23 07 04.2**	**+0.2**
SANVU	**Saraoutou**	**43.80**	**105**	P	**P**	**23 07 05.6**	**+1.5**
DZM	**Mont Dzumac**	**44.13**	**114**	P	**P**	**23 07 07.1**	**+0.4**
DZM				IAmb	IAmb	23 07 13.0	
	comp=Z,18nm,0.9s						
DZM	**Mont Dzumac**	**44.13**	**114**	P	**P**	**23 07 08.0**	**+1.3**
ONTNC	**Ouen Toro**	**44.20**	**115**	P	**P**	**23 07 07.3**	**+0.3**
YATNC	**Mamie plateau,**	**44.54**	**114**	P	**P**	**23 07 11.6**	**+1.9**
SHL	**Shillong**	**44.68**	**318**	P	**P**	**23 07 10.3**	**-0.6**
JGF	**Kuroka**	**44.71**	**16**	P	**P**	**23 07 10.2**	**-0.6**
KSAR	**Wonju Array Be**	**44.73**	**5**	P	**P**	**23 07 10.6**	**-0.2**
KSRS	**Korea Array**	**44.74**	**5**	P	**P**	**23 07 11.6**	**+0.7**
	comp=Z,5.2nm,0.8s,baz=179,slow=9.3,SNR=20						
KSRS				PcP	**PcP**	**23 08 41.9**	**+0.8**
	comp=Z,2.7nm,0.5s,baz=188,slow=3.1,SNR=8.5						
KSRS				ScP	**ScP**	**23 11 41.6**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=178,slow=3.0,SNR=4.9						
	comp=Z,5.2nm,0.8s						
PINNC	**Pines Island,**	**45.16**	**115**	P	**P**	**23 07 14.3**	**-0.1**
PINNC				IAmb	IAmb	23 07 16.5	
	comp=Z,21nm,0.9s						
HNS	**HongShan**	**45.18**	**350**	⇓P	**P**	**23 07 14.4**	**+0.1**
HNS				pmax	pmax		
	comp=Z,26nm,0.7s						
MAJO	**Matsushiro**	**45.83**	**17**	P	**P**	**23 07 18.8**	**-0.5**
MAJO				IAmb	IAmb	23 07 19.7	
	comp=Z,13nm,0.8s						
MJAR	**Matsushiro Arr**	**45.83**	**17**	P	**P**	**23 07 18.6**	**-0.7**
MJAR	**Matsushiro Arr**	**45.83**	**17**	P	**P**	**23 07 19.0**	**-0.3**
	comp=Z,14nm,0.7s,baz=191,slow=8.4,SNR=44						
MJAR				PcP	**PcP**	**23 08 44.6**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=187,slow=3.8,SNR=5.2						
	comp=Z,14nm,0.7s						
MJB9	**Matsu-Tunnel**	**45.83**	**17**	P	**P**	**23 07 18.7**	**-0.6**
MJB9				IAmb	IAmb	23 07 19.7	
	comp=Z,13nm,0.7s						
LZH	**Lanzhou**	**46.85**	**338**	*e*P	**P**	**23 07 28.3**	**+1.1**
LZH				sP	sP	23 10 07.0	-4.2
LZH				pmax	pmax		
	comp=Z,44nm,1.3s						
BJT	**Baijiatuan**	**47.53**	**353**	P	**P**	**23 07 31.6**	**-0.5**
BJT				IAmb	IAmb	23 07 32.5	
	comp=Z,14nm,0.6s						
JMM	**Marumori**	**47.84**	**19**	P	**P**	**23 07 34.5**	**+0.2**
HHC	**Hu-ho-hao-te**	**49.10**	**348**	*e*P	P	23 07 49.0	+5.1
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
JTM	**Tenmabayashi**	**50.60**	**18**	P	**P**	**23 07 54.7**	**+0.1**
JTM				IAmb	IAmb	23 07 55.5	
	comp=Z,16nm,0.6s						
GTA	**Gaotai**	**51.29**	**337**	*e*P	**P**	**23 08 01.3**	**+1.4**
GTA				PcP	**PcP**	**23 09 06.1**	**+1.0**
GTA				pP	pP	23 09 49.8	+4.9
GTA				ScP	**ScP**	**23 12 10.8**	**+2.2**
GTA				S	**S**	**23 14 38.5**	**+0.8**
GTA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XLT	**XiLinHaoTe**	**51.37**	**353**	*e*P	**P**	**23 08 00.3**	**0.0**
XLT				pmax	pmax		
	comp=Z,14nm,0.6s						
USRK	**Ussuriysk Ar.**	**51.87**	**8**		**P**	**23 08 04.1**	**+0.3**
USRK	**Ussuriysk Ar.**	**51.87**	**8**	P	**P**	**23 08 04.2**	**+0.4**
	comp=Z,23nm,0.5s,baz=191,slow=7.1,SNR=58						
	comp=Z,23nm,0.5s						
USA0B	**Ussuriysk Arra**	**51.88**	**8**	P	**P**	**23 08 04.0**	**+0.2**
USA0B				IAmb	IAmb	23 08 04.9	
	comp=Z,20nm,0.5s						
MDJ	**Mudanjiang**	**52.00**	**6**	P	**P**	**23 08 04.9**	**+0.1**
MDJ	**Mudanjiang**	**52.00**	**6**	P	**P**	**23 08 05.8**	**+1.1**
MDJ				pmax	pmax		
	comp=Z,18nm,0.7s						
ERM	**Erimo**	**52.36**	**19**	P	**P**	**23 08 07.4**	**+0.1**
BNX	**BinXian**	**52.94**	**4**	⇑P	**P**	**23 08 11.3**	**-0.1**
BNX				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ASAJ	**Asahikawa**	**54.10**	**17**	P	**P**	**23 08 20.4**	**+0.7**
	comp=Z,13nm,0.6s,baz=222,slow=11,SNR=10						
	comp=Z,13nm,0.6s						
JKA	**Kamikawa-asahi**	**54.10**	**17**	P	**P**	**23 08 19.6**	**0.0**
MSVF	**Nonsavu**	**54.35**	**107**	P	**P**	**23 08 22.7**	**+0.7**
MSVF				IAmb	IAmb	23 08 24.4	
	comp=Z,38nm,0.8s						
WHZ	**Wether Hill Ro**	**54.36**	**143**	P	**P**	**23 08 21.8**	**+0.2**
WHZ				IAmb	IAmb	23 08 38.6	
	comp=Z,56nm,1.4s						
LBZ	**Lake Benmore**	**55.01**	**140**	P	**P**	**23 08 26.1**	**0.0**
LBZ				IAmb	IAmb	23 08 39.9	
	comp=Z,31nm,1.3s						
RPZ	**Rata Peaks**	**55.26**	**139**	P	**P**	**23 08 28.6**	**+0.7**
KHZ	**Kahutara**	**56.36**	**137**	P	**P**	**23 08 36.4**	**+0.9**
YSS	**Yuzhno-Sakhali**	**56.74**	**16**	P	**P**	**23 08 38.0**	**+0.1**
SONM	**Songino Array**	**56.88**	**347**	P	**P**	**23 08 39.5**	**+0.4**
SONM	**Songino Array**	**56.88**	**347**	P	**P**	**23 08 40.0**	**+1.0**
	comp=Z,2.8nm,0.7s,baz=163,slow=8.7,SNR=12						
SONM				PcP	**PcP**	**23 09 26.3**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=174,slow=4.5,SNR=4.6						
SONM				pP	**pP**	**23 10 29.3**	**+2.2**
	comp=Z,1.0nm,0.7s,baz=156,slow=7.4,SNR=2.7						
	comp=Z,2.8nm,0.7s						
HEH	**HeiHe**	**57.44**	**3**	*e*P	**P**	**23 08 42.8**	**+0.2**
HEH				PcP	**PcP**	**23 09 28.3**	**-0.3**
HEH				pP	**pwP**	**23 10 36.0**	**+1.0**
HEH				S	**S**	**23 15 55.9**	**-1.5**
HEH				pmax	pmax		
	comp=Z,31nm,0.8s						
WMQ	**Urumqi**	**60.19**	**331**	*e*P	**P**	**23 09 00.4**	**-0.9**
WMQ				pmax	pmax		
	comp=Z,13nm,0.6s						
WMQ				LR	LR		
	comp=N,220nm,18.3s						
WMQ				LR	LR		
	comp=Z,260nm,19.9s						
NIL	**Nilore**	**62.45**	**314**		**P**	**23 09 15.8**	**-0.5**
NIL				IAmb	IAmb	23 09 16.9	
	comp=Z,10nm,0.6s						
KSH	**Kashi**	**63.84**	**321**	P	**P**	**23 09 25.9**	**+0.7**
KSH				pmax	pmax		
	comp=Z,14nm,0.6s						
TARG	**Taragay, Kyrgy**	**64.06**	**324**	P	**P**	**23 09 27.4**	**+0.5**
KDJ	**Kajisay**	**64.67**	**324**	P	**P**	**23 09 31.0**	**+0.5**
NRN	**Naryn**	**64.96**	**322**	P	**P**	**23 09 32.4**	**-0.1**
MK31	**Makanchi Array**	**64.97**	**330**	P	**P**	**23 09 32.5**	**+0.5**
MK31				IAmb	IAmb	23 09 33.3	
	comp=Z,10nm,0.8s						
MKAR	**Makanchi Array**	**64.97**	**330**	P	**P**	**23 09 32.2**	**+0.2**
MKAR	**Makanchi Array**	**64.97**	**330**	P	**P**	**23 09 32.6**	**+0.6**
	comp=Z,11nm,0.5s,baz=133,slow=7.7,SNR=160						
MKAR				pP	**pP**	**23 11 25.5**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=130,slow=7.7,SNR=2.7						
MKAR				S	**S**	**23 17 30.3**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=143,slow=12,SNR=3.5						
	comp=Z,11nm,0.5s						
MAKZ	**Makanchi**	**65.13**	**330**	P	**P**	**23 09 33.3**	**+0.3**
BOOM	**Boomskoye usch**	**65.62**	**323**	P	**P**	**23 09 36.8**	**+0.4**
BOOM				IAmb	IAmb	23 09 37.9	
	comp=Z,14nm,0.6s						
KBL	**Kabul**	**65.92**	**313**		**P**	**23 09 38.4**	**-0.1**
KBL				IAmb	IAmb	23 09 39.5	
	comp=Z,14nm,0.8s						
TKM2	**Tokmak 2**	**66.08**	**324**	P	**P**	**23 09 40.0**	**+0.7**
	SNR=7.6						
UCH	**Uchtor**	**66.32**	**322**	P	**P**	**23 09 42.0**	**+0.9**
	SNR=8.1						
AAK	**Ala-Archa**	**66.57**	**323**	P	**P**	**23 09 43.4**	**+1.1**
	SNR=6.1						
AAK	**Ala-Archa**	**66.57**	**323**	P	**P**	**23 09 42.9**	**+0.6**
AAK				IAmb	IAmb	23 09 43.9	
	comp=Z,14nm,0.6s						
ARSB	**Arslanbob**	**66.75**	**321**	P	**P**	**23 09 44.1**	**+0.7**
PEA0B	**Petropavlovsk-**	**66.91**	**22**	P	**P**	**23 09 44.6**	**+0.7**
PEA0B				IAmb	IAmb	23 09 45.7	
	comp=Z,32nm,1.1s						
PETK	**Petropavlovsk-**	**66.91**	**22**		**P**	**23 09 43.9**	**0.0**
PETK	**Petropavlovsk-**	**66.91**	**22**	P	**P**	**23 09 44.8**	**+0.9**
	comp=Z,13nm,0.8s,baz=218,slow=2.4,SNR=16						
	comp=Z,13nm,0.8s						
USP	**Ospenovka**	**66.94**	**323**	P	**P**	**23 09 44.7**	**+0.3**
	SNR=13						
EKS2	**Erkin-Say**	**67.02**	**322**	P	**P**	**23 09 46.0**	**+1.1**
	SNR=7.0						
GAR	**Garm**	**67.23**	**318**		**P**	**23 09 46.2**	**-0.2**
SIMJ	**Simiganj**	**67.94**	**317**	P	**P**	**23 09 50.5**	**-0.3**
ZAA0	**Zalesovo Array**	**69.05**	**337**		**P**	**23 09 56.0**	**-0.8**
ZAA0				IAmb	IAmb	23 09 57.2	
	comp=Z,10nm,0.8s						
ZALV	**Zalesovo Beam**	**69.05**	**337**		**P**	**23 09 56.2**	**-0.7**
ZALV	**Zalesovo Beam**	**69.05**	**337**	P	**P**	**23 09 56.4**	**-0.5**
	comp=Z,5.9nm,0.4s,baz=134,slow=4.3,SNR=34						
ZALV				pP	**pP**	**23 11 52.9**	**+1.9**
	comp=Z,1.9nm,0.7s,baz=134,slow=4.2,SNR=4.0						
ZALV				S	**S**	**23 18 12.1**	**-5.8**
	comp=Z,5.0nm,0.9s,baz=120,slow=8.8,SNR=9.0						
	comp=Z,5.9nm,0.4s						
KKAR	**Karatay Array**	**69.26**	**321**	P	**P**	**23 09 58.1**	**-0.3**
YAK	**Yakutsk**	**69.31**	**3**		**P**	**23 09 58.4**	**+0.2**
YAK	**Yakutsk**	**69.31**	**3**	P	**P**	**23 09 58.5**	**+0.3**
	comp=Z,81nm,0.6s,baz=321,slow=0.4,SNR=19						
KURBB	**Kurchatov Arra**	**69.40**	**331**	P	**P**	**23 09 59.1**	**0.0**
	comp=Z,8.1nm,0.6s,baz=139,slow=5.9,SNR=38						
KURBB				pP	**pP**	**23 11 53.8**	**+0.5**
	comp=Z,1.0nm,1.0s,baz=137,slow=5.4,SNR=2.3						
KURBB				S	**S**	**23 18 16.4**	**-5.8**
	comp=Z,1.4nm,0.9s,baz=136,slow=13,SNR=5.6						
	comp=Z,8.1nm,0.6s						
KURK	**Kurchatov**	**69.42**	**332**		**P**	**23 09 59.3**	**+0.1**
KURK				IAmb	IAmb	23 10 00.2	
	comp=Z,13nm,0.7s						
MA2	**Magadan**	**70.19**	**14**	P	**P**	**23 10 03.9**	**+0.4**
MA2				IAmb	IAmb	23 10 05.4	
	comp=Z,19nm,0.7s						
MA2	**Magadan**	**70.19**	**14**	P	**P**	**23 10 04.1**	**+0.5**
	comp=Z,18nm,0.6s,baz=168,slow=9.0,SNR=7.2						
	comp=Z,18nm,0.6s						
MAW	**Mawson**	**72.26**	**200**	P	**P**	**23 10 16.4**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=347,slow=10.0,SNR=4.2						
	comp=Z,1.7nm,0.7s						
VNDA	**Vanda**	**73.03**	**172**		**P**	**23 10 20.4**	**+0.5**
VNDA	**Vanda**	**73.03**	**172**	P	**P**	**23 10 20.7**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=315,slow=6.7,SNR=27						
	comp=Z,2.7nm,0.6s						
SEY	**Seymchan**	**73.50**	**13**	P	**P**	**23 10 23.6**	**+0.9**
	comp=Z,23nm,0.6s,baz=213,slow=4.3,SNR=47						
	comp=Z,23nm,0.6s						
VOI	**Vohitsoka**	**74.75**	**249**	P	**P**	**23 10 30.6**	**-0.2**
VOI				IAmb	IAmb	23 11 01.8	
	comp=Z,34nm,1.3s						
BVAR	**Borovoye Array**	**74.85**	**330**	P	**P**	**23 10 30.8**	**+0.2**
	comp=Z,3.9nm,0.6s,baz=134,slow=6.4,SNR=19						
BVAR				pP	**pP**	**23 12 28.4**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=142,slow=7.3,SNR=2.1						
	comp=Z,3.9nm,0.6s						
BRVK	**Borovoye**	**74.92**	**330**		**P**	**23 10 30.9**	**0.0**
AMKA	**Amchitka**	**75.61**	**32**		**P**	**23 10 35.1**	**+0.3**
KIWB	**Kanaga Island**	**77.76**	**33**		**P**	**23 10 47.2**	**+0.6**
KIWB				IAmb	IAmb	23 10 48.5	
	comp=Z,28nm,0.8s						
ADK	**Adak**	**78.03**	**33**	P	**P**	**23 10 47.9**	**-0.1**
ADK				IAmb	IAmb	23 10 48.8	
	comp=Z,13nm,0.7s						
AB31	**Akbulak array**	**78.65**	**323**		**P**	**23 10 51.4**	**0.0**
ABKAR	**Akbulak array**	**78.65**	**323**		**P**	**23 10 51.3**	**-0.1**
TIXI	**Tiksi**	**78.88**	**2**	P	**P**	**23 10 51.6**	**-0.5**
TIXI				IAmb	IAmb	23 10 53.2	
	comp=Z,24nm,1.3s						
TIXI	**Tiksi**	**78.88**	**2**	P	**P**	**23 10 51.4**	**-0.7**
	comp=Z,11nm,0.6s,baz=172,slow=5.0,SNR=7.8						
	comp=Z,11nm,0.6s						
RAYN	**Ar Rayn**	**81.75**	**295**	P	**P**	**23 11 08.7**	**+0.5**
RAYN				IAmb	IAmb	23 11 09.8	
	comp=Z,18nm,0.6s						
ARTI	**Arti**	**82.55**	**329**		**P**	**23 11 10.8**	**-0.7**
ARTI				IAmb	IAmb	23 11 13.0	
	comp=Z,20nm,0.8s						
QSPA	**South Pole Qui**	**82.67**	**180**	P	**P**	**23 11 12.5**	**+0.4**
QSPA	**South Pole Qui**	**82.67**	**180**	P	**P**	**23 11 12.5**	**+0.4**
	comp=Z,2.2nm,0.5s,baz=245,slow=0.4,SNR=35						
QSPA				pP	**pP**	**23 13 12.2**	**+1.3**
	comp=Z,5.5nm,0.9s,baz=356,slow=5.1,SNR=8.5						
	comp=Z,2.2nm,0.5s						
NIKH	**Nikolski High**	**82.83**	**34**	P	**P**	**23 11 12.3**	**-0.5**
GURO	**Guroymak-BITLI**	**87.67**	**309**	P	**P**	**23 11 37.2**	**+0.4**
GURO				IAmb	IAmb	23 11 38.8	
	comp=Z,13nm,1.0s						
POGA	**Pongola**	**88.03**	**243**	P	**P**	**23 11 38.6**	**0.0**
POGA				IAmb	IAmb	23 11 55.6	
	comp=Z,16nm,1.2s						
KBZ	**Khabaz**	**88.06**	**314**	P	**P**	**23 11 38.6**	**+0.3**
	comp=Z,3.7nm,0.7s,baz=104,slow=5.7,SNR=9.7						
	comp=Z,3.7nm,0.7s						
MMAI	**Mount Meron Ar**	**92.11**	**303**	P	**P**	**23 11 58.1**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=89,slow=6.5,SNR=2.4						
	comp=Z,0.5nm,0.3s						
TROLL	**Troll, Antarti**	**92.14**	**196**	⇑P	**P**	**23 11 57.9**	**+1.0**
	comp=Z,49nm,0.6s						
H19K	**Roundabout Mou**	**92.60**	**24**		**P**	**23 11 59.0**	**+0.3**
H19K				IAmb	IAmb	23 11 59.8	
	comp=Z,6.9nm,0.8s						
LSZ	**Lusaka**	**92.92**	**254**	P	**P**	**23 12 01.6**	**0.0**
J20K	**Nowinta River**	**93.32**	**26**	P	**P**	**23 12 02.0**	**-0.1**
J20K				IAmb	IAmb	23 12 02.5	
	comp=Z,3.1nm,0.9s						
BOSA	**Boshof**	**93.48**	**241**	P	**P**	**23 12 03.8**	**-0.1**
BOSA				IAmb	IAmb	23 12 04.9	
	comp=Z,8.5nm,1.1s						
BOSA	**Boshof**	**93.48**	**241**	P	**P**	**23 12 04.3**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=102,slow=7.9,SNR=7.2						
	comp=Z,3.0nm,0.7s						
SNAA	**Sanae**	**93.72**	**195**	⇑P	**P**	**23 12 04.6**	**+0.6**
	comp=Z,46nm,0.8s						
SNAA	**Sanae**	**93.72**	**195**	P	**P**	**23 12 04.2**	**+0.3**
SNAA	**Sanae**	**93.72**	**195**	P	**P**	**23 12 04.3**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=145,slow=5.9,SNR=7.0						
	comp=Z,1.7nm,0.7s						
IMAR	**Indian Mountai**	**93.78**	**24**	P	**P**	**23 12 03.9**	**-0.3**
LPHEP	**Lephephe**	**93.84**	**246**	P	**P**	**23 12 05.6**	**0.0**
LPHEP				IAmb	IAmb	23 12 44.9	
	comp=Z,11nm,1.4s						
BELA	**Belgrano 2**	**94.06**	**185**	P	**P**	**23 12 05.4**	**+0.1**
BELA				IAmb	IAmb	23 12 06.5	
	comp=Z,4.1nm,0.6s						
BRTR	**Keskin Array B**	**94.29**	**309**	P	**P**	**23 12 06.1**	**-1.3**
BRTR	**Keskin Array B**	**94.29**	**309**	P	**P**	**23 12 05.7**	**-1.7**
	comp=Z,1.0nm,0.6s,baz=117,slow=6.2,SNR=7.4						
	comp=Z,1.0nm,0.6s						
MAKGR	**Makgori**	**94.37**	**243**	P	**P**	**23 12 08.1**	**+0.1**
MAKGR				IAmb	IAmb	23 12 47.1	
	comp=Z,5.7nm,1.1s						
BPAW	**Bear Paw Mtn.**	**94.68**	**26**	P	**P**	**23 12 07.7**	**-0.6**
E22K	**Anaktuvuk Pass**	**94.85**	**22**	P	**P**	**23 12 08.4**	**-0.6**
E22K				IAmb	IAmb	23 12 10.2	
	comp=Z,8.4nm,1.2s						
MLY	**Manley**	**94.89**	**25**	P	**P**	**23 12 08.7**	**-0.6**
MLY				IAmb	IAmb	23 12 09.8	
	comp=Z,6.3nm,1.1s						
G23K	**Bananza Creek**	**95.37**	**23**	P	**P**	**23 12 10.8**	**-0.6**
G23K				IAmb	IAmb	23 12 12.7	
	comp=Z,5.9nm,0.9s						
E23K	**Chandalar**	**95.66**	**22**	P	**P**	**23 12 12.9**	**+0.1**
E23K				IAmb	IAmb	23 12 14.0	
	comp=Z,4.6nm,0.9s						
VNA1	**Neumayer--Stat**	**95.73**	**195**	⇑P	**P**	**23 12 13.7**	**+0.7**
	comp=Z,1.9nm,0.6s						
ILAR	**Eielson Array**	**96.51**	**26**	P	**P**	**23 12 14.8**	**-1.7**
	comp=Z,1.0nm,0.8s,baz=275,slow=3.9,SNR=8.2						
	comp=Z,1.0nm,0.8s						
BMAR	**Burnt Mountain**	**97.54**	**23**	P	**P**	**23 12 21.5**	**+0.4**
AKASG	**Malin Array Be**	**98.13**	**320**	P	Pdif	23 12 22.9	-1.2
	comp=Z,1.3nm,0.6s,baz=76,slow=4.6,SNR=5.6						
	comp=Z,1.3nm,0.6s						
ARCES	**ARCESS Array B**	**99.50**	**339**	P	**Pdif**	**23 12 28.4**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=75,slow=6.4,SNR=5.6						
	comp=Z,1.1nm,0.6s						
FINES	**FINESS Array B**	**99.79**	**331**	P	**Pdif**	**23 12 29.3**	**-1.9**
	comp=Z,1.0nm,0.8s,baz=102,slow=6.4,SNR=5.0						
FINES				PKiKP	**PKiKP**	**23 16 55.8**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=70,slow=4.0,SNR=7.8						
	comp=Z,1.0nm,0.8s						
SPITS	**Spitsbergen Ar**	**100.54**	**348**	P	**Pdif**	**23 12 32.7**	**-1.6**
	comp=Z,2.6nm,0.5s,baz=84,slow=8.5,SNR=6.6						
GERES	**GERESS Array B**	**108.29**	**319**	PKiKP	**PKiKP**	**23 17 11.8**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=64,slow=3.1,SNR=4.6						
YKA	**Yellowknife Ar**	**110.92**	**25**	PKiKP	**PKiKP**	**23 17 16.4**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=316,slow=2.4,SNR=15						
G08A	**Pilot Rock**	**114.60**	**43**		**PKiKP**	**23 17 25.1**	**+0.8**
BEKR	**Beckworth**	**114.86**	**49**		PKPdf	23 17 24.9	-0.2
NEW	**Newport**	**114.96**	**40**	PKPdf	**PKiKP**	**23 17 25.0**	**+0.2**
EKA	**Eskdalemuir Ar**	**116.09**	**329**	PKP	**PKPdf**	**23 17 26.4**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=318,slow=2.2,SNR=5.4						
NVAR	**Mina Array Bea**	**116.72**	**51**		**PKiKP**	**23 17 29.1**	**+0.3**
NVAR	**Mina Array Bea**	**116.72**	**51**	PKP	**PKiKP**	**23 17 29.5**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=262,slow=1.8,SNR=10						
MFID	**Camas Ranch**	**117.28**	**45**		**PKiKP**	**23 17 29.8**	**+0.2**
MSO	**Missoula**	**117.46**	**41**		**PKPdf**	**23 17 29.4**	**-0.4**
HLID	**Hailey**	**118.21**	**44**		**PKiKP**	**23 17 32.3**	**+0.8**
ELK	**Elko**	**118.45**	**47**		**PKPdf**	**23 17 31.9**	**-0.2**
LRM	**Limekiln Ridge**	**118.78**	**41**	PKPdf	**PKiKP**	**23 17 32.8**	**+0.2**
PFO	**Pinyon Flats O**	**119.18**	**56**	PKPdf	**PKiKP**	**23 17 34.4**	**+0.8**
BOZ	**Bozeman (W)**	**119.40**	**41**		**PKiKP**	**23 17 33.9**	**+0.2**
SHPR	**Sheep Range**	**119.59**	**52**		**PKiKP**	**23 17 34.9**	**+0.5**
V12A	**Nelson**	**120.02**	**53**		**PKiKP**	**23 17 35.9**	**+0.7**
GO09	**Cerro Castillo**	**120.14**	**169**	PKPdf	**PKiKP**	**23 17 35.2**	**+0.3**
HWUT	**Hardware Ranch**	**120.83**	**46**		**PKPdf**	**23 17 36.6**	**0.0**
PD31	**Pinedale Array**	**121.83**	**44**		**PKPdf**	**23 17 38.5**	**0.0**
PDAR	**Pinedale Array**	**121.83**	**44**	PKP	**PKPdf**	**23 17 38.4**	**-0.1**
	comp=Z,1.4nm,0.4s,baz=230,slow=1.2,SNR=12						
TORD	**Torodi Ar. Bea**	**122.26**	**281**		**PKPdf**	**23 17 39.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**122.26**	**281**	PKP	**PKPdf**	**23 17 39.6**	**-0.1**
	comp=Z,5.6nm,0.5s,baz=47,slow=1.9,SNR=8.7						
LAO	**LASA Array**	**122.39**	**38**		**PKPdf**	**23 17 39.3**	**+0.1**
WUAZ	**Wupatki**	**122.81**	**52**		**PKPdf**	**23 17 41.0**	**+0.3**
ESDC	**Sonseca Array**	**122.89**	**313**	PKPdf	**PKiKP**	**23 17 40.9**	**+0.2**
ESDC	**Sonseca Array**	**122.89**	**313**	PKP	**PKPdf**	**23 17 40.5**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=25,slow=2.7,SNR=9.0						
PAB	**San Pablo**	**123.21**	**313**	PKPdf	**PKiKP**	**23 17 41.7**	**+0.4**
W18A	**Petrified Fore**	**124.21**	**52**		**PKPdf**	**23 17 43.2**	**0.0**
RSSD	**Black Hills**	**124.93**	**40**		**PKPdf**	**23 17 44.0**	**-0.4**
ANMO	**Albuquerque**	**126.82**	**51**		**PKPdf**	**23 17 48.4**	**+0.2**
DBIC	**Dimbokro**	**128.48**	**273**	PKPdf	**PKPdf**	**23 17 51.9**	**+0.2**
DBIC	**Dimbokro**	**128.48**	**273**	PKP	**PKPdf**	**23 17 52.3**	**-0.1**
	comp=Z,3.2nm,0.5s,baz=143,slow=1.4,SNR=9.2						
MNTX	**Cornudas Mount**	**128.70**	**55**		**PKiKP**	**23 17 52.4**	**0.0**
ECSD	**EROS Data Cent**	**129.73**	**37**		**PKPdf**	**23 17 53.1**	**-0.1**
PLCA	**Paso Flores**	**130.55**	**166**	PKPdf	**PKiKP**	**23 17 55.7**	**-0.3**
PLCA	**Paso Flores**	**130.55**	**166**	PKP	**PKiKP**	**23 17 56.0**	**0.0**
	comp=Z,2.6nm,0.7s,baz=19,slow=4.7,SNR=6.9						
TXAR	**Lajitas Array**	**130.81**	**57**	PKP	**PKiKP**	**23 17 57.4**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=200,slow=1.8,SNR=7.7						
TXAR				SKPbc	**SKPbc**	**23 20 25.4**	**-3.0**
	comp=Z,1.0nm,0.7s,baz=276,slow=3.6,SNR=4.6						
SCHQ	**Schefferville**	**131.92**	**8**	PKP

comp=Z,76nm,21.7s,baz=187,slow=32
ATAH Atahualpa 29.14 121 LR LR 23 23 32.2
comp=Z,158nm,20.4s,baz=292,slow=32
TKL Tuckaleechee C 32.35 30 LR LR 23 29 16.4
comp=Z,49nm,18.8s,baz=205,slow=39
ELK Elko 33.90 343 LR LR 23 27 50.2
comp=Z,76nm,18.6s,baz=167,slow=35
PDAR Pinedale Array 34.63 352 P P 23 15 06.8 +1.0
1.8nm,0.9s,baz=177,slow=6.5,SNR=8.9
1.8nm,0.9s
SJG San Juan 37.20 71 LR LR 23 30 11.7
comp=Z,54nm,19.2s,baz=256,slow=35
YBH Yreka Blue Hor 37.37 336 LR LR 23 27 31.1
comp=Z,6.7nm,18.6s,baz=150,slow=31
LPAZ La Paz 42.50 125 P P 23 16 12.3 -0.3
2.7nm,1.1s,baz=315,slow=7.1,SNR=3.8
LPAZ LR LR 23 32 46.6
comp=Z,52nm,20.3s,baz=280,slow=35
2.7nm,1.1s
H03N2 Juan Fernandez 47.61 152 T T 00 07 41.7
baz=329,slow=77,SNR=44
H03N1 Juan Fernandez 47.62 152 T T 00 07 43.3
baz=329,slow=77,SNR=45
H03N3 Juan Fernandez 47.63 152 T T 00 07 42.0
baz=329,slow=77,SNR=60
SIV San Ignacio 48.23 120 LR LR 23 34 23.5
comp=Z,64nm,20.3s,baz=315,slow=32
PPT Papeete 52.65 240 LR LR 23 34 35.0
comp=Z,55nm,18.4s,baz=41,slow=30
SCHQ Schefferville 54.52 25 LR LR 23 42 57.9
comp=Z,76nm,18.3s,baz=216,slow=38
YKA Yellowknife Ar 54.57 354 LR LR 23 42 55.1
comp=Z,59nm,19.5s,baz=119,slow=38
FRB Frobisher Bay 60.46 17 LR LR 23 46 05.4
comp=Z,36nm,19.7s,baz=167,slow=38
RAR Rarotonga 62.92 241 LR LR 23 38 25.8
comp=Z,57nm,21.4s,baz=21,slow=29
ILAR Eielson Array 63.99 341 P P 23 18 48.0 -1.5
0.8nm,0.6s,baz=124,slow=6.7,SNR=8.3
0.8nm,0.6s
SFJD Kangerlussuaq 68.22 20 LR LR 23 49 13.8
comp=Z,37nm,18.8s,baz=224,slow=36
RAO Raoul Island 81.02 239 LR LR 23 50 35.3
comp=Z,53nm,19.9s,baz=315,slow=31
NOA NORSAR Array B 94.07 26 LR LR 00 02 21.8
comp=Z,20nm,21.2s,baz=355,slow=34
CMAR Chiang Mai Arr 145.49 321 PKPbc PKPab 23 27 56.2 +0.4
0.5nm,0.5s,baz=40,slow=3.1,SNR=4.5

IDC 17 23:09:09.8±5.3, 20°.55S×177°.84W, h0km, mb4.3/4, mbtmp4.3/4, Error ellipse: s-maj=169.2km s-min=63.2km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.90**	**244**	P	P	23 16 29.1	+0.2
	1.8nm,0.4s,baz=105,slow=13,SNR=5.2						
	1.8nm,0.4s						
ASAR	**Alice Springs**	**44.65**	**257**	P	P	23 17 24.1	-0.5
	3.7nm,0.8s,baz=92,slow=7.9,SNR=22						
	3.7nm,0.8s						
WRA	**Warramunga Arr**	**44.74**	**262**	P	P	23 17 25.0	-0.3
	4.2nm,1.1s,baz=96,slow=8.3,SNR=27						
	4.2nm,1.1s						
CMAR	**Chiang Mai Arr**	**90.27**	**290**	P	P	23 22 13.7	+0.6
	0.7nm,0.4s,baz=119,slow=5.2,SNR=7.6						
	0.7nm,0.4s						
AKASG	**Malin Array Be**	**143.13**	**331**	PKP	PKPbc	23 28 43.3	+0.9
	0.1nm,0.2s,baz=47,slow=3.2,SNR=5.8						

ISN 17 23:33:04.0±1.3, 30°.98N×48°.67E, h4km±265km, ML2.8
TEH 17 23:33:06.8, 30°.97N×48°.56E, h4km±51km
ISC 17 23:33:08.7±1.8, 31°.0N±0°.1×48°.51E±0°.05, h10km, n12, σ1s11/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.39**	**18**	Pg	**Pg**	**23 33 14.9**	**-1.5**
AHWZ				Sg	**Sg**	**23 33 20.1**	**-1.5**
RAFI	**Al-Rafai**	**2.19**	**291**	*e*Pn	**Pn**	**23 33 45.0**	**-0.1**
RAFI				*e*Sn	**Sb**	**23 34 16.0**	**+0.5**
JHBN	**Jahan bin**	**2.24**	**55**	Pn	**Pn**	**23 33 47.2**	**+1.1**
ZNGN	**Zangian**	**2.31**	**59**	Pn	**Pn**	**23 33 47.6**	**+0.5**
IKFM	**Kafar-mosalman**	**2.62**	**348**	Pn	**Pn**	**23 33 52.3**	**+1.2**
KLNJ	**Kolanjah**	**2.65**	**88**	Pn	**Pn**	**23 33 51.8**	**0.0**
IPIR	**Pirpir**	**2.66**	**49**	Pn	**Pn**	**23 33 53.2**	**+1.3**
IBDR	**Badra**	**3.06**	**315**	*e*Pn	**Pn**	**23 33 57.0**	**-0.2**
IBDR				*e*Sn	**Sn**	**23 34 36.0**	**+2.1**
IBDR				AML	AML	23 35 07.6	
	comp=N,6.3nm,1.1s						
IRAM	**Ramesheh**	**3.42**	**75**	Pn	**Pn**	**23 34 03.0**	**+0.7**
IKLH	**Kolahrood**	**3.51**	**47**	Pn	**Pn**	**23 34 04.8**	**+1.2**
IZEF	**Zefreh**	**3.78**	**58**	Pn	**Pn**	**23 34 07.9**	**+0.6**
BHD	**Baghdad**	**4.19**	**304**	*e*Pn	**Pn**	**23 34 13.0**	**+0.3**
BHD				*e*Sn	**Sn**	**23 35 02.0**	**+0.3**

ISN 17 23:34:14.1±0.9, 30°.96N×48°.52E, h10km±188km, ML2.9
TEH 17 23:34:15.1, 31°.01N×48°.57E, h11km±14km
ISC 17 23:34:17.2±1.3, 31°.04N±0°.07×48°.59E±0°.04, h10km, n20, σ0s66/25, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.29**	**9**	Pg	**Pg**	**23 34 21.9**	**-1.2**
AHWZ				Sg	**Sg**	**23 34 26.9**	**-0.2**
ABEH	**Behbahan**	**1.49**	**107**	Pg	**Pn**	**23 34 43.7**	**-0.4**
ABEH				Sg	**Sg**	**23 35 06.2**	**+1.0**
JHBN	**Jahan bin**	**2.13**	**56**	Pn	**Pn**	**23 34 53.3**	**+0.2**
ZNGN	**Zangian**	**2.21**	**60**	Pn	**Pn**	**23 34 54.5**	**+0.3**
RAFI	**Al-Rafai**	**2.23**	**289**	*e*Pn	**Pn**	**23 34 54.0**	**-0.1**
RAFI				*e*Sn	**Sn**	**23 35 23.0**	**+1.3**
IPIR	**Pirpir**	**2.55**	**49**	Pn	**Pn**	**23 34 59.7**	**+0.8**
IKFM	**Kafar-mosalman**	**2.56**	**346**	Pn	**Pn**	**23 34 58.9**	**+0.3**
BDRS	**Dareh Seyedi**	**2.92**	**5**	Pn	**Pn**	**23 35 04.1**	**+0.2**
IBDR	**Badra**	**3.06**	**313**	*e*Pn	**Pn**	**23 35 06.0**	**+0.4**
IBDR				*e*Sn	**Sn**	**23 35 44.0**	**+1.7**
IBDR				AML	AML	23 36 07.8	
	comp=E,49nm,0.7s						
IBDR				AML	AML	23 36 12.8	
	comp=N,68nm,0.8s						
IGAR	**Gharneh**	**3.24**	**64**	Pn	**Pn**	**23 35 08.6**	**+0.3**
IRAM	**Ramesheh**	**3.33**	**76**	Pn	**Pn**	**23 35 09.6**	**+0.1**
IKLH	**Kolahrood**	**3.40**	**47**	Pn	**Pn**	**23 35 11.1**	**+0.6**
IZEF	**Zefreh**	**3.68**	**59**	Pn	**Pn**	**23 35 13.9**	**-0.4**
IGHG	**Ghaleghazi**	**3.70**	**333**	Pn	**Pn**	**23 35 14.8**	**+0.1**
GLG1	**Gilan-e-Gharb**	**3.81**	**324**	Pn	**Pn**	**23 35 16.2**	**+0.1**
BHD	**Baghdad**	**4.21**	**303**	*e*Pn	**Pn**	**23 35 21.0**	**-0.4**
BHD				*e*Sn	**Sn**	**23 36 10.0**	**-0.6**
IQOM	**Qom**	**4.33**	**28**	Pn	**Pn**	**23 35 23.3**	**0.0**
ANAR	**Anarak**	**4.86**	**62**	Pn	**Pn**	**23 35 30.2**	**-0.3**
IMEH	**Mehriz**	**5.17**	**85**	Pn	**Pn**	**23 35 34.6**	**-0.2**
MZPU	**Pul - Mazandar**	**5.93**	**24**	Pn	**Pn**	**23 35 45.7**	**+0.4**

IDC 17 23:35:06.4±7.6, 18°.92S×177°.15W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=333.2km s-min=118.7km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.63**	**260**	P	P	23 43 28.9	-0.1
	1.2nm,0.8s,baz=96,slow=8.7,SNR=9.1						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**45.67**	**255**	P	P	23 43 29.2	-0.1
	2.7nm,0.8s,baz=89,slow=8.2,SNR=17						
	2.7nm,0.8s						
AKASG	**Malin Array Be**	**142.00**	**333**	PKP	PKPdf	23 54 39.5	-0.8
	1.2nm,0.5s,baz=44,slow=3.9,SNR=10.0						

NEIC 17 23:43:17.2±1.8, 47°.87N±0°.02×122°.05W±0°.03, h30km±8km, Error ellipse: s-maj=3.5km s-min=2.4km az=109.0
SEA 17 23:43:17.1±2.0, 47°.86N±0°.03×122°.04W±0°.04, h30km±6km, ML3.0/25, ML2.8/66(NEIC), Error ellipse: s-maj=4.4km s-min=3.9km az=109.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLH	**Bald Hill**	**0.02**	**161**		Pb	23 43 21.8	-0.4
EVGW	**Everett Gatewa**	**0.08**	**269**		Pb	23 43 22.2	-0.1
EVGW					Sb	23 43 26.3	+0.4
LEOT	**Leota Junior H**	**0.10**	**209**		Pb	23 43 22.6	+0.1
LEOT					Sb	23 43 27.1	+1.0
EARN	**East Ridge Ele**	**0.12**	**179**		Pb	23 43 22.6	+0.1
EARN					Sn	23 43 27.1	+0.8
BEVT	**Boeing Everett**	**0.17**	**293**		Pb	23 43 23.2	+0.1
BEVT					Sn	23 43 28.5	+0.8
NIHS	**Ingelmoor High**	**0.17**	**227**		Pn	23 43 23.3	-0.3
NIHS					Sn	23 43 29.1	+1.4
LYNC	**Lynnwood City**	**0.17**	**260**		Pb	23 43 23.0	0.0
LYNC					Sn	23 43 27.9	+0.2
EVCC	**Everett Colleg**	**0.19**	**324**		Pb	23 43 23.3	+0.1
EVCC					Sn	23 43 28.4	+0.3
FINN	**Finn Hill Juni**	**0.19**	**223**		Sn	23 43 29.3	+1.2
HTW	**Haystack Looko**	**0.19**	**106**		Pb	23 43 22.9	-0.4
BRKS	**Brookside Elem**	**0.19**	**239**		Sn	23 43 28.8	+0.5
NOWS	**NOAA--Sand Poi**	**0.22**	**221**		Pn	23 43 24.1	-0.3
NOWS					Sn	23 43 30.3	+1.3
SCCW	**Shoreline CC**	**0.24**	**244**		Pb	23 43 24.1	+0.3
SCCW					Sn	23 43 29.9	+0.5
C05A	**Tolt Reservoir**	**0.29**	**124**		Pb	23 43 23.9	-0.6
C05A					Sb	23 43 28.9	-0.5
TTW	**Tolt Reservoir**	**0.29**	**124**		Pb	23 43 23.9	-0.5
TTW					Sb	23 43 28.9	-0.5
SWID	**South Whidbey**	**0.29**	**302**		Pb	23 43 24.4	-0.1
SWID					Sn	23 43 30.4	-0.3
SP2	**Seward Park 2**	**0.33**	**205**		Pb	23 43 25.3	+0.3
JCW	**Jim Creek**	**0.35**	**12**		Pb	23 43 24.8	-0.5
JCW					Sb	23 43 30.4	-0.5
ELW	**Echo Lake**	**0.38**	**162**		Pb	23 43 25.4	-0.4
ELW					Sb	23 43 31.7	+0.2
B05A	**Bryant**	**0.41**	**355**		Pb	23 43 25.4	-0.7
B05A					Sb	23 43 31.7	-0.7
KINR	**Kitsap County**	**0.42**	**256**		Pb	23 43 26.2	-0.1
CDMR	**Cedar Moraine**	**0.47**	**156**		Pb	23 43 26.7	-0.5
CDMR					Sb	23 43 34.0	0.0
RAW	**Raver**	**0.53**	**172**		Pb	23 43 27.5	-0.4
B013	**Quilcene**	**0.59**	**266**		Pb	23 43 27.8	-1.2
B013					Sb	23 43 35.9	-1.2
B013	**Quilcene**	**0.59**	**266**		Pb	23 43 27.8	-1.2
SVOH	**Skagit Valley**	**0.59**	**318**		Pb	23 43 28.1	-0.8
GMW	**Gold Mountain**	**0.59**	**239**		Pb	23 43 28.0	-1.1
GNW	**Green Mountain**	**0.60**	**241**		Pb	23 43 28.1	-1.1
GNW				Sg	Sb	23 43 36.4	-1.1
C04A	**Brinnon**	**0.64**	**258**		Pb	23 43 28.6	-1.3
C04A					Sb	23 43 37.4	-1.2
BLN	**Blyn Mountain**	**0.64**	**284**		Pb	23 43 28.7	-1.2
GPW	**Glacier Peak**	**0.66**	**66**		Pb	23 43 29.8	-0.6
D05A	**Enumclaw**	**0.67**	**177**		Pb	23 43 30.1	-0.3
D05A					Sb	23 43 39.6	+0.3
D05A				IAML		23 43 40.3	
	comp=E,278nm,0.8s						
D05A				IAML		23 43 40.4	
	comp=N,386nm,0.3s						
RPW	**Rockport**	**0.69**	**31**		Pb	23 43 30.2	-0.6
SQM	**Sequim**	**0.71**	**288**		Pb	23 43 30.1	-0.9
SQM					Sn	23 43 40.9	-0.1
ERW	**Mount Erie**	**0.71**	**327**		Pb	23 43 30.2	-0.9
HDW	**Hoodsport**	**0.71**	**253**		Pb	23 43 29.8	-1.4
WRW	**Wenatchee Ridg**	**0.78**	**89**		Pn	23 43 31.5	-0.7
B941	**Kapowsin**	**0.88**	**188**		Pn	23 43 32.5	-0.9
RVC	**Mount Rainier-**	**0.92**	**177**		Pn	23 43 33.5	-0.5
RVC					Pb	23 43 33.7	-0.9
MBW	**Mount Baker**	**0.93**	**6**		Pn	23 43 34.2	-0.2
UWFH	**University of**	**0.95**	**317**		Pn	23 43 33.5	-0.9
FMW	**Mount Fremont**	**0.96**	**165**		Pn	23 43 34.1	-0.6
OBSR	**Observation Ro**	**0.97**	**171**		Pn	23 43 34.7	-0.2
A04D	**Lummi Island**	**0.97**	**333**		Pn	23 43 34.2	-0.5
A04D					Sn	23 43 46.1	-1.3
A04D				IAML		23 43 51.7	
	comp=N,228nm,0.2s						
A04D				IAML		23 43 54.1	
	comp=E,255nm,0.5s						
MCW	**Mount Constitu**	**0.98**	**328**		Pn	23 43 34.2	-0.7
SLFW	**Sugar Loaf**	**1.02**	**95**		Pn	23 43 35.6	0.0
LTY	**Liberty**	**1.10**	**122**		Pn	23 43 37.0	+0.3
LTY					Sn	23 43 51.3	+0.4
LTY				IAML		23 43 52.0	
	comp=N,183nm,0.6s						
LTY				IAML		23 43 52.9	
	comp=E,240nm,0.5s						
LON	**Longmire**	**1.12**	**172**		Pn	23 43 36.6	-0.2
LON					Sn	23 43 51.1	-0.1
LON				IAML		23 43 54.1	
	comp=N,149nm,0.2s						
NLW	**Nelson Butte**	**1.17**	**78**		Pn	23 43 37.9	+0.3
PGC	**Sidney**	**1.23**	**311**		Pn	23 43 37.6	-0.7
PGC				IAML		23 43 56.6	
	comp=E,264nm,0.5s						
NLWA	**Neilton Lookou**	**1.32**	**250**		Pn	23 43 40.3	+0.7
NLWA				IAML		23 44 03.1	
	comp=E,99nm,0.5s						
WISH	**Wishkah**	**1.39**	**238**		Pn	23 43 40.6	+0.2
E03A	**Lebam**	**1.67**	**219**		Pn	23 43 45.1	+0.8
E03A				IAML		23 44 07.9	
	comp=N,107nm,0.5s						
E03A				IAML		23 44 10.8	
	comp=E,119nm,0.5s						
CLRS	**Cowichan Lake**	**1.69**	**305**		Pn	23 43 44.4	-0.3
C03A	**Quillayute Air**	**1.70**	**274**	Pn	Pn	23 43 45.8	+1.1
C03A				IAML		23 44 14.8	
	comp=N,131nm,2.8s						
C03A				IAML		23 44 36.8	
	comp=E,128nm,2.1s						
MXC	**Moxie City**	**1.75**	**136**		Pn	23 43 46.2	+0.8
RADR	**Rader Ridge**	**1.87**	**221**	Pn	Pn	23 43 47.8	+0.7
RADR				IAML		23 44 14.9	
	comp=N,95nm,1.9s						
RADR				IAML		23 44 24.4	
	comp=E,81nm,0.9s						
B08A	**Colville Reser**	**1.88**	**74**		Pn	23 43 48.3	+1.0
F04D	**Rainier, OR**	**1.89**	**201**	Pn	Pn	23 43 47.4	0.0
FHE	**Frenchman Hill**	**1.95**	**117**		Pn	23 43 48.6	+0.4
E07A	**Sunnyside**	**1.98**	**130**		Pn	23 43 49.3	+0.7
E07A				IAML		23 44 23.4	
	comp=E,116nm,0.5s						
WAH2	**Wahluke Slope**	**2.01**	**122**		Pn	23 43 49.8	+0.7
SHB	**Sechelt**	**2.12**	**326**		Pn	23 43 51.6	+1.0
F03A	**Seaside**	**2.19**	**209**	Pn	Pn	23 43 52.6	+1.1
HAWA	**Hanford**	**2.25**	**130**		Pn	23 43 53.0	+0.6
HAWA				IAML		23 44 32.2	
	comp=E,39nm,0.6s						
D08A	**Wollman Farm,**	**2.26**	**110**		Pn	23 43 52.1	-0.4
B927	**Port Alberni**	**2.29**	**308**		Pn	23 43 54.5	+1.7
PABB	**Port Alberni**	**2.29**	**308**		Pn	23 43 55.0	+2.2
OD2	**Odessa Site #2**	**2.30**	**100**		Pn	23 43 52.7	-0.3
TXB	**Texada**	**2.43**	**320**		Pn	23 43 56.6	+1.8
F07A	**Phinny Hill Vi**	**2.44**	**143**		Pn	23 43 56.0	+1.1
F07A				IAML		23 44 38.9	
	comp=E,53nm,0.7s						
E08A	**Dider Farm, El**	**2.45**	**123**		Pn	23 43 54.9	-0.2
E08A				IAML		23 44 40.3	
	comp=N,34nm,0.4s						
E08A				IAML		23 44 43.5	
	comp=E,38nm,0.4s						
LLLB	**Lillooet**	**2.76**	**2**		Pn	23 43 59.3	0.0
YPT	**Yellepit**	**2.78**	**129**	Pn	Pn	23 43 59.9	+0.4
YPT				IAML		23 44 50.8	
	comp=E,27nm,0.9s						
YPT				IAML		23 44 50.0	
	comp=N,26nm,0.9s						
H04A	**Detroit Lake**	**3.17**	**182**		Pn	23 44 04.1	-1.0
H04A				IAML		23 44 49.1	
	comp=N,22nm,0.4s						
H04A				IAML		23 44 56.2	
	comp=E,17nm,0.3s						
LNOR	**Lincton Mounta**	**3.25**	**126**		Pn	23 44 06.6	+0.4
LNOR				IAML		23 45 08.7	
	comp=N,16nm,0.6s						
LNOR				IAML		23 45 14.3	
	comp=E,15nm,1.2s						
NEW	**Newport**	**3.32**	**81**		Pn	23 44 06.8	-0.3
G08A	**Pilot Rock**	**3.33**	**139**		Pn	23 44 08.6	+1.3
G08A				IAML		23 45 03.4	
	comp=E,16nm,0.5s						
G08A				IAML		23 45 05.4	
	comp=N,16nm,0.5s						
H04D	**Lebanon**	**3.37**	**189**	Pn	Pn	23 44 07.6	-0.1
H04D				IAML		23 44 56.4	
	comp=E,31nm,1.9s						
H04D				IAML		23 45 13.8	
	comp=N,22nm,1.6s						
I07A	**Izee**	**4.17**	**154**	Pn	Pn	23 44 20.2	+1.4

IDC 17 23:47:41.4±0.8, 52°.39N×168°.68W, h0km, mb4.2/26, mbtmp4.2/27, ML3.5/1, MS3.8/46, Error ellipse: s-maj=22.8km s-min=13.0km az=171.0
AEIC 17 23:47:42.6±2.4, 52°.13N±0°.05×168°.55W±0°.07, h9km±4km, Error ellipse: s-maj=6.9km s-min=6.0km az=197.0
NEIC 17 23:47:42.4±2.6, 52°.17N±0°.04×168°.59W±0°.09, h10km±1km, mb4.3/55, ML4.0/20, ML3.8(AEIC), Error ellipse: s-maj=9.6km s-min=7.1km az=280.0
ISC 17 23:47:42.7±1.9, 52°.17N±0°.07×168°.52W±0°.05, h13km±10km, n228, σ1s21/201, mb4.5/44, MS3.8/47, 1D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.83**	**346**		**Pb**	**23 47 58.8**	**-0.2**
NIKH				Sg	**Sg**	**23 48 08.5**	**-1.2**
NIKH				IAML		23 48 13.6	
	comp=N,7μm,0.7s						
NIKH				IAML		23 48 15.4	
	comp=E,7μm,0.5s						
NIKH	**Nikolski High**	**0.83**	**346**	P	**Pn**	**23 47 59.7**	**-0.3**
OKSP	**Okmok Steeple**	**1.10**	**7**		**Pg**	**23 48 03.0**	**-0.8**
OKTU	**Okmok Mt. Tuli**	**1.25**	**13**		**Pn**	**23 48 05.7**	**-0.2**
OKCE	**Okmok Cone E**	**1.28**	**10**		**Pn**	**23 48 06.3**	**0.0**
OKCE					**Sn**	**23 48 24.6**	**+1.3**
OKFG	**Magazine Ridge**	**1.30**	**16**		**Pb**	**23 48 07.0**	**+0.1**
OKFG					**Sg**	**23 48 25.4**	**+0.8**
OKNC	**Okmok New Cone**	**1.31**	**10**		**Pb**	**23 48 07.3**	**+0.1**
OKNC					**Sg**	**23 48 25.4**	**+0.3**
OKWE	**Okmok W'ng Wal**	**1.32**	**7**		**Pn**	**23 48 07.2**	**+0.4**
OKWE					**Sg**	**23 48 26.4**	**+1.2**
OKRE	**Okmok R'deer P**	**1.37**	**9**		**Pn**	**23 48 08.3**	**+0.5**
MAPS	**Pakushin South**	**1.90**	**30**		**Pn**	**23 48 15.5**	**+0.7**
MGOD	**Makushin Gods**	**1.91**	**31**		**Pn**	**23 48 15.2**	**+0.3**
MGOD					**Sn**	**23 48 40.9**	**+2.0**
MREP	**Makushin Rep't**	**1.97**	**32**		**Pn**	**23 48 16.4**	**+0.7**
UNV	**Unalaska Valle**	**2.08**	**35**		**Pn**	**23 48 17.9**	**+0.8**
UNV				Sn	**Sn**	**23 48 43.1**	**+0.3**
AKMO	**Akutan Morgan**	**2.45**	**37**		**Pn**	**23 48 22.8**	**+0.5**
AKRB	**Akutan Reef Bi**	**2.46**	**36**		**Pn**	**23 48 24.2**	**+1.8**
AKBBA	**Akutan Broad B**	**2.49**	**38**		**Pn**	**23 48 23.9**	**+1.1**
LVA	**Lava Point**	**2.50**	**36**		**Pn**	**23 48 24.5**	**+1.6**
LVA				IAML		23 49 16.5	
	comp=E,963nm,0.8s						
AKGG	**Akutan Green G**	**2.54**	**36**		**Pn**	**23 48 25.6**	**+2.0**
AKUT	**Akutan**	**2.58**	**39**		**Pn**	**23 48 25.2**	**+1.3**
AKUT					**Sn**	**23 48 56.5**	**+1.4**
AKUT				IAML		23 49 17.1	
	comp=E,456nm,0.9s						
AKUT	**Akutan**	**2.58**	**39**	P	**Pn**	**23 48 25.4**	**+1.4**
WESE	**West Dahl East**	**3.30**	**44**		**Pn**	**23 48 35.8**	**+1.7**
ATKA	**Atka Island**	**3.49**	**273**		**Pn**	**23 48 37.3**	**+0.7**
ATKA	**Atka Island**	**3.49**	**273**	P	**Pn**	**23 48 37.3**	**+0.7**
P08K	**Saint George I**	**4.48**	**353**	Pn	**Pn**	**23 48 49.7**	**-0.5**
P08K				IAML		23 50 07.0	
	comp=E,145nm,2.0s						
P08K				IAML		23 50 10.6	
	comp=N,165nm,2.1s						
GSTR	**Great Sitkin T**	**4.64**	**272**		**Pn**	**23 48 53.4**	**+1.0**
ADK	**Adak**	**5.05**	**270**		**Pn**	**23 48 58.8**	**+0.8**
ADK				IAML		23 50 14.1	
	comp=N,126nm,2.3s						
ADK	**Adak**	**5.05**	**270**	P	**Pn**	**23 48 58.9**	**+1.0**
S12K	**Black Hills**	**5.21**	**45**	Pn	**Pn**	**23 49 01.6**	**+1.4**
S12K				IAML		23 50 22.9	
	comp=E,66nm,1.1s						
S12K				IAML		23 50 37.1	
	comp=N,52nm,1.0s						
KIWB	**Kanaga Island**	**5.34**	**270**		**Pn**	**23 49 03.2**	**+1.3**
KIWB				IAML		23 50 33.1	
	comp=N,104nm,0.9s						
SDPT	**Sand Point**	**5.74**	**53**	Pn	**Pn**	**23 49 08.8**	**+1.4**
SDPT	**Sand Point**	**5.74**	**53**	P	**Pn**	**23 49 09.2**	**+1.8**
CNBA	**Chernabura Isl**	**5.96**	**60**	Pn	**Pn**	**23 49 10.9**	**+0.4**
CHNA	**Chernabura Isl**	**5.96**	**60**	P	**Pn**	**23 49 10.9**	**+0.4**
VNFG	**Fog Glacier, M**	**6.68**	**48**		**Pn**	**23 49 22.7**	**+2.2**
CHGN	**Chignik**	**7.23**	**51**		**Pn**	**23 49 29.8**	**+1.9**
AMKA	**Amchitka**	**7.60**	**269**		**Pn**	**23 49 33.4**	**+0.4**
CHIR	**Chirikof Islan**	**8.44**	**59**	Pn	**Pn**	**23 49 44.1**	**-0.3**
CHIR	**Chirikof Islan**	**8.44**	**59**	P	**Pn**	**23 49 45.1**	**+0.7**
N14K	**Kuskokwak Cree**	**8.66**	**23**	Pn	**Pn**	**23 49 49.3**	**+1.9**
N15K	**Kwethluk River**	**9.29**	**27**	Pn	**Pn**	**23 49 57.5**	**+1.4**
M14K	**Bethel**	**9.34**	**20**	Pn	**Pn**	**23 49 58.0**	**+1.3**
SII	**Sitkinak Islan**	**9.45**	**57**	Pn	**Pn**	**23 49 59.6**	**+1.3**
O16K	**Kokwok River B**	**9.46**	**34**	Pn	**Pn**	**23 50 00.8**	**+2.3**
L14K	**Kuka Creek**	**9.74**	**17**	Pn	**Pn**	**23 50 04.2**	**+2.0**
OHAK	**Old Harbor**	**10.16**	**54**	Pn	**Pn**	**23 50 08.2**	**+0.2**
OHAK	**Old Harbor**	**10.16**	**54**	P	**Pn**	**23 50 08.6**	**+0.6**
N17K	**Nushagak Hills**	**10.46**	**32**	Pn	**Pn**	**23 50 14.5**	**+2.4**
KDAK	**Kodiak Island**	**10.74**	**52**	Pn	**Pn**	**23 50 16.3**	**+0.4**
KDAK	**Kodiak Island**	**10.74**	**52**	Pn	**Pn**	**23 50 15.4**	**-0.5**
KDAK	comp=N,2.8nm,0.3s,baz=87,slow=2.1,SNR=42			Sn	**Sn**	**23 52 09.8**	**-6.0**
	comp=N,0.2nm,0.3s,baz=64,slow=15,SNR=0.8						
K15K	**Wolf Creek Mou**	**10.83**	**18**	Pn	**Pn**	**23 50 18.6**	**+1.4**
SYI	**Shuyak Island**	**11.20**	**48**	Pn	**Pn**	**23 50 22.5**	**+0.3**
N19K	**Bonanza Creek**	**11.61**	**36**	Pn	**Pn**	**23 50 30.6**	**+2.7**
K17K	**Iditarod**	**11.90**	**23**	Pn	**Pn**	**23 50 33.6**	**+1.7**
J16K	**Anvik River**	**11.91**	**18**	Pn	**Pn**	**23 50 33.1**	**+1.2**
RED	**Redoubt Volcan**	**12.01**	**40**	Pn	**Pn**	**23 50 34.8**	**+1.4**
L19K	**White Mountain**	**12.45**	**31**	Pn	**Pn**	**23 50 41.1**	**+1.8**
M20K	**Styx River**	**12.81**	**35**	Pn	**Pn**	**23 50 46.4**	**+2.1**
SEW	**Seward**	**13.24**	**46**	Pn	**Pn**	**23 50 50.

comp=Z,22nm,1.1s
H24K Noodor Dome 17.21 29 Pn 23 51 42.6 +0.1
CTGM Chitina Glacier 17.26 49 Pn 23 51 43.6 +0.4
CTGM IAmb IAmb 23 52 01.0
comp=Z,35nm,1.4s
LOGN Logan Glacier 17.37 49 Pn 23 51 44.4 -0.2
LOGN IAmb IAmb 23 52 03.0
comp=Z,34nm,1.0s
SCRK Sand Creek 17.41 38 Pn 23 51 44.3 -0.8
O28M Mount Upton 17.74 50 P P 23 51 50.4 +0.3
O28M IAmb IAmb 23 52 07.0
comp=Z,26nm,1.1s
BCAR Beaver Creek A 17.85 42 P Pn 23 51 50.1 -0.4
PNL Peninsula 17.85 54 P P 23 51 51.4 +0.3
G24K Hadweenzic Riv 17.93 28 P Pn 23 51 51.2 -0.1
G24K IAmb IAmb 23 52 08.2
comp=Z,12nm,1.0s
K27K Chicken 18.17 39 P Pn 23 51 53.9 -0.4
E23K Chandalar 18.37 23 P Pn 23 51 56.5 -0.3
E24K Your Creek 18.66 24 P P 23 52 00.5 +0.6
B20K Meade River 18.66 12 P P 23 52 00.1 +0.2
B20K IAmb IAmb 23 52 28.8
comp=Z,19nm,1.4s
TOLK Toolik Lake Re 18.84 22 P Pn 23 52 03.2 +0.7
HYT Haines Junctio 19.02 51 P Pn 23 52 05.7 +0.8
HYT IAmb IAmb 23 52 23.3
comp=Z,29nm,1.0s
F25K Christian Rive 19.06 27 P P 23 52 04.2 -0.2
F25K IAmb IAmb 23 52 19.7
comp=Z,8.0nm,0.9s
BMAR Burnt Mountain 19.26 28 P P 23 52 07.1 +0.5
C23K Itkillik River 19.59 19 P P 23 52 09.9 -0.1
C23K IAmb IAmb 23 52 32.5
comp=Z,7.9nm,0.9s
BILL Bilibino 20.02 332 P P 23 52 15.0 +0.2
BILL IAmb IAmb 23 52 28.3
comp=Z,12nm,1.1s
WHY Whitehorse 20.25 52 P P 23 52 17.9 +0.4
PEA0B Petropavlovsk- 20.42 286 P P 23 52 18.6 -0.6
PEA0B IAmb IAmb 23 52 20.4
comp=Z,14nm,0.6s
PETK Petropavlovsk- 20.42 286 P P 23 52 18.2 -1.0
PETK Petropavlovsk- 20.42 286 P P 23 52 18.9 -0.3
comp=Z,13nm,0.5s,baz=84,slow=13,SNR=37
PETK LR LR 23 59 35.4
comp=Z,171nm,21.8s,baz=94,slow=35
comp=Z,13nm,0.5s
C27K Jago River 20.98 24 P P 23 52 25.4 +0.2
C27K IAmb IAmb 23 52 50.5
comp=Z,11nm,1.1s
MMPY Sheldon Lake, 22.30 48 P P 23 52 40.1 +0.6
MMPY IAmb IAmb 23 52 45.6
comp=Z,16nm,1.1s
SEY Seymchan 23.19 313 LR LR 00 02 03.2
comp=Z,281nm,18.5s,baz=101,slow=38
INK Inuvik 23.23 33 P P 23 52 47.7 -1.4
INK IAmb IAmb 23 53 01.0
comp=Z,5.8nm,0.7s
YKA Yellowknife Ar 29.98 49 P P 23 53 50.8 +0.4
comp=Z,1.6nm,1.0s,baz=277,slow=10,SNR=11
YKA LR LR 00 07 48.3
comp=Z,289nm,18.8s,baz=294,slow=40
comp=Z,1.6nm,1.0s
YBH Yreka Blue Hor 32.46 90 LR LR 00 03 47.9
comp=Z,12nm,21.2s,baz=292,slow=30
NEW Newport 32.55 76 LR LR 00 06 44.1
comp=Z,67nm,18.2s,baz=300,slow=35
ASAJ Asahikawa 33.04 276 LR LR 00 07 05.2
comp=Z,154nm,21.2s,baz=72,slow=35
TIXI Tiksi 33.18 329 LR LR 00 09 59.3
comp=Z,173nm,18.5s,baz=149,slow=41
YAK Yakutsk 33.70 312 LR LR 00 08 52.0
comp=Z,272nm,18.3s,baz=94,slow=38
RES Resolute Bay 36.33 25 LR LR 00 12 19.8
comp=Z,141nm,19.9s,baz=284,slow=41
NVAR Mina Array Bea 37.14 91 P P 23 54 54.6 +1.5
comp=Z,0.2nm,0.4s,baz=337,slow=8.8,SNR=3.8
comp=Z,0.2nm,0.4s
H11N2 WAKE ISLAND Hy 37.62 220 T T 00 36 22.4
baz=24,slow=74
ELK Elko 37.63 86 LR LR 00 08 42.1
comp=Z,99nm,18.2s,baz=297,slow=33
H11N3 WAKE ISLAND Hy 37.63 220 T T 00 36 22.9
baz=24,slow=74
H11N1 WAKE ISLAND Hy 37.64 220 T T 00 35 39.6
baz=24
H11S1 WAKE ISLAND Hy 38.81 219 T T 00 37 09.6
baz=23,slow=76,SNR=78
H11S2 WAKE ISLAND Hy 38.82 219 T T 00 37 18.4
baz=23,slow=76,SNR=59
H11S3 WAKE ISLAND Hy 38.83 219 T T 00 37 04.4
baz=23,slow=76,SNR=57
HEH HeiHe 39.01 294 *eP* **P 23 55 08.1 -0.4**
USRK Ussuriysk Ar. 39.44 283 P P 23 55 11.4 -0.7
comp=Z,1.5nm,0.6s,baz=53,slow=9.8,SNR=1.8
USRK LR LR 00 13 49.8
comp=Z,99nm,18.7s,baz=44,slow=40
comp=Z,1.5nm,0.6s
PD31 Pinedale Array 39.93 79 P P 23 55 17.4 +0.9
PD31 IAmb IAmb 23 55 31.2
comp=Z,4.4nm,0.9s
PDAR Pinedale Array 39.93 79 P 23 55 16.8 +0.2
PDAR Pinedale Array 39.93 79 P P 23 55 18.2 +1.7
comp=Z,1.5nm,0.5s,baz=310,slow=3.0,SNR=21
PDAR LR LR 00 10 32.8
comp=Z,39nm,21.2s,baz=308,slow=34
comp=Z,1.5nm,0.5s
MAJO Matsushiro 40.21 269 P P 23 55 18.5 -0.2
MAJO IAmb IAmb 23 55 33.6
comp=Z,9.1nm,0.9s
MJAR Matsushiro Arr 40.21 269 P P 23 55 18.9 +0.2
comp=Z,2.2nm,0.8s,baz=39,slow=7.3,SNR=6.1
MJAR LR LR 00 11 55.1
comp=Z,137nm,19.8s,baz=63,slow=36
comp=Z,2.2nm,0.8s
MJB9 Matsu-Tunnel 40.21 269 P P 23 55 18.8 +0.1
MJB9 IAmb IAmb 23 55 33.6
comp=Z,8.7nm,0.9s
BNX BinXian 41.33 287 ⇓P **P 23 55 27.1 -0.6**
BNX pmax pmax
comp=Z,9.0nm,0.8s
KSRS Korea Array 45.94 277 P P 23 56 06.0 +1.0
comp=Z,7.1nm,0.9s,baz=54,slow=7.7,SNR=25
comp=Z,7.1nm,0.9s
KSAR Wonju Array Be 45.98 278 P P 23 56 04.9 -0.3
ANMO Albuquerque 46.67 86 LR LR 00 14 49.4
comp=Z,89nm,20.1s,baz=50,slow=35
JNU Nakatsue 46.98 271 LR LR 00 15 44.3
comp=Z,85nm,20.8s,baz=62,slow=36
FRB Frobisher Bay 48.84 36 LR LR 00 19 27.2
comp=Z,150nm,18.9s,baz=304,slow=39
SPITS Spitsbergen Ar 49.88 359 P P 23 56 33.9 -1.1
comp=Z,1.1nm,0.3s,baz=33,slow=5.4,SNR=14
SPITS LR LR 00 19 41.0
comp=Z,47nm,18.1s,baz=347,slow=39
comp=Z,1.1nm,0.3s
SPB2 Spitsbergen Ar 49.89 359 P P 23 56 34.6 -0.4
SUMG Summit 50.82 17 P P 23 56 42.8 +0.2
SUMG Summit 50.82 17 *i* P **P 23 56 42.0 -0.6**
SONM Songino Array 51.85 301 P P 23 56 50.2 -0.1
comp=Z,1.6nm,0.6s,baz=57,slow=7.3,SNR=11
SONM LR LR 00 21 34.9
comp=Z,134nm,18.5s,baz=62,slow=39
comp=Z,1.6nm,0.6s
TXAR Lajitas Array 52.23 89 P P 23 56 54.9 +1.5
comp=Z,0.7nm,0.6s,baz=322,slow=9.5,SNR=4.3
TXAR LR LR 00 17 56.9
comp=Z,28nm,18.2s,baz=322,slow=35
comp=Z,0.7nm,0.6s
SFJD Kangerlussuaq 52.33 26 LR LR 00 23 54.0
comp=Z,95nm,18.3s,baz=320,slow=42
P40A Paris 52.35 72 P P 23 56 53.7 -0.3
HHC Hu-ho-hao-te 53.48 292 *eP* **P 23 57 01.9 -0.6**
HHC pmax pmax
comp=Z,8.0nm,0.7s
SCHQ Schefferville 55.23 44 LR LR 00 21 20.2
comp=Z,119nm,19.6s,baz=310,slow=37
ZALV Zelesovo Beam 57.92 318 P P 23 57 31.9 -2.2
comp=Z,0.6nm,0.4s,baz=8.9,slow=10,SNR=4.0
ZALV LR LR 00 23 39.9
comp=Z,88nm,19.1s,baz=54,slow=37
comp=Z,0.6nm,0.4s
ARCES ARCESS Array B 58.18 354 P P 23 57 33.7 -1.9
comp=Z,4.0nm,0.8s,baz=15,slow=5.3,SNR=11
ARCES LR LR 00 26 12.5
comp=Z,62nm,18.4s,baz=340,slow=40
comp=Z,4.0nm,0.8s

TKL Tuckaleechee C 59.79 70 LR LR 00 22 53.8
comp=Z,64nm,21.9s,baz=320,slow=35
BORG Borgarnes 60.69 15 LR LR 00 27 32.7
comp=Z,35nm,18.6s,baz=340,slow=40
GTA Gaotai 61.03 298 *eP* **P 23 57 55.4 -0.5**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA LR LR
comp=N,170nm,16.0s
GTA LR LR
comp=E,140nm,15.6s
GTA LR LR
comp=Z,230nm,16.7s
LZH Lanzhou 61.15 292 *eP* P 23 58 05.1 +8.4
LZH sP pwP 23 58 21.0 +17
LZH pmax pmax
comp=Z,19nm,1.5s
KURBB Kurchatov Arra 62.98 319 P P 23 58 08.2 -0.3
comp=Z,2.9nm,0.8s,baz=45,slow=7.7,SNR=23
KURBB LR LR 00 27 19.5
comp=Z,126nm,18.1s,baz=170,slow=38
comp=Z,2.9nm,0.8s
BVAR Borovoye Array 64.17 325 P P 23 58 15.3 -1.1
comp=Z,3.1nm,0.5s,baz=54,slow=6.2,SNR=25
BVAR LR LR 00 29 20.7
comp=Z,281nm,18.2s,baz=40,slow=39
comp=Z,3.1nm,0.5s
BRVK Borovoe 64.18 325 P P 23 58 16.6 +0.1
MKAR Makanchi Array 64.32 314 P P 23 58 16.6 -0.9
comp=Z,2.5nm,0.7s,baz=47,slow=5.1,SNR=23
MKAR LR LR 00 27 22.2
comp=Z,158nm,18.1s,baz=22,slow=37
comp=Z,2.5nm,0.7s
MAKZ Makanchi 64.45 314 P P 23 58 16.5 -1.9
ARTI Arti 65.12 333 P P 23 58 21.8 -0.8
KIRV Kirov 65.38 339 LR LR 00 30 50.9
comp=Z,96nm,19.3s,baz=25,slow=40
TAOE Nuku Hiva Isla 65.48 149 *e*LR LR 00 17 56.1
comp=Z,70nm,23.7s
FIA1 FINESS Array S 66.14 352 P P 23 58 28.4 -0.6
FINES FINESS Array B 66.14 352 P P 23 58 28.3 -0.8
comp=Z,5.1nm,0.7s,baz=19,slow=7.3,SNR=69
FINES LR LR 00 29 33.6
comp=Z,60nm,19.8s,baz=21,slow=38
comp=Z,5.1nm,0.7s
NC204 NORSAR Array S 66.91 0 P P 23 58 34.2 +0.1
NB2 NORSAR Subarra 67.14 0 P P 23 58 35.1 -0.5
comp=Z,1.0nm,0.7s,baz=358,slow=6.2
NOA NORSAR Array B 67.14 0 P P 23 58 35.1 -0.5
comp=Z,2.0nm,0.8s,baz=0.0,slow=6.3,SNR=11
NOA LR LR 00 29 40.6
comp=Z,25nm,18.5s,baz=350,slow=38
comp=Z,2.0nm,0.8s
HFS Hagfors 68.04 359 P P 23 58 40.7 -0.5
comp=Z,9.7nm,0.9s,baz=27,slow=3.6,SNR=58
HFS LR LR 00 27 39.1
comp=Z,39nm,20.5s,baz=4.5,slow=35
comp=Z,9.7nm,0.9s
PZH PanZhiHua 69.38 287 P P 23 58 51.0 +0.8
DAV Davao City (W) 69.76 255 LR LR 00 25 10.7
comp=Z,90nm,20.3s,baz=27,slow=32
AB31 Akbulak array 70.88 329 P P 23 58 58.5 -0.4
AAK Ala-Archa 71.01 316 LR LR 00 32 02.2
comp=Z,81nm,19.4s,baz=50,slow=38
PPT Papeete 71.37 161 LR LR 00 22 11.7
comp=Z,68nm,20.3s,baz=12,slow=29
PPT2 Papeete2 71.39 161 *e*LR LR 00 20 27.7
comp=Z,111nm,32.5s
PPT2 *e*LR LR 00 20 36.8
comp=Z,141nm,30.0s
BELG Belogornoye 71.47 338 LR LR 00 33 45.4
comp=Z,69nm,18.4s,baz=51,slow=39
EKA Eskdalemuir Ar 72.18 9 P P 23 59 06.4 -0.2
comp=Z,0.8nm,0.7s,baz=353,slow=6.5,SNR=2.4
comp=Z,0.8nm,0.7s
KSH Kashi 72.89 313 P P 23 59 15.3 +4.0
KSH pmax pmax
comp=Z,8.0nm,0.8s
AK21 Malin Array Si 76.36 349 P P 23 59 30.2 -0.8
AK22 Malin Array Si 76.37 349 P P 23 59 30.4 -0.7
AK20 Malin Array Si 76.40 349 P P 23 59 30.4 -0.8
AKASG Malin Array Be 76.41 348 P P 23 59 30.6 -0.7
comp=Z,1.2nm,0.5s,baz=15,slow=5.7,SNR=12
AKASG LR LR 00 39 26.8
comp=Z,46nm,18.0s,baz=20,slow=41
comp=Z,1.2nm,0.5s
AKBB Malin Array Si 76.41 348 P P 23 59 30.3 -1.0
KIEV Kiev 76.42 349 P P 23 59 30.3 -1.1
comp=Z,32nm,1.1s
DZM Mont Dzumac 77.09 204 *e*LR LR 00 23 24.7
comp=Z,79nm,21.2s
CMAR Chiang Mai Arr 77.17 283 P P 23 59 37.0 +0.9
comp=Z,3.1nm,0.7s,baz=27,slow=6.8,SNR=17
CMAR LR LR 00 37 15.4
comp=Z,70nm,18.7s,baz=255,slow=39
comp=Z,3.1nm,0.7s
LUBAR Lubar, Ukraine 77.35 349 P P 23 59 36.0 -0.7
OSTC Ostas 77.57 357 *eP* **P 23 59 39.7 +1.8**
DPC Dobruska-Polom 77.78 357 *eP* **P 23 59 41.0 +1.9**
DPC Dobruska-Polom 77.78 357 P P 23 59 39.2 +0.1
comp=Z,4.7nm,1.0s
KRLC Kraliky 78.03 357 *eP* **P 23 59 41.4 +0.9**
KWP Kalwaria Pacla 78.13 353 P P 23 59 40.9 -0.1
comp=Z,11nm,0.9s
BRDH Bariadhala 78.18 292 LR LR 00 37 18.3
comp=Z,66nm,18.2s,baz=139,slow=38
MORC Moravsky Berou 78.30 356 *eP* **P 23 59 42.4 +0.4**
STHS Stebnicka Huta 78.45 354 *eP* **P 23 59 44.6 +1.8**
ZVC Zvikov 78.75 358 *eP* **P 23 59 46.3 +1.9**
VRAC Vranov 78.81 357 *eP* **P 23 59 45.3 +0.5**
LANS Liptovska Anna 78.83 355 *eP* **P 23 59 47.2 +2.3**
KOLS Kolonicke sedl 78.86 353 *eP* **P 23 59 46.5 +1.4**
KRUC Moravsky 79.06 357 *eP* **P 23 59 46.8 +0.6**
KHC Kasperske Hory 79.06 359 *eP* **P 23 59 48.0 +1.8**
KHC *ex* x 00 00 23.0
JAVC Velka Javorina 79.21 356 *eP* **P 23 59 48.6 +1.5**
GERES GERESS Array B 79.35 359 P P 23 59 47.0 -0.8
comp=Z,1.1nm,0.8s,baz=344,slow=4.4,SNR=9.3
comp=Z,1.1nm,0.8s
VYHS Vyhne 79.52 355 *eP* **P 23 59 50.5 +1.8**
MODS Modra-Piesok 79.72 356 *eP* **P 23 59 50.3 +0.5**
CONA Conrad Observa 80.21 357 *i* P **P 23 59 53.6 +1.1**
comp=Z,4.3nm,1.0s,SNR=4.9
KBZ Khabaz 80.70 337 P P 23 59 56.0 +0.9
comp=Z,4.3nm,0.9s,baz=135,slow=2.2,SNR=9.3
KBZ LR LR 00 37 50.7
comp=Z,47nm,21.0s,baz=20,slow=37
comp=Z,4.3nm,0.9s
LESA Schwarzleotal 80.78 359 *eP* **P 23 59 56.6 +1.0**
comp=Z,2.4nm,1.1s
MOTA Moosalm 80.87 0 *eP* **P 23 59 56.6 +0.4**
WTTA Wattenberg 80.95 360 *eP* **P 23 59 57.7 +1.1**
comp=Z,4.3nm,0.8s
SQTA Sankt Quirin 80.99 0 *eP* **P 23 59 57.0 +0.2**
comp=Z,6.7nm,0.9s
KBA Koelnbreinsper 81.12 359 *eP* **P 23 59 58.2 +0.7**
comp=Z,9.7nm,1.0s
FETA Feichten 81.19 1 *i* P **P 23 59 57.3 -0.6**
comp=Z,7.8nm,1.0s,SNR=6.9
SOKA Soboth 81.49 358 *i* P **P 00 00 00.3 +0.9**
comp=Z,4.8nm,0.9s,SNR=4.9
MLR Muntele Rosu 81.93 350 LR LR 00 38 28.8
comp=Z,53nm,21.3s,baz=31,slow=37
GNI Garni 83.61 335 LR LR 00 41 10.7
comp=Z,49nm,21.8s,baz=36,slow=38
BRTR Keskin Array B 86.47 343 P P 00 00 25.4 +0.4
comp=Z,1.4nm,0.9s,baz=18,slow=2.4,SNR=6.9
comp=Z,1.4nm,0.9s
ESDC Sonseca Array 87.55 12 P P 00 00 29.2 -0.9
comp=Z,1.6nm,0.9s,baz=337,slow=4.9,SNR=8.6
ESDC LR LR 00 42 37.8
comp=Z,37nm,18.6s,baz=11,slow=38
comp=Z,1.6nm,0.9s
ASAR Alice Springs 90.67 231 P P 00 00 44.2 -0.5
comp=Z,1.2nm,0.7s,baz=47,slow=4.6,SNR=9.5
comp=Z,1.2nm,0.7s
MMAI Mount Meron Ar 92.63 340 LR LR 00 47 43.8
comp=Z,35nm,18.6s,baz=80,slow=39
PALK Pallekele 96.76 291 LR LR 00 52 01.9
comp=Z,41nm,18.9s,baz=194,slow=40
RPZ Rata Peaks 97.12 195 LR LR 00 36 13.9
comp=Z,60nm,21.4s,baz=128,slow=30

RSNC 17 23:59:53.7±0.0, 11°N±1°×7°4W±°, h30km±5km, M2.8, mb3.7, ML2.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRJC	**Cerrejon, Guaj**	**0.74**	**57**	P	Pb	00 00 07.2	-1.0
CRJC				S	Sb	00 00 17.6	-0.4
SMRC	**Santa Marta, M**	**0.89**	**308**	P	Pn	00 00 09.5	-0.7
SMRC				S	Sn	00 00 20.9	-1.2
ARGC	**Ariguani, Magd**	**1.04**	**224**	P	Pn	00 00 11.1	-1.2
ARGC				S	Sb	00 00 26.3	-0.2
SJCC	**San Jacinto, C**	**1.79**	**247**	P	Pn	00 00 24.2	+1.6
SJCC				S	Sb	00 00 48.1	+0.1
URIC	**Uribia, Colomb**	**1.84**	**54**	P	Pn	00 00 22.9	-0.4
URIC				S	Sn	00 00 45.5	-0.1
OCAC	**Ocana**	**2.36**	**175**	P	Pn	00 00 29.9	-0.7
OCAC				S	Sn	00 00 57.8	-0.9
PAMC	**Pamplona, Colo**	**3.35**	**166**	P	Pn	00 00 46.7	+2.3
PAMC				S	Sb	00 01 29.3	-3.9
ZARC	**Zaragoza, Cauc**	**3.37**	**203**	P	Pn	00 00 45.3	+0.9
ZARC				S	Sn	00 01 23.4	0.0
UREC	**San Jos de Ur**	**3.47**	**215**	P	Pn	00 00 46.2	+0.4
UREC				S	Sn	00 01 25.8	-0.1
BARC	**Barichara**	**4.00**	**175**	P	Pn	00 00 54.8	+1.5
PTBC	**PUERTO BERRIO,**	**4.15**	**193**	P	Pn	00 00 55.8	+0.7
PTBC				S	Sn	00 01 41.9	-0.8
RUSC	**La Rusia**	**4.71**	**175**	P	Pn	00 01 04.2	+1.0
HELC	**Santa Helena**	**4.82**	**205**	P	Pn	00 01 06.4	+1.7
HELC				S	Sn	00 02 03.3	+3.6
BCIP	**Isla Barro Col**	**6.40**	**258**	P	Pn	00 01 26.8	+0.8
	23nm,1.3s						
BCIP				S	Sn	00 02 37.0	-1.0
	23nm,1.3s						
ORTC	**Ortega, Tolima**	**6.88**	**195**	P	Pn	00 01 33.8	+1.2
	4.7nm,1.8s						
ORTC				S	Sn	00 02 53.8	+3.9
	4.7nm,1.8s						
PRAC	**Prado**	**6.99**	**191**	P	Pn	00 01 37.3	+3.2
PRAC				S	Sn	00 02 57.2	+4.6

IDC ***18*** *00:01:49.2±1.3, 30.76S×177.66W, h0km, mb3.7/4, mbtmp3.7/4, MS3.4/2, Error ellipse: s-maj=36.2km s-min=21.9km az=98.0*

ISC 18 00:01:50.8±1.1, 30.87S±0.08×177.8W±0.2, h10km, n13, σ2s 48/13, mb3.7/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.62**	**357**	Pn	**Pn**	**00 02 17.5**	**-1.9**
	324nm,0.3s,baz=60,slow=20,SNR=8.5						
RAO				Sn	**Sn**	**00 02 38.6**	**-1.7**
	321nm,0.3s,baz=69,slow=22,SNR=8.6						
URZ	**Urewera**	**8.47**	**208**	Pn	**Pn**	**00 03 51.2**	**-2.3**
	baz=146,slow=16						
URZ				Sn	**Sn**	**00 05 28.0**	**-1.1**
	0.9nm,0.3s,baz=170,slow=22,SNR=6.3						
RPZ	**Rata Peaks**	**15.56**	**211**	LR	LR	00 10 56.4	
	comp=Z,191nm,20.9s,baz=114,slow=35						
STKA	**Stephens Creek**	**34.53**	**258**	P	**P**	**00 08 40.9**	**+1.5**
	0.6nm,0.3s,baz=102,slow=14,SNR=1.6						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**43.24**	**267**	P	**P**	**00 09 53.9**	**+1.3**
	0.9nm,0.8s,baz=102,slow=7.3,SNR=7.6						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**44.27**	**273**	P	**P**	**00 10 01.3**	**+0.4**
	0.3nm,0.3s,baz=111,slow=8.1,SNR=6.4						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**59.24**	**180**	P	**P**	**00 11 52.5**	**+0.4**
	0.7nm,1.0s,baz=35,slow=8.3,SNR=1.0						
	0.7nm,1.0s						
SHEM	**Shemya Is, Ala**	**83.55**	**355**	LR	LR	00 49 45.5	
	comp=Z,15nm,18.5s,baz=69,slow=34						
FINES	**FINESS Array B**	**145.64**	**340**	PKPbc	**PKPdf**	**00 21 27.6**	**-1.1**
	1.3nm,0.5s,baz=49,slow=5.5,SNR=16						
NB2	**NORSAR Subarra**	**149.24**	**351**	PKP	**PKPab**	**00 21 50.0**	**+6.5**
	comp=Z,0.3nm,0.5s,baz=11,slow=2.8						
NOA	**NORSAR Array B**	**149.24**	**351**	PKPbc	**PKiKP**	**00 21 39.5**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=15,slow=2.7,SNR=1.6						
HFS	**Hagfors**	**149.74**	**349**	PKPbc	**PKPbc**	**00 21 39.4**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=20,slow=4.6,SNR=1.5						
AKASG	**Malin Array Be**	**151.77**	**322**	PKPbc	**PKiKP**	**00 21 45.8**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=48,slow=2.4,SNR=1.5						

NEIC ***18*** *00:04:13.5±0.5, 19.27N±0.03×155.41W±0.01, h38km±2km, Error ellipse: s-maj=3.8km s-min=1.3km az=171.0*

HVO 18 00:04:14.8±0.8, 19.25N±0.08×155.4W±0.1, h32km±2km, ML2.9/43, ML3.1/42(NEIC), Error ellipse: s-maj=18.8km s-min=6.2km az=124.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.01**	**202**		Pb	00 04 20.0	-0.3
HLP	**Hilina Pali**	**0.09**	**61**		Pb	00 04 20.2	-0.3
HLP					Sb	00 04 24.3	-0.2
HLP				IAML		00 04 26.4	
	comp=N,4μm,0.2s						
HLP				IAML		00 04 30.9	
	comp=E,3μm,0.5s						
AIN	**Ainahou**	**0.14**	**332**		Pn	00 04 20.5	-0.4
AIN					Sn	00 04 24.7	+0.1
AIN	**Ainahou**	**0.14**	**332**	IAML		00 04 25.2	
	comp=E,10μm,0.4s						
AIN				IAML		00 04 25.5	
	comp=N,18μm,0.4s						
SDHHI	**Sand Hill**	**0.17**	**34**		Pb	00 04 20.5	-0.7
SDHHI					Sn	00 04 24.7	-0.5
WRMHI	**West Rim**	**0.18**	**29**		Pb	00 04 20.5	-0.8
WRMHI					Sn	00 04 24.7	-0.8
RIM	**Rim**	**0.18**	**38**		Pb	00 04 20.6	-0.8
RIM					Sn	00 04 24.6	-0.9
KKO	**Keanakako'i**	**0.19**	**39**		Pb	00 04 20.7	-0.7
KKO					Sn	00 04 24.8	-0.9
UWE	**Uwekahuna**	**0.19**	**29**		Pb	00 04 20.7	-0.7
UWE					Sn	00 04 24.9	-1.0
UWE				IAML		00 04 27.2	
	comp=N,2μm,0.2s						
UWE				IAML		00 04 31.5	
	comp=E,3μm,0.3s						
OBL	**Observatory Le**	**0.19**	**32**		Pb	00 04 20.6	-0.8
OBL					Sn	00 04 24.9	-1.0
BYL	**Byron's Ledge**	**0.20**	**38**		Pb	00 04 20.8	-0.7
BYL					Sb	00 04 25.1	-0.9
UWB	**Uwekahuna Bluf**	**0.20**	**32**		Pb	00 04 20.6	-1.0
UWB					Sb	00 04 24.6	-1.4
PUH	**Pauahi**	**0.21**	**54**		Pb	00 04 20.7	-0.8
PUH					Sb	00 04 25.1	-1.0
PUH				IAML		00 04 25.3	
	comp=E,2μm,0.3s						
PUH				IAML		00 04 26.8	
	comp=N,1μm,0.3s						
SBLHI	**Steaming Bluff**	**0.21**	**34**		Pb	00 04 20.6	-1.0
SBLHI					Sb	00 04 25.1	-1.1
HATHI	**Halema'uma'u T**	**0.21**	**36**		Pb	00 04 20.8	-0.9
HATHI					Sb	00 04 25.1	-1.1
HATHI				IAML		00 04 25.3	
	comp=E,2μm,0.5s						
HATHI				IAML		00 04 32.4	
	comp=N,2μm,0.6s						
KHU	**Kahuku**	**0.21**	**269**		Pb	00 04 20.8	-0.9
KHU					Sb	00 04 25.1	-1.2
HPO	**Honuapo**	**0.22**	**224**		Pb	00 04 20.8	-0.8
RSD	**Rainshed**	**0.24**	**27**		Pb	00 04 20.9	-1.0
RSD					Sb	00 04 25.4	-1.4
MLH	**Mauna Loa**	**0.24**	**1**		Pb	00 04 21.4	-0.7
MLH	**Mauna Loa**	**0.24**	**1**		Sb	00 04 25.9	-1.0
MLH				IAML		00 04 26.3	
	comp=E,2μm,0.3s						
MLH				IAML		00 04 32.8	
	comp=N,2μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.25**	**59**		Pb	00 04 21.2	-0.7
STCH	**Steam Cracks**	**0.28**	**62**		Pb	00 04 21.5	-0.9
STCH					Sb	00 04 26.4	-1.2
STCH	**Steam Cracks**	**0.28**	**62**	IAML		00 04 26.5	
	comp=E,1μm,0.2s						
STCH				IAML		00 04 27.1	
	comp=N,1μm,0.1s						
NPOC	**North of Pu'u**	**0.30**	**62**		Pb	00 04 21.7	-0.9
NPOC					Sb	00 04 26.7	-1.2
MWH	**Mokuaweoweo**	**0.30**	**320**		Pb	00 04 21.9	-1.1
MWH					Sb	00 04 26.8	-1.8
MWH				IAML		00 04 32.7	
	comp=N,2μm,0.4s						
JCUZ	**Jacuzzi**	**0.30**	**64**		Pb	00 04 21.8	-0.9
JCUZ					Sb	00 04 26.9	-1.1
ALEP	**Alea Permanent**	**0.37**	**320**		Pb	00 04 22.4	-1.4

ALEP					Sb		00 04 28.1	-1.9
JOKA	**Jonika Flow**	**0.41**	**64**		Pb		00 04 22.8	-1.3
JOKA					Sb		00 04 28.7	-1.7
JOKA				IAML			00 04 29.7	
	comp=N,1μm,0.5s							
POHA	**Pohakuloa**	**0.52**	**345**		Pb		00 04 24.3	-1.6
POHA					Sb		00 04 31.2	-2.3
POHA	**Pohakuloa**	**0.52**	**345**	IAML			00 04 31.7	
	comp=N,442nm,0.5s							
POHA				IAML			00 04 37.4	
	comp=N,417nm,0.6s							
CPH	**Captain Cook**	**0.55**	**295**		Pb		00 04 24.3	-1.9
KHLU	**Kahalu`u**	**0.58**	**306**		Pb		00 04 24.9	-1.9
KHLU				IAML			00 04 32.4	
	comp=E,876nm,1.2s							
HUH	**Hualalai**	**0.60**	**316**		Pb		00 04 25.6	-1.6
HUH	**Hualalai**	**0.60**	**316**	IAML			00 04 37.8	
	comp=E,1μm,0.3s							
HUH				IAML			00 04 43.3	
	comp=N,1μm,0.2s							
KKH	**Kailua Kona**	**0.72**	**304**		Pn		00 04 26.4	-2.2
KKH					Sb		00 04 35.1	-3.4
HPAH	**Hawaii Prepara**	**0.83**	**340**		Pn		00 04 28.2	-2.1
HPAH	**Hawaii Prepara**	**0.83**	**340**	IAML			00 04 38.2	
	comp=N,791nm,0.3s							

IDC ***18*** *00:09:57.4±1.1,8.˚78S×105.˚89E,h0km,mb3.8/9, mbtmp3.8/10,ML4.0/1,Error ellipse: s-maj=29.7km s-min=23.7km az=68.0*

ISC 18 00:10:02.5±1.0,8.˚8S±0.˚1×105.˚9E±0.˚1,h35km,n14, σ0s96/12,mb3.8/9,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.60**	**40**	Pn	**Pn**	**00 10 41.7**	**-0.5**
	26nm,0.3s,baz=299,slow=9.6,SNR=16						
LEM				Sn	**Sn**	**00 11 14.1**	**+1.4**
	12nm,0.3s,baz=342,slow=21,SNR=6.2 144nm,0.6s						
CMAR	**Chiang Mai Arr**	**27.97**	**346**	P	**P**	**00 15 49.1**	**-0.9**
	0.9nm,0.3s,baz=169,slow=9.8,SNR=6.0 0.9nm,0.3s						
WRA	**Warramunga Arr**	**29.61**	**115**	P	**P**	**00 16 03.5**	**-1.2**
	0.2nm,0.4s,baz=291,slow=9.0,SNR=1.4 0.2nm,0.4s						
H08S2	**Diego Garcia H**	**33.10**	**270**	T	T	00 51 31.7	
	baz=94,slow=75,SNR=9.6						
H08S3	**Diego Garcia H**	**33.11**	**270**	T	T	00 51 34.6	
	baz=94,slow=75,SNR=8.1						
H08S1	**Diego Garcia H**	**33.12**	**270**	T	T	00 51 34.4	
	baz=94,slow=75,SNR=8.0						
SONM	**Songino Array**	**56.41**	**0**	P	**P**	**00 19 40.4**	**-0.2**
	0.4nm,0.6s,baz=185,slow=7.2,SNR=2.1 0.4nm,0.6s						
MKAR	**Makanchi Array**	**59.24**	**341**	P	**P**	**00 20 00.5**	**+0.2**
	1.2nm,0.6s,baz=144,slow=8.0,SNR=12 1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**63.80**	**341**	P	**P**	**00 20 30.5**	**-0.5**
	0.4nm,0.6s,baz=151,slow=6.2,SNR=4.3 0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**65.03**	**346**	P	**P**	**00 20 38.2**	**-0.8**
	0.7nm,0.4s,baz=157,slow=5.9,SNR=5.3 0.7nm,0.4s						
BVAR	**Borovoye Array**	**68.63**	**338**	P	**P**	**00 21 01.8**	**-0.2**
	0.4nm,0.4s,baz=138,slow=6.7,SNR=4.1 0.4nm,0.4s						
QSPA	**South Pole Qui**	**81.18**	**180**	P	**P**	**00 22 15.7**	**+1.2**
	0.7nm,0.7s,baz=45,slow=1.4,SNR=3.0 0.7nm,0.7s						
BRTR	**Keskin Array B**	**82.24**	**312**	P	**P**	**00 22 21.2**	**+0.6**
	0.5nm,0.7s,baz=104,slow=8.8,SNR=3.8 0.5nm,0.7s						
TXAR	**Lajitas Array**	**145.56**	**50**	PKPbc	**PKPab**	**00 29 39.2**	**+0.9**
	0.5nm,1.0s,baz=319,slow=3.3,SNR=5.9						

IGQ ***18*** *00:36:54.3±1.3,2.˚N±12.˚×9.˚0W±2.˚7,h10km,MLv3.9/4*
IDC ***18*** *00:37:03.5±1.8,1.˚98N×90.˚38W,h0km,mb3.8/7, mbtmp3.8/7,MS3.5/14,Error ellipse: s-maj=97.8km s-min=24.9km az=50.0*
NEIC ***18*** *00:37:04.6±0.8,1.˚51N±0.˚08×90.˚9W±0.˚1,h10km±1km, mb4.5/43,Error ellipse: s-maj=21.2km s-min=13.5km az=261.0*

ISC 18 00:37:03.1±0.5,1.˚46N±0.˚04×90.˚97W±0.˚07,h10km,n85, σ1s22/72,mb4.5/27,MS3.4/10,4C,Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FER2	**Fernandina2, P**	**1.97**	**193**	P	**Pn**	**00 37 37.2**	**+0.6**
FER2				S	**Sg**	**00 38 11.2**	**+4.8**
FER1	**Fernandina1, P**	**2.00**	**194**	⇑P	**Pn**	**00 37 34.0**	**-3.0**
ALCE	**Alcedo, Punta**	**2.14**	**208**	⇑P	**Pn**	**00 37 34.8**	**-4.3**
ALCE				S	**Sn**	**00 38 06.1**	**+0.3**
PAYG	**Puerto Ayora**	**2.23**	**162**		**Pb**	**00 37 42.0**	**-1.5**
VCH1	**Volcn Chico**	**2.24**	**183**	⇑P	**Pn**	**00 37 40.5**	**+0.1**
VCH1				S	**Sg**	**00 38 14.7**	**-0.3**
CEAZ	**Cerra Azul, Ca**	**2.30**	**191**	⇑P	**Pn**	**00 37 41.4**	**+0.2**
CEAZ				S	**Sg**	**00 38 18.4**	**+1.4**
JTS	**Las Juntas de**	**10.61**	**34**	LR	LR	00 42 28.3	
	comp=Z,1μm,20.3s,baz=195,slow=33						
BRU2	**Volcan**	**11.00**	**48**		**Pn**	**00 39 40.8**	**+0.1**
OTAV	**Otavalo**	**12.58**	**95**	Pn	**Pn**	**00 40 03.0**	**+0.3**
ATAH	**Atahualpa**	**15.18**	**124**	Pn	**P**	**00 40 42.2**	**-1.1**
	0.3nm,0.3s,baz=319,slow=12,SNR=5.6						
ATAH				LR	LR	00 45 29.2	
	comp=Z,204nm,18.5s,baz=297,slow=34						
FLOC	**Florencia**	**15.31**	**89**	Pn	**Pn**	**00 40 38.2**	**-1.4**
FLOC				IAmb	IAmb	00 40 57.6	
	comp=Z,16nm,1.2s						
CMIG	**Matias Romero**	**16.00**	**346**	Pn	**P**	**00 40 51.2**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=196,slow=2.3,SNR=4.5						
CMIG				LR	LR	00 45 29.4	
	comp=Z,121nm,21.9s,baz=166,slow=32						
ROSC	**El Rosal**	**16.96**	**78**	LR	LR	00 45 33.5	
	comp=Z,266nm,18.1s,baz=260,slow=31						
RUSC	**La Rusia**	**18.38**	**76**		**Pn**	**00 41 18.8**	**0.0**
RUSC				IAmb	IAmb	00 41 31.6	
	comp=Z,34nm,1.3s						
CZSB	**Cruzeiro do Su**	**20.38**	**117**	P	**P**	**00 41 40.7**	**+0.5**
CZSB				IAmb	IAmb	00 41 49.2	
	comp=Z,25nm,1.1s						
SDV	**Santo Domingo**	**21.54**	**69**	P	**P**	**00 41 53.2**	**+0.2**
SDV				IAmb	IAmb	00 42 18.0	
	comp=Z,15nm,0.5s						
SDV	**Santo Domingo**	**21.54**	**69**	LR	LR	00 50 02.4	
	comp=Z,187nm,19.1s,baz=255,slow=37						
TBTG	**Tabatinga, AM**	**21.78**	**105**	P	**P**	**00 41 55.3**	**-0.1**
ZAIG	**Zacatecas**	**23.99**	**333**	P	**P**	**00 42 20.0**	**+1.6**
H06E1	**SOCORRO T-PHAS** SNR=16	**26.06**	**313**	T	T	01 09 46.5	
PCRV	**Puerto La Cruz**	**27.57**	**71**	LR	LR	00 54 28.0	
	comp=Z,66nm,19.6s,slow=39						
LPAZ	**La Paz**	**28.63**	**129**	P	**P**	**00 43 01.4**	**+0.6**
LPAZ	**La Paz**	**28.63**	**129**	P	**P**	**00 43 02.8**	**+2.0**
	comp=Z,2.5nm,1.1s,baz=320,slow=9.2,SNR=3.8						
LPAZ				LR	LR	00 53 53.8	
	comp=Z,87nm,20.6s,baz=308,slow=36 comp=Z,2.5nm,1.1s						
HNDO	**Hondo**	**29.01**	**345**	P	**P**	**00 43 04.1**	**+0.8**
SJG	**San Juan**	**29.45**	**54**	LR	LR	00 53 26.3	
	comp=Z,206nm,19.9s,baz=236,slow=34						
JCT	**Junction City**	**30.05**	**345**	P	**P**	**00 43 13.6**	**+1.0**
TXAR	**Lajitas Array**	**30.24**	**338**	P	**P**	**00 43 15.2**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=148,slow=6.7,SNR=5.0						
TXAR				LR	LR	00 53 17.6	
	comp=Z,29nm,20.7s,baz=157,slow=32 comp=Z,0.6nm,0.8s						
WHTX	**Lake Whitney,**	**30.98**	**349**	P	**P**	**00 43 22.2**	**+1.5**
FW14	**Alvarado**	**31.32**	**350**	P	**P**	**00 43 24.3**	**+0.6**
PLPT	**Palo Pinto**	**31.94**	**348**	P	**P**	**00 43 30.3**	**+1.1**
PLPT				IAmb	IAmb	00 43 46.9	
	comp=Z,14nm,1.4s						
ODSA	**Odessa**	**32.39**	**341**		**P**	**00 43 33.6**	**+0.4**
MIAR	**Mount Ida**	**33.00**	**356**		**P**	**00 43 38.9**	**+0.5**
MIAR				IAmb	IAmb	00 43 46.4	
	comp=Z,4.8nm,0.9s						
DKNS	**Dickens**	**33.37**	**345**	P	**P**	**00 43 42.0**	**+0.3**
DKNS				IAmb	IAmb	00 43 49.9	
	comp=Z,6.7nm,0.7s						
WMOK	**Wichita Mounta**	**33.90**	**348**	P	**P**	**00 43 46.8**	**+0.5**
WMOK				IAmb	IAmb	00 43 48.1	
	comp=Z,6.1nm,1.1s						
SIV	**San Ignacio**	**34.25**	**122**	LR	LR	00 57 16.9	
	comp=Z,105nm,18.4s,baz=9.0,slow=36						
FCAR	**Ozark Folk Cen**	**34.27**	**358**	P	**P**	**00 43 49.9**	**+0.4**
FCAR				IAmb	IAmb	00 43 57.1	
	comp=Z,11nm,1.4s						
V48A	**Smith Brothers**	**34.32**	**6**	P	**P**	**00 43 50.3**	**+0.4**
V48A				IAmb	IAmb	00 43 57.2	
	comp=Z,6.5nm,1.0s						
TKL	**Tuckaleechee C**	**34.67**	**10**	LR	LR	00 57 34.5	
	comp=Z,62nm,18.9s,baz=194,slow=36						
AMTX	**Amarillo**	**34.72**	**344**	P	**P**	**00 43 53.9**	**+0.4**
U38A	**Gravette**	**34.95**	**355**	P	**P**	**00 43 55.5**	**+0.1**
U38A				IAmb	IAmb	00 44 03.0	
	comp=Z,11nm,1.3s						
T47A	**Sharon Grove**	**35.53**	**5**		**P**	**00 44 00.5**	**+0.1**
T47A				IAmb	IAmb	00 44 07.5	
	comp=Z,7.7nm,1.0s						
MGMO	**Mountain Grove**	**35.53**	**358**	P	**P**	**00 44 00.8**	**+0.4**
MGMO				IAmb	IAmb	00 44 08.3	
	comp=Z,9.6nm,1.1s						
BNM	**Barren Site**	**35.66**	**337**	P	**P**	**00 44 02.3**	**+0.4**
PTLB	**Pontes e Lacer**	**35.68**	**119**	P	**P**	**00 44 02.3**	**+0.4**
ANMO	**Albuquerque**	**36.30**	**338**		**P**	**00 44 07.7**	**+0.4**
CCM	**Cathedral Cave**	**36.42**	**360**		**P**	**00 44 08.2**	**+0.3**
R40A	**Maddies Statio**	**36.67**	**358**	P	**P**	**00 44 10.3**	**+0.2**
R40A				IAmb	IAmb	00 44 21.5	
	comp=Z,10.0nm,1.1s						
WCI	**Wyandotte Cave**	**36.84**	**6**	P	**P**	**00 44 12.6**	**+1.1**
WCI				IAmb	IAmb	00 44 18.3	
	comp=Z,7.0nm,0.8s						
T25A	**Trinidad**	**37.60**	**342**		**P**	**00 44 18.6**	**+0.3**
T25A				IAmb	IAmb	00 44 21.7	
	comp=Z,11nm,1.2s						
P40A	**Paris**	**37.90**	**359**	P	**P**	**00 44 20.2**	**-0.3**
P40A				IAmb	IAmb	00 44 27.9	
	comp=Z,14nm,1.0s						
SDCO	**Great Sand Dun**	**38.50**	**341**	P	**P**	**00 44 26.4**	**+0.5**
WUAZ	**Wupatki**	**38.83**	**333**	P	**P**	**00 44 30.4**	**+1.7**
S22A	**4UR Ranch, Cre**	**38.94**	**340**	P	**P**	**00 44 31.3**	**+1.6**
N47A	**Urbana**	**39.53**	**6**	P	**P**	**00 44 34.8**	**+0.6**
N47A				IAmb	IAmb	00 44 40.1	
	comp=Z,22nm,1.3s						
ISCO	**Idaho Springs**	**40.42**	**343**		**P**	**00 44 43.0**	**+1.1**
ISCO				IAmb	IAmb	00 44 50.8	
	comp=Z,7.4nm,1.1s						
ECSD	**EROS Data Cent**	**42.39**	**354**	P	**P**	**00 44 57.6**	**-0.1**
CPUP	**Villa Florida**	**42.63**	**133**	LR	LR	01 02 08.2	
	comp=Z,7.8nm,18.6s,baz=166,slow=35						
BSUT	**Blindstream Ca**	**42.83**	**338**		**P**	**00 45 03.3**	**+1.4**
BSUT				IAmb	IAmb	00 45 04.9	
	comp=Z,7.3nm,1.1s						
PDAR	**Pinedale Array**	**44.36**	**340**	P	**P**	**00 45 13.5**	**-0.5**
PDAR	**Pinedale Array**	**44.36**	**340**	P	**P**	**00 45 14.8**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=168,slow=2.6,SNR=4.7 comp=Z,0.5nm,0.8s						
SADO	**Sadowa**	**44.38**	**12**	P	**P**	**00 45 13.2**	**-0.5**
NVAR	**Mina Array Bea**	**44.51**	**329**	P	**P**	**00 45 15.8**	**+0.6**
NVAR	**Mina Array Bea**	**44.51**	**329**	P	**P**	**00 45 16.8**	**+1.6**
	comp=Z,1.6nm,0.8s,baz=136,slow=5.3,SNR=9.7						
NVAR				PcP	**PP**	**00 47 00.0**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=147,slow=3.3,SNR=4.2 comp=Z,1.6nm,0.8s						
BUKO	**Buck Lake**	**44.97**	**12**	P	**P**	**00 45 17.8**	**-0.7**
FXWY	**Fox Creek**	**45.63**	**340**		**P**	**00 45 24.3**	**+0.2**
FXWY				IAmb	IAmb	00 45 39.3	
	comp=Z,7.6nm,1.4s						
HLID	**Hailey**	**46.83**	**337**		**P**	**00 45 34.1**	**+0.6**
HLID				IAmb	IAmb	00 45 41.9	
	comp=Z,4.5nm,1.1s						
TAOE	**Nuku Hiva Isla**	**50.06**	**257**	*e*LR	LR	01 00 16.1	
	comp=Z,158nm,24.6s						
SCHQ	**Schefferville**	**56.73**	**16**	LR	LR	01 11 07.7	
	comp=Z,84nm,19.2s,baz=202,slow=36						
PPT2	**Papeete2**	**60.72**	**249**	*e*S	**S**	**00 55 31.1**	**-1.8**
	comp=Z,64nm,32.2s						
PPT2				*e*LR	LR	01 05 09.1	
	comp=Z,182nm,26.2s						
PPT2				*e*LR	LR	01 05 09.1	
	comp=Z,108nm,27.5s						
TBI	**Tubuai**	**61.95**	**243**	*e*S	S	00 55 38.8	-9.4
	comp=Z,1μm,31.8s						
TBI	**Tubuai**	**61.95**	**243**	*e*LR	LR	01 05 40.0	
	comp=Z,714nm,24.8s						
YKA	**Yellowknife Ar**	**63.40**	**348**	P	**P**	**00 47 31.9**	**-0.7**
	comp=Z,1.0nm,1.0s,baz=149,slow=5.7,SNR=7.9 comp=Z,1.0nm,1.0s						
FRB	**Frobisher Bay**	**64.30**	**11**	LR	LR	01 15 26.5	
	comp=Z,87nm,18.5s,baz=194,slow=36						
G29M	**Pine Creek**	**73.03**	**342**		**P**	**00 48 33.7**	**+0.8**
J26L	**Joseph Creek**	**73.40**	**339**	P	**P**	**00 48 36.4**	**+1.1**
J26L				IAmb	IAmb	00 48 43.5	
	comp=Z,7.2nm,1.2s						
ILAR	**Eielson Array**	**74.75**	**338**		**P**	**00 48 43.1**	**+0.1**
ILAR	**Eielson Array**	**74.75**	**338**	P	**P**	**00 48 42.7**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=146,slow=4.3,SNR=11 comp=Z,1.1nm,0.8s						
BMAR	**Burnt Mountain**	**75.38**	**341**		**P**	**00 48 47.7**	**+0.9**
ESDC	**Sonseca Array**	**86.77**	**51**	P	**P**	**00 49 45.9**	**-2.1**
	comp=Z,2.0nm,0.5s,baz=259,slow=4.9,SNR=1.7 comp=Z,0.2nm,0.5s						
H11S2	**WAKE ISLAND Hyl** baz=85,slow=75,SNR=55	**01.22**	**289**	T	T	02 43 51.2	
H11S1	**WAKE ISLAND Hyl** baz=85,slow=75,SNR=40	**01.22**	**289**	T	T	02 43 51.9	
H11S3	**WAKE ISLAND Hyl** baz=85,slow=75,SNR=43	**01.23**	**289**	T	T	02 43 50.8	
DZM	**Mont Dzumac**	**102.21**	**248**	*e*LR	LR	01 24 24.2	
	comp=Z,83nm,20.9s						
KURBB	**Kurchatov Arra**	**127.34**	**8**	PKP	**PKPdf**	**00 56 07.2**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=354,slow=0.9,SNR=3.3						
CMAR	**Chiang Mai Arr**	**157.93**	**334**	PKPab	**PKPab**	**00 57 34.5**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=33,slow=4.6,SNR=5.3						

ASRS ***18*** *00:44:14.8±0.3,51.˚N±2.˚×9.˚3E±.˚,h5km,MLh4.3/14,Error ellipse: s-maj=3.9km s-min=2.5km az=164.6,confirmed*
IDC ***18*** *00:44:19.3±1.6,50.˚97N×93.˚16E,h0km,mb3.8/5, mbtmp3.6/10,ML3.1/5,MS3.1/2,Error ellipse: s-maj=23.3km s-min=16.3km az=146.0*

ISC 18 00:44:18.9±1.5,50.˚94N±0.˚04×93.˚21E±0.˚03,h0km±11km, n30,σ1s42/49,mb3.8/5,3C-2D,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**1.09**	**45**	Pg	**Pg**	**00 44 40.4**	**+0.6**
KZLR				Sg	**Sb**	**00 44 55.2**	**-0.3**
ARDR	**Aradan**	**1.65**	**5**	⇓Pn	**Pb**	**00 44 49.8**	**-0.4**
ARDR				Sg	**Sb**	**00 45 11.2**	**-0.3**
TEL	**Teeli**	**1.91**	**274**	⇓Pg	**Pn**	**00 44 51.8**	**-0.8**
TEL				Sg	**Sn**	**00 45 16.1**	**-1.3**
CERR	**Cheremushki**	**2.22**	**331**	Pg	**Pb**	**00 44 59.6**	**-0.3**
CERR				Sg	**Sb**	**00 45 28.6**	**+0.7**
DJO	**Djoy, Khakassi**	**2.22**	**327**	Pg	**Pb**	**00 44 59.5**	**-0.4**
DJO				Sg	**Sb**	**00 45 28.6**	**+0.6**
KNGR	**Kungurtug, Tuv**	**2.75**	**95**	Pg	**Pb**	**00 45 08.2**	**-0.8**
KNGR				Sg	**Sg**	**00 45 48.1**	**+0.9**
VEH	**Verkhnyaya Baz**	**2.93**	**324**	Pg	**Pn**	**00 45 08.4**	**+1.7**
VEH				Sg	**Sb**	**00 45 50.5**	**+2.1**
CUR	**Chagan-Uzun**	**3.21**	**257**	Pg	**Pn**	**00 45 12.5**	**+1.8**
CUR				Sg	**Sb**	**00 45 58.7**	**+2.1**
ULGR	**Ulagan, Altay**	**3.35**	**267**	Pg	**Pn**	**00 45 15.5**	**+3.0**
ULGR				Sg	**Sb**	**00 46 02.9**	**+2.4**
YALR	**Yailyu, Altay**	**3.61**	**286**	Pn	**Pn**	**00 45 17.3**	**+1.3**
YALR				Pg	**Pb**	**00 45 24.0**	**+0.4**
YALR				Sg	**Sg**	**00 46 13.3**	**-1.5**
AKAR	**Aktash**	**3.61**	**262**	Pg	**Pn**	**00 45 17.8**	**+1.7**
AKAR				Sg	**Sb**	**00 46 09.6**	**+1.5**
CHBI	**Chibit, Altay**	**3.69**	**262**	Pn	**Pn**	**00 45 17.8**	**+0.6**
CHBI				Pg	**Pb**	**00 45 22.9**	**-2.0**
CHBI				Sg	**Sb**	**00 46 11.1**	**+0.9**
TASR	**Tashtagol**	**3.78**	**301**	Pn	**Pn**	**00 45 21.1**	**+2.8**
TASR				Pg	**Pb**	**00 45 27.5**	**+1.2**
TASR				Sg	**Sg**	**00 46 17.3**	**-2.8**
LUZB	**Luzhba, Kemero**	**3.80**	**318**	Pn	**Pn**	**00 45 20.5**	**+1.9**
LUZB				Pg	**Pb**	**00 45 26.1**	**-0.7**
LUZB				Sg	**Sb**	**00 46 15.1**	**+1.8**
ARTR	**Artybash**	**3.82**	**285**	Pg	**Pb**	**00 45 27.9**	**+0.9**
ARTR				Sg	**Sb**	**00 46 16.5**	**+2.7**
ZALV	**Zalesovo Beam**	**5.95**	**304**	Pn	**Pn**	**00 45 47.3**	**-0.8**
	1.1nm,0.3s,baz=120,slow=13,SNR=21						
ZALV				Sn	**Sn**	**00 46 56.1**	**-0.9**
	1.9nm,0.3s,baz=112,slow=23,SNR=3.6						
ZALV				Lg	Lg	00 47 18.5	
	2.9nm,0.3s,baz=129,slow=25,SNR=5.1						
	5.1nm,0.5s						
MK31	**Makanchi Array**	**8.31**	**244**	⇑Pn	**Pn**	**00 46 20.8**	**+0.3**
	1.0nm,0.4s,baz=74,slow=13,SNR=23						
MK31				⇑Lg	Lg	00 48 40.8	
	21nm,0.8s,baz=88,slow=24,SNR=4.4						
MKAR	**Makanchi Array**	**8.31**	**244**	Pn	**Pn**	**00 46 21.4**	**+0.9**
	1.0nm,0.3s,baz=44,slow=14,SNR=29						
MKAR				Sn	**Sn**	**00 47 53.6**	**-1.4**
	0.6nm,0.3s,baz=52,slow=20,SNR=1.4						
MKAR				Lg	Lg	00 48 40.4	
	1.8nm,0.3s,baz=55,slow=34,SNR=7.1 1.2nm,0.3s						
MAKZ	**Makanchi**	**8.48**	**245**	⇑Pn	**Pn**	**00 46 23.2**	**+0.3**
	1.9nm,0.4s						
MAKZ				Lg	Lg	00 48 44.1	
	26nm,0.9s						
SONM	**Songino Array**	**9.14**	**105**	Pn	**Pn**	**00 46 32.6**	**+0.5**
	0.2nm,0.3s,baz=296,slow=15,SNR=1.3						
SONM				Pg		00 47 02.6	
	0.6nm,0.3s,baz=300,slow=16,SNR=4.8						
SONM				Lg	Lg	00 49 05.0	
	0.9nm,0.3s,baz=294,slow=32,SNR=12						
SONM				LR	LR	00 50 09.6	
	comp=Z,96nm,18.0s,baz=240,slow=38 0.2nm,0.2s						
KURBB	**Kurchatov Arra**	**9.31**	**274**	Pn	**Pn**	**00 46 34.2**	**0.0**
	0.1nm,0.3s,baz=87,slow=15,SNR=17						
KURBB				Pg		00 46 56.2	
	0.2nm,0.3s,baz=82,slow=15,SNR=7.7						
KURBB				Lg	Lg	00 49 10.2	
	0.1nm,0.3s,baz=87,slow=34,SNR=4.6 0.8nm,0.5s						
BVAR	**Borovoye Array**	**14.21**	**287**	Pn	**Pn**	**00 47 39.2**	**-2.0**
	baz=94,slow=13,SNR=8.2						
BVAR				Sn	Sn	00 50 09.2	-10
	baz=86,slow=23,SNR=1.7						
BVAR				Lg	Lg	00 51 45.4	
	baz=87,slow=27,SNR=1.4 0.4nm,0.4s						
AAK	**Ala-Archa**	**15.24**	**244**	Lg	Lg	00 52 21.2	
	0.5nm,0.3s,baz=53,slow=20,SNR=1.6						
MJAR	**Matsushiro Arr**	**34.99**	**97**	LR	LR	01 05 16.6	
	comp=Z,9nm,20.9s,baz=220,slow=36						
FINES	**FINESS Array B**	**37.13**	**313**	P	**P**	**00 51 30.7**	**0.0**
	1.3nm,0.6s,baz=73,slow=10,SNR=11 1.3nm,0.6s						
BRTR	**Keskin Array B**	**42.26**	**279**	P	**P**	**00 52 14.2**	**+0.3**
	0.8nm,0.8s,baz=55,slow=7.6,SNR=4.9 0.8nm,0.8s						
HFS	**Hagfors**	**43.28**	**314**	P	**P**	**00 52 21.3**	**-0.4**
	1.3nm,0.6s,baz=79,slow=7.7,SNR=7.4 1.3nm,0.6s						
NB2	**NORSAR Subarra**	**44.00**	**316**	P	**P**	**00 52 27.1**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=61,slow=7.9						
NOA	**NORSAR Array B**	**44.00**	**316**	P	**P**	**00 52 27.2**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=64,slow=7.9,SNR=6.6 comp=Z,0.6nm,0.6s						
ESDC	**Sonseca Array**	**64.44**	**302**	P	**P**	**00 54 56.7**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=55,slow=6.0,SNR=1.7 comp=Z,0.4nm,0.7s						

IDC ***18*** *00:51:29.2±1.4,1.˚97N×90.˚41W,h0km,mb3.8/8, mbtmp3.8/8,MS3.7/10,Error ellipse: s-maj=91.4km s-min=19.9km az=52.0*
NEIC ***18*** *00:51:30.0±1.6,1.˚60N±0.˚07×90.˚8W±0.˚1,h10km±1km, mb4.5/61,Error ellipse: s-maj=20.4km s-min=11.6km az=262.0*

ISC 18 00:51:29.6±0.6,1.˚68N±0.˚07×90.˚76W±0.˚09,h10km,n95, σ0s88/83,mb4.5/36,MS3.5/7,Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**2.39**	**168**	Pn	**Pn**	**00 52 07.5**	**-1.4**
PAYG				Sn	**Sn**	**00 52 37.8**	**-0.4**
JTS	**Las Juntas de**	**10.32**	**34**	LR	LR	00 56 53.7	
	comp=Z,1μm,20.2s,baz=223,slow=33						
BRU2	**Volcan**	**10.70**	**48**	Pn	**Pn**	**00 54 03.1**	**-0.2**
OTAV	**Otavalo**	**12.39**	**97**		**Pn**	**00 54 27.3**	**+0.6**
FLOC	**Florencia**	**15.10**	**90**		**Pn**	**00 55 03.1**	**-0.2**
FLOC				IAmb	IAmb	00 55 18.4	
	comp=Z,44nm,1.5s						
ATAH	**Atahualpa**	**15.13**	**125**	Pn	**Pn**	**00 55 07.2**	**+3.2**
	comp=Z,0.2nm,0.3s,baz=299,slow=14,SNR=5.8						
ATAH				LR	LR	00 59 57.0	
	comp=Z,169nm,19.2s,baz=305,slow=34						
CMIG	**Matias Romero**	**15.84**	**345**	Pn	**Pn**	**00 55 15.4**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=170,slow=10,SNR=4.6						
ROSC	**El Rosal**	**16.71**	**79**	LR	LR	01 01 02.8	
	comp=Z,498nm,20.2s,baz=252,slow=35						
RUSC	**La Rusia**	**18.13**	**76**		**Pn**	**00 55 40.1**	**-2.1**
CZSB	**Cruzeiro do Su**	**20.29**	**118**	P	**P**	**00 56 06.0**	**+0.2**
CZSB				IAmb	IAmb	00 56 14.7	
	comp=Z,32nm,1.2s						
MOIG	**Morelia**	**20.59**	**331**	P	**P**	**00 56 09.1**	**-0.2**
MOIG				IAmb	IAmb	00 56 42.8	
	comp=Z,18nm,0.8s						
SDV	**Santo Domingo**	**21.27**	**70**	P

Q44A	**Meyer Farm, Va**	**37.08**	**2**	P	**P**	**00 58 40.9**	**+0.8**
T25A	**Trinidad**	**37.47**	**342**		**P**	**00 58 44.6**	**+0.9**
T25A				IAmb	IAmb	00 58 47.2	
	comp=Z,13nm,1.3s						
P40A	**Paris**	**37.69**	**358**		**P**	**00 58 45.6**	**+0.4**
P40A				IAmb	IAmb	00 58 53.2	
	comp=Z,13nm,0.9s						
MDP	**Montagnes des**	**38.20**	**84**	LR	LR	01 13 51.3	
	comp=Z,153nm,18.7s,baz=254,slow=36						
HDIL	**Hopedale**	**38.72**	**2**	P	**P**	**00 58 54.9**	**+0.9**
WUAZ	**Wupatki**	**38.73**	**333**		**P**	**00 58 55.1**	**+0.7**
WUAZ				IAmb	IAmb	00 58 57.6	
	comp=Z,8.3nm,1.1s						
S22A	**4UR Ranch, Cre**	**38.81**	**340**	P	**P**	**00 58 56.0**	**+0.9**
MVCO	**Mesa Verde**	**38.96**	**337**	P	**P**	**00 58 55.9**	**-0.4**
ACSO	**Alum Creek Sta**	**39.02**	**9**	P	**P**	**00 58 55.5**	**-0.9**
ACSO				IAmb	IAmb	00 59 03.9	
	comp=Z,13nm,1.1s						
L40A	**Anamosa**	**40.21**	**359**	P	**P**	**00 59 06.8**	**+0.4**
L40A				IAmb	IAmb	00 59 14.0	
	comp=Z,10nm,1.0s						
ISCO	**Idaho Springs**	**40.28**	**342**		**P**	**00 59 07.8**	**+0.4**
ISCO				IAmb	IAmb	00 59 10.2	
	comp=Z,10nm,1.3s						
HMU	**Henry Mountain**	**40.48**	**335**	P	**P**	**00 59 08.2**	**-0.8**
HMU				IAmb	IAmb	00 59 12.3	
	comp=Z,13nm,1.2s						
O20A	**White River Ci**	**41.44**	**340**	P	**P**	**00 59 17.8**	**+0.9**
I42A	**Draeger Farm,**	**42.06**	**2**	P	**P**	**00 59 21.7**	**+0.1**
I42A				IAmb	IAmb	00 59 28.9	
	comp=Z,15nm,1.3s						
ECSD	**EROS Data Cent**	**42.20**	**354**	P	**P**	**00 59 22.7**	**0.0**
ECSD				IAmb	IAmb	00 59 23.9	
	comp=Z,13nm,1.4s						
CPUP	**Villa Florida**	**42.63**	**133**	P	**P**	**00 59 28.2**	**+1.7**
	comp=Z,0.5nm,0.9s,baz=148,slow=3.4,SNR=3.3						
	comp=Z,0.5nm,0.9s						
BSUT	**Blindstream Ca**	**42.72**	**337**	P	**P**	**00 59 27.9**	**+0.5**
BSUT				IAmb	IAmb	00 59 30.3	
	comp=Z,7.6nm,1.0s						
SADO	**Sadowa**	**44.12**	**12**	LR	LR	01 18 27.4	
	comp=Z,51nm,18.1s,baz=200,slow=37						
PDAR	**Pinedale Array**	**44.23**	**340**	P	**P**	**00 59 39.6**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=167,slow=5.9,SNR=5.7						
	comp=Z,0.9nm,0.9s						
NVAR	**Mina Array Bea**	**44.43**	**329**		**P**	**00 59 41.1**	**0.0**
NVAR	**Mina Array Bea**	**44.43**	**329**	P	**P**	**00 59 43.1**	**+2.0**
	comp=Z,2.4nm,0.9s,baz=154,slow=9.2,SNR=15						
NVAR				PcP	**PP**	**01 01 25.5**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=130,slow=5.2,SNR=5.8						
	comp=Z,2.4nm,0.9s						
BUKO	**Buck Lake**	**44.72**	**11**	P	**P**	**00 59 43.0**	**0.0**
ELK	**Elko**	**44.75**	**333**	P	**P**	**00 59 43.6**	**-0.1**
SNOW	**Snow King Moun**	**45.26**	**339**	P	**P**	**00 59 47.7**	**0.0**
SNOW				IAmb	IAmb	00 59 49.7	
	comp=Z,5.9nm,0.9s						
AGMN	**Agassiz Nation**	**46.65**	**355**	P	**P**	**00 59 57.6**	**-0.6**
HLID	**Hailey**	**46.72**	**336**		**P**	**00 59 59.0**	**-0.1**
HLID				IAmb	IAmb	01 00 01.3	
	comp=Z,7.4nm,1.3s						
TAOE	**Nuku Hiva Isla**	**50.31**	**257**	*e*LR	LR	01 14 41.2	
	comp=Z,176nm,25.5s						
PPT2	**Papeete2**	**60.99**	**249**	*e*LR	LR	01 19 44.0	
	comp=Z,146nm,26.0s						
PPT2				*e*LR	LR	01 19 48.0	
	comp=Z,179nm,25.8s						
TBI	**Tubuai**	**62.24**	**243**	*e*LR	LR	01 20 20.5	
	comp=Z,1µm,30.8s						
YKA	**Yellowknife Ar**	**63.24**	**348**	P	**P**	**01 01 58.1**	**0.0**
	comp=Z,1.0nm,0.9s,baz=150,slow=5.8,SNR=8.5						
	comp=Z,1.0nm,0.9s						
M29M	**Somme Creek**	**70.21**	**339**	P	**P**	**01 02 43.4**	**+0.7**
M29M				IAmb	IAmb	01 02 56.3	
	comp=Z,3.8nm,1.0s						
INK	**Inuvik**	**72.55**	**345**	P	**P**	**01 02 55.9**	**-0.6**
INK				IAmb	IAmb	01 02 58.3	
	comp=Z,3.7nm,1.1s						
J26L	**Joseph Creek**	**73.27**	**339**	P	**P**	**01 03 00.8**	**-0.3**
J26L				IAmb	IAmb	01 03 02.9	
	comp=Z,7.3nm,1.2s						
F28M	**Old Crow**	**73.89**	**342**		**P**	**01 03 04.2**	**-0.3**
F28M				IAmb	IAmb	01 03 11.9	
	comp=Z,4.7nm,1.1s						
ILAR	**Eielson Array**	**74.63**	**338**	P	**P**	**01 03 08.5**	**-0.3**
ILAR	**Eielson Array**	**74.63**	**338**	P	**P**	**01 03 08.9**	**0.0**
	comp=Z,1.5nm,0.9s,baz=148,slow=4.7,SNR=12						
	comp=Z,1.5nm,0.9s						
E27K	**Coleen River**	**74.75**	**343**	P	**P**	**01 03 09.1**	**-0.5**
E27K				IAmb	IAmb	01 03 13.2	
	comp=Z,3.8nm,1.0s						
BMAR	**Burnt Mountain**	**75.25**	**341**	P	**P**	**01 03 12.8**	**+0.3**
F26K	**Sheenjek River**	**75.26**	**342**	P	**P**	**01 03 12.4**	**-0.1**
H24K	**Noodor Dome**	**75.53**	**339**		**P**	**01 03 13.4**	**-0.7**
H24K				IAmb	IAmb	01 03 16.1	
	comp=Z,6.7nm,1.2s						
ESDC	**Sonseca Array**	**86.47**	**51**	P	**P**	**01 04 11.6**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=279,slow=5.7,SNR=3.4						
	comp=Z,0.4nm,0.4s						
H11S2	**WAKE ISLAND Hyl**	**01.34**	**289**	T	T	02 58 15.8	
	baz=85,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hyl**	**01.34**	**289**	T	T	02 58 14.1	
	baz=85,slow=75,SNR=29						
H11S3	**WAKE ISLAND Hyl**	**01.36**	**289**	T	T	02 58 17.5	
	baz=85,slow=75,SNR=36						
ZALV	**Zalesovo Beam**	**124.44**	**3**	PKP	**PKPdf**	**01 10 28.0**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=325,slow=2.3,SNR=4.1						
KURBB	**Kurchatov Arra**	**127.10**	**9**	PKP	**PKPdf**	**01 10 33.3**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=344,slow=2.2,SNR=12						
CMAR	**Chiang Mai Arr**	**157.83**	**335**	PKPab	**PKPab**	**01 11 59.2**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=347,slow=6.7,SNR=5.9						

IDC ***18*** *01:14:52.3±8.5,5˙.98S×129˙.05E,h268km±87km, mb3.4/4, mbtmp4.4/8, Error ellipse: s-maj=102.3km s-min=17.1km az=52.0*

NEIC ***18*** *01:14:58.1±1.4,6˙.30S±0˙.05×128˙.59E±0˙.08, h326km±8km, mb4.2/11, Error ellipse: s-maj=11.4km s-min=7.8km az=86.0*

ISC 18 01:14:58.3±0.6, 6˙32S±0˙.07×128˙.66E±0˙.07, h350km, n31, σ2s45/36, mb3.8/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.10**	**122**	Pn	**Pn**	**01 15 57.7**	**-0.9**
FAKI	**Fak Fak**	**4.92**	**47**	Pn	**Pn**	**01 16 16.1**	**-1.1**
FAKI				Sn	**S**	**01 17 13.5**	**-7.4**
SOEI	**Soe**	**5.53**	**232**	Pn	**Pn**	**01 16 22.1**	**-1.9**
SOEI				Sn	**S**	**01 17 26.3**	**-7.0**
BATI	**Baumata**	**6.27**	**232**	P	**Pn**	**01 16 30.2**	**-2.2**
	87nm,0.4s,baz=116,slow=2.0,SNR=11						
BATI				S	**S**	**01 17 43.5**	**-5.1**
	151nm,0.5s,baz=269,slow=9.2,SNR=12						
MTN	**Manton Dam**	**6.92**	**160**	Pn	**Pn**	**01 16 39.1**	**-0.7**
KNRA	**Kununurra**	**9.30**	**179**	Pn	**Pn**	**01 17 06.3**	**-1.6**
FITZ	**Fitzroy Crossi**	**12.07**	**194**		**Pn**	**01 17 40.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**12.07**	**194**	P	**Pn**	**01 17 40.6**	**-0.3**
	4.9nm,1.1s,baz=20,slow=15,SNR=8.2						
FITZ				S	**S**	**01 19 55.1**	**0.0**
	1.8nm,0.5s,baz=316,slow=12,SNR=1.4						
WB0	**Warramunga Arr**	**14.48**	**158**		**Pn**	**01 18 08.6**	**-0.7**
WRA	**Warramunga Arr**	**14.62**	**158**		**Pn**	**01 18 08.7**	**-2.2**
WRA	**Warramunga Arr**	**14.62**	**158**	P	**Pn**	**01 18 10.2**	**-0.7**
	7.2nm,0.4s,baz=340,slow=12,SNR=100						
WRA				S	**S**	**01 20 44.9**	**-2.0**
	3.4nm,0.8s,baz=332,slow=20,SNR=6.7						
WR8	**Warramunga Arr**	**14.69**	**158**		**Pn**	**01 18 11.0**	**-0.7**
COEN	**Coen**	**16.17**	**119**	P	**Pn**	**01 18 27.9**	**-1.0**
MBWA	**Marble Bar**	**17.10**	**210**	P	**P**	**01 18 36.1**	**+0.3**
MBWA				IAmb	IAmb	01 18 36.8	
	comp=Z,9.7nm,0.9s						
PSA00	**Pilbara Seismi**	**17.39**	**208**	P	**P**	**01 18 38.6**	**-0.3**
PSA00				IAmb	IAmb	01 18 55.4	
	comp=Z,26nm,1.3s						
PSA00	**Pilbara Seismi**	**17.39**	**208**	P	**P**	**01 18 39.2**	**+0.2**
PSA00				IAmb	IAmb	01 18 53.0	
	comp=Z,7.5nm,1.3s						
AS31	**Alice Springs**	**17.97**	**164**	P	**P**	**01 18 46.5**	**+1.5**
AS31				IAmb	IAmb	01 18 47.9	
	comp=Z,6.3nm,0.5s						
ASAR	**Alice Springs**	**17.97**	**164**	P	**P**	**01 18 46.6**	**+1.6**
ASAR	**Alice Springs**	**17.97**	**164**	P	**P**	**01 18 46.9**	**+1.8**
	comp=Z,13nm,0.4s,baz=346,slow=12,SNR=84						
ASAR				S	**S**	**01 21 53.5**	**+0.5**
	comp=Z,7.0nm,0.8s,baz=343,slow=19,SNR=27						
CTAO	**Charters Tower**	**21.89**	**130**	P	**P**	**01 19 26.3**	**+2.6**
CTAO				IAmb	IAmb	01 19 27.9	
	comp=Z,6.5nm,0.8s						
STKA	**Stephens Creek**	**28.15**	**156**	P	**P**	**01 20 21.5**	**+1.9**
STKA				IAmb	IAmb	01 20 22.2	
	comp=Z,17nm,0.8s						
STKA	**Stephens Creek**	**28.15**	**156**	P	**P**	**01 20 20.8**	**+1.2**
	comp=Z,2.5nm,0.4s,baz=348,slow=8.3,SNR=5.0						
	comp=Z,2.5nm,0.4s						
EIDS	**Eidsvold**	**28.61**	**134**	P	P	01 20 27.7	+3.9
EIDS				IAmb	IAmb	01 20 38.4	
	comp=Z,21nm,1.5s						
HNR	**Honiara**	**31.14**	**98**	P	**P**	**01 20 43.9**	**-2.2**
CMAR	**Chiang Mai Arr**	**38.28**	**311**	P	**P**	**01 21 48.2**	**+1.6**
	comp=Z,1.1nm,0.4s,baz=128,slow=8.7,SNR=5.4						
	comp=Z,1.1nm,0.4s						
SANVU	**Saraoutou**	**38.86**	**107**	P	**P**	**01 21 53.0**	**+1.6**
MKAR	**Makanchi Array**	**66.94**	**327**	P	**P**	**01 25 15.9**	**+1.8**
	comp=Z,0.7nm,0.8s,baz=121,slow=7.7,SNR=8.4						
	comp=Z,0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**71.24**	**329**	P	**P**	**01 25 41.7**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=130,slow=5.0,SNR=9.9						
	comp=Z,0.7nm,0.6s						
AB31	**Akbulak array**	**81.16**	**322**	P	**P**	**01 26 37.4**	**+1.8**
ABKAR	**Akbulak array**	**81.16**	**322**	P	**P**	**01 26 37.1**	**+1.5**
QSPA	**South Pole Qui**	**83.65**	**180**	P	**P**	**01 26 50.1**	**+1.8**

IDC ***18*** *01:17:05.9±0.5, 1˙.86N×90˙.62W, h0km, mb4.4/17, mbtmp4.4/17, MS4.6/57, Error ellipse: s-maj=28.6km s-min=12.9km az=59.0*

NEIC ***18*** *01:17:07.5±1.1, 1˙.49N±0˙.07×90˙.9W±0˙.1, h10km±1km, mb4.9/179, Mww5.3/43, Error ellipse: s-maj=17.4km s-min=11.2km az=257.0*

NEIC ***18*** *01:17:07.8, 1˙.47N×90˙.89W, h12km*

NEIC ***18*** *01:17:07.8, 1˙.57N×90˙.89W, h12km, Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10¹⁷Nm; Mrr=0.71; Mθθ0.26; Mφφ0.45; Mrθ0.12; Mφθ-1.07; Mφr-0.32; Fault plane solution: M0 1.28000×10¹⁷ NP1: φs101.13000°, δ51.18000°, λ-147.12000°. NP2: φs349.07000°, δ64.98000°, λ-43.78000°. Principal axes: T 1.4748, Plg8.0000°, Azm48.0000°; N -0.6043, Plg41.0000°, Azm145.0000°; P -0.8705, Plg48.0000°, Azm309.0000°;*

GCMT ***18*** *01:17:09.5±0.1, 1˙.67N±0˙.01×90˙.82W±0˙.01, h12km, MW5.3/146, Moment Tensor Solution. s106,c172; s146,c277; Duration: 1s1 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.71±.02; Mθθ0.29±.01; Mφφ0.41±.02; Mrθ-0.20±.04; Mφθ-1.17±.01; Mφr0.15±.04; Best double couple: M0 1.19400×10¹⁷ NP1:φs1.00000°, δ70.00000°, λ-11.00000°. NP2:φs95.00000°, δ79.00000°, λ-160.00000°. Principal axes: T 1.5520, Plg6.0000°, Azm226.0000°; N -0.7180, Plg67.0000°, Azm121.0000°; P -0.8350, Plg22.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

RSNC ***18*** *01:17:10.7±1.2,2˙.N±7˙×9˙1W±1˙1, h0km, M5.0, mB5.3, mb4.6, Mw(mB)4.7, MwMwp5.2, Mwp5.5*

ISC 18 01:17:06.5±0.3, 1˙51N±0˙.05×91˙01W±0˙.05, h10km, n587, σ1s05/548, mb4.9/101, MS4.6/56, 3C-1D, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**2.28**	**162**		**Pn**	**01 17 44.7**	**+0.4**
JTS	**Las Juntas de**	**10.60**	**34**	LR	LR	01 22 41.3	
	comp=Z,15µm,19.7s,baz=204,slow=33						
BRU2	**Volcan**	**10.99**	**49**		**Pn**	**01 19 44.9**	**+0.7**
PAC1	**Pacto, Paraso**	**12.28**	**96**	P	**Pn**	**01 19 59.5**	**-2.2**
	25nm,1.3s						
AZU	**Azuero**	**12.38**	**59**	P	**Pn**	**01 20 01.7**	**-1.3**
	7µm1µm36nm,1.5s						
COHC	**Cochancay**	**12.39**	**109**	P	Pn	01 20 08.2	+5.0
MCRA	**Macar, Loja**	**12.49**	**118**	P	**Pn**	**01 20 06.9**	**+2.3**
	1µm80nm,1.1s						
ESPN	**Las Esperanzas**	**12.53**	**32**		**Pn**	**01 20 06.3**	**+1.3**
OTAV	**Otavalo**	**12.62**	**96**		**Pn**	**01 20 05.9**	**-0.8**
OTAV	**Otavalo**	**12.62**	**96**	*e*P	**Pn**	**01 20 06.0**	**-0.7**
OTAV	**Otavalo**	**12.62**	**96**	P	**Pn**	**01 20 06.0**	**-0.7**
	727nm22nm,0.4s						
CUSE	**Cuicocha Este**	**12.66**	**95**	P	**Pn**	**01 20 08.1**	**+0.8**
MTO3	**Montecristo**	**12.91**	**7**	Pn	**Pn**	**01 20 11.6**	**+1.1**
PIAT	**Ana Tenorio**	**12.98**	**101**	P	Pn	01 20 18.4	+6.8
TGUH	**Tegucigalpa,Un**	**13.00**	**16**		**Pn**	**01 20 12.2**	**+0.5**
POPC	**Popayan, Colom**	**14.36**	**86**	P	**Pn**	**01 20 28.2**	**-2.1**
	4µm597nm9.7nm,1.9s						
CCIG	**Comitan**	**14.72**	**356**		**Pn**	**01 20 36.0**	**+0.8**
ATAH	**Atahualpa**	**15.23**	**124**	Pn	**P**	**01 20 45.0**	**-2.3**
	0.3nm,0.3s,baz=314,slow=12,SNR=9.1						
ATAH				LR	LR	01 25 34.1	
	comp=Z,4µm,18.9s,baz=297,slow=34						
FLOC	**Florencia**	**15.35**	**90**		**Pn**	**01 20 41.6**	**-1.9**
FLOC				IAmb	IAmb	01 20 49.8	
	comp=Z,94nm,1.8s						
CBOC	**Ciudad Bolivar**	**15.57**	**73**	P	**Pn**	**01 20 44.3**	**-2.2**
	comp=Z,1µmcomp=Z,26nm,1.4s						
DBBC	**Dabeiba**	**15.73**	**69**	P	**P**	**01 20 52.7**	**+0.2**
ORTC	**Ortega, Tolima**	**15.92**	**81**	P	**Pn**	**01 20 48.2**	**-2.7**
	comp=Z,3µmcomp=Z,1µmcomp=Z,39nm,1.8s						
CMIG	**Matias Romero**	**15.95**	**346**	Pn	**Pn**	**01 20 52.6**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=162,slow=3.6,SNR=11						
CMIG				LR	LR	01 25 40.4	
	comp=Z,521nm,21.9s,baz=167,slow=33						
HELC	**Santa Helena**	**16.12**	**73**	P	**Pn**	**01 20 50.4**	**-3.5**
	comp=Z,971nmcomp=Z,18nm,1.4s						
PRAC	**Prado**	**16.25**	**82**	P	**P**	**01 20 58.8**	**+0.5**
PTLC	**Puerto Leguiza**	**16.26**	**95**	P	**Pn**	**01 20 54.4**	**-0.9**
	comp=Z,1µmcomp=Z,41nm,1.0s						
LCBC	**Los crdobas,**	**16.30**	**63**	P	**Pn**	**01 20 51.5**	**-4.2**
NORC	**Norcasia**	**16.60**	**76**	P	**Pn**	**01 20 56.2**	**-3.4**
UREC	**San Jos de Ur**	**16.62**	**68**	P	**Pn**	**01 20 58.6**	**-1.2**
	comp=Z,178nmcomp=Z,11nm,0.9s						
ROSC	**El Rosal**	**16.98**	**78**	Pn	**Pn**	**01 21 03.7**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=180,slow=2.4,SNR=5.7						
ROSC				LR	LR	01 26 41.4	
	comp=Z,7µm,20.7s,baz=265,slow=35						
ROSC	**El Rosal**	**16.98**	**78**	P	**P**	**01 21 08.4**	**+1.6**
MACC	**Macarena, Meta**	**17.16**	**88**	P	**P**	**01 21 11.2**	**+2.9**
CVER	**Cruz Verde, Gu**	**17.17**	**80**	P	**P**	**01 21 12.6**	**+3.7**
PTBC	**PUERTO BERRIO,**	**17.24**	**73**	P	**Pn**	**01 21 08.2**	**+0.5**
	comp=Z,181nmcomp=Z,16nm,1.4s						
VILC	**Villavicencio,**	**17.48**	**81**	P	**P**	**01 21 11.6**	**-0.4**
	comp=Z,24nm,0.9s						
TLIG	**Tlapa**	**17.60**	**335**	P	**P**	**01 21 15.3**	**+2.0**
SJCC	**San Jacinto, C**	**17.80**	**61**	P	**Pn**	**01 21 12.1**	**-2.6**
	comp=Z,6µmcomp=Z,2µmcomp=Z,30nm,1.3s						
RUSC	**La Rusia**	**18.40**	**76**	Pn	**Pn**	**01 21 19.8**	**-2.7**
RUSC				IAmb	IAmb	01 21 25.7	
	comp=Z,106nm,1.4s						
TEIG	**Tepich**	**18.80**	**8**	P	**Pn**	**01 21 27.5**	**+0.8**
	comp=Z,8µmcomp=Z,5µmcomp=Z,83nm,2.0s						
OCAC	**Ocana**	**18.84**	**69**	P	**P**	**01 21 26.8**	**-0.2**
	comp=Z,1µmcomp=Z,55nm,1.2s						
PAMC	**Pamplona, Colo**	**19.14**	**72**	P	**Pn**	**01 21 31.2**	**-0.3**
NNA	**Nana**	**19.44**	**134**	LR	LR	01 27 39.7	
	comp=Z,2µm,19.3s,baz=306,slow=33						
CZSB	**Cruzeiro do Su**	**20.43**	**117**	P	Pn	01 21 46.9	+0.5
	comp=Z,2µmcomp=Z,124nm,1.2s						
SDV	**Santo Domingo**	**21.56**	**69**	P	**P**	**01 21 55.1**	**-1.5**
SDV				IAmb	IAmb	01 22 10.9	
	comp=Z,76nm,1.1s						
SDV	**Santo Domingo**	**21.56**	**69**	P	**P**	**01 21 51.3**	**-5.3**
	comp=Z,8.8nm,0.3s,baz=252,slow=13,SNR=6.0						
SDV				LR	LR	01 29 14.2	
	comp=Z,3µm,21.9s,baz=256,slow=34						
	comp=Z,8.8nm,0.3s						
SDV	**Santo Domingo**	**21.56**	**69**	*e*P	**P**	**01 21 55.9**	**-0.7**
SDV	**Santo Domingo**	**21.56**	**69**	P	**P**	**01 21 55.5**	**-1.1**
	comp=Z,5µmcomp=Z,1µmcomp=Z,69nm,1.1s						
TBTG	**Tabatinga, AM**	**21.83**	**105**	P	**P**	**01 21 58.6**	**-0.7**
TBTG	**Tabatinga, AM**	**21.83**	**105**	*e*P	**P**	**01 21 59.7**	**+0.4**
TBTG	**Tabatinga, AM**	**21.83**	**105**	P	**P**	**01 21 59.9**	**+0.6**
ZAIG	**Zacatecas**	**23.93**	**333**		**P**	**01 22 22.0**	**+0.7**
BAUV	**El Baul**	**24.02**	**71**	P	**P**	**01 22 19.1**	**-2.8**
H06E1	**SOCORRO T-PHAS**	**26.00**	**313**	T	T	01 49 45.9	
	SNR=95						
HBVL	**Hebbronville**	**26.46**	**345**	P	**P**	**01 22 45.1**	**+1.2**
HBVL				IAmb	IAmb	01 22 47.5	
	comp=Z,37nm,1.1s						
TEFE	**Tefe**	**26.83**	**101**	*e*P	**P**	**01 22 47.3**	**-0.2**
833A	**Chaparral WMA,**	**27.85**	**344**	P	**P**	**01 22 57.1**	**+0.8**
PB18	**Visviri**	**28.46**	**133**	P	**P**	**01 23 01.9**	**-0.7**
HKT	**Hockley**	**28.66**	**351**	P	**P**	**01 23 04.0**	**+0.5**
HKT				IAmb	IAmb	01 23 20.1	
	comp=Z,55nm,2.0s						
SLBS	**Sierra La Lagu**	**28.69**	**322**	P	**P**	**01 23 05.3**	**+1.3**
SLBS				IAmb	IAmb	01 23 08.7	
	comp=Z,42nm,1.4s						
LPAZ	**La Paz**	**28.69**	**129**		**P**	**01 23 04.4**	**-0.3**
LPAZ				IAmb	IAmb	01 23 12.6	
	comp=Z,30nm,1.4s						
LPAZ	**La Paz**	**28.69**	**129**	P	**P**	**01 23 05.1**	**+0.4**
	comp=Z,4.7nm,0.9s,baz=323,slow=9.6,SNR=8.5						
LPAZ				PcP	**PcP**	**01 26 16.4**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=165,slow=2.6,SNR=3.6						
LPAZ				LR	LR	01 33 58.5	
	comp=Z,2µm,21.8s,baz=316,slow=35						
	comp=Z,4.7nm,0.9s						
LPAZ	**La Paz**	**28.69**	**129**	*e*P	**P**	**01 23 05.0**	**+0.4**
PB16	**IPOC Station P**	**28.92**	**134**	P	**P**	**01 23 03.9**	**-2.8**
PB16				IAmb	IAmb	01 23 14.8	
	comp=Z,15nm,1.1s						
HNDO	**Hondo**	**28.96**	**345**	P	**P**	**01 23 07.3**	**+1.0**
HNDO				IAmb	IAmb	01 23 08.6	
	comp=Z,17nm,1.1s						
LPIG	**La Paz**	**29.22**	**322**	LR	LR	01 32 05.5	
	comp=Z,565nm,18.4s,baz=144,slow=31						
DRIO	**Del Rio**	**29.23**	**343**		**P**	**01 23 09.7**	**+1.0**
DRIO				IAmb	IAmb	01 23 10.6	
	comp=Z,15nm,1.1s						
SJG	**San Juan**	**29.45**	**54**	LR	LR	01 33 29.3	
	comp=Z,3µm,19.6s,baz=229,slow=34						
GO01	**Chusmiza**	**30.02**	**136**	P	**P**	**01 23 15.7**	**-0.7**
GO01				IAmb	IAmb	01 23 24.9	
	comp=Z,30nm,1.4s						
TXAR	**Lajitas Array**	**30.19**	**338**		**P**	**01 23 18.2**	**+0.9**
TXAR	**Lajitas Array**	**30.19**	**338**	P	**P**	**01 23 17.5**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=153,slow=9.4,SNR=20						
TXAR				PcP	**PcP**	**01 26 19.3**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=145,slow=2.8,SNR=4.6						
TXAR				LR	LR	01 34 27.6	
	comp=Z,629nm,18.3s,baz=142,slow=35						
	comp=Z,2.9nm,0.9s						
TX31	**Lajitas Ar. Si**	**30.19**	**338**	P	**P**	**01 23 18.0**	**+0.6**
SAND	**Sanderson**	**30.20**	**341**		**P**	**01 23 17.8**	**+0.4**
PB08	**IPOC Station P**	**30.36**	**136**	P	**P**	**01 23 18.1**	**-1.2**
PB08				IAmb	IAmb	01 23 30.1	
	comp=Z,33nm,1.6s						
BOAV	**Boa Vista**	**30.48**	**88**		**P**	**01 23 18.5**	**-1.5**
BOAV				IAmb	IAmb	01 23 26.4	
	comp=Z,14nm,1.2s						
BOAV	**Boa Vista**	**30.48**	**88**	*e*P	**P**	**01 23 18.5**	**-1.5**
BRDY	**Brady**	**30.57**	**346**		**P**	**01 23 20.6**	**0.0**
MACA	**Manacapuru-AM**	**30.66**	**99**	*e*P	**P**	**01 23 20.8**	**-0.9**
OZNA	**Ozona**	**30.79**	**343**		**P**	**01 23 22.9**	**+0.4**
OZNA				IAmb	IAmb	01 23 24.9	
	comp=Z,53nm,2.0s						
WHTX	**Lake Whitney,**	**30.93**	**349**		**P**	**01 23 24.4**	**+0.7**
ALPN	**Alpine**	**31.11**	**339**	P	**P**	**01 23 25.8**	**+0.3**
FW14	**Alvarado**	**31.28**	**350**	P	**P**	**01 23 27.6**	**+0.8**
152A	**Waverly Hall**	**31.56**	**10**	P	**P**	**01 23 29.2**	**0.0**
152A				IAmb	IAmb	01 23 36.3	
	comp=Z,24nm,1.3s						
FW07	**Weatherford**	**31.68**	**349**	P	**P**	**01 23 30.7**	**+0.4**
MNHN	**Monahans**	**31.69**	**341**	P	**P**	**01 23 32.1**	**+1.6**
MNHN				IAmb	IAmb	01 23 34.3	
	comp=Z,16nm,1.1s						
PLPT	**Palo Pinto**	**31.89**	**348**		**P**	**01 23 33.1**	**+0.9**
FW06	**Azle**	**31.90**	**350**	P	**P**	**01 23 33.7**	**+1.5**
VHRN	**Van Horn**	**31.99**	**337**		**P**	**01 23 34.3**	**+1.0**
ABTX	**Abilene, Hawle**	**32.00**	**346**	P	**P**	**01 23 33.9**	**+0.6**
ABTX				IAmb	IAmb	01 23 41.0	
	comp=Z,11nm,0.9s						
WLAR	**White Oak Lake**	**32.07**	**357**		**P**	**01 23 34.6**	**+0.9**
Z35A	**Perchaven, San**	**32.20**	**350**	P	**P**	**01 23 36.1**	**+1.3**
Y45A	**Yeager Farm, C**	**32.22**	**2**		**P**	**01 23 36.0**	**+0.9**
ODSA	**Odessa**	**32.34**	**341**		**P**	**01 23 37

T57A Hurt 36.95 16 P 01 24 15.8 -0.1
T57A IAmb IAmb 01 24 22.4
comp=Z,18nm,1.1s
CLDB Colider 37.12 110 *eP* **P 01 24 16.3 -1.4**
OLIL Olney 37.15 4 P 01 24 18.1 +0.6
R32A Long Quarter, 37.41 350 P 01 24 20.9 +1.0
T25A Trinidad 37.55 342 P 01 24 22.0 +0.6
T25A IAmb IAmb 01 24 24.6
comp=Z,30nm,1.1s
P40A Paris 37.86 359 P 01 24 23.6 0.0
P48A Milroy 38.12 7 P 01 24 24.9 -0.9
P48A IAmb IAmb 01 24 32.2
comp=Z,37nm,1.1s
Y14A Wickenburg 38.27 330 P 01 24 28.1 +0.8
MDP Montagnes des 38.46 84 LR LR 01 39 28.7
comp=Z,1µm,20.3s,baz=270,slow=35
WUAZ Wupatki 38.77 333 P 01 24 33.0 +1.4
WUAZ IAmb IAmb 01 24 35.6
comp=Z,24nm,0.9s
P53A Whipple 38.81 12 P 01 24 31.4 -0.2
P53A IAmb IAmb 01 24 38.5
comp=Z,45nm,1.1s
SFIN Lafayette 38.85 5 P 01 24 31.4 -0.6
SFIN IAmb IAmb 01 24 38.6
comp=Z,36nm,1.1s
BLYC Blythe 38.91 328 P 01 24 34.5 +2.0
O48B Farmland 38.94 7 P 01 24 33.5 +0.8
O48B IAmb IAmb 01 24 38.3
comp=Z,21nm,1.1s
SALV Santo Antonio 38.94 118 *eP* **P 01 24 32.2 -0.8**
MVCO Mesa Verde 39.02 338 P 01 24 34.6 +0.9
N38A Joes South For 39.16 357 P 01 24 35.1 +0.5
ACSO Alum Creek Sta 39.23 10 P 01 24 34.2 -1.0
ACSO IAmb IAmb 01 24 41.9
comp=Z,28nm,1.1s
BORC Borrego Spring 39.58 326 P **P 01 24 39.2 +1.0**
W13A Hualapai Mount 39.63 330 P 01 24 40.0 +1.2
N49A Columbus Grove 39.72 8 P 01 24 38.3 -0.9
N49A IAmb IAmb 01 24 45.0
comp=Z,32nm,1.4s
PFO Pinyon Flats O 39.86 326 LR LR 01 38 37.7
comp=Z,375nm,18.8s,baz=87,slow=32
MURT Porto Murtinho 39.93 127 *eP* **P 01 24 41.8 +0.6**
BDQN Bodoquena, MS 40.03 125 *eP* **P 01 24 42.1 0.0**
PV18 Skein Mesa, Pa 40.08 338 P 01 24 42.9 +0.4
PV18 IAmb IAmb 01 24 45.1
comp=Z,31nm,1.1s
PV20 West Nyswonger 40.19 338 P 01 24 44.4 +1.0
PV20 IAmb IAmb 01 24 51.9
comp=Z,28nm,1.0s
PV22 Blue Mesa, Par 40.29 338 P 01 24 44.8 +0.6
BO01 Tunca 40.31 154 P **P 01 24 43.2 -1.1**
BO01 IAmb IAmb 01 24 52.2
comp=Z,30nm,1.1s
ISCO Idaho Springs 40.37 343 P 01 24 45.6 +0.6
ISCO IAmb IAmb 01 24 47.6
comp=Z,21nm,1.1s
L40A Anamosa 40.38 360 P 01 24 44.4 -0.3
L40A IAmb IAmb 01 24 51.3
comp=Z,43nm,1.2s
OGNE Ogallala 40.51 347 P 01 24 46.8 +0.9
OGNE IAmb IAmb 01 24 53.9
comp=Z,26nm,0.9s
V12A Nelson 40.61 330 P 01 24 47.8 +0.9
KNB Kanab 40.67 333 P 01 24 47.6 +0.2
AQDB Aquidauana 40.91 124 P **P 01 24 49.8 +0.5**
AQDB IAmb IAmb 01 24 56.0
comp=Z,23nm,1.2s
AQDB Aquidauana 40.91 124 *eP* **P 01 24 49.9 +0.5**
BFSC Mount Baldy Ra 40.99 325 P **P 01 24 51.2 +1.2**
JFWS Jewell Farm 41.23 1 P 01 24 51.1 -0.6
JFWS IAmb IAmb 01 24 57.9
comp=Z,33nm,0.9s
SZCU Shurtz Canyon 41.27 333 P 01 24 53.4 +1.1
CCUT Cedar City 41.35 333 P 01 24 54.3 +1.2
SHPR Sheep Range 41.38 330 P 01 24 54.5 +1.3
O20A White River Ci 41.52 340 P 01 24 55.2 +0.9
O20A IAmb IAmb 01 25 02.8
comp=Z,23nm,1.1s
Q16A Castle Valley 41.55 336 P 01 24 55.8 +1.2
Q16A IAmb IAmb 01 24 57.7
comp=Z,22nm,1.3s
SNDB Serra Nova Dou 41.66 110 *eP* **P 01 24 56.3 +0.6**
K30B Basset 41.71 350 P 01 24 56.8 +1.1
PRPB Parauapebas 41.83 101 *eP* **P 01 24 56.6 -0.5**
QSM Queen of Sheba 41.84 328 P 01 24 58.8 +1.9
QSM IAmb IAmb 01 25 00.2
comp=Z,15nm,1.0s
TMUT Trail Mountain 41.89 336 P 01 24 58.2 +0.7
GWY Greenwater Val 41.90 328 P 01 24 58.6 +1.1
BI02 San Fabin de 42.18 156 P **P 01 24 59.6 0.0**
I42A Draeger Farm, 42.24 2 P **P 01 24 59.0 -1.0**
I42A IAmb IAmb 01 25 06.3
comp=Z,43nm,1.3s
ARAG Araguaiana, MT 42.34 115 *eP* **P 01 25 00.3 -0.8**
ECSD EROS Data Cent 42.34 354 P **P 01 25 00.1 -0.7**
ECSD IAmb IAmb 01 25 07.1
comp=Z,28nm,1.1s
I37A Lemond, Waseca 42.38 357 P 01 25 00.1 -1.0
PSUT Pine Spring 42.38 333 P 01 25 01.9 +0.5
RPRD Ribas do Rio P 42.57 123 *eP* **P 01 25 03.7 +0.6**
AMBA Amambai (Brazi 42.66 127 *eP* **P 01 25 06.2 +2.4**
CPUP Villa Florida 42.69 133 P 01 25 03.6 -0.3
CPUP Villa Florida 42.69 133 P **P 01 25 04.6 +0.8**
comp=Z,1.1nm,1.0s,baz=115,slow=7.8,SNR=3.7
CPUP LR LR 01 43 29.4
comp=Z,192nm,20.7s,baz=186,slow=37
comp=Z,1.1nm,1.0s
CPUP Villa Florida 42.69 133 *eP* **P 01 25 05.5 +1.6**
BSUT Blindstream Ca 42.78 338 P 01 25 01.1 +0.2
BSUT IAmb IAmb 01 25 09.4
comp=Z,45nm,1.3s
SJPY San Joaquin 42.87 130 *eP* **P 01 25 08.4 +3.1**
SPR3 Spring Creek 3 42.97 333 P 01 25 07.1 +0.7
R11B Troy Canyon, C 43.04 331 P 01 25 07.9 +1.1
TMAB Tom-Au,PA,Br 43.07 95 *eP* **P 01 25 07.1 -0.1**
DSP Deep Springs 43.48 328 P 01 25 11.3 +1.3
SPMN Marine on St. 43.56 358 P 01 25 10.2 -0.4
SPMN IAmb IAmb 01 25 16.6
comp=Z,24nm,1.3s
RSSD Black Hills 43.98 346 P 01 25 14.8 +0.5
BGU Big Grassy Mou 44.01 336 P 01 25 15.2 +0.7
BGU IAmb IAmb 01 25 17.2
comp=Z,15nm,1.1s
HWUT Hardware Ranch 44.01 338 P 01 25 15.2 +0.7
HWUT IAmb IAmb 01 25 27.8
comp=Z,14nm,1.2s
PDAR Pinedale Array 44.31 340 P 01 25 17.7 +0.7
PDAR Pinedale Array 44.31 340 P **P 01 25 17.0 0.0**
comp=Z,5.4nm,1.1s,baz=147,slow=8.3,SNR=23
PDAR PcP **PP 01 27 00.4 0.0**
comp=Z,2.5nm,1.1s,baz=194,slow=2.1,SNR=4.1
PDAR LR LR 01 43 25.4
comp=Z,512nm,19.0s,baz=146,slow=36
comp=Z,5.4nm,1.1s
SADO Sadowa 44.34 12 P 01 25 16.3 -0.6
SADO Sadowa 44.34 12 LR LR 01 43 55.9
comp=Z,666nm,19.5s,baz=202,slow=37
NV11 Mina Array Sit 44.38 329 P 01 25 18.7 +1.2
NV11 IAmb IAmb 01 25 20.9
comp=Z,11nm,1.0s
F33A 5 Mile Ranch, 44.40 355 P 01 25 17.4 0.0
F33A IAmb IAmb 01 25 23.2
comp=Z,27nm,1.3s
DELO Deloro Mine 44.44 14 P 01 25 16.4 -1.3
DELO IAmb IAmb 01 25 24.2
comp=Z,30nm,1.3s
NVAR Mina Array Bea 44.45 329 P 01 25 18.6 +0.5
NVAR Mina Array Bea 44.45 329 P **P 01 25 19.3 +1.1**
comp=Z,13nm,0.9s,baz=153,slow=7.8,SNR=54
NVAR PcP **PcP 01 27 01.8 0.0**
comp=Z,5.6nm,0.8s,baz=143,slow=4.0,SNR=9.7
NVAR LR LR 01 42 06.0
comp=Z,280nm,18.9s,baz=150,slow=34
comp=Z,13nm,0.9s
SMTB Santa Maria do 44.47 104 *eP* **P 01 25 18.0 -0.5**
TRCB Terra Rica 44.51 125 *eP* **P 01 25 20.1 +1.4**
ELK Elko 44.80 334 P 01 25 21.2 +0.2
ELK Elko 44.80 334 LR LR 01 42 20.2
comp=Z,531nm,20.0s,baz=151,slow=34
E46A Sault Ste Mari 45.06 7 P 01 25 24.0 +1.4
E46A IAmb IAmb 01 25 28.9
comp=Z,17nm,1.1s
WAKR Walker 45.10 328 P 01 25 23.1 -0.2

PCMB Pacaembu 45.11 123 *eP* **P 01 25 24.9 +1.4**
CMB Columbia Colle 45.26 327 P 01 25 25.8 +1.4
LONY Lake Ozonia 45.33 16 P 01 25 23.8 -1.0
LONY IAmb IAmb 01 25 31.1
comp=Z,27nm,1.2s
TPAW Teton Pass 45.43 340 P 01 25 26.5 +0.6
TPAW IAmb IAmb 01 25 33.6
comp=Z,15nm,1.0s
FXWY Fox Creek 45.58 340 P 01 25 27.8 +0.7
FXWY IAmb IAmb 01 25 29.5
comp=Z,17nm,1.1s
E28A Huff 45.68 351 P 01 25 28.2 +0.6
BDFB Brasilia 45.78 114 P **P 01 25 28.6 -0.3**
comp=Z,1.7nm,0.5s,baz=327,slow=5.0,SNR=5.7
BDFB LR LR 01 44 43.4
comp=Z,1µm,19.7s,baz=293,slow=36
comp=Z,1.7nm,0.5s
FRNY Flat Rock 45.81 17 P 01 25 28.8 +0.2
FRNY IAmb IAmb 01 25 35.1
comp=Z,27nm,1.4s
PTGB Pitanga 45.87 127 *eP* **P 01 25 29.6 0.0**
PAHR Pah Rah Range 45.96 329 P 01 25 31.4 +1.3
PAHR IAmb IAmb 01 25 34.9
comp=Z,24nm,1.7s
PLCA Paso Flores 45.99 158 P **P 01 25 33.0 +2.8**
comp=Z,20nm,1.1s,baz=342,slow=10.0,SNR=8.2
PLCA LR LR 01 40 49.8
comp=Z,501nm,18.3s,baz=332,slow=31
comp=Z,20nm,1.1s
PLCA Paso Flores 45.99 158 *eP* **P 01 25 34.6 +4.4**
AFDM Forest Hills D 46.24 327 P 01 25 32.9 +0.8
AFDM IAmb IAmb 01 25 34.8
comp=Z,7.9nm,1.0s
RLMT Red Lodge 46.33 342 P 01 25 32.9 0.0
RLMT IAmb IAmb 01 25 35.4
comp=Z,14nm,1.4s
IPMB Ipameri, GO 46.36 117 *eP* **P 01 25 32.5 -0.9**
AGMN Agassiz Nation 46.80 356 P **P 01 25 35.8 -0.5**
LAO LASA Array 46.92 346 P 01 25 36.9 -0.5
LAO IAmb IAmb 01 27 13.3
comp=Z,14nm,1.1s
G62A West of Eustis 47.13 20 P 01 25 39.1 +0.1
MFID Camas Ranch 47.23 335 P 01 25 40.9 +1.0
MFID IAmb IAmb 01 25 44.0
comp=Z,9.5nm,1.1s
MCMT McKenzie Canyo 47.26 339 P **P 01 25 41.4 +1.1**
TRQA Tornquist 47.62 149 P **P 01 25 43.4 +0.4**
DLMT Dillon 47.64 339 P 01 25 43.7 +0.6
LL02 Futaleuf 47.72 161 P **P 01 25 43.8 +0.2**
SDBA SAO DESIDERIO 47.81 108 *eP* **P 01 25 44.6 -0.2**
CPSB Cacapava Do Su 47.82 135 *eP* **P 01 25 44.7 +0.1**
VLDQ Val d'Or 47.88 12 P 01 25 45.1 +0.4
J08A Circle Bar Ran 48.33 333 P 01 25 49.1 +0.6
PLID Pearl Lake 48.68 337 P **P 01 25 50.8 -0.5**
PLID IAmb IAmb 01 25 58.2
comp=Z,19nm,1.3s
K05A Summer Lake 48.98 331 P 01 25 54.4 +0.8
K05A IAmb IAmb 01 25 56.6
comp=Z,20nm,1.1s
BMO Blue Mountains 49.02 335 P 01 25 54.8 +1.1
JANB Januaria 49.03 111 *eP* **P 01 25 54.0 -0.2**
EGMT Eagleton 49.09 343 P 01 25 55.1 +0.9
YBH Yreka Blue Hor 49.16 329 P 01 25 55.0 +0.1
YBH Yreka Blue Hor 49.16 329 LR LR 01 46 53.0
comp=Z,14nm,18.6s,baz=122,slow=36
D62A Allapoint, All 49.26 20 P 01 25 56.2 +0.8
D62A IAmb IAmb 01 26 01.6
comp=Z,15nm,1.0s
L04D Klamath Falls 49.31 329 P 01 25 57.1 +1.0
L04D IAmb IAmb 01 25 58.8
comp=Z,20nm,1.1s
VAO Valinhos 49.31 122 *eP* **P 01 25 57.4 +1.2**
I07A Izee 49.36 333 P 01 25 57.4 +1.0
PINE Pine Mountain 49.81 332 P 01 26 00.8 +0.9
PINE IAmb IAmb 01 26 03.2
comp=Z,20nm,1.1s
TAOE Nuku Hiva Isla 50.04 257 *eS* **S 01 33 12.3 -1.2**
comp=Z,406nm,25.2s
TAOE *eSS* **SS 01 36 40.9 -5.9**
comp=Z,106nm,31.2s
TAOE *eLQ* LQ 01 38 14.2
comp=Z,1µm,27.7s
TAOE *eLR* LR 01 40 19.0
comp=Z,3µm,25.2s
E09A Wood Farm, Sta 50.71 336 P 01 26 06.9 +0.5
E09A IAmb IAmb 01 26 07.6
comp=Z,17nm,1.0s
G06A Carlson Farm, 50.77 333 P 01 26 07.9 +1.0
G06A IAmb IAmb 01 26 15.3
comp=Z,24nm,1.4s
D08A Wollman Farm, 51.46 336 P 01 26 12.5 +0.4
NEW Newport 51.74 338 P 01 26 14.7 +0.5
NEW Newport 51.74 338 LR LR 01 48 05.4
comp=Z,806nm,18.9s,baz=152,slow=36
CMC01 Camacan, BA 53.58 110 *eP* **P 01 26 29.9 +1.6**
RCBR Riachuelo 55.51 98 LR LR 01 49 56.4
comp=Z,456nm,20.3s,baz=282,slow=36
SCHQ Schefferville 56.70 16 P **P 01 26 47.9 -2.3**
comp=Z,7.6nm,1.0s,baz=225,slow=10.0,SNR=3.6
SCHQ LR LR 01 50 40.1
comp=Z,838nm,21.2s,baz=204,slow=36
comp=Z,7.6nm,1.0s
USHA Ushuaia 59.15 165 LR LR 01 49 00.4
comp=Z,190nm,20.5s,baz=262,slow=32
BBB Bella Bella 59.24 334 LR LR 01 50 33.1
comp=Z,201nm,20.8s,baz=164,slow=34
PPT Papeete 60.70 249 LR LR 01 47 28.4
comp=Z,1µm,18.8s,baz=77,slow=30
PPT2 Papeete2 60.70 249 *eP* P 01 27 11.8 -7.0
PPT2 comp=Z,37nm,23.8s *eS* **S 01 35 36.9 +0.8**
PPT2 comp=Z,637nm,28.2s *eSS* **SS 01 39 35.3 +0.3**
PPT2 comp=Z,146nm,27.0s *eLQ* LQ 01 42 41.4
PPT2 comp=Z,1µm,36.2s *eLR* LR 01 45 14.9
PPT2 comp=Z,3µm,26.0s *eLR* LR 01 45 15.1
comp=Z,2µm,26.5s
TBI Tubuai 61.94 243 *eS* **S 01 35 47.2 -4.3**
TBI comp=Z,3µm,30.8s *eSS* **SS 01 39 55.1 +1.0**
TBI comp=Z,5µm,38.5s *eLQ* LQ 01 43 17.0
TBI comp=Z,4µm,33.0s *eLR* LR 01 45 49.5
TBI comp=Z,14µm,27.8s *eLR* LR 01 45 51.1
comp=Z,3µm,28.5s
V35K Ketchikan 62.93 335 P **P 01 27 33.7 +0.7**
baz=133
TOAD Toad River Com 63.13 341 P **P 01 27 34.4 +0.1**
baz=141
YKA Yellowknife Ar 63.35 348 P **P 01 27 34.9 -0.8**
comp=Z,7.1nm,1.0s,baz=150,slow=5.8,SNR=38
YKA PcP **PcP 01 28 11.4 -1.3**
comp=Z,1.1nm,0.9s,baz=143,slow=4.2,SNR=4.7
YKA PP **PP 01 29 55.6 +0.5**
comp=Z,0.5nm,0.9s,baz=152,slow=7.7,SNR=3.9
YKA LR LR 01 57 31.9
comp=Z,241nm,18.8s,baz=148,slow=38
comp=Z,7.1nm,1.0s
T35M Bob Quinn 63.53 337 P **P 01 27 37.8 +0.7**
baz=135
CRAG Craig 63.66 335 P **P 01 27 38.8 +1.0**
baz=132
KOTAN Kotaneelee Air 63.77 342 P **P 01 27 40.0 +1.5**
baz=142
WRAK Wrangell Islan 63.97 336 P **P 01 27 41.3 +1.5**
baz=133
U33K Whale Pass 64.09 335 P **P 01 27 42.0 +1.3**
baz=132
FRB Frobisher Bay 64.26 11 LR LR 01 55 20.9
comp=Z,850nm,19.8s,baz=200,slow=36
DLBC Dease Lake 64.49 338 P **P 01 27 43.6 +0.2**
comp=Z,0.5nm,0.8s,baz=152,slow=5.0,SNR=10
DLBC LR LR 01 56 13.9
comp=Z,46nm,18.1s,baz=111,slow=36
comp=Z,0.5nm,0.8s
DLBC Dease Lake 64.49 338 P **P 01 27 44.5 +1.1**
baz=136
S34M Telegraph Cree 64.53 338 P **P 01 27 45.1 +1.5**
baz=134
R33M Jennings River 65.51 339 P **P 01 27 51.3 +1.2**
baz=135

S32K Killisnoo 65.59 336 P **P 01 27 52.0 +1.7**
baz=131
SIT Sitka 65.63 335 P **P 01 27 51.7 +1.1**
baz=130
Q32M Nakina River 65.69 338 P **P 01 27 52.1 +0.8**
baz=134
R32K Eaglecrest 66.09 337 P **P 01 27 55.2 +1.5**
baz=131
TGTN Hyland Airport 66.16 342 P **P 01 27 55.5 +1.3**
baz=138
S31K Pelican 66.58 336 P **P 01 27 58.2 +1.4**
baz=129
P32M Atlin 66.66 338 P **P 01 27 58.3 +1.0**
baz=132
P33M Teslin, Yukon 66.75 339 P **P 01 27 58.3 +0.2**
baz=133,SNR=6.5
SKAG Skagway 67.19 337 P **P 01 28 01.8 +1.2**
baz=131
N32M Quiet Lake 67.50 339 P **P 01 28 03.4 +0.7**
baz=134
PLBC Pleasant Camp 67.59 337 P **P 01 28 03.9 +0.7**
baz=130
WHY Whitehorse 67.81 338 P **P 01 28 04.4 -0.4**
baz=132
MMPY Sheldon Lake, 67.92 341 P **P 01 28 06.2 +0.8**
baz=136,SNR=8.8
P29M Windy Craggy 68.25 337 P **P 01 28 08.9 +1.5**
baz=128
P30M Million Dollar 68.25 337 P **P 01 28 08.1 +0.7**
baz=129
O30N Mendenhall 68.33 338 P **P 01 28 08.3 +0.4**
baz=130
M31M Drury Creek, Y 68.67 340 P **P 01 28 10.9 +0.8**
baz=132
N31M Braeburn, Yuko 68.69 339 P **P 01 28 10.9 +0.8**
baz=131
HYT Haines Junctio 68.90 338 P **P 01 28 12.6 +1.0**
baz=129
PNL Peninsula 68.94 336 P **P 01 28 12.9 +1.3**
baz=127
O29M Mount Kennedy 68.99 337 P **P 01 28 13.4 +1.2**
baz=128
PMSA Palmer Station 69.01 168 LR LR 01 51 14.8
comp=Z,159nm,21.8s,baz=338,slow=30
N30M Aishikik Lake 69.15 338 P **P 01 28 14.2 +1.1**
baz=130,SNR=6.1
YUK6 Outpost Mounta 69.31 337 P **P 01 28 15.8 +1.6**
baz=128
PINM Pinnacle 69.54 336 P **P 01 28 16.3 +0.8**
baz=126
YUK4 Talbot Arm 69.66 338 P **P 01 28 17.1 +0.7**
baz=128
M30M Minto, Yukon 69.76 339 P **P 01 28 17.1 +0.3**
baz=130,SNR=7.0
O28M Mount Upton 69.91 337 P **P 01 28 19.0 +0.9**
baz=126
YUK8 Steele Glacier 70.05 337 P **P 01 28 19.9 +1.1**
baz=127
M29M Somme Creek 70.28 339 P **P 01 28 20.9 +0.9**
baz=128,SNR=13
MESA MESA 70.28 336 P **P 01 28 20.7 +0.5**
baz=124
CTG Chitna Glacier 70.48 337 P **P 01 28 21.9 +0.5**
baz=125
L29M L29M 70.58 339 P **P 01 28 22.4 +0.7**
baz=129,SNR=9.6
YUK3 Moose Creek 70.61 337 P **P 01 28 22.8 +0.5**
baz=126,SNR=6.5
RAR Rarotonga 70.83 247 LR LR 01 51 12.3
comp=Z,946nm,21.2s,baz=82,slow=29
K29M Barlow Dome 70.83 340 P **P 01 28 23.6 +0.2**
baz=130,SNR=5.9
J30M Hart River 70.92 341 P **P 01 28 24.1 +0.2**
baz=131,SNR=5.9
CRQE Cirque 71.07 336 P **P 01 28 25.2 +0.3**
baz=124
H31M Peel River 71.13 343 P **P 01 28 25.5 +0.5**
baz=134,SNR=6.1
SFJD Kangerlussuaq 71.14 16 LR LR 01 57 32.4
comp=Z,664nm,21.5s,baz=220,slow=34
KAIM Kayak Island 71.18 335 P **P 01 28 25.7 +0.3**
baz=122
I30M Mount Dempster 71.36 342 P **P 01 28 27.0 +0.4**
baz=131,SNR=9.8
MCARA McCarthy VSAT 71.39 336 P **P 01 28 27.6 +0.9**
baz=124
J29N Klondike Camp 71.46 340 P **P 01 28 28.1 +1.0**
baz=129
M27K Edge Creek, AK 71.50 338 P **P 01 28 28.3 +0.8**
baz=125,SNR=12
DAWY Dawson 71.62 340 P **P 01 28 28.6 +0.5**
baz=128,SNR=10.0
Q23K Middleton Isla 71.76 334 P **P 01 28 29.8 +0.9**
baz=120
BMRM Bremner River 71.81 336 P **P 01 28 30.5 +1.2**
baz=122,SNR=6.7
G31M Satah River 71.88 343 P **P 01 28 29.9 +0.4**
baz=134,SNR=8.8
L27K Beaver Creek, 71.89 338 P **P 01 28 30.2 +0.5**
baz=125,SNR=5.5
M26K Nabesna, AK 71.95 337 P **P 01 28 30.8 +0.7**
baz=124
I29M Ogilvie Camp, 72.07 341 P **P 01 28 31.0 +0.3**
baz=129
EYAK Cordova Ski Ar 72.07 335 P **P 01 28 31.4 +0.7**
baz=121
F31M Tsiigehtchic 72.10 344 P **P 01 28 31.4 +0.7**
baz=134,SNR=6.9
N25K Chitina, Valde 72.15 336 P **P 01 28 31.8 +0.4**
baz=122
EPYK Eagle Plains 72.23 342 P **P 01 28 32.2 +0.5**
baz=131
L26K Log Cabin Wild 72.44 338 P **P 01 28 33.8 +0.8**
baz=124
G30M tAoh Zraii Nji 72.48 343 P **P 01 28 34.0 +0.8**
baz=132
P23K Montague Islan 72.50 334 P **P 01 28 34.2 +0.8**
baz=119
K27K Chicken 72.54 339 P **P 01 28 34.5 +1.0**
baz=125
KLU Klutina 72.63 336 P **P 01 28 35.3 +1.1**
baz=121
H29M Whitestone 72.64 342 P **P 01 28 35.0 +0.9**
baz=130,SNR=15
INK Inuvik 72.65 345 P **P 01 28 34.0 0.0**
comp=Z,6.8nm,1.0s,baz=129,slow=7.6,SNR=9.8
INK LR LR 02 02 58.5
comp=Z,326nm,18.1s,baz=106,slow=38
comp=Z,6.8nm,1.0s
INK Inuvik 72.65 345 P **P 01 28 34.1 +0.1**
baz=135,SNR=7.9
I28M Miner Creek 72.65 341 P **P 01 28 34.3 0.0**
baz=128,SNR=6.9
F30M Barrier River 72.78 344 P **P 01 28 35.2 +0.2**
baz=132,SNR=12
HARP HAARP 72.80 337 P **P 01 28 35.4 +0.3**
baz=122
GLI Glacier Island 72.81 335 P **P 01 28 35.2 0.0**
baz=120
G29M Pine Creek 72.97 342 P **P 01 28 36.2 +0.1**
baz=130,SNR=25
M24K Tolsona, Glenn 73.05 336 P **P 01 28 37.2 +0.5**
baz=121
RES Resolute Bay 73.13 359 LR LR 02 03 16.4
comp=Z,413nm,18.6s,baz=181,slow=38
SCRK Sand Creek 73.20 338 P **P 01 28 38.0 +0.4**
baz=124
PAX Paxson 73.22 337 P **P 01 28 37.7 0.0**
baz=122
I27K Kandik River 73.31 340 P **P 01 28 38.6 +0.5**
baz=126,SNR=15
PWL Port Wells 73.33 335 P **P 01 28 39.1 +0.8**
baz=118
J26L Joseph Creek 73.34 339 P **P 01 28 38.6 +0.2**
baz=124,SNR=22
SCM Sheep Creek Mo 73.38 336 P **P 01 28 38.9 +0.3**
baz=120
RIDG Independent Ri 73.39 338 P **P 01 28 38.9 +0.2**
baz=123
SEW Seward 73.46 334 P **P 01 28 40.0 +1.0**
baz=117
M23K Glacier View 73.52 336 P **P 01 28 40.1 +0.7**
baz=119
A36M Sachs Harbour 73.62 349 P **P 01 28 39.5 -0.3**
baz=144
KNK Knik Glacier 73.65 335 P **P 01 28 40.6 +0.4**
baz=118
H27K Steamboat Moun 73.65 341 P **P 01 28 39.9 -0.2**
baz=126

I26K	Coal Creek Min	73.66	340	P		P	01 28 40.3	+0.2	
	baz=125,SNR=9.1								
K24K	Donnelly Dome	73.78	338	P		P	01 28 41.0	+0.1	
	baz=122								
E29M	Blow River	73.90	344	P		P	01 28 41.5	0.0	
	baz=130								
KDAK	Kodiak Island	73.92	331	LR		LR	01 59 18.7		
	comp=Z,223nm,19.8s,baz=103,slow=34								
KDAK	Kodiak Island	73.92	331	P		P	01 28 41.7	0.0	
	baz=114								
F28M	Old Crow	73.98	343	P		P	01 28 42.4	+0.4	
	baz=128								
PMR	Palmer	74.02	335	P		P	01 28 41.9	-0.3	
	baz=118								
G27K	Doyon Strip	74.04	341	P		P	01 28 42.3	0.0	
	baz=126,SNR=7.5								
RC01	Rabbit Creek A	74.04	334	P		P	01 28 42.4	0.0	
	baz=117								
OHAK	Old Harbor	74.05	330	P		P	01 28 42.9	+0.4	
	baz=113								
J25K	Salcha River,	74.06	339	P		P	01 28 43.1	+0.5	
	baz=122,SNR=8.4								
SII	Sitkinak Islan	74.25	329	P		P	01 28 44.1	+0.3	
	baz=112								
E28M	Babbage River	74.50	343	P		P	01 28 45.1	+0.1	
	baz=129								
M22K	Willow	74.51	335	P		P	01 28 45.9	+0.8	
	baz=117								
HDA	Harding Lake	74.53	338	P		P	01 28 45.5	+0.2	
	baz=121,SNR=7.8								
BBTS	Babate	74.60	75	LR		LR	02 01 16.1		
	comp=Z,224nm,18.1s,baz=269,slow=36								
PRP	Porcupine Dome	74.60	339	P		P	01 28 46.0	+0.2	
	baz=122,SNR=8.4								
ILAR	Eielson Array	74.70	338	P		P	01 28 45.6	-0.6	
	comp=Z,9.2nm,1.1s,baz=149,slow=4.3,SNR=37								
ILAR				LR		LR	02 02 31.3		
	comp=Z,365nm,19.1s,baz=98,slow=37								
	comp=Z,9.2nm,1.1s								
D28M	Stokes Point	74.74	344	P		P	01 28 46.6	+0.2	
	baz=130								
R18K	Karluk	74.76	330	P		P	01 28 47.0	+0.3	
	baz=112								
G26K	Porcupine Rive	74.80	341	P		P	01 28 46.8	+0.1	
	baz=124								
E27K	Coleen River	74.84	343	P		P	01 28 47.1	0.0	
	baz=127,SNR=11								
O20K	Slope Mountain	74.88	333	P		P	01 28 47.3	-0.1	
	baz=114								
Q19K	Cape Douglas,	74.89	332	P		P	01 28 47.6	+0.1	
	baz=113								
P19K	Oil Pt	74.99	332	P		P	01 28 48.2	+0.2	
	baz=114								
POKR	Poker Flat Res	75.08	339	P		P	01 28 47.6	-0.8	
	baz=120								
H25L	Birch Creek	75.11	340	P		P	01 28 48.6	+0.1	
	baz=122								
SKT	Skwentna	75.21	335	P		P	01 28 49.4	+0.2	
	baz=116,SNR=7.7								
D27M	Malcolm River	75.31	344	P		P	01 28 49.3	-0.4	
	baz=128								
F26K	Sheenjek River	75.34	342	P		P	01 28 49.7	-0.2	
	baz=124,SNR=15								
TRF	Thorofare Moun	75.36	336	P		P	01 28 49.9	-0.4	
	baz=117								
NEA2	Nenana	75.42	338	P		P	01 28 50.4	0.0	
	baz=119,SNR=9.0								
Q18K	Katmai Hardscr	75.44	331	P		P	01 28 50.6	-0.1	
	baz=112								
G25K	Bearman Lake	75.47	340	P		P	01 28 51.1	+0.5	
	baz=122								
H24K	Noodor Dome	75.60	339	P		P	01 28 51.7	+0.3	
	baz=120,SNR=18								
Q17K	Contact Creek	75.73	330	P		P	01 28 53.0	+0.5	
	baz=111								
R17L	Mt. Peulik Vol	75.74	330	P		P	01 28 52.5	+0.1	
	baz=110								
F25K	Christian Rive	75.76	341	P		P	01 28 53.2	+0.9	
	baz=123,SNR=21								
I23K	Minto, Yukon-K	75.80	338	P		P	01 28 52.4	-0.1	
	baz=118,SNR=10								
P18K	Big Mountain,	75.83	332	P		P	01 28 53.1	+0.3	
	baz=112								
M20K	Styx River	75.85	334	P		P	01 28 53.0	-0.1	
	baz=114								
PPLA	Purkeypile	75.88	336	P		P	01 28 52.9	-0.3	
	baz=115								
G24K	Hadweenzic Riv	75.90	340	P		P	01 28 53.4	+0.3	
	baz=121,SNR=15								
BPAW	Bear Paw Mtn.	75.93	337	P		P	01 28 53.0	-0.3	
	baz=117,SNR=11								
O18K	Koktuh Hills	75.99	332	P		P	01 28 53.7	0.0	
	baz=112								
N19K	Bonanza Creek	76.02	333	P		P	01 28 53.5	-0.6	
	baz=113								
E25K	Arctic Village	76.03	342	P		P	01 28 53.9	+0.1	
	baz=123								
H23K	Yukon River	76.19	339	P		P	01 28 55.2	+0.4	
	baz=118								
Q16K	King Salmon	76.25	331	P		P	01 28 55.2	0.0	
	baz=110								
MLY	Manley	76.26	338	P		P	01 28 55.0	-0.2	
	baz=117,SNR=7.5								
C27K	Jago River	76.31	343	P		P	01 28 55.6	+0.2	
	baz=125								
P17K	Kvichak River	76.33	331	P		P	01 28 55.9	+0.3	
	baz=111								
M19K	Big River Lodg	76.41	334	P		P	01 28 56.4	+0.4	
	baz=113								
L20K	Farewell, AK	76.42	335	P		P	01 28 56.1	0.0	
	baz=114								
F24K	Squaw Lake	76.46	341	P		P	01 28 56.7	+0.4	
	baz=120								
CHNA	Chernabura Isl	76.56	326	P		P	01 28 57.1	+0.1	
	baz=107								
N18K	Kilae Creek	76.61	333	P		P	01 28 57.2	0.0	
	baz=111								
L19K	White Mountain	76.72	334	P		P	01 28 57.8	0.0	
	baz=113								
G23K	Bananza Creek	76.79	340	P		P	01 28 58.3	+0.1	
	baz=118,SNR=19								
I21K	Tanana	76.80	338	P		P	01 28 58.0	-0.1	
	baz=116								
C26K	Camden Bay	76.83	343	P		P	01 28 57.7	-0.5	
	baz=124								
K20K	Telida	76.85	336	P		P	01 28 58.5	-0.1	
	baz=114,SNR=8.0								
M18K	Stony River	76.88	334	P		P	01 28 57.7	-1.0	
	baz=112								
H22K	Ishtalitna Cre	76.89	338	P		P	01 28 58.7	-0.1	
	baz=117,SNR=6.9								
D25K	Kavik River	76.93	343	P		P	01 28 59.0	0.0	
	baz=122,SNR=14								
E24K	Your Creek	76.94	341	P		P	01 28 59.4	+0.4	
	baz=120								
S14K	Fog Glacier	76.96	328	P		P	01 28 59.2	-0.2	
	baz=107								
COLD	Coldfoot	77.09	340	P		P	01 29 00.8	+1.0	
	baz=118,SNR=13								
N17K	Nushagak Hills	77.15	332	P		P	01 29 00.2	-0.1	
	baz=110								
J20K	Nowinta River	77.22	336	P		P	01 29 00.8	+0.2	
	baz=114,SNR=11								
O16K	Kokwok River B	77.26	331	P		P	01 29 01.5	+0.6	
	baz=109								
E23K	Chandalar	77.30	341	P		P	01 29 01.6	+0.5	
	baz=119,SNR=14								
H21K	Melozitna Rive	77.31	338	P		P	01 29 00.8	-0.3	
	baz=115,SNR=8.4								
G22K	Bettles	77.41	339	P		P	01 29 01.4	-0.1	
	baz=117								
L18K	Granite Mounta	77.53	334	P		P	01 29 02.1	-0.2	
	baz=111								
TOLK	Toolik Lake Re	77.57	341	P		P	01 29 02.3	-0.2	
	baz=119,SNR=5.8								
M17K	Holitna River	77.57	333	P		P	01 29 02.1	-0.5	
	baz=110								
D24K	Happy Valley	77.58	342	P		P	01 29 02.5	0.0	
	baz=120								
I20K	Naaghedeneel	77.60	337	P		P	01 29 02.7	+0.1	
	baz=114								
J19K	Poorman	77.74	336	P		P	01 29 03.2	-0.3	
	baz=112,SNR=8.6								
C24K	Franklin Bluff	77.83	342	P		P	01 29 03.9	0.0	
	baz=120								
N16K	Nishlik Lake	77.87	332	P		P	01 29 04.6	+0.3	
	baz=109								
F22K	John River	77.90	340	P		P	01 29 04.6	+0.2	
	baz=116								
G21K	Allakaket	77.94	339	P		P	01 29 04.2	-0.4	
	baz=115,SNR=13								
O15K	Ungalikthiuk R	77.97	331	P		P	01 29 04.8	-0.1	
	baz=108								
J18K	Innoko River	77.99	335	P		P	01 29 05.0	+0.1	
	baz=111								
SUMG	Summit	77.99	14	*i* P		P	01 29 05.0	-0.3	
H20K	Anotelenega Mo	78.03	337	P		P	01 29 05.0	-0.1	
	baz=113,SNR=9.9								
E22K	Anaktuvuk Pass	78.06	340	P		P	01 29 04.8	-0.5	
	baz=117,SNR=14								
D23K	Nanushuk River	78.08	341	P		P	01 29 05.7	+0.4	
	baz=118,SNR=8.7								
M16K	Timber Creek	78.14	333	P		P	01 29 06.0	+0.2	
	baz=109								
S12K	Black Hills	78.16	327	P		P	01 29 04.9	-1.1	
	baz=105								
L17K	Donlin	78.21	334	P		P	01 29 05.9	-0.3	
	baz=110								
F21K	Alatna River	78.23	339	P		P	01 29 06.5	+0.2	
	baz=115,SNR=21								
N15K	Kwethluk River	78.40	332	P		P	01 29 06.6	-0.7	
	baz=108								
K17K	Iditarod	78.41	334	P		P	01 29 07.1	-0.1	
	baz=110								
C23K	Itkillik River	78.47	342	P		P	01 29 07.4	0.0	
	baz=118,SNR=8.2								
GCSA	Galena City Sc	78.53	336	P		P	01 29 07.4	-0.4	
	baz=111								
L16K	Owhat River	78.59	333	P		P	01 29 08.2	0.0	
	baz=108								
H19K	Roundabout Mou	78.65	337	P		P	01 29 08.2	-0.3	
	baz=112,SNR=14								
D22K	Ayikyak River	78.68	341	P		P	01 29 08.6	-0.1	
	baz=116								
O14K	Tigyukauivet M	78.70	330	P		P	01 29 09.0	+0.1	
	baz=105								
M15K	Kasigluk River	78.84	332	P		P	01 29 09.6	-0.1	
	baz=107								
E21K	Killik River	78.92	340	P		P	01 29 10.0	0.0	
	baz=115								
F20K	Avaraart Lake	78.96	339	P		P	01 29 10.8	+0.6	
	baz=113,SNR=14								
J17K	VABM Dome	78.97	335	P		P	01 29 10.6	+0.3	
	baz=109								
N14K	Kuskokwak Cree	79.10	331	P		P	01 29 11.1	+0.1	
	baz=106								
G19K	Purcell Mounta	79.12	338	P		P	01 29 10.8	-0.4	
	baz=111,SNR=9.0								
H18K	Honhosa River	79.26	337	P		P	01 29 12.8	+0.9	
	baz=110,SNR=12								
M14K	Bethel	79.46	332	P		P	01 29 14.1	+1.1	
	baz=106,SNR=11								
C21K	Knifebladе Rid	79.49	341	P		P	01 29 13.5	+0.4	
	baz=114,SNR=5.7								
L15K	Ungalak Mounta	79.50	333	P		P	01 29 13.6	+0.4	
	baz=106,SNR=7.6								
B22K	Teshekpuk Lake	79.56	342	P		P	01 29 14.0	+0.6	
	baz=116								
J16K	Anvik River	79.58	334	P		P	01 29 13.8	+0.2	
	baz=108								
E20K	Nigu River	79.60	340	P		P	01 29 13.8	0.0	
	baz=113,SNR=8.1								
B21K	Ikpikpuk River	79.62	341	P		P	01 29 14.0	+0.3	
	baz=114,SNR=6.9								
F19K	Shaleruckik Mo	79.63	338	P		P	01 29 14.2	+0.3	
	baz=111,SNR=9.8								
G18K	Tagagawik	79.63	337	P		P	01 29 13.7	-0.2	
	baz=110,SNR=12								
E19K	Redstone River	79.66	339	P		P	01 29 14.2	+0.2	
	baz=112								
K15K	Wolf Creek Mou	79.70	333	P		P	01 29 14.4	+0.1	
	baz=107								
I17K	Unalakleet	79.81	335	P		P	01 29 15.1	+0.3	
	baz=108								
H17K	Granite Mounta	79.81	336	P		P	01 29 15.3	+0.4	
	baz=108								
D20K	Etivluk River	79.92	340	P		P	01 29 15.5	+0.1	
	baz=112,SNR=9.7								
L14K	Kuka Creek	79.96	332	P		P	01 29 15.3	-0.4	
	baz=105								
M13K	Dall Lake	80.03	331	P		P	01 29 15.9	-0.2	
	baz=105								
UNV	Unalaska Valle	80.25	324	P		P	01 29 16.9	-0.6	
	baz=101								
F18K	Selawik	80.25	338	P		P	01 29 17.2	0.0	
	baz=109								
G17K	Kiwalik Mounta	80.29	337	P		P	01 29 17.8	+0.4	
	baz=108,SNR=6.0								
A22K	Sinclair Lake	80.31	343	P		P	01 29 17.5	0.0	
	baz=114								
D19K	Kuna River	80.35	340	P		P	01 29 18.3	+0.5	
	baz=111								
B20K	Meade River	80.59	341	P		P	01 29 19.2	+0.2	
	baz=112,SNR=9.6								
H16K	Elim	80.67	336	P		P	01 29 19.8	+0.3	
	baz=106								
J14K	Nanvaranak Lak	80.72	334	P		P	01 29 19.9	+0.2	
	baz=105								
F17K	Baldwin Pennin	80.81	337	P		P	01 29 20.5	+0.3	
	baz=108								
E18K	Tukpahlearik C	80.87	338	P		P	01 29 19.6	-1.0	
E18K				IAmb		IAmb	01 29 24.6		
	comp=Z,16nm,1.1s								
E18K	Tukpahlearik C	80.87	338	P		P	01 29 20.6	0.0	
	baz=108,SNR=12								
G16K	Koyuk River	80.93	336	P		P	01 29 21.4	+0.5	
	baz=106								
K13K	Kusilvak Mount	81.02	333	P		P	01 29 22.0	+0.6	
	baz=104								
C19K	Lookout Ridge	81.06	340	P		P	01 29 21.9	+0.3	
	baz=110								
E17K	Hotham Inlet	81.22	338	P		P	01 29 23.1	+0.7	
	baz=107,SNR=6.2								
M11K	Mekoryuk	81.40	331	P		P	01 29 23.9	+0.4	
	baz=102								
C18K	Utukok River	81.47	340	P		P	01 29 24.3	+0.5	
	baz=108								
NIKH	Nikolski High	81.49	323	P		P	01 29 24.8	+0.7	
	baz=99								
G15K	Niukluk	81.51	336	P		P	01 29 25.0	+1.0	
	baz=105								
D17K	Noatak River	81.86	338	P		P	01 29 26.0	+0.3	
	baz=106,SNR=5.8								
B18K	Kokolik River	81.89	340	P		P	01 29 27.2	+1.3	
	baz=108,SNR=7.7								
RDOG	Red Dog Mine	81.90	339	P		P	01 29 26.4	+0.4	
RDOG	Red Dog Mine	81.90	339	P		P	01 29 27.0	+1.0	
	baz=106								
A19K	Wainwright	81.91	341	P		P	01 29 27.6	+1.7	
	baz=108								
F15K	North Star Dit	81.94	336	P		P	01 29 27.1	+0.9	
	baz=104								
ANM	Nome	81.96	335	P		P	01 29 27.0	+0.6	
	baz=104								
C17K	DeLong Mountai	82.11	339	P		P	01 29 27.4	+0.3	
	baz=106								
F14K	Arctic Creek	82.56	336	P		P	01 29 30.0	+0.5	
	baz=103								
C16K	Lisburne Hills	82.83	339	P		P	01 29 31.9	+1.0	
	baz=104								
SPIA	Saint Paul Isl	82.90	327	P		P	01 29 31.9	+0.5	
	baz=98								
GAMB	Gambell	84.54	334	P		P	01 29 40.8	+1.1	
	baz=98								
BELA	Belgrano 2	84.75	170	P		P	01 29 41.7	+1.2	
DBIC	Dimbokro	86.00	83	LR		LR	02 05 41.4		
	comp=Z,332nm,18.9s,baz=300,slow=34								
JMIC	Jan Mayen	86.13	19	LR		LR	02 06 48.2		
	comp=Z,132nm,20.3s,baz=258,slow=35								
MDT	Midelt	86.16	57	LR		LR	02 02 19.9		
	comp=Z,291nm,22.0s,baz=292,slow=32								
PAB	San Pablo	86.47	51	P		P	01 29 49.1	-0.9	
PAB				IAmb		IAmb	01 29 57.8		
	comp=Z,20nm,1.6s								
ESDC	Sonseca Array	86.77	51	P		P	01 29 50.9	-0.5	
ESDC				IAmb		IAmb	01 29 57.7		
	comp=Z,16nm,1.6s								
ESDC	Sonseca Array	86.77	51	P		P	01 29 50.6	-0.8	
	comp=Z,4.3nm,1.2s,baz=250,slow=5.9,SNR=8.6								
ESDC				LR		LR	02 03 13.1		
	comp=Z,473nm,20.4s,baz=264,slow=32								
	comp=Z,4.3nm,1.2s								
EKA	Eskdalemuir Ar	87.54	35	P		P	01 29 54.7	0.0	
	comp=Z,2.9nm,0.9s,baz=252,slow=4.4,SNR=4.0								
	comp=Z,2.9nm,0.9s								
RAO	Raoul Island	88.03	241	LR		LR	01 59 55.5		
	comp=Z,555nm,21.5s,baz=146,slow=29								
VNA3	Neumayer Olymp	88.62	161	⇑P		P	01 29 59.4	-0.2	
	comp=Z,3.5nm,0.7s								
VNA1	Neumayer--Stat	89.00	161	⇑P		P	01 30 02.7	+1.5	
	comp=Z,2.4nm,0.7s								
SNAA	Sanae	90.84	162	⇑P		P	01 30 10.5	+0.6	
	comp=Z,66nm,0.8s								
SNAA	Sanae	90.84	162	P		P	01 30 11.0	+1.0	
SNAA				IAmb		IAmb	01 30 21.7		
	comp=Z,6.2nm,1.1s								
SNAA	Sanae	90.84	162	P		P	01 30 11.5	+1.5	
	comp=Z,2.3nm,0.8s,baz=256,slow=4.7,SNR=8.5								
SNAA				LR		LR	02 04 44.7		
	comp=Z,113nm,21.4s,baz=260,slow=31								
	comp=Z,2.3nm,0.8s								
QSPA	South Pole Qui	91.54	180	P		P	01 30 17.6	+4.2	
	comp=Z,1.3nm,0.7s,baz=214,slow=1.7,SNR=7.1								
QSPA				LR		LR	02 04 27.6		
	comp=Z,450nm,19.5s,baz=132,slow=31								
	comp=Z,1.3nm,0.7s								
SPITS	Spitsbergen Ar	92.06	11	LR		LR	02 12 10.2		
	comp=Z,572nm,20.4s,baz=275,slow=36								
TORD	Torodi Ar. Bea	92.29	77	P		P	01 30 16.7	-1.1	
TORD				IAmb		IAmb	01 30 18.2		
	comp=Z,12nm,1.9s								
TORD	Torodi Ar. Bea	92.29	77	LR		LR	02 08 16.2		
	comp=Z,423nm,21.9s,baz=286,slow=33								
URZ	Urewera	92.41	232	LR		LR	02 03 40.7		
	comp=Z,487nm,19.8s,baz=108,slow=30								
BHW	Baring Head	94.09	229	P		P	01 30 25.6	0.0	
NOA	NORSAR Array B	94.60	29	LR		LR	02 07 16.6		
	comp=Z,163nm,22.0s,baz=280,slow=32								
VNDA	Vanda	95.14	192	LR		LR	02 03 49.6		
	comp=Z,369nm,21.6s,baz=112,slow=29								
TAM	Tamanrasset	95.44	67	P		P	01 30 31.7	-0.7	
HFS	Hagfors	95.99	29	LR		LR	02 12 26.2		
	comp=Z,274nm,18.5s,baz=280,slow=35								
DAVOX	Davos/Dischmat	96.36	43	LR		LR	02 09 11.5		
	comp=Z,389nm,19.9s,baz=286,slow=33								
KEST	Kesra	97.53	54	LR		LR	02 10 11.9		
	comp=Z,201nm,20.2s,baz=285,slow=33								
ARCES	ARCESS Array B	97.61	19	LR		LR	02 13 14.1		
	comp=Z,208nm,19.4s,baz=292,slow=35								
GERES	GERESS Array B	98.51	40	LR		LR	02 10 03.3		
	comp=Z,696nm,20.5s,baz=260,slow=32								
VRAC	Vranov	100.26	39	LR		LR	02 11 10.4		
	comp=Z,815nm,20.4s,baz=276,slow=32								
H11S2	WAKE ISLAND Hy	101.17	289	T		T	03 23 54.6		
	baz=85,slow=75,SNR=105								
H11S1	WAKE ISLAND Hy	101.17	289	T		T	03 23 51.1		
	baz=85,slow=75,SNR=117								
H11S3	WAKE ISLAND Hy	101.18	289	T		T	03 23 51.6		
	baz=85,slow=75,SNR=119								
DZM	Mont Dzumac	102.20	248	*e*LR		LR	02 04 21.1		
	comp=Z,452nm,29.3s								
SYO	Syowa Base	105.00	164	*e*Pdiff		Pdif	01 31 13.6	-0.3	
KBZ	Khabaz	118.98	37	PKP		PKiKP	01 35 56.6	+0.7	
	comp=Z,1.2nm,0.8s,baz=333,slow=4.5,SNR=3.8								
MANU	Manus Island	121.66	269	PKPdf		PKPdf	01 35 59.5	-2.3	
BVAR	Borovoye Array	123.47	13	PKP		PKPdf	01 36 03.1	-1.1	
	comp=Z,1.8nm,0.7s,baz=299,slow=1.5,SNR=8.9								
AB31	Akbulak array	123.56	22	PKPdf		PKPdf	01 36 04.4	-0.1	
ABKAR	Akbulak array	123.56	22	PKPdf		PKiKP	01 36 04.6	-0.1	
ZALV	Zalesovo Beam	124.63	3	PKPdf		PKPdf	01 36 04.8	-1.6	
ZALV	Zalesovo Beam	124.63	3	PKP		PKPdf	01 36 05.8	-0.6	
	comp=Z,2.7nm,0.6s,baz=180,slow=0.9,SNR=10.0								
KSRS	Korea Array	127.09	321	PKP		PKPdf	01 36 11.6	0.0	
	comp=Z,1.7nm,0.7s,baz=16,slow=0.7,SNR=10								
KURBB	Kurchatov Arra	127.30	8	PKP		PKPdf	01 36 10.3	-1.3	
	comp=Z,4.1nm,0.8s,baz=344,slow=2.2,SNR=29								
SONM	Songino Array	128.56	345	PKP		PKPdf	01 36 14.3	0.0	
	comp=Z,1.8nm,1.0s,baz=220,slow=0.3,SNR=6.2								
ASAR	Alice Springs	131.27	239	PKP		PKiKP	01 36 20.9	0.0	
	comp=Z,1.0nm,0.9s,baz=172,slow=4.4,SNR=5.1								
MKAR	Makanchi Array	131.54	6	PKP		PKPdf	01 36 18.8	-1.0	
	comp=Z,2.2nm,1.0s,baz=352,slow=3.7,SNR=7.6								
WRA	Warramunga Arr	132.06	244	PKP		PKiKP	01 36 23.6	+1.0	
	comp=Z,0.7nm,0.8s,baz=102,slow=1.8,SNR=2.6								
HHC	Hu-ho-hao-te	133.10	337	*e*P		PKPdf	01 36 18.8	-4.3	
WMQ	Urumqi	134.86	1	*e*PKP		PKiKP	01 36 27.6	-0.1	
WMQ				LR		LR			
	comp=N,310nm,20.9s								
WMQ				LR		LR			
	comp=E,230nm,20.9s								
WMQ				LR		LR			
	comp=Z,290nm,23.9s								
NJ2	Nanjing	136.25	322	*e*P		PKPdf	01 36 28.1	-1.0	
NJ2				pmax		pmax			
	comp=Z,13nm,0.5s								
KSH	Kashi	137.46	15	PKP		PKiKP	01 36 34.0	+0.8	
KSH				LR		LR			
	comp=N,270nm,22.0s								
KSH				LR		LR			
	comp=E,280nm,21.3s								
KSH				LR		LR			
	comp=Z,320nm,22.0s								
GTA	Gaotai	138.09	347	*e*PKP		PKiKP	01 36 34.3	-0.2	
GTA				LR		LR			
	comp=N,160nm,17.1s								
GTA				LR		LR			
	comp=E,100nm,17.1s								
GTA				LR		LR			
	comp=Z,350nm,21.1s								
H01W1	Cape Leeuwin H	139.35	212	T		T	04 12 04.3		
	baz=139,slow=75,SNR=3.8								
H01W2	Cape Leeuwin H	139.35	212	T		T	04 12 11.0		
	baz=139,slow=75,SNR=5.4								
H01W3	Cape Leeuwin H	139.36	212	T		T	04 12 08.7		
	baz=139,slow=75,SNR=3.4								
XAN	Xi'an	139.98	334	PKP		PKPdf	01 36 32.0	-4.0	
CD2	Chengdu	144.83	338	PKP		PKPdf	01 36 44.3	-0.4	
PZH	PanZhiHua	149.56	337	PKPbc		PKPdf	01 36 51.3	-1.5	
PZH				sPKP			01 36 59.3		
KMI	Kunming	150.37	334	PKPbc		PKiKP	01 37 00.0	-0.2	
QIZ	Qiongzhong	151.08	316	PKPbc		PKPdf	01 36 53.6	-1.6	
QIZ				PP		PP	01 40 38.3	+0.3	
CMAR	Chiang Mai Arr	157.88	334	PKP		PKPdf	01 37 05.0	+0.4	
	comp=Z,0.8nm,0.3s,baz=301,slow=2.9,SNR=6.6								
CMAR				PKPab		PKPab	01 37 37.5	+0.3	
	comp=Z,9.2nm,1.1s,baz=6.9,

12nm,0.5s,baz=173,slow=20,SNR=9.5
KNRA Kununurra 12.32 126 Pn **Pn 01 20 26.1 -0.5**
MBWA Marble Bar 12.54 174 Pn **Pn 01 20 28.3 -1.1**
PSA00 Pilbara Seismi 12.96 174 Pn **Pn 01 20 33.3 -1.6**
PSA00 Pilbara Seismi 12.96 174 Pn **Pn 01 20 33.8 -1.1**
MTN Manton Dam 13.20 110 Pn **Pn 01 20 37.9 -0.1**
GIRL Giralia 14.52 196 Pn **Pn 01 20 54.5 -0.3**
WRA Warramunga Arr 19.10 128 P **P 01 21 48.6 +0.3**
1.6nm,0.5s,baz=303,slow=12,SNR=5.3
WRA S **S 01 25 15.2 -3.1**
1.4nm,0.6s,baz=307,slow=22,SNR=4.9
MORW Morawa 20.47 186 P **P 01 22 02.6 -0.4**
MORW IAmb IAmb 01 22 14.1
comp=Z,19nm,1.5s
AS31 Alice Springs 21.09 137 P **P 01 22 10.7 +1.0**
ASAR Alice Springs 21.09 137 P **P 01 22 10.8 +1.1**
comp=Z,2.3nm,0.5s,baz=312,slow=10,SNR=13
ASAR S **S 01 25 56.3 -1.1**
comp=Z,0.4nm,0.5s,baz=306,slow=21,SNR=2.6
comp=Z,2.3nm,0.5s
FORT Forrest 23.83 159 P **P 01 22 39.0 +2.3**
FORT IAmb IAmb 01 22 39.5
comp=Z,13nm,0.7s
NWAO Narrogin (SRO) 24.22 182 P **P 01 22 41.1 +0.8**
NWAO IAmb IAmb 01 22 53.4
comp=Z,24nm,1.3s
STKA Stephens Creek 31.63 140 P **P 01 23 46.9 +0.5**
STKA Stephens Creek 31.63 140 P **P 01 23 46.6 +0.2**
comp=Z,1.5nm,0.3s,baz=328,slow=13,SNR=3.5
comp=Z,1.5nm,0.3s
KSRS Korea Array 46.68 10 P **P 01 25 51.0 -0.2**
comp=Z,3.3nm,1.0s,baz=186,slow=7.1,SNR=10
comp=Z,3.3nm,1.0s
MDJ Mudanjiang 53.94 10 IAmb IAmb 01 26 46.1
comp=Z,14nm,1.2s
MDJ P **P 01 26 47.2 +1.5**
SONM Songino Array 57.20 350 P **P 01 27 08.4 -0.7**
comp=Z,1.0nm,0.6s,baz=169,slow=8.4,SNR=4.6
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 63.84 333 P **P 01 27 52.8 -1.4**
comp=Z,0.5nm,0.4s,baz=150,slow=6.7,SNR=5.8
comp=Z,0.5nm,0.4s
KURBB Kurchatov Arra 68.36 334 P **P 01 28 20.9 -2.0**
comp=Z,0.4nm,0.5s,baz=142,slow=5.4,SNR=6.2
comp=Z,0.4nm,0.5s
ZALV Zalesovo Beam 68.47 339 P **P 01 28 21.6 -1.9**
comp=Z,1.2nm,0.5s,baz=147,slow=6.3,SNR=4.3
comp=Z,1.2nm,0.5s
MAW Mawson 69.40 200 P **P 01 28 30.5 +1.5**
comp=Z,2.3nm,0.8s,baz=62,slow=8.1,SNR=5.3
comp=Z,2.3nm,0.8s
PETK Petropavlovsk- 69.96 24 P **P 01 28 32.5 -0.3**
comp=Z,1.6nm,0.6s,baz=244,slow=6.8,SNR=2.0
comp=Z,1.6nm,0.6s
VNDA Vanda 72.46 171 P **P 01 28 49.0 +1.5**
comp=Z,0.4nm,0.5s,baz=312,slow=6.6,SNR=7.0
comp=Z,0.4nm,0.5s
QSPA South Pole Qui 81.38 180 P **P 01 29 39.4 +1.7**
QSPA IAmb IAmb 01 29 42.9
comp=Z,3.1nm,1.1s
QSPA South Pole Qui 81.38 180 P **P 01 29 39.4 +1.7**
comp=Z,2.0nm,1.1s,baz=3.2,slow=4.7,SNR=2.5
comp=Z,2.0nm,1.1s
TORD Torodi Ar. Bea 117.81 280 PKP **PKPdf 01 36 06.9 -0.7**
comp=Z,0.6nm,0.6s,baz=62,slow=1.8,SNR=5.4
CPUP Villa Florida 145.02 187 PKPbc **PKPdf 01 36 58.8 +0.4**
comp=Z,0.7nm,0.9s,baz=258,slow=6.4,SNR=3.8

*NEIC **18** 01:28:19.9±0.9,56°.41N±0°.09×148°.6W±0°.1, h20km±7km, mb4.4/3,ML3.9/92,ML3.7(AEIC),Error ellipse: s-maj=12.6km s-min=8.1km az=177.0*
*IDC **18** 01:28:20.0±1.1,56°.51N×148°.44W, h0km, mb3.5/6, mbtmp3.5/11,ML3.2/5,MS3.3/4,Error ellipse: s-maj=24.1km s-min=17.0km az=47.0*
*AEIC **18** 01:28:23.1±0.9,56°.39N±0°.08×148°.6W±0°.1, h12km±5km, Error ellipse: s-maj=11.8km s-min=8.2km az=181.0*
ISC 18 01:28:20.0±0.7,56°.54N±0°.08×148°.70W±0°.05,h10km, n168,σ0§94/154,mb3.7/9,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.46**	**302**		**Pn**	**01 28 59.9**	**-0.1**
KDAK	**Kodiak Island**	**2.46**	**302**		**Sn**	**01 29 28.5**	**-1.6**
KDAK	**Kodiak Island**	**2.46**	**302**	Pn	**Pn**	**01 28 60.0**	**-0.1**
	11nm,0.3s,baz=118,slow=3.0,SNR=107						
KDAK				Sn	**Sn**	**01 29 28.1**	**-2.0**
	11nm,0.3s,baz=358,slow=11,SNR=6.4						
KDAK				LR	LR	01 30 15.3	
	comp=Z,501nm,19.9s,baz=142,slow=44						
	31nm,0.4s						
OHAK	**Old Harbor**	**2.61**	**287**		**Pn**	**01 29 01.4**	**-0.7**
OHAK	**Old Harbor**	**2.61**	**287**		**Sn**	**01 29 30.7**	**-3.2**
SYI	**Shuyak Island**	**2.88**	**318**	Pn	**Pn**	**01 29 06.4**	**+0.6**
SII	**Sitkinak Islan**	**3.04**	**273**	Pn	Pn	01 29 06.8	-1.3
SII				IAML		01 29 49.9	
	comp=N,274nm,1.1s						
SII				IAML		01 29 50.8	
	comp=E,266nm,0.8s						
Q23K	**Middleton Isla**	**3.16**	**22**	Pn	**Pn**	**01 29 08.9**	**-0.8**
Q23K				IAML		01 29 45.6	
	comp=E,216nm,0.7s						
CNPM	**China Poot**	**3.29**	**337**		**Pn**	**01 29 11.9**	**+0.4**
R18K	**Karluk**	**3.31**	**291**		**Pn**	**01 29 11.6**	**-0.1**
R18K	**Karluk**	**3.31**	**291**	IAML		01 29 59.6	
	comp=N,340nm,0.6s						
BRLK	**Bradley Lake**	**3.44**	**341**		**Pn**	**01 29 13.6**	**+0.1**
BRLK				IAML		01 29 59.1	
	comp=E,163nm,0.9s						
HOM	**Homer**	**3.50**	**335**		**Pn**	**01 29 13.6**	**-0.7**
HOM				IAML		01 30 02.2	
	comp=E,311nm,0.6s						
P23K	**Montague Islan**	**3.54**	**11**		**Pn**	**01 29 14.6**	**-0.3**
P23K				IAML		01 30 05.8	
	comp=E,245nm,0.8s						
P23K				IAML		01 30 06.3	
	comp=N,204nm,0.6s						
Q19K	**Cape Douglas,**	**3.58**	**314**		**Pn**	**01 29 15.7**	**+0.2**
Q19K				IAML		01 30 18.2	
	comp=N,315nm,0.8s						
SEW	**Seward**	**3.60**	**354**		**Pn**	**01 29 15.2**	**-0.5**
KAHG	**Katmai Hook Gl**	**3.71**	**304**		**Pn**	**01 29 18.1**	**+0.6**
AUCH	**Augustine Cone**	**3.80**	**320**		**Pn**	**01 29 18.9**	**+0.3**
CAHL	**Cahill**	**3.89**	**296**		**Pn**	**01 29 20.1**	**+0.3**
P19K	**Oil Pt**	**3.94**	**324**		**Pn**	**01 29 21.4**	**+0.9**
ACHA	**Angle Creek He**	**3.96**	**298**		**Pn**	**01 29 20.8**	**0.0**
O22K	**Cooper Landing**	**3.99**	**353**		**Pn**	**01 29 22.1**	**+0.9**
KAHC	**Katmai Hardscr**	**4.00**	**305**		**Pn**	**01 29 21.4**	**0.0**
KAHC	**Katmai Hardscr**	**4.00**	**305**		**Pn**	**01 29 21.9**	**+0.5**
HIN	**Hinchinbrook I**	**4.04**	**16**		**Pn**	**01 29 21.6**	**-0.2**
KAIM	**Kayak Island**	**4.08**	**32**		**Pn**	**01 29 21.9**	**-0.5**
KAIM				IAML		01 30 19.8	
	comp=E,158nm,0.5s						
O20K	**Slope Mountain**	**4.11**	**331**		**Pn**	**01 29 23.1**	**+0.2**
ILSW	**Iliamna Southw**	**4.18**	**328**		**Pn**	**01 29 23.9**	**0.0**
ILSW				IAML		01 30 18.4	
	comp=E,113nm,0.6s						
ILSW				IAML		01 30 18.7	
	comp=N,83nm,0.9s						
CNTC	**Contact Creek**	**4.26**	**297**		**Pn**	**01 29 25.1**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.31**	**20**		**Pn**	**01 29 25.2**	**-0.3**
EYAK	**Cordova Ski Ar**	**4.31**	**20**	IAML		01 30 23.9	
	comp=N,138nm,0.9s						
EYAK				IAML		01 30 29.2	
	comp=E,108nm,1.0s						
PLK4	**Peulik 4**	**4.32**	**288**		**Pn**	**01 29 25.3**	**-0.4**
PLK4	**Peulik 4**	**4.32**	**288**	IAML		01 30 27.6	
	comp=N,127nm,0.6s						
PLK4				IAML		01 30 29.4	
	comp=E,160nm,0.6s						
PWL	**Port Wells**	**4.34**	**2**		**Pn**	**01 29 25.8**	**-0.1**
PWL				IAML		01 30 22.7	
	comp=E,109nm,0.6s						
PWL				IAML		01 30 23.8	
	comp=N,111nm,0.7s						
FID	**Port Fidalgo**	**4.38**	**14**		**Pn**	**01 29 25.8**	**-0.7**
FID				IAML		01 30 20.8	
	comp=E,95nm,0.8s						
FID				IAML		01 30 27.3	
	comp=N,91nm,0.8s						
SUCK	**Suckling Hills**	**4.39**	**34**		**Pn**	**01 29 26.3**	**-0.4**
SUCK	**Suckling Hills**	**4.39**	**34**	IAML		01 30 33.0	
	comp=E,101nm,0.6s						
RAGM	**Ragged Mountai**	**4.40**	**27**		**Pn**	**01 29 26.7**	**-0.1**
GLI	**Glacier Island**	**4.43**	**10**		**Pn**	**01 29 27.2**	**-0.1**
GLI				IAML		01 30 19.0	
	comp=N,80nm,1.1s						
GLI				IAML		01 30 28.6	
	comp=E,106nm,0.5s						
RED	**Redoubt Volcan**	**4.44**	**333**		**Pn**	**01 29 27.4**	**0.0**
RED				IAML		01 30 22.3	
	comp=N,102nm,0.7s						
RED				IAML		01 30 26.1	
	comp=E,100nm,0.6s						
HMT	**Hamilton**	**4.47**	**30**		**Pn**	**01 29 27.7**	**0.0**
RDT	**Redoubt**	**4.49**	**336**		**Pn**	**01 29 27.7**	**-0.3**
P18K	**Big Mountain,**	**4.50**	**312**		**Pn**	**01 29 28.3**	**0.0**
DFR	**Drift River**	**4.57**	**334**		**Pn**	**01 29 29.3**	**+0.1**
RC01	**Rabbit Creek A**	**4.60**	**354**		**Pn**	**01 29 30.1**	**+0.7**
RC01				IAML		01 30 24.2	
	comp=E,147nm,0.6s						
RC01				IAML		01 30 28.1	
	comp=N,126nm,0.6s						
BERG	**Berg Lake**	**4.67**	**32**		**Pn**	**01 29 30.4**	**-0.1**
GRIN	**Grindle Hills**	**4.70**	**35**		**Pn**	**01 29 30.6**	**-0.3**
O19K	**Port Alsworth**	**4.71**	**323**		**Pn**	**01 29 31.7**	**+0.6**
O18K	**Koktuh Hills**	**4.79**	**317**		**Pn**	**01 29 32.5**	**+0.4**
Q16K	**King Salmon**	**4.79**	**300**		**Pn**	**01 29 32.2**	**+0.2**
KHIT	**Khitrov Hills**	**4.85**	**34**		**Pn**	**01 29 32.2**	**-0.8**
DIV	**Divide**	**4.85**	**17**		**Pn**	**01 29 33.2**	**+0.2**
KNK	**Knik Glacier**	**4.89**	**1**		**Pn**	**01 29 33.9**	**+0.3**
KNK				IAML		01 30 42.9	
	comp=E,78nm,0.8s						
KNK				IAML		01 30 46.8	
	comp=N,70nm,0.6s						
P17K	**Kvichak River**	**4.92**	**306**		**Pn**	**01 29 34.2**	**+0.3**
BMRM	**Bremner River**	**4.93**	**24**		**Pn**	**01 29 34.1**	**+0.1**
BMRM				IAML		01 30 35.6	
	comp=N,62nm,0.6s						
BMRM				IAML		01 30 41.3	
	comp=E,68nm,0.6s						
WAX	**Waxell Ridge**	**4.98**	**36**		**Pn**	**01 29 34.4**	**-0.3**
BARK	**Barkley Ridge**	**5.06**	**37**		**Pn**	**01 29 35.3**	**-0.7**
PMR	**Palmer**	**5.08**	**358**		**Pn**	**01 29 36.3**	**+0.3**
PMR				IAML		01 30 35.5	
	comp=E,72nm,0.8s						
PMR				IAML		01 30 38.6	
	comp=N,53nm,0.6s						
MESA	**MESA**	**5.09**	**41**		**Pn**	**01 29 35.8**	**-0.7**
MESA				IAML		01 30 48.7	
	comp=E,57nm,0.6s						
MESA				IAML		01 30 57.1	
	comp=N,77nm,0.9s						
CRQM	**Cirque**	**5.13**	**32**		**Pn**	**01 29 36.4**	**-0.6**
CRQM				IAML		01 30 38.7	
	comp=N,96nm,0.7s						
CRQM				IAML		01 30 43.4	
	comp=E,81nm,0.6s						
KLU	**Klutina**	**5.17**	**15**		**Pn**	**01 29 37.9**	**+0.4**
KLU				IAML		01 30 42.4	
	comp=E,60nm,0.7s						
KLU				IAML		01 30 45.1	
	comp=N,60nm,0.7s						
TGL	**Tana Glacier**	**5.22**	**33**		**Pn**	**01 29 37.7**	**-0.5**
TGL				IAML		01 30 41.6	
	comp=E,71nm,0.8s						
TGL				IAML		01 30 44.6	
	comp=N,61nm,0.6s						
STLK	**Strandline Lak**	**5.23**	**343**		**Pn**	**01 29 39.0**	**+0.7**
STLK				IAML		01 30 41.6	
	comp=E,58nm,0.8s						
STLK				IAML		01 30 43.9	
	comp=N,75nm,0.8s						
N19K	**Bonanza Creek**	**5.24**	**327**		**Pn**	**01 29 38.5**	**+0.1**
GHO	**Glory Hole Cre**	**5.25**	**359**		**Pn**	**01 29 39.3**	**+0.7**
ISLE	**Juniper Island**	**5.26**	**37**		**Pn**	**01 29 38.3**	**-0.4**
ISLE				IAML		01 30 43.2	
	comp=E,61nm,0.7s						
ISLE				IAML		01 31 01.6	
	comp=N,63nm,1.1s						
BAGL	**Bagley Icefiel**	**5.26**	**38**		**Pn**	**01 29 38.0**	**-0.6**
YAH	**Yahtse**	**5.29**	**41**		**Pn**	**01 29 38.3**	**-1.0**
YAH				IAML		01 30 41.9	
	comp=N,45nm,1.1s						
M23K	**Glacier View**	**5.30**	**5**		**Pn**	**01 29 39.2**	**+0.2**
SCM	**Sheep Creek Mo**	**5.36**	**7**		**Pn**	**01 29 40.3**	**+0.3**
CHGN	**Chignik**	**5.40**	**272**	Pn	**Pn**	**01 29 40.2**	**-0.2**
VRDI	**Verde Repeater**	**5.43**	**28**		**Pn**	**01 29 40.8**	**-0.3**
N25K	**Chitina, Valde**	**5.51**	**21**		**Pn**	**01 29 43.0**	**+1.0**
SAMH	**Samovar Hills**	**5.51**	**46**		**Pn**	**01 29 40.9**	**-1.1**
GLB	**Gilahina Butte**	**5.53**	**25**		**Pn**	**01 29 42.2**	**-0.1**
GRNC	**Granite Creek**	**5.55**	**38**		**Pn**	**01 29 42.4**	**-0.4**
P16K	**Nushagak River**	**5.57**	**301**		**Pn**	**01 29 43.2**	**+0.5**
N18K	**Kilae Creek**	**5.60**	**321**		**Pn**	**01 29 43.5**	**+0.2**
SKT	**Skwentna**	**5.65**	**346**		**Pn**	**01 29 44.6**	**+0.7**
PTPK	**Patty Peak**	**5.67**	**32**		**Pn**	**01 29 44.0**	**-0.4**
MCARA	**McCarthy VSAT**	**5.68**	**29**		**Pn**	**01 29 43.6**	**-0.7**
PCA	**Pinnacle**	**5.70**	**48**		**Pn**	**01 29 43.9**	**-0.8**
M24K	**Tolsona, Glenn**	**5.73**	**12**		**Pn**	**01 29 45.2**	**+0.1**
M20K	**Styx River**	**5.83**	**339**		**Pn**	**01 29 46.6**	**+0.3**
O16K	**Kokwok River B**	**5.85**	**305**		**Pn**	**01 29 47.2**	**+0.5**
LOGN	**Logan Glacier**	**5.88**	**40**		**Pn**	**01 29 46.2**	**-1.0**
BCPM	**Bancas Point**	**5.88**	**51**		**Pn**	**01 29 46.4**	**-0.7**
WACK	**Wrangell Chich**	**5.91**	**20**		**Pn**	**01 29 47.7**	**0.0**
O28M	**Mount Upton**	**6.14**	**43**		**Pn**	**01 29 50.5**	**-0.5**
HARP	**HAARP**	**6.15**	**16**		**Pn**	**01 29 51.0**	**+0.3**
O15K	**Ungalikthiuk R**	**6.50**	**299**		**Pn**	**01 29 56.3**	**+0.7**
L20K	**Farewell, AK**	**6.52**	**338**		**Pn**	**01 29 56.0**	**+0.2**
O29M	**Mount Kennedy**	**6.52**	**50**		**Pn**	**01 29 55.6**	**-0.4**
YUK2	**White River**	**6.63**	**34**		**Pn**	**01 29 57.2**	**-0.3**
PAX	**Paxson**	**6.66**	**13**		**Pn**	**01 29 58.2**	**+0.4**
SDPT	**Sand Point**	**6.72**	**265**		**Pn**	**01 29 57.8**	**-0.9**
M27K	**Edge Creek, AK**	**6.79**	**28**		**Pn**	**01 29 59.4**	**-0.3**
S31K	**Pelican**	**6.91**	**73**		**Pn**	**01 29 58.7**	**-2.5**
TRF	**Trf**	**6.98**	**354**		**Pn**	**01 30 02.8**	**+0.5**
N15K	**Kwethluk River**	**7.01**	**306**		**Pn**	**01 30 03.1**	**+0.5**
KTH	**Kantishna Hill**	**7.13**	**352**		**Pn**	**01 30 05.3**	**+1.1**
PLBC	**Pleasant Camp**	**7.18**	**61**		**Pn**	**01 30 03.6**	**-1.2**
HYT	**Haines Junctio**	**7.24**	**49**		**Pn**	**01 30 05.1**	**-0.8**
SIT	**Sitka**	**7.36**	**80**		Pn	01 30 03.2	-4.1
BCAR	**Beaver Creek A**	**7.41**	**25**		**Pn**	**01 30 08.3**	**+0.2**
RIDG	**Independent Ri**	**7.48**	**13**		**Pn**	**01 30 09.7**	**+0.6**
SKAG	**Skagway**	**7.68**	**62**		**Pn**	**01 30 11.4**	**-0.3**
K17K	**Iditarod**	**7.87**	**326**		**Pn**	**01 30 14.3**	**0.0**
M29M	**Somme Creek**	**7.88**	**37**		**Pn**	**01 30 14.2**	**-0.4**
WRH	**Wood River Hil**	**7.97**	**2**		**Pn**	**01 30 15.5**	**-0.1**
CCB	**Clear Creek Bu**	**8.15**	**3**		**Pn**	**01 30 19.4**	**+1.2**
J25K	**Salcha River,**	**8.27**	**10**		**Pn**	**01 30 19.3**	**-0.5**
N31M	**Braeburn, Yuko**	**8.30**	**48**		**Pn**	**01 30 20.2**	**-0.1**
WHY	**Whitehorse**	**8.31**	**54**		**Pn**	**01 30 20.3**	**-0.1**
IL31		**8.31**	**5**	Pn	**Pn**	**01 30 20.8**	**+0.5**
ILAR	**Eielson Array**	**8.31**	**5**	Pn	**Pn**	**01 30 19.6**	**-0.8**
	comp=N,0.5nm,0.3s,baz=187,slow=13,SNR=13						
ILAR				Sn	**Sn**	**01 31 50.2**	**-4.0**
	comp=N,0.8nm,0.3s,baz=182,slow=22,SNR=7.6						
	comp=N,0.8nm,0.5s						
J26L	**Joseph Creek**	**8.38**	**15**		**Pn**	**01 30 21.1**	**-0.3**
L29M	**L29M**	**8.46**	**35**		**Pn**	**01 30 22.4**	**-0.1**
P32M	**Atlin**	**8.51**	**63**		**Pn**	**01 30 22.0**	**-1.1**
M30M	**Minto, Yukon**	**8.54**	**40**		**Pn**	**01 30 23.4**	**-0.3**
MLY	**Manley**	**8.58**	**354**		**Pn**	**01 30 24.7**	**+0.6**
I23K	**Minto, Yukon-K**	**8.65**	**358**		**Pn**	**01 30 25.4**	**+0.4**
U33K	**Whale Pass**	**8.67**	**86**		Pn	01 30 20.8	-4.5
L14K	**Kuka Creek**	**8.68**	**309**		**Pn**	**01 30 25.6**	**+0.2**
DAWY	**Dawson**	**8.84**	**28**		**Pn**	**01 30 27.3**	**-0.4**
P33M	**Teslin, Yukon**	**9.11**	**60**		**Pn**	**01 30 29.8**	**-1.7**
K29M	**Barlow Dome**	**9.19**	**33**		**Pn**	**01 30 32.6**	**+0.1**
I26K	**Coal Creek Min**	**9.20**	**15**		**Pn**	**01 30 32.2**	**-0.4**
M31M	**Drury Creek, Y**	**9.24**	**46**		**Pn**	**01 30 33.0**	**-0.1**
H23K	**Yukon River**	**9.33**	**358**		**Pn**	**01 30 35.1**	**+0.7**
H21K	**Melozitna Rive**	**9.36**	**349**		**Pn**	**01 30 35.0**	**+0.2**
IMAR	**Indian Mountai**	**9.78**	**348**		**Pn**	**01 30 41.1**	**+0.6**
R33M	**Jennings River**	**9.84**	**66**		**Pn**	**01 30 40.1**	**-1.3**
I28M	**Miner Creek**	**9.89**	**22**		**Pn**	**01 30 42.9**	**+0.8**
J30M	**Hart River**	**10.08**	**32**		**Pn**	**01 30 44.8**	**+0.1**
G24K	**Hadweenzic Riv**	**10.22**	**3**		**Pn**	**01 30 46.9**	**+0.4**
DLBC	**Dease Lake**	**10.23**	**72**	Pn	**Pn**	**01 30 45.8**	**-0.9**
	comp=N,0.1nm,0.3s,baz=261,slow=17,SNR=4.9						
DLBC				Sn	Sn	01 32 32.7	-8.6
	baz=181,slow=25,SNR=1.7						
	comp=N,0.1nm,0.3s						
G23K	**Bananza Creek**	**10.23**	**357**		**Pn**	**01 30 47.0**	**+0.4**
G21K	**Allakaket**	**10.27**	**349**		**Pn**	**01 30 47.4**	**+0.2**
I30M	**Mount Dempster**	**10.56**	**29**		**Pn**	**01 30 52.4**	**+1.2**
MMPY	**Sheldon Lake,**	**10.71**	**48**		**Pn**	**01 30 54.0**	**+0.7**
G30M	**tAoh Zraii Nji**	**11.99**	**24**		**Pn**	**01 31 10.2**	**-0.6**
BBB	**Bella Bella**	**12.75**	**101**	LR	LR	01 35 04.2	
	comp=N,135nm,18.6s,baz=48,slow=32						
INK Inuvik 13.68 24 Pn **Pn 01 31 35.2 +1.5**
INK Inuvik 13.68 24 Pn **Pn 01 31 35.7 +2.0**
comp=N,0.1nm,0.3s,baz=212,slow=9.6,SNR=5.8
comp=N,3.6nm,0.9s
KIWB Kanaga Island 17.23 266 Pn **Pn 01 32 18.6 -1.8**
KIWB IAmb IAmb 01 32 18.9
comp=Z,8.0nm,1.0s
YKA Yellowknife Ar 18.13 57 P **Pn 01 32 30.9 -0.6**
YKA Yellowknife Ar 18.13 57 P **Pn 01 32 31.9 +0.4**
comp=Z,0.1nm,0.3s,baz=269,slow=11,SNR=9.0
comp=Z,1.8nm,1.0s
AMKA Amchitka 19.41 268 P **P 01 32 43.5 -2.4**
KRMB Red Mountain 21.95 123 P **P 01 33 10.4 -3.3**
KRMB IAmb IAmb 01 33 14.5
comp=Z,16nm,1.4s
YBH Yreka Blue Hor 22.36 120 P **P 01 33 18.4 +0.4**
comp=Z,0.1nm,0.6s,baz=343,slow=14,SNR=3.1
NVAR Mina Array Bea 27.05 119 P **P 01 34 02.3 -0.2**
comp=Z,0.5nm,0.8s,baz=324,slow=11,SNR=2.6
comp=Z,0.5nm,0.8s
PDAR Pinedale Array 28.40 102 P **P 01 34 14.5 -0.1**
comp=Z,0.2nm,0.5s,baz=277,slow=7.7,SNR=2.0
comp=Z,0.2nm,0.5s
SEY Seymchan 29.41 307 LR LR 01 47 25.0
comp=Z,72nm,18.8s,baz=141,slow=39
MA2 Magadan 31.20 301 LR LR 01 46 01.9
comp=Z,54nm,21.4s,baz=97,slow=34
H11N2 WAKE ISLAND Hy 49.29 240 T T 02 30 56.3
baz=30,slow=76,SNR=14
H11N3 WAKE ISLAND Hy 49.30 240 T T 02 30 56.7
baz=30,slow=76,SNR=16
H11N1 WAKE ISLAND Hy 49.31 240 T T 02 30 57.6
baz=30,slow=76,SNR=12
H11S1 WAKE ISLAND Hy 50.43 240 T T 02 32 25.3
baz=29,slow=76,SNR=15
H11S2 WAKE ISLAND Hy 50.45 240 T T 02 32 18.5
baz=29,slow=76,SNR=9.7
H11S3 WAKE ISLAND Hy 50.45 240 T T 02 32 21.4
baz=29,slow=76,SNR=9.7
SONM Songino Array 58.72 310 P **P 01 38 20.8 +3.2**
comp=Z,0.4nm,0.5s,baz=29,slow=10,SNR=3.8
comp=Z,0.4nm,0.5s
FINES FINESS Array B 62.29 3 P **P 01 38 41.4 -0.2**
FINES FINESS Array B 62.29 3 P **P 01 38 42.8 +1.2**
comp=Z,0.5nm,0.6s,baz=12,slow=9.8,SNR=7.2
comp=Z,0.5nm,0.6s
BVAR Borovoye Array 66.19 335 P **P 01 39 09.2 +1.9**
comp=Z,0.2nm,0.3s,baz=54,slow=7.3,SNR=2.1
comp=Z,0.2nm,0.3s
ENH Enshi 71.37 297 P **P 01 39 38.7 -1.3**
ENH IAmb IAmb 01 39 39.2
comp=Z,28nm,0.4s
ESDC Sonseca Array 79.61 27 P **P 01 40 28.2 +1.0**
comp=Z,0.6nm,0.9s,baz=358,slow=5.5,SNR=2.4
comp=Z,0.6nm,0.9s
QSPA South Pole Qui 146.33 180 PKPbc **PKPdf 01 48 01.2 +3.1**
comp=Z,1.3nm,0.8s,baz=44,slow=6.4,SNR=4.1

*GCG **18** 01:35:21.9±1.7,12°.29N×89°.65W, h35km±18km, MD4.0*
*SNET **18** 01:35:25.0±1.1,12°.57N×89°.42W, h15km±112km, ML3.2*
ISC 18 01:35:21.1±4.2,12°.3N±0°.2×89°.5W±0°.1,h47km,n15, σ1§98/18,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**1.40**	**3**	*e*P	**Pn**	**01 35 43.8**	**-0.5**
JAYA				*e*S	**Sn**	**01 35 56.2**	**-5.5**
JAYA				IAML		01 36 03.5	
	comp=Z,234nm,0.2s						
JAYA	**Jayaque - finc**	**1.40**	**3**	*i* P	**Pn**	**01 35 44.3**	**0.0**
PMON	**Piamonte**	**1.47**	**8**	*e*P	**Pn**	**01 35 45.0**	**-0.3**
PAVA	**Las Pavas**	**1.56**	**22**	*e*P	**Pn**	**01 35 45.8**	**-0.8**
SBLS	**San Blas**	**1.58**	**357**	*e*P	**Pn**	**01 35 47.5**	**+0.5**
SNJE	**San Jose**	**1.61**	**357**	*e*P	**Pn**	**01 35 48.0**	**+0.7**
RTR	**El Retiro**	**1.64**	**356**	*e*P	**Pn**	**01 35 48.9**	**+1.2**
SCLA	**Alcalde de Sa**	**1.64**	**28**	*e*P	**Pn**	**01 35 46.5**	**-1.1**
NUBE	**Las Nubes**	**1.66**	**352**	*e*P	**Pn**	**01 35 48.1**	**+0.2**
NUBE	**Las Nubes**	**1.66**	**352**	*i* P	**Pn**	**01 35 47.4**	**-0.5**
NUBE				*e*S	**Sn**	**01 36 09.9**	**+1.8**
LCND	**La Caada**	**1.92**	**57**	*e*P	**Pn**	**01 35 49.7**	**-1.6**
CNCH	**Conchagua**	**1.95**	**58**	*e*P	**Pn**	**01 35 51.6**	**-0.2**
MTO3	**Montecristo**	**2.14**	**4**	*e*P	**Pn**	**01 35 55.0**	**+0.4**
MTO3	**Montecristo**	**2.14**	**4**	*i* P	**Pn**	**01 35 56.3**	**+1.7**
MARCA	**Marcala la Paz**	**2.39**	**37**	*i* P	**Pn**	**01 36 00.6**	**+2.6**
MARCA				*i* S	**Sn**	**01 36 29.0**	**+2.8**

*IDC **18** 01:39:04.3±11.0,36°.41N×71°.28E, h180km±108km, mb3.0/5,mbtmp3.5/8,Error ellipse: s-maj=64.9km s-min=27.2km az=28.0*
ISC 18 01:39:06.5±1.3,36°.7N±0°.2×71°.3E±0°.2,h200km,n10, σ1§39/10,mb3.3/4,4C,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.43**	**355**	⇑P	**Pn**	**01 40 37.8**	**-1.4**
	1.7nm,0.3s,baz=179,slow=12,SNR=40						
KK31				⇑S	Sn	01 41 47.2	-5.5
	5.2nm,0.5s,baz=188,slow=22,SNR=9.7						
MKAR	**Makanchi Array**	**12.97**	**36**	P	**P**	**01 42 06.8**	**0.0**
	0.5nm,0.5s,baz=217,slow=11,SNR=6.5						
KURBB	**Kurchatov Arra**	**14.85**	**18**	P	**P**	**01 42 28.5**	**+1.0**
	0.3nm,0.3s,baz=207,slow=10,SNR=1.7						
AB31	**Akbulak array

CO02					IAML			01 45 39.0	
	comp=Z,2μm,0.3s								
CO01	**Juntas del Tor**	**1.27**	**71**	*eP*		**Pn**		**01 45 32.6**	**+0.2**
CO01				*i* S		**Sn**		**01 45 48.2**	**-0.7**
CO01				IAML				01 45 49.1	
	comp=N,3μm,0.2s								
CO01	**Juntas del Tor**	**1.27**	**71**	*eP*		**Pn**		**01 45 32.5**	**+0.1**
CO01				*eS*		**Sn**		**01 45 48.9**	**-0.1**
CO01				IAML				01 45 49.1	
	comp=Z,1μm,0.1s								
LCO	**Las Campanas**	**1.53**	**26**	*eP*		**Pn**		**01 45 37.0**	**+1.1**
LCO				*i* S		**Sn**		**01 45 56.5**	**+1.3**
LCO				IAML				01 45 57.8	
	comp=Z,5μm,0.3s								
LCO	**Las Campanas**	**1.53**	**26**	*eP*		**Pn**		**01 45 36.4**	**+0.5**
LCO				*eS*		Sn		01 45 37.1	-18
LCO				IAML				01 45 58.5	
	comp=Z,709nm,0.2s								
AROD	**Rodeo**	**1.75**	**83**	*eP*		**Pn**		**01 45 40.2**	**+1.4**
ACDV	**Cuesta del Vie**	**2.05**	**84**	*eP*		**Pn**		**01 45 44.2**	**+1.4**
ACDV				*eS*		**Sn**		**01 46 02.1**	**-5.5**
ACCO	**Cerro Coronel**	**2.09**	**96**	*eP*		**Pn**		**01 45 45.0**	**+1.5**
ACCO				*eS*		**Sn**		**01 46 03.8**	**-5.0**
AC04	**Llanos de Chal**	**2.21**	**9**	*eP*		**Pn**		**01 45 46.1**	**+1.3**
AC04				*eS*		**Sn**		**01 46 05.8**	**-5.3**
RTLS	**Leoncito**	**2.34**	**127**	*eP*		**Pn**		**01 45 48.0**	**+1.2**
RTLS				*eS*		**Sn**		**01 46 16.8**	**+2.1**
RTLS				IAML				01 46 17.9	
	comp=Z,584nm,0.2s								
VA03	**San Esteban**	**2.49**	**162**	*eP*		**Pn**		**01 45 48.7**	**0.0**
VA03				*i* S		**Sn**		**01 46 16.9**	**-1.3**
VA03				IAML				01 46 21.3	
	comp=E,723nm,0.2s								
VA03	**San Esteban**	**2.49**	**162**	*eP*		**Pn**		**01 45 48.6**	**-0.1**
VA03				*eS*		**Sn**		**01 46 18.6**	**+0.4**
VA03				IAML				01 46 21.2	
	comp=Z,268nm,0.2s								
ROC1	**El Roble**	**2.61**	**171**	*eP*		**Pn**		**01 45 49.9**	**-0.5**
ROC1				*eS*		Sn		01 46 09.0	-12
VA01	**Torpederas**	**2.63**	**183**	*eP*		Pn		01 45 43.4	-7.0
ZON	**Zonda**	**2.67**	**116**	*eP*		**Pn**		**01 45 52.0**	**+1.0**
ZON				*eS*		**Sn**		**01 46 23.6**	**+1.4**
AGUA	**GUANDACOL**	**2.75**	**72**	*eP*		**Pn**		**01 45 55.0**	**+2.9**
AGUA				*eS*		Sn		01 46 12.0	-12
AGUA				IAML				01 46 17.5	
	comp=Z,255nm,0.5s								
RTLL	**Cerro Villicun**	**2.75**	**111**	*eP*		**Pn**		**01 45 52.5**	**+0.4**
RTLL				*eS*		Sn		01 46 10.2	-14
SJA	**San Juan**	**2.75**	**115**	*eP*		**Pn**		**01 45 54.9**	**+2.8**
PEL	**Peldehue**	**2.83**	**166**	*eP*		**Pn**		**01 45 54.2**	**+1.0**
PEL				*eS*		**Sn**		**01 46 26.9**	**+0.8**
MT02	**Curacav**	**2.87**	**174**	*eP*		**Pn**		**01 45 53.0**	**-0.8**
MT02				*eS*		**Sn**		**01 46 28.0**	**+0.7**
MT02				IAML				01 46 50.4	
	comp=Z,73nm,0.5s								
MT10	**Hacienda Santa**	**2.98**	**165**	*eP*		**Pn**		**01 45 55.2**	**-0.2**
MT10				*i* S		**Sn**		**01 46 28.5**	**-1.6**
GO03	**Copiapo**	**2.99**	**22**	*eP*		**Pn**		**01 45 52.8**	**-2.7**
CFA	**Coronel Fontan**	**3.04**	**114**	*eP*		**Pn**		**01 45 56.5**	**+0.5**
CFA				*eS*		Sn		01 46 47.8	+17
MT05	**Renca**	**3.06**	**168**	*eP*		**Pn**		**01 45 57.1**	**+0.8**
MT05				*eS*		**Sn**		**01 46 32.8**	**+1.0**
MT05				IAML				01 46 33.8	
	comp=E,168nm,0.2s								
ASAL	**Salagasta**	**3.15**	**135**	*eP*		**Pn**		**01 45 59.5**	**+1.9**
ASAL				*eS*		**Sn**		**01 46 37.8**	**+3.7**
MT03	**Universidad Ad**	**3.20**	**165**	*eP*		**Pn**		**01 45 58.1**	**-0.2**
MT03				*i* S		**Sn**		**01 46 33.7**	**-1.6**
MT03				IAML				01 46 38.1	
	comp=E,378nm,0.2s								
MT03	**Universidad Ad**	**3.20**	**165**	*eP*		**Pn**		**01 45 58.7**	**+0.4**
MT03				*eS*		**Sn**		**01 46 36.0**	**+0.6**
MT03				IAML				01 46 38.8	
	comp=Z,185nm,0.1s								
MT04	**Ro Olivares**	**3.21**	**160**	*eP*		**Pn**		**01 45 59.8**	**+1.1**
MT04				*eS*		**Sn**		**01 46 37.0**	**+1.1**
MT04				IAML				01 46 38.6	
	comp=Z,124nm,0.1s								
MT08	**Bocatoma Ro**	**3.29**	**158**	*eP*		**Pn**		**01 45 58.4**	**-1.3**
MT08				*eS*		**Sn**		**01 46 40.6**	**+2.9**
MT08				IAML				01 46 41.3	
	comp=Z,60nm,0.6s								
MT09	**Talagante**	**3.40**	**173**	*eP*		**Pn**		**01 46 00.8**	**-0.3**
MT09				*i* S		**Sn**		**01 46 38.8**	**-1.5**
MT09				IAML				01 46 39.7	
	comp=E,146nm,0.2s								
MT01	**Popeta**	**3.47**	**177**	*eP*		**Pn**		**01 46 01.2**	**-0.7**
MT01				IAML				01 46 46.2	
	comp=Z,75nm,0.1s								
AVFE	**Valle Fertil**	**3.48**	**95**	*eP*		**Pn**		**01 46 02.4**	**+0.3**
AVFE				IAML				01 46 24.6	
	comp=Z,71nm,0.5s								
LMEL	**Las Melosas**	**3.61**	**163**	*eP*		**Pn**		**01 46 04.7**	**+0.7**
LMEL				*i* S		**Sn**		**01 46 43.8**	**-1.7**
LMEL				IAML				01 46 48.0	
	comp=N,316nm,0.1s								
LMEL	**Las Melosas**	**3.61**	**163**	*eP*		**Pn**		**01 46 04.7**	**+0.7**
BO01	**Tunca**	**4.00**	**175**	*eS*		**Sn**		**01 46 55.2**	**+0.3**
AC02	**Maricunga**	**4.10**	**31**	*eP*		**Pn**		**01 46 12.1**	**+1.0**
ACHE	**Chepes**	**4.21**	**102**	*eP*		**Pn**		**01 46 12.2**	**0.0**
APLL	**PUNTA DE LOS L**	**4.28**	**91**	*eP*		**Pn**		**01 46 13.3**	**+0.3**
GO05	**Hualane**	**4.62**	**185**	*eS*		**Sn**		**01 47 06.2**	**-3.9**
H03N1	**Juan Fernandez**	**7.01**	**242**	Pn		**Pn**		**01 46 50.6**	**+0.5**
	baz=106,slow=21								
H03N1					Sn	Sn		01 48 01.3	-6.8
H03N1					T	T		01 53 52.1	
	baz=71,slow=72,SNR=239								
H03N2	**Juan Fernandez**	**7.03**	**242**	Pn		**Pn**		**01 46 50.6**	**+0.4**
	baz=106,slow=21								
H03N2					Sn	Sn		01 48 01.4	-7.2
H03N2					T	T		01 53 52.4	
	baz=71,slow=72,SNR=270								
H03N3	**Juan Fernandez**	**7.03**	**242**	Pn		**Pn**		**01 46 50.4**	**+0.1**
	baz=106,slow=21								
H03N3					Sn	Sn		01 48 01.1	-7.5
H03N3					T	T		01 53 54.3	
	baz=71,slow=72,SNR=220								
H03S3	**Juan Fernandez**	**7.17**	**240**	Pn		**Pn**		**01 46 50.9**	**-1.4**
	baz=75,slow=27								
H03S3					Sn	Sn		01 48 04.9	-7.2
H03S1	**Juan Fernandez**	**7.18**	**239**	Pn		**Pn**		**01 46 50.7**	**-1.6**
	baz=75,slow=27								
H03S1					Sn	Sn		01 48 04.7	-7.5
H03S2	**Juan Fernandez**	**7.19**	**240**	Pn		**Pn**		**01 46 50.9**	**-1.6**
	baz=75,slow=27								
H03S2					Sn	Sn		01 48 04.9	-7.6
QSPA	**South Pole Qui**	**59.84**	**180**	P		**P**		**01 55 09.4**	**+0.9**
	comp=N,1.1nm,0.6s,baz=214,slow=0.6,SNR=12								
	comp=N,1.1nm,0.6s								
BOSA	**Boshof**	**81.33**	**118**	P		**P**		**01 57 19.2**	**-0.6**
	comp=N,1.1nm,0.8s,baz=226,slow=3.4,SNR=3.1								
	comp=N,1.1nm,0.8s								
TORD	**Torodi Ar. Bea**	**82.54**	**70**	P		**P**		**01 57 26.0**	**0.0**
	comp=N,0.2nm,0.5s,baz=246,slow=3.3,SNR=6.1								
	comp=N,0.2nm,0.5s								
ZALV	**Zalesovo Beam**	**150.89**	**29**	PKPbc		**PKiKP**		**02 04 55.5**	**+0.3**
	comp=N,1.3nm,0.6s,baz=301,slow=5.6,SNR=4.5								

*SJA **18** 02:03:17.8±1.8, 34.°35S×70.°55W, h125km±5km, ML3.5, MW3.5*

*GUC **18** 02:03:19.9±0.7, 34.°33S×70.°57W, h116km±2km, ML3.8*

*IDC **18** 02:03:20.2±5.6, 34.°47S×71.°25W, h102km±49km, mb3.4/3, mbtmp3.6/4, Error ellipse: s-maj=71.3km s-min=33.3km az=65.0*

ISC 18 02:03:20.6±0.9, 34.°34S±0.°03×70.°55W±0.°04, h112km±5km, n58, σ1.°09/98, mb3.8/3, 15C-10D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
BO04	**La Punta**	**0.35**	**352**	⇓*iP*		**Pn**	**02 03 36.0**	**-0.9**
BO04				*i* S		**Sn**	**02 03 48.5**	**-0.6**
BO04				IAML			02 03 49.2	
	comp=E,7μm,0.2s							
BO01	**Tunca**	**0.45**	**263**	⇑*iP*		**Pn**	**02 03 36.7**	**-0.6**
BO01				*eS*		**Sn**	**02 03 49.6**	**-0.3**
BO01				IAML			02 03 50.3	
	comp=E,4μm,0.2s							
BO01	**Tunca**	**0.45**	**263**	*i* P		**Pn**	**02 03 36.7**	**-0.6**
BO01				⇓*eS*		**Sn**	**02 03 49.8**	**-0.1**
BO01				IAML			02 03 50.5	
	comp=Z,1μm,0.2s							
BO02	**Sierra Bellavi**	**0.49**	**203**	⇑*iP*		**Pn**	**02 03 37.1**	**-0.6**
BO02				*i* S		**Sn**	**02 03 50.6**	**0.0**
BO02				IAML			02 03 53.2	
	comp=E,9μm,0.2s							
BO02	**Sierra Bellavi**	**0.49**	**203**	*i* P		**Pn**	**02 03 37.3**	**-0.5**
BO02				⇓*eS*		**Sn**	**02 03 52.4**	**+1.8**
BO02				IAML			02 03 54.0	
	comp=Z,5μm,0.1s							
LMEL	**Las Melosas**	**0.57**	**31**	⇓*iP*		**Pn**	**02 03 37.5**	**-0.8**
LMEL				*i* S		**Sn**	**02 03 51.7**	**0.0**
LMEL				IAML			02 03 59.4	
	comp=N,3μm,0.2s							
LMEL	**Las Melosas**	**0.57**	**31**	*i* P		**Pn**	**02 03 37.5**	**-0.8**
LMEL				*eS*		**Sn**	**02 03 51.8**	**+0.1**
MT12	**Pirque**	**0.60**	**0**	⇓*iP*		**Pn**	**02 03 37.8**	**-0.7**
MT12				*i* S		**Sn**	**02 03 51.5**	**-0.4**
MT12				IAML			02 03 52.8	
	comp=N,5μm,0.3s							
MT09	**Talagante**	**0.67**	**327**	⇑*iP*		**Pn**	**02 03 38.4**	**-0.7**
MT09				*i* S		**Sn**	**02 03 52.5**	**-0.5**
MT09				IAML			02 03 53.1	
	comp=N,8μm,0.3s							
MT15	**Las Vizcachas**	**0.74**	**3**	⇓*iP*		**Pn**	**02 03 39.1**	**-0.5**
MT15				*i* S		**Sn**	**02 03 53.6**	**-0.2**
MT01	**Popeta**	**0.75**	**309**	⇑*iP*		**Pn**	**02 03 38.9**	**-0.7**
MT01				*i* S		**Sn**	**02 03 53.0**	**-0.9**
MT01				IAML			02 03 55.8	
	comp=E,3μm,0.2s							
MT01	**Popeta**	**0.75**	**309**	*i* P		**Pn**	**02 03 38.8**	**-0.7**
MT01				*eS*		**Sn**	**02 03 53.1**	**-0.7**
MT01				IAML			02 03 54.3	
	comp=Z,2μm,0.3s							
MT16	**CCHEN**	**0.91**	**1**	*eP*		**Pn**	**02 03 40.6**	**-0.5**
MT16				*i* S		**Sn**	**02 03 56.3**	**-0.3**
MT16				IAML			02 03 57.3	
	comp=E,1μm,0.2s							
MT14	**Cerro Cal¡n**	**0.94**	**1**	⇑*iP*		**Pn**	**02 03 41.0**	**-0.4**
MT14				*i* S		**Sn**	**02 03 57.1**	**-0.1**
MT14				IAML			02 03 58.2	
	comp=E,5μm,0.3s							
MT05	**Renca**	**0.96**	**350**	⇑*iP*		**Pn**	**02 03 41.1**	**-0.6**
MT05				*i* S		**Sn**	**02 03 57.1**	**-0.4**
MT05	**Renca**	**0.96**	**350**	*i* P		**Pn**	**02 03 41.0**	**-0.6**
MT05				*eS*		**Sn**	**02 03 57.0**	**-0.4**
MT05				IAML			02 03 58.4	
	comp=Z,6μm,0.2s							
MT04	**Ro Olivares**	**0.99**	**20**	⇓*iP*		**Pn**	**02 03 41.4**	**-0.7**
MT04				*i* S		**Sn**	**02 03 58.2**	**-0.2**
MT04				IAML			02 04 00.9	
	comp=E,1μm,0.4s							
MT04	**Ro Olivares**	**0.99**	**20**	*i* P		**Pn**	**02 03 41.5**	**-0.7**
MT04				*eS*		**Sn**	**02 04 00.1**	**+1.7**
MT04				IAML			02 04 02.8	
	comp=Z,600nm,0.6s							
MT08	**Bocatoma Ro**	**0.99**	**27**	⇓*iP*		**Pn**	**02 03 41.5**	**-0.7**
MT08				*i* S		**Sn**	**02 03 58.7**	**+0.2**
MT08	**Bocatoma Ro**	**0.99**	**27**	*i* P		**Pn**	**02 03 41.5**	**-0.7**
MT08				*eS*		**Sn**	**02 03 58.6**	**+0.1**
MT08				IAML			02 04 01.9	
	comp=Z,416nm,0.3s							
FCH	**Farellones**	**1.03**	**12**	⇓*iP*		**Pn**	**02 03 42.1**	**-0.6**
FCH				*i* S		**Sn**	**02 03 59.1**	**-0.1**
FCH				IAML			02 04 00.3	
	comp=N,2μm,0.2s							
MT10	**Hacienda Santa**	**1.06**	**1**	⇑*iP*		**Pn**	**02 03 42.2**	**-0.6**
MT10				*i* S		**Sn**	**02 03 59.4**	**-0.1**
MT10				IAML			02 04 03.5	
	comp=E,3μm,0.6s							
VA05	**Santo Domingo**	**1.11**	**307**	⇑*iP*		**Pn**	**02 03 42.4**	**-0.8**
VA05				*i* S		**Sn**	**02 03 59.1**	**-1.1**
VA05				IAML			02 04 02.2	
	comp=N,3μm,0.4s							
BO03	**Pichilemu**	**1.18**	**262**	⇑*iP*		**Pn**	**02 03 43.3**	**-0.5**
BO03				*i* S		**Sn**	**02 04 00.8**	**-0.6**
BO03				IAML			02 04 04.6	
	comp=N,1μm,0.3s							
MT02	**Curacav**	**1.18**	**335**	⇑*iP*		**Pn**	**02 03 43.2**	**-0.6**
MT02				*i* S		**Sn**	**02 04 00.5**	**-1.1**
MT02				IAML			02 04 01.9	
	comp=E,2μm,0.5s							
MT02	**Curacav**	**1.18**	**335**	*i* P		**Pn**	**02 03 43.3**	**-0.6**
MT02				*eS*		**Sn**	**02 04 00.8**	**-0.7**
MT02				IAML			02 04 01.0	
	comp=Z,846nm,0.8s							
PEL	**Peldehue**	**1.20**	**355**	⇑*iP*		**Pn**	**02 03 43.4**	**-0.8**
PEL				*i* S		**Sn**	**02 04 01.4**	**-0.5**
PEL				IAML			02 04 03.1	
	comp=N,2μm,0.2s							
GO05	**Hualane**	**1.32**	**239**	⇑*iP*		**Pn**	**02 03 44.3**	**-1.1**
GO05				*i* S		**Sn**	**02 04 03.1**	**-1.2**
GO05				IAML			02 04 04.7	
	comp=E,1μm,0.2s							
GO05	**Hualane**	**1.32**	**239**	*i* P		**Pn**	**02 03 44.4**	**-1.1**
GO05				⇓*eS*		**Sn**	**02 04 03.5**	**-0.8**
ROCH	**El Roble**	**1.42**	**344**	⇑*iP*		**Pn**	**02 03 46.0**	**-0.8**
ROCH				*i* S		**Sn**	**02 04 05.7**	**-0.9**
ROCH				IAML			02 04 08.9	
	comp=N,1μm,0.3s							
VA03	**San Esteban**	**1.57**	**360**	⇑*iP*		**Pn**	**02 03 48.0**	**-0.5**
VA03				*i* S		**Sn**	**02 04 09.3**	**-0.3**
VA03				IAML			02 04 11.9	
	comp=E,2μm,0.4s							
VA03	**San Esteban**	**1.57**	**360**	*i* P		**Pn**	**02 03 48.2**	**-0.3**
VA03				*eS*		**Sn**	**02 04 09.8**	**+0.1**
VA03				IAML			02 04 16.0	
	comp=Z,822nm,0.4s							
ML02	**Panimavida**	**1.59**	**206**	*eP*		**Pn**	**02 03 47.7**	**-0.9**
ML02				*i* S		**Sn**	**02 04 09.6**	**-0.3**
ML02				IAML			02 04 10.8	
	comp=E,2μm,0.4s							
VA01	**Torpederas**	**1.60**	**325**	*eP*		**Pn**	**02 03 48.4**	**-0.4**
VA01				*i* S		**Sn**	**02 04 09.1**	**-1.0**
VA01				IAML			02 04 11.2	
	comp=E,1μm,0.1s							
VA01	**Torpederas**	**1.60**	**325**	*i* P		**Pn**	**02 03 48.3**	**-0.4**
VA01				*eS*		**Sn**	**02 04 08.6**	**-1.4**
VA01				IAML			02 04 12.1	
	comp=Z,231nm,0.6s							
RFA	**San Rafael**	**1.77**	**105**	*i* P		**Pn**	**02 03 49.4**	**-1.5**
RFA				*eS*		**Sn**	**02 04 11.9**	**-2.1**
RFA				IAML			02 04 14.8	
	comp=Z,105nm,0.5s							
VA06	**Catapilco**	**1.88**	**340**	⇑*iP*		**Pn**	**02 03 51.2**	**-0.9**
VA06				*i* S		**Sn**	**02 04 14.2**	**-2.0**
VA06				IAML			02 04 16.4	
	comp=N,1μm,0.3s							
ASAL	**Salagasta**	**2.26**	**40**	*i* P		**Pn**	**02 03 56.8**	**-0.2**
ASAL				*eS*		**Sn**	**02 04 25.6**	**+0.7**
ASAL				IAML			02 05 02.5	
	comp=Z,0.0nm,0.1s							
BI02	**San Fabin de**	**2.40**	**194**	*i* P		**Pn**	**02 03 57.9**	**-0.9**
BI02				IAML			02 04 31.0	
	comp=Z,66nm,0.5s							
RTLS	**Leoncito**	**2.74**	**23**	*i* P		**Pn**	**02 04 03.9**	**+0.3**
RTLS				*eS*		**Sn**	**02 04 35.9**	**-0.7**
RTLS				IAML			02 04 39.9	
	comp=Z,160nm,0.5s							
CO02	**Combarbal**	**3.15**	**353**	*i* P		**Pn**	**02 04 07.5**	**-1.3**
CO02				IAML			02 04 45.3	
	comp=Z,149nm,0.1s							
ZON	**Zonda**	**3.20**	**30**	*i* P		**Pn**	**02 04 08.5**	**-0.8**
ZON				IAML			02 04 49.6	
	comp=Z,24nm,0.3s							
CFA	**Coronel Fontan**	**3.35**	**36**	*i* P		**Pn**	**02 04 09.8**	**-1.5**
CO03	**El Pedregal**	**3.49**	**358**	*i* P		**Pn**	**02 04 12.3**	**-1.0**
CO03				IAML			02 04 55.3	
	comp=Z,63nm,0.3s							
DOCA	**Reserva Natura**	**3.60**	**21**	*i* P		**Pn**	**02 04 13.9**	**-1.1**
ACCO	**Cerro Coronel**	**3.94**	**19**	*i* P		**Pn**	**02 04 18.6**	**-1.0**
GO04	**Tololo Observa**	**4.16**	**357**	*i* P		**Pn**	**02 04 21.4**	**-0.9**
ACDV	**Cuesta del Vie**	**4.33**	**17**	*i* P		**Pn**	**02 04 23.8**	**-0.8**
ACDV				IAML			02 05 20.4	
	comp=Z,19nm,0.8s							
MRA	**San Martin**	**4.47**	**66**	*i* P		**Pn**	**02 04 24.9**	**-1.5**
MRA				IAML			02 05 35.6	
	comp=Z,12nm,0.6s							
AVFE	**Valle Fertil**	**4.50**	**36**	*i* P		**Pn**	**02 04 24.5**	**-2.3**
AVFE				*eS*		**Sn**	**02 05 14.6**	**-3.7**
AVFE				IAML			02 05 16.9	
	comp=Z,21nm,0.7s							
AGUA	**GUANDACOL**	**5.14**	**20**	*i* P		**Pn**	**02 04 33.9**	**-1.6**
AGUA				IAML			02 05 35.0	
	comp=Z,22nm,0.3s							
APLL	**PUNTA DE LOS L**	**5.20**	**42**	*i* P		**Pn**	**02 04 33.4**	**-2.8**
APLL				IAML			02 05 32.7	
	comp=Z,4.4nm,0.6s							
GO06	**Curarrehue**	**5.29**	**188**	*i* P		**Pn**	**02 04 35.2**	**-2.2**
LCO	**Las Campanas**	**5.31**	**359**	*i* P		**Pn**	**02 04 36.3**	**-1.6**
LCO				IAML			02 05 50.6	
	comp=Z,42nm,1.9s							
PLCA	**Paso Flores**	**6.38**	**180**	P		**Pn**	**02 04 50.3**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=356,slow=13,SNR=1.7							
QSPA	**South Pole Qui**	**55.90**	**180**	P		**P**	**02 12 46.3**	**-0.2**
	comp=Z,1.0nm,1.0s,baz=112,slow=0.9,SNR=5.6							
	comp=Z,1.0nm,1.0s							
TXAR	**Lajitas Array**	**70.64**	**330**	P		**P**	**02 14 23.8**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=146,slow=7.9,SNR=3.8							
	comp=Z,0.2nm,0.6s							
BOSA	**Boshof**	**78.82**	**117**	P		**P**	**02 15 14.9**	**+3.5**
	comp=Z,0.7nm,0.4s,baz=220,slow=3.7,SNR=3.8							
	comp=Z,0.7nm,0.4s							

IDC 18 02:18:33.5±1.6, 0.°04N×125.°12E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=186.9km s-min=23.9km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.82**	**156**	P		P	02 23 26.1	-1.3
	0.8nm,0.7s,baz=334,slow=11,SNR=7.2							
	0.8nm,0.7s							
ASAR	**Alice Springs**	**25.06**	**161**	P		P	02 24 00.8	+1.1
	0.4nm,0.3s,baz=342,slow=8.8,SNR=4.9							
	0.4nm,0.3s							
MKAR	**Makanchi Array**	**59.71**	**327**	P		P	02 28 40.2	+0.2
	0.2nm,0.3s,baz=124,slow=7.5,SNR=2.3							
	0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**64.01**	**329**	P		P	02 29 08.4	-0.4
	0.3nm,0.7s,baz=130,slow=6.5,SNR=1.8							
	0.3nm,0.7s							

IDC 18 02:22:13.3±10.0, 7.°26S×129.°42E, h257km±127km, mb3.0/1, mbtmp3.5/4, Error ellipse: s-maj=74.7km s-min=56.1km az=25.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.38**	**199**	P		Pn	02 24 49.4	+0.2
	2.1nm,0.8s,baz=30,slow=12,SNR=1.1							
FITZ					S	S	02 26 57.5	+1.0
	4.6nm,0.9s,baz=305,slow=6.1,SNR=3.0							
WRA	**Warramunga Arr**	**13.48**	**160**	P		Pn	02 25 14.4	-0.6
	0.4nm,0.3s,baz=341,slow=12,SNR=8.1							
WRA					S	S	02 27 40.4	-4.1
	0.4nm,0.5s,baz=333,slow=23,SNR=5.0							
ASAR	**Alice Springs**	**16.87**	**166**	P		P	02 25 53.4	+0.1
	0.3nm,0.5s,baz=344,slow=9.6,SNR=4.9							
MKAR	**Makanchi Array**	**68.13**	**327**	P		P	02 32 45.8	0.0
	0.3nm,0.4s,baz=128,slow=5.7,SNR=4.2							
	0.3nm,0.4s							

*CATAC **18** 02:32:58.1±0.7, 7.°N±4.°×7.°7W±.°, h1km, M3.6/6, MLv3.6/6, Error ellipse: s-maj=11.5km s-min=7.6km az=112.0, confirmed*

*RSNC **18** 02:33:01.9±0.0, 7.°N±1.°×7.°7W±.°, h24km±2km, M2.9, mb3.8, ML2.6*

ISC 18 02:32:59.8±1.0, 7.°27N±0.°02×76.°91W±0.°03, h20km±12km, n35, σ2.°31/60, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
APAC	**Apartado, Choc**	**0.71**	**28**	P		**Pn**	**02 33 15.0**	**+0.3**
APAC					S	**Sn**	**02 33 26.3**	**+1.2**
DBBC	**Dabeiba**	**0.74**	**109**	P		**Pb**	**02 33 13.9**	**-0.2**
DBBC					S	**Sb**	**02 33 23.9**	**+0.1**
PTAC	**Punta Ardita,**	**0.90**	**263**	P		**Pn**	**02 33 17.9**	**+0.6**
PTAC					S	**Sn**	**02 33 31.7**	**+2.1**
SOLC	**Bahia Solano**	**1.14**	**206**	P		**Pb**	**02 33 21.6**	**+0.7**
SOLC					S	**Sn**	**02 33 37.0**	**+1.2**
UREC	**San Jos de Ur**	**1.45**	**70**	P		**Pn**	**02 33 24.9**	**0.0**
UREC					S	**Sn**	**02 33 42.5**	**-0.9**
CBOC	**Ciudad Bolivar**	**1.66**	**147**	P		**Pn**	**02 33 27.0**	**-0.9**
LCBC	**Los crdobas,**	**1.67**	**19**	P		**Pb**	**02 33 29.9**	**0.0**
LCBC					S	**Sb**	**02 33 52.5**	**+2.0**
HELC	**Santa Helena**	**1.74**	**128**	P		**Pn**	**02 33 30.3**	**+1.1**
HELC					S	**Sb**	**02 33 53.5**	**+0.6**
HELC	**Santa Helena**	**1.74**	**128**	P		**Pn**	**02 33 29.6**	**+0.4**
HELC					S	**Sn**	**02 33 52.2**	**+1.2**
ZARC	**Zaragoza, Cauc**	**2.05**	**84**	P		**Pn**	**02 33 33.7**	**+0.5**
ZARC					S	**Sn**	**02 33 57.7**	**-0.5**
PLMC	**San Jos del P**	**2.43**	**165**	P		**Pn**	**02 33

WNMM					Sg	02 33 53.3	+0.5	
LRMC	**Laurel Mtn Rad**	**0.28**	**197**	Pg	Pg	02 33 49.1	-0.1	
CCCA	**Chr Cany lake**	**0.29**	**143**		Pg	02 33 49.6	+0.4	
CCCA					Sg	02 33 54.1	+1.2	
CCCA	**Chr Cany lake**	**0.29**	**143**	IAML		02 33 54.5		
	comp=N,13μm,0.5s							
CCCA				IAML		02 33 54.5		
	comp=E,13μm,0.5s							
JRC2	**Joshua Ridge**	**0.30**	**321**		Pg	02 33 49.5	0.0	
JRC2					Sg	02 33 53.8	+0.3	
MPMC	**Manual Prospec**	**0.31**	**13**	Pg	Pg	02 33 49.6	-0.2	
MPMC				IAML		02 33 54.5		
	comp=N,2μm,0.5s							
MPMC				IAML		02 33 55.9		
	comp=E,2μm,0.3s							
WCSM	**Coso Springs S**	**0.31**	**331**		Pg	02 33 49.5	-0.3	
WCSM					Sg	02 33 54.1	+0.1	
WRVM	**Rose V. Centra**	**0.36**	**315**		Pg	02 33 50.5	-0.2	
WRVM					Sg	02 33 55.5	+0.1	
MFS	**McCloud Flat S**	**0.43**	**328**		Pg	02 33 51.6	-0.3	
MFS					Sg	02 33 57.7	+0.1	
WBSM	**Bird Springs**	**0.51**	**245**		Pg	02 33 53.1	-0.3	
WBSM					Sg	02 34 00.1	+0.1	
DTP	**Desert Tortois**	**0.53**	**204**		Pg	02 33 53.4	-0.4	
DTP					Sg	02 34 00.8	0.0	
WORM	**Onyx Ranch**	**0.54**	**264**		Pg	02 33 53.6	-0.5	
WORM					Sg	02 34 00.9	-0.3	
QSM	**Queen of Sheba**	**0.61**	**70**		Pg	02 33 55.0	-0.4	
QSM					Sg	02 34 03.3	-0.1	
QSM	**Queen of Sheba**	**0.61**	**70**	IAML		02 34 03.7		
	comp=E,1μm,0.2s							
QSM				IAML		02 34 04.0		
	comp=N,1μm,0.2s							
WHFM	**Hanning Flat**	**0.63**	**265**		Pg	02 33 55.3	-0.4	
WHFM					Sg	02 34 03.6	-0.3	
CCAC	**Calif City Air**	**0.70**	**211**		Pg	02 33 56.7	-0.3	
CCAC					Sg	02 34 06.2	+0.2	
ISA	**Isabella, Lake**	**0.73**	**263**	Pg	Pg	02 33 57.2	-0.5	
ISA				IAML		02 34 07.6		
	comp=E,663nm,0.4s							
ISA				IAML		02 34 07.8		
	comp=N,745nm,0.3s							
ISA	**Isabella, Lake**	**0.73**	**263**		Sg	02 34 06.9	-0.4	
GSC	**Goldstone, Bar**	**0.77**	**125**	Pg	Pg	02 33 57.9	-0.5	
GSC	**Goldstone, Bar**	**0.77**	**125**		Sg	02 34 08.5	0.0	
WASM	**Alta Sierra Ca**	**0.80**	**269**		Pg	02 33 58.4	-0.5	
WASM					Sg	02 34 09.2	-0.1	
CWC	**Cottonwood Cre**	**0.80**	**329**		Pg	02 33 58.9	-0.1	
CWC	**Cottonwood Cre**	**0.80**	**329**	IAML		02 34 11.4		
	comp=E,492nm,0.2s							
CWC				IAML		02 34 12.2		
	comp=N,468nm,0.2s							
CGO	**Cerro Gordo**	**0.82**	**347**		Pg	02 33 58.6	-0.7	
GWY	**Greenwater Val**	**0.85**	**59**		Pg	02 33 59.5	-0.5	
GWY					Sg	02 34 10.9	-0.2	
HYS	**Haystack Butte**	**0.89**	**180**		Pg	02 33 59.8	-0.8	
HYS					Sg	02 34 11.5	-0.7	
FURC	**Furnace Creek,**	**0.92**	**39**		Pg	02 34 00.6	-0.6	
FURC					Sg	02 34 13.4	+0.3	
EDW2	**Edwards Air Fo**	**0.93**	**202**		Pg	02 34 00.7	-0.8	
EDW2					Sg	02 34 13.2	-0.4	
RRX	**Edison Barstow**	**1.00**	**151**		Pg	02 34 02.2	-0.5	
RRX					Sg	02 34 15.9	+0.3	
TPO	**Tropico Hills**	**1.02**	**212**		Pg	02 34 02.3	-0.9	
TPO					Sg	02 34 16.6	+0.2	
TPO	**Tropico Hills**	**1.02**	**212**	IAML		02 34 19.0		
	comp=N,490nm,0.9s							
TPO				IAML		02 34 21.7		
	comp=E,632nm,0.7s							
TEJ	**El Tejon**	**1.05**	**240**		Pg	02 34 02.4	-1.3	
SPG2	**Springville 2**	**1.06**	**295**		Pg	02 34 02.9	-1.1	
SPG2					Sg	02 34 16.6	-1.2	
SHOC	**Shoshone, Teco**	**1.07**	**82**		Pg	02 34 03.8	-0.3	
SHOC					Sg	02 34 18.1	+0.2	
SBB	**Saddle Back Bu**	**1.08**	**191**		Pg	02 34 03.3	-1.0	
VTV	**Victorville**	**1.21**	**170**		Sb	02 34 23.0	+0.3	
VES	**Vestal, Richgr**	**1.23**	**275**		Sg	02 34 22.4	-0.7	
GRAC	**Grapevine Rang**	**1.25**	**8**		Pb	02 34 06.7	-0.9	
GRAC				IAML		02 34 26.2		
	comp=E,302nm,0.5s							
GRAC				IAML		02 34 26.6		
	comp=N,305nm,0.7s							
AMDNV	**Amargosa**	**1.26**	**56**		Pn	02 34 06.0	-1.6	
LEOC	**Leona Valley**	**1.27**	**208**		Pg	02 34 08.4	+0.5	
LRRC	**Littlerock Res**	**1.28**	**197**		Pb	02 34 08.0	0.0	
WCT	**Wildcat Mounta**	**1.29**	**36**		Pn	02 34 06.5	-1.7	
WCT				IAML		02 34 27.2		
	comp=E,197nm,0.4s							
WCT				IAML		02 34 27.3		
	comp=N,184nm,0.6s							
HOLC	**Holcomb Ridge**	**1.31**	**190**		Pn	02 34 07.0	-1.4	
HOLC					Sn	02 34 26.1	-0.2	
JNH	**Juniper Hills**	**1.34**	**193**		Pg	02 34 09.2	0.0	
DSCC	**Desert Studies**	**1.35**	**116**		Pn	02 34 06.9	-2.0	
DSCC					Sn	02 34 27.0	0.0	
HEC	**Hector,Ludlow**	**1.37**	**132**		Pn	02 34 08.8	-0.4	
TUQ	**Turquoise Moun**	**1.38**	**103**		Pn	02 34 07.7	-1.8	
TUQ					Sn	02 34 28.2	0.0	
TIN	**Tinemaha, Big**	**1.40**	**338**		Pn	02 34 09.8	+0.1	
CHFC	**Chilao Flat St**	**1.46**	**195**		Pb	02 34 11.3	0.0	
OSI	**Osito Audit: C**	**1.47**	**220**		Pn	02 34 09.9	-0.7	
OSI					Sg	02 34 32.4	+1.4	
OSI				IAML		02 34 33.4		
	comp=E,129nm,0.7s							
OSI				IAML		02 34 35.9		
	comp=N,117nm,0.6s							
LCH	**Last Change Ra**	**1.48**	**358**		Pn	02 34 10.0	-0.8	
BFSC	**Mount Baldy Ra**	**1.51**	**183**		Pn	02 34 10.0	-1.2	
BFSC				IAML		02 34 32.0		
	comp=N,218nm,0.3s							
BFSC				IAML		02 34 32.3		
	comp=E,349nm,0.3s							
SSK	**Sunset Peak**	**1.54**	**184**		Pn	02 34 11.6	-0.1	
SS2	**San Sevaine**	**1.54**	**178**		Pg	02 34 13.3	+0.1	
GMN	**Gold Mountain**	**1.57**	**9**		Pn	02 34 11.0	-1.1	
MWC	**Mount Wilson**	**1.57**	**195**		Pn	02 34 11.3	-0.9	
MWC				IAML		02 34 35.7		
	comp=N,284nm,0.3s							
MWC				IAML		02 34 37.5		
	comp=E,260nm,0.4s							
TPNV	**Topopah Spring**	**1.60**	**42**		Pn	02 34 11.5	-1.1	
TPNV				IAML		02 34 37.0		
	comp=E,170nm,0.3s							
TPNV				IAML		02 34 39.0		
	comp=E,170nm,0.7s							
DSP	**Deep Springs**	**1.65**	**349**		Pn	02 34 12.2	-0.7	
DSP					Sn	02 34 33.8	-0.5	
DSP				IAML		02 34 37.0		
	comp=E,95nm,0.6s							
PASC	**Pasadena Art C**	**1.65**	**198**		Pn	02 34 12.2	-0.8	
PASC				IAML		02 34 37.9		
	comp=N,108nm,0.5s							
PASC				IAML		02 34 39.0		
	comp=E,145nm,0.7s							
PSRC	**Puddingstone R**	**1.67**	**187**		Pg	02 34 15.3	-0.2	
MTPC	**Mountain Pass**	**1.67**	**99**		Pn	02 34 11.8	-1.7	
MTPC				IAML		02 34 37.3		
	comp=N,154nm,0.4s							
MTPC				IAML		02 34 37.5		
	comp=E,173nm,0.4s							
SVD	**Seven Oaks Dam**	**1.69**	**166**		Pb	02 34 15.2	+0.2	
POCCA	**Poleta Canyon**	**1.70**	**341**		Pb	02 34 15.1	-0.3	
BHPR	**Bishop**	**1.71**	**335**		Pb	02 34 15.6	+0.1	
GTM	**Goat Mountain**	**1.77**	**145**		Pb	02 34 16.3	0.0	
MTUM	**Tungsten Hills**	**1.78**	**334**		Pb	02 34 16.7	-0.1	
GMRC	**Granite Mounta**	**1.84**	**121**		Pn	02 34 13.4	-2.3	
BLAC	**Blackrock camp**	**1.94**	**149**		Pn	02 34 16.2	-1.0	
MZP	**Montezuma Peak**	**1.95**	**5**		Pn	02 34 16.8	-0.7	
TPC	**Twentynine Pal**	**2.07**	**142**		Pn	02 34 17.4	-1.5	
HMTC	**Hemet**	**2.09**	**167**		Pn	02 34 18.3	-0.9	
SHPR	**Sheep Range**	**2.10**	**68**	Pn	Pn	02 34 18.5	-0.8	
ELS	**Elsinore Mount**	**2.10**	**177**		Pn	02 34 18.5	-0.8	
ELS				IAML		02 34 50.2		
	comp=E,109nm,0.3s							
ELS				IAML		02 34 58.0		
	comp=N,81nm,0.7s							
BENR	**Benton**	**2.12**	**338**		Pb	02 34 22.8	+0.3	
MLAC	**Mammoth, Mammo**	**2.13**	**332**		Pb	02 34 23.1	+0.4	
POB	**Polly Butte**	**2.13**	**165**		Pn	02 34 18.9	-0.8	
DGR	**Domenigoni Val**	**2.15**	**167**		Pn	02 34 19.3	-0.6	
MCSM	**Casa Diablo Ho**	**2.18**	**331**		Pb	02 34 23.9	+0.4	
V12A	**Nelson**	**2.22**	**90**		Pn	02 34 19.3	-1.7	
V12A				IAML		02 34 55.4		
	comp=N,60nm,0.7s							
PMD	**Palm Desert**	**2.32**	**154**		Pn	02 34 20.5	-1.7	
PMD				IAML		02 34 58.9		
	comp=N,46nm,0.4s							
PMD				IAML		02 34 59.0		
	comp=E,66nm,0.6s							
PFO	**Pinyon Flats O**	**2.33**	**156**		Pn	02 34 21.1	-1.4	
PFO				IAML		02 35 01.6		
	comp=E,44nm,0.9s							
TPH	**Tonopah**	**2.34**	**7**		Pn	02 34 22.0	-0.6	
S11A	**Rachel**	**2.39**	**37**	Pn	Pn	02 34 24.2	+0.9	
S11A				IAML		02 35 07.5		
	comp=N,84nm,0.6s							
S11A				IAML		02 35 08.0		
	comp=E,75nm,0.8s							
LHV	**Little Huntoon**	**2.60**	**344**		Pn	02 34 26.3	+0.2	
LHV				IAML		02 35 19.4		
	comp=N,39nm,1.4s							
PRN	**Pahroc Range**	**2.62**	**50**	Pn	Pn	02 34 26.1	-0.4	
PRN				IAML		02 35 12.0		
	comp=N,52nm,0.4s							
PRN				IAML		02 35 13.6		
	comp=E,74nm,0.5s							
PMPB	**Monarch Peak**	**2.66**	**281**	Pn	Pn	02 34 26.4	-0.5	
PMPB				IAML		02 35 16.0		
	comp=N,104nm,0.8s							
BORC	**Borrego Spring**	**2.66**	**159**	Pn	Pn	02 34 25.8	-1.1	
BORC				IAML		02 35 10.5		
	comp=N,66nm,0.8s							
BORC				IAML		02 35 10.6		
	comp=E,86nm,0.7s							
NV11	**Mina Array Sit**	**2.71**	**350**		Pn	02 34 27.3	-0.5	
NVAR	**Mina Array Bea**	**2.73**	**348**		Pn	02 34 27.5	-0.7	
DPP	**Dos Picos Cty**	**2.80**	**169**		Pn	02 34 27.9	-0.9	
DPP				IAML		02 35 12.6		
	comp=N,38nm,0.3s							
DPP				IAML		02 35 17.1		
	comp=E,40nm,0.5s							
BBGB	**Big Mountain B**	**2.92**	**287**	Pn	Pn	02 34 30.0	-0.5	
RYN	**Ryan**	**2.97**	**346**		Pn	02 34 31.1	-0.2	
R11B	**Troy Canyon, C**	**3.04**	**31**	Pn	Pn	02 34 31.9	-0.5	
W13A	**Hualapai Mount**	**3.08**	**101**		Pn	02 34 31.4	-1.5	
WAKR	**Walker**	**3.12**	**332**	Pn	Pn	02 34 33.4	0.0	
CMB	**Columbia Colle**	**3.20**	**316**	Pn	Pn	02 34 34.4	0.0	
CMB				IAML		02 35 26.5		
	comp=N,29nm,0.5s							
CMB				IAML		02 35 27.6		
	comp=E,28nm,0.5s							
BLYC	**Blythe**	**3.21**	**128**	IAML		02 35 25.9		
	comp=N,58nm,0.4s							
BLYC				IAML		02 35 26.2		
	comp=E,68nm,0.5s							
KNB	**Kanab**	**4.04**	**70**	IAML		02 35 54.9		
	comp=E,9.7nm,0.8s							
PSUT	**Pine Spring**	**4.07**	**46**	IAML		02 36 02.4		
	comp=E,13nm,1.2s							
SPR3	**Spring Creek 3**	**4.14**	**38**	IAML		02 35 53.8		
	comp=E,11nm,0.9s							
Y14A	**Wickenburg**	**4.17**	**114**	IAML		02 35 58.9		
	comp=N,27nm,0.7s							
Y14A				IAML		02 36 02.3		
	comp=E,22nm,0.6s							
AFDM	**Forest Hills D**	**4.18**	**321**	IAML		02 35 59.8		
	comp=E,22nm,0.5s							
AFDM				IAML		02 35 60.0		
	comp=N,14nm,1.2s							
U15A	**North Rim**	**4.33**	**80**	IAML		02 36 05.7		
	comp=E,12nm,0.8s							
113A	**Mohawk Valley,**	**4.34**	**132**	IAML		02 36 01.6		
	comp=N,9.0nm,0.9s							
113A				IAML		02 36 02.9		
	comp=E,10nm,0.4s							
BEKR	**Beckworth**	**4.66**	**333**	IAML		02 36 20.0		
	comp=N,7.5nm,0.5s							
BEKR				IAML		02 36 23.5		
	comp=E,16nm,0.8s							
WUAZ	**Wupatki**	**5.06**	**91**	IAML		02 36 25.2		
	comp=E,14nm,0.6s							
WUAZ				IAML		02 36 35.2		
	comp=E,6.8nm,0.7s							
X16A	**Lo Mia Camp, P**	**5.21**	**103**	IAML		02 36 44.3		
	comp=N,5.1nm,1.1s							
ELK	**Elko**	**5.31**	**20**	IAML		02 36 34.4		
	comp=N,4.6nm,0.8s							

*IDC **18** 02:38:19.1±1.1,0.°58S×128.°10E,h0km,mb3.8/6, mbtmp3.9/7,ML3.7/1,Error ellipse: s-maj=65.6km s-min=19.3km az=78.0*

*DJA **18** 02:38:24.0±1.0,1.°S±2.°×12.°8E±.°,h12km±7km,M4.4/10, mB5.7/1,mb5.0/1,MLv4.1/10,Mw(mB)5.2/1*

ISC 18 02:38:24.6±0.8,0.°67S±0.°05×128.°11E±0.°07,h35km,n16, σ2961/22,mb4.1/5,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.61**	**332**	P	**Pn**	**02 38 49.6**	**-1.0**
TNTI				S	**Sn**	**02 39 13.4**	**+3.2**
SANI	**Sanana**	**2.53**	**237**	P	**Pn**	**02 39 04.7**	**+1.5**
SANI				S	**Sn**	**02 39 35.5**	**+2.7**
NLAI	**Namlea**	**2.75**	**202**	P	**Pn**	**02 39 06.8**	**+0.6**
NLAI				S	**Sn**	**02 39 39.8**	**+1.6**
MSAI	**Masohi**	**2.78**	**163**	P	**Pn**	**02 39 08.4**	**+1.7**
AAI	**Ambon**	**3.00**	**178**	P	**Pn**	**02 39 13.4**	**+3.7**
SWI	**Sorong**	**3.15**	**94**	P	**Pn**	**02 39 14.1**	**+2.3**
FAKI	**Fak Fak**	**4.70**	**118**	P	**Pn**	**02 39 34.7**	**+1.6**
SPSI	**Sidrap Palu**	**8.96**	**248**	P	**Pn**	**02 40 32.9**	**+1.3**
KAPI	**Kappang**	**9.40**	**243**	Pn	**Pn**	**02 40 39.2**	**+1.5**
	1.3nm,0.3s,baz=54,slow=19,SNR=4.7						
KAPI				Sn	**Sn**	**02 42 21.3**	**-0.8**
	0.6nm,0.3s,baz=357,slow=14,SNR=1.4						
FITZ	**Fitzroy Crossi**	**17.49**	**188**	P	**Pn**	**02 42 24.2**	**-1.7**
	0.2nm,0.3s,baz=7.2,slow=8.0,SNR=5.9						
	2.2nm,0.9s						
WRA	**Warramunga Arr**	**20.10**	**163**	P	**P**	**02 42 54.6**	**-0.9**
	1.1nm,0.5s,baz=347,slow=12,SNR=13						
WRA				S	**S**	**02 46 31.4**	**-8.2**
	0.3nm,0.6s,baz=343,slow=21,SNR=1.5						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**23.54**	**167**	P	**P**	**02 43 32.8**	**+0.8**
	4.6nm,0.8s,baz=345,slow=9.7,SNR=28						
ASAR				S	**S**	**02 47 43.4**	**-0.3**
	1.0nm,0.8s,baz=350,slow=25,SNR=4.8						
	4.6nm,0.8s						
MJAR	**Matsushiro Arr**	**38.19**	**13**	P	**P**	**02 45 39.7**	**-1.3**
	0.7nm,0.4s,baz=190,slow=8.8,SNR=1.8						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**61.94**	**326**	P	**P**	**02 48 40.4**	**-0.6**
	0.3nm,0.5s,baz=115,slow=8.7,SNR=3.1						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**66.17**	**328**	P	**P**	**02 49 07.6**	**-1.1**
	0.5nm,0.3s,baz=129,slow=5.4,SNR=5.4						
	0.5nm,0.3s						
QSPA	**South Pole Qui**	**89.27**	**180**	P	**P**	**02 51 18.0**	**+1.1**
	0.6nm,0.6s,baz=302,slow=1.6,SNR=7.5						
	0.6nm,0.6s						

*IDC **18** 02:46:36.1±1.5,0.°60S×127.°51E,h0km,mb3.9/6, mbtmp3.9/7,ML3.8/1,Error ellipse: s-maj=109.6km s-min=20.3km az=68.0*

*DJA **18** 02:46:40.0±1.2,0.°S±4.°×12.°8E±.°,h13km±9km,M3.7/7, MLv3.7/7*

ISC 18 02:46:41.5±1.0,0.°46S±0.°07×127.°63E±0.°09,h41km,n12, σ1884/16,mb4.0/5,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.25**	**348**	P	**Pn**	**02 47 02.8**	**+0.3**
SANI	**Sanana**	**2.28**	**226**	P	**Pn**	**02 47 16.6**	**0.0**
SANI				S	**Sn**	**02 47 46.1**	**+2.6**
NLAI	**Namlea**	**2.81**	**191**	P	**Pn**	**02 47 24.3**	**+0.3**
NLAI				S	**Sn**	**02 47 59.1**	**+2.4**
MSAI	**Masohi**	**3.15**	**156**	P	**Pn**	**02 47 28.7**	**0.0**
MSAI				S	**Sn**	**02 48 07.9**	**+2.8**
KAPI	**Kappang**	**9.07**	**240**	Pn	**Pn**	**02 48 50.9**	**+0.9**
	1.4nm,0.3s,baz=50,slow=9.5,SNR=4.4						
KAPI				Sn	**Sn**	**02 50 28.9**	**-2.0**
	0.3nm,0.3s,baz=243,slow=20,SNR=2.0						
FITZ	**Fitzroy Crossi**	**17.64**	**186**	P	**Pn**	**02 50 41.5**	**-2.8**
	0.2nm,0.3s,baz=28,slow=9.1,SNR=6.4						
	2.3nm,0.7s						
WRA	**Warramunga Arr**	**20.45**	**162**	P	**P**	**02 51 13.6**	**-2.1**
	1.0nm,0.8s,baz=343,slow=12,SNR=5.3						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**23.86**	**166**	P	**P**	**02 51 50.5**	**-0.9**
	4.2nm,0.7s,baz=341,slow=8.5,SNR=28						
	4.2nm,0.7s						
STKA	**Stephens Creek**	**33.93**	**158**	P	**P**	**02 53 20.1**	**-0.7**
	5.1nm,0.9s,baz=306,slow=8.7,SNR=4.8						
	5.1nm,0.9s						
MKAR	**Makanchi Array**	**61.50**	**326**	P	**P**	**02 56 54.0**	**-0.2**
	0.2nm,0.4s,baz=142,slow=7.3,SNR=3.7						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**65.73**	**328**	P	**P**	**02 57 24.0**	**+2.0**
	0.7nm,0.2s,baz=125,slow=6.1,SNR=4.1						
	0.7nm,0.2s						
QSPA	**South Pole Qui**	**89.48**	**180**	P	**P**	**02 59 35.0**	**+0.8**
	0.8nm,0.9s,baz=308,slow=10,SNR=1.9						
	0.8nm,0.9s						

CATAC 18 02:48:34.0±0.7,11.°N±11.°×87.°W±.°,h63km±42km,M3.2/14, MLv3.2/14,Error ellipse: s-maj=29.2km s-min=9.0km az=35.0,confirmed,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.10**	**44**	P	Pn	02 48 53.1	-0.4
SAPS	**Ciudad Sandino**	**1.22**	**50**	P	Pn	02 48 54.7	-0.5
CNGA	**Al SSO del Vol**	**1.28**	**30**	P	Pn	02 48 55.8	-0.2
CNGA				S	Sn	02 49 12.2	-0.2
CNGN	**Cerro Negro**	**1.29**	**30**	P	Pn	02 48 56.2	+0.1
UNAN	**Cigeo UNAN**	**1.29**	**56**	P	Pn	02 48 55.2	-0.9
MOMN	**Momotombo**	**1.30**	**38**	P	Pn	02 48 56.1	-0.2
MOMN				S	Sn	02 49 14.3	+1.5
SABN	**Sabanita**	**1.31**	**64**	P	Pn	02 48 56.7	+0.4
APQ3	**Volcan Apoyequ**	**1.32**	**48**	P	Pn	02 48 56.7	+0.3
PKGN	**Cerro Pekin**	**1.33**	**17**	P	Pn	02 48 57.0	+0.4
NANN	**Nandasmo**	**1.34**	**65**	P	Pn	02 48 58.1	+1.4
MOM2	**El Cardon**	**1.36**	**39**	P	Pn	02 48 57.1	+0.2
MOM2				S	Sn	02 49 14.3	+0.2
POLN	**Al Sur del Vol**	**1.37**	**23**	P	Pn	02 48 56.4	-0.8
POTN	**Potosi Cosigui**	**1.61**	**355**	P	Pn	02 49 00.9	+0.5
CNCH	**Conchagua**	**1.94**	**346**	P	Pn	02 49 04.8	0.0
BOAB	**BOACO BROADBAN**	**1.97**	**57**	P	Pn	02 49 04.7	-0.5
CHOHN	**Orocuina**	**2.10**	**6**	P	Pn	02 49 08.1	+1.1

IDC 18 02:58:24.9±2.3,0.°50N×126.°12E,h0km,mb3.7/4, mbtmp3.7/4,Error ellipse: s-maj=288.6km s-min=22.6km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.85**	**159**	P	P	03 03 18.4	-0.9
	1.2nm,0.5s,baz=337,slow=9.9,SNR=11						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**25.18**	**163**	P	P	03 03 53.1	+0.8
	0.9nm,0.5s,baz=345,slow=12,SNR=10						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**59.88**	**327**	P	P	03 08 32.6	0.0
	0.2nm,0.4s,baz=130,slow=8.4,SNR=4.3						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.14**	**328**	P	P	03 09 00.9	-0.3
	0.6nm,0.2s,baz=136,slow=6.3,SNR=2.5						
	0.6nm,0.2s						

*NEIC **18** 03:02:37.5±1.5,35.°616N±0.°009×117.°456W±0.°008, h10km±3km,ML3.2/110,ML2.9/136(NEIC),Error ellipse: s-maj=1.4km s-min=0.9km az=167.0,Central California*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.03**	**241**		Pg	03 02 39.8	0.0
WSHM					Sg	03 02 41.4	+0.1
WSHM	**Spangler Hills**	**0.03**	**241**	IAML		03 02 41.5	
	81μm,0.1s						
WSHM				IAML		03 02 42.5	
	45μm,0.1s						
GPO	**China Lake**	**0.17**	**281**		Pg	03 02 41.7	0.0
GPO					Sg	03 02 44.9	+0.7
LRMC	**Laurel Mtn Rad**	**0.23**	**234**		Pg	03 02 42.4	-0.3
SRTC	**Snort**	**0.25**	**288**		Pg	03 02 43.2	+0.2
SRTC					Sg	03 02 47.7	+1.2
TOW	**Tower One**	**0.32**	**308**		Pg	03 02 44.4	+0.1
TOW					Sb	03 02 50.0	-0.8
WNMM	**Nine Mile Cany**	**0.43**	**302**		Pg	03 02 46.1	-0.2
MPMC	**Manual Prospec**	**0.44**	**357**		Pg	03 02 46.1	-0.5
MPMC					Sg	03 02 52.5	0.0
MPMC	**Manual Prospec**	**0.44**	**357**	IAML		03 02 52.9	
	comp=N,1μm,0.5s						
MPMC				IAML		03 02 54.9	
	comp=E,1μm,0.4s						
WVPM	**Volcano Peak E**	**0.44**	**319**		Pg	03 02 46.3	-0.4
WVPM					Sg	03 02 52.9	+0.3
JRC2	**Joshua Ridge**	**0.47**	**322**		Pg	03 02 46.8	-0.3
JRC2					Sg	03 02 53.5	+0.2
DTP	**Desert Tortois**	**0.47**	**223**		Pg	03 02 46.6	-0.5
DTP					Sg	03 02 52.8	-0.5
WCSM	**Coso Springs S**	**0.48**	**328**		Pg	03 02 46.9	-0.4
WCSM					Sg	03 02 53.7	0.0
WRVM	**Rose V. Centra**	**0.53**	**318**		Pg	03 02 47.7	-0.5
WRVM					Sg	03 02 55.4	+0.2
WBSM	**Bird Springs**	**0.56**	**262**		Pg	03 02 48.4	-0.5
WBSM					Sg	03 02 56.0	-0.3
QSM	**Queen of Sheba**	**0.59**	**54**		Pg	03 02 49.1	-0.3
QSM					Sg	03 02 57.0	-0.2
MFS	**McCloud Flat S**	**0.60**	**327**		Pg	03 02 49.0	-0.5
MFS					Sg	03 02 57.2	-0.2
GSC	**Goldstone, Bar**	**0.62**	**120**		Pn	03 02 57.6	+4.9
GSC	**Goldstone, Bar**	**0.62**	**120**	IAML		03 02 58.2	
	comp=E,952nm,0

HEC	**Hector,Ludlow**	**1.21**	**130**			Pb	03 02 59.4	-1.5
HEC						Sb	03 03 16.2	-0.3
SPG2	**Springville 2**	**1.21**	**299**			Pn	03 03 00.0	-0.9
SPG2						Sb	03 03 16.1	-0.6
CJV	**Casa Juvan**	**1.22**	**208**			Pg	03 03 01.4	+0.1
ARVC	**Arvin**	**1.23**	**247**			Pn	03 03 00.2	-0.8
ARVC						Sb	03 03 16.3	-0.6
JNH	**Juniper Hills**	**1.23**	**199**			Pn	03 03 00.6	-0.7
JNH						Sn	03 03 17.9	-0.1
TUQ	**Turquoise Moun**	**1.26**	**98**			Pn	03 03 00.6	-1.1
TUQ						Sb	03 03 18.4	+0.2
AMDNV	**Amargosa**	**1.27**	**48**			Pn	03 03 00.1	-1.5
AMDNV						Sg	03 03 18.8	+0.1
WCT	**Wildcat Mounta**	**1.35**	**30**			Pn	03 03 01.8	-1.1
CHFC	**Chilao Flat St**	**1.36**	**200**			Pn	03 03 02.8	-0.3
CHFC						Sn	03 03 21.4	+0.1
SIL	**Silver Peak**	**1.37**	**158**			Pb	03 03 03.7	+0.1
SIL						Sg	03 03 22.2	+0.4
GRAC	**Grapevine Rang**	**1.38**	**3**	Pn		Pn	03 03 02.8	-0.4
GRAC				IAML			03 03 27.9	
	comp=E,269nm,0.8s							
GRAC				IAML			03 03 27.9	
	comp=N,301nm,0.6s							
BFSC	**Mount Baldy Ra**	**1.38**	**187**			Pn	03 03 02.6	-0.7
BFSC				IAML			03 03 22.8	
	comp=N,219nm,0.6s							
BFSC				IAML			03 03 25.5	
	comp=E,184nm,0.4s							
SGV	**South Grapevin**	**1.40**	**14**			Pn	03 03 02.7	-0.9
SS2	**San Sevaine**	**1.41**	**181**			Pb	03 03 04.0	-0.2
SSK	**Sunset Peak**	**1.42**	**188**			Pn	03 03 03.9	+0.1
BBRC	**Big Bear Solar**	**1.42**	**162**			Pg	03 03 05.0	-0.2
BBRC						Sg	03 03 23.6	0.0
OSI	**Osito Audit: C**	**1.44**	**226**			Sg	03 03 24.2	-0.1
OSI	**Osito Audit: C**	**1.44**	**226**			Pn	03 03 03.9	-0.2
OSI				IAML			03 03 26.5	
	comp=E,270nm,0.6s							
OSI				IAML			03 03 26.8	
	comp=N,276nm,0.8s							
MWC	**Mount Wilson**	**1.47**	**200**			Pn	03 03 03.6	-1.1
MWC				IAML			03 03 27.3	
	comp=N,198nm,0.5s							
MWC				IAML			03 03 29.8	
	comp=E,190nm,0.2s							
MWC	**Mount Wilson**	**1.47**	**200**			Sb	03 03 24.6	+0.3
SVD	**Seven Oaks Dam**	**1.53**	**169**			Pb	03 03 06.4	0.0
DECC	**Green Verdugo**	**1.54**	**208**			Pb	03 03 06.8	+0.3
DECC						Sg	03 03 26.9	-0.5
PSRC	**Puddingstone R**	**1.55**	**191**			Pb	03 03 06.5	-0.1
MTPC	**Mountain Pass**	**1.56**	**94**			Sb	03 03 27.1	+0.4
MTPC	**Mountain Pass**	**1.56**	**94**			Pn	03 03 04.1	-1.6
MTPC				IAML			03 03 29.1	
	comp=N,212nm,0.3s							
MTPC				IAML			03 03 30.1	
	comp=E,190nm,0.4s							
PASC	**Pasadena Art C**	**1.56**	**203**			Pn	03 03 04.6	-1.0
PASC				IAML			03 03 32.3	
	comp=E,103nm,0.3s							
PASC				IAML			03 03 34.1	
	comp=N,101nm,0.5s							
OAT	**Oat Mountain**	**1.59**	**217**			Pg	03 03 08.2	-0.1
GTM	**Goat Mountain**	**1.60**	**145**			Pb	03 03 07.1	-0.4
GTM						Sb	03 03 27.9	+0.2
LCH	**Last Change Ra**	**1.62**	**355**			Pn	03 03 06.0	-0.6
TPNV	**Topopah Spring**	**1.65**	**36**			Pn	03 03 06.0	-1.1
TPNV				IAML			03 03 34.7	
	comp=N,120nm,0.7s							
TPNV				IAML			03 03 35.7	
	comp=N,128nm,0.7s							
GMN	**Gold Mountain**	**1.69**	**5**			Pn	03 03 07.0	-0.6
GMRC	**Granite Mounta**	**1.69**	**119**			Pn	03 03 05.4	-2.2
GMRC						Sg	03 03 31.5	-0.7
BLCC	**Black Canyon**	**1.70**	**216**			Pg	03 03 10.3	-0.1
VOG	**Valley Oaks Go**	**1.71**	**295**			Pb	03 03 08.9	-0.5
DJJ	**Donna J Jenkin**	**1.72**	**209**			Pg	03 03 10.3	-0.5
DJJ						Sg	03 03 32.2	-0.8
BCW	**Bitter Crk WRg**	**1.74**	**248**			Pb	03 03 09.4	-0.5
BLAC	**Blackrock camp**	**1.77**	**150**			Pb	03 03 11.0	+0.4
DSP	**Deep Springs**	**1.80**	**347**			Pn	03 03 08.5	-0.4
DSP				IAML			03 03 38.7	
	comp=E,77nm,1.2s							
CRGC	**Crocker Grade**	**1.89**	**259**			Pb	03 03 12.5	0.0
TPC	**Twentynine Pal**	**1.90**	**142**			Pn	03 03 09.3	-1.0
ELS	**Elsinore Mount**	**1.96**	**179**			Pn	03 03 10.5	-0.8
ELS				IAML			03 03 46.4	
	comp=E,92nm,0.7s							
SHPR	**Sheep Range**	**2.06**	**64**			Pn	03 03 11.9	-0.7
SHPR				IAML			03 03 44.6	
	comp=N,54nm,0.9s							
MZP	**Montezuma Peak**	**2.08**	**2**			Pn	03 03 12.0	-1.1
V12A	**Nelson**	**2.12**	**86**			Pn	03 03 12.2	-1.3
V12A				IAML			03 03 45.7	
	comp=N,90nm,0.5s							
V12A				IAML			03 03 52.3	
	comp=E,69nm,0.5s							
PMD	**Palm Desert**	**2.15**	**155**	Pn		Pn	03 03 13.1	-0.7
PMD				IAML			03 03 47.9	
	comp=N,72nm,0.2s							
PMD				IAML			03 03 52.2	
	comp=E,87nm,0.7s							
PFO	**Pinyon Flats O**	**2.16**	**157**	Pn		Pn	03 03 13.9	-0.2
PFO				IAML			03 03 48.9	
	comp=E,56nm,0.8s							
S11A	**Rachel**	**2.45**	**34**	Pn		Pn	03 03 17.4	-0.5
S11A				IAML			03 04 03.8	
	comp=N,67nm,0.6s							
S11A				IAML			03 04 15.7	
	comp=E,60nm,0.9s							
TPH	**Tonopah**	**2.46**	**4**	Pn		Pn	03 03 17.9	-0.3
NEE2	**Needles Airpor**	**2.47**	**109**	Pn		Pn	03 03 18.8	+0.6
NEE2				IAML			03 04 04.2	
	comp=E,101nm,0.6s							
NEE2				IAML			03 04 06.1	
	comp=N,113nm,0.6s							
BORC	**Borrego Spring**	**2.49**	**160**	Pn		Pn	03 03 18.6	+0.1
BORC				IAML			03 03 58.5	
	comp=E,76nm,0.8s							
BORC				IAML			03 04 03.6	
	comp=N,67nm,0.8s							
PRN	**Pahroc Range**	**2.64**	**47**			Pn	03 03 19.9	-0.6
PRN				IAML			03 04 08.0	
	comp=N,120nm,0.9s							
LHV	**Little Huntoon**	**2.76**	**343**			Pn	03 03 22.3	+0.2
LHV				IAML			03 04 10.3	
	comp=N,38nm,0.5s							
LHV				IAML			03 04 11.1	
	comp=E,43nm,1.2s							
PMPB	**Monarch Peak**	**2.78**	**283**			Pn	03 03 21.7	-0.8
PMPB				IAML			03 04 10.9	
	comp=E,53nm,0.9s							
PMPB				IAML			03 04 12.2	
	comp=N,51nm,0.7s							
NV11	**Mina Array Sit**	**2.87**	**349**	Pn		Pn	03 03 23.7	-0.1
NVAR	**Mina Array Bea**	**2.89**	**347**	Pn		Pn	03 03 23.7	-0.5
W13A	**Hualapai Mount**	**2.96**	**99**			Pn	03 03 23.9	-1.2
MYLM	**Yosemite Lake**	**2.97**	**307**			Pb	03 03 30.3	-0.5
BBGB	**Big Mountain B**	**3.06**	**289**	Pn		Pn	03 03 26.1	-0.3
BBGB				IAML			03 04 26.6	
	comp=E,58nm,0.8s							
BBGB				IAML			03 04 31.3	
	comp=N,76nm,0.9s							
R11B	**Troy Canyon, C**	**3.11**	**28**	Pn		Pn	03 03 26.5	-0.7
RYN	**Ryan**	**3.12**	**344**	Pn		Pn	03 03 27.6	+0.3
YUH	**Yuha Desert**	**3.22**	**156**	Pn		Pn	03 03 28.5	0.0
WAKR	**Walker**	**3.29**	**332**	Pn		Pn	03 03 29.5	-0.1
GLA	**Glamis**	**3.36**	**139**	Pn		Pn	03 03 28.4	-2.1
GLA				IAML			03 04 28.5	
	comp=N,62nm,0.7s							
CBX	**Cerro Bola**	**3.36**	**168**	Pn		Pn	03 03 30.1	-0.4
CMB	**Columbia Colle**	**3.37**	**317**			Pb	03 03 34.4	-3.3
CMB				IAML			03 04 28.0	
	comp=N,19nm,0.6s							
LCMT	**Little Creek M**	**3.68**	**66**	Pn		Pn	03 03 34.6	-0.3
ESJX	**Sierra Juarez**	**3.81**	**160**	Pn		Pn	03 03 36.5	-0.3
ESJX				IAML			03 04 38.3	
	comp=N,13nm,0.8s							
ESJX				IAML			03 04 38.5	
	comp=E,19nm,0.9s							
CCUT	**Cedar City**	**3.82**	**58**	Pn		Pn	03 03 36.6	-0.3
KNB	**Kanab**	**3.99**	**68**	Pn		Pn	03 03 39.3	0.0
KNB				IAML			03 04 46.6	
	comp=E,13nm,0.8s							
KNB				IAML			03 04 55.0	
	comp=N,13nm,1.4s							
113A	**Mohawk Valley,**	**4.17**	**132**	Pn		Pn	03 03 41.2	-0.4
113A				IAML			03 04 51.0	
	comp=E,8.7nm,0.6s							
SPR3	**Spring Creek 3**	**4.20**	**35**	Pn		Pn	03 03 42.2	0.0
SPR3				IAML			03 04 51.6	
	comp=E,8.9nm,1.2s							
U15A	**North Rim**	**4.26**	**78**	Pn		Pn	03 03 42.7	-0.3
U15A				IAML			03 04 50.4	
	comp=E,17nm,0.9s							
U15A				IAML			03 04 53.2	
	comp=N,14nm,0.8s							
WUAZ	**Wupatki**	**4.96**	**89**	Pn		Pn	03 03 51.1	-1.4
WUAZ				IAML			03 05 22.7	
	comp=N,10nm,0.7s							
WUAZ				IAML			03 05 23.6	
	comp=N,12nm,0.6s							
ELK	**Elko**	**5.41**	**18**	Pn		Pn	03 03 58.8	0.0
X18A	**Snowflake**	**6.25**	**98**	Pn		Pn	03 04 09.9	-0.3

*IDC **18** 03:05:31.5±1.9, 55°.01N×164°.57E, h0km, mb3.4/2, mbtmp3.4/3, ML2.7/1, Error ellipse: s-maj=117.5km s-min=31.4km az=152.0*

*KRSC **18** 03:05:32.6±0.6, 54°.90N×164°.57E, h46km±17km, Ml3.6*

ISC 18 03:05:34.0±1.0, 55°.04N±0°.08×164°.50E±0°.05, h27km, n18, σ1§62/19, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.86**	**78**	*eP*	**Pn**	**03 05 49.5**	**-0.8**
BKI				*eS*	**Sn**	**03 06 00.7**	**-1.3**
KBTR	**Krutoberegovo**	**1.51**	**322**	*eS*	**Sb**	**03 06 19.9**	**-0.2**
KBG	**Krutoberegovo**	**1.59**	**321**	*eS*	**Sb**	**03 06 23.3**	**+1.0**
MKZ	**Mys Kozlova**	**1.68**	**254**	*eP*	**Pb**	**03 06 01.8**	**-2.3**
MKZ				*eS*	**Sn**	**03 06 21.4**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**2.35**	**294**	*eP*	**Pb**	**03 06 14.6**	**-1.0**
BZGR				*eS*	**Sb**	**03 06 41.7**	**-2.4**
TUMD	**Tumrok D**	**2.36**	**276**	*eS*	**Sb**	**03 06 42.2**	**-2.3**
SDLR	**Sedlovina**	**3.74**	**244**	*eP*	**Pn**	**03 06 31.4**	**+1.4**
KRER	**Koryakskii**	**3.80**	**245**	*eP*	**Pn**	**03 06 32.6**	**+1.8**
KOK	**Koryaka**	**3.87**	**245**	*eP*	**Pn**	**03 06 33.4**	**+1.7**
PETK	**Petropavlovsk-**	**4.45**	**247**	Pn	**Pn**	**03 06 40.4**	**+0.8**
	1.8nm,0.3s,baz=69,slow=16,SNR=11						
PETK				Sn	**Sn**	**03 07 29.2**	**-1.2**
	baz=106,slow=11 3.6nm,0.5s						
MTVR	**Mutnovka**	**4.54**	**238**	*eP*	**Pn**	**03 06 42.0**	**+1.0**
GRL	**Gorelyy**	**4.55**	**239**	*eP*	**Pn**	**03 06 42.5**	**+1.4**
ASAK	**Asacha**	**4.74**	**239**	*eP*	**Pn**	**03 06 45.5**	**+1.9**
ILAR	**Eielson Array**	**25.59**	**48**	P	**P**	**03 11 01.5**	**+1.1**
	0.5nm,0.7s,baz=260,slow=8.8,SNR=9.0 0.5nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**35.30**	**176**	T	T	03 50 48.3	
	baz=359,slow=74						
H11N3	**WAKE ISLAND Hy**	**35.31**	**176**	T	T	03 50 56.4	
	baz=359						
H11N1	**WAKE ISLAND Hy**	**35.31**	**176**	T	T	03 50 55.1	
	baz=359,slow=74						
TXAR	**Lajitas Array**	**67.51**	**71**	P	**P**	**03 16 29.5**	**+1.9**
	0.3nm,0.7s,baz=305,slow=4.0,SNR=5.0 0.3nm,0.7s						

RSNC 18 03:06:10.4±0.0, 11°N±2°×7°5W±°, h9km±2km, M2.0, mb3.6, ML2.0, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMRC	**Santa Marta, M**	**1.12**	**85**	P	Pg	03 06 30.4	-1.5
SMRC				S	Sg	03 06 45.0	-1.5
SJCC	**San Jacinto, C**	**1.18**	**171**	P	Pb	03 06 31.1	-1.9
SJCC				S	Sg	03 06 46.7	-1.7
ARGC	**Ariguani, Magd**	**1.63**	**138**	P	Pn	03 06 38.3	-1.0
ARGC				S	Sn	03 06 59.9	-0.5
CRJC	**Cerrejon, Guaj**	**2.43**	**91**	P	Pn	03 06 47.6	-2.8
CRJC				S	Sn	03 07 19.1	-1.3
URIC	**Uribia, Colomb**	**3.36**	**79**	P	Pn	03 07 01.1	-2.0
URIC				S	Sn	03 07 40.9	-2.3
DBBC	**Dabeiba**	**4.11**	**192**	P	Pn	03 07 09.0	-4.6
DBBC				S	Sn	03 07 57.5	-4.4
PTBC	**PUERTO BERRIO,**	**4.59**	**169**	P	Pn	03 07 18.4	-1.7
PTBC				S	Sn	03 08 07.4	-6.2
BCIP	**Isla Barro Col**	**4.80**	**247**	P	Pn	03 07 16.8	-6.1
BCIP				S	Sn	03 08 12.1	-6.5
CBOC	**Ciudad Bolivar**	**5.21**	**187**	P	Pn	03 07 29.1	+0.3

IDC 18 03:26:34.7±1.6, 0°.08S×125°.74E, h0km, mb3.7/4, mbtmp3.8/4, MS2.8/1, Error ellipse: s-maj=176.2km s-min=22.4km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**7.11**	**359**	LR	LR	03 31 17.6	
	comp=Z,71nm,18.8s,baz=330,slow=40						
WRA	**Warramunga Arr**	**21.46**	**157**	P	P	03 31 24.8	-0.1
	1.5nm,0.5s,baz=336,slow=11,SNR=15 1.5nm,0.5s						
ASAR	**Alice Springs**	**24.75**	**162**	P	P	03 31 58.3	+0.1
	0.7nm,0.4s,baz=346,slow=13,SNR=20 0.7nm,0.4s						
MKAR	**Makanchi Array**	**60.15**	**327**	P	P	03 36 44.1	-0.2
	0.4nm,0.5s,baz=120,slow=8.5,SNR=5.2 0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**64.43**	**329**	P	P	03 37 13.0	+0.1
	0.6nm,0.3s,baz=140,slow=6.4,SNR=2.2 0.6nm,0.3s						

*GCG **18** 03:32:27.1±0.4, 12°.85N×90°.50W, h0km±13km, MD3.7*

*CATAC **18** 03:32:27.1±0.9, 13°.N±4°×9°0W±°, h14km±11km, M3.1/13, MLv3.1/13, Error ellipse: s-maj=17.0km s-min=7.8km az=91.2, confirmed*

*SNET **18** 03:32:38.0±0.9, 13°.31N×90°.08W, h27km±8km, ML2.6*

ISC 18 03:32:25.6±2.6, 12°.73N±0°.10×90°.5W±0°.1, h10km, n35, σ0§49/36, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAME	**Alcaldia de Sa**	**1.19**	**22**	S	**Sn**	**03 33 04.6**	**-0.1**
FAME	**Alcaldia de Sa**	**1.19**	**22**	P	**Pg**	**03 32 48.7**	**+0.1**
NUBE	**Las Nubes**	**1.35**	**30**	*eP*	**Pb**	**03 32 51.1**	**0.0**
NUBE	**Las Nubes**	**1.35**	**30**	*i P*	**Pb**	**03 32 51.0**	**0.0**
NUBE	**Las Nubes**	**1.35**	**30**	P	**Pn**	**03 32 50.7**	**0.0**
NUBE	**Las Nubes**	**1.35**	**30**	S	**Sg**	**03 33 09.4**	**+0.3**
JAYA	**Jayaque - finc**	**1.36**	**48**	*eP*	**Pb**	**03 32 51.2**	**-0.1**
JAYA	**Jayaque - finc**	**1.36**	**48**	*i P*	**Pb**	**03 32 51.2**	**-0.1**
JAYA				*i S*	**Sg**	**03 33 10.0**	**+0.6**
JAYA	**Jayaque - finc**	**1.36**	**48**	S	**Sg**	**03 33 09.7**	**+0.2**
JAYA	**Jayaque - finc**	**1.36**	**48**	P	**Pn**	**03 32 50.9**	**+0.1**
SBLS	**San Blas**	**1.38**	**37**	*eP*	**Pb**	**03 32 51.8**	**+0.1**
RTR	**El Retiro**	**1.41**	**35**	*eP*	**Pg**	**03 32 52.5**	**-0.3**
SNJE	**San Jose**	**1.41**	**37**	*eP*	**Pb**	**03 32 52.0**	**-0.2**
LOAL	**Lomas de Alarc**	**1.43**	**28**	P	**Pg**	**03 32 53.0**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.45**	**28**	*eP*	**Pb**	**03 32 52.8**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.45**	**28**	P	**Pg**	**03 32 53.4**	**-0.2**
SLOZ	**Alcaldia de Sa**	**1.45**	**28**	S	**Sb**	**03 33 11.4**	**0.0**
PMON	**Piamonte**	**1.50**	**49**	P	**Pb**	**03 32 53.5**	**-0.1**
LOMA	**Loma Larga**	**1.56**	**54**	P	**Pn**	**03 32 53.7**	**0.0**
LOMA	**Loma Larga**	**1.56**	**54**	S	**Sb**	**03 33 14.5**	**-0.2**
COEG	**Centro de Oper**	**1.79**	**60**	*eP*	**Pn**	**03 32 56.8**	**+0.1**
COEG	**Centro de Oper**	**1.79**	**60**	P	**Pn**	**03 32 57.1**	**+0.4**
COEG	**Centro de Oper**	**1.79**	**60**	S	**Sn**	**03 33 19.1**	**-0.5**
PAVA	**Las Pavas**	**1.79**	**57**	P	**Pn**	**03 32 57.0**	**+0.3**
PAVA	**Las Pavas**	**1.79**	**57**	S	**Sn**	**03 33 20.3**	**+0.6**
TECO	**Alcaldia de Te**	**1.84**	**64**	P	**Pn**	**03 32 55.7**	**-1.6**
UESV	**Universidad de**	**1.88**	**61**	P	**Pn**	**03 32 57.8**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.96**	**60**	P	**Pn**	**03 32 59.7**	**+0.7**
MTO3	**Montecristo**	**1.98**	**33**	*eP*	**Pb**	**03 33 01.1**	**-0.9**
MTO3	**Montecristo**	**1.98**	**33**	*i P*	**Pb**	**03 33 01.4**	**-0.6**
MTO3	**Montecristo**	**1.98**	**33**	P	**Pb**	**03 33 00.9**	**-1.1**
ESQI	**Esquipulas**	**2.13**	**31**	P	**Pn**	**03 33 02.1**	**+0.8**
LCND	**La Caada**	**2.59**	**77**	P	**Pn**	**03 33 08.0**	**+0.3**
CNCH	**Conchagua**	**2.63**	**78**	P	**Pn**	**03 33 08.4**	**+0.1**
PKGN	**Cerro Pekin**	**3.42**	**91**	P	**Pn**	**03 33 19.7**	**+0.7**

NOU 18 03:49:51.2, 15°.31S×166°.39E, h25km, MLv4.4/17, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.80**	**100**	P	Pb	03 50 06.2	-0.2
SANVU	**Saraoutou**	**0.80**	**100**	S	Sn	03 50 18.5	+0.6
VLAKA	**Lakatoro**	**1.27**	**129**	P	Pn	03 50 12.9	-0.5
VLAKA	**Lakatoro**	**1.27**	**129**	S	Sn	03 50 29.8	+0.2
DVP	**Devils Point**	**2.96**	**145**	P	Pn	03 50 37.2	+0.6
DVP	**Devils Point**	**2.96**	**145**	S	Sn	03 51 10.8	-0.5
LUES	**Luesalemba Tem**	**4.64**	**354**	P	Pn	03 51 00.0	+0.2
LUES	**Luesalemba Tem**	**4.64**	**354**	S	Sn	03 51 53.9	+1.0
KOUNC	**Koumac, New Ca**	**5.58**	**201**	P	Pn	03 51 13.7	+1.0
DZM	**Mont Dzumac**	**6.72**	**180**	P	Pn	03 51 28.2	-0.3
YATNC	**Mamie plateau,**	**6.73**	**176**	P	Pn	03 51 28.3	-0.2
OUENC	**Ouen Island, N**	**7.08**	**177**	P	Pn	03 51 33.7	+0.4
NGOA	**Tingoa Renbel**	**7.20**	**300**	P	Pn	03 51 34.0	-0.9

*NEIC **18** 03:59:14.5±1.5, 36°.118N±0°.008×117°.87W±0°.01, h7km±1km, Error ellipse: s-maj=1.2km s-min=1.1km az=127.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-3.49; Mθθ-6.11; Mϕϕ 9.61; Mrθ-3.13; Mθϕ 1.78; Mϕr 2.24; Fault plane solution: Mo 9.43000×10¹⁵ NP1: ϕs 46.86000°, δ60.00000°, λ-20.02000°. NP2: ϕs 147.18000°, δ72.75000°, λ-148.43000°. Principal axes: T 10.0775, Plg8.0000°, Azm275.0000°; N -1.4694, Plg54.0000°, Azm173.0000°; P -8.6081, Plg34.0000°, Azm10.0000°;*

*NEIC **18** 03:59:14.9, 36°.11N×117°.89W, h2km*

*NEIC **18** 03:59:14.9, 36°.11N×117°.89W, h12km*

*PAS **18** 03:59:14.9±1.4, 36°.113N±0°.008×117°.887W±0°.007, h2km±2km, Mwr4.6/6, mb4.3/42(NEIC), ML4.6/174(NEIC), Mwr4.6/206(NEIC), Mwww4.6/52(NEIC), Error ellipse: s-maj=1.1km s-min=0.8km az=165.0*

*NEIC **18** 03:59:14.9, 36°.01N×117°.89W, h12km, Moment Tensor Solution. Duration: 1§0 Moment tensor: Scale 10¹⁵Nm; Mrr-3.27; Mθθ-7.51; Mϕϕ 10.79; Mrθ-1.21; Mθϕ 1.65; Mϕr-1.98; Fault plane solution: Mo 9.99000×10¹⁵ NP1: ϕs 140.08000°, δ74.82000°, λ-176.41000°. NP2: ϕs 49.14000°, δ86.53000°, λ-15.21000°. Principal axes: T 11.2328, Plg8.0000°, Azm96.0000°; N -3.3327, Plg74.0000°, Azm217.0000°; P -7.9001, Plg13.0000°, Azm4.0000°;*

*IDC **18** 03:59:15.3±0.7, 36°.09N×117°.69W, h0km, mb4.1/7, mbtmp4.1/14, ML3.9/7, MS3.8/5 Error ellipse: s-maj=12.8km s-min=6.2km az=68.0*

*GCMT **18** 03:59:17.9±0.4, 36°.14N±0°.02×117°.86W±0°.02, h15km±1km, MW4.7/78, Moment Tensor Solution. s7,c7; s78,c102; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.37±.08; Mθθ-0.95±.06; Mϕϕ 1.33±.07; Mrθ-0.22±.23; Mθϕ 0.32±.05; Mϕr 0.03±.18; Best double couple: Mo 1.22000×10¹⁶ NP1: ϕs 144.00000°, δ77.00000°, λ-167.00000°. NP2: ϕs 51.00000°, δ78.00000°, λ-13.00000°. Principal axes: T 1.3730, Plg0.0000°, Azm98.0000°; N -0.3000, Plg72.0000°, Azm188.0000°; P -1.0670, Plg18.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 03:59:15.3±0.8, 36°.12N±0°.01×117°.88W±0°.02, h5km±5km, n418, σ0§81/368, mb4.3/23, MS4.0/49, 1C, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MFS	**McCloud Flat S**	**0.02**	**83**		**Pg**	**03 59 16.1**	**-0.3**
MFS					**Sg**	**03 59 17.5**	**+0.3**
WRVM	**Rose V. Centra**	**0.11**	**185**		**Pg**	**03 59 17.2**	**-0.4**
WRVM					**Sg**	**03 59 19.2**	**+0.2**
WCSM	**Coso Springs S**	**0.13**	**134**		**Pg**	**03 59 17.7**	**-0.2**
WCSM					**Sg**	**03 59 19.8**	**+0.2**
JRC2	**Joshua Ridge**	**0.14**	**157**		**Pg**	**03 59 17.8**	**-0.3**
JRC2					**Sg**	**03 59 20.2**	**+0.1**
WVPM	**Volcano Peak E**	**0.17**	**163**		**Pg**	**03 59 18.3**	**-0.4**
WVPM					**Sg**	**03 59 21.1**	**+0.2**
WNMM	**Nine Mile Cany**	**0.27**	**184**		**Pg**	**03 59 20.0**	**-0.5**
WNMM					**Sg**	**03 59 24.3**	**+0.2**
TOW	**Tower One**	**0.32**	**163**		**Pg**	**03 59 21.5**	**+0.1**
TOW					**Sg**	**03 59 26.9**	**+1.2**
MPMC	**Manual Prospec**	**0.32**	**100**		**Pg**	**03 59 21.3**	**-0.2**
MPMC				Sg	**Sg**	**03 59 25.0**	**-0.8**
MPMC				IAML		03 59 28.0	
	comp=N,55µm,0.6s						
MPMC				IAML		03 59 29.2	
	comp=E,52µm,0.5s						
CWC	**Cottonwood Cre**	**0.36**	**333**		**Pg**	**03 59 21.7**	**-0.7**
CWC				Sg	**Sg**	**03 59 26.8**	**-0.3**
CLC	**China Lake**	**0.38**	**143**		**Pg**	**03 59 22.1**	**-0.4**
CLC				Sg	**Sg**	**03 59 27.1**	**-0.4**
SRTC	**Snort**	**0.43**	**166**		**Pg**	**03 59 23.7**	**+0.1**
SRTC					**Sb**	**03 59 30.8**	**-1.5**
CGO	**Cerro Gordo**	**0.44**	**8**		**Pg**	**03 59 23.2**	**-0.6**
CGO					**Sg**	**03 59 29.7**	**+0.1**
GPO	**China Lake**	**0.50**	**159**		**Pg**	**03 59 24.5**	**-0.3**
GPO					**Sg**	**03 59 31.9**	**+0.7**
WORM	**Onyx Ranch**	**0.51**	**215**		**Pg**	**03 59 24.4**	**-0.7**
WORM					**Sg**	**03 59 31.3**	**-0.5**
WHFM	**Hanning Flat**	**0.57**	**223**		**Pg**	**03 59 25.5**	**-0.6**
WHFM					**Sg**	**03 59 33.4**	**-0.1**
WSHM	**Spangler Hills**	**0.60**	**149**		**Pg**	**03 59 26.4**	**-0.4**
WSHM				IAML		03 59 40.1	
	comp=E,27µm,0.6s			

VOG Sg 03 59 54.5 -0.4
EDW2 Edwards Air Fo 1.23 184 Pg 03 59 37.4 -1.5
EDW2 Sg 03 59 53.2 -1.7
ARVC Arvin 1.25 218 Pn 03 59 38.1 -1.3
DSP Deep Springs 1.25 357 Pn 03 59 37.8 -1.7
DSP Sg 03 59 55.6 0.0
BAKC Calstate 1.26 233 Pn 03 59 38.5 -1.1
BAKC Sb 03 59 56.1 +0.1
TPO Tropico Hills 1.27 193 Pn 03 59 38.1 -1.6
TPO Sg 03 59 55.8 -0.1
TPO Tropico Hills 1.27 193 IAML 03 59 58.2
comp=N,12µm,1.2s
TPO IAML 03 59 58.5
comp=E,10µm,0.6s
HYS Haystack Butte 1.27 168 Pn 03 59 38.2 -1.6
HYS Sg 03 59 55.4 -0.8
BHPR Bishop 1.28 338 Pn 03 59 38.6 -1.4
GMN Gold Mountain 1.28 23 Pg 03 59 38.8 -1.1
POCCA Poleta Canyon 1.29 346 Pn 03 59 38.4 -1.7
TJR Tejon Ranch 1.29 213 Pn 03 59 38.5 -1.6
SHOC Shoshone, Teco 1.32 99 Pn 03 59 38.7 -1.7
AMDNV Amargosa 1.33 75 Pn 03 59 39.2 -1.3
AMDNV Sb 03 59 57.5 -0.7
THC Tehachapi Micr 1.36 208 Pn 03 59 39.6 -1.5
SBB Saddle Back Bu 1.42 178 Pn 03 59 40.6 -1.3
RRX Edison Barstow 1.43 150 Pn 03 59 41.0 -1.0
ALPC Antelope 1.47 194 Pn 03 59 41.5 -0.9
LEOC Leona Valley 1.52 193 Pn 03 59 42.2 -1.1
TPNV Topopah Spring 1.55 57 Pn 03 59 43.0 -0.8
TPNV IAML 04 00 19.8
comp=E,14µm,1.4s
LRRC Littlerock Res 1.59 184 Pn 03 59 43.1 -0.9
CJV Casa Juvan 1.59 188 Pb 03 59 45.2 -0.1
VTV Victorville 1.61 164 Pb 03 59 45.3 -0.3
MZP Montezuma Peak 1.63 14 Pn 03 59 44.0 -0.9
OSI Osito Audit: C 1.65 205 Pn 03 59 44.2 -0.7
OSI IAML 04 00 14.4
comp=N,7µm,1.1s
HOLC Holcomb Ridge 1.65 179 Pn 03 59 44.0 -1.1
JNH Juniper Hills 1.67 182 Pn 03 59 44.3 -1.0
KCC Kaiser Creek 1.67 317 Pn 03 59 45.2 -0.1
BENR Benton 1.69 341 Pn 03 59 45.6 -0.2
MLAC Mammoth, Mammo 1.70 333 Pn 03 59 46.1 +0.3
FRI Friant 1.71 301 Pn 03 59 45.9 +0.1
BCW Bitter Crk WRg 1.71 227 Pn 03 59 45.4 -0.5
TUQ Turquoise Moun 1.73 113 Pn 03 59 44.7 -1.4
CRGC Crocker Grade 1.74 240 Pn 03 59 46.0 -0.3
DSCC Desert Studies 1.74 123 Pn 03 59 44.5 -1.7
MCSM Casa Diablo Ho 1.74 332 Pb 03 59 47.2 -0.7
CHFC Chilao Flat St 1.78 184 Pn 03 59 45.8 -1.1
OAT Oat Mountain 1.87 199 Pn 03 59 47.9 -0.1
BFSC Mount Baldy Ra 1.88 174 Pn **Pn 03 59 47.2 -1.0**
BFSC IAML 04 00 14.9
comp=E,4µm,1.0s
MWC Mount Wilson 1.89 185 Pn 03 59 47.5 -1.0
MWC IAML 04 00 17.2
comp=E,4µm,1.1s
MWC IAML 04 00 20.5
comp=N,4µm,0.7s
DECC Green Verdugo 1.89 191 Pn 03 59 47.9 -0.4
SMMC Simmler 1.90 246 Pn 03 59 48.0 -0.4
SSK Sunset Peak 1.91 175 Pn 03 59 48.1 -0.5
SS2 San Sevaine 1.93 171 Pn 03 59 48.3 -0.4
THIS South End of C 1.95 259 Pn 03 59 50.0 +0.9
PASC Pasadena Art C 1.96 187 Pn 03 59 48.4 -0.8
BLCC Black Canyon 1.98 199 Pn 03 59 49.3 -0.2
MTPC Mountain Pass 1.99 108 Pn 03 59 48.6 -1.2
MTPC IAML 04 00 19.2
comp=N,4µm,1.0s
MTPC IAML 04 00 21.7
comp=E,6µm,0.5s
PKM Mcpherson Peak 2.00 233 Pn 03 59 50.4 +0.5
PSRC Puddingstone R 2.02 178 Pn 03 59 49.8 -0.2
TPH Tonopah 2.03 15 Pn 03 59 49.7 -0.6
DJJ Donna J Jenkin 2.06 193 Pn 03 59 50.0 -0.6
PKD Bear Valley Ra 2.17 266 Pn 03 59 51.2 -0.8
LHV Little Huntoon 2.19 347 Pn 03 59 52.5 +0.1
LHV IAML 04 00 29.0
comp=E,3µm,1.8s
LHV IAML 04 00 35.9
comp=N,2µm,1.3s
SHPR Sheep Range 2.23 79 Pn 03 59 52.7 -0.4
GMRC Granite Mounta 2.25 126 Pn 03 59 51.2 -2.0
S11A Rachel 2.29 48 Pn **Pn 03 59 53.1 -0.8**
NV11 Mina Array Sit 2.32 355 Pn 03 59 53.8 -0.6
NVAR Mina Array Bea 2.33 352 Pn 03 59 53.9 -0.7
NVAR Mina Array Bea 2.33 352 Pn **Pn 03 59 54.5 0.0**
comp=N,30nm,0.3s,baz=176,slow=15,SNR=675
NVAR Pg **Pg 03 59 59.8 -0.2**
comp=N,172nm,0.3s,baz=164,slow=19,SNR=55
NVAR Lg Lg 04 00 29.4
comp=N,112nm,0.3s,baz=120,slow=18,SNR=8.8
NVAR LR LR 04 01 07.1
comp=N,3µm,19.8s,baz=78,slow=47
comp=N,537nm,0.9s
PMPB Monarch Peak 2.37 273 Pn 03 59 54.4 -0.5
PMPB IAML 04 00 40.1
comp=E,4µm,0.9s
PMPB IAML 04 00 42.9
comp=N,5µm,0.8s
BLAC Blackrock camp 2.38 149 Pn 03 59 54.1 -1.0
MYLM Yosemite Lake 2.40 303 Pb 03 59 57.3 -1.7
EW2 E Wide Canyon 2.48 150 Pn 03 59 55.5 -0.9
V12A Nelson 2.49 98 Pn 03 59 55.0 -1.6
V12A IAML 04 00 39.5
comp=N,2µm,1.7s
ELS Elsinore Mount 2.49 171 Pn 03 59 55.8 -0.7
TPC Twentynine Pal 2.50 143 Pn 03 59 55.6 -1.2
HMTC Hemet 2.51 163 Pn 03 59 56.2 -0.5
DANC Danby, Needles 2.52 125 Pn 03 59 55.7 -1.2
POB Polly Butte 2.55 162 Pn 03 59 57.0 -0.4
RYN Ryan 2.56 349 Pn 03 59 57.0 -0.7
BACC Bachelor Mtn. 2.59 164 Pn 03 59 57.3 -0.6
BBGB Big Mountain B 2.59 281 Pn 03 59 57.3 -0.7
PRN Pahroc Range 2.61 60 Pn 03 59 57.7 -0.6
WAKR Walker 2.69 333 Pn 03 59 59.6 +0.2
WAKR IAML 04 00 44.4
comp=N,2µm,1.7s
WAKR IAML 04 00 50.1
comp=E,2µm,1.3s
PMD Palm Desert 2.75 153 Pn 03 59 58.7 -1.4
PFO Pinyon Flats O 2.76 155 Pn 03 59 59.2 -1.1
PFO Pinyon Flats O 2.76 155 Pn **Pn 03 59 59.2 -1.1**
comp=E,7.0nm,0.3s,baz=340,slow=9.9,SNR=86
PFO Pg **Pb 04 00 05.4 +0.3**
comp=E,24nm,0.3s,baz=328,slow=13,SNR=41
PFO Lg Lg 04 00 38.9
comp=E,32nm,0.3s,baz=328,slow=6.8,SNR=5.6
PFO LR LR 04 00 49.5
comp=E,226nm,21.8s,baz=136,slow=35
comp=E,99nm,0.7s
Q09A Carvers 2.77 11 Pn 04 00 00.4 -0.1
Q09A IAML 04 00 47.9
comp=N,4µm,1.1s
CMB Columbia Colle 2.77 314 Pn 04 00 00.6 +0.1
CMB IAML 04 00 42.4
comp=N,3µm,1.1s
CMB IAML 04 00 50.7
comp=E,2µm,1.3s
R11B Troy Canyon, C 2.88 39 Pn 04 00 01.2 -0.9
R11B IAML 04 00 48.8
comp=E,2µm,1.4s
SAO San Andreas Ge 2.95 284 Pn 04 00 02.2 -0.6
NEE2 Needles Airpor 2.98 116 Pn 04 00 01.3 -1.9
BORC Borrego Spring 3.08 157 IAML 04 00 58.4
comp=N,1µm,1.0s
BORC IAML 04 01 00.9
comp=E,2µm,1.7s
W13A Hualapai Mount 3.41 106 IAML 04 01 07.1
comp=E,1µm,1.0s
W13A IAML 04 01 17.1
comp=N,1µm,1.0s
BLYC Blythe 3.63 130 IAML 04 01 18.6
comp=N,863nm,0.8s
AFDM Forest Hills D 3.75 320 IAML 04 01 18.4
comp=N,2µm,1.5s
PAHR Pah Rah Range 3.78 342 IAML 04 01 29.2
comp=N,580nm,1.8s
CCUT Cedar City 3.90 67 IAML 04 01 29.4
comp=E,554nm,1.4s
CCUT IAML 04 01 29.5
comp=N,654nm,2.3s
GLA Glamis 3.96 140 IAML 04 01 27.3
comp=N,1µm,1.9s

SPR3 Spring Creek 3 4.03 43 IAML 04 01 26.2
comp=E,1µm,1.2s
SPR3 IAML 04 01 26.4
comp=N,1µm,1.0s
SZCU Shurtz Canyon 4.12 68 IAML 04 01 38.3
comp=E,522nm,2.0s
SZCU IAML 04 01 38.3
comp=N,468nm,1.8s
KNB Kanab 4.17 76 IAML 04 01 37.2
comp=N,765nm,1.8s
KNB IAML 04 01 37.3
comp=E,758nm,1.8s
BEKR Beckworth 4.23 333 IAML 04 01 32.7
comp=N,574nm,1.1s
CCX Cicese 4.36 166 IAML 04 01 38.9
comp=N,423nm,1.6s
CCX IAML 04 01 44.8
comp=E,510nm,1.0s
ESJX Sierra Juarez 4.40 158 IAML 04 01 41.0
comp=E,386nm,1.3s
MCCM Marconi Confer 4.48 298 IAML 04 01 32.3
comp=E,808nm,1.3s
MCCM IAML 04 01 35.0
comp=N,572nm,1.4s
U15A North Rim 4.53 84 IAML 04 01 44.3
comp=N,679nm,1.2s
U15A IAML 04 01 50.6
comp=E,854nm,1.3s
Y14A Wickenburg 4.55 117 IAML 04 01 42.9
comp=E,608nm,0.6s
Y14A IAML 04 01 45.5
comp=N,805nm,0.8s
VTX Valle De La Tr 5.02 159 IAML 04 02 05.4
comp=N,366nm,1.3s
VTX IAML 04 02 11.0
comp=E,336nm,1.6s
ELK Elko 5.07 23 IAML 04 02 02.2
comp=E,313nm,0.9s
ELK Elko 5.07 23 Pn **Pn 04 00 32.6 +0.5**
comp=E,13nm,0.3s,baz=211,slow=11,SNR=201
ELK Pg **Pg 04 00 48.9 -3.4**
comp=E,14nm,0.3s,baz=227,slow=14,SNR=37
ELK Lg Lg 04 01 51.8
comp=E,4.6nm,0.3s,baz=121,slow=3.2,SNR=3.7
comp=E,28nm,0.3s
WUAZ Wupatki 5.32 95 IAML 04 02 23.8
comp=E,570nm,1.6s
WUAZ IAML 04 02 29.6
comp=E,555nm,1.1s
YBH Yreka Blue Hor 6.75 328 Pn Pn 04 01 00.9 +5.7
baz=160,slow=10,SNR=20
YBH Sn **Sn 04 02 18.0 +5.5**
baz=178,slow=10,SNR=3.7
YBH Lg Lg 04 02 45.2
baz=38,slow=11,SNR=5.7
YBH LR LR 04 03 18.3
comp=E,57nm,18.8s,baz=149,slow=35
PDAR Pinedale Array 9.24 42 Pn **Pn 04 01 32.5 +3.1**
comp=E,0.2nm,0.3s,baz=226,slow=12,SNR=19
PDAR Lg Lg 04 04 02.8
comp=E,0.5nm,0.3s,baz=230,slow=32,SNR=6.5
PDAR LR LR 04 05 17.2
comp=E,270nm,19.2s,baz=224,slow=40
comp=E,2.3nm,0.8s
ANMO Albuquerque 9.38 94 Pn **Pn 04 01 30.9 -0.4**
comp=E,0.2nm,0.3s,baz=30,slow=12,SNR=5.5
ANMO Pg 04 02 05.5
comp=E,0.3nm,0.3s,baz=2.5,slow=9.7,SNR=3.2
ANMO Lg Lg 04 04 08.3
comp=E,0.4nm,0.3s,baz=291,slow=22,SNR=4.4
comp=E,1.8nm,0.7s
NEW Newport 12.15 2 Pn **Pn 04 02 11.2 +2.1**
comp=E,0.2nm,0.3s,baz=180,slow=10,SNR=13
NEW Lg Lg 04 05 38.7
comp=E,0.1nm,0.3s,baz=81,slow=19,SNR=1.5
comp=E,3.8nm,1.0s
LPIG La Paz 13.64 149 LR LR 04 07 34.3
comp=E,312nm,19.5s,baz=346,slow=37
TXAR Lajitas Array 13.73 115 Pn **Pn 04 02 33.1 +2.3**
comp=E,0.2nm,0.3s,baz=289,slow=12,SNR=28
TXAR Lg Lg 04 06 23.2
baz=232,slow=27,SNR=2.1
TXAR LR LR 04 08 23.3
comp=E,316nm,19.8s,baz=295,slow=40
comp=E,3.5nm,0.9s
WTFS Witchita Falls 16.09 93 IAmb IAmb 04 03 20.5
comp=Z,22nm,1.0s
BBB Bella Bella 17.63 339 LR LR 04 10 25.0
comp=Z,141nm,20.2s,baz=157,slow=38
TUL3 Leonard 17.87 84 IAmb IAmb 04 03 36.8
comp=Z,25nm,1.2s
MDND Maddock 17.89 43 IAmb IAmb 04 03 31.5
comp=Z,28nm,1.2s
P38A Dawn 19.52 72 IAmb IAmb 04 03 50.1
comp=Z,22nm,1.4s
MIAR Mount Ida 19.88 87 IAmb IAmb 04 04 15.5
comp=Z,15nm,1.1s
AGMN Agassiz Nation 20.27 46 IAmb IAmb 04 03 53.5
comp=Z,10.0nm,0.9s
SPMN Marine on St. 21.02 57 IAmb IAmb 04 04 04.7
comp=Z,23nm,1.2s
V35K Ketchikan 21.40 338 P **P 04 04 04.4 +0.7**
baz=148
L40A Anamosa 21.48 66 IAmb IAmb 04 04 22.6
comp=Z,15nm,1.0s
CRAG Craig 21.99 336 P **P 04 04 10.4 +0.3**
baz=145
JFWS Jewell Farm 22.31 64 IAmb IAmb 04 04 32.3
comp=Z,16nm,1.2s
T35M Bob Quinn 22.47 342 P **P 04 04 15.1 -0.2**
baz=153
U33K Whale Pass 22.52 337 P **P 04 04 15.7 0.0**
baz=146
WRAK Wrangell Islan 22.55 339 P **P 04 04 16.1 +0.1**
baz=148
TOAD Toad River Com 23.25 350 P **P 04 04 24.1 +0.7**
baz=165
S34M Telegraph Cree 23.52 342 P **P 04 04 27.2 +1.2**
baz=152
DLBC Dease Lake 23.73 344 LR LR 04 13 06.9
comp=Z,34nm,21.7s,baz=140,slow=35
DLBC Dease Lake 23.73 344 P **P 04 04 29.4 +1.2**
baz=155,SNR=7.3
SIT Sitka 24.00 336 P **P 04 04 31.1 +0.5**
baz=143
S32K Killisnoo 24.10 338 P **P 04 04 32.1 +0.6**
baz=145
KOTAN Kotaneelee Air 24.36 353 P **P 04 04 34.4 +0.4**
baz=168
Q32M Nakina River 24.73 342 P **P 04 04 37.4 -0.1**
baz=151
R32K Eaglecrest 24.75 339 P **P 04 04 37.7 +0.2**
baz=146
R33M Jennings River 24.81 344 P **P 04 04 38.2 0.0**
baz=154,SNR=5.1
P32M Atlin 25.64 341 P **P 04 04 45.9 +0.2**
baz=149
PLBC Pleasant Camp 26.27 339 P **P 04 04 50.9 -0.4**
baz=145
TGTN Hyland Airport 26.27 349 P **P 04 04 51.5 +0.2**
baz=161
YKAW1 Yellowknife Wh 26.48 4 IAmb IAmb 04 04 56.3
comp=Z,13nm,0.9s
YKA Yellowknife Ar 26.48 3 P **P 04 04 54.0 +0.8**
comp=Z,6.6nm,1.0s,baz=186,slow=8.7,SNR=22
YKA LR LR 04 14 60.0
comp=Z,122nm,20.4s,baz=232,slow=36
comp=Z,6.6nm,1.0s
YKAW3 Yellowknife Wh 26.55 3 IAmb IAmb 04 04 57.5
comp=Z,7.7nm,1.1s
WHY Whitehorse 26.86 341 P **P 04 04 56.4 -0.4**
baz=148
P30M Million Dollar 26.99 339 P **P 04 04 57.0 -0.8**
baz=144
O30N Mendenhall 27.28 340 P **P 04 04 59.6 -0.8**
baz=146
PNL Peninsula 27.39 336 P **P 04 05 00.8 -0.6**
baz=140
TKL Tuckaleechee C 27.56 81 LR LR 04 16 40.5
comp=Z,248nm,19.1s,baz=282,slow=38
O29M Mount Kennedy 27.62 338 P **P 04 05 03.3 -0.2**
baz=142
HYT Haines Junctio 27.72 339 P **P 04 05 04.5 0.0**
baz=144
MMPY Sheldon Lake, 27.81 347 P **P 04 05 04.6 -0.5**
baz=156
CMIG Matias Romero 27.84 127 LR LR 04 15 06.9
comp=Z,243nm,19.8s,baz=178,slow=34
PINM Pinnacle 27.99 336 P **P 04 05 06.8 -0.1**
baz=139
YUK6 Outpost Mounta 28.06 339 P **P 04 05 07.8 +0.1**
baz=143
M31M Drury Creek, Y 28.08 344 P **P 04 05 07.4 -0.2**
baz=151
N30M Aishikik Lake 28.12 340 P **P 04 05 08.1 +0.1**
baz=146
YUK4 Talbot Arm 28.47 339 P **P 04 05 11.1 -0.2**
baz=143
O28M Mount Upton 28.49 337 P **P 04 05 10.5 -1.0**
baz=140
M30M Minto, Yukon 28.98 342 P **P 04 05 15.0 -0.6**
baz=147
CTG Chitna Glacier 29.00 336 P **P 04 05 15.4 -0.5**
baz=138
M29M Somme Creek 29.30 340 P **P 04 05 17.8 -0.8**
baz=144
YUK3 Moose Creek 29.34 338 P **P 04 05 18.9 -0.2**
baz=141
Q23K Middleton Isla 29.75 331 P **P 04 05 22.2 -0.2**
baz=129
L29M L29M 29.76 342 P **P 04 05 22.3 -0.3**
baz=146
MCARA McCarthy VSAT 29.86 336 P **P 04 05 23.1 -0.3**
baz=136
BMRM Bremner River 30.11 334 P **P 04 05 25.3 -0.4**
baz=134
M27K Edge Creek, AK 30.22 338 P **P 04 05 26.3 -0.4**
baz=139
K29M Barlow Dome 30.23 343 P **P 04 05 26.1 -0.6**
baz=147
EYAK Cordova Ski Ar 30.24 333 P **P 04 05 26.4 -0.3**
baz=131
SADO Sadowa 30.48 61 LR LR 04 18 39.9
comp=Z,219nm,18.8s,baz=281,slow=38
P23K Montague Islan 30.52 331 P **P 04 05 28.8 -0.5**
baz=128
N25K Chitina, Valde 30.55 335 P **P 04 05 29.7 +0.2**
baz=134
J30M Hart River 30.58 344 P **P 04 05 30.3 +0.4**
baz=150
L27K Beaver Creek, 30.74 339 P **P 04 05 30.9 -0.3**
baz=140
DAWY Dawson 30.88 342 P **P 04 05 32.0 -0.3**
baz=145
GLI Glacier Island 30.96 332 P **P 04 05 33.0 -0.1**
baz=130
I30M Mount Dempster 31.16 345 P **P 04 05 34.3 -0.6**
baz=150
H31M Peel River 31.27 347 P **P 04 05 36.0 +0.2**
baz=154
HARP HAARP 31.30 336 P **P 04 05 35.3 -0.8**
baz=134
SEW Seward 31.41 330 P **P 04 05 36.8 -0.2**
baz=126
PWL Port Wells 31.42 332 P **P 04 05 36.2 -1.0**
baz=128
M24K Tolsona, Glenn 31.44 335 P **P 04 05 36.7 -0.6**
baz=133
KDAK Kodiak Island 31.56 324 LR LR 04 17 29.7
comp=Z,239nm,18.7s,baz=113,slow=35
KDAK Kodiak Island 31.56 324 P **P 04 05 37.6 -0.8**
baz=118
K27K Chicken 31.56 340 P **P 04 05 38.2 -0.2**
baz=141
OHAK Old Harbor 31.64 323 P **P 04 05 38.7 -0.3**
baz=117
SCM Sheep Creek Mo 31.67 334 P **P 04 05 39.3 -0.1**
baz=131
I29M Ogilvie Camp, 31.69 344 P **P 04 05 39.7 +0.2**
baz=148
M23K Glacier View 31.78 333 P **P 04 05 40.2 -0.2**
baz=130
PAX Paxson 31.80 336 P **P 04 05 40.5 -0.1**
baz=135
KNK Knik Glacier 31.81 332 P **P 04 05 40.5 -0.1**
baz=129
SCRK Sand Creek 32.07 339 P **P 04 05 43.0 0.0**
baz=138,SNR=5.9
HOM Homer 32.08 328 P **P 04 05 43.0 +0.1**
baz=122
RC01 Rabbit Creek A 32.10 331 P **P 04 05 43.5 +0.4**
baz=126
I28M Miner Creek 32.15 343 IAmb IAmb 04 05 49.7
comp=Z,4.1nm,1.1s
I28M Miner Creek 32.15 343 P **P 04 05 43.5 -0.1**
baz=145
RIDG Independent Ri 32.16 338 P **P 04 05 43.9 +0.3**
baz=136
PMR Palmer 32.18 332 P **P 04 05 43.4 -0.4**
baz=128
EPYK Eagle Plains 32.23 346 P **P 04 05 44.1 -0.1**
baz=151
CHIR Chirikof Islan 32.24 320 P **P 04 05 44.1 -0.3**
baz=112
G31M Satah River 32.27 348 P **P 04 05 45.1 +0.6**
baz=155
J26L Joseph Creek 32.34 339 P **P 04 05 45.1 -0.2**
baz=139
R18K Karluk 32.35 323 P **P 04 05 44.8 -0.6**
baz=116
H29M Whitestone 32.44 345 P **P 04 05 46.2 +0.2**
baz=148
F31M Tsiigehtchic 32.66 349 P **P 04 05 47.9 0.0**
baz=156
G30M tAoh Zraii Nji 32.67 347 P **P 04 05 48.1 0.0**
baz=152
I27K Kandik River 32.68 342 P **P 04 05 48.4 +0.2**
baz=143
O20K Slope Mountain 32.72 328 P **P 04 05 48.1 -0.6**
baz=121
P19K Oil Pt 32.77 327 P **P 04 05 49.2 +0.2**
baz=120
I26K Coal Creek Min 32.85 341 P **P 04 05 49.3 -0.3**
baz=140
J25K Salcha River, 32.95 339 P **P 04 05 49.9 -0.7**
baz=137
G29M Pine Creek 32.96 346 P **P 04 05 50.7 +0.1**
baz=149
Q18K Katmai Hardscr 33.10 325 P **P 04 05 51.4 -0.6**
baz=116
F30M Barrier River 33.15 348 P **P 04 05 51.5 -0.7**
baz=153,SNR=5.0
H27K Steamboat Moun 33.16 343 P **P 04 05 52.6 +0.2**
baz=144
HDA Harding Lake 33.28 337 P **P 04 05 54.0 +0.5**
baz=134
SKT Skwentna 33.33 332 P **P 04 05 54.6 +0.8**
baz=125
Q17K Contact Creek 33.34 324 P **P 04 05 54.6 +0.4**
baz=115
INK Inuvik 33.42 350 IAmb IAmb 04 06 00.1
comp=Z,5.0nm,1.1s
INK Inuvik 33.42 350 LR LR 04 21 42.5
comp=Z,334nm,18.4s,baz=164,slow=40
INK Inuvik 33.42 350 P **P 04 05 55.3 +0.8**
baz=157
MCK McKinley 33.47 335 P **P 04 05 55.3 +0.2**
baz=131
O19K Port Alsworth 33.51 327 P **P 04 05 55.7 +0.3**
baz=120
ILAR Eielson Array 33.52 338 P **P 04 05 57.6 +2.1**
comp=Z,1.4nm,0.7s,baz=156,slow=7.7,SNR=14
ILAR LR LR 04 20 42.6
comp=Z,110nm,20.3s,baz=158,slow=38
comp=Z,1.4nm,0.7s
P18K Big Mountain, 33.54 326 P **P 04 05 55.7 0.0**
baz=117
PRP Porcupine Dome 33.66 340 P **P 04 05 57.3 +0.5**
baz=137
G27K Doyon Strip 33.66 343 P **P 04 05 57.7 +1.0**
baz=144
CCB Clear Creek Bu 33.72 337 IAmb IAmb 04 06 01.1
comp=Z,2.6nm,0.9s
O18K Koktuh Hills 33.74 327 P **P 04 05 57.9 +0.4**
baz=118
TRF Thorofare Moun 33.76 334 P **P 04 05 57.3 -0.4**
baz=129
CHGN Chignik 33.88 319 P **P 04 05 58.4 -0.3**
baz=109
N19K Bonanza Creek 33.89 328 P **P 04 05 59.1 +0.3**
baz=120
POKR Poker Plat Res 33.93 338 P **P 04 05 59.1 0.0**
baz=134
F28M Old Crow 33.94 345 P **P 04 05 59.4 +0.3**
baz=147
P17K Kvichak River 34.00 325 P **P 04 05 59.5 -0.2**
baz=116
NEA2 Nenana 34.08 337 P **P 04 06 00.8 +0.5**

baz=132
PPLA **Purkeypile** 34.11 333 P P 04 06 00.9 +0.1
baz=126
E29M **Blow River** 34.22 347 IAmb IAmb 04 06 06.5
comp=Z,4.5nm,1.0s
E29M **Blow River** 34.22 347 P P 04 06 01.7 +0.2
baz=150
G26K **Porcupine Rive** 34.29 342 P P 04 06 02.1 0.0
baz=141,SNR=7.8
H25L **Birch Creek** 34.30 340 P P 04 06 02.9 +0.8
baz=138
CAST **Castle Rocks** 34.38 333 P P 04 06 02.9 -0.1
baz=126
BPAW **Bear Paw Mtn.** 34.40 335 IAmb IAmb 04 06 05.7
comp=Z,4.4nm,0.9s
BPAW **Bear Paw Mtn.** 34.40 335 P P 04 06 03.6 +0.4
baz=128
M19K **Big River Lodg** 34.41 330 P P 04 06 03.1 -0.2
baz=122
N18K **Kilae Creek** 34.43 328 P P 04 06 03.5 +0.1
baz=118
L20K **Farewell, AK** 34.52 331 P P 04 06 04.8 +0.6
baz=123
I23K **Minto, Yukon-K** 34.55 337 P P 04 06 04.5 +0.2
baz=132
H24K **Noodoo Dome** 34.57 339 P P 04 06 04.5 -0.2
baz=134
E28M **Babbage River** 34.71 346 P P 04 06 06.5 +0.8
baz=148
G25K **Bearman Lake** 34.74 341 P P 04 06 06.2 +0.2
baz=138
L19K **White Mountain** 34.74 330 P P 04 06 06.3 +0.1
baz=121
E27K **Coleen River** 34.78 345 IAmb IAmb 04 06 52.5
comp=Z,7.0nm,1.3s
E27K **Coleen River** 34.78 345 P P 04 06 06.5 +0.1
baz=145
MLY **Manley** 34.91 336 P P 04 06 07.5 -0.1
baz=130,SNR=5.1
N17K **Nushagak Hills** 34.93 327 P P 04 06 07.6 -0.1
baz=116
F26K **Sheenjek River** 34.96 343 P P 04 06 09.0 +1.0
baz=141,SNR=8.3
H23K **Yukon River** 35.06 338 P P 04 06 09.0 +0.2
baz=132
G24K **Hadweenzic Riv** 35.07 340 P P 04 06 09.7 +0.8
baz=136
K20K **Telida** 35.07 332 P P 04 06 09.1 +0.1
baz=124,SNR=7.3
F25K **Christian Rive** 35.25 342 P P 04 06 11.0 +0.5
baz=139
I21K **Tanana** 35.41 336 P P 04 06 11.0 -0.8
baz=128
M17K **Holitna River** 35.43 328 P P 04 06 11.5 -0.6
baz=117
L18K **Granite Mounta** 35.51 330 P P 04 06 11.9 -0.8
baz=119
D27M **Malcolm River** 35.53 346 P P 04 06 13.0 +0.1
baz=147
J20K **Nowinta River** 35.56 334 P P 04 06 13.1 -0.1
baz=125
N16K **Nishlik Lake** 35.61 326 P P 04 06 14.1 +0.5
baz=114
E25K **Arctic Village** 35.63 343 P P 04 06 14.3 +0.5
baz=140
H22K **Ishtalitna Cre** 35.67 337 P P 04 06 14.6 +0.5
baz=130
F24K **Squaw Lake** 35.77 341 P P 04 06 15.7 +0.7
baz=136
G23K **Bananza Creek** 35.80 339 P P 04 06 14.7 -0.5
baz=133
M16K **Timber Creek** 35.93 327 P P 04 06 16.4 0.0
baz=115
H21K **Melozitna Rive** 35.98 336 P P 04 06 16.9 +0.1
baz=128,SNR=7.0
J19K **Poorman** 36.00 333 IAmb IAmb 04 06 23.0
comp=Z,4.7nm,0.9s
J19K **Poorman** 36.00 333 P P 04 06 17.5 +0.6
baz=123
L17K **Donlin** 36.13 329 P P 04 06 17.3 -0.7
baz=117
J18K **Innoko River** 36.14 331 P P 04 06 17.9 -0.3
baz=121
A36M **Sachs Harbour** 36.15 356 P P 04 06 17.6 -0.4
baz=170
COLD **Coldfoot** 36.21 339 P P 04 06 18.4 -0.3
baz=133
FALS **False Pass** 36.22 316 P P 04 06 18.1 -0.8
baz=102
O14K **Tigyukauivet M** 36.31 323 P P 04 06 18.8 -0.8
baz=110
E24K **Your Creek** 36.33 341 P P 04 06 19.6 -0.2
baz=136
G22K **Bettles** 36.38 338 P P 04 06 19.3 -0.8
baz=131
C27K **Jago River** 36.40 345 P P 04 06 20.2 -0.1
baz=144
K17K **Iditarod** 36.40 330 P P 04 06 20.0 -0.4
baz=118
L16K **Owhat River** 36.45 328 P P 04 06 20.2 -0.5
baz=115
M15K **Kasigluk River** 36.57 326 P P 04 06 20.8 -1.0
baz=113
H20K **Anotleneega Mo** 36.58 335 P P 04 06 21.8 0.0
baz=125
E23K **Chandalar** 36.62 341 P P 04 06 21.8 -0.5
baz=134
G21K **Allakaket** 36.74 337 P P 04 06 22.3 -0.9
baz=128
D25K **Kavik River** 36.74 344 P P 04 06 23.5 +0.3
baz=140
F22K **John River** 36.96 339 P P 04 06 24.8 -0.3
baz=131
TOLK **Toolik Lake Re** 37.02 341 P P 04 06 24.9 -0.7
baz=135
J17K **VABM Dome** 37.03 331 P P 04 06 24.7 -1.1
baz=118
H19K **Roundabout Mou** 37.14 335 P P 04 06 26.1 -0.4
baz=123
F21K **Alatna River** 37.17 338 P P 04 06 26.4 -0.5
baz=129
E22K **Anaktuvuk Pass** 37.27 340 IAmb IAmb 04 06 31.2
comp=Z,5.1nm,1.2s
E22K **Anaktuvuk Pass** 37.27 340 P P 04 06 27.8 0.0
baz=132
L15K **Ungalak Mounta** 37.31 327 P P 04 06 27.4 -0.7
baz=113
D23K **Nanushuk River** 37.54 341 P P 04 06 29.9 -0.1
baz=134
K15K **Wolf Creek Mou** 37.57 328 P P 04 06 29.2 -1.1
baz=114
C24K **Franklin Bluff** 37.59 343 P P 04 06 29.7 -0.6
baz=137
H18K **Honhosa River** 37.62 333 P P 04 06 29.4 -1.3
baz=121
G19K **Purcell Mounta** 37.70 335 P P 04 06 29.9 -1.4
baz=123
L14K **Kuka Creek** 37.71 326 P P 04 06 30.7 -0.8
baz=111
F20K **Avaraart Lake** 37.76 337 P P 04 06 31.2 -0.7
baz=126
UNV **Unalaska Valle** 37.83 314 P P 04 06 32.4 -0.2
baz=98
D22K **Ayikyak River** 38.01 340 P P 04 06 33.2 -0.8
baz=131
H17K **Granite Mounta** 38.09 332 P P 04 06 34.1 -0.5
baz=118
G18K **Tagagawik** 38.10 334 P P 04 06 33.7 -1.1
baz=121
C23K **Itkillik River** 38.13 342 P P 04 06 34.8 -0.2
baz=135
F19K **Shaleruckik Mo** 38.30 336 P P 04 06 36.7 +0.3
baz=123
E19K **Redstone River** 38.48 337 IAmb IAmb 04 06 41.0
comp=Z,8.2nm,1.3s
E19K **Redstone River** 38.48 337 P P 04 06 38.3 +0.4
baz=124
J14K **Nanvaranak Lak** 38.61 328 P P 04 06 39.3 +0.2
baz=112
E20K **Nigu River** 38.62 338 P P 04 06 39.1 -0.1
baz=126
G17K **Kiwalik Mounta** 38.63 333 P P 04 06 39.1 -0.1
baz=118
C21K **Knifeblade Rid** 38.77 340 P P 04 06 40.6 +0.3
baz=129
K13K **Kusilvak Mount** 38.80 327 P P 04 06 40.1 -0.6
baz=110
F18K **Selawik** 38.81 335 P P 04 06 40.8 +0.1
baz=121
H16K **Elim** 38.84 331 P P 04 06 40.5 -0.4
baz=116
B22K **Teshekpuk Lake** 39.18 342 P P 04 06 43.8 +0.2
baz=132
G16K **Koyuk River** 39.21 332 P P 04 06 44.3 +0.3
baz=116
D19K **Kuna River** 39.34 338 P P 04 06 44.8 -0.3
baz=124
SCHQ **Schefferville** 39.36 45 LR LR 04 23 08.1
comp=Z,132nm,21.6s,baz=290,slow=36
JTS **Las Juntas de** 39.38 123 LR LR 04 23 58.1
comp=Z,198nm,20.0s,baz=304,slow=38
E18K **Tukpahlearik C** 39.56 336 P P 04 06 47.3 +0.4
baz=120
G15K **Niukluk** 39.69 331 P P 04 06 47.0 -1.0
baz=114
B20K **Meade River** 39.95 340 P P 04 06 50.7 +0.6
baz=127
C19K **Lookout Ridge** 40.13 338 P P 04 06 51.5 -0.2
baz=123
RES **Resolute Bay** 40.20 9 LR LR 04 23 16.8
comp=Z,210nm,19.2s,baz=236,slow=36
C18K **Utukok River** 40.38 337 P P 04 06 52.9 -0.9
baz=121
FRB **Frobisher Bay** 40.51 31 LR LR 04 23 56.3
comp=Z,283nm,18.4s,baz=264,slow=37
D17K **Noatak River** 40.52 335 P P 04 06 54.6 -0.3
baz=118
C17K **DeLong Mountai** 40.92 336 P P 04 06 58.1 -0.1
baz=119
C16K **Lisburne Hills** 41.55 336 P P 04 07 03.8 +0.5
baz=116
SFJD **Kangerlussuaq** 48.50 29 LR LR 04 28 54.5
comp=Z,163nm,19.9s,baz=266,slow=37
SJG **San Juan** 48.83 97 LR LR 04 33 20.9
comp=Z,439nm,18.2s,baz=276,slow=42
ROSC **El Rosal** 50.66 117 LR LR 04 32 55.9
comp=Z,102nm,19.0s,baz=64,slow=40
PCRV **Puerto La Cruz** 54.55 104 LR LR 04 35 07.3
comp=Z,117nm,18.1s,slow=40
ATAH **Atahualpa** 56.79 131 LR LR 04 32 49.1
comp=Z,84nm,18.2s,baz=356,slow=36
SEY **Seymchan** 58.43 328 LR LR 04 34 39.9
comp=Z,77nm,18.7s,baz=126,slow=36
PETK **Petropavlovsk-** 58.46 116 LR LR 04 31 51.6
comp=Z,227nm,19.6s,baz=119,slow=33
MA2 **Magadan** 60.30 324 LR LR 04 34 20.0
comp=Z,55nm,20.3s,baz=70,slow=35
BORG **Borgarnes** 60.63 29 LR LR 04 35 31.7
comp=Z,143nm,18.3s,baz=291,slow=36
JMIC **Jan Mayen** 62.20 20 LR LR 04 38 40.4
comp=Z,111nm,19.8s,baz=290,slow=38
SPITS **Spitsbergen Ar** 62.76 10 P P 04 09 41.5 +0.5
comp=Z,3.8nm,0.7s,baz=104,slow=17,SNR=1.9
SPITS LR LR 04 36 28.7
comp=Z,154nm,19.1s,baz=317,slow=36
comp=Z,3.8nm,0.7s
TIXI **Tiksi** 62.91 341 LR LR 04 39 30.0
comp=Z,72nm,19.1s,baz=0.5,slow=38
MDP **Montagnes des** 67.07 101 LR LR 04 41 44.0
comp=Z,54nm,20.6s,baz=316,slow=38
YAK **Yakutsk** 68.17 332 LR LR 04 40 27.0
comp=Z,100nm,18.9s,baz=244,slow=36
LPAZ **La Paz** 70.19 129 LR LR 04 40 06.5
comp=Z,53nm,18.7s,baz=342,slow=35
ARCES **ARCESS Array B** 71.29 13 LR LR 04 44 08.2
comp=Z,107nm,18.8s,baz=310,slow=38
NOA **NORSAR Array B** 74.69 23 LR LR 04 44 13.1
comp=Z,47nm,19.9s,baz=295,slow=36
HFS **Hagfors** 76.17 23 LR LR 04 44 49.2
comp=Z,90nm,20.4s,baz=310,slow=36
FINES **FINESS Array B** 78.46 116 LR LR 04 47 42.6
comp=Z,76nm,18.8s,baz=328,slow=37
MJAR **Matsushiro Arr** 78.98 307 LR LR 04 42 49.8
comp=Z,19nm,18.7s,baz=185,slow=33
BNX **BinXian** 79.53 320 ⇑P P 04 11 21.3 -1.7
BNX pmax pmax
comp=Z,4.0nm,1.3s
ESDC **Sonseca Array** 83.12 45 LR LR 04 46 28.1
comp=Z,62nm,18.4s,baz=298,slow=34
CPUP **Villa Florida** 84.35 128 LR LR 04 48 39.5
comp=Z,15nm,21.1s,baz=216,slow=35
KIRV **Kirov** 85.06 7 LR LR 04 52 31.8
comp=Z,59nm,20.9s,baz=351,slow=38
DAVOX **Davos/Dischmat** 85.09 33 LR LR 04 52 06.0
comp=Z,56nm,18.7s,baz=269,slow=37
VRAC **Vranov** 85.85 28 LR LR 04 52 11.6
comp=Z,136nm,18.1s,baz=315,slow=37
RCBR **Riachuelo** 86.95 99 LR LR 04 56 20.5
comp=Z,18nm,18.8s,baz=248,slow=40
MDT **Mt Dent** 87.21 5 LR LR 04 49 39.8
comp=Z,68nm,18.6s,baz=292,slow=35
SONM **Songino Array** 87.53 332 P P 04 12 05.0 +0.7
comp=Z,0.9nm,0.9s,baz=67,slow=4.8,SNR=3.8
SONM LR LR 04 52 06.5
comp=Z,71nm,19.6s,baz=31,slow=36
comp=Z,0.9nm,0.9s
ZALV **Zalesovo Beam** 88.18 347 LR LR 04 58 48.1
comp=Z,30nm,18.0s,baz=284,slow=40
AKASG **Malin Array Be** 88.82 20 P P 04 12 10.0 -0.2
comp=Z,0.5nm,0.5s,baz=342,slow=3.8,SNR=5.6
AKASG LR LR 04 52 49.5
comp=Z,65nm,18.0s,baz=12,slow=36
comp=Z,0.5nm,0.5s
HNR **Honiara** 89.24 258 LR LR 04 43 07.8
comp=Z,84nm,21.9s,baz=56,slow=30
BVAR **Borovoye Array** 90.94 355 P P 04 12 20.2 +0.2
comp=Z,0.6nm,0.6s,baz=46,slow=4.2,SNR=2.3
BVAR LR LR 04 58 42.0
comp=Z,39nm,19.7s,baz=9.7,slow=39
comp=Z,0.6nm,0.6s
BELG **Belogornoye** 90.96 9 LR LR 04 56 39.9
comp=Z,62nm,18.7s,baz=21,slow=38
HHC **Hu-ho-hao-te** 90.98 325 *eP* P 04 12 18.9 -1.7
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,120nm,5.0s
KURBB **Kurchatov Arra** 92.43 350 P P 04 12 26.8 -0.2
comp=Z,0.4nm,0.7s,baz=20,slow=5.4,SNR=2.9
comp=Z,0.4nm,0.7s
MLR **Muntele Rosu** 92.44 25 LR LR 04 55 13.2
comp=Z,98nm,20.8s,baz=326,slow=36
KEST **Kesra** 93.29 40 LR LR 04 54 18.3
comp=Z,84nm,18.1s,baz=309,slow=35
AKTO **Aktyubinsk** 93.75 3 LR LR 04 57 12.4
comp=Z,95nm,21.8s,baz=249,slow=37
NJ2 **Nanjing** 93.86 315 *eP* P 04 12 33.8 -0.1
NJ2 pmax pmax
comp=Z,18nm,0.5s
VAE **Valguarnera** 94.47 36 LR LR 04 54 11.1
comp=Z,93nm,19.5s,baz=336,slow=35

*ASRS **18** 04:00:42.0± 1.0, 55.°54N × 86.°21E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 18 04:00:46.7± 3.9, 55.°53N × 86.°13E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=31.5km s-min=28.8km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.76**	**206**	I	I	04 12 13.4	
	baz=23,slow=320,SNR=6.3						
ZALV	**Zalesovo Beam**	**1.76**	**206**	Pg	Pn	04 01 17.6	-0.8
	3.2nm,0.3s,baz=28,slow=15,SNR=24						
ZALV				Lg	Lg	04 01 42.9	
	2.8nm,0.3s,baz=23,slow=30,SNR=7.9						
KURBB	**Kurchatov Arra**	**6.72**	**226**	Pn	Pn	04 02 27.3	+0.8
	baz=41,slow=13,SNR=2.2						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**9.07**	**197**	Pn	Pn	04 02 58.4	-0.4
	0.1nm,0.3s,baz=22,slow=15,SNR=1.5						
	0.1nm,0.4s						

*NEIC **18** 04:00:50.5± 0.4, 36.°12N ± 0.°01 × 117.°88W ± 0.°02, h7km ± 1km, Error ellipse: s-maj=2.1km s-min=1.9km az=91.0*

PAS 18 04:00:51.0± 0.5, 36.°12N ± 0.°01 × 117.°88W ± 0.°02, h6km ± 1km, ML2.8/4, ML2.6/8(NEIC), Error ellipse: s-maj=2.0km s-min=1.8km az=117.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MFS	**McCloud Flat S**	**0.02**	**90**		Pg	04 00 53.4	+1.1
WRVM	**Rose V. Centra**	**0.11**	**185**		Pg	04 00 53.4	0.0
JRC2	**Joshua Ridge**	**0.15**	**157**		Pg	04 00 54.0	0.0
WVPM	**Volcano Peak E**	**0.17**	**163**		Pg	04 00 54.7	+0.2
WNMM	**Nine Mile Cany**	**0.28**	**185**		Pg	04 00 56.3	-0.1
WNMM					Sg	04 01 00.2	+0.2
MPMC	**Manual Prospec**	**0.32**	**101**	Pg	Pg	04 00 57.1	-0.2
MPMC				IAML		04 00 58.3	
	comp=E,714nm,1.0s						
MPMC				Sg	Sg	04 01 01.4	-0.2
TOW	**Tower One**	**0.32**	**163**		Pg	04 00 57.7	+0.4
CWC	**Cottonwood Cre**	**0.36**	**333**		Sg	04 01 02.9	0.0
CWC	**Cottonwood Cre**	**0.36**	**333**	Pg	Pg	04 00 58.0	-0.1
CWC				IAML		04 01 00.4	
	comp=E,401nm,2.0s						
CWC				IAML		04 01 07.0	
	comp=N,685nm,0.1s						
CLC	**China Lake**	**0.38**	**143**	Pg	Pg	04 00 58.5	+0.1
CLC				Sg	Sg	04 01 03.5	+0.2
CLC				IAML		04 01 04.4	
	comp=E,735nm,1.6s						
CLC				IAML		04 01 10.7	
	comp=N,570nm,1.9s						
WORM	**Onyx Ranch**	**0.51**	**215**		Sg	04 01 07.4	-0.2
WHFM	**Hanning Flat**	**0.57**	**222**		Pg	04 01 01.9	-0.1
WBSM	**Bird Springs**	**0.62**	**200**		Pg	04 01 02.6	-0.3
WBSM					Sg	04 01 11.1	+0.1
ISA	**Isabella, Lake**	**0.66**	**227**		Sg	04 01 12.3	-0.1

*NEIC **18** 04:01:31.9± 0.7, 36.°109N ± 0.°007 × 117.°86W ± 0.°01, h3km ± 2km, Error ellipse: s-maj=1.3km s-min=0.7km az=128.0*

PAS 18 04:01:32.2± 0.7, 36.°114N ± 0.°006 × 117.°88W ± 0.°01, h2km ± 3km, ML3.4/33, ML3.3/30(NEIC), Error ellipse: s-maj=1.4km s-min=0.7km az=123.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MFS	**McCloud Flat S**	**0.02**	**81**		Pg	04 01 32.7	-0.3
MFS					Sg	04 01 34.5	+1.0
WRVM	**Rose V. Centra**	**0.11**	**184**		Pg	04 01 34.7	+0.4
WRVM					Sg	04 01 36.5	+0.8
WCSM	**Coso Springs S**	**0.13**	**133**		Pg	04 01 35.0	+0.3
WCSM					Sg	04 01 37.1	+0.7
JRC2	**Joshua Ridge**	**0.14**	**156**		Pg	04 01 35.3	+0.3
JRC2					Sg	04 01 37.7	+0.7
WVPM	**Volcano Peak E**	**0.17**	**162**		Pg	04 01 35.9	+0.3
WVPM					Sg	04 01 38.2	+0.3
WNMM	**Nine Mile Cany**	**0.27**	**184**		Pg	04 01 37.4	0.0
WNMM					Sg	04 01 41.5	+0.6
TOW	**Tower One**	**0.32**	**163**		Pg	04 01 39.0	+0.6
TOW					Sg	04 01 44.3	+1.8
MPMC	**Manual Prospec**	**0.32**	**100**		Pg	04 01 38.6	+0.1
MPMC					Sg	04 01 43.2	+0.5
MPMC	**Manual Prospec**	**0.32**	**100**	IAML		04 01 43.6	
	comp=E,2μm,0.5s						
MPMC				IAML		04 01 44.6	
	comp=N,2μm,0.5s						
CWC	**Cottonwood Cre**	**0.36**	**334**		Pg	04 01 39.2	0.0
CWC					Sg	04 01 44.4	+0.4
CWC	**Cottonwood Cre**	**0.36**	**334**	IAML		04 01 44.6	
	comp=E,5μm,0.2s						
CWC				IAML		04 01 44.9	
	comp=N,3μm,0.1s						
CLC	**China Lake**	**0.38**	**142**		Pg	04 01 39.8	+0.4
CLC					Sg	04 01 44.9	+0.5
CLC	**China Lake**	**0.38**	**142**	IAML		04 01 47.6	
	comp=E,781nm,0.8s						
CLC				IAML		04 01 47.6	
	comp=N,659nm,0.8s						
SRTC	**Snort**	**0.43**	**166**		Pg	04 01 41.1	+0.5
SRTC					Sb	04 01 48.1	-1.5
CGO	**Cerro Gordo**	**0.44**	**8**		Pg	04 01 40.7	-0.1
CGO					Sg	04 01 47.6	+1.1
GPO	**China Lake**	**0.50**	**159**		Pg	04 01 41.9	+0.1
GPO					Sg	04 01 49.1	+0.9
WORM	**Onyx Ranch**	**0.51**	**215**		Pg	04 01 41.9	-0.1
WORM					Sg	04 01 48.7	+0.1
WHFM	**Hanning Flat**	**0.56**	**222**		Pg	04 01 42.9	-0.1
WHFM					Sg	04 01 50.5	+0.2
WSHM	**Spangler Hills**	**0.60**	**148**		Pg	04 01 43.7	-0.1
WSHM					Sg	04 01 52.0	+0.5
WSHM	**Spangler Hills**	**0.60**	**148**	IAML		04 01 52.4	
	comp=N,628nm,0.6s						
WSHM				IAML		04 01 57.2	
	comp=N,875nm,0.5s						
WBSM	**Bird Springs**	**0.61**	**200**		Pg	04 01 43.9	-0.1
WBSM					Sg	04 01 52.3	+0.4
LRMC	**Laurel Mtn Rad**	**0.65**	**166**		Pg	04 01 44.6	-0.1
LRMC					Sg	04 01 53.5	+0.3
LRMC	**Laurel Mtn Rad**	**0.65**	**166**	IAML		04 01 53.8	
	comp=E,1μm,0.5s						
LRMC				IAML		04 01 54.4	
	comp=N,1μm,0.3s						
ISA	**Isabella, Lake**	**0.66**	**227**		Pg	04 01 44.8	-0.1
ISA					Sg	04 01 53.6	+0.2
ISA	**Isabella, Lake**	**0.66**	**227**	IAML		04 01 53.9	
	comp=E,1μm,0.6s						
ISA				IAML		04 01 53.9	
	comp=N,1μm,0.8s						
WASM	**Alta Sierra Ca**	**0.66**	**236**		Pg	04 01 44.9	-0.1
WASM					Sg	04 01 53.7	+0.1
SPG2	**Springville 2**	**0.72**	**277**		Pg	04 01 45.7	-0.4
SPG2					Sg	04 01 55.2	-0.2
CCCA	**Chr Cany lake**	**0.72**	**144**		Pg	04 01 46.4	+0.3
CCCA	**Chr Cany lake**	**0.72**	**144**	IAML		04 02 01.0	
	comp=N,2μm,0.6s						
CCCA				IAML		04 02 01.4	
	comp=E,2μm,0.7s						
QSM	**Queen of Sheba**	**0.83**	**100**		Pg	04 01 47.6	-0.6
QSM					Sg	04 01 59.1	+0.1
DTP	**Desert Tortois**	**0.84**	**178**		Pg	04 01 48.0	-0.4
DTP					Sg	04 01 59.2	-0.1
FURC	**Furnace Creek,**	**0.90**	**67**		Sg	04 02 01.6	+0.6
CCAC	**Calif City Air**	**0.96**	**187**		Sg	04 01 50.2	-0.5
CCAC					Sg	04 02 03.0	-0.2
GRAC	**Grapevine Rang**	**0.97**	**25**		Pg	04 01 50.7	-0.2
GRAC	**Grapevine Rang**	**0.97**	**25**	IAML		04 02 08.2	
	comp=E,912nm,0.8s						
TIN	**Tinemaha, Big**	**0.98**	**343**		Pg	04 01 50.8	-0.3
TIN					Sg	04 02 04.6	+0.8
GWY	**Greenwater Val**	**0.98**	**85**		Pg	04 01 50.6	-0.5
GWY					Sg	04 02 03.9	+0.1
GWY	**Greenwater Val**	**0.98**	**85**	IAML		04 02 07.2	
	comp=E,1000nm,0.7s						
GWY				IAML		04 02 10.6	
	comp=N,895nm,0.4s						
VES	**Vestal, Richgr**	**1.01**	**255**		Pg	04 01 51.4	-0.2
VES					Sg	04 02 05.0	+0.3
TEJ	**El Tejon**	**1.10**	**217**		Pg	04 01 52.5	-0.8
TEJ					Sg	04 02 07.0	-0.6
SGV	**South Grapevin**	**1.10**	**38**		Pg	04 01 53.2	-0.2
SGV					Sg	04 02 08.3	+0.6
WCT	**Wildcat Mounta**	**1.22**	**56**		Pg	04 02 10.4	-0.9
VOG	**Valley Oaks Go**	**1.23**	**280**		Pg	04 01 55.3	-0.6
BAKC	**Calstate**	**1.26**	**233**		Pg	04 01 56.3	0.0
HYS	**Haystack Butte**	**1.27**	**168**		Pg	04 01 55.7	-1.0
POCCA	**Poleta Canyon**	**1.29**	**346**		Pg	04 01 56.5	-0.4
JNH	**Juniper Hills**	**1.66**	**182**		Pb	04 02 03.3	-0.3
KCC	**Kaiser Creek**	**1.67**	**317**		Sn	04 02 24.3	-0.3
FULC	**Fullerton**	**2.24**	**181**		Sg	04 02 44.7	+0.6

*NEIC **18** 04:02:07.6± 0.7, 36.°102N ± 0.°008 × 117.°88W ± 0.°01, h2km ± 1km, Error ellipse: s-maj=1.3km s-min=1.2km az=50.0*

PAS 18 04:02:07.9± 0.8, 36.°111N ± 0.°008 × 117.°884W ± 0.°009, h0km ± 1km, ML3.4/19, ML3.0/44(NEIC), Error ellipse: s-maj=1.2km s-min=1.1km az=196.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MFS	**McCloud Flat S**	**0.02**	**75**		Pg	04 02 08.3	-0.1
WRVM	**Rose V. Centra**	**0.10**	**183**		Pg	04 02 09.4	-0.5
JRC2	**Joshua Ridge**	**0.14**	**155**		Pg	04 02 11.2	+0.5
WVPM	**Volcano Peak E**	**0.17**	**161**		Pg	04 02 11.6	+0.4
WNMM	**Nine Mile Cany**	**0.27**	**184**		Pg	04 02 13.2	+0.2
WNMM					Sg	04 02 17.2	+0.7
TOW	**Tower One**	**0.32**	**162**		Pg	04 02 14.7	+0.8
MPMC	**Manual Prospec**	**0.32**	**99**	Pg	Pg	04 02 14.4	+0.3
MPMC				Sg	Sg	04 02 18.7	+0.3

CWC	**Cottonwood Cre**	**0.36**	**334**			Pg	04 02 14.7	-0.3
CWC					Sg	Sg	04 02 20.2	+0.5
CWC					IAML		04 02 20.8	
	comp=E,2µm,0.2s							
CLC	**China Lake**	**0.38**	**142**			Pg	04 02 15.6	+0.5
CLC	**China Lake**	**0.38**	**142**		Sg	Sg	04 02 20.1	+0.2
CLC					IAML		04 02 22.1	
	comp=E,369nm,0.6s							
CLC					IAML		04 02 25.9	
	comp=N,362nm,0.5s							
SRTC	**Snort**	**0.43**	**165**			Pg	04 02 16.9	+0.7
WORM	**Onyx Ranch**	**0.51**	**215**			Pg	04 02 17.8	+0.1
WHFM	**Hanning Flat**	**0.56**	**223**			Pg	04 02 18.8	+0.2
WSHM	**Spangler Hills**	**0.60**	**148**	Pg		Pg	04 02 19.5	+0.1
WSHM					Sg	Sg	04 02 27.7	+0.5
WSHM					IAML		04 02 28.6	
	comp=N,676nm,0.2s							
WBSM	**Bird Springs**	**0.61**	**200**			Pg	04 02 19.7	+0.1
WBSM						Sg	04 02 28.1	+0.6
LRMC	**Laurel Mtn Rad**	**0.65**	**165**			Sg	04 02 29.2	+0.4
LRMC	**Laurel Mtn Rad**	**0.65**	**165**	Pg		Pg	04 02 20.4	0.0
LRMC					IAML		04 02 29.4	
	comp=E,838nm,0.4s							
LRMC					IAML		04 02 29.5	
	comp=N,918nm,0.2s							
ISA	**Isabella, Lake**	**0.66**	**227**	Pg		Pg	04 02 20.6	+0.1
ISA					Sg	Sg	04 02 28.7	-0.3
ISA					IAML		04 02 29.8	
	comp=E,996nm,0.4s							
WASM	**Alta Sierra Ca**	**0.66**	**236**			Pg	04 02 20.7	+0.1
WASM						Sg	04 02 29.7	+0.5
SPG2	**Springville 2**	**0.72**	**277**			Pg	04 02 21.6	-0.1
CCCA	**Chr Cany lake**	**0.72**	**144**	Pg		Pg	04 02 21.9	+0.2
CCCA					IAML		04 02 24.8	
	comp=N,914nm,0.7s							
QSM	**Queen of Sheba**	**0.84**	**100**			Sg	04 02 35.1	+0.3
QSM	**Queen of Sheba**	**0.84**	**100**			Pg	04 02 23.6	-0.3
QSM					IAML		04 02 27.7	
	comp=E,602nm,0.2s							
QSM					IAML		04 02 35.5	
	comp=N,519nm,0.2s							
DTP	**Desert Tortois**	**0.84**	**178**			Sg	04 02 35.2	+0.2
CCAC	**Calif City Air**	**0.96**	**186**			Pg	04 02 26.1	-0.3
CCAC						Sg	04 02 39.0	+0.1
GRAC	**Grapevine Rang**	**0.98**	**25**			Pb	04 02 27.4	-0.4
GRAC	**Grapevine Rang**	**0.98**	**25**	Pg		Pg	04 02 26.5	-0.1
GWY	**Greenwater Val**	**0.99**	**85**			Pg	04 02 26.9	+0.1
GWY	**Greenwater Val**	**0.99**	**85**	IAML			04 02 33.0	
	comp=E,436nm,1.4s							
GWY					IAML		04 02 45.6	
	comp=N,515nm,1.0s							
VES	**Vestal, Richgr**	**1.01**	**255**			Pg	04 02 27.3	0.0
TEJ	**El Tejon**	**1.10**	**217**			Sg	04 02 43.0	-0.2
SGV	**South Grapevin**	**1.11**	**38**			Sb	04 02 44.3	-0.7
LCH	**Last Change Ra**	**1.14**	**10**			Pb	04 02 30.3	-0.2
GSC	**Goldstone, Bar**	**1.19**	**132**	Pg		Pg	04 02 30.4	-0.4
GSC					IAML		04 02 49.2	
	comp=E,316nm,1.2s							
WCT	**Wildcat Mounta**	**1.22**	**56**	Pg		Pg	04 02 31.2	-0.2
WCT						Pb	04 02 31.3	-0.6
WCT					IAML		04 02 49.5	
	comp=E,272nm,0.4s							
VOG	**Valley Oaks Go**	**1.23**	**280**			Pg	04 02 31.1	-0.4
DSP	**Deep Springs**	**1.26**	**357**	Pg		Pg	04 02 31.2	-0.8
TPO	**Tropico Hills**	**1.26**	**193**	Pg		Pg	04 02 31.4	-0.7
TPO					IAML		04 02 47.4	
	comp=N,275nm,1.4s							
TPO					IAML		04 02 49.1	
	comp=E,254nm,0.7s							
GMN	**Gold Mountain**	**1.29**	**23**	Pg		Pg	04 02 32.4	-0.3
GMN						Pb	04 02 32.6	-0.6
POCCA	**Poleta Canyon**	**1.29**	**346**			Pg	04 02 32.1	-0.5
KCC	**Kaiser Creek**	**1.67**	**317**			Sn	04 03 00.1	-0.6

*IDC **18** 04:09:20.6±0.8,6˚.40S×149˚.43E,h0km,mb3.9/6, mbtmp4.0/7,ML4.3/1,MS3.4/5,Error ellipse: s-maj=47.3km s-min=21.2km az=108.0*
*NEIC **18** 04:09:27.3±1.8,6˚.34S±0˚.06×149˚.1E±0˚.2,h35km±1km, mb4.3/18, Error ellipse: s-maj=26.4km s-min=5.9km az=287.0*

ISC 18 04:09:28.5±0.6,6˚.4S±0˚.1×149˚.1E±0˚.2,h53km,n35, σ0°79/31,mb4.2/11,MS3.4/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.73**	**54**		**Pn**	**04 10 23.3**	**-0.3**
EIDS	**Eidsvold**	**18.95**	**175**	P	**P**	**04 13 44.7**	**-0.7**
EIDS				IAmb	IAmb	04 13 44.8	
	comp=Z,20nm,1.5s						
WB0	**Warramunga Arr**	**19.54**	**226**	Pn	**P**	**04 13 52.4**	**+0.5**
WB0				IAmb	IAmb	04 13 59.1	
	comp=Z,8.3nm,0.8s						
WR8	**Warramunga Arr**	**19.59**	**225**	Pn	**P**	**04 13 53.5**	**+1.0**
WR8				IAmb	IAmb	04 14 05.3	
	comp=Z,14nm,0.9s						
WRAB	**Tennant Creek**	**19.68**	**226**	Pn	**P**	**04 13 54.1**	**+0.6**
WRAB				IAmb	IAmb	04 14 06.6	
	comp=Z,9.8nm,0.7s						
WRA	**Warramunga Arr**	**19.69**	**226**	Pn	**P**	**04 13 53.5**	**-0.1**
WRA	**Warramunga Arr**	**19.69**	**226**	P	**P**	**04 13 54.0**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=50,slow=11,SNR=41						
	comp=Z,7.6nm,0.7s						
GUMO	**Guam**	**20.32**	**348**	LR	LR	04 20 55.1	
	comp=Z,36nm,19.6s,baz=152,slow=34						
AS31	**Alice Springs**	**22.57**	**219**	P	**P**	**04 14 25.1**	**+0.5**
ASAR	**Alice Springs**	**22.57**	**219**	P	**P**	**04 14 24.7**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=52,slow=9.9,SNR=19						
ASAR				LR	LR	04 22 40.2	
	comp=Z,121nm,19.5s,baz=352,slow=35						
	comp=Z,2.0nm,0.7s						
STKA	**Stephens Creek**	**26.30**	**195**	LR	LR	04 26 10.0	
	comp=Z,101nm,19.3s,baz=19,slow=38						
PEA0B	**Petropavlovsk-**	**59.73**	**6**	P	**P**	**04 19 28.3**	**+0.6**
PETK	**Petropavlovsk-**	**59.73**	**6**	P	**P**	**04 19 27.9**	**+0.2**
	comp=Z,2.2nm,0.5s,baz=195,slow=6.6,SNR=6.3						
	comp=Z,2.2nm,0.5s						
KIWB	**Kanaga Island**	**64.80**	**22**	P	**P**	**04 20 02.5**	**+0.9**
KIWB				IAmb	IAmb	04 20 07.8	
	comp=Z,11nm,1.1s						
VNDA	**Vanda**	**71.39**	**177**	P	**P**	**04 20 43.7**	**+1.1**
VNDA	**Vanda**	**71.39**	**177**	P	**P**	**04 20 42.6**	**0.0**
	comp=Z,0.5nm,0.6s,baz=339,slow=7.4,SNR=3.9						
	comp=Z,0.5nm,0.6s						
SII	**Sitkinak Islan**	**77.88**	**28**	P	**P**	**04 21 21.9**	**+1.4**
ZALV	**Zalesovo Beam**	**80.50**	**327**	P	**P**	**04 21 35.2**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=111,slow=7.9,SNR=2.0						
	comp=Z,0.5nm,0.4s						
CAPN	**Captain Cook N**	**81.40**	**25**	P	**P**	**04 21 40.5**	**+1.1**
E18K	**Tukpahlearik C**	**81.77**	**17**	P	**P**	**04 21 42.1**	**+0.8**
E18K				IAmb	IAmb	04 21 45.5	
	comp=Z,2.7nm,1.0s						
CAST	**Castle Rocks**	**82.37**	**23**	P	**P**	**04 21 44.1**	**-0.5**
CAST				IAmb	IAmb	04 21 46.5	
	comp=Z,5.9nm,1.5s						
E19K	**Redstone River**	**82.82**	**18**	P	**P**	**04 21 47.3**	**+0.5**
E19K				IAmb	IAmb	04 21 53.6	
	comp=Z,6.4nm,1.4s						
AAK	**Ala-Archa**	**83.15**	**314**	LR	LR	05 00 25.6	
	comp=Z,31nm,20.7s,baz=38,slow=37						
D19K	**Kuna River**	**83.18**	**17**	P	**P**	**04 21 49.1**	**+0.5**
D19K				IAmb	IAmb	04 21 50.2	
	comp=Z,6.3nm,1.4s						
QSPA	**South Pole Qui**	**83.56**	**180**	P	**P**	**04 21 51.0**	**+0.1**
QSPA				IAmb	IAmb	04 22 09.6	
	comp=Z,2.1nm,0.9s						
QSPA	**South Pole Qui**	**83.56**	**180**	P	**P**	**04 21 50.6**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=298,slow=2.8,SNR=5.3						
	comp=Z,1.1nm,0.9s						
MLY	**Manley**	**83.69**	**22**	P	**P**	**04 21 51.8**	**+0.4**
BWN	**Browne**	**83.75**	**23**	P	**P**	**04 21 51.6**	**-0.1**
ILAR	**Eielson Array**	**85.02**	**23**	P	**P**	**04 21 56.2**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=255,slow=4.8,SNR=5.4						
	comp=Z,0.4nm,0.7s						
ABKAR	**Akbulak array**	**94.28**	**319**	P	**P**	**04 22 40.4**	**-1.8**
PFO	**Pinyon Flats O**	**97.16**	**57**	LR	LR	05 00 53.3	
	comp=Z,31nm,18.2s,baz=224,slow=32						
GERES	**GERESS Array B**	**123.44**	**326**	PKP	**PKPdf**	**04 28 19.7**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=96,slow=2.0,SNR=2.5						
EKA	**Eskdalemuir Ar**	**126.43**	**341**	PKP	**PKPdf**	**04 28 24.8**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=32,slow=1.8,SNR=1.9						
TORD	**Torodi Ar. Bea**	**147.26**	**284**	PKPbc	**PKPbc**	**04 29 07.2**	**0.0**
	comp=Z,2.9nm,0.5s,baz=66,slow=3.2,SNR=2.6						
BDFB	**Brasilia**	**152.27**	**142**	PKPbc	**PKPbc**	**04 29 19.4**	**-0.3**
	comp=Z,3.4nm,1.0s,baz=236,slow=3.6,SNR=4.4						

*IDC **18** 04:27:31.2±0.8,9˚.44N×126˚.02E,h0km,mb4.0/11, mbtmp4.0/11,MS3.3/2,Error ellipse: s-maj=72.0km s-min=16.2km az=71.0*
*NEIC **18** 04:27:36.3±1.8,9˚.53N±0˚.03×125˚.9E±0˚.2,h35km±2km, mb4.6/14,Error ellipse: s-maj=27.5km s-min=4.5km az=88.0*

ISC 18 04:27:39.3±0.6,9˚.46N±0˚.06×125˚.9E±0˚.1,h67km,n34, σ1°66/32,mb4.2/17,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.38**	**186**	Pn	**Pn**	**04 28 13.6**	**-2.6**
DAV				Sn	**Sn**	**04 28 42.9**	**-1.5**
DAV	**Davao City (W)**	**2.38**	**186**	Pn	**Pn**	**04 28 14.4**	**-1.8**
	94nm,0.3s,baz=15,slow=7.2,SNR=2.1						
DAV				Sn	**Sn**	**04 28 49.0**	**+4.7**
	59nm,0.3s,baz=87,slow=18,SNR=3.7						
YOJ	**Yonaguni jima**	**15.17**	**350**	Pn	**Pn**	**04 31 05.7**	**-4.0**
YOJ				IAmb	IAmb	04 31 06.0	
	comp=Z,57nm,0.9s						
SBUM	**Sibu**	**15.23**	**244**	Pn	**Pn**	**04 31 09.2**	**-1.4**
SOEI	**Soe**	**19.15**	**185**		**P**	**04 31 55.4**	**-2.1**
SOEI				IAmb	IAmb	04 32 04.5	
	comp=Z,34nm,0.5s						
JNU	**Nakatsue**	**24.01**	**10**	LR	LR	04 42 26.5	
	comp=Z,38nm,19.8s,baz=25,slow=37						
KNRA	**Kununurra**	**25.14**	**173**	P	**P**	**04 32 58.8**	**+0.5**
KNRA				IAmb	IAmb	04 33 11.5	
	comp=Z,36nm,1.5s						
FITZ	**Fitzroy Crossi**	**27.38**	**180**	P	**P**	**04 33 18.2**	**-0.3**
RPSI	**Rantau Prapat**	**27.58**	**258**	P	**P**	**04 33 21.7**	**+1.2**
RPSI				IAmb	IAmb	04 33 34.3	
	comp=Z,18nm,1.4s						
WB0	**Warramunga Arr**	**30.23**	**164**	P	**P**	**04 33 42.6**	**-1.3**
WRA	**Warramunga Arr**	**30.39**	**164**	P	**P**	**04 33 44.0**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=348,slow=9.6,SNR=7.1						
	comp=Z,0.6nm,0.5s						
WR8	**Warramunga Arr**	**30.44**	**164**	P	**P**	**04 33 45.0**	**-0.8**
WR8				IAmb	IAmb	04 33 56.9	
	comp=Z,11nm,1.4s						
ASAR	**Alice Springs**	**33.85**	**167**	P	**P**	**04 34 15.7**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=349,slow=7.0,SNR=6.9						
	comp=Z,0.3nm,0.3s						
USRK	**Usuriysk Ar.**	**35.02**	**8**	P	**P**	**04 34 25.6**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=179,slow=9.7,SNR=4.4						
	comp=Z,2.0nm,0.7s						
FORT	**Forrest**	**40.06**	**177**	P	**P**	**04 35 08.9**	**+0.8**
FORT				IAmb	IAmb	04 35 14.7	
	comp=Z,14nm,1.3s						
H11N1	**WAKE ISLAND Hy**	**40.91**	**71**	T	T	05 18 39.2	
	baz=265,slow=74,SNR=19						
H11N2	**WAKE ISLAND Hy**	**40.92**	**71**	T	T	05 18 36.8	
	baz=265,slow=74,SNR=20						
H11N3	**WAKE ISLAND Hy**	**40.93**	**71**	T	T	05 18 39.9	
	baz=265,slow=74,SNR=21						
BBOO	**Buckleboo**	**43.14**	**167**	P	**P**	**04 35 33.9**	**+0.5**
BBOO				IAmb	IAmb	04 35 48.7	
	comp=Z,15nm,1.2s						
STKA	**Stephens Creek**	**43.77**	**161**	P	**P**	**04 35 38.5**	**0.0**
STKA	**Stephens Creek**	**43.77**	**161**	P	**P**	**04 35 37.9**	**-0.6**
	comp=Z,2.5nm,0.9s,baz=325,slow=10,SNR=4.2						
	comp=Z,2.5nm,0.9s						
TOO	**Toolangi**	**50.27**	**160**	P	**P**	**04 36 30.2**	**+1.1**
TOO				IAmb	IAmb	04 36 42.9	
	comp=Z,7.0nm,1.4s						
MKAR	**Makanchi Array**	**52.42**	**323**	P	**P**	**04 36 45.7**	**+0.6**
MKAR	**Makanchi Array**	**52.42**	**323**	P	**P**	**04 36 46.8**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=116,slow=6.6,SNR=6.2						
	comp=Z,0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**56.51**	**326**	P	**P**	**04 37 16.9**	**+2.3**
	comp=Z,0.5nm,0.6s,baz=131,slow=7.0,SNR=4.4						
	comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**62.10**	**326**	P	**P**	**04 37 53.5**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=119,slow=8.4,SNR=2.2						
	comp=Z,0.5nm,0.5s						
THZ	**Tophouse**	**66.76**	**143**	P	**P**	**04 38 23.4**	**-0.4**
ABKAR	**Akbulak array**	**67.22**	**320**	P	**P**	**04 38 26.6**	**0.0**
BKZ	**Black Stump Fm**	**67.44**	**139**	P	**P**	**04 38 28.6**	**+0.5**
ARCES	**ARCESS Array B**	**84.81**	**340**	P	**P**	**04 40 07.7**	**+1.5**
	comp=Z,3.0nm,1.0s,baz=76,slow=5.8,SNR=8.0						
ARCES				LR	LR	05 20 38.0	
	comp=Z,25nm,18.9s,baz=106,slow=38						
	comp=Z,3.0nm,1.0s						
FINES	**FINESS Array B**	**86.41**	**332**	P	**P**	**04 40 15.8**	**+1.6**
	comp=Z,2.7nm,1.1s,baz=64,slow=4.8,SNR=4.0						
	comp=Z,2.7nm,1.1s						
VNDA	**Vanda**	**89.18**	**173**	P	**P**	**04 40 27.9**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=327,slow=4.9,SNR=4.7						
	comp=Z,0.5nm,0.6s						
HFS	**Hagfors**	**92.57**	**332**	P	**P**	**04 40 43.2**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=96,slow=40,SNR=1.4						
	comp=Z,0.6nm,0.6s						
PLCA	**Paso Flores**	**145.62**	**158**	PKPbc	**PKPab**	**04 47 11.9**	**+0.7**
	comp=Z,4.1nm,0.9s,baz=251,slow=2.9,SNR=5.0						

*IDC **18** 04:37:11.4±2.9,0˚.96N×98˚.65E,h0km,mb4.0/5, mbtmp4.0/6,Error ellipse: s-maj=131.5km s-min=25.4km az=55.0*
*NEIC **18** 04:37:25.3±1.6,1˚.23N±0˚.10×98˚.81E±0˚.09,h101km±8km, mb4.4/12,Error ellipse: s-maj=14.9km s-min=11.9km az=146.0*
*DJA **18** 04:37:25.5±0.4,1˚.N±2˚×9˚9E±˚,h93km±5km,M3.9/12, MLv3.9/12*

ISC 18 04:37:24.7±0.6,1˚.25N±0˚.06×98˚.81E±0˚.05,h100km,n32, σ1°17/33,mb4.3/11,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.89**	**120**	P	**Pn**	**04 37 44.9**	**+1.0**
MNSI				S	**Sn**	**04 38 00.3**	**+1.9**
GSI	**Gunungsitoli**	**1.24**	**273**		**Pn**	**04 37 48.9**	**+1.1**
GSI				Sn	**Sn**	**04 38 05.4**	**+0.1**
GSI	**Gunungsitoli**	**1.24**	**273**	P	**Pn**	**04 37 48.9**	**+1.1**
GSI				S	**Sn**	**04 38 06.8**	**+1.5**
RPSI	**Rantau Prapat**	**1.45**	**4**		**Pn**	**04 37 51.2**	**+0.9**
PPI	**Padang Panjang**	**2.32**	**137**	P	**Pn**	**04 38 03.5**	**+2.1**
SISI	**Saibi**	**2.57**	**174**	P	**Pn**	**04 38 04.7**	**-0.1**
SISI				S	**Sn**	**04 38 35.1**	**-0.4**
SNSI	**Sinabang, Aceh**	**2.74**	**295**	P	**Pn**	**04 38 08.9**	**+1.9**
MLSI	**Meulaboh, Aceh**	**3.85**	**321**	P	**Pn**	**04 38 22.8**	**+0.9**
PPSI	**Pulau Pagai**	**4.16**	**163**	P	**Pn**	**04 38 27.8**	**+1.8**
CMAR	**Chiang Mai Arr**	**17.11**	**0**	P	**Pn**	**04 41 16.9**	**-0.8**
	0.5nm,0.3s,baz=181,slow=13,SNR=1.0						
TOLI2	**Tolitoli**	**21.96**	**90**	P	**P**	**04 42 11.3**	**+0.7**
SHL	**Shillong**	**25.09**	**345**	P	**P**	**04 42 41.2**	**+0.9**
SHL				IAmb	IAmb	04 42 42.0	
	comp=Z,12nm,0.9s						
H08S2	**Diego Garcia H**	**27.70**	**251**	T	T	05 10 38.7	
	baz=72,slow=75,SNR=6.8						
H08S3	**Diego Garcia H**	**27.70**	**251**	T	T	05 10 39.3	
	baz=72,slow=75,SNR=12						
H08S1	**Diego Garcia H**	**27.72**	**251**	T	T	05 10 40.5	
	baz=72,slow=75,SNR=3.5						
EVN	**Everest**	**28.94**	**338**	P	**P**	**04 43 14.2**	**-1.1**
EVN				IAmb	IAmb	04 43 15.4	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**40.70**	**123**	P	**P**	**04 44 53.9**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=299,slow=8.2,SNR=8.3						
	comp=Z,0.5nm,0.6s						
MKAR	**Makanchi Array**	**47.61**	**345**	P	**P**	**04 45 51.0**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=140,slow=8.2,SNR=6.2						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**52.12**	**344**	P	**P**	**04 46 25.2**	**+0.6**
	comp=Z,2.7nm,0.3s,baz=165,slow=7.3,SNR=2.2						
	comp=Z,2.7nm,0.3s						
ZALV	**Zalesovo Beam**	**53.78**	**350**	P	**P**	**04 46 37.1**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=158,slow=6.8,SNR=5.8						
	comp=Z,2.0nm,0.5s						
ATD	**Arta Tunnel**	**56.45**	**283**	P	**P**	**04 46 56.6**	**-0.1**
BVAR	**Borovoye Array**	**56.75**	**340**	P	**P**	**04 46 57.8**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=127,slow=9.3,SNR=2.5						
	comp=Z,0.9nm,0.5s						
AB31	**Akbulak array**	**58.24**	**331**	P	**P**	**04 47 08.4**	**-0.3**
ABKAR	**Akbulak array**	**58.24**	**331**	P	**P**	**04 47 08.7**	**0.0**
KMBO	**Kilima Mbogo**	**61.60**	**268**	P	**P**	**04 47 31.3**	**-1.3**
KMBO				IAmb	IAmb	04 47 49.6	
	comp=Z,5.8nm,1.2s						
GHAJ	**Ghor Haditha**	**66.65**	**304**	P	**P**	**04 48 03.3**	**-1.6**
CASY	**Casey**	**67.90**	**175**	P	**P**	**04 48 11.1**	**-1.1**
CASY				IAmb	IAmb	04 48 28.5	
	comp=Z,8.3nm,1.4s						
BR131	**Keskin Array S**	**70.28**	**312**	P	**P**	**04 48 27.3**	**-0.4**
BR131				IAmb	IAmb	04 48 28.3	
	comp=Z,5.9nm,1.5s						
BRTR	**Keskin Array B**	**70.28**	**312**	P	**P**	**04 48 28.1**	**+0.4**
POGA	**Pongola**	**70.36**	**240**	P	**P**	**04 48 29.8**	**+1.6**
POGA				IAmb	IAmb	04 48 32.4	
	comp=Z,16nm,1.2s						
O14K	**Tigyukauivet M**	**94.01**	**30**	P	**P**	**04 50 30.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**96.65**	**283**	P	**P**	**04 50 45.9**	**+1.5**

*IDC **18** 04:38:53.6±1.7,29˚.95N×143˚.05E,h0km,mb3.9/10, mbtmp3.9/13,ML3.3/2,Error ellipse: s-maj=51.9km s-min=21.3km az=81.0*
*NEIC **18** 04:38:55.0±1.8,30˚.01N±0˚.03×143˚.0E±0˚.1,h10km±1km, mb4.5/11,Error ellipse: s-maj=21.4km s-min=4.9km az=92.0*

ISC 18 04:38:57.4±0.7,29˚.96N±0˚.06×143˚.0E±0˚.1,h30km,n33, σ1°29/34,mb4.0/16,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.94**	**195**		**Pn**	**04 39 40.7**	**-1.4**
JCJ	**Chichijima**	**2.94**	**195**	Pn	**Pn**	**04 39 41.0**	**-1.1**
	19nm,0.3s						
JCJ				Sn	**Sn**	**04 40 14.5**	**-1.9**
JHJ2	**Mitsune**	**4.17**	**320**	Pn	**Pn**	**04 39 56.5**	**-2.5**
MJAR	**Matsushiro Arr**	**7.70**	**330**	Pn	**Pn**	**04 40 46.0**	**-1.5**
MJAR	**Matsushiro Arr**	**7.70**	**330**	Pn	**Pn**	**04 40 45.5**	**-2.0**
	0.2nm,0.3s,baz=155,slow=11,SNR=14						
	4.2nm,0.7s						
MAJO	**Matsushiro**	**7.70**	**330**	Pn	**Pn**	**04 40 46.6**	**-0.9**
MJB9	**Matsu-Tunnel**	**7.71**	**330**	Pn	**Pn**	**04 40 46.5**	**-1.1**
JMM	**Marumori**	**8.10**	**347**	Pn	**Pn**	**04 40 51.0**	**-2.0**
KSRS	**Korea Array**	**14.61**	**305**	Pn	**Pn**	**04 42 22.5**	**+0.5**
	0.2nm,0.3s,baz=113,slow=14,SNR=7.0						
	1.6nm,0.7s						
USA0B	**Ussuriysk Arra**	**16.70**	**331**	Pn	**Pn**	**04 42 48.0**	**-1.1**
NACB	**Ninganchiao**	**19.91**	**258**	P	**P**	**04 43 26.1**	**-0.6**
NACB				IAmb	IAmb	04 43 37.1	
	comp=Z,24nm,0.9s						
PETK	**Petropavlovsk-**	**25.51**	**21**	P	**P**	**04 44 21.6**	**-1.4**
SONM	**Songino Array**	**33.24**	**313**	P	**P**	**04 45 33.6**	**+1.7**
	comp=Z,0.6nm,0.5s,baz=111,slow=8.0,SNR=4.4						
	comp=Z,0.6nm,0.5s						
SLVN	**Son La**	**36.15**	**266**	P	**P**	**04 45 56.1**	**-1.2**
SLVN				IAmb	IAmb	04 46 01.6	
	comp=Z,8.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.57**	**264**	P	**P**	**04 46 42.7**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=75,slow=7.4,SNR=1.2						
	comp=Z,1.0nm,0.3s						
O15K	**Ungalikthiuk R**	**48.07**	**36**	P	**P**	**04 47 32.7**	**-1.2**
MKAR	**Makanchi Array**	**49.27**	**308**	P	**P**	**04 47 43.8**	**+0.5**
MKAR	**Makanchi Array**	**49.27**	**308**	P	**P**	**04 47 44.5**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=94,slow=9.6,SNR=7.1						
	comp=Z,0.8nm,0.6s						
WB0	**Warramunga Arr**	**50.13**	**191**	P	**P**	**04 47 51.1**	**+1.1**
WB0				IAmb	IAmb	04 48 06.8	
	comp=Z,7.5nm,1.4s						
C18K	**Utukok River**	**50.13**	**23**	P	**P**	**04 47 50.2**	**+0.5**
C18K				IAmb	IAmb	04 47 56.8	
	comp=Z,9.9nm,1.4s						
WRA	**Warramunga Arr**	**50.31**	**191**	P	**P**	**04 47 52.5**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=9.6,slow=8.2,SNR=4.7						
	comp=Z,0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**51.60**	**313**	P	**P**	**04 48 01.1**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=96,slow=6.9,SNR=7.7						
	comp=Z,1.3nm,0.7s						
D20K	**Etivluk River**	**51.74**	**24**	P	**P**	**04 47 59.9**	**-1.8**
D20K				IAmb	IAmb	04 48 18.8	
	comp=Z,5.8nm,1.4s						
G21K	**Allakaket**	**52.38**	**27**	P	**P**	**04 48 07.4**	**+1.0**
D25K	**Kavik River**	**55.48**	**24**	P	**P**	**04 48 29.2**	**+0.2**
D25K				IAmb	IAmb	04 48 44.6	
	comp=Z,5.6nm,1.4s						
BVAR	**Borovoye Array**	**56.46**	**316**	P	**P**	**04 48 38.2**	**+1.8**
	comp=Z,1.5nm,0.5s,baz=94,slow=8.3,SNR=6.0						
	comp=Z,1.5nm,0.5s						
AB31	**Akbulak array**	**63.65**	**313**	P	**P**	**04 49 26.2**	**+0.6**
AB31				IAmb	IAmb	04 49 31.1	
	comp=Z,5.8nm,1.4s						
ABKAR	**Akbulak array**	**63.65**	**313**	P	**P**

CBOC				S		Sn	04 43 41.6	+0.3
OCAC	**Ocana**	**2.33**	**10**	P		Pn	04 43 14.4	+1.1
OCAC				S		Sn	04 43 43.3	+0.7
PRAC	**Prado**	**2.48**	**208**	P		Pn	04 43 15.3	+0.2
PRAC				S		Sn	04 43 46.1	+0.2
PRAC	**Prado**	**2.48**	**208**	P		Pn	04 43 15.2	+0.2
PRAC				S		Sn	04 43 45.7	-0.2
ORTC	**Ortega, Tolima**	**2.51**	**217**	P		Pn	04 43 16.2	+0.8
ORTC				S		Sn	04 43 46.8	+0.3
DBBC	**Dabeiba**	**2.69**	**294**	P		Pn	04 43 18.3	+0.6
DBBC				S		Sn	04 43 50.1	-0.6
PLMC	**San Jos del P**	**2.74**	**248**	P		Pn	04 43 20.1	+1.8
PLMC				S		Sn	04 43 53.4	+1.7
URMC	**La Uribe, Meta**	**2.74**	**194**	P		Pn	04 43 19.6	+1.2
URMC				S		Sn	04 43 52.1	+0.3
YOTC	**Yotoco, Valle**	**3.24**	**234**	P		Pn	04 43 24.9	0.0
GUVC	**San Jose del G**	**3.54**	**162**	P		Pn	04 43 29.0	+0.3
GUVC				S		Sn	04 44 08.4	-1.8
MACC	**Macarena, Meta**	**3.76**	**182**	P		Pn	04 43 30.3	-1.3
MACC				S		Sn	04 44 12.1	-3.4
ARGC	**Ariguani, Magd**	**3.94**	**353**	P		Pn	04 43 37.5	+3.5
ARGC				S		Sn	04 44 20.4	+0.7
GARC	**Garzon, Huila**	**4.11**	**205**	P		Pn	04 43 36.7	+0.2
GARC				S		Sn	04 44 22.3	-1.9
SJCC	**San Jacinto, C**	**4.20**	**340**	P		Pn	04 43 37.2	-0.3
SJCC				S		Sn	04 44 26.1	+0.1
SJCC	**San Jacinto, C**	**4.20**	**340**	P		Pn	04 43 36.3	-1.2
SJCC				S		Sn	04 44 22.2	-3.8
FLOC	**Florencia**	**4.72**	**204**	P		Pn	04 43 44.9	+0.4
FLOC				S		Sn	04 44 39.0	+0.5
FLOC	**Florencia**	**4.72**	**204**	P		Pn	04 43 44.4	-0.1
FLOC				S		Sn	04 44 38.7	+0.2
CRJC	**Cerrejon, Guaj**	**5.13**	**9**	P		Pn	04 43 50.7	+0.8
CRJC				S		Sn	04 44 46.0	-2.3
SMRC	**Santa Marta, M**	**5.23**	**355**	P		Pn	04 43 48.9	-2.2
SMRC				S		Sn	04 44 46.9	-3.6

*FUNV **18** 04:57:44.8, 10˚.46N×62˚.54W, h5km, MW3.1*
ISC 18 04:57:43.5±1.0, 10˚.43N±0˚.10×62˚.54W±0˚.05, h10km, n8, σ1s85/12, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSKH	**Kent House, Po**	**1.03**	**76**	eP	Pg	04 58 04.1	+0.8
TRN	**Trinidad (W)**	**1.14**	**79**	eP	Pb	04 58 04.5	-0.7
TRN				eS	Sb	04 58 20.9	+0.7
GRGR	**Grenville**	**1.90**	**27**	eP	Pb	04 58 18.4	+0.1
GRGR				eS	Sb	04 58 42.0	-0.3
PCRV	**Puerto La Cruz**	**2.08**	**263**	eP	Pn	04 58 19.2	+0.7
PCRV				eS	Sn	04 58 45.2	+0.8
PCRV	**Puerto La Cruz**	**2.08**	**263**	eP	Pb	04 58 22.5	+1.2
CACV	**CAICARA DEL OR**	**4.87**	**235**	eP	Pn	04 58 52.3	-4.5
CACV				eS	Sn	04 59 41.3	-12
BENV	**Beln**	**5.00**	**265**	eP	Pn	04 58 59.3	+0.5
BENV				eS	Sn	04 59 53.5	-3.1
BAUV	**El Baul**	**5.62**	**255**	eP	Pn	04 59 07.7	+0.5
BAUV				eS	Sn	05 00 07.8	-4.0

*NEIC **18** 05:18:11.1±1.1, 36˚.118N±0˚.008×117˚.87W±0˚.01, h5km±1km, Error ellipse: s-maj=2.0km s-min=1.3km az=90.0*
PAS 18 05:18:11.6±1.1, 36˚.115N±0˚.004×117˚.88W±0˚.01, h5km±2km, ML3.4/105, ML3.1/103(NEIC), Error ellipse: s-maj=1.3km s-min=0.2km az=117.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.02**	**85**		Pg	05 18 13.0	+0.2
MFS					Sg	05 18 14.2	+0.5
WRVM	**Rose V. Centra**	**0.11**	**184**		Pg	05 18 13.9	+0.1
WRVM					Sg	05 18 15.9	+0.5
WCSM	**Coso Springs S**	**0.13**	**134**		Pg	05 18 14.3	+0.1
WCSM					Sg	05 18 16.5	+0.4
JRC2	**Joshua Ridge**	**0.14**	**156**		Pg	05 18 14.6	0.0
JRC2					Sg	05 18 17.0	+0.5
WVPM	**Volcano Peak E**	**0.17**	**163**		Pg	05 18 15.0	-0.1
WVPM					Sg	05 18 17.7	+0.3
WNMM	**Nine Mile Cany**	**0.27**	**184**		Pg	05 18 16.7	-0.2
WNMM					Sg	05 18 20.8	+0.3
TOW	**Tower One**	**0.32**	**163**		Pg	05 18 18.1	+0.4
TOW					Sg	05 18 23.4	+1.3
MPMC	**Manual Prospec**	**0.32**	**100**	Pg	Pg	05 18 17.7	-0.2
MPMC				Sg	Sg	05 18 21.8	-0.4
MPMC				IAML		05 18 23.7	
	comp=N,2μm,0.5s						
MPMC				IAML		05 18 26.9	
	comp=E,2μm,0.6s						
CWC	**Cottonwood Cre**	**0.36**	**334**		Pg	05 18 18.5	-0.2
CWC				Sg	Sg	05 18 23.5	0.0
CLC	**China Lake**	**0.38**	**142**	Pg	Pg	05 18 18.8	-0.1
CLC				Sg	Sg	05 18 23.9	0.0
SRTC	**Snort**	**0.44**	**166**		Pg	05 18 20.3	+0.3
SRTC					Sb	05 18 27.2	-1.4
CGO	**Cerro Gordo**	**0.44**	**8**		Pg	05 18 19.8	-0.4
GPO	**China Lake**	**0.50**	**159**		Pg	05 18 21.1	-0.1
GPO					Sg	05 18 28.0	+0.4
WORM	**Onyx Ranch**	**0.51**	**215**		Pg	05 18 21.0	-0.4
WORM					Sg	05 18 27.9	-0.1
WHFM	**Hanning Flat**	**0.56**	**222**		Pg	05 18 22.2	-0.3
WHFM					Sg	05 18 29.8	0.0
WSHM	**Spangler Hills**	**0.60**	**148**		Pg	05 18 22.9	-0.2
WSHM					Sg	05 18 31.1	+0.1
WSHM				IAML		05 18 32.4	
	comp=E,632nm,0.3s						
WSHM				IAML		05 18 34.9	
	comp=E,586nm,0.4s						
WBSM	**Bird Springs**	**0.61**	**200**		Pg	05 18 23.1	-0.3
WBSM					Sg	05 18 31.6	+0.2
LRMC	**Laurel Mtn Rad**	**0.66**	**166**		Pg	05 18 23.9	-0.3
LRMC				IAML		05 18 32.9	
	comp=E,1μm,0.4s						
LRMC					Sg	05 18 32.9	+0.3
LRMC				IAML		05 18 33.6	
	comp=N,1μm,0.3s						
ISA	**Isabella, Lake**	**0.66**	**227**		Sg	05 18 32.7	-0.1
ISA	**Isabella, Lake**	**0.66**	**227**		Pg	05 18 24.0	-0.3
ISA				IAML		05 18 33.3	
	comp=N,2μm,0.3s						
ISA				IAML		05 18 33.3	
	comp=E,2μm,0.4s						
WASM	**Alta Sierra Ca**	**0.67**	**236**		Pg	05 18 24.1	-0.3
WASM					Sg	05 18 33.0	0.0
SPG2	**Springville 2**	**0.72**	**277**		Pg	05 18 24.9	-0.5
SPG2					Sg	05 18 34.3	-0.5
CCCA	**Chr Cany lake**	**0.72**	**144**		Pg	05 18 25.7	+0.2
CCCA				IAML		05 18 36.5	
	comp=N,1μm,0.6s						
QSM	**Queen of Sheba**	**0.83**	**100**		Pg	05 18 27.2	-0.4
QSM				IAML		05 18 42.2	
	comp=E,1μm,0.8s						
QSM				IAML		05 18 43.3	
	comp=N,818nm,0.6s						
DTP	**Desert Tortois**	**0.85**	**178**		Pg	05 18 27.2	-0.6
DTP					Sg	05 18 38.3	-0.5
FURC	**Furnace Creek,**	**0.89**	**67**		Pg	05 18 28.6	-0.1
FURC					Sg	05 18 40.6	+0.3
CCAC	**Calif City Air**	**0.97**	**187**		Pg	05 18 29.5	-0.7
CCAC					Sg	05 18 42.4	-0.2
GRAC	**Grapevine Rang**	**0.97**	**25**		Pg	05 18 29.8	-0.4
GRAC				IAML		05 18 45.3	
	comp=E,1μm,0.5s						
TIN	**Tinemaha, Big**	**0.98**	**343**		Pg	05 18 29.9	-0.5
TIN					Sg	05 18 42.8	-0.3
GWY	**Greenwater Val**	**0.98**	**86**		Pg	05 18 30.1	-0.4
GWY				IAML		05 18 46.3	
	comp=N,726nm,0.6s						
GWY				IAML		05 18 49.0	
	comp=E,676nm,0.8s						
VES	**Vestal, Richgr**	**1.01**	**255**		Pg	05 18 30.6	-0.4
VES					Sg	05 18 43.6	-0.5
SGV	**South Grapevin**	**1.10**	**38**		Pg	05 18 32.1	-0.6
SGV					Sg	05 18 46.5	-0.5
TEJ	**El Tejon**	**1.10**	**217**		Pg	05 18 31.7	-1.0
TEJ					Sg	05 18 46.3	-0.7
LCH	**Last Change Ra**	**1.13**	**10**		Pg	05 18 32.1	-1.2
LCH					Sg	05 18 47.2	-0.8
GSC	**Goldstone, Bar**	**1.19**	**133**		Pg	05 18 33.6	-0.9
GSC				IAML		05 18 53.1	
	comp=E,300nm,0.5s						
GSC				IAML		05 18 56.4	
	comp=N,210nm,0.6s						
WCT	**Wildcat Mounta**	**1.22**	**56**		Pg	05 18 34.0	-1.0
WCT					Sg	05 18 49.8	-0.9
WCT				IAML		05 18 51.6	
	comp=N,353nm,0.4s						
WCT				IAML		05 18 52.0	
	comp=E,359nm,0.3s						
VOG	**Valley Oaks Go**	**1.23**	**280**		Pg	05 18 34.4	-0.7
VOG					Sb	05 18 51.4	-0.1
EDW2	**Edwards Air Fo**	**1.23**	**184**		Pg	05 18 34.0	-1.2
EDW2					Sg	05 18 50.2	-1.1
ARVC	**Arvin**	**1.25**	**218**		Pg	05 18 34.9	-0.7
DSP	**Deep Springs**	**1.25**	**357**		Pg	05 18 34.4	-1.2
BAKC	**Calstate**	**1.26**	**233**		Pg	05 18 35.4	-0.3
TPO	**Tropico Hills**	**1.27**	**193**		Pg	05 18 34.7	-1.1
TPO					Sg	05 18 51.6	-0.7
TPO				IAML		05 18 53.6	
	comp=N,321nm,0.9s						
TPO				IAML		05 18 59.0	
	comp=E,304nm,0.9s						
HYS	**Haystack Butte**	**1.27**	**168**		Pg	05 18 34.9	-1.2
BHPR	**Bishop**	**1.28**	**338**		Pg	05 18 35.2	-0.9
GMN	**Gold Mountain**	**1.28**	**23**		Pg	05 18 35.4	-0.9
GMN					Sg	05 18 52.7	-0.2
GMN				IAML		05 18 53.0	
	comp=N,301nm,0.4s						
GMN				IAML		05 18 54.3	
	comp=E,294nm,0.3s						
TJR	**Tejon Ranch**	**1.29**	**213**		Pn	05 18 35.3	-1.0
TJR					Sg	05 18 52.4	-0.7
AMDNV	**Amargosa**	**1.34**	**75**		Sb	05 18 54.1	-0.3
THC	**Tehachapi Micr**	**1.36**	**208**		Pn	05 18 36.2	-1.2
SBB	**Saddle Back Bu**	**1.42**	**178**		Pn	05 18 37.8	-0.7
RRX	**Edison Barstow**	**1.43**	**149**		Pb	05 18 38.8	+0.1
TPNV	**Topopah Spring**	**1.56**	**57**		Pn	05 18 39.2	-0.9
TPNV				IAML		05 19 06.2	
	comp=E,397nm,1.0s						
TPNV				IAML		05 19 09.9	
	comp=E,342nm,1.1s						
MZP	**Montezuma Peak**	**1.63**	**14**		Pn	05 18 40.5	-0.7
HOLC	**Holcomb Ridge**	**1.65**	**179**		Pn	05 18 41.6	+0.2
JNH	**Juniper Hills**	**1.67**	**182**		Pb	05 18 42.8	0.0
KCC	**Kaiser Creek**	**1.67**	**317**		Pn	05 18 41.9	+0.4
KCC					Sn	05 19 03.2	-0.2
BENR	**Benton**	**1.69**	**341**		Pn	05 18 42.1	+0.1
MLAC	**Mammoth, Mammo**	**1.69**	**333**		Pb	05 18 43.1	-0.3
TUQ	**Turquoise Moun**	**1.73**	**112**		Pn	05 18 41.0	-1.4
CRGC	**Crocker Grade**	**1.73**	**240**		Pb	05 18 43.4	-0.6
MCSM	**Casa Diablo Ho**	**1.74**	**332**		Pb	05 18 43.8	-0.4
CHFC	**Chilao Flat St**	**1.78**	**184**		Pb	05 18 44.1	-0.6
CARC	**Carrizo Plain**	**1.79**	**244**		Pb	05 18 44.6	-0.3
BFSC	**Mount Baldy Ra**	**1.88**	**174**		Pn	05 18 44.4	-0.1
BFSC				IAML		05 19 13.2	
	comp=E,91nm,0.5s						
SMMC	**Simmler**	**1.90**	**246**		Pn	05 18 45.4	+0.8
MTPC	**Mountain Pass**	**1.99**	**108**		Pn	05 18 45.2	-0.9
MTPC				IAML		05 19 15.9	
	comp=E,129nm,0.3s						
MTPC				IAML		05 19 17.2	
	comp=N,151nm,0.7s						
TPH	**Tonopah**	**2.03**	**15**		Pn	05 18 46.3	-0.2
PKD	**Bear Valley Ra**	**2.16**	**266**		Pn	05 18 49.0	+0.7
LHV	**Little Huntoon**	**2.19**	**347**		Pn	05 18 49.5	+0.9
LHV				IAML		05 19 34.1	
	comp=N,70nm,0.8s						
LHV				IAML		05 19 41.2	
	comp=E,65nm,0.9s						
PSMM	**Smith Mountain**	**2.20**	**270**		Pn	05 18 50.2	+1.3
SHPR	**Sheep Range**	**2.23**	**79**		Pn	05 18 49.2	-0.2
GMRC	**Granite Mounta**	**2.25**	**126**		Pn	05 18 47.7	-1.8
S11A	**Rachel**	**2.29**	**48**		Pn	05 18 50.0	-0.2
NV11	**Mina Array Sit**	**2.32**	**355**		Pn	05 18 50.5	-0.1
NVAR	**Mina Array Bea**	**2.33**	**352**		Pn	05 18 51.1	+0.3
PMPB	**Monarch Peak**	**2.37**	**273**		Pn	05 18 51.6	+0.5
PMPB				IAML		05 19 34.6	
	comp=E,168nm,0.7s						
MYLM	**Yosemite Lake**	**2.40**	**303**		Pb	05 18 54.0	-1.2
PSAM	**San Ardo**	**2.44**	**269**		Pn	05 18 53.6	+1.6
RAMR	**Ramage Ranch**	**2.47**	**260**		Pn	05 18 54.1	+1.6
ELS	**Elsinore Mount**	**2.49**	**171**		Pn	05 18 52.6	-0.2
V12A	**Nelson**	**2.49**	**98**		Pn	05 18 52.8	0.0
V12A				IAML		05 19 34.8	
	comp=N,52nm,1.0s						
RYN	**Ryan**	**2.56**	**349**		Pn	05 18 54.3	+0.5
BBGB	**Big Mountain B**	**2.59**	**281**		Pn	05 18 54.9	+0.6
PRN	**Pahroc Range**	**2.61**	**60**		Pn	05 18 54.4	-0.2
BSCM	**Shirttail Gulc**	**2.74**	**277**		Pn	05 18 57.8	+1.6
PMD	**Palm Desert**	**2.75**	**153**		Pn	05 18 56.0	-0.4
PFO	**Pinyon Flats O**	**2.76**	**155**		Pn	05 18 56.4	-0.2
SAO	**San Andreas Ge**	**2.95**	**284**		Pn	05 18 58.8	-0.2
DPP	**Dos Picos Cty**	**3.20**	**166**		Pn	05 19 01.7	-0.9
W13A	**Hualapai Mount**	**3.41**	**106**		Pn	05 19 04.4	-1.2
CCUT	**Cedar City**	**3.90**	**67**		Pn	05 19 12.4	+0.1
KNB	**Kanab**	**4.17**	**76**		Pn	05 19 16.5	+0.4
KNB				IAML		05 20 35.4	
	comp=E,12nm,1.1s						
KNB				IAML		05 20 39.9	
	comp=N,11nm,1.6s						
ESJX	**Sierra Juarez**	**4.40**	**158**	Pn	Pn	05 19 19.1	-0.1
ELK	**Elko**	**5.07**	**23**		Pn	05 19 29.1	+0.7
ELK				IAML		05 20 58.1	
	comp=N,11nm,0.7s						

*NEIC **18** 05:35:03.9±1.1, 31˚.273N±0˚.010×103˚.38W±0˚.01, h5km±3km, Error ellipse: s-maj=1.5km s-min=1.4km az=136.0*
*NEIC **18** 05:35:04.0±1.2, 31˚.282N±0˚.007×103˚.370W±0˚.008, h5km±1km, mb_Lg2.9/66, ML2.8/13, ML2.9/63, Error ellipse: s-maj=2.7km s-min=1.7km az=122.0*
TXNET 18 05:35:03.9, 31˚.3N±0˚.6×103˚.4W±0˚.5, h5km±1km, ML3.1/13, 3C-8D, Error ellipse: s-maj=0.9km s-min=0.7km az=20.8, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB04	**Verhalen**	**0.12**	**134**	P	Pg	05 35 06.5	-0.1
TPB04				S	Sg	05 35 09.1	+0.8
PCOS	**Crockett Middl**	**0.18**	**319**		Pg	05 35 08.4	+0.9
PCOS					Sg	05 35 11.8	+1.9
PCOS	**Crockett Middl**	**0.18**	**319**	P	Pg	05 35 08.4	+0.9
PCOS				S	Sg	05 35 11.8	+1.9
TPB16	**Coyonosa**	**0.18**	**145**	P	Pg	05 35 07.9	+0.3
TPB16				S	Sg	05 35 11.4	+1.5
TPB03	**Saragosa**	**0.22**	**212**	P	Pg	05 35 08.8	+0.4
TPB03				S	Sg	05 35 12.9	+1.6
TPB19	**West of Imperi**	**0.24**	**83**	P	Pg	05 35 09.2	+0.6
TPB19				S	Sg	05 35 13.3	+1.6
TPB15	**Southwest of C**	**0.26**	**104**	⇑P	Pg	05 35 09.7	+0.8
TPB15				S	Sb	05 35 14.3	-1.6
TPB10	**Southeast of T**	**0.33**	**272**	⇓P	Pg	05 35 11.0	+0.7
TPB10				S	Sb	05 35 16.6	-1.3
TPB05	**Hovey Rd**	**0.35**	**173**	⇓P	Pg	05 35 11.6	+0.8
TPB05				S	Sb	05 35 17.6	-1.1
TPB07	**Mentone**	**0.40**	**321**	P	Pg	05 35 12.2	+0.5
TPB07				S	Sb	05 35 18.8	-1.0
TPB06	**Permian Basin**	**0.40**	**20**	P	Pg	05 35 12.0	+0.4
TPB06				S	Sg	05 35 18.3	+1.5
PECS	**Pecos**	**0.43**	**283**		Pg	05 35 12.5	+0.2
PECS				Sg	Sb	05 35 19.9	-1.1
PECS				IAML		05 35 28.1	
	1μm,0.6s						
PECS	**Pecos**	**0.43**	**283**	⇓P	Pg	05 35 12.7	+0.4
PECS				S	Sb	05 35 20.1	-0.9
TPB01	**Permian Basin**	**0.48**	**227**	⇓P	Pg	05 35 13.4	+0.3
TPB01				S	Sb	05 35 20.9	-1.4
TPB13	**Reeves - Culbe**	**0.49**	**305**	P	Pg	05 35 13.9	+0.4
TPB13				S	Sb	05 35 21.4	-1.2
TPB12	**Southwest of T**	**0.50**	**263**	⇓P	Pg	05 35 14.1	+0.5
TPB12				S	Sb	05 35 21.7	-1.2
MNHN	**Monahans**	**0.53**	**83**		Pg	05 35 13.6	-0.5
MNHN					Sg	05 35 21.1	+0.1
MNHN				IAML		05 35 25.6	
	870nm,0.5s						
MNHN				IAML		05 35 29.0	
	526nm,0.4s						
MNHN	**Monahans**	**0.53**	**83**	⇑P	Pg	05 35 13.7	-0.4
MNHN				S	Sg	05 35 21.9	+0.8
TPB08	**Permian Basin**	**0.55**	**133**	P	Pg	05 35 15.2	+0.6
TPB08				S	Sb	05 35 23.7	-0.7
ALPN	**Alpine**	**0.92**	**194**		Pg	05 35 21.4	-0.3
ALPN					Sb	05 35 34.4	-0.7
ALPN	**Alpine**	**0.92**	**194**	⇓P	Pg	05 35 21.3	-0.4
ALPN				S	Sg	05 35 33.9	+0.2
TPB09	**Culberson Coun**	**0.94**	**302**	⇓P	Pg	05 35 21.8	-0.2
TPB09				S	Sg	05 35 34.3	+0.2
NM01	**Eunice**	**1.08**	**359**	P	Pg	05 35 24.7	+0.1
NM01				S	Sb	05 35 39.7	+0.1
ODSA	**Odessa**	**1.10**	**40**		Pg	05 35 24.1	-0.9
ODSA					Sg	05 35 38.7	-0.6
ODSA				IAML		05 35 40.5	
	231nm,0.3s						
ODSA				IAML		05 35 53.3	
	383nm,0.8s						
ODSA	**Odessa**	**1.10**	**40**	⇑P	Pg	05 35 24.2	-0.9
ODSA				S	Sg	05 35 39.5	+0.2
TMB02	**Rankin**	**1.15**	**93**	P	Pg	05 35 25.6	-0.4
TMB02				S	Sg	05 35 41.0	+0.2
TMB01	**Midkiff**	**1.17**	**70**	P	Pg	05 35 25.7	-0.8
TMB01				S	Sg	05 35 41.9	+0.3
CLN7	**Carlsbad 7**	**1.20**	**342**		Pn	05 35 27.3	-0.1
CLN7	**Carlsbad 7**	**1.20**	**342**	P	Pb	05 35 27.2	+0.1
HTMS	**Hat Mesa**	**1.22**	**350**		Sg	05 35 27.2	-0.1
HTMS	**Hat Mesa**	**1.22**	**350**	S	Sg	05 35 43.2	+0.1
VHRN	**Van Horn**	**1.47**	**251**		Pn	05 35 31.2	0.0
VHRN				IAML		05 35 55.9	
	208nm,0.3s						
VHRN				IAML		05 35 56.1	
	106nm,0.5s						
VHRN	**Van Horn**	**1.47**	**251**	⇓P	Pn	05 35 31.1	-0.1
VHRN				S	Sg	05 35 51.4	+0.4
TMB06	**Greenwood**	**1.52**	**62**	P	Pn	05 35 31.6	-0.2
TMB06				S	Sb	05 35 52.4	+0.3
TMB04	**Seminole**	**1.54**	**29**	P	Pn	05 35 31.9	-0.3
TMB04				S	Sb	05 35 53.2	+0.2
SAND	**Sanderson**	**1.70**	**140**		Pb	05 35 35.2	-0.5
SAND	**Sanderson**	**1.70**	**140**	P	Pn	05 35 34.9	+0.6
MNTX	**Cornudas Mount**	**1.77**	**284**		Pb	05 35 36.5	-0.3
MNTX				IAML		05 36 04.7	
	122nm,0.6s						
MNTX	**Cornudas Mount**	**1.77**	**284**	P	Pb	05 35 36.3	-0.5
CPRX	**Cap Rock**	**1.80**	**347**		Pn	05 35 36.6	+0.8
CPRX	**Cap Rock**	**1.80**	**347**	P	Pb	05 35 36.8	-0.7
TMB05	**Klondike**	**1.86**	**43**	P	Pn	05 35 37.3	+0.7
TX31	**Lajitas Ar. Si**	**1.95**	**188**		Pb	05 35 39.1	-0.9
TX31	**Lajitas Ar. Si**	**1.95**	**188**	P	Pb	05 35 38.9	-1.1
TXAR	**Lajitas Array**	**1.95**	**188**		Pb	05 35 39.0	-1.0
OZNA	**Ozona**	**1.96**	**100**		Pb	05 35 39.3	-0.9
OZNA	**Ozona**	**1.96**	**100**	P	Pn	05 35 38.9	+1.1
SGCY	**Sterling City**	**2.02**	**71**		Pn	05 35 39.8	+1.0
SGCY				IAmb_Lg		05 36 11.6	
	comp=Z,55nm,0.8s						
SGCY	**Sterling City**	**2.02**	**71**	P	Pn	05 35 39.7	+0.9
SGCY				S	Sb	05 36 06.9	+0.2
POST	**Post**	**2.39**	**41**		Pn	05 35 44.5	+0.7
SN05	**Snyder 5**	**2.65**	**52**		Pn	05 35 48.0	+0.7
MSTX	**Muleshoe**	**2.74**	**11**		Pn	05 35 49.4	+0.8
SN07	**Snyder 07**	**2.78**	**49**		Pn	05 35 50.2	+1.1
SN07				IAmb_Lg		05 36 30.7	
	comp=Z,58nm,0.8s						
DRIO	**Del Rio**	**3.01**	**127**		Pn	05 35 53.5	+1.2
DKNS	**Dickens**	**3.16**	**40**		Pn	05 35 54.7	+0.3
DKNS				IAmb_Lg		05 36 52.3	
	comp=Z,38nm,0.7s						
JCT	**Junction City**	**3.17**	**104**		Pn	05 35 55.5	+1.0
JCT				IAmb_Lg		05 36 48.5	
	comp=Z,42nm,0.7s						
APMT	**Aspermont**	**3.43**	**53**		Pn	05 35 58.5	+0.4
ABTX	**Abilene, Hawle**	**3.45**	**66**		Pn	05 35 59.1	+0.8
ABTX				IAmb_Lg		05 36 59.0	
	comp=Z,41nm,0.9s						
BRDY	**Brady**	**3.75**	**89**		Pn	05 36 01.6	-0.9
AMTX	**Amarillo**	**3.87**	**21**	IAmb_Lg		05 37 11.3	
	comp=Z,29nm,0.8s						
ANMO	**Albuquerque**	**4.48**	**326**	IAmb_Lg		05 37 27.5	
	comp=Z,12nm,0.7s						
833A	**Chaparral WMA,**	**4.54**	**129**	Pn	Pn	05 36 12.4	-0.9
833A				IAmb_Lg		05 37 40.2	
	comp=Z,15nm,0.8s						
PLPT	**Palo Pinto**	**4.56**	**69**	Pn	Pn	05 36 13.6	0.0
PLPT				IAmb_Lg		05 37 32.3	
	comp=Z,20nm,0.9s						
SMWD	**Samnorwood**	**4.64**	**34**	IAmb_Lg		05 37 39.0	
	comp=Z,23nm,0.8s						
FW03	**Perrin-Whitt E**	**4.83**	**67**	IAmb_Lg		05 37 44.6	
	comp=Z,27nm,0.7s						
WTFS	**Witchita Falls**	**4.83**	**58**	Pn	Pn	05 36 18.1	+0.7
FW07	**Weatherford**	**4.96**	**72**	IAmb_Lg		05 37 46.4	
	comp=Z,28nm,0.9s						
WHTX	**Lake Whitney,**	**5.10**	**80**	Pn	Pn	05 36 20.7	-0.3
WHTX				IAmb_Lg		05 37 52.5	
	comp=Z,18nm,0.8s						
WMOK	**Wichita Mounta**	**5.18**	**47**		Pn	05 36 22.1	0.0
FW06	**Azle**	**5.22**	**70**	Pn	Pn	05 36 22.5	-0.1
FW06				IAmb_Lg		05 37 58.5	
	comp=Z,32nm,1.2s						
FW14	**Alvarado**	**5.38**	**76**	IAmb_Lg		05 38 08.5	
	comp=Z,23nm,0.7s						
Z35A	**Perchaven, San**	**5.57**	**67**	Pn	Pn	05 36 26.6	-0.9
X34A	**Smith Ranch, M**	**5.72**	**53**	IAmb_Lg		05 38 15.7	
	comp=Z,22nm,0.9s						
FNO	**Fran

BYL					IAML			05 41 07.2	
	comp=E,466nm,1.4s								
UWB	**Uwekahuna Bluf**	**0.38**	**27**			Pn		05 40 50.4	-1.4
HATHI	**Halema'uma'u T**	**0.39**	**30**			Pn		05 40 50.7	-1.2
HATHI					IAML			05 41 01.5	
	comp=N,452nm,0.9s								
HATHI					IAML			05 41 07.5	
	comp=E,528nm,0.5s								
SBLHI	**Steaming Bluff**	**0.39**	**29**			Pn		05 40 50.6	-1.2
SBLHI						Sn		05 40 56.4	-2.1
KNHH	**Kane Nui o Ham**	**0.41**	**44**			Pn		05 40 51.2	-0.9
MLH	**Mauna Loa**	**0.41**	**10**			Pn		05 40 50.4	-2.0
MLH					IAML			05 40 57.5	
	comp=E,325nm,0.7s								
MLH					IAML			05 40 57.8	
	comp=N,474nm,0.6s								
MWH	**Mokuaweoweo**	**0.42**	**343**			Pn		05 40 50.2	-2.5
MWH					IAML			05 41 02.7	
	comp=E,509nm,1.3s								
MWH					IAML			05 41 10.3	
	comp=N,363nm,1.5s								
STCH	**Steam Cracks**	**0.44**	**47**			Pn		05 40 51.4	-1.2
STCH					IAML			05 40 58.8	
	comp=N,302nm,0.8s								
NPOC	**North of Pu'u**	**0.46**	**47**			Pn		05 40 51.5	-1.3
NPOC						Sn		05 40 59.2	-0.7
JOKA	**Jonika Flow**	**0.56**	**51**			Pn		05 40 52.7	-1.6
CPH	**Captain Cook**	**0.59**	**313**			Pn		05 40 51.6	-3.2
KHLU	**Kahalu`u**	**0.65**	**321**		Pn	Pn		05 40 52.4	-3.3
KHLU					IAML			05 41 12.6	
	comp=N,248nm,1.5s								
HUH	**Hualalai**	**0.69**	**330**		Pn	Pn		05 40 53.7	-2.7
HUH					IAML			05 41 05.8	
	comp=E,309nm,2.7s								
HUH					IAML			05 41 13.0	
	comp=N,333nm,1.2s								

*NOU **18** 05:48:07.2,37.°19S×179.°60E,h0km,MLv4.5/9,Off E. Coast of N. Island, N.Z.*
*WEL **18** 05:48:14.7±1.5,37.°3S±5.°×17.°9E±.°,h13km±6km,M4.2/26, ML4.4/27,MLv4.2/26,Error ellipse: s-maj=10.8km s-min=6.6km az=80.1,confirmed*
*IDC **18** 05:48:19.9±4.7,37.°98S×179.°16E,h80km×35km,mb4.0/1, mbtmp4.2/2,MS3.3/4,Error ellipse: s-maj=42.1km s-min=39.0km az=100.0*

ISC 18 05:48:14.5±1.5,37.°21S±0.°07×179.°0E±0.°1,h21km±6km, n63,σ1°13/63,MS3.3/4,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.66**	**238**	P	**Pb**	**05 48 27.3**	**-0.1**
MXZ	**Matakaoa Point**	**0.66**	**238**	P	**Pb**	**05 48 27.1**	**-0.2**
MXZ				S	**Sb**	**05 48 34.6**	**-1.5**
TDHS	**Te Araroa Dist**	**0.66**	**231**	P	**Pb**	**05 48 26.6**	**-0.8**
WMGZ	**Waiomatatini S**	**0.77**	**218**	P	**Pn**	**05 48 30.8**	**+0.7**
WMGZ				S	**Sn**	**05 48 41.9**	**+0.8**
PKGZ	**Pakihiroa**	**0.99**	**228**	P	**Pn**	**05 48 33.7**	**+0.6**
PKGZ				S	**Sn**	**05 48 46.9**	**+0.4**
PUZ	**Puketiti**	**1.04**	**215**	P	**Pn**	**05 48 34.6**	**+0.6**
PUZ				S	**Sn**	**05 48 48.3**	**+0.4**
HAZ	**Te Kaha**	**1.12**	**241**	P	**Pn**	**05 48 34.3**	**-0.6**
HAZ				S	**Sn**	**05 48 50.6**	**+1.0**
TWGZ	**Tauwhareparae**	**1.26**	**220**	P	**Pb**	**05 48 38.0**	**+0.4**
TWGZ				S	**Sb**	**05 48 55.4**	**+2.0**
RUGZ	**Raukumara Rang**	**1.30**	**234**	P	**Pb**	**05 48 38.6**	**+0.3**
CNGZ	**Carnagh Statio**	**1.42**	**206**	P	**Pb**	**05 48 40.4**	**+0.2**
WIZ	**White Island**	**1.49**	**257**	P	**Pb**	**05 48 41.4**	**0.0**
TKGZ	**Te Karaka**	**1.53**	**217**	P	**Pn**	**05 48 41.1**	**+0.6**
MWZ	**Matawai**	**1.62**	**226**	P	**Pn**	**05 48 42.6**	**+0.7**
WHRZ	**Whale Island**	**1.74**	**248**	P	**Pb**	**05 48 45.0**	**-0.7**
RIGZ	**Rimuhau**	**1.79**	**213**	P	**Pn**	**05 48 44.6**	**+0.4**
RAGZ	**Rawiri**	**1.80**	**224**	P	**Pb**	**05 48 45.6**	**-1.1**
URZ	**Urewera**	**1.83**	**235**	P	**Pn**	**05 48 45.7**	**+1.0**
	314nm,0.5s,baz=267,slow=4.2,SNR=514						
URZ				S	**Sn**	**05 49 08.0**	**+0.7**
	201nm,0.4s,baz=98,slow=10.0,SNR=7.6						
URZ				LR	LR	05 49 45.8	
	comp=Z,989nm,18.8s,baz=354,slow=52						
URZ	**Urewera**	**1.83**	**235**	P	**Pn**	**05 48 46.0**	**+1.3**
URZ	**Urewera**	**1.83**	**235**	P	**Pn**	**05 48 45.8**	**+1.0**
PRGZ	**Paritu Road**	**1.93**	**207**	P	**Pn**	**05 48 46.6**	**+0.6**
SNGZ	**Shannon Statio**	**2.05**	**220**	P	**Pn**	**05 48 48.0**	**+0.2**
OPRZ	**Ohinepanea**	**2.05**	**251**	P	**Pn**	**05 48 48.4**	**+0.7**
KNZ	**Kokohu**	**2.09**	**210**	P	**Pn**	**05 48 48.1**	**-0.2**
MHGZ	**Mahia Peninsul**	**2.12**	**204**	P	**Pn**	**05 48 49.0**	**+0.2**
RTZ	**Ruatahuna**	**2.13**	**228**	P	**Pn**	**05 48 49.9**	**+0.9**
MUGZ	**Murupara**	**2.18**	**234**	P	**Pn**	**05 48 50.2**	**+0.7**
MYRZ	**Mayor Island**	**2.21**	**267**	P	**Pn**	**05 48 50.6**	**+0.7**
RAHZ	**Arahi**	**2.28**	**221**	P	**Pn**	**05 48 51.6**	**+0.7**
WHHZ	**Waihua**	**2.33**	**216**	P	**Pn**	**05 48 52.2**	**+0.7**
MTHZ	**Maungataniwha**	**2.37**	**226**	P	**Pn**	**05 48 53.2**	**+1.1**
NMHZ	**Naumai**	**2.56**	**222**	P	**Pn**	**05 48 56.0**	**+1.2**
ARHZ	**Aropaoanui**	**2.59**	**217**	P	**Pn**	**05 48 55.4**	**+0.3**
KUZ	**Kuaotunu**	**2.68**	**279**	P	**Pn**	**05 48 56.0**	**-0.3**
KUZ	**Kuaotunu**	**2.68**	**279**	P	**Pn**	**05 48 55.9**	**-0.5**
KUZ				S	**Sn**	**05 49 23.8**	**-4.3**
BKZ	**Black Stump Fm**	**2.78**	**225**	P	**Pn**	**05 48 58.0**	**+0.2**
BKZ	**Black Stump Fm**	**2.78**	**225**	P	**Pn**	**05 48 58.5**	**+0.7**
MCHZ	**McNeill Hill**	**2.88**	**219**	P	**Pn**	**05 48 59.0**	**-0.1**
KWHZ	**Kaweka Forest**	**3.00**	**222**	P	**Pn**	**05 49 00.7**	**-0.2**
GRZ	**Great Barrier**	**3.01**	**288**	P	**Pn**	**05 49 01.5**	**+0.6**
KRHZ	**Kereru**	**3.19**	**220**	P	**Pn**	**05 49 03.1**	**-0.3**
KRHZ				S	**Sn**	**05 49 39.1**	**-1.8**
HIZ	**Hauiti**	**3.54**	**247**	P	**Pn**	**05 49 10.4**	**+2.3**
WCZ	**Waipu Caves**	**3.97**	**287**	P	**Pn**	**05 49 14.9**	**+0.9**
WAZ	**Wanganui**	**4.05**	**230**	P	**Pn**	**05 49 16.3**	**+1.1**
WAZ				S	**Sn**	**05 50 00.8**	**-1.3**
BFZ	**Birch Farm**	**4.08**	**211**	P	**Pn**	**05 49 13.8**	**-1.8**
KHEZ	**Kahui Hut**	**4.45**	**241**	P	**Pn**	**05 49 23.2**	**+2.4**
OUZ	**Omahuta**	**4.81**	**293**	P	**Pn**	**05 49 27.4**	**+1.7**
OUZ	**Omahuta**	**4.81**	**293**	P	**Pn**	**05 49 27.4**	**+1.7**
QRZ	**Quartz Range**	**6.20**	**232**	P	**Pn**	**05 49 44.5**	**-0.3**
CTZ	**Chatham Island**	**7.32**	**154**	P	**Pn**	**05 50 00.7**	**+0.7**
RPZ	**Rata Peaks**	**8.88**	**221**	P	**Pn**	**05 50 19.5**	**-2.1**
	3.3nm,0.3s,baz=115,slow=14,SNR=2.3						
RPZ				S	Sn	05 51 50.2	-11
	17nm,0.6s,baz=124,slow=20,SNR=7.9						
RAR	**Rarotonga**	**24.35**	**55**	LR	LR	06 00 47.3	
	comp=Z,31nm,20.3s,baz=186,slow=30						
PPT	**Papeete**	**33.84**	**63**	LR	LR	06 04 51.9	
	comp=Z,61nm,20.7s,baz=185,slow=29						
VNDA	**Vanda**	**41.09**	**186**	LR	LR	06 09 09.2	
	comp=Z,39nm,20.4s,baz=336,slow=31						
WRA	**Warramunga Arr**	**42.42**	**281**	P	**P**	**05 56 07.9**	**+0.1**
	2.1nm,0.4s,baz=119,slow=8.1,SNR=11 2.1nm,0.4s						
JAY	**Jayapura**	**49.30**	**305**	LR	LR	06 19 17.2	
	comp=Z,52nm,18.5s,baz=353,slow=37						
H03S2	**Juan Fernandez**	**78.76**	**124**	T	T	07 26 43.0	
	baz=231,slow=74,SNR=7.3						
H03S1	**Juan Fernandez**	**78.77**	**124**	T	T	07 26 48.1	
	baz=231,slow=74,SNR=7.5						
H03S3	**Juan Fernandez**	**78.78**	**124**	T	T	07 26 46.2	
	baz=231,slow=74,SNR=8.6						
H03N3	**Juan Fernandez**	**78.99**	**124**	T	T	07 27 00.3	
	baz=234,slow=72,SNR=40						
H03N2	**Juan Fernandez**	**79.00**	**124**	T	T	07 26 56.2	
	baz=234,slow=72,SNR=34						
H03N1	**Juan Fernandez**	**79.01**	**124**	T	T	07 26 59.3	
	baz=234,slow=72,SNR=28						
ARCES	**ARCESS Array B**	**144.59**	**344**	PKPbc	**PKPab**	**06 07 46.9**	**0.0**
	1.0nm,0.5s,baz=27,slow=3.0,SNR=8.5						
FINES	**FINESS Array B**	**150.43**	**334**	PKPbc	**PKPbc**	**06 08 03.7**	**+0.3**
	1.4nm,0.8s,baz=44,slow=4.2,SNR=5.7						

*IDC **18** 05:50:19.7±0.7,1.°06S×128.°59E,h0km,mb4.1/12, mbtmp4.1/15,ML4.0/3,MS3.3/8,Error ellipse: s-maj=30.2km s-min=15.0km az=82.0*
*NEIC **18** 05:50:20.1±1.4,1.°03S±0.°06×128.°70E±0.°04,h10km±1km, mb4.2/18,Error ellipse: s-maj=10.2km s-min=5.7km az=163.0*
*DJA **18** 05:50:25.5±0.8,1.°S±2.°×12.°9E±.°,h31km±10km,M4.6/13, mB5.4/2,mb5.0/3,MLv4.5/13,Mw(mB)4.9/2*

ISC 18 05:50:19.6±1.7,1.°06S±0.°03×128.°68E±0.°04,h5km±11km, n64,σ1°37/68,mb4.3/20,MS3.7/5,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.25**	**324**		**Pn**	**05 50 57.3**	**-0.2**
TNTI	**Ternate**	**2.25**	**324**	P	**Pb**	**05 50 59.7**	**-1.0**
TNTI				S	**Sb**	**05 51 28.3**	**-0.5**
MSAI	**Masohi**	**2.28**	**174**	P	**Pg**	**05 51 03.5**	**+0.2**
MSAI				S	**Sb**	**05 51 29.7**	**-0.1**
SWI	**Sorong**	**2.59**	**86**	P	**Pb**	**05 51 05.6**	**-0.9**
SWI				S	**Sb**	**05 51 37.5**	**-1.2**
AAI	**Ambon**	**2.65**	**191**	P	**Pb**	**05 51 07.5**	**-0.1**
AAI				S	**Sb**	**05 51 38.5**	**-2.0**
NLAI	**Namlea**	**2.67**	**216**	P	**Pb**	**05 51 07.0**	**-1.0**
NLAI				S	**Sb**	**05 51 39.6**	**-1.6**
SANI	**Sanana**	**2.86**	**250**	P	**Pn**	**05 51 07.7**	**+1.8**
SANI				S	**Sn**	**05 51 42.0**	**+1.2**
BNDI	**Bandanaira**	**3.65**	**160**	P	**Pn**	**05 51 20.2**	**+3.5**
FAKI	**Fak Fak**	**4.01**	**117**	P	**Pn**	**05 51 21.3**	**-0.5**
FAKI	**Fak Fak**	**4.01**	**117**	P	**Pn**	**05 51 24.3**	**+2.5**
FAKI				S	**Sn**	**05 52 12.4**	**+3.1**
LUWI	**Luwuk**	**5.91**	**270**	P	**Pn**	**05 51 50.8**	**+3.0**
	0.6nm5μm155nm,0.9s						
LUWI				S	**Sn**	**05 52 56.1**	**+0.1**
	0.6nm5μm155nm,0.9s						
APSI	**Ampana**	**7.03**	**271**	P	**Pn**	**05 52 06.1**	**+2.8**
	2μm114nm,0.6s						
TOLI2	**Tolitoli**	**8.19**	**285**	Pn	**Pn**	**05 52 19.1**	**-0.1**
KAPI	**Kappang**	**9.74**	**246**	Pn	**Pn**	**05 52 41.5**	**+1.0**
KAPI	**Kappang**	**9.74**	**246**	Pn	**Pn**	**05 52 40.0**	**-0.4**
	1.9nm,0.3s,baz=26,slow=14,SNR=4.9						
KAPI				LR	LR	05 56 29.7	
	comp=Z,62nm,18.3s,baz=115,slow=38 4.7nm,0.4s						
BATI	**Baumata**	**10.36**	**209**	LR	LR	05 57 09.4	
	comp=Z,136nm,19.2s,baz=166,slow=40						
MTN	**Manton Dam**	**11.95**	**168**		**Pn**	**05 53 09.7**	**-1.1**
JAY	**Jayapura**	**12.11**	**97**	LR	LR	05 59 14.6	
	comp=Z,72nm,19.1s,baz=348,slow=44						
KNRA	**Kununurra**	**14.52**	**180**	Pn	**Pn**	**05 53 46.3**	**+0.3**
SBIM	**Sibu**	**16.82**	**282**	Pn	**Pn**	**05 54 15.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**17.19**	**190**	P	**Pn**	**05 54 20.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**17.19**	**190**	P	**Pn**	**05 54 21.0**	**+0.4**
	0.2nm,0.3s,baz=60,slow=9.2,SNR=5.2 2.5nm,0.7s						
COEN	**Coen**	**19.23**	**132**	P	**P**	**05 54 44.1**	**-0.7**
WB0	**Warramunga Arr**	**19.41**	**164**		**P**	**05 54 47.1**	**+0.3**
WB0				IAmb	IAmb	05 54 57.4	
	comp=Z,8.5nm,0.8s						
WRAB	**Tennant Creek**	**19.56**	**164**	P	**P**	**05 54 48.9**	**+0.5**
WRAB				IAmb	IAmb	05 54 55.2	
	comp=Z,7.7nm,0.7s						
WRA	**Warramunga Arr**	**19.56**	**164**	P	**P**	**05 54 48.9**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=347,slow=12,SNR=22						
WRA				S	S	05 58 19.4	-11
	comp=Z,2.2nm,0.9s,baz=350,slow=23,SNR=5.2 comp=Z,3.2nm,0.6s						
WB2	**Warramunga Arr**	**19.57**	**164**	P	**P**	**05 54 49.0**	**+0.4**
WB2				IAmb	IAmb	05 55 02.1	
	comp=Z,9.0nm,0.9s						
WR8	**Warramunga Arr**	**19.62**	**163**		**P**	**05 54 48.5**	**-0.6**
WR8				IAmb	IAmb	05 54 56.2	
	comp=Z,7.8nm,0.8s						
WR0	**Warramunga Arr**	**19.64**	**163**	P	**P**	**05 54 48.2**	**-1.0**
AS31	**Alice Springs**	**23.03**	**168**		**P**	**05 55 25.1**	**-0.8**
AS31				IAmb	IAmb	05 55 35.9	
	comp=Z,4.5nm,0.7s						
ASAR	**Alice Springs**	**23.03**	**168**		**P**	**05 55 25.1**	**-0.7**
ASAR	**Alice Springs**	**23.03**	**168**	P	**P**	**05 55 27.3**	**+1.4**
	comp=Z,10nm,0.8s,baz=347,slow=11,SNR=56						
ASAR				S	**S**	**05 59 34.1**	**-3.2**
	comp=Z,1.5nm,0.8s,baz=348,slow=23,SNR=5.9 comp=Z,10nm,0.8s						
RABL	**Rabaul**	**23.66**	**98**	P	**P**	**05 55 30.3**	**-2.1**
RPSI	**Rantau Prapat**	**29.98**	**277**	P	**P**	**05 56 27.8**	**-1.6**
RPSI				IAmb	IAmb	05 56 37.7	
	comp=Z,5.1nm,0.7s						
BBOO	**Buckleboo**	**32.33**	**168**	P	**P**	**05 56 49.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**35.09**	**305**	P	**P**	**05 57 14.3**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=123,slow=8.9,SNR=5.8 comp=Z,0.7nm,0.3s						
PZH	**PanZhiHua**	**37.76**	**318**	P	**P**	**05 57 38.6**	**+1.6**
KSRS	**Korea Array**	**38.33**	**359**	P	**P**	**05 57 42.5**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=182,slow=11,SNR=4.6 comp=Z,0.8nm,0.5s						
MJAR	**Matsushiro Arr**	**38.45**	**12**	P	**P**	**05 57 42.1**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=186,slow=9.2,SNR=12						
MJAR				LR	LR	06 12 15.4	
	comp=Z,23nm,21.9s,baz=208,slow=34 comp=Z,3.2nm,0.7s						
TOO	**Toolangi**	**39.49**	**159**	P	**P**	**05 57 50.2**	**-1.1**
TOO				IAmb	IAmb	05 58 08.8	
	comp=Z,5.3nm,1.1s						
PINNC	**Pines Island,**	**43.33**	**123**	P	**P**	**05 58 22.3**	**-0.7**
SHL	**Shillong**	**44.34**	**309**	P	**P**	**05 58 29.7**	**-1.6**
HHC	**Hu-ho-hao-te**	**44.53**	**341**	*eP*	**P**	**05 58 33.3**	**+0.8**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,54nm,4.2s						
USRK	**Ussuriysk Ar.**	**45.16**	**3**	P	**P**	**05 58 35.1**	**-2.2**
USRK	**Ussuriysk Ar.**	**45.16**	**3**	P	**P**	**05 58 38.9**	**+1.6**
	comp=Z,7nm,0.8s,baz=214,slow=7.0,SNR=6.2 comp=Z,2.7nm,0.8s						
ASAJ	**Asahikawa**	**46.67**	**14**	LR	LR	06 22 00.1	
	comp=Z,26nm,18.1s,baz=146,slow=41						
GTA	**Gaotai**	**48.19**	**330**	*eP*	**P**	**05 59 03.5**	**+2.2**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**52.43**	**341**	P	**P**	**05 59 34.5**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=163,slow=5.6,SNR=3.0						
SONM				PcP	**PcP**	**06 00 44.5**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=151,slow=3.3,SNR=3.9 comp=Z,0.5nm,0.5s						
PETK	**Petropavlovsk-**	**59.18**	**20**	P	**P**	**06 00 22.7**	**+1.2**
	comp=Z,3.0nm,0.8s,baz=230,slow=8.2,SNR=3.6 comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**62.59**	**326**	P	**P**	**06 00 43.7**	**-1.1**
MKAR	**Makanchi Array**	**62.59**	**326**	P	**P**	**06 00 45.5**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=120,slow=8.3,SNR=9.6 comp=Z,1.2nm,0.6s						
MAKZ	**Makanchi**	**62.77**	**326**	P	**P**	**06 00 44.5**	**-1.6**
MAKZ				IAmb	IAmb	06 00 52.1	
	comp=Z,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**66.80**	**328**	P	**P**	**06 01 12.5**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=126,slow=6.0,SNR=12 comp=Z,1.8nm,0.7s						
KKAR	**Karatay Array**	**68.06**	**318**	P	**P**	**06 01 19.6**	**-0.8**
BVAR	**Borovoye Array**	**72.38**	**327**	P	**P**	**06 01 46.9**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=138,slow=9.4,SNR=4.2 comp=Z,1.0nm,0.8s						
AB31	**Akbulak array**	**77.08**	**321**	P	**P**	**06 02 12.8**	**-1.2**
AB31				IAmb	IAmb	06 02 15.1	
	comp=Z,2.3nm,1.1s						
ABKAR	**Akbulak array**	**77.08**	**321**	P	**P**	**06 02 13.7**	**-0.2**
VNDA	**Vanda**	**78.46**	**173**	LR	LR	06 36 17.9	
	comp=Z,31nm,18.4s,baz=295,slow=35						
AKTO	**Aktyubinsk**	**78.61**	**322**	P	**P**	**06 02 22.4**	**0.0**
	comp=Z,2.1nm,0.7s,baz=76,slow=8.0,SNR=4.7 comp=Z,2.1nm,0.7s						
SBA	**Scott Base**	**79.35**	**172**	P	**P**	**06 02 26.0**	**0.0**
SBA				IAmb	IAmb	06 02 31.3	
	comp=Z,5.6nm,0.8s						
KDAK	**Kodiak Island**	**84.89**	**32**	LR	LR	06 34 25.1	
	comp=Z,102nm,20.9s,baz=220,slow=31						
ILAR	**Eielson Array**	**88.57**	**25**	LR	LR	06 46 52.0	
	comp=Z,25nm,18.1s,baz=106,slow=38						
QSPA	**South Pole Qui**	**88.87**	**180**	P	**P**	**06 03 16.5**	**+1.7**
	comp=Z,2.9nm,1.0s,baz=70,slow=0.6,SNR=7.5 comp=Z,2.9nm,1.0s						
CPUP	**Villa Florida**	**152.15**	**168**	PKPbc	**PKiKP**	**06 10 17.6**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=227,slow=3.3,SNR=4.2						

*IDC **18** 05:59:25.8±7.2,32.°58N×47.°62E,h0km,mb3.8/6, mbtmp3.9/7,ML3.8/1,Error ellipse: s-maj=132.9km s-min=32.0km az=9.0*
*ISN **18** 05:59:26.6±1.3,32.°56N×47.°60E,h0km±20km,ML3.3*
*TEH **18** 05:59:27.2,32.°63N×47.°61E,h17km±20km*

ISC 18 05:59:30.3±0.8,32.°64N±0.°04×47.°65E±0.°03,h23km,n48, σ1°18/53,mb3.8/6,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.90**	**10**	Pg	**Pb**	**05 59 45.0**	**-2.2**
IBDR	**Badra**	**1.52**	**288**	*ePn*	**Pn**	**05 59 56.0**	**-0.2**
IBDR				*eSn*	**Sb**	**06 00 18.0**	**+1.2**
IBDR				AML	AML	06 00 21.8	
	comp=N,356nm,0.5s						
IBDR				AML	AML	06 00 22.2	
	comp=E,548nm,0.4s						
AHWZ	**Ahwaz**	**1.56**	**147**	Pg	**Pn**	**05 59 57.1**	**+0.5**
AHWZ				Sg	**Sb**	**06 00 20.6**	**+2.9**
ILBA	**Ilam Banvizeh**	**1.56**	**309**	Pg	**Pn**	**05 59 57.2**	**+0.5**
RAFI	**Al-Rafai**	**1.59**	**235**	*ePn*	**Pn**	**05 59 57.0**	**-0.1**
RAFI				*eSn*	**Sb**	**06 00 19.0**	**+0.2**
RAFI				AML	AML	06 00 31.1	
	comp=N,507nm,0.3s						
RAFI				AML	AML	06 00 38.4	
	comp=E,398nm,0.7s						
BDRS	**Dareh Seyedi**	**1.66**	**38**	Pg	**Pn**	**05 59 59.0**	**+0.6**
KCHF	**Cheshme Sefid,**	**1.71**	**343**	Pg	**Pn**	**05 59 59.4**	**+0.5**
IBZA	**Bozab**	**1.83**	**5**	Pn	**Pn**	**06 00 01.7**	**+1.0**
IGHG	**Ghaleghazi**	**1.91**	**332**	Pn	**Pn**	**06 00 02.2**	**+0.5**
GLG1	**Gilan-e-Gharb**	**2.07**	**316**	Pn	**Pn**	**06 00 05.4**	**+1.6**
SNQR	**Sonqor, Kerman**	**2.21**	**359**	Pn	**Pn**	**06 00 06.9**	**+1.0**
IDHR	**Dehrash**	**2.31**	**333**	Pn	**Pn**	**06 00 08.1**	**+0.9**
HAGD	**Aghdareh**	**2.50**	**29**	Pn	**Pn**	**06 00 10.3**	**+0.5**
JHBN	**Jahan bin**	**2.58**	**98**	Pn	**Pn**	**06 00 11.7**	**+0.7**
IPIR	**Pirpir**	**2.73**	**88**	Pn	**Pn**	**06 00 14.4**	**+1.3**
ZNGN	**Zangian**	**2.76**	**100**	Pn	**Pn**	**06 00 14.2**	**+0.7**
BHD	**Baghdad**	**2.82**	**284**	*ePn*	**Pn**	**06 00 15.0**	**+1.0**
BHD				AML	AML	06 00 40.4	
	comp=E,285nm,0.7s						
BHD				*eSn*	**Sn**	**06 00 50.0**	**+2.7**
IBRJ	**Brojen**	**3.14**	**103**	Pn	**Pn**	**06 00 19.3**	**+0.6**
QAMS	**Qamsar**	**3.32**	**70**	Pn	**Pn**	**06 00 22.3**	**+1.2**
IKLH	**Kolahrood**	**3.37**	**77**	Pn	**Pn**	**06 00 22.8**	**+1.0**
QABG	**Abgarm-Qazvin**	**3.45**	**27**	Pn	**Pn**	**06 00 24.2**	**+1.3**
IQOM	**Qom**	**3.59**	**51**	Pn	**Pn**	**06 00 25.4**	**+0.5**
KLNJ	**Kolanjah**	**3.73**	**115**	Pn	**Pn**	**06 00 27.4**	**+0.5**
IKRK	**Kirkuk**	**3.89**	**316**	*ePn*	**Pn**	**06 00 30.0**	**+1.3**
IKRK				*eSn*	**Sn**	**06 01 17.0**	**+3.3**
IZEF	**Zefreh**	**3.95**	**85**	Pn	**Pn**	**06 00 30.6**	**+0.9**
KRSH	**Karshahi**	**3.98**	**69**	Pn	**Pn**	**06 00 31.3**	**+1.2**
IRAM	**Ramesheh**	**4.09**	**100**	Pn	**Pn**	**06 00 31.8**	**+0.1**
IVRN	**Varamin**	**4.12**	**54**	Pn	**Pn**	**06 00 32.9**	**+0.9**
ISFB	**Sefidab**	**4.20**	**65**	Pn	**Pn**	**06 00 33.8**	**+0.8**
IGZV	**Ghazvin**	**4.29**	**29**	Pn	**Pn**	**06 00 35.2**	**+0.7**
IDMV	**Damavand**	**4.67**	**50**	Pn	**Pn**	**06 00 40.4**	**+0.8**
KLST	**Kelardasht - M**	**4.78**	**35**	Pn	**Pn**	**06 00 42.8**	**+1.6**
MZPU	**Pul - Mazandar**	**4.98**	**39**	Pn	**Pn**	**06 00 45.6**	**+1.7**
ANAR	**Anarak**	**5.14**	**82**	Pn	**Pn**	**06 00 46.1**	**+0.1**
IFIR	**Firoozkooh**	**5.18**	**53**	Pn	**Pn**	**06 00 47.3**	**+0.6**
ILAS	**Lasjerd**	**5.18**	**57**	Pn	**Pn**	**06 00 47.5**	**+0.7**
IPRN	**Peran**	**5.28**	**46**	Pn	**Pn**	**06 00 49.0**	**+1.1**
DSBU	**Dashti - Bushe**	**5.28**	**143**	Pn	**Pn**	**06 00 48.6**	**+0.7**
IALA	**Alasht**	**5.47**	**50**	Pn	**Pn**	**06 00 51.5**	**+0.7**
ISHB	**Shabestar**	**5.87**	**344**	Pn	**Pn**	**06 00 57.0**	**+0.9**
IMEH	**Mehriz**	**6.04**	**100**	Pn	**Pn**	**06 00 59.4**	**+0.8**
AKTO	**Aktyubinsk**	**19.36**	**20**	P	**P**	**06 03 53.4**	**-0.8**
	comp=E,0.3nm,0.3s,baz=208,slow=9.2,SNR=6.8 comp=E,4.0nm,0.8s						
AKASG	**Malin Array Be**	**22.59**	**328**	P	**P**	**06 04 28.9**	**-0.1**
	comp=E,0.7nm,0.6s,baz=140,slow=10,SNR=1.9 comp=E,0.7nm,0.6s						
BVAR	**Borovoye Array**	**26.12**	**32**	P	**P**	**06 05 02.2**	**-0.2**
	comp=E,1.8nm,0.6s,baz=234,slow=8.8,SNR=7.9 comp=E,1.8nm,0.6s						
MKAR	**Makanchi Array**	**29.89**	**52**	P	**P**	**06 05 36.1**	**-0.1**
	comp=E,0.9nm,0.6s,baz=247,slow=6.4,SNR=6.8 comp=E,0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**33.86**	**40**	P	**P**	**06 06 09.8**	**-1.1**
	comp=E,0.8nm,0.3s,baz=249,slow=12,SNR=3.3 comp=E,0.8nm,0.3s						
HFS	**Hagfors**

PRSN				⇑eSg	Sb	06 12 53.7	+0.2	
PRSN				IAML		06 12 53.9		
	comp=N,319nm,0.1s							
LSP	**Las Mesas**	**0.21**	**100**	⇑eP	**Pb**	**06 12 50.6**	**+0.2**	
LSP	**Las Mesas**	**0.21**	**100**	eS	**Sb**	**06 12 54.9**	**+0.3**	
IDE	**Isla Desecheo**	**0.24**	**318**	⇓iP	**Pb**	**06 12 51.0**	**+0.3**	
IDE	**Isla Desecheo**	**0.24**	**318**	eS	**Sb**	**06 12 55.1**	**0.0**	
CRPR	**Cabo Rojo, PR**	**0.28**	**137**	⇓eP	**Pb**	**06 12 51.1**	**0.0**	
CRPR	**Cabo Rojo, PR**	**0.28**	**137**	eS	**Sb**	**06 12 55.4**	**-0.5**	
CRPR	**Cabo Rojo, PR**	**0.28**	**137**	⇑ePg	**Pb**	**06 12 51.4**	**+0.2**	
CRPR				⇓eSg	**Sb**	**06 12 55.4**	**-0.5**	
CRPR				IAML		06 12 55.9		
	comp=N,114nm,0.1s							
AGPR	**Aguadilla, PR**	**0.32**	**36**	⇓eP	**Pn**	**06 12 52.2**	**-0.5**	
AGPR	**Aguadilla, PR**	**0.32**	**36**	eS	**Sn**	**06 12 57.7**	**-0.7**	
AGPR	**Aguadilla, PR**	**0.32**	**36**	⇓ePg	**Pn**	**06 12 52.5**	**-0.2**	
AGPR				⇑eSg	**Sn**	**06 12 57.7**	**-0.7**	
AGPR				IAML		06 12 57.8		
	comp=N,213nm,0.1s							
MLPR	**Magueyes Islan**	**0.35**	**134**	⇓eP	**Pb**	**06 12 52.2**	**+0.1**	
MLPR	**Magueyes Islan**	**0.35**	**134**	eS	**Sb**	**06 12 57.0**	**-0.5**	
MLPR	**Magueyes Islan**	**0.35**	**134**	⇓ePg	**Pb**	**06 12 52.2**	**+0.1**	
MLPR				⇓eSg	**Sb**	**06 12 57.4**	**-0.2**	
MLPR				IAML		06 12 57.8		
	comp=N,56nm,0.1s							
GBPR	**Guanica, Bosqu**	**0.47**	**120**	⇓eP	**Pn**	**06 12 54.6**	**-0.2**	
AOPR	**Arecibo Observ**	**0.54**	**76**	⇑eP	**Pn**	**06 12 55.5**	**-0.3**	
AOPR	**Arecibo Observ**	**0.54**	**76**	eS	**Sn**	**06 13 03.5**	**-0.5**	
AOPR	**Arecibo Observ**	**0.54**	**76**	⇑ePg	**Pn**	**06 12 55.5**	**-0.3**	
AOPR				⇓eSg	**Sn**	**06 13 03.8**	**-0.2**	
AOPR				IAML		06 13 04.3		
	comp=N,90nm,0.1s							
UUPR	**Utuado, UPR, P**	**0.56**	**86**	⇑eP	**Pn**	**06 12 55.7**	**-0.4**	
UUPR	**Utuado, UPR, P**	**0.56**	**86**	eS	**Sb**	**06 13 03.0**	**-0.2**	
OBIP	**Obispado Ponce**	**0.69**	**104**	⇓eP	**Pn**	**06 12 57.8**	**0.0**	
OBIP	**Obispado Ponce**	**0.69**	**104**	eS	**Sb**	**06 13 06.4**	**-0.3**	
CELP	**Cerrillos**	**0.70**	**101**	⇑eP	**Pn**	**06 12 58.1**	**0.0**	
CELP	**Cerrillos**	**0.70**	**101**	eS	**Sb**	**06 13 07.3**	**+0.1**	
CELP	**Cerrillos**	**0.70**	**101**	⇓ePg	**Pb**	**06 12 57.8**	**0.0**	
CELP				⇑eSg	**Sn**	**06 13 07.6**	**-0.4**	
CELP				IAML		06 13 09.2		
	comp=N,38nm,0.1s							
EMPR	**Esperanza - Ma**	**0.78**	**70**	⇑eP	**Pn**	**06 12 59.9**	**+0.8**	
EMPR	**Esperanza - Ma**	**0.78**	**70**	eS	**Sn**	**06 13 11.0**	**+1.1**	
ECPR	**Experimental S**	**0.90**	**83**	⇓eP	**Pb**	**06 13 01.6**	**+0.4**	
ECPR	**Experimental S**	**0.90**	**83**	eS	**Sn**	**06 13 13.4**	**+0.5**	
GCPR	**Guaynabo City**	**1.17**	**85**	⇓eP	**Pb**	**06 13 05.6**	**0.0**	
GCPR	**Guaynabo City**	**1.17**	**85**	eS	**Sb**	**06 13 20.9**	**+0.5**	
IGPR	**InterUniversit**	**1.17**	**102**	⇑eP	**Pb**	**06 13 05.9**	**+0.3**	
IGPR	**InterUniversit**	**1.17**	**102**	eS	**Sb**	**06 13 20.8**	**+0.4**	
PDPR	**Patillas Dam,**	**1.24**	**99**	⇓eP	**Pn**	**06 13 05.2**	**-0.1**	
PDPR	**Patillas Dam,**	**1.24**	**99**	eS	**Sn**	**06 13 20.8**	**-0.3**	
HUMP	**Col San Antoni**	**1.39**	**93**	⇓eP	**Pb**	**06 13 09.3**	**-0.1**	
HUMP	**Col San Antoni**	**1.39**	**93**	eS	**Sn**	**06 13 25.2**	**+0.5**	
HATOM	**Hato Mayor del**	**2.05**	**287**	⇓ePg	**Pb**	**06 13 19.8**	**-0.9**	
HATOM				⇓eSg	**Sn**	**06 13 43.2**	**+1.9**	
HATOM				IAML		06 13 43.6		
	comp=N,16nm,2.4s							

*SOME **18** 06:12:51.7,41°.35N×83°.57E,h10km*
*NNC **18** 06:12:55.1±3.8,40°.18N×81°.71E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=55.6km s-min=26.5km az=58.0*
ISC 18 06:13:00.3±3.1,41°.5N±0°.1×83°.0E±0°.1,h10km,n10, σ2s 21/15,6C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.81**	**316**	*eP*	**Pb**	**06 13 50.5**	**-0.2**
	0.5nm,0.1s						
KTMS				*eS*	**Sg**	**06 14 32.5**	**+1.8**
	2.8nm,0.2s						
SHLS	**Shalkode**	**3.15**	**304**	Pg	**Pb**	**06 13 54.9**	**-1.5**
	4.7nm,0.3s						
SHLS				Lg	Lg	06 14 38.8	
	44nm,0.3s						
SHLS	**Shalkode**	**3.15**	**304**	*eP*	**Pn**	**06 13 51.5**	**+1.4**
	2.3nm,0.1s						
SHLS				*eS*	**Sb**	**06 14 34.2**	**-0.7**
	7.6nm,0.2s						
PDGK	**Podgornoye**	**3.23**	**307**	⇑Pg	**Pb**	**06 13 58.1**	**+0.3**
	0.7nm,0.3s						
PDGK				⇓Lg	Lg	06 14 48.4	
	12nm,0.5s						
SATY	**Saty**	**3.79**	**297**	Pg	**Pb**	**06 14 03.8**	**-3.6**
	2.1nm,0.3s						
SATY				Lg	Lg	06 14 55.5	
	9.8nm,0.3s						
ARXS	**Arharly**	**4.72**	**308**	Pg	**Pg**	**06 14 26.9**	**-3.8**
	0.3nm,0.2s						
ARXS				Lg	Lg	06 15 35.3	
	11nm,0.7s						
KOTS	**Kotyrbulak**	**4.74**	**294**	*eP*	**Pb**	**06 14 26.0**	**+2.5**
	1.5nm,0.1s						
KOTS				*eS*	**Sg**	**06 15 33.6**	**+1.3**
	6.3nm,0.3s						
TNSS	**Tian-Shan**	**4.79**	**291**	*eP*	**Pb**	**06 14 27.6**	**+3.0**
	0.1nm,0.0s						
TNSS				*eS*	**Sg**	**06 15 36.4**	**+2.3**
	0.3nm,0.1s						
MK31	**Makanchi Array**	**5.37**	**355**	⇑Pg	Pg	06 14 35.4	-7.7
	0.3nm,0.4s,baz=172,slow=15,SNR=6.2						
MK31				⇓Sn	**Sn**	**06 15 23.0**	**+0.7**
	0.7nm,0.6s						
MK31				⇑Lg	Lg	06 15 49.2	
	3.4nm,0.6s,baz=169,slow=25,SNR=5.3						
MAKZ	**Makanchi**	**5.41**	**352**	⇑Pg	**Pb**	**06 14 35.7**	**+0.8**
	0.4nm,0.4s						
MAKZ				⇑Sn	**Sn**	**06 15 23.8**	**+0.4**
	0.9nm,0.6s						
MAKZ				⇑Lg	Lg	06 15 51.0	
	2.7nm,0.7s						

*NEIC **18** 06:14:29.1±1.1,36°.115N±0°.007×117°.88W±0°.01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.4km az=126.0*
PAS 18 06:14:29.4±1.1,36°.116N±0°.007×117°.89W±0°.01, h4km±1km,ML3.3/138,ML3.1/106(NEIC),Error ellipse: s-maj=1.3km s-min=1.1km az=91.0,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.03**	**87**		Pg	06 14 30.6	+0.2
MFS					Sg	06 14 31.6	+0.4
WRVM	**Rose V. Centra**	**0.11**	**181**		Pg	06 14 31.7	+0.1
WRVM					Sg	06 14 33.5	+0.5
WCSM	**Coso Springs S**	**0.13**	**132**		Pg	06 14 32.3	+0.2
WCSM					Sg	06 14 34.3	+0.5
JRC2	**Joshua Ridge**	**0.15**	**154**		Pg	06 14 32.5	+0.1
JRC2					Sg	06 14 34.7	+0.4
WVPM	**Volcano Peak E**	**0.18**	**161**		Pg	06 14 32.9	0.0
WVPM					Sg	06 14 35.5	+0.4
WNMM	**Nine Mile Cany**	**0.27**	**183**		Pg	06 14 34.6	-0.1
WNMM					Sg	06 14 38.6	+0.4
TOW	**Tower One**	**0.32**	**162**		Pg	06 14 36.1	+0.4
TOW					Sg	06 14 41.3	+1.4
MPMC	**Manual Prospec**	**0.33**	**100**	Pg	Pg	06 14 35.7	-0.1
MPMC					Sg	06 14 40.5	+0.3
MPMC				IAML		06 14 40.9	
	comp=E,3μm,0.5s						
MPMC				IAML		06 14 42.5	
	comp=N,2μm,0.3s						
CWC	**Cottonwood Cre**	**0.36**	**334**		Pg	06 14 36.2	-0.2
CWC					Sg	06 14 41.4	+0.3
CWC				IAML		06 14 41.8	
	comp=N,2μm,0.2s						
CWC				IAML		06 14 43.0	
	comp=E,2μm,0.2s						
CLC	**China Lake**	**0.38**	**142**		Pg	06 14 36.6	-0.2
SRTC	**Snort**	**0.44**	**165**		Pg	06 14 38.3	+0.5
SRTC					Sb	06 14 45.2	-1.5
CGO	**Cerro Gordo**	**0.44**	**9**		Pg	06 14 37.7	-0.2
CGO					Sg	06 14 44.5	+0.7
GPO	**China Lake**	**0.50**	**158**		Pg	06 14 39.1	+0.1
GPO					Sg	06 14 46.3	+0.8
WORM	**Onyx Ranch**	**0.51**	**215**		Pg	06 14 38.9	-0.3
WORM					Sg	06 14 45.6	-0.1
WHFM	**Hanning Flat**	**0.56**	**222**		Pg	06 14 39.9	-0.2
WHFM					Sg	06 14 47.5	+0.1
WSHM	**Spangler Hills**	**0.61**	**148**		Pg	06 14 41.0	0.0
WSHM				IAML		06 14 49.5	
	comp=E,1μm,0.2s						
WSHM				IAML		06 14 49.6	
	comp=E,729nm,0.4s						
WBSM	**Bird Springs**	**0.61**	**200**		Pg	06 14 41.0	-0.2
WBSM					Sg	06 14 49.6	+0.4
ISA	**Isabella, Lake**	**0.66**	**227**		Sg	06 14 50.5	0.0
ISA	**Isabella, Lake**	**0.66**	**227**		Pg	06 14 42.0	0.0
ISA				IAML		06 14 50.8	
	comp=N,683nm,0.6s						
ISA				IAML		06 14 51.4	
	comp=E,1μm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.66**	**165**		Pg	06 14 41.9	-0.2
LRMC					Sg	06 14 51.0	+0.5
WASM	**Alta Sierra Ca**	**0.66**	**235**		Pg	06 14 41.9	-0.2
WASM					Sg	06 14 50.8	+0.1
SPG2	**Springville 2**	**0.71**	**277**		Pg	06 14 42.7	-0.4
SPG2					Sg	06 14 51.8	-0.6
CCCA	**Chr Cany lake**	**0.73**	**144**		Pg	06 14 43.9	+0.5
CCCA				IAML		06 14 56.1	
	comp=E,1μm,0.5s						
QSM	**Queen of Sheba**	**0.84**	**100**		Pg	06 14 45.4	-0.1
QSM					Sg	06 14 56.3	-0.1
QSM				IAML		06 14 57.8	
	comp=N,1μm,0.5s						
DTP	**Desert Tortois**	**0.85**	**178**		Pg	06 14 45.2	-0.5
DTP					Sg	06 14 56.2	-0.4
FURC	**Furnace Creek,**	**0.90**	**67**		Pg	06 14 46.7	0.0
CCAC	**Calif City Air**	**0.97**	**186**		Pg	06 14 47.4	-0.5
CCAC					Sg	06 15 00.4	-0.1
GRAC	**Grapevine Rang**	**0.97**	**25**		Pg	06 14 48.0	-0.1
GRAC				IAML		06 15 04.9	
	comp=E,859nm,0.6s						
GRAC				IAML		06 15 09.0	
	comp=N,679nm,0.4s						
GRAC	**Grapevine Rang**	**0.97**	**25**		Sb	06 15 01.7	-0.5
TIN	**Tinemaha, Big**	**0.98**	**344**		Pg	06 14 47.7	-0.5
TIN					Sg	06 15 01.1	+0.3
GWY	**Greenwater Val**	**0.99**	**86**		Pg	06 14 48.0	-0.4
GWY					Sg	06 15 01.7	+0.5
VES	**Vestal, Richgr**	**1.01**	**255**		Pg	06 14 48.4	-0.4
VES					Sg	06 15 01.8	0.0
TEJ	**El Tejon**	**1.10**	**217**		Pg	06 14 49.5	-0.9
SGV	**South Grapevin**	**1.10**	**38**		Pg	06 14 50.0	-0.6
LCH	**Last Change Ra**	**1.13**	**10**		Pg	06 14 50.1	-1.0
GSC	**Goldstone, Bar**	**1.20**	**132**		Pg	06 14 51.9	-0.5
GSC				IAML		06 15 13.0	
	comp=N,241nm,0.6s						
GSC				IAML		06 15 14.0	
	comp=E,248nm,0.5s						
WCT	**Wildcat Mounta**	**1.22**	**56**		Pg	06 14 52.4	-0.5
WCT					Sg	06 15 08.1	-0.6
WCT				IAML		06 15 13.1	
	comp=N,326nm,0.7s						
WCT				IAML		06 15 16.2	
	comp=E,297nm,0.9s						
VOG	**Valley Oaks Go**	**1.23**	**280**		Pg	06 14 52.3	-0.6
EDW2	**Edwards Air Fo**	**1.23**	**184**		Pb	06 14 53.3	-0.1
EDW2					Sg	06 15 08.2	-0.9
ARVC	**Arvin**	**1.25**	**218**		Pg	06 14 52.8	-0.6
BAKC	**Calstate**	**1.25**	**232**		Pg	06 14 53.2	-0.2
DSP	**Deep Springs**	**1.25**	**357**		Pg	06 14 52.4	-1.1
DSP					Sg	06 15 09.5	-0.2
TPO	**Tropico Hills**	**1.27**	**193**		Pg	06 14 52.9	-0.7
TPO					Sg	06 15 09.6	-0.4
TPO				IAML		06 15 13.1	
	comp=E,233nm,0.6s						
TPO				IAML		06 15 16.4	
	comp=N,215nm,0.7s						
BHPR	**Bishop**	**1.28**	**338**		Pg	06 14 53.3	-0.6
HYS	**Haystack Butte**	**1.28**	**168**		Pg	06 14 52.9	-1.0
GMN	**Gold Mountain**	**1.29**	**23**		Pg	06 14 53.6	-0.4
GMN				IAML		06 15 14.0	
	comp=E,192nm,0.4s						
TJR	**Tejon Ranch**	**1.29**	**213**		Pg	06 14 53.1	-1.0
AMDNV	**Amargosa**	**1.34**	**75**		Pn	06 14 53.8	-1.1
AMDNV					Sg	06 15 12.1	-0.5
THC	**Tehachapi Micr**	**1.36**	**208**		Pn	06 14 54.3	-1.1
SBB	**Saddle Back Bu**	**1.43**	**178**		Pn	06 14 56.0	-0.1
TPNV	**Topopah Spring**	**1.56**	**57**		Pn	06 14 57.7	-0.4
TPNV				IAML		06 15 21.3	
	comp=E,313nm,0.7s						
TPNV				IAML		06 15 22.2	
	comp=E,325nm,0.8s						
LRRC	**Littlerock Res**	**1.59**	**184**		Pb	06 14 59.5	+0.2
MZP	**Montezuma Peak**	**1.63**	**14**		Pn	06 14 59.0	-0.3
OSI	**Osito Audit: C**	**1.65**	**205**		Pn	06 14 59.0	-0.2
OSI				IAML		06 15 24.7	
	comp=N,284nm,0.6s						
OSI				IAML		06 15 27.2	
	comp=E,375nm,0.7s						
HOLC	**Holcomb Ridge**	**1.65**	**179**		Pn	06 14 59.8	+0.5
JNH	**Juniper Hills**	**1.67**	**182**		Pn	06 15 00.1	+0.6
KCC	**Kaiser Creek**	**1.67**	**317**		Sn	06 15 21.1	-0.3
BENR	**Benton**	**1.69**	**341**		Pb	06 15 00.9	-0.3
MLAC	**Mammoth, Mammo**	**1.69**	**334**		Pb	06 15 00.9	-0.4
BCW	**Bitter Crk WRg**	**1.71**	**227**		Pb	06 15 01.2	-0.2
CRGC	**Crocker Grade**	**1.73**	**240**		Pb	06 15 01.2	-0.6
TUQ	**Turquoise Moun**	**1.73**	**112**		Pn	06 14 59.6	-0.9
MCSM	**Casa Diablo Ho**	**1.74**	**332**		Pb	06 15 01.8	-0.3
CHFC	**Chilao Flat St**	**1.78**	**184**		Pb	06 15 02.8	+0.1
BFSC	**Mount Baldy Ra**	**1.88**	**174**		Pn	06 15 03.3	+0.8
BFSC				IAML		06 15 29.6	
	comp=E,133nm,0.6s						
BFSC				IAML		06 15 29.6	
	comp=N,106nm,0.3s						
SMMC	**Simmler**	**1.89**	**246**		Pn	06 15 03.3	+0.7
PASC	**Pasadena Art C**	**1.96**	**187**	Pn	Pb	06 15 05.1	-0.5
MTPC	**Mountain Pass**	**2.00**	**108**		Pn	06 15 03.3	-0.8
MTPC				IAML		06 15 35.0	
	comp=E,175nm,0.3s						
MTPC				IAML		06 15 35.4	
	comp=N,193nm,0.3s						
TPH	**Tonopah**	**2.03**	**15**		Pn	06 15 05.0	+0.5
CLTC	**Caltectric**	**2.07**	**167**		Pb	06 15 07.6	0.0
PKD	**Bear Valley Ra**	**2.16**	**266**		Pn	06 15 06.9	+0.7
LHV	**Little Huntoon**	**2.19**	**347**		Pn	06 15 07.5	+1.0
LHV				IAML		06 15 46.8	
	comp=E,83nm,0.5s						
LHV				IAML		06 15 48.2	
	comp=N,93nm,0.8s						
PSMM	**Smith Mountain**	**2.19**	**270**		Pn	06 15 08.1	+1.3
SHPR	**Sheep Range**	**2.24**	**79**		Pn	06 15 07.3	-0.1
GMRC	**Granite Mounta**	**2.25**	**125**		Pn	06 15 05.9	-1.7
S11A	**Rachel**	**2.30**	**48**		Pn	06 15 08.0	-0.3
NV11	**Mina Array Sit**	**2.32**	**355**		Pn	06 15 08.6	0.0
NVAR	**Mina Array Bea**	**2.33**	**352**		Pn	06 15 09.0	+0.2
PMPB	**Monarch Peak**	**2.36**	**273**	Pn	Pn	06 15 08.9	-0.1
PMPB				IAML		06 15 06.6	
	comp=E,133nm,0.7s						
MYLM	**Yosemite Lake**	**2.40**	**303**		Pb	06 15 12.1	-1.0
RAMR	**Ramage Ranch**	**2.47**	**260**		Pn	06 15 12.0	+1.6
ELS	**Elsinore Mount**	**2.49**	**171**		Pn	06 15 10.7	-0.1
V12A	**Nelson**	**2.50**	**98**		Pn	06 15 10.7	-0.2
V12A				IAML		06 15 50.6	
	comp=N,75nm,0.5s						
V12A				IAML		06 15 51.7	
	comp=E,76nm,0.4s						
POB	**Polly Butte**	**2.55**	**162**		Pn	06 15 11.8	+0.2
BBGB	**Big Mountain B**	**2.59**	**281**		Pn	06 15 13.6	+1.5
PRN	**Pahroc Range**	**2.62**	**60**		Pn	06 15 12.6	0.0
PRN				IAML		06 16 02.1	
	comp=N,142nm,0.8s						
PRN				IAML		06 16 04.5	
	comp=E,138nm,0.7s						
PCCM	**Crazy Canyon**	**2.65**	**270**		Pn	06 15 14.3	+1.3
BSGM	**Shirttail Gulc**	**2.74**	**277**		Pn	06 15 15.7	+1.6
PMD	**Palm Desert**	**2.76**	**153**		Pn	06 15 14.7	+0.2
PFO	**Pinyon Flats O**	**2.76**	**154**		Pn	06 15 14.3	-0.2
R11B	**Troy Canyon, C**	**2.89**	**39**		Pn	06 15 16.1	-0.3
R11B				IAML		06 16 02.6	
	comp=E,56nm,0.5s						
W13A	**Hualapai Mount**	**3.42**	**106**		Pn	06 15 23.1	-0.6
BLYC	**Blythe**	**3.63**	**130**	Pn	Pn	06 15 25.1	-1.3
BLYC				IAML		06 16 38.0	
	comp=N,21nm,0.9s						
CCUT	**Cedar City**	**3.90**	**67**	Pn	Pn	06 15 30.6	+0.2
SPR3	**Spring Creek 3**	**4.03**	**43**	Pn	Pn	06 15 31.8	-0.4
KNB	**Kanab**	**4.18**	**76**		Pn	06 15 34.7	+0.6
KNB				IAML		06 16 47.2	
	comp=N,13nm,1.3s						
ELK	**Elko**	**5.07**	**23**	Pn	Pn	06 15 47.0	+0.6

*NNC **18** 06:15:33.1±3.0,41°.49N×83°.47E,h0km±12km,mb4.1, mpv3.8,Error ellipse: s-maj=21.9km s-min=13.6km az=157.0*
*SOME **18** 06:15:35.2,41°.72N×83°.75E,h5km*
ISC 18 06:15:33.5±2.5,41.7N±0°.1×83°.75E±0°.08,h10km,n18, σ2s 47/28,3C-5D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.08**	**307**	Pg	**Pb**	**06 16 26.9**	**-1.6**
	14nm,0.1s						
KTMS				Lg	Lg	06 17 10.3	
	36nm,0.6s						
KTMS	**Ketmen**	**3.08**	**307**	*eP*	**Pg**	**06 16 31.9**	**-0.7**
	10.0nm,0.3s						
KTMS				*eS*	**Sg**	**06 17 12.8**	**+0.3**
	50nm,0.4s						
SHLS	**Shalkode**	**3.51**	**297**	Pg	**Pn**	**06 16 30.7**	**+2.5**
	22nm,0.2s						
SHLS				Lg	Lg	06 17 15.1	
	100nm,0.5s						
SHLS	**Shalkode**	**3.51**	**297**	*eP*	**Pb**	**06 16 34.0**	**-1.8**
	28nm,0.2s						
SHLS				*eS*	**Sb**	**06 17 16.4**	**-2.2**
	102nm,0.3s						
PDGK	**Podgornoye**	**3.57**	**299**	⇓Pg	**Pg**	**06 16 39.8**	**-2.0**
	31nm,0.6s						
PDGK				⇑Lg	Lg	06 17 22.3	
	109nm,1.0s						
SATY	**Saty**	**4.20**	**291**	Pg	**Pb**	**06 16 46.9**	**-0.7**
	17nm,0.3s						
SATY				Lg	Lg	06 17 42.8	
	41nm,0.8s						
ARXS	**Arharly**	**5.04**	**302**	Pg	**Pb**	**06 17 01.5**	**-0.4**
	5.1nm,0.4s						
ARXS				Lg	Lg	06 18 06.9	
	14nm,0.6s						
TDK	**Taldyqorghan**	**5.14**	**312**	*eP*	**Pg**	**06 17 09.1**	**-2.8**
	17nm,0.1s						
TDK				*eS*	**Sg**	**06 18 16.7**	**-1.7**
	51nm,0.3s						
KOTS	**Kotyrbulak**	**5.16**	**290**	*eP*	**Pg**	**06 17 10.0**	**-2.2**
	19nm,0.6s						
KOTS				*eS*	**Sg**	**06 18 18.3**	**-0.8**
	47nm,0.4s						
TNSS	**Tian-Shan**	**5.23**	**288**	Pg	**Pb**	**06 17 06.4**	**+1.2**
	1.5nm,0.2s						
TNSS				Lg	Lg	06 18 16.3	
	4.7nm,0.5s						
TNSS	**Tian-Shan**	**5.23**	**288**	*eP*	**Pg**	**06 17 11.3**	**-2.3**
	1.7nm,0.3s						
TNSS				*eS*	**Sg**	**06 18 20.4**	**-0.9**
	2.1nm,0.3s						
MK31	**Makanchi Array**	**5.25**	**349**	⇑Pg	**Pg**	**06 17 11.5**	**-2.4**
	0.8nm,0.4s,baz=162,slow=14,SNR=6.6						
MK31				⇓Sn	**Sn**	**06 17 58.5**	**+6.0**
	8.2nm,0.9s,baz=173,slow=17,SNR=3.5						
MK31				⇓Lg	Lg	06 18 25.6	
	20nm,0.6s,baz=161,slow=29,SNR=6.2						
MAKZ	**Makanchi**	**5.31**	**347**	⇓Pg	**Pg**	**06 17 12.9**	**-2.2**
	0.9nm,0.4s						
MAKZ				⇑Sn	**Sn**	**06 17 59.6**	**+5.5**
	4.0nm,0.7s						
MAKZ				⇓Lg	Lg	06 18 25.3	
	15nm,0.6s						
CHKK	**Chushkaly**	**5.44**	**296**	*eP*	**Pg**	**06 17 15.8**	**-1.9**
	1.3nm,0.2s						
CHKK				*eS*	**Sg**	**06 18 28.0**	**-0.1**
	15nm,0.2s						
IZV	**Izvestkoviy**	**5.47**	**287**	Pg	**Pb**	**06 17 09.6**	**+0.4**
	8.6nm,0.6s						
IZV				Lg	Lg	06 18 19.7	
	21nm,0.6s						
IZV	**Izvestkoviy**	**5.47**	**287**	*eP*	**Pg**	**06 17 15.8**	**-2.4**
	6.5nm,0.2s						
IZV				*eS*	**Sg**	**06 18 28.2**	**-0.7**
	28nm,0.6s						
ZSN	**Zaisan**	**5.85**	**7**	Pg	**Pg**	**06 17 22.0**	**-3.5**
	2.5nm,0.2s						
ZSN				Lg	Lg	06 18 42.9	
	19nm,0.7s						
ZSN	**Zaisan**	**5.85**	**7**	*eP*	**Pg**	**06 17 22.8**	**-2.7**
	2.4nm,0.1s						
ZSN				*eS*	**Sg**	**06 18 40.4**	**-0.8**
	20nm,0.5s						

*AEIC **18** 06:23:58.3±2.7,51°.48N±0°.08×175°.19W±0°.07,h26km±6km, Error ellipse: s-maj=11.7km s-min=6.0km az=197.0*
*NEIC **18** 06:23:59.9±2.5,51°.57N±0°.07×175°.23W±0°.05,h35km±2km, mb4.0/94,ML4.0(AEIC),Error ellipse: s-maj=11.2km s-min=5.2km az=170.0*
*IDC **18** 06:24:01.9±2.9,51°.74N×175°.26W,h60km±25km,mb3.7/18, mbtmp4.0/22,ML3.9/4,MS3.3/25,Error ellipse: s-maj=20.9km s-min=11.8km az=171.0*
ISC 18 06:23:59.6±1.4,51°.55N±0°.10×175°.23W±0°.04, h43km±11km,n208,σ1s43/185,mb4.0/32,MS3.3/24, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSIG	**Igitkin Island**	**0.62**	**316**		**Pn**	**06 24 11.3**	**-0.7**
GSIG					**Sn**	**06 24 20.2**	**-0.7**
GSMY	**Great Sitkin M**	**0.71**	**314**		**Pn**	**06 24 13.0**	**-0.3**
GSMY					**Sn**	**06 24 23.3**	**+0.1**
GSCK	**Great Sitkin C**	**0.74**	**309**		**Pn**	**06 24 13.3**	**-0.3**
GSCK					**Sn**	**06 24 23.8**	**-0.1**
GSTR	**Great Sitkin T**	**0.75**	**317**		**Pn**	**06 24 13.8**	**0.0**
GSTD	**Great Sitkin T**	**0.76**	**312**		**Pn**	**06 24 13.7**	**-0.3**
ETKA	**Kagalaska Isla**	**0.80**	**294**		**Pn**	**06 24 13.6**	**-

O14K Tigyukauivet M 11.05 40 Pn Pn 06 26 36.4 +1.5
M13K Dall Lake 11.08 32 Pn Pn 06 26 38.4 +3.2
N14K Kuskokwak Cree 11.32 37 Pn 06 26 42.3 +3.8
O15K Ungalikthiuk R 11.60 43 Pn Pn 06 26 45.7 +3.3
K13K Kusilvak Mount 11.90 25 Pn Pn 06 26 48.6 +2.3
L14K Kuka Creek 11.99 30 Pn Pn 06 26 51.6 +3.9
N15K Kwethluk River 12.09 39 Pn 06 26 53.1 +4.1
P16K Nushagak River 12.33 46 Pn Pn 06 26 56.0 +3.7
PLK4 Peulik 4 12.50 53 Pn Pn 06 26 55.4 +0.7
O16K Kokwok River B 12.57 43 Pn Pn 06 26 58.9 +3.3
J14K Nanvaranak Lak 12.86 25 Pn Pn 06 27 01.4 +1.9
M16K Timber Creek 13.06 37 Pn Pn 06 27 06.0 +3.7
L16K Owhat River 13.33 34 Pn Pn 06 27 09.3 +3.4
N17K Nushagak Hills 13.47 41 Pn Pn 06 27 09.5 +1.7
OHAK Old Harbor 13.96 57 P Pn 06 27 13.9 -0.5
Q19K Cape Douglas, 14.31 51 Pn Pn 06 27 19.7 +0.4
KDAK Kodiak Island 14.47 56 Pn 06 27 21.2 -0.2
KDAK Kodiak Island 14.47 56 P Pn 06 27 20.1 -1.3
0.4nm,0.3s,baz=262,slow=15,SNR=29
1.8nm,0.3s
J17K VABM Dome 14.65 30 Pn 06 27 26.1 +2.4
L18K Granite Mountain 14.66 36 Pn 06 27 25.4 +1.4
N19K Bonanza Creek 14.75 43 Pn 06 27 27.0 +1.8
SYI Shuyak Island 14.81 53 Pn Pn 06 27 24.1 -1.8
F15K North Star Dit 15.19 17 Pn Pn 06 27 32.8 +1.9
F15K IAmb IAmb 06 27 48.8
comp=Z,12nm,1.1s
L19K White Mountain 15.33 38 Pn 06 27 33.3 +0.5
M19K Big River Lodg 15.36 39 Pn 06 27 33.8 +0.7
G16K Koyuk River 15.38 21 Pn Pn 06 27 34.6 +1.3
G16K IAmb IAmb 06 27 43.2
comp=Z,7.9nm,1.0s
J18K Innoko River 15.46 32 Pn 06 27 36.0 +1.6
J18K IAmb IAmb 06 27 41.6
comp=Z,5.8nm,0.8s
HOM Homer 15.53 49 Pn Pn 06 27 34.9 -0.5
H17K Granite Mounta 15.59 25 IAmb IAmb 06 27 46.3
comp=Z,8.9nm,0.9s
CNPM China Poot 15.68 50 Pn Pn 06 27 36.8 -0.5
CNPM IAmb IAmb 06 28 00.1
comp=Z,15nm,1.0s
M20K Styx River 15.85 41 IAmb IAmb 06 27 50.2
comp=Z,7.7nm,0.9s
BRLK Bradley Lake 15.93 49 Pn Pn 06 27 40.1 -0.4
BRLK IAmb IAmb 06 28 06.6
comp=Z,16nm,1.2s
H18K Honhosa River 16.17 26 P P 06 27 50.5 +4.4
K20K Telida 16.31 35 P P 06 27 49.4 +1.7
SKT Skwentna 16.56 42 Pn 06 27 51.0 +2.5
PETK Petropavlovsk- 16.59 286 Pn Pn 06 27 45.0 -3.8
PETK Petropavlovsk- 16.59 286 P Pn 06 27 48.8 -0.1
comp=Z,0.3nm,0.3s,baz=82,slow=11,SNR=5.4
comp=Z,1.1nm,0.5s
SEW Seward 16.73 49 Pn 06 27 49.0 -1.5
RC01 Rabbit Creek A 16.95 46 P Pn 06 27 52.6 -0.7
RC01 IAmb IAmb 06 27 58.7
comp=Z,16nm,1.5s
CAST Castle Rocks 17.08 37 P P 06 27 58.8 +2.5
CAST IAmb IAmb 06 28 24.1
comp=Z,7.1nm,0.8s
E18K Tukpahlearik C 17.48 19 Pn 06 28 01.4 +1.6
KTH Kantishna Hill 17.59 38 P Pn 06 28 03.0 +1.7
KTH IAmb IAmb 06 28 09.1
comp=Z,16nm,0.9s
TRF Thorofare Moun 17.78 38 Pn 06 28 05.2 +1.5
TRF IAmb IAmb 06 28 10.2
comp=Z,15nm,1.3s
BPAW Bear Paw Mtn. 17.86 36 P 06 28 06.4 +1.5
GLI Glacier Island 18.08 48 P P 06 28 06.5 -0.7
I21K Tanana 18.14 32 P Pn 06 28 10.4 +2.5
I21K IAmb IAmb 06 28 14.7
comp=Z,7.3nm,0.8s
HIN Hinchinbrook I 18.21 50 P P 06 28 07.3 -1.5
HIN IAmb IAmb 06 28 13.6
comp=Z,21nm,1.2s
SCM Sheep Creek Mo 18.30 45 P P 06 28 09.9 +0.1
SCM IAmb IAmb 06 28 28.6
comp=Z,19nm,1.5s
RND Reindeer 18.32 39 P 06 28 10.4 +0.4
C18K Utukok River 18.44 16 P 06 28 11.0 -0.1
C18K IAmb IAmb 06 28 20.8
comp=Z,15nm,1.4s
MCK McKinley 18.45 39 P 06 28 11.2 -0.1
MCK IAmb IAmb 06 28 15.8
comp=Z,5.6nm,0.7s
BWN Browne 18.47 37 P P 06 28 09.4 -2.1
MLY Manley 18.48 34 P 06 28 11.9 +0.3
MLY IAmb IAmb 06 28 17.9
comp=Z,5.3nm,0.6s
KLU Klutina 18.82 47 P P 06 28 15.0 -0.4
D19K Kuna River 18.90 20 Pn 06 28 18.5 +1.4
D19K IAmb IAmb 06 28 28.7
comp=Z,7.2nm,0.8s
M24K Tolsona, Glenn 18.91 45 P P 06 28 16.1 -0.3
M24K IAmb IAmb 06 28 34.5
comp=Z,8.4nm,0.6s
I23K Minto, Yukon-K 19.03 34 P P 06 28 19.1 +1.5
I23K IAmb IAmb 06 28 23.4
comp=Z,7.1nm,0.7s
C19K Lookout Ridge 19.12 17 P 06 28 18.4 -0.3
WRH Wood River Hil 19.14 37 P P 06 28 18.3 -0.5
WRH IAmb IAmb 06 28 34.8
comp=Z,8.7nm,1.2s
HMT Hamilton 19.28 51 P P 06 28 20.0 -0.4
CCB Clear Creek Bu 19.33 37 P P 06 28 20.1 -0.8
CCB IAmb IAmb 06 28 24.2
comp=Z,3.6nm,0.6s
H23K Yukon River 19.35 33 P P 06 28 22.4 +1.2
N25K Chitina, Valde 19.45 47 P P 06 28 22.5 +0.1
N25K IAmb IAmb 06 28 29.2
comp=Z,3.3nm,0.5s
SUCK Suckling Hills 19.45 52 P P 06 28 22.1 -0.2
PAX Paxson 19.53 43 P P 06 28 23.6 +0.4
PAX IAmb IAmb 06 28 44.5
comp=Z,3.8nm,0.6s
HDA Harding Lake 19.54 38 P P 06 28 23.3 +0.1
BERG Berg Lake 19.56 51 P P 06 28 21.9 -1.6
BERG IAmb IAmb 06 28 34.8
comp=Z,9.4nm,0.9s
K24K Donnelly Dome 19.73 40 P P 06 28 25.8 +0.4
IL31 19.74 37 P P 06 28 24.9 -0.4
IL31 IAmb IAmb 06 28 42.8
comp=Z,4.1nm,0.5s
ILAR Eielson Array 19.74 37 P P 06 28 23.6 -1.8
comp=Z,0.8nm,0.3s,baz=221,slow=8.9,SNR=42
comp=Z,0.7nm,0.3s
E21K Killik River 19.80 23 P P 06 28 27.8 +1.7
E21K IAmb IAmb 06 28 33.6
comp=Z,5.7nm,0.8s
H24K Noodor Dome 19.92 34 P 06 28 28.7 +1.3
H24K IAmb IAmb 06 28 33.0
comp=Z,6.2nm,0.8s
COLD Coldfoot 19.99 29 P 06 28 30.3 +2.2
RIDG Independent Ri 20.09 41 P 06 28 28.7 -0.5
RIDG IAmb IAmb 06 28 45.6
comp=Z,11nm,1.1s
J25K Salcha River, 20.24 38 P P 06 28 30.0 -0.9
DOT Dot Lake 20.37 42 P 06 28 31.9 -0.4
L26K Log Cabin Wild 20.45 44 P P 06 28 34.0 +0.8
SCRK Sand Creek 20.53 41 P 06 28 33.5 -0.6
G24K Hadweenzic Riv 20.54 32 P 06 28 35.6 +1.6
G24K IAmb IAmb 06 28 40.4
comp=Z,8.5nm,1.0s
B21K Ikpikpuk River 20.56 21 P P 06 28 35.5 +1.4
PRP Porcupine Dome 20.60 36 P 06 28 37.2 +2.3
SEY Seymchan 20.65 316 P P 06 28 34.1 -1.1
comp=Z,1.7nm,0.2s,baz=142,slow=10,SNR=6.5
SEY LR LR 06 36 42.7
comp=Z,69nm,18.2s,baz=132,slow=37
comp=Z,1.7nm,0.2s
E23K Chandalar 20.70 27 P 06 28 38.6 +2.8
E23K IAmb IAmb 06 28 45.0
comp=Z,5.4nm,1.0s
F24K Squaw Lake 20.88 30 P 06 28 39.8 +2.1
F24K IAmb IAmb 06 28 57.6
comp=Z,5.5nm,0.8s
M27K Edge Creek, AK 20.90 46 Pn 06 28 42.2 +1.3
M27K IAmb IAmb 06 28 58.9
comp=Z,10nm,1.4s
J26L Joseph Creek 20.90 40 P P 06 28 37.7 -0.4
D23K Nanushuk River 21.02 25 P 06 28 41.1 +2.0
D23K IAmb IAmb 06 29 01.4
comp=Z,10nm,1.1s
E24K Your Creek 21.04 28 P P 06 28 41.2 +1.7
E24K IAmb IAmb 06 28 42.3
comp=Z,12nm,1.4s
TOLK Toolik Lake Re 21.09 26 P 06 28 41.6 +1.6
TOLK IAmb IAmb 06 29 01.9
comp=Z,9.7nm,1.0s
BCAR Beaver Creek A 21.14 44 P P 06 28 43.5 +2.9
K27K Chicken 21.33 41 P P 06 28 42.8 +0.2
I26K Coal Creek Min 21.39 38 P 06 28 43.0 -0.2
I26K IAmb IAmb 06 28 52.7
comp=Z,3.7nm,0.7s
F25K Christian Rive 21.63 31 P P 06 28 47.0 +1.2
D24K Happy Valley 21.64 26 P 06 28 48.0 +2.2
C23K Itkillik River 21.65 23 P 06 28 47.1 +1.2
BMAR Burnt Mountain 21.89 32 P 06 28 49.8 +1.2
G26K Porcupine Rive 21.91 33 P P 06 28 51.2 +2.5
E25K Arctic Village 21.95 30 P P 06 28 50.4 +1.2
E25K IAmb IAmb 06 28 52.7
comp=Z,6.6nm,0.9s
C24K Franklin Bluff 22.05 25 P P 06 28 51.4 +1.2
F26K Sheenjek River 22.17 31 P P 06 28 52.3 +0.8
H27K Steamboat Moun 22.39 36 P P 06 28 53.9 -0.1
D25K Kavik River 22.42 27 P P 06 28 54.9 +0.6
D25K IAmb IAmb 06 29 08.8
comp=Z,4.2nm,0.8s
DAWY Dawson 22.46 42 P P 06 28 56.2 +1.5
DAWY IAmb IAmb 06 29 01.1
comp=Z,5.2nm,0.9s
M29M Somme Creek 22.46 47 P P 06 28 55.6 +0.7
G27K Doyon Strip 22.59 35 P P 06 28 57.6 +1.5
HYT Haines Junctio 22.64 51 P P 06 28 58.5 +1.7
I28M Miner Creek 22.69 39 P 06 28 56.8 -0.5
I28M IAmb IAmb 06 29 14.9
comp=Z,4.0nm,0.6s
K29M Barlow Dome 23.20 43 P 06 29 02.8 +0.3
K29M IAmb IAmb 06 29 04.0
comp=Z,4.2nm,0.7s
E27K Coleen River 23.25 32 P 06 29 03.3 +0.5
I29M Ogilvie Camp, 23.30 40 P P 06 29 03.6 +0.3
I29M IAmb IAmb 06 29 04.3
comp=Z,7.2nm,1.3s
F28M Old Crow 23.57 34 P 06 29 07.0 +1.2
F28M IAmb IAmb 06 29 10.9
comp=Z,9.3nm,1.5s
H29M Whitestone 23.57 37 P 06 29 05.4 -0.4
J30M Hart River 23.89 42 P 06 29 08.9 -0.1
J30M IAmb IAmb 06 29 12.7
comp=Z,5.5nm,1.1s
D27M Malcolm River 23.97 30 P P 06 29 10.7 +1.0
D27M IAmb IAmb 06 29 12.8
comp=Z,7.8nm,1.4s
I30M Mount Dempster 24.04 40 P 06 29 10.0 -0.4
I30M IAmb IAmb 06 29 27.4
comp=Z,3.8nm,0.6s
E28M Babbage River 24.12 32 P 06 29 11.4 +0.5
E28M IAmb IAmb 06 29 13.1
comp=Z,7.5nm,1.1s
E29M Blow River 24.57 33 P 06 29 16.3 +1.3
INK Inuvik 26.05 34 P P 06 29 28.1 -0.3
comp=Z,0.8nm,0.3s,baz=255,slow=8.3,SNR=7.1
INK LR LR 06 40 31.2
comp=Z,57nm,18.6s,baz=234,slow=38
comp=Z,0.8nm,0.3s
BBB Bella Bella 28.70 70 LR LR 06 40 24.8
comp=Z,77nm,18.9s,baz=308,slow=34
ASAJ Asahikawa 28.94 272 LR LR 06 42 31.7
comp=Z,22nm,19.2s,baz=15,slow=38
YAK Yakutsk 30.98 311 LR LR 06 42 28.2
comp=Z,57nm,20.3s,baz=82,slow=36
YKA Yellowknife Ar 33.48 47 LR LR 06 44 29.0
comp=Z,76nm,19.4s,baz=23,slow=37
H11N2 WAKE ISLAND Hy 34.72 211 T T 07 07 59.7
baz=20,slow=76,SNR=302
H11N3 WAKE ISLAND Hy 34.73 210 T T 07 08 16.5
baz=20,slow=76,SNR=229
H11N1 WAKE ISLAND Hy 34.74 211 T T 07 08 01.1
baz=20,slow=76,SNR=184
USRK Ussuriysk Ar. 35.48 279 P P 06 30 51.5 -0.3
comp=Z,2.6nm,0.5s,baz=60,slow=7.6,SNR=5.8
USRK LR LR 06 45 41.1
comp=Z,46nm,19.7s,baz=58,slow=37
comp=Z,2.6nm,0.5s
H11S1 WAKE ISLAND Hy 35.93 210 T T 07 09 44.1
baz=19,slow=76,SNR=494
H11S2 WAKE ISLAND Hy 35.95 210 T T 07 09 50.6
baz=19,slow=76,SNR=157
H11S3 WAKE ISLAND Hy 35.95 210 T T 07 09 53.5
baz=19,slow=76,SNR=157
MJAR Matsushiro Arr 36.02 264 LR LR 06 44 27.4
comp=Z,22nm,20.2s,baz=158,slow=34
NEW Newport 36.72 72 LR LR 06 45 58.9
comp=Z,38nm,18.9s,baz=288,slow=36
NVAR Mina Array Bea 41.31 86 P P 06 31 42.2 +1.2
comp=Z,0.2nm,0.5s,baz=312,slow=5.0,SNR=1.9
comp=Z,0.2nm,0.5s
KSRS Korea Array 41.87 273 P P 06 31 45.5 +0.3
comp=Z,2.0nm,0.7s,baz=62,slow=7.4,SNR=9.4
comp=Z,2.0nm,0.7s
JNU Nakatsue 42.81 266 LR LR 06 51 23.2
comp=Z,23nm,19.3s,baz=292,slow=38
PDAR Pinedale Array 44.12 75 P P 06 32 04.8 +1.0
comp=Z,2.9nm,0.6s,baz=311,slow=4.0,SNR=37
PDAR LR LR 06 47 03.9
comp=Z,14nm,21.4s,baz=310,slow=31
comp=Z,2.9nm,0.6s
PFO Pinyon Flats O 45.53 90 LR LR 06 50 17.8
comp=Z,37nm,18.2s,baz=154,slow=35
SONM Songino Array 48.55 298 PcP PcP 06 34 02.7 -0.9
comp=Z,0.9nm,0.6s,baz=54,slow=1.1,SNR=4.5
SONM LR LR 06 52 23.1
comp=Z,25nm,21.0s,baz=31,slow=35
ANMO Albuquerque 50.87 81 LR LR 06 53 46.8
comp=Z,36nm,18.3s,baz=49,slow=35
SFJD Kangerlussuaq 54.63 23 LR LR 06 59 29.6
comp=Z,29nm,19.6s,baz=294,slow=39
ZALV Zalesovo Beam 55.51 315 LR LR 06 58 53.0
comp=Z,31nm,19.4s,baz=60,slow=38
TXAR Lajitas Array 56.41 84 P P 06 33 37.2 +0.4
comp=Z,0.3nm,0.5s,baz=315,slow=5.6,SNR=6.0
TXAR PcP PcP 06 34 34.5 +1.1
comp=Z,0.2nm,0.5s,baz=310,slow=3.0,SNR=1.1
comp=Z,0.3nm,0.5s
ARCES ARCESS Array B 58.28 352 P P 06 33 49.2 0.0
comp=Z,4.1nm,1.1s,baz=19,slow=8.8,SNR=1.7
comp=Z,4.1nm,1.1s
KURBB Kurchatov Arra 60.60 315 P P 06 34 05.5 0.0
comp=Z,1.3nm,0.4s,baz=44,slow=6.5,SNR=10.0
comp=Z,1.3nm,0.4s
MKAR Makanchi Array 61.65 310 P P 06 34 10.7 -2.0
comp=Z,0.2nm,0.3s,baz=46,slow=6.3,SNR=4.9
MKAR LR LR 07 01 16.4
comp=Z,40nm,19.2s,baz=51,slow=36
comp=Z,0.2nm,0.3s
BVAR Borovoye Array 62.17 322 P P 06 34 15.1 -1.1
comp=Z,1.1nm,0.4s,baz=72,slow=6.6,SNR=5.2
BVAR LR LR 07 02 40.4
comp=Z,49nm,21.8s,baz=33,slow=37
comp=Z,1.1nm,0.4s
NOA NORSAR Array B 67.64 357 P P 06 34 50.9 -0.7
comp=Z,0.4nm,0.6s,baz=5.0,slow=6.8,SNR=2.2
NOA LR LR 07 02 34.3
comp=Z,7.2nm,21.7s,baz=10.0,slow=34
comp=Z,0.4nm,0.6s
HFS Hagfors 68.44 355 P P 06 34 55.4 -1.1
comp=Z,1.2nm,0.4s,baz=11,slow=3.0,SNR=13
HFS LR LR 07 02 20.9
comp=Z,15nm,21.9s,baz=82,slow=34
comp=Z,1.2nm,0.4s
AKTO Aktyubinsk 68.81 327 LR LR 07 08 05.7
comp=Z,22nm,19.6s,baz=212,slow=38
BELG Belogornoye 70.32 334 LR LR 07 08 45.5
comp=Z,31nm,20.6s,baz=41,slow=38
CMIG Matias Romero 70.83 87 LR LR 07 04 01.4
comp=Z,18nm,18.1s,baz=180,slow=34
CMAR Chiang Mai Arr 73.21 279 P P 06 35 26.8 +0.7
comp=Z,0.8nm,0.3s,baz=33,slow=7.4,SNR=4.7
comp=Z,0.8nm,0.3s
EKA Eskdalemuir Ar 73.28 5 P P 06 35 25.0 -0.9
comp=Z,0.7nm,0.5s,baz=359,slow=6.1,SNR=4.5
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 76.03 344 P P 06 35 40.7 -1.3
comp=Z,0.3nm,0.3s,baz=16,slow=5.9,SNR=3.0
AKASG LR LR 07 14 19.4
comp=Z,21nm,18.0s,baz=82,slow=40
comp=Z,0.3nm,0.3s
WRA Warramunga Arr 83.72 227 P P 06 36 23.1 -0.7
comp=Z,0.5nm,0.4s,baz=34,slow=5.8,SNR=6.8
comp=Z,0.5nm,0.4s
ASAR Alice Springs 87.16 225 P P 06 36 41.6 +0.7
comp=Z,1.3nm,0.8s,baz=28,slow=5.0,SNR=8.8
comp=Z,1.3nm,0.8s
H03N2 Juan Fernandez 119.06 108 T T 08 53 19.8
baz=317,slow=77,SNR=47
H03N1 Juan Fernandez 119.07 108 T T 08 53 21.1
baz=317,slow=77,SNR=80
H03N3 Juan Fernandez 119.07 108 T T 08 53 20.4
baz=317,slow=77,SNR=53
MAW Mawson 147.99 218 PKPbc PKPbc 06 43 39.3 +0.6
comp=Z,3.2nm,0.6s,baz=119,slow=3.4,SNR=17
BOSA Boshof 152.43 318 PKPbc PKPbc 06 43 51.1 +0.3
comp=Z,2.5nm,0.5s,baz=13,slow=3.2,SNR=16

NOU ***18*** *06:31:39.5,37.°19S×179.°76E,h0km,MLv4.4/10,Off E. Coast of N. Island, N.Z.*
WEL ***18*** *06:31:48.1±0.7,37.°S±4.°×17.°9E±.°,h12km,M3.9/26, ML4.1/29,MLv3.9/26,Error ellipse: s-maj=7.1km s-min=5.3km az=102.9,confirmed*

ISC 18 06:31:47.2±2.7,37.°24S±0.°08×179.°1E±0.°1,h13km±10km, n47,σ0°99/58,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.73	243	P	Pg	06 32 01.1	-0.3
MXZ	Matakaoa Point	0.73	243	P	Pg	06 32 01.2	-0.2
MXZ				S	Sg	06 32 08.9	-2.1
WMGZ	Waiomatatini S	0.81	224	P	Pn	06 32 04.8	+0.5
WMGZ				S	Sg	06 32 15.5	+2.0
PKGZ	Pakihiroa	1.04	233	P	Pn	06 32 07.7	+0.2
PKGZ				S	Sg	06 32 21.0	+0.1
PUZ	Puketiti	1.08	220	P	Pn	06 32 08.6	+0.5
PUZ				S	Sg	06 32 22.8	+0.6
HAZ	Te Kaha	1.19	244	P	Pn	06 32 08.3	-1.2
HAZ				S	Sb	06 32 24.1	-0.8
TWGZ	Tauwhareparae	1.31	224	P	Pb	06 32 11.9	+0.3
TWGZ				S	Sn	06 32 28.7	+0.1
RUGZ	Raukumara Rang	1.36	237	P	Pn	06 32 12.5	+0.5
RUGZ				S	Sn	06 32 30.2	+0.2
CNGZ	Carnagh Statio	1.44	210	P	Pg	06 32 14.5	-0.4
CNGZ				S	Sb	06 32 34.1	+1.9
TKGZ	Te Karaka	1.57	220	P	Pn	06 32 15.1	+0.3
WIZ	White Island	1.57	259	P	Pn	06 32 15.2	+0.5
MWZ	Matawai	1.68	229	P	Pn	06 32 16.6	+0.3
RIGZ	Rimuhau	1.82	216	P	Pn	06 32 18.5	+0.2
WHRZ	Whale Island	1.82	250	P	Pn	06 32 19.3	+1.1
RAGZ	Rawiri	1.85	227	P	Pn	06 32 19.3	+0.6
URZ	Urewera	1.90	237	P	Pn	06 32 20.1	+0.8
URZ	Urewera	1.90	237	P	Pn	06 32 19.9	+0.7
URZ				S	Sn	06 32 42.7	-0.3
PRGZ	Paritu Road	1.95	210	P	Pn	06 32 20.3	+0.3
EDRZ	Edgecumbe	2.09	245	P	Pn	06 32 22.5	+0.6
SNGZ	Shannon Statio	2.09	222	P	Pn	06 32 22.1	+0.1
KNZ	Kokohu	2.12	212	P	Pn	06 32 21.9	-0.4
OPRZ	Ohinepanea	2.13	253	P	Pn	06 32 22.5	0.0
MHGZ	Mahia Peninsul	2.14	206	P	Pn	06 32 23.0	+0.4
RTZ	Ruatahuna	2.19	230	P	Pn	06 32 24.0	+0.7
MUGZ	Murupara	2.24	236	P	Pn	06 32 24.3	+0.3
MUGZ				S	Sn	06 32 50.7	-0.9
MYRZ	Mayor Island	2.31	268	P	Pn	06 32 24.3	-0.5
RAHZ	Arahi	2.33	223	P	Pn	06 32 25.6	+0.5
WHHZ	Waihua	2.37	219	P	Pn	06 32 25.9	+0.2
MTHZ	Maungataniwha	2.42	228	P	Pn	06 32 27.0	+0.5
MTHZ				S	Sn	06 32 55.3	-0.7
NMHZ	Naumai	2.61	224	P	Pn	06 32 29.8	+0.7
ARHZ	Aropaoanui	2.63	219	P	Pn	06 32 29.4	+0.1
KUZ	Kuaotunu	2.77	279	P	Pn	06 32 29.9	-1.4
KUZ	Kuaotunu	2.77	279	P	Pn	06 32 29.8	-1.4
BKZ	Black Stump Fm	2.83	226	P	Pn	06 32 32.4	+0.2
CKHZ	Cape Kidnapper	2.91	213	P	Pn	06 32 32.4	-0.7
GRZ	Great Barrier	3.11	287	P	Pn	06 32 37.0	+1.1
MBAZ	Motutapu North	3.42	277	P	Pn	06 32 40.2	0.0
TRVZ	Turoa	3.49	233	P	Pn	06 32 41.0	-0.4
HIZ	Hauiti	3.61	248	P	Pn	06 32 44.6	+1.7
WCZ	Waipu Caves	4.06	287	P	Pn	06 32 49.1	+0.1
BFZ	Birch Farm	4.11	212	P	Pn	06 32 47.0	-2.7
KHEZ	Kahui Hut	4.52	241	P	Pn	06 32 57.6	+2.2
OUZ	Omahuta	4.91	293	P	Pn	06 33 01.4	+0.8
OUZ	Omahuta	4.91	293	P	Pn	06 33 01.4	+0.8
QRZ	Quartz Range	6.26	233	P	Pn	06 33 17.4	-1.9
KHZ	Kahutara	6.73	218	P	Pn	06 33 23.8	-1.8
CTZ	Chatham Island	7.25	155	P	Pn	06 33 34.0	+1.2

IDC 18 06:37:53.3±2.9,18.°63S×177.°32W,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=308.2km s-min=34.4km az=160.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	45.53	260	P	P	06 46 15.0	-0.1
	0.2nm,0.3s,baz=96,slow=7.6,SNR=7.2						
	0.2nm,0.3s						
ASAR	Alice Springs	45.60	255	P	P	06 46 15.5	-0.2
	0.3nm,0.5s,baz=90,slow=7.5,SNR=8.1						
	0.3nm,0.5s						
TXAR	Lajitas Array	85.51	57	P	P	06 50 33.6	0.0
	0.3nm,0.7s,baz=252,slow=4.5,SNR=4.0						
	0.3nm,0.7s						

ASRS ***18*** *06:40:17.0±0.8,54.°10N×87.°09E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 18 06:40:18.5±3.7,54.°19N×87.°36E,h0km,mbtmp2.7/2, ML2.2/1,Error ellipse: s-maj=33.4km s-min=20.6km az=45.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.52	262	I	I	06 49 10.0	
	baz=79,slow=316,SNR=7.2						
ZALV	Zalesovo Beam	1.52	262	Pg	Pn	06 40 45.8	-1.1
	1.0nm,0.3s,baz=76,slow=11,SNR=14						
ZALV				Lg	Lg	06 41 06.6	
	1.2nm,0.3s,baz=84,slow=29,SNR=6.8						
KURBB	Kurchatov Arra	6.48	240	Pn	Pn	06 41 56.3	+1.2
	0.1nm,0.3s,baz=49,slow=14,SNR=1.9						
	0.3nm,0.3s						
MKAR	Makanchi Array	8.08	206	Pn	Pn	06 42 17.8	+0.7
	0.2nm,0.6s,baz=24,slow=13,SNR=1.1						

KRSC 18 07:29:10.3±1.9,50.°14N×157.°42E,h49km±27km,MI3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	0.99	304	eS	Sn	07 29 39.6	-1.3
PAU	Pauzhetka	1.39	344	eP	Pn	07 29 35.0	+1.8
PAU				eS	Sn	07 29 52.0	+1.7
MIPR	Malaya Ipel'ka	2.18	349	eP	Pn	07 29 46.3	+2.2
ASAK	Asacha	2.27	7	eP	Pn	07 29 48.4	+3.0
MTVR	Mutnovka	2.40	11	eP	Pn	07 29 50.4	+3.2
MTVR				eS	Sn	07 30 18.8	+3.5
RUS	Russkaya	2.40	16	eP	Pn	07 29 49.8	+2.8
GRL	Gorelyy	2.45	9	eP	Pn	07 29 51.3	+3.4
GRL				eS	Sn	07 30 20.6	+3.9
DALK	Dalny	3.01	16	eP	Pn	07 29 59.0	+3.5
UGLR	Uglovaya	3.20	15	eP	Pn	07 30 01.9	+3.8
AVH	Avacha	3.24	14	eP	Pn	07 30 02.7	+4.1
SMAR	Somma	3.25	15	eP	Pn	07 30 03.2	+4.4
KOK	Koryaka	3.25	13	eP	Pn	07 30 03.2	+4.4
NLC	Nalytchevo	3.27	21	eP	Pn	07 30 01.2	+2.3
SDLR	Sedlovina	3.27	16	eP	Pn	07 30 02.7	+3.6
KRER	Koryakskii	3.28	14	eP	Pn	07 30 03.3	+4.1
KRX	Arik	3.31	13	eP	Pn	07 30 03.7	+4.0
SPN	Mys Shipunski	3.38	28	eP	Pn	07 30 04.3	+3.8
SPN				eS	Sn	07 30 42.7	+3.5
GNL	Ganaly	3.58	5	eP	Pn	07 30 06.8	+3.5
MKZ	Mys Kozlova	5.15	29	eP	Pn	07 30 27.4	+2.7

ASRS ***18*** *07:44:17.0±0.5,54.°34N×86.°92E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 18 07:44:17.5±3.1,54.°43N×86.°96E,h0km,mbtmp3.0/2, ML2.8/2,Error ellipse: s-maj=28.0km s-min=19.1km az=46.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC

I46RU	ZALESOVO INFRA	1.34 250	I	I	07 52 33.2	
	baz=70,slow=322,SNR=5.9					
ZALV	Zalesovo Beam	1.34 250	Pn	Pg	07 44 41.8	-1.4
	1.8nm,0.3s,baz=68,slow=17,SNR=15					
ZALV			Lg	Lg	07 45 01.2	
	1.8nm,0.3s,baz=67,slow=26,SNR=5.9					
KURBB	Kurchatov Arra	6.40 237	Pn	Pn	07 45 54.0	+1.0
	0.1nm,0.3s,baz=54,slow=14,SNR=7.7					
KURBB			Lg	Lg	07 47 39.2	
	0.1nm,0.3s,baz=58,slow=15,SNR=9.8					
	0.5nm,0.3s					
MKAR	Makanchi Array	8.20 203	Pn	Pn	07 46 18.8	+1.1
	0.2nm,0.3s,baz=21,slow=12,SNR=7.5					
	0.3nm,0.3s					

IDC ***18*** *07:53:13.8±1.9, 2°.97N×123°.13E, h484km±22km, mb3.1/8, mbtmp4.0/8, Error ellipse: s-maj=81.7km s-min=10.7km az=66.0*

ISC 18 07:53:14.2±0.9, 2°.9N±0°.3×123°.0E±0°.7, h489km, n8, σ0.960/11, mb3.7/8, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.07	173	P	P	07 57 23.1	-0.1
	1.5nm,0.5s,baz=3.4,slow=9.3,SNR=9.3						
	1.5nm,0.5s						
WRA	Warramunga Arr	25.31	154	P	P	07 58 00.1	-1.0
	1.6nm,0.6s,baz=336,slow=9.7,SNR=28						
WRA				ScP	ScP	08 04 10.9	0.0
	0.3nm,0.5s,baz=338,slow=3.0,SNR=4.7						
	1.6nm,0.6s						
ASAR	Alice Springs	28.49	159	P	P	07 58 29.1	-0.2
	0.6nm,0.4s,baz=338,slow=7.3,SNR=20						
ASAR				ScP	ScP	08 04 20.4	-0.1
	0.3nm,0.4s,baz=338,slow=3.2,SNR=5.3						
	0.6nm,0.4s						
STKA	Stephens Creek	38.86	154	P	P	07 59 57.3	+0.6
	3.1nm,0.8s,baz=354,slow=7.0,SNR=6.8						
	3.1nm,0.8s						
SONM	Songino Array	46.97	345	P	P	08 01 00.6	+0.4
	0.4nm,0.4s,baz=134,slow=4.2,SNR=2.5						
	0.4nm,0.4s						
MKAR	Makanchi Array	56.16	327	P	P	08 02 07.2	+0.4
	1.6nm,0.3s,baz=126,slow=7.8,SNR=28						
MKAR				PcP	PcP	08 02 56.8	-0.9
	0.4nm,0.7s,baz=127,slow=3.9,SNR=2.9						
	1.6nm,0.3s						
KURBB	Kurchatov Arra	60.46	329	P	P	08 02 35.9	+0.1
	1.1nm,0.5s,baz=134,slow=6.7,SNR=19						
	1.1nm,0.5s						
BVAR	Borovoye Array	66.00	328	P	P	08 03 11.1	-0.4
	0.7nm,0.5s,baz=140,slow=9.4,SNR=3.9						
	0.7nm,0.5s						

WEL ***18*** *07:55:42.2±1.0, 37°.5±4°×17°.9E±°, h12km, M3.1/18, ML3.5/25, MLv3.1/18, Error ellipse: s-maj=10.6km s-min=5.3km az=90.4, confirmed*

NOU ***18*** *07:55:42.1, 37°.35S×178°.94E, h12km, MLv3.7/11, Off E. Coast of N. Island, N.Z.*

ISC 18 07:55:41.0±2.5, 37°.28S±0°.07×179°.0E±0°.1, h12km±14km, n66, σ0.991/82, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.60	241	P	Pb	07 55 53.5	+0.1
MXZ	Matakaoa Point	0.60	241	P	Pb	07 55 53.5	+0.1
MXZ				S	Sb	07 56 01.4	-0.4
WMGZ	Waiomatatini S	0.70	219	P	Pn	07 55 57.3	+0.6
WMGZ				S	Sn	07 56 07.4	-0.1
PKGZ	Pakihiroa	0.92	230	P	Pn	07 56 00.0	+0.2
PKGZ				S	Sn	07 56 13.6	+0.7
PUZ	Puketiti	0.97	215	P	Pn	07 56 01.1	+0.5
PUZ				S	Sn	07 56 14.7	+0.4
HAZ	Te Kaha	1.05	243	P	Pb	07 56 00.7	-0.5
TWGZ	Tauwhareparae	1.19	221	P	Pg	07 56 04.3	+0.4
TWGZ				S	Sb	07 56 19.1	+0.1
RUGZ	Raukumara Rang	1.23	236	P	Pn	07 56 04.8	+0.6
CNGZ	Carnagh Statio	1.35	206	P	Pb	07 56 06.9	+0.7
TKGZ	Te Karaka	1.46	217	P	Pn	07 56 07.6	+0.4
TKGZ				S	Sb	07 56 26.8	+0.2
MWZ	Matawai	1.55	227	P	Pn	07 56 09.3	+0.8
MWZ				S	Sb	07 56 29.6	+0.2
RIGZ	Rimuhau	1.71	213	P	Pn	07 56 11.1	+0.4
RAGZ	Rawiri	1.73	225	P	Pn	07 56 12.2	+1.2
URZ	Urewera	1.77	236	P	Pn	07 56 12.5	+1.1
URZ	Urewera	1.77	236	P	Pn	07 56 12.4	+0.9
URZ				S	Sb	07 56 34.8	-0.6
PRGZ	Paritu Road	1.85	207	P	Pn	07 56 12.8	+0.2
PRGZ				S	Sn	07 56 36.5	+0.4
EDRZ	Edgecumbe	1.95	244	P	Pn	07 56 15.1	+1.1
SNGZ	Shannon Statio	1.98	220	P	Pn	07 56 14.7	+0.3
SNGZ				S	Sb	07 56 41.9	+0.4
OPRZ	Ohinepanea	2.00	253	P	Pn	07 56 14.9	+0.3
OPRZ				S	Sn	07 56 38.9	-0.6
RTZ	Ruatahuna	2.06	229	P	Pn	07 56 16.4	+0.9
RTZ				S	Sb	07 56 43.0	-1.1
MUGZ	Murupara	2.11	235	P	Pn	07 56 16.7	+0.6
MUGZ				S	Sn	07 56 40.6	-1.8
TARZ	Mount Tarawera	2.17	243	P	Pn	07 56 18.6	+1.5
RAZ	Arahi	2.21	222	P	Pn	07 56 18.3	+0.7
RAHZ				S	Sn	07 56 45.2	+0.4
RRRZ	Republican Roa	2.21	241	P	Pn	07 56 18.8	+1.2
MTHZ	Maungataniwha	2.30	226	P	Pn	07 56 19.9	+1.1
MTHZ				S	Sn	07 56 47.5	+0.4
NMHZ	Naumai	2.49	222	P	Pn	07 56 22.6	+1.2
NMHZ				S	Sn	07 56 52.8	+1.0
ARHZ	Aropaoanui	2.52	217	P	Pn	07 56 22.1	+0.3
MRHZ	Matea Rd	2.54	231	P	Pn	07 56 22.8	+0.7
KUZ	Kuaotunu	2.65	281	P	Pn	07 56 24.0	+0.4
KUZ	Kuaotunu	2.65	281	P	Pn	07 56 22.1	-1.4
BKZ	Black Stump Fm	2.71	225	P	Pn	07 56 24.8	+0.3
BKZ	Black Stump Fm	2.71	225	S	Sn	07 56 56.5	-0.7
BKZ	Black Stump Fm	2.71	225	P	Pn	07 56 25.0	+0.5
TOZ	Tahuroa Road	2.79	260	P	Pn	07 56 25.2	-0.3
MCHZ	McNeill Hill	2.80	219	P	Pn	07 56 25.7	-0.1
KWHZ	Kaweka Forest	2.93	222	P	Pn	07 56 27.7	+0.2
GRZ	Great Barrier	3.00	289	P	Pn	07 56 29.3	+1.0
KAHZ	Kahuranaki	3.00	212	P	Pn	07 56 27.4	-1.0
MKAZ	Moumakai	3.04	272	P	Pn	07 56 28.1	-0.8
WIAZ	Waiheke Island	3.10	278	P	Pn	07 56 29.0	-0.8
KRHZ	Kereru	3.12	220	P	Pn	07 56 29.2	-0.8
TMVZ	Te Maari	3.16	233	P	Pn	07 56 31.1	+0.4
ETVZ	East Tongariro	3.16	233	P	Pn	07 56 31.1	+0.3
KRVZ	Karewarewa	3.19	234	P	Pn	07 56 31.5	+0.4
NNVZ	North Ngauruho	3.22	234	P	Pn	07 56 32.1	+0.5
SNVZ	South Ngauruho	3.24	233	P	Pn	07 56 31.9	+0.1
ETAZ	East Tamaki Re	3.24	274	P	Pn	07 56 33.3	+1.6
NGZ	Ngauruhoe	3.26	233	P	Pn	07 56 32.2	+0.1
MBAZ	Motutapu North	3.29	278	P	Pn	07 56 33.9	+1.5
MOVZ	Moawhango	3.30	229	P	Pn	07 56 32.5	-0.1
WNVZ	Wahianoa	3.35	231	P	Pn	07 56 33.4	+0.1
ABAZ	Army Bay	3.38	280	P	Pn	07 56 35.3	+1.7
PNHZ	Pukenui	3.41	219	P	Pn	07 56 32.8	-1.3
AWAZ	Awhitu Peninsu	3.46	272	P	Pn	07 56 35.7	+1.0
HIZ	Hauiti	3.48	248	P	Pn	07 56 37.1	+2.1
HIZ	Hauiti	3.48	248	S	Sn	07 57 11.0	+1.4
HIZ	Hauiti	3.48	248	P	Pn	07 56 36.6	+1.7
RVAZ	Riverhead Bore	3.54	277	P	Pn	07 56 35.8	0.0
TSZ	Takapari Road	3.64	219	P	Pn	07 56 36.0	-1.2
VRZ	Vera Road	3.79	240	P	Pn	07 56 41.0	+1.7
WCZ	Waipu Caves	3.95	288	P	Pn	07 56 41.4	0.0
WAZ	Wanganui	3.98	230	P	Pn	07 56 42.6	+0.6
BFZ	Birch Farm	4.01	211	P	Pn	07 56 41.6	-0.6
MHEZ	Mangahewa	4.07	242	P	Pb	07 56 50.0	-2.7
OUZ	Omahuta	4.80	294	P	Pn	07 56 54.0	+0.9
OUZ	Omahuta	4.80	294	P	Pn	07 56 53.9	+0.8

IDC ***18*** *07:57:25.2±1.9, 37°.14S×178°.90E, h0km, mb4.0/4, mbtmp4.0/4, MS4.0/1, Error ellipse: s-maj=36.7km s-min=31.6km az=120.0*

NOU ***18*** *07:57:27.5, 37°.24S×178°.99E, h7km, MLv3.9/10, Off E. Coast of N. Island, N.Z.*

WEL ***18*** *07:57:29.1±0.8, 37°.5±4°×17°.9E±°, h12km, M3.7/24, ML3.9/25, MLv3.7/24, Error ellipse: s-maj=8.6km s-min=4.6km az=94.7, confirmed*

ISC 18 07:57:26.2±2.1, 37°.22S±0°.06×179°.04E±0°.07, h11km±11km, n133, σ1.939/136, mb3.9/4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.68	240	P	Pb	07 57 40.1	+0.1
MXZ	Matakaoa Point	0.68	240	P	Pb	07 57 40.2	+0.2
MXZ				S	Sb	07 57 48.2	-1.1
TDHS	Te Araroa Dist	0.68	233	P	Pb	07 57 40.1	+0.1
WMGZ	Waiomatatini S	0.78	220	P	Pn	07 57 44.0	+0.9
PKGZ	Pakihiroa	1.00	230	P	Pn	07 57 46.8	+0.6
PKGZ				S	Sn	07 58 00.3	+0.1
PUZ	Puketiti	1.05	216	P	Pn	07 57 47.8	+0.9
PUZ				S	Sb	07 58 00.7	+0.5
HAZ	Te Kaha	1.14	242	P	Pg	07 57 47.4	-0.7
HAZ				S	Sn	07 58 03.6	+0.1
TWGZ	Tauwhareparae	1.27	221	P	Pn	07 57 51.2	+1.2
TBAS	Tolaga Bay Are	1.29	207	P	Pg	07 57 51.9	+0.9
RUGZ	Raukumara Rang	1.31	235	P	Pn	07 57 51.6	+1.0
RUGZ				S	Sn	07 58 08.9	+0.8
CNGZ	Carnagh Statio	1.42	208	P	Pb	07 57 53.6	+0.9
WIZ	White Island	1.51	258	P	Pb	07 57 54.0	-0.2
TKGZ	Te Karaka	1.54	218	P	Pn	07 57 54.3	+0.7
MWZ	Matawai	1.63	227	P	Pn	07 57 55.9	+1.0
WHRZ	Whale Island	1.76	248	P	Pb	07 57 58.0	-0.6
RIGZ	Rimuhau	1.79	214	P	Pn	07 57 57.8	+0.7
RAGZ	Rawiri	1.81	225	P	Pn	07 57 58.2	+0.8
URZ	Urewera	1.85	235	Pn	Pn	07 57 59.0	+1.2
	75nm,0.3s,baz=355,slow=0.6,SNR=32						
URZ				Sn	Sb	07 58 21.8	-1.3
	72nm,0.3s,baz=167,slow=23,SNR=17						
URZ				LR	LR	07 58 59.4	
	comp=Z,346nm,19.1s,baz=334,slow=52						
URZ	Urewera	1.85	235	P	Pb	07 57 59.4	-0.6
URZ	Urewera	1.85	235	S	Sb	07 58 22.2	-0.9
URZ	Urewera	1.85	235	P	Pn	07 57 59.2	+1.4
URZ				S	Sn	07 58 21.4	+0.3
PRGZ	Paritu Road	1.93	208	P	Pn	07 57 59.8	+0.9
EDRZ	Edgecumbe	2.03	244	P	Pn	07 58 01.8	+1.4
MARZ	Manawahe	2.03	247	P	Pb	07 58 02.1	-1.0
MARZ				S	Sb	07 58 27.5	-0.8
SNGZ	Shannon Statio	2.06	220	P	Pn	07 58 01.9	+1.2
OPRZ	Ohinepanea	2.07	252	P	Pn	07 58 01.5	+0.6
OPRZ				S	Sn	07 58 25.1	-1.6
KNZ	Kokohu	2.10	211	P	Pn	07 58 01.6	+0.4
MHGZ	Mahia Peninsul	2.12	205	P	Pn	07 58 02.2	+0.6
RTZ	Ruatahuna	2.14	229	P	Pn	07 58 03.2	+1.2
MUGZ	Murupara	2.19	235	P	Pn	07 58 03.6	+1.1
MYRZ	Mayor Island	2.24	268	P	Pn	07 58 03.3	+0.2
MKRZ	Makatiti	2.24	245	P	Pn	07 58 05.1	+1.9
LIRZ	Lichensteins R	2.25	249	P	Pb	07 58 05.5	-1.3
TARZ	Mount Tarawera	2.25	243	P	Pn	07 58 05.3	+1.8
TGRZ	Tauranga	2.27	256	P	Pn	07 58 04.0	+0.4
RAHZ	Arahi	2.29	222	P	Pn	07 58 05.6	+1.7
RAHZ				S	Sn	07 58 31.8	-0.3
RRRZ	Republican Roa	2.29	240	P	Pn	07 58 05.3	+1.4
OMRZ	Omania	2.30	247	P	Pn	07 58 05.3	+1.3
WHHZ	Waihua	2.33	217	P	Pn	07 58 06.3	+1.8
WHHZ				S	Sn	07 58 35.0	+1.8
KARZ	Kaharoa	2.36	249	P	Pn	07 58 06.0	+1.2
HLRZ	Highlands Stat	2.37	244	P	Pn	07 58 06.7	+1.7
MTHZ	Maungataniwha	2.38	226	P	Pn	07 58 06.5	+1.3
NGRZ	Ngongotaha	2.43	248	P	Pn	07 58 06.2	+0.4
UTU	Utuhina	2.45	246	P	Pb	07 58 10.1	-0.2
PRRZ	Plateau Road	2.45	238	P	Pn	07 58 07.2	+1.0
HSRZ	Hossack Road	2.47	243	P	Pn	07 58 08.5	+2.2
HRRZ	Handcock Road	2.48	241	P	Pn	07 58 08.0	+1.5
ALRZ	Allen Road	2.52	237	P	Pn	07 58 08.5	+1.4
KMRZ	Kaimai	2.54	255	P	Pn	07 58 08.0	+0.6
NMHZ	Naumai	2.57	223	P	Pn	07 58 09.5	+1.6
GRRZ	Galatos Road	2.58	243	P	Pn	07 58 09.8	+1.9
ARHZ	Aropaoanui	2.60	218	P	Pn	07 58 08.9	+0.8
WPRZ	Whakapapatarin	2.62	240	P	Pn	07 58 10.4	+1.9
MRHZ	Matea Rd	2.62	231	P	Pn	07 58 09.7	+1.2
KUZ	Kuaotunu	2.70	279	P	Pn	07 58 08.8	-0.7
KUZ	Kuaotunu	2.70	279	P	Pn	07 58 08.8	-0.7
BKZ	Black Stump Fm	2.79	225	P	Pn	07 58 11.5	+0.6
BKZ	Black Stump Fm	2.79	225	P	Pn	07 58 11.6	+0.8
KUTZ	Kaahu Road	2.84	243	P	Pn	07 58 13.3	+1.7
TOZ	Tahuroa Road	2.86	259	P	Pn	07 58 11.5	-0.2
CKHZ	Cape Kidnapper	2.88	212	P	Pn	07 58 12.5	+0.5
MCHZ	McNeill Hill	2.88	219	P	Pn	07 58 12.6	+0.5
TLZ	Tolley Road	2.99	247	P	Pn	07 58 15.2	+1.6
KWHZ	Kaweka Forest	3.01	222	P	Pn	07 58 13.9	0.0
GRZ	Great Barrier	3.04	288	P	Pn	07 58 15.2	+1.1
RATZ	Rangitukua	3.06	237	P	Pn	07 58 16.6	+2.1
RITZ	Rihia Road	3.06	234	P	Pn	07 58 16.5	+1.9
KAHZ	Kahuranaki	3.08	213	P	Pn	07 58 14.4	-0.4
MKAZ	Moumakai	3.10	271	P	Pn	07 58 14.8	-0.2
WIAZ	Waiheke Island	3.16	277	P	Pn	07 58 15.7	-0.1
KATZ	Kakaramea	3.17	235	P	Pn	07 58 18.5	+2.4
KRHZ	Kereru	3.20	220	P	Pn	07 58 16.6	+0.2
TMVZ	Te Maari	3.24	233	P	Pn	07 58 17.7	+0.7
ETVZ	East Tongariro	3.25	233	P	Pn	07 58 17.9	+0.7
KRVZ	Karewarewa	3.27	234	P	Pn	07 58 18.4	+1.0
PXZ	Pawanui	3.28	211	P	Pn	07 58 16.5	-1.0
ETAZ	East Tamaki Re	3.30	273	P	Pn	07 58 18.1	+0.3
NNVZ	North Ngauruho	3.31	234	P	Pn	07 58 18.9	+0.9
WTVZ	West Tongariro	3.31	234	P	Pn	07 58 19.2	+1.1
SNVZ	South Ngauruho	3.32	233	P	Pn	07 58 18.8	+0.5
NGZ	Ngauruhoe	3.34	233	P	Pn	07 58 19.3	+0.9
MBAZ	Motutapu North	3.35	277	P	Pn	07 58 19.2	+0.7
TUVZ	Tukino	3.36	232	P	Pn	07 58 19.5	+0.7
MOVZ	Moawhango	3.38	229	P	Pn	07 58 19.4	+0.4
TWVZ	Taurewa	3.39	236	P	Pn	07 58 20.8	+1.7
WHVZ	Whangaehu Hut	3.41	232	P	Pn	07 58 20.1	+0.6
FWVZ	Far West T-bar	3.42	233	P	Pn	07 58 20.2	+0.6
MAVZ	Matarangi	3.42	232	P	Pn	07 58 20.3	+0.7
WNVZ	Wahianoa	3.43	231	P	Pn	07 58 20.1	+0.4
ABAZ	Army Bay	3.43	279	P	Pn	07 58 20.6	+1.0
TRVZ	Turoa	3.44	232	P	Pn	07 58 21.2	+1.3
HBAZ	Herne Bay Bore	3.47	275	P	Pn	07 58 22.3	+2.2
PNHZ	Pukenui	3.49	219	P	Pn	07 58 19.5	-0.9
WPHZ	Waipukurau	3.49	215	P	Pn	07 58 20.9	+0.5
AWAZ	Awhitu Peninsu	3.52	271	P	Pn	07 58 22.5	+1.8
MTVZ	Mangateitei	3.54	231	P	Pn	07 58 21.9	+0.7
HIZ	Hauiti	3.56	248	P	Pn	07 58 23.5	+2.2
HIZ	Hauiti	3.56	248	P	Pn	07 58 23.3	+2.0
PRHZ	Porangahau	3.57	211	P	Pn	07 58 20.6	-1.0
WTAZ	Waiatarua	3.59	273	P	Pn	07 58 24.0	+2.3
RVAZ	Riverhead Bore	3.60	276	P	Pn	07 58 22.5	+0.6
TSZ	Takapari Road	3.72	220	P	Pn	07 58 22.5	-1.1
VRZ	Vera Road	3.87	239	P	Pn	07 58 27.3	+1.7
WCZ	Waipu Caves	3.99	287	P	Pn	07 58 28.1	+0.8
WAZ	Wanganui	4.06	230	P	Pn	07 58 29.4	+1.1
POWZ	Post Office Ro	4.07	218	P	Pn	07 58 27.8	-0.6
BFZ	Birch Farm	4.08	211	P	Pn	07 58 28.0	-0.5
BFZ	Birch Farm	4.08	211	P	Pn	07 58 27.2	-1.3
LREZ	Lake Rotokare	4.28	237	P	Pn	07 58 33.6	+2.4
DREZ	Durham Road	4.29	241	P	Pn	07 58 35.5	+4.1
MRZ	Mangatainoka R	4.37	217	P	Pn	07 58 31.0	-1.5
NEZ	North Egmont	4.40	241	P	Pn	07 58 37.1	+4.1
PKE	Pukeiti	4.44	242	P	Pn	07 58 38.2	+4.7
KHEZ	Kahui Hut	4.46	241	P	Pn	07 58 37.6	+3.7
KHEZ	Kahui Hut	4.46	241	S	Sn	07 58 37.4	+3.5
NBEZ	Newall Road No	4.56	242	P	Pn	07 58 40.4	+5.4
OGWZ	Otaki Gorge	4.69	219	P	Pn	07 58 35.8	-1.1
OUZ	Omahuta	4.84	293	P	Pn	07 58 40.4	+1.5
OUZ	Omahuta	4.84	293	P	Pn	07 58 39.7	+0.8
PAWZ	Paruwai Farm	5.01	213	P	Pn	07 58 39.9	-1.4
CTZ	Chatham Island	7.29	154	P	Pn	07 59 14.0	+1.4
STKA	Stephens Creek	31.16	269	P	P	08 03 43.9	-1.2
	1.7nm,0.7s,baz=264,slow=18,SNR=1.7						
	1.7nm,0.7s						
ASAR	Alice Springs	40.83	276	P	P	08 05 07.0	-0.9
	1.1nm,0.8s,baz=123,slow=8.2,SNR=12						
	1.1nm,0.8s						
WRA	Warramunga Arr	42.44	281	P	P	08 05 20.9	-0.3
	1.7nm,0.4s,baz=121,slow=7.9,SNR=35						
	1.7nm,0.4s						
QSPA	South Pole Qui	52.90	180	P	P	08 06 42.0	+0.1
	1.3nm,1.0s,baz=270,slow=8.4,SNR=2.3						
	1.3nm,1.0s						
BATI	Baumata	56.46	284	LR	LR	08 31 02.8	
	comp=Z,115nm,19.2s,baz=160,slow=36						
H03S2	Juan Fernandez	78.73	124	T	T	09 36 05.7	
	baz=227						
H03S1	Juan Fernandez	78.74	124	T	T	09 35 51.9	
	baz=227						
H03S3	Juan Fernandez	78.75	124	T	T	09 35 52.6	
	baz=227						
H03N3	Juan Fernandez	78.97	124	T	T	09 36 10.1	
	baz=234,slow=72						
H03N2	Juan Fernandez	78.97	124	T	T	09 36 09.3	
	baz=234,slow=72						
H03N1	Juan Fernandez	78.98	124	T	T	09 36 13.5	
	baz=234,slow=72						
FINES	FINESS Array B	150.45	334	PKPbc	PKPbc	08 17 18.7	+1.9
	0.4nm,0.4s,baz=50,slow=4.3,SNR=1.4						

DJA 18 08:02:35.9±1.3, 1°.5±4°×12°.8E±°, h19km±13km, M4.3/10, mB5.2/1, mb5.0/2, MLv3.9/10, Mw(mB)4.6/1, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	2.44	166	P	Pn	08 03 14.2	-0.5
NLAI	Namlea	2.57	209	P	Pn	08 03 17.2	+0.7
SANI	Sanana	2.58	245	P	Pn	08 03 16.9	+0.3
AAI	Ambon	2.70	183	P	Pn	08 03 17.3	-1.1
SWI	Sorong	2.93	88	P	Pn	08 03 21.2	-0.3
FAKI	Fak Fak	4.37	116	P	Pn	08 03 42.8	+1.5
LUWI	Luwuk	5.56	269	P	Pn	08 03 57.4	-0.3
	0.3nm2µm43nm,0.6s						
KMPI	Kaimana, Papua	6.00	117	P	Pn	08 04 03.4	-0.3

IDC ***18*** *08:05:08.1±0.9, 12°.06N×125°.89E, h0km, mb4.0/9, mbtmp4.0/9, MS3.2/10, Error ellipse: s-maj=70.9km s-min=15.3km az=70.0*

ISC 18 08:05:12.3±0.9, 12°.1N±0°.2×125°.9E±0°.5, h28km, n25, σ0.998/9, mb4.1/9, MS3.1/8, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	4.97	184	LR	LR	08 08 25.7	
	comp=Z,249nm,21.9s,baz=332,slow=40						
GUMO	Guam	18.52	83	LR	LR	08 14 56.5	
	comp=Z,44nm,20.8s,baz=230,slow=32						
JAY	Jayapura	20.61	134	LR	LR	08 16 44.8	
	comp=Z,82nm,20.0s,baz=356,slow=34						
KSRS	Korea Array	25.35	4	P	P	08 10 36.1	-0.8
	1.1nm,0.6s,baz=183,slow=9.6,SNR=5.6						
	1.1nm,0.6s						
MJAR	Matsushiro Arr	26.77	22	LR	LR	08 21 51.3	
	comp=Z,32nm,18.9s,baz=196,slow=38						
CMAR	Chiang Mai Arr	26.79	287	LR	LR	08 20 14.6	
	comp=Z,32nm,21.1s,baz=155,slow=34						
FITZ	Fitzroy Crossi	29.96	181	LR	LR	08 26 23.2	
	comp=Z,104nm,18.5s,baz=305,slow=43						
WRA	Warramunga Arr	32.85	165	P	P	08 11 43.1	-0.8
	1.9nm,1.0s,baz=347,slow=9.9,SNR=7.5						
	1.9nm,1.0s						
ASAJ	Asahikawa	35.02	21	LR	LR	08 27 26.0	
	comp=Z,20nm,19.0s,baz=204,slow=38						
ASAR	Alice Springs	36.35	168	P	P	08 12 14.4	+0.3
	0.9nm,0.6s,baz=345,slow=7.0,SNR=16						
	0.9nm,0.6s						
SONM	Songino Array	39.24	339	P	P	08 12 40.0	+1.5
	0.3nm,0.3s,baz=157,slow=7.7,SNR=1.9						
	0.3nm,0.3s						
H11S3	WAKE ISLAND Hy	39.76	76	T	T	08 56 07.1	
	baz=267						
H11S1	WAKE ISLAND Hy	39.77	76	T	T	08 56 07.3	
	baz=267						
H11S2	WAKE ISLAND Hy	39.78	76	T	T	08 55 54.3	
	baz=267						
HNR	Honiara	39.98	121	LR	LR	08 30 48.4	
	comp=Z,31nm,18.0s,baz=320,slow=38						
H11N1	WAKE ISLAND Hy	40.04	74	T	T	08 56 21.1	
	baz=265						
H11N2	WAKE ISLAND Hy	40.04	74	T	T	08 56 17.3	
	baz=265						
H11N3	WAKE ISLAND Hy	40.05	74	T	T	08 56 22.3	
	baz=265						
STKA	Stephens Creek	46.19	161	P	P	08 13 35.4	+0.6
	5.5nm,0.6s,baz=339,slow=8.3,SNR=14						
	5.5nm,0.6s						
PETK	Petropavlovsk-	48.16	25	LR	LR	08 34 52.0	
	comp=Z,36nm,18.6s,baz=214,slow=37						
MKAR	Makanchi Array	50.42	322	P	P	08 14 06.9	-0.5
	1.9nm,0.9s,baz=115,slow=8.2,SNR=12						
	1.9nm,0.9s						
AAK	Ala-Archa	53.84	314	LR	LR	08 39 48.1	
	comp=Z,59nm,18.8s,baz=92,slow=39						
KURBB	Kurchatov Arra	54.43	325	P	P	08 14 36.7	-0.3
	1.4nm,0.7s,baz=121,slow=7.7,SNR=13						
	1.4nm,0.7s						
BVAR	Borovoye Array	60.02	325	P

comp=E,468nm,0.5s
ISA IAML 08 22 24.1
comp=N,604nm,0.5s
LRMC Laurel Mtn Rad 0.65 165 Pg 08 22 14.8 -0.3
LRMC Sg 08 22 23.7 +0.2
LRMC Laurel Mtn Rad 0.65 165 IAML 08 22 23.9
comp=E,1µm,0.4s
LRMC IAML 08 22 24.8
comp=N,1µm,0.3s
WASM Alta Sierra Ca 0.65 236 Pg 08 22 15.0 -0.2
WASM Sg 08 22 23.9 +0.2
SPG2 Springville 2 0.71 278 Pg 08 22 15.9 -0.5
SPG2 Sg 08 22 25.2 -0.4
CCCA Chr Cany lake 0.72 143 Pg 08 22 16.7 +0.2
CCCA Sg 08 22 26.9 +1.0
DTP Desert Tortois 0.84 177 Pg 08 22 18.2 -0.6
DTP Sg 08 22 29.3 -0.3
QSM Queen of Sheba 0.84 99 Pg 08 22 18.4 -0.4
QSM Queen of Sheba 0.84 99 IAML 08 22 22.2
comp=E,568nm,0.3s
QSM IAML 08 22 39.0
comp=N,316nm,0.7s
FURC Furnace Creek, 0.91 66 Pg 08 22 20.0 0.0
FURC Sg 08 22 32.4 +0.7
CCAC Calif City Air 0.96 186 Pg 08 22 20.4 -0.6
CCAC Sg 08 22 33.3 -0.1
GRAC Grapevine Rang 0.98 25 Pg 08 22 21.0 -0.5
GRAC Grapevine Rang 0.98 25 Pg Pg 08 22 20.9 -0.6
TIN Tinemaha, Big 0.98 344 Pg 08 22 21.1 -0.5
TIN Sg 08 22 34.8 +0.5
GWY Greenwater Val 0.99 85 Pg 08 22 21.3 -0.3
GWY Greenwater Val 0.99 85 IAML 08 22 37.9
comp=E,301nm,0.6s
GWY IAML 08 22 38.4
comp=N,271nm,0.4s
VES Vestal, Richgr 1.00 255 Pg 08 22 21.5 -0.4
VES Sg 08 22 35.0 +0.2
TEJ El Tejon 1.09 217 Pg 08 22 22.6 -0.9
SGV South Grapevin 1.11 38 Pg 08 22 23.6 -0.4
SGV Sb 08 22 39.0 -0.4
LCH Last Change Ra 1.14 10 Pg 08 22 23.5 -1.0
LCH Sg 08 22 39.2 -0.1
GSC Goldstone, Bar 1.20 132 Pg 08 22 24.7 -0.8
GSC IAML 08 22 43.9
comp=N,120nm,0.7s
GSC IAML 08 22 48.3
comp=E,192nm,0.5s
GSC Goldstone, Bar 1.20 132 Sg 08 22 41.0 -0.1
VOG Valley Oaks Go 1.22 280 Pg 08 22 25.4 -0.7
EDW2 Edwards Air Fo 1.23 184 Pg 08 22 25.0 -1.1
EDW2 Sg 08 22 41.1 -0.9
WCT Wildcat Mounta 1.23 56 Pg 08 22 25.4 -0.8
WCT IAML 08 22 43.9
comp=E,134nm,0.4s
WCT IAML 08 22 47.4
comp=N,116nm,0.9s
ARVC Arvin 1.24 218 Pg 08 22 25.9 -0.5
TPO Tropico Hills 1.26 193 Pg 08 22 25.6 -1.1
TPO IAML 08 22 47.3
comp=E,149nm,0.4s
TPO IAML 08 22 47.9
comp=N,163nm,0.6s
DSP Deep Springs 1.26 357 Pg 08 22 25.6 -1.3
DSP Deep Springs 1.26 357 Sg 08 22 42.6 -0.5
HYS Haystack Butte 1.27 168 Pg 08 22 25.9 -1.1
BHPR Bishop 1.28 338 Pg 08 22 26.4 -0.8
GMN Gold Mountain 1.29 23 Pg 08 22 26.3 -1.2
GMN IAML 08 22 46.7
comp=N,92nm,0.4s
GMN IAML 08 22 47.4
comp=E,130nm,0.4s
AMDNV Amargosa 1.35 75 Pn 08 22 27.0 -1.2
SBB Saddle Back Bu 1.42 178 Pn 08 22 29.0 -0.2
SBB Sn 08 22 48.3 0.0
TPNV Topopah Spring 1.57 57 Pn 08 22 30.5 -0.9
TPNV IAML 08 22 54.7
comp=E,154nm,0.7s
TPNV IAML 08 22 55.5
comp=E,145nm,0.9s
OSI Osito Audit: C 1.64 205 Pn 08 22 30.9 -1.4
OSI IAML 08 23 01.5
comp=N,144nm,0.6s
KCC Kaiser Creek 1.67 317 Sn 08 22 54.3 -0.3
BENR Benton 1.69 341 Pn 08 22 33.6 +0.3
CRGC Crocker Grade 1.72 240 Pb 08 22 34.3 -0.6
TUQ Turquoise Moun 1.73 112 Pb 08 22 35.1 0.0
MCSM Casa Diablo Ho 1.75 333 Pb 08 22 35.0 -0.4
CHFC Chilao Flat St 1.77 184 Pb 08 22 35.8 0.0
BFSC Mount Baldy Ra 1.87 174 Pn 08 22 35.5 -0.1
BFSC IAML 08 23 02.5
comp=E,76nm,0.6s
BFSC IAML 08 23 02.7
comp=N,56nm,0.6s
MWC Mount Wilson 1.88 184 Pn 08 22 36.3 +0.6
MWC IAML 08 23 03.9
comp=N,141nm,0.5s
MWC IAML 08 23 05.2
comp=E,78nm,0.5s
SMMC Simmler 1.89 246 Pn 08 22 35.4 -0.3
PASC Pasadena Art C 1.95 187 Pn 08 22 36.4 -0.1
MTPC Mountain Pass 2.00 107 Pn 08 22 36.0 -1.3
MTPC IAML 08 23 09.1
comp=E,45nm,0.6s
PSMM Smith Mountain 2.19 270 Pb 08 22 41.4 -1.4
LHV Little Huntoon 2.19 347 Pn 08 22 40.1 +0.2
LHV IAML 08 23 18.1
comp=E,45nm,1.0s
LHV IAML 08 23 25.4
comp=N,38nm,0.8s
SHPR Sheep Range 2.24 79 Pn 08 22 39.9 -0.7
GMRC Granite Mounta 2.25 125 Pn 08 22 38.8 -1.9
NV11 Mina Array Sit 2.33 355 Pn 08 22 41.2 -0.6
NVAR Mina Array Bea 2.34 352 Pn 08 22 41.9 -0.2
PMPB Monarch Peak 2.36 273 Pn 08 22 43.5 +1.4
PMPB IAML 08 23 25.8
comp=E,72nm,0.7s
MYLM Yosemite Lake 2.40 303 Pb 08 22 45.3 -1.0
RAMR Ramage Ranch 2.46 260 Pn 08 22 44.7 +1.1
ELS Elsinore Mount 2.48 171 Pn 08 22 43.9 0.0
ELS IAML 08 23 22.8
comp=E,27nm,0.4s
ELS IAML 08 23 23.1
comp=N,24nm,0.6s
V12A Nelson 2.50 98 Pn Pn 08 22 42.6 -1.5
BBGB Big Mountain B 2.58 281 Pn 08 22 44.5 -0.9
PRN Pahroc Range 2.62 60 Pn 08 22 45.1 -0.8
PRN IAML 08 23 34.9
comp=N,58nm,1.0s
PRN IAML 08 23 37.9
comp=E,64nm,0.7s
PMD Palm Desert 2.75 153 Pn Pn 08 22 46.4 -1.2
PFO Pinyon Flats O 2.75 154 Pn 08 22 46.0 -1.7
SAO San Andreas Ge 2.94 284 Pn 08 22 50.5 +0.3
BORC Borrego Spring 3.08 156 Pn 08 22 50.9 -1.2
BORC IAML 08 23 41.5
comp=E,16nm,0.7s
BORC IAML 08 23 45.6
comp=N,15nm,0.9s
DPP Dos Picos Cty 3.20 166 Pn 08 22 53.9 +0.2
DPP IAML 08 23 43.5
comp=E,13nm,0.5s
W13A Hualapai Mount 3.42 106 Pn 08 22 55.7 -1.2
W13A IAML 08 23 54.6
comp=N,10nm,1.2s
YUH Yuha Desert 3.82 154 Pn Pn 08 23 01.9 -0.2
LCMT Little Creek M 3.85 75 Pn Pn 08 23 02.4 -0.4
CCUT Cedar City 3.91 67 Pn Pn 08 23 02.2 -1.4
CBX Cerro Bola 3.92 165 Pn Pn 08 23 04.2 +0.5
CBX IAML 08 24 04.5
comp=N,23nm,1.1s
KNB Kanab 4.18 76 Pn 08 23 07.8 +0.4
KNB IAML 08 24 17.1
comp=N,5.9nm,1.5s
KNB IAML 08 24 24.7
comp=E,5.7nm,1.2s
ESJX Sierra Juarez 4.40 158 Pn Pn 08 23 09.7 -0.7
ESJX IAML 08 23 52.8
comp=N,6.4nm,3.6s
ESJX IAML 08 24 16.3
comp=E,7.0nm,0.1s
U15A North Rim 4.54 84 Pn Pn 08 23 13.3 +1.0
U15A IAML 08 24 31.8
comp=E,5.6nm,1.2s
U15A IAML 08 24 38.6
comp=N,5.1nm,2.9s
ELK Elko 5.08 23 Pn Pn 08 23 20.4 +0.7
DUG Dugway, Tooele 5.71 43 Pn Pn 08 23 27.4 -1.0

IDC 18 08:23:29.4±3.3, 17°00S×173°48W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=180.7km s-min=29.6km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.42**	**258**	P	P	08 32 21.4	-0.2
	0.7nm,0.9s,baz=96,slow=6.8,SNR=10.0						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**49.56**	**253**	P	P	08 32 22.6	0.0
	6.5nm,0.6s,baz=88,slow=8.4,SNR=148						
	6.5nm,0.6s						
PDAR	**Pinedale Array**	**83.50**	**42**	P	P	08 35 59.9	+0.3
	0.3nm,0.7s,baz=235,slow=5.9,SNR=3.8						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**84.02**	**11**	P	P	08 36 01.1	-0.3
	0.4nm,0.8s,baz=209,slow=6.9,SNR=4.1						
	0.4nm,0.8s						

*AEIC **18** 08:38:02.6±0.7, 54°.3N±0°.2×164°.4W±0°.1, h84km±8km, Error ellipse: s-maj=26.7km s-min=4.6km az=153.0*
NEIC 18 08:38:02.8±0.6, 54°.3N±0°.2×164°.4W±0°.2, h90km±13km, ML2.7/14, ML2.4(AEIC), **Error ellipse: s-maj=33.6km s-min=4.3km az=156.0, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.23**	**323**		Pn	08 38 15.7	-0.2
WECS	**Westdahl Cape**	**0.35**	**314**		Pn	08 38 16.1	-0.4
WEBT	**Westdahl Beart**	**0.38**	**322**		Pn	08 38 16.1	-0.6
WEBT					Sn	08 38 27.0	0.0
SSLS	**Shishaldin Sou**	**0.47**	**26**		Pn	08 38 17.0	-0.4
SSLS					Sn	08 38 28.0	-0.2
SSBA	**Shishaldin**	**0.50**	**15**		Pn	08 38 16.9	-0.7
SSBA					Sn	08 38 28.2	-0.4
ISLZ	**Isanotski Laza**	**0.57**	**40**		Pn	08 38 17.9	-0.2
ISLZ					Sn	08 38 29.7	+0.1
ISNN	**Isanotski Nort**	**0.64**	**31**		Pn	08 38 18.7	0.0
FALS	**False Pass**	**0.79**	**43**		Pn	08 38 19.8	-0.2
FALS	**False Pass**	**0.79**	**43**		Sn	08 38 33.4	+0.4
AKUT	**Akutan**	**0.85**	**260**		Pn	08 38 20.5	-0.2
AKUT				IAML		08 38 34.5	
	comp=N,155nm,0.5s						
AKUT				IAML		08 38 34.8	
	comp=E,128nm,0.3s						
AKUT	**Akutan**	**0.85**	**260**		Sn	08 38 34.2	0.0
AHB	**Akutan Harbor**	**0.88**	**259**		Pn	08 38 21.2	+0.1
AHB					Sn	08 38 35.1	+0.3
AKBBA	**Akutan Broad B**	**0.95**	**259**		Pn	08 38 21.9	+0.1
AKGG	**Akutan Green G**	**0.97**	**265**		Pn	08 38 21.9	-0.1
ZRO	**Akutan Zero**	**0.98**	**259**		Pn	08 38 22.1	0.0
LVA	**Lava Point**	**1.00**	**263**		Pn	08 38 22.4	0.0
LVA	**Lava Point**	**1.00**	**263**	IAML		08 38 41.7	
	comp=N,119nm,1.2s						
UNV	**Unalaska Valle**	**1.35**	**252**		Pn	08 38 26.4	-0.1
UNV					Sn	08 38 43.8	-0.6
MREP	**Makushin Rep't**	**1.49**	**252**		Pn	08 38 28.6	+0.1
MGOD	**Makushin Gods**	**1.57**	**253**		Pn	08 38 29.8	+0.4
MAPS	**Pakushin South**	**1.60**	**254**		Pn	08 38 30.0	+0.2
S12K	**Black Hills**	**1.94**	**42**	Pn	Pn	08 38 33.2	-0.8
S12K				IAML		08 39 00.2	
	comp=N,55nm,1.4s						
S12K				IAML		08 39 03.1	
	comp=E,52nm,1.2s						
OKTU	**Okmok Mt. Tuli**	**2.37**	**249**		Pn	08 38 40.4	+0.6
SDPT	**Sand Point**	**2.48**	**63**	Pn	Pn	08 38 41.3	+0.1
SDPT				IAML		08 39 26.2	
	comp=N,44nm,1.5s						
SDPT				IAML		08 40 11.3	
	comp=E,34nm,1.4s						
NIKH	**Nikolski High**	**2.99**	**246**	Pn	Pn	08 38 48.7	+0.7
NIKH				IAML		08 40 33.2	
	comp=E,30nm,1.1s						

*BJI **18** 08:52:04.2, 46°.41N×153°.19E, h4km, mB5.3/58, mb4.9/66, Ms5.0/73, Ms7 4.8/74*
*NEIC **18** 08:52:07.2, 45°.78N×153°.78E, h18km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10^16^Nm; Mrr5.57; Mθθ-2.51; Mϕϕ-3.05; Mrθ3.58; Mθϕ-3.77; Mϕr4.09; Fault plane solution: M08.19000×10^16^ NP1: ϕs224.62000°, δ24.09000°, λ92.67000°. NP2:ϕs41.69000°, δ65.94000°, λ88.81000°. Principal axes: T 7.6471, Plg69.0000°, Azm309.0000°; N 0.9937, Plg1.0000°, Azm42.0000°; P -8.6408, Plg21.0000°, Azm133.0000°;*
*NEIC **18** 08:52:07.2, 46°.28N×153°.34E, h18km*
*JMA **18** 08:52:07.0±1.2, 46°.N±9°×15°.3E±1°.0, h30km, MV5.1/16, KURILE ISLANDS REGION*
*NEIC **18** 08:52:07.2±2.2, 46°.3N±0°.1×153°.3E±0°.1, h10km±1km, mb5.2/110, Mww5.2/24, Error ellipse: s-maj=19.6km s-min=11.9km az=149.0*
*SKHL **18** 08:52:09.9±0.3, 46°.20N×153°.30E, h54km±5km, mb5.8/7, mbv5.8/4, ms5.3/9, msh5.4/4*
*IDC **18** 08:52:09.8±4.3, 46°.32N×153°.10E, h29km±29km, mb4.6/30, mbtmp4.7/36, ML4.4/5, MS4.6/73, Error ellipse: s-maj=13.5km s-min=10.6km az=136.0*
*MOS **18** 08:52:10.3±1.2, 46°.28N×153°.02E, h48km, mb5.3/45, MS5.1/20, Error ellipse: s-maj=6.3km s-min=4.9km az=123.3*
*GCMT **18** 08:52:11.2±0.1, 46°.22N±0°.01×153°.32E±0°.01, h12km, MW5.2/142, Moment Tensor Solution. s94,c143; s142,c256; Duration: 1s0 Moment tensor: Scale 10^16^ Nm; Mrr6.33±.10; Mθθ-2.75±.10; Mϕϕ-3.58±.10; Mrθ2.12±.30; Mθϕ-3.91±.08; Mϕr2.69±.30; Best double couple: M07.53700×10^16^ NP1:ϕs224.00000°, δ32.00000°, λ93.00000°. NP2:ϕs40.00000°, δ59.00000°, λ88.00000°. Principal axes: T 7.1570, Plg76.0000°, Azm304.0000°; N 0.7600, Plg2.0000°, Azm41.0000°; P -7.9170, Plg13.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 08:52:07.6±0.5, 46°.25N±0°.04×153°.28E±0°.03, h16km±2km, h17km:pP-P, n888, σ1s75/901, mb5.2/200, MS4.9/117, 55C-25D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.92**	**257**	*c iPN*	**Pn**	**08 53 07.3**	**+0.2**
KUR				*eS*	**Sn**	**08 53 51.3**	**-1.5**
KUR	**Kuril'sk**	**3.92**	**257**	*i* P	**Pn**	**08 53 07.7**	**+0.6**
KUR				AMB	AMB	08 53 11.8	
	1µm,0.4s						
KUR				*eS*	**Sn**	**08 53 51.0**	**-1.8**
KUR				A	A	08 53 58.8	
	15µm,3.0s						
KUR				A	A	08 53 58.8	
	7µm,3.0s						
KUR				A	A	08 54 04.8	
	1µm,0.5s						
KUR				A	A	08 54 04.8	
	1µm,0.5s						
KUR				AMS	AMS	08 54 26.8	
	21µm,14.0s						
KUR				AMS	AMS	08 54 26.8	
	10µm,14.0s						
KUR				AMS	AMS	08 54 26.8	
	9µm,14.0s						
SKR	**Severo-Kuril's**	**4.82**	**22**	*e*PN	**Pn**	**08 53 21.3**	**+1.8**
SKR				pmax	pmax		
	comp=Z,1µm,0.8s						
SKR				MLR	MLR		
	comp=Z,7µm,11.0s						
SKR	**Severo-Kuril's**	**4.82**	**22**	*e*P	**Pn**	**08 53 21.0**	**+1.5**
SKR				AMB	AMB	08 53 23.8	
	comp=Z,1µm,0.8s						
SKR				AMB	AMB	08 53 24.0	
	comp=Z,3µm,2.0s						
SKR				*eS*	**Sn**	**08 54 14.1**	**-0.9**
SKR				A	A	08 54 22.7	
	comp=Z,6µm,3.0s						
SKR				A	A	08 54 22.7	
	comp=Z,6µm,3.0s						
SKR				A	A	08 54 28.4	
	comp=Z,1µm,0.8s						
SKR				A	A	08 54 28.4	
	comp=Z,8µm,11.0s						
SKR				AMS	AMS	08 55 18.5	
	comp=Z,10µm,11.0s						
SKR				AMS	AMS	08 55 18.5	
	comp=Z,9µm,11.0s						
SHO	**Shikotan**	**5.15**	**245**	*c iPN*	**Pn**	**08 53 23.7**	**-0.3**
SHO				pmax	pmax		
	comp=Z,385nm,0.4s						
SHO				pmax	pmax		
	comp=E,250nm,0.3s						
SHO				pmax	pmax		
	comp=N,208nm,0.5s						
SHO	**Shikotan**	**5.15**	**245**	*e*P	**Pn**	**08 53 24.1**	**+0.1**
SHO				AMB	AMB	08 53 32.9	
	comp=N,390nm,0.4s						
SHO				*e*S	**Sn**	**08 54 20.0**	**-3.1**
SHO				A	A	08 54 22.9	
	comp=N,570nm,0.7s						
SHO				A	A	08 54 22.9	
	comp=N,760nm,0.7s						
SHO				AMS	AMS	08 56 12.0	
	comp=N,6µm,9.0s						
SHO				AMS	AMS	08 56 12.0	
	comp=N,6µm,9.0s						
SHO				AMS	AMS	08 56 12.0	
	comp=N,4µm,9.0s						
YUK	**Yuzh-Kuril'sk**	**5.70**	**250**	*e*PN	**Pn**	**08 53 32.4**	**+0.9**
YUK				pmax	pmax		
	comp=Z,591nm,0.2s						
YUK				pmax	pmax		
	comp=N,481nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.70**	**250**	*e*P	**Pn**	**08 53 32.4**	**+0.9**
YUK				AMB	AMB	08 53 42.5	
	comp=N,590nm,0.2s						
YUK				*e*S	**Sn**	**08 54 33.7**	**-2.8**
YUK				A	A	08 54 43.0	
	comp=N,1µm,0.5s						
YUK				A	A	08 54 43.0	
	comp=N,480nm,0.5s						
YUK				AMS	AMS	08 56 31.1	
	comp=N,8µm,12.0s						
YUK				AMS	AMS	08 56 31.1	
	comp=N,11µm,12.0s						
YUK				AMS	AMS	08 56 31.1	
	comp=N,5µm,12.0s						
PAU	**Pauzhetka**	**5.72**	**23**	*e*P	**Pn**	**08 53 32.7**	**+0.9**
PAU				AMB	AMB	08 53 48.6	
	comp=N,580nm,0.8s						
PAU				*e*S	**Sn**	**08 54 36.6**	**-0.5**
PAU				A	A	08 54 38.6	
	comp=N,2µm,0.3s						
PAU				A	A	08 54 38.6	
	comp=N,1µm,0.3s						
PAU				AMS	AMS	08 56 46.0	
	comp=N,11µm,12.0s						
PAU				AMS	AMS	08 56 46.0	
	comp=N,7µm,12.0s						
PAU				AMS	AMS	08 56 46.0	
	comp=N,7µm,12.0s						
GLVR	**Golovnino**	**6.05**	**248**	*e*PN	**Pn**	**08 53 36.1**	**-0.2**
GLVR				pmax	pmax		
	comp=Z,542nm,0.5s						
GLVR				pmax	pmax		
	comp=N,190nm,0.2s						
GLVR	**Golovnino**	**6.05**	**248**	*e*P	**Pn**	**08 53 36.1**	**-0.2**
GLVR				AMB	AMB	08 53 40.7	
	comp=N,540nm,0.5s						
GLVR				*e*S	**Sn**	**08 54 41.6**	**-3.6**
GLVR				A	A	08 54 49.1	
	comp=N,510nm,0.3s						
GLVR				A	A	08 54 49.1	
	comp=N,1µm,0.3s						
RUSJ	**Misakicho**	**6.07**	**252**	*e*PN	**Pn**	**08 53 37.9**	**+1.3**
RUSJ				*e*S	**Sn**	**08 54 46.5**	**+0.8**
NEM2	**Nemuro 2**	**6.09**	**244**	*e*P	**Pn**	**08 53 34.9**	**-2.0**
NEM2				*e*S	**Sn**	**08 54 41.7**	**-4.4**
NMR	**Nemuro--Hokkai**	**6.09**	**245**	*i* PN	**Pn**	**08 53 34.8**	**-2.2**
NMR	**Nemuro--Hokkai**	**6.09**	**245**	*i* P	**Pn**	**08 53 34.8**	**-2.2**
NMR				*e*S	**Sn**	**08 54 42.0**	**-4.3**
JRA	**Rausu**	**6.22**	**251**	*e*P	**Pn**	**08 53 39.4**	**+0.7**
JNK	**Nakash**	**6.64**	**249**	P	**Pn**	**08 53 44.3**	**-0.1**
AKK	**Akkeshi**	**6.83**	**245**	*e*P	**Pn**	**08 53 47.7**	**+0.6**
JAK	**Akkeshi**	**6.93**	**245**	*e*P	**Pn**	**08 53 46.4**	**-2.1**
JTKR	**Abashiri--Toko**	**7.01**	**254**	*e*P	**Pn**	**08 53 49.1**	**-0.4**
YSS	**Yuzhno-Sakhali**	**7.29**	**279**		**Pn**	**08 53 56.5**	**+3.2**
YSS	**Yuzhno-Sakhali**	**7.29**	**279**	*c iPN*	**Pn**	**08 53 56.6**	**+3.3**
YSS	**Yuzhno-Sakhali**	**7.29**	**279**	*e*P	**Pn**	**08 53 55.3**	**+2.0**
YSS				AMB	AMB	08 53 59.8	
	comp=N,60nm,0.6s						
YSS				AMB	AMB	08 54 00.9	
	comp=N,1µm,5.2s						
YSS				*e*S	**Sn**	**08 55 14.3**	**-1.4**
YSS				AMS	AMS	08 56 31.0	
	comp=N,4µm,13.0s						
YSS				AMS	AMS	08 56 31.0	
	comp=N,6µm,13.0s						
YSS				AMS	AMS	08 56 31.0	
	comp=N,7µm,13.0s						
JAR	**Ashorobuto**	**7.38**	**250**	P	**Pn**	**08 53 54.6**	**-0.1**
PEA0B	**Petropavlovsk-**	**7.44**	**21**		**Pn**	**08 53 56.4**	**+1.0**
PEA0B	**Petropavlovsk-**	**7.44**	**21**	*i* PN	**Pn**	**08 53 54.8**	**-0.6**
PETK	**Petropavlovsk-**	**7.44**	**21**		**Pn**	**08 53 55.4**	**0.0**
PETK	**Petropavlovsk-**	**7.44**	**21**	Pn	**Pn**	**08 53 55.6**	**+0.2**
	comp=N,8.2nm,0.3s,baz=179,slow=9.7,SNR=119						
PETK				LR	LR	08 56 49.9	
	comp=N,3µm,20.9s,baz=233,slow=38						
	comp=N,49nm,0.5s						
PETK	**Petropavlovsk-**	**7.44**	**21**	PN	**Pn**	**08 53 55.4**	**0.0**
JOB	**Onbets**	**7.53**	**247**	*e*P	**Pn**	**08 53 55.9**	**-0.8**
PET	**Petropavlovsk**	**7.63**	**25**		**Pn**	**08 53 57.4**	**-0.5**
PET	**Petropavlovsk**	**7.63**	**25**	*ce*PN	**Pn**	**08 53 57.6**	**-0.3**
PET				pmax	pmax		
	comp=Z,300nm,9.5s						
PET				pmax	pmax		
	comp=Z,300nm,7.7s						
PET				pmax	pmax		
	comp=Z,257nm,1.0s						
PET				MLR	MLR		
	comp=Z,4µm,11.0s						
PET	**Petropavlovsk**	**7.63**	**25**	*e*P	**Pn**	**08 53 58.2**	**+0.3**
JKK2	**Kamakawa 2**	**7.83**	**256**	P	**Pn**	**08 54 02.1**	**+1.3**
JKA	**Kamikawa-asahi**	**7.84**	**258**		**Pn**	**08 54 02.4**	**+1.5**
ASAJ	**Asahikawa**	**7.84**	**258**	Pn	**Pn**	**08 54 02.0**	**+1.0**
	comp=Z,4.4nm,0.3s,baz=101,slow=19,SNR=21						
ASAJ				LR	LR	08 57 04.4	
	comp=Z,4µm,18.9s,baz=64,slow=38						
	comp=Z,32nm,0.8s						
ASAJ	**Asahikawa**	**7.84**	**258**	PN	**Pn**	**08 54 02.0**	**+1.0**
JCH	**Churui**	**7.97**	**246**	*e*P	**Pn**	**08 54 01.5**	**-1.2**
JCH				*e*S	**Sn**	**08 55 26.5**	**-6.0**
UGL	**Uglegorsk**	**8.08**	**295**	*e*PN	**Pn**	**08 54 00.3**	**-3.9**
UGL				*e*S	**Sn**	**08 55 37.4**	**+2.2**
UGL				pmax	pmax		
	comp=Z,200nm,0.7s						
UGL				smax	smax		
	comp=E,2µm,4.6s						
UGL				smax	smax		
	comp=N,1µm,7.4s						
UGL				MLR	MLR		
	comp=E,5µm,12.0s						
JAB	**Ashibetsu**	**8.32**	**255**	*e*P	**Pn**	**08 54 09.8**	**+2.3**
ERM	**Erimo**	**8.42**	**243**		**Pn**	**08 54 08.5**	**-0.4**
ERM	**Erimo**	**8.42**	**243**	*ce*PN	**Pn**	**08 54 09.2**	**+0.3**
ERM				pmax	pmax		
	comp=Z,74nm,0.7s						
TYV	**Tymovskoe**	**8.43**	**307**	*e*PN	**Pn**	**08 54 13.2**	**+4.3**
TYV				*e*S	**Sn**	**08 55 51.6**	**+8.0**
TYV				pmax	pmax		
	comp=Z,34nm,0.8s						
TYV				pmax	pmax		
	comp=Z,1µm,4.7s						
TYV				smax	smax		
	comp=N,27nm,0.8s						
TYV				smax	smax		
	comp=E,34nm,0.8s						
TYV				smax	smax		
	comp=N,600nm,4.9s						
TYV				smax	smax		
	comp=E,200nm,4.9s						
TYV				MLR	MLR		
	comp=Z,11µm,16.0s						
TYV				MLR	MLR		
	comp=N,6µm,17.0s						

TYV MLR MLR
comp=E,9μm,17.0s
TYV Tymovskoe 8.43 307 *e*P **Pn 08 54 11.1 +2.2**
TYV AMB AMB 08 54 14.3
comp=E,340nm,0.8s
TYV AMB AMB 08 54 16.9
comp=E,1μm,4.7s
TYV *e*S **Sn 08 55 40.9 -2.7**
TYV A A 08 55 53.0
comp=E,70nm,0.8s
TYV A A 08 55 53.0
comp=E,340nm,0.8s
TYV A A 08 55 54.2
comp=E,600nm,4.9s
TYV A A 08 55 54.2
comp=E,200nm,4.9s
TYV AMS AMS 08 57 24.9
comp=E,11μm,16.0s
TYV AMS AMS 08 57 24.9
comp=E,9μm,16.0s
JNBK Urakawa-nobuka 8.53 246 P **Pn 08 54 08.4 -2.0**
OKH Okha 9.89 321 AMS AMS 09 01 04.4
comp=E,5μm,12.0s
OKH *i* P **Pn 08 54 30.5 +1.5**
OKH AMB AMB 08 54 33.0
comp=E,800nm,6.0s
OKH *i* S **Sn 08 56 17.2 -2.4**
OKH A A 08 56 31.5
comp=E,500nm,6.0s
OKH A A 08 56 31.5
comp=E,500nm,6.0s
OKH AMS AMS 09 01 04.4
comp=E,4μm,12.0s
OKH AMS AMS 09 01 04.4
comp=E,4μm,12.0s
JANG Nango 10.39 240 *e*P **Pn 08 54 31.3 -4.5**
JANG *e*S Sn 08 56 19.5 -12
JTM Tenmabayashi 10.41 243 **Pn 08 54 33.2 -3.0**
JTH Tanohata 10.46 237 *e*P **Pn 08 54 32.6 -4.2**
JTH *e*S Sn 08 56 19.4 -14
NKL Nikolayevsk 10.68 315 *e*PN **Pn 08 54 36.9 -2.9**
NKL pmax pmax
comp=N,168nm,1.3s
NKL pmax pmax
comp=E,314nm,1.3s
NKL pmax pmax
comp=Z,388nm,1.3s
NKL MLR MLR
comp=N,9μm,14.0s
NKL MLR MLR
comp=E,34μm,15.0s
NKL MLR MLR
comp=Z,38μm,15.0s
NKL Nikolayevsk 10.68 315 *e*P **Pn 08 54 40.7 +0.9**
NKL AMB AMB 08 54 46.4
comp=Z,390nm,1.3s
NKL *e*S **Sn 08 56 34.9 -4.1**
NKL A A 08 56 58.1
comp=Z,190nm,1.5s
NKL A A 08 56 58.1
comp=Z,390nm,1.5s
NKL AMS AMS 08 59 42.1
comp=Z,38μm,15.0s
NKL AMS AMS 08 59 42.1
comp=Z,34μm,15.0s
TEY Ternei 11.74 270⇑ *e*PN **Pn 08 54 57.9 +3.6**
TEY pmax pmax
comp=Z,200nm,6.1s
TEY pmax pmax
comp=E,200nm,5.8s
GRNR Gornyy 12.06 298⇑ *i*PN **Pn 08 55 02.8 +4.1**
GRNR pmax pmax
comp=Z,8.0nm,0.9s
GRNR MLR MLR
comp=N,2μm,16.0s
GRNR MLR MLR
comp=E,3μm,16.0s
GRNR MLR MLR
comp=Z,4μm,17.0s
JMM Marumori 12.49 232 Pn Pn 08 54 59.3 -5.3
MA2 Magadan 13.44 354 **Pn 08 55 18.2 +0.8**
MA2 Magadan 13.44 354 Pn **Pn 08 55 20.0 +2.6**
comp=Z,25nm,0.5s,baz=171,slow=9.4,SNR=28
MA2 Sn **Sn 08 57 41.5 -4.8**
comp=Z,0.1nm,0.3s,baz=152,slow=23,SNR=1.2
MA2 LR LR 09 00 46.9
comp=Z,3μm,18.6s,baz=176,slow=39
MA2 Magadan 13.44 354 *e*P **Pn 08 55 17.3 -0.1**
MAJO Matsushiro 14.88 235 **Pn 08 55 34.0 -3.2**
MAJO Matsushiro 14.88 235 *i* P **Pn 08 55 38.3 +1.1**
MJAR Matsushiro Arr 14.88 235 **Pn 08 55 33.3 -3.9**
MJAR Matsushiro Arr 14.88 235 Pn **Pn 08 55 34.0 -3.2**
comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=18
MJAR LR LR 09 02 49.5
comp=Z,1μm,18.2s,baz=41,slow=43
MJAR Matsushiro Arr 14.88 235 P **Pn 08 55 33.3 -3.9**
MJB9 Matsu-Tunnel 14.88 235 **Pn 08 55 34.1 -3.1**
SHEM Shemya Is, Ala 14.97 57 Pn **Pn 08 55 38.7 +0.3**
comp=Z,7.4nm,0.3s,baz=259,slow=3.5,SNR=11
SHEM LR LR 09 01 44.9
comp=Z,497nm,19.2s,baz=280,slow=38
comp=Z,28nm,0.6s
SMY Shemya 14.97 57 Pn **Pn 08 55 37.2 -1.2**
SMY Shemya 14.97 57 P **Pn 08 55 37.2 -1.2**
USA0B Ussuriysk Arra 15.14 270 **Pn 08 55 40.0 -0.6**
USA0B Ussuriysk Arra 15.14 270 P **Pn 08 55 40.1 -0.6**
USA0B pmax pmax
comp=Z,17nm,0.8s
USRK Ussuriysk Ar. 15.14 270 **Pn 08 55 39.4 -1.3**
USRK Ussuriysk Ar. 15.14 270 Pn **Pn 08 55 39.2 -1.4**
comp=Z,2.1nm,0.3s,baz=68,slow=12,SNR=19
USRK LR LR 09 01 22.1
comp=Z,1μm,19.4s,baz=77,slow=37
comp=Z,7.6nm,0.5s
USRK Ussuriysk Ar. 15.14 270 P **Pn 08 55 39.4 -1.3**
VLA Vladivostok 15.53 266 *i* P **Pn 08 55 46.9 +1.1**
JGF Kuroka 16.03 234 **Pn 08 55 50.5 -1.9**
INU Inuyama 16.40 234 Pn **Pn 08 55 53.7 -3.3**
MDJ Mudanjiang 16.70 273 P **Pn 08 56 01.6 +0.8**
MDJ S **Sn 08 59 08.8 +3.0**
MDJ pmax pmax
comp=Z,47nm,1.3s
MDJ LR LR
comp=Z,2μm,16.7s
MDJ LR LR
comp=Z,930nm,17.9s
MDJ LR LR
comp=Z,3μm,16.7s
SEY Seymchan 16.73 359 Pn **Pn 08 56 00.8 -0.3**
comp=Z,0.8nm,0.3s,baz=172,slow=10,SNR=18
SEY LR LR 09 03 01.4
comp=Z,3μm,18.2s,baz=178,slow=39
comp=Z,3.7nm,0.4s
SEY Seymchan 16.73 359 *i* P **Pn 08 56 01.0 0.0**
SEY Seymchan 16.73 359 *e*P **Pn 08 56 01.0 0.0**
HEH HeiHe 17.65 293 *e*P **Pn 08 56 13.0 +0.4**
HEH sP **sP 08 56 19.8 +1.3**
HEH pmax pmax
comp=Z,51nm,1.5s
HEH pmax pmax
comp=Z,2μm,6.1s
HEH LR LR
comp=Z,1μm,14.9s
HEH LR LR
comp=Z,4μm,16.2s
HEH LR LR
comp=Z,5μm,16.1s
AMKA Amchitka 17.84 64 **Pn 08 56 11.9 -3.0**
BNX BinXian 17.97 278⇑ P **Pn 08 56 14.8 -1.8**
BNX pmax pmax
comp=Z,8.0nm,1.3s
BNX pmax pmax
comp=Z,460nm,8.8s
BNX LR LR
comp=Z,1μm,13.2s
BNX LR LR
comp=Z,700nm,12.7s
BNX LR LR
comp=Z,1μm,14.6s
ZEA Zeya 18.27 304 *e*P **P 08 56 21.3 +1.0**
ZEA pmax pmax
comp=E,700nm,5.2s
ZEA pmax pmax
comp=N,300nm,5.3s
ZEA pmax pmax
comp=Z,800nm,5.4s

ZEA pmax pmax
comp=N,20nm,1.4s
ZEA pmax pmax
comp=E,20nm,1.4s
ZEA pmax pmax
comp=Z,30nm,1.3s
ZEA MLR MLR
comp=E,2μm,17.0s
ZEA MLR MLR
comp=N,900nm,15.0s
ZEA MLR MLR
comp=Z,2μm,15.0s
ZEA Zeya 18.27 304 *e*P **P 08 56 20.6 +0.3**
KIWB Kanaga Island 20.09 63 **P 08 56 37.9 -2.3**
ADK Adak 20.38 63 P **P 08 56 41.7 -1.7**
ADK Adak 20.38 63 P **P 08 56 41.7 -1.7**
ADK pmax pmax
comp=Z,68nm,1.3s
KSRS Korea Array 20.76 254 P **P 08 56 47.9 +0.2**
comp=Z,9.0nm,0.6s,baz=58,slow=10,SNR=23
comp=Z,9.0nm,0.6s
KS19 Wonju Array Si 20.77 254 P **P 08 56 48.5 +0.7**
GSTR Great Sitkin T 20.78 62 P **P 08 56 46.4 -1.4**
KSAR Wonju Array Be 20.80 254 **P 08 56 47.0 -1.0**
KSAR Wonju Array Be 20.80 254 P **P 08 56 47.0 -1.0**
YAK Yakutsk 20.81 328 P **P 08 56 47.8 -0.1**
YAK IAmb IAmb 08 57 00.9
comp=Z,73nm,0.7s
YAK Yakutsk 20.81 328 P **P 08 56 47.6 -0.4**
comp=Z,32nm,0.3s,baz=135,slow=3.6,SNR=11
YAK LR LR 09 05 02.7
comp=Z,2μm,18.6s,baz=133,slow=37
comp=Z,32nm,0.3s
YAK Yakutsk 20.81 328 *e*P **P 08 56 46.9 -1.0**
YAK *e**PP **pwP 08 57 02.6 +5.1**
YAK *e* 08 57 04.7
YAK *e*S **S 09 00 38.8 -0.5**
YAK *e*SS **SnSn 09 00 59.9 +0.5**
YAK pmax pmax
comp=Z,36nm,1.1s
YAK pmax pmax
comp=N,15nm,1.3s
YAK pmax pmax
comp=E,32nm,1.7s
YAK pmax pmax
comp=Z,371nm,3.3s
YAK pmax pmax
comp=N,120nm,1.6s
YAK pmax pmax
comp=E,146nm,1.9s
YAK smax smax
comp=E,145nm,4.1s
YAK smax smax
comp=N,121nm,1.8s
YAK MLR MLR
comp=N,2μm,21.0s
YAK MLR MLR
comp=E,689nm,17.0s
YAK Yakutsk 20.81 328 *e*P **P 08 56 47.8 -0.1**
JNU Nakatsue 21.57 240 P **P 08 56 54.8 -1.6**
JNU Natsuse 21.57 240 P **P 08 56 56.2 -0.1**
comp=E,21nm,0.9s,baz=50,slow=8.8,SNR=12
JNU LR LR 09 06 04.6
comp=E,730nm,19.1s,baz=34,slow=39
comp=E,21nm,0.9s
INCN Inchon 21.61 256 **P 08 56 55.6 -1.2**
INCN IAmb IAmb 08 57 07.5
comp=Z,150nm,1.6s
INCN Inchon 21.61 256 P **P 08 56 55.6 -1.2**
INCN pmax pmax
comp=Z,150nm,1.7s
TJN Taejon 21.74 252 P **P 08 56 57.3 -0.8**
TJN Taejon 21.74 252 P **P 08 56 57.3 -0.8**
TJN pmax pmax
comp=Z,517nm,1.5s
SNY Shenyang 21.74 269⇑ P **P 08 56 58.5 +0.4**
SNY pmax pmax
comp=Z,32nm,1.4s
SNY pmax pmax
comp=Z,510nm,9.7s
SNY LR LR
comp=Z,840nm,17.2s
SNY LR LR
comp=Z,1μm,17.6s
SNY LR LR
comp=Z,2μm,18.0s
ATKA Atka Island 21.93 62 **P 08 56 57.9 -2.2**
BILL Bilibino 22.86 13 **P 08 57 07.6 -2.3**
BILL IAmb IAmb 08 57 13.5
comp=Z,132nm,1.5s
BILL Bilibino 22.86 13 *ce*P **P 08 57 10.2 +0.3**
BILL pmax pmax
comp=Z,144nm,2.5s
BILL MLR MLR
comp=Z,2μm,20.0s
BILL Bilibino 22.86 13 *e*P **P 08 57 10.2 +0.3**
DL2 Dalian 24.32 264 P **P 08 57 24.8 +0.4**
DL2 S **S 09 01 44.8 +2.1**
DL2 pmax pmax
comp=Z,76nm,1.5s
DL2 pmax pmax
comp=Z,1μm,5.6s
DL2 LR LR
comp=Z,1μm,13.9s
DL2 LR LR
comp=Z,1μm,13.0s
DL2 LR LR
comp=Z,1μm,17.1s
SPIA Saint Paul Isl 24.80 51 P **P 08 57 31.0 +2.4**
baz=260
P08K Saint George I 25.08 52 P **P 08 57 33.1 +2.0**
baz=262
NIKH Nikolski High 25.21 61 P **P 08 57 34.4 +2.1**
baz=270
GAMB Gambell 26.16 35 P **P 08 57 43.1 +2.3**
baz=244
XLT XiLinHaoTe 26.22 278 *e*P **P 08 57 41.6 -0.1**
XLT S **S 09 02 15.1 +1.9**
XLT PcS **PcS 09 04 49.6 +0.6**
XLT ScS **ScS 09 08 35.8 -1.1**
XLT pmax pmax
comp=Z,17nm,0.5s
XLT pmax pmax
comp=Z,400nm,6.2s
XLT LR LR
comp=Z,2μm,17.1s
XLT LR LR
comp=Z,2μm,16.5s
BOD Bodaibo 26.40 310 *e*P **P 08 57 40.8 -2.3**
BOD pmax pmax
comp=Z,55nm,2.0s
UNV Unalaska Valle 26.62 59 P **P 08 57 46.8 +1.8**
baz=270
M11K Mekoryuk 27.51 44 P **P 08 57 55.3 +2.3**
baz=257
BJI Beijing 27.59 270 P **P 08 57 53.8 -0.1**
BJI S **S 09 02 36.9 +2.2**
BJI pmax pmax
comp=Z,11nm,1.8s
BJI pmax pmax
comp=Z,270nm,8.0s
BJI LR LR
comp=Z,450nm,13.9s
BJI LR LR
comp=Z,920nm,16.8s
BJI LR LR
comp=Z,1μm,17.0s
TIXI Tiksi 27.98 344 LR LR 09 10 10.7
comp=Z,2μm,18.7s,baz=156,slow=39
TNA Tin City 28.39 33 P **P 08 58 02.7 +2.0**
baz=246
FALS False Pass 28.42 56 P **P 08 58 03.2 +2.0**
baz=270
K13K Kusilvak Mount 28.59 41 P **P 08 58 01.6 -1.1**
K13K IAmb IAmb 08 58 18.7
comp=Z,29nm,0.9s
K13K Kusilvak Mount 28.59 41 P **P 08 58 04.3 +1.7**
baz=256,SNR=5.2
H11N2 WAKE ISLAND Hy 28.72 153 T T 09 29 50.6
baz=340,slow=76,SNR=962
H11N1 WAKE ISLAND Hy 28.73 153 T T 09 29 51.0
baz=340,slow=76,SNR=857
H11N3 WAKE ISLAND Hy 28.73 153 T T 09 29 52.8
baz=340,slow=76,SNR=687
TIA Tai'an 28.76 263 P P 08 57 59.4 -5.0
TIA S **S 09 02 56.3 +3.1**

TIA LR LR
comp=N,440nm,14.4s
TIA LR LR
comp=E,1μm,15.1s
TIA LR LR
comp=Z,990nm,17.2s
M13K Dall Lake 28.90 45 P **P 08 58 07.4 +2.1**
baz=260
F14K Arctic Creek 28.97 34 P **P 08 58 08.1 +2.2**
baz=248
ANM Nome 29.03 36 P **P 08 58 08.4 +1.9**
baz=251
S12K Black Hills 29.20 55 P **P 08 58 09.3 +1.2**
baz=270
J14K Nanvaranak Lak 29.29 40 P **P 08 58 06.8 -1.9**
J14K IAmb IAmb 08 58 11.8
comp=Z,66nm,1.6s
J14K Nanvaranak Lak 29.29 40 P **P 08 58 10.4 +1.6**
baz=256,SNR=5.0
L14K Kuka Creek 29.39 43 P **P 08 58 09.5 -0.2**
L14K IAmb IAmb 08 58 26.6
comp=Z,42nm,1.1s
L14K Kuka Creek 29.39 43 P **P 08 58 11.7 +2.0**
baz=259,SNR=10
M14K Bethel 29.64 44 P **P 08 58 12.2 +0.3**
M14K IAmb IAmb 08 58 15.2
comp=Z,29nm,0.8s
M14K Bethel 29.64 44 P **P 08 58 13.7 +1.9**
baz=261,SNR=5.6
N14K Kuskokwak Cree 29.66 46 P **P 08 58 09.6 -2.5**
N14K Kuskokwak Cree 29.66 46 P **P 08 58 14.3 +2.3**
baz=263
F15K North Star Dit 29.70 34 P **P 08 58 14.2 +1.7**
baz=250
G15K Niukluk 29.71 36 P **P 08 58 14.3 +1.8**
baz=252
O14K Tigyukauivet M 29.80 47 P **P 08 58 15.1 +1.8**
baz=264
H11S1 WAKE ISLAND Hy 29.80 154 T T 09 31 18.1
baz=340,slow=76,SNR=583
H11S3 WAKE ISLAND Hy 29.81 154 T T 09 31 04.9
baz=340,slow=76,SNR=345
H11S2 WAKE ISLAND Hy 29.82 154 T T 09 31 08.8
baz=340,slow=76,SNR=387
HNS HongShan 29.83 267⇑ P **P 08 58 14.5 +0.7**
HNS S **S 09 03 12.1 +2.2**
HNS pmax pmax
comp=Z,38nm,1.4s
HNS pmax pmax
comp=Z,480nm,6.2s
HNS LR LR
comp=Z,1μm,16.7s
HNS LR LR
comp=Z,1μm,15.9s
HNS LR LR
comp=Z,1μm,16.7s
NJ2 Nanjing 29.96 254 *e*P **P 08 58 16.5 +1.4**
NJ2 sP **pwP 08 58 26.6 +1.0**
NJ2 S **S 09 03 16.9 +4.8**
NJ2 pmax pmax
comp=Z,13nm,0.5s
NJ2 pmax pmax
comp=Z,790nm,4.9s
NJ2 LR LR
comp=Z,2μm,16.3s
NJ2 LR LR
comp=Z,2μm,18.0s
NJ2 LR LR
comp=Z,2μm,18.1s
L15K Ungalak Mounta 30.01 43 P **P 08 58 16.9 +1.7**
baz=260
SDPT Sand Point 30.10 55 P **P 08 58 17.9 +1.8**
baz=272
K15K Wolf Creek Mou 30.10 41 P **P 08 58 14.6 -1.5**
K15K IAmb IAmb 08 58 35.9
comp=Z,38nm,1.4s
K15K Wolf Creek Mou 30.10 41 P **P 08 58 18.2 +2.2**
baz=259,SNR=6.8
M15K Kasigluk River 30.25 45 P **P 08 58 18.9 +1.6**
baz=262,SNR=9.9
H16K Elim 30.34 37 P **P 08 58 19.5 +1.5**
baz=254
C16K Lisburne Hills 30.45 29 P **P 08 58 20.3 +1.3**
baz=245
HHC Hu-ho-hao-te 30.45 275⇑ *i*P **P 08 58 18.8 -0.7**
HHC pP pP 08 58 23.6 +0.6
HHC S **S 09 03 19.1 -0.7**
HHC sS sS 09 03 27.5 +1.5
HHC SS **SnSn 09 04 55.8 +0.3**
HHC pmax pmax
comp=Z,32nm,1.6s
HHC pmax pmax
comp=Z,260nm,4.8s
HHC LR LR
comp=Z,2μm,14.3s
HHC LR LR
comp=Z,1μm,16.0s
HHC LR LR
comp=Z,3μm,16.0s
N15K Kwethluk River 30.48 46 P **P 08 58 18.2 -1.2**
N15K IAmb IAmb 08 58 35.2
comp=Z,36nm,1.0s
N15K Kwethluk River 30.48 46 P **P 08 58 21.1 +1.7**
baz=264
G16K Koyuk River 30.51 35 P **P 08 58 21.0 +1.4**
baz=253
O15K Unglaikthiuk R 30.53 48 P **P 08 58 21.2 +1.4**
baz=266
S14K Fog Glacier 30.60 53 P **P 08 58 21.3 +0.8**
baz=271
CHNA Chernabura Isl 30.64 56 P **P 08 58 22.5 +1.7**
baz=274
J16K Anvik River 30.72 40 P **P 08 58 23.2 +1.8**
baz=258
I17K Unalakleet 30.81 38 P **P 08 58 24.4 +2.2**
baz=257
L16K Owhat River 30.96 43 P **P 08 58 25.1 +1.5**
baz=262,SNR=6.5
D17K Noatak River 31.00 31 P **P 08 58 25.4 +1.6**
baz=248,SNR=7.1
M16K Timber Creek 31.12 44 P **P 08 58 24.9 -0.1**
M16K IAmb IAmb 08 58 40.8
comp=Z,36nm,0.9s
M16K Timber Creek 31.12 44 P **P 08 58 26.6 +1.5**
baz=264,SNR=14
N16K Nishlik Lake 31.16 45 P **P 08 58 27.0 +1.5**
baz=265,SNR=14
ULN Ulaanbaatar 31.18 290 P **P 08 58 24.3 -1.6**
ULN Ulaanbaatar 31.18 290 *ce*P **P 08 58 24.8 -1.1**
ULN pmax pmax
comp=Z,21nm,2.5s
RDOG Red Dog Mine 31.19 30 P **P 08 58 25.3 -0.3**
RDOG IAmb IAmb 08 58 38.5
comp=Z,41nm,1.3s
G17K Kiwalik Mounta 31.22 35 P **P 08 58 27.6 +1.7**
baz=254,SNR=8.8
E17K Hotham Inlet 31.24 32 P **P 08 58 27.6 +1.6**
baz=251,SNR=10
TIY Taiyuan 31.25 269 *e*P **P 08 58 28.6 +2.1**
TIY pmax pmax
comp=Z,300nm,9.3s
TIY LR LR
comp=Z,330nm,13.7s
TIY LR LR
comp=Z,990nm,15.8s
TIY LR LR
comp=Z,1μm,18.6s
F17K Baldwin Pennin 31.25 34 P **P 08 58 26.2 +0.2**
F17K IAmb IAmb 08 58 29.4
comp=Z,20nm,0.8s
F17K Baldwin Pennin 31.25 34 P **P 08 58 27.8 +1.7**
baz=252
C17K DeLong Mountai 31.26 29 P **P 08 58 27.7 +1.5**
baz=247
H17K Granite Mounta 31.38 37 P **P 08 58 27.1 -0.2**
H17K Granite Mounta 31.38 37 P **P 08 58 29.1 +1.8**
baz=256,SNR=6.8
J17K VABM Dome 31.41 40 P **P 08 58 27.8 +0.2**
J17K IAmb IAmb 08 58 31.0
comp=Z,28nm,1.0s
J17K VABM Dome 31.41 40 P **P 08 58 29.4 +1.8**
baz=260,SNR=11
O16K Kokwok River B 31.44 47 P **P 08 58 29.2 +1.4**
baz=267
L17K Donlin 31.57 42 P **P 08 58 31.2 +2.2**
baz=262,SNR=12
SONM Songino Array 31.61 290 P **P 08 58 28.4 -1.2**

comp=Z,0.9nm,0.4s,baz=70,slow=9.8,SNR=6.7
SONM PcP **PcP** 09 01 21.4 -0.1
comp=Z,1.3nm,0.8s,baz=140,slow=1.2,SNR=3.6
SONM LR LR 09 13 40.2
comp=Z,1µm,19.7s,baz=80,slow=41
comp=Z,0.9nm,0.4s
BTO Baotou 31.62 276 *e*P **P** **08 58 30.4 +0.7**
BTO pP **sP** **08 58 34.8 0.0**
BTO sP **pwP** **08 58 37.4 -1.5**
BTO pmax pmax
comp=Z,31nm,0.9s
BTO pmax pmax
comp=Z,540nm,9.1s
BTO LR LR
comp=Z,3µm,20.2s
BTO LR LR
comp=Z,2µm,15.7s
BTO LR LR
comp=Z,2µm,14.8s
K17K Iditarod 31.65 41 P **P** **08 58 30.4 +0.7**
K17K IAmb IAmb 08 58 33.1
comp=Z,36nm,0.9s
K17K Iditarod 31.65 41 P **P** **08 58 31.7 +2.0**
baz=262,SNR=19
E18K Tukpahlearik C 31.80 32 P **P** **08 58 30.8 -0.1**
E18K Tukpahlearik C 31.80 32 P **P** **08 58 32.8 +1.8**
baz=252
M17K Holitna River 31.90 44 P **P** **08 58 31.1 -0.8**
M17K Holitna River 31.90 44 P **P** **08 58 33.7 +1.9**
baz=264,SNR=24
F18K Selawik 31.91 34 P **P** **08 58 33.7 +1.8**
baz=254,SNR=12
N17K Nushagak Hills 31.95 45 P **P** **08 58 32.1 -0.2**
N17K Nushagak Hills 31.95 45 P **P** **08 58 34.1 +1.8**
baz=266,SNR=6.1
C18K Utukok River 32.00 30 P **P** **08 58 34.2 +1.4**
baz=249,SNR=6.3
B18K Kokolik River 32.06 28 P **P** **08 58 35.1 +1.8**
baz=247
H18K Honhosa River 32.07 36 P **P** **08 58 33.0 -0.3**
H18K IAmb IAmb 08 58 36.4
comp=Z,41nm,1.3s
H18K Honhosa River 32.07 36 P **P** **08 58 34.8 +1.4**
baz=258,SNR=8.8
G18K Tagagawik 32.12 35 P **P** **08 58 34.8 +1.0**
G18K Tagagawik 32.12 35 P **P** **08 58 35.4 +1.6**
baz=256,SNR=12
P17K Kvichak River 32.27 48 P **P** **08 58 36.7 +1.6**
baz=269
R17L Mt. Peulik Vol 32.32 51 P **P** **08 58 37.1 +1.5**
baz=272
L18K Granite Mounta 32.33 42 **P** **08 58 37.0 +1.3**
L18K IAmb IAmb 08 58 39.3
comp=Z,30nm,0.9s
L18K Granite Mounta 32.33 42 P **P** **08 58 37.5 +1.9**
baz=264,SNR=18
J18K Innoko River 32.48 40 P **P** **08 58 37.1 +0.2**
J18K IAmb IAmb 08 58 39.9
comp=Z,28nm,1.1s
J18K Innoko River 32.48 40 P **P** **08 58 38.5 +1.5**
baz=262,SNR=20
Q17K Contact Creek 32.55 50 P **P** **08 58 38.9 +1.1**
baz=271
N18K Kilae Creek 32.60 45 P **P** **08 58 38.5 +0.5**
N18K Kilae Creek 32.60 45 P **P** **08 58 39.7 +1.7**
baz=267,SNR=19
A19K Wainwright 32.63 27 P **P** **08 58 40.2 +2.1**
baz=247
M18K Stony River 32.68 44 P **P** **08 58 40.5 +1.8**
baz=266,SNR=13
F19K Shaleruckik Mo 32.69 34 P **P** **08 58 38.9 +0.1**
F19K Shaleruckik Mo 32.69 34 P **P** **08 58 39.9 +1.1**
baz=256,SNR=13
C19K Lookout Ridge 32.71 29 P **P** **08 58 40.1 +1.2**
C19K IAmb IAmb 08 58 55.6
comp=Z,40nm,1.2s
C19K Lookout Ridge 32.71 29 P **P** **08 58 40.4 +1.5**
baz=250,SNR=7.3
G19K Purcell Mounta 32.80 35 P **P** **08 58 40.3 +0.6**
G19K Purcell Mounta 32.80 35 P **P** **08 58 40.9 +1.2**
baz=257,SNR=8.0
CHIR Chirikof Islan 32.82 54 P **P** **08 58 41.1 +1.1**
baz=275
LYN LuoYang 32.86 264 P **P** **08 58 42.0 +1.4**
LYN pP sP 08 58 46.4 +1.5
LYN sP pwP 08 58 49.8 -1.4
LYN S **S** **09 03 59.4 +2.1**
LYN sS sS 09 04 05.9 +2.7
LYN pmax pmax
comp=Z,34nm,0.9s
LYN pmax pmax
comp=Z,600nm,5.4s
LYN LR LR
comp=Z,970nm,16.5s
LYN LR LR
comp=Z,970nm,16.5s
LYN LR LR
comp=Z,1µm,16.1s
P18K Big Mountain, 32.89 48 P **P** **08 58 39.2 -1.4**
P18K IAmb IAmb 08 58 55.7
comp=Z,44nm,1.1s
P18K Big Mountain, 32.89 48 P **P** **08 58 41.8 +1.2**
baz=270
O18K Koktuh Hills 32.91 47 P **P** **08 58 39.9 -0.8**
O18K IAmb IAmb 08 58 56.1
comp=Z,25nm,0.9s
O18K Koktuh Hills 32.91 47 P **P** **08 58 41.5 +0.8**
baz=269
H19K Roundabout Mou 32.93 36 P **P** **08 58 41.0 +0.2**
H19K IAmb IAmb 08 58 43.9
comp=Z,36nm,0.8s
H19K Roundabout Mou 32.93 36 P **P** **08 58 42.1 +1.2**
baz=259,SNR=51
ZAK Zakamensk 33.00 296 *e*P **P** **08 58 39.6 -2.2**
ZAK pmax pmax
comp=Z,12nm,1.5s
Q18K Katmai Hardscr 33.01 49 P **P** **08 58 42.1 +0.3**
baz=271
D19K Kuna River 33.02 31 **P** **08 58 43.0 +1.3**
D19K Kuna River 33.02 31 P **P** **08 58 43.1 +1.5**
baz=253,SNR=22
J19K Poorman 33.03 39 P **P** **08 58 41.6 -0.1**
J19K IAmb IAmb 08 58 44.4
comp=Z,29nm,0.9s
J19K Poorman 33.03 39 P **P** **08 58 43.0 +1.2**
baz=262,SNR=26
E19K Redstone River 33.05 33 P **P** **08 58 42.8 +0.8**
E19K IAmb IAmb 08 58 45.0
comp=Z,22nm,1.0s
E19K Redstone River 33.05 33 P **P** **08 58 43.7 +1.7**
baz=255,SNR=16
L19K White Mountain 33.19 42 P **P** **08 58 44.6 +1.5**
baz=266,SNR=10
N19K Bonanza Creek 33.29 45 P **P** **08 58 45.7 +1.5**
baz=268,SNR=11
GUMO Guam 33.32 195 LR LR 09 09 48.8
comp=Z,514nm,19.5s,baz=29,slow=32
O19K Port Alsworth 33.36 46 P **P** **08 58 43.4 -1.3**
O19K Port Alsworth 33.36 46 P **P** **08 58 46.2 +1.6**
baz=269
M19K Big River Lodg 33.38 43 P **P** **08 58 46.6 +1.7**
baz=266
F20K Avaraart Lake 33.53 33 P **P** **08 58 47.4 +1.4**
baz=257
SII Sitkinak Islan 33.56 53 P **P** **08 58 48.0 +1.5**
baz=275
H20K Anotleneega Mo 33.57 36 P **P** **08 58 47.5 +1.0**
baz=261,SNR=19
D20K Etivluk River 33.61 30 P **P** **08 58 48.1 +1.3**
baz=254,SNR=28
I20K Naaghedeneel 33.63 38 P **P** **08 58 48.3 +1.3**
baz=262,SNR=6.6
E20K Nigu River 33.64 31 P **P** **08 58 48.3 +1.2**
baz=255,SNR=19
K20K Telida 33.65 40 P **P** **08 58 48.4 +1.2**
baz=265
L20K Farewell, AK 33.66 42 P **P** **08 58 48.7 +1.4**
baz=266,SNR=13
J20K Nowinta River 33.70 39 P **P** **08 58 48.9 +1.3**
baz=263,SNR=24
Q19K Cape Douglas, 33.71 48 P **P** **08 58 48.8 +1.0**
baz=272
B20K Meade River 33.81 28 P **P** **08 58 49.9 +1.5**
baz=252
P19K Oil Pt 33.91 47 P **P** **08 58 50.3 +0.9**
baz=271
WHN Wuhan 33.92 256 P **P** **08 58 50.9 +1.1**

M20K Styx River 33.98 43 P **P** **08 58 52.0 +1.8**
baz=268
OHAK Old Harbor 34.00 51 P **P** **08 58 51.9 +1.7**
baz=275
MOY Mondy 34.14 299 *e*P **P** **08 58 50.6 -1.1**
MOY pmax pmax
comp=Z,18nm,2.4s
O20K Slope Mountain 34.21 46 P **P** **08 58 54.0 +1.8**
baz=271
G21K Allakaket 34.29 35 P **P** **08 58 53.2 +0.5**
G21K IAmb IAmb 08 59 10.7
comp=Z,23nm,0.9s
G21K Allakaket 34.29 35 P **P** **08 58 54.1 +1.4**
baz=260,SNR=21
KDAK Kodiak Island 34.33 50 LR LR 09 12 59.8
comp=Z,840nm,20.7s,baz=255,slow=36
KDAK Kodiak Island 34.33 50 P **P** **08 58 53.9 +0.8**
baz=274
C21K Knifeblade Rid 34.37 30 P **P** **08 58 55.1 +1.8**
baz=255,SNR=18
Q20K Shuyak Island 34.38 49 P **P** **08 58 54.6 +1.1**
baz=273
A21K Barrow 34.41 26 P **P** **08 58 55.1 +1.5**
baz=250
F21K Alatna River 34.42 33 P **P** **08 58 55.2 +1.4**
baz=260,SNR=12
H21K Melozitna Rive 34.45 36 P **P** **08 58 55.7 +1.6**
baz=262,SNR=39
PPLA Purkeypile 34.46 41 P **P** **08 58 56.7 +2.3**
baz=267
CHUM Lake Minchumin 34.47 39 P **P** **08 58 56.1 +1.9**
baz=266
E21K Killik River 34.48 31 P **P** **08 58 55.5 +1.1**
baz=257
CAST Castle Rocks 34.54 40 P **P** **08 58 56.7 +1.8**
baz=266
B21K Ikpikpuk River 34.55 29 P **P** **08 58 56.5 +1.7**
baz=255,SNR=30
HOM Homer 34.71 47 P **P** **08 58 57.1 +0.7**
baz=272
I21K Tanana 34.73 37 P **P** **08 58 58.5 +1.9**
baz=264,SNR=20
SKT Skwentna 34.74 43 P **P** **08 58 58.2 +1.5**
baz=269,SNR=14
A22K Sinclair Lake 34.81 27 P **P** **08 58 58.9 +1.8**
baz=252
F22K John River 34.97 33 P **P** **08 59 00.1 +1.5**
baz=260
D22K Ayikyak River 35.04 31 P **P** **08 59 00.9 +1.7**
baz=258,SNR=13
H22K Ishtalitna Cre 35.06 36 P **P** **08 59 01.3 +1.9**
baz=264,SNR=23
BPAW Bear Paw Mtn. 35.07 39 P **P** **08 59 01.2 +1.7**
baz=266,SNR=33
B22K Teshekpuk Lake 35.13 28 P **P** **08 59 01.5 +1.6**
baz=255,SNR=6.0
G22K Bettles 35.14 34 P **P** **08 59 01.2 +1.2**
baz=262,SNR=60
E22K Anaktuvuk Pass 35.21 32 P **P** **08 59 02.2 +1.5**
baz=260,SNR=46
MLY Manley 35.24 38 P **P** **08 59 02.8 +1.8**
baz=265,SNR=36
CUT Chulitna 35.34 42 P **P** **08 59 02.8 +1.0**
baz=270
TRF Thorofare Moun 35.35 40 P **P** **08 59 03.3 +1.2**
baz=268,SNR=13
XAN Xi'an 35.59 266 ⇑P **P** **08 59 04.0 -0.3**
XAN S **S** **09 04 44.0 +4.3**
XAN pmax pmax
comp=Z,28nm,1.0s
XAN pmax pmax
comp=Z,450nm,3.8s
XAN LR LR
comp=Z,1µm,14.4s
XAN LR LR
comp=Z,1µm,15.1s
XAN LR LR
comp=Z,1µm,15.8s
RC01 Rabbit Creek A 35.61 44 P **P** **08 59 04.7 +0.6**
baz=272,SNR=8.8
O22K Cooper Landing 35.64 45 P **P** **08 59 04.8 +0.5**
baz=273
COLD Coldfoot 35.69 34 P **P** **08 59 06.2 +1.5**
baz=263,SNR=19
G23K Bananza Creek 35.69 35 P **P** **08 59 06.4 +1.6**
baz=264,SNR=20
D23K Nanushuk River 35.77 31 P **P** **08 59 07.4 +2.0**
baz=260,SNR=18
SEW Seward 35.79 46 P **P** **08 59 06.2 +0.5**
baz=274,SNR=5.7
H23K Yukon River 35.80 36 P **P** **08 59 07.8 +2.1**
baz=265,SNR=30
I23K Minto, Yukon-K 35.83 37 P **P** **08 59 07.8 +1.8**
baz=266,SNR=32
PMR Palmer 35.88 44 P **P** **08 59 06.9 +0.5**
baz=272,SNR=19
NEA2 Nenana 35.93 38 P **P** **08 59 08.3 +1.5**
baz=268,SNR=11
C23K Itkillik River 35.95 29 **P** **08 59 08.2 +1.3**
C23K Itkillik River 35.95 29 P **P** **08 59 08.8 +1.8**
baz=259,SNR=25
MCK McKinley 35.96 40 P **P** **08 59 08.4 +1.3**
baz=269,SNR=22
E23K Chandalar 36.01 32 P **P** **08 59 09.6 +1.9**
baz=262,SNR=32
TOLK Toolik Lake Re 36.11 31 P **P** **08 59 10.2 +1.7**
baz=262,SNR=20
KNK Knik Glacier 36.21 44 P **P** **08 59 10.1 +0.7**
baz=272,SNR=14
PWL Port Wells 36.30 45 P **P** **08 59 10.8 +0.7**
baz=273,SNR=13
E24K Your Creek 36.44 33 P **P** **08 59 13.0 +1.8**
baz=263
D24K Happy Valley 36.46 31 P **P** **08 59 13.0 +1.7**
baz=262,SNR=22
COLA College 36.46 38 *i*P **P** **08 59 11.3 0.0**
COLA pmax pmax
comp=Z,62nm,1.0s
COLA College 36.46 38 P **P** **08 59 12.7 +1.4**
baz=268
H24K Nador Dome 36.49 36 P **P** **08 59 13.3 +1.6**
baz=267,SNR=31
M23K Glacier View 36.54 43 P **P** **08 59 13.0 +0.9**
baz=273,SNR=10.0
C24K Franklin Bluff 36.59 30 P **P** **08 59 13.8 +1.5**
baz=261
F24K Squaw Lake 36.61 33 P **P** **08 59 14.3 +1.6**
baz=265,SNR=12
POKR Poker Plat Res 36.65 38 P **P** **08 59 14.6 +1.7**
baz=268,SNR=15
G24K Hadweenzic Riv 36.70 35 P **P** **08 59 15.2 +1.7**
baz=266,SNR=49
SCM Sheep Creek Mo 36.73 43 P **P** **08 59 14.9 +1.1**
baz=273,SNR=18
P23K Montague Islan 36.83 46 P **P** **08 59 13.3 -1.3**
P23K IAmb IAmb 08 59 17.1
comp=Z,44nm,1.0s
P23K Montague Islan 36.83 46 P **P** **08 59 15.5 +0.9**
baz=275,SNR=5.7
HDA Harding Lake 36.84 39 P **P** **08 59 14.1 -0.5**
HDA IAmb IAmb 08 59 30.3
comp=Z,25nm,0.8s
HDA Harding Lake 36.84 39 P **P** **08 59 15.2 +0.6**
baz=270,SNR=10
ILAR Eielson Array 36.87 38 **P** **08 59 14.8 -0.1**
ILAR Eielson Array 36.87 38 P **P** **08 59 15.6 +0.7**
comp=Z,37nm,1.2s,baz=258,slow=6.6,SNR=74
ILAR PcP **PcP** **09 01 35.0 -1.1**
comp=Z,0.5nm,0.7s,baz=289,slow=3.1,SNR=1.2
ILAR LR LR 09 18 38.6
comp=Z,523nm,18.1s,baz=268,slow=43
comp=Z,37nm,1.2s
GLI Glacier Island 36.90 45 P **P** **08 59 15.9 +0.7**
baz=274,SNR=12
G25K Bearman Lake 37.25 35 P **P** **08 59 20.2 +2.2**
baz=267,SNR=12
M24K Tolsona, Glenn 37.26 43 P **P** **08 59 20.0 +1.8**
baz=274,SNR=9.3
D25K Kavik River 37.34 31 P **P** **08 59 20.5 +1.6**
baz=264,SNR=52
H25L Birch Creek 37.35 36 P **P** **08 59 21.1 +2.3**
baz=268,SNR=19
K24K Donnelly Dome 37.36 40 P **P** **08 59 19.9 +0.8**
baz=272,SNR=24
Q23K Middleton Isla 37.42 47 P **P** **08 59 20.8 +1.3**
baz=277
KLU Klutina 37.42 44 P **P** **08 59 21.0 +1.3**
baz=274,SNR=33

PRP Porcupine Dome 37.45 37 P **P** **08 59 21.4 +1.4**
baz=270,SNR=20
F25K Christian Rive 37.47 33 P **P** **08 59 21.8 +1.8**
baz=267,SNR=19
J25K Salcha River, 37.52 38 P **P** **08 59 20.4 0.0**
baz=271,SNR=11
E25K Arctic Village 37.53 33 P **P** **08 59 22.7 +2.3**
baz=266,SNR=25
PAX Paxson 37.54 41 P **P** **08 59 22.5 +1.9**
baz=273,SNR=19
EYAK Cordova Ski Ar 37.59 45 P **P** **08 59 22.4 +1.4**
baz=276
HARP HAARP 37.72 42 P **P** **08 59 23.9 +1.8**
baz=274,SNR=7.0
RIDG Independent Ri 37.78 40 P **P** **08 59 23.2 +0.6**
baz=272,SNR=30
C26K Camden Bay 37.91 30 P **P** **08 59 25.8 +2.1**
baz=264
LZH Lanzhou 38.02 273 *e*P **P** **08 59 24.1 -1.1**
LZH sP sP 08 59 30.3 +0.8
LZH PcP **PcP** **09 01 39.9 -0.5**
LZH S **S** **09 05 18.4 +1.5**
LZH pmax pmax
comp=Z,86nm,1.3s
LZH pmax pmax
comp=Z,340nm,4.1s
LZH LR LR
comp=Z,1µm,14.8s
LZH LR LR
comp=Z,1µm,14.4s
LZH LR LR
comp=Z,2µm,13.7s
N25K Chitina, Valde 38.05 43 P **P** **08 59 26.7 +1.8**
baz=276,SNR=17
F26K Sheenjek River 38.05 33 P **P** **08 59 26.4 +1.6**
F26K Sheenjek River 38.05 33 P **P** **08 59 27.2 +2.4**
baz=268,SNR=16
BMRM Bremner River 38.11 44 P **P** **08 59 27.1 +1.7**
baz=276,SNR=18
DOT Dot Lake 38.13 40 P **P** **08 59 24.8 -0.8**
SCRK Sand Creek 38.15 39 P **P** **08 59 26.4 +0.6**
baz=273,SNR=24
G26K Porcupine Rive 38.17 35 P **P** **08 59 28.3 +2.5**
baz=269,SNR=58
C27K Jago River 38.31 30 P **P** **08 59 28.7 +1.7**
baz=266,SNR=18
J26L Joseph Creek 38.31 39 P **P** **08 59 28.0 +0.9**
J26L Joseph Creek 38.31 39 P **P** **08 59 27.3 +0.1**
baz=273,SNR=10
KAIM Kayak Island 38.33 46 P **P** **08 59 28.2 +1.0**
baz=278
GLB Gilahina Butte 38.44 43 P **P** **08 59 28.2 0.0**
GLB IAmb IAmb 08 59 31.5
comp=Z,71nm,1.6s
I26K Coal Creek Min 38.45 37 P **P** **08 59 29.9 +1.7**
baz=272
L26K Log Cabin Wild 38.50 41 P **P** **08 59 29.6 +0.9**
L26K Log Cabin Wild 38.50 41 P **P** **08 59 30.5 +1.9**
baz=275,SNR=30
VRDI Verde Repeater 38.63 44 P **P** **08 59 30.8 +0.8**
VRDI IAmb IAmb 08 59 46.2
comp=Z,31nm,0.9s
M26K Nabesna, AK 38.72 42 P **P** **08 59 31.1 +0.5**
M26K IAmb IAmb 08 59 47.0
comp=Z,59nm,0.9s
M26K Nabesna, AK 38.72 42 P **P** **08 59 32.6 +2.1**
baz=276,SNR=42
MCARA McCarthy VSAT 38.82 44 P **P** **08 59 32.0 +0.6**
MCARA IAmb IAmb 08 59 48.0
comp=Z,36nm,1.0s
MCARA McCarthy VSAT 38.82 44 P **P** **08 59 33.2 +1.9**
baz=277,SNR=7.3
CRQE Cirque 38.87 45 P **P** **08 59 33.6 +1.7**
baz=278,SNR=28
K27K Chicken 38.98 39 P **P** **08 59 34.2 +1.5**
baz=274
G27K Doyon Strip 39.01 35 P **P** **08 59 35.0 +2.0**
baz=271,SNR=17
E27K Coleen River 39.02 33 P **P** **08 59 34.9 +1.9**
baz=270,SNR=21
I27K Kandik River 39.08 37 P **P** **08 59 35.2 +1.7**
baz=273
H27K Steamboat Moun 39.08 36 P **P** **08 59 35.9 +2.3**
baz=272,SNR=47
GTA Gaotai 39.17 280 *e*P **P** **08 59 35.1 +0.4**
GTA sP pwP 08 59 43.3 -0.6
GTA PP **PnPn** **09 01 12.6 +5.6**
GTA S **S** **09 05 33.3 -0.8**
GTA pmax pmax
comp=Z,34nm,1.4s
GTA pmax pmax
comp=Z,480nm,5.8s
GTA LR LR
comp=Z,1µm,17.4s
GTA LR LR
comp=Z,680nm,16.0s
GTA LR LR
comp=Z,540nm,17.1s
L27K Beaver Creek, 39.19 41 P **P** **08 59 36.7 +2.3**
baz=276,SNR=60
BCAR Beaver Creek A 39.20 41 P **P** **08 59 35.7 +1.1**
M27K Edge Creek, AK 39.24 42 P **P** **08 59 37.5 +2.5**
baz=277,SNR=27
ISLE Juniper Island 39.26 45 P **P** **08 59 34.1 -1.1**
ISLE IAmb IAmb 08 59 53.8
comp=Z,66nm,0.9s
D27M Malcolm River 39.26 31 P **P** **08 59 35.8 +0.7**
D27M Malcolm River 39.26 31 P **P** **08 59 37.1 +2.0**
baz=269,SNR=30
MESA MESA 39.51 45 P **P** **08 59 39.2 +1.8**
baz=279
YAH Yahtse 39.59 45 P **P** **08 59 37.0 -1.1**
YAH IAmb IAmb 08 59 53.8
comp=Z,58nm,0.8s
F28M Old Crow 39.68 33 P **P** **08 59 40.6 +2.1**
baz=272,SNR=24
CTG Chitna Glacier 39.69 44 P **P** **08 59 40.5 +1.8**
baz=279,SNR=15
CTGM Chitina Glacie 39.69 44 P **P** **08 59 39.6 +0.8**
CTGM IAmb IAmb 08 59 54.9
comp=Z,72nm,0.9s
BVCY Beaver Creek 39.70 42 P **P** **08 59 40.6 +1.9**
baz=278,SNR=19
E28M Babbage River 39.78 32 P **P** **08 59 41.4 +2.1**
baz=271,SNR=17
I28M Miner Creek 39.79 37 **P** **08 59 40.1 +0.6**
I28M IAmb IAmb 08 59 43.2
comp=Z,74nm,1.4s
I28M Miner Creek 39.79 37 P **P** **08 59 41.1 +1.7**
baz=275,SNR=38
TABL Table Mountain 39.87 45 P **P** **08 59 39.3 -1.0**
TABL IAmb IAmb 08 59 44.2
comp=Z,103nm,1.3s
LOGN Logan Glacier 39.87 44 P **P** **08 59 39.0 -1.3**
LOGN IAmb IAmb 08 59 56.2
comp=Z,57nm,1.0s
YUK3 Moose Creek 39.98 43 P **P** **08 59 43.0 +1.7**
baz=279,SNR=19
D28M Stokes Point 40.05 31 P **P** **08 59 43.3 +1.8**
baz=271
DAWY Dawson 40.16 39 P **P** **08 59 44.2 +1.7**
baz=277,SNR=23
O28M Mount Upton 40.27 44 P **P** **08 59 44.8 +1.0**
O28M IAmb IAmb 08 59 59.6
comp=Z,55nm,0.9s
O28M Mount Upton 40.27 44 P **P** **08 59 45.7 +1.9**
baz=280,SNR=14
H29M Whitestone 40.36 36 P **P** **08 59 46.4 +2.3**
baz=275,SNR=21
PINM Pinnacle 40.37 45 P **P** **08 59 46.0 +1.6**
baz=281,SNR=6.6
YUK8 Steele Glacier 40.39 43 P **P** **08 59 46.3 +1.6**
baz=280,SNR=6.2
E29M Blow River 40.39 32 P **P** **08 59 46.7 +2.3**
baz=273,SNR=25
G29M Pine Creek 40.44 35 P **P** **08 59 47.5 +2.6**
baz=275,SNR=26
I29M Ogilvie Camp, 40.47 37 P **P** **08 59 46.8 +1.7**
baz=276,SNR=26
J29N Klondike Camp 40.62 38 P **P** **08 59 48.6 +2.2**
baz=277
M29M Somme Creek 40.80 41 P **P** **08 59 50.2 +2.2**
baz=279,SNR=18
L29M L29M 40.85 40 P **P** **08 59 50.9 +2.6**
baz=279,SNR=34
PNL Peninsula 40.87 46 P **P** **08 59 49.9 +1.4**
baz=282

YUK4 Talbot Arm 40.91 43 P P 08 59 51.1 +2.1
baz=280,SNR=7.5
CD2 Chengdu 40.96 266 P P 08 59 50.1 +0.6
CD2 sP sP 08 59 53.6 -0.3
CD2 S S 09 06 02.8 +2.0
CD2 sS sS 09 06 08.3 +1.5
CD2 pmax pmax
comp=Z,40nm,1.6s
CD2 pmax pmax
comp=Z,900nm,4.8s
CD2 LR LR
comp=Z,1µm,15.9s
CD2 LR LR
comp=Z,720nm,13.5s
CD2 LR LR
comp=Z,960nm,14.8s
K29M Barlow Dome 41.01 39 P P 08 59 51.4 +1.8
baz=279,SNR=59
EPYK Eagle Plains 41.01 35 P P 08 59 51.6 +2.0
baz=276,SNR=31
YUK6 Outpost Mounta 41.12 44 P P 08 59 52.5 +1.8
baz=281
G30M tAoh Zraii Nji 41.14 34 P P 08 59 52.3 +1.7
baz=276,SNR=22
O29M Mount Kennedy 41.15 45 P P 08 59 50.1 -0.8
O29M Mount Kennedy 41.15 45 P P 08 59 52.6 +1.8
baz=282
F30M Barrier River 41.24 33 P P 08 59 53.6 +2.2
baz=276,SNR=24
I30M Mount Dempster 41.30 37 P P 08 59 53.7 +1.7
baz=278,SNR=71
J30M Hart River 41.41 38 P P 08 59 54.6 +1.7
baz=279,SNR=25
M30M Minto, Yukon 41.54 41 P P 08 59 56.2 +2.2
baz=281,SNR=24
HYT Haines Junctio 41.56 44 P P 08 59 56.6 +2.4
baz=282,SNR=24
N30M Aishikik Lake 41.62 43 P P 08 59 56.6 +1.9
baz=282,SNR=9.3
P29M Windy Craggy 41.70 45 P P 08 59 58.2 +2.9
baz=283,SNR=19
GYA Guiyang 41.72 258 ⇑P P 08 59 57.3 +1.4
GYA pmax pmax
comp=Z,55nm,0.8s
GYA LR LR
comp=Z,2µm,15.2s
MAYO Mayo, Yukon 41.76 39 P P 08 59 58.3 +2.6
baz=280,SNR=13
G31M Satah River 41.91 34 P P 08 59 58.4 +1.6
baz=278,SNR=18
P30M Million Dollar 41.97 45 P P 09 00 00.1 +2.6
baz=283
INK Inuvik 42.01 32 P P 08 59 59.8 +2.1
baz=277,SNR=26
F31M Tsiigehtchic 42.04 33 P P 08 59 59.6 +1.7
baz=278,SNR=7.3
H31M Peel River 42.05 36 P P 08 59 59.8 +1.7
baz=279,SNR=29
N31M Braeburn, Yuko 42.23 42 P P 09 00 02.6 +3.0
baz=283,SNR=25
O30N Mendenhall 42.24 44 P P 09 00 02.3 +2.6
baz=283,SNR=26
PLBC Pleasant Camp 42.42 45 P P 09 00 03.9 +2.8
baz=284,SNR=17
M31M Drury Creek, Y 42.72 41 P P 09 00 06.0 +2.5
baz=283,SNR=31
WHY Whitehorse 42.85 43 P P 09 00 07.0 +2.3
baz=284,SNR=13
S31K Pelican 42.88 48 P P 09 00 06.7 +1.9
baz=286
SKAG Skagway 42.94 45 P P 09 00 08.1 +2.8
baz=285,SNR=6.5
ZALV Zalesovo Beam 43.00 306 P P 09 00 04.0 -1.9
comp=Z,2.0nm,0.5s,baz=69,slow=8.1,SNR=8.8
ZALV PcP PcP 09 01 55.3 -0.6
comp=Z,1.1nm,0.4s,baz=99,slow=7.7,SNR=4.6
ZALV LR LR 09 19 05.7
comp=Z,3µm,18.4s,baz=78,slow=38
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 43.00 306 *i* P P 09 00 03.7 -2.2
ZALV pmax pmax
comp=Z,2.0nm,0.5s
R31K City Hall, Gus 43.01 47 P P 09 00 08.2 +2.4
baz=286
N32M Quiet Lake 43.58 42 P P 09 00 11.5 +1.0
N32M Quiet Lake 43.58 42 P P 09 00 12.4 +1.9
baz=285,SNR=10
SIT Sitka 43.61 49 P P 09 00 12.4 +1.7
baz=288
R32K Eaglecrest 43.67 47 P P 09 00 13.6 +2.4
baz=287
P32M Atlin 43.69 45 P P 09 00 13.6 +2.1
baz=286,SNR=5.7
S32K Kiliinoo 43.88 48 P P 09 00 15.2 +2.3
baz=288
P33M Teslin, Yukon 43.95 44 P P 09 00 15.9 +2.3
baz=286,SNR=25
MMPY Sheldon Lake, 44.03 40 P P 09 00 16.7 +2.6
baz=285,SNR=14
GOMU GeErMu 44.20 279 P P 09 00 16.4 +0.2
GOMU pP pP 09 00 20.3 +0.5
GOMU sP pwP 09 00 24.0 -1.4
GOMU pmax pmax
comp=Z,9.0nm,0.5s
GOMU LR LR
comp=Z,530nm,13.2s
GOMU LR LR
comp=Z,780nm,13.9s
GOMU LR LR
comp=Z,1µm,13.4s
A36M Sachs Harbour 44.25 26 P P 09 00 17.7 +2.0
baz=280,SNR=6.8
Q32M Nakina River 44.59 45 P P 09 00 21.6 +2.8
baz=288
QIZ Qiongzhong 44.76 247 P P 09 00 21.0 +0.6
QIZ PP PP 09 02 05.8 +0.9
QIZ S S 09 06 59.9 +3.1
QIZ LR LR
comp=Z,840nm,13.1s
QIZ LR LR
comp=Z,520nm,12.6s
QIZ LR LR
comp=Z,2µm,12.9s
PZH PanZhiHua 45.06 262 P P 09 00 22.8 -0.1
PZH S S 09 07 05.5 +4.2
PZH SS ScS 09 10 18.3 -1.3
PZH pmax pmax
comp=Z,30nm,1.4s
PZH pmax pmax
comp=Z,270nm,5.7s
PZH LR LR
comp=Z,590nm,16.7s
PZH LR LR
comp=Z,440nm,14.5s
PZH LR LR
comp=Z,340nm,22.5s
U33K Whale Pass 45.07 49 P P 09 00 25.4 +3.0
baz=290
R33M Jennings River 45.09 44 P P 09 00 25.6 +2.8
baz=288,SNR=22
WMQ Urumqi 45.22 292 *e*P P 09 00 26.8 +2.9
WMQ LR LR
comp=Z,2µm,17.3s
WMQ LR LR
comp=Z,1µm,13.7s
WMQ LR LR
comp=Z,1µm,16.1s
KMI Kunming 45.27 260 P P 09 00 24.9 +0.2
KMI S S 09 07 04.8 +0.3
KMI pmax pmax
comp=Z,25nm,1.7s
KMI pmax pmax
comp=Z,370nm,5.5s
KMI LR LR
comp=Z,990nm,17.5s
KMI LR LR
comp=Z,400nm,18.3s
KMI LR LR
comp=Z,640nm,21.4s
CRAG Craig 45.29 50 P P 09 00 27.0 +2.8
baz=290
WRAK Wrangell Islan 45.37 49 P P 09 00 27.6 +2.8
baz=290
ZSN Zaisan 45.41 298 *e*P P 09 00 23.9 -1.3
ZSN pmax pmax
comp=Z,21nm,1.9s
ZSN Zaisan 45.41 298 *e*P P 09 00 24.0 -1.3
comp=Z,21nm,1.9s
S34M Telegraph Cree 45.49 46 P P 09 00 28.5 +2.7
baz=290,SNR=7.1
TGTN Hyland Airport 45.69 41 P P 09 00 29.9 +2.5
baz=288,SNR=7.5
DAV Davao City (W) 45.74 220 LR LR 09 23 30.8
comp=Z,296nm,18.2s,baz=38,slow=41
DLBC Dease Lake 45.86 45 LR LR 09 21 19.8
comp=Z,37nm,19.5s,baz=286,slow=38
DLBC Dease Lake 45.86 45 P P 09 00 31.7 +2.9
baz=290,SNR=14
WTLY Watson Lake, Y 45.90 43 P P 09 00 31.3 +2.3
baz=289,SNR=8.8
V35K Ketchikan 46.15 50 P P 09 00 33.5 +2.5
baz=292
T35M Bob Quinn 46.26 47 P P 09 00 34.9 +3.1
baz=291,SNR=14
SEM Semipalatinsk 46.93 303 *e*P P 09 00 36.0 -1.4
SEM pmax pmax
comp=Z,13nm,1.4s
SEM Semipalatinsk 46.93 303 *e*P P 09 00 36.1 -1.4
comp=Z,13nm,1.4s
WRGLY Wrigley 47.25 38 P P 09 00 41.9 +2.5
baz=290
MK31 Makanchi Array 47.28 298 *ce*P P 09 00 38.3 -1.7
MK31 pmax pmax
comp=Z,36nm,1.2s
MKAR Makanchi Array 47.28 298 P P 09 00 38.3 -1.7
MKAR Makanchi Array 47.28 298 P P 09 00 38.8 -1.2
comp=Z,4.6nm,0.5s,baz=68,slow=6.8,SNR=50
MKAR PcP PcP 09 02 10.3 -0.6
comp=Z,3.6nm,0.8s,baz=44,slow=5.0,SNR=2.3
MKAR LR LR 09 21 39.0
comp=Z,3µm,18.2s,baz=59,slow=38
comp=Z,4.6nm,0.5s
LIRD Liard River Hi 47.42 43 P P 09 00 43.4 +2.5
baz=292,SNR=5.8
MAKZ Makanchi 47.46 298 P P 09 00 40.1 -1.3
MAKZ IAmb IAmb 09 00 41.6
comp=Z,30nm,1.2s
MAKZ Makanchi 47.46 298 P P 09 00 40.1 -1.3
MAKZ pmax pmax
comp=Z,30nm,1.3s
KURK Kurchatov 47.74 304 *i* P P 09 00 41.7 -1.8
KURK pmax pmax
comp=Z,35nm,1.1s
KURBB Kurchatov Arra 47.83 304 P P 09 00 42.5 -1.7
comp=Z,22nm,1.1s,baz=65,slow=8.0,SNR=9.8
KURBB LR LR 09 21 50.9
comp=Z,1µm,18.1s,baz=112,slow=37
comp=Z,22nm,1.1s
TOAD Toad River Com 48.05 44 P P 09 00 48.4 +2.6
baz=293,SNR=19
KOTAN Kotaneelee Air 48.11 42 P P 09 00 48.6 +2.4
baz=292
TNCH TengChong 48.23 263 P P 09 00 48.6 +0.8
TNCH PP PP 09 02 41.3 +1.2
TNCH S S 09 07 46.9 +0.1
TNCH pmax pmax
comp=Z,370nm,4.6s
TNCH LR LR
comp=Z,1µm,11.5s
TNCH LR LR
comp=Z,790nm,15.4s
TNCH LR LR
comp=Z,690nm,18.0s
BBB Bella Bella 49.33 53 LR LR 09 19 51.3
comp=Z,196nm,21.6s,baz=312,slow=34
JAY Jayapura 49.81 197 LR LR 09 23 24.2
comp=Z,155nm,18.4s,baz=11,slow=38
TDK Taldyqorghan 50.52 297 *e*P P 09 01 03.6 -1.2
TDK Taldyqorghan 50.52 297 *e*P P 09 01 03.7 -1.2
PDGK Podgornoye 50.68 295 P P 09 01 04.3 -2.0
SHLS Shalkode 50.79 295 *e*P P 09 01 03.7 -3.3
SHLS pmax pmax
comp=Z,17nm,1.7s
SHLS Shalkode 50.79 295 *e*P P 09 01 03.7 -3.3
comp=Z,17nm,1.7s
YKA Yellowknife Ar 51.26 37 P P 09 01 11.1 +1.0
comp=Z,7.8nm,0.9s,baz=302,slow=8.0,SNR=31
comp=Z,7.8nm,0.9s
YKA Yellowknife Ar 51.26 37 *ce*P P 09 01 11.3 +1.2
YKA pmax pmax
comp=Z,15nm,1.1s
BVAR Borovoye Array 51.27 310 P P 09 01 09.5 -0.9
comp=Z,4.7nm,0.3s,baz=53,slow=7.8,SNR=15
BVAR LR LR 09 24 43.1
comp=Z,2µm,18.4s,baz=72,slow=38
comp=Z,4.7nm,0.3s
RES Resolute Bay 51.28 18 LR LR 09 24 38.3
comp=Z,425nm,20.5s,baz=313,slow=38
BRVK Borovoye 51.31 310 *ce*P P 09 01 10.4 -0.3
BRVK pmax pmax
comp=Z,70nm,2.5s
BRVK Borovoye 51.31 310 *e*P P 09 01 10.4 -0.3
BRZS Berezniki 51.46 305 *e*P P 09 01 10.5 -1.4
BRZS Berezniki 51.46 305 *e*P P 09 01 10.5 -1.4
SATY Saty 51.50 295 *e*P P 09 01 11.0 -1.4
SATY pmax pmax
comp=Z,22nm,1.9s
SATY Saty 51.50 295 *e*P P 09 01 11.1 -1.4
comp=Z,22nm,1.9s
CHKK Chushkaly 51.97 297 *e*P P 09 01 14.4 -1.4
CHKK Chushkaly 51.97 297 *e*P P 09 01 14.5 -1.4
NOR Nord 52.29 358 *i* P P 09 01 15.6 -2.0
NOR IAmb IAmb 09 01 18.3
comp=Z,48nm,1.5s
CMAR Chiang Mai Arr 52.37 257 P P 09 01 19.1 +0.1
CMAR Chiang Mai Arr 52.37 257 P P 09 01 19.7 +0.7
comp=Z,4.2nm,0.8s,baz=34,slow=7.2,SNR=23
comp=Z,4.2nm,0.8s
CMAR Chiang Mai Arr 52.37 257 *ce*P P 09 01 20.3 +1.3
CMAR pmax pmax
comp=Z,4.0nm,0.9s
TNSS Tian-Shan 52.42 296 *e*P P 09 01 18.0 -1.6
TNSS Tian-Shan 52.42 296 *e*P P 09 01 18.1 -1.6
SHL Shillong 52.48 269 P P 09 01 19.8 -0.2
SHL IAmb IAmb 09 01 31.8
comp=Z,24nm,0.7s
SHL Shillong 52.48 269 P P 09 01 19.8 -0.2
SHL pmax pmax
comp=Z,24nm,0.7s
TARG Taragay, Kyrgy 52.58 294 P P 09 01 20.7 -0.1
TARG Taragay, Kyrgy 52.58 294 P P 09 01 20.7 -0.1
TARG pmax pmax
comp=Z,15nm,1.1s
KDJ Kajisay 52.76 295 P P 09 01 21.3 -0.5
KDJ IAmb IAmb 09 02 04.2
comp=Z,43nm,1.6s
KDJ Kajisay 52.76 295 P P 09 01 21.3 -0.5
KDJ pmax pmax
comp=Z,43nm,1.6s
KBS Kingsbay 53.01 351 *e*P P 09 01 22.8 -0.2
KBS IAmb IAmb 09 01 27.9
comp=Z,57nm,1.5s
KBS Kingsbay 53.01 351 *i* P P 09 01 22.5 -0.5
SPA0 Spitsbergen Ar 53.13 350 *e*P P 09 01 22.1 -1.8
SPA0 IAmb IAmb 09 01 25.6
comp=Z,62nm,1.3s
SPITS Spitsbergen Ar 53.13 350 P P 09 01 23.2 -0.7
comp=Z,4.6nm,0.5s,baz=52,slow=6.8,SNR=12
SPITS LR LR 09 27 12.2
comp=Z,323nm,19.0s,baz=22,slow=40
comp=Z,4.6nm,0.5s
BTLS Baital 53.16 300 *e*P P 09 01 23.3 -1.2
BTLS Baital 53.16 300 *e*P P 09 01 23.4 -1.2
MRSI Marisa 53.23 220 P P 09 01 25.4 +0.1
comp=Z,39nm,1.5s
SANI Sanana 53.79 215 P P 09 01 29.7 +0.3
comp=Z,38nm,1.3s
AAK Ala-Archa 54.16 297 P P 09 01 31.9 -0.2
AAK Ala-Archa 54.16 297 LR LR 09 25 50.4
comp=Z,1µm,18.3s,baz=51,slow=37
AAK Ala-Archa 54.16 297 *ce*P P 09 01 32.2 +0.1
AAK pmax pmax
comp=Z,11nm,0.8s
AAK Ala-Archa 54.16 297 P P 09 01 31.6 -0.5
AAK Ala-Archa 54.16 297 *e*P P 09 01 32.2 +0.1
SVE Sverdlovsk 54.28 317 *e*P P 09 01 31.8 -0.7
SVE pmax pmax
comp=Z,31nm,1.3s
SVE MLR MLR
comp=Z,2µm,16.0s
BRDH Bariadhala 54.52 266 LR LR 09 26 16.6
comp=Z,301nm,20.2s,baz=120,slow=38
APSI Ampana 54.59 220 P P 09 01 35.7 +0.5
comp=Z,59nm,1.1s
TULEG Thule 54.60 11 *i* P P 09 01 36.3 +1.8
KSH Kashi 54.95 293 P P 09 01 41.9 +4.0
KSH pmax pmax
comp=Z,31nm,1.8s
KSH pmax pmax
comp=Z,370nm,6.0s
KSH LR LR
comp=Z,2µm,17.2s
KSH LR LR
comp=Z,2µm,15.5s
KSH LR LR
comp=Z,2µm,15.1s
ARTI Arti 55.57 318 P P 09 01 40.0 -1.9
ARTI IAmb IAmb 09 01 46.0
comp=Z,22nm,0.8s
ARTI Arti 55.57 318 LR LR 09 28 05.7
comp=Z,2µm,18.1s,baz=44,slow=39
ARTI Arti 55.57 318 *c i* P P 09 01 40.3 -1.6
ARTI 09 02 37.6
ARTI 09 03 41.8
ARTI S S 09 09 25.1 -1.4
ARTI pmax pmax
comp=Z,34nm,1.4s
ARTI MLR MLR
comp=Z,2µm,17.0s
NEEM North Greenlan 55.65 6 *i* P P 09 01 42.2 -0.4
NEEM IAmb IAmb 09 01 44.2
comp=Z,114nm,1.4s
HNR Honiara 55.74 172 LR LR 09 27 25.4
comp=Z,400nm,18.1s,baz=6.0,slow=38
DZA Taraz 55.97 299 *e*P P 09 01 43.9 -1.1
DZA Taraz 55.97 299 *e*P P 09 01 43.9 -1.1
KK31 Karatay Array 56.34 299 P P 09 01 43.2 -4.5
BRLS Boroldoy 56.80 299 *e*P P 09 01 51.4 +0.5
BRLS Boroldoy 56.80 299 *e*P P 09 01 51.5 +0.5
DAG Danmarks Havn 57.15 358 *i* P P 09 01 52.0 -0.9
DAG IAmb IAmb 09 01 54.0
comp=Z,81nm,1.4s
IUG Iuzhnay 57.18 299 *e*P P 09 01 52.4 -1.3
IUG Iuzhnay 57.18 299 *e*P P 09 01 52.4 -1.3
CHM Chimkent 57.34 299 *e*P P 09 01 53.5 -1.2
CHM Chimkent 57.34 299 *e*P P 09 01 53.6 -1.2
NEW Newport 57.39 52 LR LR 09 24 11.3
comp=Z,248nm,21.8s,baz=314,slow=33
KULLO Kullorsuaq 57.74 9 *i* P P 09 01 58.1 +1.1
KULLO IAmb IAmb 09 02 05.1
comp=Z,23nm,0.9s
YBH Yreka Blue Hor 57.88 62 LR LR 09 25 13.4
comp=Z,12nm,19.4s,baz=294,slow=34
KIRV Kirov 58.25 323 LR LR 09 29 17.8
comp=Z,1µm,18.4s,baz=30,slow=38
ARA0 ARCESS Array S 58.37 341 *e*P P 09 02 01.7 +0.2
ARA0 IAmb IAmb 09 02 05.8
comp=Z,0.3nm,0.3s
ARCES ARCESS Array B 58.37 341 P P 09 02 01.1 -0.4
comp=Z,2.7nm,0.5s,baz=30,slow=7.0,SNR=28
ARCES LR LR 09 30 06.7
comp=Z,840nm,20.7s,baz=32,slow=39
comp=Z,2.7nm,0.5s
AB31 Akbulak array 58.84 310 *i* P P 09 02 04.0 -1.1
ABKAR Akbulak array 58.84 310 P P 09 02 04.3 -0.8
KAPI Kappang 59.08 220 LR LR 09 35 19.0
comp=Z,59nm,18.0s,baz=350,slow=44
AKTO Aktyubinsk 59.15 312 LR LR 09 29 53.7
comp=Z,3µm,19.2s,baz=43,slow=38
AKTO Aktyubinsk 59.15 312 P P 09 02 05.7 -1.5
KTK1 Kautokeino 59.28 341 *e*P P 09 02 07.9 0.0
KTK1 IAmb IAmb 09 02 08.7
comp=Z,131nm,2.0s
JETT Jettan, Norway 59.46 343 *e*P P 09 02 08.9 -0.2
JETT IAmb IAmb 09 02 09.9
comp=Z,81nm,1.5s
DBG Daneborg 59.66 358 *i* P P 09 02 10.9 +0.5
DBG IAmb IAmb 09 02 23.2
comp=Z,312nm,2.9s
TRO Tromso 59.70 343 *e*P P 09 02 10.2 -0.5
TRO IAmb IAmb 09 02 11.5
comp=Z,74nm,1.4s
SIMJ Simiganj 59.86 296 P P 09 02 12.0 -0.5
PLID Pearl Lake 59.87 55 P P 09 02 12.7 +0.1
NIL Nilore 60.18 289 P P 09 02 14.6 0.0
NIL Nilore 60.18 289 P P 09 02 14.6 0.0
NIL pmax pmax
comp=Z,66nm,0.9s
BEKR Beckworth 60.42 62 P P 09 02 17.0 +0.6
BEKR IAmb IAmb 09 02 31.2
comp=Z,22nm,1.2s
KLMR Klimovskoe 60.60 329 *e*P P 09 02 15.0 -2.0
KLMR *e* 09 02 57.5
KLMR *e* 09 04 27.3
KLMR S S 09 10 31.5 -0.6
KLMR SS SS 09 14 28.3 -1.2
KLMR pmax pmax
comp=Z,45nm,1.7s
KLMR MLR MLR
comp=Z,825nm,19.0s
SUMG Summit 61.20 4 *i* P P 09 02 21.0 -0.4
SUMG IAmb IAmb 09 02 24.3
comp=Z,139nm,1.4s
LRM Limekiln Ridge 61.41 53 P P 09 02 24.3 +1.2
DLMT Dillon 61.61 53 P P 09 02 25.1 +0.8
HLID Hailey 61.70 56 P P 09 02 25.5 +0.6
HLID IAmb IAmb 09 02 40.2
comp=Z,17nm,1.1s
WAKR Walker 61.82 63 P P 09 02 27.1 +1.1
WAKR IAmb IAmb 09 02 41.3
comp=Z,17nm,1.0s
JOF Joensuu 61.84 334 *e*P P 09 02 25.6 +0.3
STEI Steigen 61.86 343 *e*P P 09 02 25.0 -0.4
STEI IAmb IAmb 09 02 26.0
comp=Z,92nm,1.8s
BBGB Big Mountain B 62.01 65 P P 09 02 27.8 +0.7
LOF Lofoten 62.02 344 *e*P P 09 02 26.5 0.0
LOF IAmb IAmb 09 02 26.9
comp=Z,148nm,1.6s
RYN Ryan 62.31 62 P P 09 02 30.1 +0.9
RYN IAmb IAmb 09 02 44.2
comp=Z,18nm,1.0s
FAUS Fauske 62.32 343 *e*P P 09 02 28.5 0.0
FAUS IAmb IAmb 09 02 32.9
comp=Z,49nm,1.1s
JMIC Jan Mayen 62.34 353 LR LR 09 27 22.6
comp=Z,183nm,20.6s,baz=32,slow=34
KBL Kabul 62.36 292 P P 09 02 28.6 -1.0
KBL Kabul 62.36 292 P P 09 02 28.6 -1.0
KBL pmax pmax
comp=Z,31nm,1.0s
NVAR Mina Array Bea 62.56 62 P P 09 02 32.2 +1.2
comp=Z,8.9nm,0.8s,baz=288,slow=6.9,SNR=57
comp=Z,8.9nm,0.8s
ELK Elko 62.97 59 LR LR 09 29 05.2
comp=Z,165nm,18.6s,baz=326,slow=35
BELG Belogornoye 62.99 319 LR LR 09 32 21.6
comp=Z,1µm,19.1s,baz=34,slow=38
BELG Belogornoye 62.99 319 *i* P P 09 02 31.2 -2.0
BELG pmax pmax
comp=Z,7.0nm,0.9s
BELG MLR MLR
comp=Z,217nm,19.0s
VAGH Vaagaholmen 63.29 343 *e*P P 09 02 34.8 -0.1
VAGH IAmb IAmb 09 02 35.6
comp=Z,29nm,1.0s
SCO Scoresbysund 63.53 358 *i* P P 09 02 36.4 -0.1
SCO IAmb IAmb 09 02 39.4
comp=Z,26nm,1.0s
MOR8 Moi Rana 63.54 343 *e*P P 09 02 35.8 -0.9
MOR8 IAmb IAmb 09 02 36.3
comp=Z,94nm,1.2s
LEIR Leirfjorden 63.86 343 *e*P P 09 02 38.8 +0.1
LEIR IAmb IAmb 09 02 39.5
comp=Z,97nm,1.8s
PSI Prapat 63.97 245 LR LR 09 32 02.2
comp=Z,215nm,19.2s,baz=75,slow=37
KEF Keuruu 64.32 336 *e*P P 09 02 40.9 -0.9
FINES FINESS Array B 64.55 335 P P 09 02 42.5 -0.9
comp=Z,12nm,0.5s,baz=35,slow=7.1,SNR=98
FINES LR LR 09 33 50.5
comp=Z,1µm,19.9s,baz=35,slow=39
comp=Z,12nm,0.5s
FINES FINESS Array B 64.55 335 *ce*P P 09 02 42.9 -0.4
FINES pmax pmax
comp=Z,12nm,0.5s
MOS Moscow 64.92 326 *e*P P 09 02 43.8 -2.1
MOS *e* 09 05 06.5

MOS e 09 11 27.9
MOS eSS SS 09 15 42.8 +5.6
MOS pmax pmax
comp=Z,36nm,0.6s
MOS MLR MLR
comp=Z,1μm,18.0s
PDAR Pinedale Array 64.95 54 P **P 09 02 47.6 +1.0**
comp=Z,10nm,0.8s,baz=269,slow=1.5,SNR=77
comp=Z,10nm,0.8s
FRB Frobisher Bay 65.49 19 LR LR 09 32 26.1
comp=Z,287nm,21.8s,baz=320,slow=37
SFJD Kangerlussuaq 65.63 10 LR LR 09 34 21.0
comp=Z,633nm,18.6s,baz=348,slow=39
OBN Obninsk 65.79 326 LR LR 09 34 43.5
comp=Z,1μm,18.5s,baz=352,slow=39
OBN Obninsk 65.79 326 *de*P **P 09 02 51.2 -0.3**
OBN e 09 03 18.7
OBN e 09 05 14.1
OBN eSS SS 09 15 55.1 +4.4
OBN pmax pmax
comp=Z,90nm,2.5s
OBN MLR MLR
comp=Z,1μm,17.0s
OBN Obninsk 65.79 326 *e*P **P 09 02 51.2 -0.3**
OBN Obninsk 65.79 326 P **P 09 02 51.4 -0.1**
comp=Z,27nm,0.5s
SOEG Soedalen 65.82 2 *i* P **P 09 02 54.0 +2.5**
SOEG IAmb IAmb 09 02 55.4
comp=Z,89nm,1.5s
MEF Metsahovi 66.02 335 *e*P **P 09 02 53.1 +0.2**
RAF Rauma 66.12 336 *e*P **P 09 02 52.9 -0.6**
ARBE Arbavere 66.17 334 *e*P **P 09 02 53.1 -0.7**
VRH Novokhopyorsk 66.47 320 *e*P **P 09 02 52.4 -3.5**
VRH pmax pmax
comp=Z,10.0nm,1.0s
LPSR Galich'ya Gora 66.67 323 *e*P **P 09 02 53.1 -4.1**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VSU Vasula 66.72 333 *ce*P **P 09 02 56.7 -0.7**
VSU pmax pmax
comp=Z,32nm,1.3s
VSU Vasula 66.72 333 *e*P **P 09 02 56.8 -0.5**
PFO Pinyon Flats O 66.79 65 LR LR 09 27 32.1
comp=Z,144nm,21.7s,baz=274,slow=32
HYB Hyderabad 67.13 272 *e*P **P 09 03 00.8 +0.2**
VORR Voronezh 67.23 322 *e*P **P 09 02 59.0 -1.8**
VORR pmax pmax
comp=Z,20nm,1.0s
VSR Storozhevoye 67.58 322 *e*P **P 09 02 59.4 -3.6**
VSR pmax pmax
comp=Z,10.0nm,1.2s
VORD Divnogorie 67.71 321 *e*P **P 09 03 01.1 -2.7**
VORD pmax pmax
comp=Z,10.0nm,1.1s
WRA Warramunga Arr 68.08 199 P **P 09 03 05.4 -1.0**
comp=Z,3.3nm,0.8s,baz=16,slow=6.7,SNR=16
WRA LR LR 09 36 30.7
comp=Z,178nm,18.0s,baz=356,slow=39
comp=Z,3.3nm,0.8s
WRA Warramunga Arr 68.08 199 *i* P **P 09 03 05.6 -0.8**
WRA pmax pmax
comp=Z,3.0nm,0.8s
MOL Molde 68.13 344 *e*P **P 09 03 07.8 +1.5**
MOL IAmb IAmb 09 03 08.4
comp=Z,115nm,1.8s
ISOG Isortoq, Green 68.14 5 *i* P **P 09 03 05.7 -0.5**
ISOG IAmb IAmb 09 03 10.0
comp=Z,44nm,1.2s
DOMB Dombas 68.30 343 *e*P **P 09 03 07.7 +0.3**
DOMB IAmb IAmb 09 03 09.9
comp=Z,19nm,0.9s
AKN Aaknes 68.59 344 *e*P **P 09 03 10.3 +1.1**
AKN IAmb IAmb 09 03 14.1
comp=Z,73nm,1.3s
NB2 NORSAR Subarra 68.74 341 P **P 09 03 09.8 -0.4**
comp=Z,130nm,1.7s,baz=28,slow=6.5
NOA NORSAR Array B 68.74 341 P **P 09 03 09.9 -0.4**
comp=Z,6.5nm,0.5s,baz=29,slow=6.6,SNR=32
NOA LR LR 09 38 02.2
comp=Z,842nm,18.4s,baz=25,slow=40
comp=Z,6.5nm,0.5s
FITZ Fitzroy Crossi 68.75 208 LR LR 09 31 42.0
comp=Z,92nm,21.8s,baz=40,slow=34
NBO00 NORSAR Array S 68.85 341 P **P 09 03 11.1 +0.3**
NC602 NORSAR Array S 68.94 341 P **P 09 03 11.7 +0.3**
NC602 NORSAR Array S 68.94 341 *e*P **P 09 03 11.2 -0.2**
NC602 IAmb IAmb 09 03 12.3
comp=Z,75nm,1.7s
HFS Hagfors 68.97 340 P **P 09 03 11.0 -0.6**
comp=Z,9.0nm,0.4s,baz=46,slow=4.3,SNR=85
HFS LR LR 09 38 28.5
comp=Z,665nm,18.1s,baz=16,slow=40
comp=Z,9.0nm,0.4s
HFS Hagfors 68.97 340 P **P 09 03 11.0 -0.6**
NAO01 NORSAR Array S 68.99 341 P **P 09 03 12.0 +0.3**
DZM Mont Dzumac 69.03 167 *e*P **P 09 03 14.9 +2.5**
comp=Z,62nm,1.3s
DZM eS **S 09 12 21.8 +5.0**
comp=Z,436nm,25.3s
DZM Mont Dzumac 69.03 167 *e*LR LR 09 24 04.9
comp=Z,710nm,21.0s
MAK Makhachkala 69.49 311 *c i* P **P 09 03 11.0 -4.0**
MAK eS **S 09 12 16.0 -5.8**
MAK pmax pmax
comp=Z,89nm,1.1s
MAK MLR MLR
comp=Z,3μm,17.0s
MNK Minsk 69.49 329 *i* P **P 09 03 13.4 -1.5**
MNK *i* 09 03 36.2
MNK *i* 09 05 47.1
MNK *i* PPP PPP 09 07 28.0
MNK *i* S **S 09 12 22.3 +0.8**
MNK *i* 09 13 14.9
MNK *i* SS **SS 09 16 51.1 +3.3**
MNK pmax pmax
comp=N,13nm,0.7s
MNK pmax pmax
comp=Z,22nm,0.7s
MNK pmax pmax
comp=E,32nm,1.2s
MNK MLR MLR
comp=Z,1μm,18.0s
MNK MLR MLR
comp=N,658nm,18.0s
MNK MLR MLR
comp=E,671nm,16.0s
HYA Hoyanger 69.68 344 *e*P **P 09 03 16.8 +0.9**
HYA IAmb IAmb 09 03 17.9
comp=Z,42nm,1.0s
SUE Sulen 70.05 344 *e*P **P 09 03 19.3 +1.1**
SUE IAmb IAmb 09 03 20.8
comp=Z,363nm,1.9s
GOF Gofitskoye 70.26 315 *ce*P **P 09 03 19.9 +0.1**
KONO Kongsberg 70.35 341 *e*P **P 09 03 21.1 +1.1**
KONO IAmb IAmb 09 03 22.5
comp=Z,85nm,1.9s
AKT Akhty 70.41 310 *e*P **P 09 03 20.9 0.0**
AKT *e* 09 03 42.5
AKT *e* 09 05 54.6
AKT *e*PPP PPP 09 07 35.8
AKT pmax pmax
comp=Z,26nm,0.7s
AKT MLR MLR
comp=Z,2μm,16.0s
ASK Askoy 70.50 344 *e*P **P 09 03 22.6 +1.6**
ASK IAmb IAmb 09 03 24.2
comp=Z,45nm,1.3s
BER Bergen 70.56 344 *e*P **P 09 03 23.0 +1.7**
ODD1 Odda 70.74 343 *e*P **P 09 03 24.3 +1.8**
ERBR Yeremizino-Bor 71.02 317 *e*P **P 09 03 24.7 +0.3**
ERBR *e* 09 05 59.6
ERBR eS **S 09 12 43.5 +3.9**
ERBR pmax pmax
comp=Z,88nm,1.5s
ERBR MLR MLR
comp=Z,950nm,17.0s
KIV Kislovodsk 71.23 314 ⇑P **P 09 03 26.4 +0.5**
KIV Kislovodsk 71.23 314 *e*P **P 09 03 23.8 -2.1**
KIV pmax pmax
comp=Z,26nm,0.9s
KIV MLR MLR
comp=Z,1μm,18.0s
KIV Kislovodsk 71.23 314 *i* P **P 09 03 26.4 +0.5**
SNR=14
KIV Kislovodsk 71.23 314 *e*P **P 09 03 26.9 +1.0**

KIV Kislovodsk 71.23 314 P **P 09 03 26.7 +0.8**
comp=Z,723nmcomp=Z,30nm,0.9s
KBZ Khabaz 71.29 314 P **P 09 03 26.3 +0.2**
comp=Z,14nm,0.7s,baz=57,slow=4.9,SNR=31
KBZ LR LR 09 39 16.6
comp=Z,739nm,18.6s,baz=34,slow=40
comp=Z,14nm,0.7s
KBZ Khabaz 71.29 314 *i* P **P 09 03 26.8 +0.7**
KBZ Khabaz 71.29 314 *e*P **P 09 03 26.8 +0.7**
SUW Suwalki 71.50 332 *e*P **P 09 03 26.8 -0.3**
KMY Karmoy 71.67 343 *e*P **P 09 03 30.7 +2.6**
LABN Labinsk 71.69 316 *e*P **P 09 03 26.9 -1.6**
LABN *e*S **S 09 12 46.8 -0.7**
LABN *e* 09 13 30.0
LABN pmax pmax
comp=Z,30nm,0.7s
LABN MLR MLR
comp=Z,3μm,16.0s
AS16 Alice Springs 71.73 199 P **P 09 03 28.9 +0.1**
comp=Z,10nm,1.1s
AS31 Alice Springs 71.77 199 P **P 09 03 28.8 -0.2**
ASAR Alice Springs 71.77 199 P **P 09 03 29.0 0.0**
ASAR Alice Springs 71.77 199 P **P 09 03 29.2 +0.2**
comp=Z,3.0nm,0.7s,baz=14,slow=5.9,SNR=28
ASAR LR LR 09 34 41.2
comp=Z,263nm,19.8s,baz=4.0,slow=36
comp=Z,3.0nm,0.7s
HOMB Homborsund 71.84 341 *e*P **P 09 03 31.3 +2.2**
SPMN Marine on St. 71.91 43 P **P 09 03 28.9 -0.9**
SPMN IAmb IAmb 09 03 44.3
comp=Z,20nm,0.8s
ANMO Albuquerque 72.00 58 *ce*P **P 09 03 30.7 -0.1**
ANMO pmax pmax
comp=Z,9.0nm,1.3s
AK03 Malin Array Si 72.01 326 P **P 09 03 29.7 -0.6**
AK23 Malin Array Si 72.02 326 P **P 09 03 29.3 -1.0**
AKASG Malin Array Be 72.03 326 P **P 09 03 30.0 -0.4**
AKASG IAmb IAmb 09 03 31.7
comp=Z,38nm,1.4s
AKASG Malin Array Be 72.03 326 P **P 09 03 29.9 -0.4**
comp=Z,20nm,0.5s,baz=37,slow=6.2,SNR=88
AKASG LR LR 09 37 37.4
comp=Z,782nm,18.1s,baz=36,slow=38
comp=Z,20nm,0.5s
AKASG Malin Array Be 72.03 326 *ce*P **P 09 03 30.0 -0.4**
AKASG pmax pmax
comp=Z,24nm,0.5s
AKBB Malin Array Si 72.03 326 *i* P **P 09 03 30.3 -0.1**
AKBB pmax pmax
comp=Z,51nm,0.8s
AKBB Malin Array Si 72.03 326 P **P 09 03 29.5 -0.9**
AK04 Malin Array Si 72.03 326 P **P 09 03 29.8 -0.6**
AK21 Malin Array Si 72.04 327 P **P 09 03 29.7 -0.7**
AK22 Malin Array Si 72.04 326 P **P 09 03 29.7 -0.8**
KIEV Kiev 72.04 326 ⇑P **P 09 03 30.0 -0.5**
KIEV Kiev 72.04 326 P **P 09 03 29.9 -0.5**
KIEV Kiev 72.04 326 *i* P **P 09 03 29.3 -1.1**
SNR=5.2
KIEV Kiev 72.04 326 P **P 09 03 29.5 -1.0**
comp=Z,3μmcomp=Z,244nm,1.5s
AK01 Malin Array Si 72.04 326 P **P 09 03 29.7 -0.8**
SNART Snartemo 72.06 342 *e*P **P 09 03 32.0 +1.5**
AK11 Malin Array Si 72.07 326 P **P 09 03 29.8 -0.8**
AK02 Malin Array Si 72.07 326 P **P 09 03 29.9 -0.7**
AK08 Malin Array Si 72.07 326 P **P 09 03 29.9 -0.7**
AK15 Malin Array Si 72.07 326 P **P 09 03 29.9 -0.8**
AK18 Malin Array Si 72.07 326 P **P 09 03 29.9 -0.8**
DUN6 Lazy B Ranch 72.08 62 P **P 09 03 32.0 +0.8**
AK09 Malin Array Si 72.08 326 P **P 09 03 29.9 -0.8**
AK20 Malin Array Si 72.08 327 P **P 09 03 29.8 -0.9**
AK19 Malin Array Si 72.09 326 P **P 09 03 29.9 -0.9**
AK13 Malin Array Si 72.16 326 P **P 09 03 30.0 -1.2**
Y22D IRIS PASSCAL I baz=314 72.33 59 P **P 09 03 34.9 +2.1**
MI28 Mi28,Pidlybu 72.44 327 P **P 09 03 32.4 -0.4**
BNM Barren Site 72.45 59 P **P 09 03 33.8 +0.3**
I37A Lemond, Waseca 72.52 44 P **P 09 03 33.7 +0.2**
L34A Svendsen Farm, 72.56 47 P **P 09 03 33.2 -0.5**
RNPP9 Sopachiv 72.70 329 P **P 09 03 32.8 -1.6**
PALK Pallekele 72.74 262 LR LR 09 37 26.2
comp=Z,182nm,20.7s,baz=62,slow=37
319A Douglas 72.77 63 P **P 09 03 35.4 +0.1**
RNPP8 Varash 72.78 329 P **P 09 03 33.9 -0.9**
RNPP5 Staryi Chortor 72.85 328 P **P 09 03 34.6 -0.7**
GNI Garni 72.95 311 P **P 09 03 37.4 +1.1**
GNI Garni 72.95 311 LR LR 09 39 19.0
comp=Z,693nm,18.7s,baz=27,slow=39
GNI Garni 72.95 311 *ce*P **P 09 03 37.7 +1.4**
GNI pmax pmax
comp=Z,69nm,1.3s
GNI Garni 72.95 311 P **P 09 03 38.0 +1.7**
QLP Quilpie 72.95 188 P **P 09 03 36.0 0.0**
comp=Z,25nm,0.9s
SOC Sochi 72.96 316 *e*P **P 09 03 35.8 -0.3**
SOC *e* 09 06 12.7
SOC *e*PPP PPP 09 07 58.1
SOC *e*S **S 09 13 05.0 +3.0**
SOC *e*SS **SS 09 17 33.5 -8.1**
SOC MLR MLR
comp=Z,1μm,18.0s
BSD Bornholm Skovb 73.06 336 *i* P **P 09 03 34.7 -1.8**
BSD IAmb IAmb 09 03 37.2
comp=Z,76nm,1.6s
ANN Anapa 73.13 318 *e*P **P 09 03 35.5 -1.5**
ANN *e* 09 06 15.2
ANN *e*S **S 09 13 04.1 +0.2**
ANN *e* 09 13 40.5
ANN pmax pmax
comp=Z,27nm,0.7s
LUBAR Lubar, Ukraine 73.22 327 P **P 09 03 36.5 -1.0**
COP Copenhagen 73.22 338 *i* P **P 09 03 36.6 -0.8**
COP IAmb IAmb 09 03 39.6
comp=Z,37nm,0.7s
SCHQ Schefferville 73.73 23 P **P 09 03 39.8 -0.7**
comp=Z,4.7nm,0.9s,baz=350,slow=6.1,SNR=1.8
SCHQ LR LR 09 39 06.1
comp=Z,274nm,20.8s,baz=330,slow=38
comp=Z,4.7nm,0.9s
N35A Tabor 73.74 47 P **P 09 03 40.8 0.0**
OZAP Van, Ozalp-Mer 74.43 310 ⇓P **P 09 03 47.8 +2.7**
SORM Soroca 74.43 325 ⇓P **P 09 03 44.2 -0.5**
SORM Soroca 74.43 325 P **P 09 03 44.1 -0.5**
SIM Simferopol' 74.53 320 *e*P **P 09 03 43.5 -1.8**
SIM *e* 09 03 58.0
SIM pmax pmax
comp=Z,55nm,1.4s
AMTX Amarillo 74.82 55 P **P 09 03 46.9 -0.3**
AMTX IAmb IAmb 09 04 01.9
comp=Z,30nm,1.1s
KMPD K-Podol'skiy 74.82 327 P **P 09 03 45.8 -1.0**
KMPD P **pP 09 03 46.2 -4.2**
MSTX Muleshoe 74.84 57 P **P 09 03 47.2 -0.2**
MSTX IAmb IAmb 09 04 02.8
comp=Z,21nm,1.0s
N38A Joes South For 75.01 46 P **P 09 03 47.8 -0.4**
KIS Kishinev 75.16 324 ⇑*i* P **P 09 03 49.0 +0.1**
comp=Z,180nm,4.2s
KIS *e*S **S 09 13 25.0 -1.6**
KIS *e*L L 09 37 04.0
KIS LRM MLR 09 39 51.0
comp=Z,400nm,22.5s
KIS Kishinev 75.16 324 *c i* P **P 09 03 49.0 +0.1**
KIS *e*S **S 09 13 25.0 -1.6**
KIS pmax pmax
comp=Z,180nm,4.2s
MILM Milestii Mici 75.23 324 ⇑*i* P **P 09 03 48.0 -1.2**
comp=Z,210nm,2.1s
MILM *e*S **S 09 13 25.0 -2.4**
MILM *e*ScS **S 09 13 33.0 +5.6**
MILM Milestii Mici 75.23 324 ⇑P **P 09 03 49.4 +0.2**
MILM Milestii Mici 75.23 324 *c i* P **P 09 03 48.0 -1.2**
MILM *e*S **S 09 13 25.0 -2.4**
MILM *e*PS **PnS 09 13 49.0 -14**
MILM pmax pmax
comp=Z,210nm,2.1s
KWP Kalwaria Pacla 75.31 329 P **P 09 03 50.2 +0.5**
comp=Z,1μmcomp=Z,98nm,1.6s
STNU Starunia 75.43 328 P **P 09 03 50.9 +0.5**
KSV Kosov 75.55 327 P **P 09 03 51.2 +0.1**
P38A Dawn 75.74 47 P **P 09 03 52.4 0.0**
P38A IAmb IAmb 09 04 06.7
comp=Z,22nm,0.8s
OJC Ojcow 75.82 331 *e*P **P 09 03 52.9 +0.3**
OJC Ojcow 75.82 331 P **P 09 03 52.7 +0.1**

MEZ Mezhgor'ye 75.96 328 P **P 09 03 53.4 -0.1**
KOLS Kolonicke sedl 76.06 329 *e*P **P 09 03 55.1 +1.1**
KOLS Kolonicke sedl 76.06 329 *e*P **P 09 03 55.1 +1.1**
BURAR Bucovina Array 76.07 327 ⇑P **P 09 03 54.7 +0.5**
BURAR Bucovina Array 76.07 327 P **P 09 03 54.7 +0.5**
RAKU Rahkiv 76.13 328 P **P 09 03 54.0 -0.4**
DKNS Dickens 76.13 56 P **P 09 03 55.1 +0.4**
DKNS IAmb IAmb 09 04 10.2
comp=Z,24nm,1.0s
T35A Sooner Cattle 76.20 51 P **P 09 03 55.0 0.0**
T35A IAmb IAmb 09 04 09.3
comp=Z,31nm,1.0s
POST Post 76.23 57 P **P 09 03 55.3 0.0**
N41A Harden Midland 76.25 45 P **P 09 03 55.2 -0.1**
BANOM Banah 76.29 293 P **P 09 03 55.4 -0.3**
BRIU Brid 76.29 328 P **P 09 03 55.0 -0.3**
SHME Shamm 76.30 293 P **P 09 03 54.9 -0.8**
NIE Niedzica 76.33 331 *e*P **P 09 03 56.3 +0.7**
KSP Ksiaz 76.40 334 *e*P **P 09 03 56.1 +0.1**
TESR Tescani 76.42 325 ⇑P **P 09 03 57.1 +1.0**
DIKM Dikmen 76.57 317 ⇑P **P 09 03 57.7 +0.7**
OSTC Ostas 76.68 333 AMS AMS 09 41 10.0
comp=Z,900nm,18.7s
OKC Ostrava-Krasne 76.69 332 AMS AMS 09 42 10.0
comp=Z,1μm,17.7s
CHVC Chvalec 76.70 334 AMS AMS 09 41 10.0
comp=Z,1μm,21.4s
STEB Steborice 76.73 332 *e*P **P 09 03 58.4 +0.6**
UPC Upice 76.78 334 AMS AMS 09 41 10.0
comp=Z,1μm,18.1s
DPC Dobruska-Polom 76.83 333 *e*P **P 09 04 00.8 +2.4**
DPC *e*S **S 09 13 48.5 +3.5**
DPC AMS AMS 09 42 40.0
comp=Z,900nm,20.4s
DPC Dobruska-Polom 76.83 333 *e*P **P 09 04 00.8 +2.4**
DPC *e*S **S 09 13 48.5 +3.5**
DPC MLR MLR
comp=Z,900nm,20.4s
ARCR ARCALIA 76.84 327 ⇑P **P 09 03 59.7 +1.3**
LANS Liptovska Anna 76.84 331 *e*P **P 09 03 59.6 +1.1**
LANS Liptovska Anna 76.84 331 *e*P **P 09 03 59.6 +1.1**
EKA Eskdalemuir Ar 76.86 346 P **P 09 03 57.7 -0.6**
comp=Z,3.6nm,0.5s,baz=22,slow=5.1,SNR=21
comp=Z,3.6nm,0.5s
BZK Bozkurt 76.91 318 ⇑P **P 09 04 01.2 +2.3**
CFR Carcaliu 76.91 324 ⇑P **P 09 03 59.4 +0.6**
CFR Carcaliu 76.91 324 P **P 09 03 59.4 +0.6**
KRLC Kraliky 76.92 333 *e*P **P 09 03 58.6 -0.3**
KRLC AMS AMS 09 43 40.0
comp=Z,800nm,14.9s
KRLC Kraliky 76.92 333 *e*P **P 09 03 58.6 -0.3**
KRLC MLR MLR
comp=Z,800nm,14.9s
VRI Vrincioaia 76.92 325 ⇑P **P 09 03 60.0 +1.0**
VRI Vrincioaia 76.92 325 P **P 09 03 59.9 +1.0**
MORC Moravsky Berou 76.94 332 *e*P **P 09 03 59.3 +0.3**
MORC Moravsky Berou 76.94 332 ⇑P **P 09 03 59.0 0.0**
MORC Moravsky Berou 76.94 332 P **P 09 03 59.0 0.0**
PLOR Plostina 76.97 325 ⇓P **P 09 03 59.6 +0.4**
PLOR Plostina 76.97 325 P **P 09 03 59.6 +0.4**
CLL Collm 76.97 336 *i* P **P 09 03 58.7 -0.4**
CLL *i* 09 04 04.4
CLL *e*S **S 09 13 46.0 -0.4**
CLL pmax pmax
comp=Z,56nm,1.5s
CLL MLR MLR
comp=Z,700nm,20.3s
UOSS Minazif 77.03 292 P **P 09 03 60.0 0.0**
TPGR Topolog 77.06 323 ⇑P **P 09 04 00.9 +1.2**
BRG Berggiesshubel 77.09 335 *e*P **P 09 03 59.7 0.0**
BRG Amp 09 04 02.6
comp=Z,14nm,1.2s
OZUR 77.11 326 ⇑P **P 09 04 00.5 +0.5**
COVR Voineasa-Covas 77.15 325 ⇑P **P 09 04 00.7 +0.4**
HATD Hatta, Dubai 77.17 292 P **P 09 04 01.7 +1.1**
LPIG La Paz 77.20 69 LR LR 09 30 29.8
comp=Z,72nm,21.6s,baz=314,slow=30
PVCC Panska Ves 77.21 334 AMS AMS 09 41 40.0
comp=Z,1μm,17.7s
RICC Richard 77.33 335 AMS AMS 09 42 00.0
comp=Z,800nm,17.5s
NAZ Nazwa, Dubai 77.35 293 P **P 09 04 02.5 +0.9**
DOPR Dopca 77.37 326 ⇑P **P 09 04 02.4 +0.9**
HARR Harsova 77.39 323 ⇑P **P 09 04 02.7 +1.1**
HARR Harsova 77.39 323 P **P 09 04 02.6 +1.1**
MLR Muntele Rosu 77.54 325 LR LR 09 42 41.6
comp=Z,770nm,18.6s,baz=42,slow=39
MLR Muntele Rosu 77.54 325 ⇑P **P 09 04 03.5 +0.8**
MLR Muntele Rosu 77.54 325 P **P 09 04 03.4 +0.8**
FAQ Al Faqa, Dubai 77.57 293 P **P 09 04 03.6 +0.7**
VYHS Vyhne 77.62 331 *e*P **P 09 04 03.3 +0.5**
VYHS *e* 09 06 57.0
VYHS Vyhne 77.62 331 *e*P **P 09 04 03.3 +0.5**
VYHS *e*PP **PP 09 06 57.0 -0.2**
TXAR Lajitas Array 77.64 61 P **P 09 04 04.2 +0.8**
comp=Z,12nm,0.8s,baz=283,slow=3.5,SNR=49
comp=Z,12nm,0.8s
VRAC Vranov 77.65 333 *e*P **P 09 04 03.5 +0.5**
VRAC Vranov 77.65 333 LR LR 09 43 43.0
comp=Z,810nm,18.5s,baz=26,slow=40
GOPC GO Pecny, Ondr 77.68 334 AMS AMS 09 42 00.0
comp=Z,1μm,17.3s
PRU Pruhonice 77.69 334 *e*P **P 09 04 03.7 +0.5**
PRU *e*S **S 09 13 56.2 +1.9**
PRU AMS AMS 09 41 50.0
comp=Z,1μm,17.6s
PRU Pruhonice 77.69 334 *e*P **P 09 04 03.7 +0.5**
PRU *e*S **S 09 13 56.2 +1.9**
PRU MLR MLR
comp=Z,1μm,17.6s
JAVC Velka Javorina 77.69 332 *e*P **P 09 04 04.7 +1.4**
PSZ Piszkesteto 77.75 330 ⇑P **P 09 04 04.2 +0.5**
PSZ Piszkesteto 77.75 330 P **P 09 04 04.1 +0.5**
ASUD Al Ashush, Dub 77.82 293 P **P 09 04 04.7 +0.4**
KRUC Moravsky 77.93 333 *e*P **P 09 04 05.0 +0.5**
VOIR 77.94 326 ⇓P **P 09 04 04.9 +0.1**
VOIR 77.94 326 P **P 09 04 04.9 +0.1**
ALNE Al Ain 77.95 292 P **P 09 04 06.3 +1.2**
TREC Trest 78.01 333 AMS AMS 09 43 20.0
comp=Z,1μm,17.1s
SADO Sadowa 78.24 35 LR LR 09 43 06.4
comp=Z,217nm,18.2s,baz=347,slow=39
ZVC Zvikov 78.28 334 AMS AMS 09 42 20.0
comp=Z,1μm,18.7s
STKA Stephens Creek 78.47 190 LR LR 09 38 35.5
comp=Z,294nm,20.5s,baz=21,slow=36
SIRR Siria 78.53 328 ⇑P **P 09 04 08.7 +0.8**
KHC Kasperske Hory 78.74 334 *e*P **P 09 04 09.5 +0.4**
KHC Kasperske Hory 78.74 334 *e*P **P 09 04 09.5 +0.4**
SURR Surduc 78.80 327 ⇑P **P 09 04 09.8 +0.5**
CKRC Cesky Krumlov 78.80 334 *e*P **P 09 04 11.0 +1.7**
CKRC *e*S **S 09 14 09.6 +3.3**
CKRC AMS AMS 09 42 30.0
comp=Z,900nm,18.4s
CKRC Cesky Krumlov 78.80 334 *e*P **P 09 04 11.0 +1.7**
CKRC *e*S **S 09 14 09.6 +3.3**
CKRC MLR MLR
comp=Z,900nm,18.4s
BRTR Keskin Array B 78.84 317 P **P 09 04 09.7 -0.2**
comp=Z,8.0nm,1.1s,baz=45,slow=2.7,SNR=19
BRTR LR LR 09 45 01.4
comp=Z,778nm,18.2s,baz=28,slow=40
comp=Z,8.0nm,1.1s
BRTR Keskin Array B 78.84 317 *ce*P **P 09 04 11.1 +1.2**
BRTR pmax pmax
comp=Z,8.0nm,1.1s
GZR Gura Zlata 78.86 327 ⇓P **P 09 04 10.2 +0.4**
GZR Gura Zlata 78.86 327 P **P 09 04 10.1 +0.4**
GERES GERESS Array B 78.96 334 P **P 09 04 10.5 +0.1**
comp=Z,3.7nm,0.5s,baz=38,slow=4.6,SNR=11
GERES LR LR 09 42 58.8
comp=Z,1μm,18.2s,baz=34,slow=39
comp=Z,3.7nm,0.5s
CONA Conrad Observa 79.10 332 *i* P **P 09 04 12.1 +1.0**
comp=Z,9.4nm,0.8s,SNR=11
RONA Rosalia, Austr 79.16 332 *i* P **P 09 04 12.5 +1.2**
comp=Z,12nm,0.9s,SNR=9.0
BTNL Ternell 79.45 339 *dP* **P 09 04 13.0 +0.1**
comp=Z,15nm,0.0s
RAR Rarotonga 79.45 136 LR LR 09 36 18.0
comp=Z,477nm,18.9s,baz=317,slow=33
MEM Membach 79.46 339 *dP* **P 09 04 13.0 +0.2**
comp=Z,21nm,1.2s
RAO Raoul Island 79.55 155 LR LR 09 35 12.8

comp=Z,543nm,18.8s,baz=332,slow=32
BSTI Sart Tilman 79.59 340 *d*P **P** 09 04 14.7 +1.1
comp=Z,7.2nm,0.6s
UCC Uccle 79.67 341 *d*P **P** 09 04 14.6 +0.6
BHOU Houvegnez 79.70 339 *d*P **P** 09 04 14.5 +0.3
comp=Z,18nm,1.2s
MDVR Moldovita 79.78 327 ⇓P **P** 09 04 14.9 +0.1
ARSA Arzberg 79.80 332 *i*P **P** 09 04 16.5 +1.6
comp=Z,111nm,1.2s
BCLA Clavier 79.81 340 *d*P **P** 09 04 15.3 +0.6
comp=Z,15nm,1.0s
BGES Gesves 79.89 340 *d*P **P** 09 04 15.3 +0.1
comp=Z,12nm,1.0s
BMRD Maredsous 80.04 340 *d*P **P** 09 04 16.7 +0.6
comp=Z,18nm,1.2s
RCHB Rochefort 80.07 340 *d*P **P** 09 04 16.0 -0.2
comp=Z,11nm,1.3s
MZR Muzera 80.16 293 *i*P **P** 09 04 17.4 +0.2
SNR=13
DOU Dourbes 80.27 340 *d*P **P** 09 04 16.8 -0.5
comp=Z,10.0nm,1.3s
WLF Walferdange 80.30 339 *d*P **P** 09 04 18.1 +0.7
SOKA Soboth 80.47 332 *i*P **P** 09 04 19.1 +0.5
comp=Z,41nm,1.4s,SNR=17
PERS Pernice 80.47 332 *i*P **P** 09 04 18.8 +0.2
GROS Grobnik 80.50 332 *e*P **P** 09 04 18.9 +0.1
LESA Schwarzleotal 80.54 334 *i*P **P** 09 04 19.7 +0.8
comp=Z,14nm,0.6s,SNR=12
TAOE Nuku Hiva Isla 80.64 113 *e*P **P** 09 04 18.9 -0.9
comp=Z,22nm,22.7s
TAOE *e*S **S** 09 14 18.0 -8.7
comp=Z,86nm,25.9s
TAOE Nuku Hiva Isla 80.64 113 *e*LR LR 09 29 21.4
comp=Z,732nm,29.8s
KBA Koelnbreinsper 80.64 334 *i*P **P** 09 04 20.3 +0.7
comp=Z,47nm,1.0s
BOVS Bovan 80.75 327 ⇑P **P** 09 04 20.5 +0.5
OBKA Obir 80.77 333 *i*P **P** 09 04 20.2 0.0
comp=Z,5.6nm,0.5s,SNR=5.2
WATA Walderalm 80.95 335 *i*P **P** 09 04 21.9 +0.7
comp=Z,15nm,0.7s,SNR=13
MYKA Terra Mystica 80.95 333 *e*P **P** 09 04 22.1 +1.0
comp=Z,9.2nm,1.0s
WTTA Wattenberg 80.99 335 *i*P **P** 09 04 22.3 +0.8
comp=Z,34nm,0.5s,SNR=17
RETA Reutte 81.05 335 *e*P **P** 09 04 21.5 -0.1
comp=Z,10.0nm,0.9s,SNR=8.6
CRES Cresnjevec Ost 81.08 332 *e*P **P** 09 04 21.6 -0.1
MOTA Moosalm 81.08 335 *i*P **P** 09 04 22.5 +0.6
comp=Z,45nm,1.3s,SNR=14
SQTA Sankt Quirin 81.16 335 *i*P **P** 09 04 23.2 +0.9
comp=Z,21nm,1.0s,SNR=9.5
ABTA Abfaltersbach 81.19 334 *e*P **P** 09 04 22.4 -0.1
comp=Z,9.6nm,1.0s
VISS Visnje 81.30 332 *e*P **P** 09 04 22.5 -0.4
DAVA Damuels 81.48 336 *e*P **P** 09 04 23.5 -0.5
comp=Z,25nm,1.5s,SNR=7.8
PPT Papeete 81.77 126 LR LR 09 36 09.6
comp=Z,488nm,18.3s,baz=314,slow=32
PPT2 Papeete2 81.78 126 *e*S S 09 14 28.0 -10
comp=Z,89nm,29.8s
PPT2 *e*SS **SS** 09 19 55.7 -1.2
comp=Z,55nm,25.5s
PPT2 *e*LQ LQ 09 26 00.6
comp=Z,127nm,29.5s
PPT2 *e*LR LR 09 29 41.8
comp=Z,870nm,25.0s
PPT2 *e*LR LR 09 29 51.1
comp=Z,608nm,26.2s
DAVOX Davos/Dischmat 81.94 336 LR LR 09 44 03.9
comp=Z,498nm,19.5s,baz=79,slow=38
FUORN Ofenpass-Fuorn 81.98 335 P **P** 09 04 27.2 +0.4
FUORN IAmb IAmb 09 04 44.6
comp=Z,36nm,1.4s
L59A Walton 82.02 34 P **P** 09 04 26.6 -0.2
L59A IAmb IAmb 09 04 28.1
comp=Z,26nm,1.2s
CTI Castel Tesino 82.08 334 P **P** 09 04 26.3 -0.9
CTI IAmb IAmb 09 04 33.6
comp=Z,22nm,1.3s
CTI Castel Tesino 82.08 334 P **P** 09 04 26.3 -0.9
CTI pmax pmax
comp=Z,22nm,1.3s
SKO Skopje 82.27 326 *i*P **P** 09 04 28.7 +0.6
VAY Valandovo 82.38 325 *i*P **P** 09 04 29.3 +0.6
PDG Podgorica 82.71 328 ⇑P **P** 09 04 30.9 +0.6
ASF Jabal al Asfar 83.11 310 LR LR 09 48 05.1
comp=Z,484nm,18.6s,baz=57,slow=40
MMAI Mount Meron Ar 83.23 312 P **P** 09 04 34.5 +1.2
comp=Z,6.6nm,0.5s,baz=29,slow=3.3,SNR=5.0
MMAI LR LR 09 47 02.1
comp=Z,2µm,18.2s,baz=24,slow=40
comp=Z,6.6nm,0.5s
OHR Ohrid 83.25 326 *i*P **P** 09 04 33.2 0.0
TKL Tuckaleechee C 83.66 43 LR LR 09 41 52.7
comp=Z,330nm,21.7s,baz=337,slow=36
V53A Saluda 84.10 43 P **P** 09 04 37.8 +0.1
V53A IAmb IAmb 09 04 39.6
comp=Z,18nm,1.3s
FDMO Fiordimonte 84.33 332 P **P** 09 04 38.6 -0.1
RAYN Ar Rayn 84.77 299 *i*P **P** 09 04 41.4 +0.2
SNR=8.5
NWAO Narrogin (SRO) 85.27 210 LR LR 09 47 56.2
comp=Z,92nm,18.1s,baz=46,slow=39
EIL Elat 86.10 310 LR LR 09 48 04.8
comp=Z,464nm,18.3s,baz=65,slow=39
TIP Timpagrande 86.47 328 ⇓P **P** 09 04 50.4 +0.9
TBI Tubuai 86.49 129 *e*S **S** 09 15 23.9 -1.2
comp=Z,1µm,27.2s
TBI *e*SS **SS** 09 21 11.3 +5.1
comp=Z,1µm,32.8s
TBI Tubuai 86.49 129 *e*LR LR 09 31 57.6
comp=Z,3µm,32.0s
TBI *e*LR LR 09 32 00.9
comp=Z,1µm,30.8s
URZ Urewera 86.80 161 LR LR 09 37 24.3
comp=Z,410nm,21.3s,baz=355,slow=31
VAE Valguarnera 88.83 328 LR LR 09 50 11.9
comp=Z,836nm,18.2s,baz=23,slow=39
ESDC Sonseca Array 92.07 343 P **P** 09 05 14.9 -1.0
comp=Z,1.8nm,1.1s,baz=3.6,slow=4.8,SNR=9.4
ESDC LR LR 09 52 30.9
comp=Z,298nm,18.1s,baz=22,slow=39
comp=Z,1.8nm,1.1s
CMIG Matias Romero 92.09 63 LR LR 09 49 30.2
comp=Z,53nm,18.1s,baz=314,slow=37
KEST Kesra 92.17 331 P **P** 09 05 15.3 -1.1
comp=Z,1.2nm,0.4s,baz=13,slow=3.8,SNR=5.1
KEST LR LR 09 51 10.7
comp=Z,425nm,18.1s,baz=357,slow=38
comp=Z,1.2nm,0.4s
ATD Arta Tunnel 95.42 293 LR LR 09 53 32.0
comp=Z,19nm,18.4s,baz=326,slow=39
MDT Midelt 96.81 341 LR LR 09 57 14.9
comp=Z,232nm,19.3s,baz=38,slow=40
VNDA Vanda 123.61 178 PKP **PKPdf** 09 11 02.5 -0.2
comp=Z,0.9nm,0.8s,baz=340,slow=3.1,SNR=4.1
DBIC Dimbokro 123.83 334 PKP **PKPdf** 09 11 04.3 -0.8
comp=Z,2.8nm,0.7s,baz=19,slow=9.3,SNR=3.1
LPAZ La Paz 134.47 63 PKP **PKPdf** 09 11 26.5 +0.6
comp=Z,1.1nm,0.7s,baz=333,slow=4.5,SNR=5.7
QSPA South Pole Qui 135.98 180 PKP **PKPdf** 09 11 26.4 -0.1
comp=Z,2.4nm,0.9s,baz=40,slow=1.3,SNR=9.1
H03N2 Juan Fernandez 138.63 91 T T 11 47 15.1
baz=308,slow=77,SNR=4.3
H03N1 Juan Fernandez 138.64 91 T T 11 47 13.5
baz=308,slow=77,SNR=3.6
H03N3 Juan Fernandez 138.64 91 T T 11 47 10.6
baz=308,slow=77,SNR=3.4
SYO Syowa Base 140.54 211 ⇓*e*Pdiff **Pdif** 09 08 52.0 +0.9
BDFB Brasilia 144.67 37 PKP PKPbc 09 11 42.6 0.0
comp=Z,8.2nm,0.9s,baz=18,slow=3.2,SNR=5.9
BO02 Sierra Bellavi 145.02 87 PKPbc PKPbc 09 11 42.8 -0.4
ML02 Panimavida 145.10 89 PKPbc PKPbc 09 11 43.0 -0.4
PLCA Paso Flores 148.04 96 PKPbc **PKPbc** 09 11 52.6 +0.7
comp=Z,16nm,0.9s,baz=263,slow=4.1,SNR=15
SJPY San Joaquin 148.35 58 *e*P **PKPdf** 09 11 49.3 -0.4
CPUP Villa Florida 148.61 61 PKPbc **PKPbc** 09 11 53.7 -0.1
comp=Z,3.6nm,1.0s,baz=206,slow=2.4,SNR=12
TROLL Troll, Antarti 150.75 198 ⇓P **PKPbc** 09 11 57.1 -0.7
comp=Z,600nm,0.9s
SNAA Sanae 152.10 196 ⇓P **PKPbc** 09 11 59.9 -1.0
comp=Z,80nm,0.8s
SNAA Sanae 152.10 196 PKPbc **PKPbc** 09 11 59.6 -1.2
comp=Z,3.3nm,0.7s,baz=232,slow=1.3,SNR=11
VNA3 Neumayer Olymp 153.63 192 ⇓P **PKPbc** 09 12 03.2 -1.0
comp=Z,2.4nm,0.7s
VNA1 Neumayer--Stat 153.93 194 ⇓P **PKPdf** 09 12 00.5 +3.7
comp=Z,3.3nm,0.8s

*IDC **18** 08:57:12.7±3.8,27.˚73S×66.˚78W,h158km±37km,mb3.6/3, mbtmp3.9/5,Error ellipse: s-maj=37.2km s-min=22.9km az=75.0*
*SJA **18** 08:57:12.7±0.6,27.˚91S×66.˚76W,h181km±4km,ML3.9, MW3.8*
*NEIC **18** 08:57:13.2±1.4,27.˚91S±0.˚08×66.˚8W±0.˚1,h167km±12km, mb4.2/6,Error ellipse: s-maj=16.9km s-min=10.9km az=84.0*
*VAO **18** 08:57:39.7±2.4,26.˚46S×65.˚28W,h280km±19km,mb4.0*
ISC 18 08:57:12.6±0.7,27.˚80S±0.˚04×66.˚78W±0.˚04,h170km±7km, n94,σ1s43/113,mb4.0/4,Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CYA	**Choya**	**1.07**	**127**	*e*P		**Pn**	**08 57 41.2**	**+1.3**
CYA				*e*S		**Sn**	**08 58 00.8**	**-0.2**
VCA	**Vinchina**	**1.57**	**233**	*e*P		**Pn**	**08 57 45.9**	**+1.3**
VCA				*e*S		**Sn**	**08 58 10.1**	**+0.8**
VCA	comp=Z,872nm,0.4s			IAML			08 58 16.9	
ACLC	**CERRO LA CRUZ**	**1.62**	**185**	*e*P		**Pn**	**08 57 45.4**	**+0.2**
ACLC				*e*S		**Sn**	**08 58 09.8**	**-0.7**
FSA	**Cafayete**	**1.83**	**23**	*e*P		**Pn**	**08 57 49.9**	**+2.5**
FSA				*e*S		**Sn**	**08 58 11.7**	**-2.6**
AGUA	**GUANDACOL**	**2.25**	**222**	*e*P		**Pn**	**08 57 52.7**	**+0.7**
AGUA				*e*S		**Sn**	**08 58 23.4**	**+0.9**
AGUA	comp=Z,551nm,0.4s			IAML			08 58 25.2	
AC02	**Maricunga**	**2.30**	**294**			**Pn**	**08 57 55.1**	**+2.1**
AC02	**Maricunga**	**2.30**	**294**	*e*P		**Pn**	**08 57 55.3**	**+2.3**
AC02				*e*S		Sn	08 58 37.2	+13
APLL	**PUNTA DE LOS L**	**2.59**	**175**	*e*P		**Pn**	**08 57 56.2**	**+0.4**
APLL				*e*S		**Sn**	**08 58 28.2**	**-1.4**
AVFE	**Valle Fertil**	**2.91**	**192**	*e*P		**Pn**	**08 57 59.8**	**0.0**
AVFE				*e*S		**Sn**	**08 58 35.0**	**-1.5**
AVFE	comp=Z,220nm,0.4s			IAML			08 58 39.1	
GO03	**Copiapo**	**3.07**	**273**			**Pn**	**08 58 02.7**	**+0.9**
GO03	**Copiapo**	**3.07**	**273**	*e*P		**Pn**	**08 58 02.8**	**+0.9**
GO03				*e*S		**Sn**	**08 58 39.6**	**-0.4**
ACDV	**Cuesta del Vie**	**3.13**	**220**	*e*P		**Pn**	**08 58 03.3**	**+0.8**
ACDV				*e*S		**Sn**	**08 58 42.4**	**+1.0**
ACDV	comp=Z,174nm,0.6s			IAML			08 58 43.0	
AC06	**Mina Casimiro**	**3.21**	**277**			**Pn**	**08 58 03.7**	**+0.3**
SLA	**San Lorenzo**	**3.27**	**21**	*e*P		**Pn**	**08 58 07.7**	**+3.2**
SLA				*e*S		**Sn**	**08 58 44.6**	**-0.2**
AROD	**Rodeo**	**3.34**	**224**	*e*P		**Pn**	**08 58 06.3**	**+1.0**
AROD				*e*S		**Sn**	**08 58 47.5**	**+1.1**
ACHE	**Chepes**	**3.35**	**178**	*e*P		**Pn**	**08 58 05.8**	**+0.5**
ACHE				*e*S		**Sn**	**08 58 44.2**	**-2.1**
ACCO	**Cerro Coronel**	**3.42**	**215**	*e*P		**Pn**	**08 58 06.7**	**+0.4**
ACCO				*e*S		**Sn**	**08 58 48.0**	**-0.3**
CO01	**Juntas del Tor**	**3.63**	**233**			**Pn**	**08 58 10.2**	**+1.4**
CO01	**Juntas del Tor**	**3.63**	**233**	*e*P		**Pn**	**08 58 09.6**	**+0.8**
CO01				*e*S		Sn	08 59 02.6	+10
CO01	comp=Z,206nm,0.4s			IAML			08 59 03.9	
GO02	**Mina Guanaco**	**3.64**	**316**			**Pn**	**08 58 11.4**	**+2.2**
GO02	**Mina Guanaco**	**3.64**	**316**	*e*P		**Pn**	**08 58 11.9**	**+2.7**
LCO	**Las Campanas**	**3.66**	**250**			**Pn**	**08 58 09.1**	**-0.2**
LCO	**Las Campanas**	**3.66**	**250**	*e*P		**Pn**	**08 58 08.7**	**-0.6**
LCO				*e*S		**Sn**	**08 58 53.0**	**-0.5**
LCO	comp=Z,443nm,0.2s			IAML			08 58 54.1	
AC01	**Pan de Azucar**	**3.79**	**295**			**Pn**	**08 58 11.8**	**+1.0**
AC01	**Pan de Azucar**	**3.79**	**295**	*e*P		**Pn**	**08 58 11.6**	**+0.9**
AC01				*e*S		**Sn**	**08 58 54.7**	**-1.4**
AC01	comp=Z,84nm,0.9s			IAML			08 59 01.3	
AC04	**Llanos de Chal**	**3.82**	**263**			**Pn**	**08 58 10.7**	**-0.4**
AC04	**Llanos de Chal**	**3.82**	**263**	*e*P		**Pn**	**08 58 11.1**	**-0.1**
AC04				*e*S		**Sn**	**08 58 54.6**	**-2.1**
AC04	comp=Z,115nm,0.3s			IAML			08 59 02.2	
CFA	**Coronel Fontan**	**4.00**	**198**	*e*P		**Pn**	**08 58 12.3**	**-1.0**
CFA				*e*S		**Sn**	**08 58 58.7**	**-2.2**
ZON	**Zonda**	**4.08**	**203**			**Pn**	**08 58 13.4**	**-1.1**
GO04	**Tololo Observa**	**4.24**	**235**			**Pn**	**08 58 16.1**	**-0.6**
GO04	**Tololo Observa**	**4.24**	**235**	*e*P		**Pn**	**08 58 16.5**	**-0.2**
GO04				*e*S		Sn	08 58 51.0	-16
CO05	**La Serena**	**4.45**	**241**			**Pn**	**08 58 17.8**	**-1.4**
PB14	**IPOC Station P**	**4.54**	**313**			**Pn**	**08 58 21.8**	**+1.1**
PB14	**IPOC Station P**	**4.54**	**313**	*e*P		**Pn**	**08 58 22.4**	**+1.7**
PB14	comp=Z,56nm,0.6s			IAML			08 59 18.3	
RTLS	**Leoncito**	**4.54**	**208**	*e*P		**Pn**	**08 58 17.8**	**-2.9**
RTLS				*e*S		**Sn**	**08 59 12.2**	**-1.8**
RTLS	comp=Z,181nm,0.5s			IAML			08 59 14.5	
CO03	**El Pedregal**	**4.56**	**228**			**Pn**	**08 58 20.2**	**-0.5**
CO03	**El Pedregal**	**4.56**	**228**	*e*P		**Pn**	**08 58 21.1**	**+0.3**
CO03				*e*S		Sn	08 58 57.3	-17
CO03	comp=Z,213nm,0.1s			IAML			08 58 57.7	
MRA	**San Martin**	**4.69**	**169**	*e*P		**Pn**	**08 58 22.2**	**-0.2**
MRA				IAML			08 59 31.5	
AF01	**San Pedro de A**	**4.99**	**345**	*e*P		**Pn**	**08 58 30.1**	**+3.5**
AF01	comp=Z,54nm,0.7s			IAML			08 59 49.1	
CO02	**Combarbal**	**5.00**	**226**			**Pn**	**08 58 25.6**	**-0.9**
CO02	**Combarbal**	**5.00**	**226**	*e*P		**Pn**	**08 58 25.4**	**-1.1**
CO02	comp=Z,88nm,0.4s			IAML			08 59 26.0	
ASAL	**Salagasta**	**5.09**	**200**	*e*P		**Pn**	**08 58 27.4**	**-0.2**
ASAL				*e*S		**Sn**	**08 59 24.9**	**-1.6**
CO06	**Fray Jorge**	**5.12**	**235**			**Pn**	**08 58 25.7**	**-2.2**
PB10	**IPOC Station P**	**5.46**	**321**			**Pn**	**08 58 32.8**	**+0.3**
PB06	**IPOC Station P**	**5.67**	**333**			**Pn**	**08 58 37.0**	**+1.6**
PB05	**IPOC Station P**	**5.82**	**327**			**Pn**	**08 58 38.6**	**+1.2**
VA03	**San Esteban**	**5.92**	**213**			**Pn**	**08 58 38.0**	**-0.5**
MT08	**Bocatoma Ro**	**6.28**	**206**			**Pn**	**08 58 42.5**	**-0.8**
PEL	**Peldehue**	**6.30**	**211**			**Pn**	**08 58 42.2**	**-1.2**
PB03	**IPOC Station P**	**6.33**	**334**			**Pn**	**08 58 44.6**	**+0.5**
PB09	**IPOC Station P**	**6.39**	**339**			**Pn**	**08 58 46.5**	**+1.7**
MT16	**CCHEN**	**6.47**	**209**			**Pn**	**08 58 45.1**	**-0.6**
LMEL	**Las Melosas**	**6.71**	**205**			**Pn**	**08 58 48.0**	**-0.9**
MT09	**Talagante**	**6.97**	**210**			**Pn**	**08 58 50.3**	**-2.0**
BO04	**La Punta**	**6.99**	**207**			**Pn**	**08 58 51.2**	**-1.3**
PB02	**IPOC Station P**	**7.05**	**336**			**Pn**	**08 58 53.4**	**-0.2**
MT01	**Popeta**	**7.16**	**211**			**Pn**	**08 58 52.1**	**-2.6**
PB01	**IPOC Station P**	**7.17**	**339**			**Pn**	**08 58 55.4**	**+0.3**
BO01	**Tunca**	**7.53**	**208**			**Pn**	**08 58 57.4**	**-2.3**
BO02	**Sierra Bellavi**	**7.76**	**205**			**Pn**	**08 59 00.8**	**-2.0**
PB08	**IPOC Station P**	**7.93**	**344**			**Pn**	**08 59 05.1**	**-0.3**
GO01	**Chusmiza**	**8.39**	**344**			**Pn**	**08 59 11.6**	**0.0**
CPUP	**Villa Florida**	**8.55**	**82**	P		**Pn**	**08 59 12.5**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=121,slow=11,SNR=7.6							
BI02	**San Fabin de**	**9.62**	**202**			**Pn**	**08 59 25.0**	**-2.2**
PB18	**Visviri**	**10.47**	**346**	Pn		**Pn**	**08 59 41.3**	**+2.3**
LPAZ	**La Paz**	**11.53**	**353**			**Pn**	**08 59 54.1**	**+1.2**
LPAZ	**La Paz**	**11.53**	**353**	P		**Pn**	**08 59 53.5**	**+0.6**
LPAZ	comp=Z,2.3nm,0.4s,baz=169,slow=5.2,SNR=25			S		**Sn**	**09 01 57.5**	**-3.6**
BDQN	**Bodoquena, MS**	**11.72**	**54**	*e*P		**P**	**08 59 57.5**	**-3.6**
AQDB	**Aquidauana**	**12.46**	**57**	*e*P		**Pn**	**09 00 04.8**	**+0.4**
ITAB	**Concordia**	**13.01**	**91**	P		**P**	**09 00 14.9**	**-0.4**
TRCB	**Terra Rica**	**13.73**	**72**	P		**P**	**09 00 24.3**	**+0.9**
RPRD	**Ribas do Rio P**	**13.98**	**61**	*e*P		**P**	**09 00 24.5**	**-1.7**
PTLB	**Pontes e Lacer**	**14.19**	**32**	*e*P		**Pn**	**09 00 26.3**	**+0.2**
SALV	**Santo Antonio**	**15.68**	**43**	*e*P		**P**	**09 00 45.1**	**+0.1**
VILB	**Vilhena**	**16.00**	**24**	P		**Pn**	**09 00 49.4**	**+0.9**
VILB	comp=Z,11nm,0.6s			IAmb		IAmb	09 00 50.3	
VILB	**Vilhena**	**16.00**	**24**	*e*P		**Pn**	**09 00 49.3**	**+0.8**
ITRB	**Iturama**	**17.04**	**65**	*e*P		**Pn**	**09 01 01.2**	**+0.2**
ARAG	**Araguaiana, MT**	**18.36**	**52**	*e*P		**Pn**	**09 01 15.6**	**-1.0**
VAO	**Valinhos**	**18.52**	**79**	P		**Pn**	**09 01 17.0**	**-1.5**
VAO	comp=Z,13nm,0.6s			IAmb		IAmb	09 01 18.3	
PDRB	**Porto dos Gac**	**18.66**	**32**	*e*P		**Pn**	**09 01 19.7**	**-0.4**
IPMB	**Ipameri, GO**	**19.68**	**64**	*e*P		**P**	**09 01 28.8**	**0.0**
CLDB	**Colider**	**19.75**	**34**	*e*P		**P**	**09 01 29.2**	**-0.3**
BDFB	**Brasilia**	**21.18**	**59**	P		**P**	**09 01 46.2**	**+1.3**
BDFB				IAmb		IAmb	09 02 29.5	
	comp=Z,4.5nm,1.0s							
BDFB	**Brasilia**	**21.18**	**59**	P		**P**	**09 01 46.3**	**+1.3**
	comp=Z,1.5nm,0.3s,baz=211,slow=13,SNR=3.1							
	comp=Z,1.5nm,0.3s							
SNDB	**Serra Nova Dou**	**21.41**	**46**	*e*P		**P**	**09 01 45.9**	**-1.3**
OTAV	**Otavalo**	**30.05**	**336**	*e*P		P	09 03 18.6	+12
BOAV	**Boa Vista**	**30.62**	**12**			**P**	**09 03 12.4**	**+1.6**
BOAV				IAmb		IAmb	09 03 15.5	
	comp=Z,2.5nm,0.7s							
ESPN	**Las Esperanzas**	**43.24**	**335**	P		**P**	**09 04 57.8**	**+0.7**
SNAA	**Sanae**	**55.72**	**160**	P		P	**09 06 32.3**	**+1.3**
SNAA	**Sanae**	**55.72**	**160**	P		**P**	**09 06 32.6**	**+1.6**
	comp=Z,1.6nm,0.7s,baz=282,slow=6.2,SNR=5.3							
	comp=Z,1.6nm,0.7s							
QSPA	**South Pole Qui**	**62.42**	**180**	P		**P**	**09 07 19.4**	**+2.2**
	comp=Z,1.5nm,0.6s,baz=156,slow=1.7,SNR=17							
	comp=Z,1.5nm,0.6s							
ASAR	**Alice Springs**	**125.08**	**203**	PKP		**PKiKP**	**09 15 54.0**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=142,slow=1.9,SNR=6.2							
WRA	**Warramunga Arr**	**128.32**	**206**	PKP		**PKiKP**	**09 16 00.9**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=154,slow=2.0,SNR=13							
MKAR	**Makanchi Array**	**149.23**	**44**	PKPbc		**PKiKP**	**09 16 41.8**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=306,slow=2.7,SNR=2.6							

*IDC **18** 09:03:45.1±0.8,46.˚11N×153.˚05E,h0km,mb3.7/10, mbtmp3.7/12,ML3.0/2,Error ellipse: s-maj=27.6km s-min=20.7km az=140.0*
*SKHL **18** 09:03:49.0±0.8,45.˚40N×153.˚60E,h52km±5km,mb4.6/3*
ISC 18 09:03:50.4±0.8,46.˚1N±0.˚1×153.˚2E±0.˚1,h35km,n22, σ1s54/19,mb3.8/10,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.82**	**259**	*e*P		**Pn**	**09 04 49.1**	**+2.4**
KUR					AMB	AMB	09 04 49.6	
	100nm,0.6s							
KUR				*e*S		**Sn**	**09 05 33.5**	**+3.2**
KUR					A	A	09 05 36.2	
	70nm,0.4s							
KUR					A	A	09 05 36.2	
	70nm,0.4s							
SHO	**Shikotan**	**5.02**	**246**	*e*P		**Pn**	**09 05 04.6**	**+1.5**
SHO					AMB	AMB	09 05 06.9	
	20nm,0.3s							
SHO				*e*S		**Sn**	**09 05 59.0**	**-0.9**
SHO					A	A	09 06 05.9	
	20nm,0.3s							
SHO					A	A	09 06 05.9	
	20nm,0.3s							
NMR	**Nemuro--Hokkai**	**5.96**	**246**	*e*P		**Pn**	**09 05 15.8**	**-0.3**
NMR					AMB	AMB	09 05 20.3	
	20nm,0.3s							
NMR				*e*S		**Sn**	**09 06 21.5**	**-1.6**
NMR					A	A	09 06 24.6	
	10.0nm,0.2s							
NMR					A	A	09 06 24.6	
	20nm,0.2s							
AKK	**Akkeshi**	**6.70**	**246**	*e*S		**Sn**	**09 06 38.9**	**-2.3**
PETK	**Petropavlovsk-**	**7.62**	**21**	Pn		**Pn**	**09 05 37.6**	**-1.2**
	0.4nm,0.3s,baz=178,slow=9.9,SNR=2.8							
	1.5nm,0.6s							
ASAJ	**Asahikawa**	**7.74**	**259**	Pn		**Pn**	**09 05 38.9**	**-1.6**
	0.3nm,0.3s,baz=66,slow=18,SNR=1.2							
	3.5nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.61**	**152**	T		T	09 41 23.5	
	baz=340,slow=74							
H11N1	**WAKE ISLAND Hy**	**28.62**	**152**	T		T	09 41 28.3	
	baz=340,slow=74							
H11N3	**WAKE ISLAND Hy**	**28.62**	**152**	T		T	09 41 39.7	
	baz=340							
H11S1	**WAKE ISLAND Hy**	**29.60**	**153**	T		T	09 42 53.7	
	baz=340,slow=76,SNR=5.2							
H11S3	**WAKE ISLAND Hy**	**29.70**	**153**	T		T	09 42 49.5	
	baz=340,slow=76,SNR=3.6							
H11S2	**WAKE ISLAND Hy**	**29.71**	**153**	T		T	09 42 57.4	
	baz=340,slow=76,SNR=3.6							
ILAR	**Eielson Array**	**37.04**	**38**	P		**P**	**09 10 56.6**	**+0.1**
	0.7nm,1.1s,baz=250,slow=10,SNR=4.6							
	0.7nm,1.1s							
NVAR	**Mina Array Bea**	**62.70**	**62**	P		**P**	**09 14 12.8**	**+1.0**
	0.6nm,0.7s,baz=297,slow=7.0,SNR=6.4							
	0.6nm,0.7s							
FINES	**FINESS Array B**	**64.66**	**335**	P		**P**	**09 14 23.8**	**-0.3**
	2.2nm,0.8s,baz=28,slow=8.6,SNR=5.3							
	2.2nm,0.8s							
PDAR	**Pinedale Array**	**65.10**	**54**	P		**P**	**09 14 27.9**	**+0.4**
	0.7nm,0.8s,baz=214,slow=1.1,SNR=6.5							
	0.7nm,0.8s							
WRA	**Warramunga Arr**	**67.90**	**199**	P		**P**	**09 14 46.0**	**+0.7**
	0.4nm,0.8s,baz=340,slow=8.3,SNR=1.7							
	0.4nm,0.8s							
HFS	**Hagfors**	**69.10**	**340**	P		**P**	**09 14 50.6**	**-1.8**
	0.4nm,0.4s,baz=35,slow=5.3,SNR=1.2							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**71.59**	**199**	P		**P**	**09 15 06.9**	**-1.1**
	0.3nm,0.9s,baz=10,slow=6.3,SNR=2.5							
	0.3nm,0.9s							
AKASG	**Malin Array Be**	**72.13**	**326**	P		**P**	**09 15 10.8**	**-0.1**
	0.8nm,0.5s,baz=35,slow=6.3,SNR=4.4							
	0.8nm,0.5s							
TXAR	**Lajitas Array**	**77.78**	**60**	P		**P**	**09 15 44.8**	**+0.7**
	0.9nm,0.6s,baz=304,slow=4.3,SNR=13							
	0.9nm,0.6s							
BRTR	**Keskin Array B**	**78.91**	**317**	P		**P**	**09 15 51.0**	**+0.8**
	0.4nm,0.6s,baz=38,slow=5.3,SNR=2.3							
	0.4nm,0.6s							

*ASRS **18** 09:10:06.0±0.7,53.˚64N×87.˚98E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 18 09:10:09.3±3.6,53.˚72N×88.˚00E,h0km,mbtmp2.9/2, ML2.5/2,Error ellipse: s-maj=30.8km s-min=19.4km az=46.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.90**	**278**		I	I	09 21 55.0	
	baz=96,slow=323,SNR=11							
ZALV	**Zalesovo Beam**	**1.90**	**278**	Pg		Pn	09 10 43.0	+0.1
	1.7nm,0.3s,baz=95,slow=14,SNR=7.6							
ZALV				Lg		Lg	09 11 09.1	
	3.0nm,0.3s,baz=97,slow=23,SNR=9.2							
KURBB	**Kurchatov Arra**	**6.60**	**246**	Pn	

700nm,0.6s
SKR Severo-Kuril's 4.85 23 *e*PN **Pn 09 15 02.0 +0.7**
SKR pmax pmax
comp=Z,177nm,0.7s
SKR MLR MLR
comp=Z,900nm,15.0s
SKR Severo-Kuril's 4.85 23 *e*P **Pn 09 15 01.1 -0.2**
SKR AMB AMB 09 15 04.5
comp=Z,170nm,0.6s
SKR *e*S **Sn 09 15 53.9 -2.3**
SKR A A 09 16 00.7
comp=Z,180nm,0.6s
SKR A A 09 16 00.7
comp=Z,170nm,0.6s
SKR AMS AMS 09 16 43.0
comp=Z,2µm,10.0s
SKR AMS AMS 09 16 43.0
comp=Z,2µm,10.0s
SKR AMS AMS 09 16 43.0
comp=Z,2µm,10.0s
SHO Shikotan 5.05 244 *e*PN **Pn 09 15 03.9 -0.2**
SHO pmax pmax
comp=N,17nm,0.5s
SHO pmax pmax
comp=Z,66nm,0.5s
SHO pmax pmax
comp=E,47nm,0.4s
SHO Shikotan 5.05 244 *e*P **Pn 09 15 03.9 -0.2**
SHO AMB AMB 09 15 08.4
comp=E,70nm,0.5s
SHO *e*S **Sn 09 15 59.3 -1.9**
SHO A A 09 16 02.4
comp=E,190nm,0.5s
SHO A A 09 16 02.4
comp=E,220nm,0.5s
YUK Yuzh-Kuril'sk 5.59 249 *e*PN **Pn 09 15 11.8 +0.3**
YUK pmax pmax
comp=Z,155nm,0.5s
YUK pmax pmax
comp=N,65nm,0.4s
YUK pmax pmax
comp=E,116nm,0.4s
YUK Yuzh-Kuril'sk 5.59 249 *e*P **Pn 09 15 11.8 +0.3**
YUK AMB AMB 09 15 18.2
comp=E,160nm,0.5s
YUK *e*S **Sn 09 16 12.8 -1.6**
YUK A A 09 16 20.3
comp=E,150nm,0.6s
YUK A A 09 16 20.3
comp=E,440nm,0.6s
YUK AMS AMS 09 17 11.0
comp=E,3µm,11.0s
YUK AMS AMS 09 17 11.0
comp=E,2µm,11.0s
YUK AMS AMS 09 17 11.0
comp=E,2µm,11.0s
PAU Pauzhetka 5.75 24 *e*P **Pn 09 15 13.4 -0.3**
PAU AMB AMB 09 15 26.3
comp=E,60nm,0.4s
PAU *e*S **Sn 09 16 16.7 -1.6**
PAU A A 09 16 27.4
comp=E,110nm,0.6s
PAU A A 09 16 27.4
comp=E,160nm,0.6s
GLVR Golovnino 5.94 248 *e*PN **Pn 09 15 15.9 -0.5**
GLVR Golovnino 5.94 248 *e*P **Pn 09 15 15.9 -0.5**
GLVR *e*S **Sn 09 16 21.7 -1.5**
GLVR A A 09 16 35.1
comp=E,420nm,0.6s
GLVR A A 09 16 35.1
comp=E,470nm,0.6s
RUSJ Misakicho 5.96 252 *e*PN **Pn 09 15 19.1 +2.5**
NEM2 Nemuro 2 5.99 244 *e*P **Pn 09 15 14.8 -2.1**
NEM2 *e*S **Sn 09 16 18.3 -5.9**
NMR Nemuro--Hokkai 5.99 244 ‖ *i* PN **Pn 09 15 14.8 -2.3**
NMR Nemuro--Hokkai 5.99 244 *i* P **Pn 09 15 14.8 -2.3**
NMR *e*S **Sn 09 16 20.6 -3.8**
JRA Rausu 6.11 250 *e*P **Pn 09 15 19.4 +0.7**
JRA *e*S **Sn 09 16 27.5 +0.2**
JNK Nakash 6.53 249 *e*P **Pn 09 15 24.3 -0.1**
AKK Akkeshi 6.73 244 *e*P **Pn 09 15 26.3 -0.9**
JAK Akkeshi 6.83 244 *e*P **Pn 09 15 26.4 -2.2**
JAK *e*S **Sn 09 16 39.8 -5.2**
JTKR Abashiri--Toko 6.90 254 *e*P **Pn 09 15 29.6 +0.1**
YSS Yuzhno-Sakhali 7.16 279 **Pn 09 15 30.5 -2.6**
YSS Yuzhno-Sakhali 7.16 279 *i* PN **Pn 09 15 35.6 +2.5**
YSS Yuzhno-Sakhali 7.16 279 *e*rx rx 09 15 35.5
JAR Ashorobuto 7.28 249 P **Pn 09 15 34.6 -0.1**
JAR *e*S **Sn 09 16 54.8 -1.2**
JOB Onbets 7.42 246 *e*P **Pn 09 15 35.8 -0.8**
JOB *e*S **Sn 09 16 56.0 -3.5**
PEA0B Petropavlovsk- 7.46 22 **Pn 09 15 36.2 -1.0**
PEA0B Petropavlovsk- 7.46 22 PN **Pn 09 15 36.2 -1.0**
PETK Petropavlovsk- 7.46 22 **Pn 09 15 36.5 -0.8**
PETK Petropavlovsk- 7.46 22 Pn **Pn 09 15 36.2 -1.0**
comp=E,1.8nm,0.3s,baz=179,slow=8.7,SNR=20
PETK Sn **Sn 09 16 59.9 -0.7**
baz=145,slow=14
PETK LR LR 09 18 29.8
comp=E,444nm,18.4s,baz=283,slow=39
comp=E,12nm,0.6s
JKK2 Kamakawa 2 7.71 256 *e*P **Pn 09 15 42.1 +1.4**
JKA Kamikawa-asahi 7.73 258 **Pn 09 15 40.4 -0.5**
JKA Kamikawa-asahi 7.73 258 *e*P **Pn 09 15 40.4 -0.5**
ASAJ Asahikawa 7.73 258 Pn **Pn 09 15 41.7 +0.8**
comp=E,1.2nm,0.3s,baz=94,slow=11,SNR=9.6
comp=E,20nm,0.9s
ASAJ Asahikawa 7.73 258 PN **Pn 09 15 40.4 -0.5**
JCH Churui 7.87 246 *e*P **Pn 09 15 41.5 -1.3**
JCH *e*S **Sn 09 17 04.9 -5.7**
UGL Uglegorsk 7.96 295 *e*P **Pn 09 15 44.7 +0.7**
UGL AMB AMB 09 15 52.4
comp=E,60nm,0.6s
TYV Tymovskoe 8.31 307 *e*PN Pn 09 15 53.7 +4.8
TYV *e*S Sn 09 17 32.1 +11
TYV pmax pmax
comp=Z,15nm,1.4s
TYV pmax pmax
comp=Z,300nm,3.2s
TYV smax smax
comp=E,300nm,5.4s
TYV smax smax
comp=N,14nm,1.6s
TYV smax smax
comp=E,20nm,1.6s
TYV MLR MLR
comp=Z,2µm,13.0s
TYV Tymovskoe 8.31 307 *e*P **Pn 09 15 49.5 +0.7**
TYV *e*S **Sn 09 17 19.8 -1.6**
TYV A A 09 17 33.3
comp=Z,300nm,5.4s
TYV A A 09 17 33.3
comp=Z,2µm,5.4s
ERM Erimo 8.32 243 **Pn 09 15 49.5 +0.5**
ERM Erimo 8.32 243 PN **Pn 09 15 49.5 +0.5**
JNBK Urakawa-nobuka 8.43 245 *e*P **Pn 09 15 48.3 -2.2**
JANG Nango 10.29 239 *e*P **Pn 09 16 11.6 -4.4**
JANG *e*S Sn 09 17 58.1 -12
JTM Tenmabayashi 10.31 242 Pn **Pn 09 16 15.7 -0.6**
JTH Tanohata 10.37 236 *e*S Sn 09 17 59.4 -13
NKL Nikolayevsk 10.58 315 *e*P **Pn 09 16 20.0 +0.1**
GRNR Gornyy 11.94 298 *e*PN **Pn 09 16 42.9 +4.4**
MA2 Magadan 13.40 355 Pn **Pn 09 16 57.8 -0.6**
comp=Z,0.5nm,0.3s,baz=155,slow=17,SNR=1.3
MA2 LR LR 09 22 16.6
comp=Z,451nm,18.4s,baz=182,slow=38
comp=Z,2.4nm,0.3s
MJAR Matsushiro Arr 14.79 234 Pn **Pn 09 17 16.6 -0.8**
MJAR Matsushiro Arr 14.79 234 Pn **Pn 09 17 17.1 -0.3**
comp=Z,2.5nm,0.9s,baz=33,slow=12,SNR=7.9
MJAR Matsushiro Arr 14.79 234 P **Pn 09 17 16.6 -0.8**
MJB9 Matsu-Tunnel 14.79 234 **Pn 09 17 16.9 -0.5**
MAJO Matsushiro 14.79 234 **Pn 09 17 16.8 -0.6**
MAJO Matsushiro 14.79 234 P **Pn 09 17 16.8 -0.6**
USA0B Ussuriysk Arra 15.02 270 **Pn 09 17 20.2 -0.2**
USA0B Ussuriysk Arra 15.02 270 *i* P **Pn 09 17 21.1 +0.7**
USRK Ussuriysk Ar. 15.02 270 **Pn 09 17 20.0 -0.4**
USRK Ussuriysk Ar. 15.02 270 Pn **Pn 09 17 19.8 -0.6**
comp=Z,0.5nm,0.3s,baz=80,slow=13,SNR=12
comp=Z,6.8nm,0.8s
USRK Ussuriysk Ar. 15.02 270 P **Pn 09 17 20.0 -0.4**
SHEM Shemya Is, Ala 15.07 57 Pn **Pn 09 17 17.8 -3.1**
comp=Z,1.4nm,0.3s,baz=278,slow=17,SNR=1.5
SHEM LR LR 09 24 02.4
comp=Z,102nm,18.1s,baz=2.5,slow=41
comp=Z,25nm,0.9s
JSG Sagara 16.18 230 Pn **Pn 09 17 35.2 -0.3**
JSG IAmb IAmb 09 18 09.0
comp=Z,86nm,1.0s
INU Inuyama 16.32 234 Pn **Pn 09 17 36.8 -0.5**
MDJ Mudanjiang 16.57 273 **Pn 09 17 40.8 +0.3**
JHJ2 Mitsune 16.62 222 Pn **Pn 09 17 41.2 +0.1**
SEY Seymchan 16.70 359 Pn **Pn 09 17 40.1 -1.9**
comp=Z,0.4nm,0.3s,baz=172,slow=14,SNR=5.3
SEY LR LR 09 24 21.9
comp=Z,239nm,19.2s,baz=184,slow=38
comp=Z,1.6nm,0.6s
HEH HeiHe 17.53 292 *e*P **P 09 17 53.3 +0.1**
HEH pmax pmax
comp=Z,22nm,1.0s
BNX BinXian 17.84 278 ⇑P **Pn 09 17 55.3 -0.9**
BNX pmax pmax
comp=Z,6.0nm,0.7s
ZEA Zeya 18.15 304 *e*P **P 09 18 01.4 +1.4**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA Zeya 18.15 304 *e*P **P 09 18 01.2 +1.2**
KSRS Korea Array 20.65 254 P **P 09 18 28.5 +1.1**
comp=Z,4.9nm,0.8s,baz=59,slow=11,SNR=16
comp=Z,4.9nm,0.8s
KS19 Wonju Array Si 20.66 254 P **P 09 18 26.8 -0.8**
KSAR Wonju Array Be 20.68 254 P **P 09 18 26.8 -1.0**
KSAR Wonju Array Be 20.68 254 P **P 09 18 26.8 -1.0**
YAK Yakutsk 20.72 328 LR LR 09 26 44.3
comp=Z,267nm,19.7s,baz=130,slow=38
YAK Yakutsk 20.72 328 *e*P **P 09 18 25.5 -2.5**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,16nm,1.4s
YAK pmax pmax
comp=E,15nm,1.4s
YAK Yakutsk 20.72 328 *e*P **P 09 18 28.7 +0.7**
JNU Nakatsue 21.47 240 P **P 09 18 37.6 +1.2**
comp=E,9.2nm,1.0s,baz=27,slow=2.3,SNR=2.6
comp=E,9.2nm,1.0s
ATKA Atka Island 22.03 62 P **P 09 18 41.9 -0.2**
ATKA IAmb IAmb 09 19 03.3
comp=Z,32nm,1.2s
BILL Bilibino 22.86 13 *i* P **P 09 18 52.2 +1.4**
BILL pmax pmax
comp=Z,19nm,1.8s
BILL MLR MLR
comp=Z,293nm,16.0s
BILL Bilibino 22.86 13 *e*P **P 09 18 52.2 +1.4**
BJI Beijing 27.47 270 P **P 09 19 36.6 +3.0**
BJI pmax pmax
comp=Z,5.0nm,0.9s
BJI pmax pmax
comp=Z,260nm,11.7s
TIXI Tiksi 27.93 344 LR LR 09 30 02.3
comp=Z,375nm,18.3s,baz=167,slow=35
H11N2 WAKE ISLAND Hy 28.80 152 T T 09 51 24.6
baz=340,slow=76,SNR=19
H11N1 WAKE ISLAND Hy 28.81 152 T T 09 51 34.0
baz=340,slow=76,SNR=14
H11N3 WAKE ISLAND Hy 28.81 152 T T 09 51 34.9
baz=340,slow=76,SNR=14
J14K Nanvaranak Lak 29.35 40 P **P 09 19 49.3 -0.7**
baz=256
L14K Kuka Creek 29.45 43 P **P 09 19 50.4 -0.6**
baz=260
HNS HongShan 29.71 267 ⇑P **P 09 19 55.6 +2.1**
G15K Niukluk 29.76 36 P **P 09 19 53.4 -0.3**
baz=252
NJ2 Nanjing 29.85 254 *e*P **P 09 19 54.1 -0.7**
NJ2 pmax pmax
comp=Z,11nm,0.5s
H11S1 WAKE ISLAND Hy 29.88 153 T T 09 52 42.9
baz=340,slow=76,SNR=17
H11S3 WAKE ISLAND Hy 29.89 153 T T 09 52 56.4
baz=340,slow=76,SNR=13
H11S2 WAKE ISLAND Hy 29.90 153 T T 09 52 53.2
baz=340,slow=76,SNR=11
K15K Wolf Creek Mou 30.17 41 P **P 09 19 56.9 -0.5**
baz=259
SDPT Sand Point 30.19 55 P **P 09 19 57.1 -0.5**
baz=272
M15K Kasigluk River 30.32 45 P **P 09 19 58.3 -0.3**
baz=263
HHC Hu-ho-hao-te 30.32 275 *e*P **P 09 20 00.3 +1.2**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,180nm,6.5s
H16K Elim 30.39 37 P **P 09 19 59.5 +0.2**
baz=255
C16K Lisburne Hills 30.48 29 P **P 09 19 59.4 -0.6**
C16K Lisburne Hills 30.48 29 P **P 09 19 59.6 -0.5**
baz=245
N15K Kwethluk River 30.55 46 P **P 09 20 00.3 -0.5**
baz=264
G16K Koyuk River 30.56 35 P **P 09 20 00.3 -0.5**
baz=253
S14K Fog Glacier 30.68 53 P **P 09 20 00.9 -1.2**
baz=271
CHNA Chernabura Isl 30.73 56 P **P 09 20 01.3 -1.1**
baz=274
J16K Anvik River 30.78 40 P **P 09 20 02.2 -0.5**
baz=259
I17K Unalakleet 30.86 39 P **P 09 20 02.6 -0.8**
baz=258
L16K Owhat River 31.03 43 P **P 09 20 04.9 0.0**
L16K IAmb IAmb 09 20 25.7
comp=Z,8.6nm,1.1s
L16K Owhat River 31.03 43 P **P 09 20 04.2 -0.7**
baz=262
ULN Ulaanbaatar 31.05 290 *ce*P **P 09 20 05.7 +0.2**
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 31.05 290 *e*P **P 09 20 05.7 +0.2**
M16K Timber Creek 31.20 44 P **P 09 20 06.6 +0.2**
M16K IAmb IAmb 09 20 08.7
comp=Z,10nm,1.1s
M16K Timber Creek 31.20 44 P **P 09 20 05.7 -0.7**
baz=264
N16K Nishlik Lake 31.23 45 P **P 09 20 06.4 -0.4**
baz=265
G17K Kiwalik Mounta 31.27 35 P **P 09 20 06.4 -0.6**
baz=255
E17K Hotham Inlet 31.28 32 P **P 09 20 06.6 -0.5**
baz=251
C17K DeLong Mountai 31.30 29 P **P 09 20 06.9 -0.4**
baz=247
F17K Baldwin Pennin 31.30 34 P **P 09 20 07.5 +0.2**
F17K IAmb IAmb 09 20 08.7
comp=Z,7.5nm,0.8s
F17K Baldwin Pennin 31.30 34 P **P 09 20 07.0 -0.2**
baz=253
H17K Granite Mounta 31.43 37 P **P 09 20 08.6 +0.1**
H17K Granite Mounta 31.43 37 P **P 09 20 08.1 -0.4**
baz=257
J17K VABM Dome 31.48 40 P **P 09 20 08.8 -0.1**
J17K VABM Dome 31.48 40 P **P 09 20 08.2 -0.6**
baz=260
SONM Songino Array 31.49 290 P **P 09 20 08.6 -0.7**
comp=Z,0.6nm,0.4s,baz=69,slow=8.3,SNR=4.2
comp=Z,0.6nm,0.4s
O16K Kokwok River B 31.51 47 P **P 09 20 08.4 -0.8**
baz=267
P16K Nushagak River 31.54 48 P **P 09 20 09.0 -0.5**
baz=268
L17K Dolin 31.64 42 P **P 09 20 10.2 -0.1**
baz=263
K17K Iditarod 31.72 41 P **P 09 20 09.9 -1.0**
K17K IAmb IAmb 09 20 13.1
comp=Z,11nm,1.1s
K17K Iditarod 31.72 41 P **P 09 20 11.0 0.0**
baz=262
E18K Tukpahlearik C 31.84 32 P **P 09 20 12.1 +0.1**
baz=252
F18K Selawik 31.96 34 P **P 09 20 12.4 -0.6**
baz=254
M17K Holitna River 31.96 44 P **P 09 20 13.4 +0.2**
M17K Holitna River 31.96 44 P **P 09 20 12.7 -0.5**
baz=265
N17K Nushagak Hills 32.02 45 P **P 09 20 13.4 -0.2**
baz=266
C18K Utukok River 32.04 30 P **P 09 20 13.2 -0.6**
baz=249
B18K Kokolik River 32.10 28 P **P 09 20 13.2 -1.1**
baz=248
H18K Honhosa River 32.12 37 P **P 09 20 13.7 -0.8**
baz=258
G18K Tagagawik 32.17 35 P **P 09 20 15.2 +0.2**
G18K Tagagawik 32.17 35 P **P 09 20 14.4 -0.6**
baz=256
L18K Granite Mounta 32.40 42 P **P 09 20 16.3 -0.7**
baz=264
J18K Innoko River 32.54 40 P **P 09 20 17.8 -0.4**
J18K IAmb IAmb 09 20 19.3
comp=Z,7.6nm,1.2s
J18K Innoko River 32.54 40 P **P 09 20 17.3 -0.9**
baz=262
Q17K Contact Creek 32.63 50 P **P 09 20 18.4 -0.8**
baz=271
N18K Kilae Creek 32.67 45 P **P 09 20 20.0 +0.6**
N18K IAmb IAmb 09 20 21.8
comp=Z,14nm,1.1s
N18K Kilae Creek 32.67 45 P **P 09 20 19.1 -0.3**
baz=267
F19K Shaleruckik Mo 32.74 34 P **P 09 20 19.8 -0.2**
F19K Shaleruckik Mo 32.74 34 P **P 09 20 19.7 -0.2**
baz=256
M18K Stony River 32.74 44 P **P 09 20 19.6 -0.4**
baz=266
C19K Lookout Ridge 32.75 29 P **P 09 20 19.7 -0.3**
baz=251
G19K Purcell Mounta 32.85 35 P **P 09 20 21.3 +0.4**
G19K Purcell Mounta 32.85 35 P **P 09 20 20.3 -0.6**
baz=258
ZAK Zakamensk 32.88 296 *e*P **P 09 20 19.9 -1.5**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
O18K Koktuh Hills 32.98 47 P **P 09 20 21.7 -0.4**
baz=269
H19K Roundabout Mou 32.98 36 **P 09 20 22.1 0.0**
H19K IAmb IAmb 09 20 23.2
comp=Z,9.6nm,0.8s
H19K Roundabout Mou 32.98 36 P **P 09 20 21.7 -0.3**
baz=259,SNR=9.2
D19K Kuna River 33.06 31 P **P 09 20 22.7 -0.1**
D19K IAmb IAmb 09 20 40.2
comp=Z,12nm,1.1s
D19K Kuna River 33.06 31 P **P 09 20 22.1 -0.7**
baz=253
J19K Poorman 33.09 39 P **P 09 20 22.9 -0.1**
J19K IAmb IAmb 09 20 23.9
comp=Z,7.0nm,1.1s
J19K Poorman 33.09 39 P **P 09 20 22.4 -0.6**
baz=262,SNR=5.3
E19K Redstone River 33.10 33 IAmb IAmb 09 20 24.4
comp=Z,7.3nm,1.1s
E19K Redstone River 33.10 33 P **P 09 20 22.6 -0.5**
baz=256,SNR=6.1
L19K White Mountain 33.25 42 P **P 09 20 24.8 +0.3**
baz=266
GUMO Guam 33.31 195 LR LR 09 32 45.7
comp=Z,98nm,19.9s,baz=39,slow=34
N19K Bonanza Creek 33.36 45 P **P 09 20 25.1 -0.4**
baz=268
R18K Karluk 33.43 51 P **P 09 20 25.3 -0.6**
baz=273
O19K Port Alsworth 33.43 46 P **P 09 20 25.7 -0.3**
baz=270
M19K Big River Lodg 33.45 43 P **P 09 20 25.2 -1.0**
baz=267
F20K Avaraart Lake 33.58 34 P **P 09 20 26.1 -1.1**
baz=258
H20K Anotleneega Mo 33.62 36 P **P 09 20 26.8 -0.9**
baz=261,SNR=5.3
D20K Etivluk River 33.65 30 P **P 09 20 28.3 +0.4**
D20K Etivluk River 33.65 30 P **P 09 20 27.2 -0.7**
baz=254,SNR=7.3
E20K Nigu River 33.69 31 P **P 09 20 28.0 -0.3**
baz=256,SNR=8.2
K20K Telida 33.71 40 P **P 09 20 30.0 +1.6**
K20K Telida 33.71 40 P **P 09 20 27.3 -1.1**
baz=265
L20K Farewell, AK 33.73 42 P **P 09 20 27.3 -1.4**
baz=266
J20K Nowinta River 33.76 39 **P 09 20 29.6 +0.9**
J20K IAmb IAmb 09 20 30.1
comp=Z,8.2nm,1.1s
J20K Nowinta River 33.76 39 P **P 09 20 28.2 -0.6**
baz=264,SNR=5.5
B20K Meade River 33.85 28 P **P 09 20 29.0 -0.5**
baz=252
M20K Styx River 34.05 43 P **P 09 20 30.5 -1.0**
baz=268
IMAR Indian Mountai 34.16 36 P **P 09 20 32.4 +0.1**
G21K Allakaket 34.34 35 P **P 09 20 34.2 +0.4**
G21K IAmb IAmb 09 20 35.2
comp=Z,6.2nm,0.9s
G21K Allakaket 34.34 35 P **P 09 20 33.4 -0.4**
baz=261,SNR=5.9
C21K Knifeblade Rid 34.41 30 P **P 09 20 34.0 -0.5**
baz=256
KDAK Kodiak Island 34.41 50 LR LR 09 38 49.8
comp=Z,124nm,18.0s,baz=271,slow=44
KDAK Kodiak Island 34.41 50 P **P 09 20 33.6 -0.9**
baz=275
F21K Alatna River 34.47 34 P **P 09 20 34.4 -0.6**
baz=260
H21K Melozitna River 34.50 36 P **P 09 20 35.8 +0.5**
H21K IAmb IAmb 09 20 36.6
comp=Z,8.3nm,1.0s
H21K Melozitna Rive 34.50 36 P **P 09 20 34.6 -0.7**
baz=263,SNR=8.9
PPLA Purkeypile 34.53 41 P **P 09 20 35.0 -0.7**
baz=267
E21K Killik River 34.53 31 P **P 09 20 35.2 -0.3**
baz=258
CHUM Lake Minchumin 34.53 40 P **P 09 20 35.2 -0.3**
baz=266
B21K Ikpikpuk River 34.59 29 P **P 09 20 35.7 -0.2**
B21K Ikpikpuk River 34.59 29 P **P 09 20 35.2 -0.6**
baz=255,SNR=8.6
CAST Castle Rocks 34.60 40 P **P 09 20 36.1 -0.1**
baz=267
STLK Strandline Lak 34.66 44 P **P 09 20 37.3 +0.6**
STLK IAmb IAmb 09 20 38.2
comp=Z,10nm,1.2s
I21K Tanana 34.79 37 P **P 09 20 37.4 -0.4**
I21K IAmb IAmb 09 20 52.2
comp=Z,8.7nm,1.1s
I21K Tanana 34.79 37 P **P 09 20 37.3 -0.4**
baz=264,SNR=6.3
SKT Skwentna 34.81 43 P **P 09 20 37.4 -0.5**
baz=269
A22K Sinclair Lake 34.85 27 P **P 09 20 37.5 -0.7**
baz=253
F22K John River 35.02 33 P **P 09 20 39.9 +0.2**
baz=261
D22K Ayikyak River 35.08 31 P **P 09 20 40.7 +0.5**
D22K IAmb IAmb 09 20 56.4
comp=Z,17nm,1.4s
D22K Ayikyak River 35.08 31 P **P 09 20 39.8 -0.5**
baz=258
H22K Ishtalitna Cre 35.11 36 P **P 09 20 39.9 -0.6**
baz=264,SNR=6.8
BPAW Bear Paw Mtn. 35.13 39 P **P 09 20 41.2 +0.5**
BPAW IAmb IAmb 09 20 42.1
comp=Z,8.8nm,1.1s
BPAW Bear Paw Mtn. 35.13 39 P **P 09 20 40.3 -0.4**
baz=267,SNR=5.1
KTH Kantishna Hill 35.13 40 P **P 09 20 41.0 +0.3**
B22K Teshekpuk Lake 35.16 28 P **P 09 20 41.7 +0.8**
B22K Teshekpuk Lake 35.16 28 P **P 09 20 39.5 -1.3**
baz=256
G22K Bettles 35.19 34 P **P 09 20 40.2 -0.9**
baz=262,SNR=16
E22K Anaktuvuk Pass 35.26 32 **P 09 20 42.3 +0.5**
E22K IAmb IAmb 09 20 43.2
comp=Z,11nm,1.0s
E22K Anaktuvuk Pass 35.26 32 P **P 09 20 40.9 -0.9**
baz=260,SNR=12
MLY Manley 35.30 38 **P 09 20 42.3 +0.1**
MLY Manley 35.30 38 P **P 09 20 41.3 -0.9**
baz=266,SNR=6.3
XAN Xi'an 35.47 266 P **P 09 20 43.8 -0.2**
XAN pP pP 09 20 51.8 -1.4
XAN pmax pmax
comp=Z,7.0nm,0.8s
M22K Willow 35.48 43 P **P 09 20 42.7 -0.9**
baz=271
RC01 Rabbit Creek A 35.68 44 P **P 09 20 45.7 +0.3**
baz=272
COLD Coldfoot 35.73 34 **P 09 20 46.5 +0.7**

COLD	Coldfoot	35.73	34	P		P	09 20 45.7	-0.2
	baz=263,SNR=6.8							
G23K	Bananza Creek	35.74	35	P		P	09 20 46.4	+0.4
G23K	Bananza Creek	35.74	35	P		P	09 20 45.8	-0.2
	baz=264,SNR=6.4							
D23K	Nanushuk River	35.81	31	P		P	09 20 47.0	+0.5
D23K				IAmb		IAmb	09 20 57.7	
	comp=Z,9.3nm,1.2s							
D23K	Nanushuk River	35.81	31	P		P	09 20 46.0	-0.5
	baz=260							
H23K	Yukon River	35.86	36	P		P	09 20 47.8	+0.8
H23K				IAmb		IAmb	09 21 06.9	
	comp=Z,7.1nm,1.0s							
H23K	Yukon River	35.86	36	P		P	09 20 45.9	-1.1
	baz=266,SNR=6.0							
I23K	Minto, Yukon-K	35.89	37	P		P	09 20 47.8	+0.6
I23K				IAmb		IAmb	09 20 48.8	
	comp=Z,14nm,1.5s							
I23K	Minto, Yukon-K	35.89	37	P		P	09 20 46.1	-1.0
	baz=267,SNR=6.4							
PMR	Palmer	35.95	44	P		P	09 20 47.8	+0.1
PMR				IAmb		IAmb	09 20 48.6	
	comp=Z,8.4nm,1.2s							
PMR	Palmer	35.95	44	P		P	09 20 47.8	+0.1
PMR				pmax		pmax		
	comp=Z,8.0nm,1.2s							
PMR	Palmer	35.95	44	P		P	09 20 46.8	-0.9
	baz=272							
NEA2	Nenana	35.99	38	P		P	09 20 48.6	+0.6
NEA2	Nenana	35.99	38	P		P	09 20 47.8	-0.3
	baz=268							
C23K	Itkillik River	35.99	29	P		P	09 20 48.4	+0.4
C23K	Itkillik River	35.99	29	P		P	09 20 47.9	-0.1
	baz=259							
MCK	McKinley	36.02	40			P	09 20 48.5	+0.2
MCK				IAmb		IAmb	09 20 48.7	
	comp=Z,7.5nm,1.0s							
MCK	McKinley	36.02	40	P		P	09 20 48.6	+0.2
MCK				pmax		pmax		
	comp=Z,7.0nm,1.0s							
MCK	McKinley	36.02	40	P		P	09 20 48.6	+0.2
	baz=269							
RND	Reindeer	36.06	40	P		P	09 20 48.2	-0.5
RND				IAmb		IAmb	09 20 49.2	
	comp=Z,10nm,1.0s							
RND	Reindeer	36.06	40	P		P	09 20 48.2	-0.5
RND				pmax		pmax		
	comp=Z,10.0nm,1.0s							
E23K	Chandalar	36.06	32			P	09 20 49.7	+1.0
E23K				IAmb		IAmb	09 20 50.5	
	comp=Z,7.6nm,1.0s							
E23K	Chandalar	36.06	32	P		P	09 20 48.5	-0.3
	baz=263,SNR=10.0							
TOLK	Toolik Lake Re	36.16	32	P		P	09 20 49.3	-0.2
TOLK	Toolik Lake Re	36.16	32	P		P	09 20 48.7	-0.8
	baz=262							
KNK	Knik Glacier	36.28	44	P		P	09 20 50.6	0.0
KNK				IAmb		IAmb	09 21 00.7	
	comp=Z,21nm,1.3s							
KNK	Knik Glacier	36.28	44	P		P	09 20 50.1	-0.5
	baz=273							
PWL	Port Wells	36.37	45	P		P	09 20 50.8	-0.6
	baz=274							
WRH	Wood River Hil	36.41	39	P		P	09 20 51.8	+0.2
WRH				IAmb		IAmb	09 20 57.0	
	comp=Z,10nm,1.3s							
E24K	Your Creek	36.48	33	P		P	09 20 51.5	-0.8
	baz=264							
D24K	Happy Valley	36.50	31			P	09 20 52.5	+0.1
D24K				IAmb		IAmb	09 21 11.3	
	comp=Z,15nm,1.3s							
D24K	Happy Valley	36.50	31	P		P	09 20 51.6	-0.7
	baz=262							
COLA	College	36.52	38	P		P	09 20 52.0	-0.5
COLA	College	36.52	38	*i* P		P	09 20 52.4	-0.1
COLA				pmax		pmax		
	comp=Z,12nm,1.1s							
COLA	College	36.52	38	P		P	09 20 51.7	-0.8
	baz=269							
CCB	Clear Creek Bu	36.53	38	P		P	09 20 51.9	-0.7
H24K	Noodor Dome	36.54	36			P	09 20 53.2	+0.4
H24K				IAmb		IAmb	09 20 54.6	
	comp=Z,10nm,1.3s							
H24K	Noodor Dome	36.54	36	P		P	09 20 51.8	-1.0
	baz=267,SNR=7.9							
M23K	Glacier View	36.61	43	P		P	09 20 52.3	-1.1
	baz=273							
C24K	Franklin Bluff	36.63	30	P		P	09 20 52.4	-0.9
	baz=261							
F24K	Squaw Lake	36.66	34	P		P	09 20 53.3	-0.5
	baz=265							
POKR	Poker Plat Res	36.70	38	P		P	09 20 55.2	+1.0
POKR				IAmb		IAmb	09 20 55.8	
	comp=Z,15nm,0.9s							
POKR	Poker Plat Res	36.70	38	P		P	09 20 53.5	-0.7
	baz=269							
G24K	Hadweenzic Riv	36.75	35			P	09 20 55.7	+1.1
G24K				IAmb		IAmb	09 20 56.6	
	comp=Z,14nm,1.1s							
G24K	Hadweenzic Riv	36.75	35	P		P	09 20 54.1	-0.4
	baz=266,SNR=17							
SCM	Sheep Creek Mo	36.80	43	P		P	09 20 55.2	+0.1
SCM				IAmb		IAmb	09 20 55.9	
	comp=Z,18nm,1.2s							
SCM	Sheep Creek Mo	36.80	43	P		P	09 20 55.2	+0.1
SCM				pmax		pmax		
	comp=Z,18nm,1.2s							
SCM	Sheep Creek Mo	36.80	43	P		P	09 20 54.9	-0.2
	baz=273							
P23K	Montague Islan	36.90	46	P		P	09 20 55.2	-0.7
	baz=276							
HDA	Harding Lake	36.90	39	P		P	09 20 55.6	-0.2
IL31		36.93	38	P		P	09 20 55.7	-0.3
IL31				IAmb		IAmb	09 20 57.5	
	comp=Z,13nm,1.4s							
ILAR	Eielson Array	36.93	38	P		P	09 20 55.9	-0.2
ILAR	Eielson Array	36.93	38	P		P	09 20 55.4	-0.7
	comp=Z,4.0nm,1.1s,baz=258,slow=6.1,SNR=26							
	comp=Z,4.0nm,1.1s							
ILAR	Eielson Array	36.93	38	P		P	09 20 55.9	-0.2
GLI	Glacier Island	36.97	45	P		P	09 20 56.0	-0.5
	baz=275							
G25K	Bearman Lake	37.30	35	P		P	09 20 58.7	-0.5
	baz=268							
M24K	Tolsona, Glenn	37.33	43	P		P	09 21 00.8	+1.3
M24K				IAmb		IAmb	09 21 01.8	
	comp=Z,22nm,1.3s							
M24K	Tolsona, Glenn	37.33	43	P		P	09 20 58.6	-1.0
	baz=274							
D25K	Kavik River	37.39	31	P		P	09 21 00.3	+0.3
D25K				IAmb		IAmb	09 21 18.4	
	comp=Z,8.4nm,0.8s							
D25K	Kavik River	37.39	31	P		P	09 20 59.5	-0.5
	baz=264,SNR=8.7							
H25L	Birch Creek	37.40	36	P		P	09 20 59.4	-0.6
	baz=269							
K24K	Donnelly Dome	37.42	40	P		P	09 21 00.1	-0.3
K24K				IAmb		IAmb	09 21 01.2	
	comp=Z,19nm,1.2s							
K24K	Donnelly Dome	37.42	40	P		P	09 21 00.1	-0.3
	baz=272,SNR=5.6							
KLU	Klutina	37.49	44	P		P	09 21 01.4	+0.4
KLU				IAmb		IAmb	09 21 02.6	
	comp=Z,11nm,1.1s							
KLU	Klutina	37.49	44	P		P	09 21 00.9	-0.1
	baz=275,SNR=5.7							
PRP	Porcupine Dome	37.51	37			P	09 21 01.8	+0.7
PRP	Porcupine Dome	37.51	37	P		P	09 21 00.4	-0.7
	baz=270							
F25K	Christian Rive	37.52	33	P		P	09 21 02.4	+1.3
F25K	Christian Rive	37.52	33	P		P	09 21 00.1	-1.0
	baz=267							
E25K	Arctic Village	37.58	33	P		P	09 21 02.5	+0.9
E25K	Arctic Village	37.58	33	P		P	09 21 01.0	-0.6
	baz=266							
J25K	Salcha River,	37.58	38	P		P	09 21 00.3	-1.4
J25K	Salcha River,	37.58	38	P		P	09 21 00.8	-0.9
	baz=271							
DIV	Divide	37.60	44	P		P	09 21 02.1	+0.3
DIV				IAmb		IAmb	09 21 02.9	
	comp=Z,13nm,1.2s							
PAX	Paxson	37.60	41			P	09 21 02.3	+0.4
PAX	Paxson	37.60	41	P		P	09 21 02.3	+0.4
PAX				pmax		pmax		
	comp=Z,7.0nm,1.2s							
PAX	Paxson	37.60	41	P		P	09 21 01.1	-0.8
	baz=273							
FYU	Fort Yukon	37.64	35			P	09 21 02.9	+0.9
EYAK	Cordova Ski Ar	37.66	45	P		P	09 21 00.9	-1.4
	baz=276							
HARP	HAARP	37.78	42	P		P	09 21 02.4	-0.9
	baz=274							
RIDG	Independent Ri	37.84	40			P	09 21 03.1	-0.8
RIDG	Independent Ri	37.84	40	P		P	09 21 04.0	+0.1
	baz=273,SNR=6.4							
LZH	Lanzhou	37.90	272	*e*P		P	09 21 06.3	+1.5
LZH				sP		pP	09 21 14.6	+0.5
LZH				pmax		pmax		
	comp=Z,34nm,1.3s							
LZH				LR		LR		
	comp=Z,460nm,14.1s							
LZH				LR		LR		
	comp=Z,380nm,14.8s							
LZH				LR		LR		
	comp=Z,370nm,14.4s							
BMAR	Burnt Mountain	37.92	34			P	09 21 05.4	+1.0
F26K	Sheenjek River	38.10	33	P		P	09 21 06.8	+0.8
F26K	Sheenjek River	38.10	33	P		P	09 21 05.4	-0.5
	baz=268							
N25K	Chitina, Valde	38.11	43	P		P	09 21 05.3	-0.9
	baz=276							
BMRM	Bremner River	38.18	44	P		P	09 21 07.1	+0.3
BMRM				IAmb		IAmb	09 21 08.5	
	comp=Z,12nm,1.0s							
BMRM	Bremner River	38.18	44	P		P	09 21 06.0	-0.7
	baz=277							
SCRK	Sand Creek	38.21	39			P	09 21 06.7	-0.3
SCRK	Sand Creek	38.21	39	P		P	09 21 06.2	-0.8
	baz=273							
G26K	Porcupine Rive	38.22	35	IAmb		IAmb	09 21 09.2	
	comp=Z,17nm,1.2s							
G26K	Porcupine Rive	38.22	35	P		P	09 21 06.6	-0.3
	baz=270,SNR=16							
C27K	Jago River	38.35	30	P		P	09 21 07.5	-0.5
	baz=266							
J26L	Joseph Creek	38.37	39	P		P	09 21 07.2	-1.1
	baz=273							
KAIM	Kayak Island	38.40	46	P		P	09 21 07.4	-1.1
	baz=278							
I26K	Coal Creek Min	38.51	37	P		P	09 21 08.7	-0.7
	baz=272							
L26K	Log Cabin Wild	38.56	41	P		P	09 21 10.0	+0.1
L26K	Log Cabin Wild	38.56	41	P		P	09 21 09.5	-0.4
	baz=275,SNR=6.7							
M26K	Nabesna, AK	38.78	42	IAmb		IAmb	09 21 13.8	
	comp=Z,14nm,1.1s							
M26K	Nabesna, AK	38.78	42	P		P	09 21 11.4	-0.4
	baz=276,SNR=11							
CRQE	Cirque	38.94	45	P		P	09 21 12.9	-0.3
	baz=278,SNR=5.0							
GTA	Gaotai	39.04	280	*e*P		P	09 21 14.8	+0.5
GTA				sP		pP	09 21 23.8	+0.2
GTA				pmax		pmax		
	comp=Z,21nm,1.0s							
K27K	Chicken	39.05	39	P		P	09 21 13.8	-0.1
	baz=275							
G27K	Doyon Strip	39.06	35	P		P	09 21 13.8	-0.3
	baz=272							
E27K	Coleen River	39.07	33	P		P	09 21 13.5	-0.5
	baz=270,SNR=5.4							
I27K	Kandik River	39.13	37	P		P	09 21 14.7	+0.1
	baz=273							
H27K	Steamboat Moun	39.14	36			P	09 21 15.1	+0.4
H27K	Steamboat Moun	39.14	36	P		P	09 21 14.4	-0.3
	baz=273,SNR=7.5							
L27K	Beaver Creek,	39.25	41	IAmb		IAmb	09 21 17.7	
	comp=Z,17nm,1.4s							
L27K	Beaver Creek,	39.25	41	P		P	09 21 15.0	-0.6
	baz=276,SNR=8.8							
BCAR	Beaver Creek A	39.27	41			P	09 21 16.4	+0.5
D27M	Malcolm River	39.30	31			P	09 21 16.7	+0.6
D27M	Malcolm River	39.30	31	P		P	09 21 16.0	-0.1
	baz=269							
M27K	Edge Creek, AK	39.31	42	P		P	09 21 15.2	-1.1
	baz=277,SNR=5.1							
MESA	MESA	39.59	45	P		P	09 21 18.3	-0.4
	baz=280							
BARN	Barnard Glacie	39.59	44	IAmb		IAmb	09 21 20.4	
	comp=Z,17nm,1.2s							
F28M	Old Crow	39.73	33	P		P	09 21 18.5	-1.1
	baz=272							
CTG	Chitna Glacier	39.76	44	P		P	09 21 19.8	-0.2
	baz=279							
CTGM	Chitina Glacie	39.76	44	IAmb		IAmb	09 21 22.2	
	comp=Z,12nm,1.0s							
BVCY	Beaver Creek	39.77	42	P		P	09 21 20.3	+0.3
	baz=278,SNR=5.1							
E28M	Babbage River	39.83	32			P	09 21 20.6	+0.3
E28M	Babbage River	39.83	32	P		P	09 21 19.8	-0.5
	baz=272							
I28M	Miner Creek	39.84	37			P	09 21 20.9	+0.3
I28M	Miner Creek	39.84	37	P		P	09 21 20.2	-0.4
	baz=275,SNR=7.5							
LOGN	Logan Glacier	39.94	44	IAmb		IAmb	09 21 23.5	
	comp=Z,15nm,1.1s							
YUK3	Moose Creek	40.05	43	P		P	09 21 22.2	-0.3
	baz=279,SNR=5.4							
DAWY	Dawson	40.22	39	P		P	09 21 23.7	0.0
	baz=277							
O28M	Mount Upton	40.34	44	P		P	09 21 24.8	-0.3
	baz=280							
H29M	Whitestone	40.41	36	IAmb		IAmb	09 21 34.1	
	comp=Z,14nm,1.3s							
H29M	Whitestone	40.41	36	P		P	09 21 25.0	-0.3
	baz=275							
E29M	Blow River	40.44	32			P	09 21 26.4	+1.0
E29M	Blow River	40.44	32	P		P	09 21 25.6	+0.2
	baz=273,SNR=8.7							
YUK8	Steele Glacier	40.46	43	P		P	09 21 25.8	-0.1
	baz=280							
G29M	Pine Creek	40.49	35			P	09 21 26.8	+0.9
G29M				IAmb		IAmb	09 21 41.8	
	comp=Z,9.4nm,0.9s							
G29M	Pine Creek	40.49	35	P		P	09 21 25.0	-0.9
	baz=275,SNR=6.7							
I29M	Ogilvie Camp,	40.53	37	P		P	09 21 26.8	+0.6
I29M	Ogilvie Camp,	40.53	37	P		P	09 21 26.0	-0.2
	baz=276							
J29N	Klondike Camp	40.68	38	P		P	09 21 27.7	+0.2
	baz=278							
M29M	Somme Creek	40.87	41	P		P	09 21 28.5	-0.7
	baz=280							
L29M	L29M	40.91	40	P		P	09 21 29.5	+0.1
	baz=279,SNR=5.9							
PNL	Peninsula	40.94	46	P		P	09 21 29.5	-0.3
	baz=282							
EPYK	Eagle Plains	41.06	35	IAmb		IAmb	09 21 41.3	
	comp=Z,14nm,1.1s							
EPYK	Eagle Plains	41.06	35	P		P	09 21 29.7	-0.9
	baz=277,SNR=6.1							
K29M	Barlow Dome	41.07	39	IAmb		IAmb	09 21 33.4	
	comp=Z,13nm,1.2s							
K29M	Barlow Dome	41.07	39	P		P	09 21 30.7	-0.1
	baz=279,SNR=9.7							
YUK6	Outpost Mounta	41.19	44	P		P	09 21 31.5	-0.5
	baz=282							
G30M	tAoh Zraii Nji	41.19	34			P	09 21 31.6	0.0
G30M	tAoh Zraii Nji	41.19	34	P		P	09 21 32.0	+0.3
	baz=276							
O29M	Mount Kennedy	41.22	45	P		P	09 21 31.7	-0.4
	baz=282							
F30M	Barrier River	41.29	33	IAmb		IAmb	09 21 41.3	
	comp=Z,12nm,1.2s							
F30M	Barrier River	41.29	33	P		P	09 21 31.3	-1.1
	baz=276							
I30M	Mount Dempster	41.35	37			P	09 21 33.7	+0.6
I30M	Mount Dempster	41.35	37	P		P	09 21 32.7	-0.5
	baz=278,SNR=11							
J30M	Hart River	41.47	38	P		P	09 21 32.8	-1.3
	baz=279							
M30M	Minto, Yukon	41.61	41	P		P	09 21 34.4	-0.7
	baz=281							
HYT	Haines Junctio	41.62	44	P		P	09 21 34.4	-1.0
	baz=282							
N30M	Aishikik Lake	41.69	43	P		P	09 21 34.9	-1.0
	baz=282							
P29M	Windy Craggy	41.77	45	P		P	09 21 37.7	+1.1
P29M				IAmb		IAmb	09 21 42.7	
	comp=Z,16nm,1.2s							
P29M	Windy Craggy	41.77	45	P		P	09 21 35.3	-1.2
	baz=283							
MAYO	Mayo, Yukon	41.82	39	P		P	09 21 36.7	-0.1
MAYO				IAmb		IAmb	09 21 42.6	
	comp=Z,17nm,0.9s							
MAYO	Mayo, Yukon	41.82	39	P		P	09 21 36.8	-0.1
	baz=280							
G31M	Satah River	41.96	34	P		P	09 21 37.5	-0.4
	baz=278							
P30M	Million Dollar	42.04	45	P		P	09 21 38.0	-0.7
	baz=284							
INK	Inuvik	42.06	32			P	09 21 39.3	+0.6
INK	Inuvik	42.06	32	P		P	09 21 39.3	+0.6
INK				pmax		pmax		
	comp=Z,10.0nm,1.2s							
INK	Inuvik	42.06	32	P		P	09 21 38.0	-0.6
	baz=277,SNR=7.8							
F31M	Tsiigehtchic	42.09	33	P		P	09 21 39.4	+0.4
F31M				IAmb		IAmb	09 21 40.6	
	comp=Z,9.1nm,0.8s							
F31M	Tsiigehtchic	42.09	33	P		P	09 21 37.9	-1.1
	baz=278							
H31M	Peel River	42.10	36	IAmb		IAmb	09 21 40.8	
	comp=Z,12nm,1.1s							
H31M	Peel River	42.10	36	P		P	09 21 38.4	-0.7
	baz=279,SNR=5.3							
N31M	Braeburn, Yuko	42.30	42	P		P	09 21 40.4	-0.4
	baz=283							
O30N	Mendenhall	42.31	44	P		P	09 21 39.9	-1.1
	baz=283							
PLBC	Pleasant Camp	42.49	45	P		P	09 21 42.1	-0.2
	baz=285							
M31M	Drury Creek, Y	42.78	41	P		P	09 21 43.4	-1.3
	baz=283,SNR=5.2							
ZAA0	Zalesovo Array	42.89	306	P		P	09 21 44.4	-1.2
ZALV	Zalesovo Beam	42.89	306	P		P	09 21 44.4	-1.3
ZALV	Zalesovo Beam	42.89	306	P		P	09 21 43.9	-1.8
	comp=Z,2.4nm,0.7s,baz=64,slow=6.8,SNR=7.3							
ZALV				PcP		PcP	09 23 35.8	-0.1
	comp=Z,0.8nm,0.3s,baz=29,slow=3.3,SNR=3.9							
ZALV				LR		LR	09 40 36.8	
	comp=Z,356nm,18.9s,baz=68,slow=38							
	comp=Z,2.4nm,0.7s							
WHY	Whitehorse	42.92	43	P		P	09 21 45.1	-0.8
	baz=284							
SKAG	Skagway	43.01	45	P		P	09 21 45.2	-1.3
	baz=285							
N32M	Quiet Lake	43.64	42	P		P	09 21 50.7	-1.0
	baz=285							
R32K	Eaglecrest	43.74	47	P		P	09 21 50.7	-1.8
	baz=287							
P32M	Atlin	43.76	45	P		P	09 21 51.3	-1.4
	baz=286							
S32K	Killisnoo	43.95	48	P		P	09 21 52.8	-1.3
	baz=288							
P33M	Teslin, Yukon	44.02	44			P	09 21 55.8	+1.0
P33M	Teslin, Yukon	44.02	44	P		P	09 21 53.8	-1.0
	baz=286							
MMPY	Sheldon Lake,	44.09	40	P		P	09 21 54.7	-0.6
	baz=285							
A36M	Sachs Harbour	44.28	26	P		P	09 21 57.0	+0.4
	baz=281							
PZH	PanZhiHua	44.94	262	P		P	09 22 03.0	+0.4
R33M	Jennings River	45.16	44	P		P	09 22 05.6	+1.7
R33M				IAmb		IAmb	09 22 19.1	
	comp=Z,6.4nm,0.9s							
R33M	Jennings River	45.16	44	P		P	09 22 02.8	-1.1
	baz=288							
CRAG	Craig	45.37	50	P		P	09 22 05.2	-0.3
	baz=291							
WRAK	Wrangell Islan	45.45	49	P		P	09 22 05.8	-0.3
	baz=290							
S34M	Telegraph Cree	45.56	46	P		P	09 22 07.3	+0.3
	baz=290							
TGTN	Hyland Airport	45.75	41	P		P	09 22 08.8	+0.2
	baz=288							
DLBC	Dease Lake	45.94	45	P		P	09 22 10.2	+0.2
	baz=290							
WTLY	Watson Lake, Y	45.97	43	P		P	09 22 10.5	+0.3
	baz=289							
V35K	Ketchikan	46.23	50	P		P	09 22 12.9	+0.7
	baz=292							
T35M	Bob Quinn	46.33	47	P		P	09 22 13.7	+0.6
	baz=291							
MK31	Makanchi Array	47.16	298	*i* P		P	09 22 19.3	-0.4
MKAR	Makanchi Array	47.16	298	P		P	09 22 18.9	-0.8
	comp=Z,7.0nm,0.8s,baz=67,slow=9.3,SNR=30							
MKAR				PcP		PcP	09 23 50.7	-0.1
	comp=Z,1.3nm,0.8s,baz=57,slow=5.3,SNR=2.9							
MKAR				LR		LR	09 43 27.7	
	comp=Z,345nm,18.3s,baz=58,slow=38							
	comp=Z,7.0nm,0.8s							
WRGLY	Wrigley	47.31	38	P		P	09 22 21.8	+1.3
MAKZ	Makanchi	47.34	298			P	09 22 20.6	-0.6
MAKZ				IAmb		IAmb	09 22 21.3	
	comp=Z,11nm,1.1s							
MAKZ	Makanchi	47.34	298	P		P	09 22 20.6	-0.6
MAKZ				pmax		pmax		
	comp=Z,11nm,1.1s							
KURK	Kurchatov	47.63	304			P	09 22 22.4	-0.9
KURK	Kurchatov	47.63	304	*ce*P		P	09 22 22.2	-1.0
KURK				pmax		pmax		
	comp=Z,14nm,0.8s							
KURK	Kurchatov	47.63	304	*e*P		P	09 22 22.2	-1.0
KURBB	Kurchatov Arra	47.72	304	P		P	09 22 22.9	-1.0
	comp=Z,10nm,0.9s,baz=66,slow=8.2,SNR=29							
KURBB				LR		LR	09 43 51.9	
	comp=Z,221nm,18.6s,baz=182,slow=38							
	comp=Z,10nm,0.9s							
TOAD	Toad River Com	48.12	44	P		P	09 22 26.5	-0.5
	baz=293							
BVAR	Borovoye Array	51.16	310	P		P	09 22 49.5	-0.7
	comp=Z,5.1nm,0.9s,baz=60,slow=8.8,SNR=14							
BVAR				LR		LR	09 46 13.7	
	comp=Z,286nm,18.4s,baz=63,slow=38							
	comp=Z,5.1nm,0.9s							
BRVK	Borovoye	51.20	310			P	09 22 50.0	-0.4
BRVK				IAmb		IAmb	09 22 50.6	
	comp=Z,11nm,1.1s							
BRVK	Borovoye	51.20	310	*ce*P		P	09 22 49.8	-0.7
BRVK				pmax		pmax		
	comp=Z,5.0nm,0.8s							
RES	Resolute Bay	51.29	18	LR		LR	09 46 28.6	
	comp=Z,74nm,19.9s,baz=324,slow=38							
YKA	Yellowknife Ar	51.31	36	P		P	09 22 51.6	+0.5
	comp=Z,3.3nm,1.0s,baz=301,slow=7.7,SNR=8.5							
	comp=Z,3.3nm,1.0s							
CHTO	Chiang Mai	52.00	257	P		P	09 22 58.0	+1.1
CHTO				IAmb		IAmb	09 23 01.7	
	comp=Z,14nm,1.4s							
CHTO	Chiang Mai	52.00	257	P		P	09 22 58.0	+1.1
CHTO				pmax		pmax		
	comp=Z,14nm,1.4s							
CMAR	Chiang Mai Arr	52.25	257	P		P	09 22 59.5	+0.7
	comp=Z,0.8nm,0.4s,baz=35,slow=8.0,SNR=8.7							
	comp=Z,0.8nm,0.4s							
CMAR	Chiang Mai Arr	52.25	257	*ce*P		P	09 23 00.0	+1.3
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.5s							
SHL	Shillong	52.35	269			P	09 23 00.3	+0.6
SHL				IAmb		IAmb	09 23 00.6	
	comp=Z,11nm,0.8s							
SHL	Shillong	52.35	269	P		P	09 23 00.3	+0.6
SHL				pmax		pmax		
	comp=Z,11nm,0.8s							
KDJ	Kajisay	52.64	295	IAmb		IAmb	09 23 02.8	
	comp=Z,8.7nm,0.9s							
BOOM	Boomskoye usch	53.22	296	IAmb

comp=Z,57nm,18.1s,baz=332,slow=38
KK31 Karatay Array 56.23 299 P 09 23 26.4 -0.9
KK31 IAmb IAmb 09 23 28.0
comp=Z,4.5nm,0.8s
KK31 Karatay Array 56.23 299 P P 09 23 26.5 -0.9
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 56.23 299 P 09 23 27.3 -0.1
KKAR Karatay Array 56.23 299 P P 09 23 27.3 -0.1
BLKN Baker Lake 57.28 29 IAmb IAmb 09 23 36.4
comp=Z,6.6nm,0.8s
BTK Batken 57.78 296 IAmb IAmb 09 23 40.7
comp=Z,8.1nm,0.9s
ARCES ARCESS Array B 58.30 341 P P 09 23 41.5 -0.1
comp=Z,1.6nm,0.8s,baz=19,slow=5.7,SNR=5.3
ARCES LR LR 09 51 57.1
comp=Z,133nm,18.7s,baz=76,slow=39
comp=Z,1.6nm,0.8s
GAR Garm 58.72 295 P 09 23 46.5 +1.4
AB31 Akbulak array 58.73 310 P P 09 23 44.7 -0.2
AB31 IAmb IAmb 09 23 45.2
comp=Z,4.3nm,0.8s
ABKAR Akbulak array 58.73 310 P P 09 23 44.6 -0.3
AKTO Aktyubinsk 59.04 312 LR LR 09 51 34.3
comp=Z,524nm,18.1s,baz=28,slow=38
SIMJ Simiganj 59.74 296 P P 09 23 52.6 +0.4
PLID Pearl Lake 59.95 55 P 09 23 54.1 +0.3
PLID IAmb IAmb 09 24 08.6
comp=Z,5.7nm,0.8s
NIL Nilore 60.05 289 P P 09 23 55.5 +1.2
NIL Nilore 60.05 289 P P 09 23 55.5 +1.2
NIL pmax pmax
comp=Z,38nm,1.0s
MSO Missoula 60.06 52 P P 09 23 54.4 +0.1
MSO IAmb IAmb 09 24 16.5
comp=Z,4.8nm,0.8s
OVMT Ovando 60.43 52 P P 09 23 57.3 +0.4
KLMR Klimovskoe 60.52 329 *eP* **P 09 23 55.1 -1.9**
KLMR *e* 09 24 39.6
KLMR pmax pmax
comp=Z,13nm,1.2s
BPMT Black Pine Rid 60.57 52 P P 09 23 57.8 -0.1
MFID Camas Ranch 61.06 56 P P 09 24 01.1 -0.1
FFC Flin Flon 61.11 40 P 09 24 01.6 +0.4
FFC IAmb IAmb 09 24 11.0
comp=Z,7.9nm,1.1s
FFC Flin Flon 61.11 40 P P 09 24 01.6 +0.4
FFC pmax pmax
comp=Z,8.0nm,1.1s
SUMG Summit 61.18 4 P P 09 24 01.6 -0.2
SUMG Summit 61.18 4 P P 09 24 01.6 -0.2
SUMG pmax pmax
comp=Z,17nm,0.9s
EGMT Eagleton 61.58 49 P P 09 24 04.6 0.0
EGMT IAmb IAmb 09 24 11.1
comp=Z,10.0nm,1.2s
HLID Hailey 61.78 56 P P 09 24 06.4 +0.3
BOZ Bozeman (W) 62.08 52 P P 09 24 08.3 +0.3
BOZ Bozeman (W) 62.08 52 P P 09 24 08.4 +0.3
BOZ pmax pmax
comp=Z,15nm,1.5s
KBL Kabul 62.24 292 P 09 24 08.7 -0.7
KBL Kabul 62.24 292 P P 09 24 08.7 -0.7
KBL pmax pmax
comp=Z,14nm,0.9s
RYN Ryan 62.41 62 P P 09 24 11.1 +0.7
RYN IAmb IAmb 09 24 23.5
comp=Z,4.9nm,1.0s
LHV Little Huntoon 62.65 62 P P 09 24 12.3 +0.5
NVAR Mina Array Bea 62.66 62 P P 09 24 11.8 -0.3
NVAR Mina Array Bea 62.66 62 P P 09 24 12.6 +0.4
comp=Z,2.0nm,0.8s,baz=288,slow=7.1,SNR=16
comp=Z,2.0nm,0.8s
QLMT Earthquake Lak 62.67 53 P P 09 24 12.3 +0.2
YHB Horse Butte 62.85 53 IAmb IAmb 09 24 18.7
comp=Z,6.6nm,0.9s
BELG Belogornoye 62.89 318 *i* P **P 09 24 11.0 -2.1**
BELG pmax pmax
comp=Z,4.0nm,0.9s
YNE Yellowstone No 63.34 52 P P 09 24 15.2 -1.4
YNE IAmb IAmb 09 24 40.0
comp=Z,8.5nm,1.5s
DSP Deep Springs 63.53 63 IAmb IAmb 09 24 31.7
comp=Z,7.5nm,1.0s
FXWY Fox Creek 63.65 54 IAmb IAmb 09 24 25.7
comp=Z,8.1nm,1.5s
HVU Hansel Valley 63.84 56 IAmb IAmb 09 24 41.9
comp=Z,4.1nm,1.1s
LOHW Long Hollow 63.91 54 IAmb IAmb 09 24 28.2
comp=Z,5.2nm,1.1s
GRAC Grapevine Rang 64.14 63 P P 09 24 20.3 -1.4
FINES FINESS Array B 64.47 335 P P 09 24 23.2 -0.2
comp=Z,8.1nm,0.7s,baz=34,slow=7.4,SNR=24
comp=Z,8.1nm,0.7s
WCT Wildcat Mounta 64.73 63 IAmb IAmb 09 24 40.0
comp=Z,4.2nm,0.9s
TPNV Topopah Spring 64.86 62 IAmb IAmb 09 24 41.5
comp=Z,9.9nm,1.2s
BW06 Boulder Array 65.03 54 IAmb IAmb 09 24 42.4
comp=Z,4.5nm,1.1s
PD31 Pinedale Array 65.04 54 IAmb IAmb 09 24 42.4
comp=Z,4.3nm,1.0s
PDAR Pinedale Array 65.04 54 P P 09 24 27.3 -0.4
PDAR Pinedale Array 65.04 54 P P 09 24 27.4 -0.3
comp=Z,1.8nm,0.8s,baz=272,slow=1.4,SNR=15
comp=Z,1.8nm,0.8s
MPU Maple Canyon 65.64 57 IAmb IAmb 09 24 45.6
comp=Z,3.6nm,0.9s
OBN Obninsk 65.70 326 *ce*P **P 09 24 32.4 +0.9**
OBN *e* 09 25 05.3
OBN *e* 09 26 54.2
OBN *e*SS SS 09 37 35.8 +7.5
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN MLR MLR
comp=Z,140nm,16.0s
OBN Obninsk 65.70 326 *e*P **P 09 24 32.4 +0.9**
HEL Helsinki 65.82 334 P P 09 24 24.9 -7.2
HEL pmax pmax
comp=Z,5.0nm,0.9s
CCUT Cedar City 66.22 60 IAmb IAmb 09 24 48.7
comp=Z,6.3nm,1.4s
Q16A Castle Valley 66.63 58 IAmb IAmb 09 25 00.8
comp=Z,3.9nm,1.0s
VSU Vasula 66.64 333 *ce*P **P 09 24 36.2 -1.2**
VSU pmax pmax
comp=Z,14nm,0.9s
LCMT Little Creek M 66.65 60 IAmb IAmb 09 24 51.9
comp=Z,3.9nm,0.9s
SRU San Rafael Swe 66.88 57 IAmb IAmb 09 25 02.5
comp=Z,6.0nm,0.8s
RSSD Black Hills 67.14 50 P P 09 24 39.4 -1.8
RSSD IAmb IAmb 09 24 41.7
comp=Z,7.8nm,1.1s
RSSD Black Hills 67.14 50 P P 09 24 39.4 -1.8
RSSD pmax pmax
comp=Z,8.0nm,1.2s
U15A North Rim 67.61 60 P P 09 24 44.2 -0.1
U15A IAmb IAmb 09 24 57.6
comp=Z,6.1nm,1.2s
WRA Warramunga Arr 68.06 199 P P 09 24 46.8 0.0
comp=Z,1.2nm,1.0s,baz=12,slow=6.4,SNR=4.8
comp=Z,1.2nm,1.0s
WRA Warramunga Arr 68.06 199 *ce*P **P 09 24 47.7 +0.9**
WRA pmax pmax
comp=Z,1.0nm,0.7s
PV23 Carpenter Ridg 68.20 57 P P 09 24 48.4 +0.3
PV10 Paradox Valley 68.24 57 P P 09 24 48.8 +0.6
PV22 Blue Mesa, Par 68.28 57 P P 09 24 48.3 -0.1
PV22 IAmb IAmb 09 25 02.6
comp=Z,5.2nm,1.0s
GLA Glamis 68.29 65 P P 09 24 49.3 +1.0
GLA Glamis 68.29 65 P P 09 24 49.3 +1.0
GLA pmax pmax
comp=Z,8.0nm,1.0s
PV20 West Nyswonger 68.30 57 P P 09 24 48.7 +0.2
PV04 Paradox Valley 68.30 57 P P 09 24 48.3 -0.2
PV04 IAmb IAmb 09 24 50.2
comp=Z,4.7nm,0.9s
PV19 Morning Glory 68.31 57 P P 09 24 48.4 -0.3
PV16 Nyswonger Mesa 68.35 57 IAmb IAmb 09 25 12.4
comp=Z,4.3nm,0.8s
PV03 Paradox Valley 68.43 57 IAmb IAmb 09 25 04.1
comp=Z,7.3nm,1.1s
PV13 Radium Mtn., P 68.51 57 IAmb IAmb 09 25 03.3
comp=Z,7.0nm,0.9s

NB201 NORSAR Array S 68.65 341 P P 09 24 50.5 +0.3
NB2 NORSAR Subarra 68.68 341 P P 09 24 50.1 -0.2
comp=Z,1.4nm,0.6s,baz=28,slow=6.5
NOA NORSAR Array B 68.68 341 P P 09 24 50.1 -0.2
comp=Z,1.5nm,0.6s,baz=28,slow=6.4,SNR=16
comp=Z,1.5nm,0.6s
HFS Hagfors 68.91 340 P P 09 24 51.2 -0.4
comp=Z,9.0nm,0.8s,baz=24,slow=4.0,SNR=17
comp=Z,9.0nm,0.8s
ISCO Idaho Springs 69.23 54 P P 09 24 54.2 -0.2
ISCO IAmb IAmb 09 25 16.4
comp=Z,3.9nm,1.1s
ISCO Idaho Springs 69.23 54 P P 09 24 54.2 -0.2
ISCO pmax pmax
comp=Z,4.0nm,1.1s
MVCO Mesa Verde 69.34 58 P P 09 24 55.0 0.0
MVCO IAmb IAmb 09 25 08.4
comp=Z,4.0nm,0.9s
MNK Minsk 69.41 329 *i* P **P 09 24 54.2 -0.7**
MNK *i* 09 25 17.1
MNK *i* 09 27 27.7
MNK *i* PPP PPP 09 29 08.6
MNK *i* S **S 09 34 02.8 +3.6**
MNK *i* SS **SS 09 38 31.4 +5.8**
MNK pmax pmax
comp=N,13nm,0.5s
MNK pmax pmax
comp=E,10.0nm,0.7s
MNK pmax pmax
comp=Z,26nm,0.6s
MNK MLR MLR
comp=E,158nm,18.0s
MNK MLR MLR
comp=Z,165nm,17.0s
MNK MLR MLR
comp=N,96nm,17.0s
X16A Lo Mia Camp, P 69.47 61 IAmb IAmb 09 25 09.7
comp=Z,5.3nm,1.0s
NACGM Naroch 69.47 330 *eP* **P 09 24 55.8 +0.5**
comp=Z,14nm,0.9s,baz=37
S22A 4UR Ranch, Cre 69.94 56 IAmb IAmb 09 25 43.6
comp=Z,6.3nm,1.3s
AKT Akhty 70.30 310 *eP* **P 09 24 59.0 -1.8**
AKT *e* 09 25 21.2
AKT pmax pmax
comp=Z,21nm,1.3s
KIV Kislovodsk 71.13 314 ⇑P **P 09 25 08.4 +2.6**
KIV Kislovodsk 71.13 314 *eP* **P 09 25 06.3 +0.6**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV Kislovodsk 71.13 314 P **P 09 25 05.7 0.0**
comp=Z,15nm,1.0s
KIV pP **pP 09 25 11.5 -4.1**
comp=Z,15nm,1.0s
KBZ Khabaz 71.19 314 P **P 09 25 06.6 +0.7**
comp=Z,13nm,0.9s,baz=60,slow=2.3,SNR=21
comp=Z,13nm,0.9s
KBZ Khabaz 71.19 314 *i* P **P 09 25 08.2 +2.3**
KBZ pmax pmax
comp=Z,17nm,0.9s
ECSD EROS Data Cent 71.22 46 IAmb IAmb 09 25 11.8
comp=Z,6.6nm,1.2s
TUC Tucson 71.30 63 P P 09 25 06.7 -0.3
TUC IAmb IAmb 09 25 20.4
comp=Z,4.5nm,1.1s
TUC Tucson 71.30 63 P P 09 25 06.7 -0.3
TUC pmax pmax
comp=Z,4.0nm,1.1s
ASAR Alice Springs 71.75 199 P P 09 25 09.8 +0.3
comp=Z,0.6nm,0.6s,baz=11,slow=6.3,SNR=8.7
comp=Z,0.6nm,0.6s
T25A Trinidad 71.75 55 P P 09 25 08.8 -0.9
T25A IAmb IAmb 09 25 16.0
comp=Z,7.2nm,1.3s
AK03 Malin Array Si 71.92 326 P P 09 25 09.4 -0.9
AKASG Malin Array Be 71.94 326 P P 09 25 10.0 -0.4
AKASG IAmb IAmb 09 25 11.2
comp=Z,4.8nm,0.8s
AKASG Malin Array Be 71.94 326 P P 09 25 09.8 -0.6
comp=Z,9.1nm,0.5s,baz=35,slow=6.2,SNR=56
comp=Z,9.1nm,0.5s
AKASG Malin Array Be 71.94 326 P P 09 25 10.0 -0.4
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKBB Malin Array Si 71.94 326 P P 09 25 10.0 -0.4
AKBB Malin Array Si 71.94 326 P P 09 25 10.0 -0.4
AKBB pmax pmax
comp=Z,19nm,0.8s
AKBB Malin Array Si 71.94 326 P P 09 25 09.5 -0.9
AK04 Malin Array Si 71.95 326 P P 09 25 09.2 -1.2
AK21 Malin Array Si 71.95 326 P P 09 25 09.2 -1.2
AK22 Malin Array Si 71.95 326 P P 09 25 09.3 -1.1
KIEV Kiev 71.95 326 P P 09 25 09.8 -0.6
KIEV Kiev 71.95 326 ⇓P **P 09 25 10.4 -0.1**
KIEV Kiev 71.95 326 P P 09 25 09.8 -0.6
KIEV pmax pmax
comp=Z,17nm,0.8s
KIEV Kiev 71.95 326 P P 09 25 09.0 -1.4
comp=Z,100nm,0.9s
AK01 Malin Array Si 71.95 326 P P 09 25 09.3 -1.1
AK11 Malin Array Si 71.98 326 P P 09 25 09.4 -1.2
ANMO Albuquerque 72.09 58 P P 09 25 11.0 -0.8
ANMO Albuquerque 72.09 58 P P 09 25 11.6 -0.3
ANMO IAmb IAmb 09 25 33.6
comp=Z,2.4nm,0.9s
ANMO Albuquerque 72.09 58 P P 09 25 11.5 -0.3
ANMO IAmb IAmb 09 25 33.6
comp=Z,2.4nm,0.9s
ANMO Albuquerque 72.09 58 *ce*P **P 09 25 13.3 +1.5**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
MI28 Mi28,Pidlybu 72.35 327 P P 09 25 11.0 -1.8
I37A Lemond, Waseca 72.59 44 P P 09 25 14.2 -0.2
RNPP9 Sopachiv 72.62 328 P P 09 25 13.8 -0.6
RNPP8 Varash 72.69 328 P P 09 25 14.1 -0.7
RNPP5 Staryi Chortor 72.77 328 P P 09 25 14.0 -1.3
GNI Garni 72.84 310 *ce*P **P 09 25 18.2 +2.1**
GNI pmax pmax
comp=Z,15nm,1.0s
GNI Garni 72.84 310 P P 09 25 16.5 +0.4
comp=Z,19nm,1.1s
LUBAR Lubar, Ukraine 73.13 327 P P 09 25 16.5 -1.0
OZAP Van, Ozalp-Mer 74.32 310 ⇓P **P 09 25 27.8 +2.9**
SORM Soroca 74.34 325 P P 09 25 23.1 -1.5
comp=Z,8μmcomp=Z,13nm,0.7s
NDNU Novodnistrovsk 74.36 326 P P 09 25 23.2 -1.5
KMPD K-Podol'skiy 74.73 326 P P 09 25 25.3 -1.5
KWP Kalwaria Pacla 75.23 329 P P 09 25 29.3 -0.5
STNU Starunia 75.35 328 P P 09 25 30.0 -0.4
KSV Kosov 75.46 327 P P 09 25 30.1 -1.0
VHRN Van Horn 75.90 60 IAmb IAmb 09 25 47.4
comp=Z,5.4nm,0.9s
BUR08 Bucovina Ar. S 75.97 327 P P 09 25 34.2 +0.1
BURAR Bucovina Array 75.99 327 P P 09 25 34.8 +0.6
BURAR IAmb IAmb 09 25 36.5
comp=Z,5.4nm,0.8s
BURAR Bucovina Array 75.99 327 ⇑P **P 09 25 34.4 +0.2**
BURAR Bucovina Array 75.99 327 ⇑P **P 09 25 34.4 +0.2**
TESR Tescani 76.34 325 ⇑P **P 09 25 36.2 +0.1**
CHVC Chvalec 76.62 333 *eP* **P 09 25 38.0 +0.3**
CHVC Chvalec 76.62 333 *eP* **P 09 25 38.0 +0.3**
DPC Dobruska-Polom 76.75 333 *eP* **P 09 25 40.6 +2.2**
DPC Dobruska-Polom 76.75 333 *eP* **P 09 25 40.6 +2.2**
LANS Liptovska Anna 76.76 331 *eP* **P 09 25 39.8 +1.3**
LANS pmax pmax
comp=Z,4.0nm,0.8s
LANS Liptovska Anna 76.76 331 *eP* **P 09 25 39.8 +1.3**
EKA Eskdalemuir Ar 76.80 346 P P 09 25 37.7 -0.8
comp=Z,1.1nm,0.5s,baz=16,slow=5.9,SNR=4.6
comp=Z,1.1nm,0.5s
BZK Bozkurt 76.81 318 ⇓P **P 09 25 39.8 +1.0**
VRI Vrincioaia 76.83 325 ⇑P **P 09 25 40.1 +1.1**
VRI Vrincioaia 76.83 325 ⇑P **P 09 25 40.1 +1.1**
MORC Moravsky Berou 76.86 332 IAmb IAmb 09 25 41.9
comp=Z,9.2nm,1.0s
MORC Moravsky Berou 76.86 332 *eP* **P 09 25 39.2 +0.1**
CLL Collm 76.90 336 *i* P **P 09 25 38.8 -0.4**
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 76.90 336 *i* P **P 09 25 38.8 -0.4**
comp=Z,11nm,1.0s
ARPR Arapgir-MALATY 76.93 313 P P 09 25 41.3 +1.5
TPGR Topolog 76.97 323 ⇓P **P 09 25 40.5 +0.8**
ALPN Alpine 77.00 60 P P 09 25 41.1 +0.7
ALPN IAmb IAmb 09 25 52.8
comp=Z,5.9nm,1.0s
MLR Muntele Rosu 77.45 325 ⇓P **P 09 25 43.0 +0.4**
MLR Muntele Rosu 77.45 325 ⇓P **P 09 25 43.0 +0.4**
VYHS Vyhne 77.54 331 *eP* **P 09 25 43.6 +0.7**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 77.54 331 *eP* **P 09 25 43.6 +0.7**
VRAC Vranov 77.57 333 *eP* **P 09 25 43.5 +0.5**
VRAC Vranov 77.57 333 P P 09 25 43.4 +0.3
comp=Z,4.4nm,0.7s,baz=36,slow=8.2,SNR=5.5
comp=Z,4.4nm,0.7s
VRAC Vranov 77.57 333 ⇑P **P 09 25 43.3 +0.3**
JAVC Velka Javorina 77.62 332 *eP* **P 09 25 44.4 +1.1**
ILGA Ilgaz 77.66 318 P P 09 25 45.6 +1.7
PSZ Piszkesteto 77.67 330 P P 09 25 44.6 +0.9
PSZ IAmb IAmb 09 25 46.7
comp=Z,9.1nm,1.0s
PSZ Piszkesteto 77.67 330 P P 09 25 44.6 +0.9
PSZ pmax pmax
comp=Z,9.0nm,1.0s
TX31 Lajitas Ar. Si 77.73 60 P P 09 25 44.2 -0.2
TXAR Lajitas Array 77.73 60 P P 09 25 44.2 -0.2
TXAR Lajitas Array 77.73 60 P P 09 25 43.9 -0.4
comp=Z,1.7nm,0.6s,baz=303,slow=4.2,SNR=28
comp=Z,1.7nm,0.6s
TXAR Lajitas Array 77.73 60 P P 09 25 44.2 -0.2
KRUC Moravsky 77.85 333 *eP* **P 09 25 44.7 +0.1**
VOIR 77.85 325 ⇓P **P 09 25 44.9 +0.1**
VOIR 77.85 325 ⇓P **P 09 25 44.9 +0.1**
KALB Balgarevo 78.14 322 ⇓P **P 09 25 46.6 +0.4**
MODS Modra-Piesok 78.17 332 *eP* **P 09 25 45.3 -1.1**
MODS pmax pmax
comp=Z,11nm,0.9s
MODS Modra-Piesok 78.17 332 *eP* **P 09 25 45.2 -1.1**
SIRR Siria 78.45 328 ⇑P **P 09 25 48.4 +0.5**
KHC Kasperske Hory 78.67 334 *eP* **P 09 25 49.5 +0.4**
KHC *ex* x 09 26 12.5
KHC Kasperske Hory 78.67 334 *eP* **P 09 25 49.5 +0.4**
SURR Surduc 78.71 327 ⇓P **P 09 25 49.9 +0.6**
BR131 Keskin Array S 78.73 317 P **P 09 25 50.5 +0.7**
BR131 IAmb IAmb 09 26 23.9
comp=Z,4.5nm,0.7s
BR131 Keskin Array S 78.73 317 P **P 09 25 50.5 +0.7**
BR131 pmax pmax
comp=Z,4.0nm,0.7s
BRTR Keskin Array B 78.73 317 P **P 09 25 49.7 -0.2**
BRTR Keskin Array B 78.73 317 P **P 09 25 50.4 +0.7**
comp=Z,3.1nm,1.0s,baz=72,slow=1.8,SNR=9.9
comp=Z,3.1nm,1.0s
BRTR Keskin Array B 78.73 317 *ce*P **P 09 25 50.7 +0.9**
BRTR pmax pmax
comp=Z,3.0nm,1.0s
GZR Gura Zlata 78.77 327 ⇓P **P 09 25 49.9 +0.1**
GEC2 GERESS Array S 78.89 334 P **P 09 25 50.5 +0.1**
GERES GERESS Array B 78.89 334 P **P 09 25 50.2 -0.2**
GERES GERESS Array B 78.89 334 P **P 09 25 50.8 +0.3**
comp=Z,2.5nm,0.7s,baz=46,slow=3.9,SNR=13
comp=Z,2.5nm,0.7s
BZS Buzias 79.02 328 ⇓P **P 09 25 51.6 +0.6**
BZS Buzias 79.02 328 ⇓P **P 09 25 51.6 +0.6**
CONA Conrad Observa 79.02 332 *eP* **P 09 25 52.1 +0.9**
comp=Z,6.9nm,0.8s
KIRS Kirsehir-Merke 79.07 316 ⇓P **P 09 25 52.8 +1.2**
RONA Rosalia, Austr 79.08 332 *eP* **P 09 25 53.4 +1.9**
comp=Z,14nm,0.9s
BTNL Ternell 79.39 339 *dP* **P 09 25 52.5 -0.5**
comp=Z,7.1nm,1.1s
MEM Membach 79.39 339 *dP* **P 09 25 53.6 +0.6**
comp=Z,10nm,1.1s
DRIO Del Rio 79.49 58 P P 09 25 53.5 -0.4
DRIO IAmb IAmb 09 26 06.8
comp=Z,8.1nm,0.9s
BSTI Sart Tilman 79.53 340 *dP* **P 09 25 53.9 +0.1**
MORH Mrgy, Hungar 79.58 330 ⇑P **P 09 25 54.2 +0.1**
MOA Molln 79.59 333 *eP* **P 09 25 55.7 +1.5**
comp=Z,4.9nm,0.9s
ARSA Arzberg 79.72 332 *eP* **P 09 25 56.5 +1.6**
comp=Z,3.4nm,0.6s
BCLA Clavier 79.74 340 *dP* **P 09 25 55.1 +0.2**
comp=Z,7.1nm,0.0s
BMRD Maredsous 79.98 340 *dP* **P 09 25 56.7 +0.5**
comp=Z,7.2nm,1.2s
RCHB Rochefort 80.00 340 *dP* **P 09 25 56.7 +0.4**
SOKA Soboth 80.39 332 *eP* **P 09 25 59.8 +1.2**
comp=Z,11nm,1.0s
LESA Schwarzleotal 80.46 334 *i* P **P 09 26 00.2 +1.2**
comp=Z,7.2nm,0.7s
KBA Koelnbreinsper 80.57 333 *eP* **P 09 26 01.1 +1.5**
comp=Z,9.9nm,1.0s
WATA Walderalm 80.87 335 *eP* **P 09 26 02.6 +1.3**
comp=Z,15nm,0.9s
BFO Black Forest 80.89 337 P P 09 26 01.7 +0.5
BFO IAmb IAmb 09 26 04.0
comp=Z,8.8nm,1.0s
BFO Black Forest 80.89 337 P P 09 26 01.7 +0.5
BFO pmax pmax
comp=Z,9.0nm,1.0s
WTTA Wattenberg 80.92 335 *eP* **P 09 26 03.1 +1.5**
comp=Z,14nm,0.6s
RETA Reutte 80.98 335 *eP* **P 09 26 02.9 +1.1**
comp=Z,8.7nm,1.0s
MOTA Moosalm 81.00 335 *eP* **P 09 26 03.3 +1.3**
comp=Z,13nm,1.3s
SQTA Sankt Quirin 81.09 335 *eP* **P 09 26 04.0 +1.6**
comp=Z,8.7nm,1.1s
RDO Rodhopi 81.22 323 P P 09 26 04.0 +1.0
RDO IAmb IAmb 09 26 06.2
comp=Z,7.8nm,0.8s
ECH Echery 81.31 338 IAmb IAmb 09 26 06.4
comp=Z,9.9nm,1.0s
FETA Feichten 81.41 335 *eP* **P 09 26 04.2 +0.1**
comp=Z,1.9nm,0.7s
DAVA Damuels 81.41 336 *eP* **P 09 26 05.4 +1.2**
comp=Z,6.4nm,0.8s
DAVOX Davos/Dischmat 81.87 335 P P 09 26 06.9 +0.3
comp=Z,3.6nm,0.6s,baz=6.3,slow=9.2,SNR=3.7
comp=Z,3.6nm,0.6s
MANT Manisa 82.08 319 IAmb IAmb 09 26 10.7
comp=Z,12nm,1.1s
TUE Stuetta 82.31 336 IAmb IAmb 09 26 12.3
comp=Z,8.5nm,0.9s
MMAI Mount Meron Ar 83.13 311 P P 09 26 12.9 -0.4
comp=Z,5.7nm,0.8s,baz=34,slow=5.0,SNR=3.8
comp=Z,5.7nm,0.8s
FDMO Fiordimonte 84.26 332 P P 09 26 19.2 +0.4
BNI Bardonecchia 84.35 337 P P 09 26 19.6 +0.2
BNI Bardonecchia 84.35 337 P P 09 26 19.6 +0.2
BNI pmax pmax
comp=Z,11nm,1.4s
CAMP Campotosto 84.60 331 P P 09 26 21.0 +0.3
SSB Saint Sauveur 84.71 338 P P 09 26 21.6 +0.5
SSB Saint Sauveur 84.71 338 P P 09 26 21.6 +0.5
SSB pmax pmax
comp=Z,16nm,1.4s
PLCA Paso Flores 148.17 96 PKPbc PKPbc 09 33 31.8 -0.9
comp=Z,8.7nm,1.2s,baz=289,slow=3.2,SNR=5.0
CPUP Villa Florida 148.71 61 PKPbc PKPbc 09 33 32.9 -1.5
comp=Z,0.7nm,0.8s,baz=291,slow=1.3,SNR=3.7
SNAA Sanae 152.09 196 ⇓P **PKPab 09 33 54.5 +3.6**
comp=Z,9.7nm,0.2s
SNAA Sanae 152.09 196 PKPab PKPab 09 33 52.0 +1.1
comp=Z,1.6nm,0.7s,baz=168,slow=1.6,SNR=6.2
VNA3 Neumayer Olymp 153.62 192 ⇓P **PKiKP 09 33 49.1 +4.5**
comp=Z,0.4nm,0.1s
VNA1 Neumayer--Stat 153.92 194 ⇓P **PKPdf 09 33 41.2 +4.1**
comp=Z,0.3nm,0.1s

NEIC ***18*** *09:15:14.4±0.6, 19°.29N±0°.06×155°.50W±0°.03, h16km±2km, Error ellipse: s-maj=9.1km s-min=2.8km az=157.0*
HVO 18 09:15:14.8±0.7, 19°.256N±0°.007×155°.474W±0°.008, h11km±2km, ML2.7/33, ML2.7/42(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=139.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time h m s	Res ISC
HTC	**Hot Caves**	**0.07**	**105**				Pg 09 15 17.6	+0.4
AIN	**Ainahou**	**0.12**	**8**				Pg 09 15 18.4	+0.5
AIN							Sg 09 15 21.1	+1.0
AIN	**Ainahou**	**0.12**	**8**	IAML			09 15 21.4	
	comp=E,3μm,0.3s							
AIN				IAML			09 15 21.5	
	comp=N,11μm,0.3s							
KHU	**Kahuku**	**0.13**	**266**				Pg 09 15 18.4	+0.2
KHU							Sg 09 15 21.0	+0.4

HLP	**Hilina Pali**	**0.16**	**76**			Pg	09 15 19.0	+0.5
HLP						Sg	09 15 22.1	+1.1
HLP	**Hilina Pali**	**0.16**	**76**	IAML			09 15 23.3	
	comp=N,2μm,0.1s							
HLP				IAML			09 15 25.4	
	comp=E,1μm,0.3s							
HPO	**Honuapo**	**0.18**	**204**			Pg	09 15 18.9	+0.1
HPO						Sg	09 15 22.3	+0.9
SDHHI	**Sand Hill**	**0.22**	**52**			Pg	09 15 19.5	+0.1
SDHHI						Sg	09 15 23.1	+0.5
WRMHI	**West Rim**	**0.22**	**48**			Pg	09 15 19.6	+0.1
WRMHI						Sg	09 15 23.3	+0.5
RIM	**Rim**	**0.23**	**54**			Pg	09 15 19.8	0.0
RIM						Sg	09 15 23.4	+0.3
UWE	**Uwekahuna**	**0.24**	**46**			Pg	09 15 19.9	0.0
UWE						Sg	09 15 23.7	+0.5
UWE	**Uwekahuna**	**0.24**	**46**	IAML			09 15 27.4	
	comp=E,4μm,0.4s							
UWE				IAML			09 15 27.4	
	comp=N,3μm,0.4s							
OBL	**Observatory Le**	**0.24**	**48**			Pg	09 15 19.9	0.0
OBL						Sg	09 15 23.9	+0.6
KKO	**Keanakako'i**	**0.24**	**54**			Pg	09 15 19.9	0.0
KKO						Sg	09 15 23.7	+0.4
UWB	**Uwekahuna Bluf**	**0.25**	**48**			Pg	09 15 20.0	-0.1
UWB						Sg	09 15 23.8	+0.2
MLH	**Mauna Loa**	**0.25**	**19**			Pg	09 15 20.4	+0.2
MLH						Sg	09 15 24.3	+0.6
MLH	**Mauna Loa**	**0.25**	**19**	IAML			09 15 28.5	
	comp=E,773nm,0.2s							
MLH				IAML			09 15 29.5	
	comp=N,1μm,0.3s							
BYL	**Byron's Ledge**	**0.26**	**53**			Pg	09 15 20.1	0.0
BYL						Sg	09 15 24.2	+0.5
BYL	**Byron's Ledge**	**0.26**	**53**	IAML			09 15 28.8	
	comp=N,771nm,0.4s							
BYL				IAML			09 15 29.2	
	comp=E,800nm,0.5s							
MWH	**Mokuaweoweo**	**0.26**	**333**			Pg	09 15 20.1	-0.2
MWH						Sg	09 15 24.1	+0.1
MWH	**Mokuaweoweo**	**0.26**	**333**	IAML			09 15 26.1	
	comp=E,452nm,0.5s							
MWH				IAML			09 15 28.6	
	comp=N,513nm,0.7s							
SBLHI	**Steaming Bluff**	**0.26**	**49**			Pg	09 15 20.1	-0.1
SBLHI						Sg	09 15 24.1	+0.3
HATHI	**Halema'uma'u T**	**0.26**	**50**			Pg	09 15 20.2	-0.1
HATHI						Sg	09 15 24.0	+0.2
HATHI	**Halema'uma'u T**	**0.26**	**50**	IAML			09 15 25.1	
	comp=E,2μm,0.5s							
HATHI				IAML			09 15 26.7	
	comp=N,1μm,0.2s							
PUH	**Pauahi**	**0.27**	**64**			Pg	09 15 20.3	-0.1
PUH						Sg	09 15 24.5	+0.4
PUH	**Pauahi**	**0.27**	**64**	IAML			09 15 25.0	
	comp=E,2μm,0.3s							
PUH				IAML			09 15 28.6	
	comp=N,942nm,0.4s							
RSD	**Rainshed**	**0.28**	**42**			Pg	09 15 20.5	-0.1
RSD						Sg	09 15 24.7	+0.4
KNHH	**Kane Nui o Ham**	**0.31**	**67**			Pg	09 15 20.9	-0.3
ALEP	**Alea Permanent**	**0.33**	**331**			Pg	09 15 21.1	-0.5
ALEP						Sg	09 15 26.1	+0.1
HMH	**Humu'ula Sheep**	**0.34**	**359**			Pg	09 15 21.9	+0.1
HMH						Sg	09 15 27.1	+0.5
HMH	**Humu'ula Sheep**	**0.34**	**359**	IAML			09 15 27.6	
	comp=N,1μm,0.2s							
HMH				IAML			09 15 27.8	
	comp=E,993nm,0.3s							
STCH	**Steam Cracks**	**0.35**	**69**			Pg	09 15 21.5	-0.4
STCH	**Steam Cracks**	**0.35**	**69**	IAML			09 15 28.3	
	comp=E,607nm,0.5s							
STCH				IAML			09 15 29.4	
	comp=N,367nm,0.3s							
NPOC	**North of Pu'u**	**0.37**	**68**			Pg	09 15 21.8	-0.5
NPOC						Sg	09 15 27.4	+0.2
JCUZ	**Jacuzzi**	**0.37**	**70**			Pg	09 15 22.1	-0.2
JCUZ						Sg	09 15 27.2	-0.1
JOKA	**Jonika Flow**	**0.48**	**68**			Pg	09 15 23.1	-1.1
JOKA						Sg	09 15 29.7	-0.8
CPH	**Captain Cook**	**0.48**	**299**			Pg	09 15 23.6	-0.6
POHA	**Pohakuloa**	**0.50**	**354**			Pg	09 15 23.9	-0.8
POHA						Sg	09 15 30.6	-0.8
POHA	**Pohakuloa**	**0.50**	**354**	IAML			09 15 36.4	
	comp=N,339nm,1.3s							
POHA				IAML			09 15 36.6	
	comp=N,337nm,0.7s							
KHLU	**Kahalu`u**	**0.52**	**310**			Pg	09 15 24.1	-0.9
KHLU						Sg	09 15 30.9	-1.0
KHLU	**Kahalu`u**	**0.52**	**310**	IAML			09 15 32.3	
	comp=E,997nm,0.3s							
KHLU				IAML			09 15 32.4	
	comp=N,988nm,0.2s							
HUH	**Hualalai**	**0.55**	**321**			Pg	09 15 25.0	-0.5
HUH						Sg	09 15 32.9	+0.1
HPAH	**Hawaii Prepara**	**0.80**	**345**			Pg	09 15 27.9	-2.4
HPAH						Sg	09 15 37.8	-2.9

*ASRS **18** 09:26:22.0±0.6,53°.60N×87°.89E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 18 09:26:22.7±3.4,53°.58N×88°.02E,h0km,mbtmp3.2/2, ML2.6/2,Error ellipse: s-maj=27.8km s-min=16.2km az=64.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.94**	**282**	Pg	Pn	09 26 57.8	+0.9
	1.4nm,0.3s,baz=98,slow=20,SNR=7.9						
ZALV				Lg	Lg	09 27 24.0	
	3.9nm,0.3s,baz=98,slow=24,SNR=15						
I46RU	**ZALESOVO INFRA**	**1.94**	**282**	I	I	09 38 09.8	
	0.1nm,1.8s,baz=97,slow=316,SNR=2.6						
KURBB	**Kurchatov Arra**	**6.55**	**247**	Pn	Pn	09 28 01.4	+1.2
	0.2nm,0.3s,baz=60,slow=14,SNR=3.6						
KURBB				Lg	Lg	09 29 50.0	
	baz=62,slow=40,SNR=1.6						
	2.7nm,0.2s						
MKAR	**Makanchi Array**	**7.72**	**211**	Pn	Pn	09 28 17.5	+1.2
	0.1nm,0.3s,baz=28,slow=14,SNR=2.1						
MKAR				Sn	Sn	09 29 43.5	-1.0
	0.1nm,0.3s,baz=32,slow=32,SNR=2.2						
MKAR				Lg	Lg	09 30 26.2	
	0.1nm,0.3s,baz=33,slow=32,SNR=2.9						
	0.1nm,0.4s						

*IDC **18** 09:33:00.4±1.6,54°.30N×169°.22E,h0km,mb3.7/5, mbtmp3.8/7,ML3.4/2,MS3.6/4,Error ellipse: s-maj=40.8km s-min=20.2km az=15.0*
*KRSC **18** 09:33:02.2±1.6,53°.88N×168°.94E,h41km±26km,Ml4.2*
*MOS **18** 09:33:03.7±1.0,53°.94N×169°.15E,h54km,mb3.8/1,Error ellipse: s-maj=14.0km s-min=7.1km az=11.7*

ISC 18 09:33:03.5±0.8,54°.06N±0°.08×169°.03E±0°.05,h25km,n69, σ2§29/61,mb4.0/5,MS3.8/3,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.11**	**304**	PN	**Pn**	**09 33 37.6**	**+0.4**
BKI				S	**Sn**	**09 34 02.1**	**-0.5**
BKI	**Bering**	**2.11**	**304**	*eP*	**Pn**	**09 33 37.6**	**+0.4**
BKI				*eS*	**Sn**	**09 34 02.1**	**-0.5**
SHEM	**Shemya Is, Ala**	**3.32**	**112**	Pn	**Pn**	**09 33 53.1**	**-0.6**
	11nm,0.3s,baz=57,slow=4.4,SNR=16						
SHEM				Sn	**Sn**	**09 34 33.0**	**+0.7**
	16nm,0.3s,baz=200,slow=22,SNR=9.2						
	31nm,0.4s						
SMY	**Shemya**	**3.32**	**112**	PN	**Pn**	**09 33 53.5**	**-0.2**
SMY				S	**Sn**	**09 34 32.3**	**0.0**
KBTR	**Krutoberegovo**	**4.16**	**304**	PN	**Pn**	**09 34 08.2**	**+2.9**
KBTR	**Krutoberegovo**	**4.16**	**304**	*eP*	**Pn**	**09 34 08.2**	**+2.9**
MKZ	**Mys Kozlova**	**4.30**	**280**	PN	**Pn**	**09 34 08.3**	**+1.1**
MKZ	**Mys Kozlova**	**4.30**	**280**	*eP*	**Pn**	**09 34 08.4**	**+1.1**
MKZ				*eS*	**Sn**	**09 34 54.3**	**-2.3**
SMKR	**Semkarok**	**5.00**	**303**	PN	**Pn**	**09 34 19.4**	**+2.5**
SMKR	**Semkarok**	**5.00**	**303**	*eP*	**Pn**	**09 34 19.5**	**+2.5**
TUMD	**Tumrok D**	**5.14**	**286**	PN	**Pn**	**09 34 20.8**	**+2.0**
TUMD	**Tumrok D**	**5.14**	**286**	*eP*	**Pn**	**09 34 20.8**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**5.15**	**295**	PN	Pn	09 34 24.0	+5.0
BZGR	**Bezymyannyi-Gr**	**5.15**	**295**	*eP*	Pn	09 34 24.1	+5.0
KIRR	**Kirishev**	**5.34**	**294**	PN	**Pn**	**09 34 25.6**	**+3.9**
KIRR	**Kirishev**	**5.34**	**294**	*eP*	**Pn**	**09 34 25.6**	**+3.9**
KPT	**Kopyto**	**5.41**	**294**	PN	**Pn**	**09 34 26.5**	**+3.9**
KPT	**Kopyto**	**5.41**	**294**	*eP*	**Pn**	**09 34 26.5**	**+3.9**
SPN	**Mys Shipunski**	**5.45**	**263**	PN	**Pn**	**09 34 24.5**	**+1.5**
SPN	**Mys Shipunski**	**5.45**	**263**	*eP*	**Pn**	**09 34 24.5**	**+1.5**
SPN				*eS*	**Sn**	**09 35 23.2**	**-1.7**
SRDR	**Sredinnyy**	**5.79**	**297**	PN	Pn	09 34 33.6	+5.9
SRDR	**Sredinnyy**	**5.79**	**297**	*eP*	Pn	09 34 33.7	+5.9
NLC	**Nalytchevo**	**5.83**	**265**	PN	**Pn**	**09 34 29.7**	**+1.4**
NLC	**Nalytchevo**	**5.83**	**265**	*eP*	**Pn**	**09 34 29.7**	**+1.4**
SDLR	**Sedlovina**	**6.08**	**267**	PN	**Pn**	**09 34 33.5**	**+1.7**
SDLR	**Sedlovina**	**6.08**	**267**	*eP*	**Pn**	**09 34 33.5**	**+1.7**
UGLR	**Uglovaya**	**6.13**	**266**	PN	**Pn**	**09 34 34.3**	**+1.8**
UGLR	**Uglovaya**	**6.13**	**266**	*eP*	**Pn**	**09 34 34.3**	**+1.8**
SMAR	**Somma**	**6.13**	**267**	PN	**Pn**	**09 34 34.4**	**+1.8**
SMAR	**Somma**	**6.13**	**267**	*eP*	**Pn**	**09 34 34.4**	**+1.8**
KRER	**Koryakskii**	**6.16**	**267**	PN	**Pn**	**09 34 35.0**	**+2.1**
KRER	**Koryakskii**	**6.16**	**267**	*eP*	**Pn**	**09 34 35.0**	**+2.1**
AVH	**Avacha**	**6.17**	**267**	PN	**Pn**	**09 34 35.4**	**+2.4**
AVH	**Avacha**	**6.17**	**267**	*eP*	**Pn**	**09 34 35.4**	**+2.4**
KRX	**Arik**	**6.20**	**268**	PN	**Pn**	**09 34 35.3**	**+1.8**
KRX	**Arik**	**6.20**	**268**	*eP*	**Pn**	**09 34 35.4**	**+1.8**
DALK	**Dalny**	**6.21**	**265**	PN	**Pn**	**09 34 35.9**	**+2.5**
DALK	**Dalny**	**6.21**	**265**	*eP*	**Pn**	**09 34 36.0**	**+2.5**
KOK	**Koryaka**	**6.22**	**267**	PN	**Pn**	**09 34 36.2**	**+2.4**
KOK	**Koryaka**	**6.22**	**267**	*eP*	**Pn**	**09 34 36.2**	**+2.4**
GNL	**Ganaly**	**6.57**	**271**	PN	**Pn**	**09 34 40.8**	**+2.4**
GNL	**Ganaly**	**6.57**	**271**	*eP*	**Pn**	**09 34 40.9**	**+2.4**
KRMR	**Karymshinskiy**	**6.63**	**264**	PN	**Pn**	**09 34 42.1**	**+3.0**
KRMR	**Karymshinskiy**	**6.63**	**264**	*eP*	**Pn**	**09 34 42.2**	**+3.0**
MTVR	**Mutnovka**	**6.70**	**261**	PN	**Pn**	**09 34 42.5**	**+2.2**
MTVR	**Mutnovka**	**6.70**	**261**	*eP*	**Pn**	**09 34 42.5**	**+2.2**
GRL	**Gorelyy**	**6.74**	**261**	PN	**Pn**	**09 34 44.5**	**+3.7**
GRL	**Gorelyy**	**6.74**	**261**	*eP*	**Pn**	**09 34 44.5**	**+3.7**
PEA0B	**Petropavlovsk-**	**6.81**	**267**	PN	**Pn**	**09 34 44.2**	**+2.4**
PETK	**Petropavlovsk-**	**6.81**	**267**	Pn	**Pn**	**09 34 43.6**	**+1.8**
	1.4nm,0.3s,baz=77,slow=18,SNR=104						
	2.2nm,0.4s						
ASAK	**Asacha**	**6.89**	**260**	PN	**Pn**	**09 34 45.5**	**+2.6**
ASAK	**Asacha**	**6.89**	**260**	*eP*	**Pn**	**09 34 45.5**	**+2.6**
APC	**Apacha**	**7.17**	**266**	PN	**Pn**	**09 34 49.7**	**+3.0**
APC	**Apacha**	**7.17**	**266**	*eP*	**Pn**	**09 34 49.7**	**+3.0**
MA2	**Magadan**	**11.41**	**306**	LR	LR	09 40 36.5	
	comp=Z,108nm,18.3s,baz=67,slow=40						
KDAK	**Kodiak Island**	**21.62**	**65**	P	**P**	**09 37 49.7**	**-1.7**
	5.1nm,0.7s,baz=268,slow=5.2,SNR=4.1						
	5.1nm,0.7s						
ILAR	**Eielson Array**	**24.31**	**46**	P	**P**	**09 38 16.2**	**-2.5**
	0.3nm,0.5s,baz=254,slow=7.6,SNR=7.2						
	0.3nm,0.5s						
JCJ	**Chichijima**	**33.40**	**227**	LR	LR	09 53 02.9	
	comp=Z,188nm,18.7s,baz=135,slow=36						
H11N2	**WAKE ISLAND Hy**	**34.31**	**184**	T	T	10 16 17.6	
	baz=2.0,slow=76,SNR=750						
H11N3	**WAKE ISLAND Hy**	**34.32**	**184**	T	T	10 16 18.0	
	baz=2.0,slow=76,SNR=529						
H11N1	**WAKE ISLAND Hy**	**34.33**	**184**	T	T	10 16 11.8	
	baz=2.0,slow=76,SNR=485						
H11S1	**WAKE ISLAND Hy**	**35.53**	**184**	T	T	10 17 50.6	
	baz=2.2,slow=76,SNR=181						
H11S3	**WAKE ISLAND Hy**	**35.55**	**184**	T	T	10 17 45.3	
	baz=2.2,slow=76,SNR=110						
H11S2	**WAKE ISLAND Hy**	**35.55**	**184**	T	T	10 17 51.8	
	baz=2.2,slow=76,SNR=196						
JOW	**Kunigami**	**40.39**	**244**	LR	LR	09 58 47.2	
	comp=Z,208nm,19.1s,baz=130,slow=38						
BVAR	**Borovoye Array**	**53.82**	**312**	P	**P**	**09 42 23.5**	**-0.2**
	0.7nm,0.4s,baz=46,slow=8.4,SNR=3.6						
	0.7nm,0.4s						
ARCES	**ARCESS Array B**	**53.88**	**345**	P	**P**	**09 42 23.2**	**-0.7**
	1.2nm,0.7s,baz=26,slow=8.1,SNR=6.2						
	1.2nm,0.7s						
DAV	**Davao City (W)**	**58.43**	**233**	LR	LR	10 06 24.3	
	comp=Z,33nm,19.2s,baz=178,slow=34						
TXAR	**Lajitas Array**	**65.30**	**74**	P	**P**	**09 43 43.6**	**+0.4**
	0.3nm,0.4s,baz=303,slow=5.5,SNR=7.9						
	0.3nm,0.4s						

NNC 18 09:54:08.8±6.4,36°.95N×71°.11E,h167km±80km,mb2.9, mpv3.7,3C-5D,Error ellipse: s-maj=60.7km s-min=42.8km az=47.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.16**	**356**	⇑P	Pn	09 55 38.9	+1.1
	2.3nm,0.3s,baz=161,slow=11,SNR=28						
KK31				⇑S	Sn	09 56 48.1	+0.4
	5.9nm,0.4s,baz=184,slow=20,SNR=21						
AAK	**Ala-Archa**	**6.25**	**24**	⇓P	Pn	09 55 38.9	-0.1
	2.2nm,0.4s						
AAK				⇓S	Sn	09 56 50.0	+0.1
	5.2nm,0.6s						
AB31	**Akbulak array**	**14.73**	**330**	⇓P	Pn	09 57 28.3	-0.7
	0.6nm,0.4s,baz=148,slow=12,SNR=16						
AB31				⇑S	Sn	10 00 10.9	-2.0
	0.8nm,0.5s,baz=156,slow=23,SNR=2.9						
AKTO	**Aktyubinsk**	**16.44**	**329**	⇓P	P	09 57 48.0	-1.5
	1.3nm,0.3s						
AKTO				⇓S	Sn	10 00 55.4	+1.8
	0.4nm,0.7s						

*IDC **18** 09:54:57.3±1.0,0°.06N×125°.51E,h0km,mb4.0/7, mbtmp4.0/8,ML3.2/1,Error ellipse: s-maj=124.7km s-min=15.7km az=67.0*
*DJA **18** 09:55:03.2±0.2,0°.N±2°×12°.6E±°,h10km,M4.0/13,mB5.3/1, mb4.3/5,MLv3.9/13,Mw(mB)4.7/1*
*NEIC **18** 09:55:06.2±2.4,0°.1N±0°.1×125°.80E±0°.06,h60km±8km, mb4.1/12,Error ellipse: s-maj=15.7km s-min=8.3km az=185.0*

ISC 18 09:55:04.7±0.7,0°.15N±0°.05×125°.78E±0°.04,h50km,n36, σ1§87/41,mb4.1/12,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.70**	**69**	P	**Pn**	**09 55 33.7**	**+1.7**
TNTI	**Ternate**	**1.70**	**69**	P	Pn	09 55 32.9	+0.9
TNTI				S	**Sn**	**09 55 56.1**	**+3.5**
KMSI	**Cibinong**	**1.85**	**283**	P	**Pn**	**09 55 32.7**	**-1.4**
KMSI				S	**Sn**	**09 55 58.8**	**+2.5**
SANI	**Sanana**	**2.19**	**175**	P	**Pn**	**09 55 40.0**	**+1.3**
SANI				S	**Sn**	**09 56 08.0**	**+3.4**
LUWI	**Luwuk**	**3.23**	**249**	P	Pn	09 55 55.4	+2.4
LUWI				S	**Sn**	**09 56 34.8**	**+4.5**
MRSI	**Marisa**	**3.86**	**275**	P	**Pn**	**09 56 02.8**	**+1.2**
MRSI				S	**Sn**	**09 56 48.1**	**+2.4**
APSI	**Ampana**	**4.27**	**256**	P	Pn	09 56 09.1	+1.9
TOLI2	**Tolitoli**	**5.09**	**281**		**Pn**	**09 56 20.4**	**+1.9**
MPSI	**Mapaga**	**5.89**	**272**	P	**Pn**	**09 56 32.2**	**+2.7**
FAKI	**Fak Fak**	**7.14**	**115**	Pn	**Pn**	**09 56 47.3**	**+0.6**
FAKI	**Fak Fak**	**7.14**	**115**	P	**Pn**	**09 56 47.3**	**+0.6**
	24nm,1.1s						
SPSI	**Siniap Palu**	**7.27**	**236**	P	**Pn**	**09 56 48.6**	**+0.2**
MTN	**Manton Dam**	**13.95**	**158**	Pn	**Pn**	**09 58 18.5**	**-1.4**
KNRA	**Kununurra**	**15.99**	**170**	P	**P**	**09 58 49.7**	**+0.4**
KNRA				IAmb	IAmb	09 59 12.0	
	comp=Z,14nm,1.3s						
FITZ	**Fitzroy Crossi**	**18.13**	**180**	P	**P**	**09 59 10.7**	**-2.1**
FITZ	**Fitzroy Crossi**	**18.13**	**180**	P	**P**	**09 59 09.3**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=12,slow=12,SNR=1.5						
	comp=Z,1.7nm,0.7s						
WB0	**Warramunga Arr**	**21.51**	**157**	P	**P**	**09 59 47.4**	**-2.3**
WB0				IAmb	IAmb	09 59 56.6	
	comp=Z,7.1nm,0.8s						
WRAB	**Tennant Creek**	**21.65**	**158**	P	**P**	**09 59 50.1**	**-1.0**
WRAB				IAmb	IAmb	10 00 33.5	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**21.65**	**158**	P	**P**	**09 59 48.8**	**-2.4**
WRA	**Warramunga Arr**	**21.65**	**158**	P	**P**	**09 59 48.9**	**-2.3**
	comp=Z,2.9nm,0.6s,baz=334,slow=11,SNR=30						
	comp=Z,2.9nm,0.6s						
WR8	**Warramunga Arr**	**21.73**	**157**	P	**P**	**09 59 49.9**	**-2.1**
WR8				IAmb	IAmb	10 00 16.5	
	comp=Z,8.3nm,1.1s						
COEN	**Coen**	**22.20**	**130**	P	**P**	**09 59 55.6**	**-1.5**
AS31	**Alice Springs**	**24.95**	**162**	P	**P**	**10 00 23.4**	**-0.3**
ASAR	**Alice Springs**	**24.95**	**162**	P	**P**	**10 00 23.5**	**-0.1**
ASAR	**Alice Springs**	**24.95**	**162**	P	**P**	**10 00 22.9**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=345,slow=7.9,SNR=61						
	comp=Z,2.3nm,0.5s						
BBOO	**Buckleboo**	**34.18**	**164**	P	**P**	**10 01 45.5**	**+0.1**
STKA	**Stephens Creek**	**35.19**	**156**	P	**P**	**10 01 54.2**	**+0.1**
STKA	**Stephens Creek**	**35.19**	**156**	P	**P**	**10 01 54.0**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=316,slow=8.3,SNR=11						
	comp=Z,1.8nm,0.5s						
SONM	**Songino Array**	**50.40**	**343**	P	**P**	**10 03 56.1**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=168,slow=7.4,SNR=2.0						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**59.98**	**327**	P	**P**	**10 05 06.1**	**-0.1**
MKAR	**Makanchi Array**	**59.98**	**327**	P	**P**	**10 05 05.1**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=121,slow=8.3,SNR=15						
	comp=Z,2.0nm,0.8s						
MAKZ	**Makanchi**	**60.16**	**327**	P	**P**	**10 05 06.8**	**-0.6**
MAKZ				IAmb	IAmb	10 05 09.4	
	comp=Z,1.6nm,0.7s						
ZALV	**Zalesovo Beam**	**63.36**	**334**	P	**P**	**10 05 28.1**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=126,slow=14,SNR=2.0						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**64.26**	**329**	P	**P**	**10 05 34.0**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=131,slow=6.6,SNR=9.8						
	comp=Z,1.5nm,0.7s						
KURK	**Kurchatov**	**64.27**	**329**	P	**P**	**10 05 35.5**	**+0.8**
KURK				IAmb	IAmb	10 05 37.5	
	comp=Z,3.0nm,0.8s						
ABKAR	**Akbulak array**	**74.33**	**322**	P	**P**	**10 06 37.1**	**+0.1**

*HEL **18** 10:00:49.3±0.0,64°.66N×30°.80E,h0km,ML1.6,Explosion Hypocentre not reviewed by the ISC*
*IDC **18** 10:00:51.4±2.4,64°.66N×30°.55E,h0km,mbtmp2.8/3, ML1.8/3,Error ellipse: s-maj=36.0km s-min=8.3km az=99.0*
*UPP **18** 10:00:52.4±2.8,64°.56N×30°.23E,h0km,ML1.6*
*KOLA **18** 10:00:54.4,64°.86N×30°.98E,h0km,ML2.0,Error ellipse: s-maj=25.5km s-min=9.3km az=160.0,Karelia*

ISC 18 10:00:47.3±1.0,64°.71N±0°.04×31°.03E±0°.07,h0km,n18, σ1§54/23,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.68**	**225**	*eP*		10 00 59.7	
RMF				*eS*		10 01 07.3	
KU1	**Kurvinen**	**1.06**	**325**	*eP*		10 01 07.9	
KU1				*eS*		10 01 21.6	
KU6	**Riekki**	**1.41**	**341**	*eP*		10 01 14.7	
KU6				*eS*		10 01 32.9	
MSF	**Maaselka**	**1.47**	**326**	*eP*		10 01 15.2	
MSF				*eS*		10 01 34.0	
KU2	**Taivalkoski**	**1.55**	**312**	*eP*		10 01 15.9	
KU2				*eS*		10 01 35.5	
OLKF	**Oulanka, Finla**	**1.76**	**338**	*eS*		10 01 43.2	
OLKF				MSG		10 01 46.9	
	comp=Z,3.3nm,0.1s						
JOF	**Joensuu**	**1.80**	**176**	*eP*	**Pb**	**10 01 20.9**	**-0.2**
JOF	**Joensuu**	**1.80**	**176**	*eP*		10 01 20.4	
JOF				*eS*		10 01 43.2	
JOF				MSG		10 01 48.8	
	comp=Z,2.6nm,0.1s						
NIF	**Nilsia**	**1.94**	**228**	*eP*		10 01 21.6	
NIF				*eS*		10 01 44.8	
NIF				MSG		10 01 48.0	
	comp=Z,4.5nm,0.1s						
KVDA	**Kovda**	**2.14**	**20**	P	**Pg**	**10 01 28.8**	**+0.6**
KVDA				S	**Sg**	**10 01 54.4**	**-1.5**
OUL	**Oulu**	**2.22**	**282**	*ePB*		10 01 26.8	
OUL				*eS*		10 01 53.0	
OUL				MSG		10 01 59.3	
	comp=Z,5.2nm,0.1s						
APA0	**Apatity Array**	**3.02**	**14**	P	**Pb**	**10 01 41.4**	**-0.5**
APA0				S	**Sb**	**10 02 17.6**	**-1.7**
APA	**Apatity**	**3.04**	**18**	S	**Sn**	**10 02 14.6**	**+1.2**
KALU	**Kalix**	**3.42**	**293**	P	**Pn**	**10 01 43.3**	**+1.5**
KALU				S	**Sn**	**10 02 23.7**	**+0.7**
KEF	**Keuruu**	**3.76**	**230**	*eP*	**Pn**	**10 01 47.3**	**+0.9**
FINES	**FINESS Array B**	**3.97**	**217**	Pn	**Pn**	**10 01 49.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=32,slow=15,SNR=5.1						
FINES				Pg	**Pb**	**10 01 59.4**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=31,slow=16,SNR=6.7						
FINES				Lg	Lg	10 02 51.4	
	comp=Z,1.0nm,0.3s,baz=32,slow=29,SNR=12						
	comp=Z,0.9nm,0.9s						
SJUU	**Sjulsmark**	**4.06**	**286**	P	**Pn**	**10 01 51.5**	**+0.9**
UMAU	**Umeaa**	**4.58**	**264**	P	**Pn**	**10 01 56.9**	**-0.9**
ARCES	**ARCESS Array B**	**5.31**	**339**	Pn	**Pn**	**10 02 09.4**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=156,slow=13,SNR=10						
ARCES				Sn	**Sn**	**10 03 07.4**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=162,slow=21,SNR=1.9						
ARCES				Lg	Lg	10 03 38.2	
	comp=Z,0.2nm,0.3s,baz=158,slow=34,SNR=2.9						
	comp=Z,0.6nm,0.5s						
ARCES	**ARCESS Array B**	**5.31**	**339**

N02D				IAML		10 06 07.2		
	comp=N,156nm,0.4s							
KSXB	**Camp Six Broad**	**1.60**	**17**		Pn	10 05 42.9	-2.5	
LBKM	**Bonanza King**	**1.60**	**60**		Pn	10 05 43.7	-1.7	
GGUM	**Gualala**	**1.64**	**151**		Pn	10 05 43.5	-2.3	
M02C	**Callahan**	**1.66**	**48**		Pn	10 05 44.4	-1.9	
GSNM	**Snow Mountain**	**1.69**	**143**		Pn	10 05 44.6	-2.0	
GHGM	**Hogback Ridge**	**1.74**	**132**		Pn	10 05 45.7	-1.6	
GCK	**Clark Valley**	**1.76**	**115**		Pn	10 05 46.7	-0.8	
LTCM	**Tuscan Springs**	**1.82**	**92**		Pn	10 05 47.4	-1.0	
GPMM	**Pine Mountain**	**1.88**	**140**		Pn	10 05 47.5	-1.7	
GCVM	**Cloverdale**	**1.91**	**142**		Pn	10 05 47.7	-1.9	
LSHM	**Sage Hen Hill**	**1.94**	**74**		Pn	10 05 48.9	-1.1	
LCSM	**College of the**	**1.95**	**54**		Pn	10 05 49.2	-1.0	
L02F	**Cave Junction**	**1.95**	**21**		Pn	10 05 48.1	-2.1	
L02F				IAML		10 06 12.0		
	comp=E,99nm,0.3s							
GRTM	**Round Top Moun**	**1.96**	**133**		Pn	10 05 49.2	-1.1	
GHCM	**House Creek**	**1.97**	**149**		Pn	10 05 48.4	-2.0	
YBH	**Yreka Blue Hor**	**1.97**	**43**		Pn	10 05 48.8	-1.7	
LGBM	**Gray Butte**	**2.04**	**58**		Pn	10 05 51.5	-0.1	
M03C	**McCloud**	**2.05**	**61**	IAML		10 06 19.6		
	comp=N,48nm,0.4s							
M03C				IAML		10 06 45.7		
	comp=E,49nm,1.5s							
O03E	**Paynes Creek**	**2.07**	**89**		Pn	10 05 50.1	-1.7	
O03E	**Paynes Creek**	**2.07**	**89**	IAML		10 06 29.9		
	comp=E,40nm,0.7s							
LDBM	**Digger Butte**	**2.08**	**85**		Pn	10 05 50.3	-1.7	
MNRC	**McLaughlin Min**	**2.13**	**131**		Pn	10 05 51.7	-0.9	
LMPM	**Military Pass**	**2.14**	**55**		Pn	10 05 52.7	-0.1	
LHEM	**Herd Peak**	**2.18**	**52**		Pn	10 05 52.8	-0.7	
B040	**Montague**	**2.20**	**45**		Pn	10 05 52.4	-1.1	
B040	**Montague**	**2.20**	**45**		Pn	10 05 52.4	-1.1	
LBFM	**Black Fox Moun**	**2.24**	**61**		Pn	10 05 53.6	-0.7	
OSUM	**Sutter Buttes**	**2.29**	**116**		Pn	10 05 52.7	-2.0	
LCMM	**Colby Mountain**	**2.29**	**93**		Pn	10 05 53.9	-1.1	
HATC	**Hat Creek Radi**	**2.37**	**76**		Pn	10 05 55.5	-0.5	
HATC	**Hat Creek Radi**	**2.37**	**76**	IAML		10 06 55.5		
	comp=N,44nm,1.6s							
HATC				IAML		10 07 02.5		
	comp=E,50nm,2.0s							
LTIM	**Timbered Crate**	**2.45**	**68**		Pn	10 05 56.2	-0.9	
K02D	**Willamette Mer**	**2.48**	**14**		Pn	10 05 57.1	-0.3	
K02D				IAML		10 06 23.6		
	comp=N,53nm,0.3s							
M04C	**Macdoel**	**2.50**	**53**		Pn	10 05 57.0	-0.8	
LMHM	**Little Mount H**	**2.51**	**58**		Pn	10 05 57.0	-0.9	
L04D	**Klamath Falls**	**2.54**	**40**		Pn	10 05 58.2	-0.1	
L04D				IAML		10 06 30.8		
	comp=E,34nm,0.6s							
NPRM	**Point Reyes**	**2.57**	**153**		Pn	10 05 56.8	-1.9	
NOLM	**Olema**	**2.62**	**149**		Pn	10 05 57.3	-1.9	
FARB	**Farallon Islan**	**2.85**	**155**	IAML		10 06 55.7		
	comp=E,39nm,2.1s							
BBOR	**Butler Butte**	**2.93**	**27**		Pn	10 06 03.9	+0.2	
BBOR				IAML		10 06 40.5		
	comp=E,28nm,0.4s							
BBOR				IAML		10 06 41.6		
	comp=N,21nm,0.5s							
SAC	**San Andreas**	**3.16**	**148**		Pn	10 06 04.7	-2.0	
BEKR	**Beckworth**	**3.21**	**96**		Pn	10 06 07.7	+0.1	
BEKR				IAML		10 06 48.2		
	comp=E,16nm,0.8s							
JFP	**Foothills Park**	**3.44**	**148**		Pn	10 06 08.7	-2.0	
JSJM	**St Joseph**	**3.51**	**147**		Pn	10 06 10.1	-1.4	
MPK	**Martis Peak**	**3.59**	**105**		Pn	10 06 14.5	+1.6	
MPK				IAML		10 06 57.8		
	comp=N,19nm,0.9s							
MPK				IAML		10 07 05.2		
	comp=E,20nm,0.9s							
K05A	**Summer Lake**	**3.64**	**47**		Pn	10 06 12.8	-0.7	
J05D	**Fort Rock, OR**	**3.86**	**38**		Pn	10 06 16.3	-0.1	
J05D				IAML		10 07 41.9		
	comp=E,14nm,3.8s							
J05D				IAML		10 07 58.9		
	comp=N,9.4nm,4.0s							

*IDC **18** 10:16:22.1±1.5,31°.31S×177°.56W,h0km,mb4.0/3, mbtmp4.1/5,ML3.9/2,MS3.6/3,Error ellipse: s-maj=41.6km s-min=23.9km az=114.0*

ISC 18 10:16:24.7±1.2,31°39S±0°.07×177°.6W±0°.2,h26km,n29, σ1§79/36,mb4.0/3,MS3.6/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.16**	**352**	Pn	**Pn**	**10 16 58.1**	**-0.8**
	118nm,0.3s,baz=78,slow=12,SNR=5.3						
RAO				Sn	**Sb**	**10 17 25.3**	**-4.0**
	189nm,0.3s,baz=94,slow=21,SNR=3.9						
	346nm,0.2s						
RAO	**Raoul Island**	**2.16**	**352**	P	**Pn**	**10 16 58.4**	**-0.5**
WMGZ	**Waiomatatini S**	**7.22**	**206**	P	**Pn**	**10 18 07.1**	**-1.3**
WMGZ				S	**Sn**	**10 19 29.1**	**-0.4**
PKGZ	**Pakihiroa**	**7.39**	**208**	P	**Pn**	**10 18 09.2**	**-1.6**
PKGZ				S	**Sn**	**10 19 33.8**	**0.0**
HAZ	**Te Kaha**	**7.42**	**210**	P	**Pn**	**10 18 10.5**	**-0.7**
HAZ				S	**Sn**	**10 19 35.3**	**+0.8**
PUZ	**Puketiti**	**7.50**	**206**	P	**Pn**	**10 18 08.9**	**-3.4**
PUZ				S	**Sn**	**10 19 36.5**	**0.0**
RUGZ	**Raukumara Rang**	**7.64**	**210**	P	**Pn**	**10 18 12.9**	**-1.4**
RUGZ				S	**Sn**	**10 19 40.3**	**+0.2**
TWGZ	**Tauwhareparae**	**7.70**	**207**	P	**Pn**	**10 18 12.3**	**-2.8**
TWGZ				S	**Sn**	**10 19 41.0**	**-0.5**
CNGZ	**Carnagh Statio**	**7.88**	**205**	P	**Pn**	**10 18 14.8**	**-2.7**
TKGZ	**Te Karaka**	**7.98**	**207**	S	**Sn**	**10 19 46.5**	**-1.7**
WCZ	**Waipu Caves**	**8.13**	**234**	P	Pn	10 18 28.0	+7.0
URZ	**Urewera**	**8.13**	**211**	Pn	**Pn**	**10 18 21.9**	**+1.0**
	0.6nm,0.3s,baz=246,slow=4.6,SNR=8.3						
URZ				Sn	**Sn**	**10 19 50.9**	**-1.1**
	3.1nm,0.3s,baz=80,slow=24,SNR=6.6						
	6.6nm,0.8s						
ABAZ	**Army Bay**	**8.18**	**229**	P	**Pn**	**10 18 20.3**	**-1.3**
RIGZ	**Rimuhau**	**8.24**	**206**	S	**Sn**	**10 19 53.3**	**-1.5**
OUZ	**Omahuta**	**8.33**	**240**	P	Pn	10 18 29.7	+6.0
PRGZ	**Paritu Road**	**8.39**	**205**	S	**Sn**	**10 19 56.1**	**-2.3**
MUGZ	**Murupara**	**8.46**	**212**	S	**Sn**	**10 19 57.8**	**-2.4**
SNGZ	**Shannon Statio**	**8.47**	**208**	P	**Pn**	**10 18 23.5**	**-2.2**
SNGZ				S	**Sn**	**10 19 59.5**	**-0.9**
MHGZ	**Mahia Peninsul**	**8.58**	**204**	P	**Pn**	**10 18 25.1**	**-2.1**
MHGZ				S	**Sn**	**10 20 00.7**	**-2.4**
STKA	**Stephens Creek**	**34.63**	**258**	P	**P**	**10 23 13.3**	**+1.4**
	0.8nm,0.4s,baz=4.9,slow=1.6,SNR=1.2						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**43.44**	**268**	P	**P**	**10 24 27.4**	**+1.7**
	1.8nm,0.7s,baz=104,slow=7.3,SNR=40						
ASAR				PcP	**PcP**	**10 26 15.2**	**+1.5**
	0.2nm,0.4s,baz=123,slow=3.7,SNR=1.9						
ASAR				LR	LR	10 41 01.5	
	comp=Z,72nm,20.0s,baz=296,slow=34						
	1.8nm,0.7s						
WRA	**Warramunga Arr**	**44.52**	**273**	P	**P**	**10 24 35.4**	**+1.1**
	1.8nm,0.6s,baz=112,slow=7.9,SNR=46						
	1.8nm,0.6s						
DAV	**Davao City (W)**	**66.38**	**295**	LR	LR	10 52 31.4	
	comp=Z,54nm,21.9s,baz=166,slow=33						
NVAR	**Mina Array Bea**	**88.71**	**42**	LR	LR	11 00 54.1	
	comp=Z,24nm,19.7s,baz=76,slow=30						
KURBB	**Kurchatov Arra**	**122.04**	**313**	PKP	**PKiKP**	**10 35 18.3**	**+1.8**
	0.2nm,0.2s,baz=118,slow=1.8,SNR=1.8						
FINES	**FINESS Array B**	**146.20**	**340**	PKPbc	**PKPab**	**10 36 02.8**	**+0.2**
	2.0nm,0.4s,baz=55,slow=4.0,SNR=22						
HFS	**Hagfors**	**150.29**	**349**	PKPbc	**PKiKP**	**10 36 14.5**	**+0.9**
	1.0nm,0.6s,baz=94,slow=4.8,SNR=5.0						
AKASG	**Malin Array Be**	**152.31**	**322**	PKPbc	**PKiKP**	**10 36 17.4**	**-0.6**
	0.2nm,0.3s,baz=58,slow=1.1,SNR=1.4						
BRTR	**Keskin Array B**	**153.39**	**297**	PKPbc	**PKiKP**	**10 36 23.1**	**+2.3**
	0.6nm,0.8s,baz=104,slow=3.6,SNR=1.8						

*ISN **18** 10:44:33.3±0.8,34°.72N×45°.56E,h14km±28km,ML2.5*
*TEH **18** 10:44:33.1,34°.75N×45°.55E,h10km±155km*

ISC 18 10:44:33.8±1.1,34°.72N±0°.05×45°.57E±0°.04,h18km,n9, σ0§52/13,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.22**	**176**	Pg	**Pg**	**10 44 38.6**	**-0.3**
KGS1				Sg	**Sg**	**10 44 42.7**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.67**	**155**	Pg	**Pb**	**10 44 46.5**	**-0.5**
IDHR	**Dehrash**	**0.67**	**92**	Pg	**Pb**	**10 44 46.6**	**-0.5**
IGHG	**Ghaleghazi**	**0.91**	**115**	Sg	**Sn**	**10 45 05.4**	**+0.6**
IKRK	**Kirkuk**	**1.22**	**304**	*e*Pg	**Pb**	**10 44 56.0**	**-0.2**
IKRK				*e*Sg	**Sn**	**10 45 12.0**	**+0.1**
IKRK				AML	AML	10 45 25.2	
	comp=E,22nm,0.9s						
IKRK				AML	AML	10 45 26.0	
	comp=N,23nm,0.8s						
ILBA	**Ilam Banvizeh**	**1.22**	**154**	Pg	**Pb**	**10 44 56.5**	**+0.2**
IBDR	**Badra**	**1.64**	**169**	*e*Pn	**Pb**	**10 45 03.0**	**-0.4**
IBDR				*e*Sn	**Sg**	**10 45 26.0**	**-0.5**
IBDR				AML	AML	10 45 38.5	
	comp=N,13nm,0.8s						
SNQR	**Sonqor, Kerman**	**1.70**	**85**	Pg	**Pg**	**10 45 06.6**	**+0.1**
BHD	**Baghdad**	**1.75**	**215**	*e*Pn	**Pb**	**10 45 05.0**	**-0.4**
BHD				*e*Sn	**Sb**	**10 45 28.0**	**+0.9**

*SOME **18** 10:45:22.7,40°.17N×74°.83E,h10km*
*KRNET **18** 10:45:25.7±0.1,40°.17N×74°.51E,h13km,mb3.4*
*NNC **18** 10:45:28.8±2.6,40°.35N×74°.58E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=20.4km s-min=10.2km az=169.0*

ISC 18 10:45:22.2±1.0,40°08N±0°.04×74°56E±0°.03,h10km,n49, σ1§60/80,35C-17D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.81**	**266**	⇑*i*P	**Pn**	**10 45 40.8**	**+0.8**
SFK				⇑*i*S	**Sn**	**10 45 51.6**	**-0.6**
SALK	**Salom-Alik**	**0.98**	**325**	⇑*i*P	**Pn**	**10 45 42.4**	**+0.2**
SALK				⇑*i*S	**Sb**	**10 45 54.7**	**+0.2**
OHH	**Osh**	**1.43**	**289**	⇓*e*P	**Pg**	**10 45 50.8**	**+1.2**
OHH				⇓*e*S	**Sg**	**10 46 09.4**	**+1.3**
ARSB	**Arslanbob**	**1.73**	**317**	⇑*e*P	**Pg**	**10 45 55.9**	**+0.6**
ARSB				⇑*e*S	**Sg**	**10 46 18.6**	**+0.9**
UCH	**Uchtor**	**2.15**	**359**	P	**Pg**	**10 46 03.0**	**-0.3**
	SNR=133						
UCH	**Uchtor**	**2.15**	**359**	⇓*i*P	**Pg**	**10 46 02.6**	**-0.8**
UCH				⇓*i*S	**Sg**	**10 46 29.5**	**-1.7**
DRK	**Karamyk**	**2.21**	**255**	⇓*e*P	**Pg**	**10 46 04.3**	**-0.3**
DRK				⇑*e*S	**Sg**	**10 46 32.9**	**-0.3**
ULHL	**Ulahol**	**2.51**	**30**	P	**Pg**	**10 46 10.0**	**-0.3**
	SNR=28						
ULHL	**Ulahol**	**2.51**	**30**	⇓*i*P	**Pb**	**10 46 07.9**	**+0.4**
ULHL				⇓*i*S	**Sb**	**10 46 38.7**	**+0.2**
AAK	**Ala-Archa**	**2.56**	**359**	P	**Pg**	**10 46 10.8**	**-0.4**
	SNR=17						
AAK	**Ala-Archa**	**2.56**	**359**	⇑Pn	**Pg**	**10 46 10.4**	**-0.7**
	17nm,0.7s						
AAK				⇑Lg	Lg	10 46 43.8	
	19nm,0.7s						
AAK	**Ala-Archa**	**2.56**	**359**	⇓*i*P	**Pb**	**10 46 08.1**	**-0.1**
AAK				⇓*i*S	**Sb**	**10 46 39.0**	**-0.8**
KBK	**Karagaybulak**	**2.59**	**6**	P	**Pg**	**10 46 11.5**	**-0.3**
	SNR=8.7						
KBK	**Karagaybulak**	**2.59**	**6**	⇑*i*P	**Pb**	**10 46 08.7**	**-0.2**
KBK				⇑*i*S	**Sb**	**10 46 40.0**	**-0.8**
ARK	**Arkit**	**2.61**	**312**	⇑*i*P	**Pb**	**10 46 08.8**	**-0.3**
ARK				⇑*i*S	**Sb**	**10 46 40.3**	**-1.0**
BOOM	**Boomskoye usch**	**2.62**	**23**	⇑*i*P	**Pb**	**10 46 09.4**	**0.0**
BOOM				⇑*i*S	**Sb**	**10 46 41.3**	**-0.4**
EKS2	**Erkin-Say**	**2.65**	**347**	P	**Pg**	**10 46 12.1**	**-0.8**
	SNR=9.9						
EKS2	**Erkin-Say**	**2.65**	**347**	⇑*i*P	**Pb**	**10 46 09.1**	**-0.7**
EKS2				⇑*i*S	**Sb**	**10 46 41.0**	**-1.3**
FRU1	**Bishkek**	**2.73**	**1**	⇑*i*P	**Pb**	**10 46 10.7**	**-0.4**
FRU1				⇑*i*S	**Sb**	**10 46 43.7**	**-1.0**
MRKS	**Merke**	**2.84**	**340**	Pg	**Pg**	**10 46 15.8**	**-0.9**
	8.4nm,0.4s						
MRKS				Lg	Lg	10 46 52.5	
	43nm,0.3s						
MRKS	**Merke**	**2.84**	**340**	*e*P	**Pg**	**10 46 14.8**	**-1.9**
	8.4nm,0.2s						
MRKS				*e*S	**Sg**	**10 46 52.5**	**-1.0**
	43nm,0.3s						
KDJ	**Kajisay**	**2.85**	**43**	⇑*i*P	**Pb**	**10 46 13.2**	**-0.1**
KDJ				⇑*i*S	**Sb**	**10 46 47.7**	**-0.5**
MNAS	**Manas**	**2.86**	**328**	⇓*i*P	**Pb**	**10 46 12.3**	**-1.1**
MNAS				⇓*i*S	**Sb**	**10 46 46.3**	**-2.2**
BTK	**Batken**	**2.87**	**271**	⇓*i*P	**Pb**	**10 46 13.3**	**-0.3**
BTK				⇓*i*S	**Sb**	**10 46 47.9**	**-0.9**
CHMS	**Chumysh**	**2.92**	**3**	⇑*i*P	**Pb**	**10 46 13.2**	**-1.2**
CHMS				⇑*i*S	**Sb**	**10 46 47.7**	**-2.4**
TKM2	**Tokmak 2**	**2.94**	**15**	P	**Pg**	**10 46 16.2**	**-2.4**
	SNR=39						
TKM2	**Tokmak 2**	**2.94**	**15**	⇑*i*P	**Pb**	**10 46 13.8**	**-1.1**
TKM2				⇑*i*S	**Sb**	**10 46 48.9**	**-2.1**
TARG	**Taragay, Kyrgy**	**2.96**	**55**	⇑*e*P	**Pb**	**10 46 14.8**	**-0.5**
TARG				⇑*i*S	**Sb**	**10 46 50.8**	**-0.9**
TRKS	**Terek-Say**	**2.97**	**300**	⇓*i*P	**Pb**	**10 46 13.4**	**-1.9**
TRKS				⇓*i*S	**Sn**	**10 46 48.2**	**+2.8**
KST	**Kastek**	**3.14**	**19**	Pg	**Pb**	**10 46 18.5**	**+0.3**
	3.0nm,0.2s						
KST				Lg	Lg	10 46 57.7	
	8.6nm,0.3s						
KST	**Kastek**	**3.14**	**19**	*e*P	**Pb**	**10 46 17.7**	**-0.5**
	3.3nm,0.2s						
KST				*e*S	**Sb**	**10 46 57.5**	**+0.9**
	51nm,0.4s						
USP	**Ospenovka**	**3.18**	**359**	P	**Pg**	**10 46 21.8**	**-1.5**
	SNR=8.6						
USP	**Ospenovka**	**3.18**	**359**	⇑*i*P	**Pb**	**10 46 16.8**	**-2.1**
USP				⇑*i*S	**Sb**	**10 46 54.1**	**-3.7**
DGS	**Degeres**	**3.29**	**16**	Pg	**Pb**	**10 46 20.4**	**-0.3**
	6.8nm,0.3s						
DGS				Lg	Lg	10 47 01.8	
	13nm,0.7s						
MTBS	**Maitube**	**3.35**	**24**	Pg	**Pg**	**10 46 23.9**	**-2.6**
	6.9nm,0.5s						
MTBS				Lg	Lg	10 47 07.6	
	41nm,0.4s						
MTBS	**Maitube**	**3.35**	**24**	*e*P	**Pb**	**10 46 21.1**	**-0.7**
	2.0nm,0.1s						
MTBS				*e*S	**Sb**	**10 47 03.3**	**+0.6**
	41nm,0.4s						
GAR	**Garm**	**3.45**	**253**	⇑*i*P	**Pb**	**10 46 21.7**	**-1.8**
GAR				⇑*i*S	**Sb**	**10 47 02.7**	**-2.9**
TNSS	**Tian-Shan**	**3.46**	**30**	*e*P	**Pb**	**10 46 22.9**	**-0.8**
	0.6nm,0.2s						
TNSS				*e*S	**Sb**	**10 47 06.4**	**+0.5**
	5.5nm,0.7s						
KOTS	**Kotyrbulak**	**3.69**	**30**	Pg	**Pg**	**10 46 31.0**	**-1.8**
	6.2nm,0.2s						
KOTS				Lg	Lg	10 47 19.0	
	97nm,0.6s						
KOTS	**Kotyrbulak**	**3.69**	**30**	*e*P	**Pb**	**10 46 26.7**	**-0.8**
	4.2nm,0.2s						
KOTS				*e*S	**Sb**	**10 47 13.0**	**+0.7**
	97nm,0.6s						
KTBS	**Karatobe**	**3.96**	**23**	Pg	**Pg**	**10 46 35.4**	**-2.6**
	3.9nm,0.3s						
KTBS				Lg	Lg	10 47 26.5	
	36nm,0.4s						
IUG	**Iuzhnay**	**4.00**	**303**	Pg	**Pb**	**10 46 34.2**	**+1.4**
	12nm,0.0s						
IUG				Lg	Lg	10 47 24.9	
	18nm,0.6s						
KUU	**Kurty**	**4.03**	**19**	Pg	**Pg**	**10 46 36.3**	**-3.1**
	2.4nm,0.1s						
KUU				Lg	Lg	10 47 28.0	
	14nm,0.2s						
KUU	**Kurty**	**4.03**	**19**	*e*P	**Pb**	**10 46 34.4**	**+1.0**
	4.0nm,0.1s						
KUU				*e*S	**Sb**	**10 47 25.9**	**+3.7**
	11nm,0.1s						
CHKK	**Chushkaly**	**4.18**	**25**	*e*P	**Pb**	**10 46 36.6**	**+0.8**
	0.4nm,0.1s						
CHKK				*e*S	**Sb**	**10 47 29.8**	**+3.3**
	2.3nm,0.1s						
KK31	**Karatay Array**	**4.28**	**316**	⇑Pn	Pn	10 46 32.2	+4.7
	0.3nm,0.3s,baz=0.0,slow=0.1,SNR=7.2						
KK31				⇓Pg	**Pg**	**10 46 43.8**	**-0.4**
	1.6nm,0.5s,baz=134,slow=15,SNR=11						
KK31				⇓Sn	**Sn**	**10 47 22.9**	**+5.4**
	1.2nm,0.3s						
KK31				⇓Lg	Lg	10 47 39.6	
	3.6nm,0.4s,baz=135,slow=28,SNR=4.4						
BRLS	**Boroldoy**	**4.61**	**311**	Pg	**Pb**	**10 46 46.0**	**+2.8**
	0.6nm,0.2s						
BRLS				Lg	Lg	10 47 45.0	
	4.7nm,0.7s						
BRLS	**Boroldoy**	**4.61**	**311**	*e*P	**Pg**	**10 46 48.1**	**-2.4**
	0.9nm,0.1s						
BRLS				*e*S	**Sg**	**10 47 49.7**	**-0.5**
	5.3nm,0.2s						
PDGK	**Podgornoye**	**4.92**	**47**	⇑Pg	**Pg**	**10 46 57.5**	**+1.2**
	2.5nm,0.5s						
PDGK				⇑Lg	Lg	10 47 59.9	
	12nm,0.9s						

*IDC **18** 10:46:03.6±0.9,0°.24N×126°.12E,h0km,mb3.9/9, mbtmp3.9/9,Error ellipse: s-maj=56.4km s-min=17.9km az=71.0*
*DJA **18** 10:46:06.9±0.3,0°.N±2°×12°6E±°,h10km,M3.5/7,MLv3.5/7*
*NEIC **18** 10:46:10.6±1.6,0°.3N±0°.1×126°.21E±0°.05,h46km±10km, mb4.2/9,Error ellipse: s-maj=15.5km s-min=6.7km az=172.0*

ISC 18 10:46:09.7±0.6,0°28N±0°.06×126°24E±0°.07,h44km,n26, σ0§62/28,mb4.0/13,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.23**	**66**		**Pn**	**10 46 31.1**	**+0.8**
TNTI	**Ternate**	**1.23**	**66**	P	**Pn**	**10 46 30.0**	**-0.4**
TNTI				S	**Sn**	**10 46 45.4**	**-0.4**
SANI	**Sanana**	**2.33**	**186**	P	**Pn**	**10 46 45.7**	**+0.2**
SANI				S	**Sn**	**10 47 13.3**	**+0.4**
TOLI2	**Tolitoli**	**5.52**	**279**	Pn	**Pn**	**10 47 29.4**	**0.0**
KNRA	**Kununurra**	**16.05**	**171**	Pn	**Pn**	**10 49 53.2**	**+0.7**
KNRA				IAmb	IAmb	10 50 01.9	
	comp=Z,28nm,1.4s						
WB0	**Warramunga Arr**	**21.46**	**159**	P	**P**	**10 50 54.2**	**-0.4**
WB0				IAmb	IAmb	10 51 06.7	
	comp=Z,7.7nm,0.8s						
WRAB	**Tennant Creek**	**21.60**	**159**	P	**P**	**10 50 56.4**	**+0.3**
WRAB				IAmb	IAmb	10 51 14.5	
	comp=Z,14nm,1.2s						
WRA	**Warramunga Arr**	**21.61**	**159**	P	**P**	**10 50 55.5**	**-0.6**
WRA	**Warramunga Arr**	**21.61**	**159**	P	**P**	**10 50 54.9**	**-1.2**
	comp=Z,3.0nm,0.7s,baz=338,slow=11,SNR=30						
	comp=Z,3.0nm,0.7s						
WR8	**Warramunga Arr**	**21.68**	**159**	P	**P**	**10 50 56.3**	**-0.5**
WR8				IAmb	IAmb	10 51 03.9	
	comp=Z,19nm,1.3s						
AS31	**Alice Springs**	**24.94**	**163**	P	**P**	**10 51 29.5**	**+0.4**
ASAR	**Alice Springs**	**24.94**	**163**	P	**P**	**10 51 30.4**	**+1.3**
ASAR	**Alice Springs**	**24.94**	**163**	P	**P**	**10 51 29.2**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=342,slow=11,SNR=46						
	comp=Z,1.8nm,0.5s						
FORT	**Forrest**	**30.93**	**177**	P	**P**	**10 52 22.4**	**-0.2**
KSRS	**Korea Array**	**37.02**	**2**	P	**P**	**10 53 16.6**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=180,slow=9.2,SNR=5.1						
	comp=Z,1.1nm,0.8s						
SONM	**Songino Array**	**50.41**	**343**	P	**P**	**10 55 01.8**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=166,slow=9.6,SNR=5.8						
	comp=Z,1.2nm,0.8s						
PETK	**Petropavlovsk-**	**58.79**	**22**	P	**P**	**10 56 03.5**	**+0.1**
PETK	**Petropavlovsk-**	**58.79**	**22**	P	**P**	**10 56 03.4**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=198,slow=2.8,SNR=4.1						
	comp=Z,1.1nm,0.5s						
MKAR	**Makanchi Array**	**60.12**	**327**		**P**	**10 56 12.6**	**-0.2**
MKAR	**Makanchi Array**	**60.12**	**327**	P	**P**	**10 56 12.4**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=116,slow=8.2,SNR=11						
	comp=Z,1.6nm,0.7s						
ZALV	**Zalesovo Beam**	**63.44**	**334**	P	**P**	**10 56 35.2**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=113,slow=3.3,SNR=3.7						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**64.39**	**328**	P	**P**	**10 56 41.2**	**0.0**
	comp=Z,1.3nm,0.8s,baz=132,slow=6.3,SNR=7.5						
	comp=Z,1.3nm,0.8s						
KURK	**Kurchatov**	**64.39**	**329**		**P**	**10 56 40.6**	**-0.6**
KKAR	**Karatay Array**	**65.44**	**318**	P	**P**	**10 56 48.4**	**+0.2**
BVAR	**Borovoye Array**	**69.95**	**328**	P	**P**	**10 57 16.8**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=106,slow=8.1,SNR=2.2						
	comp=Z,0.7nm,0.4s						
QSPA	**South Pole Qui**	**90.21**	**180**	P	**P**	**10 59 05.3**	**-0.1**
QSPA				IAmb	IAmb	10 59 05.4	
	comp=Z,1.4nm,0.9s						

*IDC **18** 10:53:32.4±1.6,29°.97N×140°.74E,h71km±16km,mb3.3/11, mbtmp3.6/13,MS2.9/3,Error ellipse: s-maj=21.7km s-min=10.8km az=71.0*
*JMA **18** 10:53:35.2±0.2,30°N±1°×14°1E±°,h85km,MV4.2/20, NEAR TORISHIMA IS*

ISC 18 10:53:32.9±0.7,30°11N±0°.06×140°9E±0°.1,h78km,n29, σ1§70/25,mb3.7/11,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**3.09**	**343**	*e*P	**Pn**	**10 54 19.3**	**-0.1

MBWA				S		**Sn**	11 21 12.2	+2.5
MBWA	**Marble Bar**	**2.86**	**193**	P		**Pn**	11 20 37.8	+2.6
PSAC1	**Pilbara Seismi**	**3.21**	**190**	P		**Pn**	11 20 42.3	+2.2
PSAC1				S		**Sn**	11 21 19.9	+1.5
PSA00	**Pilbara Seismi**	**3.24**	**189**	P		**Pn**	11 20 43.0	+2.5
PSA00				S		**Sn**	11 21 20.4	+1.3
PSA00	**Pilbara Seismi**	**3.24**	**189**	P		**Pn**	11 20 43.4	+2.9
FITZ	**Fitzroy Crossi**	**4.97**	**88**	P		**Pn**	11 21 07.2	+3.0
FITZ	**Fitzroy Crossi**	**4.97**	**88**	S		**Sn**	11 22 01.3	-0.4
GIRL	**Giralia**	**7.20**	**233**	P		**Pn**	11 21 35.8	+1.0
GIRL				S		**Sn**	11 22 52.1	-4.6
MEEK	**Meekatharra**	**8.41**	**191**	P		**Pn**	11 21 53.0	+1.6
	comp=Z,11nm,2.0s,comp=Z,0.1nm							
MEEK	**Meekatharra**	**8.41**	**191**	S		**Sn**	11 23 22.8	-3.7
MEEK	**Meekatharra**	**8.41**	**191**	P		**Pn**	11 21 53.0	+1.6
KNRA	**Kununurra**	**8.41**	**73**	P		**Pn**	11 21 53.3	+1.8
	comp=Z,12nm,1.7s,comp=Z,0.1nm							
KNRA				S		**Sn**	11 23 24.6	-2.1
CVQOZ	**Cooralya Stati**	**8.46**	**223**	P		**Pn**	11 21 53.3	+1.1
CVQOZ				S		Sn	11 23 20.6	-7.1
WRKA	**Warakurna**	**9.88**	**134**	P		**Pn**	11 22 13.2	+1.4
	comp=Z,4.1nm,2.4s,comp=Z,0.0nm							
WRKA				S		**Sn**	11 24 03.3	+0.5
MORW	**Morawa**	**11.39**	**200**	P		**Pn**	11 22 31.9	-0.4
	comp=Z,7.9nm,1.5s							
MORW	**Morawa**	**11.39**	**200**	S		Sn	11 24 30.8	-8.9
MORW	**Morawa**	**11.39**	**200**	P		**Pn**	11 22 32.5	+0.2
MTN	**Manton Dam**	**11.68**	**64**	P		**Pn**	11 22 40.6	+4.2
	comp=Z,20nm,1.8s							
MTN	**Manton Dam**	**11.68**	**64**	S		**Sn**	11 24 41.2	-5.8
MTN	**Manton Dam**	**11.68**	**64**	P		Pn	11 22 42.8	+6.4
BLDU	**Ballidu**	**12.66**	**195**	P		**Pn**	11 22 49.8	+0.1
	comp=Z,15nm,2.0s							
BLDU	**Ballidu**	**12.66**	**195**	S		Sn	11 25 00.7	-10
BLDU	**Ballidu**	**12.66**	**195**	P		**Pn**	11 22 51.1	+1.4
KLBR	**Kellerberrin**	**13.39**	**190**	P		**Pn**	11 23 00.1	+0.4
	comp=Z,14nm,1.5s							
KLBR	**Kellerberrin**	**13.39**	**190**	S		Sn	11 25 19.3	-9.4
KLBR	**Kellerberrin**	**13.39**	**190**	P		**Pn**	11 23 00.9	+1.2
AS01	**Alice Springs**	**13.69**	**115**	P		**P**	11 23 13.4	+0.7
	comp=Z,2.2nm,1.3s							
MUN	**Mundaring**	**14.08**	**195**	P		**Pn**	11 23 09.0	-0.1
	comp=Z,20nm,2.6s							
MUN	**Mundaring**	**14.08**	**195**	S		Sn	11 25 37.0	-8.6
FORT	**Forrest**	**14.18**	**152**	P		**Pn**	11 23 10.1	-0.3
	comp=Z,5.9nm,1.4s							
FORT				S		**Sn**	11 25 44.2	-3.6

IDC 18 11:31:29.0±2.4, 23°.57N×94°.02E, h0km, mb3.4/4, mbtmp3.4/4, MS3.8/1, Error ellipse: s-maj=104.0km s-min=25.2km az=69.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**25.02**	**341**	P		P	11 36 54.6	-0.1
	0.2nm,0.5s,baz=141,slow=7.1,SNR=1.7 0.2nm,0.5s							
SONM	**Songino Array**	**26.15**	**19**	P		P	11 37 05.2	+0.1
	0.6nm,0.5s,baz=209,slow=7.7,SNR=2.1 0.6nm,0.5s							
GUMO	**Guam**	**48.99**	**92**	LR		LR	11 58 07.3	
	comp=Z,121nm,21.7s,baz=154,slow=33							
WRA	**Warramunga Ar**	**58.44**	**134**	P		P	11 41 26.8	-0.2
	1.0nm,1.2s,baz=319,slow=7.1,SNR=8.3 1.0nm,1.2s							
ASAR	**Alice Springs**	**60.86**	**138**	P		P	11 41 43.7	0.0
	0.3nm,0.5s,baz=319,slow=6.7,SNR=14 0.3nm,0.5s							

NOU 18 11:40:33.1, 14°.32S×166°.69E, h170km, mb3.9/7, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SANVU	**Saraoutou**	**1.23**	**156**	P		Pn	11 41 02.4	+0.7
VLAKA	**Lakatoro**	**1.91**	**158**	P		Pn	11 41 07.7	-0.8
DVP	**Devils Point**	**3.68**	**157**	P		Pn	11 41 30.3	+0.5
YATNC	**Mamie plateau,**	**7.70**	**179**	P		Pn	11 42 22.5	0.0

*NSSP **18** 11:45:58.3, 38°.78N×43°.72E, h10km, Ms3.1*
*ISK **18** 11:45:58.2, 38°.96N×43°.83E, h5km, ML3.3/10*
*AFAD **18** 11:46:01.2, 38°.97N×43°.61E, h7km±5km, MW3.4*
ISC 18 11:46:00.8±0.8, 38°.94N±0°.02×43°.70E±0°.02, h10km, n39, σ1§73/67, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CLDR	**Caldiran**	**0.26**	**40**	Pg		**Pg**	11 46 01.7	-4.5
CLDR				Sg		**Sg**	11 46 05.9	-4.0
CLDR	**Caldiran**	**0.26**	**40**	P		**Pg**	11 46 01.5	-4.7
CLDR				S		**Sg**	11 46 06.7	-3.2
ERCV	**ERCIS-VAN**	**0.29**	**286**	Pg		**Pg**	11 46 06.2	-0.5
ERCV				Sg		**Sb**	11 46 12.3	-0.9
OZAP	**Van, Ozalp-Mer**	**0.36**	**140**	P		**Pb**	11 46 08.8	-0.6
OZAP				S		**Sb**	11 46 17.3	+2.1
VANB	**Van**	**0.42**	**215**	Pg		**Pb**	11 46 10.0	-0.4
VANB				Sg		**Sb**	11 46 17.8	+0.9
ADCV	**BITLIS_Adilcev**	**0.77**	**260**	P		**Pg**	11 46 15.0	-0.7
ADCV				S		**Sb**	11 46 26.3	-0.8
AKDM	**Akdamar-Van**	**0.83**	**223**	Pg		**Pg**	11 46 16.1	-0.7
AKDM				Sg		**Sn**	11 46 29.1	-2.0
AGRB	**Hanur-Agry**	**0.84**	**319**	Pg		**Pg**	11 46 16.1	-0.9
AGRB				Sg		**Sg**	11 46 28.4	+0.5
DORK	**Agr/Tutak/Do**	**0.84**	**302**	P		**Pg**	11 46 15.6	-1.5
DORK				S		**Sg**	11 46 27.4	-0.7
MLAZ	**Malazgirt-MUS**	**0.92**	**283**	Pg		**Pg**	11 46 18.3	-0.1
KOTA	**Agri, Merkez-K**	**0.94**	**336**	P		**Pg**	11 46 18.3	-0.6
KOTA				S		**Sb**	11 46 32.0	+0.1
IGDI	**IGDIR**	**0.97**	**17**	P		**Pg**	11 46 19.4	-0.1
IGDI				S		**Sn**	11 46 34.3	-0.1
TASB	**TASBURUN-IGDIR**	**1.12**	**22**	Pg		**Pb**	11 46 19.3	-3.0
VNNZ	**Vanand**	**1.17**	**5**	*eP*		**Pb**	11 46 22.8	-0.3
VNNZ				*eS*		**Sn**	11 46 40.9	+1.7
METS	**Metsamor**	**1.24**	**14**	*eP*		**Pg**	11 46 24.6	**0.0**
METS				*eS*		**Sn**	11 46 44.0	+2.8
NRKZ	**NAREK**	**1.29**	**35**	*eP*		**Pb**	11 46 25.0	-0.2
NRKZ				*eS*		**Sg**	11 46 44.6	+2.2
PERV	**Siirt/Pervari-**	**1.35**	**223**	P		**Pg**	11 46 26.8	+0.2
PERV				S		**Sg**	11 46 47.1	+3.0
GURO	**Guroymak-BITLI**	**1.36**	**254**	Pn		**Pb**	11 46 25.6	-0.8
ARUZ	**Aruch**	**1.37**	**13**	*eP*		**Pg**	11 46 27.0	-0.1
ARUZ				*eS*		**Sg**	11 46 48.2	+3.2
GNI	**Garni**	**1.45**	**33**	↑*iP*		**Pg**	11 46 28.3	-0.3
GNI				↑*iS*		**Sg**	11 46 48.9	+1.4
AMBZ	**Amberd**	**1.51**	**16**	*eP*		**Pg**	11 46 29.9	+0.2
AMBZ				*eS*		**Sg**	11 46 53.2	+3.9
VAYK	**Vayk**	**1.54**	**60**	*i* P		**Pg**	11 46 30.9	+0.6
VAYK				*i* S		**Sg**	11 46 53.4	+3.2
KAPZ	**Kaputan**	**1.58**	**29**	*eP*		**Pg**	11 46 30.5	-0.6
KAPZ				*eS*		**Sg**	11 46 54.1	+2.5
SRTM	**Siirt_Merkez**	**1.69**	**236**	P		**Pb**	11 46 31.2	-0.7
SRTM				S		**Sg**	11 46 55.8	+0.8
CUKT	**Cukurca**	**1.69**	**182**	Pn		**Pn**	11 46 29.5	-1.0
MUSM	**Mu-Merkez**	**1.72**	**263**	P		**Pn**	11 46 31.1	+0.2
MUSM				S		**Sg**	11 46 55.1	-1.1
BOZK	**Kars-Merkez-Bo**	**1.74**	**342**	P		**Pg**	11 46 34.3	+0.1
EAK	**Akyaka**	**1.75**	**358**	P		**Pg**	11 46 35.4	+1.2
VRTB	**Varto-Mus**	**1.76**	**278**	Pn		**Pn**	11 46 31.7	+0.2
VRTB	**Varto-Mus**	**1.76**	**278**	P		**Pb**	11 46 33.0	-0.3
VRTB				S		**Sg**	11 46 57.6	+0.3
KOPR	**Koprukoy-ERZUR**	**1.77**	**307**	Pn		**Pn**	11 46 31.3	-0.4
KMOZ	**Kamo**	**1.89**	**6**	*eP*		**Pb**	11 46 35.9	+0.5
KMOZ				*eS*		**Sg**	11 47 03.5	+2.0
AYRK	**Ayrk**	**2.00**	**53**	*eP*		**Pg**	11 46 38.5	-0.6
AYRK				*eS*		**Sg**	11 47 07.8	+2.9
SVAN	**Silvan-Diyarba**	**2.11**	**249**	Pn		**Pn**	11 46 36.8	+0.6
SVAN	**Silvan-Diyarba**	**2.11**	**249**	P		**Pb**	11 46 38.4	-0.8
SVAN				S		**Sb**	11 47 04.0	-1.5
SRTK	**Saratovka**	**2.18**	**13**	*eP*		**Pb**	11 46 39.8	-0.6
SRTK				*eS*		**Sg**	11 47 10.0	-0.7
LSVT	**Lusahovit**	**2.28**	**30**	*eP*		**Pb**	11 46 40.8	-1.3
LSVT				*eS*		**Sb**	11 47 11.6	+1.2
BNGB	**Bingl**	**2.35**	**272**	Pn		**Pn**	11 46 40.2	+0.6
KRIK	**Erzurum-spir**	**2.55**	**304**	P		**Pg**	11 46 48.2	-1.5

*IDC **18** 11:50:02.9±2.9, 40°.48N×51°.73E, h0km, mb3.5/4, mbtmp3.7/7, ML3.9/3, MS3.8/2, Error ellipse: s-maj=48.1km s-min=20.9km az=166.0*

*THR **18** 11:50:07.9±0.0, 40°.43N×51°.89E, h14km±984km, ML4.0*
*AZER **18** 11:50:08.7, 40°.44N×51°.91E, h46km, ml3.6*
*TEH **18** 11:50:11.1, 40°.40N×51°.79E, h45km*
ISC 18 11:50:08.4±1.0, 40°.57N±0°.04×51°.98E±0°.04, h56km±16km, n70, σ2§15/96, mb3.5/4, 2C-2D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GALA	**Gala**	**1.40**	**264**	Pn		**Pn**	11 50 32.5	+0.9
GALA				Sn		**Sn**	11 50 50.1	+1.0
NDR	**Nardaran**	**1.52**	**271**	Pn		Pn	11 50 36.6	+3.5
NDR				Sn		**Sn**	11 50 54.7	+2.8
GBS	**Qobustan**	**2.32**	**270**	Pn		**Pn**	11 50 45.9	+1.8
GBS				Sn		**Sn**	11 51 15.7	+4.2
ATGJ	**Altiaghaj**	**2.33**	**278**	Pn		**Pn**	11 50 45.7	+1.4
ATGJ	**Altiaghaj**	**2.33**	**278**	Pn		**Pn**	11 50 45.8	+1.4
ATGJ				Sn		**Sn**	11 51 14.8	+2.8
ALIB	**&Aumlli-Bayram**	**2.36**	**256**	Pn		**Pn**	11 50 47.1	+2.5
ALIB	**&Aumlli-Bayram**	**2.36**	**256**	Pn		**Pn**	11 50 47.1	+2.5
SIZA	**Siyzn**	**2.40**	**283**	Pn		**Pn**	11 50 47.6	+2.4
SIZA	**Siyzn**	**2.40**	**283**	Pn		**Pn**	11 50 47.6	+2.4
SIZA				Sn		**Sn**	11 51 17.2	+3.8
PQL	**Pirkuli**	**2.59**	**276**	Pn		**Pn**	11 50 50.1	+2.2
PQL				Sn		**Sn**	11 51 21.4	+3.1
QUBA	**Quba, Azerbaij**	**2.76**	**288**	Pn		**Pn**	11 50 51.9	+1.7
QUBA				Sn		**Sn**	11 51 25.2	+3.0
SAAT	**Saatly**	**2.81**	**257**	Pn		**Pn**	11 50 51.6	+0.8
SAAT				Sn		**Sn**	11 51 27.6	+4.1
IML	**Ismayilli**	**2.90**	**276**	Pn		**Pn**	11 50 53.4	+1.3
IML				Sn		**Sn**	11 51 27.6	+1.8
KDMR	**Kurdemir**	**2.90**	**268**	Sn		**Sn**	11 51 27.2	+1.4
QSAR	**Qusar**	**2.97**	**290**	Pn		**Pn**	11 50 54.9	+1.9
QSAR	**Qusar**	**2.97**	**290**	Pn		**Pn**	11 50 54.6	+1.6
QSAR				Sn		**Sn**	11 51 29.1	+1.6
XNQ	**Khinaliq**	**2.98**	**283**	Pn		**Pn**	11 50 54.5	+1.2
XNQ				Sn		**Sn**	11 51 28.6	+0.8
GLBA	**Clilabad**	**3.06**	**246**	Pn		**Pn**	11 50 55.0	+0.7
GLBA				Sn		**Sn**	11 51 29.0	-0.6
LKRN	**Lenkeran, Azer**	**3.09**	**234**	Pn		**Pn**	11 50 55.5	+0.9
LKRN				Sn		**Sn**	11 51 29.0	-1.3
QBL	**Gabala**	**3.17**	**278**	Pn		**Pn**	11 50 56.5	+0.7
QBL				Sn		**Sn**	11 51 32.8	+0.4
ASTR	**Astara**	**3.18**	**232**	Pn		**Pn**	11 50 56.0	+0.2
ASTR				Sn		**Sn**	11 51 30.6	-1.8
GAS1	**Astara - Iran**	**3.26**	**229**	Pn		**Pn**	11 50 56.9	-0.1
ZRD	**Zardab**	**3.29**	**266**	Pn		**Pn**	11 50 58.5	+1.1
ZRD				Sn		**Sn**	11 51 36.6	+1.3
YRD	**Yardimli**	**3.32**	**241**	Pn		**Pn**	11 50 57.9	-0.1
YRD				Sn		**Sn**	11 51 33.9	-2.5
LRK	**Lerik**	**3.41**	**237**	Pn		**Pn**	11 50 59.5	+0.3
LRK				Sn		**Sn**	11 51 36.3	-2.0
BLQ	**Beylaqan**	**3.49**	**257**	Pn		**Pn**	11 51 01.2	+1.0
BLQ				Sn		**Sn**	11 51 39.0	-1.2
BRDA	**Brd**	**3.68**	**267**	Pn		**Pn**	11 51 04.0	+1.3
BRDA				Sn		**Sn**	11 51 45.7	+0.9
SEKA	**Sheki**	**3.68**	**282**	Pn		**Pn**	11 51 04.6	+1.8
SEKA				Sn		**Sn**	11 51 46.0	+1.0
MNGR	**Mingechevir, A**	**3.73**	**275**	Pn		**Pn**	11 51 05.4	+2.0
MNGR				Sn		**Sn**	11 51 46.5	+0.4
AGDM	**Agdam**	**3.75**	**265**	Pn		**Pn**	11 51 04.0	+0.3
AGDM				Sn		**Sn**	11 51 45.8	+0.8
GIDE	**GILAN DEYLAMAN**	**3.98**	**205**	*e*Pn		**Pn**	11 51 06.9	-0.2
GIDE				IAML			11 51 51.8	
	comp=Z,1.1nm,1.0s							
KLST	**Kelardasht - M**	**4.11**	**190**	Pn		**Pn**	11 51 09.4	+0.5
MZPU	**Pul - Mazandar**	**4.13**	**185**	Pn		**Pn**	11 51 10.4	+1.2
ZKTA	**Zakatala**	**4.19**	**287**	Pn		**Pn**	11 51 11.6	+1.9
ZKTA				Sn		**Sn**	11 51 58.7	+1.3
IGLO	**Ghaloghah**	**4.31**	**160**	Pn		**Pn**	11 51 13.9	+2.3
GANJ	**Ganja**	**4.31**	**273**	Sn		**Sn**	11 51 58.3	-2.0
MRVT	**Maraveh tapeh**	**4.32**	**131**	Pn		**Pn**	11 51 14.2	+2.7
MRVT	**Maraveh tapeh**	**4.32**	**131**	*e*Pn		**Pn**	11 51 14.6	+3.1
MRVT				IAML			11 52 07.6	
	comp=Z,0.1nm,1.0s							
IPRN	**Peran**	**4.33**	**176**	Pn		**Pn**	11 51 13.0	+1.3
IGZV	**Ghazvin**	**4.40**	**199**	Pn		**Pn**	11 51 13.1	+0.3
IHRS	**Heris**	**4.43**	**241**	Pn		**Pn**	11 51 14.0	+0.7
IALA	**Alasht**	**4.52**	**171**	Pn		**Pn**	11 51 16.2	+1.6
IKIA	**Kiasar**	**4.55**	**162**	Pn		**Pn**	11 51 17.2	+2.3
ZNJK	**Zanjan**	**4.67**	**215**	*e*Pn		**Pn**	11 51 19.1	+2.6
ZNJK				IAML			11 52 09.4	
	comp=Z,0.5nm,1.0s							
CHTH	**Charan**	**4.70**	**189**	*e*Pn		**Pn**	11 51 18.5	+1.6
CHTH				IAML			11 52 50.3	
	comp=Z,0.1nm,1.0s							
THKV	**Tehran--Karaj**	**4.72**	**191**	*e*Pn		**Pn**	11 51 19.2	+2.0
THKV				IAML			11 52 14.0	
	comp=Z,0.4nm,1.0s							
GDB	**GEDABAY**	**4.74**	**274**	Pn		**Pn**	11 51 17.9	+0.4
GDB				Sn		**Sn**	11 52 08.6	-2.5
ORD	**Ordubad**	**4.90**	**252**	Pn		**Pn**	11 51 20.5	+1.1
ORD				Sn		**Sn**	11 52 13.5	-1.4
IHSH	**Hashtrud**	**4.91**	**230**	Pn		**Pn**	11 51 20.2	+0.2
DAMV	**Damavand**	**4.93**	**180**	*e*Pn		**Pn**	11 51 23.0	+2.9
DAMV				IAML			11 52 59.3	
	comp=Z,0.0nm,1.0s							
IFIR	**Firoozkooh**	**4.95**	**173**	Pn		**Pn**	11 51 22.8	+2.4
QZX	**Qazax, Azerbai**	**5.04**	**278**	Pn		**Pn**	11 51 21.3	-0.1
QZX				Sn		**Sn**	11 52 17.0	-1.3
SBZ	**Shahbuz**	**5.08**	**259**	Pn		**Pn**	11 51 23.2	+1.2
SBZ				Sn		**Sn**	11 52 18.9	-0.4
BJRD	**Bojnurd**	**5.10**	**122**	*e*Pn		**Pn**	11 51 26.3	+4.0
BJRD				IAML			11 52 32.9	
	comp=Z,0.0nm,1.0s							
NAX	**Nakhchivan**	**5.18**	**257**	Sn		**Sn**	11 52 23.1	+1.2
QABG	**Abgarm-Qazvin**	**5.20**	**202**	Pn		**Pn**	11 51 24.9	+1.1
ILAS	**Lasjerd**	**5.23**	**171**	Pn		**Pn**	11 51 26.6	+2.3
SHRO	**Shahrood**	**5.56**	**144**	*e*Pn		**Pn**	11 51 30.8	+2.2
SHRO				IAML			11 52 53.7	
	comp=Z,0.0nm,1.0s							
ISFR	**Sfrayin**	**5.86**	**125**	Pn		Pn	11 51 37.3	+4.4
AB31	**Akbulak array**	**10.36**	**30**	⇑Pn		**Pn**	11 52 32.2	-1.8
	comp=Z,0.2nm,0.3s,baz=210,slow=14,SNR=24							
AB31				⇓Sn		**Sn**	11 54 22.0	-6.5
	comp=Z,2.2nm,0.3s,baz=213,slow=28,SNR=18							
AKTO	**Aktyubinsk**	**10.74**	**21**	⇑Pn		**Pn**	11 52 36.9	-2.4
	comp=Z,1.1nm,0.6s							
AKTO					⇓Sn	Sn	11 54 28.2	-10
	comp=Z,11nm,0.7s							
AKTO	**Aktyubinsk**	**10.74**	**21**	Pn		**Pn**	11 52 37.4	-1.9
	comp=Z,0.8nm,0.3s,baz=199,slow=11,SNR=7.6							
AKTO				Sn		Sn	11 54 29.0	-8.8
	comp=Z,2.3nm,0.3s,baz=200,slow=23,SNR=15 comp=Z,1.8nm,0.3s							
BVAR	**Borovoye Array**	**17.66**	**39**	Pn		**Pn**	11 54 10.1	-0.1
	comp=Z,0.1nm,0.3s,baz=226,slow=8.0,SNR=11							
BVAR				Sn		**Sn**	11 57 18.1	-7.9
	comp=Z,0.1nm,0.3s,baz=236,slow=21,SNR=6.1 comp=Z,2.5nm,0.6s							
AKASG	**Malin Array Be**	**18.80**	**310**	P		**P**	11 54 22.2	-0.7
	comp=Z,1.5nm,0.3s,baz=113,slow=11,SNR=5.2 comp=Z,2.0nm,0.6s							
KURBB	**Kurchatov Arra**	**21.02**	**53**	P		**P**	11 54 49.7	+2.6
	comp=Z,1.6nm,0.8s,baz=255,slow=12,SNR=8.6 comp=Z,1.6nm,0.8s							
MKAR	**Makanchi Array**	**22.70**	**64**	P		**P**	11 55 07.9	+2.7
	comp=Z,0.5nm,0.7s,baz=260,slow=8.6,SNR=3.7 comp=Z,0.5nm,0.7s							
FINES	**FINESS Array B**	**26.18**	**332**	P		**P**	11 55 39.1	+1.8
	comp=Z,0.8nm,0.4s,baz=131,slow=9.1,SNR=6.6 comp=Z,0.8nm,0.4s							
EKA	**Eskdalemuir Ar**	**38.70**	**311**	P		**P**	11 57 26.9	+0.4
	comp=Z,0.3nm,0.3s,baz=89,slow=9.1,SNR=4.5 comp=Z,0.3nm,0.3s							
PALK	**Pallekele**	**41.90**	**134**	LR		LR	12 17 21.6	
	comp=Z,99nm,19.5s,baz=195,slow=39							
LBTB	**Lobatse**	**69.71**	**205**	LR		LR	12 35 53.4	
	comp=Z,79nm,18.5s,baz=74,slow=40							

*SDD **18** 11:51:50.8±1.0, 18°.15N×68°.54W, h128km±8km, MD2.7, ML2.4, MW2.5*
*NEIC **18** 11:51:51.1±1.4, 17°.8N±0°.2×68°.66W±0°.07, h85km±27km, ML2.3/4, Md2.5/6(RSPR), Error ellipse: s-maj=30.5km s-min=7.2km az=190.0*
*RSPR **18** 11:51:51.3, 18°.33N×68°.55W, h123km±1km, MD2.5/6*
ISC 18 11:51:49.8±3.0, 18°.2N±0°.2×68°.56W±0°.08, h127km±18km, n24, σ1§11/30, 6C-9D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SADR	**Isla Saona**	**0.21**	**275**	⇑*eP*		**Pn**	11 52 08.2	+1.0
SADR	**Isla Saona**	**0.21**	**275**	*eS*		**Sn**	11 52 21.1	+0.7
SADR	**Isla Saona**	**0.21**	**275**	⇓*eP*		**Pn**	11 52 06.8	-0.4
SADR				⇓*eSg*		**Sn**	11 52 20.2	-0.2
HIDR	**Higuey Centro**	**0.44**	**341**	⇓*eP*		**Pn**	11 52 08.1	-0.1
HIDR				⇓*eSg*		**Sn**	11 52 21.7	-0.4
HIDR				IAML			11 52 21.8	
	comp=N,86nm,0.3s							
MIDR	**Miches**	**0.93**	**330**	⇑*eP*		**Pn**	11 52 12.7	+0.9
MIDR				⇓*eSg*		**Sn**	11 52 27.4	-1.0
DR12	**Loma Pena Alta**	**0.99**	**308**	Pn		**Pn**	11 52 12.6	+0.3
HATOM	**Hato Mayor del**	**0.99**	**308**	⇓*eP*		**Pn**	11 52 12.6	+0.2
HATOM				⇓*eSg*		**Sn**	11 52 28.6	-0.8
IDE	**Isla Desecheo**	**1.06**	**78**			**Pn**	11 52 13.2	+0.2
IDE						**Sn**	11 52 31.0	+0.5
IDE	**Isla Desecheo**	**1.06**	**78**	⇓*eP*		**Pn**	11 52 13.2	+0.2
IDE	**Isla Desecheo**	**1.06**	**78**	*eS*		**Sn**	11 52 31.0	+0.5
CRPR	**Cabo Rojo, PR**	**1.39**	**97**			**Pn**	11 52 17.0	+0.5
CRPR	**Cabo Rojo, PR**	**1.39**	**97**			**Sn**	11 52 32.8	-3.9
CRPR	**Cabo Rojo, PR**	**1.39**	**97**	IAML			11 52 28.4	
	comp=N,27nm,2.4s							
CRPR	**Cabo Rojo, PR**	**1.39**	**97**	⇓*eP*		**Pn**	11 52 17.0	+0.5
LSP	**Las Mesas**	**1.40**	**90**			**Pn**	11 52 17.3	+0.7
LSP						**Sn**	11 52 37.5	+0.5
LSP	**Las Mesas**	**1.40**	**90**	⇓*eP*		**Pn**	11 52 17.3	+0.7
LSP	**Las Mesas**	**1.40**	**90**	*eS*		**Sn**	11 52 37.5	+0.5
AOPR	**Arecibo Observ**	**1.73**	**84**			**Pn**	11 52 21.1	+0.8
AOPR						**Sn**	11 52 44.0	+0.4
AOPR	**Arecibo Observ**	**1.73**	**84**	IAML			11 52 46.1	
	comp=N,29nm,0.8s							
AOPR	**Arecibo Observ**	**1.73**	**84**	⇑*eP*		**Pn**	11 52 21.1	+0.8
AOPR	**Arecibo Observ**	**1.73**	**84**	*eS*		**Sn**	11 52 44.0	+0.4
AOPR	**Arecibo Observ**	**1.73**	**84**	⇓*eP*		**Pn**	11 52 20.2	-0.2
AOPR				*eSg*		**Sn**	11 52 41.0	-2.7
AOPR				IAML			11 52 46.4	
	comp=N,25nm,0.9s							
ECPR	**Experimental S**	**2.10**	**86**	⇑*eP*		**Pn**	11 52 25.2	+0.4
ECPR	**Experimental S**	**2.10**	**86**	*eS*		**Sn**	11 52 51.1	-0.5

IDC 18 11:52:50.3±2.2, 5°.27N×125°.88E, h0km, mb3.4/3, mbtmp3.4/3, MS4.1/2, Error ellipse: s-maj=169.2km s-min=27.4km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.40**	**162**	P		P	11 58 28.3	-0.5
	0.3nm,0.6s,baz=342,slow=10,SNR=6.9 0.3nm,0.6s							
ASAR	**Alice Springs**	**29.81**	**165**	P		P	11 58 59.8	+0.5
	0.3nm,0.7s,baz=342,slow=6.9,SNR=9.3 0.3nm,0.7s							
DZM	**Mont Dzumac**	**48.11**	**126**	LR		LR	12 23 59.2	
	comp=Z,358nm,18.7s,baz=34,slow=39							
MKAR	**Makanchi Array**	**55.81**	**325**	P		P	12 02 29.4	-0.1
	0.3nm,0.5s,baz=109,slow=8.4,SNR=4.5

TKGZ	**Te Karaka**	**2.94**	**234**	P	**Pn**	**11 59 20.5**	**+0.8**
TKGZ				S	**Sn**	**11 59 56.4**	**+1.4**
MWZ	**Matawai**	**3.10**	**239**	P	**Pn**	**11 59 21.9**	**0.0**
MWZ				S	**Sn**	**11 59 58.4**	**-0.6**
URZ	**Urewera**	**3.35**	**242**	Pn	**Pn**	**11 59 25.3**	**-0.2**
	4.7nm,0.3s,baz=254,slow=3.6,SNR=57						
URZ				Sn	**Sn**	**12 00 03.8**	**-1.5**
	44nm,0.3s,baz=238,slow=3.9,SNR=8.7 14nm,0.3s						
URZ	**Urewera**	**3.35**	**242**	P	**Pn**	**11 59 25.2**	**-0.2**
URZ	**Urewera**	**3.35**	**242**	S	**Sn**	**12 00 05.3**	**0.0**
URZ	**Urewera**	**3.35**	**242**	P	**Pn**	**11 59 25.7**	**+0.2**
URZ				S	**Sn**	**12 00 04.1**	**-1.1**
KNZ	**Kokohu**	**3.40**	**227**	P	**Pn**	**11 59 25.9**	**-0.1**
RTZ	**Ruatahuna**	**3.61**	**238**		**Pn**	**11 59 29.6**	**+0.5**
RTZ				Sn	**Sn**	**12 00 12.5**	**+0.9**
RTZ	**Ruatahuna**	**3.61**	**238**	P	**Pn**	**11 59 30.7**	**+1.7**
RTZ				S	**Sn**	**12 00 12.6**	**+0.9**
KUZ	**Kuaotunu**	**4.15**	**269**	P	**Pn**	**11 59 34.7**	**-1.6**
KUZ	**Kuaotunu**	**4.15**	**269**	P	**Pn**	**11 59 34.8**	**-1.6**
BKZ	**Black Stump Fm**	**4.22**	**234**		**Pn**	**11 59 36.9**	**-0.5**
BKZ	**Black Stump Fm**	**4.22**	**234**	P	**Pn**	**11 59 36.7**	**-0.7**
BKZ	**Black Stump Fm**	**4.22**	**234**	S	**Sn**	**12 00 26.2**	**-0.6**
BKZ	**Black Stump Fm**	**4.22**	**234**	P	**Pn**	**11 59 36.9**	**-0.5**
BKZ				S	**Sn**	**12 00 25.4**	**-1.3**
TOZ	**Tahuroa Road**	**4.40**	**256**	Sn	**Sn**	**12 00 27.1**	**-4.1**
TOZ	**Tahuroa Road**	**4.40**	**256**	P	**Pn**	**11 59 39.4**	**-0.4**
PXZ	**Pawanui**	**4.54**	**223**	P	**Pn**	**11 59 40.6**	**-1.2**
PXZ				S	**Sn**	**12 00 32.6**	**-2.0**
TSZ	**Takapari Road**	**5.08**	**228**	P	**Pn**	**11 59 47.7**	**-1.5**
TSZ				S	**Sn**	**12 00 45.1**	**-2.8**
HIZ	**Hauiti**	**5.09**	**248**	P	**Pn**	**11 59 49.6**	**+0.2**
HIZ	**Hauiti**	**5.09**	**248**	P	**Pn**	**11 59 51.2**	**+1.8**
BFZ	**Birch Farm**	**5.33**	**221**	P	**Pn**	**11 59 50.8**	**-1.9**
BFZ	**Birch Farm**	**5.33**	**221**	P	**Pn**	**11 59 50.4**	**-2.3**
WCZ	**Waipu Caves**	**5.34**	**277**	P	**Pn**	**11 59 52.5**	**-0.3**
VRZ	**Vera Road**	**5.39**	**242**	P	**Pn**	**11 59 55.2**	**+1.8**
WAZ	**Wanganui**	**5.52**	**235**	P	**Pn**	**11 59 56.9**	**+1.6**
MRZ	**Mangatainoka R**	**5.69**	**225**	P	**Pn**	**11 59 55.5**	**-2.0**
NEZ	**North Egmont**	**5.92**	**243**	P	**Pn**	**12 00 03.4**	**+2.6**
OUZ	**Omahuta**	**6.11**	**282**	P	**Pn**	**12 00 02.8**	**-0.5**
OUZ	**Omahuta**	**6.11**	**282**	P	**Pn**	**12 00 02.5**	**-0.8**
TUWZ	**Tuamarina**	**7.13**	**227**	Pn	**Pn**	**12 00 15.7**	**-1.6**
TUWZ					**Sn**	**12 01 34.7**	**-3.6**
CTZ	**Chatham Island**	**7.22**	**165**		**Pn**	**12 00 20.1**	**+1.6**
CTZ	**Chatham Island**	**7.22**	**165**	P	**Pn**	**12 00 20.2**	**+1.7**
CTZ				S	**Sn**	**12 01 35.5**	**-5.0**
TKNZ	**Takaka Hill**	**7.51**	**233**	Sn	Sn	12 01 39.9	-7.8
QRZ	**Quartz Range**	**7.68**	**236**	P	**Pn**	**12 00 25.1**	**+0.2**
KHZ	**Kahutara**	**8.00**	**223**	P	**Pn**	**12 00 28.3**	**-0.9**
RPZ	**Rata Peaks**	**10.23**	**224**	Pn	**Pn**	**12 01 02.7**	**+2.9**
	1.3nm,0.3s,baz=53,slow=19,SNR=5.7 6.4nm,0.9s						
DZM	**Mont Dzumac**	**19.27**	**315**	P	**P**	**12 02 55.2**	**-2.7**
	0.3nm,0.3s,baz=122,slow=13,SNR=1.5						
DZM				LR	LR	12 09 23.1	
	comp=Z,221nm,18.5s,baz=94,slow=34 2.5nm,0.6s						
STKA	**Stephens Creek**	**32.66**	**267**	P	**P**	**12 05 05.5**	**+0.3**
STKA	**Stephens Creek**	**32.66**	**267**	P	**P**	**12 05 05.6**	**+0.3**
	2.7nm,0.8s,baz=107,slow=11,SNR=3.7 2.7nm,0.8s						
CTAO	**Charters Tower**	**34.46**	**289**	P	**P**	**12 05 21.4**	**+0.4**
CTAO				IAmb	IAmb	12 05 31.8	
	comp=Z,6.8nm,1.0s						
BBOO	**Buckleboo**	**36.77**	**263**	P	**P**	**12 05 40.3**	**-0.6**
BBOO				IAmb	IAmb	12 06 15.8	
	comp=Z,26nm,1.4s						
COEN	**Coen**	**40.57**	**294**	P	**P**	**12 06 13.6**	**+0.8**
COEN				IAmb	IAmb	12 06 53.7	
	comp=Z,25nm,1.4s						
RABL	**Rabaul**	**41.79**	**314**	P	**P**	**12 06 22.9**	**+0.1**
AS31	**Alice Springs**	**42.25**	**274**	P	**P**	**12 06 26.9**	**+0.2**
ASAR	**Alice Springs**	**42.25**	**274**	P	**P**	**12 06 26.4**	**-0.3**
ASAR	**Alice Springs**	**42.25**	**274**	P	**P**	**12 06 26.1**	**-0.6**
	comp=Z,5.8nm,0.7s,baz=119,slow=8.5,SNR=25 comp=Z,5.8nm,0.7s						
WR8	**Warramunga Arr**	**43.68**	**280**	P	**P**	**12 06 37.9**	**-0.3**
WRAB	**Tennant Creek**	**43.81**	**279**	P	P	12 06 34.9	-4.4
WRAB				IAmb	IAmb	12 06 43.9	
	comp=Z,6.1nm,0.8s						
WRA	**Warramunga Arr**	**43.81**	**279**	P	**P**	**12 06 38.7**	**-0.6**
WRA	**Warramunga Arr**	**43.81**	**279**	P	**P**	**12 06 38.2**	**-1.1**
	comp=Z,1.3nm,0.4s,baz=120,slow=7.7,SNR=11						
WRA				LR	LR	12 25 46.0	
	comp=Z,137nm,18.2s,baz=335,slow=38 comp=Z,1.3nm,0.4s						
FORT	**Forrest**	**43.86**	**262**	P	**P**	**12 06 37.4**	**-2.2**
FORT				IAmb	IAmb	12 07 21.2	
	comp=Z,7.2nm,1.1s						
WB0	**Warramunga Arr**	**43.86**	**280**	P	**P**	**12 06 38.7**	**-1.0**
WB0				IAmb	IAmb	12 06 51.6	
	comp=Z,3.4nm,0.7s						
KNRA	**Kununurra**	**50.59**	**280**	P	**P**	**12 07 31.6**	**-0.5**
KNRA				IAmb	IAmb	12 07 52.7	
	comp=Z,16nm,1.2s						
FITZ	**Fitzroy Crossi**	**51.73**	**275**	P	**P**	**12 07 38.5**	**-2.2**
	comp=Z,4.7nm,1.0s,baz=131,slow=9.3,SNR=3.6 comp=Z,4.7nm,1.0s						
QSPA	**South Pole Qui**	**53.36**	**180**	P	**P**	**12 07 56.8**	**+4.4**
QSPA				IAmb	IAmb	12 07 57.7	
	comp=Z,4.4nm,0.9s						
QSPA	**South Pole Qui**	**53.36**	**180**	P	**P**	**12 07 56.6**	**+4.3**
	comp=Z,4.1nm,0.9s,baz=25,slow=1.6,SNR=18 comp=Z,4.1nm,0.9s						
MBWA	**Marble Bar**	**54.87**	**269**	P	**P**	**12 08 00.8**	**-2.9**
BATI	**Baumata**	**57.80**	**282**	LR	LR	12 31 60.0	
	comp=Z,179nm,21.3s,baz=148,slow=35						
SNAA	**Sanae**	**71.83**	**179**	P	**P**	**12 09 57.3**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=198,slow=6.4,SNR=2.1 comp=Z,0.7nm,0.7s						
H03N3	**Juan Fernandez**	**77.98**	**123**	T	T	13 36 48.2	
	baz=230						
H03N2	**Juan Fernandez**	**77.98**	**123**	T	T	13 36 32.0	
	baz=230						
H03N1	**Juan Fernandez**	**78.00**	**123**	T	T	13 36 35.9	
	baz=230						
JTS	**Las Juntas de**	**99.39**	**84**	LR	LR	12 51 56.9	
	comp=Z,30nm,18.6s,baz=124,slow=32						
FINES	**FINESS Array B**	**150.67**	**335**	PKPbc	**PKPbc**	**12 18 24.5**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=48,slow=3.8,SNR=6.3						

*IDC **18** 12:00:36.3±1.2, 1.°90N×127.°15E, h0km, mb3.8/5, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=102.2km s-min=17.4km az=72.0*
*DJA **18** 12:00:49.6±0.5, 2.°N±2.°×12.°7E±.°, h103km±6km, M3.9/11, mB5.0/2, mb4.0/2, MLv3.9/11, Mw(mB)4.3/2*
ISC 18 12:00:48.6±0.9, 1.°91N±0.°06×127.°20E±0.°08, h100km, n12, σ1°41′, mb3.7/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.14**	**171**	P	**Pn**	**12 01 13.2**	**+2.6**
TNTI				S	**Sn**	**12 01 28.4**	**+1.2**
SGSI	**Sangihe**	**2.43**	**317**	P	**Pn**	**12 01 27.6**	**+0.8**
SGSI				S	**Sn**	**12 01 57.0**	**+0.9**
KMSI	**Cibinong**	**3.48**	**248**	P	**Pn**	**12 01 40.6**	**-0.2**
KMSI				S	**Sn**	**12 02 22.5**	**+1.4**
SANI	**Sanana**	**4.11**	**197**	P	**Pn**	**12 01 49.3**	**0.0**
NLAI	**Namlea**	**5.11**	**181**	P	**Pn**	**12 02 03.2**	**+0.3**
LUWI	**Luwuk**	**5.31**	**237**	P	**Pn**	**12 02 06.7**	**+1.2**
LUWI				S	**Sn**	**12 03 06.3**	**+0.9**
FITZ	**Fitzroy Crossi**	**19.94**	**184**	P	**P**	**12 05 10.6**	**-2.1**
	0.2nm,0.3s,baz=19,slow=13,SNR=6.8 0.9nm,0.4s						
WRA	**Warramunga Arr**	**22.82**	**162**	P	**P**	**12 05 41.4**	**-1.9**
	1.2nm,0.3s,baz=340,slow=11,SNR=59 1.2nm,0.3s						
ASAR	**Alice Springs**	**26.24**	**166**	P	**P**	**12 06 12.7**	**-1.8**
	0.3nm,0.3s,baz=343,slow=9.0,SNR=21 0.3nm,0.3s						
SONM	**Songino Array**	**49.16**	**342**	P	**P**	**12 09 25.9**	**-0.6**
	0.4nm,0.5s,baz=158,slow=12,SNR=1.9						
SONM				PcP	**PcP**	**12 10 49.9**	**+1.5**
	0.2nm,0.3s,baz=156,slow=1.4,SNR=1.7 0.4nm,0.5s						
MKAR	**Makanchi Array**	**59.31**	**326**	P	**P**	**12 10 40.1**	**+0.1**
	0.9nm,0.5s,baz=119,slow=8.1,SNR=14 0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**63.52**	**328**	P	**P**	**12 11 07.9**	**-0.3**
	0.7nm,0.4s,baz=126,slow=6.1,SNR=8.1 0.7nm,0.4s						

*SOME **18** 12:01:05.3, 43.°72N×69.°72E*
*NNC **18** 12:01:07.3±1.7, 43.°68N×69.°73E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=9.5km s-min=8.0km az=160.0, Suspected Mining explosion.*
*KRNET **18** 12:01:08.0±0.1, 43.°87N×69.°52E, mb2.5*
ISC 18 12:01:05.5±2.3, 43.°79N±0.°09×69.°89E±0.°09, h0km, n13, σ1°17′20, 9C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.76**	**183**	P	**Pn**	**12 01 23.3**	**-0.2**
	0.9nm,0.1s						
BRLS				S	**Sn**	**12 01 35.7**	**0.0**
	5.3nm,0.3s						
KK31	**Karatay Array**	**0.82**	**147**	⇑P	**Pb**	**12 01 23.0**	**+0.4**
	0.6nm,0.3s,baz=320,slow=16,SNR=9.1						
KK31				S	**Sb**	**12 01 34.4**	**+0.1**
	11nm,0.5s,baz=306,slow=27,SNR=117						
IUG	**Iuzhnay**	**1.65**	**176**	P	**Pg**	**12 01 36.9**	**-0.1**
	17nm,0.4s						
IUG				S	**Sg**	**12 02 00.1**	**+1.7**
	21nm,0.4s						
MNAS	**Manas**	**2.31**	**123**	⇑*e*P	**Pg**	**12 01 49.8**	**0.0**
MNAS				⇑*e*S	**Sg**	**12 02 20.7**	**+0.9**
TRKS	**Terek-Say**	**2.44**	**157**	⇓*e*P	**Pg**	**12 01 51.6**	**-0.6**
TRKS				⇓*e*S	**Sg**	**12 02 23.3**	**-0.6**
ARK	**Arkit**	**2.51**	**142**	⇑*e*P	**Pb**	**12 01 52.4**	**+0.9**
ARK				⇑*e*S	**Sb**	**12 02 24.4**	**+1.5**
MRKS	**Merke**	**2.65**	**112**	Pg	**Pg**	**12 01 57.8**	**+1.6**
	3.9nm,0.3s						
MRKS				Lg	Lg	12 02 35.7	
	3.6nm,0.2s						
ARSB	**Arslanbob**	**3.36**	**136**	⇑*e*P	**Pb**	**12 02 04.4**	**-1.6**
ARSB				⇑*e*S	**Sb**	**12 02 45.1**	**-2.3**
AAK	**Ala-Archa**	**3.56**	**107**	⇑Pg	**Pg**	**12 02 12.0**	**-1.6**
	1.0nm,0.5s						
AAK				⇑Lg	Lg	12 03 05.3	
	2.3nm,0.8s						
DGS	**Degeres**	**4.31**	**95**	Pg	**Pg**	**12 02 27.1**	**-1.0**
	1.5nm,0.2s						
DGS				Lg	Lg	12 03 25.2	
	2.6nm,0.3s						
KST	**Kastek**	**4.48**	**98**	Pg	**Pg**	**12 02 32.6**	**+1.1**
	2.0nm,0.4s						
KST				Lg	Lg	12 03 34.5	
	4.2nm,0.3s						
KTBS	**Karatobe**	**4.92**	**89**	Pg	**Pg**	**12 02 39.6**	**-0.1**
	0.7nm,0.6s						
KTBS				Lg	Lg	12 03 46.8	
	5.7nm,0.4s						
CHKK	**Chushkaly**	**5.13**	**87**	Pg	**Pg**	**12 02 44.1**	**+0.3**
	2.6nm,0.3s						
CHKK				Lg	Lg	12 03 54.7	
	1.9nm,0.3s						

*NEIC **18** 12:02:35.5±0.3, 19.°33N±0.°03×155.°12W±0.°01, h10km±1km, Error ellipse: s-maj=5.0km s-min=2.2km az=160.0*
HVO 18 12:02:35.6±0.6, 19.°34N±0.°04×155.°12W±0.°01, h6km±2km, ML2.5/38, ML2.6/42(NEIC), Error ellipse: s-maj=5.7km s-min=0.6km az=161.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	**Steam Cracks**	**0.05**	**358**		Pg	12 02 37.6	+0.4
STCH					Sg	12 02 39.0	+0.6
STCH	**Steam Cracks**	**0.05**	**358**	IAML		12 02 39.3	
	comp=N,7μm,0.4s						
STCH				IAML		12 02 39.3	
	comp=E,5μm,0.3s						
JCUZ	**Jacuzzi**	**0.05**	**23**		Pg	12 02 37.6	+0.4
JCUZ					Sg	12 02 39.2	+0.8
NPOC	**North of Pu'u**	**0.06**	**13**		Pg	12 02 37.7	+0.4
NPOC					Sg	12 02 39.4	+0.8
KNHH	**Kane Nui o Ham**	**0.06**	**315**		Pg	12 02 37.8	+0.4
PUH	**Pauahi**	**0.10**	**294**		Pg	12 02 38.2	+0.4
PUH					Sg	12 02 40.2	+0.8
PUH	**Pauahi**	**0.10**	**294**	IAML		12 02 40.5	
	comp=E,4μm,0.2s						
PUH				IAML		12 02 40.7	
	comp=N,3μm,0.4s						
KKO	**Keanakako'i**	**0.15**	**295**		Pg	12 02 39.1	+0.3
KKO					Sg	12 02 41.4	+0.5
JOKA	**Jonika Flow**	**0.15**	**49**		Pg	12 02 38.9	+0.2
JOKA					Sg	12 02 41.4	+0.6
JOKA	**Jonika Flow**	**0.15**	**49**	IAML		12 02 41.7	
	comp=E,486nm,0.6s						
JOKA				IAML		12 02 42.8	
	comp=N,465nm,0.6s						
BYL	**Byron's Ledge**	**0.15**	**301**		Pg	12 02 39.1	+0.4
BYL					Sg	12 02 41.7	+0.8
BYL	**Byron's Ledge**	**0.15**	**301**	IAML		12 02 42.1	
	comp=E,3μm,0.2s						
BYL				IAML		12 02 43.4	
	comp=N,1μm,0.4s						
RIM	**Rim**	**0.15**	**293**		Pg	12 02 39.2	+0.4
RIM					Sg	12 02 41.9	+0.8
HATHI	**Halema'uma'u T**	**0.16**	**304**		Pg	12 02 39.2	+0.3
HATHI					Sg	12 02 41.7	+0.6
HATHI	**Halema'uma'u T**	**0.16**	**304**	IAML		12 02 42.4	
	comp=N,1μm,0.3s						
HATHI				IAML		12 02 43.3	
	comp=E,811nm,0.5s						
SBLHI	**Steaming Bluff**	**0.16**	**304**		Pg	12 02 39.2	+0.2
SBLHI					Sg	12 02 41.9	+0.5
SDHHI	**Sand Hill**	**0.17**	**288**		Pg	12 02 39.5	+0.4
SDHHI					Sg	12 02 42.0	+0.5
UWB	**Uwekahuna Bluf**	**0.17**	**301**		Pg	12 02 39.4	+0.2
UWB					Sg	12 02 42.4	+0.8
OBL	**Observatory Le**	**0.17**	**298**		Pg	12 02 39.5	+0.3
OBL					Sg	12 02 42.8	+1.2
HLP	**Hilina Pali**	**0.18**	**257**		Pg	12 02 39.8	+0.5
HLP					Sg	12 02 43.0	+1.2
HLP	**Hilina Pali**	**0.18**	**257**	IAML		12 02 43.2	
	comp=E,1μm,0.8s						
HLP				IAML		12 02 43.2	
	comp=N,2μm,0.2s						
WRMHI	**West Rim**	**0.18**	**293**		Pg	12 02 39.6	+0.2
WRMHI					Sg	12 02 43.0	+1.2
UWE	**Uwekahuna**	**0.18**	**298**		Pg	12 02 39.6	+0.3
UWE					Sg	12 02 42.7	+0.9
UWE	**Uwekahuna**	**0.18**	**298**	IAML		12 02 45.1	
	comp=E,859nm,0.7s						
UWE				IAML		12 02 45.2	
	comp=N,767nm,0.4s						
RSD	**Rainshed**	**0.19**	**311**		Pg	12 02 39.8	+0.3
RSD					Sg	12 02 43.1	+0.9
HTC	**Hot Caves**	**0.28**	**249**		Pg	12 02 41.6	+0.5
MLH	**Mauna Loa**	**0.29**	**302**		Pg	12 02 41.6	+0.1
MLH	**Mauna Loa**	**0.29**	**302**	IAML		12 02 47.5	
	comp=E,476nm,0.2s						
MLH				IAML		12 02 48.9	
	comp=N,565nm,0.1s						
AIN	**Ainahou**	**0.32**	**277**		Pg	12 02 42.7	+0.8
HMH	**Humu'ula Sheep**	**0.43**	**308**		Pg	12 02 44.1	0.0
HMH					Sg	12 02 51.2	+1.4
HMH	**Humu'ula Sheep**	**0.43**	**308**	IAML		12 02 51.7	
	comp=E,2μm,0.3s						
HMH				IAML		12 02 51.9	
	comp=N,1μm,0.2s						
MWH	**Mokuaweoweo**	**0.47**	**288**		Pg	12 02 44.9	0.0
MWH					Sg	12 02 52.1	+1.0
MWH	**Mokuaweoweo**	**0.47**	**288**	IAML		12 02 52.8	
	comp=E,852nm,0.7s						
MWH				IAML		12 02 54.8	
	comp=N,711nm,0.5s						
KHU	**Kahuku**	**0.47**	**259**		Pg	12 02 44.4	-0.4
KHU					Sg	12 02 52.0	+1.0
ALEP	**Alea Permanent**	**0.53**	**293**		Pg	12 02 45.5	-0.5
ALEP					Sg	12 02 53.6	+0.6
POHA	**Pohakuloa**	**0.57**	**317**		Pg	12 02 46.1	-0.6
POHA	**Pohakuloa**	**0.57**	**317**		Sg	12 02 54.4	+0.3
POHA	**Pohakuloa**	**0.57**	**317**	IAML		12 02 57.9	
	comp=N,255nm,0.7s						
POHA				IAML		12 02 59.4	
	comp=N,242nm,0.6s						
HUH	**Hualalai**	**0.76**	**297**		Pg	12 02 50.7	+0.4
CPH	**Captain Cook**	**0.77**	**282**		Pg	12 02 49.4	-1.0
KHLU	**Kahalu`u**	**0.77**	**289**	Pg	Pg	12 02 50.3	-0.2
KHLU				IAML		12 03 00.6	
	comp=E,263nm,1.8s						
KHLU				IAML		12 03 00.0	
	comp=N,196nm,2.1s						
HPAH	**Hawaii Prepara**	**0.88**	**322**		Pg	12 02 50.2	-2.3
HPAH	**Hawaii Prepara**	**0.88**	**322**	IAML		12 03 04.3	
	comp=E,171nm,0.4s						
HPAH				IAML		12 03 04.8	
	comp=N,163nm,1.1s						
MHA	**Mahukona**	**1.12**	**319**	Pg	Pg	12 02 55.8	-1.4

*HVO **18** 12:17:17.2±0.8, 19.°33N±0.°04×155.°13W±0.°01, h-0km±9km, ML2.5/30, ML2.3/40(NEIC), Error ellipse: s-maj=5.4km s-min=1.0km az=163.0*
NEIC 18 12:17:19.0±0.9, 19.°35N±0.°01×155.°16W±0.°01, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.4km az=139.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHH	**Kane Nui o Ham**	**0.03**	**341**		Pg	12 17 20.2	0.0
STCH	**Steam Cracks**	**0.05**	**40**		Pg	12 17 20.0	-0.3
STCH					Sg	12 17 21.5	+0.2
PUH	**Pauahi**	**0.06**	**296**		Pg	12 17 20.6	+0.1
PUH	**Pauahi**	**0.06**	**296**		Sg	12 17 22.7	+1.1
PUH	**Pauahi**	**0.06**	**296**	IAML		12 17 21.4	
	comp=E,466nm,0.3s						
PUH				IAML		12 17 21.5	
	comp=N,349nm,0.5s						
JCUZ	**Jacuzzi**	**0.06**	**56**		Pg	12 17 20.0	-0.6
JCUZ					Sg	12 17 21.6	-0.1
NPOC	**North of Pu'u**	**0.06**	**45**		Pg	12 17 20.1	-0.4
NPOC					Sg	12 17 21.7	+0.1
KKO	**Keanakako'i**	**0.11**	**296**		Pg	12 17 21.5	+0.1
KKO					Sg	12 17 24.4	+1.4
BYL	**Byron's Ledge**	**0.12**	**304**		Pg	12 17 21.5	+0.1
BYL					Sg	12 17 24.2	+1.2
BYL	**Byron's Ledge**	**0.12**	**304**	IAML		12 17 24.4	
	comp=N,924nm,0.4s						
BYL				IAML		12 17 24.5	
	comp=E,880nm,0.2s						
RIM	**Rim**	**0.12**	**293**		Pg	12 17 21.6	+0.1
RIM					Sg	12 17 24.6	+1.4
HATHI	**Halema'uma'u T**	**0.12**	**308**		Pg	12 17 21.6	0.0
HATHI					Sg	12 17 24.3	+1.0
HATHI	**Halema'uma'u T**	**0.12**	**308**	IAML		12 17 24.4	
	comp=N,568nm,0.2s						
HATHI				IAML		12 17 25.0	
	comp=E,512nm,0.6s						
SBLHI	**Steaming Bluff**	**0.13**	**307**		Pg	12 17 21.6	-0.1
SBLHI					Sg	12 17 25.0	+1.5
SDHHI	**Sand Hill**	**0.14**	**288**		Pg	12 17 21.8	0.0
UWB	**Uwekahuna Bluf**	**0.14**	**304**		Pg	12 17 21.8	-0.1
UWB					Sg	12 17 25.4	+1.8
OBL	**Observatory Le**	**0.14**	**300**		Pg	12 17 21.9	+0.1
OBL					Sg	12 17 25.2	+1.5
WRMHI	**West Rim**	**0.15**	**294**		Pg	12 17 21.9	-0.1
WRMHI					Sg	12 17 25.7	+1.7
UWE	**Uwekahuna**	**0.15**	**300**		Pg	12 17 22.0	0.0
UWE	**Uwekahuna**	**0.15**	**300**		Sg	12 17 25.7	+1.7
UWE	**Uwekahuna**	**0.15**	**300**	IAML		12 17 25.7	
	comp=E,400nm,1.0s						
HLP	**Hilina Pali**	**0.15**	**250**		Pg	12 17 22.2	+0.1
HLP					Sg	12 17 25.4	+1.4
HLP	**Hilina Pali**	**0.15**	**250**	IAML		12 17 25.6	
	comp=E,654nm,0.2s						
HLP				IAML		12 17 25.6	
	comp=N,744nm,0.4s						
RSD	**Rainshed**	**0.16**	**315**		Pg	12 17 22.2	0.0
RSD					Sg	12 17 26.1	+1.7
JOKA	**Jonika Flow**	**0.17**	**59**		Pg	12 17 21.3	-1.1
JOKA					Sg	12 17 24.1	-0.5
JOKA	**Jonika Flow**	**0.17**	**59**	IAML		12 17 24.1	
	comp=E,357nm,0.4s						
JOKA				IAML		12 17 24.5	
	comp=N,505nm,0.6s						
HTC	**Hot Caves**	**0.25**	**244**		Pg	12 17 24.4	+0.5
MLH	**Mauna Loa**	**0.26**	**304**		Pg	12 17 24.0	-0.1
MLH					Sg	12 17 29.4	+1.8
MLH	**Mauna Loa**	**0.26**	**304**	IAML		12 17 30.6	
	comp=E,366nm,0.3s						
MLH				IAML		12 17 31.3	
	comp=N,544nm,0.2s						
AIN	**Ainahou**	**0.28**	**275**		Pg	12 17 24.5	-0.1
AIN					Sb	12 17 30.7	-1.1
AIN	**Ainahou**	**0.28**	**275**	IAML		12 17 31.3	
	comp=N,3μm,0.3s						
AIN				IAML		12 17 31.6	
	comp=E,3μm,0.2s						
HMH	**Humu'ula Sheep**	**0.40**	**310**		Pg	12 17 26.4	-0.4
HMH					Sg	12 17 33.6	+1.5
HMH	**Humu'ula Sheep**	**0.40**	**310**	IAML		12 17 34.1	
	comp=N,932nm,0.1s						
HMH				IAML		12 17 34.1	
	comp=E,2μm,0.3s						
MWH	**Mokuaweoweo**	**0.44**	**288**		Pg	12 17 27.2	-0.3
MWH					Sg	12 17 34.7	+1.4
MWH	**Mokuaweoweo**	**0.44**	**288**	IAML		12 17 35.2	
	comp=E,560nm,1.0s						
MWH				IAML		12 17 37.0	
	comp=N,512nm,0.3s						
KHU	**Kahuku**	**0.44**	**257**		Pg	12 17 26.8	-0.8
KHU					Sg	12 17 34.5	+1.0
ALEP	**Alea Permanent**	**0.50**	**293**		Pg	12 17 27.9	-0.7
ALEP					Sg	12 17 36.2	+1.0
POHA	**Pohakuloa**	**0.54**	**319**		Pg	12 17 28.5	-0.9
POHA					Sg	12 17 36.1	-0.4
POHA	**Pohakuloa**	**0.54**	**319**	IAML		12 17 37.3	
	comp=N,317nm,0.4s						
POHA				IAML		12 17 41.6	
	comp=N,243nm,0.4s						
HUH	**Hualalai**	**0.72**	**298**		Pg	12 17 31.4	-1.5
CPH	**Captain Cook**	**0.73**	**281**		Pg	12 17 31.5	-1

BMTS	**Belmont**	**0.65**	**46**	P		**Pb**	**12 20 47.0**	**0.0**
PLWZ	**Palliser**	**0.71**	**84**	P		**Pn**	**12 20 49.1**	**-0.5**
MSWZ	**Moikau Station**	**0.74**	**72**	P		**Pn**	**12 20 49.3**	**-0.6**
MSWZ				S		**Sn**	**12 21 00.4**	**-0.6**
UHCS	**Upper Hutt Col**	**0.76**	**47**	P		**Pb**	**12 20 48.8**	**0.0**
CAW	**Cannon Point**	**0.79**	**47**	P		**Pb**	**12 20 49.4**	**0.0**
NNZ	**Nelson**	**0.82**	**301**	P		**Pg**	**12 20 48.9**	**-1.1**
PAWZ	**Paruwai Farm**	**0.88**	**73**	P		**Pn**	**12 20 51.5**	**-0.4**
DUWZ	**D'Urville Isla**	**0.90**	**341**	P		**Pg**	**12 20 50.4**	**-1.0**
DUWZ				S		**Sg**	**12 21 02.3**	**-0.9**
MOLW	**Molesworth Sta**	**0.90**	**240**	P		**Pg**	**12 20 51.0**	**-0.5**
KIKS	**Kaikoura**	**0.91**	**211**	P		**Pb**	**12 20 51.4**	**0.0**
KIKS				S		**Sn**	**12 21 05.1**	**+0.2**
KIW	**Kapiti Island**	**0.91**	**30**	P		**Pg**	**12 20 51.3**	**-0.4**
KHZ	**Kahutara**	**0.96**	**216**	P		**Pg**	**12 20 51.9**	**-0.7**
KHZ	**Kahutara**	**0.96**	**216**	S		**Sn**	**12 21 06.5**	**+0.3**
KHZ	**Kahutara**	**0.96**	**216**	P		**Pg**	**12 20 52.1**	**-0.5**
QRZ	**Quartz Range**	**1.57**	**301**	P		**Pn**	**12 21 01.7**	**+0.4**
BFZ	**Birch Farm**	**1.75**	**57**	P		**Pn**	**12 21 02.7**	**-1.1**
KHEZ	**Kahui Hut**	**2.36**	**354**	P		**Pb**	**12 21 16.3**	**0.0**
HIZ	**Hauiti**	**3.16**	**8**	P		**Pn**	**12 21 24.9**	**+1.8**
RPZ	**Rata Peaks**	**3.17**	**228**	P		**Pn**	**12 21 24.1**	**+0.9**
URZ	**Urewera**	**4.01**	**33**	P		**Pn**	**12 21 35.3**	**+0.5**

*SOME **18** 12:43:46.1,48°.85N×83°.88E,h10km*
*NNC **18** 12:43:49.2±5.2,48°.64N×84°.44E,h14km±5.30km,mb2.6, mpv2.2,Error ellipse: s-maj=37.5km s-min=24.2km az=54.0*

ISC 18 12:43:51.8±2.0,48°.5N±0°.1×84°.1E±0°.1,h10km,n5,σ1s10/8, 7C-2D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**1.17**	**155**		*eP*		**Pn**	**12 44 13.0**	**-1.1**
	6.9nm,0.1s								
ZSN					*eS*		**Sn**	**12 44 31.8**	**+1.7**
	25nm,0.1s								
MK31	**Makanchi Array**	**2.12**	**217**	⇑	Pg		**Pg**	**12 44 32.2**	**-0.1**
	0.1nm,0.2s,baz=39,slow=16,SNR=8.2								
MK31				⇓	Lg		Lg	12 45 07.1	
	1.0nm,0.3s,baz=39,slow=25,SNR=6.3								
MAKZ	**Makanchi**	**2.23**	**221**		Pg		**Pb**	**12 44 32.3**	**+0.1**
	0.5nm,0.4s								
MAKZ				⇓	Lg		Lg	12 45 09.1	
	1.2nm,0.4s								
KURK	**Kurchatov**	**4.21**	**304**	⇑	Pn		**Pn**	**12 44 56.5**	**+0.6**
	0.3nm,0.3s								
KURK				⇑	Sn		**Sn**	**12 45 44.3**	**-0.9**
	1.0nm,0.4s								
KURK				⇑	Lg		Lg	12 46 05.0	
	4.3nm,0.6s								
KURBB	**Kurchatov Arra**	**4.22**	**302**	⇑	Pn		**Pn**	**12 44 56.5**	**+0.5**
	0.5nm,0.4s								
KURBB				⇑	Sn		**Sn**	**12 45 44.8**	**-0.5**
	2.4nm,0.5s								
KURBB				⇑	Lg		Lg	12 46 05.0	
	6.6nm,0.6s								

*KRSC **18** 12:45:38.7±1.8,52°.43N×159°.99E,h51km±20km,Mc4.3, Ml5.2,Felt [III] at kordon Cape Nalichevo, kordon Tsentralnyi; [II-III] at Petropavlovsk, Pionersky, river Karimshina (stationary KF GS), Vulkannіy; [II] at lighthouse Krugliy, Termalniy, Elizovo.*
*MOS **18** 12:45:40.9±1.1,52°.49N×159°.73E,h65km,mb4.7/26,Error ellipse: s-maj=7.0km s-min=3.4km az=91.8*
*NEIC **18** 12:45:41.9±1.4,52°.46N±0°.08×159°.62E±0°.09,h59km±6km, mb4.7/301,Error ellipse: s-maj=11.8km s-min=7.8km az=191.0*
*IDC **18** 12:45:43.9±1.3,52°.66N×159°.49E,h66km±9km,mb4.1/32, mbtmp4.5/35,MS3.4/38,Error ellipse: s-maj=11.6km s-min=10.4km az=154.0*

ISC 18 12:45:41.6±0.6,52°.50N±0°.04×159°.85E±0°.03,h55km±5km, n662,σ1s32/546,mb4.6/194,MS3.5/36,9C-8D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.61**	**10**		PN		**Pn**	**12 45 53.7**	**-0.7**
SPN					S		**Sn**	**12 46 02.9**	**-0.9**
SPN	**Mys Shipunski**	**0.61**	**10**		*eP*		**Pn**	**12 45 53.8**	**-0.7**
SPN					*eS*		**Sn**	**12 46 03.0**	**-0.9**
NLC	**Nalytchevo**	**0.74**	**336**		PN		**Pn**	**12 45 55.5**	**-0.5**
NLC					S		**Sn**	**12 46 06.1**	**-0.5**
NLC	**Nalytchevo**	**0.74**	**336**		*eP*		**Pn**	**12 45 55.6**	**-0.5**
NLC					*eS*		**Sn**	**12 46 06.1**	**-0.5**
RUS	**Russkaya**	**0.82**	**266**		PN		**Pn**	**12 45 58.7**	**+1.7**
RUS	**Russkaya**	**0.82**	**266**		*eP*		**Pn**	**12 45 58.8**	**+1.7**
DALK	**Dalny**	**0.86**	**309**		PN		**Pn**	**12 45 56.8**	**-0.7**
DALK					S		**Sn**	**12 46 08.3**	**-0.9**
DALK	**Dalny**	**0.86**	**309**		*eP*		**Pn**	**12 45 56.9**	**-0.7**
DALK					*eS*		**Sn**	**12 46 08.4**	**-0.9**
PET	**Petropavlovsk**	**0.90**	**306**				**Pn**	**12 45 57.4**	**-0.7**
PET							**Sn**	**12 46 09.2**	**-1.0**
PET	**Petropavlovsk**	**0.90**	**306**	κ	*i*PN		**Pn**	**12 45 57.5**	**-0.6**
PET					*eS*		**Sn**	**12 46 09.0**	**-1.3**
PET					pmax		pmax		
	comp=Z,6μm,0.5s								
PET					smax		smax		
	comp=E,38μm,0.8s								
PET					smax		smax		
	comp=N,29μm,0.4s								
PET	**Petropavlovsk**	**0.90**	**306**		Pn		**Pn**	**12 45 55.0**	**-3.1**
UGLR	**Uglovaya**	**0.95**	**319**		PN		**Pn**	**12 45 58.7**	**-0.1**
UGLR	**Uglovaya**	**0.95**	**319**		*eP*		**Pn**	**12 45 58.8**	**-0.1**
INSR	**Institute**	**0.95**	**307**		PN		**Pn**	**12 45 58.2**	**-0.5**
INSR					S		**Sn**	**12 46 10.7**	**-0.7**
INSR	**Institute**	**0.95**	**307**		*eP*		**Pn**	**12 45 58.2**	**-0.5**
INSR					*eS*		**Sn**	**12 46 10.7**	**-0.7**
SDLR	**Sedlovina**	**0.98**	**324**		PN		**Pn**	**12 45 58.7**	**-0.5**
SDLR	**Sedlovina**	**0.98**	**324**		*eP*		**Pn**	**12 45 58.8**	**-0.5**
SMAR	**Somma**	**1.00**	**321**		PN		**Pn**	**12 45 59.1**	**-0.5**
SMAR	**Somma**	**1.00**	**321**		*eP*		**Pn**	**12 45 59.1**	**-0.5**
MTVR	**Mutnovka**	**1.02**	**270**		PN		**Pn**	**12 45 59.5**	**-0.3**
MTVR	**Mutnovka**	**1.02**	**270**		*eP*		**Pn**	**12 45 59.5**	**-0.3**
AVH	**Avacha**	**1.02**	**319**		PN		**Pn**	**12 45 59.8**	**0.0**
AVH	**Avacha**	**1.02**	**319**		*eP*		**Pn**	**12 45 59.9**	**0.0**
KRER	**Koryakskii**	**1.05**	**321**		PN		**Pn**	**12 46 00.2**	**-0.1**
KRER	**Koryakskii**	**1.05**	**321**		*eP*		**Pn**	**12 46 00.2**	**-0.1**
KOK	**Koryaka**	**1.09**	**318**		PN		**Pn**	**12 46 00.5**	**-0.1**
KOK	**Koryaka**	**1.09**	**318**		*eP*		**Pn**	**12 46 00.6**	**-0.1**
GRL	**Gorelyy**	**1.09**	**274**		PN		**Pn**	**12 46 00.8**	**+0.1**
GRL	**Gorelyy**	**1.09**	**274**		*eP*		**Pn**	**12 46 00.8**	**+0.1**
KRMR	**Karymshinskiy**	**1.10**	**288**		PN		**Pn**	**12 46 00.2**	**-0.5**
KRMR					S		**Sn**	**12 46 14.7**	**-0.3**
KRMR	**Karymshinskiy**	**1.10**	**288**		*eP*		**Pn**	**12 46 00.3**	**-0.5**
KRMR					*eS*		**Sn**	**12 46 14.8**	**-0.3**
KRX	**Arik**	**1.13**	**320**		PN		**Pn**	**12 46 00.9**	**-0.4**
KRX	**Arik**	**1.13**	**320**		*eP*		**Pn**	**12 46 00.9**	**-0.4**
ASAK	**Asacha**	**1.20**	**265**		PN		**Pn**	**12 46 02.4**	**+0.3**
ASAK	**Asacha**	**1.20**	**265**		*eP*		**Pn**	**12 46 02.5**	**+0.3**
I44RU	**PETROPAVLOVSK-**	**1.44**	**296**		P		**Pn**	**12 46 05.2**	**-0.1**
	baz=104,slow=18,SNR=3.1								
PEA0B	**Petropavlovsk-**	**1.45**	**296**				**Pn**	**12 46 05.4**	**0.0**
PEA0B	**Petropavlovsk-**	**1.45**	**296**	*d*	*i*PN		**Pn**	**12 46 05.4**	**0.0**
PETK	**Petropavlovsk-**	**1.45**	**296**				**Pn**	**12 46 04.7**	**-0.7**
PETK	**Petropavlovsk-**	**1.45**	**296**		P		**Pn**	**12 46 04.5**	**-0.9**
	comp=N,764nm,0.4s,baz=109,slow=18,SNR=1960								
PETK					S		**Sn**	**12 46 19.8**	**-3.5**
	comp=N,1μm,0.6s,baz=107,slow=23,SNR=7.9								
KII	**Karymskiy**	**1.56**	**351**		PN		**Pn**	**12 46 07.5**	**+0.5**
KII	**Karymskiy**	**1.56**	**351**		*eP*		**Pn**	**12 46 07.6**	**+0.5**
GNL	**Ganaly**	**1.67**	**317**		PN		**Pn**	**12 46 09.0**	**+0.6**
GNL	**Ganaly**	**1.67**	**317**		*eP*		**Pn**	**12 46 09.1**	**+0.6**
APC	**Apacha**	**1.69**	**286**		PN		**Pn**	**12 46 09.6**	**+0.9**
APC					S		**Sn**	**12 46 32.3**	**+3.0**
APC	**Apacha**	**1.69**	**286**		*eP*		**Pn**	**12 46 09.6**	**+0.9**
APC					*eS*		**Sn**	**12 46 32.3**	**+3.0**
MIPR	**Malaya Ipel'ka**	**1.91**	**265**		PN		**Pn**	**12 46 12.7**	**+1.0**
MIPR	**Malaya Ipel'ka**	**1.91**	**265**		*eP*		**Pn**	**12 46 12.8**	**+1.0**
MIPR					*eS*		**Sn**	**12 46 38.4**	**+3.8**
PAU	**Pauzhetka**	**2.15**	**242**		PN		**Pn**	**12 46 15.3**	**+0.4**
PAU	**Pauzhetka**	**2.15**	**242**		*eP*		**Pn**	**12 46 15.3**	**+0.4**
MKZ	**Mys Kozlova**	**2.35**	**28**		PN		**Pn**	**12 46 17.1**	**-0.5**
MKZ					S		**Sn**	**12 46 44.3**	**-0.9**
MKZ	**Mys Kozlova**	**2.35**	**28**		*eP*		**Pn**	**12 46 17.2**	**-0.5**
MKZ					*eS*		**Sn**	**12 46 44.4**	**-0.9**
TUMD	**Tumrok D**	**2.73**	**7**		PN		**Pn**	**12 46 23.7**	**+0.8**
TUMD					S		**Sn**	**12 46 56.7**	**+2.0**
TUMD	**Tumrok D**	**2.73**	**7**		*eP*		**Pn**	**12 46 23.8**	**+0.8**
TUMD					*eS*		**Sn**	**12 46 56.8**	**+2.0**
SKR	**Severo-Kuril's**	**2.95**	**234**		PN		**Pn**	**12 46 25.6**	**-0.3**
SKR					S		**Sn**	**12 46 59.4**	**-0.7**
SKR	**Severo-Kuril's**	**2.95**	**234**		*eP*		**Pn**	**12 46 25.7**	**-0.3**
SKR					*eS*		**Sn**	**12 46 59.5**	**-0.7**
KMNR	**Kamenistaya**	**3.27**	**4**		PN		**Pn**	**12 46 32.4**	**+2.0**
KMNR	**Kamenistaya**	**3.27**	**4**		*eP*		**Pn**	**12 46 32.4**	**+2.0**
BZMR	**Bezymyannaya**	**3.47**	**6**		PN		**Pn**	**12 46 34.7**	**+1.6**
BZMR	**Bezymyannaya**	**3.47**	**6**		*eP*		**Pn**	**12 46 34.8**	**+1.6**
KIRR	**Kirishev**	**3.48**	**5**		PN		**Pn**	**12 46 34.9**	**+1.7**
KIRR	**Kirishev**	**3.48**	**5**		*eP*		**Pn**	**12 46 35.0**	**+1.7**
KPT	**Kopyto**	**3.48**	**3**		PN		**Pn**	**12 46 35.0**	**+1.7**
KPT	**Kopyto**	**3.48**	**3**		*eP*		**Pn**	**12 46 35.0**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**3.49**	**8**		PN		**Pn**	**12 46 35.3**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**3.49**	**8**		*eP*		**Pn**	**12 46 35.3**	**+2.0**
BZWR	**Bezymyannyi-We**	**3.50**	**6**		PN		**Pn**	**12 46 35.4**	**+1.9**
BZWR	**Bezymyannyi-We**	**3.50**	**6**		*eP*		**Pn**	**12 46 35.5**	**+1.9**
ESO	**Esso**	**3.50**	**349**		PN		**Pn**	**12 46 34.9**	**+1.4**
ESO	**Esso**	**3.50**	**349**		*eP*		**Pn**	**12 46 34.9**	**+1.4**
KOZ	**Kozyrevsk**	**3.57**	**0**		PN		**Pn**	**12 46 37.1**	**+2.8**
KOZ	**Kozyrevsk**	**3.57**	**0**		*eP*		**Pn**	**12 46 37.2**	**+2.8**
ZLN	**Zelenaya**	**3.57**	**9**		PN		**Pn**	**12 46 36.8**	**+2.3**
ZLN	**Zelenaya**	**3.57**	**9**		*eP*		**Pn**	**12 46 36.9**	**+2.3**
LGNR	**Loginova**	**3.63**	**7**		PN		**Pn**	**12 46 37.7**	**+2.3**
LGNR	**Loginova**	**3.63**	**7**		*eP*		**Pn**	**12 46 37.8**	**+2.3**
SRDR	**Sredinnyy**	**3.83**	**359**		PN		**Pn**	**12 46 39.5**	**+1.5**
SRDR	**Sredinnyy**	**3.83**	**359**		*eP*		**Pn**	**12 46 39.5**	**+1.5**
KLY	**Klyuchi**	**3.85**	**7**		PN		**Pn**	**12 46 39.9**	**+1.7**
KLY	**Klyuchi**	**3.85**	**7**		*eP*		**Pn**	**12 46 39.9**	**+1.7**
KBTR	**Krutoberegovo**	**4.10**	**24**		PN		**Pn**	**12 46 42.3**	**+0.7**
KBTR	**Krutoberegovo**	**4.10**	**24**		*eP*		**Pn**	**12 46 42.4**	**+0.7**
KBG	**Krutoberegovo**	**4.12**	**23**		PN		**Pn**	**12 46 43.5**	**+1.7**
KBG	**Krutoberegovo**	**4.12**	**23**		*eP*		**Pn**	**12 46 43.6**	**+1.7**
SMKR	**Semkarok**	**4.20**	**12**		PN		**Pn**	**12 46 44.7**	**+1.6**
SMKR	**Semkarok**	**4.20**	**12**		*eP*		**Pn**	**12 46 44.7**	**+1.6**
SRKR	**Sorokina**	**4.24**	**10**		PN		**Pn**	**12 46 47.3**	**+3.8**
SRKR	**Sorokina**	**4.24**	**10**		*eP*		**Pn**	**12 46 47.3**	**+3.8**
BKI	**Bering**	**4.53**	**51**		PN		**Pn**	**12 46 47.1**	**-0.3**
BKI	**Bering**	**4.53**	**51**		*eP*		**Pn**	**12 46 47.2**	**-0.3**
BKI					*eS*		**Sn**	**12 47 33.8**	**-4.8**
OSSR	**Ossora**	**7.00**	**14**		PN		**Pn**	**12 47 22.0**	**+0.6**
OSSR	**Ossora**	**7.00**	**14**		*eP*		**Pn**	**12 47 22.0**	**+0.6**
SHEM	**Shemya Is, Ala**	**8.68**	**83**		Pn		**Pn**	**12 47 45.5**	**+1.2**
SHEM	**Shemya Is, Ala**	**8.68**	**83**		P		**Pn**	**12 47 45.1**	**+0.8**
	comp=N,41nm,0.3s,baz=245,slow=19,SNR=18								
SHEM					S		**Sn**	**12 49 13.7**	**-6.8**
	comp=N,94nm,0.4s,baz=277,slow=16,SNR=15								
SHEM					LR		LR	12 51 20.6	
	comp=N,133nm,20.6s,baz=284,slow=38								
SMY	**Shemya**	**8.68**	**83**				**Pn**	**12 47 45.3**	**+1.0**
SMY	**Shemya**	**8.68**	**83**		PN		**Pn**	**12 47 45.3**	**+1.0**
MA2	**Magadan**	**8.72**	**328**		P		**Pn**	**12 47 45.2**	**+0.3**
	comp=N,8.2nm,0.8s,baz=167,slow=18,SNR=2.5								
MA2					LR		LR	12 51 28.9	
	comp=N,156nm,20.9s,baz=142,slow=41								
KMSK	**Kamenskaya**	**10.56**	**16**		PN		**Pn**	**12 48 13.3**	**+3.4**
KMSK	**Kamenskaya**	**10.56**	**16**		*eP*		**Pn**	**12 48 13.3**	**+3.4**
TYV	**Tymovskoe**	**10.80**	**268**		*eP*	N	**Pn**	**12 48 16.7**	**+3.3**
TYV					pmax		pmax		
	comp=Z,16nm,1.2s								
TYV					pmax		pmax		
	comp=Z,200nm,3.6s								
SEY	**Seymchan**	**11.19**	**342**		P		**Pn**	**12 48 21.3**	**+2.8**
	comp=Z,2.6nm,0.8s,baz=156,slow=15,SNR=4.3								
SEY					LR		LR	12 52 50.5	
	comp=Z,172nm,21.6s,baz=248,slow=39								
SEY	**Seymchan**	**11.19**	**342**		*i* PN		**Pn**	**12 48 19.9**	**+1.3**
SEY					pmax		pmax		
	comp=Z,1.0nm,0.2s								
AMKA	**Amchitka**	**12.05**	**88**		Pn		**Pn**	**12 48 31.6**	**+1.2**
YSS	**Yuzhno-Sakhali**	**12.37**	**250**		P		**P**	**12 48 44.1**	**-0.9**
	comp=Z,17nm,1.5s								
YSS	**Yuzhno-Sakhali**	**12.37**	**250**		*i* PN		**Pn**	**12 48 31.3**	**-3.4**
YSS					pmax		pmax		
	comp=Z,2.0nm,0.2s								
KIWB	**Kanaga Island**	**14.12**	**83**		Pn		**Pn**	**12 49 00.3**	**+1.9**
JKA	**Kamikawa-asahi**	**14.19**	**241**				**Pn**	**12 48 59.7**	**+0.2**
ASAJ	**Asahikawa**	**14.19**	**241**		P		**Pn**	**12 48 59.6**	**+0.2**
	comp=Z,18nm,0.6s,baz=68,slow=10.0,SNR=30								
ASAJ					LR		LR	12 54 01.7	
	comp=Z,118nm,20.5s,baz=48,slow=35								
ADK	**Adak**	**14.39**	**83**		Pn		**Pn**	**12 49 04.3**	**+2.3**
ADK	**Adak**	**14.39**	**83**		P		**Pn**	**12 49 04.5**	**+2.4**
ADK	**Adak**	**14.39**	**83**		P		**P**	**12 49 08.1**	**+0.6**
ADK	**Adak**	**14.39**	**83**		P		**Pn**	**12 49 04.5**	**+2.4**
GRNR	**Gornyy**	**14.64**	**273**	⇓	*i*P		**P**	**12 49 11.0**	**+0.7**
GRNR					pmax		pmax		
	comp=E,10.0nm,0.5s								
GRNR					pmax		pmax		
	comp=Z,20nm,0.6s								
GRNR					MLR		MLR		
	comp=E,100nm,20.0s								
GRNR					MLR		MLR		
	comp=N,70nm,16.0s								
GRNR					MLR		MLR		
	comp=Z,120nm,13.0s								
GSTR	**Great Sitkin T**	**14.73**	**82**		Pn		**Pn**	**12 49 07.9**	**+1.4**
ERM	**Erimo**	**15.40**	**234**		Pn		**Pn**	**12 49 10.0**	**-5.2**
ERM					IAmb		IAmb	12 49 28.3	
	comp=Z,19nm,0.6s								
ERM	**Erimo**	**15.40**	**234**		P		**Pn**	**12 49 10.0**	**-5.2**
ERM					pmax		pmax		
	comp=Z,19nm,0.6s								
ATKA	**Atka Island**	**15.84**	**81**		Pn		**P**	**12 49 22.8**	**-0.7**
BILL	**Bilibino**	**15.90**	**9**	*c*	*e*P		**P**	**12 49 24.6**	**+0.5**
BILL					pmax		pmax		
	comp=Z,9.0nm,0.6s								
JTM	**Tenmabayashi**	**17.36**	**235**		Pn		**Pn**	**12 49 33.7**	**-6.1**
SPIA	**Saint Paul Isl**	**17.76**	**63**		P		**Pn**	**12 49 44.5**	**-0.1**
	baz=267								
P08K	**Saint George I**	**18.13**	**65**		P		**Pn**	**12 49 49.8**	**+0.7**
	baz=270								
GAMB	**Gambell**	**18.60**	**42**		P		**Pn**	**12 49 55.4**	**+0.7**
	baz=246								
YAK	**Yakutsk**	**18.73**	**312**		P		**P**	**12 49 54.1**	**-1.3**
YAK	**Yakutsk**	**18.73**	**312**		P		**P**	**12 49 55.5**	**+0.2**
	comp=Z,40nm,0.5s,baz=86,slow=1.4,SNR=12								
YAK					S		**Sn**	**12 53 20.2**	**-4.5**
	comp=Z,12nm,0.4s,baz=105,slow=1.2,SNR=1.3								
YAK					LR		LR	12 57 25.1	
	comp=Z,50nm,18.9s,baz=96,slow=38								
YAK	**Yakutsk**	**18.73**	**312**		*eP*		**Pn**	**12 49 57.0**	**+0.7**
YAK					*eS*		**Sn**	**12 53 24.8**	**+0.1**
YAK					pmax		pmax		
	comp=Z,73nm,1.2s								
YAK					pmax		pmax		
	comp=N,10.0nm,1.5s								
YAK					pmax		pmax		
	comp=E,28nm,1.9s								
YAK					smax		smax		
	comp=E,51nm,3.3s								
YAK					smax		smax		
	comp=N,24nm,1.4s								
NIKH	**Nikolski High**	**18.88**	**76**		P		**Pn**	**12 49 58.2**	**0.0**
	baz=281								
ZEA	**Zeya**	**19.52**	**287**		*eP*		**P**	**12 50 03.0**	**-1.1**
ZEA					pmax		pmax		
	comp=E,10.0nm,0.6s								
ZEA					pmax		pmax		
	comp=Z,10.0nm,0.8s								
JMM	**Marumori**	**19.77**	**230**				**P**	**12 50 04.4**	**-2.5**
JMM					IAmb		IAmb	12 50 11.0	
	comp=Z,25nm,0.9s								
JMM	**Marumori**	**19.77**	**230**		P		**Pn**	**12 50 09.0**	**+0.1**
UNV	**Unalaska Valle**	**20.11**	**73**		P		Pn	12 50 12.1	-0.6
UNV					IAmb		IAmb	12 50 15.9	
	comp=Z,22nm,0.8s								
UNV	**Unalaska Valle**	**20.11**	**73**		P		**P**	**12 50 10.2**	**-0.3**
	baz=280								
M11K	**Mekoryuk**	**20.16**	**54**		P		**P**	**12 50 12.1**	**+1.2**
	baz=262								
USRK	**Ussuriysk Ar.**	**20.19**	**257**		P		**P**	**12 50 08.6**	**-2.9**
USRK	**Ussuriysk Ar.**	**20.19**	**257**		P		**P**	**12 50 10.2**	**-1.2**
	comp=Z,3.2nm,0.4s,baz=53,slow=13,SNR=12								
USRK					LR		LR	12 58 19.7	
	comp=Z,198nm,18.9s,baz=46,slow=38								
	comp=Z,3.2nm,0.4s								
USRK	**Ussuriysk Ar.**	**20.19**	**257**		P		**P**	**12 50 08.6**	**-2.9**
HEH	**HeiHe**	**20.28**	**277**		*eP*		**P**	**12 50 11.5**	**-0.9**
HEH					pmax		pmax		
	comp=Z,14nm,0.8s								
HEH					LR		LR		
	comp=N,130nm,13.5s								
HEH					LR		LR		
	comp=E,170nm,12.9s								
HEH					LR		LR		
	comp=Z,220nm,14.8s								
TNA	**Tin City**	**20.81**	**39**		P		**P**	**12 50 18.7**	**+0.8**
TNA	**Tin City**	**20.81**	**39**		P		**P**	**12 50 19.2**	**+1.3**
	baz=247								
K13K	**Kusilvak Mount**	**21.14**	**50**		P		**P**	**12 50 22.5**	**+0.9**
K13K	**Kusilvak Mount**	**21.14**	**50**		P		**P**	**12 50 22.3**	**+0.7**
	baz=260								
F14K	**Arctic Creek**	**21.39**	**40**		P		**P**	**12 50 25.3**	**+1.1**
	baz=249								
ANM	**Nome**	**21.47**	**42**		P		**P**	**12 50 25.2**	**+0.2**
ANM					IAmb		IAmb	12 50 28.7	
	comp=Z,40nm,1.2s								
ANM	**Nome**	**21.47**	**42**		P		**P**	**12 50 25.2**	**+0.2**
ANM					pmax		pmax		
	comp=Z,40nm,1.2s								
ANM	**Nome**	**21.47**	**42**		P		**P**	**12 50 26.6**	**+1.5**
	baz=252								
M13K	**Dall Lake**	**21.57**	**54**		P		**P**	**12 50 26.7**	**+0.6**
	baz=265								
FALS	**False Pass**	**21.73**	**69**		P		**P**	**12 50 28.4**	**+0.6**
	baz=279								
J14K	**Nanvaranak Lak**	**21.80**	**48**		P		**P**	**12 50 29.6**	**+1.1**
J14K					IAmb		IAmb	12 50 31.5	
	comp=Z,24nm,0.8s								
J14K	**Nanvaranak Lak**	**21.80**	**48**		P		**P**	**12 50 29.6**	**+1.1**
	baz=259,SNR=7.9								
L14K	**Kuka Creek**	**21.99**	**52**		P		**P**	**12 50 31.1**	**+0.6**
L14K					IAmb		IAmb	12 50 47.0	
	comp=Z,26nm,1.2s								
L14K	**Kuka Creek**	**21.99**	**52**		P		**P**	**12 50 30.9**	**+0.3**
	baz=263								
MJB9	**Matsu-Tunnel**	**22.06**	**232**		P		**P**	**12 50 31.2**	**-0.4**
MAJO	**Matsushiro**	**22.06**	**232**				**P**	**12 50 31.2**	**-0.4**
MAJO	**Matsushiro**	**22.06**	**232**		P		**P**	**12 50 31.2**	**-0.4**
MAJO					pmax		pmax		
	comp=Z,42nm,0.6s								
MJAR	**Matsushiro Arr**	**22.06**	**232**		P		**P**	**12 50 29.9**	**-1.7**
MJAR	**Matsushiro Arr**	**22.06**	**232**		P		**P**	**12 50 32.2**	**+0.6**
	comp=Z,20nm,0.7s,baz=43,slow=9.4,SNR=68								
MJAR					LR		LR	13 00 03.3	
	comp=Z,76nm,20.5s,baz=62,slow=39								
	comp=Z,20nm,0.7s								
MJAR	**Matsushiro Arr**	**22.06**	**232**		P		**P**	**12 50 29.9**	**-1.7**
MJAR					pmax		pmax		
	comp=Z,5.0nm,0.7s								
F15K	**North Star Dit**	**22.13**	**40**		P		**P**	**12 50 33.5**	**+1.5**
F15K	**North Star Dit**	**22.13**	**40**		P		**P**	**12 50 32.6**	**+0.6**
	baz=250								
G15K	**Niukluk**	**22.14**	**42**		P		**P**	**12 50 32.6**	**+0.3**
	baz=253								
BNX	**BinXian**	**22.15**	**265**	⇑	P		**P**	**12 50 29.1**	**-3.4**
BNX					pmax		pmax		
	comp=Z,8.0nm,0.8s								
M14K	**Bethel**	**22.28**	**53**		IAmb		IAmb	12 50 49.5	
	comp=Z,19nm

N17K **Nushagak Hills** 24.62 54 P P 12 50 57.3 +0.9
baz=270
L18K **Granite Mounta** 24.90 50 P P 12 51 00.1 +1.2
baz=267
Q16K **King Salmon** 24.98 58 P P 12 51 00.8 +1.2
baz=275
J18K **Innoko River** 24.98 47 IAmb IAmb 12 51 03.1
comp=Z,23nm,1.1s
J18K **Innoko River** 24.98 47 P P 12 51 00.7 +1.1
baz=264,SNR=14
P17K **Kvichak River** 25.05 57 P P 12 51 00.9 +0.6
baz=274
A19K **Wainwright** 25.08 30 P P 12 51 01.8 +1.3
baz=245
F19K **Shaleruckik Mo** 25.11 39 IAmb IAmb 12 51 02.7
comp=Z,16nm,0.8s
F19K **Shaleruckik Mo** 25.11 39 P P 12 51 01.7 +0.9
baz=256,SNR=18
C19K **Lookout Ridge** 25.14 33 P P 12 51 01.9 +0.9
C19K **Lookout Ridge** 25.14 33 P P 12 51 01.9 +0.9
baz=249,SNR=14
G19K **Purcell Mounta** 25.23 41 P P 12 51 02.8 +0.9
baz=258,SNR=9.1
R17L **Mt. Peulik Vol** 25.24 61 P P 12 51 02.8 +0.7
baz=277
N18K **Kilae Creek** 25.26 54 IAmb IAmb 12 51 05.6
comp=Z,18nm,1.1s
N18K **Kilae Creek** 25.26 54 P P 12 51 03.4 +1.2
baz=271,SNR=6.5
M18K **Stony River** 25.29 52 P P 12 51 03.3 +0.9
baz=269,SNR=8.2
H19K **Roundabout Mou** 25.37 42 IAmb IAmb 12 51 05.5
comp=Z,22nm,0.8s
H19K **Roundabout Mou** 25.37 42 P P 12 51 04.0 +0.9
baz=260,SNR=22
Q17K **Contact Creek** 25.42 59 P P 12 51 04.3 +0.6
baz=276
D19K **Kuna River** 25.44 35 IAmb IAmb 12 51 07.0
comp=Z,17nm,1.0s
D19K **Kuna River** 25.44 35 P P 12 51 04.5 +0.8
baz=252
E19K **Redstone River** 25.47 38 IAmb IAmb 12 51 07.8
comp=Z,50nm,1.4s
E19K **Redstone River** 25.47 38 P P 12 51 05.0 +1.0
baz=255
J19K **Poorman** 25.52 46 P P 12 51 05.1 +0.6
baz=264,SNR=12
O18K **Koktuh Hills** 25.63 55 P P 12 51 06.3 +0.7
baz=273
P18K **Big Mountain,** 25.66 57 P P 12 51 06.7 +0.9
baz=274
ACHA **Angle Creek He** 25.72 59 P P 12 51 07.7 +1.2
L19K **White Mountain** 25.76 50 P P 12 51 07.1 +0.4
baz=269
Q18K **Katmai Hardscr** 25.84 58 P P 12 51 08.0 +0.4
baz=276
CHIR **Chirikof Islan** 25.94 65 P P 12 51 08.7 +0.4
baz=281
N19K **Bonanza Creek** 25.95 53 P P 12 51 09.5 +1.0
baz=272
F20K **Avaraart Lake** 25.95 39 P P 12 51 09.3 +1.0
F20K **Avaraart Lake** 25.95 39 P P 12 51 09.7 +1.4
baz=258,SNR=8.4
M19K **Big River Lodg** 25.98 51 P P 12 51 09.2 +0.5
baz=270
H20K **Anotleneega Mo** 26.01 43 P P 12 51 10.1 +1.1
baz=262,SNR=13
D20K **Etivluk River** 26.03 35 IAmb IAmb 12 51 16.0
comp=Z,16nm,0.9s
D20K **Etivluk River** 26.03 35 P P 12 51 09.6 +0.5
baz=254
E20K **Nigu River** 26.06 36 P P 12 51 09.8 +0.3
baz=255
I20K **Naaghedeneel** 26.10 44 P P 12 51 10.7 +1.1
baz=264
K20K **Telida** 26.16 47 P P 12 51 11.4 +1.1
baz=267
J20K **Nowinta River** 26.18 46 IAmb IAmb 12 51 14.4
comp=Z,13nm,0.8s
J20K **Nowinta River** 26.18 46 P P 12 51 11.8 +1.4
baz=265,SNR=11
L20K **Farewell, AK** 26.22 49 P P 12 51 11.8 +0.9
baz=269
B20K **Meade River** 26.25 32 P P 12 51 13.4 +2.4
baz=250,SNR=9.6
IMAR **Indian Mountai** 26.54 42 P P 12 51 14.0 +0.3
M20K **Styx River** 26.57 51 P P 12 51 14.6 +0.5
baz=271
G21K **Allakaket** 26.72 40 P P 12 51 16.2 +0.9
baz=261
C21K **Knifeblade Rid** 26.79 34 P P 12 51 16.3 +0.4
baz=255
F21K **Alatna River** 26.84 39 P P 12 51 17.1 +0.7
baz=260
KS19 **Wonju Array Si** 26.86 249 P P 12 51 14.6 -2.2
KS19 IAmb IAmb 12 51 41.3
comp=Z,16nm,1.3s
KSRS **Korea Array** 26.86 249 P P 12 51 16.7 0.0
comp=Z,4.7nm,0.7s,baz=44,slow=9.5,SNR=19
comp=Z,4.7nm,0.7s
H21K **Melozitna Rive** 26.89 42 P P 12 51 17.6 +0.7
H21K **Melozitna Rive** 26.89 42 P P 12 51 16.6 -0.2
baz=264,SNR=8.5
KSAR **Wonju Array Be** 26.89 249 P P 12 51 15.3 -1.8
KSAR **Wonju Array Be** 26.89 249 P P 12 51 15.3 -1.8
E21K **Killik River** 26.90 36 P P 12 51 17.4 +0.5
baz=257
OHAK **Old Harbor** 26.95 61 P P 12 51 17.3 -0.1
baz=280
B21K **Ikpikpuk River** 26.97 33 IAmb IAmb 12 51 19.4
comp=Z,20nm,0.7s
B21K **Ikpikpuk River** 26.97 33 P P 12 51 17.7 +0.2
baz=254,SNR=7.4
PPLA **Purkeypile** 27.00 49 P P 12 51 18.2 +0.1
baz=270
I21K **Tanana** 27.19 43 P P 12 51 19.6 +0.1
baz=266
SKT **Skwentna** 27.32 51 P P 12 51 21.0 +0.2
baz=272
D22K **Ayikyak River** 27.46 35 P P 12 51 22.5 +0.6
baz=258
H22K **Ishtalitna Cre** 27.50 42 P P 12 51 22.6 +0.3
baz=265,SNR=5.6
BPAW **Bear Paw Mtn.** 27.56 46 P P 12 51 23.2 +0.4
baz=268,SNR=5.6
G22K **Bettles** 27.56 40 P P 12 51 23.5 +0.7
baz=263
B22K **Teshekpuk Lake** 27.57 32 P P 12 51 23.1 +0.3
baz=254
E22K **Anaktuvuk Pass** 27.63 37 IAmb IAmb 12 51 25.7
comp=Z,8.1nm,0.6s
E22K **Anaktuvuk Pass** 27.63 37 P P 12 51 24.3 +0.8
baz=260,SNR=13
MLY **Manley** 27.70 44 P P 12 51 24.3 +0.1
baz=267,SNR=8.9
TRF **Thorofare Moun** 27.86 47 P P 12 51 26.2 +0.4
baz=270,SNR=6.1
CUT **Chulitna** 27.90 50 P P 12 51 26.2 +0.3
baz=272
M22K **Willow** 28.00 51 P P 12 51 27.5 +0.7
baz=274
COLD **Coldfoot** 28.11 39 P P 12 51 28.3 +0.6
baz=263
G23K **Bananza Creek** 28.12 40 P P 12 51 28.4 +0.5
baz=264
D23K **Nanushuk River** 28.19 36 P P 12 51 28.8 +0.4
baz=260
RC01 **Rabbit Creek A** 28.24 52 P P 12 51 29.2 +0.3
baz=275
H23K **Yukon River** 28.25 42 P P 12 51 29.6 +0.6
baz=267,SNR=7.9
I23K **Minto, Yukon-K** 28.29 44 P P 12 51 29.3 0.0
baz=268
O22K **Cooper Landing** 28.31 54 P P 12 51 30.1 +0.5
baz=276
C23K **Itkillik River** 28.38 34 IAmb IAmb 12 51 32.3
comp=Z,14nm,0.6s
C23K **Itkillik River** 28.38 34 P P 12 51 30.5 +0.5
baz=258,SNR=12
NEA2 **Nenana** 28.40 45 IAmb IAmb 12 51 33.6
comp=Z,7.2nm,0.6s
NEA2 **Nenana** 28.40 45 P P 12 51 30.5 +0.1
baz=269,SNR=7.4
E23K **Chandalar** 28.43 38 P P 12 51 30.8 +0.1
baz=262,SNR=6.6
JNU **Nakatsue** 28.45 239 IAmb IAmb 12 51 35.5
comp=Z,18nm,0.8s
JNU **Nakatsue** 28.45 239 LR LR 13 03 45.2
comp=Z,55nm,19.7s,baz=26,slow=38
MCK **McKinley** 28.47 47 P P 12 51 31.1 +0.2
baz=271
PMR **Palmer** 28.49 51 P P 12 51 31.2 +0.1
baz=275
SEW **Seward** 28.49 54 P P 12 51 31.1 0.0
baz=277
RND **Reindeer** 28.51 47 IAmb IAmb 12 51 33.7
comp=Z,15nm,1.3s
TOLK **Toolik Lake Re** 28.53 36 P P 12 51 31.6 +0.1
baz=261,SNR=8.0
KNK **Knik Glacier** 28.83 52 P P 12 51 34.3 +0.1
baz=276
E24K **Your Creek** 28.86 38 P P 12 51 34.2 -0.2
baz=264,SNR=11
D24K **Happy Valley** 28.88 35 P P 12 51 34.7 +0.2
baz=261
COLA **College** 28.93 44 P P 12 51 35.7 +0.7
COLA **College** 28.93 44 P P 12 51 36.1 +1.1
COLA **College** 28.93 44 *i* P P 12 51 35.9 +0.9
COLA pmax pmax
comp=Z,8.0nm,0.8s
COLA **College** 28.93 44 P P 12 51 35.3 +0.4
baz=270
H24K **Noodor Dome** 28.93 42 P P 12 51 35.2 +0.1
baz=268
PWL **Port Wells** 28.95 53 IAmb IAmb 12 51 36.4
comp=Z,6.0nm,0.5s
PWL **Port Wells** 28.95 53 P P 12 51 35.4 +0.1
baz=277
C24K **Franklin Bluff** 29.01 34 P P 12 51 36.1 +0.4
baz=260
F24K **Squaw Lake** 29.03 39 P P 12 51 36.1 +0.2
baz=265,SNR=7.4
G24K **Hadweenzic Riv** 29.13 41 P P 12 51 37.2 +0.4
baz=267,SNR=10
M23K **Glen View** 29.14 51 P P 12 51 37.2 +0.3
baz=276
SCM **Sheep Creek Mo** 29.32 51 P P 12 51 38.2 -0.4
baz=276
HDA **Harding Lake** 29.32 45 IAmb IAmb 12 51 39.9
comp=Z,6.8nm,0.6s
HDA **Harding Lake** 29.32 45 P P 12 51 39.2 +0.7
baz=272,SNR=7.7
IL31 29.34 44 P P 12 51 39.4 +0.8
ILAR **Eielson Array** 29.34 44 P P 12 51 39.1 +0.5
ILAR **Eielson Array** 29.34 44 P P 12 51 38.7 +0.1
comp=Z,4.1nm,0.7s,baz=269,slow=9.0,SNR=61
ILAR PcP PcP 12 54 42.7 -0.8
comp=Z,0.8nm,0.5s,baz=269,slow=3.5,SNR=6.8
ILAR LR LR 13 04 23.5
comp=Z,46nm,18.2s,baz=222,slow=38
comp=Z,4.1nm,0.7s
G25K **Bearman Lake** 29.68 40 P P 12 51 42.0 +0.4
baz=268
D25K **Kavik River** 29.76 35 P P 12 51 42.3 -0.1
baz=264,SNR=47
H25L **Birch Creek** 29.78 41 P P 12 51 42.8 +0.3
baz=269
M24K **Tolsona, Glenn** 29.83 50 P P 12 51 43.2 +0.1
baz=276
K24K **Donnelly Dome** 29.86 46 IAmb IAmb 12 51 44.3
comp=Z,6.3nm,0.7s
K24K **Donnelly Dome** 29.86 46 P P 12 51 43.5 +0.1
baz=274
F25K **Christian Rive** 29.89 39 P P 12 51 43.6 0.0
baz=267
PRP **Porcupine Dome** 29.91 43 IAmb IAmb 12 51 45.8
comp=Z,10nm,0.8s
PRP **Porcupine Dome** 29.91 43 P P 12 51 44.0 +0.1
baz=271,SNR=17
E25K **Arctic Village** 29.95 38 P P 12 51 44.5 +0.4
baz=266
J25K **Salcha River,** 30.00 45 P P 12 51 44.0 -0.5
baz=273,SNR=12
FYU **Fort Yukon** 30.02 41 IAmb IAmb 12 51 47.5
comp=Z,6.8nm,0.6s
PAX **Paxson** 30.07 48 P P 12 51 45.3 0.0
baz=275
Q23K **Middleton Isla** 30.15 55 P P 12 51 46.2 +0.4
baz=281
EYAK **Cordova Ski Ar** 30.25 53 P P 12 51 46.4 -0.3
baz=279
HARP **HAARP** 30.27 49 P P 12 51 47.1 +0.1
baz=277
RIDG **Independent Ri** 30.28 46 P P 12 51 47.0 0.0
baz=274
BMAR **Burnt Mountain** 30.29 39 P P 12 51 48.5 +1.4
F26K **Sheenjek River** 30.47 39 P P 12 51 49.0 +0.4
baz=268
G26K **Porcupine Rive** 30.60 40 P P 12 51 49.9 +0.2
baz=270,SNR=9.5
N25K **China, Valde** 30.64 51 P P 12 51 50.5 +0.2
baz=278
SCRK **Sand Creek** 30.64 46 P P 12 51 50.5 +0.2
baz=275,SNR=8.8
C27K **Jago River** 30.73 35 IAmb IAmb 12 51 53.0
comp=Z,12nm,0.9s
C27K **Jago River** 30.73 35 P P 12 51 51.1 +0.2
baz=266,SNR=12
J26L **Joseph Creek** 30.78 45 P P 12 51 51.8 +0.3
baz=277
KAIM **Kayak Island** 31.01 54 P P 12 51 53.8 +0.3
baz=281
L26K **Log Cabin Wild** 31.03 48 P P 12 51 53.7 +0.1
baz=277
M26K **Nabesna, AK** 31.27 49 P P 12 51 56.1 +0.3
baz=278,SNR=5.7
E27K **Coleen River** 31.44 38 P P 12 51 57.9 +0.7
baz=270
G27K **Doyon Strip** 31.44 40 P P 12 51 57.5 +0.3
baz=272
K27K **Chicken** 31.48 46 IAmb IAmb 12 51 59.3
comp=Z,9.9nm,0.8s
CRQE **Cirque** 31.50 52 P P 12 51 57.6 -0.3
baz=281
H27K **Steamboat Moun** 31.52 41 P P 12 51 57.9 0.0
baz=273,SNR=8.7
I27K **Kandik River** 31.52 43 P P 12 51 58.2 +0.2
baz=274
D27M **Malcolm River** 31.68 36 P P 12 52 00.3 +1.0
D27M IAmb IAmb 12 52 01.4
comp=Z,11nm,0.7s
D27M **Malcolm River** 31.68 36 P P 12 51 59.2 -0.2
baz=269,SNR=20
L27K **Beaver Creek,** 31.71 48 IAmb IAmb 12 52 02.2
comp=Z,15nm,0.8s
L27K **Beaver Creek,** 31.71 48 P P 12 52 00.2 +0.6
baz=278,SNR=31
BCAR **Beaver Creek A** 31.73 47 P P 12 52 00.6 +0.8
M27K **Edge Creek, AK** 31.79 49 IAmb IAmb 12 52 03.3
comp=Z,8.0nm,0.8s
M27K **Edge Creek, AK** 31.79 49 P P 12 52 01.0 +0.6
baz=279,SNR=7.0
F28M **Old Crow** 32.10 39 IAmb IAmb 12 52 05.5
comp=Z,6.3nm,0.8s
F28M **Old Crow** 32.10 39 P P 12 52 03.4 +0.4
baz=272,SNR=14
MESA **MES A** 32.17 53 P P 12 52 03.6 -0.2
baz=282
E28M **Babbage River** 32.20 37 P P 12 52 04.3 +0.6
baz=271
I28M **Miner Creek** 32.24 43 IAmb IAmb 12 52 06.2
comp=Z,8.1nm,1.0s
I28M **Miner Creek** 32.24 43 P P 12 52 04.5 +0.2
baz=276,SNR=8.8
BVCY **Beaver Creek** 32.25 49 P P 12 52 04.2 -0.1
baz=280,SNR=9.0
CTG **China Glacier** 32.30 51 P P 12 52 05.4 +0.5
baz=282
YUK3 **Moose Creek** 32.55 50 P P 12 52 07.9 +0.6
baz=281
DAWY **Dawson** 32.64 45 P P 12 52 09.0 +1.2
baz=278,SNR=8.2
H29M **Whitestone** 32.80 41 IAmb IAmb 12 52 11.5
comp=Z,9.0nm,0.7s
H29M **Whitestone** 32.80 41 P P 12 52 09.8 +0.7
baz=276,SNR=12
E29M **Blow River** 32.81 37 P P 12 52 09.4 +0.3
baz=273,SNR=8.6
G29M **Pine Creek** 32.87 40 IAmb IAmb 12 52 12.6
comp=Z,13nm,0.8s
G29M **Pine Creek** 32.87 40 P P 12 52 09.8 +0.1
baz=275,SNR=12
O28M **Mount Upton** 32.89 51 IAmb IAmb 12 52 13.0
comp=Z,8.1nm,1.0s
O28M **Mount Upton** 32.89 51 P P 12 52 10.9 +0.6
baz=283
I29M **Ogilvie Camp,** 32.92 43 P P 12 52 11.2 +1.0
baz=277
YUK8 **Steele Glacier** 32.98 50 P P 12 52 11.4 +0.3
baz=282
H11N2 **WAKE ISLAND Hy** 33.16 168 T T 13 28 00.8
baz=352,slow=76,SNR=570
H11N3 **WAKE ISLAND Hy** 33.17 168 T T 13 27 56.2
baz=352,slow=76,SNR=544
H11N1 **WAKE ISLAND Hy** 33.17 168 T T 13 28 02.2
baz=352,slow=76,SNR=736
M29M **Somme Creek** 33.34 48 P P 12 52 14.7 +0.7
baz=282,SNR=6.3
L29M **L29M** 33.36 47 P P 12 52 15.0 +0.9
baz=281,SNR=24
EPYK **Eagle Plains** 33.44 41 IAmb IAmb 12 52 16.9
comp=Z,6.7nm,0.7s
EPYK **Eagle Plains** 33.44 41 P P 12 52 15.3 +0.5
baz=277,SNR=6.9
K29M **Barlow Dome** 33.49 45 P P 12 52 15.7 +0.4
baz=280
YUK4 **Talbot Arm** 33.49 50 P P 12 52 15.7 +0.3
baz=283
ULN **Ulaanbaatar** 33.49 284 *ce* P P 12 52 14.6 -0.9
ULN pmax pmax
comp=Z,7.0nm,2.5s
PNL **Peninsula** 33.54 53 P P 12 52 16.7 +1.0
baz=285
G30M **tAoh Zraii Nji** 33.56 40 IAmb IAmb 12 52 17.3
comp=Z,5.5nm,0.7s
G30M **tAoh Zraii Nji** 33.56 40 P P 12 52 16.0 +0.2
baz=277,SNR=7.9
F30M **Barrier River** 33.66 39 IAmb IAmb 12 52 19.7
comp=Z,16nm,1.4s
F30M **Barrier River** 33.66 39 P P 12 52 17.0 +0.5
baz=276
YUK6 **Outpost Mounta** 33.72 51 P P 12 52 17.5 +0.1
baz=284
I30M **Mount Dempster** 33.75 43 P P 12 52 18.5 +1.0
baz=279,SNR=18
J30M **Hart River** 33.87 44 P P 12 52 19.1 +0.5
baz=280
SONM **Songino Array** 33.90 284 P P 12 52 18.4 -0.6
comp=Z,1.6nm,0.6s,baz=52,slow=7.8,SNR=5.9
SONM LR LR 13 07 20.9
comp=Z,162nm,18.6s,baz=74,slow=39
comp=Z,1.6nm,0.6s
M30M **Minto, Yukon** 34.07 48 P P 12 52 20.3 +0.1
baz=283
HYT **Haines Junctio** 34.16 51 P P 12 52 23.0 +1.9
HYT IAmb IAmb 12 52 23.9
comp=Z,6.3nm,0.8s
HYT **Haines Junctio** 34.16 51 P P 12 52 22.1 +1.0
baz=285,SNR=5.5
N30M **Aishikik Lake** 34.19 50 P P 12 52 21.7 +0.4
baz=284
MAYO **Mayo, Yukon** 34.25 46 P P 12 52 22.4 +0.7
baz=282
G31M **Satah River** 34.34 40 P P 12 52 23.3 +0.9
G31M IAmb IAmb 12 52 24.3
comp=Z,5.2nm,0.6s
G31M **Satah River** 34.34 40 P P 12 52 23.0 +0.7
baz=278
H11S1 **WAKE ISLAND Hy** 34.34 168 T T 13 29 34.9
baz=352,slow=76,SNR=82
H11S3 **WAKE ISLAND Hy** 34.35 168 T T 13 29 36.4
baz=352,slow=76,SNR=129
H11S2 **WAKE ISLAND Hy** 34.36 168 T T 13 29 21.6
baz=352,slow=76,SNR=45
P29M **Windy Craggy** 34.37 53 P P 12 52 23.5 +0.7
baz=286
INK **Inuvik** 34.43 37 IAmb IAmb 12 52 25.5
comp=Z,9.3nm,0.9s
INK **Inuvik** 34.43 37 P P 12 52 23.5 +0.4
baz=277,SNR=8.0
F31M **Tsiigehtchic** 34.46 39 P P 12 52 23.9 +0.5
baz=278
H31M **Peel River** 34.48 42 IAmb IAmb 12 52 41.1
comp=Z,10nm,1.2s
H31M **Peel River** 34.48 42 P P 12 52 24.6 +0.8
baz=280
HHC **Hu-ho-hao-te** 34.49 270 *e* P P 12 52 22.9 -1.3
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,150nm,4.8s
P30M **Million Dollar** 34.60 52 P P 12 52 25.5 +0.6
baz=286
N31M **Braeburn, Yuko** 34.80 49 P P 12 52 27.7 +1.2
baz=285,SNR=6.3
O30N **Mendenhall** 34.84 51 P P 12 52 27.7 +0.8
baz=286
M31M **Drury Creek, Y** 35.25 48 P P 12 52 31.0 +0.6
baz=285,SNR=15
WHY **Whitehorse** 35.44 50 P P 12 52 33.1 +0.9
baz=287,SNR=7.8
BTO **Baotou** 35.58 271 *e* P P 12 52 32.3 -1.3
BTO pmax pmax
comp=Z,16nm,0.7s
BTO pmax pmax
comp=Z,280nm,6.2s
SKAG **Skagway** 35.59 53 IAmb IAmb 12 52 36.7
comp=Z,11nm,0.8s
SKAG **Skagway** 35.59 53 P P 12 52 35.8 +2.6
SKAG **Skagway** 35.59 53 P P 12 52 34.4 +1.2
baz=288
NJ2 **Nanjing** 35.93 252 *e* P P 12 52 33.5 -2.9
NJ2 pmax pmax
comp=Z,13nm,0.5s
P32M **Atlin** 36.33 52 P P 12 52 40.7 +1.1
baz=289
R32K **Eaglecrest** 36.38 54 P P 12 52 40.9 +0.9
baz=290
MMPY **Sheldon Lake,** 36.53 46 IAmb IAmb 12 52 44.5
comp=Z,8.6nm,0.9s
MMPY **Sheldon Lake,** 36.53 46 P P 12 52 42.2 +0.9
baz=287,SNR=8.1
P33M **Teslin, Yukon** 36.55 51 IAmb IAmb 12 52 44.7
comp=Z,7.3nm,0.8s
P33M **Teslin, Yukon** 36.55 51 P P 12 52 42.0 +0.3
baz=289,SNR=6.4
A36M **Sachs Harbour** 36.72 30 P P 12 52 43.2 +0.5
baz=279,SNR=5.4
Q32M **Nakina River** 37.24 52 P P 12 52 48.2 +0.6
baz=291
R33M **Jennings River** 37.71 51 P P 12 52 52.6 +1.1
baz=291,SNR=8.6
U33K **Whale Pass** 37.89 57 P P 12 52 52.6 -0.2
baz=294
CRAG **Craig** 38.15 58 P P 12 52 55.6 +0.6
baz=294
WRAK **Wrangell Islan** 38.16 56 P P 12 52 55.2 +0.1
baz=294
S34M **Telegraph Cree** 38.18 54 P P 12 52 56.5 +1.2
baz=292
TGTN **Hyland Airport** 38.22 47 P P 12 52 57.2 +1.6
baz=290
WTLY **Watson Lake, Y** 38.48 50 IAmb IAmb 12 53 00.8
comp=Z,10nm,0.7s
WTLY **Watson Lake, Y** 38.48 50 P P 12 52 59.4 +1.6
baz=291,SNR=5.2
DLBC **Dease Lake** 38.52 53 LR LR 13 08 54.5
comp=Z,7.6nm,19.3s,baz=276,slow=36
DLBC **Dease Lake** 38.52 53 P P 12 52 59.4 +1.2
baz=293,SNR=5.5
V35K **Ketchikan** 38.99 58 P P 12 53 03.5 +1.5
baz=295
T35M **Bob Quinn** 38.99 55 P P 12 53 03.4 +1.3
baz=294
WRGLY **Wrigley** 39.71 44 P P 12 53 09.7 +1.8
baz=291
LIRD **Liard River Hi** 40.01 50 P P 12 53 12.8 +2.2
baz=294
TOAD **Toad River Com** 40.65 50 P P 12 53 17.2 +1.4
baz=295,SNR=8.6
GTA **Gaotai** 42.53 277 *e* P P 12 53 30.5 -1.1
GTA sP sP 12 53 56.9 +5.2
GTA pmax pmax
comp=Z,4.0nm,1.3s
ZALV **Zalesovo Beam** 42.98 303 P P 12 53 32.3 -2.6
comp=Z,1.1nm,0.6s,baz=44,slow=8.6,SNR=7.4
ZALV LR LR 13 11 58.3
comp=Z,68nm,21.0s,baz=80,slow=37
comp=Z,1.1nm,0.6s
YKA **Yellowknife Ar** 43.70 42 P P 12 53 41.7 +1.1
comp=Z,3.4nm,0.8s,baz=301,slow=8.5,SNR=8.2
YKA LR LR 13 14 37.5
comp=Z,78nm,18.4s,baz=284,slow=40
comp=Z,3.4nm,0.8s

YKA	**Yellowknife Ar**	**43.70**	**42**	*i* P		**P**		**12 53 41.9**	**+1.3**
YKA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
RES	**Resolute Bay**	**43.93**	**22**	LR		LR	13 14 43.2		
	comp=Z,50nm,18.4s,baz=30,slow=40								
SPITS	**Spitsbergen Ar**	**47.70**	**350**	P		**P**		**12 54 11.4**	**-0.5**
	comp=Z,8.4nm,0.4s,baz=53,slow=9.6,SNR=39								
	comp=Z,8.4nm,0.4s								
SPITS	**Spitsbergen Ar**	**47.70**	**350**	P		**P**		**12 54 11.8**	**-0.2**
SPITS				pmax		pmax			
	comp=Z,62nm,1.5s								
SPB2	**Spitsbergen Ar**	**47.70**	**350**	P		**P**		**12 54 11.9**	**-0.1**
AIN	**Ainahou**	**47.83**	**116**	P		**P**		**12 54 11.4**	**-2.5**
KURK	**Kurchatov**	**47.93**	**302**	*ce*P		**P**		**12 54 11.6**	**-2.4**
KURK				pmax		pmax			
	comp=Z,21nm,1.7s								
KURBB	**Kurchatov Arra**	**48.03**	**302**	P		**P**		**12 54 12.5**	**-2.3**
	comp=Z,4.0nm,0.5s,baz=58,slow=7.7,SNR=28								
KURBB				PcP		**PcP**		**12 55 42.2**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=48,slow=3.4,SNR=2.7								
KURBB				LR		LR	13 15 39.6		
	comp=Z,90nm,18.0s,baz=162,slow=38								
	comp=Z,4.0nm,0.5s								
MK31	**Makanchi Array**	**48.28**	**296**	*i* P		**P**		**12 54 15.1**	**-1.8**
MKAR	**Makanchi Array**	**48.28**	**296**			**P**		**12 54 14.6**	**-2.2**
MKAR	**Makanchi Array**	**48.28**	**296**	P		**P**		**12 54 14.4**	**-2.5**
	comp=Z,1.4nm,0.6s,baz=55,slow=7.3,SNR=18								
MKAR				LR		LR	13 15 30.6		
	comp=Z,98nm,18.4s,baz=89,slow=37								
	comp=Z,1.4nm,0.6s								
MAKZ	**Makanchi**	**48.45**	**296**	P		**P**		**12 54 16.4**	**-1.7**
MAKZ	**Makanchi**	**48.45**	**296**	P		**P**		**12 54 16.5**	**-1.7**
MAKZ				pmax		pmax			
	comp=Z,2.0nm,0.9s								
B08A	**Colville Reser**	**49.10**	**61**	IAmb		IAmb	12 54 25.6		
	comp=Z,7.6nm,0.9s								
BLKN	**Baker Lake**	**49.67**	**34**	P		**P**		**12 54 27.9**	**+0.7**
PZH	**PanZhiHua**	**50.16**	**262**	P		**P**		**12 54 30.3**	**-1.2**
NEW	**Newport**	**50.33**	**60**	LR		LR	13 16 25.3		
	comp=Z,62nm,18.1s,baz=299,slow=36								
BVAR	**Borovoye Array**	**50.65**	**309**	P		**P**		**12 54 32.5**	**-2.3**
	comp=Z,4.3nm,0.5s,baz=52,slow=8.5,SNR=12								
BVAR				PcP		**PcP**		**12 55 54.1**	**+2.6**
	comp=Z,1.1nm,0.4s,baz=68,slow=3.6,SNR=2.0								
BVAR				LR		LR	13 16 36.7		
	comp=Z,63nm,19.8s,baz=63,slow=37								
	comp=Z,4.3nm,0.5s								
BRVK	**Borovoye**	**50.68**	**309**	*ce*P		**P**		**12 54 33.3**	**-1.7**
BRVK				pmax		pmax			
	comp=Z,4.0nm,0.7s								
J05D	**Fort Rock, OR**	**51.21**	**67**	IAmb		IAmb	12 54 43.5		
	comp=Z,15nm,1.3s								
L04D	**Klamath Falls**	**51.29**	**69**	IAmb		IAmb	12 54 42.6		
	comp=Z,7.0nm,0.7s								
YBH	**Yreka Blue Hor**	**51.37**	**69**	IAmb		IAmb	12 54 44.4		
	comp=Z,4.1nm,0.8s								
BMO	**Blue Mountains**	**52.38**	**63**	IAmb		IAmb	12 54 50.7		
	comp=Z,12nm,1.4s								
MSO	**Missoula**	**52.91**	**59**	IAmb		IAmb	12 54 53.7		
	comp=Z,5.1nm,1.0s								
PLID	**Pearl Lake**	**52.94**	**62**	IAmb		IAmb	12 54 54.8		
	comp=Z,6.4nm,0.8s								
ARCES	**ARCESS Array B**	**53.81**	**342**	P		**P**		**12 54 56.7**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=42,slow=7.0,SNR=14								
ARCES				LR		LR	13 20 57.8		
	comp=Z,34nm,19.8s,baz=320,slow=40								
	comp=Z,0.5nm,0.3s								
ARTI	**Arti**	**53.84**	**318**	LR		LR	13 20 22.5		
	comp=Z,30nm,21.0s,baz=64,slow=39								
BEKR	**Beckworth**	**53.94**	**70**	IAmb		IAmb	12 55 03.5		
	comp=Z,9.6nm,1.1s								
SUMG	**Summit**	**54.57**	**7**			**P**		**12 55 04.5**	**+0.6**
SUMG	**Summit**	**54.57**	**7**	P		**P**		**12 55 04.5**	**+0.6**
SUMG				pmax		pmax			
	comp=Z,27nm,1.2s								
PAHR	**Pah Rah Range**	**54.60**	**69**	IAmb		IAmb	12 55 07.8		
	comp=Z,7.9nm,1.0s								
BOZ	**Bozeman (W)**	**54.93**	**59**	IAmb		IAmb	12 55 09.4		
	comp=Z,6.2nm,0.8s								
CMB	**Columbia Colle**	**55.16**	**71**	IAmb		IAmb	12 55 12.3		
	comp=Z,7.8nm,1.2s								
AAK	**Ala-Archa**	**55.21**	**296**	*ce*P		**P**		**12 55 07.4**	**-1.3**
AAK				pmax		pmax			
	comp=Z,5.0nm,1.7s								
YHL	**Hebgen Lake**	**55.66**	**59**	IAmb		IAmb	12 55 15.1		
	comp=Z,5.2nm,0.8s								
YHB	**Horse Butte**	**55.72**	**60**	IAmb		IAmb	12 55 15.4		
	comp=Z,8.5nm,0.7s								
NVAR	**Mina Array Bea**	**56.09**	**70**			**P**		**12 55 17.0**	**+1.9**
NVAR	**Mina Array Bea**	**56.09**	**70**	P		**P**		**12 55 17.7**	**+2.5**
	comp=Z,2.9nm,0.6s,baz=313,slow=7.5,SNR=24								
	comp=Z,2.9nm,0.6s								
YFT	**Old Faithful**	**56.11**	**60**	IAmb		IAmb	12 55 19.5		
	comp=Z,7.9nm,0.7s								
NV11	**Mina Array Sit**	**56.17**	**69**	IAmb		IAmb	12 55 19.3		
	comp=Z,12nm,1.4s								
YNE	**Yellowstone No**	**56.17**	**59**	IAmb		IAmb	12 55 18.6		
	comp=Z,7.2nm,0.8s								
ELK	**Elko**	**56.24**	**66**	IAmb		IAmb	12 55 19.6		
	comp=Z,2.7nm,0.7s								
H17A	**Grant Village**	**56.29**	**60**	IAmb		IAmb	12 55 21.1		
	comp=Z,8.9nm,0.9s								
KSH	**Kashi**	**56.50**	**293**	P		**P**		**12 55 20.3**	**+2.4**
KSH				pmax		pmax			
	comp=Z,5.0nm,0.6s								
FXWY	**Fox Creek**	**56.56**	**60**	IAmb		IAmb	12 55 21.9		
	comp=Z,4.0nm,0.8s								
TPAW	**Teton Pass**	**56.71**	**61**	IAmb		IAmb	12 55 23.2		
	comp=Z,14nm,1.5s								
LOHW	**Long Hollow**	**56.81**	**60**	IAmb		IAmb	12 55 23.8		
	comp=Z,5.6nm,0.9s								
HVU	**Hansel Valley**	**56.89**	**63**	IAmb		IAmb	12 55 24.2		
	comp=Z,5.6nm,1.0s								
DSP	**Deep Springs**	**57.00**	**70**	IAmb		IAmb	12 55 25.5		
	comp=Z,7.2nm,1.2s								
KK31	**Karatay Array**	**57.05**	**299**	P		**P**		**12 55 19.5**	**-2.1**
KK31	**Karatay Array**	**57.05**	**299**	P		**P**		**12 55 19.5**	**-2.1**
KK31				pmax		pmax			
	comp=Z,3.0nm,0.8s								
KKAR	**Karatay Array**	**57.05**	**299**	P		**P**		**12 55 19.2**	**-2.4**
KKAR	**Karatay Array**	**57.05**	**299**	P		**P**		**12 55 19.2**	**-2.4**
MZP	**Montezuma Peak**	**57.11**	**70**	IAmb		IAmb	12 55 25.8		
	comp=Z,4.8nm,1.2s								
AHID	**Auburn Hatcher**	**57.12**	**61**	IAmb		IAmb	12 55 25.6		
	comp=Z,9.6nm,0.9s								
JAY	**Jayapura**	**57.15**	**203**	P		**P**		**12 55 25.2**	**+2.7**
	comp=Z,5.8nm,0.9s,baz=342,slow=3.2,SNR=2.3								
	comp=Z,5.8nm,0.9s								
SCO	**Scoresbysund**	**57.32**	**1**	P		**P**		**12 55 24.5**	**+1.4**
SCO	**Scoresbysund**	**57.32**	**1**	P		**P**		**12 55 24.5**	**+1.4**
SCO				pmax		pmax			
	comp=Z,4.0nm,1.2s								
CHTO	**Chiang Mai**	**57.64**	**258**	P		**P**		**12 55 26.5**	**+0.4**
CHTO	**Chiang Mai**	**57.64**	**258**	P		**P**		**12 55 26.5**	**+0.4**
CHTO				pmax		pmax			
	comp=Z,8.0nm,0.6s								
HWUT	**Hardware Ranch**	**57.67**	**63**	IAmb		IAmb	12 55 29.7		
	comp=Z,6.5nm,0.8s								
R11B	**Troy Canyon, C**	**57.69**	**68**	IAmb		IAmb	12 55 28.9		
	comp=Z,3.4nm,1.0s								
CMAR	**Chiang Mai Arr**	**57.92**	**258**	P		**P**		**12 55 28.7**	**+0.7**
	comp=Z,4.4nm,0.6s,baz=40,slow=7.1,SNR=34								
	comp=Z,4.4nm,0.6s								
PDAR	**Pinedale Array**	**57.94**	**60**	P		**P**		**12 55 30.5**	**+2.3**
PDAR	**Pinedale Array**	**57.94**	**60**	P		**P**		**12 55 30.2**	**+2.0**
	comp=Z,7.6nm,0.7s,baz=313,slow=6.7,SNR=79								
PDAR				LR		LR	13 19 50.8		
	comp=Z,29nm,18.5s,baz=322,slow=35								
	comp=Z,7.6nm,0.7s								
DUG	**Dugway, Tooele**	**57.96**	**65**	IAmb		IAmb	12 55 31.7		
	comp=Z,4.2nm,0.8s								
AB31	**Akbulak array**	**58.07**	**310**	P		**P**		**12 55 27.3**	**-1.4**
ABKAR	**Akbulak array**	**58.07**	**310**	P		**P**		**12 55 27.1**	**-1.5**
AKTO	**Aktyubinsk**	**58.12**	**313**	LR		LR	13 22 51.1		
	comp=Z,76nm,18.8s,baz=125,slow=38								
WCT	**Wildcat Mounta**	**58.18**	**70**	IAmb		IAmb	12 55 33.1		
	comp=Z,7.3nm,1.4s								
TPNV	**Topopah Spring**	**58.28**	**69**	IAmb		IAmb	12 55 34.0		
	comp=Z,8.2nm,1.2s								
CLC	**China Lake**	**58.30**	**71**	IAmb		IAmb	12 55 33.9		
	comp=Z,10nm,1.3s								
PSUT	**Pine Spring**	**58.54**	**67**	IAmb		IAmb	12 55 39.8		
	comp=Z,2.6nm,0.7s								
QSM	**Queen of Sheba**	**58.62**	**71**	IAmb		IAmb	12 55 36.6		
	comp=Z,7.2nm,1.2s								
SFJD	**Kangerlussuaq**	**58.63**	**14**	LR		LR	13 25 15.5		
	comp=Z,24nm,18.0s,baz=10,slow=40								

PRN	**Pahroc Range**	**58.65**	**68**	IAmb		IAmb	12 55 36.6		
	comp=Z,11nm,1.2s								
MPU	**Maple Canyon**	**58.73**	**64**	IAmb		IAmb	12 55 37.0		
	comp=Z,6.2nm,0.8s								
BSUT	**Blindstream Ca**	**58.85**	**63**	IAmb		IAmb	12 55 38.2		
	comp=Z,3.3nm,0.8s								
BTK	**Batken**	**58.99**	**296**	IAmb		IAmb	12 55 34.5		
	comp=Z,6.6nm,0.7s								
GSC	**Goldstone, Bar**	**59.12**	**71**	IAmb		IAmb	12 55 39.5		
	comp=Z,10.0nm,1.4s								
CCUT	**Cedar City**	**59.50**	**67**	IAmb		IAmb	12 55 42.4		
	comp=Z,3.5nm,0.7s								
MTPC	**Mountain Pass**	**59.71**	**70**	IAmb		IAmb	12 55 43.8		
	comp=Z,4.6nm,1.0s								
P18A	**Preston Nutter**	**59.77**	**63**	IAmb		IAmb	12 55 45.8		
	comp=Z,4.3nm,0.8s								
LCMT	**Little Creek M**	**59.95**	**67**	P		**P**		**12 55 44.5**	**+2.4**
LCMT				IAmb		IAmb	12 55 45.6		
	comp=Z,6.4nm,0.9s								
SRU	**San Rafael Swe**	**59.98**	**64**	P		**P**		**12 55 43.9**	**+1.6**
SRU	**San Rafael Swe**	**59.98**	**64**	P		**P**		**12 55 43.9**	**+1.6**
SRU				pmax		pmax			
	comp=Z,11nm,0.7s								
PFO	**Pinyon Flats O**	**60.52**	**72**	LR		LR	13 20 04.5		
	comp=Z,23nm,18.5s,baz=229,slow=34								
FINES	**FINESS Array B**	**60.61**	**337**	P		**P**		**12 55 45.2**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=32,slow=4.4,SNR=15								
	comp=Z,2.3nm,0.7s								
FINES	**FINESS Array B**	**60.61**	**337**	*ce*P		**P**		**12 55 45.4**	**-0.6**
FINES				pmax		pmax			
	comp=Z,2.0nm,0.7s								
AGMN	**Agassiz Nation**	**60.77**	**48**	IAmb		IAmb	12 55 49.4		
	comp=Z,7.3nm,0.9s								
BELG	**Belogornoye**	**61.08**	**320**	LR		LR	13 24 59.1		
	comp=Z,38nm,18.6s,baz=126,slow=39								
PV21	**Cone Mtn., Par**	**61.22**	**63**	IAmb		IAmb	12 55 55.1		
	comp=Z,6.2nm,0.7s								
PV07	**Paradox Valley**	**61.49**	**63**	IAmb		IAmb	12 55 55.4		
	comp=Z,5.7nm,0.8s								
PV03	**Paradox Valley**	**61.51**	**64**	IAmb		IAmb	12 55 55.6		
	comp=Z,8.3nm,0.9s								
HNR	**Honiara**	**61.68**	**180**	LR		LR	13 21 23.6		
	comp=Z,44nm,19.5s,baz=58,slow=35								
PV01	**Paradox Valley**	**61.75**	**63**	IAmb		IAmb	12 55 56.8		
	comp=Z,2.6nm,0.7s								
ISCO	**Idaho Springs**	**62.14**	**60**	IAmb		IAmb	12 56 00.5		
	comp=Z,8.1nm,0.8s								
X16A	**Lo Mia Camp, P**	**62.83**	**68**	IAmb		IAmb	12 56 05.1		
	comp=Z,4.0nm,0.7s								
OBN	**Obninsk**	**62.94**	**327**	*ce*P		**P**		**12 56 02.8**	**+1.1**
OBN				*e*				12 56 37.1	
OBN				*e*				12 58 22.5	
OBN				pmax		pmax			
	comp=Z,6.0nm,0.9s								
OBN				MLR		MLR			
	comp=Z,44nm,20.0s								
X18A	**Snowflake**	**63.59**	**67**	IAmb		IAmb	12 56 10.1		
	comp=Z,6.1nm,0.7s								
ECSD	**EROS Data Cent**	**63.80**	**52**	IAmb		IAmb	12 56 09.6		
	comp=Z,7.9nm,0.8s								
NC405	**NORSAR Array S**	**63.92**	**343**	P		**P**		**12 56 08.4**	**+0.2**
NC204	**NORSAR Array S**	**63.93**	**344**			**P**		**12 56 08.3**	**+0.1**
NB2	**NORSAR Subarra**	**64.08**	**344**	P		**P**		**12 56 08.9**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=23,slow=6.9								
NOA	**NORSAR Array B**	**64.08**	**344**	P		**P**		**12 56 09.1**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=22,slow=6.6,SNR=15								
NOA				LR		LR	13 27 29.2		
	comp=Z,17nm,19.7s,baz=15,slow=39								
	comp=Z,2.3nm,0.7s								
HFS	**Hagfors**	**64.47**	**342**	P		**P**		**12 56 11.5**	**-0.3**
	comp=Z,3.2nm,0.4s,baz=45,slow=5.8,SNR=34								
HFS				LR		LR	13 28 44.3		
	comp=Z,26nm,19.2s,baz=21,slow=40								
	comp=Z,3.2nm,0.4s								
T25A	**Trinidad**	**64.73**	**62**	IAmb		IAmb	12 56 16.9		
	comp=Z,5.6nm,1.0s								
ANMO	**Albuquerque**	**65.23**	**65**			**P**		**12 56 18.2**	**+0.8**
ANMO	**Albuquerque**	**65.23**	**65**	LR		LR	13 22 43.3		
	comp=Z,22nm,21.9s,baz=54,slow=34								
ANMO	**Albuquerque**	**65.23**	**65**	P		**P**		**12 56 18.2**	**+0.8**
ANMO				pmax		pmax			
	comp=Z,3.0nm,0.8s								
Y22D	**IRIS PASSCAL I**	**65.62**	**65**	P		**P**		**12 56 19.7**	**-0.1**
	baz=318								
MNK	**Minsk**	**66.15**	**332**	*i* P		**P**		**12 56 21.4**	**-1.3**
MNK				*i* *PP		**pP**		**12 56 37.7**	**0.0**
MNK				*i*				12 56 50.9	
MNK				*i*				12 58 47.7	
MNK				*i* PPP		PPP		13 00 22.9	
MNK				*i* S		**S**		**13 05 06.6**	**-0.1**
MNK				*i* *SS		**sS**		**13 05 34.7**	**+2.4**
MNK				*i*				13 06 12.3	
MNK				*i* SS		**SS**		**13 09 24.7**	**+2.6**
MNK				pmax		pmax			
	comp=N,20nm,0.8s								
MNK				pmax		pmax			
	comp=Z,23nm,0.7s								
MNK				pmax		pmax			
	comp=E,46nm,0.7s								
MNK				MLR		MLR			
	comp=N,666nm,24.0s								
MNK				MLR		MLR			
	comp=E,717nm,23.0s								
MNK				MLR		MLR			
	comp=Z,56nm,19.0s								
SCHQ	**Schefferville**	**66.25**	**27**	P		**P**		**12 56 24.0**	**+0.6**
	comp=Z,3.7nm,0.5s,baz=344,slow=9.0,SNR=5.9								
SCHQ				LR		LR	13 29 11.0		
	comp=Z,25nm,18.1s,baz=340,slow=39								
	comp=Z,3.7nm,0.5s								
MNTX	**Cornudas Mount**	**68.25**	**66**	IAmb		IAmb	12 56 39.4		
	comp=Z,5.7nm,0.9s								
P38A	**Dawn**	**68.43**	**53**	IAmb		IAmb	12 56 39.0		
	comp=Z,7.0nm,0.9s								
VLDQ	**Val d'Or**	**68.53**	**37**			**P**		**12 56 36.9**	**-1.0**
AKASG	**Malin Array Be**	**69.05**	**329**	P		**P**		**12 56 39.9**	**-1.1**
	comp=Z,1.5nm,0.4s,baz=32,slow=6.8,SNR=14								
AKASG				LR		LR	13 29 14.5		
	comp=Z,28nm,19.5s,baz=52,slow=38								
	comp=Z,1.5nm,0.4s								
AKBB	**Malin Array Si**	**69.05**	**329**	IAmb		IAmb	12 56 40.7		
	comp=Z,5.3nm,0.7s								
KIEV	**Kiev**	**69.06**	**329**	P		**P**		**12 56 40.2**	**-0.9**
KIEV				IAmb		IAmb	12 56 40.7		
	comp=Z,4.7nm,0.7s								
KIEV	**Kiev**	**69.06**	**329**	P		**P**		**12 56 40.2**	**-0.9**
KIEV				pmax		pmax			
	comp=Z,5.0nm,0.7s								
AK11	**Malin Array Si**	**69.09**	**329**	P		**P**		**12 56 40.1**	**-1.1**
AK02	**Malin Array Si**	**69.09**	**329**	P		**P**		**12 56 39.6**	**-1.7**
AK19	**Malin Array Si**	**69.10**	**329**	P		**P**		**12 56 39.8**	**-1.5**
AK16	**Malin Array Si**	**69.11**	**329**	P		**P**		**12 56 40.6**	**-0.8**
AK17	**Malin Array Si**	**69.12**	**329**	P		**P**		**12 56 40.3**	**-1.1**
AK12	**Malin Array Si**	**69.12**	**329**	P		**P**		**12 56 40.4**	**-1.1**
VHRN	**Van Horn**	**69.16**	**67**	IAmb		IAmb	12 56 45.2		
	comp=Z,5.8nm,0.8s								
AK13	**Malin Array Si**	**69.18**	**329**	P		**P**		**12 56 40.4**	**-1.4**
PECS	**Pecos**	**69.35**	**65**	IAmb		IAmb	12 56 45.9		
	comp=Z,16nm,1.5s								
RNPP9	**Sopachiy**	**69.44**	**331**	P		**P**		**12 56 42.8**	**-0.6**
WMOK	**Wichita Mounta**	**69.53**	**60**	IAmb		IAmb	12 56 46.5		
	comp=Z,13nm,1.0s								
RNPP5	**Staryi Chortor**	**69.61**	**331**	P		**P**		**12 56 43.4**	**-1.0**
KIV	**Kislovodsk**	**69.77**	**317**	*e*P		**P**		**12 56 45.7**	**0.0**
KIV				pmax		pmax			
	comp=Z,6.0nm,1.0s								
APMT	**Aspermont**	**69.90**	**61**	IAmb		IAmb	12 56 48.5		
	comp=Z,9.0nm,0.7s								
LUBAR	**Lubar, Ukraine**	**70.19**	**329**	P		**P**		**12 56 47.2**	**-0.9**
CCM	**Cathedral Cave**	**70.77**	**52**			**P**		**12 56 51.6**	**-0.2**
CCM				IAmb		IAmb	12 56 53.4		
	comp=Z,8.1nm,1.1s								
CCM	**Cathedral Cave**	**70.77**	**52**	P		**P**		**12 56 51.6**	**-0.2**
CCM				pmax		pmax			
	comp=Z,8.0nm,1.1s								
HHAR	**Hobbs**	**70.83**	**55**	IAmb		IAmb	12 56 53.4		
	comp=Z,9.2nm,0.7s								
LDAQ	**Lac Daran**	**70.86**	**34**	P		**P**		**12 56 52.3**	**0.0**
LDAQ				IAmb		IAmb	12 56 53.5		
	comp=Z,10nm,0.7s								
MGMO	**Mountain Grove**	**70.98**	**54**	IAmb		IAmb	12 56 54.1		
	comp=Z,5.5nm,0.9s								
TX31	**Lajitas Ar. Si**	**71.01**	**67**	IAmb		IAmb	12 56 56.3		
	comp=Z,10nm,0.7s								
TXAR	**Lajitas Array**	**71.01**	**67**			**P**		**12 56 55.2**	**+1.7**
TXAR	**Lajitas Array**	**71.01**	**67**	P		**P**		**12 56 55.3**	**+1.8**
	comp=Z,9.0nm,0.6s,baz=320,slow=5.7,SNR=157								

	comp=Z,9.0nm,0.6s								
FVM	**French Village**	**71.22**	**52**	IAmb		IAmb	12 56 56.9		
	comp=Z,15nm,1.4s								
SAND	**Sanderson**	**71.39**	**65**	IAmb		IAmb	12 56 58.4		
	comp=Z,15nm,1.5s								
NDNU	**Novodnistrovsk**	**71.48**	**329**	P		**P**		**12 56 55.1**	**-0.8**
EKA	**Eskdalemuir Ar**	**71.62**	**350**	P		**P**		**12 56 56.9**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=13,slow=6.1,SNR=14								
	comp=Z,1.2nm,0.4s								
FCAR	**Ozark Folk Cen**	**72.05**	**54**	IAmb		IAmb	12 57 00.6		
	comp=Z,8.9nm,0.9s								
D62A	**Allapoint, All**	**72.36**	**33**	IAmb		IAmb	12 57 03.0		
	comp=Z,12nm,0.8s								
DRIO	**Del Rio**	**72.63**	**64**	IAmb		IAmb	12 57 05.2		
	comp=Z,7.4nm,0.7s								
KOLS	**Kolonicke sedl**	**72.71**	**332**	*e*P		**P**		**12 57 04.5**	**+1.2**
KOLS				pmax		pmax			
	comp=Z,7.0nm,0.6s								
KOLS	**Kolonicke sedl**	**72.71**	**332**	*e*P		**P**		**12 57 04.5**	**+1.2**
CLL	**Collm**	**72.86**	**339**	IAmb		IAmb	12 57 11.6		
	comp=Z,8.1nm,0.9s								
CLL	**Collm**	**72.86**	**339**	*i* P		**P**		**12 57 04.4**	**+0.3**
CLL				pmax		pmax			
	comp=Z,6.0nm,1.0s								
CLL	**Collm**	**72.86**	**339**	*i* P		**P**		**12 57 04.4**	**+0.3**
	comp=Z,6.0nm,1.0s								
CLL				*i* x		x		12 57 10.5	
	comp=Z,10.0nm,1.0s								
BUR08	**Bucovina Ar. S**	**73.00**	**330**	IAmb		IAmb	12 57 05.7		
	comp=Z,5.1nm,0.8s								
BURAR	**Bucovina Array**	**73.02**	**330**			**P**		**12 57 05.1**	**-0.2**
BURAR				IAmb		IAmb	12 57 06.0		
	comp=Z,3.9nm,0.7s								
MORC	**Moravsky Berou**	**73.21**	**336**	P		**P**		**12 57 06.8**	**+0.5**
MORC	**Moravsky Berou**	**73.21**	**336**	*e*P		**P**		**12 57 06.7**	**+0.4**
MORC	**Moravsky Berou**	**73.21**	**336**	P		**P**		**12 57 06.8**	**+0.5**
MORC				pmax		pmax			
	comp=Z,5.0nm,1.0s								
LANS	**Liptovska Anna**	**73.28**	**334**	*e*P		**P**		**12 57 08.8**	**+2.1**
LANS				pmax		pmax			
	comp=Z,5.0nm,1.3s								
LANS	**Liptovska Anna**	**73.28**	**334**	*e*P		**P**		**12 57 08.8**	**+2.1**
O52A	**Adamsville**	**73.41**	**45**	P		**P**		**12 57 07.9**	**+0.3**
G62A	**West of Eustis**	**73.48**	**35**	IAmb		IAmb	12 57 09.8		
	comp=Z,12nm,0.9s								
J59A	**Piesco**	**73.56**	**38**	P		**P**		**12 57 08.5**	**+0.1**
VRAC	**Vranov**	**73.88**	**336**	P		**P**		**12 57 10.8**	**+0.7**
	comp=Z,2.2nm,0.4s,baz=39,slow=6.5,SNR=3.0								
VRAC				LR		LR	13 33 33.9		
	comp=Z,43nm,19.4s,baz=30,slow=39								
	comp=Z,2.2nm,0.4s								
VYHS	**Vyhne**	**74.05**	**334**	*e*P		**P**		**12 57 09.7**	**-1.5**
VYHS				pmax		pmax			
	comp=Z,1.0nm,0.6s								
VYHS	**Vyhne**	**74.05**	**334**	*e*P		**P**		**12 57 09.7**	**-1.5**
DZM	**Mont Dzumac**	**74.47**	**174**	*e*LR		LR	13 20 00.3		
	comp=Z,102nm,22.6s								
MODS	**Modra-Piesok**	**74.57**	**335**	*e*P		**P**		**12 57 12.2**	**-2.0**
MODS				pmax		pmax			
	comp=Z,6.0nm,0.7s								
MODS	**Modra-Piesok**	**74.57**	**335**	*e*P		**P**		**12 57 12.2**	**-2.0**
SSPA	**Standing Stone**	**74.63**	**42**	P		**P**		**12 57 15.2**	**+0.6**
SSPA				IAmb		IAmb	12 57 16.0		
	comp=Z,9.1nm,0.8s								
MLR	**Muntele Rosu**	**74.68**	**328**	IAmb		IAmb	12 57 16.6		
	comp=Z,5.9nm,0.6s								
MLR	**Muntele Rosu**	**74.68**	**328**	P		**P**

JAY	Jayapura	14.82	284	P		P		12 49 38.6	-1.6
	24nm,0.9s,baz=153,slow=11,SNR=12								
JAY	Jayapura	14.82	284	P		P		12 49 39.0	-1.3
	29nm,1.0s								
JAY	Jayapura	14.82	284	P		P		12 49 38.8	-1.5
CTAO	Charters Tower	16.26	211			P		12 49 56.9	+0.8
CTAO	Charters Tower	16.26	211	P		Pn		12 49 55.3	-0.6
KOUNC	Koumac, New Ca	16.81	149	P		P		12 50 03.5	+1.3
SMPI	Sarmi	16.88	284	P		Pn		12 50 04.1	+0.7
	2um82nm,0.9s								
SMPI	Sarmi	16.88	284	P		Pn		12 50 04.8	+1.4
	2um82nm,0.9s								
DZM	Mont Dzumac	19.20	146			P		12 50 28.2	-0.2
DZM	Mont Dzumac	19.20	146	P		P		12 50 28.8	+0.4
	36nm,0.5s,baz=315,slow=16,SNR=71								
DZM	Mont Dzumac	19.20	146	P		P		12 50 29.4	+1.0
DZM	Mont Dzumac	19.20	146	S		S		12 54 02.3	+4.1
SRPI	Serui, Papua	19.30	282	P		Pn		12 50 30.6	-1.5
ONTNC	Ouen Toro	19.40	147			P		12 50 30.3	-0.1
ONTNC	Ouen Toro	19.40	147	P		P		12 50 32.5	+2.1
EIDS	Eidsvold	19.44	191			P		12 50 32.0	+1.1
EIDS					IAmb	IAmb		12 50 37.3	
	comp=Z,34nm,0.8s								
YATNC	Mamie plateau,	19.45	145	P		P		12 50 31.8	+0.9
OUENC	Ouen Island, N	19.70	146	P		P		12 50 34.8	+1.1
PINNC	Pines Island,	20.20	145	P		P		12 50 37.9	-1.1
PINNC					IAmb	IAmb		12 50 49.5	
	comp=Z,23nm,0.8s								
QIS	Mount Isa	20.73	225	P		P		12 50 46.1	+1.3
RKPI	Ransiki, Papua	21.39	282	P		P		12 50 52.1	+0.2
	comp=Z,3µmcomp=Z,63nm,1.5s								
QLP	Quilpie	22.76	206	P		P		12 51 07.3	+1.8
FAKI	Fak Fak	23.02	277	P		P		12 51 07.3	-0.7
FAKI					IAmb	IAmb		12 51 12.9	
	comp=Z,28nm,1.0s								
FAKI	Fak Fak	23.02	277	P		P		12 51 08.0	0.0
KDU	Kakadu	23.23	252	P		P		12 51 10.6	+0.7
WB0	Warramunga Arr	24.23	234			P		12 51 19.5	+0.5
WB0					IAmb	IAmb		12 51 21.8	
	comp=Z,17nm,0.5s								
ARMA	Armidale	24.31	187	P		P		12 51 20.3	+0.6
ARMA					IAmb	IAmb		12 51 21.4	
	comp=Z,20nm,0.7s								
ARMA	Armidale	24.31	187	P		P		12 51 21.0	+1.3
WRA	Warramunga Arr	24.36	234	P		P		12 51 20.6	+0.4
WRA	Warramunga Arr	24.36	234	P		P		12 51 20.8	+0.6
	comp=Z,9.2nm,0.4s,baz=59,slow=9.6,SNR=132								
WRA					PcP	PcP		12 54 55.1	-0.7
	comp=Z,0.6nm,0.6s,baz=61,slow=2.2,SNR=2.4								
WRA					S	S		12 55 26.0	-3.0
	comp=Z,1.9nm,0.9s,baz=58,slow=16,SNR=7.3								
	comp=Z,9.2nm,0.4s								
SWI	Sorong	24.38	282	P		P		12 51 19.4	-1.0
SWI	Sorong	24.38	282	P		P		12 51 20.7	+0.3
	comp=Z,44nm,0.7s								
MTN	Manton Dam	24.54	253	P		P		12 51 22.3	+0.5
MTN					IAmb	IAmb		12 52 03.8	
	comp=Z,32nm,1.2s								
CMSA	Cobar Meteorol	26.70	198	P		P		12 51 42.2	+1.0
AS01	Alice Springs	26.75	227	P		P		12 51 42.6	+0.8
AS31	Alice Springs	26.78	227			P		12 51 40.9	-1.2
ASAR	Alice Springs	26.78	227	P		P		12 51 41.0	-1.1
ASAR	Alice Springs	26.78	227	P		P		12 51 41.7	-0.4
	comp=Z,2.6nm,0.5s,baz=56,slow=8.5,SNR=29								
ASAR					S	S		12 56 04.0	-3.2
	comp=Z,1.0nm,0.8s,baz=53,slow=14,SNR=4.7								
ASAR					LR	LR		13 00 43.1	
	comp=Z,62nm,21.3s,baz=278,slow=32								
	comp=Z,2.6nm,0.5s								
H11S3	WAKE ISLAND Hy	27.07	25	T		T		13 20 38.5	
	baz=202,slow=76,SNR=22								
H11S2	WAKE ISLAND Hy	27.07	25	T		T		13 20 54.2	
	baz=202,slow=76,SNR=13								
H11S1	WAKE ISLAND Hy	27.09	25	T		T		13 20 55.1	
	baz=202,slow=76,SNR=12								
STKA	Stephens Creek	28.50	205	P		P		12 51 57.1	0.0
STKA	Stephens Creek	28.50	205	P		P		12 51 57.1	0.0
	comp=Z,1.6nm,0.4s,baz=26,slow=13,SNR=3.4								
STKA					LR	LR		13 02 33.9	
	comp=Z,71nm,20.3s,baz=24,slow=34								
	comp=Z,1.6nm,0.4s								
HTT	Hallett	30.98	207	P		P		12 52 20.0	+0.8
FITZ	Fitzroy Crossi	31.08	245	P		P		12 52 19.4	-0.8
KMSI	Cibinong	31.79	281	P		P		12 52 27.1	+0.7
BBOO	Buckleboo	31.87	211	P		P		12 52 27.0	+0.1
MMRI	Maumere	32.68	264			P		12 52 34.2	0.0
MMRI	Maumere	32.68	264	P		P		12 52 34.4	+0.2
EDFI	Ende, Flores	33.22	264	P		P		12 52 38.1	-1.0
	comp=Z,41nm,0.9s								
APSI	Ampana	33.79	278	P		P		12 52 44.6	+0.7
TOLI2	Tolitoli	35.03	281			P		12 52 53.6	-0.9
TOLI2					IAmb	IAmb		12 52 56.4	
	comp=Z,14nm,0.8s								
TOLI2	Tolitoli	35.03	281	P		P		12 52 53.6	-0.9
WBSI	Waikabubak, Su	35.53	262	P		P		12 52 59.6	+0.8
	comp=Z,46nm,0.9s								
HIZ	Hauiti	36.81	154	P		P		12 53 10.2	+0.9
PLAI	Plampang	37.09	264	P		P		12 53 11.8	-0.3
TAU	Tasmania Unive	37.20	189	P		P		12 53 13.7	+1.2
TAU	Tasmania Unive	37.20	189	P		P		12 53 13.7	+1.2
MBWA	Marble Bar	37.33	243	P		P		12 53 15.0	+1.0
URZ	Urewera	37.64	151	P		P		12 53 17.3	+1.0
QRZ	Quartz Range	37.83	158	P		P		12 53 18.7	+0.8
RTZ	Ruatahuna	37.86	152			P		12 53 18.5	+0.2
TWSI	Taliwang, Sumb	37.98	264	P		P		12 53 18.9	-0.6
	comp=Z,36nm,1.4s								
BKZ	Black Stump Fm	38.07	153	P		P		12 53 21.2	+1.2
BFZ	Birch Farm	39.20	154	P		P		12 53 30.2	+0.9
KHZ	Kahutara	39.59	158	P		P		12 53 34.2	+1.7
RPZ	Rata Peaks	39.91	162	P		P		12 53 36.3	+1.1
MEEK	Meekatharra	40.25	235	P		P		12 53 39.0	+0.7
KKM	Kota Kinabalu	40.68	287	P		P		12 53 41.9	-0.2
KKM					IAmb	IAmb		12 54 20.2	
	comp=Z,15nm,1.1s								
KKM	Kota Kinabalu	40.68	287	P		P		12 53 42.0	-0.1
KLBR	Kellerberrin	43.08	229	P		P		12 54 02.6	+1.4
MORW	Morawa	43.31	234	P		P		12 54 02.6	-0.5
MORW	Morawa	43.31	234	P		P		12 54 03.1	0.0
BLDU	Ballidu	43.44	231	P		P		12 54 04.5	+0.4
PCJI	Pacitan	43.62	265	P		P		12 54 05.7	0.0
	comp=Z,78nm,1.2s								
UGM	Wanagama	44.27	265	P		P		12 54 10.8	-0.1
UGM	Wanagama	44.27	265	P		P		12 54 10.8	-0.1
UGM	Wanagama	44.27	265	P		P		12 54 11.1	+0.1
	comp=Z,97nm,1.6s								
MJAR	Matsushiro Arr	45.38	341	P		P		12 54 18.1	-1.3
	comp=Z,3.6nm,0.7s,baz=164,slow=7.4,SNR=8.8								
	comp=Z,3.6nm,0.7s								
MAJO	Matsushiro	45.38	341			P		12 54 18.9	-0.4
MJB9	Matsu-Tunnel	45.38	341	P		P		12 54 18.8	-0.6
CMJI	Cimerak	46.32	265	P		P		12 54 26.1	-1.0
BBJI	Bungbulang	47.12	266	P		P		12 54 33.1	-0.3
CNJI	Cibinong	47.64	266	P		P		12 54 36.5	-0.9
JTM	Tenmabayashi	48.51	346	P		P		12 54 43.3	-0.2
JTM					IAmb	IAmb		12 55 18.8	
	comp=Z,23nm,1.1s								
KSRS	Korea Array	50.30	332	P		P		12 54 57.0	-0.2
	comp=Z,2.4nm,0.7s,baz=146,slow=7.7,SNR=14								
	comp=Z,2.4nm,0.7s								
JKA	Kamikawa-asahi	51.34	348	P		P		12 55 05.3	+0.5
JKA					IAmb	IAmb		12 55 30.4	
	comp=Z,20nm,1.3s								
ASAJ	Asahikawa	51.34	348	P		P		12 55 05.3	+0.5
	comp=Z,7.6nm,0.8s,baz=192,slow=4.3,SNR=10								
ASAJ					LR	LR		13 13 56.9	
	comp=Z,19nm,21.6s,baz=174,slow=32								
	comp=Z,7.6nm,0.8s								
NJ2	Nanjing	51.38	320	eP		P		12 55 06.4	+1.0
NJ2					pmax	pmax			
	comp=Z,13nm,0.5s								
WHN	Wuhan	53.46	315	P		P		12 55 24.8	+4.1
USRK	Ussuriysk Ar.	54.33	340	P		P		12 55 27.2	+0.4
	comp=Z,3.6nm,0.7s,baz=163,slow=7.4,SNR=8.0								
	comp=Z,3.6nm,0.7s								
KULM	Kulim	55.55	281	P		P		12 55 36.0	-0.1
BNX	BinXian	57.33	337	⇑P		P		12 55 48.4	+0.3
BNX					pmax	pmax			
	comp=Z,14nm,1.0s								
PET	Petropavlovsk	59.08	2	P		P		12 56 00.3	+0.2
PEA0B	Petropavlovsk-	59.13	2			P		12 56 01.0	+0.5
PETK	Petropavlovsk-	59.13	2			P		12 56 00.2	-0.3
PETK	Petropavlovsk-	59.13	2	P		P		12 56 00.5	0.0
	comp=Z,38nm,0.7s,baz=183,slow=6.8,SNR=58								
	comp=Z,38nm,0.7s								
XAN	Xi'an	59.22	316	⇓P		P		12 56 00.6	-1.0
XAN					pP	pP		12 56 37.9	+1.3
XAN					pmax	pmax			
	comp=Z,13nm,0.7s								
CMAR	Chiang Mai Arr	60.55	295	P		P		12 56 11.3	+0.5
	comp=Z,3.8nm,0.7s,baz=111,slow=6.9,SNR=24								
CMAR					pP	pP		12 56 48.7	+2.6
	comp=Z,4.7nm,0.8s,baz=110,slow=6.8,SNR=6.9								
	comp=Z,3.8nm,0.7s								
XLT	XiLinHaoTe	61.04	329	eP		P		12 56 14.1	+0.3
XLT					pmax	pmax			
	comp=Z,14nm,0.6s								
PZH	PanZhiHua	61.05	305	P		P		12 56 16.5	+2.2
HEH	HeiHe	61.13	340	eP		P		12 56 13.9	-0.3
HEH					pmax	pmax			
	comp=Z,5.0nm,1.4s								
HHC	Hu-ho-hao-te	61.53	324	eP		P		12 56 18.8	+1.6
HHC					pmax	pmax			
	comp=Z,17nm,0.6s								
HHC					pmax	pmax			
	comp=Z,110nm,4.5s								
ATKA	Atka Island	63.80	20	P		P		12 56 31.6	-0.2
MA2	Magadan	65.66	358	P		P		12 56 43.6	-0.2
NIKH	Nikolski High	66.38	23	P		P		12 56 48.2	-0.2
	baz=220								
UNV	Unalaska Valle	67.96	23	P		P		12 56 57.5	-0.9
	baz=222								
GTA	Gaotai	68.24	317	eP		P		12 57 01.8	+1.1
GTA					sP	sP		12 57 58.8	+5.8
GTA					pmax	pmax			
	comp=Z,8.0nm,1.1s								
SONM	Songino Array	68.74	327	P		P		12 57 04.2	+0.7
	comp=Z,3.7nm,0.4s,baz=131,slow=5.9,SNR=11								
	comp=Z,3.7nm,0.4s								
P08K	Saint George I	68.96	20	P		P		12 57 04.4	-0.1
	baz=218								
SEY	Seymchan	68.97	359	P		P		12 57 04.3	-0.2
	comp=Z,9.8nm,0.9s,baz=172,slow=8.3,SNR=13								
	comp=Z,9.8nm,0.9s								
SPIA	Saint Paul Isl	69.18	19	P		P		12 57 05.6	-0.2
	baz=217								
YAK	Yakutsk	70.81	348	P		P		12 57 15.9	+0.1
	comp=Z,13nm,0.5s,baz=105,slow=4.8,SNR=7.0								
	comp=Z,13nm,0.5s								
VNDA	Vanda	71.36	178	P		P		12 57 19.1	+0.2
	comp=Z,1.3nm,0.8s,baz=356,slow=8.3,SNR=5.4								
VNDA					pP	pP		12 57 54.8	0.0
	comp=Z,1.8nm,1.1s,baz=346,slow=8.3,SNR=3.7								
	comp=Z,1.3nm,0.8s								
SDPT	Sand Point	71.49	25	P		P		12 57 20.0	0.0
	baz=227								
CHNA	Chernabura Isl	71.52	26	P		P		12 57 19.8	-0.3
	baz=228								
S14K	Fog Glacier	72.50	25	P		P		12 57 25.7	-0.5
	baz=228								
M11K	Mekoryuk	73.01	19	P		P		12 57 29.4	+0.5
	baz=220								
O14K	Tigyukauivet M	73.88	22	P		P		12 57 34.0	-0.1
	baz=226								
CHIR	Chirikof Islan	73.89	26	P		P		12 57 34.2	0.0
	baz=232								
M13K	Dall Lake	73.97	20	P		P		12 57 35.0	+0.5
	baz=223								
GAMB	Gambell	74.13	15	P		P		12 57 35.7	+0.3
	baz=214								
N14K	Kuskokwak Cree	74.20	21	P		P		12 57 36.3	+0.4
	baz=225								
O15K	Ungalikthiuk R	74.36	22	P		P		12 57 37.0	+0.1
	baz=227								
K13K	Kusilvak Mount	74.67	18	P		P		12 57 38.4	-0.1
	baz=222								
M14K	Bethel	74.69	20	P		P		12 57 38.6	0.0
M14K					IAmb	IAmb		12 57 40.3	
	comp=Z,30nm,1.2s								
M14K	Bethel	74.69	20	P		P		12 57 39.0	+0.3
	baz=224								
R17L	Mt. Peulik Vol	74.71	25	P		P		12 57 38.7	-0.2
	baz=230								
L14K	Kuka Creek	74.87	20			P		12 57 39.9	+0.3
L14K					IAmb	IAmb		12 57 41.4	
	comp=Z,16nm,1.0s								
L14K	Kuka Creek	74.87	20	P		P		12 57 40.0	+0.3
	baz=224								
N15K	Kwethluk River	74.94	21	P		P		12 57 40.5	+0.3
	baz=226								
P16K	Nushagak River	74.97	23	P		P		12 57 40.7	+0.5
	baz=229								
SII	Sitkinak Islan	74.98	26	P		P		12 57 40.5	+0.1
	baz=233								
M15K	Kasigluk River	75.10	21	P		P		12 57 41.1	0.0
	baz=226								
Q16K	King Salmon	75.26	24	P		P		12 57 42.3	+0.3
	baz=230								
O16K	Kokwok River B	75.30	23	P		P		12 57 42.6	+0.5
	baz=228								
Q17K	Contact Creek	75.31	24	P		P		12 57 42.1	-0.3
	baz=231								
J14K	Nanvaranak Lak	75.62	18	P		P		12 57 43.9	0.0
	baz=223								
N16K	Nishlik Lake	75.64	22	P		P		12 57 43.9	-0.3
	baz=228								
P17K	Kvichak River	75.68	23	P		P		12 57 44.2	-0.1
	baz=230								
OHAK	Old Harbor	75.77	26	P		P		12 57 44.9	0.0
	baz=233								
Q18K	Katmai Hardscr	75.91	24	P		P		12 57 45.5	-0.3
	baz=232								
M16K	Timber Creek	75.94	21			P		12 57 45.2	-0.6
M16K					IAmb	IAmb		12 57 47.6	
	comp=Z,16nm,0.9s								
M16K	Timber Creek	75.94	21	P		P		12 57 45.7	-0.1
	baz=227								
K15K	Wolf Creek Mou	75.94	19			P		12 57 44.6	-1.2
K15K					IAmb	IAmb		12 57 47.7	
	comp=Z,30nm,1.2s								
K15K	Wolf Creek Mou	75.94	19	P		P		12 57 45.7	-0.1
	baz=225								
L16K	Owhat River	76.23	20	P		P		12 57 47.4	0.0
	baz=227								
N17K	Nushagak Hills	76.26	22	P		P		12 57 47.5	-0.1
	baz=229								
P18K	Big Mountain,	76.29	24	P		P		12 57 48.0	+0.1
	baz=231								
KDAK	Kodiak Island	76.41	26	P		P		12 57 47.7	-0.8
	baz=234								
ANM	Nome	76.44	16	P		P		12 57 48.0	-0.6
	baz=221								
TNA	Tin City	76.53	15	P		P		12 57 48.8	-0.3
	baz=218								
O18K	Koktuh Hills	76.58	23	P		P		12 57 49.0	-0.6
	baz=231								
M17K	Holitna River	76.74	21	P		P		12 57 51.2	+0.9
	baz=229								
N18K	Kilae Creek	76.84	22	P		P		12 57 51.2	+0.2
	baz=230								
L17K	Donlin	76.92	21	P		P		12 57 52.5	+1.1
	baz=228								
J16K	Anvik River	76.94	19	P		P		12 57 52.6	+1.2
J16K					IAmb	IAmb		12 57 53.7	
	comp=Z,12nm,0.9s								
J16K	Anvik River	76.94	19	P		P		12 57 52.5	+1.1
	baz=225								
Q20K	Shuyak Island	76.98	25	P		P		12 57 52.3	+0.6
	baz=234								
G15K	Niukluk	77.14	17	P		P		12 57 52.8	+0.3
	baz=222								
P19K	Oil Pt	77.25	24	P		P		12 57 53.6	+0.3
	baz=233								
K17K	Iditarod	77.31	20	P		P		12 57 54.4	+0.9
	baz=228								
I17K	Unalakleet	77.34	18	P		P		12 57 54.5	+0.9
	baz=225								
M18K	Stony River	77.39	22	P		P		12 57 54.6	+0.6
	baz=230								
H16K	Elim	77.41	17	P		P		12 57 54.8	+0.9
	baz=224								
N19K	Bonanza Creek	77.47	23	P		P		12 57 54.4	-0.1
	baz=232								
F15K	North Star Dit	77.51	16	P		P		12 57 55.0	+0.4
	baz=221								
J17K	VABM Dome	77.52	19	P		P		12 57 55.4	+0.8
	baz=227								
L18K	Granite Mounta	77.55	21	P		P		12 57 55.6	+0.8
L18K					IAmb	IAmb		12 57 57.0	
	comp=Z,23nm,1.2s								
L18K	Granite Mounta	77.55	21	P		P		12 57 55.4	+0.5
	baz=229								
HOM	Homer	77.90	25	P		P		12 57 57.0	+0.2
	baz=234								
G16K	Koyuk River	77.92	17	P		P		12 57 57.5	+0.6
	baz=223								
CNPM	China Poot	78.00	25			P		12 57 57.5	+0.1
M19K	Big River Lodg	78.18	22			P		12 57 59.6	+1.3
M19K					IAmb	IAmb		12 58 00.9	
	comp=Z,17nm,1.0s								
M19K	Big River Lodg	78.18	22	P		P		12 57 58.9	+0.6
	baz=232								
L19K	White Mountain	78.18	22	P		P		12 57 58.8	+0.4
L19K					IAmb	IAmb		12 58 00.6	
	comp=Z,26nm,1.2s								
L19K	White Mountain	78.18	22	P		P		12 57 59.2	+0.8
	baz=231,SNR=14								
H17K	Granite Mounta	78.32	18	P		P		12 57 59.3	+0.3
H17K					IAmb	IAmb		12 58 00.9	
	comp=Z,8.2nm,0.8s								
H17K	Granite Mounta	78.32	18	P		P		12 57 59.4	+0.3
	baz=226								
WMQ	Urumqi	78.33	317	eP		P		12 58 00.5	+0.9
WMQ					LR	LR			
	comp=Z,160nm,23.3s								
J18K	Innoko River	78.35	20	P		P		12 57 58.8	-0.5
J18K					IAmb	IAmb		12 58 00.5	
	comp=Z,13nm,1.1s								
J18K	Innoko River	78.35	20	P		P		12 57 59.9	+0.6
	baz=229,SNR=7.1								
G17K	Kiwalik Mounta	78.50	17	P		P		12 58 00.2	+0.2
	baz=225								
M20K	Styx River	78.64	22	P		P		12 58 00.9	-0.1
	baz=233								
L20K	Farewell, AK	78.72	22	P		P		12 58 01.7	+0.3
	baz=232,SNR=6.7								
H18K	Honhosa River	78.95	18	P		P		12 58 02.9	+0.4
	baz=227								
F17K	Baldwin Pennin	78.99	16	P		P		12 58 03.0	+0.3
	baz=224								
J19K	Poorman	79.07	20			P		12 58 03.2	+0.1
J19K	Poorman	79.07	20	P		P		12 58 03.3	+0.1
	baz=230								
SEW	Seward	79.07	25	P		P		12 58 03.3	+0.1
	baz=236								
O22K	Cooper Landing	79.17	24	P		P		12 58 03.8	+0.1
	baz=236								
K20K	Telida	79.20	21	P		P		12 58 03.7	-0.2
	baz=232								
C16K	Lisburne Hills	79.29	14	P		P		12 58 04.8	+0.6
	baz=220								
E17K	Hotham Inlet	79.30	16	P		P		12 58 04.8	+0.5
	baz=224								
SKT	Skwentna	79.31	23			P		12 58 03.0	-1.5
SKT	Skwentna	79.31	23	P		P		12 58 04.2	-0.3
	baz=234								
G18K	Tagagawik	79.36	18	P		P		12 58 04.7	0.0
	baz=227,SNR=5.2								
D17K	Noatak River	79.42	15	P		P		12 58 05.7	+0.7
	baz=222								
RC01	Rabbit Creek A	79.50	24	P		P		12 58 05.5	-0.1
	baz=236,SNR=16								
PPLA	Purkeypile	79.60	22	P		P		12 58 06.3	0.0
	baz=234								
J20K	Nowinta River	79.69	20	P		P		12 58 07.1	+0.6
	baz=231								
M22K	Willow	79.72	23	P		P		12 58 06.3	-0.3
	baz=236								
RDOG	Red Dog Mine	79.73	15	P		P		12 58 07.6	+0.9
	baz=222								
H19K	Roundabout Mou	79.80	18	P		P		12 58 07.7	+0.7
	baz=229,SNR=12								
E18K	Tukpahlearik C	79.87	16	P		P		12 58 08.1	+0.7
	baz=225								
P23K	Montague Islan	79.88	25	P		P		12 58 07.7	+0.1
	baz=238								
PWL	Port Wells	79.94	25	P		P		12 58 08.0	0.0
PWL	Port Wells	79.94	25	P		P		12 58 08.5	+0.5
	baz=237,SNR=20								
CAST	Castle Rocks	79.95	21	P		P		12 58 07.5	-0.5
	baz=234								
I20K	Naaghedeneel	79.96	20	P		P		12 58 08.5	+0.5
	baz=231								
C17K	DeLong Mountai	79.97	14	P		P		12 58 08.3	+0.3
	baz=222								
G19K	Purcell Mounta	80.01	18	P		P		12 58 07.8	-0.4
G19K					IAmb	IAmb		12 58 09.9	
	comp=Z,13nm,1.0s								
G19K	Purcell Mounta	80.01	18	P		P		12 58 08.1	-0.1
	baz=228,SNR=9.2								
PMR	Palmer	80.02	24	P		P		12 58 08.0	-0.3
	baz=236,SNR=12								
CUT	Chulitna	80.03	23	P		P		12 58 08.5	+0.1
	baz=235								
Q23K	Middleton Isla	80.04	26	P		P		12 58 08.5	+0.1
	baz=239								
CHUM	Lake Minchumin	80.14	21	P		P		12 58 09.1	+0.1
	baz=233								
KNK	Knik Glacier	80.19	24	P		P		12 58 09.4	+0.1
	baz=237								
GHO	Glory Hole Cre	80.20	24	P		P		12 58 08.8	-0.6
GHO					IAmb	IAmb		12 58 10.2	
	comp=Z,14nm,0.9s								
F19K	Shaleruckik Mo	80.27	17	P		P		12 58 09.4	-0.1
	baz=228								
H20K	Anotleneega Mo	80.27	19	P		P		12 58 09.8	+0.1
	baz=231,SNR=9.4								
GLI	Glacier Island	80.47	25	P		P		12 58 10.4	-0.4
	baz=238,SNR=8.8								
C18K	Utukok River	80.60	15	P		P		12 58 11.6	+0.3
	baz=224								
TRF	Thorofare Moun	80.62	22	P		P		12 58 11.6	-0.1
	baz=235,SNR=7.2								
FID	Port Fidalgo	80.66	25	P		P		12 58 11.4	-0.5
FID					IAmb	IAmb		12 58 12.5	
	comp=Z,14nm,0.8s								
M23K	Glacier View	80.69

N25K	**Chitina, Valde**		**81.88**	**25**	P		**P**	**12 58 18.6**	**+0.2**
	baz=241,SNR=6.2									
I23K	**Minto, Yukon-K**		**81.92**	**21**	P		**P**	**12 58 18.6**	**+0.3**
	baz=236									
HARP	**HAARP**		**82.04**	**24**	P		**P**	**12 58 19.5**	**+0.4**
	baz=240									
CRQE	**Cirque**		**82.11**	**26**	P		**P**	**12 58 19.7**	**+0.1**
	baz=242									
GLB	**Gilahina Butte**		**82.13**	**25**			**P**	**12 58 19.7**	**+0.1**
GLB					IAmb		IAmb	12 58 20.8		
	comp=Z,18nm,0.9s									
CCB	**Clear Creek Bu**		**82.20**	**21**			**P**	**12 58 18.4**	**-1.3**
CCB					IAmb		IAmb	12 58 19.7		
	comp=Z,16nm,1.4s									
PAX	**Paxson**		**82.21**	**23**	P		**P**	**12 58 20.4**	**+0.4**
PAX	**Paxson**		**82.21**	**23**	P		**P**	**12 58 20.4**	**+0.4**
	baz=240									
G22K	**Bettles**		**82.23**	**19**	P		**P**	**12 58 20.0**	**+0.1**
	baz=234									
H23K	**Yukon River**		**82.24**	**20**	P		**P**	**12 58 20.2**	**+0.2**
	baz=236,SNR=6.4									
COLA	**College**		**82.31**	**21**	P		**P**	**12 58 19.5**	**-0.9**
	baz=237									
HDA	**Harding Lake**		**82.39**	**22**	P		**P**	**12 58 20.2**	**-0.6**
HDA					IAmb		IAmb	12 58 21.0		
	comp=Z,15nm,1.3s									
HDA	**Harding Lake**		**82.39**	**22**	P		**P**	**12 58 20.3**	**-0.5**
	baz=238,SNR=7.8									
E21K	**Killik River**		**82.42**	**17**	P		**P**	**12 58 21.0**	**+0.1**
	baz=231									
MCARA	**McCarthy VSAT**		**82.44**	**25**	P		**P**	**12 58 20.7**	**-0.4**
	baz=242									
K24K	**Donnelly Dome**		**82.51**	**23**	P		**P**	**12 58 21.3**	**-0.2**
	baz=239									
B20K	**Meade River**		**82.58**	**15**	P		**P**	**12 58 21.9**	**+0.3**
	baz=228									
POKR	**Poker Plat Res**		**82.59**	**21**	P		**P**	**12 58 21.3**	**-0.6**
	baz=238									
G23K	**Bananza Creek**		**82.59**	**19**	P		**P**	**12 58 21.9**	**+0.1**
G23K	**Bananza Creek**		**82.59**	**19**	P		**P**	**12 58 22.3**	**+0.4**
	baz=235,SNR=6.0									
ILAR	**Eielson Array**		**82.60**	**22**	P		**P**	**12 58 20.2**	**-1.7**
ILAR					pP		**pP**	**12 58 59.9**	**+0.9**
	comp=Z,1.9nm,0.5s,baz=235,slow=5.1,SNR=30									
	comp=Z,0.6nm,0.6s,baz=255,slow=5.9,SNR=2.1									
	comp=Z,1.9nm,0.5s									
C21K	**Knifeblade Rid**		**82.65**	**16**	P		**P**	**12 58 22.6**	**+0.6**
	baz=230									
H24K	**Noodor Dome**		**82.82**	**20**	P		**P**	**12 58 23.0**	**0.0**
	baz=237									
COLD	**Coldfoot**		**82.83**	**19**	P		**P**	**12 58 23.6**	**+0.6**
	baz=235,SNR=5.7									
TABL	**Table Mountain**		**82.83**	**27**	P		**P**	**12 58 23.6**	**+0.1**
RIDG	**Independent Ri**		**82.84**	**23**	P		**P**	**12 58 22.9**	**-0.3**
RIDG					IAmb		IAmb	12 58 24.8		
	comp=Z,22nm,1.4s									
RIDG	**Independent Ri**		**82.84**	**23**	P		**P**	**12 58 23.2**	**0.0**
	baz=240,SNR=8.3									
E22K	**Anaktuvuk Pass**		**82.86**	**18**	P		**P**	**12 58 23.7**	**+0.5**
	baz=233									
BARN	**Barnard Glacie**		**82.88**	**26**	P		**P**	**12 58 23.8**	**+0.2**
MKAR	**Makanchi Array**		**82.89**	**319**			**P**	**12 58 23.1**	**-0.8**
MKAR	**Makanchi Array**		**82.89**	**319**	P		**P**	**12 58 22.8**	**-1.0**
	comp=Z,7.2nm,0.8s,baz=105,slow=5.6,SNR=49									
MKAR					pP		**pP**	**12 59 02.6**	**+1.1**
	comp=Z,2.2nm,0.8s,baz=107,slow=5.2,SNR=3.6									
	comp=Z,7.2nm,0.8s									
M26K	**Nabesna, AK**		**82.93**	**24**	P		**P**	**12 58 24.2**	**+0.5**
	baz=242,SNR=5.6									
CTG	**Chitna Glacier**		**82.97**	**26**	P		**P**	**12 58 24.0**	**-0.1**
	baz=244,SNR=11									
CTGM	**Chitina Glacie**		**82.98**	**26**	P		**P**	**12 58 24.2**	**+0.1**
B21K	**Ikpikpuk River**		**82.99**	**16**	P		**P**	**12 58 24.4**	**+0.6**
	baz=230									
LOGN	**Logan Glacier**		**83.06**	**26**	P		**P**	**12 58 24.6**	**+0.1**
LOGN					IAmb		IAmb	12 58 25.8		
	comp=Z,14nm,0.7s									
D22K	**Ayikyak River**		**83.06**	**17**	P		**P**	**12 58 24.5**	**+0.3**
	baz=232,SNR=7.2									
J25K	**Salcha River,**		**83.08**	**22**	P		**P**	**12 58 24.2**	**-0.3**
	baz=240,SNR=17									
L26K	**Log Cabin Wild**		**83.08**	**24**	P		**P**	**12 58 24.6**	**+0.1**
	baz=242,SNR=8.1									
PINM	**Pinnacle**		**83.08**	**27**	P		**P**	**12 58 24.3**	**-0.2**
	baz=245									
SCRK	**Sand Creek**		**83.28**	**23**	P		**P**	**12 58 25.2**	**-0.4**
SCRK	**Sand Creek**		**83.28**	**23**	P		**P**	**12 58 25.6**	**0.0**
	baz=241,SNR=9.3									
PNL	**Peninsula**		**83.29**	**28**	P		**P**	**12 58 25.5**	**-0.1**
	baz=246									
M27K	**Edge Creek, AK**		**83.37**	**25**	P		**P**	**12 58 26.5**	**+0.4**
	baz=243,SNR=27									
O28M	**Mount Upton**		**83.40**	**27**	P		**P**	**12 58 26.7**	**+0.3**
	baz=245,SNR=13									
G24K	**Hadweenzic Riv**		**83.42**	**20**	P		**P**	**12 58 26.5**	**+0.4**
	baz=237,SNR=5.4									
PRP	**Porcupine Dome**		**83.48**	**21**	P		**P**	**12 58 26.7**	**+0.1**
	baz=239									
E23K	**Chandalar**		**83.49**	**18**	P		**P**	**12 58 26.9**	**+0.4**
	baz=235,SNR=5.7									
ZAA0	**Zalesovo Array**		**83.59**	**326**			**P**	**12 58 25.7**	**-1.4**
ZALV	**Zalesovo Beam**		**83.59**	**326**	P		**P**	**12 58 25.3**	**-1.9**
	comp=Z,4.6nm,0.6s,baz=108,slow=4.7,SNR=20									
ZALV					pP		**pP**	**12 59 05.0**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=106,slow=5.1,SNR=2.5									
	comp=Z,4.6nm,0.6s									
D23K	**Nanushuk River**		**83.69**	**17**	P		**P**	**12 58 28.0**	**+0.6**
D23K	**Nanushuk River**		**83.69**	**17**	P		**P**	**12 58 27.9**	**+0.6**
	baz=234,SNR=11									
J26L	**Joseph Creek**		**83.70**	**22**	P		**P**	**12 58 27.5**	**-0.2**
J26L	**Joseph Creek**		**83.70**	**22**	P		**P**	**12 58 27.5**	**-0.2**
	baz=241,SNR=9.4									
L27K	**Beaver Creek,**		**83.71**	**24**	P		**P**	**12 58 28.0**	**+0.2**
L27K	**Beaver Creek,**		**83.71**	**24**	P		**P**	**12 58 27.9**	**+0.2**
	baz=243,SNR=11									
YUK3	**Moose Creek**		**83.71**	**26**	P		**P**	**12 58 28.2**	**+0.3**
	baz=244,SNR=9.8									
BCAR	**Beaver Creek A**		**83.73**	**24**	P		**P**	**12 58 27.8**	**0.0**
F24K	**Squaw Lake**		**83.73**	**19**	P		**P**	**12 58 28.0**	**+0.3**
	baz=237,SNR=6.9									
QSPA	**South Pole Qui**		**83.77**	**180**	P		**P**	**12 58 27.7**	**-0.3**
	comp=Z,3.6nm,0.5s,baz=352,slow=2.2,SNR=48									
QSPA					pP		**pP**	**12 59 04.3**	**-1.3**
	comp=Z,3.1nm,0.8s,baz=9.9,slow=5.2,SNR=4.0									
	comp=Z,3.6nm,0.5s									
YUK8	**Steele Glacier**		**83.80**	**26**	P		**P**	**12 58 28.8**	**+0.3**
	baz=245,SNR=7.4									
BVCY	**Beaver Creek**		**83.82**	**25**	P		**P**	**12 58 28.5**	**+0.3**
	baz=244,SNR=7.8									
TOLK	**Toolik Lake Re**		**83.84**	**18**	P		**P**	**12 58 29.0**	**+0.8**
	baz=235,SNR=6.3									
E24K	**Your Creek**		**83.85**	**18**	P		**P**	**12 58 28.2**	**-0.2**
	baz=236									
G25K	**Bearman Lake**		**83.92**	**20**	P		**P**	**12 58 28.7**	**+0.1**
	baz=239									
O29M	**Mount Kennedy**		**83.93**	**27**	P		**P**	**12 58 29.2**	**+0.2**
	baz=246,SNR=6.1									
P29M	**Windy Craggy**		**84.05**	**28**	P		**P**	**12 58 30.1**	**+0.7**
	baz=247									
K27K	**Chicken**		**84.05**	**23**	P		**P**	**12 58 30.3**	**+0.9**
	baz=243									
S31K	**Pelican**		**84.14**	**30**	P		**P**	**12 58 30.5**	**+0.6**
	baz=248									
C23K	**Itkillik River**		**84.23**	**16**	P		**P**	**12 58 31.1**	**+1.0**
	baz=234									
I26K	**Coal Creek Min**		**84.24**	**22**	P		**P**	**12 58 30.1**	**-0.2**
	baz=242									
SIT	**Sitka**		**84.28**	**31**	P		**P**	**12 58 31.1**	**+0.6**
	baz=249									
YUK6	**Outpost Mounta**		**84.28**	**27**	P		**P**	**12 58 31.6**	**+0.8**
	baz=246									
YUK4	**Talbot Arm**		**84.32**	**26**	P		**P**	**12 58 31.4**	**+0.4**
	baz=246,SNR=7.3									
D24K	**Happy Valley**		**84.35**	**17**	P		**P**	**12 58 31.3**	**+0.6**
	baz=236									
F25K	**Christian Rive**		**84.50**	**19**	P		**P**	**12 58 32.2**	**+0.6**
	baz=239									
P30M	**Million Dollar**		**84.60**	**28**	P		**P**	**12 58 33.1**	**+0.8**
	baz=248									
HYT	**Haines Junctio**		**84.62**	**27**	P		**P**	**12 58 32.9**	**+0.4**
	baz=247,SNR=20									
PLBC	**Pleasant Camp**		**84.63**	**29**	P		**P**	**12 58 33.0**	**+0.7**
	baz=248									
C24K	**Franklin Bluff**		**84.70**	**17**	P		**P**	**12 58 33.2**	**+0.8**
	baz=236									
BMAR	**Burnt Mountain**		**84.77**	**20**			**P**	**12 58 33.2**	**+0.2**
S32K	**Killisnoo**		**84.80**	**31**	P		**P**	**12 58 33.3**	**+0.1**
	baz=250									
E25K	**Arctic Village**		**84.80**	**19**	P		**P**	**12 58 33.7**	**+0.6**
	baz=239									
G26K	**Porcupine Rive**		**84.81**	**20**	P		**P**	**12 58 33.5**	**+0.5**
G26K					IAmb		IAmb	12 58 35.0		
	comp=Z,20nm,1.1s									
G26K	**Porcupine Rive**		**84.81**	**20**	P		**P**	**12 58 33.5**	**+0.5**
	baz=241,SNR=21									
M29M	**Somme Creek**		**84.84**	**25**	P		**P**	**12 58 34.2**	**+0.7**
	baz=246,SNR=7.9									
I27K	**Kandik River**		**84.95**	**22**	P		**P**	**12 58 34.5**	**+0.6**
	baz=243,SNR=11									
F26K	**Sheenjek River**		**85.05**	**20**	P		**P**	**12 58 34.9**	**+0.6**
	baz=240									
N30M	**Aishikik Lake**		**85.05**	**27**	P		**P**	**12 58 34.9**	**+0.4**
	baz=248									
R32K	**Eaglecrest**		**85.11**	**30**	P		**P**	**12 58 35.0**	**+0.3**
	baz=250									
U33K	**White Pass**		**85.11**	**32**	P		**P**	**12 58 34.9**	**+0.2**
	baz=251									
SKAG	**Skagway**		**85.12**	**29**	P		**P**	**12 58 34.8**	**0.0**
	baz=249									
DAWY	**Dawson**		**85.13**	**24**			**P**	**12 58 34.1**	**-0.7**
DAWY	**Dawson**		**85.13**	**24**	P		**P**	**12 58 35.2**	**+0.4**
	baz=245,SNR=8.2									
MAW	**Mawson**		**85.17**	**203**	P		**P**	**12 58 34.6**	**-0.3**
	comp=Z,6.2nm,0.7s,baz=97,slow=7.8,SNR=20									
MAW					pP		**pP**	**12 59 13.2**	**+1.6**
	comp=Z,3.2nm,0.9s,baz=102,slow=6.7,SNR=2.9									
	comp=Z,6.2nm,0.7s									
D25K	**Kavik River**		**85.18**	**18**	P		**P**	**12 58 35.0**	**0.0**
	baz=238,SNR=5.0									
O30N	**Mendenhall**		**85.24**	**27**	P		**P**	**12 58 36.0**	**+0.6**
	baz=248,SNR=5.8									
L29M	**L29M**		**85.25**	**25**	P		**P**	**12 58 35.9**	**+0.4**
	baz=246,SNR=8.6									
H27K	**Steamboat Moun**		**85.27**	**21**	P		**P**	**12 58 36.0**	**+0.6**
	baz=243,SNR=11									
G27K	**Doyon Strip**		**85.48**	**21**	P		**P**	**12 58 37.3**	**+0.8**
	baz=243									
I28M	**Miner Creek**		**85.51**	**22**			**P**	**12 58 36.4**	**-0.3**
I28M	**Miner Creek**		**85.51**	**22**	P		**P**	**12 58 36.7**	**0.0**
	baz=245,SNR=9.1									
KSH	**Kashi**		**85.59**	**310**	P		**P**	**12 58 39.5**	**+1.8**
M30M	**Minto, Yukon**		**85.61**	**26**	P		**P**	**12 58 37.9**	**+0.6**
	baz=248,SNR=7.3									
WRAK	**Wrangell Islan**		**85.61**	**32**	P		**P**	**12 58 37.8**	**+0.6**
	baz=252									
N31M	**Braeburn, Yuko**		**85.64**	**27**	P		**P**	**12 58 38.0**	**+0.6**
	baz=249,SNR=7.7									
J29N	**Klondike Camp**		**85.76**	**24**	P		**P**	**12 58 38.7**	**+0.8**
	baz=246									
WHY	**Whitehorse**		**85.76**	**28**	P		**P**	**12 58 38.9**	**+0.8**
	baz=250									
K29M	**Barlow Dome**		**85.80**	**24**	P		**P**	**12 58 38.7**	**+0.5**
	baz=247,SNR=13									
C26K	**Camden Bay**		**85.92**	**17**	P		**P**	**12 58 39.6**	**+1.0**
	baz=240									
P32M	**Atlin**		**85.94**	**29**	P		**P**	**12 58 39.8**	**+0.9**
	baz=251									
I29M	**Ogilvie Camp,**		**86.09**	**23**	P		**P**	**12 58 39.9**	**+0.4**
	baz=246,SNR=5.8									
E27K	**Coleen River**		**86.13**	**20**	P		**P**	**12 58 40.1**	**+0.4**
	baz=243,SNR=13									
C27K	**Jago River**		**86.14**	**18**	P		**P**	**12 58 40.2**	**+0.5**
	baz=241,SNR=7.8									
KURBB	**Kurchatov Arra**		**86.32**	**322**	P		**P**	**12 58 39.4**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=98,slow=4.4,SNR=11									
KURBB					pP		**pP**	**12 59 19.3**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=99,slow=4.3,SNR=2.4									
	comp=Z,1.0nm,0.6s									
MAYO	**Mayo, Yukon**		**86.37**	**25**	P		**P**	**12 58 41.4**	**+0.5**
	baz=248									
H29M	**Whitestone**		**86.42**	**22**	P		**P**	**12 58 41.2**	**+0.1**
H29M	**Whitestone**		**86.42**	**22**	P		**P**	**12 58 41.5**	**+0.4**
	baz=246									
Q32M	**Nakina River**		**86.44**	**30**	P		**P**	**12 58 41.2**	**-0.4**
	baz=252									
F28M	**Old Crow**		**86.46**	**20**	P		**P**	**12 58 41.3**	**0.0**
F28M					IAmb		IAmb	12 58 42.9		
	comp=Z,6.3nm,0.8s									
F28M	**Old Crow**		**86.46**	**20**	P		**P**	**12 58 41.8**	**+0.5**
	baz=244,SNR=10									
M31M	**Drury Creek, Y**		**86.52**	**26**	P		**P**	**12 58 41.8**	**+0.1**
	baz=250,SNR=9.1									
J30M	**Hart River**		**86.56**	**24**	P		**P**	**12 58 42.7**	**+0.8**
	baz=248,SNR=23									
P33M	**Teslin, Yukon**		**86.57**	**28**	P		**P**	**12 58 42.1**	**0.0**
	baz=251									
S34M	**Telegraph Cree**		**86.69**	**31**	P		**P**	**12 58 43.3**	**+0.8**
	baz=253									
N32M	**Quiet Lake**		**86.75**	**27**	P		**P**	**12 58 43.5**	**+0.7**
	baz=251									
I30M	**Mount Dempster**		**86.78**	**23**			**P**	**12 58 42.7**	**-0.3**
I30M					IAmb		IAmb	12 58 44.4		
	comp=Z,12nm,0.9s									
I30M	**Mount Dempster**		**86.78**	**23**	P		**P**	**12 58 42.8**	**-0.3**
	baz=248,SNR=14									
D27M	**Malcolm River**		**86.82**	**19**	P		**P**	**12 58 43.3**	**+0.3**
	baz=243,SNR=12									
G29M	**Pine Creek**		**86.82**	**21**	P		**P**	**12 58 43.2**	**+0.2**
	baz=246,SNR=9.1									
T35M	**Bob Quinn**		**86.89**	**32**	P		**P**	**12 58 44.0**	**+0.5**
	baz=254									
E28M	**Babbage River**		**87.00**	**20**	P		**P**	**12 58 44.4**	**+0.5**
	baz=245,SNR=7.8									
EPYK	**Eagle Plains**		**87.09**	**22**	P		**P**	**12 58 44.3**	**-0.1**
EPYK	**Eagle Plains**		**87.09**	**22**	P		**P**	**12 58 44.5**	**+0.1**
	baz=248,SNR=17									
R33M	**Jennings River**		**87.21**	**29**	P		**P**	**12 58 45.6**	**+0.4**
	baz=253									
DLBC	**Dease Lake**		**87.41**	**31**	P		**P**	**12 58 46.3**	**+0.2**
	baz=254									
E29M	**Blow River**		**87.46**	**20**	P		**P**	**12 58 46.5**	**+0.4**
	baz=246									
G30M	**tAoh Zraii Nji**		**87.50**	**22**	P		**P**	**12 58 46.6**	**+0.3**
	baz=248,SNR=6.1									
D28M	**Stokes Point**		**87.57**	**19**	P		**P**	**12 58 46.9**	**+0.4**
	baz=246									
H31M	**Peel River**		**87.78**	**23**	P		**P**	**12 58 48.1**	**+0.4**
	baz=250,SNR=13									
F30M	**Barrier River**		**87.90**	**21**	P		**P**	**12 58 48.5**	**+0.4**
	baz=248,SNR=6.6									
MMPY	**Sheldon Lake,**		**88.03**	**26**	P		**P**	**12 58 49.3**	**+0.4**
	baz=253									
G31M	**Satah River**		**88.20**	**22**	P		**P**	**12 58 49.8**	**+0.3**
	baz=250									
WTLY	**Watson Lake, Y**		**88.47**	**29**	P		**P**	**12 58 51.4**	**+0.3**
	baz=255									
INK	**Inuvik**		**88.94**	**21**	P		**P**	**12 58 52.7**	**-0.3**
	baz=250									
TGTN	**Hyland Airport**		**89.08**	**28**	P		**P**	**12 58 54.9**	**+1.0**
	baz=255									
LIRD	**Liard River Hi**		**89.62**	**30**	P		**P**	**12 58 57.4**	**+1.0**
	baz=257									
TOAD	**Toad River Com**		**89.94**	**31**	P		**P**	**12 58 58.6**	**+0.7**
	baz=258									
NVAR	**Mina Array Bea**		**91.14**	**52**	P		**P**	**12 59 04.9**	**+0.7**
	comp=Z,5.2nm,0.9s,baz=275,slow=6.3,SNR=23									
NVAR					pP		**pP**	**12 59 43.1**	**+1.2**
	comp=Z,1.6nm,1.0s,baz=268,slow=5.3,SNR=2.7									
	comp=Z,5.2nm,0.9s									
WRGLY	**Wrigley**		**91.64**	**27**	P		**P**	**12 59 06.3**	**+0.6**
	baz=260									
BVAR	**Borovoye Array**		**91.73**	**323**	P		**P**	**12 59 04.4**	**-2.0**
	comp=Z,2.4nm,0.7s,baz=95,slow=3.2,SNR=5.3									
	comp=Z,2.4nm,0.7s									
A36M	**Sachs Harbour**		**92.66**	**18**	P		**P**	**12 59 11.1**	**+0.9**
	baz=258									
YKA	**Yellowknife Ar**		**95.59**	**28**	P		**P**	**12 59 23.6**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=273,slow=4.6,SNR=14									
	comp=Z,4.5nm,0.8s									
PDAR	**Pinedale Array**		**98.09**	**48**	P		**P**	**12 59 34.8**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=270,slow=7.4,SNR=4.8									
	comp=Z,0.6nm,0.6s									
AKTO	**Aktyubinsk**		**99.27**	**320**	LR		LR	13 47 22.6		
	comp=Z,43nm,19.0s,baz=148,slow=37									
AKASG	**Malin Array Be**		**116.96**	**325**	PKP		**PKPdf**	**13 04 41.1**	**-1.8**
	comp=Z,1.0nm,0.5s,baz=62,slow=2.7,SNR=2.3									
HFS	**Hagfors**		**118.81**	**339**	PKP		**PKPdf**	**13 04 45.0**	**-1.1**
	comp=Z,2.2nm,1.0s,baz=96,slow=4.3,SNR=2.1									
GERES	**GERESS Array B**		**126.44**	**329**	PKP		**PKPdf**	**13 05 00.8**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=81,slow=2.5,SNR=5.7									
EKA	**Eskdalemuir Ar**		**128.01**	**344**	PKP		**PKPdf**	**13 05 03.0**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=26,slow=2.7,SNR=1.5									
TORD	**Torodi Ar, Bea**		**152.92**	**287**	PKP		**PKPdf**	**13 05 47.5**	**-1.5**
	comp=Z,1.6nm,0.3s,baz=60,slow=2.6,SNR=1.5									
TORD					PKPbc		**PKPbc**	**13 05 55.1**	**-1.3**
	comp=Z,3.1nm,0.6s,baz=70,slow=2.7,SNR=2.2									
TORD					PKPab		**PKPab**	**13 06 07.2**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=77,slow=5.8,SNR=1.3									
TORD					pPKPbc		**pPKPbc**	**13 06 35.0**	**-1.1**
	comp=Z,3.2nm,0.6s,baz=54,slow=4.4,SNR=1.9									

*HEL **18** 12:48:24.5±0.1, 62°.47N×22°.36E, h0km, ML1.6, Explosion Hypocentre not reviewed by the ISC*

IDC 18 12:48:23.9±2.4, 62°.45N×22°.57E, h0km, mbtmp3.2/1, ML2.6/1, Error ellipse: s-maj=33.2km s-min=11.0km az=66.0, Finland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KPF	**Kankaanpaa**	**0.66**	**201**	PG			12 48 35.5	
	baz=11							
KPF				SG			12 48 44.8	
KEF	**Keuruu**	**1.11**	**104**	PG			12 48 46.4	
KEF				MSG			12 49 01.1	
	comp=Z,4.1nm,0.2s							
KEF				SG			12 49 02.2	
RAF	**Rauma**	**1.48**	**195**	PG			12 48 50.7	
	baz=12							
RAF				MSG			12 49 08.8	
	comp=Z,6.9nm,0.2s							
RAF				SG			12 49 10.2	
UMAU	**Umeaa**	**1.68**	**330**	PG			12 48 53.5	
UMAU				SN			12 49 14.6	
SUF	**Sumiainen**	**1.68**	**79**	PG			12 48 56.1	
	baz=259							
SUF				MSG			12 49 17.4	
	comp=Z,2.9nm,0.2s							
SUF				SG			12 49 19.3	
HUSU	**Husum**	**1.78**	**302**	PG			12 48 55.0	
	baz=125							
HUSU				SN			12 49 17.3	
KAF	**Kangasniemi**	**1.78**	**99**	PG			12 48 58.1	
KAF				MSG			12 49 20.5	
	comp=Z,4.6nm,0.2s							
KAF				SG			12 49 22.3	
OBF8	**Ulkokalla**	**1.93**	**11**	PG			12 48 58.8	
	baz=194							
OBF8				MSG			12 49 22.0	
	comp=Z,2.7nm,0.2s							
OBF8				SG			12 49 24.6	
FIA0	**FINESS Array S**	**1.94**	**120**	PB			12 48 59.8	
	baz=303							
FIA0				MSG			12 49 24.9	
	comp=Z,3.9nm,0.2s							
FIA0				SG			12 49 27.0	
FINES	**FINESS Array B**	**1.94**	**120**	Pn		Pb	12 49 00.0	-0.1
	comp=Z,0.5nm,0.3s,baz=305,slow=15,SNR=17							
FINES				Sn		Sg	12 49 27.0	+0.8
	comp=Z,2.0nm,0.3s,baz=305,slow=27,SNR=41							
OUF	**Merijarvi**	**2.16**	**26**	PG			12 49 02.9	
	baz=211							
OUF				MSG			12 49 29.3	
	comp=Z,1.7nm,0.2s							
OUF				SG			12 49 31.6	
NUR	**Nurmijarvi**	**2.19**	**152**	MSG			12 49 31.1	
	comp=Z,3.5nm,0.2s							
NUR				SG			12 49 33.9	
OBF0	**Syolatti, Pyha**	**2.19**	**19**	MSG			12 49 29.8	
	comp=Z,1.2nm,0.2s							
OBF0				SG			12 49 32.3	
MEF	**Metsahovi**	**2.41**	**158**	MSG			12 49 37.1	
	comp=Z,5.7nm,0.2s							
MEF				SG			12 49 39.3	
PVF	**Pernaja**	**2.48**	**139**	MSG			12 49 39.9	
	comp=Z,4.2nm,0.2s							
PVF				SG			12 49 42.2	
NIF	**Nilsia**	**2.58**	**66**	SB			12 49 44.2	
AAL	**Aland**	**2.59**	**210**	SG			12 49 41.5	
OBF4	**Vikkela, Lumij**	**2.63**	**24**	PB			12 49 10.4	
	baz=204							
OBF4				MSG			12 49 42.8	
	comp=Z,0.7nm,0.2s							
JOF	**Joensuu**	**4.06**	**79**	SG			12 50 30.6	
KU2	**Taivalkoski**	**4.11**	**35**	SB			12 50 28.0	
ERTU	**Ertsjaerv**	**4.13**	**358**	PN			12 49 28.7	
ERTU				SN			12 50 17.1	
PAJU	**Pajala**	**4.60**	**3**	PN			12 49 35.5	
PAJU				SG			12 50 46.9	
I37NO	**I37NO**	**6.85**	**348**	I		I	13 29 19.0	
	baz=167,slow=321,SNR=7.7							
ARCES	**ARCESS Array B**

MTRA Matera 0.17 100 P Pg 12 55 30.1 +0.4
MTRA S Sg 12 55 33.1 +0.6
MTRA AML AML
comp=E,170μm,0.1s
MTRA AML AML
comp=N,154μm,0.2s
FEMA Monte Fema 0.19 334 P Pb 12 55 30.9 -0.6
FEMA S Sg 12 55 33.8 +0.7
SMA1 SAN MARTINO 0.20 141 P Pg 12 55 30.7 +0.4
LNSS Leonessa 0.21 206 P Pg 12 55 30.8 +0.5
LNSS S Sg 12 55 34.4 +1.1
LNSS AML AML
comp=E,288μm,0.2s
LNSS AML AML
comp=N,208μm,0.4s
GAVE Gavelli 0.22 244 P Pg 12 55 30.9 +0.4
GAVE S Sg 12 55 34.6 +0.9
GAVE AML AML
comp=N,282μm,0.2s
GAVE AML AML
comp=E,260μm,1.6s
GAVE AML AML
comp=E,260μm,0.4s
MTCL Monte Cavallo 0.24 330 P Pg 12 55 31.1 +0.3
FDMO Fiordimonte 0.25 347 P Pg 12 55 31.3 +0.2
FDMO S Sg 12 55 35.5 +0.8
FDMO AML AML
comp=E,40μm,0.8s
FDMO AML AML
comp=N,47μm,0.9s
FDMO AML AML
comp=N,47μm,1.1s
RM33 Pellescritta (0.28 172 P Pg 12 55 32.0 +0.3
RM33 S Sb 12 55 36.8 -0.9
RM33 AML AML
comp=E,43μm,1.4s
RM33 AML AML
comp=N,45μm,0.5s
RM33 AML AML
comp=N,45μm,1.5s
RM33 AML AML
comp=E,43μm,0.6s
MF5 Montefalcone A 0.30 47 P Pb 12 55 32.7 -0.5
GUMA Gualdo di Mace 0.30 25 P Pb 12 55 32.8 -0.5
CAMP Campotosto 0.31 144 P Pg 12 55 32.5 +0.3
CAMP AML AML
comp=E,38μm,0.1s
CAMP AML AML
comp=N,30μm,0.4s
CAMP AML AML
comp=N,30μm,1.6s
ARRO Arrone 0.36 235 P Pg 12 55 33.1 +0.1
ARRO AML AML
comp=N,35μm,0.1s
ARRO AML AML
comp=E,31μm,0.2s
MOMA Monte Martano 0.44 272 ⇓P Pg 12 55 34.9 +0.5
MOMA AML AML
comp=E,86μm,0.2s
MOMA AML AML
comp=N,30μm,0.8s
GIGS Gran Sasso 0.45 138 ⇓P Pg 12 55 34.9 +0.2
EL6 Elcito 0.54 355 P Pg 12 55 36.7 +0.3
EL6 AML AML
comp=E,291μm,1.6s
EL6 AML AML
comp=N,190μm,1.6s
EL6 AML AML
comp=E,291μm,0.4s
EL6 AML AML
comp=N,190μm,0.4s

*IDC **18** 13:00:32.3±0.7,27°.95S×74°.22E, h0km, mb4.3/15, mbtmp4.3/15, MS3.8/30, Error ellipse: s-maj=21.5km s-min=20.4km az=39.0*
*NEIC **18** 13:00:33.9±1.7,27°.92S±0°.04×74°.1E±0°.2, h10km±1km, mb4.8/19, Error ellipse: s-maj=24.5km s-min=6.2km az=260.0*
ISC 18 13:00:33.8±0.7,**27°.9S**±0°.1×**74°.2E**±0°.1,**h12**km,**n74,**
σ1**$**27/39,**mb4.6/23,MS3.9**/30,**1C, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**20.22**	**355**	T	T	13 26 10.0	
	baz=176,slow=76,SNR=103						
H08S1	**Diego Carcia H**	**20.22**	**355**	T	T	13 26 15.8	
	baz=176,slow=76,SNR=71						
H08S3	**Diego Garcia H**	**20.24**	**355**	T	T	13 26 05.8	
	baz=176,slow=76,SNR=90						
H04N2	**CROZET ISLANDS**	**25.38**	**218**	T	T	13 32 26.9	
	baz=52,slow=74,SNR=290						
H04N1	**CROZET ISLANDS**	**25.39**	**218**	T	T	13 32 23.2	
	baz=52,slow=74,SNR=327						
H04N3	**CROZET ISLANDS**	**25.40**	**218**	T	T	13 32 26.1	
	baz=52,slow=74,SNR=332						
H04S1	**CROZET ISLANDS**	**25.75**	**217**	T	T	13 32 45.9	
	baz=49,slow=76,SNR=141						
H04S3	**CROZET ISLANDS**	**25.76**	**217**	T	T	13 32 46.0	
	baz=49,slow=76,SNR=104						
H04S2	**CROZET ISLANDS**	**25.77**	**217**	T	T	13 32 47.1	
	baz=49,slow=76,SNR=101						
KAAM	**Kaadhehdhoo**	**28.26**	**357**	P	**P**	**13 06 26.5**	**-0.5**
H01W2	**Cape Leeuwin H**	**34.62**	**112**	T	T	13 43 58.9	
	baz=270,slow=75,SNR=18						
H01W3	**Cape Leeuwin H**	**34.62**	**112**	T	T	13 43 48.1	
	baz=270,slow=75,SNR=16						
H01W1	**Cape Leeuwin H**	**34.64**	**112**	T	T	13 43 52.4	
	baz=270,slow=75,SNR=18						
PALK	**Pallekele**	**35.53**	**11**	LR	LR	13 18 03.2	
	comp=Z,220nm,21.9s,baz=176,slow=30						
GSI	**Gunungsitoli**	**36.72**	**42**	P	**P**	**13 07 37.1**	**-3.9**
GSI				IAmb	IAmb	13 07 40.9	
	comp=Z,76nm,1.4s						
LEM	**Lembang**	**37.96**	**63**	LR	LR	13 20 08.9	
	comp=Z,162nm,20.2s,baz=184,slow=31						
PSI	**Prapat**	**38.71**	**42**	LR	LR	13 20 47.4	
	comp=Z,282nm,19.5s,baz=158,slow=31						
MAW	**Mawson**	**40.31**	**187**	LR	LR	13 20 46.9	
	comp=Z,140nm,21.3s,baz=358,slow=30						
MATP	**Matopo**	**42.16**	**270**	LR	LR	13 22 56.0	
	comp=Z,62nm,18.6s,baz=93,slow=32						
BOSA	**Boshof**	**42.87**	**257**	P	**P**	**13 08 33.4**	**+1.1**
	comp=Z,3.9nm,0.8s,baz=104,slow=8.3,SNR=5.7						
BOSA				LR	LR	13 22 56.2	
	comp=Z,151nm,19.5s,baz=41,slow=31						
	comp=Z,3.9nm,0.8s						
LBTB	**Lobatse**	**43.38**	**262**	P	P	13 08 28.7	-7.7
LBTB				IAmb	IAmb	13 08 39.4	
	comp=Z,21nm,1.3s						
LBTB	**Lobatse**	**43.38**	**262**	LR	LR	13 24 53.5	
	comp=Z,80nm,18.0s,baz=100,slow=34						
LSZ	**Lusaka**	**44.34**	**277**	LR	LR	13 25 11.3	
	comp=Z,170nm,18.4s,baz=156,slow=33						
SYO	**Syowa Base**	**45.83**	**197**	epP	pP	13 08 58.8	+0.8
SBUM	**Sibu**	**47.41**	**57**	P	**P**	**13 09 07.8**	**-0.5**
LKGWB	**Lokgwabe**	**47.46**	**262**		**P**	**13 09 04.8**	**-4.0**
KAPI	**Kappang**	**48.87**	**71**	LR	LR	13 26 18.8	
	comp=Z,58nm,21.7s,baz=238,slow=32						
CMAR	**Chiang Mai Arr**	**51.95**	**30**		**P**	**13 09 43.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**51.95**	**30**	P	**P**	**13 09 44.4**	**+1.6**
	comp=Z,3.6nm,1.0s,baz=204,slow=7.6,SNR=15						
CMAR				LR	LR	13 29 17.4	
	comp=Z,104nm,18.8s,baz=220,slow=33						
	comp=Z,3.6nm,1.0s						
TSUM	**Tsumeb**	**52.23**	**267**	LR	LR	13 29 53.5	
	comp=Z,162nm,18.4s,baz=151,slow=34						
CHTO	**Chiang Mai**	**52.26**	**30**		**P**	**13 09 46.3**	**+1.2**
CHTO				IAmb	IAmb	13 09 50.0	
	comp=Z,9.4nm,1.1s						
BRDH	**Bariadhala**	**53.03**	**20**	LR	LR	13 28 58.0	
	comp=Z,201nm,20.4s,baz=224,slow=32						
ASAR	**Alice Springs**	**53.48**	**100**	P	**P**	**13 09 54.4**	**+0.2**
ASAR	**Alice Springs**	**53.48**	**100**	P	**P**	**13 09 54.7**	**+0.4**
	comp=Z,5.1nm,0.9s,baz=252,slow=7.1,SNR=38						
	comp=Z,5.1nm,0.9s						
WRA	**Warramunga Arr**	**55.09**	**96**	P	**P**	**13 10 06.8**	**+0.8**
WRA	**Warramunga Arr**	**55.09**	**96**	P	**P**	**13 10 06.3**	**+0.3**
	comp=Z,7.3nm,0.9s,baz=250,slow=7.3,SNR=26						
	comp=Z,7.3nm,0.9s						
WRAB	**Tennant Creek**	**55.10**	**96**	P	**P**	**13 10 06.2**	**+0.1**
WRAB				IAmb	IAmb	13 10 09.6	
	comp=Z,21nm,1.4s						
WB0	**Warramunga Arr**	**55.20**	**96**		**P**	**13 10 06.8**	**+0.1**
WB0				IAmb	IAmb	13 10 08.3	
	comp=Z,12nm,0.9s						
WR8	**Warramunga Arr**	**55.22**	**96**		**P**	**13 10 07.7**	**+0.7**
WR8				IAmb	IAmb	13 10 09.0	
	comp=Z,11nm,0.9s						
SNAA	**Sanae**	**59.70**	**201**	LR	LR	13 31 10.2	
	comp=Z,51nm,20.1s,baz=74,slow=31						
DAV	**Davao City (W)**	**60.58**	**63**	LR	LR	13 33 25.5	
	comp=Z,42nm,21.6s,baz=202,slow=33						
QSPA	**South Pole Qui**	**62.23**	**180**	P	**P**	**13 10 55.4**	**+0.2**
QSPA				IAmb	IAmb	13 11 02.1	
	comp=Z,7.4nm,1.1s						
QSPA	**South Pole Qui**	**62.23**	**180**	P	**P**	**13 10 54.9**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=286,slow=4.2,SNR=11						
QSPA				LR	LR	13 35 21.4	
	comp=Z,77nm,18.5s,baz=287,slow=34						
	comp=Z,2.3nm,0.8s						
AAK	**Ala-Archa**	**70.19**	**0**	LR	LR	13 39 11.1	
	comp=Z,85nm,20.8s,baz=192,slow=33						
KK31	**Karatay Array**	**70.74**	**357**		**P**	**13 11 50.8**	**+1.2**
KK31				IAmb	IAmb	13 11 52.8	
	comp=Z,9.4nm,1.1s						
KKAR	**Karatay Array**	**70.74**	**357**		**P**	**13 11 50.6**	**+1.1**
MAKZ	**Makanchi**	**74.70**	**6**	P	**P**	**13 12 12.7**	**-0.3**
MKAR	**Makanchi Array**	**74.71**	**6**		**P**	**13 12 11.7**	**-1.4**
MKAR	**Makanchi Array**	**74.71**	**6**	P	**P**	**13 12 11.9**	**-1.2**
	comp=Z,2.9nm,0.9s,baz=188,slow=6.2,SNR=18						
MKAR				LR	LR	13 43 35.5	
	comp=Z,69nm,20.7s,baz=151,slow=35						
	comp=Z,2.9nm,0.9s						
BRTR	**Keskin Array B**	**77.16**	**329**	P	**P**	**13 12 26.2**	**-1.3**
BRTR	**Keskin Array B**	**77.16**	**329**	P	**P**	**13 12 28.8**	**+1.4**
	comp=Z,2.3nm,0.9s,baz=144,slow=6.4,SNR=8.9						
	comp=Z,2.3nm,0.9s						
AB31	**Akbulak array**	**77.86**	**351**	P	**P**	**13 12 31.5**	**+0.6**
AB31				IAmb	IAmb	13 12 44.4	
	comp=Z,7.4nm,1.4s						
KURBB	**Kurchatov Arra**	**78.28**	**3**	P	**P**	**13 12 33.2**	**+0.1**
	comp=Z,1.1nm,0.2s,baz=190,slow=5.6,SNR=6.4						
	comp=Z,1.1nm,0.2s						
GUMO	**Guam**	**79.86**	**69**	LR	LR	13 45 29.7	
	comp=Z,13nm,20.1s,baz=230,slow=34						
BVAR	**Borovoye Array**	**80.66**	**358**	P	**P**	**13 12 47.6**	**+1.4**
	comp=Z,5.2nm,0.9s,baz=167,slow=7.2,SNR=17						
BVAR				LR	LR	13 46 41.0	
	comp=Z,63nm,19.9s,baz=168,slow=34						
	comp=Z,5.2nm,0.9s						
BRVK	**Borovoye**	**80.69**	**358**	P	**P**	**13 12 47.0**	**+0.7**
BRVK				IAmb	IAmb	13 13 00.1	
	comp=Z,9.0nm,1.1s						
SONM	**Songino Array**	**80.76**	**21**	P	**P**	**13 12 48.0**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=204,slow=3.2,SNR=2.1						
SONM				LR	LR	13 49 22.4	
	comp=Z,56nm,18.5s,baz=192,slow=36						
	comp=Z,0.3nm,0.3s						
JNU	**Nakatsue**	**81.10**	**45**	LR	LR	13 46 31.9	
	comp=Z,87nm,20.4s,baz=212,slow=34						
TORD	**Torodi Ar. Bea**	**81.14**	**290**	P	**P**	**13 12 49.4**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=98,slow=3.2,SNR=1.3						
	comp=Z,1.2nm,0.3s						
DZM	**Mont Dzumac**	**81.85**	**111**	LR	LR	13 46 05.1	
	comp=Z,162nm,18.2s,baz=359,slow=33						
ZAA0	**Zalesovo Array**	**82.03**	**6**		**P**	**13 12 54.0**	**+0.6**
ZALV	**Zalesovo Beam**	**82.03**	**6**		**P**	**13 12 53.6**	**+0.2**
ZALV	**Zalesovo Beam**	**82.03**	**6**	P	**P**	**13 12 54.0**	**+0.6**
	comp=Z,3.7nm,1.0s,baz=202,slow=3.1,SNR=7.2						
ZALV				LR	LR	13 48 54.4	
	comp=Z,59nm,18.4s,baz=196,slow=35						
	comp=Z,3.7nm,1.0s						
KSRS	**Korea Array**	**82.26**	**40**	P	**P**	**13 12 54.8**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=230,slow=5.1,SNR=7.9						
	comp=Z,1.8nm,0.9s						
BELG	**Belogornoye**	**83.27**	**344**	LR	LR	13 47 23.6	
	comp=Z,29nm,21.8s,baz=124,slow=34						
DBIC	**Dimbokro**	**83.50**	**281**	LR	LR	13 48 00.3	
	comp=Z,63nm,19.4s,baz=162,slow=34						
ARTI	**Arti**	**85.03**	**351**	LR	LR	13 50 16.5	
	comp=Z,44nm,18.4s,baz=144,slow=35						
AKASG	**Malin Array Be**	**87.78**	**333**	P	**P**	**13 13 23.7**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=140,slow=4.3,SNR=7.8						
	comp=Z,0.9nm,0.6s						
MJAR	**Matsushiro Arr**	**87.92**	**46**	P	**P**	**13 13 23.4**	**0.0**
	comp=Z,1.6nm,1.0s,baz=236,slow=6.6,SNR=1.0						
MJAR				LR	LR	13 51 13.7	
	comp=Z,41nm,19.7s,baz=220,slow=35						
	comp=Z,1.6nm,1.0s						
KIRV	**Kirov**	**88.61**	**347**	LR	LR	13 51 20.3	
	comp=Z,23nm,18.6s,baz=152,slow=34						
USRK	**Ussuriysk Ar.**	**89.09**	**37**	LR	LR	13 53 08.1	
	comp=Z,100nm,19.2s,baz=215,slow=35						
ASAJ	**Asahikawa**	**95.07**	**42**	LR	LR	13 55 42.1	
	comp=Z,33nm,19.3s,baz=233,slow=35						
PDAR	**Pinedale Array**	**164.89**	**11**	PKP	**PKPdf**	**13 20 38.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=331,slow=1.1,SNR=2.3						
PDAR				PKPab	**PKPab**	**13 21 34.8**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=337,slow=3.6,SNR=3.7						
NVAR	**Mina Array Bea**	**165.19**	**42**	PKPab	**PKPab**	**13 21 36.7**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=331,slow=5.2,SNR=5.8						

*IDC **18** 13:27:09.3±4.0,55°.34N×160°.61E, h175km±27km, mb3.5/4, mbtmp4.0/6, MS3.4/1, Error ellipse: s-maj=67.8km s-min=23.3km az=88.0*
*KRSC **18** 13:27:16.6±0.9,54°.68N×159°.68E, h207km±9km, Ml3.7*
ISC 18 13:27:17.1±0.9,**54°.69N**±0°.05×**159°.62E**±0°.07,**h210**km±7km,
n45,σ1**$**00/51,**mb3.6/**4,**Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.66**	**189**	eP	**Pn**	**13 27 47.0**	**+0.8**
TUMD	**Tumrok D**	**0.68**	**41**	eP	**Pn**	**13 27 46.5**	**+0.4**
TUMD				eS	**Sn**	**13 28 09.5**	**+0.7**
KMNR	**Kamenistaya**	**1.12**	**18**	eP	**Pn**	**13 27 49.5**	**+0.7**
MKZ	**Mys Kozlova**	**1.24**	**95**	eP	**Pn**	**13 27 49.5**	**0.0**
MKZ				eS	**Sn**	**13 28 13.5**	**-1.2**
KPT	**Kopyto**	**1.32**	**15**	eP	**Pn**	**13 27 50.6**	**+0.3**
KIRR	**Kirishev**	**1.33**	**18**	eP	**Pn**	**13 27 50.8**	**+0.4**
BZMR	**Bezymyannaya**	**1.34**	**21**	eP	**Pn**	**13 27 51.0**	**+0.5**
ESO	**Esso**	**1.34**	**337**	eP	**Pn**	**13 27 50.1**	**-0.3**
ESO				eS	**Sn**	**13 28 15.5**	**-0.8**
BZWR	**Bezymyannyi-We**	**1.37**	**21**	eP	**Pn**	**13 27 51.1**	**+0.4**
KOZ	**Kozyrevsk**	**1.38**	**6**	eP	**Pn**	**13 27 51.0**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**1.40**	**26**	eP	**Pn**	**13 27 51.2**	**+0.4**
GNL	**Ganaly**	**1.40**	**225**	eP	**Pn**	**13 27 51.6**	**+0.6**
KRX	**Arik**	**1.45**	**204**	eP	**Pn**	**13 27 52.2**	**+0.8**
SDLR	**Sedlovina**	**1.48**	**197**	eP	**Pn**	**13 27 52.6**	**+0.9**
KRER	**Koryakskii**	**1.48**	**201**	eP	**Pn**	**13 27 53.3**	**+1.5**
SMAR	**Somma**	**1.51**	**199**	eP	**Pn**	**13 27 52.9**	**+0.8**
KOK	**Koryaka**	**1.52**	**203**	eP	**Pn**	**13 27 53.2**	**+1.2**
AVH	**Avacha**	**1.52**	**200**	eP	**Pn**	**13 27 53.2**	**+1.2**
LGNR	**Loginova**	**1.52**	**23**	eP	**Pn**	**13 27 53.4**	**+1.2**
NLC	**Nalytchevo**	**1.53**	**186**	eP	**Pn**	**13 27 52.3**	**+0.4**
NLC				eS	**Sn**	**13 28 18.7**	**-0.3**
UGLR	**Uglovaya**	**1.56**	**198**	eP	**Pn**	**13 27 53.3**	**+0.9**
CIRR	**Tsirk**	**1.57**	**24**	eP	**Pn**	**13 27 53.8**	**+1.5**
SPN	**Mys Shipunski**	**1.61**	**171**	eP	**Pn**	**13 27 52.5**	**-0.2**
SPN				eS	**Sn**	**13 28 18.6**	**-1.8**
SRDR	**Sredinnyy**	**1.63**	**2**	eP	**Pn**	**13 27 53.1**	**+0.3**
KLY	**Klyuchi**	**1.73**	**20**	eP	**Pn**	**13 27 54.5**	**+0.9**
INSR	**Institute**	**1.73**	**201**	eP	**Pn**	**13 27 54.6**	**+0.8**
DALK	**Dalny**	**1.74**	**197**	eP	**Pn**	**13 27 54.2**	**+0.4**
DALK				eS	**Sn**	**13 28 21.7**	**-0.7**
PETK	**Petropavlovsk-**	**1.95**	**216**	P	**Pn**	**13 27 55.6**	**-0.3**
	15nm,0.5s,baz=54,slow=9.4,SNR=141						
PETK				S	**Sn**	**13 28 26.5**	**+0.4**
	8.5nm,0.9s,baz=47,slow=18,SNR=2.0						
KRMR	**Karymshinskiy**	**2.06**	**206**	eP	**Pn**	**13 27 57.5**	**+0.5**
SMKR	**Semkarok**	**2.17**	**28**	eP	**Pn**	**13 27 58.6**	**+0.6**
APC	**Apacha**	**2.29**	**220**	eP	**Pn**	**13 28 00.3**	**+0.9**
APC				eS	**Sn**	**13 28 32.9**	**+0.6**
GRL	**Gorelyy**	**2.33**	**204**	eP	**Pn**	**13 28 00.9**	**+1.0**
MTTR	**Mutnovka**	**2.37**	**202**	eP	**Pn**	**13 28 01.2**	**+0.9**
KBTR	**Krutoberegovo**	**2.38**	**49**	eP	**Pn**	**13 28 00.5**	**+0.3**
ASAK	**Asacha**	**2.53**	**205**	eP	**Pn**	**13 28 02.7**	**+0.6**
MIPR	**Malaya Ipel'ka**	**2.96**	**216**	eP	**Pn**	**13 28 07.4**	**+0.5**
BKI	**Bering**	**3.70**	**79**	eP	**Pn**	**13 28 16.3**	**+0.8**
SKR	**Severo-Kuril's**	**4.54**	**209**	eS	**Sn**	**13 29 18.3**	**-1.9**
OSSR	**Ossora**	**4.94**	**21**	eP	**Pn**	**13 28 32.3**	**+1.4**
ASAJ	**Asahikawa**	**15.28**	**233**	P	**P**	**13 30 44.5**	**+2.3**
	4.3nm,0.6s,baz=45,slow=2.9,SNR=11						
KURBB	**Kurchatov Arra**	**46.77**	**300**	P	**P**	**13 35 22.2**	**-2.8**
	2.7nm,0.2s,baz=56,slow=7.5,SNR=3.4						
	2.7nm,0.2s						
ARCES	**ARCESS Array B**	**51.68**	**341**	LR	LR	14 02 40.4	
	comp=Z,32nm,18.8s,baz=100,slow=42						
HFS	**Hagfors**	**62.34**	**342**	P	P	13 37 09.4	-7.3
	0.7nm,0.3s,baz=54,slow=3.5,SNR=8.8						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**77.42**	**204**	P	**P**	**13 38 49.3**	**+0.5**
	0.3nm,0.5s,baz=15,slow=5.7,SNR=7.0						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**81.11**	**204**	P	**P**	**13 39 09.5**	**+0.8**
	0.4nm,0.9s,baz=15,slow=6.1,SNR=5.1						
	0.4nm,0.9s						

*IDC **18** 13:29:41.9±1.3,2°.50S×119°.91E, h0km, mb3.5/4, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=58.0km s-min=19.3km az=73.0*
*DJA **18** 13:29:45.1±0.3,3°.S±2°×12°.0E±°, h10km, M3.7/10, MLv3.7/10*
ISC 18 13:29:43.2±0.9,**2°.60S**±0°.04×**119°.7E**±0°.1,**h10**km,**n14,**
σ1**$**19/17,**mb3.6/4,Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.47**	**161**	P	**Pg**	**13 29 51.2**	**-1.1**
TTSI				S	**Sg**	**13 29 58.5**	**0.0**
SPSI	**Sidrap Palu**	**1.36**	**176**	P	**Pb**	**13 30 08.9**	**+0.2**
SPSI				S	**Sn**	**13 30 26.5**	**+0.2**
PCI	**Palu**	**1.69**	**6**	P	**Pn**	**13 30 14.0**	**+1.2**
BNSI	**Bone**	**1.84**	**166**	P	**Pb**	**13 30 16.8**	**-0.2**
KAPI	**Kappang**	**2.40**	**178**	Pn	**Pb**	**13 30 25.1**	**-1.3**
	14nm,0.3s,baz=0.1,slow=13,SNR=12						
KAPI				Sn	**Sb**	**13 30 56.3**	**+0.1**
	43nm,0.3s,baz=41,slow=19,SNR=12						
	33nm,0.4s						
APSI	**Ampana**	**2.60**	**50**	P	**Pb**	**13 30 28.1**	**-1.7**
BKSI	**Bulukumba**	**2.74**	**170**	P	**Pn**	**13 30 28.6**	**+1.4**
MPSI	**Mapaga**	**2.93**	**5**	P	**Pn**	**13 30 30.7**	**+0.9**
LUWI	**Luwuk**	**3.47**	**64**	P	**Pg**	**13 30 51.4**	**+1.7**
MRSI	**Marisa**	**3.81**	**37**	P	**Pg**	**13 30 55.0**	**-1.2**
WRA	**Warramunga Arr**	**22.42**	**141**	P	**P**	**13 34 40.3**	**-2.0**
	0.7nm,0.6s,baz=316,slow=10,SNR=6.7						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**25.07**	**148**	P	**P**	**13 35 08.1**	**+0.1**
	1.1nm,1.0s,baz=321,slow=9.3,SNR=6.6						
	1.1nm,1.0s						
SONM	**Songino Array**	**51.55**	**349**	P	**P**	**13 38 50.6**	**+1.1**
	0.6nm,0.4s,baz=167,slow=7.1,SNR=1.6						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**59.16**	**331**	P	**P**	**13 39 43.9**	**-0.3**
	0.5nm,0.8s,baz=138,slow=6.4,SNR=4.5						
	0.5nm,0.8s						

AUST 18 13:36:54.1±1.4,**18°S**±10°×**12°1E**±°,**h20**km±17km,**mb3.7/6,**
ML2.6/7,Error ellipse: s-maj=26.7km s-min=5.2km az=141.4,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.82**	**196**	P	Pn	13 37 38.8	+0.6
MBWA				S	Sn	13 38 13.0	+1.4
PSAC1	**Pilbara Seismi**	**3.17**	**193**	P	Pn	13 37 43.3	+0.4
PSAC1				S	Sn	13 38 21.0	+0.9
PSA00	**Pilbara Seismi**	**3.20**	**192**	P	Pn	13 37 43.0	-0.3
PSA00				S	Sn	13 38 21.1	+0.3
FITZ	**Fitzroy Crossi**	**4.85**	**87**	P	Pn	13 38 07.3	+1.3
FITZ	**Fitzroy Crossi**	**4.85**	**87**	S	Sn	13 39 03.0	+1.4
GIRL	**Giralia**	**7.25**	**234**	P	Pn	13 38 39.4	+0.3
	comp=Z,47nm,2.0s						
GIRL				S	Sn	13 39 52.6	-8.3
KNRA	**Kununurra**	**8.32**	**72**	P	Pn	13 38 52.2	-1.4
	comp=Z,12nm,2.3s,comp=Z,0.0nm						
KNRA				S	Sn	13 40 26.3	-0.8
MEEK	**Meekatharra**	**8.36**	**192**	P	Pn	13 38 54.6	+0.2
	comp=Z,8.1nm,2.0s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.36**	**192**	S	Sn	13 40 24.7	-3.6
WRKA	**Warakurna**	**9.75**	**134**	P	Pn	13 39 18.8	+5.4
	comp=Z,2.8nm,1.4s,comp=Z,0.0nm						
WRKA				S	Sn	13 41 02.9	+0.6
MORW	**Morawa**	**11.37**	**200**	S	Sn	13 41 31.9	-10
	comp=Z,6.6nm,2.2s						
BLDU	**Ballidu**	**12.62**	**195**	P	Pn	13 39 51.9	-0.8
	comp=Z,14nm,2.2s						
BLDU	**Ballidu**	**12.62**	**195**	S	Sn	13 42 04.3	-8.4

*IDC **18** 13:40:55.4±1.7,53°.62N×163°.78W, h0km, mb3.7/7, mbtmp3.7/9, ML3.5/2, Error ellipse: s-maj=39.3km s-min=21.2km az=171.0*
*NEIC **18** 13:40:59.0±1.6,53°.36N±0°.07×163°.55W±0°.09, h40km±12km, mb3.7/15, ML3.6/20, ML3.4(AEIC), Error ellipse: s-maj=11.9km s-min=5.7km az=151.0*
*AEIC **18** 13:40:59.2±2.2,53°.36N±0°.07×163°.60W±0°.08, h17km±6km, Error ellipse: s-maj=11.3km s-min=6.2km az=155.0*
ISC 18 13:40:57.9±1.2,**53°.41N**±0°.08×**163°.58W**±0°.04,**h22**km±8km,
n109,σ1**$**21/105,**mb3.7/7,Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.22**	**331**		**Pn**	**13 41 19.7**	**0.0**
ISLZ	**Isanotski Laza**	**1.32**	**357**		**Pn**	**13 41 21.4**	**+0.3**
ISLZ					**Sn**	**13 41 38.3**	**+0.3**
WECS	**Westdahl Cape**	**1.33**	**328**		**Pn**	**13 41 21.4**	**+0.3**
SSLS	**Shishaldin Sou**	**1.33**	**349**		**Pb**	**13 41 21.9**	**-0.3**
WEBT	**Westdahl Beart**	**1.37**	**330**		**Pn**	**13 41 22.2**	**+0.6**
SSBA	**Shishaldin**	**1.41**	**347**		**Pn**	**13 41 22.4**	**+0.3**
SSBA					**Sb**	**13 41 41.5**	**+0.5**
ISNN	**Isanotski Nort**	**1.43**	**355**		**Pb**	**13 41 23.6**	**-0.3**
FALS	**False Pass**	**1.46**	**4**		**Pn**	**13 41 23.3**	**+0.6**
FALS	**False Pass**	**1.46**	**4**	P	**Pn**	**13 41 23.1**	**+0.4**
FALS	**False Pass**	**1.46**	**4**	S	**Sb**	**13 41 42.0**	**-0.3**
AKUT	**Akutan**	**1.49**	**300**		**Pn**	**13 41 23.6**	**+0.3**
AKUT				Sn	**Sn**	**13 41 41.8**	**-0.2**
AKUT				IAML		13 41 42.8	
	comp=N,858nm,0.2s						
AKUT	**Akutan**	**1.49**	**300**	P	**Pn**	**13 41 23.4**	**+0.2**
AKUT	**Akutan**	**1.49**	**300**	S	**Sn**	**13 41 41.8**	**-0.2**
AHB	**Akutan Harbor**	**1.51**	**299**

PLK4	Peulik 4	5.89	41	Pn	Pn	13 42 26.0	+2.2	
O15K	Ungalikthiuk R	6.15	18	Pn	Pn	13 42 28.6	+1.4	
CNTC	Contact Creek	6.51	39		Pn	13 42 32.8	+0.5	
ATKA	Atka Island	6.55	264		Pn	13 42 33.1	+0.4	
ATKA	Atka Island	6.55	264	P	Pn	13 42 34.0	+1.3	
ANCK	Angle Creek	6.62	40		Pn	13 42 35.0	+1.3	
O16K	Kokwok River B	6.90	24	Pn	Pn	13 42 38.5	+1.0	
OHAK	Old Harbor	7.00	53	Pn	Pn	13 42 38.5	-0.4	
OHAK	Old Harbor	7.00	53	P	Pn	13 42 39.0	+0.1	
KDAK	Kodiak Island	7.61	50	Pn	Pn	13 42 46.5	-0.7	
	comp=E,1.6nm,0.3s,baz=222,slow=4.6,SNR=21							
KDAK				Sn	Sn	13 44 07.7	-5.0	
	comp=E,0.5nm,0.3s,baz=277,slow=15,SNR=1.5							
	comp=E,5.0nm,0.4s							
GSTR	Great Sitkin T	7.69	265	Pn	Pn	13 42 49.3	+0.9	
GSMY	Great Sitkin M	7.70	265		Pn	13 42 48.6	0.0	
Q19K	Cape Douglas,	7.83	41	Pn	Pn	13 42 52.4	+2.1	
ADAG	Mount Adagdak	8.04	265		Pn	13 42 53.1	-0.1	
ADK	Adak	8.12	264	Pn	Pn	13 42 55.6	+1.4	
ADK	Adak	8.12	264	P	Pn	13 42 55.6	+1.4	
KIWB	Kanaga Island	8.40	265	Pn	Pn	13 42 59.5	+1.4	
K15K	Wolf Creek Mou	8.98	6	Pn	Pn	13 43 07.9	+1.9	
AMKA	Amchitka	10.66	266		Pn	13 43 28.9	-0.1	
RC01	Rabbit Creek A	10.73	39	Pn	Pn	13 43 29.8	-0.1	
HIN	Hinchinbrook I	11.64	46	Pn	Pn	13 43 41.6	-0.9	
EYAK	Cordova Ski Ar	12.04	46	Pn	Pn	13 43 46.8	-1.1	
EYAK	Cordova Ski Ar	12.04	46	P	Pn	13 43 47.2	-0.7	
SCM	Sheep Creek Mo	12.10	39	Pn	Pn	13 43 48.4	-0.3	
RAGM	Ragged Mountai	12.44	48	Pn	Pn	13 43 52.3	-1.1	
KLU	Klutina	12.45	42		Pn	13 43 52.2	-1.3	
BERG	Berg Lake	12.88	49	Pn	Pn	13 43 58.7	-0.7	
N25K	Chitina, Valde	13.05	44	Pn	Pn	13 44 00.9	-0.9	
MLY	Manley	13.34	24	Pn	Pn	13 44 06.2	+0.5	
ILAR	Eielson Array	14.20	30	Pn	Pn	13 44 14.6	-2.6	
	comp=E,0.1nm,0.3s,baz=229,slow=12,SNR=5.5							
	comp=E,0.3nm,0.7s							
H23K	Yukon River	14.28	24	Pn	Pn	13 44 18.2	-0.3	
SCRK	Sand Creek	14.62	36	P	P	13 44 28.8	-0.5	
PNL	Peninsula	14.68	55	P	Pn	13 44 24.8	+0.8	
G22K	Bananza Creek	14.90	21	P	P	13 44 32.4	0.0	
L27K	Beaver Creek,	14.91	41	Pn	Pn	13 44 25.3	-1.6	
J26L	Joseph Creek	15.08	35	P	P	13 44 33.8	-0.7	
J26L				IAmb	IAmb	13 44 34.8		
	comp=Z,2.7nm,0.5s							
COLD	Coldfoot	15.31	20	P	P	13 44 37.2	+0.4	
COLD				IAmb	IAmb	13 44 38.5		
	comp=Z,3.0nm,0.8s							
M29M	Somme Creek	16.02	46	P	P	13 44 48.4	+3.6	
M29M				IAmb	IAmb	13 44 49.7		
	comp=Z,8.7nm,0.9s							
E23K	Chandalar	16.14	19	P	P	13 44 47.1	+1.0	
E23K				IAmb	IAmb	13 44 48.6		
	comp=Z,3.3nm,0.8s							
DAWY	Dawson	16.36	40	P	P	13 44 50.8	+2.2	
DAWY				IAmb	IAmb	13 44 51.5		
	comp=Z,3.1nm,0.6s							
L29M	L29M	16.42	44	P	P	13 44 52.4	+3.1	
D23K	Nanushuk River	16.73	16	Pn	Pn	13 44 49.2	-1.3	
D23K				IAmb	IAmb	13 45 31.4		
	comp=Z,7.7nm,1.4s							
I28M	Miner Creek	16.89	35	P	P	13 44 54.2	-0.3	
J30M	Hart River	17.77	40		P	13 45 04.5	+0.2	
H29M	Whitestone	17.86	34		Pn	13 45 04.4	-0.1	
I30M	Mount Dempster	18.05	38		Pn	13 45 07.2	+0.1	
I30M				IAmb	IAmb	13 45 12.6		
	comp=Z,4.0nm,0.7s							
G29M	Pine Creek	18.36	33	P	P	13 45 09.6	-1.1	
G29M				IAmb	IAmb	13 45 38.8		
	comp=Z,9.5nm,1.4s							
H31M	Peel River	19.07	38	P	P	13 45 18.8	+0.4	
H31M				IAmb	IAmb	13 45 23.4		
	comp=Z,6.7nm,1.0s							
G31M	Satah River	19.62	35	P	P	13 45 22.8	-1.5	
PETK	Petropavlovsk-	22.98	285	P	P	13 46 00.5	0.0	
	comp=Z,1.5nm,0.7s,baz=83,slow=11,SNR=6.5							
	comp=Z,1.5nm,0.7s							
A36M	Sachs Harbour	24.86	27	P	P	13 46 17.7	-0.5	
H11N2	WAKE ISLAND Hy	40.58	226	T	T	14 32 17.6		
	baz=26,slow=76,SNR=36							
H11N3	WAKE ISLAND Hy	40.58	226	T	T	14 32 17.7		
	baz=26,slow=76,SNR=39							
H11N1	WAKE ISLAND Hy	40.59	226	T	T	14 32 18.6		
	baz=26,slow=76,SNR=27							
H11S1	WAKE ISLAND Hy	41.74	225	T	T	14 33 43.7		
	baz=25,slow=76,SNR=70							
H11S2	WAKE ISLAND Hy	41.76	225	T	T	14 33 42.0		
	baz=25,slow=76,SNR=40							
H11S3	WAKE ISLAND Hy	41.76	225	T	T	14 33 47.2		
	baz=25,slow=76,SNR=49							
TXAR	Lajitas Array	49.27	94	P	P	13 49 47.0	+2.2	
	comp=Z,0.3nm,0.5s,baz=317,slow=6.7,SNR=7.1							
	comp=Z,0.3nm,0.5s							
SONM	Songino Array	53.72	303	P	P	13 50 16.5	-1.4	
	comp=Z,0.4nm,0.4s,baz=53,slow=7.9,SNR=2.6							
	comp=Z,0.4nm,0.4s							
FINES	FINESS Array B	65.24	355	P	P	13 51 36.7	-0.2	
	comp=Z,1.2nm,0.8s,baz=10,slow=8.5,SNR=2.2							
	comp=Z,1.2nm,0.8s							
MKAR	Makanchi Array	65.56	316	P	P	13 51 38.9	-0.5	
	comp=Z,0.1nm,0.5s,baz=41,slow=4.6,SNR=2.0							
	comp=Z,0.1nm,0.5s							
HFS	Hagfors	66.79	1	P	P	13 51 46.4	-0.6	
	comp=Z,0.7nm,0.4s,baz=7.2,slow=2.6,SNR=8.1							
	comp=Z,0.7nm,0.4s							
AKASG	Malin Array Be	75.71	352	P	P	13 52 40.9	-0.1	
	comp=Z,0.5nm,0.4s,baz=10,slow=5.7,SNR=2.7							
	comp=Z,0.5nm,0.4s							
H03N2	Juan Fernandez	113.12	115	T	T	16 03 17.6		
	baz=319							
H03N1	Juan Fernandez	113.13	115	T	T	16 03 18.3		
	baz=319							
H03N3	Juan Fernandez	113.13	115	T	T	16 03 22.9		
	baz=319							

KRSC 18 13:55:53.6±0.9, 53°.95N×169°.10E, h61km±34km, MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	2.21	306	eP	Pn	13 56 30.9	+2.9
BKI				eS	Sn	13 56 56.4	+2.2
MKZ	Mys Kozlova	4.36	281	eP	Pn	13 57 01.0	+3.7
MKZ				eS	Sn	13 57 47.8	+1.0
SMKR	Semkarok	5.10	304	eP	Pn	13 57 10.9	+3.4
TUMD	Tumrok D	5.21	287	eP	Pn	13 57 14.4	+5.4
SPN	Mys Shipunski	5.48	265	eP	Pn	13 57 17.4	+4.8
SPN				eS	Sn	13 58 15.5	+1.3
SDLR	Sedlovina	6.12	268	eP	Pn	13 57 26.4	+5.0
UGLR	Uglovaya	6.16	267	eP	Pn	13 57 27.2	+5.1
ESO	Esso	6.31	293	eP	Pn	13 57 28.9	+4.9

*KRSC **18** 13:58:43.9±1.1, 53°.38N×157°.20E, h290km±10km, MI4.2*
*IDC **18** 13:58:44.9±0.5, 53°.59N×156°.80E, h273km±4km, mb3.3/13, mbtmp4.0/14, Error ellipse: s-maj=18.5km s-min=10.7km az=153.0*
*MOS **18** 13:58:45.1±0.9, 53°.54N×156°.74E, h268km, mb3.8/1, Error ellipse: s-maj=13.1km s-min=6.4km az=65.7*

ISC 18 13:58:45.5±0.6, 53°.44N±0°.06×157°.19E±0°.07, h283km±5km, n98, σ1°12/124, mb3.5/13, 1D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEA0B	Petropavlovsk-	0.45	137	PN	Pn	13 59 21.8	-0.4
PEA0B				S	S	13 59 51.2	0.0
PETK	Petropavlovsk-	0.45	137	P	Pn	13 59 21.1	-1.0
	42nm,0.4s,baz=49,slow=5.0,SNR=128						
PETK				S	S	13 59 50.6	-0.6
	27nm,0.7s,baz=279,slow=2.8,SNR=8.2						
APC	Apacha	0.51	182	PN	Pn	13 59 21.9	-0.4
APC				S	S	13 59 50.1	-1.3
APC	Apacha	0.51	182	eP	Pn	13 59 21.9	-0.4
APC				eS	S	13 59 50.1	-1.3
GNL	Ganaly	0.52	60	PN	Pn	13 59 22.4	+0.1
GNL				S	S	13 59 52.0	+0.5
GNL	Ganaly	0.52	60	eP	Pn	13 59 22.5	+0.1
GNL				eS	S	13 59 52.1	+0.5
KRMR	Karymshinskiy	0.83	136	PN	Pn	13 59 23.0	-0.3
KRMR				S	S	13 59 53.2	-0.1
KRMR	Karymshinskiy	0.83	136	eP	Pn	13 59 23.1	-0.3
KRMR				eS	S	13 59 53.3	-0.1
KRX	Arik	0.88	94	PN	Pn	13 59 23.8	+0.1
KRX				S	S	13 59 55.1	+1.2
KRX	Arik	0.88	94	eP	Pn	13 59 23.8	+0.1
KRX				eS	S	13 59 55.2	+1.2
KOK	Koryaka	0.88	99	PN	Pn	13 59 23.9	+0.3
KOK	Koryaka	0.88	99	eP	Pn	13 59 24.0	+0.3
INSR	Institute	0.93	113	PN	Pn	13 59 23.7	0.0
INSR				S	S	13 59 54.4	+0.4
INSR	Institute	0.93	113	eP	Pn	13 59 23.8	0.0
INSR				eS	S	13 59 54.5	+0.4
AVH	Avacha	0.95	100	PN	Pn	13 59 24.3	+0.4
AVH	Avacha	0.95	100	eP	Pn	13 59 24.3	+0.4
KRER	Koryakskii	0.95	97	PN	Pn	13 59 24.3	+0.2
KRER	Koryakskii	0.95	97	eP	Pn	13 59 24.3	+0.2
PET	Petropavlovsk	0.97	114	||P	Pn	13 59 23.8	-0.1
PET				eS	S	13 59 54.1	-0.3
PET				pmax	pmax		
	comp=Z,125nm,0.5s						
PET				smax	smax		
	comp=N,216nm,0.7s						
PET				smax	smax		
	comp=E,116nm,0.6s						
SMAR	Somma	0.98	99	PN	Pn	13 59 24.4	+0.1
SMAR				S	S	13 59 55.6	+0.7
SMAR	Somma	0.98	99	eP	Pn	13 59 24.4	+0.1
SMAR				eS	S	13 59 55.7	+0.7
UGLR	Uglovaya	1.01	102	PN	Pn	13 59 24.6	+0.3
UGLR	Uglovaya	1.01	102	eP	Pn	13 59 24.6	+0.3
DALK	Dalny	1.03	113	PN	Pn	13 59 23.9	-0.3
DALK				S	S	13 59 54.6	-0.2
DALK	Dalny	1.03	113	eP	Pn	13 59 23.9	-0.3
DALK				eS	S	13 59 54.7	-0.2
SDLR	Sedlovina	1.03	98	PN	Pn	13 59 24.3	0.0
SDLR	Sedlovina	1.03	98	eP	Pn	13 59 24.4	0.0
GRL	Gorelyy	1.04	148	PN	Pn	13 59 24.7	+0.3
GRL	Gorelyy	1.04	148	eP	Pn	13 59 24.8	+0.3
MTVR	Mutnovka	1.13	147	PN	Pn	13 59 26.5	+1.6
MTVR	Mutnovka	1.13	147	eP	Pn	13 59 26.6	+1.6
ASAK	Asacha	1.14	157	PN	Pn	13 59 25.0	+0.1
ASAK				S	S	13 59 56.6	+0.3
ASAK	Asacha	1.14	157	eP	Pn	13 59 25.1	+0.1
ASAK				eS	S	13 59 56.6	+0.3
MIPR	Malaya Ipel'ka	1.19	193	PN	Pn	13 59 24.8	-0.4
MIPR	Malaya Ipel'ka	1.19	193	eP	Pn	13 59 24.8	-0.4
NLC	Nalytchevo	1.32	101	PN	Pn	13 59 25.5	-0.3
NLC				S	S	13 59 57.5	-0.3
NLC	Nalytchevo	1.32	101	eP	Pn	13 59 25.6	-0.3
NLC				eS	S	13 59 57.6	-0.3
SPN	Mys Shipunski	1.74	100	PN	Pn	13 59 27.6	-1.1
SPN				S	S	13 59 59.6	-3.3
SPN	Mys Shipunski	1.74	100	eP	Pn	13 59 27.7	-1.1
SPN				eS	S	13 59 59.7	-3.3
PAU	Pauzhetka	1.99	187	PN	Pn	13 59 30.2	-0.5
PAU	Pauzhetka	1.99	187	eP	Pn	13 59 30.3	-0.5
TUMD	Tumrok D	2.58	45	PN	Pn	13 59 36.3	+0.4
TUMD	Tumrok D	2.58	45	eP	Pn	13 59 36.4	+0.4
ESO	Esso	2.65	19	PN	Pn	13 59 37.0	+0.5
ESO	Esso	2.65	19	eP	Pn	13 59 37.0	+0.5
SKR	Severo-Kuril's	2.83	194	ePN	Pn	13 59 39.3	+0.8
SKR				eS	S	14 00 18.9	-1.7
SKR				pmax	pmax		
	comp=Z,70nm,0.5s						
SKR				smax	smax		
	comp=E,63nm,0.4s						
SKR				smax	smax		
	comp=N,61nm,0.3s						
SKR	Severo-Kuril's	2.83	194	eP	Pn	13 59 37.6	-0.9
MKZ	Mys Kozlova	2.91	65	PN	Pn	13 59 38.3	-0.7
MKZ	Mys Kozlova	2.91	65	eP	Pn	13 59 38.3	-0.7
KMNR	Kamenistaya	2.92	36	PN	Pn	13 59 40.0	+0.7
KMNR	Kamenistaya	2.92	36	eP	Pn	13 59 40.1	+0.7
KOZ	Kozyrevsk	3.06	30	PN	Pn	13 59 40.8	+0.3
KOZ	Kozyrevsk	3.06	30	eP	Pn	13 59 40.8	+0.3
KPT	Kopyto	3.09	34	PN	Pn	13 59 40.8	-0.2
KPT	Kopyto	3.09	34	eP	Pn	13 59 40.8	-0.2
KIRR	Kirishev	3.12	35	PN	Pn	13 59 41.2	-0.1
KIRR	Kirishev	3.12	35	eP	Pn	13 59 41.2	-0.1
BZMR	Bezymyannaya	3.15	36	PN	Pn	13 59 42.0	+0.3
BZMR	Bezymyannaya	3.15	36	eP	Pn	13 59 42.0	+0.3
BZWR	Bezymyannyi-We	3.18	36	PN	Pn	13 59 42.3	+0.3
BZWR	Bezymyannyi-We	3.18	36	eP	Pn	13 59 42.3	+0.3
BZGR	Bezymyannyi-Gr	3.23	38	PN	Pn	13 59 43.1	+0.6
BZGR	Bezymyannyi-Gr	3.23	38	eP	Pn	13 59 43.2	+0.6
SRDR	Sredinnyy	3.24	26	PN	Pn	13 59 43.1	+0.6
SRDR	Sredinnyy	3.24	26	eP	Pn	13 59 43.1	+0.6
ZLN	Zelenaya	3.33	38	PN	Pn	13 59 44.9	+1.4
ZLN	Zelenaya	3.33	38	eP	Pn	13 59 44.9	+1.4
LGNR	Loginova	3.34	36	PN	Pn	13 59 45.3	+1.5
LGNR	Loginova	3.34	36	eP	Pn	13 59 45.4	+1.5
CIRR	Tsirk	3.39	36	PN	Pn	13 59 45.3	+1.2
CIRR	Tsirk	3.39	36	eP	Pn	13 59 45.4	+1.2
KLY	Klyuchi	3.51	33	PN	Pn	13 59 46.5	+1.3
KLY	Klyuchi	3.51	33	eP	Pn	13 59 46.6	+1.3
SRKR	Sorokina	3.96	34	PN	Pn	13 59 52.2	+1.9
SRKR	Sorokina	3.96	34	eP	Pn	13 59 52.2	+1.9
SMKR	Semkarok	4.00	36	PN	Pn	13 59 52.1	+1.3
SMKR	Semkarok	4.00	36	eP	Pn	13 59 52.1	+1.3
KBG	Krutoberegovo	4.26	46	PN	Pn	13 59 53.5	-0.1
KBG				S	S	14 00 43.9	-4.3
KBG	Krutoberegovo	4.26	46	eP	Pn	13 59 53.6	-0.1
KBG				eS	S	14 00 43.9	-4.3
KBTR	Krutoberegovo	4.28	47	PN	Pn	13 59 52.6	-1.2
KBTR	Krutoberegovo	4.28	47	eP	Pn	13 59 52.7	-1.2
BKI	Bering	5.44	67	PN	Pn	14 00 07.9	+0.5
BKI	Bering	5.44	67	eP	Pn	14 00 07.9	+0.5
ASAJ	Asahikawa	13.37	232	P	P	14 01 45.2	-0.1
	comp=N,20nm,0.6s,baz=54,slow=4.8,SNR=39						
KSRS	Korea Array	25.77	243	P	P	14 03 50.8	+0.2
	comp=N,0.7nm,0.5s,baz=39,slow=8.9,SNR=4.1						
	comp=N,0.7nm,0.5s						
ILAR	Eielson Array	29.82	46	P	P	14 04 26.3	+0.1
	comp=N,1.5nm,0.6s,baz=271,slow=7.8,SNR=33						
	comp=N,1.5nm,0.6s						
SONM	Songino Array	32.12	281	P	P	14 04 45.8	-0.8
	comp=N,0.5nm,0.5s,baz=66,slow=8.1,SNR=3.2						
	comp=N,0.5nm,0.5s						
YKA	Yellowknife Ar	44.08	42	P	P	14 06 26.6	+1.2
	comp=N,1.0nm,0.7s,baz=304,slow=8.4,SNR=6.8						
	comp=N,1.0nm,0.7s						
KURK	Kurchatov	46.06	300	P	P	14 06 39.0	-2.0
KURBB	Kurchatov Arra	46.16	300	P	P	14 06 39.0	-2.8
	comp=N,0.8nm,0.3s,baz=61,slow=7.2,SNR=4.3						
	comp=N,0.8nm,0.3s						
MKAR	Makanchi Array	46.42	294	P	P	14 06 41.3	-2.7
	comp=N,0.4nm,0.5s,baz=54,slow=6.7,SNR=5.9						
	comp=N,0.4nm,0.5s						
BVAR	Borovoye Array	48.79	307	P	P	14 06 59.7	-2.3
	comp=N,1.3nm,0.5s,baz=55,slow=8.0,SNR=6.8						
	comp=N,1.3nm,0.5s						
CMAR	Chiang Mai Arr	56.56	255	P	P	14 07 59.9	+1.0
	comp=N,0.5nm,0.7s,baz=37,slow=6.8,SNR=2.4						
	comp=N,0.5nm,0.7s						
NVAR	Mina Array Bea	57.25	68	P	P	14 08 05.8	+1.9
	comp=N,1.2nm,0.7s,baz=316,slow=6.8,SNR=7.4						
	comp=N,1.2nm,0.7s						
PDAR	Pinedale Array	58.86	59	P	P	14 08 16.3	+1.4
	comp=N,1.5nm,0.7s,baz=315,slow=6.9,SNR=15						
	comp=N,1.5nm,0.7s						
TXAR	Lajitas Array	72.09	65	P	P	14 09 40.5	+1.3
	comp=N,0.6nm,0.4s,baz=317,slow=6.7,SNR=3.6						
	comp=N,0.6nm,0.4s						
WRA	Warramunga Arr	75.70	202	P	P	14 09 59.8	0.0
	comp=N,1.6nm,0.7s,baz=14,slow=5.8,SNR=16						
	comp=N,1.6nm,0.7s						
ASAR	Alice Springs	79.39	202	P	P	14 10 20.7	+0.6
	comp=N,1.3nm,0.7s,baz=14,slow=5.6,SNR=16						
	comp=N,1.3nm,0.7s						

*IDC **18** 14:25:35.0±1.5, 0°.67S×127°.52E, h0km, mb3.5/5, mbtmp3.6/6, ML3.1/1, MS3.5/1, Error ellipse: s-maj=117.8km s-min=20.2km az=68.0*

ISC 18 14:25:40.5±1.4, 0°.8S±0°.1×127°.3E±0°.4, h35km, n7, σ0°53/7, mb3.8/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	10.01	201	LR	LR	14 32 29.9	
	comp=Z,254nm,18.4s,baz=254,slow=41						
FITZ	Fitzroy Crossi	17.26	185	P	P	14 29 40.3	+0.2
	baz=7.1,slow=8.1,SNR=1.1						
FITZ				S	Sn	14 32 49.8	-0.1
	1.6nm,0.9s,baz=98,slow=15,SNR=1.4						
	2.0nm,0.9s						
WRA	Warramunga Arr	20.23	160	P	P	14 30 12.2	-0.7
	0.2nm,0.3s,baz=340,slow=11,SNR=8.1						
	0.2nm,0.3s						
ASAR	Alice Springs	23.61	165	P	P	14 30 48.0	-0.5
	0.6nm,0.5s,baz=345,slow=11,SNR=18						
	0.6nm,0.5s						
STKA	Stephens Creek	33.73	158	P	P	14 32 19.3	+0.6
	2.7nm,0.9s,baz=331,slow=18,SNR=3.1						
	2.7nm,0.9s						
MKAR	Makanchi Array	61.59	326	P	P	14 35 54.3	-0.2
	0.3nm,0.4s,baz=128,slow=7.3,SNR=4.9						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	65.85	328	P	P	14 36 22.5	+0.1
	0.6nm,0.7s,baz=127,slow=6.7,SNR=4.0						
	0.6nm,0.7s						

NOU 18 14:28:11.0, 15°.81S×167°.08E, h4km, MLv4.5/13, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.38	18	P	Pg	14 28 18.4	+0.1
SANVU	Saraoutou	0.38	18	S	Sg	14 28 23.8	+0.5
VLAKA	Lakatoro	0.44	132	P	Pb	14 28 21.4	0.0
DVP	Devils Point	2.18	151	P	Pn	14 28 48.2	+0.1
LUES	Luesalemba Tem	5.24	347	P	Pn	14 29 31.9	+1.7
KOUNC	Koumac, New Ca	5.41	209	P	Pn	14 29 32.2	-0.3
YATNC	Mamie plateau,	6.22	182	P	Pn	14 29 41.6	-2.0
DZM	Mont Dzumac	6.26	185	P	Pn	14 29 44.1	-0.1
OUENC	Ouen Island, N	6.58	182	P	Pn	14 29 47.7	-0.8
PINNC	Pines Island,	6.78	177	P	Pn	14 29 52.5	+1.2

*IDC **18** 14:32:04.3±1.2, 15°.70S×174°.13W, h0km, mb4.1/6, mbtmp4.1/6, MS2.9/2, Error ellipse: s-maj=41.2km s-min=28.0km az=123.0*

ISC 18 14:32:16.7±0.8, 15°.8S±0°.2×174°.1W±0°.1, h100km, n16, σ0°81/11, mb4.1/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	14.63	114	Pn	Pn	14 35 38.3	-0.6
	1.2nm,0.3s,baz=291,slow=8.6,SNR=1.7						
RAR				Sn	Sn	14 38 07.8	-12
	0.4nm,0.3s,baz=360,slow=19,SNR=1.3						
RAR				LR	LR	14 39 53.3	
	comp=Z,32nm,21.2s,baz=252,slow=32						
HNR	Honiara	26.07	281	LR	LR	14 45 33.0	
	comp=Z,40nm,19.1s,baz=140,slow=31						
H11S2	WAKE ISLAND Hy	38.95	330	T	T	15 20 45.7	
	baz=146,slow=76,SNR=9.4						
H11S3	WAKE ISLAND Hy	38.96	330	T	T	15 20 47.8	
	baz=146,slow=76,SNR=10						
H11S1	WAKE ISLAND Hy	38.97	330	T	T	15 20 47.9	
	baz=146,slow=76,SNR=9.3						
H11N3	WAKE ISLAND Hy	39.91	331	T	T	15 21 56.1	
	baz=152						
H11N1	WAKE ISLAND Hy	39.92	331	T	T	15 22 16.6	
	baz=152						
H11N2	WAKE ISLAND Hy	39.93	331	T	T	15 22 27.7	
	baz=152						
STKA	Stephens Creek	43.24	240	P	P	14 40 07.7	-0.6
	2.6nm,0.5s,baz=82,slow=13,SNR=7.5						
	2.6nm,0.5s						
WRA	Warramunga Arr	49.08	257	P	P	14 40 53.5	-0.8
	1.5nm,0.6s,baz=94,slow=8.2,SNR=35						
WRA				PcP	PcP	14 42 17.5	+0.9
	0.7nm,0.5s,baz=94,slow=3.2,SNR=7.1						
	1.5nm,0.6s						
ASAR	Alice Springs	49.33	252	P	P	14 40 55.5	-0.6
	7.6nm,0.6s,baz=91,slow=7.6,SNR=226						
ASAR				PcP	PcP	14 42 18.7	+1.2
	0.3nm,0.5s,baz=95,slow=3.6,SNR=2.0						
	7.6nm,0.6s						
MJAR	Matsushiro Arr	68.79	320	P	P	14 43 10.5	+0.3
	0.5nm,0.5s,baz=127,slow=5.0,SNR=2.2						
	0.5nm,0.5s						
QSPA	South Pole Qui	74.26	180	P	P	14 43 43.9	+1.1
	2.7nm,1.0s,baz=32,slow=0.8,SNR=6.7						
	2.7nm,1.0s						
ILAR	Eielson Array	82.96	11	P	P	14 44 30.1	-0.1
	0.4nm,0.6s,baz=225,slow=5.4,SNR=4.8						
	0.4nm,0.6s						
BRTR	Keskin Array B	146.01	320	PKPbc	PKPbc	14 51 45.2	-0.2
	1.1nm,0.8s,baz=98,slow=2.9,SNR=6.1						
GERES	GERESS Array B	146.42	351	PKPbc	PKPbc	14 51 46.2	-0.1
	0.5nm,0.6s,baz=29,slow=2.4,SNR=2.6						

*IDC **18** 14:36:31.6±9.0, 21°.83N×144°.47E, h196km±79km, mb3.2/9, mbtmp3.7/9, Error ellipse: s-maj=71.8km s-min=16.1km az=78.0*

ISC 18 14:36:31.7±2.1, 21°.8N±0°.2×144°.5E±0°.4, h200km, n9, σ0°62/9, mb3.5/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	21.16	321	P	P	14 41 01.4	+0.1
	1.0nm,0.6s,baz=148,slow=9.0

JAYA	**Jayaque - finc**	**2.16**	**95**	S		**Sn**	**15 16 52.1**	**+0.6**
JAYA	**Jayaque - finc**	**2.16**	**95**	P		**Pn**	**15 16 26.0**	**+0.6**
PMON	**Piamonte**	**2.28**	**93**	P		**Pn**	**15 16 27.9**	**+0.8**
PMON	**Piamonte**	**2.28**	**93**	S		**Sn**	**15 16 56.4**	**+1.8**
MTO3	**Montecristo**	**2.30**	**76**	*i* P		**Pn**	**15 16 27.8**	**+0.4**
MTO3	**Montecristo**	**2.30**	**76**	P		**Pn**	**15 16 28.0**	**+0.6**
MTO3	**Montecristo**	**2.30**	**76**	S		**Sn**	**15 16 56.4**	**+1.3**
LALI	**Alcalda de L**	**2.30**	**99**	S		**Sn**	**15 16 56.2**	**+1.3**

JMA 18 15:17:32.5±0.3, 25°N±3°×12°3E±°, h250km, MV3.8/11, NW OFF ISHIGAKIJIMA IS, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**1.31**	**150**	*e*P	Pn	15 18 09.5	+0.1
IRIF				*e*S	S	15 18 38.3	-0.2
JISG	**Ishigakijimahi**	**1.47**	**127**	*e*P	Pn	15 18 10.5	0.0
JISG				*e*S	S	15 18 39.9	-0.6
JIJ	**Ishigaki jima**	**1.51**	**137**	P	Pn	15 18 11.1	+0.2
JIJ				*e*S	S	15 18 40.2	-0.9
JKRS	**Kuro-shima**	**1.53**	**144**	*e*P	Pn	15 18 11.6	+0.6
JKRS				*e*S	S	15 18 41.1	-0.3
JTJ	**Tarama**	**1.74**	**118**	*e*P	Pn	15 18 13.1	+0.4
JIRB	**Irabujima**	**2.05**	**108**	P	Pn	15 18 15.3	-0.1
JIRB				*e*S	S	15 18 48.0	-1.3
JIKM	**Ikemajima**	**2.09**	**105**	*e*P	Pn	15 18 15.8	0.0

TAP 18 15:18:15.9, 24°.79N×122°.04E, h92km, ML2.5, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.25**	**224**	*e*P	Pn	15 18 29.4	0.0
TWC				*e*S	Sn	15 18 39.0	-0.4
TIPB	**Shuangxi**	**0.27**	**314**	*e*P	Pn	15 18 29.4	-0.1
TIPB				*e*S	Sn	15 18 38.8	-0.8
TWE	**Neicheng**	**0.34**	**259**	*e*P	Pn	15 18 31.6	+1.8
TWE				*e*S	Sn	15 18 41.2	+1.0
EOS2	**EOS2**	**0.41**	**154**	*e*P	Pn	15 18 30.9	+0.8
EOS2				*e*S	Sn	15 18 40.3	-0.4
FUSB	**Fushanzhiwuyua**	**0.41**	**266**	*e*P	Pn	15 18 30.4	0.0
FUSB				*e*S	Sn	15 18 41.5	+0.4
EWUT	**Wuta**	**0.41**	**215**	*e*S	Sn	15 18 41.5	+0.6
ENA	**Nanau**	**0.45**	**217**	*e*S	Sn	15 18 42.4	+1.0
ENTT	**Nioudou**	**0.45**	**251**	*e*S	Sn	15 18 43.8	+2.3
NWLT	**Wulai**	**0.49**	**269**	*e*P	Pn	15 18 31.0	+0.2
NWLT				*e*S	Sn	15 18 42.3	+0.3
LATG	**Datong**	**0.53**	**242**	*e*P	Pn	15 18 32.2	+0.9
LATG				*e*S	Sn	15 18 44.5	+1.8
YM01	**YM01**	**0.56**	**310**	*e*S	Sn	15 18 42.9	-0.1
EOS3	**EOS3**	**0.56**	**153**	*e*P	Pn	15 18 31.1	-0.1
EOS3				*e*S	Sn	15 18 41.3	-1.3
YHNB	**Yeheng**	**0.61**	**259**	*e*P	Pn	15 18 31.3	-0.6
YHNB				*e*S	Sn	15 18 44.2	+0.3
NSK	**Sanguang**	**0.63**	**260**	*e*S	Sn	15 18 44.1	0.0
NNSB	**Datong**	**0.69**	**239**	*e*S	Sn	15 18 46.2	+1.0
NNS	**Nan Shan**	**0.70**	**240**	*e*S	Sn	15 18 46.9	+1.5
ETL	**Fush Village**	**0.73**	**211**	*e*S	Sn	15 18 45.9	+0.2
NACB	**Ninganchiao**	**0.73**	**214**	*e*P	Pn	15 18 32.0	-0.9
NACB				*e*S	Sn	15 18 45.7	+0.1
ETLH	**Xiulin Townshi**	**0.77**	**221**	*e*P	Pn	15 18 33.0	-0.5
ETLH				*e*S	Sn	15 18 46.7	+0.2
KSHI	**Guanxi Townshi**	**0.78**	**269**	*e*S	Sn	15 18 46.9	+0.3
TWH	**Chiawan**	**0.81**	**210**	*e*S	Sn	15 18 47.1	0.0
NFF	**Wufeng Townshi**	**0.85**	**260**	*e*P	Pn	15 18 35.0	-0.8
NFF				*e*S	Sn	15 18 47.1	-0.9
FUSS	**Fushou**	**0.90**	**234**	*e*S	Sn	15 18 50.4	+1.2
LIOB	**Emei**	**0.94**	**262**	*e*P	Pn	15 18 36.0	+0.8
LIOB				*e*S	Sn	15 18 49.2	-0.3
WHF	**Hehuan Shan**	**0.95**	**228**	*e*P	Pn	15 18 37.5	+1.8
WHF				*e*S	Sn	15 18 51.1	+0.6
LXIB	**Xiulin Townshi**	**0.95**	**217**	*e*P	Pn	15 18 37.1	+1.6
LXIB				*e*S	Sn	15 18 50.1	+0.1
NSTT	**Nanjuang**	**0.95**	**261**	*e*P	Pn	15 18 37.3	+2.0
NSTT				*e*S	Sn	15 18 48.9	-0.9
SHUL	**Shoufeng**	**1.08**	**204**	*e*S	Sn	15 18 52.0	-0.5
WHP	**Taichung City**	**1.12**	**243**	*e*P	Pn	15 18 38.9	+1.7
WHP				*e*S	Sn	15 18 52.9	-0.3
OWD	**Renai**	**1.14**	**224**	*e*S	Sn	15 18 54.0	+0.1
WUSB	**Renai**	**1.15**	**227**	*e*P	Pn	15 18 39.5	+1.8
WUSB				*e*S	Sn	15 18 54.5	+0.5
WARBT	**Fenglin Townsh**	**1.22**	**209**	*e*P	Pn	15 18 38.5	+0.1
WARBT				*e*S	Sn	15 18 52.4	-2.8
WCS	**Beigang Elemen**	**1.26**	**235**	*e*S	Sn	15 18 55.3	-0.8
VWDT	**VWDT**	**1.31**	**219**	*e*P	Pn	15 18 39.8	+0.3
VWDT				*e*S	Sn	15 18 58.0	+0.7
HGSD	**Ruisui**	**1.41**	**204**	*e*S	Sn	15 18 58.0	-1.2
YULB	**Yu-li**	**1.54**	**206**	*e*S	Sn	15 18 59.6	-2.8
ALS	**Alishan**	**1.70**	**222**	*e*S	Sn	15 19 05.7	-0.6
CHN5	**Tsauling**	**1.72**	**227**	*e*S	Sn	15 19 05.1	-1.3

AUST 18 15:37:53.1±1.4, 18°S±8°×12°0E±°, h16km±15km, mb3.8/9, ML2.9/6, Error ellipse: s-maj=22.8km s-min=5.2km az=137.2, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.85**	**191**	P	Pn	15 38 39.7	+1.7
MBWA				S	Sn	15 39 12.4	+0.3
PSA00	**Pilbara Seismi**	**3.24**	**188**	P	Pn	15 38 44.6	+1.2
PSA00				S	Sn	15 39 23.6	+1.9
FITZ	**Fitzroy Crossi**	**5.08**	**88**	P	Pn	15 39 09.1	+0.4
	comp=Z,1.6nm,2.4s,comp=Z,0.0nm						
FITZ	**Fitzroy Crossi**	**5.08**	**88**	S	Sn	15 40 08.0	+1.0
GIRL	**Giralia**	**7.12**	**232**	P	Pn	15 39 35.1	-1.5
GIRL				S	Sn	15 40 51.1	-6.0
CVQOZ	**Cooralya Stati**	**8.40**	**223**	P	Pn	15 39 53.5	-0.7
MEEK	**Meekatharra**	**8.40**	**190**	P	Pn	15 39 54.5	+0.2
	comp=Z,1.1nm,2.3s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.40**	**190**	S	Sn	15 41 25.3	-3.6
KNRA	**Kununurra**	**8.52**	**73**	P	Pn	15 39 56.3	+0.5
	comp=Z,8.9nm,2.1s,comp=Z,0.0nm						
WRKA	**Warakurna**	**9.98**	**133**	P	Pn	15 40 17.8	+1.9
	comp=Z,2.3nm,1.5s,comp=Z,0.0nm						
WRKA				S	Sn	15 42 08.1	+0.4
MORW	**Morawa**	**11.37**	**199**	P	Pn	15 40 32.8	-2.1
	comp=Z,10nm,2.5s						
MORW	**Morawa**	**11.37**	**199**	S	Sn	15 42 32.4	-9.2
MTN	**Manton Dam**	**11.78**	**64**	P	Pn	15 40 40.1	-0.5
	comp=Z,19nm,2.2s						
BLDU	**Ballidu**	**12.65**	**194**	P	Pn	15 40 51.8	-0.7
	comp=Z,16nm,1.8s						
KLBR	**Kellerberrin**	**13.39**	**189**	P	Pn	15 41 01.8	-0.8
	comp=Z,14nm,1.2s						
FORT	**Forrest**	**14.25**	**152**	P	Pn	15 41 13.8	-0.4
	comp=Z,5.9nm,2.3s						

*CATAC **18** 15:38:54.3±0.9, 7°N±4°×7°3W±°, h172km±12km, M4.2/9, MLv4.2/9, Error ellipse: s-maj=16.2km s-min=8.2km az=103.1, confirmed*
*IDC **18** 15:38:55.9±1.2, 6.77N×72.92W, h165km±14km, mb3.0/1, mbtmp4.0/3, Error ellipse: s-maj=38.9km s-min=14.8km az=132.0*
*RSNC **18** 15:38:56.7±0.0, 7°N±1°×7°3W±°, h147km±2km, M3.8, mB5.0, mb4.3, ML3.5, MLv4.2, Mw(mB)4.3*

ISC 18 15:38:54.7±0.9, 6.86N±0.03×73.12W±0.03, h158km±6km, n56, σ1$61/92, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**193**	P	**Pn**	**15 39 16.7**	**+0.2**
BARC				S	**Sn**	**15 39 31.9**	**-1.2**
PAMC	**Pamplona, Colo**	**0.63**	**41**	P	**Pn**	**15 39 19.5**	**+1.2**
PAMC				S	**Sn**	**15 39 36.4**	**+0.1**
RUSC	**La Rusia**	**0.96**	**178**	P	**Pn**	**15 39 20.8**	**+0.3**
RUSC	**La Rusia**	**0.96**	**178**	P	**Pn**	**15 39 20.7**	**+0.2**
RUSC				S	**Sn**	**15 39 39.2**	**-1.1**
PTBC	**PUERTO BERRIO,**	**1.36**	**257**	P	**Pn**	**15 39 23.2**	**-0.4**
PTBC				S	**Sn**	**15 39 44.6**	**-1.1**
OCAC	**Ocana**	**1.39**	**352**	P	**Pn**	**15 39 24.8**	**+0.9**
OCAC				S	**Sn**	**15 39 46.4**	**0.0**
TAMC	**Tame, Arauca**	**1.39**	**108**	P	**Pn**	**15 39 25.2**	**+1.4**
TAMC				S	**Sn**	**15 39 46.4**	**+0.3**
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	P	**Pn**	**15 39 29.2**	**+0.7**
ZARC				S	**Sn**	**15 39 54.6**	**+0.1**
NORC	**Norcasia**	**2.16**	**234**	P	**Pn**	**15 39 32.4**	**+0.1**
NORC				S	**Sn**	**15 40 00.3**	**-1.0**
CHIC	**Chingaza**	**2.30**	**195**	P	**Pn**	**15 39 34.7**	**+0.5**
CHIC				S	**Sn**	**15 40 04.3**	**-0.4**
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**15 39 36.5**	**+1.8**
	363nm,0.3s,baz=72,slow=20,SNR=134						
ROSC				S	**Sn**	**15 40 04.0**	**-1.4**
	546nm,0.4s,baz=118,slow=20,SNR=7.7						
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**15 39 36.5**	**+1.8**
HELC	**Santa Helena**	**2.48**	**255**	P	**Pn**	**15 39 38.3**	**+1.9**
HELC	**Santa Helena**	**2.48**	**255**	P	**Pn**	**15 39 38.1**	**+1.7**
HELC				S	**Sn**	**15 40 07.7**	**-0.8**
CVER	**Cruz Verde, Cu**	**2.51**	**202**	P	**Pn**	**15 39 38.1**	**+1.3**
UREC	**San Jos de Ur**	**2.55**	**290**	P	**Pn**	**15 39 37.1**	**+0.2**
UREC				S	**Sn**	**15 40 08.0**	**-1.5**
GUY2C	**Guyana, Caldas**	**2.76**	**234**	P	**Pn**	**15 39 40.8**	**+0.9**
GUY2C				S	**Sn**	**15 40 12.2**	**-2.6**
VILC	**Villavicencio,**	**2.79**	**192**	P	**Pn**	**15 39 40.1**	**+0.2**
VILC				S	**Sn**	**15 40 14.3**	**-0.6**
PTGC	**Puerto Gaitan,**	**2.82**	**160**	P	**Pn**	**15 39 40.0**	**-0.2**
PTGC				S	**Sn**	**15 40 12.6**	**-2.8**
RECRC	**Villamaria, Ca**	**2.91**	**230**	P	**Pn**	**15 39 44.3**	**+2.4**
RECRC				S	**Sn**	**15 40 21.9**	**+3.6**
CBOC	**Ciudad Bolivar**	**3.04**	**251**	P	**Pn**	**15 39 44.3**	**+1.2**
CBOC				S	**Sn**	**15 40 17.2**	**-3.3**
DBBC	**Dabeiba**	**3.07**	**273**	P	**Pn**	**15 39 44.2**	**+0.8**
DBBC				S	**Sn**	**15 40 18.2**	**-2.9**
ARGC	**Ariguani, Magd**	**3.18**	**340**	P	**Pn**	**15 39 46.7**	**+2.0**
ARGC				S	**Sn**	**15 40 23.6**	**0.0**
SDV	**Santo Domingo**	**3.18**	**51**	P	**Pn**	**15 39 46.4**	**+1.5**
	44nm,0.3s,baz=229,slow=6.7,SNR=18						
SDV				S	**Sn**	**15 40 23.4**	**-0.4**
	204nm,0.4s,baz=75,slow=24,SNR=38						
SDV	**Santo Domingo**	**3.18**	**51**	P	**Pn**	**15 39 46.3**	**+1.4**
SDV				S	**Sn**	**15 40 22.8**	**-1.0**
ANIL	**Santa Ana**	**3.27**	**224**	P	**Pn**	**15 39 47.8**	**+1.7**
ANIL				S	**Sn**	**15 40 26.0**	**0.0**
APAC	**Apartado, Choc**	**3.58**	**287**	P	**Pn**	**15 39 50.5**	**+0.7**
APAC				S	**Sn**	**15 40 31.3**	**-1.4**
PRAC	**Prado**	**3.58**	**209**	P	**Pn**	**15 39 50.0**	**+0.1**
PRAC	**Prado**	**3.58**	**209**	P	**Pn**	**15 39 49.8**	**-0.1**
PRAC				S	**Sn**	**15 40 32.7**	**-0.1**
ORTC	**Ortega, Tolima**	**3.62**	**216**	P	**Pn**	**15 39 50.7**	**+0.4**
ORTC				S	**Sn**	**15 40 33.4**	**-0.1**
SJCC	**San Jacinto, C**	**3.64**	**326**	P	**Pn**	**15 39 50.4**	**-0.2**
SJCC	**San Jacinto, C**	**3.64**	**326**	P	**Pn**	**15 39 50.3**	**-0.3**
SJCC				S	**Sn**	**15 40 31.6**	**-2.5**
PLMC	**San Jos del P**	**3.70**	**239**	P	**Pn**	**15 39 52.1**	**+0.7**
PLMC				S	**Sn**	**15 40 34.6**	**-0.8**
LCBC	**Los crdobas,**	**3.78**	**302**	P	**Pn**	**15 39 53.1**	**+0.7**
LCBC				S	**Sn**	**15 40 37.7**	**+0.5**
URMC	**La Uribe, Meta**	**3.80**	**199**	P	**Pn**	**15 39 53.5**	**+0.8**
URMC				S	**Sn**	**15 40 37.1**	**-0.8**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P	**Pn**	**15 39 56.9**	**-0.2**
CRJC				S	**Sn**	**15 40 42.7**	**-3.1**
YOTC	**Yotoco, Valle**	**4.30**	**229**	P	**Pn**	**15 39 59.1**	**-0.1**
GUVC	**San Jose del G**	**4.31**	**173**	P	**Pn**	**15 39 58.3**	**-1.0**
GUVC				S	**Sn**	**15 40 47.0**	**-2.7**
SMRC	**Santa Marta, M**	**4.42**	**346**	P	**Pn**	**15 40 01.7**	**+1.1**
SMRC				S	**Sn**	**15 40 50.0**	**-2.0**
PTAC	**Punta Ardita,**	**4.66**	**274**	P	**Pn**	**15 40 04.0**	**+0.1**
MACC	**Macarena, Meta**	**4.74**	**189**	P	**Pn**	**15 40 03.6**	**-1.3**
MACC				S	**Sn**	**15 40 55.6**	**-4.1**
BETC	**Betania**	**4.75**	**209**	P	**Pn**	**15 40 04.6**	**-0.5**
BETC				S	**Sn**	**15 40 57.5**	**-2.5**
URI	**Uribia**	**4.94**	**13**	P	**Pn**	**15 40 07.2**	**-0.3**
URIC	**Uribia, Colomb**	**4.94**	**13**	P	**Pn**	**15 40 06.9**	**-0.6**
MALC	**Bahia Malaga**	**5.06**	**236**	P	**Pn**	**15 40 11.1**	**+2.0**
MALC				S	**Sn**	**15 41 09.1**	**+1.9**
JAMC	**Jamundi, Valle**	**5.06**	**225**	P	**Pn**	**15 40 09.6**	**+0.3**
GARC	**Garzon, Huila**	**5.21**	**207**	P	**Pn**	**15 40 10.7**	**-0.6**
POPC	**Popayan, Colom**	**5.56**	**220**	P	**Pn**	**15 40 16.9**	**+0.9**
	27nm,0.7s						
FLOC	**Florencia**	**5.82**	**206**	P	**Pn**	**15 40 19.3**	**+0.1**
	1µm47nm,1.1s						
GR1C	**Gorgona, Isla**	**6.32**	**233**	P	**Pn**	**15 40 25.3**	**-0.5**
BBAC	**Balboa, Cauca**	**6.33**	**221**	P	**Pn**	**15 40 27.6**	**+1.5**
SGC2	**Sao Gabriel da**	**9.28**	**138**	P	**Pn**	**15 41 06.8**	**+1.7**
MTDJ	**Mount Denham**	**12.09**	**340**	P	**Pn**	**15 41 43.2**	**+1.1**
MTDJ				S	**Sn**	**15 43 49.1**	**-6.9**
TXAR	**Lajitas Array**	**36.44**	**312**	P	**P**	**15 45 46.7**	**+2.2**
	0.4nm,0.6s,baz=128,slow=8.8,SNR=6.1						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPbc**	**15 58 25.3**	**0.0**
	1.1nm,0.7s,baz=122,slow=3.6,SNR=14						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPbc**	**15 58 28.7**	**+0.3**
	0.8nm,0.4s,baz=108,slow=2.7,SNR=15						

*MOS **18** 15:47:25.9±0.8, 48°.04N×105°.78E, h10km, mb4.0/1, Error ellipse: s-maj=13.5km s-min=7.6km az=99.5*
*IDC **18** 15:47:26.0±0.7, 48°.05N×105°.72E, h0km, mb3.9/10, mbtmp3.8/12, ML3.4/2, MS3.3/2, Error ellipse: s-maj=26.9km s-min=7.2km az=28.0*
*BYKL **18** 15:47:28.1±0.4, 48°.09N×105°.85E*

ISC 18 15:47:27.2±0.6, 47°.96N±0°.04×105°.85E±0°.03, h10km, n58, σ2$45/97, mb3.9/9, 1C-1D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**0.39**	**109**	Pg	**Pb**	**15 47 36.2**	**-0.1**
	633nm,0.3s,baz=303,slow=18,SNR=2497						
SONM				Lg		15 47 42.2	
	1µm,0.3s,baz=296,slow=27,SNR=33						
ULN	**Ulaanbaatar**	**0.82**	**96**	*i*Pg	**Pb**	**15 47 43.4**	**-0.2**
ULN				Pmax		15 47 43.5	
	2µm,0.2s						
ULN				*e*Pb	**Pn**	**15 47 46.7**	**+1.8**
ULN				*e*Sg	**Sb**	**15 47 53.8**	**-0.9**
ULN				*e*		15 48 01.0	
ULN				max		15 48 01.2	
	3µm,0.3s						
ULN	**Ulaanbaatar**	**0.82**	**96**	*e*PG	**Pg**	**15 47 42.7**	**-0.2**
ULN				*e*S	**Sb**	**15 47 53.8**	**-0.9**
ZAK	**Zakamensk**	**2.95**	**326**	*e*Pn	**Pn**	**15 48 13.9**	**-0.3**
ZAK				*e*Pg	**Pb**	**15 48 18.9**	**-1.0**
ZAK				*e*		15 48 22.1	
ZAK				max		15 48 22.8	
	360nm,0.3s						
ZAK				*e*Sn	**Sn**	**15 48 48.4**	**-1.3**
ZAK				*e*Sg	**Sb**	**15 48 56.9**	**+0.8**
ZAK				Smax		15 49 01.0	
	684nm,0.5s						
ZAK	**Zakamensk**	**2.95**	**326**	*e*PN	**Pb**	**15 48 18.7**	**-1.2**
ZAK				*e*		15 48 56.0	
ZAK				pmax	pmax		
	comp=Z,364nm,0.3s						
ZAK				smax	smax		
	comp=N,698nm,0.4s						
HRMR	**Khuramsha**	**3.74**	**11**	*e*Pn	**Pn**	**15 48 24.9**	**-0.1**
HRMR				*e*Pg	**Pb**	**15 48 32.3**	**-1.0**
HRMR				Pmax		15 48 37.6	
	comp=N,119nm,0.4s						
HRMR				*e*Sn	**Sn**	**15 49 06.8**	**-2.3**
HRMR				*e*Sg	**Sb**	**15 49 20.6**	**+1.9**
HRMR				Smax		15 49 25.5	
	comp=N,1µm,0.7s						
VBR	**Suhoy Ruchey**	**3.84**	**2**	*e*Pn	**Pn**	**15 48 25.8**	**-0.6**
VBR				*e*Pg	**Pb**	**15 48 35.0**	**-0.1**
VBR				*e*Sg	**Sb**	**15 49 23.0**	**+1.4**
IVK	**Ivanovka**	**3.96**	**347**	*e*Pn	**Pn**	**15 48 27.9**	**0.0**
IVK				*e*		15 48 32.4	
IVK				*e*Pg	**Pb**	**15 48 37.4**	**+0.4**
IVK				max		15 48 39.2	
	comp=N,98nm,0.9s						
IVK				*e*Sg	**Sb**	**15 49 26.1**	**+1.3**
IVK				Smax		15 49 32.8	
	comp=N,793nm,0.9s						
LSTR	**Listvyanka**	**3.97**	**351**	*e*Pn	**Pn**	**15 48 27.6**	**-0.5**
LSTR				*e*Pg	**Pb**	**15 48 37.6**	**+0.4**
LSTR				Pmax		15 48 43.1	
	comp=N,97nm,0.8s						
LSTR				*e*Sn	**Sn**	**15 49 11.6**	**-3.0**
LSTR				*e*Sg	**Sb**	**15 49 27.6**	**+2.4**
LSTR				Smax		15 49 32.7	
	comp=N,318nm,1.0s						
LSTR	**Listvyanka**	**3.97**	**351**	*e*PN	**Pn**	**15 48 27.8**	**-0.3**
LSTR				*e*		15 48 37.1	
LSTR				*e*		15 49 27.6	
LSTR				pmax	pmax		
	comp=Z,96nm,0.7s						
LSTR				smax	smax		
	comp=E,326nm,0.7s						
TLY	**Talaya**	**3.99**	**340**	*e*PN	**Pn**	**15 48 28.4**	**0.0**
TLY				*e*		15 48 37.5	
TLY				*e*		15 49 27.3	
TLY				pmax	pmax		
	comp=Z,91nm,0.5s						
TLY				smax	smax		
	comp=N,456nm,0.5s						
BGT	**Bolshoye Golou**	**4.10**	**356**	*e*Pn	**Pn**	**15 48 29.6**	**-0.3**
BGT				*e*Pg	**Pb**	**15 48 40.0**	**+0.6**
BGT				Pmax		15 48 45.9	
	comp=N,47nm,0.3s						
BGT				*e*Sg	**Sb**	**15 49 31.7**	**+2.7**
BGT				Smax		15 49 40.5	
	comp=N,577nm,0.7s						
KAB	**Kabansk**	**4.13**	**7**	*e*Pn	**Pn**	**15 48 30.7**	**+0.4**
KAB				*e*Pg	**Pb**	**15 48 40.8**	**+0.9**
KAB				Pmax		15 48 44.3	
	comp=N,141nm,0.8s						
KAB				*e*Sg	**Sb**	**15 49 33.0**	**+3.2**
KAB				Smax		15 49 49.4	
	comp=N,3µm,1.2s						
STDB	**Stepnoy Dvoret**	**4.23**	**4**	*e*Pg	**Pb**	**15 48 42.7**	**+1.1**
STDB				*e*Sg	**Sb**	**15 49 36.4**	**+3.7**
IRK	**Irkutsk**	**4.41**	**347**	*e*Pn	**Pn**	**15 48 33.4**	**-0.7**
IRK				*e*Pg	**Pb**	**15 48 44.7**	**+0.1**
IRK				Pmax		15 48 47.5	
	comp=N,96nm,0.4s						
IRK				*e*Sg	**Sb**	**15 49 40.5**	**+2.7**
IRK				Smax		15 49 44.5	
	comp=N,1µm,0.4s						
IRK	**Irkutsk**	**4.41**	**347**	*e*PN	**Pn**	**15 48 32.3**	**-1.8**
IRK				*e*		15 48 44.8	
IRK				*e*		15 49 39.6	
IRK				pmax	pmax		
	comp=Z,97nm,0.3s						
IRK				smax	smax		
	comp=E,1µm,0.4s						
ARS	**Arshan**	**4.54**	**332**	*e*Pn	**Pn**	**15 48 36.6**	**+0.6**
ARS				*e*Pg	**Pb**	**15 48 48.3**	**+1.4**
ARS				Pmax		15 48 55.9	
	comp=E,79nm,0.5s						
ARS				*e*Sg	**Sb**	**15 49 46.7**	**+5.0**
ARS				Smax		15 49 59.1	
	comp=E,619nm,1.0s						
ARS	**Arshan**	**4.54**	**332**	*e*PN	**Pn**	**15 48 35.9**	**-0.1**
ARS				*e*		15 48 48.1	
ARS				*e*		15 49 46.4	
ARS				pmax	pmax		
	comp=Z,79nm,0.6s						
ARS				smax	smax		
	comp=N,614nm,0.9s						
KPC	**Khapcheranga**	**4.65**	**66**	⇑*i*Pn	**Pn**	**15 48 37.5**	**-0.1**
KPC				*e*		15 48 41.8	
KPC				*e*Pg	**Pb**	**15 48 50.8**	**+1.9**
KPC				Pmax		15 48 54.0	
	comp=N,151nm,0.3s						
KPC				*e*Sn	**Sn**	**15 49 31.3**	**-0.3**
KPC				*e*Sg	**Sg**	**15 49 50.0**	**-6.5**
KPC				Smax		15 49 54.7	
	comp=N,816nm,1.1s						
KPC	**Khapcheranga**	**4.65**	**66**	*e*PN	**Pn**	**15 48 37.5**	**-0.1**
KPC				*e*		15 48 51.0	
KPC				*e*S	**Sn**	**15 49 29.0**	**-2.6**
KPC				*e*		15 49 48.9	
KPC				pmax	pmax		
	comp=Z,149nm,0.3s						
KPC				smax	smax		
	comp=N,810nm,1.1s						
ZRHB	**Zarechye**	**4.67**	**10**	*e*Pn	**Pn**	**15 48 37.9**	**+0.1**
ZRHB				*e*Pg	**Pb**	**15 48 50.3**	**+1.1**
ZRHB				Pmax		15 49 05.0	
	comp=N,252nm,0.8s						
ZRHB				*e*Sg	**Sb**	**15 49 49.4**	**+3.9**
ZRHB				Smax		15 50 14.2	
	comp=N,4µm,1.1s						
TRG	**Tyrgan**	**4.82**	**4**	*e*Pn	**Pn**	**15 48 38.8**	**-1.0**
TRG				*e*Pg	**Pb**	**15 48 52.3**	**+0.7**
TRG				Pmax		15 48 55.6	
	comp=N,55nm,1.0s						
TRG				*e*Sn	**Sn**	**15 49 33.1**	**-2.5**
TRG				*e*Sg	**Sb**	**15 49 52.8**	**+3.2**
TRG				Smax		15 49 55.6	
	comp=N,380nm,0.5s						
TRG	**Tyrgan**	**4.82**	**4**	*e*PN	**Pn**	**15 48 38.8**	**-1.0**
TRG				*e*		15 48 52.1	
TRG				*e*S	**Sn**	**15 49 33.7**	**-1.9**
TRG				*e*		15 49 53.8	
TRG				pmax	pmax		
	comp=Z,58nm,0.8s						
TRG				smax	smax		
	comp=E,387nm,0.6s						
GORB	**Goryachinsk**	**5.27**	**16**	*e*Pn	**Pn**	**15 48 45.6**	**-0.3**
GORB				*e*Pg	**Pb**	**15 49 00.0**	**+0.7**
GORB				*e*Sg	**Sb**	**15 50 06.9**	**+4.3**
MXMB	**Maximikha**	**5.62**	**18**	*e*Pg	**Pb**	**15 49 06.8**	**+1.5**
MXMB				*e*Sg	**Sb**	**15 50 19.3**	**+6.6**
OGRR	**Ongureny**	**5.80**	**10**	*e*Pn	**Pn**	**15 48 52.9**	**-0.3**
OGRR				*e*		15 48 57.6	
OGRR				*e*Pg	**Pb**	**15 49 10.4**	**+2.1**
OGR

KMO					*e*Sg	Sg	15 51 49.9	-13
KMO					Smax		15 52 06.2	
	comp=N,493nm,1.5s							
UKT	**Uakit**	**8.95**	**30**	*e*	**Pn**		**15 49 39.8**	**+3.3**
UKT				*e*Pg	Pg		15 50 08.0	-10
UKT				Pmax			15 50 24.3	
	comp=N,12nm,0.8s							
UKT				*e*Sg	Sg		15 52 02.1	-12
UKT				Smax			15 52 18.8	
	comp=N,202nm,1.6s							
UKT	**Uakit**	**8.95**	**30**	*e*PG	Pg		15 50 07.9	-10
UKT				*e*			15 52 03.2	
UKT				pmax	pmax			
	comp=Z,11nm,0.8s							
UKT				smax	smax			
	comp=E,204nm,1.6s							
ARDR	**Aradan**	**9.20**	**305**	*e*Pg	Pn		15 50 11.8	+32
ARDR				*e*Sg	Sn		15 52 09.8	+46
HIA	**Hailar**	**9.30**	**77**	*e*Sg	Sn		15 52 14.0	+48
HIA				Smax			15 52 32.4	
	comp=E,174nm,1.7s							
SVKR	**Severomuysk**	**9.45**	**27**	*e*Sg	Sn		15 52 19.0	+50
SVKR				Smax			15 52 51.1	
	comp=E,960nm,1.7s							
MINR	**Mina**	**10.05**	**318**	*e*Sg	Sn		15 52 38.1	+54
ZALV	**Zalesovo Beam**	**14.52**	**302**	Lg	Lg		15 54 58.5	
	comp=E,0.1nm,0.3s,baz=106,slow=32,SNR=6.5							
MKAR	**Makanchi Array**	**15.99**	**275**	Pn	**P**		**15 51 16.0**	**+0.3**
	comp=E,0.1nm,0.3s,baz=85,slow=13,SNR=6.7							
MKAR				Lg	Lg		15 55 47.8	
	baz=76,slow=32,SNR=3.9							
KURK	**Kurchatov**	**17.92**	**289**	P	**P**		**15 51 37.3**	**+0.5**
KURBB	**Kurchatov Arra**	**17.98**	**289**	P	**Pn**		**15 51 37.3**	**+0.3**
	comp=E,0.1nm,0.3s,baz=87,slow=12,SNR=10							
KURBB				Lg	Lg		15 56 53.5	
	baz=85,slow=32,SNR=4.3							
	comp=E,1.6nm,0.7s							
KSRS	**Korea Array**	**19.26**	**115**	P	**Pn**		**15 51 55.0**	**+2.4**
	comp=E,0.2nm,0.3s,baz=310,slow=5.9,SNR=10							
	comp=E,1.3nm,0.9s							
YAK	**Yakutsk**	**19.47**	**35**	Lg	Lg		15 57 27.5	
	comp=E,0.6nm,0.3s,baz=344,slow=23,SNR=6.5							
BVAR	**Borovoye Array**	**22.96**	**296**	P	**P**		**15 52 29.7**	**-1.8**
	comp=E,0.4nm,0.5s,baz=94,slow=10,SNR=5.1							
	comp=E,0.4nm,0.5s							
TIXI	**Tiksi**	**26.07**	**16**	LR	LR		16 03 29.0	
	comp=E,48nm,18.4s,baz=234,slow=37							
CMAR	**Chiang Mai Arr**	**29.96**	**193**	P	**P**		**15 53 37.1**	**+1.5**
	comp=E,0.4nm,0.4s,baz=355,slow=9.2,SNR=5.7							
	comp=E,0.4nm,0.4s							
FINES	**FINESS Array B**	**45.03**	**318**	P	**P**		**15 55 42.3**	**-0.3**
	comp=E,1.6nm,0.8s,baz=79,slow=9.9,SNR=5.4							
FINES				LR	LR		16 16 40.0	
	comp=E,33nm,18.4s,baz=136,slow=39							
	comp=E,1.6nm,0.8s							
AKASG	**Malin Array Be**	**47.91**	**304**	P	**P**		**15 56 04.5**	**-0.8**
	comp=E,0.5nm,0.5s,baz=56,slow=8.4,SNR=2.1							
	comp=E,0.5nm,0.5s							
HFS	**Hagfors**	**51.07**	**320**	P	**P**		**15 56 28.8**	**-0.4**
	comp=E,0.9nm,0.6s,baz=69,slow=7.9,SNR=1.8							
	comp=E,0.9nm,0.6s							
NOA	**NORSAR Array B**	**51.65**	**322**	P	**P**		**15 56 32.7**	**-1.0**
	comp=E,0.8nm,0.8s,baz=60,slow=7.8,SNR=1.9							
	comp=E,0.8nm,0.8s							
ILAR	**Eielson Array**	**54.30**	**30**	P	**P**		**15 56 53.1**	**0.0**
	comp=E,0.3nm,0.4s,baz=306,slow=7.1,SNR=1.0							
	comp=E,0.3nm,0.4s							
WRA	**Warramunga Arr**	**72.26**	**152**	P	**P**		**15 58 53.2**	**+0.7**
	comp=E,1.3nm,0.6s,baz=344,slow=6.6,SNR=9.8							
	comp=E,1.3nm,0.6s							
ASAR	**Alice Springs**	**75.62**	**154**	P	**P**		**15 59 13.4**	**+1.2**
	comp=E,1.5nm,0.5s,baz=347,slow=5.7,SNR=19							
	comp=E,1.5nm,0.5s							
TORD	**Torodi Ar. Bea**	**89.58**	**289**	P	**P**		**16 00 24.1**	**-1.0**
	comp=E,0.9nm,0.3s,baz=38,slow=5.4,SNR=1.6							
	comp=E,0.9nm,0.3s							

*IDC **18** 15:49:27.4±1.2,5.°00S×152.°02E,h0km,mb3.9/9, mbtmp3.9/9,MS3.3/1,Error ellipse: s-maj=47.7km s-min=21.6km az=105.0*
*NEIC **18** 15:49:39.2±1.2,5.°08S±0.°09×151.°7E±0.°1,h79km±8km, mb4.3/17,Error ellipse: s-maj=21.4km s-min=12.1km az=108.0*

ISC 18 15:49:40.2±0.6,**5.°03S**±0.°08×**151.°8E**±0.°1,**h100**km,**n32**, σ1**s31**/32,**mb4.0**/17,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RABL	**Rabaul**	**0.93**	**26**			**Pn**	**15 49 58.3**	**-1.6**
RABL				Sn		**Sn**	**15 50 12.0**	**-2.7**
CTAO	**Charters Tower**	**15.89**	**199**	P		**P**	**15 53 18.9**	**-1.0**
EIDS	**Eidsvold**	**20.23**	**182**	P		**P**	**15 54 06.1**	**-1.4**
MTN	**Manton Dam**	**21.79**	**248**	P		**P**	**15 54 22.3**	**-1.9**
MTN				IAmb		IAmb	15 54 55.4	
	comp=Z,33nm,1.4s							
DZM	**Mont Dzumac**	**22.11**	**141**	P		**P**	**15 54 27.7**	**0.0**
DZM				IAmb		IAmb	15 54 30.2	
	comp=Z,26nm,1.5s							
WR8	**Warramunga Arr**	**22.41**	**227**	P		**P**	**15 54 30.0**	**-0.8**
WR8				IAmb		IAmb	15 54 40.1	
	comp=Z,7.9nm,1.1s							
WRA	**Warramunga Arr**	**22.52**	**227**	P		**P**	**15 54 31.1**	**-0.7**
	comp=Z,2.1nm,0.3s,baz=50,slow=10,SNR=48							
	comp=Z,2.1nm,0.3s							
KNRA	**Kununurra**	**24.94**	**243**	P		**P**	**15 54 53.0**	**-1.4**
KNRA				IAmb		IAmb	15 54 57.4	
	comp=Z,14nm,1.2s							
AS31	**Alice Springs**	**25.28**	**221**			**P**	**15 54 57.8**	**+0.3**
ASAR	**Alice Springs**	**25.29**	**221**	P		**P**	**15 54 57.0**	**-0.5**
ASAR	**Alice Springs**	**25.29**	**221**	P		**P**	**15 54 57.6**	**+0.1**
	comp=Z,3.6nm,0.5s,baz=53,slow=9.2,SNR=133							
	comp=Z,3.6nm,0.5s							
DAV	**Davao City (W)**	**28.76**	**294**	LR		LR	16 05 47.5	
	comp=Z,54nm,18.4s,baz=358,slow=34							
BBOO	**Buckleboo**	**31.28**	**206**	P		**P**	**15 55 50.6**	**-0.1**
FORT	**Forrest**	**33.96**	**218**	P		**P**	**15 56 13.8**	**-0.3**
FORT				IAmb		IAmb	15 56 26.7	
	comp=Z,6.2nm,1.1s							
RTZ	**Ruatahuna**	**40.52**	**149**	P		**P**	**15 57 10.9**	**+1.3**
MSWZ	**Moikau Station**	**41.88**	**153**	P		**P**	**15 57 20.1**	**-0.5**
KSRS	**Korea Array**	**47.75**	**334**	P		**P**	**15 58 07.0**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=149,slow=8.1,SNR=2.8							
	comp=Z,0.4nm,0.5s							
SONM	**Songino Array**	**65.97**	**328**	P		**P**	**16 00 17.7**	**+1.7**
	comp=Z,0.6nm,0.4s,baz=123,slow=5.3,SNR=2.3							
	comp=Z,0.6nm,0.4s							
K15K	**Wolf Creek Mou**	**75.98**	**21**	P		**P**	**16 01 18.1**	**+2.1**
P19K	**Oil Pt**	**77.58**	**25**	P		**P**	**16 01 26.5**	**+1.4**
L19K	**White Mountain**	**78.36**	**23**	P		**P**	**16 01 31.4**	**+2.0**
L19K				IAmb		IAmb	16 01 42.1	
	comp=Z,9.7nm,1.5s							
MKAR	**Makanchi Array**	**79.82**	**319**	P		**P**	**16 01 38.9**	**+1.2**
MKAR	**Makanchi Array**	**79.82**	**319**	P		**P**	**16 01 39.1**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=112,slow=6.1,SNR=2.2							
	comp=Z,0.2nm,0.4s							
CAST	**Castle Rocks**	**80.11**	**22**	P		**P**	**16 01 40.0**	**+1.1**
CAST				IAmb		IAmb	16 01 40.8	
	comp=Z,2.6nm,1.2s							
ZALV	**Zalesovo Beam**	**80.77**	**327**	P		**P**	**16 01 42.3**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=104,slow=6.1,SNR=2.7							
	comp=Z,0.6nm,0.4s							
ILAR	**Eielson Array**	**82.77**	**22**	P		**P**	**16 01 52.4**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=251,slow=5.5,SNR=6.4							
	comp=Z,0.4nm,0.7s							
J25K	**Salcha River,**	**83.27**	**23**	P		**P**	**16 01 56.3**	**+0.8**
J25K				IAmb		IAmb	16 01 57.5	
	comp=Z,1.8nm,1.0s							
D23K	**Nanushuk River**	**83.59**	**18**	P		**P**	**16 01 59.4**	**+2.5**
QSPA	**South Pole Qui**	**84.93**	**180**	P		**P**	**16 02 05.0**	**+1.0**
QSPA				IAmb		IAmb	16 02 06.1	
	comp=Z,2.9nm,1.1s							
QSPA	**South Pole Qui**	**84.93**	**180**	P		**P**	**16 02 04.8**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=282,slow=1.1,SNR=8.2							
	comp=Z,1.1nm,0.6s							
BVAR	**Borovoye Array**	**88.81**	**323**	P		**P**	**16 02 23.2**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=101,slow=6.0,SNR=3.8							
	comp=Z,0.5nm,0.6s							
TORD	**Torodi Ar. Bea**	**149.39**	**287**	PKPbc		**PKiKP**	**16 09 18.9**	**-0.8**
	comp=Z,1.5nm,0.4s,baz=62,slow=1.9,SNR=1.8							

*SDD **18** 15:54:42.9±1.9, 18.°81N×70.°58W,h12km±9km,MD3.1, ML2.6,MW3.0*
*OSPL **18** 15:54:42.1±1.5, 18.°86N×70.°65W,h80km±16km,ML2.3*
ISC 18 15:54:41.3±0.9,**18.°80N**±0.°04×**70.°59W**±0.°03,**h15**km±5km,
n12,σ0**s75**/21,**2C**,**Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ABDR	**Alto Bandera**	**0.04**	**284**	*e*Pg		**Pg**	**15 54 44.4**	**-0.2**
ABDR				*e*Sg		**Sg**	**15 54 46.9**	**+0.3**
ABDR				IAML			15 54 47.0	
	comp=N,5μm,0.2s							
BANI	**BANI**	**0.47**	**152**	*e*Pg		**Pg**	**15 54 50.2**	**-0.4**
BANI				*e*Sg		**Sg**	**15 54 57.7**	**+0.7**
BANI				IAML			15 54 58.9	
	comp=N,304nm,0.1s							
DR08	**Loma La Naviza**	**0.56**	**74**	*e*Pg		**Pb**	**15 54 53.1**	**+0.3**
DR08				*e*Sg		**Sb**	**15 55 01.1**	**+0.4**
DR08				IAML			15 55 01.4	
	comp=N,3μm,0.2s							
SC01	**Santiago de lo**	**0.63**	**348**	*i* P		**Pn**	**15 54 55.6**	**-0.2**
SC01				*e*S		**Sn**	**15 55 06.0**	**+0.4**
SC01				IAML			15 55 07.6	
	comp=Z,142nm,0.2s							
SDDR	**Presa de Saban**	**0.68**	**285**	*i* P		**Pb**	**15 54 55.6**	**+0.6**
SDDR				*e*S		**Sn**	**15 55 06.4**	**-0.5**
SDDR				IAML			15 55 10.1	
	comp=Z,36nm,0.5s							
PODR	**Polo**	**0.91**	**226**	*e*Pg		**Pg**	**15 54 59.2**	**+0.2**
PODR				*e*Sg		**Sb**	**15 55 12.2**	**+1.2**
PODR				IAML			15 55 25.5	
	comp=N,93nm,0.5s							
PODR	**Polo**	**0.91**	**226**	*i* P		**Pg**	**15 54 59.1**	**0.0**
PODR				*e*S		**Sb**	**15 55 12.5**	**+1.6**
LODU1	**El Espartillar**	**0.95**	**242**	*i* P		**Pb**	**15 54 59.2**	**-0.3**
LODU1				IAML			15 55 19.6	
	comp=Z,49nm,1.1s							
HATOM	**Hato Mayor del**	**1.15**	**91**	*e*Pg		**Pb**	**15 55 02.4**	**-0.5**
HATOM				*e*Sg		**Sb**	**15 55 18.2**	**+0.7**
HATOM				IAML			15 55 19.7	
	comp=N,48nm,0.6s							
LOPP1	**Punta Rusia, P**	**1.19**	**331**	*i* P		**Pb**	**15 55 02.7**	**-0.9**
LOPP1				IAML			15 55 27.3	
	comp=Z,49nm,1.0s							
LOVI	**El Cajuil, Ovi**	**1.24**	**217**	*i* P		**Pn**	**15 55 02.9**	**-1.3**
LOVI				*e*S		**Sb**	**15 55 20.0**	**-0.3**
LOVI				IAML			15 55 24.7	
	comp=Z,42nm,1.2s							
MIDR	**Miches**	**1.47**	**83**	*e*Sg		**Sn**	**15 55 26.7**	**+0.5**
MIDR				IAML			15 55 27.8	
	comp=N,34nm,0.8s							

*MOS **18** 15:59:55.6±1.3,48.°16N×154.°75E,h63km,mb4.0/7,Error ellipse: s-maj=12.0km s-min=4.5km az=70.3*
*KRSC **18** 15:59:56.9±2.9,48.°19N×156.°58E,h17km±35km,Ml4.6*
*SKHL **18** 15:59:57.8±0.5,48.°10N×155.°00E,h77km±8km,mb4.6/5*
*NEIC **18** 15:59:58.6±2.4,48.°3N±0.°1×154.°9E±0.°2,h54km±8km, mb4.1/17,Error ellipse: s-maj=21.2km s-min=11.1km az=140.0*
*IDC **18** 15:59:59.0±2.4,48.°22N×154.°69E,h67km±20km,mb3.5/14, mbtmp3.8/18,MS2.9/5,Error ellipse: s-maj=20.1km s-min=12.8km az=131.0*

ISC 18 15:59:54.7±0.7,**48.°08N**±0.°08×**154.°81E**±0.°09,**h33**km,**n127**, σ1**s83**/118,**mb4.0**/26,**1D**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**2.74**	**18**	*e*PN		**Pn**	**16 00 37.9**	**+1.6**
SKR				*e*S		**Sn**	**16 01 08.0**	**-0.2**
SKR				pmax	pmax			
	comp=Z,33nm,0.5s							
SKR				smax	smax			
	comp=E,190nm,0.5s							
SKR				smax	smax			
	comp=N,177nm,0.2s							
SKR	**Severo-Kuril's**	**2.74**	**18**	*e*P		**Pn**	**16 00 37.5**	**+1.2**
SKR				*e*S		**Sn**	**16 01 08.6**	**+0.4**
SKR	**Severo-Kuril's**	**2.74**	**18**	*e*P		**Pn**	**16 00 37.9**	**+1.6**
SKR				AMB	AMB		16 00 49.0	
	comp=N,90nm,0.6s							
SKR				*e*S		**Sn**	**16 01 08.4**	**+0.2**
SKR				A	A		16 01 12.3	
	comp=N,190nm,0.4s							
SKR				A	A		16 01 12.3	
	comp=N,160nm,0.4s							
PAU	**Pauzhetka**	**3.63**	**20**	PN		**Pn**	**16 00 50.4**	**+1.9**
PAU				S		**Sn**	**16 01 31.2**	**+1.1**
PAU	**Pauzhetka**	**3.63**	**20**	*e*P		**Pn**	**16 00 50.4**	**+1.9**
PAU				*e*S		**Sn**	**16 01 31.3**	**+1.1**
PAU	**Pauzhetka**	**3.63**	**20**	*e*P		**Pn**	**16 00 51.4**	**+2.9**
PAU				AMB	AMB		16 00 54.8	
	comp=N,20nm,0.5s							
PAU				*e*S		**Sn**	**16 01 31.2**	**+1.1**
PAU				A	A		16 01 34.3	
	comp=N,150nm,0.3s							
PAU				A	A		16 01 34.3	
	comp=N,160nm,0.3s							
MIPR	**Malaya Ipel'ka**	**4.38**	**16**	PN		**Pn**	**16 01 01.0**	**+2.2**
MIPR	**Malaya Ipel'ka**	**4.38**	**16**	*e*P		**Pn**	**16 01 01.1**	**+2.2**
ASAK	**Asacha**	**4.74**	**24**	PN		**Pn**	**16 01 05.5**	**+1.6**
ASAK	**Asacha**	**4.74**	**24**	*e*P		**Pn**	**16 01 05.5**	**+1.6**
MTVR	**Mutnovka**	**4.91**	**25**	PN		**Pn**	**16 01 07.4**	**+1.2**
MTVR	**Mutnovka**	**4.91**	**25**	*e*P		**Pn**	**16 01 07.5**	**+1.2**
GRL	**Gorelyy**	**4.94**	**24**	PN		**Pn**	**16 01 08.8**	**+2.2**
GRL	**Gorelyy**	**4.94**	**24**	*e*P		**Pn**	**16 01 08.8**	**+2.2**
APC	**Apacha**	**5.07**	**16**	PN		**Pn**	**16 01 11.4**	**+3.1**
APC	**Apacha**	**5.07**	**16**	*e*P		**Pn**	**16 01 11.4**	**+3.1**
PEA0B	**Petropavlovsk-**	**5.36**	**19**	PN		**Pn**	**16 01 14.6**	**+2.3**
PETK	**Petropavlovsk-**	**5.36**	**19**			**Pn**	**16 01 12.4**	**+0.1**
PETK	**Petropavlovsk-**	**5.36**	**19**	P		**Pn**	**16 01 14.2**	**+2.0**
	comp=N,5.2nm,0.6s,baz=187,slow=10,SNR=9.4							
PETK				S		**Sn**	**16 02 14.2**	**+1.5**
	comp=N,1.3nm,0.5s,baz=8.4,slow=40,SNR=1.0							
PETK				LR	LR		16 03 36.4	
	comp=N,73nm,18.1s,baz=175,slow=41							
PET	**Petropavlovsk**	**5.52**	**25**	Pn		**Pn**	**16 01 15.8**	**+1.4**
PET	**Petropavlovsk**	**5.52**	**25**	*i* PN		**Pn**	**16 01 16.3**	**+1.8**
PET	**Petropavlovsk**	**5.52**	**25**	*e*P		**Pn**	**16 01 16.3**	**+1.8**
DALK	**Dalny**	**5.55**	**25**	PN		**Pn**	**16 01 16.4**	**+1.5**
DALK	**Dalny**	**5.55**	**25**	*e*P		**Pn**	**16 01 16.4**	**+1.5**
KUR	**Kuril'sk**	**5.56**	**242**	*e*PN		Pn	16 01 19.3	+4.2
KUR				*e*S		**Sn**	**16 02 20.6**	**+2.8**
KUR				pmax	pmax			
	comp=Z,84nm,0.4s							
KUR				pmax	pmax			
	comp=N,31nm,0.3s							
KUR				pmax	pmax			
	comp=E,10.0nm,0.2s							
KUR				smax	smax			
	comp=N,53nm,0.3s							
KUR				smax	smax			
	comp=E,39nm,0.3s							
KUR	**Kuril'sk**	**5.56**	**242**	*e*P		**Pn**	**16 01 18.8**	**+3.7**
KUR				AMB	AMB		16 01 19.9	
	comp=E,60nm,0.5s							
KUR				*e*S		**Sn**	**16 02 20.8**	**+3.0**
KUR				A	A		16 02 24.8	
	comp=E,40nm,0.5s							
KUR				A	A		16 02 24.8	
	comp=E,50nm,0.5s							
KOK	**Koryaka**	**5.75**	**24**	PN		**Pn**	**16 01 20.5**	**+2.7**
KOK	**Koryaka**	**5.75**	**24**	*e*P		**Pn**	**16 01 20.6**	**+2.7**
KOK	**Koryaka**	**5.75**	**24**	*e*P		**Pn**	**16 01 20.5**	**+2.7**
AVH	**Avacha**	**5.76**	**24**	PN		**Pn**	**16 01 19.9**	**+2.1**
AVH	**Avacha**	**5.76**	**24**	*e*P		**Pn**	**16 01 19.9**	**+2.1**
KRER	**Koryakskii**	**5.79**	**24**	PN		**Pn**	**16 01 21.1**	**+2.7**
KRER	**Koryakskii**	**5.79**	**24**	*e*P		**Pn**	**16 01 21.1**	**+2.7**
SDLR	**Sedlovina**	**5.81**	**25**	PN		**Pn**	**16 01 20.6**	**+2.1**
SDLR	**Sedlovina**	**5.81**	**25**	*e*P		**Pn**	**16 01 20.7**	**+2.1**
KRX	**Arik**	**5.82**	**23**	PN		**Pn**	**16 01 21.2**	**+2.5**
KRX	**Arik**	**5.82**	**23**	*e*P		**Pn**	**16 01 21.2**	**+2.5**
GNL	**Ganaly**	**5.96**	**18**	PN		**Pn**	**16 01 24.5**	**+3.9**
GNL	**Ganaly**	**5.96**	**18**	*e*P		**Pn**	**16 01 24.5**	**+3.9**
SPN	**Mys Shipunski**	**6.02**	**32**	PN		**Pn**	**16 01 20.7**	**-0.6**
SPN	**Mys Shipunski**	**6.02**	**32**	*e*P		**Pn**	**16 01 20.7**	**-0.6**
SHO	**Shikotan**	**6.97**	**236**	*e*PN		**Pn**	**16 01 36.0**	**+1.5**
SHO				pmax	pmax			
	comp=N,9.0nm,0.4s							
SHO				pmax	pmax			
	comp=Z,17nm,0.4s							
SHO				pmax	pmax			
	comp=E,8.0nm,0.5s							
SHO	**Shikotan**	**6.97**	**236**	*e*P		Pn	16 01 38.9	+4.4
SHO				AMB	AMB		16 01 56.2	
	comp=E,20nm,0.4s							
SHO				*e*S		**Sn**	**16 02 52.0**	**-0.6**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YUK	**Yuzh-Kuril'sk**	**7.42**	**240**	*e*PN		**Pn**	**16 01 43.2**	**+2.6**
YUK				pmax	pmax			
	comp=N,35nm,0.2s							
YUK				pmax	pmax			
	comp=E,47nm,0.2s							
YUK				pmax	pmax			
	comp=Z,112nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**7.42**	**240**	*e*P		**Pn**	**16 01 43.9**	**+3.3**
YUK				AMB	AMB		16 01 48.9	
	comp=Z,110nm,0.6s							
YUK				*e*S		**Sn**	**16 03 04.9**	**+1.3**
YUK				A	A		16 03 10.7	
	comp=E,110nm,0.8s							
YUK				A	A		16 03 10.7	
	comp=Z,120nm,0.8s							
RUSJ	**Misakicho**	**7.75**	**243**	*e*PN		**Pn**	**16 01 48.5**	**+3.5**
MKZ	**Mys Kozlova**	**7.79**	**31**	PN		**Pn**	**16 01 44.6**	**-1.0**
MKZ	**Mys Kozlova**	**7.79**	**31**	*e*P		**Pn**	**16 01 44.7**	**-1.0**
GLVR	**Golovnino**	**7.80**	**240**	*e*S		**Sn**	**16 03 13.5**	**+0.7**
NMR	**Nemuro--Hokkai**	**7.91**	**237**	PN		**Pn**	**16 01 47.3**	**0.0**
NMR	**Nemuro--Hokkai**	**7.91**	**237**	*e*P		**Pn**	**16 01 47.6**	**+0.3**
YSS	**Yuzhno-Sakhali**	**8.24**	**267**			Pn	16 01 57.1	+5.3
YSS	**Yuzhno-Sakhali**	**8.24**	**267**	*d* iPN		Pn	16 01 56.1	+4.3
YSS	**Yuzhno-Sakhali**	**8.24**	**267**	*e*P		Pn	16 01 56.8	+5.0
TYV	**Tymovskoe**	**8.39**	**294**	*e*P		Pn	16 01 59.1	+5.2
JKA	**Kamikawa-asahi**	**9.36**	**249**	Pn		Pn	16 02 11.8	+4.6
JKA	**Kamikawa-asahi**	**9.36**	**249**	*e*P		Pn	16 02 11.8	+4.6
ASAJ	**Asahikawa**	**9.36**	**249**	P		Pn	16 02 12.2	+5.0
	comp=Z,4.3nm,0.4s,baz=50,slow=10.0,SNR=20							
ASAJ	**Asahikawa**	**9.36**	**249**	PN		Pn	16 02 11.8	+4.6
ERM	**Erimo**	**10.23**	**238**	Pn		**Pn**	**16 02 19.4**	**+0.3**
ERM	**Erimo**	**10.23**	**238**	PN		**Pn**	**16 02 19.4**	**+0.3**
MA2	**Magadan**	**11.76**	**350**	Pn		**Pn**	**16 02 36.2**	**-3.7**
MA2	**Magadan**	**11.76**	**350**	P		**Pn**	**16 02 42.4**	**+2.5**
	comp=Z,5.3nm,0.8s,baz=163,slow=15,SNR=1.8							
MA2				LR		LR	16 06 49.2	
	comp=Z,43nm,20.6s,baz=210,slow=35							
MA2	**Magadan**	**11.76**	**350**	PN		**Pn**	**16 02 36.2**	**-3.7**
JTM	**Tenmabayashi**	**12.22**	**238**	Pn		**Pn**	**16 02 43.4**	**-3.0**
SEY	**Seymchan**	**14.95**	**356**	LR		LR	16 09 28.0	
	comp=Z,30nm,19.2s,baz=236,slow=38							
USRK	**Ussuriysk Ar.**	**16.27**	**265**	P		**P**	**16 03 42.7**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=71,slow=13,SNR=5.1							
YAK	**Yakutsk**	**19.87**	**324**	*i* P		**P**	**16 04 21.8**	**-0.9**
YAK				pmax	pmax			
	comp=Z,3.0nm,0.7s							
BILL	**Bilibino**	**20.84**	**12**	*i* P		**P**	**16 04 32.2**	**-1.0**
BILL				pmax	pmax			
	comp=Z,3.0nm,1.1s							
BILL	**Bilibino**	**20.84**	**12**	*e*P		**P**	**16 04 32.2**	**-1.0**
KSRS	**Korea Array**	**22.30**	**251**	P		**P**	**16 04 50.8**	**+1.6**
	comp=Z,2.0nm,0.7s,baz=45,slow=10,SNR=9.9							
	comp=Z,2.0nm,0.7s							
TIXI	**Tiksi**	**26.54**	**342**	LR		LR	16 16 42.3	
	comp=Z,38nm,18.5s,baz=204,slow=38							
H11N2	**WAKE ISLAND Hy**	**29.33**	**157**	T		T	16 37 39.7	
	baz=345,slow=76,SNR=58							
H11N1	**WAKE ISLAND Hy**	**29.95**	**157**	T		T	16 37 41.4	
	baz=345,slow=76,SNR=92							
H11N3	**WAKE ISLAND Hy**	**29.95**	**157**	T		T	16 37 34.7	
	baz=345,slow=76,SNR=34							
H19K	**Roundabout Mou**	**30.84**	**38**	P		**P**	**16 06 08.0**	**+0.8**
H19K				IAmb		IAmb	16 06 45.9	
	comp=Z,5.9nm,1.5s							
J19K	**Poorman**	**30.95**	**41**	P		**P**	**16 06 08.3**	**+0.1**
J19K				IAmb		IAmb	16 06 15.5	
	comp=Z,6.2nm,1.5s							
H11S1	**WAKE ISLAND Hy**	**31.05**	**158**	T		T	16 39 12.9	
	baz=345,slow=76,SNR=538							
H11S3	**WAKE ISLAND Hy**	**31.06**	**158**	T		T	16 39 13.7	
	baz=345,slow=76,SNR=678							
H11S2	**WAKE ISLAND Hy**	**31.07**	**158**	T		T	16 39 14.3	
	baz=345,slow=76,SNR=369							
E22K	**Anaktuvuk Pass**	**33.10**	**33**	P		**P**	**16 06 27.5**	**+0.3**
E22K				IAmb		IAmb	16 06 28.9	
	comp=Z,2.7nm,0.7s							
TOLK	**Toolik Lake Re**	**34.00**	**33**	P		**P**	**16 06 35.3**	**+0.4**
TOLK				IAmb		IAmb	16 06 57.4	
	comp=Z,3.9nm,1.1s							
**E24K

	comp=Z,0.9nm,0.7s								
MMAI	**Mount Meron Ar**	**82.78**	**312**	P		**P**	**16 12 16.1**	**+0.7**
	comp=Z,4.2nm,0.7s,baz=33,slow=5.5,SNR=2.7								
	comp=Z,4.2nm,0.7s								
H03N2	**Juan Fernandez**	**137.60**	**90**	T		T	18 52 35.8		
	baz=310,slow=77,SNR=23								
H03N1	**Juan Fernandez**	**137.62**	**90**	T		T	18 52 33.6		
	baz=310,slow=77,SNR=22								
H03N3	**Juan Fernandez**	**137.62**	**90**	T		T	18 52 36.0		
	baz=310,slow=77,SNR=28								
SNAA	**Sanae**	**154.16**	**196**	PKPbc		**PKPbc**	**16 19 48.9**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=133,slow=18,SNR=1.1								

*TRN **18** 16:09:59.3, 10.35N×62.66W, h131km, MD3.7, Venezuela.*
*FUNV **18** 16:10:00.4, 10.56N×62.78W, h11km, MW3.6*
ISC 18 16:09:59.1±2.1, 10°41N±0.09×62°72W±0.07, h123km±21km, n16, σ1s08/29, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**1.19**	**76**	*eP*			**Pn**	**16 10 23.0**	**-0.3**
DMDM				*eS*			**Sn**	**16 10 40.8**	**-0.8**
PSWS	**West Secondary**	**1.21**	**78**	*eS*			**Sn**	**16 10 41.7**	**-0.3**
PSKH	**Kent House, Po**	**1.21**	**77**	*eP*			**Pn**	**16 10 23.4**	**-0.1**
PSKH				*eS*			**Sn**	**16 10 41.8**	**-0.2**
TRN	**Trinidad (W)**	**1.32**	**80**	*eP*			**Pn**	**16 10 25.3**	**+0.6**
TRN				*eS*			**Sn**	**16 10 44.2**	**+0.1**
GRFF	**Grenada Fort F**	**1.89**	**31**	*eP*			**Pn**	**16 10 32.5**	**+1.1**
GRFF				*eS*			**Sn**	**16 10 55.9**	**-0.2**
PCRV	**Puerto La Cruz**	**1.90**	**263**	*eP*			**Pn**	**16 10 30.9**	**-0.6**
PCRV				*eS*			**Sn**	**16 10 54.2**	**-2.0**
PCRV	**Puerto La Cruz**	**1.90**	**263**	*eP*			**Pn**	**16 10 33.6**	**+2.1**
PCRV				*eS*			**Sn**	**16 10 56.5**	**+0.3**
GRGR	**Grenville**	**2.00**	**31**	*eP*			**Pn**	**16 10 33.2**	**+0.4**
GRGR				*eS*			**Sn**	**16 10 59.1**	**+0.5**
GRW	**Mount Saint Ca**	**2.02**	**31**	*eP*			**Pn**	**16 10 33.9**	**+0.7**
GRW				*eS*			**Sn**	**16 10 59.7**	**+0.5**
GRSS	**Sisters**	**2.17**	**30**	*eP*			**Pn**	**16 10 34.6**	**-0.2**
GRSS				*eS*			**Sn**	**16 11 01.9**	**-0.3**
SVT	**Saint Vincent**	**3.10**	**28**	*eP*			**Pn**	**16 10 47.7**	**+0.9**
SVT				*eS*			**Sn**	**16 11 22.3**	**-1.3**
SLBI	**Saint Lucia, B**	**3.97**	**25**	*eP*			**Pn**	**16 10 57.8**	**-0.6**
SLBI				*eS*			**Sn**	**16 11 43.7**	**-0.7**
TACV	**Tcata**	**4.24**	**267**	*eP*			**Pn**	**16 11 02.8**	**+0.7**
TACV				*eS*			**Sn**	**16 11 50.0**	**-1.0**
CACV	**CAICARA DEL OR**	**4.71**	**233**	*eP*			Pn	16 11 05.6	-2.7
CACV				*eS*			Sn	16 11 53.9	-8.3
BENV	**Beln**	**4.82**	**265**	*eP*			**Pn**	**16 11 11.8**	**+2.0**
BENV				*eS*			**Sn**	**16 12 03.0**	**-1.8**
BAUV	**El Baul**	**5.44**	**255**	*eP*			**Pn**	**16 11 19.3**	**+1.2**
BAUV				*eS*			**Sn**	**16 12 18.0**	**-1.7**

*IDC **18** 16:12:04.7±3.2, 20.13S×177.78W, h582km±38km, mb3.0/6, mbtmp4.0/7, Error ellipse: s-maj=35.9km s-min=21.6km az=139.0*
*NEIC **18** 16:12:04.1±1.4, 20.1S±0.2×177.8W±0.1, h568km±11km, mb4.1/8, Error ellipse: s-maj=34.5km s-min=11.1km az=195.0*
ISC 18 16:12:03.9±1.1, 20°1S±0.1×177°9W±0.2, h569km, n24, σ0s64/28, mb3.6/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.51**	**301**	P			**P**	**16 13 30.4**	**-0.7**
MSVF				S			**S**	**16 14 41.9**	**-0.3**
PINNC	**Pines Island,**	**13.89**	**257**	P			**P**	**16 15 01.6**	**-0.3**
DZM	**Mont Dzumac**	**14.76**	**260**	P			**P**	**16 15 12.2**	**+1.5**
ONTNC	**Ouen Toro**	**14.77**	**259**	P			**P**	**16 15 09.7**	**-1.0**
URZ	**Urewera**	**18.60**	**192**	P			**P**	**16 15 45.2**	**-0.9**
	4.8nm,0.8s,baz=334,slow=24,SNR=1.6								
WHZ	**Wether Hill Ro**	**28.24**	**201**	P			**P**	**16 17 11.6**	**-0.2**
WHZ				IAmb		IAmb	IAmb	16 17 25.7	
	comp=Z,18nm,1.3s								
STKA	**Stephens Creek**	**38.05**	**244**	P			**P**	**16 18 35.4**	**+0.7**
STKA	**Stephens Creek**	**38.05**	**244**	P			**P**	**16 18 35.7**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=102,slow=8.1,SNR=4.1								
	comp=Z,1.1nm,0.6s								
BBOO	**Buckleboo**	**42.82**	**243**	P			**P**	**16 19 12.8**	**+0.3**
WR8	**Warramunga Arr**	**44.61**	**262**	P			**P**	**16 19 25.9**	**-0.7**
WR8				IAmb		IAmb	IAmb	16 19 45.7	
	comp=Z,6.1nm,1.2s								
AS31	**Alice Springs**	**44.71**	**256**	P			**P**	**16 19 27.6**	**+0.3**
AS31				IAmb		IAmb	IAmb	16 19 28.3	
	comp=Z,2.2nm,1.5s								
ASAR	**Alice Springs**	**44.71**	**256**	P			**P**	**16 19 27.4**	**+0.1**
ASAR				PcP			**PcP**	**16 20 57.3**	**-0.1**
ASAR	**Alice Springs**	**44.71**	**256**	P			**P**	**16 19 28.1**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=87,slow=8.6,SNR=26								
ASAR				PcP			**PcP**	**16 20 57.7**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=98,slow=3.9,SNR=8.9								
ASAR				S			**S**	**16 25 23.6**	**+0.2**
	comp=Z,0.6nm,1.0s,baz=97,slow=15,SNR=3.6								
	comp=Z,0.8nm,0.7s								
WB0	**Warramunga Arr**	**44.74**	**262**	P			**P**	**16 19 27.6**	**0.0**
WB0				IAmb		IAmb	IAmb	16 19 43.6	
	comp=Z,4.9nm,1.3s								
WRA	**Warramunga Arr**	**44.76**	**262**	P			**P**	**16 19 28.0**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=98,slow=7.0,SNR=36								
WRA				PcP			**PcP**	**16 20 57.3**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=91,slow=3.1,SNR=2.9								
	comp=Z,0.6nm,0.3s								
KNRA	**Kununurra**	**50.79**	**266**	P			**P**	**16 20 12.9**	**+0.2**
KNRA				IAmb		IAmb	IAmb	16 20 30.6	
	comp=Z,23nm,1.4s								
FITZ	**Fitzroy Crossi**	**53.19**	**262**	P			**P**	**16 20 29.2**	**-0.7**
MJAR	**Matsushiro Arr**	**69.96**	**324**	P			**P**	**16 22 18.7**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=140,slow=6.7,SNR=4.3								
	comp=Z,1.4nm,0.7s								
USRK	**Ussuriysk Ar.**	**78.70**	**326**	P			**P**	**16 23 07.4**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=138,slow=4.7,SNR=5.9								
	comp=Z,1.2nm,0.6s								
CMAR	**Chiang Mai Arr**	**90.08**	**290**	P			**P**	**16 24 04.3**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=104,slow=5.5,SNR=1.3								
	comp=Z,0.3nm,0.4s								
AKASG	**Malin Array Be**	**142.72**	**331**	PKhKP			PKPpre	16 30 28.8	
	comp=Z,0.7nm,0.3s,baz=42,slow=4.4,SNR=7.9								
BRTR	**Keskin Array B**	**146.65**	**313**	PKPbc			**PKPdf**	**16 30 40.7**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=66,slow=3.4,SNR=3.6								
BURAR	**Bucovina Array**	**146.77**	**331**	PKPbc			**PKPdf**	**16 30 41.1**	**+1.2**
GERES	**GERESS Array B**	**149.85**	**345**	PKPbc			**PKPbc**	**16 30 50.0**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=0.0,slow=0.7,SNR=4.8								

*NSSP **18** 16:18:05.6, 38.88N×43.58E, h10km, Ms3.2*
*AFAD **18** 16:18:07.6, 38.96N×43.65E, h12km, ML3.3*
*ISK **18** 16:18:07.2, 38.94N×43.67E, h4km, ML3.4/12*
*TEH **18** 16:18:10.3, 38.94N×43.97E, h10km±128km*
ISC 18 16:18:08.2±0.9, 38°93N±0.02×43°64E±0.02, h5km±8km, n57, σ1s11/86, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.07**	**319**	P			**Pg**	**16 18 10.0**	**0.0**
VMUR				S			**Sg**	**16 18 12.2**	**+0.9**
ERCV	**ERCIS-VAN**	**0.25**	**291**	Pg			**Pg**	**16 18 13.3**	**+0.3**
CLDR	**Caldiran**	**0.30**	**46**	P			Pg	16 18 08.9	-5.3
CLDR				S			**Sg**	**16 18 13.1**	**-5.1**
VANB	**Van**	**0.39**	**210**	Pg			**Pb**	**16 18 17.1**	**-0.5**
VANB				Sg			**Sb**	**16 18 24.2**	**+0.2**
OZAP	**Van, Ozalp-Mer**	**0.39**	**134**	P			**Pg**	**16 18 15.7**	**0.0**
OZAP				S			**Sg**	**16 18 22.0**	**+1.1**
OZAP				*i*	IAML			16 18 25.0	
	comp=N,2μm,0.7s								
OZAP				*i*	IAML			16 18 25.0	
	comp=E,3μm,0.8s								
TVAN	**Van**	**0.44**	**204**	P			**Pg**	**16 18 17.4**	**+0.7**
TVAN				S			**Sb**	**16 18 25.2**	**-0.3**
TVAN				*i*	IAML			16 18 26.0	
	comp=N,3μm,0.4s								
TVAN				*i*	IAML			16 18 27.0	
	comp=E,5μm,0.5s								
ADCV	**BITLIS_Adilcev**	**0.72**	**260**	P			**Pg**	**16 18 22.3**	**+0.3**
ADCV				S			**Sg**	**16 18 32.2**	**+0.8**
GEVA	**Gevas**	**0.77**	**216**	P			**Pg**	**16 18 22.7**	**-0.2**
GEVA				S			**Sg**	**16 18 32.1**	**-0.8**
GEVA				*i*	IAML			16 18 36.0	
	comp=N,567nm,0.9s								
GEVA				*i*	IAML			16 18 42.0	
	comp=E,536nm,0.6s								
AKDM	**Akdamar-Van**	**0.79**	**221**	Pg			**Pg**	**16 18 23.1**	**-0.3**
AKDM							Sg		**Sb**	**16 18 35.3**	**-0.3**
DORK	**Agr/Tutak/Do**	**0.81**	**305**	P			**Pg**	**16 18 23.1**	**-0.5**
DORK				S			**Sg**	**16 18 32.5**	**-1.6**
DORK				*i*	IAML			16 18 39.0	
	comp=N,1μm,0.7s								
AGRB	**Hanur-Agry**	**0.81**	**322**	Pg			**Pg**	**16 18 23.6**	**-0.2**
AGRB				Sg			**Sb**	**16 18 35.5**	**-0.8**
MLAZ	**Malazgirt-MUS**	**0.87**	**284**	Pg			**Pg**	**16 18 24.9**	**0.0**
KOTA	**Agri, Merkez-K**	**0.93**	**339**	P			**Pg**	**16 18 25.6**	**-0.4**
TASB	**TASBURUN-IGDIR**	**1.15**	**24**	Pn			**Pg**	**16 18 29.4**	**-0.8**
VNNZ	**Vanand**	**1.18**	**7**	*eP*			**Pg**	**16 18 30.0**	**-0.8**
VNNZ				*eS*			**Sn**	**16 18 47.8**	**-0.1**
METS	**Metsamor**	**1.26**	**16**	*eP*			**Pg**	**16 18 31.2**	**-1.2**
METS				*eS*			**Sn**	**16 18 49.9**	**-0.1**
EATA	**Eleskirt**	**1.28**	**317**	P			**Pg**	**16 18 32.0**	**-0.8**
EATA				S			**Sg**	**16 18 48.3**	**-1.1**
PERV	**Siirt/Pervari-**	**1.31**	**221**	P			**Pb**	**16 18 34.5**	**+1.3**
PERV				S			**Sn**	**16 18 52.7**	**+1.6**
PERV				*i*	IAML			16 18 57.0	
	comp=E,649nm,0.6s								
PERV				*i*	IAML			16 18 58.0	
	comp=N,484nm,0.5s								
GURO	**Guroymak-BITLI**	**1.31**	**254**	Pn			**Pg**	**16 18 32.5**	**-0.8**
NRKZ	**NAREK**	**1.33**	**36**	*eP*			**Pg**	**16 18 32.1**	**-1.5**
NRKZ				*eS*			**Sn**	**16 18 51.5**	**-0.1**
HAKT	**HAKKARI**	**1.37**	**178**	P			**Pn**	**16 18 33.1**	**-1.1**
ARUZ	**Aruch**	**1.39**	**14**	*eP*			**Pg**	**16 18 33.7**	**-0.7**
ARUZ				*eS*			**Sn**	**16 18 54.3**	**+1.0**
YOVA	**Hakkari_Yksek**	**1.44**	**159**	P			**Pb**	**16 18 35.7**	**+0.1**
YOVA				S			**Sb**	**16 18 54.5**	**+0.2**
GNI	**Garni**	**1.49**	**35**	Pn			**Pn**	**16 18 35.0**	**-0.7**
GNI	**Garni**	**1.49**	**35**	Pg			**Pn**	**16 18 35.4**	**-0.4**
GNI				Sg			**Sg**	**16 18 56.1**	**+0.2**
GNI	**Garni**	**1.49**	**35**	⇑*iP*			**Pn**	**16 18 35.3**	**-0.4**
GNI				⇑*iS*			**Sg**	**16 18 57.6**	**+1.6**
DIGO	**Kars**	**1.49**	**352**	P			**Pn**	**16 18 36.1**	**+0.2**
AMBZ	**Amberd**	**1.53**	**18**	*eP*			**Pb**	**16 18 37.0**	**-0.2**
AMBZ				*eS*			**Sg**	**16 18 59.9**	**+2.5**
VAYK	**Vayk**	**1.58**	**61**	*iP*			**Pb**	**16 18 37.8**	**-0.2**
VAYK				*iS*			**Sg**	**16 19 01.8**	**+2.7**
KAPZ	**Kaputan**	**1.61**	**30**	*eP*			**Pn**	**16 18 37.6**	**+0.2**
KAPZ				*eS*			**Sg**	**16 19 00.9**	**+0.9**
SRTM	**Siirt_Merkez**	**1.64**	**236**	P			**Pg**	**16 18 39.9**	**+0.3**
SRTM				S			**Sn**	**16 18 59.9**	**+0.6**
MUSM	**Mu-Merkez**	**1.67**	**263**	P			**Pn**	**16 18 38.2**	**0.0**
MUSM				S			**Sn**	**16 19 00.2**	**0.0**
CUKT	**Cukurca**	**1.68**	**181**	Pn			**Pn**	**16 18 35.4**	**-3.0**
CUKT	**Cukurca**	**1.68**	**181**	P			**Pn**	**16 18 35.5**	**-3.0**
ISHB	**Shabestar**	**1.68**	**112**	Pg			**Pn**	**16 18 37.0**	**-1.5**
SIRN	**Sirnak**	**1.73**	**214**	P			**Pg**	**16 18 42.2**	**+0.9**
BOZK	**Kars-Merkez-Bo**	**1.73**	**343**	P			**Pg**	**16 18 41.2**	**-0.1**
KOPR	**Koprukoy-ERZUR**	**1.74**	**308**	Pn			**Pn**	**16 18 39.4**	**+0.2**
HOMI	**Horasan**	**1.74**	**310**	P			**Pg**	**16 18 41.5**	**0.0**
HOMI				S			**Sg**	**16 19 04.6**	**+0.5**
HOMI				*i*	IAML			16 19 14.0	
	comp=N,303nm,1.9s								
HOMI				*i*	IAML			16 19 18.0	
	comp=E,323nm,1.9s								
EAK	**Akyaka**	**1.75**	**359**	P			**Pg**	**16 18 42.5**	**+0.7**
KMOZ	**Kamo**	**1.90**	**7**	*eP*			**Pb**	**16 18 43.2**	**-0.2**
KMOZ				*eS*			**Sg**	**16 19 10.7**	**+1.4**
SENK	**Senkaya-Erzuru**	**1.90**	**329**	Pn			**Pn**	**16 18 41.5**	**0.0**
SLHN	**Bingol, Solhan**	**2.04**	**271**	P			**Pb**	**16 18 45.9**	**+0.2**
SLHN				S			**Sg**	**16 19 13.3**	**-0.2**
AYRK	**Ayrk**	**2.04**	**54**	*eP*			**Pn**	**16 18 44.5**	**+1.1**
AYRK				*eS*			**Sg**	**16 19 13.0**	**-0.8**
GOLE	**Ardahan-G¶lle**	**2.06**	**338**	P			**Pg**	**16 18 47.8**	**+0.1**
SVAN	**Silvan-Diyarba**	**2.06**	**249**	Pn			**Pn**	**16 18 44.0**	**+0.4**
SVAN	**Silvan-Diyarba**	**2.06**	**249**	P			**Pb**	**16 18 45.6**	**-0.5**
ITBZ	**Tabriz**	**2.09**	**109**	Pn			**Pn**	**16 18 44.1**	**0.0**
BTMN	**Batman**	**2.13**	**241**	P			**Pb**	**16 18 47.0**	**-0.3**
ECAT	**Cat-ERZURUM**	**2.17**	**289**	P			**Pb**	**16 18 47.5**	**-0.5**
SRTK	**Saratovka**	**2.19**	**14**	*eP*			**Pn**	**16 18 46.8**	**+1.4**
SRTK				*eS*			**Sb**	**16 19 16.9**	**+0.9**
IAZR	**Azarshahr**	**2.23**	**123**	Pn			**Pn**	**16 18 47.0**	**+1.0**
LSVT	**Lusahovit**	**2.31**	**31**	*eP*			**Pn**	**16 18 47.9**	**+0.9**
LSVT				*eS*			**Sb**	**16 19 16.9**	**-0.5**
DAGI	**Agillar**	**2.52**	**329**	P			**Pb**	**16 18 54.4**	**+0.5**
KOPT	**Kop Dagi**	**2.66**	**295**	P			**Pg**	**16 18 58.0**	**-1.2**
IHRS	**Heris**	**2.74**	**102**	Pn			**Pn**	**16 18 54.1**	**+1.1**
BAYB	**BAYBURT**	**2.93**	**298**	P			**Pb**	**16 19 00.4**	**-0.5**

*GCG **18** 16:24:22.8±2.0, 14.60N×92.44W, h69km±9km, MD5.2, ML5.3, MW4.6*
*CATAC **18** 16:24:23.5±0.2, 15°N±2°×92°W±°, h53km±3km, M5.4/49, mb5.6/29, mB5.8/24, MLv5.6/49, Mw(mB)5.3/24, MwMwp4.7/1, Mwp5.0/1, Error ellipse: s-maj=5.2km s-min=1.8km az=34.8, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr2.74; Mθθ-0.71; Mϕϕ-2.03; Mrθ-0.90; Mθϕ1.49; Mϕr-1.51; Fault plane solution: Mo3.37235×10¹⁶ NP1:ϕs171.38748°, δ58.02434°, λ119.17708°. NP2:ϕs304.87120°, δ42.21388°, λ52.01308°. Principal axes: T 3.5792, Plg63.9182°, Azm133.0229°; N -0.4610, Plg24.4275°, Azm334.9155°; P -3.1181, Plg8.5839°, Azm240.9841°; confirmed*
*IDC **18** 16:24:23.4±0.5, 14.92N×91.76W, h76km±3km, mb4.2/21, mbtmp4.5/24, MS3.8/38 Error ellipse: s-maj=17.0km s-min=9.9km az=58.0*
*MEX **18** 16:24:24.2±1.6, 14.69N×92.39W, h83km±13km, MD5.0*
*NEIC **18** 16:24:24.4±2.1, 14.77N±0.06×92.29W±0.04, h83km±3km, mb5.0/346, Mww4.9/31, Md5.0/152(MEX), Error ellipse: s-maj=9.9km s-min=3.6km az=213.0*
*GCMT **18** 16:24:24.4±0.3, 14.63N±0.02×92.31W±0.02, h83km±2km, MW5.0/100, Moment Tensor Solution. s60,c70; s100,c136; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.39±.11; Mθθ-0.63±.13; Mϕϕ-1.76±.14; Mrθ-0.93±.07; Mθϕ2.26±.10; Mϕr-1.53±.07; Best double couple: Mo3.59400×10¹⁶ NP1:ϕs292.00000°, δ48.00000°, λ42.00000°. NP2:ϕs172.00000°, δ60.00000°, λ130.00000°. Principal axes: T 3.5900, Plg55.0000°, Azm135.0000°; N 0.0100, Plg34.0000°, Azm329.0000°; P -3.5980, Plg7.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **18** 16:24:25, 14.79N×92.36W, h80km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10¹⁶Nm; Mrr2.77; Mθθ-0.83; Mϕϕ-1.94; Mrθ-0.96; Mθϕ1.10; Mϕr-1.15; Fault plane solution: Mo3.08000×10¹⁶ NP1: ϕs309.58000°, δ43.32000°, λ57.86000°. NP2: ϕs170.39000°, δ54.48000°, λ116.64000°. Principal axes: T 3.3745, Plg68.0000°, Azm137.0000°; N -0.7138, Plg21.0000°, Azm334.0000°; P -2.6607, Plg6.0000°, Azm242.0000°;*
*NEIC **18** 16:24:25, 14.79N×92.26W, h80km*
ISC 18 16:24:22.8±0.4, 14°69N±0.03×92°36W±0.03, h78km±3km, h78km:pP-P, n936, σ2s00/929, mb5.1/192, 5C-38D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**0.24**	**23**				**Pn**	**16 24 34.9**	**+0.4**
THIG							**Sn**	**16 24 44.1**	**+1.0**
THIG		**0.24**	**23**	⇑*iP*			**Pn**	**16 24 34.9**	**+0.4**
THIG				*i*	S		**Sn**	**16 24 44.1**	**+1.0**
THIG		**0.24**	**23**	*i*	P		**Pn**	**16 24 34.8**	**+0.4**
THIG				*i*	S		**Sn**	**16 24 43.8**	**+0.7**
SMCA	**Catarina**	**0.33**	**59**	*i*	P		**Pn**	**16 24 35.2**	**+0.2**
SMCA				*i*	S		**Sn**	**16 24 43.9**	**-0.1**
SMCA					IAML			16 24 46.4	
	comp=N,638μm,0.5s								
PATR	**El Naranjo**	**0.45**	**16**				**Pn**	**16 24 36.2**	**+0.1**
PATR							**Sn**	**16 24 45.6**	**-0.4**
PATR	**El Naranjo**	**0.45**	**16**	*eP*			**Pn**	**16 24 36.2**	**+0.1**
PATR				*eS*			**Sn**	**16 24 45.6**	**-0.4**
PAVE	**Pavencul**	**0.54**	**20**				**Pn**	**16 24 37.4**	**+0.4**
PAVE							**Sn**	**16 24 47.3**	**0.0**
PAVE	**Pavencul**	**0.54**	**20**	*eP*			**Pn**	**16 24 37.4**	**+0.4**
PAVE				*eS*			**Sn**	**16 24 47.3**	**0.0**
RTAL	**Retalhuleu**	**0.67**	**104**				**Pn**	**16 24 38.3**	**+0.4**
RTAL						Sn	**Sn**	**16 24 49.3**	**+0.1**
RTAL	**Retalhuleu**	**0.67**	**104**	*eP*			**Pn**	**16 24 38.5**	**+0.6**
RTAL				*eS*			**Sn**	**16 24 50.2**	**+1.1**
RTAL	**Retalhuleu**	**0.67**	**104**	⇓*P*			**Pn**	**16 24 38.3**	**+0.4**
SOKI	**Kika Raxquin**	**0.94**	**82**	*eP*			**Pn**	**16 24 42.8**	**+1.4**
SOKI				*i*	S		**Sn**	**16 24 58.2**	**+3.0**
STG2	**El Palmar, Qui**	**0.99**	**104**	*i*	P		**Pn**	**16 24 39.0**	**-2.7**
STG2				*i*	S		**Sn**	**16 24 50.7**	**-5.1**
STG0	**El Palmar, Qui**	**1.02**	**104**	*i*	P		**Pn**	**16 24 39.6**	**-2.5**
STG0				*i*	S		**Sn**	**16 24 51.8**	**-4.8**
HUEH	**Huehuetenango**	**1.04**	**53**				**Pn**	**16 24 44.3**	**+1.8**
HUEH						Sn	**Sn**	**16 24 57.1**	**0.0**
HUEH	**Huehuetenango**	**1.04**	**53**	*eP*			**Pn**	**16 24 44.2**	**+1.8**
HUEH				*eS*			**Sn**	**16 25 01.4**	**+4.2**
HUEH	**Huehuetenango**	**1.04**	**53**	*iP*			**Pn**	**16 24 44.3**	**+1.8**
HUEH				*iS*			**Sn**	**16 25 00.7**	**+3.5**
HUEH	**Huehuetenango**	**1.04**	**53**	⇓*P*			**Pn**	**16 24 44.3**	**+1.8**
PCIG		**1.31**	**321**				**Pn**	**16 24 46.0**	**+0.5**
PCIG							**Sn**	**16 25 02.8**	**+0.2**
PCIG		**1.31**	**321**	⇑*iP*			**Pn**	**16 24 46.0**	**+0.5**
PCIG				*iS*			**Sn**	**16 25 02.8**	**+0.2**
QUIS	**Sacapulas**	**1.37**	**64**	*iP*			**Pn**	**16 24 48.7**	**+2.2**
QUIS				*iS*			**Sn**	**16 25 08.5**	**+4.3**
QUIS					IAML			16 25 10.2	
	comp=E,31μm,0.7s								
ESSG	**Sabana Grande**	**1.52**	**101**	*i*	P		**Pn**	**16 24 49.1**	**+0.9**
ESSG				*i*	S		**Sn**	**16 25 08.7**	**+1.2**
ESSG					IAML			16 25 09.2	
	comp=E,29μm,0.3s								
CCIG	**Comitan**	**1.60**	**8**				**Pn**	**16 24 51.4**	**+1.8**
CCIG						Sn	**Sn**	**16 25 07.6**	**-2.2**
CCIG	**Comitan**	**1.60**	**8**	⇓*eP*			**Pn**	**16 24 52.1**	**+2.6**
CCIG				*eS*			**Sn**	**16 25 09.1**	**-0.7**
CCIG	**Comitan**	**1.60**	**8**	*iP*			**Pn**	**16 24 51.4**	**+2.0**
CCIG				*iS*			**Sn**	**16 25 09.1**	**-0.7**
CCIG					IAML			16 25 21.6	
	comp=N,28μm,0.5s								
CCIG	**Comitan**	**1.60**	**8**	S			**Sn**	**16 25 14.5**	**+4.7**
CCIG	**Comitan**	**1.60**	**8**	⇓*P*			**Pn**	**16 24 51.6**	**+2.0**
GCG4	**OSOP**	**1.78**	**93**	*iP*			**Pn**	**16 24 53.7**	**+1.9**
GCG4				*iS*			**Sn**	**16 25 19.1**	**+5.3**
GCG4					IAML			16 25 22.8	
	comp=E,20μm,1.1s								
FG8	**Yepocapa, Chim**	**1.80**	**103**	*i*	P		**Pn**	**16 24 47.9**	**-4.1**
FG8				*i*	S		**Sn**	**16 25 05.4**	**-8.8**
FG16	**Alotenango, Sa**	**1.84**	**103**	*i*	P		**Pn**	**16 24 48.9**	**-3.8**
FG16				*i*	S		**Sn**	**16 25 07.8**	**-7.6**
ESSJ	**San Jos, E**	**2.12**	**121**	*i*	P		Pn	16 24 51.2	-5.1
ESSJ				*i*	S		Sn	16 25 12.1	-10
TGBT	**Tuxtla Gutierr**	**2.19**	**342**				**Pn**	**16 24 58.0**	**+0.8**
TGBT							**Sn**	**16 25 23.9**	**+0.4**
TGBT	**Tuxtla Gutierr**	**2.19**	**342**	*eP*			**Pn**	**16 24 58.0**	**+0.8**
TGBT				*eS*			**Sn**	**16 25 23.9**	**+0.4**
TGIG		**2.21**	**341**				**Pn**	**16 24 57.7**	**+0.3**
TGIG							**Sn**	**16 25 23.9**	**0.0**
TGIG		**2.21**	**341**	⇓*eP*			**Pn**	**16 24 57.7**	**+0.3**
TGIG				*eS*			**Sn**	**16 25 23.9**	**0.0**
TGIG		**2.21**	**341**	*iP*			**Pn**	**16 24 57.8**	**+0.4**
FAME	**Alcaldia de Sa**	**2.43**	**110**	P			**Pn**	**16 25 00.9**	**+0.6**
FAME	**Alcaldia de Sa**	**2.43**	**110**	S			**Sn**	**16 25 29.6**	**+0.5**
SLOZ	**Alcaldia de Sa**	**2.58**	**104**	P			**Pn**	**16 25 04.0**	**+1.5**
SLOZ	**Alcaldia de Sa**	**2.58**	**104**	S			**Sn**	**16 25 36.4**	**+3.4**
LOAL	**Lomas de Alarc**	**2.59**	**105**	P			**Pn**	**16 25 04.2**	**+1.5**
LOAL	**Lomas de Alarc**	**2.59**	**105**	S			**Sn**	**16 25 36.4**	**+3.1**
JUAM	**Asuncion Mita**	**2.60**	**97**	*iP

PEIG Sn 16 26 20.3 -6.6
PEIG Puerto Escondi 4.80 286⇓eP Pn 16 25 31.7 -0.8
PEIG eS Sn 16 26 20.3 -6.6
OXLC Oaxaca 4.80 300 Pn 16 25 35.2 +2.4
OXLC Sn 16 26 24.0 -3.2
OXLC Oaxaca 4.80 300 eP Pn 16 25 35.2 +2.4
OXLC eS Sn 16 26 24.0 -3.2
OXBJ Oaxaca 4.82 300 Pn 16 25 34.1 +1.0
OXBJ Sn 16 26 26.6 -1.1
OXBJ Oaxaca 4.82 300 eP Pn 16 25 34.1 +1.0
OXBJ eS Sn 16 26 26.6 -1.1
OXIG Oaxaca 4.83 300 Pn 16 25 33.0 -0.2
OXIG Sn 16 26 26.3 -1.6
VHO Vista Hermosa 4.83 300 eP Pn 16 25 33.0 -0.2
VHO eS Sn 16 26 26.3 -1.6
TGUH Tegucigalpa,Un 4.97 97 Pn 16 25 35.6 +0.5
TGUH Tegucigalpa,Un 4.97 97 eP Pn 16 25 35.9 +0.8
TGUH Tegucigalpa,Un 4.97 97 P Pn 16 25 35.9 +0.8
POTN Potosi Cosigui 5.01 109 P Pn 16 25 37.6 +2.1
POTN S Sn 16 26 35.7 +3.7
CHOHN Orocuina 5.19 103 P Pn 16 25 39.6 +1.6
YUSH Yuscaran 5.40 97 ⇑P Pn 16 25 42.4 +1.5
YOIG Yosondua 5.44 294 Pn 16 25 42.7 +1.1
YOIG Sn 16 26 38.3 -4.6
YOIG Yosondua 5.44 294⇓eP Pn 16 25 42.7 +1.1
YOIG eS Sn 16 26 38.3 -4.6
CRIN San Cristobal 5.53 110 Pn 16 25 43.4 +0.8
CRIN Sn Sn 16 26 44.6 -0.3
CRIN San Cristobal 5.53 110 P Pn 16 25 46.2 +3.5
CRIN San Cristobal 5.53 110 S Sn 16 26 46.2 +1.3
CRIN San Cristobal 5.53 110 P Pn 16 25 45.8 +3.2
PKGN Cerro Pekin 5.61 110 P Pn 16 25 45.7 +2.1
PKGN S Sn 16 26 46.6 -0.1
TOIG Tlaxiaco 5.64 308 Pn 16 25 45.2 +1.0
TOIG Sn 16 26 45.6 -2.2
TOIG Tlaxiaco 5.64 308 eP Pn 16 25 45.2 +1.0
TOIG eS Sn 16 26 45.6 -2.2
HERN Volcan Telica 5.76 110 Pn 16 25 47.0 +1.2
HERN Sn Sn 16 26 49.5 -1.1
POLN Al Sur del Vol 5.76 110 P Pn 16 25 46.8 +1.0
POLN S Sn 16 26 49.1 -1.5
TXIG Tlaxiaco 5.79 297 Pn 16 25 47.9 +1.5
TXIG Sn 16 26 50.5 -1.1
TXIG Tlaxiaco 5.79 297⇓eP Pn 16 25 47.9 +1.5
TXIG eS Sn 16 26 50.5 -1.1
PNIG Pinotepa 5.81 288 Pn 16 25 46.4 0.0
PNIG Sn 16 26 48.2 -3.5
PNIG Pinotepa 5.81 288⇓eP Pn 16 25 46.4 0.0
PNIG eS Sn 16 26 48.2 -3.5
CNGN Cerro Negro 5.92 111 Pn 16 25 48.8 +0.8
CNGN Sn Sn 16 26 51.6 -2.9
CNGN Cerro Negro 5.92 111 S Sn 16 26 54.2 -0.3
CNGN Cerro Negro 5.92 111 P Pn 16 25 49.4 +1.4
TPIG Tehuac#an 6.06 308 Pn 16 25 53.1 +3.1
TPIG Sn 16 26 56.8 -1.3
TPIG Tehuac#an 6.06 308 eP Pn 16 25 53.1 +3.1
TPIG eS Sn 16 26 56.8 -1.3
RCVN Varillal2 6.08 100 P Pn 16 25 51.6 +1.3
HLIG Huajuapan de L 6.09 302 Pn 16 25 52.2 +1.8
HLIG Sn 16 26 56.5 -2.3
HLIG Huajuapan de L 6.09 302⇓eP Pn 16 25 52.2 +1.8
HLIG eS Sn 16 26 56.5 -2.3
MOMN Momotombo 6.10 111 ⇓P Pn 16 25 52.0 +1.6
MOMN S Sn 16 27 00.6 +1.7
MOM2 El Cardon 6.14 111 P Pn 16 25 52.4 +1.5
MOM2 S Sn 16 27 02.0 +2.3
COPN Copaltepe 6.14 113 P Pn 16 25 53.8 +0.8
JAUV Jalcomulco 6.30 318 Pn 16 25 51.5 -1.6
JAUV Sn 16 26 59.8 -3.9
JAUV Jalcomulco 6.30 318⇓eP Pn 16 25 51.5 -1.6
JAUV eS Sn 16 26 59.8 -3.9
APQ3 Volcan Apoyequ 6.31 112 P Pn 16 25 55.8 +2.6
SAPS Ciudad Sandino 6.31 113 P Pn 16 25 55.3 +2.0
SAPS Ciudad Sandino 6.31 113 S Sn 16 27 04.2 +0.1
LVIG Laguna Verde 6.33 323 eP Pn 16 25 52.2 -1.3
LVIG eS Sn 16 26 59.0 -5.4
APQ2 Apoyeque 6.37 112 P Pn 16 25 57.1 +3.0
APQ2 S Sn 16 27 04.5 -1.0
POHV Veracruz 6.41 313 Pn 16 25 55.3 +0.1
POHV Veracruz 6.41 313 eP Pn 16 25 55.3 +0.1
TISN Laguna Tiscapa 6.45 112 P Pn 16 25 56.6 +1.5
USIM UNAN 6.45 113 Pn Pn 16 25 55.9 +0.7
UNAN Cigeo UNAN 6.46 113 P Pn 16 25 57.6 +2.3
UNAN S Sn 16 27 08.2 +0.6
MATN Matagalpa 6.49 105 P Pn 16 25 56.0 +0.1
MATN Matagalpa 6.49 105 S Sn 16 27 09.4 +0.8
WILN Americas 2 6.51 112 P Pn 16 25 57.0 +1.0
WILN S Sn 16 27 10.6 +1.7
MGIG Malinaltepec 6.54 294 Pn 16 25 58.0 +1.5
MGIG Sn 16 27 07.4 -2.4
MGIG Malinaltepec 6.54 294⇓iP Pn 16 25 58.0 +1.5
MGIG eS Sn 16 27 07.4 -2.4
TLIG Tlapa 6.61 296 Pn 16 25 59.3 +1.8
TLIG Sn Sn 16 27 12.9 +1.4
TLIG Tlapa 6.61 296⇓eP Pn 16 25 59.1 +1.6
TLIG eS Sn 16 27 09.0 -2.5
TLIG Tlapa 6.61 296 ⇓P Pn 16 25 59.4 +1.9
SABN Sabanita 6.62 113 P Pn 16 25 59.5 +2.1
NANN Nandasmo 6.66 113 P Pn 16 26 00.3 +2.3
NANN Nandasmo 6.66 113 S Sn 16 27 14.5 +1.9
MYIG Merida 6.72 21⇓eP Pn 16 25 59.0 +0.2
MYIG eS Sn 16 27 09.4 -4.5
MYIG Merida 6.72 21 P Pn 16 25 59.0 +0.2
TEIG Tepich 6.75 35 Pn 16 25 59.0 -0.3
TEIG Sn Sn 16 27 10.5 -4.1
TEIG Tepich 6.75 35 eP Pn 16 25 59.6 +0.3
TEIG eS Sn 16 27 10.2 -4.4
TEIG Tepich 6.75 35 P Pn 16 26 00.3 +1.1
TEIG Tepich 6.75 35 P Pn 16 26 00.0 +0.8
comp=N,6µmcomp=N,127µmcomp=N,5µm,0.5s
CRIG Cruz Grande 6.83 288 Pn 16 25 59.4 -0.9
CRIG Sn 16 27 10.9 -5.7
CRIG Cruz Grande 6.83 288 eP Pn 16 25 59.4 -0.9
CRIG eS Sn 16 27 10.9 -5.7
BOAB BOACO BROADBAN 6.88 108 Pn 16 26 01.9 +0.9
BOAB BOACO BROADBAN 6.88 108 P Pn 16 26 01.9 +0.9
PBCV Popocatepetl 7.31 307 eP Pn 16 26 11.3 +4.1
PBCV eS Sn 16 27 33.2 +4.3
DAIG Los Arroyos 7.39 289 Pn 16 26 08.8 +0.8
DAIG Sn 16 27 23.5 -6.8
DAIG Los Arroyos 7.39 289⇓eP Pn 16 26 08.8 +0.8
DAIG eS Sn 16 27 23.5 -6.8
CXUV Coxquihui 7.39 318 Pn 16 26 07.5 -0.6
CXUV Sn 16 27 29.2 -1.2
CXUV Coxquihui 7.39 318⇓eP Pn 16 26 07.5 -0.6
CXUV eS Sn 16 27 29.2 -1.2
PBPN Popocatepetl 7.40 307 eP Pn 16 26 12.4 +3.8
PBPN eP Pn 16 26 12.8 +4.2
PBPN eS Sn 16 27 32.1 +0.8
PBPN eS Sn 16 27 36.5 +5.3
PBXN Popocatepetl 7.40 306 eP Pn 16 26 12.6 +4.0
PBXN eS Sn 16 27 31.3 0.0
PPM Popocatepetl 7.41 307⇓eP Pn 16 26 12.2 +3.4
PPM eS Sn 16 27 38.9 +7.3
PPIG Popocatepetl 7.41 307 Pn 16 26 12.2 +3.4
PPIG Sn 16 27 38.9 +7.3
SIUN Universidad Ur 7.42 97 P Pn 16 26 08.4 0.0
ACON Acoyapa 7.50 110 Pn 16 26 11.0 +1.4
ACON Acoyapa 7.50 110 P Pn 16 26 11.2 +1.7
ACON Acoyapa 7.50 110 S Sn 16 27 37.3 +4.2
ACON Acoyapa 7.50 110 P Pn 16 26 12.1 +2.6
comp=N,2µmcomp=N,148nm,1.1s
CARN Rivas 7.52 117 S Sn 16 27 35.8 +2.2
YAIG Yautepec 7.65 304 Pn 16 26 14.3 +2.7
YAIG Sn 16 27 31.4 -5.4
YAIG Yautepec 7.65 304⇓eP Pn 16 26 14.3 +2.7
YAIG eS Sn 16 27 31.4 -5.4
MEIG Mezcala 7.67 296 Pn 16 26 14.3 +2.3
MEIG Sn 16 27 33.5 -3.9
MEIG Mezcala 7.67 296⇓eP Pn 16 26 14.3 +2.3
MEIG eS Sn 16 27 33.5 -3.9
PLIG Platanillo 7.77 299 Pn 16 25 59.9 +2.6
PLIG Sn 16 27 36.9 -3.0
PLIG Platanillo 7.77 299⇓eP Pn 16 26 15.9 +2.6
PLIG eS Sn 16 27 36.9 -3.0
CAIG El Cayaco 7.96 288 Pn 16 26 16.8 +1.0
CAIG Sn 16 27 38.2 -6.1
CAIG El Cayaco 7.96 288⇓eP Pn 16 26 16.8 +1.0
CAIG eS Sn 16 27 38.2 -6.1

UNM Universidad Na 7.99 306 Pn Pn 16 26 17.7 +1.3
UNM Universidad Na 7.99 306 eS Sn 16 27 45.2 -0.2
MAVM Malinalco, Edo 8.04 303 Pn 16 26 19.4 +2.4
MAVM Malinalco, Edo 8.04 303 eP Pn 16 26 19.4 +2.4
AOVM Tlapan 8.07 305 Pn 16 26 20.8 +3.1
AOVM Tlapan 8.07 305 eP Pn 16 26 20.8 +3.1
ESPN Las Esperanzas 8.23 107 Pn 16 26 19.4 0.0
ESPN Las Esperanzas 8.23 107 P Pn 16 26 21.7 +2.3
INDI Punta indio, G 8.24 125 P Pn 16 26 22.3 +2.7
INDI Punta indio, G 8.24 125 S Sn 16 27 53.3 +2.1
ARIG Puente Sto Nin 8.45 296 Pn 16 26 25.2 +2.7
ARIG Sn 16 27 53.9 -2.5
ARIG Puente Sto Nin 8.45 296⇓eP Pn 16 26 25.2 +2.7
ARIG eS Sn 16 27 53.9 -2.5
JTS Las Juntas de 8.45 120 P Pn 16 26 24.1 +1.6
comp=N,57nm,0.4s,baz=286,slow=8.2,SNR=34
JTS S Sn 16 27 53.4 -3.1
comp=N,36nm,0.8s,baz=154,slow=17,SNR=1.3
JTS Las Juntas de 8.45 120 P Pn 16 26 22.9 +0.3
JTS S Sn 16 27 59.0 +2.6
DEIG Demacu 8.47 312 eP Pn 16 26 26.3 +3.4
DEIG eS Sn 16 27 57.0 0.0
DHIG Demacu 8.47 312 Pn 16 26 26.3 +3.4
DHIG Sn 16 27 57.0 0.0
SOCE Pocosol 8.69 119 Pn 16 26 27.2 +1.5
SOCE Pocosol 8.69 119 P Pn 16 26 27.2 +1.5
COVE Coope Vega, Sa 8.71 116 P Pn 16 26 26.9 +0.8
CTUV Llano Grande 8.83 321 Pn 16 26 28.8 +1.1
CTUV Sn 16 28 04.0 -1.5
CTUV Llano Grande 8.83 321 eP Pn 16 26 28.8 +1.1
CTUV eS Sn 16 28 04.0 -1.5
ACIG Acambay 8.90 307 Pn 16 26 29.4 +0.7
ACIG Acambay 8.90 307 eP Pn 16 26 29.4 +0.7
ZIIG Zihuatanejo 9.21 290 Pn 16 26 34.6 +1.8
ZIIG Sn 16 28 15.9 +1.0
ZIIG Zihuatanejo 9.21 290⇓eP Pn 16 26 34.6 +1.8
ZIIG eS Sn 16 28 15.9 +1.0
HDC Heredia 9.31 119 Pn Pn 16 26 35.9 +1.5
LCR2 La Lucha 2 9.53 120 Pn 16 26 38.9 +1.5
JRQG Juriquilla Cam 9.75 309 Pn 16 26 43.0 +2.6
MOIG Morelia 9.79 302 Pn 16 26 43.9 +3.0
MOIG Morelia 9.79 302 eP Pn 16 26 41.7 +0.8
MOIG eS Sn 16 28 31.3 +2.0
MOIG Morelia 9.79 302 P Pn 16 26 44.5 +3.5
RPIG Rio Verde 10.18 316 Pn 16 26 50.3 +4.2
RPIG Rio Verde 10.18 316 eP Pn 16 26 50.3 +4.2
OCHAL Ojochal 10.18 122 P Pn 16 27 46.8 +0.7
OCHAL Ojochal 10.18 122 S Sn 16 28 40.9 +2.3
GTIG Gomez Farias 10.53 323 Pn 16 26 52.8 +1.9
GTIG Sn 16 28 43.1 -4.1
GTIG Gomez Farias 10.53 323 eP Pn 16 26 52.8 +1.9
GTIG eS Sn 16 28 43.1 -4.1
PRVC Isla de Provid 10.75 96 Pn Pn 16 26 53.9 -0.1
MMIG Aquila 11.12 290 Pn 16 27 00.5 +1.5
MMIG Sn 16 29 05.9 +4.2
MMIG Aquila 11.12 290⇓eP Pn 16 27 00.5 +1.5
MMIG eS Sn 16 29 05.9 +4.2
BRU2 Volcan 11.13 121 Pn Pn 16 27 00.7 +1.5
MNGA Volcan de Coli 11.76 295 eP Pn 16 27 11.5 +3.6
MNGA eS Sn 16 29 21.1 +3.5
INCO Volcan de Coli 11.77 296 eP Pn 16 27 11.4 +3.2
INCO eS Sn 16 29 25.1 +7.1
SOMAC Volcano de Col 11.79 296 eP Pn 16 27 12.0 +3.5
SOMAC eS Sn 16 29 23.1 +4.6
CDAR Ciudad de Arme 11.93 292 eP Pn 16 27 11.6 +1.7
CDAR eS Sn 16 29 25.1 +3.9
CEGR Campo Tres 11.94 295 eP Pn 16 27 13.1 +2.8
CEGR eS Sn 16 29 27.1 +5.2
LNIG Linares 12.16 328 eP Pn 16 27 11.8 -1.2
LNIG eS Sn 16 29 19.4 -7.3
ZAIG Zacatecas 12.57 311 Pn 16 27 21.7 +2.8
ZAIG Zacatecas 12.57 311 eP Pn 16 27 22.3 +3.4
ZAIG Zacatecas 12.57 311 P Pn 16 27 21.7 +2.8
CIHU Emiliano Zapat 12.68 293 Pn 16 27 21.5 +1.3
CIHU Sn 16 29 43.0 +3.5
CIHU Emiliano Zapat 12.68 293 eP Pn 16 27 21.5 +1.3
CIHU eS Sn 16 29 43.0 +3.5
GMAL Guarumal, Vera 12.90 121 P P 16 27 32.6 +1.7
CJM Chamela 13.03 293 eP Pn 16 27 26.8 +1.9
CJM eS Sn 16 29 49.5 +1.4
CBCY The Bluff, Cay 13.05 66 P Pn 16 27 29.2 +3.5
CAMR Camarioca 13.32 50 Pn Pn 16 27 29.2 +0.5
CAMR Camarioca 13.32 50 P Pn 16 27 31.9 +3.2
CAIB Caibarien 14.47 56 P P 16 27 46.7 -1.6
MTDJ Mount Denham 14.65 74 Pn 16 27 46.8 +0.6
MTDJ Mount Denham 14.65 74 P P 16 27 51.5 +1.0
735A Kenedy 14.98 341 Pn Pn 16 27 51.1 +0.9
061Z Ochoppi 15.46 42 Pn 16 27 55.5 -0.8
HKT Hockley 15.53 349 P P 16 27 59.0 -0.8
441A DeRidder 16.01 357 Pn 16 28 03.6 +0.3
HNDO Hondo 16.09 338 P P 16 28 05.8 -0.5
CHIV Chivirico 16.11 69 P Pn 16 28 05.0 +0.4
DWPF Disney Wildern 16.78 35 P Pn 16 28 12.9 +0.1
346A Big Creek Wild 16.84 9 P P 16 28 14.5 0.0
451A Vernon 16.98 20 P Pn 16 28 15.7 +0.3
553A Crawfordville 17.07 24 P Pn 16 28 16.5 +0.1
BRAL Brewton 17.11 16 P P 16 28 17.5 0.0
NATX Nacogdoches 17.13 353 P P 16 28 17.7 +0.1
JCT Junction City 17.14 338 P P 16 28 19.9 +1.0
656A Willston 17.20 30 P Pn 16 28 18.2 +0.1
HPIG 17.39 317 P P 16 28 22.9 +2.0
VBMS Vicksburg 17.54 5 P Pn 16 28 22.0 -0.1
NMDO Nuevo Mundo 17.56 68 P Pn 16 28 21.2 -1.3
WHTX Lake Whitney, 17.84 346 P Pn 16 28 26.9 +1.0
UREC San Jos de Ur 17.88 111 P P 16 28 25.8 -0.4
comp=N,22nm,0.8s
TX31 Lajitas Ar. Si 17.93 326 P Pn 16 28 29.7 +2.6
TXAR Lajitas Array 17.93 326 P Pn 16 28 29.1 +2.0
TXAR Lajitas Array 17.93 326 P Pn 16 28 30.1 +3.0
comp=N,3.6nm,0.9s,baz=151,slow=12,SNR=25
TXAR PcP PcP 16 32 59.1 0.0
comp=N,2.3nm,0.8s,baz=151,slow=1.7,SNR=5.6
TXAR ScP ScP 16 36 28.8 +1.1
comp=N,3.2nm,0.9s,baz=129,slow=4.0,SNR=11
143A Socs Landing, 17.96 3 P Pn 16 28 27.5 +0.2
SMRC Santa Marta, M 18.02 99 P P 16 28 27.9 +0.3
352A Blakely 18.05 21 P Pn 16 28 29.0 +0.6
250A Grady 18.09 17 P 16 28 28.5 +0.2
146A Union 18.12 9 P Pn 16 28 29.9 +0.7
Z41A Richland Creek 18.49 359 P Pn 16 28 33.8 +0.1
Z38A Mt. Pleasant 18.64 353 P Pn 16 28 36.3 +0.8
Z47A Carrollton 18.84 11 P P 16 28 37.0 +0.6
WLAR White Oak Lake 18.93 358 P P 16 28 37.0 -0.5
YOTC Yotoco, Valle 19.03 122 P Pn 16 28 41.1 +0.7
comp=N,36nm,1.4s
ABTX Abilene, Hawle 19.05 341 P Pn 16 28 40.2 -0.1
Z35A Perchaven, San 19.09 347 P Pn 16 28 40.2 -0.6
GUY2C Guyana, Caldas 19.19 118 P Pn 16 28 42.5 -0.1
comp=N,505nmcomp=N,47nm,0.7s
JAMC Jamundi, Valle 19.22 125 P Pn 16 28 43.6 +0.9
comp=N,47nm,1.0s
Y45A Yeager Farm, C 19.27 7 P 16 28 41.8 +0.7
LPIG La Paz 19.33 302 P Pn 16 28 47.8 +4.1
comp=N,25nm,0.4s,baz=9.3,slow=2.9,SNR=6.6
LPIG LR LR 16 36 18.8
comp=N,165nm,19.1s,baz=123,slow=36
BBAC Balboa, Cauca 19.52 129 P Pn 16 28 48.0 +1.7
comp=N,1µmcomp=N,75nm,1.1s
POPC Popayan, Colom 19.63 126 P Pn 16 28 48.6 +1.0
comp=N,1µmcomp=N,128nm,1.0s
X40A Basin Creek Fa 19.72 359 P P 16 28 46.9 +0.8
154A Montrose 19.74 24 P P 16 28 45.9 -0.4
MIAR Mount Ida 19.80 357 P 16 28 48.0 +1.0
MIAR S 16 32 21.6 -4.3
Y49A Blount Mountai 19.84 15 P 16 28 46.5 -0.8
OTAV Otavalo 19.88 135 P 16 28 48.8 +0.3
OTAV Otavalo 19.88 135 eP Pn 16 28 51.1 +0.3
OTAV Otavalo 19.88 135 P Pn 16 28 51.3 +0.5
comp=N,31nm,1.3s
ORTC Ortega, Tolima 19.98 121 P Pn 16 28 51.5 0.0
comp=N,2µmcomp=N,173nm,1.2s
UALR University of 20.00 0 P 16 28 49.1 -0.1
INCA Colegio Marist 20.16 136 sP 16 29 25.1 +8.2
X48A Hartselle 20.26 13 P 16 28 51.9 -0.1
ROSC El Rosal 20.28 117 P P 16 28 49.4 -3.3
comp=N,8.7nm,0.4s,baz=151,slow=13,SNR=9.3
GOGA Godfrey 20.32 22 P P 16 28 52.8 +0.2
BONI La Bonita 20.37 133 P Pn 16 28 57.9 +1.6
comp=N,2µmcomp=N,215nm,1.0s
PRAC Prado 20.39 121 P Pn 16 28 56.2 -0.1
comp=N,863nmcomp=N,71nm,1.3s

X34A Smith Ranch, M 20.43 347 P Pn 16 28 55.3 -1.3
CLN7 Carlsbad 7 20.50 331 P P 16 28 55.1 +0.5
WHAR Wooly Hollow 20.52 0 P P 16 28 55.6 +0.9
Y52A Lilburn 20.52 20 P P 16 28 54.9 +0.1
SLOR San Lorenzo - 20.56 137 P P 16 28 55.4 -0.5
PLAL Pickwick Lake 20.58 10 P P 16 28 54.8 -0.6
SDDR Presa de Saban 20.62 75 P P 16 28 55.1 -0.9
PAMC Pamplona, Colo 20.62 109 P P 16 28 55.9 -0.7
FPAL Fort Paine 20.69 16 P P 16 28 56.4 -0.2
MNTX Cornudas Mount 20.70 327 P P 16 28 56.0 -0.8
MNTX Cornudas Mount 20.70 327 eP Pn 16 28 58.6 -1.2
GARC Garzon, Huila 20.77 125 P Pn 16 29 00.1 -1.0
comp=N,69nm,0.9s
WMOK Wichita Mounta 20.79 345 P P 16 28 56.6 -1.1
HBAR Harrisburg 20.84 4 P P 16 28 58.1 0.0
RUSC La Rusia 20.87 113 P 16 28 57.8 -1.4
X51A Calhoun 20.92 18 P P 16 28 58.1 -0.9
FNO Franklin 20.98 348 P P 16 28 58.2 -1.5
FLOC Florencia 21.02 127 P 16 29 00.5 +0.1
FLOC Florencia 21.02 127 P P 16 29 03.3 +2.9
comp=N,1µmcomp=N,134nm,1.1s
CPRX Cap Rock 21.05 332 P P 16 29 00.5 -0.1
LCAR Lake Charles 21.32 3 P 16 29 02.8 -0.5
W50A Signal Mountai 21.39 16 P P 16 29 03.1 -1.0
DEOK Depew 21.39 351 P P 16 29 03.8 -0.3
HHAR Hobbs 21.55 357 P 16 29 04.7 -1.2
OK052 Battle Ridge R 21.59 350 P P 16 29 06.0 -0.1
WVT Waverly 21.74 10 P P 16 29 06.8 -0.9
SDV Santo Domingo 22.03 103 P 16 29 08.8 -2.5
SDV Santo Domingo 22.03 103 P P 16 29 06.6 -4.7
comp=N,6.6nm,0.3s,baz=336,slow=6.0,SNR=4.5
SDV LR LR 16 39 01.7
comp=N,85nm,21.3s,baz=277,slow=41
comp=N,6.6nm,0.3s
SDV Santo Domingo 22.03 103 eP P 16 29 11.4 +0.1
MACC Macarena, Meta 22.12 123 P P 16 29 14.1 +2.0
comp=N,1µmcomp=N,104nm,1.0s
TKL Tuckaleechee C 22.26 19 P P 16 29 11.7 -1.8
comp=N,18nm,0.8s,baz=186,slow=9.8,SNR=18
TKL S S 16 33 13.8 +0.2
comp=N,3.9nm,0.5s,baz=8.0,slow=9.4,SNR=1.6
TKL LR LR 16 39 17.0
comp=N,184nm,18.8s,baz=212,slow=41
comp=N,18nm,0.8s
PTLC Puerto Leguiza 22.58 128 P P 16 29 21.8 +4.8
CGM3 Cape Girardeau 22.65 6 P P 16 29 16.2 -1.3
CCM Cathedral Cave 23.30 2 P 16 29 21.1 -2.8
U54A Nelsons Funny 23.70 22 P P 16 29 26.8 -0.8
ANMO Albuquerque 23.83 330 P P 16 29 28.5 -0.5
WCI Wyandotte Cave 24.06 12 P 16 29 29.6 -1.1
WCI IAmb IAmb 16 29 32.0
comp=Z,86nm,0.8s
U56A King 24.09 24 IAmb IAmb 16 29 31.7
comp=Z,40nm,0.9s
S51A Beattyville 24.15 17 IAmb IAmb 16 29 57.8
comp=Z,45nm,1.0s
OLIL Olney 24.25 8 IAmb IAmb 16 30 00.8
comp=Z,65nm,0.9s
Q44A Meyer Farm, Va 24.30 6 IAmb IAmb 16 30 01.5
comp=Z,58nm,0.9s
T25A Trinidad 24.80 337 IAmb IAmb 16 29 59.9
comp=Z,72nm,0.8s
BLO Bloomington 24.93 11 P P 16 29 37.1 -1.6
BLO IAmb IAmb 16 29 59.9
comp=Z,47nm,0.8s
P46A Rosedale 25.25 9 IAmb IAmb 16 30 03.3
comp=Z,62nm,0.9s
X18A Snowflake 25.34 324 PcP 16 33 14.2 +0.5
SJG San Juan 25.37 79 LR LR 16 39 14.9
comp=Z,131nm,21.2s,baz=64,slow=36
214A Organ Pipe Nat 25.38 316 P 16 29 42.7 -0.2
P48A Milroy 25.42 13 IAmb IAmb 16 30 03.0
comp=Z,94nm,1.2s
Q51A Peebles 25.52 16 P P 16 29 43.5 -0.5
Q51A IAmb IAmb 16 30 16.1
comp=Z,73nm,0.8s
HUMP Col San Antoni 25.66 79 PcP 16 33 13.3 -1.1
Q52A Bidwell 25.77 18 IAmb IAmb 16 30 16.9
comp=Z,57nm,0.9s
S57A Dark Hollow, R 25.88 25 P P 16 29 45.8 -1.5
Q54A Coxs Mills 26.25 21 IAmb IAmb 16 30 22.6
comp=Z,28nm,0.8s
S22A 4UR Ranch, Cre 26.31 333 P P 16 29 51.9 +0.3
S22A PcP 16 33 16.1 +0.1
O49A Covington 26.36 14 IAmb IAmb 16 30 26.9
comp=Z,31nm,0.9s
113A Mohawk Valley, 26.52 316 P 16 29 52.7 -0.4
113A PcP 16 33 16.3 +0.1
P53A Whipple 26.52 19 IAmb IAmb 16 30 37.0
comp=Z,56nm,1.1s
MVCO Mesa Verde 26.63 330 IAmb IAmb 16 30 16.0
comp=Z,68nm,1.0s
N47A Urbana 26.74 11 IAmb IAmb 16 30 31.8
comp=Z,30nm,0.8s
Y14A Wickenburg 26.76 319 PcP 16 33 17.5 +0.7
Q56A Snyder Ridge, 26.89 23 P 16 29 55.6 -0.8
O52A Adamsville 26.96 18 IAmb IAmb 16 30 30.3
comp=Z,26nm,0.7s
PCRV Puerto La Cruz 27.43 96 LR LR 16 41 26.9
comp=Z,198nm,22.0s,slow=38
O54A Avella 27.48 20 IAmb IAmb 16 30 01.3
comp=Z,20nm,0.5s
PV15 Paradox Valley 27.54 332 P P 16 30 03.5 +1.0
PV13 Radium Mtn., P 27.55 331 IAmb IAmb 16 30 24.4
comp=Z,68nm,1.1s
ESJX Sierra Juarez 27.58 313 PcP 16 33 20.1 +1.1
PV05 Paradox Valley 27.61 331 IAmb IAmb 16 30 24.6
comp=Z,60nm,1.1s
PV03 Paradox Valley 27.64 331 IAmb IAmb 16 30 25.1
comp=Z,63nm,1.1s
PV11 David Mesa, Pa 27.68 331 P P 16 30 04.8 +1.0
PV11 IAmb IAmb 16 30 25.6
comp=Z,83nm,1.2s
PV07 Paradox Valley 27.69 332 IAmb IAmb 16 30 25.7
comp=Z,33nm,1.0s
PV17 East Wray Mesa 27.71 331 IAmb IAmb 16 30 25.6
comp=Z,60nm,1.0s
PV16 Nyswonger Mesa 27.71 331 IAmb IAmb 16 30 25.8
comp=Z,62nm,1.1s
P57A Homestead Farm 27.73 24 IAmb IAmb 16 30 04.7
comp=Z,25nm,0.7s
PV04 Paradox Valley 27.77 331 IAmb IAmb 16 30 30.1
comp=Z,56nm,1.0s
PV22 Blue Mesa, Par 27.84 332 IAmb IAmb 16 30 26.7
comp=Z,29nm,0.9s
PV23 Carpenter Ridg 27.87 331 P P 16 30 06.8 +1.3
PV23 IAmb IAmb 16 30 27.5
comp=Z,56nm,0.9s
N53A Lisbon 27.90 19 IAmb IAmb 16 30 55.9
comp=Z,73nm,1.4s
W13A Hualapai Mount 28.07 320 PcP 16 33 20.7 +0.6
HMU Henry Mountain 28.31 328 P P 16 30 11.1 +1.7
HMU IAmb IAmb 16 30 31.4
comp=Z,74nm,1.6s
BORC Borrego Spring 28.61 315 PcP 16 33 21.9 +0.6
SSPA Standing Stone 28.77 23 P 16 30 11.5 -1.7
PFO Pinyon Flats O 28.83 315 LR LR 16 41 50.7
comp=Z,126nm,19.0s,baz=145,slow=36
V12A Nelson 29.07 320 IAmb IAmb 16 30 38.1
comp=Z,43nm,1.0s
TBTG Tabatinga, AM 29.10 128 eP P 16 30 17.9 +1.6
TMUT Trail Mountain 29.59 329 PcP 16 33 24.5 +0.5
CZSB Cruzeiro do Su 29.60 138 P P 16 30 22.1 +1.4
CZSB Cruzeiro do Su 29.60 138 eP P 16 30 23.2 +2.5
GWY Greenwater Val 30.50 319 P 16 30 30.0 +1.3
GWY IAmb IAmb 16 31 25.6
comp=Z,13nm,0.6s
GWY PcP 16 33 26.8 +0.6
CCCA Chr Cany lake 30.55 317 P P 16 30 29.8 +0.7
BINY Binghamton 30.85 24 IAmb IAmb 16 30 31.5
comp=Z,21nm,0.7s
S11A Rachel 30.87 322 P P 16 30 33.2 +1.2
S11A IAmb IAmb 16 30 54.2
comp=Z,33nm,1.2s
MPMC Manual Prospec 30.95 318 PcP 16 33 28.5 +1.0
SPR3 Spring Creek 3 30.99 326 PcP 16 33 28.1 +0.3
K57A Scipio Center 31.10 23 IAmb IAmb 16 30 33.2
comp=Z,19nm,0.9s
L59A Walton 31.23 25 IAmb IAmb 16 30 34.9
comp=Z,20nm,0.7s
R11B Troy Canyon, C 31.25 323 P 16 30 35.8 +0.5
GRAC Grapevine Rang 31.45 320 IAmb IAmb 16 30 59.7
comp=Z,32nm,1.0s
HWUT Hardware Ranch 31.57 332 PcP 16 33 29.6 +0.6
GMN Gold Mountain 31.57 320 P P 16 30 38.7 +0.5

PDAR	**Pinedale Array**	**31.65**	**335**	P	**P**	**16 30 40.6**	**+1.8**
	comp=Z,1.1nm,0.8s,baz=133,slow=11,SNR=7.4						
PDAR				pP	**pP**	**16 30 57.8**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=139,slow=7.9,SNR=5.5						
PDAR				PcP	**PcP**	**16 33 29.6**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=159,slow=5.5,SNR=6.3						
PDAR				ScP	**ScP**	**16 37 05.4**	**-0.4**
	comp=Z,2.2nm,1.0s,baz=214,slow=2.6,SNR=10						
	comp=Z,1.1nm,0.8s						
PECO	**Prince Edward**	**31.97**	**21**	IAmb	IAmb	16 30 40.6	
	comp=Z,17nm,0.6s						
HVU	**Hansel Valley**	**32.27**	**331**	IAmb	IAmb	16 31 06.1	
	comp=Z,26nm,1.2s						
DELO	**Deloro Mine**	**32.27**	**20**	IAmb	IAmb	16 31 14.8	
	comp=Z,19nm,0.8s						
SNOW	**Snow King Moun**	**32.72**	**335**	IAmb	IAmb	16 31 10.0	
	comp=Z,22nm,0.7s						
ELK	**Elko**	**32.73**	**327**		**PcP**	**16 33 33.3**	**+1.0**
LOHW	**Long Hollow**	**32.78**	**335**	P	**P**	**16 30 48.7**	**-0.1**
NV11	**Mina Array Sit**	**32.83**	**321**	IAmb	IAmb	16 31 11.4	
	comp=Z,30nm,1.0s						
NV11					**PcP**	**16 33 33.4**	**+0.9**
TEFE	**Tefe**	**32.89**	**121**	*e*P	**P**	**16 30 49.8**	**+0.1**
NVAR	**Mina Array Bea**	**32.92**	**321**		**P**	**16 30 52.3**	**+2.3**
NVAR					**PcP**	**16 33 34.0**	**+1.2**
NVAR	**Mina Array Bea**	**32.92**	**321**	P	**P**	**16 30 53.3**	**+3.3**
	comp=Z,9.2nm,0.6s,baz=135,slow=8.8,SNR=62						
NVAR				pP	**pP**	**16 31 10.2**	**+1.9**
	comp=Z,27nm,0.8s,baz=132,slow=8.5,SNR=19						
NVAR				PcP	**PcP**	**16 33 34.6**	**+1.8**
	comp=Z,5.3nm,0.7s,baz=127,slow=3.3,SNR=9.4						
NVAR				LR	LR	16 45 02.8	
	comp=Z,237nm,18.6s,baz=142,slow=38						
	comp=Z,9.2nm,0.6s						
LHV	**Little Huntoon**	**32.93**	**320**	IAmb	IAmb	16 31 12.5	
	comp=Z,28nm,0.8s						
PMPB	**Monarch Peak**	**33.24**	**315**		**P**	**16 30 53.4**	**+0.7**
LONY	**Lake Ozonia**	**33.44**	**23**	IAmb	IAmb	16 31 17.5	
	comp=Z,20nm,1.1s						
WBO	**Williamsburg**	**33.51**	**22**	IAmb	IAmb	16 30 54.1	
	comp=Z,12nm,0.7s						
BOAV	**Boa Vista**	**33.71**	**108**		**PcP**	**16 33 35.3**	**+0.1**
BOAV	**Boa Vista**	**33.71**	**108**	*e*P	**P**	**16 30 56.3**	**-0.6**
PAHR	**Pah Rah Range**	**34.38**	**322**	IAmb	IAmb	16 31 24.4	
	comp=Z,14nm,0.9s						
MPK	**Martis Peak**	**34.51**	**321**	IAmb	IAmb	16 31 26.2	
	comp=Z,31nm,0.9s						
MFID	**Camas Ranch**	**34.98**	**330**	IAmb	IAmb	16 31 12.1	
	comp=Z,8.4nm,0.6s						
BEKR	**Beckworth**	**35.06**	**321**	IAmb	IAmb	16 31 30.4	
	comp=Z,17nm,0.9s						
WVOR	**Wild Horse Val**	**35.73**	**326**	IAmb	IAmb	16 31 35.4	
	comp=Z,19nm,1.2s						
MACA	**Manacapuru-AM**	**36.05**	**117**		**P**	**16 31 16.4**	**-0.7**
MACA	**Manacapuru-AM**	**36.05**	**117**	*e*P	**P**	**16 31 17.2**	**+0.2**
PLID	**Pearl Lake**	**36.31**	**331**	IAmb	IAmb	16 31 21.6	
	comp=Z,12nm,0.7s						
BMO	**Blue Mountains**	**36.75**	**330**	P	**P**	**16 31 23.1**	**+0.3**
YBH	**Yreka Blue Hor**	**37.61**	**322**	LR	LR	16 48 58.1	
	comp=Z,6.7nm,19.9s,baz=144,slow=39						
LPAZ	**La Paz**	**38.99**	**141**	P	**P**	**16 31 43.3**	**+0.8**
	comp=Z,8.9nm,0.8s,baz=331,slow=8.3,SNR=25						
LPAZ				PcP	**PcP**	**16 33 51.8**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=12,slow=2.1,SNR=4.1						
LPAZ				LR	LR	16 47 01.8	
	comp=Z,122nm,20.4s,baz=320,slow=35						
	comp=Z,8.9nm,0.8s						
LPAZ	**La Paz**	**38.99**	**141**	*e*P	**P**	**16 31 43.6**	**+1.1**
LPAZ	**La Paz**	**38.99**	**141**	P	**P**	**16 31 42.9**	**+0.4**
LPAZ				pP	**pP**	**16 32 01.6**	**+0.4**
H04A	**Detroit Lake**	**39.15**	**326**		**P**	**16 31 44.3**	**+1.4**
H04A				IAmb	IAmb	16 32 03.6	
	comp=Z,28nm,1.0s						
NEW	**Newport**	**39.23**	**334**	LR	LR	16 51 00.2	
	comp=Z,101nm,19.4s,baz=150,slow=41						
C09A	**Chrisman Ranch**	**39.38**	**332**	P	**P**	**16 31 45.4**	**+0.6**
PB16	**IPOC Station P**	**39.80**	**145**	IAmb	IAmb	16 31 52.1	
	comp=Z,20nm,0.9s						
LTY	**Liberty**	**40.11**	**330**	IAmb	IAmb	16 32 12.6	
	comp=Z,33nm,1.6s						
MDP	**Montagnes des**	**40.21**	**100**	LR	LR	16 49 38.0	
	comp=Z,176nm,19.7s,baz=261,slow=38						
ITTB	**Itaituba**	**40.95**	**115**	*e*P	**P**	**16 31 56.6**	**-1.5**
GO01	**Chusmiza**	**41.05**	**146**	IAmb	IAmb	16 32 02.4	
	comp=Z,26nm,0.8s						
PB08	**IPOC Station P**	**41.46**	**146**	IAmb	IAmb	16 32 05.2	
	comp=Z,17nm,0.8s						
PB01	**IPOC Station P**	**42.02**	**147**	IAmb	IAmb	16 32 09.0	
	comp=Z,16nm,0.9s						
VILB	**Vilhena**	**42.05**	**129**	*e*P	**P**	**16 32 06.9**	**-0.2**
PGC	**Sidney**	**42.42**	**329**	IAmb	IAmb	16 32 12.2	
	comp=Z,19nm,0.8s						
NPGB	**Novo Progresso**	**42.58**	**118**	*e*P	**P**	**16 32 09.2**	**-2.3**
PB03	**IPOC Station P**	**42.71**	**148**	P	**P**	**16 32 13.0**	**+0.5**
PB03				IAmb	IAmb	16 32 14.8	
	comp=Z,26nm,0.9s						
PB09	**IPOC Station P**	**42.77**	**147**	IAmb	IAmb	16 32 15.8	
	comp=Z,30nm,0.9s						
PB05	**IPOC Station P**	**43.16**	**149**	IAmb	IAmb	16 32 18.5	
	comp=Z,41nm,1.1s						
PDRB	**Porto dos Gac**	**43.92**	**125**	*e*P	**P**	**16 32 20.7**	**-1.6**
CLDB	**Colider**	**44.25**	**123**	*e*P	**P**	**16 32 23.3**	**-1.6**
PTLB	**Pontes e Lacer**	**44.44**	**131**	IAmb	IAmb	16 32 27.1	
	comp=Z,28nm,1.0s						
PTLB	**Pontes e Lacer**	**44.44**	**131**	*e*P	**P**	**16 32 25.6**	**-0.7**
BBSD	**Serra de San D**	**44.55**	**134**	*e*P	**P**	**16 32 26.8**	**-0.4**
SCHQ	**Schefferville**	**44.71**	**21**	P	**P**	**16 32 25.2**	**-2.8**
	comp=Z,6.2nm,0.7s,baz=236,slow=8.1,SNR=7.0						
SCHQ				pP	**pP**	**16 32 44.5**	**-3.0**
	comp=Z,10.0nm,1.0s,baz=231,slow=9.2,SNR=4.5						
SCHQ				LR	LR	16 52 00.5	
	comp=Z,228nm,20.8s,baz=238,slow=37						
	comp=Z,6.2nm,0.7s						
AC06	**Mina Casimiro**	**46.93**	**153**	IAmb	IAmb	16 32 48.0	
	comp=Z,21nm,0.8s						
BBB	**Bella Bella**	**46.99**	**331**	LR	LR	16 55 15.3	
	comp=Z,102nm,19.2s,baz=113,slow=39						
SALV	**Santo Antonio**	**47.29**	**129**	*e*P	**P**	**16 32 47.6**	**-1.1**
LCO	**Las Campanas**	**48.22**	**154**	P	**P**	**16 32 56.6**	**+0.5**
SNDB	**Serra Nova Dou**	**48.55**	**121**	*e*P	**P**	**16 32 57.4**	**-1.2**
BDQN	**Bodoquena, MS**	**49.44**	**134**	*e*P	**P**	**16 33 04.3**	**-1.0**
ARAG	**Araguaiana, MT**	**50.18**	**125**	*e*P	**P**	**16 33 10.1**	**-0.8**
SMTB	**Santa Maria do**	**50.18**	**115**	*e*P	**P**	**16 33 10.5**	**-0.6**
AQDB	**Aquidauana**	**50.19**	**133**	IAmb	IAmb	16 33 11.3	
	comp=Z,26nm,1.2s						
AQDB	**Aquidauana**	**50.19**	**133**	*e*P	**P**	**16 33 10.5**	**-0.4**
YKAW1	**Yellowknife Wh**	**50.24**	**347**	IAmb	IAmb	16 33 44.8	
	comp=Z,12nm,0.8s						
YKA	**Yellowknife Ar**	**50.28**	**347**	P	**P**	**16 33 10.8**	**-0.3**
	comp=Z,4.4nm,0.9s,baz=150,slow=6.9,SNR=9.8						
YKA				PcP	**PcP**	**16 34 29.3**	**+0.5**
	comp=Z,4.7nm,0.8s,baz=153,slow=2.7,SNR=6.0						
	comp=Z,4.4nm,0.9s						
TOAD	**Toad River Com**	**50.38**	**339**	P	**P**	**16 33 13.7**	**+1.9**
	baz=137						
V35K	**Ketchikan**	**50.58**	**332**	P	**P**	**16 33 15.4**	**+2.0**
	baz=127						
KOTAN	**Kotaneelee Air**	**50.93**	**340**	P	**P**	**16 33 17.7**	**+1.7**
	baz=139						
T35M	**Bob Quinn**	**51.02**	**334**	P	**P**	**16 33 19.3**	**+2.5**
	baz=130						
CRAG	**Craig**	**51.35**	**332**	P	**P**	**16 33 21.8**	**+2.6**
	baz=126						
WRAK	**Wrangell Islan**	**51.57**	**333**	P	**P**	**16 33 24.1**	**+3.3**
	baz=127						
RPRD	**Ribas do Rio P**	**51.62**	**132**	*e*P	**P**	**16 33 21.6**	**-0.2**
FRB	**Frobisher Bay**	**51.73**	**13**	LR	LR	16 56 50.6	
	comp=Z,120nm,19.2s,baz=199,slow=38						
U33K	**Whale Pass**	**51.74**	**332**	P	**P**	**16 33 25.1**	**+3.1**
	baz=126						
DLBC	**Dease Lake**	**51.89**	**336**	LR	LR	16 57 27.9	
	comp=Z,6.2nm,19.0s,baz=82,slow=38						
DLBC	**Dease Lake**	**51.89**	**336**	P	**P**	**16 33 25.8**	**+2.6**
	baz=131,SNR=13						
S34M	**Telegraph Cree**	**51.99**	**335**	IAmb	IAmb	16 33 27.6	
	comp=Z,9.6nm,0.8s						
S34M	**Telegraph Cree**	**51.99**	**335**	P	**P**	**16 33 27.0**	**+3.1**
	baz=130						
MT03	**Universidad Ad**	**52.25**	**157**	P	**P**	**16 33 27.2**	**+0.9**
MT01	**Popeta**	**52.30**	**158**	IAmb	IAmb	16 33 29.7	
	comp=Z,14nm,0.8s						
AMBA	**Amambai (Brazi**	**52.31**	**135**	*e*P	**P**	**16 33 26.1**	**-0.6**
WTLY	**Watson Lake, Y**	**52.56**	**338**	IAmb	IAmb	16 33 30.8	
	comp=Z,20nm,0.9s						
WTLY	**Watson Lake, Y**	**52.56**	**338**	P	**P**	**16 33 30.1**	**+2.0**
	baz=134						
TAOE	**Nuku Hiva Isla**	**52.84**	**247**	*e*LR	LR	16 48 43.6	
	comp=Z,410nm,27.3s						
R33M	**Jennings River**	**52.89**	**336**	IAmb	IAmb	16 33 34.0	
	comp=Z,33nm,1.5s						
R33M	**Jennings River**	**52.89**	**336**	P	**P**	**16 33 33.1**	**+2.4**
	baz=131,SNR=6.9						
SJPY	**San Joaquin**	**52.97**	**138**	*e*P	**P**	**16 33 30.8**	**-0.8**
Q32M	**Nakina River**	**53.12**	**335**	IAmb	IAmb	16 33 36.2	
	comp=Z,24nm,1.1s						
Q32M	**Nakina River**	**53.12**	**335**	P	**P**	**16 33 35.3**	**+2.8**
	baz=129,SNR=8.7						
CPUP	**Villa Florida**	**53.13**	**140**	P	**P**	**16 33 31.8**	**-1.0**
	comp=Z,2.6nm,0.7s,baz=189,slow=7.8,SNR=16						
CPUP				pP	**pP**	**16 33 51.0**	**-1.3**
	comp=Z,1.2nm,0.9s,baz=193,slow=7.6,SNR=3.2						
CPUP				PcP	**PcP**	**16 34 40.2**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=310,slow=2.5,SNR=4.0						
CPUP				LR	LR	16 55 21.1	
	comp=Z,33nm,21.3s,baz=200,slow=35						
	comp=Z,2.6nm,0.7s						
CPUP	**Villa Florida**	**53.13**	**140**	*e*P	**P**	**16 33 31.9**	**-0.8**
CPUP	**Villa Florida**	**53.13**	**140**	P	**P**	**16 33 31.6**	**-1.1**
CPUP				pP	**pP**	**16 33 52.2**	**-0.1**
BDFB	**Brasilia**	**53.19**	**123**	LR	LR	16 57 01.5	
	comp=Z,106nm,19.7s,baz=331,slow=37						
BO02	**Sierra Bellavi**	**53.31**	**158**	IAmb	IAmb	16 33 36.1	
	comp=Z,26nm,1.1s						
TGTN	**Hyland Airport**	**53.36**	**339**	P	**P**	**16 33 36.1**	**+2.1**
	baz=135,SNR=7.3						
ITRB	**Iturama**	**53.62**	**128**	*e*P	**P**	**16 33 36.6**	**0.0**
R32K	**Eaglecrest**	**53.63**	**334**	P	**P**	**16 33 38.0**	**+2.0**
	baz=126						
P32M	**Atlin**	**54.09**	**335**	P	**P**	**16 33 41.6**	**+2.1**
	baz=128,SNR=5.4						
P33M	**Teslin, Yukon**	**54.13**	**336**	P	**P**	**16 33 40.8**	**+1.1**
P33M				PcP	**PcP**	**16 34 42.9**	**-0.6**
P33M	**Teslin, Yukon**	**54.13**	**336**	P	**P**	**16 33 41.2**	**+1.5**
	baz=129						
SDBA	**SAO CONSIDERIO**	**54.17**	**117**	*e*P	**P**	**16 33 40.0**	**-0.6**
S31K	**Pelican**	**54.19**	**333**	P	**P**	**16 33 42.0**	**+2.0**
	baz=124						
IPMB	**Ipameri, GO**	**54.30**	**125**	*e*P	**P**	**16 33 41.0**	**-0.5**
N32M	**Quiet Lake**	**54.83**	**337**	P	**P**	**16 33 46.5**	**+1.8**
	baz=129						
MMPY	**Sheldon Lake,**	**55.14**	**339**	P	**P**	**16 33 48.9**	**+1.9**
	baz=132,SNR=29						
WHY	**Whitehorse**	**55.21**	**336**	IAmb	IAmb	16 33 50.3	
	comp=Z,13nm,0.8s						
WHY	**Whitehorse**	**55.21**	**336**	P	**P**	**16 33 49.4**	**+1.9**
	baz=127,SNR=6.5						
LDASE	**Londrina, Braz**	**55.31**	**133**	*e*P	**P**	**16 33 47.5**	**-1.3**
PTGB	**Pitanga**	**55.49**	**134**	*e*P	**P**	**16 33 49.0**	**-1.1**
P30M	**Million Dollar**	**55.73**	**335**	P	**P**	**16 33 53.3**	**+2.1**
	baz=125						
O30N	**Mendenhall**	**55.76**	**336**	IAmb	IAmb	16 33 54.3	
	comp=Z,17nm,0.9s						
O30N	**Mendenhall**	**55.76**	**336**	P	**P**	**16 33 53.4**	**+2.0**
	baz=126,SNR=5.0						
P29M	**Windy Craggy**	**55.78**	**334**	IAmb	IAmb	16 33 54.8	
	comp=Z,24nm,1.0s						
P29M	**Windy Craggy**	**55.78**	**334**	P	**P**	**16 33 53.7**	**+2.2**
	baz=124,SNR=7.9						
BB19B	**Bebedouro**	**55.81**	**129**	*e*P	**P**	**16 33 52.2**	**-0.2**
JANB	**Januaria**	**55.95**	**120**	*e*P	**P**	**16 33 53.0**	**-0.5**
M31M	**Drury Creek, Y**	**55.98**	**338**	IAmb	IAmb	16 33 55.7	
	comp=Z,29nm,1.6s						
M31M	**Drury Creek, Y**	**55.98**	**338**	P	**P**	**16 33 54.5**	**+1.6**
	baz=128,SNR=7.1						
PMNB	**Patos De Minas**	**56.01**	**125**	*e*P	**P**	**16 33 53.8**	**-0.1**
N31M	**Braebuns, Yuko**	**56.06**	**337**	IAmb	IAmb	16 33 56.1	
	comp=Z,20nm,0.9s						
N31M	**Braeburn, Yuko**	**56.06**	**337**	P	**P**	**16 33 55.3**	**+1.7**
	baz=127,SNR=10.0						
HYT	**Haines Junctio**	**56.35**	**335**	P	**P**	**16 33 57.9**	**+2.2**
	baz=124,SNR=5.9						
FRTB	**Fartura**	**56.40**	**131**	*e*P	**P**	**16 33 55.7**	**-0.8**
O29M	**Mount Kennedy**	**56.50**	**334**	P	**P**	**16 33 57.9**	**+1.1**
O29M				IAmb	IAmb	16 34 56.3	
	comp=Z,8.6nm,0.8s						
O29M	**Mount Kennedy**	**56.50**	**334**	P	**P**	**16 33 58.7**	**+1.9**
	baz=123						
PNL	**Peninsula**	**56.51**	**334**	P	**P**	**16 33 58.8**	**+2.0**
	baz=122						
N30M	**Aishikik Lake**	**56.55**	**336**	IAmb	IAmb	16 34 00.1	
	comp=Z,14nm,0.9s						
N30M	**Aishikik Lake**	**56.55**	**336**	P	**P**	**16 33 59.0**	**+1.9**
	baz=125,SNR=13						
YUK6	**Outpost Mounta**	**56.77**	**335**	P	**P**	**16 34 00.9**	**+2.1**
	baz=124						
M30M	**Minto, Yukon**	**57.09**	**337**	IAmb	IAmb	16 34 03.2	
	comp=Z,11nm,1.1s						
M30M	**Minto, Yukon**	**57.09**	**337**	P	**P**	**16 34 02.2**	**+1.3**
	baz=126,SNR=14						
PINM	**Pinnacle**	**57.10**	**334**	P	**P**	**16 34 02.9**	**+1.9**
	baz=121,SNR=5.6						
ITAB	**Concordia**	**57.10**	**137**	*e*P	**P**	**16 34 01.1**	**-0.3**
YUK4	**Talbot Arm**	**57.10**	**335**	P	**P**	**16 34 03.4**	**+2.2**
	baz=124						
O28M	**Mount Upton**	**57.43**	**334**	P	**P**	**16 34 05.2**	**+1.7**
	baz=122						
YUK8	**Steele Glacier**	**57.52**	**335**	P	**P**	**16 34 06.1**	**+1.9**
	baz=122,SNR=9.7						
M29M	**Somme Creek**	**57.65**	**337**	P	**P**	**16 34 06.8**	**+1.9**
	baz=124,SNR=52						
TABL	**Table Mountain**	**57.66**	**334**	IAmb	IAmb	16 34 08.2	
	comp=Z,20nm,0.9s						
MESA	**MESA**	**57.87**	**333**	P	**P**	**16 34 08.7**	**+2.1**
	baz=119						
L29M	**L29M**	**57.90**	**337**	P	**P**	**16 34 07.2**	**+0.6**
L29M				IAmb	IAmb	16 34 08.8	
	comp=Z,19nm,1.1s						
L29M	**L29M**	**57.90**	**337**	P	**P**	**16 34 07.9**	**+1.3**
	baz=125,SNR=17						
CTG	**Chitna Glacier**	**58.01**	**334**	P	**P**	**16 34 09.4**	**+2.0**
	baz=120						
YUK3	**Moose Creek**	**58.07**	**335**	P	**P**	**16 34 09.6**	**+1.6**
	baz=122,SNR=8.1						
DIAM	**Dianantina, MG**	**58.11**	**123**	*e*P	**P**	**16 34 08.8**	**0.0**
K29M	**Barlow Dome**	**58.11**	**338**	IAmb	IAmb	16 34 09.9	
	comp=Z,39nm,1.9s						
K29M	**Barlow Dome**	**58.11**	**338**	P	**P**	**16 34 09.2**	**+1.1**
	baz=126,SNR=7.9						
SPB	**Sao Paulo**	**58.11**	**130**	*e*P	**P**	**16 34 07.6**	**-0.9**
VAO	**Valinhos**	**58.11**	**129**	*e*P	**P**	**16 34 08.6**	**-0.1**
J30M	**Hart River**	**58.13**	**339**	P	**P**	**16 34 08.7**	**+0.5**
J30M				IAmb	IAmb	16 34 11.3	
	comp=Z,6.7nm,0.7s						
J30M	**Hart River**	**58.13**	**339**	P	**P**	**16 34 09.4**	**+1.2**
	baz=128,SNR=11						
BARN	**Barnard Glacie**	**58.19**	**334**	IAmb	IAmb	16 34 11.9	
	comp=Z,9.0nm,0.9s						
H31M	**Peel River**	**58.26**	**341**	IAmb	IAmb	16 35 01.4	
	comp=Z,14nm,1.1s						
H31M	**Peel River**	**58.26**	**341**	P	**P**	**16 34 10.7**	**+1.7**
	baz=130						
CPSB	**Cacapava Do Su**	**58.43**	**140**	*e*P	**P**	**16 34 10.1**	**-0.5**
I30M	**Mount Dempster**	**58.55**	**340**	IAmb	IAmb	16 34 12.9	
	comp=Z,12nm,0.8s						
I30M	**Mount Dempster**	**58.55**	**340**	P	**P**	**16 34 11.9**	**+0.8**
	baz=128,SNR=18						
BVCY	**Beaver Creek**	**58.57**	**336**	P	**P**	**16 34 12.9**	**+1.8**
	baz=122						
CRQE	**Cirque**	**58.65**	**334**	P	**P**	**16 34 13.7**	**+1.9**
	baz=118						
BSCB	**Bom Sucesso**	**58.66**	**126**	*e*P	**P**	**16 34 13.1**	**+0.6**
PLCA	**Paso Flores**	**58.73**	**161**	P	**P**	**16 34 13.1**	**+0.5**
PLCA	**Paso Flores**	**58.73**	**161**	P	**P**	**16 34 13.2**	**+0.6**
	comp=Z,23nm,1.0s,baz=335,slow=7.8,SNR=19						
PLCA				LR	LR	16 53 40.7	
	comp=Z,52nm,20.2s,baz=326,slow=30						
	comp=Z,23nm,1.0s						
PLCA	**Paso Flores**	**58.73**	**161**	*e*P	**P**	**16 34 13.8**	**+1.1**
PLCA	**Paso Flores**	**58.73**	**161**	P	**P**	**16 34 13.2**	**+0.6**
PLCA				sP	**sP**	**16 34 42.9**	**+1.7**
KAIM	**Kayak Island**	**58.85**	**332**	P	**P**	**16 34 14.9**	**+1.8**
	baz=117						
DAWY	**Dawson**	**58.91**	**338**	P	**P**	**16 34 14.6**	**+1.0**
	baz=124						
MCARA	**McCarthy VSAT**	**58.93**	**334**	P	**P**	**16 34 15.8**	**+2.1**
	baz=119,SNR=6.1						
M27K	**Edge Creek, AK**	**58.94**	**336**	IAmb	IAmb	16 34 17.9	
	comp=Z,6.9nm,0.8s						
M27K	**Edge Creek, AK**	**58.94**	**336**	P	**P**	**16 34 15.8**	**+1.9**
	baz=121,SNR=8.8						
G31M	**Satah River**	**58.97**	**342**	P	**P**	**16 34 14.6**	**+0.8**
G31M				IAmb	IAmb	16 34 15.4	
	comp=Z,14nm,0.7s						
G31M	**Satah River**	**58.97**	**342**	P	**P**	**16 34 14.6**	**+0.8**
	baz=131,SNR=7.8						
SFJD	**Kangerlussuaq**	**58.97**	**18**	LR	LR	17 01 32.7	
	comp=Z,141nm,18.0s,baz=226,slow=38						
VRDI	**Verde Repeater**	**59.03**	**334**	IAmb	IAmb	16 34 17.4	
	comp=Z,14nm,0.9s						
F31M	**Tsiigehtchic**	**59.16**	**343**	P	**P**	**16 34 15.7**	**+0.6**
	baz=132						
BCAR	**Beaver Creek A**	**59.27**	**336**	P	**P**	**16 34 16.6**	**+0.5**
BCAR				PcP	**PcP**	**16 34 59.0**	**-4.5**
I29M	**Ogilvie Camp,**	**59.28**	**339**	IAmb	IAmb	16 34 17.5	
	comp=Z,11nm,0.9s						
I29M	**Ogilvie Camp,**	**59.28**	**339**	P	**P**	**16 34 16.8**	**+0.7**
	baz=126,SNR=16						
PLTB	**Pedras Altas**	**59.28**	**142**	*e*P	**P**	**16 34 16.1**	**-0.4**
GLB	**Gilahina Butte**	**59.28**	**334**	IAmb	IAmb	16 34 19.1	
	comp=Z,18nm,0.8s						
L27K	**Beaver Creek,**	**59.29**	**336**	P	**P**	**16 34 16.5**	**+0.3**
L27K				IAmb	IAmb	16 34 18.6	
	comp=Z,17nm,0.8s						
L27K	**Beaver Creek,**	**59.29**	**336**	P	**P**	**16 34 17.4**	**+1.2**
	baz=121,SNR=36						
EPYK	**Eagle Plains**	**59.37**	**341**	IAmb	IAmb	16 35 05.2	
	comp=Z,17nm,1.1s						
EPYK	**Eagle Plains**	**59.37**	**341**	P	**P**	**16 34 17.7**	**+1.1**
	baz=128,SNR=6.1						
BMRM	**Bremner River**	**59.40**	**333**	P	**P**	**16 34 18.7**	**+1.6**
	baz=117,SNR=11						
M26K	**Nabesna, AK**	**59.41**	**335**	IAmb	IAmb	16 34 19.6	
	comp=Z,14nm,1.1s						
M26K	**Nabesna, AK**	**59.41**	**335**	P	**P**	**16 34 18.6**	**+1.5**
	baz=120,SNR=10						
RCBR	**Riachuelo**	**59.57**	**106**	LR	LR	17 00 29.8	
	comp=Z,27nm,19.2s,baz=258,slow=37						
G30M	**tAoh Zraii Nji**	**59.60**	**342**	P	**P**	**16 34 18.7**	**+0.4**
	baz=129						
INK	**Inuvik**	**59.69**	**344**	IAmb	IAmb	16 34 20.4	
	comp=Z,14nm,0.7s						
INK	**Inuvik**	**59.69**	**344**	LR	LR	17 04 09.1	
	comp=Z,106nm,18.9s,baz=73,slow=40						
INK	**Inuvik**	**59.69**	**344**	P	**P**	**16 34 19.7**	**+1.0**
	baz=132,SNR=8.5						
N25K	**Chitina, Valde**	**59.70**	**334**	P	**P**	**16 34 21.0**	**+2.0**
	baz=118,SNR=21						
TRQA	**Tornquist**	**59.71**	**152**	P	**P**	**16 34 19.0**	**-0.4**
EYAK	**Cordova Ski Ar**	**59.72**	**333**	P	**P**	**16 34 21.4**	**+2.3**
	baz=116,SNR=7.3						
H29M	**Whitestone**	**59.81**	**340**	IAmb	IAmb	16 34 21.5	
	comp=Z,9.2nm,0.8s						
H29M	**Whitestone**	**59.81**	**340**	P	**P**	**16 34 20.7**	**+1.0**
	baz=126,SNR=11						
L26K	**Log Cabin Wild**	**59.87**	**336**	IAmb	IAmb	16 34 22.6	
	comp=Z,23nm,1.4s						
L26K	**Log Cabin Wild**	**59.87**	**336**	P	**P**	**16 34 21.5**	**+1.4**
	baz=120						
F30M	**Barrier River**	**59.87**	**342**	IAmb	IAmb	16 34 21.9	
	comp=Z,16nm,0.8s						
F30M	**Barrier River**	**59.87**	**342**	P	**P**	**16 34 20.9**	**+0.9**
	baz=130,SNR=11						
K27K	**Chicken**	**59.89**	**337**	P	**P**	**16 34 21.6**	**+1.4**
	baz=121						
I28M	**Miner Creek**	**59.89**	**339**	P	**P**	**16 34 20.9**	**+0.6**
	baz=124						
DIV	**Divide**	**59.98**	**333**	IAmb	IAmb	16 34 23.8	
	comp=Z,21nm,1.0s						
RES	**Resolute Bay**	**60.01**	**359**	LR	LR	17 03 19.3	
	comp=Z,92nm,19.5s,baz=212,slow=39						
G29M	**Pine Creek**	**60.12**	**341**	IAmb	IAmb	16 34 24.1	
	comp=Z,25nm,1.3s						
G29M	**Pine Creek**	**60.12**	**341**	P	**P**	**16 34 22.8**	**+1.1**
	baz=127,SNR=14						
CMC01	**Camacan, BA**	**60.16**	**118**	*e*P	**P**	**16 34 23.0**	**+0.2**
KLU	**Klutina**	**60.21**	**334**	P	**P**	**16 34 24.3**	**+1.8**
	baz=116,SNR=19						
P23K	**Montague Islan**	**60.23**	**332**	P	**P**	**16 34 23.7**	**+1.1**
P23K	**Montague Islan**	**60.23**	**332**	P	**P**	**16 34 23.9**	**+1.3**
	baz=114						
HARP	**HAARP**	**60.30**	**335**	P	**P**	**16

G26K Porcupine Rive 62.02 340 IAmb IAmb 16 34 36.5
comp=Z,17nm,1.2s
G26K Porcupine Rive 62.02 340 P **P** **16 34 35.4 +0.9**
baz=121,SNR=10
IL31 62.07 337 IAmb IAmb 16 34 36.9
comp=Z,19nm,0.9s
ILAR Eielson Array 62.07 337 P **P** **16 34 34.8 -0.2**
ILAR Eielson Array 62.07 337 P **P** **16 34 35.6 +0.6**
comp=Z,13nm,0.9s,baz=126,slow=5.0,SNR=95
ILAR LR LR 17 03 23.1
comp=Z,72nm,19.0s,baz=84,slow=38
comp=Z,13nm,0.9s
M22K Willow 62.15 333 P **P** **16 34 37.0 +1.5**
baz=112
OHAK Old Harbor 62.15 327 P **P** **16 34 37.2 +1.6**
baz=107
H25L Birch Creek 62.38 338 P **P** **16 34 38.1 +1.1**
baz=118,SNR=13
D27M Malcolm River 62.39 342 IAmb IAmb 16 34 39.2
comp=Z,10nm,0.8s
D27M Malcolm River 62.39 342 P **P** **16 34 38.2 +1.1**
baz=125,SNR=17
MCK McKinley 62.43 335 IAmb IAmb 16 34 39.4
comp=Z,15nm,1.0s
MCK McKinley 62.43 335 P **P** **16 34 38.3 +0.9**
baz=114,SNR=7.8
SII Sitkinak Islan 62.43 327 P **P** **16 34 38.5 +0.9**
baz=106
POKR Poker Plat Res 62.44 337 IAmb IAmb 16 34 39.2
comp=Z,15nm,0.8s
POKR Poker Plat Res 62.44 337 P **P** **16 34 38.1 +0.6**
baz=116,SNR=5.1
CUT Chulitna 62.46 334 P **P** **16 34 38.6 +1.0**
baz=112,SNR=5.7
COLA College 62.49 337 P **P** **16 34 38.2 +0.5**
COLA IAmb IAmb 16 34 39.2
comp=Z,21nm,0.8s
COLA College 62.49 337 P **P** **16 34 38.5 +0.8**
baz=116
COLA College 62.49 337 P **P** **16 34 38.6 +0.8**
COLA pP **pP** **16 34 58.9 +1.1**
COLA PcP **PcP** **16 35 17.1 +0.8**
F26K Sheenjek River 62.52 340 IAmb IAmb 16 34 40.4
comp=Z,12nm,1.1s
F26K Sheenjek River 62.52 340 P **P** **16 34 39.2 +1.2**
baz=121,SNR=16
BMAR Burnt Mountain 62.53 340 P **P** **16 34 38.8 +0.7**
O20K Slope Mountain 62.70 331 P **P** **16 34 40.7 +1.4**
baz=109
G25K Bearman Lake 62.72 339 P **P** **16 34 40.6 +1.3**
baz=118,SNR=10
COYC Coyhaique 62.72 164 P **P** **16 34 39.4 -0.1**
NEA2 Nenana 62.84 336 P **P** **16 34 40.7 +0.6**
baz=114,SNR=8.4
R18K Karluk 62.85 328 P **P** **16 34 41.3 +1.1**
baz=106
SKT Skwentna 62.85 333 IAmb IAmb 16 34 42.3
comp=Z,22nm,1.0s
SKT Skwentna 62.85 333 P **P** **16 34 41.2 +0.9**
baz=111,SNR=16
P19K Oil Pt 62.85 330 P **P** **16 34 41.4 +1.0**
baz=108
TRF Thorofare Moun 62.87 335 P **P** **16 34 41.4 +0.8**
baz=113,SNR=25
RED Redoubt Volcan 62.88 331 P **P** **16 34 40.8 +0.2**
ILSW Iliamna Southw 62.92 330 IAmb IAmb 16 35 02.7
comp=Z,14nm,0.6s
H24K Noodor Dome 62.93 338 IAmb IAmb 16 34 42.7
comp=Z,19nm,0.8s
H24K Noodor Dome 62.93 338 P **P** **16 34 41.8 +1.0**
baz=116,SNR=29
F25K Christian Rive 62.97 340 IAmb IAmb 16 34 43.6
comp=Z,45nm,1.6s
F25K Christian Rive 62.97 340 P **P** **16 34 42.6 +1.6**
baz=119,SNR=26
G24K Hadweenzic Riv 63.17 339 IAmb IAmb 16 34 44.6
comp=Z,16nm,1.0s
G24K Hadweenzic Riv 63.17 339 P **P** **16 34 43.6 +1.3**
baz=117,SNR=12
KTH Kantishna Hill 63.17 335 P **P** **16 34 42.2 -0.3**
KTH IAmb IAmb 16 34 44.0
comp=Z,21nm,1.0s
I23K Minto, Yukon-K 63.19 337 P **P** **16 34 43.6 +1.2**
baz=114,SNR=36
E25K Arctic Village 63.20 340 IAmb IAmb 16 34 45.0
comp=Z,27nm,1.4s
E25K Arctic Village 63.20 340 P **P** **16 34 44.1 +1.6**
baz=120,SNR=16
C27K Jago River 63.41 342 IAmb IAmb 16 34 46.2
comp=Z,22nm,0.9s
C27K Jago River 63.41 342 P **P** **16 34 45.2 +1.4**
baz=122,SNR=14
BPAW Bear Paw Mtn. 63.41 335 IAmb IAmb 16 34 45.5
comp=Z,18nm,1.0s
BPAW Bear Paw Mtn. 63.41 335 P **P** **16 34 44.6 +0.6**
baz=112,SNR=18
Q18K Katmai Hardscr 63.43 329 P **P** **16 34 45.1 +0.8**
baz=106
M20K Styx River 63.53 332 IAmb IAmb 16 34 46.6
comp=Z,13nm,0.8s
M20K Styx River 63.53 332 P **P** **16 34 45.4 +0.6**
baz=109,SNR=8.3
H23K Yukon River 63.54 337 P **P** **16 34 44.8 0.0**
H23K Yukon River 63.54 337 P **P** **16 34 45.5 +0.8**
baz=115,SNR=8.8
O19K Port Alsworth 63.54 330 P **P** **16 34 45.7 +0.9**
baz=107
CAST Castle Rocks 63.61 334 IAmb IAmb 16 34 46.5
comp=Z,18nm,1.0s
CAST Castle Rocks 63.61 334 P **P** **16 34 45.7 +0.4**
baz=111
MLY Manley 63.67 336 P **P** **16 34 46.4 +0.7**
baz=115,SNR=33
F24K Squaw Lake 63.69 339 P **P** **16 34 47.1 +1.4**
baz=117,SNR=8.5
P18K Big Mountain, 63.75 329 P **P** **16 34 47.6 +1.3**
baz=106
Q17K Contact Creek 63.77 328 P **P** **16 34 47.1 +0.6**
baz=105
N19K Bonanza Creek 63.81 331 IAmb IAmb 16 34 48.4
comp=Z,28nm,1.1s
N19K Bonanza Creek 63.81 331 P **P** **16 34 47.3 +0.6**
baz=107,SNR=12
R17L Mt. Peulik Vol 63.86 327 P **P** **16 34 48.1 +1.1**
baz=104
O18K Koktuh Hills 63.87 330 P **P** **16 34 48.3 +1.2**
baz=106
CHUM Lake Minchumin 63.87 335 P **P** **16 34 48.2 +1.3**
baz=111
C26K Camden Bay 63.92 342 P **P** **16 34 48.7 +1.5**
baz=121
D25K Kavik River 64.06 341 P **P** **16 34 48.9 +0.7**
D25K Kavik River 64.06 341 P **P** **16 34 49.6 +1.5**
baz=119,SNR=30
L20K Farewell, AK 64.06 333 P **P** **16 34 48.8 +0.5**
baz=109,SNR=22
G23K Bananza Creek 64.09 338 IAmb IAmb 16 34 50.6
comp=Z,14nm,0.9s
G23K Bananza Creek 64.09 338 P **P** **16 34 49.2 +0.8**
baz=114,SNR=16
M19K Big River Lodg 64.10 332 IAmb IAmb 16 34 50.5
comp=Z,26nm,1.2s
M19K Big River Lodg 64.10 332 P **P** **16 34 49.5 +1.0**
baz=108,SNR=9.9
E24K Your Creek 64.15 340 P **P** **16 34 50.2 +1.4**
baz=117,SNR=10
I21K Tanana 64.22 336 IAmb IAmb 16 34 52.5
comp=Z,12nm,0.8s
I21K Tanana 64.22 336 P **P** **16 34 49.8 +0.6**
baz=112
H22K Ishtalitna Cre 64.26 337 P **P** **16 34 49.9 +0.4**
baz=113,SNR=20
Q16K King Salmon 64.27 328 P **P** **16 34 50.8 +1.2**
baz=104
COLD Coldfoot 64.37 339 IAmb IAmb 16 34 53.0
comp=Z,26nm,1.2s
COLD Coldfoot 64.37 339 P **P** **16 34 51.7 +1.6**
baz=114,SNR=15
L19K White Mountain 64.39 333 P **P** **16 34 51.1 +0.7**
baz=108,SNR=6.1
K20K Telida 64.43 334 IAmb IAmb 16 34 52.0
comp=Z,21nm,0.9s
K20K Telida 64.43 334 P **P** **16 34 51.1 +0.5**
baz=109
N18K Kilae Creek 64.43 331 P **P** **16 34 51.5 +0.9**
baz=106
E23K Chandalar 64.52 340 IAmb IAmb 16 34 54.0
comp=Z,29nm,1.1s
E23K Chandalar 64.52 340 P **P** **16 34 52.8 +1.5**
baz=116,SNR=22
M18K Stony River 64.63 332 P **P** **16 34 52.3 +0.4**
baz=106,SNR=8.8
CHGN Chignik 64.65 326 P **P** **16 34 53.3 +1.2**
baz=102
G22K Bettles 64.71 338 P **P** **16 34 53.5 +1.1**
baz=113
H21K Melozitna Rive 64.71 336 IAmb IAmb 16 34 53.7
comp=Z,12nm,0.8s
H21K Melozitna Rive 64.71 336 P **P** **16 34 52.6 +0.1**
baz=111,SNR=12
J20K Nowinta River 64.73 335 IAmb IAmb 16 34 53.9
comp=Z,15nm,1.1s
J20K Nowinta River 64.73 335 P **P** **16 34 52.9 +0.4**
baz=109,SNR=9.7
D24K Happy Valley 64.75 341 IAmb IAmb 16 34 54.8
comp=Z,29nm,1.2s
D24K Happy Valley 64.75 341 P **P** **16 34 53.2 +0.7**
baz=117,SNR=6.7
TOLK Toolik Lake Re 64.76 340 P **P** **16 34 53.1 +0.4**
TOLK IAmb IAmb 16 34 54.8
comp=Z,17nm,0.6s
TOLK Toolik Lake Re 64.76 340 P **P** **16 34 53.8 +1.1**
baz=116,SNR=22
PPT Papeete 64.89 242 LR LR 16 54 47.2
comp=Z,110nm,20.9s,baz=40,slow=28
C24K Franklin Bluff 64.97 341 P **P** **16 34 55.3 +1.4**
baz=117
N17K Nushagak Hills 65.00 330 P **P** **16 34 55.3 +0.9**
baz=105
I20K Naaghedeneel 65.07 335 P **P** **16 34 55.4 +0.7**
baz=109,SNR=8.2
F22K John River 65.18 339 P **P** **16 34 56.8 +1.4**
baz=113,SNR=23
IMAR Indian Mountai 65.19 337 P **P** **16 34 55.0 -0.5**
O16K Kook River B 65.21 329 P **P** **16 34 56.4 +0.6**
baz=104
L18K Granite Mounta 65.23 332 IAmb IAmb 16 34 57.5
comp=Z,19nm,1.1s
L18K Granite Mounta 65.23 332 P **P** **16 34 56.4 +0.6**
baz=106,SNR=6.3
D23K Nanushuk River 65.26 340 IAmb IAmb 16 34 58.8
comp=Z,24nm,1.1s
D23K Nanushuk River 65.26 340 P **P** **16 34 57.6 +1.7**
baz=115,SNR=9.5
J19K Poorman 65.28 334 IAmb IAmb 16 34 57.4
comp=Z,20nm,0.9s
J19K Poorman 65.28 334 P **P** **16 34 56.4 +0.3**
baz=108,SNR=16
G21K Allakaket 65.29 337 IAmb IAmb 16 34 58.1
comp=Z,20nm,0.8s
G21K Allakaket 65.29 337 P **P** **16 34 57.1 +1.0**
baz=111
E22K Anaktuvuk Pass 65.30 339 IAmb IAmb 16 34 58.4
comp=Z,35nm,1.1s
E22K Anaktuvuk Pass 65.30 339 P **P** **16 34 57.2 +1.0**
baz=113,SNR=28
M17K Holitna River 65.35 331 P **P** **16 34 57.2 +0.6**
baz=105
H20K Anotleneega Mo 65.47 336 P **P** **16 34 57.6 +0.3**
baz=109,SNR=12
F21K Alatna River 65.54 338 P **P** **16 34 59.1 +1.3**
baz=111,SNR=56
J18K Innoko River 65.59 334 P **P** **16 34 58.7 +0.5**
baz=106
C23K Itkillik River 65.61 341 P **P** **16 34 58.9 +0.7**
C23K Itkillik River 65.61 341 P **P** **16 34 59.6 +1.5**
baz=115,SNR=19
N16K Nishlik Lake 65.75 330 P **P** **16 35 00.4 +1.1**
baz=103
D22K Ayikyak River 65.89 340 IAmb IAmb 16 35 02.5
comp=Z,29nm,0.9s
D22K Ayikyak River 65.89 340 P **P** **16 35 01.3 +1.3**
baz=113,SNR=13
L17K Donlin 65.93 332 P **P** **16 35 01.0 +0.7**
baz=104
M16K Timber Creek 65.97 331 P **P** **16 35 01.4 +0.8**
baz=103
O15K Ungalikthiuk R 65.98 329 P **P** **16 35 01.3 +0.6**
baz=102
K17K Iditarod 66.08 333 IAmb IAmb 16 35 02.6
comp=Z,17nm,0.9s
K17K Iditarod 66.08 333 P **P** **16 35 01.8 +0.5**
baz=105,SNR=6.0
H19K Roundabout Mou 66.10 336 IAmb IAmb 16 35 02.9
comp=Z,24nm,0.9s
H19K Roundabout Mou 66.10 336 P **P** **16 35 02.2 +0.9**
baz=108,SNR=25
E21K Killik River 66.16 339 P **P** **16 35 02.5 +0.7**
E21K IAmb IAmb 16 35 03.8
comp=Z,32nm,1.0s
E21K Killik River 66.16 339 P **P** **16 35 03.0 +1.3**
baz=111,SNR=18
F20K Avaraart Lake 66.30 337 IAmb IAmb 16 35 04.9
comp=Z,29nm,0.8s
F20K Avaraart Lake 66.30 337 P **P** **16 35 03.7 +1.1**
baz=109,SNR=32
N15K Kwethluk River 66.33 330 P **P** **16 35 03.8 +0.9**
baz=102
L16K Owhat River 66.37 331 P **P** **16 35 04.1 +1.0**
baz=103
G19K Purcell Mounta 66.53 336 IAmb IAmb 16 35 05.9
comp=Z,23nm,0.9s
G19K Purcell Mounta 66.53 336 P **P** **16 35 04.9 +0.8**
baz=107,SNR=13
J17K VABM Dome 66.60 333 P **P** **16 35 05.1 +0.5**
baz=104
C21K Knifeblade Rid 66.70 340 P **P** **16 35 06.4 +1.2**
baz=111
B22K Teshekpuk Lake 66.70 341 P **P** **16 35 06.1 +1.0**
baz=113
M15K Kasigluk River 66.72 330 P **P** **16 35 06.4 +1.0**
baz=102
H18K Honhosa River 66.76 335 P **P** **16 35 06.5 +0.9**
baz=106
B21K Ikpikpuk River 66.81 340 IAmb IAmb 16 35 07.7
comp=Z,25nm,0.9s
B21K Ikpikpuk River 66.81 340 P **P** **16 35 06.8 +1.0**
baz=111
F19K Shaleruckik Mo 67.00 337 IAmb IAmb 16 35 09.0
comp=Z,18nm,0.8s
F19K Shaleruckik Mo 67.00 337 P **P** **16 35 08.1 +1.1**
baz=107,SNR=20
N14K Kuskokwak Cree 67.06 329 P **P** **16 35 09.3 +1.8**
baz=100
G18K Tagagawik 67.08 336 P **P** **16 35 07.8 +0.2**
G18K IAmb IAmb 16 35 09.8
comp=Z,15nm,0.9s
G18K Tagagawik 67.08 336 P **P** **16 35 08.9 +1.3**
baz=106,SNR=9.6
D20K Etivluk River 67.17 339 P **P** **16 35 09.4 +1.3**
baz=109
J16K Anvik River 67.24 333 IAmb IAmb 16 35 11.2
comp=Z,26nm,1.0s
J16K Anvik River 67.24 333 P **P** **16 35 10.2 +1.5**
baz=103,SNR=6.1
L15K Ungalak Mounta 67.30 331 P **P** **16 35 10.5 +1.4**
baz=101
H17K Granite Mounta 67.33 335 IAmb IAmb 16 35 11.7
comp=Z,19nm,1.3s
H17K Granite Mounta 67.33 335 P **P** **16 35 10.5 +1.3**
baz=104
M14K Bethel 67.35 330 P **P** **16 35 10.7 +1.4**
baz=100
I17K Unalakleet 67.42 334 P **P** **16 35 11.2 +1.5**
baz=103
TBI Tubuai 67.43 237 *e*LR LR 16 55 38.7
comp=Z,952nm,29.2s
A22K Sinclair Lake 67.43 342 P **P** **16 35 11.1 +1.4**
baz=111
K15K Wolf Creek Mou 67.44 332 P **P** **16 35 10.2 +0.2**
K15K IAmb IAmb 16 35 32.8
comp=Z,19nm,0.8s
K15K Wolf Creek Mou 67.44 332 P **P** **16 35 11.4 +1.4**
baz=102,SNR=6.1
D19K Kuna River 67.62 339 IAmb IAmb 16 35 12.9
comp=Z,14nm,0.8s
D19K Kuna River 67.62 339 P **P** **16 35 12.3 +1.2**
baz=107
F18K Selawik 67.65 337 P **P** **16 35 12.3 +1.1**
baz=105
B20K Meade River 67.77 340 P **P** **16 35 13.2 +1.3**
baz=109,SNR=5.2
G17K Kiwalik Mounta 67.77 335 P **P** **16 35 13.2 +1.2**
baz=104,SNR=6.5
L14K Kuka Creek 67.80 331 P **P** **16 35 13.5 +1.3**
baz=100
M13K Dall Lake 67.97 330 P **P** **16 35 14.4 +1.2**
baz=99
A21K Barrow 68.04 342 P **P** **16 35 15.2 +1.7**
baz=110
E18K Tukpahlearik C 68.23 337 P **P** **16 35 15.6 +0.8**
baz=104
H16K Elim 68.24 334 P **P** **16 35 16.4 +1.5**
baz=102
C19K Lookout Ridge 68.31 339 IAmb IAmb 16 35 18.0
comp=Z,36nm,1.1s
C19K Lookout Ridge 68.31 339 P **P** **16 35 16.9 +1.6**
baz=106
G16K Koyuk River 68.44 335 P **P** **16 35 17.6 +1.5**
baz=102
J14K Nanvaranak Lak 68.45 332 P **P** **16 35 18.0 +1.8**
baz=100
E17K Hotham Inlet 68.61 337 P **P** **16 35 18.3 +1.1**
baz=103,SNR=11
BORG Borgarnes 68.75 26 LR LR 17 06 38.9
comp=Z,44nm,19.0s,baz=286,slow=37
C18K Utukok River 68.75 339 IAmb IAmb 16 35 19.8
comp=Z,26nm,1.1s
C18K Utukok River 68.75 339 P **P** **16 35 18.9 +0.8**
baz=104,SNR=5.5
K13K Kusilvak Mount 68.83 331 P **P** **16 35 20.1 +1.5**
baz=98
UNV Unalaska Valle 68.92 322 P **P** **16 35 20.1 +0.8**
baz=94
G15K Niukluk 69.06 334 P **P** **16 35 21.2 +1.2**
baz=100
B18K Kokolik River 69.14 339 P **P** **16 35 21.8 +1.4**
baz=104
D17K Noatak River 69.22 337 P **P** **16 35 21.9 +1.0**
baz=102
RDOG Red Dog Mine 69.23 338 P **P** **16 35 22.3 +1.2**
baz=102
M11K Mekoryuk 69.36 329 P **P** **16 35 23.3 +1.4**
baz=96
C17K DeLong Mountai 69.42 338 P **P** **16 35 23.2 +1.0**
baz=102
F15K North Star Dit 69.44 335 IAmb IAmb 16 35 25.0
comp=Z,24nm,0.9s
F15K North Star Dit 69.44 335 P **P** **16 35 23.7 +1.4**
baz=100,SNR=6.2
ANM Nome 69.55 334 P **P** **16 35 24.1 +1.0**
baz=99
F14K Arctic Creek 70.09 335 P **P** **16 35 28.0 +1.6**
baz=98
C16K Lisburne Hills 70.17 338 P **P** **16 35 28.0 +1.2**
baz=100
NIKH Nikolski High 70.28 321 P **P** **16 35 29.1 +1.3**
baz=92
TNA Tin City 70.76 335 P **P** **16 35 31.8 +1.4**
baz=97
P08K Saint George I 70.82 325 P **P** **16 35 32.0 +1.2**
baz=92
SPIA Saint Paul Isl 71.22 326 P **P** **16 35 34.1 +0.8**
baz=92
GAMB Gambell 72.23 333 P **P** **16 35 40.0 +0.8**
baz=93
BBTS Babate 72.98 79 LR LR 17 02 22.0
comp=Z,52nm,21.9s,baz=318,slow=32
JMIC Jan Mayen 74.22 20 LR LR 17 08 15.0
comp=Z,115nm,21.4s,baz=268,slow=36
ADK Adak 75.10 320 P **P** **16 35 55.9 -0.5**
ADK IAmb IAmb 16 36 18.0
comp=Z,24nm,0.7s
EKA Eskdalemuir Ar 77.62 36 P **P** **16 36 08.2 -2.3**
comp=Z,3.5nm,0.6s,baz=273,slow=6.0,SNR=13
comp=Z,3.5nm,0.6s
SPITS Spitsbergen Ar 79.49 11 P **P** **16 36 19.5 -0.9**
comp=Z,3.5nm,0.7s,baz=283,slow=3.8,SNR=1.7
SPITS LR LR 17 15 10.7
comp=Z,120nm,18.3s,baz=270,slow=38
comp=Z,3.5nm,0.7s
ESDC Sonseca Array 79.57 52 P **P** **16 36 18.8 -2.9**
ESDC Sonseca Array 79.57 52 P **P** **16 36 19.6 -2.0**
comp=Z,2.1nm,0.8s,baz=288,slow=5.8,SNR=11
ESDC LR LR 17 05 36.1
comp=Z,78nm,21.7s,baz=282,slow=31
comp=Z,2.1nm,0.8s
MDT Midelt 80.34 59 LR LR 17 05 09.4
comp=Z,38nm,21.4s,baz=243,slow=31
BILL Bilibino 80.69 338 P **P** **16 36 27.1 +0.1**
BILL IAmb IAmb 16 36 29.2
comp=Z,32nm,0.9s
ESPZ Base Esperanza 82.51 165 P **P** **16 36 36.1 -0.4**
ESPZ IAmb IAmb 16 36 38.3
comp=Z,33nm,1.0s
NOA NORSAR Array B 83.71 28 P **P** **16 36 41.1 -1.9**
comp=Z,0.8nm,0.8s,baz=290,slow=4.8,SNR=3.5
NOA LR LR 17 11 56.5
comp=Z,80nm,21.8s,baz=285,slow=34
comp=Z,0.8nm,0.8s
HFS Hagfors 85.17 29 P **P** **16 36 48.3 -2.0**
comp=Z,0.8nm,0.6s,baz=273,slow=2.7,SNR=5.3
HFS pP **pP** **16 37 08.8 -2.6**
comp=Z,1.1nm,0.7s,baz=255,slow=3.2,SNR=2.0
HFS LR LR 17 12 38.9
comp=Z,96nm,21.9s,baz=288,slow=34
comp=Z,0.8nm,0.6s
ARCES ARCESS Array B 85.60 18 P **P** **16 36 50.8 -1.5**
comp=Z,1.5nm,0.7s,baz=291,slow=3.8,SNR=10
ARCES LR LR 17 15 45.8
comp=Z,58nm,18.2s,baz=297,slow=36
comp=Z,1.5nm,0.7s
DBIC Dimbokro 85.94 84 P **P** **16 36 52.3 -2.7**
comp=Z,3.0nm,0.7s,baz=158,slow=8.6,SNR=3.3
DBIC LR LR 17 15 42.7
comp=Z,27nm,18.0s,baz=257,slow=36
comp=Z,3.0nm,0.7s
DAVOX Davos/Dischmat 87.59 42 P **P** **16 37 00.6 -2.1**
comp=Z,1.7nm,0.7s,baz=324,slow=7.5,SNR=2.6
DAVOX LR LR 17 09 43.7
comp=Z,43nm,21.9s,baz=253,slow=31
comp=Z,1.7nm,0.7s
GERES GERESS Array B 89.30 39 LR LR 17 13 01.1
comp=Z,63nm,21.9s,baz=271,slow=33
PETK Petropavlovsk- 89.88 325 P **P** **16 37 14.4 +1.3**
comp=Z,4.5nm,0.8s,baz=74,slow=5.1,SNR=6.6
comp=Z,4.5nm,0.8s
FINES FINESS Array B 90.03 25 P **P** **16 37 11.4 -2.2**
comp=Z,1.3nm,0.8s,baz=308,slow=4.6,SNR=5.8
FINES pP **pP** **16 37 32.4 -2.4**
comp=Z,0.6nm,0.6s,baz=0.0,slow=0.6,SNR=1.1
FINES LR LR 17 19 19.8
comp=Z,32nm,19.1s,baz=257,slow=37
comp=Z,1.3nm,0.8s
MA2 Magadan 90.33 333 P **P** **16 37 15.5 +0.4**
comp=Z,6.8nm,0.7s,baz=327,slow=21,SNR=3.5
comp=Z,6.8nm,0.7s
AQU L'Aquila 91.48 46 P **P** **16 37 21.0 +0.1**
MODS Modra-Piesok 91.67 39 *e*P **P** **16 37 22.4 +0.8**
STHS Stebnicka Huta 93.57 37 *e*P P 16 37 35.6 +5.3
VAE Valguarnera 93.99 50 LR LR 17 14 01.8
comp=Z,93nm,21.0s,baz=314,slow=32
KOLS Kolonicke sedl 94.40 37 *e*P **P** **16 37 33.7 -0.4**
AKASG Malin Array Be 97.35 33 LR LR 17 23 29.9
comp=Z,24nm,18.3s,baz=308,slow=37
DZM Mont Dzumac 105.57 251 *e*LR LR 17 13 19.5
comp=Z,124nm,24.6s
BVAR Borovoye Array 110.95 11 PKiKP **PKiKP** **16 42 47.4 +0.3**
comp=Z,1.4nm,0.7s,baz=225,slow=0.2,SNR=8.7
CN2 Changchun 112.32 331 *e*PKP **PKiKP** **16 42 49.6 -0.3**
KURBB Kurchatov Arra 114.48 6 PKiKP PKPdf 16 42 54.4 +0.6
comp=Z,1.4nm,0.2s,baz=342,slow=1.9,SNR=5.3
SONM Songino Array 115.55 346 PKP **PKPdf** **16 42 56.4 +0.3**
comp=Z,0.4nm,0.3s,baz=346,slow=2.2,SNR=3.7
KSRS Korea Array 115.78 325 PKP **PKPdf** **16 42 57.0 +0.3**
comp=Z,3.3nm,0.9s,baz=21,slow=0.6,SNR=13
KSRS pPKP **pPKiKP** **16 43 19.0 +0.3**
comp=Z,0.9nm,0.6s,baz=1.5,slow=1.1,SNR=2.8
KSAR Wonju Array Be 115.81 325 **PKiKP** **16 42 55.5 -1.2**
MAKZ Makanchi 118.58 4 **PKPdf** **16 43 00.8 -1.2**
MKAR Makanchi Array 118.62 4 PKP **PKPdf** **16 43 01.6 -0.4**
comp=Z,1.5nm,0.8s,baz=352,slow=2.5,SNR=12
MKAR pPKP **pPKPdf** **16 43 22.5 -1.5**
comp=Z,0.4nm,0.6s,baz=14,slow=2.7,SNR=3.0
HHC Hu-ho-hao-te 120.46 339 *e*PKP **PKPdf** **16 43 03.5 -2.3**
BOSA Boshof 120.96 115 PKP **PKiKP** **16 43 07.3 +0.2**
comp=Z,5.4nm,0.7s,baz=275,slow=2.9,SNR=14
WMQ Urumqi 121.78 360 *e*PKP **PKiKP** **16 43 08.8 +0.4**
WMQ LR LR
comp=Z,480nm,19.7s
WMQ LR LR
comp=Z,300nm,21.7s
WMQ LR LR
comp=Z,310nm,23.9s

SIMJ	**Simiganj**	**124.14**	**18**			**PKPdf**	**16 43 11.8**	**-1.2**
MAW	**Mawson**	**124.71**	**169**	PKP		**PKiKP**	**16 43 13.4**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=174,slow=2.3,SNR=13							
MAW				pPKP		**pPKPdf**	**16 43 35.5**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=91,slow=7.3,SNR=2.3							
NJ2	**Nanjing**	**124.73**	**328**	*e*PKP		**PKiKP**	**16 43 14.9**	**+0.5**
KSH	**Kashi**	**124.99**	**11**	PKP		**PKiKP**	**16 43 15.3**	**+0.4**
GTA	**Gaotai**	**125.00**	**348**	*e*PKP		**PKiKP**	**16 43 15.3**	**+0.4**
LZH	**Lanzhou**	**127.23**	**344**	*e*PKP		**PKiKP**	**16 43 20.4**	**+0.9**
LZH				LR	LR			
	comp=Z,800nm,18.2s							
LZH				LR	LR			
	comp=Z,850nm,18.9s							
LZH				LR	LR			
	comp=Z,970nm,19.6s							
XAN	**Xi'an**	**127.48**	**338**	PKP		**PKPdf**	**16 43 19.5**	**+0.1**
STKA	**Stephens Creek**	**128.08**	**241**	PKP		**PKiKP**	**16 43 21.5**	**+0.5**
	comp=Z,6.1nm,0.7s,baz=84,slow=2.2,SNR=12							
CD2	**Chengdu**	**132.09**	**341**	PKP		**PKPdf**	**16 43 26.4**	**-1.8**
WRA	**Warramunga Arr**	**135.22**	**256**			**PKPdf**	**16 43 33.3**	**-1.0**
WRA	**Warramunga Arr**	**135.22**	**256**	PKhKP	PKPpre		16 43 25.7	
	comp=Z,0.6nm,0.8s,baz=93,slow=3.6,SNR=7.3							
WRA				PKP		**PKiKP**	**16 43 35.2**	**-0.6**
	comp=Z,2.3nm,0.7s,baz=87,slow=2.6,SNR=18							
WRA				pPKP	pPKPdf		16 43 57.8	+1.6
	comp=Z,1.4nm,0.8s,baz=85,slow=2.2,SNR=2.8							
ASAR	**Alice Springs**	**135.56**	**251**	PKhKP	PKPpre		16 43 19.2	
	comp=Z,0.8nm,1.0s,baz=113,slow=4.1,SNR=9.4							
ASAR				PKP		**PKiKP**	**16 43 36.5**	**0.0**
	comp=Z,2.0nm,0.8s,baz=106,slow=1.2,SNR=14							
ASAR				SKPbc		**SKPbc**	**16 47 01.4**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=131,slow=4.2,SNR=4.5							
PZH	**PanZhiHua**	**136.82**	**341**	PKP		**PKPdf**	**16 43 37.5**	**+0.2**
TOLI2	**Tolitoli**	**143.64**	**293**		PKPbc		16 43 47.4	0.0
BATI	**Baumata**	**144.56**	**273**	PKPbc		**PKPdf**	**16 43 52.8**	**+1.5**
	comp=Z,16nm,0.7s,baz=284,slow=4.1,SNR=4.8							
CMAR	**Chiang Mai Arr**	**145.23**	**341**	PKPbc		**PKPdf**	**16 43 52.8**	**+0.4**
	comp=Z,30nm,0.8s,baz=338,slow=3.6,SNR=156							
CMAR				pPKPbc	pPKPab		16 44 13.4	-0.3
	comp=Z,10nm,0.8s,baz=336,slow=3.5,SNR=5.4							
CMAR				SKPbc		**SKiKP**	**16 47 26.3**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=33,slow=3.7,SNR=3.4							
KAPI	**Kappang**	**146.97**	**284**	PKPbc	**PKPab**		**16 43 58.8**	**-0.3**
	comp=Z,5.4nm,0.2s,baz=126,slow=8.5,SNR=4.2							
PSA00	**Pilbara Seismi**	**148.68**	**253**			**PKPdf**	**16 43 59.6**	**+1.5**
MORW	**Morawa**	**150.11**	**237**			**PKPdf**	**16 43 59.1**	**-1.0**

*NIED **18** 16:28:00.8, 39.90N×143.34E, h29km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.63; $M_{\theta\theta}$0.25; $M_{\phi\phi}$-1.89; $M_{r\theta}$1.65; $M_{\theta\phi}$-1.79; $M_{r\phi}$1.52; Fault plane solution: $M_0$3.26000×10^{14} NP1: ϕ_s180.00000°, δ29.00000°, λ44.00000°. NP2:ϕ_s49.00000°, δ70.00000°, λ112.00000°.*

*JMA **18** 16:28:00.8±0.2, 39.9N±0.7×14.3E±, h29km, MV3.6/35, FAR E OFF SANRIKU*

*IDC **18** 16:28:03.6±3.3, 39.84N×143.58E, h46km±26km, mb3.5/8, mbtmp3.7/11, ML3.0/3, Error ellipse: s-maj=46.6km s-min=20.1km az=78.0*

ISC 18 16:28:03.0±1.1, 39.85N±0.07×143.3E±0.1, h35km, n30, σ1f39/25, mb3.7/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.13**	**275**	P	**Pn**	**16 28 20.9**	**-1.4**
MIYJ	**Miyakonagasawa**	**1.19**	**257**	*i* P	**Pn**	**16 28 22.4**	**-0.8**
JKEN	**Kujiedanarisaw**	**1.29**	**286**	P	**Pn**	**16 28 22.9**	**-1.5**
JANG	**Nango**	**1.48**	**291**	P	**Pn**	**16 28 26.0**	**-1.1**
JOM	**Ohasama**	**1.61**	**257**	*i* P	**Pn**	**16 28 29.1**	**+0.1**
JMK	**Ichinoseki**	**1.86**	**242**	*i* P	**Pn**	**16 28 32.0**	**-0.4**
JTM	**Tenmabayashi**	**1.96**	**299**	P	**Pn**	**16 28 33.5**	**-0.2**
JIO	**Ouri**	**2.08**	**228**	P	**Pn**	**16 28 34.3**	**-1.0**
JAH	**Hinai**	**2.09**	**280**	P	**Pn**	**16 28 35.9**	**+0.4**
JRG	**Rokugo**	**2.13**	**258**	P	**Pn**	**16 28 36.5**	**+0.5**
JEM	**Erimo**	**2.16**	**357**	P	**Pn**	**16 28 36.2**	**-0.3**
JOT	**Ohata**	**2.31**	**312**	P	**Pn**	**16 28 38.5**	**-0.1**
JNBK	**Urakawa-nobuka**	**2.46**	**350**	P	**Pn**	**16 28 40.8**	**+0.2**
ASAJ	**Asahikawa**	**4.29**	**353**	P	**Pn**	**16 29 06.2**	**+0.4**
	0.9nm,0.3s,baz=207,slow=15,SNR=18							
ASAJ				S		**16 29 51.9**	**-2.8**
	4.1nm,0.4s,baz=155,slow=23,SNR=3.9							
	3.0nm,0.4s							
MJAR	**Matsushiro Arr**	**5.21**	**232**	P	**Pn**	**16 29 20.7**	**+2.3**
	0.1nm,0.3s,baz=45,slow=11,SNR=4.5							
	0.7nm,0.3s							
USRK	**Ussuriysk Ar.**	**9.48**	**301**	P	**Pn**	**16 30 21.3**	**+4.3**
	0.2nm,0.3s,baz=96,slow=12,SNR=6.0							
	1.2nm,0.5s							
SONM	**Songino Array**	**27.59**	**299**	P	**P**	**16 33 46.9**	**0.0**
	0.7nm,0.4s,baz=95,slow=8.5,SNR=4.2							
	0.7nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**28.50**	**128**	T	T	17 03 49.2		
	baz=320,slow=74,SNR=22							
H11N1	**WAKE ISLAND Hy**	**28.51**	**128**	T	T	17 03 45.8		
	baz=320,SNR=24							
H11N3	**WAKE ISLAND Hy**	**28.52**	**128**	T	T	17 03 54.2		
	baz=320,slow=74,SNR=16							
H11S1	**WAKE ISLAND Hy**	**29.32**	**130**	T	T	17 04 48.2		
	baz=322,slow=76,SNR=6.9							
H11S3	**WAKE ISLAND Hy**	**29.32**	**130**	T	T	17 04 47.9		
	baz=322,slow=76,SNR=6.6							
H11S2	**WAKE ISLAND Hy**	**29.34**	**130**	T	T	17 04 49.2		
	baz=322,slow=76,SNR=7.4							
ZALV	**Zalesovo Beam**	**41.19**	**310**	P	**P**	**16 35 44.5**	**+0.6**
	1.3nm,0.5s,baz=92,slow=9.1,SNR=6.8							
	1.3nm,0.5s							
MKAR	**Makanchi Array**	**43.95**	**300**	P	**P**	**16 36 07.0**	**+0.5**
	0.4nm,0.8s,baz=78,slow=11,SNR=3.6							
	0.4nm,0.8s							
KURBB	**Kurchatov Arra**	**45.50**	**306**	P	**P**	**16 36 19.5**	**+0.7**
	2.2nm,0.2s,baz=75,slow=11,SNR=1.6							
	2.2nm,0.2s							
BVAR	**Borovoye Array**	**49.82**	**311**	P	**P**	**16 36 52.9**	**+0.7**
	0.5nm,0.6s,baz=68,slow=6.0,SNR=4.7							
	0.5nm,0.6s							
WRA	**Warramunga Arr**	**60.07**	**190**	P	**P**	**16 38 05.7**	**-0.9**
	0.4nm,0.8s,baz=9.1,slow=6.9,SNR=2.8							
	0.4nm,0.8s							
ASAR	**Alice Springs**	**63.80**	**190**	P	**P**	**16 38 31.1**	**-0.4**
	0.3nm,0.7s,baz=10,slow=6.2,SNR=5.5							
	0.3nm,0.7s							
HFS	**Hagfors**	**72.13**	**336**	P	**P**	**16 39 23.9**	**+0.4**
	1.3nm,0.9s,baz=53,slow=7.4,SNR=1.4							
	1.3nm,0.9s							

*TAP **18** 16:30:44.7, 23.44N×120.38E, h10km, ML3.7, B*

ISC 18 16:30:45.3±0.8, 23.45N±0.01×120.37E±0.01, h17km±4km, n130, σ0f82/233, 20C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHY	**Chiayi**	**0.07**	**43**	⇑P	**Pg**	**16 30 47.6**	**-1.1**
CHY				*e*S	**Sg**	**16 30 50.2**	**-0.7**
ICHU	**Yijhu**	**0.12**	**225**	⇑*i*P	**Pg**	**16 30 48.1**	**-1.0**
ICHU				S	**Sg**	**16 30 51.3**	**-0.3**
CHN2	**Minshiung**	**0.13**	**48**	⇑*i*P	**Pb**	**16 30 48.7**	**-0.7**
CHN2				*e*S	**Sg**	**16 30 52.0**	**+0.2**
WSL	**Shuilin Townsh**	**0.15**	**301**	⇓*i*P	**Pg**	**16 30 48.9**	**-0.6**
WSL				*e*S	**Sg**	**16 30 53.0**	**+0.7**
CHN8	**Yiju**	**0.18**	**236**	⇑*i*P	**Pg**	**16 30 49.2**	**-0.7**
CHN8				*i* S	**Sg**	**16 30 53.2**	**+0.4**
WCKO	**Fanlu**	**0.22**	**92**	⇓*i*P	**Pb**	**16 30 49.9**	**-0.9**
WCKO				S	**Sg**	**16 30 53.8**	**-0.1**
CHN4	**Tsaushan**	**0.23**	**115**	⇓*i*P	**Pb**	**16 30 50.2**	**-0.8**
CHN4				*e*S	**Sg**	**16 30 54.7**	**+0.5**
WSF	**Szhu**	**0.23**	**325**	⇓*i*P	**Pb**	**16 30 50.5**	**-0.6**
WSF				S	**Sg**	**16 30 55.4**	**+1.0**
WTK	**Tuku**	**0.24**	**4**	⇑*i*P	**Pb**	**16 30 50.9**	**-0.4**
WTK				S	**Sb**	**16 30 56.1**	**+0.8**
SNST	**Tainan City**	**0.25**	**152**	⇓*i*P	**Pb**	**16 30 50.7**	**-0.8**
SNST				S	**Sg**	**16 30 55.1**	**+0.2**
TPUB	**Ta-pu**	**0.28**	**121**	P	**Pn**	**16 30 56.1**	**+1.4**
TPUB	**Ta-pu**	**0.28**	**121**	⇓*i*P	**Pb**	**16 30 51.1**	**-0.8**
TPUB				S	**Sb**	**16 30 56.2**	**-0.1**
WDLH	**Douliu**	**0.29**	**32**	⇑*i*P	**Pb**	**16 30 51.9**	**-0.2**
WDLH				S	**Sb**	**16 30 58.1**	**+1.5**
CHN1	**Nanshi**	**0.30**	**151**	⇓*i*P	**Pb**	**16 30 51.5**	**-0.7**
CHN1				S	**Sb**	**16 30 56.5**	**-0.3**
WGK	**Gukeng**	**0.30**	**36**	⇑*i*P	**Pb**	**16 30 52.1**	**-0.1**
WGK				*e*S	**Sb**	**16 30 58.1**	**+1.3**
WTP	**Ta-pu**	**0.30**	**131**	⇓*i*P	**Pb**	**16 30 51.6**	**-0.7**
WTP				*e*S	**Sb**	**16 30 56.7**	**-0.2**
WDL	**Douliou City**	**0.31**	**30**	⇑P	**Pb**	**16 30 52.3**	**-0.2**
WDL				*e*S	**Sb**	**16 30 58.6**	**+1.4**
SCLT	**Jiali**	**0.31**	**211**	⇑*e*P	**Pb**	**16 30 51.9**	**-0.5**
SCLT				*e*S	**Sb**	**16 30 58.8**	**+1.6**
SSHA	**Shanhua**	**0.32**	**194**	⇑*e*P	**Pb**	**16 30 52.2**	**-0.3**
SSHA				*e*S	**Sb**	**16 30 57.8**	**+0.5**
CHN5	**Tsauling**	**0.32**	**62**	⇑*i*P	**Pb**	**16 30 52.0**	**-0.6**
CHN5				S	**Sb**	**16 30 57.4**	**-0.2**
CHN3	**Shinhua**	**0.37**	**181**	*e*P	**Pb**	**16 30 53.5**	**+0.1**
TSCK	**Chigu Township**	**0.40**	**221**	*e*P	**Pb**	**16 30 53.6**	**-0.3**
TSCK				*e*S	**Sb**	**16 31 00.3**	**+0.7**
ALS	**Alishan**	**0.41**	**81**	⇓P	**Pb**	**16 30 53.9**	**-0.3**
ALS				*e*S	**Sb**	**16 31 00.6**	**+0.4**
SHHT	**Tainan City**	**0.42**	**183**	*e*P	**Pb**	**16 30 54.6**	**+0.3**
SHHT				*e*S	**Sb**	**16 31 03.5**	**+3.1**
TAI1	**Yung-k'ang**	**0.42**	**198**	*e*P	**Pb**	**16 30 54.4**	**+0.1**
TAI1				*e*S	**Sb**	**16 31 02.4**	**+1.9**
WTCT	**Ta-ch'eng**	**0.42**	**349**	P	**Pg**	**16 30 53.8**	**-0.2**
WTCT				*e*S	**Sb**	**16 31 00.9**	**+0.4**
STYH	**Taoyuan**	**0.46**	**126**	⇓P	**Pb**	**16 30 54.3**	**-0.7**
STYH				*e*S	**Sb**	**16 31 01.6**	**0.0**
WJS	**Zhushan**	**0.50**	**41**	P	**Pb**	**16 30 55.4**	**-0.2**
WJS				*e*S	**Sb**	**16 31 03.3**	**+0.7**
WHYT	**Xinyi Township**	**0.51**	**60**	⇑P	**Pb**	**16 30 55.5**	**-0.4**
WHYT				*e*S	**Sb**	**16 31 03.7**	**+0.7**
WNT	**Mingjian**	**0.52**	**34**	⇑P	**Pb**	**16 30 55.9**	**-0.1**
WNT				*e*S	**Sb**	**16 31 04.3**	**+1.1**
SCST	**Cishan**	**0.57**	**168**	*e*P	**Pn**	**16 30 57.7**	**-1.0**
SCST				*e*S	**Sn**	**16 31 07.4**	**-0.2**
TWM1	**Shoushan**	**0.62**	**176**	*e*P	**Pn**	**16 30 59.2**	**-0.1**
SSLB	**Suanglung**	**0.64**	**57**	P	**Pb**	**16 30 57.6**	**-0.4**
SSLB	**Suanglung**	**0.64**	**57**	⇑P	**Pb**	**16 30 57.6**	**-0.4**
SSLB				S	**Sb**	**16 31 07.2**	**+0.1**
TYC	**Yuchr**	**0.64**	**44**	⇑*e*P	**Pb**	**16 30 58.0**	**-0.1**
TYC				*e*S	**Sb**	**16 31 07.8**	**+1.2**
WCH1	**Changhua City**	**0.65**	**15**	⇑P	**Pb**	**16 30 58.2**	**0.0**
WCH1				S	**Sb**	**16 31 08.3**	**+1.5**
ELDTW	**Lidau**	**0.65**	**113**	⇓*i*P	**Pb**	**16 30 57.8**	**-0.4**
ELDTW				*e*S	**Sb**	**16 31 07.4**	**+0.4**
SMLT	**Sun Moon Lake**	**0.65**	**48**	⇑*i*P	**Pb**	**16 30 58.3**	**0.0**
SMLT				S	**Sb**	**16 31 08.5**	**+1.3**
WCHH	**Zhanghua**	**0.66**	**15**	⇑P	**Pb**	**16 30 58.2**	**-0.1**
WCHH				*e*S	**Sb**	**16 31 08.3**	**+1.1**
WDGT	**Dungji**	**0.68**	**254**	⇓*i*P	**Pg**	**16 30 57.9**	**-0.8**
WDGT				*e*S	**Sg**	**16 31 07.1**	**-0.6**
SNJT	**Kaohsiung City**	**0.69**	**183**	*e*P	**Pn**	**16 30 59.8**	**-0.5**
SNJT				*e*S	**Sn**	**16 31 13.0**	**+2.4**
SGLT	**Jiouru**	**0.72**	**171**	*e*P	**Pn**	**16 31 00.9**	**+0.1**
SGLT				*e*S	**Sn**	**16 31 14.9**	**+3.4**
PHUB	**P'eng-hu**	**0.74**	**275**	*e*P	**Pg**	**16 30 58.2**	**-1.6**
PHUB				*e*S	**Sg**	**16 31 08.8**	**-0.8**
SSD	**Sandimen**	**0.74**	**161**	*e*P	**Sn**	**16 30 60.0**	**+0.3**
SSD				*e*S	**Sn**	**16 31 11.0**	**-0.7**
TCU	**Taichung**	**0.75**	**22**	*e*P	**Pb**	**16 30 59.9**	**-0.1**
PNG	**Penghu**	**0.76**	**279**	⇓P	**Pg**	**16 30 59.1**	**-1.1**
PNG				*e*S	**Sg**	**16 31 09.6**	**-0.7**
VWDT	**VWDT**	**0.77**	**66**	⇑P	**Pb**	**16 31 00.4**	**+0.2**
VWDT				*e*S	**Sb**	**16 31 11.5**	**+1.0**
TSMG	**Majia**	**0.78**	**161**	*e*P	**Pb**	**16 31 00.5**	**+0.1**
TSMG				*e*S	**Sn**	**16 31 12.4**	**-0.4**
WCS	**Beigang Elemen**	**0.79**	**39**	*e*P	**Pb**	**16 31 00.3**	**-0.3**
WCS				*e*S	**Sb**	**16 31 12.1**	**+1.2**
EHD	**Haiduan**	**0.82**	**111**	*e*P	**Pb**	**16 31 00.9**	**-0.3**
EHD				*e*S	**Sb**	**16 31 12.6**	**+0.6**
YULB	**Yu-li**	**0.85**	**93**	P	**Pb**	**16 31 01.7**	**0.0**
YULB	**Yu-li**	**0.85**	**93**	P	**Pb**	**16 31 01.4**	**-0.3**
YULB				S	**Sb**	**16 31 13.2**	**+0.4**
ECS	**Chishang**	**0.85**	**114**	*e*P	**Pb**	**16 31 01.8**	**+0.1**
ECS				*e*S	**Sn**	**16 31 14.6**	**-0.1**
TWF1	**Yuli**	**0.86**	**96**	P	**Pb**	**16 31 01.8**	**0.0**
TWF1				*e*S	**Sb**	**16 31 13.5**	**+0.5**
MASBT	**Mashibuluo**	**0.86**	**164**	P	**Pb**	**16 31 02.0**	**+0.2**
MASBT				*e*S	**Sn**	**16 31 14.9**	**0.0**
WUSB	**Renai**	**0.88**	**51**	⇑*i*P	**Pg**	**16 31 01.7**	**-0.8**
WUSB				S	**Sb**	**16 31 13.8**	**+0.2**
EHY	**Hungye**	**0.88**	**86**	*e*P	**Pb**	**16 31 02.2**	**+0.2**
EHY				*e*S	**Sb**	**16 31 14.6**	**+1.1**
EYUL	**Yuli**	**0.88**	**96**	*e*P	**Pb**	**16 31 02.3**	**+0.2**
EYUL				*e*S	**Sb**	**16 31 14.6**	**+1.1**
LONT	**Longtian**	**0.88**	**127**	P	**Pb**	**16 31 02.2**	**+0.1**
LONT				S	**Sn**	**16 31 14.9**	**-0.5**
FULB	**Fuli**	**0.88**	**106**	*e*P	**Pn**	**16 31 02.7**	**-0.3**
FULB				*e*S	**Sn**	**16 31 16.0**	**+0.6**
OWD	**Renai**	**0.90**	**55**	*e*P	**Pb**	**16 31 02.3**	**-0.2**
OWD				*e*S	**Sb**	**16 31 14.6**	**+0.3**
TWG	**Pinlang**	**0.90**	**134**	P	**Sn**	**16 31 02.6**	**+0.1**
TWG				S	**Sn**	**16 31 15.6**	**-0.2**
VCHM	**Qimei**	**0.90**	**255**	P	**Pg**	**16 31 01.4**	**-1.3**
VCHM				S	**Sg**	**16 31 13.8**	**-0.8**
EHYH	**Wanrong**	**0.90**	**87**	*e*P	**Pb**	**16 31 02.5**	**+0.1**
EHYH				*e*S	**Sb**	**16 31 15.2**	**+1.1**
TWGBT	**Beinan**	**0.90**	**134**	*e*P	**Pb**	**16 31 02.5**	**-0.1**
TWGBT				S	**Sn**	**16 31 15.6**	**-0.3**
WDJ	**Dajia District**	**0.93**	**15**	*e*P	**Pb**	**16 31 03.3**	**+0.3**
WDJ				*e*S	**Sn**	**16 31 17.4**	**+0.8**
HGSD	**Ruisui**	**0.97**	**87**	*e*P	**Pn**	**16 31 04.2**	**+0.1**
HGSD				*e*S	**Sn**	**16 31 19.0**	**+1.5**
WARBT	**Fenglin Townsh**	**0.97**	**74**	P	**Pb**	**16 31 03.6**	**-0.1**
WARBT				S	**Sb**	**16 31 16.9**	**+0.6**
TWQ1	**Liyutan**	**0.97**	**22**	*e*P	**Pb**	**16 31 03.8**	**+0.1**
TWQ1				*e*S	**Sn**	**16 31 17.7**	**+0.1**
CHKT	**Chengkung**	**0.98**	**110**	*e*S	**Sn**	**16 31 19.1**	**+1.4**
EDH	**Donghe**	**0.98**	**119**	*e*P	**Sn**	**16 31 03.8**	**-0.1**
EDH				*e*S	**Sn**	**16 31 19.4**	**+1.7**
WHP	**Taichung City**	**0.98**	**32**	*e*P	**Pg**	**16 31 03.7**	**-0.8**
EGFH	**Guangfu**	**0.99**	**77**	*e*P	**Pn**	**16 31 04.4**	**-0.1**
EGFH				*e*S	**Sn**	**16 31 18.7**	**+0.6**
ECL	**Taimali**	**1.00**	**147**	P	**Pn**	**16 31 04.3**	**-0.2**
ECL				*e*S	**Sn**	**16 31 18.7**	**+0.4**
NSY	**Sanyi**	**1.03**	**20**	*e*P	**Pb**	**16 31 04.9**	**+0.2**
NSY				*e*S	**Sn**	**16 31 20.0**	**+0.9**
ESL	**Shilin**	**1.04**	**69**	*e*P	**Pb**	**16 31 05.0**	**0.0**
ESL				*e*S	**Sn**	**16 31 19.3**	**0.0**
WHF	**Hehuan Shan**	**1.08**	**49**	*e*P	**Pb**	**16 31 05.8**	**+0.1**
WHF				*e*S	**Sn**	**16 31 20.7**	**0.0**
TDCB	**Techi**	**1.08**	**42**	P	**Pg**	**16 31 05.2**	**-1.1**
TDCB				*e*S	**Sb**	**16 31 20.2**	**+0.6**
TWT	**Tachien**	**1.09**	**42**	*e*P	**Pg**	**16 31 05.5**	**-1.1**
TWT				*e*S	**Sb**	**16 31 20.1**	**+0.3**
SCZT	**Fangliau**	**1.09**	**168**	*e*P	**Pg**	**16 31 05.6**	**-0.9**
LXIB	**Xiulin Townshi**	**1.11**	**59**	*e*P	**Pb**	**16 31 05.9**	**-0.3**
LXIB				*e*S	**Sb**	**16 31 21.2**	**+0.7**
FUSS	**Fushou**	**1.13**	**45**	*e*P	**Pg**	**16 31 06.2**	**-1.1**
FUSS				*e*S	**Sn**	**16 31 22.5**	**+0.6**
EAST	**Anshuo**	**1.15**	**157**	*e*P	**Pn**	**16 31 07.1**	**+0.5**
EAST				*e*S	**Sn**	**16 31 23.9**	**+2.0**
SHUL	**Shoufeng**	**1.15**	**72**	*e*P	**Pn**	**16 31 07.5**	**+1.0**
SHUL				*e*S	**Sn**	**16 31 23.8**	**+2.0**
ETM	**Tongmen**	**1.15**	**63**	*e*P	**Pg**	**16 31 06.8**	**-0.8**
ETM				*e*S	**Sn**	**16 31 22.7**	**+0.7**
NMLH	**Miaoli**	**1.15**	**19**	*e*P	**Pb**	**16 31 06.5**	**-0.3**
NMLH				*e*S	**Sn**	**16 31 22.9**	**+0.8**
TAWH	**Dawu Township**	**1.20**	**156**	*e*P	**Pg**	**16 31 08.0**	**-0.6**
TAWH				*e*S	**Sn**	**16 31 24.8**	**+1.7**
ETLH	**Xiulin Townshi**	**1.27**	**53**	*e*P	**Pb**	**16 31 08.8**	**0.0**
ETLH				*e*S	**Sn**	**16 31 26.3**	**+1.2**
SLIU	**Shizi**	**1.28**	**162**	*e*P	**Pg**	**16 31 09.2**	**-1.0**
TWD	**Chiawan**	**1.29**	**60**	*e*P	**Pg**	**16 31 09.3**	**-0.9**
TWD				*e*S	**Sg**	**16 31 27.1**	**0.0**
NSTT	**Nanjuang**	**1.31**	**26**	P	**Pn**	**16 31 08.8**	**-0.1**
NSTT				*e*S	**Sn**	**16 31 26.8**	**+0.7**
LIOB	**Emei**	**1.33**	**26**	P	**Pn**	**16 31 09.2**	**0.0**
LIOB				*e*S	**Sn**	**16 31 27.5**	**+1.0**
NACB	**Ninganchiao**	**1.34**	**57**	P	**Pb**	**16 31 10.0**	**+0.1**
NACB	**Ninganchiao**	**1.34**	**57**	*e*P	**Pb**	**16 31 09.7**	**-0.2**
NACB				*e*S	**Sg**	**16 31 27.7**	**-0.9**
NNSB	**Datong**	**1.35**	**43**	*e*P	**Pn**	**16 31 09.6**	**+0.1**
NNSB				*e*S	**Sn**	**16 31 27.8**	**+0.8**
ETL	**Fush Village**	**1.35**	**58**	*e*P	**Pg**	**16 31 10.5**	**-0.9**
NNS	**Nan Shan**	**1.35**	**43**	*e*P	**Pn**	**16 31 09.6**	**+0.1**
NFF	**Wufeng Townshi**	**1.36**	**30**	*e*P	**Pn**	**16 31 09.8**	**+0.2**
NFF				*e*S	**Sn**	**16 31 28.5**	**+1.1**
SBCB	**Hsinchu**	**1.45**	**23**	*e*P	**Pn**	**16 31 10.7**	**-0.1**
SBCB				*e*S	**Sb**	**16 31 31.1**	**+1.0**
LATG	**Datong**	**1.52**	**44**	P	**Pn**	**16 31 12.5**	**+0.7**
LATG				*e*S	**Sg**	**16 31 33.0**	**-1.3**
KSHI	**Guanxi Townshi**	**1.52**	**29**	*e*P	**Pn**	**16 31 12.1**	**+0.4**
KSHI				*e*S	**Sg**	**16 31 33.0**	**-1.3**
NSK	**Sanguang**	**1.52**	**36**	P	**Pn**	**16 31 12.3**	**+0.4**
NSK				*e*S	**Sb**	**16 31 32.8**	**+0.6**
YHNB	**Yeheng**	**1.53**	**37**	P	**Pn**	**16 31 12.3**	**+0.4**
YHNB	**Yeheng**	**1.53**	**37**	P	**Pn**	**16 31 12.1**	**+0.2**
EAHA	**Aohua**	**1.53**	**55**	*e*P	**Pb**	**16 31 13.0**	**-0.3**
EAHA				*e*S	**Sg**	**16 31 34.2**	**-0.6**
ENA	**Nanau**	**1.59**	**52**	P	**Pb**	**16 31 13.9**	**-0.3**
ENA				*e*S	**Sg**	**16 31 35.9**	**-0.8**
ENTT	**Nioudou**	**1.62**	**42**	P	**Pb**	**16 31 14.1**	**-0.7**
EWUT	**Wuta**	**1.63**	**52**	*e*P	**Pb**	**16 31 15.1**	**+0.2**
EWUT				*e*S	**Sg**	**16 31 36.5**	**-1.4**
NWLT	**Wulai**	**1.68**	**38**	*e*P	**Pn**	**16 31 14.6**	**+0.6**
NDS	**Dongshan**	**1.71**	**46**	*e*P	**Pn**	**16 31 14.7**	**+0.4**
NDS				*e*S	**Sb**	**16 31 38.6**	**+1.2**
FUSB	**Fushanzhiwuyua**	**1.72**	**40**	P	**Pn**	**16 31 15.0**	**+0.5**
TWE	**Neicheng**	**1.74**	**43**	P	**Pb**	**16 31 15.9**	**-0.8**
TWE				*e*S	**Sg**	**16 31 40.2**	**-1.2**
VWUC	**VWUC**	**1.75**	**332**	*e*P	**Pn**	**16 31 15.9**	**+1.0**
VWUC				*e*S	**Sn**	**16 31 38.4**	**+1.5**
ESAO	**Su ao**	**1.76**	**50**	*e*P	**Pb**	**16 31 16.1**	**-0.9**
ESAO				*e*S	**Sg**	**16 31 40.6**	**-1.4**
TWC	**Suao**	**1.78**	**49**	*e*P	**Pb**	**16 31 17.2**	**-0.3**
TWC				*e*S	**Sb**	**16 31 40.4**	**+0.8**
TWS1	**Kuangyinshan**	**1.91**	**30**	*e*P	**Pn**	**16 31 16.7**	**-0.3**
TWS1				*e*S	**Sn**	**16 31 42.0**	**+1.4**
EOS4	**EOS4**	**1.91**	**69**	*e*P	**Pn**	**16 31 17.7**	**+1.0**
EOS4				*e*S	**Sb**	**16 31 42.8**	**-0.1**
PTMZ	**Houxiangcun**	**1.96**	**325**	*e*P	**Pn**	**16 31 18.8**	**+1.1**
PTMZ				*e*S	**Sb**	**16 31 44.4**	**-0.2**
EOS2	**EOS2**	**1.96**	**60**	*e*P	**Pb**	**16 31 20.5**	**0.0**
EOS3	**EOS3**	**1.97**	**64**	*e*P	**Pn**	**16 31 18.9**	**+1.2**
YM01	**YM01**	**2.02**	**33**	*e*P	**Pn**	**16 31 18.6**	**0.0**
ZUZH	**Zhuzihu**	**2.02**	**32**	*e*P	**Pn**	**16 31 18.6**	**0.0**
ZUZH				*e*S	**Sn**	**16 31 44.2**	**+0.8**
TIPB	**Shuangxi**	**2.02**	**41**	*e*P	**Pn**	**16 31 19.4**	**+0.8**
ANP	**Anpu**	**2.03**	**31

	comp=Z,2.3nm,0.8s								
TXAR	**Lajitas Array**	**144.22**	**36**	PKP	**PKPdf**	**17 17 36.4**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=306,slow=0.7,SNR=6.3								
CPUP	**Villa Florida**	**144.80**	**217**	PKP	**PKPab**	**17 17 36.4**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=216,slow=2.4,SNR=5.2								

*IDC **18** 17:08:16.1±0.5,0.°25N×126.°15E, h0km, mb4.4/20, mbtmp4.4/23, ML3.9/3, Error ellipse: s-maj=23.9km s-min=11.4km az=77.0*
*DJA **18** 17:08:20.5±0.2,0.°1N±2.°×12.°6E±.°, h10km, M4.5/20, mB4.8/4, mb4.7/15, MLv4.4/20, Mw(mB)4.1/4, MwMwp4.4/2, Mwp4.8/2*
*NEIC **18** 17:08:21.0±2.3,0.°26N±0.°09×126.°34E±0.°07, h31km±5km, mb4.8/45, Error ellipse: s-maj=13.1km s-min=9.3km az=164.0*

ISC 18 17:08:21.5±0.4,**0.°24N**±0.°05×**126.°22E**±0.°05,**h35**km,**n106,**
σ1§**56**/105,**mb4.7**/51,**MS4.4**/3,**1D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.26**	**65**		**Pn**	**17 08 41.0**	**-1.7**
TNTI	**Ternate**	**1.26**	**65**	P	**Pn**	**17 08 41.1**	**-1.6**
TNTI				S	**Sn**	**17 08 57.2**	**-1.2**
KMSI	**Cibinong**	**2.27**	**279**	P	**Pn**	**17 08 58.9**	**+2.4**
SANI	**Sanana**	**2.28**	**186**	P	**Pn**	**17 09 00.5**	**+3.8**
SGSI	**Sangihe**	**3.50**	**349**	P	**Pn**	**17 09 16.3**	**+2.9**
NLAI	**Namlea**	**3.56**	**166**	P	**Pn**	**17 09 15.2**	**+0.9**
LUWI	**Luwuk**	**3.68**	**250**	P	Pn	17 09 22.1	+6.2
MRSI	**Marisa**	**4.29**	**273**	P	**Pn**	**17 09 26.8**	**+2.5**
AAI	**Ambon**	**4.37**	**153**	P	**Pn**	**17 09 27.0**	**+1.6**
MSAI	**Masohi**	**4.47**	**143**	P	**Pn**	**17 09 29.5**	**+2.7**
APSI	**Ampana**	**4.71**	**256**	P	Pn	17 09 35.2	+5.1
SWI	**Sorong**	**5.15**	**102**	P	**Pn**	**17 09 36.9**	**+0.7**
	31nm,0.7s						
TOLI2	**Tolitoli**	**5.51**	**279**		**Pn**	**17 09 44.5**	**+3.4**
MPSI	**Mapaga**	**6.33**	**271**	P	**Pn**	**17 09 55.0**	**+2.7**
PCI	**Palu**	**6.49**	**260**	P	**Pn**	**17 09 58.0**	**+3.5**
	0.3nm41nm,0.9s						
TTSI	**Tana Toraja**	**7.18**	**243**	P	**Pn**	**17 10 05.5**	**+1.4**
	0.2nm702nm52nm,0.6s						
BNSI	**Bone**	**7.65**	**233**	P	**Pn**	**17 10 08.6**	**-1.9**
	0.2nm41nm,1.1s						
SPSI	**Sidrap Palu**	**7.68**	**237**	P	**Pn**	**17 10 14.2**	**+3.3**
	71nm,0.8s						
RKPI	**Ransiki, Papua**	**8.14**	**102**	P	**Pn**	**17 10 19.8**	**+2.5**
	1μm30nm,1.0s						
BKSI	**Bulukumba**	**8.22**	**228**	P	**Pn**	**17 10 17.9**	**-0.5**
	44nm,0.8s						
KAPI	**Kappang**	**8.30**	**231**	Pn	**Pn**	**17 10 17.4**	**-2.1**
	2.4nm,0.3s,baz=10,slow=20,SNR=4.2						
KAPI				Sn	**Sn**	**17 11 48.1**	**-4.1**
	5.6nm,0.3s,baz=188,slow=11,SNR=5.4						
	6.1nm,0.6s						
BSSI	**Bau Bau, Buton**	**8.54**	**222**	P	**Pn**	**17 10 25.3**	**+2.6**
	63nm,1.1s						
BAKI	**Biak**	**9.98**	**98**	P	**Pn**	**17 10 44.1**	**+1.5**
	52nm,1.2s						
EDFI	**Ende, Flores**	**10.00**	**207**	P	**Pn**	**17 10 44.6**	**+1.7**
	18nm,0.9s						
SOEI	**Soe**	**10.11**	**191**	P	**Pn**	**17 10 45.9**	**+1.5**
SBUM	**Sibu**	**14.17**	**279**		**P**	**17 11 47.4**	**+0.6**
JAY	**Jayapura**	**14.73**	**101**	Pn	**Pn**	**17 11 46.3**	**-1.2**
	0.3nm,0.3s,baz=87,slow=5.3,SNR=2.0						
	2.7nm,0.8s						
JAGI	**Jajag, Banyuwa**	**14.81**	**234**		**Pn**	**17 11 50.5**	**+1.9**
KSM	**Kuching**	**15.96**	**275**		**P**	**17 12 06.4**	**-0.3**
KNRA	**Kununurra**	**16.01**	**171**		**Pn**	**17 12 03.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**18.23**	**182**	P	**P**	**17 12 31.4**	**-0.4**
	0.4nm,0.3s,baz=2.4,slow=7.9,SNR=8.8						
	3.2nm,0.6s						
WB0	**Warramunga Arr**	**21.43**	**159**		**P**	**17 13 06.4**	**-0.3**
WRAB	**Tennant Creek**	**21.57**	**159**	P	**P**	**17 13 07.8**	**-0.4**
WRA	**Warramunga Arr**	**21.57**	**159**	P	**P**	**17 13 08.3**	**+0.1**
WRA	**Warramunga Arr**	**21.57**	**159**	P	**P**	**17 13 07.8**	**-0.5**
	8.7nm,0.6s,baz=341,slow=12,SNR=58						
WRA				S	**S**	**17 17 06.2**	**+0.6**
	4.5nm,1.0s,baz=337,slow=17,SNR=4.6						
	8.7nm,0.6s						
WR8	**Warramunga Arr**	**21.64**	**158**		**P**	**17 13 08.7**	**-0.3**
WR8				IAmb	IAmb	17 13 25.0	
	comp=Z,31nm,1.0s						
PSA00	**Pilbara Seismi**	**22.55**	**196**	P	**P**	**17 13 18.3**	**-0.4**
PSA00				IAmb	IAmb	17 13 33.8	
	comp=Z,36nm,1.5s						
PSA00	**Pilbara Seismi**	**22.55**	**196**	P	**P**	**17 13 17.7**	**-1.0**
PSA00				IAmb	IAmb	17 13 33.8	
	comp=Z,28nm,1.6s						
SSLB	**Suanglung**	**23.96**	**348**		**P**	**17 13 32.9**	**+0.1**
SSLB				IAmb	IAmb	17 13 34.6	
	comp=Z,21nm,0.8s						
AS31	**Alice Springs**	**24.90**	**163**		**P**	**17 13 41.0**	**-0.4**
ASAR	**Alice Springs**	**24.90**	**163**		**P**	**17 13 41.1**	**-0.3**
ASAR	**Alice Springs**	**24.90**	**163**	P	**P**	**17 13 41.2**	**-0.1**
	comp=Z,16nm,0.6s,baz=350,slow=12,SNR=204						
ASAR				PcP	**PcP**	**17 17 17.0**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=332,slow=2.2,SNR=3.0						
ASAR				S	**S**	**17 18 04.4**	**+1.9**
	comp=Z,2.3nm,1.1s,baz=350,slow=22,SNR=4.5						
	comp=Z,16nm,0.6s						
FORT	**Forrest**	**30.89**	**177**		**P**	**17 14 35.0**	**+0.2**
FORT				IAmb	IAmb	17 14 36.4	
	comp=Z,14nm,0.7s						
CMAR	**Chiang Mai Arr**	**32.34**	**306**	P	**P**	**17 14 47.3**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=133,slow=6.8,SNR=7.8						
CMAR				PcP	**PcP**	**17 17 34.8**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=128,slow=3.2,SNR=4.9						
	comp=Z,0.3nm,0.3s						
NJ2	**Nanjing**	**32.40**	**348**	*eP*	**P**	**17 14 51.5**	**+3.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CHTO	**Chiang Mai**	**32.52**	**306**		**P**	**17 14 48.2**	**-1.2**
CHTO				IAmb	IAmb	17 15 00.9	
	comp=Z,14nm,1.6s						
ENH	**Enshi**	**33.85**	**333**		**P**	**17 15 00.0**	**-0.8**
ENH				IAmb	IAmb	17 15 01.5	
	comp=Z,11nm,0.9s						
STKA	**Stephens Creek**	**35.10**	**157**	P	**P**	**17 15 11.6**	**0.0**
	comp=Z,7.0nm,0.7s,baz=319,slow=9.1,SNR=12						
	comp=Z,7.0nm,0.7s						
PZH	**PanZhiHua**	**35.18**	**320**	P	**P**	**17 15 14.4**	**+1.9**
KSRS	**Korea Array**	**37.07**	**2**	P	**P**	**17 15 28.9**	**+0.6**
	comp=Z,2.6nm,0.9s,baz=178,slow=9.9,SNR=9.6						
	comp=Z,2.6nm,0.9s						
XAN	**Xi'an**	**37.34**	**336**	P	**P**	**17 15 29.3**	**-1.4**
XAN				pP	pP	17 15 37.4	-2.8
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MAJO	**Matsushiro**	**37.80**	**16**	P	**P**	**17 15 35.2**	**+0.7**
MJAR	**Matsushiro Arr**	**37.80**	**16**	P	**P**	**17 15 33.1**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=191,slow=9.5,SNR=4.9						
	comp=Z,1.7nm,0.6s						
MJB9	**Matsu-Tunnel**	**37.80**	**16**	P	**P**	**17 15 35.0**	**+0.4**
MJB9				IAmb	IAmb	17 15 36.4	
	comp=Z,40nm,2.0s						
JMM	**Marumori**	**39.78**	**18**		**P**	**17 15 49.7**	**-1.5**
SHL	**Shillong**	**41.62**	**310**	P	**P**	**17 16 05.7**	**-1.1**
SHL				IAmb	IAmb	17 17 40.4	
	comp=Z,9.7nm,0.4s						
HHC	**Hu-ho-hao-te**	**42.56**	**344**	*eP*	**P**	**17 16 17.3**	**+3.2**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,49nm,4.0s						
HHC				LR	LR		
	comp=N,430nm,13.5s						
HHC				LR	LR		
	comp=E,250nm,12.6s						
HHC				LR	LR		
	comp=Z,230nm,14.3s						
USRK	**Ussuriysk Ar.**	**44.08**	**6**	P	**P**	**17 16 26.2**	**+0.1**
	comp=Z,4.7nm,0.7s,baz=165,slow=6.3,SNR=8.5						
	comp=Z,4.7nm,0.7s						
MDJ	**Mudanjiang**	**44.29**	**3**		**P**	**17 16 28.1**	**+0.3**
MDJ	**Mudanjiang**	**44.29**	**3**	P	**P**	**17 16 27.9**	**+0.1**
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.4s						
MDJ	**Mudanjiang**	**44.29**	**3**	P	**P**	**17 16 26.9**	**-1.0**
XLT	**XiLinHaoTe**	**44.41**	**350**	*eP*	**P**	**17 16 29.1**	**+0.2**
XLT				PcS	**PcS**	**17 22 01.4**	**-4.2**
XLT				pmax	pmax		
	comp=Z,7.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,150nm,11.7s						
XLT				LR	LR		
	comp=N,44nm,10.6s						
XLT				LR	LR		
	comp=E,270nm,8.9s						
XLT				LR	LR		
	comp=Z,220nm,11.6s						
BNX	**BinXian**	**45.33**	**1**	⇓P	**P**	**17 16 39.0**	**+2.9**
BNX				pmax	pmax		
	comp=Z,4.0nm,1.4s						
GTA	**Gaotai**	**45.86**	**331**	*eP*	**P**	**17 16 40.8**	**+0.2**
GTA				PcP	**PcP**	**17 18 18.8**	**+1.3**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HEH	**HeiHe**	**49.84**	**1**	*eP*	**P**	**17 17 10.8**	**-0.2**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ULN	**Ulaanbaatar**	**50.28**	**343**		**P**	**17 17 14.4**	**-0.2**
ULN				IAmb	IAmb	17 17 19.1	
	comp=Z,6.9nm,0.9s						
SONM	**Songino Array**	**50.45**	**343**		**P**	**17 17 17.0**	**+1.1**
SONM	**Songino Array**	**50.45**	**343**	P	**P**	**17 17 15.7**	**-0.2**
	comp=Z,4.0nm,0.8s,baz=161,slow=8.7,SNR=17						
	comp=Z,4.0nm,0.8s						
WMQ	**Urumqi**	**55.31**	**327**	*eP*	**P**	**17 17 54.8**	**+3.0**
WMQ				LR	LR		
	comp=N,440nm,18.3s						
WMQ				LR	LR		
	comp=E,300nm,16.9s						
WMQ				LR	LR		
	comp=Z,310nm,24.5s						
PETK	**Petropavlovsk-**	**58.84**	**22**	P	**P**	**17 18 16.7**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=187,slow=5.9,SNR=13						
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**60.15**	**327**		**P**	**17 18 24.6**	**-1.1**
MKAR	**Makanchi Array**	**60.15**	**327**	P	**P**	**17 18 25.1**	**-0.6**
	comp=Z,6.1nm,0.6s,baz=126,slow=7.8,SNR=46						
	comp=Z,6.1nm,0.6s						
KSH	**Kashi**	**60.18**	**317**	P	**P**	**17 18 25.1**	**-1.1**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MAKZ	**Makanchi**	**60.33**	**327**	P	**P**	**17 18 26.0**	**-0.9**
BOOM	**Boomskoye usch**	**61.62**	**320**	P	**P**	**17 18 35.7**	**-0.3**
YAK	**Yakutsk**	**61.69**	**2**	P	**P**	**17 18 35.4**	**-0.4**
ZAA0	**Zalesovo Array**	**63.47**	**334**	IAmb	IAmb	17 18 54.0	
	comp=Z,12nm,1.3s						
ZALV	**Zalesovo Beam**	**63.47**	**334**		**P**	**17 18 46.5**	**-1.4**
ZALV	**Zalesovo Beam**	**63.47**	**334**	P	**P**	**17 18 47.0**	**-0.9**
	comp=Z,4.4nm,1.0s,baz=130,slow=6.5,SNR=8.6						
	comp=Z,4.4nm,1.0s						
KURBB	**Kurchatov Arra**	**64.41**	**329**	P	**P**	**17 18 53.6**	**-0.5**
	comp=Z,6.3nm,0.9s,baz=127,slow=5.8,SNR=30						
	comp=Z,6.3nm,0.9s						
KURK	**Kurchatov**	**64.42**	**329**		**P**	**17 18 53.3**	**-0.8**
KURK				IAmb	IAmb	17 18 56.6	
	comp=Z,11nm,0.8s						
KURK	**Kurchatov**	**64.42**	**329**	P	**P**	**17 18 53.3**	**-0.8**
SIMJ	**Simiganj**	**64.75**	**313**	P	**P**	**17 18 55.3**	**-1.5**
SIMJ				IAmb	IAmb	17 18 59.1	
	comp=Z,5.6nm,0.9s						
KKAR	**Karatay Array**	**65.46**	**318**		**P**	**17 19 00.6**	**-0.5**
AMKA	**Amchitka**	**67.69**	**33**		**P**	**17 19 15.4**	**+0.3**
BVAR	**Borovoye Array**	**69.97**	**328**	P	**P**	**17 19 29.2**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=138,slow=9.0,SNR=13						
	comp=Z,3.5nm,0.8s						
BRVK	**Borovoye**	**70.04**	**328**		**P**	**17 19 29.5**	**-0.3**
BRVK				IAmb	IAmb	17 19 36.8	
	comp=Z,9.3nm,0.9s						
AB31	**Akbulak array**	**74.53**	**322**	IAmb	IAmb	17 19 57.3	
	comp=Z,8.6nm,0.9s						
ABKAR	**Akbulak array**	**74.53**	**322**		**P**	**17 19 55.8**	**-0.9**
ARTI	**Arti**	**77.69**	**328**		**P**	**17 20 13.3**	**-1.2**
ARTI				IAmb	IAmb	17 20 14.4	
	comp=Z,24nm,1.5s						
VNDA	**Vanda**	**80.05**	**173**		**P**	**17 20 26.4**	**-0.7**
VNDA	**Vanda**	**80.05**	**173**	P	**P**	**17 20 27.0**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=305,slow=6.5,SNR=9.2						
	comp=Z,2.1nm,0.8s						
MAW	**Mawson**	**80.32**	**200**	P	**P**	**17 20 28.8**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=40,slow=6.2,SNR=4.6						
	comp=Z,3.1nm,0.9s						
RAYN	**Ar Rayn**	**81.39**	**294**		**P**	**17 20 35.0**	**-0.4**
RAYN				IAmb	IAmb	17 20 36.1	
	comp=Z,10nm,0.8s						
BELG	**Belogornoye**	**82.86**	**323**	P	**P**	**17 20 41.0**	**-1.4**
	comp=Z,28nm,1.0s,baz=115,slow=3.4,SNR=6.3						
	comp=Z,28nm,1.0s						
J17K	**VABM Dome**	**82.97**	**26**		**P**	**17 20 44.5**	**+1.8**
J17K				IAmb	IAmb	17 20 48.5	
	comp=Z,9.6nm,1.0s						
E18K	**Tukpahlearik C**	**83.37**	**22**	IAmb	IAmb	17 20 60.0	
	comp=Z,9.7nm,1.0s						
L18K	**Granite Mounta**	**83.78**	**27**	IAmb	IAmb	17 21 01.9	
	comp=Z,12nm,1.1s						
J18K	**Innoko River**	**84.02**	**26**	IAmb	IAmb	17 21 03.8	
	comp=Z,17nm,1.6s						
KBZ	**Khabaz**	**85.00**	**314**	P	**P**	**17 20 54.0**	**+0.5**
	comp=Z,3.6nm,0.9s,baz=123,slow=0.9,SNR=6.6						
	comp=Z,3.6nm,0.9s						
E23K	**Chandalar**	**87.59**	**22**	IAmb	IAmb	17 21 10.9	
	comp=Z,5.6nm,1.1s						
ILAR	**Eielson Array**	**88.46**	**25**	P	**P**	**17 21 09.8**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=278,slow=4.3,SNR=2.8						
	comp=Z,0.3nm,0.6s						
J26L	**Joseph Creek**	**89.88**	**26**	IAmb	IAmb	17 21 47.0	
	comp=Z,11nm,1.8s						
QSPA	**South Pole Qui**	**90.17**	**180**		**P**	**17 21 18.3**	**+0.2**
QSPA				IAmb	IAmb	17 21 20.8	
	comp=Z,7.4nm,1.1s						
QSPA	**South Pole Qui**	**90.17**	**180**	P	**P**	**17 21 18.5**	**+0.5**
	comp=Z,3.8nm,0.9s,baz=315,slow=3.9,SNR=8.9						
	comp=Z,3.8nm,0.9s						
BRTR	**Keskin Array B**	**91.84**	**310**	P	**P**	**17 21 25.6**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=79,slow=6.4,SNR=3.9						
	comp=Z,0.8nm,0.8s						

AUST 18 17:16:02.8±1.5,**19.°S**±10.°×**12.°1E**±.°,**h16**km±17km,**mb3.7**/6,
ML2.8/6,**Error ellipse: s-maj=26.4km s-min=5.4km az=140.3,Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**2.67**	**198**	P	Pn	17 16 45.1	-0.1
PSAC1	**Pilbara Seismi**	**3.01**	**194**	P	Pn	17 16 50.4	+0.6
PSAC1				S	Sn	17 17 26.7	+1.2
PSA00	**Pilbara Seismi**	**3.04**	**194**	P	Pn	17 16 49.5	-0.7
PSA00				S	Sn	17 17 27.3	+1.0
FITZ	**Fitzroy Crossi**	**4.80**	**85**	P	Pn	17 17 14.7	+0.2
FITZ	**Fitzroy Crossi**	**4.80**	**85**	S	Sn	17 18 10.1	+0.2
GIRL	**Giralia**	**7.20**	**235**	P	Pn	17 17 42.7	-4.7
GIRL				S	Sn	17 18 57.8	-11
MEEK	**Meekatharra**	**8.20**	**193**	P	Pn	17 18 01.0	-0.3
	comp=Z,14nm,2.6s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.20**	**193**	S	Sn	17 19 30.7	-3.0
KNRA	**Kununurra**	**8.32**	**71**	P	Pn	17 18 03.7	+0.9
	comp=Z,11nm,2.2s,comp=Z,0.0nm						
KNRA				S	Sn	17 19 33.3	-3.2
WRKA	**Warakurna**	**9.58**	**133**	P	Pn	17 18 23.6	+3.4
	comp=Z,2.9nm,1.5s,comp=Z,0.0nm						
WRKA				S	Sn	17 20 08.8	+1.1
MORW	**Morawa**	**11.22**	**201**	P	Pn	17 18 41.8	-0.8
	comp=Z,8.7nm,0.4s						
MORW	**Morawa**	**11.22**	**201**	S	Sn	17 20 38.8	-8.9
BLDU	**Ballidu**	**12.47**	**196**	S	Sn	17 21 10.2	-8.0
	comp=Z,18nm,2.1s						
FORT	**Forrest**	**13.87**	**152**	S	Sn	17 21 49.0	-3.6
	comp=Z,6.9nm,2.2s						

*MOS **18** 17:17:45.4±0.9,0.°23N×126.°08E, h10km, mb5.3/59, MS4.5/6, Error ellipse: s-maj=9.0km s-min=4.7km az=112.9*
*IDC **18** 17:17:45.9±0.4,0.°19N×126.°03E, h0km, mb5.0/29, mbtmp4.9/32, ML4.9/3, MS4.4/23, Error ellipse: s-maj=19.5km s-min=7.8km az=79.0*
*NEIC **18** 17:17:49.9,0.°09S×126.°22E, h26km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^17^Nm; Mrr0.87; Mθθ-0.25; Mφφ-0.62; Mrθ0.01; Mθφ-0.65; Mφr-0.15; Fault plane solution: M0 1.02000×10^17^ NP1:φs45.57000°, δ42.43000°, λ102.43000°. NP2:φs208.95000°, δ48.78000°, λ78.87000°. Principal axes: T 0.8925, Plg81.0000°, Azm58.0000°; N 0.2246, Plg8.0000°, Azm216.0000°; P -1.1171, Plg3.0000°, Azm307.0000°;*
*NEIC **18** 17:17:49.9±2.1,0.°31N±0.°06×126.°30E±0.°06, h23km±3km, mb5.3/202, Mww5.3/20 Error ellipse: s-maj=9.6km s-min=7.9km az=157.0*
*NEIC **18** 17:17:49.9,0.°31N×126.°32E, h26km*
*DJA **18** 17:17:52.7±0.1,0.°1N±2.°×12.°6E±.°, h41km±2km, M5.0/64, mb5.0/64, mB5.5/36, MLv5.1/24, Mw(mB)5.0/36, MwMwp5.2/15, Mwp5.4/15*
*GCMT **18** 17:17:53.8±0.1,0.°16N±0.°01×126.°32E±0.°01, h22km, MW5.3/127, Moment Tensor Solution. s127,c210; s116,c212; Duration: 1s1 Moment tensor: Scale 10^17^ Nm; Mrr1.06±.03; Mθθ-0.34±.02; Mφφ-0.72±.02; Mrθ0.54±.03; Mθφ-0.71±.01; Mφr-0.12±.03; Best double couple: M0 1.30000×10^17^ NP1:φs195.00000°, δ44.00000°, λ54.00000°. NP2:φs60.00000°, δ56.00000°, λ119.00000°. Principal axes: T 1.3100, Plg65.0000°, Azm26.0000°; N -0.0240, Plg24.0000°, Azm222.0000°; P -1.2910, Plg6.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 17:17:51.2±0.2,**0.°18N**±0.°03×**126.°32E**±0.°04,**h35**km,**n699,**
σ1§**59**/656,**mb5.2**/207,**MS4.5**/51,**19C-7D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.21**	**61**		**Pn**	**17 18 10.9**	**-0.7**
TNTI	**Ternate**	**1.21**	**61**	P	**Pn**	**17 18 11.3**	**-0.3**
TNTI	**Ternate**	**1.21**	**61**	P	**Pn**	**17 18 10.9**	**-0.7**
TNTI				S	**Sn**	**17 18 26.8**	**+0.1**
SANI	**Sanana**	**2.23**	**188**	P	**Pn**	**17 18 27.3**	**+1.5**
SANI	**Sanana**	**2.23**	**188**	P	**Pn**	**17 18 26.5**	**+0.7**
KMSI	**Cibinong**	**2.37**	**280**	P	**Pn**	**17 18 26.8**	**-0.8**
NLAI	**Namlea**	**3.48**	**167**	P	**Pn**	**17 18 44.7**	**+1.8**
SGSI	**Sangihe**	**3.58**	**347**	P	**Pn**	**17 18 44.8**	**+0.6**
LUWI	**Luwuk**	**3.75**	**251**	P	**Pn**	**17 18 50.4**	**+3.8**
AAI	**Ambon**	**4.27**	**154**	P	**Pn**	**17 18 56.7**	**+2.9**
MSAI	**Masohi**	**4.36**	**143**	P	**Pn**	**17 18 58.3**	**+3.2**
MRSI	**Marisa**	**4.39**	**274**	P	**Pn**	**17 18 55.3**	**-0.1**
APSI	**Ampana**	**4.79**	**257**	P	**Pn**	**17 19 02.2**	**+1.2**
SWI	**Sorong**	**5.05**	**102**	P	**Pn**	**17 19 07.6**	**+3.1**
	19μ137nm,0.7s						
KDI	**Kendari**	**5.52**	**222**	P	**Pn**	**17 19 13.1**	**+2.1**
TOLI2	**Tolitoli**	**5.61**	**280**		**Pn**	**17 19 13.8**	**+1.6**
TOLI2	**Tolitoli**	**5.61**	**280**	P	**Pn**	**17 19 09.9**	**-2.4**
MPSI	**Mapaga**	**6.42**	**271**	P	**Pn**	**17 19 25.4**	**+2.0**
	0.8nm11μm4μm120nm,1.2s						
PCI	**Palu**	**6.57**	**261**	P	**Pn**	**17 19 27.3**	**+1.9**
	0.9nm3μm140nm,0.8s						
FAKI	**Fak Fak**	**6.68**	**117**	Pn	**Pn**	**17 19 24.1**	**-2.8**
FAKI	**Fak Fak**	**6.68**	**117**	P	**Pn**	**17 19 29.4**	**+2.5**
FAKI	**Fak Fak**	**6.68**	**117**	P	**Pn**	**17 19 29.5**	**+2.5**
	0.6nm15μm3μm100nm,0.9s						
DAV	**Davao City (W)**	**6.89**	**354**	Pn	**Pn**	**17 19 26.9**	**-2.9**
DAV	**Davao City (W)**	**6.89**	**354**	Pn	**Pn**	**17 19 29.1**	**-0.7**
	68nm,0.3s,baz=353,slow=4.1,SNR=2.8						
	209nm,0.5s						
TTSI	**Tana Toraja**	**7.24**	**244**	P	**Pn**	**17 19 35.9**	**+1.3**
BNSI	**Bone**	**7.69**	**234**	P	**Pn**	**17 19 42.6**	**+1.8**
	0.8nm2μm174nm,0.8s						
SPSI	**Sidrap Palu**	**7.73**	**238**	P	**Pn**	**17 19 43.4**	**+2.1**
	5μm2μm254nm,0.9s						
RKPI	**Ransiki, Papua**	**8.04**	**102**	P	**Pn**	**17 19 48.7**	**+3.2**
	13μm123nm,1.1s						
BKSI	**Bulukumba**	**8.25**	**228**	P	**Pn**	**17 19 51.0**	**+2.5**
	5μm2μm133nm,0.8s						
KAPI	**Kappang**	**8.34**	**232**		**Pn**	**17 19 50.8**	**+1.1**
KAPI	**Kappang**	**8.34**	**232**	Pn	**Pn**	**17 19 50.2**	**+0.5**
	4.4nm,0.3s,baz=4.5,slow=14,SNR=7.3						
KAPI				Sn	**Sn**	**17 21 18.5**	**-4.3**
	baz=227,slow=20						
KAPI	**Kappang**	**8.34**	**232**	P	**Pn**	**17 19 50.8**	**+1.1**
BSSI	**Bau Bau, Buton**	**8.56**	**223**	P	**Pn**	**17 19 53.9**	**+1.2**
	146nm,1.7s						
MMRI	**Maumere**	**9.65**	**205**	Pn	**Pn**	**17 20 07.9**	**+0.2**
MMRI	**Maumere**	**9.65**	**205**	P	**Pn**	**17 20 11.6**	**+3.9**
	2μm100nm,1.4s						
BAKI	**Biak**	**9.88**	**98**	P	Pn	17 20 16.3	+5.4
EDFI	**Ende, Flores**	**9.99**	**207**	P	**Pn**	**17 20 14.9**	**+2.4**
	922nm56nm,0.8s						
SOEI	**Soe**	**10.07**	**192**	Pn	**Pn**	**17 20 16.8**	**+3.2**
SOEI	**Soe**	**10.07**	**192**	P	**Pn**	**17 20 14.2**	**+0.6**
	4μm152nm,2.2s						
BATI	**Baumata**	**10.65**	**194**	Pn	**Pn**	**17 20 22.4**	**+1.0**
	3.8nm,0.3s,baz=174,slow=1.5,SNR=6.6						
BATI	**Baumata**	**10.65**	**194**	P	Pn	17 20 28.7	+7.3
	2μm121nm,1.0s						
WSI	**Waingapu**	**11.47**	**211**	P	**Pn**	**17 20 35.4**	**+2.8**
	151nm,1.1s						
KKM	**Kota Kinabalu**	**11.65**	**300**		**Pn**	**17 20 33.4**	**-1.7**
PLAI	**Plampang**	**12.34**	**223**	P	**Pn**	**17 20 43.9**	**-0.7**
SMPI	**Sarmi**	**12.57**	**100**	P	Pn	17 20 52.7	+4.9
	7μm3μm116nm,1.7s						
TWSI	**Taliwang

WRA ScP **ScP** **17 30 18.4 +4.4**
comp=Z,1.3nm,0.9s,baz=338,slow=2.4,SNR=4.8
comp=Z,50nm,0.7s
WRA **Warramunga Arr** **21.48 159** *i* P **P** **17 22 37.7 +0.7**
WRA pmax pmax
comp=Z,53nm,0.7s
WR8 **Warramunga Arr** **21.55 159** IAmb IAmb 17 22 41.5
comp=Z,105nm,1.1s
CGJI **Cibinong** **21.66 251** P **P** **17 22 38.3 -0.6**
comp=Z,83nm,0.7s
COEN **Coen** **21.81 131** **P** **17 22 40.1 -0.5**
COEN **Coen** **21.81 131** P **P** **17 22 41.6 +1.0**
comp=Z,71nm,1.0s
COEN **Coen** **21.81 131** P **P** **17 22 42.6 +2.0**
MBWA **Marble Bar** **22.16 196** **P** **17 22 43.7 -0.5**
MBWA **Marble Bar** **22.16 196** P **P** **17 22 43.4 -0.9**
comp=Z,42nm,0.8s
MBWA **Marble Bar** **22.16 196** P **P** **17 22 44.7 +0.5**
KASI **Kota Agung** **22.51 255** P **P** **17 22 47.4 -0.7**
comp=Z,47nm,1.2s
PSA00 **Pilbara Seismi** **22.52 196** P **P** **17 22 49.3 +1.2**
PSA00 **Pilbara Seismi** **22.52 196** P **P** **17 22 47.7 -0.4**
PSA00 IAmb IAmb 17 23 06.7
comp=Z,27nm,1.1s
PSA00 **Pilbara Seismi** **22.52 196** P **P** **17 22 48.9 +0.7**
comp=Z,43nm,1.1s
PSA00 **Pilbara Seismi** **22.52 196** P **P** **17 22 49.1 +1.0**
MDSI **Maura Dua** **22.60 258** P **P** **17 22 50.6 +1.6**
comp=Z,37nm,0.8s
GUMO **Guam** **22.70 53** LR LR 17 30 59.9
comp=Z,2µm,21.4s,baz=229,slow=35
YULB **Yu-li** **23.59 348** P **P** **17 22 57.7 -1.2**
TPUB **Ta-pu** **23.64 347** **P** **17 22 56.0 -3.4**
TPUB **Ta-pu** **23.64 347** P **P** **17 22 57.5 -2.0**
SSLB **Suanglung** **24.04 348** P **P** **17 23 02.9 -0.3**
SSLB IAmb IAmb 17 23 05.2
comp=Z,72nm,1.2s
QIS **Mount Isa** **24.36 149** P **P** **17 23 05.9 -0.3**
comp=Z,143nm,0.9s
QIS **Mount Isa** **24.36 149** P **P** **17 23 08.0 +1.8**
QIZ **Qiongzhong** **24.75 320** IAmb IAmb 17 23 15.4
comp=Z,134nm,1.7s
QIZ **Qiongzhong** **24.75 320** P **P** **17 23 08.6 -1.1**
QIZ sP **pwP** **17 23 22.8 +0.5**
QIZ S **S** **17 27 30.9 +1.2**
QIZ pmax pmax
comp=Z,78nm,1.6s
QIZ pmax pmax
comp=Z,1µm,4.6s
QIZ LR LR
comp=Z,780nm,13.9s
QIZ LR LR
comp=Z,280nm,13.1s
QIZ LR LR
comp=Z,2µm,17.2s
AS31 **Alice Springs** **24.82 163** P **P** **17 23 10.3 -0.1**
comp=Z,45nm,0.9s
ASAR **Alice Springs** **24.82 163** **P** **17 23 10.5 +0.2**
ASAR **Alice Springs** **24.82 163** P **P** **17 23 11.1 +0.7**
comp=Z,91nm,0.8s,baz=349,slow=11,SNR=423
ASAR PcP **PcP** **17 26 46.6 +0.3**
comp=Z,0.9nm,0.7s,baz=3.4,slow=2.5,SNR=1.8
ASAR S **S** **17 27 35.0 +4.1**
comp=Z,6.5nm,0.9s,baz=346,slow=19,SNR=5.9
ASAR ScP **ScP** **17 30 26.5 +3.8**
comp=Z,0.6nm,0.8s,baz=329,slow=1.8,SNR=2.8
ASAR LR LR 17 35 04.6
comp=Z,1µm,18.5s,baz=356,slow=42
comp=Z,91nm,0.8s
WRKA **Warakurna** **25.14 176** P **P** **17 23 13.7 +0.5**
comp=Z,23nm,0.8s
MTSU **Mount Surprise** **25.38 137** P **P** **17 23 17.4 +1.9**
comp=Z,20nm,0.9s
MTSU **Mount Surprise** **25.38 137** P **P** **17 23 17.7 +2.2**
UBPT **Khong Chiam** **25.48 307** P **P** **17 23 13.9 -2.4**
UBPT IAmb IAmb 17 23 21.0
comp=Z,83nm,1.5s
IPM **Ipoh** **25.62 280** P **P** **17 23 16.6 -1.1**
IPM IAmb IAmb 17 23 18.4
comp=Z,132nm,1.6s
IPM **Ipoh** **25.62 280** P **P** **17 23 16.5 -1.3**
QZH **Quanzhou** **25.73 344** P **P** **17 23 20.5 +2.0**
QZH S **S** **17 27 50.3 +5.1**
QZH pmax pmax
comp=Z,120nm,1.2s
QZH LR LR
comp=Z,2µm,17.5s
PPI **Padang Panjang** **25.93 269** P **P** **17 23 22.1 +1.6**
comp=Z,47nm,0.9s
KULM **Kulim** **26.13 282** P **P** **17 23 20.1 -2.2**
RABL **Rabaul** **26.19 100** P **P** **17 23 23.1 +0.2**
RABL IAmb IAmb 17 23 30.8
comp=Z,49nm,0.7s
JOW **Kunigami** **26.57 4** P **P** **17 23 26.9 +0.8**
comp=Z,36nm,0.7s,baz=287,slow=7.3,SNR=3.7
comp=Z,36nm,0.7s
RPSI **Rantau Prapat** **27.50 275** P **P** **17 23 31.9 -2.7**
PSI **Prapat** **27.51 276** LR LR 17 36 02.7
comp=Z,1µm,20.7s,baz=100,slow=40
PSI **Prapat** **27.51 276** P **P** **17 23 31.9 -3.0**
PSI pmax pmax
comp=Z,44nm,1.3s
MEEK **Meekatharra** **27.67 195** P **P** **17 23 35.8 -0.3**
comp=Z,35nm,1.4s
FORT **Forrest** **30.83 177** IAmb IAmb 17 24 06.5
comp=Z,42nm,0.8s
FORT **Forrest** **30.83 177** P **P** **17 24 03.8 -0.2**
comp=Z,57nm,0.7s
WHN **Wuhan** **32.27 340** P **P** **17 24 19.1 +2.4**
WHN S **S** **17 29 34.3 +6.3**
WHN LR LR
comp=Z,5µm,29.6s
CMAR **Chiang Mai Arr** **32.45 306** P **17 24 13.6 -4.9**
CMAR **Chiang Mai Arr** **32.45 306** P **P** **17 24 16.8 -1.7**
comp=Z,3.2nm,0.8s,baz=122,slow=6.7,SNR=19
CMAR PcP **PcP** **17 27 06.5 +1.2**
comp=Z,1.6nm,0.7s,baz=157,slow=1.7,SNR=6.0
CMAR LR LR 17 38 07.3
comp=Z,673nm,21.9s,baz=115,slow=38
comp=Z,3.2nm,0.8s
CMAR **Chiang Mai Arr** **32.45 306** *ce*P **P** **17 24 18.0 -0.5**
CMAR pmax pmax
comp=Z,4.0nm,0.8s
NJ2 **Nanjing** **32.48 348** *e*P **P** **17 24 20.3 +1.8**
NJ2 pmax pmax
comp=Z,29nm,0.7s
JNU **Nakatsue** **33.05 7** IAmb IAmb 17 24 28.6
comp=Z,74nm,1.5s
KMI **Kunming** **33.69 319** P **P** **17 24 26.5 -2.9**
KMI pmax pmax
comp=Z,20nm,1.1s
KMI LR LR
comp=Z,870nm,18.6s
KMI LR LR
comp=Z,550nm,14.5s
KMI LR LR
comp=Z,760nm,23.0s
BBOO **Buckleboo** **34.07 165** IAmb IAmb 17 24 34.5
comp=Z,32nm,0.9s
HNR **Honiara** **34.81 107** P **P** **17 24 38.5 -0.6**
HNR **Honiara** **34.81 107** P **P** **17 24 38.5 -0.6**
HNR pmax pmax
comp=Z,96nm,0.7s
STKA **Stephens Creek** **35.01 157** P **P** **17 24 41.6 +1.1**
comp=Z,19nm,0.7s,baz=328,slow=9.0,SNR=34
comp=Z,19nm,0.7s
STKA **Stephens Creek** **35.01 157** *i* P **P** **17 24 42.1 +1.6**
PZH **PanZhiHua** **35.29 320** P **P** **17 24 45.5 +2.4**
PZH S **S** **17 30 17.0 +2.0**
PZH LR LR
comp=Z,480nm,21.2s
PZH LR LR
comp=Z,540nm,16.3s
PZH LR LR
comp=Z,830nm,23.7s
INU **Inuyama** **36.39 15** IAmb IAmb 17 24 57.1
comp=Z,69nm,1.4s
TNCH **TengChong** **36.51 315** ⇓P **P** **17 24 52.8 -0.9**
TNCH pP pP 17 25 02.3 -0.8
TNCH PP **PP** **17 26 16.4 -0.8**
TNCH sS sS 17 30 49.3 -0.1
TNCH pmax pmax
comp=Z,27nm,2.1s
TNCH pmax pmax
comp=Z,210nm,3.6s
TNCH LR LR
comp=Z,430nm,7.2s
TNCH LR LR
comp=Z,290nm,5.3s
TNCH LR LR
comp=Z,990nm,22.3s
LYN **LuoYang** **36.57 341** P **P** **17 24 58.1 +4.2**
LYN pP pP 17 25 03.3 0.0
LYN pmax pmax
comp=Z,35nm,0.8s
LYN LR LR
comp=Z,1µm,19.6s
LYN LR LR
comp=Z,580nm,18.9s
LYN LR LR
comp=Z,2µm,23.0s
TIA **Tai'an** **36.86 348** P **P** **17 24 57.3 +1.0**
TIA S **S** **17 30 40.0 +1.4**
TIA pmax pmax
comp=Z,9.0nm,0.6s
KSAR **Wonju Array Be** **37.11 2** P **P** **17 24 58.0 -0.4**
KSAR **Wonju Array Be** **37.11 2** P **P** **17 24 58.0 -0.4**
KSRS **Korea Array** **37.12 2** P **P** **17 24 59.0 +0.5**
comp=Z,7.0nm,0.7s,baz=178,slow=9.6,SNR=27
comp=Z,7.0nm,0.7s
KSRS **Korea Array** **37.12 2** P **P** **17 24 59.0 +0.5**
XAN **Xi'an** **37.43 336** ⇑P P 17 24 55.4 -5.8
XAN pP pP 17 25 10.0 -0.7
XAN pmax pmax
comp=Z,32nm,0.8s
XAN pmax pmax
comp=Z,700nm,5.0s
XAN LR LR
comp=N,1µm,19.2s
XAN LR LR
comp=E,940nm,22.7s
XAN LR LR
comp=Z,1µm,22.0s
MJAR **Matsushiro Arr** **37.83 16** P **P** **17 25 03.0 -1.6**
MJAR IAmb IAmb 17 25 04.7
comp=Z,74nm,1.9s
MJAR **Matsushiro Arr** **37.83 16** P **P** **17 25 03.7 -0.8**
comp=Z,7.0nm,0.6s,baz=190,slow=9.4,SNR=16
comp=Z,7.0nm,0.6s
MJAR **Matsushiro Arr** **37.83 16** P **P** **17 25 03.0 -1.6**
MJAR pmax pmax
comp=Z,74nm,1.9s
MAJO **Matsushiro** **37.83 16** P **P** **17 25 02.6 -2.0**
MAJO **Matsushiro** **37.83 16** *i* P **P** **17 25 03.5 -1.0**
MAJO pmax pmax
comp=Z,27nm,2.1s
HNS **HongShan** **38.56 345** ⇓P **P** **17 25 11.6 +0.9**
HNS S **S** **17 31 08.8 +4.4**
HNS pmax pmax
comp=Z,30nm,1.1s
HNS LR LR
comp=Z,510nm,21.6s
HNS LR LR
comp=Z,500nm,22.3s
DL2 **Dalian** **38.78 354** P **P** **17 25 09.3 -3.2**
DL2 pmax pmax
comp=Z,120nm,1.4s
DL2 pmax pmax
comp=Z,460nm,7.1s
DL2 LR LR
comp=Z,380nm,18.7s
DL2 LR LR
comp=Z,950nm,17.7s
DL2 LR LR
comp=Z,940nm,15.8s
TIY **Taiyuan** **39.49 343** *e*P **P** **17 25 19.3 +0.8**
TIY S **S** **17 31 20.6 +2.1**
TIY pmax pmax
comp=Z,42nm,0.6s
TIY LR LR
comp=Z,450nm,22.7s
TIY LR LR
comp=Z,300nm,17.2s
TIY LR LR
comp=Z,500nm,22.0s
JMM **Marumori** **39.81 18** IAmb IAmb 17 25 39.6
comp=Z,59nm,0.9s
BRDH **Bariadhala** **40.47 306** LR LR 17 43 55.9
comp=Z,682nm,20.2s,baz=140,slow=39
BJT **Baijiatuau** **40.72 348** **P** **17 25 27.0 -1.6**
BJT **Baijiatuau** **40.72 348** P **P** **17 25 27.0 -1.6**
BJT pmax pmax
comp=Z,33nm,1.2s
BJI **Beijing** **40.74 348** P **P** **17 25 28.3 -0.5**
BJI S **S** **17 31 37.9 +0.9**
BJI pmax pmax
comp=Z,10.0nm,0.8s
BJI pmax pmax
comp=Z,90nm,3.5s
BJI LR LR
comp=Z,200nm,24.0s
BJI LR LR
comp=Z,140nm,22.0s
BJI LR LR
comp=Z,350nm,21.9s
LZH **Lanzhou** **41.39 332** *e*P **P** **17 25 35.3 +0.9**
LZH sP pwP 17 25 47.3 +0.1
LZH S **S** **17 31 50.9 +3.8**
LZH pmax pmax
comp=Z,25nm,1.2s
LZH LR LR
comp=Z,800nm,13.7s
LZH LR LR
comp=Z,850nm,14.8s
LZH LR LR
comp=Z,970nm,14.4s
SNY **Shenyang** **41.54 357** ⇓P **P** **17 25 35.4 +0.1**
SNY pmax pmax
comp=Z,61nm,1.7s
SNY pmax pmax
comp=Z,390nm,3.5s
SNY LR LR
comp=Z,330nm,16.9s
SNY LR LR
comp=Z,380nm,16.9s
SNY LR LR
comp=Z,490nm,18.6s
MSHR **Mys Shultsa** **42.44 5** *ce*P **P** **17 25 43.3 +0.7**
MSHR pmax pmax
comp=Z,31nm,1.3s
JTM **Tenmabayashi** **42.59 17** P **P** **17 25 43.5 -0.4**
JTM IAmb IAmb 17 26 01.6
comp=Z,79nm,1.1s
HHC **Hu-ho-hao-te** **42.65 343** ⇑ *i* P **P** **17 25 46.4 +1.9**
HHC S **S** **17 32 09.3 +3.9**
HHC pmax pmax
comp=Z,22nm,1.2s
HHC pmax pmax
comp=Z,180nm,4.5s
HHC LR LR
comp=Z,390nm,18.5s
HHC LR LR
comp=Z,290nm,21.0s
HHC LR LR
comp=Z,530nm,20.2s
BTO **Baotou** **42.88 342** *e*P **P** **17 25 49.5 +3.1**
BTO pmax pmax
comp=Z,29nm,0.4s
BTO pmax pmax
comp=Z,420nm,6.0s
BTO LR LR
comp=Z,1µm,24.9s
BTO LR LR
comp=Z,840nm,17.8s
BTO LR LR
comp=Z,2µm,22.9s
VLA **Vladivostok** **43.04 6** *i* P **P** **17 25 47.5 0.0**
CN2 **Changchun** **43.44 359** *e*P **P** **17 25 52.8 +2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
USA0B **Ussuriysk Arra** **44.12 6** P **P** **17 25 55.4 -0.8**
USA0B **Ussuriysk Arra** **44.12 6** P **P** **17 25 55.4 -0.8**
USA0B pmax pmax
comp=Z,25nm,0.9s
USRK **Ussuriysk Ar.** **44.12 6** **P** **17 25 55.2 -1.0**
USRK **Ussuriysk Ar.** **44.12 6** P **P** **17 25 56.4 +0.2**
comp=Z,17nm,0.7s,baz=186,slow=6.6,SNR=22
comp=Z,17nm,0.7s
USRK **Ussuriysk Ar.** **44.12 6** P **P** **17 25 55.2 -1.0**
MDJ **Mudanjiang** **44.34 3** IAmb IAmb 17 26 04.2
comp=Z,102nm,1.6s
MDJ **Mudanjiang** **44.34 3** P **P** **17 25 58.3 +0.3**
MDJ S S 17 32 40.0 +10
MDJ pmax pmax
comp=Z,35nm,2.1s
XLT **XiLinHaoTe** **44.48 349** *e*P **P** **17 25 58.4 -0.8**
XLT S **S** **17 32 31.4 -0.7**
XLT pmax pmax
comp=Z,34nm,1.9s
XLT LR LR
comp=Z,310nm,20.9s
XLT LR LR
comp=Z,310nm,12.7s
LSA **Lhasa** **44.54 314** P **P** **17 25 59.3 -1.1**
DZM **Mont Dzumac** **44.92 122** *e*P P 17 25 55.7 -7.4
comp=Z,40nm,1.4s
DZM **Mont Dzumac** **44.92 122** *e*PP PP 17 27 46.5 -2.0
comp=Z,148nm,32.9s
DZM *e*S S 17 32 30.9 -8.2
comp=Z,688nm,36.7s
DZM *e*SS **SS** **17 36 01.7 +0.2**
comp=Z,446nm,25.0s
DZM *e*LR LR 17 38 34.2
comp=Z,1µm,23.9s
BNX **BinXian** **45.38 1** ⇑P **P** **17 26 06.5 +0.3**
BNX S **S** **17 32 50.4 +5.5**
BNX pmax pmax
comp=Z,19nm,1.8s
BNX pmax pmax
comp=Z,210nm,6.6s
BNX LR LR
comp=Z,360nm,21.7s
BNX LR LR
comp=Z,270nm,19.0s
BNX LR LR
comp=Z,420nm,21.1s
TEY **Ternei** **45.59 10** ⇑ *e*P **P** **17 26 06.8 -1.1**
TEY *e* 17 32 50.9
TEY pmax pmax
comp=Z,100nm,3.3s
GTA **Gaotai** **45.96 331** *e*P **P** **17 26 10.3 -0.8**
GTA S **S** **17 32 58.4 +4.7**
GTA pmax pmax
comp=Z,6.0nm,0.7s
GTA LR LR
comp=Z,450nm,17.1s
GTA LR LR
comp=Z,540nm,17.5s
GTA LR LR
comp=Z,880nm,20.0s
ASAJ **Asahikawa** **46.09 16** P **P** **17 26 11.5 -0.4**
ASAJ pmax pmax
comp=Z,69nm,1.3s
JKA **Kamikawa-asahi** **46.09 16** P **P** **17 26 11.5 -0.4**
JKA IAmb IAmb 17 26 30.0
comp=Z,68nm,1.3s
GOMU **GeErMu** **46.26 324** P **P** **17 26 14.3 +0.5**
GOMU pP pP 17 26 17.3 -6.1
GOMU sP pwP 17 26 22.1 -4.6
GOMU pmax pmax
comp=Z,4.0nm,0.6s
GOMU LR LR
comp=Z,380nm,13.9s
GOMU LR LR
comp=Z,320nm,13.9s
GOMU LR LR
comp=Z,460nm,13.4s
YSS **Yuzhno-Sakhali** **48.76 15** pP 17 26 38.8 -3.4
YSS **Yuzhno-Sakhali** **48.76 15** *ce*P **P** **17 26 31.4 -1.1**
YSS pmax pmax
comp=Z,16nm,1.2s
HIA **Hailar** **49.23 354** *i* P **P** **17 26 36.4 +0.2**
HIA pmax pmax
comp=Z,30nm,1.2s
HEH **HeiHe** **49.90 1** *e*P **P** **17 26 40.3 -0.9**
HEH pP **pP** **17 26 44.6 -6.3**
HEH S **S** **17 33 52.9 +4.0**
HEH pmax pmax
comp=Z,63nm,1.3s
HEH pmax pmax
comp=Z,310nm,6.5s
HEH LR LR
comp=Z,320nm,19.8s
HEH LR LR
comp=Z,330nm,18.0s
HEH LR LR
comp=Z,830nm,19.0s
HYB **Hyderabad** **50.01 293** *e*P **P** **17 26 41.3 -1.4**
ULN **Ulaanbaatar** **50.37 343** P **P** **17 26 44.2 -0.8**
ULN IAmb IAmb 17 26 51.4
comp=Z,49nm,1.2s
ULN **Ulaanbaatar** **50.37 343** *ce*P **P** **17 26 45.3 +0.3**
ULN pmax pmax
comp=Z,70nm,1.7s
SONM **Songino Array** **50.53 343** P **P** **17 26 46.1 -0.1**
SONM **Songino Array** **50.53 343** P **P** **17 26 46.1 -0.1**
comp=Z,13nm,0.9s,baz=156,slow=8.3,SNR=21
SONM LR LR 17 49 28.9
comp=Z,459nm,21.8s,baz=155,slow=38
comp=Z,13nm,0.9s
GRNR **Gornyy** **51.13 8** ⇑ *i* P **P** **17 26 50.7 +0.1**
GRNR pmax pmax
comp=Z,9.0nm,1.0s
TYV **Tymovskoe** **52.38 13** *e*P **P** **17 27 00.5 +0.7**
TYV pmax pmax
comp=Z,12nm,1.7s
TYV pmax pmax
comp=Z,400nm,3.4s
ZEA **Zeya** **53.38 1** *e*P **P** **17 27 07.0 -0.2**
ZEA *e*S **S** **17 34 40.8 +4.0**
ZEA *e* 17 36 58.6
ZEA pmax pmax
comp=N,10.0nm,1.4s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA pmax pmax
comp=Z,100nm,5.9s
ZEA smax smax
comp=N,100nm,12.7s
ZEA MLR MLR
comp=N,300nm,15.0s
ZEA MLR MLR
comp=Z,300nm,16.0s
ZAK **Zakamensk** **53.74 342** *e*P **P** **17 27 08.9 -1.1**
ZAK pmax pmax
comp=Z,13nm,2.2s
IRK **Irkutsk** **55.09 344** *e*P **P** **17 27 19.7 0.0**
IRK pmax pmax
comp=Z,142nm,1.7s
WMQ **Urumqi** **55.42 327** *e*P **P** **17 27 25.5 +3.2**
WMQ pmax pmax
comp=Z,28nm,1.5s
WMQ pmax pmax
comp=Z,190nm,3.7s
WMQ LR LR
comp=Z,590nm,21.5s
WMQ LR LR
comp=Z,310nm,22.7s
WMQ LR LR
comp=Z,340nm,22.7s
MOY **Mondy** **55.58 341** *e*P **P** **17 27 23.5 +0.2**
MOY pmax pmax
comp=Z,127nm,2.0s
BOD **Bodaibo** **58.30 352** *e*P **P** **17 27 42.2 -0.2**
BOD pmax pmax
comp=Z,82nm,1.9s
PEA0B **Petropavlovsk-** **58.86 22** *i* P **P** **17 27 47.1 +0.7**
PETK **Petropavlovsk-** **58.86 22** **P** **17 27 47.6 +1.2**
PETK **Petropavlovsk-** **58.86 22** P **P** **17 27 47.8 +1.4**
comp=Z,12nm,0.5s,baz=190,slow=4.1,SNR=24
comp=Z,12nm,0.5s
PETK **Petropavlovsk-** **58.86 22** P **P** **17 27 47.6 +1.2**
PET **Petropavlovsk** **59.15 22** P **P** **17 27 47.9 -0.4**
PET IAmb IAmb 17 28 06.7
comp=Z,32nm,1.1s
PET **Petropavlovsk** **59.15 22** *e*P **P** **17 27 48.7 +0.4**
PET *e*S **S** **17 35 54.8 +1.5**
PET pmax pmax
comp=Z,34nm,1.8s
PET pmax pmax
comp=Z,100nm,9.0s
PET pmax pmax
comp=Z,200nm,7.5s
PET MLR MLR
comp=Z,200nm,17.0s
PET MLR MLR
comp=Z,200nm,15.0s
ZSN **Zaisan** **59.27 328** *e*P **P** **17 27 49.0 -0.3**

ZSN pmax pmax
comp=Z,10.0nm,1.3s
ZSN Zaisan 59.27 328 *e*P **P 17 27 49.1 -0.3**
comp=Z,10nm,1.3s
TUWZ Tuamarina 59.68 140 P **P 17 27 52.5 +0.3**
NIL Nilore 59.81 310 P **P 17 27 51.8 -1.6**
NIL Nilore 59.81 310 P **P 17 27 51.8 -1.6**
NIL pmax pmax
comp=Z,64nm,1.6s
SHLS Shalkode 59.84 322 *e*P **P 17 27 50.9 -2.6**
SHLS pmax pmax
comp=Z,16nm,1.5s
SHLS Shalkode 59.84 322 *e*P **P 17 27 50.9 -2.6**
comp=Z,16nm,1.5s
PDGK Podgornoye 59.91 322 P **P 17 27 52.3 -1.7**
TARG Taragay, Kyrgy 60.14 320 **P 17 27 55.8 -0.2**
TARG IAmb IAmb 17 29 29.8
comp=Z,19nm,1.1s
TARG Taragay, Kyrgy 60.14 320 P **P 17 27 55.8 -0.2**
TARG pmax pmax
comp=Z,19nm,1.1s
MK31 Makanchi Array 60.25 327 *e*P **P 17 27 54.8 -1.3**
MKAR Makanchi Array 60.25 327 **P 17 27 54.2 -1.9**
MKAR Makanchi Array 60.25 327 P **P 17 27 55.1 -1.0**
comp=Z,26nm,0.6s,baz=121,slow=8.0,SNR=47
MKAR PcP **PcP 17 28 41.4 +0.1**
comp=Z,7.3nm,0.6s,baz=129,slow=4.2,SNR=4.4
MKAR LR LR 17 55 24.0
comp=Z,611nm,20.9s,baz=117,slow=38
comp=Z,26nm,0.6s
MKAR Makanchi Array 60.25 327*ce*P **P 17 27 55.0 -1.1**
MKAR pmax pmax
comp=Z,26nm,0.6s
BKZ Black Stump Fm 60.27 137 **P 17 27 57.1 +0.7**
URZ Urewera 60.28 135 LR LR 17 55 57.9
comp=Z,250nm,19.0s,baz=305,slow=38
KSH Kashi 60.29 317 P **P 17 27 56.4 -0.3**
KSH sP pwP 17 28 10.6 +0.7
KSH S **S 17 36 12.0 +3.2**
KSH pmax pmax
comp=Z,10.0nm,1.2s
KSH pmax pmax
comp=Z,190nm,5.2s
KSH LR LR
comp=Z,680nm,20.6s
KSH LR LR
comp=Z,310nm,23.4s
KSH LR LR
comp=Z,500nm,19.9s
RTZ Ruatahuna 60.35 136 **P 17 27 57.2 +0.2**
RTZ IAmb IAmb 17 27 58.9
comp=Z,34nm,1.1s
MAKZ Makanchi 60.43 326 **P 17 27 56.0 -1.3**
MAKZ IAmb IAmb 17 28 00.5
comp=Z,24nm,0.7s
MAKZ Makanchi 60.43 326 P **P 17 27 56.0 -1.3**
MAKZ pmax pmax
comp=Z,24nm,0.7s
SATY Saty 60.44 321 *e*P **P 17 27 56.8 -0.8**
SATY pmax pmax
comp=Z,12nm,0.8s
SATY Saty 60.44 321 *e*P **P 17 27 56.9 -0.8**
comp=Z,12nm,0.8s
RAO Raoul Island 60.65 124 LR LR 17 53 55.3
comp=Z,158nm,22.0s,baz=310,slow=36
KDJ Kajisay 60.74 320 IAmb IAmb 17 28 15.7
comp=Z,17nm,0.8s
TNSS Tian-Shan 61.35 321 *e*P **P 17 28 03.1 -1.0**
TNSS Tian-Shan 61.35 321 *e*P **P 17 28 03.2 -1.0**
AAA Alma-Ata 61.45 321 *e*P **P 17 28 03.9 -0.5**
AAA pmax pmax
comp=Z,4.0nm,0.4s
AAA Alma-Ata 61.45 321 *e*P **P 17 28 03.9 -0.5**
comp=Z,4.5nm,0.4s
TDK Taldyqorghan 61.47 323 *e*P **P 17 28 04.0 -0.4**
TDK Taldyqorghan 61.47 323 *e*P **P 17 28 04.1 -0.4**
BOOM Boomskoye usch 61.72 320 IAmb IAmb 17 28 12.6
comp=Z,62nm,1.8s
YAK Yakutsk 61.75 2 **P 17 28 04.5 -1.4**
YAK Yakutsk 61.75 2 *e*P **P 17 28 05.7 -0.2**
YAK *e**PP **pP 17 28 13.8 -2.0**
YAK *e* 17 28 46.8
YAK *e*S **S 17 36 28.6 +2.3**
YAK *e**SS sS 17 36 53.0 +10
YAK *e* 17 37 48.4
YAK *e*SS **SS 17 40 31.7 +3.2**
YAK pmax pmax
comp=Z,22nm,0.7s
YAK pmax pmax
comp=N,15nm,1.9s
YAK pmax pmax
comp=E,6.0nm,1.8s
YAK pmax pmax
comp=Z,88nm,2.1s
YAK pmax pmax
comp=N,57nm,1.7s
YAK pmax pmax
comp=E,38nm,2.8s
YAK smax smax
comp=E,124nm,2.4s
YAK smax smax
comp=N,58nm,2.3s
KUU Kurty 62.16 321 *e*P **P 17 28 08.6 -0.5**
KUU pmax pmax
comp=Z,14nm,0.8s
KUU Kurty 62.16 321 *e*P **P 17 28 08.6 -0.5**
comp=Z,14nm,0.8s
MA2 Magadan 62.23 14 **P 17 28 08.9 -0.3**
MA2 Magadan 62.23 14 LR LR 17 53 51.2
comp=Z,133nm,21.9s,baz=204,slow=35
MA2 Magadan 62.23 14*ce*P **P 17 28 10.3 +1.1**
MA2 pmax pmax
comp=Z,64nm,1.3s
AAK Ala-Archa 62.73 319 P **P 17 28 11.6 -1.5**
AAK IAmb IAmb 17 28 27.2
comp=Z,26nm,1.3s
AAK Ala-Archa 62.73 319*ce*P **P 17 28 13.4 +0.3**
AAK pmax pmax
comp=Z,39nm,2.5s
SGDS Sogindy 63.03 320 *e*P **P 17 28 14.2 -0.7**
comp=Z,8.2nm,1.2s
DRK Karamyk 63.18 315 IAmb IAmb 17 28 22.5
comp=Z,25nm,1.0s
KBL Kabul 63.38 309 **P 17 28 15.3 -2.4**
KBL IAmb IAmb 17 28 23.6
comp=Z,22nm,1.0s
KBL Kabul 63.38 309 P **P 17 28 15.3 -2.4**
KBL pmax pmax
comp=Z,22nm,1.0s
SEM Semipalatinsk 63.49 329 *e*P **P 17 28 17.5 -0.6**
SEM pmax pmax
comp=Z,12nm,0.9s
SEM Semipalatinsk 63.49 329 *e*P **P 17 28 17.6 -0.6**
comp=Z,12nm,0.9s
ZALV Zalesovo Beam 63.57 334 **P 17 28 16.1 -2.1**
ZALV Zalesovo Beam 63.57 334 P **P 17 28 17.1 -1.1**
comp=Z,11nm,0.7s,baz=125,slow=4.3,SNR=22
ZALV LR LR 17 57 54.4
comp=Z,389nm,20.9s,baz=136,slow=38
comp=Z,11nm,0.7s
BTLS Baital 64.15 321 *e*P **P 17 28 21.8 -0.5**
BTLS Baital 64.15 321 *e*P **P 17 28 21.8 -0.5**
KURBB Kurchatov Arra 64.51 328 P **P 17 28 23.6 -0.9**
comp=Z,16nm,0.7s,baz=131,slow=6.0,SNR=56
comp=Z,16nm,0.7s
KURBB Kurchatov Arra 64.51 328 P **P 17 28 21.7 -2.8**
KURK Kurchatov 64.52 329 **P 17 28 23.1 -1.5**
KURK Kurchatov 64.52 329*ce*P **P 17 28 23.4 -1.1**
KURK pmax pmax
comp=Z,34nm,0.7s
SIMJ Simiganj 64.86 313 P **P 17 28 25.4 -1.8**
SIMJ IAmb IAmb 17 28 45.5
comp=Z,27nm,1.2s
DZA Taraz 64.93 318 *e*P **P 17 28 26.9 -0.5**
DZA Taraz 64.93 318 *e*P **P 17 28 26.9 -0.5**
IUG luzhnay 65.49 317 *e*P **P 17 28 30.5 -0.7**
IUG pmax pmax
comp=Z,9.0nm,0.8s
IUG luzhnay 65.49 317 *e*P **P 17 28 30.5 -0.7**
comp=Z,9.3nm,0.8s
KK31 Karatay Array 65.56 318 *i* P **P 17 28 29.2 -2.3**
KKAR Karatay Array 65.56 318 **P 17 28 29.4 -2.1**
KKAR Karatay Array 65.56 318 P **P 17 28 29.4 -2.1**
SEY Seymchan 65.57 13 LR LR 17 57 16.7
comp=Z,96nm,21.1s,baz=204,slow=36
SEY Seymchan 65.57 13 *i* P **P 17 28 32.1 +1.0**
SEY pmax pmax
comp=Z,49nm,1.5s
CHM Chimkent 65.85 317 *e*P **P 17 28 33.1 -0.3**
CHM Chimkent 65.85 317 *e*P **P 17 28 33.1 -0.3**
BRLS Borolday 65.98 318 *e*P **P 17 28 33.6 -0.6**
BRLS pmax pmax
comp=Z,14nm,1.8s
BRLS Borolday 65.98 318 *e*P **P 17 28 33.7 -0.6**
comp=Z,14nm,1.8s
BRZS Berezniki 67.35 326 *e*P **P 17 28 42.7 -0.1**
BRZS Berezniki 67.35 326 *e*P **P 17 28 42.7 -0.1**
KIWB Kanaga Island 69.85 33 P **P 17 28 56.9 -1.4**
KIWB IAmb IAmb 17 29 18.9
comp=Z,23nm,1.1s
BVA0 Borovoye Array 70.07 328 P **P 17 28 57.8 -1.9**
BVAR Borovoye Array 70.07 328 P **P 17 28 58.9 -0.8**
comp=Z,12nm,0.8s,baz=119,slow=6.5,SNR=40
BVAR LR LR 18 02 04.8
comp=Z,230nm,20.7s,baz=120,slow=38
comp=Z,12nm,0.8s
BRVK Borovoye 70.14 328 **P 17 28 58.7 -1.4**
BRVK IAmb IAmb 17 29 20.3
comp=Z,29nm,1.0s
BRVK Borovoye 70.14 328*ce*P **P 17 28 59.6 -0.5**
BRVK pmax pmax
comp=Z,38nm,1.3s
TIXI Tiksi 71.38 1 *i* P **P 17 29 07.9 +0.7**
TIXI pmax pmax
comp=Z,12nm,1.1s
ATKA Atka Island 71.65 34 IAmb IAmb 17 29 29.4
comp=Z,32nm,0.8s
BILL Bilibino 73.07 15 **P 17 29 16.8 -0.7**
BILL Bilibino 73.07 15 *i* P **P 17 29 17.9 +0.4**
BILL pmax pmax
comp=Z,8.0nm,1.4s
AB31 Akbulak array 74.64 322 IAmb IAmb 17 29 27.8
comp=Z,24nm,0.9s
AB31 Akbulak array 74.64 322 *i* P **P 17 29 25.4 -1.6**
ABKAR Akbulak array 74.64 322 **P 17 29 25.4 -1.6**
NIKH Nikolski High 74.95 35 P **P 17 29 27.5 -1.2**
baz=250
SPIA Saint Paul Isl 75.75 30 P **P 17 29 32.6 -0.6**
baz=247
P08K Saint George I 75.89 31 P **P 17 29 33.3 -0.7**
baz=248
AKTO Aktyubinsk 76.19 322 P **P 17 29 34.3 -1.6**
UNV Unalaska Valle 76.57 34 P **P 17 29 37.0 -1.0**
baz=251
SVE Sverdlovsk 76.77 329*de*P **P 17 29 38.2 -0.8**
SVE pmax pmax
comp=Z,98nm,1.6s
ARTI Arti 77.79 328 **P 17 29 42.7 -2.1**
ARTI IAmb IAmb 17 29 44.9
comp=Z,23nm,0.7s
ARTI Arti 77.79 328 LR LR 18 07 06.9
comp=Z,149nm,19.9s,baz=116,slow=38
ARTI Arti 77.79 328*c i*P **P 17 29 43.3 -1.5**
ARTI S **S 17 39 33.0 -1.8**
ARTI pmax pmax
comp=Z,51nm,1.7s
GAMB Gambell 77.79 24 P **P 17 29 44.3 -0.3**
baz=245
FALS Fare Pass 78.60 34 P **P 17 29 48.7 -0.5**
baz=254
M11K Mekoryuk 78.88 28 P **P 17 29 49.9 -0.8**
baz=250
S12K Black Hills 79.57 33 P **P 17 29 54.2 -0.4**
baz=255
VNDA Vanda 79.98 173 **P 17 29 56.0 -0.4**
VNDA Vanda 79.98 173 P **P 17 29 56.6 +0.3**
comp=Z,4.9nm,0.8s,baz=319,slow=6.1,SNR=15
VNDA LR LR 18 06 24.9
comp=Z,253nm,19.5s,baz=340,slow=36
comp=Z,4.9nm,0.8s
VNDA Vanda 79.98 173 P **P 17 29 56.0 -0.4**
VNDA pmax pmax
comp=Z,8.0nm,0.8s
TNA Tin City 80.00 23 P **P 17 29 56.6 -0.1**
baz=248
K13K Kusilvak Mount 80.10 27 IAmb IAmb 17 30 17.6
comp=Z,28nm,0.9s
K13K Kusilvak Mount 80.10 27 P **P 17 29 57.3 0.0**
baz=251
M13K Dall Lake 80.23 28 P **P 17 29 57.3 -0.7**
baz=253
MAW Mawson 80.30 200 P **P 17 29 59.0 +0.8**
comp=Z,4.8nm,0.8s,baz=48,slow=6.8,SNR=9.8
MAW LR LR 18 04 12.2
comp=Z,292nm,20.0s,baz=55,slow=35
comp=Z,4.8nm,0.8s
SDPT Sand Point 80.36 34 P **P 17 29 58.0 -0.8**
baz=256
F14K Arctic Creek 80.59 23 P **P 17 29 59.9 0.0**
baz=249
ANM Nome 80.66 24 P **P 17 30 00.0 -0.2**
baz=250
CHNA Chernabura Isl 80.73 34 P **P 17 30 00.2 -0.6**
baz=257
L14K Kuka Creek 80.81 27 IAmb IAmb 17 30 06.2
comp=Z,38nm,1.2s
L14K Kuka Creek 80.81 27 P **P 17 30 01.6 +0.5**
baz=253
J14K Nanvaranak Lak 80.84 26 P **P 17 30 01.9 +0.7**
baz=252
N14K Kuskokwak Cree 80.89 29 P **P 17 30 02.4 +0.9**
baz=254
SBA Scott Base 80.89 172 P **P 17 30 02.5 +1.2**
SBA IAmb IAmb 17 30 15.5
comp=Z,35nm,1.6s
SBA Scott Base 80.89 172 P **P 17 30 02.5 +1.2**
SBA pmax pmax
comp=Z,35nm,1.6s
O14K Tigyukauivet M 80.92 30 P **P 17 30 02.2 +0.5**
baz=255
M14K Bethel 80.99 28 IAmb IAmb 17 30 04.9
comp=Z,38nm,1.1s
M14K Bethel 80.99 28 P **P 17 30 03.2 +1.1**
baz=254
S14K Fog Glacier 81.08 33 P **P 17 30 03.0 +0.2**
baz=257
F15K North Star Dit 81.33 23 P **P 17 30 05.0 +1.1**
baz=251
AKT Akhty 81.33 312 *e*P **P 17 30 03.2 -1.3**
AKT *e* 17 30 08.8
AKT pmax pmax
comp=Z,40nm,0.7s
G15K Niukluk 81.34 24 P **P 17 30 04.8 +0.9**
baz=252
L15K Ungalak Mounta 81.46 27 P **P 17 30 05.6 +1.0**
baz=254
RAYN Ar Rayn 81.50 294 **P 17 30 04.3 -1.4**
RAYN IAmb IAmb 17 30 06.6
comp=Z,30nm,0.7s
RAYN Ar Rayn 81.50 294 P **P 17 30 04.3 -1.4**
RAYN pmax pmax
comp=Z,30nm,0.7s
M15K Kasigluk River 81.57 28 P **P 17 30 06.0 +0.8**
baz=255
K15K Wolf Creek Mou 81.61 27 IAmb IAmb 17 30 25.9
comp=Z,23nm,0.8s
K15K Wolf Creek Mou 81.61 27 P **P 17 30 06.2 +0.9**
baz=254
O15K Ungalikthiuk R 81.62 30 P **P 17 30 06.0 +0.6**
baz=256
MAK Makhachkala 81.69 313 *e*P P 17 30 00.2 -6.0
MAK *e* 17 33 06.5
MAK *e*S **S 17 40 09.9 -6.6**
MAK *e*SS **SS 17 45 29.4 -5.2**
MAK *e*SSS SSS 17 48 55.2
MAK pmax pmax
comp=Z,114nm,1.1s
CHGN Chignik 81.70 33 P **P 17 30 05.9 0.0**
baz=258
N15K Kwethluk River 81.73 29 P **P 17 30 06.7 +0.7**
baz=256
C16K Lisburne Hills 81.94 20 P **P 17 30 07.8 +0.9**
baz=250
H16K Elim 81.96 24 P **P 17 30 08.1 +0.9**
baz=253
G16K Kwiguk River 82.14 24 P **P 17 30 09.1 +1.0**
baz=253
J16K Anvik River 82.28 26 IAmb IAmb 17 30 14.4
comp=Z,32nm,1.0s
J16K Anvik River 82.28 26 P **P 17 30 10.3 +1.4**
baz=255,SNR=7.4
L16K Owhat River 82.40 28 P **P 17 30 10.7 +1.2**
baz=256,SNR=7.4
I17K Unalakleet 82.40 25 P **P 17 30 10.9 +1.5**
baz=255
N16K Nishlik Lake 82.44 29 P **P 17 30 11.0 +1.2**
baz=257
M16K Timber Creek 82.47 28 IAmb IAmb 17 30 12.8
comp=Z,59nm,1.5s
M16K Timber Creek 82.47 28 P **P 17 30 11.2 +1.2**
baz=257
P16K Nushagak River 82.51 30 P **P 17 30 10.3 +0.2**
baz=258
D17K Noatak River 82.55 21 P **P 17 30 11.8 +1.6**
baz=252
O16K Kokwok River B 82.58 30 IAmb IAmb 17 30 13.0
comp=Z,23nm,1.1s
O16K Kokwok River B 82.58 30 P **P 17 30 11.6 +1.1**
baz=258
RDOG Red Dog Mine 82.73 21 P **P 17 30 11.7 +0.6**
baz=252
C17K DeLong Mountai 82.76 21 P **P 17 30 11.7 +0.3**
baz=252
E17K Hotham Inlet 82.83 22 P **P 17 30 12.7 +1.0**
baz=253,SNR=6.7
G17K Kiwalik Mounta 82.85 24 P **P 17 30 12.7 +0.9**
baz=255,SNR=14
F17K Baldwin Pennin 82.87 23 P **P 17 30 12.6 +0.7**
baz=254
BELG Belogornoye 82.96 323 P **P 17 30 10.3 -2.2**
comp=Z,46nm,0.7s,baz=308,slow=0.8,SNR=16
comp=Z,46nm,0.7s
BELG Belogornoye 82.96 323*d i*P **P 17 30 09.3 -3.3**
BELG pmax pmax
comp=Z,7.0nm,0.9s
J17K VABM Dome 82.98 26 IAmb IAmb 17 30 17.9
comp=Z,29nm,0.9s
J17K VABM Dome 82.98 26 P **P 17 30 13.6 +1.1**
baz=256,SNR=11
H17K Granite Mounta 83.00 24 P **P 17 30 13.6 +1.0**
baz=255,SNR=12
KIRV Kirov 83.03 329 LR LR 18 11 01.2
comp=Z,192nm,19.8s,baz=103,slow=38
L17K Donlin 83.04 27 P **P 17 30 14.2 +1.4**
baz=257,SNR=6.1
R17L Mt. Peulik Vol 83.07 32 P **P 17 30 13.3 +0.1**
baz=259
CHIR Chirikof Islan 83.15 34 P **P 17 30 14.5 +0.9**
baz=260
K17K Iditarod 83.17 27 P **P 17 30 14.5 +1.0**
baz=257,SNR=17
N17K Nushagak Hills 83.22 29 IAmb IAmb 17 30 17.0
comp=Z,52nm,1.6s
N17K Nushagak Hills 83.22 29 P **P 17 30 15.0 +1.2**
baz=258
M17K Holitna River 83.28 28 IAmb IAmb 17 30 19.7
comp=Z,38nm,1.2s
M17K Holitna River 83.28 28 P **P 17 30 15.0 +0.9**
baz=258
P17K Kvichak River 83.32 30 P **P 17 30 14.9 +0.6**
baz=259
E18K Tukpahlearik C 83.39 22 P **P 17 30 15.8 +1.2**
baz=254,SNR=11
Q17K Contact Creek 83.44 31 P **P 17 30 15.5 +0.4**
baz=260
GNI Garni 83.44 310 **P 17 30 15.3 -0.3**
GNI IAmb IAmb 17 30 34.4
comp=Z,30nm,0.9s
GNI Garni 83.44 310*ce*P **P 17 30 15.2 -0.4**
GNI pmax pmax
comp=Z,69nm,2.5s
B18K Kokolik River 83.51 20 P **P 17 30 15.8 +0.7**
baz=253
C18K Utukok River 83.51 21 P **P 17 30 15.9 +0.7**
baz=254
F18K Selawik 83.53 23 P **P 17 30 15.8 +0.6**
baz=255
H18K Honhosa River 83.69 24 IAmb IAmb 17 30 21.0
comp=Z,23nm,1.1s
H18K Honhosa River 83.69 24 P **P 17 30 16.9 +0.7**
baz=257
ACHA Angle Creek He 83.72 31 IAmb IAmb 17 30 20.1
comp=Z,36nm,1.4s
G18K Tagagawik 83.75 24 IAmb IAmb 17 30 22.8
comp=Z,55nm,1.9s
G18K Tagagawik 83.75 24 P **P 17 30 17.1 +0.6**
baz=256
L18K Granite Mounta 83.79 27 P **P 17 30 17.6 +0.9**
baz=259,SNR=16
N18K Kilae Creek 83.87 29 P **P 17 30 18.1 +0.9**
baz=259
Q18K Katmai Hardscr 83.96 31 P **P 17 30 17.3 -0.5**
baz=260
P18K Big Mountain, 83.97 30 P **P 17 30 17.2 -0.6**
baz=260
A19K Wainwright 83.99 19 P **P 17 30 17.9 +0.4**
baz=254
J18K Innoko River 84.03 26 IAmb IAmb 17 30 39.7
comp=Z,17nm,1.0s
J18K Innoko River 84.03 26 P **P 17 30 18.5 +0.5**
baz=258,SNR=8.2
M18K Stony River 84.05 28 P **P 17 30 19.1 +1.0**
baz=259,SNR=11
O18K Koktuh Hills 84.06 30 P **P 17 30 19.1 +0.9**
baz=260
SII Sitkinak Islan 84.06 33 P **P 17 30 19.1 +0.9**
baz=261
R18K Karluk 84.07 32 P **P 17 30 18.4 +0.2**
baz=261
C19K Lookout Ridge 84.19 20 P **P 17 30 19.5 +0.8**
baz=255,SNR=5.9
GCSA Galena City Sc 84.22 25 P **P 17 30 19.3 +0.5**
baz=258
F19K Shaleruckik Mo 84.31 23 P **P 17 30 19.6 +0.3**
baz=257
G19K Purcell Mounta 84.43 23 P **P 17 30 20.4 +0.5**
baz=258,SNR=11
PPT2 Papeete2 84.43 108 *e*P **P 17 30 19.7 -1.3**
comp=Z,82nm,29.2s
PPT2 Papeete2 84.43 108 *e*S **SKSac 17 40 42.4 -0.5**
comp=Z,138nm,30.2s
PPT2 *e*SS **SS 17 46 06.9 -10**
comp=Z,368nm,35.2s
PPT2 *e*LQ LQ 17 53 30.2
comp=Z,366nm,28.0s
PPT2 *e*LR LR 17 56 51.5
comp=Z,295nm,34.2s
PPT2 *e*LR LR 17 56 58.1
comp=Z,352nm,25.0s
O19K Port Alsworth 84.56 30 P **P 17 30 21.1 +0.5**
baz=261
H19K Roundabout Mou 84.56 24 P **P 17 30 21.3 +0.7**
baz=258,SNR=8.0
D19K Kuna River 84.56 21 P **P 17 30 21.5 +0.9**
baz=257
N19K Bonanza Creek 84.58 29 P **P 17 30 21.7 +0.8**
baz=261,SNR=14
J19K Poorman 84.61 26 P **P 17 30 21.7 +0.9**
baz=259,SNR=5.7
L19K White Mountain 84.63 28 IAmb IAmb 17 30 26.0
comp=Z,28nm,1.2s
L19K White Mountain 84.63 28 P **P 17 30 21.6 +0.6**
baz=260,SNR=10.0
OHAK Old Harbor 84.64 33 IAmb IAmb 17 30 25.6
comp=Z,25nm,1.0s
OHAK Old Harbor 84.64 33 P **P 17 30 21.1 0.0**
baz=262
E19K Redstone River 84.66 22 IAmb IAmb 17 30 39.1
comp=Z,26nm,1.1s
E19K Redstone River 84.66 22 P **P 17 30 21.7 +0.7**
baz=258
Q19K Cape Douglas, 84.70 31 P **P 17 30 21.4 0.0**
baz=262
TBI Tubuai 84.76 113 *e*P **P 17 30 19.7 -2.7**
comp=Z,294nm,32.0s
TBI Tubuai 84.76 113 *e*S **SKSac 17 40 47.3 +2.7**
comp=Z,466nm,30.5s
TBI *e*SS **SS 17 46 12.4 -8.5**
comp=Z,1μm,37.8s
TBI *e*LQ LQ 17 53 37.0
comp=Z,4μm,39.2s
TBI *e*LR LR 17 57 00.2
comp=Z,1μm,28.8s
TBI *e*LR LR 17 57 03.1
comp=Z,938nm,28.2s
M19K Big River Lodg 84.80 28 IAmb IAmb 17 30 27.0
comp=Z,20nm,1.1s
M19K Big River Lodg 84.80 28 P **P 17 30 22.5 +0.6**
baz=261,SNR=8.3
P19K Oil Pt 85.02 30 P **P 17 30 23.3 +0.3**
baz=262

KDAK **Kodiak Island** 85.10 32 P 17 30 23.5 +0.1
KDAK **Kodiak Island** 85.10 32 P P 17 30 23.5 +0.1
KDAK pmax pmax
comp=Z,40nm,1.0s
KDAK **Kodiak Island** 85.10 32 P P 17 30 24.1 +0.7
baz=263
KBZ **Khabaz** 85.11 314 P P 17 30 23.6 -0.3
comp=Z,17nm,1.1s,baz=93,slow=3.8,SNR=24
comp=Z,17nm,1.1s
KBZ **Khabaz** 85.11 314 *i* P P 17 30 23.5 -0.3
KBZ pmax pmax
comp=Z,51nm,1.9s
GOF **Gofitskoye** 85.11 315 *ce*P P 17 30 23.2 -0.6
L20K **Farewell, AK** 85.13 27 P P 17 30 24.4 +0.9
baz=261
F20K **Avaraart Lake** 85.14 23 IAmb IAmb 17 30 30.1
comp=Z,41nm,1.8s
F20K **Avaraart Lake** 85.14 23 P P 17 30 24.4 +1.0
baz=259
D20K **Etivluk River** 85.15 21 IAmb IAmb 17 30 45.2
comp=Z,18nm,1.2s
D20K **Etivluk River** 85.15 21 P P 17 30 23.9 +0.4
baz=258
K20K **Telida** 85.18 26 P P 17 30 24.3 +0.5
baz=261
H20K **Anotleneega Mo** 85.19 24 P P 17 30 24.1 +0.3
baz=260
E20K **Nigu River** 85.21 21 P P 17 30 24.3 +0.4
baz=259
B20K **Meade River** 85.24 20 P P 17 30 24.5 +0.7
baz=257
I20K **Naaghedeneel** 85.24 25 P P 17 30 25.1 +1.2
baz=260
J20K **Nowinta River** 85.28 26 P P 17 30 24.9 +0.7
baz=261,SNR=6.5
KIV **Kislovodsk** 85.28 314 P 17 30 23.3 -1.5
KIV **Kislovodsk** 85.28 314 *e*P P 17 30 23.6 -1.2
KIV *e* 17 40 47.4
KIV pmax pmax
comp=Z,12nm,1.0s
Q20K **Shuyak Island** 85.30 31 P P 17 30 24.5 +0.1
baz=263
RED **Redoubt Volcan** 85.35 29 IAmb IAmb 17 30 30.5
comp=Z,33nm,1.2s
O20K **Slope Mountain** 85.38 30 P P 17 30 24.7 -0.2
baz=262
M20K **Styx River** 85.39 28 IAmb IAmb 17 30 50.6
comp=Z,19nm,1.4s
M20K **Styx River** 85.39 28 P P 17 30 25.6 +0.7
baz=262
IMAR **Indian Mountai** 85.74 24 P P 17 30 26.1 -0.4
C21K **Knifeblade Rid** 85.89 21 P P 17 30 27.3 +0.1
baz=260
G21K **Allakaket** 85.92 23 P P 17 30 27.3 0.0
baz=261
PPLA **Purkeypile** 85.96 27 P P 17 30 27.5 -0.3
baz=262
B21K **Ikpikpuk River** 86.03 20 P P 17 30 27.6 -0.2
baz=260
CHUM **Lake Minchumin** 86.03 26 P P 17 30 28.6 +0.6
baz=262
F21K **Alatna River** 86.04 23 IAmb IAmb 17 30 31.3
comp=Z,27nm,2.0s
F21K **Alatna River** 86.04 23 P P 17 30 27.9 0.0
baz=261
E21K **Killik River** 86.05 21 IAmb IAmb 17 30 40.4
comp=Z,31nm,1.7s
E21K **Killik River** 86.05 21 P P 17 30 28.2 +0.2
baz=260
H21K **Melozitna Rive** 86.07 24 P P 17 30 28.3 +0.2
baz=262
CAST **Castle Rocks** 86.08 26 IAmb IAmb 17 30 34.7
comp=Z,27nm,2.0s
CAST **Castle Rocks** 86.08 26 P P 17 30 28.1 -0.1
baz=263
SKT **Skwentna** 86.15 28 IAmb IAmb 17 30 31.9
comp=Z,34nm,2.0s
SKT **Skwentna** 86.15 28 P P 17 30 27.9 -0.7
baz=263
A22K **Sinclair Lake** 86.16 19 P P 17 30 28.5 +0.1
baz=259
CAPN **Captain Cook N** 86.19 29 P P 17 30 28.9 +0.2
baz=264
I21K **Tanana** 86.35 25 P P 17 30 29.9 +0.4
baz=263
VRH **Novokhopyorsk** 86.47 321 *e*P P 17 30 27.5 -2.8
VRH pmax pmax
comp=Z,20nm,0.9s
B22K **Teshekpuk Lake** 86.55 20 P P 17 30 31.2 +0.9
baz=261
F22K **John River** 86.58 22 P P 17 30 30.0 -0.6
baz=262
D22K **Ayikyak River** 86.59 21 P P 17 30 30.3 -0.4
baz=262
BPAW **Bear Paw Mtn.** 86.64 26 P P 17 30 30.5 -0.5
baz=264
H22K **Ishtalitna Cre** 86.69 24 P P 17 30 31.1 -0.1
baz=263
LABN **Labinsk** 86.73 315 *e*P P 17 30 30.8 -1.0
LABN *e* 17 41 08.0
LABN pmax pmax
comp=Z,25nm,0.7s
LABN MLR MLR
comp=Z,391nm,24.0s
G22K **Bettles** 86.76 23 P P 17 30 31.2 -0.2
baz=263
CUT **Chulitna** 86.78 28 P P 17 30 31.0 -0.6
baz=264
M22K **Willow** 86.79 28 P P 17 30 31.2 -0.4
baz=264
E22K **Anaktuvuk Pass** 86.80 22 P P 17 30 31.9 +0.1
baz=263
MLY **Manley** 86.85 25 P P 17 30 32.2 +0.2
baz=264
O22K **Cooper Landing** 86.86 30 P P 17 30 31.8 -0.2
baz=265
TRF **Thorofare Moun** 86.88 27 P P 17 30 31.7 -0.7
baz=264
RC01 **Rabbit Creek A** 86.91 29 P P 17 30 31.7 -0.6
baz=265
ERBR **Yeremizino-Bor** 86.96 316 *e*P P 17 30 30.1 -2.8
ERBR *e*S SKSac 17 40 56.1 -1.4
ERBR *e* 17 41 08.5
ERBR pmax pmax
comp=Z,31nm,1.0s
ERBR MLR MLR
comp=Z,233nm,22.0s
SEW **Seward** 86.96 30 P P 17 30 31.5 -1.0
baz=265
VSLR **Vesyoloye** 87.18 313 *i* P P 17 30 35.0 +1.0
VSLR pmax pmax
comp=Z,33nm,1.0s
PMR **Palmer** 87.24 28 P P 17 30 33.3 -0.5
baz=265
COLD **Coldfoot** 87.31 23 P P 17 30 34.0 -0.2
baz=264
D23K **Nanushuk River** 87.32 21 IAmb IAmb 17 30 41.6
comp=Z,44nm,1.9s
D23K **Nanushuk River** 87.32 21 P P 17 30 34.0 -0.1
baz=264
G23K **Bananza Creek** 87.32 23 P P 17 30 33.9 -0.3
baz=264
H23K **Yukon River** 87.43 24 IAmb IAmb 17 30 40.1
comp=Z,24nm,1.9s
H23K **Yukon River** 87.43 24 P P 17 30 34.1 -0.7
baz=265
C23K **Itkillik River** 87.44 20 P P 17 30 34.4 -0.3
baz=264
I23K **Minto, Yukon-K** 87.44 25 P P 17 30 34.3 -0.5
baz=265
MCK **McKinley** 87.51 26 P P 17 30 34.5 -0.7
baz=265
NEA2 **Nenana** 87.52 25 P P 17 30 34.7 -0.6
baz=265
KNK **Knik Glacier** 87.55 29 P P 17 30 34.9 -0.5
baz=266
PWL **Port Wells** 87.57 29 P P 17 30 34.9 -0.6
baz=266
E23K **Chandalar** 87.61 22 IAmb IAmb 17 30 52.4
comp=Z,13nm,0.9s
E23K **Chandalar** 87.61 22 P P 17 30 35.8 +0.1
baz=265
TOLK **Toolik Lake Re** 87.68 21 P P 17 30 35.9 -0.1
baz=265
M23K **Glacier View** 87.93 28 P P 17 30 36.5 -0.8
baz=267
VORD **Divnogorie** 87.98 321 *e*P P 17 30 34.0 -3.7
VORD pmax pmax
comp=Z,8.0nm,0.8s
D24K **Happy Valley** 88.00 21 P P 17 30 37.2 -0.1
baz=265
E24K **Your Creek** 88.04 22 P P 17 30 37.6 0.0
baz=266
VORR **Voronezh** 88.06 322 *e*P P 17 30 35.3 -2.7
VORR pmax pmax
comp=Z,10.0nm,0.8s
VSR **Storozhevoye** 88.07 321 *e*P P 17 30 34.6 -3.5
VSR pmax pmax
comp=Z,10.0nm,0.8s
C24K **Franklin Bluff** 88.09 20 P P 17 30 37.7 -0.1
baz=265
H24K **Noodor Dome** 88.11 24 IAmb IAmb 17 30 43.2
comp=Z,18nm,1.6s
H24K **Noodor Dome** 88.11 24 P P 17 30 37.7 -0.4
baz=266
SCM **Sheep Creek Mo** 88.12 28 IAmb IAmb 17 30 42.8
comp=Z,33nm,1.5s
SCM **Sheep Creek Mo** 88.12 28 P P 17 30 37.8 -0.4
baz=267
GLI **Glacier Island** 88.18 29 P P 17 30 37.8 -0.7
baz=267
F24K **Squaw Lake** 88.22 23 P P 17 30 38.3 -0.3
baz=266
POKR **Poker Plat Res** 88.26 25 P P 17 30 38.4 -0.4
baz=267
LPSR **Galich'ya Gora** 88.27 322 *e*P P 17 30 36.4 -2.6
LPSR pmax pmax
comp=Z,10.0nm,0.8s
KIBK **Kibwezi** 88.28 268 P P 17 30 39.8 -0.2
KLMR **Klimovskoe** 88.28 331 *e*P P 17 30 37.2 -1.7
KLMR pmax pmax
comp=Z,33nm,1.0s
G24K **Hadweenzic Riv** 88.33 23 IAmb IAmb 17 30 45.0
comp=Z,26nm,1.9s
G24K **Hadweenzic Riv** 88.33 23 P P 17 30 38.8 -0.2
baz=267
HDA **Harding Lake** 88.42 26 P P 17 30 39.4 -0.1
baz=267
ILAR **Eielson Array** 88.47 25 P P 17 30 40.5 +0.8
comp=Z,0.9nm,0.6s,baz=246,slow=5.5,SNR=8.0
comp=Z,0.9nm,0.6s
Q23K **Middleton Isla** 88.49 31 P P 17 30 39.3 -0.6
baz=268
M24K **Tolsona, Glenn** 88.67 28 P P 17 30 40.2 -0.6
baz=268
KLU **Klutina** 88.77 29 P P 17 30 41.1 -0.2
baz=268
EYAK **Cordova Ski Ar** 88.83 30 P P 17 30 40.9 -0.5
baz=268
G25K **Bearman Lake** 88.88 23 P P 17 30 41.8 +0.3
baz=268
D25K **Kavik River** 88.88 21 P P 17 30 41.2 -0.5
baz=268
K24K **Donnelly Dome** 88.91 26 IAmb IAmb 17 31 00.9
comp=Z,9.2nm,0.9s
K24K **Donnelly Dome** 88.91 26 P P 17 30 41.1 -0.8
baz=268
H25L **Birch Creek** 88.98 24 P P 17 30 42.3 +0.3
baz=268
SYO **Syowa Base** 88.98 201 *e*P P 17 30 43.6 +1.6
PAX **Paxson** 89.03 27 P P 17 30 42.2 -0.3
baz=268
KMBO **Kilima Mbogo** 89.07 269 P 17 30 44.1 +0.1
KMBO IAmb IAmb 17 31 05.4
comp=Z,12nm,1.1s
KMBO **Kilima Mbogo** 89.07 269 P P 17 30 44.1 +0.1
KMBO pmax pmax
comp=Z,12nm,1.2s
ANN **Anapa** 89.08 315 *e*P P 17 30 45.9 +2.9
ANN *e*S SKSac 17 41 15.4 +5.1
ANN *e* 17 41 27.5
ANN pmax pmax
comp=Z,34nm,1.0s
F25K **Christian Rive** 89.09 23 P P 17 30 42.4 -0.3
baz=268
J25K **Salcha River,** 89.11 26 P P 17 30 43.2 +0.3
baz=269
MOS **Moscow** 89.12 326 *e*P P 17 30 40.6 -2.3
E25K **Arctic Village** 89.13 22 P P 17 30 43.1 +0.3
baz=268
HARP **HAARP** 89.16 28 P P 17 30 42.8 -0.2
baz=269
RIDG **Independent Ri** 89.33 26 IAmb IAmb 17 30 59.0
comp=Z,10nm,0.9s
RIDG **Independent Ri** 89.33 26 P P 17 30 43.1 -0.7
baz=269
BMRM **Bremner River** 89.40 29 P P 17 30 43.6 -0.6
baz=269
N25K **Chitina, Valde** 89.41 29 P P 17 30 43.8 -0.6
baz=269
C26K **Camden Bay** 89.41 20 P P 17 30 44.2 +0.2
baz=269
KAIM **Kayak Island** 89.48 30 P P 17 30 44.1 -0.5
baz=270
BMAR **Burnt Mountain** 89.49 23 P P 17 30 44.7 +0.1
F26K **Sheenjek River** 89.66 22 P P 17 30 45.1 -0.2
baz=270
SCRK **Sand Creek** 89.71 26 IAmb IAmb 17 34 15.9
comp=Z,28nm,1.9s
SCRK **Sand Creek** 89.71 26 P P 17 30 45.3 -0.5
baz=270
OBN **Obninsk** 89.71 325 P P 17 30 44.5 -1.2
comp=Z,11nm,0.4s,baz=355,slow=5.0,SNR=7.8
comp=Z,11nm,0.4s
OBN **Obninsk** 89.71 325 *de*P P 17 30 45.2 -0.5
OBN *e* 17 30 48.7
OBN *e* 17 34 19.8
OBN *e*PPP PPP 17 36 12.9
OBN *i* S S 17 41 24.8 -10
OBN *e*SSS SSS 17 51 01.8
OBN pmax pmax
comp=Z,63nm,2.5s
G26K **Porcupine Rive** 89.80 23 P P 17 30 45.7 -0.2
baz=270
C27K **Jago River** 89.83 20 IAmb IAmb 17 30 49.4
comp=Z,31nm,1.6s
C27K **Jago River** 89.83 20 P P 17 30 45.6 -0.4
baz=270
J26L **Joseph Creek** 89.89 26 P P 17 30 45.8 -0.8
baz=270
L26K **Log Cabin Wild** 90.00 27 P P 17 30 46.8 -0.1
baz=270
I26K **Coal Creek Min** 90.06 25 P P 17 30 46.7 -0.5
baz=271
QSPA **South Pole Qui** 90.11 180 P 17 30 48.2 +0.6
QSPA IAmb IAmb 17 31 03.2
comp=Z,17nm,1.1s
QSPA **South Pole Qui** 90.11 180 P P 17 30 48.1 +0.6
comp=Z,4.7nm,0.7s,baz=311,slow=1.6,SNR=21
comp=Z,4.7nm,0.7s
CRQE **Cirque** 90.14 29 P P 17 30 46.8 -1.0
baz=271
MCARA **McCarthy VSAT** 90.16 29 P P 17 30 46.6 -1.2
baz=271
M26K **Nabesna, AK** 90.17 28 P P 17 30 47.6 -0.2
baz=271
K27K **Chicken** 90.55 26 P P 17 30 49.2 -0.3
baz=272
E27K **Coleen River** 90.62 22 IAmb IAmb 17 30 53.9
comp=Z,19nm,1.6s
E27K **Coleen River** 90.62 22 P P 17 30 49.8 0.0
baz=272
G27K **Doyon Strip** 90.64 23 IAmb IAmb 17 30 53.5
comp=Z,20nm,1.9s
G27K **Doyon Strip** 90.64 23 P P 17 30 49.7 -0.2
baz=272
MMAI **Mount Meron Ar** 90.67 303 P P 17 30 49.0 -1.8
comp=Z,3.7nm,0.8s,baz=98,slow=7.4,SNR=2.5
comp=Z,3.7nm,0.8s
M27K **Edge Creek, AK** 90.69 28 P P 17 30 49.9 -0.4
baz=272
L27K **Beaver Creek,** 90.69 27 IAmb IAmb 17 30 57.5
comp=Z,27nm,1.9s
L27K **Beaver Creek,** 90.69 27 P P 17 30 50.1 -0.1
baz=272
I27K **Kandik River** 90.70 25 P P 17 30 50.4 +0.2
baz=272
BCAR **Beaver Creek A** 90.71 27 P 17 30 49.9 -0.4
H27K **Steamboat Moun** 90.71 24 IAmb IAmb 17 30 57.7
comp=Z,22nm,1.8s
H27K **Steamboat Moun** 90.71 24 P P 17 30 50.6 +0.3
baz=272
MESA **MESA** 90.71 30 P P 17 30 50.4 -0.2
baz=272
GRNC **Granite Creek** 90.80 29 IAmb IAmb 17 31 10.2
comp=Z,9.4nm,0.8s
D27M **Malcolm River** 90.81 21 P P 17 30 50.5 -0.1
baz=273
CTG **Chitna Glacier** 90.99 29 P P 17 30 51.4 -0.3
baz=272
CTGM **Chitina Glacie** 90.99 29 IAmb IAmb 17 31 11.1
comp=Z,13nm,1.0s
EIL **Elat** 91.10 300 LR LR 18 14 18.7
comp=Z,170nm,22.0s,baz=65,slow=37
BVCY **Beaver Creek** 91.16 28 P P 17 30 52.2 -0.2
baz=273
F28M **Old Crow** 91.30 22 P P 17 30 52.8 -0.1
baz=274
E28M **Babbage River** 91.36 21 P P 17 30 53.1 -0.1
baz=274
YUK3 **Moose Creek** 91.38 28 P P 17 30 53.2 -0.4
baz=273
I28M **Miner Creek** 91.41 25 IAmb IAmb 17 30 55.5
comp=Z,14nm,1.4s
I28M **Miner Creek** 91.41 25 P P 17 30 53.3 -0.2
baz=274
O28M **Mount Upton** 91.56 29 P P 17 30 54.3 -0.3
baz=273
PINM **Pinnacle** 91.57 30 P P 17 30 54.4 +0.1
baz=273
D28M **Stokes Point** 91.59 21 P P 17 30 54.3 +0.1
baz=275
DAWY **Dawson** 91.73 26 P P 17 30 55.0 0.0
baz=274
YUK8 **Steele Glacier** 91.74 29 P P 17 30 55.4 0.0
baz=274
BRTR **Keskin Array B** 91.95 310 P P 17 30 54.7 -2.0
BRTR **Keskin Array B** 91.95 310 P P 17 30 55.2 -1.5
comp=Z,2.7nm,0.7s,baz=126,slow=6.0,SNR=7.9
comp=Z,2.7nm,0.7s
E29M **Blow River** 91.98 22 P P 17 30 55.9 -0.1
baz=276
H29M **Whitestone** 91.99 24 P P 17 30 56.4 +0.2
baz=275
PNL **Peninsula** 92.02 30 P P 17 30 56.4 0.0
baz=274
G29M **Pine Creek** 92.07 23 IAmb IAmb 17 31 10.6
comp=Z,22nm,1.4s
G29M **Pine Creek** 92.07 23 P P 17 30 56.5 0.0
baz=275
I29M **Ogilvie Camp,** 92.09 25 IAmb IAmb 17 31 02.2
comp=Z,21nm,1.7s
I29M **Ogilvie Camp,** 92.09 25 P P 17 30 56.7 +0.1
baz=275
J29N **Klondike Camp** 92.21 26 P P 17 30 57.0 -0.2
baz=275
M29M **Somme Creek** 92.27 28 IAmb IAmb 17 31 04.2
comp=Z,22nm,1.6s
M29M **Somme Creek** 92.27 28 P P 17 30 57.9 +0.2
baz=276
YUK4 **Talbot Arm** 92.27 29 P P 17 30 57.6 -0.2
baz=275
L29M **L29M** 92.37 27 IAmb IAmb 17 31 02.7
comp=Z,15nm,1.2s
L29M **L29M** 92.37 27 P P 17 30 57.5 -0.5
baz=275
O29M **Mount Kennedy** 92.39 30 P P 17 30 58.8 +0.5
baz=275
YUK6 **Outpost Mounta** 92.44 29 P P 17 30 58.7 +0.1
baz=275
K29M **Barlow Dome** 92.57 26 IAmb IAmb 17 31 01.1
comp=Z,18nm,1.6s
K29M **Barlow Dome** 92.57 26 P P 17 30 59.2 +0.2
baz=276
EPYK **Eagle Plains** 92.64 24 IAmb IAmb 17 31 02.6
comp=Z,24nm,1.6s
EPYK **Eagle Plains** 92.64 24 P P 17 30 58.2 -1.0
baz=276
G30M **tAoh Zraii Nji** 92.77 23 IAmb IAmb 17 31 02.7
comp=Z,19nm,1.6s
G30M **tAoh Zraii Nji** 92.77 23 P P 17 30 59.3 -0.4
baz=277
F30M **Barrier River** 92.86 22 P P 17 30 59.3 -0.8
baz=277
P29M **Windy Craggy** 92.87 30 IAmb IAmb 17 31 05.0
comp=Z,18nm,1.2s
P29M **Windy Craggy** 92.87 30 P P 17 30 59.8 -0.5
baz=275
HYT **Haines Junctio** 92.87 29 P P 17 30 59.8 -0.6
baz=276
I30M **Mount Dempster** 92.91 25 IAmb IAmb 17 31 06.0
comp=Z,14nm,1.6s
I30M **Mount Dempster** 92.91 25 P P 17 31 00.0 -0.6
baz=277
N30M **Aishikik Lake** 93.01 29 P P 17 30 59.9 -1.1
baz=276
J30M **Hart River** 93.01 25 IAmb IAmb 17 31 26.0
comp=Z,16nm,1.7s
J30M **Hart River** 93.01 25 P P 17 31 00.3 -0.7
baz=277
M30M **Minto, Yukon** 93.03 27 IAmb IAmb 17 31 03.3
comp=Z,17nm,1.5s
M30M **Minto, Yukon** 93.03 27 P P 17 31 00.9 -0.2
baz=276
TAOE **Nuku Hiva Isla** 93.52 99 *e*S S 17 42 05.0 -6.1
comp=Z,136nm,32.3s
TAOE *e*SS SS 17 48 25.6 -3.3
comp=Z,182nm,25.6s
TAOE *e*LQ LQ 17 57 15.7
comp=Z,3µm,32.6s
TAOE *e*LR LR 18 01 05.6
comp=Z,467nm,24.6s
G31M **Satah River** 93.53 23 P P 17 31 02.7 -0.4
baz=279
O30N **Mendenhall** 93.56 29 P P 17 31 03.0 -0.6
baz=277
PLBC **Pleasant Camp** 93.58 31 P P 17 31 02.7 -0.8
baz=276
INK **Inuvik** 93.60 22 IAmb IAmb 17 31 08.5
comp=Z,16nm,1.4s
INK **Inuvik** 93.60 22 P P 17 31 03.1 -0.3
baz=280
ARCES **ARCESS Array B** 93.62 340 P P 17 31 02.4 -1.2
comp=Z,5.3nm,0.8s,baz=27,slow=3.0,SNR=10
ARCES LR LR 18 19 20.9
comp=Z,98nm,18.8s,baz=84,slow=40
comp=Z,5.3nm,0.8s
N31M **Braeburn, Yuko** 93.63 28 P P 17 31 03.4 -0.4
baz=277
F31M **Tsiigehtchic** 93.66 22 P P 17 31 03.3 -0.4
baz=279
H31M **Peel River** 93.68 24 P P 17 31 02.9 -1.0
baz=279
S31K **Pelican** 93.81 32 P P 17 31 04.2 -0.5
baz=276
SPITS **Spitsbergen Ar** 93.86 349 P P 17 31 04.3 -0.2
comp=Z,5.5nm,0.8s,baz=73,slow=4.8,SNR=4.2
comp=Z,5.5nm,0.8s
R31K **City Hall, Gus** 94.02 32 P P 17 31 05.3 -0.2
baz=277
SKAG **Skagway** 94.10 30 P P 17 31 05.7 -0.3
baz=277
WHY **Whitehorse** 94.17 29 P P 17 31 05.9 -0.6
baz=278
POGA **Pongola** 94.18 243 P P 17 31 07.7 +0.6
POGA IAmb IAmb 17 31 09.1
comp=Z,12nm,0.8s
M31M **Drury Creek, Y** 94.19 28 IAmb IAmb 17 31 20.9
comp=Z,29nm,1.9s
M31M **Drury Creek, Y** 94.19 28 P P 17 31 06.3 -0.1
baz=278
AKASG **Malin Array Be** 94.37 321 P P 17 31 05.7 -1.7
comp=Z,0.7nm,0.6s,baz=74,slow=4.1,SNR=6.4
AKASG LR LR 18 18 25.7
comp=Z,167nm,19.5s,baz=84,slow=39
comp=Z,0.7nm,0.6s
AKASG **Malin Array Be** 94.37 321 *ce*P P 17 31 06.5 -0.9
AKASG pmax pmax
comp=Z,1.0nm,0.6s
SIT **Sitka** 94.41 33 P P 17 31 06.5 -0.9
baz=277
R32K **Eaglecrest** 94.68 32 P P 17 31 07.9 -0.8
baz=278
FINES **FINESS Array B** 94.75 332 P P 17 31 07.4 -1.5
comp=Z,3.7nm,0.9s,baz=47,slow=8.4,SNR=6.4
comp=Z,3.7nm,0.9s
FINES **FINESS Array B** 94.75 332 *ce*P P 17 31 10.6 +1.7
FINES pmax pmax
comp=Z,2.0nm,0.6s
S32K **Killisnoo** 94.76 32 P P 17 31 07.9 -1.1
baz=278
MNK **Minsk** 94.77 325 *i* P P 17 31 07.5 -1.6
MNK *i* 17 34 55.4
MNK *i* PPP PPP 17 36 56.8

MNK				*i* S		**SKSac**	17 41 42.6	+0.7
MNK				*i*			17 42 24.2	
MNK				*i* PS		**PS**	17 43 38.3	-2.3
MNK				*i* SS		**SS**	17 48 49.1	+4.8
MNK				*i* SSS		SSS	17 52 27.4	
MNK				pmax	pmax			
	comp=N,6.0nm,0.8s							
MNK				pmax	pmax			
	comp=Z,7.0nm,0.7s							
MNK				pmax	pmax			
	comp=E,5.0nm,0.7s							
MNK				MLR	MLR			
	comp=E,113nm,25.0s							
MNK				MLR	MLR			
	comp=Z,245nm,20.0s							
MNK				MLR	MLR			
	comp=N,230nm,20.0s							
P32M	**Atlin**	94.90	30	P		**P**	17 31 08.6	-1.1
	baz=279							
N32M	**Quiet Lake**	94.97	29	IAmb		IAmb	17 31 14.2	
	comp=Z,12nm,0.9s							
N32M	**Quiet Lake**	94.97	29	P		**P**	17 31 09.7	-0.3
	baz=279							
P33M	**Teslin, Yukon**	95.25	30	P		**P**	17 31 11.1	-0.2
	baz=280							
A36M	**Sachs Harbour**	95.48	17	P		**P**	17 31 11.4	-0.6
	baz=288							
MMPY	**Sheldon Lake,**	95.55	27	IAmb		IAmb	17 31 19.7	
	comp=Z,22nm,1.5s							
MMPY	**Sheldon Lake,**	95.55	27	P		**P**	17 31 12.4	-0.3
	baz=281							
Q32M	**Nakina River**	95.73	31	P		**P**	17 31 12.8	-1.0
	baz=280							
U33K	**Whale Pass**	95.75	34	P		**P**	17 31 12.6	-0.9
	baz=279							
CRAG	**Craig**	95.84	34	P		**P**	17 31 13.4	-0.6
	baz=279							
WRAK	**Wrangell Islan**	96.12	33	P		**P**	17 31 15.0	-0.3
	baz=280							
R33M	**Jennings River**	96.31	30	P		**P**	17 31 15.6	-0.7
	baz=281							
S34M	**Telegraph Cree**	96.51	32	P		**P**	17 31 16.6	-0.4
	baz=281							
V35K	**Ketchikan**	96.72	34	P		**P**	17 31 17.5	-0.4
	baz=280							
DLBC	**Dease Lake**	96.98	31	P		**P**	17 31 18.7	-0.6
	baz=282							
MLR	**Muntele Rosu**	97.15	316	P		**P**	17 31 19.0	-1.4
	comp=Z,2.1nm,0.5s,baz=25,slow=2.0,SNR=4.5							
MLR				LR		LR	18 21 14.1	
	comp=Z,146nm,20.9s,baz=60,slow=39							
	comp=Z,2.1nm,0.5s							
MLR	**Muntele Rosu**	97.15	316	P		**P**	17 31 19.0	-1.4
T35M	**Bob Quinn**	97.16	32	P		**P**	17 31 19.5	-0.5
	baz=282							
TGTN	**Hyland Airport**	97.16	28	P		**P**	17 31 19.4	-0.6
	baz=284							
WTLY	**Watson Lake, Y**	97.24	29	P		**P**	17 31 20.1	-0.3
	baz=283							
BURAR	**Bucovina Array**	97.36	318			**P**	17 31 20.5	-0.7
BURAR				IAmb		IAmb	17 31 22.4	
	comp=Z,6.2nm,0.8s							
BUR08	**Bucovina Ar. S**	97.36	318	IAmb		IAmb	17 31 34.4	
	comp=Z,12nm,1.0s							
KOLS	**Kolonicke sedl**	99.08	320	*e*P		**Pdif**	17 31 30.8	+2.0
KOLS	**Kolonicke sedl**	99.08	320	*e*PDIFF		**Pdif**	17 31 30.8	+2.0
TOAD	**Toad River Com**	99.32	30	P		**Pdif**	17 31 29.0	-0.6
	baz=286							
STHS	**Stebnicka Huta**	99.64	320	*e*P		**Pdif**	17 31 31.4	+0.1
STHS	**Stebnicka Huta**	99.64	320	*e*PDIFF		**Pdif**	17 31 31.4	+0.1
BOSA	**Boshof**	99.80	241	P		**Pdif**	17 31 29.7	-2.9
	comp=Z,3.1nm,1.0s,baz=135,slow=2.9,SNR=3.6							
BOSA				LR		LR	18 12 49.4	
	comp=Z,311nm,21.6s,baz=97,slow=33							
	comp=Z,3.1nm,1.0s							
HFS	**Hagfors**	100.95	332	P		**Pdif**	17 31 34.4	-2.4
	comp=Z,1.2nm,0.7s,baz=56,slow=3.6,SNR=4.6							
NB2	**NORSAR Subarra**	101.76	333	P		**Pdif**	17 31 38.9	-1.6
	comp=Z,2.1nm,0.8s,baz=67,slow=4.4							
NB2	**NORSAR Subarra**	101.76	333	P		**Pdif**	17 31 38.9	-1.6
	baz=67,slow=4.4							
NOA	**NORSAR Array B**	101.76	333	P		**Pdif**	17 31 39.0	-1.6
	comp=Z,1.3nm,0.8s,baz=68,slow=4.7,SNR=5.1							
NOA	**NORSAR Array B**	101.76	333	P		**Pdif**	17 31 39.0	-1.6
BRG	**Berggiesshubel**	103.82	323	*e*PKP		**PKiKP**	17 36 08.7	+1.1
BRG				Amp			17 36 10.2	
	comp=Z,2.5nm,0.9s							
CLL	**Collm**	104.24	324	*e*P		**Pdif**	17 31 52.0	+0.3
CLL				*e*			17 42 32.0	
CLL				*e*S		**Sdif**	17 43 37.0	-3.4
CLL				MLR		MLR		
	comp=Z,300nm,20.5s							
NRS	**Narsarsuaq**	118.50	355			**PKPdf**	17 36 32.9	-2.1
NRS	**Narsarsuaq**	118.50	355	PKIKP		**PKPdf**	17 36 32.9	-2.1
TORD	**Torodi Ar. Bea**	123.56	286			**PKPdf**	17 36 45.7	-0.4
TORD	**Torodi Ar. Bea**	123.56	286	PKP		**PKPdf**	17 36 45.5	-0.6
	comp=Z,3.5nm,1.0s,baz=43,slow=3.0,SNR=5.0							
TXAR	**Lajitas Array**	124.05	54	PKP		**PKPdf**	17 36 47.1	+0.3
	comp=Z,0.6nm,0.8s,baz=122,slow=1.6,SNR=5.2							
HOPE	**Hope Point**	124.24	192	*i* PKIKP		**PKiKP**	17 36 50.5	+4.0
CFA	**Coronel Fontan**	145.84	158	PKPbc		**PKPdf**	17 37 27.7	+0.7
	comp=Z,2.7nm,0.5s,baz=192,slow=2.9,SNR=9.4							
LCR2	**La Lucha 2**	148.25	71			**PKPdf**	17 37 29.9	-1.8
PLTB	**Pedras Altas**	148.58	180			**PKPbc**	17 37 36.0	+0.8
BRU2	**Volcan**	149.76	72			**PKPbc**	17 37 38.5	-0.3
CPUP	**Villa Florida**	153.76	173	PKPbc		**PKPbc**	17 37 47.2	-0.3
	comp=Z,1.3nm,0.9s,baz=279,slow=3.4,SNR=5.4							
ATAH	**Atahualpa**	154.40	106	PKPbc		**PKiKP**	17 37 51.5	+1.8
	comp=Z,6.3nm,0.9s,baz=227,slow=8.2,SNR=3.7							
LPAZ	**La Paz**	158.57	139	PKP		**PKPdf**	17 37 47.5	+0.5
	comp=Z,0.4nm,0.4s,baz=92,slow=4.5,SNR=1.7							
SIV	**San Ignacio**	162.68	155	PKP		**PKPdf**	17 37 51.8	+1.1
	baz=315,slow=2.6							
SIV				PKPab		**PKPab**	17 38 38.3	-0.6
	comp=Z,1.1nm,0.6s,baz=356,slow=9.0,SNR=1.7							

*IDC **18** 17:21:27.6±0.8,28°.15N×104°.72E, h0km, mb4.0/12, mbtmp4.0/14, ML3.8/2, MS4.3/5, Error ellipse: s-maj=25.4km s-min=15.6km az=59.0*

ISC 18 17:21:32.7±0.8, 28°.1N±0°.1×104°.7E±0°.2, h35km, n18, σ0s75/14, mb4.0/12, MS4.3/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.00**	**210**	Pn			**Pn**	**17 24 07.5**	**-0.1**
	0.1nm,0.3s,baz=24,slow=11,SNR=5.3								
	0.4nm,0.4s								
SONM	**Songino Array**	**19.71**	**3**	P			**P**	**17 25 59.1**	**0.0**
	0.5nm,0.3s,baz=186,slow=12,SNR=8.7								
	1.7nm,0.6s								
JOW	**Kunigami**	**20.93**	**88**	LR			LR	17 34 29.1	
	comp=Z,1μm,21.0s,baz=123,slow=37								
KSRS	**Korea Array**	**21.56**	**59**	P			**P**	**17 26 18.1**	**-0.9**
	1.2nm,0.5s,baz=245,slow=11,SNR=6.9								
	1.2nm,0.5s								
MKAR	**Makanchi Array**	**25.61**	**323**	P			**P**	**17 26 58.8**	**+0.1**
	6.2nm,0.8s,baz=120,slow=9.5,SNR=26								
	6.2nm,0.8s								
USRK	**Ussuriysk Ar.**	**27.06**	**46**	P			**P**	**17 27 11.0**	**-0.8**
	5.1nm,0.7s,baz=241,slow=7.9,SNR=1.5								
	5.1nm,0.7s								
MJAR	**Matsushiro Arr**	**29.39**	**65**	LR			LR	17 39 47.9	
	comp=Z,786nm,21.7s,baz=188,slow=37								
ZALV	**Zalesovo Beam**	**29.63**	**336**	P			**P**	**17 27 34.5**	**0.0**
	1.8nm,0.7s,baz=128,slow=9.7,SNR=6.0								
	1.8nm,0.7s								
KURBB	**Kurchatov Arra**	**29.95**	**326**	P			**P**	**17 27 37.4**	**-0.1**
	3.4nm,0.7s,baz=131,slow=9.4,SNR=16								
	3.4nm,0.7s								
BVAR	**Borovoye Array**	**35.47**	**324**	P			**P**	**17 28 25.6**	**-0.1**
	1.3nm,0.7s,baz=115,slow=10.0,SNR=6.3								
	1.3nm,0.7s								
WRA	**Warramunga Arr**	**55.72**	**146**	P			**P**	**17 31 05.7**	**-0.3**
	2.0nm,0.8s,baz=334,slow=8.5,SNR=11								
	2.0nm,0.8s								
ASAR	**Alice Springs**	**58.69**	**148**	P			**P**	**17 31 27.2**	**+0.4**
	1.6nm,0.5s,baz=325,slow=6.6,SNR=24								
	1.6nm,0.5s								
HFS	**Hagfors**	**66.53**	**327**	P			**P**	**17 32 17.7**	**-1.0**
	1.4nm,0.8s,baz=59,slow=3.9,SNR=1.6								
	1.4nm,0.8s								
NOA	**NORSAR Array B**	**67.45**	**328**	P			**P**	**17 32 24.1**	**-0.6**
	0.8nm,1.0s,baz=58,slow=6.3,SNR=3.3								
	0.8nm,1.0s								
GERES	**GERESS Array B**	**70.01**	**315**	P			**P**	**17 32 41.3**	**+0.4**
	0.8nm,0.6s,baz=64,slow=6.1,SNR=5.0								
	0.8nm,0.6s								

ILAR	**Eielson Array**	**72.27**	**25**	P			**P**	**17 32 55.9**	**+1.7**
	0.2nm,0.3s,baz=276,slow=5.2,SNR=4.1								
ILAR				LR			LR	18 09 23.2	
	comp=Z,103nm,18.6s,baz=250,slow=40								
	0.2nm,0.3s								
LBTB	**Lobatse**	**92.64**	**243**	LR			LR	18 16 08.3	
	comp=Z,144nm,20.4s,baz=98,slow=35								
TSUM	**Tsumeb**	**96.41**	**252**	LR			LR	18 21 01.6	
	comp=Z,84nm,18.2s,baz=85,slow=37								

NEIC 18 17:24:56.5±0.4, 37°.08N±0°.03×97°.36W±0°.01, h5km±2km, mb_Lg2.5/23, ML2.8/38, Error ellipse: s-maj=4.4km s-min=1.0km az=189.0, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.11**	**235**				Pg	17 24 59.2	+0.4
KAN13							Sg	17 25 01.1	+0.8
KAN09	**Caldwell North**	**0.21**	**286**				Pg	17 25 00.8	+0.2
KAN09					IAML			17 25 06.9	
	comp=N,1μm,0.2s								
KAN09					IAML			17 25 07.3	
	comp=E,2μm,0.2s								
KAN17	**Caldwell West**	**0.32**	**264**				Pg	17 25 03.1	+0.4
KAN17							Sg	17 25 08.2	+1.2
KAN17					IAML			17 25 12.8	
	comp=N,2μm,0.3s								
KAN17					IAML			17 25 13.3	
	comp=E,987nm,0.3s								
KAN01	**Argonia South**	**0.33**	**284**				Pg	17 25 03.4	+0.6
GC02	**Grant County #**	**0.46**	**241**				Pg	17 25 05.4	+0.1
GC02							Sg	17 25 12.2	+0.9
KAN14	**Manchester OK**	**0.49**	**256**				Pg	17 25 06.2	+0.2
KAN14							Sg	17 25 13.3	+0.8
KAN14					IAML			17 25 18.0	
	comp=N,672nm,0.4s								
KAN08	**Anthony NE Sta**	**0.51**	**287**				Pg	17 25 06.9	+0.6
KAN12	**Harper NE Stat**	**0.55**	**294**				Pg	17 25 07.3	+0.2
T35A	**Sooner Cattle**	**0.70**	**103**				Pg	17 25 10.0	+0.1
CROK	**Carrier**	**0.76**	**221**				Pg	17 25 11.1	0.0
CROK					IAML			17 25 31.5	
	comp=E,629nm,0.4s								
QUOK	**Quay**	**1.05**	**150**				Pg	17 25 16.2	-0.3
QUOK					IAML			17 25 36.1	
	comp=N,257nm,0.2s								
QUOK					IAML			17 25 38.6	
	comp=E,280nm,0.2s								
OK052	**Battle Ridge R**	**1.17**	**157**				Pg	17 25 18.5	-0.5
OK052					IAML			17 25 38.6	
	comp=E,230nm,0.4s								
OK038	**West end E0370**	**1.26**	**242**				Pg	17 25 20.1	-0.5
OK029	**Liberty Lake**	**1.28**	**183**	IAML				17 25 41.0	
	comp=E,137nm,0.5s								
OK029					IAML			17 25 41.3	
	comp=E,172nm,0.2s								
DEOK	**Depew**	**1.42**	**150**				Pn	17 25 22.8	-0.1
TUL3	**Leonard**	**1.72**	**132**				Pn	17 25 27.5	+0.5
CSTR	**Hydro, Custer**	**1.79**	**217**	Pn			Pn	17 25 27.5	-0.5
FNO	**Franklin**	**1.82**	**181**	IAmb_Lg				17 25 53.8	
	comp=Z,24nm,1.2s								
RLO	**Rose Lookout**	**2.09**	**115**				Pb	17 25 33.7	-1.2
U38A	**Gravette**	**2.47**	**104**				Pn	17 25 37.5	+0.1
X34A	**Smith Ranch, M**	**2.50**	**189**	IAmb_Lg				17 26 21.5	
	comp=Z,11nm,0.9s								
WMOK	**Wichita Mounta**	**2.60**	**207**				Pn	17 25 39.1	-0.1
HHAR	**Hobbs**	**2.86**	**105**				Pn	17 25 43.5	+0.7
P38A	**Dawn**	**3.94**	**49**	IAmb_Lg				17 27 12.9	
	comp=Z,8.3nm,0.9s								
MIAR	**Mount Ida**	**3.98**	**128**	IAmb_Lg				17 27 11.0	
	comp=Z,9.3nm,0.8s								
AMTX	**Amarillo**	**4.13**	**239**	IAmb_Lg				17 27 12.7	
	comp=Z,11nm,0.7s								
R40A	**Maddies Statio**	**4.22**	**72**	IAmb_Lg				17 27 18.3	
	comp=Z,14nm,0.8s								
RTBA	**Rita Blanca**	**4.36**	**263**	IAmb_Lg				17 27 26.9	
	comp=Z,6.5nm,0.7s								
DKNS	**Dickens**	**4.48**	**222**	IAmb_Lg				17 27 18.4	
	comp=Z,9.3nm,1.1s								
X40A	**Basin Creek Fa**	**4.50**	**124**	IAmb_Lg				17 27 26.3	
	comp=Z,7.8nm,0.7s								
P40A	**Paris**	**4.84**	**58**	IAmb_Lg				17 27 31.3	
	comp=Z,13nm,0.9s								
N38A	**Jones South For**	**4.91**	**40**	IAmb_Lg				17 27 44.6	
	comp=Z,14nm,0.8s								

*IDC **18** 17:39:07.6±0.4, 9°.31N×125°.77E, h0km, mb4.3/27, mbtmp4.3/32, ML4.3/4, MS4.0/4, Error ellipse: s-maj=20.6km s-min=9.7km az=74.0*
*NEIC **18** 17:39:11.8±1.7, 9°.37N±0°.06×125°.8E±0°.1, h18km±4km, mb4.8/90, Error ellipse: s-maj=15.0km s-min=8.6km az=73.0*
*BJI **18** 17:39:13.8, 9°.33N×125°.95E, h46km, mB5.1/7, mb4.6/29, Ms4.3/5, Ms7 4.3/5*
*DJA **18** 17:39:18.4±0.9, 9°.N±7°×12°.6E±°, h49km±7km, M4.9/26, mb5.0/26, mB5.3/13, MLv5.3/7, Mw(mB)4.8/13*

ISC 18 17:39:13.6±0.3, 9°.34N±0°.05×125°.78E±0°.08, h35km, n156, σ1s60/120, mb4.7/72, MS4.0/3, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.26**	**185**				**Pn**	**17 39 48.3**	**-0.1**
DAV	**Davao City (W)**	**2.26**	**185**	Pn			**Pn**	**17 39 46.6**	**-1.9**
	58nm,0.3s,baz=39,slow=1.5,SNR=11								
DAV				Sn			Sn	17 40 25.0	+10
	151nm,0.3s,baz=18,slow=20,SNR=3.5								
	133nm,0.3s								
DAV	**Davao City (W)**	**2.26**	**185**	*e*P			**Pn**	**17 39 51.0**	**+2.5**
SGSI	**Sangihe**	**5.62**	**183**	P			**Pn**	**17 40 36.2**	**+1.5**
TGY	**Tagaytay City**	**6.70**	**315**	Pn			**Pn**	**17 40 48.4**	**-1.3**
	79nm,0.4s,baz=192,slow=15,SNR=1.0								
TNTI	**Ternate**	**8.65**	**169**				**Pn**	**17 41 15.4**	**-1.0**
TNTI	**Ternate**	**8.65**	**169**	P			**Pn**	**17 41 16.3**	**-0.1**
	90nm,1.0s								
KMSI	**Cibinong**	**8.88**	**192**	P			**Pn**	**17 41 24.0**	**+4.4**
TOLI2	**Toliloli**	**9.56**	**212**	Pn			**Pn**	**17 41 27.7**	**-1.1**
MRSI	**Marisa**	**9.59**	**204**	P			Pn	17 41 34.2	+4.9
	39nm,0.8s								
LUWI	**Luwuk**	**10.73**	**196**	P			**Pn**	**17 41 48.6**	**+3.7**
	1μm105nm,0.9s								
APSI	**Ampana**	**10.98**	**202**	P			Pn	17 41 53.2	+5.0
	44nm,0.9s								
SWI	**Sorong**	**11.51**	**151**	P			**Pn**	**17 41 58.1**	**+2.6**
	795nm32nm,0.9s								
RKPI	**Ransiki, Papua**	**13.64**	**142**	P			**Pn**	**17 42 26.6**	**+1.9**
	38nm,1.1s								
TTSI	**Tana Toraja**	**13.66**	**206**	P			**P**	**17 42 29.7**	**-3.5**
BAKI	**Biak**	**14.67**	**135**	P			**Pn**	**17 42 39.7**	**+1.0**
	62nm,0.9s								
BNSI	**Bone**	**14.77**	**203**	P			**P**	**17 42 43.5**	**-2.1**
	55nm,1.2s								
SSLB	**Suanglung**	**15.09**	**343**				**Pn**	**17 42 43.5**	**-0.9**
KAPI	**Kappang**	**15.47**	**203**	Pn			**Pn**	**17 42 48.4**	**-0.9**
	0.3nm,0.3s,baz=34,slow=6.3,SNR=5.8								
	7.4nm,0.8s								
SMPI	**Sampi**	**17.11**	**130**	P			Pn	17 42 57.6	-13
QIZ	**Qiongzhong**	**18.19**	**304**	P			**P**	**17 43 23.6**	**+0.1**
QIZ				S			**S**	**17 46 47.8**	**-2.3**
QIZ				LR			LR		
	comp=N,420nm,15.2s								
QIZ				LR			LR		
	comp=E,490nm,14.2s								
QIZ				LR			LR		
	comp=Z,1μm,15.7s								
GENI	**Genyem**	**18.60**	**129**	P			**Pn**	**17 43 29.8**	**+1.3**
	60nm,0.7s								
JAY	**Jayapura**	**18.97**	**128**	P			**P**	**17 43 31.1**	**-1.0**
	0.6nm,0.3s,baz=332,slow=4.7,SNR=7.7								
	16nm,0.9s								
JAY	**Jayapura**	**18.97**	**128**	P			**Pn**	**17 43 33.2**	**+0.2**
SOEI	**Soe**	**19.02**	**185**	P			**P**	**17 43 32.8**	**0.0**
SOEI				IAmb			IAmb	17 43 43.2	
	comp=Z,72nm,1.4s								
SOEI	**Soe**	**19.02**	**185**	P			**Pn**	**17 43 36.5**	**+2.8**
	comp=Z,69nm,1.1s								
BATI	**Baumata**	**19.53**	**186**	P			**P**	**17 43 36.3**	**-1.9**
	comp=Z,6.8nm,0.3s,baz=352,slow=1.4,SNR=12								
BATI				LR			LR	17 52 46.2	
	comp=Z,353nm,19.5s,baz=334,slow=42								
	comp=Z,37nm,1.0s								
BATI	**Baumata**	**19.53**	**186**	P			**Pn**	**17 43 39.1**	**-0.6**
	comp=Z,135nm,0.9s								
UBPT	**Khong Chiam**	**20.69**	**289**				**P**	**17 43 50.1**	**-0.8**
UBPT				IAmb			IAmb	17 44 00.2	

	comp=Z,76nm,1.9s							
MTN	**Manton Dam**	**22.67**	**166**				**P**	**17 44 11.2**	**-0.8**
MTN				IAmb			IAmb	17 44 16.9	
	comp=Z,40nm,1.1s								
NJ2	**Nanjing**	**23.50**	**345**	*e*P			**P**	**17 44 21.3**	**+1.0**
NJ2				pmax			pmax		
	comp=Z,10.0nm,0.5s								
SLVN	**Son La**	**24.19**	**302**	P			**P**	**17 44 28.3**	**+1.3**
MANU	**Manus Island**	**24.30**	**117**	P			**P**	**17 44 26.9**	**-1.2**
MANU				IAmb			IAmb	17 44 39.8	
	comp=Z,29nm,1.1s								
KNRA	**Kununurra**	**25.03**	**173**				**P**	**17 44 34.3**	**-0.2**
IPM	**Ipoh**	**25.03**	**261**	P			**P**	**17 44 35.4**	**+0.6**
IPM				IAmb			IAmb	17 44 52.5	
	comp=Z,61nm,1.6s								
FITZ	**Fitzroy Crossi**	**27.26**	**180**	P			**P**	**17 44 54.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**27.26**	**180**	P			**P**	**17 44 54.0**	**-0.7**
	comp=Z,6.4nm,0.9s,baz=6.7,slow=14,SNR=11								
	comp=Z,6.4nm,0.9s								
MNSI	**Mandalling Nat**	**27.42**	**253**	P			**P**	**17 45 01.6**	**+5.4**
CMAR	**Chiang Mai Arr**	**27.55**	**292**	P			**P**	**17 44 56.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=97,slow=7.1,SNR=13								
	comp=Z,0.3nm,0.3s								
KSRS	**Korea Array**	**28.06**	**4**	P			**P**	**17 45 00.8**	**-0.9**
	comp=Z,2.8nm,0.9s,baz=180,slow=9.1,SNR=10								
	comp=Z,2.8nm,0.9s								
PZH	**PanZhiHua**	**28.45**	**310**	P			**P**	**17 45 07.8**	**+2.3**
XAN	**Xi'an**	**29.06**	**330**	P			**P**	**17 45 13.4**	**+2.7**
XAN				pmax			pmax		
	comp=Z,7.0nm,0.6s								
MJAR	**Matsushiro Arr**	**29.34**	**21**	P			**P**	**17 45 11.3**	**-1.9**
	comp=Z,2.8nm,0.8s,baz=195,slow=8.6,SNR=4.1								
	comp=Z,2.8nm,0.8s								
DL2	**Dalian**	**29.68**	**353**	P			**P**	**17 45 15.8**	**-0.3**
DL2				pmax			pmax		
	comp=Z,30nm,0.9s								
WRA	**Warramunga Arr**	**30.29**	**164**	P			**P**	**17 45 19.6**	**-2.1**
	comp=Z,1.0nm,0.5s,baz=344,slow=9.6,SNR=14								
	comp=Z,1.0nm,0.5s								
WR8	**Warramunga Arr**	**30.35**	**164**	IAmb			IAmb	17 45 37.3	
	comp=Z,27nm,1.5s								
PSA00	**Pilbara Seismi**	**31.26**	**191**	P			**P**	**17 45 31.1**	**+0.8**
PSA00				IAmb			IAmb	17 45 34.7	
	comp=Z,16nm,1.4s								
ASAR	**Alice Springs**	**33.75**	**167**	P			**P**	**17 45 50.5**	**-1.5**
	comp=Z,2.1nm,0.4s,baz=353,slow=6.8,SNR=76								
	comp=Z,2.1nm,0.4s								
HHC	**Hu-ho-hao-te**	**33.82**	**340**	*e*P			**P**	**17 45 54.9**	**+2.3**
HHC				pmax			pmax		
	comp=Z,17nm,0.6s								
HHC				pmax			pmax		
	comp=Z,110nm,6.7s								
USA0B	**Ussuriysk Arra**	**35.15**	**8**	P			**P**	**17 46 03.2**	**-0.7**
USRK	**Ussuriysk Ar.**	**35.15**	**8**	P			**P**	**17 46 03.1**	**-0.8**
USRK	**Ussuriysk Ar.**	**35.15**	**8**	P			**P**	**17 46 03.9**	**0.0**
	comp=Z,16nm,0.8s,baz=186,slow=7.6,SNR=15								
	comp=Z,16nm,0.8s								
BRDH	**Bariadhala**	**35.29**	**296**	LR			LR	18 00 04.8	
	comp=Z,414nm,21.6s,baz=140,slow=36								
MDJ	**Mudanjiang**	**35.30**	**5**	P			**P**	**17 46 03.8**	**-1.5**
MDJ				IAmb			IAmb	17 46 14.9	
	comp=Z,12nm,0.9s								
MDJ	**Mudanjiang**	**35.30**	**5**	P			**P**	**17 46 07.4**	**+2.1**
MDJ				pmax			pmax		
	comp=Z,15nm,1.3s								
XLT	**XiLinHaoTe**	**35.45**	**348**	*e*P			**P**	**17 46 08.1**	**+1.4**
XLT				pP			sP	17 46 20.1	-1.0
XLT				pmax			pmax		
	comp=Z,10.0nm,0.8s								
CTAO	**Charters Tower**	**35.51**	**146**	P			**P**	**17 46 08.0**	**+0.6**
SHL	**Shillong**	**35.99**	**301**				**P**	**17 46 13.0**	**+1.4**
SHL				IAmb			IAmb	17 46 25.9	
	comp=Z,14nm,1.0s								
BNX	**BinXian**	**36.30**	**2**	⇓P			**P**	**17 46 13.3**	**-0.5**
BNX				pmax			pmax		
	comp=Z,4.0nm,0.9s								
ASAJ	**Asahikawa**	**37.61**	**20**	LR			LR	18 00 28.2	
	comp=Z,251nm,21.5s,baz=200,slow=34								
GTA	**Gaotai**	**37.88**	**326**	*e*P			**P**	**17 46 29.9**	**+2.4**
GTA				pmax			pmax		
	comp=Z,3.0nm,0.7s								
HNR	**Honiara**	**38.79**	**118**	LR			LR	18 01 28.2	
	comp=Z,

H19K	**Roundabout Mou**	**76.49**	**25**	IAmb	IAmb	17 52 26.0	
	comp=Z,7.6nm,0.7s						
D20K	**Etivluk River**	**76.86**	**21**	P	**P**	**17 51 06.1**	**+4.4**
D20K				IAmb	IAmb	17 52 41.3	
	comp=Z,18nm,1.2s						
F20K	**Avaraart Lake**	**76.97**	**23**	P	**P**	**17 51 03.3**	**+0.9**
RAYN	**Ar Rayn**	**77.47**	**292**		**P**	**17 51 08.1**	**+2.0**
G21K	**Allakaket**	**77.79**	**24**	IAmb	IAmb	17 52 36.3	
	comp=Z,6.5nm,0.8s						
H21K	**Melozitna Rive**	**78.01**	**25**	IAmb	IAmb	17 52 43.6	
	comp=Z,4.9nm,1.1s						
KBZ	**Khabaz**	**78.48**	**313**	P	**P**	**17 51 11.1**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=1.4,slow=5.2,SNR=1.9						
	comp=Z,1.1nm,0.6s						
BPAW	**Bear Paw Mtn.**	**78.71**	**26**	IAmb	IAmb	17 52 41.0	
	comp=Z,7.1nm,0.8s						
MLY	**Manley**	**78.84**	**25**	P	**P**	**17 51 11.8**	**-1.1**
G23K	**Bananza Creek**	**79.19**	**24**	P	**P**	**17 51 17.8**	**+3.0**
G23K				IAmb	IAmb	17 52 42.3	
	comp=Z,24nm,1.9s						
GURO	**Guroymak-BITLI**	**79.38**	**308**	P	**P**	**17 51 16.6**	**+0.1**
GURO				IAmb	IAmb	17 52 44.2	
	comp=Z,10nm,0.8s						
E23K	**Chandalar**	**79.39**	**22**	P	**P**	**17 51 16.6**	**+0.8**
E23K				IAmb	IAmb	17 52 47.7	
	comp=Z,9.1nm,1.1s						
TOLK	**Toolik Lake Re**	**79.42**	**22**	IAmb	IAmb	17 52 42.7	
	comp=Z,49nm,1.9s						
I23K	**Minto, Yukon-K**	**79.43**	**25**	IAmb	IAmb	17 52 42.5	
	comp=Z,4.6nm,0.7s						
NEA2	**Nenana**	**79.55**	**26**	IAmb	IAmb	17 52 42.4	
	comp=Z,5.2nm,0.8s						
MCK	**McKinley**	**79.61**	**27**	IAmb	IAmb	17 52 42.1	
	comp=Z,10.0nm,0.6s						
KNK	**Knik Glacier**	**79.84**	**29**	IAmb	IAmb	17 52 47.6	
	comp=Z,8.2nm,0.8s						
PWL	**Port Wells**	**79.91**	**30**	IAmb	IAmb	17 52 47.8	
	comp=Z,12nm,0.6s						
F24K	**Squaw Lake**	**80.04**	**23**	IAmb	IAmb	17 51 27.1	
	comp=Z,5.5nm,0.7s						
H24K	**Noodor Dome**	**80.05**	**25**		**P**	**17 51 19.8**	**+0.4**
SCM	**Sheep Creek Mo**	**80.37**	**29**	IAmb	IAmb	17 52 49.9	
	comp=Z,9.6nm,0.9s						
HDA	**Harding Lake**	**80.47**	**26**	IAmb	IAmb	17 52 46.0	
	comp=Z,4.8nm,0.6s						
ILAR	**Eielson Array**	**80.49**	**26**	P	**P**	**17 51 21.2**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=245,slow=4.5,SNR=11						
	comp=Z,0.9nm,0.7s						
F25K	**Christian Rive**	**80.90**	**23**	P	**P**	**17 51 27.5**	**+3.6**
J25K	**Salcha River,**	**81.14**	**26**	IAmb	IAmb	17 52 58.1	
	comp=Z,14nm,1.9s						
BMAR	**Burnt Mountain**	**81.31**	**23**		**P**	**17 51 29.5**	**+3.3**
RIDG	**Independent Ri**	**81.42**	**27**	IAmb	IAmb	17 52 58.5	
	comp=Z,8.6nm,0.9s						
G26K	**Porcupine Rive**	**81.65**	**23**	P	**P**	**17 51 28.4**	**+0.5**
G26K				IAmb	IAmb	17 53 14.3	
	comp=Z,16nm,1.8s						
SCRK	**Sand Creek**	**81.79**	**26**	P	**P**	**17 51 31.6**	**+2.8**
H27K	**Steamboat Moun**	**82.62**	**24**	P	**P**	**17 51 35.9**	**+2.8**
E28M	**Babbage River**	**83.09**	**22**	IAmb	IAmb	17 53 07.0	
	comp=Z,8.2nm,1.3s						
F28M	**Old Crow**	**83.10**	**23**	IAmb	IAmb	17 53 31.2	
	comp=Z,5.9nm,0.5s						
BARN	**Barnard Glacie**	**83.15**	**29**	P	**P**	**17 51 37.2**	**+1.1**
CTGM	**Chitina Glacie**	**83.31**	**29**	IAmb	IAmb	17 53 10.1	
	comp=Z,12nm,0.7s						
I28M	**Miner Creek**	**83.36**	**25**	P	**P**	**17 51 37.5**	**+0.6**
I28M				IAmb	IAmb	17 51 46.7	
	comp=Z,7.7nm,0.8s						
TABL	**Table Mountain**	**83.47**	**30**	P	**P**	**17 51 38.8**	**+1.0**
DAWY	**Dawson**	**83.79**	**26**	P	**P**	**17 51 40.5**	**+1.3**
DAWY				IAmb	IAmb	17 51 46.7	
	comp=Z,8.1nm,1.1s						
I29M	**Ogilvie Camp,**	**84.05**	**25**	IAmb	IAmb	17 53 12.0	
	comp=Z,11nm,1.1s						
M29M	**Somme Creek**	**84.46**	**28**	IAmb	IAmb	17 53 15.5	
	comp=Z,6.5nm,0.9s						
SPITS	**Spitsbergen Ar**	**84.83**	**349**	P	**P**	**17 51 44.1**	**-0.1**
	comp=Z,5.0nm,0.7s,baz=176,slow=16,SNR=3.6						
	comp=Z,5.0nm,0.7s						
I30M	**Mount Dempster**	**84.87**	**25**	IAmb	IAmb	17 53 18.6	
	comp=Z,6.8nm,0.9s						
ARCES	**ARCESS Array B**	**84.90**	**340**	P	**P**	**17 51 43.7**	**-0.9**
	comp=Z,4.4nm,0.8s,baz=66,slow=5.8,SNR=11						
	comp=Z,4.4nm,0.8s						
J30M	**Hart River**	**85.02**	**25**	IAmb	IAmb	17 53 18.3	
	comp=Z,4.4nm,0.9s						
M30M	**Minto, Yukon**	**85.20**	**27**	IAmb	IAmb	17 53 14.2	
	comp=Z,9.1nm,1.2s						
BRTR	**Keskin Array B**	**85.75**	**309**	P	**P**	**17 51 49.0**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=72,slow=4.7,SNR=6.9						
	comp=Z,1.2nm,0.8s						
FINES	**FINESS Array B**	**86.48**	**332**	P	**P**	**17 51 52.1**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=71,slow=5.2,SNR=10						
	comp=Z,1.4nm,0.5s						
AKASG	**Malin Array Be**	**86.98**	**321**	P	**P**	**17 51 54.8**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=67,slow=5.3,SNR=1.6						
	comp=Z,0.8nm,0.6s						
VNDA	**Vanda**	**89.07**	**173**	P	**P**	**17 52 04.9**	**+0.3**
VNDA				IAmb	IAmb	17 53 33.7	
	comp=Z,4.3nm,0.7s						
VNDA	**Vanda**	**89.07**	**173**	P	**P**	**17 52 03.6**	**-0.9**
	comp=Z,2.6nm,0.7s,baz=311,slow=5.4,SNR=14						
	comp=Z,2.6nm,0.7s						
HFS	**Hagfors**	**92.65**	**332**	P	**P**	**17 52 21.0**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=90,slow=4.4,SNR=5.6						
	comp=Z,1.3nm,0.6s						
NOA	**NORSAR Array B**	**93.38**	**334**	P	**P**	**17 52 24.4**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=68,slow=4.4,SNR=3.4						
	comp=Z,0.3nm,0.6s						
GERES	**GERESS Array B**	**97.13**	**322**	P	Pdif	17 52 42.8	+0.2
	comp=Z,0.1nm,0.3s,baz=75,slow=4.8,SNR=2.5						
	comp=Z,0.1nm,0.3s						
QSPA	**South Pole Qui**	**99.20**	**180**	P	**Pdif**	**17 52 50.8**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=288,slow=1.2,SNR=5.0						
	comp=Z,0.5nm,0.7s						
PLCA	**Paso Flores**	**145.54**	**158**	PKPbc	**PKPab**	**17 58 49.6**	**+0.7**
	comp=Z,3.6nm,0.7s,baz=238,slow=4.2,SNR=10						

*BJI **18** 17:40:34.0,8˚.89N×126˚.35E,h41km,mB5.2/5,mb4.7/33, Ms4.5/6,Ms7 4.1/7*
*NEIC **18** 17:40:38.5±2.0,9˚.31N±0˚.07×125˚.93E±0˚.09,h35km±1km, mb4.8/110,Error ellipse: s-maj=15.7km s-min=10.6km az=60.0*
*IDC **18** 17:40:40.8±1.8,9˚.31N×125˚.96E,h61km±17km,mb4.2/29, mbtmp4.5/33,MS3.9/7,Error ellipse: s-maj=17.3km s-min=8.8km az=75.0*
*DJA **18** 17:40:52.7±1.1,8˚.N±9˚×12˚.6E±˚,h103km±10km,M5.1/19, mb5.1/19,mB5.5/2,Mw(mB)4.9/2*

ISC 18 17:40:41.3±0.3,9˚.26N±0˚.04×125˚.95E±0˚.07,h67km,n179, σ1.833/150,mb4.7/84,2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.21**	**190**	P	**Pn**	**17 41 15.8**	**+0.1**
	3μm,1.0s,baz=358,slow=24,SNR=1.3						
DAV				S	**Sn**	**17 41 42.8**	**+0.7**
	2μm,1.0s,baz=84,slow=22,SNR=1.3						
SGSI	**Sangihe**	**5.55**	**184**	P	Pn	17 41 52.9	-8.6
TGY	**Tagaytay City**	**6.87**	**315**	P	**Pn**	**17 42 19.8**	**+0.3**
	173nm,0.3s,baz=180,slow=5.5,SNR=1.5						
TNTI	**Ternate**	**8.55**	**170**	Pn	**Pn**	**17 42 42.1**	**-0.3**
TOLI2	**Tolitoli**	**9.59**	**213**	Pn	**Pn**	**17 42 55.2**	**-1.5**
FAKI	**Fak Fak**	**13.63**	**152**	Pn	**Pn**	**17 43 48.1**	**-3.6**
BAKI	**Biak**	**14.50**	**135**	P	**Pn**	**17 44 04.6**	**+1.5**
	83nm,1.5s						
YULB	**Yu-li**	**14.74**	**343**	P	**P**	**17 44 09.8**	**-0.8**
TPUB	**Ta-pu**	**14.86**	**341**		**P**	**17 44 10.1**	**-1.8**
SSLB	**Suanglung**	**15.21**	**342**	P	**P**	**17 44 14.6**	**-1.3**
SSLB				IAmb	IAmb	17 44 14.8	
	comp=Z,110nm,2.0s						
SBUM	**Sibu**	**15.23**	**244**	P	**P**	**17 44 17.7**	**+1.5**
KAPI	**Kappang**	**15.47**	**204**	P	**Pn**	**17 44 15.9**	**+0.3**
	comp=Z,8.5nm,0.8s,baz=12,slow=20,SNR=1.7						
KAPI				LR	LR	17 51 38.7	
	comp=Z,634nm,19.7s,baz=24,slow=42						
YHNB	**Yeheng**	**15.93**	**345**	P	**P**	**17 44 22.9**	**-1.0**
SMPI	**Sarmi**	**16.93**	**131**	P	**P**	**17 44 36.2**	**+1.3**
	comp=Z,111nm,1.0s						
JOW	**Kunigami**	**17.61**	**7**	LR	LR	17 50 33.2	
	comp=Z,682nm,22.0s,baz=323,slow=34						
GENI	**Genyem**	**18.42**	**129**	P	**Pn**	**17 44 54.5**	**+2.3**
	comp=Z,101nm,0.8s						
JAY	**Jayapura**	**18.79**	**128**	P	**P**	**17 44 56.2**	**+0.8**
	comp=Z,28nm,0.9s,baz=295,slow=3.1,SNR=9.3						
JAY	**Jayapura**	**18.79**	**128**	P	**P**	**17 44 56.3**	**+0.8**
SOEI	**Soe**	**18.97**	**185**	P	**Pn**	**17 44 59.0**	**+0.2**
SOEI				IAmb	IAmb	17 45 10.5	
	comp=Z,104nm,1.2s						
GUMO	**Guam**	**19.03**	**75**	LR	LR	17 52 51.8	
	comp=Z,210nm,18.8s,baz=256,slow=38						
BATI	**Baumata**	**19.47**	**187**	P	**P**	**17 45 03.0**	**+0.1**
	comp=Z,154nm,1.0s,baz=80,slow=0.6,SNR=12						
BATI	**Baumata**	**19.47**	**187**	P	**Pn**	**17 45 04.0**	**-0.7**
	comp=Z,82nm,0.5s						
UBPT	**Khong Chiam**	**20.88**	**289**	P	**P**	**17 45 18.7**	**+0.5**
MTN	**Manton Dam**	**22.56**	**167**		**P**	**17 45 37.0**	**+0.9**
MTN	**Manton Dam**	**22.56**	**167**	P	**P**	**17 45 36.1**	**-0.1**
	comp=Z,66nm,1.0s						
KDU	**Kakadu**	**22.75**	**163**	P	**P**	**17 45 36.2**	**-1.9**
	comp=Z,51nm,0.9s						
NJ2	**Nanjing**	**23.61**	**345**	*e*P	**P**	**17 45 46.1**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
MANU	**Manus Island**	**24.11**	**117**	P	**P**	**17 45 52.3**	**+1.3**
MANU				IAmb	IAmb	17 45 53.3	
	comp=Z,26nm,1.1s						
LEM	**Lembang**	**24.27**	**229**	P	**P**	**17 45 54.0**	**+1.4**
	comp=Z,46nm,0.8s,baz=186,slow=7.4,SNR=6.5						
LEM				LR	LR	17 56 14.0	
	comp=Z,428nm,18.4s,baz=96,slow=38						
	comp=Z,46nm,0.8s						
KNRA	**Kununurra**	**24.93**	**174**	P	**P**	**17 45 59.9**	**+1.4**
KNRA	**Kununurra**	**24.93**	**174**	P	**P**	**17 45 58.7**	**+0.3**
	comp=Z,48nm,0.7s						
IPM	**Ipoh**	**25.19**	**261**		**P**	**17 45 60.0**	**-0.9**
KULM	**Kulim**	**25.40**	**263**	P	**P**	**17 46 03.6**	**+0.9**
KULM				IAmb	IAmb	17 46 15.9	
	comp=Z,80nm,1.8s						
FITZ	**Fitzroy Crossi**	**27.19**	**181**		**P**	**17 46 19.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**27.19**	**181**	P	**P**	**17 46 19.5**	**+0.7**
	comp=Z,16nm,0.7s,baz=7.7,slow=12,SNR=12						
	comp=Z,16nm,0.7s						
CMAR	**Chiang Mai Arr**	**27.73**	**292**		**P**	**17 46 22.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**27.73**	**292**	P	**P**	**17 46 25.5**	**+1.7**
	comp=Z,1.9nm,0.7s,baz=85,slow=8.0,SNR=8.6						
CMAR				PcP	**PcP**	**17 49 41.0**	**+1.7**
	comp=Z,1.2nm,0.7s,baz=114,slow=1.1,SNR=6.7						
	comp=Z,1.9nm,0.7s						
KSAR	**Wonju Array Be**	**28.11**	**3**	P	**P**	**17 46 24.8**	**-2.0**
KSRS	**Korea Array**	**28.12**	**3**	P	**P**	**17 46 27.0**	**0.0**
	comp=Z,1.6nm,0.5s,baz=181,slow=9.7,SNR=6.9						
	comp=Z,1.6nm,0.5s						
PZH	**PanZhiHua**	**28.63**	**310**	P	**P**	**17 46 35.1**	**+3.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
COEN	**Coen**	**28.71**	**143**	P	**P**	**17 46 31.1**	**-1.3**
COEN				IAmb	IAmb	17 46 37.8	
	comp=Z,40nm,1.0s						
COEN	**Coen**	**28.71**	**143**	P	**P**	**17 46 30.5**	**-2.0**
	comp=Z,54nm,1.2s						
XAN	**Xi'an**	**29.21**	**330**	P	P	17 46 41.4	+4.7
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GSI	**Gunungsitoli**	**29.32**	**256**	P	**P**	**17 46 36.1**	**-1.8**
MAJO	**Matsushiro**	**29.35**	**20**	P	**P**	**17 46 34.8**	**-3.1**
MJAR	**Matsushiro Arr**	**29.35**	**20**	P	**P**	**17 46 36.5**	**-1.5**
	comp=Z,1.9nm,0.7s,baz=193,slow=9.5,SNR=4.8						
MJAR				LR	LR	17 59 05.5	
	comp=Z,112nm,18.8s,baz=201,slow=38						
	comp=Z,1.9nm,0.7s						
MJB9	**Matsu-Tunnel**	**29.35**	**20**	P	**P**	**17 46 34.8**	**-3.1**
HNS	**HongShan**	**29.80**	**342**	⇑P	**P**	**17 46 41.6**	**-0.2**
WB0	**Warramunga Arr**	**30.02**	**164**		**P**	**17 46 43.2**	**-0.7**
WB0				IAmb	IAmb	17 46 59.6	
	comp=Z,13nm,0.8s						
WRAB	**Tennant Creek**	**30.17**	**164**	P	**P**	**17 46 44.4**	**-0.9**
WRA	**Warramunga Arr**	**30.17**	**164**	P	**P**	**17 46 42.7**	**-2.7**
WRA	**Warramunga Arr**	**30.17**	**164**	P	**P**	**17 46 44.8**	**-0.6**
	comp=Z,5.3nm,0.5s,baz=348,slow=9.5,SNR=15						
	comp=Z,5.3nm,0.5s						
WR8	**Warramunga Arr**	**30.23**	**164**	P	**P**	**17 46 42.6**	**-3.3**
TNCH	**TengChong**	**30.45**	**304**	P	**P**	**17 46 49.6**	**+1.6**
TNCH				pP	pP	17 46 59.3	-4.9
TNCH				PP	**PnPn**	**17 47 51.8**	**+2.7**
TNCH				pmax	pmax		
	comp=Z,18nm,0.7s						
TNCH				pmax	pmax		
	comp=Z,200nm,4.6s						
TNCH				LR	LR		
	comp=Z,250nm,4.2s						
TNCH				LR	LR		
	comp=Z,250nm,13.7s						
MBWA	**Marble Bar**	**30.84**	**191**	P	**P**	**17 46 49.2**	**-2.0**
MBWA				IAmb	IAmb	17 46 54.2	
	comp=Z,26nm,1.4s						
MBWA	**Marble Bar**	**30.84**	**191**	P	**P**	**17 46 48.5**	**-2.7**
PSA00	**Pilbara Seismi**	**31.22**	**191**	P	**P**	**17 46 53.8**	**-0.8**
PSA00				IAmb	IAmb	17 46 55.0	
	comp=Z,13nm,1.0s						
PSA00	**Pilbara Seismi**	**31.22**	**191**		**P**	**17 46 53.5**	**-1.0**
PSA00				IAmb	IAmb	17 46 55.5	
	comp=Z,14nm,0.8s						
PSA00	**Pilbara Seismi**	**31.22**	**191**	P	**P**	**17 46 52.6**	**-1.9**
JMM	**Marumori**	**31.47**	**23**		**P**	**17 46 55.5**	**-1.1**
JMM				IAmb	IAmb	17 46 56.7	
	comp=Z,17nm,0.7s						
QIS	**Mount Isa**	**32.53**	**156**	P	**P**	**17 47 05.4**	**-0.7**
	comp=Z,36nm,1.1s						
MTSU	**Mount Surprise**	**32.71**	**146**	P	**P**	**17 47 06.1**	**-1.6**
	comp=Z,32nm,0.7s						
LZH	**Lanzhou**	**33.43**	**326**	*e*P	**P**	**17 47 17.8**	**+3.8**
LZH				pP	pP	17 47 28.8	-1.5
LZH				pmax	pmax		
	comp=Z,14nm,1.2s						
AS31	**Alice Springs**	**33.64**	**167**	P	**P**	**17 47 14.7**	**-1.1**
AS31	**Alice Springs**	**33.64**	**167**	P	**P**	**17 47 14.8**	**-0.9**
	comp=Z,3.7nm,0.5s						
ASAR	**Alice Springs**	**33.64**	**167**		**P**	**17 47 14.9**	**-0.8**
ASAR	**Alice Springs**	**33.64**	**167**	P	**P**	**17 47 16.0**	**+0.3**
	comp=Z,3.8nm,0.4s,baz=352,slow=6.9,SNR=13						
ASAR				PcP	**PcP**	**17 49 55.4**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=359,slow=2.4,SNR=4.1						
	comp=Z,3.8nm,0.4s						
HHC	**Hu-ho-hao-te**	**33.95**	**340**	*e*P	**P**	**17 47 21.5**	**+3.1**
HHC				pmax	pmax		
	comp=Z,21nm,0.7s						
HHC				pmax	pmax		
	comp=Z,150nm,5.5s						
WRKA	**Warakurna**	**34.17**	**176**	P	**P**	**17 47 20.0**	**-0.3**
	comp=Z,9.6nm,0.7s						
USRK	**Ussuriysk Ar.**	**35.20**	**8**		**P**	**17 47 28.1**	**-0.9**
USRK	**Ussuriysk Ar.**	**35.20**	**8**	P	**P**	**17 47 29.2**	**+0.2**
	comp=Z,9.6nm,0.7s,baz=194,slow=6.7,SNR=8.7						
	comp=Z,9.6nm,0.7s						
USA0B	**Ussuriysk Arra**	**35.20**	**8**	P	**P**	**17 47 27.9**	**-1.1**
USA0B				IAmb	IAmb	17 47 34.9	
	comp=Z,18nm,0.8s						
CTAO	**Charters Tower**	**35.36**	**146**		**P**	**17 47 31.1**	**+0.4**
MDJ	**Mudanjiang**	**35.37**	**4**	IAmb	IAmb	17 47 33.2	
	comp=Z,18nm,1.2s						
MDJ	**Mudanjiang**	**35.37**	**4**	P	**P**	**17 47 31.4**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,15nm,1.8s						
XLT	**XiLinHaoTe**	**35.56**	**348**	*e*P	**P**	**17 47 30.8**	**-1.4**
XLT				sP	pP	17 47 44.3	-4.3
XLT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SHL	**Shillong**	**36.17**	**301**	P	**P**	**17 47 36.7**	**-1.1**
SHL				IAmb	IAmb	17 47 51.7	
	comp=Z,14nm,0.8s						
BNX	**BinXian**	**36.37**	**2**	⇑P	**P**	**17 47 39.0**	**+0.1**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.5s						
MEEK	**Meekatharra**	**36.39**	**191**	P	**P**	**17 47 37.0**	**-2.3**
FORT	**Forrest**	**39.86**	**177**		**P**	**17 48 08.9**	**+0.4**
FORT				IAmb	IAmb	17 48 21.0	
	comp=Z,16nm,0.7s						
FORT	**Forrest**	**39.86**	**177**	P	**P**	**17 48 08.5**	**0.0**
	comp=Z,27nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**40.52**	**72**	T	T	18 31 08.0	
	baz=262,slow=70						
H11S1	**WAKE ISLAND Hy**	**40.53**	**72**	T	T	18 31 10.5	
	baz=262,slow=70,SNR=90						
H11S2	**WAKE ISLAND Hy**	**40.53**	**72**	T	T	18 31 07.6	
	baz=262,slow=70,SNR=43						
H11N1	**WAKE ISLAND Hy**	**40.88**	**71**	T	T	18 31 47.4	
	baz=265,slow=74						
HEH	**HeiHe**	**40.88**	**1**	*e*P	**P**	**17 48 16.3**	**-0.4**
HEH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**40.89**	**71**	T	T	18 31 39.5	
	baz=265,slow=74,SNR=45						
H11N3	**WAKE ISLAND Hy**	**40.90**	**71**	T	T	18 31 48.8	
	baz=265,slow=74						
EVN	**Everest**	**41.24**	**302**		**P**	**17 48 19.2**	**-1.6**
EVN				IAmb	IAmb	17 48 31.6	
	comp=Z,22nm,1.4s						
SONM	**Songino Array**	**41.85**	**340**	P	**P**	**17 48 24.9**	**0.0**
	comp=Z,0.5nm,0.4s,baz=152,slow=6.5,SNR=1.3						
SONM				PcP	**PcP**	**17 50 19.7**	**0.0**
	comp=Z,1.0nm,0.8s,baz=156,slow=6.1,SNR=2.8						
	comp=Z,0.5nm,0.4s						
BBOO	**Buckleboo**	**42.93**	**167**	P	**P**	**17 48 34.2**	**+0.5**
BBOO	**Buckleboo**	**42.93**	**167**	P	**P**	**17 48 34.8**	**+1.1**
	comp=Z,66nm,1.1s						
STKA	**Stephens Creek**	**43.56**	**161**		**P**	**17 48 39.0**	**+0.2**
STKA	**Stephens Creek**	**43.56**	**161**	P	**P**	**17 48 38.9**	**+0.2**
	comp=Z,100nm,0.8s						
STKA	**Stephens Creek**	**43.56**	**161**	P	**P**	**17 48 39.1**	**+0.5**
	comp=Z,12nm,0.6s,baz=335,slow=8.7,SNR=13						
	comp=Z,12nm,0.6s						
HTT	**Hallett**	**44.21**	**164**	P	**P**	**17 48 44.4**	**+0.4**
	comp=Z,5.8nm,1.1s						
CMSA	**Cobar Meteorol**	**44.76**	**156**	P	**P**	**17 48 49.0**	**+0.7**
	comp=Z,22nm,1.2s						
WMQ	**Urumqi**	**47.82**	**323**	*e*P	**P**	**17 49 14.1**	**+1.8**
WMQ				LR	LR		
	comp=Z,380nm,17.1s						
WMQ				LR	LR		
	comp=Z,270nm,22.9s						
ARPS	**Mount Arapiles**	**48.16**	**163**	P	**P**	**17 49 15.1**	**+0.3**
	comp=Z,12nm,0.9s						
YNG	**Young**	**48.27**	**155**	P	**P**	**17 49 15.8**	**0.0**
	comp=Z,21nm,0.6s						
CAN	**Canberra**	**49.40**	**155**	P	**P**	**17 49 26.2**	**+1.8**
CAN	**Canberra**	**49.40**	**155**	P	**P**	**17 49 25.9**	**+1.4**
	comp=Z,38nm,0.8s						
CAN	**Canberra**	**49.40**	**155**	P	**P**	**17 49 26.1**	**+1.6**
TOO	**Toolangi**	**50.05**	**160**	P	**P**	**17 49 31.3**	**+1.9**
DZM	**Mont Dzumac**	**50.46**	**129**	P	**P**	**17 49 33.0**	**+0.2**
DZM				IAmb	IAmb	17 49 58.9	
	comp=Z,19nm,1.3s						
DZM	**Mont Dzumac**	**50.46**	**129**	P	**P**	**17 49 33.0**	**+0.2**
	comp=Z,4.9nm,0.6s,baz=245,slow=4.2,SNR=5.9						
	comp=Z,4.9nm,0.6s						
PETK	**Petropavlovsk-**	**50.68**	**24**		**P**	**17 49 34.8**	**+0.9**
PETK	**Petropavlovsk-**	**50.68**	**24**	P	**P**	**17 49 35.1**	**+1.2**
	comp=Z,5.1nm,0.6s,baz=197,slow=2.5,SNR=14						
	comp=Z,5.1nm,0.6s						
PET	**Petropavlovsk**	**51.01**	**25**	P	**P**	**17 49 36.0**	**-0.3**
MKAR	**Makanchi Array**	**52.64**	**323**	P	**P**	**17 49 47.6**	**-1.0**
MKAR	**Makanchi Array**	**52.64**	**323**	P	**P**	**17 49 48.7**	**+0.1**
	comp=Z,3.5nm,0.6s,baz=126,slow=7.7,SNR=11						
MKAR				PcP	**PcP**	**17 50 57.9**	**0.0**
	comp=Z,1.7nm,0.7s,baz=126,slow=3.9,SNR=2.1						
	comp=Z,3.5nm,0.6s						
YAK	**Yakutsk**	**52.74**	**2**		**P**	**17 49 48.4**	**-0.7**
YAK	**Yakutsk**	**52.74**	**2**	P	**P**	**17 49 47.8**	**-1.2**
KSH	**Kashi**	**53.67**	**313**	P	**P**	**17 49 58.3**	**+1.8**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
NIL	**Nilore**	**54.04**	**305**		**P**	**17 49 58.3**	**-0.9**
ZALV	**Zalesovo Beam**	**55.36**	**332**	P	**P**	**17 50 07.3**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=126,slow=8.0,SNR=2.8						
ZALV				PcP	**PcP**	**17 51 05.7**	**-2.4**
	comp=Z,1.0nm,0.5s,baz=142,slow=4.9,SNR=1.8						
	comp=Z,0.9nm,0.4s						
ARSB	**Arslanbob**	**56.43**	**314**	IAmb	IAmb	17 50 25.7	
	comp=Z,27nm,1.6s						
KURK	**Kurchatov**	**56.72**	**326**		**P**	**17 50 17.2**	**-0.8**
KURK	**Kurchatov**	**56.72**	**326**	P	**P**	**17 50 17.4**	**-0.7**
KURBB	**Kurchatov Arra**	**56.72**	**326**	P	**P**	**17 50 17.2**	**-0.8**
	comp=Z,4.6nm,0.7s,baz=123,slow=7.7,SNR=16						
	comp=Z,4.6nm,0.7s						
SEY	**Seymchan**	**56.87**	**14**	LR	LR	18 13 10.4	
	comp=Z,104nm,22.0s,baz=212,slow=34						
KBL	**Kabul**	**57.64**	**305**		**P**	**17 50 24.6**	**-0.5**
KK31	**Karatay Array**	**58.73**	**315**	IAmb	IAmb	17 50 32.5	
	comp=Z,4.5nm,0.8s						
KKAR	**Karatay Array**	**58.73**	**315**		**P**	**17 50 31.4**	**-1.0**
AMKA	**Amchitka**	**60.41**	**35**		**P**	**17 50 44.0**	**+0.4**
BVAR	**Borovoye Array**	**62.31**	**326**	P	**P**	**17 50 56.1**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=128,slow=9.7,SNR=8.0						
	comp=Z,3.3nm,0.7s						
BRVK	**Borovoye**	**62.38**	**326**		**P**	**17 50 55.7**	**-1.3**
BRVK	**Borovoye**	**62.38**	**326**	P	**P**	**17 50 56.4**	**-0.6**
ATKA	**Atka Island**	**64.46**	**36**	P	**P**	**17 51 10.1**	**-0.6**
ATKA				IAmb	IAmb	17 51 15.2	
	comp=Z,17nm,0.8s						
THZ	**Tophouse**	**66.55**	**143**		**

comp=Z,3.9nm,0.7s
HFS Hagfors 92.79 332 P **P** 17 53 45.1 -1.1
comp=Z,1.3nm,0.6s,baz=131,slow=4.5,SNR=6.5
comp=Z,1.3nm,0.6s
NB2 NORSAR Subarra 93.52 334 P **P** 17 53 47.6 -2.1
comp=Z,1.4nm,0.7s,baz=66,slow=4.4
NOA NORSAR Array B 93.52 334 P **P** 17 53 48.0 -1.7
comp=Z,0.6nm,0.6s,baz=64,slow=4.7,SNR=4.3
comp=Z,0.6nm,0.6s
YKA Yellowknife Ar 94.80 24 P **P** 17 53 55.8 +0.3
comp=Z,1.5nm,0.8s,baz=288,slow=3.9,SNR=4.1
comp=Z,1.5nm,0.8s
GERES GERESS Array B 97.29 322 P Pdif 17 54 06.9 -0.3
comp=Z,0.4nm,0.6s,baz=64,slow=3.1,SNR=4.3
comp=Z,0.4nm,0.6s
QSPA South Pole Qui 99.13 180 P **Pdif** 17 54 15.9 +0.9
comp=Z,3.4nm,1.2s,baz=14,slow=5.5,SNR=2.4
comp=Z,3.4nm,1.2s
TXAR Lajitas Array 118.72 49 PKP **PKiKP** 17 59 23.3 +0.6
comp=Z,0.4nm,0.6s,baz=232,slow=1.4,SNR=5.1
TORD Torodi Ar. Bea 120.34 291 PKP **PKiKP** 17 59 25.9 -0.2
comp=Z,1.4nm,0.4s,baz=74,slow=2.1,SNR=5.1
PLCA Paso Flores 145.41 158 PKPbc **PKPab** 18 00 12.3 0.0
comp=Z,8.3nm,0.8s,baz=209,slow=2.9,SNR=9.3
LPAZ La Paz 164.60 118 PKP **PKPdf** 18 00 39.7 +0.4
comp=Z,1.0nm,0.5s,baz=217,slow=4.9,SNR=3.9

*IDC **18** 17:44:49.7±0.8,0.°16N×125.°88E,h0km,mb4.1/11, mbtmp4.1/11,MS3.8/2,Error ellipse: s-maj=48.2km s-min=15.7km az=72.0*
*DJA **18** 17:44:54.2±0.9,0.°N±3.°×12.°6E±.°,h11km±7km,M3.9/8, MLv3.9/8*
*NEIC **18** 17:44:55.0±1.5,0.°3N±0.°1×126.°28E±0.°07,h35km±2km, mb4.3/12,Error ellipse: s-maj=21.5km s-min=11.7km az=167.0*
ISC 18 17:44:55.3±0.6,0.°31N±0.°06×126.°33E±0.°05,h35km,n36,
σ1s46/36,mb4.2/17,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.14**	**66**	Pn	**Pn**	**17 45 14.5**	**-0.2**
TNTI	**Ternate**	**1.14**	**66**	P	**Pn**	**17 45 14.7**	**0.0**
TNTI				S	**Sn**	**17 45 31.3**	**+2.2**
KMSI	**Cibinong**	**2.36**	**276**	P	**Pn**	**17 45 31.3**	**-0.2**
KMSI				S	**Sn**	**17 46 01.9**	**+2.6**
SANI	**Sanana**	**2.37**	**188**	P	**Pn**	**17 45 31.0**	**-0.7**
NLAI	**Namlea**	**3.61**	**168**	P	**Pn**	**17 45 49.7**	**+0.9**
LUWI	**Luwuk**	**3.80**	**249**	P	**Pn**	**17 45 55.1**	**+3.7**
TOLI2	**Tolitoli**	**5.60**	**278**	Pn	**Pn**	**17 46 14.1**	**-2.1**
WB0	**Warramunga Arr**	**21.46**	**159**	P	**P**	**17 49 39.2**	**-1.6**
WB0				IAmb	IAmb	17 49 44.1	
	comp=Z,23nm,1.2s						
WRA	**Warramunga Arr**	**21.61**	**159**	P	**P**	**17 49 40.4**	**-2.0**
WRA	**Warramunga Arr**	**21.61**	**159**	P	**P**	**17 49 41.3**	**-1.1**
	comp=Z,3.7nm,0.4s,baz=336,slow=11,SNR=10						
	comp=Z,3.7nm,0.4s						
WR8	**Warramunga Arr**	**21.68**	**159**	P	**P**	**17 49 41.9**	**-1.3**
MBWA	**Marble Bar**	**22.29**	**196**	P	**P**	**17 49 49.7**	**0.0**
MBWA				IAmb	IAmb	17 50 06.7	
	comp=Z,18nm,1.4s						
AS31	**Alice Springs**	**24.95**	**163**	P	**P**	**17 50 14.8**	**-0.8**
ASAR	**Alice Springs**	**24.95**	**163**	P	**P**	**17 50 16.5**	**+1.0**
ASAR	**Alice Springs**	**24.95**	**163**	P	**P**	**17 50 15.6**	**+0.1**
	comp=Z,7.3nm,0.7s,baz=345,slow=9.2,SNR=18						
	comp=Z,7.3nm,0.7s						
NWAO	**Narrogin (SRO)**	**34.16**	**194**	LR	LR	18 05 28.5	
	comp=Z,131nm,22.0s,baz=79,slow=36						
STKA	**Stephens Creek**	**35.13**	**157**	P	**P**	**17 51 44.6**	**-1.0**
	comp=Z,3.1nm,0.9s,baz=157,slow=23,SNR=2.0						
	comp=Z,3.1nm,0.9s						
KSRS	**Korea Array**	**36.99**	**2**	P	**P**	**17 52 02.2**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=177,slow=11,SNR=4.5						
	comp=Z,0.8nm,0.7s						
USRK	**Ussuriysk Ar.**	**43.99**	**6**	P	**P**	**17 52 59.7**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=188,slow=7.3,SNR=4.7						
	comp=Z,1.6nm,0.6s						
SONM	**Songino Array**	**50.40**	**343**	P	**P**	**17 53 49.0**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=152,slow=8.4,SNR=4.5						
	comp=Z,1.0nm,0.7s						
PETK	**Petropavlovsk-**	**58.73**	**22**	P	**P**	**17 54 51.9**	**+2.3**
	comp=Z,1.1nm,0.5s,baz=190,slow=5.6,SNR=6.2						
	comp=Z,1.1nm,0.5s						
MKAR	**Makanchi Array**	**60.14**	**327**	P	**P**	**17 54 58.2**	**-1.2**
MKAR	**Makanchi Array**	**60.14**	**327**	P	**P**	**17 54 58.5**	**-0.9**
	comp=Z,1.5nm,0.4s,baz=119,slow=8.2,SNR=19						
	comp=Z,1.5nm,0.4s						
MAKZ	**Makanchi**	**60.32**	**326**	P	**P**	**17 54 58.8**	**-1.9**
MAKZ				IAmb	IAmb	17 55 06.0	
	comp=Z,3.3nm,1.2s						
ZALV	**Zalesovo Beam**	**63.45**	**334**	P	**P**	**17 55 20.8**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=139,slow=8.3,SNR=2.6						
	comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**64.40**	**328**	P	**P**	**17 55 26.9**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=128,slow=6.2,SNR=19						
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**64.41**	**329**	P	**P**	**17 55 27.0**	**-0.8**
KKAR	**Karatay Array**	**65.47**	**318**	P	**P**	**17 55 33.9**	**-1.1**
BVAR	**Borovoye Array**	**69.96**	**328**	P	**P**	**17 56 02.3**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=116,slow=10,SNR=5.0						
	comp=Z,0.6nm,0.4s						
BRVK	**Borovoye**	**70.03**	**328**	P	**P**	**17 56 02.9**	**-0.6**
BRVK				IAmb	IAmb	17 56 05.1	
	comp=Z,2.2nm,0.9s						
AB31	**Akbulak array**	**74.54**	**321**	P	**P**	**17 56 29.7**	**-0.8**
AB31				IAmb	IAmb	17 56 32.1	
	comp=Z,3.6nm,1.4s						
ABKAR	**Akbulak array**	**74.54**	**321**	P	**P**	**17 56 29.6**	**-0.9**
RAYN	**Ar Rayn**	**81.46**	**294**	P	**P**	**17 57 07.8**	**-1.7**
RAYN				IAmb	IAmb	17 57 09.4	
	comp=Z,2.3nm,0.6s						
L18K	**Granite Mounta**	**83.67**	**27**	P	**P**	**17 57 22.2**	**+2.1**
D19K	**Kuna River**	**84.44**	**21**	P	**P**	**17 57 25.2**	**+1.2**
LBTB	**Lobatse**	**99.86**	**245**	LR	LR	18 42 15.5	
	comp=Z,54nm,18.1s,baz=86,slow=35						

*JMA **18** 17:46:00.2±0.2,44.°6N±0.°5×145.°3E±0.°9,h13km±1km, MV2.8/34,NE OFF HOKKAIDO*
*SKHL **18** 17:46:01.0±0.1,44.°60N×145.°30E,h12km±2km,mb3.9/2*
ISC 18 17:45:59.4±2.0,44.°61N±0.°10×145.°31E±0.°04,h15km±10km, n11,σ0.°35/19,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JRA	**Rausu**	**0.69**	**192**	P	**Pn**	**17 46 13.8**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**0.70**	**145**	*eP*	**Pb**	**17 46 13.2**	**-0.1**
YUK				AMB	AMB	17 46 13.8	
	110nm,0.3s						
YUK				*eS*	**Sg**	**17 46 22.3**	**+0.1**
YUK				A	A	17 46 23.5	
	560nm,0.3s						
YUK				A	A	17 46 23.5	
	300nm,0.3s						
JNSB	**Nemuroshibetsu**	**0.86**	**195**	P	**Pn**	**17 46 17.1**	**+0.1**
JNSB				S	**Sn**	**17 46 29.3**	**0.0**
JNK	**Nakash**	**1.11**	**203**	*eP*	**Pg**	**17 46 21.0**	**+0.2**
JNK				*eS*	**Sg**	**17 46 35.4**	**+0.1**
JTKR	**Abashiri--Toko**	**1.19**	**238**	*eP*	**Pg**	**17 46 22.0**	**-0.3**
JTKR				*eS*	**Sn**	**17 46 38.1**	**+0.6**
NMR	**Nemuro--Hokkai**	**1.27**	**166**	*eP*	**Pn**	**17 46 22.7**	**0.0**
NMR				*eS*	**Sb**	**17 46 39.5**	**+0.2**
NEM2	**Nemuro 2**	**1.28**	**166**	P	**Pn**	**17 46 22.7**	**-0.1**
NEM2				S	**Sb**	**17 46 39.6**	**+0.1**
SHO	**Shikotan**	**1.32**	**124**	*eP*	**Pg**	**17 46 24.9**	**+0.1**
SHO				AMB	AMB	17 46 25.6	
	20nm,0.2s						
SHO				*eS*	**Sg**	**17 46 41.8**	**-0.1**
SHO				A	A	17 46 42.9	
	280nm,0.4s						
SHO				A	A	17 46 42.9	
	760nm,0.4s						
JMP	**Maruseppu**	**1.52**	**247**	P	**Pb**	**17 46 27.4**	**0.0**
JKHN	**Kushirohamanak**	**1.53**	**184**	*eP*	**Pb**	**17 46 27.2**	**-0.2**
AKK	**Akkeshi**	**1.63**	**192**	*eP*	**Pn**	**17 46 28.1**	**+0.6**
AKK				*eS*	**Sn**	**17 46 47.7**	**-0.5**

RSNC 18 17:50:52.1±1.3,2.°S±3.°×7.°8W±.°,h18km±12km,M3.6,mb4.3, ML2.9,Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COHC	**Cochancay**	**1.83**	**245**	P	Pb	17 51 26.0	+0.9
COHC				S	Sg	17 51 52.1	+1.0

OTAV	**Otavalo**	**2.09**	**336**	P	Pn	17 51 28.1	+1.5
BONI	**La Bonita**	**2.12**	**2**	P	Pb	17 51 29.8	-0.4
CUSE	**Cuicocha Este**	**2.13**	**338**	P	Pb	17 51 28.9	-1.5
PAC1	**Pacto, Paraso**	**2.27**	**328**	P	Pn	17 51 29.4	+0.5
PAC1				S	Sb	17 51 59.5	-1.0
FLF1	**Flavio Alfaro-**	**2.60**	**300**	P	Pn	17 51 32.3	-1.0
FLF1				S	Sn	17 52 03.0	-1.5
PPLP	**Puerto Lpez**	**3.18**	**272**	P	Pn	17 51 38.6	-2.7
PPLP				S	Sn	17 52 14.8	-3.9
MCRA	**Macar, Loja**	**3.56**	**221**	P	Pn	17 51 46.1	-0.4
MCRA				S	Sn	17 52 29.0	+0.8
FLOC	**Florencia**	**3.78**	**31**	P	Pn	17 51 50.9	+1.3
GARC	**Garzon, Huila**	**4.38**	**29**	P	Pn	17 51 59.3	+1.3
GR1C	**Gorgona, Isla**	**4.69**	**353**	P	Pn	17 51 59.9	-2.1
JAMC	**Jamundi, Valle**	**4.95**	**11**	P	Pn	17 52 03.5	-2.3
MALC	**Bahia Malaga**	**5.66**	**3**	P	Pn	17 52 13.7	-1.7
YOTC	**Yotoco, Valle**	**5.76**	**13**	P	Pn	17 52 12.8	-4.1
	14nm,0.6s						
ORTC	**Ortega, Tolima**	**6.03**	**23**	P	Pn	17 52 19.9	-0.6
PLMC	**San Jos del P**	**6.67**	**11**	P	Pn	17 52 23.8	-5.6

*IDC **18** 18:01:45.4±2.8,15.°79N×145.°62E,h0km,mb3.5/7, mbtmp3.5/8,ML3.7/1,Error ellipse: s-maj=87.2km s-min=20.4km az=84.0*
ISC 18 18:01:51.5±2.6,15.°65N±0.°10×145.°3E±0.°5,h35km,n14,
σ1s83/9,mb3.5/7,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.10**	**193**	Pn	**Pn**	**18 02 25.6**	**+1.4**
	18nm,0.3s,baz=52,slow=18,SNR=3.3						
GUMO				Sn	**Sn**	**18 02 46.6**	**-2.4**
	37nm,0.3s,baz=190,slow=20,SNR=6.2						
	46nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**20.60**	**79**	T	T	18 28 31.8	
	baz=266						
H11S1	**WAKE ISLAND Hy**	**20.61**	**79**	T	T	18 28 30.6	
	baz=266						
H11S2	**WAKE ISLAND Hy**	**20.62**	**79**	T	T	18 28 34.5	
	baz=266						
H11N1	**WAKE ISLAND Hy**	**20.92**	**76**	T	T	18 28 50.2	
	baz=264						
H11N2	**WAKE ISLAND Hy**	**20.93**	**76**	T	T	18 29 01.3	
	baz=264						
H11N3	**WAKE ISLAND Hy**	**20.94**	**76**	T	T	18 28 51.6	
	baz=264						
KSRS	**Korea Array**	**26.64**	**328**	P	**P**	**18 07 24.2**	**-2.8**
	0.5nm,0.8s,baz=149,slow=10,SNR=6.9						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**36.98**	**197**	P	**P**	**18 08 59.1**	**+1.3**
	0.6nm,0.9s,baz=19,slow=8.4,SNR=3.3						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**40.64**	**196**	P	**P**	**18 09 27.3**	**-1.2**
	0.3nm,1.0s,baz=15,slow=6.8,SNR=1.7						
	0.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**44.36**	**281**	P	**P**	**18 09 59.9**	**+1.1**
	0.3nm,0.3s,baz=89,slow=8.5,SNR=5.2						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**60.35**	**315**	P	**P**	**18 11 57.7**	**+0.6**
	0.1nm,0.5s,baz=90,slow=5.8,SNR=2.2						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**63.37**	**319**	P	**P**	**18 12 17.4**	**+0.1**
	1.0nm,0.8s,baz=99,slow=7.2,SNR=9.4						
	1.0nm,0.8s						
BVAR	**Borovoye Array**	**68.61**	**321**	P	**P**	**18 12 51.4**	**+0.4**
	0.5nm,0.5s,baz=104,slow=6.3,SNR=4.3						
	0.5nm,0.5s						

*IDC **18** 18:16:40.2±1.1,1.°53N×90.°75W,h0km,mb3.8/6, mbtmp3.8/7,ML3.5/1,Error ellipse: s-maj=89.2km s-min=21.9km az=56.0*
ISC 18 18:16:41.8±1.0,1.°6N±0.°3×90.°8W±0.°3,h10km,n14,
σ0s98/10,mb3.8/6,Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**15.07**	**125**	Pn	**Pn**	**18 20 16.3**	**+0.9**
	0.2nm,0.3s,baz=293,slow=15,SNR=3.6						
	2.6nm,0.7s						
H06E1	**SOCORRO T-PHAS**	**26.14**	**312**	T	T	18 49 30.5	
	SNR=9.2						
LPAZ	**La Paz**	**28.54**	**129**	P	**P**	**18 22 38.3**	**-0.3**
	1.1nm,0.7s,baz=280,slow=6.1,SNR=3.8						
	1.1nm,0.7s						
TXAR	**Lajitas Array**	**30.23**	**337**	P	**P**	**18 22 51.9**	**-0.9**
	0.2nm,0.4s,baz=143,slow=8.5,SNR=4.5						
	0.2nm,0.4s						
PDAR	**Pinedale Array**	**44.34**	**340**	P	**P**	**18 24 52.0**	**-0.4**
	0.2nm,0.4s,baz=191,slow=5.8,SNR=2.2						
	0.2nm,0.4s						
NVAR	**Mina Array Bea**	**44.52**	**329**	P	**P**	**18 24 55.8**	**+1.8**
	1.5nm,0.9s,baz=151,slow=9.7,SNR=6.1						
	1.5nm,0.9s						
ILAR	**Eielson Array**	**74.73**	**338**	P	**P**	**18 28 22.1**	**+0.5**
	1.2nm,0.9s,baz=152,slow=4.2,SNR=9.1						
	1.2nm,0.9s						
QSPA	**South Pole Qui**	**91.59**	**180**	P	**P**	**18 29 48.3**	**-0.5**
	0.8nm,1.0s,baz=92,slow=3.1,SNR=2.0						
	0.8nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**101.37**	**289**	T	T	20 23 35.0	
	baz=85,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**101.37**	**289**	T	T	20 23 34.7	
	baz=85,slow=75,SNR=9.1						
H11S3	**WAKE ISLAND Hy**	**101.38**	**289**	T	T	20 23 31.9	
	baz=85,slow=75,SNR=14						
ZALV	**Zalesovo Beam**	**124.56**	**3**	PKP	**PKPdf**	**18 35 40.8**	**-0.7**
	0.6nm,0.5s,baz=318,slow=2.0,SNR=3.9						
KURBB	**Kurchatov Arra**	**127.22**	**9**	PKP	**PKPdf**	**18 35 46.1**	**-0.5**
	0.5nm,0.8s,baz=328,slow=2.5,SNR=5.1						
CMAR	**Chiang Mai Arr**	**157.93**	**335**	PKPab	**PKPab**	**18 37 12.9**	**+0.3**
	0.8nm,0.6s,baz=9.7,slow=4.3,SNR=4.8						

*NEIC **18** 18:16:41.9±0.9,35.°805N±0.°010×98.°111W±0.°008, h5km±1km,Error ellipse: s-maj=2.6km s-min=1.7km az=338.0*
NEIC 18 18:16:42.1±1.0,35.°807N±0.°009×98.°11W±0.°01,
h14km±7km,mb_Lg2.3/18,ML2.4/25,ML2.5/46,Error ellipse: s-maj=2.0km s-min=0.7km az=53.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSTR	**Hydro, Custer**	**0.50**	**251**		Pg	18 16 52.1	+0.1
CSTR					Sg	18 16 59.2	+0.6
OK029	**Liberty Lake**	**0.53**	**91**		Pg	18 16 52.5	-0.1
OK029					Sg	18 17 00.1	+0.4
OK029				IAML		18 17 00.4	
	475nm,0.2s						
OK004	**Okla Sci Mus**	**0.59**	**118**		Pg	18 16 53.6	0.0
OK004					Sg	18 17 01.9	+0.4
OKCSW	**OKLAHOMA CITY**	**0.68**	**126**		Pg	18 16 55.1	-0.2
OKCSW					Sg	18 17 04.4	+0.1
OKCSW				IAML		18 17 04.5	
	comp=E,334nm,0.1s						
OKCSW				IAML		18 17 05.2	
	comp=N,369nm,0.1s						
CROK	**Carrier**	**0.70**	**8**		Pg	18 16 55.6	-0.2
CROK					Sg	18 17 05.4	+0.2
CROK				IAML		18 17 07.6	
	comp=N,296nm,0.2s						
FNO	**Franklin**	**0.80**	**133**		Pg	18 16 57.2	-0.4
FNO					Sb	18 17 08.3	-0.1
FNO				IAML		18 17 11.1	
	comp=N,196nm,0.5s						
FNO				IAML		18 17 12.0	
	comp=E,125nm,0.1s						
OK038	**West end E0370**	**0.84**	**323**		Pg	18 16 58.0	-0.5
OK038					Sg	18 17 09.6	0.0
GC02	**Grant County #**	**1.06**	**11**		Pb	18 17 01.9	-0.4
GC02					Sb	18 17 16.3	+0.2
OK052	**Battle Ridge R**	**1.08**	**80**		Pb	18 17 02.2	-0.3
OK052					Sg	18 17 16.9	-0.1
OK052				IAML		18 17 17.8	
	comp=E,165nm,0.1s						
OK052				IAML		18 17 18.1	
	comp=E,118nm,0.2s						
KAN14	**Manchester OK**	**1.15**	**6**		Pb	18 17 03.5	-0.3
KAN14					Sb	18 17 19.0	+0.3
KAN14				IAML		18 17 21.6	
	comp=E,149nm,0.1s						
KAN14				IAML		18 17 22.3	
	comp=N,102nm,0.1s						
QUOK	**Quay**	**1.19**	**72**		Pn	18 17 04.2	-0.2
QUOK					Sg	18 17 20.8	+0.1
QUOK				IAML		18 17 24.7	
	comp=E,180nm,0.2s						
WMOK	**Wichita Mounta**	**1.20**	**207**		Pn	18 17 04.0	-0.4
WMOK					Sb	18 17 19.8	-0.2
X34A	**Smith Ranch, M**	**1.22**	**169**		Pg	18 17 05.4	-0.3
X34A					Sg	18 17 22.6	+1.0
X34A				IAML		18 17 24.3	
	comp=E,70nm,0.3s						
X34A				IAML		18 17 27.3	
	comp=N,66nm,0.3s						
OK051	**E0350 and S346**	**1.24**	**56**		Pb	18 17 05.3	-0.1
OK051					Sg	18 17 22.3	0.0
DEOK	**Depew**	**1.31**	**88**		Pn	18 17 06.1	+0.1
DEOK					Sg	18 17 24.1	-0.2
DEOK				IAML		18 17 27.4	
	comp=N,113nm,0.2s						
T35A	**Sooner Cattle**	**1.70**	**49**		Pn	18 17 10.7	-0.6
SMWD	**Samnorwood**	**1.88**	**249**		Pb	18 17 15.3	-0.9
SMWD	**Samnorwood**	**1.88**	**249**	P	Pb	18 17 15.4	-0.7
WTFS	**Witchita Falls**	**2.06**	**188**		Pn	18 17 15.8	-0.5
RLO	**Rose Lookout**	**2.53**	**81**		Pn	18 17 24.6	+1.9
FW03	**Perrin-Whitt E**	**2.76**	**179**	Pn	Pn	18 17 27.4	+1.4
AMTX	**Amarillo**	**3.06**	**254**	Pn	Pn	18 17 30.6	+0.4
AMTX				IAmb_Lg		18 18 21.8	
	comp=Z,8.6nm,0.8s						
U38A	**Gravette**	**3.08**	**77**	Pg	Pb	18 17 37.3	+0.7
DKNS	**Dickens**	**3.15**	**228**	IAmb_Lg		18 18 20.3	
	comp=Z,5.8nm,0.9s						
HHAR	**Hobbs**	**3.41**	**81**	Pn	Pn	18 17 33.5	-1.4
SN07	**Snyder 07**	**3.55**	**221**	IAmb_Lg		18 18 42.5	
	comp=Z,5.6nm,0.8s						
POST	**Post**	**3.92**	**227**	Pg	Pg	18 17 54.3	-2.8
BRDY	**Brady**	**4.57**	**190**	IAmb_Lg		18 19 09.7	
	comp=Z,4.6nm,0.9s						
WHAR	**Wooly Hollow**	**4.77**	**95**	IAmb_Lg		18 19 16.6	
	comp=Z,5.9nm,1.0s						
T25A	**Trinidad**	**5.25**	**287**	IAmb_Lg		18 19 36.2	
	comp=Z,6.7nm,0.7s						
P38A	**Dawn**	**5.26**	**42**	IAmb_Lg		18 19 36.7	
	comp=Z,5.5nm,0.7s						
JCT	**Junction City**	**5.50**	**195**	IAmb_Lg		18 19 43.3	
	comp=Z,7.1nm,0.8s						

*DJA **18** 18:22:39.2±1.4,8.°S±9.°×107.°8E±.°,h18km±8km,M4.4/13, MLv4.4/13*
*IDC **18** 18:22:43.9±1.0,7.°78S×108.°11E,h98km±7km,mb3.7/14, mbtmp4.0/16,MS3.4/1,Error ellipse: s-maj=27.8km s-min=11.1km az=52.0*
*NEIC **18** 18:22:44.3±1.4,7.°5S±0.°1×108.°19E±0.°09,h95km±8km, mb4.4/18,Error ellipse: s-maj=23.1km s-min=8.7km az=206.0*
ISC 18 18:22:40.4±0.5,8.°00S±0.°08×107.°95E±0.°05,h70km,n69,
σ1s70/68,mb4.2/23,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**0.54**	**66**	P	**Pn**	**18 22 52.9**	**-0.7**
CMJI				S	**Sn**	**18 23 01.8**	**-1.5**
BBJI	**Bungbulang**	**0.61**	**331**	P	**Pn**	**18 22 53.6**	**-0.9**
BBJI	**Bungbulang**	**0.61**	**331**	S	**Sn**	**18 23 02.9**	**-1.9**
CNJI	**Cibinong**	**1.07**	**310**	P	**Pn**	**18 22 59.4**	**-0.4**
LEM	**Lembang**	**1.22**	**344**	P	**Pn**	**18 23 03.1**	**+1.2**
	2µm,0.5s,baz=105,slow=8.4,SNR=150						
LEM				S	**Sn**	**18 23 21.8**	**+4.0**
	931nm,0.5s,baz=303,slow=19,SNR=7.7						
SKJI	**Sukabumi**	**1.70**	**306**	P	**Pn**	**18 23 09.4**	**+1.3**
DBJI	**Dramaga**	**1.87**	**320**	P	**Pn**	**18 23 12.0**	**+1.6**
UGM	**Wanagama**	**2.55**	**88**		**Pn**	**18 23 19.6**	**+0.1**
UGM	**Wanagama**	**2.55**	**88**	P	**Pn**	**18 23 19.5**	**-0.1**
UGM	**Wanagama**	**2.55**	**88**	P	**Pn**	**18 23 19.6**	**+0.1**
CGJI	**Cibinong**	**2.63**	**301**	P	**Pn**	**18 23 20.7**	**0.0**
SMRI	**Semarang**	**2.64**	**69**	Pn	**Pn**	**18 23 22.7**	**+1.8**
SMRI	**Semarang**	**2.64**	**69**	P	**Pn**	**18 23 22.9**	**+2.1**
SMRI	**Semarang**	**2.64**	**69**	S	**Sn**	**18 23 56.5**	**+4.7**
SMRI	**Semarang**	**2.64**	**69**	P	**Pn**	**18 23 22.9**	**+2.1**
WOJI	**Wonogiri, Jawa**	**2.95**	**87**	P	**Pn**	**18 23 24.9**	**0.0**
PCJI	**Pacitan**	**3.20**	**94**	P	**Pn**	**18 23 29.0**	**+0.6**
XMI	**Christmas Isla**	**3.30**	**222**	P	Pn	18 23 27.6	-2.2
MNAI	**Manna**	**6.14**	**306**	Pn	**Pn**	**18 24 11.7**	**+3.0**
MNAI	**Manna**	**6.14**	**306**	P	**Pn**	**18 24 11.9**	**+3.2**
JAGI	**Jajag, Banyuwa**	**6.15**	**95**		**Pn**	**18 24 09.2**	**+0.4**
JAGI	**Jajag, Banyuwa**	**6.15**	**95**	P	**Pn**	**18 24 09.8**	**+1.0**
PLAI	**Plampang**	**9.75**	**96**	P	**Pn**	**18 24 59.0**	**+1.0**
BATI	**Baunata**	**15.67**	**99**	P	**Pn**	**18 26 17.4**	**+0.2**
	7.7nm,0.4s,baz=260,slow=11,SNR=1.4						
GIRL	**Giralia**	**15.76**	**158**	Pn	**Pn**	**18 26 15.5**	**-2.8**
MBWA	**Marble Bar**	**17.33**	**140**		**Pn**	**18 26 39.5**	**+1.6**
FITZ	**Fitzroy Crossi**	**19.92**	**122**	P	**P**	**18 27 08.5**	**+1.9**
	2.9nm,0.6s,baz=302,slow=7.3,SNR=11						
TNTI	**Ternate**	**21.23**	**67**	P	**P**	**18 27 17.0**	**-3.8**
TNTI				IAmb	IAmb	18 27 24.4	
	comp=Z,9.1nm,0.6s						
KNRA	**Kununurra**	**21.73**	**112**	P	**P**	**18 27 27.5**	**+1.3**
MTN	**Manton Dam**	**23.29**	**104**	P	**P**	**18 27 41.7**	**-0.7**
MTN				IAmb	IAmb	18 27 58.3	
	comp=Z,24nm,1.2s						
CMAR	**Chiang Mai Arr**	**27.75**	**341**	P	**P**	**18 28 20.9**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=177,slow=8.6,SNR=4.5						
	comp=Z,0.3nm,0.5s						
WB0	**Warramunga Arr**	**28.16**	**117**	P	**P**	**18 28 26.0**	**-0.4**
WB0				IAmb	IAmb	18 28 51

BVAR	**Borovoye Array**	**68.66**	**337**	P		**P**	**18 33 35.3**	**-0.9**
	comp=Z,2.1nm,0.5s,baz=135,slow=9.2,SNR=15							
	comp=Z,2.1nm,0.5s							
BRVK	**Borovoye**	**68.72**	**337**	P		**P**	**18 33 35.4**	**-1.2**
AB31	**Akbulak array**	**70.75**	**329**			**P**	**18 33 48.7**	**-0.5**
AB31				IAmb		IAmb	18 33 49.3	
	comp=Z,5.7nm,0.5s							
ABKAR	**Akbulak array**	**70.75**	**329**			**P**	**18 33 48.3**	**-0.8**
MREMI	**Moremi**	**78.24**	**249**	P		**P**	**18 34 35.4**	**+2.1**
LPHEP	**Lephephe**	**79.64**	**248**	P		**P**	**18 34 43.7**	**+2.6**
LPHEP				IAmb		IAmb	18 35 21.1	
	comp=Z,14nm,1.4s							
BOSA	**Boshof**	**79.83**	**242**			**P**	**18 34 44.5**	**+2.6**
BOSA				IAmb		IAmb	18 35 26.4	
	comp=Z,12nm,1.4s							
BOSA	**Boshof**	**79.83**	**242**	P		**P**	**18 34 44.2**	**+2.2**
	comp=Z,1.2nm,0.5s,baz=123,slow=4.5,SNR=5.5							
	comp=Z,1.2nm,0.5s							
BRTR	**Keskin Array B**	**83.20**	**312**	P		**P**	**18 34 59.6**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=140,slow=6.3,SNR=4.9							
	comp=Z,0.8nm,0.7s							
GRTLG	**Ghanzi**	**84.11**	**249**	P		**P**	**18 35 06.4**	**+1.8**
GRTLG				IAmb		IAmb	18 35 07.2	
	comp=Z,2.8nm,0.6s							
AKASG	**Malin Array Be**	**89.06**	**321**	P		**P**	**18 35 27.2**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=95,slow=3.9,SNR=1.9							
	comp=Z,0.3nm,0.5s							
LIT	**Litokhoron**	**91.64**	**310**	P		**P**	**18 35 40.0**	**-0.2**
FINES	**FINESS Array B**	**93.10**	**332**	P		**P**	**18 35 46.6**	**+0.3**
FINES	**FINESS Array B**	**93.10**	**332**	P		**P**	**18 35 46.1**	**-0.2**
	comp=Z,3.7nm,1.1s,baz=116,slow=8.7,SNR=5.7							
	comp=Z,3.7nm,1.1s							

***IDC* 18 18:35:46.2±2.1, 7°41′S×121°65′E, h263**km±22km, **mb2.9**/1, **mbtmp3.3**/5, **Error ellipse: s-maj=113.3km s-min=25.6km az=56.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.42**	**145**	P	Pn	18 36 45.5	+1.5
	17nm,0.5s,baz=75,slow=2.6,SNR=11						
BATI				S	S	18 37 29.7	-0.4
	28nm,0.3s,baz=80,slow=17,SNR=9.6						
FITZ	**Fitzroy Crossi**	**11.31**	**160**	P	Pn	18 38 22.3	+1.3
	2.0nm,1.0s,baz=340,slow=12,SNR=1.6						
FITZ				S	S	18 40 22.5	-5.0
	2.2nm,0.8s,baz=315,slow=21,SNR=1.8						
WRA	**Warramunga Arr**	**17.51**	**137**	P	P	18 39 32.6	-0.2
	0.2nm,0.5s,baz=312,slow=11,SNR=6.2						
WRA				S	S	18 42 48.5	+7.5
	0.1nm,0.3s,baz=324,slow=20,SNR=4.8						
ASAR	**Alice Springs**	**19.99**	**145**	P	P	18 39 59.3	-0.1
	0.2nm,0.9s,baz=320,slow=10.0,SNR=1.1						
MKAR	**Makanchi Array**	**64.30**	**331**	P	P	18 45 53.5	-0.2
	0.3nm,0.5s,baz=132,slow=6.8,SNR=4.7						
	0.3nm,0.5s						

CATAC ***18*** *18:44:48.8±0.5, 13°N×3°W, h28km±2km, M3.4/22, MLv3.4/22, Error ellipse: s-maj=6.0km s-min=2.6km az=25.0, confirmed*
SNET ***18*** *18:44:49.2±1.1, 12°94N×89°14W, h36km±3km, ML3.3*
GCG ***18*** *18:44:51.5±1.1, 13°16N×89°19W, h56km±12km, MD3.8, ML3.4*

ISC 18 18:44:48.5±5.5, 12°93N±0°07×89°16W±0°04, h38km±7km, **n76, σ0.97/82, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.58**	**344**	*i* S	**Sn**	**18 45 09.5**	**+0.9**
LALI				IAML		18 45 10.9	
	comp=N,661nm,0.3s						
LALI	**Alcalda de L**	**0.58**	**344**	P	**Pn**	**18 45 01.2**	**+0.8**
LALI	**Alcalda de L**	**0.58**	**344**	S	**Sn**	**18 45 08.9**	**+0.3**
PANCS	**Alcalda de**	**0.68**	**358**	P	**Pn**	**18 45 01.8**	**+0.1**
PANCS	**Alcalda de**	**0.68**	**358**	S	**Sn**	**18 45 12.4**	**+1.2**
LFRS	**El Faro**	**0.70**	**8**	*eP*	**Pn**	**18 45 02.4**	**+0.4**
TECO	**Alcaldia de Te**	**0.71**	**31**	S	**Sn**	**18 45 12.1**	**+0.4**
TECO	**Alcaldia de Te**	**0.71**	**31**	P	**Pn**	**18 45 01.8**	**-0.2**
LOMA	**Loma Larga**	**0.71**	**359**	P	**Pn**	**18 45 02.8**	**+0.6**
LOMA	**Loma Larga**	**0.71**	**359**	S	**Sn**	**18 45 13.4**	**+1.4**
COEG	**Centro de Oper**	**0.74**	**21**	S	**Sn**	**18 45 13.5**	**+1.0**
COEG	**Centro de Oper**	**0.74**	**21**	P	**Pn**	**18 45 02.9**	**+0.4**
UTEC	**Universidad Te**	**0.77**	**357**	P	**Pn**	**18 45 03.0**	**+0.1**
UTEC	**Universidad Te**	**0.77**	**357**	S	**Sn**	**18 45 14.5**	**+1.2**
JAYA	**Jayaque - finc**	**0.78**	**339**	*eP*	**Pn**	**18 45 03.8**	**+0.7**
JAYA				IAML		18 45 16.0	
	comp=Z,2µm,0.2s						
JAYA	**Jayaque - finc**	**0.78**	**339**	*i* P	**Pn**	**18 45 03.8**	**+0.7**
JAYA				*i* S	**Sn**	**18 45 13.9**	**+0.3**
JAYA	**Jayaque - finc**	**0.78**	**339**	S	**Sn**	**18 45 14.4**	**+0.8**
JAYA	**Jayaque - finc**	**0.78**	**339**	P	**Pn**	**18 45 03.8**	**+0.7**
UDBS	**Universidad Do**	**0.78**	**0**	S	**Sn**	**18 45 14.9**	**+1.3**
UEES	**Universidad Ev**	**0.79**	**354**	P	**Pn**	**18 45 03.4**	**+0.3**
UEES	**Universidad Ev**	**0.79**	**354**	S	**Sn**	**18 45 14.9**	**+1.1**
UESV	**Universidad de**	**0.79**	**27**	S	**Sn**	**18 45 14.4**	**+0.6**
UESV	**Universidad de**	**0.79**	**27**	P	**Pn**	**18 45 03.6**	**+0.4**
PMON	**Piamonte**	**0.80**	**349**	P	**Pn**	**18 45 03.9**	**+0.6**
PMON	**Piamonte**	**0.80**	**349**	S	**Sn**	**18 45 15.1**	**+1.1**
PAVA	**Las Pavas**	**0.81**	**15**	S	**Sn**	**18 45 15.8**	**+1.4**
PAVA	**Las Pavas**	**0.81**	**15**	P	**Pn**	**18 45 04.2**	**+0.7**
BOQS	**Boqueron**	**0.81**	**351**	*eP*	**Pn**	**18 45 04.7**	**+1.0**
BOQS				IAML		18 45 17.4	
	comp=Z,743nm,0.2s						
PIC2	**El Picacho**	**0.82**	**353**	*eS*	**Sn**	**18 45 16.7**	**+1.9**
TECA	**Tecapa**	**0.85**	**48**	*eP*	**Pn**	**18 45 04.9**	**+0.8**
TECA				*eP*		18 45 05.0	
TECA				*eS*	**Sn**	**18 45 16.5**	**+1.0**
SCLA	**Alcaldia de Sa**	**0.88**	**28**	P	**Pn**	**18 45 04.9**	**+0.6**
SCLA	**Alcaldia de Sa**	**0.88**	**28**	S	**Sn**	**18 45 17.4**	**+1.5**
CEDA	**San Andres**	**0.90**	**345**	P	**Pn**	**18 45 05.3**	**+0.6**
CEDA	**San Andres**	**0.90**	**345**	S	**Sn**	**18 45 17.8**	**+1.2**
PQSS	**Presa 15 de Se**	**0.90**	**40**	*eP*	**Pn**	**18 45 05.6**	**+0.9**
PQSS				*eS*	**Sn**	**18 45 17.6**	**+1.1**
PQSS				IAML		18 45 18.2	
	comp=Z,419nm,0.1s						
PQSS	**Presa 15 de Se**	**0.90**	**40**	P	**Pn**	**18 45 05.3**	**+0.6**
LCY	**Lacayo**	**0.97**	**59**	*eP*	**Pn**	**18 45 06.6**	**+0.9**
PACA	**Pacayal**	**0.97**	**56**	*eP*	**Pn**	**18 45 06.9**	**+1.2**
PACA				*eS*	**Sn**	**18 45 19.8**	**+1.5**
PACA	**Pacayal**	**0.97**	**56**	P	**Pn**	**18 45 06.9**	**+1.2**
VSM	**San Miguel**	**0.99**	**60**	*eP*	**Pn**	**18 45 07.1**	**+1.0**
SBLS	**San Blas**	**1.01**	**333**	*eP*	**Pn**	**18 45 07.2**	**+0.9**
BLLM	**Bellamira**	**1.03**	**60**	*eP*	**Pn**	**18 45 07.3**	**+0.8**
SNJE	**San Jose**	**1.03**	**335**	*eP*	**Pn**	**18 45 07.4**	**+0.8**
CNRM	**Centro Naciona**	**1.10**	**60**	S	**Sn**	**18 45 22.3**	**+0.9**
UNIC	**Universidad Ca**	**1.12**	**340**	S	**Sn**	**18 45 23.4**	**+1.7**
UNIC	**Universidad Ca**	**1.12**	**340**	P	**Pn**	**18 45 08.3**	**+0.6**
NUBE	**Las Nubes**	**1.14**	**328**	*eP*	**Pn**	**18 45 08.9**	**+0.7**
NUBE	**Las Nubes**	**1.14**	**328**	*i* P	**Pn**	**18 45 08.8**	**+0.7**
NUBE				*i* S	**Sn**	**18 45 21.5**	**-1.1**
NUBE	**Las Nubes**	**1.14**	**328**	S	**Sn**	**18 45 22.7**	**+0.1**
NUBE	**Las Nubes**	**1.14**	**328**	P	**Pn**	**18 45 08.8**	**+0.7**
LOAL	**Lomas de Alarc**	**1.23**	**330**	P	**Pn**	**18 45 10.3**	**+1.2**
LOAL	**Lomas de Alarc**	**1.23**	**330**	S	**Sn**	**18 45 25.6**	**+1.1**
FAME	**Alcaldia de Sa**	**1.24**	**318**	P	**Pn**	**18 45 09.8**	**+0.6**
FAME	**Alcaldia de Sa**	**1.24**	**318**	S	**Sn**	**18 45 25.4**	**+0.7**
CAHU	**Cacacuatique**	**1.25**	**48**	*eP*	**Pn**	**18 45 10.5**	**+1.0**
SLOZ	**Alcaldia de Sa**	**1.25**	**331**	S	**Sn**	**18 45 27.4**	**+2.3**
SLOZ	**Alcaldia de Sa**	**1.25**	**331**	P	**Pn**	**18 45 10.5**	**+1.0**
LCND	**La Caada**	**1.29**	**73**	*i* P	**Pn**	**18 45 11.0**	**+1.0**
LCND				IAML		18 45 34.0	
	comp=Z,707nm,0.4s						
LCND	**La Caada**	**1.29**	**73**	P	**Pn**	**18 45 11.0**	**+1.0**
CNCH	**Conchagua**	**1.33**	**75**	*eP*	**Pn**	**18 45 10.6**	**0.0**
CNCH				*eP*		18 45 11.3	
CNCH				*eS*	**Sn**	**18 45 28.2**	**+1.0**
CNCH	**Conchagua**	**1.33**	**75**	P	**Pn**	**18 45 11.3**	**+0.7**
CNCH	**Conchagua**	**1.33**	**75**	S	**Sn**	**18 45 27.9**	**+0.7**
MTO3	**Montecristo**	**1.48**	**352**	*eP*	**Pn**	**18 45 13.8**	**+1.1**
MTO3	**Montecristo**	**1.48**	**352**	*i* P	**Pn**	**18 45 13.8**	**+1.1**
MTO3	**Montecristo**	**1.48**	**352**	P	**Pn**	**18 45 13.7**	**+1.0**
MTO3	**Montecristo**	**1.48**	**352**	S	**Sn**	**18 45 30.8**	**-0.2**
POTN	**Potosi Cosigui**	**1.61**	**87**	P	**Pn**	**18 45 15.5**	**+1.2**
POTN				S	**Sn**	**18 45 33.4**	**-0.5**
ESQI	**Esquipulas**	**1.63**	**354**	P	**Pn**	**18 45 16.0**	**+1.2**
ESQI	**Esquipulas**	**1.63**	**354**	S	**Sn**	**18 45 35.8**	**+1.1**
CHOHN	**Orocuina**	**2.02**	**74**	P	**Pn**	**18 45 20.5**	**+0.4**
CHOHN	**Orocuina**	**2.02**	**74**	S	**Sn**	**18 45 45.2**	**+1.0**
PKGN	**Cerro Pekin**	**2.14**	**97**	P	**Pn**	**18 45 22.7**	**+1.1**
PKGN				S	**Sn**	**18 45 47.2**	**+0.2**
YUSH	**Yuscaran**	**2.47**	**65**	P	**Pn**	**18 45 27.0**	**+0.7**
MOMN	**Momotombo**	**2.60**	**101**	P	**Pn**	**18 45 29.4**	**+1.3**
OCON	**Estacion meteo**	**2.70**	**75**	P	Pn	18 45 19.6	-10
AMTN	**Mateare**	**2.75**	**104**	P	Pn	18 45 21.9	-8.1

IDC ***18*** *19:00:00.5±4.4, 5°57N×93°39E, h0km, mb3.8/5, mbtmp3.7/6, ML4.0/1, Error ellipse: s-maj=89.7km s-min=49.4km az=167.0*
NEIC ***18*** *19:00:01.6±2.6, 5°3N±0°1×94°16E±0°09, h35km±2km, mb4.2/8, Error ellipse: s-maj=19.1km s-min=14.1km az=205.0*

ISC 18 19:00:02.4±0.9, 5°34N±0°09×94°2E±0°1, h43km, **n29, σ1°44/24, mb4.0/11, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.70**	**92**	Pn	**Pn**	**19 00 43.5**	**+0.1**
GSI	**Gunungsitoli**	**5.21**	**140**	Pn	**Pn**	**19 01 19.4**	**+1.5**
RPSI	**Rantau Prapat**	**5.36**	**119**	Pn	**Pn**	**19 01 19.6**	**-0.3**
SRIT	**Nakonsritamara**	**6.24**	**58**	Pn	**Pn**	**19 01 30.9**	**-1.0**
KULM	**Kulim**	**6.39**	**90**	Pn	**Pn**	**19 01 33.8**	**-0.2**
IPM	**Ipoh**	**6.82**	**97**	Pn	**Pn**	**19 01 39.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**13.83**	**19**	Pn	**Pn**	**19 03 19.4**	**+3.5**
	0.2nm,0.3s,baz=208,slow=15,SNR=7.2						
	0.6nm,0.5s						
H08S3	**Diego Garcia H**	**25.23**	**240**	T	T	19 31 35.0	
	baz=59,slow=76,SNR=19						
H08S2	**Diego Garcia H**	**25.23**	**239**	T	T	19 31 28.5	
	baz=59,slow=76,SNR=10						
H08S1	**Diego Carcia H**	**25.25**	**239**	T	T	19 31 35.2	
	baz=59,slow=76,SNR=10.0						
MK31	**Makanchi Array**	**42.57**	**348**	P	**P**	**19 07 55.0**	**+0.9**
MKAR	**Makanchi Array**	**42.57**	**348**	P	**P**	**19 07 53.5**	**-0.6**
MKAR	**Makanchi Array**	**42.57**	**348**	P	**P**	**19 07 55.0**	**+0.9**
	0.9nm,0.6s,baz=167,slow=7.5,SNR=12						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**42.57**	**348**				
	0.3nm,0.4s						
KSRS	**Korea Array**	**44.34**	**39**	P	P	19 08 15.1	+6.7
	0.5nm,0.7s,baz=212,slow=9.0,SNR=4.4						
	0.5nm,0.7s						
WB0	**Warramunga Arr**	**46.71**	**123**	P	**P**	**19 08 27.5**	**0.0**
WB0				IAmb	IAmb	19 08 46.3	
	comp=Z,5.1nm,1.1s						
WRA	**Warramunga Arr**	**46.75**	**124**	P	**P**	**19 08 28.3**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=299,slow=8.7,SNR=9.2						
	comp=Z,0.3nm,0.5s						
WR8	**Warramunga Arr**	**46.89**	**124**	P	**P**	**19 08 29.8**	**+0.9**
WR8				IAmb	IAmb	19 08 59.1	
	comp=Z,8.6nm,1.5s						
WR0	**Warramunga Arr**	**46.93**	**124**	P	**P**	**19 08 27.7**	**-1.5**
KURBB	**Kurchatov Arra**	**47.02**	**346**	P	**P**	**19 08 30.1**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=171,slow=6.6,SNR=4.9						
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**47.08**	**346**	P	**P**	**19 08 31.0**	**+1.1**
KURK				IAmb	IAmb	19 08 37.6	
	comp=Z,1.8nm,1.1s						
ASAR	**Alice Springs**	**48.25**	**128**		**P**	**19 08 38.8**	**-0.7**
ASAR	**Alice Springs**	**48.25**	**128**	P	**P**	**19 08 40.5**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=304,slow=8.1,SNR=7.1						
	comp=Z,0.3nm,0.6s						
ZAA0	**Zalesovo Array**	**49.07**	**353**	P	**P**	**19 08 44.5**	**-0.7**
ZAA0				IAmb	IAmb	19 08 46.6	
	comp=Z,1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**49.07**	**353**	P	**P**	**19 08 45.8**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=184,slow=5.8,SNR=3.9						
	comp=Z,0.7nm,0.3s						
COEN	**Coen**	**52.20**	**112**	P	**P**	**19 09 07.6**	**-1.9**
AB31	**Akbulak array**	**52.50**	**332**	P	**P**	**19 09 08.1**	**-3.0**
ABKAR	**Akbulak array**	**52.50**	**332**	P	**P**	**19 09 08.8**	**-2.3**
GERES	**GERESS Array B**	**79.77**	**319**	P	**P**	**19 12 07.0**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=115,slow=6.0,SNR=3.6						
	comp=Z,0.2nm,0.6s						

ISK ***18*** *19:23:31.1, 41°47N×41°34E, h22km, ML2.9/5*
AFAD ***18*** *19:23:33.3, 41°30N×41°45E, h18km±1km, ML2.4*

ISC 18 19:23:31.3±1.2, 41°46N±0°06×41°35E±0°03, h23km±7km, **n19, σ1°18/34, Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPA	**Hopa-Artvin**	**0.10**	**135**	Pg	**Pb**	**19 23 35.7**	**0.0**
HOPA				Sg	**Sb**	**19 23 38.9**	**+0.3**
DBOC	**Borcka**	**0.27**	**116**	P	**Pb**	**19 23 37.8**	**+0.1**
DBOC				S	**Sb**	**19 23 41.2**	**-0.8**
DBOC				*i* IAML		19 23 42.0	
	comp=E,2µm,0.2s						
CHOM	**Cayeli-Rize**	**0.57**	**231**	Pg	**Pb**	**19 23 43.1**	**+0.4**
CHOM				Sg	**Sb**	**19 23 51.7**	**+1.3**
DAGI	**Agillar**	**0.57**	**132**	P	**Pb**	**19 23 42.5**	**-0.2**
DAGI				S	**Sb**	**19 23 48.3**	**-2.2**
DAGI				*i* IAML		19 23 50.0	
	comp=N,289nm,0.5s						
DAGI				*i* IAML		19 23 50.0	
	comp=E,338nm,0.5s						
DDEM	**Demirkent**	**0.64**	**152**	P	**Pb**	**19 23 43.6**	**-0.3**
DDEM				S	**Sb**	**19 23 49.9**	**-2.7**
DDEM				*i* IAML		19 23 52.0	
	comp=N,636nm,0.1s						
DDEM				*i* IAML		19 23 53.0	
	comp=E,585nm,0.8s						
IZDR	**Rize**	**0.90**	**222**	P	**Pb**	**19 23 47.7**	**-0.6**
IZDR				S	**Sb**	**19 23 57.2**	**-2.6**
IZDR				*i* IAML		19 24 00.0	
	comp=N,535nm,0.2s						
IZDR				*i* IAML		19 24 00.0	
	comp=E,530nm,0.1s						
AHAN	**Ardahan-Merkez**	**1.01**	**107**	P	**Pn**	**19 23 51.1**	**+1.0**
AHAN				S	**Sb**	**19 24 02.7**	**-0.3**
EPOS	**Posof**	**1.04**	**87**	P	**Pb**	**19 23 51.3**	**+0.6**
EPOS				S	**Sb**	**19 24 03.3**	**-0.6**
EPOS				*i* IAML		19 24 06.0	
	comp=E,88nm,0.3s						
EPOS				*i* IAML		19 24 07.0	
	comp=N,129nm,0.5s						
GOLE	**Ardahan-G¶le**	**1.13**	**123**	P	**Pb**	**19 23 52.3**	**+0.1**
GOLE				S	**Sb**	**19 24 05.4**	**-1.2**
KRIK	**Erzurum-spir**	**1.17**	**196**	P	**Pb**	**19 23 53.4**	**+0.5**
KRIK				S	**Sn**	**19 24 07.7**	**0.0**
KRIK				*i* IAML		19 24 12.0	
	comp=N,75nm,0.4s						
SENK	**Senkaya-Erzuru**	**1.18**	**140**	Pn	**Pb**	**19 23 52.9**	**-0.1**
SENK				Sn	**Sb**	**19 24 08.8**	**+0.9**
MACK	**Trabzon**	**1.30**	**247**	P	**Pn**	**19 23 53.9**	**-0.2**
MACK				S	**Sn**	**19 24 09.6**	**-1.1**
BAYB	**BAYBURT**	**1.46**	**215**	P	**Pb**	**19 23 57.5**	**-0.3**
BAYB				S	**Sn**	**19 24 13.8**	**-1.1**
BAYB				*i* IAML		19 24 16.0	
	comp=E,116nm,0.6s						
BAYB				*i* IAML		19 24 17.0	
	comp=N,79nm,0.4s						
BOZK	**Kars-Merkez-Bo**	**1.51**	**125**	P	**Pb**	**19 23 58.8**	**+0.1**
KOPR	**Koprukoy-ERZUR**	**1.52**	**165**	Pn	**Pn**	**19 23 57.9**	**+0.7**
ERZM	**Erzurum**	**1.55**	**180**	P	**Pb**	**19 24 01.1**	**+1.6**
KOPT	**Kop Dagi**	**1.58**	**204**	P	**Pb**	**19 24 00.7**	**+0.7**
KOPT				S	**Sb**	**19 24 22.0**	**+2.4**
KOPT				*i* IAML		19 24 26.0	
	comp=E,50nm,0.8s						
KOPT				*i* IAML		19 24 27.0	
	comp=N,46nm,1.0s						
ESPY	**Espiye-Giresun**	**2.05**	**255**	Pn	**Pn**	**19 24 05.1**	**+0.7**
KELT	**Kelkit**	**2.06**	**231**	P	**Pb**	**19 24 06.7**	**-1.4**
KELT				S	**Sn**	**19 24 30.7**	**+1.0**
KELT				*i* IAML		19 24 34.0	
	comp=N,24nm,0.2s						
KELT				*i* IAML		19 24 38.0	
	comp=E,23nm,0.5s						

NEIC ***18*** *19:23:41.2±1.0, 31°20N±0°02×103°48W±0°02, h5km±1km, mb_Lg2.6/10, ML1.8/18, Error ellipse: s-maj=3.1km s-min=2.9km az=193.0*

TXNET 18 19:23:41.3, 31°2N±0°7×103°5W±0°4, h5km±1km, **ML2.0**/13, **Error ellipse: s-maj=1.1km s-min=0.7km az=2.9, final, Western Texas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.08**	**201**	P	Pg	19 23 43.3	+0.1
TPB03				S	Sg	19 23 45.4	+1.0
TPB04	**Verhalen**	**0.18**	**82**	P	Pg	19 23 45.3	+0.3
TPB04				S	Sg	19 23 48.6	+1.2
TPB16	**Coyonosa**	**0.20**	**100**	P	Pg	19 23 45.9	+0.7
TPB16				S	Sg	19 23 49.3	+1.4
PCOS	**Crockett Middl**	**0.25**	**354**	S	Sg	19 23 51.2	+1.6
TPB10	**Southeast of T**	**0.27**	**298**	P	Pg	19 23 47.3	+0.8
TPB10				S	Sb	19 23 51.9	-1.6
TPB05	**Hovey Rd**	**0.27**	**151**	P	Pb	19 23 47.8	-1.0
TPB05				S	Sb	19 23 52.7	-1.1
TPB01	**Permian Basin**	**0.34**	**230**	P	Pg	19 23 48.6	+0.7
TPB19	**West of Imperi**	**0.36**	**66**	P	Pg	19 23 48.5	+0.3
TPB19				S	Sg	19 23 54.0	+1.1
PECS	**Pecos**	**0.39**	**302**	Pg	Pg	19 23 49.3	+0.4
PECS				Sg	Sg	19 23 55.5	+1.4
PECS				IAML		19 23 59.7	
	110nm,0.3s						
PECS				IAML		19 24 00.3	
	124nm,0.4s						
PECS	**Pecos**	**0.39**	**302**	P	Pg	19 23 49.3	+0.4
PECS				S	Sg	19 23 55.4	+1.4
PECS	**Pecos**	**0.39**	**302**	P	Pg	19 23 49.4	+0.5
TPB12	**Southwest of T**	**0.41**	**277**	P	Pg	19 23 49.8	+0.5
TPB12				S	Sb	19 23 56.6	-1.2
TPB07	**Mentone**	**0.45**	**339**	S	Sb	19 23 57.5	-1.3
MNHN	**Monahans**	**0.64**	**74**		Pg	19 23 53.2	-0.4
MNHN				IAML		19 24 08.5	
	51nm,0.5s						
MNHN				IAML		19 24 12.8	
	43nm,0.8s						
MNHN	**Monahans**	**0.64**	**74**	P	Pg	19 23 53.6	-0.1
MNHN	**Monahans**	**0.64**	**74**	P	Pg	19 23 53.6	0.0
ALPN	**Alpine**	**0.80**	**190**		Pg	19 23 56.7	+0.1
ALPN				IAML		19 24 09.7	
	24nm,0.4s						
ALPN	**Alpine**	**0.80**	**190**	P	Pg	19 23 56.6	0.0
ALPN				S	Sg	19 24 07.5	+0.6
ALPN	**Alpine**	**0.80**	**190**	P	Pg	19 23 56.8	+0.3
TPB09	**Culberson Coun**	**0.93**	**311**	P	Pb	19 23 59.7	-0.3
TMB02	**Rankin**	**1.24**	**88**	P	Pg	19 24 04.4	-0.7
TMB02				S	Sb	19 24 21.8	+0.3
ODSA	**Odessa**	**1.24**	**39**	Pg	Pg	19 24 03.9	-1.2
ODSA				IAML		19 24 37.9	
	15nm,0.9s						
ODSA	**Odessa**	**1.24**	**39**	P	Pg	19 24 03.9	-1.2
ODSA				S	Sg	19 24 21.0	-0.4
TMB01	**Midkiff**	**1.30**	**67**	S	Sg	19 24 23.0	0.0
VHRN	**Van Horn**	**1.34**	**254**		Pn	19 24 06.6	-0.3
VHRN				IAML		19 24 29.5	
	17nm,0.6s						
VHRN	**Van Horn**	**1.34**	**254**	P	Pn	19 24 06.8	-0.1
VHRN				S	Sn	19 24 24.9	-0.2
VHRN	**Van Horn**	**1.34**	**254**	P	Pn	19 24 06.9	0.0
SAND	**Sanderson**	**1.68**	**135**		Pg	19 24 12.5	-0.2
SAND					Pg	19 24 12.7	-0.8
SAND				Sg	Sg	19 24 36.4	+1.2
SAND	**Sanderson**	**1.68**	**135**	P	Pb	19 24 12.5	-0.2
SAND				S	Sg	19 24 34.7	-0.5
SAND	**Sanderson**	**1.68**	**135**	P	Pb	19 24 12.5	-0.2
MNTX	**Cornudas Mount**	**1.71**	**289**		Pn	19 24 11.7	-0.1
MNTX				IAML		19 24 39.7	
	6.8nm,0.7s						
MNTX	**Cornudas Mount**	**1.71**	**289**	P	Pb	19 24 12.9	-0.4
TX31	**Lajitas Ar. Si**	**1.83**	**185**		Pb	19 24 14.7	-0.6
TX31					Sg	19 24 40.4	+0.3
TX31	**Lajitas Ar. Si**	**1.83**	**185**	P	Pb	19 24 14.7	-0.6
TXAR	**Lajitas Array**	**1.83**	**185**		Pb	19 24 14.9	-0.4
TXAR					Sg	19 24 40.3	+0.3
OZNA	**Ozona**	**2.03**	**96**	Pn	Pn	19 24 17.2	+0.9
OZNA					Sn	19 24 42.6	+0.5
OZNA				IAmb_Lg		19 24 45.3	
	comp=Z,6.2nm,1.2s						
OZNA	**Ozona**	**2.03**	**96**	P	Pb	19 24 17.8	-0.9
OZNA				S	Sb	19 24 45.2	+0.8
319A	**Douglas**	**4.97**	**274**	IAmb_Lg		19 26 20.9	
	comp=Z,30nm,0.9s						
DUN6	**Lazy B Ranch**	**4.97**	**288**	IAmb_Lg		19 26 26.1	
	comp=Z,29nm,0.8s						
TUC	**Tucson**	**6.33**	**282**	IAmb_Lg		19 27 15.1	
	comp=Z,5.4nm,1.3s						
X16A	**Lo Mia Camp, P**	**7.45**	**298**	IAmb_Lg		19 27 34.6	
	comp=Z,3.8nm,0.9s						

**RSNC 18

*CATAC **18** 19:39:01.2±0.8, 13°N±5°×8°8W±°, h1km,M3.0/8,MLv3.0/8, Error ellipse: s-maj=10.5km s-min=7.5km az=1.7, confirmed*
*GCG **18** 19:39:03.2±1.2, 13°43N×88°22W, h0km±28km, MD3.5*
ISC 18 19:39:01.1±1.0, 13°33N±0'.05×88°12W±0'.03, h16km±6km, n35, σ0§51/43, 1C-4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNRM	**Centro Naciona**	**0.15**	**343**	⇓*eP*	**Pg**	**19 39 04.8**	**-0.4**
CNRM				*eS*	**Sg**	**19 39 07.6**	**-0.3**
BLLM	**Bellamira**	**0.16**	**316**	⇑*iP*	**Pg**	**19 39 05.4**	**+0.1**
LCY	**Lacayo**	**0.19**	**300**	⇓*iP*	**Pb**	**19 39 06.4**	**0.0**
LCND	**La Caada**	**0.23**	**94**	⇓*eP*	**Pg**	**19 39 06.6**	**+0.3**
LCND				*eS*	**Sb**	**19 39 10.8**	**0.0**
PACA	**Pacayal**	**0.24**	**306**	*eP*	**Pg**	**19 39 07.0**	**+0.4**
PACA				*eS*	**Sb**	**19 39 11.1**	**-0.2**
CNCH	**Conchagua**	**0.29**	**100**	⇓*iP*	**Pb**	**19 39 07.9**	**-0.1**
CNCH				*eS*	**Sb**	**19 39 13.2**	**+0.6**
TECA	**Tecapa**	**0.40**	**294**	*eP*	**Pb**	**19 39 10.2**	**+0.1**
TECA				*eP*	**Pb**	**19 39 10.2**	**+0.1**
CAHU	**Cacacuatique**	**0.45**	**349**	*eP*	**Pg**	**19 39 10.3**	**0.0**
PQSS	**Presa 15 de Se**	**0.52**	**305**	P	**Pb**	**19 39 11.9**	**0.0**
TECO	**Alcaldia de Te**	**0.67**	**288**	P	**Pb**	**19 39 15.0**	**+0.5**
TECO	**Alcaldia de Te**	**0.67**	**288**	S	**Sb**	**19 39 24.5**	**+0.8**
SCLA	**Alcaldia de Sa**	**0.70**	**302**	*eP*	**Pb**	**19 39 15.1**	**+0.2**
UESV	**Universidad de**	**0.71**	**296**	P	**Pb**	**19 39 15.3**	**+0.1**
UESV	**Universidad de**	**0.71**	**296**	S	**Sn**	**19 39 26.2**	**-1.1**
COEG	**Centro de Oper**	**0.79**	**292**	*eP*	**Pg**	**19 39 17.1**	**+0.5**
COEG	**Centro de Oper**	**0.79**	**292**	P	**Pg**	**19 39 17.1**	**+0.5**
COEG	**Centro de Oper**	**0.79**	**292**	S	**Sn**	**19 39 28.5**	**-0.8**
PAVA	**Las Pavas**	**0.88**	**296**	P	**Pn**	**19 39 18.8**	**-0.1**
PAVA	**Las Pavas**	**0.88**	**296**	S	**Sn**	**19 39 31.5**	**+0.1**
LFRS	**El Faro**	**0.96**	**288**	*eP*	**Pn**	**19 39 20.1**	**0.0**
LOMA	**Loma Larga**	**1.07**	**287**	P	**Pg**	**19 39 21.9**	**+0.1**
PMON	**Piamonte**	**1.22**	**288**	P	**Pg**	**19 39 25.0**	**+0.3**
PMON	**Piamonte**	**1.22**	**288**	S	**Sg**	**19 39 42.0**	**+1.3**
JAYA	**Jayaque - finc**	**1.33**	**284**	*eP*	**Pb**	**19 39 25.8**	**0.0**
JAYA	**Jayaque - finc**	**1.33**	**284**	*eP*	**Pg**	**19 39 26.4**	**-0.4**
JAYA				*iS*	**Sg**	**19 39 43.6**	**-0.5**
SARH	**Santa Rosa de**	**1.57**	**337**	*iP*	**Pb**	**19 39 30.4**	**+0.6**
SARH				*iS*	**Sg**	**19 39 51.3**	**-0.4**
SARH	**Santa Rosa de**	**1.57**	**337**	P	**Pb**	**19 39 30.6**	**+0.8**
SARH	**Santa Rosa de**	**1.57**	**337**	S	**Sb**	**19 39 50.4**	**+0.9**
MTO3	**Montecristo**	**1.61**	**312**	*eP*	**Pb**	**19 39 30.2**	**-0.4**
MTO3	**Montecristo**	**1.61**	**312**	*eP*	**Pb**	**19 39 30.2**	**-0.4**
MTO3				*i* S	**Sg**	**19 39 52.3**	**-0.7**
MTO3	**Montecristo**	**1.61**	**312**	P	**Pb**	**19 39 30.4**	**-0.2**
NUBE	**Las Nubes**	**1.71**	**290**	*i* S	**Sg**	**19 39 56.6**	**+0.3**
NUBE	**Las Nubes**	**1.71**	**290**	P	**Pg**	**19 39 33.4**	**-0.7**
NUBE	**Las Nubes**	**1.71**	**290**	S	**Sg**	**19 39 56.3**	**+0.1**
FAME	**Alcaldia de Sa**	**1.91**	**286**	P	**Pb**	**19 39 35.2**	**-0.4**

*IDC **18** 19:55:13.2±2.0, 31°16S×179°27W, h0km, mb3.6/5, mbtmp3.6/5, MS3.5/3, Error ellipse: s-maj=57.1km s-min=30.9km az=40.0*
ISC 18 19:55:18.2±2.0, 31°1S±0'.3×179°4W±0'.3, h35km, n9, σ1§46/6, mb3.5/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.24**	**34**	LR	LR	19 56 22.7	
	comp=Z,664nm,18.6s,baz=37,slow=31						
DZM	**Mont Dzumac**	**15.57**	**302**	LR	LR	20 03 24.6	
	comp=Z,222nm,18.8s,baz=71,slow=31						
STKA	**Stephens Creek**	**33.19**	**258**	P	**P**	**20 01 50.2**	**-1.5**
	1.5nm,0.9s,baz=108,slow=9.6,SNR=1.7						
	1.5nm,0.9s						
ASAR	**Alice Springs**	**41.92**	**268**	P	**P**	**20 03 07.0**	**+1.4**
	0.7nm,1.1s,baz=107,slow=7.8,SNR=7.6						
	0.7nm,1.1s						
WRA	**Warramunga Arr**	**42.98**	**274**	P	**P**	**20 03 15.2**	**+0.9**
	0.7nm,1.0s,baz=113,slow=7.0,SNR=5.5						
	0.7nm,1.0s						
QSPA	**South Pole Qui**	**58.98**	**180**	P	**P**	**20 05 15.0**	**+0.9**
	0.9nm,1.1s,baz=54,slow=1.5,SNR=7.6						
	0.9nm,1.1s						
DAV	**Davao City (W)**	**64.89**	**296**	LR	LR	20 32 43.7	
	comp=Z,45nm,20.5s,baz=166,slow=35						
SNAA	**Sanae**	**77.46**	**179**	P	**P**	**20 07 08.8**	**-0.8**
	0.4nm,0.9s,baz=131,slow=20,SNR=1.6						
	0.4nm,0.9s						
FINES	**FINESS Array B**	**145.41**	**339**	PKPbc	**PKPab**	**20 14 51.6**	**-0.3**
	1.5nm,0.7s,baz=64,slow=3.2,SNR=5.6						

IDC 18 19:55:43.2±2.3, 0°20N×126°09E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=214.9km s-min=29.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.59**	**158**	P	P	20 00 34.0	-0.8
	0.5nm,0.8s,baz=337,slow=11,SNR=5.0						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**24.91**	**163**	P	P	20 01 08.7	+0.5
	0.3nm,0.6s,baz=344,slow=12,SNR=5.8						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**60.11**	**327**	P	P	20 05 52.3	-0.1
	0.1nm,0.4s,baz=128,slow=7.4,SNR=2.3						
	0.1nm,0.4s						

*WEL **18** 19:56:35.4, 44°02S×170°28E, h5km, ML3.8, Mw3.7, Moment Tensor Solution. s5 Moment tensor: Scale 10^14 Nm; Mrr1.38; Mθθ1.40; Mφφ-2.78; Mrθ3.02; Mθφ-1.82; Mφr-0.36; Fault plane solution: M0 4.17000×10^14 NP1: φs60.00000°, δ71.00000°, λ139.00000°. NP2: φs166.00000°, δ52.00000°, λ25.00000°. Principal axes: T 4.7310, Plg42.0000°, Azm16.0000°; N -1.1230, Plg46.0000°, Azm219.0000°; P -3.6080, Plg12.0000°, Azm117.0000°; Stations used: LBZ RPZ ODZ WKZ OXZ OBLIQUE-REVERSE FAULTING*
*NOU **18** 19:56:35.7, 44°08S×170°36E, h9km, MLv4.2/13, South Island, New Zealand*
*WEL **18** 19:56:35.2±0.4, 44°S±2°×17°0E±°, h5km, M3.8/6, ML4.1/6, MLv3.8/6, Error ellipse: s-maj=3.1km s-min=2.9km az=15.5, confirmed*
ISC 18 19:56:35.5±1.0, 44°05S±0'.02×170°31E±0'.03, h7km±9km, n33, σ1§09/43, 4D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWAS	**Twizel Area Sc**	**0.26**	**215**	P	**Pg**	**19 56 41.0**	**+0.4**
TWAS				S	**Sg**	**19 56 44.4**	**+0.4**
MCNS	**Mount Cook Ann**	**0.34**	**334**	P	**Pg**	**19 56 42.2**	**0.0**
MCNS				S	**Sg**	**19 56 46.5**	**-0.3**
LBZ	**Lake Benmore**	**0.35**	**194**	P	**Pg**	**19 56 42.8**	**+0.4**
LBZ				S	**Sg**	**19 56 47.7**	**+0.7**
FDCS	**Fairlie Distri**	**0.38**	**98**	P	**Pb**	**19 56 44.0**	**-0.6**
FDCS				S	**Sb**	**19 56 49.5**	**-1.2**
TMZ	**Timaru**	**0.61**	**124**	P	**Pb**	**19 56 48.0**	**-0.4**
FOZ	**Fox Glacier**	**0.62**	**325**	P	**Pg**	**19 56 47.4**	**-0.1**
FOZ				S	**Sg**	**19 56 55.0**	**-0.6**
RPZ	**Rata Peaks**	**0.64**	**59**	P	**Pg**	**19 56 47.8**	**+0.1**
RPZ	**Rata Peaks**	**0.64**	**59**	S	**Sb**	**19 56 57.0**	**-1.0**
RPZ	**Rata Peaks**	**0.64**	**59**	P	**Pg**	**19 56 48.1**	**+0.4**
RPZ				S	**Sg**	**19 56 56.5**	**+0.5**
ARCZ	**Arundel**	**0.64**	**81**	P	**Pb**	**19 56 48.5**	**-0.5**
ARCZ				S	**Sb**	**19 56 56.9**	**-1.1**
MECS	**Makarora Emerg**	**0.79**	**256**	P	**Pg**	**19 56 50.4**	**-0.3**
HDWS	**Haast DOC Work**	**0.93**	**280**	P	**Pg**	**19 56 53.0**	**-0.2**
HDWS				S	**Sg**	**19 57 04.9**	**-0.4**
WVZ	**Waitaha Valley**	**1.02**	**18**	P	**Pg**	**19 56 54.6**	**-0.5**
ODZ	**Otahua Downs**	**1.03**	**166**	P	**Pg**	**19 56 54.6**	**-0.6**
ODZ	**Otahua Downs**	**1.03**	**166**	S	**Sg**	**19 57 08.5**	**-0.1**
ODZ	**Otahua Downs**	**1.03**	**166**	P	**Pg**	**19 56 54.6**	**-0.6**
ODZ				S	**Sb**	**19 57 09.1**	**-0.2**
MHCZ	**Mount Hutt**	**1.05**	**61**	P	**Pb**	**19 56 56.0**	**0.0**
MHCZ				S	**Sb**	**19 57 10.0**	**0.0**
JCZ	**Jackson Bay**	**1.10**	**268**	P	**Pg**	**19 56 56.0**	**-0.5**
WACZ	**Wakanui South**	**1.11**	**85**	P	**Pn**	**19 56 57.4**	**0.0**
RACZ	**Rakaia**	**1.36**	**77**	P	**Pn**	**19 57 01.0**	**+0.1**
MQZ	**McQueen's Vall**	**1.72**	**79**	P	**Pn**	**19 57 05.6**	**-0.4**
SYZ	**Scrubby Hill**	**2.62**	**198**	P	**Pn**	**19 57 17.4**	**-0.8**
KHZ	**Kahutara**	**2.87**	**57**	P	**Pn**	**19 57 21.8**	**+0.2**
KHZ	**Kahutara**	**2.87**	**57**	S	**Sn**	**19 57 56.8**	**+0.4**
QRZ	**Quartz Range**	**3.62**	**28**	P	**Pn**	**19 57 33.0**	**+1.1**
SNZO	**South Karori**	**4.24**	**51**	P	**Pn**	**19 57 40.7**	**+0.2**
SNZO	**South Karori**	**4.24**	**51**	S	**Sn**	**19 58 29.2**	**-1.0**
BFZ	**Birch Farm**	**5.54**	**55**	P	**Pn**	**19 57 57.5**	**-0.8**
HIZ	**Hauiti**	**6.50**	**33**	P	**Pn**	**19 58 13.6**	**+2.0**
TROLL	**Troll, Antarti**	**63.93**	**184**	⇓P	**P**	**20 07 11.5**	**+2.8**
	comp=Z,215nm,0.8s						
SNAA	**Sanae**	**64.49**	**182**	⇓P	**P**	**20 07 16.4**	**+4.2**
	comp=Z,40nm,1.0s						
VNA3	**Neumayer Olymp**	**65.02**	**180**	⇓P	**P**	**20 07 14.3**	**-1.4**
	comp=Z,2.9nm,0.7s						
VNA1	**Neumayer--Stat**	**65.61**	**181**	⇓P	**P**	**20 07 17.6**	**-1.8**
	comp=Z,2.8nm,0.7s						

*AEIC **18** 20:09:05.1±1.5, 51°64N±0°.03×179°24E±0°.04, h15km±3km, Error ellipse: s-maj=5.5km s-min=2.4km az=213.0*
NEIC 18 20:09:05.5±0.7, 51°64N±0°.04×179°22E±0°.02, h24km±10km, mb4.0/9, ML3.5/10, ML2.9(AEIC), Error ellipse: s-maj=6.0km s-min=1.5km az=180.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.27**	**169**		Pb	20 09 11.8	-0.1
AMKA					Sb	20 09 16.4	+0.2
CETU	**Semis' Tuman**	**0.37**	**27**		Pb	20 09 13.3	-0.2
CEPE	**Semis' Perret**	**0.42**	**39**		Pb	20 09 13.9	-0.5
CEAP	**Semis' Anvil P**	**0.43**	**31**		Pb	20 09 13.9	-0.5
LSSE	**Little Sitkin**	**0.50**	**306**		Pb	20 09 15.8	+0.1
LSPA	**Little Sitkin**	**0.51**	**309**		Pb	20 09 16.1	+0.1
LSPA					Sb	20 09 24.0	+1.0
LSNW	**Little Sitkin**	**0.55**	**307**		Pb	20 09 16.4	-0.2
GAKI	**Gareloi-Kavalg**	**1.23**	**93**		Pn	20 09 26.8	-0.4
GAKI					Sn	20 09 42.9	-0.1
TANO	**Tanaga North**	**1.67**	**79**		Pn	20 09 33.6	+0.3
TANO					Sb	20 09 56.1	-0.1
TASE	**Tanaga Southea**	**1.71**	**82**		Pn	20 09 34.4	+0.4
TASE					Sb	20 09 57.5	0.0
TAPA	**Tanaga Point A**	**1.85**	**83**		Pn	20 09 36.0	+0.2
TAPA					Sb	20 10 00.9	-0.5
KIMD	**Kanaga Island**	**2.21**	**85**		Sn	20 10 08.0	+0.8
KICM	**Kanaga Island**	**2.24**	**81**		Pn	20 09 41.4	+0.3
KIKV	**Kanaga Island**	**2.25**	**82**		Pn	20 09 41.7	+0.4
KIKV					Sn	20 10 09.7	+1.3
KIWB	**Kanaga Island**	**2.26**	**83**		Pn	20 09 41.5	0.0
KIWB	**Kanaga Island**	**2.26**	**83**	IAML		20 10 15.9	
	comp=E,273nm,0.6s						
ADK	**Adak**	**2.56**	**83**		Pn	20 09 45.4	0.0
ADK				IAML		20 10 22.0	
	comp=E,225nm,0.3s						
ADK	**Adak**	**2.56**	**83**		Sn	20 10 16.3	+0.5
ADAG	**Mount Adagdak**	**2.61**	**81**		Pn	20 09 46.5	+0.2
ETKA	**Kagalaska Isla**	**2.73**	**84**		Pn	20 09 48.0	+0.2
ETKA					Sn	20 10 21.4	+1.4
GSCK	**Great Sitkin C**	**2.89**	**81**		Pn	20 09 50.2	+0.2
GSTD	**Great Sitkin T**	**2.90**	**80**		Pn	20 09 50.9	+0.6
GSTR	**Great Sitkin T**	**2.96**	**79**		Pn	20 09 51.0	-0.1
GSIG	**Igitkin Island**	**3.03**	**82**		Pn	20 09 52.1	+0.1
SMY	**Shemya**	**3.34**	**291**	Pn	Pn	20 09 56.2	+0.1
SMY				Sn	Sn	20 10 34.7	-0.3
SMY					Sb	20 10 36.6	-7.4
SMY				IAML		20 10 41.8	
	comp=N,124nm,0.4s						
SMY				IAML		20 10 52.8	
	comp=E,101nm,0.8s						
ATKA	**Atka Island**	**4.11**	**80**		Pn	20 10 08.2	+1.3
ATKA					Sn	20 10 56.0	+1.8
ATKA	**Atka Island**	**4.11**	**80**	IAML		20 10 59.0	
	comp=E,65nm,0.8s						
ATKA				IAML		20 11 00.9	
	comp=N,53nm,0.8s						
LVA	**Lava Point**	**9.26**	**68**	Pn	Pn	20 11 19.1	+1.6
K13K	**Kusilvak Mount**	**13.54**	**34**	Pn	Pn	20 12 12.8	-3.0
PLK4	**Peulik 4**	**15.31**	**57**	Pn	Pn	20 12 39.6	-0.3
L16K	**Owhat River**	**15.37**	**41**	Pn	Pn	20 12 40.5	-0.2
L16K				IAmb	IAmb	20 13 10.8	
	comp=Z,11nm,1.3s						
TNA	**Tin City**	**15.43**	**20**	Pn	Pn	20 12 41.0	-0.4
F17K	**Baldwin Pennin**	**17.79**	**26**	Pn	Pn	20 13 09.1	-2.0
F17K				IAmb	IAmb	20 13 14.4	
	comp=Z,17nm,1.4s						
SEW	**Seward**	**19.34**	**52**	P	P	20 13 27.5	-1.4
SEW				IAmb	IAmb	20 14 05.6	
	comp=Z,7.4nm,1.0s						
RC01	**Rabbit Creek A**	**19.44**	**49**	P	P	20 13 28.5	-1.5
RC01				IAmb	IAmb	20 13 32.7	
	comp=Z,7.8nm,1.2s						
RND	**Reindeer**	**20.54**	**43**	P	P	20 13 42.0	0.0
RND				IAmb	IAmb	20 13 44.6	
	comp=Z,10nm,0.9s						
NEA2	**Nenana**	**20.89**	**39**	P	P	20 13 45.8	+0.1
M30M	**Minto, Yukon**	**25.73**	**48**	P	P	20 14 32.1	-1.8

*NEIC **18** 20:22:27.7±1.0, 56°66N±0°.07×148°.7W±0°.1, h10km±2km, ML3.6/82, ML3.3(AEIC), Error ellipse: s-maj=14.1km s-min=6.8km az=140.0*
*AEIC **18** 20:22:31.3±1.2, 56°.5N±0°.1×148°.5W±0°.1, h12km±8km, Error ellipse: s-maj=18.3km s-min=8.5km az=156.0*
ISC 18 20:22:25.3±1.7, 56°55N±0°.09×148°61W±0°.06, h10km, n60, σ1§44/51, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.49**	**301**		**Pn**	**20 23 06.4**	**+0.6**
KDAK	**Kodiak Island**	**2.49**	**301**		**Sn**	**20 23 34.9**	**-1.3**
OHAK	**Old Harbor**	**2.65**	**287**		**Pn**	**20 23 08.2**	**+0.2**
OHAK	**Old Harbor**	**2.65**	**287**		**Sn**	**20 23 37.7**	**-2.5**
OHAK	**Old Harbor**	**2.65**	**287**	P	**Pn**	**20 23 08.3**	**+0.2**
SYI	**Shuyak Island**	**2.90**	**317**		**Pn**	**20 23 12.8**	**+1.3**
SYI					**Sn**	**20 23 46.6**	**+0.4**
SII	**Sitkinak Islan**	**3.08**	**272**	Pn	**Pn**	**20 23 15.2**	**+1.1**
SII				IAML		20 23 59.5	
	comp=E,192nm,1.0s						
SII				IAML		20 24 02.2	
	comp=N,140nm,0.7s						
SII	**Sitkinak Islan**	**3.08**	**272**	P	**Pn**	**20 23 16.1**	**+2.1**
Q23K	**Middleton Isla**	**3.13**	**22**		**Pn**	**20 23 15.1**	**+0.6**
Q23K				IAML		20 23 51.0	
	comp=E,99nm,0.9s						
Q23K	**Middleton Isla**	**3.13**	**22**		**Sn**	**20 23 50.0**	**-1.9**
CNPM	**China Poot**	**3.29**	**336**		**Pn**	**20 23 17.8**	**+0.9**
CNPM	**China Poot**	**3.29**	**336**		**Sn**	**20 23 54.2**	**-1.8**
BRLK	**Bradley Lake**	**3.44**	**340**		**Pn**	**20 23 19.7**	**+0.7**
BRLK					**Sn**	**20 23 58.4**	**-1.3**
P23K	**Montague Islan**	**3.51**	**10**		**Pn**	**20 23 20.8**	**+0.8**
P23K				IAML		20 24 04.2	
	comp=N,100nm,0.5s						
P23K				IAML		20 24 07.2	
	comp=E,106nm,0.4s						
SEW	**Seward**	**3.59**	**353**		**Pn**	**20 23 21.5**	**+0.6**
SEW	**Seward**	**3.59**	**353**		**Sn**	**20 24 00.7**	**-2.6**
Q19K	**Cape Douglas,**	**3.60**	**314**		**Pn**	**20 23 24.5**	**+3.4**
Q19K	**Cape Douglas,**	**3.60**	**314**	IAML		20 24 13.6	
	comp=N,185nm,0.8s						
O22K	**Cooper Landing**	**3.98**	**352**	Pn	**Pn**	**20 23 26.5**	**+0.1**
CHIR	**Chirikof Islan**	**3.99**	**262**	P	**Pn**	**20 23 27.6**	**+1.2**
ACHA	**Angle Creek He**	**4.00**	**297**		**Pn**	**20 23 28.5**	**+1.9**
HIN	**Hinchinbrook I**	**4.01**	**15**		**Pn**	**20 23 27.9**	**+1.1**
HIN				IAML		20 24 19.4	
	comp=E,126nm,0.7s						
KAIM	**Kayak Island**	**4.04**	**31**		**Pn**	**20 23 28.4**	**+1.2**
ILSW	**Iliamna Southw**	**4.19**	**327**		**Pn**	**20 23 30.4**	**+1.1**
ILSW				IAML		20 24 30.6	
	comp=E,46nm,0.6s						
EYAK	**Cordova Ski Ar**	**4.28**	**19**		**Pn**	**20 23 31.6**	**+1.2**
EYAK				IAML		20 24 25.6	
	comp=E,72nm,0.8s						
EYAK	**Cordova Ski Ar**	**4.28**	**19**	P	**Pn**	**20 23 31.7**	**+1.3**
PWL	**Port Wells**	**4.32**	**2**		**Pn**	**20 23 32.0**	**+0.9**
PWL				IAML		20 24 25.4	
	comp=N,45nm,0.7s						
PWL				IAML		20 24 28.1	
	comp=E,67nm,0.5s						
SUCK	**Suckling Hills**	**4.35**	**34**		**Pn**	**20 23 32.8**	**+1.3**
SUCK				IAML		20 24 22.8	
	comp=N,99nm,0.7s						
SUCK				IAML		20 24 31.0	
	comp=E,61nm,0.7s						
FID	**Port Fidalgo**	**4.35**	**14**		**Pn**	**20 23 32.1**	**+0.6**
FID				IAML		20 24 26.4	
	comp=E,49nm,0.6s						
FID				IAML		20 24 28.5	
	comp=N,43nm,0.8s						
PLK4	**Peulik 4**	**4.36**	**288**	IAML		20 24 29.0	
	comp=E,78nm,0.5s						
PLK4				IAML		20 24 29.6	
	comp=N,78nm,0.6s						
RAGM	**Ragged Mountai**	**4.37**	**27**		**Pn**	**20 23 32.7**	**+1.1**
GLI	**Glacier Island**	**4.41**	**10**		**Pn**	**20 23 33.2**	**+1.0**
GLI				IAML		20 24 23.9	
	comp=N,37nm,0.6s						
GLI				IAML		20 24 26.9	
	comp=E,52nm,0.8s						
HMT	**Hamilton**	**4.43**	**29**		**Pn**	**20 23 33.9**	**+1.4**
RED	**Redoubt Volcan**	**4.45**	**332**		**Pn**	**20 23 33.5**	**+0.6**
RED				IAML		20 24 27.5	
	comp=E,50nm,0.4s						
RED				IAML		20 24 30.9	
	comp=N,53nm,0.6s						
RC01	**Rabbit Creek A**	**4.59**	**353**		**Pn**	**20 23 35.9**	**+1.3**
RC01				IAML		20 24 28.9	
	comp=N,58nm,0.5s						
RC01				IAML		20 24 29.7	
	comp=E,65nm,0.5s						
DIV	**Divide**	**4.82**	**17**		**Pn**	**20 23 38.4**	**+0.5**
BMRM	**Bremner River**	**4.89**	**24**	IAML		20 24 41.0	
	comp=N,38nm,0.6s						
BMRM				IAML		20 24 44.2	
	comp=E,37nm,0.6s						
SPU	**Mount Spurr**	**4.97**	**340**	Pn	**Pn**	**20 23 41.0**	**+0.9**
SPU				IAML		20 24 41.6	
	comp=N,27nm,0.3s						
SPU				IAML		20 24 42.0	
	comp=E,24nm,0.5s						
CRQM	**Cirque**	**5.09**	**32**	IAML		20 24 47.0	
	comp=N,52nm,0.6s						
CRQM				IAML		20 24 50.4	
	comp=E,48nm,0.1s						
KLU	**Klutina**	**5.14**	**15**	IAML		20 24 46.4	
	comp=E,30nm,0.7s						
KLU				IAML		20 24 48.8	
	comp=N,38nm,0.8s						
ISLE	**Juniper Island**	**5.22**	**36**	IAML		20 24 46.1	
	comp=N,32nm,1.0s						
ISLE				IAML		20 24 47.3	
	comp=E,28nm,0.6s						
STLK	**Strandline Lak**	**5.23**	**343**	IAML		20 24 44.6	
	comp=N,30nm,0.6s						
STLK				IAML		20 24 49.9	
	comp=E,21nm,0.5s						
GHO	**Glory Hole Cre**	**5.24**	**358**	IAML		20 24 46.5	
	comp=E,50nm,0.6s						
YAH	**Yahtse**	**5.25**	**40**		**Pn**	**20 23 44.8**	**+0.9**
YAH				IAML		20 24 46.5	
	comp=N,31nm,0.5s						
SCM	**Sheep Creek Mo**	**5.34**	**7**	IAML		20 24 51.5	
	comp=N,45nm,0.7s						
SCM				IAML		20 24 51.6	
	comp=E,37nm,0.7s						
VRDI	**Verde Repeater**	**5.40**	**28**	IAML		20 24 49.0	
	comp=N,20nm,0.5s						
N25K	**Chitina, Valde**	**5.47**	**21**		**Pn**	**20 23 48.2**	**+1.3**
N25K				IAML		20 24 49.4	
	comp=N,37nm,0.5s						
N25K				IAML		20 24 59.3	
	comp=E,32nm,0.7s						
GLB	**Gilahina Butte**	**5.49**	**25**		**Pn**	**20 23 48.4**	**+1.2**
TABL	**Table Mountain**	**5.52**	**42**		**Pn**	**20 23 49.0**	**+1.3**
N18K	**Kilae Creek**	**5.62**	**320**	Pn	**Pn**	**20 23 50.1**	**+1.3**
SKT	**Skwentna**	**5.65**	**346**		**Pn**	**20 23 50.6**	**+1.5**
PNL	**Peninsula**	**5.80**	**54**	P	**Pn**	**20 23 53.0**	**+1.7**
CHNA	**Chernabura Isl**	**6.44**	**259**	P	**Pn**	**20 24 00.7**	**+0.6**
O29M	**Mount Kennedy**	**6.47**	**50**		**Pn**	**20 24 02.5**	**+1.8**
O15K	**Ungalikthiuk R**	**6.54**	**298**		**Pn**	**20 24 03.4**	**+2.0**
SDPT	**Sand Point**	**6.77**	**265**	P	**Pn**	**20 24 06.4**	**+1.8**
SIT	**Sitka**	**7.31**	**81**	P	**Pn**	**20 24 10.8**	**-1.2**
RIDG	**Independent Ri**	**7.45**	**13**		**Pn**	**20 24 16.4**	**+2.4**
JIS	**Juneau Island**	**7.87**	**71**	P	**Pn**	**20 24 21.0**	**+1.3**
J30M	**Hart River**	**10.04**	**32**		Pn	20 24 54.9	+5.3

IDC 18 20:37:06.0±1.6, 2°54S×138°31E, h0km, mb3.0/2, mbtmp3.3/5, ML3.2/3, Error ellipse: s-maj=34.8km s-min=28.7km az=125.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.40**	**89**	Pn	Pn	20 37 46.7	+0.2
	4.5nm,0.3s,baz=260,slow=11,SNR=15						
	17nm,0.5s						
WRA	**Warramunga Arr**	**17.73**	**192**	P	P	20 41 14.9	-0.5
	0.1nm,0.3s,baz=15,slow=12,SNR=6.9						
	0.2nm,0.3s						
FITZ	**Fitzroy Crossi**	**19.83**	**218**	P	P	20 41 38.9	+0.4
	baz=37,slow=13,SNR=1.8						
	2.0nm,0.9s						
ASAR	**Alice Springs**	**21.43**	**191**	P	P	20 41 55.4	-0.5
	0.4nm,0.6s,baz=22,slow=10,SNR=8.3						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**69.41**	**323**	P	P	20 48 15.9	0.0
	0.1nm,0.4s,baz=101,slow=6.0,SNR=1.3						
	0.1nm,0.4s						

*CATAC **18** 20:45:47.8±0.4, 12°N±3°×8°8W±°, h34km±4km, M3.3/16, MLv3.3/16, Error ellipse: s-maj=6.1km s-min=2.4km az=30.8, confirmed*
*S

LOMA	**Loma Larga**	**1.79**	**313**	S		**Sn**	**20 46 37.7**	**-0.5**
YUSH	**Yuscaran**	**1.79**	**32**	S		**Sn**	**20 46 38.4**	**+0.2**
YUSH	**Yuscaran**	**1.79**	**32**	P		**Pn**	**20 46 17.0**	**+0.4**
JAYA	**Jayaque - finc**	**2.00**	**308**	*e*P		**Pn**	**20 46 19.8**	**+0.3**
RCPN	**Sur Rio San Ju**	**2.01**	**57**	P		**Pn**	**20 46 19.1**	**-0.5**
RCPN	**Sur Rio San Ju**	**2.01**	**57**	S		**Sn**	**20 46 43.3**	**-0.2**

NIED ***18*** *20:55:53.4,30˚.17N×143˚.23E,h51km,MW4.5,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr=6.42; Mθθ 0.76; Mϕϕ 5.67; Mrθ -1.46; Mθϕ -1.75; Mϕr 1.14; Fault plane solution: M₀6.58000×10¹⁵ NP1: ϕs=351.00000°,δ39.00000°,λ=-77.00000°. NP2: ϕs=154.00000°,δ52.00000°,λ=-100.00000°.*

IDC ***18*** *20:55:53.7±0.5,30˚.05N×142˚.84E,h0km,mb4.5/22, mbtmp4.5/26,ML3.8/3,MS3.5/32 Error ellipse: s-maj=16.1km s-min=12.1km az=82.0*

JMA ***18*** *20:55:53.4±0.3,30˚.2N±0˚.7×14˚3E±˚,h51km,MV5.0/49, FAR E OFF IZU ISLANDS*

BJI ***18*** *20:55:54.3,30˚.15N×142˚.53E,h5km,mB5.0/23,mb4.7/64, Ms4.3/32,Ms7 4.1/31*

NEIC ***18*** *20:55:55.6±1.7,30˚.10N±0˚.05×142˚.80E±0˚.09,h10km±1km, mb4.8/180,Error ellipse: s-maj=14.7km s-min=3.7km az=56.0*

ISC 18 20:55:55.0±0.4,30˚.12N±0˚.04×142˚.87E±0˚.05,h10km,n528, σ1ş25/454,mb4.8/142,MS3.6/36,3C-4D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.07**	**191**	*e*P	**Pn**	**20 56 42.7**	**-0.9**
CBIJ				*e*S	**Sn**	**20 57 17.3**	**-3.1**
JCJ	**Chichijima**	**3.07**	**191**		**Pn**	**20 56 41.7**	**-1.9**
JCJ	**Chichijima** 179nm,0.4s	**3.07**	**191**	Pn	**Pn**	**20 56 40.5**	**-3.1**
JCJ				Sn	**Sn**	**20 57 14.4**	**-6.0**
JCJ	**Chichijima**	**3.07**	**191**	P	**Pn**	**20 56 43.8**	**+0.2**
JAOM	**Aogashimamukai**	**3.54**	**312**	*e*P	**Pn**	**20 56 50.9**	**+1.0**
JHJ2	**Mitsune**	**3.96**	**320**	Pn	**Pn**	**20 56 54.6**	**-1.1**
JHJ2	**Mitsune**	**3.96**	**320**	*e*P	**Pn**	**20 56 55.1**	**-0.6**
JHJ2				*e*S	**Sn**	**20 57 38.0**	**-4.2**
JMKN	**Mikurajimanish**	**4.68**	**324**	*e*S	**Sn**	**20 57 57.1**	**-2.9**
BSO1	**Boso 1**	**4.79**	**341**	*e*P	**Pn**	**20 57 05.2**	**-1.5**
BSO1				*e*S	**Sn**	**20 57 59.4**	**-2.7**
JMYK	**Miyake Tsubota**	**4.83**	**325**	*e*S	**Sn**	**20 58 01.7**	**-2.1**
BSO3	**Boso 3**	**5.08**	**337**	*e*P	**Pn**	**20 57 10.4**	**-0.4**
BSO3				*e*S	**Sn**	**20 58 09.3**	**-0.1**
BSO4	**Boso 4**	**5.30**	**337**	*e*P	**Pn**	**20 57 14.9**	**+0.7**
BSO4				*e*S	**Sn**	**20 58 15.0**	**-0.2**
JOD2	**Odawara 2**	**6.04**	**329**	*e*P	**Pn**	**20 57 23.6**	**-0.7**
JOD2				*e*S	**Sn**	**20 58 31.2**	**-2.3**
JYT	**Yasato**	**6.49**	**340**	*e*P	**Pn**	**20 57 30.7**	**+0.2**
JYT				*e*S	**Sn**	**20 58 43.0**	**-1.6**
JNY	**Yasuok**	**6.71**	**322**	*e*P	**Pn**	**20 57 37.2**	**+3.5**
JHO	**Hitachi**	**6.75**	**344**	*e*P	**Pn**	**20 57 32.1**	**-2.0**
JHO				*e*S	**Sn**	**20 58 44.5**	**-6.6**
JAG	**Ashikaga**	**6.91**	**336**	*e*P	**Pn**	**20 57 35.4**	**-0.9**
JAG				*e*S	**Sn**	**20 58 50.1**	**-4.7**
JGF	**Kuroka**	**7.17**	**321**		**Pn**	**20 57 40.0**	**+0.2**
JGF	**Kuroka**	**7.17**	**321**	P	**Pn**	**20 57 43.0**	**+3.2**
INU	**Inuyama**	**7.17**	**318**		**Pn**	**20 57 38.6**	**-1.3**
INU	**Inuyama**	**7.17**	**318**	P	**Pn**	**20 57 41.7**	**+1.8**
JFK	**Kawauchi**	**7.42**	**348**	*e*S	Sn	20 58 58.7	-8.8
MJAR	**Matsushiro Arr**	**7.50**	**330**		**Pn**	**20 57 42.9**	**-1.4**
MJAR	**Matsushiro Arr** 1.9nm,0.3s,baz=156,slow=11,SNR=104	**7.50**	**330**	Pn	**Pn**	**20 57 43.4**	**-1.0**
MJAR				Sn	**Sn**	**20 59 06.1**	**-3.4**
	0.7nm,0.3s,baz=112,slow=16,SNR=5.3						
MJAR				LR	LR	21 00 25.6	
	comp=Z,261nm,21.4s,baz=136,slow=36 16nm,0.4s						
MAJO	**Matsushiro**	**7.50**	**330**		**Pn**	**20 57 43.8**	**-0.6**
MAJO	**Matsushiro**	**7.50**	**330**	P	**Pn**	**20 57 44.3**	**-0.1**
MJB9	**Matsu-Tunnel**	**7.50**	**330**		**Pn**	**20 57 43.8**	**-0.6**
JMM	**Marumori**	**7.92**	**348**		**Pn**	**20 57 46.8**	**-3.2**
JMM	**Marumori**	**7.92**	**348**	P	**Pn**	**20 57 47.8**	**-2.3**
JMK	**Ichinoseki**	**8.91**	**352**	*e*P	**Pn**	**20 58 01.1**	**-2.7**
JMK				*e*S	Sn	20 59 34.0	-10
JNU	**Nakatsue**	**10.65**	**289**		**Pn**	**20 58 26.4**	**-1.2**
JNU	**Nakatsue** 0.5nm,0.3s,baz=30,slow=12,SNR=5.6	**10.65**	**289**	Pn	**Pn**	**20 58 27.2**	**-0.4**
JNU				LR	LR	21 02 00.1	
	comp=Z,289nm,21.6s,baz=116,slow=34 16nm,1.0s						
JNU	**Nakatsue**	**10.65**	**289**	P	**Pn**	**20 58 32.1**	**+4.5**
JTM	**Tenmabayashi**	**10.74**	**353**	Pn	**Pn**	**20 58 26.4**	**-2.4**
ERM	**Erimo**	**11.87**	**1**	Pn	**Pn**	**20 58 41.2**	**-3.0**
JKA	**Kamikawa-asahi**	**13.97**	**359**		**Pn**	**20 59 10.3**	**-2.6**
ASAJ	**Asahikawa** 1.1nm,0.3s,baz=223,slow=14,SNR=6.9	**13.97**	**359**	Pn	**Pn**	**20 59 09.3**	**-3.6**
ASAJ				Sn	Sn	21 01 33.0	-15
	0.7nm,0.3s,baz=196,slow=11,SNR=2.6						
ASAJ				LR	LR	21 04 40.5	
	comp=Z,208nm,21.7s,baz=188,slow=38						
TJN	**Taejon**	**14.39**	**300**		**Pn**	**20 59 20.2**	**+1.5**
TJN	**Taejon**	**14.39**	**300**	P	**P**	**20 59 23.5**	**-2.2**
KSRS	**Korea Array** 0.3nm,0.3s,baz=116,slow=13,SNR=29 9.1nm,0.9s	**14.41**	**304**	Pn	**Pn**	**20 59 19.2**	**+0.3**
KSAR	**Wonju Array Be**	**14.43**	**304**		**Pn**	**20 59 19.0**	**-0.3**
KS19	**Wonju Array Si**	**14.47**	**305**		**Pn**	**20 59 19.4**	**-0.5**
INCN	**Inchon**	**15.35**	**303**	P	**P**	**20 59 35.5**	**-1.0**
USA0B	**Ussuriysk Arra**	**16.49**	**331**		**Pn**	**20 59 44.3**	**-2.0**
USRK	**Ussuriysk Ar.**	**16.49**	**331**		**Pn**	**20 59 44.0**	**-2.3**
USRK	**Ussuriysk Ar.** 0.1nm,0.3s,baz=144,slow=14,SNR=7.2	**16.49**	**331**	Pn	**Pn**	**20 59 43.6**	**-2.7**
USRK				LR	LR	21 06 09.0	
	comp=Z,138nm,18.2s,baz=144,slow=37						
GUMO	**Guam**	**16.56**	**173**	LR	LR	21 07 07.5	
	comp=Z,127nm,18.9s,baz=11,slow=41						
YSS	**Yuzhno-Sakhali**	**16.81**	**360**		**Pn**	**20 59 47.6**	**-2.7**
YSS	**Yuzhno-Sakhali**	**16.81**	**360**	P	**Pn**	**20 59 48.2**	**-2.1**
MDJ	**Mudanjiang**	**17.87**	**328**		**Pn**	**21 00 01.5**	**-2.1**
MDJ	**Mudanjiang**	**17.87**	**328**	P	**Pn**	**21 00 02.1**	**-1.5**
MDJ				pmax	pmax		
	comp=Z,25nm,1.4s						
CN2	**Changchun**	**19.45**	**319**	*e*P	**P**	**21 00 21.3**	**-0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SNY	**Shenyang**	**19.45**	**312**	⇓P	**Pn**	**21 00 22.3**	**-0.5**
SNY				pmax	pmax		
	comp=Z,110nm,3.7s						
SNY				LR	LR		
	comp=N,240nm,11.9s						
SNY				LR	LR		
	comp=E,280nm,15.0s						
SNY				LR	LR		
	comp=Z,340nm,13.3s						
DL2	**Dalian**	**19.54**	**302**	P	**Pn**	**21 00 23.4**	**-0.5**
DL2				S	**Sn**	**21 04 00.0**	**-3.3**
DL2				pmax	pmax		
	comp=Z,38nm,1.6s						
DL2				pmax	pmax		
	comp=Z,400nm,11.9s						
DL2				LR	LR		
	comp=N,410nm,14.2s						
DL2				LR	LR		
	comp=E,470nm,14.2s						
DL2				LR	LR		
	comp=Z,800nm,15.0s						
BNX	**BinXian**	**19.74**	**326**	⇑P	**P**	**21 00 25.3**	**+0.5**
BNX				S	**Sn**	**21 04 10.3**	**+2.3**
BNX				pmax	pmax		
	comp=Z,26nm,1.3s						
BNX				LR	LR		
	comp=N,320nm,10.8s						
BNX				LR	LR		
	comp=E,280nm,11.9s						
BNX				LR	LR		
	comp=Z,360nm,13.1s						
NACB	**Ninganchiao**	**19.82**	**258**	P	**P**	**21 00 25.2**	**-0.7**
NACB				IAmb	IAmb	21 00 40.6	
	comp=Z,77nm,1.2s						
YHNB	**Yeheng**	**19.83**	**259**	P	**Pn**	**21 00 29.9**	**+2.3**
YULB	**Yu-li**	**20.38**	**256**		**P**	**21 00 31.2**	**-0.7**
YULB				IAmb	IAmb	21 00 36.9	
	comp=Z,90nm,1.1s						
YULB	**Yu-li**	**20.38**	**256**	P	Pn	21 00 35.1	+1.1
SSLB	**Suanglung**	**20.51**	**257**		**P**	**21 00 33.5**	**+0.1**
SSLB				IAmb	IAmb	21 00 43.6	
	comp=Z,59nm,1.0s						
SSLB	**Suanglung**	**20.51**	**257**	P	Pn	21 00 34.6	-1.0
NJ2	**Nanjing**	**20.65**	**281**	⇓P	**P**	**21 00 35.8**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,36nm,0.8s						
KLR	**Kul'dur** baz=123,slow=13	**20.87**	**339**	P	**P**	**21 00 36.7**	**-0.4**
TPUB	**Ta-pu**	**20.98**	**256**	IAmb	IAmb	21 00 44.6	
	comp=Z,61nm,0.8s						
TPUB	**Ta-pu**	**20.98**	**256**	P	Pn	21 00 42.2	+1.2
TIA	**Tai'an**	**22.36**	**293**	P	**P**	**21 00 51.3**	**-1.9**
TIA				pmax	pmax		
	comp=Z,18nm,1.0s						
HEH	**HeiHe**	**23.23**	**334**	*e*P	**P**	**21 01 01.6**	**-0.6**
HEH				pP	**sP**	**21 01 05.3**	**+1.7**
HEH				S	**S**	**21 05 13.3**	**-0.8**
HEH				pmax	pmax		
	comp=Z,12nm,1.2s						
HEH				LR	LR		
	comp=Z,320nm,12.9s						
HEH				LR	LR		
	comp=Z,300nm,14.0s						
HEH				LR	LR		
	comp=Z,330nm,10.5s						
BJT	**Baijiatuan**	**23.90**	**302**		**P**	**21 01 08.1**	**-0.8**
BJT				IAmb	IAmb	21 01 09.1	
	comp=Z,27nm,1.2s						
BJI	**Beijing**	**23.90**	**302**	P	**P**	**21 01 08.4**	**-0.5**
BJI				pmax	pmax		
	comp=Z,16nm,2.0s						
BJI				pmax	pmax		
	comp=Z,170nm,5.9s						
BJI				LR	LR		
	comp=Z,130nm,12.5s						
BJI				LR	LR		
	comp=Z,100nm,15.6s						
HNS	**HongShan**	**24.45**	**295**	⇓P	**P**	**21 01 13.3**	**-0.7**
HNS				pmax	pmax		
	comp=Z,22nm,2.2s						
HNS				LR	LR		
	comp=Z,460nm,12.7s						
HNS				LR	LR		
	comp=Z,400nm,12.3s						
WHN	**Wuhan**	**24.59**	**278**	P	**P**	**21 01 15.3**	**0.0**
XLT	**XiLinHaoTe**	**25.30**	**310**	*e*P	**P**	**21 01 22.0**	**+0.3**
XLT				pP	sP	21 01 26.6	+4.0
XLT				pmax	pmax		
	comp=Z,19nm,2.0s						
XLT				LR	LR		
	comp=Z,32nm,14.8s						
XLT				LR	LR		
	comp=Z,230nm,13.5s						
XLT				LR	LR		
	comp=Z,140nm,6.8s						
PETK	**Petropavlovsk-** comp=Z,131nm,21.8s,baz=214,slow=36	**25.40**	**21**	LR	LR	21 11 02.6	
HIA	**Hailar**	**25.95**	**324**		**P**	**21 01 28.7**	**+1.2**
LYN	**LuoYang**	**26.01**	**288**	P	**P**	**21 01 27.6**	**-0.6**
LYN				pmax	pmax		
	comp=Z,24nm,0.5s						
HHC	**Hu-ho-hao-te**	**27.51**	**301**	*e*P	**P**	**21 01 42.0**	**+0.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,4.5s						
HHC				LR	LR		
	comp=Z,230nm,15.3s						
HHC				LR	LR		
	comp=Z,320nm,16.8s						
HHC				LR	LR		
	comp=Z,290nm,13.6s						
DAV	**Davao City (W)** comp=Z,92nm,21.2s,baz=44,slow=32	**28.10**	**219**	LR	LR	21 10 56.7	
BTO	**Baotou**	**28.61**	**300**	*e*P	**P**	**21 01 53.0**	**+1.4**
BTO				pP	**sP**	**21 01 57.4**	**+4.9**
BTO				sP	**pwP**	**21 02 00.1**	**-2.5**
BTO				PP	**PnPn**	**21 02 46.1**	**+4.7**
BTO				S	**S**	**21 06 45.3**	**+5.3**
BTO				sS	sS	21 06 51.3	+10
BTO				pmax	pmax		
	comp=Z,38nm,0.9s						
BTO				pmax	pmax		
	comp=Z,220nm,5.8s						
BTO				LR	LR		
	comp=Z,560nm,13.6s						
BTO				LR	LR		
	comp=Z,740nm,13.8s						
BTO				LR	LR		
	comp=Z,800nm,15.3s						
ENH	**Enshi** comp=Z,16nm,0.9s	**28.80**	**279**	IAmb	IAmb	21 01 54.8	
XAN	**Xi'an**	**28.95**	**287**	⇑P	**P**	**21 01 53.3**	**-1.3**
XAN				pP	pwP	21 02 03.6	-2.0
XAN				pmax	pmax		
	comp=Z,44nm,1.4s						
MA2	**Magadan** comp=Z,43nm,21.0s,baz=148,slow=36	**29.94**	**8**	LR	LR	21 13 49.0	
QIZ	**Qiongzhong**	**31.89**	**257**	P	**P**	**21 02 20.6**	**-0.1**
QIZ				S	**S**	**21 07 34.4**	**+2.7**
QIZ				LR	LR		
	comp=Z,150nm,8.6s						
QIZ				LR	LR		
	comp=Z,200nm,5.7s						
QIZ				LR	LR		
	comp=Z,400nm,8.0s						
GYA	**Guiyang**	**32.01**	**272**	⇓P	**P**	**21 02 21.8**	**+0.1**
GYA				pmax	pmax		
	comp=Z,15nm,1.5s						
SHEM	**Shemya Is, Ala** comp=Z,99nm,21.5s,baz=186,slow=31	**32.12**	**36**	LR	LR	21 12 30.3	
JAY	**Jayapura** comp=Z,74nm,20.1s,baz=341,slow=34	**32.52**	**184**	LR	LR	21 14 11.3	
ULN	**Ulaanbaatar**	**32.62**	**313**		**P**	**21 02 28.6**	**+1.6**
TNTI	**Ternate**	**32.70**	**210**		**P**	**21 02 27.1**	**-0.6**
TNTI				IAmb	IAmb	21 02 29.3	
	comp=Z,19nm,1.0s						
TNTI	**Ternate**	**32.70**	**210**	P	**P**	**21 02 28.0**	**+0.3**
TNTI	**Ternate** comp=Z,701nmcomp=Z,12nm,1.1s	**32.70**	**210**	P	**P**	**21 02 29.1**	**+1.4**
SONM	**Songino Array**	**33.03**	**313**		**P**	**21 02 31.1**	**+0.6**
SONM	**Songino Array** comp=Z,5.6nm,0.7s,baz=118,slow=8.6,SNR=34	**33.03**	**313**	P	**P**	**21 02 32.2**	**+1.7**
SONM				PcP	**PcP**	**21 05 15.5**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=112,slow=3.5,SNR=1.9						
SONM				LR	LR	21 17 47.7	
	comp=Z,84nm,18.6s,baz=133,slow=40 comp=Z,5.6nm,0.7s						
YAK	**Yakutsk**	**33.07**	**349**	P	**P**	**21 02 30.1**	**-0.3**
YAK				IAmb	IAmb	21 02 31.6	
	comp=Z,11nm,0.7s						
YAK	**Yakutsk** comp=Z,34nm,19.7s,baz=156,slow=41	**33.07**	**349**	LR	LR	21 18 46.3	
LZH	**Lanzhou**	**33.07**	**291**	*e*P	**P**	**21 02 30.0**	**-1.0**
LZH				pP	pwP	21 02 39.4	-2.7
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
LZH				LR	LR		
	comp=Z,330nm,13.7s						
LZH				LR	LR		
	comp=Z,330nm,13.1s						
SEY	**Seymchan** comp=Z,42nm,18.0s,baz=171,slow=40	**33.39**	**8**	LR	LR	21 18 07.9	
MRSI	**Marisa**	**35.57**	**218**	P	**P**	**21 02 55.1**	**+2.4**
KMI	**Kunming**	**35.77**	**272**	P	**P**	**21 02 54.5**	**-0.1**
KMI				pmax	pmax		
	comp=Z,10.0nm,2.0s						
SLVN	**Son La**	**36.03**	**265**	P	**P**	**21 02 56.6**	**-0.1**
PZH	**PanZhiHua**	**36.25**	**275**	P	**P**	**21 02 57.1**	**-1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GTA	**Gaotai**	**36.27**	**297**	P	**P**	**21 02 58.8**	**+0.1**
GTA				sP	pwP	21 03 08.6	-1.2
GTA				pmax	pmax		
	comp=Z,15nm,1.3s						
GTA				LR	LR		
	comp=Z,210nm,13.4s						
GTA				LR	LR		
	comp=Z,130nm,13.1s						
GTA				LR	LR		
	comp=Z,240nm,15.6s						
UBPT	**Khong Chiam**	**37.34**	**255**		**P**	**21 03 08.1**	**+0.3**
UBPT				IAmb	IAmb	21 03 09.1	
	comp=Z,22nm,1.2s						
UBPT	**Khong Chiam**	**37.34**	**255**	P	**P**	**21 03 08.4**	**+0.6**
TNCH	**TengChong**	**39.45**	**274**	P	**P**	**21 03 25.3**	**-0.5**
TNCH				sP	sP	21 03 30.3	+3.6
TNCH				S	**S**	**21 09 26.3**	**-1.7**
TNCH				sS	sS	21 09 33.5	+4.7
TNCH				pmax	pmax		
	comp=Z,27nm,1.8s						
TNCH				pmax	pmax		
	comp=Z,160nm,3.2s						
TNCH				LR	LR		
	comp=Z,180nm,5.5s						
TNCH				LR	LR		
	comp=Z,220nm,5.8s						
TNCH				LR	LR		
	comp=Z,200nm,7.3s						
SBUM	**Sibu**	**40.01**	**232**	P	**P**	**21 03 29.6**	**-0.6**
GOMU	**GeErMu**	**40.36**	**292**	P	**P**	**21 03 33.5**	**+0.1**
GOMU				pP	sP	21 03 37.0	+2.7
GOMU				sP	pwP	21 03 40.8	-3.7
GOMU				pmax	pmax		
	comp=Z,30nm,1.2s						
SPSI	**Sidrap Palu** comp=Z,29nm,1.0s	**40.47**	**217**	P	**P**	**21 03 34.4**	**+0.5**
CHTO	**Chiang Mai**	**41.31**	**265**		**P**	**21 03 40.2**	**-0.8**
CHTO				IAmb	IAmb	21 03 41.6	
	comp=Z,16nm,1.1s						
CHTO	**Chiang Mai**	**41.31**	**265**	P	**P**	**21 03 40.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**41.46**	**264**		**P**	**21 03 41.2**	**-1.0**
CMAR	**Chiang Mai Arr** comp=Z,1.9nm,0.7s,baz=44,slow=8.4,SNR=17	**41.46**	**264**	P	**P**	**21 03 42.1**	**-0.1**
CMAR				LR	LR	21 21 51.6	
	comp=Z,73nm,19.3s,baz=70,slow=38 comp=Z,1.9nm,0.7s						
NIKH	**Nikolski High** baz=256	**41.72**	**43**	P	**P**	**21 03 44.1**	**+0.2**
SPIA	**Saint Paul Isl** baz=250	**42.16**	**36**	P	**P**	**21 03 47.4**	**-0.1**
P08K	**Saint George I** baz=252	**42.34**	**37**	P	**P**	**21 03 48.8**	**-0.1**
UNV	**Unalaska Valle** baz=258	**43.29**	**42**	P	**P**	**21 03 57.0**	**+0.4**
MMRI	**Maumere**	**43.34**	**211**	P	**P**	**21 03 57.3**	**-0.1**
EDFI	**Ende, Flores** comp=Z,38nm,1.2s	**43.68**	**211**	P	**P**	**21 03 59.7**	**-0.6**
BATI	**Baunata** comp=Z,12nm,0.5s,baz=14,slow=12,SNR=2.8 comp=Z,12nm,0.5s	**44.15**	**208**	P	**P**	**21 04 02.9**	**-1.1**
GAMB	**Gambell** baz=242	**44.15**	**27**	P	**P**	**21 04 03.9**	**+0.5**
M11K	**Mekoryuk** baz=251	**45.20**	**33**	P	**P**	**21 04 12.7**	**+0.8**
WMQ	**Urumqi**	**45.36**	**303**	⇑P	**P**	**21 04 15.3**	**+1.8**
WMQ				sP	pwP	21 04 25.3	+0.6
WMQ				pmax	pmax		
	comp=Z,33nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,340nm,4.7s						
WMQ				LR	LR		
	comp=Z,220nm,17.1s						
S12K	**Black Hills** baz=260	**46.18**	**40**	P	**P**	**21 04 19.5**	**-0.1**
TNA	**Tin City** baz=245	**46.41**	**26**	P	**P**	**21 04 21.5**	**+0.2**
K13K	**Kusilvak Mount** baz=252	**46.41**	**31**	P	**P**	**21 04 21.5**	**+0.1**
M13K	**Dall Lake** baz=254	**46.56**	**33**	P	**P**	**21 04 23.5**	**+0.9**
F14K	**Arctic Creek** baz=247	**46.98**	**26**	P	**P**	**21 04 26.5**	**+0.7**
ANM	**Nome** baz=248	**47.00**	**28**	P	**P**	**21 04 26.5**	**+0.5**
SDPT	**Sand Point** baz=262	**47.01**	**41**	P	**P**	**21 04 25.9**	**-0.2**
J14K	**Nanvaranak Lak** baz=252	**47.15**	**30**	P	**P**	**21 04 27.3**	**+0.1**
N14K	**Kuskokwak Cree** baz=256	**47.24**	**34**	P	**P**	**21 04 28.3**	**+0.4**
ZSN	**Zaisan** comp=Z,7.5nm,1.2s	**47.29**	**308**	*e*P	**P**	**21 04 29.1**	**+0.6**
O14K	**Tigyukauivet M** baz=257	**47.30**	**35**	P	**P**	**21 04 29.0**	**+0.6**
M14K	**Bethel** baz=255	**47.31**	**33**	P	**P**	**21 04 28.9**	**+0.4**
CHNA	**Chernabura Isl** baz=263	**47.45**	**42**	P	**P**	**21 04 29.9**	**+0.3**
ZALV	**Zalesovo Beam**	**47.64**	**317**		**P**	**21 04 30.7**	**-0.4**
ZALV	**Zalesovo Beam** comp=Z,3.1nm,0.5s,baz=101,slow=7.7,SNR=13	**47.64**	**317**	P	**P**	**21 04 31.6**	**+0.5**
ZALV				PcP	**PcP**	**21 06 00.9**	**+0.3**
	comp=Z,3.6nm,0.8s,baz=90,slow=3.0,SNR=6.0 comp=Z,3.1nm,0.5s						
S14K	**Fog Glacier** baz=262	**47.66**	**40**	P	**P**	**21 04 32.2**	**+0.9**
G15K	**Niukluk** baz=250	**47.69**	**27**	P	**P**	**21 04 32.4**	**+1.0**
F15K	**North Star Dit** baz=248	**47.71**	**26**	P	**P**	**21 04 32.3**	**+0.8**
L15K	**Ungalak Mounta** baz=255	**47.77**	**32**	P	**P**	**21 04 32.7**	**+0.6**
M15K	**Kasigluk River** baz=257	**47.91**	**34**	P	**P**	**21 04 33.6**	**+0.5**
K15K	**Wolf Creek Mou** baz=254	**47.92**	**31**	P	**P**	**21 04 33.8**	**+0.6**
O15K	**Ungalikthiuk R** baz=259	**48.01**	**36**	P	**P**	**21 04 34.7**	**+0.8**
N15K	**Kwethluk River** baz=258	**48.08**	**34**	P	**P**	**21 04 35.4**	**+0.9**
H16K	**Elim** baz=252	**48.30**	**28**	P	**P**	**21 04 37.1**	**+1.0**
C16K	**Lisburne Hills** baz=245	**48.48**	**23**	P	**P**	**21 04 38.4**	**+1.1**
G16K	**Koyuk River** baz=251	**48.50**	**27**	P	**P**	**21 04 38.1**	**+0.6**
J16K	**Anvik River** baz=254	**48.59**	**30**	P	**P**	**21 04 38.8**	**+0.4**
L16K	**Owhat River** baz=257	**48.71**	**32**	P	**P**	**21 04 39.8**	**+0.5**
I17K	**Unalakleet** baz=254	**48.72**	**29**	P	**P**	**21 04 39.7**	**+0.4**
N16K	**Nishlik Lake** baz=259	**48.79**	**34**	P	**P**	**21 04 40.6**	**+0.6**
M16K	**Timber Creek** baz=258	**48.81**	**33**	P	**P**	**21 04 40.9**	**+0.9**
P16K	**Nushagak River** baz=261	**48.91**	**36**	P	**P**	**21 04 41.4**	**+0.6**
O16K	**Kokwok River B** baz=260	**48.96**	**35**	P	**P**	**21 04 41.8**	**+0.6**
D17K	**Noatak River** baz=248	**49.03**	**24**	P	**P**	**21 04 41.8**	**+0.1**
MKAR	**Makanchi Array**	**49.06**	**308**		**P**	**21 04 42.6**	**+0.3**
MKAR	**Makanchi Array** comp=Z,11nm,0.8s,baz=91,slow=8.9,SNR=40	**49.06**	**308**	P	**P**	**21 04 43.2**	**+0.9**
MKAR				PcP	**PcP**	**21 06 07.1**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=87,slow=4.9,SNR=0.7 comp=Z,11nm,0.8s						
G17K	**Kiwalik Mounta** baz=253	**49.21**	**27**	P	**P**	**21 04 43.0**	**-0.1**
RDOG	**Red Dog Mine** baz=248	**49.23**	**24**	P	**P**	**21 04 43.2**	**+0.1**
E17K	**Hotham Inlet** baz=250	**49.26**	**25**	P	**P**	**21 04 43.4**	**0.0**
F17K	**Baldwin Pennin** baz=251	**49.27**	**26**	P	**P**	**21 04 43.3**	**-0.1**
J17K	**VABM Dome** baz=256	**49.29**	**30**	P	**P**	**21 04 44.4**	**+0.7**
C17K	**DeLong Mountai** baz=248	**49.29**	**23**	P	**P**	**21 04 44.2**	**+0.5**
H17K	**Granite Mounta** baz=254	**49.34**	**28**	P	**P**	**21 04 44.8**	**+0.7**
L17K	**Donlin** baz=258	**49.35**	**32**	P	**P**	**21 04 44.4**	**+0.2**
K17K	**Iditarod** comp=Z,11nm,1.1s	**49.47**	**31**	IAmb	IAmb	21 05 05.2	
K17K	**Iditarod** baz=257	**49.47**	**31**	P	**P**	**21 04 44.5**	**-0.7**
O17K	**Koliganek Bris** baz=261	**49.49**	**35**	P	**P**	**21 04 44.3**	**-0.9**
N17K	**Nushagak Hills** comp=Z,16nm,1.1s	**49.57**	**34**	IAmb	IAmb	21 04 50.0	
N17K	**Nushagak Hills** baz=260,SNR=5.6	**49.57**	**34**	P	**P**	**21 04 46.7**	**+0.9**
R17L	**Mt. Peulik Vol** baz=263	**49.57**	**38**	P	**P**	**21 04 46.7**	**+0.7**
**

baz=251
Q17K **Contact Creek** 49.90 37 P P 21 04 49.0 +0.5
baz=263
F18K **Selawik** 49.92 26 P P 21 04 48.9 +0.5
baz=253
LEM **Lembang** 49.94 228 P P 21 04 48.8 -0.6
comp=Z,14nm,0.4s,baz=318,slow=8.2,SNR=5.1
LEM S S 21 11 53.4 -6.7
comp=Z,73nm,1.1s,baz=246,slow=12,SNR=7.7
comp=Z,14nm,0.4s
H18K **Honhosa River** 50.03 28 P P 21 04 49.3 -0.1
baz=255
C18K **Utukok River** 50.03 23 P P 21 04 48.8 -0.6
baz=250
B18K **Kokolik River** 50.09 22 P P 21 04 49.3 -0.3
baz=248
L18K **Granite Mounta** 50.11 32 P P 21 04 49.8 -0.1
baz=259
G18K **Tagagawik** 50.11 27 IAmb IAmb 21 04 53.4
comp=Z,8.0nm,0.9s
G18K **Tagagawik** 50.11 27 P P 21 04 50.7 +0.7
baz=254
N18K **Kilae Creek** 50.22 34 P P 21 04 51.5 +0.6
baz=261
WB0 **Warramunga Arr** 50.27 190 P 21 04 51.1 -0.4
WB0 IAmb IAmb 21 04 53.4
comp=Z,19nm,1.1s
J18K **Innoko River** 50.34 30 P P 21 04 51.4 -0.4
baz=258
P18K **Big Mountain,** 50.37 36 P P 21 04 51.7 -0.3
baz=263
M18K **Stony River** 50.38 33 P P 21 04 52.1 +0.1
baz=261
Q18K **Katmai Hardscr** 50.40 37 P P 21 04 53.2 +0.8
baz=264
WR8 **Warramunga Arr** 50.44 190 IAmb IAmb 21 04 57.5
comp=Z,11nm,1.0s
WRAB **Tennant Creek** 50.44 190 P P 21 04 52.4 -0.4
WRAB IAmb IAmb 21 04 55.5
comp=Z,10nm,0.9s
O18K **Koktuh Hills** 50.44 35 P P 21 04 52.0 -0.5
baz=263
WRA **Warramunga Arr** 50.45 190 P 21 04 52.3 -0.7
WRA **Warramunga Arr** 50.45 190 P P 21 04 52.5 -0.5
comp=Z,6.6nm,0.6s,baz=9.4,slow=8.0,SNR=34
comp=Z,6.6nm,0.6s
GCSA **Galena City Sc** 50.55 29 P P 21 04 52.6 -0.6
baz=257
MDSI **Maura Dua** 50.55 234 P P 21 04 53.2 -0.7
comp=Z,72nm,0.9s
R18K **Karluk** 50.59 38 P P 21 04 52.8 -0.8
baz=265
A19K **Wainwright** 50.64 21 P P 21 04 53.2 -0.5
baz=248
SII **Sitkinak Islan** 50.66 40 P P 21 04 53.6 -0.6
baz=266
F19K **Shaleruckik Mo** 50.71 26 P P 21 04 55.1 +0.8
baz=254
FITZ **Fitzroy Crossi** 50.73 201 P 21 04 55.0 -0.1
C19K **Lookout Ridge** 50.74 23 P P 21 04 54.5 -0.2
baz=251
G19K **Purcell Mounta** 50.79 27 P P 21 04 54.8 -0.3
baz=256
H19K **Roundabout Mou** 50.90 28 IAmb IAmb 21 04 59.6
comp=Z,12nm,1.2s
H19K **Roundabout Mou** 50.90 28 P P 21 04 56.4 +0.5
baz=257
J19K **Poorman** 50.92 30 P P 21 04 56.5 +0.4
baz=259
N19K **Bonanza Creek** 50.92 34 P P 21 04 57.1 +0.8
baz=262
O19K **Port Alsworth** 50.93 35 P P 21 04 56.5 +0.3
baz=263
L19K **White Mountain** 50.95 32 P P 21 04 56.4 0.0
baz=261
D19K **Kuna River** 51.05 24 P P 21 04 57.7 +0.7
baz=253
E19K **Redstone River** 51.08 25 IAmb IAmb 21 05 00.9
comp=Z,8.5nm,0.8s
E19K **Redstone River** 51.08 25 P P 21 04 57.1 -0.1
baz=254,SNR=5.9
M19K **Big River Lodg** 51.12 33 P P 21 04 58.7 +1.1
baz=262
Q19K **Cape Douglas,** 51.13 37 P P 21 04 57.8 0.0
baz=265
OHAK **Old Harbor** 51.19 39 P P 21 04 58.9 +0.7
baz=266
KURK **Kurchatov** 51.34 313 P 21 04 59.7 +0.3
KURK IAmb IAmb 21 05 05.4
comp=Z,19nm,0.9s
SHLS **Shalkode** 51.38 303 eP P 21 04 58.3 -1.7
comp=Z,8.9nm,1.4s
KURBB **Kurchatov Arra** 51.40 313 P P 21 05 00.1 +0.2
comp=Z,7.7nm,0.7s,baz=90,slow=7.5,SNR=29
comp=Z,7.7nm,0.7s
P19K **Oil Pt** 51.41 36 P P 21 04 59.5 -0.4
baz=264
L20K **Farewell, AK** 51.44 32 P P 21 04 59.3 -0.8
baz=262
K20K **Telida** 51.49 31 IAmb IAmb 21 05 04.4
comp=Z,9.0nm,1.0s
K20K **Telida** 51.49 31 P P 21 05 00.9 +0.5
baz=261,SNR=5.1
H20K **Anotleneega Mo** 51.53 28 P P 21 05 00.6 0.0
baz=258
F20K **Avaraart Lake** 51.54 26 P P 21 05 00.3 -0.4
baz=256
J20K **Nowinta River** 51.59 30 P P 21 05 01.7 +0.6
baz=260,SNR=7.5
KDAK **Kodiak Island** 51.60 38 LR LR 21 25 32.3
comp=Z,146nm,20.8s,baz=239,slow=34
KDAK **Kodiak Island** 51.60 38 P P 21 05 01.5 +0.3
baz=267
D20K **Etivluk River** 51.65 24 P P 21 05 01.9 +0.5
baz=254,SNR=6.0
E20K **Nigu River** 51.67 25 P P 21 05 01.7 -0.1
baz=255
M20K **Styx River** 51.71 33 P P 21 05 02.2 +0.1
baz=263
Q20K **Shuyak Island** 51.76 37 P P 21 05 02.7 +0.3
baz=266
O20K **Slope Mountain** 51.76 35 P P 21 05 02.4 -0.1
baz=265
B20K **Meade River** 51.83 22 P P 21 05 03.1 +0.3
baz=253
TDK **Taldyqorghan** 51.91 306 eP P 21 05 04.6 +0.8
comp=Z,9.9nm,1.3s
SATY **Saty** 52.16 303 eP P 21 05 06.3 +0.4
comp=Z,16nm,1.5s
HOM **Homer** 52.22 36 P P 21 05 06.5 +0.7
baz=266
PPLA **Purkeypile** 52.27 32 P P 21 05 06.7 +0.3
baz=263
G21K **Allakaket** 52.29 27 P P 21 05 06.9 +0.7
baz=259,SNR=5.4
CHUM **Lake Minchumin** 52.34 30 P P 21 05 06.6 -0.1
baz=262
CAST **Castle Rocks** 52.38 31 P P 21 05 07.4 +0.4
baz=263
C21K **Knifeblade Rid** 52.40 24 P P 21 05 08.1 +1.0
baz=256
H21K **Melozitna Rive** 52.41 28 P P 21 05 07.2 0.0
baz=260,SNR=7.1
F21K **Alatna River** 52.44 26 P P 21 05 08.3 +0.9
baz=258
SKT **Skwentna** 52.47 33 P P 21 05 07.4 -0.3
baz=264
E21K **Killik River** 52.52 25 IAmb IAmb 21 05 11.3
comp=Z,11nm,0.9s
E21K **Killik River** 52.52 25 P P 21 05 07.7 -0.3
baz=257
B21K **Ikpikpuk River** 52.58 23 P P 21 05 07.8 -0.5
baz=256
I21K **Tanana** 52.67 29 P P 21 05 08.8 -0.4
baz=261
A22K **Sinclair Lake** 52.82 21 P P 21 05 10.4 +0.3
baz=254
BPAW **Bear Paw Mtn.** 52.95 30 P P 21 05 11.8 +0.6
baz=263
H22K **Ishtalitna Cre** 53.03 28 P P 21 05 11.8 0.0
baz=261
CHKK **Chushkaly** 53.07 304 eP P 21 05 13.1 +0.6
D22K **Ayikyak River** 53.07 24 P P 21 05 12.2 +0.1
baz=258
G22K **Bettles** 53.14 27 P P 21 05 13.6 +1.0
baz=260
B22K **Teshekpuk Lake** 53.15 22 P P 21 05 13.1 +0.5
baz=256
MLY **Manley** 53.17 29 P P 21 05 13.7 +0.8
baz=263
TRF **Thorofare Moun** 53.19 31 P P 21 05 13.2 +0.1
baz=264
KDJ **Kajisay** 53.20 302 IAmb IAmb 21 05 17.4
comp=Z,12nm,1.0s
AAA **Alma-Ata** 53.22 304 eP P 21 05 14.4 +0.8
TNSS **Tian-Shan** 53.22 303 eP P 21 05 14.3 +0.3
O22K **Cooper Landing** 53.23 35 P P 21 05 13.2 -0.1
baz=267
E22K **Anaktuvuk Pass** 53.24 25 IAmb IAmb 21 05 17.1
comp=Z,12nm,1.0s
E22K **Anaktuvuk Pass** 53.24 25 P P 21 05 14.1 +0.7
baz=259,SNR=7.9
RC01 **Rabbit Creek A** 53.26 34 P P 21 05 13.4 -0.1
baz=267
SEW **Seward** 53.35 35 IAmb IAmb 21 05 24.1
comp=Z,17nm,1.0s
SEW **Seward** 53.35 35 P P 21 05 14.8 +0.7
baz=268
KUU **Kurty** 53.53 304 eP P 21 05 16.6 +0.8
comp=Z,11nm,0.9s
G23K **Bananza Creek** 53.69 27 IAmb IAmb 21 05 21.1
comp=Z,11nm,0.9s
G23K **Bananza Creek** 53.69 27 P P 21 05 17.4 +0.7
baz=262,SNR=12
COLD **Coldfoot** 53.70 26 P P 21 05 17.2 +0.5
baz=262
I23K **Minto, Yukon-K** 53.77 29 IAmb IAmb 21 07 03.4
comp=Z,21nm,1.9s
I23K **Minto, Yukon-K** 53.77 29 P P 21 05 17.8 +0.7
baz=264
H23K **Yukon River** 53.77 28 P P 21 05 17.6 +0.4
baz=263
D23K **Nanushuk River** 53.80 24 IAmb IAmb 21 05 21.5
comp=Z,14nm,1.1s
D23K **Nanushuk River** 53.80 24 P P 21 05 17.9 +0.5
baz=260
MCK **McKinley** 53.82 31 IAmb IAmb 21 05 29.0
comp=Z,9.6nm,1.0s
MCK **McKinley** 53.82 31 P P 21 05 18.2 +0.6
baz=265
NEA2 **Nenana** 53.84 30 IAmb IAmb 21 05 21.5
comp=Z,8.8nm,0.9s
NEA2 **Nenana** 53.84 30 P P 21 05 18.2 +0.5
baz=262
KNK **Knik Glacier** 53.89 34 IAmb IAmb 21 05 22.4
comp=Z,12nm,0.8s
KNK **Knik Glacier** 53.89 34 P P 21 05 18.8 +0.6
baz=268
PWL **Port Wells** 53.93 34 IAmb IAmb 21 05 20.8
comp=Z,14nm,1.0s
PWL **Port Wells** 53.93 34 P P 21 05 18.1 -0.4
baz=268,SNR=6.7
C23K **Itkillik River** 53.98 23 P P 21 05 19.0 +0.4
baz=259
E23K **Chandalar** 54.04 25 IAmb IAmb 21 05 33.7
comp=Z,8.4nm,1.0s
E23K **Chandalar** 54.04 25 P P 21 05 19.2 0.0
baz=262,SNR=6.6
TOLK **Toolik Lake Re** 54.14 25 IAmb IAmb 21 05 24.8
comp=Z,18nm,1.3s
TOLK **Toolik Lake Re** 54.14 25 P P 21 05 20.1 +0.1
baz=261,SNR=7.6
ASAR **Alice Springs** 54.17 190 P P 21 05 19.8 -0.8
ASAR **Alice Springs** 54.17 190 P P 21 05 20.6 0.0
comp=Z,0.7nm,0.4s,baz=2.0,slow=5.8,SNR=14
ASAR PcP PcP 21 06 26.2 +1.1
comp=Z,1.2nm,0.8s,baz=21,slow=5.4,SNR=4.5
comp=Z,0.7nm,0.4s
NRN **Naryn** 54.19 301 IAmb IAmb 21 05 25.5
comp=Z,14nm,0.9s
P23K **Montague Islan** 54.37 35 P P 21 05 21.5 -0.1
baz=269
SCM **Sheep Creek Mo** 54.45 33 P P 21 05 22.8 +0.5
baz=268,SNR=6.8
H24K **Noodor Dome** 54.45 28 P P 21 05 21.3 -0.9
baz=265,SNR=5.4
E24K **Your Creek** 54.46 25 P P 21 05 22.4 +0.1
baz=263,SNR=5.8
D24K **Happy Valley** 54.49 24 IAmb IAmb 21 05 26.8
comp=Z,15nm,0.9s
D24K **Happy Valley** 54.49 24 P P 21 05 21.7 -0.7
baz=262,SNR=6.4
GLI **Glacier Island** 54.53 34 IAmb IAmb 21 05 25.5
comp=Z,8.5nm,1.0s
GLI **Glacier Island** 54.53 34 P P 21 05 21.9 -0.9
baz=269
KSH **Kashi** 54.59 299 P P 21 05 28.4 +4.6
KSH pmax pmax
comp=Z,37nm,0.9s
C24K **Franklin Bluff** 54.62 23 P P 21 05 23.1 -0.2
baz=261
F24K **Squaw Lake** 54.62 26 P P 21 05 23.5 +0.1
baz=264,SNR=5.5
G24K **Hadweenzic Riv** 54.70 27 P P 21 05 24.9 +0.9
baz=265
HDA **Harding Lake** 54.74 30 P P 21 05 23.9 -0.3
baz=267
IL31 54.79 30 IAmb IAmb 21 05 27.4
comp=Z,11nm,1.4s
ILAR **Eielson Array** 54.79 30 P 21 05 24.4 -0.2
ILAR **Eielson Array** 54.79 30 P P 21 05 25.6 +1.0
comp=Z,3.2nm,0.9s,baz=258,slow=6.2,SNR=19
ILAR LR LR 21 25 37.5
comp=Z,49nm,21.8s,baz=282,slow=32
comp=Z,3.2nm,0.9s
SGDS **Sogindy** 54.82 304 eP P 21 05 26.0 +0.7
comp=Z,16nm,1.6s
Q23K **Middleton Isla** 54.91 36 P P 21 05 26.2 +0.7
baz=271
BTLS **Baital** 54.97 306 eP P 21 05 26.9 +0.7
comp=Z,7.4nm,1.5s
M24K **Tolsona, Glenn** 55.00 33 P P 21 05 26.9 +0.6
baz=269
KLU **Klutina** 55.11 34 IAmb IAmb 21 05 37.8
comp=Z,16nm,1.3s
KLU **Klutina** 55.11 34 P P 21 05 27.7 +0.5
baz=270
BRZS **Berezniki** 55.19 312 eP P 21 05 28.2 +0.4
EYAK **Cordova Ski Ar** 55.20 35 P P 21 05 27.8 +0.2
baz=270
K24K **Donnelly Dome** 55.22 31 P P 21 05 28.1 +0.3
baz=268
G25K **Bearman Lake** 55.24 27 P P 21 05 28.7 +0.9
baz=266
H25L **Birch Creek** 55.32 28 P P 21 05 29.5 +1.1
baz=266
PAX **Paxson** 55.34 32 IAmb IAmb 21 06 30.4
comp=Z,20nm,1.8s
PAX **Paxson** 55.34 32 P P 21 05 30.0 +1.2
baz=269
D25K **Kavik River** 55.38 24 IAmb IAmb 21 05 32.6
comp=Z,9.4nm,1.0s
D25K **Kavik River** 55.38 24 P P 21 05 29.5 +0.6
baz=264,SNR=5.7
J25K **Salcha River,** 55.43 30 P P 21 05 29.3 -0.1
baz=268
F25K **Christian Rive** 55.48 26 IAmb IAmb 21 05 43.2
comp=Z,10nm,1.1s
F25K **Christian Rive** 55.48 26 P P 21 05 29.4 -0.3
baz=266,SNR=10
E25K **Arctic Village** 55.55 26 IAmb IAmb 21 05 35.1
comp=Z,12nm,1.1s
E25K **Arctic Village** 55.55 26 P P 21 05 30.2 0.0
baz=265,SNR=9.5
RIDG **Independent Ri** 55.63 31 P P 21 05 31.0 +0.1
baz=269
N25K **Chitina, Valde** 55.74 33 P P 21 05 32.6 +0.9
baz=271
BMRM **Bremner River** 55.75 34 IAmb IAmb 21 05 48.0
comp=Z,10nm,1.0s
BMRM **Bremner River** 55.75 34 P P 21 05 31.9 +0.2
baz=271
KAIM **Kayak Island** 55.87 36 P P 21 05 33.1 +0.6
baz=272
BMAR **Burnt Mountain** 55.88 26 P P 21 05 32.9 +0.4
C26K **Camden Bay** 55.95 23 P P 21 05 33.6 +0.8
baz=265
PSA00 **Pilbara Seismi** 55.97 206 P P 21 05 33.0 -0.5
HPAH **Hawaii Prepara** 55.98 85 P P 21 05 33.4 -0.5
SCRK **Sand Creek** 56.02 31 IAmb IAmb 21 06 47.7
comp=Z,20nm,2.0s
SCRK **Sand Creek** 56.02 31 P P 21 05 33.2 -0.4
baz=270
F26K **Sheenjek River** 56.06 26 IAmb IAmb 21 05 38.3
comp=Z,9.0nm,0.9s
F26K **Sheenjek River** 56.06 26 P P 21 05 33.6 -0.2
baz=267,SNR=11
G26K **Porcupine Rive** 56.17 27 P P 21 05 35.2 +0.7
baz=268
J26L **Joseph Creek** 56.21 30 IAmb IAmb 21 05 44.9
comp=Z,12nm,1.6s
J26L **Joseph Creek** 56.21 30 P P 21 05 35.2 +0.2
baz=270
BVAR **Borovoye Array** 56.26 316 P P 21 05 36.2 +0.8
comp=Z,5.0nm,0.4s,baz=91,slow=8.0,SNR=22
comp=Z,5.0nm,0.4s
BRVK **Borovoye** 56.32 316 P 21 05 35.7 -0.1
BRVK IAmb IAmb 21 05 43.6
comp=Z,14nm,1.1s
C27K **Jago River** 56.34 24 IAmb IAmb 21 05 48.7
comp=Z,12nm,0.9s
C27K **Jago River** 56.34 24 P P 21 05 36.2 +0.5
baz=266,SNR=6.1
M26K **Nabesna, AK** 56.48 33 P P 21 05 35.6 -1.4
baz=272
CRQE **Cirque** 56.50 34 P P 21 05 37.0 -0.1
baz=273
MCARA **McCarthy VSAT** 56.51 34 P P 21 05 37.2 +0.2
baz=272
DZM **Mont Dzumac** 56.63 154 eLR LR 21 22 06.5
comp=Z,68nm,20.6s
K27K **Chicken** 56.86 31 P P 21 05 39.8 +0.3
baz=271
L27K **Beaver Creek,** 57.00 32 P P 21 05 40.4 -0.2
baz=272
G27K **Doyon Strip** 57.01 27 P P 21 05 40.7 +0.2
baz=270
M27K **Edge Creek, AK** 57.01 33 P P 21 05 40.9 +0.1
baz=273
BCAR **Beaver Creek A** 57.02 32 P 21 05 41.5 +0.8
I27K **Kandik River** 57.03 29 P P 21 05 41.5 +0.7
baz=271
E27K **Coleen River** 57.04 26 P P 21 05 41.2 +0.4
baz=269,SNR=7.1
H27K **Steamboat Moun** 57.06 28 IAmb IAmb 21 05 53.3
comp=Z,14nm,1.1s
H27K **Steamboat Moun** 57.06 28 P P 21 05 41.4 +0.5
baz=270,SNR=14
MESA **MESA** 57.10 35 P P 21 05 41.7 +0.2
baz=274
D27M **Malcolm River** 57.29 24 IAmb IAmb 21 05 46.7
comp=Z,6.9nm,0.9s
D27M **Malcolm River** 57.29 24 P P 21 05 42.2 -0.4
baz=269
DZA **Taraz** 57.30 304 eP P 21 05 43.7 +0.7
CTG **Chitna Glacier** 57.34 34 P P 21 05 42.7 -0.5
baz=274
BVCY **Beaver Creek** 57.48 32 P P 21 05 43.6 -0.3
baz=274
F28M **Old Crow** 57.70 26 P P 21 05 45.0 -0.4
baz=271,SNR=9.1
YUK3 **Moose Creek** 57.71 33 P P 21 05 46.0 +0.2
baz=274
I28M **Miner Creek** 57.73 29 IAmb IAmb 21 06 00.6
comp=Z,12nm,1.4s
I28M **Miner Creek** 57.73 29 P P 21 05 45.6 -0.2
baz=272,SNR=7.3
E28M **Babbage River** 57.81 25 IAmb IAmb 21 05 50.5
comp=Z,8.6nm,0.9s
E28M **Babbage River** 57.81 25 P P 21 05 46.7 +0.6
baz=271,SNR=11
KKAR **Karatay Array** 57.84 304 P 21 05 46.2 -0.6
O28M **Mount Upton** 57.92 34 P P 21 05 47.2 -0.2
baz=275
PINM **Pinnacle** 57.95 35 P P 21 05 46.5 -0.9
baz=275
DAWY **Dawson** 58.04 30 IAmb IAmb 21 05 51.5
comp=Z,7.5nm,1.0s
DAWY **Dawson** 58.04 30 P P 21 05 48.1 +0.2
baz=274
NIL **Nilore** 58.19 293 P 21 05 50.3 +0.9
BRLS **Borolday** 58.34 305 eP P 21 05 52.1 +1.8
H29M **Whitestone** 58.34 28 IAmb IAmb 21 06 01.7
comp=Z,6.9nm,1.0s
H29M **Whitestone** 58.34 28 P P 21 05 49.1 -0.8
baz=273
IUG **Iuzhnay** 58.40 303 eP P 21 05 51.5 +0.6
comp=Z,11nm,1.1s
E29M **Blow River** 58.42 25 IAmb IAmb 21 06 11.8
comp=Z,7.2nm,0.9s
E29M **Blow River** 58.42 25 P P 21 05 50.9 +0.6
baz=272,SNR=7.8
PNL **Peninsula** 58.42 36 P P 21 05 49.2 -1.4
baz=276
G29M **Pine Creek** 58.44 27 IAmb IAmb 21 05 54.9
comp=Z,14nm,1.1s
G29M **Pine Creek** 58.44 27 P P 21 05 50.5 -0.1
baz=273,SNR=9.2
M29M **Somme Creek** 58.59 32 P P 21 05 51.9 +0.1
baz=276,SNR=6.1
YUK4 **Talbot Arm** 58.61 34 P P 21 05 52.4 +0.3
baz=276
CHM **Chimkent** 58.67 304 eP P 21 05 53.1 +0.5
L29M **L29M** 58.68 32 IAmb IAmb 21 05 56.6
comp=Z,10nm,0.9s
L29M **L29M** 58.68 32 P P 21 05 52.8 +0.4
baz=275,SNR=7.8
O29M **Mount Kennedy** 58.76 35 IAmb IAmb 21 05 57.2
comp=Z,14nm,1.1s
O29M **Mount Kennedy** 58.76 35 P P 21 05 52.9 -0.2
baz=277
YUK6 **Outpost Mounta** 58.79 34 P P 21 05 53.0 -0.4
baz=276
K29M **Barlow Dome** 58.88 31 IAmb IAmb 21 05 58.4
comp=Z,9.2nm,0.9s
K29M **Barlow Dome** 58.88 31 P P 21 05 54.3 +0.5
baz=276,SNR=10
EPYK **Eagle Plains** 58.99 28 P P 21 05 55.1 +0.6
baz=275,SNR=9.0
G30M **tAoh Zraii Nji** 59.14 27 IAmb IAmb 21 06 00.3
comp=Z,14nm,1.2s
G30M **tAoh Zraii Nji** 59.14 27 P P 21 05 55.9 +0.4
baz=275,SNR=7.9
HYT **Haines Junctio** 59.22 34 IAmb IAmb 21 06 09.3
comp=Z,9.7nm,1.1s
HYT **Haines Junctio** 59.22 34 P P 21 05 57.3 +1.0
baz=277
I30M **Mount Dempster** 59.24 29 IAmb IAmb 21 06 13.0
comp=Z,17nm,1.6s
I30M **Mount Dempster** 59.24 29 P P 21 05 56.7 +0.3
baz=276,SNR=6.7
F30M **Barrier River** 59.26 26 IAmb IAmb 21 06 24.2
comp=Z,8.7nm,1.0s
F30M **Barrier River** 59.26 26 P P 21 05 55.9 -0.4
baz=275
P29M **Windy Craggy** 59.26 36 P P 21 05 56.9 +0.4
baz=278
J30M **Hart River** 59.32 30 P P 21 05 57.1 +0.2
baz=276,SNR=6.3
N30M **Aishikik Lake** 59.34 33 P P 21 05 56.9 -0.1
baz=277
P30M **Million Dollar** 59.58 35 P P 21 05 57.8 -0.9
baz=278
G31M **Satah River** 59.91 27 P 21 06 02.7 +1.9
G31M IAmb IAmb 21 06 20.6
comp=Z,7.4nm,1.0s
G31M **Satah River** 59.91 27 P P 21 06 00.9 +0.2
baz=276
O30N **Mendenhall** 59.92 34 P P 21 06 00.8 -0.2
baz=278
N31M **Braeburn, Yuko** 59.96 33 P P 21 06 01.4 +0.2
baz=278
PLBC **Pleasant Camp** 59.98 36 P P 21 06 02.0 +0.7
baz=279
H31M **Peel River** 60.02 28 IAmb IAmb 21 06 05.7
comp=Z,18nm,1.4s
H31M **Peel River** 60.02 28 P P 21 06 01.9 +0.3
baz=277
INK **Inuvik** 60.04 25 P P 21 06 02.0 +0.5
baz=276
SIMJ **Simiganj** 60.05 300 P 21 06 03.0 +0.6
F31M **Tsiigehtchic** 60.06 26 P P 21 06 01.6 -0.1
baz=277
S31K **Pelican** 60.30 37 P P 21 06 03.3 -0.2
baz=280
SKAG **Skagway** 60.50 36 P P 21 06 04.3 -0.6
baz=280
M31M **Drury Creek, Y** 60.50 32 P P 21 06 05.0 0.0
M31M IAmb IAmb 21 06 42.6
comp=Z,8.8nm,1.4s
M31M **Drury Creek, Y** 60.50 32 P P 21 06 05.1 +0.2
baz=279
WHY **Whitehorse** 60.52 34 P P 21 06 05.0 -0.2
baz=280

SIT	**Sitka**	**60.95**	**38**	P		**P**	**21 06 07.6**	**-0.3**
	baz=281							
R32K	**Eaglecrest**	**61.13**	**37**	P		**P**	**21 06 09.3**	**+0.1**
	baz=281							
KBL	**Kabul**	**61.25**	**295**			**P**	**21 06 10.9**	**+0.3**
P32M	**Atlin**	**61.29**	**35**	P		**P**	**21 06 09.9**	**-0.4**
	baz=281							
P33M	**Teslin, Yukon**	**61.61**	**34**	P		**P**	**21 06 12.3**	**-0.3**
	baz=282							
STKA	**Stephens Creek**	**61.67**	**181**	P		**P**	**21 06 12.6**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=336,slow=7.2,SNR=7.1							
	comp=Z,1.9nm,0.7s							
MMPY	**Sheldon Lake,**	**61.86**	**32**	P		**P**	**21 06 13.4**	**-0.8**
	baz=282							
Q32M	**Nakina River**	**62.14**	**36**	P		**P**	**21 06 16.2**	**-0.1**
	baz=283							
ARTI	**Arti**	**62.53**	**321**			**P**	**21 06 18.2**	**-0.5**
WRAK	**Wrangell Islan**	**62.69**	**39**	P		**P**	**21 06 19.7**	**+0.1**
	baz=284							
R33M	**Jennings River**	**62.70**	**35**	P		**P**	**21 06 19.5**	**-0.4**
	baz=283							
S34M	**Telegraph Cree**	**62.97**	**37**	P		**P**	**21 06 21.3**	**-0.3**
	baz=284							
V35K	**Ketchikan**	**63.36**	**40**	P		**P**	**21 06 24.9**	**+0.8**
	baz=285							
DLBC	**Dease Lake**	**63.41**	**36**	LR		LR	21 31 00.2	
	comp=Z,7.5nm,21.8s,baz=251,slow=33							
DLBC	**Dease Lake**	**63.41**	**36**	P		**P**	**21 06 24.3**	**-0.3**
	baz=285							
AB31	**Akbulak array**	**63.44**	**313**	IAmb		IAmb	21 06 31.6	
	comp=Z,12nm,1.1s							
ABKAR	**Akbulak array**	**63.44**	**313**			**P**	**21 06 24.8**	**-0.1**
TGTN	**Hyland Airport**	**63.48**	**32**	P		**P**	**21 06 25.2**	**+0.2**
	baz=285							
T35M	**Bob Quinn**	**63.66**	**38**	P		**P**	**21 06 26.2**	**0.0**
	baz=285							
TOAD	**Toad River Com**	**65.69**	**35**	P		**P**	**21 06 39.7**	**+0.2**
	baz=288							
BBB	**Bella Bella**	**66.26**	**42**	LR		LR	21 32 12.2	
	comp=Z,28nm,21.0s,baz=339,slow=33							
KIRV	**Kirov**	**66.55**	**325**	LR		LR	21 39 19.6	
	comp=Z,52nm,18.0s,baz=66,slow=39							
SPITS	**Spitsbergen Ar**	**67.52**	**350**	LR		LR	21 37 36.5	
	comp=Z,35nm,22.0s,baz=46,slow=37							
RES	**Resolute Bay**	**68.99**	**14**	LR		LR	21 40 58.1	
	comp=Z,21nm,18.4s,baz=346,slow=39							
YKA	**Yellowknife Ar**	**69.21**	**29**	P		**P**	**21 07 00.5**	**-1.0**
	comp=Z,2.9nm,1.0s,baz=299,slow=6.3,SNR=5.2							
YKA					LR	LR	21 38 33.0	
	comp=Z,34nm,19.0s,baz=268,slow=37							
	comp=Z,2.9nm,1.0s							
LON	**Longmire**	**72.11**	**46**	P		**P**	**21 07 20.9**	**+1.3**
LON					IAmb	IAmb	21 07 30.2	
	comp=Z,11nm,1.4s							
DAG	**Danmarks Havn**	**72.74**	**356**	*i* P		**P**	**21 07 23.0**	**+0.2**
PINE	**Pine Mountain**	**73.94**	**49**	IAmb		IAmb	21 07 34.2	
	comp=Z,16nm,1.0s							
RAR	**Rarotonga**	**75.14**	**126**	LR		LR	21 35 16.9	
	comp=Z,93nm,19.3s,baz=286,slow=32							
FINES	**FINESS Array B**	**75.51**	**334**	P		**P**	**21 07 39.5**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=69,slow=5.6,SNR=12							
	comp=Z,0.8nm,0.4s							
J08A	**Circle Bar Ran**	**75.73**	**48**	IAmb		IAmb	21 07 44.6	
	comp=Z,9.7nm,1.1s							
KBZ	**Khabaz**	**76.40**	**313**	P		**P**	**21 07 45.5**	**+0.9**
	comp=Z,6.5nm,0.8s,baz=74,slow=1.9,SNR=12							
	comp=Z,6.5nm,0.8s							
KIV	**Kislovodsk**	**76.42**	**313**	P		**P**	**21 07 45.3**	**+0.4**
KIV	**Kislovodsk**	**76.42**	**313**	P		**P**	**21 07 44.9**	**0.0**
	comp=Z,13nm,2.0s							
PAHR	**Pah Rah Range**	**76.84**	**52**	IAmb		IAmb	21 07 58.1	
	comp=Z,7.3nm,1.1s							
CMB	**Columbia Colle**	**76.94**	**54**	IAmb		IAmb	21 09 29.0	
	comp=Z,6.6nm,0.5s							
MFID	**Camas Ranch**	**77.40**	**47**	IAmb		IAmb	21 08 01.4	
	comp=Z,8.4nm,1.2s							
SUMG	**Summit**	**77.58**	**0**			**P**	**21 07 51.6**	**+0.4**
SUMG					IAmb	IAmb	21 08 03.1	
	comp=Z,11nm,1.1s							
SUMG	**Summit**	**77.58**	**0**	*i* P		**P**	**21 07 51.0**	**-0.2**
RYN	**Ryan**	**77.94**	**52**	IAmb		IAmb	21 07 56.9	
	comp=Z,6.7nm,1.0s							
LHV	**Little Huntoon**	**78.14**	**53**	IAmb		IAmb	21 08 06.0	
	comp=Z,7.5nm,1.0s							
NVAR	**Mina Array Bea**	**78.19**	**52**			**P**	**21 07 55.5**	**+0.5**
NVAR	**Mina Array Bea**	**78.19**	**52**	P		**P**	**21 07 56.4**	**+1.3**
	comp=Z,3.8nm,0.8s,baz=280,slow=5.4,SNR=19							
	comp=Z,3.8nm,0.8s							
FFC	**Flin Flon**	**78.87**	**32**			**P**	**21 07 59.3**	**+1.1**
FFC					IAmb	IAmb	21 08 00.6	
	comp=Z,7.6nm,1.0s							
TPNV	**Topopah Spring**	**80.34**	**53**	IAmb		IAmb	21 08 55.5	
	comp=Z,11nm,0.7s							
PPT2	**Papeete2**	**80.47**	**117**	*e*LR		LR	21 33 08.6	
	comp=Z,50nm,23.2s							
AK03	**Malin Array Si**	**80.53**	**324**	P		**P**	**21 08 06.4**	**-0.9**
AKASG	**Malin Array Be**	**80.54**	**324**	P		**P**	**21 08 07.8**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=45,slow=6.1,SNR=13							
AKASG					LR	LR	21 46 26.7	
	comp=Z,60nm,19.6s,baz=46,slow=38							
	comp=Z,0.8nm,0.5s							
AKBB	**Malin Array Si**	**80.54**	**324**	IAmb		IAmb	21 08 19.8	
	comp=Z,6.4nm,0.8s							
AKBB	**Malin Array Si**	**80.54**	**324**	P		**P**	**21 08 06.4**	**-0.9**
KIEV	**Kiev**	**80.55**	**324**			**P**	**21 08 06.9**	**-0.5**
KIEV	**Kiev**	**80.55**	**324**	P		**P**	**21 08 06.4**	**-1.0**
	comp=Z,36nm,1.7s							
HFS	**Hagfors**	**80.89**	**337**	P		**P**	**21 08 09.2**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=72,slow=4.8,SNR=12							
	comp=Z,1.9nm,0.7s							
NB2	**NORSAR Subarra**	**81.03**	**338**	P		**P**	**21 08 09.8**	**0.0**
	comp=Z,7.6nm,1.1s,baz=40,slow=5.3							
NOA	**NORSAR Array B**	**81.03**	**338**	P		**P**	**21 08 09.5**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=39,slow=5.3,SNR=6.6							
	comp=Z,1.8nm,0.8s							
PDAR	**Pinedale Array**	**81.65**	**45**	P		**P**	**21 08 14.9**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=308,slow=3.6,SNR=5.6							
	comp=Z,1.0nm,0.8s							
LUBAR	**Lubar, Ukraine**	**81.76**	**324**	P		**P**	**21 08 12.7**	**-1.2**
RNPP9	**Sopachiv**	**81.77**	**326**	P		**P**	**21 08 13.2**	**-0.7**
PFO	**Pinyon Flats O**	**81.88**	**56**	P		**P**	**21 08 15.8**	**+0.8**
PFO					IAmb	IAmb	21 09 46.0	
	comp=Z,6.0nm,0.7s							
PFO	**Pinyon Flats O**	**81.88**	**56**	LR		LR	21 38 05.4	
	comp=Z,54nm,19.5s,baz=246,slow=31							
RNPP5	**Staryi Chortor**	**81.89**	**326**	P		**P**	**21 08 13.9**	**-0.6**
LCMT	**Little Creek M**	**82.37**	**52**	IAmb		IAmb	21 11 13.5	
	comp=Z,6.4nm,0.8s							
SORM	**Soroca**	**82.54**	**322**	P		**P**	**21 08 17.0**	**-0.9**
	comp=Z,7.7nm,2.5s							
SFJD	**Kangerlussuaq**	**82.65**	**5**	LR		LR	21 51 22.0	
	comp=Z,27nm,18.1s,baz=347,slow=40							
KNB	**Kanab**	**82.65**	**51**	IAmb		IAmb	21 08 22.6	
	comp=Z,9.3nm,0.9s							
NDNU	**Novodnistrovsk**	**82.78**	**323**	P		**P**	**21 08 18.2**	**-1.0**
FRB	**Frobisher Bay**	**83.20**	**14**	LR		LR	21 47 41.2	
	comp=Z,25nm,20.6s,baz=42,slow=37							
KMPD	**K-Podol'skiy**	**83.27**	**323**	P		**P**	**21 08 20.5**	**-1.2**
BNN	**Bunyan**	**83.46**	**311**	IAmb		IAmb	21 08 25.5	
	comp=Z,11nm,1.0s							
TBI	**Tubuai**	**83.93**	**121**	*e*LR		LR	21 34 52.2	
	comp=Z,425nm,26.5s							
STNU	**Starunia**	**84.18**	**324**	P		**P**	**21 08 25.2**	**-1.2**
BRTR	**Keskin Array B**	**84.39**	**313**			**P**	**21 08 27.8**	**0.0**
BRTR	**Keskin Array B**	**84.39**	**313**	P		**P**	**21 08 28.6**	**+0.8**
	comp=Z,3.1nm,0.8s,baz=95,slow=4.0,SNR=22							
	comp=Z,3.1nm,0.8s							
BR104	**Keskin Array S**	**84.40**	**313**	P		**P**	**21 08 26.6**	**-1.3**
	comp=Z,66nmcomp=Z,9.2nm,0.9s							
BR105	**Keskin Array S**	**84.41**	**313**	P		**P**	**21 08 26.6**	**-1.4**
	comp=Z,80nmcomp=Z,13nm,0.9s							
TESR	**Tesceni**	**84.45**	**322**	P		**P**	**21 08 26.7**	**-1.2**
	comp=Z,8.2nm,1.1s							
RAYN	**Ar Rayn**	**84.48**	**294**			**P**	**21 08 28.6**	**+0.1**
PV05	**Paradox Valley**	**84.55**	**49**	IAmb		IAmb	21 08 40.0	
	comp=Z,6.7nm,0.9s							
KOLS	**Kolonicke sedl**	**85.15**	**325**	*e*PP		PP	21 11 46.3	**-1.7**
MLR	**Muntele Rosu**	**85.47**	**321**	LR		LR	21 49 52.0	
	comp=Z,54nm,18.8s,baz=78,slow=38							
MORC	**Moravsky Berou**	**86.83**	**328**	*e*P		**P**	**21 08 40.0**	**+0.3**
DPC	**Dobruska-Polom**	**86.97**	**329**	P		**P**	**21 08 39.2**	**-1.2**
	comp=Z,2.8nm,0.9s							
VYHS	**Vyhne**	**87.12**	**326**	*e*P		**P**	**21 08 41.5**	**+0.4**
JAVC	**Velka Javorina**	**87.41**	**327**	*e*P		**P**	**21 08 44.0**	**+1.4**
VRAC	**Vranov**	**87.59**	**328**	*e*P		**P**	**21 08 43.5**	**+0.1**
VRAC	**Vranov**	**87.59**	**328**	LR		LR	21 51 58.4	
	comp=Z,28nm,20.1s,baz=34,slow=38							

CLL	**Collm**	**87.70**	**331**	P		**P**	**21 08 42.7**	**-1.1**
	comp=Z,4.1nm,2.1s							
CLL	**Collm**	**87.70**	**331**	*i* P		**P**	**21 08 44.1**	**+0.3**
	comp=Z,12nm,1.8s							
CLL				*i* x		x	21 08 52.0	
CLL				*i* x		x	21 09 04.4	
KRUC	**Moravsky**	**87.86**	**328**	*e*P		**P**	**21 08 44.7**	**+0.1**
MODS	**Modra-Piesok**	**87.94**	**327**	*e*P		P	21 08 52.0	+6.9
MORH	**Mrgy, Hungar**	**88.80**	**325**	P		**P**	**21 08 48.0**	**-1.1**
LPIG	**La Paz**	**91.51**	**61**	LR		LR	21 44 06.4	
	comp=Z,39nm,19.0s,baz=215,slow=32							
SCHQ	**Schefferville**	**91.61**	**17**	LR		LR	21 56 27.5	
	comp=Z,20nm,18.0s,baz=332,slow=40							
FUORN	**Ofenpass-Fuorn**	**92.44**	**329**	P		**P**	**21 09 06.6**	**+0.2**
FUORN					IAmb	IAmb	21 09 07.1	
	comp=Z,5.0nm,0.9s							
DAVOX	**Davos/Dischmat**	**92.48**	**330**	LR		LR	21 54 36.5	
	comp=Z,20nm,18.2s,baz=81,slow=38							
TXAR	**Lajitas Array**	**93.32**	**53**			**P**	**21 09 11.6**	**+1.0**
TXAR	**Lajitas Array**	**93.32**	**53**	P		**P**	**21 09 12.7**	**+2.1**
	comp=Z,3.9nm,1.0s,baz=298,slow=2.7,SNR=20							
	comp=Z,3.9nm,1.0s							
NRCA	**Norcia**	**93.98**	**325**	IAmb		IAmb	21 09 17.2	
	comp=Z,3.3nm,0.5s							
QSPA	**South Pole Qui**	**119.88**	**180**	PKP		**PKiKP**	**21 14 45.0**	**+0.1**
	comp=Z,2.6nm,1.1s,baz=269,slow=1.6,SNR=5.9							
LPAZ	**La Paz**	**148.47**	**71**	PKPbc		**PKPbc**	**21 15 42.9**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=342,slow=4.8,SNR=7.2							
PLCA	**Paso Flores**	**150.94**	**120**	PKPbc		**PKPbc**	**21 15 47.3**	**-0.7**
	comp=Z,4.5nm,1.0s,baz=284,slow=2.5,SNR=3.7							

*IDC **18** 21:06:58.9±5.4, 18°.45S×178°.18W, h473km±58km, mb3.3/10, mbtmp4.1/10, Error ellipse: s-maj=23.7km s-min=21.4km az=35.0*
*NEIC **18** 21:07:01.1±1.2, 18°.3S±0°.1×178°.1W±0°.2, h498km±9km, mb4.3/43, Error ellipse: s-maj=20.9km s-min=18.4km az=91.0*

ISC 18 21:07:01.4±0.6,**18°.34S**±0°.10×**178°.3W**±0°.1,**h500**km,**n59,** σ1°**11**/61,**mb4.2**/32,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**3.57**	**279**	P		**P**	**21 08 16.6**	**+0.1**
URZ	**Urewera**	**20.25**	**191**	P		**P**	**21 10 58.7**	**-3.4**
	3.8nm,0.7s,baz=289,slow=18,SNR=1.2							
	3.8nm,0.7s							
RTZ	**Ruatahuna**	**20.62**	**191**	P		**P**	**21 11 09.9**	**+4.3**
MLZ	**Mavora Lakes**	**29.24**	**200**	P		**P**	**21 12 21.7**	**-0.3**
MLZ					IAmb	IAmb	21 12 51.5	
	comp=Z,25nm,1.3s							
EIDS	**Eidsvold**	**29.26**	**251**	P		**P**	**21 12 23.1**	**+0.6**
EIDS					IAmb	IAmb	21 12 54.5	
	comp=Z,12nm,1.4s							
WHZ	**Wether Hill Ro**	**29.76**	**200**	P		**P**	**21 12 26.2**	**-0.2**
WHZ					IAmb	IAmb	21 12 56.2	
	comp=Z,6.3nm,1.0s							
ARMA	**Armidale**	**29.85**	**241**	P		**P**	**21 12 28.2**	**+0.6**
ARMA					IAmb	IAmb	21 12 53.3	
	comp=Z,25nm,1.5s							
CTAO	**Charters Tower**	**33.52**	**261**	P		**P**	**21 12 59.4**	**+0.3**
CTAO					IAmb	IAmb	21 13 39.9	
	comp=Z,10nm,1.2s							
CAN	**Canberra**	**33.56**	**233**	P		**P**	**21 12 59.5**	**+0.3**
TOO	**Toolangi**	**37.01**	**231**	P		**P**	**21 13 28.6**	**+0.6**
TOO					IAmb	IAmb	21 13 30.6	
	comp=Z,17nm,1.4s							
COEN	**Coen**	**37.26**	**271**	P		**P**	**21 13 30.3**	**0.0**
COEN					IAmb	IAmb	21 13 56.4	
	comp=Z,36nm,1.4s							
STKA	**Stephens Creek**	**38.55**	**242**	P		**P**	**21 13 41.3**	**+0.6**
STKA	**Stephens Creek**	**38.55**	**242**	P		**P**	**21 13 40.8**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=71,slow=5.3,SNR=16							
	comp=Z,2.0nm,0.5s							
BBOO	**Buckleboo**	**43.33**	**241**	P		**P**	**21 14 18.8**	**0.0**
BBOO					IAmb	IAmb	21 14 36.0	
	comp=Z,16nm,1.2s							
WR0	**Warramunga Arr**	**44.51**	**260**	P		**P**	**21 14 29.1**	**+1.0**
WR0					IAmb	IAmb	21 15 00.7	
	comp=Z,13nm,1.5s							
WB0	**Warramunga Arr**	**44.67**	**260**	P		**P**	**21 14 29.5**	**+0.2**
WB0					IAmb	IAmb	21 14 32.9	
	comp=Z,11nm,1.2s							
WB2	**Warramunga Arr**	**44.69**	**260**	P		**P**	**21 14 30.4**	**+1.0**
WB2					IAmb	IAmb	21 15 08.7	
	comp=Z,10nm,1.3s							
WRA	**Warramunga Arr**	**44.70**	**260**	P		**P**	**21 14 29.2**	**-0.3**
WRA	**Warramunga Arr**	**44.70**	**260**	P		**P**	**21 14 28.6**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=94,slow=6.8,SNR=6.7							
WRA					PcP	**PcP**	**21 16 00.5**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=100,slow=5.6,SNR=1.5							
	comp=Z,1.2nm,0.7s							
AS31	**Alice Springs**	**44.82**	**255**	P		**P**	**21 14 30.3**	**-0.1**
ASAR	**Alice Springs**	**44.82**	**255**	P		**P**	**21 14 30.1**	**-0.4**
ASAR	**Alice Springs**	**44.82**	**255**	P		**P**	**21 14 30.4**	**-0.1**
	comp=Z,8.9nm,0.6s,baz=89,slow=8.4,SNR=116							
ASAR					PcP	**PcP**	**21 16 01.8**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=94,slow=4.8,SNR=1.2							
	comp=Z,8.9nm,0.6s							
MTN	**Manton Dam**	**48.94**	**269**	P		**P**	**21 15 01.6**	**-0.1**
MTN					IAmb	IAmb	21 15 25.9	
	comp=Z,24nm,1.2s							
FORT	**Forrest**	**49.96**	**245**	P		**P**	**21 15 08.6**	**-0.4**
SAUI	**Saumlaki**	**50.04**	**275**	P		**P**	**21 15 10.5**	**+0.6**
KNRA	**Kununurra**	**50.59**	**265**	P		**P**	**21 15 13.9**	**0.0**
KNRA					IAmb	IAmb	21 15 15.2	
	comp=Z,6.2nm,0.7s							
FAKI	**Fak Fak**	**50.81**	**282**	P		**P**	**21 15 14.0**	**-1.5**
FITZ	**Fitzroy Crossi**	**53.10**	**261**	P		**P**	**21 15 32.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**53.10**	**261**	P		**P**	**21 15 32.1**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=114,slow=3.9,SNR=5.5							
	comp=Z,1.9nm,0.5s							
PSA00	**Pilbara Seismi**	**57.94**	**256**	P		**P**	**21 16 05.2**	**-0.5**
MBWA	**Marble Bar**	**58.11**	**256**	P		**P**	**21 16 06.8**	**-0.1**
MBWA					IAmb	IAmb	21 16 27.2	
	comp=Z,14nm,1.3s							
MORW	**Morawa**	**60.44**	**247**	P		**P**	**21 16 22.3**	**-0.1**
MORW					IAmb	IAmb	21 16 27.1	
	comp=Z,13nm,1.4s							
GIRL	**Giralia**	**62.91**	**253**	P		**P**	**21 16 39.6**	**+1.0**
CASY	**Casey**	**65.81**	**205**	P		**P**	**21 16 56.5**	**+0.3**
CASY					IAmb	IAmb	21 17 06.6	
	comp=Z,16nm,1.5s							
JAGI	**Jajag, Banyuwa**	**66.18**	**269**	P		**P**	**21 16 58.1**	**-1.4**
JGF	**Kuroka**	**68.17**	**322**	P		**P**	**21 17 10.7**	**-0.6**
JGF					IAmb	IAmb	21 17 24.9	
	comp=Z,6.6nm,0.7s							
KIWB	**Kanaga Island**	**69.90**	**1**	P		**P**	**21 17 20.6**	**-0.8**
KIWB					IAmb	IAmb	21 17 33.2	
	comp=Z,18nm,1.3s							
ATKA	**Atka Island**	**70.33**	**3**	P		**P**	**21 17 22.2**	**-1.7**
ATKA					IAmb	IAmb	21 18 05.0	
	comp=Z,18nm,1.2s							
QSPA	**South Pole Qui**	**71.71**	**180**	P		**P**	**21 17 32.3**	**+0.2**
QSPA	**South Pole Qui**	**71.71**	**180**	P		**P**	**21 17 31.8**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=5.7,slow=2.1,SNR=16							
	comp=Z,1.2nm,0.5s							
YULB	**Yu-li**	**72.13**	**303**	P		**P**	**21 17 37.8**	**+2.6**
TPUB	**Ta-pu**	**72.62**	**302**	P		**P**	**21 17 40.1**	**+2.1**
P08K	**Saint George I**	**75.01**	**5**	P		**P**	**21 17 49.9**	**-0.9**
NVAR	**Mina Array Bea**	**79.63**	**44**	P		**P**	**21 18 17.2**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=252,slow=6.7,SNR=2.1							
	comp=Z,0.4nm,0.6s							
TXAR	**Lajitas Array**	**86.10**	**58**	P		**P**	**21 18 51.0**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=207,slow=6.4,SNR=6.4							
	comp=Z,0.7nm,0.7s							
ILAR	**Eielson Array**	**86.28**	**13**	P		**P**	**21 18 48.8**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=220,slow=5.1,SNR=8.2							
	comp=Z,0.4nm,0.4s							
J25K	**Salcha River,**	**86.47**	**14**	P		**P**	**21 18 49.5**	**-0.7**
G21K	**Allakaket**	**86.61**	**10**	P		**P**	**21 18 50.7**	**0.0**
G21K					IAmb	IAmb	21 18 57.0	
	comp=Z,6.0nm,1.3s							
J26L	**Joseph Creek**	**86.79**	**14**	P		**P**	**21 18 52.9**	**+1.2**
E19K	**Redstone River**	**86.95**	**8**	P		**P**	**21 18 51.9**	**-0.4**
E19K					IAmb	IAmb	21 19 16.5	
	comp=Z,11nm,1.4s							
M30M	**Minto, Yukon**	**87.00**	**18**	P		**P**	**21 18 53.0**	**+0.4**
M30M					IAmb	IAmb	21 19 35.0	
	comp=Z,5.7nm,1.5s							
K29M	**Barlow Dome**	**87.79**	**17**	P		**P**	**21 18 56.3**	**-0.1**
I28M	**Miner Creek**	**88.44**	**15**	P		**P**	**21 18 59.7**	**+0.2**
F24K	**Squaw Lake**	**88.49**	**11**	P		**P**	**21 19 00.2**	**+0.6**
F24K					IAmb	IAmb	21 19 16.6	
	comp=Z,5.7nm,1.4s							

SNAA	**Sanae**	**90.16**	**179**	P		**P**	**21 19 06.0**	**-1.4**
	comp=Z,1.0nm,1.0s,baz=147,slow=5.3,SNR=2.5							
	comp=Z,1.0nm,1.0s							
BRTR	**Keskin Array B**	**145.19**	**314**	PKPbc		**PKPdf**	**21 25 42.0**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=19,slow=4.8,SNR=2.4							
MMAI	**Mount Meron Ar**	**146.50**	**302**	PKPbc		**PKPbc**	**21 25 47.3**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=72,slow=6.2,SNR=4.6							
GERES	**GERESS Array B**	**148.07**	**345**	PKPbc		**PKPbc**	**21 25 50.7**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=11,slow=2.7,SNR=5.6							
ESDC	**Sonseca Array**	**158.18**	**12**	PKPab		**PKPab**	**21 26 36.3**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=344,slow=6.6,SNR=1.6							

*KRSC **18** 21:07:31.3±1.7, 56°.06N×164°.90E, h55km±23km, Ml4.3*
*MOS **18** 21:07:32.7±0.6, 56°.08N×164°.98E, h35km, mb4.0/1, Error ellipse: s-maj=8.5km s-min=6.3km az=140.5*
*IDC **18** 21:07:34.7±0.9, 56°.45N×163°.75E, h0km, mb3.6/12, mbtmp3.6/14, ML3.8/2, MS3.2/3, Error ellipse: s-maj=28.8km s-min=14.7km az=157.0*
*NEIC **18** 21:07:35.4±1.8, 56°.4N±0°.1×163°.9E±0°.2, h10km±1km, mb4.1/19, Error ellipse: s-maj=26.6km s-min=11.0km az=134.0*

ISC 18 21:07:35.3±1.5,**56°.14N**±0°.04×**164°.36E**±0°.04,**h12**km±9km, **n112,** σ1°**44**/121,**mb3.6**/15,**MS3.2**/3,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.86**	**275**	PN		**Pg**	**21 07 51.6**	**-0.4**
KBTR				S		**Sn**	**21 08 06.1**	**+0.4**
KBTR	**Krutoberegovo**	**0.86**	**275**	*e*P		**Pg**	**21 07 51.7**	**-0.4**
KBTR				*e*S		**Sn**	**21 08 06.1**	**+0.4**
KBG	**Krutoberegovo**	**0.93**	**278**	PN		**Pg**	**21 07 52.7**	**-0.6**
KBG				S		**Sn**	**21 08 08.4**	**+1.1**
KBG	**Krutoberegovo**	**0.93**	**278**	*e*P		**Pg**	**21 07 52.7**	**-0.6**
KBG				*e*S		**Sn**	**21 08 08.5**	**+1.1**
BKI	**Bering**	**1.31**	**135**	PN		Pn	21 07 51.8	-7.5
BKI				S		Sb	21 08 05.9	-10
BKI	**Bering**	**1.31**	**135**	*e*P		Pn	21 07 51.9	-7.4
BKI				*e*S		Sb	21 08 05.9	-10
SMKR	**Semkarok**	**1.67**	**287**	PN		**Pn**	**21 08 04.7**	**+0.3**
SMKR				S		**Sg**	**21 08 29.3**	**+0.3**
SMKR	**Semkarok**	**1.67**	**287**	*e*P		**Pn**	**21 08 04.8**	**+0.3**
SMKR				*e*S		**Sg**	**21 08 29.3**	**+0.3**
BDR	**Baidarnaya**	**1.81**	**285**	*e*S		**Sg**	**21 08 33.4**	**0.0**
SRKR	**Sorokina**	**1.85**	**288**	PN		**Pn**	**21 08 08.1**	**+1.3**
SRKR				S		**Sg**	**21 08 35.1**	**+0.4**
SRKR	**Sorokina**	**1.85**	**288**	*e*P		**Pn**	**21 08 08.1**	**+1.3**
SRKR				*e*S		**Sg**	**21 08 35.1**	**+0.4**
ZLN	**Zelenaya**	**2.00**	**268**	PN		**Pn**	**21 08 10.2**	**+1.3**
ZLN	**Zelenaya**	**2.00**	**268**	*e*P		**Pn**	**21 08 10.3**	**+1.3**
CIRR	**Tsirk**	**2.02**	**271**	PN		**Pn**	**21 08 10.6**	**+1.3**
CIRR	**Tsirk**	**2.02**	**271**	*e*P		**Pn**	**21 08 10.6**	**+1.3**
LGNR	**Loginova**	**2.06**	**270**	PN		**Pn**	**21 08 11.3**	**+1.4**
LGNR	**Loginova**	**2.06**	**270**	*e*P		**Pn**	**21 08 11.4**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**2.06**	**266**	PN		**Pn**	**21 08 11.1**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**2.06**	**266**	*e*P		**Pn**	**21 08 11.1**	**+1.2**
KLY	**Klyuchi**	**2.08**	**276**	P

H19K	**Roundabout Mou**	**20.93**	**47**	P	Pn	21 12 21.4	+1.5
N18K	**Kilae Creek**	**21.07**	**61**	P	**P**	**21 12 21.1**	**+2.1**
N18K				IAmb	IAmb	21 12 58.9	
	comp=Z,10nm,1.3s						
G21K	**Allakaket**	**22.25**	**45**	P	**P**	**21 12 32.1**	**+0.5**
G21K				IAmb	IAmb	21 12 45.6	
	comp=Z,9.4nm,1.4s						
USRK	**Ussuriysk Ar.**	**23.69**	**253**	LR	LR	21 22 28.9	
	comp=Z,81nm,18.2s,baz=202,slow=38						
TOLK	**Toolik Lake Re**	**24.04**	**40**	P	**P**	**21 12 50.1**	**+0.3**
TOLK				IAmb	IAmb	21 13 23.5	
	comp=Z,15nm,1.5s						
ILAR	**Eielson Array**	**24.93**	**50**	P	**P**	**21 13 01.0**	**+3.1**
	comp=Z,1.3nm,0.9s,baz=268,slow=8.9,SNR=12						
	comp=Z,1.3nm,0.9s						
ILAR	**Eielson Array**	**24.93**	**50**	P	**P**	**21 13 01.0**	**+3.1**
MJAR	**Matsushiro Arr**	**26.37**	**233**	P	**P**	**21 13 10.9**	**-0.3**
	comp=Z,4.1nm,1.1s,baz=17,slow=9.5,SNR=5.0						
	comp=Z,4.1nm,1.1s						
SONM	**Songino Array**	**35.67**	**282**	P	**P**	**21 14 31.7**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=37,slow=10,SNR=4.4						
	comp=Z,0.4nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**36.40**	**176**	T	T	21 53 39.2	
	baz=357,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**36.41**	**176**	T	T	21 53 37.4	
	baz=357,slow=76,SNR=59						
H11N1	**WAKE ISLAND Hy**	**36.41**	**176**	T	T	21 53 38.3	
	baz=357,slow=76,SNR=88						
H11S1	**WAKE ISLAND Hy**	**37.61**	**176**	T	T	21 55 20.3	
	baz=359,slow=76						
H11S3	**WAKE ISLAND Hy**	**37.62**	**176**	T	T	21 55 18.1	
	baz=359,slow=76						
H11S2	**WAKE ISLAND Hy**	**37.62**	**176**	T	T	21 55 25.8	
	baz=359						
YBH	**Yreka Blue Hor**	**47.74**	**75**	LR	LR	21 35 10.8	
	comp=Z,5.5nm,19.4s,baz=300,slow=34						
KURK	**Kurchatov**	**48.23**	**302**	P	**P**	**21 16 14.6**	**-0.8**
KURBB	**Kurchatov Arra**	**48.34**	**302**	P	**P**	**21 16 14.6**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=59,slow=7.5,SNR=2.9						
	comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**49.07**	**296**	P	**P**	**21 16 19.6**	**-2.4**
	comp=Z,0.1nm,0.4s,baz=32,slow=5.4,SNR=1.8						
	comp=Z,0.1nm,0.4s						
BVAR	**Borovoye Array**	**50.44**	**309**	P	**P**	**21 16 31.1**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=54,slow=7.5,SNR=6.8						
	comp=Z,0.7nm,0.5s						
NVAR	**Mina Array Bea**	**52.46**	**75**	P	**P**	**21 16 51.3**	**+3.4**
	comp=Z,0.5nm,0.8s,baz=328,slow=5.3,SNR=3.8						
	comp=Z,0.5nm,0.8s						
PDAR	**Pinedale Array**	**53.93**	**65**	P	**P**	**21 16 59.2**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=335,slow=9.8,SNR=4.9						
	comp=Z,0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**61.20**	**260**	P	**P**	**21 17 48.9**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=18,slow=7.4,SNR=8.9						
	comp=Z,1.1nm,0.7s						
HFS	**Hagfors**	**61.76**	**344**	P	**P**	**21 17 50.6**	**-2.4**
	comp=Z,1.1nm,0.9s,baz=29,slow=3.3,SNR=1.9						
	comp=Z,1.1nm,0.9s						
KAN13	**South Haven SW**	**64.34**	**62**	P	**P**	**21 18 11.4**	**+0.9**
AKASG	**Malin Array Be**	**67.22**	**331**	P	**P**	**21 18 25.9**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=39,slow=7.4,SNR=1.6						
	comp=Z,0.1nm,0.3s						
TXAR	**Lajitas Array**	**67.23**	**71**	P	**P**	**21 18 33.3**	**+3.9**
	comp=Z,0.1nm,0.4s,baz=298,slow=5.3,SNR=4.2						
	comp=Z,0.1nm,0.4s						
TKL	**Tuckaleechee C**	**71.87**	**53**	LR	LR	21 52 53.1	
	comp=Z,52nm,18.6s,baz=348,slow=38						

*IDC **18** 21:09:47.9±1.9,30°.10N×143°.11E,h0km,mb3.7/9, mbtmp3.7/11,ML2.6/2, Error ellipse: s-maj=64.7km s-min=21.6km az=73.0*

ISC 18 21:09:52.9±1.5,30°.2N±0°.1×143°.0E±0°.3,h30km,n11, σ1s53/12,mb3.8/9,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.47**	**329**	Pn	**Pn**	**21 11 39.6**	**-0.2**
	0.2nm,0.3s,baz=156,slow=12,SNR=10						
MJAR				Sn	**Sn**	**21 13 00.7**	**-2.8**
	0.1nm,0.3s,baz=153,slow=20,SNR=4.9						
	2.5nm,0.5s						
KSRS	**Korea Array**	**14.46**	**304**	Pn	**Pn**	**21 13 16.3**	**+0.9**
	baz=115,slow=14,SNR=4.1						
	0.5nm,0.3s						
SONM	**Songino Array**	**33.05**	**313**	P	**P**	**21 16 27.9**	**+2.1**
	0.4nm,0.5s,baz=114,slow=8.3,SNR=3.2						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.60**	**264**	P	**P**	**21 17 37.5**	**-0.9**
	0.2nm,0.3s,baz=67,slow=9.7,SNR=1.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**49.10**	**308**	P	**P**	**21 18 38.3**	**+0.8**
	0.7nm,0.7s,baz=94,slow=9.1,SNR=7.0						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**50.58**	**191**	P	**P**	**21 18 47.4**	**-1.5**
	1.5nm,1.0s,baz=8.4,slow=7.9,SNR=5.8						
	1.5nm,1.0s						
KURBB	**Kurchatov Arra**	**51.42**	**313**	P	**P**	**21 18 55.7**	**+0.7**
	0.4nm,0.4s,baz=90,slow=8.2,SNR=6.3						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**54.30**	**190**	P	**P**	**21 19 15.9**	**-0.6**
	0.3nm,0.8s,baz=2.2,slow=5.3,SNR=2.2						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**56.27**	**316**	P	**P**	**21 19 31.2**	**+0.8**
	0.8nm,0.5s,baz=95,slow=7.5,SNR=4.8						
	0.8nm,0.5s						
HFS	**Hagfors**	**80.84**	**337**	P	**P**	**21 22 04.3**	**+0.8**
	2.2nm,1.1s,baz=14,slow=15,SNR=1.2						
	2.2nm,1.1s						
BRTR	**Keskin Array B**	**84.41**	**313**	P	**P**	**21 22 21.6**	**-1.2**
	0.5nm,0.7s,baz=19,slow=11,SNR=3.5						
	0.5nm,0.7s						

*IDC **18** 21:11:34.8±2.4,30°.07N×143°.03E,h0km,mb3.6/9, mbtmp3.6/11,ML3.1/2,MS3.6/1, Error ellipse: s-maj=78.5km s-min=21.0km az=72.0*

ISC 18 21:11:39.0±1.8,30°.2N±0°.2×143°.3E±0°.3,h35km,n12, σ1s29/11,mb3.8/9,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.60**	**328**	Pn	**Pn**	**21 13 25.2**	**-2.0**
	0.2nm,0.3s,baz=161,slow=12,SNR=8.0						
	1.9nm,0.5s						
JOW	**Kunigami**	**13.59**	**259**	LR	LR	21 18 37.8	
	comp=Z,264nm,21.3s,baz=118,slow=32						
KSRS	**Korea Array**	**14.64**	**304**	Pn	**Pn**	**21 15 03.8**	**+0.4**
	0.1nm,0.3s,baz=108,slow=11,SNR=2.3						
	0.6nm,0.7s						
SONM	**Songino Array**	**33.22**	**312**	P	**P**	**21 18 13.8**	**+1.2**
	0.6nm,0.6s,baz=133,slow=8.5,SNR=3.9						
	0.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.80**	**264**	P	**P**	**21 19 23.6**	**-1.8**
	0.2nm,0.3s,baz=71,slow=10,SNR=1.4						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**47.81**	**317**	P	**P**	**21 20 14.7**	**+1.9**
	0.4nm,0.4s,baz=92,slow=6.8,SNR=2.1						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**49.27**	**308**	P	**P**	**21 20 25.1**	**+0.8**
	0.9nm,0.8s,baz=92,slow=8.7,SNR=6.8						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**50.59**	**191**	P	**P**	**21 20 34.0**	**-0.4**
	1.4nm,0.9s,baz=8.6,slow=7.9,SNR=6.7						
	1.4nm,0.9s						
KURBB	**Kurchatov Arra**	**51.59**	**313**	P	**P**	**21 20 41.8**	**+0.2**
	0.8nm,0.6s,baz=90,slow=7.3,SNR=7.6						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**54.31**	**191**	P	**P**	**21 21 02.2**	**+0.2**
	0.3nm,0.6s,baz=11,slow=5.6,SNR=1.8						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**56.43**	**316**	P	**P**	**21 21 16.8**	**-0.1**
	0.8nm,0.7s,baz=107,slow=7.8,SNR=5.7						
	0.8nm,0.7s						
BRTR	**Keskin Array B**	**84.58**	**313**	P	**P**	**21 24 09.5**	**+0.5**
	0.3nm,0.7s,baz=64,slow=6.0,SNR=4.5						
	0.3nm,0.7s						

*JMA **18** 21:34:03.9±0.1,26°.6N±0°.6×129°.7E±0°.6,h52km,MV3.0/13, NEAR OKINAWAJIMA ISLAND*

*IDC **18** 21:34:04.3±1.5,26°.42N×129°.32E,h0km,mb3.3/3, mbtmp3.4/4,ML3.5/1, Error ellipse: s-maj=27.3km s-min=18.0km az=59.0*

ISC 18 21:34:02.8±3.6,26°.77N±0°.07×129°.69E±0°.05,h13km±24km, n15,σ1s94/17,mb3.5/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.13**	**283**	P	**Pb**	**21 34 24.1**	**-0.2**
JYRO				*eS*	**Sb**	**21 34 37.9**	**-1.0**
JOKE	**Okinoerabujima**	**1.16**	**301**	P	**Pb**	**21 34 24.3**	**-0.4**
JTK	**Tokunoshima**	**1.20**	**327**	P	Pn	21 34 24.8	-0.6
JTK				*eS*	**Sb**	**21 34 39.9**	**-1.1**
JOW	**Kunigami**	**1.27**	**273**	Pn	**Pn**	**21 34 26.1**	**-0.1**
	32nm,0.3s,baz=110,slow=24,SNR=24						
JOW				Sn	**Sb**	**21 34 40.9**	**-1.9**
	64nm,0.3s,baz=119,slow=19,SNR=12						
JOW	**Kunigami**	**1.27**	**273**	P	**Pn**	**21 34 26.1**	**-0.1**
JNTH	**Nagotoyohara**	**1.51**	**261**	*eS*	**Sn**	**21 34 46.4**	**-2.8**
JAMN	**Amaminishikomi**	**1.53**	**343**	P	Pn	21 34 29.1	-0.8
JIH	**Iheya**	**1.56**	**280**	P	**Pn**	**21 34 30.2**	**0.0**
JIH				*eS*	**Sn**	**21 34 49.5**	**-0.8**
JAM	**Amami Oshima**	**1.63**	**357**	*eP*	Pn	21 34 30.2	-1.1
JAM				*eS*	**Sn**	**21 34 49.4**	**-2.8**
JKDJ	**Kitadaitoujima**	**1.66**	**119**	P	**Pn**	**21 34 31.3**	**-0.4**
JKDJ				S	**Sn**	**21 34 51.2**	**-1.7**
JMZ	**Minamidaito 2**	**1.67**	**124**	*eS*	**Sn**	**21 34 50.4**	**-2.8**
JNU	**Nakatsue**	**6.41**	**9**	Pn	Pb	21 35 46.0	-8.3
	0.9nm,0.3s,baz=197,slow=11,SNR=4.8						
	5.6nm,0.6s						
MKAR	**Makanchi Array**	**42.16**	**311**	P	**P**	**21 41 58.8**	**+3.8**
	0.1nm,0.5s,baz=100,slow=7.9,SNR=1.7						
	0.1nm,0.5s						
WRA	**Warramunga Arr**	**46.66**	**174**	P	**P**	**21 42 31.9**	**+0.6**
	0.3nm,0.5s,baz=355,slow=8.6,SNR=4.6						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**50.31**	**175**	P	**P**	**21 43 00.2**	**+0.9**
	0.4nm,0.8s,baz=357,slow=8.9,SNR=4.3						
	0.4nm,0.8s						

*IDC **18** 21:45:22.6±2.4,6°.76S×155°.37E,h58km±22km,mb3.8/11, mbtmp4.1/14,ML4.2/3,MS3.5/5, Error ellipse: s-maj=18.7km s-min=16.2km az=32.0*

*NEIC **18** 21:45:23.9±1.3,6°.81S±0°.07×155°.38E±0°.07,h62km±5km, mb4.6/103, Error ellipse: s-maj=11.8km s-min=9.5km az=220.0*

ISC 18 21:45:21.8±0.3,6°.79S±0°.06×155°.35E±0°.06,h50km,n136, σ0s96/133,mb4.6/61,MS3.5/3,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.09**	**309**	Pn	**Pn**	**21 46 23.1**	**+1.3**
HNR	**Honiara**	**5.26**	**120**	Pn	**Pn**	**21 46 38.7**	**+0.8**
HNR	**Honiara**	**5.26**	**120**	P	**Pn**	**21 46 36.8**	**-1.1**
	15nm,0.3s,baz=225,slow=13,SNR=2.1						
HNR				S	**Sn**	**21 47 40.0**	**+2.8**
	78nm,0.4s,baz=208,slow=17,SNR=2.0						
HNR				LR	LR	21 48 47.6	
	comp=Z,399nm,18.7s,baz=235,slow=39						
	38nm,0.4s						
PATS	**Pohnpei**	**13.86**	**12**	Pn	**Pn**	**21 48 36.7**	**+1.1**
COEN	**Coen**	**13.92**	**238**	Pn	**Pn**	**21 48 37.6**	**+1.0**
JAY	**Jayapura**	**15.20**	**286**	P	**Pn**	**21 48 52.4**	**-1.0**
	0.6nm,0.3s,baz=40,slow=3.4,SNR=8.3						
	7.3nm,0.9s						
DZM	**Mont Dzumac**	**18.59**	**146**		**Pn**	**21 49 35.7**	**0.0**
DZM	**Mont Dzumac**	**18.59**	**146**	P	**Pn**	**21 49 35.9**	**+0.1**
	0.8nm,0.3s,baz=308,slow=11,SNR=6.9						
DZM				LR	LR	21 56 21.4	
	comp=Z,85nm,18.0s,baz=38,slow=35						
	3.8nm,0.7s						
FAKI	**Fak Fak**	**23.33**	**278**	P	**P**	**21 50 25.9**	**+0.1**
FAKI				IAmb	IAmb	21 50 48.3	
	comp=Z,44nm,1.1s						
ARMA	**Armidale**	**23.76**	**188**	P	**P**	**21 50 30.2**	**+0.3**
ARMA				IAmb	IAmb	21 51 08.7	
	comp=Z,34nm,1.4s						
WR0	**Warramunga Arr**	**24.06**	**235**	P	**P**	**21 50 32.8**	**+0.1**
WB0	**Warramunga Arr**	**24.09**	**236**	P	**P**	**21 50 33.3**	**+0.4**
WR8	**Warramunga Arr**	**24.09**	**235**	P	**P**	**21 50 33.2**	**+0.3**
WRAB	**Tennant Creek**	**24.20**	**235**	P	**P**	**21 50 32.7**	**-1.3**
WB2	**Warramunga Arr**	**24.21**	**235**	P	**P**	**21 50 34.5**	**+0.6**
WRA	**Warramunga Arr**	**24.22**	**235**	P	**P**	**21 50 32.9**	**-1.2**
WRA	**Warramunga Arr**	**24.22**	**235**	P	**P**	**21 50 34.3**	**+0.2**
	comp=Z,2.7nm,0.5s,baz=60,slow=9.7,SNR=26						
WRA				PcP	**PcP**	**21 54 13.9**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=63,slow=2.3,SNR=2.0						
	comp=Z,2.7nm,0.5s						
MSVF	**Nonsavu**	**24.67**	**118**	P	**P**	**21 50 37.5**	**-0.8**
MSVF				IAmb	IAmb	21 50 40.8	
	comp=Z,28nm,1.2s						
INKA	**Innaminka**	**25.02**	**212**	P	**P**	**21 50 43.2**	**+2.0**
ASAR	**Alice Springs**	**26.57**	**229**	P	**P**	**21 50 54.3**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=60,slow=9.3,SNR=8.4						
ASAR				ScP	**ScP**	**21 57 54.0**	**-1.0**
	comp=Z,1.0nm,1.1s,baz=31,slow=3.1,SNR=2.8						
ASAR				LR	LR	22 00 41.2	
	comp=Z,133nm,18.7s,baz=332,slow=34						
	comp=Z,0.6nm,0.4s						
KNRA	**Kununurra**	**27.50**	**249**	P	**P**	**21 51 05.4**	**+1.6**
H11S3	**WAKE ISLAND Hy**	**27.50**	**24**	T	T	22 19 30.3	
	baz=203,slow=75,SNR=62						
H11S2	**WAKE ISLAND Hy**	**27.51**	**24**	T	T	22 19 28.4	
	baz=203,slow=75,SNR=60						
H11S1	**WAKE ISLAND Hy**	**27.52**	**24**	T	T	22 19 35.2	
	baz=203,slow=75,SNR=56						
STKA	**Stephens Creek**	**28.07**	**205**	P	**P**	**21 51 10.7**	**+2.0**
	comp=Z,0.9nm,0.3s,baz=326,slow=15,SNR=2.2						
STKA				LR	LR	22 01 40.3	
	comp=Z,86nm,20.2s,baz=26,slow=35						
	comp=Z,0.9nm,0.3s						
H11N1	**WAKE ISLAND Hy**	**28.69**	**23**	T	T	22 21 19.9	
	baz=209						
H11N3	**WAKE ISLAND Hy**	**28.70**	**23**	T	T	22 21 02.5	
	baz=209						
H11N2	**WAKE ISLAND Hy**	**28.70**	**23**	T	T	22 21 21.3	
	baz=209						
FITZ	**Fitzroy Crossi**	**31.05**	**246**	P	**P**	**21 51 35.3**	**0.0**
BBOO	**Buckleboo**	**31.49**	**212**	P	**P**	**21 51 38.0**	**-0.9**
BBOO				IAmb	IAmb	21 52 19.6	
	comp=Z,24nm,1.4s						
MMRI	**Maumere**	**32.85**	**265**	P	**P**	**21 51 51.0**	**-0.1**
AFI	**Afiamalu**	**33.08**	**105**	P	**P**	**21 51 54.2**	**+1.1**
FORT	**Forrest**	**34.98**	**223**	P	**P**	**21 52 08.4**	**-1.0**
FORT				IAmb	IAmb	21 52 10.8	
	comp=Z,3.9nm,0.9s						
TOLI2	**Tolitoli**	**35.38**	**282**	P	**P**	**21 52 13.0**	**0.0**
TOLI2				IAmb	IAmb	21 52 45.3	
	comp=Z,13nm,1.2s						
GVZ	**Greta Valley S**	**39.26**	**159**	P	**P**	**21 52 45.5**	**0.0**
KKM	**Kota Kinabalu**	**41.08**	**287**	P	**P**	**21 53 01.3**	**+0.1**
KKM				IAmb	IAmb	21 53 03.0	
	comp=Z,12nm,1.0s						
MORW	**Morawa**	**43.16**	**234**	P	**P**	**21 53 16.8**	**-1.0**
MORW				IAmb	IAmb	21 53 47.6	
	comp=Z,15nm,1.2s						
JMN	**Monobe**	**45.15**	**335**	P	**P**	**21 53 34.3**	**+0.7**
JMN				IAmb	IAmb	21 53 40.5	
	comp=Z,14nm,0.8s						
TPUB	**Ta-pu**	**45.23**	**312**	P	**P**	**21 53 34.6**	**+0.2**
SSLB	**Suanglung**	**45.29**	**313**	P	**P**	**21 53 35.5**	**+0.6**
SSLB				IAmb	IAmb	21 54 03.1	
	comp=Z,21nm,1.2s						
QIZ	**Qiongzhong**	**51.66**	**301**	P	**P**	**21 54 25.2**	**+1.2**
KIP	**Kipapa**	**53.66**	**57**	P	**P**	**21 54 38.6**	**-0.1**
UBPT	**Khong Chiam**	**54.06**	**294**	P	**P**	**21 54 41.5**	**-0.2**
UBPT				IAmb	IAmb	21 54 41.8	
	comp=Z,14nm,1.5s						
KULM	**Kulim**	**55.89**	**281**	P	**P**	**21 54 54.5**	**-0.6**
PET	**Petropavlovsk**	**59.65**	**2**	P	**P**	**21 55 20.3**	**-0.4**
PETK	**Petropavlovsk-**	**59.70**	**2**	P	**P**	**21 55 22.3**	**+1.2**
PETK	**Petropavlovsk-**	**59.70**	**2**	P	**P**	**21 55 21.5**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=186,slow=7.1,SNR=2.8						
	comp=Z,1.3nm,0.6s						
CM31	**Chiang Mai Arr**	**61.01**	**295**	P	**P**	**21 55 32.1**	**+1.5**
CMAR	**Chiang Mai Arr**	**61.01**	**295**		**P**	**21 55 31.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**61.01**	**295**	P	**P**	**21 55 32.1**	**+1.5**
	comp=Z,7.5nm,0.7s,baz=123,slow=5.5,SNR=60						
	comp=Z,7.5nm,0.7s						
CHTO	**Chiang Mai**	**61.13**	**296**		**P**	**21 55 32.4**	**+0.9**
KIWB	**Kanaga Island**	**62.99**	**19**	P	**P**	**21 55 43.9**	**+0.7**
NIKH	**Nikolski High**	**66.82**	**23**	P	**P**	**21 56 06.2**	**-2.0**
SONM	**Songino Array**	**69.36**	**327**	P	**P**	**21 56 25.1**	**+0.7**
SONM	**Songino Array**	**69.36**	**327**	P	**P**	**21 56 24.5**	**+0.1**
	comp=Z,2.5nm,0.9s,baz=140,slow=6.1,SNR=8.6						
	comp=Z,2.5nm,0.9s						
FALS	**False Pass**	**70.37**	**24**	P	**P**	**21 56 28.4**	**-1.8**
PTCN	**Pitcairn Islan**	**73.19**	**114**	P	**P**	**21 56 48.1**	**+0.2**
CHIR	**Chirikof Islan**	**74.31**	**26**	P	**P**	**21 56 55.2**	**+1.5**
EVN	**Everest**	**74.53**	**301**	P	**P**	**21 56 57.1**	**+0.7**
EVN				IAmb	IAmb	21 56 58.2	
	comp=Z,5.7nm,0.6s						
BILL	**Bilibino**	**75.05**	**4**	P	**P**	**21 56 57.7**	**-0.1**
M16K	**Timber Creek**	**76.40**	**21**	P	**P**	**21 57 06.4**	**+0.8**
M16K				IAmb	IAmb	21 57 24.7	
	comp=Z,16nm,1.4s						
K15K	**Wolf Creek Mou**	**76.41**	**19**	P	**P**	**21 57 06.8**	**+1.1**
K15K				IAmb	IAmb	21 57 18.2	
	comp=Z,13nm,1.2s						
J16K	**Anvik River**	**77.42**	**19**	P	**P**	**21 57 12.8**	**+1.4**
J16K				IAmb	IAmb	21 57 40.3	
	comp=Z,8.8nm,1.1s						
I17K	**Unalakleet**	**77.82**	**18**	P	**P**	**21 57 12.4**	**-1.1**
J17K	**VABM Dome**	**77.99**	**19**	P	**P**	**21 57 15.5**	**+1.0**
J17K				IAmb	IAmb	21 57 58.3	
	comp=Z,14nm,1.5s						
L18K	**Granite Mounta**	**78.01**	**21**	P	**P**	**21 57 15.6**	**+0.9**
L18K				IAmb	IAmb	21 57 34.5	
	comp=Z,8.4nm,1.4s						
G16K	**Koyuk River**	**78.41**	**17**	P	**P**	**21 57 17.2**	**+0.4**
G16K				IAmb	IAmb	21 57 42.2	
	comp=Z,8.1nm,1.1s						
CNPM	**China Poot**	**78.43**	**25**	P	**P**	**21 57 18.4**	**+1.3**
M19K	**Big River Lodg**	**78.63**	**22**	P	**P**	**21 57 19.0**	**+0.8**
M19K				IAmb	IAmb	21 57 32.4	
	comp=Z,6.9nm,1.2s						
L19K	**White Mountain**	**78.64**	**21**	P	**P**	**21 57 18.7**	**+0.5**
F17K	**Baldwin Pennin**	**79.49**	**16**	P	**P**	**21 57 23.4**	**+0.7**
F17K				IAmb	IAmb	21 57 53.0	
	comp=Z,15nm,1.2s						
SKT	**Skwentna**	**79.75**	**23**	P	**P**	**21 57 23.3**	**-0.9**
G18K	**Tagagawik**	**79.85**	**17**	P	**P**	**21 57 25.3**	**+0.6**
RC01	**Rabbit Creek A**	**79.94**	**24**	P	**P**	**21 57 24.9**	**-0.4**
RC01				IAmb	IAmb	21 57 47.3	
	comp=Z,3.1nm,0.8s						
H19K	**Roundabout Mou**	**80.28**	**18**	P	**P**	**21 57 27.9**	**+1.0**
H19K				IAmb	IAmb	21 57 51.3	
	comp=Z,8.9nm,1.4s						
PWL	**Port Wells**	**80.38**	**24**	P	**P**	**21 57 27.7**	**+0.1**
PWL				IAmb	IAmb	21 57 29.3	
	comp=Z,5.6nm,1.0s						
CAST	**Castle Rocks**	**80.41**	**21**	P	**P**	**21 57 27.1**	**-0.6**
G19K	**Purcell Mounta**	**80.49**	**18**	P	**P**	**21 57 29.1**	**+0.9**
G19K				IAmb	IAmb	21 57 30.7	
	comp=Z,5.5nm,1.2s						
F19K	**Shaleruckik Mo**	**80.75**	**17**	P	**P**	**21 57 29.3**	**-0.2**
F19K				IAmb	IAmb	21 57 59.2	
	comp=Z,4.5nm,1.1s						
GLI	**Glacier Island**	**80.90**	**25**	P	**P**	**21 57 30.1**	**-0.3**
E19K	**Redstone River**	**81.33**	**17**	P	**P**	**21 57 33.5**	**+0.9**
E19K				IAmb	IAmb	21 57 38.0	
	comp=Z,5.0nm,0.9s						
IMAR	**Indian Mountai**	**81.42**	**19**	P	**P**	**21 57 34.0**	**+0.9**
F20K	**Avaraart Lake**	**81.50**	**17**	P	**P**	**21 57 34.3**	**+0.8**
H21K	**Melozitna Rive**	**81.53**	**19**	P	**P**	**21 57 34.6**	**+0.9**
KAIM	**Kayak Island**	**81.56**	**26**	P	**P**	**21 57 34.3**	**+0.3**
G21K	**Allakaket**	**81.83**	**18**	P	**P**	**21 57 36.2**	**+0.9**
G21K				IAmb	IAmb	21 58 13.5	
	comp=Z,6.2nm,1.4s						
C19K	**Lookout Ridge**	**81.84**	**15**	P	**P**	**21 57 36.1**	**+0.8**
MLY	**Manley**	**81.84**	**20**	P	**P**	**21 57 35.8**	**+0.4**
H23K	**Yukon River**	**82.71**	**20**	P	**P**	**21 57 40.8**	**+0.9**
MESA	**MESA**	**82.77**	**27**	P	**P**	**21 57 40.3**	**-0.2**
E21K	**Killik River**	**82.91**	**17**	P	**P**	**21 57 39.7**	**-1.2**
E21K				IAmb	IAmb	21 58 18.3	
	comp=Z,11nm,1.4s						
YAH	**Yahtse**	**82.94**	**26**	P	**P**	**21 57 41.5**	**+0.1**
ILAR	**Eielson Array**	**83.06**	**21**	P	**P**	**21 57 40.1**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=243,slow=4.7,SNR=4.2						
	comp=Z,0.4nm,0.5s						
G23K	**Bananza Creek**	**83.06**	**19**	P	**P**	**21 57 42.1**	**+0.4**
G23K				IAmb	IAmb	21 58 22.0	
	comp=Z,5.8nm,1.4s						
QSPA	**South Pole Qui**	**83.18**	**180**	P	**P**	**21 57 42.5**	**0.0**
QSPA				IAmb	IAmb	21 58 07.2	
	comp=Z,7.1nm,1.4s						
QSPA	**South Pole Qui**	**83.18**	**180**	P	**P**	**21 57 41.9**	**-0.6**
	comp=Z,1.1nm,0.9s,baz=0.0,slow=2.0,SNR=5.2						
	comp=Z,1.1nm,0.9s						
TABL	**Table Mountain**	**83.25**	**27**	P	**P**	**21 57 40.9**	**-2.1**
RIDG	**Independent Ri**	**83.28**	**23**	P	**P**	**21 57 42.2**	**-0.7**
MK31	**Makanchi Array**	**83.48**	**319**	P	**P**	**21 57 44.1**	**-0.2**
MKAR	**Makanchi Array**	**83.48**

comp=Z,1.2nm,1.0s,baz=45,slow=5.0,SNR=1.6
EKA Eskdalemuir Ar 128.64 344 PKP **PKPdf 22 04 23.5 +0.2**
comp=Z,0.2nm,0.4s,baz=32,slow=3.4,SNR=1.3
BDFB Brasilia 147.87 134 PKPbc **PKPbc 22 05 01.6 -1.0**
comp=Z,3.2nm,0.5s,baz=214,slow=5.6,SNR=5.0
TORD Torodi Ar. Bea 153.31 286 PKPbc **PKPbc 22 05 14.5 -0.9**
comp=Z,1.0nm,0.3s,baz=71,slow=2.9,SNR=1.3
TORD PKPab **PKPab 22 05 27.3 -0.2**
comp=Z,0.9nm,0.3s,baz=79,slow=8.0,SNR=1.3

AUST 18 21:45:21.7±1.2, 18°S±8°, 12°1E±°, h21km±14km, mb3.8/5, ML2.7/7, Error ellipse: s-maj=20.9km s-min=5.4km az=142.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**2.78**	**196**	P	Pn	21 46 05.8	+0.8
MBWA				S	Sn	21 46 40.2	+2.3
PSAC1	**Pilbara Seismi**	**3.13**	**192**	P	Pn	21 46 10.9	+1.1
PSAC1				S	Sn	21 46 47.3	+0.8
PSA00	**Pilbara Seismi**	**3.16**	**192**	P	Pn	21 46 08.9	-1.3
FITZ	**Fitzroy Crossi**	**4.87**	**86**	P	Pn	21 46 34.2	+0.5
FITZ	**Fitzroy Crossi**	**4.87**	**86**	S	Sn	21 47 30.9	+1.5
GIRL	**Giralia**	**7.22**	**234**	P	Pn	21 47 03.3	-2.7
GIRL				S	Sn	21 48 19.0	-8.3
MEEK	**Meekatharra**	**8.32**	**192**	P	Pn	21 47 21.1	-0.1
	comp=Z,13nm,2.0s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.32**	**192**	S	Sn	21 48 51.3	-3.3
KNRA	**Kununurra**	**8.35**	**72**	P	Pn	21 47 20.9	-0.6
	comp=Z,6.0nm,2.0s,comp=Z,0.0nm						
KNRA				S	Sn	21 48 53.6	-1.5
CVQOZ	**Cooralya Stati**	**8.46**	**224**	P	Pn	21 47 20.4	-2.5
WRKA	**Warakurna**	**9.74**	**134**	P	Pn	21 47 42.1	+1.6
	comp=Z,2.8nm,2.9s,comp=Z,0.0nm						
WRKA				S	Sn	21 49 28.4	-1.0
MORW	**Morawa**	**11.32**	**200**	P	Pn	21 47 59.3	-3.0
	comp=Z,14nm,2.3s						
MORW	**Morawa**	**11.32**	**200**	S	Sn	21 49 59.4	-8.8
FORT	**Forrest**	**14.03**	**152**	P	Pn	21 48 40.4	+1.1
	comp=Z,4.0nm,1.0s						
FORT				S	Sn	21 51 11.4	-3.0

*IDC **18** 21:46:36.8±2.6, 35°.74N×117°.54W, h0km, mbtmp2.8/3, ML3.4/3, Error ellipse: s-maj=42.0km s-min=12.1km az=56.0*
*NEIC **18** 21:46:37.1±2.6, 35°.777N±0°.008×117°.60W±0°.01, h5km±2km, Error ellipse: s-maj=1.2km s-min=1.1km az=71.0*
*PAS **18** 21:46:37.6±2.4, 35°.785N±0°.008×117°.63W±0°.01, h6km±2km, ML3.8/215, ML3.5/162(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=63.0*

ISC 18 21:46:37.7±0.8, 35°.78N±0°.01×117°.60W±0°.02, h11km±4km, n93, σ0°82/120, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.04**	**7**		**Pg**	**21 46 39.1**	**-0.8**
CLC				Sg	**Sg**	**21 46 40.2**	**-1.3**
TOW	**Tower One**	**0.13**	**283**		**Pg**	**21 46 40.6**	**-0.4**
TOW					**Sg**	**21 46 43.5**	**+0.1**
GPO	**China Lake**	**0.14**	**200**		**Pg**	**21 46 40.7**	**-0.4**
GPO					**Sg**	**21 46 43.2**	**-0.2**
SRTC	**Snort**	**0.15**	**234**		**Pg**	**21 46 40.9**	**-0.3**
SRTC					**Sg**	**21 46 43.9**	**+0.3**
WSHM	**Spangler Hills**	**0.20**	**153**		**Pg**	**21 46 41.9**	**-0.2**
WSHM				Sg	**Sg**	**21 46 45.1**	**+0.1**
WVPM	**Volcano Peak E**	**0.24**	**314**		**Pg**	**21 46 42.2**	**-0.7**
WVPM					**Sg**	**21 46 45.4**	**-0.9**
WNMM	**Nine Mile Cany**	**0.25**	**284**		**Pg**	**21 46 42.4**	**-0.5**
WNMM					**Sg**	**21 46 46.0**	**-0.5**
JRC2	**Joshua Ridge**	**0.26**	**321**		**Sg**	**21 46 46.3**	**-0.6**
WCSM	**Coso Range S**	**0.28**	**332**		**Pg**	**21 46 42.9**	**-0.6**
WCSM					**Sg**	**21 46 46.7**	**-0.7**
MPMC	**Manual Prospec**	**0.29**	**18**		**Pn**	**21 46 47.6**	**-0.5**
MPMC	**Manual Prospec**	**0.29**	**18**	IAML		21 46 48.0	
	comp=E,11μm,0.3s						
MPMC				IAML		21 46 48.0	
	comp=N,7μm,0.6s						
LRMC	**Laurel Mtn Rad**	**0.31**	**192**		**Pn**	**21 46 48.0**	**-0.2**
LRMC	**Laurel Mtn Rad**	**0.31**	**192**	IAML		21 46 48.3	
	comp=N,16μm,0.3s						
LRMC				IAML		21 46 49.2	
	comp=E,22μm,0.2s						
CCCA	**Chr Cany lake**	**0.32**	**143**	Pg	**Pb**	**21 46 44.6**	**-0.8**
CCCA				Sg	**Sb**	**21 46 49.6**	**-1.0**
WRVM	**Rose V. Centra**	**0.33**	**314**		**Pg**	**21 46 43.6**	**-0.7**
WRVM					**Sg**	**21 46 48.0**	**-0.8**
MFS	**McCloud Flat S**	**0.39**	**329**		**Pg**	**21 46 45.0**	**-0.6**
MFS					**Sg**	**21 46 50.4**	**-0.5**
WBSM	**Bird Springs**	**0.50**	**241**		**Sg**	**21 46 53.6**	**-0.6**
WORM	**Onyx Ranch**	**0.53**	**261**		**Pg**	**21 46 47.2**	**-0.8**
WORM					**Sg**	**21 46 54.0**	**-1.0**
DTP	**Desert Tortois**	**0.55**	**201**		**Pg**	**21 46 47.8**	**-0.6**
DTP					**Sg**	**21 46 55.2**	**-0.5**
WHFM	**Hanning Flat**	**0.61**	**262**		**Pg**	**21 46 48.8**	**-0.8**
WHFM					**Sg**	**21 46 56.8**	**-1.0**
QSM	**Queen of Sheba**	**0.62**	**73**		**Pg**	**21 46 49.6**	**-0.2**
QSM				IAML		21 46 59.4	
	comp=E,3μm,0.4s						
QSM				IAML		21 47 02.2	
	comp=N,3μm,0.5s						
QSM	**Queen of Sheba**	**0.62**	**73**		**Sg**	**21 46 58.3**	**+0.2**
CCAC	**Calif City Air**	**0.71**	**208**		**Pg**	**21 46 51.0**	**-0.5**
CCAC					**Sg**	**21 47 00.8**	**0.0**
ISA	**Isabella, Lake**	**0.72**	**261**		**Pg**	**21 46 50.8**	**-0.8**
ISA					**Sg**	**21 47 00.0**	**-1.0**
ISA	**Isabella, Lake**	**0.72**	**261**	IAML		21 47 01.1	
	comp=E,1μm,0.2s						
ISA				IAML		21 47 04.8	
	comp=N,2μm,0.5s						
CWC	**Cottonwood Cre**	**0.76**	**330**		**Pg**	**21 46 51.5**	**-1.0**
CWC	**Cottonwood Cre**	**0.76**	**330**		**Sg**	**21 47 02.1**	**-0.4**
CWC				IAML		21 47 02.6	
	comp=N,1μm,0.2s						
WASM	**Alta Sierra Ca**	**0.78**	**267**		**Pg**	**21 46 51.9**	**-0.9**
WASM					**Sg**	**21 47 02.1**	**-0.8**
CGO	**Cerro Gordo**	**0.79**	**348**		**Pg**	**21 46 52.0**	**-1.0**
CGO					**Sg**	**21 47 02.8**	**-0.5**
GSC	**Goldstone, Bar**	**0.81**	**126**	Pg	**Pg**	**21 46 53.0**	**-0.3**
GSC				Sg	**Sb**	**21 47 04.0**	**-0.7**
GSC				IAML		21 47 06.1	
	comp=E,2μm,0.4s						
GSC				IAML		21 47 06.8	
	comp=N,3μm,0.4s						
GWY	**Greenwater Val**	**0.86**	**62**		**Pg**	**21 46 54.0**	**-0.3**
GWY				Sg	**Sb**	**21 47 06.0**	**-0.3**
GWY				IAML		21 47 09.2	
	comp=N,2μm,0.4s						
GWY				IAML		21 47 11.2	
	comp=E,3μm,0.3s						
FURC	**Furnace Creek,**	**0.91**	**41**		**Pb**	**21 46 55.1**	**-0.4**
HYS	**Haystack Butte**	**0.91**	**178**		**Pg**	**21 46 54.6**	**-0.7**
HYS					**Sg**	**21 47 06.9**	**-0.4**
EDW2	**Edwards Air Fo**	**0.95**	**200**		**Pg**	**21 46 54.9**	**-1.1**
SPG2	**Springville 2**	**1.03**	**294**		**Sg**	**21 47 09.1**	**-1.9**
TPO	**Tropico Hills**	**1.03**	**210**		**Pg**	**21 46 56.5**	**-1.1**
TPO				IAML		21 47 16.1	
	comp=E,2μm,0.6s						
TPO	**Tropico Hills**	**1.03**	**210**		**Sg**	**21 47 10.6**	**-0.5**
TEJ	**El Tejon**	**1.04**	**239**		**Pg**	**21 46 56.1**	**-1.6**
TEJ					**Sg**	**21 47 10.0**	**-1.3**
SBB	**Saddle Back Bu**	**1.10**	**190**		**Pg**	**21 46 57.9**	**-1.1**
GRAC	**Grapevine Rang**	**1.23**	**9**		**Pg**	**21 47 00.5**	**-0.9**
GRAC				Sg	**Sb**	**21 47 17.0**	**+0.1**
GRAC				IAML		21 47 21.9	
	comp=N,1μm,0.6s						
WCT	**Wildcat Mounta**	**1.28**	**38**		**Pg**	**21 47 01.1**	**-1.3**
WCT				Sg	**Sn**	**21 47 19.4**	**+0.6**
WCT				IAML		21 47 21.7	
	comp=E,450nm,0.4s						
DSCC	**Desert Studies**	**1.38**	**117**		**Pn**	**21 47 01.8**	**-1.0**
OSI	**Osito Audit: C**	**1.48**	**219**		**Pn**	**21 47 04.7**	**+0.4**
OSI				Sg	**Sg**	**21 47 25.4**	**0.0**
OSI				IAML		21 47 27.7	
	comp=N,451nm,0.7s						
OSI				IAML		21 47 27.7	
	comp=E,811nm,0.6s						
BFSC	**Mount Baldy Ra**	**1.54**	**182**		**Pn**	**21 47 04.6**	**-0.6**
BFSC					**Sn**	**21 47 24.7**	**-0.4**
BFSC				IAML		21 47 27.4	
	comp=E,1μm,0.3s						
BFSC				IAML		21 47 28.3	
	comp=N,904nm,0.4s						
GMN	**Gold Mountain**	**1.54**	**10**		**Pn**	**21 47 05.0**	**-0.3**
GMN					**Sn**	**21 47 26.3**	**+0.8**
MWC	**Mount Wilson**	**1.60**	**194**		**Pn**	**21 47 05.9**	**-0.1**
MWC					**Sn**	**21 47 26.7**	**0.0**
MWC				IAML		21 47 29.5	
	comp=E,797nm,0.4s						
MWC				IAML		21 47 30.3	
	comp=N,1μm,0.5s						
TPNV	**Topopah Spring**	**1.60**	**43**		**Pn**	**21 47 05.8**	**-0.2**
TPNV				IAML		21 47 13.9	
	comp=N,367nm,0.5s						
TPNV				IAML		21 47 34.3	
	comp=N,388nm,1.0s						
DSP	**Deep Springs**	**1.61**	**350**		**Pn**	**21 47 06.3**	**+0.2**
DSP					**Sb**	**21 47 28.0**	**+0.2**
DSP				IAML		21 47 30.0	
	comp=E,699nm,0.4s						
DSP				IAML		21 47 30.1	
	comp=N,332nm,0.5s						
PASC	**Pasadena Art C**	**1.67**	**197**	IAML		21 47 34.8	
	comp=E,572nm,0.4s						
PASC				IAML		21 47 35.3	
	comp=N,438nm,0.4s						
BHPR	**Bishop**	**1.68**	**335**		**Pb**	**21 47 08.9**	**+0.2**
MTPC	**Mountain Pass**	**1.70**	**99**		**Pn**	**21 47 06.7**	**-0.7**
MTPC					**Sn**	**21 47 28.4**	**-0.7**
MTPC				IAML		21 47 33.3	
	comp=N,664nm,0.5s						
MTPC				IAML		21 47 35.0	
	comp=E,641nm,0.3s						
MZP	**Montezuma Peak**	**1.93**	**5**		**Pn**	**21 47 10.3**	**-0.3**
MZP				Sg	**Sg**	**21 47 38.7**	**-1.0**
SHPR	**Sheep Range**	**2.11**	**69**		**Pn**	**21 47 13.5**	**+0.5**
SHPR				Sg	**Sg**	**21 47 43.9**	**-1.5**
ELS	**Elsinore Mount**	**2.13**	**176**		**Pn**	**21 47 13.0**	**-0.2**
ELS					**Sn**	**21 47 39.5**	**-0.2**
ELS				IAML		21 47 47.1	
	comp=E,250nm,0.4s						
ELS				IAML		21 47 48.2	
	comp=N,232nm,0.5s						
V12A	**Nelson**	**2.24**	**91**		**Pn**	**21 47 14.5**	**-0.3**
V12A				Sg	**Sg**	**21 47 49.1**	**-0.6**
V12A				IAML		21 47 50.3	
	comp=N,259nm,0.9s						
V12A				IAML		21 47 56.4	
	comp=E,193nm,0.5s						
TPH	**Tonopah**	**2.31**	**7**		**Pn**	**21 47 16.2**	**+0.3**
TPH				Pg	**Pg**	**21 47 20.8**	**-1.2**
PMD	**Palm Desert**	**2.35**	**154**		**Pn**	**21 47 15.7**	**-0.6**
PMD				IAML		21 47 54.1	
	comp=E,159nm,0.3s						
PFO	**Pinyon Flats O**	**2.36**	**156**		**Pn**	**21 47 16.2**	**-0.2**
S11A	**Rachel**	**2.38**	**38**		**Pn**	**21 47 17.3**	**+0.5**
S11A				IAML		21 47 58.0	
	comp=N,356nm,1.1s						
S11A				IAML		21 48 03.7	
	comp=E,278nm,1.0s						
LHV	**Little Huntoon**	**2.57**	**344**		**Pn**	**21 47 19.9**	**+0.7**
LHV				IAML		21 48 11.0	
	comp=E,113nm,1.0s						
PRN	**Pahroc Range**	**2.62**	**51**		**Pn**	**21 47 20.5**	**+0.5**
PRN				Pg	**Pg**	**21 47 27.2**	**-0.7**
PRN				IAML		21 48 09.0	
	comp=N,204nm,0.8s						
PRN				IAML		21 48 12.7	
	comp=E,179nm,1.0s						
PMPB	**Monarch Peak**	**2.63**	**280**		**Pn**	**21 47 20.8**	**+0.7**
PMPB				IAML		21 48 05.4	
	comp=N,391nm,0.8s						
PMPB				IAML		21 48 18.5	
	comp=E,301nm,0.6s						
NV11	**Mina Array Sit**	**2.68**	**351**	Pg	**Pg**	**21 47 27.7**	**-1.5**
BORC	**Borrego Spring**	**2.69**	**158**		**Pn**	**21 47 20.7**	**-0.1**
BORC				Pg	**Pg**	**21 47 28.3**	**-0.9**
BORC				IAML		21 48 04.1	
	comp=E,199nm,0.8s						
BORC				IAML		21 48 06.4	
	comp=N,199nm,0.8s						
NVAR	**Mina Array Bea**	**2.70**	**348**		**Pn**	**21 47 21.3**	**0.0**
NVAR				Pg	**Pg**	**21 47 28.2**	**-1.3**
NVAR	**Mina Array Bea**	**2.70**	**348**	Pn	**Pn**	**21 47 21.8**	**+0.5**
	comp=N,2.8nm,0.3s,baz=168,slow=13,SNR=31						
NVAR				Pg	**Pg**	**21 47 28.6**	**-1.0**
	comp=N,16nm,0.3s,baz=170,slow=16,SNR=20						
NVAR				Lg	Lg	21 48 02.2	
	comp=N,16nm,0.3s,baz=164,slow=32,SNR=5.9						
	comp=N,4.1nm,0.5s						
DPP	**Dos Picos Cty**	**2.83**	**169**		**Pn**	**21 47 22.4**	**-0.4**
DPP				Pg	**Pb**	**21 47 29.4**	**+1.2**
DPP				IAML		21 48 10.7	
	comp=E,157nm,0.5s						
SALN	**Salton City**	**2.83**	**151**		**Pn**	**21 47 23.2**	**+0.5**
SALN				Pg	**Pg**	**21 47 30.7**	**-1.2**
BBGB	**Big Mountain B**	**2.89**	**287**		**Pn**	**21 47 24.1**	**+0.3**
RYN	**Ryan**	**2.94**	**346**		**Pn**	**21 47 25.1**	**+0.7**
R11B	**Troy Canyon, C**	**3.03**	**32**		**Pn**	**21 47 26.3**	**+0.6**
Q09A	**Carvers**	**3.07**	**6**		**Pn**	**21 47 26.6**	**+0.4**
Q09A				IAML		21 48 19.3	
	comp=N,239nm,0.7s						
WAKR	**Walker**	**3.09**	**332**		**Pb**	**21 47 34.4**	**+1.6**
W13A	**Hualapai Mount**	**3.11**	**102**		**Pn**	**21 47 26.5**	**-0.4**
W13A				IAML		21 48 18.0	
	comp=N,77nm,0.3s						
W13A				IAML		21 48 22.6	
	comp=E,66nm,0.5s						
CMB	**Columbia Colle**	**3.17**	**316**		**Pn**	**21 47 27.7**	**+0.2**
BLYC	**Blythe**	**3.24**	**128**		**Pn**	**21 47 27.4**	**-1.1**
BLYC				IAML		21 48 21.4	
	comp=N,161nm,0.4s						
BLYC				IAML		21 48 21.9	
	comp=E,151nm,0.5s						
SAO	**San Andreas Ge**	**3.26**	**289**		**Pn**	**21 47 27.7**	**-1.0**
YUH	**Yuha Desert**	**3.42**	**156**		**Pn**	**21 47 30.9**	**0.0**
CBX	**Cerro Bola**	**3.54**	**167**		**Pn**	**21 47 33.3**	**+0.6**
GLA	**Glamis**	**3.56**	**139**	IAML		21 48 36.0	
	comp=N,156nm,0.7s						
LCMT	**Little Creek M**	**3.73**	**69**		**Pn**	**21 47 35.4**	**+0.2**
CCUT	**Cedar City**	**3.84**	**61**		**Pn**	**21 47 37.3**	**+0.4**
ESJX	**Sierra Juarez**	**4.01**	**159**	IAML		21 50 20.7	
	comp=N,36nm,0.1s						
ESJX				IAML		21 50 20.9	
	comp=E,63nm,0.1s						
KNB	**Kanab**	**4.05**	**71**	IAML		21 48 51.6	
	comp=E,31nm,0.9s						
KNB				IAML		21 48 58.0	
	comp=N,36nm,1.2s						
PSUT	**Pine Spring**	**4.06**	**46**	IAML		21 48 53.7	
	comp=E,42nm,0.8s						
PSUT				IAML		21 48 56.8	
	comp=N,32nm,1.1s						
SPR3	**Spring Creek 3**	**4.14**	**38**	IAML		21 48 59.0	
	comp=E,29nm,1.1s						
AFDM	**Forest Hills D**	**4.15**	**321**	IAML		21 48 54.3	
	comp=N,34nm,0.7s						
AFDM				IAML		21 48 54.7	
	comp=E,38nm,0.6s						
Y14A	**Wickenburg**	**4.20**	**115**	IAML		21 48 56.2	
	comp=E,58nm,0.6s						
Y14A				IAML		21 48 56.9	
	comp=N,81nm,0.8s						
U15A	**North Rim**	**4.35**	**80**	IAML		21 48 59.0	
	comp=N,50nm,0.9s						
U15A				IAML		21 49 04.8	
	comp=E,38nm,1.1s						
BEKR	**Beckworth**	**4.63**	**333**	IAML		21 49 12.4	
	comp=E,46nm,0.7s						
WUAZ	**Wupatki**	**5.08**	**91**	IAML		21 49 18.8	
	comp=E,51nm,1.6s						
WUAZ				IAML		21 49 22.6	
	comp=E,52nm,0.6s						
PDAR	**Pinedale Array**	**9.36**	**39**	Pn	**Pn**	**21 48 56.0**	**+3.4**
	comp=E,0.1nm,0.3s,baz=213,slow=18,SNR=1.8						
	comp=E,0.2nm,0.5s						
TXAR	**Lajitas Array**	**13.39**	**115**	Pn	**Pn**	**21 49 49.5**	**+1.7**
	comp=E,0.1nm,0.3s,baz=291,slow=12,SNR=4.5						
	comp=E,0.2nm,0.4s						

*IDC **18** 21:51:13.8±1.0, 45°.20N×124°.67E, h0km, mb3.8/7, mbtmp3.6/10, ML3.2/3, MS3.1/2, Error ellipse: s-maj=33.1km s-min=17.0km az=44.0*
*KEA **18** 21:51:18.4, 45°.06N×124°.66E, h17km, ML3.7/2*

ISC 18 21:51:13.7±0.7, 45°.00N±0°.05×124°.87E±0°.07, h10km, n15, σ2°44/17, mb4.0/7, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUJ	**Sinuiju**	**4.91**	**183**	Pg	**Pg**	**21 52 47.3**	**-0.4**
SUJ				Sg	**Sg**	**21 53 55.4**	**+4.2**
SUJ				AML	AML		
	comp=N,123nm,0.6s						
SUJ				AML	AML		
	comp=E,113nm,0.3s						
SUJ				AML	AML		
	comp=Z,127nm,0.5s						
USRK	**Ussuriysk Ar.**	**5.15**	**96**	Pn	**Pn**	**21 52 33.8**	**+2.9**
	comp=Z,0.7nm,0.3s,baz=280,slow=13,SNR=8.3						
USRK				Pg	**Pg**	**21 52 51.4**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=279,slow=14,SNR=5.4						
USRK				Lg	Lg	21 53 55.8	
	comp=Z,3.3nm,0.3s,baz=308,slow=22,SNR=5.9						
	comp=Z,1.5nm,0.3s						
PYAG	**Pyongyang**	**5.99**	**173**	Sg	**Sg**	**21 54 27.8**	**+2.0**
HJU	**Haeju**	**6.98**	**174**	Pg	**Pb**	**21 53 11.2**	**-3.9**
HJU				Sg	**Sb**	**21 54 34.8**	**-3.7**
HJU				AML	AML		
	comp=N,59nm,0.9s						
HJU				AML	AML		
	comp=E,86nm,0.7s						
HJU				AML	AML		
	comp=Z,46nm,0.9s						
KSRS	**Korea Array**	**7.88**	**162**	Pn	**Pn**	**21 53 12.6**	**+4.2**
	comp=Z,0.3nm,0.3s,baz=347,slow=13,SNR=6.6						
KSRS				Pg	**Pg**	**21 53 43.5**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=344,slow=18,SNR=10.0						
KSRS				Lg	Lg	21 55 30.8	
	comp=Z,1.4nm,0.3s,baz=342,slow=30,SNR=7.5						
	comp=Z,0.4nm,0.4s						
ASAJ	**Asahikawa**	**12.68**	**88**	LR	LR	21 59 22.6	
	comp=Z,75nm,19.4s,baz=12,slow=38						
SONM	**Songino Array**	**13.05**	**289**	Pn	**Pn**	**21 54 19.8**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=113,slow=11,SNR=1.8						
SONM				Lg	Lg	21 57 56.4	
	comp=Z,0.2nm,0.3s,baz=93,slow=25,SNR=5.2						
	comp=Z,0.3nm,0.5s						
TIXI	**Tiksi**	**26.79**	**3**	LR	LR	22 08 26.6	
	comp=Z,56nm,20.1s,baz=192,slow=39						
MKAR	**Makanchi Array**	**29.42**	**289**	P	**P**	**21 57 16.8**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=76,slow=12,SNR=2.5						
	comp=Z,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**31.21**	**297**	P	**P**	**21 57 31.8**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=83,slow=9.5,SNR=14						
	comp=Z,1.8nm,0.8s						
FINES	**FINESS Array B**	**55.53**	**325**	P	**P**	**22 00 47.9**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=72,slow=6.2,SNR=8.4						
	comp=Z,0.6nm,0.4s						
AKASG	**Malin Array Be**	**60.03**	**313**	P	**P**	**22 01 19.8**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=49,slow=7.7,SNR=5.8						
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**61.19**	**328**	P	**P**	**22 01 28.4**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=126,slow=2.6,SNR=6.5						
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**61.50**	**330**	P	**P**	**22 01 30.7**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=55,slow=7.5,SNR=1.3						
	comp=Z,0.4nm,0.7s						
BRTR	**Keskin Array B**	**64.09**	**301**	P	**P**	**22 01 49.0**	**+0.9**
	comp=Z,0.8nm,0.9s,baz=36,slow=4.6,SNR=4.3						
	comp=Z,0.8nm,0.9s						

*GII **18** 21:56:10.8±0.0, 32°.969N±0°.003×32°.377E±0°.001, h39km, Mws3.0, confirmed*
*HLW **18** 21:56:11.7, 32°.96N×32°.50E, h24km±5km, Md3.1, Ml3.3*
*NIC **18** 21:56:12.2, 33°.05N×32°.36E, h32km±36km, Ml3.0/13*

ISC 18 21:56:12.8±2.4, 32°.98N±0°.02×32°.43E±0°.04, h36km±2km, n91, σ0°92/92, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APOL	**The Sanctuary**	**1.73**	**12**	P	**Pn**	**21 56 39.7**	**-0.6**
APOL				S	**Sn**	**21 57 00.6**	**-0.5**
APOL				AML	AML	21 57 03.2	
	0.6nm,0.2s						
APOL				AML	AML	21 57 03.2	
	1.1nm,0.6s						
NATA	**Nata**	**1.80**	**4**	P	**Pn**	**21 56 40.5**	**-0.8**
NATA				S	**Sn**	**21 57 01.4**	**-1.5**
NATA				AML	AML	21 57 14.3	
	0.7nm,0.7s						
NATA				AML	AML	21 57 14.7	
	1.2nm,0.5s						
ASGA	**Asgata**	**1.93**	**21**	P	**Pn**	**21 56 42.6**	**-0.4**
ASGA				S	**Sn**	**21 57 05.1**	**-0.9**
ASGA				AML	AML	21 57 09.3	
	0.5nm,0.3s						
ASGA				AML	AML	21 57 14.0	
	0.4nm,0.4s						
TROD	**Troodos**	**2.00**	**10**	P	**Pn**	**21 56 43.1**	**-1.1**
TROD				S	**Sn**	**21 57 06.7**	**-1.3**
TROD				AML	AML	21 57 15.3	
	0.2nm,0.3s						
TROD				AML	AML	21 57 15.7	
	0.3nm,0.4s						
AKMS	**Akamas**	**2.04**	**358**	P	Pn	21 56 42.7	-1.8
AKMS				S	**Sn**	**21 57 07.5**	**-1.2**
AKMS				AML	AML	21 57 12.7	
	0.3nm,0.4s						
AKMS				AML	AML	21 57 17.0	
	0.3nm,0.4s						
XYLS	**Xyliatos**	**2.10**	**14**	P	**Pn**	**21 56 44.4**	**-0.9**
XYLS				S	**Sn**	**21 57 09.8**	**-0.5**
XYLS				AML	AML	21 57 12.4	
	0.5nm,0.2s						
XYLS				AML	AML	21 57 12.6	
	0.6nm,0.2s						
CSS	**Mathiatis**	**2.12**	**21**	P	**Pn**	**21 56 45.0**	**-0.6**
CSS	**Mathiatis**	**2.12**	**21**	P	**Pn**	**21 56 45.0**	**-0.6**
CSS				S	**Sn**	**21 57 09.9**	**-0.8**
CSS				AML	AML	21 57 20.4	
	0.2nm,0.5s						
CSS				AML	AML	21 57 25.0	
	0.2nm,0.7s						
ALFC	**Alefka**	**2.18**	**4**	P	Pn	21 56 44.6	-1.9
ALFC				S	**Sn**	**21 57 11.2**	**-1.0**
ALFC				AML	AML	21 57 12.3	
	0.3nm,0.3s						
ALFC				AML	AML	21 57 24.2	
	0.3nm,0.4s						
OFRI	**`Ofer**	**2.18**	**99**	S	**Sn**	**21 57 10.5**	**-1.9**
OFRI	**`Ofer**	**2.18**	**99**	P	**Pn**	**21 56 45.3**	**-1.3**
MVOU	**Mavrovouni**	**2.27**	**26**	P	**Pn**	**21 56 46.8**	**-0.9**
MVOU				S	**Sn**	**21 57 14.1**	**-0.2**
MVOU				AML	AML	21 57 29

KZIT				AML	AML	21 57 22.5		
	1.1nm,0.2s							
KZIT				S	Sn	21 57 22.6	-1.5	
KZIT				AML	AML	21 57 24.6		
	1.2nm,0.3s							
HMDT	**Nahal Hemdat**	**2.71**	**105**	P	**Pn**	**21 56 53.0**	**-0.8**	
HMDT	**Nahal Hemdat**	**2.71**	**105**	S	**Sn**	**21 57 25.1**	**-0.3**	
HMDT	**Nahal Hemdat**	**2.71**	**105**	P	Pn	21 56 52.4	-1.4	
GEM	**Giv'at Ha'Em**	**2.73**	**84**	P	**Pn**	**21 56 53.7**	**-0.3**	
GEM	**Giv'at Ha'Em**	**2.73**	**84**	S	**Sn**	**21 57 25.8**	**0.0**	
GEM	**Giv'at Ha'Em**	**2.73**	**84**	P	**Pn**	**21 56 52.9**	**-1.1**	
DQRL	**Deir Qamar**	**2.73**	**74**	*eP*	**Pn**	**21 56 54.2**	**0.0**	
QRNJ	**Al-Qirein**	**2.73**	**103**	P	**Pn**	**21 56 53.7**	**-0.3**	
UJAP	**Al Uja**	**2.76**	**111**	S	**Sn**	**21 57 26.1**	**-0.5**	
UJAP	**Al Uja**	**2.76**	**111**	P	**Pn**	**21 56 53.2**	**-1.3**	
QRWL	**Qaraoun**	**2.79**	**77**	*eP*	**Pn**	**21 56 54.8**	**-0.1**	
NATI	**Neve Ativ**	**2.79**	**83**	P	**Pn**	**21 56 54.2**	**-0.7**	
NATI	**Neve Ativ**	**2.79**	**83**	S	**Sn**	**21 57 27.3**	**0.0**	
NATI	**Neve Ativ**	**2.79**	**83**	P	**Pn**	**21 56 53.9**	**-1.0**	
YTIR	**Yattir**	**2.79**	**125**	P	**Pn**	**21 56 54.7**	**-0.3**	
YTIR	**Yattir**	**2.79**	**125**	S	**Sn**	**21 57 27.0**	**-0.5**	
YTIR	**Yattir**	**2.79**	**125**	P	**Pn**	**21 56 53.8**	**-1.2**	
SHBL	**Chebaa**	**2.81**	**82**	*eP*	**Pn**	**21 56 54.4**	**-0.9**	
DSI	**Dead Sea**	**2.87**	**119**	P	**Pn**	**21 56 55.7**	**-0.3**	
DSI	**Dead Sea**	**2.87**	**119**	S	**Sn**	**21 57 28.7**	**-0.6**	
DSI	**Dead Sea**	**2.87**	**119**	P	**Pn**	**21 56 54.7**	**-1.3**	
RCY	**Rachaya**	**2.90**	**79**	*eP*	**Pn**	**21 56 58.3**	**+1.7**	
MDBI	**Mazsada**	**2.99**	**123**	P	**Pn**	**21 56 57.8**	**+0.2**	
MDBI	**Mazsada**	**2.99**	**123**	S	**Sn**	**21 57 31.0**	**-1.2**	
MDBI	**Mazsada**	**2.99**	**123**	P	Pn	21 56 55.9	-1.7	
MSBI	**Mazada**	**2.99**	**123**	S	**Sn**	**21 57 31.3**	**-0.9**	
MSBI	**Mazada**	**2.99**	**123**	P	**Pn**	**21 56 56.3**	**-1.2**	
ZAHL	**Zahle**	**3.02**	**72**	*eP*	**Pn**	**21 56 57.4**	**-0.8**	
HHAG	**Hagoal**	**3.03**	**185**	P	**Pn**	**21 56 58.0**	**-0.3**	
HHAG				S	**Sn**	**21 57 32.2**	**-1.0**	
KOT	**Kottamia**	**3.08**	**190**	P	**Pn**	**21 56 58.5**	**-0.5**	
GHAJ	**Ghor Haditha**	**3.14**	**121**	P	**Pn**	**21 57 00.8**	**+1.1**	
GHAJ	**Ghor Haditha**	**3.14**	**121**	S	**Sn**	**21 57 35.3**	**-0.6**	
GHAJ	**Ghor Haditha**	**3.14**	**121**	P	**Pn**	**21 57 00.1**	**+0.4**	
HWQ	**Hawqa**	**3.21**	**65**	*eP*	Pn	21 56 59.0	-1.8	
HSUJ	**Al Zarqa**	**3.30**	**104**	P	**Pn**	**21 57 02.4**	**+0.5**	
ZFRI	**Zfri**	**3.37**	**135**	P	**Pn**	**21 57 02.2**	**-0.6**	
ZFRI	**Zfri**	**3.37**	**135**	S	**Sn**	**21 57 40.5**	**-1.0**	
ZFRI	**Zfri**	**3.37**	**135**	P	Pn	21 57 01.4	-1.4	
PRNI	**Paran**	**3.42**	**139**	P	**Pn**	**21 57 03.2**	**-0.4**	
PRNI	**Paran**	**3.42**	**139**	S	**Sn**	**21 57 41.1**	**-1.8**	
PRNI	**Paran**	**3.42**	**139**	P	Pn	21 57 02.0	-1.6	
KRMI	**Paran Flat**	**3.46**	**145**	P	**Pn**	**21 57 03.8**	**-0.4**	
KRMI	**Paran Flat**	**3.46**	**145**	S	**Sn**	**21 57 43.2**	**-0.7**	
KRMI	**Paran Flat**	**3.46**	**145**	P	Pn	21 57 02.7	-1.5	
HNAT	**Natroun**	**3.68**	**205**	P	**Pn**	**21 57 07.2**	**+0.1**	
HRFI	**Mount Harif**	**3.68**	**142**	P	**Pn**	**21 57 07.3**	**+0.1**	
HRFI	**Mount Harif**	**3.68**	**142**	S	**Sn**	**21 57 48.5**	**-0.9**	
HRFI	**Mount Harif**	**3.68**	**142**	P	Pn	21 57 05.7	-1.5	
MBRI	**Mt Berech**	**3.82**	**146**	P	**Pn**	**21 57 08.9**	**-0.3**	
MBRI	**Mt Berech**	**3.82**	**146**	S	**Sn**	**21 57 51.9**	**-1.0**	
MBRI	**Mt Berech**	**3.82**	**146**	P	**Pn**	**21 57 07.8**	**-1.3**	
ASF	**Jabal al Asfar**	**3.86**	**101**	P	**Pn**	**21 57 10.0**	**+0.3**	
HSNJ	**Maan**	**3.89**	**133**	P	**Pn**	**21 57 11.9**	**+1.8**	
EIL	**Elat**	**3.94**	**146**	S	**Sn**	**21 57 54.9**	**-0.8**	
EIL	**Elat**	**3.94**	**146**	P	**Pn**	**21 57 10.3**	**-0.4**	
HBST	**Basata**	**4.24**	**152**	P	**Pn**	**21 57 14.4**	**-0.4**	
HKAT	**Jabal Katrina**	**4.64**	**163**	P	**Pn**	**21 57 19.7**	**-0.9**	
HDHB	**Dhahab**	**4.64**	**155**	P	**Pn**	**21 57 20.1**	**-0.2**	
TR2	**Tor 2**	**4.71**	**166**	P	**Pn**	**21 57 20.7**	**-0.6**	
HHRG	**Al Ghardaqah**	**5.83**	**170**	P	**Pn**	**21 57 38.0**	**+1.4**	
APE	**Apeiranthos**	**6.97**	**308**	P	Pn	21 57 48.7	-3.7	

AUST 18 22:09:21.2±1.4, 18°S±8″×12°1E±°, h17km±13km, mb3.7/5, ML2.6/5, Error ellipse: s-maj=21.7km s-min=5.5km az=138.1, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.87**	**197**	P	Pn	22 10 06.1	0.0
MBWA				S	Sn	22 10 41.4	+1.2
PSAC1	**Pilbara Seismi**	**3.21**	**194**	P	Pn	22 10 11.0	+0.1
PSAC1				S	Sn	22 10 49.6	+0.9
PSAA1	**Pilbara Seismi**	**3.24**	**193**	P	Pn	22 10 10.7	-0.6
PSAA1				S	Sn	22 10 50.5	+1.0
FITZ	**Fitzroy Crossi**	**4.78**	**87**	P	Pn	22 10 33.7	+1.2
GIRL	**Giralia**	**7.32**	**234**	P	Pn	22 11 03.8	-3.6
KNRA	**Kununurra**	**8.25**	**72**	S	Sn	22 12 53.6	+0.6
	comp=Z,8.5nm,1.8s,comp=Z,0.0nm						
MEEK	**Meekatharra**	**8.40**	**192**	P	Pn	22 11 21.4	-0.9
	comp=Z,15nm,2.2s						
MEEK	**Meekatharra**	**8.40**	**192**	S	Sn	22 12 52.5	-4.3
WRKA	**Warakurna**	**9.72**	**134**	P	Pn	22 11 43.1	+2.7
	comp=Z,2.2nm,2.0s,comp=Z,0.0nm						
WRKA				S	Sn	22 13 30.0	+0.8
MORW	**Morawa**	**11.41**	**201**	P	Pn	22 12 00.2	-3.2
	comp=Z,12nm,2.3s						
MORW	**Morawa**	**11.41**	**201**	S	Sn	22 13 59.2	-11
FORT	**Forrest**	**14.05**	**153**	S	Sn	22 15 10.2	-4.9
	comp=Z,5.1nm,2.1s						

*IDC **18** 22:15:40.9±0.8, 19°.06N×121°.45E, h0km, mb3.9/15, mbtmp4.0/18, ML4.1/3, MS3.3/12, Error ellipse: s-maj=21.9km s-min=16.1km az=83.0*
*NEIC **18** 22:15:46.0±1.6, 19°.13N±0°.08×121°.4E±0°.1, h34km±6km, mb4.3/70, Error ellipse: s-maj=14.6km s-min=11.3km az=97.0*
ISC 18 22:15:46.9±0.5, 19°.13N±0°.05×121°.4E±0°.1, h46km, n115, σ1§14/103, mb4.1/50, MS3.4/11, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**3.68**	**356**	Pn	**Pn**	**22 16 38.7**	**-2.7**
TWG				Sn	**Sn**	**22 17 21.0**	**-2.5**
TPUB	**Ta-pu**	**4.21**	**351**		**Pn**	**22 16 46.0**	**-2.6**
YULB	**Yu-li**	**4.24**	**359**		**Pn**	**22 16 47.1**	**-1.9**
YULB				Sn	**Sn**	**22 17 35.6**	**-1.7**
SSLB	**Suanglung**	**4.65**	**355**		**Pn**	**22 16 52.0**	**-2.6**
NACB	**Ninganchiao**	**5.02**	**2**		**Pn**	**22 16 57.7**	**-2.0**
YHNB	**Yeheng**	**5.51**	**360**		**Pn**	**22 17 06.0**	**-0.6**
HKPS	**Hong Kong Po S**	**7.46**	**296**	Pn	Pn	22 17 28.7	-4.5
JOW	**Kunigami**	**9.95**	**38**	Pn	**Pn**	**22 18 06.5**	**-0.8**
	2.7nm,0.3s,baz=250,slow=17,SNR=2.5 20nm,0.5s						
KKM	**Kota Kinabalu**	**13.95**	**202**	P	**P**	**22 19 08.4**	**-0.6**
JNU	**Nakatsue**	**16.32**	**30**	Pn	**Pn**	**22 19 33.2**	**+0.3**
	0.7nm,0.3s,baz=171,slow=13,SNR=4.1						
JNU				LR	LR	22 26 03.9	
	comp=Z,101nm,18.6s,baz=226,slow=38 11nm,0.9s						
SBUM	**Sibu**	**18.85**	**209**		**P**	**22 20 01.6**	**-1.6**
SBUM				IAmb	IAmb	22 20 06.8	
	comp=Z,15nm,0.8s						
KSRS	**Korea Array**	**19.13**	**16**	P	**P**	**22 20 05.5**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=198,slow=12,SNR=11 comp=Z,1.9nm,0.4s						
CMAR	**Chiang Mai Arr**	**21.25**	**272**	P	**P**	**22 20 28.7**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=72,slow=8.7,SNR=10						
CMAR				LR	LR	22 29 23.9	
	comp=Z,34nm,19.0s,baz=110,slow=39 comp=Z,1.0nm,0.3s						
INU	**Inuyama**	**21.27**	**37**		**P**	**22 20 31.2**	**+1.9**
INU				IAmb	IAmb	22 20 33.8	
	comp=Z,13nm,0.6s						
BJT	**Baijiatuau**	**21.30**	**349**	P	**P**	**22 20 31.4**	**+1.8**
JGF	**Kuroka**	**21.64**	**37**	P	**P**	**22 20 34.0**	**+0.6**
JGF				IAmb	IAmb	22 20 35.2	
	comp=Z,12nm,0.6s						
MJAR	**Matsushiro Arr**	**22.79**	**37**	P	**P**	**22 20 45.2**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=196,slow=7.5,SNR=5.5						
MJAR				LR	LR	22 30 00.1	
	comp=Z,18nm,19.8s,baz=208,slow=38 comp=Z,0.9nm,0.4s						
KULM	**Kulim**	**24.44**	**238**	P	**P**	**22 21 01.8**	**+0.2**
KULM				IAmb	IAmb	22 21 02.4	
	comp=Z,10.0nm,0.9s						
JMM	**Marumori**	**25.20**	**38**	P	**P**	**22 21 08.0**	**-0.2**
JMM				IAmb	IAmb	22 21 11.4	
	comp=Z,8.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**26.53**	**17**	P	**P**	**22 21 20.1**	**0.0**
	comp=Z,0.9nm,0.5s,baz=212,slow=9.9,SNR=4.3 comp=Z,0.9nm,0.5s						
JTM	**Tenmabayashi**	**27.39**	**34**	P	**P**	**22 21 28.0**	**0.0**
ASAJ	**Asahikawa**	**30.59**	**31**	LR	LR	22 33 32.1	
	comp=Z,50nm,21.8s,baz=189,slow=35						
SONM	**Songino Array**	**31.12**	**340**	P	**P**	**22 22 01.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=151,slow=9.5,SNR=4.1						
SONM				LR	LR	22 36 10.9	
	comp=Z,72nm,18.2s,baz=180,slow=39 comp=Z,0.3nm,0.3s						
KNRA	**Kununurra**	**35.34**	**168**	P	**P**	**22 22 36.6**	**-1.4**
KNRA				IAmb	IAmb	22 22 44.7	
	comp=Z,5.6nm,1.1s						
PSA00	**Pilbara Seismi**	**40.48**	**182**	P	**P**	**22 23 20.8**	**-0.5**
WB0	**Warramunga Arr**	**40.71**	**161**	P	**P**	**22 23 22.2**	**-1.0**
WRA	**Warramunga Arr**	**40.86**	**161**	P	**P**	**22 23 23.4**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=342,slow=8.9,SNR=18 comp=Z,1.1nm,0.4s						
WR8	**Warramunga Arr**	**40.92**	**161**	P	**P**	**22 23 24.3**	**-0.7**
GIRL	**Giralia**	**42.10**	**190**	P	**P**	**22 23 35.1**	**+0.5**
MKAR	**Makanchi Array**	**42.19**	**320**	P	**P**	**22 23 35.2**	**0.0**
	comp=Z,1.2nm,0.9s,baz=111,slow=8.6,SNR=6.9 comp=Z,1.2nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**42.80**	**83**	T	T	23 09 26.6	
	baz=278,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**42.81**	**83**	T	T	23 09 22.7	
	baz=278,slow=75,SNR=20						
H11S2	**WAKE ISLAND Hy**	**42.82**	**83**	T	T	23 09 23.1	
	baz=278,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**42.83**	**81**	T	T	23 09 26.2	
	baz=277,slow=75,SNR=22						
H11N2	**WAKE ISLAND Hy**	**42.83**	**81**	T	T	23 09 25.7	
	baz=277,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**42.84**	**81**	T	T	23 09 29.4	
	baz=277,slow=75,SNR=18						
YAK	**Yakutsk**	**43.25**	**6**	LR	LR	22 44 35.8	
	comp=Z,56nm,18.7s,baz=214,slow=40						
PETK	**Petropavlovsk-**	**44.02**	**31**	P	**P**	**22 23 50.8**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=210,slow=8.3,SNR=3.6						
PETK				LR	LR	22 42 41.6	
	comp=Z,33nm,19.9s,baz=212,slow=37 comp=Z,1.5nm,0.7s						
AS31	**Alice Springs**	**44.26**	**163**	P	**P**	**22 23 52.2**	**+0.1**
ASAR	**Alice Springs**	**44.26**	**163**	P	**P**	**22 23 51.2**	**-0.8**
ASAR	**Alice Springs**	**44.26**	**163**	P	**P**	**22 23 52.1**	**0.0**
	comp=Z,0.9nm,0.3s,baz=339,slow=6.5,SNR=19 comp=Z,0.9nm,0.3s						
ZAA0	**Zalesovo Array**	**44.63**	**330**	P	**P**	**22 23 57.2**	**+2.5**
ZALV	**Zalesovo Beam**	**44.63**	**330**	P	**P**	**22 23 56.9**	**+2.2**
ZALV	**Zalesovo Beam**	**44.63**	**330**	P	**P**	**22 23 56.6**	**+2.0**
	comp=Z,0.6nm,0.5s,baz=117,slow=8.4,SNR=2.7 comp=Z,0.6nm,0.5s						
MA2	**Magdan**	**45.60**	**20**	LR	LR	22 42 29.9	
	comp=Z,34nm,21.2s,baz=238,slow=35						
FRU1	**Bishkek**	**45.79**	**312**	P	**P**	**22 24 04.2**	**0.0**
AAK	**Ala-Archa**	**45.84**	**311**	LR	LR	22 44 27.2	
	comp=Z,61nm,19.2s,baz=196,slow=38						
KURBB	**Kurchatov Arra**	**46.16**	**323**	P	**P**	**22 24 07.3**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=123,slow=7.2,SNR=5.9 comp=Z,0.4nm,0.6s						
MORW	**Morawa**	**48.19**	**186**	P	**P**	**22 24 23.0**	**+0.1**
FORT	**Forrest**	**50.04**	**172**	P	**P**	**22 24 37.1**	**+0.2**
NWAO	**Narrogin (SRO)**	**51.91**	**184**	P	**P**	**22 24 50.5**	**-0.5**
TIXI	**Tiksi**	**52.71**	**3**	LR	LR	22 50 21.0	
	comp=Z,53nm,18.9s,baz=191,slow=39						
BBOO	**Buckleboo**	**53.52**	**165**	P	**P**	**22 25 03.7**	**+0.8**
AB31	**Akbulak array**	**57.16**	**317**	P	**P**	**22 25 29.1**	**+0.1**
N15K	**Kwethluk River**	**67.91**	**32**	P	**P**	**22 26 41.2**	**+0.7**
O15K	**Ungalikthiuk R**	**68.05**	**33**	P	**P**	**22 26 41.0**	**-0.4**
FUTU	**Fugatoga**	**68.20**	**115**	P	**P**	**22 26 41.2**	**-1.8**
CNBA	**Chernabura Isl**	**68.30**	**38**	P	**P**	**22 26 42.4**	**-0.6**
C19K	**Lookout Ridge**	**68.37**	**22**	P	**P**	**22 26 45.8**	**+2.5**
J17K	**VABM Dome**	**68.40**	**28**	P	**P**	**22 26 42.4**	**-1.1**
J17K				IAmb	IAmb	22 26 52.3	
	comp=Z,5.4nm,1.1s						
G18K	**Tagagawik**	**68.61**	**26**	P	**P**	**22 26 44.3**	**-0.6**
G18K				IAmb	IAmb	22 27 03.7	
	comp=Z,2.4nm,1.1s						
J18K	**Innoko River**	**69.46**	**28**	P	**P**	**22 26 50.0**	**-0.1**
L18K	**Granite Mounta**	**69.52**	**30**	P	**P**	**22 26 51.2**	**+0.7**
L18K				IAmb	IAmb	22 26 52.4	
	comp=Z,1.6nm,0.7s						
H19K	**Roundabout Mou**	**69.53**	**26**	P	**P**	**22 26 50.0**	**-0.4**
H19K				IAmb	IAmb	22 26 52.0	
	comp=Z,3.5nm,0.9s						
O18K	**Koktuh Hills**	**70.37**	**32**	P	**P**	**22 26 56.4**	**+0.6**
L19K	**White Mountain**	**70.38**	**30**	P	**P**	**22 26 56.7**	**+0.8**
L19K				IAmb	IAmb	22 26 59.4	
	comp=Z,3.5nm,1.1s						
E21K	**Killik River**	**70.41**	**23**	P	**P**	**22 26 56.2**	**+0.3**
E21K				IAmb	IAmb	22 27 10.5	
	comp=Z,1.3nm,0.8s						
J20K	**Nowinta River**	**70.57**	**28**	P	**P**	**22 26 58.0**	**+1.1**
J20K				IAmb	IAmb	22 27 12.1	
	comp=Z,2.3nm,1.1s						
M19K	**Big River Lodg**	**70.61**	**30**	P	**P**	**22 26 58.4**	**+1.1**
M19K				IAmb	IAmb	22 26 58.5	
	comp=Z,4.4nm,1.1s						
IMAR	**Indian Mountai**	**70.62**	**26**	P	**P**	**22 26 58.0**	**+0.8**
N19K	**Bonanza Creek**	**70.65**	**31**	P	**P**	**22 26 57.5**	**-0.2**
N19K				IAmb	IAmb	22 26 59.1	
	comp=Z,2.3nm,0.7s						
K20K	**Telida**	**70.66**	**28**	P	**P**	**22 26 58.1**	**+0.6**
K20K				IAmb	IAmb	22 27 05.5	
	comp=Z,4.2nm,1.1s						
D22K	**Ayikyak River**	**70.86**	**22**	P	**P**	**22 26 59.1**	**+0.4**
D22K				IAmb	IAmb	22 27 08.1	
	comp=Z,1.8nm,0.8s						
H21K	**Melozitna Rive**	**71.03**	**26**	P	**P**	**22 26 60.0**	**+0.2**
H21K				IAmb	IAmb	22 27 01.6	
	comp=Z,3.2nm,1.0s						
M20K	**Styx River**	**71.21**	**30**	P	**P**	**22 27 01.6**	**+0.6**
M20K				IAmb	IAmb	22 27 05.6	
	comp=Z,2.8nm,1.1s						
CAST	**Castle Rocks**	**71.54**	**28**	P	**P**	**22 27 03.4**	**+0.5**
CAST				IAmb	IAmb	22 27 04.4	
	comp=Z,3.3nm,0.6s						
PPLA	**Purkeypile**	**71.55**	**29**	P	**P**	**22 27 03.4**	**+0.3**
PPLA				IAmb	IAmb	22 27 20.9	
	comp=Z,6.5nm,1.2s						
D23K	**Nanushuk River**	**71.58**	**22**	P	**P**	**22 27 03.7**	**+0.7**
D23K				IAmb	IAmb	22 27 06.0	
	comp=Z,1.9nm,0.8s						
OHAK	**Old Harbor**	**71.63**	**35**	P	**P**	**22 27 02.7**	**-0.8**
OHAK				IAmb	IAmb	22 27 03.7	
	comp=Z,5.9nm,1.0s						
KDAK	**Kodiak Island**	**71.94**	**34**	P	**P**	**22 27 04.8**	**-0.5**
KDAK				IAmb	IAmb	22 27 07.0	
	comp=Z,4.2nm,0.8s						
SKT	**Skwentna**	**71.95**	**30**	P	**P**	**22 27 04.8**	**-0.6**
SKT				IAmb	IAmb	22 27 17.7	
	comp=Z,2.6nm,1.1s						
H23K	**Yukon River**	**72.36**	**26**	P	**P**	**22 27 08.4**	**+0.7**
CNPM	**China Poot**	**72.41**	**32**	P	**P**	**22 27 07.6**	**-0.5**
E24K	**Your Creek**	**72.48**	**23**	P	**P**	**22 27 09.4**	**+1.0**
F24K	**Squaw Lake**	**72.78**	**24**	P	**P**	**22 27 11.1**	**+0.8**
F24K				IAmb	IAmb	22 27 25.7	
	comp=Z,1.9nm,0.8s						
H24K	**Noodor Dome**	**73.03**	**25**	P	**P**	**22 27 12.4**	**+0.6**
D25K	**Kavik River**	**73.06**	**22**	P	**P**	**22 27 11.3**	**-0.6**
D25K				IAmb	IAmb	22 27 14.9	
	comp=Z,6.0nm,1.1s						
ILAR	**Eielson Array**	**73.62**	**27**	P	**P**	**22 27 14.3**	**-0.8**
ILAR	**Eielson Array**	**73.62**	**27**	P	**P**	**22 27 14.6**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=303,slow=7.1,SNR=4.5 comp=Z,0.5nm,0.8s						
F25K	**Christian Rive**	**73.62**	**24**	P	**P**	**22 27 15.2**	**0.0**
SCM	**Sheep Creek Mo**	**73.94**	**30**	P	**P**	**22 27 17.3**	**+0.1**
SCM				IAmb	IAmb	22 27 18.2	
	comp=Z,4.6nm,0.6s						
BMAR	**Burnt Mountain**	**74.05**	**24**	P	**P**	**22 27 18.5**	**+0.8**
GLI	**Glacier Island**	**74.23**	**31**	P	**P**	**22 27 17.9**	**-0.9**
GLI				IAmb	IAmb	22 27 19.5	
	comp=Z,4.2nm,0.7s						
P23K	**Montague Islan**	**74.24**	**31**	P	**P**	**22 27 19.5**	**+0.6**
ARCES	**ARCESS Array B**	**74.28**	**339**	P	**P**	**22 27 20.2**	**+1.3**
ARCES	**ARCESS Array B**	**74.28**	**339**	P	**P**	**22 27 22.1**	**+3.1**
	comp=Z,1.3nm,0.7s,baz=59,slow=7.4,SNR=4.3 comp=Z,1.3nm,0.7s						
FID	**Port Fidalgo**	**74.55**	**31**	P	**P**	**22 27 20.5**	**-0.2**
FID				IAmb	IAmb	22 27 26.2	
	comp=Z,1.8nm,0.6s						
HIN	**Hinchinbrook I**	**74.61**	**31**	P	**P**	**22 27 21.2**	**+0.1**
KLU	**Klutina**	**74.67**	**30**	P	**P**	**22 27 22.2**	**+0.8**
KLU				IAmb	IAmb	22 27 29.7	
	comp=Z,2.6nm,1.1s						
RIDG	**Independent Ri**	**74.69**	**27**	P	**P**	**22 27 22.1**	**+0.6**
RIDG				IAmb	IAmb	22 27 31.5	
	comp=Z,4.0nm,1.2s						
SCRK	**Sand Creek**	**75.01**	**27**	P	**P**	**22 27 23.1**	**-0.4**
J26L	**Joseph Creek**	**75.07**	**27**	P	**P**	**22 27 22.9**	**-0.8**
J26L				IAmb	IAmb	22 27 24.1	
	comp=Z,1.9nm,0.8s						
H27K	**Steamboat Moun**	**75.50**	**25**	P	**P**	**22 27 26.6**	**+0.5**
GLB	**Gilahina Butte**	**75.67**	**30**	P	**P**	**22 27 27.4**	**+0.2**
GLB				IAmb	IAmb	22 27 30.1	
	comp=Z,4.4nm,1.2s						
FINES	**FINESS Array B**	**75.89**	**330**	P	**P**	**22 27 30.3**	**+2.0**
	comp=Z,2.2nm,1.1s,baz=100,slow=5.8,SNR=4.1 comp=Z,2.2nm,1.1s						
L27K	**Beaver Creek,**	**76.17**	**28**	P	**P**	**22 27 31.1**	**+1.2**
BCAR	**Beaver Creek A**	**76.19**	**28**	P	**P**	**22 27 31.0**	**+0.9**
M27K	**Edge Creek, AK**	**76.33**	**28**	P	**P**	**22 27 31.5**	**+0.5**
I28M	**Miner Creek**	**76.33**	**25**	P	**P**	**22 27 31.5**	**+0.6**
I28M				IAmb	IAmb	22 27 36.3	
	comp=Z,2.1nm,0.9s						
G29M	**Pine Creek**	**76.66**	**23**	P	**P**	**22 27 33.0**	**+0.3**
G29M				IAmb	IAmb	22 27 52.8	
	comp=Z,2.2nm,0.9s						
H29M	**Whitestone**	**76.73**	**24**	P	**P**	**22 27 32.9**	**-0.1**
HFS	**Hagfors**	**82.05**	**331**	P	**P**	**22 28 05.4**	**+3.3**
	comp=Z,2.0nm,1.0s,baz=79,slow=7.5,SNR=2.7 comp=Z,2.0nm,1.0s						
NOA	**NORSAR Array B**	**82.76**	**333**	LR	LR	23 08 47.3	
	comp=Z,31nm,18.3s,baz=0.0,slow=38						
YKA	**Yellowknife Ar**	**87.54**	**23**	P	**P**	**22 28 29.8**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=292,slow=12,SNR=3.9 comp=Z,0.9nm,0.7s						
BORG	**Borgarnes**	**91.63**	**345**	LR	LR	23 12 41.5	
	comp=Z,31nm,21.6s,baz=330,slow=37						

*WEL **18** 22:34:42.9±0.6, 43°S±5°×17°7E±°, h33km, M3.5/15, ML3.9/21, MLv3.5/15, Error ellipse: s-maj=6.4km s-min=5.9km az=42.7, confirmed*
*NOU **18** 22:34:43.6, 42°.34S×177°.07E, h0km, MLv3.8/11, Off E. Coast of S. Island, N.Z.*
ISC 18 22:34:39.8±1.4, 42°.64S±0°.05×177°.62E±0°.05, h35km, n89, σ2§05/98, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRWZ	**Traveller**	**1.90**	**310**	P	**Pn**	**22 35 11.1**	**+1.3**
TRWZ				S	Sn	22 35 29.8	-2.7
CPWZ	**Castlepoint**	**2.03**	**328**	P	**Pn**	**22 35 13.4**	**+1.9**
CPWZ				S	Sn	**22 35 34.2**	**-1.4**
PLWZ	**Palliser**	**2.06**	**301**	P	**Pn**	**22 35 13.3**	**+1.2**
PAWZ	**Paruwai Farm**	**2.06**	**307**	P	**Pn**	**22 35 13.2**	**+1.1**
PAWZ				S	Sn	22 35 34.0	-2.6
MSWZ	**Moikau Station**	**2.15**	**304**	P	**Pn**	**22 35 13.7**	**+0.5**
MSWZ				S	Sn	22 35 36.1	-2.6
MTW	**Mount Morrison**	**2.17**	**312**	P	**Pn**	**22 35 14.6**	**+1.2**
BFZ	**Birch Farm**	**2.21**	**332**	P	**Pn**	**22 35 15.5**	**+1.5**
BFZ	**Birch Farm**	**2.21**	**332**	S	**Sn**	**22 35 37.5**	**-2.7**
BFZ	**Birch Farm**	**2.21**	**332**	P	**Pn**	**22 35 15.6**	**+1.5**
TIWZ	**Tintock**	**2.27**	**325**	P	**Pn**	**22 35 16.6**	**+1.7**
TIWZ				S	Sn	**22 35 40.2**	**-1.4**
HOWZ	**Holdsworth Sta**	**2.35**	**317**	P	**Pn**	**22 35 16.9**	**+0.9**
HOWZ				S	Sn	22 35 40.8	-2.8
BHW	**Baring Head**	**2.39**	**300**	P	**Pn**	**22 35 17.7**	**+1.2**
PRWZ	**Pori Road**	**2.42**	**329**	P	**Pn**	**22 35 18.9**	**+2.0**
PRHZ	**Porangahau**	**2.49**	**342**	P	**Pn**	**22 35 19.5**	**+1.7**
MRZ	**Mangatainoka R**	**2.50**	**322**	P	**Pn**	**22 35 19.5**	**+1.4**
WEL	**Wellington**	**2.52**	**302**	P	**Pn**	**22 35 19.8**	**+1.5**
SNZO	**South Karori**	**2.55**	**300**	P	**Pn**	**22 35 19.9**	**+1.3**
SNZO	**South

az=93.0
*NEIC **18** 22:37:58.6±1.4,21°.85S±0°.10×169°.19E±0°.03,h10km±1km, mb4.6/28,Error ellipse: s-maj=17.2km s-min=4.2km az=167.0*

ISC 18 22:37:57.8±0.5,21°.85S±0°.06×169°.21E±0°.07,h10km,n69, σ0.87/75,mb4.5/27,2C-1D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PINNC	**Pines Island,**	**1.81**	**245**		**Pn**	**22 38 29.2**	**+0.1**
PINNC				Sn	**Sn**	**22 38 50.1**	**-1.9**
PINNC	**Pines Island,**	**1.81**	**245**	P	**Pn**	**22 38 29.1**	**+0.1**
YATNC	**Mamie plateau,**	**2.17**	**264**	P	**Pn**	**22 38 33.6**	**-0.4**
OUENC	**Ouen Island, N**	**2.27**	**255**	P	**Pn**	**22 38 36.1**	**+0.7**
INH	**Isangel**	**2.29**	**1**	P	**Pn**	**22 38 35.4**	**-0.2**
DZM	**Mont Dzumac**	**2.58**	**264**		**Pn**	**22 38 40.2**	**+0.5**
DZM				Sn	**Sn**	**22 39 10.4**	**-0.9**
DZM	**Mont Dzumac**	**2.58**	**264**	Pn	**Pn**	**22 38 40.4**	**+0.7**
	53nm,0.3s,baz=90,slow=20						
DZM				Sn	**Sn**	**22 39 09.8**	**-1.4**
	baz=156,slow=20						
DZM	**Mont Dzumac**	**2.58**	**264**	P	**Pn**	**22 38 40.5**	**+0.7**
ONTNC	**Ouen Toro**	**2.60**	**259**		**Pn**	**22 38 40.4**	**+0.4**
ONTNC				Sn	**Sn**	**22 39 12.0**	**+0.4**
ONTNC	**Ouen Toro**	**2.60**	**259**	P	**Pn**	**22 38 40.7**	**+0.7**
DVP	**Devils Point**	**4.21**	**347**	P	**Pn**	**22 39 02.6**	**+0.5**
KOUNC	**Koumac, New Ca**	**4.77**	**285**	P	**Pn**	**22 39 11.9**	**+2.0**
EIDS	**Eidsvold**	**16.98**	**255**	P	**P**	**22 41 57.5**	**0.0**
ARMA	**Armidale**	**17.93**	**238**		**Pn**	**22 42 06.7**	**-0.9**
RTZ	**Ruatahuna**	**18.00**	**160**		**P**	**22 42 09.8**	**+1.1**
TOO	**Toolangi**	**25.78**	**227**	P	**P**	**22 43 30.1**	**+1.1**
COEN	**Coen**	**25.96**	**283**	P	**P**	**22 43 31.5**	**+0.7**
COEN				IAmb	IAmb	22 44 06.0	
	comp=Z,21nm,1.4s						
STKA	**Stephens Creek**	**26.52**	**242**	P	**P**	**22 43 38.0**	**+2.3**
	comp=Z,0.6nm,0.4s,baz=96,slow=5.7,SNR=3.4						
	comp=Z,0.6nm,0.4s						
PATS	**Pohnpei**	**30.44**	**338**	P	**P**	**22 44 11.1**	**+0.4**
BBOO	**Buckleboo**	**31.29**	**242**	P	**P**	**22 44 18.0**	**-0.2**
WR0	**Warramunga Arr**	**32.41**	**267**	P	**P**	**22 44 28.9**	**+0.7**
WR0				IAmb	IAmb	22 44 50.9	
	comp=Z,8.4nm,1.4s						
WR8	**Warramunga Arr**	**32.44**	**267**	P	**P**	**22 44 27.2**	**-1.2**
WR8				IAmb	IAmb	22 44 28.8	
	comp=Z,11nm,1.4s						
ASAR	**Alice Springs**	**32.56**	**260**	P	**P**	**22 44 29.3**	**-0.2**
ASAR	**Alice Springs**	**32.56**	**260**	P	**P**	**22 44 29.6**	**0.0**
	comp=Z,2.4nm,0.8s,baz=82,slow=9.2,SNR=19						
ASAR				PcP	**PcP**	**22 47 14.7**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=132,slow=3.9,SNR=2.6						
	comp=Z,2.4nm,0.8s						
WB0	**Warramunga Arr**	**32.58**	**267**	P	**P**	**22 44 28.5**	**-1.2**
WB0				IAmb	IAmb	22 45 02.9	
	comp=Z,15nm,1.4s						
WB2	**Warramunga Arr**	**32.58**	**267**	P	**P**	**22 44 29.2**	**-0.5**
WB2				IAmb	IAmb	22 44 59.9	
	comp=Z,9.7nm,1.4s						
WRA	**Warramunga Arr**	**32.60**	**267**	P	**P**	**22 44 29.1**	**-0.7**
WRA	**Warramunga Arr**	**32.60**	**267**	P	**P**	**22 44 29.1**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=96,slow=8.2,SNR=12						
WRA				PcP	**PcP**	**22 47 14.7**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=106,slow=2.3,SNR=1.8						
	comp=Z,0.7nm,0.5s						
FORT	**Forrest**	**37.77**	**248**	P	**P**	**22 45 14.9**	**+0.6**
FORT				IAmb	IAmb	22 45 15.9	
	comp=Z,9.6nm,1.1s						
KNRA	**Kununurra**	**38.71**	**272**	P	**P**	**22 45 21.4**	**-0.9**
KNRA				IAmb	IAmb	22 45 29.3	
	comp=Z,7.5nm,0.9s						
PSA00	**Pilbara Seismi**	**45.70**	**261**	P	**P**	**22 46 19.0**	**-0.4**
PSA00				IAmb	IAmb	22 46 24.5	
	comp=Z,5.9nm,1.2s						
MBWA	**Marble Bar**	**45.88**	**261**	P	**P**	**22 46 21.0**	**+0.2**
TOLI2	**Tolitoli**	**52.47**	**289**	P	**P**	**22 47 10.7**	**-0.6**
TOLI2				IAmb	IAmb	22 47 11.7	
	comp=Z,7.9nm,1.0s						
VNDA	**Vanda**	**55.84**	**182**	P	**P**	**22 47 34.6**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=339,slow=7.3,SNR=3.5						
	comp=Z,0.8nm,0.8s						
SBA	**Scott Base**	**56.07**	**181**	P	**P**	**22 47 37.5**	**+0.9**
SBA				IAmb	IAmb	22 47 39.1	
	comp=Z,9.3nm,1.0s						
MJAR	**Matsushiro Arr**	**65.04**	**333**	P	**P**	**22 48 37.8**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=123,slow=4.5,SNR=1.2						
	comp=Z,0.5nm,0.3s						
QSPA	**South Pole Qui**	**68.22**	**180**	P	**P**	**22 48 58.9**	**+0.4**
QSPA	**South Pole Qui**	**68.22**	**180**	P	**P**	**22 48 58.9**	**+0.4**
	comp=Z,4.6nm,0.9s,baz=12,slow=0.6,SNR=9.6						
	comp=Z,4.6nm,0.9s						
KSRS	**Korea Array**	**70.64**	**326**	P	**P**	**22 49 13.0**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=139,slow=6.0,SNR=7.0						
	comp=Z,1.7nm,0.7s						
PETK	**Petropavlovsk-**	**75.30**	**353**	P	**P**	**22 49 40.7**	**-0.2**
	comp=Z,3.8nm,0.9s,baz=183,slow=6.7,SNR=3.2						
	comp=Z,3.8nm,0.9s						
MAW	**Mawson**	**76.02**	**202**	P	**P**	**22 49 46.0**	**+1.1**
	comp=Z,2.3nm,0.7s,baz=118,slow=5.5,SNR=8.0						
	comp=Z,2.3nm,0.7s						
BELA	**Belgrano 2**	**79.52**	**175**	P	**P**	**22 50 03.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**79.56**	**295**	P	**P**	**22 50 06.8**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=120,slow=3.3,SNR=4.9						
	comp=Z,1.0nm,0.3s						
TROLL	**Troll, Antarti**	**85.95**	**184**	⇓P	**P**	**22 50 37.4**	**-0.6**
	comp=Z,223nm,0.6s						
SNAA	**Sanae**	**86.57**	**183**	⇑P	**P**	**22 50 40.4**	**-0.6**
	comp=Z,27nm,0.6s						
SNAA	**Sanae**	**86.57**	**183**	P	**P**	**22 50 40.1**	**-0.9**
	comp=Z,2.3nm,0.9s,baz=200,slow=10,SNR=7.3						
	comp=Z,2.3nm,0.9s						
VNA3	**Neumayer Olymp**	**87.16**	**180**	⇑P	**P**	**22 50 43.0**	**-0.8**
	comp=Z,6.1nm,0.8s						
ULN	**Ulaanbaatar**	**88.93**	**323**	P	**P**	**22 50 53.1**	**+0.4**
SONM	**Songino Array**	**89.28**	**323**	P	**P**	**22 50 53.9**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=132,slow=4.9,SNR=9.3						
	comp=Z,1.6nm,0.9s						
NVAR	**Mina Array Bea**	**90.54**	**49**	P	**P**	**22 51 00.4**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=218,slow=8.7,SNR=6.3						
	comp=Z,0.7nm,0.6s						
GMN	**Gold Mountain**	**90.75**	**50**	P	**P**	**22 51 02.4**	**+0.8**
GMN				IAmb	IAmb	22 51 14.1	
	comp=Z,2.2nm,0.7s						
DOT	**Dot Lake**	**92.69**	**19**	P	**P**	**22 51 10.1**	**+0.5**
J08A	**Circle Bar Ran**	**92.71**	**44**	P	**P**	**22 51 10.6**	**+0.3**
J08A				IAmb	IAmb	22 51 38.1	
	comp=Z,3.5nm,1.2s						
IL31		**92.71**	**17**	P	**P**	**22 51 10.9**	**+1.3**
ILAR	**Eielson Array**	**92.71**	**17**	P	**P**	**22 51 11.2**	**+1.5**
L27K	**Beaver Creek,**	**92.95**	**20**	P	**P**	**22 51 09.0**	**-1.9**
L27K				IAmb	IAmb	22 51 27.2	
	comp=Z,2.8nm,1.1s						
BCAR	**Beaver Creek A**	**92.97**	**20**	P	**P**	**22 51 09.2**	**-1.8**
COLD	**Coldfoot**	**93.79**	**15**	P	**P**	**22 51 15.6**	**+1.0**
EKA	**Eskdalemuir Ar**	**146.07**	**352**	PKPbc	**PKPdf**	**22 57 36.5**	**-0.4**
	comp=Z,2.2nm,0.5s,baz=357,slow=2.7,SNR=14						
RONA	**Rosalia, Austr**	**146.26**	**326**	*e*PKP	**PKPab**	**22 57 39.2**	**-0.1**
	comp=Z,1.5nm,0.7s						
CONA	**Conrad Observa**	**146.33**	**327**	*e*PKP	**PKPab**	**22 57 39.7**	**0.0**
	comp=Z,4.2nm,1.5s						
GERES	**GERESS Array B**	**146.75**	**330**	PKPbc	**PKPbc**	**22 57 40.1**	**0.0**
	comp=Z,2.0nm,0.7s,baz=29,slow=3.0,SNR=18						
MOA	**Molln**	**147.18**	**328**	*e*PKP	**PKPab**	**22 57 42.8**	**-0.2**
	comp=Z,3.3nm,1.1s						
SOKA	**Soboth**	**147.58**	**326**	*e*PKP	**PKPbc**	**22 57 42.3**	**-0.2**
	comp=Z,4.6nm,1.3s						
WTTA	**Wattenberg**	**148.85**	**330**	*e*PKiKP	**PKiKP**	**22 57 47.6**	**+0.3**
	comp=Z,1.4nm,0.4s						
MOTA	**Moosalm**	**149.03**	**330**	*e*PKP	**PKPbc**	**22 57 46.1**	**-0.3**
	comp=Z,1.1nm,0.5s						
SQTA	**Sankt Quirin**	**149.08**	**330**	*e*PKP	**PKPbc**	**22 57 46.4**	**-0.1**
	comp=Z,1.8nm,0.4s						
RETA	**Reutte**	**149.08**	**331**	*e*PKP	**PKPbc**	**22 57 46.1**	**-0.3**
	comp=Z,1.1nm,0.6s						
FETA	**Feichten**	**149.45**	**330**	*e*PKP	**PKPbc**	**22 57 47.4**	**0.0**
	comp=Z,1.2nm,0.6s						

IDC 18 22:45:26.3±7.8,24°.10N×142°.96E,h0km,mb3.9/9, mbtmp3.9/9,Error ellipse: s-maj=286.0km s-min=78.4km az=17.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**37.38**	**319**	P	P	22 52 41.1	+0.2
	0.4nm,0.5s,baz=122,slow=9.1,SNR=2.8						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**52.21**	**321**	P	P	22 54 38.3	-0.6
	0.8nm,0.3s,baz=113,slow=7.9,SNR=3.2						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**52.94**	**311**	P	P	22 54 44.5	+0.1
	0.3nm,0.5s,baz=82,slow=8.7,SNR=4.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**55.64**	**316**	P	P	22 55 03.8	-0.2
	1.0nm,0.4s,baz=101,slow=6.3,SNR=4.0						
	1.0nm,0.4s						
BVAR	**Borovoye Array**	**60.72**	**319**	P	P	22 55 39.4	-0.2
	1.5nm,0.4s,baz=88,slow=7.4,SNR=17						
	1.5nm,0.4s						
FINES	**FINESS Array B**	**80.93**	**334**	P	P	22 57 42.7	+0.4
	0.6nm,0.3s,baz=77,slow=4.5,SNR=13						
	0.6nm,0.3s						
AKASG	**Malin Array Be**	**85.44**	**324**	P	P	22 58 05.8	+0.1
	0.4nm,0.3s,baz=50,slow=5.0,SNR=2.9						
	0.4nm,0.3s						
HFS	**Hagfors**	**86.44**	**337**	P	P	22 58 10.5	0.0
	0.7nm,0.8s,baz=68,slow=13,SNR=1.3						
	0.7nm,0.8s						
NOA	**NORSAR Array B**	**86.64**	**339**	P	P	22 58 11.2	-0.4
	0.2nm,0.6s,baz=41,slow=15,SNR=1.5						
	0.2nm,0.6s						

*IDC **18** 23:27:47.4±1.6,52°.06N×155°.44E,h0km,mb3.7/8, mbtmp3.7/9,ML3.7/1,Error ellipse: s-maj=49.4km s-min=25.5km az=85.0*
*KRSC **18** 23:28:30.2±1.7,51°.35N×156°.28E,h455km±14km,Ml3.9*

ISC 18 23:28:29.4±1.8,51°.5N±0°.3×155°.6E±0°.1,h450km,n17, σ1.86/16,mb3.4/8,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAK	**Asacha**	**1.67**	**58**	*e*P	**P**	**23 29 28.8**	**+0.6**
MTVR	**Mutnovka**	**1.87**	**58**	*e*S	**S**	**23 30 18.8**	**+0.8**
RUS	**Russkaya**	**2.03**	**62**	*e*P	**P**	**23 29 30.4**	**+0.5**
UGLR	**Uglovaya**	**2.61**	**48**	*e*P	**P**	**23 29 35.7**	**+2.1**
SDLR	**Sedlovina**	**2.68**	**47**	*e*P	**P**	**23 29 35.4**	**+1.2**
SPN	**Mys Shipunski**	**3.15**	**58**	*e*P	**P**	**23 29 39.2**	**+1.8**
SPN				*e*S	**S**	**23 30 29.5**	**-3.3**
MKZ	**Mys Kozlova**	**4.80**	**48**	*e*P	**P**	**23 29 53.5**	**+2.0**
MKZ				*e*S	**S**	**23 30 55.5**	**-3.2**
KBTR	**Krutoberegovo**	**6.35**	**39**	*e*P	**P**	**23 30 09.0**	**+1.9**
USRK	**Ussuriysk Ar.**	**17.40**	**254**	P	P	23 31 52.4	-13
	0.2nm,0.3s,baz=55,slow=11,SNR=1.9						
	1.8nm,0.7s						
KURBB	**Kurchatov Arra**	**46.29**	**301**	P	**P**	**23 36 11.6**	**-1.1**
	0.7nm,0.4s,baz=62,slow=7.6,SNR=11						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**46.32**	**294**	P	**P**	**23 36 11.8**	**-1.3**
	0.1nm,0.3s,baz=60,slow=6.1,SNR=1.9						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**49.17**	**307**	P	**P**	**23 36 33.3**	**-1.2**
	1.0nm,0.6s,baz=42,slow=6.4,SNR=5.6						
	1.0nm,0.6s						
ARCES	**ARCESS Array B**	**53.89**	**341**	P	**P**	**23 37 09.1**	**+0.6**
	1.9nm,1.0s,baz=34,slow=7.7,SNR=1.3						
	1.9nm,1.0s						
FINES	**FINESS Array B**	**60.42**	**335**	P	**P**	**23 37 54.1**	**+0.6**
	1.3nm,0.9s,baz=57,slow=7.0,SNR=5.9						
	1.3nm,0.9s						
HFS	**Hagfors**	**64.55**	**340**	P	**P**	**23 38 21.2**	**+0.9**
	0.7nm,0.8s,baz=26,slow=3.7,SNR=5.4						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**73.55**	**201**	P	P	23 39 24.5	+9.3
	0.3nm,0.5s,baz=14,slow=4.5,SNR=1.5						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**77.25**	**200**	P	P	23 39 46.2	+10
	0.5nm,0.6s,baz=13,slow=5.0,SNR=4.2						
	0.5nm,0.6s						

*NEIC **18** 23:38:12.3±1.2,47°.87N±0°.05×122°.05W±0°.05,h32km±4km, Error ellipse: s-maj=7.1km s-min=4.6km az=193.0*

SEA 18 23:38:13.0±1.1,47°.85N±0°.05×122°.03W±0°.06,h29km±7km, ML1.3/3,ML1.7/10(NEIC),Error ellipse: s-maj=9.0km s-min=3.7km az=214.0,Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLH	**Bald Hill**	**0.01**	**174**		Pb	23 38 17.6	-0.3
EVGW	**Everett Gatewa**	**0.08**	**274**		Pb	23 38 18.1	0.0
LEOT	**Leota Junior H**	**0.10**	**214**		Pb	23 38 18.4	+0.2
LEOT					Sb	23 38 22.9	+1.2
HTW	**Haystack Looko**	**0.18**	**104**		Pb	23 38 18.7	-0.4
HTW					Sb	23 38 22.7	-0.4
EVCC	**Everett Colleg**	**0.20**	**324**		Sb	23 38 24.3	+1.1
TTW	**Tolt Reservoir**	**0.28**	**124**		Pb	23 38 19.7	-0.4
TTW					Sb	23 38 24.5	-0.4
C05A	**Tolt Reservoir**	**0.28**	**123**		Pb	23 38 19.7	-0.5
C05A					Sb	23 38 24.6	-0.4
SWID	**South Whidbey**	**0.30**	**302**		Sn	23 38 26.4	-0.5
JCW	**Jim Creek**	**0.35**	**11**		Pb	23 38 20.6	-0.5
JCW					Sb	23 38 26.1	-0.6
B05A	**Bryant**	**0.42**	**354**		Pb	23 38 21.3	-0.8
GMW	**Gold Mountain**	**0.59**	**240**		Pb	23 38 23.9	-1.0
GNW	**Green Mountain**	**0.61**	**242**		Pb	23 38 24.1	-1.0
GNW					Sb	23 38 32.6	-0.8
GNW				IAML		23 38 33.0	
	comp=N,49nm,0.2s						
GNW				IAML		23 38 33.0	
	comp=E,54nm,0.2s						
C04A	**Brinnon**	**0.65**	**259**		Pb	23 38 24.6	-1.2
C04A					Sb	23 38 33.3	-1.1
GPW	**Glacier Peak**	**0.66**	**66**		Pb	23 38 25.6	-0.6
D05A	**Enumclaw**	**0.66**	**177**	Pn	Pb	23 38 25.4	-0.6
RPW	**Rockport**	**0.69**	**30**		Pb	23 38 26.0	-0.7
RPW					Sb	23 38 35.3	-0.6
HDW	**Hoodsport**	**0.72**	**254**		Pb	23 38 25.7	-1.3
WRW	**Wenatchee Ridg**	**0.78**	**89**		Pb	23 38 27.4	-0.6
LTY	**Liberty**	**1.10**	**122**		Pn	23 38 31.9	-0.5
LTY				IAML		23 38 48.7	
	comp=N,11nm,0.5s						
LTY				IAML		23 39 14.5	
	comp=E,11nm,4.1s						
PGC	**Sidney**	**1.24**	**311**	Pn	Pn	23 38 33.4	-0.9
PGC				Sn	Sn	23 38 49.6	-0.5
PGC				IAML		23 38 58.7	
	comp=N,18nm,2.5s						
CLRS	**Cowichan Lake**	**1.70**	**306**	Pn	Pn	23 38 39.2	-1.5
C03A	**Quillayute Air**	**1.71**	**274**	Pn	Pn	23 38 41.0	+0.3
MXC	**Moxie City**	**1.74**	**136**	Pn	Pn	23 38 41.1	-0.1
B08A	**Colville Reser**	**1.88**	**73**	Pn	Pn	23 38 41.7	-1.5
B08A				IAML		23 39 51.9	
	comp=E,6.9nm,4.1s						

*NEIC **19** 00:01:10.1±1.5,35°.647N±0°.008×117°.46W±0°.01, h3km±2km,Error ellipse: s-maj=1.5km s-min=1.1km az=112.0*

PAS 19 00:01:10.3±1.3,35°.650N±0°.008×117°.467W±0°.009, h1km±1km,ML3.0/23,ML2.9/149(NEIC),Error ellipse: s-maj=1.4km s-min=0.7km az=135.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.05**	**203**	Pg	Pg	00 01 11.7	+0.3
WSHM				Sg	Sg	00 01 12.5	+0.5
CCCA	**Chr Cany lake**	**0.15**	**146**		Pg	00 01 13.9	+0.8
CCCA				Sg	Sg	00 01 16.6	+1.5
CLC	**China Lake**	**0.20**	**327**		Pg	00 01 14.4	+0.3
CLC				Sg	Sg	00 01 17.3	+0.7
CLC				IAML		00 01 17.6	
	comp=N,4μm,0.4s						
CLC				IAML		00 01 17.7	
	comp=E,4μm,0.5s						
SRTC	**Snort**	**0.23**	**280**		Pg	00 01 15.5	+0.8
LRMC	**Laurel Mtn Rad**	**0.24**	**226**		Pg	00 01 15.2	+0.3
LRMC				Sg	Sg	00 01 18.8	+0.7
TOW	**Tower One**	**0.29**	**303**		Pg	00 01 16.6	+0.8
MPMC	**Manual Prospec**	**0.41**	**357**		Pg	00 01 18.2	+0.1
MPMC					Sg	00 01 24.0	+0.6
MPMC				IAML		00 01 26.1	
	comp=E,944nm,0.8s						
MPMC				IAML		00 01 26.8	
	comp=N,760nm,0.6s						
QSM	**Queen of Sheba**	**0.58**	**57**		Pg	00 01 21.6	+0.3
QSM					Sg	00 01 29.6	+0.7
QSM				IAML		00 01 30.9	
	comp=E,801nm,0.6s						
QSM				IAML		00 01 30.9	
	comp=N,815nm,0.4s						
GSC	**Goldstone, Bar**	**0.64**	**123**		Pg	00 01 22.7	+0.1
GSC				Sg	Sg	00 01 31.5	+0.6
GSC				IAML		00 01 31.8	
	comp=N,978nm,0.5s						
GSC				IAML		00 01 36.2	
	comp=E,679nm,0.5s						
ISA	**Isabella, Lake**	**0.82**	**271**		Pg	00 01 25.8	-0.2
ISA				Sg	Sg	00 01 36.7	+0.1
ISA				IAML		00 01 37.4	
	comp=E,375nm,0.4s						
GWY	**Greenwater Val**	**0.84**	**50**		Pg	00 01 26.3	-0.1
GWY					Sg	00 01 37.6	+0.3
GWY				IAML		00 01 41.8	
	comp=E,673nm,0.5s						
GWY				IAML		00 01 44.5	
	comp=N,698nm,0.7s						
CWC	**Cottonwood Cre**	**0.93**	**328**		Pg	00 01 28.2	+0.1
CWC				Sg	Sg	00 01 40.5	+0.2
TPO	**Tropico Hills**	**0.99**	**219**		Pg	00 01 29.1	-0.1
TPO				Sg	Sb	00 01 43.4	-0.4
TPO				IAML		00 01 46.9	
	comp=N,501nm,0.6s						
DSCC	**Desert Studies**	**1.22**	**114**		Pg	00 01 33.0	-0.7
AMDNV	**Amargosa**	**1.25**	**50**		Pg	00 01 33.3	-0.9
TUQ	**Turquoise Moun**	**1.28**	**99**		Pg	00 01 34.1	-0.6
WCT	**Wildcat Mounta**	**1.33**	**31**		Pg	00 01 34.8	-0.9
WCT				Sg	Sb	00 01 53.5	-0.1
WCT				IAML		00 01 55.9	
	comp=E,277nm,0.5s						
WCT				IAML		00 01 55.0	
	comp=N,131nm,0.4s						
GRAC	**Grapevine Rang**	**1.35**	**3**		Pg	00 01 35.6	-0.4
GRAC				Sg	Sn	00 01 55.1	+0.3
GRAC				IAML		00 01 58.6	
	comp=E,238nm,0.7s						
GRAC				IAML		00 01 59.6	
	comp=N,300nm,0.6s						
BFSC	**Mount Baldy Ra**	**1.42**	**186**		Pn	00 01 36.3	-1.0
BFSC					Sg	00 01 55.1	-0.7
BFSC				IAML		00 01 57.3	
	comp=N,112nm,0.5s						
OSI	**Osito Audit: C**	**1.46**	**225**		Pb	00 01 38.5	+0.2
OSI					Sn	00 01 58.4	+0.8
OSI				IAML		00 01 59.6	
	comp=N,262nm,0.7s						
MWC	**Mount Wilson**	**1.50**	**199**		Sg	00 01 58.1	-0.4
MWC				IAML		00 02 01.0	
	comp=N,184nm,0.5s						
MWC				IAML		00 02 01.4	
	comp=E,149nm,0.5s						
MTPC	**Mountain Pass**	**1.57**	**95**		Pn	00 01 38.8	-0.7
MTPC					Sn	00 01 58.2	-2.3
MTPC				IAML		00 02 02.8	
	comp=E,111nm,0.3s						
MTPC				IAML		00 02 03.2	
	comp=N,88nm,0.3s						
PASC	**Pasadena Art C**	**1.59**	**202**		Pn	00 01 38.9	-0.6
PASC					Sn	00 02 00.1	-0.7
PASC				IAML		00 02 06.7	
	comp=N,88nm,0.8s						
PASC				IAML		00 02 07.1	
	comp=E,104nm,0.5s						
TPNV	**Topopah Spring**	**1.63**	**37**		Pb	00 01 40.8	-0.4
TPNV					Sg	00 02 02.8	+0.2
TPNV				IAML		00 02 05.0	
	comp=E,224nm,0.5s						
GMN	**Gold Mountain**	**1.66**	**6**		Pn	00 01 40.3	-0.4
GMN					Sn	00 02 02.4	-0.3
DSP	**Deep Springs**	**1.76**	**347**		Pn	00 01 42.0	0.0
DSP					Sn	00 02 04.0	-0.1
ELS	**Elsinore Mount**	**2.00**	**179**		Pn	00 01 44.3	-0.9
ELS					Sn	00 02 09.3	-1.6
ELS				IAML		00 02 22.4	
	comp=N,55nm,0.6s						
MZP	**Montezuma Peak**	**2.05**	**2**		Pn	00 01 46.0	-0.1
MZP					Sn	00 02 11.5	-1.0
SHPR	**Sheep Range**	**2.06**	**65**		Pn	00 01 46.2	+0.1
SHPR					Sb	00 02 13.9	-0.7
V12A	**Nelson**	**2.13**	**87**		Pn	00 01 46.2	-0.9
V12A					Sb	00 02 16.1	-0.6
V12A				IAML		00 02 19.2	
	comp=N,53nm,1.2s						
V12A				IAML		00 02 29.1	
	comp=E,51nm,0.5s						
PMD	**Palm Desert**	**2.19**	**155**		Pg	00 01 52.0	-0.2
PMD				Sg	Sb	00 02 19.4	+1.1
PFO	**Pinyon Flats O**	**2.20**	**157**		Pn	00 01 48.3	+0.3
PFO					Sb	00 02 18.2	-0.4
PFO				IAML		00 02 25.9	
	comp=E,44nm,1.4s						
S11A	**Rachel**	**2.42**	**34**		Pg	00 01 56.1	-0.6
S11A				IAML		00 02 34.3	
	comp=E,82nm,0.5s						
S11A				IAML		00 02 35.6	
	comp=N,75nm,0.9s						
TPH	**Tonopah**	**2.43**	**5**		Pb	00 01 55.1	+0.3
BORC	**Borrego Spring**	**2.53**	**160**		Pb	00 01 57.4	+0.9
BORC				IAML		00 02 34.0	
	comp=E,66nm,0.8s						
PRN	**Pahroc Range**	**2.62**	**47**		Pg	00 02 00.1	-0.4
PRN				IAML		00 02 42.3	
	comp=N,81nm,0.6s						
SALN	**Salton City**	**2.66**	**152**	Pg	Pg	00 02 02.4	+1.1
DPP	**Dos Picos Cty**	**2.68**	**171**		Pn	00 01 53.9	-0.6
DPP				IAML		00 02 35.3	
	comp=E,45nm,0.7s						
LHV	**Little Huntoon**	**2.73**	**343**	

*IDC **19** 00:14:02.3±1.7, 12°.25N×144°.82E, h0km, mb3.9/8, mbtmp3.9/8, MS3.4/5, Error ellipse: s-maj=57.3km s-min=16.3km az=93.0*

ISC 19 00:14:04.4±1.8, 12°.24N±0°.09×144°.9E±0°.4, h16km, n13, σ0s.88/10, mb4.1/8, MS3.5/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.34**	**358**	Pn	**Pb**	**00 14 29.0**	**-0.2**
	65nm,0.3s,baz=195,slow=11,SNR=11						
GUMO				Sn	**Sb**	**00 14 46.2**	**+0.1**
	117nm,0.3s,baz=12,slow=22,SNR=6.5						
MJAR	**Matsushiro Arr**	**24.94**	**347**	LR	LR	00 27 42.9	
	comp=Z,40nm,18.1s,baz=208,slow=33						
ASAJ	**Asahikawa**	**31.82**	**357**	LR	LR	00 31 35.7	
	comp=Z,25nm,21.7s,baz=161,slow=33						
WRA	**Warramunga Arr**	**33.63**	**198**	P	**P**	**00 20 45.0**	**+0.5**
	2.5nm,0.7s,baz=21,slow=9.6,SNR=12						
	2.5nm,0.7s						
ASAR	**Alice Springs**	**37.28**	**197**	P	**P**	**00 21 15.8**	**-0.1**
	1.2nm,0.7s,baz=16,slow=8.6,SNR=8.5						
	1.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**44.67**	**284**	P	**P**	**00 22 16.2**	**-0.7**
	0.6nm,0.3s,baz=85,slow=6.3,SNR=5.7						
	0.6nm,0.3s						
SONM	**Songino Array**	**47.86**	**326**	P	**P**	**00 22 43.4**	**+1.7**
	0.2nm,0.3s,baz=149,slow=6.7,SNR=2.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**62.49**	**317**	P	**P**	**00 24 26.5**	**-0.7**
	0.3nm,0.6s,baz=92,slow=8.2,SNR=5.0						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**65.68**	**320**	P	**P**	**00 24 48.1**	**+0.1**
	0.5nm,0.3s,baz=102,slow=7.3,SNR=2.8						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**71.01**	**322**	P	**P**	**00 25 21.8**	**+0.4**
	1.1nm,0.7s,baz=74,slow=5.3,SNR=5.2						
BVAR				LR	LR	00 58 56.5	
	comp=Z,41nm,18.2s,baz=159,slow=38						
	1.1nm,0.7s						
AKTO	**Aktyubinsk**	**78.71**	**319**	LR	LR	01 00 56.7	
	comp=Z,21nm,20.4s,baz=92,slow=36						
BELG	**Belogornoye**	**84.81**	**322**	LR	LR	01 07 17.0	
	comp=Z,37nm,18.4s,baz=95,slow=38						
FINES	**FINESS Array B**	**92.39**	**335**	P	**P**	**00 27 13.1**	**-1.1**
	1.0nm,0.8s,baz=75,slow=11,SNR=4.0						
	1.0nm,0.8s						

*NEIC **19** 00:19:24.7±1.1, 35°.912N±0°.010×117°.42W±0°.01, h3km±3km, Error ellipse: s-maj=1.7km s-min=1.3km az=53.0*

PAS 19 00:19:25.1±0.9, 35°.914N±0°.006×117°.44W±0°.01, h1km±1km, ML3.1/120, ML2.9/142(NEIC), Error ellipse: s-maj=1.5km s-min=0.7km az=63.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.15**	**344**	Pg	Pg	00 19 28.3	+0.2
MPMC					Sg	00 19 30.5	+0.4
MPMC				IAML		00 19 30.7	
	comp=N,4μm,0.4s						
MPMC				IAML		00 19 30.9	
	comp=E,4μm,0.4s						
CLC	**China Lake**	**0.16**	**233**	Pg	Pg	00 19 28.5	+0.2
CLC					Sg	00 19 30.8	+0.5
CLC				IAML		00 19 31.2	
	comp=E,4μm,0.5s						
CLC				IAML		00 19 31.3	
	comp=N,4μm,0.5s						
TOW	**Tower One**	**0.29**	**249**		Pg	00 19 31.4	+0.9
TOW					Sb	00 19 36.4	-2.0
WCSM	**Coso Springs S**	**0.29**	**293**		Pg	00 19 31.0	+0.3
WCSM					Sg	00 19 35.4	+0.9
JRC2	**Joshua Ridge**	**0.31**	**283**		Pg	00 19 31.5	+0.4
JRC2					Sg	00 19 36.2	+1.1
WVPM	**Volcano Peak E**	**0.31**	**277**		Pg	00 19 31.5	+0.5
WVPM					Sg	00 19 36.2	+1.1
WSHM	**Spangler Hills**	**0.32**	**188**		Pg	00 19 31.4	+0.2
WSHM				IAML		00 19 36.3	
	comp=N,1μm,0.2s						
WSHM				IAML		00 19 36.6	
	comp=N,1μm,0.2s						
WSHM	**Spangler Hills**	**0.32**	**188**		Sg	00 19 36.0	+0.7
SRTC	**Snort**	**0.34**	**229**		Pg	00 19 32.3	+0.7
SRTC					Sb	00 19 38.1	-1.8
WRVM	**Rose V. Centra**	**0.38**	**284**		Pg	00 19 32.6	+0.2
WRVM					Sg	00 19 38.0	+0.7
WNMM	**Nine Mile Cany**	**0.39**	**260**		Pg	00 19 32.9	+0.4
CCCA	**Chr Cany lake**	**0.39**	**171**		Sg	00 19 39.2	+1.6
MFS	**McCloud Flat S**	**0.40**	**301**		Pg	00 19 33.0	+0.2
MFS					Sg	00 19 38.8	+0.9
QSM	**Queen of Sheba**	**0.46**	**84**		Pg	00 19 34.1	+0.1
QSM					Sg	00 19 40.2	+0.2
QSM	**Queen of Sheba**	**0.46**	**84**	IAML		00 19 41.1	
	comp=E,752nm,0.3s						
QSM				IAML		00 19 42.8	
	comp=N,708nm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.48**	**205**		Pg	00 19 34.4	+0.2
LRMC					Sg	00 19 41.3	+0.9
LRMC	**Laurel Mtn Rad**	**0.48**	**205**	IAML		00 19 41.6	
	comp=E,850nm,0.3s						
LRMC				IAML		00 19 42.4	
	comp=N,1μm,0.2s						
GWY	**Greenwater Val**	**0.68**	**66**		Pg	00 19 38.2	+0.1
GWY					Sg	00 19 47.6	+0.7
WORM	**Onyx Ranch**	**0.69**	**252**		Pg	00 19 38.2	-0.1
WORM					Sg	00 19 47.5	+0.2
CGO	**Cerro Gordo**	**0.70**	**335**		Sg	00 19 48.1	+0.4
FURC	**Furnace Creek,**	**0.72**	**40**		Pg	00 19 39.2	+0.3
FURC					Sg	00 19 49.2	+0.9
DTP	**Desert Tortois**	**0.73**	**207**		Pg	00 19 38.8	-0.2
DTP					Sg	00 19 48.9	+0.5
CWC	**Cottonwood Cre**	**0.74**	**315**		Pg	00 19 39.5	+0.2
CWC				IAML		00 19 50.0	
	comp=N,741nm,0.3s						
CWC				IAML		00 19 50.2	
	comp=E,532nm,0.4s						
WHFM	**Hanning Flat**	**0.77**	**254**		Pg	00 19 39.9	-0.1
WHFM					Sg	00 19 50.3	+0.3
GSC	**Goldstone, Bar**	**0.80**	**140**	Pg	Pg	00 19 40.4	0.0
GSC				Sg	Sg	00 19 51.3	+0.6
ISA	**Isabella, Lake**	**0.88**	**254**	Pg	Pg	00 19 41.5	-0.4
ISA				IAML		00 19 54.4	
	comp=N,365nm,0.4s						
ISA				IAML		00 19 59.9	
	comp=E,292nm,0.5s						
ISA	**Isabella, Lake**	**0.88**	**254**		Sg	00 19 53.2	-0.2
CCAC	**Calif City Air**	**0.90**	**212**		Pg	00 19 42.1	-0.1
CCAC					Sg	00 19 54.5	+0.7
WASM	**Alta Sierra Ca**	**0.93**	**259**		Pg	00 19 42.8	-0.1
WASM					Pn	00 19 55.1	+10
SHOC	**Shoshone, Teco**	**0.94**	**91**		Pg	00 19 43.1	-0.1
HYS	**Haystack Butte**	**1.05**	**186**		Pg	00 19 44.7	-0.6
HYS					Sg	00 19 59.0	0.0
AMDNV	**Amargosa**	**1.08**	**60**		Pg	00 19 45.5	-0.3
AMDNV					Sg	00 19 59.6	-0.1
GRAC	**Grapevine Rang**	**1.08**	**3**	Pg	Pg	00 19 45.5	-0.3
GRAC				IAML		00 20 05.8	
	comp=E,397nm,0.7s						
GRAC				IAML		00 20 09.8	
	comp=N,322nm,0.7s						
WCT	**Wildcat Mounta**	**1.09**	**36**		Pg	00 19 45.7	-0.4
WCT					Sg	00 20 00.1	-0.2
WCT	**Wildcat Mounta**	**1.09**	**36**	IAML		00 20 02.4	
	comp=E,315nm,0.5s						
WCT				IAML		00 20 02.6	
	comp=N,267nm,0.6s						
SPG2	**Springville 2**	**1.11**	**285**		Pg	00 19 45.9	-0.6
SPG2					Sg	00 20 00.6	-0.4
EDW2	**Edwards Air Fo**	**1.13**	**204**		Pg	00 19 46.0	-0.7
EDW2					Sg	00 20 01.2	-0.1
TPO	**Tropico Hills**	**1.22**	**212**		Pg	00 19 48.4	-0.1
TPO				IAML		00 20 11.3	
	comp=N,348nm,0.6s						
TUQ	**Turquoise Moun**	**1.32**	**111**		Pg	00 19 49.4	-1.0
LCH	**Last Change Ra**	**1.33**	**353**		Pg	00 19 49.5	-1.0
DSCC	**Desert Studies**	**1.33**	**125**		Pg	00 19 49.5	-1.1
GMN	**Gold Mountain**	**1.39**	**6**	IAML		00 20 00.6	
	comp=N,113nm,0.5s						
TPNV	**Topopah Spring**	**1.41**	**42**		Pn	00 19 51.9	-0.2
TPNV				IAML		00 20 12.2	
	comp=N,221nm,0.4s						
DSP	**Deep Springs**	**1.52**	**344**		Pn	00 19 53.5	+0.1
MTPC	**Mountain Pass**	**1.59**	**105**		Pn	00 19 53.8	-0.8
MTPC				IAML		00 20 16.8	
	comp=N,86nm,0.6s						
MTPC				IAML		00 20 21.5	
	comp=E,90nm,0.6s						
OSI	**Osito Audit: C**	**1.67**	**219**		Pb	00 19 56.2	-0.5
OSI				IAML		00 20 23.9	
	comp=N,120nm,0.8s						
OSI				IAML		00 20 24.0	
	comp=E,153nm,0.8s						
BFSC	**Mount Baldy Ra**	**1.68**	**186**		Pb	00 19 56.9	-0.1
MWC	**Mount Wilson**	**1.76**	**197**		Pn	00 19 56.9	0.0
MWC				IAML		00 20 25.6	
	comp=E,100nm,0.4s						
MWC				IAML		00 20 26.1	
	comp=N,135nm,0.5s						
MZP	**Montezuma Peak**	**1.78**	**1**		Pn	00 19 56.8	-0.6
PASC	**Pasadena Art C**	**1.84**	**200**	Pn	Pn	00 19 57.4	-0.5
PASC					Sg	00 20 25.1	+0.8
SHPR	**Sheep Range**	**1.93**	**72**	Pn	Pn	00 19 59.3	0.0
V12A	**Nelson**	**2.11**	**94**	Pn	Pn	00 20 02.2	+0.5
V12A				IAML		00 20 41.8	
	comp=N,53nm,0.6s						
TPH	**Tonopah**	**2.16**	**4**		Pn	00 20 02.0	-0.5
TPH				IAML		00 20 47.1	
	comp=E,98nm,0.9s						
TPH				IAML		00 20 49.7	
	comp=N,120nm,0.6s						
S11A	**Rachel**	**2.20**	**38**		Pn	00 20 01.8	-1.1
S11A				IAML		00 20 38.4	
	comp=N,118nm,0.6s						
ELS	**Elsinore Mount**	**2.26**	**180**		Pn	00 20 03.0	-0.7
DGR	**Domenigoni Val**	**2.29**	**171**		Pn	00 20 02.6	-1.4
PMD	**Palm Desert**	**2.42**	**159**		Pn	00 20 06.0	+0.1
PRN	**Pahroc Range**	**2.43**	**51**	Pn	Pn	00 20 05.8	-0.3
PRN				Pg	Pg	00 20 11.3	-0.4
PRN				IAML		00 20 44.9	
	comp=N,94nm,0.6s						
PRN				IAML		00 20 54.1	
	comp=E,74nm,0.6s						
PFO	**Pinyon Flats O**	**2.43**	**160**		Pn	00 20 05.7	-0.4
LHV	**Little Huntoon**	**2.48**	**340**		Pn	00 20 06.8	+0.1
LHV				Pg	Pg	00 20 12.2	-0.5
LHV				IAML		00 20 20.9	
	comp=N,40nm,0.6s						
LHV				IAML		00 20 49.9	
	comp=E,46nm,0.9s						
NEE2	**Needles Airpor**	**2.57**	**116**	Pg	Pg	00 20 14.9	+0.6
NVAR	**Mina Array Bea**	**2.60**	**345**		Pn	00 20 08.5	-0.1
NVAR				Pg	Pg	00 20 14.0	-1.0
PMPB	**Monarch Peak**	**2.74**	**277**		Pn	00 20 10.9	+0.6
PMPB				IAML		00 20 58.6	
	comp=E,54nm,0.8s						
PMPB				IAML		00 20 58.9	
	comp=N,42nm,1.1s						
BORC	**Borrego Spring**	**2.77**	**162**		Pg	00 20 16.9	-1.3
BORC				IAML		00 20 58.6	
	comp=E,36nm,0.9s						
BORC				IAML		00 20 59.2	
	comp=N,39nm,0.9s						
R11B	**Troy Canyon, C**	**2.84**	**31**		Pn	00 20 11.3	-0.5
RYN	**Ryan**	**2.84**	**343**		Pg	00 20 18.6	-1.0
WAKR	**Walker**	**3.04**	**329**		Pg	00 20 21.9	-1.5
BLYC	**Blythe**	**3.22**	**131**	Pg	Pg	00 20 25.1	-1.8
BLYC				IAML		00 21 10.5	
	comp=E,20nm,0.6s						
BLYC				IAML		00 21 14.1	
	comp=N,27nm,0.7s						
SAO	**San Andreas Ge**	**3.35**	**286**		Pn	00 20 19.4	+0.8
LCMT	**Little Creek M**	**3.55**	**71**		Pn	00 20 24.9	+3.4
CBX	**Cerro Bola**	**3.65**	**170**		Pn	00 20 22.5	-0.4
PSUT	**Pine Spring**	**3.87**	**46**	IAML		00 21 30.8	
	comp=N,18nm,0.7s						
PSUT				IAML		00 21 33.9	
	comp=E,16nm,0.7s						
SZCU	**Shurtz Canyon**	**3.88**	**63**		Pn	00 20 28.3	+2.3
KNB	**Kanab**	**3.88**	**72**		Pn	00 20 28.1	+2.0
KNB				IAML		00 21 28.8	
	comp=E,10nm,1.0s						
KNB				IAML		00 21 31.8	
	comp=N,11nm,1.1s						
SPR3	**Spring Creek 3**	**3.95**	**38**		Pn	00 20 28.8	+1.6
SPR3				IAML		00 21 31.1	
	comp=E,19nm,0.6s						
SPR3				IAML		00 21 33.6	
	comp=N,14nm,0.8s						
ESJX	**Sierra Juarez**	**4.09**	**162**		Pn	00 20 29.2	+0.2
AFDM	**Forest Hills D**	**4.13**	**318**		Pn	00 20 30.3	+0.9
AFDM				IAML		00 21 36.4	
	comp=N,26nm,0.6s						
AFDM				IAML		00 21 36.4	
	comp=E,22nm,0.6s						
Y14A	**Wickenburg**	**4.14**	**117**	IAML		00 21 41.2	
	comp=N,18nm,0.8s						
Y14A				IAML		00 21 45.3	
	comp=E,15nm,0.6s						
U15A	**North Rim**	**4.19**	**81**	IAML		00 21 43.4	
	comp=N,10nm,1.0s						
U15A				IAML		00 21 53.9	
	comp=E,11nm,1.0s						
WUAZ	**Wupatki**	**4.95**	**93**	IAML		00 22 04.9	
	comp=E,7.9nm,1.2s						
WUAZ				IAML		00 22 07.6	
	comp=E,8.9nm,0.9s						

*JMA **19** 00:45:44.3±0.2, 23°.8N±0°.8×122°.9E±0°.6, h47km, MV3.1/11, NEAR ISHIGAKIJIMA ISLAND*
*TAP **19** 00:45:44.2, 23°.77N×122°.98E, h46km, ML3.6, D*

ISC 19 00:45:44.3±1.3, 23°.71N±0°.04×122°.98E±0°.03, h50km, n99, σ1s.21/146, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.73**	**305**	P	**Pn**	**00 45 57.9**	**-0.2**
EOS4				S	**Sn**	**00 46 07.9**	**-0.3**
JYNG	**Yonagunijimaku**	**0.74**	**358**	*e*P	**Pn**	**00 45 57.7**	**-0.9**
JYNG				*e*S	**Sn**	**00 46 07.0**	**-2.0**
YOJ	**Yonaguni jima**	**0.75**	**2**	P	**Pn**	**00 45 58.1**	**-0.7**
YOJ	**Yonaguni jima**	**0.75**	**2**	P	**Pn**	**00 45 58.0**	**-0.8**
YOJ				*e*S	**Sn**	**00 46 07.4**	**-1.8**
YOJ	**Yonaguni jima**	**0.75**	**2**	*i* P	**Pn**	**00 45 58.0**	**-0.8**
YOJ				*i* S	**Sn**	**00 46 08.2**	**-1.1**
EOS3	**EOS3**	**0.83**	**314**	*i* P	**Pn**	**00 45 59.8**	**+0.1**
EOS3				S	**Sn**	**00 46 10.9**	**0.0**
IRIF	**Iriomote-Funau**	**0.93**	**48**	P	**Pn**	**00 46 01.2**	**+0.1**
IRIF				*e*S	**Sn**	**00 46 14.2**	**+0.7**
EOS2	**EOS2**	**0.98**	**316**	P	**Pn**	**00 46 02.5**	**+0.8**
EOS2				S	**Sn**	**00 46 16.0**	**+1.5**
JKRS	**Kuro-shima**	**1.08**	**61**	P	**Pn**	**00 46 04.0**	**+0.8**
JIJ	**Ishigaki jima**	**1.25**	**58**	*e*P	**Pn**	**00 46 05.7**	**+0.2**
JIJ				*e*S	**Sn**	**00 46 21.8**	**+0.6**
SHUL	**Shoufeng**	**1.30**	**274**	*e*P	**Pn**	**00 46 05.4**	**-0.7**
SHUL				*e*S	**Sn**	**00 46 21.8**	**-0.5**
TWD	**Chiawan**	**1.32**	**287**	P	**Pn**	**00 46 05.4**	**-1.0**
TWD				S	**Sn**	**00 46 20.8**	**-2.0**
ETL	**Fush Village**	**1.32**	**290**	*e*P	**Pn**	**00 46 07.1**	**+0.7**
ETL				*e*S	**Sn**	**00 46 21.3**	**-1.5**
EWUT	**Wuta**	**1.32**	**304**	P	**Pn**	**00 46 06.1**	**-0.3**
ENA	**Nanau**	**1.34**	**303**	*e*P	**Pn**	**00 46 06.7**	**+0.1**
ENA				S	**Sn**	**00 46 24.1**	**+0.8**
NACB	**Ninganchiao**	**1.35**	**290**	P	**Pn**	**00 46 06.2**	**-0.6**
NACB	**Ninganchiao**	**1.35**	**290**	S	**Sn**	**00 46 22.2**	**-1.3**
NACB	**Ninganchiao**	**1.35**	**290**	P	**Pn**	**00 46 05.9**	**-0.9**
NACB				S	**Sn**	**00 46 21.6**	**-1.9**
ESAO	**Su ao**	**1.35**	**310**	P	**Pn**	**00 46 06.5**	**-0.3**
TWC	**Suao**	**1.37**	**311**	P	**Pn**	**00 46 07.8**	**+0.8**
ETM	**Tongmen**	**1.38**	**281**	P	**Pn**	**00 46 05.8**	**-1.4**
ETM				*e*S	**Sn**	**00 46 22.4**	**-2.0**
ESL	**Shilin**	**1.42**	**275**	P	**Pn**	**00 46 06.6**	**-1.1**
HGSD	**Ruisui**	**1.44**	**262**	P	**Pn**	**00 46 07.3**	**-0.7**
HGSD				S	**Sn**	**00 46 23.7**	**-2.1**
ETLH	**Xiulin Townshi**	**1.46**	**290**	P	**Pn**	**00 46 07.7**	**-0.6**
ETLH				*i* S	**Sn**	**00 46 25.3**	**-1.0**
WARBT	**Fenglin Townsh**	**1.46**	**271**	*e*P	**Pn**	**00 46 07.4**	**-0.9**
WARBT				S	**Sn**	**00 46 24.6**	**-1.7**
LXIB	**Xiulin Townshi**	**1.46**	**283**	P	**Pn**	**00 46 08.0**	**-0.5**
LXIB				S	**Sn**	**00 46 25.1**	**-1.5**
NDS	**Dongshan**	**1.48**	**309**	*e*P	**Pn**	**00 46 09.3**	**+0.8**
JISG	**Ishigakijimahi**	**1.50**	**54**	*e*P	**Pn**	**00 46 08.8**	**-0.1**
EHYH	**Wanrong**	**1.51**	**262**	P	**Pn**	**00 46 09.2**	**+0.2**
EHYH				S	**Sn**	**00 46 26.7**	**-0.9**
EHY	**Hungye**	**1.53**	**263**	*i* P	**Pn**	**00 46 09.3**	**0.0**
EHY				S	**Sn**	**00 46 27.1**	**-0.9**
CHKH	**Chenggong**	**1.54**	**251**	*e*S	**Sn**	**00 46 26.4**	**-1.8**
LATG	**Datong**	**1.56**	**302**	P	**Pn**	**00 46 10.1**	**+0.3**
LATG				*e*S	**Sn**	**00 46 28.4**	**-0.5**
TWE	**Neicheng**	**1.56**	**310**	P	**Pn**	**00 46 10.4**	**+0.7**
YULB	**Yu-li**	**1.57**	**259**	P	**Pn**	**00 46 10.1**	**+0.3**
YULB	**Yu-li**	**1.57**	**259**	S	**Sn**	**00 46 29.4**	**+0.3**
YULB	**Yu-li**	**1.57**	**259**	*e*P	**Pn**	**00 46 09.7**	**-0.2**
YULB				*e*S	**Sn**	**00 46 27.7**	**-1.3**
TWF1	**Yuli**	**1.58**	**257**	P	**Pn**	**00 46 09.7**	**-0.2**
TWF1				S	**Sn**	**00 46 28.8**	**-0.5**
ENTT	**Nioudou**	**1.59**	**306**	P	**Pn**	**00 46 10.5**	**+0.5**
ENTT				S	**Sn**	**00 46 29.9**	**+0.4**
NNSB	**Datong**	**1.62**	**297**	P	**Pn**	**00 46 10.8**	**+0.1**
NNSB				S	**Sn**	**00 46 29.9**	**-0.6**
FULB	**Fuli**	**1.62**	**252**	*e*P	**Pn**	**00 46 10.5**	**-0.1**
FULB				*e*S	**Sn**	**00 46 28.5**	**-1.9**
WHF	**Hehuan Shan**	**1.62**	**286**	P	**Pn**	**00 46 10.7**	**-0.3**
WHF				S	**Sn**	**00 46 29.3**	**-1.7**
NNS	**Nan Shan**	**1.64**	**297**	P	**Pn**	**00 46 11.2**	**+0.4**
NNS				S	**Sn**	**00 46 29.9**	**-1.0**
TIPB	**Shuangxi**	**1.64**	**320**	*e*P	**Pn**	**00 46 10.9**	**+0.1**
FUSB	**Fushanzhiwuyua**	**1.65**	**310**	P	**Pn**	**00 46 11.4**	**+0.5**
OWD	**Renai**	**1.67**	**279**	*e*P	**Pn**	**00 46 11.0**	**-0.2**
OWD				S	**Sn**	**00 46 30.1**	**-1.5**
FUSS	**Fushou**	**1.67**	**289**	P	**Pn**	**00 46 11.5**	**+0.1**
FUSS				S	**Sn**	**00 46 31.2**	**-0.7**
VWDT	**VWDT**	**1.68**	**272**	P	**Pn**	**00 46 11.3**	**0.0**
VWDT				S	**Sn**	**00 46 30.9**	**-0.9**
EDH	**Donghe**	**1.70**	**245**	*e*P	**Pn**	**00 46 10.7**	**-0.9**
EDH				S	**Sn**	**00 46 30.3**	**-1.9**
SXI1	**Grass Mountain**	**1.71**	**324**	P	**Pn**	**00 46 12.1**	**+0.3**
SXI1				*e*S	**Sn**	**00 46 32.2**	**+0.3**
NWLT	**Wulai**	**1.72**	**309**	*e*P	**Pn**	**00 46 12.5**	**+0.7**
EHD	**Haiduan**	**1.72**	**251**	P	**Pn**	**00 46 11.6**	**-0.2**
EHD				S	**Sn**	**00 46 31.3**	**-1.4**
ECS	**Chishang**	**1.73**	**250**	*e*P	**Pn**	**00 46 13.0**	**+1.1**
WUSB	**Renai**	**1.73**	**280**	*e*P	**Pn**	**00 46 12.2**	**+0.1**
WUSB				*e*S	**Sn**	**00 46 31.6**	**-1.3**
LDUT	**Ludao**	**1.73**	**234**	*e*P	**Pn**	**00 46 11.0**	**-0.9**
LDUT				*e*S	**Sn**	**00 46 30.7**	**-2.1**
YHNB	**Yeheng**	**1.75**	**304**	P	**Pn**	**00 46 13.1**	**+0.8**
YHNB	**Yeheng**	**1.75**	**304**	P	**Pn**	**00 46 12.8**	**+0.5**
YHNB				S	**Sn**	**00 46 33.3**	**-0.2**
TDCB	**Techi**	**1.75**	**288**	*e*P	**Pn**	**00 46 11.7**	**-0.7**
TDCB				*e*S	**Sn**	**00 46 33.3**	**-0.3**
NSK	**Sanguang**	**1.77**	**303**	*e*P	**Pn**	**00 46 12.9**	**+0.4**
NSK				*e*S	**Sn**	**00 46 33.0**	**-0.9**
TWA	**Mucha**	**1.79**	**315**	P	**Pn**	**00 46 13.7**	**+0.8**
SSLB	**Suanglung**	**1.85**	**273**	P	**Pn**	**00 46 14.8**	**+1.1**
SSLB	**Suanglung**	**1.85**	**273**	*e*P	**Pn**	**00 46 13.8**	**0.0**
ELDTW	**Lidau**	**1.87**	**254**	*e*P	**Pn**	**00 46 13.8**	**-0.2**
ELDTW				*e*S	**Sn**	**00 46 34.7**	**-1.9**
LONT	**Longtian**	**1.88**	**245**	*e*P	**Pn**	**00 46 13.7**	**-0.3**
LONT				*e*S	**Sn**	**00 46 35.4**	**-1.1**
SMLT	**Sun Moon Lake**	**1.91**	**276**	P	**Pn**	**00 46 15.0**	**+0.5**
SMLT				S	**Sn**	**00 46 37.3**	**-0.1**
WCS	**Beigang Elemen**	**1.92**	**281**	*e*P	**Pn**	**00 46 15.2**	**+0.6**
YM01	**YM01**	**1.92**	**318**	*e*P	**Pn**	**00 46 14.6**	**-0.1**
NFF	**Wufeng Townshi**	**1.93**	**299**	*e*P	Pn	00 46 16.5	+1.7
NFF				*e*S	**Sn**	**00 46 39.0**	**+1.0**
WHP	**Taichung City**	**1.94**	**287**	*e*P	**Pn**	**00 46 16.0**	**+1.0**
YM08	**YM08**	**1.94**	**320**	*e*P	**Pn**	**00 46 15.0**	**+0.1**
WHYT	**Xinyi Township**	**1.95**	**270**	*e*P	**Pn**	**00 46 15.6**	**+0.6**
ZUZH	**Zhuzihu**	**1.95**	**318**	*e*P	**Pn**	**00 46 14.8**	**-0.3**
TYC	**Yuchr**	**1.95**	**276**	*e*P	**Pn**	**00 46 15.6**	**+0.6**
KSH1	**Guanxi Townshi**	**1.96**	**303**	*e*P	Pn	00 46 16.4	+1.5
KSHI				*e*S	**Sn**	**00 46 40.7**	**+2.2**
TWS1	**Kuangyinshan**	**1.99**	**315**	*e*P	**Pn**	**00 46 15.2**	**-0.3**
ALS	**Alishan**	**2.00**	**265**	*e*P	**Pn**	**00 46 17.1**	**+1.1**
LIOB	**Emei**	**2.02**	**298**	P	Pn	00 46 17.5	+1.5
LIOB				S	**Sn**	**00 46 41.5**	**+1.5**
NSTT	**Nanjuang**	**2.02**	**297**	P	Pn	00 46 17.5	+1.5
NSTT				S	**Sn**	**00 46 41.0**	**+0.8**
STYH	**Taoyuan**	**2.09**	**256**	*e*P	**Pn**	**00 46 17.7**	**+0.8**
STYH				*e*S	**Sn**	**00 46 42.4**	**+0.6**
WNT	**Mingjian**	**2.11**	**275**	*e*P	Pn	00 46 19.3	+2.2
CHN5	**Tsauling**	**2.11**	**267**	*e*P	Pn	00 46 18.8	+1.5
CHN5				*e*S	**Sn**	**00 46 44.3**	**+1.9**
TWQ1	**Liyutan**	**2.11**	**288**	*e*P	**Pn**	**00 46 18.5**	**+1.3**
TWQ1				*e*S	**Sn**	**00 46 44.8**	**+2.5**
NSY	**Sanyi**	**2.14**	**290**	*e*P	Pn	00 46 19.6	+1.9
NSY				*e*S	**Sn**	**00 46 45.1**	**+2.0**
ECL	**Taimali**	**2.16**	**240**	*e*P	**Pn**	**00 46 17.4**	**-0.5**
ECL				*e*S	**Sn**	**00 46 42.1**	**-1.5**
TPUB	**Ta-pu**	**2.19**	**260**	P	Pn	00 46 20.7	+2.4
TPUB	**Ta-pu**	**2.19**	**260**	*e*P	**Pn**	**00 46 19.7**	**+1.4**
TPUB				*e*S	**Sn**	**00 46 46.0**	**+1.7**
WCKO	**Fanlu**	**2.19**	**

EHY	**Hungye**	**1.51 263**	*eP*	**Pn**	**00 51 19.5**	**+0.3**
EHY			*eS*	**Sn**	**00 51 36.8**	**-1.2**
LATG	**Datong**	**1.55 303**	*eP*	**Pn**	**00 51 20.1**	**+0.3**
LATG			*eS*	**Sn**	**00 51 39.5**	**+0.3**
YULB	**Yu-li**	**1.55 259**	*eP*	**Pn**	**00 51 20.1**	**+0.4**
YULB			*eS*	**Sn**	**00 51 38.1**	**-0.9**
TWE	**Neicheng**	**1.56 311**	*eP*	**Pn**	**00 51 20.4**	**+0.5**
TWE			*eS*	**Sn**	**00 51 39.8**	**+0.6**
TWF1	**Yuli**	**1.56 258**	*eP*	**Pn**	**00 51 20.1**	**+0.2**
TWF1			*eS*	**Sn**	**00 51 39.5**	**+0.3**
ENTT	**Nioudou**	**1.58 307**	*eP*	**Pn**	**00 51 21.3**	**+1.1**
WHF	**Hehuan Shan**	**1.61 287**	*eP*	**Pn**	**00 51 21.1**	**+0.1**
WHF			*eS*	**Sn**	**00 51 40.2**	**-0.8**
NNSB	**Datong**	**1.61 297**	*eP*	**Pn**	**00 51 21.4**	**+0.6**
NNSB			*eS*	**Sn**	**00 51 40.3**	**-0.4**
TIPB	**Shuangxi**	**1.64 321**	*eP*	**Pn**	**00 51 21.6**	**+0.6**
TIPB			*eS*	**Sn**	**00 51 38.8**	**-2.4**
FUSB	**Fushanzhiwuyua**	**1.64 311**	*eP*	**Pn**	**00 51 22.2**	**+1.2**
FUSB			*eS*	**Sn**	**00 51 41.8**	**+0.5**
OWD	**Renai**	**1.65 279**	*eP*	**Pn**	**00 51 21.3**	**0.0**
OWD			*eS*	**Sn**	**00 51 40.3**	**-1.3**
VWDT	**VWDT**	**1.66 272**	*eP*	**Pn**	**00 51 21.7**	**+0.4**
VWDT			*eS*	**Sn**	**00 51 41.4**	**-0.3**
EHD	**Haiduan**	**1.69 252**	*eP*	**Pn**	**00 51 21.9**	**+0.1**
EHD			*eS*	**Sn**	**00 51 41.7**	**-0.9**
SXI1	**Grass Mountain**	**1.71 325**	*eP*	**Pn**	**00 51 22.5**	**+0.5**
SXI1			*eS*	**Sn**	**00 51 42.8**	**-0.2**
WUSB	**Renai**	**1.71 280**	*eP*	**Pn**	**00 51 22.5**	**+0.5**
WUSB			*eS*	**Sn**	**00 51 41.9**	**-1.1**
NWLT	**Wulai**	**1.71 309**	*eP*	**Pn**	**00 51 23.1**	**+1.2**
NWLT			*eS*	**Sn**	**00 51 42.9**	**-0.1**
YHNB	**Yeheng**	**1.74 304**	*eP*	**Pn**	**00 51 23.3**	**+0.9**
YHNB			*eS*	**Sn**	**00 51 43.9**	**+0.1**
NSK	**Sanguang**	**1.75 304**	*eP*	**Pn**	**00 51 23.2**	**+0.6**
NSK			*eS*	**Sn**	**00 51 43.5**	**-0.7**
SSLB	**Suanglung**	**1.83 273**	*eP*	**Pn**	**00 51 24.7**	**+1.0**
SSLB			*eS*	**Sn**	**00 51 45.2**	**-0.9**
YUS	**Yu-Shan**	**1.85 264**	*eP*	**Pn**	**00 51 25.0**	**+0.7**
YUS			*eS*	**Sn**	**00 51 47.1**	**+0.1**
ELDTW	**Lidau**	**1.85 255**	*eP*	**Pn**	**00 51 23.9**	**0.0**
ELDTW			*eS*	**Sn**	**00 51 44.6**	**-1.9**
SMLT	**Sun Moon Lake**	**1.89 276**	*eP*	**Pn**	**00 51 25.9**	**+1.4**
SMLT			*eS*	**Sn**	**00 51 48.5**	**+0.9**
WCS	**Beigang Elemen**	**1.90 281**	*eP*	**Pn**	**00 51 25.7**	**+1.1**
WCS			*eS*	**Sn**	**00 51 48.9**	**+1.2**
NFF	**Wufeng Townshi**	**1.92 300**	*eP*	**Pb**	**00 51 26.9**	**-1.3**
NFF			*eS*	**Sn**	**00 51 49.5**	**+1.3**
WHYT	**Xinyi Township**	**1.92 270**	*eP*	**Pn**	**00 51 25.5**	**+0.6**
WHYT			*eS*	**Sb**	**00 51 50.7**	**-1.3**
WHP	**Taichung City**	**1.93 288**	*eP*	**Pb**	**00 51 27.6**	**-0.8**
WHP			*eS*	**Sn**	**00 51 49.5**	**+1.0**
TYC	**Yuchr**	**1.93 277**	*eP*	**Pn**	**00 51 26.7**	**+1.7**
TYC			*eS*	**Sn**	**00 51 48.3**	**-0.1**
ALS	**Alishan**	**1.98 265**	*eP*	**Pn**	**00 51 27.1**	**+1.1**
STYH	**Taoyuan**	**2.07 256**	*eP*	**Pn**	**00 51 27.9**	**+1.1**
STYH			*eS*	**Sn**	**00 51 51.4**	**-0.4**
CHN5	**Tsauling**	**2.09 268**	*eP*	**Pb**	**00 51 29.9**	**-1.3**
CHN5			*eS*	**Sn**	**00 51 54.7**	**+2.2**
TPUB	**Ta-pu**	**2.17 260**	*eP*	**Pn**	**00 51 30.6**	**+2.3**
TPUB			*eS*	**Sn**	**00 51 56.4**	**+2.0**
CHN4	**Tsaushan**	**2.19 262**	*eP*	**Pn**	**00 51 31.0**	**+2.4**
CHN4			*eS*	**Sn**	**00 51 57.4**	**+2.5**
WTP	**Ta-pu**	**2.19 259**	*eP*	**Pn**	**00 51 30.8**	**+2.1**
WTP			*eS*	**Sn**	**00 51 57.3**	**+2.3**

AUST 19 00:54:09.3±1.3,19°S±8°×12°1E±°, h16km±13km, mb3.9/4, ML3.2/5, Error ellipse: s-maj=21.9km s-min=5.5km az=141.7, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.64**	**198**	P	Pn	00 54 51.5	+0.3
MBWA				S	Sn	00 55 22.8	-0.1
PSAB2	**Pilbara Seismi**	**2.98**	**193**	P	Pn	00 54 56.5	+0.4
PSAB2				S	Sn	00 55 32.4	+0.9
PSA00	**Pilbara Seismi**	**3.00**	**193**	P	Pn	00 54 56.7	+0.4
PSA00				S	Sn	00 55 33.2	+1.1
FITZ	**Fitzroy Crossi**	**4.83**	**84**	S	Sn	00 56 18.0	+0.9
FITZ	**Fitzroy Crossi**	**4.83**	**84**	P	Pn	00 55 21.8	+0.3
GIRL	**Giralia**	**7.16**	**235**	P	Pn	00 55 49.2	-4.2
GIRL				S	Sn	00 57 05.0	-10
MEEK	**Meekatharra** comp=Z,11nm,1.6s,comp=Z,0.1nm	**8.17**	**192**	P	Pn	00 56 06.8	-0.6
MEEK	**Meekatharra**	**8.17**	**192**	S	Sn	00 57 35.7	-3.8
KNRA	**Kununurra** comp=Z,6.5nm,1.8s,comp=Z,0.0nm	**8.35**	**71**	P	Pn	00 56 09.8	0.0
KNRA				P	Sn	00 57 40.8	-3.1
CVQOZ	**Cooralya Stati**	**8.37**	**225**	P	Pn	00 56 07.2	-2.9
WRKA	**Warakurna**	**9.59**	**133**	P	Pn	00 56 29.7	+2.9
WRKA				S	Sn	00 58 15.8	+1.5
MUN	**Mundaring** comp=Z,42nm,1.7s	**13.86**	**196**	P	Pn	00 57 25.7	+0.5
FORT	**Forrest** comp=Z,5.6nm,1.0s	**13.86**	**152**	P	Pn	00 57 24.0	-1.2

*NEIC **19** 00:57:28.3±1.2,33°.32N±0°.01×116°.25W±0°.01, h14km±4km, Error ellipse: s-maj=1.7km s-min=1.5km az=223.0*

PAS 19 00:57:28.8±1.3,33°.310N±0°.010×116°.26W±0°.01, h12km±4km, ML3.2/190, ML3.1/52(NEIC), Error ellipse: s-maj=1.7km s-min=0.9km az=219.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLH	**Sleepy Hollow**	**0.12**	**179**		Pg	00 57 31.9	+0.1
SLH					Sg	00 57 34.6	+0.6
BORC	**Borrego Spring**	**0.14**	**253**		Pg	00 57 32.1	0.0
BORC				Sg	Sg	00 57 34.5	-0.1
BORC	comp=N,7μm,0.1s			IAML		00 57 34.6	
BORC	comp=E,6μm,0.1s			IAML		00 57 34.8	
SALN	**Salton City**	**0.23**	**97**	Pg	Pg	00 57 33.7	+0.1
SALN				Sg	Sg	00 57 37.6	+0.7
FRD	**Ford Ranch, An**	**0.34**	**303**		Sg	00 57 40.4	0.0
FRD	**Ford Ranch, An**	**0.34**	**303**		Pn	00 57 40.4	+0.6
XPFO	**Pinon Flat**	**0.34**	**331**		Pn	00 57 39.7	-0.1
MATG	**Mataguay Scout**	**0.34**	**251**		Pg	00 57 35.7	-0.1
MATG					Sg	00 57 40.6	+0.1
PFO	**Pinyon Flats O**	**0.34**	**331**		Pg	00 57 35.2	-0.7
PFO				Sg	Sg	00 57 40.1	-0.5
PFO	comp=E,2μm,0.6s			IAML		00 57 40.3	
PFO	**Pinyon Flats O**	**0.34**	**331**		Sg	00 57 40.0	-0.5
PMD	**Palm Desert**	**0.35**	**343**	Sg	Sg	00 57 40.0	-0.7
PMD				IAML		00 57 40.3	
JUEM	**Julian Eagle M** comp=N,3μm,0.1s	**0.37**	**231**		Pg	00 57 36.1	-0.1
JUEM					Sg	00 57 41.2	+0.1
SNDA	**J Saunders Pla**	**0.38**	**309**		Sg	00 57 42.0	+0.3
BZNA	**Buzz No.'s Pla**	**0.39**	**298**		Sg	00 57 41.9	+0.1
CTCC	**Cactus City**	**0.41**	**33**		Pg	00 57 36.8	-0.2
CTCC					Sg	00 57 42.4	-0.1
ERRC	**Elmore Ranch**	**0.41**	**118**		Pg	00 57 37.5	+0.5
ERRC					Sb	00 57 44.1	-0.1
MONP2	**Monument Peak**	**0.44**	**198**		Sg	00 57 42.9	-0.5
5271	**Bombay Beach**	**0.44**	**84**		Pg	00 57 37.6	+0.1
CRY	**Cary Ranch**	**0.48**	**303**		Sg	00 57 44.4	-0.2
CRR	**Carrizo Plain**	**0.49**	**150**		Pg	00 57 38.2	-0.2
CRR					Sg	00 57 45.3	+0.5
CTW	**Cottonwood Mou**	**0.49**	**41**		Pg	00 57 38.0	-0.4
CTW					Sg	00 57 44.8	-0.1
GVDA	**Garner Valley**	**0.50**	**316**		Pg	00 57 38.1	-0.5
GVDA					Sg	00 57 44.8	-0.6
PLM	**Palomar**	**0.51**	**275**		Sg	00 57 45.6	0.0
CLI2	**Calipatria 2**	**0.60**	**108**		Sg	00 57 40.2	-0.3
HAY	**Hayfield**	**0.62**	**50**		Pg	00 57 40.7	-0.2
HAY					Sg	00 57 49.4	+0.3
WEMD	**Westmorland, C**	**0.63**	**115**		Pg	00 57 41.2	+0.2
WEMD					Sb	00 57 51.1	+0.6
COK2	**Cook Ranch 2**	**0.64**	**136**		Pg	00 57 40.7	-0.5
COK2					Sb	00 57 50.7	-0.1
EW2	**E Wide Canyon**	**0.64**	**349**		Sg	00 57 49.7	-0.1
EML	**El Monte Cty P**	**0.65**	**230**		Pg	00 57 40.8	-0.6
EML					Sg	00 57 49.3	-0.7
DPP	**Dos Picos Cty**	**0.65**	**242**		Pg	00 57 40.8	-0.7
DPP	**Dos Picos Cty**	**0.65**	**242**	Sg	Sg	00 57 49.4	-0.7
DPP	comp=N,2μm,0.2s			IAML		00 57 49.6	
DPP	comp=E,2μm,0.2s			IAML		00 57 51.9	
IKP	**In-Ko-Pah, Jac**	**0.67**	**169**		Pg	00 57 41.4	-0.5
IKP					Sg	00 57 50.4	-0.3
POB	**Polly Butte**	**0.67**	**304**		Pg	00 57 41.3	-0.6
POB					Sg	00 57 49.8	-0.9
DEVC	**Devers**	**0.68**	**337**		Pg	00 57 41.5	-0.6
DEVC					Sg	00 57 50.5	-0.5
WESC	**Westside Schoo**	**0.70**	**141**		Sb	00 57 53.0	+0.2
IMPE	**Imperial**	**0.71**	**125**		Pb	00 57 43.2	0.0
IMPE					Sb	00 57 53.8	+0.9
DGR	**Domenigoni Val**	**0.71**	**299**		Sg	00 57 51.3	-0.8
YUH	**Yuha Desert**	**0.72**	**157**		Pg	00 57 41.7	-1.1
YUH	**Yuha Desert**	**0.72**	**157**	Sg	Sg	00 57 51.7	-0.4
YUH	comp=N,822nm,0.2s			IAML		00 57 52.7	
YUH	comp=E,1μm,0.2s			IAML		00 57 52.9	
BAR	**Barrett** comp=N,1μm,0.2s	**0.72**	**209**	IAML		00 57 52.0	
BACC	**Bachelor Mtn.**	**0.72**	**295**		Sg	00 57 51.4	-0.9
RMX	**La Rumorosa**	**0.72**	**168**		Pb	00 57 43.4	0.0
RMX					Sb	00 57 53.5	+0.2
HMTC	**Hemet**	**0.74**	**303**		Pg	00 57 42.4	-0.8
HMTC					Sg	00 57 52.2	-0.7
BC3	**Big Chuckawall**	**0.75**	**63**		Pg	00 57 42.5	-0.9
BC3					Sg	00 57 52.3	-1.0
BLAC	**Blackrock camp**	**0.77**	**352**		Pg	00 57 42.9	-0.8
BLAC					Sg	00 57 53.2	-0.5
SGL	**Mount Signal**	**0.80**	**146**		Pg	00 57 42.7	-1.5
TKX	**Tecate**	**0.80**	**202**		Pg	00 57 43.5	-0.8
TKX	**Tecate**	**0.80**	**202**	Sg	Sg	00 57 53.7	-1.0
TKX	comp=E,961nm,0.2s			IAML		00 57 54.2	
TKX	comp=N,886nm,0.2s			IAML		00 57 55.5	
SLVP	**Salvation Pass**	**0.80**	**95**		Pg	00 57 42.9	-1.4
SLVP					Sg	00 57 54.2	-0.6
SDRC	**San Diego Road**	**0.81**	**225**		Pg	00 57 43.5	-1.0
SDRC					Sg	00 57 53.9	-1.3
TPC	**Twentynine Pal**	**0.81**	**12**		Pg	00 57 43.6	-1.0
SNR	**Schaffner Ranc**	**0.82**	**123**		Pg	00 57 43.3	-1.4
DUZA	**Dulzura**	**0.82**	**212**		Pg	00 57 43.8	-1.0
DUZA					Sg	00 57 54.6	-1.0
CPE	**Camp Elliot**	**0.83**	**240**		Pg	00 57 43.8	-1.0
GORC	**Green Oak Ranc**	**0.83**	**259**		Sg	00 57 54.6	-1.1
MTRP	**Mission Trails**	**0.83**	**234**		Pg	00 57 43.9	-1.0
MTRP					Sg	00 57 54.6	-1.1
MURC	**Murrieta**	**0.84**	**291**		Pg	00 57 44.2	-0.8
MURC					Sg	00 57 55.1	-0.9
BBSC	**Beaumont Base**	**0.86**	**315**		Sg	00 57 56.4	-0.3
OLP	**Otay Lakes Par**	**0.90**	**219**		Pg	00 57 45.1	-1.1
OLP					Sg	00 57 56.5	-1.4
SDMC	**San Diego Miss**	**0.91**	**235**		Pg	00 57 45.2	-1.1
PEC	**Perris**	**0.95**	**308**		Sg	00 57 58.5	-1.1
GTM	**Goat Mountain**	**0.99**	**355**		Pg	00 57 46.8	-1.1
GTM					Sg	00 57 59.8	-1.0
CFT	**Crafton Hills**	**1.01**	**316**		Pg	00 57 47.7	-0.8
ELS	**Elsinore Mount**	**1.03**	**289**		Pb	00 57 47.4	-1.4
ELS	**Elsinore Mount**	**1.03**	**289**	Sg	Sg	00 58 00.8	-1.5
TJX	**Tijuana**	**1.04**	**220**		Pb	00 57 47.7	-1.2
TJX	**Tijuana**	**1.04**	**220**	Sg	Sg	00 58 01.6	-0.8
CBX	**Cerro Bola**	**1.05**	**199**	Pg	Pb	00 57 47.7	-1.4
CBX				Sg	Sg	00 58 01.8	-1.0
CBX	comp=N,828nm,0.4s			IAML		00 58 03.9	
SVD	**Seven Oaks Dam**	**1.06**	**319**		Pb	00 57 48.2	-0.9
SVD					Sb	00 58 02.0	-1.1
BBRC	**Big Bear Solar**	**1.10**	**330**		Pb	00 57 49.0	-1.0
BBRC					Sg	00 58 03.4	-0.9
RSBC	**Riverside Bore**	**1.11**	**307**		Sb	00 58 03.1	-1.4
SIL	**Silver Peak**	**1.14**	**336**		Pb	00 57 49.5	-1.1
CPBX	**Cerro Prieto**	**1.20**	**138**	Pg	Pn	00 57 50.0	-1.4
CPBX				Sg	Sb	00 58 06.6	-0.3
GLA	**Glamis**	**1.23**	**102**		Pn	00 57 49.0	-2.9
GLA				Sg	Sb	00 58 07.3	-0.6
GLA	comp=E,235nm,0.7s			IAML		00 58 17.8	
ESJX	**Sierra Juarez**	**1.33**	**169**		Pn	00 57 51.5	-2.0
ESJX	comp=E,441nm,0.1s			IAML		00 58 11.6	
ESJX	comp=N,293nm,0.1s			IAML		00 58 11.9	
CCX	**Cicese**	**1.48**	**194**	Pn	Pn	00 57 54.4	-0.9
CCX	comp=N,283nm,0.3s			IAML		00 58 14.6	
CCX	comp=E,249nm,0.3s			IAML		00 58 15.2	
BFSC	**Mount Baldy Ra**	**1.49**	**309**	Pn	Pn	00 57 55.0	-0.6
BLYC	**Blythe**	**1.51**	**73**	Pn	Pn	00 57 53.6	-2.2
MWC	**Mount Wilson**	**1.76**	**302**		Pn	00 57 59.7	+0.4
MWC	comp=E,191nm,0.4s			IAML		00 58 24.0	
MWC	comp=N,148nm,0.8s			IAML		00 58 26.8	
PASC	**Pasadena Art C**	**1.82**	**299**		Pn	00 58 00.0	-0.1
PASC	comp=E,85nm,0.4s			IAML		00 58 25.4	
VTX	**Valle De La Tr**	**1.95**	**168**		Pb	00 58 04.0	-0.5
NEE2	**Needles Airpor**	**1.99**	**43**		Pb	00 58 05.8	+0.8
GSC	**Goldstone, Bar**	**2.04**	**347**		Pb	00 58 06.2	+0.3
GSC	comp=N,77nm,0.7s			IAML		00 58 36.3	
GSC	comp=E,91nm,1.0s			IAML		00 58 38.2	
113A	**Mohawk Valley,**	**2.16**	**104**		Pn	00 58 04.1	-0.6
MTPC	**Mountain Pass**	**2.25**	**15**		Pb	00 58 09.5	0.0
TPO	**Tropico Hills**	**2.26**	**314**		Pn	00 58 06.3	+0.1
CCCA	**Chr Cany lake**	**2.39**	**338**		Pb	00 58 13.1	+1.2
LRMC	**Laurel Mtn Rad**	**2.46**	**332**		Pn	00 58 08.9	-0.2
WSHM	**Spangler Hills**	**2.50**	**336**		Pn	00 58 08.5	-1.0
SFX	**San Felipe**	**2.56**	**152**	Pn	Pn	00 58 09.9	-0.2
W13A	**Hualapai Mount**	**2.66**	**47**		Pn	00 58 11.4	-0.3
V12A	**Nelson**	**2.68**	**25**		Pn	00 58 12.5	+0.6
Y14A	**Wickenburg**	**2.79**	**76**		Pn	00 58 14.1	+0.8
PIX	**Pinacate**	**2.94**	**126**		Pn	00 58 14.7	-0.7
ISA	**Isabella, Lake**	**2.98**	**323**	Pg	Pg	00 58 24.1	-1.8
ISA	comp=E,32nm,0.5s			IAML		00 59 04.2	
214A	**Organ Pipe Nat**	**3.21**	**114**	Pn	Pn	00 58 18.2	-0.9
SHPR	**Sheep Range**	**3.31**	**15**	Pn	Pn	00 58 20.5	-0.2
CWC	**Cottonwood Cre**	**3.46**	**335**	Pg	Pg	00 58 35.6	+0.4
TPNV	**Topopah Spring**	**3.63**	**0**	Pn	Pn	00 58 26.1	+1.0

IDC 19 01:11:48.1±1.9,2°.00N×127°.82E, h0km, mb3.7/4, mbtmp3.8/4, Error ellipse: s-maj=180.7km s-min=21.4km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=343,slow=11,SNR=4.6 0.5nm,0.6s	**22.72**	**164**	P	P	01 16 51.7	-0.2
ASAR	**Alice Springs** 0.3nm,0.5s,baz=348,slow=8.9,SNR=2.6 0.3nm,0.5s	**26.19**	**167**	P	P	01 17 24.6	-0.1
MKAR	**Makanchi Array** 1.7nm,0.5s,baz=117,slow=8.3,SNR=18 1.7nm,0.5s	**59.59**	**325**	P	P	01 21 54.5	+0.7
KURBB	**Kurchatov Arra** 4.6nm,0.2s,baz=125,slow=5.7,SNR=7.8	**63.77**	**327**	P	P	01 22 21.8	-0.2
BVAR	**Borovoye Array** 1.6nm,0.6s,baz=127,slow=7.6,SNR=12 1.6nm,0.6s	**69.36**	**327**	P	P	01 22 57.2	-0.4

*SJA **19** 01:18:22.8±0.7,20°.85S×67°.40W, h222km±6km, ML5.1, MW4.8*

*VAO **19** 01:18:23.0±0.7,20°.72S×67°.31W, h184km±6km, mb5.0*

*NEIC **19** 01:18:24.3±2.3,20°.82S±0°.06×67°.25W±0°.08, h186km±5km, mb5.0/414, Mww4.9/26, Mwr4.9(GUC), Error ellipse: s-maj=10.9km s-min=8.3km az=83.0*

*NEIC **19** 01:18:24,20°.82S×67°.23W, h190km*

*NEIC **19** 01:18:24,20°.92S×67°.23W, h190km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.26; $M_{\theta\theta}$0.66; $M_{\phi\phi}$ 1.60; $M_{r\theta}$0.56; $M_{r\phi}$-0.71; $M_{\theta\phi}$-2.40; Fault plane solution: $M_0$3.26000×10^{16} NP1: ϕ_s145.03000°, δ21.14000°, λ-106.53000°. NP2: ϕ_s342.68000°, δ69.77000°, λ-83.72000°. Principal axes: T 3.0716, Plg25.0000°, Azm68.0000°; N 0.3437, Plg6.0000°, Azm161.0000°; P -3.4154, Plg65.0000°, Azm263.0000°;*

*SCB **19** 01:18:24.7±1.5,20°.92S×67°.39W, h192km±11km, ML5.0/4, MW4.3 Error ellipse: s-maj=4.2km s-min=3.5km az=0.0*

*IDC **19** 01:18:25.2±0.6,20°.70S×67°.14W, h193km±5km, mb4.4/15, mbtmp4.9/21, MS3.9/2, Error ellipse: s-maj=12.8km s-min=8.9km az=68.0*

*GUC **19** 01:18:25.5±0.6,20°.84S×67°.59W, h223km±4km, ML5.0*

*GCMT **19** 01:18:29.0±0.3,20°.79S±0°.02×67°.22W±0°.02, h210km±2km, MW5.0/99, Moment Tensor Solution. s43,c49; s99,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.71±.14; $M_{\theta\theta}$1.88±.19; $M_{\phi\phi}$ 1.84±.26; $M_{r\theta}$0.10±.12; $M_{r\phi}$0.11±.15; $M_{\theta\phi}$-3.51±.14; Best double couple: $M_0$4.47700×10^{16} NP1:ϕ_s186.00000°, δ19.00000°, λ-85.00000°. NP2: ϕ_s1.00000°, δ71.00000°, λ-92.00000°. Principal axes: T 3.5410, Plg26.0000°, Azm92.0000°; N 1.8810, Plg2.0000°, Azm1.0000°; P -5.4120, Plg64.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 01:18:24.1±0.4,20°.81S±0°.03×67°.32W±0°.03, h190km±3km, n450, σ1$ 45/316, mb4.9/226, 20C-6D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.63**	**106**	Pg	**Pn**	**01 19 00.7**	**+2.1**
MOCB				Sg	**Sn**	**01 19 27.0**	**+1.6**
MOCB	8μm,0.4s			IAML		01 19 27.9	
PB08	**IPOC Station P**	**1.85**	**291**		**Pn**	**01 19 02.2**	**+1.4**
PB08	**IPOC Station P**	**1.85**	**291**	⇑*iP*	**Pn**	**01 19 02.2**	**+1.4**
PB08				*i* S	**Sn**	**01 19 30.5**	**+1.4**
PB08	comp=N,4μm,0.5s			IAML		01 19 32.8	
PB08	**IPOC Station P**	**1.85**	**291**	*eP*	**Pn**	**01 19 02.1**	**+1.4**
PB08				*eS*	**Sn**	**01 19 31.2**	**+2.2**
PB08	**IPOC Station P**	**1.85**	**291**	Pg	**Pn**	**01 19 02.5**	**+1.8**
PB01	**IPOC Station P**	**2.04**	**263**		**Pn**	**01 19 02.9**	**+0.6**
PB01	**IPOC Station P**	**2.04**	**263**	⇑*iP*	**Pn**	**01 19 03.0**	**+0.6**
PB01				*i* S	**Sn**	**01 19 31.8**	**-0.3**
PB01	comp=N,12μm,0.5s			IAML		01 19 34.1	
PB01	**IPOC Station P**	**2.04**	**263**	*eP*	**Pn**	**01 19 03.0**	**+0.6**
PB01				*eS*	**Sn**	**01 19 33.2**	**+1.0**
PB01				*eS*		01 19 33.4	
PB01	comp=Z,4μm,0.2s			IAML		01 19 34.9	
PB01	**IPOC Station P**	**2.04**	**263**	Pg	**Pn**	**01 19 03.0**	**+0.6**
PB09	**IPOC Station P**	**2.04**	**241**		**Pn**	**01 19 04.0**	**+1.4**
PB09	**IPOC Station P**	**2.04**	**241**	⇑*iP*	**Pn**	**01 19 04.0**	**+1.4**
PB09				*i* S	**Sn**	**01 19 33.5**	**+1.1**
PB09	comp=E,7μm,0.5s			IAML		01 19 35.5	
PB09	**IPOC Station P**	**2.04**	**241**	*eP*	**Pn**	**01 19 03.3**	**+0.8**
PB09				*eS*	**Sn**	**01 19 33.4**	**+1.0**
PB09	comp=Z,6μm,0.7s			IAML		01 19 35.1	
PB09	**IPOC Station P**	**2.04**	**241**	Pg	**Pn**	**01 19 03.3**	**+0.8**
GO01	**Chusmiza**	**2.10**	**303**		**Pn**	**01 19 04.6**	**+1.1**
GO01	**Chusmiza**	**2.10**	**303**	⇑*iP*	**Pn**	**01 19 04.6**	**+1.1**
GO01				*i* S	**Sn**	**01 19 35.1**	**+1.2**
GO01	comp=E,6μm,0.1s			IAML		01 19 46.0	
GO01	**Chusmiza**	**2.10**	**303**	*eP*	**Pn**	**01 19 05.1**	**+1.6**
GO01				*eS*	**Sn**	**01 19 39.6**	**+5.6**
GO01	**Chusmiza**	**2.10**	**303**	Pg	**Pn**	**01 19 04.1**	**+0.6**
YJA	**Yavi**	**2.16**	**129**	*eP*	**Pn**	**01 19 06.1**	**+2.0**
YJA				*eS*	**Sn**	**01 19 37.5**	**+2.4**
YJA	**Yavi**	**2.16**	**129**	Pg	**Pn**	**01 19 05.8**	**+1.8**
YJA						01 19 30.7	
YJA				Sg	**Sn**	**01 19 34.7**	**-0.4**
YJA	comp=E,447nm,0.4s			IAML		01 19 39.8	
PX03	**IPOC Station P**	**2.21**	**280**	*eP*	**Pn**	**01 19 04.0**	**-0.2**
AF01	**San Pedro de A**	**2.27**	**200**		**Pn**	**01 19 07.5**	**+2.3**
AF01	**San Pedro de A**	**2.27**	**200**	⇑*iP*	**Pn**	**01 19 07.4**	**+2.3**
AF01	**San Pedro de A**	**2.27**	**200**	*eP*	**Pn**	**01 19 07.3**	**+2.2**
SOEO	**Opoqueri**	**2.30**	**346**	Pg	**Pn**	**01 19 08.5**	**+2.8**
PB11	**IPOC Station P**	**2.43**	**295**		**Pn**	**01 19 07.4**	**+0.6**
PB11	**IPOC Station P**	**2.43**	**295**	⇑*iP*	**Pn**	**01 19 07.4**	**+0.6**
PB11	**IPOC Station P**	**2.43**	**295**	*eP*	**Pn**	**01 19 07.3**	**+0.6**
PB11				*eS*	**Sn**	**01 19 40.5**	**+0.5**
PB11	comp=Z,5μm,0.4s			IAML		01 19 43.2	
PB11	**IPOC Station P**	**2.43**	**295**	Pg	**Pn**	**01 19 07.3**	**+0.6**
PB11				Sg	**Sn**	**01 19 40.0**	**0.0**
PB11	comp=Z,13μm,0.2s			IAML		01 19 42.2	
PB02	**IPOC Station P**	**2.46**	**258**		**Pn**	**01 19 07.5**	**+0.4**
PB02	**IPOC Station P**	**2.46**	**258**	⇑*iP*	**Pn**	**01 19 07.4**	**+0.4**
PB02	**IPOC Station P**	**2.46**	**258**	*eP*	**Pn**	**01 19 07.4**	**+0.4**
PB02				*eS*	**Sn**	**01 19 40.1**	**-0.3**
PB02	**IPOC Station P**	**2.46**	**258**	Pg	**Pn**	**01 19 07.5**	**+0.4**
PB02				Sg	**Sn**	**01 19 39.6**	**-0.9**
PB02	comp=Z,22μm,0.3s			IAML		01 19 44.5	
HMBC	**Humberstone**	**2.47**	**282**		**Pn**	**01 19 07.

PB10 IPOC Station P 4.03 228 ⇑*i*P Pn 01 19 25.4 -0.5
PB10 IPOC Station P 4.03 228 Pg Pn 01 19 25.0 -0.9
BBOE La Paz, Chanca 4.03 351 Pg Pn 01 19 29.1 +2.6
BBOD La Paz, Gloria 4.33 344 Pg Pn 01 19 32.2 +1.9
LPAZ La Paz 4.57 350 Pn 01 19 35.0 +1.6
LPAZ La Paz 4.57 350 P Pn 01 19 34.2 +0.8
comp=Z,109nm,0.3s,baz=142,slow=5.2,SNR=897
LPAZ S Sn 01 20 25.8 -2.0
comp=Z,60nm,0.6s,baz=352,slow=20,SNR=1.2
LPAZ La Paz 4.57 350 Pg Pn 01 19 34.9 +1.5
LPAZ La Paz 4.57 350 *e*P Pn 01 19 32.2 -1.2
LPAZ La Paz 4.57 350 P Pn 01 19 35.0 +1.6
BBOB La Paz, Bander 4.71 350 Pg Pn 01 19 36.4 +1.3
PB14 IPOC Station P 4.75 216 Pn 01 19 34.5 -0.9
PB14 IPOC Station P 4.75 216 ⇑*i*P Pn 01 19 34.4 -0.9
PB14 IPOC Station P 4.75 216 Pg Pn 01 19 34.7 -0.6
GO02 Mina Guanaco 4.81 205 Pn 01 19 36.1 0.0
GO02 Mina Guanaco 4.81 205 ⇑*i*P Pn 01 19 36.1 0.0
AC01 Pan de Azucar 6.10 209 Pn 01 19 51.0 -1.6
AC02 Maricunga 6.22 195 Pn 01 19 54.4 -0.2
AC06 Mina Casimiro 7.08 202 Pn 01 20 02.5 -2.8
BBSD Serra de San D 7.30 62 *e*P Pn 01 20 06.3 -2.0
SIV San Ignacio 7.62 52 P Pn 01 20 10.8 -1.8
comp=Z,456nm,0.6s,baz=241,slow=9.9,SNR=1194
SIV S Sn 01 21 26.6 -12
comp=Z,47nm,0.8s,baz=214,slow=11,SNR=3.4
AC04 Llanos de Chal 8.11 204 Pn 01 20 14.9 -4.0
PTLB Pontes e Lacer 9.43 57 Pn 01 20 34.5 -1.7
CO01 Juntas del Tor 9.46 195 Pn 01 20 35.1 -1.6
CO05 La Serena 9.73 201 Pn 01 20 35.9 -4.1
GO04 Tololo Observa 9.84 198 Pn 01 20 38.2 -3.3
VILB Vilhena 10.37 42 Pn 01 20 47.8 -0.5
VILB Vilhena 10.37 42 *e*P Pn 01 20 47.3 -1.0
VILB *e*S Sn 01 22 41.3 -2.7
CO06 Fray Jorge 10.56 201 Pn 01 20 46.1 -4.6
CPUP Villa Florida 10.68 123 P Pn 01 20 51.3 -1.0
comp=Z,4.4nm,0.7s,baz=156,slow=11,SNR=22
CPUP S Sn 01 22 47.6 -3.6
comp=Z,16nm,0.8s,baz=166,slow=8.7,SNR=4.2
CFA Coronel Fontan 10.78 184 P Pn 01 20 51.9 -1.7
comp=Z,19nm,0.5s,baz=5.0,slow=12,SNR=56
CFA S Sn 01 22 47.1 -6.5
comp=Z,21nm,0.5s,baz=118,slow=23,SNR=6.6
PEL Peldehue 12.64 193 Pn 01 21 15.7 -1.8
NNA Nana 12.66 312 P Pn 01 21 17.5 -0.3
comp=Z,8.4nm,0.3s,baz=111,slow=17,SNR=5.2
NNA Nana 12.66 312 P Pn 01 21 17.3 -0.5
comp=Z,116nm,0.9s
MT08 Bocatoma Ro 12.81 190 Pn 01 21 20.5 +0.8
TRCB Terra Rica 13.78 101 P Pn 01 21 31.8 0.0
BO01 Tunca 13.93 193 Pn 01 21 29.5 -4.0
CZSB Cruzeiro do Su 14.01 337 Pn 01 21 29.1 -5.5
CZSB Cruzeiro do Su 14.01 337 *e*P Pn 01 21 28.4 -6.3
CZSB Cruzeiro do Su 14.01 337 P Pn 01 21 28.5 -6.2
comp=Z,29nm,0.7s
ITAB Concordia 15.27 118 P Pn 01 21 50.7 +0.6
PLTB Pedras Altas 16.42 134 P P 01 22 02.2 -1.1
FRTB Fartura 16.65 102 *e*P P 01 22 05.2 -0.8
TBTG Tabatinga, AM 16.72 351 *e*P P 01 22 05.3 -1.4
ATAH Atahualpa 17.32 320 P Pn 01 22 15.4 +0.2
comp=Z,12nm,0.8s,baz=163,slow=7.5,SNR=15
TRQA Tornquist 17.80 166 P P 01 22 16.8 -1.5
NPGB Novo Progresso 17.93 42 *e*P P 01 22 18.7 -1.3
SPB Sao Paulo 18.62 102 P P 01 22 26.5 -0.9
SPB Sao Paulo 18.62 102 *e*P P 01 22 26.9 -0.4
MACA Manacapuru-AM 18.70 21 P P 01 22 26.1 -2.2
MACA Manacapuru-AM 18.70 21 *e*P P 01 22 26.8 -1.5
PET01 Itanhaem-SP 18.83 104 *e*P P 01 22 29.8 +0.1
VAO Valinhos 19.01 100 P P 01 22 30.8 -1.0
VAO Valinhos 19.01 100 *e*P P 01 22 30.6 -1.1
BDFB Brasilia 19.04 78 P P 01 22 32.1 0.0
comp=Z,33nm,0.7s,baz=263,slow=11,SNR=30
PMNB Patos De Minas 19.79 87 *e*P P 01 22 39.1 -1.0
ITTB Itaituba 19.85 36 *e*P P 01 22 39.5 -1.2
PLCA Paso Flores 20.05 187 P 01 22 42.2 -0.5
PLCA Paso Flores 20.05 187 P P 01 22 43.6 +1.0
comp=Z,79nm,0.8s,baz=16,slow=13,SNR=45
comp=Z,79nm,0.8s
PLCA Paso Flores 20.05 187 *e*P P 01 22 43.4 +0.7
PARB Paraibuna 20.26 101 *e*P P 01 22 43.7 -1.4
MCRA Macar, Loja 20.45 321 P P 01 22 47.5 +0.3
comp=Z,876nmcomp=Z,72nm,1.1s
SGC2 Sao Gabriel da 20.54 1 P P 01 22 46.1 -1.9
comp=Z,58nm,0.8s
BSCB Bom Sucesso 21.06 95 *e*P P 01 22 51.7 -2.0
COHC Cochancay 21.63 326 P P 01 23 01.3 +1.7
comp=Z,1umcomp=Z,111nm,1.1s
VAS01 Vassouras-RJ 22.25 98 *e*P P 01 23 04.6 -1.0
PRPB Parauapebas 22.36 52 *e*P P 01 23 05.1 -1.5
PIAT Ana Tenorio 22.41 330 P P 01 23 09.4 +1.8
comp=Z,41nm,1.3s
DIAM Diamantina, MG 22.42 88 *e*P P 01 23 06.2 -1.2
SMTB Santa Maria do 22.44 61 *e*P P 01 23 06.6 -0.8
JANB Januaria 22.61 79 *e*P P 01 23 07.7 -1.4
LL02 Futaleuf 22.63 189 P 01 23 08.1 -0.8
MAL2 Monte Alegre, 22.65 36 P 01 23 08.3 -1.1
GO07 Milladeo Hill, 22.86 192 P P 01 23 09.8 -1.2
SDBA SAO DESIDERIO 23.03 72 *e*P P 01 23 11.6 -1.2
OTAV Otavalo 23.59 331 P 01 23 18.1 -0.2
OTAV Otavalo 23.59 331 *e*P P 01 23 16.8 -1.5
OTAV Otavalo 23.59 331 P P 01 23 19.8 +1.5
comp=Z,452nmcomp=Z,22nm,0.9s
FLOC Florencia 23.71 339 P 01 23 17.8 -1.1
FLOC IAmb IAmb 01 23 20.2
comp=Z,41nm,0.9s
FLF1 Flavio Alfaro- 23.73 327 P P 01 23 20.2 +1.0
comp=Z,158nm,1.1s
BOAV Boa Vista 24.01 17 P 01 23 20.9 -0.7
BOAV IAmb IAmb 01 23 24.3
comp=Z,39nm,0.8s
BOAV Boa Vista 24.01 17 *e*P P 01 23 20.2 -1.4
BOAV Boa Vista 24.01 17 P P 01 23 21.2 -0.4
comp=Z,60nm,0.9s
GARC Garzon, Huila 24.22 340 P P 01 23 23.8 0.0
comp=Z,826nmcomp=Z,60nm,1.1s
SJMB Sao Joao De Ma 24.68 90 *e*P P 01 23 26.8 -0.9
BBAC Balboa, Cauca 24.69 336 P P 01 23 29.3 +1.2
comp=Z,812nmcomp=Z,80nm,1.1s
POPC Popayan, Colom 24.95 337 P P 01 23 31.6 +1.1
comp=Z,724nmcomp=Z,80nm,1.1s
COYC Coyhaique 25.00 188 P 01 23 28.5 -1.8
COYC IAmb IAmb 01 23 31.3
comp=Z,34nm,0.8s
RIB01 Linhares ES 25.32 91 *e*P P 01 23 32.2 -1.4
VILC Villavicencio, 25.55 345 P P 01 23 36.3 +0.6
comp=Z,530nmcomp=Z,69nm,0.8s
JAMC Jamundi, Valle 25.58 338 P P 01 23 36.3 +0.2
comp=Z,493nmcomp=Z,25nm,1.1s
ORTC Ortega, Tolima 25.77 342 P P 01 23 37.3 -0.3
TMAB Tom-Au,PA,Br 26.21 48 *e*P P 01 23 41.2 -0.3
GUA01 Guaratinga, BA 26.38 85 *e*P P 01 23 42.4 -0.7
ROSC El Rosal 26.40 344 P P 01 23 44.0 +0.3
comp=Z,6.8nm,0.4s,baz=53,slow=14,SNR=4.0
comp=Z,6.8nm,0.4s
AY03 Cochrane 26.72 188 IAmb IAmb 01 23 48.5
comp=Z,33nm,1.0s
RUSC La Rusia 27.14 347 P 01 23 50.7 +0.4
RUSC IAmb IAmb 01 23 55.5
comp=Z,36nm,1.0s
MDP Montagnes des 29.51 31 LR LR 01 36 10.2
comp=Z,234nm,20.3s,baz=292,slow=36
NBPB Pedra_Branca-C 30.89 64 *e*P P 01 24 22.2 -0.9
NBCL Cascavel-CE 32.68 64 *e*P P 01 24 38.5 -0.2
RCBR Riachuelo 33.91 68 P P 01 24 48.6 -0.7
RCBR Riachuelo 33.91 68 *e*P P 01 24 49.1 -0.3
RCBR Riachuelo 33.91 68 P P 01 24 48.1 -1.2
LCR2 La Lucha 2 34.51 330 IAmb IAmb 01 24 58.0
comp=Z,31nm,1.0s
JTS Las Juntas de 35.44 329 P P 01 25 02.9 +0.5
PDPR Patillas Dam, 38.61 2 IAmb IAmb 01 25 29.3
comp=Z,41nm,0.9s
OBIP Obispado Ponce 38.62 1 IAmb IAmb 01 25 33.2
comp=Z,27nm,0.8s
CELP Cerrillos 38.65 1 IAmb IAmb 01 25 30.8
comp=Z,37nm,1.0s
SJG San Juan 38.70 2 P P 01 25 27.7 -2.0
SJG San Juan 38.70 2 P P 01 25 24.2 -5.6
GCPR Guaynabo City 38.90 2 IAmb IAmb 01 26 45.9
comp=Z,58nm,1.6s
MTO3 Montecristo 41.15 326 IAmb IAmb 01 25 52.5
comp=Z,41nm,1.0s
ESPZ Base Esperanza 43.13 173 P P 01 26 03.7 -1.6
PETF Flores 43.54 328 IAmb IAmb 01 26 11.4
comp=Z,48nm,0.9s

CCIG Comitan 44.19 325 IAmb IAmb 01 26 16.4
comp=Z,44nm,1.1s
TEIG Tepich 45.65 332 P P 01 26 24.6 -1.3
TEIG IAmb IAmb 01 26 26.7
comp=Z,54nm,1.0s
TEIG Tepich 45.65 332 P P 01 26 25.2 -0.7
SMAI San Martin Ant 47.31 180 P P 01 26 39.2 +1.1
SMAI IAmb IAmb 01 26 41.0
comp=Z,36nm,0.8s
TLIG Tlapa 48.92 319 P P 01 26 51.7 +0.3
656A Willston 52.00 343 IAmb IAmb 01 27 14.8
comp=Z,34nm,1.0s
352A Blakely 54.67 342 P P 01 27 32.8 -0.6
ZAIG Zacatecas 55.30 320 P P 01 27 39.4 +0.9
ZAIG IAmb IAmb 01 27 41.2
comp=Z,32nm,0.9s
JSC Jenkinsville 56.37 346 IAmb IAmb 01 27 46.3
comp=Z,19nm,1.0s
BIRD Birdtown, Kers 56.55 347 IAmb IAmb 01 27 47.5
comp=Z,32nm,1.0s
W57A Gilead 56.94 348 IAmb IAmb 01 27 50.1
comp=Z,19nm,0.9s
KMSC Kings Mountain 57.22 346 IAmb IAmb 01 27 52.3
comp=Z,21nm,1.0s
Y49A Blount Mountai 57.33 341 IAmb IAmb 01 27 52.2
comp=Z,15nm,0.8s
X51A Calhoun 57.54 343 IAmb IAmb 01 27 54.1
comp=Z,31nm,0.9s
V55A Taylorsville 57.87 347 IAmb IAmb 01 27 57.2
comp=Z,29nm,0.9s
X48A Hartselle 58.08 341 IAmb IAmb 01 27 57.8
comp=Z,28nm,0.9s
U56A King 58.18 348 IAmb IAmb 01 27 59.4
comp=Z,28nm,1.0s
W50A Signal Mountai 58.27 343 IAmb IAmb 01 27 59.2
comp=Z,25nm,0.9s
T59A Double "B" Far 58.28 350 IAmb IAmb 01 27 59.3
comp=Z,22nm,1.0s
CPCT Cedar Cave 58.29 344 IAmb IAmb 01 27 59.3
comp=Z,16nm,1.0s
TKL Tuckaleechee C 58.29 344 IAmb IAmb 01 27 59.2
comp=Z,24nm,0.9s
SWET Sewanee 58.46 342 IAmb IAmb 01 28 00.3
comp=Z,29nm,0.9s
T57A Hurt 58.59 349 IAmb IAmb 01 28 01.7
comp=Z,22nm,1.2s
HNDO Hondo 58.77 327 IAmb IAmb 01 28 03.8
comp=Z,24nm,0.8s
PLAL Pickwick Lake 58.89 340 IAmb IAmb 01 28 02.9
comp=Z,21nm,0.8s
BLA Blacksburg 59.02 348 IAmb IAmb 01 28 06.0
comp=Z,21nm,1.0s
TZTN Tazewell 59.07 345 IAmb IAmb 01 28 04.7
comp=Z,18nm,1.0s
CCAR Cane Creek 59.20 336 IAmb IAmb 01 28 06.5
comp=Z,33nm,1.0s
BELA Belgrano 2 59.22 172 P P 01 28 06.1 +1.2
BELA IAmb IAmb 01 28 07.5
comp=Z,25nm,1.1s
R58B Mineral 59.30 350 IAmb IAmb 01 28 06.6
comp=Z,28nm,1.3s
DRIO Del Rio 59.37 326 IAmb IAmb 01 28 07.5
comp=Z,32nm,1.1s
CLTN Cedars of Leba 59.39 342 IAmb IAmb 01 28 06.7
comp=Z,23nm,1.0s
U49A Red Boiling Sp 59.63 343 IAmb IAmb 01 28 08.1
comp=Z,14nm,0.8s
JCT Junction City 59.80 328 IAmb IAmb 01 28 10.6
comp=Z,20nm,0.9s
T50A Nancy 59.85 344 IAmb IAmb 01 28 09.7
comp=Z,18nm,0.9s
WVT Waverly 59.87 341 P P 01 28 08.5 -1.2
WVT Waverly 59.87 341 P P 01 28 08.3 -1.4
WHTX Lake Whitney, 59.92 330 IAmb IAmb 01 28 11.4
comp=Z,18nm,0.9s
S51A Beattyville 60.13 345 P P 01 28 10.4 -1.1
UALR University of 60.18 336 P P 01 28 10.8 -1.1
UALR IAmb IAmb 01 28 12.5
comp=Z,20nm,1.0s
VNA3 Neumayer Olymp 60.25 162 ⇓P P 01 28 13.1 +1.1
comp=Z,21nm,0.9s
VNA1 Neumayer--Stat 60.44 161 ⇓P P 01 28 14.9 +1.7
comp=Z,25nm,1.0s
MIAR Mount Ida 60.45 335 IAmb IAmb 01 28 14.6
comp=Z,28nm,1.1s
Q56A Snyder Ridge, 60.57 349 IAmb IAmb 01 28 15.9
comp=Z,26nm,0.9s
SAND Sanderson 60.58 325 IAmb IAmb 01 28 16.3
comp=Z,31nm,1.0s
P57A Homestead Farm 60.81 351 IAmb IAmb 01 28 17.5
comp=Z,23nm,1.0s
Q54A Coxs Mills 60.81 348 IAmb IAmb 01 28 16.8
comp=Z,21nm,0.8s
OZNA Ozona 60.83 327 IAmb IAmb 01 28 17.4
comp=Z,32nm,1.1s
LCAR Lake Charles 60.91 338 IAmb IAmb 01 28 17.0
comp=Z,16nm,0.9s
R50A Paris 60.91 345 IAmb IAmb 01 28 17.1
comp=Z,31nm,1.1s
TXAR Lajitas Array 60.94 324 P P 01 28 17.3 +0.1
comp=Z,4.7nm,0.8s,baz=150,slow=8.7,SNR=61
comp=Z,4.7nm,0.8s
PLPT Palo Pinto 61.00 330 IAmb IAmb 01 28 18.8
comp=Z,21nm,1.1s
FCAR Ozark Folk Cen 61.09 337 IAmb IAmb 01 28 18.1
comp=Z,19nm,1.0s
PBMO Poplar Bluff 61.30 339 IAmb IAmb 01 28 19.8
comp=Z,23nm,0.8s
WCI Wyandotte Cave 61.38 343 P P 01 28 18.2 -1.7
WCI IAmb IAmb 01 28 19.7
comp=Z,25nm,0.8s
WCI Wyandotte Cave 61.38 343 P P 01 28 17.9 -1.9
Q51A Peebles 61.39 346 IAmb IAmb 01 28 20.3
comp=Z,22nm,1.0s
ABTX Abilene, Hawle 61.47 329 IAmb IAmb 01 28 21.8
comp=Z,34nm,1.3s
ALPN Alpine 61.73 324 IAmb IAmb 01 28 23.9
comp=Z,40nm,1.6s
P51A Williamsport 61.76 346 IAmb IAmb 01 28 22.6
comp=Z,22nm,0.9s
WTFS Witchita Falls 61.86 331 IAmb IAmb 01 28 24.4
comp=Z,27nm,1.0s
O54A Avella 61.89 349 IAmb IAmb 01 28 23.5
comp=Z,15nm,0.9s
SSPA Standing Stone 61.92 351 P P 01 28 23.5 +0.1
SSPA IAmb IAmb 01 28 24.5
comp=Z,15nm,1.0s
N58A Sunbury 61.95 352 IAmb IAmb 01 28 24.8
comp=Z,27nm,1.0s
MNHN Monahans 62.01 326 IAmb IAmb 01 28 25.6
comp=Z,25nm,0.9s
O52A Adamsville 62.11 347 IAmb IAmb 01 28 25.3
comp=Z,25nm,0.9s
MGMO Montain Grove 62.27 338 IAmb IAmb 01 28 26.6
comp=Z,31nm,1.1s
SN05 Snyder 5 62.28 328 IAmb IAmb 01 28 27.2
comp=Z,26nm,1.0s
P48A Milroy 62.30 344 IAmb IAmb 01 28 25.5
comp=Z,19nm,1.0s
U38A Gravette 62.43 336 IAmb IAmb 01 28 27.8
comp=Z,42nm,1.8s
SNAA Sanae 62.44 161 ⇓P P 01 28 27.8 +1.1
comp=Z,510nm,0.8s
SNAA Sanae 62.44 161 P P 01 28 27.8 +1.1
SNAA Sanae 62.44 161 P P 01 28 27.3 +0.6
comp=Z,17nm,0.7s,baz=282,slow=6.6,SNR=122
comp=Z,17nm,0.7s
SN07 Snyder 07 62.46 328 IAmb IAmb 01 28 28.1
comp=Z,20nm,1.1s
M57A Sunshine Farm, 62.50 352 IAmb IAmb 01 28 28.6
comp=Z,17nm,0.9s
ODSA Odessa 62.52 327 IAmb IAmb 01 28 28.4
comp=Z,20nm,0.9s
TUL3 Leonard 62.53 334 IAmb IAmb 01 28 28.6
comp=Z,38nm,1.5s
N53A Lisbon 62.58 348 IAmb IAmb 01 28 28.8
comp=Z,22nm,0.9s
CCM Cathedral Cave 62.73 339 P P 01 28 28.4 -0.5
CCM Cathedral Cave 62.73 339 P P 01 28 28.0 -0.9
POST Post 62.74 328 IAmb IAmb 01 28 31.1
comp=Z,20nm,1.0s
VHRN Van Horn 62.78 324 IAmb IAmb 01 28 30.9
comp=Z,17nm,0.9s
R40A Maddies Statio 63.29 338 IAmb IAmb 01 28 32.9
comp=Z,24nm,0.9s
L56A Greenwood 63.34 351 IAmb IAmb 01 28 33.8
comp=Z,22nm,0.9s
SFIN Lafayette 63.60 343 IAmb IAmb 01 28 34.0

comp=Z,26nm,1.0s
T35A Sooner Cattle 63.69 334 IAmb IAmb 01 28 36.4
comp=Z,22nm,1.1s
MNTX Cornudas Mount 63.70 324 IAmb IAmb 01 28 36.1
comp=Z,17nm,1.1s
SMWD Samnorwood 63.79 330 IAmb IAmb 01 28 37.0
comp=Z,28nm,0.9s
K57A Scipio Center 63.79 352 IAmb IAmb 01 28 36.5
comp=Z,24nm,0.9s
CROK Carrier 63.95 333 IAmb IAmb 01 29 29.4
comp=Z,27nm,0.9s
TROLL Troll, Antarti 64.16 161 ⇓P P 01 28 39.4 +1.3
comp=Z,2μm,0.8s
AMTX Amarillo 64.29 329 IAmb IAmb 01 28 40.1
comp=Z,15nm,1.1s
P40A Paris 64.33 339 IAmb IAmb 01 28 39.6
comp=Z,27nm,0.9s
KAN08 Anthony NE Sta 64.56 333 IAmb IAmb 01 30 11.2
comp=Z,25nm,0.9s
P38A Dawn 64.92 338 IAmb IAmb 01 28 43.7
comp=Z,26nm,1.0s
N41A Harden Midland 65.00 340 IAmb IAmb 01 28 43.5
comp=Z,25nm,1.0s
PECO Prince Edward 65.04 352 IAmb IAmb 01 28 44.6
comp=Z,24nm,1.1s
EMMW East Machias 65.20 360 P P 01 28 45.2 +0.4
LONY Lake Ozonia 65.45 354 IAmb IAmb 01 28 47.6
comp=Z,15nm,0.9s
GGN Saint George 65.61 0 P P 01 28 48.0 +0.5
GGN IAmb IAmb 01 28 48.8
comp=Z,20nm,1.0s
G65A Princeton 65.69 360 IAmb IAmb 01 28 49.3
comp=Z,24nm,0.9s
PKME Peaks-Kenny Pk 65.78 358 IAmb IAmb 01 28 49.8
comp=Z,26nm,1.0s
WBO Williamsburg 65.89 354 IAmb IAmb 01 28 50.3
comp=Z,16nm,0.8s
MNTQ Montreal, Queb 66.24 355 IAmb IAmb 01 28 52.6
comp=Z,32nm,1.0s
L40A Anamosa 66.35 341 IAmb IAmb 01 28 52.5
comp=Z,30nm,1.0s
F64A Sherman 66.36 359 IAmb IAmb 01 28 53.5
comp=Z,24nm,0.9s
LMN Caledonia Moun 66.39 2 P P 01 28 52.0 -0.4
LMN IAmb IAmb 01 28 53.1
comp=Z,20nm,0.8s
ANMO Albuquerque 66.75 326 P P 01 28 55.8 +0.5
ANMO Albuquerque 66.75 326 P P 01 28 55.8 +0.5
JFWS Jewell Farm 66.84 342 IAmb IAmb 01 28 55.7
comp=Z,25nm,0.8s
BUKO Buck Lake 66.85 351 IAmb IAmb 01 28 56.1
comp=Z,17nm,1.0s
TRQ Mont Tremblant 67.04 355 IAmb IAmb 01 28 58.0
comp=Z,42nm,1.4s
DBIC Dimbokro 67.11 73 P P 01 28 56.4 -1.3
comp=Z,9.2nm,0.7s,baz=255,slow=4.7,SNR=12
DBIC pP pP 01 29 42.1 -1.6
comp=Z,9.5nm,0.9s,baz=249,slow=6.3,SNR=2.9
comp=Z,9.2nm,0.7s
E62A Clayton Lake 67.14 358 IAmb IAmb 01 28 58.6
comp=Z,19nm,0.7s
TUC Tucson 67.23 321 P P 01 28 59.1 +0.9
TUC IAmb IAmb 01 29 00.5
comp=Z,23nm,1.1s
TUC Tucson 67.23 321 P P 01 28 58.2 0.0
I42A Draeger Farm, 67.36 343 IAmb IAmb 01 28 59.1
comp=Z,21nm,0.9s
T25A Trinidad 67.42 329 IAmb IAmb 01 29 01.6
comp=Z,25nm,1.4s
BATG Bathurst New B 67.78 1 P P 01 29 01.6 +0.5
BATG IAmb IAmb 01 29 02.3
comp=Z,24nm,0.9s
214A Organ Pipe Nat 68.20 319 IAmb IAmb 01 29 07.0
comp=Z,26nm,1.1s
SDCO Great Sand Dun 68.43 328 IAmb IAmb 01 29 08.0
comp=Z,32nm,1.2s
LDAQ Lac Daran 68.55 357 IAmb IAmb 01 29 07.0
comp=Z,20nm,0.9s
W18A Petrified Fore 68.66 324 IAmb IAmb 01 29 09.5
comp=Z,29nm,1.1s
I37A Lemond, Waseca 68.80 340 IAmb IAmb 01 29 08.2
comp=Z,27nm,0.9s
G40A Rib Lake 68.99 343 IAmb IAmb 01 29 09.5
comp=Z,27nm,1.5s
X16A Lo Mia Camp, P 69.12 322 IAmb IAmb 01 29 12.8
comp=Z,21nm,1.0s
VLDQ Val d'Or 69.21 353 IAmb IAmb 01 29 11.1
comp=Z,23nm,1.0s
QSPA South Pole Qui 69.38 180 P P 01 29 13.0 +1.9
QSPA South Pole Qui 69.38 180 P P 01 29 12.9 +1.9
comp=Z,31nm,0.7s,baz=172,slow=0.8,SNR=179
comp=Z,31nm,0.7s
QSPA South Pole Qui 69.38 180 P P 01 29 13.0 +1.9
MVCO Mesa Verde 69.55 326 IAmb IAmb 01 29 14.9
comp=Z,52nm,1.4s
ECSD EROS Data Cent 69.63 338 IAmb IAmb 01 29 13.6
comp=Z,32nm,1.4s
SPMN Marine on St. 69.70 341 IAmb IAmb 01 29 13.4
comp=Z,22nm,1.0s
WUAZ Wupatki 69.87 323 IAmb IAmb 01 29 17.4
comp=Z,36nm,1.0s
PV01 Paradox Valley 70.28 326 IAmb IAmb 01 29 19.7
comp=Z,22nm,1.2s
PV15 Paradox Valley 70.39 327 IAmb IAmb 01 29 20.5
comp=Z,37nm,1.1s
PV13 Radium Mtn., P 70.43 326 IAmb IAmb 01 29 20.3
comp=Z,28nm,1.4s
BLYC Blythe 70.48 320 P P 01 29 19.5 +1.5
BLYC IAmb IAmb 01 29 20.9
comp=Z,21nm,1.1s
PV05 Paradox Valley 70.51 326 IAmb IAmb 01 29 20.6
comp=Z,26nm,1.3s
PV18 Skein Mesa, Pa 70.54 326 IAmb IAmb 01 29 20.9
comp=Z,27nm,1.2s
E38A The Farm, Brul 70.59 343 IAmb IAmb 01 29 19.0
comp=Z,27nm,1.0s
PV22 Blue Mesa, Par 70.69 327 IAmb IAmb 01 29 21.9
comp=Z,29nm,1.2s
PV10 Paradox Valley 70.70 326 IAmb IAmb 01 29 21.5
comp=Z,30nm,1.2s
U15A North Rim 71.04 323 IAmb IAmb 01 29 24.9
comp=Z,29nm,1.0s
HMU Henry Mountain 71.28 325 IAmb IAmb 01 29 26.1
comp=Z,33nm,1.1s
F33A 5 Mile Ranch, 71.36 339 IAmb IAmb 01 29 23.6
comp=Z,20nm,0.9s
PMD Palm Desert 71.55 318 IAmb IAmb 01 31 40.2
comp=Z,18nm,0.6s
PFO Pinyon Flats O 71.57 318 P P 01 29 25.4 +0.5
PFO Pinyon Flats O 71.57 318 P P 01 29 25.3 +0.5
O20A White River Ci 71.63 328 IAmb IAmb 01 29 27.5
comp=Z,25nm,1.0s
EYMN Ely 71.80 343 IAmb IAmb 01 29 26.2
comp=Z,26nm,1.1s
SRU San Rafael Swe 72.03 326 IAmb IAmb 01 29 29.7
comp=Z,29nm,0.9s
P18A Preston Nutter 72.26 326 IAmb IAmb 01 29 31.6
comp=Z,29nm,0.9s
SZCU Shurtz Canyon 72.32 323 IAmb IAmb 01 29 32.3
comp=Z,29nm,1.5s
CCUT Cedar City 72.44 323 IAmb IAmb 01 29 33.4
comp=Z,33nm,1.0s
BFSC Mount Baldy Ra 72.73 318 IAmb IAmb 01 29 34.3
comp=Z,25nm,1.3s
RSSD Black Hills 72.84 333 P P 01 29 31.9 -0.3
BSUT Blindstream Ca 73.20 327 IAmb IAmb 01 29 37.2
comp=Z,22nm,0.9s
MPU Maple Canyon 73.27 326 IAmb IAmb 01 29 37.4
comp=Z,26nm,1.0s
AGMN Agassiz Nation 73.39 341 IAmb IAmb 01 29 35.9
comp=Z,33nm,0.8s
GWY Greenwater Val 73.42 320 IAmb IAmb 01 29 38.2
comp=Z,21nm,1.0s
JLU Jordanelle 73.61 326 IAmb IAmb 01 29 39.4
comp=Z,30nm,1.1s
TPNV Topopah Spring 73.68 321 IAmb IAmb 01 29 40.4
comp=Z,24nm,1.1s
WCT Wildcat Mounta 73.80 321 IAmb IAmb 01 29 41.1
comp=Z,28nm,1.2s
PDAR Pinedale Array 74.27 329 P P 01 29 40.9 +0.2
PDAR Pinedale Array 74.27 329 P P 01 29 41.0 +0.4
comp=Z,3.2nm,0.9s,baz=138,slow=7.1,SNR=20
comp=Z,3.2nm,0.9s
BGU Big Grassy Mou 74.66 326 IAmb IAmb 01 29 45.1
comp=Z,23nm,1.1s
AHID Auburn Hatcher 75.02 328 IAmb IAmb 01 29 47.0
comp=Z,23nm,0.9s
HVU Hansel Valley 75.15 327 IAmb IAmb 01 29 47.7

comp=Z,26nm,1.1s
SCHQ Schefferville 75.34 0 P **P** 01 29 45.6 -0.5
comp=Z,10nm,0.8s,baz=192,slow=4.8,SNR=8.7
comp=Z,10nm,0.8s
SNOW Snow King Moun 75.37 329 IAmb IAmb 01 29 49.3
comp=Z,18nm,0.9s
LOHW Long Hollow 75.41 329 IAmb IAmb 01 29 49.5
comp=Z,72nm,1.9s
TPAW Teton Pass 75.49 329 IAmb IAmb 01 29 50.0
comp=Z,19nm,1.0s
TORD Torodi Ar. Bea 75.73 70 P **P** 01 29 48.0 -1.2
TORD Torodi Ar. Bea 75.73 70 P **P** 01 29 48.0 -1.2
comp=Z,14nm,0.8s,baz=268,slow=4.4,SNR=12
TORD pP **pP** **01 30 36.0 -0.2**
comp=Z,2.2nm,0.3s,baz=266,slow=5.8,SNR=2.6
comp=Z,14nm,0.8s
LAO LASA Array 75.82 334 IAmb IAmb 01 29 51.1
comp=Z,38nm,1.1s
NVAR Mina Array Bea 75.88 321 P **P** **01 29 51.0 +1.0**
NVAR Mina Array Bea 75.88 321 P **P** **01 29 51.1 +1.1**
comp=Z,7.4nm,1.0s,baz=150,slow=6.5,SNR=29
comp=Z,7.4nm,1.0s
PMPB Monarch Peak 75.97 318 IAmb IAmb 01 29 53.2
comp=Z,26nm,1.1s
YFT Old Faithful 76.15 329 IAmb IAmb 01 29 55.0
comp=Z,23nm,1.1s
YHB Horse Butte 76.55 329 IAmb IAmb 01 29 56.4
comp=Z,35nm,0.9s
YHL Hebgen Lake 76.61 330 IAmb IAmb 01 29 57.1
comp=Z,45nm,1.3s
SYO Syowa Base 76.62 159⇓*e*P **P** **01 29 54.5 +1.2**
SBA Scott Base 76.76 190 P **P** **01 29 55.9 +1.9**
SBA IAmb IAmb 01 29 57.9
comp=Z,29nm,1.3s
HLID Hailey 77.27 327 IAmb IAmb 01 30 00.5
comp=Z,33nm,1.0s
DLMT Dillon 77.67 329 IAmb IAmb 01 30 02.3
comp=Z,36nm,1.3s
VNDA Vanda 77.78 190 P **P** **01 30 01.9 +2.2**
VNDA Vanda 77.78 190 P **P** **01 30 02.0 +2.4**
comp=Z,7.6nm,0.8s,baz=133,slow=4.6,SNR=23
comp=Z,7.6nm,0.8s
AFDM Forest Hills D 77.81 320 P **P** **01 30 01.2 +0.8**
MFID Camas Ranch 77.89 326 IAmb IAmb 01 30 03.9
comp=Z,37nm,1.4s
TSUM Tsumeb 78.81 106 P **P** **01 30 07.5 +0.9**
PLID Pearl Lake 79.15 327 IAmb IAmb 01 30 10.2
comp=Z,27nm,0.9s
J08A Circle Bar Ran 79.26 325 IAmb IAmb 01 30 11.2
comp=Z,46nm,1.6s
HATC Hat Creek Radi 79.28 321 IAmb IAmb 01 30 10.7
comp=Z,42nm,1.1s
BMO Blue Mountains 79.66 326 IAmb IAmb 01 30 12.9
comp=Z,32nm,1.1s
I07A Izee 80.30 325 IAmb IAmb 01 30 16.7
comp=Z,22nm,1.1s
PBDV Barranco-do-Ve 80.37 44 *e*P **P** **01 30 15.6 +1.3**
PBDV *i* IAmb IAmb 01 30 22.3
comp=Z,22nm,1.8s
PCVE Castro Verde 80.52 44 *e*P **P** **01 30 15.9 +0.8**
PCVE *i* IAmb IAmb 01 30 24.1
comp=Z,29nm,1.6s
PARRA Arraiolos 80.57 42 *e*P **P** **01 30 20.1 +4.8**
PARRA *i* IAmb IAmb 01 30 29.4
comp=Z,11nm,1.2s
FFC Flin Flon 80.87 340 P **P** **01 30 16.3 -0.3**
FFC IAmb IAmb 01 30 17.9
comp=Z,21nm,1.1s
PINE Pine Mountain 80.90 324 IAmb IAmb 01 30 20.1
comp=Z,36nm,1.0s
J04A Umpqua Nationa 81.20 323 IAmb IAmb 01 30 21.1
comp=Z,32nm,0.9s
PMTG Montargil 81.24 43 *e*tx tx 01 30 12.5
PMTG *e*P **P** **01 30 20.1 +1.2**
PMTG *i* IAmb IAmb 01 30 21.3
comp=Z,22nm,1.4s
L02F Cave Junction 81.34 321 IAmb IAmb 01 30 21.9
comp=Z,26nm,1.2s
PHPEN Phepeng 81.46 114 IAmb IAmb 01 30 24.3
comp=Z,59nm,1.8s
I05D Terrebonne, OR 81.47 324 IAmb IAmb 01 30 22.8
comp=Z,27nm,0.8s
PBAR Barrancos 81.48 44 *e*P **P** **01 30 21.4 +1.2**
PBAR *i* IAmb IAmb 01 30 27.9
comp=Z,12nm,1.7s
PESTR Estremoz 81.52 43 *e*P **P** **01 30 21.6 +1.1**
PESTR *i* IAmb IAmb 01 30 28.5
comp=Z,17nm,1.8s
PSARD Sardoal 81.59 42 *e*P **P** **01 30 21.6 +0.9**
PSARD *i* IAmb IAmb 01 30 25.3
comp=Z,10nm,1.1s
K02D Willamette Mer 81.75 322 IAmb IAmb 01 30 24.2
comp=Z,41nm,1.2s
HAWA Hanford 81.85 326 IAmb IAmb 01 30 24.4
comp=Z,28nm,0.9s
D08A Wollman Farm, 81.98 327 IAmb IAmb 01 30 25.0
comp=Z,27nm,1.1s
HOOD Mount Hood Mea 82.27 325 IAmb IAmb 01 30 29.8
comp=Z,26nm,1.0s
BOSA Boshof 82.45 118 P **P** **01 30 25.8 0.0**
BOSA IAmb IAmb 01 31 09.3
comp=Z,61nm,1.9s
BOSA Boshof 82.45 118 P **P** **01 30 25.9 +0.1**
comp=Z,7.5nm,0.6s,baz=264,slow=3.7,SNR=23
comp=Z,7.5nm,0.6s
G04A Mulino 82.65 324 IAmb IAmb 01 30 28.2
comp=Z,24nm,0.9s
PCAB Cabril 82.90 40 *e*P **P** **01 30 26.6 -0.9**
PCAB *i* IAmb IAmb 01 30 33.8
comp=Z,30nm,2.0s
PGAV Gavieira, Arco 82.91 40 *e*P **P** **01 30 30.6 +3.0**
PGAV *i* IAmb IAmb 01 30 37.5
comp=Z,25nm,1.9s
LTY Liberty 83.01 327 IAmb IAmb 01 30 30.0
comp=Z,18nm,0.9s
MVO Moncorvo 83.20 41 *e*P **P** **01 30 30.1 +0.9**
MVO *i* IAmb IAmb 01 30 30.9
comp=Z,9.4nm,0.8s
PBRG Braganca 83.74 41 *e*P **P** **01 30 32.6 +0.8**
PBRG *i* IAmb IAmb 01 30 37.5
comp=Z,12nm,1.6s
LBTB Lobatse 83.95 114 P **P** **01 30 34.0 +0.5**
LBTB IAmb IAmb 01 30 35.0
comp=Z,18nm,0.8s
LBTB Lobatse 83.95 114 LR LR 02 05 01.9
comp=Z,50nm,18.7s,baz=115,slow=33
PAB San Pablo 83.99 44 P **P** **01 30 33.5 +0.3**
ESDC Sonseca Array 84.31 44 P **P** **01 30 35.4 +0.6**
ESDC Sonseca Array 84.31 44 P **P** **01 30 35.3 +0.6**
comp=Z,7.8nm,0.9s,baz=245,slow=5.0,SNR=41
ESDC pP **pP** **01 31 23.5 +0.7**
comp=Z,2.2nm,1.1s,baz=234,slow=4.9,SNR=2.8
comp=Z,7.8nm,0.9s
MAW Mawson 84.55 163 P **P** **01 30 36.5 +1.0**
comp=Z,7.6nm,0.9s,baz=212,slow=7.0,SNR=17
comp=Z,7.6nm,0.9s
LLLB Lillooet 85.79 329 IAmb IAmb 01 30 43.2
comp=Z,26nm,1.0s
CBB Campbell River 87.17 327 IAmb IAmb 01 30 50.5
comp=Z,22nm,1.0s
YKAW1 Yellowknife Wh 91.00 340 IAmb IAmb 01 31 07.8
comp=Z,40nm,1.0s
YKA Yellowknife Ar 91.04 340 P **P** **01 31 06.8 +0.5**
comp=Z,20nm,0.9s,baz=131,slow=4.0,SNR=50
YKA pP **pP** **01 31 54.7 0.0**
comp=Z,5.4nm,1.0s,baz=131,slow=4.2,SNR=4.7
comp=Z,20nm,0.9s
YKAW3 Yellowknife Wh 91.09 340 IAmb IAmb 01 31 08.3
comp=Z,34nm,0.9s
WTLY Watson Lake, Y 94.71 334 IAmb IAmb 01 31 25.3
comp=Z,11nm,1.2s
SUMG Summit 95.16 8 *i* P **P** **01 31 25.0 -0.6**
DAVA Damueis 96.75 42 *i* P **P** **01 31 34.6 +1.5**
comp=Z,24nm,1.0s
FETA Feichten 97.18 42 *i* P **P** **01 31 34.8 -0.3**
comp=Z,4.2nm,1.2s
RETA Reutte 97.39 42 *i* P Pdif 01 31 37.5 +1.6
comp=Z,2.1nm,1.2s
MOTA Moosalm 97.55 42 *i* P **P** **01 31 36.8 +0.1**
comp=Z,5.4nm,1.5s
SQTA Sankt Quirin 97.56 42 *i* P **P** **01 31 36.8 +0.1**
comp=Z,5.6nm,1.2s
WTTA Wattenberg 97.85 42 *i* Pdiff **P** **01 31 38.1 0.0**
comp=Z,4.6nm,1.1s
LESA Schwarzleotal 98.57 43 *e*Pdiff **P** **01 31 40.8 -0.3**
comp=Z,2.1nm,0.7s
ILAR Eielson Array 104.27 334 PP **PP** **01 36 25.4 -1.5**
comp=Z,1.0nm,1.0s,baz=98,slow=5.0,SNR=5.6

KBZ Khabaz 118.53 51 PKP **PKPdf** **01 36 49.4 +0.2**
comp=Z,3.9nm,0.9s,baz=322,slow=2.7,SNR=6.8
STKA Stephens Creek 120.73 209 PKP **PKPdf** **01 36 54.1 +0.1**
comp=Z,1.1nm,0.4s,baz=83,slow=5.2,SNR=5.7
ASAR Alice Springs 131.19 206 PKP **PKPdf** **01 37 14.3 +0.1**
comp=Z,6.0nm,0.8s,baz=157,slow=2.3,SNR=33
ASAR pPKP **pPKPdf** **01 38 06.3 +1.3**
comp=Z,2.1nm,0.9s,baz=144,slow=2.0,SNR=4.5
ASAR SKPbc **SKPbc** **01 40 21.2 0.0**
comp=Z,5.0nm,1.0s,baz=150,slow=4.4,SNR=15
PETK Petropavlovsk- 132.88 324 PKP **PKPdf** **01 37 17.3 +1.0**
comp=Z,7.3nm,1.0s,baz=351,slow=1.5,SNR=6.5
WRA Warramunga Arr 134.28 209 PKhKP PKPpre 01 37 06.9
comp=Z,1.1nm,0.9s,baz=124,slow=2.3,SNR=5.8
WRA PKP **PKPdf** **01 37 20.3 +0.2**
comp=Z,5.8nm,0.7s,baz=157,slow=1.8,SNR=32
WRA SKPbc **SKPbc** **01 40 32.4 +0.5**
comp=Z,6.4nm,1.1s,baz=156,slow=2.3,SNR=12
BVAR Borovoye Array 134.39 35 PKP **PKiKP** **01 37 20.6 0.0**
comp=Z,2.8nm,0.8s,baz=292,slow=4.0,SNR=16
BVAR SKPbc **SKPbc** **01 40 31.1 0.0**
comp=Z,0.9nm,0.8s,baz=270,slow=4.4,SNR=4.5
FITZ Fitzroy Crossi 139.30 199 PKhKP PKPpre 01 37 22.0
comp=Z,2.9nm,0.8s,baz=169,slow=8.8,SNR=5.2
FITZ PKP **PKPdf** **01 37 29.5 +0.1**
comp=Z,6.5nm,0.7s,baz=195,slow=5.7,SNR=12
KURBB Kurchatov Arra 139.95 34 PKP **PKPdf** **01 37 30.4 +0.9**
comp=Z,2.7nm,0.7s,baz=299,slow=2.7,SNR=8.7
ZALV Zalesovo Beam 140.70 26 PKP **PKPdf** **01 37 30.5 -0.3**
comp=Z,7.5nm,0.7s,baz=270,slow=1.5,SNR=14
ZALV SKPbc **SKPbc** **01 40 49.7 +0.4**
comp=Z,4.0nm,1.0s,baz=305,slow=5.1,SNR=4.9
KSH Kashi 143.52 51 PKP PKPbc 01 37 34.8 +0.5
JAY Jayapura 144.06 233 PKP PKPbc 01 37 37.4 +0.8
comp=Z,27nm,0.9s,baz=228,slow=2.0,SNR=31
MKAR Makanchi Array 144.21 36 PKP PKPbc 01 37 36.4 +0.5
comp=Z,25nm,0.9s,baz=298,slow=2.6,SNR=111
MKAR SKPbc **SKPbc** **01 40 59.2 +0.9**
comp=Z,2.5nm,1.1s,baz=264,slow=4.3,SNR=4.2
BATI Baumata 147.34 200 PKPbc **PKPbc** **01 37 47.6 +1.4**
comp=Z,54nm,0.6s,baz=280,slow=4.1,SNR=5.3
HEH HeiHe 148.39 342 *e*P **PKPdf** **01 37 44.8 +0.6**
HEH pmax pmax
comp=Z,25nm,0.9s
USRK Ussuriysk Ar. 151.70 330 PKP **PKPdf** **01 37 50.2 +0.7**
comp=Z,2.7nm,0.8s,baz=67,slow=2.5,SNR=5.2
USRK PKPbc **PKiKP** **01 37 56.9 +0.6**
comp=Z,21nm,0.9s,baz=327,slow=1.3,SNR=24
LEM Lembang 152.09 169 PKPbc **PKiKP** **01 37 58.7 +0.4**
comp=Z,41nm,0.7s,baz=142,slow=20,SNR=6.1
BNX BinXian 152.35 337 ⇓P **PKPdf** **01 37 51.0 +0.5**
BNX pmax pmax
comp=Z,9.0nm,1.0s
SONM Songino Array 152.57 9 PKP **PKPdf** **01 37 52.4 +1.5**
comp=Z,4.9nm,0.9s,baz=272,slow=0.6,SNR=22
SONM PKPbc **PKiKP** **01 37 58.7 +0.5**
comp=Z,12nm,0.9s,baz=323,slow=1.4,SNR=25
SONM PKPab **PKPab** **01 38 08.2 -1.0**
comp=Z,2.5nm,0.9s,baz=333,slow=5.5,SNR=3.9
MJAR Matsushiro Arr 152.78 311 PKPbc **PKPbc** **01 37 59.0 +0.3**
comp=Z,6.8nm,0.7s,baz=80,slow=1.1,SNR=15
MJAR PKPab **PKPab** **01 38 10.8 +0.4**
comp=Z,8.3nm,0.9s,baz=21,slow=2.5,SNR=9.7
GTA Gaotai 158.42 28 *e*PKP **PKPdf** **01 38 00.3 +1.3**
GTA PKPab **PKPab** **01 38 34.3 -0.2**
KSRS Korea Array 158.78 325 PKP **PKPdf** **01 37 59.4 +0.1**
comp=Z,3.9nm,0.9s,baz=37,slow=1.4,SNR=18
KSRS PKPab **PKPab** **01 38 37.0 +1.0**
comp=Z,3.8nm,1.0s,baz=64,slow=4.3,SNR=6.8
HHC Hu-ho-hao-te 160.00 2 *e*P **PKPdf** **01 38 03.0 +2.2**
CMAR Chiang Mai Arr 166.84 98 PKP **PKPdf** **01 38 08.0 +0.3**
comp=Z,1.0nm,0.3s,baz=266,slow=1.4,SNR=8.6
NJ2 Nanjing 167.52 335 *e*P **PKPdf** **01 38 08.1 +0.3**
NJ2 pmax pmax
comp=Z,17nm,0.6s
PZH PanZhiHua 168.49 58 PKP **PKPdf** **01 38 07.0 -1.8**

IDC ***19*** *01:33:43.3±1.1,36˚03N×31˚12E,h60km±13km,mb3.8/14, mbtmp4.0/22,MS2.7/2, Error ellipse: s-maj=10.6km s-min=8.3km az=30.0*
ISK ***19*** *01:33:43.7,35˚92N×31˚08E,h20km,ML4.0/45*
NIC ***19*** *01:33:44.9,35˚93N×31˚05E,h76km±3km,Ml3.7/16*
HLW ***19*** *01:33:44.5,35˚82N×30˚86E,h7km±7km,Md3.6,Ml3.4*
AFAD ***19*** *01:33:45.7,36˚15N×31˚08E,h51km±6km,ML3.8*
NEIC ***19*** *01:33:45.0±1.8,35˚93N±0˚05×31˚09E±0˚06,h74km±9km, mb4.4/19, Error ellipse: s-maj=8.4km s-min=5.5km az=223.0*
GII ***19*** *01:33:46.6±0.0,35˚79N±0˚03×31˚24E±0˚01,h20km, Mws3.7,confirmed*
THE ***19*** *01:33:57.1,36˚N±8˚×3˚0E±1˚1,h64km±12km,M3.9/19, mb4.3/6,MLh3.6/19*
NAO ***19*** *01:34:05.3,38˚83N×30˚48E,h33km,mb3.7*
ISC 19 01:33:45.2±0.7,36˚01N±0˚03×31˚07E±0˚02,h77km±7km, n268,σ1s75/313,mb4.3/22,15C-7D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKUM	**Antalya-Kumluc**	**0.67**	**299**	P	**Pn**	**01 34 00.3**	**+0.1**
AKUM				S	**Sn**	**01 34 09.9**	**-1.6**
AKUM				*i* IAML		01 34 14.0	
	comp=N,3μm,0.5s						
AKUM				*i* IAML		01 34 14.0	
	comp=E,3μm,0.6s						
KEMT	**Kemer-ANTALYA**	**0.73**	**325**	Pg	**Pn**	**01 34 00.4**	**-0.5**
KEMT				Sg	**Sn**	**01 34 11.4**	**-1.1**
MNVG	**Manavgat-Antal**	**0.83**	**20**	Pg	**Pn**	**01 34 01.7**	**-0.4**
ALAN	**Alanya-ANTALYA**	**0.95**	**54**	Pg	**Pn**	**01 34 03.1**	**-0.4**
ANTB	**Antalya**	**0.95**	**340**	Pg	**Pn**	**01 34 04.2**	**+0.7**
ANTB				Sg	**Sn**	**01 34 18.2**	**+1.1**
DEMR	**Demre-Antalya**	**0.97**	**284**	Pg	**Pn**	**01 34 03.9**	**+0.2**
DEMR				Sg	**Sn**	**01 34 17.5**	**0.0**
GAZI	**Gazipasa**	**1.03**	**77**	Pg	**Pn**	**01 34 04.0**	**-0.5**
GAZI	**Gazipasa**	**1.03**	**77**	P	**Pn**	**01 34 04.0**	**-0.5**
GAZI				S	**Sn**	**01 34 15.7**	**-3.2**
GAZI				*i* IAML		01 34 17.0	
	comp=E,3μm,0.4s						
GAZI				*i* IAML		01 34 18.0	
	comp=N,2μm,0.2s						
ELL	**Elmali**	**1.19**	**309**	Pn	**Pn**	**01 34 06.9**	**+0.3**
ELL				Sn	**Sn**	**01 34 23.5**	**+0.9**
ELL	**Elmali**	**1.19**	**309**		**Pn**	**01 34 07.4**	**+0.8**
ELL				Sn	**Sn**	**01 34 23.9**	**+1.3**
ELL	**Elmali**	**1.19**	**309**	⇑*i*P	**Pn**	**01 34 07.1**	**+0.5**
ELL				S	**Sn**	**01 34 23.8**	**+1.3**
ELL				AML	AML	01 34 26.7	
	8.3nm,0.8s						
ELL				AML	AML	01 34 31.3	
	7.9nm,0.6s						
AKAS	**Kas**	**1.21**	**281**	Pn	**Pn**	**01 34 06.4**	**-0.4**
AKAS	**Kas**	**1.21**	**281**		**Pn**	**01 34 06.3**	**-0.4**
AKAS				Sn	**Sn**	**01 34 22.1**	**-0.8**
AKAS	**Kas**	**1.21**	**281**	P	**Pn**	**01 34 06.5**	**-0.2**
AKAS				S	**Sn**	**01 34 18.6**	**-4.2**
AKAS				*i* IAML		01 34 28.0	
	comp=N,2μm,0.6s						
AKAS				*i* IAML		01 34 33.0	
	comp=E,1μm,0.6s						
KSL	**Kastellorizon**	**1.21**	**277**	P	**Pn**	**01 34 06.5**	**-0.1**
KSL				S	**Sn**	**01 34 16.1**	**-6.7**
KSL	**Kastellorizon**	**1.21**	**277**	⇑*i*P	**Pn**	**01 34 06.5**	**-0.1**
KSL				AML	AML	01 34 23.4	
	4.6nm,0.6s						
KSL				S	**Sn**	**01 34 23.4**	**+0.6**
KSL				AML	AML	01 34 30.2	
	2.3nm,0.5s						
BUCA	**Burdur, Bucak-**	**1.38**	**343**	P	**Pn**	**01 34 09.3**	**+0.4**
BUCA				S	**Sn**	**01 34 24.9**	**-1.9**
AKMS	**Akamas**	**1.43**	**133**	⇓*i*P	**Pn**	**01 34 09.4**	**-0.1**
AKMS				S	**Sn**	**01 34 27.7**	**0.0**
AKMS				AML	AML	01 34 28.0	
	3.4nm,0.3s						
AKMS				AML	AML	01 34 28.3	
	2.4nm,0.2s						
KNIK	**Mula-Seydike**	**1.47**	**305**	P	**Pn**	**01 34 11.6**	**+1.5**
KNIK				S	**Sn**	**01 34 28.4**	**-0.5**
HDMB	**Hadim**	**1.49**	**50**	Pn	**Pn**	**01 34 10.9**	**+0.5**
BCK	**Bucak**	**1.50**	**345**	Pn	**Pn**	**01 34 11.8**	**+1.3**
ALFC	**Alefka**	**1.51**	**124**	⇓*i*P	**Pn**	**01 34 09.8**	**-0.7**
ALFC				S	**Sn**	**01 34 29.8**	**+0.2**
ALFC				AML	AML	01 34 30.8	
	4.1nm,0.3s						
ALFC				AML	AML	01 34 31.1	
	5.6nm,0.2s						
SEYD	**Seydisehir-KON**	**1.53**	**24**	Pn	**Pn**	**01 34 11.7**	**+0.9**
SEDI	**Konya, Seydise**	**1.54**	**21**	P	**Pn**	**01 34 11.8**	**+0.7**
SEDI				S	**Sn**	**01 34 27.9**	**-2.8**
SEDI				*i* IAML		01 34 33.0	
	comp=E,1μm,0.4s						
BOZY	**Bozyazi-Mersin**	**1.55**	**86**	Pn	**Pn**	**01 34 10.9**	**-0.1**
ERMK	**Ermenek**	**1.62**	**66**	P	**Pn**	**01 34 13.3**	**+1.2**
ERMK				S	**Sn**	**01 34 31.8**	**-0.6**
ERMK				*i* IAML		01 34 35.0	
	comp=E,1μm,0.6s						
ERMK				*i* IAML		01 34 36.0	
	comp=N,3μm,0.7s						
TEKE	**Tekeli-Mersin**	**1.66**	**85**	Pn	**Pn**	**01 34 12.9**	**+0.4**
AKDN	**Akdeniz- Kıbrı**	**1.70**	**114**	Pn	**Pn**	**01 34 12.8**	**-0.2**
CAME	**Cameli-Denizli**	**1.70**	**304**	Pn	**Pn**	**01 34 14.1**	**+0.9**
FETY	**Fethiye**	**1.72**	**292**	Pn	**Pn**	**01 34 13.9**	**+0.6**
FETY	**Fethiye**	**1.72**	**292**	S	**Sn**	**01 34 26.1**	**-8.6**
GOLH	**Golhisar**	**1.73**	**316**	P	**Pn**	**01 34 15.6**	**+2.1**
GOLH				S	**Sn**	**01 34 33.6**	**-1.3**
FETI	**Fethiye-Mugla**	**1.73**	**294**	Pn	**Pn**	**01 34 14.1**	**+0.7**
NATA	**Nata**	**1.73**	**135**⇓*i*P		**Pn**	**01 34 13.8**	**+0.4**
NATA				S	**Sn**	**01 34 34.4**	**-0.5**
NATA				AML	AML	01 34 48.4	
	6.3nm,0.7s						
NATA				AML	AML	01 34 51.7	
	5.7nm,0.5s						
BERE	**Bereket-Mersin**	**1.78**	**78**	Pn	**Pn**	**01 34 14.7**	**+0.6**
TROD	**Troodos**	**1.81**	**125**	P	**Pn**	**01 34 14.1**	**-0.5**
TROD				S	**Sn**	**01 34 37.4**	**+0.4**
TROD				AML	AML	01 34 39.2	
	0.8nm,0.2s						
TROD				AML	AML	01 34 47.7	
	1.7nm,0.4s						
ISP	**Isparta**	**1.87**	**347**	Pn	**Pn**	**01 34 16.4**	**+1.1**
ISP	**Isparta**	**1.87**	**347**		**Pn**	**01 34 16.6**	**+1.3**
ISP				Sn	**Sn**	**01 34 39.6**	**+1.4**
XYLS	**Xyliatos**	**1.90**	**121**⇓*i*P		**Pn**	**01 34 14.8**	**-0.8**
XYLS				AML	AML	01 34 39.2	
	2.7nm,0.2s						
XYLS				AML	AML	01 34 42.4	
	1.8nm,0.2s						
YORU	**Yoruktepe-Mers**	**1.90**	**85**	Pn	**Pn**	**01 34 16.3**	**+0.7**
OREN	**Orenkoy-Mersin**	**1.95**	**83**	Pn	**Pn**	**01 34 16.5**	**+0.3**
TEVE	**Tevekalti-Mers**	**1.97**	**77**	Pn	**Pn**	**01 34 17.6**	**+1.0**
APOL	**The Sanctuary**	**1.98**	**132**	P	**Pn**	**01 34 16.8**	**+0.1**
APOL				S	**Sn**	**01 34 41.0**	**+0.2**
APOL				AML	AML	01 34 52.0	
	0.8nm,0.3s						
APOL				AML	AML	01 34 52.9	
	1.0nm,0.3s						
BAGO	**Egridir - ISPA**	**1.99**	**354**	P	**Pn**	**01 34 17.8**	**+0.8**
BAGO				S	**Sn**	**01 34 37.7**	**-3.5**
AKK1	**Akkuyu-Mersin**	**2.01**	**85**	Pn	**Pn**	**01 34 18.0**	**+1.0**
GULN	**MERSIN_Gulnar**	**2.01**	**84**	P	**Pn**	**01 34 17.8**	**+0.7**
GULN				S	**Sn**	**01 34 39.0**	**-2.4**
GULN				*i* IAML		01 34 44.0	
	comp=N,568nm,0.4s						
AKK2	**Akkuyu-Mersin**	**2.01**	**86**	Pn	**Pn**	**01 34 17.7**	**+0.6**
TEPK	**Tepekoy-MERSIN**	**2.02**	**83**	Pn	**Pn**	**01 34 18.0**	**+0.8**
APMY	**Acipayam-Deniz**	**2.04**	**316**	Pn	**Pn**	**01 34 18.8**	**+1.3**
BASM	**Basmaki-Afyon**	**2.08**	**337**	Pn	**Pn**	**01 34 19.3**	**+1.2**
ATHAL	**Athalassa**	**2.08**	**114**	P	**Pn**	**01 34 17.6**	**-0.4**
ATHAL				S	**Sn**	**01 34 43.3**	**+0.1**
ATHAL				AML	AML	01 34 44.9	
	2.4nm,0.6s						
ATHAL				AML	AML	01 34 56.2	
	1.7nm,0.4s						
YESI	**Yesilovacik-Me**	**2.09**	**84**	Pn	**Pn**	**01 34 18.7**	**+0.5**
DALY	**Dalyan (Mula)**	**2.11**	**293**	Pn	**Pn**	**01 34 18.9**	**+0.5**
KRMN	**Karaman**	**2.12**	**56**	Pn	**Pn**	**01 34 19.9**	**+1.3**
CSS	**Mathiatis**	**2.12**	**119**	Pn	**Pn**	**01 34 17.7**	**-0.8**
CSS	**Mathiatis**	**2.12**	**119**		**Pn**	**01 34 17.8**	**-0.8**
CSS	**Mathiatis**	**2.12**	**119**	P	**Pn**	**01 34 17.4**	**-1.1**
CSS				S	**Sn**	**01 34 41.8**	**-2.3**
CSS	**Mathiatis**	**2.12**	**119**	P	**Pn**	**01 34 18.1**	**-0.4**
CSS				AML	AML	01 34 47.4	
	0.9nm,0.6s						
CSS				AML	AML	01 34 52.9	
	0.6nm,0.4s						
TISA	**Tisan-Mersin**	**2.12**	**85**	Pn	**Pn**	**01 34 19.1**	**+0.6**
IKL	**Isikli**	**2.13**	**83**	Pn	**Pn**	**01 34 19.3**	**+0.6**
LFK	**Lefkose**	**2.13**	**109**	Pn	**Pn**	**01 34 18.6**	**-0.2**
KARG	**Kargicak-Mersi**	**2.15**	**84**	Pn	**Pn**	**01 34 19.8**	**+0.9**
DOGA	**KONYA_Doganhis**	**2.15**	**13**	P	**Pn**	**01 34 20.4**	**+1.2**
DOGA				S	**Sn**	**01 34 41.5**	**-3.6**
ASGA	**Asgata**	**2.16**	**124**	P	**Pn**	**01 34 19.4**	**+0.3**
ASGA				S	**Sn**	**01 34 45.7**	**+0.7**
ASGA				AML	AML	01 34 53.8	
	1.1nm,0.3s						
ASGA				AML	AML	01 34 57.2	
	0.9nm,0.3s						
KEBE	**Keben-Mersin**	**2.18**	**78**	Pn	**Pn**	**01 34 20.3**	**+0.8**
AKIN	**Akıncılar- Kıb**	**2.19**	**116**	Pn	**Pn**	**01 34 19.6**	**+0.1**
KONT	**Konya--Tatoy**	**2.19**	**28**	Pn	**Pn**	**01 34 20.8**	**+1.2**
KONT	**Konya--Tatoy**	**2.19**	**28**	P	**Pn**	**01 34 20.5**	**+0.9**
KONT				S	**Sn**	**01 34 44.2**	**-1.7**
TAVA	**DENIZLI_Tavas**	**2.26**	**311**	⇓P	**Pn**	**01 34 21.6**	**+1.0**
YVAC	**Isparta, Yalva**	**2.27**	**3**	P	**Pn**	**01 34 21.6**	**+1.0**
YVAC				S	**Sn**	**01 34 44.9**	**-2.8**
AFYN	**Afyon-Dinar-K**	**2.31**	**349**	P	**Pn**	**01 34 22.3**	**+1.1**
AFYN				S	**Sn**	**01 34 46.4**	**-2.4**
MVOU	**Mavrovouni**	**2.31**	**115**	P	**Pn**	**01 34 20.1**	**-1.0**
MVOU				AML	AML	01 34 51.7	
	1.0nm,0.3s						
MVOU				AML	AML	01 34 57.0	
	0.8nm,0.4s						
SILI	**Silifke-Mersin**	**2.34**	**80**	Pn	**Pn**	**01 34 22.4**	**+0.9**
LAR1C	**Larnaka City C**	**2.34**	**117**	P	**Pn**	**01 34 21.7**	**+0.2**
LAR1C				S	**Sn**	**01 34 49.6**	**+0.2**
SLFK	**Silifke-Mersin**	**2.36**	**80**	Pn	**Pn**	**01 34 22.4**	**+0.6**
ARG	**Arkhangelos**	**2.39**	**276**		**Pn**	**01 34 22.3**	**+0.1**
ARG	**Arkhangelos**	**2.39**	**276**	P	**Pn**	**01 34 22.3**	**+0.1**
ARG				S	Sn	01 34 41.1	-10
ARG	**Arkhangelos**	**2.39**	**276**⇓*i*P		**Pn**	**01 34 22.1**	**-0.1**
ARG				S	**Sn**	**01 34 50.7**	**+0.1**
ARG				AML	AML	01 34 50.9	
	1.2nm,0.6s						
ARG				AML	AML	01 34 53.9	
	2.1nm,0.6s						
KIZK	**Mersin**	**2.53**	**78**	Pn	**Pn**	**01 34 25.3**	**+1.3**
KIZK	**Mersin**	**2.53**	**78**	P	**Pn**	**01 34 25.4**	**+1.3**
KIZK				S	**Sn**	**01 34 49.9**	**-4.0**
PAR1C	**Paralimni Civi**	**2.56**	**111**	P	**Pn**	**01 34 24.8**	**+0.3**
EREN	**Erenkoy**	**2.57**	**100**	Pn	**Pn**	**01 34 24.9**	**+0.4**
PARAL	**Paralimni**	**2.63**	**112**	P	**Pn**	**01 34 26.1**	**+0.8**
PARAL				AML	AML	01 35 00.4	
	0.7nm,0.6s						
PARAL				AML	AML	01 35 08.6	
	0.7nm,0.8s						
KDHN	**Kadinhani**	**2.65**	**18**	P	**Pn**	**01 34 26.2**	**+0.5**
KDHN				S	**Sn**	**01 34 50.3**	**-6.6**
ALIN	**Konya, Altinte**	**2.71**	**32**	P	**Pn**	**01 34 27.5**	**+0.9**
ALIN				S	**Sn**	**01 34 55.3**	**-3.1**
YESY	**Yesilyurt**	**2.78**	**50**	Pn	**Pn**	**01 34 28.5**	**+0.9**
KERG	**Konya-Eregli**	**2.83**	**59**	P	**Pn**	**01 34 29.4**	**+1.2**
KERG				S	**Sn**	**01 34 58.6**	**-2

GULE				*i* IAML		01 35 16.0		
	comp=N,409nm,0.5s							
GULE				*i* IAML		01 35 20.0		
	comp=E,446nm,0.5s							
SMG	**Samos**	**3.80**	**298**	P	**Pn**	**01 34 41.0**	**-0.2**	
SMG				S	**Sn**	**01 35 16.6**	**-8.1**	
KIRS	**Kirsehir-Merke**	**3.85**	**35**	⇑P	**Pn**	**01 34 43.4**	**+1.3**	
BLCB	**Balcova**	**4.00**	**308**	P	**Pn**	**01 34 44.2**	**+0.2**	
ZKR	**Zakros**	**4.05**	**259**	P	**Pn**	**01 34 45.4**	**+0.6**	
ZKR	**Zakros**	**4.05**	**259**	P	**Pn**	**01 34 44.6**	**-0.2**	
ZKR				AML	AML	01 35 30.1		
	0.8nm,0.8s							
ZKR				AML	AML	01 35 31.5		
	0.5nm,0.5s							
ANTO	**Ankara**	**4.09**	**19**		**Pn**	**01 34 46.1**	**+0.8**	
ANTO	**Ankara**	**4.09**	**19**	⇑P	**Pn**	**01 34 46.6**	**+1.3**	
BR131	**Keskin Array S**	**4.23**	**28**		**Pn**	**01 34 47.6**	**+0.3**	
BRTR	**Keskin Array B**	**4.23**	**28**		**Pn**	**01 34 47.3**	**-0.1**	
BRTR	**Keskin Array B**	**4.23**	**28**	P	**Pn**	**01 34 46.1**	**-1.2**	
	2.3nm,0.3s,baz=221,slow=13,SNR=71							
BRTR				S	**Sn**	**01 35 33.2**	**-2.3**	
	16nm,0.4s,baz=141,slow=28,SNR=19							
BHL	**Bhannes**	**4.31**	**118**	*e*P	**Pn**	**01 34 47.1**	**-1.3**	
HWQ	**Hawqa**	**4.35**	**112**	*e*P	**Pn**	**01 34 48.8**	**-0.1**	
DQRL	**Deir Qamar**	**4.35**	**120**	*e*P	**Pn**	**01 34 47.8**	**-1.2**	
BEIL	**Beino**	**4.43**	**108**	*e*P	**Pn**	**01 34 49.3**	**-0.7**	
HNTI	**Hanita**	**4.47**	**130**	S	**Sn**	**01 35 38.9**	**-2.3**	
HNTI	**Hanita**	**4.47**	**130**	P	**Pn**	**01 34 49.9**	**-0.6**	
ZAHL	**Zahle**	**4.50**	**117**	*e*P	**Pn**	**01 34 50.1**	**-0.8**	
QRWL	**Qaraoun**	**4.52**	**122**	*e*P	**Pn**	**01 34 50.8**	**-0.4**	
THR8	**Santorini-Mono**	**4.54**	**277**	P	**Pn**	**01 34 51.7**	**+0.3**	
THERA	**Ancient Thera,**	**4.54**	**276**	P	**Pn**	**01 34 51.3**	**-0.1**	
SFIR	**Foira Santorin**	**4.58**	**277**	P	**Pn**	**01 34 52.4**	**+0.4**	
APE	**Apeiranthos**	**4.58**	**285**	P	**Pn**	**01 34 52.0**	**-0.1**	
APE	**Apeiranthos**	**4.58**	**285**	⇑P	**Pn**	**01 34 51.4**	**-0.6**	
APE	**Apeiranthos**	**4.58**	**285**	P	Pn	01 34 56.8	+4.8	
CMBO	**Columbo, Santo**	**4.60**	**277**	P	**Pn**	**01 34 52.6**	**+0.4**	
THR3	**Thira Island,**	**4.60**	**277**	P	**Pn**	**01 34 52.8**	**+0.6**	
THR6	**Thira Island,**	**4.60**	**276**	P	**Pn**	**01 34 52.4**	**+0.2**	
SNT5	**Nea Kammeni, S**	**4.61**	**277**	P	**Pn**	**01 34 52.3**	**+0.1**	
THR5	**Thira Island,**	**4.64**	**277**	P	**Pn**	**01 34 53.6**	**+0.8**	
RCY	**Rachaya**	**4.65**	**121**	*e*P	**Pn**	**01 34 52.8**	**-0.3**	
CHOS	**Chios island**	**4.66**	**302**	P	**Pn**	**01 34 53.3**	**+0.3**	
MMA0B	**Mount Meron ar**	**4.66**	**129**	S	**Sn**	**01 35 43.9**	**-2.0**	
MMA0B	**Mount Meron ar**	**4.66**	**129**	P	**Pn**	**01 34 52.7**	**-0.4**	
MMAI	**Mount Meron Ar**	**4.66**	**129**	P	**Pn**	**01 34 52.5**	**-0.6**	
	18nm,0.2s,baz=316,slow=12,SNR=93							
MMAI				S	**Sn**	**01 35 43.0**	**-2.9**	
	47nm,0.4s,baz=300,slow=30,SNR=24							
SHBL	**Chebaa**	**4.68**	**123**	*e*P	**Pn**	**01 34 53.1**	**-0.3**	
OFRI	**`Ofer**	**4.68**	**135**	S	**Sn**	**01 35 44.4**	**-2.0**	
OFRI	**`Ofer**	**4.68**	**135**	P	**Pn**	**01 34 52.6**	**-0.8**	
GEM	**Giv'at Ha'Em**	**4.70**	**125**	S	**Sn**	**01 35 44.9**	**-2.0**	
GEM	**Giv'at Ha'Em**	**4.70**	**125**	P	**Pn**	**01 34 53.1**	**-0.6**	
BLGI	**Bet Lehem HaGe**	**4.72**	**133**	S	**Sn**	**01 35 45.4**	**-1.9**	
BLGI	**Bet Lehem HaGe**	**4.72**	**133**	P	**Pn**	**01 34 53.8**	**-0.1**	
NATI	**Neve Ativ**	**4.72**	**124**	S	**Sn**	**01 35 43.6**	**-3.7**	
NATI	**Neve Ativ**	**4.72**	**124**	P	**Pn**	**01 34 53.6**	**-0.3**	
BNN	**Bunyan**	**4.75**	**52**		**Pn**	**01 34 55.8**	**+1.5**	
SLTI	**Sal'it**	**5.00**	**138**	S	**Sn**	**01 35 51.4**	**-2.7**	
SLTI	**Sal'it**	**5.00**	**138**	P	**Pn**	**01 34 56.8**	**-0.8**	
MMLI	**Mount Malkishu**	**5.07**	**133**	S	**Sn**	**01 35 53.6**	**-2.2**	
MMLI	**Mount Malkishu**	**5.07**	**133**	P	**Pn**	**01 34 58.4**	**-0.2**	
GAZ	**Gaziantep**	**5.08**	**75**		**Pn**	**01 34 58.8**	**0.0**	
IDI	**Anoyia**	**5.08**	**264**		**Pn**	**01 34 58.4**	**-0.5**	
IDI	**Anoyia**	**5.08**	**264**	P	**Pn**	**01 34 58.5**	**-0.4**	
IDI	**Anoyia**	**5.08**	**264**	P	**Pn**	**01 34 58.6**	**-0.2**	
	100nm,0.3s,baz=326,slow=4.4,SNR=254							
IDI				S	**Sn**	**01 35 54.9**	**-1.4**	
	42nm,0.3s,baz=199,slow=23,SNR=11							
TMBK	**Timbaki Herakl**	**5.22**	**262**	P	**Pn**	**01 35 01.1**	**+0.4**	
HMDT	**Nahal Hemdat**	**5.26**	**134**	S	**Sn**	**01 35 58.9**	**-1.6**	
HMDT	**Nahal Hemdat**	**5.26**	**134**	P	**Pn**	**01 35 01.6**	**+0.4**	
EZN	**Ezine**	**5.35**	**317**	⇑P	**Pn**	**01 35 02.9**	**+0.6**	
DB3	**El Dabaa**	**5.38**	**204**	P	**Pn**	**01 35 03.5**	**+0.6**	
UJAP	**Al Uja**	**5.45**	**137**	S	**Sn**	**01 36 02.9**	**-2.1**	
UJAP	**Al Uja**	**5.45**	**137**	P	**Pn**	**01 35 03.7**	**-0.1**	
AMAZ	**Amatzia**	**5.49**	**143**	S	**Sn**	**01 36 03.4**	**-2.8**	
AMAZ	**Amatzia**	**5.49**	**143**	P	**Pn**	**01 35 04.0**	**-0.5**	
MATC	**Matruh**	**5.64**	**216**	P	**Pn**	**01 35 06.4**	**-0.1**	
DSI	**Dead Sea**	**5.70**	**140**	S	**Sn**	**01 36 09.4**	**-1.8**	
DSI	**Dead Sea**	**5.70**	**140**	P	**Pn**	**01 35 07.0**	**-0.2**	
YTIR	**Yattir**	**5.73**	**143**	S	**Sn**	**01 36 10.2**	**-2.0**	
YTIR	**Yattir**	**5.73**	**143**	P	**Pn**	**01 35 07.9**	**+0.2**	
CHAN	**Chania**	**5.73**	**267**	P	**Pn**	**01 35 27.8**	**+0.1**	
KZIT	**Kziot**	**5.80**	**150**	S	**Sn**	**01 36 11.2**	**-2.5**	
KZIT	**Kziot**	**5.80**	**150**	P	**Pn**	**01 35 08.9**	**+0.4**	
GVD	**Gavdhos**	**5.82**	**260**	P	**Pn**	**01 35 09.1**	**+0.2**	
MDBI	**Mazsada**	**5.89**	**141**	S	**Sn**	**01 36 12.7**	**-3.2**	
MDBI	**Mazsada**	**5.89**	**141**	P	**Pn**	**01 35 09.2**	**-0.6**	
MSBI	**Mazada**	**5.89**	**141**	S	**Sn**	**01 36 13.7**	**-2.2**	
MSBI	**Mazada**	**5.89**	**141**	P	**Pn**	**01 35 10.2**	**+0.4**	
GHAJ	**Ghor Haditha**	**6.00**	**140**		**Pn**	**01 35 12.9**	**+1.5**	
GHAJ	**Ghor Haditha**	**6.00**	**140**	S	**Sn**	**01 36 16.9**	**-1.8**	
GHAJ	**Ghor Haditha**	**6.00**	**140**	P	**Pn**	**01 35 11.4**	**0.0**	
KNDR	**Palaiochora Ch**	**6.06**	**265**	P	**Pn**	**01 35 13.0**	**+0.9**	
	0.1nm18nm,0.4s							
KOT	**Kottamia**	**6.09**	**174**	P	**Pn**	**01 35 12.8**	**+0.1**	
HHAG	**Hagoal**	**6.10**	**172**	P	**Pn**	**01 35 13.7**	**+1.0**	
ASF	**Jabal al Asfar**	**6.12**	**127**	P	**Pn**	**01 35 11.9**	**-1.8**	
	5.0nm,0.3s,baz=334,slow=6.7,SNR=25							
ASF				S	**Sn**	**01 36 21.8**	**-1.0**	
	14nm,0.4s,baz=173,slow=22,SNR=5.2							
ANKY	**Antikythira Is**	**6.30**	**271**	P	**Pn**	**01 35 15.4**	**-0.1**	
	0.1nm38nm,0.9s							
HNAT	**Natroun**	**6.37**	**184**	P	**Pn**	**01 35 18.0**	**+1.7**	
ZFRI	**Zfri**	**6.43**	**147**	S	**Sn**	**01 36 26.7**	**-2.5**	
ZFRI	**Zfri**	**6.43**	**147**	P	**Pn**	**01 35 16.3**	**-0.9**	
KTHA	**Kythira Island**	**6.49**	**275**	P	**Pn**	**01 35 17.9**	**-0.1**	
	28nm,0.8s							
PRNI	**Paran**	**6.53**	**149**	S	**Sn**	**01 36 29.7**	**-2.0**	
PRNI	**Paran**	**6.53**	**149**	P	**Pn**	**01 35 17.9**	**-0.8**	
VLI	**Veliai**	**6.60**	**279**	P	**Pn**	**01 35 19.7**	**+0.2**	
KRMI	**Paran Flat**	**6.62**	**151**	S	**Sn**	**01 36 31.7**	**-2.3**	
KRMI	**Paran Flat**	**6.62**	**151**	P	**Pn**	**01 35 19.4**	**-0.5**	
SLUM	**Salum**	**6.64**	**229**	P	**Pn**	**01 35 19.6**	**-0.4**	
HRFI	**Mount Harif**	**6.82**	**150**	S	**Sn**	**01 36 36.4**	**-2.4**	
HRFI	**Mount Harif**	**6.82**	**150**	P	**Pn**	**01 35 22.5**	**-0.1**	
RYAN	**Fayoum**	**6.94**	**186**	P	**Pn**	**01 35 24.3**	**+0.2**	
MBRI	**Mt Berech**	**6.99**	**151**	S	**Sn**	**01 36 41.4**	**-1.5**	
MBRI	**Mt Berech**	**6.99**	**151**	P	**Pn**	**01 35 24.7**	**-0.2**	
EIL	**Elat**	**7.11**	**152**	P	**Pn**	**01 35 25.3**	**-1.2**	
	5.5nm,0.4s,baz=294,slow=2.5,SNR=37							
EIL				S	**Sn**	**01 36 44.2**	**-1.7**	
	14nm,0.3s,baz=191,slow=7.0,SNR=7.3							
EIL	**Elat**	**7.11**	**152**	S	**Sn**	**01 36 44.2**	**-1.7**	
EIL	**Elat**	**7.11**	**152**	P	**Pn**	**01 35 26.0**	**-0.5**	
VLX	**Vlachokerasia**	**7.11**	**284**	P	**Pn**	**01 35 27.6**	**+1.0**	
GUR	**Goura**	**7.25**	**288**	P	**Pn**	**01 35 30.1**	**+1.7**	
	0.0nm16nm,0.8s							
KLV	**Kalavryta, Ach**	**7.42**	**289**	P	**Pn**	**01 35 32.5**	**+1.7**	
	0.0nm12nm,1.2s							
ITM	**Ithomi**	**7.45**	**282**		**Pn**	**01 35 32.2**	**+1.1**	
ITM	**Ithomi**	**7.45**	**282**	P	**Pn**	**01 35 32.1**	**+1.1**	
HKAT	**Jabal Katrina**	**7.86**	**161**	P	**Pn**	**01 35 36.8**	**-0.1**	
TR2	**Tor 2**	**7.92**	**163**	P	**Pn**	**01 35 38.1**	**+0.4**	
ELND	**Elena**	**7.99**	**331**	⇑P	**Pn**	**01 35 39.2**	**+0.7**	
SWA2		**8.24**	**217**	P	**Pn**	**01 35 41.4**	**-0.5**	
TAMRE	**El Minia**	**8.30**	**181**	P	**Pn**	**01 35 42.5**	**-0.2**	
TR1	**Tor 1**	**8.34**	**162**	P	**Pn**	**01 35 45.0**	**+1.6**	
TPGR	**Topolog**	**9.07**	**348**	⇑P	**Pn**	**01 35 54.5**	**+1.3**	
HFRF	**Wahat Farafira**	**9.14**	**196**	P	**Pn**	**01 35 53.9**	**-0.3**	
CFR	**Carcaliu**	**9.43**	**347**	⇑P	**Pn**	**01 35 59.1**	**+1.1**	
BISRR	**Bisoca**	**10.09**	**342**	⇑P	**Pn**	**01 36 08.1**	**+1.0**	
MLR	**Muntele Rosu**	**10.24**	**339**	⇑P	**Pn**	**01 36 10.3**	**+1.1**	
VRI	**Vrincioaia**	**10.38**	**343**	⇓P	**Pn**	**01 36 13.0**	**+2.0**	
PLOR	**Plostina**	**10.39**	**343**	⇑P	**Pn**	**01 36 13.5**	**+2.4**	
OZAP	**Van, Ozalp-Mer**	**10.63**	**72**	⇑P	**Pn**	**01 36 15.6**	**+0.9**	
GNI	**Garni**	**11.54**	**65**	LR	LR	01 41 41.8		
	comp=Z,25nm,21.0s,baz=213,slow=42							
TIP	**Timpagrande**	**11.79**	**290**		**Pn**	**01 36 28.0**	**-2.3**	
TIP	**Timpagrande**	**11.79**	**290**	⇑P	**Pn**	**01 36 29.2**	**-1.1**	
CUC	**Castrocucco**	**12.67**	**293**		**Pn**	**01 36 41.7**	**-0.6**	
RAFF	**Raffo Rosso**	**13.48**	**280**		**Pn**	**01 36 50.2**	**-2.9**	
KOLS	**Kolonicke sedl**	**14.44**	**336**	*e*P	**P**	**01 37 12.7**	**+2.5**	
AKASG	**Malin Array Be**	**14.75**	**355**	P	**Pn**	**01 37 07.7**	**-1.8**	
	0.4nm,0.4s,baz=180,slow=9.6,SNR=14							
VRAC	**Vranov**	**16.99**	**326**	LR	LR	01 45 13.9		
	comp=Z,34nm,19.4s,baz=163,slow=41							
KEST	**Kesra**	**17.61**	**276**		**Pn**	**01 37 48.9**	**+3.5**	
KEST				IAmb	IAmb	01 37 50.1		
	comp=Z,13nm,0.8s							
KEST	**Kesra**	**17.61**	**276**	P	**Pn**	**01 37 46.4**	**+0.9**	
	comp=Z,11nm,0.8s,baz=124,slow=6.2,SNR=17							
GERES	**GERESS Array B**	**18.08**	**321**	P	**Pn**	**01 37 52.0**	**+0.9**	
	comp=Z,0.5nm,0.4s,baz=120,slow=7.9,SNR=9.4							
SQTA	**Sankt Quirin**	**18.55**	**313**	*e*Pn	**Pn**	**01 38 03.3**	**+6.6**	
	comp=Z,2.1nm,0.7s							
MOTA	**Moosalm**	**18.67**	**314**	*i* Pn	**Pn**	**01 38 03.4**	**+5.1**	
	comp=Z,2.3nm,0.7s							
RETA	**Reute**	**18.94**	**314**	*i* Pn	**Pn**	**01 38 05.4**	**+4.0**	
	comp=Z,2.2nm,0.4s							
DAVOX	**Davos/Dischmat**	**19.14**	**311**	P	**Pn**	**01 38 03.7**	**-0.1**	
	comp=Z,1.6nm,0.3s,baz=109,slow=3.2,SNR=7.8							
DAVA	**Damuels**	**19.37**	**312**	*i* Pn	**Pn**	**01 38 09.5**	**+3.0**	
	comp=Z,2.0nm,0.4s							
PABE	**Paberze**	**20.10**	**348**	P	**P**	**01 38 11.3**	**-1.1**	
BELG	**Belogornoye**	**20.15**	**30**	P	**P**	**01 38 11.1**	**-1.8**	
	comp=Z,9.5nm,0.5s,baz=259,slow=3.3,SNR=6.0							
	comp=Z,9.5nm,0.5s							
SENIN	**Lac Senin/Sane**	**20.59**	**307**	P	**P**	**01 38 19.4**	**+1.3**	
AB31	**Akbulak array**	**24.86**	**49**	P	**P**	**01 39 00.3**	**0.0**	
FINES	**FINESS Array B**	**25.66**	**354**	P	**P**	**01 39 06.5**	**-0.8**	
FINES	**FINESS Array B**	**25.66**	**354**	P	**P**	**01 39 06.3**	**-1.0**	
	comp=Z,1.6nm,0.4s,baz=156,slow=12,SNR=29							
	comp=Z,1.6nm,0.4s							
FIA1	**FINESS Array S**	**25.66**	**354**	P	**P**	**01 39 06.6**	**-0.7**	
FIA1				IAmb	IAmb	01 39 48.5		
	comp=Z,22nm,1.1s							
HFS	**Hagfors**	**26.62**	**341**	P	**P**	**01 39 16.0**	**-0.1**	
	comp=Z,0.7nm,0.4s,baz=143,slow=10,SNR=14							
	comp=Z,0.7nm,0.4s							
ARTI	**Arti**	**27.49**	**34**	P	**P**	**01 39 23.4**	**-0.5**	
ESDC	**Sonseca Array**	**27.80**	**288**	P	**P**	**01 39 26.8**	**-0.2**	
	comp=Z,0.5nm,0.8s,baz=81,slow=12,SNR=4.9							
	comp=Z,0.5nm,0.8s							
NB2	**NORSAR Subarra**	**28.06**	**339**	P	**P**	**01 39 27.8**	**-1.2**	
	comp=Z,1.2nm,0.6s,baz=143,slow=9.3							
NOA	**NORSAR Array B**	**28.06**	**339**	P	**P**	**01 39 27.9**	**-1.1**	
	comp=Z,0.8nm,0.6s,baz=142,slow=9.2,SNR=6.0							
	comp=Z,0.8nm,0.6s							
EKA	**Eskdalemuir Ar**	**30.30**	**320**	P	**P**	**01 39 48.0**	**-0.9**	
	comp=Z,0.2nm,0.4s,baz=118,slow=10,SNR=3.9							
	comp=Z,0.2nm,0.4s							
KK31	**Karatay Array**	**31.01**	**65**	P	**P**	**01 39 56.2**	**+0.9**	
KK31				IAmb	IAmb	01 39 57.1		
	comp=Z,4.6nm,0.9s							
KKAR	**Karatay Array**	**31.01**	**65**	P	**P**	**01 39 55.9**	**+0.6**	
LVZ	**Lovozero**	**32.01**	**3**	P	**P**	**01 40 03.0**	**-0.8**	
BVAR	**Borovoye Array**	**32.29**	**46**	P	**P**	**01 40 04.8**	**-1.6**	
	comp=Z,0.5nm,0.4s,baz=275,slow=5.4,SNR=4.7							
	comp=Z,0.5nm,0.4s							
ARSB	**Arslanbob**	**32.92**	**68**	IAmb	IAmb	01 40 14.7		
	comp=Z,6.0nm,0.7s							
ARCES	**ARCESS Array B**	**33.73**	**356**	P	**P**	**01 40 17.8**	**-0.9**	
ARCES				IAmb	IAmb	01 40 39.0		
	comp=Z,9.7nm,1.2s							
ARCES	**ARCESS Array B**	**33.73**	**356**	P	**P**	**01 40 18.1**	**-0.6**	
	comp=Z,1.6nm,0.5s,baz=168,slow=8.1,SNR=5.8							
	comp=Z,1.6nm,0.5s							
BOOM	**Boomskoye usch**	**35.02**	**65**	IAmb	IAmb	01 40 33.4		
	comp=Z,7.1nm,1.1s							
TARG	**Taragay, Kyrgy**	**36.48**	**66**	IAmb	IAmb	01 40 46.3		
	comp=Z,8.9nm,1.2s							
KURBB	**Kurchatov Arra**	**36.84**	**52**	P	**P**	**01 40 44.9**	**-0.7**	
	comp=Z,1.8nm,0.6s,baz=275,slow=8.9,SNR=10							
KURBB				PcP	**PcP**	**01 43 06.5**	**+0.6**	
	comp=Z,0.7nm,0.3s,baz=262,slow=4.0,SNR=4.2							
	comp=Z,1.8nm,0.6s							
MKAR	**Makanchi Array**	**39.27**	**58**	P	**P**	**01 41 06.6**	**+0.4**	
MKAR	**Makanchi Array**	**39.27**	**58**	P	**P**	**01 41 05.7**	**-0.5**	
	comp=Z,2.3nm,0.5s,baz=265,slow=10.0,SNR=18							
	comp=Z,2.3nm,0.5s							
ZALV	**Zalesovo Beam**	**40.93**	**47**	P	**P**	**01 41 19.5**	**-0.3**	
	comp=Z,0.6nm,0.4s,baz=261,slow=8.2,SNR=7.4							
	comp=Z,2.2nm,0.4s							
SPITS	**Spitsbergen Ar**	**42.74**	**356**	P	**P**	**01 41 34.0**	**-0.3**	
	comp=Z,1.5nm,0.5s,baz=140,slow=10,SNR=7.7							
	comp=Z,1.5nm,0.5s							
SONM	**Songino Array**	**55.19**	**53**	P	**P**	**01 43 10.4**	**+0.5**	
SONM	**Songino Array**	**55.19**	**53**	P	**P**	**01 43 10.1**	**+0.2**	
	comp=Z,1.1nm,0.6s,baz=297,slow=6.5,SNR=5.2							
	comp=Z,1.1nm,0.6s							
CMAR	**Chiang Mai Arr**	**61.70**	**87**	P	**P**	**01 43 55.9**	**+0.4**	
	comp=Z,1.2nm,0.2s,baz=302,slow=10,SNR=5.1							
	comp=Z,1.2nm,0.2s							
F24K	**Squaw Lake**	**76.79**	**360**	P	**P**	**01 45 29.2**	**+1.3**	
F24K				IAmb	IAmb	01 45 30.1		
	comp=Z,3.3nm,0.8s							
F19K	**Shaleruckik Mo**	**77.26**	**4**	P	**P**	**01 45 30.5**	**0.0**	
F19K				IAmb	IAmb	01 45 31.8		
	comp=Z,5.5nm,1.2s							
IMAR	**Indian Mountai**	**78.27**	**2**	P	**P**	**01 45 36.9**	**+0.8**	
I30M	**Mount Dempster**	**78.62**	**355**	P	**P**	**01 45 38.5**	**+0.2**	
I30M				IAmb	IAmb	01 45 39.2		
	comp=Z,2.8nm,0.8s							
J30M	**Hart River**	**79.26**	**354**	P	**P**	**01 45 42.4**	**+0.7**	
J30M				IAmb	IAmb	01 45 43.4		
	comp=Z,4.4nm,0.9s							

*GCG **19** 02:01:40.7±1.8, 16°.96N×94°.71W, h36km±999km, ML3.8*
*CATAC **19** 02:01:41.5±0.5, 17°.N±.3°×9°.5W±°, h1km, M4.0/6, MLv4.0/6, Error ellipse: s-maj=10.7km s-min=3.8km az=51.3, confirmed*
*MEX **19** 02:01:42.3±3.6, 16°.53N×94°.47W, h40km±55km, MD4.0*
ISC 19 02:01:38.9±0.9, 16°.53N±0°.03×94°.53W±0°.02, h12km±6km, n39, σ1°.97/69, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NILT	**Santiago Nilte**	**0.09**	**292**	*e*P	**Pg**	**02 01 41.9**	**+0.2**
NILT				*i* S	**Sg**	**02 01 43.5**	**-0.1**
CMIG	**Matias Romero**	**0.66**	**329**	*i* P	**Pg**	**02 01 50.5**	**-1.1**
CMIG				*e*S	**Sg**	**02 01 58.0**	**-2.3**
UXUV	**UXUV**	**0.86**	**25**	*e*P	**Pb**	**02 01 55.6**	**-0.3**
UXUV				*e*S	**Sb**	**02 02 06.8**	**-0.7**
TGIG		**1.37**	**79**	*e*P	**Pb**	**02 02 05.4**	**+0.9**
TGIG				*e*S	**Sg**	**02 02 24.0**	**+1.0**
TGIG		**1.37**	**79**	*i* P	**Pg**	**02 02 05.6**	**+0.4**
TGIG				*i* S	**Sg**	**02 02 24.6**	**+1.5**
TGIG				IAML		02 02 26.7	
	comp=N,2µm,0.4s						
TGBT	**Tuxtla Gutierr**	**1.40**	**80**	*e*P	**Pg**	**02 02 06.3**	**+0.5**
TGBT				*e*S	**Sg**	**02 02 25.2**	**+1.2**
TUIG	**Tuzandepetl**	**1.50**	**4**	*e*P	**Pn**	**02 02 07.0**	**+1.3**
TUIG				*e*S	**Sn**	**02 02 27.3**	**+2.1**
TUIG	**Tuzandepetl**	**1.50**	**4**	P	**Pg**	**02 02 09.5**	**+1.8**
TUIG	**Tuzandepetl**	**1.50**	**4**	S	**Sb**	**02 02 29.4**	**+3.7**
PCIG		**1.50**	**123**	*e*P	**Pg**	**02 02 08.0**	**+0.2**
PCIG				*e*S	**Sg**	**02 02 29.1**	**+1.9**
NEUV	**Arroyo Zacate**	**1.69**	**314**	*e*P	**Pn**	**02 02 08.4**	**+0.1**
NEUV				*e*S	**Sn**	**02 02 30.2**	**+0.2**
HUIG	**Huatulco**	**1.70**	**244**	*e*P	**Pn**	**02 02 08.4**	**+0.1**
HUIG				*e*S	**Sb**	**02 02 31.3**	**-0.1**
HUIG	**Huatulco**	**1.70**	**244**	*i* P	**Pn**	**02 02 08.5**	**+0.1**
HUIG				*i* S	**Sb**	**02 02 31.5**	**+0.1**
HUIG				IAML		02 02 34.4	
	comp=N,552nm,0.5s						
PMUV	**Sontecomapan**	**2.08**	**344**	*e*P	**Pn**	**02 02 11.8**	**-1.9**
PMUV				*e*S	**Sn**	**02 02 37.8**	**-1.9**
OXLC	**Oaxaca**	**2.15**	**285**	*e*P	**Pn**	**02 02 17.0**	**+2.2**
OXLC				*e*S	**Sn**	**02 02 43.0**	**+1.4**
OXBJ	**Oaxaca**	**2.17**	**285**	*e*S	**Sn**	**02 02 42.5**	**+0.5**
VHO	**Vista Hermosa**	**2.18**	**285**	*e*P	**Pn**	**02 02 15.6**	**+0.4**
VHO				*e*S	**Sn**	**02 02 43.1**	**+0.8**
CCIG	**Comitan**	**2.31**	**96**	*e*P	**Pb**	**02 02 20.3**	**-0.2**
CCIG				*e*S	**Sb**	**02 02 50.2**	**+1.1**
CCIG	**Comitan**	**2.31**	**96**	*i* P	**Pb**	**02 02 21.8**	**+1.2**
CCIG	**Comitan**	**2.31**	**96**	P	**Pg**	**02 02 22.9**	**-0.3**
PEIG	**Puerto Escondi**	**2.57**	**259**	*e*P	**Pn**	**02 02 19.9**	**-0.5**
PATR	**El Naranjo**	**2.62**	**122**	*e*P	**Pb**	**02 02 25.4**	**-0.5**
PATR				*e*S	**Sb**	**02 02 55.7**	**-2.4**
PAVE	**Pavencul**	**2.62**	**120**	*e*P	**Pb**	**02 02 25.1**	**-0.9**
PAVE				*e*S	**Sb**	**02 02 55.6**	**-2.7**
THIG		**2.71**	**126**	*e*P	**Pb**	**02 02 28.1**	**+0.8**
TOIG	**Toxpalan**	**2.88**	**303**	*e*P	**Pn**	**02 02 24.5**	**-0.3**
TOIG				*e*S	**Sn**	**02 02 56.2**	**-3.3**
YOIG	**Yosondua**	**2.91**	**277**	*e*P	**Pn**	**02 02 26.2**	**+0.9**
YOIG				*e*S	**Sn**	**02 03 02.4**	**+2.0**
HUEH	**Huehuetenango**	**3.15**	**112**	*e*P	**Pb**	**02 02 32.4**	**-2.5**
HUEH				*e*S	**Sb**	**02 03 11.0**	**-2.4**
TXIG	**Tlaxiaco**	**3.19**	**284**	*e*P	**Pn**	**02 02 31.6**	**+2.5**
TXIG				*e*S	**Sn**	**02 03 06.7**	**-0.5**
TXIG	**Tlaxiaco**	**3.19**	**284**	*e*S	**Sn**	**02 03 06.5**	**-0.7**
TPIG	**Tehuac#an**	**3.29**	**305**	*e*P	**Pn**	**02 02 31.9**	**+1.4**
TPIG				*e*S	**Sn**	**02 03 11.6**	**+1.9**
RTAL	**Retalhuleu**	**3.38**	**126**	*e*P	**Pb**	**02 02 36.0**	**-2.7**
RTAL				*e*S	**Sn**	**02 03 09.8**	**-1.8**
HLIG	**Huajuapan de L**	**3.39**	**293**	*e*P	**Pn**	**02 02 35.3**	**+3.4**
HLIG				*e*S	**Sn**	**02 03 15.1**	**+3.0**
PNIG	**Pinotepa**	**3.46**	**268**	*e*P	**Pn**	**02 02 32.3**	**-0.3**
PNIG				*e*S	**Sn**	**02 03 15.3**	**+1.8**
JAUV	**Jalcomulco**	**3.56**	**323**	*e*P	**Pn**	**02 02 32.1**	**-1.9**
JAUV				*e*S	**Sn**	**02 03 12.9**	**-3.2**
MGIG	**Malinaltepec**	**3.99**	**281**	*e*P	**Pn**	**02 02 41.3**	**+1.2**
MGIG				*e*S	**Sn**	**02 03 30.8**	**+3.8**
TLIG	**Tlapa**	**4.00**	**285**	*e*P	**Pn**	**02 02 44.1**	**+4.0**
TLIG				*e*S	**Sn**	**02 03 30.6**	**+3.6**
SCIG	**Sabancuy**	**4.00**	**52**	*e*P	**Pn**	**02 02 41.8**	**+1.7**
SCIG				*e*S	**Sn**	**02 03 25.7**	**-1.2**
CXUV	**Coxquihui**	**4.65**	**322**	*e*P	**Pn**	**02 02 48.0**	**-1.0**
CXUV				*e*S	**Sn**	**02 03 38.5**	**-4.4**
PPM	**Popocatepetl**	**4.65**	**303**	*e*S	**Sb**	**02 03 52.3**	**-4.7**

MEX 19 02:02:49.0±0.3, 16°.76N×98°.07W, h28km±14km, MD3.2, Near coast of Guerrero

| Code | Station Name | Δ° | AZ° | Phase

KNHH	**Kane Nui o Ham**	**0.37**	**53**			Pb	02 39 22.1	-1.2
STCH	**Steam Cracks**	**0.40**	**56**			Pb	02 39 22.5	-1.3
STCH	**Steam Cracks**	**0.40**	**56**	IAML			02 39 29.4	
	comp=E,182nm,0.2s							
STCH				IAML			02 39 31.4	
	comp=N,250nm,0.6s							
ALEP	**Alea Permanent**	**0.41**	**338**			Pb	02 39 22.5	-1.6
ALEP						Sb	02 39 28.6	-2.1
NPOC	**North of Pu'u**	**0.42**	**57**			Pb	02 39 22.7	-1.3
JOKA	**Jonika Flow**	**0.53**	**59**			Pb	02 39 23.9	-1.7
JOKA	**Jonika Flow**	**0.53**	**59**	IAML			02 39 32.3	
	comp=E,184nm,3.0s							
JOKA				IAML			02 39 41.8	
	comp=N,302nm,1.9s							
CPH	**Captain Cook**	**0.53**	**308**			Pb	02 39 23.7	-1.9
KHLU	**Kahalu`u**	**0.58**	**318**			Pb	02 39 24.6	-2.0
KHLU						Pn	02 39 31.8	+5.1
KHLU	**Kahalu`u**	**0.58**	**318**	IAML			02 39 31.9	
	comp=E,185nm,0.3s							
KHLU				IAML			02 39 32.3	
	comp=N,180nm,0.2s							
POHA	**Pohakuloa**	**0.60**	**355**			Pb	02 39 24.8	-2.1
POHA	**Pohakuloa**	**0.60**	**355**	IAML			02 39 41.9	
	comp=N,175nm,2.6s							
HUH	**Hualalai**	**0.62**	**327**			Pb	02 39 25.6	-1.7
HUH						Sb	02 39 33.6	-2.4
HUH	**Hualalai**	**0.62**	**327**	IAML			02 39 40.0	
	comp=E,291nm,1.4s							

NNC 19 02:49:54.8±10.0, 37°85N×72°08E, h0km, mb4.1, mpv4.1, 2C-1D, Error ellipse: s-maj=84.3km s-min=66.3km az=160.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**4.57**	**341**	Pg	Pn	02 51 06.6	+1.2
	122nm,0.2s						
IUG				Lg	Lg	02 52 00.0	
	168nm,0.6s						
AAK	**Ala-Archa**	**5.13**	**20**	⇓P	Pn	02 51 13.0	-0.1
	3.0nm,0.5s						
AAK				⇑S	Sn	02 52 15.3	+2.3
	5.0nm,0.6s						
KK31	**Karatay Array**	**5.38**	**348**	P	Pn	02 51 16.2	-0.2
	7.3nm,0.5s,baz=159,slow=11,SNR=55						
KK31				⇑S	Sn	02 52 19.4	+0.3
	11nm,0.4s,baz=158,slow=16						
KST	**Kastek**	**5.97**	**28**	Pg	Pn	02 51 24.0	-0.6
	5.6nm,0.5s						
KST				Lg	Lg	02 52 31.5	
	2.4nm,0.5s						
AB31	**Akbulak array**	**14.38**	**326**	P	Pn	02 53 18.3	-1.2
	1.2nm,0.6s,baz=135,slow=12,SNR=33						

*NEIC **19** 02:52:13.2±1.1, 36°122N×0°009×117°80W±0°02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.7km az=214.0*

PAS 19 02:52:13.5±1.1, 36°123N×0°010×117°83W±0°02, h3km±5km, ML3.3/91, ML3.1/150(NEIC), Error ellipse: s-maj=2.2km s-min=1.4km az=79.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MFS	**McCloud Flat S**	**0.02**	**257**		Pg	02 52 14.5	+0.2
MFS					Sg	02 52 15.4	+0.5
WCSM	**Coso Springs S**	**0.11**	**153**		Pg	02 52 16.0	+0.3
WCSM					Sg	02 52 17.9	+0.8
WRVM	**Rose V. Centra**	**0.13**	**204**		Pg	02 52 16.2	+0.2
WRVM					Sg	02 52 18.2	+0.5
JRC2	**Joshua Ridge**	**0.14**	**174**		Pg	02 52 18.6	+2.3
WVPM	**Volcano Peak E**	**0.17**	**178**		Pg	02 52 17.1	+0.1
WVPM					Sg	02 52 19.9	+0.6
TOW	**Tower One**	**0.32**	**171**		Pg	02 52 20.2	+0.6
TOW					Sg	02 52 25.4	+1.6
CLC	**China Lake**	**0.36**	**149**		Sg	02 52 25.6	+0.5
CLC	**China Lake**	**0.36**	**149**		Pg	02 52 20.2	-0.2
CLC				IAML		02 52 26.8	
	comp=N,683nm,0.6s						
CLC				IAML		02 52 28.0	
	comp=E,787nm,0.4s						
CWC	**Cottonwood Cre**	**0.38**	**327**		Pg	02 52 20.7	-0.1
CWC					Sg	02 52 26.2	+0.4
CWC				IAML		02 52 27.7	
	comp=N,4μm,0.2s						
CGO	**Cerro Gordo**	**0.43**	**3**		Pg	02 52 21.6	-0.2
CGO					Sg	02 52 27.9	+0.4
SRTC	**Snort**	**0.43**	**172**		Pg	02 52 22.0	+0.2
SRTC					Sb	02 52 29.2	-1.6
WORM	**Onyx Ranch**	**0.54**	**219**		Pg	02 52 23.7	-0.3
WORM					Sg	02 52 31.0	0.0
WSHM	**Spangler Hills**	**0.59**	**152**		Sg	02 52 32.7	+0.3
WSHM	**Spangler Hills**	**0.59**	**152**		Pg	02 52 24.9	0.0
WSHM				IAML		02 52 33.4	
	comp=N,1μm,0.4s						
WSHM				IAML		02 52 35.3	
	comp=N,1μm,0.4s						
WHFM	**Hanning Flat**	**0.60**	**225**		Pg	02 52 24.8	-0.2
WHFM					Sg	02 52 33.1	+0.3
LRMC	**Laurel Mtn Rad**	**0.65**	**170**		Sg	02 52 35.0	+0.5
LRMC	**Laurel Mtn Rad**	**0.65**	**170**		Pg	02 52 26.2	+0.1
LRMC				IAML		02 52 41.1	
	comp=N,555nm,0.6s						
LRMC				IAML		02 52 41.3	
	comp=E,739nm,0.7s						
ISA	**Isabella, Lake**	**0.70**	**229**		Sg	02 52 36.2	+0.3
ISA	**Isabella, Lake**	**0.70**	**229**		Pg	02 52 26.7	-0.2
ISA				IAML		02 52 36.4	
	comp=N,1μm,0.5s						
ISA				IAML		02 52 36.6	
	comp=E,1μm,0.3s						
CCCA	**Chr Cany lake**	**0.70**	**148**		Pg	02 52 27.2	+0.2
CCCA				IAML		02 52 45.3	
	comp=E,1μm,0.8s						
WASM	**Alta Sierra Ca**	**0.71**	**237**		Pg	02 52 26.9	-0.2
WASM					Sg	02 52 36.0	-0.2
QSM	**Queen of Sheba**	**0.79**	**101**		Sg	02 52 39.2	+0.3
QSM	**Queen of Sheba**	**0.79**	**101**		Pg	02 52 28.5	-0.2
QSM				IAML		02 52 31.9	
	comp=N,720nm,0.4s						
FURC	**Furnace Creek,**	**0.85**	**66**		Pg	02 52 30.0	+0.1
FURC					Sg	02 52 41.6	+0.8
DTP	**Desert Tortois**	**0.85**	**181**		Pg	02 52 29.5	-0.4
DTP					Sg	02 52 40.5	-0.5
GWY	**Greenwater Val**	**0.94**	**86**		Sg	02 52 43.9	+0.2
GWY	**Greenwater Val**	**0.94**	**86**		Pg	02 52 31.3	-0.2
GWY				IAML		02 52 49.2	
	comp=E,933nm,0.5s						
GRAC	**Grapevine Rang**	**0.95**	**23**		Sg	02 52 44.8	+0.8
GRAC	**Grapevine Rang**	**0.95**	**23**		Pg	02 52 31.3	-0.4
GRAC				IAML		02 52 49.8	
	comp=E,936nm,0.6s						
CCAC	**Calif City Air**	**0.98**	**189**		Pg	02 52 31.9	-0.5
CCAC					Sg	02 52 45.4	+0.3
TIN	**Tinemaha, Big**	**0.98**	**341**		Pg	02 52 32.3	-0.2
TIN					Sg	02 52 46.0	+0.8
VES	**Vestal, Richgr**	**1.06**	**255**		Pg	02 52 33.5	-0.3
VES					Sg	02 52 47.0	-0.6
SGV	**South Grapevin**	**1.07**	**36**		Pg	02 52 33.4	-0.6
SGV					Sg	02 52 48.2	+0.3
LCH	**Last Change Ra**	**1.12**	**7**		Pg	02 52 33.8	-1.1
LCH					Sg	02 52 49.0	-0.5
TEJ	**El Tejon**	**1.14**	**219**		Pg	02 52 34.3	-0.9
TEJ					Sg	02 52 49.0	-1.0
GSC	**Goldstone, Bar**	**1.17**	**134**	IAML		02 52 56.1	
	comp=N,361nm,0.5s						
GSC				IAML		02 52 57.8	
	comp=E,412nm,0.7s						
WCT	**Wildcat Mounta**	**1.18**	**55**		Pg	02 52 35.4	-0.7
WCT				IAML		02 52 56.0	
	comp=E,567nm,1.1s						
WCT				IAML		02 52 56.0	
	comp=N,301nm,1.1s						
DSP	**Deep Springs**	**1.25**	**355**		Pg	02 52 36.5	-1.0
DSP				IAML		02 52 54.2	
	comp=E,388nm,0.4s						
DSP				IAML		02 52 54.8	
	comp=N,333nm,0.4s						
GMN	**Gold Mountain**	**1.26**	**21**		Pg	02 52 36.8	-0.9
GMN				IAML		02 53 00.3	
	comp=N,278nm,0.7s						
VOG	**Valley Oaks Go**	**1.27**	**279**		Pg	02 52 37.3	-0.7

TPO	**Tropico Hills**	**1.28**	**195**			Pg	02 52 37.2	-1.0
TPO				IAML			02 52 59.4	
	comp=N,458nm,1.0s							
TPO				IAML			02 52 59.8	
	comp=E,505nm,0.8s							
TPNV	**Topopah Spring**	**1.51**	**57**			Pn	02 52 41.1	-0.7
TPNV				IAML			02 53 08.4	
	comp=E,380nm,0.6s							
MZP	**Montezuma Peak**	**1.61**	**13**			Pg	02 52 44.4	-0.1
OSI	**Osito Audit: C**	**1.67**	**206**			Pb	02 52 45.1	0.0
OSI				IAML			02 53 12.1	
	comp=E,240nm,0.7s							
OSI				IAML			02 53 15.6	
	comp=N,328nm,0.6s							
KCC	**Kaiser Creek**	**1.69**	**315**			Pn	02 52 44.4	+0.3
MLAC	**Mammoth, Mammo**	**1.71**	**332**			Pb	02 52 45.3	-0.5
MWC	**Mount Wilson**	**1.90**	**186**			Pn	02 52 46.8	-0.4
MWC				IAML			02 53 16.0	
	comp=E,116nm,0.5s							
MWC				IAML			02 53 19.7	
	comp=N,153nm,0.5s							
MTPC	**Mountain Pass**	**1.95**	**108**			Pn	02 52 46.8	-1.0
MTPC				IAML			02 53 19.8	
	comp=E,100nm,0.5s							
PASC	**Pasadena Art C**	**1.97**	**189**			Pn	02 52 47.2	-0.7
PASC				IAML			02 53 19.1	
	comp=E,112nm,0.8s							
TPH	**Tonopah**	**2.01**	**14**			Pb	02 52 49.9	-1.0
SHPR	**Sheep Range**	**2.19**	**79**			Pn	02 52 50.9	-0.1
LHV	**Little Huntoon**	**2.19**	**346**	IAML			02 53 37.9	
	comp=N,106nm,1.1s							
LHV				IAML			02 53 40.6	
	comp=E,156nm,1.1s							
S11A	**Rachel**	**2.25**	**47**			Pn	02 52 53.2	+1.3
NV11	**Mina Array Sit**	**2.32**	**354**			Pn	02 52 52.1	-0.7
NVAR	**Mina Array Bea**	**2.33**	**351**			Pn	02 52 53.6	+0.5
V12A	**Nelson**	**2.45**	**98**			Pn	02 52 53.9	-0.6
ELS	**Elsinore Mount**	**2.49**	**172**			Pn	02 52 55.0	-0.1
ELS				IAML			02 53 39.3	
	comp=E,68nm,1.5s							
RYN	**Ryan**	**2.56**	**348**			Pn	02 52 56.9	+0.7
RYN				IAML			02 53 46.7	
	comp=E,56nm,1.9s							
PRN	**Pahroc Range**	**2.57**	**59**			Pn	02 52 55.9	-0.3
PRN				IAML			02 53 37.7	
	comp=N,142nm,0.6s							
BBGB	**Big Mountain B**	**2.63**	**281**			Pn	02 52 58.8	+1.7
WAKR	**Walker**	**2.70**	**332**			Pn	02 53 00.4	+2.3
WAKR				IAML			02 53 48.5	
	comp=E,43nm,1.1s							
WAKR				IAML			02 53 56.3	
	comp=N,48nm,1.0s							
PCCM	**Crazy Canyon**	**2.70**	**270**			Pb	02 53 00.3	-2.3
PMD	**Palm Desert**	**2.74**	**154**			Pn	02 52 59.8	+1.3
PFO	**Pinyon Flats O**	**2.75**	**155**			Pn	02 52 58.1	-0.6
CMB	**Columbia Colle**	**2.80**	**314**			Pn	02 53 00.9	+1.6
CMB				IAML			02 53 43.2	
	comp=E,82nm,0.5s							
R11B	**Troy Canyon, C**	**2.85**	**38**			Pn	02 53 01.5	+1.3
R11B				IAML			02 53 45.9	
	comp=E,42nm,1.1s							
NEE2	**Needles Airpor**	**2.95**	**116**			Pn	02 52 60.0	-1.3
NEE2				IAML			02 53 53.8	
	comp=E,94nm,0.7s							
NEE2				IAML			02 53 56.9	
	comp=N,99nm,0.5s							
SAO	**San Andreas Ge**	**2.99**	**283**			Pn	02 53 03.7	+1.8
BORC	**Borrego Spring**	**3.08**	**157**	IAML			02 54 00.1	
	comp=N,32nm,1.2s							
BORC				IAML			02 54 02.4	
	comp=E,41nm,1.4s							
BLYC	**Blythe**	**3.60**	**130**	IAML			02 54 16.1	
	comp=E,27nm,0.8s							
GLA	**Glamis**	**3.94**	**140**	IAML			02 54 21.2	
	comp=N,30nm,0.6s							
GLA				IAML			02 54 24.6	
	comp=E,39nm,0.8s							
PSUT	**Pine Spring**	**3.98**	**52**	IAML			02 54 20.3	
	comp=N,35nm,0.7s							
PSUT				IAML			02 54 25.5	
	comp=E,38nm,0.7s							
SPR3	**Spring Creek 3**	**3.99**	**43**	IAML			02 54 20.1	
	comp=E,25nm,0.8s							
SPR3				IAML			02 54 22.2	
	comp=N,23nm,0.9s							
KNB	**Kanab**	**4.13**	**76**	IAML			02 54 28.3	
	comp=E,19nm,1.0s							
KNB				IAML			02 54 28.9	
	comp=N,25nm,1.7s							
BEKR	**Beckworth**	**4.24**	**333**	IAML			02 54 29.4	
	comp=N,20nm,0.4s							
ESJX	**Sierra Juarez**	**4.39**	**159**	IAML			02 55 25.8	
	comp=N,28nm,0.1s							
U15A	**North Rim**	**4.48**	**84**	IAML			02 54 37.8	
	comp=N,16nm,1.2s							
U15A				IAML			02 54 47.2	
	comp=E,17nm,1.1s							
Y14A	**Wickenburg**	**4.52**	**117**	IAML			02 54 47.1	
	comp=N,19nm,0.7s							
Y14A				IAML			02 54 53.6	
	comp=E,14nm,1.0s							

KRSC 19 02:56:44.5±3.3, 48°95N×157°14E, h31km±41km, MI3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.86**	**340**	*eS*	Sn	02 57 35.7	-0.8
PAU	**Pauzhetka**	**2.53**	**355**	*eP*	Pn	02 57 25.9	+2.5
PAU				*eS*	Sn	02 57 55.8	+2.6
MIPR	**Malaya Ipel'ka**	**3.34**	**356**	*eP*	Pn	02 57 37.0	+2.4
ASAK	**Asacha**	**3.48**	**8**	*eP*	Pb	02 57 41.0	-4.3
RUS	**Russkaya**	**3.60**	**14**	*eP*	Pn	02 57 41.6	+3.6
MTVR	**Mutnovka**	**3.60**	**10**	*eP*	Pn	02 57 42.3	+4.0
MTVR				*eS*	Sb	02 58 26.5	-4.3
GRL	**Gorelyy**	**3.66**	**9**	*eP*	Pb	02 57 44.1	-4.4
UGLR	**Uglovaya**	**4.40**	**13**	*eP*	Pn	02 57 54.4	+5.3
KOK	**Koryaka**	**4.45**	**12**	*eP*	Pn	02 57 55.5	+5.6
SDLR	**Sedlovina**	**4.47**	**14**	*eP*	Pn	02 57 54.2	+4.0
KRER	**Koryakskii**	**4.48**	**12**	*eP*	Pn	02 57 56.0	+5.6
KRX	**Arik**	**4.52**	**12**	*eP*	Pn	02 57 56.3	+5.5
SPN	**Mys Shipunski**	**4.54**	**23**	*eP*	Pn	02 57 56.2	+5.2
GNL	**Ganaly**	**4.78**	**6**	*eP*	Pn	02 57 59.6	+5.2
MKZ	**Mys Kozlova**	**6.30**	**25**	*eP*	Pn	02 58 19.3	+4.2

*ASIES **19** 02:58:55.8, 24°06N×121°52E, h22km, ML3.6, Mw3.3, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}9.44; $M_{\theta\theta}$-5.89; $M_{\phi\phi}$-3.55; $M_{r\theta}$-1.30; $M_{\theta\phi}$-4.14; $M_{\phi r}$-3.67; Fault plane solution: $M_0$10.02410×10^{13} NP1: ϕ_s63.35000°, δ36.25000°, λ107.94000°. NP2: ϕ_s221.48000°, δ55.77000°, λ77.27000°. Principal axes: T Plg75.4740°, Azm93.0830°; N Plg10.4940°, Azm228.7170°; P Plg9.9300°, Azm320.5750°;*

TAP 19 02:58:55.8, 24°06N×121°52E, h22km, ML3.6, 9C-13D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.07**	**74**	⇓*iP*	Pb	02 58 59.9	+0.2
TWD				S	Sb	02 59 02.6	+0.2
ETM	**Tongmen**	**0.10**	**194**	⇑*iP*	Pb	02 59 00.0	0.0
ETM				*i* S	Sb	02 59 02.8	+0.1
LXIB	**Xiulin Townshi**	**0.10**	**248**	⇑*iP*	Pb	02 59 00.1	-2.0
LXIB				S	Sb	02 59 03.4	-3.2
HWA	**Hwalien**	**0.11**	**136**	⇓*iP*	Pb	02 59 00.6	-1.2
HWA				*i* S	Sb	02 59 04.2	-1.9
NACB	**Ninganchiao**	**0.13**	**31**	⇑*iP*	Pb	02 59 00.2	-1.5
NACB				*i* S	Sb	02 59 03.2	-2.6
ETL	**Fush Village**	**0.14**	**44**	⇓P	Pb	02 59 00.3	-1.4
ETL				S	Sb	02 59 03.5	-2.4
ETLH	**Xiulin Townshi**	**0.15**	**347**	⇑*iP*	Pb	02 59 00.6	-1.1
ETLH				*eS*	Sb	02 59 03.8	-2.1
TEYL	**Yanliau Villag**	**0.20**	**159**	*eP*	Pb	02 59 01.1	-0.5
TEYL				*eS*	Sb	02 59 05.0	-0.6
WHF	**Hehuan Shan**	**0.25**	**290**	⇑*iP*	Pb	02 59 02.2	-0.2
WHF				*eS*	Sb	02 59 06.5	-0.5
ESL	**Shilin**	**0.26**	**198**	⇓*iP*	Pb	02 59 01.6	-0.4
ESL				S	Sb	02 59 05.9	-0.4
SHUL	**Shoufeng**	**0.27**	**172**	⇓*iP*	Pb	02 59 02.5	+0.3
SHUL				*eS*	Sb	02 59 07.5	+0.9
FUSS	**Fushou**	**0.31**	**307**	⇓*iP*	Pb	02 59 03.4	+0.4
FUSS				*eS*	Sb	02 59 08.7	+0.8
OWD	**Renai**	**0.33**	**252**	⇑*iP*	Pb	02 59 03.4	+0.3
OWD				*i* S	Sb	02 59 08.3	+0.3
EAHA	**Aohua**	**0.34**	**37**	*eP*	Pb	02 59 03.1	0.0
EAHA				*eS*	Sb	02 59 08.2	+0.2
TEGC	**Jichi Village**	**0.35**	**177**	*eP*	Pb	02 59 03.7	+0.4
TEGC				*eS*	Sb	02 59 09.9	+1.6
WARBT	**Fenglin Townsh**	**0.36**	**200**	⇓*iP*	Pb	02 59 02.9	-0.6
WARBT				*eS*	Sb	02 59 08.0	-0.7
TWT	**Tachien**	**0.37**	**302**	⇓*iP*	Pb	02 59 04.4	+0.7
TWT				*i* S	Sb	02 59 09.9	+0.8
WUSB	**Renai**	**0.37**	**260**	⇑*iP*	Pb	02 59 04.2	+0.5
WUSB				S	Sb	02 59 09.4	+0.2
TDCB	**Techi**	**0.38**	**300**	⇓*iP*	Pb	02 59 04.5	+0.6
TDCB				*eS*	Sb	02 59 09.4	0.0
NNSB	**Datong**	**0.39**	**341**	⇓*iP*	Pb	02 59 04.3	+0.3
NNSB				*i* S	Sb	02 59 09.7	+0.2
EGFH	**Guangfu**	**0.40**	**192**	*iP*	Pb	02 59 03.7	-0.3
EGFH				*i* S	Sb	02 59 09.4	-0.3
NNS	**Nan Shan**	**0.40**	**341**	⇓*iP*	Pb	02 59 04.4	+0.2
NNS				*i* S	Sb	02 59 10.2	+0.3
ENA	**Nanau**	**0.42**	**29**	⇑*iP*	Pb	02 59 04.4	-0.1
ENA				*eS*	Sb	02 59 10.4	0.0
EWUT	**Wuta**	**0.45**	**32**	*eP*	Pb	02 59 04.9	-0.1
EWUT				*eS*	Sb	02 59 11.0	-0.2
VWDT	**VWDT**	**0.46**	**229**	⇑*iP*	Pb	02 59 05.5	+0.3
VWDT				*eS*	Sb	02 59 12.0	+0.4
LATG	**Datong**	**0.47**	**1**	⇓*iP*	Pb	02 59 05.6	+0.1
LATG				*i* S	Sb	02 59 12.3	+0.2
WCS	**Beigang Elemen**	**0.56**	**270**	*iP*	Pb	02 59 07.3	+0.4
WCS				*eS*	Sb	02 59 14.7	+0.3
WHP	**Taichung City**	**0.57**	**293**	P	Pb	02 59 07.5	+0.4
WHP				*eS*	Sb	02 59 15.4	+0.5
HGSD	**Ruisui**	**0.57**	**189**	*eP*	Pb	02 59 06.8	-0.4
HGSD				*eS*	Sb	02 59 15.7	+0.8
ENTT	**Nioudou**	**0.58**	**4**	⇓*iP*	Pb	02 59 07.4	+0.1
ENTT				S	Sb	02 59 15.5	+0.3
EHY	**Hungye**	**0.58**	**198**	*eP*	Pb	02 59 06.6	-0.8
EHY				*eS*	Sb	02 59 15.0	-0.2
SSLB	**Suanglung**	**0.58**	**242**	*eP*	Pb	02 59 07.3	-0.1
SSLB				*eS*	Sb	02 59 14.5	-0.8
EHYH	**Wanrong**	**0.59**	**196**	*eP*	Pb	02 59 07.2	-0.2
EHYH				S	Sb	02 59 14.8	-0.6
ESAO	**Su ao**	**0.59**	**30**	*eP*	Pb	02 59 07.6	+0.1
ESAO				*i* S	Sb	02 59 15.2	-0.4
SMLT	**Sun Moon Lake**	**0.59**	**253**	*iP*	Pb	02 59 07.7	+0.1
SMLT				*eS*	Sb	02 59 15.7	0.0
NDS	**Dongshan**	**0.60**	**17**	*eP*	Pb	02 59 06.9	-0.8
NDS				*i* S	Sb	02 59 14.9	-0.8
YHNB	**Yeheng**	**0.62**	**348**	*eP*	Pb	02 59 08.2	+0.1
YHNB				*eS*	Sb	02 59 16.4	+0.1
TWC	**Suao**	**0.62**	**29**	*eP*	Pb	02 59 08.0	-0.1
TWC				S	Sb	02 59 16.6	+0.1
TYC	**Yuchr**	**0.62**	**256**	*eP*	Pb	02 59 08.3	+0.3
TYC				*eS*	Sb	02 59 16.5	0.0
NSK	**Sanguang**	**0.63**	**347**	*iP*	Pb	02 59 08.6	+0.3
NSK				*i* S	Sb	02 59 16.8	+0.1
TWE	**Neicheng**	**0.67**	**12**	*eP*	Pb	02 59 08.9	0.0
TWE				S	Sb	02 59 18.0	+0.3
NFF	**Wufeng Townshi**	**0.68**	**327**	*eP*	Pb	02 59 09.4	+0.4
YULB	**Yu-li**	**0.69**	**197**	*eP*	Pb	02 59 07.9	-1.3
YULB				*i* S	Sb	02 59 18.0	-0.4
FUSB	**Fushanzhiwuyua**	**0.70**	**5**	*eP*	Pb	02 59 09.4	+0.1
FUSB				*eS*	Sb	02 59 18.3	-0.3
WHYT	**Xinyi Township**	**0.71**	**239**	*eP*	Pn	02 59 10.1	-0.4
WHYT				*eS*	Sb	02 59 19.6	+0.7
NWLT	**Wulai**	**0.71**	**359**	*iP*	Pb	02 59 09.9	+0.3
NWLT				*eS*	Sb	02 59 18.5	-0.5
EOS4	**EOS4**	**0.73**	**85**	*eP*	Pb	02 59 10.0	+0.3
EOS4				*eS*	Sn	02 59 20.8	-0.1
EYUL	**Yuli**	**0.73**	**195**	P	Pb	02 59 10.1	+0.2
EYUL				*eS*	Sb	02 59 20.2	+0.8
TWF1	**Yuli**	**0.73**	**196**	*eP*	Pb	02 59 09.7	-0.2
TWF1				*eS*	Sb	02 59 19.6	+0.1
NSTT	**Nanjuang**	**0.74**	**320**	P	Pn	02 59 10.7	-0.2
NSTT				*eS*	Sb	02 59 20.6	+0.9
TWQ1	**Liyutan**	**0.74**	**293**	*eP*	Pn	02 59 11.1	+0.1
TWQ1				*eS*	Sn	02 59 20.8	-0.8
EOS2	**EOS2**	**0.74**	**61**	*eP*	Pn	02 59 11.4	+0.5
LIOB	**Emei**	**0.74**	**322**	*eP*	Pn	02 59 11.0	0.0
LIOB				*eS*	Sn	02 59 21.1	-0.6
ECBN	**Changbin**	**0.74**	**185**	*eP*	Pb	02 59 09.8	-0.2
WJS	**Zhushan**	**0.76**	**252**	*eP*	Pn	02 59 11.5	+0.2
WJS				S	Sn	02 59 22.8	+0.7
EOZ3	**EOS3**	**0.76**	**73**	*eP*	Pn	02 59 11.9	+0.3
TCU	**Taichung**	**0.78**	**277**	*eP*	Pn	02 59 11.9	+0.5
NSY	**Sanyi**	**0.78**	**297**	*eP*	Pn	02 59 11.4	-0.1
NSY				*eS*	Sn	02 59 21.8	-0.7
KSHI	**Guanxi Townshi**	**0.78**	**336**	*eP*	Pn	02 59 12.0	+0.5
KSHI				*eS*	Sb	02 59 21.6	+0.8
WNT	**Mingjian**	**0.79**	**257**	*eP*	Pn	02 59 12.2	+0.6
WNT				*eS*	Sn	02 59 23.6	+0.9
NMLH	**Miaoli**	**0.82**	**306**	*eP*	Pn	02 59 12.5	+0.5
NMLH				*eS*	Sn	02 59 23.8	+0.3
WDJ	**Dajia District**	**0.85**	**290**	*eP*	Pn	02 59 13.7	+1.2
ALS	**Alishan**	**0.85**	**230**	*eP*	Pn	02 59 12.6	-0.1
ALS				S	Sn	02 59 24.6	-0.2
CHKH	**Chenggong**	**0.87**	**187**	*eP*	Pn	02 59 12.9	+0.1
SBCB	**Hsinchu**	**0.88**	**326**	*eP*	Pn	02 59 13.5	+0.7
WCHH	**Zhanghua**	**0.88**	**271**	*eP*	Pn	02 59 13

CHN1	**Nanshi**	**1.26**	**226**	*eP*	Pb	02 59 20.0	+1.1
CHN1				*eS*	Sb	02 59 37.0	+2.4
SGST	**Jiashian**	**1.30**	**222**	*eP*	Pb	02 59 19.1	-0.4
SGST				*eS*	Sb	02 59 37.0	+1.2
WSL	**Shuilin Townsh**	**1.30**	**246**	P	Pb	02 59 20.6	+1.1
WSL				*eS*	Sb	02 59 38.7	+3.0
TWG	**Pinlang**	**1.30**	**198**	*eP*	Pb	02 59 19.9	+0.4
TWGBT	**Beinan**	**1.30**	**198**	*eP*	Pn	02 59 17.9	-0.7
ICHU	**Yijhu**	**1.33**	**239**	*eP*	Pb	02 59 21.2	+1.1
ICHU				*eS*	Sb	02 59 40.0	+3.3
CHN8	**Yiju**	**1.39**	**240**	*eP*	Pb	02 59 21.4	+0.3
CHN8				*eS*	Sb	02 59 41.9	+3.4
YOJ	**Yonaguni jima**	**1.42**	**73**	*eP*	Pn	02 59 19.8	-0.5
YOJ				*eS*	Sb	02 59 38.9	-0.3
SSD	**Sandimen**	**1.54**	**212**	*eP*	Pb	02 59 24.4	+0.7
ECL	**Taimali**	**1.55**	**200**	*eP*	Pb	02 59 23.2	-0.5
MASBT	**Mashibuluo**	**1.66**	**210**	*eP*	Pn	02 59 24.3	+0.8
EAST	**Anshuo**	**1.78**	**200**	*eP*	Pb	02 59 27.1	-0.6
PNG	**Penghu**	**1.86**	**255**	*eP*	Pb	02 59 28.2	-1.0
SCZT	**Fangliau**	**1.87**	**206**	*eP*	Pb	02 59 29.6	+0.3
VWUC	**VWUC**	**2.10**	**297**	*eP*	Pn	02 59 29.6	-0.1

*JSN **19** 03:01:53.6±0.5, 18˚.07N×76˚.59W, h22^{km}±1^{km}, MD3.4*
*CATAC **19** 03:01:54.8±0.3, 18˚N±3˚×7˚.7W±˚, h43^{km}±17^{km}, M3.8/9, mb4.3/3, MLv3.5/9, Error ellipse: s-maj=10.4km s-min=6.5km az=116.4, confirmed*
*SSNC **19** 03:01:55.3±1.1, 18˚.19N×76˚.69W, h25^{km}±13^{km}, MD3.2, ML3.1*

ISC 19 03:01:50.7±1.4,**18˚.35N**±0˚.04×**76˚.67W**±0˚.04,**h10**^{km}±11^{km}, **n29,** σ0°**93**/50,**3C, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.28**	**191**	⇑*iP*	**Pb**	**03 01 58.0**	**0.0**
STH	**Stony Hill**	**0.31**	**206**	⇑*iP*	**Pb**	**03 01 58.6**	**+0.3**
MTDJ	**Mount Denham**	**0.83**	**261**	*eP*	**Pn**	**03 02 09.3**	**+0.7**
MTDJ				*eS*	**Sn**	**03 02 20.9**	**-0.1**
MTDJ				IAML		03 02 21.6	
	comp=Z,1μm,0.4s						
MTDJ				IAML		03 02 23.7	
	1μm,0.3s						
MTDJ	**Mount Denham**	**0.83**	**261**	P	**Pn**	**03 02 09.3**	**+0.7**
MTDJ				S	**Sn**	**03 02 21.2**	**+0.2**
MCJ	**Malvern**	**1.06**	**246**	⇑*iP*	**Pn**	**03 02 12.1**	**+0.4**
CHIV	**Chivirico**	**1.63**	**8**	*eP*	**Pg**	**03 02 23.0**	**+1.0**
CHIV				*eS*	**Sg**	**03 02 43.9**	**+0.7**
CHIV				IAML		03 02 46.1	
	comp=N,105nm,0.1s						
CHIV				IAML		03 02 46.4	
	comp=E,85nm,0.2s						
CHIV	**Chivirico**	**1.63**	**8**	P	**Pg**	**03 02 23.0**	**+1.0**
CHIV				S	**Sg**	**03 02 44.1**	**+0.9**
PILO	**Pilon**	**1.69**	**336**	*eP*	**Pg**	**03 02 23.4**	**+0.1**
PILO				*eS*	**Sg**	**03 02 44.2**	**-1.1**
PILO				IAML		03 02 46.9	
	comp=E,225nm,0.3s						
PILO				IAML		03 02 47.0	
	comp=N,211nm,0.2s						
PILO	**Pilon**	**1.69**	**336**	P	**Pg**	**03 02 23.2**	**0.0**
PILO				S	**Sg**	**03 02 45.3**	**0.0**
LMGC	**Las Mercedes**	**1.73**	**350**	*eP*	**Pg**	**03 02 24.0**	**+0.1**
LMGC				*eS*	**Sb**	**03 02 44.2**	**-0.2**
LMGC				*e*Sg	**Sg**	**03 02 46.2**	**-0.2**
LMGC				IAML		03 02 48.0	
	comp=N,464nm,0.1s						
LMGC				IAML		03 02 48.1	
	comp=E,260nm,0.1s						
MARVS	**Santiago de Cu**	**1.79**	**24**	*eP*	**Pg**	**03 02 25.5**	**+0.4**
MARVS				*eS*	**Sg**	**03 02 47.8**	**-0.6**
MARVS				IAML		03 02 50.2	
	comp=N,165nm,0.3s						
MARVS				IAML		03 02 51.6	
	comp=E,150nm,0.4s						
YAR	**Yar**	**2.03**	**8**	*eP*	**Pg**	**03 02 28.8**	**-0.8**
YAR				*eS*	**Sb**	**03 02 53.8**	**+0.8**
YAR				IAML		03 02 55.9	
	comp=N,117nm,0.3s						
YAR				IAML		03 02 57.1	
	comp=E,81nm,0.4s						
GTBY	**Guantanamo Bay**	**2.15**	**43**	*eP*	**Pb**	**03 02 30.1**	**+0.3**
GTBY				*eS*	**Sb**	**03 02 56.6**	**0.0**
GTBY				IAML		03 02 59.5	
	comp=E,32nm,0.2s						
GTBY				IAML		03 03 01.9	
	comp=E,38nm,0.1s						
GTBY	**Guantanamo Bay**	**2.15**	**43**	P	**Pb**	**03 02 30.4**	**+0.6**
GTBY				S	**Sb**	**03 02 56.1**	**-0.5**
PINC	**Pinares de May**	**2.28**	**21**	*eP*	**Pb**	**03 02 31.5**	**-0.5**
PINC				*eS*	**Sb**	**03 02 57.9**	**-2.3**
PINC				IAML		03 03 02.6	
	comp=N,130nm,0.1s						
PINC				IAML		03 03 03.1	
	comp=E,106nm,0.0s						
QMBU	**Quimbuelo**	**2.54**	**43**	*eP*	**Pb**	**03 02 35.0**	**-1.4**
QMBU				*eS*	**Sn**	**03 03 03.2**	**+0.1**
QMBU				IAML		03 03 07.8	
	comp=N,51nm,0.2s						
QMBU				IAML		03 03 08.2	
	comp=E,41nm,0.3s						
QMBU	**Quimbuelo**	**2.54**	**43**	P	**Pb**	**03 02 35.3**	**-1.2**
QMBU				S	**Sb**	**03 03 05.7**	**-2.0**
HLGC	**Holguin**	**2.59**	**13**	*eP*	**Pb**	**03 02 35.5**	**-1.7**
HLGC				*eS*	**Sb**	**03 03 08.8**	**-0.4**
HLGC				IAML		03 03 11.9	
	comp=N,80nm,0.8s						
HLGC				IAML		03 03 15.1	
	comp=E,71nm,0.5s						
LTUP	**Las Tunas**	**2.61**	**353**	*eP*	**Pb**	**03 02 37.5**	**-0.2**
LTUP				*eS*	**Sb**	**03 03 10.3**	**+0.5**
LTUP				IAML		03 03 13.7	
	comp=N,31μm,0.3s						
NMDO	**Nuevo Mundo**	**2.71**	**36**	*eP*	**Pb**	**03 02 38.9**	**-0.4**
NMDO				*eS*	**Sn**	**03 03 09.2**	**+1.9**
NMDO				IAML		03 03 18.7	
	comp=E,29nm,0.8s						
NMDO				IAML		03 03 19.4	
	comp=N,22nm,0.3s						
NMDO	**Nuevo Mundo**	**2.71**	**36**	P	**Pb**	**03 02 39.7**	**+0.3**
MOAC	**Moa**	**2.81**	**35**	*eP*	**Pb**	**03 02 41.3**	**+0.3**
MOAC				*eS*	**Sb**	**03 03 14.8**	**-0.6**
MASC	**Masc**	**2.93**	**51**	*eP*	**Pn**	**03 02 39.6**	**+2.2**
MASC				*eS*	**Sn**	**03 03 13.2**	**+0.5**
MASC				IAML		03 03 15.8	
	comp=N,16nm,1.1s						
MASC				IAML		03 03 18.5	
	comp=E,13nm,1.1s						
MASC	**Masc**	**2.93**	**51**	P	**Pn**	**03 02 39.3**	**+1.9**
CBCY	**The Bluff, Cay**	**3.23**	**296**	*eP*	**Pn**	**03 02 42.0**	**+0.4**
CBCY				*eS*	**Sn**	**03 03 19.3**	**-0.8**
CBCY				IAML		03 03 23.6	
	comp=E,31nm,0.5s						
CBCY				IAML		03 03 24.2	
	comp=N,31nm,0.3s						
CBCY	**The Bluff, Cay**	**3.23**	**296**	P	**Pn**	**03 02 42.3**	**+0.8**
PRVC	**Isla de Provid**	**6.70**	**223**	P	**Pn**	**03 03 29.0**	**-0.2**
URI	**Uribia**	**8.01**	**145**	P	**Pn**	**03 03 46.9**	**-0.4**
SJCC	**San Jacinto, C**	**8.53**	**170**	P	**Pn**	**03 03 55.0**	**+0.5**

IDC 19 03:07:46.8±2.0,**0˚.29N**×**126˚.67E**,**h0**^{km},**mb3.3**/3, **mbtmp3.4**/3,**MS3.8**/1,**Error ellipse: s-maj=160.7km s-min=27.1km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.47**	**160**	P	P	03 12 36.7	-0.4
	0.3nm,0.4s,baz=339,slow=11,SNR=9.7 0.3nm,0.4s						
ASAR	**Alice Springs**	**24.83**	**164**	P	P	03 13 11.3	+0.3
	0.5nm,0.5s,baz=350,slow=15,SNR=9.2 0.5nm,0.5s						
BRDH	**Bariadhala**	**40.69**	**306**	LR	LR	03 35 24.8	
	comp=Z,129nm,18.5s,baz=148,slow=41						
MKAR	**Makanchi Array**	**60.34**	**326**	P	P	03 17 57.6	-0.1
	0.3nm,0.6s,baz=117,slow=8.7,SNR=4.3 0.3nm,0.6s						

*ISK **19** 03:19:34.8, 35˚.07N×32˚.38E, h3^{km}, ML2.8/14*
*GII **19** 03:19:36.6±0.0, 34˚.93N±0˚.02×32˚.427E±0˚.006, h14^{km}, Mws3.0, confirmed*
*NIC **19** 03:19:36.6, 35˚.04N×32˚.50E, h24^{km}±1^{km}, Ml2.7/10*

ISC 19 03:19:37.0±1.0,**35˚.04N**±0˚.03×**32˚.47E**±0˚.04,**h25**^{km}±6^{km}, **n71,** σ0°**87**/86,**4C, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.11**	**261**	⇑*iP*	**Pb**	**03 19 41.6**	**-0.1**
AKMS				S	**Sb**	**03 19 45.2**	**+0.3**
AKMS				AML	AML	03 19 46.6	
	11nm,0.5s						
AKMS				AML	AML	03 19 51.9	
	8.2nm,0.3s						
ALFC	**Alefka**	**0.16**	**42**	⇑*iP*	**Pb**	**03 19 42.0**	**-0.2**
ALFC				S	**Sb**	**03 19 45.5**	**-0.2**
ALFC				AML	AML	03 19 45.6	
	29nm,0.3s						
ALFC				AML	AML	03 19 47.1	
	20nm,0.3s						
NATA	**Nata**	**0.27**	**162**	P	**Pb**	**03 19 43.3**	**-0.2**
NATA				S	**Sb**	**03 19 48.7**	**+0.7**
NATA				AML	AML	03 19 50.0	
	26nm,0.6s						
NATA				AML	AML	03 19 53.3	
	28nm,0.8s						
TROD	**Troodos**	**0.34**	**105**	⇑*iP*	**Pb**	**03 19 43.8**	**-0.9**
TROD				S	**Sb**	**03 19 48.5**	**-1.4**
TROD				AML	AML	03 19 48.9	
	4.9nm,0.2s						
TROD				AML	AML	03 19 50.1	
	2.8nm,0.3s						
XYLS	**Xyliatos**	**0.48**	**93**	⇑*iP*	**Pb**	**03 19 45.7**	**-1.1**
XYLS				S	**Sb**	**03 19 53.5**	**0.0**
XYLS				AML	AML	03 19 60.0	
	2.1nm,0.4s						
XYLS				AML	AML	03 20 01.0	
	2.3nm,0.5s						
APOL	**The Sanctuary**	**0.49**	**138**	P	**Pb**	**03 19 46.2**	**-0.8**
APOL				S	**Sb**	**03 19 54.0**	**+0.3**
APOL				AML	AML	03 19 59.7	
	1.7nm,0.5s						
APOL				AML	AML	03 20 02.1	
	2.0nm,0.5s						
ASGA	**Asgata**	**0.69**	**111**	P	**Pb**	**03 19 50.0**	**-0.3**
ASGA				S	**Sn**	**03 20 00.2**	**-0.8**
ASGA				AML	AML	03 20 03.5	
	2.5nm,0.5s						
ASGA				AML	AML	03 20 03.8	
	1.4nm,0.4s						
CSS	**Mathiatis**	**0.71**	**96**	Pg	**Pb**	**03 19 50.7**	**0.0**
CSS				Sg	**Sn**	**03 20 02.5**	**+0.9**
CSS	**Mathiatis**	**0.71**	**96**	P	**Pb**	**03 19 50.0**	**-0.7**
CSS	**Mathiatis**	**0.71**	**96**	P	**Pb**	**03 19 51.0**	**+0.3**
CSS				S	**Sn**	**03 20 01.5**	**-0.1**
CSS	**Mathiatis**	**0.71**	**96**	P	**Pb**	**03 19 49.9**	**-0.9**
CSS				S	**Sn**	**03 20 00.8**	**-0.8**
CSS				AML	AML	03 20 06.2	
	0.8nm,0.8s						
CSS				AML	AML	03 20 12.1	
	0.8nm,0.6s						
ATHAL	**Athalassa**	**0.77**	**82**	S	**Sn**	**03 20 02.7**	**-0.3**
ATHAL				AML	AML	03 20 18.4	
	1.0nm,0.7s						
ATHAL				AML	AML	03 20 20.1	
	1.3nm,0.6s						
AKIN	**Akıncılar- Kıb**	**0.82**	**91**	Pg	**Pn**	**03 19 52.7**	**-0.2**
AKIN				Sg	**Sn**	**03 20 05.9**	**+1.6**
LFK	**Lefkose**	**0.90**	**74**	Pg	**Pn**	**03 19 54.1**	**-0.1**
LFK				Sg	**Sn**	**03 20 08.5**	**+2.0**
MVOU	**Mavrovouni**	**0.95**	**91**	P	**Pb**	**03 19 54.2**	**-0.6**
MVOU				AML	AML	03 20 12.2	
	0.5nm,0.5s						
MVOU				AML	AML	03 20 21.2	
	0.4nm,0.8s						
GAZI	**Gazipasa**	**1.20**	**354**	Pn	**Pn**	**03 19 57.8**	**-0.5**
GAZI				Sn	**Sb**	**03 20 14.6**	**+0.4**
TEKE	**Tekeli-Mersin**	**1.22**	**25**	Pn	**Pb**	**03 19 59.2**	**-0.2**
BERE	**Bereket-Mersin**	**1.45**	**25**	Pn	**Pn**	**03 20 02.2**	**+0.5**
EREN	**Erenkoy**	**1.48**	**70**	Pn	**Pb**	**03 20 03.9**	**+0.2**
YESI	**Yesilovacik-Me**	**1.50**	**39**	Pn	**Pb**	**03 20 04.1**	**0.0**
KARG	**Kargicak-Mersi**	**1.54**	**41**	Pn	**Pb**	**03 20 04.6**	**-0.2**
IKL	**Isikli**	**1.56**	**39**	Pn	**Pb**	**03 20 05.2**	**+0.1**
TEVE	**Tevekalti-Mers**	**1.60**	**29**	Pn	**Pb**	**03 20 05.2**	**-0.8**
KEBE	**Keben-Mersin**	**1.73**	**35**	Pn	**Pb**	**03 20 07.0**	**-1.1**
SILI	**Silifke-Mersin**	**1.78**	**41**	Pn	**Pb**	**03 20 08.1**	**-0.8**
KIZK	**Mersin**	**1.98**	**43**	Pn	**Pb**	**03 20 10.9**	**-1.4**
MMA0B	**Mount Meron ar**	**3.16**	**129**	S	**Sn**	**03 21 02.8**	**+0.6**
MMA0B	**Mount Meron ar**	**3.16**	**129**	P	**Pn**	**03 20 25.3**	**+0.1**
OFRI	**`Ofer**	**3.19**	**138**	S	**Sn**	**03 21 02.8**	**-0.1**
OFRI	**`Ofer**	**3.19**	**138**	P	**Pn**	**03 20 25.7**	**+0.1**
GEM	**Giv'at Ha'Em**	**3.21**	**124**	P	**Pn**	**03 20 26.7**	**+0.8**
GEM				S	**Sn**	**03 21 03.1**	**-0.3**
GEM	**Giv'at Ha'Em**	**3.21**	**124**	S	**Sn**	**03 21 04.1**	**+0.7**
GEM	**Giv'at Ha'Em**	**3.21**	**124**	P	**Pn**	**03 20 26.2**	**+0.3**
NATI	**Neve Ativ**	**3.24**	**122**	P	**Pn**	**03 20 27.7**	**+1.5**
NATI				S	**Sn**	**03 21 04.8**	**+0.9**
NATI	**Neve Ativ**	**3.24**	**122**	S	**Sn**	**03 21 04.7**	**+0.8**
NATI	**Neve Ativ**	**3.24**	**122**	P	**Pn**	**03 20 26.3**	**+0.2**
SLTI	**Sal'it**	**3.52**	**142**	S	**Sn**	**03 21 11.2**	**+0.3**
SLTI	**Sal'it**	**3.52**	**142**	P	**Pn**	**03 20 30.5**	**+0.4**
MMLI	**Mount Malkishu**	**3.57**	**136**	P	**Pn**	**03 20 32.5**	**+1.6**
MMLI	**Mount Malkishu**	**3.57**	**136**	S	**Sn**	**03 21 12.6**	**+0.3**
MMLI	**Mount Malkishu**	**3.57**	**136**	P	**Pn**	**03 20 31.0**	**+0.1**
SALP	**Salfit**	**3.73**	**142**	P	**Pn**	**03 20 34.4**	**+1.4**
QRNJ	**Al-Qirein**	**3.74**	**135**	P	**Pn**	**03 20 35.2**	**+2.2**
HMDT	**Nahal Hemdat**	**3.77**	**137**	P	**Pn**	**03 20 35.7**	**+2.2**
HMDT	**Nahal Hemdat**	**3.77**	**137**	S	**Sn**	**03 21 17.2**	**+0.1**
HMDT	**Nahal Hemdat**	**3.77**	**137**	P	**Pn**	**03 20 33.8**	**+0.3**
DSI	**Dead Sea**	**4.23**	**144**	P	**Pn**	**03 20 41.5**	**+1.6**
DSI	**Dead Sea**	**4.23**	**144**	S	**Sn**	**03 21 27.8**	**-0.6**
DSI	**Dead Sea**	**4.23**	**144**	P	**Pn**	**03 20 39.6**	**-0.2**
YTIR	**Yattir**	**4.28**	**148**	P	**Pn**	**03 20 42.1**	**+1.4**
YTIR	**Yattir**	**4.28**	**148**	S	**Sn**	**03 21 30.3**	**+0.4**
YTIR	**Yattir**	**4.28**	**148**	P	**Pn**	**03 20 40.7**	**0.0**
KZIT	**Kziot**	**4.43**	**158**	S	**Sn**	**03 21 32.6**	**-0.7**
KZIT	**Kziot**	**4.43**	**158**	P	**Pn**	**03 20 42.3**	**-0.3**
MSBI	**Mazada**	**4.43**	**146**	P	**Pn**	**03 20 43.8**	**+1.2**
MSBI	**Mazada**	**4.43**	**146**	S	**Sn**	**03 21 33.5**	**+0.1**
MSBI	**Mazada**	**4.43**	**146**	P	**Pn**	**03 20 42.1**	**-0.5**
GHAJ	**Ghor Haditha**	**4.54**	**144**	P	**Pn**	**03 20 46.8**	**+2.7**
GHAJ	**Ghor Haditha**	**4.54**	**144**	S	**Sn**	**03 21 35.8**	**-0.3**
GHAJ	**Ghor Haditha**	**4.54**	**144**	P	**Pn**	**03 20 44.2**	**+0.1**
PRNI	**Paran**	**5.14**	**155**	P	**Pn**	**03 20 53.7**	**+1.3**
PRNI	**Paran**	**5.14**	**155**	S	**Sn**	**03 21 50.2**	**-0.7**
PRNI	**Paran**	**5.14**	**155**	P	**Pn**	**03 20 52.4**	**0.0**
KRMI	**Paran Flat**	**5.26**	**158**	P	**Pn**	**03 20 55.0**	**+0.9**
KRMI	**Paran Flat**	**5.26**	**158**	S	**Sn**	**03 21 53.5**	**-0.5**
KRMI	**Paran Flat**	**5.26**	**158**	P	**Pn**	**03 20 53.9**	**-0.2**
MBRI	**Mt Berech**	**5.62**	**158**	P	**Pn**	**03 20 59.5**	**+0.4**
MBRI	**Mt Berech**	**5.62**	**158**	S	**Sn**	**03 22 02.2**	**-0.6**
MBRI	**Mt Berech**	**5.62**	**158**	P	**Pn**	**03 20 58.7**	**-0.4**
EIL	**Elat**	**5.75**	**158**	S	**Sn**	**03 22 05.2**	**-0.7**
EIL	**Elat**	**5.75**	**158**	P	**Pn**	**03 21 00.5**	**-0.2**

IDC 19 03:40:22.1±2.2,**0˚.13N**×**126˚.48E**,**h0**^{km},**mb3.1**/3, **mbtmp3.2**/3,**Error ellipse: s-maj=180.3km s-min=29.7km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.38**	**159**	P	P	03 45 11.6	+0.1
	0.4nm,0.6s,baz=338,slow=10,SNR=5.2 0.4nm,0.6s						
ASAR	**Alice Springs**	**24.73**	**164**	P	P	03 45 45.3	-0.1
	0.2nm,0.4s,baz=346,slow=11,SNR=3.1 0.2nm,0.4s						
MKAR	**Makanchi Array**	**60.38**	**327**	P	P	03 50 33.2	0.0
	0.1nm,0.5s,baz=134,slow=8.3,SNR=1.8 0.1nm,0.5s						

IDC 19 03:49:09.0±13.0,**42˚.00S**×**124˚.58E**,**h0**^{km},**mb3.3**/1, **mbtmp3.6**/4,**ML3.7**/2,**MS3.5**/1,**Error ellipse: s-maj=187.3km s-min=41.3km az=19.0,South of Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**10.77**	**325**	Pn	Pn	03 51 43.6	-0.9
	9.6nm,1.0s,baz=152,slow=12,SNR=8.0						
NWAO				Sn	Sn	03 53 48.8	+3.1
	0.4nm,0.3s,baz=279,slow=8.6,SNR=1.4						
STKA	**Stephens Creek**	**16.91**	**59**	Pn	Pn	03 53 07.4	+0.3
	0.2nm,0.3s,baz=225,slow=5.7,SNR=3.1 0.7nm,0.5s						
ASAR	**Alice Springs**	**19.87**	**26**	P	Pn	03 53 42.6	-0.7
	0.1nm,0.3s,baz=183,slow=9.8,SNR=8.1 0.8nm,0.8s						
WRA	**Warramunga Arr**	**23.49**	**24**	P	P	03 54 19.9	-0.6
	0.9nm,0.9s,baz=198,slow=12,SNR=4.6 0.9nm,0.9s						
HNR	**Honiara**	**44.91**	**54**	LR	LR	04 16 26.0	
	comp=Z,46nm,18.1s,baz=104,slow=36						

*IDC **19** 04:43:41.2±1.6, 0˚.46N×126˚.02E, h0^{km}, mb4.0/4, mbtmp4.1/4, Error ellipse: s-maj=176.9km s-min=20.6km az=65.0*
*NEIC **19** 04:43:46.4±0.4, 0˚.6N±0˚.1×126˚.35E±0˚.08, h35^{km}±2^{km}, mb4.2/6, Error ellipse: s-maj=22.7km s-min=13.1km az=181.0*
*DJA **19** 04:43:46.3±0.4, 1˚N±6˚×12˚6E±˚, h10^{km}, M3.9/7, mb4.3/2, MLv3.8/7*

ISC 19 04:43:42.2±0.7,**0˚.66N**±0˚.08×**126˚.28E**±0˚.04,**h10**^{km},**n22,** σ1°**87**/22,**mb4.2**/8,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.09**	**84**		**Pb**	**04 44 04.4**	**+1.2**
TNTI	**Ternate**	**1.09**	**84**	P	**Pn**	**04 44 04.8**	**+1.2**
TNTI				S	**Sb**	**04 44 19.2**	**+1.7**
KMSI	**Cibinong**	**2.30**	**268**	P	**Pg**	**04 44 24.9**	**-1.5**
LUWI	**Luwuk**	**3.90**	**244**	P	**Pb**	**04 44 48.4**	**-2.7**
MRSI	**Marisa**	**4.35**	**268**	P	**Pb**	**04 44 55.9**	**-2.9**
AAI	**Ambon**	**4.72**	**156**	P	**Pb**	**04 45 07.6**	**+2.4**
TOLI2	**Tolitoli**	**5.52**	**275**	Pn	**Pn**	**04 45 06.9**	**+2.4**
SPSI	**Sidrap Palu**	**7.97**	**235**	P	**Pn**	**04 45 41.5**	**+3.3**
RKPI	**Ransiki, Papua**	**8.18**	**105**	P	**Pb**	**04 46 02.1**	**-2.1**
MMPI	**Merauke**	**16.72**	**123**	P	P	04 48 08.2	+29
WRA	**Warramunga Arr**	**21.95**	**159**	P	**P**	**04 48 33.8**	**-2.4**
WRA	**Warramunga Arr**	**21.95**	**159**	P	**P**	**04 48 34.6**	**-1.6**
	3.7nm,0.7s,baz=337,slow=11,SNR=27 3.7nm,0.7s						
WR8	**Warramunga Arr**	**22.02**	**159**	P	**P**	**04 48 35.6**	**-1.4**
WR8				IAmb	IAmb	04 48 36.5	
	comp=Z,7.3nm,1.1s						
AS31	**Alice Springs**	**25.29**	**163**	P	**P**	**04 49 08.9**	**-0.2**
AS31				IAmb	IAmb	04 49 13.6	
	comp=Z,2.1nm,0.5s						
ASAR	**Alice Springs**	**25.29**	**163**	P	**P**	**04 49 09.0**	**-0.1**
ASAR	**Alice Springs**	**25.29**	**163**	P	**P**	**04 49 09.3**	**+0.3**
	comp=Z,2.5nm,0.4s,baz=342,slow=10,SNR=31 comp=Z,2.5nm,0.4s						
FORT	**Forrest**	**31.31**	**177**	P	**P**	**04 50 01.5**	**-1.2**
FORT				IAmb	IAmb	04 50 03.0	
	comp=Z,4.4nm,0.6s						
BBOO	**Buckleboo**	**34.55**	**165**	P	**P**	**04 50 29.4**	**-1.6**
MKAR	**Makanchi Array**	**59.83**	**326**	P	**P**	**04 53 48.7**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=121,slow=7.6,SNR=14 comp=Z,0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**64.08**	**328**	P	**P**	**04 54 17.2**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=128,slow=6.0,SNR=5.7 comp=Z,0.6nm,0.4s						
KURK	**Kurchatov**	**64.09**	**329**	P	**P**	**04 54 17.2**	**+0.7**
KURK				IAmb	IAmb	04 54 23.1	
	comp=Z,2.1nm,0.6s						
ABKAR	**Akbulak array**	**74.24**	**321**	P	**P**	**04 55 19.7**	**+0.2**

*NEIC **19** 04:45:23.2±0.4, 19˚.35N±0˚.03×155˚.15W±0˚.02, h5^{km}±2^{km}, Error ellipse: s-maj=6.5km s-min=3.0km az=333.0*
HVO 19 04:45:22.5±0.3,**19˚.33N**±0˚.02×**155˚.139W**±0˚.008, **h6**^{km}±6^{km},**ML2.5**/35,**ML2.4**/38(NEIC),**Error ellipse: s-maj=3.1km s-min=1.1km az=179.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	**Steam Cracks**	**0.05**	**14**		Pg	04 45 24.5	+0.4
STCH				IAML		04 45 26.1	
	comp=N,3μm,0.3s						
STCH				IAML		04 45 26.3	
	comp=E,3μm,0.2s						
STCH	**Steam Cracks**	**0.05**	**14**		Sg	04 45 25.8	+0.7
KNHH	**Kane Nui o Ham**	**0.05**	**328**		Pg	04 45 24.6	+0.5
JCUZ	**Jacuzzi**	**0.06**	**35**		Pg	04 45 24.5	+0.4
JCUZ					Sg	04 45 26.2	+0.8
NPOC	**North of Pu'u**	**0.07**	**25**		Pg	04 45 24.6	+0.4
NPOC					Sg	04 45 26.3	+0.9
PUH	**Pauahi**	**0.08**	**299**		Pg	04 45 24.9	+0.4
PUH				IAML		04 45 27.0	
	comp=E,2μm,0.2s						
PUH				IAML		04 45 27.0	
	comp=N,2μm,0.5s						
PUH	**Pauahi**	**0.08**	**299**		Sg	04 45 26.8	+0.9
KKO	**Keanakako'i**	**0.14**	**298**		Pg	04 45 25.8	+0.4
KKO					Sg	04 45 28.3	+1.0
BYL	**Byron's Ledge**	**0.14**	**304**		Pg	04 45 25.8	+0.4
BYL				IAML		04 45 28.6	
	comp=N,2μm,0.3s						
BYL				IAML		04 45 28.7	
	comp=E,2μm,0.2s						
BYL	**Byron's Ledge**	**0.14**	**304**		Sg	04 45 28.4	+1.1
RIM	**Rim**	**0.14**	**296**		Pg	04 45 25.9	+0.4
RIM					Sg	04 45 28.4	+1.0
HATHI	**Halema'uma'u T**	**0.14**	**308**		Pg	04 45 25.9	+0.3
HATHI				IAML		04 45 28.7	
	comp=N,1μm,0.4s						
HATHI	**Halema'uma'u T**	**0.14**	**308**		Sg	04 45

IDC 19 04:50:25.5±2.0, 0°05'N×125°92'E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=173.5km s-min=27.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.52**	**158**	P	P	04 55 16.0	-0.2
	0.5nm,0.4s,baz=336,slow=11,SNR=9.4						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**24.82**	**162**	P	P	04 55 49.8	+0.2
	0.5nm,0.5s,baz=344,slow=7.9,SNR=8.8						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**60.13**	**327**	P	P	05 00 34.9	-0.1
	0.2nm,0.3s,baz=130,slow=7.1,SNR=4.3						
	0.2nm,0.3s						

*NEIC **19** 05:19:42.9±1.3, 35°60N×0°06×140°18E±0°03, h60km±9km, mb4.3/10, Error ellipse: s-maj=8.5km s-min=1.8km az=198.0*

*NIED **19** 05:19:42.9, 35°62N×140°12E, h68km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr0.98; Mθθ0.18; Mφφ-1.16; Mrθ-0.24; Mθφ0.42; Mφr0.70; Fault plane solution: M0 1.35000×10^15^ NP1: φs166.00000°, δ28.00000°, λ94.00000°. NP2: φs342.00000°, δ62.00000°, λ88.00000°.*

*JMA **19** 05:19:42.9±0.2, 35°6N±0°5×140°1E±0°7, h68km±1km, MV3.6/39, CENTRAL CHIBA PREF*

JMA Felt II J1 at CENTRAL CHIBA PREF .

*IDC **19** 05:19:45.0±2.6, 35°50N×140°02E, h80km±20km, mb3.8/14, mbtmp4.1/16, MS4.1/1, Error ellipse: s-maj=27.5km s-min=13.2km az=78.0*

ISC 19 05:19:43.5±0.7, 35°56N±0°04×140°11E±0°04, h68km±6km, n72, σ0°94/74, mb4.2/19, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.29**	**72**	*i* P	**Pn**	**05 19 54.2**	**-0.2**
JSMT				S	**Sn**	**05 20 03.1**	**+0.8**
TOK	**Tokyo**	**0.32**	**294**	P	**Pn**	**05 19 54.9**	**+0.4**
TOK				S	**Sn**	**05 20 04.3**	**+1.7**
BSO3	**Boso 3**	**0.82**	**156**	⇓*i* P	**Pn**	**05 19 59.3**	**-0.1**
BSO3				⇓X		05 20 10.9	
JOD2	**Odawara 2**	**0.89**	**251**	⇓*i* P	**Pn**	**05 20 00.2**	**-0.3**
JOD2				⇓S	**Sn**	**05 20 12.7**	**-0.4**
JIM2	**Oshima 3**	**1.01**	**214**	*i* P	**Pn**	**05 20 01.3**	**-0.7**
JIM2				S	**Sn**	**05 20 15.3**	**-0.5**
JAG	**Ashikaga**	**1.02**	**329**	⇓*i* P	**Pn**	**05 20 01.2**	**-0.9**
JAG				⇓*e*S	**Sn**	**05 20 14.7**	**-1.3**
BSO1	**Boso 1**	**1.15**	**142**	P	**Pn**	**05 20 02.9**	**-0.3**
BSO1				S	**Sn**	**05 20 18.8**	**+0.7**
JYN	**Shimob**	**1.28**	**268**	⇓*i* P	**Pn**	**05 20 05.5**	**-0.1**
JYN				⇓*e*S	**Sn**	**05 20 21.6**	**-0.5**
JIZS	**Izushimoda**	**1.31**	**231**	⇓*i* P	**Pn**	**05 20 05.7**	**-0.2**
JIZS				⇓S	**Sn**	**05 20 22.3**	**-0.4**
JKT	**Katashina**	**1.40**	**330**	P	**Pn**	**05 20 06.5**	**-0.6**
JSG	**Sagara**	**1.81**	**241**		**Pn**	**05 20 12.9**	**+0.4**
JSG	**Sagara**	**1.81**	**241**	P	**Pn**	**05 20 14.7**	**+2.2**
MJAR	**Matsushiro Arr**	**1.83**	**303**		**Pn**	**05 20 11.9**	**-0.9**
MJAR	**Matsushiro Arr**	**1.83**	**303**	P	**Pn**	**05 20 12.2**	**-0.6**
	102nm,0.5s,baz=130,slow=14,SNR=209						
MJAR				S	**Sn**	**05 20 36.5**	**+1.4**
	102nm,0.5s,baz=337,slow=6.9,SNR=4.8						
MAJO	**Matsushiro**	**1.83**	**303**		**Pn**	**05 20 12.4**	**-0.5**
MAJO	**Matsushiro**	**1.83**	**303**	P	**Pn**	**05 20 13.0**	**+0.2**
MJB9	**Matsu-Tunnel**	**1.83**	**303**		**Pn**	**05 20 11.7**	**-1.2**
JGF	**Kuroka**	**2.25**	**272**		**Pn**	**05 20 19.5**	**+1.0**
JGF	**Kuroka**	**2.25**	**272**	P	**Pn**	**05 20 19.7**	**+1.2**
JMM	**Marumori**	**2.37**	**13**		**Pn**	**05 20 18.4**	**-1.6**
JMM	**Marumori**	**2.37**	**13**	P	**Pn**	**05 20 19.7**	**-0.4**
JMM	**Marumori**	**2.37**	**13**	S	**Sn**	**05 20 47.8**	**-0.3**
JHJ2	**Mitsune**	**2.45**	**186**		**Pn**	**05 20 20.8**	**-0.4**
JHJ2	**Mitsune**	**2.45**	**186**	P	**Pn**	**05 20 21.0**	**-0.2**
INU	**Inuyama**	**2.54**	**266**		**Pn**	**05 20 22.7**	**+0.3**
INU	**Inuyama**	**2.54**	**266**	P	**Pn**	**05 20 23.0**	**+0.7**
JSD	**Sado**	**2.89**	**330**	P	**Pn**	**05 20 26.8**	**-0.3**
JTM	**Tenmabayashi**	**5.28**	**8**		**Pn**	**05 20 58.8**	**-1.0**
JTM	**Tenmabayashi**	**5.28**	**8**	P	**Pn**	**05 20 59.0**	**-0.7**
JMN	**Monobe**	**5.45**	**252**	Pn	**Pn**	**05 21 02.5**	**+0.3**
ERM	**Erimo**	**6.87**	**19**	Pn	**Pn**	**05 21 19.0**	**-2.6**
ERM	**Erimo**	**6.87**	**19**	P	**Pn**	**05 21 20.4**	**-1.1**
JNU	**Nakatsue**	**8.01**	**255**	Pn	**Pn**	**05 21 37.9**	**+0.6**
JNU	**Nakatsue**	**8.01**	**255**	P	**Pn**	**05 21 36.5**	**-0.7**
	2.4nm,0.4s,baz=293,slow=15,SNR=4.6						
JCJ	**Chichijima**	**8.62**	**168**	P	**Pn**	**05 21 42.1**	**-3.4**
	baz=180,slow=0.0						
KSRS	**Korea Array**	**9.99**	**284**	P	**Pn**	**05 22 04.5**	**+0.3**
	2.5nm,0.7s,baz=98,slow=14,SNR=9.6						
TPUB	**Ta-pu**	**20.86**	**239**	P	**P**	**05 24 18.9**	**-1.0**
TPUB				IAmb	IAmb	05 24 36.8	
	comp=Z,17nm,1.1s						
SONM	**Songino Array**	**27.78**	**307**	P	**P**	**05 25 24.7**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=128,slow=11,SNR=2.7						
	comp=Z,0.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.36**	**117**	T	T	05 55 20.6	
	baz=308,slow=75,SNR=57						
H11N1	**WAKE ISLAND Hy**	**28.37**	**117**	T	T	05 55 17.1	
	baz=308,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**28.38**	**117**	T	T	05 55 19.1	
	baz=308,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**29.00**	**119**	T	T	05 55 41.5	
	baz=311,slow=75,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**29.00**	**119**	T	T	05 55 48.4	
	baz=311,slow=75,SNR=6.2						
H11S2	**WAKE ISLAND Hy**	**29.02**	**119**	T	T	05 55 44.6	
	baz=311,slow=75,SNR=7.8						
JAY	**Jayapura**	**37.88**	**179**	LR	LR	05 39 32.7	
	comp=Z,251nm,20.5s,baz=336,slow=31						
ZALV	**Zalesovo Beam**	**42.15**	**314**	P	**P**	**05 27 29.1**	**0.0**
	comp=Z,1.2nm,0.3s,baz=79,slow=7.7,SNR=5.4						
	comp=Z,1.2nm,0.3s						
MKAR	**Makanchi Array**	**44.03**	**303**	P	**P**	**05 27 43.9**	**-0.4**
MKAR	**Makanchi Array**	**44.03**	**303**	P	**P**	**05 27 44.4**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=86,slow=10.0,SNR=17						
	comp=Z,2.2nm,0.7s						
MAKZ	**Makanchi**	**44.24**	**303**	P	**P**	**05 27 46.0**	**0.0**
MAKZ				IAmb	IAmb	05 27 47.1	
	comp=Z,4.7nm,1.1s						
KURK	**Kurchatov**	**46.03**	**309**	P	**P**	**05 27 59.6**	**-0.5**
KURBB	**Kurchatov Arra**	**46.10**	**309**	P	**P**	**05 28 00.2**	**-0.3**
	comp=Z,2.6nm,0.5s,baz=85,slow=7.7,SNR=13						
	comp=Z,2.6nm,0.5s						
TARG	**Taragay, Kyrgy**	**48.12**	**297**	P	**P**	**05 28 17.5**	**+0.5**
D22K	**Ayikyak River**	**49.15**	**26**	P	**P**	**05 28 25.2**	**+1.2**
D22K				IAmb	IAmb	05 28 54.7	
	comp=Z,2.1nm,0.8s						
ILAR	**Eielson Array**	**51.30**	**32**	P	**P**	**05 28 41.0**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=274,slow=7.6,SNR=3.2						
	comp=Z,0.3nm,0.7s						
BCAR	**Beaver Creek A**	**53.70**	**34**	P	**P**	**05 28 57.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**55.10**	**197**	P	**P**	**05 29 08.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**55.10**	**197**	P	**P**	**05 29 08.7**	**+0.1**
	comp=Z,5.8nm,0.6s,baz=18,slow=7.0,SNR=24						
	comp=Z,5.8nm,0.6s						
WRA	**Warramunga Arr**	**55.47**	**187**	P	**P**	**05 29 10.7**	**-0.6**
WRA	**Warramunga Arr**	**55.47**	**187**	P	**P**	**05 29 10.3**	**-0.9**
	comp=Z,3.8nm,0.5s,baz=1.4,slow=7.5,SNR=80						
	comp=Z,3.8nm,0.5s						
I30M	**Mount Dempster**	**55.68**	**30**	P	**P**	**05 29 14.4**	**+1.9**
I30M				IAmb	IAmb	05 29 42.1	
	comp=Z,2.9nm,1.1s						
HYT	**Haines Junctio**	**56.11**	**36**	P	**P**	**05 29 16.1**	**+0.5**
HYT				IAmb	IAmb	05 29 22.5	
	comp=Z,3.7nm,1.2s						
ARTI	**Arti**	**56.88**	**319**	P	**P**	**05 29 20.6**	**-0.4**
	comp=Z,7.7nm,0.6s,baz=89,slow=4.6,SNR=9.5						
	comp=Z,7.7nm,0.6s						
AB31	**Akbulak array**	**58.09**	**310**	P	**P**	**05 29 29.6**	**-0.1**
AB31				IAmb	IAmb	05 29 30.3	
	comp=Z,2.1nm,0.8s						
ABKAR	**Akbulak array**	**58.09**	**310**	P	**P**	**05 29 29.0**	**-0.6**
ASAR	**Alice Springs**	**59.19**	**187**	P	**P**	**05 29 37.8**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=6.1,slow=15,SNR=10						
	comp=Z,0.5nm,0.4s						
ARCES	**ARCESS Array B**	**65.01**	**339**	P	**P**	**05 30 17.5**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=56,slow=6.7,SNR=2.1						
	comp=Z,1.1nm,0.7s						
FINES	**FINESS Array B**	**69.63**	**332**	P	**P**	**05 30 45.3**	**+0.2**
FINES	**FINESS Array B**	**69.63**	**332**	P	**P**	**05 30 45.1**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=98,slow=7.9,SNR=5.8						
	comp=Z,2.1nm,0.7s						
AKASG	**Malin Array Be**	**74.82**	**322**	P	**P**	**05 31 16.0**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=50,slow=6.2,SNR=9.9						
	comp=Z,1.4nm,0.5s						
NB2	**NORSAR Subarra**	**75.14**	**337**	P	**P**	**05 31 17.7**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**75.14**	**337**	P	**P**	**05 31 18.3**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=41,slow=6.5,SNR=4.3						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**79.45**	**45**	P	**P**	**05 31 43.6**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=96,slow=3.0,SNR=4.2						
	comp=Z,0.3nm,0.6s						

*MEX **19** 05:37:19.5±0.6, 14°66N×92°38W, h85km±8km, MD4.0*

*GCG **19** 05:37:21.7±0.6, 14°71N×92°24W, h58km±6km, MD3.7, ML3.5*

*CATAC **19** 05:37:24.3±0.5, 15°N±6°×9°2W±°, h41km±5km, M3.1/6, MLv3.1/6, Error ellipse: s-maj=17.0km s-min=5.1km az=37.7, confirmed*

ISC 19 05:37:18.5±1.4, 14°53N±0°07×92°45W±0°05, h67km±9km, n29, σ1°47/40, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.42**	**26**	*e*P	**Pn**	**05 37 30.7**	**+0.4**
THIG				*e*S	**Sn**	**05 37 40.2**	**+1.3**
THIG		**0.42**	**26**	*i* P	**Pn**	**05 37 30.7**	**+0.4**
THIG				IAML		05 37 40.7	
	comp=N,3μm,0.4s						
SMCA	**Catarina**	**0.49**	**48**	*i* P	**Pn**	**05 37 31.0**	**0.0**
PATR	**El Naranjo**	**0.62**	**20**	*i* P	**Pn**	**05 37 32.1**	**-0.5**
PATR				*e*S	**Sn**	**05 37 42.1**	**-0.8**
PAVE	**Pavencul**	**0.71**	**22**	*e*P	**Pn**	**05 37 33.2**	**-0.4**
PAVE				*e*S	**Sn**	**05 37 44.3**	**-0.4**
RTAL	**Retalhuleu**	**0.73**	**90**	*e*P	**Pn**	**05 37 34.3**	**+0.7**
RTAL				*e*S	**Sn**	**05 37 45.3**	**+0.6**
RTAL	**Retalhuleu**	**0.73**	**90**	P	**Pn**	**05 37 31.1**	**-2.5**
RTAL				S	**Sn**	**05 37 45.9**	**+1.1**
STG2	**El Palmar, Qui**	**1.05**	**95**	*i* P	**Pn**	**05 37 34.8**	**-2.8**
SOKI	**Kika Raxquin**	**1.06**	**74**	*i* P	**Pn**	**05 37 39.1**	**+1.1**
SOKI				IAML		05 37 58.0	
	comp=N,386nm,0.3s						
STG0	**El Palmar, Qui**	**1.08**	**95**	*i* P	**Pn**	**05 37 35.5**	**-2.6**
STG0				IAML		05 37 49.9	
	comp=E,9μm,0.3s						
PCIG		**1.38**	**328**	*e*P	**Pn**	**05 37 42.0**	**+0.2**
PCIG				*e*S	**Sn**	**05 37 58.7**	**-0.6**
CCIG	**Comitan**	**1.77**	**10**	*e*P	**Pn**	**05 37 48.0**	**+0.8**
CCIG				*e*S	**Sn**	**05 38 09.8**	**+0.9**
CCIG	**Comitan**	**1.77**	**10**	*i* P	**Pn**	**05 37 47.9**	**+0.7**
CCIG				IAML		05 38 15.4	
	comp=N,130nm,0.3s						
FG8	**Yepocapa, Chim**	**1.85**	**98**	*i* P	Pn	05 37 43.9	-4.3
FG16	**Alotenango, Sa**	**1.90**	**97**	*i* P	**Pn**	**05 37 45.2**	**-3.7**
FG16				IAML		05 38 07.8	
	comp=N,3μm,0.2s						
TGIG		**2.33**	**344**	*e*P	**Pn**	**05 37 54.3**	**-0.3**
TGIG				*e*S	**Sn**	**05 38 23.9**	**+1.7**
FAME	**Alcaldia de Sa**	**2.46**	**106**	P	**Pn**	**05 37 58.0**	**+1.7**
SLOZ	**Alcaldia de Sa**	**2.64**	**101**	P	**Pn**	**05 38 00.5**	**+1.8**
LOAL	**Lomas de Alarc**	**2.65**	**101**	P	**Pn**	**05 38 00.5**	**+1.6**
NUBE	**Las Nubes**	**2.67**	**103**	*i* P	**Pn**	**05 38 00.5**	**+1.3**
NUBE	**Las Nubes**	**2.67**	**103**	P	**Pn**	**05 38 00.9**	**+1.6**
NUBE	**Las Nubes**	**2.67**	**103**	S	**Sn**	**05 38 31.3**	**+0.7**
NILT	**Santiago Nilte**	**2.91**	**314**	*e*P	Pn	05 38 08.4	+6.0
NILT				*e*S	**Sn**	**05 38 35.6**	**-0.6**
JAYA	**Jayaque - finc**	**3.04**	**106**	*i* P	**Pn**	**05 38 06.2**	**+1.8**
UXUV	**UXUV**	**3.21**	**330**	*e*P	**Pn**	**05 38 07.7**	**+1.0**
UXUV				*e*S	**Sn**	**05 38 42.1**	**-1.6**
PETF	**Flores**	**3.44**	**46**	*e*P	**Pn**	**05 38 09.7**	**0.0**
PETF				*e*S	**Sn**	**05 38 46.5**	**-2.8**
PETF	**Flores**	**3.44**	**46**	P	**Pn**	**05 38 10.0**	**+0.3**
CMIG	**Matias Romero**	**3.46**	**318**	*e*P	**Pn**	**05 38 10.3**	**+0.3**
CMIG				*e*S	**Sn**	**05 38 49.3**	**-0.5**
NEUV	**Arroyo Zacate**	**4.51**	**315**	*e*P	**Pn**	**05 38 24.5**	**+0.1**
NEUV				*e*S	**Sn**	**05 39 13.9**	**-1.7**

IDC 19 05:38:58.6±1.7, 2°77S×141°37E, h0km, mb3.5/2, mbtmp3.6/3, ML4.0/1, MS3.0/1, Error ellipse: s-maj=30.3km s-min=12.1km az=29.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.71**	**291**	Pg	Pg	05 39 12.2	0.0
	96nm,0.3s,baz=132,slow=8.2,SNR=58						
JAY				Lg	Lg	05 39 22.1	
	195nm,0.3s,baz=257,slow=21,SNR=12						
WRA	**Warramunga Arr**	**18.40**	**201**	P	Pn	05 43 15.0	-0.3
	0.5nm,0.3s,baz=24,slow=12,SNR=16						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**21.99**	**199**	P	P	05 43 54.6	+0.1
	1.2nm,0.7s,baz=32,slow=9.6,SNR=14						
	1.2nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**32.68**	**49**	T	T	06 19 57.7	
	baz=232,slow=75,SNR=1182						
H11S2	**WAKE ISLAND Hy**	**32.69**	**49**	T	T	06 19 58.5	
	baz=232,slow=75,SNR=339						
H11S1	**WAKE ISLAND Hy**	**32.70**	**49**	T	T	06 19 59.5	
	baz=232,slow=75,SNR=584						
H11N1	**WAKE ISLAND Hy**	**33.58**	**47**	T	T	06 21 07.3	
	baz=229,slow=76,SNR=29						
H11N2	**WAKE ISLAND Hy**	**33.60**	**47**	T	T	06 21 08.4	
	baz=229,slow=76,SNR=51						
H11N3	**WAKE ISLAND Hy**	**33.60**	**47**	T	T	06 21 08.5	
	baz=229,slow=76,SNR=28						
ASAJ	**Asahikawa**	**46.69**	**1**	LR	LR	06 08 06.3	
	comp=Z,19nm,19.9s,baz=150,slow=37						
ILAR	**Eielson Array**	**84.80**	**24**	P	P	05 51 34.7	0.0
	0.4nm,0.9s,baz=244,slow=6.8,SNR=4.6						
	0.4nm,0.9s						

*NEIC **19** 05:39:53.0±1.3, 5°32N±0°08×124°80E±0°09, h374km±8km, mb4.5/41, Error ellipse: s-maj=13.9km s-min=11.2km az=66.0*

*IDC **19** 05:39:52.8±0.7, 5°35N×124°76E, h376km±7km, mb3.8/22, mbtmp4.5/22, Error ellipse: s-maj=16.7km s-min=8.8km az=75.0*

*DJA **19** 05:39:54.2±0.5, 5°N±5°×12°5E±°, h355km±5km, M4.6/12, mB5.0/6, mb4.6/9, MLv4.8/12, Mw(mB)4.3/6*

ISC 19 05:39:51.0±0.4, 5°30N±0°05×124°72E±0°07, h350km, n100, σ1°75/102, mb4.4/51, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.79**	**153**	P	**Pn**	**05 40 44.1**	**+3.1**
DAV	**Davao City (W)**	**1.96**	**26**		**Pn**	**05 40 45.8**	**+3.7**
DAV	**Davao City (W)**	**1.96**	**26**	P	**Pn**	**05 40 46.6**	**+4.6**
	502nm,0.4s,baz=85,slow=1.7,SNR=15						
DAV				S	**S**	**05 41 27.8**	**+4.8**
	350nm,0.3s,baz=180,slow=15,SNR=3.6						
KMSI	**Cibinong**	**4.75**	**189**	P	**Pn**	**05 41 11.4**	**+3.4**
TNTI	**Ternate**	**5.21**	**149**		**Pn**	**05 41 14.7**	**+1.6**
TNTI	**Ternate**	**5.21**	**149**	P	**Pn**	**05 41 14.7**	**+1.6**
MRSI	**Marisa**	**5.53**	**210**	P	Pn	05 41 22.7	+6.1
TOLI2	**Tolitoli**	**5.72**	**224**		**Pn**	**05 41 21.7**	**+2.9**
MYLDM	**Lahad Datu**	**6.20**	**269**		**Pn**	**05 41 28.3**	**+4.2**
LUWI	**Luwuk**	**6.59**	**197**	P	**Pn**	**05 41 30.7**	**+2.0**
	0.7nm2μm38nm,0.5s						
MPSI	**Mapaga**	**6.89**	**224**	P	**Pn**	**05 41 35.2**	**+3.1**
	0.2nm51nm,0.6s						
SANI	**Sanana**	**7.41**	**170**	P	**Pn**	**05 41 37.8**	**-0.4**
	3μm58nm,0.9s						
KKM	**Kota Kinabalu**	**8.50**	**275**		**Pn**	**05 41 53.2**	**+2.0**
NLAI	**Namlea**	**8.81**	**164**	P	**Pn**	**05 41 56.9**	**+2.1**
	2μm39nm,0.6s						
BKB	**Balikpapan**	**10.17**	**230**	P	**Pn**	**05 42 11.8**	**+0.7**
FAKI	**Fak Fak**	**11.10**	**137**		**Pn**	**05 42 23.4**	**+1.3**
FAKI	**Fak Fak**	**11.10**	**137**	P	**P**	**05 42 24.4**	**+1.6**
SBUM	**Sibu**	**12.79**	**258**		**P**	**05 42 44.2**	**+2.8**
KSM	**Kuching**	**14.88**	**256**	P	**P**	**05 43 06.2**	**+1.7**
YULB	**Yu-li**	**18.29**	**350**	P	**P**	**05 43 41.7**	**+0.6**
SSLB	**Suanglung**	**18.74**	**349**	P	**P**	**05 43 45.2**	**-0.7**
SSLB				IAmb	IAmb	05 43 47.5	
	comp=Z,24nm,1.0s						
MTN	**Manton Dam**	**19.12**	**161**	P	**P**	**05 43 49.6**	**-0.3**
MTN				IAmb	IAmb	05 43 51.0	
	comp=Z,20nm,1.1s						
LEM	**Lembang**	**20.89**	**235**	P	**P**	**05 44 08.7**	**+1.2**
	comp=Z,40nm,0.7s,baz=125,slow=7.2,SNR=5.5						
	comp=Z,40nm,0.7s						
KNRA	**Kununurra**	**21.22**	**169**	P	**P**	**05 44 10.0**	**-0.3**
KNRA				IAmb	IAmb	05 44 11.9	
	comp=Z,8.4nm,0.5s						
UBPT	**Khong Chiam**	**21.36**	**299**		**P**	**05 44 11.7**	**+0.2**
UBPT				IAmb	IAmb	05 44 15.2	
	comp=Z,22nm,0.7s						
KULM	**Kulim**	**23.97**	**271**	P	**P**	**05 44 35.2**	**0.0**
KULM				IAmb	IAmb	05 44 36.5	
	comp=Z,14nm,0.7s						
RPSI	**Rantau Prapat**	**25.86**	**265**		**P**	**05 44 52.1**	**-0.1**
RPSI				IAmb	IAmb	05 44 53.2	
	comp=Z,18nm,0.7s						
WB0	**Warramunga Arr**	**26.66**	**159**	P	**P**	**05 44 58.8**	**-0.5**
WRA	**Warramunga Arr**	**26.81**	**160**	P	**P**	**05 44 58.8**	**-1.7**
WRA	**Warramunga Arr**	**26.81**	**160**	P	**P**	**05 44 59.9**	**-0.6**
	comp=Z,2.7nm,0.5s,baz=333,slow=10,SNR=32						
	comp=Z,2.7nm,0.5s						
WHN	**Wuhan**	**26.95**	**340**	P	**P**	**05 45 04.8**	**+3.2**
NJ2	**Nanjing**	**27.18**	**349**	*e*P	**P**	**05 45 05.8**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
CM31	**Chiang Mai Arr**	**28.36**	**300**	P	**P**	**05 45 14.6**	**+0.3**
CM31				IAmb	IAmb	05 45 16.3	
	comp=Z,18nm,0.7s						
CMAR	**Chiang Mai Arr**	**28.36**	**300**	P	**P**	**05 45 14.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**28.36**	**300**	P	**P**	**05 45 15.7**	**+1.4**
	comp=Z,11nm,0.6s,baz=108,slow=6.8,SNR=58						
CMAR				ScP	**ScP**	**05 51 21.1**	**-3.4**
	comp=Z,0.8nm,0.3s,baz=165,slow=1.4,SNR=8.2						
	comp=Z,11nm,0.6s						
CHTO	**Chiang Mai**	**28.50**	**300**		**P**	**05 45 15.6**	**+0.1**
ENH	**Enshi**	**28.69**	**332**		**P**	**05 45 17.1**	**0.0**
AS31	**Alice Springs**	**30.15**	**163**	P	**P**	**05 45 29.5**	**-0.5**
ASAR	**Alice Springs**	**30.15**	**163**	P	**P**	**05 45 30.4**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=340,slow=8.0,SNR=38						
ASAR				PcP	**PcP**	**05 48 20.1**	**-1.5**
	comp=Z,1.5nm,0.5s,baz=351,slow=2.4,SNR=7.9						
ASAR				ScP	**ScP**	**05 51 26.6**	**-3.5**
	comp=Z,1.0nm,0.6s,baz=346,slow=2.7,SNR=6.5						
	comp=Z,2.5nm,0.3s						
PZH	**PanZhiHua**	**30.43**	**316**	P	**P**	**05 45 34.3**	**+1.8**
XAN	**Xi'an**	**32.14**	**335**	⇑P	**P**	**05 45 47.3**	**+0.1**
XAN				pP	pP	05 46 51.8	-1.5
XAN				pmax	pmax		
	comp=Z,34nm,0.6s						
KSRS	**Korea Array**	**32.14**	**5**	P	**P**	**05 45 47.5**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=184,slow=9.6,SNR=7.3						
	comp=Z,1.4nm,0.5s						
HNS	**HongShan**	**33.24**	**345**	⇑P	**P**	**05 45 57.5**	**+1.0**
HNS				pmax	pmax		
	comp=Z,14nm,0.8s						
MJAR	**Matsushiro Arr**	**33.47**	**20**	P	**P**	**05 45 57.9**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=195,slow=9.4,SNR=7.0						
	comp=Z,3.0nm,0.7s						
MORW	**Morawa**	**35.17**	**193**	P	**P**	**05 46 12.2**	**-0.9**
LZH	**Lanzhou**	**36.16**	**331**	*e*P	**P**	**05 46 22.8**	**+1.3**
LZH				pP	pP	05 47 34.3	+5.4
LZH				sP	sP	05 48 21.9	+13
LZH				pmax	pmax		
	comp=Z,37nm,1.3s						
HHC	**Hu-ho-hao-te**	**37.31**	**343**	*e*P	**P**	**05 46 30.8**	**-0.2**
HHC				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC				pmax	pmax		
	comp=Z,47nm,3.7s						
SHL	**Shillong**	**37.34**	**306**	P	**P**	**05 46 31.2**	**-0.4**
CN2	**Changchun**	**38.35**	**1**	P	**P**	**05 46 42.4**	**+2.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NWAO	**Narrogin (SRO)**	**38.67**	**190**	P	**P**	**05 46 41.9**	**-0.4**
NWAO				IAmb	IAmb	05 47 19.8	
	comp=Z,37nm,1.2s						
XLT	**XiLinHaoTe**	**39.19**	**350**	*e*P	**P**	**05 46 47.4**	**+0.9**
XLT				pmax	pmax		
	comp=Z,17nm,0.6s						
USRK	**Ussuriysk Ar.**	**39.27**	**8**	P	**P**	**05 46 47.3**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=164,slow=4.0,SNR=5.4						
	comp=Z,2.5nm,0.6s						
STKA	**Stephens Creek**	**40.31**	**158**	P	**P**	**05 46 56.3**	**+0.6**
	comp=Z,4.2nm,0.4s,baz=337,slow=8.2,SNR=12						
	comp=Z,4.2nm,0.4s						
BNX	**BinXian**	**40.35**	**3**	⇑P	**P**	**05 46 58.8**	**+3.0**
BNX				pmax	pmax

I28M	Miner Creek	87.45	25	P		P	05 51 58.9	-0.5
BRTR	Keskin Array B	87.48	309	P		P	05 51 57.5	-2.8
	comp=Z,1.0nm,0.4s,baz=138,slow=3.4,SNR=8.3 comp=Z,1.0nm,0.4s							
ARCES	ARCESS Array B	88.29	340	P		P	05 52 01.1	-2.1
	comp=Z,1.7nm,0.6s,baz=80,slow=7.5,SNR=10 comp=Z,1.7nm,0.6s							
SPITS	Spitsbergen Ar	88.56	349	P		P	05 52 02.5	-1.8
	comp=Z,5.8nm,0.8s,baz=91,slow=10.0,SNR=6.7 comp=Z,5.8nm,0.8s							
AKASG	Malin Array Be	89.42	321	P		P	05 52 05.9	-2.9
	comp=Z,0.9nm,0.4s,baz=68,slow=4.6,SNR=6.6 comp=Z,0.9nm,0.4s							
FINES	FINESS Array B	89.51	332	P		P	05 52 06.8	-2.2
	comp=Z,3.0nm,0.5s,baz=62,slow=4.7,SNR=31 comp=Z,3.0nm,0.5s							
BUR08	Bucovina Ar. S	92.51	318	P		P	05 52 21.9	-1.4
BUR08					IAmb	IAmb	05 52 23.1	
	comp=Z,2.6nm,0.6s							
HFS	Hagfors	95.70	332	P		P	05 52 35.5	-2.0
	comp=Z,1.1nm,0.5s,baz=116,slow=5.1,SNR=14 comp=Z,1.1nm,0.5s							
NB2	NORSAR Subarra	96.50	333	P		P	05 52 37.5	-3.6
	comp=Z,0.7nm,0.8s,baz=70,slow=4.6							
NOA	NORSAR Array B	96.50	333	P		P	05 52 38.2	-2.9
	comp=Z,0.5nm,0.6s,baz=69,slow=4.4,SNR=5.1 comp=Z,0.5nm,0.6s							
TORD	Torodi Ar. Bea	120.53	289	PKP		PKPdf	05 58 00.1	-2.3
	comp=Z,0.7nm,0.4s,baz=66,slow=1.9,SNR=8.4							
TXAR	Lajitas Array	122.19	50	PKP		PKPdf	05 58 04.5	-0.9
	comp=Z,0.3nm,0.6s,baz=280,slow=0.5,SNR=4.3							

IDC ***19*** *05:42:47.8±1.6,24.˚46S×179.˚94E,h504km±16km, mb3.7/16,mbtmp4.5/18,Error ellipse: s-maj=15.3km s-min=13.2km az=108.0*

NEIC ***19*** *05:42:49.6±1.7,24.˚6S±0.˚1×179.˚9W±0.˚1,h520km±10km, mb4.5/49,Error ellipse: s-maj=21.5km s-min=14.7km az=142.0*

ISC 19 05:42:48.7±0.4,24.˚57S±0.˚07×179.˚98E±0.˚08,h517km, n125,σ1°08/132,mb4.5/42,1C-1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.04	345		P	05 44 36.2	+0.2
FUTU	Fugatoga	10.36	10	P	P	05 45 11.4	+1.2
NIUE	Niue	10.85	62	P	P	05 45 14.6	-0.7
PINNC	Pines Island,	11.66	277		P	05 45 25.2	+1.6
WCZ	Waipu Caves	12.33	202	P	P	05 45 33.3	+2.8
ONTNC	Ouen Toro	12.62	278		P	05 45 36.8	+3.0
DZM	Mont Dzumac	12.68	279		P	05 45 36.5	+2.0
DZM	Mont Dzumac	12.68	279	P	P	05 45 34.8	+0.2
	140nm,0.9s,baz=87,slow=17,SNR=88						
AFI	Afiamalu	13.15	38		P	05 45 37.9	-1.6
HAZ	Te Kaha	13.28	188	P	P	05 45 41.5	+1.1
URZ	Urewera	13.86	189	P	P	05 45 46.8	+0.3
	18nm,0.9s,baz=153,slow=19,SNR=2.0						
URZ				S	S	05 48 13.5	+0.3
	22nm,0.9s,baz=61,slow=23,SNR=9.0						
URZ	Urewera	13.86	189	P	P	05 45 46.7	+0.1
PXZ	Pawanui	15.64	189	P	P	05 46 05.0	-0.1
MRZ	Mangatainoka R	16.46	192	P	P	05 46 11.0	-2.5
BHW	Baring Head	17.32	193	P	P	05 46 20.8	-1.0
QRZ	Quartz Range	17.37	199	P	P	05 46 22.7	+0.5
NNZ	Nelson	17.49	197	P	P	05 46 23.7	+0.3
MRNZ	Matariki Terra	17.89	198	P	P	05 46 26.1	-0.4
THZ	Tophouse	18.13	197	P	P	05 46 29.4	+0.2
DSZ	Denniston Nort	18.43	200	P	P	05 46 32.6	+0.7
KHZ	Kahutara	18.58	195	P	P	05 46 32.3	-0.9
GVZ	Greta Valley S	19.22	196	P	P	05 46 38.5	-0.6
LTZ	Lake Taylor	19.25	197	P	P	05 46 37.8	-1.6
LTZ	Lake Taylor	19.25	197	P	P	05 46 38.1	-1.3
INZ	Inchbonnie	19.43	199	P	P	05 46 41.2	+0.2
WVZ	Waitaha Valley	19.97	200	P	P	05 46 45.6	-0.3
MQZ	McQueen's Vall	20.01	196	P	P	05 46 45.0	-1.3
WACZ	Wakanui South	20.44	197	P	P	05 46 49.7	-0.5
RPZ	Rata Peaks	20.45	199	P	P	05 46 50.9	+0.6
	9.7nm,0.5s,baz=101,slow=2.0,SNR=11 9.7nm,0.5s						
RPZ	Rata Peaks	20.45	199	P	P	05 46 51.0	+0.6
ARCZ	Arundel	20.63	198	P	P	05 46 52.3	+0.3
FOZ	Fox Glacier	20.67	201	P	P	05 46 52.1	-0.2
TMZ	Timaru	21.08	198	P	P	05 46 54.9	-1.1
ARMA	Armidale	25.78	251	P	P	05 47 39.2	+0.9
ARMA				IAmb	IAmb	05 47 40.8	
	comp=Z,11nm,0.8s						
CTAO	Charters Tower	31.46	271		P	05 48 27.9	+0.1
TOO	Toolangi	32.07	238	P	P	05 48 33.6	+0.8
TOO				IAmb	IAmb	05 48 34.7	
	comp=Z,12nm,1.2s						
STKA	Stephens Creek	34.46	249		P	05 48 53.0	-0.1
STKA	Stephens Creek	34.46	249	P	P	05 48 52.6	-0.4
	comp=Z,10nm,0.7s,baz=92,slow=8.4,SNR=14 comp=Z,10nm,0.7s						
ASAR	Alice Springs	41.91	261		P	05 49 53.0	-0.9
ASAR	Alice Springs	41.91	261	P	P	05 49 53.8	-0.1
	comp=Z,12nm,1.0s,baz=97,slow=8.2,SNR=50						
ASAR				ScP	ScP	05 54 40.5	+1.9
	comp=Z,1.3nm,0.9s,baz=118,slow=5.2,SNR=5.5						
ASAR				S	S	05 55 32.9	-1.8
	comp=Z,0.6nm,0.9s,baz=95,slow=14,SNR=5.0 comp=Z,12nm,1.0s						
WR8	Warramunga Arr	42.20	267		P	05 49 55.3	-0.9
WR8				IAmb	IAmb	05 49 56.4	
	comp=Z,12nm,0.7s						
WRA	Warramunga Arr	42.35	267		P	05 49 56.5	-0.9
WRA	Warramunga Arr	42.35	267	P	P	05 49 56.7	-0.7
	comp=Z,15nm,0.6s,baz=99,slow=7.0,SNR=52						
WRA				ScP	ScP	05 54 42.5	+2.2
	comp=Z,6.8nm,0.9s,baz=102,slow=4.2,SNR=21						
WRA				S	S	05 55 36.4	-4.6
	comp=Z,3.1nm,1.1s,baz=100,slow=14,SNR=5.5 comp=Z,15nm,0.6s						
JAY	Jayapura	43.76	294	P	P	05 50 08.0	-0.5
	comp=Z,12nm,0.8s,baz=165,slow=4.8,SNR=5.1 comp=Z,12nm,0.8s						
MLH	Mauna Loa	49.94	31	P	P	05 50 55.7	+0.4
HMH	Humu'ula Sheep	49.99	31	P	P	05 50 55.5	-0.2
MHA	Mahukona	50.30	30	P	P	05 50 57.8	+0.2
FITZ	Fitzroy Crossi	50.76	266		P	05 51 01.7	+0.6
PSA00	Pilbara Seismi	55.03	260	P	P	05 51 31.4	-0.1
CASY	Casey	59.52	206	P	P	05 52 00.2	-1.1
QSPA	South Pole Qui	65.52	180	P	P	05 52 42.1	+1.7
	comp=Z,2.5nm,0.8s,baz=346,slow=0.8,SNR=11 comp=Z,2.5nm,0.8s						
MJAR	Matsushiro Arr	72.44	326	P	P	05 53 21.5	-0.9
	comp=Z,2.8nm,0.8s,baz=164,slow=5.8,SNR=5.0 comp=Z,2.8nm,0.8s						
AMKA	Amchitka	75.62	360		P	05 53 39.9	-0.2
KIWB	Kanaga Island	76.13	2		P	05 53 42.7	-0.2
KIWB				IAmb	IAmb	05 53 43.6	
	comp=Z,13nm,0.8s						
ADK	Adak	76.18	2	P	P	05 53 42.3	-0.8
ADK				IAmb	IAmb	05 53 43.5	
	comp=Z,16nm,0.8s						
KSRS	Korea Array	78.75	320	P	P	05 53 58.3	+0.9
	comp=Z,0.7nm,0.4s,baz=127,slow=5.2,SNR=3.0 comp=Z,0.7nm,0.4s						
PET	Petropavlovsk	79.47	347	P	P	05 53 58.9	-1.9
	comp=Z,30nm,1.0s						
PETK	Petropavlovsk-	79.74	347	P	P	05 54 01.6	-0.8
	comp=Z,5.6nm,0.7s,baz=106,slow=5.3,SNR=6.9 comp=Z,5.6nm,0.7s						
NJ2	Nanjing	81.08	311	*e*P	P	05 54 11.3	+1.5
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
USRK	Ussuriysk Ar.	81.31	327	P	P	05 54 10.6	-0.1
	comp=Z,1.8nm,0.7s,baz=132,slow=2.8,SNR=4.2 comp=Z,1.8nm,0.7s						
DPP	Dos Picos Cty	82.98	49		P	05 54 20.4	+0.9
DPP				IAmb	IAmb	05 54 21.4	
	comp=Z,11nm,0.9s						
YUH	Yuha Desert	83.48	50		P	05 54 22.8	+0.8
YUH				IAmb	IAmb	05 54 24.8	
	comp=Z,12nm,1.3s						
CMB	Columbia Colle	83.70	43		P	05 54 23.3	+0.3
AFDM	Forest Hills D	83.90	42		P	05 54 23.9	-0.1
SNAA	Sanae	84.00	179	P	P	05 54 23.3	-0.7
	comp=Z,0.7nm,0.6s,baz=215,slow=9.9,SNR=6.9 comp=Z,0.7nm,0.6s						
CWC	Cottonwood Cre	84.21	46	P	P	05 54 26.0	+0.2
CWC				IAmb	IAmb	05 54 27.6	
	comp=Z,12nm,1.4s						
GLA	Glamis	84.47	50	P	P	05 54 27.9	+1.0
GLA				IAmb	IAmb	05 54 29.6	
	comp=Z,13nm,0.8s						
PIX	Pinacate	84.62	52		P	05 54 28.2	+0.6
LHV	Little Huntoon	85.01	44	P	P	05 54 29.5	+0.1
BLYC	Blythe	85.07	50		P	05 54 30.7	+0.9
BLYC				IAmb	IAmb	05 54 32.2	
	comp=Z,9.3nm,1.1s						
NVAR	Mina Array Bea	85.25	44	P	P	05 54 31.8	+0.9
	comp=Z,2.1nm,0.7s,baz=224,slow=8.1,SNR=12 comp=Z,2.1nm,0.7s						
214A	Organ Pipe Nat	85.30	52	P	P	05 54 32.5	+1.5
214A				IAmb	IAmb	05 54 33.5	
	comp=Z,6.9nm,0.9s						
NV11	Mina Array Sit	85.34	44		P	05 54 31.5	+0.3
WCT	Wildcat Mounta	85.37	46	P	P	05 54 31.6	+0.3
TPNV	Topopah Spring	85.71	46		P	05 54 33.4	+0.4
TPH	Tonopah	85.72	45	P	P	05 54 33.5	+0.4
N15K	Kwethluk River	85.99	10		P	05 54 34.1	+0.5
N15K				IAmb	IAmb	05 54 35.3	
	comp=Z,11nm,0.8s						
O18K	Koktuh Hills	86.55	12	P	P	05 54 35.8	-0.5
PRN	Pahroc Range	86.75	46	P	P	05 54 38.6	+0.7
PRN				IAmb	IAmb	05 54 40.2	
	comp=Z,6.4nm,0.9s						
PINE	Pine Mountain	86.92	38		P	05 54 39.3	+0.7
PINE				IAmb	IAmb	05 54 41.6	
	comp=Z,14nm,1.0s						
TUC	Tucson	86.94	52		P	05 54 39.5	+0.6
TUC				IAmb	IAmb	05 54 41.8	
	comp=Z,12nm,1.0s						
O19K	Port Alsworth	87.04	13	P	P	05 54 38.2	-0.3
X16A	Lo Mia Camp, P	87.58	50		P	05 54 42.8	+0.8
X16A				IAmb	IAmb	05 54 44.5	
	comp=Z,5.5nm,1.0s						
I07A	Izee	87.92	39		P	05 54 44.1	+0.9
I07A				IAmb	IAmb	05 54 45.4	
	comp=Z,10.0nm,0.9s						
CCUT	Cedar City	87.95	47		P	05 54 44.6	+1.0
GNW	Green Mountain	88.29	35		P	05 54 45.3	+0.6
GNW				IAmb	IAmb	05 54 46.7	
	comp=Z,6.3nm,0.8s						
L19K	White Mountain	88.77	12	P	P	05 54 47.4	+0.8
L19K				IAmb	IAmb	05 54 47.8	
	comp=Z,10nm,0.9s						
XAN	Xi'an	89.14	308	⇓P	P	05 54 49.6	+0.6
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MFID	Camas Ranch	89.68	41		P	05 54 51.8	+0.4
MFID				IAmb	IAmb	05 54 53.2	
	comp=Z,8.8nm,1.0s						
TMUT	Trail Mountain	90.31	46	P	P	05 54 55.5	+0.8
SRU	San Rafael Swe	90.67	47	P	P	05 54 57.0	+0.8
SRU				IAmb	IAmb	05 54 57.9	
	comp=Z,7.8nm,0.8s						
TXAR	Lajitas Array	90.80	58		P	05 54 57.4	+0.5
TXAR	Lajitas Array	90.80	58	P	P	05 54 58.1	+1.2
	comp=Z,3.6nm,0.8s,baz=213,slow=6.7,SNR=39 comp=Z,3.6nm,0.8s						
HHC	Hu-ho-hao-te	90.88	315	*e*P	P	05 54 58.0	+1.0
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,4.6s						
PZH	PanZhiHua	90.98	299	P	P	05 54 58.4	+0.6
BSUT	Blindstream Ca	91.26	45		P	05 54 59.4	+0.3
SAND	Sanderson	92.28	58		P	05 55 03.4	-0.3
SAND				IAmb	IAmb	05 55 05.4	
	comp=Z,5.7nm,1.1s						
ILAR	Eielson Array	92.68	14	P	P	05 55 03.5	-1.0
	comp=Z,0.7nm,0.7s,baz=226,slow=5.7,SNR=8.1						
ILAR				PP	PP	05 58 58.0	+2.2
	comp=Z,0.6nm,0.9s,baz=220,slow=7.9,SNR=4.5 comp=Z,0.7nm,0.7s						
PDAR	Pinedale Array	93.18	44	P	P	05 55 07.9	+0.2
	comp=Z,1.0nm,0.8s,baz=223,slow=3.5,SNR=11 comp=Z,1.0nm,0.8s						
J26L	Joseph Creek	93.20	15		P	05 55 07.0	-0.1
J26L				IAmb	IAmb	05 55 08.8	
	comp=Z,7.6nm,1.2s						
LZH	Lanzhou	93.77	308	*e*P	P	05 55 09.1	-1.4
LZH				pP	pP	05 56 58.1	-6.0
LZH				sP	sP	05 57 55.3	-0.4
LZH				pmax	pmax		
	comp=Z,11nm,1.3s						
YNE	Yellowstone No	94.05	42	P	P	05 55 11.4	-0.3
INK	Inuvik	98.67	16	P	Pdif	05 55 30.6	-0.9
	comp=Z,1.1nm,0.9s,baz=211,slow=9.0,SNR=3.3 comp=Z,1.1nm,0.9s						
MKAR	Makanchi Array	112.59	312	PKiKP	PKiKP	06 00 25.2	-0.8
	comp=Z,0.5nm,0.7s,baz=85,slow=3.2,SNR=4.1						
KURBB	Kurchatov Arra	115.71	316	PKP	PKPdf	06 00 30.9	-0.9
	comp=Z,0.8nm,0.7s,baz=73,slow=2.1,SNR=5.9						
BVAR	Borovoye Array	120.93	318	PKP	PKPdf	06 00 41.2	-0.6
	comp=Z,1.7nm,0.6s,baz=90,slow=4.4,SNR=7.8						
ARCES	ARCESS Array B	132.53	349	PKP	PKPdf	06 01 02.2	-1.2
	comp=Z,1.3nm,0.7s,baz=48,slow=1.8,SNR=4.9						
FINES	FINESS Array B	139.07	341	PKP	PKPdf	06 01 16.4	+0.7
	comp=Z,1.9nm,0.7s,baz=45,slow=3.0,SNR=5.8						
FINES				SKPbc	SKPbc	06 04 02.2	+0.1
	comp=Z,2.9nm,0.9s,baz=17,slow=2.0,SNR=4.9						
NB2	NORSAR Subarra	142.74	351	PKP	PKPdf	06 01 18.9	-3.5
	comp=Z,1.3nm,0.7s,baz=8.7,slow=3.1						
NOA	NORSAR Array B	142.74	351	PKhKP	PKPpre	06 01 19.2	
	comp=Z,3.4nm,0.9s,baz=16,slow=4.7,SNR=13						
HFS	Hagfors	143.20	349	PKP	PKPab	06 01 20.5	-0.5
	comp=Z,9.1nm,0.5s,baz=66,slow=3.7,SNR=79						
MNK	Minsk	143.63	333	*i* PKP	PKPbc	06 01 23.2	+0.4
	comp=E,14nm,0.9s						
MNK				*i* PKP	PKPbc	06 01 23.2	+0.4
	comp=N,9.0nm,0.8s,baz=46						
MNK				*i* PKP	PKPbc	06 01 23.2	+0.4
	comp=Z,27nm,0.8s						
MNK				*i* PPP	PPP	06 06 37.1	
MNK				*i* SSS	SSS	06 28 19.6	
AKASG	Malin Array Be	145.52	327	PKPbc	PKPdf	06 01 28.1	+0.6
	comp=Z,2.3nm,0.5s,baz=44,slow=4.1,SNR=21						
MMAI	Mount Meron Ar	147.95	293	PKPbc	PKiKP	06 01 37.1	-0.3
	comp=Z,4.3nm,0.6s,baz=116,slow=1.9,SNR=4.8						
BRTR	Keskin Array B	147.96	306	PKPbc	PKPbc	06 01 35.7	-0.3
	comp=Z,2.2nm,0.8s,baz=142,slow=4.5,SNR=7.6						
EKA	Eskdalemuir Ar	149.18	4	PKPbc	PKPbc	06 01 37.5	-0.7
	comp=Z,5.1nm,0.9s,baz=302,slow=3.8,SNR=8.6						
KOLS	Kolonicke sedl	150.04	330	*e*PKP	PKiKP	06 01 41.7	+0.5
STHS	Stebnicka Huta	150.14	332	*e*PKP	PKPbc	06 01 41.0	+0.2
CLL	Collm	151.49	343	⇑PKPbc	PKPbc	06 01 43.7	0.0
	comp=Z,13nm,0.8s						
CLL				*i* PKPab	PKPab	06 01 54.6	+0.1
	comp=Z,6.0nm,1.1s						
CLL				*i* pPKPab	pPKPab	06 03 51.1	+1.1
BRG	Berggiesshubel	151.61	341	*e*PKP	PKiKP	06 01 44.5	+0.1
BRG				Amp		06 01 45.9	
	comp=Z,3.8nm,0.7s						
BRG	Berggiesshubel	151.61	341	P	PKPab	06 01 55.6	+0.5
BRG				Amp		06 01 56.5	
	comp=Z,4.1nm,0.9s						
VYHS	Vyhne	151.87	333	*e*PKP	PKiKP	06 01 45.3	+0.3
GERES	GERESS Array B	153.47	339	PKPbc	PKiKP	06 01 50.4	+2.0
	comp=Z,0.4nm,0.5s,baz=343,slow=2.0,SNR=3.2						
GERES				PKPab	PKPab	06 02 03.4	+0.2
	comp=Z,0.7nm,0.6s,baz=26,slow=6.0,SNR=5.3						
ESDC	Sonseca Array	164.58	12	PKPab	PKPab	06 02 50.6	-1.2
	comp=Z,2.2nm,1.0s,baz=335,slow=3.4,SNR=9.1						
TORD	Torodi Ar. Bea	168.52	188	PKP	PKPdf	06 01 55.6	-1.2
	comp=Z,1.0nm,0.9s,baz=114,slow=1.5,SNR=4.4						
TORD				PKPab	PKPab	06 03 09.9	+0.3
	comp=Z,0.9nm,0.8s,baz=207,slow=1.0,SNR=4.5						

IDC ***19*** *05:54:36.8±3.3,54.˚53N×87.˚04E,h0km, mbtmp2.8/2, ML2.3/2,Error ellipse: s-maj=29.0km s-min=21.3km az=44.0*

ASRS 19 05:54:36.0±0.6,54.˚41N×86.˚84E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.27	250	I	I	06 02 40.0	
	baz=67,slow=304,SNR=2.5						
ZALV	Zalesovo Beam	1.27	250	Pg	Pn	05 55 02.0	+0.9
	0.4nm,0.3s,baz=65,slow=18,SNR=5.4						
ZALV				Lg	Lg	05 55 22.2	
	0.9nm,0.3s,baz=65,slow=28,SNR=5.3						
KURBB	Kurchatov Arra	6.33	237	Pn	Pn	05 56 13.9	+3.4
	baz=53,slow=14,SNR=7.5						
KURBB				Lg	Lg	05 58 05.2	
	baz=56,slow=28,SNR=4.1						
	1.2nm,0.7s						
MKAR	Makanchi Array	8.15	203	Pn	Pn	05 56 40.3	+4.7
	0.1nm,0.3s,baz=26,slow=14,SNR=2.1 0.1nm,0.3s						

AUST 19 05:55:54.8±0.8,19.˚S±6.˚×12.˚1E±.˚,h10km,mb3.9/1, ML2.5/6,ML3.0/3,Error ellipse: s-maj=14.4km s-min=5.4km az=142.6,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	Marble Bar	2.66	198	P	Pn	05 56 38.0	+0.2
MBWA				S	Sn	05 57 10.4	+0.4
PSAC1	Pilbara Seismi	2.99	195	P	Pn	05 56 42.6	+0.2
PSAC1				S	Sn	05 57 19.4	+1.0
PSAA2	Pilbara Seismi	3.01	194	P	Pn	05 56 42.9	+0.3
PSAA2				S	Sn	05 57 18.7	-0.1
PSA00	Pilbara Seismi	3.02	194	P	Pn	05 56 43.1	+0.3
PSA00				S	Sn	05 57 20.4	+1.3
FITZ	Fitzroy Crossi	4.78	84	P	Pn	05 57 07.1	+0.1
FITZ	Fitzroy Crossi	4.78	84	S	Sn	05 58 03.0	+0.4
GIRL	Giralia	7.20	235	P	Pn	05 57 35.6	-4.6
GIRL				S	Sn	05 58 50.4	-12
MEEK	Meekatharra	8.19	193	P	Pn	05 57 53.4	-0.4
	comp=Z,0.1nmcomp=Z,20nm,2.5s						
MEEK	Meekatharra	8.19	193	S	Sn	05 59 22.1	-4.4
WRKA	Warakurna	9.55	133	S	Sn	06 00 01.6	+1.6

IDC 19 05:59:04.6±5.2,30.˚42S×178.˚20W,h144km±28km, mb3.3/2,mbtmp3.7/2,Error ellipse: s-maj=111.3km s-min=42.7km az=150.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.19	12	P	Pn	05 59 30.4	-0.2
	302nm,0.2s,baz=36,slow=24,SNR=11						
RAO				S	Sn	05 59 50.6	+0.2
	356nm,0.3s,baz=133,slow=22,SNR=2.8						
ASAR	Alice Springs	42.93	267	P	P	06 06 49.4	+0.1
	0.4nm,0.4s,baz=112,slow=8.0,SNR=6.3 0.4nm,0.4s						
WRA	Warramunga Arr	43.92	272	P	P	06 06 57.0	-0.3
	0.4nm,0.3s,baz=110,slow=8.1,SNR=6.8 0.4nm,0.3s						
FINES	FINESS Array B	145.11	340	PKPbc	PKPbc	06 18 23.1	-0.9
	0.6nm,0.3s,baz=64,slow=4.4,SNR=6.2						

IDC ***19*** *06:06:38.6±1.6,2.˚58S×138.˚64E,h0km,mb3.6/4, mbtmp3.7/6,ML3.4/2,Error ellipse: s-maj=35.2km s-min=16.6km az=159.0*

ISC 19 06:06:43.6±1.5,2.˚7S±0.˚2×138.˚7E±0.˚2,h32km,n6,σ0°85/6, mb3.7/3,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.02	86	Pn	Pn	06 07 15.5	0.0
	5.0nm,0.3s,baz=243,slow=12,SNR=13						
JAY				Lg	Lg	06 07 44.0	
	3.5nm,0.3s,baz=37,slow=12,SNR=4.1 14nm,0.4s						
WRA	Warramunga Arr	17.68	194	P	Pn	06 10 47.8	+0.1
	0.2nm,0.3s,baz=18,slow=12,SNR=8.3 1.6nm,0.7s						
FITZ	Fitzroy Crossi	19.97	219	P	P	06 11 13.5	+0.1
	2.3nm,0.9s,baz=52,slow=17,SNR=2.1 2.3nm,0.9s						
ASAR	Alice Springs	21.38	192	P	P	06 11 27.6	-1.1
	1.0nm,0.7s,baz=19,slow=11,SNR=12 1.0nm,0.7s						
ILAR	Eielson Array	85.81	24	P	P	06 19 19.3	-0.3
	0.4nm,0.8s,baz=253,slow=4.9,SNR=4.1 0.4nm,0.8s						
QSPA	South Pole Qui	87.27	180	P	P	06 19 27.9	+0.9
	1.3nm,1.0s,baz=179,slow=6.7,SNR=2.2 1.3nm,1.0s						

SNET ***19*** *06:09:52.4±0.9,13.˚14N×91.˚53W,h78km±68km,ML2.7*
GCG ***19*** *06:09:53.4±0.5,13.˚26N×91.˚47W,h18km±10km,MD3.8, ML2.9*
CATAC ***19*** *06:09:57.9±1.3,14.˚N±22.˚×9.˚1W±1.˚0,h1km,M2.6/5, MLv2.6/5,Error ellipse: s-maj=49.9km s-min=14.7km az=161.6,confirmed*

ISC 19 06:09:54.4±3.6,13.˚4N±0.˚2×91.˚3W±0.˚2,h28km,n17, σ1°29/18,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	El Palmar, Qui	1.05	360	*i* P	Pb	06 10 18.9	+4.7
STG0				IAML		06 10 45.3	
	comp=E,188nm,0.3s						
FAME	Alcaldia de Sa	1.37	70	P	Pb	06 10 18.3	-1.0
NUBE	Las Nubes	1.60	70	*e*P	Pb	06 10 23.1	-0.4
NUBE	Las Nubes	1.60	70	*i* P	Pb	06 10 23.3	-0.1
NUBE	Las Nubes	1.60	70	P	Pb	06 10 23.2	-0.2
NUBE	Las Nubes	1.60	70	S	Sn	06 10 41.2	+0.3
SLOZ	Alcaldia de Sa	1.64	66	P	Pb	06 10 23.1	-0.9
SLOZ	Alcaldia de Sa	1.64	66	S	Sn	06 10 41.5	-0.3
JAYA	Jayaque - finc	1.85	81	*e*P	Pn	06 10 25.7	+1.2
JAYA	Jayaque - finc	1.85	81	*i* P	Pb	06 10 25.9	-1.8
JAYA	Jayaque - finc	1.85	81	P	Pb	06 10 27.2	-0.5
LOMA	Loma Larga	2.12	82	*e*S	Sb	06 10 58.1	-0.1
MTO3	Montecristo	2.17	62	*e*P	Pb	06 10 31.0	-2.2
MTO3				*e*S	Sb	06 11 01.9	+2.1
MTO3	Montecristo	2.17	62	*i* P	Pb	06 10 31.3	-1.9
MTO3	Montecristo	2.17	62	P	Pb	06 10 31.6	-1.6
LFRS	El Faro	2.22	83	*

comp=Z,128nm,19.4s,baz=157,slow=36
KAPI Kappang 14.02 267 Pn Pn 06 19 31.0 +4.9
4.8nm,0.5s,baz=117,slow=6.6,SNR=3.7
TOLI2 Tolitoli 14.10 292 Pn 06 19 23.8 -3.4
WB0 Warramunga Arr 15.32 178 Pn 06 19 40.6 -3.1
WB0 IAmb IAmb 06 19 53.6
comp=Z,30nm,1.2s
WRA Warramunga Arr 15.49 178 Pn 06 19 44.0 -1.9
WRA Warramunga Arr 15.49 178 Pn Pn 06 19 43.8 -2.2
comp=Z,0.9nm,0.3s,baz=354,slow=13,SNR=22
WRA Sn Sn 06 22 27.1 -11
comp=Z,1.0nm,0.3s,baz=2.8,slow=23,SNR=5.3
comp=Z,3.7nm,0.5s
FITZ Fitzroy Crossi 15.82 210 Pn **Pn** 06 19 46.5 -3.6
FITZ Fitzroy Crossi 15.82 210 Pn **Pn** 06 19 46.5 -3.6
comp=Z,1.7nm,0.3s,baz=37,slow=11,SNR=30
FITZ Sn Sn 06 22 34.0 -12
comp=Z,3.2nm,0.3s,baz=161,slow=15,SNR=9.7
FITZ LR LR 06 26 16.8
comp=Z,80nm,21.0s,baz=18,slow=38
QIS Mount Isa 17.06 161 P **P** 06 20 09.5 +1.7
comp=Z,21nm,1.0s
AS01 Alice Springs 19.19 180 P **P** 06 20 32.5 +1.2
comp=Z,27nm,0.7s
AS31 Alice Springs 19.19 180 P 06 20 31.5 +0.2
ASAR Alice Springs 19.19 180 P 06 20 30.7 -0.6
ASAR Alice Springs 19.19 180 P **P** 06 20 30.6 -0.7
comp=Z,1.4nm,0.3s,baz=2.8,slow=12,SNR=60
ASAR S Sn 06 23 57.4 -10
comp=Z,5.0nm,0.8s,baz=357,slow=25,SNR=6.3
comp=Z,13nm,0.7s
CTAO Charters Tower 19.78 143 P 06 20 38.5 +0.8
CTAO IAmb IAmb 06 20 41.3
comp=Z,39nm,1.2s
CTAO Charters Tower 19.78 143 P **Pn** 06 20 40.6 +1.3
comp=Z,13nm,1.1s
KKM Kota Kinabalu 20.38 300 P **P** 06 20 42.2 -2.2
KKM IAmb IAmb 06 20 54.7
comp=Z,30nm,1.2s
FORT Forrest 26.83 191 P **P** 06 21 47.9 +0.1
FORT IAmb IAmb 06 22 20.6
comp=Z,7.3nm,0.8s
STKA Stephens Creek 28.33 166 P **P** 06 21 59.5 -1.8
comp=Z,1.4nm,0.5s,baz=324,slow=13,SNR=4.0
comp=Z,1.4nm,0.5s
BBOO Buckleboo 28.38 176 P **P** 06 22 01.8 +0.1
BBOO IAmb IAmb 06 22 07.4
comp=Z,20nm,1.4s
ARMA Armidale 30.90 149 P **P** 06 22 25.1 +0.9
ARMA IAmb IAmb 06 22 53.2
comp=Z,9.8nm,1.1s
QIZ Qiongzhong 33.12 315 P **P** 06 22 44.4 +0.6
QIZ S **S** 06 28 04.4 +1.2
QIZ LR LR
comp=N,250nm,9.8s
QIZ LR LR
comp=E,460nm,14.1s
QIZ LR LR
comp=Z,1μm,12.3s
NJ2 Nanjing 38.91 340 *eP* **P** 06 23 36.3 +3.2
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
CMAR Chiang Mai Arr 41.16 304 P **P** 06 23 52.9 +0.7
CMAR Chiang Mai Arr 41.16 304 P **P** 06 23 54.5 +2.4
comp=Z,1.8nm,0.3s,baz=130,slow=6.7,SNR=16
comp=Z,1.8nm,0.3s
KSRS Korea Array 41.96 353 P **P** 06 24 00.3 +2.0
comp=Z,0.6nm,0.3s,baz=171,slow=8.9,SNR=4.4
comp=Z,0.6nm,0.3s
XAN Xi'an 44.84 330 P **P** 06 24 24.3 +2.5
XAN pmax pmax
comp=Z,11nm,0.8s
USA0B Ussuriysk Arra 48.37 358 P **P** 06 24 50.5 +1.3
USA0B IAmb IAmb 06 25 33.7
comp=Z,3.3nm,0.8s
LZH Lanzhou 49.05 328 *eP* P 06 24 59.8 +5.0
LZH sP sP 06 25 07.8 +8.9
LZH pmax pmax
comp=Z,14nm,1.3s
LZH LR LR
comp=N,390nm,14.8s
LZH LR LR
comp=E,360nm,14.4s
LZH LR LR
comp=Z,510nm,14.4s
BRDH Bariadhala 49.18 305 LR LR 06 48 03.6
comp=Z,115nm,20.8s,baz=146,slow=39
HHC Hu-ho-hao-te 49.39 338 *eP* **P** 06 25 00.6 +3.4
HHC pmax pmax
comp=Z,3.0nm,0.7s
HHC pmax pmax
comp=Z,130nm,5.2s
HHC LR LR
comp=N,130nm,12.9s
HHC LR LR
comp=E,140nm,12.7s
HHC LR LR
comp=Z,140nm,16.9s
SHL Shillong 50.38 308 P 06 25 05.7 +0.5
GTA Gaotai 53.65 327 *eP* P 06 25 34.8 +5.6
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA LR LR
comp=N,250nm,14.9s
GTA LR LR
comp=E,300nm,15.3s
GTA LR LR
comp=Z,350nm,15.3s
SONM Songino Array 57.28 338 P **P** 06 25 57.9 +2.7
comp=Z,0.7nm,0.5s,baz=157,slow=8.0,SNR=4.4
comp=Z,0.7nm,0.5s
WMQ Urumqi 63.37 324 *eP* **P** 06 26 39.4 +2.5
WMQ LR LR
comp=N,380nm,22.3s
WMQ LR LR
comp=Z,170nm,24.2s
SHEM Shemya Is, Ala 66.26 25 LR LR 06 54 24.2
comp=Z,21nm,19.9s,baz=290,slow=35
MKAR Makanchi Array 68.20 325 P **P** 06 27 08.1 +0.2
MKAR Makanchi Array 68.20 325 P **P** 06 27 09.9 +2.0
comp=Z,3.0nm,0.7s,baz=121,slow=8.7,SNR=5.7
comp=Z,3.0nm,0.7s
MAKZ Makanchi 68.39 324 P **P** 06 27 11.2 +2.1
KSH Kashi 68.73 315 P **P** 06 27 17.8 +6.2
KSH pmax pmax
comp=Z,5.0nm,1.1s
ZALV Zalesovo Beam 70.98 332 P **P** 06 27 27.8 +2.8
comp=Z,0.5nm,0.2s,baz=84,slow=7.6,SNR=3.6
comp=Z,0.5nm,0.2s
KURK Kurchatov 72.33 327 P 06 27 33.1 +0.1
KURK IAmb IAmb 06 27 51.5
comp=Z,7.4nm,0.9s
GAR Garm 72.58 313 P **P** 06 27 34.3 -0.8
BTK Batken 72.59 314 P **P** 06 27 35.0 0.0
KK31 Karatay Array 73.93 317 P **P** 06 27 43.2 +0.4
KK31 IAmb IAmb 06 27 48.8
comp=Z,8.1nm,1.4s
KKAR Karatay Array 73.93 317 P 06 27 42.0 -0.8
VNDA Vanda 74.62 174 P **P** 06 27 45.7 -0.4
comp=Z,1.1nm,0.8s,baz=329,slow=4.5,SNR=4.5
comp=Z,1.1nm,0.8s
BVAR Borovoye Array 77.92 326 P **P** 06 28 05.1 -0.2
comp=Z,1.3nm,0.6s,baz=120,slow=8.7,SNR=7.8
comp=Z,1.3nm,0.6s
QSPA South Pole Qui 85.59 180 P **P** 06 28 44.6 -1.2
comp=Z,0.5nm,0.6s,baz=298,slow=2.0,SNR=6.7
comp=Z,0.5nm,0.6s
ILAR Eielson Array 89.37 25 P **P** 06 29 01.9 -1.9
comp=Z,0.4nm,0.6s,baz=261,slow=3.6,SNR=4.4
comp=Z,0.4nm,0.6s
GNI Garni 92.07 310 LR LR 07 19 13.0
comp=Z,18nm,18.4s,baz=139,slow=41
CPUP Villa Florida 147.64 161 PKPbc **PKPdf** 06 35 51.9 +1.8
comp=Z,0.8nm,0.9s,baz=86,slow=2.7,SNR=3.2
LPAZ La Paz 150.14 134 PKPbc **PKPbc** 06 36 00.6 +0.5
comp=Z,1.2nm,0.8s,baz=59,slow=2.7,SNR=4.9

*KRNET **19** 06:23:06.8±0.1, 42.°20N×76.°55E, h22km, mb3.4*
*SOME **19** 06:23:07.5, 42.°22N×76.°53E, h15km*
*KNET **19** 06:23:08.8±0.5, 42.°33N×76.°43E, h11km±1km, ml2.8, Error ellipse: s-maj=3.3km s-min=1.9km az=80.0*
*NNC **19** 06:23:09.8±1.1, 42.°34N×76.°43E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=8.7km s-min=3.5km az=151.0*

ISC 19 06:23:07.0±0.9, 42.°27N±0.°02×76.°56E±0.°02, h17km±6km, n64, σ1§29/105, 44C-26D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.24**	**265**	⇑	P		**Pg**	**06 23 12.5**	**-0.2**
	2μm,0.2s								
ULHL				⇑	S		**Sg**	**06 23 16.3**	**-0.1**
	2μm,0.1s								
ULHL	**Ulahol**	**0.24**	**265**	⇑	*iP*		**Pg**	**06 23 12.4**	**-0.2**
ULHL				⇑	*iS*		**Sg**	**06 23 16.4**	**0.0**
KDJ	**Kajisay**	**0.48**	**106**	⇓	*iP*		**Pg**	**06 23 16.4**	**-0.4**
KDJ				⇓	*iS*		**Sg**	**06 23 23.4**	**+0.1**
BOOM	**Boomskoye usch**	**0.51**	**296**	⇓	*iP*		**Pb**	**06 23 17.3**	**-0.3**
BOOM				⇓	*iS*		**Sb**	**06 23 24.9**	**+0.1**
IZV	**Izvestkoviy**	**0.77**	**3**	*eP*			**Pn**	**06 23 23.0**	**-0.2**
	70nm,0.1s								
IZV				*eS*			**Sn**	**06 23 34.3**	**-0.2**
	221nm,0.1s								
TNSS	**Tian-Shan**	**0.82**	**20**	P			**Pn**	**06 23 23.9**	**-0.2**
	56nm,0.2s								
TNSS				S			**Sn**	**06 23 35.7**	**-0.4**
	131nm,0.2s								
TNSS	**Tian-Shan**	**0.82**	**20**	*eP*			**Pn**	**06 23 23.9**	**-0.2**
	56nm,0.2s								
TNSS				*eS*			**Sn**	**06 23 35.8**	**-0.4**
	131nm,0.2s								
MTBS	**Maitube**	**0.87**	**354**	P			**Pn**	**06 23 24.6**	**+0.1**
	85nm,0.2s								
MTBS				S			**Sn**	**06 23 37.0**	**+0.1**
	259nm,0.2s								
MTBS	**Maitube**	**0.87**	**354**	*eP*			**Pn**	**06 23 24.6**	**+0.1**
	90nm,0.2s								
MTBS				*eS*			**Sn**	**06 23 37.0**	**+0.1**
	259nm,0.2s								
KST	**Kastek**	**0.89**	**331**	P			**Pn**	**06 23 24.9**	**+0.1**
	48nm,0.2s								
KST				S			**Sn**	**06 23 37.0**	**-0.5**
	292nm,0.4s								
KST	**Kastek**	**0.89**	**331**	*eP*			**Pn**	**06 23 24.9**	**+0.1**
	48nm,0.2s								
KST				*eS*			**Sn**	**06 23 37.4**	**-0.1**
	303nm,0.3s								
NRN	**Naryn**	**0.93**	**207**	⇑	*eP*		**Pg**	**06 23 23.6**	**-1.6**
NRN				⇑	*eS*		**Sg**	**06 23 35.6**	**-1.9**
TKM2	**Tokmak 2**	**0.97**	**313**	⇑	P		**Pb**	**06 23 25.6**	**+0.2**
	33nm,0.1s,SNR=99								
TKM2				⇑	S		**Sb**	**06 23 38.1**	**+0.2**
	332nm,0.2s								
TKM2	**Tokmak 2**	**0.97**	**313**	⇑	*iP*		**Pb**	**06 23 25.6**	**+0.2**
TKM2				⇑	*iS*		**Sn**	**06 23 39.4**	**0.0**
AAA	**Alma-Ata**	**0.98**	**15**	*eP*			**Pn**	**06 23 27.2**	**+1.2**
	183nm,0.2s								
AAA				*eS*			**Sn**	**06 23 41.5**	**+2.0**
	84nm,0.1s								
KNDC	**Almaty**	**1.00**	**17**	⇓	P		**Pn**	**06 23 28.7**	**+2.5**
	75nm,0.3s								
KNDC				⇑	S		**Sn**	**06 23 41.6**	**+1.6**
	352nm,0.3s								
TARG	**Taragay, Kyrgy**	**1.07**	**120**	⇓	*iP*		**Pg**	**06 23 26.2**	**-1.6**
TARG				⇓	*iS*		**Sg**	**06 23 40.5**	**-1.4**
KBK	**Karagaybulak**	**1.25**	**289**	⇑	P		**Pg**	**06 23 30.8**	**-0.5**
	61nm,0.1s,SNR=43								
KBK				⇓	S		**Sn**	**06 23 47.7**	**+1.2**
	284nm,0.3s								
KBK	**Karagaybulak**	**1.25**	**289**	⇑	*iP*		**Pn**	**06 23 30.3**	**+0.4**
KBK				⇑	*iS*		**Sn**	**06 23 47.4**	**+0.9**
PRZ	**Przheval'sk**	**1.38**	**80**	⇑	*iP*		**Pb**	**06 23 32.5**	**+0.1**
PRZ				⇑	*iS*		**Sg**	**06 23 51.2**	**-0.5**
UCH	**Uchtor**	**1.52**	**269**	⇑	*iP*		**Pn**	**06 23 34.6**	**+0.8**
UCH				⇑	*iS*		**Sn**	**06 23 54.6**	**+1.2**
CHMS	**Chumysh**	**1.52**	**299**	⇑	P		**Pg**	**06 23 35.2**	**-1.1**
	17nm,0.1s,SNR=9.7								
CHMS				⇓	S		**Sg**	**06 23 55.8**	**-0.4**
	79nm,0.2s								
CHMS	**Chumysh**	**1.52**	**299**	⇑	*iP*		**Pb**	**06 23 34.9**	**+0.1**
CHMS				⇑	*iS*		**Sg**	**06 23 55.4**	**-0.7**
FRU1	**Bishkek**	**1.53**	**292**	⇓	*iP*		**Pb**	**06 23 35.2**	**+0.3**
FRU1				⇓	*iS*		**Sg**	**06 23 55.9**	**-0.4**
AAK	**Ala-Archa**	**1.57**	**284**	⇓	P		**Pb**	**06 23 35.9**	**+0.2**
	22nm,0.2s,SNR=14								
AAK				⇓	S		**Sg**	**06 23 57.4**	**-0.4**
	133nm,0.4s								
AAK	**Ala-Archa**	**1.57**	**284**	⇑	P		**Pg**	**06 23 37.2**	**-0.1**
	1.9nm,0.3s								
AAK				⇓	S		**Sb**	**06 23 56.4**	**+1.0**
	8.1nm,0.3s								
AAK	**Ala-Archa**	**1.57**	**284**	⇑	*iP*		**Pb**	**06 23 35.5**	**-0.2**
AAK				⇑	*iS*		**Sg**	**06 23 56.6**	**-1.2**
SATY	**Saty**	**1.58**	**59**	P			**Pg**	**06 23 36.7**	**-0.6**
	5.8nm,0.1s								
SATY				S			**Sg**	**06 23 57.8**	**0.0**
	681nm,0.2s								
CHKK	**Chushkaly**	**1.62**	**11**	P			**Pg**	**06 23 38.2**	**+0.1**
	26nm,0.1s								
CHKK				S			**Sg**	**06 24 00.1**	**+0.9**
	410nm,0.2s								
CHKK	**Chushkaly**	**1.62**	**11**	*eP*			**Pg**	**06 23 38.2**	**+0.1**
	18nm,0.1s								
CHKK				*eS*			**Sg**	**06 24 00.4**	**+1.2**
	410nm,0.2s								
KUU	**Kurty**	**1.63**	**354**	P			**Pg**	**06 23 38.3**	**-0.1**
	22nm,0.3s								
KUU				S			**Sg**	**06 23 59.9**	**+0.2**
	108nm,0.6s								
KUU	**Kurty**	**1.63**	**354**	*eP*			**Pg**	**06 23 38.3**	**-0.1**
	9.8nm,0.1s								
KUU				*eS*			**Sg**	**06 24 00.0**	**+0.2**
	107nm,0.2s								
USP	**Ospenovka**	**1.82**	**304**	⇑	P		**Pg**	**06 23 40.5**	**-1.4**
	37nm,0.2s,SNR=53								
USP				⇓	S		**Sg**	**06 24 05.0**	**-0.6**
	84nm,0.2s								
USP	**Ospenovka**	**1.82**	**304**	⇓	*iP*		**Pb**	**06 23 39.6**	**-0.2**
USP				⇓	*iS*		**Sg**	**06 24 03.4**	**-2.1**
EKS2	**Erkin-Say**	**2.10**	**282**	⇑	P		**Pb**	**06 23 45.6**	**+1.0**
	16nm,0.2s,SNR=31								
EKS2	**Erkin-Say**	**2.10**	**282**	⇓	*iP*		**Pn**	**06 23 43.2**	**+1.8**
EKS2				⇓	*iS*		**Sn**	**06 24 09.6**	**+2.5**
ARXS	**Arharly**	**2.15**	**25**	*eP*			**Pg**	**06 23 47.7**	**-0.7**
ARXS				*eS*			**Sg**	**06 24 16.1**	**-0.2**
SHLS	**Shalkode**	**2.32**	**66**	Pg			Pg	06 23 55.3	+3.8
	60nm,0.2s								
SHLS				Lg			Lg	06 24 29.0	
	266nm,0.4s								
SHLS	**Shalkode**	**2.32**	**66**	*eP*			Pg	06 23 55.3	+3.8
	60nm,0.2s								
SHLS				*eS*			Sg	06 24 29.0	+7.5
	266nm,0.4s								
PDGK	**Podgornoye**	**2.40**	**63**	⇑	Pn		**Pg**	**06 23 53.0**	**-0.1**
	16nm,0.5s								
PDGK				⇑	Lg		Lg	06 24 28.6	
	48nm,0.4s								
SALK	**Salom-Alik**	**2.48**	**237**	⇑	*eP*		**Pn**	**06 23 48.0**	**+1.3**
SALK				⇑	*eS*		**Sn**	**06 24 17.9**	**+1.3**
MRKS	**Merke**	**2.51**	**282**	Pg			**Pg**	**06 23 53.9**	**-1.2**
	83nm,0.4s								
MRKS				Lg			Lg	06 24 26.8	
	127nm,0.3s								
MRKS	**Merke**	**2.51**	**282**	*eP*			**Pg**	**06 23 54.0**	**-1.2**
	83nm,0.4s								
MRKS				*eS*			**Sg**	**06 24 26.8**	**-1.0**
	127nm,0.3s								
ARSB	**Arslanbob**	**2.84**	**252**	⇑	*iP*		**Pn**	**06 23 52.9**	**+1.3**
ARSB				⇑	*iS*		**Sn**	**06 24 26.6**	**+1.2**
MNAS	**Manas**	**3.01**	**276**	⇑	*iP*		**Pn**	**06 23 55.8**	**+1.8**
MNAS				⇑	*iS*		**Sn**	**06 24 31.4**	**+1.6**
KTMS	**Ketmen**	**3.03**	**66**	*eP*			**Pg**	**06 24 03.1**	**-1.9**
	3.9nm,0.1s								
KTMS				*eS*			**Sg**	**06 24 42.4**	**-1.8**
	38nm,0.4s								
TDK	**Taldyqorghan**	**3.05**	**25**	Lg			Lg	06 24 42.5	
	156nm,0.3s								
TDK	**Taldyqorghan**	**3.05**	**25**	*eP*			**Pg**	**06 24 03.0**	**-2.4**
	18nm,0.1s								
TDK				*eS*			**Sg**	**06 24 42.5**	**-2.3**
	125nm,0.2s								
SFK	**Sufi-Kurgan**	**3.22**	**227**	⇑	*iP*		**Pn**	**06 23 58.1**	**+1.1**
SFK				⇑	*iS*		**Sn**	**06 24 35.5**	**+0.4**
BTLS	**Baital**	**3.32**	**328**	Lg			Lg	06 24 49.8	
	28nm,0.3s								
BTLS	**Baital**	**3.32**	**328**	*eP*			**Pg**	**06 24 07.4**	**-3.2**
	6.8nm,0.2s								
BTLS				*eS*			**Sg**	**06 24 49.8**	**-3.8**
	28nm,0.2s								
OHH	**Osh**	**3.33**	**240**	⇓	*iP*		**Pn**	**06 23 59.6**	**+1.3**
OHH				⇓	*iS*		**Sn**	**06 24 38.0**	**+0.5**
ARK	**Arkit**	**3.46**	**264**	⇑	*iP*		**Pn**	**06 24 01.6**	**+1.5**
ARK				⇑	*iS*		**Sn**	**06 24 41.6**	**+0.9**
TRKS	**Terek-Say**	**4.11**	**262**	⇑	*iP*		**Pn**	**06 24 10.6**	**+1.4**
TRKS				⇑	*iS*		**Sn**	**06 24 57.2**	**+0.3**
KK31	**Karatay Array**	**4.54**	**283**	Pg			**Pg**	**06 24 30.5**	**-3.3**
	5.5nm,0.6s,baz=105,slow=16,SNR=46								
KK31				⇓	Lg		Lg	06 25 29.7	
	23nm,0.6s								
IUG	**luzhnay**	**4.85**	**271**	Lg			Lg	06 25 40.1	
	48nm,0.6s								
BTK	**Batken**	**4.86**	**245**	⇑	*iP*		**Pn**	**06 24 20.8**	**+1.4**
BTK				⇑	*iS*		**Sn**	**06 25 14.8**	**-0.5**
BRLS	**Boroldaу**	**5.02**	**281**	Lg			Lg	06 25 47.0	
	6.4nm,0.3s								
BRLS	**Boroldaу**	**5.02**	**281**	*eP*			**Pg**	**06 24 40.7**	**-2.4**
	0.5nm,0.2s								
BRLS				*eS*			**Sg**	**06 25 47.2**	**-0.9**
	3.6nm,0.2s								
GAR	**Garm**	**5.76**	**238**	⇓	*iP*		**Pn**	**06 24 33.1**	**+1.3**
GAR				⇓	*iS*		**Sn**	**06 25 36.1**	**-1.4**
MAKZ	**Makanchi**	**5.97**	**39**	Pn			**Pn**	**06 24 39.1**	**+4.7**
	4.4nm,1.4s								
MAKZ				Lg			Lg	06 26 20.9	
	3.2nm,0.6s								
MK31	**Makanchi Array**	**6.10**	**40**	⇓	Pn		Pn	06 24 42.3	+5.9
	0.5nm,0.3s,baz=219,slow=15,SNR=7.2								
MK31				⇑	Lg		Lg	06 26 23.5	
	2.5nm,0.5s,baz=214,slow=24								
KURBB	**Kurchatov Arra**	**8.47**	**9**	⇓	Lg		Lg	06 27 36.2	
	13nm,0.8s								
KURK	**Kurchatov**	**8.57**	**9**	⇑	Lg		Lg	06 27 39.2	
	12nm,1.2s								

*IDC **19** 06:30:12.8±3.6, 53.°71N×88.°13E, h0km, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=35.0km s-min=20.3km az=50.0*

ASRS 19 06:30:10.0±1.0, 53.°73N×88.°17E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.00**	**278**			I	I	06 42 35.6	
	baz=94,slow=320,SNR=7.0								
ZALV	**Zalesovo Beam**	**2.00**	**278**			Pn	Pg	06 30 47.9	-0.4
	0.5nm,0.3s,baz=96,slow=13,SNR=9.9								
ZALV						Lg	Lg	06 31 15.2	
	0.8nm,0.3s,baz=96,slow=26,SNR=13								
KURBB	**Kurchatov Arra**	**6.70**	**246**			Pn	Pn	06 31 52.4	+2.9
	baz=62,slow=14,SNR=2.1								
	0.2nm,0.5s								
MKAR	**Makanchi Array**	**7.90**	**211**			Pn	Pn	06 32 09.2	+3.2
	0.1nm,0.3s,baz=27,slow=12,SNR=1.6								
	0.1nm,0.3s								

*IDC **19** 06:30:46.7±1.5, 14.°91N×119.°85E, h84km±15km, mb3.6/14, mbtmp3.9/15, MS3.6/13, Error ellipse: s-maj=27.6km s-min=13.6km az=66.0*

ISC 19 06:30:43.3±0.7, 14.°9N±0.°1×119.°6E±0.°2, h50km, n27, σ1§14/17, mb4.0/13, MS3.6/12, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.50**	**124**	P			**Pn**	**06 31 08.6**	**+0.6**
	2μm,0.5s,baz=297,slow=2.3,SNR=19								
TGY				S			**Sn**	**06 31 28.0**	**+1.5**
	3μm,0.4s,baz=308,slow=9.8,SNR=7.7								
DAV	**Davao City (W)**	**9.75**	**143**	LR			LR	06 37 38.2	
	comp=Z,740nm,18.2s,baz=340,slow=43								
KAPI	**Kappang**	**19.83**	**180**	P			**P**	**06 35 11.1**	**+1.1**
	3.8nm,0.3s,baz=151,slow=17,SNR=1.5								
CMAR	**Chiang Mai Arr**	**20.13**	**283**	P			Pn	06 35 16.0	+0.4
	0.8nm,0.3s,baz=94,slow=10,SNR=5.0								
CMAR				LR			LR	06 43 18.8	
	comp=Z,119nm,19.1s,baz=100,slow=37								
	0.8nm,0.3s								
JNU	**Nakatsue**	**20.78**	**27**	LR			LR	06 43 20.2	
	comp=Z,102nm,21.0s,baz=238,slow=36								
KSRS	**Korea Array**	**23.60**	**17**	P			**P**	**06 35 48.4**	**-1.3**
	0.7nm,0.6s,baz=198,slow=12,SNR=4.4								
	0.7nm,0.6s								
GUMO	**Guam**	**24.48**	**90**	LR			LR	06 45 03.3	
	comp=Z,112nm,19.4s,baz=250,slow=35								
MJAR	**Matsushiro Arr**	**27.15**	**34**	LR			LR	06 46 10.7	
	comp=Z,42nm,21.9s,baz=204,slow=34								
FITZ	**Fitzroy Crossi**	**33.36**	**170**	LR			LR	06 51 13.2	
	comp=Z,127nm,21.4s,baz=332,slow=37								
WRA	**Warramunga Arr**	**37.56**	**157**	P			**P**	**06 37 51.2**	**-1.8**
	4.4nm,0.7s,baz=337,slow=9.4,SNR=23								
	4.4nm,0.7s								
ASAR	**Alice Springs**	**40.83**	**160**	P			**P**	**06 38 19.4**	**-0.8**
	2.6nm,0.6s,baz=336,slow=6.6,SNR=34								
	2.6nm,0.6s								
MKAR	**Makanchi Array**	**44.43**	**323**	P			**P**	**06 38 51.7**	**+2.4**
	0.5nm,0.8s,baz=98,slow=8.7,SNR=3.8								
MKAR				LR			LR	06 58 33.5	
	comp=Z,110nm,18.0s,baz=93,slow=37								
	0.5nm,0.8s								
HNR	**Honiara**	**46.72**	**119**	LR			LR	06 56 57.0	
	comp=Z,90nm,21.0s,baz=308,slow=34								
AAK	**Ala-Archa**	**47.47**	**315**	LR			LR	07 00 36.5	
	comp=Z,143nm,19.9s,baz=108,slow=38								
ZALV	**Zalesovo Beam**	**47.49**	**333**	LR			LR	06 59 59.0	
	comp=Z,80nm,18.3s,baz=136,slow=37								
PETK	**Petropavlovsk-**	**48.45**	**30**	LR			LR	07 00 40.3	
	comp=Z,49nm,18.9s,baz=202,slow=37								
KURBB	**Kurchatov Arra**	**48.59**	**326**	P			**P**	**06 39 22.2**	**+0.4**
	0.5nm,0.6s,baz=120,slow=8.7,SNR=4.7								
	0.5nm,0.6s								
STKA	**Stephens Creek**	**51.09**	**156**	P			**P**	**06 39 39.9**	**-1.1**
	0.8nm,0.2s,baz=331,slow=11,SNR=3.0								
	0.8nm,0.2s								
BVAR	**Borovoye Array**	**54.18**	**326**	P			**P**	**06 40 04.3**	**+0.7**
	0.4nm,0.5s,baz=116,slow=3.4,SNR=2.3								
	0.4nm,0.5s								
ASF	**Jabal al Asfar**	**76.16**	**300**	LR			LR	07 21 33.9	
	comp=Z,23nm,19.1s,baz=153,slow=40								
ARCES	**ARCESS Array B**	**77.57**	**339**	P			**P**	**06 42 33.4**	**-0.3**
	1.2nm,0.8s,baz=81,slow=7.5,SNR=4.9								
	1.2nm,0.8s								
ILAR	**Eielson Array**	**78.09**	**26**	P			**P**	**06 42 35.8**	**-0.9**
	0.4nm,0.9s,baz=251,slow=5.4,SNR=4.3								
	0.4nm,0.9s								
SPITS	**Spitsbergen Ar**	**78.17**	**348**	P			**P**	**06 42 37.5**	**+0.6**
	3.0nm,0.8s,baz=74,slow=6.2,SNR=4.0								
SPITS				LR			LR	07 22 23.4	
	comp=Z,55nm,18.2s,baz=76,slow=40								
	3.0nm,0.8s								
FINES	**FINESS Array B**	**78.71**	**331**	P			**P**	**06 42 40.3**	**+0.2**
	1.6nm,0.9s,baz=49,slow=5.8,SNR=4.9								
	1.6nm,0.9s								
HFS	**Hagfors**	**84.90**	**331**	P			**P**	**06 43 13.2**	**+0.4**
	0.9nm,0.6s,baz=82,slow=3.1,SNR=5.0								
	0.9nm,0.6s								
NOA	**NORSAR Array B**	**85.69**	**332**	P			**P**	**06 43 16.9**	**+0.2**
	0.6nm,0.7s,baz=67,slow=5.0,SNR=5.3								
	0.6nm,0.7s								
TXAR	**Lajitas Array**	**119.29**	**43**	PKP

0.4nm,0.6s
MKAR Makanchi Array 8.94 223 Pn Pn 06 37 38.5 +4.2
0.1nm,0.3s,baz=38,slow=13,SNR=2.5
0.2nm,0.6s

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*NEIC **19** 06:54:11.3±1.6, 14°.87N±0°.08×119°.9E±0°.1, h35km±2km, mb4.6/24, Error ellipse: s-maj=23.3km s-min=13.5km az=272.0*
*IDC **19** 06:54:14.7±1.9, 14°.94N×119°.87E, h72km±19km, mb3.8/18, mbtmp4.1/18, MS3.7/12, Error ellipse: s-maj=23.7km s-min=11.9km az=70.0*
ISC 19 06:54:12.1±0.5, 14°.90N±0°.07×119°.9E±0°.1, h50km, n65, σ0s97/55, mb4.4/29, MS3.8/11, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.29**	**128**	P			Pn	06 54 37.9	+4.1
	3μm,0.5s,baz=268,slow=2.4,SNR=23								
TGY				S			Sn	06 54 59.9	+10
	3μm,0.5s,baz=122,slow=20,SNR=10.0								
TPUB	**Ta-pu**	**8.39**	**5**	Pn			**Pn**	**06 56 11.2**	**0.0**
YULB	**Yu-li**	**8.55**	**9**	Pn			**Pn**	**06 56 13.0**	**-0.4**
DAV	**Davao City (W)**	**9.58**	**144**	LR			LR	07 00 59.4	
	comp=Z,580nm,20.8s,baz=310,slow=42								
JOW	**Kunigami**	**14.22**	**32**	Pn			**Pn**	**06 57 30.2**	**-0.6**
SBUM	**Sibu**	**14.50**	**212**	Pn			**Pn**	**06 57 32.7**	**-1.8**
CM31	**Chiang Mai Arr**	**20.37**	**283**	P			**P**	**06 58 44.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**20.37**	**283**				**P**	**06 58 44.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**20.37**	**283**	P			Pn	06 58 45.5	-1.7
	1.3nm,0.4s,baz=93,slow=9.5,SNR=12								
CMAR				LR			LR	07 06 47.4	
	comp=Z,126nm,19.2s,baz=105,slow=37								
	1.3nm,0.4s								
CHTO	**Chiang Mai**	**20.41**	**284**	P			**P**	**06 58 44.4**	**-0.8**
JNU	**Nakatsue**	**20.71**	**27**	LR			LR	07 07 00.8	
	comp=Z,106nm,21.2s,baz=234,slow=37								
KSRS	**Korea Array**	**23.57**	**16**	P			**P**	**06 59 16.5**	**-1.7**
	0.7nm,0.3s,baz=203,slow=12,SNR=5.6								
	0.7nm,0.3s								
FITZ	**Fitzroy Crossi**	**33.27**	**170**	P			**P**	**07 00 46.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**33.27**	**170**	P			**P**	**07 00 46.6**	**+1.6**
	3.2nm,0.9s,baz=346,slow=12,SNR=4.1								
	3.2nm,0.9s								
SONM	**Songino Array**	**34.69**	**344**	P			**P**	**07 00 57.0**	**-0.2**
	1.7nm,0.8s,baz=158,slow=10.0,SNR=5.2								
	1.7nm,0.8s								
KLR	**Kul'dur**	**35.59**	**13**	P			**P**	**07 01 04.7**	**-0.1**
	baz=168,slow=20								
MBWA	**Marble Bar**	**35.83**	**180**	P			**P**	**07 01 07.3**	**+0.2**
PSA00	**Pilbara Seismi**	**36.24**	**180**	P			**P**	**07 01 11.5**	**+0.9**
PSA00					IAmb		IAmb	07 01 13.2	
	comp=Z,12nm,1.2s								
COEN	**Coen**	**36.78**	**140**	P			**P**	**07 01 15.5**	**+0.2**
COEN					IAmb		IAmb	07 01 27.8	
	comp=Z,10nm,1.1s								
WB0	**Warramunga Arr**	**37.29**	**157**				**P**	**07 01 18.7**	**-0.8**
WB0					IAmb		IAmb	07 01 24.2	
	comp=Z,8.2nm,0.8s								
WRA	**Warramunga Arr**	**37.43**	**157**				**P**	**07 01 20.0**	**-0.7**
WRA	**Warramunga Arr**	**37.43**	**157**	P			**P**	**07 01 20.3**	**-0.4**
	comp=Z,6.5nm,0.8s,baz=330,slow=10,SNR=32								
	comp=Z,6.5nm,0.8s								
AS31	**Alice Springs**	**40.71**	**160**				**P**	**07 01 47.7**	**-0.4**
ASAR	**Alice Springs**	**40.71**	**160**	P			**P**	**07 01 48.2**	**+0.1**
ASAR	**Alice Springs**	**40.71**	**160**	P			**P**	**07 01 48.7**	**+0.6**
	comp=Z,4.8nm,0.7s,baz=335,slow=7.4,SNR=31								
	comp=Z,4.8nm,0.7s								
MKAR	**Makanchi Array**	**44.60**	**323**	P			**P**	**07 02 19.4**	**-0.1**
MKAR	**Makanchi Array**	**44.60**	**323**	P			**P**	**07 02 19.6**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=116,slow=11,SNR=5.4								
MKAR				PcP			**PP**	**07 04 02.6**	**-1.6**
	comp=Z,0.8nm,0.7s,baz=100,slow=4.4,SNR=4.8								
	comp=Z,0.2nm,0.5s								
FORT	**Forrest**	**46.09**	**170**	P			**P**	**07 02 31.3**	**0.0**
HNR	**Honiara**	**46.49**	**119**	LR			LR	07 19 43.8	
	comp=Z,66nm,20.9s,baz=330,slow=33								
ZALV	**Zalesovo Beam**	**47.63**	**333**	P			**P**	**07 02 42.9**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=111,slow=8.1,SNR=4.7								
ZALV				LR			LR	07 23 35.8	
	comp=Z,115nm,18.5s,baz=146,slow=37								
	comp=Z,1.3nm,0.7s								
AAK	**Ala-Archa**	**47.66**	**315**	LR			LR	07 24 15.6	
	comp=Z,137nm,19.6s,baz=84,slow=38								
PEA0B	**Petropavlovsk-**	**48.37**	**30**	P			**P**	**07 02 49.3**	**+0.4**
PETK	**Petropavlovsk-**	**48.37**	**30**	P			**P**	**07 02 48.7**	**-0.2**
PETK	**Petropavlovsk-**	**48.37**	**30**	P			**P**	**07 02 49.4**	**+0.5**
	comp=Z,6.1nm,0.8s,baz=216,slow=4.8,SNR=8.3								
PETK				LR			LR	07 25 27.2	
	comp=Z,49nm,19.3s,baz=209,slow=39								
	comp=Z,6.1nm,0.8s								
KURBB	**Kurchatov Arra**	**48.76**	**326**	P			**P**	**07 02 51.4**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=121,slow=8.3,SNR=5.2								
	comp=Z,1.3nm,0.8s								
BBOO	**Buckleboo**	**49.90**	**162**	P			**P**	**07 03 00.5**	**-0.2**
KK31	**Karatay Array**	**50.58**	**314**				**P**	**07 03 09.2**	**+3.3**
KKAR	**Karatay Array**	**50.58**	**314**	P			**P**	**07 03 08.8**	**+2.9**
STKA	**Stephens Creek**	**50.96**	**156**	P			**P**	**07 03 08.9**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=302,slow=3.3,SNR=5.0								
	comp=Z,2.5nm,0.7s								
BVAR	**Borovoye Array**	**54.34**	**326**	P			**P**	**07 03 33.5**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=96,slow=11,SNR=5.1								
	comp=Z,0.9nm,0.6s								
AB31	**Akbulak array**	**59.31**	**319**				**P**	**07 04 09.1**	**+0.2**
AB31					IAmb		IAmb	07 04 23.1	
	comp=Z,3.5nm,0.9s								
ABKAR	**Akbulak array**	**59.31**	**319**	P			**P**	**07 04 08.4**	**-0.5**
AKTO	**Aktyubinsk**	**60.79**	**320**	LR			LR	07 32 20.8	
	comp=Z,114nm,18.3s,baz=266,slow=38								
ARTI	**Arti**	**62.04**	**326**	LR			LR	07 32 53.8	
	comp=Z,77nm,18.3s,baz=111,slow=37								
M16K	**Timber Creek**	**72.81**	**30**	P			**P**	**07 05 34.2**	**-1.1**
ASF	**Jabal al Asfar**	**76.38**	**300**	LR			LR	07 43 00.8	
	comp=Z,36nm,18.4s,baz=152,slow=38								
ARCES	**ARCESS Array B**	**77.69**	**339**	P			**P**	**07 06 02.8**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=80,slow=5.7,SNR=9.0								
	comp=Z,1.2nm,0.5s								
ILAR	**Eielson Array**	**78.03**	**26**	P			**P**	**07 06 05.8**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=247,slow=6.0,SNR=5.6								
	comp=Z,0.7nm,0.7s								
SPITS	**Spitsbergen Ar**	**78.26**	**348**	P			**P**	**07 06 06.2**	**-0.1**
	comp=Z,2.9nm,0.6s,baz=96,slow=7.6,SNR=5.7								
	comp=Z,2.9nm,0.6s								
FINES	**FINESS Array B**	**78.86**	**331**	P			**P**	**07 06 09.3**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=60,slow=7.7,SNR=8.3								
	comp=Z,1.0nm,0.5s								
L29M	**L29M**	**82.17**	**27**				**P**	**07 06 29.3**	**+1.7**
L29M					IAmb		IAmb	07 06 30.8	
	comp=Z,5.6nm,0.8s								
K29M	**Barlow Dome**	**82.21**	**26**	P			**P**	**07 06 28.7**	**+0.8**
K29M					IAmb		IAmb	07 06 30.5	
	comp=Z,3.4nm,0.8s								
M29M	**Somme Creek**	**82.22**	**27**	P			**P**	**07 06 26.5**	**-1.4**
M29M					IAmb		IAmb	07 06 32.7	
	comp=Z,3.9nm,0.9s								
I30M	**Mount Dempster**	**82.25**	**24**				**P**	**07 06 28.8**	**+0.8**
I30M					IAmb		IAmb	07 06 30.6	
	comp=Z,4.6nm,0.8s								
MLR	**Muntele Rosu**	**82.25**	**315**	LR			LR	07 47 49.6	
	comp=Z,64nm,18.7s,baz=67,slow=39								
M30M	**Minto, Yukon**	**82.92**	**27**	P			**P**	**07 06 32.6**	**+1.1**
M30M					IAmb		IAmb	07 06 35.0	
	comp=Z,4.1nm,0.9s								
N30M	**Aishikik Lake**	**83.14**	**28**	P			**P**	**07 06 33.0**	**+0.3**
N30M					IAmb		IAmb	07 06 35.8	
	comp=Z,4.5nm,0.8s								
N31M	**Braeburn, Yuko**	**83.73**	**28**	P			**P**	**07 06 35.6**	**0.0**
N31M					IAmb		IAmb	07 06 38.7	
	comp=Z,4.1nm,0.8s								
O30N	**Mendenhall**	**83.82**	**29**	P			**P**	**07 06 37.4**	**+1.3**
O30N					IAmb		IAmb	07 06 39.4	
	comp=Z,3.9nm,0.8s								
WHY	**Whitehorse**	**84.42**	**29**				**P**	**07 06 40.5**	**+1.2**
HFS	**Hagfors**	**85.05**	**331**	P			**P**	**07 06 42.4**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=111,slow=6.5,SNR=13								
	comp=Z,2.5nm,0.6s								
NB2	**NORSAR Subarra**	**85.84**	**332**	P			**P**	**07 06 46.0**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=69,slow=4.8								
NOA	**NORSAR Array B**	**85.84**	**332**	P			**P**	**07 06 46.2**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=69,slow=5.0,SNR=11								
	comp=Z,1.3nm,0.6s								
DAVOX	**Davos/Dischmat**	**92.39**	**320**	LR			LR	07 50 45.2	
	comp=Z,37nm,20.3s,baz=80,slow=37								
TXAR	**Lajitas Array**	**119.17**	**44**	PKP			**PKiKP**	**07 12 57.2**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=197,slow=1.6,SNR=5.4								

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*IDC **19** 06:57:58.5±0.5, 0°.09N×125°.79E, h0km, mb4.5/20, mbtmp4.5/21, ML4.2/1, MS3.6/2, Error ellipse: s-maj=34.3km s-min=12.3km az=74.0*
*DJA **19** 06:58:02.0±0.2, 0°N±3°×12°6E±°, h10km, M3.9/13, mb3.3/2, MLv4.2/13*
*NEIC **19** 06:58:03.9±1.3, 0°.22N±0°.07×126°.37E±0°.06, h35km±2km, mb4.7/31, Error ellipse: s-maj=11.3km s-min=10.3km az=173.0*
ISC 19 06:58:03.9±0.4, 0°.17N±0°.05×126°.28E±0°.07, h35km, n91, σ1s51/90, mb4.6/43, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.24**	**61**				**Pn**	**06 58 23.2**	**-1.5**
TNTI	**Ternate**	**1.24**	**61**	P			**Pn**	**06 58 23.1**	**-1.6**
SANI	**Sanana**	**2.22**	**188**	P			**Pn**	**06 58 38.1**	**-0.1**
KMSI	**Cibinong**	**2.34**	**280**	P			**Pn**	**06 58 40.4**	**+0.6**
NLAI	**Namlea**	**3.48**	**166**	P			**Pn**	**06 58 57.5**	**+2.0**
LUWI	**Luwuk**	**3.71**	**251**	P			**Pn**	**06 58 58.9**	**+0.2**
AAI	**Ambon**	**4.28**	**153**	P			**Pn**	**06 59 07.5**	**+1.0**
MRSI	**Marisa**	**4.35**	**274**	P			**Pn**	**06 59 10.9**	**+3.3**
APSI	**Ampana**	**4.75**	**257**	P			**Pn**	**06 59 15.1**	**+2.0**
KDI	**Kendari**	**5.49**	**222**	P			**Pn**	**06 59 24.3**	**+1.0**
	0.3nm,0.8s								
TOLI2	**Tolitoli**	**5.58**	**280**				**Pn**	**06 59 25.7**	**+1.2**
FAKI	**Fak Fak**	**6.71**	**117**	Pn			**Pn**	**06 59 39.0**	**-1.0**
KAPI	**Kappang**	**8.31**	**232**				**Pn**	**07 00 02.4**	**+0.5**
KAPI	**Kappang**	**8.31**	**232**	Pn			**Pn**	**06 59 59.0**	**-2.9**
	2.2nm,0.3s,baz=37,slow=4.9,SNR=3.8								
MYLDM	**Lahad Datu**	**9.23**	**303**				**Pn**	**07 00 14.9**	**+0.3**
MTN	**Manton Dam**	**13.79**	**160**	Pn			**Pn**	**07 01 16.3**	**-0.7**
KNRA	**Kununurra**	**15.93**	**171**				**Pn**	**07 01 45.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**18.16**	**182**	P			**P**	**07 02 13.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**18.16**	**182**	P			**P**	**07 02 12.3**	**-1.2**
	0.6nm,0.3s,baz=19,slow=9.8,SNR=9.4								
	4.5nm,0.8s								
WB0	**Warramunga Arr**	**21.34**	**159**				**P**	**07 02 47.9**	**-0.3**
WB0					IAmb		IAmb	07 02 52.5	
	comp=Z,41nm,1.1s								
WRA	**Warramunga Arr**	**21.49**	**159**				**P**	**07 02 48.5**	**-1.2**
WRA	**Warramunga Arr**	**21.49**	**159**	P			**P**	**07 02 49.5**	**-0.2**
	comp=Z,11nm,0.6s,baz=339,slow=11,SNR=32								
	comp=Z,11nm,0.6s								
MBWA	**Marble Bar**	**22.14**	**196**	P			**P**	**07 02 56.7**	**0.0**
PSA00	**Pilbara Seismi**	**22.50**	**196**	P			**P**	**07 03 00.1**	**-0.4**
PSA00					IAmb		IAmb	07 03 05.7	
	comp=Z,24nm,1.4s								
PSA00	**Pilbara Seismi**	**22.50**	**196**	P			**P**	**07 03 00.1**	**-0.4**
AS31	**Alice Springs**	**24.82**	**163**				**P**	**07 03 23.0**	**0.0**
ASAR	**Alice Springs**	**24.82**	**163**				**P**	**07 03 23.1**	**+0.1**
ASAR	**Alice Springs**	**24.82**	**163**	P			**P**	**07 03 24.7**	**+1.7**
	comp=Z,12nm,0.5s,baz=352,slow=16,SNR=50								
ASAR				S			**S**	**07 07 52.0**	**+8.4**
	comp=Z,3.6nm,0.9s,baz=346,slow=20,SNR=14								
	comp=Z,12nm,0.5s								
FORT	**Forrest**	**30.82**	**177**	P			**P**	**07 04 16.3**	**-0.3**
FORT					IAmb		IAmb	07 04 19.6	
	comp=Z,6.4nm,0.7s								
CMAR	**Chiang Mai Arr**	**32.43**	**306**	LR			LR	07 18 19.4	
	comp=Z,49nm,21.2s,baz=105,slow=38								
NJ2	**Nanjing**	**32.48**	**348**	*eP*			**P**	**07 04 32.3**	**+1.1**
NJ2					pmax		pmax		
	comp=Z,14nm,0.5s								
BBOO	**Buckleboo**	**34.07**	**165**	P			**P**	**07 04 44.8**	**-0.3**
BBOO					IAmb		IAmb	07 05 08.6	
	comp=Z,23nm,1.4s								
STKA	**Stephens Creek**	**35.01**	**157**	P			**P**	**07 04 53.4**	**+0.2**
STKA	**Stephens Creek**	**35.01**	**157**	P			**P**	**07 04 53.4**	**+0.2**
	comp=Z,3.8nm,0.6s,baz=326,slow=10,SNR=8.3								
	comp=Z,3.8nm,0.6s								
PZH	**PanZhiHua**	**35.27**	**320**	P			**P**	**07 04 57.3**	**+1.6**
TNCH	**TengChong**	**36.49**	**315**	*eP*			**P**	**07 05 08.4**	**+2.2**
TNCH					pmax		pmax		
	comp=Z,310nm,4.5s								
JGF	**Kuroka**	**36.73**	**15**	P			**P**	**07 05 07.9**	**-0.1**
JGF					IAmb		IAmb	07 05 48.5	
	comp=Z,17nm,1.3s								
KSRS	**Korea Array**	**37.14**	**2**	P			**P**	**07 05 11.8**	**+0.5**
	comp=Z,3.6nm,0.9s,baz=181,slow=10.0,SNR=16								
	comp=Z,3.6nm,0.9s								
XAN	**Xi'an**	**37.42**	**336**	P			**P**	**07 05 14.3**	**+0.4**
XAN					pmax		pmax		
	comp=Z,14nm,1.0s								
ARMA	**Armidale**	**38.81**	**144**	P			**P**	**07 05 24.5**	**-1.2**
ARMA					IAmb		IAmb	07 05 53.2	
	comp=Z,18nm,1.4s								
JMM	**Marumori**	**39.83**	**18**	P			**P**	**07 05 34.3**	**+0.4**
BRDH	**Bariadhala**	**40.45**	**306**	LR			LR	07 25 12.2	
	comp=Z,167nm,18.3s,baz=154,slow=41								
BJI	**Beijing**	**40.74**	**348**	P			**P**	**07 05 42.6**	**+1.2**
BJI					pmax		pmax		
	comp=Z,5.0nm,0.8s								
BJI					pmax		pmax		
	comp=Z,73nm,4.2s								
LZH	**Lanzhou**	**41.38**	**332**	*eP*			**P**	**07 05 47.5**	**+0.5**
LZH					pP		pP	07 05 56.9	+0.4
LZH					sP		sP	07 06 02.0	+1.6
LZH					pmax		pmax		
	comp=Z,17nm,1.3s								
HHC	**Hu-ho-hao-te**	**42.65**	**343**	*eP*			**P**	**07 05 59.3**	**+2.1**
HHC					pmax		pmax		
	comp=Z,7.0nm,0.5s								
HHC					pmax		pmax		
	comp=Z,100nm,5.1s								
USRK	**Ussuriysk Ar.**	**44.14**	**6**				**P**	**07 06 08.0**	**-1.0**
USRK	**Ussuriysk Ar.**	**44.14**	**6**	P			**P**	**07 06 10.1**	**+1.1**
	comp=Z,5.2nm,0.8s,baz=192,slow=6.7,SNR=8.9								
	comp=Z,5.2nm,0.8s								
GTA	**Gaotai**	**45.95**	**331**	*eP*			**P**	**07 06 23.4**	**-0.3**
GTA					pmax		pmax		
	comp=Z,6.0nm,0.9s								
HEH	**HeiHe**	**49.91**	**1**	*eP*			**P**	**07 06 55.6**	**+1.6**
ULN	**Ulaanbaatar**	**50.37**	**343**				**P**	**07 06 57.7**	**0.0**
ULN					IAmb		IAmb	07 07 01.9	
	comp=Z,5.7nm,0.8s								
SONM	**Songino Array**	**50.53**	**343**	P			**P**	**07 06 58.4**	**-0.5**
SONM	**Songino Array**	**50.53**	**343**	P			**P**	**07 06 59.0**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=161,slow=8.6,SNR=15								
	comp=Z,4.4nm,0.8s								
WMQ	**Urumqi**	**55.41**	**327**	*eP*			**P**	**07 07 37.8**	**+2.9**
WMQ					pP		pP	07 07 44.0	-0.7
WMQ					pmax		pmax		
	comp=Z,19nm,0.9s								
PETK	**Petropavlovsk-**	**58.88**	**22**	P			**P**	**07 08 00.8**	**+1.6**
	comp=Z,4.0nm,0.6s,baz=188,slow=5.6,SNR=18								
	comp=Z,4.0nm,0.6s								
MKAR	**Makanchi Array**	**60.24**	**327**				**P**	**07 08 07.1**	**-1.6**
MKAR	**Makanchi Array**	**60.24**	**327**	P			**P**	**07 08 07.4**	**-1.3**
	comp=Z,6.0nm,0.5s,baz=124,slow=8.1,SNR=33								
	comp=Z,6.0nm,0.5s								
KSH	**Kashi**	**60.28**	**317**	P			**P**	**07 08 09.5**	**+0.3**
MAKZ	**Makanchi**	**60.42**	**327**				**P**	**07 08 08.6**	**-1.4**
MAKZ					IAmb		IAmb	07 08 10.2	
	comp=Z,5.4nm,0.7s								
ZAA0	**Zalesovo Array**	**63.56**	**334**				**P**	**07 08 29.7**	**-1.1**
ZAA0					IAmb		IAmb	07 08 36.9	
	comp=Z,4.1nm,0.9s								
ZALV	**Zalesovo Beam**	**63.56**	**334**	P			**P**	**07 08 29.2**	**-1.6**
ZALV	**Zalesovo Beam**	**63.56**	**334**	P			**P**	**07 08 29.5**	**-1.3**
	comp=Z,3.8nm,0.8s,baz=106,slow=5.3,SNR=7.2								
	comp=Z,3.8nm,0.8s								
GAR	**Garm**	**64.03**	**314**				**P**	**07 08 33.2**	**-1.2**
KURBB	**Kurchatov Arra**	**64.50**	**329**	P			**P**	**07 08 35.2**	**-1.8**
	comp=Z,3.1nm,0.2s,baz=123,slow=6.3,SNR=4.4								
	comp=Z,3.1nm,0.2s								
SIMJ	**Simiganj**	**64.85**	**313**	P			**P**	**07 08 38.9**	**-0.9**
SIMJ					IAmb		IAmb	07 08 39.2	
	comp=Z,4.4nm,1.1s								
KK31	**Karatay Array**	**65.55**	**318**				**P**	**07 08 43.1**	**-1.0**
KKAR	**Karatay Array**	**65.55**	**318**				**P**	**07 08 42.7**	**-1.4**
KIWB	**Kanaga Island**	**69.88**	**33**	P			**P**	**07 09 09.5**	**-1.7**
KIWB					IAmb		IAmb	07 09 27.4	
	comp=Z,8.5nm,1.0s								
BVAR	**Borovoye Array**	**70.06**	**328**	P			**P**	**07 09 11.0**	**-1.3**
	comp=Z,1.6nm,0.5s,baz=132,slow=8.8,SNR=11								
	comp=Z,1.6nm,0.5s								
BRVK	**Borovoye**	**70.14**	**328**	P			**P**	**07 09 11.9**	**-0.8**
BRVK					IAmb		IAmb	07 09 17.4	
	comp=Z,3.7nm,0.7s								
AB31	**Akbulak array**	**74.63**	**322**				**P**	**07 09 38.3**	**-1.3**
AB31					IAmb		IAmb	07 09 39.6	
	comp=Z,5.0nm,0.8s								
ABKAR	**Akbulak array**	**74.63**	**322**				**P**	**07 09 38.0**	**-1.6**
AKTO	**Aktyubinsk**	**76.17**	**322**	P			**P**	**07 09 47.5**	**-1.0**
	comp=Z,13nm,0.8s,baz=100,slow=5.0,SNR=30								
	comp=Z,13nm,0.8s								
ARTI	**Arti**	**77.78**	**328**	P			**P**	**07 09 55.6**	**-1.8**
ARTI					IAmb		IAmb	07 09 56.8	
	comp=Z,9.0nm,1.0s								
ARTI	**Arti**	**77.78**	**328**	P			**P**	**07 09 55.5**	**-1.8**
	comp=Z,1.7nm,0.4s,baz=161,slow=4.9,SNR=3.4								
	comp=Z,1.7nm,0.4s								
VNDA	**Vanda**	**79.97**	**173**	P			**P**	**07 10 09.2**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=288,slow=5.7,SNR=5.9								
	comp=Z,1.4nm,0.8s								
RAYN	**Ar Rayn**	**81.48**	**294**				**P**	**07 10 17.4**	**-0.8**
RAYN					IAmb		IAmb	07 10 18.4	
	comp=Z,7.4nm,0.6s								
KIRV	**Kirov**	**83.03**	**329**	P			**P**	**07 10 25.1**	**-0.4**
	comp=Z,9.4nm,0.6s,baz=43,slow=2.6,SNR=4.2								
	comp=Z,9.4nm,0.6s								
K17K	**Iditarod**	**83.19**	**27**				**P**	**07 10 27.1**	**+0.8**
L18K	**Granite Mounta**	**83.82**	**27**	P			**P**	**07 10 29.0**	**-0.5**
L18K					IAmb		IAmb	07 10 31.7	
	comp=Z,5.4nm,0.9s								
GEVA	**Gevas**	**84.57**	**308**				**P**	**07 10 33.8**	**-0.3**
N19K	**Bonanza Creek**	**84.60**	**29**				**P**	**07 10 33.9**	**+0.2**
OHAK	**Old Harbor**	**84.67**	**33**	P			**P**	**07 10 33.2**	**-0.7**
KBZ	**Khabaz**	**85.10**	**314**	P			**P**	**07 10 35.5**	**-0.8**
	comp=Z,2.7nm,0.9s,baz=219,slow=3.6,SNR=4.8								
	comp=Z,2.7nm,0.9s								
D20K	**Etivluk River**	**85.17**	**21**	P			**P**	**07 10 37.4**	**+1.1**
D20K					IAmb		IAmb	07 10 38.2	
	comp=Z,11nm,1.2s								
IMAR	**Indian Mountai**	**85.76**	**24**	P			**P**	**07 10 38.7**	**-0.6**
ILAR	**Eielson Array**	**88.50**	**25**	P			**P**	**07 10 52.7**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=244,slow=5.1,SNR=4.5								
	comp=Z,0.3nm,0.8s								
QSPA	**South Pole Qui**	**90.09**	**180**	P			**P**	**07 10 59.0**	**-1.1**
	comp=Z,2.2nm,0.9s,baz=300,slow=1.3,SNR=8.9								
	comp=Z,2.2nm,0.9s								
ARCES	**ARCESS Array B**	**93.62**	**340**	P			**P**	**07 11 16.4**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=92,slow=3.8,SNR=3.7								
	comp=Z,1.4nm,0.8s								
FINES	**FINESS Array B**	**94.74**	**332**	P			**P**	**07 11 21.1**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=18,slow=0.6,SNR=3.8								
	comp=Z,1.1nm,0.7s								
TORD	**Toroidi Ar. Bea**	**123.53**	**286**	PKP			**PKPdf**	**07 16 57.6**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=17,slow=2.5,SNR=5.4								
TXAR	**Lajitas Array**	**124.09**	**54**	PKP			**PKiKP**	**07 17 02.0**	**+2.1**
	comp=Z,0.2nm,0.7s,baz=130,slow=1.8,SNR=2.2								

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*ASRS **19** 07:02:54.0±0.6, 54°.37N×86°.80E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 19 07:02:54.7±3.5, 54°.44N×86°.94E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=31.3km s-min=19.6km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**249**		I		I	07 10 20.0	
	baz=69,slow=313,SNR=4.3								
ZALV	**Zalesovo Beam**	**1.34**	**249**		Pg		Pg	07 03 19.0	-1.3
	0.8nm,0.3s,baz=68,slow=17,SNR=8.2								
ZALV					Lg		Lg	07 03 37.7

EKS2	**Erkin-Say**	**1.81**	**348**	⇓*iP*		**Pb**	**07 22 26.5**	**+1.5**
	3.2nm,0.2s								
EKS2				⇑*iS*		**Sg**	**07 22 50.2**	**-0.4**
	12nm,0.3s								
EKS2	**Erkin-Say**	**1.81**	**348**	⇑*iP*		**Pb**	**07 22 26.0**	**+0.9**
EKS2				⇑*iS*		**Sg**	**07 22 50.2**	**-0.4**
KBK	**Karagaybulak**	**1.84**	**16**	⇑*eP*		**Pg**	**07 22 27.0**	**-0.6**
	8.0nm,0.1s,SNR=6.3								
KBK				⇑*eS*		**Sg**	**07 22 50.8**	**-0.6**
	68nm,0.4s								
KBK	**Karagaybulak**	**1.84**	**16**	⇓*iP*		**Pb**	**07 22 26.3**	**+0.8**
KBK				⇓*iS*		**Sg**	**07 22 50.7**	**-0.7**
ARK	**Arkit**	**1.97**	**298**	⇑*eP*		**Pb**	**07 22 28.6**	**+0.9**
ARK				⇑*eS*		**Sg**	**07 22 54.7**	**-0.8**
ULHL	**Ulahol**	**2.00**	**47**	⇓*P*		**Pb**	**07 22 28.8**	**+0.4**
	13nm,0.2s,SNR=9.8								
ULHL				⇑*S*		**Sb**	**07 22 54.9**	**+1.8**
	20nm,0.2s								
ULHL	**Ulahol**	**2.00**	**47**	⇑*iP*		**Pb**	**07 22 28.9**	**+0.5**
ULHL				⇑*iS*		**Sg**	**07 22 55.4**	**-1.3**
MRKS	**Merke**	**2.02**	**337**	*Pg*		**Pb**	**07 22 29.9**	**+1.4**
	14nm,0.2s								
MRKS				*Lg*		*Lg*	07 22 56.4		
	51nm,0.4s								
MRKS	**Merke**	**2.02**	**337**	*eP*		**Pb**	**07 22 30.0**	**+1.4**
	11nm,0.2s								
MRKS				*eS*		**Sg**	**07 22 56.6**	**-0.5**
	52nm,0.2s								
BOOM	**Boomskoye usch**	**2.03**	**37**	⇓*iP*		**Pb**	**07 22 29.3**	**+0.5**
BOOM				⇓*iS*		**Sg**	**07 22 56.0**	**-1.5**
MNAS	**Manas**	**2.08**	**321**	⇑*iP*		**Pb**	**07 22 30.2**	**+0.6**
MNAS				⇑*iS*		**Sb**	**07 22 57.5**	**+2.2**
CHMS	**Chumysh**	**2.14**	**9**	⇓*P*		**Pg**	**07 22 32.4**	**-0.9**
	9.5nm,0.2s,SNR=6.0								
CHMS				⇓*S*		**Sg**	**07 22 59.6**	**-1.4**
	33nm,0.4s								
CHMS	**Chumysh**	**2.14**	**9**	⇑*iP*		**Pb**	**07 22 30.9**	**+0.3**
CHMS				⇑*iS*		**Sb**	**07 22 58.3**	**+1.4**
TKM2	**Tokmak 2**	**2.26**	**25**	⇓*P*		**Pb**	**07 22 33.8**	**+1.1**
	6.6nm,0.2s,SNR=11								
TKM2				⇓*S*		**Sg**	**07 23 03.5**	**-1.4**
	61nm,0.4s								
TKM2	**Tokmak 2**	**2.26**	**25**	⇑*iP*		**Pb**	**07 22 32.5**	**-0.2**
TKM2				⇑*iS*		**Sb**	**07 23 01.5**	**+1.0**
DRK	**Karamyk**	**2.36**	**234**	⇑*eP*		**Pb**	**07 22 34.8**	**+0.2**
DRK				⇑*eS*		**Sb**	**07 23 04.7**	**+1.1**
USP	**Ospenovka**	**2.38**	**4**	⇓*P*		**Pb**	**07 22 35.8**	**+1.1**
	5.8nm,0.2s,SNR=6.9								
USP				⇓*S*		**Sg**	**07 23 06.7**	**-2.2**
	20nm,0.2s								
TRKS	**Terek-Say**	**2.45**	**286**	⇑*eP*		**Pb**	**07 22 35.2**	**-0.8**
TRKS				⇑*eS*		**Sb**	**07 23 05.8**	**-0.3**
KST	**Kastek**	**2.49**	**30**	*Pg*		**Pb**	**07 22 38.1**	**+1.4**
	17nm,0.6s								
KST				*Lg*		*Lg*	07 23 10.8		
	41nm,0.3s								
KST	**Kastek**	**2.49**	**30**	*eP*		**Pb**	**07 22 38.4**	**+1.6**
	17nm,0.4s								
KST				*eS*		**Sg**	**07 23 11.3**	**-1.1**
	41nm,0.3s								
KDJ	**Kajisay**	**2.51**	**59**	⇑*eP*		**Pb**	**07 22 36.3**	**-0.7**
KDJ				⇑*eS*		**Sb**	**07 23 07.6**	**-0.1**
MTBS	**Maitube**	**2.75**	**35**	*Pg*		**Pb**	**07 22 43.1**	**+2.0**
	5.2nm,0.3s								
MTBS				*Lg*		*Lg*	07 23 19.3		
	21nm,0.4s								
MTBS	**Maitube**	**2.75**	**35**	*eP*		**Pb**	**07 22 43.2**	**+2.1**
	3.7nm,0.1s								
MTBS				*eS*		**Sg**	**07 23 19.5**	**-1.3**
	21nm,0.4s								
BTK	**Batken**	**2.77**	**254**	⇑*eP*		**Pb**	**07 22 40.0**	**-1.3**
BTK				⇑*eS*		**Sb**	**07 23 14.2**	**-0.8**
TNSS	**Tian-Shan**	**2.93**	**42**	*Pg*		**Pb**	**07 22 45.9**	**+1.7**
	2.2nm,0.4s								
TNSS				*Lg*		*Lg*	07 23 24.0		
	4.6nm,0.5s								
TNSS	**Tian-Shan**	**2.93**	**42**	*eP*		**Pb**	**07 22 46.3**	**+2.0**
	2.0nm,0.2s								
TNSS				*eS*		**Sg**	**07 23 24.3**	**-2.0**
	4.4nm,0.4s								
KUU	**Kurty**	**3.37**	**26**	*eP*		**Pb**	**07 22 54.1**	**+2.5**
	1.3nm,0.1s								
KUU				*eS*		**Sg**	**07 23 37.8**	**-2.6**
	49nm,0.4s								
IUG	**Iuzhnay**	**3.43**	**293**	*Pg*		**Pg**	**07 22 56.8**	**-1.1**
	16nm,0.4s								
KK31	**Karatay Array**	**3.58**	**309**	*Pn*		**Pb**	**07 22 52.8**	**-2.3**
	0.7nm,0.2s,baz=123,slow=16,SNR=14								
KK31				⇓*Lg*		*Lg*	07 23 49.3		
	4.7nm,0.4s,baz=127,slow=29								
CHKK	**Chushkaly**	**3.58**	**33**	*eP*		**Pb**	**07 22 57.8**	**+2.7**
	1.5nm,0.2s								
CHKK				*eS*		**Sg**	**07 23 44.4**	**-2.7**
	7.8nm,0.2s								
SATY	**Saty**	**3.77**	**53**	*Pg*		**Pb**	**07 23 00.2**	**+1.9**
	3.7nm,0.3s								
SATY				*Lg*		*Lg*	07 23 48.8		
	9.0nm,0.3s								
BRLS	**Boroldaу**	**3.94**	**304**	*Pg*		**Pg**	**07 23 05.4**	**-2.3**
	3.0nm,0.4s								
BRLS				*Lg*		*Lg*	07 23 57.2		
	4.8nm,0.3s								
BRLS	**Boroldaу**	**3.94**	**304**	*eP*		**Pg**	**07 23 05.3**	**-2.5**
	1.5nm,0.3s								
BRLS				*eS*		**Sg**	**07 23 57.4**	**-1.4**
	5.9nm,0.3s								
BTLS	**Baital**	**4.16**	**358**	*eP*		**Pb**	**07 23 07.7**	**+2.8**
	0.2nm,0.1s								
BTLS				*eS*		**Sg**	**07 24 01.7**	**-3.9**
	5.9nm,0.2s								

*IDC **19** 07:27:58.7±999.0, **16°36S**×**71°80W**, **h0**km, **Error ellipse: s-maj=344.0km s-min=70.4km az=90.0, Southern Peru***

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I08BO	**LAS PENAS INFR**	**3.21**	**88**	I	I	07 45 10.0	
	1.1nm,1.0s,baz=266,slow=323,SNR=28						
I41PY	**VILLA FLORIDA**	**16.74**	**129**	I	I	09 12 30.0	
	baz=305,slow=316,SNR=1.2						
I09BR	**BRASILIA INFRA**	**22.87**	**92**	I	I	09 49 10.0	
	0.1nm,2.0s,baz=264,slow=324,SNR=2.6						

*ISN **19** 07:28:17.6±0.9, 34°.45N×45°.58E, h13km±49km, ML2.5*
*TEH **19** 07:28:18.3, 34°.46N×45°.57E, h13km±21km*
ISC 19 07:28:18.1**±1.0, **34°.44N**±0°.04×**45°.58E**±0°.04, **h15**km±7km, **n11**, σ0°**56**/16, **Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.07**	**8**	*Pg*	**Pg**	**07 28 20.9**	**-0.3**
KGS1				*Sg*	**Sg**	**07 28 23.3**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.43**	**140**	*Pg*	**Pb**	**07 28 27.3**	**-0.1**
IDHR	**Dehrash**	**0.72**	**69**	*Pg*	**Pg**	**07 28 31.5**	**-0.7**
IGHG	**Ghaleghazi**	**0.83**	**97**	*Pg*	**Pg**	**07 28 34.2**	**-0.1**
IGHG				*Sg*	**Sn**	**07 28 46.8**	**-0.7**
ILBA	**Ilam Banvizeh**	**0.97**	**147**	*Pg*	**Pb**	**07 28 36.8**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.22**	**97**	*Pg*	**Pg**	**07 28 42.3**	**+0.5**
IBDR	**Badra**	**1.36**	**167**	*eP*	**Pg**	**07 28 44.0**	**-0.3**
IBDR				*eSg*	**Sg**	**07 29 03.0**	**+1.0**
IBDR				AML	AML	07 29 07.8	
	comp=E,113nm,0.2s						
IBDR				AML	AML	07 29 08.9	
	comp=N,85nm,0.7s						
IKRK	**Kirkuk**	**1.40**	**314**	*ePn*	**Pg**	**07 28 45.0**	**-0.1**
IKRK				*eSn*	**Sg**	**07 29 04.0**	**+0.8**
BHD	**Baghdad**	**1.54**	**221**	*ePn*	**Pb**	**07 28 46.0**	**-0.3**
BHD				*eSn*	**Sg**	**07 29 08.0**	**+0.4**
SNQR	**Sonqor, Kerman**	**1.74**	**76**	*Pg*	**Pb**	**07 28 50.5**	**+0.5**
IKFM	**Kafar-mosalman**	**2.10**	**115**	*Pn*	**Pb**	**07 28 55.3**	**-0.5**

*IDC **19** 07:39:34.1±3.3, 53°.74N×88°.13E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=29.2km s-min=19.7km az=51.0*
ASRS 19 07:39:30.0**±1.1, **53°.79N**×**88°.22E**, **h0**km, **M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.02**	**276**	I	I	07 52 00.0	
	0.1nm,0.9s,baz=92,slow=322,SNR=4.2						
ZALV	**Zalesovo Beam**	**2.02**	**276**	*Pn*	*Pg*	07 40 09.4	**+0.7**
	0.8nm,0.3s,baz=95,slow=11,SNR=14						
ZALV				*Lg*	*Lg*	07 40 36.3	
	1.3nm,0.3s,baz=93,slow=25,SNR=14						
KURBB	**Kurchatov Arra**	**6.75**	**246**	*Pn*	*Pn*	07 41 14.1	**+3.9**
	0.1nm,0.3s,baz=62,slow=14,SNR=5.7						
KURBB				*Lg*	*Lg*	07 43 05.5	
	baz=65,slow=34,SNR=5.4						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.96**	**211**	*Pn*	*Pn*	07 41 31.1	**+4.1**
	baz=26,slow=14,SNR=1.5						
MKAR				*Lg*	*Lg*	07 43 44.0	
	baz=32,slow=31,SNR=2.1						
	0.1nm,0.3s						

*IDC **19** 07:39:55.7±1.3, 72°.30N×2°.81E, h0km, mb3.5/6, mbtmp3.5/11, ML2.9/5, MS3.2/7, Error ellipse: s-maj=26.7km s-min=18.0km az=80.0*
*BER **19** 07:39:58.2±2.7, 72°.47N×2°.76E, h10km, mb(Pn)4.2, Confirmed Earthquake*
ISC 19 07:39:56.3**±0.8, **72°.29N**±0°.09×**2°.80E**±0°.09, **h10**km, **n28, σ1**s**85**/26, **mb3.4**/5, **MS3.1**/5, **Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**5.54**	**134**	*eP*	**Pn**	**07 41 20.5**	**+1.9**
LOF				IAML		07 42 25.1	
	comp=Z,4.8nm,0.5s						
TRO	**Tromso**	**5.91**	**109**	*eP*	**Pn**	**07 41 24.5**	**+0.8**
STEI	**Steigen**	**6.09**	**130**	*eP*	**Pn**	**07 41 27.8**	**+1.5**
STEI				IAML		07 42 37.0	
	comp=Z,4.1nm,0.5s						
JETT	**Jettan, Norway**	**6.38**	**107**	*eP*	**Pn**	**07 41 30.7**	**+0.5**
FAUS	**Fauske**	**6.54**	**133**	*eP*	**Pn**	**07 41 33.3**	**+0.9**
FAUS				*eS*	**Sn**	**07 42 42.6**	**-4.3**
FAUS				IAML		07 42 51.5	
	comp=Z,4.0nm,0.7s						
VAGH	**Vaagaholmen**	**6.67**	**142**	*eP*	**Pn**	**07 41 35.7**	**+1.5**
KIF	**Kilpisjarvi**	**6.81**	**110**	*eP*	**Pn**	**07 41 36.6**	**+0.4**
SPITS	**Spitsbergen Ar**	**6.83**	**24**	*Pn*	**Pn**	**07 41 35.5**	**-0.9**
	baz=209,slow=15						
	comp=Z,1.4nm,0.4s						
KONS	**Konsvik**	**6.85**	**143**	*eP*	**Pn**	**07 41 37.5**	**+0.9**
KONS				*eS*	**Sn**	**07 42 50.7**	**-3.8**
KONS				IAML		07 42 54.2	
	comp=Z,3.9nm,0.9s						
STOK	**Stokkvaagen**	**6.98**	**144**	*eP*	**Pn**	**07 41 41.2**	**+2.8**
STOK				IAML		07 43 03.1	
	comp=Z,4.0nm,0.8s						
LEIR	**Leirfjorden**	**7.20**	**144**	*eP*	**Pn**	**07 41 43.4**	**+2.0**
SALU	**Saltoluokta**	**7.31**	**125**	*eP*	**Pn**	**07 41 44.9**	**+1.9**
ARCES	**ARCESS Array B**	**7.91**	**99**	*Pn*	**Pn**	**07 41 51.1**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=299,slow=12,SNR=19						
	comp=Z,1.5nm,0.5s						
HEF	**Hetta**	**8.01**	**109**	*eP*	**Pn**	**07 41 53.0**	**+0.5**
SCO	**Scoresbysund**	**8.09**	**269**	*iP*	**Pn**	**07 41 51.0**	**-2.6**
NOA	**NORSAR Array B**	**11.76**	**160**	*Pn*	**Pn**	**07 42 45.3**	**+1.4**
	baz=356,slow=12,SNR=2.4						
	comp=Z,0.2nm,0.5s						
HFS	**Hagfors**	**12.94**	**155**	*Pn*	**Pn**	**07 43 01.7**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=348,slow=11,SNR=21						
HFS				LR	LR	07 47 42.4	
	comp=Z,83nm,18.7s,baz=36,slow=36						
	comp=Z,1.4nm,0.5s						
FINES	**FINESS Array B**	**14.07**	**129**	*Pn*	**Pn**	**07 43 15.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=352,slow=12,SNR=5.3						
FINES				LR	LR	07 48 18.1	
	comp=Z,81nm,19.6s,baz=18,slow=36						
	comp=Z,1.5nm,0.8s						
GERES	**GERESS Array B**	**24.04**	**162**	*P*	**P**	**07 45 13.0**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=359,slow=9.3,SNR=4.9						
	comp=Z,0.8nm,0.7s						
AKASG	**Malin Array Be**	**24.63**	**137**	*P*	**P**	**07 45 17.3**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=338,slow=9.3,SNR=4.2						
AKASG				LR	LR	07 54 40.5	
	comp=Z,62nm,19.1s,baz=164,slow=36						
	comp=Z,0.9nm,0.5s						
BELG	**Belogornoye**	**27.71**	**112**	*LR*	*LR*	07 56 37.6	
	comp=Z,51nm,18.6s,baz=57,slow=36						
MLR	**Muntele Rosu**	**29.00**	**145**	*LR*	*LR*	07 57 55.8	
	comp=Z,66nm,19.2s,baz=76,slow=37						
KURBB	**Kurchatov Arra**	**38.56**	**82**	*P*	**P**	**07 47 19.2**	**+0.6**
	comp=Z,0.2nm,0.2s,baz=337,slow=7.3,SNR=2.1						
	comp=Z,0.2nm,0.2s						
ILAR	**Eielson Array**	**41.68**	**341**	*P*	**P**	**07 47 44.5**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=18,slow=5.2,SNR=4.7						
	comp=Z,0.3nm,0.7s						
MKAR	**Makanchi Array**	**43.11**	**81**	*P*	**P**	**07 47 57.1**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=352,slow=7.4,SNR=4.1						
	comp=Z,0.3nm,0.6s						
DLBC	**Dease Lake**	**45.55**	**327**	*LR*	*LR*	08 07 27.6	
	comp=Z,6.4nm,18.3s,baz=303,slow=36						
NEW	**Newport**	**52.68**	**313**	*LR*	*LR*	08 09 41.4	
	comp=Z,35nm,18.3s,baz=346,slow=34						
TORD	**Torodi Ar. Bea**	**59.12**	**181**	*P*	**P**	**07 49 57.9**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=358,slow=6.7,SNR=4.3						
	comp=Z,0.7nm,0.8s						

*IDC **19** 07:41:57.4±3.9, 25°.44S×178°.46E, h586km±39km, mb3.3/5, mbtmp4.4/8, Error ellipse: s-maj=39.1km s-min=21.7km az=50.0*
*NEIC **19** 07:41:58.2±1.3, 25°.41S±0°.07×178°.6E±0°.2, h615km±12km, mb4.3/12, Error ellipse: s-maj=21.0km s-min=10.5km az=91.0*
ISC 19 07:41:57.2**±0.6, **25°.43S**±0°.09×**178°.5E**±0°.1, **h585**km, **n65, σ1**s**39**/60, **mb4.3**/11, **South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.95**	**141**	*P*	**P**	**07 43 32.0**	**+3.4**
MSVF	**Nonsavu**	**7.67**	**357**	*P*	**P**	**07 43 55.6**	**+2.5**
PINNC	**Pines Island,**	**10.52**	**283**	*P*	**P**	**07 44 22.0**	**+1.1**
OUZ	**Omahuta**	**10.65**	**202**	*P*	**P**	**07 44 24.9**	**+2.9**
DZM	**Mont Dzumac**	**11.57**	**284**	*P*	**P**	**07 44 32.4**	**+0.8**
DZM	**Mont Dzumac**	**11.57**	**284**	*P*	**P**	**07 44 32.3**	**+0.7**
	8.2nm,0.6s,baz=115,slow=10,SNR=15						
MKAZ	**Moumakai**	**11.99**	**193**	*P*	**P**	**07 44 38.2**	**+2.6**
AWAZ	**Awhitu Peninsu**	**12.07**	**195**	*P*	**P**	**07 44 38.8**	**+2.4**
TOZ	**Tahuroa Road**	**12.54**	**191**	*P*	**P**	**07 44 42.8**	**+1.7**
URZ	**Urewera**	**12.85**	**185**	*P*	**P**	**07 44 43.0**	**-1.3**
	22nm,0.9s,baz=260,slow=3.7,SNR=9.2						
URZ	**Urewera**	**12.85**	**185**	*P*	**P**	**07 44 43.4**	**-0.9**
MWZ	**Matawai**	**12.90**	**184**	*P*	**P**	**07 44 44.2**	**-0.6**
MUGZ	**Murupara**	**13.10**	**186**	*P*	**P**	**07 44 46.7**	**-0.2**
BKZ	**Black Stump Fm**	**13.81**	**187**	*P*	**P**	**07 44 52.2**	**-2.0**
NEZ	**North Egmont**	**14.30**	**194**	*P*	**P**	**07 45 02.2**	**+3.1**
SANVU	**Saraoutou**	**14.53**	**311**	*P*	**P**	**07 45 00.9**	**-0.6**
PNHZ	**Pukenui**	**14.58**	**187**	*P*	**P**	**07 45 00.4**	**-1.3**
AFI	**Afiamalu**	**14.63**	**40**	*P*	**P**	**07 45 01.4**	**-1.2**
MRZ	**Mangatainoka R**	**15.39**	**189**	*P*	**P**	**07 45 07.6**	**-1.7**
OGWZ	**Otaki Gorge**	**15.61**	**190**	*P*	**P**	**07 45 10.7**	**-0.6**
HOWZ	**Holdsworth Sta**	**15.63**	**189**	*P*	**P**	**07 45 10.9**	**-0.7**
DUWZ	**D'Urville Isla**	**15.81**	**193**	*P*	**P**	**07 45 13.6**	**+0.3**
CAW	**Cannon Point**	**15.90**	**190**	*P*	**P**	**07 45 14.1**	**0.0**
PAWZ	**Paruwai Farm**	**16.12**	**188**	*P*	**P**	**07 45 16.4**	**+0.2**
QRZ	**Quartz Range**	**16.15**	**197**	*P*	**P**	**07 45 17.8**	**+1.4**
MSWZ	**Moikau Station**	**16.18**	**189**	*P*	**P**	**07 45 15.4**	**-1.2**
BHW	**Baring Head**	**16.23**	**190**	*P*	**P**	**07 45 17.4**	**+0.3**
TKNZ	**Takaka Hill**	**16.24**	**195**	*P*	**P**	**07 45 17.6**	**+0.4**
NNZ	**Nelson**	**16.32**	**194**	*P*	**P**	**07 45 18.1**	**+0.2**
DSZ	**Denniston Nort**	**17.21**	**197**	*P*	**P**	**07 45 28.2**	**+2.2**
KHZ	**Kahutara**	**17.44**	**192**	*P*	**P**	**07 45 27.9**	**-0.1**
LTZ	**Lake Taylor**	**18.06**	**195**	*P*	**P**	**07 45 33.3**	**-0.5**
GVZ	**Greta Valley S**	**18.07**	**193**	*P*	**P**	**07 45 34.3**	**+0.4**
INZ	**Inchbonnie**	**18.22**	**197**	*P*	**P**	**07 45 35.6**	**+0.5**
WVZ	**Waitaha Valley**	**18.73**	**198**	*P*	**P**	**07 45 40.8**	**+1.0**
MQZ	**McQueen's Vall**	**18.86**	**193**	*P*	**P**	**07 45 40.8**	**-0.2**
RPZ	**Rata Peaks**	**19.24**	**197**	*P*	**P**	**07 45 45.1**	**+0.6**
	3.3nm,0.4s,baz=11,slow=4.8,SNR=6.2						
MLZ	**Mavora Lakes**	**21.60**	**200**	*P*	**P**	**07 46 06.2**	**+0.5**
CTAO	**Charters Tower**	**30.19**	**273**	*P*	**P**	**07 47 21.4**	**-0.1**
STKA	**Stephens Creek**	**32.94**	**250**	*P*	**P**	**07 47 44.3**	**-0.4**
STKA	**Stephens Creek**	**32.94**	**250**	*P*	**P**	**07 47 44.3**	**-0.4**
	2.0nm,0.6s,baz=114,slow=10,SNR=4.3						
	2.0nm,0.6s						
COEN	**Coen**	**35.09**	**282**	*P*	**P**	**07 48 02.3**	**-0.5**
COEN				IAmb	IAmb	07 48 03.7	
	comp=Z,14nm,0.8s						
BBOO	**Buckleboo**	**37.64**	**249**	*P*	**P**	**07 48 21.9**	**-1.6**
BBOO				IAmb	IAmb	07 48 22.8	
	comp=Z,7.5nm,0.9s						
AS31	**Alice Springs**	**40.50**	**263**		**P**	**07 48 45.1**	**-1.6**
AS31				IAmb	IAmb	07 48 47.0	
	comp=Z,4.7nm,1.2s						
ASAR	**Alice Springs**	**40.50**	**263**		**P**	**07 48 44.5**	**-2.2**
ASAR	**Alice Springs**	**40.50**	**263**	*P*	**P**	**07 48 45.9**	**-0.9**
	comp=Z,4.0nm,0.4s,baz=88,slow=7.1,SNR=77						
	comp=Z,4.0nm,0.4s						
WRAB	**Tennant Creek**	**41.00**	**268**	*P*	**P**	**07 48 49.0**	**-1.6**
WRAB				IAmb	IAmb	07 48 50.1	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**41.00**	**268**	*P*	**P**	**07 48 48.9**	**-1.9**
WRA	**Warramunga Arr**	**41.00**	**268**	*P*	**P**	**07 48 49.4**	**-1.3**
	comp=Z,8.3nm,0.6s,baz=100,slow=7.2,SNR=153						
	comp=Z,8.3nm,0.6s						
FORT	**Forrest**	**44.55**	**251**	*P*	**P**	**07 49 16.4**	**-1.7**
FORT				IAmb	IAmb	07 49 17.6	
	comp=Z,4.3nm,0.7s						
KNRA	**Kununurra**	**47.38**	**272**	*P*	**P**	**07 49 38.5**	**-1.2**
KNRA				IAmb	IAmb	07 49 39.8	
	comp=Z,25nm,1.1s						
QSPA	**South Pole Qui**	**64.66**	**180**	*P*	**P**	**07 51 37.2**	**-0.8**
SNAA	**Sanae**	**83.16**	**180**	*P*	**P**	**07 53 20.9**	**-1.4**
SNAA	**Sanae**	**83.16**	**180**	*P*	**P**	**07 53 22.3**	**0.0**
	comp=Z,0.3nm,0.5s,baz=201,slow=10,SNR=8.2						
	comp=Z,0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**88.82**	**291**	*P*	**P**	**07 53 51.9**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=146,slow=4.5,SNR=4.1						
	comp=Z,0.8nm,0.3s						
ARCES	**ARCESS Array B**	**133.09**	**347**	*PKP*	**PKPdf**	**08 00 06.2**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=54,slow=4.8,SNR=3.5						
NB201	**NORSAR Array S**	**143.33**	**350**	*PKPbc*	*PKPbc*	08 00 23.3	-0.4
NB2	**NORSAR Subarra**	**143.36**	**350**	*PKP*	*PKPbc*	08 00 23.7	-0.1
	comp=Z,2.1nm,0.7s,baz=18,slow=3.2						
NOA	**NORSAR Array B**	**143.36**	**350**	*PKP*	*PKPbc*	08 00 23.8	-0.1
	comp=Z,2.5nm,0.7s,baz=21,slow=3.8,SNR=16						
NAO01	**NORSAR Array S**	**143.59**	**350**	*PKPbc*	*PKPbc*	08 00 24.5	0.0
HFS	**Hagfors**	**143.75**	**347**	*PKP*	*PKPbc*	08 00 24.1	-0.9
	comp=Z,2.2nm,0.3s,baz=58,slow=3.6,SNR=37						
AKASG	**Malin Array Be**	**145.49**	**325**	*PKPbc*	**PKPbc**	**08 00 29.7**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=70,slow=0.9,SNR=4.1						
MMAI	**Mount Meron Ar**	**147.07**	**292**	*PKPbc*	**PKiKP**	**08 00 36.3**	**-1.0**
	comp=Z,1.2nm,0.4s,baz=67,slow=4.8,SNR=2.3						
BRTR	**Keskin Array B**	**147.39**	**305**	*PKPbc*	**PKPbc**	**08 00 35.9**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=116,slow=2.9,SNR=4.9						
EKA	**Eskdalemuir Ar**	**150.10**	**2**	*PKPbc*	**PKPbc**	**08 00 41.8**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=334,slow=2.3,SNR=3.5						

*NEIC **19** 07:46:54.9±0.9, 13°.64N±0°.08×144°.5E±0°.1, h172km±7km, mb4.0/13, Error ellipse: s-maj=19.4km s-min=10.4km az=66.0*
*IDC **19** 07:46:54.4±0.4, 13°.70N×144°.55E, h167km±5km, mb3.4/10, mbtmp3.9/10, Error ellipse: s-maj=27.7km s-min=12.6km az=82.0*
ISC 19 07:46:53.2**±0.6, **13°.68N**±0°.10×**144°.3E**±0°.1, **h150**km, **n28, σ1**s**56**/29, **mb3.9**/17, **Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.59**	**99**	*P*	**Pn**	**07 47 18.2**	**+3.2**
	2μm,0.3s,baz=323,slow=1.5,SNR=264						
GUMO				*S*	**Sn**	**07 47 35.5**	**+3.8**
	594nm,0.2s,baz=177,slow=23,SNR=12						
JNU	**Nakatsue**	**22.88**	**330**	*P*	**P**	**07 51 44.7**	**+0.8**
MJAR	**Matsushiro Arr**	**23.40**	**348**	*P*	**P**	**07 51 48.6**	**0.0**
MJAR	**Matsushiro Arr**	**23.40**	**348**	*P*	**P**	**07 51 48.8**	**+0.2**
	1.4nm,0.6s,baz=171,slow=8.9,SNR=4.9						
	1.4nm,0.6s						
COEN	**Coen**	**27.48**	**182**	*P*	**P**	**07 52 24.6**	**-1.0**
KSRS	**Korea Array**	**27.80**	**331**	*P*	**P**	**07 52 28.2**	**+0.1**
	1.3nm,0.5s,baz=141,slow=10,SNR=6.6						
	1.3nm,0.5s						
WB0	**Warramunga

OBF8				MSG		07 49 37.5		
	comp=Z,1.8nm,0.2s							
RANF	**Ranua**	**2.17**	**345**	PG		07 49 14.8		
RANF				SG		07 49 42.2		
KU6	**Riekki**	**2.22**	**18**	PG		07 49 15.9		
KU6				MSG		07 49 41.9		
	comp=Z,2.2nm,0.2s							
KU6				SG		07 49 45.5		
KEF	**Keuruu**	**2.33**	**222**	PG		07 49 18.0		
KEF				MSG		07 49 45.3		
	comp=Z,2.7nm,0.2s							
KEF				SG		07 49 49.2		
OLKF	**Oulanka, Finla**	**2.45**	**12**	PG		07 49 19.5		
OLKF				MSG		07 49 48.1		
	comp=Z,2.8nm,0.2s							
OLKF				SG		07 49 52.1		
RUF	**Ruokolahti**	**2.55**	**172**	PG		07 49 22.1		
	baz=348							
RUF				MSG		07 49 53.0		
	comp=Z,2.9nm,0.2s							
RUF				SG		07 49 56.6		
FIA0	**FINESS Array S**	**2.68**	**202**	PG		07 49 23.5		
	baz=16							
FIA0				MSG		07 49 56.1		
	comp=Z,1.8nm,0.2s							
FIA0				SG		07 49 58.0		
FINES	**FINESS Array B**	**2.68**	**202**	Pn	Pn	07 49 23.9	+1.8	
	comp=Z,0.3nm,0.3s,baz=22,slow=15,SNR=12							
FINES				Sn	Sb	07 49 57.6	-2.3	
	comp=Z,0.5nm,0.3s,baz=19,slow=26,SNR=14 comp=Z,1.0nm,0.4s							
RNF	**Rovaniemi**	**2.83**	**342**	PG		07 49 25.8		
UMAU	**Umeaa**	**3.31**	**272**	PN		07 49 29.0		
KPF	**Kankaanpaa**	**3.50**	**236**	PB		07 49 34.4		
ERTU	**Ertsjaerv**	**3.64**	**319**	PN		07 49 34.7		
ERTU				SG		07 50 27.8		
KLF	**Kolari**	**3.74**	**334**	SG		07 50 29.1		
PAJU	**Pajala**	**3.75**	**328**	SG		07 50 29.6		
RAJF	**Raja-Jooseppi**	**4.56**	**1**	SG		07 50 52.7		
ARCES	**ARCESS Array B**	**5.72**	**351**	Pn	Pn	07 50 03.2	-0.6	
	baz=163,slow=13,SNR=1.0							
ARCES				Sn	Sn	07 51 06.0	-4.1	
	comp=Z,0.1nm,0.3s,baz=163,slow=23,SNR=1.9 comp=Z,0.7nm,0.9s							
I37NO	**I37NO**	**6.41**	**328**	I	I	08 24 40.0		
	baz=140,slow=316,SNR=5.9							

*ASRS **19** 07:49:17.0±1.3,53°.65N×86°.92E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 19 07:49:19.3±2.9, 53°.73N×86°.84E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=24.6km s-min=13.5km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**281**	I	I	07 56 50.4	
	baz=99,slow=316,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.22**	**281**	Pg	Pg	07 49 41.8	-0.9
	0.6nm,0.3s,baz=99,slow=18,SNR=7.3						
ZALV				Lg	Lg	07 49 59.3	
	1.2nm,0.3s,baz=102,slow=27,SNR=6.7						
KURBB	**Kurchatov Arra**	**5.99**	**242**	Pn	Pn	07 50 50.4	+1.3
	baz=58,slow=14,SNR=4.7						
KURBB				Lg	Lg	07 52 27.1	
	baz=64,slow=34,SNR=4.8 0.5nm,0.5s						
MKAR	**Makanchi Array**	**7.53**	**205**	Pn	Pn	07 51 10.5	+0.2
	0.1nm,0.3s,baz=21,slow=12,SNR=3.0						
MKAR				Sn	Sn	07 52 37.9	+1.6
	0.1nm,0.3s,baz=24,slow=27,SNR=2.8						
MKAR				Lg	Lg	07 53 15.1	
	baz=16,slow=30,SNR=3.3 0.2nm,0.6s						

*TEH **19** 08:09:47.8, 27°.41N×55°.92E, h9km±19km*
*OMAN **19** 08:09:48.1±0.1, 27°.79N×56°.00E, h30km±3km, ml3.3/19, Error ellipse: s-maj=3.7km s-min=0.9km az=20.0*
*DSN **19** 08:09:50.3±1.0, 27°.53N×56°.31E, h10km, ML3.2/8, Error ellipse: s-maj=32.3km s-min=9.2km az=96.0*

ISC 19 08:09:47.9±1.3, 27°.60N±0°.04×55°.93E±0°.04, h3km±12km, n59, σ1s81/70, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.29**	**133**	Pg	**Pg**	08 09 53.4	**-0.2**
GENO				Sg	**Sg**	08 09 58.4	**+0.9**
IBND	**Bandar-abas**	**0.56**	**105**	Pg	**Pg**	08 09 59.3	**+0.6**
LAR1	**LAR**	**1.38**	**273**	Pg	**Pg**	08 10 15.3	**+0.9**
SHME	**Shamm**	**1.56**	**173**	P	**Pn**	08 10 16.2	**-0.3**
SHME				S	**Sn**	08 10 37.8	**+0.5**
SHME	**Shamm**	**1.56**	**173**	*e*P	**Pn**	08 10 15.8	**-0.7**
	SNR=23						
SHME				S	**Sn**	08 10 37.5	**+0.2**
KHNJ	**Kahnooj**	**1.61**	**77**	Pg	**Pg**	08 10 19.5	**+0.7**
BANOM	**Banah**	**1.70**	**169**	P	**Pn**	08 10 18.9	**+0.3**
BANOM				S	**Sn**	08 10 41.4	**+0.4**
BANOM	**Banah**	**1.70**	**169**	*e*P	**Pn**	08 10 18.7	**+0.1**
	SNR=64						
UMQ	**Umm Al-Quwin**	**2.08**	**187**	P	**Pn**	08 10 23.2	**-0.6**
UMQ				S	**Sn**	08 10 51.5	**+1.3**
NGRK	**Negar Kerman**	**2.15**	**19**	Pn	**Pg**	08 10 28.9	**-0.4**
MASF	**Masafi**	**2.23**	**175**	P	**Pn**	08 10 27.1	**+1.2**
	SNR=8.7						
MSFE	**Esma-Masafi**	**2.24**	**175**	*e*P	**Pn**	08 10 26.5	**+0.5**
	SNR=8.7						
MDH	**Madha**	**2.32**	**172**	P	**Pn**	08 10 27.5	**+0.5**
MDH	**Madha**	**2.32**	**172**	P	**Pn**	08 10 27.4	**+0.5**
JASK	**Jask - Hormozg**	**2.44**	**134**	Pn	**Pn**	08 10 28.7	**0.0**
JASK	**Jask - Hormozg**	**2.44**	**134**	P	**Pn**	08 10 28.8	**0.0**
KRBR	**Kerman**	**2.48**	**17**	Pn	**Pb**	08 10 33.7	**+0.3**
NAZ	**Nazwa, Dubai**	**2.61**	**185**	P	**Pn**	08 10 32.6	**+1.5**
UOSS	**Minazif**	**2.66**	**175**	P	**Pn**	08 10 32.3	**+0.6**
KBAM	**BAM**	**2.70**	**55**	Pn	**Pb**	08 10 35.8	**-1.1**
HATD	**Hatta, Dubai**	**2.77**	**176**	P	**Pn**	08 10 34.7	**+1.5**
HATD				S	**Sn**	08 10 58.4	**+1.0**
HATD	**Hatta, Dubai**	**2.77**	**176**	P	**Pn**	08 10 34.6	**+1.3**
KHGB	**Koh Gabri**	**2.81**	**10**	Pn	**Pb**	08 10 39.1	**+0.2**
FAQ	**Al Faqa, Dubai**	**2.86**	**186**	P	**Pn**	08 10 36.0	**+1.5**
	SNR=5.9						
FAQ	**Al Faqa, Dubai**	**2.86**	**186**	*e*P	**Pn**	08 10 36.0	**+1.5**
	SNR=5.8						
ASHO	**Ashiyiah**	**2.91**	**178**	P	**Pn**	08 10 36.5	**+1.3**
	SNR=7.0						
ASHO				S	**Sn**	08 11 11.8	**+1.1**
ASHO	**Ashiyiah**	**2.91**	**178**	*e*P	**Pn**	08 10 35.7	**+0.5**
	SNR=7.0						
ASUD	**Al Ashush, Dub**	**3.01**	**190**	P	**Pn**	08 10 38.3	**+1.7**
	SNR=11						
ASUD				S	**Sn**	08 11 14.7	**+1.5**
ASUD	**Al Ashush, Dub**	**3.01**	**190**	*i* P	**Pn**	08 10 38.7	**+2.1**
	SNR=11						
AJN	**Ajban**	**3.14**	**196**	P	**Pn**	08 10 36.8	**-1.6**
SOHO	**SOHO**	**3.50**	**171**	P	**Pn**	08 10 42.8	**-0.5**
ALNE	**Al Ain**	**3.53**	**183**	P	**Pn**	08 10 45.4	**+1.6**
ALNE				S	**Sn**	08 11 26.4	**+0.3**
JRN	**Qarnain Island**	**3.83**	**227**	P	**Pn**	08 10 46.7	**-1.2**
JRN				S	**Sn**	08 11 33.7	**+0.4**
IMEH	**Mehriz**	**3.95**	**343**	Pn	**Pb**	08 10 54.2	**-4.2**
HOQ	**Hoqain**	**4.19**	**162**	Pn	**Pn**	08 10 52.0	**-0.8**
HOQ	**Hoqain**	**4.19**	**162**	P	**Pn**	08 10 51.3	**-1.5**
DSBU	**Dashti - Bushe**	**4.20**	**281**	Pn	**Pn**	08 10 55.5	**+2.5**
ARQ	**Araqi**	**4.28**	**173**	P	**Pn**	08 10 56.0	**+1.9**
CHBR	**Chabahar**	**4.54**	**115**	Pn	**Pn**	08 10 58.7	**+1.1**
ZHSF	**Zahedan**	**4.71**	**64**	Pn	**Pn**	08 11 03.2	**+3.1**
ICHK	**Chekchek**	**4.81**	**344**	Pn	**Pn**	08 11 05.8	**+4.2**
SMDO	**Samad**	**4.91**	**157**	P	**Pn**	08 10 59.7	**-3.1**
BSY	**Bisya**	**4.97**	**166**	P	**Pn**	08 11 02.3	**-1.2**
WSAR	**Wadi Sarin**	**4.98**	**150**	P	**Pn**	08 11 02.6	**-1.1**
KLNJ	**Kolanjah**	**5.09**	**313**	Pn	**Pn**	08 11 08.5	**+3.1**
MZR	**Muzera**	**5.09**	**206**	P	**Pn**	08 11 06.2	**+1.1**
TRNA	**Turayna**	**5.11**	**237**	P	**Pn**	08 11 06.1	**+0.7**
	SNR=7.7						
TRNA				S	**Sn**	08 12 03.7	**-1.3**
IRAM	**Ramesheh**	**5.21**	**324**	Pn	**Pn**	08 11 10.8	**+3.8**
SMRA	**Abu-Samra**	**5.40**	**239**	P	**Pn**	08 11 09.3	**-0.1**
SMRA				S	**Sn**	08 12 12.1	**0.0**
IKOO	**Kooshah**	**5.50**	**28**	Pn	Pn	08 11 15.8	+4.8
JMDO	**Jabal Madar**	**5.57**	**159**	P	**Pn**	08 11 10.9	**-0.9**
IGAR	**Gharneh**	**5.86**	**326**	Pn	**Pn**	08 11 19.7	**+3.8**
IZEF	**Zefreh**	**6.13**	**330**	Pn	**Pn**	08 11 23.1	**+3.4**
JLN	**Jalan Bani Buh**	**6.28**	**149**	P	**Pn**	08 11 20.2	**-1.3**
ZNGN	**Zangian**	**6.30**	**317**	Pn	**Pn**	08 11 25.9	**+3.8**
JHBN	**Jahan bin**	**6.49**	**317**	Pn	**Pn**	08 11 28.3	**+3.6**
IPIR	**Pirpir**	**6.69**	**320**	Pn	**Pn**	08 11 31.3	**+3.9**
WHFO	**Wadi Hawf**	**9.84**	**192**	P	**Pn**	08 12 11.0	**+0.5**
	SNR=8.9						
RAYN	**Ar Rayn**	**10.25**	**249**	P	**Pn**	08 12 13.7	**-2.4**

*HEL **19** 08:10:20.2±0.2, 61°.15N×21°.80E, h0km, ML1.3, Explosion Hypocentre not reviewed by the ISC*

IDC 19 08:10:20.5±1.2, 61°.13N×22°.05E, h0km, mbtmp3.0/1, ML2.4/1, Error ellipse: s-maj=21.8km s-min=10.0km az=173.0, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.18**	**233**	PG		08 10 22.3	
	baz=7.0						
RAF				SG		08 10 23.0	
KPF	**Kankaanpaa**	**0.71**	**1**	PG		08 10 33.0	
KPF				SG		08 10 42.0	
AAL	**Aland**	**1.39**	**228**	PG		08 10 44.1	
AAL				SB		08 11 01.5	
MEF	**Metsahovi**	**1.47**	**127**	PG		08 10 49.4	
MEF				MSG		08 11 07.6	
	comp=Z,2.1nm,0.2s						
MEF				SN		08 11 10.3	
KEF	**Keuruu**	**1.70**	**51**	PG		08 10 52.3	
	baz=232						
KEF				MSG		08 11 13.3	
	comp=Z,1.2nm,0.2s						
KEF				SN		08 11 16.4	
PVF	**Pernaja**	**1.96**	**106**	MSG		08 11 21.9	
	comp=Z,2.1nm,0.2s						
PVF				SG		08 11 25.5	
FIA0	**FINESS Array S**	**1.97**	**79**	PG		08 10 57.2	
	baz=265						
FIA0				MSG		08 11 21.9	
	comp=Z,1.4nm,0.2s						
FIA0				SG		08 11 24.4	
FINES	**FINESS Array B**	**1.97**	**79**	Pn	Pb	08 10 57.4	+0.3
	comp=Z,0.5nm,0.3s,baz=265,slow=15,SNR=18						
FINES				Sn	Sg	08 11 25.1	+1.5
	comp=Z,1.8nm,0.3s,baz=264,slow=26,SNR=31						
KAF	**Kangasniemi**	**2.26**	**62**	PG		08 11 02.0	
KAF				MSG		08 11 29.9	
	comp=Z,1.5nm,0.2s						
KAF				SG		08 11 33.2	
SUF	**Sumiainen**	**2.51**	**49**	PB		08 11 04.8	
SUF				MSG		08 11 36.6	
	comp=Z,0.5nm,0.2s						
HUSU	**Husum**	**2.59**	**330**	SG		08 11 36.8	
VJF	**Virojoki**	**2.76**	**100**	MSG		08 11 44.9	
	comp=Z,1.1nm,0.2s						
VJF				SG		08 11 49.0	
UMAU	**Umeaa**	**2.84**	**348**	SG		08 11 44.8	
HFS	**Hagfors**	**4.24**	**260**	Pg	Pb	08 11 33.1	-2.7
	comp=Z,0.1nm,0.3s,baz=75,slow=17,SNR=5.2						
HFS				Lg	Lg	08 12 23.3	
	comp=Z,0.3nm,0.3s,baz=62,slow=31,SNR=6.9						
NOA	**NORSAR Array B**	**5.26**	**274**	Pg	Pb	08 11 52.4	-0.8
	baz=79,slow=19,SNR=1.2						
NOA				Lg	Lg	08 12 55.7	
	baz=59,slow=22,SNR=4.5						
I37NO	**I37NO**	**8.11**	**351**	I	I	09 00 00.0	
	baz=170,slow=316,SNR=2.4						
ARCES	**ARCESS Array B**	**8.56**	**8**	Pn	Pn	08 12 24.3	-1.2
	baz=195,slow=13,SNR=4.0 comp=Z,0.7nm,0.8s						

AUST 19 08:14:22.1±1.6, 18°S±10°×12°0E±1°5, h10km, mb4.1/2, ML2.5/2, ML3.1/4, Error ellipse: s-maj=33.3km s-min=19.3km az=68.3, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.70**	**189**	P	Pn	08 15 05.9	+0.2
MBWA				S	Sn	08 15 39.2	+0.8
PSAC1	**Pilbara Seismi**	**3.06**	**187**	P	Pn	08 15 10.6	+0.1
PSAC1				S	Sn	08 15 48.1	+0.8
PSA00	**Pilbara Seismi**	**3.09**	**186**	P	Pn	08 15 11.0	-0.1
PSA00				S	Sn	08 15 48.6	+0.6
GIRL	**Giralia**	**6.95**	**232**	P	Pn	08 16 04.1	0.0
	comp=Z,150μmcomp=Z,49nm,2.0s,comp=Z,0.1nm						
GIRL				S	Sn	08 17 19.1	-4.2
MEEK	**Meekatharra**	**8.25**	**190**	P	Pn	08 16 21.5	-0.4
	comp=Z,0.1nmcomp=Z,20nm,2.3s						

*ASRS **19** 08:19:48.0±1.0, 54°.02N×86°.50E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 19 08:19:53.5±2.9, 53°.82N×86°.42E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=24.6km s-min=14.5km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**278**	I	I	08 26 30.0	
	baz=99,slow=324,SNR=2.2						
ZALV	**Zalesovo Beam**	**0.96**	**278**	Pg	Pg	08 20 10.0	-1.9
	0.5nm,0.3s,baz=95,slow=16,SNR=4.1						
ZALV				Lg	Lg	08 20 25.9	
	0.9nm,0.3s,baz=95,slow=27,SNR=9.3						
KURBB	**Kurchatov Arra**	**5.81**	**240**	Pn	Pn	08 21 22.2	+1.3
	baz=55,slow=13,SNR=3.7 0.6nm,0.5s						
MKAR	**Makanchi Array**	**7.51**	**202**	Pn	Pn	08 21 45.4	+1.1
	0.1nm,0.3s,baz=24,slow=13,SNR=2.2 0.2nm,0.7s						

AUST 19 08:20:41.5±0.8, 18°S±8°×12°0E±°, h10km, mb4.1/7, ML2.6/3, ML3.3/5, Error ellipse: s-maj=20.5km s-min=7.3km az=145.7, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.95**	**192**	P	Pn	08 21 29.4	+1.0
MBWA				S	Sn	08 22 03.4	-0.5
PSAC1	**Pilbara Seismi**	**3.30**	**189**	P	Pn	08 21 34.2	+0.9
PSAC1				S	Sn	08 22 11.3	-1.3
PSA00	**Pilbara Seismi**	**3.33**	**189**	P	Pn	08 21 34.5	+0.8
PSA00				S	Sn	08 22 11.2	-2.2
FITZ	**Fitzroy Crossi**	**5.00**	**89**	P	Pn	08 21 56.7	+0.1
GIRL	**Giralia**	**7.23**	**232**	P	Pn	08 22 27.2	-0.1
	comp=Z,149μmcomp=Z,41nm,1.5s,comp=Z,0.1nm						
GIRL				S	Sn	08 23 42.8	-6.6
KNRA	**Kununurra**	**8.42**	**73**	P	Pn	08 22 44.3	+0.7
MEEK	**Meekatharra**	**8.49**	**191**	P	Pn	08 22 44.9	+0.2
	comp=Z,18nm,1.7s,comp=Z,0.1nm						
WRKA	**Warakurna**	**9.98**	**134**	P	Pn	08 23 05.8	+0.8
	comp=Z,3.6nm,2.3s,comp=Z,0.0nm						
BLDU	**Ballidu**	**12.74**	**195**	P	Pn	08 23 41.3	-1.5
	comp=Z,37nm,3.0s						
WRAB	**Tennant Creek**	**13.31**	**99**	P	Pn	08 23 49.3	-1.3
	comp=Z,6.6nm,1.9s						
KLBR	**Kellerberrin**	**13.48**	**190**	P	Pn	08 23 51.5	-1.5
	comp=Z,22nm,1.3s						
KLBR				S	Sn	08 26 11.8	-11
FORT	**Forrest**	**14.28**	**152**	P	Pn	08 24 03.4	-0.4
	comp=Z,8.3nm,1.2s						
FORT				S	Sn	08 26 31.7	-11

*ASRS **19** 08:24:35.0±1.1, 53°.94N×86°.55E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 19 08:24:36.1±3.0, 53°.91N×86°.67E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=24.3km s-min=14.1km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.10**	**273**	I	I	08 31 30.0	
	baz=90,slow=318,SNR=4.7						
ZALV	**Zalesovo Beam**	**1.10**	**273**	Pg	Pg	08 24 56.8	-0.3
	0.5nm,0.3s,baz=94,slow=13,SNR=4.0						
ZALV				Lg	Lg	08 25 11.9	
	1.6nm,0.3s,baz=92,slow=29,SNR=12						
KURBB	**Kurchatov Arra**	**5.99**	**240**	Pn	Pn	08 26 07.2	+1.3
	0.1nm,0.3s,baz=57,slow=14,SNR=2.6 0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.66**	**203**	Pn	Pn	08 26 29.6	+0.7
	0.1nm,0.3s,baz=25,slow=14,SNR=2.3						
MKAR				Lg	Lg	08 28 39.0	
	baz=22,slow=31,SNR=2.3 0.1nm,0.3s						

ASRS 19 08:29:43.0±1.0, 55°.82N×86°.03E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*ASRS **19** 08:29:59.0±1.0, 54°.13N×86°.42E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 19 08:29:59.9±2.8, 54°.11N×86°.51E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=23.6km s-min=14.1km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**262**	I	I	08 36 20.0	
	baz=80,slow=316,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.01**	**261**	Pg	Pg	08 30 19.1	-0.1
	1.7nm,0.3s,baz=80,slow=16,SNR=12						
ZALV				Lg	Lg	08 30 33.7	
	1.8nm,0.3s,baz=82,slow=27,SNR=7.3						
KURBB	**Kurchatov Arra**	**6.00**	**238**	Pn	Pn	08 31 29.4	-0.5
	0.1nm,0.3s,baz=54,slow=13,SNR=5.9 0.6nm,0.4s						
MKAR	**Makanchi Array**	**7.80**	**202**	Pn	Pn	08 31 56.4	+1.8
	0.2nm,0.3s,baz=26,slow=13,SNR=6.5 0.3nm,0.3s						

*UPP **19** 09:00:58.4±0.2, 67°.43N×23°.36E, h0km, ML1.6, Unknown*
*IDC **19** 09:00:58.8±1.6, 67°.48N×23°.73E, h0km, mbtmp2.5/2, ML1.8/2, Error ellipse: s-maj=33.9km s-min=8.4km az=96.0*
*HEL **19** 09:00:59.0±0.1, 67°.41N×23°.32E, h0km, ML1.5, Explosion Hypocentre not reviewed by the ISC*

ISC 19 09:00:58.9±1.0, 67°.42N±0°.03×23°.26E±0°.05, h10km, n16, σ0s93/19, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLF	**Kolari**	**0.33**	**125**	PG		09 01 04.6	
KLF				SG		09 01 09.2	
PAJU	**Pajala**	**0.41**	**188**	P	**Pg**	**09 01 06.3**	**-0.5**
PAJU				S	**Sb**	**09 01 12.5**	**-1.9**
PAJU	**Pajala**	**0.41**	**188**	PG		09 01 06.3	
	baz=15						
PAJU				SG		09 01 10.5	
MASU	**Masugnsbyn**	**0.49**	**275**	P	**Pg**	**09 01 08.3**	**-0.1**
MASU				S	**Sg**	**09 01 15.9**	**+1.1**
LANU	**Lannavaara**	**0.79**	**323**	P	**Pg**	**09 01 13.7**	**-0.5**
LANU	**Lannavaara**	**0.79**	**323**	PG		09 01 13.8	
LANU				SB		09 01 26.2	
ERTU	**Ertsjaerv**	**0.97**	**206**	P	**Pg**	**09 01 16.8**	**-0.7**
ERTU				S	**Sb**	**09 01 30.0**	**-0.6**
ERTU	**Ertsjaerv**	**0.97**	**206**	PB		09 01 16.8	
	baz=26						
ERTU				SB		09 01 30.2	
HEF	**Hetta**	**1.00**	**8**	*e*P	**Pg**	**09 01 17.0**	**-1.1**
HEF	**Hetta**	**1.00**	**8**	PG		09 01 17.2	
	baz=187						
HEF				MSG		09 01 29.9	
	comp=Z,4.3nm,0.2s						
HEF				SB		09 01 31.7	
DUNU	**Dundret**	**1.09**	**255**	P	**Pb**	**09 01 19.4**	**-0.4**
KUA	**Kurravaara**	**1.24**	**297**	P	**Pn**	**09 01 22.0**	**-0.3**
RNF	**Rovaniemi**	**1.35**	**126**	PB		09 01 23.2	
RNF				SN		09 01 41.4	
TOF	**Tornio**	**1.41**	**162**	PN		09 01 24.6	
TOF				MSG		09 01 41.0	
	comp=Z,2.4nm,0.2s						
TOF				SN		09 01 43.6	
KOVU	**Salmi**	**1.43**	**306**	P	**Pb**	**09 01 25.6**	**+0.1**
RATU	**Laukkuluspa**	**1.46**	**288**	P	**Pb**	**09 01 26.0**	**-0.2**
HARU	**Harads**	**1.56**	**217**	P	**Pb**	**09 01 27.4**	**-0.4**
KALU	**Kalix**	**1.57**	**179**	P	**Pb**	**09 01 27.4**	**-0.6**
KALU	**Kalix**	**1.57**	**179**	PN		09 01 27.6	
KALU				SN		09 01 49.8	
KTK1	**Kautokeino**	**1.60**	**360**	PG		09 01 27.7	
KTK1				SG		09 01 48.7	
NIKU	**Nikkaluokta**	**1.68**	**287**	P	**Pb**	**09 01 29.7**	**-0.1**
KIF	**Kilpisjarvi**	**1.83**	**331**	*e*P	**Pb**	**09 01 32.6**	**+0.1**
KIF	**Kilpisjarvi**	**1.83**	**331**	PG		09 01 32.7	
KIF				MSG		09 01 55.2	
	comp=Z,7.3nm,0.2s						
KIF				SG		09 01 56.9	
RANF	**Ranua**	**1.99**	**134**	PG		09 01 34.6	
RANF				SG		09 02 00.1	
RAJF	**Raja-Jooseppi**	**2.18**	**59**	PG		09 01 37.2	
RAJF				SB		09 02 05.0	
ARA0	**ARCESS Array S**	**2.28**	**20**	PB		09 01 38.0	
ARA0				SN		09 02 06.8	
ARCES	**ARCESS Array B**	**2.28**	**20**	Pn	**Pn**	**09 01 37.4**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=195,slow=17,SNR=6.2						
ARCES				Lg	Lg	09 02 06.3	
	comp=Z,0.7nm,0.3s,baz=201,slow=30,SNR=13 comp=Z,0.6nm,0.4s						
I37NO	**I37NO**	**2.40**	**316**	I	I	09 15 50.0	
	baz=131,slow=316,SNR=3.8						
VRF	**Varrio**	**2.45**	**79**	PG		09 01 41.4	
	baz=261						
VRF				MSG		09 02 11.0	
	comp=Z,2.3nm,0.2s						
VRF				SG		09 02 12.8	
OLKF	**Oulanka, Finla**	**2.66**	**112**	PG		09 01 45.4	
OLKF				MSG		09 02 16.7	
	comp=Z,1.8nm,0.2s						
OLKF				SG		09 02 20.3	
KEV	**Kevo**	**2.72**	**29**	PN		09 01 44.4	
KEV				MSG		09 02 19.1	
	comp=Z,1.9nm,0.2s						
KEV				SB		09 02 20.0	
OBF4	**Vikkela, Lumij**	**2.73**	**163**	SN		09 02 14.2	
OBF4				MSG		09 02 18.8	
	comp=Z,1.1nm,0.2s						
TRO	**Tromso**	**2.73**	**326**	SG		09 02 24.8	
MSF	**Maaselka**	**2.76**	**121**	SG		09 02 22.3	
KU6	**Riekki**	**2.98**	**115**	PN		09 01 47.9	
KU6				MSG		09 02 26.1	
	comp=Z,0.9nm,0.2s						
KU6				SG		09 02 29.4	
OBF8	**Ulkokalla**	**3.11**	**179**	PG		09 01 53.7	
OBF8				MSG		09 02 29.9	
	comp=Z,1.1nm,0.2s						
OUF	**Merijarvi**	**3.13**	**168**	PB		09 01 52.3	
	baz=353						
OUF				MSG		09 02 30.5	
	comp=Z,0.9nm,0.2s						
KU1	**Kurvinen**	**3.14**	**124**	PN		09 01 49.8	
FINES	**FINESS Array B**	**6.13**	**167**	Pn	**Pn**	**09 02 31.5**	**+2.2**
	comp=Z,

MKAR				Lg		Lg	09 13 39.0		
	0.1nm,0.3s,baz=33,slow=29,SNR=2.5								
	0.2nm,0.4s								

IDC ***19*** *09:17:58.6±22.0, 36.°81N×70.°56E, h182km±77km, mb3.2/3, mbtmp3.6/6, MS3.8/1, Error ellipse: s-maj=329.9km s-min=55.2km az=166.0*

NNC ***19*** *09:18:02.2±4.4, 37.°33N×68.°78E, h0km, mb4.4, mpv4.7, Error ellipse: s-maj=43.2km s-min=29.7km az=133.0*

ISC 19 09:18:00.7±2.3, 36.°9N±0.°2×70.°6E±0.°2, h200km, n11, σ0960/11, mb3.4/3, 1C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IUG	**luzhnay**	**5.23**	**355**	Pg	**Pn**	**09 19 18.8**	**+0.8**
	73nm,0.2s						
IUG				Lg	Lg	09 20 20.5	
	37nm,0.4s						
MRKS	**Merke**	**6.15**	**18**	Pg	**Pn**	**09 19 29.3**	**-0.6**
	32nm,0.4s						
MRKS				Lg	Lg	09 20 39.4	
	11nm,0.5s						
KK31	**Karatay Array**	**6.17**	**359**	P	**Pn**	**09 19 30.6**	**+0.6**
	3.9nm,0.2s,baz=195,slow=14,SNR=83						
KK31				↑S	**Sn**	**09 20 41.0**	**+0.1**
	9.9nm,0.5s,baz=194,slow=23						
AAK	**Ala-Archa**	**6.44**	**27**	P	**Pn**	**09 19 33.0**	**-0.7**
	5.4nm,0.3s,baz=192,slow=3.9,SNR=5.6						
MKAR	**Makanchi Array**	**13.14**	**38**	P	**Pn**	**09 21 00.0**	**+0.3**
	0.2nm,0.4s,baz=221,slow=15,SNR=2.8						
AB31	**Akbulak array**	**14.56**	**331**	P	**Pn**	**09 21 16.5**	**-0.8**
	0.3nm,0.3s,baz=142,slow=9.8,SNR=25						
ZALV	**Zalesovo Beam**	**19.66**	**26**	P	**P**	**09 22 14.6**	**+0.4**
	1.2nm,0.3s,baz=224,slow=11,SNR=5.6						
GNI	**Garni**	**20.46**	**287**	LR	LR	09 32 09.2	
	comp=Z,285nm,20.1s,baz=206,slow=42						
ARCES	**ARCESS Array B**	**40.63**	**338**	P	**P**	**09 25 21.1**	**+0.4**
	1.3nm,1.0s,baz=116,slow=7.8,SNR=4.1						
	1.3nm,1.0s						
HFS	**Hagfors**	**42.53**	**322**	P	**P**	**09 25 36.3**	**+0.1**
	0.8nm,0.5s,baz=79,slow=9.0,SNR=4.2						
	0.8nm,0.5s						
NOA	**NORSAR Array B**	**43.85**	**323**	P	**P**	**09 25 46.7**	**0.0**
	0.3nm,0.5s,baz=95,slow=8.1,SNR=2.8						
	0.3nm,0.5s						

NEIC ***19*** *09:21:27.9±1.7, 18.°10S±0.°08×120.°28E±0.°05, h10km±2km, mb4.6/6, Error ellipse: s-maj=14.8km s-min=7.7km az=339.0*

NOU ***19*** *09:21:27.0, 18.°21S×120.°29E, h0km, mb4.8/16, Western Australia*

IDC ***19*** *09:21:29.8±4.4, 18.°74S×120.°34E, h0km, mb3.7/1, mbtmp4.3/5, ML3.8/4, MS3.4/1, Error ellipse: s-maj=46.8km s-min=24.6km az=146.0*

AUST ***19*** *09:21:29.5±0.3, 18.°S±3.°×12.°0E±.°, h10km, mb4.6/10, ML4.1/4, ML5.4/1, Error ellipse: s-maj=8.8km s-min=5.3km az=129.8*

ISC 19 09:21:27.8±0.5, 18.°24S±0.°05×120.°35E±0.°05, h10km, n85, σ2817/91, mb4.7/4, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**2.96**	**191**		**Pn**	**09 22 17.7**	**+2.8**
MBWA	**Marble Bar**	**2.96**	**191**	P	**Pn**	**09 22 18.0**	**+3.1**
MBWA	**Marble Bar**	**2.96**	**191**	P	**Pn**	**09 22 17.4**	**+2.5**
PSA00	**Pilbara Seismi**	**3.35**	**188**		**Pn**	**09 22 22.9**	**+2.7**
PSA00	**Pilbara Seismi**	**3.35**	**188**	P	**Pn**	**09 22 23.2**	**+3.0**
PSA00				S	**Sn**	**09 23 01.7**	**+1.6**
PSA00	**Pilbara Seismi**	**3.35**	**188**	P	**Pn**	**09 22 22.5**	**+2.3**
FITZ	**Fitzroy Crossi**	**5.03**	**89**		**Pn**	**09 22 44.9**	**+1.5**
FITZ	**Fitzroy Crossi**	**5.03**	**89**	P	**Pn**	**09 22 45.7**	**+2.3**
FITZ	**Fitzroy Crossi**	**5.03**	**89**	S	**Sn**	**09 23 41.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**5.03**	**89**	Pn	**Pn**	**09 22 45.6**	**+2.3**
	5.1nm,0.3s,baz=266,slow=12,SNR=118						
FITZ				Sn	**Sn**	**09 23 39.6**	**-2.0**
	17nm,0.3s,baz=335,slow=23,SNR=7.4						
FITZ				Lg	Lg	09 24 12.8	
	34nm,0.3s,baz=18,slow=21,SNR=5.3						
	13nm,0.4s						
FITZ	**Fitzroy Crossi**	**5.03**	**89**	P	**Pn**	**09 22 44.9**	**+1.5**
FITZ	**Fitzroy Crossi**	**5.03**	**89**	S	**Sn**	**09 23 44.1**	**+2.4**
GIRL	**Giralia**	**7.21**	**232**		**Pn**	**09 23 15.3**	**+1.9**
GIRL	**Giralia**	**7.21**	**232**	P	**Pn**	**09 23 15.8**	**+2.5**
GIRL				S	**Sn**	**09 24 32.0**	**-3.3**
KNRA	**Kununurra**	**8.45**	**74**		**Pn**	**09 23 31.3**	**+1.0**
KNRA	**Kununurra**	**8.45**	**74**	P	**Pn**	**09 23 31.9**	**+1.6**
KNRA				S	**Sn**	**09 25 03.5**	**-2.3**
CVQOZ	**Cooralya Stati**	**8.50**	**222**	P	**Pn**	**09 23 33.1**	**+2.1**
	comp=Z,389nm,0.8s,comp=Z,1.8nm						
MEEK	**Meekatharra**	**8.51**	**191**	P	**Pn**	**09 23 33.1**	**+1.9**
MEEK	**Meekatharra**	**8.51**	**191**	S	**Sn**	**09 25 03.5**	**-3.8**
MEEK	**Meekatharra**	**8.51**	**191**	P	**Pn**	**09 23 32.8**	**+1.6**
SOEI	**Soe**	**9.25**	**25**	S	**Sn**	**09 25 27.6**	**+1.7**
SOEI	**Soe**	**9.25**	**25**	P	**Pn**	**09 23 44.1**	**+2.6**
EDFI	**Ende, Flores**	**9.53**	**8**	P	**Pn**	**09 23 44.6**	**-0.6**
PLAI	**Plampang**	**9.69**	**345**	P	**Pn**	**09 23 47.5**	**+0.2**
PLAI	**Plampang**	**9.69**	**345**	P	**Pn**	**09 23 47.6**	**+0.2**
WRKA	**Warakurna**	**10.02**	**134**	P	**Pn**	**09 23 53.6**	**+1.8**
WRKA				S	**Sn**	**09 25 40.9**	**-3.5**
TWSI	**Taliwang, Sumb**	**10.03**	**340**	P	**Pn**	**09 23 51.4**	**-0.6**
JAGI	**Jajag, Banyuwa**	**11.43**	**327**	Pn	**Pn**	**09 24 08.8**	**-2.4**
JAGI	**Jajag, Banyuwa**	**11.43**	**327**	P	**Pn**	**09 24 08.3**	**-2.9**
JAGI	**Jajag, Banyuwa**	**11.43**	**327**	P	**Pn**	**09 24 09.9**	**-1.3**
MORW	**Morawa**	**11.47**	**199**		**Pn**	**09 24 12.4**	**+0.6**
MORW	**Morawa**	**11.47**	**199**	P	**Pn**	**09 24 12.0**	**+0.2**
	comp=Z,36nm,1.1s						
MORW	**Morawa**	**11.47**	**199**	P	**Pn**	**09 24 11.8**	**0.0**
DPH	**Darwin Parliam**	**11.63**	**62**	P	**Pn**	**09 24 16.1**	**+2.1**
	comp=Z,26nm,0.6s						
MTN	**Manton Dam**	**11.70**	**64**		**Pn**	**09 24 15.2**	**+0.3**
MTN	**Manton Dam**	**11.70**	**64**	P	**Pn**	**09 24 15.0**	**+0.1**
MTN	**Manton Dam**	**11.70**	**64**	P	**Pn**	**09 24 15.5**	**+0.6**
DRS	**Darwin Rock St**	**11.70**	**62**	P	**Pn**	**09 24 16.4**	**+1.5**
	comp=Z,14nm,0.7s						
DRS	**Darwin Rock St**	**11.70**	**62**	P	**Pn**	**09 24 16.6**	**+1.7**
BLDU	**Ballidu**	**12.75**	**194**	P	**Pn**	**09 24 30.3**	**+1.0**
	comp=Z,42nm,0.9s						
BLDU	**Ballidu**	**12.75**	**194**	P	**Pn**	**09 24 29.5**	**+0.2**
KDU	**Kakadu**	**12.93**	**66**	P	**Pn**	**09 24 32.0**	**+0.3**
KDU	**Kakadu**	**12.93**	**66**	P	**Pn**	**09 24 32.3**	**+0.6**
WRA	**Warramunga Arr**	**13.34**	**100**		**Pn**	**09 24 38.0**	**+0.7**
WRA	**Warramunga Arr**	**13.34**	**100**	Pn	**Pn**	**09 24 38.5**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=274,slow=14,SNR=56						
WRA				Sn	**Sn**	**09 26 58.5**	**-7.3**
	comp=Z,2.7nm,0.3s,baz=278,slow=25,SNR=6.9						
WRA				Lg	Lg	09 28 33.6	
	baz=267,slow=29						
	comp=Z,4.2nm,0.6s						
WRAB	**Tennant Creek**	**13.35**	**99**		**Pn**	**09 24 38.1**	**+0.7**
WRAB	**Tennant Creek**	**13.35**	**99**	P	**Pn**	**09 24 38.5**	**+1.1**
	comp=Z,13nm,0.8s						
WB2	**Warramunga Arr**	**13.35**	**100**	Pn	**Pn**	**09 24 38.8**	**+1.3**
WB0	**Warramunga Arr**	**13.37**	**99**	Pn	**Pn**	**09 24 38.4**	**+0.6**
WR8	**Warramunga Arr**	**13.49**	**100**	Pn	**Pn**	**09 24 40.0**	**+0.6**
KLBR	**Kellerberrin**	**13.50**	**190**	P	**Pn**	**09 24 40.2**	**+0.8**
	comp=Z,65nm,0.7s						
KLBR	**Kellerberrin**	**13.50**	**190**	P	**Pn**	**09 24 39.2**	**-0.2**
ASAR	**Alice Springs**	**13.76**	**115**	Pn	**Pn**	**09 24 44.6**	**+1.5**
ASAR	**Alice Springs**	**13.76**	**115**	Pn	**Pn**	**09 24 42.8**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=293,slow=12,SNR=39						
ASAR				Sn	**Sn**	**09 27 10.4**	**-5.8**
	comp=Z,2.3nm,0.3s,baz=303,slow=21,SNR=9.6						
ASAR				Lg	Lg	09 28 41.2	
	comp=Z,0.9nm,0.3s,baz=284,slow=30,SNR=4.9						
ASAR				LR	LR	09 30 09.4	
	comp=Z,163nm,18.1s,baz=278,slow=38						
	comp=Z,7.7nm,0.8s						
AS31	**Alice Springs**	**13.76**	**115**		**Pn**	**09 24 43.8**	**+0.6**
AS31	**Alice Springs**	**13.76**	**115**	P	**Pn**	**09 24 44.4**	**+1.3**
	comp=Z,5.5nm,0.6s						
AS01	**Alice Springs**	**13.80**	**115**	P	**Pn**	**09 24 44.2**	**+0.5**
NGJI	**Ngawi**	**13.85**	**320**	P	**P**	**09 24 49.3**	**-3.4**
MUN	**Mundaring**	**14.18**	**195**	P	**Pn**	**09 24 48.2**	**-0.5**
MUN	**Mundaring**	**14.18**	**195**	P	**Pn**	**09 24 48.2**	**-0.5**
FORT	**Forrest**	**14.31**	**152**		**Pn**	**09 24 49.8**	**-0.8**
FORT	**Forrest**	**14.31**	**152**	P	**Pn**	**09 24 49.0**	**-1.5**
NWAO	**Narrogin (SRO)**	**14.89**	**190**	Pn	**Pn**	**09 24 57.8**	**-0.7**
NWAO				IAmb	IAmb	09 25 04.0	
	comp=Z,56nm,1.2s						
NWAO	**Narrogin (SRO)**	**14.89**	**190**	Pn	**Pn**	**09 24 56.2**	**-2.2**
	comp=Z,2.8nm,0.3s,baz=9.5,slow=14,SNR=32						
NWAO				Sn	Sn	09 27 28.1	-15
	comp=Z,15nm,0.3s,baz=190,slow=9.7,SNR=11						
NWAO				Lg	Lg	09 29 10.8	
	comp=Z,1.3nm,0.3s,baz=280,slow=23,SNR=6.1						
	comp=Z,7.8nm,0.3s						
NWAO	**Narrogin (SRO)**	**14.89**	**190**	P	**Pn**	**09 24 57.3**	**-1.1**
RKGY	**Rocky Gully**	**16.58**	**190**	P	**Pn**	**09 25 20.9**	**+0.5**
MULG	**Mulgathing**	**17.30**	**136**	P	**Pn**	**09 25 28.6**	**-1.0**
MULG				S	**Sn**	**09 28 38.3**	**-3.8**
QIS	**Mount Isa**	**18.31**	**100**	P	**P**	**09 25 46.4**	**+4.2**
BBOO	**Buckleboo**	**20.25**	**139**	P	**P**	**09 26 05.0**	**+1.6**
BBOO				IAmb	IAmb	09 26 06.7	
	comp=Z,16nm,0.9s						
BBOO	**Buckleboo**	**20.25**	**139**	P	Pn	09 26 06.1	+0.8
	comp=Z,24nm,1.2s						
LCRK	**Leigh Creek**	**20.28**	**130**	P	Pn	09 26 06.9	+1.2
	comp=Z,9.4nm,1.1s						
YAPP	**Yappala Statio**	**21.14**	**133**	P	**P**	**09 26 17.2**	**+4.1**
NAPP	**Napperby**	**21.83**	**136**	P	**P**	**09 26 24.4**	**+4.0**
SBUM	**Sibu**	**22.07**	**338**	P	**P**	**09 26 20.5**	**-2.6**
COEN	**Coen**	**22.34**	**82**	P	**P**	**09 26 25.9**	**-0.1**
COEN				IAmb	IAmb	09 26 37.8	
	comp=Z,16nm,1.1s						
HTT	**Hallett**	**22.49**	**136**	P	**P**	**09 26 31.7**	**+4.2**
SDAN	**Sedan**	**23.43**	**137**	P	**P**	**09 26 41.1**	**+3.9**
STKA	**Stephens Creek**	**23.50**	**129**		**P**	**09 26 39.3**	**+1.4**
STKA				IAmb	IAmb	09 26 46.4	
	comp=Z,44nm,1.1s						
STKA	**Stephens Creek**	**23.50**	**129**	P	P	09 26 45.8	+7.9
STKA	**Stephens Creek**	**23.50**	**129**	P	**P**	**09 26 38.9**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=296,slow=9.7,SNR=5.0						
STKA				S	**S**	**09 30 52.0**	**+0.2**
	comp=Z,8.1nm,0.9s,baz=19,slow=21,SNR=3.0						
	comp=Z,2.1nm,0.7s						
PZH	**PanZhiHua**	**48.01**	**337**	P	**P**	**09 30 08.3**	**+1.0**
NJ2	**Nanjing**	**50.03**	**358**	*eP*	**P**	**09 30 23.1**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,38nm,0.9s						
HHC	**Hu-ho-hao-te**	**59.35**	**352**	*eP*	**P**	**09 31 31.3**	**+1.1**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,440nm,4.1s						
SBA	**Scott Base**	**63.71**	**170**	P	**P**	**09 31 59.5**	**+0.4**
QSPA	**South Pole Qui**	**71.81**	**180**	P	**P**	**09 32 50.6**	**+0.1**

NEIC ***19*** *09:21:33.0±2.6, 17.°4S±0.°1×174.°21W±0.°08, h10km±1km, mb4.6/33, Error ellipse: s-maj=18.1km s-min=11.8km az=196.0*

IDC ***19*** *09:21:32.0±0.7, 17.°23S×174.°27W, h0km, mb4.2/9, mbtmp4.1/10, ML3.6/1, MS3.9/4, Error ellipse: s-maj=34.4km s-min=19.7km az=132.0*

ISC 19 09:21:32.6±0.4, 17.°32S±0.°09×174.°21W±0.°07, h10km, n93, σ1934/79, mb4.4/21, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.43**	**114**	Pn	**Pn**	**09 22 38.4**	**-1.4**
FUTU	**Fugatoga**	**4.81**	**308**	Pn	**Pn**	**09 22 45.5**	**+0.3**
NAU	**Nonsavu**	**7.40**	**266**	Pn	**Pn**	**09 23 19.5**	**-1.2**
RAO	**Raoul Island**	**12.35**	**195**	LR	LR	09 28 39.7	
	comp=Z,162nm,21.1s,baz=248,slow=34						
RAR	**Rarotonga**	**14.17**	**108**	LR	LR	09 29 01.1	
	comp=Z,510nm,18.0s,baz=300,slow=32						
SANVU	**Saraoutou**	**17.93**	**273**	Pn	**Pn**	**09 25 40.8**	**-1.4**
SANVU				IAmb	IAmb	09 25 46.0	
	comp=Z,28nm,0.9s						
PINNC	**Pines Island,**	**18.02**	**250**		**Pn**	**09 25 41.8**	**-1.6**
PINNC				IAmb	IAmb	09 25 47.2	
	comp=Z,18nm,0.9s						
DZM	**Mont Dzumac**	**18.81**	**252**	P	**P**	**09 25 50.5**	**-2.1**
DZM				IAmb	IAmb	09 26 01.0	
	comp=Z,20nm,1.1s						
DZM	**Mont Dzumac**	**18.81**	**252**	*eP*	**Pn**	**09 25 59.0**	**+5.9**
	comp=Z,184nm,1.6s						
DZM				*eS*	**S**	**09 29 30.2**	**+3.3**
	comp=Z,717nm,24.9s						
DZM				*e*LR	LR	09 30 26.1	
	comp=Z,999nm,25.6s						
DZM	**Mont Dzumac**	**18.81**	**252**	P	**P**	**09 25 52.8**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=81,slow=18,SNR=5.8						
	comp=Z,3.2nm,0.8s						
ONTNC	**Ouen Toro**	**18.85**	**252**	P	**P**	**09 25 51.3**	**-1.6**
ONTNC				IAmb	IAmb	09 26 07.1	
	comp=Z,56nm,1.1s						
PPT2	**Papeete2**	**23.50**	**94**	*eP*	**P**	**09 26 42.6**	**-0.3**
	comp=Z,65nm,27.0s						
PPT2				*e*LR	LR	09 32 06.0	
	comp=Z,535nm,24.8s						
PPT2				*e*LR	LR	09 32 06.0	
	comp=Z,808nm,25.5s						
PPT	**Papeete**	**23.50**	**94**	LR	LR	09 33 05.0	
	comp=Z,299nm,21.7s,baz=260,slow=29						
TBI	**Tubuai**	**23.95**	**109**	*e*LR	LR	09 32 24.0	
	comp=Z,977nm,24.0s						
TBI				*e*LR	LR	09 32 27.4	
	comp=Z,4μm,27.2s						
HNR	**Honiara**	**26.31**	**284**	LR	LR	09 36 02.6	
	comp=Z,883nm,19.4s,baz=130,slow=33						
TAOE	**Nuku Hiva Isla**	**34.18**	**80**	*e*LR	LR	09 36 59.3	
	comp=Z,402nm,27.5s						
CTAO	**Charters Tower**	**37.49**	**259**	P	**P**	**09 28 45.8**	**-1.1**
CTAO				IAmb	IAmb	09 28 47.9	
	comp=Z,6.3nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**40.24**	**331**	T	T	10 11 42.5	
	baz=149,slow=74,SNR=632						
H11S3	**WAKE ISLAND Hy**	**40.25**	**331**	T	T	10 11 43.4	
	baz=149,slow=74,SNR=646						
H11S1	**WAKE ISLAND Hy**	**40.26**	**331**	T	T	10 11 43.8	
	baz=149,slow=74,SNR=347						
H11N3	**WAKE ISLAND Hy**	**41.22**	**332**	T	T	10 12 54.2	
	baz=151,slow=76,SNR=4265						
H11N1	**WAKE ISLAND Hy**	**41.22**	**332**	T	T	10 12 54.4	
	baz=151,slow=76,SNR=6304						
H11N2	**WAKE ISLAND Hy**	**41.24**	**332**	T	T	10 12 55.5	
	baz=151,slow=76,SNR=3128						
STKA	**Stephens Creek**	**42.42**	**242**		**P**	**09 29 26.7**	**-1.0**
STKA	**Stephens Creek**	**42.42**	**242**	P	**P**	**09 29 26.9**	**-0.8**
	comp=Z,3.0nm,0.7s,baz=63,slow=8.3,SNR=7.1						
	comp=Z,3.0nm,0.7s						
BBOO	**Buckleboo**	**47.19**	**241**	P	**P**	**09 30 03.9**	**-1.9**
WR8	**Warramunga Arr**	**48.52**	**258**	P	**P**	**09 30 14.8**	**-1.5**
WB0	**Warramunga Arr**	**48.64**	**259**	P	**P**	**09 30 15.6**	**-1.6**
WRA	**Warramunga Arr**	**48.67**	**258**	P	**P**	**09 30 16.0**	**-1.4**
AS31	**Alice Springs**	**48.80**	**253**	P	**P**	**09 30 17.5**	**-0.9**
AS31				IAmb	IAmb	09 30 24.5	
	comp=Z,5.8nm,0.8s						
ASAR	**Alice Springs**	**48.80**	**253**	P	**P**	**09 30 17.4**	**-0.9**
ASAR	**Alice Springs**	**48.80**	**253**	P	**P**	**09 30 19.7**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=87,slow=7.5,SNR=1.4						
	comp=Z,4.1nm,0.7s						
MTN	**Manton Dam**	**52.82**	**267**	P	**P**	**09 30 47.3**	**-1.5**
MTN				IAmb	IAmb	09 31 05.9	
	comp=Z,23nm,1.1s						
FORT	**Forrest**	**53.87**	**244**	P	**P**	**09 30 55.2**	**-1.0**
FITZ	**Fitzroy Crossi**	**57.07**	**259**	P	**P**	**09 31 18.3**	**-1.2**
SBA	**Scott Base**	**61.28**	**185**	P	**P**	**09 31 47.5**	**-0.2**
VNDA	**Vanda**	**61.39**	**186**	P	**P**	**09 31 48.0**	**-0.5**
VNDA	**Vanda**	**61.39**	**186**	P	**P**	**09 31 48.9**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=31,slow=18,SNR=4.6						
	comp=Z,0.4nm,0.3s						
ADK	**Adak**	**68.94**	**358**	P	**P**	**09 32 37.3**	**-0.4**
ADK				IAmb	IAmb	09 32 51.0	
	comp=Z,8.3nm,1.1s						
JGF	**Kuroka**	**69.82**	**319**	P	**P**	**09 32 44.7**	**+1.1**
JGF				IAmb	IAmb	09 32 57.4	
	comp=Z,8.4nm,1.0s						
MJAR	**Matsushiro Arr**	**69.91**	**321**	P	**P**	**09 32 44.3**	**+0.2**
MJAR				IAmb	IAmb	09 32 56.7	
	comp=Z,2.4nm,0.8s						
MAJO	**Matsushiro**	**69.92**	**321**	P	**P**	**09 32 44.0**	**-0.1**
MAJO				IAmb	IAmb	09 32 44.9	
	comp=Z,6.8nm,0.8s						
MJB9	**Matsu-Tunnel**	**69.92**	**321**	P	**P**	**09 32 44.1**	**0.0**
MJB9				IAmb	IAmb	09 32 44.9	
	comp=Z,6.6nm,0.8s						
AKUT	**Akutan**	**71.53**	**5**	P	**P**	**09 32 53.2**	**-0.3**
H06S1	**SOCORRO T**	**71.76**	**63**	T	T	10 50 47.0	
	SNR=12						
H06N1	**SOCORRO T-PHAS**	**71.80**	**63**	T	T	10 50 50.9	
	SNR=23						
QSPA	**South Pole Qui**	**72.73**	**180**	P	**P**	**09 33 00.5**	**-0.3**
QSPA				IAmb	IAmb	09 33 10.0	
	comp=Z,17nm,1.1s						
QSPA	**South Pole Qui**	**72.73**	**180**	P	**P**	**09 33 03.6**	**+2.8**
	comp=Z,2.9nm,0.8s,baz=32,slow=2.4,SNR=10						
	comp=Z,2.9nm,0.8s						
NVAR	**Mina Array Bea**	**76.27**	**42**		**P**	**09 33 21.1**	**-0.9**
NVAR	**Mina Array Bea**	**76.27**	**42**	P	**P**	**09 33 22.9**	**+1.0**
	comp=Z,1.7nm,0.9s,baz=230,slow=9.2,SNR=8.0						
	comp=Z,1.7nm,0.9s						
WCT	**Wildcat Mounta**	**76.44**	**44**	P	**P**	**09 33 22.3**	**-0.4**
WCT				IAmb	IAmb	09 33 23.4	
	comp=Z,1.5nm,0.7s						
Y14A	**Wickenburg**	**77.41**	**48**	P	**P**	**09 33 29.0**	**+0.8**
Y14A				IAmb	IAmb	09 33 33.6	
	comp=Z,3.0nm,1.1s						
M11K	**Mekoryuk**	**77.71**	**4**	P	**P**	**09 33 28.8**	**-0.3**
USA0B	**Ussuriysk Arra**	**78.46**	**324**	P	**P**	**09 33 33.2**	**-0.6**
USA0B				IAmb	IAmb	09 33 42.1	
	comp=Z,4.4nm,0.7s						
L16K	**Owhat River**	**79.64**	**7**		**P**	**09 33 40.4**	**+0.6**
L18K	**Granite Mounta**	**80.48**	**8**		**P**	**09 33 45.4**	**+1.1**
BSUT	**Blindstream Ca**	**82.31**	**43**	P	**P**	**09 33 54.9**	**-0.1**
TX31	**Lajitas Ar. Si**	**82.32**	**56**	P	**P**	**09 33 54.8**	**-0.3**
TXAR	**Lajitas Array**	**82.32**	**56**	P	**P**	**09 33 53.6**	**-1.5**
TXAR	**Lajitas Array**	**82.32**	**56**	P	**P**	**09 33 55.7**	**+0.7**
	comp=Z,1.1nm,1.0s,baz=235,slow=5.9,SNR=6.3						
	comp=Z,1.1nm,1.0s						
BW06	**Boulder Array**	**84.21**	**42**	P	**P**	**09 34 04.8**	**+0.2**
PDAR	**Pinedale Array**	**84.21**	**42**		**P**	**09 34 04.0**	**-0.6**
PDAR	**Pinedale Array**	**84.21**	**42**	P	**P**	**09 34 04.5**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=215,slow=3.0,SNR=7.1						
	comp=Z,0.7nm,0.6s						
YHL	**Hebgen Lake**	**84.25**	**40**	P	**P**	**09 34 05.4**	**+0.5**
YHL				IAmb	IAmb	09 34 11.0	
	comp=Z,6.3nm,1.0s						
H03S2	**Juan Fernandez**	**84.79**	**124**	T	T	11 07 37.1	
	baz=251,slow=75,SNR=8.3						
H03S1	**Juan Fernandez**	**84.80**	**124**	T	T	11 07 39.5	
	baz=251,slow=75,SNR=7.7						
H03S3	**Juan Fernandez**	**84.81**	**124**	T	T	11 07 38.2	
	baz=251,slow=75,SNR=8.9						
H03N2	**Juan Fernandez**	**84.90**	**123**	T	T	11 07 41.5	
	baz=254,SNR=86						
H03N3	**Juan Fernandez**	**84.90**	**123**	T	T	11 07 45.3	
	baz=254,slow=74,SNR=7.5						
H03N1	**Juan Fernandez**	**84.92**	**123**	T	T	11 07 44.8	
	baz=254,slow=74,SNR=6.2						
MAW	**Mawson**	**85.73**	**199**	P	**P**	**09 34 13.6**	**+2.0**
	comp=Z,1.4nm,0.7s,baz=142,slow=11,SNR=4.6						
	comp=Z,1.4nm,0.7s						
SNAA	**Sanae**	**91.03**	**177**	P	**P**	**09 34 38.4**	**+1.5**
	comp=Z,1.4nm,1.0s,baz=201,slow=5.3,SNR=5.2						
	comp=Z,1.4nm,1.0s						
CLL	**Collm**	**145.61**	**352**	PKPdf	**PKPdf**	**09 41 11.2**	**+0.1**
BUR08	**Bucovina Ar. S**	**145.82**	**336**	PKPdf	**PKPdf**	**09 41 10.1**	**-1.7**
BURAR	**Bucovina Array**	**145.83**	**336**	PKPdf	**PKPdf**	**09 41 11.7**	**-0.1**
GAZ	**Gaziantep**	**146.01**	**312**	PKPdf	**PKPdf**	**09 41 11.8**	**-0.6**
BNN	**Bunyan**	**146.15**	**315**	PKPdf	**PKPdf**	**09 41 11.7**	**-0.9**
MORC	**Moravsky Berou**	**146.26**	**346**	PKPbc	**PKPbc**	**09 41 14.1**	**+0.7**
UCC	**Uccle**	**146.59**	**2**	PKPdf	**PKPdf**	**09 41 12.9**	**+0.1**
TIRR	**Tirgusor**	**146.93**	**330**	PKPdf	**PKPdf**	**09 41 12.9**	**-0.6**
BR131	**Keskin Array S**	**147.11**	**318**	PKPbc	**PKPbc**	**09 41 16.1**	**-0.3**
BRTR	**Keskin Array B**	**147.11**	**318**	PKPbc	**PKPbc**	**09 41 16.5**	**+0.1**
BRTR	**Keskin Array B**	**147.11**	**318**	PKPbc	**PKPbc**	**09 41 17.6**	**+1.2**
	comp=Z,3.1nm,0.9s,baz=180,slow=2.2,SNR=12						
MLR	**Muntele Rosu**	**147.26**	**333**	PKPbc	**PKPbc**	**09 41 17.0**	**+0.4**
GRFO	**Grafenberg**	**147.42**	**353**	PKPdf	**PKPdf**	**09 41 12.7**	**-1.5**
GRFO				PKPab	**sPKPdf**	**09 41 18.8**	**+0.6**
ANTO	**Ankara**	**147.56**	**319**	PKPdf	**PKPdf**	**09 41 13.9**	**-1.0**
ANTO				PKPab	**sPKPdf**	**09 41 19.6**	**+0.8**
KHC	**Kasperske Hory**	**147.65**

	comp=E,62µm,0.4s								
SHL					IAML			09 23 25.7	
	comp=N,56µm,0.2s								
SHL	**Shillong**	**2.21**	**201**	P		**Pb**	**09 22 53.0**	**-1.5**	
KOHI	**KOHIMA**	**2.25**	**148**	*eP*		**Pn**	**09 22 52.9**	**+1.2**	
KOHI				*eS*		**Sn**	**09 23 20.5**	**+1.2**	
KOHI				IAML			09 23 31.3		
	comp=N,42µm,0.8s								
KOHI				IAML			09 23 31.5		
	comp=E,54µm,0.7s								
LSA	**Lhasa**	**2.50**	**326**	Pg		**Pb**	**09 23 00.3**	**+0.7**	
LSA				Sg		**Sg**	**09 23 33.4**	**-1.7**	
LSA				smax	smax				
	comp=E,12µm,0.9s								
IMP	**Imphal**	**2.99**	**159**	*eP*		**Pn**	**09 23 03.1**	**+1.4**	
IMP				IAML			09 23 33.7		
	comp=N,44µm,0.7s								
IMP				IAML			09 23 35.7		
	comp=E,32µm,0.5s								
IMP				*eS*		**Sn**	**09 23 38.1**	**+0.6**	
GTK	**Tadong**	**3.72**	**266**	*eP*		**Pn**	**09 23 12.7**	**+0.9**	
GTK				*eS*		**Sn**	**09 23 54.7**	**-0.9**	
GTK				IAML			09 24 01.7		
	comp=N,35µm,0.2s								
GTK				IAML			09 24 01.8		
	comp=E,36µm,0.6s								
AZL	**Aizawl**	**3.88**	**181**	*eP*		**Pn**	**09 23 15.5**	**+1.4**	
AZL				*eS*		**Sn**	**09 23 59.6**	**0.0**	
AZL				IAML			09 24 03.0		
	comp=N,24µm,0.4s								
AZL				IAML			09 24 04.4		
	comp=E,26µm,0.3s								
AGT	**Agartala**	**3.98**	**201**	*eP*		**Pn**	**09 23 16.9**	**+1.6**	
AGT				*eS*		**Sn**	**09 24 02.0**	**+0.1**	
AGT				IAML			09 24 25.4		
	comp=N,26µm,1.1s								
AGT				IAML			09 24 26.3		
	comp=E,21µm,0.6s								
BRDH	**Bariadhala**	**5.05**	**192**	Pn		**Pn**	**09 23 31.8**	**+1.9**	
	comp=E,434nm,0.3s,baz=42,slow=8.8,SNR=62								
BRDH				Sn		**Sn**	**09 24 28.8**	**+0.7**	
	comp=E,268nm,0.3s,baz=15,slow=12,SNR=3.7								
BRDH				LR	LR		09 25 53.1		
	comp=E,10µm,21.2s,baz=17,slow=43								
	comp=E,2µm,0.6s								
SAIH	**SAIHA**	**5.13**	**178**	*eP*		**Pn**	**09 23 32.5**	**+1.2**	
SAIH				*eS*		**Sn**	**09 24 28.9**	**-1.5**	
SAIH				IAML			09 24 34.9		
	comp=E,12µm,0.5s								
SAIH				IAML			09 24 38.2		
	comp=N,7µm,0.8s								
TNCH	**TengChong**	**5.77**	**115**	⇑Pn		**Pn**	**09 23 40.3**	**+0.2**	
TNCH				Sn		**Sn**	**09 24 46.8**	**+0.5**	
TNCH				Sg		**Sg**	**09 25 20.4**	**+0.4**	
TNCH				LR	LR				
	comp=N,35µm,7.6s								
TNCH				LR	LR				
	comp=N,54µm,11.2s								
TNCH				LR	LR				
	comp=N,49µm,15.8s								
GUN	**Gumba**	**6.11**	**274**	Pn		**Pn**	**09 23 47.2**	**+2.3**	
	baz=262,slow=0.0								
GUN				Sn		**Sn**	**09 24 56.9**	**+2.0**	
	comp=N,2µm,0.3s,baz=262,slow=0.0								
PKI	**Pulchoki**	**6.54**	**271**	Pn		**Pn**	**09 23 53.6**	**+2.9**	
	baz=260,slow=0.0								
PKI				Sn		**Sn**	**09 25 07.6**	**+2.3**	
	comp=N,2µm,0.4s,baz=260,slow=0.0								
PKIN	**Phulchoki**	**6.55**	**271**	Pn		**Pn**	**09 23 53.1**	**+2.3**	
	baz=260,slow=0.0								
PKIN				Sn		**Sn**	**09 25 07.9**	**+2.4**	
	comp=N,1µm,0.2s,baz=260,slow=0.0								
DMN	**Daman**	**6.80**	**272**	Pn		**Pn**	**09 23 56.8**	**+2.5**	
	baz=261,slow=0.0								
DMN				Sn		**Sn**	**09 25 13.9**	**+2.1**	
	comp=N,3µm,0.6s,baz=261,slow=0.0								
GKN	**Gorkha**	**7.21**	**275**	Pn		**Pn**	**09 24 01.4**	**+1.5**	
	baz=265,slow=0.0								
GKN				Sn		**Sn**	**09 25 22.1**	**+0.3**	
	comp=N,2µm,0.3s,baz=265,slow=0.0								
DANN	**Dangsing**	**8.00**	**277**	Pn		**Pn**	**09 24 11.3**	**+0.5**	
	baz=268,slow=0.0								
DANN				Sn		**Sn**	**09 25 39.3**	**-2.0**	
	comp=N,2µm,0.3s,baz=268,slow=0.0								
PZH	**PanZhiHua**	**8.07**	**96**	P		**Pn**	**09 24 12.3**	**+0.6**	
PZH				S		**Sn**	**09 25 39.3**	**-3.6**	
PZH				pmax	pmax				
	comp=N,360nm,0.6s								
PZH				pmax	pmax				
	comp=N,630nm,4.8s								
PZH				LR	LR				
	comp=N,10µm,9.7s								
PZH				LR	LR				
	comp=N,33µm,14.3s								
PZH				LR	LR				
	comp=N,39µm,15.7s								
PYUN	**Piuthan**	**8.67**	**275**	Pn		**Pn**	**09 24 20.2**	**+0.3**	
	baz=267,slow=0.0								
PYUN				Sn		**Sn**	**09 25 55.7**	**-2.0**	
	comp=N,2µm,0.5s,baz=267,slow=0.0								
GOMU	**GeErMu**	**8.71**	**11**	P		**Pn**	**09 24 21.5**	**+1.0**	
GOMU				sP		Pg	09 24 29.1	-32	
GOMU				S		**Sn**	**09 26 02.3**	**+3.6**	
GOMU				pmax	pmax				
	comp=N,67nm,0.8s								
GOMU				LR	LR				
	comp=N,35µm,9.5s								
GOMU				LR	LR				
	comp=N,10µm,10.0s								
GOMU				LR	LR				
	comp=N,40µm,9.9s								
KMI	**Kunming**	**9.28**	**103**	⇓P		**Pn**	**09 24 30.1**	**+1.8**	
KMI				S		**Sn**	**09 26 11.4**	**-1.3**	
KMI				pmax	pmax				
	comp=N,82nm,0.9s								
KMI				LR	LR				
	comp=N,15µm,10.8s								
KMI				LR	LR				
	comp=N,30µm,14.2s								
KMI				LR	LR				
	comp=N,38µm,15.7s								
ALBI	**Allahabad**	**10.10**	**259**	*eP*		**Pn**	**09 24 39.4**	**+0.2**	
ALBI				IAmb	IAmb		09 24 40.2		
	comp=Z,268nm,0.9s								
ALBI				*eS*		**Sn**	**09 26 24.8**	**-7.6**	
CD2	**Chengdu**	**10.13**	**69**	P		**Pn**	**09 24 41.6**	**+1.8**	
CD2				S		**Sn**	**09 26 33.3**	**+0.1**	
CD2				pmax	pmax				
	comp=Z,120nm,0.6s								
CD2				pmax	pmax				
	comp=Z,1µm,5.0s								
CD2				LR	LR				
	comp=Z,20µm,8.7s								
CD2				LR	LR				
	comp=Z,25µm,12.0s								
CD2				LR	LR				
	comp=Z,34µm,10.4s								
CHTO	**Chiang Mai**	**10.45**	**146**	Pn		**Pn**	**09 24 45.0**	**+0.8**	
CHTO	**Chiang Mai**	**10.45**	**146**	P		**Pn**	**09 24 45.5**	**+1.3**	
CHTO				P		**Pn**	**09 24 45.5**	**+1.3**	
CHTO				S		**Sn**	**09 26 43.7**	**+2.5**	
CHTO				S		**Sn**	**09 26 43.7**	**+2.5**	
CHTO	**Chiang Mai**	**10.45**	**146**	P		**Pn**	**09 24 44.6**	**+0.4**	
CHTO	**Chiang Mai**	**10.45**	**146**	P		**Pn**	**09 24 45.0**	**+0.8**	
CM31	**Chiang Mai Arr**	**10.76**	**147**			**Pn**	**09 24 49.0**	**+0.6**	
CM31	**Chiang Mai Arr**	**10.76**	**147**	P		**Pn**	**09 24 48.7**	**+0.3**	
	SNR=47								
CMAR	**Chiang Mai Arr**	**10.76**	**147**			**Pn**	**09 24 49.1**	**+0.7**	
CMAR	**Chiang Mai Arr**	**10.76**	**147**	Pn		**Pn**	**09 24 48.9**	**+0.6**	
	comp=Z,8.2nm,0.3s,baz=317,slow=13,SNR=389								
CMAR				LR	LR		09 29 19.3		
	comp=Z,6µm,21.7s,baz=330,slow=39								
CMAR				ScP		**ScP**	**09 34 21.1**	**-1.1**	
	comp=Z,1.3nm,0.4s,baz=303,slow=2.2,SNR=4.3								
	comp=Z,101nm,0.7s								
LGTI	**Lohaghat**	**11.16**	**282**	*eP*		**Pn**	**09 24 55.3**	**+1.4**	
LGTI				*eS*		**Sn**	**09 26 52.2**	**-6.2**	
PTH	**Pithoragarh**	**11.20**	**283**	*eP*		**Pn**	**09 24 54.1**	**-0.4**	
PTH				IAmb	IAmb		09 24 55.5		
	comp=Z,399nm,1.0s								
PTH				*eS*		Sn	09 26 50.2	-10	
SLVN	**Son La**	**11.92**	**119**			**Pn**	**09 25 04.9**	**+0.7**	
SLVN	**Son La**	**11.92**	**119**	P		**Pn**	**09 25 06.2**	**+1.9**	
GYA	**Guiyang**	**12.44**	**92**	⇑P		**Pn**	**09 25 11.3**	**-0.1**	
GYA				pmax	pmax				
	comp=Z,190nm,1.0s								

LZH	**Lanzhou**	**12.62**	**45**	⇑P		**Pn**	**09 25 13.5**	**-0.4**	
LZH				sP		P	09 25 23.5	-1.9	
LZH				S		**Sn**	**09 27 34.0**	**-0.4**	
LZH				SS		**SnSn**	**09 27 55.0**	**+8.4**	
LZH				pmax	pmax				
	comp=Z,190nm,1.2s								
LZH				pmax	pmax				
	comp=Z,410nm,4.0s								
LZH				LR	LR				
	comp=Z,18µm,11.7s								
LZH				LR	LR				
	comp=Z,16µm,11.7s								
LZH				LR	LR				
	comp=Z,16µm,11.7s								
JHNI	**Jhansi**	**12.93**	**264**	*eP*		**Pn**	**09 25 16.9**	**-1.1**	
JHNI				IAmb	IAmb		09 25 30.5		
	comp=Z,193nm,0.7s								
JHNI				*eS*		Sn	09 27 28.4	-13	
HNLY	**HANLEY**	**12.98**	**297**	*eP*		**Pn**	**09 25 18.0**	**-1.3**	
HNLY				IAmb	IAmb		09 25 28.8		
	comp=Z,61nm,1.1s								
HNLY				*eS*		Sn	09 27 31.4	-12	
GTA	**Gaotai**	**13.12**	**25**	P		**Pn**	**09 25 19.1**	**-1.6**	
GTA				sP		P	09 25 29.0	-1.9	
GTA				S		**Sn**	**09 27 44.8**	**-1.7**	
GTA				SS		**SnSn**	**09 28 00.0**	**+1.0**	
GTA				pmax	pmax				
	comp=Z,83nm,0.9s								
GTA				pmax	pmax				
	comp=Z,760nm,8.7s								
GTA				LR	LR				
	comp=Z,7µm,18.5s								
GTA				LR	LR				
	comp=Z,13µm,17.4s								
GTA				LR	LR				
	comp=Z,14µm,14.2s								
DDI	**Dehra Dun**	**13.16**	**285**	*eP*		**Pn**	**09 25 20.5**	**-0.7**	
DDI				IAmb	IAmb		09 25 29.5		
	comp=Z,580nm,0.8s								
DDI				*eS*		Sn	09 27 35.9	-12	
KLP	**Kalpa**	**13.22**	**291**	*eP*		**Pn**	**09 25 21.1**	**-1.2**	
KLP				IAmb	IAmb		09 25 43.2		
	comp=Z,255nm,0.6s								
KLP				*eS*		Sn	09 27 36.9	-12	
SMLA	**Simla**	**14.04**	**288**	IAmb	IAmb		09 25 32.3		
	comp=Z,300nm,1.0s								
SMLA				*eP*		**Pn**	**09 25 32.4**	**-0.8**	
SMLA				*eS*		Sn	09 27 56.4	-13	
KUDL	**Kundal**	**14.41**	**276**	IAmb	IAmb		09 25 36.6		
	comp=Z,172nm,2.0s								
KUDL				*eP*		**Pn**	**09 25 37.7**	**-0.6**	
KUDL				*eS*		Sn	09 28 05.5	-12	
BHPL	**Bhopal**	**14.54**	**256**	*eP*		**Pn**	**09 25 39.8**	**-0.3**	
BHPL				IAmb	IAmb		09 25 52.5		
	comp=Z,188nm,1.3s								
BHPL				*eS*		Sn	09 28 09.2	-12	
ENH	**Enshi**	**14.87**	**76**	Pn		**Pn**	**09 25 43.4**	**-1.1**	
DHRM	**DHARAMSHALA**	**15.00**	**292**	*eP*		**Pn**	**09 25 45.2**	**-1.3**	
DHRM				IAmb	IAmb		09 25 54.5		
	comp=Z,224nm,1.1s								
DHRM				*eS*		Sn	09 28 18.5	-14	
XAN	**Xi'an**	**15.26**	**61**	⇑P		**Pn**	**09 25 48.0**	**-1.8**	
XAN				S		**Sn**	**09 28 35.3**	**-3.3**	
XAN				sS		S	09 28 47.8	-7.5	
XAN				pmax	pmax				
	comp=Z,77nm,1.0s								
XAN				pmax	pmax				
	comp=Z,1µm,3.6s								
XAN				LR	LR				
	comp=Z,8µm,11.0s								
XAN				LR	LR				
	comp=Z,12µm,10.6s								
XAN				LR	LR				
	comp=Z,17µm,10.4s								
THN	**Thein Dam**	**15.52**	**292**	*eP*		**Pn**	**09 25 51.3**	**-1.8**	
THN				IAmb	IAmb		09 25 59.6		
	comp=Z,237nm,1.2s								
THN				*eS*		Sn	09 28 29.1	-16	
GULI	**GuiLin**	**15.93**	**94**	P		Pn	09 25 48.3	-10	
GULI				S		Sn	09 28 32.8	-22	
GULI				pmax	pmax				
	comp=Z,50nm,0.9s								
GULI				LR	LR				
	comp=N,5µm,15.7s								
GULI				LR	LR				
	comp=E,19µm,13.5s								
GULI				LR	LR				
	comp=Z,25µm,15.0s								
HYB	**Hyderabad**	**16.60**	**235**	*eP*		**Pn**	**09 26 04.6**	**-2.5**	
HYB				*e*			09 26 11.4		
HYB				*eS*		**Sn**	**09 29 14.0**	**+2.6**	
HYB				IVMs_BB	IVMs_BB		09 30 58.7		
	comp=Z,5µm,3.8s								
WMQ	**Urumqi**	**16.66**	**347**	*eP*		**P**	**09 26 11.4**	**+1.3**	
WMQ				S		**Sn**	**09 29 13.8**	**+1.2**	
WMQ				sS		S	09 29 23.5	-0.4	
WMQ				pmax	pmax				
	comp=Z,570nm,1.1s								
WMQ				pmax	pmax				
	comp=Z,680nm,3.7s								
WMQ				LR	LR				
	comp=Z,19µm,11.5s								
WMQ				LR	LR				
	comp=Z,14µm,12.5s								
WMQ				LR	LR				
	comp=Z,13µm,14.5s								
UBPT	**Khong Chiam**	**17.04**	**134**			**Pn**	**09 26 11.3**	**-1.3**	
NIL	**Nilore**	**17.82**	**294**	P		**Pn**	**09 26 18.6**	**-3.8**	
CNSH	**ChangSha**	**17.83**	**84**	P		**Pn**	**09 26 20.3**	**-2.1**	
CNSH				S		**Sn**	**09 29 38.5**	**-2.5**	
CNSH				pmax	pmax				
	comp=Z,85nm,0.8s								
CNSH				LR	LR				
	comp=Z,7µm,11.7s								
CNSH				LR	LR				
	comp=Z,7µm,13.3s								
CNSH				LR	LR				
	comp=Z,9µm,12.7s								
QIZ	**Qiongzhong**	**17.85**	**115**	P		**Pn**	**09 26 22.9**	**+0.2**	
QIZ	**Qiongzhong**	**17.85**	**115**	P		**P**	**09 26 23.3**	**-0.1**	
QIZ				sP		**pP**	**09 26 28.3**	**+0.5**	
QIZ				S		**Sn**	**09 29 44.0**	**+2.4**	
QIZ				pmax	pmax				
	comp=Z,140nm,1.0s								
QIZ				pmax	pmax				
	comp=Z,1µm,3.3s								
QIZ				LR	LR				
	comp=Z,3µm,15.9s								
QIZ				LR	LR				
	comp=Z,5µm,15.9s								
QIZ				LR	LR				
	comp=Z,16µm,15.9s								
QIZ	**Qiongzhong**	**17.85**	**115**	P		**P**	**09 26 23.3**	**-0.1**	
LYN	**LuoYang**	**18.20**	**63**	⇓P		**Pn**	**09 26 26.4**	**-0.6**	
LYN				sP		sP	09 26 34.4	+0.9	
LYN				S		**Sn**	**09 29 50.3**	**+0.3**	
LYN				SS		**SnSn**	**09 30 10.4**	**+6.7**	
LYN				pmax	pmax				
	comp=Z,85nm,0.8s								
LYN				pmax	pmax				
	comp=Z,2µm,5.9s								
LYN				LR	LR				
	comp=Z,10µm,14.3s								
LYN				LR	LR				
	comp=Z,6µm,10.0s								
LYN				LR	LR				
	comp=Z,6µm,9.3s								
KSH	**Kashi**	**18.30**	**315**	P		**Pn**	**09 26 27.5**	**-0.8**	
KSH				S		**S**	**09 29 56.0**	**-1.5**	
KSH				pmax	pmax				
	comp=Z,140nm,1.4s								
KSH				pmax	pmax				
	comp=Z,3µm,6.2s								
KSH				LR	LR				
	comp=Z,11µm,15.5s								
KSH				LR	LR				
	comp=Z,12µm,17.2s								
KSH				LR	LR				
	comp=Z,13µm,22.0s								
TARG	**Taragay, Kyrgy**	**18.64**	**323**			**Pn**	**09 26 32.9**	**+0.2**	
TARG				IAmb	IAmb		09 26 35.1		
	comp=Z,274nm,0.7s								
TARG	**Taragay, Kyrgy**	**18.64**	**323**	P		**Pn**	**09 26 32.9**	**+0.2**	
TARG				pmax	pmax				
	comp=Z,274nm,0.7s								

SHLS	**Shalkode**	**18.87**	**329**	*c*	*iP*	**P**	**09 26 32.6**	**-1.9**	
SHLS					*eS*	**Sn**	**09 30 02.5**	**-3.6**	
SHLS	**Shalkode**	**18.87**	**329**	⇑	*iP*	**P**	**09 26 32.7**	**-1.9**	
SHLS					*eS*	**Sn**	**09 30 02.6**	**-3.6**	
PDGK	**Podgornoye**	**18.99**	**329**	P		**Pn**	**09 26 36.5**	**-0.1**	
WHN	**Wuhan**	**19.07**	**76**	⇓	P	**Pn**	**09 26 37.8**	**+0.2**	
WHN					sP	**sP**	**09 26 42.6**	**-0.3**	
WHN					S	**Sn**	**09 30 09.5**	**-1.6**	
WHN					pmax	pmax			
	comp=Z,420nm,1.1s								
WHN					pmax	pmax			
	comp=Z,5µm,5.6s								
WHN					LR	LR			
	comp=Z,16µm,9.3s								
WHN					LR	LR			
	comp=Z,11µm,11.0s								
WHN					LR	LR			
	comp=Z,32µm,13.8s								
GZH	**Guangzhou**	**19.13**	**99**	P		**Pn**	**09 26 37.9**	**-0.4**	
GZH				S		**Sn**	**09 30 12.8**	**+0.3**	
GZH				pmax	pmax				
	comp=Z,71nm,1.1s								
GZH				LR	LR				
	comp=Z,5µm,10.8s								
GZH				LR	LR				
	comp=Z,20µm,13.5s								
GZH				LR	LR				
	comp=Z,30µm,12.1s								
BTO	**Baotou**	**19.22**	**43**	*eP*		**P**	**09 26 37.8**	**-0.6**	
BTO				pP		**Pn**	**09 26 40.4**	**+1.0**	
BTO				sP		**sP**	**09 26 44.3**	**-0.9**	
BTO				PP		**PnPn**	**09 26 57.3**	**+5.0**	
BTO				S		**Sn**	**09 30 14.3**	**-0.4**	
BTO				pmax	pmax				
	comp=Z,93nm,0.8s								
BTO				pmax	pmax				
	comp=Z,3µm,4.5s								
BTO				LR	LR				
	comp=Z,11µm,13.5s								
BTO				LR	LR				
	comp=Z,10µm,13.5s								
BTO				LR	LR				
	comp=Z,14µm,13.6s								
SATY	**Saty**	**19.30**	**327**	*eP*		**P**	**09 26 39.6**	**+0.3**	
SATY				*eS*		**S**	**09 30 17.0**	**-0.5**	
SATY				pmax	pmax				
	comp=Z,301nm,1.0s								
SATY	**Saty**	**19.30**	**327**	*eP*		**P**	**09 26 39.6**	**+0.3**	
	comp=Z,301nm,1.0s								
SATY				*eS*		**S**	**09 30 17.1**	**-0.5**	
TIY	**Taiyuan**	**19.32**	**54**	*eP*		**P**	**09 26 38.4**	**-1.2**	
TIY				S		Sn	09 30 05.1	-12	
TIY				sS		**S**	**09 30 20.3**	**+2.3**	
TIY				pmax	pmax				
	comp=Z,80nm,0.7s								
TIY				pmax	pmax				
	comp=Z,1µm,3.5s								
TIY				LR	LR				
	comp=Z,6µm,12.8s								
TIY				LR	LR				
	comp=Z,7µm,13.1s								
TIY				LR	LR				
	comp=Z,10µm,12.8s								
ULHL	**Ulahol**	**19.85**	**322**	P		**Pn**	**09 26 48.9**	**+1.9**	
	SNR=8.2								
TNSS	**Tian-Shan**	**20.02**	**324**	*eP*		**P**	**09 26 47.5**	**+0.1**	
TNSS	**Tian-Shan**	**20.02**	**324**	*eP*		**P**	**09 26 47.5**	**+0.1**	
HKPS	**Hong Kong Po S**	**20.09**	**101**	P		**P**	**09 26 48.4**	**+0.5**	
KNDC	**Almaty**	**20.13**	**325**	P		Pn	09 26 50.2	0.0	
AAA	**Alma-Ata**	**20.15**	**325**	*eP*		**P**	**09 26 48.9**	**+0.4**	
AAA				pmax	pmax				
	comp=Z,319nm,0.7s								
AAA				MLR	MLR				
	comp=Z,10µm,13.0s								
AAA	**Alma-Ata**	**20.15**	**325**	*eP*		**P**	**09 26 49.0**	**+0.4**	
	comp=Z,319nm,0.7s								
AAA				LR	LR		09 35 51.6		
	comp=Z,10µm,13.2s								
BOOM	**Boomskoye usch**	**20.18**	**322**	P		Pn	09 26 50.6	-0.2	
BOOM	**Boomskoye usch**	**20.18**	**322**	P		Pn	09 26 50.7	-0.1	
BOOM				pmax	pmax				
	comp=Z,203nm,0.8s								
HHC	**Hu-ho-hao-te**	**20.32**	**45**	*eP*		**P**	**09 26 50.5**	**+0.1**	
HHC				pP		pP	09 26 55.0	+0.2	
HHC				PP		**PnPn**	**09 27 09.1**	**+1.9**	
HHC				S		**S**	**09 30 31.6**	**-6.2**	
HHC				sS		Sn	09 30 39.5	-1.6	
HHC				SS		**SnSn**	**09 31 06.1**	**+10**	
HHC				pmax	pmax				
	comp=Z,1µm,5.0s								
HHC				LR	LR				
	comp=Z,6µm,12.0s								
HHC				LR	LR				
	comp=Z,5µm,12.1s								
HHC				LR	LR				
	comp=Z,10µm,13.7s								
ARXS	**Arharly**	**20.44**	**328**	*eP*		Pn	09 26 52.7	-1.1	
CHKK	**Chushkaly**	**20.58**	**326**	*eP*		**P**	**09 26 53.5**	**+0.4**	
CHKK	**Chushkaly**	**20.58**	**326**	*eP*		**P**	**09 26 53.6**	**+0.4**	
TKM2	**Tokmak 2**	**20.65**	**322**	P		Pn	09 26 55.9	-0.5	
	SNR=450								
ZSN	**Zaisan**	**20.73**	**345**	*c*	*iP*	**P**	**09 26 55.2**	**+0.6**	
ZSN					*eS*	**S**	**09 30 47.3**	**+1.6**	
ZSN	**Zaisan**	**20.73**	**345**	⇑	*iP*	**P**	**09 26 55.2**	**+0.6**	
ZSN					*eS*	**S**	**09 30 47.4**	**+1.6**	
TDK	**Taldyqorghan**	**20.78**	**330**	*eP*		**P**	**09 26 55.6**	**+0.3**	
TDK				pmax	pmax				
	comp=Z,215nm,0.7s								
TDK				MLR	MLR				
	comp=Z,9µm,12.0s								
TDK	**Taldyqorghan**	**20.78**	**330**	*eP*		**P**	**09 26 55.7**	**+0.3**	
	comp=Z,215nm,0.7s								
TDK				LR	LR		09 35 54.5		
	comp=Z,9µm,12.2s								
MK31	**Makanchi Array**	**20.83**	**339**	P		**P**	**09 26 55.9**	**+0.1**	
MK31	**Makanchi Array**	**20.83**	**339**	*i*	P	**P**	**09 26 55.7**	**-0.1**	
MK31				pmax	pmax				
	comp=Z,267nm,0.8s								
MKAR	**Makanchi Array**	**20.83**	**339**			**P**	**09 26 55.4**	**-0.3**	
MKAR	**Makanchi Array**	**20.83**	**339**	P		**P**	**09 26 55.1**	**-0.7**	
	comp=Z,142nm,0.7s,baz=147,slow=13,SNR=779								
MKAR				PcP		**PcP**	**09 31 04.4**	**+0.2**	
	comp=Z,12nm,0.6s,baz=219,slow=2.6,SNR=8.7								
MKAR				ScP		**ScP**	**09 34 39.0**	**-1.6**	
	comp=Z,6.1nm,0.9s,baz=90,slow=2.7,SNR=4.9								
MKAR				LR	LR		09 36 44.4		
	comp=Z,2µm,21.9s,baz=154,slow=42								
	comp=Z,142nm,0.7s								
KBK	**Karagaybulak**	**20.84**	**321**	P		Pn	09 26 58.4	-0.2	
	SNR=105								
HNS	**HongShan**	**20.86**	**57**	⇓P		**P**	**09 26 56.9**	**+0.8**	
HNS				S		**S**	**09 30 47.4**	**-1.0**	
HNS				pmax	pmax				
	comp=Z,85nm,1.0s								
HNS				pmax	pmax				
	comp=Z,1µm,9.3s								
HNS				LR	LR				
	comp=Z,5µm,15.9s								
HNS				LR	LR				
	comp=Z,3µm,13.5s								
HNS				LR	LR				
	comp=Z,6µm,17.5s								
OHH	**Osh**	**20.90**	**313**	P		Pn	09 26 58.6	-0.6	
OHH				pmax	pmax				
	comp=Z,319nm,0.9s								
KUU	**Kurty**	**20.93**	**325**	*eP*		**P**	**09 26 57.3**	**+0.4**	
KUU				*eS*		**S**	**09 30 51.3**	**+1.4**	
KUU				pmax	pmax				
	comp=Z,262nm,0.8s								

AAK LR LR 09 36 09.8
comp=Z,4μm,20.3s,baz=128,slow=40
comp=Z,178nm,0.8s
AAK Ala-Archa 21.09 320 P **P** **09 27 00.3 +1.5**
AAK P **P** **09 27 00.3 +1.5**
AAK S **S** **09 30 53.4 +0.2**
AAK S **S** **09 30 53.4 +0.2**
AAK Ala-Archa 21.09 320 *ce*P **P** **09 26 59.5 +0.7**
AAK pmax pmax
comp=Z,332nm,1.3s
AAK MLR MLR
comp=Z,4μm,17.0s
AAK Ala-Archa 21.09 320 *i* P **P** **09 27 00.2 +1.5**
SNR=78
FRU1 Bishkek 21.12 321 P **P** **09 26 59.2 +0.2**
FRU1 IAmb IAmb 09 27 08.6
comp=Z,381nm,1.0s
FRU1 Bishkek 21.12 321 P **P** **09 26 59.2 +0.2**
FRU1 pmax pmax
comp=Z,381nm,1.0s
CHMS Chumysh 21.17 321 P **P** **09 27 00.8 +1.3**
SNR=61
KBL Kabul 21.43 295 **P** **09 27 03.1 +0.5**
KBL Kabul 21.43 295 P **P** **09 27 03.7 +1.1**
SNR=255
KBL S **S** **09 31 00.8 +0.6**
KBL Kabul 21.43 295 P **P** **09 27 03.1 +0.5**
KBL pmax pmax
comp=Z,724nm,0.8s
DLV Lat 21.46 134 P **P** **09 27 02.9 -0.1**
USP Oepenovka 21.49 321 P **P** **09 27 04.0 +1.0**
SNR=130
EKS2 Erkin-Say 21.51 319 P **P** **09 27 05.3 +2.0**
SNR=329
SGDS Sogindy 21.54 322 *e*P **P** **09 27 03.9 +0.4**
SGDS *e*S **S** **09 31 03.2 +1.3**
GAR Garm 21.86 307 P **P** **09 27 06.8 -0.3**
TIA Tai'an 22.32 61 P **P** **09 27 11.4 -0.5**
TIA sP **pP** **09 27 16.8 +0.4**
TIA S **S** **09 31 15.4 -1.7**
TIA pmax pmax
comp=Z,47nm,1.2s
TIA pmax pmax
comp=Z,1μm,5.3s
TIA LR LR
comp=Z,6μm,12.6s
TIA LR LR
comp=Z,5μm,14.0s
TIA LR LR
comp=Z,5μm,17.8s
LHMI Lhok Sumawe 22.64 169 P **P** **09 27 16.0 +0.6**
LHMI IAmb IAmb 09 27 35.4
comp=Z,331nm,1.0s
LHMI Lhok Sumawe 22.64 169 P **P** **09 27 15.7 +0.3**
comp=Z,7μmcomp=Z,275nm,0.6s
SIMJ Simiganj 22.67 305 **P** **09 27 15.3 -0.5**
SIMJ IAmb IAmb 09 27 31.0
comp=Z,324nm,1.4s
SONM Songino Array 22.79 24 P **P** **09 27 17.2 +0.2**
SONM Songino Array 22.79 24 P **P** **09 27 16.8 -0.2**
comp=Z,75nm,0.7s,baz=213,slow=11,SNR=73
SONM LR LR 09 37 02.9
comp=Z,4μm,20.4s,baz=212,slow=39
comp=Z,75nm,0.7s
SONM Songino Array 22.79 24 P **P** **09 27 17.2 +0.2**
SONM pmax pmax
comp=Z,126nm,1.0s
DZET Dzherino 22.85 305 P **P** **09 27 16.8 -0.9**
DZET pmax pmax
comp=Z,205nm,1.7s
BTLS Baital 22.91 324 *c i*P **P** **09 27 18.1 +0.1**
BTLS *e*S **S** **09 31 29.0 +1.4**
BTLS pmax pmax
comp=Z,144nm,0.9s
BTLS Baital 22.91 324⇑ *i*P **P** **09 27 18.2 +0.1**
comp=Z,144nm,0.9s
BTLS *e*S **S** **09 31 29.0 +1.4**
BJT Baijiatuan 22.95 51 P **P** **09 27 18.3 -0.2**
BJT Baijiatuan 22.95 51 P **P** **09 27 19.6 +1.1**
BJT Baijiatuan 22.95 51 P **P** **09 27 18.3 -0.2**
BJT pmax pmax
comp=Z,80nm,0.9s
BJT MLR MLR
comp=Z,4μm,22.0s
BJI Beijing 22.96 51 P **P** **09 27 18.4 -0.2**
BJI S **S** **09 31 28.5 0.0**
BJI pmax pmax
comp=Z,49nm,1.0s
BJI pmax pmax
comp=Z,430nm,3.9s
BJI LR LR
comp=Z,3μm,16.7s
BJI LR LR
comp=Z,1μm,20.6s
NJ2 Nanjing 23.02 73 *e*P **P** **09 27 20.8 +1.5**
NJ2 pP **pP** **09 27 24.3 +0.7**
NJ2 S **S** **09 31 25.8 -3.9**
NJ2 sS **pS** **09 31 32.8 -1.9**
NJ2 pmax pmax
comp=Z,74nm,0.9s
NJ2 pmax pmax
comp=Z,840nm,5.7s
NJ2 LR LR
comp=Z,4μm,10.4s
NJ2 LR LR
comp=Z,4μm,12.3s
NJ2 LR LR
comp=Z,5μm,10.4s
ULN Ulaanbaatar 23.06 25 P **P** **09 27 19.5 -0.4**
ULN IAmb IAmb 09 27 22.6
comp=Z,185nm,1.1s
ULN Ulaanbaatar 23.06 25 P **P** **09 27 19.4 -0.4**
ULN P **P** **09 27 19.4 -0.4**
ULN S **S** **09 31 30.2 -0.3**
ULN S **S** **09 31 30.2 -0.3**
ULN Ulaanbaatar 23.06 25 *c i*P **P** **09 27 19.1 -0.7**
ULN pmax pmax
comp=Z,182nm,1.0s
ULN MLR MLR
comp=Z,3μm,13.0s
DZA Taraz 23.10 317 *e*P **P** **09 27 20.6 +0.5**
DZA Taraz 23.10 317 *e*P **P** **09 27 20.6 +0.5**
KNMB Chin-men Tao 23.22 92 IAMs_20 IAMs_20 09 37 07.8
comp=Z,11μm,21.0s
PALK Pallekele 23.27 212 P **P** **09 27 23.3 +1.4**
PALK Pallekele 23.27 212 LR LR 09 39 15.8
comp=Z,3μm,19.2s,baz=35,slow=44
PALK Pallekele 23.27 212⇑ *e*P **P** **09 27 25.2 +3.2**
PALK pmax pmax
comp=Z,129nm,1.1s
PALK MLR MLR
comp=Z,3μm,19.0s
QZH Quanzhou 23.29 91 *e*P **P** **09 27 25.3 +3.2**
QZH S **S** **09 31 32.9 -1.4**
QZH LR LR
comp=Z,10μm,14.4s
QZH LR LR
comp=Z,3μm,13.4s
QZH LR LR
comp=Z,14μm,15.5s
KULM Kulim 23.46 160 P **P** **09 27 25.3 +1.5**
MLSI Meulaboh, Aceh 23.50 171 P **P** **09 27 25.2 +1.0**
comp=Z,356nm,0.9s
IUG Iuzhnay 23.51 314 *e*P **P** **09 27 24.6 +0.3**
IUG *e*S **S** **09 31 39.4 +1.5**
IUG pmax pmax
comp=Z,155nm,0.8s
IUG Iuzhnay 23.51 314 *e*P **P** **09 27 24.7 +0.3**
comp=Z,155nm,0.8s
IUG *e*S **S** **09 31 39.4 +1.5**
KK31 Karatay Array 23.72 316 P **P** **09 27 26.4 +0.2**
KK31 Karatay Array 23.72 316 P **P** **09 27 26.5 +0.2**
KK31 pmax pmax
comp=Z,97nm,1.0s
KKAR Karatay Array 23.72 316 P **P** **09 27 26.5 +0.2**
KKAR Karatay Array 23.72 316 P **P** **09 27 26.5 +0.2**
CHM Chimkent 23.88 314 *e*P **P** **09 27 28.3 +0.6**
CHM pmax pmax
comp=Z,189nm,1.0s
CHM Chimkent 23.88 314 *e*P **P** **09 27 28.3 +0.6**
comp=Z,189nm,1.0s
CHM LR LR 09 37 28.4
BRLS Borolday 24.10 316 *c i*P **P** **09 27 30.0 +0.2**
BRLS Borolday 24.10 316⇑ *i*P **P** **09 27 30.0 +0.2**
IPM Ipoh 24.34 160 P **P** **09 27 32.1 -0.1**
IPM IAmb IAmb 09 27 32.9
comp=Z,240nm,1.6s
IPM Ipoh 24.34 160 P **P** **09 27 31.3 -0.9**
TSI Tuntungan 24.63 166 P **P** **09 27 35.9 +1.0**
comp=Z,434nm,0.7s
XLT XiLinHaoTe 24.79 43 *e*P **P** **09 27 37.0 +0.8**
XLT sP sP 09 27 45.8 +2.5
XLT PcP **PcP** **09 31 13.3 +0.8**
XLT S **S** **09 31 55.3 -3.0**
XLT pmax pmax
comp=Z,160nm,1.3s
XLT pmax pmax
comp=Z,1μm,4.0s
XLT LR LR
comp=Z,7μm,16.1s
XLT LR LR
comp=Z,10μm,16.0s
SSE Sheshan 24.97 75 P **P** **09 27 37.4 -0.4**
SSE S **S** **09 32 02.5 +1.3**
SSE pmax pmax
comp=Z,19nm,0.8s
SSE pmax pmax
comp=Z,560nm,6.4s
SSE LR LR
comp=Z,2μm,11.5s
SSE LR LR
comp=Z,3μm,11.5s
SNSI Sinabang, Aceh 25.32 172 P **P** **09 27 42.3 +1.3**
comp=Z,264nm,0.7s
KURBB Kurchatov Arra 25.38 339 P **P** **09 27 41.6 +0.2**
comp=Z,249nm,0.8s,baz=150,slow=10,SNR=470
KURBB PcP **PcP** **09 31 13.4 -0.1**
comp=Z,31nm,0.8s,baz=168,slow=1.7,SNR=8.5
KURBB ScP **ScP** **09 34 50.4 -2.1**
comp=Z,9.9nm,0.7s,baz=160,slow=2.6,SNR=15
KURBB P3KPbc 10 00 40.5
comp=Z,1.4nm,0.8s,baz=330,slow=5.1,SNR=6.7
comp=Z,249nm,0.8s
KURBB Kurchatov Arra 25.38 339 P **P** **09 27 41.8 +0.4**
PSI Prapat 25.39 166 P **P** **09 27 41.9 +0.1**
PSI Prapat 25.39 166 P **P** **09 27 42.5 +0.7**
PSI pmax pmax
comp=Z,65nm,0.6s
KURK Kurchatov 25.43 339 P **P** **09 27 42.4 +0.6**
KURK Kurchatov 25.43 339 P **P** **09 27 42.4 +0.6**
KURK P **P** **09 27 42.4 +0.6**
KURK S **S** **09 32 08.1 -0.1**
KURK S **S** **09 32 08.1 -0.1**
KURK Kurchatov 25.43 339 *c i*P **P** **09 27 42.0 +0.2**
KURK pmax pmax
comp=Z,506nm,1.3s
KURK MLR MLR
comp=Z,5μm,14.0s
RPSI Rantau Prapat 25.49 166 P **P** **09 27 42.5 -0.1**
SSLB Suanglung 25.65 92 P **P** **09 27 43.5 -0.7**
SSLB Suanglung 25.65 92 P **P** **09 27 47.3 +3.1**
YHNB Yeheng 25.82 90 P **P** **09 27 44.2 -1.5**
YHNB Yeheng 25.82 90 P **P** **09 27 48.3 +2.6**
TATO Taipei 25.85 89 P **P** **09 27 46.6 +0.7**
TWG Pinlang 26.02 94 P **P** **09 27 46.5 -0.9**
TWGBT Beinan 26.02 94 P **P** **09 27 50.3 +2.8**
IRK Irkutsk 26.04 16 *e*P **P** **09 27 48.4 +1.0**
IRK pmax pmax
comp=Z,275nm,1.5s
YULB Yu-li 26.06 93 P **P** **09 27 50.3 +2.5**
NACB Ninganchiao 26.13 91 P **P** **09 27 47.4 -1.0**
NACB Ninganchiao 26.13 91 P **P** **09 27 51.3 +2.9**
DL2 Dalian 26.50 58 P **P** **09 27 51.6 -0.1**
DL2 S **S** **09 32 24.0 -1.4**
DL2 pmax pmax
comp=Z,110nm,1.1s
DL2 pmax pmax
comp=Z,950nm,10.4s
DL2 LR LR
comp=Z,1μm,11.0s
DL2 LR LR
comp=Z,3μm,13.5s
DL2 LR LR
comp=Z,4μm,12.7s
GSI Gunungsitoli 26.59 169 P **P** **09 27 53.1 +0.5**
GSI Gunungsitoli 26.59 169 P **P** **09 27 53.7 +1.1**
GSI Gunungsitoli 26.59 169 P **P** **09 27 53.3 +0.7**
comp=Z,297nm,0.7s
ZAA0 Zalesovo Array 26.93 350 P **P** **09 27 55.1 -0.2**
ZALV Zalesovo Beam 26.93 350 P **P** **09 27 55.5 +0.2**
comp=Z,89nm,0.6s,baz=168,slow=7.6,SNR=186
ZALV ScP **ScP** **09 34 54.8 -2.2**
comp=Z,1.5nm,0.6s,baz=212,slow=5.3,SNR=5.6
ZALV LR LR 09 39 49.7
comp=Z,4μm,19.4s,baz=156,slow=39
comp=Z,89nm,0.6s
ZALV Zalesovo Beam 26.93 350 *i* P **P** **09 27 55.5 +0.2**
ZALV pmax pmax
comp=Z,88nm,0.6s
BRZS Berezniki 27.09 331 *c i*P **P** **09 27 57.4 +0.5**
BRZS Berezniki 27.09 331⇑ *i*P **P** **09 27 57.5 +0.5**
MNSI Mandailing Nat 27.48 165 P **P** **09 28 00.2 -0.4**
comp=Z,163nm,0.7s
BKNI Bangkinang 28.29 162 P **P** **09 28 08.6 +0.7**
BKNI Bangkinang 28.29 162 P P 09 27 54.9 -13
SNY Shenyang 28.82 53 ‖P **P** **09 28 12.8 +0.4**
SNY S **S** **09 33 02.6 +0.7**
SNY pmax pmax
comp=Z,52nm,1.0s
SNY pmax pmax
comp=Z,480nm,4.2s
SNY LR LR
comp=Z,710nm,9.3s
SNY LR LR
comp=Z,1μm,11.8s
SNY LR LR
comp=Z,2μm,10.1s
PPI Padang Panjang 28.88 164 P **P** **09 28 12.2 -0.9**
comp=Z,2μmcomp=Z,63nm,0.8s
SISI Saibi 29.43 167 P **P** **09 28 18.4 +0.4**
HIA Hailar 29.93 37 P **P** **09 28 23.3 +1.1**
BVA0 Borovoye Array 30.32 333 *i* P **P** **09 28 25.2 -0.3**
BVAR Borovoye Array 30.32 333 P **P** **09 28 25.8 +0.3**
comp=Z,25nm,0.6s,baz=132,slow=8.2,SNR=123
BVAR PcP **PcP** **09 31 25.7 +0.2**
comp=Z,21nm,0.7s,baz=156,slow=3.8,SNR=7.0
BVAR ScP **ScP** **09 35 05.3 -2.3**
comp=Z,7.2nm,0.7s,baz=123,slow=2.5,SNR=7.0
BVAR LR LR 09 41 58.2
comp=Z,10μm,19.0s,baz=139,slow=39
BVAR P3KPbc 10 00 19.8
comp=Z,2.2nm,0.7s,baz=321,slow=2.0,SNR=6.5
comp=Z,25nm,0.6s
BRVK Borovoye 30.38 333 P **P** **09 28 26.4 +0.2**
BRVK Borovoye 30.38 333 P **P** **09 28 26.5 +0.4**
BRVK P **P** **09 28 26.5 +0.4**
BRVK P **P** **09 28 26.5 +0.4**
BRVK S **S** **09 33 27.7 +1.6**
BRVK S **S** **09 33 27.7 +1.6**
BRVK S **S** **09 33 27.7 +1.6**
BRVK Borovoye 30.38 333 *ce*P **P** **09 28 26.3 +0.2**
BRVK pmax pmax
comp=Z,51nm,0.7s
BRVK MLR MLR
comp=Z,10μm,17.0s
TJN Taejon 30.47 65 P **P** **09 28 25.7 -1.3**
TJN IAmb IAmb 09 28 32.2
comp=Z,142nm,0.9s
TJN Taejon 30.47 65 P **P** **09 28 30.7 +3.7**
TJN Taejon 30.47 65 P **P** **09 28 25.7 -1.3**
TJN pmax pmax
comp=Z,142nm,0.9s
JLN Jalan Bani Buh 30.69 267 P **P** **09 28 29.5 +0.3**
JLN P **P** **09 28 29.5 +0.3**
CN2 Changchun 30.80 50 P **P** **09 28 30.3 +0.4**
CN2 pP pP 09 28 34.6 -0.3
CN2 PcP **PcP** **09 31 27.6 +0.6**
CN2 S **S** **09 33 30.3 -2.6**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,300nm,3.0s
CN2 LR LR
comp=Z,4μm,14.0s
CN2 LR LR
comp=Z,4μm,14.0s
CN2 LR LR
comp=Z,3μm,15.0s
KKM Kota Kinabalu 30.93 130 **P** **09 28 30.4 -1.0**
KKM IAmb IAmb 09 28 47.6
comp=Z,163nm,1.6s
KKM Kota Kinabalu 30.93 130 P **P** **09 28 33.0 +1.5**
KSM Kuching 30.97 144 P **P** **09 28 31.2 -0.4**
KSM IAmb IAmb 09 28 54.5
comp=Z,176nm,1.8s
KSM Kuching 30.97 144 P **P** **09 28 32.4 +0.8**
KS19 Wonju Array Si 31.01 63 P **P** **09 28 30.4 -1.4**
KSAR Wonju Array Be 31.02 63 **P** **09 28 30.7 -1.2**
KSAR Wonju Array Be 31.02 63 P **P** **09 28 30.7 -1.2**
PPSI Pulau Pagai 31.02 166 P **P** **09 28 32.8 +0.8**
KSRS Korea Array 31.05 63 P **P** **09 28 30.8 -1.4**
comp=Z,7.6nm,0.8s,baz=254,slow=7.9,SNR=18
KSRS PcP **PcP** **09 31 27.8 +0.1**
comp=Z,6.4nm,0.7s,baz=259,slow=2.8,SNR=9.1
KSRS ScP **ScP** **09 35 08.0 -2.4**
comp=Z,3.5nm,0.8s,baz=237,slow=1.9,SNR=11
KSRS LR LR 09 42 54.6
comp=Z,1736μm,18.2s,baz=260,slow=40
comp=Z,7.6nm,0.8s
WSAR Wadi Sarin 31.08 270 LR LR 09 42 00.7
comp=Z,14nm,18.6s,baz=110,slow=38
WSAR Wadi Sarin 31.08 270 P **P** **09 28 32.7 +0.1**
SBUM Sibu 31.20 140 P **P** **09 28 32.9 -0.7**
SBUM IAMs_20 IAMs_20 09 42 23.0
comp=Z,6μm,21.0s
SBUM Sibu 31.20 140 P **P** **09 28 34.7 +1.1**
BIDO Bidbid 31.46 270 P **P** **09 28 36.1 +0.2**
SNR=5.4
BIDO P **P** **09 28 36.1 +0.2**
SNR=5.4
JOW Kunigami 31.51 83 LR LR 09 43 14.8
comp=Z,3μm,18.2s,baz=326,slow=40
SMDO Samad 31.65 270 P **P** **09 28 38.3 +0.6**
SNR=7.1
SMDO P **P** **09 28 38.3 +0.6**
SNR=7.1
JMDO Jabal Madar 31.79 268 P **P** **09 28 39.1 +0.2**
JMDO P **P** **09 28 39.1 +0.2**
HOQ Hoqain 32.16 271 P **P** **09 28 42.6 +0.4**
HOQ P **P** **09 28 42.6 +0.4**
HOQ P **P** **09 28 42.6 +0.4**
MHTO MHTO 32.33 266 P **P** **09 28 43.5 -0.1**
SNR=5.4
MHTO P **P** **09 28 43.5 -0.1**
SNR=5.4
BSY Bisya 32.48 269 P **P** **09 28 45.3 +0.3**
BSY P **P** **09 28 45.3 +0.3**
BANOM Banah 32.53 276 P **P** **09 28 45.2 -0.2**
SHME Shamm 32.65 276 P **P** **09 28 47.4 +1.1**
SHME Shamm 32.65 276 P **P** **09 28 45.9 -0.5**
MDH Madha 32.66 274 P **P** **09 28 45.8 -0.7**
SOHO SOHO 32.72 272 P **P** **09 28 48.4 +1.5**
SOHO P **P** **09 28 48.4 +1.5**
SOHO SOHO 32.72 272 P **P** **09 28 46.1 -0.8**
MASF Masafi 32.77 275 P **P** **09 28 48.8 +1.3**
STKI Sintang 32.77 144 P **P** **09 28 50.2 +2.7**
comp=Z,76nm,0.5s
MSFE Esma-Masafi 32.77 275 P **P** **09 28 48.3 +0.8**
BNX BinXian 32.79 47 ⇑P **P** **09 28 47.9 +0.5**
BNX pP **pP** **09 28 51.0 -1.4**
BNX PP **PP** **09 30 02.3 +0.8**
BNX S **S** **09 34 05.4 +1.4**
BNX sS **sS** **09 34 12.3 +0.3**
BNX pmax pmax
comp=Z,170nm,1.1s
BNX pmax pmax
comp=Z,320nm,4.6s
BNX LR LR
comp=Z,5μm,14.6s
BNX LR LR
comp=Z,2μm,11.4s
BNX LR LR
comp=Z,8μm,14.6s
UOSS Minazif 32.82 274 P **P** **09 28 48.2 +0.3**
UOSS Minazif 32.82 274 P **P** **09 28 47.5 -0.4**
UOSS P **P** **09 28 47.5 -0.4**
UOSS Minazif 32.82 274 P **P** **09 28 47.1 -0.9**
HATD Hatta, Dubai 32.91 274 P **P** **09 28 49.3 +0.6**
HATD P **P** **09 28 49.3 +0.6**
HATD Hatta, Dubai 32.91 274 P **P** **09 28 48.3 -0.4**
ARQ Araqi 32.93 271 P **P** **09 28 48.8 -0.1**
ARQ P **P** **09 28 48.8 -0.1**
KAAM Kaadhehdhoo 32.99 218 P **P** **09 28 53.1 +3.7**
ASHO Ashiyiah 33.01 273 P **P** **09 28 50.5 +0.9**
SNR=5.4
ASHO P **P** **09 28 50.5 +0.9**
SNR=5.4
ASHO Ashiyiah 33.01 273 *i* P **P** **09 28 48.4 -1.2**
SNR=19
DQM DQM 33.06 264 P **P** **09 28 50.5 +0.6**
MYLDM Lahad Datu 33.13 128 **P** **09 28 49.9 -0.8**
MYLDM IAmb IAmb 09 29 29.2
comp=Z,109nm,1.2s
MYLDM Lahad Datu 33.13 128 P **P** **09 28 53.0 +2.3**
AB31 Akbulak array 33.17 320 **P** **09 28 51.0 +0.4**
ABKAR Akbulak array 33.17 320 **P** **09 28 50.6 0.0**
JNU Nakatsue 33.20 71 **P** **09 28 49.9 -1.3**
JNU Nakatsue 33.20 71 LR LR 09 43 46.2
comp=Z,3μm,18.9s,baz=270,slow=39
JNU Nakatsue 33.20 71 P **P** **09 28 53.3 +2.2**
NAZ Nazwa, Dubai 33.29 274 P **P** **09 28 52.9 +0.9**
NAZ P **P** **09 28 52.9 +0.9**
FAQ Al Faqa, Dubai 33.41 274 P **P** **09 28 53.0 -0.1**
ALNE Al Ain 33.43 272 P **P** **09 28 53.7 +0.4**
SNR=5.1
ALNE P **P** **09 28 53.7 +0.4**
SNR=5.1
ALNE Al Ain 33.43 272 *i* P **P** **09 28 53.6 +0.4**
SNR=12
BOD Bodaibo 33.66 20 *e*P **P** **09 28 54.8 0.0**
BOD pmax pmax
comp=Z,50nm,1.1s
ASUD Al Ashush, Dub 33.67 274 P **P** **09 28 52.9 -2.4**
MDSI Maura Dua 33.78 159 P **P** **09 28 54.2 -2.0**
comp=Z,51nm,0.8s
MDJ Mudanjiang 33.88 50 P **P** **09 28 56.6 -0.3**
MDJ S **S** **09 34 19.8 -1.1**
MDJ sS sS 09 34 27.5 -1.4
MDJ pmax pmax
comp=Z,16nm,0.9s
MDJ pmax pmax
comp=Z,490nm,6.9s
MDJ LR LR
comp=Z,1μm,12.3s
MDJ LR LR
comp=Z,2μm,19.2s
MDJ LR LR
comp=Z,3μm,15.0s
MDJ Mudanjiang 33.88 50 P **P** **09 28 57.3 +0.4**
UMZA Um Al Zommool 34.30 270 P **P** **09 29 00.7 -0.1**
UMZA P **P** **09 29 00.7 -0.1**
HEH HeiHe 34.68 40 *e*P **P** **09 29 04.3 +0.6**
HEH pP **pP** **09 29 09.3 +0.6**
HEH PcP **PcP** **09 31 37.4 -0.2**
HEH S **S** **09 34 31.5 -1.5**
HEH ScP **ScP** **09 35 18.3 -4.3**
HEH SS **SnSn** **09 36 42.4 -3.2**
HEH pmax pmax
comp=Z,100nm,0.9s
HEH pmax pmax
comp=Z,770nm,7.2s
HEH LR LR
comp=Z,5μm,16.9s
HEH LR LR
comp=Z,3μm,17.4s
HEH LR LR
comp=Z,8μm,15.7s
AKTO Aktyubinsk 34.83 320 LR LR 09 46 42.4
comp=Z,4μm,20.9s,baz=139,slow=42
AKTO Aktyubinsk 34.83 320 P **P** **09 29 04.6 -0.4**
KASI Kota Agung 34.86 159 P **P** **09 29 04.1 -1.5**
comp=Z,49nm,0.7s
VLA Vladivostok 35.08 53 *de*P **P** **09 29 07.7 +0.4**
VLA pmax pmax
comp=Z,104nm,1.1s
VLA MLR MLR
comp=Z,924nm,16.0s
USA0B Ussuriysk Arra 35.41 52 **P** **09 29 09.6 -0.5**
USA0B Ussuriysk Arra 35.41 52 P **P** **09 29 09.6 -0.5**
USA0B pmax pmax
comp=Z,43nm,1.4s
USRK Ussuriysk Ar. 35.41 52 P **P** **09 29 09.5 -0.6**
USRK Ussuriysk Ar. 35.41 52 P **P** **09 29 09.2 -0.9**
comp=Z,7.9nm,0.7s,baz=258,slow=7.0,SNR=15

USRK LR LR 09 44 48.4
comp=Z,2μm,18.1s,baz=250,slow=38
comp=Z,7.9nm,0.7s
MZR Muzera 35.72 272 P **P** **09 29 12.4 -0.6**
MZR P **P** **09 29 12.4 -0.6**
JRN Qarnain Island 35.79 275 P **P** **09 29 13.5 -0.1**
JRN P **P** **09 29 13.5 -0.1**
GHWR Ruwais 36.00 273 P **P** **09 29 14.9 -0.6**
GHWR P **P** **09 29 14.9 -0.6**
DMTO DMTO 36.15 262 P P 09 29 11.7 -5.0
ZEA Zeya 36.33 35 P **P** **09 29 19.2 +1.4**
DOK Doka 36.53 264 P **P** **09 29 19.9 -0.1**
DOK P **P** **09 29 19.9 -0.1**
KLR Kul'dur 36.81 43 LR LR 09 46 18.6
comp=Z,6μm,18.1s,baz=214,slow=39
RBK Rabkut 36.88 262 P **P** **09 29 23.3 +0.2**
RBK P **P** **09 29 23.3 +0.2**
BKB Balikpapan 36.93 137 IAMs_20 IAMs_20 09 47 17.8
comp=Z,6μm,20.0s
SVE Sverdlovsk 37.02 331*d iP* **P** **09 29 24.3 +0.6**
SVE *i* S **S** **09 35 07.6 -1.1**
SVE *e* 09 37 39.4
SVE pmax pmax
comp=Z,171nm,0.9s
SVE MLR MLR
comp=Z,6μm,18.0s
SLWR Sila 37.02 274 P **P** **09 29 23.5 -0.7**
WHFO Wadi Hawf 37.11 263 P **P** **09 29 24.5 -0.4**
DAV Davao City (W) 37.20 117 P **P** **09 29 24.9 -0.8**
SHMA Al-Shehemyia 37.25 277 P **P** **09 29 25.7 -0.4**
TRNA Turayna 37.28 275 P **P** **09 29 25.5 -0.9**
SNR=5.0
MPSI Mapaga 37.60 132 P **P** **09 29 30.0 +0.9**
comp=Z,1μmcomp=Z,29nm,1.0s
SAKB Bahrain 37.60 277 P **P** **09 29 29.2 +0.1**
SMRA Abu-Samra 37.63 275 P **P** **09 29 29.0 -0.3**
SNR=9.4
TOLI2 Tolitoli 37.63 130 **P** **09 29 28.8 -0.6**
TOLI2 Tolitoli 37.63 130 P **P** **09 29 29.8 +0.5**
ABTO Aybut 37.74 263 P **P** **09 29 29.4 -1.0**
ARTI Arti 37.75 329 **P** **09 29 28.9 -1.1**
ARTI Arti 37.75 329 LR LR 09 46 46.3
comp=Z,7μm,19.1s,baz=121,slow=39
ARTI Arti 37.75 329*c iP* **P** **09 29 29.8 -0.1**
ARTI 09 30 57.5
ARTI PPP PPP 09 31 16.7
ARTI 09 31 46.0
ARTI S **S** **09 35 23.3 +3.4**
ARTI SS **SnSn** **09 38 00.0 +0.1**
ARTI pmax pmax
comp=Z,47nm,0.8s
ARTI MLR MLR
comp=Z,6μm,16.0s
INU Inuyama 38.25 67 **P** **09 29 34.2 -0.2**
SMRI Semarang 38.49 151 P **P** **09 29 35.0 -1.6**
SMRI IAmb IAmb 09 30 01.2
comp=Z,129nm,0.8s
SMRI Semarang 38.49 151 P **P** **09 29 38.8 +2.3**
SMRI Semarang 38.49 151 P **P** **09 29 38.0 +1.5**
comp=Z,192nm,0.8s
JGF Kuroka 38.52 67 P **P** **09 29 35.5 -1.3**
JGF Kuroka 38.52 67 P **P** **09 29 38.4 +1.6**
TEY Ternei 38.81 52 *eP* **P** **09 29 36.8 -2.2**
MRSI Marisa 38.88 129 P **P** **09 29 41.0 +1.1**
comp=Z,1μmcomp=Z,92nm,0.9s
AKT Akhty 39.15 303*c iP* **P** **09 29 42.8 +0.7**
AKT *e* 09 31 10.5
AKT *e*PPP PPP 09 31 32.8
AKT *e*S **S** **09 35 33.3 -8.4**
AKT pmax pmax
comp=Z,287nm,0.9s
AKT MLR MLR
comp=Z,4μm,17.0s
MJB9 Matsu-Tunnel 39.20 65 P **P** **09 29 41.9 -0.6**
MAJO Matsushiro 39.20 65 **P** **09 29 41.9 -0.6**
MAJO Matsushiro 39.20 65 P **P** **09 29 42.6 +0.2**
MAJO Matsushiro 39.20 65*de*P **P** **09 29 42.2 -0.2**
MAJO pmax pmax
comp=Z,56nm,1.2s
MAJO MLR MLR
comp=Z,1μm,15.0s
MJAR Matsushiro Arr 39.20 65 P **P** **09 29 41.9 -0.6**
MJAR Matsushiro Arr 39.20 65 P **P** **09 29 42.5 +0.1**
comp=Z,39nm,1.0s,baz=276,slow=8.2,SNR=58
MJAR PcP **PcP** **09 31 51.8 +0.2**
comp=Z,18nm,0.9s,baz=279,slow=1.9,SNR=6.7
MJAR ScP **ScP** **09 35 37.2 -2.6**
comp=Z,7.7nm,0.9s,baz=271,slow=3.5,SNR=9.9
MJAR LR LR 09 47 02.3
comp=Z,560nm,21.5s,baz=264,slow=38
comp=Z,39nm,1.0s
NGJI Ngawi 39.22 150 P **P** **09 29 43.7 +1.1**
comp=Z,65nm,1.9s
JSD Sado 39.26 63 P **P** **09 29 43.1 +0.2**
MAK Makhachkala 39.49 305 *eP* **P** **09 29 40.6 -4.1**
MAK *e* 09 31 17.6
MAK *e*S **S** **09 35 40.9 -5.6**
MAK *e*SS **SS** **09 38 38.8 -2.1**
MAK pmax pmax
comp=Z,87nm,0.7s
MAK MLR MLR
comp=Z,13μm,16.0s
KBD Kabd 39.50 283 P **P** **09 29 45.4 +0.4**
APSI Ampana 39.69 131 P **P** **09 29 47.9 +1.2**
comp=Z,1μmcomp=Z,118nm,1.0s
KMMI Kalianget 40.12 146 P **P** **09 29 52.0 +1.8**
comp=Z,114nm,1.0s
TTSI Tana Toraja 40.12 135 P **P** **09 29 51.8 +1.6**
GRNR Gornyy 40.17 43⇑*iP* **P** **09 29 50.6 +0.3**
GRNR pmax pmax
comp=E,30nm,0.8s
GRNR pmax pmax
comp=Z,50nm,0.9s
GRNR MLR MLR
comp=E,2μm,16.0s
GRNR MLR MLR
comp=Z,3μm,16.0s
KMSI Cibinong 40.24 127 P **P** **09 29 52.4 +1.2**
LUWI Luwuk 40.55 130 P **P** **09 29 55.7 +1.9**
comp=Z,3μmcomp=Z,205nm,1.0s
SPSI Sidrap Palu 40.80 136 P **P** **09 29 56.8 +0.9**
comp=Z,2μmcomp=Z,74nm,1.1s
GMJI Gumukmas 40.92 148 P **P** **09 29 57.1 +0.3**
comp=Z,33nm,0.7s
JMM Marumori 41.26 63 P **P** **09 29 58.7 -0.7**
JMM IAmb IAmb 09 30 05.0
comp=Z,180nm,1.3s
JMM Marumori 41.26 63 P **P** **09 29 59.0 -0.5**
GNI Garni 41.31 300 P **P** **09 30 02.1 +2.0**
GNI Garni 41.31 300 **P** **09 29 59.6 -0.5**
GNI IAmb IAmb 09 30 03.4
comp=Z,187nm,1.1s
GNI Garni 41.31 300 LR LR 09 49 38.1
comp=Z,2μm,20.1s,baz=89,slow=40
GNI Garni 41.31 300 P **P** **09 30 02.1 +2.0**
GNI P **P** **09 30 02.1 +2.0**
GNI Garni 41.31 300*c iP* **P** **09 30 01.7 +1.6**
GNI pmax pmax
comp=Z,145nm,1.0s
GNI MLR MLR
comp=Z,2μm,19.0s
GNI Garni 41.31 300 P **P** **09 30 02.3 +2.2**
GNI Garni 41.31 300 P **P** **09 30 02.1 +2.0**
comp=Z,3μmcomp=Z,118nm,0.9s
BNSI Bone 41.35 136 P **P** **09 30 01.6 +1.2**
comp=Z,1μmcomp=Z,49nm,0.7s
JAGI Jajag, Banyuwa 41.44 147 P **P** **09 29 59.9 -1.2**
JAGI Jajag, Banyuwa 41.44 147 P **P** **09 30 01.4 +0.3**
JAGI Jajag, Banyuwa 41.44 147 P **P** **09 30 00.9 -0.2**
comp=Z,57nm,0.7s
BELG Belogornoye 41.58 319 LR LR 09 51 11.5
comp=Z,2μm,19.2s,baz=108,slow=42
BELG Belogornoye 41.58 319*c iP* **P** **09 30 00.2 -1.6**
BELG pmax pmax
comp=Z,19nm,0.9s
BELG MLR MLR
comp=Z,413nm,15.0s
KAPI Kappang 41.62 137 P **P** **09 30 02.6 0.0**
KAPI Kappang 41.62 137 P **P** **09 30 02.9 +0.3**
comp=Z,24nm,0.9s,baz=330,slow=11,SNR=6.0
KAPI LR LR 09 49 36.1
comp=Z,2μm,21.6s,baz=310,slow=39
comp=Z,24nm,0.9s
KAPI Kappang 41.62 137 P **P** **09 30 04.0 +1.4**
KAPI P **P** **09 30 04.0 +1.4**

KAPI Kappang 41.62 137 *i* P **P** **09 30 02.6 0.0**
KAPI pmax pmax
comp=Z,37nm,1.0s
KAPI MLR MLR
comp=Z,2μm,22.0s
SRBI Singaraja 41.63 145 P **P** **09 30 01.6 -1.0**
comp=Z,121nm,1.0s
GUDG Gudauri 41.66 304 P **P** **09 30 00.6 -2.3**
TASB TASBURUN-IGDIR 41.69 300 P **P** **09 30 05.1 +2.0**
TRLG Trialeti 41.87 302 P **P** **09 30 06.0 +1.4**
CLDR Caldiran 41.92 299 P **P** **09 30 02.1 -3.1**
BKSI Bulukumba 42.09 137 P **P** **09 30 08.4 +2.0**
comp=Z,850nmcomp=Z,32nm,0.8s
YAK Yakutsk 42.15 25 **P** **09 30 05.9 -0.4**
YAK IAmb IAmb 09 30 07.4
comp=Z,173nm,0.8s
YAK Yakutsk 42.15 25 IAMs_20 IAMs_20 09 48 37.1
comp=Z,4μm,18.0s
YAK Yakutsk 42.15 25 LR LR 09 49 05.5
comp=Z,3μm,20.3s,baz=226,slow=38
YAK Yakutsk 42.15 25 *eP* **P** **09 30 05.9 -0.4**
YAK *e**PP **pP** **09 30 09.4 -2.0**
YAK *e* 09 31 45.3
YAK *e* 09 32 00.0
YAK *e*PPP PPP 09 32 12.8
YAK *e*S **S** **09 36 26.4 +0.8**
YAK *e*SSS SSS 09 40 02.0
YAK *e* 09 40 11.4
YAK pmax pmax
comp=Z,186nm,0.9s
YAK pmax pmax
comp=N,36nm,1.0s
YAK pmax pmax
comp=E,52nm,1.1s
YAK pmax pmax
comp=Z,30nm,1.0s
YAK pmax pmax
comp=N,15nm,1.4s
YAK smax smax
comp=N,101nm,3.2s
YAK smax smax
comp=E,67nm,3.0s
YAK MLR MLR
comp=Z,6μm,14.0s
YAK MLR MLR
comp=N,3μm,12.0s
YAK MLR MLR
comp=E,4μm,14.0s
CUKT Cukurca 42.18 296 P **P** **09 30 04.3 -2.9**
AKH Akhalkalaki 42.32 302 P **P** **09 30 10.7 +2.4**
VANB Van 42.33 298 P **P** **09 30 08.4 0.0**
TNTI Ternate 42.57 123 P **P** **09 30 10.7 +0.3**
comp=E,43nm,0.9s
GEVA Gevas 42.60 298 P **P** **09 30 11.6 +1.0**
KARS Kars 42.60 301 P **P** **09 30 12.8 +2.2**
KARS Kars 42.60 301 P **P** **09 30 11.0 +0.4**
KARS IAmb IAmb 09 30 14.0
comp=Z,242nm,1.0s
KARS Kars 42.60 301 P **P** **09 30 11.0 +0.4**
KARS pmax pmax
comp=Z,242nm,1.0s
RAYN Ar Rayn 42.64 275 P **P** **09 30 10.4 -0.5**
RAYN Ar Rayn 42.64 275 P **P** **09 30 11.2 +0.2**
RAYN Ar Rayn 42.64 275 P **P** **09 30 10.4 -0.5**
RAYN pmax pmax
comp=Z,39nm,0.8s
RAYN MLR MLR
comp=Z,900nm,19.0s
RAYN Ar Rayn 42.64 275 *i* P **P** **09 30 11.1 +0.2**
SNR=43
AGRB Hanur-Agry 42.65 299 P **P** **09 30 13.1 +2.1**
AKDM Akdamar-Van 42.66 298 P **P** **09 30 12.0 +0.9**
ASAJ Asahikawa 42.91 54 LR LR 09 49 14.7
comp=Z,1μm,18.1s,baz=262,slow=38
ASAJ Asahikawa 42.91 54 P **P** **09 30 12.9 0.0**
ASAJ pmax pmax
comp=Z,65nm,0.9s
JKA Kamikawa-asahi 42.92 54 P **P** **09 30 12.9 0.0**
KBZ Khabaz 42.92 306 P **P** **09 30 13.2 +0.3**
comp=Z,30nm,0.8s,baz=144,slow=4.1,SNR=61
KBZ LR LR 09 50 47.0
comp=Z,4μm,20.4s,baz=90,slow=40
comp=Z,30nm,0.8s
KBZ Khabaz 42.92 306*c iP* **P** **09 30 13.0 +0.1**
KBZ pmax pmax
comp=Z,52nm,1.1s
KBZ MLR MLR
comp=Z,3μm,18.0s
GOF Gofitskoye 42.95 307*c iP* **P** **09 30 14.1 +1.0**
KIRV Kirov 43.03 328 LR LR 09 50 10.9
comp=Z,5μm,19.4s,baz=118,slow=39
KIRV Kirov 43.03 328*c iP* **P** **09 30 13.5 -0.1**
KIV Kislovodsk 43.09 306 P **P** **09 30 14.1 -0.3**
KIV IAmb IAmb 09 30 16.6
comp=Z,153nm,0.8s
KIV IAMs_20 IAMs_20 09 50 41.3
comp=Z,4μm,19.0s
KIV Kislovodsk 43.09 306 P **P** **09 30 15.4 +0.9**
KIV P **P** **09 30 15.4 +0.9**
KIV P **P** **09 30 15.4 +0.9**
KIV Kislovodsk 43.09 306 ⇑P **P** **09 30 15.1 +0.7**
KIV Kislovodsk 43.09 306 *eP* **P** **09 30 14.9 +0.5**
KIV *e* 09 31 56.1
KIV *e*S **S** **09 36 43.6 +3.4**
KIV pmax pmax
comp=Z,127nm,1.0s
KIV pmax pmax
comp=Z,95nm,3.1s
KIV MLR MLR
comp=Z,3μm,16.0s
KIV Kislovodsk 43.09 306 *i* P **P** **09 30 15.0 +0.5**
SNR=16
KIV Kislovodsk 43.09 306 P **P** **09 30 15.1 +0.7**
comp=Z,2μmcomp=Z,143nm,0.8s
SENK Senkaya-Erzuru 43.15 301 P **P** **09 30 16.9 +1.8**
ERM Erimo 43.17 57 P **P** **09 30 14.7 -0.3**
ERM Erimo 43.17 57 P **P** **09 30 17.0 +2.0**
ERM Erimo 43.17 57*de*P **P** **09 30 14.4 -0.6**
ERM pmax pmax
comp=Z,98nm,0.9s
ERM MLR MLR
comp=Z,2μm,16.0s
UGL Uglegorsk 43.27 47 *eP* **P** **09 30 14.7 -0.9**
UGL *e*S **S** **09 36 38.4 -4.0**
UGL smax smax
comp=E,2μm,17.0s
UGL smax smax
comp=N,1μm,14.0s
UGL MLR MLR
comp=N,2μm,11.0s
UGL MLR MLR
comp=E,3μm,11.0s
UGL MLR MLR
comp=Z,4μm,14.0s
YSS Yuzhno-Sakhali 43.37 50 P **P** **09 30 16.2 -0.2**
YSS IAmb IAmb 09 30 19.3
comp=Z,224nm,1.4s
YSS Yuzhno-Sakhali 43.37 50 P **P** **09 30 16.8 +0.3**
YSS Yuzhno-Sakhali 43.37 50*c iP* **P** **09 30 16.7 +0.3**
YSS pmax pmax
comp=Z,120nm,1.0s
YSS MLR MLR
comp=Z,1μm,17.0s
GURO Guroymak-BITLI 43.40 298 P **P** **09 30 18.8 +1.7**
GURO Guroymak-BITLI 43.40 298 P **P** **09 30 17.7 +0.6**
GURO IAmb IAmb 09 30 20.1
comp=Z,227nm,1.4s
NKL Nikolayevsk 43.40 41 *eP* **P** **09 30 15.1 -1.5**
NKL *e*S **S** **09 36 48.9 +4.7**
NKL pmax pmax
comp=N,146nm,1.0s
NKL pmax pmax
comp=E,161nm,1.0s
NKL pmax pmax
comp=Z,344nm,1.0s
NKL smax smax
comp=N,235nm,3.7s
NKL smax smax
comp=E,175nm,3.7s
NKL MLR MLR
comp=N,6μm,10.0s
NKL MLR MLR
comp=E,3μm,10.0s
NKL MLR MLR
comp=Z,9μm,10.0s

KOPR Koprukoy-ERZUR 43.53 300 P **P** **09 30 19.8 +1.7**
PLAI Plampang 43.59 143 P **P** **09 30 17.4 -1.2**
PLAI Plampang 43.59 143 P **P** **09 30 17.8 -0.8**
comp=Z,59nm,0.8s
VRTB Varto-Mus 43.84 299 P **P** **09 30 22.9 +2.3**
TYV Tymovskoe 44.01 44 *eP* **P** **09 30 22.7 +1.1**
TYV *e*S **S** **09 36 56.4 +3.2**
TYV pmax pmax
comp=Z,37nm,1.4s
TYV pmax pmax
comp=Z,500nm,4.7s
TYV smax smax
comp=N,700nm,9.7s
TYV smax smax
comp=E,900nm,9.7s
TYV MLR MLR
comp=N,2μm,16.0s
TYV MLR MLR
comp=Z,6μm,16.0s
SVAN Silvan-Diyarba 44.06 297 P **P** **09 30 23.6 +1.3**
CHOM Cayeli-Rize 44.37 302 P **P** **09 30 26.3 +1.6**
BNGB Bingl 44.45 299 P **P** **09 30 26.9 +1.5**
KOPT Kop Dagi 44.57 300 P **P** **09 30 27.1 +0.5**
VRH Novokhopyorsk 44.80 316 *eP* **P** **09 30 27.5 -0.4**
VRH *e*S **S** **09 37 00.8 -3.9**
VRH pmax pmax
comp=Z,180nm,1.2s
VRH smax smax
comp=N,300nm,2.4s
ERBR Yeremizino-Bor 44.81 308 *eP* **P** **09 30 27.8 -0.3**
ERBR *e**PP **pP** **09 30 31.3 -1.9**
ERBR *e* 09 32 14.7
ERBR *e*S **S** **09 37 05.7 +0.7**
ERBR pmax pmax
comp=N,5.0nm,0.6s
ERBR pmax pmax
comp=Z,166nm,0.7s
ERBR pmax pmax
comp=E,10.0nm,0.7s
ERBR MLR MLR
comp=Z,4μm,16.0s
VSLR Vesyoloye 44.98 305*c iP* **P** **09 30 30.0 +0.5**
VSLR pmax pmax
comp=Z,149nm,0.9s
VSLR MLR MLR
comp=Z,2μm,16.0s
KTUT Trabzon 45.12 301 P **P** **09 30 30.9 +0.3**
NLAI Namlea 45.12 127 P **P** **09 30 32.7 +1.8**
comp=Z,115nm,1.1s
WBSI Waikabubak, Su 45.15 141 P **P** **09 30 29.0 -2.1**
comp=Z,1μmcomp=Z,173nm,0.8s
SOC Sochi 45.21 305 *eP* **P** **09 30 30.4 -0.9**
SOC *e* 09 32 04.8
SOC *e*PPP PPP 09 33 05.7
SOC *e*S **S** **09 37 12.3 +1.4**
SOC *e*SS **ScS** **09 40 18.3 -10**
SOC *e*SSS SSS 09 41 22.1
SOC pmax pmax
comp=Z,111nm,0.8s
SOC MLR MLR
comp=Z,2μm,16.0s
WSI Waingapu 45.67 140 P **P** **09 30 33.3 -1.9**
EDFI Ende, Flores 45.74 138 P **P** **09 30 33.6 -2.3**
comp=Z,48nm,0.7s
ESPY Espiye-Giresun 45.91 301 P **P** **09 30 38.1 +1.2**
MMRI Maumere 45.98 137 P **P** **09 30 36.3 -1.4**
MMRI IAmb IAmb 09 30 38.2
comp=Z,109nm,1.0s
MMRI Maumere 45.98 137 P **P** **09 30 36.4 -1.2**
MMRI Maumere 45.98 137 P **P** **09 30 36.3 -1.4**
comp=Z,112nm,0.8s
URFA Urfa 45.98 297 P **P** **09 30 38.7 +1.1**
ILIC ilic-Erzincan 46.07 299 P **P** **09 30 39.9 +1.6**
AAI Ambon 46.21 127 P **P** **09 30 41.5 +2.0**
comp=Z,82nm,0.6s
VORD Divnogorie 46.27 315 *eP* **P** **09 30 38.3 -1.2**
VORD pmax pmax
comp=Z,100nm,1.0s
VSR Storozhevoye 46.38 316 *eP* **P** **09 30 38.4 -2.1**
VSR pmax pmax
comp=Z,50nm,1.0s
VORR Voronezh 46.44 316 *eP* **P** **09 30 39.9 -0.9**
VORR pmax pmax
comp=Z,120nm,1.0s
MSAI Masohi 46.50 126 P **P** **09 30 42.4 +0.6**
comp=Z,5μmcomp=Z,147nm,0.7s
SWI Sorong 46.57 121 P **P** **09 30 42.9 +0.5**
comp=Z,86nm,1.0s
LPSR Galich'ya Gora 46.77 317 *eP* **P** **09 30 43.0 -0.5**
LPSR *e*S **S** **09 37 29.9 -3.1**
LPSR pmax pmax
comp=Z,127nm,0.7s
LPSR smax smax
comp=N,100nm,1.6s
ANN Anapa 46.90 307 *eP* **P** **09 30 42.9 -1.7**
ANN *e**PP **pP** **09 30 46.0 -3.7**
ANN *e* 09 32 34.9
ANN *e*S **S** **09 37 34.0 -1.1**
ANN pmax pmax
comp=N,18nm,0.5s
ANN pmax pmax
comp=Z,110nm,0.7s
ANN pmax pmax
comp=E,43nm,0.5s
ANN MLR MLR
comp=N,3μm,15.0s
ANN MLR MLR
comp=Z,3μm,15.0s
ANN MLR MLR
comp=E,3μm,15.0s
DARE Darende-Malaty 46.96 298 P **P** **09 30 47.1 +1.8**
RSDY Resadiye-TOKAT 46.99 301 P **P** **09 30 45.9 +0.5**
SVSK Karacayir 47.26 300 P **P** **09 30 49.2 +1.7**
GAZ Gaziantep 47.28 296 P **P** **09 30 48.9 +1.1**
GAZ Gaziantep 47.28 296 P **P** **09 30 47.9 0.0**
GAZ IAmb IAmb 09 30 49.3
comp=Z,85nm,0.7s
KMRS Kahramanmaras 47.50 297 P **P** **09 30 50.1 +0.6**
TOKT Tokat 47.59 301 P **P** **09 30 51.4 +1.3**
TOKA Tokat 47.64 301 P **P** **09 30 50.3 -0.2**
SARI SarD1z-Kayseri 47.80 298 P **P** **09 30 53.3 +1.3**
KVT Kavak 47.93 302 P **P** **09 30 53.9 +1.1**
KHAM Kharkiv 48.06 314 P **P** **09 30 53.4 -0.2**
BATI Baumata 48.07 137 P **P** **09 30 53.3 -0.8**
comp=Z,34nm,0.4s,baz=281,slow=8.3,SNR=3.6
BATI LR LR 09 53 29.0
comp=Z,3μm,21.3s,baz=326,slow=39
comp=Z,34nm,0.4s
SOEI Soe 48.09 136 P **P** **09 30 54.2 0.0**
SOEI IAMs_20 IAMs_20 09 52 58.6
comp=Z,3μm,21.0s
SOEI Soe 48.09 136 P **P** **09 30 52.7 -1.6**
SOEI Soe 48.09 136 P **P** **09 30 53.0 -1.3**
MOS Moscow 48.14 321 *eP* **P** **09 30 49.7 -4.4**
MOS *e* 09 32 14.9
MOS *e* 09 32 42.7
MOS *e*S **S** **09 37 47.3 -5.1**
MOS pmax pmax
comp=Z,137nm,0.7s
MOS MLR MLR
comp=Z,3μm,14.0s
ASF Jabal al Asfar 48.20 290 LR LR 09 53 48.8
comp=Z,1μm,18.1s,baz=101,slow=39
BNN Bunyan 48.22 299 P **P** **09 30 56.1 +1.0**
BNN Bunyan 48.22 299 P **P** **09 30 55.3 +0.2**
BNN IAmb IAmb 09 30 56.7
comp=Z,72nm,1.0s
TIXI Tiksi 48.34 14 P **P** **09 30 54.6 -0.7**
TIXI IAmb IAmb 09 30 55.9
comp=Z,57nm,0.8s
TIXI IAMs_20 IAMs_20 09 52 09.2
comp=Z,2μm,18.0s
TIXI Tiksi 48.34 14 LR LR 09 52 21.1
comp=Z,2μm,18.1s,baz=250,slow=37
TIXI Tiksi 48.34 14*ceP* **P** **09 30 54.7 -0.7**
TIXI pmax pmax
comp=Z,53nm,0.7s
TIXI MLR MLR
comp=Z,2μm,15.0s
CEYT Ceyhan 48.46 296 P **P** **09 30 58.0 +1.1**
DIKM Dikmen 48.50 302 P **P** **09 30 57.7 +0.6**
DIKM Dikmen 48.50 302 ⇑P **P** **09 30 57.8 +0.6**
DIKM Dikmen 48.50 302 P **P** **09 30 57.3 +0.2**
comp=Z,1μmcomp=Z,90nm,0.9s
KLMR Klimovskoe 48.53 328*c iP* **P** **09 30 54.3 -2.7**

KLMR *e* 09 32 20.5
KLMR *e* 09 32 48.2
KLMR S **S** **09 37 55.7 -2.1**
KLMR pmax pmax
comp=Z,173nm,1.4s
KLMR MLR MLR
comp=Z,6μm,17.0s
YOZ Yozgat 48.57 300 P **P** **09 30 58.7 +0.9**
OBN Obninsk 48.61 320 P **P** **09 30 56.4 -1.3**
OBN Obninsk 48.61 320 LR LR 09 53 40.1
comp=Z,4μm,19.1s,baz=46,slow=39
OBN Obninsk 48.61 320 ⇑P **P** **09 30 57.3 -0.4**
OBN Obninsk 48.61 320 *c iP* **P** **09 30 57.1 -0.6**
OBN *i* 09 31 02.2
OBN *i* 09 32 22.1
OBN *i* 09 32 49.3
OBN *i* S S 09 37 49.1 -10
OBN pmax pmax
comp=Z,202nm,2.5s
OBN MLR MLR
comp=Z,4μm,18.0s
OBN Obninsk 48.61 320 P **P** **09 30 56.7 -1.0**
comp=Z,1μmcomp=Z,73nm,0.8s
FAKI Fak Fak 48.66 122 P **P** **09 30 57.9 -0.7**
FAKI IAmb IAmb 09 31 03.7
comp=Z,90nm,1.1s
FAKI Fak Fak 48.66 122 P **P** **09 31 00.3 +1.7**
FAKI Fak Fak 48.66 122 P **P** **09 30 58.4 -0.2**
comp=Z,834nmcomp=Z,75nm,1.0s
KOZK Kozakli-Nevseh 48.95 299 P **P** **09 31 01.6 +0.9**
KARA Karaisali 48.99 297 P **P** **09 31 01.6 +0.7**
CMRD Camardi-Nigde 49.00 297 P **P** **09 31 02.2 +1.1**
CORM Corum 49.06 301 P **P** **09 31 02.5 +0.9**
SIM Simferopol' 49.26 307 *eP* **P** **09 31 01.0 -1.9**
SIM pmax pmax
comp=Z,100nm,1.2s
MMAI Mount Meron Ar 49.30 291 P **P** **09 31 04.3 +0.9**
comp=Z,25nm,0.8s,baz=38,slow=4.2,SNR=18
MMAI LR LR 09 55 36.4
comp=Z,2μm,18.8s,baz=68,slow=41
comp=Z,25nm,0.8s
ATD Arta Tunnel 49.35 261 P **P** **09 31 04.6 +0.6**
ATD IAmb IAmb 09 31 05.7
comp=Z,69nm,0.9s
ATD Arta Tunnel 49.35 261 LR LR 09 50 03.7
comp=Z,51nm,22.0s,baz=65,slow=34
ATD Arta Tunnel 49.35 261 P **P** **09 31 04.8 +0.8**
BZK Bozkurt 49.42 303 P **P** **09 31 04.7 +0.6**
BZK Bozkurt 49.42 303 P **P** **09 31 04.4 +0.3**
BZK Bozkurt 49.42 303 ⇑P **P** **09 31 05.0 +0.8**
BZK Bozkurt 49.42 303 P **P** **09 31 04.7 +0.6**
comp=Z,3μmcomp=Z,347nm,0.8s
MERS Mersin 49.46 296 P **P** **09 31 05.2 +0.6**
GHAJ Ghor Haditha 49.47 289 P **P** **09 31 04.4 -0.2**
GHAJ IAmb IAmb 09 31 06.2
comp=Z,49nm,0.8s
GHAJ IAMs_20 IAMs_20 09 56 05.2
comp=Z,3μm,20.0s
KIRS Kirsehir-Merke 49.69 299 ⇑P **P** **09 31 07.0 +0.6**
ILGA Ilgaz 49.69 302 P **P** **09 31 06.2 -0.3**
CANT Cankiri 49.80 301 P **P** **09 31 07.7 +0.6**
KIZK Mersin 49.81 296 P **P** **09 31 07.1 -0.1**
KAMT Kaman 49.83 300 P **P** **09 31 07.6 +0.2**
BR104 Keskin Array S 49.85 300 P **P** **09 31 07.7 +0.1**
comp=Z,620nmcomp=Z,78nm,0.8s
BR131 Keskin Array S 49.85 300 P **P** **09 31 07.2 -0.5**
BR131 IAmb IAmb 09 31 10.7
comp=Z,112nm,1.1s
BR131 Keskin Array S 49.85 300 P **P** **09 31 08.0 +0.3**
SNR=41
BR131 Keskin Array S 49.85 300 P **P** **09 31 07.2 -0.5**
BR131 pmax pmax
comp=Z,112nm,1.1s
BRTR Keskin Array B 49.85 300 P **P** **09 31 07.2 -0.5**
BRTR Keskin Array B 49.85 300 P **P** **09 31 07.8 +0.1**
comp=Z,48nm,0.7s,baz=108,slow=7.8,SNR=190
BRTR LR LR 09 54 49.6
comp=Z,1μm,19.2s,baz=102,slow=39
comp=Z,48nm,0.7s
BR106 Keskin Array S 49.87 300 P **P** **09 31 08.0 +0.2**
comp=Z,584nmcomp=Z,72nm,0.7s
BR105 Keskin Array S 49.87 300 P **P** **09 31 08.0 +0.2**
comp=Z,671nmcomp=Z,84nm,0.7s
EREN Erenkoy 49.91 294 P **P** **09 31 08.6 +0.6**
YESY Yesilyurt 49.97 297 P **P** **09 31 09.3 +0.8**
SERE Sereflikochisa 49.98 299 P **P** **09 31 09.3 +0.7**
SULT Sultanhani-AKS 50.10 298 P **P** **09 31 10.7 +1.2**
KEBE Keben-Mersin 50.15 296 P **P** **09 31 10.2 +0.3**
CIDE Kastamonu/Cide 50.22 303 ⇑P **P** **09 31 10.2 0.0**
AFSR Afar-Bala (An 50.31 300 P **P** **09 31 11.5 +0.4**
EIL Elat 50.32 287 LR LR 09 57 12.6
comp=Z,3μm,18.1s,baz=75,slow=42
GUMO Guam 50.38 95 LR LR 09 52 01.6
comp=Z,1μm,20.7s,baz=275,slow=35
KULU Kulu 50.41 299 P **P** **09 31 12.3 +0.5**
MA2 Magadan 50.47 34 P **P** **09 31 11.3 -0.5**
MA2 IAmb IAmb 09 31 13.0
comp=Z,72nm,1.0s
MA2 Magadan 50.47 34 LR LR 09 55 08.6
comp=Z,2μm,20.1s,baz=252,slow=39
MA2 Magadan 50.47 34 P **P** **09 31 11.8 0.0**
MA2 Magadan 50.47 34 *c iP* **P** **09 31 11.6 -0.2**
MA2 pmax pmax
comp=Z,97nm,1.3s
MA2 MLR MLR
comp=Z,2μm,16.0s
MA2 Magadan 50.47 34 P **P** **09 31 11.9 +0.1**
comp=Z,1μmcomp=Z,90nm,1.1s
ANTO Ankara 50.49 300 P **P** **09 31 13.0 +0.6**
ANTO Ankara 50.49 300 P **P** **09 31 12.2 -0.2**
ANTO Ankara 50.49 300 P **P** **09 31 12.9 +0.6**
ANTO P **P** **09 31 12.9 +0.6**
ANTO Ankara 50.49 300 ⇓P **P** **09 31 12.2 -0.2**
ANTO pmax pmax
comp=Z,189nm,1.2s
ANTO Ankara 50.49 300 P **P** **09 31 13.0 +0.6**
comp=Z,1μmcomp=Z,72nm,1.2s
LOD Lodumlu 50.51 300 P **P** **09 31 13.1 +0.6**
CHBY Cihanbeyli 50.55 299 P **P** **09 31 12.4 -0.5**
BERE Bereket-Mersin 50.56 296 P **P** **09 31 13.4 +0.3**
TEKE Tekeli-Mersin 50.68 295 P **P** **09 31 13.6 -0.2**
CSS Mathiatis 50.68 294 P **P** **09 31 13.3 -0.6**
CSS IAmb IAmb 09 31 15.3
comp=Z,97nm,1.4s
CSS Mathiatis 50.68 294 P **P** **09 31 13.2 -0.6**
comp=Z,971nmcomp=Z,37nm,0.8s
LADK Ladik-KONYA 51.00 298 P **P** **09 31 16.4 +0.1**
KONT Konya--Tatoy 51.03 298 P **P** **09 31 16.7 +0.2**
HDMB Hadim 51.06 297 P **P** **09 31 16.7 -0.2**
GAZI Gazipasa 51.30 296 P **P** **09 31 17.8 -0.7**
SVRH Sivrihisar-ESK 51.51 300 P **P** **09 31 20.2 +0.1**
SEYD Seydisehir-KON 51.52 297 P **P** **09 31 20.5 +0.3**
MDUB Mudurnu 51.65 301 P **P** **09 31 22.3 +1.2**
MDUB Mudurnu 51.65 301 P **P** **09 31 21.4 +0.3**
SAHE Sakarya_HENDEK 51.87 302 ⇑P **P** **09 31 22.9 +0.2**
CIFT Cifteler, Eski 51.87 300 P **P** **09 31 22.9 +0.1**
BLVD Bolvadin-AFYON 51.91 299 P **P** **09 31 23.5 +0.3**
SEY Seymchan 52.00 30 LR LR 09 57 23.0
comp=Z,2μm,18.2s,baz=258,slow=40
SEY Seymchan 52.00 30 *c iP* **P** **09 31 23.3 +0.1**
SEY pmax pmax
comp=Z,39nm,0.9s
SEY MLR MLR
comp=Z,2μm,17.0s
SDAG Sultandagi-AFY 52.10 299 P **P** **09 31 24.7 +0.2**
GULT Gulveren 52.17 301 P **P** **09 31 24.8 -0.2**
PURM Purcari 52.20 309 ⇓P **P** **09 31 25.2 +0.2**
PURM Purcari 52.20 309 P **P** **09 31 25.0 0.0**
comp=Z,661nm,0.8s
BAL3X Bal3x, Balta 52.35 311 P **P** **09 31 25.9 -0.2**
SHUT Suhut-Afyon 52.37 299 P **P** **09 31 27.0 +0.5**
SKR Severo-Kuril's 52.47 46 *eP* **P** **09 31 25.4 -1.5**
SKR *e* 09 31 37.0
SKR *eS* **S** **09 38 47.2 -5.5**
SKR pmax pmax
comp=Z,43nm,0.8s
SKR pmax pmax
comp=Z,400nm,9.3s
SKR MLR MLR
comp=Z,2μm,17.0s
ISP Isparta 52.49 298 P **P** **09 31 26.7 -0.8**
ISP Isparta 52.49 298 P **P** **09 31 27.3 -0.2**
ISP IAmb IAmb 09 31 28.0
comp=Z,104nm,0.7s
ISP Isparta 52.49 298 *ceP* **P** **09 31 26.7 -0.8**
ISP pmax pmax
comp=Z,106nm,0.8s
ISP MLR MLR
comp=Z,1μm,23.0s
AK08 Malin Array Si 52.58 314 P **P** **09 31 26.9 -0.8**
AK10 Malin Array Si 52.58 314 P **P** **09 31 27.0 -0.7**
AKASG Malin Array Be 52.60 314 P **P** **09 31 27.4 -0.5**
AKASG Malin Array Be 52.60 314 P **P** **09 31 27.0 -0.9**
comp=Z,31nm,0.6s,baz=82,slow=6.5,SNR=188
AKASG LR LR 09 57 12.9
comp=Z,2μm,18.1s,baz=94,slow=40
comp=Z,31nm,0.6s
AKASG Malin Array Be 52.60 314 *i* P **P** **09 31 27.0 -0.9**
AKASG pmax pmax
comp=Z,59nm,0.7s
AKBB Malin Array Si 52.60 314 P **P** **09 31 27.4 -0.4**
AKBB IAmb IAmb 09 31 27.6
comp=Z,72nm,0.8s
AKBB Malin Array Si 52.60 314 *c iP* **P** **09 31 26.8 -1.1**
AKBB Malin Array Si 52.60 314 P **P** **09 31 26.7 -1.1**
AK03 Malin Array Si 52.60 314 P **P** **09 31 26.8 -1.1**
KIEV Kiev 52.61 314 P **P** **09 31 27.4 -0.5**
KIEV IAmb IAmb 09 31 27.6
comp=Z,62nm,0.8s
KIEV Kiev 52.61 314 IAMs_20 IAMs_20 09 56 52.3
comp=Z,2μm,20.0s
KIEV Kiev 52.61 314 ⇑P **P** **09 31 27.4 -0.5**
KIEV Kiev 52.61 314 P **P** **09 31 27.4 -0.5**
KIEV pmax pmax
comp=Z,62nm,0.8s
KIEV MLR MLR
comp=Z,2μm,20.0s
KIEV Kiev 52.61 314 *i* P **P** **09 31 27.1 -0.8**
SNR=61
KIEV Kiev 52.61 314 P **P** **09 31 27.1 -0.8**
comp=Z,6μmcomp=Z,443nm,1.1s
AK16 Malin Array Si 52.67 314 P **P** **09 31 27.6 -0.8**
PUL Pulkovo 52.73 326 *deP* **P** **09 31 29.0 +0.3**
PUL pmax pmax
comp=Z,178nm,1.0s
PUL MLR MLR
comp=Z,2μm,15.0s
SILT Sile 52.75 302 ⇑P **P** **09 31 29.5 +0.3**
LVZ Lovozero 52.81 336 P **P** **09 31 29.0 -0.3**
LVZ IAmb IAmb 09 31 30.6
comp=Z,86nm,0.9s
LVZ Lovozero 52.81 336 *ceP* **P** **09 31 28.5 -0.7**
LVZ pmax pmax
comp=Z,110nm,1.0s
LVZ MLR MLR
comp=Z,3μm,17.0s
LVZ Lovozero 52.81 336 P **P** **09 31 28.6 -0.7**
comp=Z,1μmcomp=Z,128nm,1.0s
JOF Joensuu 52.82 330 *eP* **P** **09 31 29.4 +0.1**
KIS Kishinev 52.91 310 ⇑*iP* **P** **09 31 29.5 -0.8**
KIS Kishinev 52.91 310 PM1 09 31 30.0
comp=Z,50nm,0.7s
KIS Kishinev 52.91 310 PM2 09 31 32.0
comp=Z,380nm,1.5s
KIS Kishinev 52.91 310 *ePP* PP 09 33 33.0 +3.3
KIS *eSS* SKiKP 09 43 05.0 +15
KIS *eL* L 09 55 49.0
KIS LRM MLR 09 57 20.0
comp=Z,1μm,17.0s
KIS Kishinev 52.91 310 ⇓P **P** **09 31 29.6 -0.6**
KIS Kishinev 52.91 310 *c iP* **P** **09 31 29.5 -0.8**
KIS *e* 09 31 37.0
KIS *e* 09 33 33.0
KIS pmax pmax
comp=Z,50nm,0.7s
KIS MLR MLR
comp=Z,1μm,17.0s
MILM Milestii Mici 52.92 309 ⇑*iP* **P** **09 31 29.0 -1.3**
comp=Z,440nm,0.9s
MILM Milestii Mici 52.92 309 *ePP* PP 09 33 32.0 +2.3
MILM *eS* **S** **09 38 54.0 -5.1**
MILM Milestii Mici 52.92 309 ⇓P **P** **09 31 29.6 -0.7**
MILM Milestii Mici 52.92 309 P **P** **09 31 29.3 -1.0**
JURR Jurilovca 52.99 307 ⇓P **P** **09 31 31.0 +0.2**
TLCR 53.01 307 ⇑P **P** **09 31 30.9 -0.2**
TLCR 53.01 307 P **P** **09 31 30.8 -0.2**
SMPI Sarmi 53.08 116 P **P** **09 31 33.1 +1.2**
comp=Z,2μmcomp=Z,98nm,1.1s
ELL Elmali 53.14 297 P **P** **09 31 32.5 +0.2**
ELL Elmali 53.14 297 P **P** **09 31 32.5 +0.2**
APA Apatity 53.16 336 *eP* **P** **09 31 30.4 -1.4**
APA *eS* **S** **09 38 59.5 -2.2**
APA *eSS* **SS** **09 42 44.3 +3.5**
APA MLR MLR
comp=Z,5μm,14.6s
SORM Soroca 53.19 311 ⇑P **P** **09 31 31.7 -0.6**
SORM Soroca 53.19 311 P **P** **09 31 31.5 -0.8**
SORM Soroca 53.19 311 P **P** **09 31 31.2 -1.1**
comp=Z,153nm,0.9s
KLYT Kilyos 53.19 302 ⇑P **P** **09 31 32.3 -0.1**
TSCT Constanta Port 53.19 306 ⇓P **P** **09 31 33.3 +1.0**
EFOR EFORIE 53.22 306 ⇑P **P** **09 31 33.0 +0.4**
MI30 MI30,Zelenitsa 53.26 314 P **P** **09 31 31.6 -1.1**
comp=Z,212nm,0.8s
MANR Mangalia 53.27 306 ⇓P **P** **09 31 33.2 +0.2**
TPGR Topolog 53.31 307 ⇑P **P** **09 31 33.4 +0.1**
TIRR Tirgusor 53.35 306 P **P** **09 31 33.3 -0.2**
TIRR Tirgusor 53.35 306 ⇑P **P** **09 31 33.5 +0.1**
TIRR Tirgusor 53.35 306 P **P** **09 31 33.3 -0.2**
TIRR pmax pmax
comp=Z,62nm,1.1s
TIRR MLR MLR
comp=Z,2μm,19.0s
TIRR Tirgusor 53.35 306 P **P** **09 31 33.0 -0.5**
comp=Z,1μmcomp=Z,58nm,0.9s
MFTR Murfatlar 53.36 306 ⇑P **P** **09 31 33.2 -0.4**
KALB Balgarevo 53.43 305 ⇓P **P** **09 31 35.1 +1.0**
AKAS Kas 53.47 296 P **P** **09 31 33.9 -0.8**
VLDR Vladesti 53.48 308 ⇑P **P** **09 31 35.0 +0.6**
CFR Carcaliu 53.49 307 ⇑P **P** **09 31 34.6 0.0**
CFR Carcaliu 53.49 307 P **P** **09 31 34.5 0.0**
PEA0B Petropavlovsk- 53.50 43 P **P** **09 31 34.9 +0.4**
PEA0B IAmb IAmb 09 31 36.6
comp=Z,90nm,1.1s
PEA0B Petropavlovsk- 53.50 43 P **P** **09 31 34.9 +0.4**
PEA0B pmax pmax
comp=Z,90nm,1.2s
PETK Petropavlovsk- 53.50 43 P **P** **09 31 34.8 +0.3**
PETK Petropavlovsk- 53.50 43 P **P** **09 31 34.4 -0.2**
comp=Z,39nm,0.9s,baz=224,slow=4.1,SNR=37
PETK LR LR 09 56 18.4
comp=Z,2μm,18.8s,baz=267,slow=38
comp=Z,39nm,0.9s
TATR Tatarca 53.52 308 ⇑P **P** **09 31 35.1 +0.4**
MNK Minsk 53.53 319 *i* P **P** **09 31 34.1 -0.6**
comp=E,13nm,0.8s,baz=92
MNK *i* P **P** **09 31 34.1 -0.6**
comp=N,52nm,0.9s
MNK *i* P **P** **09 31 34.1 -0.6**
comp=Z,79nm,0.8s
MNK *i* PcP **PcP** **09 32 40.6 -0.8**
MNK *i* PP **PP** **09 33 34.8 -0.3**
MNK *i* PPP PPP 09 34 41.2
MNK *i* S **S** **09 39 08.0 +0.9**
MNK *i* SS SS 09 42 34.9 -12
MNK *i* LQ LQ 09 50 04.1
MNK *i* LR LR 09 53 40.0
MNK Minsk 53.53 319 *d iP* **P** **09 31 34.0 -0.6**
LUBAR Lubar, Ukraine 53.54 313 P **P** **09 31 34.1 -0.7**
SCTR Scanteiesti 53.55 308 ⇓P **P** **09 31 35.7 +0.7**
MI28 Mi28,Pidlybu 53.58 314 P **P** **09 31 34.3 -0.8**
TLBR Topalu 53.60 307 ⇓P **P** **09 31 35.8 +0.5**
PSN Preselentsi 53.61 305 *eP* **P** **09 31 35.8 +0.3**
VASR Vaslui 53.63 309 ⇑P **P** **09 31 35.6 0.0**
VARL Varlezi 53.64 308 ⇓P **P** **09 31 36.5 +0.9**
HARR Harsova 53.67 307 ⇑P **P** **09 31 35.8 -0.1**
HARR Harsova 53.67 307 P **P** **09 31 35.8 -0.1**
SCHLR Schela 53.68 308 ⇑P **P** **09 31 36.4 +0.4**
CTYL Yalikoy Yolu 53.73 303 ⇑P **P** **09 31 36.3 0.0**
CTYL Yalikoy Yolu 53.73 303 P **P** **09 31 35.7 -0.6**
IASR Iasi 53.75 310 ⇓P **P** **09 31 35.8 -0.6**
TUDR 53.79 308 ⇑P **P** **09 31 37.6 +0.9**
TAVA DENIZLI_Tavas 53.81 298 ⇑P **P** **09 31 36.5 -0.7**
ICOR Ion Corvin 53.81 306 ⇑P **P** **09 31 37.8 +0.8**
NDNU Novodnistrovsk 53.83 312 P **P** **09 31 36.2 -0.8**
MANT Manisa 53.92 299 P **P** **09 31 37.9 -0.3**
MANT IAmb IAmb 09 31 38.4
comp=Z,57nm,0.8s
GHRR 53.94 308 ⇑P **P** **09 31 38.5 +0.7**
GHRR 53.94 308 P **P** **09 31 38.2 +0.4**
BAND Balkesir-Ban 54.01 301 ⇑P **P** **09 31 38.4 -0.1**
COSR Cosmesti PH 54.02 308 ⇓P **P** **09 31 39.8 +1.4**
PET Petropavlovsk 54.07 43 IAMs_20 IAMs_20 09 57 03.7
comp=Z,2μm,18.0s
PET Petropavlovsk 54.07 43 *eP* **P** **09 31 36.4 -2.3**
PET pmax pmax
comp=Z,200nm,11.3s
PET pmax pmax
comp=Z,56nm,1.2s
PET pmax pmax
comp=Z,300nm,4.1s
PET MLR MLR
comp=Z,1μm,15.0s
PET MLR MLR
comp=Z,1μm,15.0s
PET Petropavlovsk 54.07 43 P **P** **09 31 39.3 +0.6**
comp=Z,2μmcomp=Z,51nm,1.1s
PANC Panciu 54.13 308 ⇑P **P** **09 31 40.2 +0.9**
PRD Provadia 54.19 305 *eP* **P** **09 31 40.0 +0.3**
ODBI Odobesti 54.20 308 ⇑P **P** **09 31 41.1 +1.4**
ODBI Odobesti 54.20 308 P **P** **09 31 41.4 +1.6**
comp=Z,2μmcomp=Z,200nm,0.7s
IDID Didziasalis 54.22 320 *eP* **P** **09 31 40.0 +0.3**
PHSR Pinarhisar 54.28 303 ⇑P **P** **09 31 40.7 +0.3**
PGOR Pogoanele 54.32 307 ⇑P **P** **09 31 41.4 +0.8**
DRBR Darabani 54.35 311 ⇓P **P** **09 31 40.3 -0.5**
VSU Vasula 54.41 324 *c iP* **P** **09 31 39.5 -1.5**
VSU pmax pmax
comp=Z,205nm,1.0s
VSU MLR MLR
comp=Z,4μm,15.0s
VSU Vasula 54.41 324 *eP* **P** **09 31 39.9 -1.2**
VRI Vrincioaia 54.42 308 ⇑P **P** **09 31 42.2 +0.8**
VRI Vrincioaia 54.42 308 P **P** **09 31 42.1 +0.8**
VRI Vrincioaia 54.42 308 P **P** **09 31 42.2 +0.8**
comp=Z,3μmcomp=Z,267nm,0.9s
TESR Tescani 54.43 309 ⇑P **P** **09 31 41.3 -0.1**
TESR Tescani 54.43 309 P **P** **09 31 41.0 -0.4**
comp=Z,2μmcomp=Z,149nm,0.7s
KMPD K-Podol'skiy 54.43 312 P **P** **09 31 40.4 -0.9**
KMPD P **P** **09 31 40.5 -0.9**
BISRR Bisoca 54.46 308 ⇓P **P** **09 31 42.8 +1.0**
BISRR Bisoca 54.46 308 P **P** **09 31 42.4 +0.6**
comp=Z,33μmcomp=Z,438nm,0.8s
PLOR5 Plostina Array 54.47 308 P **P** **09 31 42.9 +1.1**
comp=Z,6μmcomp=Z,879nm,0.7s
PLOR Plostina 54.48 308 ⇑P **P** **09 31 42.9 +1.1**
PLOR Plostina 54.48 308 P **P** **09 31 42.9 +1.1**
LEHL Lehliu 54.48 307 ⇑P **P** **09 31 42.5 +0.8**
IIGN Ignalina 54.52 320 *eP* **P** **09 31 42.3 +0.4**
ISAL Salakas 54.58 320 *eP* **P** **09 31 42.7 +0.4**
GENI Genyem 54.60 116 P **P** **09 31 45.3 +2.2**
GENI Genyem 54.60 116 P **P** **09 31 44.8 +1.7**
comp=Z,96nm,1.4s
ISR Istrita 54.62 307 ⇓P **P** **09 31 44.2 +1.3**
ISR Istrita 54.62 307 P **P** **09 31 44.1 +1.3**
ISR Istrita 54.62 307 P **P** **09 31 44.2 +1.3**
comp=Z,4μmcomp=Z,307nm,1.1s
ONER Baraj Valea Uz 54.62 309 ⇑P **P** **09 31 43.6 +0.8**
ARG Arkhangelos 54.65 296 P **P** **09 31 42.8 -0.3**
ARG IAmb IAmb 09 31 46.2
comp=Z,109nm,0.8s
ARG Arkhangelos 54.65 296 P **P** **09 31 42.8 -0.3**
ARG pmax pmax
comp=Z,109nm,0.8s
PRAR RASCA 54.66 310 ⇑P **P** **09 31 42.9 -0.2**
RNPP9 Sopachiv 54.70 315 P **P** **09 31 42.8 -0.5**
RNPP2 Kostyukhnivka 54.70 315 P **P** **09 31 42.4 -0.9**
RNPP5 Staryi Chortor 54.70 315 P **P** **09 31 42.6 -0.7**
RNPP8 Varash 54.72 315 P **P** **09 31 42.9 -0.5**
LOZB Loznitsa 54.76 305 ⇓P **P** **09 31 44.0 +0.1**
NEHR Nehoiu 54.76 308 ⇑P **P** **09 31 45.2 +1.3**
COVR Voineasa-Covas 54.79 308 ⇓P **P** **09 31 44.5 +0.4**
MTN Manton Dam 54.79 132 P **P** **09 31 43.8 -0.5**
comp=Z,22nm,0.8s
RAZG Razgrad 54.80 305 ⇑P **P** **09 31 44.7 +0.5**
SULR 54.86 307 ⇑P **P** **09 31 44.0 -0.6**
ARBE Arbavere 54.88 325 *eP* **P** **09 31 44.4 0.0**
JMB Yambol 54.91 304 *eP* **P** **09 31 45.5 +0.6**
JAY Jayapura 54.99 115 LR LR 09 54 06.8
comp=Z,338nm,20.8s,baz=334,slow=35
JAY Jayapura 54.99 115 P P 09 31 55.5 +10
MLR Muntele Rosu 55.00 308 LR LR 09 59 58.2
comp=Z,4μm,19.0s,baz=72,slow=41
MLR Muntele Rosu 55.00 308 ⇑P **P** **09 31 46.8 +1.0**
MLR Muntele Rosu 55.00 308 P **P** **09 31 46.7 +1.0**
MLR Muntele Rosu 55.00 308 P **P** **09 31 46.8 +1.0**
comp=Z,3μmcomp=Z,437nm,0.8s
FIA1 FINESS Array S 55.02 327 P **P** **09 31 45.1 -0.2**
FINES FINESS Array B 55.02 327 P **P** **09 31 45.1 -0.4**
FINES FINESS Array B 55.02 327 P **P** **09 31 45.0 -0.4**
comp=Z,67nm,0.7s,baz=99,slow=9.8,SNR=192
FINES LR LR 09 59 24.6
comp=Z,2μm,21.2s,baz=99,slow=40
comp=Z,67nm,0.7s
FINES FINESS Array B 55.02 327 *i* P **P** **09 31 45.0 -0.4**
FINES pmax pmax
comp=Z,67nm,0.7s
BDRM Kayabasi 55.03 297 ⇓P **P** **09 31 46.0 0.0**
OZUR 55.06 309 ⇓P **P** **09 31 46.1 0.0**
MBWA Marble Bar 55.08 149 P **P** **09 31 46.4 +0.1**
MBWA Marble Bar 55.08 149 P **P** **09 31 46.2 -0.1**
comp=Z,56nm,0.9s
MBWA Marble Bar 55.08 149 P **P** **09 31 46.3 0.0**
BLCB Balcova 55.12 299 P **P** **09 31 46.2 -0.4**
BOSR Bodos 55.15 309 ⇓P **P** **09 31 47.8 +1.1**
SZH Strazhitsa 55.22 305 *eP* **P** **09 31 47.3 +0.1**
VADS Vadso 55.29 338 *eP* **P** **09 31 47.4 +0.2**
BURAR Bucovina Array 55.32 310 P **P** **09 31 48.0 0.0**
BURAR IAmb IAmb 09 31 49.2
comp=Z,54nm,0.8s
BURAR Bucovina Array 55.32 310 ⇑P **P** **09 31 48.1 +0.1**
BURAR Bucovina Array 55.32 310 P **P** **09 31 48.1 +0.1**
BUR08 Bucovina Ar. S 55.33 311 P **P** **09 31 48.1 +0.1**
BUR08 IAmb IAmb 09 31 49.0
comp=Z,50nm,0.8s
ELND Elena 55.33 305 ⇓P **P** **09 31 48.4 +0.4**
DOPR Dopca 55.35 308 ⇑P **P** **09 31 48.7 +0.6**
KSV Kosov 55.37 311 P **P** **09 31 46.7 -1.5**
SMG Samos 55.39 298 P **P** **09 31 48.7 +0.1**
CAVK Edirne/Enez-Ca 55.42 302 ⇓P **P** **09 31 48.7 +0.1**
KNRA Kununurra 55.42 137 P **P** **09 31 49.0 +0.1**
KNRA IAmb IAmb 09 31 54.8
comp=Z,53nm,0.8s
KNRA Kununurra 55.42 137 P **P** **09 31 48.7 -0.1**
comp=Z,83nm,0.9s
ENEZ Enez 55.42 302 P **P** **09 31 48.7 0.0**
EZN Ezine 55.43 301 P **P** **09 31 48.7 -0.1**
EZN Ezine 55.43 301 ⇑P **P** **09 31 48.9 +0.1**
EZN Ezine 55.43 301 P **P** **09 31 48.9 +0.1**
EZN Ezine 55.43 301 P **P** **09 31 48.5 -0.3**
comp=Z,1μmcomp=Z,113nm,1.1s
PSAC1 Pilbara Seismi 55.44 149 P **P** **09 31 48.7 -0.2**
comp=Z,61nm,1.0s
PSAB2 Pilbara Seismi 55.48 149 P **P** **09 31 48.8 -0.4**
comp=Z,46nm,1.2s
ALN Alexandroupoli 55.48 302 IAmb IAmb 09 31 50.2
comp=Z,68nm,0.8s
ALN Alexandroupoli 55.48 302 P **P** **09 31 48.8 -0.3**
PSA00 Pilbara Seismi 55.49 149 P **P** **09 31 49.4 +0.1**
PSA00 Pilbara Seismi 55.49 149 P **P** **09 31 49.0 -0.3**
comp=Z,37nm,0.8s
FITZ Fitzroy Crossi 55.51 141 P **P** **09 31 49.7 +0.2**
FITZ Fitzroy Crossi 55.51 141 P **P** **09 31 49.6 +0.2**
comp=Z,4.6nm,1.4s
FITZ Fitzroy Crossi 55.51 141 LR LR 09 57 39.2
comp=Z,885nm,21.9s,baz=329,slow=38
KARP Karpathos 55.54 296 P **P** **09 31 49.7 +0.1**
KARP Karpathos 55.54 296 *eP* **P** **09 31 49.8 +0.1**
KARP Karpathos 55.54 296 P **P** **09 31 49.6 -0.1**
comp=Z,11μmcomp=Z,2μm,0.8s
KDU Kakadu 55.57 131 P **P** **09 31 49.1 -0.8**
comp=Z,42nm,1.3s
ZIMR 55.61 306 ⇓P **P** **09 31 50.9 +0.9**
ZIMR 55.61 306 P **P** **09 31 50.8 +0.9**
VOIR 55.63 308 ⇑P **P** **09 31 50.2 -0.1**
VOIR 55.63 308 P **P** **09 31 50.1 -0.1**
VOIR 55.63 308 P **P** **09 31 50.2 -0.1**
comp=Z,1μmcomp=Z,99nm,0.8s
MTUR Matau 55.65 308 ⇑P **P** **09 31 50.5 +0.1**
MTUR Matau 55.65 308 P **P** **09 31 50.5 +0.1**

KEF	Keuruu	55.66 328	*e*P		P		09 31 49.5	-0.5
COPA	Copaceanca	55.66 306	⇑P		P		09 31 50.7	+0.4
GADA	Gvkgeada	55.70 301	P		P		09 31 50.4	-0.3
STNU	Starunia	55.72 312	P		P		09 31 50.6	-0.1
MEF	Metsahovi	55.73 326	*e*P		P		09 31 50.7	+0.2
PABE	Paberze	55.81 320	*e*P		P		09 31 51.3	+0.1
RDO	Rodhopi	55.83 303	P		P		09 31 51.3	-0.3
VSVD	Vaisvydziai	55.83 321	*e*P		P		09 31 51.1	-0.2
CHOS	Chios island	55.88 299	P		P		09 31 52.5	+0.4
TGMR	Targu Mures	55.89 309	⇓P		P		09 31 52.9	+0.9
SIGR	SIGRI	55.89 300	P		P		09 31 51.8	-0.3
KDZ	Kurdzhali	55.90 303	*e*P		P		09 31 52.3	+0.2
KDZ	Kurdzhali	55.90 303	P		P		09 31 51.8	-0.3
ARR	Arges	55.93 308	⇓P		P		09 31 52.3	-0.1
SMTH	Samothraki Isl	55.93 302	P		P		09 31 51.6	-0.8
LVV	L'vov	55.95 313	P		P		09 31 51.6	-0.7
ARCR	ARCALIA	55.95 310	⇑P		P		09 31 53.3	+0.9
KEV	Kevo	55.99 337	P		P		09 31 51.9	-0.4
KEV			IAmb		IAmb		09 31 53.4	
	comp=Z,55nm,0.8s							
KEV	Kevo	55.99 337	P		P		09 31 51.9	-0.4
KEV			pmax		pmax			
	comp=Z,55nm,0.8s							
KEV			MLR		MLR			
	comp=Z,3µm,19.0s							
MDB	Medias	56.03 309	⇑P		P		09 31 54.1	+1.1
MDB	Medias	56.03 309	P		P		09 31 54.0	+1.1
MORS	Morshin	56.09 312	P		P		09 31 53.3	0.0
TNR	Turnu Rosu	56.15 308	⇓P		P		09 31 55.1	+1.2
TNR	Turnu Rosu	56.15 308	P		P		09 31 55.1	+1.2
PLVB	Pleven	56.18 305	⇑P		P		09 31 54.2	+0.1
VLAD	Vladila	56.26 306	⇓P		P		09 31 55.1	+0.5
PLD	Plovdiv	56.26 304	P		P		09 31 54.9	+0.2
SUW	Suwalki	56.28 318	*e*P		P		09 31 53.9	-0.8
SUW	Suwalki	56.28 318	IAMs_20		IAMs_20		09 59 20.5	
	comp=Z,3µm,20.0s							
SUW	Suwalki	56.28 318	*e*P		P		09 31 54.2	-0.4
LIA	Limnos Island	56.29 301	P		P		09 31 54.5	-0.4
RZN	Rozhen	56.34 303	*e*P		P		09 31 55.7	+0.2
MEZ	Mezhgor'ye	56.39 312	P		P		09 31 55.9	+0.4
ARA0	ARCESS Array S	56.46 337	*e*P		P		09 31 54.7	-0.9
ARCES	ARCESS Array B	56.46 337	P		P		09 31 55.3	-0.4
ARCES	ARCESS Array B	56.46 337	P		P		09 31 55.6	-0.1
	comp=Z,35nm,0.9s,baz=92,slow=6.1,SNR=58							
ARCES			PcP		PcP		09 32 52.6	+0.2
	comp=Z,28nm,0.7s,baz=95,slow=4.0,SNR=10							
ARCES			LR		LR		09 58 15.9	
	comp=Z,3µm,18.2s,baz=100,slow=38							
	comp=Z,35nm,0.9s							
ARCES	ARCESS Array B	56.46 337	P		P		09 31 55.3	-0.4
ARCES			pmax		pmax			
	comp=Z,31nm,0.7s							
BMR	Baia Mare	56.48 311	⇑P		P		09 31 57.0	+0.8
BMR	Baia Mare	56.48 311	P		P		09 31 56.9	+0.8
CJR	Cluj-Napoca	56.51 310	⇑P		P		09 31 57.2	+0.7
CJR	Cluj-Napoca	56.51 310	P		P		09 31 57.1	+0.7
THAS	Thassos island	56.52 302	P		P		09 31 55.7	-0.8
LOT	Lotru	56.53 308	⇑P		P		09 31 57.2	+0.5
CBBR	Cluj-Babes-Bol	56.53 310	⇓P		P		09 31 57.4	+0.9
APE	Apeiranthos	56.53 298	P		P		09 31 55.9	-0.9
APE	Apeiranthos	56.53 298	⇓P		P		09 31 57.3	+0.5
APE	Apeiranthos	56.53 298*c*	*i*P		P		09 31 55.9	-0.9
APE			pmax		pmax			
	comp=Z,85nm,1.0s							
KAVA	Kavala	56.61 303	P		P		09 31 56.9	-0.3
PGB	Panagyurishte	56.63 304	*e*P		P		09 31 57.8	+0.4
KORU	Koroleve	56.67 311	P		P		09 31 57.6	+0.1
THERA	Ancient Thera,	56.72 297	P		P		09 31 57.0	-1.1
BRIU	Brid	56.73 312	P		P		09 31 58.1	+0.2
THR3	Thira Island,	56.77 297	P		P		09 31 57.7	-0.6
SNT5	Nea Kammeni, S	56.77 297	P		P		09 31 57.4	-1.0
THR6	Thira Island,	56.78 297	P		P		09 31 57.7	-0.8
THR5	Thira Island,	56.81 297	P		P		09 31 57.8	-0.9
KWP	Kalwaria Pacla	56.82 313	*e*P		P		09 31 58.7	+0.1
KWP	Kalwaria Pacla	56.82 313	P		P		09 31 58.8	+0.2
	comp=Z,4µmcomp=Z,330nm,1.0s							
MPEP	Malo Peshtene	56.82 306	*e*P		P		09 31 59.6	+0.9
MARR	Marisel-Cluj	56.84 310	⇓P		P		09 31 59.7	+0.9
MESR	Meseseni	56.90 310	⇑P		P		09 31 59.9	+0.7
MUKU	Mukachevo	56.94 312	P		P		09 31 59.3	-0.1
PBUR	Paburge	56.95 321	*e*P		P		09 31 59.4	+0.1
BERU	Beregovo	56.99 312	P		P		09 31 59.5	-0.2
SRE	Strehaia	57.02 307	⇓P		P		09 32 00.3	+0.1
SRE	Strehaia	57.02 307	P		P		09 32 00.2	+0.1
RAF	Rauma	57.07 327	*e*P		P		09 32 00.4	+0.3
DEV	Deva	57.08 309	⇑P		P		09 32 01.3	+0.9
DEV	Deva	57.08 309	P		P		09 32 01.3	+0.9
MMB	Musomishta	57.09 303	*e*P		P		09 31 59.9	-0.8
MMB	Musomishta	57.09 303	P		P		09 31 59.8	-0.8
DRGR		57.10 310	⇑P		P		09 32 01.1	+0.4
DRGR		57.10 310	P		P		09 32 01.1	+0.4
OUR	Ouranopolis	57.12 302	P		P		09 32 00.5	-0.3
HOLU	Holmets	57.13 312	P		P		09 32 00.7	-0.1
KTK1	Kautokeino	57.17 336	*e*P		P		09 32 00.1	-0.5
KOLS	Kolonicke sedl	57.17 312	*e*P		P		09 32 01.0	0.0
KOLS			pmax		pmax			
	comp=Z,46nm,0.9s							
KOLS	Kolonicke sedl	57.17 312	*e*P		P		09 32 01.0	0.0
PLNA	Plana	57.18 305	*e*P		P		09 32 02.0	+0.6
UZHM	Uzhgorod	57.19 312	P		P		09 32 00.9	-0.2
GZR	Gura Zlata	57.23 308	⇑P		P		09 32 01.7	0.0
GZR	Gura Zlata	57.23 308	P		P		09 32 01.6	0.0
PUNG	Punghina	57.27 307	⇓P		P		09 32 02.2	+0.4
HAMF	Hammerfest	57.27 338	*e*P		P		09 32 01.0	-0.4
VTS	Vitosha	57.30 305	*e*P		P		09 32 02.6	+0.3
VTS	Vitosha	57.30 305	P		P		09 32 02.4	+0.1
KYMI	Kymi, Euboea I	57.34 300	P		P		09 32 02.0	-0.5
AOS	Alonnisos	57.41 301	P		P		09 32 02.6	-0.3
IDI	Anoyia	57.41 296	P		P		09 32 02.1	-0.9
IDI	Anoyia	57.41 296	LR		LR		10 02 08.4	
	comp=Z,631nm,20.9s,baz=84,slow=42							
PAIG	Paliouri	57.42 302	P		P		09 32 02.7	-0.2
KKB	Krupnik	57.50 304	*e*P		P		09 32 03.2	-0.3
KKB	Krupnik	57.50 304	P		P		09 32 03.1	-0.5
DJES	Djerdap	57.51 307	⇓P		P		09 32 03.3	-0.3
SOH	Sokhos	57.51 303	P		P		09 32 02.9	-0.8
HERR	Herculane	57.55 307	⇓P		P		09 32 03.8	0.0
DION	Dionisos Attik	57.58 299	P		P		09 32 03.4	-0.8
R9F13	Warsaw-Wawer	57.60 316	*e*P		P		09 32 04.4	+0.4
SURR	Surduc	57.64 309	⇓P		P		09 32 04.9	+0.5
PTL	Penteli	57.64 299	P		P		09 32 03.5	-1.0
VLY	Voula,Athens	57.73 299	P		P		09 31 51.6	-14
HORT	Hortiatis	57.74 302	P		P		09 32 04.5	-0.8
KNT	Kendrikon	57.79 303	P		P		09 32 04.5	-1.1
STHS	Stebnicka Huta	57.79 313	*e*P		P		09 32 04.4	-1.0
STHS			pmax		pmax			
	comp=Z,31nm,0.9s							
STHS	Stebnicka Huta	57.79 313	*e*P		P		09 32 04.4	-1.0
THE	Thessaloniki	57.83 302	P		P		09 32 04.8	-1.0
BEL	Belsk	57.85 316	*e*P		P		09 32 05.7	0.0
SIRR	Siria	57.89 309	⇑P		P		09 32 07.0	+0.8
VAY	Valandovo	58.01 303	*i*P		P		09 32 06.1	-1.0
BZS	Buzias	58.01 308	⇑P		P		09 32 07.2	+0.1
BZS	Buzias	58.01 308	P		P		09 32 07.1	+0.1
VILL	Villia	58.04 300	P		P		09 32 05.5	-1.9
MDVR	Moldovita	58.06 307	⇓P		P		09 32 07.5	+0.1
GVD	Gavdhos	58.15 296	P		P		09 32 07.4	-0.8
HOPEN	Hopen	58.17 345	*e*P		P		09 32 07.6	0.0
LKR	Lokris	58.19 300	P		P		09 32 06.8	-1.6
JETT	Jettan, Norway	58.23 337	*e*P		P		09 32 08.0	-0.2
BOVS	Bovan	58.24 306	⇓P		P		09 32 08.7	0.0
LTK	Loutraki	58.34 299	P		P		09 32 06.6	-2.8
KNDR	Palaiochora Ch	58.38 296	P		P		09 32 09.6	-0.1
KECS	Kecovo	58.39 312	*e*P		P		09 32 10.0	+0.3
KECS			pmax		pmax			
	comp=Z,45nm,0.9s							
KECS	Kecovo	58.39 312	*e*P		P		09 32 10.0	+0.3
NIE	Niedzica	58.40 313	*e*P		P		09 32 10.4	+0.6
NIE	Niedzica	58.40 313	P		P		09 32 10.4	+0.6
	comp=Z,726nmcomp=Z,52nm,0.9s							
AXAR	Agios Charalam	58.42 300	P		P		09 32 08.7	-1.4
BILL	Bilibino	58.51 25	P		P		09 32 10.6	+0.5
BILL			IAMs_20		IAMs_20		09 58 56.3	
	comp=Z,2µm,18.0s							
BILL	Bilibino	58.51 25*c*	*i*P		P		09 32 10.8	+0.7
BILL			pmax		pmax			
	comp=Z,198nm,1.0s							
BILL			MLR		MLR			
	comp=Z,2µm,15.0s							
ANKY	Antikythira Is	58.54 297	P		P		09 32 09.1	-1.8
TYRN	Tyrnavos	58.56 302	P		P		09 32 09.9	-1.0
AGG	Agios Georgios	58.62 301	P		P		09 32 09.9	-1.6
OJC	Ojcow	58.63 314	*e*P		P		09 32 11.1	-0.3
OJC	Ojcow	58.63 314	P		P		09 32 11.0	-0.3
	comp=Z,1µmcomp=Z,89nm,0.8s							
KTHA	Kythira Island	58.64 297	P		P		09 32 09.8	-1.8
TRO	Tromso	58.76 337	*e*P		P		09 32 11.2	-0.6
MAKR	Makrakomi, Fth	58.77 301	P		P		09 32 11.0	-1.5
KZN	Kozani	58.79 302	P		P		09 32 11.3	-1.3
GUR	Goura	58.84 299	P		P		09 32 10.3	-2.8
PSZ	Piszkesteto	58.86 311	IAmb		IAmb		09 32 14.1	
	comp=Z,49nm,0.8s							
PSZ	Piszkesteto	58.86 311	⇓P		P		09 32 13.5	+0.5
PSZ	Piszkesteto	58.86 311	P		P		09 32 13.5	+0.5
PSZ	Piszkesteto	58.86 311	*e*P		P		09 32 13.1	+0.1
KALE	Kalithea	58.90 300	P		P		09 32 11.3	-2.1
VLX	Vlachokerasia	58.93 299	P		P		09 32 11.5	-2.2
SERG	Sergoula	58.96 300	P		P		09 32 11.5	-2.2
KLV	Kalavryta, Ach	58.96 300	P		P		09 32 11.7	-2.1
LANS	Liptovska Anna	58.98 313	*e*P		P		09 32 14.3	+0.5
LANS			pmax		pmax			
	comp=Z,11nm,0.7s							
LANS	Liptovska Anna	58.98 313	*e*P		P		09 32 14.2	+0.5
LANS			*e*PP		PP		09 34 25.9	+2.0
FNA	Florina	58.99 303	P		P		09 32 12.6	-1.4
EVR	Evrytania	59.04 301	P		P		09 32 13.9	-0.5
EFP	Efpalio	59.07 300	P		P		09 32 12.7	-1.8
BJO1	Bjornoya	59.26 343	*e*P		P		09 32 13.6	-1.6
NEST	Nestorio	59.31 303	P		P		09 32 14.7	-1.5
PVO	Paravola	59.32 300	P		P		09 32 14.9	-1.3
ITM	Ithomi	59.33 299	P		P		09 32 14.6	-1.7
OHR	Ohrid	59.36 303	*i*P		P		09 32 15.0	-1.6
TETR	Tetrakomo, Epi	59.36 301	P		P		09 32 15.4	-1.2
MEEK	Meekatharra	59.41 153	P		P		09 32 16.7	-0.2
	comp=Z,35nm,0.8s							
VYHS	Vyhne	59.48 312	*e*P		P		09 32 17.1	-0.1
VYHS			pmax		pmax			
	comp=Z,39nm,0.9s							
VYHS	Vyhne	59.48 312	*e*P		P		09 32 17.1	-0.1
VYHS			*e*PP		PP		09 34 30.3	+2.0
AMPL	Ampelaki	59.49 301	P		P		09 32 15.7	-1.8
AXS	Arnaxos	59.53 300	P		P		09 32 15.9	-1.7
IVA	Berane	59.68 306	⇑P		P		09 32 18.7	-0.1
PVY	Plav	59.69 305	⇑P		P		09 32 18.4	-0.5
LODK	Lodwar	59.71 257	P		P		09 32 19.7	+0.3
LODK	Lodwar	59.71 257	P		P		09 32 20.2	+0.8
	SNR=7.7							
OKC	Ostrava-Krasne	59.74 314	*e*P		P		09 32 19.3	+0.4
OKC			*e*S		S		09 40 37.9	+8.4
OKC			AMS		AMS		10 00 30.0	
	comp=Z,2µm,16.1s							
OKC	Ostrava-Krasne	59.74 314	*e*P		P		09 32 19.3	+0.4
OKC			*e*S		S		09 40 37.9	+8.4
OKC			MLR		MLR			
	comp=Z,2µm,16.1s							
GKP	Gorka Klasztor	59.87 318	*e*P		P		09 32 19.2	-0.5
GKP	Gorka Klasztor	59.87 318	*e*P		P		09 32 19.6	-0.1
RUDO	Rudo	59.92 306	⇑P		P		09 32 19.8	-0.5
SRO	Srobarova	59.93 311	*e*P		P		09 32 21.2	+0.9
SRO			pmax		pmax			
	comp=Z,84nm,0.8s							
SRO	Srobarova	59.93 311	*e*P		P		09 32 21.2	+0.9
LKD2	Lefkada island	59.95 301	P		P		09 32 18.5	-2.1
KOME	Kolasin	59.96 306	⇑P		P		09 32 20.3	-0.4
PLE	Pljevlja	59.96 306	⇑P		P		09 32 21.1	+0.4
STEB	Steborice	59.96 314	*e*P		P		09 32 20.7	+0.2
MORH	Mrgy, Hungar	59.97 310	⇑P		P		09 32 20.1	-0.4
MORH	Mrgy, Hungar	59.97 310	⇑P		P		09 32 20.3	-0.3
MORH	Mrgy, Hungar	59.97 310	P		P		09 32 20.4	-0.1
	comp=Z,1µmcomp=Z,85nm,0.9s							
FAUS	Fauske	60.01 334	*e*P		P		09 32 19.9	-0.6
MAUC	Maruska	60.01 313	*e*P		P		09 32 21.3	+0.4
STEI	Steigen	60.02 335	*e*P		P		09 32 20.0	-0.6
IGT	Igoumenitsa	60.03 302	P		P		09 32 19.0	-2.1
LTHK	Lithakia	60.05 300	P		P		09 32 18.8	-2.4
FSK	Fiskardo	60.09 300	P		P		09 32 19.2	-2.4
MORC	Moravsky Berou	60.13 314	P		P		09 32 21.4	-0.4
MORC			IAmb		IAmb		09 32 22.9	
	comp=Z,78nm,0.8s							
MORC	Moravsky Berou	60.13 314	*e*P		P		09 32 21.7	0.0
MORC	Moravsky Berou	60.13 314	⇑P		P		09 32 21.8	+0.1
MORC	Moravsky Berou	60.13 314	P		P		09 32 21.4	-0.4
MORC			pmax		pmax			
	comp=Z,78nm,0.8s							
VLS	Valsamata	60.13 300	P		P		09 32 19.7	-2.2
PSDA	Pessada-Kefalo	60.15 300	P		P		09 32 19.3	-2.7
JAVC	Velka Javorina	60.19 313	*e*P		P		09 32 22.9	+0.8
PDG	Podgorica	60.23 305	P		P		09 32 22.2	-0.2
PDG			IAMs_20		IAMs_20		10 02 57.8	
	comp=Z,2µm,18.0s							
PDG	Podgorica	60.23 305	⇑P		P		09 32 22.6	+0.1
PDG	Podgorica	60.23 305	⇑P		P		09 32 21.8	-0.6
DMLN	Damoulianata-K	60.29 300	P		P		09 32 20.8	-2.1
DRME	Dracevica, Mon	60.33 305	⇑P		P		09 32 22.5	-0.6
UPM	Unac-Piva	60.33 306	⇑P		P		09 32 23.1	-0.3
ULC	Ulcinj	60.33 305	⇑P		P		09 32 22.0	-1.2
BLEU	Blekinge	60.35 321	*i*P		P		09 32 21.7	-1.3
SPB2	Spitsbergen Ar	60.36 347	IAmb		IAmb		09 32 24.2	
	comp=Z,75nm,0.8s							
MOR8	Moi Rana	60.36 333	*e*P		P		09 32 21.4	-1.6
SPA0	Spitsbergen Ar	60.36 347	*e*P		P		09 32 22.6	-0.2
SPITS	Spitsbergen Ar	60.36 347	P		P		09 32 23.2	+0.4
	comp=Z,56nm,0.8s,baz=119,slow=13,SNR=34							
SPITS			LR		LR		10 02 24.7	
	comp=Z,2µm,19.7s,baz=76,slow=40							
	comp=Z,56nm,0.8s							
NKME	Niksic	60.38 306	⇑P		P		09 32 23.0	-0.5
KEK	Kerkira	60.39 302	P		P		09 32 23.6	0.0
KEK			IAmb		IAmb		09 32 25.0	
	comp=Z,63nm,0.6s							
KEK	Kerkira	60.39 302	P		P		09 32 23.8	+0.1
SMOL	Smolenice	60.40 312	*e*P		P		09 32 23.4	-0.1
SMOL			pmax		pmax			
	comp=Z,15nm,0.8s							
HSPB	Hornsund (broa	60.41 345	*e*P		P		09 32 23.4	+0.3
CEME	Cevo	60.45 305	⇑P		P		09 32 23.3	-0.7
KIBK	Kibwezi	60.45 250	P		P		09 32 24.7	+0.3
KIBK	Kibwezi	60.45 250	P		P		09 32 24.0	-0.4
KMBO	Kilima Mbogo	60.45 251	P		P		09 32 24.8	+0.1
KMBO	Kilima Mbogo	60.45 251	P		P		09 32 25.1	+0.4
KMBO	Kilima Mbogo	60.45 251	P		P		09 32 24.8	+0.1
KMBO			pmax		pmax			
	comp=Z,23nm,0.9s							
KMBO			MLR		MLR			
	comp=Z,500nm,19.0s							
KMBO	Kilima Mbogo	60.45 251	*i*P		P		09 32 25.1	+0.4
	SNR=10							
BUM	Brajici-Budva	60.52 305	⇑P		P		09 32 23.8	-0.7
MODS	Modra-Piesok	60.52 312	*e*P		P		09 32 22.3	-2.1
MODS			pmax		pmax			
	comp=Z,93nm,1.1s							
MODS	Modra-Piesok	60.52 312	*e*P		P		09 32 22.3	-2.1
MODS			*e*				09 41 21.2	
MPLH	Magyarpolny	60.55 311	P		P		09 32 24.4	-0.2
	comp=Z,3µmcomp=Z,267nm,1.0s							
KLINJ	Klinje	60.56 306	*e*P		P		09 32 24.2	-0.7
KRLC	Kraliky	60.58 314	*e*P		P		09 32 24.9	+0.1
KRLC			AMS		AMS		10 01 40.0	
	comp=Z,2µm,12.3s							
KRLC	Kraliky	60.58 314	*e*P		P		09 32 24.9	+0.1
KRLC			MLR		MLR			
	comp=Z,2µm,12.3s							
MORW	Morawa	60.63 157	P		P		09 32 25.1	-0.1
	comp=Z,33nm,1.1s							
BRY	Bratogost	60.65 306	⇑P		P		09 32 25.0	-0.5
LOF	Lofoten	60.66 335	*e*P		P		09 32 23.9	-1.0
KSP	Ksiaz	60.77 315	*e*P		P		09 32 26.1	+0.2
KSP	Ksiaz	60.77 315	P		P		09 32 25.9	-0.1
	comp=Z,1µmcomp=Z,81nm,0.9s							
HCY	Herceg Novi	60.78 305	⇑P		P		09 32 25.7	-0.5
VAGH	Vaagaholmen	60.81 333	*e*P		P		09 32 25.0	-1.0
VRAC	Vranov	60.82 313	*e*P		P		09 32 26.7	+0.3
VRAC	Vranov	60.82 313	LR		LR		10 03 07.6	
	comp=Z,3µm,18.9s,baz=87,slow=40							
VRAC	Vranov	60.82 313	⇑P		P		09 32 27.0	+0.6
VRAC	Vranov	60.82 313	P		P		09 32 26.9	+0.6
DPC	Dobruska-Polom	60.83 314	*e*P		P		09 32 26.8	+0.4
DPC			*e*S		S		09 40 51.3	+7.8
DPC			AMS		AMS		10 03 00.0	
	comp=Z,3µm,14.4s							
DPC	Dobruska-Polom	60.83 314	*e*P		P		09 32 26.8	+0.4
DPC			*e*S		S		09 40 51.3	+7.8
DPC			MLR		MLR			
	comp=Z,3µm,14.4s							
DPC	Dobruska-Polom	60.83 314	P		P		09 32 27.1	+0.7
	comp=Z,1µmcomp=Z,64nm,0.9s							
TREB	Trebinje	60.83 306	⇑*i*P		P		09 32 25.2	-1.3
OSTC	Ostas	60.86 315	*e*P		P		09 32 27.0	+0.3
OSTC			AMS		AMS		10 03 00.0	
	comp=Z,3µm,16.3s							
OSTC	Ostas	60.86 315	*e*P		P		09 32 27.0	+0.3
OSTC			MLR		MLR			
	comp=Z,3µm,16.3s							
KONS	Konsvik	60.88 333	*e*P		P		09 32 25.9	-0.5
LEIR	Leirfjorden	60.90 333	*e*P		P		09 32 25.7	-0.9
STOK	Stokkvaagen	60.93 333	*e*P		P		09 32 25.7	-1.1
CHVC	Chvalec	60.96 315	*e*P		P		09 32 27.7	+0.4
CHVC			AMS		AMS		10 03 00.0	
	comp=Z,3µm,17.1s							
CHVC	Chvalec	60.96 315	*e*P		P		09 32 27.7	+0.4
CHVC			MLR		MLR			
	comp=Z,3µm,17.1s							
KRUC	Moravsky	60.99 313	*e*P		P		09 32 27.7	+0.2
BSD	Bornholm Skovb	60.99 320	*e*P		P		09 32 26.3	-1.1
BSD	Bornholm Skovb	60.99 320	*i*P		P		09 32 26.0	-1.4
BSD			IAmb		IAmb		09 32 26.7	
	comp=Z,25nm,0.7s							
UPC	Upice	61.00 315	*e*P		P		09 32 27.9	+0.3
UPC			AMS		AMS		10 01 20.0	
	comp=Z,2µm,13.1s							
UPC	Upice	61.00 315	*e*P		P		09 32 27.9	+0.3
UPC			MLR		MLR			
	comp=Z,2µm,13.1s							
HFS	Hagfors	61.08 326	P		P		09 32 27.4	-0.6
	comp=Z,190nm,0.7s,baz=90,slow=7.4,SNR=565							
HFS			LR		LR		10 00 42.9	
	comp=Z,3µm,18.2s,baz=92,slow=38							
	comp=Z,190nm,0.7s							
BEHE	Becsehely	61.19 310	IAmb		IAmb		09 32 30.3	
	comp=Z,63nm,0.9s							
BEHE	Becsehely	61.19 310	⇑*i*P		P		09 32 29.0	+0.1
BLY	Banja Luka	61.24 308	*e*P		P		09 32 27.7	-1.6
BLY	Banja Luka	61.24 308	⇓P		P		09 32 29.8	+0.5
STON	Ston	61.26 306	⇑*i*P		P		09 32 28.3	-1.1
RONA	Rosalia, Austr	61.29 312	*i*P		P		09 32 29.3	-0.3
	comp=Z,52nm,0.8s,SNR=28							
KBS	Kingsbay	61.31 347	P		P		09 32 29.4	+0.2
KBS			IAmb		IAmb		09 32 29.7	
	comp=Z,39nm,0.9s							
KBS			IAMs_20		IAMs_20		10 03 54.7	
	comp=Z,2µm,18.0s							
KBS	Kingsbay	61.31 347*c*	*e*P		P		09 32 29.1	-0.1
KBS			pmax		pmax			
	comp=Z,50nm,1.3s							
KBS			MLR		MLR			
	comp=Z,866nm,18.0s							
KBS	Kingsbay	61.31 347	*e*P		P		09 32 29.2	0.0
KBS	Kingsbay	61.31 347	*i*P		P		09 32 29.3	0.0
MOSL	Moslavina	61.37 309	⇑*i*P		P		09 32 29.5	-0.7
A051A	Mrakovica	61.38 308	⇑*i*P		P		09 32 29.7	-0.7
DEL	Delary	61.40 322	*i*P		P		09 32 29.6	-0.6
NSS	Namsos	61.49 331	*e*P		P		09 32 29.3	-1.3
TREC	Trest	61.53 313	*e*P		P		09 32 31.6	+0.4
TREC			AMS		AMS		10 03 00.0	
	comp=Z,3µm,15.3s							
TREC	Trest	61.53 313	*e*P		P		09 32 31.6	+0.4
TREC			MLR		MLR			
	comp=Z,3µm,15.3s							
CONA	Conrad Observa	61.53 312	*i*P		P		09 32 31.4	0.0
	comp=Z,106nm,0.8s,SNR=99							
KOGS	Kog	61.55 310	*i*P		P		09 32 31.1	-0.3
LUNU	Lund	61.75 321	*i*P		P		09 32 31.9	-0.6
A050A	Klekovaca	61.76 308	⇑*i*P		P		09 32 32.5	-0.4
BORU	Boraas	61.85 323	*i*P		P		09 32 32.0	-1.1
GOPC	GO Pecny, Ondr	61.87 314	*e*P		P		09 32 34.0	+0.5
GOPC			*e*S		S		09 41 06.8	+10
GOPC			AMS		AMS		10 03 40.0	
	comp=Z,2µm,12.8s							
GOPC	GO Pecny, Ondr	61.87 314	*e*P		P		09 32 34.0	+0.5
GOPC			*e*S		S		09 41 06.8	+10
GOPC			MLR		MLR			
	comp=Z,2µm,12.8s							
ARSA	Arzberg	61.89 311	IAmb		IAm

ZVC AMS AMS 10 04 00.0
comp=Z,3µm,14.7s
CKRC Cesky Krumlov 62.38 313 *eP* **P 09 32 37.4 +0.4**
CKRC AMS AMS 10 03 00.0
comp=Z,2µm,13.1s
CKRC Cesky Krumlov 62.38 313 *eP* **P 09 32 37.4 +0.4**
CKRC MLR MLR
comp=Z,2µm,13.1s
NBO00 NORSAR Array S 62.41 327 IAmb IAmb 09 32 37.9
comp=Z,40nm,0.7s
STRU Stroemstad 62.48 325 *i* P **P 09 32 36.5 -0.8**
MATE Matera 62.49 304 ||P **P 09 32 37.2 -0.5**
MATE Matera 62.49 304 *eP* **P 09 32 34.8 -2.9**
WRKA Warakurna 62.56 144 P **P 09 32 38.6 +0.3**
comp=Z,38nm,0.8s
OSL Oslo 62.58 326 *eP* **P 09 32 37.3 -0.7**
MOA Molln 62.60 312 *i* P **P 09 32 38.2 -0.2**
comp=Z,80nm,0.8s,SNR=37
OBKA Obir 62.69 310 *i* P **P 09 32 38.9 -0.2**
comp=Z,45nm,0.9s,SNR=18
CLL Collm 62.73 316 IAmb IAmb 09 32 40.0
comp=Z,41nm,1.0s
CLL IAMs_20 IAMs_20 10 04 10.3
comp=Z,2µm,19.0s
CLL Collm 62.73 316⇑ *i* P **P 09 32 38.7 -0.5**
CLL *eS* **S 09 41 08.0 +0.5**
CLL pmax pmax
comp=Z,46nm,1.0s
CLL MLR MLR
comp=Z,2µm,18.4s
CLL Collm 62.73 316 P **P 09 32 38.6 -0.6**
comp=Z,703nmcomp=Z,50nm,1.1s
CLL Collm 62.73 316 *eP* **P 09 32 38.7 -0.5**
comp=Z,35nm,0.9s,baz=77,slow=6.6
GEC2 GERESS Array S 62.77 313 P **P 09 32 39.9 +0.2**
GEC2 GERESS Array S 62.77 313 *eP* **P 09 32 39.7 +0.1**
comp=Z,85nm,0.7s,baz=77,slow=6.6
GERES GERESS Array B 62.77 313 P **P 09 32 39.9 +0.2**
GERES GERESS Array B 62.77 313 P **P 09 32 39.8 +0.1**
comp=Z,87nm,0.6s,baz=76,slow=5.6,SNR=563
GERES PKPPKP **P'P'df 10 01 43.5 -4.0**
comp=Z,0.4nm,0.6s,baz=294,slow=1.3,SNR=3.9
GERES LR LR 10 04 16.3
comp=Z,3µm,18.1s,baz=86,slow=40
comp=Z,87nm,0.6s
GERES GERESS Array B 62.77 313 P **P 09 32 39.9 +0.2**
KHC Kasperske Hory 62.79 313 *eP* **P 09 32 39.5 -0.2**
KHC Kasperske Hory 62.79 313 *eP* **P 09 32 39.5 -0.2**
TIP Timpagrande 62.81 302 IAmb IAmb 09 32 39.9
comp=Z,36nm,0.8s
TIP Timpagrande 62.81 302 P **P 09 32 38.2 -1.8**
comp=Z,797nmcomp=Z,50nm,0.8s
SGRT San Giovanni R 62.93 305 IAmb IAmb 09 32 40.4
comp=Z,65nm,0.7s
ACER Acerenza 63.02 304 IAmb IAmb 09 32 41.5
comp=Z,72nm,0.8s
KNDS Knezji Dol 63.02 309 *i* P **P 09 32 40.8 -0.6**
BIOA Bad Ischl, Aus 63.05 312 *i* P **P 09 32 41.1 -0.3**
comp=Z,43nm,0.7s,SNR=17
DOMB Dombas 63.08 328 *eP* **P 09 32 40.8 -0.6**
KONO Kongsberg 63.19 326 P **P 09 32 41.6 -0.4**
KONO IAmb IAmb 09 32 42.5
comp=Z,61nm,0.7s
KONO Kongsberg 63.19 326 IAMs_20 IAMs_20 10 01 46.6
comp=Z,2µm,22.0s
KONO Kongsberg 63.19 326*c* *i* P **P 09 32 41.3 -0.8**
KONO pmax pmax
comp=Z,67nm,0.8s
KONO Kongsberg 63.19 326 *eP* **P 09 32 41.1 -1.0**
WET Wettzell 63.24 314 *eP* **P 09 32 42.8 +0.2**
comp=Z,43nm,0.8s,baz=77,slow=6.6
TANN Tannenbergstha 63.24 315 *eP* **P 09 32 42.7 0.0**
comp=Z,31nm,0.8s,baz=77,slow=6.6
VOJS Vojsko 63.25 310 *i* P **P 09 32 42.1 -0.8**
VOJS *i* S **S 09 41 21.8 +7.4**
OVD Ostervraa, Den 63.26 323 *i* P **P 09 32 42.5 -0.1**
MYKA Terra Mystica 63.28 311 *i* P **P 09 32 42.3 -0.8**
comp=Z,16nm,0.8s,SNR=13
MUN Mundaring 63.35 158 P **P 09 32 43.0 -0.4**
comp=Z,64nm,1.1s
SHEM Shemya Is, Ala 63.40 42 LR LR 10 02 15.1
comp=Z,1µm,20.3s,baz=294,slow=38
SMY Shemya 63.40 42 P **P 09 32 44.1 +0.5**
NEUB Neuenburg 63.51 316 *eP* **P 09 32 44.2 -0.1**
comp=Z,94nm,0.8s,baz=77,slow=6.6
KLBR Kellerberrin 63.53 156 P **P 09 32 44.3 -0.3**
comp=Z,102nm,0.9s
ROTZ Rotzenmuhle 63.54 314 *eP* **P 09 32 45.2 +0.6**
comp=Z,27nm,0.8s,baz=77,slow=6.6
MANZ Manzenberg 63.56 315 *eP* **P 09 32 44.8 0.0**
comp=Z,7.7nm,0.8s,baz=77,slow=6.6
BRJN Brijuni 63.60 309||*P* **P 09 32 43.8 -1.2**
RJOB Jochberg 63.60 312 *eP* **P 09 32 44.8 -0.3**
comp=Z,78nm,0.8s,baz=77,slow=6.6
FLTG Flechtingen 63.61 317 *eP* **P 09 32 44.1 -0.8**
comp=Z,46nm,0.8s,baz=77,slow=6.6
SKAR Skarslia 63.66 327 *eP* **P 09 32 45.1 -0.1**
MOL Molde 63.69 329 *eP* **P 09 32 44.9 -0.5**
CEL Celeste 63.70 301 P **P 09 32 44.9 -1.0**
comp=Z,2µmcomp=Z,222nm,0.9s
MOX Moxa 63.73 315 *eP* **P 09 32 45.8 0.0**
comp=Z,31nm,0.8s,baz=77,slow=6.6
MOX *eL* L 10 05 34.5
comp=Z,1µm,19.7s
LESA Schwarzleotal 63.74 312 *i* P **P 09 32 45.5 -0.6**
comp=Z,89nm,0.7s,SNR=50
BSEG Bad Segeberg 63.83 319 *eP* **P 09 32 46.6 +0.2**
comp=Z,74nm,0.8s,baz=77,slow=6.6
SSRD Sdr. Stenderup 63.92 321 *i* P **P 09 32 47.6 +0.7**
MUD Monsted U'grnd 63.98 322 *i* P **P 09 32 47.2 -0.1**
MUD IAmb IAmb 09 32 48.2
comp=Z,25nm,0.7s
HOMB Homborsund 63.99 324 *eP* **P 09 32 46.7 -0.6**
HOMB Homborsund 63.99 324 *i* P **P 09 32 46.0 -1.3**
STAL STALIGIAL 63.99 310 P **P 09 32 46.9 -0.7**
ASSE Asse, Remlinge 63.99 317 *eP* **P 09 32 47.2 -0.2**
comp=Z,18nm,0.8s,baz=77,slow=6.6
ABPO Ambohimpanom 64.00 229 P **P 09 32 48.5 +0.3**
ABPO Ambohimpanom 64.00 229 P **P 09 32 48.5 +0.3**
ABPO pmax pmax
comp=Z,20nm,1.0s
ABTA Abfaltersbach 64.01 311 *i* P **P 09 32 46.6 -1.3**
comp=Z,49nm,0.8s,SNR=35
AKN Aaknes 64.01 329 *eP* **P 09 32 47.1 -0.4**
CIMO Cimolais 64.16 311 P **P 09 32 48.2 -0.6**
GRA1 Grafenberg Arr 64.18 314 IAmb IAmb 09 32 58.4
comp=Z,108nm,1.1s
GRF Grafenberg Arr 64.18 314 *eP* **P 09 32 49.2 +0.4**
comp=Z,55nm,0.9s,baz=77,slow=6.6
GRF *eL* L 10 02 48.7
comp=Z,945nm,19.7s
GRFO Grafenberg 64.18 314 P **P 09 32 48.8 0.0**
GRFO IAmb IAmb 09 32 58.3
comp=Z,98nm,1.1s
GRFO Grafenberg 64.18 314 P **P 09 32 48.8 0.0**
GRFO pmax pmax
comp=Z,98nm,1.1s
GRFO MLR MLR
comp=Z,2µm,22.0s
INTR Introdacqua 64.19 306 P **P 09 32 48.7 -0.5**
CLZ Clausthal 64.23 317 *eP* **P 09 32 49.3 +0.1**
comp=Z,116nm,0.8s,baz=77,slow=6.6
NRDL Niedersach Rie 64.25 318 *eP* **P 09 32 49.6 +0.5**
comp=Z,95nm,0.9s,baz=77,slow=6.6
GUMA Gualdo di Mace 64.33 307 P **P 09 32 49.2 -0.8**
GUMA IAmb IAmb 09 32 54.1
comp=Z,46nm,0.6s
AQU L'Aquila 64.47 306 P **P 09 32 50.8 -0.1**
comp=Z,2µmcomp=Z,88nm,0.8s
WTTA Wattenberg 64.47 312 *i* P **P 09 32 50.2 -0.8**
comp=Z,89nm,0.7s,SNR=32
WATA Walderalm 64.49 312 *i* P **P 09 32 50.2 -0.9**
comp=Z,56nm,0.9s,SNR=15
FUR Furstenfeldbru 64.49 313 *eP* **P 09 32 51.2 +0.3**
comp=Z,151nm,0.9s,baz=77,slow=6.6
FDMO Fiordimonte 64.52 307 IAmb IAmb 09 32 53.8
comp=Z,90nm,1.2s
GTTG Gottingen 64.55 317 *eP* **P 09 32 51.3 +0.2**
comp=Z,32nm,0.8s,baz=77,slow=6.6
NRCA Norcia 64.55 307 IAmb IAmb 09 32 54.0
comp=Z,104nm,1.2s
NWAO Narrogin (SRO) 64.56 157 LR LR 10 01 40.7
comp=Z,609nm,21.8s,baz=302,slow=37
HYA Hoyanger 64.58 328 *eP* **P 09 32 50.2 -0.9**
AS15 Alice Springs 64.61 138 P **P 09 32 52.4 +0.4**
comp=Z,161nm,0.7s
ODD1 Odda 64.62 326 *eP* **P 09 32 50.9 -0.6**
ASAR Alice Springs 64.63 138 P **P 09 32 52.3 +0.2**
ASAR Alice Springs 64.63 138 P **P 09 32 52.6 +0.6**
comp=Z,99nm,0.5s,baz=322,slow=6.7,SNR=177
ASAR S **S 09 41 30.4 -1.3**
comp=Z,1.3nm,0.9s,baz=310,slow=12,SNR=8.0
ASAR PKPPKP **P'P'df 10 01 38.0 +2.9**
comp=Z,4.0nm,0.9s,baz=130,slow=2.9,SNR=15
ASAR LR LR 10 02 27.6
comp=Z,565nm,22.0s,baz=312,slow=37
comp=Z,99nm,0.5s
SNART Snartemo 64.64 324 *eP* **P 09 32 51.7 +0.1**
SNART Snartemo 64.64 324 *i* P **P 09 32 51.3 -0.4**
AS01 Alice Springs 64.66 138 P **P 09 32 52.8 +0.6**
UBBA Unterbreizbach 64.69 316 *eP* **P 09 32 51.9 0.0**
comp=Z,11nm,0.7s,baz=77,slow=6.6
CTI Castel Tesino 64.76 310 IAmb IAmb 09 32 52.9
comp=Z,64nm,0.7s
SQTA Sankt Quirin 64.76 312 *i* P **P 09 32 51.9 -1.0**
comp=Z,87nm,0.7s,SNR=33
MOTA Moosalm 64.80 312 *i* P **P 09 32 52.1 -1.0**
comp=Z,122nm,0.9s,SNR=66
BLS5 Blasjo 64.80 326 *eP* **P 09 32 52.4 -0.3**
CESX Cesi 64.99 307 P **P 09 32 53.5 -0.8**
CESX IAmb IAmb 09 32 53.9
comp=Z,34nm,0.8s
RETA Reutte 64.99 312 *i* P **P 09 32 53.7 -0.6**
comp=Z,86nm,0.7s,SNR=31
FOO Floro 65.03 328 *eP* **P 09 32 53.5 -0.6**
VAE Valguarnera 65.04 301 LR LR 10 07 06.5
comp=Z,716nm,21.3s,baz=49,slow=41
FETA Feichten 65.13 312 *i* P **P 09 32 54.5 -0.8**
comp=Z,67nm,0.8s,SNR=42
BER Bergen 65.15 327 *eP* **P 09 32 54.7 -0.2**
ASK Askoy 65.20 327 *eP* **P 09 32 54.6 -0.7**
PATS Pohnpei 65.21 95 P **P 09 32 55.6 -0.5**
PATS Pohnpei 65.21 95 P **P 09 32 56.3 +0.2**
comp=Z,126nm,1.1s
PATS Pohnpei 65.21 95 P **P 09 32 58.6 +2.6**
SUE Sulen 65.28 328 *eP* **P 09 32 55.0 -0.7**
KMY Karmoy 65.45 326 *eP* **P 09 32 56.7 -0.2**
FUORN Ofenpass-Fuorn 65.54 311 IAmb IAmb 09 32 59.2
comp=Z,68nm,0.8s
FUORN IAMs_20 IAMs_20 10 06 16.9
comp=Z,2µm,20.0s
KASTN Kahler Asten 65.57 317 *eP* **P 09 32 57.6 -0.3**
comp=Z,18nm,0.9s,baz=77,slow=6.6
NOR Nord 65.61 351 *i* P **P 09 32 56.9 -0.7**
NOR IAmb IAmb 09 32 58.1
comp=Z,37nm,0.7s
DAVA Damuels 65.62 312 *i* P **P 09 32 57.9 -0.6**
comp=Z,105nm,0.8s,SNR=26
ZCCA Zocca 65.65 309 IAmb IAmb 09 33 05.8
comp=Z,75nm,0.8s
OSSC Osservatorio P 65.69 308 IAmb IAmb 09 32 59.7
comp=Z,67nm,0.9s
STU Stuttgart 65.69 314 IAMs_20 IAMs_20 10 04 46.7
comp=Z,2µm,21.0s
STU Stuttgart 65.69 314 *eP* **P 09 32 58.9 +0.2**
STU Stuttgart 65.69 314 *eP* **P 09 32 58.8 +0.2**
comp=Z,275nm,0.8s,baz=77,slow=6.6
IBBN Ibbenburen 65.70 318 *eP* **P 09 32 58.6 0.0**
comp=Z,32nm,0.8s,baz=77,slow=6.6
MBAR Mbarara 65.72 256 P **P 09 32 59.6 0.0**
MBAR Mbarara 65.72 256 P **P 09 32 59.5 0.0**
MBAR Mbarara 65.72 256*ce* P **P 09 32 59.8 +0.2**
MBAR pmax pmax
comp=Z,17nm,1.0s
DAVOX Davos/Dischmat 65.75 312 LR LR 10 04 35.6
comp=Z,2µm,20.9s,baz=78,slow=39
TNS Taunus Mts 65.80 316 *eP* **P 09 32 59.2 -0.1**
comp=Z,121nm,0.9s,baz=77,slow=6.6
QIS Mount Isa 65.94 132 P **P 09 33 00.7 +0.1**
comp=Z,63nm,0.9s
QIS Mount Isa 65.94 132 P **P 09 33 01.8 +1.2**
TUE Stuetta 66.19 311 P **P 09 33 01.6 -0.6**
TUE IAmb IAmb 09 33 04.2
comp=Z,64nm,0.8s
TUE Stuetta 66.19 311 P **P 09 33 01.6 -0.6**
comp=Z,4µmcomp=Z,311nm,0.7s
BUG Bochum--Univer 66.21 317 *eP* **P 09 33 02.0 +0.1**
comp=Z,50nm,0.8s,baz=77,slow=6.6
VOI Vohitsoka 66.34 227 P **P 09 33 03.5 +0.3**
VOI IAmb IAmb 09 33 11.4
comp=Z,45nm,0.7s
VOI Vohitsoka 66.34 227 P **P 09 33 03.3 +0.1**
BFO Black Forest 66.36 314 P **P 09 33 02.4 -0.6**
BFO IAMs_20 IAMs_20 10 06 26.4
comp=Z,2µm,20.0s
BFO Black Forest 66.36 314 P **P 09 33 02.4 -0.6**
BFO pmax pmax
comp=Z,33nm,0.9s
BFO MLR MLR
comp=Z,2µm,20.0s
BFO Black Forest 66.36 314 *eP* **P 09 33 02.6 -0.4**
comp=Z,22nm,0.8s,baz=77,slow=6.6
AMKA Amchitka 66.84 43 P **P 09 33 05.9 -0.1**
BTNL Ternell 67.13 316 *dP* **P 09 33 07.8 -0.1**
comp=Z,44nm,0.9s
ECH Echery 67.14 314 P **P 09 33 07.7 -0.3**
ECH IAmb IAmb 09 33 09.4
comp=Z,74nm,1.0s
ECH IAMs_20 IAMs_20 10 06 57.1
comp=Z,2µm,19.0s
ECH Echery 67.14 314 P **P 09 33 07.7 -0.3**
ECH pmax pmax
comp=Z,74nm,1.0s
ECH MLR MLR
comp=Z,2µm,19.0s
FORT Forrest 67.15 147 P **P 09 33 08.6 +0.5**
comp=Z,24nm,0.8s
MEM Membach 67.20 316 *dP* **P 09 33 08.1 -0.2**
comp=Z,46nm,0.9s
BHOU Houyet Nez 67.27 316 *dP* **P 09 33 08.9 +0.2**
comp=Z,32nm,0.9s
BEBN Eben Emael 67.35 317 *dP* **P 09 33 09.3 +0.2**
comp=Z,54nm,0.6s
WLF Walferdange 67.37 315 P **P 09 33 09.3 -0.1**
WLF IAMs_20 IAMs_20 10 08 02.1
comp=Z,1µm,18.0s
WLF Walferdange 67.37 315 P **P 09 33 09.3 -0.1**
WLF pmax pmax
comp=Z,200nm,0.9s
WLF MLR MLR
comp=Z,1µm,18.0s
WLF Walferdange 67.37 315 *dP* **P 09 33 09.9 +0.5**
comp=Z,146nm,0.9s
WLF Walferdange 67.37 315 *eP* **P 09 33 10.1 +0.7**
comp=Z,160nm,0.9s,baz=77,slow=6.6
BSTI Sart Tilman 67.47 316 *dP* **P 09 33 10.1 +0.1**
comp=Z,9.9nm,1.0s
SENIN Lac Senin/Sane 67.58 312 P **P 09 33 10.8 -0.2**
BCLA Clavier 67.68 316 *dP* **P 09 33 11.2 -0.1**
comp=Z,42nm,0.8s
JMIC Jan Mayen 67.72 340 LR LR 10 04 53.8
comp=Z,728nm,21.5s,baz=74,slow=38
RCHB Rochefort 67.81 316 *dP* **P 09 33 11.9 -0.2**
comp=Z,29nm,1.0s
BGES Gesves 67.83 316 *dP* **P 09 33 12.2 -0.1**
comp=Z,35nm,0.9s
GAMB Gambell 67.95 28 IAmb IAmb 09 33 14.2
comp=Z,46nm,0.8s
GAMB IAMs_20 IAMs_20 10 05 28.0
comp=Z,1µm,18.0s
GAMB Gambell 67.95 28 P **P 09 33 13.1 +0.4**
baz=288
DAG Danmarks Havn 68.01 347 *i* P **P 09 33 12.0 -0.9**
DAG IAmb IAmb 09 33 13.8
comp=Z,12nm,0.7s
BMRD Maredsous 68.05 316 *dP* **P 09 33 13.3 -0.3**
comp=Z,42nm,0.8s
UCC Uccle 68.15 317 *dP* **P 09 33 13.7 -0.5**
comp=Z,26nm,0.9s
VSL Villasalto 68.21 304 P **P 09 33 14.7 -0.2**
VSL IAmb IAmb 09 33 17.0
comp=Z,107nm,1.1s
DOU Dourbes 68.21 316 *dP* **P 09 33 14.6 -0.1**
comp=Z,29nm,1.0s
BNI Bardonecchia 68.39 310 IAmb IAmb 09 33 22.7
comp=Z,44nm,0.8s
FOMA Nahampoana Res 68.43 224 P **P 09 33 16.6 +0.3**
FOMA IAmb IAmb 09 33 16.9
comp=Z,32nm,0.7s
KIWB Kanaga Island 68.82 42 P **P 09 33 18.2 -0.3**
C16K Lisburne Hills 68.88 23 P **P 09 33 19.3 +0.8**
baz=292,SNR=19
TNA Tin City 68.90 26 P **P 09 33 19.0 +0.3**
TNA IAmb IAmb 09 33 22.4
comp=Z,52nm,1.0s
TNA IAMs_20 IAMs_20 10 05 38.2
comp=Z,2µm,20.0s
TNA Tin City 68.90 26 P **P 09 33 19.5 +0.9**
baz=290
ADK Adak 69.09 42 P **P 09 33 20.2 +0.1**
ADK Adak 69.09 42 P **P 09 33 20.2 +0.1**
ADK pmax pmax
comp=Z,22nm,1.1s
ADK MLR MLR
comp=Z,800nm,20.0s
GSTR Great Sitkin T 69.39 41 P **P 09 33 22.0 0.0**
KEST Kesra 69.46 300 P **P 09 33 22.9 +0.1**
KEST Kesra 69.46 300 P **P 09 33 22.9 +0.1**
comp=Z,128nm,0.8s,baz=350,slow=1.9,SNR=109
KEST LR LR 10 10 23.8
comp=Z,703nm,19.0s,baz=71,slow=42
comp=Z,128nm,0.8s
KEST Kesra 69.46 300 P **P 09 33 23.2 +0.4**
SNR=34
A19K Wainwright 69.53 20 P **P 09 33 23.7 +1.3**
baz=295
DBG Daneborg 69.53 344 *i* P **P 09 33 20.1 -2.3**
C17K DeLong Mountai 69.55 22 P **P 09 33 23.8 +1.1**
baz=293,SNR=12
F14K Arctic Creek 69.55 26 P **P 09 33 24.2 +1.4**
baz=292,SNR=19
F14K S **S 09 42 30.2 +0.2**
baz=292
B18K Kokolik River 69.64 21 P **P 09 33 25.1 +1.9**
baz=294,SNR=22
ELMS Elmsett, Ipswi 69.75 319⇑ *eP* **P 09 33 23.9 -0.3**
ELMS IAmb IAmb 09 33 24.8
comp=Z,137nm,0.6s
SSB Saint Sauveur 69.75 311 P **P 09 33 24.3 -0.1**
SSB IAmb IAmb 09 33 25.1
comp=Z,51nm,0.8s
SSB IAMs_20 IAMs_20 10 07 48.3
comp=Z,2µm,20.0s
SSB Saint Sauveur 69.75 311 P **P 09 33 24.3 -0.1**
SSB pmax pmax
comp=Z,51nm,0.8s
SSB MLR MLR
comp=Z,2µm,20.0s
WACR West Acre 69.75 320⇑ *eP* **P 09 33 24.0 -0.2**
WACR IAmb IAmb 09 33 24.9
comp=Z,311nm,0.8s
RDOG Red Dog Mine 69.81 23 P **P 09 33 24.8 +0.5**
baz=294
D17K Noatak River 69.89 23 P **P 09 33 25.8 +1.0**
baz=294,SNR=23
ELSH Elham, Standar 69.97 318⇑ *eP* **P 09 33 25.5 -0.1**
ELSH IAmb IAmb 09 33 27.1
comp=Z,285nm,0.8s
DRUM Mains of Drumt 70.05 324 *eP* **P 09 33 25.6 -0.3**
DRUM IAmb IAmb 09 33 26.6
comp=Z,97nm,0.9s
F15K North Star Dit 70.11 25 IAmb IAmb 09 33 29.4
comp=Z,81nm,0.9s
F15K IAMs_20 IAMs_20 10 06 14.1
comp=Z,2µm,18.0s
F15K North Star Dit 70.11 25 P **P 09 33 27.1 +0.9**
baz=293,SNR=26
F15K S **S 09 42 36.6 0.0**
baz=293
C18K Utukok River 70.14 22 P **P 09 33 27.2 +0.8**
C18K IAmb IAmb 09 33 28.4
comp=Z,90nm,0.9s
C18K IAMs_20 IAMs_20 10 05 39.8
comp=Z,2µm,22.0s
C18K Utukok River 70.14 22 P **P 09 33 27.3 +0.8**
baz=295,SNR=22
CTAO Charters Tower 70.20 127 P **P 09 33 27.8 +0.4**
CTAO Charters Tower 70.20 127 P **P 09 33 28.0 +0.6**
CTAO Charters Tower 70.20 127 P **P 09 33 27.8 +0.4**
CTAO pmax pmax
comp=Z,36nm,1.0s
MCD Coleburn Disti 70.21 325⇑ *eP* **P 09 33 26.6 -0.3**
MCD IAmb IAmb 09 33 27.9
comp=Z,221nm,0.8s
BIGH Upper Bighouse 70.22 326 *eP* **P 09 33 27.0 +0.1**
BIGH IAmb IAmb 09 33 28.0
comp=Z,83nm,0.8s
ANM Nome 70.27 27 P **P 09 33 27.7 +0.5**
ANM IAmb IAmb 09 33 29.4
comp=Z,86nm,0.9s
ANM Nome 70.27 27 P **P 09 33 27.7 +0.5**
ANM pmax pmax
comp=Z,86nm,0.9s
ANM MLR MLR
comp=Z,2µm,18.0s
ANM Nome 70.27 27 P **P 09 33 28.3 +1.1**
baz=293,SNR=10
ANM S **S 09 42 38.7 +0.2**
baz=293
CLF Chambon-Foret 70.32 315 P **P 09 33 27.9 +0.1**
CLF IAMs_20 IAMs_20 10 08 35.2
comp=Z,2µm,18.0s
A21K Barrow 70.35 19 P **P 09 33 28.5 +1.0**
baz=298
ATKA Atka Island 70.44 41 P **P 09 33 27.6 -0.8**
ATKA Atka Island 70.44 41 P **P 09 33 30.3 +1.9**
ESY Stoneypath 70.46 324⇑ *eP* **P 09 33 28.0 -0.5**
C19K Lookout Ridge 70.47 21 P **P 09 33 30.0 +1.6**
baz=296,SNR=28
C19K S **S 09 42 40.1 -0.7**
baz=296
EDMD Edmundbyers 70.49 322⇑ *eP* **P 09 33 28.0 -0.7**
EDMD IAmb IAmb 09 33 29.2
comp=Z,95nm,0.7s
E17K Hotham Inlet 70.59 24 P **P 09 33 30.2 +1.1**
baz=295,SNR=36
E17K S **S 09 42 42.7 +0.6**
baz=295
G15K Niukluk 70.63 26 P **P 09 33 30.1 +0.8**
baz=294,SNR=11
G15K S **S 09 42 42.6 0.0**
baz=294
EDI Edinburgh 70.76 324 *eP* **P 09 33 29.9 -0.3**
EDI IAmb IAmb 09 33 30.5
comp=Z,84nm,0.8s
B20K Meade River 70.81 20 IAMs_20 IAMs_20 10 07 48.5
comp=Z,1µm,19.0s
B20K Meade River 70.81 20 P **P 09 33 31.7 +1.3**
baz=298
SPIA Saint Paul Isl 70.83 35 P **P 09 33 31.5 +0.8**
baz=291
CWF Charnwood Fore 70.86 320⇑ *eP* **P 09 33 30.3 -0.7**
CWF IAmb IAmb 09 33 31.1
comp=Z,38nm,0.6s
LBWR Ladybower, Pea 70.86 321⇑ *eP* **P 09 33 30.5 -0.5**
LBWR IAmb IAmb 09 33 32.7
comp=Z,97nm,0.9s
E18K Tukpahlearik C 70.87 23 IAmb IAmb 09 33 32.9
comp=Z,60nm,0.8s
E18K Tukpahlearik C 70.87 23 P **P 09 33 31.9 +1.1**
baz=296,SNR=32
E18K S **S 09 42 45.4 0.0**
baz=296
EKA Eskdalemuir Ar 70.95 323 P **P 09 33 31.3 -0.2**
comp=Z,65nm,0.7s,baz=73,slow=5.7,SNR=175
comp=Z,65nm,0.7s
EKA Eskdalemuir Ar 70.95 323 P **P 09 33 31.4 -0.1**
EKA pmax pmax
comp=Z,67nm,0.9s
EKB Eskdalemuir 70.97 323 P **P 09 33 31.5 -0.2**
A22K Sinclair Lake 70.97 19 P **P 09 33 32.6 +1.2**
baz=300,SNR=7.4
ESK Eskdalemuir 70.98 323 P **P 09 33 31.8 +0.1**
ESK Eskdalemuir 70.98 323 *eP* **P 09 33 31.4 -0.3**
ESK IAmb IAmb 09 33 32.4
comp=Z,91nm,0.8s
ESK Eskdalemuir 70.98 323 P **P 09 33 31.8 +0.1**
ESK pmax pmax
comp=Z,88nm,0.8s
ESK MLR MLR
comp=Z,2µm,20.0s
F17K Baldwin Pennin 71.07 24 IAMs_20 IAMs_20 10 07 09.4
comp=Z,2µm,22.0s
F17K Baldwin Pennin 71.07 24 P **P 09 33 33.3 +1.4**
baz=296,SNR=63
F17K S **S 09 42 48.4 +0.7**
baz=296
G16K Koyuk River 71.11 25 P **P 09 33 33.4 +1.1**
baz=295,SNR=25

G16K S **S** **09 42 48.4 +0.2**
baz=295
KESW **Keswick, Cumbr** **71.19 322**⇑ *e*P **P** **09 33 32.9 -0.1**
KESW IAmb IAmb 09 33 33.8
comp=Z,116nm,0.8s
D19K **Kuna River** **71.22 22** P **P** **09 33 34.1 +1.2**
baz=298,SNR=50
D19K S **S** **09 42 49.5 -0.1**
baz=298
WOL **Wolverton** **71.31 319**⇑ *e*P **P** **09 33 33.6 -0.1**
P08K **Saint George I** **71.40 35** P **P** **09 33 35.0 +0.8**
baz=292
H16K **Elim** **71.48 26** P **P** **09 33 35.4 +0.9**
baz=295,SNR=24
H16K S **S** **09 42 51.6 -0.9**
baz=295
PGBU **Glenifferbraes** **71.48 324**⇑ *e*P **P** **09 33 34.7 +0.1**
PGBU IAmb IAmb 09 33 35.6
comp=Z,164nm,0.8s
M11K **Mekoryuk** **71.56 31** P **P** **09 33 36.2 +1.2**
baz=293
F18K **Selawik** **71.58 24** P **P** **09 33 36.2 +1.2**
baz=297,SNR=55
F18K S **S** **09 42 53.4 -0.1**
baz=297
NEWG **New Galloway** **71.61 323** *e*P **P** **09 33 35.5 +0.1**
NEWG IAmb IAmb 09 33 35.9
comp=Z,52nm,0.7s
D20K **Etivluk River** **71.61 21** P **P** **09 33 36.4 +1.2**
baz=299
K13K **Kusilvak Mount** **71.62 29** P **P** **09 33 35.8 +0.4**
K13K IAmb IAmb 09 33 37.2
comp=Z,54nm,0.9s
K13K IAMs_20 IAMs_20 10 07 52.2
comp=Z,1µm,18.0s
K13K **Kusilvak Mount** **71.62 29** P **P** **09 33 36.0 +0.6**
baz=294,SNR=13
K13K S **S** **09 42 53.3 -0.9**
baz=294
STRD **Stroud** **71.69 319**⇑ *e*P **P** **09 33 35.6 -0.4**
STRD IAmb IAmb 09 33 36.9
comp=Z,246nm,0.7s
G17K **Kiwalik Mounta** **71.71 25** P **P** **09 33 36.8 +0.9**
baz=296,SNR=23
G17K S **S** **09 42 54.3 -0.8**
baz=296
J14K **Nanvaranak Lak** **71.75 28** IAmb IAmb 09 33 38.0
comp=Z,65nm,0.9s
J14K IAMs_20 IAMs_20 10 08 45.6
comp=Z,1µm,18.0s
J14K **Nanvaranak Lak** **71.75 28** P **P** **09 33 36.9 +0.8**
baz=295,SNR=17
J14K S **S** **09 42 55.0 -0.6**
baz=295
B22K **Teshekpuk Lake** **71.76 19** P **P** **09 33 37.2 +1.2**
baz=301
B21K **Ikpikpuk River** **71.78 20** IAMs_20 IAMs_20 10 08 40.9
comp=Z,2µm,19.0s
B21K **Ikpikpuk River** **71.78 20** P **P** **09 33 37.7 +1.5**
baz=300
MAHO **Mahon** **71.78 306** IAmb IAmb 09 33 37.7
comp=Z,48nm,0.8s
LAWE **Loch Awe, Argy** **71.79 324**⇑ *e*P **P** **09 33 36.4 -0.1**
LAWE IAmb IAmb 09 33 37.4
comp=Z,74nm,0.8s
HLM1 **Long Mynd** **71.83 320**⇑ *e*P **P** **09 33 36.9 0.0**
HLM1 IAmb IAmb 09 33 37.3
comp=Z,70nm,0.8s
FOEL **Foel Wylfa** **71.87 321**⇑ *e*P **P** **09 33 37.2 +0.1**
FOEL IAmb IAmb 09 33 38.2
comp=Z,148nm,0.7s
SCO **Scoresbysund** **71.95 341** IAMs_20 IAMs_20 10 08 46.1
comp=Z,2µm,20.0s
SCO **Scoresbysund** **71.95 341** *i* P **P** **09 33 37.1 -0.1**
GAL1 **Galloway** **71.96 323**⇑ *e*P **P** **09 33 37.4 -0.1**
GAL1 IAmb IAmb 09 33 38.4
comp=Z,62nm,0.8s
OLDB **Oldbury-Upon-S** **71.96 319**⇑ *e*P **P** **09 33 37.3 -0.3**
OLDB IAmb IAmb 09 33 38.1
comp=Z,135nm,0.7s
C21K **Knifeblade Rid** **71.96 20** P **P** **09 33 38.8 +1.4**
baz=300,SNR=34
E20K **Nigu River** **71.97 21** P **P** **09 33 38.6 +1.1**
baz=300,SNR=118
E20K S **S** **09 42 57.6 -0.5**
baz=300
E19K **Redstone River** **72.01 22** IAMs_20 IAMs_20 10 08 47.3
comp=Z,2µm,20.0s
E19K **Redstone River** **72.01 22** P **P** **09 33 38.7 +1.0**
baz=299,SNR=80
E19K S **S** **09 42 57.3 -1.3**
baz=299
MONM **Monmouth** **72.04 320**⇑ *e*P **P** **09 33 37.7 -0.4**
MONM IAmb IAmb 09 33 38.6
comp=Z,133nm,0.7s
MCH1 **Michaelchurch** **72.09 320**⇑ *e*P **P** **09 33 38.0 -0.4**
MCH1 IAmb IAmb 09 33 39.0
comp=Z,88nm,0.8s
IOMK **Kirk Michael** **72.11 322**⇑ *e*P **P** **09 33 38.6 +0.1**
IOMK IAmb IAmb 09 33 39.5
comp=Z,54nm,0.7s
F19K **Shaleruckik Mo** **72.13 23** P **P** **09 33 38.9 +0.6**
baz=298,SNR=111
H17K **Granite Mounta** **72.24 25** IAmb IAmb 09 33 41.4
comp=Z,109nm,0.9s
H17K IAMs_20 IAMs_20 10 07 33.4
comp=Z,1µm,19.0s
H17K **Granite Mounta** **72.24 25** P **P** **09 33 40.3 +1.2**
baz=297,SNR=51
H17K S **S** **09 43 01.8 +0.5**
baz=297
G18K **Tagagawik** **72.26 24** IAMs_20 IAMs_20 10 07 54.9
comp=Z,2µm,20.0s
G18K **Tagagawik** **72.26 24** P **P** **09 33 39.7 +0.5**
baz=298,SNR=21
G18K S **S** **09 43 01.3 -0.2**
baz=298
WME **Myndd Eilian** **72.30 321** *e*P **P** **09 33 39.5 -0.1**
WLF1 **Llynfaes** **72.39 321**⇑ *e*P **P** **09 33 40.2 0.0**
WLF1 IAmb IAmb 09 33 41.1
comp=Z,284nm,0.7s
WPS **Cemaes, Angles** **72.40 321**⇑ *e*P **P** **09 33 40.3 +0.1**
WPS IAmb IAmb 09 33 41.1
comp=Z,63nm,0.8s
I17K **Unalakleet** **72.42 26** P **P** **09 33 40.4 +0.3**
I17K IAmb IAmb 09 33 42.4
comp=Z,90nm,0.8s
I17K IAMs_20 IAMs_20 10 07 46.1
comp=Z,2µm,19.0s
I17K **Unalakleet** **72.42 26** P **P** **09 33 41.5 +1.4**
baz=297,SNR=12
I17K S **S** **09 43 03.3 0.0**
baz=297
EUNU **Eureka** **72.53 360** IAmb IAmb 09 33 42.9
comp=Z,87nm,0.9s
E21K **Killik River** **72.58 21** IAMs_20 IAMs_20 10 09 25.3
comp=Z,2µm,20.0s
E21K **Killik River** **72.58 21** P **P** **09 33 42.1 +1.0**
baz=301
CLGH **Cloghs, Cushen** **72.62 323**⇑ *e*P **P** **09 33 41.3 -0.2**
G19K **Purcell Mounta** **72.70 24** P **P** **09 33 42.8 +0.9**
baz=299,SNR=55
G19K S **S** **09 43 06.7 +0.2**
baz=299
H18K **Honhosa River** **72.72 25** IAmb IAmb 09 33 43.9
comp=Z,74nm,0.9s
H18K **Honhosa River** **72.72 25** P **P** **09 33 42.9 +0.9**
baz=298,SNR=30
H18K S **S** **09 43 06.8 0.0**
baz=298
F20K **Avaraart Lake** **72.72 22** IAmb IAmb 09 33 43.6
comp=Z,65nm,0.8s
F20K IAMs_20 IAMs_20 10 09 42.1
comp=Z,2µm,22.0s
F20K **Avaraart Lake** **72.72 22** P **P** **09 33 42.7 +0.8**
baz=300
J16K **Anvik River** **72.73 27** P **P** **09 33 43.2 +1.2**
baz=297,SNR=44
J16K S **S** **09 43 07.1 +0.2**
baz=297
L14K **Kuka Creek** **72.73 29** IAmb IAmb 09 33 45.0
comp=Z,102nm,1.0s
L14K **Kuka Creek** **72.73 29** P **P** **09 33 43.1 +1.1**
baz=296,SNR=27
D22K **Ayikyak River** **72.75 20** IAMs_20 IAMs_20 10 09 15.7
comp=Z,2µm,21.0s
D22K **Ayikyak River** **72.75 20** P **P** **09 33 43.6 +1.4**
baz=302
D22K S **S** **09 43 07.0 -0.1**
baz=302
K15K **Wolf Creek Mou** **72.80 28** IAmb IAmb 09 33 44.7
comp=Z,82nm,0.9s
K15K IAMs_20 IAMs_20 10 09 27.2
comp=Z,1µm,19.0s
K15K **Wolf Creek Mou** **72.80 28** P **P** **09 33 43.8 +1.3**
baz=297,SNR=25
K15K S **S** **09 43 07.7 0.0**
baz=297
M13K **Dall Lake** **72.84 30** IAmb IAmb 09 33 46.1
comp=Z,90nm,1.0s
M13K IAMs_20 IAMs_20 10 08 17.4
comp=Z,1µm,19.0s
M13K **Dall Lake** **72.84 30** P **P** **09 33 44.1 +1.4**
baz=296,SNR=6.8
C23K **Itkillik River** **72.84 19** IAMs_20 IAMs_20 10 09 25.1
comp=Z,1µm,18.0s
C23K **Itkillik River** **72.84 19** P **P** **09 33 44.1 +1.5**
baz=304,SNR=83
C23K S **S** **09 43 06.9 -1.1**
baz=304
BBOO **Buckleboo** **72.84 143** P **P** **09 33 42.9 -0.2**
comp=Z,59nm,0.9s
CEST **Esterri de Car** **72.91 309** IAmb IAmb 09 33 44.4
comp=Z,69nm,0.8s
NEEM **North Greenlan** **72.93 352** *i* P **P** **09 33 43.6 +0.2**
NEEM IAmb IAmb 09 33 44.6
comp=Z,166nm,0.7s
L15K **Ungalak Mounta** **73.09 29** P **P** **09 33 44.8 +0.6**
baz=297
L15K S **S** **09 43 11.6 +0.5**
baz=297
RSBS **Rosebush, Pemb** **73.10 320**⇑ *e*P **P** **09 33 44.4 -0.1**
RSBS IAmb IAmb 09 33 45.2
comp=Z,176nm,0.7s
ILTH **Belurgan, Co L** **73.16 323** P **P** **09 33 44.5 -0.2**
QLP **Quilpie** **73.17 133** P **P** **09 33 46.0 +0.9**
comp=Z,90nm,0.8s
QLP **Quilpie** **73.17 133** P **P** **09 33 46.8 +1.7**
NIKH **Nikolski High** **73.18 39** P **P** **09 33 46.2 +1.3**
baz=294
H19K **Roundabout Mou** **73.24 24** IAmb IAmb 09 33 47.5
comp=Z,120nm,0.9s
H19K IAMs_20 IAMs_20 10 08 35.7
comp=Z,1µm,18.0s
H19K **Roundabout Mou** **73.24 24** P **P** **09 33 46.2 +1.2**
baz=300,SNR=108
H19K S **S** **09 43 13.4 +0.8**
baz=300
J17K **VABM Dome** **73.28 27** P **P** **09 33 46.4 +1.1**
baz=298,SNR=46
J17K S **S** **09 43 12.9 -0.3**
baz=298
M14K **Bethel** **73.31 30** IAMs_20 IAMs_20 10 08 25.7
comp=Z,1µm,18.0s
M14K **Bethel** **73.31 30** P **P** **09 33 46.3 +0.9**
baz=297,SNR=19
M14K S **S** **09 43 12.6 -0.8**
baz=297
D23K **Nanushuk River** **73.31 20** IAMs_20 IAMs_20 10 09 51.5
comp=Z,2µm,21.0s
D23K **Nanushuk River** **73.31 20** P **P** **09 33 46.8 +1.4**
baz=304,SNR=59
D23K S **S** **09 43 13.6 +0.2**
baz=304
HTL **Hartland** **73.33 319** *e*P **P** **09 33 45.9 +0.1**
IDGL **Inch Island, C** **73.36 324** P **P** **09 33 46.1 +0.2**
F21K **Alatna River** **73.38 22** P **P** **09 33 46.9 +1.0**
baz=302
F21K S **S** **09 43 13.2 -1.1**
baz=302
C24K **Franklin Bluff** **73.45 19** IAMs_20 IAMs_20 10 09 47.3
comp=Z,1µm,18.0s
C24K **Franklin Bluff** **73.45 19** P **P** **09 33 47.3 +1.1**
baz=306
GCSA **Galena City Sc** **73.47 25** P **P** **09 33 47.5 +1.2**
baz=300,SNR=6.1
GCSA S **S** **09 43 15.9 +0.7**
baz=300
DSB **Dublin** **73.50 322** P **P** **09 33 46.8 +0.1**
F22K **John River** **73.66 21** P **P** **09 33 48.8 +1.3**
baz=303
F22K S **SKiKP** **09 43 17.0 0.0**
baz=303
D24K **Happy Valley** **73.75 19** P **P** **09 33 49.0 +1.0**
baz=306,SNR=52
D24K S **S** **09 43 18.1 -0.2**
baz=306
G21K **Allakaket** **73.75 22** IAmb IAmb 09 33 49.6
comp=Z,90nm,0.8s
G21K **Allakaket** **73.75 22** P **P** **09 33 48.8 +0.7**
baz=302,SNR=72
G21K S **S** **09 43 18.1 -0.3**
baz=302
N14K **Kuskokwak Cree** **73.80 30** IAmb IAmb 09 33 50.2
comp=Z,95nm,0.9s
N14K IAMs_20 IAMs_20 10 08 45.9
comp=Z,1µm,19.0s
N14K **Kuskokwak Cree** **73.80 30** P **P** **09 33 49.2 +0.8**
baz=297,SNR=9.0
N14K S **S** **09 43 18.9 -0.3**
baz=297
H20K **Anotleneega Mo** **73.82 24** P **P** **09 33 49.5 +1.1**
baz=301,SNR=102
H20K S **S** **09 43 19.3 +0.1**
baz=301
TOLK **Toolik Lake Re** **73.83 20** P **P** **09 33 49.7 +1.2**
baz=305,SNR=85
TOLK S **S** **09 43 19.5 +0.2**
baz=305
M15K **Kasigluk River** **73.89 29** P **P** **09 33 49.6 +0.7**
baz=298,SNR=11
M15K S **S** **09 43 19.2 -0.9**
baz=298
K17K **Iditarod** **73.92 27** P **P** **09 33 50.3 +1.2**
baz=299,SNR=77
K17K S **S** **09 43 20.9 +0.4**
baz=299
L16K **Owhat River** **73.93 28** IAMs_20 IAMs_20 10 10 04.1
comp=Z,2µm,19.0s
L16K **Owhat River** **73.93 28** P **P** **09 33 50.1 +1.0**
baz=298,SNR=9.4
L16K S **S** **09 43 21.3 +0.8**
baz=298
IMAR **Indian Mountai** **73.95 23** P **P** **09 33 49.8 +0.5**
IWEX **Carrickbyrne,** **74.08 321** P **P** **09 33 50.3 +0.1**
UNV **Unalaska Valle** **74.10 37** P **P** **09 33 51.0 +0.8**
baz=295
E23K **Chandalar** **74.15 20** IAmb IAmb 09 33 52.7
comp=Z,99nm,0.9s
E23K **Chandalar** **74.15 20** P **P** **09 33 51.7 +1.3**
baz=305,SNR=88
E23K S **S** **09 43 23.6 +0.5**
baz=305
J18K **Innoko River** **74.18 26** IAmb IAmb 09 33 52.4
comp=Z,92nm,0.8s
J18K IAMs_20 IAMs_20 10 09 39.6
comp=Z,2µm,18.0s
J18K **Innoko River** **74.18 26** P **P** **09 33 51.5 +0.9**
baz=300
J18K S **S** **09 43 22.4 -1.0**
baz=300
G22K **Bettles** **74.20 22** P **P** **09 33 51.4 +0.8**
baz=304,SNR=50
L17K **Donlin** **74.21 28** P **P** **09 33 52.2 +1.5**
baz=299,SNR=20
O14K **Tigyukauivet M** **74.30 31** P **P** **09 33 51.9 +0.5**
baz=298
J19K **Poorman** **74.32 25** IAMs_20 IAMs_20 10 08 59.5
comp=Z,2µm,20.0s
J19K **Poorman** **74.32 25** P **P** **09 33 52.8 +1.4**
baz=301,SNR=94
J19K S **S** **09 43 24.6 -0.4**
baz=301
I20K **Naaghedeneel** **74.33 24** IAMs_20 IAMs_20 10 09 06.5
comp=Z,1µm,18.0s
I20K **Naaghedeneel** **74.33 24** P **P** **09 33 52.9 +1.6**
baz=302,SNR=41
D25K **Kavik River** **74.35 18** P **P** **09 33 52.5 +0.9**
baz=308,SNR=87
D25K S **S** **09 43 24.1 -1.1**
baz=308
C26K **Camden Bay** **74.38 18** P **P** **09 33 53.0 +1.4**
baz=309
C26K S **S** **09 43 25.5 +0.1**
baz=309
N15K **Kwethluk River** **74.40 30** IAmb IAmb 09 33 53.9
comp=Z,59nm,0.9s
N15K **Kwethluk River** **74.40 30** P **P** **09 33 52.8 +0.9**
baz=298,SNR=14
N15K S **S** **09 43 25.6 -0.3**
baz=298
COLD **Coldfoot** **74.45 21** IAmb IAmb 09 33 54.8
comp=Z,81nm,1.0s
COLD IAMs_20 IAMs_20 10 08 34.5
comp=Z,2µm,19.0s
COLD **Coldfoot** **74.45 21** P **P** **09 33 53.2 +1.2**
baz=305,SNR=76
H21K **Melozitna Rive** **74.46 23** IAmb IAmb 09 33 54.5
comp=Z,128nm,0.9s
H21K **Melozitna Rive** **74.46 23** P **P** **09 33 53.4 +1.2**
baz=303,SNR=153
H21K S **S** **09 43 26.9 +0.5**
baz=303
M16K **Timber Creek** **74.48 29** IAmb IAmb 09 33 54.5
comp=Z,53nm,0.9s
M16K **Timber Creek** **74.48 29** P **P** **09 33 53.4 +1.1**
baz=299,SNR=9.7
M16K S **S** **09 43 26.1 -0.7**
baz=299
E24K **Your Creek** **74.49 20** P **P** **09 33 53.7 +1.3**
baz=306
E24K S **S** **09 43 25.9 -0.9**
baz=306
HNR **Honiara** **74.67 109** LR LR 10 07 00.0
comp=Z,470nm,19.1s,baz=290,slow=36
SUMG **Summit** **74.70 346** IAmb IAmb 09 33 56.0
comp=Z,130nm,1.0s
SUMG **Summit** **74.70 346** *i* P **P** **09 33 54.0 +0.1**
SUMG IAmb IAmb 09 33 56.0
comp=Z,81nm,1.0s
J20K **Nowinta River** **74.78 25** IAMs_20 IAMs_20 10 09 13.5
comp=Z,1µm,19.0s
J20K **Nowinta River** **74.78 25** P **P** **09 33 55.6 +1.5**
baz=302,SNR=125
J20K S **S** **09 43 30.1 +0.1**
baz=302
G23K **Bananza Creek** **74.80 21** IAmb IAmb 09 33 56.3
comp=Z,61nm,0.9s
G23K **Bananza Creek** **74.80 21** P **P** **09 33 55.3 +1.1**
baz=305,SNR=65
G23K S **S** **09 43 30.2 -0.1**
baz=305
H22K **Ishtalitna Cre** **74.82 23** P **P** **09 33 55.5 +1.2**
baz=304,SNR=59
H22K S **S** **09 43 30.0 -0.5**
baz=304
L18K **Granite Mounta** **74.82 27** IAMs_20 IAMs_20 10 09 14.7
comp=Z,2µm,20.0s
L18K **Granite Mounta** **74.82 27** P **P** **09 33 55.3 +1.0**
baz=301,SNR=12
L18K S **S** **09 43 30.2 -0.3**
baz=301
N16K **Nishlik Lake** **74.83 29** P **P** **09 33 55.6 +1.2**
baz=299,SNR=12
N16K S **S** **09 43 29.9 -0.9**
baz=299
BORG **Borgarnes** **74.84 336** LR LR 10 08 35.0
comp=Z,914nm,18.1s,baz=77,slow=37
HTT **Hallett** **74.87 141** P **P** **09 33 55.4 +0.4**
comp=Z,14nm,1.1s
HTT **Hallett** **74.87 141** P **P** **09 33 56.0 +1.0**
C27K **Jago River** **74.89 18** IAmb IAmb 09 33 57.0
comp=Z,111nm,0.8s
C27K **Jago River** **74.89 18** P **P** **09 33 56.0 +1.4**
baz=310,SNR=61
C27K S **S** **09 43 30.9 -0.2**
baz=310
M17K **Holitna River** **74.93 28** P **P** **09 33 55.6 +0.6**
M17K IAmb IAmb 09 33 57.5
comp=Z,65nm,0.8s
M17K IAMs_20 IAMs_20 10 10 42.6
comp=Z,1µm,21.0s
M17K **Holitna River** **74.93 28** P **P** **09 33 56.4 +1.4**
baz=300,SNR=12
M17K S **S** **09 43 32.8 +1.0**
baz=300
O15K **Ungalikthiuk R** **74.99 31** IAMs_20 IAMs_20 10 09 43.4
comp=Z,1µm,18.0s
O15K **Ungalikthiuk R** **74.99 31** P **P** **09 33 55.9 +0.6**
baz=299,SNR=5.6
O15K S **S** **09 43 31.4 -1.1**
baz=299
F24K **Squaw Lake** **75.00 20** IAmb IAmb 09 33 57.6
comp=Z,85nm,0.8s
F24K **Squaw Lake** **75.00 20** P **P** **09 33 56.6 +1.3**
baz=307,SNR=71
F24K S **S** **09 43 32.0 -0.5**
baz=307
IGLA **Glengowla, Co** **75.05 323** P **P** **09 33 56.0 +0.2**
K20K **Telida** **75.25 25** IAmb IAmb 09 33 59.4
comp=Z,90nm,0.8s
K20K IAMs_20 IAMs_20 10 09 27.9
comp=Z,2µm,19.0s
K20K **Telida** **75.25 25** P **P** **09 33 58.2 +1.4**
baz=302
K20K S **S** **09 43 35.0 -0.3**
baz=302
STKA **Stephens Creek** **75.26 139** IAmb IAmb 09 34 02.9
comp=Z,90nm,0.8s
STKA **Stephens Creek** **75.26 139** P **P** **09 33 57.4 +0.2**
comp=Z,118nm,1.6s
STKA **Stephens Creek** **75.26 139** P **P** **09 33 57.4 +0.2**
comp=Z,22nm,0.8s,baz=345,slow=5.4,SNR=9.4
STKA LR LR 10 13 16.2
comp=Z,316nm,18.3s,baz=314,slow=41
comp=Z,22nm,0.8s
STKA **Stephens Creek** **75.26 139** P **P** **09 33 58.9 +1.7**
STKA **Stephens Creek** **75.26 139** *ce*P **P** **09 33 57.2 0.0**
FALS **False Pass** **75.28 35** IAMs_20 IAMs_20 10 12 24.3
comp=Z,1µm,21.0s
FALS **False Pass** **75.28 35** P **P** **09 33 58.2 +1.1**
baz=297
E25K **Arctic Village** **75.33 19** IAmb IAmb 09 33 59.4
comp=Z,77nm,0.9s
E25K IAMs_20 IAMs_20 10 10 59.8
comp=Z,1µm,20.0s
E25K **Arctic Village** **75.33 19** P **P** **09 33 58.2 +1.1**
baz=309,SNR=57
E25K S **S** **09 43 35.4 -0.7**
baz=309
TULEG **Thule** **75.44 356** IAmb IAmb 09 33 58.5
comp=Z,84nm,0.8s
TULEG IAMs_20 IAMs_20 10 12 02.8
comp=Z,1µm,18.0s
TULEG **Thule** **75.44 356** *i* P **P** **09 33 56.0 -1.6**
H23K **Yukon River** **75.48 22** IAmb IAmb 09 34 00.6
comp=Z,54nm,1.0s
H23K IAMs_20 IAMs_20 10 10 13.8
comp=Z,1µm,18.0s
H23K **Yukon River** **75.48 22** P **P** **09 33 59.5 +1.4**
baz=306,SNR=48
H23K S **S** **09 43 38.2 +0.4**
baz=306
N17K **Nushagak Hills** **75.48 29** IAMs_20 IAMs_20 10 11 14.1
comp=Z,1µm,18.0s
N17K **Nushagak Hills** **75.48 29** P **P** **09 33 59.4 +1.3**
baz=301,SNR=18
N17K S **S** **09 43 37.1 -0.8**
baz=301
MLY **Manley** **75.53 23** IAmb IAmb 09 34 00.6
comp=Z,98nm,0.9s
MLY **Manley** **75.53 23** P **P** **09 33 59.6 +1.2**
baz=305,SNR=74
MLY S **S** **09 43 38.9 +0.4**
baz=305
M18K **Stony River** **75.55 27** P **P** **09 33 59.5 +1.0**
baz=302,SNR=18
M18K S **S** **09 43 38.9 +0.2**
baz=302
O16K **Kokwok River B** **75.56 30** IAmb IAmb 09 34 01.0
comp=Z,56nm,0.9s
O16K **Kokwok River B** **75.56 30** P **P** **09 33 59.4 +0.8**
baz=300,SNR=21
O16K S **S** **09 43 38.2 -0.6**
baz=300
L19K **White Mountain** **75.57 27** IAmb IAmb 09 34 01.1
comp=Z,65nm,0.9s
L19K IAMs_20 IAMs_20 10 09 45.6
comp=Z,2µm,20.0s
L19K **White Mountain** **75.57 27** P **P** **09 34 00.1 +1.3**
baz=302,SNR=41
L19K S **S** **09 43 39.6 +0.6**
baz=302

S12K	**Black Hills**	**75.58**	**34**	P	**P**	**09 34 00.3**	**+1.5**
	baz=298								
CHUM	**Lake Minchumin**	**75.62**	**24**	P	**P**	**09 34 00.4**	**+1.6**
	baz=304,SNR=70								
CHUM				S	**S**	**09 43 40.8**	**+1.5**
	baz=304								
G24K	**Hadweenzic Riv**	**75.62**	**21**	IAmb	IAmb	09 34 01.4	
G24K	comp=Z,78nm,0.8s			IAMs_20	IAMs_20	10 11 34.7	
	comp=Z,2µm,20.0s								
G24K	**Hadweenzic Riv**	**75.62**	**21**	P	**P**	**09 34 00.3**	**+1.4**
	baz=307,SNR=61								
G24K				S	**S**	**09 43 39.6**	**+0.3**
	baz=307								
F25K	**Christian Rive**	**75.64**	**20**	P	**P**	**09 34 00.8**	**+1.8**
	baz=309,SNR=131								
F25K				S	**S**	**09 43 41.3**	**+1.7**
	baz=309								
LSZ	**Lusaka**	**75.72**	**244**	P	**P**	**09 34 00.6**	**+0.3**
LSZ	comp=Z,46nm,0.7s			IAmb	IAmb	09 34 01.4	
LSZ	**Lusaka**	**75.72**	**244**	LR	LR	10 05 46.9	
	comp=Z,709nm,18.1s,baz=53,slow=34								
LSZ	**Lusaka**	**75.72**	**244**	P	**P**	**09 34 00.8**	**+0.4**
LSZ	**Lusaka**	**75.72**	**244**	P	**P**	**09 34 00.6**	**+0.3**
LSZ	comp=Z,46nm,0.7s			pmax	pmax		
L20K	**Farewell, AK**	**75.80**	**26**	P	**P**	**09 34 01.3**	**+1.3**
	baz=303,SNR=19								
L20K				S	**S**	**09 43 42.4**	**+0.9**
	baz=303								
D27M	**Malcolm River**	**75.87**	**17**	P	**P**	**09 34 01.4**	**+1.0**
	baz=312,SNR=8.5								
D27M				S	**S**	**09 43 40.7**	**-1.5**
	baz=312								
P16K	**Nushagak River**	**75.89**	**30**	IAMs_20	IAMs_20	10 10 29.0	
	comp=Z,1µm,18.0s								
P16K	**Nushagak River**	**75.89**	**30**	P	**P**	**09 34 02.0**	**+1.5**
	baz=300								
M19K	**Big River Lodg**	**75.91**	**27**	IAMs_20	IAMs_20	10 09 57.4	
	comp=Z,2µm,20.0s								
M19K	**Big River Lodg**	**75.91**	**27**	P	**P**	**09 34 02.0**	**+1.4**
	baz=303								
M19K				S	**S**	**09 43 44.4**	**+1.7**
	baz=303								
I23K	**Minto, Yukon-K**	**75.94**	**23**	IAmb	IAmb	09 34 02.9	
	comp=Z,79nm,1.2s								
I23K	**Minto, Yukon-K**	**75.94**	**23**	P	**P**	**09 34 01.8**	**+1.2**
	baz=306,SNR=59								
I23K				S	**S**	**09 43 43.0**	**+0.2**
	baz=306								
N18K	**Kilae Creek**	**75.95**	**28**	IAmb	IAmb	09 34 03.0	
	comp=Z,54nm,0.9s								
N18K				IAMs_20	IAMs_20	10 11 25.5	
	comp=Z,1µm,19.0s								
N18K	**Kilae Creek**	**75.95**	**28**	P	**P**	**09 34 02.0**	**+1.2**
	baz=302,SNR=26								
BPAW	**Bear Paw Mtn.**	**75.98**	**24**	IAMs_20	IAMs_20	10 10 01.1	
	comp=Z,1µm,18.0s								
BPAW	**Bear Paw Mtn.**	**75.98**	**24**	P	**P**	**09 34 01.9**	**+1.0**
	baz=305,SNR=159								
BPAW				S	**S**	**09 43 43.0**	**-0.3**
	baz=305								
SOEG	**Soedalen**	**75.99**	**341**	*i* P	**P**	**09 34 01.0**	**+0.1**
F26K	**Sheenjek River**	**76.02**	**19**	IAMs_20	IAMs_20	10 11 44.0	
	comp=Z,2µm,19.0s								
F26K	**Sheenjek River**	**76.02**	**19**	P	**P**	**09 34 02.4**	**+1.3**
	baz=310,SNR=39								
F26K				S	**S**	**09 43 44.0**	**+0.3**
	baz=310								
G25K	**Bearman Lake**	**76.02**	**20**	P	**P**	**09 34 02.8**	**+1.8**
	baz=308,SNR=94								
H24K	**Noodor Dome**	**76.02**	**22**	IAmb	IAmb	09 34 04.0	
	comp=Z,65nm,0.9s								
H24K	**Noodor Dome**	**76.02**	**22**	P	**P**	**09 34 02.5**	**+1.3**
	baz=307,SNR=70								
H24K				S	**S**	**09 43 43.8**	**0.0**
	baz=307								
BMAR	**Burnt Mountain**	**76.06**	**20**	P	**P**	**09 34 03.2**	**+1.8**
KULLO	**Kullorsuaq**	**76.17**	**352**	*i* P	**P**	**09 33 60.0**	**-1.8**
VAL	**Valentia**	**76.19**	**322**	P	**P**	**09 34 03.0**	**+0.7**
PPLA	**Purkeypile**	**76.22**	**25**	IAmb	IAmb	09 34 04.6	
	comp=Z,94nm,0.9s								
PPLA				IAMs_20	IAMs_20	10 10 18.5	
	comp=Z,1µm,19.0s								
PPLA	**Purkeypile**	**76.22**	**25**	P	**P**	**09 34 03.6**	**+1.1**
	baz=304,SNR=37								
PPLA				S	**S**	**09 43 46.5**	**+0.2**
	baz=304								
NEA2	**Nenana**	**76.37**	**23**	IAmb	IAmb	09 34 05.0	
	comp=Z,103nm,0.8s								
NEA2	**Nenana**	**76.37**	**23**	P	**P**	**09 34 03.8**	**+0.7**
	baz=306,SNR=119								
D28M	**Stokes Point**	**76.39**	**17**	P	**P**	**09 34 04.5**	**+1.3**
	baz=314								
FYU	**Fort Yukon**	**76.41**	**20**	IAMs_20	IAMs_20	10 09 58.4	
	comp=Z,1µm,19.0s								
E27K	**Coleen River**	**76.42**	**18**	IAmb	IAmb	09 34 05.6	
	comp=Z,69nm,0.9s								
E27K				IAMs_20	IAMs_20	10 11 58.6	
	comp=Z,1µm,19.0s								
E27K	**Coleen River**	**76.42**	**18**	P	**P**	**09 34 04.5**	**+1.1**
	baz=312,SNR=48								
E27K				S	**S**	**09 43 48.0**	**-0.1**
	baz=312								
H25L	**Birch Creek**	**76.42**	**21**	P	**P**	**09 34 04.8**	**+1.5**
	baz=309,SNR=25								
H25L				S	**S**	**09 43 49.2**	**+1.2**
	baz=309								
M20K	**Styx River**	**76.42**	**26**	IAmb	IAmb	09 34 05.9	
	comp=Z,61nm,0.8s								
M20K				IAMs_20	IAMs_20	10 10 14.9	
	comp=Z,2µm,19.0s								
M20K	**Styx River**	**76.42**	**26**	P	**P**	**09 34 04.8**	**+1.2**
	baz=304								
M20K				S	**S**	**09 43 48.7**	**+0.2**
	baz=304								
N19K	**Bonanza Creek**	**76.46**	**28**	IAmb	IAmb	09 34 06.0	
	comp=Z,48nm,0.9s								
N19K	**Bonanza Creek**	**76.46**	**28**	P	**P**	**09 34 04.9**	**+1.0**
	baz=303,SNR=20								
CART	**Cartagena**	**76.47**	**305**	IAmb	IAmb	09 34 05.8	
	comp=Z,73nm,0.9s								
BWN	**Browne**	**76.48**	**23**	IAMs_20	IAMs_20	10 10 40.9	
	comp=Z,1µm,18.0s								
P17K	**Kvichak River**	**76.49**	**30**	P	**P**	**09 34 04.7**	**+0.8**
	baz=302,SNR=12								
S14K	**Fog Glacier**	**76.53**	**33**	P	**P**	**09 34 05.2**	**+0.8**
	baz=300								
SDPT	**Sand Point**	**76.54**	**34**	P	**P**	**09 34 04.6**	**+0.3**
	baz=299								
G26K	**Porcupine Rive**	**76.61**	**20**	P	**P**	**09 34 06.2**	**+1.8**
	baz=310,SNR=182								
G26K				S	**S**	**09 43 51.4**	**+1.4**
	baz=310								
TRF	**Thorofare Moun**	**76.61**	**24**	P	**P**	**09 34 05.0**	**+0.3**
	baz=306,SNR=14								
TRF				S	**S**	**09 43 48.5**	**-2.1**
	baz=306								
COLA	**College**	**76.61**	**22**	P	**P**	**09 34 04.4**	**-0.1**
COLA	**College**	**76.61**	**22**	P	**P**	**09 34 04.6**	**+0.1**
COLA	**College**	**76.61**	**22***c*	*i* P	**P**	**09 34 04.8**	**+0.3**
COLA	comp=Z,192nm,1.0s			pmax	pmax		
COLA				MLR	MLR		
	comp=Z,1µm,16.0s								
COLA	**College**	**76.61**	**22**	P	**P**	**09 34 05.3**	**+0.8**
	baz=307								
Q16K	**King Salmon**	**76.67**	**30**	P	**P**	**09 34 05.3**	**+0.4**
	baz=301,SNR=6.8								
O18K	**Koktuh Hills**	**76.67**	**29**	P	**P**	**09 34 04.6**	**-0.4**
O18K	comp=Z,84nm,1.0s			IAmb	IAmb	09 34 08.1	
O18K				IAMs_20	IAMs_20	10 11 59.7	
	comp=Z,1µm,18.0s								
O18K	**Koktuh Hills**	**76.67**	**29**	P	**P**	**09 34 05.9**	**+0.9**
	baz=302,SNR=9.7								
O18K				S	**S**	**09 43 51.3**	**+0.1**
	baz=302								
E28M	**Babbage River**	**76.69**	**17**	IAmb	IAmb	09 34 07.0	
	comp=Z,98nm,0.8s								
E28M	**Babbage River**	**76.69**	**17**	P	**P**	**09 34 06.0**	**+1.1**
	baz=314,SNR=68								
E28M				S	**S**	**09 43 50.5**	**-0.5**
	baz=314								
WRH	**Wood River Hil**	**76.78**	**23**	IAMs_20	IAMs_20	10 10 27.2	
	comp=Z,1µm,18.0s								
R16K	**Pilot Point**	**76.82**	**31**	P	**P**	**09 34 06.6**	**+0.8**
	baz=301								
O19K	**Port Alsworth**	**76.86**	**28**	IAmb	IAmb	09 34 08.8	
	comp=Z,58nm,1.1s								
O19K	**Port Alsworth**	**76.86**	**28**	P	**P**	**09 34 06.6**	**+0.6**
	baz=303,SNR=9.4								
O19K				S	**S**	**09 43 52.0**	**-1.1**
	baz=303								
P18K	**Big Mountain,**	**76.91**	**29**	IAmb	IAmb	09 34 07.8	
	comp=Z,44nm,0.8s								
P18K	**Big Mountain,**	**76.91**	**29**	P	**P**	**09 34 06.8**	**+0.5**
	baz=302,SNR=9.4								
P18K				S	**S**	**09 43 51.7**	**-2.1**
	baz=302								
MCK	**McKinley**	**76.93**	**24**	P	**P**	**09 34 06.3**	**-0.1**
MCK				IAmb	IAmb	09 34 08.1	
MCK	comp=Z,73nm,0.8s			IAMs_20	IAMs_20	10 11 11.2	
	comp=Z,1µm,18.0s								
MCK	**McKinley**	**76.93**	**24**	P	**P**	**09 34 06.3**	**-0.1**
MCK				pmax	pmax		
MCK	comp=Z,73nm,0.8s			MLR	MLR		
	comp=Z,1µm,18.0s								
MCK	**McKinley**	**76.93**	**24**	P	**P**	**09 34 06.4**	**+0.1**
	baz=307,SNR=21								
PRP	**Porcupine Dome**	**76.98**	**21**	IAMs_20	IAMs_20	10 12 15.7	
	comp=Z,2µm,18.0s								
PRP	**Porcupine Dome**	**76.98**	**21**	P	**P**	**09 34 07.9**	**+1.1**
	baz=309,SNR=126								
PRP				S	**S**	**09 43 54.7**	**+0.1**
	baz=309								
SKT	**Skwentna**	**76.99**	**26**	IAmb	IAmb	09 34 08.0	
	comp=Z,102nm,0.9s								
SKT	**Skwentna**	**76.99**	**26**	P	**P**	**09 34 07.0**	**+0.3**
	baz=305,SNR=62								
SKT				S	**S**	**09 43 51.8**	**-2.8**
	baz=305								
EIDS	**Eidsvold**	**77.00**	**128**	P	**P**	**09 34 07.8**	**+0.6**
	comp=Z,39nm,1.5s								
EIDS	**Eidsvold**	**77.00**	**128**	P	**P**	**09 34 08.5**	**+1.3**
ILAR	**Eielson Array**	**77.00**	**22**	P	**P**	**09 34 06.6**	**-0.2**
ILAR	**Eielson Array**	**77.00**	**22**	P	**P**	**09 34 06.2**	**-0.5**
	comp=Z,70nm,0.9s,baz=298,slow=4.9,SNR=381								
ILAR				PP	**PP**	**09 37 01.1**	**+1.5**
	comp=Z,3.6nm,0.8s,baz=296,slow=5.4,SNR=4.4								
ILAR				LR	LR	10 11 11.4	
	comp=Z,1µm,19.6s,baz=298,slow=38								
	comp=Z,70nm,0.9s								
ILAR	**Eielson Array**	**77.00**	**22**	P	**P**	**09 34 06.6**	**-0.2**
RND	**Reindeer**	**77.15**	**24**	IAMs_20	IAMs_20	10 11 19.2	
	comp=Z,1µm,19.0s								
HDA	**Harding Lake**	**77.21**	**23**	IAMs_20	IAMs_20	10 11 06.6	
	comp=Z,1µm,18.0s								
HDA	**Harding Lake**	**77.21**	**23**	P	**P**	**09 34 07.2**	**-0.7**
	baz=308,SNR=28								
A36M	**Sachs Harbour**	**77.22**	**11**	P	**P**	**09 34 08.7**	**+0.8**
	baz=326,SNR=219								
A36M				S	**S**	**09 43 55.3**	**-1.4**
	baz=326								
CUT	**Chulitna**	**77.23**	**25**	IAmb	IAmb	09 34 09.3	
	comp=Z,67nm,0.8s								
CUT	**Chulitna**	**77.23**	**25**	P	**P**	**09 34 08.1**	**+0.1**
	baz=306,SNR=7.5								
Q17K	**Contact Creek**	**77.23**	**30**	P	**P**	**09 34 07.4**	**-0.8**
	baz=302								
CHNA	**Chernabura Isl**	**77.24**	**34**	P	**P**	**09 34 07.4**	**-0.8**
	baz=300								
E29M	**Blow River**	**77.27**	**17**	IAmb	IAmb	09 34 10.2	
	comp=Z,86nm,0.8s								
E29M	**Blow River**	**77.27**	**17**	P	**P**	**09 34 09.1**	**+0.9**
	baz=315,SNR=50								
E29M				S	**S**	**09 43 57.3**	**0.0**
	baz=315								
F28M	**Old Crow**	**77.29**	**18**	IAmb	IAmb	09 34 10.3	
	comp=Z,69nm,0.8s								
F28M	**Old Crow**	**77.29**	**18**	P	**P**	**09 34 09.2**	**+0.9**
	baz=314,SNR=76								
F28M				S	**S**	**09 43 57.0**	**-0.6**
	baz=314								
G27K	**Doyon Strip**	**77.33**	**19**	P	**P**	**09 34 09.6**	**+1.0**
	baz=312,SNR=68								
PLK4	**Peulik 4**	**77.35**	**31**	IAMs_20	IAMs_20	10 11 18.7	
	comp=Z,1µm,18.0s								
Q18K	**Karcunai Hardscr**	**77.41**	**30**	P	**P**	**09 34 08.4**	**-0.9**
	baz=303,SNR=8.8								
Q18K				S	**S**	**09 43 54.2**	**-5.2**
	baz=303								
TAM	**Tamanrasset**	**77.47**	**289**	IAmb	IAmb	09 34 13.2	
	comp=Z,48nm,0.6s								
CMSA	**Cobar Meteorol**	**77.49**	**136**	P	**P**	**09 34 10.4**	**+0.5**
	comp=Z,40nm,1.0s								
CMSA	**Cobar Meteorol**	**77.49**	**136**	P	**P**	**09 34 11.0**	**+1.1**
J25K	**Salcha River,**	**77.61**	**22**	IAMs_20	IAMs_20	10 11 30.3	
	comp=Z,1µm,19.0s								
J25K	**Salcha River,**	**77.61**	**22**	P	**P**	**09 34 09.9**	**-0.3**
	baz=310,SNR=64								
J25K				S	**S**	**09 43 58.6**	**-2.7**
	baz=310								
P19K	**Oil Pt**	**77.62**	**28**	IAMs_20	IAMs_20	10 12 17.8	
	comp=Z,1µm,18.0s								
P19K	**Oil Pt**	**77.62**	**28**	P	**P**	**09 34 10.1**	**-0.3**
	baz=304,SNR=9.2								
UPNV	**Upernavik**	**77.63**	**351**	*i* P	**P**	**09 34 09.0**	**-1.1**
O20K	**Slope Mountain**	**77.63**	**28**	P	**P**	**09 34 10.2**	**-0.2**
	baz=304								
M22K	**Willow**	**77.67**	**26**	IAMs_20	IAMs_20	10 11 05.9	
	comp=Z,1µm,18.0s								
M22K	**Willow**	**77.67**	**26**	P	**P**	**09 34 10.5**	**0.0**
	baz=306,SNR=32								
M22K				S	**S**	**09 43 59.9**	**-1.8**
	baz=306								
ESDC	**Sonseca Array**	**77.69**	**308**	P	**P**	**09 34 10.8**	**-0.4**
ESDC	**Sonseca Array**	**77.69**	**308**	P	**P**	**09 34 10.9**	**-0.2**
	comp=Z,35nm,0.9s,baz=53,slow=6.2,SNR=173								
ESDC				PP	**PP**	**09 37 07.0**	**+1.0**
	comp=Z,8.0nm,0.9s,baz=55,slow=8.2,SNR=5.1								
ESDC				LR	LR	10 14 09.0	
	comp=Z,976nm,19.2s,baz=50,slow=40								
	comp=Z,35nm,0.9s								
H27K	**Steamboat Moun**	**77.76**	**20**	IAmb	IAmb	09 34 13.4	
	comp=Z,107nm,0.9s								
H27K	**Steamboat Moun**	**77.76**	**20**	P	**P**	**09 34 12.3**	**+1.3**
	baz=312,SNR=159								
H27K				S	**S**	**09 44 02.9**	**+0.1**
	baz=312								
RES	**Resolute Bay**	**77.81**	**2**	LR	LR	10 10 43.0	
	comp=Z,677nm,19.4s,baz=358,slow=37								
CAPN	**Captain Cook N**	**77.84**	**27**	P	**P**	**09 34 12.6**	**+1.2**
	baz=305								
Q19K	**Cape Douglas,**	**77.85**	**29**	IAMs_20	IAMs_20	10 12 38.9	
	comp=Z,1µm,18.0s								
Q19K	**Cape Douglas,**	**77.85**	**29**	P	**P**	**09 34 10.5**	**-1.1**
	baz=304								
I26K	**Coal Creek Min**	**77.88**	**21**	IAmb	IAmb	09 34 13.8	
	comp=Z,102nm,0.8s								
I26K				IAMs_20	IAMs_20	10 12 37.3	
	comp=Z,1µm,22.0s								
I26K	**Coal Creek Min**	**77.88**	**21**	P	**P**	**09 34 12.7**	**+1.1**
	baz=311								
I26K				S	**S**	**09 44 03.2**	**-0.8**
	baz=311								
FIS	**Fire Island**	**77.99**	**26**	IAMs_20	IAMs_20	10 11 08.4	
	comp=Z,2µm,22.0s								
K24K	**Donnelly Dome**	**77.99**	**23**	P	**P**	**09 34 12.6**	**+0.2**
K24K	**Donnelly Dome**	**77.99**	**23**	P	**P**	**09 34 12.5**	**+0.2**
	baz=309,SNR=113								
K24K				S	**S**	**09 44 02.9**	**-2.4**
	baz=309								
PAB	**San Pablo**	**78.02**	**308**	P	**P**	**09 34 13.2**	**+0.3**
PAB	**San Pablo**	**78.02**	**308**	P	**P**	**09 34 13.3**	**+0.3**
PAB				pmax	pmax		
	comp=Z,34nm,1.1s								
GHO	**Glory Hole Cre**	**78.11**	**25**	IAmb	IAmb	09 34 17.4	
	comp=Z,47nm,0.8s								
GHO				IAMs_20	IAMs_20	10 12 17.6	
	comp=Z,1µm,18.0s								
PMR	**Palmer**	**78.14**	**26**	IAmb	IAmb	09 34 14.4	
	comp=Z,86nm,0.8s								
PMR	**Palmer**	**78.14**	**26**	P	**P**	**09 34 13.1**	**0.0**
PMR	**Palmer**	**78.14**	**26**	P	**P**	**09 34 13.4**	**+0.3**
	baz=307,SNR=56								
PMR				S	**S**	**09 44 04.7**	**-2.2**
	baz=307								
I27K	**Kandik River**	**78.16**	**20**	P	**P**	**09 34 14.8**	**+1.5**
	baz=313,SNR=255								
I27K				S	**S**	**09 44 06.2**	**-1.0**
	baz=313								
RC01	**Rabbit Creek A**	**78.21**	**26**	IAmb	IAmb	09 34 15.2	
	comp=Z,92nm,0.9s								
RC01	**Rabbit Creek A**	**78.21**	**26**	P	**P**	**09 34 13.8**	**+0.2**
	baz=306,SNR=45								
RC01				S	**S**	**09 44 05.3**	**-2.4**
	baz=306								
R18K	**Karluk**	**78.25**	**30**	P	**P**	**09 34 12.7**	**-1.1**
	baz=303								
J26L	**Joseph Creek**	**78.28**	**22**	P	**P**	**09 34 14.2**	**+0.2**
	baz=311,SNR=98								
J26L				S	**S**	**09 44 06.6**	**-2.0**
	baz=311								
HOM	**Homer**	**78.28**	**28**	P	**P**	**09 34 14.3**	**+0.3**
	baz=305								
G29M	**Pine Creek**	**78.29**	**18**	IAmb	IAmb	09 34 17.7	
	comp=Z,155nm,1.5s								
G29M	**Pine Creek**	**78.29**	**18**	P	**P**	**09 34 14.8**	**+0.8**
	baz=315,SNR=33								
G29M				S	**S**	**09 44 07.4**	**-1.1**
	baz=315								
RIDG	**Independent Ri**	**78.35**	**23**	P	**P**	**09 34 14.4**	**0.0**
	baz=310,SNR=44								
F30M	**Barrier River**	**78.39**	**17**	P	**P**	**09 34 15.5**	**+1.1**
	baz=317,SNR=97								
F30M				S	**S**	**09 44 07.4**	**-2.0**
	baz=317								
INK	**Inuvik**	**78.43**	**16**	P	**P**	**09 34 15.1**	**+0.5**
	comp=Z,109nm,0.8s,baz=335,slow=6.6,SNR=319								
INK				LR	LR	10 14 05.5	
	comp=Z,400nm,20.4s,baz=292,slow=40								
	comp=Z,109nm,0.8s								
INK	**Inuvik**	**78.43**	**16**	P	**P**	**09 34 15.2**	**+0.6**
	baz=319,SNR=185								
INK				S	**S**	**09 44 07.4**	**-2.4**
	baz=319								
SCRK	**Sand Creek**	**78.48**	**22**	IAMs_20	IAMs_20	10 12 05.3	
	comp=Z,1µm,18.0s								
SCRK	**Sand Creek**	**78.48**	**22**	P	**P**	**09 34 15.8**	**+0.6**
	baz=311,SNR=104								
SCRK				S	**S**	**09 44 08.7**	**-2.2**
	baz=311								
KNK	**Knik Glacier**	**78.51**	**25**	IAmb	IAmb	09 34 16.9	
	comp=Z,88nm,0.8s								
KNK	**Knik Glacier**	**78.51**	**25**	P	**P**	**09 34 15.8**	**+0.6**
	baz=308,SNR=22								
KNK				S	**S**	**09 44 09.5**	**-1.4**
	baz=308								
CNPM	**China Poot**	**78.53**	**28**	IAmb	IAmb	09 34 18.2	
	comp=Z,44nm,0.8s								
CNPM				IAMs_20	IAMs_20	10 12 39.7	
	comp=Z,964nm,18.0s								
BRLK	**Bradley Lake**	**78.53**	**28**	IAmb	IAmb	09 34 16.3	
	comp=Z,96nm,0.9s								
M23K	**Glacier View**	**78.55**	**25**	P	**P**	**09 34 16.2**	**+0.7**
	baz=308,SNR=26								
M23K				S	**S**	**09 44 08.8**	**-2.6**
	baz=308								
Q20K	**Shuyak Island**	**78.57**	**29**	P	**P**	**09 34 15.7**	**+0.2**
	baz=305								
O22K	**Cooper Landing**	**78.58**	**27**	IAmb	IAmb	09 34 35.9	
	comp=Z,71nm,0.7s								
O22K	**Cooper Landing**	**78.58**	**27**	P	**P**	**09 34 15.5**	**0.0**
	baz=307,SNR=10								
PAX	**Paxson**	**78.63**	**23**	IAMs_20	IAMs_20	10 12 16.2	
	comp=Z,1µm,18.0s								
PAX	**Paxson**	**78.63**	**23**	P	**P**	**09 34 16.3**	**+0.4**
	baz=310,SNR=38								
PAX				S	**S**	**09 44 09.5**	**-2.9**
	baz=310								
PBRG	**Braganca**	**78.65**	**311**	*e*P	**P**	**09 34 16.2**	**-0.2**
PBRG				*i* IAmb	IAmb	09 34 19.7	
	comp=Z,42nm,2.2s								
CHIR	**Chirikof Islan**	**78.66**	**32**	IAMs_20	IAMs_20	10 13 32.5	
	comp=Z,1µm,20.0s								
DOT	**Dot Lake**	**78.67**	**22**	IAmb	IAmb	09 34 18.5	
	comp=Z,52nm,0.9s								
DOT				IAMs_20	IAMs_20	10 12 02.3	
	comp=Z,1µm,18.0s								
SCM	**Sheep Creek Mo**	**78.67**	**25**	P	**P**	**09 34 16.8**	**+0.6**
	baz=308,SNR=38								
SCM				S	**S**	**09 44 11.1**	**-1.7**
	baz=308								
H29M	**Whitestone**	**78.69**	**19**	IAmb	IAmb	09 34 17.8	
	comp=Z,83nm,0.9s								
H29M				IAMs_20	IAMs_20	10 13 34.6	
	comp=Z,1µm,20.0s								
H29M	**Whitestone**	**78.69**	**19**	P	**P**	**09 34 16.8**	**+0.7**
	baz=315,SNR=58								
H29M				S	**S**	**09 44 09.5**	**-3.2**
	baz=315								
G30M	**tAoh Zraii Nji**	**78.73**	**18**	IAMs_20	IAMs_20	10 13 44.8	
	comp=Z,965nm,18.0s								
G30M	**tAoh Zraii Nji**	**78.73**	**18**	P	**P**	**09 34 16.7**	**+0.3**
	baz=317,SNR=228								
G30M				S	**S**	**09 44 11.9**	**-1.4**
	baz=317								
I28M	**Miner Creek**	**78.78**	**20**	P	**P**	**09 34 17.3**	**+0.6**
	baz=314,SNR=52								
PWL	**Port Wells**	**78.89**	**26**	IAmb	IAmb	09 34 18.9	
	comp=Z,101nm,0.8s								
PWL				IAMs_20	IAMs_20	10 11 55.3	
	comp=Z,1µm,18.0s								
PWL	**Port Wells**	**78.89**	**26**	P	**P**	**09 34 17.9**	**+0.6**
	baz=308,SNR=35								
PWL				S	**S**	**09 44 12.8**	**-2.3**
	baz=308								
SEW	**Seward**	**78.91**	**27**	IAMs_20	IAMs_20	10 11 47.8	
	comp=Z,1µm,19.0s								
SEW	**Seward**	**78.91**	**27**	P	**P**	**09 34 17.2**	**-0.1**
	baz=307,SNR=15								
SEW				S	**S**	**09 44 12.0**	**-3.2**
	baz=307								
M24K	**Tolsona, Glenn**	**78.93**	**24**	P	**P**	**09 34 18.8**	**+1.2**
	baz=309,SNR=31								
M24K				S	**S**	**09 44 13.2**	**-2.3**
	baz=309								
SII	**Sitkinak Islan**	**78.93**	**31**	P	**P**	**09 34 17.5**	**-0.1**
	baz=304								
ARPS	**Mount Arapiles**	**78.95**	**142**	P	**P**	**09 34 18.5**	**+0.7**
	comp=Z,22nm,1.1s								
KDAK	**Kodiak Island**	**78.96**	**30**	P	**P**	**09 34 17.8**	**0.0**
KDAK				IAmb	IAmb	09 34 18.2	
	comp=Z,45nm,0.8s								
KDAK	**Kodiak Island**	**78.96**	**30**	P	**P**	**09 34 17.5**	**-0.3**
	comp=Z,30nm,0.6s,baz=278,slow=3.1,SNR=58								
KDAK				LR	LR	10 12 11.0	
	comp=Z,677nm,18.5s,baz=299,slow=38								
	comp=Z,30nm,0.6s								
KDAK	**Kodiak Island**	**78.96**	**30***c*	*i* P	**P**	**09 34 17.4**	**-0.3**
KDAK				pmax	pmax	

G31M Satah River 79.29 17 P P 09 34 19.6 +0.3
baz=319,SNR=107
G31M S S 09 44 18.2 -0.8
baz=319
I29M Ogilvie Camp, 79.32 19 P P 09 34 19.6 -0.1
baz=315,SNR=37
L26K Log Cabin Wild 79.33 23 IAms_20 IAms_20 10 11 35.7
comp=Z,1µm,18.0s
L26K Log Cabin Wild 79.33 23 P P 09 34 20.6 +0.9
baz=312,SNR=26
GLI Glacier Island 79.36 25 IAms_20 IAms_20 10 12 02.6
comp=Z,1µm,18.0s
GLI Glacier Island 79.36 25 P P 09 34 20.2 +0.4
baz=309
KLU Klutina 79.41 25 IAms_20 IAms_20 10 12 40.9
comp=Z,1µm,21.0s
KLU Klutina 79.41 25 P P 09 34 21.3 +1.1
baz=310,SNR=83
KLU S S 09 44 19.6 -1.1
baz=310
PVRL Vila Real 79.54 311 eP P 09 34 21.7 +0.4
PVRL i IAmb IAmb 09 34 25.8
comp=Z,39nm,2.2s
PCAB Cabril 79.55 312 eP P 09 34 21.3 -0.1
PCAB i IAmb IAmb 09 34 22.2
comp=Z,71nm,0.8s
POLO Lamas de Olo 79.55 311 eP P 09 34 21.4 0.0
POLO i IAmb IAmb 09 34 41.0
comp=Z,14nm,1.7s
ANGG Ammassalik, Gr 79.57 341 IAms_20 IAms_20 10 13 29.5
comp=Z,1µm,20.0s
PGAV Gavieira, Arco 79.59 312 eP P 09 34 22.1 +0.4
PGAV i IAmb IAmb 09 34 25.0
comp=Z,58nm,2.5s
PGAV ePP PP 09 37 26.1 +4.2
FID Port Fidalgo 79.68 25 IAmb IAmb 09 34 23.4
comp=Z,58nm,0.9s
DIV Divide 79.70 25 IAmb IAmb 09 34 23.7
comp=Z,69nm,0.8s
DIV IAms_20 IAms_20 10 13 09.5
comp=Z,1µm,18.0s
POIN Pond Inlet 79.73 357 IAmb IAmb 09 34 23.1
comp=Z,93nm,0.9s
P23K Montague Islan 79.79 26 IAmb IAmb 09 34 24.5
comp=Z,96nm,1.0s
P23K IAms_20 IAms_20 10 12 32.1
comp=Z,1µm,21.0s
P23K Montague Islan 79.79 26 P P 09 34 23.0 +0.8
baz=309,SNR=20
L27K Beaver Creek, 79.82 22 P P 09 34 24.1 +1.7
baz=313,SNR=148
L27K S S 09 44 23.9 -1.0
baz=313
N25K Chitina, Valde 79.82 24 IAmb IAmb 09 34 24.9
comp=Z,113nm,0.8s
N25K Chitina, Valde 79.82 24 P P 09 34 23.9 +1.4
baz=311,SNR=85
N25K S S 09 44 23.9 -1.2
baz=311
BCAR Beaver Creek A 79.83 22 P P 09 34 23.9 +1.4
MTE Manteigas 79.83 310 IAmb IAmb 09 34 24.5
comp=Z,77nm,0.8s
MTE Manteigas 79.83 310 eP P 09 34 23.1 +0.2
MTE i IAmb IAmb 09 34 24.2
comp=Z,96nm,0.8s
MTE ePP PP 09 37 30.4 +6.5
MTE eS SKSac 09 44 40.3 +0.4
MTE eSS SS 09 49 37.4 +3.1
MTE eLQ LQ 09 57 03.7
MTE eLR LR 10 02 15.5
MTE i IAms_20 IAms_20 10 15 35.2
comp=Z,781nm,18.0s
MTE Manteigas 79.83 310 eP P 09 34 23.1 +0.2
M26K Nabesna, AK 79.87 23 IAmb IAmb 09 34 27.3
comp=Z,92nm,0.9s
M26K IAms_20 IAms_20 10 12 48.9
comp=Z,1µm,18.0s
M26K Nabesna, AK 79.87 23 P P 09 34 24.2 +1.5
baz=312,SNR=35
HIN Hinchinbrook I 79.89 26 IAmb IAmb 09 34 24.9
comp=Z,108nm,0.9s
ILULI Ilulissat 79.91 348 IAmb IAmb 09 34 23.4
comp=Z,70nm,0.9s
DAWY Dawson 79.91 21 P P 09 34 23.4 +0.5
baz=315,SNR=19
DAWY S S 09 44 22.7 -3.1
baz=315
PVIS Viseu 79.92 311 eP P 09 34 23.5 +0.1
I30M Mount Dempster 79.98 19 P P 09 34 23.7 +0.4
baz=317,SNR=114
ISOG Isortoq, Green 80.00 342 i P P 09 34 21.9 -1.3
J29N Klondike Camp 80.00 20 IAmb IAmb 09 34 25.5
comp=Z,82nm,0.8s
J29N Klondike Camp 80.00 20 P P 09 34 24.5 +1.2
baz=316,SNR=18
PCBR Castelo Branco 80.04 310 eP P 09 34 23.3 -0.7
PCBR i IAmb IAmb 09 34 25.4
comp=Z,79nm,0.9s
EYAK Cordova Ski Ar 80.08 25 IAmb IAmb 09 34 26.9
comp=Z,80nm,1.0s
EYAK Cordova Ski Ar 80.08 25 P P 09 34 24.9 +1.1
EYAK Cordova Ski Ar 80.08 25 P P 09 34 24.9 +1.1
baz=310,SNR=21
EYAK S S 09 44 25.5 -2.0
baz=310
H31M Peel River 80.12 18 IAmb IAmb 09 34 25.3
comp=Z,141nm,0.9s
H31M Peel River 80.12 18 P P 09 34 24.3 +0.4
baz=319,SNR=120
H31M S S 09 44 25.2 -2.7
baz=319
POGA Pongola 80.16 232 IAmb IAmb 09 34 27.0
comp=Z,59nm,0.8s
PMRV Marv??o 80.18 309 eP P 09 34 24.1 -0.6
PMRV i IAmb IAmb 09 34 25.6
comp=Z,57nm,0.8s
PMRV ePP PP 09 37 31.1 +4.4
PMRV eSS SS 09 49 42.4 +3.0
PMRV eLR LR 10 02 12.9
PMRV i IAms_20 IAms_20 10 16 50.1
comp=Z,893nm,18.0s
BMRM Bremner River 80.24 25 P P 09 34 25.8 +1.1
baz=311,SNR=88
BMRM S S 09 44 25.9 -3.5
baz=311
M27K Edge Creek, AK 80.28 23 IAmb IAmb 09 34 27.8
comp=Z,110nm,0.9s
M27K Edge Creek, AK 80.28 23 P P 09 34 26.7 +1.7
baz=313
M27K S S 09 44 27.8 -2.2
baz=313
J30M Hart River 80.47 19 P P 09 34 26.7 +0.7
baz=317,SNR=30
J30M S S 09 44 29.9 -2.0
baz=317
COI Coimbra 80.51 310 IAmb IAmb 09 34 27.4
comp=Z,67nm,0.8s
COI IAms_20 IAms_20 10 15 32.1
comp=Z,1µm,18.0s
COI Coimbra 80.51 310 eP P 09 34 27.0 +0.5
COI i IAmb IAmb 09 34 27.0
comp=Z,98nm,0.9s
PBAR Barrancos 80.51 308 eP P 09 34 26.4 -0.1
PBAR i IAmb IAmb 09 34 27.4
comp=Z,113nm,0.8s
MCARA McCarthy VSAT 80.54 24 P P 09 34 27.8 +1.6
baz=312,SNR=54
MCARA S S 09 44 30.8 -1.7
baz=312
Q23K Middleton Isla 80.56 26 P P 09 34 27.4 +1.1
baz=310
ARMA Armidale 80.57 131 P P 09 34 28.7 +1.8
PESTR Estremoz 80.57 309 eP P 09 34 26.7 -0.2
PESTR i IAmb IAmb 09 34 30.1
comp=Z,48nm,1.5s
BVCY Beaver Creek 80.59 22 P P 09 34 28.2 +1.7
baz=314,SNR=26
BVCY S S 09 44 32.9 -0.1
baz=314
RAGM Ragged Mountai 80.59 25 IAmb IAmb 09 34 29.0
comp=Z,70nm,1.0s
PSARD Sardoal 80.62 310 eP P 09 34 27.4 +0.2
PSARD i IAmb IAmb 09 34 28.1
comp=Z,148nm,0.8s
PCAS Casmilo, Conde 80.64 310 eP P 09 34 27.4 +0.2
PCAS i IAmb IAmb 09 34 29.5
comp=Z,51nm,2.2s

K29M Barlow Dome 80.65 20 IAms_20 IAms_20 10 13 53.5
comp=Z,1µm,19.0s
K29M Barlow Dome 80.65 20 P P 09 34 27.9 +1.0
baz=316,SNR=52
BRAT Ballarat 80.67 141 P P 09 34 28.8 +1.7
HMT Hamilton 80.78 25 IAmb IAmb 09 34 29.8
comp=Z,87nm,1.0s
HMT IAms_20 IAms_20 10 13 52.2
comp=Z,1µm,19.0s
PMTG Montargil 80.92 309 eP P 09 34 28.1 -0.6
PMTG i IAmb IAmb 09 34 29.7
comp=Z,63nm,1.1s
CRQM Cirque 80.92 24 IAmb IAmb 09 34 30.8
comp=Z,82nm,0.9s
CRQM IAms_20 IAms_20 10 13 42.2
comp=Z,1µm,18.0s
CRQE Cirque 80.94 24 P P 09 34 29.7 +1.2
baz=312,SNR=25
BERG Berg Lake 80.95 25 IAmb IAmb 09 34 30.8
comp=Z,83nm,0.9s
L29M L29M 80.99 21 IAmb IAmb 09 34 31.0
comp=Z,58nm,0.9s
L29M L29M 80.99 21 P P 09 34 29.9 +1.2
baz=316,SNR=21
L29M S S 09 44 37.3 +0.1
baz=316
EVO Evora 81.02 309 eP P 09 34 29.3 +0.1
EVO i IAmb IAmb 09 34 30.1
comp=Z,80nm,0.9s
TGL Tana Glacier 81.03 24 IAms_20 IAms_20 10 13 44.7
comp=Z,1µm,19.0s
SUCK Suckling Hills 81.14 25 IAmb IAmb 09 34 38.1
comp=Z,62nm,1.1s
PBEJ Beja 81.16 308 eP P 09 34 29.4 -0.6
PBEJ i IAmb IAmb 09 34 31.2
comp=Z,61nm,1.0s
YUK3 Moose Creek 81.17 23 P P 09 34 31.0 +1.1
baz=314,SNR=29
YUK3 S S 09 44 39.0 -0.5
baz=314
MDT Midelt 81.20 302 LR LR 10 15 17.6
comp=Z,369nm,20.6s,baz=47,slow=39
WAX Waxell Ridge 81.23 24 IAmb IAmb 09 34 32.7
comp=Z,81nm,0.8s
WAX IAms_20 IAms_20 10 13 51.0
comp=Z,1µm,19.0s
BARN Barnard Glacie 81.24 24 IAmb IAmb 09 34 33.0
comp=Z,85nm,0.8s
BGLC Bering Glacier 81.29 25 P P 09 34 31.9 +1.7
baz=312
ISLE Juniper Island 81.31 24 IAms_20 IAms_20 10 13 54.2
comp=Z,1µm,19.0s
MAYO Mayo, Yukon 81.33 20 P P 09 34 31.2 +0.8
baz=318,SNR=26
PVAQ Vaqueiros 81.35 308 eP P 09 34 31.0 0.0
PVAQ i IAmb IAmb 09 34 31.9
comp=Z,136nm,0.8s
PVAQ ePP PP 09 37 36.8 +0.4
PVAQ eS S 09 44 39.7 -2.0
PVAQ eLR LR 10 02 47.5
PVAQ i IAms_20 IAms_20 10 17 12.2
comp=Z,760nm,18.0s
M29M Somme Creek 81.36 22 P P 09 34 32.3 +1.5
baz=316,SNR=73
M29M S S 09 44 43.3 +2.0
baz=316
CTG Chitna Glacier 81.42 24 P P 09 34 32.8 +1.6
baz=313,SNR=68
CTGM Chitina Glacie 81.43 24 IAms_20 IAms_20 10 13 20.1
comp=Z,1µm,19.0s
GRNC Granite Creek 81.44 24 IAmb IAmb 09 34 33.8
comp=Z,85nm,0.9s
PCVE Castro Verde 81.46 308 eP P 09 34 31.4 -0.3
PCVE i IAmb IAmb 09 34 32.4
comp=Z,48nm,0.8s
MESJ Messejana 81.49 308 eP P 09 34 31.9 +0.1
MESJ ePP PP 09 37 37.8 +0.2
MESJ eS S 09 44 43.5 +0.3
MESJ IAms_20 IAms_20 10 15 36.5
comp=Z,1µm,21.6s
MESJ Messejana 81.49 308 IAmb IAmb 09 34 33.1
comp=Z,77nm,0.8s
MESJ Messejana 81.49 308 eP P 09 34 31.7 -0.1
MESJ i IAmb IAmb 09 34 32.9
comp=Z,100nm,0.8s
MESJ Messejana 81.49 308 eP P 09 34 31.9 +0.1
MESJ e 09 37 37.8
MESJ eS S 09 44 43.5 +0.3
PBDV Barranco-do-Ve 81.57 308 eP P 09 34 32.6 +0.4
PBDV i IAmb IAmb 09 34 33.9
comp=Z,139nm,0.9s
PARRA Arraiolos 81.59 309 eP P 09 34 28.0 -4.3
PARRA i IAmb IAmb 09 34 29.3
comp=Z,69nm,0.7s
LOGN Logan Glacier 81.64 24 IAmb IAmb 09 34 34.9
comp=Z,72nm,0.9s
LOGN IAms_20 IAms_20 10 13 34.8
comp=Z,1µm,19.0s
YAH Yahtse 81.69 24 IAms_20 IAms_20 10 14 07.2
comp=Z,1µm,20.0s
SFJD Kangerlussuaq 81.70 346 P P 09 34 32.5 +0.3
SFJD IAmb IAmb 09 34 32.8
comp=Z,103nm,0.8s
SFJD Kangerlussuaq 81.70 346 LR LR 10 15 56.2
comp=Z,1µm,19.1s,baz=23,slow=39
SFJD Kangerlussuaq 81.70 346 P P 09 34 32.6 +0.3
SFJD pmax pmax
comp=Z,103nm,0.9s
LIS Lisbon 81.72 309 eP P 09 34 33.1 +0.2
LIS Lisbon 81.72 309 eP P 09 34 33.1 +0.2
MESA MESA 81.74 24 P P 09 34 34.7 +1.8
baz=313,SNR=29
YUK8 Steele Glacier 81.75 23 P P 09 34 34.1 +1.1
baz=315,SNR=27
M30M Minto, Yukon 81.80 21 IAms_20 IAms_20 10 15 31.9
comp=Z,1µm,19.0s
M30M Minto, Yukon 81.80 21 P P 09 34 33.8 +0.8
baz=317,SNR=21
M30M S S 09 44 44.9 -0.7
baz=317
TABL Table Mountain 81.86 24 IAmb IAmb 09 34 50.9
comp=Z,77nm,1.0s
TABL IAms_20 IAms_20 10 16 56.5
comp=Z,1µm,18.0s
O28M Mount Upton 81.96 23 IAmb IAmb 09 34 38.0
comp=Z,44nm,0.8s
O28M IAms_20 IAms_20 10 14 09.3
comp=Z,1µm,19.0s
O28M Mount Upton 81.96 23 P P 09 34 35.5 +1.3
baz=314,SNR=19
O28M S S 09 44 45.8 -2.1
baz=314
PTEO Sao Teotonio 81.98 308 eP P 09 34 34.5 +0.1
PTEO i IAmb IAmb 09 34 38.9
comp=Z,91nm,2.5s
MORF Marmelete 82.05 308 eP P 09 34 34.9 +0.1
MORF IAms_20 IAms_20 10 17 07.7
comp=Z,1µm,17.5s
MORF Marmelete 82.05 308 IAmb IAmb 09 34 37.0
comp=Z,93nm,1.3s
MORF Marmelete 82.05 308 eP P 09 34 34.8 +0.1
MORF i IAmb IAmb 09 34 38.4
comp=Z,70nm,2.0s
MORF Marmelete 82.05 308 eP P 09 34 34.9 +0.1
CAN Canberra 82.08 137 P P 09 34 36.2 +1.4
LPHEP Lephephe 82.08 239 IAmb IAmb 09 34 37.8
comp=Z,111nm,1.6s
YUK4 Talbot Arm 82.09 22 P P 09 34 35.5 +0.8
baz=316,SNR=31
PFVI Vila Bisbo 82.25 308 eP P 09 34 36.2 +0.4
PFVI i IAmb IAmb 09 34 36.9
comp=Z,150nm,0.7s
PCA Pinnacle 82.41 24 IAmb IAmb 09 34 44.7
comp=Z,64nm,0.8s
PINM Pinnacle 82.42 24 P P 09 34 37.7 +1.4
baz=314,SNR=13
PINM S S 09 44 50.0 -2.1
baz=314
YUK6 Outpost Mounta 82.47 23 P P 09 34 38.2 +1.4
baz=316,SNR=23
YUK6 S S 09 44 51.9 -1.1
baz=316
N30M Aishikik Lake 82.52 22 IAmb IAmb 09 34 39.4
comp=Z,46nm,0.9s
N30M IAms_20 IAms_20 10 14 43.1
comp=Z,995nm,18.0s
N30M Aishikik Lake 82.52 22 P P 09 34 38.2 +1.4
baz=317,SNR=42
N30M S S 09 44 53.6 +0.4
baz=317
M31M Drury Creek, Y 82.83 20 IAmb IAmb 09 34 40.2
comp=Z,52nm,1.0s
M31M IAms_20 IAms_20 10 14 50.1
comp=Z,1µm,21.0s
M31M Drury Creek, Y 82.83 20 P P 09 34 39.0 +0.6
baz=319,SNR=60
HYT Haines Junctio 82.85 22 IAmb IAmb 09 34 41.4
comp=Z,69nm,0.8s
HYT Haines Junctio 82.85 22 P P 09 34 39.9 +1.3
baz=317,SNR=78
HYT S S 09 44 54.6 -2.0
baz=317
O29M Mount Kennedy 82.86 23 IAms_20 IAms_20 10 14 37.0
comp=Z,1µm,20.0s
O29M Mount Kennedy 82.86 23 P P 09 34 39.7 +1.0
baz=316,SNR=13
O29M S S 09 44 55.3 -1.4
baz=316
N31M Braeburn, Yuko 82.93 21 IAms_20 IAms_20 10 16 15.8
comp=Z,1µm,18.0s
N31M Braeburn, Yuko 82.93 21 P P 09 34 40.2 +1.3
baz=318,SNR=43
N31M S S 09 44 57.3 +0.1
baz=318
PNL Peninsula 83.02 24 P P 09 34 40.8 +1.4
PNL Peninsula 83.02 24 P P 09 34 40.9 +1.4
baz=315,SNR=17
PNL S S 09 44 58.0 -0.2
baz=315
ILON Igloolik, Nuna 83.19 358 IAmb IAmb 09 34 40.7
comp=Z,56nm,0.8s
LBTB Lobatse 83.21 237 LR LR 10 09 22.7
comp=Z,425nm,19.8s,baz=52,slow=34
O30N Mendenhall 83.36 22 IAmb IAmb 09 34 43.6
comp=Z,87nm,0.9s
O30N IAms_20 IAms_20 10 15 00.2
comp=Z,1µm,21.0s
O30N Mendenhall 83.36 22 P P 09 34 42.5 +1.4
baz=318,SNR=75
O30N S S 09 45 00.4 -1.2
baz=318
MMPY Sheldon Lake, 83.44 19 P P 09 34 43.0 +1.5
baz=322,SNR=69
P30M Million Dollar 83.55 23 P P 09 34 43.3 +1.2
baz=317
P30M S S 09 45 02.3 -1.2
baz=317
P29M Windy Craggy 83.64 23 IAmb IAmb 09 34 44.9
comp=Z,33nm,0.8s
P29M Windy Craggy 83.64 23 P P 09 34 43.4 +0.8
baz=316,SNR=16
P29M S S 09 45 02.6 -1.9
baz=316
QNGWA Qangwa 83.64 244 IAmb IAmb 09 34 45.7
comp=Z,40nm,0.9s
WHY Whitehorse 83.84 21 IAmb IAmb 09 34 45.4
comp=Z,68nm,0.9s
WHY Whitehorse 83.84 21 P P 09 34 44.4 +0.7
baz=319,SNR=25
WHY S S 09 45 04.3 -2.3
baz=319
N32M Quiet Lake 84.04 20 IAms_20 IAms_20 10 15 46.0
comp=Z,1µm,18.0s
N32M Quiet Lake 84.04 20 P P 09 34 45.3 +0.7
baz=320
N32M S SKSac 09 45 06.5 -1.0
baz=320
PLBC Pleasant Camp 84.24 23 P P 09 34 46.5 +0.9
baz=318,SNR=15
PLBC S SKSac 09 45 08.2 -0.4
baz=318
MAKGR Makgori 84.26 237 IAmb IAmb 09 34 49.0
comp=Z,76nm,1.4s
NUUK Nuuk 84.34 345 i P P 09 34 45.8 -0.2
GRTLG Ghanzi 84.58 243 IAmb IAmb 09 34 51.3
comp=Z,56nm,1.0s
SKAG Skagway 84.59 22 P P 09 34 48.9 +1.6
SKAG Skagway 84.59 22 P P 09 34 49.0 +1.6
baz=318,SNR=41
SKAG S SKSac 09 45 11.6 +0.7
baz=318
KGCAE Kacgae 84.60 241 IAmb IAmb 09 34 49.1
comp=Z,29nm,0.8s
P33M Teslin, Yukon 84.85 21 IAmb IAmb 09 34 50.6
comp=Z,39nm,0.8s
P33M IAms_20 IAms_20 10 17 24.4
comp=Z,1µm,19.0s
P33M Teslin, Yukon 84.85 21 P P 09 34 49.5 +0.8
baz=320,SNR=42
P33M S SKSac 09 45 14.0 +1.3
baz=320
TOA0 Torodi Ar. Sit 84.95 282 P P 09 34 50.5 +0.5
SNR=20
TORD Torodi Ar. Bea 84.95 282 P P 09 34 50.5 +0.5
TORD IAmb IAmb 09 34 52.2
comp=Z,63nm,0.9s
TORD Torodi Ar. Bea 84.95 282 P P 09 34 50.1 +0.2
comp=Z,74nm,0.8s,baz=41,slow=6.2,SNR=368
TORD PKKPbc PKKPbc 09 52 57.0 +0.4
comp=Z,1.6nm,0.8s,baz=303,slow=1.5,SNR=8.2
comp=Z,74nm,0.8s
WRGLY Wrigley 84.99 16 IAmb IAmb 09 34 50.9
comp=Z,58nm,0.9s
WRGLY Wrigley 84.99 16 P P 09 34 49.9 +0.7
baz=326,SNR=21
WRGLY S S 09 45 15.6 -2.0
baz=328
P32M Atlin 85.03 22 IAmb IAmb 09 34 52.1
comp=Z,53nm,0.9s
P32M IAms_20 IAms_20 10 17 16.5
comp=Z,1µm,19.0s
P32M Atlin 85.03 22 P P 09 34 51.0 +1.3
baz=320,SNR=28
P32M S S 09 45 16.4 -2.0
baz=320
TGTN Hyland Airport 85.16 18 P P 09 34 51.6 +1.3
baz=324,SNR=27
TGTN S S 09 45 17.2 -2.4
baz=324
R31K City Hall, Gus 85.24 23 P P 09 34 51.7 +1.1
baz=318
NRS Narsarsuaq 85.24 341 P P 09 34 50.8 +0.2
NRS IAmb IAmb 09 34 51.0
comp=Z,59nm,0.7s
NRS IAms_20 IAms_20 10 17 26.5
comp=Z,1µm,18.0s
NRS Narsarsuaq 85.24 341 P P 09 34 50.8 +0.2
NRS pmax pmax
comp=Z,59nm,0.7s
NRS Narsarsuaq 85.24 341 i P P 09 34 48.8 -1.7
S31K Pelican 85.40 24 IAmb IAmb 09 34 55.7
comp=Z,116nm,1.5s
S31K Pelican 85.40 24 P P 09 34 53.0 +1.5
baz=318
S31K S S 09 45 20.1 -1.8
baz=318
BOSA Boshof 85.50 235 P P 09 34 52.8 +0.3
BOSA IAmb IAmb 09 34 54.3
comp=Z,65nm,0.8s
BOSA Boshof 85.50 235 P P 09 34 52.5 0.0
comp=Z,59nm,0.9s,baz=54,slow=3.7,SNR=65
BOSA LR LR 10 10 06.1
comp=Z,610nm,21.1s,baz=44,slow=34
comp=Z,59nm,0.9s
BOSA Boshof 85.50 235 P P 09 34 52.8 +0.3
PHPEN Phepeng 85.53 238 IAmb IAmb 09 34 55.1
comp=Z,72nm,1.0s
R32K Eaglecrest 85.77 23 IAmb IAmb 09 34 56.9
comp=Z,57nm,1.1s
R32K IAms_20 IAms_20 10 16 25.9
comp=Z,1µm,18.0s
R32K Eaglecrest 85.77 23 P P 09 34 54.8 +1.5
baz=319,SNR=15
JIS Juneau Island 85.81 23 P P 09 34 54.8 +1.3
IVI Ivigtut 85.97 342 P P 09 34 54.3 +0.1
IVI IAmb IAmb 09 34 55.8
comp=Z,49nm,0.8s
IVI Ivigtut 85.97 342 i P P 09 34 52.8 -1.4
Q32M Nakina River 85.99 22 IAms_20 IAms_20 10 16 49.8
comp=Z,1µm,18.0s
Q32M Nakina River 85.99 22 P P 09 34 55.6 +1.0
baz=321,SNR=16
Q32M S S 09 45 25.1 -3.1
baz=321
R33M Jennings River 86.07 21 IAmb IAmb 09 34 57.3

	comp=Z,40nm,0.9s									
R33M	**Jennings River**	**86.07**	**21**	P	**P**			**09 34 56.1**	**+1.2**
	baz=322,SNR=40									
R33M				S	**S**			**09 45 27.1**	**-1.7**
	baz=322									
WTLY	**Watson Lake, Y**	**86.16**	**19**	IAmb	IAmb			09 34 56.7		
	comp=Z,36nm,0.9s									
WTLY	**Watson Lake, Y**	**86.16**	**19**	P	**P**			**09 34 55.7**	**+0.5**
	baz=324,SNR=22									
S32K	**Killisnoo**	**86.36**	**23**	P	**P**			**09 34 57.3**	**+1.2**
	baz=319									
TSUM	**Tsumeb**	**86.36**	**246**	P	**P**			**09 34 57.0**	**-0.1**
TSUM	**Tsumeb**	**86.36**	**246**	LR	LR			10 15 00.8		
	comp=Z,495nm,18.2s,baz=119,slow=37									
SIT	**Sitka**	**86.40**	**24**	IAmb	IAmb			09 34 59.9		
	comp=Z,42nm,1.0s									
SIT	**Sitka**	**86.40**	**24**	P	**P**			**09 34 58.1**	**+1.7**
SIT	**Sitka**	**86.40**	**24**	P	**P**			**09 34 57.9**	**+1.5**
	baz=319									
DZM	**Mont Dzumac**	**86.62**	**117**	*e*S	**S**			**09 45 36.2**	**+1.1**
	comp=Z,387nm,26.9s									
DZM				*e*SS	**SS**			**09 51 10.7**	**-6.0**
	comp=Z,345nm,30.4s									
DZM				*e*LQ	LQ			09 58 47.7		
	comp=Z,456nm,33.0s									
DZM				*e*LR	LR			10 02 20.6		
	comp=Z,804nm,31.1s									
DZM	**Mont Dzumac**	**86.62**	**117**	P	**P**			**09 34 58.9**	**+0.7**
	comp=Z,15nm,1.0s,baz=68,slow=12,SNR=4.0									
	comp=Z,15nm,1.0s									
DZM	**Mont Dzumac**	**86.62**	**117**	P	**P**			**09 35 00.9**	**+2.8**
DLBC	**Dease Lake**	**87.13**	**21**	LR	LR			10 17 39.6		
	comp=Z,105nm,19.4s,baz=298,slow=38									
DLBC	**Dease Lake**	**87.13**	**21**	P	**P**			**09 35 01.4**	**+1.3**
	baz=323,SNR=30									
S34M	**Telegraph Cree**	**87.19**	**22**	IAmb	IAmb			09 35 04.0		
	comp=Z,65nm,1.1s									
S34M	**Telegraph Cree**	**87.19**	**22**	P	**P**			**09 35 02.0**	**+1.7**
	baz=322,SNR=35									
GRHM	**Grahamstown, E**	**87.39**	**230**	P	**P**			**09 35 02.1**	**+0.5**
YKAW3	**Yellowknife Wh**	**87.47**	**12**	IAmb	IAmb			09 35 02.5		
	comp=Z,34nm,0.9s									
KOTAN	**Kotaneelee Air**	**87.48**	**17**	P	**P**			**09 35 02.5**	**+0.8**
	baz=328,SNR=8.5									
LIRD	**Liard River Hi**	**87.52**	**19**	P	**P**			**09 35 02.6**	**+0.7**
	baz=326,SNR=9.9									
YKA	**Yellowknife Ar**	**87.54**	**12**	P	**P**			**09 35 01.3**	**-0.5**
YKA	**Yellowknife Ar**	**87.54**	**12**	P	**P**			**09 35 01.4**	**-0.4**
	comp=Z,22nm,0.9s,baz=336,slow=5.5,SNR=49									
YKA				LR	LR			10 16 20.1		
	comp=Z,382nm,20.8s,baz=337,slow=37									
	comp=Z,22nm,0.9s									
YKAW1	**Yellowknife Wh**	**87.57**	**12**	IAmb	IAmb			09 35 03.3		
	comp=Z,40nm,0.9s									
FRB	**Frobisher Bay**	**87.73**	**352**	LR	LR			10 18 40.1		
	comp=Z,802nm,21.4s,baz=24,slow=39									
U33K	**Whale Pass**	**87.91**	**24**	P	**P**			**09 35 04.8**	**+1.1**
	baz=320									
WRAK	**Wrangell Islan**	**87.95**	**23**	IAMs_20	IAMs_20			10 17 42.6		
	comp=Z,1µm,18.0s									
WRAK	**Wrangell Islan**	**87.95**	**23**	IAmb	IAmb			09 35 07.2		
	comp=Z,36nm,1.1s									
WRAK	**Wrangell Islan**	**87.95**	**23**	P	**P**			**09 35 05.3**	**+1.3**
	baz=321,SNR=7.4									
T35M	**Bob Quinn**	**88.22**	**22**	IAmb	IAmb			09 35 08.2		
	comp=Z,38nm,1.1s									
T35M	**Bob Quinn**	**88.22**	**22**	P	**P**			**09 35 06.9**	**+1.6**
	baz=323,SNR=14									
TOAD	**Toad River Com**	**88.23**	**19**	P	**P**			**09 35 05.7**	**+0.4**
	baz=327,SNR=45									
CRAG	**Craig**	**88.41**	**24**	P	**P**			**09 35 07.1**	**+1.0**
	baz=320									
PMAR	**Madeira**	**90.21**	**307**	*e*P	**P**			**09 35 16.6**	**+1.3**
PMAR				*i* IAmb	IAmb			09 35 16.9		
	comp=Z,240nm,1.1s									
PMOZ	**Porto Moniz, M**	**90.35**	**308**	*e*P	**P**			**09 35 17.2**	**+1.3**
BART	**Pico Bartolome**	**92.75**	**316**	*e*PP	PP			09 39 16.6	+8.4
BBB	**Bella Bella**	**92.83**	**24**	P	**P**			**09 35 26.1**	**-0.7**
	comp=Z,16nm,1.0s,baz=327,slow=6.9,SNR=3.5									
BBB				LR	LR			10 19 05.3		
	comp=Z,412nm,21.3s,baz=330,slow=37									
	comp=Z,16nm,1.0s									
PSMN	**Pico do Norte,**	**93.16**	**315**	*e*P	P			09 35 35.8	+7.1	
PSMN				*i* IAmb	IAmb			09 36 15.6		
	comp=Z,62nm,1.7s									
PSMN				*e*PP	**PP**			**09 39 17.5**	**+6.1**	
PSMA	**Santa Maria**	**93.20**	**315**	*e*P	P			09 35 41.2	+12	
PSMA				*i* IAmb	IAmb			09 36 35.8		
	comp=Z,69nm,1.8s									
PSMA				*e*PP	PP			09 39 02.4	-9.4	
DBIC	**Dimbokro**	**93.66**	**279**	IAmb	IAmb			09 35 33.8		
	comp=Z,89nm,2.0s									
DBIC	**Dimbokro**	**93.66**	**279**	P	**P**			**09 35 31.2**	**-0.1**	
	comp=Z,11nm,0.9s,baz=83,slow=4.5,SNR=12									
DBIC				PP	**PP**			**09 39 17.3**	**+1.1**	
	comp=Z,6.3nm,0.9s,baz=105,slow=9.6,SNR=3.2									
DBIC				LR	LR			10 22 13.6		
	comp=Z,999nm,18.8s,baz=72,slow=38									
	comp=Z,11nm,0.9s									
ROSA	**Rosais**	**94.02**	**318**	*e*P	P			09 35 40.7	+8.1	
ROSA				*i* IAmb	IAmb			09 36 06.3		
	comp=Z,148nm,1.3s									
ROSA				*e*PP	**PP**			**09 39 25.6**	**+7.5**	
PICO	**Pico**	**94.27**	**318**	*e*PP	PP			09 39 28.0	+7.9	
PCAN	**Candelaria**	**94.33**	**318**	*e*P	P			09 35 47.5	+13	
PCAN				*i* IAmb	IAmb			09 35 58.9		
	comp=Z,162nm,1.4s									
PCED	**Cedros**	**94.35**	**318**	*e*P	P			09 35 40.2	+6.1	
PCED				*i* IAmb	IAmb			09 36 17.5		
	comp=Z,105nm,2.6s									
CALA	**Caldeira**	**94.39**	**318**	*e*PP	PP			09 39 33.5	+13	
SCHQ	**Schefferville**	**96.01**	**348**	IAmb	IAmb			09 35 41.7		
	comp=Z,25nm,0.8s									
SCHQ	**Schefferville**	**96.01**	**348**	P	**P**			**09 35 40.7**	**-0.7**	
	comp=Z,25nm,0.7s,baz=32,slow=4.6,SNR=32									
SCHQ				PKKPbc	**PKKPbc**			**09 52 29.8**	**-0.2**	
	comp=Z,3.2nm,1.0s,baz=216,slow=4.2,SNR=5.7									
SCHQ				LR	LR			10 22 49.6		
	comp=Z,1µm,21.0s,baz=17,slow=38									
	comp=Z,25nm,0.7s									
FFC	**Flin Flon**	**97.00**	**9**	P	**P**			**09 35 45.5**	**-0.3**	
FFC				IAmb	IAmb			09 35 47.0		
	comp=Z,16nm,0.9s									
FFC	**Flin Flon**	**97.00**	**9**	P	**P**			**09 35 45.5**	**-0.3**	
FFC				pmax	pmax					
	comp=Z,17nm,0.9s									
MAW	**Mawson**	**97.56**	**191**	LR	LR			10 15 59.5		
	comp=Z,361nm,19.9s,baz=14,slow=33									
D05A	**Enumclaw**	**99.19**	**23**	IAmb	IAmb			09 35 59.2		
	comp=Z,37nm,1.5s									
BBTS	**Babate**	**99.66**	**292**	LR	LR			10 28 16.9		
	comp=Z,806nm,19.2s,baz=65,slow=40									
NEW	**Newport**	**99.82**	**20**	IAMs_20	IAMs_20			10 25 22.4		
	comp=Z,956nm,18.0s									
NEW	**Newport**	**99.82**	**20**	LR	LR			10 25 33.2		
	comp=Z,977nm,18.6s,baz=330,slow=38									
HAWA	**Hanford**	**100.72**	**22**	IAMs_20	IAMs_20			10 24 43.2		
	comp=Z,760nm,18.0s									
EGMT	**Eagleton**	**102.01**	**15**	IAMs_20	IAMs_20			10 28 19.1		
	comp=Z,899nm,18.0s									
MSO	**Missoula**	**102.04**	**18**	IAMs_20	IAMs_20			10 27 02.1		
	comp=Z,1µm,20.0s									
DLMT	**Dillon**	**103.76**	**18**	IAMs_20	IAMs_20			10 29 02.6		
	comp=Z,717nm,20.0s									
SYO	**Syowa Base**	**103.82**	**197**	‖ *e*P	Pdiff	pPdif		09 36 21.0	+0.1	
D62A	**Allapoint, All**	**103.84**	**347**	IAMs_20	IAMs_20			10 27 54.8		
	comp=Z,970nm,19.0s									
LAO	**LASA Array**	**104.05**	**13**	IAMs_20	IAMs_20			10 29 35.0		
	comp=Z,747nm,19.0s									
E62A	**Clayton Lake**	**104.37**	**348**	IAMs_20	IAMs_20			10 28 22.0		
	comp=Z,902nm,20.0s									
EYMN	**Ely**	**104.67**	**3**	IAMs_20	IAMs_20			10 32 14.2		
	comp=Z,740nm,18.0s									
RLMT	**Red Lodge**	**104.85**	**16**	IAMs_20	IAMs_20			10 28 45.3		
	comp=Z,631nm,18.0s									
E28A	**Huff**	**105.14**	**10**	IAMs_20	IAMs_20			10 30 43.7		
	comp=Z,731nm,19.0s									
FXWY	**Fox Creek**	**105.78**	**18**	IAMs_20	IAMs_20			10 29 26.1		
	comp=Z,696nm,21.0s									
G62A	**West of Eustis**	**105.91**	**348**	IAMs_20	IAMs_20			10 29 16.7		
	comp=Z,859nm,19.0s									
TPAW	**Teton Pass**	**105.94**	**18**	IAMs_20	IAMs_20			10 29 41.2		
	comp=Z,742nm,21.0s									
E46A	**Sault Ste Mari**	**106.30**	**358**	IAMs_20	IAMs_20			10 30 56.5		
	comp=Z,685nm,19.0s									
F33A	**5 Mile Ranch,**	**106.41**	**7**	IAMs_20	IAMs_20			10 28 08.3		
	comp=Z,693nm,20.0s									
AHID	**Auburn Hatcher**	**106.57**	**18**	IAMs_20	IAMs_20			10 29 50.0		
	comp=Z,850nm,18.0s									
H62A	**Milan**	**106.65**	**348**	IAMs_20	IAMs_20			10 31 34.2		
	comp=Z,792nm,20.0s									
RSSD	**Black Hills**	**106.95**	**13**	IAMs_20	IAMs_20			10 31 28.7		
	comp=Z,790nm,18.0s									
BW06	**Boulder Array**	**106.98**	**17**	IAMs_20	IAMs_20			10 30 17.8		
	comp=Z,764nm,20.0s									
PDAR	**Pinedale Array**	**106.98**	**17**	PKiKP	**PKiKP**			**09 40 39.8**	**-0.7**	
	comp=Z,2.1nm,0.9s,baz=353,slow=0.8,SNR=7.6									
PDAR				PKKPbc	**PKKPbc**			**09 51 56.2**	**-2.2**	
	comp=Z,0.8nm,0.8s,baz=160,slow=4.7,SNR=5.9									
I63A	**Otisfield**	**107.05**	**348**	IAMs_20	IAMs_20			10 29 00.8		
	comp=Z,883nm,19.0s									
LBNH	**Lisbon**	**107.11**	**349**	IAMs_20	IAMs_20			10 28 55.4		
	comp=Z,873nm,20.0s									
ELK	**Elko**	**107.16**	**22**	IAMs_20	IAMs_20			10 31 20.8		
	comp=Z,667nm,19.0s									
LONY	**Lake Ozonia**	**107.17**	**351**	IAMs_20	IAMs_20			10 30 25.8		
	comp=Z,878nm,20.0s									
SPMN	**Marine on St.**	**107.31**	**4**	IAMs_20	IAMs_20			10 26 24.1		
	comp=Z,655nm,20.0s									
I62A	**Tamworth**	**107.36**	**348**	IAMs_20	IAMs_20			10 33 25.0		
	comp=Z,818nm,18.0s									
G40A	**Rib Lake**	**107.39**	**2**	IAMs_20	IAMs_20			10 27 39.4		
	comp=Z,732nm,21.0s									
HNH	**Hanover**	**107.69**	**349**	IAMs_20	IAMs_20			10 28 51.8		
	comp=Z,934nm,20.0s									
GLMI	**Grayling**	**107.85**	**358**	IAMs_20	IAMs_20			10 33 32.5		
	comp=Z,655nm,20.0s									
J61A	**Chester**	**108.09**	**349**	IAMs_20	IAMs_20			10 29 02.2		
	comp=Z,951nm,20.0s									
NVAR	**Mina Array Bea**	**108.13**	**25**	PKiKP	**PKiKP**			**09 40 42.3**	**-0.5**	
	comp=Z,2.1nm,0.8s,baz=306,slow=2.2,SNR=11									
NVAR				PP	**PP**			**09 41 06.0**	**+1.5**	
	comp=Z,3.7nm,1.0s,baz=323,slow=5.1,SNR=6.6									
NVAR				PKKPbc	**PKKPdf**			**09 52 01.8**	**-5.8**	
	comp=Z,0.4nm,0.7s,baz=116,slow=3.4,SNR=3.5									
H43A	**Windswept, Lux**	**108.24**	**0**	IAMs_20	IAMs_20			10 33 31.8		
	comp=Z,710nm,20.0s									
I37A	**Lemond, Waseca**	**108.47**	**5**	IAMs_20	IAMs_20			10 32 35.9		
	comp=Z,849nm,20.0s									
J57A	**Williamstown**	**108.55**	**351**	IAMs_20	IAMs_20			10 32 55.4		
	comp=Z,860nm,18.0s									
I49A	**Point Hope**	**108.66**	**357**	IAMs_20	IAMs_20			10 31 49.9		
	comp=Z,744nm,21.0s									
I45A	**Fountain**	**108.67**	**359**	IAMs_20	IAMs_20			10 29 46.2		
	comp=Z,787nm,19.0s									
K62A	**Royalston**	**108.69**	**348**	IAMs_20	IAMs_20			10 28 42.3		
	comp=Z,733nm,21.0s									
HRV	**Adam Dziewonsk**	**108.72**	**348**	IAMs_20	IAMs_20			10 29 25.1		
	comp=Z,850nm,20.0s									
TRY	**Troy**	**108.87**	**349**	IAMs_20	IAMs_20			10 30 10.0		
	comp=Z,936nm,21.0s									
K57A	**Scipio Center**	**109.29**	**352**	IAMs_20	IAMs_20			10 32 13.8		
	comp=Z,836nm,20.0s									
M65A	**Busby, Falmout**	**109.46**	**347**	IAMs_20	IAMs_20			10 28 36.6		
	comp=Z,912nm,21.0s									
BINY	**Binghamton**	**109.74**	**351**	IAMs_20	IAMs_20			10 32 16.8		
	comp=Z,873nm,20.0s									
JFWS	**Jewell Farm**	**109.74**	**2**	IAMs_20	IAMs_20			10 34 16.5		
	comp=Z,637nm,18.0s									
L56A	**Greenwood**	**110.00**	**352**	IAMs_20	IAMs_20			10 34 02.7		
	comp=Z,776nm,18.0s									
L34A	**Svendsen Farm,**	**110.23**	**7**	IAMs_20	IAMs_20			10 36 53.4		
	comp=Z,805nm,18.0s									
AAM	**Ann Arbor**	**110.33**	**357**	IAMs_20	IAMs_20			10 31 23.2		
	comp=Z,724nm,18.0s									
OGNE	**Ogallala**	**110.39**	**12**	IAMs_20	IAMs_20			10 30 08.9		
	comp=Z,668nm,20.0s									
L40A	**Anamosa**	**110.55**	**3**	IAMs_20	IAMs_20			10 29 27.9		
	comp=Z,731nm,21.0s									
BGNE	**Bede**	**110.56**	**9**	IAMs_20	IAMs_20			10 33 39.2		
	comp=Z,869nm,20.0s									
N62A	**Caumsett State**	**110.59**	**349**	IAMs_20	IAMs_20			10 29 13.5		
	comp=Z,973nm,22.0s									
L42A	**Oliver, Polo**	**110.67**	**2**	IAMs_20	IAMs_20			10 32 15.1		
	comp=Z,631nm,20.0s									
L46A	**Eue Claire**	**110.69**	**359**	IAMs_20	IAMs_20			10 33 24.7		
	comp=Z,712nm,20.0s									
M57A	**Sunshine Farm,**	**110.74**	**352**	IAMs_20	IAMs_20			10 34 33.2		
	comp=Z,777nm,18.0s									
HQIL	**Hanson Quary C**	**110.91**	**1**	IAMs_20	IAMs_20			10 34 24.4		
	comp=Z,926nm,20.0s									
M52A	**Chesterland**	**110.95**	**355**	IAMs_20	IAMs_20			10 37 28.8		
	comp=Z,701nm,19.0s									
M50A	**Fremont**	**111.20**	**357**	IAMs_20	IAMs_20			10 33 15.2		
	comp=Z,815nm,20.0s									
M44A	**Midewin, Midew**	**111.32**	**1**	IAMs_20	IAMs_20			10 34 37.3		
	comp=Z,811nm,19.0s									
SSPA	**Standing Stone**	**111.52**	**352**	IAMs_20	IAMs_20			10 34 48.9		
	comp=Z,789nm,18.0s									
N51A	**Ashland**	**111.64**	**356**	IAMs_20	IAMs_20			10 31 51.0		
	comp=Z,697nm,19.0s									
N53A	**Lisbon**	**111.64**	**355**	IAMs_20	IAMs_20			10 32 58.1		
	comp=Z,715nm,20.0s									
N38A	**Joes South For**	**111.69**	**5**	IAMs_20	IAMs_20			10 35 03.0		
	comp=Z,776nm,18.0s									
N49A	**Columbus Grove**	**111.73**	**358**	IAMs_20	IAMs_20			10 34 42.2		
	comp=Z,701nm,19.0s									
N47A	**Urbana**	**111.81**	**359**	IAMs_20	IAMs_20			10 33 24.4		
	comp=Z,702nm,20.0s									
N41A	**Harden Midland**	**111.92**	**3**	IAMs_20	IAMs_20			10 33 43.1		
	comp=Z,744nm,20.0s									
KSCO	**Kaye Shedlock'**	**112.15**	**13**	IAMs_20	IAMs_20			10 34 52.4		
	comp=Z,808nm,19.0s									
SFIN	**Lafayette**	**112.33**	**360**	IAMs_20	IAMs_20			10 33 06.1		
	comp=Z,737nm,20.0s									
ACSO	**Alum Creek Sta**	**112.36**	**356**	IAMs_20	IAMs_20			10 31 17.0		
	comp=Z,594nm,19.0s									
O52A	**Adamsville**	**112.41**	**356**	IAMs_20	IAMs_20			10 32 17.1		
	comp=Z,813nm,20.0s									
S22A	**4UR Ranch, Cre**	**112.41**	**17**	IAMs_20	IAMs_20			10 32 17.4		
	comp=Z,738nm,20.0s									
O48B	**Farmland**	**112.42**	**358**	IAMs_20	IAMs_20			10 33 14.6		
	comp=Z,702nm,20.0s									
VNDA	**Vanda**	**112.43**	**167**	PKiKP	**PKiKP**			**09 40 48.9**	**-0.3**	
	comp=Z,1.8nm,0.9s,baz=275,slow=3.7,SNR=5.5									
VNDA				PKKPbc	**PKKPbc**			**09 51 38.4**	**-3.0**	
	comp=Z,1.6nm,0.8s,baz=157,slow=1.9,SNR=8.4									
O49A	**Covington**	**112.47**	**358**	IAMs_20	IAMs_20			10 31 52.7		
	comp=Z,840nm,19.0s									
P57A	**Homestead Farm**	**112.67**	**352**	IAMs_20	IAMs_20			10 30 13.4		
	comp=Z,640nm,20.0s									
MCWV	**Mont Chateau**	**112.70**	**354**	IAMs_20	IAMs_20			10 36 16.0		
	comp=Z,813nm,18.0s									
P38A	**Dawn**	**112.83**	**5**	IAMs_20	IAMs_20			10 37 20.1		
	comp=Z,741nm,20.0s									
CBKS	**Cedar Bluff**	**112.86**	**11**	IAMs_20	IAMs_20			10 37 38.3		
	comp=Z,696nm,20.0s									
P40A	**Paris**	**113.03**	**4**	IAMs_20	IAMs_20			10 31 51.5		
	comp=Z,599nm,19.0s									
PFO	**Pinyon Flats O**	**113.07**	**26**	*i* PKiKP	**PKiKP**			**09 40 51.0**	**-1.1**	
P46A	**Rosedale**	**113.09**	**360**	IAMs_20	IAMs_20			10 33 39.2		
	comp=Z,712nm,20.0s									
P48A	**Milroy**	**113.23**	**358**	IAMs_20	IAMs_20			10 29 29.8		
	comp=Z,801nm,21.0s									
Q56A	**Snyder Ridge**	**113.24**	**353**	IAMs_20	IAMs_20			10 32 58.4		
	comp=Z,677nm,20.0s									
R32A	**Long Quarter,**	**113.41**	**10**	IAMs_20	IAMs_20			10 37 53.7		
	comp=Z,790nm,18.0s									
T25A	**Trinidad**	**113.57**	**15**	IAMs_20	IAMs_20			10 32 52.1		
	comp=Z,620nm,21.0s									
Q51A	**Peebles**	**113.58**	**357**	IAMs_20	IAMs_20			10 35 58.3		
	comp=Z,617nm,20.0s									
Q52A	**Bidwell**	**113.58**	**356**	IAMs_20	IAMs_20			10 32 14.3		
	comp=Z,724nm,21.0s									
Q44A	**Meyer Farm, Va**	**113.78**	**2**	IAMs_20	IAMs_20			10 35 26.5		
	comp=Z,745nm,20.0s									
R55A	**Marlinton**	**114.09**	**354**	IAMs_20	IAMs_20			10 33 05.8		
	comp=Z,798nm,20.0s									
R58B	**Mineral**	**114.16**	**352**	IAMs_20	IAMs_20			10 33 16.7		
	comp=Z,779nm,21.0s									
WCI	**Wyandotte Cave**	**114.47**	**359**	IAMs_20	IAMs_20			10 36 28.8		
	comp=Z,736nm,18.0s									
S57A	**Dark Hollow, R**	**114.48**	**353**	IAMs_20	IAMs_20			10 35 39.3		
	comp=Z,718nm,20.0s									
S39A	**Bolivar**	**114.76**	**5**	IAMs_20	IAMs_20			10 30 56.8		
	comp=Z,718nm,20.0s									
S51A	**Beattyville**	**114.98**	**357**	IAMs_20	IAMs_20			10 36 49.2		
	comp=Z,642nm,20.0s									
S44A	**Carbondale**	**114.98**	**2**	IAMs_20	IAMs_20			10 36 32.3		
	comp=Z,651nm,20.0s									
ANMO	**Albuquerque**	**115.15**	**17**	*d* PKiKP	**PKPdf**			**09 40 56.3**	**+0.1**	
ANMO				MLR	MLR					
	comp=Z,361nm,18.0s									
BLA	**Blacksburg**	**115.18**	**354**	IAMs_20	IAMs_20			10 33 35.6		
	comp=Z,762nm,19.0s									
OK038	**West end E0370**	**115.31**	**10**	IAMs_20	IAMs_20			10 40 21.9		
	comp=Z,668nm,19.0s									
T50A	**Nancy**	**115.64**	**358**	IAMs_20	IAMs_20			10 33 05.8		
	comp=Z,740nm,20.0s									
T45A	**Paducah**	**115.67**	**1**	IAMs_20	IAMs_20			10 32 04.6		
	comp=Z,788nm,22.0s									
T47A	**Sharon Grove**	**115.72**	**360**	IAMs_20	IAMs_20			10 37 19.7		
	comp=Z,571nm,18.0s									
U38A	**Gravette**	**115.91**	**6**		**PKiKP**			**09 40 56.2**	**-1.1**	
U54A	**Nelsons Funny**	**115.98**	**355**	IAMs_20	IAMs_20			10 36 39.8		
	comp=Z,818nm,20.0s									
TZTN	**Tazewell**	**116.06**	**357**	IAMs_20	IAMs_20			10 37 52.0		
	comp=Z,711nm,20.0s									
TROLL	**Troll, Antarti**	**116.09**	**200**	⇑P	**PKPdf**			**09 40 56.6**	**0.0**	
	comp=Z,213nm,0.8s									
OK029	**Liberty Lake**	**116.17**	**9**	IAMs_20	IAMs_20			10 40 30.7		
	comp=Z,699nm,20.0s									
TUL3	**Leonard**	**116.28**	**8**	IAMs_20	IAMs_20			10 38 27.5		
	comp=Z,680nm,19.0s									
AMTX	**Amarillo**	**116.33**	**13**	IAMs_20	IAMs_20			10 40 48.1		
	comp=Z,649nm,19.0s									
V58A	**Windy Hill, Pi**	**116.44**	**353**	IAMs_20	IAMs_20			10 34 36.2		
	comp=Z,645nm,20.0s									
WVT	**Waverly**	**116.57**	**1**	IAMs_20	IAMs_20			10 40 40.3		
	comp=Z,613nm,20.0s									
BBSR	**BB Station**	**116.59**	**339**	IAMs_20	IAMs_20			10 32 23.0		
	comp=Z,667nm,21.0s									
V55A	**Taylorsville**	**116.59**	**355**	IAMs_20	IAMs_20			10 34 08.1		
	comp=Z,803nm,20.0s									
V53A	**Saluda**	**116.89**	**356**	IAMs_20	IAMs_20			10 35 04.0		
	comp=Z,738nm,19.0s									
V48A	**Smith Brothers**	**116.96**	**360**	IAMs_20	IAMs_20			10 38 12.6		
	comp=Z,658nm,19.0s									
MSTX	**Muleshoe**	**116.98**	**14**	IAMs_20	IAMs_20			10 41 23.3		
	comp=Z,555nm,18.0s									
WMOK	**Wichita Mounta**	**117.00**	**11**	IAMs_20	IAMs_20			10 38 16.9		
	comp=Z,685nm,21.0s									
W57A	**Gilead**	**117.17**	**353**	IAMs_20	IAMs_20			10 35 15.5		
	comp=Z,792nm,19.0s									
KMSC	**Kings Mountain**	**117.31**	**355**	IAMs_20	IAMs_20			10 37 27.0		
	comp=Z,718nm,19.0s									
QSPA	**South Pole Qui**	**117.44**	**180**	PKP	**PKPdf**			**09 40 58.9**	**-0.4**	
	comp=Z,5.5nm,0.8s,baz=287,slow=1.1,SNR=23									
QSPA				PKKPbc	**PKKPbc**			**09 51 26.4**	**+1.9**	
	comp=Z,5.6nm,0.8s,baz=130,slow=1.4,SNR=17									
QSPA				SKKPbc	SKKPbc			09 55 09.0	-4.9	
	comp=Z,4.1nm,1.0s,baz=128,slow=2.6,SNR=6.1									
X58A	**Rowland**	**117.69**	**353**	IAMs_20	IAMs_20			10 36 53.3		
	comp=Z,704nm,18.0s									
SNAA	**Sanae**	**117.72**	**201**	⇑P	**PKPdf**			**09 40 58.8**	**-0.8**	
SNAA	**Sanae**	**117.72**	**201**		**PKPdf**			**09 40 58.4**	**-1.2**	
SNAA	**Sanae**	**117.72**	**201**	PKP	**PKPdf**			**09 40 58.9**	**-0.8**	
	comp=Z,3.4nm,

FRTB	**Fartura**	**145.82 269**	*e*P		**PKPbc**	09 41 54.0	-0.1
VILC	**Villavicencio,**	**145.84 335**	P		**PKPdf**	09 41 53.3	-0.7
PLMC	**San Jos del P**	**145.96 340**	P		**PKPdf**	09 41 53.7	-0.4
ANIL	**Santa Ana**	**146.08 339**	P		**PKPdf**	09 41 54.3	-0.3
CLDB	**Colider**	**146.11 293**	*e*P		**PKPdf**	09 41 54.7	+0.4
PCMB	**Pacaembu**	**146.84 272**	*e*P		**PKPdf**	09 41 55.7	+0.4
LDASE	**Londrina, Braz**	**147.21 269**	*e*P		**PKPdf**	09 41 56.3	+0.4
PDRB	**Porto dos Gac**	**147.28 293**	*e*P		**PKPdf**	09 41 56.5	+0.3
TEFE	**Tefe**	**147.74 314**	*e*P		**PKPdf**	09 41 57.6	+0.6
CNLB	**Canela**	**148.06 258**	*e*P		**PKPdf**	09 41 57.5	+0.4
PTGB	**Pitanga**	**148.37 267**	*e*P		**PKPdf**	09 41 58.2	+0.3
SALV	**Santo Antonio**	**148.57 285**	*e*P		**PKPdf**	09 41 58.7	+0.5
FLOC	**Florencia**	**148.89 337**	PKPbc		**PKPbc**	09 42 02.6	-0.2
ITAB	**Concordia**	**148.91 262**	*e*P		**PKPdf**	09 41 59.6	+1.1
MG01	**Puerto William**	**149.23 202**	PKPdf		**PKPdf**	09 41 59.4	+1.3
MG01					**PKiKP**	09 42 03.6	+0.1
MG01			PKPab		**pPKPbc**	09 42 07.6	-0.1
AQDB	**Aquidauana**	**150.40 277**	PKPbc		**PKPbc**	09 42 05.9	-0.4
PLTB	**Pedras Altas**	**150.58 254**			**PKPbc**	09 42 06.2	-0.3
PLTB			PKPab		**PKPab**	09 42 13.5	+0.2
PLTB	**Pedras Altas**	**150.58 254**	*e*P		**PKPdf**	09 42 01.4	+0.3
VILB	**Vilhena**	**150.83 295**	*e*P		**PKPdf**	09 42 02.3	+0.4
OTAV	**Otavalo**	**151.03 342**	*e*P		**PKPdf**	09 42 02.6	-0.3
MG03	**Isla Dawson**	**151.05 201**			**PKiKP**	09 42 07.5	+0.2
MG03					**PKPab**	09 42 15.3	+1.0
PTLB	**Pontes e Lacer**	**151.27 289**	PKPbc		**PKPbc**	09 42 08.4	0.0
PTLB	**Pontes e Lacer**	**151.27 289**	*e*P		**PKPdf**	09 42 02.7	+0.2
BDQN	**Bodoquena, MS**	**151.31 278**	*e*P		**PKPdf**	09 42 02.9	+0.4
TBTG	**Tabatinga, AM**	**151.42 322**	*e*P		**PKPdf**	09 42 03.4	+0.5
BBSD	**Serra de San D**	**153.34 287**	*e*P		**PKPdf**	09 42 05.5	-0.1
CPUP	**Villa Florida**	**153.35 266**	PKP		**PKPdf**	09 42 05.2	-0.2
	comp=Z,2.7nm,0.8s,baz=304,slow=1.9,SNR=16						
CPUP			PKPbc		**sPKPdf**	09 42 11.6	-0.8
	comp=Z,7.8nm,0.7s,baz=295,slow=2.6,SNR=34						
TRQA	**Tornquist**	**156.45 237**			**PKPdf**	09 42 09.6	+0.3
TRQA					**PKPab**	09 42 37.9	0.0
TRQA	**Tornquist**	**156.45 237**	PKP2		**PKPab**	09 42 37.9	0.0
LPAZ	**La Paz**	**159.03 299**	PKP		**PKPdf**	09 42 13.2	-0.6
	comp=Z,6.2nm,0.8s,baz=102,slow=2.0,SNR=20						
LPAZ			PKPab		**PKPab**	09 42 48.8	-1.5
	comp=Z,9.0nm,0.9s,baz=70,slow=3.2,SNR=8.6						
LPAZ	**La Paz**	**159.03 299**	*e*P		**PKPdf**	09 42 13.6	-0.3
PLCA	**Paso Flores**	**161.05 222**	PKP		**PKPdf**	09 42 13.8	-0.9
	comp=Z,6.1nm,1.1s,baz=234,slow=6.7,SNR=3.0						
PLCA			PKPab		**PKPab**	09 42 56.1	-1.7
	comp=Z,9.6nm,0.8s,baz=115,slow=5.6,SNR=10						

*ASRS **19** 09:24:18.0±1.0,53.92N×86.61E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 19 09:23:31.7±3.1,53.92N×87.09E,h0km,mbtmp2.6/2, ML2.2/1,Error ellipse: s-maj=28.7km s-min=17.5km az=66.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**272**	I	I	09 31 00.0	
	baz=90,slow=326,SNR=2.8						
ZALV	**Zalesovo Beam**	**1.34**	**272**	Pg	Pg	09 23 56.1	-1.3
	0.6nm,0.3s,baz=91,slow=18,SNR=4.1						
ZALV				Lg	Lg	09 24 14.7	
	1.1nm,0.3s,baz=92,slow=26,SNR=7.3						
KURBB	**Kurchatov Arra**	**6.20**	**241**	Pn	Pn	09 25 05.5	+1.1
	0.1nm,0.3s,baz=57,slow=13,SNR=3.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.76**	**205**	Pn	Pn	09 25 26.8	+1.0
	0.1nm,0.3s,baz=24,slow=13,SNR=1.2						

*ISN **19** 09:26:07.8±1.2,34.56N×46.10E,h17km±7km,ML3.0*
*TEH **19** 09:26:08.0,34.50N×46.08E,h10km±73km*

ISC 19 09:26:07.9±1.2,34.52N±0.04×46.08E±0.03,h12km±13km, n11,σ1911/16,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.31**	**55**	Pg	**Pg**	**09 26 14.6**	**+0.3**
IDHR				Sg	**Sb**	**09 26 20.0**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.41**	**268**	Pg	**Pg**	**09 26 16.2**	**+0.3**
GLG1	**Gilan-e-Ghard**	**0.43**	**199**	Pg	**Pg**	**09 26 16.4**	**-0.1**
IGHG	**Ghaleghazi**	**0.45**	**115**	Pg	**Pb**	**09 26 17.3**	**-0.5**
KCHF	**Cheshme Sefid,**	**0.83**	**107**	Pg	**Pg**	**09 26 23.5**	**-0.4**
ILBA	**Ilam Banvizeh**	**0.90**	**173**	Pg	**Pg**	**09 26 25.2**	**-0.1**
IBDR	**Badra**	**1.41**	**185**	*e*Pg	**Pb**	**09 26 34.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**09 26 54.0**	**+0.6**
IBZA	**Bozab**	**1.47**	**92**	Pg	**Pg**	**09 26 36.7**	**+0.5**
IKRK	**Kirkuk**	**1.68**	**302**	*e*Pn	**Pb**	**09 26 38.0**	**-0.7**
IKRK				*e*Sn	**Sg**	**09 27 01.0**	**-0.8**
IKRK				AML	AML	09 27 06.6	
	comp=N,280nm,0.5s						
IKRK				AML	AML	09 27 08.5	
	comp=E,138nm,0.6s						
BHD	**Baghdad**	**1.89**	**229**	*e*Pn	**Pn**	**09 26 41.0**	**+1.1**
BHD				*e*Sn	**Sb**	**09 27 06.0**	**+0.2**
RAFI	**Al-Rafai**	**2.79**	**179**	*e*Pn	**Pn**	**09 26 54.0**	**+1.6**
RAFI				*e*Sn	**Sb**	**09 27 29.0**	**-2.8**

*NEIC **19** 09:26:43.5±1.0,36.073N±0.009×117.84W±0.01, h3km±2km,Error ellipse: s-maj=1.5km s-min=1.3km az=78.0*

PAS 19 09:26:43.9±1.1,36.074N±0.008×117.85W±0.01, h2km±2km,ML3.1/140,ML2.8/142(NEIC),Error ellipse: s-maj=1.4km s-min=1.2km az=75.0,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.04**	**353**		Pg	09 26 45.0	+0.1
MFS					Sg	09 26 46.1	+0.5
WRVM	**Rose V. Centra**	**0.07**	**207**		Pg	09 26 45.6	+0.2
WRVM					Sg	09 26 46.9	+0.5
WCSM	**Coso Springs S**	**0.08**	**126**		Pg	09 26 45.7	+0.2
WCSM					Sg	09 26 47.1	+0.4
JRC2	**Joshua Ridge**	**0.10**	**161**		Pg	09 26 47.7	+1.9
WVPM	**Volcano Peak E**	**0.13**	**168**		Pg	09 26 46.6	+0.2
WVPM					Sg	09 26 48.6	+0.5
WNMM	**Nine Mile Cany**	**0.23**	**191**		Pg	09 26 48.5	+0.1
WNMM					Sg	09 26 52.0	+0.6
TOW	**Tower One**	**0.27**	**165**		Pg	09 26 49.8	+0.6
TOW					Sg	09 26 54.4	+1.8
MPMC	**Manual Prospec**	**0.29**	**93**	Pg	Pg	09 26 53.4	+0.8
MPMC				Sg	Sg	09 26 53.9	+0.6
CLC	**China Lake**	**0.33**	**142**		Pg	09 26 50.3	+0.1
CLC					Sg	09 26 54.8	+0.3
SRTC	**Snort**	**0.39**	**168**		Pg	09 26 52.0	+0.6
SRTC					Sb	09 26 58.3	-1.7
CWC	**Cottonwood Cre**	**0.41**	**333**		Pg	09 26 51.7	-0.1
CWC					Sg	09 26 57.1	0.0
CWC				IAML		09 26 57.9	
	comp=E,733nm,0.2s						
CWC				IAML		09 27 03.1	
	comp=N,706nm,0.2s						
GPO	**China Lake**	**0.45**	**160**		Sg	09 26 59.1	+0.8
CGO	**Cerro Gordo**	**0.48**	**4**		Pg	09 26 53.0	0.0
WORM	**Onyx Ranch**	**0.49**	**220**		Pg	09 26 53.2	-0.1
WORM					Sg	09 27 00.1	+0.3
WHFM	**Hanning Flat**	**0.55**	**227**		Pg	09 26 54.5	0.0
WHFM					Sg	09 27 02.2	+0.5
WSHM	**Spangler Hills**	**0.56**	**148**		Pg	09 26 54.6	+0.1
WSHM					Sg	09 27 02.5	+0.8
WSHM				IAML		09 27 02.7	
	comp=N,958nm,0.4s						
WSHM				IAML		09 27 02.7	
	comp=N,839nm,0.6s						
WBSM	**Bird Springs**	**0.59**	**204**		Pg	09 26 55.1	0.0
WBSM					Sg	09 27 03.3	+0.6
LRMC	**Laurel Mtn Rad**	**0.61**	**167**		Pg	09 26 55.5	0.0
LRMC					Sg	09 27 04.2	+0.7
LRMC				IAML		09 27 06.0	
	comp=N,636nm,0.2s						
ISA	**Isabella, Lake**	**0.65**	**231**		Sg	09 27 05.2	+0.4
ISA	**Isabella, Lake**	**0.65**	**231**	Pg	Pg	09 26 56.1	-0.3
ISA				IAML		09 27 05.5	
	comp=N,1μm,0.3s						
ISA				IAML		09 27 06.0	
	comp=E,858nm,0.2s						
WASM	**Alta Sierra Ca**	**0.67**	**240**		Pg	09 26 56.6	0.0
WASM					Sg	09 27 05.6	+0.3
CCCA	**Chr Cany lake**	**0.68**	**144**		Pg	09 26 57.2	+0.4
CCCA				IAML		09 27 10.1	
	comp=E,805nm,0.8s						
CCCA	**Chr Cany lake**	**0.68**	**144**		Sb	09 27 06.9	-1.3
SPG2	**Springville 2**	**0.75**	**280**		Pg	09 26 58.0	-0.3
QSM	**Queen of Sheba**	**0.80**	**98**		Pg	09 26 59.1	-0.2
QSM					Sg	09 27 09.7	+0.1
QSM				IAML		09 27 14.1	
	comp=N,486nm,0.7s						
QSM				IAML		09 27 14.1	
	comp=E,416nm,0.8s						
DTP	**Desert Tortois**	**0.81**	**180**		Pg	09 26 59.0	-0.3
DTP					Sg	09 27 09.8	+0.1
FURC	**Furnace Creek,**	**0.89**	**64**		Pg	09 27 01.0	+0.1
FURC					Sb	09 27 13.4	-0.9
CCAC	**Calif City Air**	**0.93**	**189**		Pg	09 27 01.3	-0.3
GWY	**Greenwater Val**	**0.96**	**83**		Pg	09 27 02.2	-0.1
GWY					Sg	09 27 15.0	+0.2
GWY				IAML		09 27 22.2	
	comp=N,389nm,0.5s						
GRAC	**Grapevine Rang**	**1.00**	**23**		Pg	09 27 02.9	-0.1
GRAC					Sb	09 27 17.9	+0.3
GRAC	**Grapevine Rang**	**1.00**	**23**	Pg	Pg	09 27 02.7	-0.3
GRAC				IAML		09 27 23.4	
	comp=N,354nm,0.8s						
GRAC				IAML		09 27 25.0	
	comp=E,343nm,0.9s						
TIN	**Tinemaha, Big**	**1.02**	**343**		Pg	09 27 03.2	-0.3
TIN					Sb	09 27 17.7	-0.7
VES	**Vestal, Richgr**	**1.03**	**257**		Pg	09 27 03.4	-0.2
VES					Sg	09 27 17.6	+0.6
TEJ	**El Tejon**	**1.09**	**219**		Pg	09 27 04.0	-0.7
TEJ					Sg	09 27 18.3	-0.4
SGV	**South Grapevin**	**1.12**	**36**		Pg	09 27 04.8	-0.5
GSC	**Goldstone, Bar**	**1.15**	**132**		Pg	09 27 05.3	-0.6
GSC					Sg	09 27 20.7	0.0
GSC	**Goldstone, Bar**	**1.15**	**132**	Pg	Pg	09 27 05.0	-0.9
GSC				IAML		09 27 23.5	
	comp=N,116nm,0.6s						
GSC				IAML		09 27 23.9	
	comp=E,220nm,1.0s						
EDW2	**Edwards Air Fo**	**1.20**	**186**		Pb	09 27 07.3	0.0
WCT	**Wildcat Mounta**	**1.22**	**54**		Pg	09 27 06.6	-0.6
WCT				IAML		09 27 27.9	
	comp=N,116nm,0.6s						
WCT				IAML		09 27 29.1	
	comp=E,166nm,0.5s						
HYS	**Haystack Butte**	**1.23**	**169**		Pg	09 27 06.7	-0.7
TPO	**Tropico Hills**	**1.23**	**195**		Pg	09 27 06.9	-0.6
TPO					Sg	09 27 23.4	-0.1
TPO				IAML		09 27 23.9	
	comp=E,304nm,0.4s						
TPO				IAML		09 27 24.2	
	comp=N,224nm,0.8s						
ARVC	**Arvin**	**1.24**	**221**		Pg	09 27 07.2	-0.3
BAKC	**Calstate**	**1.25**	**235**		Pg	09 27 07.8	-0.1
VOG	**Valley Oaks Go**	**1.27**	**282**		Pg	09 27 07.6	-0.5
VOG					Sg	09 27 24.5	0.0
DSP	**Deep Springs**	**1.30**	**356**		Pg	09 27 07.7	-1.0
DSP					Sg	09 27 25.5	0.0
GMN	**Gold Mountain**	**1.31**	**21**	Pg	Pg	09 27 09.1	0.0
GMN				IAML		09 27 13.1	
	comp=N,113nm,0.5s						
AMDNV	**Amargosa**	**1.32**	**73**		Pg	09 27 08.3	-0.9
AMDNV					Sg	09 27 25.7	-0.6
BHPR	**Bishop**	**1.33**	**337**		Pg	09 27 08.6	-0.7
THC	**Tehachapi Micr**	**1.34**	**210**		Pg	09 27 08.6	-1.0
SBB	**Saddle Back Bu**	**1.38**	**179**		Sb	09 27 28.8	+0.2
TPNV	**Topopah Spring**	**1.56**	**55**		Pn	09 27 12.4	-0.4
TPNV				IAML		09 27 39.7	
	comp=N,180nm,0.9s						
TPNV				IAML		09 27 39.7	
	comp=N,164nm,1.0s						
HOLC	**Holcomb Ridge**	**1.61**	**180**		Pb	09 27 14.6	+0.2
OSI	**Osito Audit: C**	**1.62**	**206**		Pn	09 27 13.2	-0.3
OSI				IAML		09 27 43.5	
	comp=N,143nm,0.7s						
OSI				IAML		09 27 44.3	
	comp=E,158nm,0.7s						
MZP	**Montezuma Peak**	**1.67**	**13**		Pb	09 27 15.3	-0.1
BCW	**Bitter Crk WRg**	**1.71**	**229**		Pb	09 27 15.6	-0.4
KCC	**Kaiser Creek**	**1.72**	**317**		Pn	09 27 15.4	+0.5
BENR	**Benton**	**1.74**	**341**		Pb	09 27 16.1	-0.6
CRGC	**Crocker Grade**	**1.74**	**242**		Pb	09 27 16.1	-0.5
CHFC	**Chilao Flat St**	**1.74**	**185**		Pb	09 27 16.8	+0.2
MCSM	**Casa Diablo Ho**	**1.79**	**332**		Pb	09 27 17.3	-0.3
BFSC	**Mount Baldy Ra**	**1.84**	**175**		Pn	09 27 16.1	-0.4
BFSC				IAML		09 27 43.3	
	comp=E,71nm,0.7s						
BFSC				IAML		09 27 46.1	
	comp=N,53nm,0.7s						
MWC	**Mount Wilson**	**1.85**	**185**		Pn	09 27 16.8	-0.1
MWC				IAML		09 27 44.9	
	comp=E,79nm,0.7s						
MWC				IAML		09 27 45.1	
	comp=N,110nm,0.5s						
PASC	**Pasadena Art C**	**1.92**	**188**		Pn	09 27 17.0	-0.6
PASC				IAML		09 27 48.0	
	comp=E,52nm,0.8s						
MTPC	**Mountain Pass**	**1.96**	**107**		Pn	09 27 17.3	-1.0
MTPC				IAML		09 27 48.2	
	comp=E,54nm,0.3s						
TPH	**Tonopah**	**2.06**	**14**		Pn	09 27 19.9	+0.2
SHPR	**Sheep Range**	**2.21**	**78**		Pn	09 27 21.6	-0.2
PSMM	**Smith Mountain**	**2.23**	**271**		Pb	09 27 23.9	-0.9
LHV	**Little Huntoon**	**2.23**	**347**		Pn	09 27 20.8	-1.1
LHV				IAML		09 28 00.3	
	comp=E,61nm,1.5s						
LHV				IAML		09 28 03.9	
	comp=N,50nm,1.3s						
BBGB	**Big Mountain B**	**2.62**	**282**		Pn	09 27 26.8	-0.5
PMD	**Palm Desert**	**2.71**	**153**		Pn	09 27 27.4	-1.0
PFO	**Pinyon Flats O**	**2.71**	**155**		Pn	09 27 27.9	-0.7
FRD	**Ford Ranch, An**	**2.77**	**158**		Pn	09 27 30.5	+1.2
CMB	**Columbia Colle**	**2.82**	**315**	Pn	Pn	09 27 30.2	+0.2
CMB				IAML		09 28 12.1	
	comp=N,47nm,0.7s						
CMB				IAML		09 28 14.1	
	comp=E,49nm,0.7s						
R11B	**Troy Canyon, C**	**2.90**	**38**	Pn	Pn	09 27 30.8	-0.5
NEE2	**Needles Airpor**	**2.94**	**115**	Pn	Pn	09 27 30.8	-0.8
NEE2				IAML		09 28 37.1	
	comp=N,39nm,0.7s						
NEE2				IAML		09 28 40.7	
	comp=E,38nm,0.8s						
SAO	**San Andreas Ge**	**2.98**	**284**		Pn	09 27 30.9	-1.2
BORC	**Borrego Spring**	**3.04**	**157**	Pn	Pn	09 27 32.6	-0.3
BORC				IAML		09 28 23.1	
	comp=E,25nm,0.9s						
BORC				IAML		09 28 23.5	
	comp=N,16nm,0.7s						
DPP	**Dos Picos Cty**	**3.16**	**166**		Pn	09 27 34.7	+0.1
W13A	**Hualapai Mount**	**3.37**	**106**	Pn	Pn	09 27 36.6	-1.1
BLYC	**Blythe**	**3.58**	**129**		Pn	09 27 40.0	-0.4
BLYC				IAML		09 28 50.2	
	comp=N,11nm,0.6s						
BLYC				IAML		09 28 51.4	
	comp=E,12nm,1.0s						
MPK	**Martis Peak**	**3.65**	**332**	Pn	Pn	09 27 41.5	-0.2
AFDM	**Forest Hills D**	**3.79**	**320**	Pn	Pn	09 27 42.5	-0.9
AFDM				IAML		09 28 44.9	
	comp=N,27nm,0.4s						
LCMT	**Little Creek M**	**3.82**	**74**		Pn	09 27 42.4	-1.5
PAHR	**Pah Rah Range**	**3.82**	**342**	Pn	Pn	09 27 44.0	+0.1
PAHR				IAML		09 30 11.7	
	comp=E,8.2nm,3.9s						
PSUT	**Pine Spring**	**4.02**	**51**	Pn	Pn	09 27 45.8	-0.9
PSUT				IAML		09 29 04.4	
	comp=E,13nm,0.8s						
PSUT				IAML		09 29 07.7	
	comp=N,11nm,0.9s						
SPR3	**Spring Creek 3**	**4.04**	**43**	Pn	Pn	09 27 45.1	-2.0
SPR3				IAML		09 28 54.5	
	comp=N,11nm,1.1s						
SPR3				IAML		09 28 54.9	
	comp=E,12nm,1.0s						
KNB	**Kanab**	**4.16**	**75**		Pn	09 27 47.6	-0.9
KNB				IAML		09 29 10.4	
	comp=N,9.2nm,1.9s						
KNB				IAML		09 29 26.2	
	comp=E,6.7nm,2.7s						
BEKR	**Beckworth**	**4.27**	**333**	Pn	Pn	09 27 49.5	-0.6
BEKR				IAML		09 29 09.3	
	comp=N,14nm,0.5s						
U15A	**North Rim**	**4.50**	**84**	Pn	Pn	09 27 51.6	-1.8
U15A				IAML		09 29 10.8	
	comp=N,6.9nm,1.2s						
U15A				IAML		09 29 22.0	
	comp=E,7.2nm,1.2s						
Y14A	**Wickenburg**	**4.51**	**117**		Pn	09 27 51.5	-1.7
Y14A				IAML		09 29 10.7	
	comp=N,10nm,0.7s						
Y14A				IAML		09 29 15.7	
	comp=E,8.1nm,0.9s						
ELK	**Elko**	**5.09**	**23**	Pn	Pn	09 28 00.2	-1.2
WUAZ	**Wupatki**	**5.29**	**94**	Pn	Pn	09 28 02.0	-2.1
WUAZ				IAML		09 29 34.7	
	comp=E,8.6nm,1.9s						
X16A	**Lo Mia Camp, P**	**5.50**	**106**	Pn	Pn	09 28 04.3	-2.6

NOU 19 09:29:14.1,16.83S×167.82E,h14km,MLv3.9/9,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**0.81**	**332**	P	Pg	09 29 30.0	+0.1
DVP	**Devils Point**	**0.96**	**159**	P	Pn	09 29 33.1	0.0
KOUNC	**Koumac, New Ca**	**4.99**	**222**	P	Pn	09 30 28.9	+0.3
	14nm,0.9s						
YATNC	**Mamie plateau,**	**5.28**	**189**	P	Pn	09 30 31.5	-1.1
	9.4nm,1.2s						
DZM	**Mont Dzumac**	**5.37**	**194**	P	Pn	09 30 33.8	-0.2
	15nm,2.9s						
OUENC	**Ouen Island, N**	**5.63**	**189**	P	Pn	09 30 37.8	+0.3
	15nm,1.1s						

*NDI **19** 09:34:51.0±2.1,27.52N×93.01E,h12km±5km,ML3.7, MW3.7*
*IDC **19** 09:34:53.3±0.9,27.59N×92.57E,h0km,mb3.7/9, mbtmp3.7/10,ML4.2/1,MS3.0/1,Error ellipse: s-maj=45.8km s-min=16.3km az=57.0*

ISC 19 09:34:52.2±1.6,27.41N±0.05×92.99E±0.04,h3km±11km, n27,σ2942/40,mb3.9/9,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITAN	**ITANAGAR**	**0.71**	**112**	*e*P	**Pg**	**09 35 05.2**	**-0.6**
ITAN				*e*S	**Sg**	**09 35 15.7**	**+0.7**
ITAN				IAML		09 35 24.4	
	comp=E,4μm,0.3s						
ITAN				IAML		09 35 24.6	
	comp=N,3μm,0.3s						
ZIRO	**ZIRO**	**0.78**	**81**	*e*P	**Pg**	**09 35 05.6**	**-1.6**
ZIRO				*e*S	**Sg**	**09 35 16.3**	**-0.9**
ZIRO				IAML		09 35 33.2	
	comp=E,4μm,0.5s						
ZIRO				IAML		09 35 33.9	
	comp=N,3μm,0.5s						
TEZP	**TEZPUR**	**0.81**	**192**	*e*P	**Pg**	**09 35 08.2**	**+0.4**
TEZP				*e*S	**Sn**	**09 35 21.8**	**-1.3**
TEZP				IAML		09 36 11.7	
	comp=E,2μm,0.2s						
TEZP				IAML		09 36 13.0	
	comp=N,3μm,0.3s						
GUWA	**GUWAHATI**	**1.68**	**224**	*e*P	**Pn**	**09 35 21.7**	**-0.7**
GUWA				*e*S	**Sn**	**09 35 44.2**	**-0.2**
GUWA				IAML		09 35 53.4	
	comp=E,433nm,0.3s						
GUWA				IAML		09 35 54.9	
	comp=N,564nm,0.2s						
KOHI	**KOHIMA**	**1.96**	**149**	*e*P	**Pn**	**09 35 25.6**	**-0.9**
KOHI				*e*S	**Sn**	**09 35 50.8**	**-0.9**
KOHI				IAML		09 36 12.0	
	comp=N,560nm,0.2s						
KOHI				IAML		09 36 13.8	
	comp=E,624nm,0.7s						
SHL	**Shillong**	**2.09**	**208**	*e*P	**Pn**	**09 35 26.9**	**-1.4**
SHL				*e*S	**Sn**	**09 35 53.1**	**-1.8**
SHL				IAML		09 36 07.5	
	comp=E,551nm,0.5s						
SHL				IAML		09 36 09.5	
	comp=N,485nm,0.3s						
IMP	**Imphal**	**2.71**	**161**	*e*P	**Pn**	**09 35 35.9**	**-0.9**
IMP				*e*S	**Sn**	**09 36 08.7**	**-1.4**
IMP				IAML		09 36 40.5	
	comp=N,361nm,0.4s						
IMP				IAML		09 36 40.5	
	comp=E,439nm,0.8s						
GTK	**Tadong**	**3.90**	**270**	*e*P	**Pn**	**09 35 52.1**	**-1.1**
GTK				*e*S	**Sn**	**09 36 34.1**	**-5.4**
GTK				IAML		09 37 00.1	
	comp=E,113nm,0.4s						
GTK				IAML		09 37 03.4	
	comp=N,295nm,0.6s						
SAIH	**SAIHA**	**4.90**	**180**	*e*P	**Pn**	**09 36 08.8**	**+1.8**
SAIH				*e*S	**Sn**	**09 37 01.5**	**-2.8**
SAIH				IAML		09 37 18.1	
	comp=N,216nm,0.4s						
SAIH				IAML		09 37 23.8	
	comp=E,341nm,0.9s						
RAMN	**Ramite**	**5.71**	**267**	Pn	**Pn**	**09 36 22.6**	**+4.5**
	baz=256,slow=0.0						
RAMN					**Sn**	**09 37 28.4**	**+4.1**
	comp=E,26nm,0.3s,baz=256,slow=0.0						
GUN	**Gumba**	**6.32**	**276**	Pn	**Pn**	**09 36 29.7**	**+3.1**
	baz=266,slow=0.0						
GUN					**Sn**	**09 37 38.7**	**-0.9**
	baz=266,slow=0.0						
PKI	**Pulchoki**	**6.73**	**273**	Pn	**Pn**	**09 36 35.5**	**+3.2**
	baz=264,slow=0.0						
PKI					**Sn**	**09 37 48.6**	**-1.0**
	baz=264,slow=0.0						
PKIN	**Phulchoki**	**6.74**	**273**	Pn	**Pn**	**09 36 34.8**	**+2.4**
	baz=264,slow=0.0						
PKIN					**Sn**	**09 37 49.1**	**-0.7**
	comp=E,46nm,0.4s,baz=264,slow=0.0						
GKN	**Gorkha**	**7.42**	**276**	Pn	**Pn**	**09 36 43.5**	**+1.9**
	baz=268,slow=0.0						
GKN					**Sn**	**09 38 03.9**	**-2.5**
	comp=E,36nm,0.3s,baz=268,slow=0.0						
DANN	**Dangsing**	**8.22**	**279**	Pn	**Pn**	**09 36 53.8**	**+1.2**
	baz=271,slow=0.0						
DANN					**Sn**	**09 38 20.7**	**-5.5**
	comp=E,37nm,0

comp=E,0.9nm,0.5s
ILAR Eielson Array 77.14 22 P **P** **09 46 47.7 +0.8**
comp=E,0.2nm,0.7s,baz=325,slow=5.9,SNR=2.6
comp=E,0.2nm,0.7s

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*ASRS **19** 09:37:08.0±0.7,54.°34N×86.°88E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 19 09:37:10.4±3.5,54.°32N×86.°93E,h0km,mbtmp2.9/2, ML2.6/2,Error ellipse: s-maj=32.2km s-min=19.4km az=55.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**254**	I		I	09 44 50.0	
	baz=72,slow=316,SNR=2.8							
ZALV	**Zalesovo Beam**	**1.30**	**254**	Pg		Pg	09 37 33.6	-1.7
	0.9nm,0.3s,baz=70,slow=16,SNR=5.3							
ZALV				Lg		Lg	09 37 52.2	
	1.1nm,0.3s,baz=76,slow=26,SNR=3.6							
KURBB	**Kurchatov Arra**	**6.33**	**238**	Pn		Pn	09 38 46.1	+1.2
	0.1nm,0.3s,baz=52,slow=14,SNR=4.9							
	0.9nm,0.4s							
MKAR	**Makanchi Array**	**8.09**	**203**	Pn		Pn	09 39 10.1	+1.0
	0.1nm,0.3s,baz=24,slow=11,SNR=1.3							
	0.2nm,0.4s							

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*IDC **19** 09:39:33.3±3.0,53.°54N×87.°75E,h0km,mbtmp2.9/2, ML2.5/2,Error ellipse: s-maj=26.9km s-min=17.4km az=60.0*
ASRS 19 09:39:32.0±1.3,53.°58N×87.°75E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.78**	**283**	I		I	09 50 40.0	
	baz=102,slow=322,SNR=6.5							
ZALV	**Zalesovo Beam**	**1.78**	**283**	Pn		Pn	09 40 04.5	+0.5
	0.8nm,0.3s,baz=102,slow=19,SNR=5.2							
ZALV				Lg		Lg	09 40 29.7	
	1.6nm,0.3s,baz=101,slow=28,SNR=7.8							
KURBB	**Kurchatov Arra**	**6.41**	**246**	Pn		Pn	09 41 09.9	+2.3
	0.1nm,0.3s,baz=62,slow=14,SNR=3.8							
KURBB				Lg		Lg	09 42 55.4	
	baz=63,slow=32,SNR=5.0							
	0.6nm,0.5s							
MKAR	**Makanchi Array**	**7.64**	**209**	Pn		Pn	09 41 26.4	+1.9
	0.1nm,0.3s,baz=30,slow=13,SNR=4.2							
MKAR				Lg		Lg	09 43 33.2	
	0.1nm,0.3s,baz=31,slow=34,SNR=2.9							
	0.3nm,0.4s							

IDC 19 09:42:06.4±1.5,27.°60N×92.°62E,h0km,mb3.3/5, mbtmp3.4/5,Error ellipse: s-maj=62.9km s-min=23.5km az=65.0,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**20.82**	**340**	P		P	09 46 49.3	0.0
	0.3nm,0.5s,baz=151,slow=13,SNR=1.9							
	0.3nm,0.5s							
SONM	**Songino Array**	**22.88**	**24**	P		P	09 47 11.7	+0.1
	1.1nm,0.9s,baz=205,slow=6.4,SNR=4.3							
	1.1nm,0.9s							
HFS	**Hagfors**	**61.03**	**326**	P		P	09 52 21.5	-0.1
	0.3nm,0.4s,baz=90,slow=8.6,SNR=1.3							
	0.3nm,0.4s							
WRA	**Warramunga Arr**	**62.17**	**135**	P		P	09 52 29.9	+0.2
	0.2nm,0.4s,baz=316,slow=8.0,SNR=6.6							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**64.69**	**138**	P		P	09 52 46.2	-0.2
	0.3nm,0.5s,baz=327,slow=7.3,SNR=6.1							
	0.3nm,0.5s							

IDC 19 09:44:33.5±3.4,54.°41N×86.°95E,h0km,mbtmp2.9/2, ML2.9/1,Error ellipse: s-maj=30.6km s-min=18.7km az=53.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.33**	**251**	I		I	09 51 50.0	
	baz=69,slow=322,SNR=10							
ZALV	**Zalesovo Beam**	**1.33**	**251**	Pg		Pg	09 44 57.0	-2.0
	0.7nm,0.3s,baz=69,slow=18,SNR=7.9							
ZALV				Lg		Lg	09 45 16.5	
	1.3nm,0.3s,baz=72,slow=28,SNR=7.2							
KURBB	**Kurchatov Arra**	**6.38**	**237**	Pn		Pn	09 46 09.8	+1.1
	0.7nm,0.6s,baz=54,slow=14,SNR=1.2							
MKAR	**Makanchi Array**	**8.18**	**203**	Pn		Pn	09 46 34.6	+1.3
	0.1nm,0.3s,baz=24,slow=13,SNR=4.7							
	0.2nm,0.3s							

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*IDC **19** 09:45:12.4±1.8,27.°40N×92.°31E,h0km,mb3.6/4, mbtmp3.7/4,Error ellipse: s-maj=188.7km s-min=24.1km az=56.0*
ISC 19 09:45:14.9±1.2,27.°8N±0.°2×92.°76E±0.°09,h10km,n14, σ1§65/23,mb4.0/3,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAMN	**Ramite**	**5.54**	**263**	Pn		**Pn**	**09 46 39.1**	**+1.4**
	baz=259,slow=0.0							
RAMN				Sn		**Sn**	**09 47 42.5**	**+0.9**
	18nm,0.2s,baz=259,slow=0.0							
GUN	**Gumba**	**6.10**	**273**	Pn		**Pn**	**09 46 46.7**	**+1.3**
	baz=269,slow=0.0							
GUN				Sn		**Sn**	**09 47 56.9**	**+1.5**
	42nm,0.3s,baz=269,slow=0.0							
PKI	**Pulchoki**	**6.53**	**270**	Pn		**Pn**	**09 46 52.9**	**+1.6**
	baz=266,slow=0.0							
PKI				Sn		**Sn**	**09 48 04.8**	**-1.1**
	20nm,0.2s,baz=266,slow=0.0							
PKIN	**Phulchoki**	**6.54**	**270**	Pn		**Pn**	**09 46 52.8**	**+1.4**
	baz=266,slow=0.0							
PKIN				Sn		**Sn**	**09 48 05.4**	**-0.7**
	28nm,0.3s,baz=266,slow=0.0							
KKN	**Kakani**	**6.63**	**272**	Pn		**Pn**	**09 46 53.7**	**+1.1**
	baz=268,slow=0.0							
KKN				Sn		**Sn**	**09 48 08.5**	**+0.1**
	29nm,0.2s,baz=268,slow=0.0							
DMN	**Daman**	**6.79**	**270**	Sn		**Sn**	**09 48 12.1**	**-0.3**
	18nm,0.3s,baz=267,slow=0.0							
GKN	**Gorkha**	**7.20**	**274**	Pn		**Pn**	**09 47 03.7**	**+3.4**
	baz=270,slow=0.0							
GKN				Sn		**Sn**	**09 48 21.3**	**-0.9**
	37nm,0.3s,baz=270,slow=0.0							
DANN	**Dangsing**	**7.97**	**276**	Pn		**Pn**	**09 47 10.8**	**-0.3**
	baz=273,slow=0.0							
DANN				Sn		**Sn**	**09 48 38.3**	**-3.3**
	44nm,0.4s,baz=273,slow=0.0							
KOLN	**Koldanda**	**8.12**	**272**	Pn		**Pn**	**09 47 13.6**	**+0.6**
	baz=269,slow=0.0							
KOLN				Sn		**Sn**	**09 48 42.9**	**-2.1**
	23nm,0.2s,baz=269,slow=0.0							
PYUN	**Piuthan**	**8.65**	**274**	Pn		**Pn**	**09 47 20.3**	**0.0**
	baz=272,slow=0.0							
PYUN				Sn		**Sn**	**09 48 55.1**	**-3.0**
	30nm,0.4s,baz=272,slow=0.0							
MKAR	**Makanchi Array**	**20.69**	**339**	P		**P**	**09 49 56.2**	**+1.1**
	0.7nm,0.6s,baz=142,slow=10.0,SNR=4.2							
	0.7nm,0.6s							
HFS	**Hagfors**	**60.95**	**326**	P		**P**	**09 55 27.8**	**-0.2**
	0.9nm,0.5s,baz=91,slow=7.4,SNR=5.1							
	0.9nm,0.5s							
WRA	**Warramunga Arr**	**62.20**	**135**	P		**P**	**09 55 35.8**	**-1.1**
	1.1nm,1.0s,baz=322,slow=7.5,SNR=5.9							
	1.1nm,1.0s							
ASAR	**Alice Springs**	**64.74**	**138**	P		**P**	**09 55 53.0**	**-0.6**
	0.7nm,0.8s,baz=323,slow=6.5,SNR=7.1							
	0.7nm,0.8s							

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*IDC **19** 09:45:20.1±3.2,53.°53N×87.°65E,h0km,mbtmp2.7/2, ML2.7/1,Error ellipse: s-maj=29.0km s-min=18.8km az=57.0*
ASRS 19 09:45:17.0±0.6,53.°52N×87.°52E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC

I46RU	**ZALESOVO INFRA**	**1.66**	**286**	I		I	09 55 50.0	
	0.1nm,0.8s,baz=104,slow=316,SNR=3.7							
ZALV	**Zalesovo Beam**	**1.66**	**286**	Pn		Pg	09 45 50.2	+1.4
	0.9nm,0.3s,baz=103,slow=17,SNR=6.4							
ZALV				Lg		Lg	09 46 15.1	
	1.1nm,0.3s,baz=104,slow=24,SNR=3.7							
KURBB	**Kurchatov Arra**	**6.26**	**246**	Pn		Pn	09 46 55.6	+5.1
	0.3nm,0.3s,baz=60,slow=13,SNR=1.4							
KURBB				Lg		Lg	09 48 41.7	
	baz=64,slow=34,SNR=4.6							
MKAR	**Makanchi Array**	**7.52**	**209**	Pn		Pn	09 47 12.9	+5.0
	0.1nm,0.3s,baz=26,slow=13,SNR=2.4							
	0.2nm,0.4s							

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*ASRS **19** 09:51:41.0±1.0,54.°07N×86.°51E,h0km,M2.8,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 19 09:51:43.0±2.5,54.°07N×86.°54E,h0km,mbtmp3.5/2, ML3.2/2,Error ellipse: s-maj=20.6km s-min=13.0km az=56.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**264**	I		I	09 58 10.0	
	baz=84,slow=317,SNR=4.5							
ZALV	**Zalesovo Beam**	**1.02**	**264**	Pg		Pg	09 52 01.1	-1.4
	3.3nm,0.3s,baz=83,slow=16,SNR=24							
ZALV				Lg		Lg	09 52 17.1	
	6.5nm,0.3s,baz=80,slow=28,SNR=15							
KURBB	**Kurchatov Arra**	**6.00**	**238**	Pn		Pn	09 53 14.1	+1.2
	0.4nm,0.3s,baz=56,slow=14,SNR=25							
KURBB				Lg		Lg	09 54 52.9	
	0.1nm,0.3s,baz=62,slow=32,SNR=5.0							
	3.8nm,0.4s							
MKAR	**Makanchi Array**	**7.77**	**202**	Pn		Pn	09 53 38.1	+0.8
	0.5nm,0.3s,baz=23,slow=13,SNR=14							
MKAR				Lg		Lg	09 55 50.3	
	0.1nm,0.3s,baz=24,slow=30,SNR=6.1							
	0.8nm,0.3s							

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*NDI **19** 09:51:55.3±0.9,27.°83N×92.°74E,h10km,ML4.5,MW4.5*
*IDC **19** 09:51:59.3±0.6,27.°69N×92.°74E,h0km,mb4.3/20, mbtmp4.3/22,ML4.7/2,Error ellipse: s-maj=23.4km s-min=12.6km az=60.0*
*MOS **19** 09:52:00.2±1.2,27.°69N×92.°74E,h17km,mb4.6/20,Error ellipse: s-maj=11.7km s-min=5.2km az=119.0*
*NEIC **19** 09:52:02.0±1.4,27.°71N±0.°06×92.°72E±0.°09,h10km±1km, mb4.7/95,Error ellipse: s-maj=13.8km s-min=8.8km az=70.0*
ISC 19 09:52:01.9±0.3,27.°65N±0.°04×92.°83E±0.°03,h17km,n233, σ1§25/248,mb4.6/88,4C-6D,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZIRO	**ZIRO**	**0.92**	**97**	*e*P		**Pb**	**09 52 15.1**	**-4.3**
ZIRO				*e*S		**Sb**	**09 52 30.0**	**-1.4**
ZIRO				IAML			09 52 33.7	
	comp=E,10μm,0.4s							
ZIRO				IAML			09 52 33.9	
	comp=N,5μm,0.5s							
KOHI	**KOHIMA**	**2.24**	**149**	*e*P		**Pn**	**09 52 35.3**	**-3.0**
KOHI				*e*S		**Sn**	**09 53 05.0**	**-0.6**
KOHI				IAML			09 53 19.1	
	comp=E,2μm,0.7s							
KOHI				IAML			09 53 25.9	
	comp=N,3μm,0.6s							
SHL	**Shillong**	**2.24**	**202**	Pn		**Pn**	**09 52 40.0**	**+1.6**
SHL	**Shillong**	**2.24**	**202**	*e*P		**Pn**	**09 52 34.5**	**-3.9**
SHL				*e*S		**Sn**	**09 53 02.2**	**-3.5**
SHL				IAML			09 53 12.7	
	comp=E,3μm,0.3s							
SHL				IAML			09 53 13.9	
	comp=N,3μm,0.4s							
SHL	**Shillong**	**2.24**	**202**	P		**Pn**	**09 52 40.0**	**+1.6**
LSA	**Lhasa**	**2.52**	**325**	Pn		**Pn**	**09 52 41.9**	**-0.6**
LSA	**Lhasa**	**2.52**	**325**	Pg		**Pb**	**09 52 46.8**	**-0.1**
LSA				Sg		**Sb**	**09 53 18.5**	**+0.7**
LSA				pmax		pmax		
	comp=Z,79nm,0.5s							
LSA				smax		smax		
	comp=N,410nm,0.7s							
LSA	**Lhasa**	**2.52**	**325**	P		**Pn**	**09 52 41.9**	**-0.6**
ODAN	**Odare**	**4.90**	**262**	Pn		**Pn**	**09 53 16.7**	**+1.7**
	baz=260,slow=0.0							
ODAN				Sn		**Sn**	**09 54 12.3**	**+0.8**
	baz=260,slow=0.0							
BRDH	**Bariadhala**	**5.07**	**192**	Pn		**Pn**	**09 53 17.4**	**+0.3**
	comp=N,53nm,0.3s,baz=3.4,slow=14,SNR=4.6							
BRDH				Sn		**Sn**	**09 54 16.4**	**+1.2**
	comp=N,84nm,0.3s,baz=156,slow=23,SNR=10							
	comp=N,145nm,0.4s							
RAMN	**Ramite**	**5.58**	**264**	Pn		**Pn**	**09 53 26.7**	**+2.3**
	baz=262,slow=0.0							
TNCH	**TengChong**	**5.74**	**116**	*e*Pg		**Pg**	**09 53 53.3**	**+1.6**
TNCH				Sg		**Sg**	**09 55 05.8**	**-0.3**
TNCH				smax		smax		
	comp=N,98nm,1.0s							
TNCH				smax		smax		
	comp=E,91nm,0.9s							
TNCH				LR		LR		
	comp=N,380nm,2.8s							
TNCH				LR		LR		
	comp=E,350nm,3.0s							
GUN	**Gumba**	**6.16**	**274**	Pn		**Pn**	**09 53 34.3**	**+1.9**
	baz=272,slow=0.0							
GUN				Sn		**Sn**	**09 54 42.4**	**-0.3**
	comp=E,189nm,0.4s,baz=272,slow=0.0							
PKI	**Pulchoki**	**6.58**	**271**	Pn		**Pn**	**09 53 39.6**	**+1.4**
	baz=269,slow=0.0							
PKI				Sn		**Sn**	**09 54 52.5**	**-0.5**
	comp=E,46nm,0.2s,baz=269,slow=0.0							
PKIN	**Phulchoki**	**6.59**	**271**	Pn		**Pn**	**09 53 39.5**	**+1.2**
	baz=269,slow=0.0							
PKIN				Sn		**Sn**	**09 54 52.4**	**-0.8**
	comp=E,166nm,0.4s,baz=269,slow=0.0							
KKN	**Kakani**	**6.69**	**273**	Pn		**Pn**	**09 53 41.8**	**+2.2**
	baz=271,slow=0.0							
KKN				Sn		**Sn**	**09 54 55.5**	**-0.1**
	baz=271,slow=0.0							
DMN	**Daman**	**6.85**	**271**	Pn		**Pn**	**09 53 43.1**	**+1.3**
	baz=270,slow=0.0							
DMN				Sn		**Sn**	**09 54 59.5**	**0.0**
	comp=E,88nm,0.3s,baz=270,slow=0.0							
GKN	**Gorkha**	**7.26**	**275**	Pn		**Pn**	**09 53 48.4**	**+1.0**
	baz=273,slow=0.0							
GKN				Sn		**Sn**	**09 55 07.9**	**-1.6**
	comp=E,169nm,0.3s,baz=273,slow=0.0							
PZH	**PanZhiHua**	**8.03**	**96**	P		**Pn**	**09 54 01.9**	**+4.0**
DANN	**Dangsing**	**8.04**	**277**	Pn		**Pn**	**09 53 57.2**	**-1.1**
	baz=276,slow=0.0							
DANN				Sn		**Sn**	**09 55 25.7**	**-3.3**
	comp=E,233nm,0.5s,baz=276,slow=0.0							
KOLN	**Koldanda**	**8.18**	**273**	Pn		**Pn**	**09 54 00.6**	**+0.6**
	baz=272,slow=0.0							
KOLN				Sn		**Sn**	**09 55 30.2**	**-2.0**
	baz=272,slow=0.0							
PYUN	**Piuthan**	**8.72**	**275**	Pn		**Pn**	**09 54 06.8**	**-0.6**
	baz=274,slow=0.0							
PYUN				Sn		**Sn**	**09 55 42.7**	**-2.7**
	comp=E,206nm,0.4s,baz=274,slow=0.0							
CHTO	**Chiang Mai**	**10.44**	**146**	Pn		**Pn**	**09 54 33.1**	**+2.3**
CHTO	**Chiang Mai**	**10.44**	**146**	P		**Pn**	**09 54 33.1**	**+2.3**
CMAR	**Chiang Mai Arr**	**10.74**	**147**	Pn		**Pn**	**09 54 37.4**	**+2.4**
CMAR	**Chiang Mai Arr**	**10.74**	**147**	Pn		**Pn**	**09 54 36.2**	**+1.2**
	comp=E,1.0nm,0.3s,baz=318,slow=13,SNR=24							
	comp=E,4.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**10.74**	**147**	*i* P		**Pn**	**09 54 36.7**	**+1.7**
CMAR				pmax		pmax		
	comp=Z,5.0nm,0.6s							
GTA	**Gaotai**	**13.09**	**25**	*e*P		**Pn**	**09 55 07.4**	**+0.2**
GTA				pmax		pmax		
	comp=Z,8.0nm,0.5s							
XAN	**Xi'an**	**15.21**	**61**	P		**Pn**	**09 55 34.6**	**-1.4**
XAN				pmax		pmax		
	comp=Z,15nm,3.4s							
WMQ	**Urumqi**	**16.66**	**347**	*e*P		**P**	**09 55 58.0**	**+1.1**
WMQ				pmax		pmax		
	comp=Z,34nm,1.3s							
UBPT	**Khong Chiam**	**17.01**	**134**	Pn		**Pn**	**09 55 59.6**	**+0.5**
NIL	**Nilore**	**17.86**	**294**	Pn		**Pn**	**09 56 06.6**	**-3.1**
NIL	**Nilore**	**17.86**	**294**	P		**Pn**	**09 56 06.6**	**-3.1**
NIL				pmax		pmax		

	comp=Z,13nm,0.6s							
KSH	**Kashi**	**18.33**	**315**	P		**Pn**	**09 56 16.6**	**+1.2**
TARG	**Taragay, Kyrgy**	**18.66**	**323**			**Pn**	**09 56 19.2**	**-0.6**
TARG	**Taragay, Kyrgy**	**18.66**	**323**	P		**Pn**	**09 56 19.2**	**-0.6**
TARG				pmax		pmax		
	comp=Z,13nm,0.6s							
PRZ	**Przheval'sk**	**18.89**	**325**	P		**Pn**	**09 56 22.2**	**-0.1**
PRZ				IAmb		IAmb	09 56 26.0	
	comp=Z,29nm,0.6s							
PRZ	**Przheval'sk**	**18.89**	**325**	P		**Pn**	**09 56 22.2**	**-0.1**
PRZ				pmax		pmax		
	comp=Z,29nm,0.6s							
BTO	**Baotou**	**19.18**	**43**	*e*P		**Pn**	**09 56 25.6**	**-0.1**
BTO				S		**S**	**10 00 03.9**	**+2.3**
BTO				pmax		pmax		
	comp=Z,22nm,0.6s							
BTO				pmax		pmax		
	comp=Z,930nm,9.3s							
BTO				LR		LR		
	comp=N,840nm,12.9s							
BTO				LR		LR		
	comp=E,470nm,7.3s							
BTO				LR		LR		
	comp=Z,740nm,13.7s							
BOOM	**Boomskoye usch**	**20.20**	**322**	P		Pn	09 56 37.0	-0.9
BOOM	**Boomskoye usch**	**20.20**	**322**	P		Pn	09 56 37.0	-0.9
BOOM				pmax		pmax		
	comp=Z,7.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**20.27**	**45**	*e*P		Pn	09 56 38.8	+0.1
HHC				pmax		pmax		
	comp=Z,7.0nm,0.5s							
HHC				pmax		pmax		
	comp=Z,200nm,4.6s							
HNS	**HongShan**	**20.81**	**57**	*e*P		Pn	09 56 47.8	+2.9
MK31	**Makanchi Array**	**20.83**	**339**	P		**P**	**09 56 42.5**	**-0.2**
MK31	**Makanchi Array**	**20.83**	**339**	*c i*P		**P**	**09 56 42.2**	**-0.4**
MKAR	**Makanchi Array**	**20.83**	**339**			**P**	**09 56 42.5**	**-0.1**
MKAR	**Makanchi Array**	**20.83**	**339**	P		**P**	**09 56 41.4**	**-1.2**
	comp=Z,4.4nm,0.5s,baz=147,slow=13,SNR=31							
MKAR				PcP		**PcP**	**10 00 50.1**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=205,slow=2.6,SNR=4.1							
	comp=Z,4.4nm,0.5s							
MAKZ	**Makanchi**	**20.95**	**339**			**P**	**09 56 43.9**	**0.0**
MAKZ	**Makanchi**	**20.95**	**339**	P		**P**	**09 56 43.9**	**0.0**
MAKZ				pmax		pmax		
	comp=Z,7.0nm,0.7s							
AAK	**Ala-Archa**	**21.11**	**320**	P		**P**	**09 56 45.8**	**0.0**
AAK	**Ala-Archa**	**21.11**	**320**	P		**P**	**09 56 45.7**	**-0.1**
	comp=Z,6.8nm,0.5s,baz=120,slow=12,SNR=4.9							
	comp=Z,6.8nm,0.5s							
AAK	**Ala-Archa**	**21.11**	**320**	*e*P		**P**	**09 56 47.4**	**+1.6**
AAK				pmax		pmax		
	comp=Z,8.0nm,0.8s							
KBL	**Kabul**	**21.47**	**295**			**P**	**09 56 50.4**	**+0.6**
KBL	**Kabul**	**21.47**	**295**	P		**P**	**09 56 50.4**	**+0.6**
KBL				pmax		pmax		
	comp=Z,41nm,0.6s							
SIMJ	**Simiganj**	**22.70**	**305**	P		**P**	**09 57 02.2**	**-0.7**
SONM	**Songino Array**	**22.76**	**24**	P		**P**	**09 57 03.5**	**+0.1**
SONM	**Songino Array**	**22.76**	**24**	P		**P**	**09 57 03.7**	**+0.3**
	comp=Z,3.0nm,0.5s,baz=209,slow=12,SNR=13							
	comp=Z,3.0nm,0.5s							
SONM	**Songino Array**	**22.76**	**24**	P		**P**	**09 57 03.5**	**+0.1**
SONM				pmax		pmax		
	comp=Z,11nm,1.4s							
NJ2	**Nanjing**	**22.98**	**73**	*e*P		**P**	**09 57 08.1**	**+2.5**
NJ2				pmax		pmax		
	comp=Z,64nm,1.2s							
ULN	**Ulaanbaatar**	**23.03**	**25**			**P**	**09 57 06.0**	**-0.3**
ULN	**Ulaanbaatar**	**23.03**	**25**	*c e*P		**P**	**09 57 05.7**	**-0.6**
ULN				pmax		pmax		
	comp=Z,5.0nm,0.7s							
KK31	**Karatay Array**	**23.74**	**316**	P		**P**	**09 57 13.8**	**+0.6**
KK31	**Karatay Array**	**23.74**	**316**	P		**P**	**09 57 13.8**	**+0.6**
KK31				pmax		pmax		
	comp=Z,5.0nm,1.3s							
KKAR	**Karatay Array**	**23.74**	**316**	P		**P**	**09 57 13.9**	**+0.6**
KKAR	**Karatay Array**	**23.74**	**316**	P		**P**	**09 57 13.9**	**+0.6**
KURBB	**Kurchatov Arra**	**25.39**	**338**	P		**P**	**09 57 27.8**	**-0.4**
	comp=Z,7.5nm,0.8s,baz=150,slow=9.9,SNR=15							
KURBB				PcP		**PcP**	**10 01 00.1**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=167,slow=2.3,SNR=4.2							
	comp=Z,7.5nm,0.8s							
KURK	**Kurchatov**	**25.44**	**339**	P		**P**	**09 57 29.2**	**+0.6**
KURK				IAmb		IAmb	09 57 30.2	
	comp=Z,11nm,1.0s							
KURK	**Kurchatov**	**25.44**	**339**	P		**P**	**09 57 27.8**	**-0.8**
KURK							10 01 00.2	
ZALV	**Zalesovo Beam**	**26.93**	**350**	P		**P**	**09 57 42.6**	**+0.6**
	comp=Z,3.9nm,0.3s,baz=160,slow=4.7,SNR=11							
	comp=Z,3.9nm,0.3s							
BVAR	**Borovoye Array**	**30.33**	**333**	P		**P**	**09 58 12.6**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=140,slow=12,SNR=6.7							
	comp=Z,1.0nm,0.4s							
BRVK	**Borovoye**	**30.39**	**333**	*e*P		**P**	**09 58 13.1**	**+0.2**
BRVK				pmax		pmax		
	comp=Z,11nm,1.5s							
AB31	**Akbulak array**	**33.19**	**319**	P		**P**	**09 58 38.3**	**+0.7**
AB31				IAmb		IAmb	09 58 39.1	
	comp=Z,7.1nm,0.9s							
ABKAR	**Akbulak array**	**33.19**	**319**	P		**P**	**09 58 38.1**	**+0.5**
AKTO	**Aktyubinsk**	**34.85**	**320**	P		**P**	**09 58 50.8**	**-1.2**
	comp=Z,1.9nm,0.6s,baz=130,slow=7.1,SNR=6.5							
	comp=Z,1.9nm,0.6s							
ZEA	**Zeya**	**36.29**	**35**	*e*P		**P**	**09 59 06.3**	**+2.0**
ZEA				*e*			09 59 13.8	
ZEA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
RAYN	**Ar Rayn**	**42.68**	**275**	P		**P**	**09 59 57.7**	**-0.3**
RAYN	**Ar Rayn**	**42.68**	**275**	P		**P**	**09 59 57.7**	**-0.3**
RAYN				pmax		pmax		
	comp=Z,3.0nm,1.0s							
KBZ	**Khabaz**	**42.95**	**305**	*e*P		**P**	**09 59 58.5**	**-1.4**
KBZ				pmax		pmax		
	comp=Z,3.0nm,1.1s							
KIV	**Kislovodsk**	**43.12**	**306**	*e*P		**P**	**10 00 02.2**	**+0.8**
KIV				pmax		pmax		
	comp=Z,8.0nm,1.0s							
YSS	**Yuzhno-Sakhali**	**43.32**	**50**	*e*P		**P**	**10 00 03.3**	**+0.4**
YSS				pmax		pmax		
	comp=Z,10.0nm,1.0s							
ERBR	**Yeremizino-Bor**	**44.84**	**308**	*e*P		**P**	**10 00 12.7**	**-2.4**
ERBR				pmax		pmax		

AK02	Malin Array Si	52.63	314	P	P	10 01 13.8	-1.1
AK07	Malin Array Si	52.63	314	P	P	10 01 14.0	-0.9
AK06	Malin Array Si	52.64	314	P	P	10 01 14.0	-0.9
AK11	Malin Array Si	52.66	314	P	P	10 01 14.1	-0.9
AK04	Malin Array Si	52.66	314	P	P	10 01 14.0	-1.1
AK12	Malin Array Si	52.67	314	P	P	10 01 14.0	-1.1
AK23	Malin Array Si	52.69	314	P	P	10 01 14.3	-0.9
AK14	Malin Array Si	52.70	314	P	P	10 01 14.4	-0.9
AK16	Malin Array Si	52.70	314	P	P	10 01 14.2	-1.1
AK22	Malin Array Si	52.72	314	P	P	10 01 14.3	-1.2
AK17	Malin Array Si	52.73	314	P	P	10 01 14.4	-1.2
AK21	Malin Array Si	52.74	314	P	P	10 01 14.3	-1.3
ELL	Elmali	53.17	297	P	P	10 01 19.7	+0.4
ELL	Elmali	53.17	297	P	P	10 01 19.7	+0.4
ELL				pmax	pmax		
	comp=Z,39nm,0.7s						
SORM	Soroca	53.22	311	P	P	10 01 17.9	-1.3
	comp=Z,6.1nm,0.4s						
TIRR	Tirgusor	53.38	306	P	P	10 01 19.7	-0.7
	comp=Z,5.6nm,1.6s						
AKAS	Kas	53.50	296	P	P	10 01 21.1	-0.6
LUBAR	Lubar, Ukraine	53.56	313	P	P	10 01 19.9	-1.8
NDNU	Novodnistrovsk	53.86	312	P	P	10 01 23.0	-0.9
TESR	Tescani	54.46	309	P	P	10 01 27.3	-1.1
	comp=Z,5.2nm,0.6s						
KMPD	K-Podol'skiy	54.46	312	P	P	10 01 27.2	-1.1
RNPP2	Kostyukhnivka	54.73	315	P	P	10 01 28.9	-1.3
RNPP5	Staryi Chortor	54.73	315	P	P	10 01 28.9	-1.3
RNPP8	Varash	54.75	315	P	P	10 01 29.1	-1.2
RNPP1	Kostyukhnivka	54.80	315	P	P	10 01 28.8	-1.9
CHRU	Chernivtsi	54.83	311	P	P	10 01 30.2	-0.8
MLR	Muntele Rosu	55.03	308	P	P	10 01 34.0	+1.3
MLR	Muntele Rosu	55.03	308	P	P	10 01 34.0	+1.3
MLR				pmax	pmax		
	comp=Z,11nm,0.7s						
FINES	FINESS Array B	55.03	327	P	P	10 01 32.3	+0.1
FINES	FINESS Array B	55.03	327	P	P	10 01 31.9	-0.4
	comp=Z,1.8nm,0.6s,baz=90,slow=8.2,SNR=11						
	comp=Z,1.8nm,0.6s						
BURAR	Bucovina Array	55.35	310	P	P	10 01 35.2	+0.3
BUR08	Bucovina Ar. S	55.36	311	P	P	10 01 34.6	-0.4
KARP	Karpathos	55.58	296	P	P	10 01 36.8	+0.1
LVV	L'vov	55.98	313	P	P	10 01 38.2	-1.1
ARCES	ARCESS Array B	56.47	337	PcP	PcP	10 02 39.3	+0.2
	comp=Z,1.0nm,0.5s,baz=88,slow=3.0,SNR=8.5						
IDI	Anoyia	57.45	296	P	P	10 01 49.8	-0.2
BILL	Bilibino	58.48	25⇓	*e*P	P	10 01 57.8	+1.2
BILL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SPB2	Spitsbergen Ar	60.36	347	P	P	10 02 09.2	-0.2
SPITS	Spitsbergen Ar	60.36	347	P	P	10 02 09.7	+0.2
SPITS				pmax	pmax		
	comp=Z,23nm,1.2s						
HFS	Hagfors	61.09	326	P	P	10 02 14.3	-0.4
	comp=Z,7.2nm,0.6s,baz=96,slow=7.6,SNR=33						
	comp=Z,7.2nm,0.6s						
NC405	NORSAR Array S	61.96	327	P	P	10 02 20.1	-0.5
NC405				IAmb	IAmb	10 02 26.3	
	comp=Z,4.4nm,0.8s						
WB0	Warramunga Arr	61.97	135	P	P	10 02 21.9	+0.7
WB0				IAmb	IAmb	10 02 25.7	
	comp=Z,9.1nm,0.9s						
WRA	Warramunga Arr	62.07	135	P	P	10 02 22.5	+0.6
	comp=Z,2.9nm,0.6s,baz=324,slow=7.2,SNR=34						
	comp=Z,2.9nm,0.6s						
WRA	Warramunga Arr	62.07	135	*i* P	P	10 02 22.5	+0.6
WRA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRAB	Tennant Creek	62.07	135	P	P	10 02 22.7	+0.9
WRAB				IAmb	IAmb	10 02 49.9	
	comp=Z,10nm,1.2s						
WRAB	Tennant Creek	62.07	135⇓	*e*P	P	10 02 23.0	+1.2
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WB2	Warramunga Arr	62.08	135	P	P	10 02 22.7	+0.8
WB2				IAmb	IAmb	10 02 23.3	
	comp=Z,7.5nm,0.8s						
NC602	NORSAR Array S	62.09	327	P	P	10 02 20.3	-1.1
NC602				IAmb	IAmb	10 02 30.5	
	comp=Z,7.3nm,1.1s						
NC303	NORSAR Array S	62.11	327	P	P	10 02 21.4	-0.3
NC303				IAmb	IAmb	10 02 36.2	
	comp=Z,12nm,1.4s						
NB201	NORSAR Array S	62.17	327	P	P	10 02 21.4	-0.6
NB201				IAmb	IAmb	10 03 04.9	
	comp=Z,9.4nm,1.2s						
WR8	Warramunga Arr	62.18	135	P	P	10 02 23.3	+0.7
WR8				IAmb	IAmb	10 02 28.8	
	comp=Z,5.1nm,0.8s						
NB2	NORSAR Subarra	62.21	327	P	P	10 02 20.9	-1.4
	comp=Z,1.9nm,0.6s,baz=82,slow=6.9						
NOA	NORSAR Array B	62.21	327	P	P	10 02 21.3	-1.0
	comp=Z,2.4nm,0.7s,baz=83,slow=6.7,SNR=19						
	comp=Z,2.4nm,0.7s						
WR0	Warramunga Arr	62.21	135	P	P	10 02 23.2	+0.5
WR0				IAmb	IAmb	10 02 28.9	
	comp=Z,6.1nm,0.9s						
NAO01	NORSAR Array S	62.39	327	P	P	10 02 22.8	-0.7
NC204	NORSAR Array S	62.40	327	P	P	10 02 23.2	-0.4
NC204				IAmb	IAmb	10 02 37.6	
	comp=Z,11nm,1.2s						
CLL	Collm	62.76	316	*e*P	P	10 02 27.0	+0.9
CLL	Collm	62.76	316	*e*P	P	10 02 27.0	+0.9
GEC2	GERESS Array S	62.80	313	P	P	10 02 26.9	+0.4
GEC2				IAmb	IAmb	10 02 27.3	
	comp=Z,3.4nm,0.8s						
GERES	GERESS Array B	62.80	313	P	P	10 02 26.6	+0.1
GERES	GERESS Array B	62.80	313	P	P	10 02 26.5	0.0
	comp=Z,3.0nm,0.5s,baz=77,slow=6.0,SNR=15						
	comp=Z,3.0nm,0.5s						
TIP	Timpagrande	62.84	302	P	P	10 02 26.4	-0.6
TIP				IAmb	IAmb	10 02 34.2	
	comp=Z,4.4nm,1.1s						
KONO	Kongsberg	63.20	326	P	P	10 02 28.6	-0.3
KONO	Kongsberg	63.20	326	P	P	10 02 28.6	-0.3
KONO				pmax	pmax		
	comp=Z,20nm,1.5s						
CIMO	Cimolais	64.19	311	P	P	10 02 34.7	-1.0
CIMO				IAmb	IAmb	10 02 35.4	
	comp=Z,4.2nm,1.0s						
AS31	Alice Springs	64.61	138	P	P	10 02 39.8	+1.2
AS31				IAmb	IAmb	10 02 40.3	
	comp=Z,1.5nm,0.7s						
ASAR	Alice Springs	64.61	138	P	P	10 02 40.6	+2.0
ASAR	Alice Springs	64.61	138	P	P	10 02 39.5	+0.8
	comp=Z,3.6nm,0.6s,baz=321,slow=6.6,SNR=52						
	comp=Z,3.6nm,0.6s						
ASAR	Alice Springs	64.61	138	P	P	10 02 40.6	+2.0
FUORN	Ofenpass-Fuorn	65.57	311	P	P	10 02 44.8	-0.1
FUORN				IAmb	IAmb	10 02 54.2	
	comp=Z,2.0nm,0.8s						
VOI	Vohitsoka	66.38	227	P	P	10 02 50.0	-0.2
AMKA	Amchitka	66.80	43	P	P	10 02 52.8	+0.4
SENIN	Lac Senin/Sane	67.61	312	P	P	10 02 57.7	-0.3
SENIN				IAmb	IAmb	10 02 58.2	
	comp=Z,5.1nm,1.0s						
BCLA	Clavier	67.71	316	*d*P	P	10 02 58.2	0.0
KEST	Kesra	69.49	300	P	P	10 03 08.9	-0.9
	comp=Z,3.4nm,0.8s,baz=131,slow=2.4,SNR=4.2						
	comp=Z,3.4nm,0.8s						
F15K	North Star Dit	70.08	25	P	P	10 03 14.0	+1.2
C18K	Utukok River	70.11	22	P	P	10 03 14.3	+1.4
C19K	Lookout Ridge	70.44	21	P	P	10 03 17.0	+2.1
B20K	Meade River	70.79	20	P	P	10 03 18.8	+1.8
EKA	Eskdalemuir Ar	70.97	323	P	P	10 03 17.4	-1.0
	comp=Z,1.7nm,0.6s,baz=69,slow=5.6,SNR=7.2						
	comp=Z,1.7nm,0.6s						
F17K	Baldwin Pennin	71.04	24	P	P	10 03 19.3	+0.8
G16K	Koyuk River	71.08	25	P	P	10 03 20.3	+1.5
G16K				IAmb	IAmb	10 03 27.9	
	comp=Z,16nm,1.5s						
H17K	Granite Mounta	72.21	25	P	P	10 03 26.8	+1.1
H17K				IAmb	IAmb	10 03 35.2	
	comp=Z,7.2nm,1.0s						
L14K	Kuka Creek	72.69	29	P	P	10 03 29.1	+0.6
L14K				IAmb	IAmb	10 03 54.4	
	comp=Z,15nm,1.4s						
F20K	Avaraart Lake	72.70	22	P	P	10 03 29.5	+1.1
F20K				IAmb	IAmb	10 03 30.1	
	comp=Z,3.5nm,0.8s						
C23K	Itkillik River	72.81	19	P	P	10 03 30.8	+1.7
D23K	Nanushuk River	73.28	20	P	P	10 03 33.6	+1.7
F21K	Alatna River	73.36	22	P	P	10 03 33.7	+1.3
F21K				IAmb	IAmb	10 03 34.4	
	comp=Z,3.7nm,0.8s						
TOLK	Toolik Lake Re	73.80	20	P	P	10 03 36.6	+1.5
J19K	Poorman	74.29	25	P	P	10 03 39.6	+1.6
J19K				IAmb	IAmb	10 03 39.8	
	comp=Z,3.8nm,0.6s						
SUMG	Summit	74.70	346	P	P	10 03 41.0	+0.4
SUMG				IAmb	IAmb	10 04 09.1	
	comp=Z,13nm,1.3s						
SUMG	Summit	74.70	346	P	P	10 03 41.1	+0.4
SUMG				pmax	pmax		
	comp=Z,13nm,1.3s						
F24K	Squaw Lake	74.97	20	P	P	10 03 42.3	+0.5
F24K				IAmb	IAmb	10 03 51.5	
	comp=Z,3.8nm,0.9s						
G24K	Hadweenzic Riv	75.60	21	P	P	10 03 46.6	+1.2
G24K				IAmb	IAmb	10 03 48.4	
	comp=Z,14nm,1.5s						
I23K	Minto, Yukon-K	75.91	23	P	P	10 03 48.7	+1.5
N18K	Kilae Creek	75.92	28	P	P	10 03 48.0	+0.6
N18K				IAmb	IAmb	10 04 19.6	
	comp=Z,6.2nm,1.1s						
BPAW	Bear Paw Mtn.	75.95	24	P	P	10 03 48.9	+1.4
BPAW				IAmb	IAmb	10 03 57.2	
	comp=Z,5.3nm,1.0s						
BMAR	Burnt Mountain	76.03	20	P	P	10 03 50.1	+2.2
M20K	Styx River	76.39	26	P	P	10 03 51.6	+1.5
M20K				IAmb	IAmb	10 04 27.7	
	comp=Z,8.0nm,1.4s						
TRF	Thorofare Moun	76.58	24	P	P	10 03 53.4	+2.1
COLA	College	76.59	22⇑	*e*P	P	10 03 51.4	+0.4
COLA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
E28M	Babbage River	76.66	17	P	P	10 03 53.1	+1.6
E28M				IAmb	IAmb	10 03 56.6	
	comp=Z,8.8nm,1.4s						
CCB	Clear Creek Bu	76.74	23	P	P	10 03 52.5	+0.6
SKT	Skwentna	76.96	26	P	P	10 03 54.0	+0.7
SKT				IAmb	IAmb	10 04 02.2	
	comp=Z,7.3nm,1.3s						
ILAR	Eielson Array	76.98	22	P	P	10 03 53.1	-0.2
	comp=Z,2.3nm,0.9s,baz=307,slow=4.9,SNR=20						
	comp=Z,2.3nm,0.9s						
A36M	Sachs Harbour	77.20	11	P	P	10 03 55.5	+1.1
A36M				IAmb	IAmb	10 03 56.1	
	comp=Z,8.3nm,0.8s						
E29M	Blow River	77.25	17	P	P	10 03 55.6	+0.9
E29M				IAmb	IAmb	10 03 56.6	
	comp=Z,3.0nm,0.8s						
J25K	Salcha River,	77.58	22	P	P	10 03 56.7	-0.1
ESDC	Sonseca Array	77.72	308	P	P	10 03 57.4	-0.6
	comp=Z,0.7nm,0.8s,baz=75,slow=6.5,SNR=5.3						
	comp=Z,0.7nm,0.8s						
K24K	Donnelly Dome	77.96	23	P	P	10 03 59.3	+0.5
PMR	Palmer	78.11	26	P	P	10 04 00.5	+0.8
PMR				IAmb	IAmb	10 04 00.9	
	comp=Z,2.9nm,0.7s						
PMR	Palmer	78.11	26	P	P	10 04 00.5	+0.8
PMR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
J26L	Joseph Creek	78.25	22	P	P	10 04 01.6	+1.0
J26L				IAmb	IAmb	10 04 01.9	
	comp=Z,3.8nm,0.7s						
G29M	Pine Creek	78.27	18	P	P	10 04 01.5	+1.0
G29M				IAmb	IAmb	10 04 06.3	
	comp=Z,7.8nm,1.5s						
RIDG	Independent Ri	78.32	23	P	P	10 04 02.0	+1.2
RIDG				IAmb	IAmb	10 04 05.0	
	comp=Z,2.9nm,0.7s						
SCRK	Sand Creek	78.46	22	P	P	10 04 02.4	+0.7
SCRK				IAmb	IAmb	10 04 03.2	
	comp=Z,4.3nm,0.8s						
H29M	Whitestone	78.67	19	P	P	10 04 03.8	+1.1
H29M				IAmb	IAmb	10 04 05.6	
	comp=Z,13nm,1.4s						
I28M	Miner Creek	78.75	20	P	P	10 04 04.4	+1.1
KDAK	Kodiak Island	78.93	30	P	P	10 04 04.8	+0.7
KDAK	Kodiak Island	78.93	30	P	P	10 04 04.9	+0.7
KDAK				pmax	pmax		
	comp=Z,33nm,1.5s						
F31M	Tsiigehtchic	79.01	17	P	P	10 04 05.2	+0.7
G31M	Satah River	79.27	17	P	P	10 04 06.4	+0.5
G31M				IAmb	IAmb	10 04 07.4	
	comp=Z,4.2nm,0.8s						
N25K	Chitina, Valde	79.79	24	P	P	10 04 10.5	+1.4
N25K				IAmb	IAmb	10 04 11.4	
	comp=Z,3.6nm,0.8s						
BCAR	Beaver Creek A	79.80	22	P	P	10 04 10.7	+1.7
I30M	Mount Dempster	79.96	19	P	P	10 04 10.6	+0.7
J30M	Hart River	80.45	19	P	P	10 04 13.5	+0.9
N31M	Braeburn, Yuko	82.90	21	P	P	10 04 27.1	+1.7
N31M				IAmb	IAmb	10 04 48.8	
	comp=Z,7.9nm,1.3s						
MMPY	Sheldon Lake,	83.41	19	P	P	10 04 29.9	+1.8
MMPY				IAmb	IAmb	10 04 30.1	
	comp=Z,2.9nm,0.7s						
TORD	Torodi Ar. Bea	84.99	282	P	P	10 04 37.2	+0.3
TORD	Torodi Ar. Bea	84.99	282	P	P	10 04 37.2	+0.3
	comp=Z,2.0nm,0.8s,baz=44,slow=6.6,SNR=13						
	comp=Z,2.0nm,0.8s						
KUQ	Kuujjuaa	93.13	350	P	P	10 05 14.7	-0.1

IDC 19 09:58:04.9±1.8, 27°.59N×92°.57E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=195.3km s-min=23.9km az=56.0, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	20.81	340	P	P	10 02 47.2	-0.6
	0.3nm,0.5s,baz=134,slow=14,SNR=2.0						
	0.3nm,0.5s						
HFS	Hagfors	61.02	326	P	P	10 08 20.1	+0.2
	0.5nm,0.5s,baz=76,slow=12,SNR=4.1						
	0.5nm,0.5s						
WRA	Warramunga Arr	62.19	135	P	P	10 08 28.1	-0.3
	0.5nm,0.6s,baz=321,slow=7.4,SNR=11						
	0.5nm,0.6s						
ASAR	Alice Springs	64.71	138	P	P	10 08 45.4	+0.3
	0.4nm,0.5s,baz=323,slow=6.5,SNR=14						
	0.4nm,0.5s						

IDC 19 10:05:27.2±3.6, 53°.53N×87°.58E, h0km, mbtmp2.8/2, ML2.1/2, Error ellipse: s-maj=33.6km s-min=17.4km az=55.0

ASRS 19 10:05:25.0±1.1, 53°.55N×87°.78E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.80	284	I	I	10 16 30.0	
	0.1nm,0.8s,baz=102,slow=329,SNR=23						
ZALV	Zalesovo Beam	1.80	284	Pg	Pb	10 05 58.5	-0.4
	0.4nm,0.3s,baz=104,slow=16,SNR=6.6						
ZALV				Lg	Lg	10 06 20.1	
	0.9nm,0.3s,baz=104,slow=33,SNR=8.1						
KURBB	Kurchatov Arra	6.41	247	Pn	Pn	10 07 02.2	+1.6
	baz=61,slow=14,SNR=2.2						
	0.4nm,0.2s						
MKAR	Makanchi Array	7.62	210	Pn	Pn	10 07 19.2	+1.9
	0.1nm,0.3s,baz=21,slow=12,SNR=2.3						
	0.2nm,0.4s						

IDC 19 10:07:48.0±1.0, 27°.65N×92°.68E, h0km, mb3.6/8, mbtmp3.6/9, ML4.3/1, Error ellipse: s-maj=48.0km s-min=17.1km az=60.0

ISC 19 10:07:50.1±0.8, 27°.8N±0°.1×92°.80E±0°.07, h10km, n19, σ1§62/29, mb3.9/7, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAMN	Ramite	5.58	263	Pn	Pn	10 09 15.1	+1.8
	baz=258,slow=0.0						
RAMN				Sn	Sn	10 10 19.1	+1.5
	19nm,0.3s,baz=258,slow=0.0						
GUN	Gumba	6.13	273	Pn	Pn	10 09 23.5	+2.4
	baz=268,slow=0.0						
GUN				Sn	Sn	10 10 31.6	+0.1
	40nm,0.3s,baz=268,slow=0.0						
PKI	Pulchoki	6.56	270	Pn	Pn	10 09 28.6	+1.7
	baz=265,slow=0.0						
PKI				Sn	Sn	10 10 41.6	-0.4
	12nm,0.2s,baz=265,slow=0.0						
PKIN	Phulchoki	6.57	270	Pn	Pn	10 09 28.7	+1.7
	baz=265,slow=0.0						
PKIN				Sn	Sn	10 10 42.5	+0.3
	20nm,0.2s,baz=265,slow=0.0						
KKN	Kakani	6.66	272	Pn	Pn	10 09 30.6	+2.3
	baz=267,slow=0.0						
KKN				Sn	Sn	10 10 44.5	+0.1
	33nm,0.2s,baz=267,slow=0.0						
DMN	Daman	6.83	271	Pn	Pn	10 09 32.5	+2.0
	baz=266,slow=0.0						
DMN				Sn	Sn	10 10 48.3	-0.1
	30nm,0.4s,baz=266,slow=0.0						
GKN	Gorkha	7.23	274	Pn	Pn	10 09 37.4	+1.4
	baz=269,slow=0.0						
GKN				Sn	Sn	10 10 56.2	-2.1
	37nm,0.3s,baz=269,slow=0.0						
DANN	Dangsing	8.01	276	Pn	Pn	10 09 46.3	-0.5
	baz=272,slow=0.0						
DANN				Sn	Sn	10 11 14.2	-3.5
	32nm,0.3s,baz=272,slow=0.0						
KOLN	Koldanda	8.15	272	Pn	Pn	10 09 50.5	+1.8
	baz=268,slow=0.0						
KOLN				Sn	Sn	10 11 19.1	-1.9
	28nm,0.4s,baz=268,slow=0.0						
PYUN	Piuthan	8.69	275	Pn	Pn	10 09 56.3	+0.3
	baz=271,slow=0.0						
PYUN				Sn	Sn	10 11 30.6	-3.6
	36nm,0.4s,baz=271,slow=0.0						
CMAR	Chiang Mai Arr	10.85	147	Pn	Pn	10 10 24.8	-0.7
	0.6nm,0.3s,baz=317,slow=13,SNR=5.0						
	0.6nm,0.3s						
MKAR	Makanchi Array	20.72	339	P	P	10 12 31.2	+0.6
	1.0nm,0.6s,baz=151,slow=13,SNR=8.5						
	1.0nm,0.6s						
SONM	Songino Array	22.67	24	P	P	10 12 52.4	+0.7
	0.4nm,0.4s,baz=214,slow=13,SNR=2.3						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	25.28	338	P	P	10 13 16.5	+0.1
	1.0nm,0.7s,baz=148,slow=10.0,SNR=5.8						
	1.0nm,0.7s						
HFS	Hagfors	60.99	326	P	P	10 18 02.9	-0.4
	1.1nm,0.6s,baz=79,slow=7.9,SNR=5.3						
	1.1nm,0.6s						
WRA	Warramunga Arr	62.16	135	P	P	10 18 10.9	-0.9
	0.9nm,1.0s,baz=321,slow=7.5,SNR=9.8						
	0.9nm,1.0s						
GERES	GERESS Array B	62.71	313	P	P	10 18 14.8	-0.5
	0.4nm,0.4s,baz=27,slow=1.5,SNR=3.7						
	0.4nm,0.4s						
ASAR	Alice Springs	64.70	138	P	P	10 18 28.2	-0.3
	0.6nm,0.5s,baz=321,slow=6.3,SNR=12						
	0.6nm,0.5s						
ILAR	Eielson Array	76.88	22	P	P	10 19 42.8	+0.6
	0.4nm,0.9s,baz=291,slow=4.9,SNR=4.3						
	0.4nm,0.9s						

IDC 19 10:08:17.5±1.0, 0°.10N×126°.14E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=65.9km s-min=19.6km az=70.0

DJA 19 10:08:23.3±0.3, 0°.5±3°×12°.5E±°, h10km, M4.2/13, mB5.3/2, mb4.5/4, MLv4.1/13, Mw(mB)4.7/2

ISC 19 10:08:22.5±0.9, 0°.10S±0°.09×125°.71E±0°.08, h35km, n15, σ1§41/16, mb4.0/6, Southern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.85	291	P	Pn	10 08 51.1	-0.7
KMSI				S	Sn	10 09 15.8	+1.8
SANI	Sanana	1.96	172	P	Pn	10 08 53.5	+0.2
LUWI	Luwuk	3.09	252	P	Pn	10 09 10.0	+1.2
NLAI	Namlea	3.42	156	P	Pn	10 09 14.6	+1.3
MRSI	Marisa	3.81	279	P	Pn	10 09 20.4	+1.6
APSI	Ampana	4.14	259	P	Pn	10 09 21.7	-1.6
MPSI	Mapaga	5.83	274	P	Pn	10 09 47.9	+1.4
	10μm17nm,0.7s						
TTSI	Tana Toraja	6.58	244	P	Pn	10 09 55.2	-1.6
	0.1nm612nm37nm,0.6s						
SPSI	Sidrap Palu	7.07	237	P	Pn	10 10 02.5	-1.1
WRA	Warramunga Arr	21.46	157	P	P	10 13 07.8	-0.2
	1.0nm,0.6s,baz=336,slow=11,SNR=12						
	1.0nm,0.6s						
ASAR	Alice Springs	24.74	162	P	P	10 13 41.5	+0.6
	0.5nm,0.6s,baz=341,slow=9.2,SNR=11						
	0.5nm,0.6s						
SONM	Songino Array	50.61	343	P	P	10 17 18.3	+0.1
	1.2nm,0.7s,baz=162,slow=9.7,SNR=4.1						
	1.2nm,0.7s						
PETK	Petropavlovsk-	59.34	22	P	P	10 18 18.4	-2.5
	1.6nm,0.5s,baz=224,slow=10,SNR=2.8						
	1.6nm,0.5s						
MKAR	Makanchi Array	60.14	327	P	P	10 18 27.3	+0.7
	1.4nm,0.7s,baz=122,slow=8.3,SNR=10						
	1.4nm,0.7s						
KURBB	Kurchatov Arra	64.43	329	P	P	10 18 56.0	+0.8
	1.1nm,0.7s,baz=134,slow=5.8,SNR=9.4						
	1.1nm,0.7s						

IDC 19 10:13:46.0±0.6, 21°.51N×122°.07E, h0km, mb4.3/22, mbtmp4.4/25, ML4.3/3, MS4.0/28, Error ellipse: s-maj=19.0km s-min=12.4km az=73.0

MOS 19 10:13:46.3±1.3, 21°.53N×122°.04E, h12km, mb5.0/29, Error ellipse: s-maj=9.4km s-min=5.4km az=95.6

BJI 19 10:13:47.7, 21°.65N×122°.05E, h9km, mB5.1/16, mb4.7/51, ML4.4/5, Ms4.4/28, Ms7.4/31

NEIC 19 10:13:49.9, 21°.68N×122°.03E, h10km

NEIC 19 10:13:49.6±1.7, 21°.67N±0°.06×122°.00E±0°.06, h10km±1km, mb4.8/90, Mwr4.5/25, Error ellipse: s-maj=10.7km s-min=8.7km az=233.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.34; $M_{\theta\theta}$3.95; $M_{\phi\phi}$-7.28; $M_{r\theta}$3.41; $M_{r\phi}$-0.87; $M_{\theta\phi}$2.64; Fault plane solution: $M_0$7.70000×10^{15} NP1:ϕ_s146.73000°, δ47.41000°, λ24.56000°. NP2:ϕ_s39.54000°, δ72.18000°, λ134.70000°. Principal axes: T 7.1612, Plg44.0000°, Azm353.0000°; N 0.9774, Plg42.0000°, Azm203.0000°; P -8.1386, Plg15.0000°, Azm99.0000°;

JMA 19 10:13:50.3±0.3, 22°.2N±2°×122°.1E±0°.6, h10km, MD4.7/22, MV5.2/22, TAIWAN REGION

TAP 19 10:13:50.6, 21°.78N×122°.06E, h29km, ML5.2, D

*ASIES 19 10:13:50.6, 21°.78N×122°.06E, h29km, ML5.2, Mw4.5, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-3.24; $M_{\theta\theta}$6.98; $M_{\phi\phi}$-4.26; $M_{r\theta}$2.70; $M_{\theta\phi}$0.55; $M_{r\phi}$4.87; Fault plane solution: $M_0$8.36418×10^{15} NP1: ϕ_s123.56000°, δ46.13000°, λ-22.16000°. NP2: $\phi

SLIU	**Shizi**	**1.32**	**293**	*e*P	**Pn**	10 14 13.1	**0.0**	**WHF**	**Hehuan Shan**	**2.54**	**342**	*i* P	**Pn**	10 14 30.2	**-0.2**	**XPSS**	**Dashiqiu**	**5.48**	**342**	*e*P	**Pn**	**10 15 10.6**	**+0.2**
SLIU				e S	**Sn**	10 14 28.8	**-1.6**	WHF				*i* S	**Sn**	10 14 59.9	**-1.4**	**SXFK**	**Yanhouchang**	**6.20**	**320**	*e*P	**Pn**	**10 15 19.9**	**-0.4**
EAST	**Anshuo**	**1.35**	**300**	*e*P	**Pn**	10 14 12.8	**-0.8**	**ETLH**	**Xiulin Townshi**	**2.55**	**347**	*e*P	**Pn**	10 14 30.4	**+0.2**	**JNTH**	**Nagotoyohara**	**7.21**	**47**	*e*S	**Sn**	**10 16 50.8**	**-5.0**
EAST				*i* S	**Sn**	10 14 29.4	**-1.8**	ETLH				e S	**Sn**	10 14 59.0	**-2.0**	**HKPS**	**Hong Kong Po S**	**7.42**	**276**	Pn	**Pn**	**10 15 35.8**	**-1.2**
TTN	**Taitung**	**1.37**	**319**	*e*P	**Pn**	10 14 13.6	**-0.2**	**EOS3**	**EOS3**	**2.57**	**4**	*e*P	**Pn**	10 14 31.1	**+0.9**	**JIH**	**Iheya**	**7.52**	**44**	*e*P	**Pn**	**10 15 38.7**	**+0.3**
TTN				S	**Sn**	10 14 30.7	**-1.0**	EOS3				S	**Sn**	10 15 00.3	**-0.7**	**JOW**	**Kunigami**	**7.59**	**47**	Pn	**Pn**	**10 15 39.7**	**+0.4**
ECL	**Taimali**	**1.39**	**310**	⇓P	**Pn**	10 14 12.8	**-1.3**	**WCS**	**Beigang Elemen**	**2.58**	**335**	*e*P	**Pn**	10 14 32.5	**+1.9**		comp=E,11nm,0.3s,baz=129,slow=26,SNR=14														
ECL				S	**Sn**	10 14 28.8	**-3.3**	WCS				e S	**Sn**	10 15 02.5	**+0.9**		comp=E,34nm,0.5s														
TWGBT	**Beinan**	**1.46**	**319**	P	**Pn**	10 14 14.6	**-0.5**	**WSF**	**Szhu**	**2.59**	**318**	*e*P	**Pn**	10 14 32.1	**+1.5**	**JOW**	**Kunigami**	**7.59**	**47**	*e*P	**Pn**	**10 15 40.6**	**+1.2**
TWGBT	**Beinan**	**1.46**	**319**	⇑P	**Pn**	10 14 14.5	**-0.6**	WSF				e S	**Sn**	10 15 01.9	**+0.1**	**TGY**	**Tagaytay City**	**7.65**	**189**	LR	LR	10 18 46.7									
TWGBT				e S	**Sn**	10 14 32.7	**-1.1**	**EAHA**	**Aohua**	**2.63**	**353**	*e*P	**Pn**	10 14 31.6	**+0.4**		comp=E,948nm,18.2s,baz=319,slow=40													
EDH	**Donghe**	**1.46**	**329**	⇑*e*P	**Pn**	10 14 13.8	**-1.3**	EAHA				S	**Sn**	10 15 00.9	**-1.8**	**JMZ**	**Minamidaito 2**	**9.29**	**62**	Pn	**Pn**	**10 16 04.3**	**+1.6**
EDH				e S	**Sn**	10 14 31.0	**-2.9**	**FUSS**	**Fushou**	**2.65**	**343**	*e*P	**Pn**	10 14 32.5	**+0.8**	**NJ2**	**Nanjing**	**10.70**	**345**	*e*P	**Pn**	**10 16 23.1**	**+1.1**
TWG	**Pinlang**	**1.47**	**319**			10 14 14.5	**-0.6**	FUSS				S	**Sn**	10 15 02.9	**-0.7**	NJ2				pmax	pmax										
TWG				Sn	**Sn**	10 14 32.5	**-1.5**	**TWT**	**Tachien**	**2.67**	**341**	*e*P	**Pn**	10 14 33.0	**+1.0**		comp=E,19nm,0.5s													
TWG	**Pinlang**	**1.47**	**319**	⇑*i*P	**Pn**	10 14 14.5	**-0.6**	TWT				*i* S	**Sn**	10 15 03.2	**-0.9**	**WHN**	**Wuhan**	**11.22**	**323**	P	**Pn**	**10 16 32.9**	**+3.8**
TWG				e S	**Sn**	10 14 32.6	**-1.5**	**TDCB**	**Techi**	**2.68**	**341**	*e*P	**Pn**	10 14 33.0	**+1.0**	**QIZ**	**Qiongzhong**	**11.81**	**259**	P	**Pn**	**10 16 36.3**	**-1.0**
LONT	**Longtian**	**1.50**	**323**	⇑*e*P	**Pn**	10 14 15.2	**-0.4**	**EOS2**	**EOS2**	**2.70**	**2**	*e*P	**Pn**	10 14 33.2	**+1.3**	QIZ				S	**Sn**	**10 18 48.5**	**-0.4**
LONT				e S	**Sn**	10 14 33.0	**-1.8**	EOS2				e S	**Sn**	10 15 02.3	**-1.9**	QIZ				LR	LR										
SCZT	**Fangliau**	**1.53**	**296**	⇑P	**Pn**	10 14 16.0	**0.0**	**ENA**	**Nanau**	**2.73**	**353**	P	**Pn**	10 14 32.4	**-0.1**		comp=E,750nm,12.8s														
SCZT				e S	**Sn**	10 14 33.4	**-2.3**	ENA				e S	**Sn**	10 15 02.9	**-2.2**	QIZ				LR	LR										
CHKT	**Chengkung**	**1.54**	**334**	⇑P	**Pn**	10 14 14.8	**-1.4**	**EWUT**	**Wuta**	**2.74**	**354**	*e*P	**Pn**	10 14 33.1	**+0.4**		comp=E,500nm,16.9s														
CHKT				e S	**Sn**	10 14 32.8	**-3.1**	EWUT				S	**Sn**	10 15 04.0	**-1.4**	QIZ				LR	LR										
ECS	**Chishang**	**1.61**	**329**	*e*P	**Pn**	10 14 17.1	**-0.1**	**WCH1**	**Changhua City**	**2.76**	**329**	*e*P	**Pb**	10 14 35.7	**-2.6**		comp=E,1μm,16.9s														
ECS				*i* S	**Sn**	10 14 36.6	**-0.9**	WCH1				e S	**Sn**	10 15 08.1	**+2.2**	**JNU**	**Nakatsue**	**13.77**	**33**	Pn	**Pn**	**10 17 04.2**	**+0.2**
CHKH	**Chenggong**	**1.61**	**336**	⇑*e*P	**Pn**	10 14 16.0	**-1.2**	**WCHH**	**Zhanghua**	**2.76**	**329**	*e*P	**Pn**	10 14 35.6	**+2.7**	**JNU**	**Nakatsue**	**13.77**	**33**	Pn	**Pn**	**10 17 04.1**	**+0.1**
CHKH				e S	**Sn**	10 14 34.6	**-3.1**	WCHH				e S	**Sn**	10 15 07.3	**+1.4**		comp=E,1.1nm,0.3s,baz=242,slow=3.4,SNR=9.3														
MASBT	**Mashibuluo**	**1.64**	**303**	⇑P	**Pn**	10 14 17.2	**-0.3**	**TCU**	**Taichung**	**2.76**	**332**	*e*P	**Pn**	10 14 35.4	**+2.4**		comp=E,8.3nm,0.7s														
MASBT				e S	**Sn**	10 14 35.7	**-2.6**	TCU				e S	**Sn**	10 15 08.7	**+2.6**	**DAV**	**Davao City (W)**	**14.94**	**167**	LR	LR	10 22 58.4									
EHD	**Haiduan**	**1.66**	**330**	⇑*i*P	**Pn**	10 14 17.0	**-0.8**	**WHP**	**Taichung City**	**2.77**	**337**	*e*P	**Pn**	10 14 35.5	**+2.3**		comp=E,899nm,19.7s,baz=346,slow=38														
EHD				S	**Sn**	10 14 37.0	**-1.8**	WHP				e S	**Sn**	10 15 07.8	**+1.4**	**TIA**	**Tai'an**	**15.09**	**344**	P	**P**	**10 17 25.0**	**-2.1**
FULB	**Fuli**	**1.66**	**333**	⇑*e*P	**Pn**	10 14 16.7	**-1.2**	**NNSB**	**Datong**	**2.79**	**346**	*e*P	**Pn**	10 14 34.8	**+0.8**	TIA				pmax	pmax										
FULB				e S	**Sn**	10 14 36.6	**-2.4**	NNSB				*i* S	**Sn**	10 15 05.7	**-1.1**		comp=E,16nm,0.7s														
TSMG	**Majia**	**1.68**	**306**	*e*P	**Pn**	10 14 18.3	**+0.1**	**NNS**	**Nan Shan**	**2.80**	**346**	*e*P	**Pn**	10 14 34.8	**+1.1**	**TJN**	**Taejon**	**15.31**	**16**	⇓*i*P	**Pn**	**10 17 26.2**	**+1.3**
ECBN	**Changbin**	**1.71**	**339**	P	**Pn**	10 14 17.4	**-1.1**	NNS				S	**Sn**	10 15 05.9	**-1.3**	**LYN**	**LuoYang**	**15.35**	**329**	⇓P	**P**	**10 17 32.8**	**+2.8**
ECBN				e S	**Sn**	10 14 36.9	**-3.2**	**HATJ**	**Hateruma jima**	**2.81**	**33**	*i* P	**Pn**	10 14 34.8	**+1.1**	LYN				sP	pwP	10 17 43.4	**+4.1**								
SSD	**Sandimen**	**1.71**	**307**	*e*P	**Pn**	10 14 18.5	**-0.1**	HATJ				S	**Sn**	10 15 06.1	**-1.1**	LYN				pmax	pmax										
SSD				e S	**Sn**	10 14 37.1	**-3.1**	**JYNG**	**Yonagunijimaku**	**2.83**	**16**	P	**Pn**	10 14 34.6	**+0.6**		comp=Z,63nm,0.9s													
WLCH	**Liuqiu**	**1.73**	**292**	*e*P	**Pg**	10 14 22.2	**-0.5**	JYNG				e S	**Sn**	10 15 06.4	**-1.4**	LYN				LR	LR										
WLCH				e S	**Sb**	10 14 42.5	**+0.2**	**YOJ**	**Yonaguni jima**	**2.86**	**17**		**Pn**	10 14 35.3	**+0.9**		comp=N,1μm,14.8s													
TWP	**Hsiaoliuchiu**	**1.74**	**292**	*e*P	**Pb**	10 14 21.1	**+0.1**	**YOJ**	**Yonaguni jima**	**2.86**	**17**	P	**Pn**	10 14 35.6	**+1.3**	LYN				LR	LR										
ELDTW	**Lidau**	**1.79**	**326**	*i* P	**Pn**	10 14 19.1	**-0.5**	**YOJ**	**Yonaguni jima**	**2.86**	**17**	S	**Sn**	10 15 09.0	**+0.6**		comp=E,780nm,13.1s														
ELDTW				e S	**Sn**	10 14 40.0	**-2.1**	**YOJ**	**Yonaguni jima**	**2.86**	**17**	P	**Pn**	10 14 35.3	**+0.9**	LYN				LR	LR										
EYUL	**Yuli**	**1.79**	**336**	*e*P	**Pn**	10 14 18.4	**-1.2**	**YOJ**	**Yonaguni jima**	**2.86**	**17**	*e*P	**Pn**	10 14 35.2	**+0.9**		comp=Z,2μm,11.0s														
EYUL				e S	**Sn**	10 14 40.2	**-1.7**	YOJ				S	**Sn**	10 15 08.6	**+0.2**	**KSAR**	**Wonju Array Be**	**16.45**	**16**		**Pn**	**10 17 40.9**	**+1.4**
TWF1	**Yuli**	**1.80**	**335**	P	**Pn**	10 14 18.9	**-0.9**	**YOJ**	**Yonaguni jima**	**2.86**	**17**	*i* P	**Pn**	10 14 35.3	**+0.9**	**KSAR**	**Wonju Array Be**	**16.45**	**16**	P	**Pn**	**10 17 40.9**	**+1.4**
TWF1				S	**Sn**	10 14 40.4	**-1.9**	YOJ				e S	**Sn**	10 15 07.5	**-0.9**	**KSRS**	**Korea Array**	**16.47**	**17**	Pn	**Pn**	**10 17 40.6**	**+0.8**
SGLT	**Jiouru**	**1.81**	**304**	*e*P	**Pb**	10 14 22.6	**+0.5**	**ESAO**	**Su ao**	**2.86**	**355**	*e*P	**Pn**	10 14 35.8	**+1.5**		comp=Z,0.6nm,0.3s,baz=198,slow=13,SNR=43														
YULB	**Yu-li**	**1.83**	**336**		**Pn**	10 14 19.5	**-0.8**	ESAO				*i* S	**Sn**	10 15 07.9	**-0.6**		comp=Z,10nm,0.5s														
YULB	**Yu-li**	**1.83**	**336**	P	**Pn**	10 14 19.3	**-1.0**	**LATG**	**Datong**	**2.86**	**349**	*e*P	**Pn**	10 14 35.2	**+0.7**	**KS19**	**Wonju Array Si**	**16.50**	**16**		**Pn**	**10 17 41.1**	**+0.8**
YULB	**Yu-li**	**1.83**	**336**	⇑P	**Pn**	10 14 19.5	**-0.8**	**TWC**	**Suao**	**2.89**	**355**	*i* P	**Pn**	10 14 35.5	**+0.7**	**KKM**	**Kota Kinabalu**	**16.59**	**201**		**Pn**	**10 17 41.1**	**-0.5**
YULB				e S	**Sn**	10 14 40.5	**-2.7**	TWC				*i* S	**Sn**	10 15 08.2	**-1.1**	**MYLDM**	**Lahad Datu**	**16.80**	**193**	Pn	**Pn**	**10 17 43.0**	**-1.1**
HGSD	**Ruisui**	**1.88**	**340**	⇑*i*P	**Pn**	10 14 19.6	**-1.3**	**VCHM**	**Qimei**	**2.89**	**301**	*e*P	**Pn**	10 14 34.6	**-0.2**	**HNS**	**HongShan**	**16.90**	**339**	⇓P	**P**	**10 17 47.9**	**+0.8**
HGSD				e S	**Sn**	10 14 40.9	**-3.4**	VCHM				e S	**Sn**	10 15 07.4	**-1.9**	HNS				pmax	pmax										
SCST	**Cishan**	**1.90**	**308**	*e*P	**Pb**	10 14 23.1	**-0.6**	**TWQ1**	**Liyutan**	**2.90**	**335**	*i* P	**Pn**	10 14 37.8	**+2.9**		comp=E,39nm,1.2s														
SCST				e S	**Sb**	10 14 47.0	**-0.1**	TWQ1				e S	**Sn**	10 15 12.3	**+2.8**	HNS				LR	LR										
STYH	**Taoyuan**	**1.91**	**320**	*i* P	**Pn**	10 14 21.8	**+0.6**	**NDS**	**Dongshan**	**2.93**	**353**	*e*P	**Pn**	10 14 35.3	**0.0**		comp=E,880nm,15.1s														
STYH				e S	**Sn**	10 14 44.7	**-0.2**	NDS				e S	**Sn**	10 15 08.5	**-1.7**	HNS				LR	LR										
EHYH	**Wanrong**	**1.91**	**338**	*e*P	**Pn**	10 14 20.9	**-0.3**	**WDJ**	**Dajia District**	**2.95**	**333**	*e*P	**Pb**	10 14 39.0	**-2.6**		comp=E,900nm,15.9s														
EHYH				S	**Sn**	10 14 42.9	**-2.1**	WDJ				e S	**Sn**	10 15 13.8	**+3.0**	**XAN**	**Xi'an**	**16.91**	**319**	P	**Pn**	**10 17 46.4**	**+0.9**
TWM1	**Shoushan**	**1.92**	**306**	*e*P	**Pb**	10 14 24.4	**+0.4**	**PHUB**	**P'eng-hu**	**2.95**	**308**	*e*P	**Pn**	10 14 35.9	**+0.3**	XAN				pmax	pmax										
TWM1				e S	**Sn**	10 14 45.7	**+0.5**	PHUB				S	**Sn**	10 15 09.2	**-1.6**		comp=Z,41nm,1.3s														
EHY	**Hungye**	**1.93**	**338**	*e*P	**Pn**	10 14 21.3	**-0.2**	**ENTT**	**Nioudou**	**2.96**	**350**	*e*P	**Pn**	10 14 36.6	**+0.9**	XAN				LR	LR										
EHY				S	**Sn**	10 14 43.6	**-1.9**	ENTT				*i* S	**Sn**	10 15 10.3	**-0.6**		comp=Z,800nm,4.3s														
SNJT	**Kaohsiung City**	**1.95**	**303**	*e*P	**Pb**	10 14 25.2	**+0.7**	**NSY**	**Sanyi**	**2.96**	**335**	*i* P	**Pb**	10 14 39.2	**-2.7**	XAN				LR	LR										
SNJT				e S	**Sb**	10 14 48.2	**-0.3**	NSY				*i* S	**Sb**	10 15 14.6	**-3.3**		comp=Z,640nm,4.4s														
WSSB	**Gushan**	**1.95**	**299**	P	**Pn**	10 14 23.9	**-0.6**	**PNG**	**Penghu**	**3.00**	**308**	*e*P	**Pn**	10 14 35.9	**0.0**	XAN				LR	LR										
EGFH	**Guangfu**	**2.05**	**342**	*e*P	**Pn**	10 14 23.0	**-0.1**	PNG				e S	**Sn**	10 15 10.2	**-1.6**		comp=E,1μm,19.9s														
EGFH				e S	**Sn**	10 14 46.9	**-1.5**	**IRIF**	**Iriomote-Funau**	**3.01**	**29**	*i* P	**Pn**	10 14 37.5	**+1.2**	**DL2**	**Dalian**	**17.14**	**359**	P	**P**	**10 17 50.8**	**+1.0**
TEGC	**Jichi Village**	**2.06**	**345**	*e*P	**Pn**	10 14 22.6	**-0.7**	IRIF				e S	**Sn**	10 15 11.5	**-0.6**	DL2				S	**S**	**10 21 03.8**	**-4.1**
TEGC				e S	**Sn**	10 14 46.1	**-2.5**	**YHNB**	**Yeheng**	**3.02**	**347**	Pn	**Pn**	10 14 37.6	**+0.9**	DL2				pmax	pmax										
WTP	**Ta-pu**	**2.06**	**318**	⇑P	**Pn**	10 14 24.9	**+1.5**	**YHNB**	**Yeheng**	**3.02**	**347**	P	**Pn**	10 14 37.9	**+1.3**		comp=Z,68nm,1.2s														
WTP				e S	**Sn**	10 14 50.1	**+1.2**	**YHNB**	**Yeheng**	**3.02**	**347**	*e*P	**Pn**	10 14 37.6	**+0.9**	DL2				pmax	pmax										
CHN1	**Nanshi**	**2.07**	**315**	P	**Pb**	10 14 25.8	**-0.8**	YHNB				e S	**Sn**	10 15 10.4	**-2.2**		comp=Z,490nm,5.1s														
CHN1				*i* S	**Sb**	10 14 50.9	**-1.3**	**TWE**	**Neicheng**	**3.02**	**352**	*i* P	**Pn**	10 14 37.9	**+1.3**	DL2				LR	LR										
SHHT	**Tainan City**	**2.09**	**309**	*e*P	**Pb**	10 14 26.7	**-0.2**	TWE				e S	**Sn**	10 15 10.8	**-1.7**		comp=Z,610nm,16.4s														
TPUB	**Ta-pu**	**2.09**	**319**		**Pn**	10 14 24.7	**+0.8**	**NSK**	**Sanguang**	**3.03**	**347**	*i* P	**Pn**	10 14 38.3	**+1.5**	DL2				LR	LR										
TPUB				Sn	**Sn**	10 14 50.5	**+0.9**	NSK				*i* S	**Sn**	10 15 11.6	**-1.2**		comp=Z,640nm,13.3s														
TPUB	**Ta-pu**	**2.09**	**319**	P	**Pn**	10 14 25.2	**+1.4**	**NFF**	**Wufeng Townshi**	**3.05**	**343**	*e*P	**Pn**	10 14 39.6	**+2.6**	DL2				LR	LR										
TPUB	**Ta-pu**	**2.09**	**319**	⇑*i*P	**Pn**	10 14 25.3	**+1.5**	**JKRS**	**Kuro-shima**	**3.06**	**34**	P	**Pn**	10 14 38.4	**+1.3**		comp=Z,780nm,8.8s														
TPUB				e S	**Sn**	10 14 51.0	**+1.4**	JKRS				S	**Sn**	10 15 12.5	**-0.9**	**INU**	**Inuyama**	**18.84**	**41**	P	**Pn**	**10 18 10.2**	**+1.1**
WARBT	**Fenglin Townsh**	**2.11**	**342**	⇑*i*P	**Pn**	10 14 23.3	**-0.7**	**NMLH**	**Miaoli**	**3.06**	**337**	*e*P	**Pn**	10 14 39.1	**+2.0**	**BJT**	**Baijiatuau**	**18.94**	**346**	P	**Pn**	**10 18 10.3**	**0.0**
CHN3	**Shinhua**	**2.11**	**310**	*e*P	**Pb**	10 14 26.5	**-0.8**	NMLH				S	**Sn**	10 15 16.4	**+2.9**	**BJT**	**Baijiatuau**	**18.94**	**346**	P	**Pn**	**10 18 10.3**	**0.0**
CHN3				e S	**Sb**	10 14 53.0	**-0.3**	**FUSB**	**Fushanzhiwuyua**	**3.07**	**351**	*e*P	**Pn**	10 14 38.5	**+1.2**	BJT				pmax	pmax										
SNST	**Tainan City**	**2.12**	**315**	*e*P	**Pb**	10 14 52.3	**-0.2**	FUSB				e S	**Sn**	10 14 38.8	**+0.8**		comp=Z,9.0nm,0.7s														
SNST				e S	**Sb**	10 14 52.3	**-1.2**	**NSTT**	**Nanjuang**	**3.08**	**341**	*e*P	**Pn**	10 14 39.9	**+2.5**	**JCJ**	**Chichijima**	**19.04**	**70**	P	**Pn**	**10 18 12.8**	**+1.1**
SHUL	**Shoufeng**	**2.13**	**346**	⇑*e*P	**Pn**	10 14 23.6	**-0.6**	**LIOB**	**Emei**	**3.09**	**341**	P	**Pn**	10 14 40.0	**+2.5**	**PZH**	**PanZhiHua**	**19.19**	**288**	P	**Pn**	**10 18 15.3**	**+1.7**
SHUL				S	**Sn**	10 14 48.6	**-1.8**	LIOB				e S	**Sn**	10 15 15.3	**+1.1**	**JGF**	**Kuroka**	**19.21**	**41**	P	**Pn**	**10 18 13.5**	**-0.3**
CHN4	**Tsaushan**	**2.15**	**320**	*i* P	**Pb**	10 14 26.8	**-1.2**	**NWLT**	**Wulai**	**3.10**	**350**	*e*P	**Pn**	10 14 39.2	**+1.5**	**MAJO**	**Matsushiro**	**20.35**	**40**		**P**	**10 18 26.2**	**+1.0**
CHN4				e S	**Sn**	10 14 52.6	**+1.6**	NWLT				e S	**Sn**	10 15 13.1	**-1.4**	**MAJO**	**Matsushiro**	**20.35**	**40** *d*	*i*P	Pn	10 18 29.0	**+1.8**
ALS	**Alishan**	**2.16**	**326**	⇑*i*P	**Pn**	10 14 25.8	**+0.8**	**EGS**		**3.12**	**357**	*e*P	**Pn**	10 14 39.5	**+1.6**	MAJO				pmax	pmax										
ALS				e S	**Sn**	10 14 51.3	**-0.2**	EGS				e S	**Sn**	10 15 12.8	**-2.1**		comp=Z,21nm,1.0s														
ESL	**Shilin**	**2.18**	**343**	*e*P	**Pn**	10 14 24.8	**-0.2**	**KSHI**	**Guanxi Townshi**	**3.17**	**344**	P	**Pn**	10 14 41.5	**+2.9**	**MJAR**	**Matsushiro Arr**	**20.35**	**40**		**P**	**10 18 26.2**	**+1.0**
ESL				S	**Sn**	10 14 49.3	**-2.5**	**JIJ**	**Ishigaki jima**	**3.23**	**35**	*i* P	**Pn**	10 14 40.2	**+0.7**	MJAR				pmax	pmax										
TEYL	**Yanliau Villag**	**2.20**	**348**	*e*P	**Pn**	10 14 25.2	**0.0**	JIJ				S	**Sn**	10 15 15.9	**-1.8**		comp=Z,18nm,1.2s														
TEYL				e S	**Sn**	10 14 51.3	**-0.8**	**JIJ**	**Ishigaki jima**	**3.23**	**35**	A	A	10 14 40.2		**MJAR**	**Matsushiro Arr**	**20.35**	**40**	P	**P**	**10 18 26.2**	**+1.0**
SSHA	**Shanhua**	**2.20**	**310**	*e*P	**Pb**	10 14 27.4	**-1.5**		comp=N,6.0nm,0.9s,comp=E,5.0nm,0.9s							MJAR				pmax	pmax										
SSHA				e S	**Sn**	10 14 54.0	**+1.8**	**SBCB**	**Hsinchu**	**3.24**	**342**	*e*P	**Pn**	10 14 42.0	**+2.5**		comp=Z,18nm,1.2s													
WCKO	**Fanlu**	**2.21**	**321**	⇑*e*P	**Pb**	10 14 27.6	**-1.4**	**HSN**	**Hsinchu**	**3.25**	**341**	*e*P	**Pn**	10 14 42.6	**+2.9**	**MJB9**	**Matsu-Tunnel**	**20.35**	**40**	P	Pn	10 18 26.8	**-0.4**
WCKO				e S	**Sb**	10 14 54.7	**-1.5**	HSN				S	**Sn**	10 15 20.6	**+2.5**	**CRAI**	**Chiangrai**	**20.35**	**270**	P	**P**	**10 18 25.3**	**0.0**
VWDT	**VWDT**	**2.22**	**336**	⇑*i*P	**Pn**	10 14 25.9	**+0.3**	**TIPB**	**Shuangxi**	**3.25**	**355**	*i* P	**Pn**	10 14 41.6	**+1.8**	**TOLI2**	**Tolitoli**	**20.52**	**184**		**P**	**10 18 26.5**	**-0.5**
WHYT	**Xinyi Township**	**2.29**	**330**	*i* P	**Pn**	10 14 55.1	**+0.6**	TIPB				e S	**Sn**	10 15 17.6	**-0.7**	**HHC**	**Hu-ho-hao-te**	**21.07**	**337**	*e*P	**P**	**10 18 34.8**	**+1.8**
WHYT				S	**Sn**	10 14 55.1	**+0.6**	**NHDH**	**Xindian Distri**	**3.28**	**351**	*e*P	**Pn**	10 14 42.0	**+1.9**	HHC				pmax	pmax										
SCLT	**Jiali**	**2.30**	**310**	*e*P	**Pn**	10 14 25.2	**-1.4**	NHDH				e S	**Sn**	10 15 18.5	**-0.4**		comp=Z,12nm,0.6s														
SCLT				e S	**Sn**	10 14 55.1	**+0.6**	**TWB1**	**Santiao Chiao**	**3.28**	**358**	*e*P	**Pn**	10 14 41.4	**+1.3**	HHC				pmax	pmax										
CHN5	**Tsauling**	**2.30**	**325**	⇑*i*P	**Pn**	10 14 28.5	**+1.8**	TWB1				S	**Sn**	10 15 17.8	**-1.0**		comp=Z,160nm,5.8s														
CHN5				e S	**Sb**	10 14 57.5	**-1.2**	**TWA**	**Mucha**	**3.29**	**352**	P	**Pn**	10 14 42.4	**+2.1**	HHC				LR	LR										
HWA	**Hwalien**	**2.30**	**348**	*e*P	**Pn**	10 14 26.3	**-0.4**	TWA				e S	**Sn**	10 15 18.7	**-0.4**		comp=E,400nm,11.8s														
HWA				e S	**Sn**	10 14 53.1	**-1.5**	**TATO**	**Taipei**	**3.30**	**350**		**Pn**	10 14 41.9	**+1.6**	HHC				LR	LR										
ETM	**Tongmen**	**2.31**	**346**	*e*P	**Pn**	10 14 26.1	**-0.7**	**TATO**	**Taipei**	**3.30**	**350**	P	**Pn**	10 14 41.7	**+1.3**		comp=Z,260nm,11.2s														
ETM				e S	**Sn**	10 14 52.4	**-2.7**	**NWF**	**Wu-fen Shan**	**3.36**	**355**	P	**Pn**	10 14 43.4	**+2.1**	HHC				LR	LR										
SSLB	**Suanglung**	**2.33**	**333**		**Pn**	10 14 27.6	**+0.6**	NWF				*i* S	**Sn**	10 15 21.1	**+0.2**		comp=Z,390nm,12.8s														
SSLB	**Suanglung**	**2.33**	**333**	P	**Pn**	10 14 28.5	**+1.5**	**WFSB**	**Wu-fen Shan**	**3.36**	**355**	*e*P	**Pn**	10 14 43.7	**+2.5**	**MRSI**	**Marisa**	**21.11**	**180**	P	**P**	**10 18 34.7**	**+1.3**
SSLB	**Suanglung**	**2.33**	**333**	S	**Sn**	10 14 55.8	**+0.5**	WFSB				S	**Sn**	10 15 21.2	**+0.5**		comp=Z,22nm,1.1s														
SSLB	**Suanglung**	**2.33**	**333**	⇑P	**Pn**	10 14 27.7	**+0.6**	**SXI1**	**Grass Mountain**	**3.37**	**356**	*i* P	**Pn**	10 14 43.1	**+1.6**	**MPSI**	**Mapaga**	**21.36**	**186**	P	**P**	**10 18 35.9**	**-0.2**
SSLB				S	**Sn**	10 14 54.0	**-1.3**	SXI1				S	**Sn**	10 15 20.7	**-0.6**	**LZH**	**Lanzhou**	**21.42**	**316**	*e*P	**P**	**10 18 38.5**	**+1.7**
TSCK	**Chigu Township**	**2.36**	**308**	*e*P	**Pn**	10 14 28.5	**+1.1**	**TWS1**	**Kuangyinshan**	**3.43**	**349**	*e*P	**Pn**	10 14 44.2	**+1.9**	LZH				sP	pwP	10 18 46.5	**+0.2**
ICHU	**Yijhu**	**2.36**	**314**	*e*P	**Pn**	10 14 29.1	**+1.6**	TWS1				e S	**Sn**	10 15 23.6	**+1.0**	LZH				S	**S**	**10 22 35.1**	**+1.0**
ICHU				e S	**Sn**	10 14 57.9	**+1.8**	**TNOU**	**National Taiwa**	**3.44**	**355**	*e*P	**Pn**	10 14 44.1	**+1.8**	LZH				pmax	pmax										
CHN2	**Minshiung**	**2.36**	**320**	*e*P	**Pb**	10 14 29.8	**-1.7**	TNOU				e S	**Sn**	10 15 22.2	**-0.5**		comp=E,40nm,1.3s														
CHN2				e S	**Sn**	10 14 58.1	**+2.0**	**YM01**	**YM01**	**3.45**	**352**	*e*P	**Pn**	10 14 44.2	**+1.6**	LZH				LR	LR										
CHY	**Chiayi**	**2.37**	**319**	*e*P	**Pn**	10 14 29.5	**+1.9**	YM01				e S	**Sn**	10 15 23.2	**0.0**		comp=E,710nm,14.4s														
CHY				e S	**Sn**	10 14 57.1	**+0.8**	**ZUZH**	**Zhuzihu**	**3.47**	**351**	*e*P	**Pn**	10 14 44.4	**+1.5**	LZH				LR	LR										
LXIB	**Xiulin Townshi**	**2.39**	**344**	⇑*e*P	**Pn**	10 14 27.4	**-0.6**	ZUZH				S	**Sn**	10 15 23.1	**-0.5**		comp=E,620nm,14.4s														
LXIB				e S	**Sn**	10 14

MSHR Mys Shultsa 22.14 18 eP P 10 18 48.4 +4.0
MSHR pmax pmax
comp=Z,36nm,1.0s
XLT XiLinHaoTe 22.69 349 eP P 10 18 51.5 +1.2
XLT sP pwP 10 19 02.4 +2.5
XLT pmax pmax
comp=Z,19nm,1.2s
XLT LR LR
comp=Z,320nm,15.7s
XLT LR LR
comp=Z,330nm,14.0s
JMM Marumori 22.78 41 P P 10 18 52.7 +1.5
JMM IAmb IAmb 10 19 06.8
comp=Z,18nm,0.9s
VLA Vladivostok 22.85 19 i P P 10 18 54.5 +2.6
VLA pmax pmax
comp=Z,27nm,0.8s
GUMO Guam 23.12 107 LR LR 10 27 35.4
comp=Z,216nm,19.3s,baz=257,slow=36
MDJ Mudanjiang 23.66 13 P P 10 19 02.2 +2.2
MDJ Mudanjiang 23.66 13 P P **10 19 03.3 +3.2**
MDJ pmax pmax
comp=Z,94nm,0.7s
USA0B Ussuriysk Arra 23.87 18 P 10 19 02.9 +0.8
USA0B IAmb IAmb 10 19 07.2
comp=Z,18nm,0.8s
USA0B Ussuriysk Arra 23.87 18 P P **10 19 02.9 +0.8**
USA0B pmax pmax
comp=Z,18nm,0.9s
USRK Ussuriysk Ar. 23.87 18 P 10 19 04.0 +1.9
USRK Ussuriysk Ar. 23.87 18 P P **10 19 04.1 +2.0**
comp=Z,20nm,0.8s,baz=210,slow=10,SNR=24
USRK LR LR 10 29 07.4
comp=Z,204nm,18.9s,baz=180,slow=38
comp=Z,20nm,0.8s
BNX BinXian 24.36 9 ⇓P P 10 19 08.1 +1.6
BNX pmax pmax
comp=Z,27nm,1.1s
JTM Tenmabayashi 24.89 36 P P 10 19 12.7 +1.3
GTA Gaotai 25.96 318 eP P 10 19 22.6 +1.2
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA LR LR
comp=Z,340nm,15.3s
GTA LR LR
comp=Z,440nm,15.3s
GTA LR LR
comp=Z,380nm,17.8s
FAKI Fak Fak 26.41 157 P P 10 19 26.7 +1.2
FAKI IAmb IAmb 10 19 33.2
comp=Z,34nm,1.2s
KAPI Kappang 26.66 185 LR LR 10 30 22.7
comp=Z,224nm,20.1s,baz=14,slow=38
ASAJ Asahikawa 28.05 32 LR LR 10 30 44.4
comp=Z,191nm,20.8s,baz=13,slow=36
ASAJ Asahikawa 28.05 32 P P 10 19 39.3 -0.6
ASAJ pmax pmax
comp=Z,74nm,1.5s
JKA Kamikawa-asahi 28.05 32 P 10 19 39.3 -0.6
BRDH Bariadhala 28.21 278 LR LR 10 33 37.9
comp=Z,241nm,18.5s,baz=136,slow=42
ULN Ulaanbaatar 28.77 339 P 10 19 46.6 +0.2
ULN IAmb IAmb 10 19 47.5
comp=Z,14nm,0.8s
ULN Ulaanbaatar 28.77 339 ceP P 10 19 46.5 0.0
ULN pmax pmax
comp=Z,30nm,1.5s
HEH HeiHe 28.79 7 eP P 10 19 48.6 +2.2
HEH pmax pmax
comp=Z,15nm,1.3s
SONM Songino Array 28.97 338 P 10 19 48.6 +0.4
SONM IAmb IAmb 10 19 49.2
comp=Z,14nm,1.0s
SONM Songino Array 28.97 338 P P 10 19 48.1 -0.1
comp=Z,13nm,1.0s,baz=158,slow=9.6,SNR=42
SONM LR LR 10 32 26.9
comp=Z,396nm,19.6s,baz=158,slow=38
comp=Z,13nm,1.0s
SONM Songino Array 28.97 338 P P 10 19 48.6 +0.4
SONM pmax pmax
comp=Z,14nm,1.0s
JAY Jayapura 30.17 141 LR LR 10 29 50.3
comp=Z,356nm,19.4s,baz=352,slow=32
YSS Yuzhno-Sakhali 30.22 29 P P 10 20 01.1 +1.9
YSS Yuzhno-Sakhali 30.22 29 eP P 10 20 06.1 +6.9
YSS e*PP pwP 10 20 08.8 -0.2
YSS e*SP sP 10 20 10.1 +6.1
YSS pmax pmax
comp=Z,30nm,1.0s
BATI Baumata 31.76 177 LR LR 10 33 31.5
comp=Z,216nm,20.0s,baz=322,slow=38
ZEA Zeya 32.21 6 eP P 10 20 16.9 +0.3
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,30nm,0.9s
ZEA MLR MLR
comp=E,400nm,11.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
WMQ Urumqi 36.00 316 eP P 10 20 51.6 +1.9
WMQ pP sP 10 20 57.1 +2.4
WMQ pmax pmax
comp=Z,23nm,0.8s
FITZ Fitzroy Crossi 39.72 175 P P 10 21 18.5 -2.7
comp=Z,4.8nm,0.7s,baz=359,slow=5.0,SNR=12
comp=Z,4.8nm,0.7s
YAK Yakutsk 40.63 5 LR LR 10 40 28.5
comp=Z,192nm,18.4s,baz=207,slow=39
YAK Yakutsk 40.63 5 eP P 10 21 30.8 +2.5
YAK e 10 23 31.4
YAK eS **S 10 27 42.4 +5.2**
YAK eSS **SnSn 10 30 41.7 -1.8**
YAK e 10 31 37.3
YAK pmax pmax
comp=Z,23nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=N,18nm,1.3s
YAK smax smax
comp=N,38nm,2.5s
YAK smax smax
comp=E,34nm,2.4s
MK31 Makanchi Array 40.72 318 c iP P 10 21 30.2 +0.9
MKAR Makanchi Array 40.72 318 P 10 21 30.2 +0.8
MKAR Makanchi Array 40.72 318 P P 10 21 30.3 +1.0
comp=E,13nm,0.7s,baz=112,slow=9.4,SNR=94
MKAR LR LR 10 40 08.5
comp=E,190nm,18.0s,baz=89,slow=39
comp=E,13nm,0.7s
MKAR Makanchi Array 40.72 318 P P 10 21 30.2 +0.8
MAKZ Makanchi 40.92 317 P P 10 21 32.0 +1.0
MAKZ IAmb IAmb 10 21 33.0
comp=Z,28nm,1.1s
MAKZ Makanchi 40.92 317 P P 10 21 32.0 +1.0
MAKZ pmax pmax
comp=Z,28nm,1.1s
COEN Coen 41.03 148 P P 10 21 31.4 -0.8
COEN IAmb IAmb 10 21 39.8
comp=Z,22nm,1.3s
PETK Petropavlovsk- 41.46 32 P P 10 21 35.3 -0.1
PETK Petropavlovsk- 41.46 32 LR LR 10 40 49.0
comp=Z,102nm,18.2s,baz=278,slow=39
PETK Petropavlovsk- 41.46 32 P P 10 21 35.3 -0.1
H11N1 WAKE ISLAND Hy 41.82 84 T T 11 07 02.9
baz=282,slow=75,SNR=29
H11N2 WAKE ISLAND Hy 41.83 84 T T 11 06 56.5
baz=282,slow=75,SNR=37
H11N3 WAKE ISLAND Hy 41.84 84 T T 11 07 02.6
baz=282,slow=75,SNR=40
H11S3 WAKE ISLAND Hy 41.88 86 T T 11 07 06.7
baz=283,slow=74,SNR=70
H11S1 WAKE ISLAND Hy 41.89 86 T T 11 07 02.1
baz=283,slow=74,SNR=37
H11S2 WAKE ISLAND Hy 41.89 86 T T 11 07 10.7
baz=283,slow=74,SNR=24
TARG Taragay, Kyrgy 42.10 309 P P 10 21 41.6 +0.4
TARG Taragay, Kyrgy 42.10 309 P P 10 21 41.6 +0.4
TARG pmax pmax
comp=Z,9.0nm,1.0s
PALK Pallekele 42.43 257 LR LR 10 38 24.3
comp=Z,129nm,21.7s,baz=77,slow=35
ZAA0 Zalesovo Array 42.78 328 P P 10 21 46.1 0.0
ZAA0 IAmb IAmb 10 21 47.0
comp=Z,23nm,0.8s

ZALV Zalesovo Beam 42.78 328 P P 10 21 46.1 0.0
comp=Z,23nm,0.8s,baz=111,slow=8.1,SNR=62
ZALV LR LR 10 40 23.6
comp=Z,157nm,19.5s,baz=114,slow=37
comp=Z,23nm,0.8s
WB0 Warramunga Arr 42.94 163 P P 10 21 45.2 -2.5
WB0 IAmb IAmb 10 21 46.0
comp=Z,14nm,1.1s
MA2 Magadan 42.95 21 LR LR 10 41 58.6
comp=Z,132nm,18.6s,baz=273,slow=39
KSH Kashi 42.99 305 P P 10 21 52.5 +4.4
KSH pmax pmax
comp=Z,5.0nm,1.2s
PSA00 Pilbara Seismi 43.08 183 P P 10 21 46.3 -2.5
WRAB Tennant Creek 43.09 163 P P 10 21 47.0 -1.8
WRAB Tennant Creek 43.09 163 ⇑i P P 10 21 46.2 -2.7
WRAB pmax pmax
comp=Z,19nm,1.5s
WRA Warramunga Arr 43.09 163 P P 10 21 46.7 -2.2
WRA Warramunga Arr 43.09 163 P P 10 21 46.2 -2.8
comp=Z,4.9nm,0.8s,baz=344,slow=9.0,SNR=30
comp=Z,4.9nm,0.8s
WRA Warramunga Arr 43.09 163 P P 10 21 46.7 -2.2
WR8 Warramunga Arr 43.15 163 P P 10 21 47.1 -2.3
WR8 IAmb IAmb 10 21 59.2
comp=Z,9.0nm,0.7s
BOOM Boomskoye usch 43.63 309 P P 10 21 55.3 +1.9
BOOM Boomskoye usch 43.63 309 P P 10 21 55.3 +1.9
BOOM pmax pmax
comp=Z,7.0nm,0.9s
KURK Kurchatov 44.54 321 P 10 22 00.6 +0.4
KURK IAmb IAmb 10 22 01.8
comp=Z,15nm,0.8s
KURK Kurchatov 44.54 321 ceP P 10 22 00.7 +0.4
KURK pmax pmax
comp=Z,18nm,0.9s
KURBB Kurchatov Arra 44.55 321 P P 10 22 00.9 +0.6
comp=Z,14nm,0.8s,baz=117,slow=7.5,SNR=56
comp=Z,14nm,0.8s
AAK Ala-Archa 44.70 309 P P 10 22 03.4 +1.5
AAK IAmb IAmb 10 22 04.4
comp=Z,7.7nm,0.9s
AAK Ala-Archa 44.70 309 P P 10 22 02.4 +0.4
comp=Z,2.5nm,0.3s,baz=56,slow=21,SNR=5.1
AAK LR LR 10 43 48.7
comp=Z,239nm,18.7s,baz=108,slow=40
comp=Z,2.5nm,0.3s
AAK Ala-Archa 44.70 309 ⇑i P P 10 22 03.5 +1.5
AAK pmax pmax
comp=Z,8.0nm,0.9s
SEY Seymchan 46.02 19 LR LR 10 41 57.4
comp=Z,113nm,18.1s,baz=276,slow=37
SEY Seymchan 46.02 19 ⇑i P P 10 22 14.2 +2.4
SEY pmax pmax
comp=Z,4.0nm,1.1s
AS31 Alice Springs 46.54 165 P 10 22 14.7 -1.7
ASAR Alice Springs 46.54 165 P P 10 22 14.7 -1.7
ASAR Alice Springs 46.54 165 P P 10 22 14.6 -1.9
comp=Z,2.3nm,0.8s,baz=349,slow=11,SNR=21
ASAR LR LR 10 42 16.5
comp=Z,108nm,18.4s,baz=334,slow=37
comp=Z,2.3nm,0.8s
ASAR Alice Springs 46.54 165 P P 10 22 14.7 -1.7
GAR Garm 47.26 304 P P 10 22 22.7 +0.6
KK31 Karatay Array 47.66 309 P 10 22 26.2 +1.1
KK31 IAmb IAmb 10 22 27.2
comp=Z,8.3nm,0.8s
KK31 Karatay Array 47.66 309 P P 10 22 26.2 +1.1
KK31 pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 47.66 309 P P 10 22 26.1 +1.0
KKAR Karatay Array 47.66 309 P P 10 22 26.1 +1.0
CTAO Charters Tower 47.78 149 P P 10 22 26.4 +0.3
CTAO IAmb IAmb 10 22 47.2
comp=Z,10nm,1.2s
CTAO Charters Tower 47.78 149 P P 10 22 26.4 +0.3
CTAO pmax pmax
comp=Z,10.0nm,1.2s
KBL Kabul 48.02 297 P P 10 22 27.2 -1.0
KBL IAmb IAmb 10 22 54.3
comp=Z,6.2nm,1.0s
KBL Kabul 48.02 297 P P 10 22 27.2 -1.0
KBL pmax pmax
comp=Z,6.0nm,1.0s
HNR Honiara 48.34 126 LR LR 10 42 04.5
comp=Z,99nm,19.7s,baz=320,slow=35
TIXI Tiksi 50.11 3 LR LR 10 46 32.9
comp=Z,276nm,18.0s,baz=198,slow=39
BVAR Borovoye Array 50.13 322 P P 10 22 44.0 +0.3
comp=Z,4.7nm,0.7s,baz=112,slow=11,SNR=21
comp=Z,4.7nm,0.7s
BRVK Borovoye 50.20 322 P P 10 22 45.4 +1.1
BRVK IAmb IAmb 10 22 46.0
comp=Z,14nm,0.9s
BRVK Borovoye 50.20 322 c iP P 10 22 45.0 +0.7
BRVK pmax pmax
comp=Z,17nm,1.0s
FORT Forrest 52.50 174 P P 10 23 00.2 -1.5
FORT IAmb IAmb 10 23 01.1
comp=Z,8.0nm,0.8s
AMKA Amchitka 52.96 41 P P 10 23 05.9 +1.0
BILL Bilibino 53.72 19 P P 10 23 11.6 +1.3
BILL IAmb IAmb 10 23 12.2
comp=Z,16nm,1.1s
BILL Bilibino 53.72 19 d iP P 10 23 11.5 +1.2
BILL pmax pmax
comp=Z,13nm,1.0s
AB31 Akbulak array 55.78 316 P P 10 23 26.4 +0.8
AB31 IAmb IAmb 10 23 27.1
comp=Z,12nm,1.2s
ABKAR Akbulak array 55.78 316 P P 10 23 26.2 +0.6
BBOO Buckleboo 55.83 166 P P 10 23 25.0 -1.0
BBOO IAmb IAmb 10 23 41.1
comp=Z,16nm,1.0s
STKA Stephens Creek 56.46 160 P P 10 23 28.1 -2.4
comp=Z,1.4nm,0.6s,baz=334,slow=5.6,SNR=4.6
STKA LR LR 10 48 43.6
comp=Z,78nm,20.9s,baz=10,slow=37
comp=Z,1.4nm,0.6s
AKTO Aktyubinsk 57.14 317 LR LR 10 49 23.0
comp=Z,256nm,21.5s,baz=83,slow=37
SANVU Saraoutou 57.61 126 P P 10 23 40.2 +1.3
ARTI Arti 57.68 324 P P 10 23 38.8 -0.2
ARTI IAmb IAmb 10 23 39.4
comp=Z,9.6nm,0.7s
ARTI Arti 57.68 324 c iP P 10 23 38.6 -0.4
ARTI 10 25 45.0
ARTI S **S 10 31 38.4 +1.6**
ARTI SS **SS 10 35 26.3 -0.5**
ARTI pmax pmax
comp=Z,7.0nm,0.7s
KIRV Kirov 62.73 326 LR LR 10 55 33.5
comp=Z,103nm,18.1s,baz=100,slow=40
KIRV Kirov 62.73 326 ⇑i P P 10 24 13.1 -0.3
C16K Lisburne Hills 63.56 23 P P 10 24 20.2 +1.4
C18K Utukok River 65.12 23 P P 10 24 30.9 +1.7
C18K IAmb IAmb 10 24 31.6
comp=Z,9.1nm,0.9s
E18K Tukpahlearik C 65.27 25 P P 10 24 30.6 +0.5
E18K IAmb IAmb 10 24 34.1
comp=Z,4.8nm,0.9s
C19K Lookout Ridge 65.73 23 P P 10 24 34.7 +1.6
J17K VABM Dome 65.82 29 P P 10 24 35.2 +1.6
J17K IAmb IAmb 10 24 37.0
comp=Z,12nm,1.1s
M16K Timber Creek 65.91 32 P P 10 24 36.3 +2.0
E19K Redstone River 66.57 24 P P 10 24 40.0 +1.6
E19K IAmb IAmb 10 24 54.4
comp=Z,14nm,1.4s
B20K Meade River 66.61 22 P P 10 24 40.7 +2.0
D20K Etivluk River 66.80 23 P P 10 24 42.1 +2.2
D20K IAmb IAmb 10 24 55.2
comp=Z,7.3nm,0.8s
H19K Roundabout Mou 66.92 27 P P 10 24 43.1 +2.5
F20K Avaraart Lake 67.17 25 P P 10 24 44.0 +1.8
F20K IAmb IAmb 10 24 57.6
comp=Z,8.1nm,1.1s
J19K Poorman 67.34 28 P P 10 24 45.3 +1.9
J19K IAmb IAmb 10 25 13.6
comp=Z,8.8nm,1.3s
MSVF Nonsavu 67.35 121 P P 10 24 44.9 +0.7
MSVF Nonsavu 67.35 121 P P 10 24 44.9 +0.7
MSVF pmax pmax
comp=Z,36nm,1.2s
VRH Novokhopyorsk 67.45 318 eP P 10 24 43.5 -0.7
VRH pmax pmax
comp=Z,22nm,0.6s
KBZ Khabaz 67.70 310 P P 10 24 45.9 0.0
comp=Z,5.6nm,1.0s,baz=162,slow=2.0,SNR=7.6
comp=Z,5.6nm,1.0s
KBZ Khabaz 67.70 310 d iP P 10 24 47.1 +1.1
KBZ pmax pmax
comp=Z,8.0nm,1.0s
KLMR Klimovskoe 67.70 328 eP P 10 24 44.2 -1.5
KLMR e 10 27 13.7
KLMR pmax pmax
comp=Z,15nm,1.0s
KIV Kislovodsk 67.81 310 P P 10 24 47.9 +1.0
KIV Kislovodsk 67.81 310 eP P 10 24 47.4 +0.5
KIV pmax pmax
comp=Z,11nm,1.0s
J20K Nowinta River 67.97 28 P P 10 24 49.9 +2.5
J20K IAmb IAmb 10 24 50.7
comp=Z,8.9nm,1.1s
IMAR Indian Mountai 68.01 26 P P 10 24 49.7 +2.1
G21K Allakaket 68.07 25 P P 10 24 50.1 +2.1
G21K IAmb IAmb 10 25 02.6
comp=Z,10nm,1.2s
VORR Voronezh 68.94 319 eP P 10 24 50.2 -3.4
VORR pmax pmax
comp=Z,53nm,0.4s
LPSR Galich'ya Gora 68.97 320 eP P 10 24 49.9 -3.9
LPSR pmax pmax
comp=Z,27nm,1.0s
MOS Moscow 69.28 323 eP P 10 24 53.8 -1.8
MLY Manley 69.35 27 P P 10 24 57.6 +1.6
MLY IAmb IAmb 10 25 04.3
comp=Z,8.9nm,1.2s
BPAW Bear Paw Mtn. 69.36 28 P 10 24 58.1 +2.0
BPAW IAmb IAmb 10 25 04.2
comp=Z,9.6nm,1.3s
G23K Bananza Creek 69.44 25 P P 10 24 58.5 +2.0
G23K IAmb IAmb 10 24 59.6
comp=Z,8.4nm,1.1s
H23K Yukon River 69.74 26 P P 10 25 00.6 +2.2
H23K IAmb IAmb 10 25 07.7
comp=Z,7.9nm,1.0s
E24K Your Creek 69.85 24 P P 10 25 00.8 +1.7
E24K IAmb IAmb 10 25 07.3
comp=Z,12nm,1.2s
I23K Minto, Yukon-K 69.91 27 P P 10 25 01.4 +2.0
OBN Obninsk 69.97 322 eP P 10 24 58.6 -1.3
OBN i 10 27 36.9
OBN pmax pmax
comp=Z,27nm,1.7s
NEA2 Nenana 70.12 27 P P 10 25 02.5 +1.8
NEA2 IAmb IAmb 10 25 09.5
comp=Z,10nm,1.1s
F24K Squaw Lake 70.15 24 P P 10 25 02.7 +1.8
F24K IAmb IAmb 10 25 04.3
comp=Z,14nm,1.4s
MCK McKinley 70.31 28 P P 10 25 03.4 +1.5
MCK IAmb IAmb 10 25 18.5
comp=Z,7.6nm,1.0s
MCK McKinley 70.31 28 P P 10 25 03.4 +1.5
MCK pmax pmax
comp=Z,8.0nm,1.0s
RND Reindeer 70.40 29 P P 10 25 03.3 +0.8
RND IAmb IAmb 10 25 17.2
comp=Z,11nm,0.9s
RND Reindeer 70.40 29 P P 10 25 03.3 +0.8
RND pmax pmax
comp=Z,11nm,0.9s
PMR Palmer 70.57 30 P 10 25 05.6 +2.2
PMR Palmer 70.57 30 P P 10 25 05.6 +2.2
PMR pmax pmax
comp=Z,9.0nm,0.6s
GHO Glory Hole Cre 70.64 30 P P 10 25 05.9 +1.9
F25K Christian Rive 70.99 24 P P 10 25 08.2 +2.2
F25K IAmb IAmb 10 25 09.6
comp=Z,9.3nm,1.2s
ILAR Eielson Array 71.01 27 P P 10 25 08.0 +1.8
comp=Z,0.8nm,0.9s,baz=287,slow=7.6,SNR=5.7
comp=Z,0.8nm,0.9s
ILAR Eielson Array 71.01 27 P P 10 25 08.0 +1.8
PWL Port Wells 71.08 31 P P 10 25 07.6 +1.0
BMAR Burnt Mountain 71.42 24 P P 10 25 10.8 +2.2
G26K Porcupine Rive 71.83 24 IAmb IAmb 10 25 28.2
comp=Z,9.0nm,1.1s
SPB2 Spitsbergen Ar 72.07 348 P P 10 25 13.7 +1.4
SPITS Spitsbergen Ar 72.07 348 LR LR 11 01 47.0
comp=Z,125nm,18.5s,baz=54,slow=40
SPITS Spitsbergen Ar 72.07 348 P P 10 25 13.1 +0.8
SPITS pmax pmax
comp=Z,19nm,1.2s
ARCES ARCESS Array B 72.14 338 P P 10 25 14.9 +2.0
comp=Z,1.8nm,0.8s,baz=80,slow=4.2,SNR=3.8
comp=Z,1.8nm,0.8s
BMRM Bremner River 72.84 31 P P 10 25 18.0 +0.8
BCAR Beaver Creek A 73.59 28 P P 10 25 22.6 +0.9
FINES FINESS Array B 74.00 330 P P 10 25 24.3 +0.4
FINES FINESS Array B 74.00 330 P P 10 25 23.8 -0.2
comp=Z,3.8nm,0.9s,baz=79,slow=9.9,SNR=7.9
comp=Z,3.8nm,0.9s
G29M Pine Creek 74.03 24 IAmb IAmb 10 25 39.8
comp=Z,17nm,1.4s
H29M Whitestone 74.11 25 IAmb IAmb 10 25 43.8
comp=Z,9.0nm,1.1s
DAWY Dawson 74.34 27 IAmb IAmb 10 25 34.2
comp=Z,8.9nm,1.2s
K29M Barlow Dome 75.19 27 P P 10 25 33.0 +2.0
K29M IAmb IAmb 10 25 48.6
comp=Z,11nm,1.4s
AKASG Malin Array Be 75.28 319 P P 10 25 30.4 -1.3
comp=Z,1.1nm,0.5s,baz=66,slow=4.8,SNR=6.4
comp=Z,1.1nm,0.5s
AKASG Malin Array Be 75.28 319 i P P 10 25 30.3 -1.3
AKASG pmax pmax
comp=Z,2.0nm,0.6s
H31M Peel River 75.80 24 P P 10 25 35.3 +0.9
H31M IAmb IAmb 10 25 49.1
comp=Z,7.1nm,1.1s
HFS Hagfors 80.13 331 P P 10 25 57.8 -0.7
comp=Z,0.8nm,0.8s,baz=90,slow=3.3,SNR=2.3
comp=Z,0.8nm,0.8s
NB2 NORSAR Subarra 80.80 333 P P 10 26 01.0 -1.1
comp=Z,5.0nm,1.4s,baz=62,slow=5.3
NOA NORSAR Array B 80.80 333 P P 10 26 00.6 -1.5
comp=Z,1.0nm,0.8s,baz=63,slow=5.1,SNR=4.1
comp=Z,1.0nm,0.8s
RES Resolute Bay 80.95 9 LR LR 11 07 45.8
comp=Z,59nm,18.1s,baz=28,slow=40
YKA Yellowknife Ar 84.90 23 P P 10 26 21.7 -1.6
comp=Z,0.7nm,0.8s,baz=318,slow=5.9,SNR=5.4
comp=Z,0.7nm,0.8s
GERES GERESS Array B 85.29 321 P P 10 26 24.3 -1.4
comp=Z,0.7nm,0.6s,baz=64,slow=3.1,SNR=6.8
comp=Z,0.7nm,0.6s
RAR Rarotonga 87.34 114 LR LR 11 01 07.0
comp=Z,90nm,20.0s,baz=320,slow=32

*NEIC **19** 10:26:02.8±1.2, 6°.60S±0°.08×127°.93E±0°.08, h299km±10km, mb4.4/13, Error ellipse: s-maj=13.0km s-min=9.5km az=130.0*
*IDC **19** 10:26:05.7±3.0, 6°.98S×128°.02E, h318km±33km, mb3.3/6, mbtmp4.3/10, Error ellipse: s-maj=43.6km s-min=13.7km az=66.0*
ISC 19 10:26:03.3±0.5, **6°.80S**±0°.06×**127°.99E**±0°.06, **h309**km, **n49, σ1s72/53, mb3.9/8, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h	m	s	Res ISC
SAUI	**Saumlaki**	**3.49**	**110**			**Pn**	**10**	**27**	**04.5**	**-0.1**
SAUI						Sn	**10**	**27**	**54.4**	**+0.6**
SOEI	**Soe**	**4.71**	**231**			**Pn**	**10**	**27**	**18.6**	**+0.6**
SOEI						Sn	**10**	**28**	**17.2**	**-0.9**
SOEI	**Soe**	**4.71**	**231**		P	**Pn**	**10**	**27**	**19.1**	**+1.1**
SOEI	**Soe**	**4.71**	**231**		S	**S**	**10**	**28**	**17.3**	**-0.7**
SANI	**Sanana**	**5.12**	**337**		P	**Pn**	**10**	**27**	**25.1**	**+2.5**
BATI	**Baumata**	**5.45**	**231**		P	**Pn**	**10**	**27**	**28.0**	**+1.5**
	191nm,0.4s,baz=122,slow=0.8,SNR=24									
BATI					S	**S**	**10**	**28**	**29.9**	**-3.6**
	161nm,0.4s,baz=251,slow=23,SNR=17									
FAKI	**Fak Fak**	**5.73**	**48**		Pn	**Pn**	**10**	**27**	**27.7**	**-2.1**
DRS	**Darwin Rock St**	**6.29**	**153**		P	**Pn**	**10**	**27**	**35.3**	**-1.1**
MTN	**Manton Dam**	**6.76**	**153**			**Pn**	**10**	**27**	**41.2**	**-0.8**
KDU	**Kakadu**	**7.34**	**143**		P	**Pn**	**10**	**27**	**47.8**	**-1.1**
TNTI	**Ternate**	**7.54**	**355**		Pn	**Pn**	**10**	**27**	**45.8**	**-5.7**
KNRA	**Kununurra**	**8.86**	**175**			**Pn**	**10**	**28**	**07.6**	**+0.2**

PLAI	**Plampang**	**10.31 258**	P		**Pn**	**10 28 27.4**	**+2.1**
FITZ	**Fitzroy Crossi**	**11.46 191**	P		**Pn**	**10 28 38.7**	**-0.5**
	13nm,0.4s,baz=24,slow=11,SNR=62						
FITZ				S	**S**	**10 30 45.4**	**-1.9**
	3.9nm,0.5s,baz=43,slow=8.7,SNR=4.3						
WB0	**Warramunga Arr**	**14.32 155**			**P**	**10 29 12.4**	**0.0**
WRAB	**Tennant Creek**	**14.45 155**	P		**P**	**10 29 14.3**	**+0.4**
WRA	**Warramunga Arr**	**14.45 155**	P		**P**	**10 29 12.9**	**-1.1**
WRA	**Warramunga Arr**	**14.45 155**	P		**P**	**10 29 14.1**	**+0.1**
	2.2nm,0.3s,baz=339,slow=11,SNR=112						
WR8	**Warramunga Arr**	**14.53 155**			**P**	**10 29 15.4**	**+0.6**
MBWA	**Marble Bar**	**16.36 208**	P		**P**	**10 29 36.0**	**+1.2**
MBWA				IAmb	IAmb	10 29 37.1	
	comp=Z,19nm,1.2s						
MBWA	**Marble Bar**	**16.36 208**	P		**P**	**10 29 36.6**	**+1.8**
COEN	**Coen**	**16.54 117**	P		**P**	**10 29 37.8**	**+0.9**
COEN				IAmb	IAmb	10 29 38.7	
	comp=Z,15nm,0.9s						
COEN	**Coen**	**16.54 117**	P		**P**	**10 29 37.5**	**+0.6**
PSA00	**Pilbara Seismi**	**16.66 207**	P		**P**	**10 29 39.9**	**+1.8**
PSA00				IAmb	IAmb	10 29 40.5	
	comp=Z,9.6nm,0.7s						
PSA00	**Pilbara Seismi**	**16.66 207**	P		**P**	**10 29 39.9**	**+1.8**
KKM	**Kota Kinabalu**	**17.34 317**	P		**P**	**10 29 41.3**	**-4.3**
AS31	**Alice Springs**	**17.71 162**			**P**	**10 29 50.8**	**+1.3**
AS31				IAmb	IAmb	10 29 51.3	
	comp=Z,9.1nm,0.7s						
ASAR	**Alice Springs**	**17.71 162**	P		**P**	**10 29 50.7**	**+1.2**
	comp=Z,20nm,0.5s,baz=343,slow=11,SNR=422						
ASAR				S	**S**	**10 32 55.0**	**-2.2**
	comp=Z,2.6nm,0.8s,baz=343,slow=24,SNR=5.8						
QIS	**Mount Isa**	**17.72 142**	P		**P**	**10 29 50.6**	**+1.0**
AS01	**Alice Springs**	**17.73 162**	P		**P**	**10 29 50.8**	**+1.2**
MEEK	**Meekatharra**	**21.66 203**	P		**P**	**10 30 30.7**	**+1.1**
FORT	**Forrest**	**23.86 180**	P		**P**	**10 30 51.1**	**+1.6**
BLDU	**Ballidu**	**25.95 203**	P		**P**	**10 31 09.5**	**+1.2**
KLBR	**Kellerberrin**	**26.46 200**	P		**P**	**10 31 14.4**	**+1.6**
BBOO	**Buckleboo**	**26.95 165**	P		**P**	**10 31 18.7**	**+1.6**
BBOO	**Buckleboo**	**26.95 165**	P		**P**	**10 31 18.0**	**+0.9**
STKA	**Stephens Creek**	**28.00 155**	P		**P**	**10 31 27.3**	**+0.8**
STKA				IAmb	IAmb	10 31 46.8	
	comp=Z,32nm,1.4s						
STKA	**Stephens Creek**	**28.00 155**	P		**P**	**10 31 26.0**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=346,slow=8.3,SNR=2.0						
	comp=Z,1.0nm,0.5s						
TPUB	**Ta-pu**	**30.77 347**	P		**P**	**10 31 48.7**	**-2.2**
KSRS	**Korea Array**	**44.02 360**	P		**P**	**10 33 43.5**	**+2.5**
	comp=Z,0.9nm,0.6s,baz=173,slow=9.5,SNR=6.0						
	comp=Z,0.9nm,0.6s						
EVN	**Everest**	**52.67 313**			**P**	**10 34 43.9**	**-3.7**
EVN				IAmb	IAmb	10 34 45.6	
	comp=Z,8.3nm,0.6s						
MKAR	**Makanchi Array**	**66.97 328**	P		**P**	**10 36 26.3**	**+3.0**
	comp=Z,0.6nm,0.4s,baz=121,slow=7.7,SNR=8.8						
	comp=Z,0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**70.53 335**	P		**P**	**10 36 47.0**	**+2.1**
	comp=Z,1.1nm,0.5s,baz=126,slow=7.5,SNR=4.3						
	comp=Z,1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**71.30 329**	P		**P**	**10 36 52.4**	**+2.8**
	comp=Z,1.6nm,0.6s,baz=131,slow=5.0,SNR=14						
	comp=Z,1.6nm,0.6s						
MSEY	**Mahe Island**	**72.12 267**	P		**P**	**10 36 54.3**	**-1.0**
ABKAR	**Akbulak array**	**81.11 322**	P		**P**	**10 37 43.9**	**-0.6**
G19K	**Purcell Mounta**	**90.14 23**	P		**P**	**10 38 29.1**	**+0.7**
G19K				IAmb	IAmb	10 38 59.4	
	comp=Z,6.3nm,1.4s						
C23K	**Itkillik River**	**93.37 20**	P		**P**	**10 38 44.8**	**+1.6**
ILAR	**Eielson Array**	**94.02 25**	P		**P**	**10 38 47.8**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=264,slow=3.5,SNR=2.5						
	comp=Z,0.2nm,0.6s						

*SOME **19** 10:37:43.0, 40.00N×82.62E, h0km*
*NNC **19** 10:38:06.5±8.3, 41.07N×82.49E, h0km, mb3.5, mpv3.1,*
Error ellipse: s-maj=63.9km s-min=43.9km az=161.0
ISC 19 10:37:38.1±3.9, 39.8N±0.2×82.7E±0.1, h10km, n11,
σ2s02/17, 3C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KTMS	**Ketmen**	**4.06**	**335**	*eP*		**Pg**	**10 38 54.9**	**-0.9**
	1.2nm,0.2s							
KTMS				*eS*		**Sg**	**10 39 46.5**	**-1.8**
	12nm,0.4s							
SHLS	**Shalkode**	**4.15**	**326**	Pg		**Pb**	**10 38 52.8**	**+1.5**
SHLS				Lg		Lg	10 39 43.0	
SHLS	**Shalkode**	**4.15**	**326**	*eP*		**Pb**	**10 38 52.8**	**+1.5**
	3.4nm,0.1s							
SHLS				*eS*		**Sb**	**10 39 43.0**	**+1.5**
	46nm,0.2s							
PDGK	**Podgornoye**	**4.28**	**327**	⇓Pn		**Pg**	**10 38 58.3**	**-1.7**
	17nm,0.5s							
PDGK				⇑Sn		**Sn**	**10 39 38.3**	**+4.8**
	20nm,0.6s							
TNSS	**Tian-Shan**	**5.40**	**309**	Pg		**Pg**	**10 39 20.6**	**-0.9**
TNSS				Lg		Lg	10 40 31.1	
TNSS	**Tian-Shan**	**5.40**	**309**	*eP*		**Pg**	**10 39 20.6**	**-0.9**
	0.1nm,0.0s							
TNSS				*eS*		**Sg**	**10 40 31.1**	**-0.3**
	2.2nm,0.3s							
KOTS	**Kotyrbulak**	**5.42**	**311**	*eP*		**Pg**	**10 39 20.2**	**-1.6**
	3.6nm,0.2s							
KOTS				*eS*		**Sg**	**10 40 30.1**	**-1.9**
	18nm,0.3s							
KST	**Kastek**	**6.01**	**305**	Pg		**Pg**	**10 39 31.1**	**-2.0**
	2.7nm,0.7s							
KST				Lg		Lg	10 40 49.4	
	6.6nm,0.5s							
KST	**Kastek**	**6.01**	**305**	*eP*		**Pg**	**10 39 31.1**	**-2.0**
	1.8nm,0.3s							
KST				*eS*		**Sg**	**10 40 49.1**	**-1.8**
	11nm,0.5s							
MK31	**Makanchi Array**	**7.02**	**358**	Pn		Pn	10 39 31.9	+11
	0.1nm,0.2s,baz=188,slow=11,SNR=15							
MK31				⇓Sn		**Sn**	**10 40 39.9**	**-0.9**
	0.9nm,0.4s,baz=185,slow=23							
MAKZ	**Makanchi**	**7.05**	**356**	⇑Pn		Pn	10 39 31.6	+10
	2.3nm,1.1s							
MAKZ				⇑Sn		**Sn**	**10 40 41.2**	**-0.2**
	1.7nm,0.4s							

*IDC **19** 10:42:38.2±0.8, 54.95N×164.60E, h0km, mb3.8/8,*
mbtmp3.9/10, ML3.7/2, Error ellipse: s-maj=24.7km
s-min=19.2km az=155.0
*KRSC **19** 10:42:40.3±2.1, 54.86N×164.72E, h63km±23km, Ml4.5*
*NEIC **19** 10:42:40.9±1.2, 55.0N±0.1×164.7E±0.1, h10km±1km,*
mb4.2/40, Error ellipse: s-maj=23.6km s-min=10.1km
az=174.0
*MOS **19** 10:42:42.7±0.7, 54.92N×164.70E, h70km, mb4.0/1, Error*
ellipse: s-maj=7.7km s-min=6.4km az=48.4
ISC 19 10:42:43.4±0.9, 54.86N±0.0×164.78E±0.0, h45km±1.4km,
n142, σ1s51/160, mb4.1/26, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BKI	**Bering**	**0.77**	**63**	PN		**Pn**	**10 42 56.9**	**-0.9**
BKI				S		**Sn**	**10 43 06.9**	**-1.3**
BKI	**Bering**	**0.77**	**63**	*eP*		**Pn**	**10 42 56.9**	**-0.9**
BKI				*eS*		**Sn**	**10 43 06.9**	**-1.3**
KBTR	**Krutoberegovo**	**1.75**	**321**	PN		**Pn**	**10 43 08.9**	**-2.3**
KBTR				S		**Sn**	**10 43 29.1**	**-3.2**
KBTR	**Krutoberegovo**	**1.75**	**321**	*eP*		**Pn**	**10 43 08.9**	**-2.3**
KBTR				*eS*		**Sn**	**10 43 29.1**	**-3.2**
MKZ	**Mys Kozlova**	**1.80**	**262**	PN		**Pn**	**10 43 11.0**	**-0.8**
MKZ				S		**Sn**	**10 43 30.8**	**-2.6**
MKZ	**Mys Kozlova**	**1.80**	**262**	*eP*		**Pn**	**10 43 11.0**	**-0.8**
MKZ				*eS*		**Sn**	**10 43 30.9**	**-2.6**
KBG	**Krutoberegovo**	**1.83**	**321**	PN		**Pn**	**10 43 10.1**	**-2.2**
KBG				S		**Sn**	**10 43 31.2**	**-3.0**
KBG	**Krutoberegovo**	**1.83**	**321**	*eP*		**Pn**	**10 43 10.2**	**-2.2**
KBG				*eS*		**Sn**	**10 43 31.3**	**-3.0**
ZLN	**Zelenaya**	**2.55**	**299**	PN		**Pn**	**10 43 22.5**	**+0.3**
ZLN	**Zelenaya**	**2.55**	**299**	*eP*		**Pn**	**10 43 22.5**	**+0.3**
TUMD	**Tumrok D**	**2.55**	**280**	PN		**Pn**	**10 43 21.8**	**-0.4**
TUMD				S		**Sn**	**10 43 51.6**	**-0.3**
TUMD	**Tumrok D**	**2.55**	**280**	*eP*		**Pn**	**10 43 21.9**	**-0.4**
TUMD				*eS*		**Sn**	**10 43 51.7**	**-0.3**
SMKR	**Semkarok**	**2.55**	**314**	PN		**Pn**	**10 43 21.7**	**-0.5**
SMKR				S		**Sn**	**10 43 51.8**	**-0.2**
SMKR	**Semkarok**	**2.55**	**314**	*eP*		**Pn**	**10 43 21.8**	**-0.5**
SMKR				*eS*		**Sn**	**10 43 51.8**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**2.57**	**297**	PN		**Pn**	**10 43 22.7**	**+0.2**
BZGR				S		**Sn**	**10 43 53.2**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**2.57**	**297**	*eP*		**Pn**	**10 43 22.8**	**+0.2**
BZGR				*eS*		**Sn**	**10 43 53.2**	**+0.6**
CIRR	**Tsirk**	**2.62**	**300**	PN		**Pn**	**10 43 23.1**	**-0.1**
CIRR	**Tsirk**	**2.62**	**300**	*eP*		**Pn**	**10 43 23.2**	**-0.1**
LGNR	**Loginova**	**2.63**	**299**	PN		**Pn**	**10 43 24.0**	**+0.4**
LGNR				S		**Sn**	**10 43 55.7**	**+1.3**
LGNR	**Loginova**	**2.63**	**299**	*eP*		**Pn**	**10 43 24.1**	**+0.4**
LGNR				*eS*		**Sn**	**10 43 55.8**	**+1.3**
BDR	**Baidarnaya**	**2.65**	**312**	*eS*		**Sn**	**10 43 57.4**	**+2.9**
BZMR	**Bezymyannaya**	**2.68**	**296**	PN		**Pn**	**10 43 24.4**	**+0.3**
BZMR	**Bezymyannaya**	**2.68**	**296**	*eP*		**Pn**	**10 43 24.4**	**+0.3**
BZWR	**Bezymyannyi-We**	**2.68**	**296**	PN		**Pn**	**10 43 24.5**	**+0.4**
BZWR	**Bezymyannyi-We**	**2.68**	**296**	*eP*		**Pn**	**10 43 24.6**	**+0.4**
SRKR	**Sorokina**	**2.72**	**313**	*eS*		**Sn**	**10 43 57.8**	**+1.5**
KMNR	**Kamenistaya**	**2.75**	**291**	PN		**Pn**	**10 43 25.1**	**+0.1**
KMNR				S		**Sn**	**10 43 58.5**	**+1.5**
KMNR	**Kamenistaya**	**2.75**	**291**	*eP*		**Pn**	**10 43 25.1**	**+0.1**
KMNR				*eS*		**Sn**	**10 43 58.5**	**+1.5**
KLY	**Klyuchi**	**2.76**	**304**	PN		**Pn**	**10 43 23.2**	**-1.8**
KLY				S		**Sn**	**10 43 54.9**	**-2.2**
KLY	**Klyuchi**	**2.76**	**304**	*eP*		**Pn**	**10 43 23.3**	**-1.8**
KLY				*eS*		**Sn**	**10 43 55.0**	**-2.2**
SDLR	**Sedlovina**	**3.82**	**248**	PN		**Pn**	**10 43 40.0**	**+0.3**
SDLR				S		**Sn**	**10 44 21.7**	**-1.7**
SDLR	**Sedlovina**	**3.82**	**248**	*eP*		**Pn**	**10 43 40.1**	**+0.3**
SDLR				*eS*		**Sn**	**10 44 21.8**	**-1.7**
SMAR	**Somma**	**3.87**	**248**	PN		**Pn**	**10 43 41.2**	**+0.7**
SMAR				S		**Sn**	**10 44 22.7**	**-2.1**
SMAR	**Somma**	**3.87**	**248**	*eP*		**Pn**	**10 43 41.2**	**+0.7**
SMAR				*eS*		**Sn**	**10 44 22.7**	**-2.1**
KRER	**Koryakskii**	**3.88**	**249**	PN		**Pn**	**10 43 41.9**	**+1.3**
KRER				S		**Sn**	**10 44 23.4**	**-1.6**
KRER	**Koryakskii**	**3.88**	**249**	*eP*		**Pn**	**10 43 42.0**	**+1.3**
KRER				*eS*		**Sn**	**10 44 23.5**	**-1.6**
UGLR	**Uglovaya**	**3.88**	**247**	PN		**Pn**	**10 43 41.2**	**+0.6**
UGLR				S		**Sn**	**10 44 23.4**	**-1.5**
UGLR	**Uglovaya**	**3.88**	**247**	*eP*		**Pn**	**10 43 41.2**	**+0.6**
UGLR				*eS*		**Sn**	**10 44 23.5**	**-1.5**
AVH	**Avacha**	**3.90**	**248**	PN		**Pn**	**10 43 41.6**	**+0.8**
AVH				S		**Sn**	**10 44 24.3**	**-1.1**
AVH	**Avacha**	**3.90**	**248**	*eP*		**Pn**	**10 43 41.7**	**+0.8**
AVH				*eS*		**Sn**	**10 44 24.4**	**-1.1**
KRX	**Arik**	**3.91**	**250**	PN		**Pn**	**10 43 41.5**	**+0.5**
KRX				S		**Sn**	**10 44 23.7**	**-2.0**
KRX	**Arik**	**3.91**	**250**	*eP*		**Pn**	**10 43 41.6**	**+0.5**
KRX				*eS*		**Sn**	**10 44 23.7**	**-2.0**
KOK	**Koryaka**	**3.95**	**249**	PN		**Pn**	**10 43 42.3**	**+0.9**
KOK				S		**Sn**	**10 44 24.7**	**-1.8**
KOK	**Koryaka**	**3.95**	**249**	*eP*		**Pn**	**10 43 42.3**	**+0.9**
KOK				*eS*		**Sn**	**10 44 24.8**	**-1.8**
DALK	**Dalny**	**4.01**	**245**	PN		**Pn**	**10 43 42.3**	**+0.2**
DALK				S		**Sn**	**10 44 24.8**	**-2.9**
DALK	**Dalny**	**4.01**	**245**	*eP*		**Pn**	**10 43 42.3**	**+0.2**
DALK				*eS*		**Sn**	**10 44 24.9**	**-2.9**
PET	**Petropavlovsk**	**4.06**	**246**			**Pn**	**10 43 42.8**	**-0.1**
PET	**Petropavlovsk**	**4.06**	**246**	*ePN*		**Pn**	**10 43 42.7**	**-0.2**
PET				*eS*		**Sn**	**10 44 26.0**	**-3.2**
PET				pmax	pmax			
	comp=Z,31nm,0.4s							
PET				smax	smax			
	comp=E,200nm,0.5s							
PET				smax	smax			
	comp=N,161nm,0.5s							
INSR	**Institute**	**4.07**	**246**	PN		**Pn**	**10 43 43.5**	**+0.5**
INSR				S		**Sn**	**10 44 27.4**	**-1.9**
INSR	**Institute**	**4.07**	**246**	*eP*		**Pn**	**10 43 43.6**	**+0.5**
INSR				*eS*		**Sn**	**10 44 27.5**	**-1.9**
GNL	**Ganaly**	**4.18**	**257**	PN		**Pn**	**10 43 45.8**	**+1.2**
GNL	**Ganaly**	**4.18**	**257**	*eP*		**Pn**	**10 43 45.8**	**+1.2**
KRMR	**Karymshinskiy**	**4.43**	**245**	PN		**Pn**	**10 43 48.7**	**+0.7**
KRMR				S		**Sn**	**10 44 36.2**	**-2.1**
KRMR	**Karymshinskiy**	**4.43**	**245**	*eP*		**Pn**	**10 43 48.8**	**+0.7**
KRMR				*eS*		**Sn**	**10 44 36.3**	**-2.1**
RUS	**Russkaya**	**4.45**	**239**	PN		Pn	10 43 40.6	-7.7
RUS	**Russkaya**	**4.45**	**239**	*eP*		Pn	10 43 40.6	-7.7
OSSR	**Ossora**	**4.50**	**349**	PN		**Pn**	**10 43 48.5**	**-0.4**
OSSR				S		**Sn**	**10 44 36.6**	**-3.3**
OSSR	**Ossora**	**4.50**	**349**	*eP*		**Pn**	**10 43 48.5**	**-0.4**
OSSR				*eS*		**Sn**	**10 44 36.7**	**-3.3**
PEA0B	**Petropavlovsk-**	**4.54**	**250**			**Pn**	**10 43 50.6**	**+1.2**
PEA0B	**Petropavlovsk-**	**4.54**	**250**	PN		**Pn**	**10 43 50.4**	**+1.0**
PEA0B				S		**Sn**	**10 44 39.1**	**-1.7**
PETK	**Petropavlovsk-**	**4.54**	**250**			**Pn**	**10 43 49.9**	**+0.5**
PETK	**Petropavlovsk-**	**4.54**	**250**	Pn		**Pn**	**10 43 48.9**	**-0.6**
	comp=N,9.3nm,0.3s,baz=67,slow=16,SNR=54							
PETK				Sn		**Sn**	**10 44 39.2**	**-1.6**
	comp=N,8.4nm,0.3s,baz=85,slow=32,SNR=10							
	comp=N,9.5nm,0.3s							
MTVR	**Mutnovka**	**4.59**	**241**	PN		**Pn**	**10 43 50.8**	**+0.5**
MTVR				S		**Sn**	**10 44 39.0**	**-3.4**
MTVR	**Mutnovka**	**4.59**	**241**	*eP*		**Pn**	**10 43 50.9**	**+0.5**
MTVR				*eS*		**Sn**	**10 44 39.1**	**-3.4**
GRL	**Gorelyy**	**4.61**	**243**	PN		**Pn**	**10 43 51.5**	**+0.9**
GRL				S		**Sn**	**10 44 41.6**	**-1.2**
GRL	**Gorelyy**	**4.61**	**243**	*eP*		**Pn**	**10 43 51.5**	**+0.9**
GRL				*eS*		**Sn**	**10 44 41.7**	**-1.2**
ASAK	**Asacha**	**4.79**	**242**	PN		**Pn**	**10 43 54.1**	**+1.1**
ASAK				S		**Sn**	**10 44 46.0**	**-1.2**
ASAK	**Asacha**	**4.79**	**242**	*eP*		**Pn**	**10 43 54.2**	**+1.1**
ASAK				*eS*		**Sn**	**10 44 46.0**	**-1.2**
APC	**Apacha**	**4.91**	**250**	PN		**Pn**	**10 43 56.4**	**+1.9**
APC				S		**Sn**	**10 44 49.8**	**-0.2**
APC	**Apacha**	**4.91**	**250**	*eP*		**Pn**	**10 43 56.4**	**+1.9**
APC				*eS*		**Sn**	**10 44 49.9**	**-0.2**
SHEM	**Shemya Is, Ala**	**5.92**	**107**	Pn		**Pn**	**10 44 10.2**	**+1.8**
SHEM	**Shemya Is, Ala**	**5.92**	**107**	Pn		**Pn**	**10 44 09.1**	**+0.7**
	comp=N,4.8nm,0.3s,baz=60,slow=1.4,SNR=9.3							
	comp=N,1.8nm,0.4s							
SMY	**Shemya**	**5.92**	**107**	Pn		**Pn**	**10 44 10.2**	**+1.8**
SMY	**Shemya**	**5.92**	**107**	PN		**Pn**	**10 44 10.2**	**+1.8**
SKR	**Severo-Kuril's**	**6.72**	**235**	PN		**Pn**	**10 44 18.8**	**-0.5**
SKR	**Severo-Kuril's**	**6.72**	**235**	*eP*		**Pn**	**10 44 18.8**	**-0.5**
KMSK	**Kamenskaya**	**7.67**	**5**	PN		**Pn**	**10 44 33.1**	**+0.8**
KMSK	**Kamenskaya**	**7.67**	**5**	*eP*		**Pn**	**10 44 33.1**	**+0.8**
AMKA	**Amchitka**	**9.40**	**106**	Pn		**Pn**	**10 44 57.4**	**+1.3**
KIWB	**Kanaga Island**	**11.20**	**98**	Pn		**Pn**	**10 45 22.4**	**+1.7**
ATKA	**Atka Island**	**12.78**	**93**	Pn		P	10 45 44.6	-7.5
JKA	**Kamikawa-asahi**	**17.90**	**242**	Pn		**Pn**	**10 46 48.2**	**-0.6**
JKA				IAmb		IAmb	10 47 21.3	
	comp=Z,27nm,1.5s							
ASAJ	**Asahikawa**	**17.90**	**242**	P		**Pn**	**10 46 48.2**	**-0.6**
ASAJ				pmax		pmax		
	comp=Z,27nm,1.5s							
K15K	**Wolf Creek Mou**	**18.89**	**53**	P		**Pn**	**10 47 01.2**	**+0.6**
ERM	**Erimo**	**19.16**	**237**	P		**Pn**	**10 47 03.8**	**-0.2**
ERM	**Erimo**	**19.16**	**237**	P		**Pn**	**10 47 03.8**	**-0.2**
ERM				pmax		pmax		
	comp=Z,60nm,1.4s							
RDOG	**Red Dog Mine**	**19.99**	**36**	P		**Pn**	**10 47 13.9**	**+0.2**
RDOG				IAmb		IAmb	10 47 19.4	
	comp=Z,14nm,0.8s							
H17K	**Granite Mounta**	**20.09**	**46**	P		Pn	10 47 15.1	+0.2
M17K	**Holitna River**	**20.75**	**56**	P		Pn	10 47 22.7	0.0
M17K				IAmb		IAmb	10 47 52.8	
	comp=Z,20nm,1.5s							
H18K	**Honhosa River**	**20.77**	**46**	P		Pn	10 47 22.2	-0.8
C19K	**Lookout Ridge**	**21.53**	**35**	P		**P**	**10 47 29.2**	**+0.9**
C19K				IAmb		IAmb	10 47 49.4	
	comp=Z,9.3nm,1.1s							
J19K	**Poorman**	**21.76**	**49**	P		**P**	**10 47 31.6**	**+0.9**
E19K	**Redstone River**	**21.79**	**40**	P		**P**	**10 47 30.8**	**-0.2**
J20K	**Nowinta River**	**22.42**	**49**	P		**P**	**10 47 40.0**	**+2.2**
J20K				IAmb		IAmb	10 47 41.4	
	comp=Z,5.1nm,0.8s							
IMAR	**Indian Mountai**	**22.81**	**44**	P		**P**	**10 47 42.5**	**+0.5**
USA0B	**Ussuriysk Arra**	**23.59**	**257**	P		**P**	**10 47 50.2**	**+0.4**
USA0B	**Ussuriysk Arra**	**23.59**	**257**	P		**P**	**10 47 50.2**	**+0.4**
USA0B				pmax		pmax		
	comp=Z,4.0nm,0.9s							
D22K	**Ayikyak River**	**23.82**	**37**	P		**P**	**10 47 52.7**	**+1.0**
D22K				IAmb		IAmb	10 48 15.9	
	comp=Z,13nm,1.4s							
TRF	**Thorofare Moun**	**24.10**	**51**	P		**P**	**10 47 56.3**	**+1.8**
TRF				IAmb		IAmb	10 47 57.7	
	comp=Z,8.1nm,1.0s							
COLD	**Coldfoot**	**24.40**	**42**	P		**P**	**10 47 58.0**	**+0.9**
COLD				IAmb		IAmb	10 47 59.5	
	comp=Z,8.1nm,1.0s							
NEA2	**Nenana**	**24.65**	**48**	P		**P**	**10 48 00.6**	**+1.3**
NEA2				IAmb		IAmb	10 48 01.8	
	comp=Z,6.2nm,0.7s							
TOLK	**Toolik Lake Re**	**24.87**	**39**	P		**P**	**10 48 02.2**	**+0.8**
TOLK				IAmb		IAmb	10 48 04.5	
	comp=Z,6.8nm,0.9s							
CCB	**Clear Creek Bu**	**25.19**	**48**			**P**	**10 48 05.7**	**+1.4**
CCB				IAmb		IAmb	10 48 07.4	
	comp=Z,5.3nm,0.7s							
G24K	**Hadweenzic Riv**	**25.41**	**43**			**P**	**10 48 07.9**	**+1.7**
G24K				IAmb		IAmb	10 48 08.4	
	comp=Z,4.1nm,0.7s							
IL31		**25.59**	**48**	P		**P**	**10 48 08.8**	**+1.0**
IL31				IAmb		IAmb	10 48 09.1	
	comp=Z,4.1nm,0.9s							
ILAR	**Eielson Array**	**25.59**	**48**	P		**P**	**10 48 08.4**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=259,slow=8.6,SNR=32							
	comp=Z,2.1nm,0.8s							
D25K	**Kavik River**	**26.12**	**37**	P		**P**	**10 48 13.3**	**+0.6**
D25K				IAmb		IAmb	10 48 47.4	
	comp=Z,5.8nm,1.1s							
BMAR	**Burnt Mountain**	**26.59**	**42**	P		**P**	**10 48 18.9**	**+2.0**
N25K	**Chitina, Valde**	**26.87**	**55**	P		**P**	**10 48 21.2**	**+1.6**
J26L	**Joseph Creek**	**27.03**	**48**	P		**P**	**10 48 21.3**	**+0.4**
L27K	**Beaver Creek,**	**27.94**	**51**	P		**P**	**10 48 30.9**	**+1.9**
L27K				IAmb		IAmb	10 48 31.6	
	comp=Z,4.9nm,1.1s							
BCAR	**Beaver Creek A**	**27.96**	**51**	P		**P**	**10 48 31.6**	**+2.3**
DAWY	**Dawson**	**28.88**	**49**	P		P	10 48 38.9	+1.5
L29M	**L29M**	**29.59**	**51**			P	10 48 46.1	+2.3
L29M				IAmb		IAmb	10 48 46.4	
	comp=Z,3.7nm,0.8s							
G30M	**tAoh Zraii Nji**	**29.85**	**43**	P		P	10 48 47.3	+1.3
G30M				IAmb		IAmb	10 48 47.7	
	comp=Z,2.3nm,0.8s							
I30M	**Mount Dempster**	**30.00**	**46**			P	10 48 48.8	+1.3
I30M				IAmb		IAmb	10 48 49.4	
	comp=Z,1.9nm,0.7s							
MMPY	**Sheldon Lake,**	**32.77**	**50**	P		P	10 49 14.1	+2.4
H11N2	**WAKE ISLAND Hy**	**35.11**	**177**	T		T	11 27 24.5	
	baz=357,slow=74,SNR=37							
H11N3	**WAKE ISLAND Hy**	**35.12**	**177**	T		T	11 27 25.1	
	baz=357,SNR=21							
H11N1	**WAKE ISLAND Hy**	**35.12**	**177**	T		T	11 27 22.3	
	baz=357,slow=74,SNR=19							
EUNU	**Eureka**	**39.55**	**15**	P		P	10 50 11.2	+1.9
YKAW3	**Yellowknife Wh**	**39.93**	**45**	P		P	10 50 14.2	+1.6
YKAW3				IAmb		IAmb	10 50 52.1	
	comp=Z,6.0nm,1.1s							
BLKN	**Baker Lake**	**46.05**	**37**	P		P	10 51 02.7	+0.7
MKAR	**Makanchi Array**	**49.85**	**297**	P		P	10 51 32.8	+1.1
MKAR	**Makanchi Array**	**49.85**	**297**	P		P	10 51 31.6	-0.2
	comp=Z,0.2nm,0.4s,baz=63,slow=8.3,SNR=3.8							
	comp=Z,0.2nm,0.4s							
113A	**Mohawk Valley,**	**59.21**	**76**	P		P	10 52 41.6	+2.0
113A				IAmb		IAmb	10 53 02.0	
	comp=Z,2.2nm,1.1s							
EYMN	**Ely**	**59.22**	**49**	P		P	10 52 41.7	+2.1
FIA1	**FINESS Array S**	**59.55**	**338**	P		P	10 52 42.8	+1.2
FINES	**FINESS Array B**	**59.55**	**338**	P		P	10 52 42.7	+1.1
FINES	**FINESS Array B**	**59.55**	**338**	P		P	10 52 41.6	+0.1
	comp

SHOC	**Shoshone, Teco**	**0.93**	**70**			Pg	10 47 23.0	-0.3
SHOC						Sg	10 47 35.1	-0.4
FURC	**Furnace Creek,**	**0.97**	**24**			Pg	10 47 23.6	-0.3
SBB	**Saddle Back Bu**	**0.97**	**203**			Pg	10 47 23.2	-0.8
SBB						Sg	10 47 36.0	-0.7
WASM	**Alta Sierra Ca**	**0.99**	**279**			Pg	10 47 23.8	-0.7
WASM						Sg	10 47 37.1	-0.1
TPO	**Tropico Hills**	**1.00**	**226**			Pg	10 47 24.5	-0.2
TPO					Sg	Sg	10 47 37.6	-0.1
VTV	**Victorville**	**1.02**	**179**			Pg	10 47 24.2	-0.8
VTV						Sb	10 47 39.8	+0.3
CGO	**Cerro Gordo**	**1.03**	**340**			Pg	10 47 24.2	-1.0
CGO						Sg	10 47 38.4	-0.2
ADO	**Adelanto Recei**	**1.03**	**184**			Pg	10 47 24.6	-0.6
ADO						Sn	10 47 41.2	-0.5
CWC	**Cottonwood Cre**	**1.03**	**326**			Pg	10 47 24.9	-0.4
CWC	**Cottonwood Cre**	**1.03**	**326**			Sg	10 47 38.7	-0.1
DSCC	**Desert Studies**	**1.11**	**113**			Pg	10 47 25.8	-1.0
DSCC						Sg	10 47 40.3	-1.0
HEC	**Hector,Ludlow**	**1.13**	**132**			Pg	10 47 26.3	-0.7
HEC						Sg	10 47 41.6	0.0
TEJ	**El Tejon**	**1.14**	**252**			Pg	10 47 26.1	-1.3
TEJ						Sg	10 47 40.9	-1.3
TUQ	**Turquoise Moun**	**1.18**	**97**			Pg	10 47 27.5	-0.6
ALPC	**Antelope**	**1.18**	**221**			Sb	10 47 44.6	+0.5
LRRC	**Littlerock Res**	**1.19**	**208**			Pg	10 47 27.3	-0.9
LRRC						Sb	10 47 44.3	0.0
HOLC	**Holcomb Ridge**	**1.19**	**200**			Pg	10 47 27.3	-1.0
HOLC						Sb	10 47 44.5	0.0
LEOC	**Leona Valley**	**1.23**	**219**			Pg	10 47 28.0	-1.0
AMDNV	**Amargosa**	**1.23**	**45**			Pg	10 47 27.8	-1.2
CJV	**Casa Juvan**	**1.23**	**212**			Pb	10 47 29.4	+0.1
JNH	**Juniper Hills**	**1.24**	**204**			Pg	10 47 28.1	-1.0
TJR	**Tejon Ranch**	**1.26**	**244**			Pg	10 47 28.5	-1.1
THC	**Tehachapi Micr**	**1.26**	**238**			Pg	10 47 28.7	-1.0
ARVC	**Arvin**	**1.29**	**250**			Pg	10 47 29.0	-1.2
SPG2	**Springville 2**	**1.30**	**299**			Pg	10 47 29.2	-1.2
SPG2						Sg	10 47 46.6	-0.6
SIL	**Silver Peak**	**1.31**	**160**			Pg	10 47 29.7	-0.9
WCT	**Wildcat Mounta**	**1.34**	**26**			Pn	10 47 29.8	-1.3
WCT					IAML		10 47 51.9	
	comp=N,709nm,0.4s							
WCT					IAML		10 47 53.2	
	comp=E,915nm,0.6s							
CHFC	**Chilao Flat St**	**1.36**	**204**			Pn	10 47 30.0	-1.3
BFSC	**Mount Baldy Ra**	**1.37**	**191**			Pn	10 47 30.2	-1.1
BFSC					IAML		10 47 50.8	
	comp=N,1μm,0.8s							
BFSC					IAML		10 47 50.0	
	comp=E,1μm,0.8s							
BBRC	**Big Bear Solar**	**1.37**	**165**			Pn	10 47 30.7	-0.8
SSK	**Sunset Peak**	**1.40**	**191**			Pn	10 47 31.1	-0.7
GRAC	**Grapevine Rang**	**1.41**	**360**			Pn	10 47 31.2	-0.7
GRAC					IAML		10 47 56.3	
	comp=E,1μm,0.6s							
GRAC					IAML		10 48 01.2	
	comp=N,1μm,0.8s							
SGV	**South Grapevin**	**1.42**	**11**			Pn	10 47 31.1	-1.0
VES	**Vestal, Richgr**	**1.43**	**281**			Pn	10 47 32.1	0.0
BAKC	**Calstate**	**1.45**	**261**			Pn	10 47 32.0	-0.4
MTPC	**Mountain Pass**	**1.47**	**93**			Pn	10 47 31.5	-1.4
MTPC					IAML		10 47 58.7	
	comp=E,752nm,0.4s							
MWC	**Mount Wilson**	**1.48**	**203**			Pn	10 47 31.9	-1.0
MWC					IAML		10 47 54.5	
	comp=N,1μm,0.6s							
MWC					IAML		10 47 56.6	
	comp=E,2μm,0.6s							
OSI	**Osito Audit: C**	**1.48**	**230**			Pn	10 47 31.9	-1.0
SVD	**Seven Oaks Dam**	**1.49**	**172**			Pn	10 47 32.8	-0.2
PDE	**Pardee, Santa**	**1.52**	**222**			Pg	10 47 34.7	+0.1
GTM	**Goat Mountain**	**1.53**	**147**			Pn	10 47 33.4	-0.1
PSRC	**Puddingstone R**	**1.54**	**194**			Pn	10 47 33.1	-0.4
DECC	**Green Verdugo**	**1.55**	**211**			Pn	10 47 33.1	-0.7
PASC	**Pasadena Art C**	**1.57**	**206**			Pn	10 47 33.2	-0.8
PASC					IAML		10 48 00.0	
	comp=E,837nm,0.4s							
PASC					IAML		10 48 01.9	
	comp=N,785nm,0.9s							
RVR	**Riverside**	**1.59**	**181**			Pn	10 47 33.5	-0.8
GMRC	**Granite Mounta**	**1.60**	**119**			Pn	10 47 32.5	-2.1
OAT	**Oat Mountain**	**1.61**	**220**			Pn	10 47 34.1	-0.6
TIN	**Tinemaha, Big**	**1.63**	**335**			Pb	10 47 36.2	+0.2
TPNV	**Topopah Spring**	**1.63**	**33**			Pn	10 47 34.1	-0.9
TPNV					IAML		10 48 01.4	
	comp=N,1μm,0.8s							
TPNV					IAML		10 48 03.9	
	comp=N,1μm,0.6s							
LCH	**Last Change Ra**	**1.66**	**352**			Pn	10 47 34.8	-0.7
BLAC	**Blackrock camp**	**1.71**	**152**			Pb	10 47 37.4	0.0
GMN	**Gold Mountain**	**1.71**	**3**			Pn	10 47 35.7	-0.6
BLCC	**Black Canyon**	**1.72**	**219**			Pn	10 47 35.5	-0.7
DJJ	**Donna J Jenkin**	**1.73**	**212**			Pn	10 47 35.2	-1.0
EW2	**E Wide Canyon**	**1.82**	**154**			Pn	10 47 36.6	-0.9
TPC	**Twentynine Pal**	**1.83**	**144**			Pn	10 47 36.4	-1.2
DSP	**Deep Springs**	**1.85**	**345**			Pn	10 47 37.4	-0.4
DSP					IAML		10 48 05.5	
	comp=E,465nm,0.4s							
HMTC	**Hemet**	**1.89**	**171**			Pn	10 47 37.8	-0.8
POB	**Polly Butte**	**1.93**	**169**			Pn	10 47 38.4	-0.6
ELS	**Elsinore Mount**	**1.93**	**182**			Pn	10 47 38.4	-0.7
ELS					IAML		10 48 08.2	
	comp=E,565nm,0.6s							
ELS					IAML		10 48 09.8	
	comp=N,472nm,0.5s							
BHPR	**Bishop**	**1.94**	**332**			Pn	10 47 39.0	-0.4
DQR	**Domenigoni Val**	**1.95**	**171**			Pn	10 47 38.7	-0.7
CRGC	**Crocker Grade**	**1.96**	**261**			Pn	10 47 41.7	-0.1
BACC	**Bachelor Mtn.**	**1.98**	**172**			Pn	10 47 39.1	-0.7
MURC	**Murrieta**	**1.98**	**176**			Pn	10 47 39.1	-0.7
SHPR	**Sheep Range**	**2.00**	**62**			Pn	10 47 39.3	-0.9
RPV	**Rancho Palos V**	**2.03**	**205**			Pn	10 47 39.9	-0.4
CRY	**Cary Ranch**	**2.08**	**166**			Pn	10 47 40.5	-0.6
PMD	**Palm Desert**	**2.09**	**157**			Pn	10 47 39.9	-1.3
PMD					IAML		10 48 21.1	
	comp=E,364nm,0.7s							
PFO	**Pinyon Flats O**	**2.10**	**159**			Pn	10 47 40.3	-1.2
PFO					IAML		10 48 20.7	
	comp=E,345nm,0.8s							
MZP	**Montezuma Peak**	**2.11**	**359**			Pn	10 47 41.4	-0.4
CIAC	**Catalina I. Ai**	**2.35**	**202**			Pn	10 47 43.8	-0.9
NE2	**Needles Airpor**	**2.39**	**109**			Pn	10 47 45.4	+0.1
GORC	**Green Oak Ranc**	**2.43**	**177**			Pn	10 47 45.2	-0.6
S11A	**Rachel**	**2.43**	**32**			Pn	10 47 45.7	-0.3
S11A					IAML		10 48 34.3	
	comp=E,457nm,0.8s							
S11A					IAML		10 48 35.2	
	comp=N,431nm,0.7s							
BORC	**Borrego Spring**	**2.44**	**161**			Pn	10 47 47.0	+1.1
BORC					IAML		10 48 25.5	
	comp=E,358nm,0.7s							
BORC					IAML		10 48 33.3	
	comp=N,272nm,0.9s							
TPH	**Tonopah**	**2.49**	**2**			Pn	10 47 46.5	-0.3
SALN	**Salton City**	**2.56**	**153**	Pn		Pn	10 47 47.8	+0.2
PRN	**Pahroc Range**	**2.60**	**45**			Pn	10 47 48.0	-0.4
DPP	**Dos Picos Cty**	**2.60**	**172**			Pn	10 47 47.7	-0.6
DPP					IAML		10 48 27.8	
	comp=E,315nm,0.5s							
LHV	**Little Huntoon**	**2.82**	**341**			Pn	10 47 51.8	+0.6
LHV					IAML		10 48 44.6	
	comp=E,202nm,1.1s							
LHV					IAML		10 48 48.3	
	comp=N,214nm,1.2s							
PMPB	**Monarch Peak**	**2.87**	**284**			Pn	10 47 51.4	-0.5
PMPB					IAML		10 48 39.5	
	comp=N,381nm,0.8s							
W13A	**Hualapai Mount**	**2.88**	**99**			Pn	10 47 51.3	-1.0
NV11	**Mina Array Sit**	**2.91**	**348**			Pn	10 47 52.7	0.0
NVAR	**Mina Array Bea**	**2.94**	**345**	Pn		Pn	10 47 53.1	0.0
BLYC	**Blythe**	**2.97**	**127**			Pn	10 47 51.5	-1.8
BLYC					IAML		10 48 40.2	
	comp=N,202nm,0.6s							
BLYC					IAML		10 48 49.1	
	comp=E,130nm,0.7s							
TKX	**Tecate**	**3.07**	**168**			Pn	10 47 54.1	-0.6
TKX					IAML		10 48 42.4	
	comp=E,222nm,0.5s							
TJX	**Tijuana**	**3.08**	**175**	Pn		Pn	10 47 54.2	-0.5
R11B	**Troy Canyon, C**	**3.10**	**27**			Pn	10 47 54.5	-0.8
BBGB	**Big Mountain B**	**3.14**	**289**			Pn	10 47 56.3	+0.5
YUH	**Yuha Desert**	**3.16**	**157**	Pn		Pn	10 47 56.0	0.0
RYN	**Ryan**	**3.18**	**343**			Pn	10 47 56.3	0.0
Q09A	**Carvers**	**3.25**	**2**	Pn		Pn	10 47 57.7	+0.4
Q09A					IAML		10 49 05.4	
	comp=E,259nm,0.9s							
Q09A					IAML		10 49 09.4	
	comp=N,220nm,0.8s							
GLA	**Glamis**	**3.28**	**140**			Pn	10 47 58.1	+0.5
CBX	**Cerro Bola**	**3.31**	**170**			Pn	10 47 59.3	+1.1
WAKR	**Walker**	**3.36**	**331**	Pn		Pn	10 47 57.4	-1.4
WAKR					IAML		10 49 04.9	
	comp=N,93nm,0.9s							
CMB	**Columbia Colle**	**3.45**	**316**	Pn		Pn	10 48 00.5	+0.5
CMB					IAML		10 48 57.3	
	comp=N,125nm,0.7s							
CMB					IAML		10 49 02.0	
	comp=E,124nm,0.8s							
SAO	**San Andreas Ge**	**3.51**	**291**			Pn	10 48 00.3	-0.5
LCMT	**Little Creek M**	**3.61**	**66**			Pn	10 48 02.5	+0.1
CCX	**Cicese**	**3.75**	**171**	Pn		Pn	10 48 02.7	-1.3
CCX					IAML		10 49 04.5	
	comp=N,149nm,0.5s							
CCX					IAML		10 49 06.9	
	comp=E,111nm,0.7s							
ESJX	**Sierra Juarez**	**3.76**	**161**			Pn	10 48 03.8	-0.6
ESJX					IAML		10 49 07.1	
	comp=E,85nm,0.6s							
CCUT	**Cedar City**	**3.77**	**57**			Pn	10 48 04.8	+0.3
KNB	**Kanab**	**3.93**	**67**			Pn	10 48 06.8	+0.1
KNB					IAML		10 49 15.6	
	comp=N,62nm,1.1s							
Y14A	**Wickenburg**	**3.94**	**113**			Pn	10 48 06.2	-0.5
Y14A					IAML		10 49 19.5	
	comp=E,107nm,0.6s							
Y14A					IAML		10 49 20.1	
	comp=N,117nm,0.9s							
SZCU	**Shurtz Canyon**	**3.98**	**58**	Pn		Pn	10 48 07.6	+0.2
SZCU					IAML		10 50 20.0	
	comp=E,72nm,1.0s							
PSUT	**Pine Spring**	**4.06**	**43**			Pn	10 48 09.0	+0.5
PSUT					IAML		10 49 22.0	
	comp=E,116nm,0.8s							
PSUT					IAML		10 49 22.3	
	comp=N,73nm,1.3s							
113A	**Mohawk Valley,**	**4.09**	**132**			Pn	10 48 08.5	-0.3
SPR3	**Spring Creek 3**	**4.17**	**34**			Pn	10 48 10.2	0.0
SPR3					IAML		10 49 18.9	
	comp=E,50nm,0.7s							
U15A	**North Rim**	**4.19**	**77**			Pn	10 48 10.8	+0.4
U15A					IAML		10 49 19.0	
	comp=E,84nm,0.9s							
U15A					IAML		10 49 24.1	
	comp=N,76nm,0.9s							
MPK	**Martis Peak**	**4.27**	**331**	Pn		Pn	10 48 11.1	-0.3
VTX	**Valle De La Tr**	**4.38**	**162**	Pn		Pn	10 48 12.8	-0.1
VTX					IAML		10 49 27.4	
	comp=E,84nm,0.8s							
VTX					IAML		10 49 28.5	
	comp=N,50nm,0.8s							
PAHR	**Pah Rah Range**	**4.42**	**339**	Pn		Pn	10 48 13.3	0.0
AFDM	**Forest Hills D**	**4.42**	**320**	Pn		Pn	10 48 13.7	+0.4
AFDM					IAML		10 49 27.4	
	comp=N,88nm,0.6s							
AFDM					IAML		10 49 30.4	
	comp=E,110nm,1.1s							
WUAZ	**Wupatki**	**4.88**	**89**			Pn	10 48 19.3	-0.4
WUAZ					IAML		10 49 43.1	
	comp=E,44nm,0.9s							
WUAZ					IAML		10 49 51.3	
	comp=E,58nm,0.6s							
X16A	**Lo Mia Camp, P**	**4.99**	**102**			Pn	10 48 19.4	-1.9
X16A					IAML		10 49 48.9	
	comp=E,29nm,1.2s							
SFX	**San Felipe**	**5.00**	**154**	Pn		Pn	10 48 22.1	+1.0
SFX					IAML		10 49 52.9	
	comp=E,38nm,1.5s							
SFX					IAML		10 50 01.9	
	comp=N,35nm,1.1s							
214A	**Organ Pipe Nat**	**5.24**	**132**			Pn	10 48 22.7	-1.8
214A					IAML		10 50 03.4	
	comp=E,26nm,1.1s							
214A					IAML		10 50 12.2	
	comp=N,27nm,1.2s							
ELK	**Elko**	**5.42**	**17**			Pn	10 48 26.8	-0.3
HMU	**Henry Mountain**	**5.81**	**64**	Pn		Pn	10 48 31.5	-1.1
Q16A	**Castle Valley**	**5.95**	**54**	Pn		Pn	10 48 33.5	-1.0
TMUT	**Trail Mountain**	**6.14**	**51**	Pn		Pn	10 48 34.5	-2.6
X18A	**Snowflake**	**6.17**	**98**	Pn		Pn	10 48 38.0	+0.6
W18A	**Petrified Fore**	**6.25**	**92**	Pn		Pn	10 48 37.1	-1.4
BGU	**Big Grassy Mou**	**6.33**	**31**	Pn		Pn	10 48 39.0	-0.6
MPU	**Maple Canyon**	**6.33**	**44**	Pn		Pn	10 48 39.1	-0.6
TUC	**Tucson**	**6.36**	**119**	Pn		Pn	10 48 39.7	-0.4
SRU	**San Rafael Swe**	**6.48**	**55**	Pn		Pn	10 48 39.3	-2.5
JLU	**Jordanelle**	**6.84**	**41**	Pn		Pn	10 48 45.5	-1.2
P18A	**Preston Nutter**	**6.94**	**52**	Pn		Pn	10 48 46.6	-1.5
PV05	**Paradox Valley**	**7.07**	**67**	Pn		Pn	10 48 50.0	+0.1
HVU	**Hansel Valley**	**7.15**	**29**	Pn		Pn	10 48 48.8	-2.0
BSUT	**Blindstream Ca**	**7.17**	**44**	Pn		Pn	10 48 51.4	0.0
PV19	**Morning Glory**	**7.24**	**65**	Pn		Pn	10 48 50.0	-2.1
PV20	**West Nyswonger**	**7.26**	**65**	Pn		Pn	10 48 50.1	-2.3
PV23	**Carpenter Ridg**	**7.26**	**64**	Pn		Pn	10 48 50.5	-2.0
PV18	**Skein Mesa, Pa**	**7.27**	**66**	Pn		Pn	10 48 50.0	-2.6
PV11	**David Mesa, Pa**	**7.31**	**66**	Pn		Pn	10 48 52.9	-0.3
PV03	**Paradox Valley**	**7.32**	**66**	Pn		Pn	10 48 52.0	-1.3
PV04	**Paradox Valley**	**7.32**	**65**	Pn		Pn	10 48 51.6	-1.6
MVCO	**Mesa Verde**	**7.33**	**75**	Pn		Pn	10 48 52.4	-1.0
PV21	**Cone Mtn., Par**	**7.33**	**64**	Pn		Pn	10 48 51.2	-2.2
PV12	**Saucer Basin,**	**7.37**	**66**	Pn		Pn	10 48 52.9	-1.2
PV02	**Paradox Valley**	**7.39**	**67**	Pn		Pn	10 48 54.1	-0.1
PV22	**Blue Mesa, Par**	**7.46**	**64**	Pn		Pn	10 48 54.4	-0.7
HWUT	**Hardware Ranch**	**7.53**	**35**	Pn		Pn	10 48 55.3	-0.8
PV15	**Paradox Valley**	**7.62**	**66**	Pn		Pn	10 48 55.2	-2.3
MFID	**Camas Ranch**	**7.91**	**8**	Pn		Pn	10 49 02.4	+1.1

AFAD ***19*** *11:13:02.0,38.°01N×22.°55E,h6km±4km,MW5.2*

MOS ***19*** *11:13:13.8±1.0,38.°17N×23.°53E,h11km,mb5.5/73, MS4.9/45,Error ellipse: s-maj=4.0km s-min=2.5km az=84.3*

BJI ***19*** *11:13:13.0,38.°10N×23.°50E,h13km,mB5.6/44,mb5.2/74, Ms5.2/53,Ms7.4,9/53*

ISK ***19*** *11:13:14.2,38.°19N×23.°58E,h6km,ML5.4/50*

MED_RC ***19*** *11:13:14.0±0.2,37.°97N×23.°56E,h14km,MW5.3/48, Moment Tensor Solution. Body waves: s11,c11;Mantle waves: s48,c105; Duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.13±.03; $M_{\theta\theta}$1.28±.02; $M_{\phi\phi}$-0.15±.02; $M_{r\theta}$-0.47±.04; $M_{\theta\phi}$-0.32±.02; $M_{\phi r}$0.06±.03; Best double couple: $M_0$1.33000×10^{17} NP1:ϕ_s284.00000°,δ35.00000°, λ-86.00000°. NP2:ϕ_s100.00000°,δ55.00000°, λ-92.00000°. Principal axes: T 1.4400, Plg10.0000°, Azm192.0000°; N -0.2200, Plg2.0000°, Azm101.0000°; P -1.2200, Plg79.0000°, Azm0.0000°; nsta1 refers to surface waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*

UPSL ***19*** *11:13:14.9,38.°12N×23.°52E,h10km,Mw5.3,Moment Tensor Solution. s9 Moment tensor: M_{rr}-7.89; $M_{\theta\theta}$7.93; $M_{\phi\phi}$-0.04; $M_{r\theta}$-4.92; $M_{\theta\phi}$-3.76; $M_{\phi r}$0.87; Fault plane solution: NP1:ϕ_s300.00000°,δ31.00000°,λ-77.00000°. NP2:ϕ_s105.00000°,δ60.00000°,λ-98.00000°.*

NEIC ***19*** *11:13:15.7±1.4,38.°10N±0.°04×23.°53E±0.°05,h10km±1km, mb5.4/546,Mwr5.2/16,Mww5.3/39 Error ellipse: s-maj=7.0km s-min=6.8km az=127.0,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-8.08; $M_{\theta\theta}$8.82; $M_{\phi\phi}$-0.75; $M_{r\theta}$-2.63; $M_{\theta\phi}$-1.52; $M_{\phi r}$2.78; Fault plane solution: $M_0$9.42000×10^{16} NP1:ϕ_s263.17000°, δ37.40000°,λ-115.31000°. NP2:ϕ_s113.94000°, δ56.70000°,λ-71.90000°. Principal axes: T 9.5918, Plg10.0000°, Azm191.0000°; N -0.3474, Plg15.0000°, Azm284.0000°; P -9.2445, Plg72.0000°, Azm69.0000°;*

ATH ***19*** *11:13:15.2,38.°12N×23.°53E,h13km,ML5.1/55,Manual Solution by N.Liadopoulou First location: 2019/07/19 11:14:05, This location: 2020/07/03 06:06:04 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*

GCMT ***19*** *11:13:16.7±0.1,38.°01N±0.°01×23.°52E±0.°01,h14km, MW5.3/150,Moment Tensor Solution. s116,c191; s150,c293; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.05±.02; $M_{\theta\theta}$1.14±.01; $M_{\phi\phi}$-0.08±.01; $M_{r\theta}$-0.41±.03; $M_{\theta\phi}$-0.26±.01; $M_{\phi r}$0.10±.03; Best double couple: $M_0$1.20100×10^{17} NP1:ϕ_s280.00000°,δ35.00000°, λ-92.00000°. NP2:ϕ_s103.00000°,δ55.00000°, λ-89.00000°. Principal axes: T 1.2730, Plg10.0000°, Azm192.0000°; N -0.1410, Plg1.0000°, Azm282.0000°; P -1.1290, Plg80.0000°, Azm17.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

THE ***19*** *11:13:16.1,38.°1N±0.°8×23.°5E±0.°6,h9km±1km,MS.1/31, MLh5.1/31*

NEIC ***19*** *11:13:16.3,38.°12N×23.°51E,h16km*

NEIC ***19*** *11:13:16.3,38.°12N×23.°51E,h16km,Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.04; $M_{\theta\theta}$1.09; $M_{\phi\phi}$-0.05; $M_{r\theta}$-0.65; $M_{\theta\phi}$-0.29; $M_{\phi r}$0.32; Fault plane solution: $M_0$1.32000×10^{17} NP1: ϕ_s275.07000°,δ29.05000°,λ-103.85000°. NP2: ϕ_s110.83000°,δ61.87000°,λ-82.42000°. Principal axes: T 1.3665, Plg17.0000°, Azm195.0000°; N -0.0997, Plg7.0000°, Azm287.0000°; P -1.2668, Plg72.0000°, Azm38.0000°;*

HLW ***19*** *11:13:16.9,37.°84N×23.°51E,h31km±32km,Ml5.1*

PDG ***19*** *11:13:16.1±0.6,38.°11N×23.°53E,h11km,MD5.3/3, ML5.2/12,Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*

NEIC ***19*** *11:13:16.1,38.°12N×23.°51E,h10km*

IDC ***19*** *11:13:16.3±2.3,38.°18N×23.°63E,h19km±13km,mb4.9/39, mbtmp4.9/55,ML4.1/16,MS4.7/77,Error ellipse: s-maj=10.0km s-min=8.9km az=166.0*

MCSM ***19*** *11:13:17.1±0.3,38.°N±2.°2×4E±.°1,h15km±2km,mb5.2, mB5.5,MLv5.7,Mw(mB)5.0*

GII ***19*** *11:13:22.3±0.0,36.°62N±0.°03×23.°367E±0.°009,h13km, Md5.1/4,confirmed*

NAO ***19*** *11:13:28.1,39.°10N×21.°63E,h10km,mb5.4*

ISC 19 11:13:15.6±0.5,38.°11N±0.°02×23.°54E±0.°01,h13km±2km, n1871,σ1°41/1826,mb5.3/395,MS4.8/105,108C-105D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACHAR	**Athens-Acharne**	**0.16**	**104**	P	**Pb**	**11 13 20.3**	**-0.2**
ACHAR				S	**Sg**	**11 13 22.4**	**+0.2**
VILL	**Villia**	**0.19**	**286**	P	**Pg**	**11 13 19.8**	**-0.1**
VILL				S	**Sg**	**11 13 23.5**	**+0.6**
ATH	**Athens Observa**	**0.20**	**135**	P	**Pb**	**11 13 20.6**	**-0.4**
ATH				S	**Sb**	**11 13 24.0**	**-0.7**
NOAC	**Athens-Thissio**	**0.20**	**135**	P	**Pg**	**11 13 20.5**	**+0.5**
VIL2	**Platees**	**0.23**	**295**	P	**Pg**	**11 13 19.5**	**-1.2**
VIL2				S	**Sg**	**11 13 22.7**	**-1.4**
ATHU	**Athens Univers**	**0.24**	**127**	P	**Pb**	**11 13 21.5**	**-0.4**
ATHU				S	**Sg**	**11 13 24.8**	**+0.5**
PTL	**Penteli**	**0.27**	**104**	P	**Pb**	**11 13 21.8**	**-0.4**
PTL				S	**Sg**	**11 13 25.2**	**+0.2**
PTL	**Penteli**	**0.27**	**104**	P	**Pg**	**11 13 21.1**	**-0.1**
DION	**Dionisos Attik**	**0.31**	**96**	P	**Pg**	**11 13 22.5**	**+0.5**
DION				S	**Sg**	**11 13 27.0**	**+0.6**
DION	**Dionisos Attik**	**0.31**	**96**	P	**Pg**	**11 13 22.0**	**-0.1**
LTK	**Loutraki**	**0.46**	**259**	P	**Pg**	**11 13 24.6**	**-0.2**
LTK				S	**Sg**	**11 13 31.4**	**+0.5**
LTK	**Loutraki**	**0.46**	**259**	P	**Pg**	**11 13 24.3**	**-0.4**
LOUT	**Loutraki**	**0.46**	**254**	P	**Pg**	**11 13 24.3**	**-0.4**
MET4	**Agioi Theodoro**	**0.50**	**193**	P	**Pg**	**11 13 25.2**	**-0.3**
MET5	**Makryloggos,Me**	**0.51**	**196**	P	**Pg**	**11 13 25.4**	**-0.3**
MET6	**Megalochori,Me**	**0.54**	**196**	P	**Pg**	**11 13 26.0**	**-0.2**
LVRA	**Laurium**	**0.57**	**134**	P	**Pg**	**11 13 26.2**	**-0.4**
KIAA	**Kiato**	**0.63**	**261**	P	**Pb**	**11 13 28.4**	**-0.1**
KYMI	**Kymi, Euboea I**	**0.68**	**40**	P	**Pg**	**11 13 28.7**	**-0.2**
KYMI				S	**Sb**	**11 13 38.7**	**0.0**
KYMI	**Kymi, Euboea I**	**0.68**	**40**	P	**Pg**	**11 13 28.5**	**-0.4**
LKR	**Lokris**	**0.68**	**322**	P	**Pg**	**11 13 28.1**	**-0.7**
LKR				S	**Sg**	**11 13 38.2**	**+0.3**
LKR	**Lokris**	**0.68**	**322**	P	**Pg**	**11 13 28.2**	**-0.7**
KARY	**Karystos**	**0.71**	**96**	P	**Pb**	**11 13 30.0**	**+0.2**
KARY				S	**Sg**	**11 13 38.6**	**-0.3**
KARY	**Karystos**	**0.71**	**96**	P	**Pb**	**11 13 29.8**	**0.0**
YDRA	**Hydra**	**0.77**	**184**	P	**Pg**	**11 13 30.2**	**-0.3**
AIDA	**Aidipsos**	**0.83**	**333**	P	**Pg**	**11 13 31.4**	**-0.3**
DLFA	**Delphi**	**0.90**	**294**	P	**Pg**	**11 13 32.6**	**-0.3**
AXAR	**Agios Charalam**	**0.95**	**314**	P	**Pb**	**11 13 33.9**	**0.0**
AXAR				S	**Sb**	**11 13 46.4**	**0.0**
AXAR	**Agios Charalam**	**0.95**	**314**	P	**Pg**	**11 13 34.1**	**+0.1**
GUR	**Goura**	**0.96**	**260**	P	**Pg**	**11 13 34.2**	**0.0**
GUR				S	**Sg**	**11 13 46.2**	**-0.6**
GUR	**Goura**	**0.96**	**260**	P	**Pb

AMPL Ampelaki 2.00 295 P Pb 11 13 51.1 -0.6
CHOS Chios island 2.00 81 Pn Pn 11 13 48.9 -0.2
CHOS Sn Sn 11 14 14.1 +0.1
CHOS Chios island 2.00 81 P Pn 11 13 49.1 0.0
CHOS Chios island 2.00 81 P Pn 11 13 48.8 -0.2
EAG2 Marmaro, Chios 2.06 77 P Pn 11 13 49.8 -0.1
SIGR SIGRI 2.12 58 Pn Pn 11 13 50.2 -0.5
SIGR SIGRI 2.12 58 P Pn 11 13 50.6 0.0
SIGR SIGRI 2.12 58 P Pn 11 13 49.3 -1.4
TETR Tetrakomo, Epi 2.16 305 P Pb 11 13 53.0 -1.5
TETR Tetrakomo, Epi 2.16 305 P Pn 11 13 51.9 +0.6
LTHK Lithakia 2.18 260 P Pn 11 13 53.0 +1.6
RTZL Ratzakli, Kefa 2.18 270 P Pb 11 13 53.8 -1.1
LIA Limnos Island 2.19 35 P Pn 11 13 51.0 -0.7
LIA Limnos Island 2.19 35 P Pn 11 13 50.8 -0.9
SAP3 Santorini-Thir 2.21 139 P Pn 11 13 52.0 0.0
CMBO Columbo, Santo 2.21 137 P Pn 11 13 52.5 +0.5
CMBO Columbo, Santo 2.21 137 P Pn 11 13 52.1 +0.1
THR5 Thira Island, 2.23 139 P Pn 11 13 52.5 +0.4
OUR Ouranopolis 2.24 9 Pn Pn 11 13 51.9 -0.5
OUR Sn Sn 11 14 18.6 -1.3
OUR Ouranopolis 2.24 9 P Pn 11 13 52.1 -0.3
OUR Ouranopolis 2.24 9 P Pn 11 13 52.2 -0.2
THR2 Thira island, 2.25 137 P Pn 11 13 53.1 +0.7
ANKY Antikythira Is 2.25 185 P Pn 11 13 52.0 -0.5
AMGA Amorgos Island 2.27 124 P Pn 11 13 52.9 +0.1
NYDR Nydri-Lefkada 2.31 286 P Pn 11 13 54.7 +1.4
KARB zmir-Karabur 2.32 75 P Pn 11 13 53.8 +0.4
KARB S Sg 11 14 29.8 -0.4
VLS Valsamata 2.33 272 P Pn 11 13 54.6 +1.1
THERA Ancient Thera, 2.33 138 P Pn 11 13 53.6 +0.1
PSDA Pessada-Kefalo 2.33 271 P Pn 11 13 54.5 +0.9
ZEYE Izmir, Urla-Ze 2.34 86 P Pn 11 13 53.8 +0.2
ZEYE S Sg 11 14 30.0 -0.7
LKD2 Lefkada island 2.36 287 P Pb 11 13 56.5 -1.5
FSK Fiskardo 2.37 279 P Pn 11 13 56.0 +1.9
URLA Izmir 2.42 83 Pn Pn 11 13 55.2 +0.4
GPNR Gulpinar-Canak 2.43 56 Pn Pn 11 13 54.5 -0.4
KOCA Canakkale, Ayv 2.46 55 P Pn 11 13 53.1 -2.3
KOCA S Sg 11 14 35.5 +0.9
DMLN Damoulianata-K 2.50 274 P Pn 11 13 57.0 +1.1
HORT Hortiatis 2.50 352 P Pn 11 13 55.8 -0.2
THE Thessaloniki 2.55 350 P Pn 11 13 56.1 -0.5
FOCM Foa 2.58 76 Pn Pn 11 13 56.5 -0.5
KZN Kozani 2.58 328 P Pn 11 13 57.3 +0.1
BOZC Bozcaada 2.61 48 Pn Pn 11 13 57.3 -0.1
BOZC Bozcaada 2.61 48 P Pn 11 13 56.4 -1.1
BOZC S Sg 11 14 41.1 +1.6
SMG Samos 2.64 98 P Pn 11 13 57.6 -0.2
THAS Thassos island 2.65 20 P Pn 11 13 56.6 -1.4
CHNB Souda 2.66 171 P Pn 11 13 58.2 +0.1
GMLD Gumuldur 2.66 90 Pn Pn 11 13 58.2 +0.1
CAND Candarli 2.69 71 Pn Pn 11 13 58.2 -0.4
SOH Sokhos 2.71 357 P Pn 11 13 58.6 -0.3
ASTA Astypalaia 2.73 124 P Pn 11 13 59.2 +0.1
AYVA Ayvalik 2.74 63 P Pn 11 13 58.5 -0.6
AYVA S Sg 11 14 42.9 -0.6
EZNE Ezine-Canakkal 2.75 52 Pn Pn 11 13 59.1 -0.2
GOAD anakkale-G¶ 2.75 41 P Pn 11 13 59.2 -0.2
GOAD S Sg 11 14 43.6 -0.4
EZN Ezine 2.76 51 Pn Pn 11 13 59.3 -0.2
EZN Ezine 2.76 51 ⇑P Pn 11 13 59.4 -0.1
EZN Ezine 2.76 51 P Pn 11 13 59.4 -0.1
EZN Ezine 2.76 51 P Pn 11 13 59.6 +0.1
GADA Gvkgeada 2.77 41 Pn Pn 11 13 59.6 0.0
BLCB Balcova 2.77 83 Pn Pn 11 14 00.3 +0.7
ECEA Canakkale, Ece 2.81 46 P Pn 11 13 59.0 -1.1
ECEA S Sg 11 14 44.3 -1.7
SMTH Samothraki Isl 2.81 33 P Pn 11 13 59.0 -1.3
BAYC CANAKKALE_Bayr 2.85 54 P Pn 11 14 00.3 -0.5
KNDR Palaiochora Ch 2.88 178 Pn Pn 11 14 03.7 +2.6
IGT Igoumenitsa 2.88 300 P Pn 11 14 02.4 +1.2
KVLA Kavala 2.89 13 P Pn 11 14 00.6 -0.7
ZEDA zmir-Bergama 2.90 72 P Pn 11 14 00.9 -0.6
GCAM G?zelcaml? 2.95 97 Pn Pn 11 14 02.8 +0.7
GCAM G?zelcaml? 2.95 97 P Pn 11 14 02.4 +0.3
KAVA Kavala 2.98 14 P Pn 11 14 01.8 -0.7
SRS Serrai 3.00 1 P Pn 11 14 02.1 -0.7
NEST Nestorio 3.00 321 P Pn 11 14 04.0 +1.0
DDIM Aydin, Didim 3.00 101 P Pn 11 14 02.0 -0.8
IDI Anoyia 3.02 159 P Pn 11 14 03.2 0.0
IDI S Sn 11 14 35.9 -3.4
IDI Anoyia 3.02 159 Pn Pn 11 14 03.9 +0.7
IDI Anoyia 3.02 159 P Pn 11 14 02.8 -0.4
IDI Sn Sn 11 14 38.6 -0.6
IDI Anoyia 3.02 159 Pn Pn 11 14 03.1 0.0
152nm,0.3s,baz=320,slow=13,SNR=276
IDI Sn Sn 11 14 37.4 -1.9
202nm,0.3s,baz=214,slow=4.0,SNR=12
IDI LR LR 11 15 45.1
comp=Z,13µm,18.5s,baz=276,slow=49
424nm,0.3s
IDI Anoyia 3.02 159 P Pn 11 14 03.3 +0.2
COMU Canakkale 3.02 48 Pn Pn 11 14 03.1 0.0
KNT Kendrikon 3.03 357 P Pn 11 14 04.2 +0.2
BUHA Balikesir, Bur 3.09 62 P Pn 11 14 04.7 +0.7
YKAV Yalikavak-Bodr 3.13 107 Pn Pn 11 14 05.3 +0.7
FNA Florina 3.15 329 Pn 11 14 06.3 +1.4
FNA Sn Sn 11 14 42.9 +0.6
FNA Florina 3.15 329 P Pn 11 14 06.3 +1.4
FNA Florina 3.15 329 ⇑P Pn 11 14 06.0 +1.1
FNA Florina 3.15 329 P Pn 11 14 05.4 +0.5
BODT Bodrum 3.17 108 Pn Pn 11 14 05.8 +0.6
GELI Tayfur-Gelibol 3.22 44 Pn Pn 11 14 05.7 -0.2
BDRM Kayabasi 3.27 107 P Pn 11 14 07.8 +1.2
BDRM Kayabasi 3.27 107 ⇑P Pn 11 14 06.7 +0.1
CAVK Edirne/Enez-Ca 3.28 38 P Pn 11 14 06.8 +0.1
CAVK S Sg 11 15 03.5 +2.5
CAVK Edirne/Enez-Ca 3.28 38 ⇑P Pn 11 14 06.9 +0.2
VAY Valandovo 3.29 347 *i* Pn Pn 11 14 08.5 +1.7
SOMA Soma-Manisa 3.30 70 Pn Pn 11 14 06.7 -0.2
GVD Gavdhos 3.30 172 Pn Pn 11 14 08.9 +2.0
GVD Gavdhos 3.30 172 P Pn 11 14 08.5 +1.5
ENEZ Enez 3.31 97 Pn Pn 11 14 07.4 +0.4
KEK Kerkira 3.33 300 Pn Pn 11 14 08.3 +1.0
KEK Kerkira 3.33 300 P Pn 11 14 06.8 -0.5
KEK Kerkira 3.33 300 ⇓P Pb 11 14 11.5 -2.9
CANM Can-anakkale 3.33 54 Pn Pn 11 14 07.8 +0.5
LPK Lapseki 3.37 47 Pn Pn 11 14 07.8 0.0
ALN Alexandroupoli 3.39 34 Pn Pn 11 14 07.7 -0.4
ALN Alexandroupoli 3.39 34 Pn 11 14 07.9 -0.2
ALN Alexandroupoli 3.39 34 P Pn 11 14 06.7 -1.5
ALN Alexandroupoli 3.39 34 P Pn 11 14 07.9 -0.2
ALN Alexandroupoli 3.39 34 ⇓P Pn 11 14 07.0 -1.1
RDO Rodhopi 3.40 26 Pn Pn 11 14 08.2 -0.1
RDO Rodhopi 3.40 26 P Pn 11 14 07.9 -0.4
RDO Rodhopi 3.40 26 ⇓P Pn 11 14 06.4 -1.8
RDO Rodhopi 3.40 26 P Pn 11 14 06.8 -1.5
YENI Yenice-Canakka 3.41 57 Pn Pn 11 14 07.9 -0.5
YAZI Mula-Dat§a- 3.43 113 P Pn 11 14 08.7 +1.0
AKHS Akhisar 3.44 76 P Pn 11 14 11.3 +2.4
ERIK Erikli-Kesan 3.44 41 Pn Pn 11 14 08.7 -0.1
AYDB Zeytinkoy-Aydi 3.44 91 Pn Pn 11 14 09.8 +0.8
MLSB Milas 3.46 102 Pn Pn 11 14 10.3 +1.2
AYDN Tasoluk 3.46 96 P Pn 11 14 10.1 +0.9
DAT Datca 3.50 112 Pn Pn 11 14 10.9 +1.1
STEP BALIKESIR_Sava 3.50 68 P Pn 11 14 11.6 +1.9
DATC Datca-Mugla 3.55 111 Pn Pn 11 14 10.9 +0.6
BALY Balya 3.57 62 P Pn 11 14 10.5 -0.2
ODEM Odemis-Izmir 3.58 86 Pn Pn 11 14 10.9 +0.1
KESN Edirne-Kesan 3.64 41 P Pn 11 14 10.9 -1.0
OHR Ohrid 3.67 326 *i* Pn Pn 11 14 15.2 +3.2
ZKR Zakros 3.69 143 Pn Pn 11 14 14.0 +1.7
ZKR Zakros 3.69 143 P Pn 11 14 13.3 +1.0
KRBG Karabiga-Canak 3.70 51 Pn Pn 11 14 12.1 -0.3
GORD Gordes-Manisa 3.72 76 Pn Pn 11 14 13.8 +1.0
NAZL Nazilli-Aydin 3.75 91 Pn Pn 11 14 13.9 +0.7
GONE Gonen-Balikesi 3.76 58 Pn Pn 11 14 13.1 -0.1
BKES Balkesir-Mer 3.79 63 P Pn 11 14 14.0 +0.4
ESEN Aydn-Nazilli 3.81 93 P Pn 11 14 14.7 +0.8
RKY Sarkoy-Tekirda 3.81 47 Pn Pn 11 14 14.5 +0.5
SART Tekirdag 3.82 47 P Pn 11 14 14.7 +0.7
KIRA zmir-Kiraz 3.83 87 P Pn 11 14 15.1 +0.8
UKOP Uzunkopru-Edir 3.84 37 Pn Pn 11 14 13.9 -0.5
KARP Karpathos 3.87 130 Pn Pn 11 14 16.9 +2.1
KARP Karpathos 3.87 130 Pn 11 14 15.9 +1.1
KARP Karpathos 3.87 130 P Pn 11 14 15.9 +1.1
KARP Karpathos 3.87 130 ⇑P Pn 11 14 15.9 +1.1
MULA Mugla, Merkez- 3.89 101 P Pn 11 14 15.5 +0.4
MANT Manisa 3.97 83 Pn 11 14 17.2 +0.9

MANT Manisa 3.97 83 P Pn 11 14 16.3 0.0
TURN Turunc 3.98 108 Pn Pn 11 14 17.4 +1.2
TURN Turunc 3.98 108 P Pn 11 14 17.0 +0.9
SUSR Susurluk-Balik 3.99 61 Pn Pn 11 14 16.9 +0.5
EDC Edincik 4.03 55 Pn Pn 11 14 17.6 +0.6
ARG Arkhangelos 4.12 116 Pn Pn 11 14 19.5 +1.3
ARG Arkhangelos 4.12 116 Pn 11 14 20.0 +1.7
ARG Arkhangelos 4.12 116 P Pn 11 14 20.0 +1.7
ARG Arkhangelos 4.12 116 ⇓P Pn 11 14 19.6 +1.3
DURS Dursunbey 4.13 67 P Pn 11 14 19.4 +1.0
BAND Balkesir-Ban 4.19 56 P Pn 11 14 20.1 +1.0
BAND Balkesir-Ban 4.19 56 ⇓P Pn 11 14 19.7 +0.5
TKR Tekirdag 4.22 46 Pn Pn 11 14 19.7 +0.2
DST Dursunbey 4.24 68 Pn Pn 11 14 20.2 +0.4
DALY Dalyan (Mula) 4.27 106 Pn Pn 11 14 21.9 +1.7
TAVA DENIZLI_Tavas 4.31 97 P Pn 11 14 21.7 +0.8
TAVA DENIZLI_Tavas 4.31 97 ⇓P Pn 11 14 21.9 +1.1
KCTX Karacabey (Bur 4.32 59 Pn Pn 11 14 21.4 +0.5
USAK Uak-Merkez 4.34 80 P Pn 11 14 23.2 +1.9
DNIZ Denizli-Tavas- 4.38 95 P Pn 11 14 23.6 +1.8
SCTE Santa Cesarea 4.40 298 Pn 11 14 23.1 +1.1
SABU Mula-Dalaman 4.51 105 P Pn 11 14 25.5 +2.0
KIRK Kırklareli 4.57 36 P Pn 11 14 23.2 -1.2
PHSR Pinarhisar 4.66 40 ⇓P Pn 11 14 26.2 +0.5
PASA Karahalli, USA 4.69 85 P Pn 11 14 27.4 +1.3
EMET Ktahya-Emet 4.69 73 P Pn 11 14 27.4 +1.3
GDZ Gediz 4.75 76 P Pn 11 14 28.2 +1.2
VIZE Kirklareli, Vi 4.79 42 P Pn 11 14 25.9 -1.5
ARMN Kirklareli, Me 4.79 37 P Pn 11 14 25.9 -1.5
INCE Denizli-Bozkur 4.79 93 P Pn 11 14 29.8 +2.3
ULDT Uludag 4.80 63 P Pn 11 14 29.0 +1.3
IZZE Mula-Seydike 4.83 109 P Pn 11 14 31.3 +3.3
GOLH Golhisar 4.86 99 P Pn 11 14 30.9 +2.5
KNIK Mula-Seydike 4.96 103 P Pn 11 14 32.8 +2.9
CTYL Yalikoy Yolu 4.96 46 ⇑P Pn 11 14 30.2 +0.4
CTYL ⇓S Sn 11 15 26.2 -0.8
BNAZ Uak-Banaz 5.01 82 P Pn 11 14 32.4 +1.9
KURT Yalova, Merkez 5.04 59 P Pn 11 14 30.9 +0.1
ULC Ulcinj 5.06 321 *e*Pn Pn 11 14 32.2 +1.0
ULC *i* Sn Sn 11 15 28.3 -1.2
DOMA Ktahya-Doman 5.08 69 P Pn 11 14 33.6 +2.1
ELND Elena 5.13 20 ⇓P Pn 11 14 32.4 +0.4
ELND ⇑S Sn 11 15 31.5 +0.4
ANDZ Kutahya, Merke 5.16 72 P Pn 11 14 34.0 +1.4
BRDR BURDUR-Merkez 5.17 93 P Pn 11 14 35.1 +2.4
AKAS Kas 5.20 109 Pn Pn 11 14 35.5 +2.4
AKAS Kas 5.20 109 P Pn 11 14 37.5 +4.4
KZIL AFYON_Kizioren 5.20 86 P Pn 11 14 35.1 +2.0
ELL Elmali 5.25 103 Pn 11 14 37.2 +3.4
ELL Elmali 5.25 103 P Pn 11 14 37.2 +3.4
DRME Dracevica, Mon 5.26 322 *e*Pn Pn 11 14 34.9 +1.0
DRME *i* Sn Sn 11 15 33.0 -1.3
KLYT Kilyos 5.28 52 ⇑P Pn 11 14 34.9 +0.8
KLYT ⇓S Sn 11 15 33.8 -0.9
KLYT Kilyos 5.28 52 P Pn 11 14 34.4 +0.4
7µm462nm,1.2s
PLVB Pleven 5.33 9 ⇓P Pn 11 14 35.5 +0.7
BILE Bilecik/Merkez 5.33 65 P Pn 11 14 35.9 +1.0
PDG Podgorica 5.41 324 11 14 37.1 +1.2
PDG Podgorica 5.41 324 ⇓P Pn 11 14 38.3 +2.3
PDG ⇑S Sn 11 15 40.5 +2.4
PDG Podgorica 5.41 324 ⇓P Pn 11 14 37.4 +1.4
PDG Podgorica 5.41 324 *e*Pn Pn 11 14 37.0 +1.1
PDG *i* Sn Sn 11 15 36.7 -1.4
TIP Timpagrande 5.41 283 Pn 11 14 37.5 +1.4
TIP Timpagrande 5.41 283 ⇑P Pn 11 14 38.2 +2.1
TIP Timpagrande 5.41 283 P Pn 11 14 37.2 +1.2
1.4nm4µm381nm,0.9s
TIP Timpagrande 5.41 283 ⇑P Pn 11 14 37.0 +0.9
HISA Bilecik-Osmane 5.48 63 P Pn 11 14 38.6 +1.7
BUM Brajici-Budva 5.49 321 *e*Pn Pn 11 14 38.1 +1.0
BUM *i* Sn Sn 11 15 38.5 -1.5
IVA Berane 5.50 331 *e*Pn Pn 11 14 38.3 +1.0
IVA *i* Sn Sn 11 15 38.9 -1.6
ISP Isparta 5.53 91 Pn 11 14 39.8 +2.2
ISP Isparta 5.53 91 *de*P Pn 11 14 39.4 +1.9
ISP pmax pmax
comp=Z,68nm,0.6s
ISP MLR MLR
comp=Z,8µm,3.0s
ISP Isparta 5.53 91 ⇓P Pn 11 14 39.5 +1.9
ISP Isparta 5.53 91 S Sb 11 15 55.8 -2.3
ISP Isparta 5.53 91 P Pb 11 14 48.5 -3.5
SEMS Kocaeli-K¶rfe 5.53 58 P Pn 11 14 38.2 +0.7
SILT Sile 5.60 55 ⇑P Pn 11 14 39.4 +0.9
KOME Kolasin 5.64 328 *e*Pn Pn 11 14 40.1 +1.0
KOME *i* Sn Sn 11 15 42.0 -1.8
CEME Cevo 5.66 323 *e*Pn Pn 11 14 40.4 +1.0
CEME *i* Sn Sn 11 15 42.7 -1.6
BOVS Bovan 5.69 346 ⇑P Pn 11 14 41.5 +1.8
LOZB Loznitsa 5.74 23 ⇓P Pn 11 14 40.8 +0.4
GEYV SAKARYA_Geyve 5.75 64 P Pn 11 14 41.3 +0.7
HCY Herceg Novi 5.80 320 *e*Pn Pn 11 14 42.2 +1.0
HCY *i* Sn Sn 11 15 45.8 -1.8
NKME Niksic 5.82 324 *e*Pn Pn 11 14 42.0 +1.1
NKME *i* Sn Sn 11 15 48.4 -1.7
MATE Matera 5.87 298 ⇑P Pn 11 14 43.8 +1.7
MATE Matera 5.87 298 ⇑P Pn 11 14 42.1 0.0
RAZG Razgrad 5.89 22 ⇑P Pn 11 14 43.8 +1.3
VLAD Vladila 5.92 6 ⇓P Pn 11 14 43.8 +1.0
KAND Kocaeli-Kandir 5.94 58 P Pn 11 14 43.6 +0.5
CEL Celeste 6.03 274 Pn 11 14 45.8 +1.4
CEL Celeste 6.03 274 P Pn 11 14 45.8 +1.4
comp=Z,1.4nmcomp=Z,3µmcomp=Z,176nm,0.6s
CEL Celeste 6.03 274 ⇑P Pn 11 14 45.6 +1.2
TREB Trebinje 6.07 321 *e*Pn Pn 11 14 45.2 +0.3
PLE Pljevlja 6.09 330 *e*Pn Pn 11 14 46.4 +1.1
PLE *i* Sn Sn 11 15 52.8 -2.1
BRY Bratogost 6.11 323 *e*Pn Pn 11 14 46.7 +1.0
BRY *i* Sn Sn 11 15 53.4 -2.1
COPA Copaceanca 6.15 11 ⇓P Pn 11 14 47.9 +1.9
UPM Unac-Piva 6.18 327 *e*Pn Pn 11 14 47.7 +1.0
UPM *i* Sn Sn 11 15 55.2 -2.1
SAHE Sakarya_HENDEK 6.28 62 ⇓P Pn 11 14 49.0 +1.1
CUC Castrocucco 6.30 290 Pn 11 14 50.5 +2.4
CUC Castrocucco 6.30 290 ⇓P Pn 11 14 49.7 +1.6
KLINJ Klinje 6.30 325 *e*Pn Pn 11 14 49.5 +1.3
RUDO Rudo 6.34 331 *e*Pn Pn 11 14 49.7 +1.0
MDUB Mudurnu 6.39 66 Pn 11 14 52.3 +2.8
KALB Balgarevo 6.45 33 ⇑P Pn 11 14 51.6 +1.4
ACER Acerenza 6.46 297 Pn 11 14 51.2 +0.9
HUMR Humele 6.50 9 ⇓P Pn 11 14 51.6 +0.8
HUMR ⇑S Sn 11 16 04.9 +0.1
SRE Strehaia 6.55 358 ⇑P Pn 11 14 52.8 +1.3
SRE Strehaia 6.55 358 P Pn 11 14 52.8 +1.3
DJES Djerdap 6.59 354 ⇑P Pn 11 14 52.7 +0.6
SLUM Salum 6.75 168 P Pn 11 14 51.5 -2.8
SLUM S Sn 11 16 00.6 -10
MDVR Moldovita 6.80 349 ⇓P Pn 11 14 56.0 +0.9
ICOR Ion Corvin 6.80 27 ⇑P Pn 11 14 55.4 +0.3
ICOR ⇑S Sn 11 16 11.8 -0.5
HERR Herculane 6.81 353 ⇑P Pn 11 14 55.9 +0.7
MANR Mangalia 6.86 32 ⇓P Pn 11 14 56.2 +0.5
SULR 6.87 16 ⇓P Pn 11 14 57.1 +1.2
SGRT San Giovanni R 7.01 304 Pn 11 14 58.5 +0.5
MTUR Matau 7.20 9 ⇓P Pn 11 15 01.1 +0.6
MTUR Matau 7.20 9 P Pn 11 15 01.1 +0.6
VAE Valguarnera 7.26 268 Pn Pn 11 15 04.0 +2.7
comp=Z,14nm,0.3s,baz=218,slow=10,SNR=9.2
VAE Sn Sn 11 16 25.7 +2.1
comp=Z,26nm,0.3s,baz=228,slow=21,SNR=5.0
VAE LR LR 11 18 11.8
comp=Z,6µm,18.5s,baz=50,slow=40
comp=Z,31nm,0.4s
TLBR Topalu 7.26 26 ⇑P Pn 11 15 01.4 +0.1
ARR Arges 7.29 6 ⇓P Pn 11 15 02.6 +0.8
GZR Gura Zlata 7.30 356 ⇓P Pn 11 15 02.4 +0.6
GZR Gura Zlata 7.30 356 P Pn 11 15 02.4 +0.6
TIRR Tirgusor 7.32 29 Pn 11 15 03.0 +0.9
TIRR Tirgusor 7.32 29 ⇑P Pn 11 15 03.2 +1.0
TIRR Tirgusor 7.32 29 P Pn 11 15 03.1 +1.0
TIRR Tirgusor 7.32 29 P Pn 11 15 02.7 +0.6
comp=Z,4.4nmcomp=Z,2µmcomp=Z,161nm,1.2s
TIRR Tirgusor 7.32 29 ⇓P Pn 11 15 02.4 +0.2
LOT Lotru 7.33 1 ⇓P Pn 11 15 02.9 +0.5
RAFF Raffo Rosso 7.33 266 Pn 11 15 03.1 +0.8
HARR Harsova 7.35 25 ⇑P Pn 11 15 03.7 +1.1
HARR Harsova 7.35 25 P Pn 11 15 03.6 +1.1
ISR Istrita 7.35 17 ⇑P Pn 11 15 04.4 +1.7
ISR Istrita 7.35 17 P Pn 11 15 04.3 +1.7

ISR Istrita 7.35 17 P Pn 11 15 03.4 +0.8
comp=Z,1.9nmcomp=Z,5µmcomp=Z,393nm,0.7s
VOIR 7.40 8 ⇑P Pn 11 15 03.7 +0.4
VOIR 7.40 8 P Pn 11 15 03.7 +0.4
VOIR 7.40 8 P Pn 11 15 03.7 +0.4
comp=Z,1.2nmcomp=Z,3µmcomp=Z,279nm,0.9s
ANTO Ankara 7.42 73 Pn Pn 11 15 05.0 +1.4
ANTO Ankara 7.42 73 P Pn 11 15 06.7 +3.1
ANTO Ankara 7.42 73 ⇑P Pn 11 15 03.1 -0.5
ANTO Ankara 7.42 73 P Pn 11 15 03.1 -0.5
ANTO Ankara 7.42 73 P Pn 11 15 04.3 +0.7
comp=Z,1.3nmcomp=Z,2µmcomp=Z,49nm,1.2s
ANTO Ankara 7.42 73 ⇑P Pn 11 15 06.2 +2.7
PAOL Paolisi 7.52 296 Pn 11 15 06.4 +1.5
TNR Turnu Rosu 7.55 4 ⇓P Pn 11 15 07.3 +2.0
TNR Turnu Rosu 7.55 4 P Pn 11 15 07.3 +2.0
WDD Wied Dalam 7.56 255 Pn Pn 11 15 06.0 +0.5
WDD Wied Dalam 7.56 255 ⇑P Pn 11 15 04.7 -0.8
MLR Muntele Rosu 7.59 13 Pn 11 15 06.8 +0.9
MLR Muntele Rosu 7.59 13 Pn Pn 11 15 05.5 -0.4
comp=Z,4.3nm,0.3s,baz=204,slow=6.7,SNR=95
MLR LR LR 11 18 16.7
comp=Z,6µm,20.2s,baz=236,slow=40
comp=Z,153nm,1.1s
MLR Muntele Rosu 7.59 13 ⇑P Pn 11 15 07.8 +1.9
MLR ⇑S Sn 11 16 33.1 +1.3
MLR Muntele Rosu 7.59 13 P Pn 11 15 06.8 +0.9
comp=Z,2.0nmcomp=Z,5µmcomp=Z,330nm,0.9s
NEHR Nehoiu 7.59 15 ⇓P Pn 11 15 07.6 +1.7
BZS Buzias 7.63 350 ⇑P Pn 11 15 07.2 +0.7
BZS Buzias 7.63 350 P Pn 11 15 07.1 +0.7
BZS Buzias 7.63 350 ⇑P Pn 11 15 06.7 +0.3
TPGR Topolog 7.67 27 ⇑P Pn 11 15 08.1 +1.2
TPGR ⇑S Sn 11 16 33.6 +0.1
SURR Surduc 7.71 353 ⇑P Pn 11 15 09.3 +1.9
DEV Deva 7.78 357 ⇓P Pn 11 15 10.1 +1.7
DEV Deva 7.78 357 P Pn 11 15 10.1 +1.7
BISRR Bisoca 7.80 17 ⇓P Pn 11 15 10.6 +1.9
BISRR Bisoca 7.80 17 P Pn 11 15 11.0 +2.3
comp=Z,3.5nmcomp=Z,8µmcomp=Z,1µm,1.0s
CFR Carcaliu 7.85 25 ⇑P Pn 11 15 10.9 +1.5
CFR Carcaliu 7.85 25 P Pn 11 15 10.9 +1.5
DOPR Dopca 7.97 9 ⇓P Pn 11 15 12.9 +1.9
DOPR ⇑S Sn 11 16 41.1 +0.1
COVR Voineasa-Covas 7.98 14 ⇓P Pn 11 15 12.9 +1.7
BR105 Keskin Array S 8.02 75 P Pn 11 15 14.0 +2.1
comp=Z,1µmcomp=Z,138nm,0.8s
BR104 Keskin Array S 8.04 75 P Pn 11 15 14.0 +1.9
comp=Z,830nmcomp=Z,106nm,0.9s
BR131 Keskin Array S 8.04 75 Pn 11 15 14.3 +2.3
BR131 Keskin Array S 8.04 75 P Pn 11 15 15.2 +3.0
SNR=70
BR131 S Sn 11 16 47.2 +4.3
BR131 Keskin Array S 8.04 75 *d i*P Pn 11 15 14.4 +2.3
BRTR Keskin Array B 8.04 75 Pn 11 15 14.7 +2.6
BRTR Keskin Array B 8.04 75 Pn Pn 11 15 12.8 +0.6
comp=Z,2.3nm,0.3s,baz=257,slow=12,SNR=122
BRTR LR LR 11 18 19.9
comp=Z,6µm,18.5s,baz=264,slow=38
comp=Z,72nm,0.8s
BRTR Keskin Array B 8.04 75 *i* P Pn 11 15 14.6 +2.5
BRTR pmax pmax
comp=Z,72nm,0.8s
MDB Medias 8.05 4 ⇓P Pn 11 15 14.1 +2.0
MDB Medias 8.05 4 P Pn 11 15 14.1 +2.0
PLOR5 Plostina Array 8.07 16 P Pn 11 15 14.5 +2.1
comp=Z,4µmcomp=Z,206nm,1.2s
PLOR Plostina 8.07 16 ⇑P Pn 11 15 13.5 +1.1
PLOR Plostina 8.07 16 P Pn 11 15 13.5 +1.1
VRI Vrincioaia 8.10 16 ⇑P Pn 11 15 14.7 +1.8
VRI ⇑S Sn 11 16 45.8 +1.6
VRI Vrincioaia 8.10 16 P Pn 11 15 14.6 +1.8
VRI Vrincioaia 8.10 16 P Pn 11 15 14.1 +1.3
comp=Z,3µmcomp=Z,265nm,1.2s
BOSR Bodos 8.11 11 ⇓P Pn 11 15 15.0 +2.0
CIDE Kastamonu/Cide 8.14 60 ⇑P Pn 11 15 14.1 +0.7
TURR Turia 8.15 12 ⇑P Pn 11 15 14.9 +1.5
TURR ⇓S Sn 11 16 46.2 +0.8
OZUR 8.15 11 ⇓P Pn 11 15 15.0 +1.5
BLY Banja Luka 8.17 326 *e*Pn Pn 11 15 14.1 +0.4
BLY Banja Luka 8.17 326 ⇑P Pn 11 15 14.8 +1.0
BLY Banja Luka 8.17 326 ⇑P Pn 11 15 14.3 +0.5
SCTR Scanteiesti 8.25 22 ⇑P Pn 11 15 16.3 +1.4
A050A Klekovaca 8.26 323 *e*Pn Pn 11 15 15.9 +0.8
SIRR Siria 8.27 351 ⇑P Pn 11 15 16.7 +1.6
INTR Introdacqua 8.35 301 Pn 11 15 17.6 +1.2
ILGA Ilgaz 8.39 66 Pn 11 15 18.9 +1.9
VLDR Vladesti 8.43 22 ⇑P Pn 11 15 18.5 +1.2
GHRR 8.44 19 P Pn 11 15 18.5 +1.0
ONER Baraj Valea Uz 8.48 14 ⇑P Pn 11 15 20.0 +1.9
CSS Mathiatis 8.48 109 Pn 11 15 19.2 +1.0
CSS Mathiatis 8.48 109 P Pn 11 15 19.8 +1.7
comp=Z,1µmcomp=Z,166nm,1.1s
CSS Mathiatis 8.48 109 ⇓P Pn 11 15 18.2 +0.1
CSS Mathiatis 8.48 109 S Sn 11 16 55.1 +1.4
CSS Mathiatis 8.48 109 P Pn 11 15 21.4 +3.3
A051A Mrakovica 8.50 326 *e*Pn Pn 11 15 17.3 -1.0
MARR Marisel-Cluj 8.56 358 ⇓P Pn 11 15 20.2 +0.9
CJR Cluj-Napoca 8.59 0 ⇓P Pn 11 15 21.3 +1.6
CJR Cluj-Napoca 8.59 0 P Pn 11 15 21.2 +1.6
DRGR 8.69 356 ⇑P Pn 11 15 21.6 +0.6
DRGR 8.69 356 P Pn 11 15 21.6 +0.6
TESR Tescani 8.70 14 ⇓P Pn 11 15 22.7 +1.7
TESR ⇑S Sn 11 16 59.8 +0.8
TESR Tescani 8.70 14 P Pn 11 15 22.2 +1.1
comp=Z,2µmcomp=Z,105nm,0.6s
AQU L'Aquila 8.83 302 P Pn 11 15 25.1 +2.1
AQU L'Aquila 8.83 302 P Pn 11 15 25.5 +2.6
comp=Z,1µmcomp=Z,153nm,0.9s
MORH Mrgy, Hungar 8.87 337 *e*Pn Pn 11 15 24.5 +1.1
MORH Mrgy, Hungar 8.87 337 ⇓P Pn 11 15 25.4 +2.0
MORH Mrgy, Hungar 8.87 337 P Pn 11 15 24.1 +0.7
comp=Z,842nmcomp=Z,59nm,0.7s
BZK Bozkurt 8.90 61 Pn 11 15 25.3 +1.5
BZK Bozkurt 8.90 61 ⇑P Pn 11 15 25.0 +1.3
BZK Bozkurt 8.90 61 P Pn 11 15 25.5 +1.8
comp=Z,2µmcomp=Z,109nm,0.9s
BZK Bozkurt 8.90 61 ⇑P Pn 11 15 26.7 +2.9
CAMP Campotosto 8.91 303 Pn 11 15 24.9 +0.9
KOVH Kovagotottos 8.93 335 ⇓P Pn 11 15 24.6 +0.4
SWA2 8.99 169 P Pn 11 15 21.5 -3.6
VASR Vaslui 9.08 19 ⇑P Pn 11 15 27.8 +1.5
GUMA Gualdo di Mace 9.20 306 Pn 11 15 28.8 +0.9
NRCA Norcia 9.23 304 Pn 11 15 29.3 +0.8
FDMO Fiordimonte 9.35 305 Pn 11 15 30.6 +0.6
CESX Cesi 9.49 302 Pn 11 15 33.3 +1.4
BMR Baia Mare 9.55 360 ⇑P Pn 11 15 34.7 +2.0
BMR Baia Mare 9.55 360 P Pn 11 15 34.7 +2.0
BURAR Bucovina Array 9.57 7 Pn 11 15 34.7 +1.6
BURAR Bucovina Array 9.57 7 ⇑P Pn 11 15 35.0 +1.9
BURAR Bucovina Array 9.57 7 P Pn 11 15 35.0 +1.9
BUR08 Bucovina Ar. S 9.60 7 Pn 11 15 34.2 +0.7
MILM Milestii Mici 9.62 22 ⇓ *i*P Pn 11 15 33.0 -0.6
comp=Z,280nm,1.4s
MILM *e*S Sn 11 17 25.0 +3.5
MILM *e*Li 11 18 08.0
MILM *e*Lg Lg 11 18 24.0
MILM *e*LR LR 11 19 30.0
comp=Z,14µm,9.9s
MILM Milestii Mici 9.62 22 ⇑P Pn 11 15 34.9 +1.2
MILM Milestii Mici 9.62 22 P Pn 11 15 34.8 +1.2
DIKM Dikmen 9.67 65 ⇑P Pn 11 15 35.5 +1.1
KIS Kishinev 9.69 22 *e*P Pn 11 15 34.4 -0.2
comp=Z,600nm,5.1s
KIS *e*S Sn 11 17 27.0 +3.7
KIS *e*Li 11 18 12.0
KIS *e*Lg Lg 11 18 33.0
KIS *e*LR LR 11 19 35.0
comp=Z,5µm,10.0s
KIS Kishinev 9.69 22 *e*P Pn 11 15 34.0 -0.6
KIS *e*S Sn 11 17 27.0 +3.7
KIS pmax pmax
comp=Z,600nm,5.1s
KIS pmax pmax
comp=N,800nm,5.2s
KIS pmax pmax
comp=E,400nm,5.2s
KIS MLR MLR
comp=Z,5µm,9.8s
KIS MLR MLR
comp=E,5µm,10.0s
GCIS Gornji Cirnik 9.73 325 *e*Pn Pn 11 15 34.5 -0.6
BEHE Becsehely 9.

BEHE Becsehely 9.73 331 *e*Pn **Pn 11 15 35.8 +0.6**
CRES Cresnjevec Ost 9.77 325 *e*Pn **Pn 11 15 35.2 -0.5**
CRES *e*Sn **Sn 11 17 23.4 -1.9**
GBRS Gornja Briga 9.86 321 *i* Pn **Pn 11 15 36.5 -0.5**
MGAB Montegabbione 9.93 302 ⇑P **Pn 11 15 40.7 +2.7**
TRSU Trosnyk 9.99 358 P **Pn 11 15 39.9 +1.3**
MPLH Magyarpolny 10.07 336 P **Pn 11 15 41.1 +1.3**
comp=E,3μmcomp=E,238nm,0.8s
NE56 Odesa 10.13 30 P **Pn 11 15 40.8 +0.1**
BERU Beregovo 10.14 357 P **Pn 11 15 42.2 +1.5**
PSZ Piszkesteto 10.15 346 P **Pn 11 15 41.2 +0.2**
PSZ Piszkesteto 10.15 346 ⇓P **Pn 11 15 42.5 +1.5**
PSZ Piszkesteto 10.15 346 P **Pn 11 15 41.2 +0.2**
PSZ Piszkesteto 10.15 346 ⇑P **Pn 11 15 43.7 +2.7**
BRIU Brid 10.23 358 P **Pn 11 15 43.3 +1.4**
GROS Grobnik 10.24 327 *i* Pn **Pn 11 15 41.8 -0.5**
HMYD Mayadein 10.25 142 P **Pn 11 15 40.5 -1.9**
KSV Kosov 10.26 6 P **Pn 11 15 43.4 +1.0**
HNAT Natroun 10.30 143 P **Pn 11 15 41.3 -1.7**
HNAT S Sn 11 17 28.4 -10
HOLU Holmets 10.44 356 P **Pn 11 15 46.0 +1.1**
SIM Simferopol' 10.46 46 *e*P **Pn 11 15 44.2 -0.9**
SIM *e*S **Sn 11 17 35.5 -6.6**
SIM pmax pmax
comp=Z,153nm,1.7s
SIM MLR MLR
comp=Z,2μm,15.0s
JAVS Javornik 10.49 321 *e*Pn **Pn 11 15 45.7 0.0**
JAVS *e*Sn **Sn 11 17 39.1 -3.8**
TRI Trieste 10.51 319 **Pn 11 15 45.6 -0.3**
TRI Trieste 10.51 319 P **Pn 11 15 45.6 -0.3**
UZHM Uzhgorod 10.55 355 P **Pn 11 15 47.9 +1.5**
KECS Kecovo 10.60 349 *e*P **Pn 11 15 50.9 +3.8**
KECS Kecovo 10.60 349 *e*PN **Pn 11 15 50.9 +3.8**
RYAN Fayoum 10.61 146 P **Pn 11 15 45.2 -2.1**
SORM Soroca 10.61 18 ⇑P **Pn 11 15 47.9 +0.6**
SORM Soroca 10.61 18 P **Pn 11 15 47.8 +0.6**
SORM Soroca 10.61 18 P **Pn 11 15 47.5 +0.3**
comp=Z,879nmcomp=Z,39nm,0.5s
SOKA Soboth 10.62 326 *i* Pn **Pn 11 15 46.7 -0.6**
comp=Z,26nm,0.7s,SNR=43
SOKA *i* Sn **Sn 11 17 48.2 +2.1**
comp=Z,6.5nm,0.6s
STNU Starunia 10.62 3 P **Pn 11 15 48.7 +1.4**
KMPD K-Podol'skiy 10.66 11 P **Pn 11 15 48.6 +0.8**
KOT Kottamia 10.67 137 P **Pn 11 15 46.7 -1.5**
OBKA Obir 10.70 324 *i* Pn **Pn 11 15 48.6 0.0**
comp=Z,9.1nm,0.6s,SNR=15
OBKA *i* Sn **Sn 11 17 48.4 +0.2**
comp=Z,10nm,0.4s
HNTI Hanita 10.72 114 S **Sn 11 17 45.3 -3.2**
HNTI Hanita 10.72 114 P **Pn 11 15 50.6 +1.9**
HWQ Hawqa 10.73 107 *e*P **Pn 11 15 48.9 -0.2**
OSSC Osservatorio P 10.77 304 **Pn 11 15 49.1 -0.3**
SABO M.te Sabotino 10.78 320 **Pn 11 15 49.7 +0.1**
HHAG Hagoal 10.80 136 P **Pn 11 15 48.7 -1.1**
BEIL Beino 10.80 105 *e*P **Pn 11 15 51.2 +1.2**
OFRI `Ofer 10.83 117 S **Sn 11 17 46.2 -5.1**
OFRI `Ofer 10.83 117 P **Pn 11 15 51.6 +1.3**
NDNU Novodnistrovsk 10.84 14 P **Pn 11 15 51.6 +1.3**
KOLS Kolonicke sedl 10.85 356 *e*P **Pn 11 15 51.9 +1.3**
KOLS Kolonicke sedl 10.85 356 *e*PN **Pn 11 15 51.9 +1.3**
ARSA Arzberg 10.87 330 **Pn 11 15 50.9 +0.2**
ARSA Arzberg 10.87 330 *i* Pn **Pn 11 15 51.0 +0.2**
comp=Z,11nm,0.5s,SNR=20
ARSA *i* Sn **Sn 11 17 52.6 +0.5**
comp=Z,7.1nm,0.7s
ARSA Arzberg 10.87 330 ⇓P **Pn 11 15 50.6 -0.1**
GAZ Gaziantep 10.88 91 **Pn 11 15 52.4 +1.3**
BLGI Bet Lehem HaGe 10.91 116 S **Sn 11 17 49.8 -3.5**
BLGI Bet Lehem HaGe 10.91 116 P **Pn 11 15 53.0 +1.5**
MMA0B Mount Meron ar 10.92 114 S **Sn 11 17 50.7 -2.8**
MMA0B Mount Meron ar 10.92 114 P **Pn 11 15 52.6 +1.1**
MMAI Mount Meron Ar 10.92 114 Pn **Pn 11 15 51.0 -0.6**
comp=Z,8.0nm,0.3s,baz=297,slow=14,SNR=22
MMAI Sn **Sn 11 17 47.8 -5.7**
comp=Z,3.4nm,0.3s,baz=303,slow=25,SNR=2.4
comp=Z,16nm,0.5s
VYHS Vyhne 10.92 343 *e*P **Pn 11 15 54.0 +2.5**
VYHS Vyhne 10.92 343 *e*PN **Pn 11 15 54.0 +2.5**
RONA Rosalia, Austr 10.95 333 *i* Pn **Pn 11 15 52.3 +0.4**
comp=Z,6.8nm,0.8s,SNR=9.9
RONA *i* Sn **Sn 11 17 53.0 -1.1**
comp=Z,6.1nm,0.7s
RCY Rachaya 10.99 111 *e*P **Pn 11 15 52.4 -0.3**
SHBL Chebaa 11.00 112 *e*P **Pn 11 15 52.4 -0.3**
GEM Giv'at Ha'Em 11.01 113 ⇑P **Pn 11 15 52.8 +0.1**
GEM Giv'at Ha'Em 11.01 113 S **Sn 11 17 53.4 -2.2**
GEM Giv'at Ha'Em 11.01 113 P **Pn 11 15 55.1 +2.4**
NATI Neve Ativ 11.03 112 S **Sn 11 17 54.5 -1.7**
NATI Neve Ativ 11.03 112 P **Pn 11 15 54.8 +1.8**
SLTI Sal'it 11.08 118 S **Sn 11 17 52.1 -5.4**
SLTI Sal'it 11.08 118 P **Pn 11 15 53.9 +0.2**
VSL Villasalto 11.14 282 **Pn 11 15 55.3 +0.8**
VSL Villasalto 11.14 282 ⇑P **Pn 11 15 55.4 +0.8**
MYKA Terra Mystica 11.22 322 *e*Pn **Pn 11 15 59.0 +3.4**
MYKA *i* Sn **Sn 11 17 59.2 -1.6**
comp=Z,7.9nm,0.5s
MODS Modra-Piesok 11.22 338 *e*P **Pn 11 15 55.2 -0.4**
MODS *e* 11 17 58.4
MODS Modra-Piesok 11.22 338 *e*PN **Pn 11 15 55.2 -0.4**
MODS Modra-Piesok 11.22 338 *e*SN **Sn 11 17 58.4 -2.4**
MMLI Mount Malkishu 11.24 117 S **Sn 11 17 57.0 -4.4**
MMLI Mount Malkishu 11.24 117 P **Pn 11 15 56.8 +1.0**
CONA Conrad Observa 11.30 333 *e*Pn **Pn 11 15 57.9 +1.2**
comp=Z,7.1nm,0.5s
CONA *i* Sn **Sn 11 18 04.1 +1.3**
comp=Z,3.9nm,0.6s
ZCCA Zocca 11.32 307 **Pn 11 15 57.4 +0.4**
HMDT Nahal Hemdat 11.41 117 S **Sn 11 18 01.7 -3.9**
HMDT Nahal Hemdat 11.41 117 P **Pn 11 15 58.7 +0.5**
AMAZ Amatzia 11.42 122 ⇑P **Pn 11 16 02.0 +3.7**
AMAZ Amatzia 11.42 122 S **Sn 11 17 59.2 -6.5**
AMAZ Amatzia 11.42 122 P **Pn 11 15 57.3 -1.0**
STHS Stebnicka Huta 11.42 352 *e*P **Pn 11 16 02.5 +4.2**
STHS Stebnicka Huta 11.42 352 *e*PN **Pn 11 16 02.5 +4.2**
STAL STALIGIAL 11.43 319 **Pn 11 15 57.6 -0.8**
TEOL Teolo 11.44 313 **Pn 11 15 58.1 -0.5**
NBNS Bani Suef 11.47 143 P **Pn 11 15 56.9 -2.2**
KZIT Kziot 11.48 126 ⇑P **Pn 11 15 58.3 -0.8**
KZIT Kziot 11.48 126 S **Sn 11 17 57.5 -10**
KZIT Kziot 11.48 126 P **Pn 11 15 57.1 -0.4**
KWP Kalwaria Pacla 11.53 357 *e*P **Pn 11 16 04.5 +4.7**
KWP Kalwaria Pacla 11.53 357 ⇓P **Pn 11 16 03.6 +3.8**
NIE Niedzica 11.54 349 *e*P **Pn 11 16 04.3 +4.3**
UJAP Al Uja 11.54 119 S **Sn 11 18 03.1 -5.6**
UJAP Al Uja 11.54 119 P **Pn 11 15 59.1 -0.9**
JAVC Velka Javorina 11.55 340 *e*PN **Pn 11 16 01.9 +1.8**
CIMO Cimolais 11.60 318 **Pn 11 16 00.1 -0.7**
KEST Kesra 11.61 263 **Pn 11 16 00.6 -0.3**
KEST Kesra 11.61 263 Pn **Pn 11 16 03.3 +2.3**
comp=Z,0.7nm,0.3s,baz=81,slow=12,SNR=14
KEST LR LR 11 21 05.3
comp=Z,2μm,20.4s,baz=68,slow=40
comp=Z,9.6nm,0.9s
KEST Kesra 11.61 263 P **Pn 11 15 59.4 -1.6**
SNR=11
HFRF Wahat Farafira 11.65 158 P **Pn 11 15 58.9 -2.5**
YTIR Yattir 11.66 122 S **Sn 11 18 05.1 -6.7**
YTIR Yattir 11.66 122 P **Pn 11 16 00.4 -1.3**
ZNM Zenema 11.67 136 P **Pn 11 16 00.7 -1.1**
DSI Dead Sea 11.71 120 S **Sn 11 18 06.9 -6.0**
DSI Dead Sea 11.71 120 P **Pn 11 16 02.0 -0.3**
MSBI Mazada 11.85 121 ⇓P **Pn 11 16 03.3 -0.9**
MSBI Mazada 11.85 121 S **Sn 11 18 09.1 -7.1**
MSBI Mazada 11.85 121 P **Pn 11 16 02.9 -1.3**
ABTA Abfaltersbach 11.86 320 *i* Pn **Pn 11 16 03.8 -0.6**
comp=Z,24nm,0.8s,SNR=18
ABTA *i* Sn **Sn 11 18 15.0 -1.4**
comp=Z,17nm,0.7s
MOA Molln 11.86 328 *i* Pn **Pn 11 16 04.7 +0.4**
comp=Z,27nm,0.8s,SNR=39
MOA *i* Sn **Sn 11 18 12.7 -3.7**
comp=Z,8.6nm,0.7s
CTI Castel Tesino 11.86 316 **Pn 11 16 04.0 -0.4**
CTI Castel Tesino 11.86 316 P **Pn 11 16 04.0 -0.4**
PGF Pioggiola 11.95 296 ⇓P **Pn 11 16 07.0 +1.4**
MAUC Maruska 11.98 342 *e*PN **Pn 11 16 08.6 +2.7**
GHAJ Ghor Haditha 12.00 121 **Pn 11 16 06.3 +0.1**
GHAJ Ghor Haditha 12.00 121 S **Sn 11 18 13.6 -6.3**
GHAJ Ghor Haditha 12.00 121 P **Pn 11 16 05.7 -0.6**
BIOA Bad Ischl, Aus 12.00 326 *i* Pn **Pn 11 16 06.0 -0.2**
comp=Z,34nm,1.0s,SNR=27
BIOA *i* Sn **Sn 11 18 17.6 -2.4**
comp=Z,13nm,0.8s
KRUC Moravsky 12.10 337 *e*PN **Pn 11 16 07.6 0.0**
TAMRE El Minia 12.10 147 P **Pn 11 16 05.6 -2.1**
LUBAR Lubar, Ukraine 12.19 13 P **Pn 11 16 08.3 -0.4**
ZFRI Zfri 12.21 125 S **Sn 11 18 16.1 -9.1**
ZFRI Zfri 12.21 125 P **Pn 11 16 07.4 -1.8**
KRMI Paran Flat 12.22 127 S **Sn 11 18 14.5 -11**
KRMI Paran Flat 12.22 127 P **Pn 11 16 06.5 -2.9**
PRNI Paran 12.24 126 S **Sn 11 18 15.6 -10**
PRNI Paran 12.24 126 P **Pn 11 16 07.3 -2.3**
LESA Schwarzleotal 12.25 323 *i* Pn **Pn 11 16 10.2 +0.5**
comp=Z,22nm,0.6s,SNR=12
LESA *i* Sn **Sn 11 18 21.4 -4.7**
comp=Z,7.0nm,0.5s
VRAC Vranov 12.26 338 *e*PN **Pn 11 16 10.9 +1.1**
VRAC Vranov 12.26 338 Pn **Pn 11 16 10.1 +0.3**
comp=Z,1.1nm,0.3s,baz=162,slow=14,SNR=14
comp=Z,4.9nm,0.5s
OKC Ostrava-Krasne 12.34 343 *e*PN **Pn 11 16 13.9 +3.0**
OKC AMS AMS 11 22 00.0
comp=Z,13μm,11.6s
OKC Ostrava-Krasne 12.34 343 *e*P **Pn 11 16 13.9 +3.0**
OKC MLR MLR
comp=Z,13μm,11.6s
ANN Anapa 12.37 53 *e*P **Pn 11 16 13.2 +1.9**
ANN *e*S **Sn 11 18 33.3 +4.4**
ANN pmax pmax
comp=Z,78nm,1.2s
ANN MLR MLR
comp=N,1μm,9.0s
ANN MLR MLR
comp=Z,2μm,12.0s
ANN MLR MLR
comp=E,1μm,12.0s
OJC Ojcow 12.39 349 *e*P **Pn 11 16 13.9 +2.3**
OJC Ojcow 12.39 349 **Pn 11 16 11.6 0.0**
OJC Ojcow 12.39 349 P **Pn 11 16 11.6 0.0**
OJC Ojcow 12.39 349 P **Pn 11 16 13.3 +1.7**
comp=E,2μmcomp=E,41nm,1.6s
MORC Moravsky Berou 12.43 342 **Pn 11 16 13.4 +1.3**
MORC Moravsky Berou 12.43 342 *e*PN **Pn 11 16 13.2 +1.1**
MORC Moravsky Berou 12.43 342 ⇑P **Pn 11 16 14.1 +2.0**
MORC Moravsky Berou 12.43 342 P **Pn 11 16 14.1 +2.0**
MORC Moravsky Berou 12.43 342 ⇑P **Pn 11 16 14.1 +2.0**
ASF Jabal al Asfar 12.43 114 Pn **Pn 11 16 12.0 -0.3**
comp=E,1.2nm,0.3s,baz=284,slow=3.6,SNR=9.2
comp=E,8.1nm,0.8s
HRFI Mount Harif 12.47 127 S **Sn** 11 18 21.7 -10
HRFI Mount Harif 12.47 127 P **Pn 11 16 09.4 -3.4**
MBRI Mt Berech 12.56 128 S **Sn** 11 18 22.6 -11
MBRI Mt Berech 12.56 128 P **Pn 11 16 10.7 -3.3**
TREC Trest 12.59 335 *e*PN **Pn 11 16 13.9 -0.4**
TREC Trest 12.59 335 *e*P **Pn 11 16 13.9 -0.4**
CKRC Cesky Krumlov 12.62 331 *e*PN **Pn 11 16 15.1 +0.5**
CKRC AMS AMS 11 22 30.0
comp=E,8μm,12.8s
CKRC Cesky Krumlov 12.62 331 *e*P **Pn 11 16 15.1 +0.5**
CKRC MLR MLR
comp=Z,8μm,12.8s
WTTA Wattenberg 12.65 320 *i* Pn **Pn 11 16 16.0 +0.7**
comp=Z,25nm,0.9s,SNR=12
WTTA *i* Sn **Sn 11 18 34.0 -2.0**
comp=Z,27nm,0.6s
EIL Elat 12.67 128 Pn **Pn 11 16 14.7 -0.8**
comp=Z,4.6nm,0.3s,baz=318,slow=7.1,SNR=23
EIL Sn **Sn 11 18 28.6 -7.8**
comp=Z,2.7nm,0.3s,baz=312,slow=16,SNR=6.7
EIL LR LR 11 23 50.1
comp=Z,1μm,18.1s,baz=288,slow=50
comp=Z,25nm,0.5s
EIL Elat 12.67 128 ⇑P **Pn 11 16 14.0 -1.5**
EIL Elat 12.67 128 S **Sn** 11 18 25.2 -11
EIL Elat 12.67 128 P **Pn 11 16 12.3 -3.2**
WATA Walderalm 12.72 320 *i* Pn **Pn 11 16 17.1 +0.9**
comp=Z,37nm,1.1s,SNR=19
WATA *i* Sn **Sn 11 18 35.6 -2.2**
comp=Z,25nm,0.9s
SQTA Sankt Quirin 12.84 319 *i* Pn **Pn 11 16 18.5 +0.7**
comp=Z,30nm,0.8s,SNR=20
SQTA *i* Sn **Sn 11 18 42.2 +1.7**
comp=Z,28nm,0.7s
HBST Basata 12.86 130 P **Pn 11 16 17.8 -0.3**
GEC2 GERESS Array S 12.87 330 **Pn 11 16 18.9 +0.7**
GERES GERESS Array B 12.87 330 **Pn 11 16 18.5 +0.3**
GERES GERESS Array B 12.87 330 Pn **Pn 11 16 17.4 -0.8**
baz=152,slow=14,SNR=26
GERES LR LR 11 21 59.2
comp=Z,4μm,19.6s,baz=146,slow=41
comp=Z,6.0nm,0.7s
GERES GERESS Array B 12.87 330 P **Pn 11 16 18.5 +0.3**
KRLC Kraliky 12.90 340 AMS AMS 11 22 10.0
comp=Z,8μm,9.9s
NUB Nuweiba 12.95 131 P **Pn 11 16 19.4 +0.2**
FETA Feichten 12.96 317 *i* Pn **Pn 11 16 22.1 +2.5**
comp=Z,12nm,0.6s,SNR=12
FETA *i* Sn **Sn 11 18 43.5 -0.1**
comp=Z,6.2nm,0.6s
FUORN Ofenpass-Fuorn 12.97 315 Pn **Pn 11 16 19.8 0.0**
MOTA Moosalm 12.97 319 *i* Pn **Pn 11 16 20.4 +0.7**
comp=Z,46nm,1.3s,SNR=14
MOTA *i* Sn **Sn 11 18 42.4 -1.5**
comp=Z,39nm,1.2s
AK06 Malin Array Si 13.10 16 P **Pn 11 16 22.1 +0.8**
KHC Kasperske Hory 13.15 330 *e*PN **Pn 11 16 22.5 +0.5**
KHC Kasperske Hory 13.15 330 *e*P **Pn 11 16 22.5 +0.5**
ZVC Zvikov 13.17 332 AMS AMS 11 21 50.0
comp=Z,9μm,9.3s
KIEV Kiev 13.21 16 **Pn 11 16 22.2 -0.5**
KIEV Kiev 13.21 16 P **Pn 11 16 22.2 -0.5**
KIEV Kiev 13.21 16 *i* P **Pn 11 16 21.2 -1.4**
SNR=12
KIEV Kiev 13.21 16 ⇑P **Pn 11 16 22.2 -0.5**
AKASG Malin Array Be 13.22 16 Pn **Pn 11 16 21.6 -1.2**
AKASG Malin Array Be 13.22 16 Pn **Pn 11 16 21.0 -1.8**
comp=Z,1.1nm,0.3s,baz=204,slow=13,SNR=16
AKASG LR LR 11 21 19.3
comp=Z,3μm,20.3s,baz=186,slow=37
comp=Z,8.0nm,0.8s
AKASG Malin Array Be 13.22 16 *i* P **Pn 11 16 19.7 -3.1**
AKASG pmax pmax
comp=Z,10.0nm,0.8s
AKBB Malin Array Si 13.22 16 **Pn 11 16 22.3 -0.5**
AKBB Malin Array Si 13.22 16 *ce*P **Pn 11 16 22.2 -0.6**
RNPP5 Staryi Chortor 13.22 6 P **Pn 11 16 24.0 +1.2**
AK04 Malin Array Si 13.23 16 P **Pn 11 16 23.8 +0.9**
RETA Reutte 13.24 319 *i* Pn **Pn 11 16 24.9 +1.6**
comp=Z,6.5nm,0.7s
DPC Dobruska-Polom 13.27 339 *e*PN **Pn 11 16 24.3 +0.7**
DPC AMS AMS 11 22 30.0
comp=Z,6μm,10.6s
DPC Dobruska-Polom 13.27 339 *e*P **Pn 11 16 24.3 +0.7**
DPC MLR MLR
comp=Z,6μm,10.6s
DAVOX Davos/Dischmat 13.28 315 Pn **Pn 11 16 24.6 +0.7**
comp=Z,2.1nm,0.3s,baz=139,slow=18,SNR=12
DAVOX LR LR 11 23 15.8
comp=Z,5μm,18.1s,baz=117,slow=45
comp=Z,9.6nm,0.7s
RNPP8 Varash 13.32 6 P **Pn 11 16 25.5 +1.3**
RNPP1 Kostyukhnivka 13.33 6 P **Pn 11 16 25.4 +1.1**
GOPC GO Pecny, Ondr 13.36 335 *e*PN **Pn 11 16 23.4 -1.4**
GOPC AMS AMS 11 22 40.0
comp=Z,8μm,10.3s
GOPC GO Pecny, Ondr 13.36 335 *e*P **Pn 11 16 23.4 -1.4**
GOPC MLR MLR
comp=Z,8μm,10.3s
RNPP9 Sopachiv 13.40 6 P **Pn 11 16 26.3 +1.0**
SOC Sochi 13.40 61 *e*P **Pn 11 16 25.6 +0.2**
SOC *e* 11 18 57.6
SOC pmax pmax
comp=Z,6.0nm,0.5s
SOC MLR MLR
comp=Z,2μm,16.0s
TUE Stuetta 13.41 313 **Pn 11 16 25.0 -0.6**
TUE Stuetta 13.41 313 ⇑P **Pn 11 16 26.2 +0.6**
HDK1 Dakhla 13.48 157 P **Pn 11 16 24.3 -2.3**
OSTC Ostas 13.49 340 *e*PN **Pn 11 16 27.8 +1.3**
OSTC AMS AMS 11 22 20.0
comp=Z,6μm,10.3s
OSTC Ostas 13.49 340 *e*P **Pn 11 16 27.8 +1.3**
OSTC MLR MLR
comp=Z,6μm,10.3s
UPC Upice 13.50 339 *e*PN **Pn 11 16 26.6 -0.1**
UPC AMS AMS 11 22 30.0
comp=Z,7μm,11.5s
UPC Upice 13.50 339 *e*P **Pn 11 16 26.6 -0.1**
UPC MLR MLR
comp=Z,7μm,11.5s
PRU Pruhonice 13.51 334 *e*PN **Pn 11 16 27.9 +1.1**
PRU AMS AMS 11 22 40.0
comp=Z,8μm,10.8s
PRU Pruhonice 13.51 334 *e*P **Pn 11 16 27.9 +1.1**
PRU MLR MLR
comp=Z,8μm,10.8s
CHVC Chvalec 13.56 339 AMS AMS 11 22 40.0
comp=Z,5μm,14.5s
DAVA Damuels 13.58 317 *e*Pn **Pn 11 16 31.6 +3.6**
comp=Z,38nm,1.7s
DAVA Damuels 13.58 317 ⇑P **Pn 11 16 30.4 +2.5**
VSLR Vesyoloye 13.58 62 *ce*P **Pn 11 16 30.5 +2.6**
VSLR pmax pmax
comp=Z,70nm,1.6s
VSLR MLR MLR
comp=Z,1μm,10.0s
PRA Prague 13.61 334 *e*PN **Pn 11 16 28.0 -0.2**
PRA AMS AMS 11 22 50.0
comp=Z,8μm,11.3s
PRA Prague 13.61 334 *e*P **Pn 11 16 28.0 -0.2**
PRA MLR MLR
comp=Z,8μm,11.3s
KSP Ksiaz 13.73 340 *e*P **Pn 11 16 33.4 +3.7**
KSP Ksiaz 13.73 340 ⇑P **Pn 11 16 33.5 +3.7**
BEL Belsk 13.86 353 *e*P **P 11 16 42.6 +2.7**
GTR Jabal at Tayr 13.90 153 P **Pn 11 16 30.0 -2.3**
PVCC Panska Ves 13.96 336 AMS AMS 11 22 10.0
comp=Z,6μm,9.8s
RICC Richard 14.13 335 AMS AMS 11 23 10.0
comp=Z,6μm,10.6s
BNI Bardonecchia 14.38 304 Pn **Pn 11 16 39.6 +0.7**
BRG Berggiesshubel 14.46 335 *e*P **P 11 16 47.0 +0.5**
BRG Amp 11 16 49.9
comp=Z,25nm,1.1s
BRG Berggiesshubel 14.46 335 S **Sn 11 19 20.0 +0.1**
BRG Berggiesshubel 14.46 335 SS **S 11 19 37.0 -2.6**
SENIN Lac Senin/Sane 14.56 310 Pn **Pn 11 16 42.5 +1.0**
ERBR Yeremizino-Bor 14.71 54 *e*P **Pn 11 16 43.8 +0.6**
ERBR *e*S **Sn 11 19 27.7 +1.8**
ERBR pmax pmax
comp=Z,323nm,0.8s
ERBR MLR MLR
comp=Z,2μm,13.0s
STU Stuttgart 14.87 320 Pn **Pn 11 16 45.2 -0.2**
STU Stuttgart 14.87 320 P **Pn 11 16 45.2 -0.2**
BFO Black Forest 15.04 318 Pn **Pn 11 16 46.6 -1.2**
CLL Collm 15.15 334 Pn **Pn 11 16 49.4 +0.3**
CLL Collm 15.15 334 *e*P **Pn 11 16 50.0 +0.9**
CLL Collm 15.15 334 *e*P **Pn 11 16 50.0 +0.9**
CLL *i* PP **P 11 16 55.5 +1.3**
comp=Z,78nm,1.1s
CLL *i* sPP 11 17 00.0
CLL *e*(sPPP) 11 17 05.0
CLL *e*S **Sn 11 19 35.0 -1.6**
CLL *e*SS **SnSn 11 19 49.0 -0.3**
CLL AMS AMS 11 25 00.0
KARS Kars 15.32 74 Pn **Pn 11 16 53.8 +2.2**
KARS IAmb IAmb 11 16 58.2
comp=Z,254nm,2.0s
KARS Kars 15.32 74 P **Pn 11 16 53.8 +2.2**
KARS pmax pmax
comp=Z,254nm,2.0s
GEVA Gevas 15.35 83 Pn **Pn 11 16 52.4 +0.4**
KIV Kislovodsk 15.57 62 Pn **Pn 11 16 55.6 +0.8**
KIV Kislovodsk 15.57 62 P **Pn 11 16 56.1 +1.3**
KIV S **Sn 11 19 50.6 +3.5**
KIV Kislovodsk 15.57 62 *e*P **Pn 11 16 56.2 +1.4**
KIV *e*S **Sn 11 19 50.2 +3.1**
KIV pmax pmax
comp=Z,70nm,1.1s
KIV MLR MLR
comp=Z,927nm,13.0s
KIV Kislovodsk 15.57 62 *i* P **Pn 11 16 55.8 +1.1**
SNR=16
KVAR Kislovodsk Arr 15.58 62 Pn **Pn 11 16 55.8 +1.0**
baz=293,slow=22
comp=Z,2.7nm,0.4s
ECH Echery 15.61 316 Pn **Pn 11 16 55.1 -0.2**
ECH Echery 15.61 316 P **Pn 11 16 55.1 -0.2**
ECH pmax pmax
comp=Z,63nm,1.2s
KBZ Khabaz 15.66 63 Pn **Pn 11 16 56.9 +1.1**
comp=Z,0.1nm,0.3s,baz=278,slow=7.9,SNR=16
comp=Z,9.0nm,0.9s
KBZ Khabaz 15.66 63 *d*P **Pn 11 16 57.6 +1.8**
KBZ MLR MLR
comp=Z,3μm,12.0s
GKP Gorka Klasztor 15.77 346 *e*P **P 11 17 03.3 +2.2**
SSB Saint Sauveur 15.87 303 Pn **Pn 11 16 57.9 -0.8**
SSB Saint Sauveur 15.87 303 P **Pn 11 16 57.9 -0.8**
SSB pmax pmax
comp=Z,52nm,1.8s
RUE Ruedersdorf 15.90 338 *e*P **P 11 17 01.4 -1.1**
SUW Suwalki 15.90 359 *e*P **P 11 17 03.9 +1.3**
SUW Suwalki 15.90 359 Pn **Pn 11 16 58.8 -0.1**
SUW Suwalki 15.90 359 *e*P **P 11 17 01.8 -0.7**
SUW Suwalki 15.90 359 ⇑P **Pn 11 17 00.3 +1.4**
NCK Nalchik 16.10 64 *i*P **P 11 17 05.4 +0.6**
NCK MLR MLR
comp=Z,3μm,15.0s
GOF Gofitskoye 16.14 58 *ce*P **Pn 11 17 02.6 +0.6**
EJON La Jonquera 16.34 292 P **Pn 11 17 03.7 -0.8**
GNI Garni 16.57 76 Pn **Pn 11 17 08.2 +0.5**
GNI IAmb IAmb 11 17 14.8
comp=Z,422nm,1.6s
GNI Garni 16.57 76 Pn **Pn 11 17 08.9 +1.1**
comp=Z,0.5nm,0.3s,baz=292,slow=3.9,SNR=17
GNI LR LR 11 23 34.8
comp=Z,3μm,19.6s,baz=285,slow=38
comp=Z,18nm,1.0s
GNI Garni 16.57 76 P **P 11 17 09.9 -0.3**
GNI S **Sn 11 20 15.5 +3.8**
GNI Garni 16.57 76 *d*P **P 11 17 10.7 +0.4**
GNI pmax pmax
comp=Z,107nm,1.2s
GNI MLR MLR
comp=Z,3μm,12.0s
GNI Garni 16.57 76 P **P 11 17 10.4 +0.2**
GNI Garni 16.57 76 ⇓P **P 11 17 10.7 +0.4**
MNK Minsk 16.66 9 *i* P **Pn 11 17 08.5 -0.1**
comp=E,25nm,0.6s
MNK *i* P **Pn 11 17 08.5 -0.1**
comp=N,16nm,0.7s
MNK *i* P **Pn 11 17 08.5 -0.1**
comp=Z,23nm,0.7s,baz=192
MNK *i* PP **sP 11 17 17.6 +1.1**
MNK *i* PPP PPP 11 17 25.3
MNK *i* S **Sn 11 20 12.7 -0.6**
MNK *i* SS **SnSn 11 20 34.3 +7.9**
MNK *i* LQ LQ 11 22 35.0
MNK *i* LR LR 11 23 00.5
MNK *i* LRM MLR 11 24 31.4
comp=N,1μm,13.1s
MNK *i* LRM MLR 11 24 43.4
comp=Z,3μm,10.3s
MNK *i* LRM MLR 11 24 45.9
comp=E,4μm,12.9s
MNK Minsk 16.66 9 *i* P **Pn 11 17 08.4 -0.1**
MNK *i* S **Sn 11 20 12.6 -0.6**
MNK pmax pmax
comp=E,25nm,0.6s
MNK pmax pmax
comp=Z,23nm,0.7s
MNK pmax pmax
comp=N,16nm,0.7s
MNK MLR MLR
comp=N,1μm,13.0s
MNK MLR MLR
comp=Z,3μm,10.0s
MNK MLR MLR
comp=E,4μm,13.0s
NACGM Naroch 16.94 6 *e*P **Pn 11 17 11.8 -0.3**
MTLF Montolieu 16.97 295 ⇓P **Pn 11 17 12.0 -0.5**
WLF Walferdange 16.99 318 P **Pn 11 17 12.5 -0.4**
WLF Walferdange 16.99 318 Pn **Pn 11 17 12.4 -0.4**
WLF Walferdange 16.99 318 P **Pn 11 17 12.4 -0.4**
WLF pmax pmax
comp=Z,48nm,1.1s
WLF Walferdange 16.99 318 *d*P **P 11 17 14.8 +0.2**
comp=Z,28nm,1.0s

VORD Divnogorie 17.02 36 *e*P **Pn** **11 17 10.7 -2.4**
VORD pmax pmax
comp=Z,90nm,1.0s
LOR Lormes 17.08 309 ⇓P **Pn** **11 17 14.4 +0.4**
VSR Storozhevoye 17.13 35 *e*P **Pn** **11 17 12.5 -2.0**
VSR *e*S **Sn** **11 20 14.3 -10**
VSR pmax pmax
comp=Z,130nm,1.3s
VSR smax smax
comp=E,1μm,9.0s
VSR MLR MLR
comp=Z,11μm,10.0s
IIGN Ignalina 17.34 5 *e*P **Pn** **11 17 17.5 +0.4**
PABE Paberze 17.40 1 **Pn** **11 17 17.6 -0.2**
PABE Paberze 17.40 1 *e*P **P** **11 17 18.6 -0.4**
VORR Voronezh 17.47 34 *e*P **P** **11 17 20.3 +0.4**
VORR pmax pmax
comp=Z,59nm,0.4s
BHOU Houvegnez 17.48 320 *d*P **P** **11 17 22.5 +2.4**
ISAL Salakas 17.55 5 *e*P **Pn** **11 17 20.0 +0.3**
CEST Esterri de Car 17.55 292 **Pn** **11 17 20.0 0.0**
BTNL Ternell 17.57 321 *d*P **P** **11 17 22.5 +1.5**
MEM Membach 17.64 321 *d*P **P** **11 17 22.7 +0.9**
RCHB Rochefort 17.77 319 *d*P **P** **11 17 25.3 +2.1**
VSVD Vaisvydziai 17.88 1 *e*P **Pn** **11 17 23.7 -0.1**
BCLA Clavier 17.88 319 *d*P **P** **11 17 26.6 +2.1**
comp=Z,14nm,1.0s
BGES Gesves 17.97 319 *d*P **P** **11 17 28.6 +3.2**
BSD Bornholm Skovb 17.98 344 *e*P **Pn** **11 17 24.3 -0.7**
BSD Bornholm Skovb 17.98 344 ⇓P **Pn** **11 17 23.8 -1.3**
BSD Bornholm Skovb 17.98 344 *i* P **Pn** **11 17 23.1 -2.0**
BSD IAmb IAmb 11 17 26.2
comp=Z,25nm,0.9s
LPSR Galich'ya Gora 18.02 32 *e*P **Pn** **11 17 23.8 -1.7**
LPSR *e*S **Sn** **11 20 36.2 -10**
LPSR pmax pmax
comp=Z,120nm,1.1s
LPSR smax smax
comp=N,710nm,5.9s
LPSR MLR MLR
comp=Z,4μm,7.0s
DOU Dourbes 18.07 318 *d*P **P** **11 17 27.8 +1.3**
comp=Z,17nm,1.0s
BMRD Maredsous 18.09 318 *d*P **P** **11 17 27.9 +1.1**
VRH Novokhopyorsk 18.33 39 *e*P **Pn** **11 17 27.2 -2.2**
VRH pmax pmax
comp=Z,90nm,0.8s
VRH MLR MLR
comp=Z,3μm,9.0s
CLF Chambon-Foret 18.38 309 **Pn** **11 17 30.1 +0.2**
UCC Uccle 18.59 319 P **Pn** **11 17 32.5 0.0**
UCC Uccle 18.59 319 P **Pn** **11 17 32.5 0.0**
UCC pmax pmax
comp=Z,42nm,1.0s
UCC Uccle 18.59 319 *d*P **Pn** **11 17 34.1 +1.6**
LUNU Lund 18.80 342 *i* P **P** **11 17 34.0 -0.5**
MAK Makhachkala 18.82 68*d i*P **P** **11 17 33.9 -1.0**
MAK *e*S **Sn** **11 21 07.0 +1.2**
MAK pmax pmax
comp=Z,403nm,1.0s
MAK MLR MLR
comp=Z,3μm,14.0s
AKT Akhty 18.87 72 *e*P **P** **11 17 35.6 0.0**
AKT *e*S **Sn** **11 21 08.5 +1.3**
AKT pmax pmax
comp=Z,150nm,1.4s
AKT MLR MLR
comp=Z,3μm,11.0s
BLEU Blekinge 18.92 347 *i* P **P** **11 17 34.5 -1.3**
COP Copenhagen 19.10 341 *i* P **Pn** **11 17 38.3 -0.3**
ECHE Chera 19.13 282 P **P** **11 17 38.8 +0.4**
OBN Obninsk 19.16 23 P **P** **11 17 38.6 +0.2**
OBN IAmb IAmb 11 17 41.9
comp=Z,225nm,1.1s
OBN Obninsk 19.16 23 P **P** **11 17 38.0 -0.4**
comp=Z,2.5nm,0.3s,baz=146,slow=6.1,SNR=10
OBN LR LR 11 25 08.2
comp=Z,2μm,19.9s,baz=159,slow=37
comp=Z,109nm,1.0s
OBN Obninsk 19.16 23*de*P **P** **11 17 38.6 +0.2**
OBN *i* S **S** **11 21 16.0 +0.8**
OBN pmax pmax
comp=Z,269nm,1.3s
OBN MLR MLR
comp=Z,3μm,13.0s
OBN Obninsk 19.16 23 P **Pn** **11 17 40.4 +1.1**
comp=Z,4μmcomp=Z,183nm,1.3s
OBN pP **sP** **11 17 44.3 +0.3**
comp=Z,4μmcomp=Z,183nm,1.3s
BJUU Bjuv 19.30 342 *i* P **P** **11 17 39.5 -0.5**
CART Cartagena 19.38 276 P **P** **11 17 41.0 0.0**
DEL Delary 19.46 344 *i* P **P** **11 17 41.3 -0.5**
SSRD Sdr. Stenderup 19.74 336 *i* P **P** **11 17 44.1 -0.7**
MOS Moscow 20.01 24 *e*P **P** **11 17 44.9 -2.9**
MOS *e*S Sn 11 21 34.2 -0.1
MOS pmax pmax
comp=Z,324nm,1.2s
MOS pmax pmax
comp=N,182nm,1.1s
MOS pmax pmax
comp=E,136nm,1.2s
MOS pmax pmax
comp=Z,2μm,3.3s
MOS pmax pmax
comp=E,2μm,4.0s
MOS pmax pmax
comp=N,2μm,4.0s
MOS MLR MLR
comp=Z,6μm,13.0s
MOS MLR MLR
comp=E,4μm,12.0s
MOS MLR MLR
comp=N,4μm,10.0s
FABU Falkenberg 20.21 343 *i* P **P** **11 17 50.4 +0.5**
VSU Vasula 20.47 5*de*P **P** **11 17 52.1 -0.6**
VSU pmax pmax
comp=Z,447nm,1.3s
VSU MLR MLR
comp=Z,6μm,15.0s
VSU Vasula 20.47 5 *e*P **P** **11 17 53.2 +0.5**
VSU Vasula 20.47 5 ⇓P **P** **11 17 51.5 -1.1**
MUD Monsted U'grnd 20.70 337 *i* P **P** **11 17 54.7 -0.5**
ONAU Onsala 20.76 342 *i* P **P** **11 17 55.9 0.0**
BORU Boraas 20.78 344 *i* P **P** **11 17 55.2 -0.8**
UCM Universidad Co 20.84 284 P **P** **11 17 56.9 -0.1**
OVD Ostervraa, Den 21.13 340 *i* P **P** **11 18 00.7 +0.8**
EALB Alboran 21.30 272 P **P** **11 18 02.0 +0.1**
EQTA Presa de Quent 21.36 276 P **P** **11 18 04.1 +1.5**
ARBE Arbavere 21.40 3 *e*P **P** **11 18 03.6 +0.9**
ESBB Sonseca Array 21.43 283 P **P** **11 18 02.6 -0.8**
ESDC Sonseca Array 21.43 283 P **P** **11 18 02.8 -0.6**
ESDC Sonseca Array 21.43 283 P **P** **11 18 03.4 0.0**
comp=Z,31nm,0.8s,baz=76,slow=11,SNR=75
ESDC ScP **ScP** **11 25 42.0 -1.0**
comp=Z,1.2nm,0.9s,baz=90,slow=0.8,SNR=5.4
ESDC LR LR 11 26 59.0
comp=Z,1μm,20.4s,baz=78,slow=38
comp=Z,31nm,0.8s
ELGU Los Guajares, 21.57 275 P **P** **11 18 05.2 +0.4**
TAM Tamanrasset 21.72 230 P **P** **11 18 06.3 -0.4**
TAM Tamanrasset 21.72 230 P **P** **11 18 06.3 -0.4**
TAM pmax pmax
comp=Z,66nm,1.2s
PAB San Pablo 21.74 282 P **P** **11 18 06.6 -0.1**
PAB San Pablo 21.74 282 P **P** **11 18 06.6 -0.1**
PAB pmax pmax
comp=Z,65nm,1.2s
PAB San Pablo 21.74 282 ⇑P **P** **11 18 06.8 +0.1**
EGOR Sierra Gorda, 21.90 276 P **P** **11 18 10.5 +2.0**
ROSF Rostrenen 21.94 306 ⇓P **P** **11 18 07.7 -1.0**
KBD Kabd 21.95 107 P **P** **11 18 10.9 +2.0**
KBD S **S** **11 22 09.6 -1.3**
BELG Belogornoye 22.02 42 P **P** **11 18 08.2 -1.3**
comp=Z,556nm,1.1s,baz=56,slow=5.2,SNR=46
BELG LR LR 11 27 42.9
comp=Z,2μm,21.4s,baz=238,slow=40
BELG Belogornoye 22.02 42*d i*P **P** **11 18 08.3 -1.2**
BELG pmax pmax
comp=Z,76nm,1.1s
BELG MLR MLR
comp=Z,376nm,15.0s
EADA Adamuz 22.09 279 P **P** **11 18 11.9 +1.6**
PUL Pulkovo 22.11 9*ce*P **P** **11 18 12.1 +1.8**
PUL pmax pmax
comp=Z,169nm,1.3s
PUL MLR MLR
comp=Z,4μm,15.0s
MEF Metsahovi 22.13 1 *e*P **P** **11 18 10.7 +0.1**
EMAL Malaga-Limoner 22.22 275 P **P** **11 18 13.9 +2.1**
STRU Stroemstad 22.40 343 *i* P **P** **11 18 11.1 -2.4**
HOMB Homborsund 22.42 339 *e*P **P** **11 18 13.7 0.0**
HOMB Homborsund 22.42 339 *i* P **P** **11 18 12.1 -1.6**
EMIJ Mijas 22.53 275 P **P** **11 18 16.3 +1.2**
STRD Stroud 22.60 315 *e*P **P** **11 18 14.5 -1.2**
STRD IAmb IAmb 11 18 17.5
comp=Z,99nm,0.8s
CWF Charnwood Fore 22.60 318 *e*P **P** **11 18 13.7 -2.0**
CWF IAmb IAmb 11 18 16.2
comp=Z,35nm,1.0s
ECAB El Cabril 22.75 279 P **P** **11 18 18.9 +1.4**
SNART Snartemo 22.86 338 *e*P **P** **11 18 19.7 +1.4**
SNART Snartemo 22.86 338 *i* P **P** **11 18 19.2 +0.9**
HFS Hagfors 22.91 347 P **P** **11 18 17.7 -1.2**
comp=Z,24nm,0.6s,baz=156,slow=11,SNR=40
HFS LR LR 11 28 44.1
comp=Z,3μm,18.6s,baz=162,slow=41
comp=Z,24nm,0.6s
RAF Rauma 22.96 358 *e*P **P** **11 18 19.1 -0.3**
MONM Monmouth 22.98 315 *e*P **P** **11 18 18.0 -1.7**
MONM IAmb IAmb 11 18 20.1
comp=Z,45nm,0.8s
LBWR Ladybower, Pea 23.16 319 *e*P **P** **11 18 19.6 -1.9**
LBWR IAmb IAmb 11 18 23.4
comp=Z,50nm,1.0s
MCH1 Michaelchurch 23.16 315 *e*P **P** **11 18 19.7 -1.9**
MCH1 IAmb IAmb 11 18 21.9
comp=Z,79nm,1.0s
MCH1 Michaelchurch 23.16 315 ⇑P **P** **11 18 20.0 -1.5**
ESPR Espera 23.32 276 P **P** **11 18 23.9 +0.6**
OSL Oslo 23.32 344 *e*P **P** **11 18 22.4 -0.7**
KONO Kongsberg 23.32 342 P **P** **11 18 22.9 -0.2**
KONO IAmb IAmb 11 18 23.7
comp=Z,195nm,1.8s
KONO Kongsberg 23.32 342*d i*P **P** **11 18 21.6 -1.5**
KONO pmax pmax
comp=Z,63nm,1.7s
KONO MLR MLR
comp=Z,1μm,16.0s
KONO Kongsberg 23.32 342 *e*P **P** **11 18 21.9 -1.3**
KONO Kongsberg 23.32 342 ⇓P **P** **11 18 21.8 -1.3**
HLM1 Long Mynd 23.33 317 *e*P **P** **11 18 21.4 -1.9**
HLM1 IAmb IAmb 11 18 23.5
comp=Z,32nm,1.1s
FINES FINESS Array B 23.41 3 P **P** **11 18 23.8 -0.1**
FINES FINESS Array B 23.41 3 P **P** **11 18 22.9 -1.0**
comp=Z,27nm,0.9s,baz=165,slow=9.8,SNR=36
FINES LR LR 11 28 48.4
comp=Z,4μm,18.5s,baz=177,slow=40
comp=Z,27nm,0.9s
FINES FINESS Array B 23.41 3 *i* P **P** **11 18 24.0 +0.1**
FINES pmax pmax
comp=Z,27nm,0.9s
FIA1 FINESS Array S 23.41 3 P **P** **11 18 24.3 +0.4**
FIA1 IAmb IAmb 11 18 25.4
comp=Z,153nm,1.1s
ECAL Calabor 23.44 289 P **P** **11 18 24.7 +0.2**
PBRG Braganca 23.44 289 *e*P **P** **11 18 25.2 +0.7**
PBRG *i* IAmb IAmb 11 18 27.2
comp=Z,60nm,1.2s
CNIL Conil 23.58 275 P **P** **11 18 26.6 +0.8**
MVO Moncorvo 23.68 287 *e*P **P** **11 18 26.5 -0.3**
MVO *i* IAmb IAmb 11 18 29.2
comp=Z,55nm,1.6s
MVO *e*S **S** **11 22 41.9 +0.5**
MVO *e*LR LR 11 26 49.5
MVO *i* IAMs_20 IAMs_20 11 30 53.0
comp=Z,1μm,18.0s
FOEL Foel Wylfa 23.68 317 *e*P **P** **11 18 25.4 -1.3**
FOEL IAmb IAmb 11 18 27.4
comp=Z,47nm,1.0s
RAYN Ar Rayn 23.74 121 P **P** **11 18 29.0 +1.4**
RAYN Ar Rayn 23.74 121 P **P** **11 18 29.4 +1.8**
RAYN S **S** **11 22 43.0 +0.5**
RAYN Ar Rayn 23.74 121 P **P** **11 18 29.0 +1.4**
RAYN pmax pmax
comp=Z,93nm,1.3s
RAYN Ar Rayn 23.74 121 *i* P **P** **11 18 28.5 +1.0**
SNR=28
RAYN Ar Rayn 23.74 121 ⇑P **P** **11 18 28.7 +1.1**
EMIN Mina Concepcio 23.78 279 P **P** **11 18 28.5 +0.6**
NC602 NORSAR Array S 23.87 345 P **P** **11 18 27.7 -0.7**
NC602 NORSAR Array S 23.87 345 *e*P **P** **11 18 27.4 -1.1**
EBAD Badajoz 23.89 281 P **P** **11 18 29.2 +0.3**
ARNO Arenosillo 23.96 277 P **P** **11 18 30.3 +0.9**
BLS5 Blasjo 23.97 338 *e*P **P** **11 18 28.0 -1.4**
PBAR Barrancos 24.00 280 P **P** **11 18 30.6 +0.8**
PBAR Barrancos 24.00 280 *e*P **P** **11 18 30.2 +0.3**
PBAR *i* IAmb IAmb 11 19 29.5
comp=Z,70nm,1.8s
EDMD Edmundbyers 24.04 322 *e*P **P** **11 18 28.3 -1.8**
EDMD IAmb IAmb 11 18 30.8
comp=Z,246nm,1.8s
KEF Keuruu 24.09 2 *e*P **P** **11 18 31.1 +0.6**
PMRV Marv??o 24.10 283 *e*P **P** **11 18 30.2 -0.7**
PMRV *i* IAmb IAmb 11 18 32.7
comp=Z,49nm,1.2s
PMRV *e*S **S** **11 22 50.3 +2.3**
PMRV *e*LR LR 11 26 20.6
PMRV *i* IAMs_20 IAMs_20 11 28 34.1
comp=Z,1μm,18.0s
NAO01 NORSAR Array S 24.11 345 P **P** **11 18 29.9 -0.7**
NAO01 IAmb IAmb 11 18 32.8
comp=Z,96nm,1.0s
MTE Manteigas 24.12 285 P **P** **11 18 30.9 -0.2**
MTE IAmb IAmb 11 18 37.6
comp=Z,69nm,0.9s
MTE Manteigas 24.12 285 *e*P **P** **11 18 31.1 +0.1**
MTE *i* IAmb IAmb 11 18 37.3
comp=Z,98nm,1.0s
MTE *e*S **S** **11 22 51.5 +3.1**
MTE *e*LR LR 11 27 04.5
MTE *i* IAMs_20 IAMs_20 11 28 36.1
comp=Z,1μm,18.0s
MTE Manteigas 24.12 285 *e*P **P** **11 18 31.4 +0.3**
MTE Manteigas 24.12 285 ⇑P **P** **11 18 30.9 -0.2**
PCBR Castelo Branco 24.12 284 *e*P **P** **11 18 30.9 0.0**
PCBR *i* IAmb IAmb 11 18 34.7
comp=Z,92nm,1.4s
KMY Karmoy 24.17 337 *e*P **P** **11 18 29.0 -2.2**
NC405 NORSAR Array S 24.19 346 P **P** **11 18 30.4 -1.0**
NC405 IAmb IAmb 11 18 32.3
comp=Z,150nm,1.4s
NB201 NORSAR Array S 24.21 345 P **P** **11 18 31.1 -0.5**
NB2 NORSAR Subarra 24.22 345 P **P** **11 18 30.8 -0.9**
comp=Z,162nm,1.0s,baz=159,slow=10
NB2 NORSAR Subarra 24.22 345 P **P** **11 18 30.8 -0.9**
baz=159,slow=10
NOA NORSAR Array B 24.22 345 P **P** **11 18 30.1 -1.6**
comp=Z,68nm,1.1s,baz=147,slow=9.7,SNR=98
comp=Z,68nm,1.1s
POLO Lamas de Olo 24.24 288 *e*P **P** **11 18 32.9 +0.7**
POLO *i* IAmb IAmb 11 18 37.9
comp=Z,32nm,1.2s
NBO00 NORSAR Array S 24.30 345 P **P** **11 18 32.8 +0.4**
PESTR Estremoz 24.32 282 P **P** **11 18 33.2 +0.3**
PESTR Estremoz 24.32 282 P **P** **11 18 32.6 -0.3**
PESTR Estremoz 24.32 282 *e*P **P** **11 18 32.3 -0.6**
PESTR *i* IAmb IAmb 11 18 38.5
comp=Z,59nm,1.4s
PESTR Estremoz 24.32 282 ⇓P **P** **11 18 31.6 -1.3**
ODD1 Odda 24.33 339 *e*P **P** **11 18 30.2 -2.6**
NC303 NORSAR Array S 24.36 346 P **P** **11 18 33.1 +0.1**
NC303 IAmb IAmb 11 18 34.9
comp=Z,164nm,1.4s
PVIS Viseu 24.36 286 *e*P **P** **11 18 33.4 +0.1**
PCAB Cabril 24.41 288 *e*P **P** **11 18 34.6 +0.9**
PCAB *i* IAmb IAmb 11 18 37.9
comp=Z,89nm,1.3s
EGRO El Granado 24.46 278 P **P** **11 18 34.8 +0.6**
KESW Keswick, Cumbr 24.47 321 *e*P **P** **11 18 32.5 -1.6**
KESW IAmb IAmb 11 18 35.3
comp=Z,383nm,1.9s
NC204 NORSAR Array S 24.52 345 P **P** **11 18 34.6 +0.1**
SKAR Skarslia 24.55 342 *e*P **P** **11 18 31.9 -2.8**
PGAV Gavieira, Arco 24.58 289 *e*P **P** **11 18 34.7 -0.6**
PGAV *i* IAmb IAmb 11 18 42.3
comp=Z,89nm,1.6s
PGAV *e*S **S** **11 22 58.8 +2.9**
PGAV *e*LR LR 11 27 12.2
PGAV *i* IAMs_20 IAMs_20 11 30 08.5
comp=Z,1μm,18.0s
PVAQ Vaqueiros 24.67 278 P **P** **11 18 36.5 +0.4**
PVAQ Vaqueiros 24.67 278 P **P** **11 18 35.5 -0.5**
PVAQ IAmb IAmb 11 18 42.3
comp=Z,86nm,0.9s
PVAQ Vaqueiros 24.67 278 *e*P **P** **11 18 36.3 +0.3**
PVAQ *i* IAmb IAmb 11 18 41.8
comp=Z,111nm,1.2s
PVAQ *e*S **S** **11 22 55.7 -1.5**
PVAQ Vaqueiros 24.67 278 ⇓P **P** **11 18 35.8 -0.2**
PBEJ Beja 24.67 280 *e*P **P** **11 18 36.4 +0.4**
PBEJ *i* IAmb IAmb 11 18 42.2
comp=Z,74nm,1.3s
PSARD Sardoal 24.67 283 *e*P **P** **11 18 35.1 -0.9**
PSARD *i* IAmb IAmb 11 18 41.1
comp=Z,76nm,1.3s
EVO Evora 24.70 281 P **P** **11 18 36.8 +0.5**
EVO Evora 24.70 281 *e*P **P** **11 18 35.9 -0.4**
EVO *i* IAmb IAmb 11 18 37.5
comp=Z,36nm,1.4s
PMTG Montargil 24.79 282 *e*P **P** **11 18 35.9 -1.2**
PMTG *i* IAmb IAmb 11 18 38.6
comp=Z,76nm,1.4s
COI Coimbra 24.80 285 P **P** **11 18 37.9 +0.7**
COI IAmb IAmb 11 18 39.0
comp=Z,88nm,0.9s
COI Coimbra 24.80 285 *e*P **P** **11 18 38.3 +1.1**
COI *i* IAmb IAmb 11 18 39.1
comp=Z,132nm,1.1s
PTO Porto 24.86 287 *e*P **P** **11 18 38.5 +0.8**
PTO *i* IAmb IAmb 11 18 42.3
comp=Z,80nm,1.3s
PBDV Barranco-do-Ve 24.87 278 *e*P **P** **11 18 37.3 -0.6**
PBDV *i* IAmb IAmb 11 18 43.9
comp=Z,140nm,1.2s
PCVE Castro Verde 24.87 279 P **P** **11 18 38.8 +0.9**
PCVE Castro Verde 24.87 279 *e*P **P** **11 18 37.2 -0.7**
PCVE *i* IAmb IAmb 11 19 12.3
comp=Z,45nm,2.6s
PCAS Casmilo, Conde 24.88 285 *e*P **P** **11 18 37.2 -0.7**
PCAS *i* IAmb IAmb 11 18 40.2
comp=Z,90nm,1.3s
KLMR Klimovskoe 24.88 19*c i*P **P** **11 18 35.3 -2.4**
KLMR S **S** **11 22 59.1 -1.0**
KLMR pmax pmax
comp=Z,299nm,1.1s
KLMR MLR MLR
comp=Z,3μm,10.0s
EKA Eskdalemuir Ar 24.89 322 P **P** **11 18 37.2 -0.6**
comp=Z,40nm,1.0s,baz=123,slow=9.1,SNR=52
comp=Z,40nm,1.0s
EKA Eskdalemuir Ar 24.89 322 P **P** **11 18 37.9 0.0**
EKA pmax pmax
comp=Z,205nm,1.7s
ESK Eskdalemuir 24.91 322 P **P** **11 18 38.2 +0.2**
ESK IAmb IAmb 11 18 40.7
comp=Z,142nm,1.4s
ESK Eskdalemuir 24.91 322 *e*P **P** **11 18 37.1 -0.8**
ESK IAmb IAmb 11 18 39.8
comp=Z,126nm,1.2s
ESK Eskdalemuir 24.91 322 P **P** **11 18 38.2 +0.2**
ESK pmax pmax
comp=Z,142nm,1.4s
ESK Eskdalemuir 24.91 322 ⇑P **P** **11 18 37.9 -0.1**
EKB Eskdalemuir 24.91 322 P **P** **11 18 38.2 +0.2**
MESJ Messejana 24.98 279 *e*P **P** **11 18 38.3 -0.5**
MESJ IAmb IAmb 11 18 40.2
comp=Z,43nm,0.9s
MESJ *e*S **S** **11 23 02.5 +0.3**
MESJ Messejana 24.98 279 P **P** **11 18 38.8 0.0**
MESJ IAmb IAmb 11 18 47.3
comp=Z,82nm,1.2s
MESJ Messejana 24.98 279 *e*P **P** **11 18 38.8 0.0**
MESJ *i* IAmb IAmb 11 18 47.4
comp=Z,62nm,0.9s
MESJ Messejana 24.98 279 ⇓P **P** **11 18 38.9 0.0**
BER Bergen 25.09 339 *e*P **P** **11 18 39.3 -0.2**
ASK Askoy 25.21 339 *e*P **P** **11 18 39.6 -1.1**
EDI Edinburgh 25.23 324 *e*P **P** **11 18 40.5 -0.4**
EDI IAmb IAmb 11 18 42.9
comp=Z,51nm,0.8s
JOF Joensuu 25.28 8 *e*P **P** **11 18 41.6 +0.3**
NEWG New Galloway 25.30 321 *e*P **P** **11 18 40.6 -1.0**
NEWG IAmb IAmb 11 18 43.5
comp=Z,20nm,1.0s
GAL1 Galloway 25.42 320 *e*P **P** **11 18 41.5 -1.0**
GAL1 IAmb IAmb 11 18 44.5
comp=Z,72nm,1.1s
MORF Marmelete 25.42 278 *e*P **P** **11 18 42.3 -0.6**
MORF IAmb IAmb 11 18 44.8
comp=Z,79nm,1.8s
MORF *e*S **S** **11 23 09.7 +0.4**
MORF Marmelete 25.42 278 *e*P **P** **11 18 42.3 -0.6**
MORF *e*S **S** **11 23 09.6 +0.4**
PTEO Sao Teotonio 25.43 279 *e*P **P** **11 18 42.8 -0.1**
PTEO *i* IAmb IAmb 11 18 49.0
comp=Z,184nm,1.5s
IWEX Carrickbyrne, 25.44 314 P **P** **11 18 44.2 +1.4**
PARRA Arraiolos 25.45 282 *e*P P 11 18 35.3 -7.8
PARRA *i* IAmb IAmb 11 19 18.5
comp=Z,45nm,1.5s
DRUM Mains of Drumt 25.48 326 *e*P **P** **11 18 42.2 -0.9**
DRUM IAmb IAmb 11 18 46.5
comp=Z,36nm,1.1s
HYA Hoyanger 25.50 340 *e*P **P** **11 18 43.2 0.0**
AVE Averroes 25.52 269 P **P** **11 18 45.6 +1.8**
AVE Averroes 25.52 269 P **P** **11 18 43.4 -0.5**
AVE IAmb IAmb 11 18 56.1
comp=Z,55nm,0.7s
LIS Lisbon 25.55 282 *e*P **P** **11 18 43.4 -0.6**
LIS IAmb IAmb 11 18 50.2
comp=Z,188nm,1.0s
LIS *e*S **S** **11 23 11.6 +0.4**
LIS Lisbon 25.55 282 *e*P **P** **11 18 45.5 +1.5**
LIS *i* IAmb IAmb 11 18 50.6
comp=Z,256nm,1.3s
LIS Lisbon 25.55 282 *e*P **P** **11 18 43.3 -0.6**
LIS *e*S **S** **11 23 11.6 +0.4**
DSB Dublin 25.56 316 P **P** **11 18 44.1 +0.2**
DSB IAmb IAmb 11 18 46.4
comp=Z,110nm,1.5s
DSB Dublin 25.56 316 P **P** **11 18 45.0 +1.1**
DOMB Dombas 25.57 344 *e*P **P** **11 18 44.5 +0.5**
PMAFR Mafra 25.62 282 P **P** **11 18 45.2 +0.6**
SAKB Bahrain 25.79 110 P **P** **11 18 46.9 +0.7**
SUE Sulen 25.80 339 *e*P **P** **11 18 45.3 -0.7**
ILTH Belurgan, Co L 25.87 318 P **P** **11 18 48.0 +1.3**
AKN Aaknes 26.16 342 *e*P **P** **11 18 50.1 +0.8**
FOO Floro 26.17 340 *e*P **P** **11 18 49.1 -0.2**
SHMA Al-Shehemyia 26.17 110 P **P** **11 18 50.6 +0.9**
SNR=9.3
SHMA S **S** **11 23 19.3 -1.9**
MCD Coleburn Disti 26.22 327 *e*P **P** **11 18 48.9 -1.0**
MCD IAmb IAmb 11 18 50.4
comp=Z,24nm,1.1s
CLGH Cloghs, Cushen 26.23 320 *e*P **P** **11 18 49.1 -0.9**
MOL Molde 26.37 343 *e*P **P** **11 18 51.3 +0.1**
KIRV Kirov 26.45 31 P **P** **11 18 51.4 -0.5**
comp=Z,60nm,0.8s,baz=212,slow=2.9,SNR=34
KIRV LR LR 11 29 54.3
comp=Z,2μm,19.0s,baz=235,slow=38
comp=Z,60nm,0.8s
KIRV Kirov 26.45 31*d i*P **P** **11 18 51.2 -0.7**
SMRA Abu-Samra 26.71 112 P **P** **11 18 55.7 +1.1**
IDGL Inch Island, C 26.94 319 P **P** **11 18 57.0 +0.6**
TRNA Turayna 27.00 112 P **P** **11 18 57.9 +0.7**
TRNA S **S** **11 23 34.2 -0.2**
AKTO Aktyubinsk 27.33 52 P **P** **11 18 59.8 -0.2**
comp=Z,12nm,0.9s,baz=249,slow=8.6,SNR=17
AKTO LR LR 11 32 26.0
comp=Z,2μm,18.3s,baz=272,slow=42
comp=Z,12nm,0.9s
NSS Namsos 27.33 349 *e*P **P** **11 18 59.6 -0.2**
SLWR Sila 27.75 112 P **P** **11 19 03.9 0.0**
JRN Qarnain Island 28.09 109 P **P** **11 19 08.1 +1.1**
AB31 Akbulak array 28.32 55 P **P** **11 19 09.2 +0.4**
ABKAR Akbulak array 28.32 55 P **P** **11 19 09.3 +0.5**
MOR8 Moi Rana 28.59 352 *e*P **P** **11 19 11.2 +0.2**
GHWR Ruwais 28.68 111 P **P** **11 19 14.0 +1.7**
LEIR Leirfjorden 28.68 351 *e*P **P** **11 19 11.6 -0.3**
STOK Stokkvaagen 28.91 351 *e*P **P** **11 19 14.2 +0.4**
VAGH Vaagaholmen 29.26 352 *e*P **P** **11 19 17.5 +0.6**

ARTI Arti 29.44 40 P P 11 19 19.3 +0.6
ARTI IAmb IAmb 11 19 21.7
comp=Z,57nm,1.0s
ARTI Arti 29.44 40 P P 11 19 17.7 -1.0
comp=Z,49nm,1.0s,baz=245,slow=8.1,SNR=48
ARTI LR LR 11 32 02.2
comp=Z,2µm,21.0s,baz=226,slow=38
comp=Z,49nm,1.0s
ARTI Arti 29.44 40 *d* iP **P 11 19 18.3 -0.4**
ARTI 11 20 09.1
ARTI 11 22 25.4
ARTI S **S 11 24 13.6 +1.4**
ARTI SS **SnSn 11 25 40.1 +1.0**
ARTI pmax pmax
comp=Z,71nm,1.1s
ARTI MLR MLR
comp=Z,3µm,14.0s
ARTI Arti 29.44 40 ⇑P **P 11 19 18.3 -0.4**
FAUS Fauske 29.69 354 *eP* **P 11 19 21.5 +0.8**
MZR Muzera 29.70 112 P **P 11 19 21.7 +0.4**
MZR P **P 11 19 21.7 +0.4**
MZR S **S 11 24 19.9 +3.1**
MZR S **S 11 24 19.9 +3.1**
MZR Muzera 29.70 112 P **P 11 19 21.4 +0.1**
SHME Shamm 29.98 104 P **P 11 19 24.5 +0.8**
APA Apatity 30.02 8 *eP* **P 11 19 22.0 -1.7**
APA *e* 11 20 22.8
APA *eS* **S 11 24 22.6 +1.5**
APA *eSS* **SS 11 26 18.4 -10**
APA MLR MLR
comp=Z,5µm,17.3s
BANOM Banah 30.16 104 P **P 11 19 22.9 -2.5**
NAZ Nazwa, Dubai 30.18 106 P **P 11 19 27.1 +1.5**
NAZ Nazwa, Dubai 30.18 106 P **P 11 19 26.2 +0.7**
STEI Steigen 30.23 354 *eP* **P 11 19 25.8 +0.4**
FAQ Al Faqa, Dubai 30.26 107 P **P 11 19 27.5 +1.2**
FAQ Al Faqa, Dubai 30.26 107 *i* P **P 11 19 26.5 +0.2**
SNR=12
MASF Masafi 30.35 105 P **P 11 19 25.3 -1.7**
MDH Madha 30.49 105 P **P 11 19 31.2 +2.9**
LOF Lofoten 30.58 353 *eP* **P 11 19 27.8 -0.8**
UOSS Minazif 30.61 106 P **P 11 19 29.8 +0.4**
UOSS Minazif 30.61 106 P **P 11 19 29.4 0.0**
UOSS Minazif 30.61 106 ⇓P **P 11 19 30.2 +0.8**
HATD Hatta, Dubai 30.62 106 P **P 11 19 30.1 +0.6**
ASHO Ashiyiah 30.65 106 P **P 11 19 29.5 -0.2**
ASHO Ashiyiah 30.65 106 P **P 11 19 29.9 +0.2**
SVE Sverdlovsk 30.76 40 *ceP* **P 11 19 31.3 +1.0**
SVE *eS* **S 11 24 37.5 +4.6**
SVE pmax pmax
comp=Z,84nm,1.5s
SVE MLR MLR
comp=Z,3µm,12.0s
ALNE Al Ain 30.77 108 P **P 11 19 31.9 +1.1**
ALNE Al Ain 30.77 108 *i* P **P 11 19 31.1 +0.4**
SNR=6.3
KTK1 Kautokeino 30.96 360 *eP* **P 11 19 31.9 0.0**
UMZA Um Al Zommool 31.11 110 P **P 11 19 33.8 +0.1**
SOHO SOHO 31.31 107 P **P 11 19 35.4 -0.1**
SOHO SOHO 31.31 107 *i* P **P 11 19 35.4 -0.1**
SNR=16
JASK Jask - Hormozg 31.39 103 P **P 11 19 38.2 +1.9**
ARCES ARCESS Array B 31.50 1 P **P 11 19 37.2 +0.5**
ARCES ARCESS Array B 31.50 1 P **P 11 19 36.0 -0.8**
comp=Z,2.6nm,0.6s,baz=201,slow=8.9,SNR=16
ARCES PcP **PcP 11 22 28.3 -0.9**
comp=Z,0.7nm,0.4s,baz=182,slow=2.1,SNR=3.7
ARCES LR LR 11 33 31.0
comp=Z,4µm,18.1s,baz=191,slow=39
comp=Z,2.6nm,0.6s
ARCES ARCESS Array B 31.50 1 P **P 11 19 37.2 +0.5**
ARCES pmax pmax
comp=Z,52nm,1.8s
JETT Jettan, Norway 31.55 358 *eP* **P 11 19 36.5 -0.7**
TOA0 Torodi Ar. Sit 31.56 224 P **P 11 19 37.3 -0.5**
TORD Torodi Ar. Bea 31.56 224 P **P 11 19 38.4 +0.7**
comp=Z,20nm,0.6s,baz=30,slow=10.0,SNR=29
TORD LR LR 11 35 33.6
comp=Z,1µm,18.3s,baz=38,slow=42
comp=Z,20nm,0.6s
TRO Tromso 31.68 357 *eP* **P 11 19 37.1 -1.1**
ARQ Araqi 31.76 108 P **P 11 19 39.4 -0.1**
KEV Kevo 31.76 2 P **P 11 19 40.0 +1.1**
HOQ Hoqain 32.21 107 P **P 11 19 43.9 +0.5**
BSY Bisya 32.61 108 P **P 11 19 47.7 +0.8**
BIDO Bidbid 32.86 106 P **P 11 19 49.7 +0.6**
BIDO P **P 11 19 49.7 +0.6**
DOK Doka 32.97 118 P **P 11 19 54.8 +4.7**
SMDO Samad 33.06 107 P **P 11 19 50.9 -0.2**
ABTO Aybut 33.26 120 P **P 11 19 56.8 +4.1**
WSAR Wadi Sarin 33.40 106 P **P 11 19 54.9 +1.0**
JMDO Jabal Madar 33.50 108 P **P 11 19 52.6 -2.2**
DMTO DMTO 34.15 118 P P 11 20 08.2 +7.8
MHTO MHTO 34.23 110 P **P 11 20 01.2 +0.2**
DQM DQM 34.56 112 P **P 11 20 05.3 +1.3**
JLN Jalan Bani Buh 34.61 107 P **P 11 20 04.0 -0.5**
CHM Chimkent 35.09 68 *eP* **P 11 20 08.7 +0.3**
CHM pmax pmax
comp=Z,11nm,0.4s
CHM Chimkent 35.09 68 *eP* **P 11 20 08.8 +0.3**
comp=Z,10nm,0.4s
CHM LR LR 11 36 33.1
comp=Z,727nm,13.2s
BRLS Boroldaу 35.16 67 *d* iP **P 11 20 08.4 -0.6**
BRLS Boroldaу 35.16 67 ⇓iP **P 11 20 08.4 -0.6**
BRVK Borovoye 35.28 50 P **P 11 20 11.4 +1.5**
BRVK Borovoye 35.28 50 P **P 11 20 11.0 +1.1**
BRVK Borovoye 35.28 50 *ceP* **P 11 20 10.1 +0.2**
BRVK pmax pmax
comp=Z,33nm,1.3s
BRVK MLR MLR
comp=Z,805nm,14.0s
BVAR Borovoye Array 35.34 50 P **P 11 20 09.6 -0.8**
comp=Z,8.5nm,0.9s,baz=263,slow=6.0,SNR=37
BVAR LR LR 11 37 10.2
comp=Z,780nm,18.5s,baz=260,slow=41
comp=Z,8.5nm,0.9s
SIMJ Simiganj 35.36 75 P **P 11 20 12.4 +1.5**
IUG Iuzhnay 35.43 68 *eP* **P 11 20 11.7 +0.3**
IUG pmax pmax
comp=Z,30nm,1.1s
IUG Iuzhnay 35.43 68 *eP* **P 11 20 11.8 +0.3**
comp=Z,30nm,1.1s
KK31 Karatay Array 35.64 67 P **P 11 20 14.4 +1.3**
KK31 IAmb IAmb 11 20 15.6
comp=Z,58nm,1.4s
KK31 Karatay Array 35.64 67 P **P 11 20 14.4 +1.3**
KK31 pmax pmax
comp=Z,58nm,1.4s
KKAR Karatay Array 35.64 67 P **P 11 20 14.1 +1.0**
KKAR Karatay Array 35.64 67 P **P 11 20 14.1 +1.0**
LODK Lodwar 36.18 160 P **P 11 20 19.6 +1.7**
LODK Lodwar 36.18 160 P **P 11 20 20.2 +2.3**
DZA Taraz 36.27 67 *eP* **P 11 20 18.6 +0.1**
DZA pmax pmax
comp=Z,8.0nm,0.5s
DZA Taraz 36.27 67 *eP* **P 11 20 18.6 +0.1**
comp=Z,7.7nm,0.5s
GAR Garm 36.28 74 P **P 11 20 20.1 +1.3**
KBL Kabul 36.55 81 P **P 11 20 22.0 +0.7**
KBL Kabul 36.55 81 P **P 11 20 23.3 +2.0**
SNR=13
KBL P **P 11 20 23.3 +2.0**
SNR=13
KBL Kabul 36.55 81 P **P 11 20 22.0 +0.7**
KBL pmax pmax
comp=Z,51nm,1.4s
BRZS Berezniki 36.62 55 *d* iP **P 11 20 21.7 +0.3**
BRZS Berezniki 36.62 55 ⇓iP **P 11 20 21.7 +0.3**
JMIC Jan Mayen 36.88 343 LR LR 11 34 31.8
comp=Z,365nm,19.0s,baz=128,slow=35
BORG Borgarnes 37.34 330 LR LR 11 38 11.3
comp=Z,1µm,18.6s,baz=123,slow=40
BORG Borgarnes 37.34 330 *i* P **P 11 20 25.2 -2.1**
BTLS Baital 37.89 63 *d* iP **P 11 20 32.6 +0.4**
BTLS *eS* **S 11 26 25.1 +1.9**
BTLS pmax pmax
comp=Z,38nm,1.5s
BTLS Baital 37.89 63 ⇓iP **P 11 20 32.6 +0.4**
comp=Z,38nm,1.5s
BTLS *eS* **S 11 26 25.2 +1.9**
EKS2 Erkin-Say 38.08 67 P **P 11 20 36.1 +2.1**
SNR=26
USP Ospenovka 38.49 66 P **P 11 20 38.4 +1.0**
SNR=6.7
SGDS Sogindy 38.55 65 ⇓*i* P **P 11 20 38.0 +0.1**
AAK Ala-Archa 38.60 67 P **P 11 20 40.7 +2.3**
SNR=7.5
AAK Ala-Archa 38.60 67 P **P 11 20 40.5 +2.0**
AAK Ala-Archa 38.60 67 P **P 11 20 38.8 +0.4**
comp=Z,20nm,1.0s,baz=260,slow=8.3,SNR=38
AAK LR LR 11 39 21.5
comp=Z,494nm,19.1s,baz=292,slow=41
comp=Z,20nm,1.0s
AAK Ala-Archa 38.60 67 P **P 11 20 40.2 +1.7**
AAK Ala-Archa 38.60 67 *d* iP **P 11 20 39.6 +1.1**
AAK pmax pmax
comp=Z,120nm,2.5s
AAK Ala-Archa 38.60 67 *i* P **P 11 20 40.0 +1.6**
SNR=19
FRU1 Bishkek 38.67 66 P **P 11 20 40.8 +1.9**
FRU1 IAmb IAmb 11 20 42.2
comp=Z,46nm,0.7s
FRU1 Bishkek 38.67 66 P **P 11 20 40.8 +1.9**
FRU1 pmax pmax
comp=Z,46nm,0.7s
CHMS Chumysh 38.72 66 P **P 11 20 41.0 +1.7**
SNR=9.6
KBK Karagaybulak 38.93 67 P **P 11 20 43.5 +2.4**
SNR=5.7
MBAR Mbarara 39.09 169 P **P 11 20 44.1 +1.4**
MBAR Mbarara 39.09 169 P **P 11 20 44.1 +1.4**
MBAR Mbarara 39.09 169 *i* P **P 11 20 43.4 +0.7**
TKM2 Tokmak 2 39.34 66 P **P 11 20 46.3 +1.5**
SNR=14
BOOM Boomskoye usch 39.68 67 P **P 11 20 49.2 +1.8**
BOOM IAmb IAmb 11 20 50.8
comp=Z,115nm,1.6s
BOOM Boomskoye usch 39.68 67 P **P 11 20 49.2 +1.8**
BOOM pmax pmax
comp=Z,115nm,1.6s
KUU Kurty 39.70 64 *eP* **P 11 20 47.5 +0.1**
KUU pmax pmax
comp=Z,79nm,1.5s
KUU Kurty 39.70 64 *eP* **P 11 20 47.6 +0.1**
comp=Z,79nm,1.5s
KUU LR LR 11 39 04.8
comp=Z,596nm,12.1s
ULHL Ulahol 39.95 67 P **P 11 20 52.1 +2.4**
SNR=16
SCO Scoresbysund 40.12 338 P **P 11 20 52.0 +1.5**
SCO Scoresbysund 40.12 338 P **P 11 20 52.0 +1.5**
SCO pmax pmax
comp=Z,37nm,1.1s
SCO Scoresbysund 40.12 338 ⇓P **P 11 20 51.9 +1.5**
SCO Scoresbysund 40.12 338 *i* P **P 11 20 52.5 +2.0**
SCO IAmb IAmb 11 20 53.2
comp=Z,37nm,1.1s
NIL Nilore 40.14 81 P **P 11 20 52.6 +1.4**
NIL IAmb IAmb 11 21 21.4
comp=Z,93nm,1.1s
NIL Nilore 40.14 81 P **P 11 20 52.6 +1.4**
NIL P **P 11 20 52.6 +1.4**
NIL Nilore 40.14 81 P **P 11 20 52.6 +1.4**
NIL pmax pmax
comp=Z,93nm,1.2s
CHKK Chushkaly 40.16 64 *eP* **P 11 20 51.6 +0.3**
CHKK Chushkaly 40.16 64 *eP* **P 11 20 51.6 +0.3**
AAA Alma-Ata 40.24 65 *eP* **P 11 20 52.2 +0.3**
AAA pmax pmax
comp=Z,51nm,1.1s
AAA Alma-Ata 40.24 65 *eP* **P 11 20 52.2 +0.3**
comp=Z,51nm,1.1s
SPB2 Spitsbergen Ar 40.28 358 P **P 11 20 52.1 +0.3**
SPB2 IAmb IAmb 11 21 18.5
comp=Z,67nm,1.1s
SPA0 Spitsbergen Ar 40.29 358 *eP* **P 11 20 52.5 +0.7**
SPITS Spitsbergen Ar 40.29 358 P **P 11 20 51.9 +0.1**
comp=Z,32nm,0.9s,baz=159,slow=9.7,SNR=16
SPITS LR LR 11 38 59.1
comp=Z,2µm,18.7s,baz=170,slow=38
comp=Z,32nm,0.9s
SPITS Spitsbergen Ar 40.29 358 P **P 11 20 52.4 +0.5**
TNSS Tian-Shan 40.29 66 *eP* **P 11 20 52.6 -0.2**
TNSS Tian-Shan 40.29 66 *eP* **P 11 20 52.6 -0.2**
KURBB Kurchatov Arra 40.35 54 P **P 11 20 52.5 -0.1**
comp=Z,30nm,0.8s,baz=281,slow=8.7,SNR=75
KURBB PP **PP 11 22 24.9 -0.5**
comp=Z,8.0nm,1.0s,baz=281,slow=12,SNR=5.0
KURBB ScP **ScP 11 26 42.2 -2.5**
comp=Z,5.0nm,1.1s,baz=298,slow=3.9,SNR=5.5
KURBB LR LR 11 41 50.1
comp=Z,2µm,18.6s,baz=214,slow=43
comp=Z,30nm,0.8s
KSH Kashi 40.40 71 P **P 11 20 53.0 -0.4**
KSH sP sP 11 21 02.0 +2.6
KSH pmax pmax
comp=Z,48nm,1.1s
KSH pmax pmax
comp=Z,630nm,6.7s
KSH LR LR
comp=Z,1µm,14.8s
KSH LR LR
comp=Z,670nm,14.4s
KSH LR LR
comp=Z,1µm,17.9s
KURK Kurchatov 40.40 54 P **P 11 20 54.1 +1.0**
KURK Kurchatov 40.40 54 P **P 11 20 53.7 +0.6**
KURK Kurchatov 40.40 54 *d* iP **P 11 20 52.6 -0.5**
KURK pmax pmax
comp=Z,34nm,1.0s
KURK MLR MLR
comp=Z,1µm,17.0s
DBIC Dimbokro 40.52 227 P **P 11 20 54.6 +0.2**
DBIC IAmb IAmb 11 21 01.6
comp=Z,64nm,0.9s
DBIC Dimbokro 40.52 227 P **P 11 20 54.7 +0.2**
comp=Z,40nm,0.7s,baz=56,slow=9.1,SNR=18
DBIC LR LR 11 38 42.9
comp=Z,659nm,20.3s,baz=44,slow=38
comp=Z,40nm,0.7s
DBIC Dimbokro 40.52 227 P **P 11 20 54.6 +0.2**
DBIC pmax pmax
comp=Z,64nm,1.0s
ARXS Arharly 40.69 64 P **P 11 20 55.0 -0.7**
TDK Taldyqorghan 40.95 62 *eP* **P 11 20 57.9 +0.1**
TDK pmax pmax
comp=Z,48nm,1.3s
TDK MLR MLR
comp=Z,835nm,12.0s
TDK Taldyqorghan 40.95 62 *eP* **P 11 20 58.0 +0.1**
comp=Z,48nm,1.3s
TDK LR LR 11 39 39.6
comp=Z,835nm,12.2s
KMBO Kilima Mbogo 41.05 159 P **P 11 20 58.9 -0.1**
KMBO Kilima Mbogo 41.05 159 P P 11 21 05.1 +6.0
KMBO Kilima Mbogo 41.05 159 P **P 11 20 58.9 -0.1**
KMBO pmax pmax
comp=Z,8.0nm,1.0s
KBS Kingsbay 41.20 357 P **P 11 21 00.9 +1.6**
KBS Kingsbay 41.20 357 *ceP* **P 11 20 59.7 +0.4**
KBS pmax pmax
comp=Z,91nm,1.1s
KBS MLR MLR
comp=Z,1µm,16.0s
KBS Kingsbay 41.20 357 *eP* **P 11 20 59.5 +0.2**
KBS Kingsbay 41.20 357 ⇓P **P 11 21 00.2 +0.8**
KBS Kingsbay 41.20 357 *i* P **P 11 20 59.5 +0.2**
TARG Taragay, Kyrgy 41.20 67 P **P 11 21 01.0 +0.7**
TARG IAmb IAmb 11 21 04.1
comp=Z,125nm,1.4s
TARG Taragay, Kyrgy 41.20 67 P **P 11 21 01.0 +0.7**
TARG pmax pmax
comp=Z,125nm,1.4s
SATY Saty 41.34 65 *eP* **P 11 21 01.4 +0.3**
SATY *eS* **S 11 27 16.7 +1.5**
SATY pmax pmax
comp=Z,44nm,1.2s
SATY Saty 41.34 65 *eP* **P 11 21 01.5 +0.3**
comp=Z,44nm,1.2s
SATY *eS* **S 11 27 16.7 +1.5**
DBG Daneborg 41.71 344 *i* P **P 11 21 04.8 +1.2**
DBG IAmb IAmb 11 21 06.1
comp=Z,38nm,1.6s
SHLS Shalkode 42.07 65 *eP* **P 11 21 09.7 +2.6**
SHLS pmax pmax
comp=Z,52nm,1.8s
SHLS Shalkode 42.07 65 *eP* **P 11 21 09.7 +2.6**
comp=Z,52nm,1.8s
BBTS Babate 42.37 248 LR LR 11 41 02.4
comp=Z,1µm,18.5s,baz=56,slow=39
KIBK Kibwezi 42.43 158 P **P 11 21 11.8 +1.7**
DAG Danmarks Havn 42.88 347 ⇑P **P 11 21 13.0 -0.1**
DAG Danmarks Havn 42.88 347 *i* P **P 11 21 13.0 -0.1**
DAG IAmb IAmb 11 21 14.8
comp=Z,28nm,1.1s
MAKZ Makanchi 43.09 59 P **P 11 21 16.4 +1.2**
MAKZ IAmb IAmb 11 21 17.7
comp=Z,78nm,1.1s
MAKZ Makanchi 43.09 59 P **P 11 21 16.4 +1.2**
MAKZ pmax pmax
comp=Z,78nm,1.1s
MAKZ Makanchi 43.09 59 ⇓P **P 11 21 15.5 +0.3**
MK31 Makanchi Array 43.30 59 P **P 11 21 17.2 +0.3**
MK31 IAmb IAmb 11 21 19.9
comp=Z,87nm,1.1s
MK31 Makanchi Array 43.30 59 P **P 11 21 17.2 +0.3**
MK31 pmax pmax
comp=Z,87nm,1.1s
MKAR Makanchi Array 43.30 59 P **P 11 21 18.1 +1.1**
MKAR Makanchi Array 43.30 59 P **P 11 21 17.4 +0.5**
comp=Z,77nm,0.9s,baz=278,slow=5.6,SNR=131
MKAR ScP **ScP 11 26 54.8 -1.8**
comp=Z,4.5nm,1.1s,baz=347,slow=1.6,SNR=4.4
MKAR LR LR 11 41 19.7
comp=Z,820nm,21.3s,baz=270,slow=39
comp=Z,77nm,0.9s
MKAR Makanchi Array 43.30 59 *i* P **P 11 21 17.3 +0.4**
MKAR pmax pmax
comp=Z,76nm,0.9s
ZAA0 Zalesovo Array 43.96 48 P **P 11 21 22.2 +0.2**
ZAA0 IAmb IAmb 11 21 23.7
comp=Z,44nm,0.9s
ZALV Zalesovo Beam 43.96 48 P **P 11 21 22.2 +0.2**
ZALV Zalesovo Beam 43.96 48 P **P 11 21 21.4 -0.7**
comp=Z,41nm,0.8s,baz=280,slow=8.9,SNR=13
ZALV LR LR 11 41 30.9
comp=Z,630nm,18.4s,baz=276,slow=39
comp=Z,41nm,0.8s
ZALV Zalesovo Beam 43.96 48 P **P 11 21 22.3 +0.2**
ISOG Isortoq, Green 44.73 328 *i* P **P 11 21 27.7 -0.3**
ZSN Zaisan 44.90 58 *eP* **P 11 21 30.0 +0.2**
ZSN pmax pmax
comp=Z,26nm,1.5s
ZSN Zaisan 44.90 58 *eP* **P 11 21 30.0 +0.2**
comp=Z,26nm,1.5s
SUMG Summit 45.76 338 P **P 11 21 37.4 +0.7**
SUMG IAmb IAmb 11 21 39.0
comp=Z,50nm,1.3s
SUMG Summit 45.76 338 P **P 11 21 37.4 +0.7**
SUMG pmax pmax
comp=Z,50nm,1.3s
SUMG Summit 45.76 338 *i* P **P 11 21 38.4 +1.8**
SUMG IAmb IAmb 11 21 39.0
comp=Z,12nm,1.1s
NOR Nord 45.85 352 *i* P **P 11 21 36.9 +0.1**
NOR IAmb IAmb 11 21 39.2
comp=Z,21nm,1.2s
WMQ Urumqi 47.70 62 *eP* **P 11 21 53.4 +1.5**
WMQ PP **PP 11 23 47.4 +4.0**
WMQ S **S 11 28 56.5 +9.0**
WMQ pmax pmax
comp=Z,99nm,1.3s
WMQ pmax pmax
comp=Z,540nm,3.7s
WMQ LR LR
comp=Z,2µm,18.3s
WMQ LR LR
comp=Z,2µm,18.3s
WMQ LR LR
comp=Z,1µm,18.3s
SFJD Kangerlussuaq 49.47 330 P **P 11 22 05.7 +0.7**
SFJD Kangerlussuaq 49.47 330 LR LR 11 42 55.8
comp=Z,524nm,21.2s,baz=83,slow=36
SFJD Kangerlussuaq 49.47 330 P **P 11 22 05.7 +0.7**
SFJD pmax pmax
comp=Z,29nm,1.1s
NEEM North Greenlan 49.79 344 *i* P **P 11 22 07.9 +0.2**
NEEM IAmb IAmb 11 22 09.5
comp=Z,12nm,1.5s
MSEY Mahe Island 51.87 138 P **P 11 22 23.7 -0.2**
HYB Hyderabad 52.07 97 *eP* **P 11 22 24.3 -1.1**
HYB IVmB_BB 11 22 24.8
comp=Z,659nm,2.7s
LSZ Lusaka 53.28 174 P **P 11 22 34.5 +0.2**
LSZ Lusaka 53.28 174 LR LR 11 47 47.4
comp=Z,791nm,18.7s,baz=356,slow=39
LSZ Lusaka 53.28 174 P **P 11 22 34.4 +0.1**
LSZ Lusaka 53.28 174 P **P 11 22 34.5 +0.2**
LSZ pmax pmax
comp=Z,18nm,1.3s
TULEG Thule 53.85 343 P **P 11 22 38.1 +0.5**
MOY Mondy 54.01 49 *eP* **P 11 22 40.6 +1.3**
MOY pmax pmax
comp=Z,88nm,2.0s
GOMU GeErMu 55.51 68 P **P 11 22 50.8 0.0**
GOMU pP pP 11 22 55.4 +0.2
GOMU sP sP 11 22 59.0 +2.2
GOMU S **S 11 30 35.4 -0.6**
GOMU pmax pmax
comp=Z,24nm,1.9s
GOMU LR LR
comp=Z,550nm,14.5s
GOMU LR LR
comp=Z,170nm,14.3s
GOMU LR LR
comp=Z,600nm,15.0s
KSANE Kasane 55.64 178 P **P 11 22 52.2 +0.8**
LSA Lhasa 55.64 77 P **P 11 22 51.9 0.0**
LSA S **S 11 30 41.6 +3.6**
LSA LR LR
comp=Z,390nm,25.1s
LSA LR LR
comp=Z,350nm,22.7s
IRK Irkutsk 55.75 47 *eP* **P 11 22 51.5 -0.3**
IRK pmax pmax
comp=Z,160nm,2.2s
ZAK Zakamensk 55.80 50 *eP* **P 11 22 53.2 +0.9**
ZAK pmax pmax
comp=Z,36nm,1.6s
EUNU Eureka 56.05 349 IAmb IAmb 11 22 56.1
comp=Z,84nm,1.7s
DRLN Deer Lake 56.99 309 P **P 11 23 00.1 -0.6**
TSUM Tsumeb 57.28 187 LR LR 11 51 09.4
comp=Z,1µm,20.3s,baz=340,slow=40
QNGWA Qangwa 57.38 183 P **P 11 23 04.0 +0.2**
FRB Frobisher Bay 57.47 328 LR LR 11 49 09.1
comp=Z,813nm,18.1s,baz=70,slow=38
GTA Gaotai 57.75 63 P **P 11 23 06.5 +0.2**
GTA sS sS 11 31 10.0 -2.2
GTA pmax pmax
comp=Z,38nm,1.4s
GTA pmax pmax
comp=Z,440nm,7.6s
GTA LR LR
comp=Z,790nm,20.7s
GTA LR LR
comp=Z,420nm,21.1s
GTA LR LR
comp=Z,770nm,20.7s
SHL Shillong 58.22 81 P **P 11 23 08.9 -1.0**
SHL IAmb IAmb 11 23 09.7
comp=Z,48nm,1.1s
SHL Shillong 58.22 81 P **P 11 23 09.5 -0.3**
SNR=12
SHL Shillong 58.22 81 P **P 11 23 08.9 -1.0**
SHL pmax pmax
comp=Z,48nm,1.1s
MATP Matopo 58.41 175 LR LR 11 51 04.9
comp=Z,248nm,18.9s,baz=2.0,slow=39
SONM Songino Array 58.65 52 P **P 11 23 13.2 +0.8**
SONM Songino Array 58.65 52 P **P 11 23 12.1 -0.4**
comp=Z,30nm,1.1s,baz=282,slow=7.4,SNR=83
comp=Z,30nm,1.1s
SONM Songino Array 58.65 52 P **P 11 23 13.3 +0.8**
SONM pmax pmax
comp=Z,85nm,1.4s
TIXI Tiksi 58.87 21 P **P 11 23 14.5 +1.0**
TIXI Tiksi 58.87 21 LR LR 11 50 28.8
comp=Z,861nm,19.1s,baz=328,slow=38
TIXI Tiksi 58.87 21 *ceP* **P 11 23 14.1 +0.6**
TIXI pmax pmax
comp=Z,108nm,2.5s
TIXI MLR MLR
comp=Z,846nm,16.0s
BOD Bodaibo 58.95 39 *eP* **P 11 23 13.5 -0.7**

BOD pmax pmax
comp=Z,54nm,2.0s
ULN Ulaanbaatar 59.04 51 P **P** **11 23 16.2 +1.0**
ULN lAmb lAmb 11 23 17.1
comp=Z,40nm,1.0s
ULN Ulaanbaatar 59.04 51 P **P** **11 23 15.7 +0.4**
ULN Ulaanbaatar 59.04 51 *d* iP **P** **11 23 15.3 0.0**
ULN pmax pmax
comp=Z,37nm,1.1s
ULN MLR MLR
comp=Z,1µm,17.0s
GRTLG Ghanzi 59.20 183 P **P** **11 23 16.3 -0.2**
KUQ Kuujjuuaa 59.56 322 P **P** **11 23 18.8 +0.3**
KUQ lAmb lAmb 11 23 20.7
comp=Z,57nm,1.6s
ILON Igloolik, Nuna 59.95 337 P **P** **11 23 21.5 +0.5**
SCHQ Schefferville 60.11 318 P **P** **11 23 22.2 -0.2**
SCHQ lAmb lAmb 11 23 27.3
comp=Z,59nm,1.5s
SCHQ Schefferville 60.11 318 P **P** **11 23 22.3 0.0**
comp=Z,16nm,0.6s,baz=64,slow=4.6,SNR=40
SCHQ LR LR 11 49 01.3
comp=Z,486nm,19.5s,baz=64,slow=36
comp=Z,16nm,0.6s
MREMI Moremi 60.47 176 lAmb lAmb 11 23 30.7
comp=Z,41nm,1.3s
RES Resolute Bay 60.48 344 lAmb lAmb 11 23 26.9
comp=Z,25nm,1.1s
RES Resolute Bay 60.48 344 LR LR 11 52 12.8
comp=Z,527nm,18.9s,baz=46,slow=39
OPO Ambohidratompo 60.60 154 LR LR 11 50 32.4
comp=Z,215nm,20.0s,baz=172,slow=37
KGCAE Kacgae 60.66 181 lAmb lAmb 11 23 39.2
comp=Z,38nm,1.0s
GBN Guysborough 61.04 307 lAmb lAmb 11 23 30.6
comp=Z,31nm,1.0s
LZH Lanzhou 62.09 65 ⇓P **P** **11 23 36.5 +0.2**
LZH sP sP 11 23 44.5 +2.1
LZH PP **PP** **11 25 54.3 +1.6**
LZH sS sS 11 32 12.4 +4.0
LZH pmax pmax
comp=Z,42nm,1.2s
LZH pmax pmax
comp=Z,280nm,4.1s
LZH LR LR
comp=Z,950nm,15.8s
LZH LR LR
comp=Z,800nm,15.5s
LZH LR LR
comp=Z,1µm,15.5s
ICQ Pointe Anglais 62.68 313 P **P** **11 23 39.9 +0.2**
ICQ lAmb lAmb 11 23 41.5
comp=Z,23nm,1.0s
LBTB Lobatse 62.82 178 LR LR 11 52 11.1
comp=Z,670nm,20.1s,baz=2.5,slow=37
LMN Caledonia Moun 62.90 308 lAmb lAmb 11 23 43.0
comp=Z,32nm,1.0s
BATG Bathurst New B 63.01 310 lAmb lAmb 11 23 44.0
comp=Z,25nm,1.0s
VOI Vohitsoka 63.58 156 P **P** **11 23 46.3 +0.2**
TNCH TengChong 63.64 78 ⇓P **P** **11 23 46.3 -0.4**
TNCH sP sP 11 23 52.8 0.0
TNCH S **S** **11 32 17.4 -3.3**
TNCH SS **SS** **11 36 23.3 -4.7**
TNCH pmax pmax
comp=Z,40nm,0.9s
TNCH pmax pmax
comp=Z,430nm,3.2s
TNCH LR LR
comp=Z,490nm,17.2s
TNCH LR LR
comp=Z,380nm,18.3s
TNCH LR LR
comp=Z,360nm,22.0s
YAK Yakutsk 63.98 30 P **P** **11 23 48.3 +0.2**
YAK Yakutsk 63.98 30 P **P** **11 23 46.7 -1.4**
comp=Z,73nm,1.1s,baz=299,slow=3.4,SNR=21
YAK LR LR 11 53 33.1
comp=Z,556nm,20.6s,baz=290,slow=38
comp=Z,73nm,1.1s
YAK Yakutsk 63.98 30 *d* iP **P** **11 23 46.9 -1.2**
YAK *e* 11 24 22.3
YAK *e* 11 26 06.7
YAK *e*S **S** **11 32 23.5 0.0**
YAK *e* 11 33 40.5
YAK *e*SS **SS** **11 36 31.6 +0.3**
YAK pmax pmax
comp=Z,52nm,1.0s
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,32nm,1.4s
YAK pmax pmax
comp=Z,53nm,2.3s
YAK pmax pmax
comp=N,28nm,2.7s
YAK pmax pmax
comp=E,29nm,2.7s
YAK smax smax
comp=E,100nm,4.9s
YAK smax smax
comp=N,93nm,3.7s
YAK MLR MLR
comp=Z,1µm,21.0s
YAK MLR MLR
comp=N,542nm,22.0s
YAK MLR MLR
comp=E,752nm,20.0s
BTO Baotou 64.19 58 *e*P **P** **11 23 48.8 -1.3**
BTO S **S** **11 32 25.3 -1.8**
BTO pmax pmax
comp=E,70nm,1.0s
BTO pmax pmax
comp=E,1µm,7.8s
BTO LR LR
comp=E,510nm,7.9s
BTO LR LR
comp=E,640nm,8.2s
BTO LR LR
comp=E,2µm,21.6s
GGN Saint George 64.51 308 P **P** **11 23 52.0 +0.1**
GGN lAmb lAmb 11 23 53.6
comp=Z,20nm,1.0s
CD2 Chengdu 64.57 70 P **P** **11 23 52.5 -0.1**
CD2 pmax pmax
comp=Z,50nm,0.6s
D62A Allapoint, All 64.89 311 lAmb lAmb 11 23 56.6
comp=Z,27nm,1.0s
EMMW East Machias 65.09 308 P **P** **11 23 56.2 +0.5**
EMMW lAmb lAmb 11 23 57.8
comp=Z,19nm,0.9s
HHC Hu-ho-hao-te 65.09 57 *e*P **P** **11 23 56.8 +0.8**
HHC S **S** **11 32 37.0 -1.2**
HHC pmax pmax
comp=Z,26nm,0.5s
HHC pmax pmax
comp=Z,230nm,3.8s
HHC LR LR
comp=Z,540nm,13.3s
HHC LR LR
comp=Z,790nm,13.7s
HHC LR LR
comp=Z,980nm,13.4s
PZH PanZhiHua 65.33 75 P **P** **11 23 57.3 -0.5**
PZH pmax pmax
comp=Z,40nm,1.1s
E62A Clayton Lake 65.40 311 P **P** **11 23 57.1 -0.6**
E62A lAmb lAmb 11 23 59.8
comp=Z,23nm,1.1s
POGA Pongola 65.56 172 P **P** **11 24 00.0 +1.2**
POGA lAmb lAmb 11 24 34.1
comp=Z,38nm,1.4s
HIA Hailar 65.88 46 P **P** **11 24 01.8 +0.9**
HIA Hailar 65.88 46 P **P** **11 24 01.6 +0.8**
HIA Hailar 65.88 46 P **P** **11 24 01.8 +0.9**
HIA pmax pmax
comp=Z,63nm,1.2s
PKME Peaks-Kenny Pk 65.94 309 P **P** **11 24 01.8 +0.6**
PKME lAmb lAmb 11 24 16.9
comp=Z,27nm,1.4s
BOSA Boshof 66.40 178 P **P** **11 24 04.3 +0.1**
BOSA Boshof 66.40 178 P **P** **11 24 04.2 -0.1**
comp=Z,2.9nm,0.3s,baz=356,slow=4.9,SNR=13
BOSA LR LR 11 54 18.9
comp=Z,654nm,20.8s,baz=2.0,slow=37
comp=Z,2.9nm,0.3s

BOSA Boshof 66.40 178 P **P** **11 24 04.4 +0.1**
BOSA pmax pmax
comp=Z,101nm,1.0s
XLT XiLinHaoTe 66.46 52 *e*P **P** **11 24 05.3 +0.6**
XLT pmax pmax
comp=Z,35nm,1.1s
XLT pmax pmax
comp=Z,350nm,7.1s
XLT LR LR
comp=Z,1µm,16.0s
XLT LR LR
comp=Z,1µm,15.5s
G62A West of Eustis 66.72 310 P **P** **11 24 06.8 +0.6**
XAN Xi'an 66.72 64 ⇑P **P** **11 24 06.4 -0.1**
XAN pP pP 11 24 09.6 -1.4
XAN pmax pmax
comp=Z,52nm,1.5s
XAN pmax pmax
comp=Z,600nm,3.6s
KMI Kunming 66.83 76 P **P** **11 24 07.0 -0.5**
KMI S **S** **11 32 59.3 -0.7**
KMI pmax pmax
comp=Z,21nm,1.1s
KMI pmax pmax
comp=Z,220nm,5.7s
KMI LR LR
comp=Z,390nm,15.2s
KMI LR LR
comp=Z,530nm,15.8s
KMI LR LR
comp=Z,490nm,25.3s
CHTO Chiang Mai 67.34 83 P **P** **11 24 09.9 -0.6**
CHTO lAmb lAmb 11 24 11.4
comp=Z,39nm,1.1s
CHTO Chiang Mai 67.34 83 P **P** **11 24 09.9 -0.6**
CHTO P **P** **11 24 09.9 -0.6**
CHTO Chiang Mai 67.34 83 P **P** **11 24 09.6 -0.9**
CHTO Chiang Mai 67.34 83 P **P** **11 24 09.9 -0.6**
CHTO pmax pmax
comp=Z,39nm,1.2s
BLKN Baker Lake 67.43 336 P **P** **11 24 10.2 -0.2**
BLKN lAmb lAmb 11 24 11.6
comp=Z,35nm,1.5s
ZEA Zeya 67.46 39 *e*P **P** **11 24 11.5 +0.8**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA pmax pmax
comp=Z,300nm,6.5s
ZEA MLR MLR
comp=E,700nm,14.0s
ZEA MLR MLR
comp=Z,500nm,13.0s
CM31 Chiang Mai Arr 67.53 84 P **P** **11 24 11.8 0.0**
CM31 lAmb lAmb 11 24 12.1
comp=Z,37nm,1.1s
CM31 Chiang Mai Arr 67.53 84 P **P** **11 24 11.4 -0.4**
SNR=9.8
CMAR Chiang Mai Arr 67.53 84 P **P** **11 24 10.8 -1.0**
CMAR Chiang Mai Arr 67.53 84 P **P** **11 24 10.1 -1.7**
comp=Z,14nm,0.9s,baz=303,slow=7.8,SNR=75
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 67.53 84 P **P** **11 24 10.8 -1.0**
A36M Sachs Harbour 68.02 350 P **P** **11 24 15.1 +1.2**
A36M Sachs Harbour 68.02 350 P **P** **11 24 14.5 +0.5**
baz=26
MNTQ Montreal, Queb 68.42 311 P **P** **11 24 17.1 +0.2**
MNTQ lAmb lAmb 11 24 19.5
comp=Z,44nm,1.3s
BJI Beijing 68.53 55 P **P** **11 24 17.3 -0.4**
BJI S **S** **11 33 26.8 +7.3**
BJI pmax pmax
comp=Z,12nm,1.4s
BJI pmax pmax
comp=Z,180nm,5.4s
BJI LR LR
comp=Z,330nm,15.9s
BJI LR LR
comp=Z,430nm,19.6s
BJI LR LR
comp=Z,590nm,19.0s
BJT Baijiatuau 68.54 56 P **P** **11 24 17.7 -0.1**
BJT lAmb lAmb 11 24 18.8
comp=Z,42nm,1.3s
BJT Baijiatuau 68.54 56 P **P** **11 24 18.0 +0.2**
BJT Baijiatuau 68.54 56 P **P** **11 24 17.7 -0.1**
BJT pmax pmax
comp=Z,42nm,1.3s
TRQ Mont Tremblant 68.58 312 P **P** **11 24 19.0 +1.0**
TRQ lAmb lAmb 11 24 20.3
comp=Z,24nm,0.9s
M65A Busby, Falmout 68.71 307 P **P** **11 24 18.9 +0.1**
baz=58
LYN LuoYang 68.95 62 ⇓P **P** **11 24 18.6 -1.8**
LYN pmax pmax
comp=Z,550nm,7.0s
LYN LR LR
comp=Z,540nm,8.6s
LYN LR LR
comp=Z,690nm,11.7s
LYN LR LR
comp=Z,1µm,16.8s
HNS HongShan 68.97 59 ⇑P **P** **11 24 20.8 +0.3**
HNS S **S** **11 33 31.3 +6.6**
HNS pmax pmax
comp=Z,31nm,1.4s
HNS LR LR
comp=Z,540nm,19.1s
HNS LR LR
comp=Z,700nm,19.2s
HNS LR LR
comp=Z,640nm,19.1s
ENH Enshi 69.11 67 P **P** **11 24 21.8 +0.2**
ENH lAmb lAmb 11 24 22.1
comp=Z,38nm,1.2s
ENH Enshi 69.11 67 P **P** **11 24 21.5 -0.1**
VLDQ Val d'Or 69.18 315 P **P** **11 24 23.0 +1.4**
LONY Lake Ozonia 69.47 311 P **P** **11 24 24.2 +0.7**
LONY lAmb lAmb 11 24 26.2
comp=Z,35nm,1.2s
HEH HeiHe 69.52 42 *e*P **P** **11 24 23.3 -0.4**
HEH pP **pP** **11 24 27.1 -1.0**
HEH S **S** **11 33 30.3 -0.6**
HEH SS **SS** **11 37 59.8 +2.2**
HEH pmax pmax
comp=Z,52nm,1.1s
HEH LR LR
comp=Z,1µm,14.6s
HEH LR LR
comp=Z,2µm,13.7s
HEH LR LR
comp=Z,3µm,14.3s
SLVN Son La 69.79 78 P **P** **11 24 25.8 -0.1**
J59A Piesco 70.06 310 lAmb lAmb 11 24 30.2
comp=Z,28nm,1.2s
RCBR Riachuelo 70.31 245 LR LR 11 55 59.2
comp=Z,317nm,18.3s,baz=53,slow=36
BILL Bilibino 70.53 14 P **P** **11 24 30.2 +0.7**
BILL Bilibino 70.53 14 *de*P **P** **11 24 29.1 -0.5**
BILL pmax pmax
comp=Z,64nm,1.3s
A21K Barrow 70.87 0 P **P** **11 24 31.7 +0.2**
baz=360
J57A Williamstown 70.99 311 P **P** **11 24 32.6 -0.2**
J57A lAmb lAmb 11 24 35.6
comp=Z,29nm,1.1s
A22K Sinclair Lake 71.18 359 P **P** **11 24 32.8 -0.6**
baz=1.3
TIA Tai'an 71.24 58 P **P** **11 24 34.3 -0.2**
TIA pmax pmax
comp=Z,30nm,1.0s
DELO Deloro Mine 71.32 312 P **P** **11 24 35.2 +0.4**
DELO lAmb lAmb 11 24 37.6
comp=Z,49nm,1.4s
SEY Seymchan 71.32 22 P **P** **11 24 33.2 -1.3**
comp=Z,36nm,1.0s,baz=316,slow=4.9,SNR=47
SEY LR LR 12 00 05.8
comp=Z,610nm,18.1s,baz=320,slow=39
comp=Z,36nm,1.0s
SEY Seymchan 71.32 22 *de*P **P** **11 24 34.7 +0.2**
SEY pmax pmax
comp=Z,53nm,1.1s
SEY MLR MLR
comp=Z,933nm,16.0s
BINY Binghamton 71.68 309 P **P** **11 24 37.6 +0.5**
BINY lAmb lAmb 11 24 39.9
comp=Z,27nm,1.0s

B22K Teshekpuk Lake 71.83 359 P **P** **11 24 37.0 -0.4**
baz=2.5
A19K Wainwright 71.94 2 P **P** **11 24 37.7 -0.3**
baz=356
C26K Camden Bay 71.95 356 P **P** **11 24 38.0 -0.1**
baz=9.6
SADO Sadowa 72.06 313 P **P** **11 24 39.5 +0.2**
SADO lAmb lAmb 11 24 41.8
comp=Z,25nm,1.0s
SADO Sadowa 72.06 313 LR LR 11 56 09.7
comp=Z,443nm,18.1s,baz=90,slow=36
D28M Stokes Point 72.07 353 P **P** **11 24 38.9 0.0**
baz=15
BNX BinXian 72.16 46 ⇑P **P** **11 24 39.4 -0.4**
BNX pmax pmax
comp=Z,25nm,1.3s
C27K Jago River 72.16 355 P **P** **11 24 40.9 +1.4**
C27K lAmb lAmb 11 24 42.0
comp=Z,62nm,1.4s
C27K Jago River 72.16 355 P **P** **11 24 40.0 +0.5**
baz=11,SNR=9.3
CN2 Changchun 72.18 48 P **P** **11 24 40.1 +0.1**
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 LR LR
comp=Z,400nm,12.0s
CN2 LR LR
comp=Z,700nm,12.0s
CN2 LR LR
comp=Z,700nm,13.0s
B20K Meade River 72.19 0 P **P** **11 24 40.2 +0.7**
baz=359
C23K Itkillik River 72.28 358 P **P** **11 24 40.5 +0.5**
baz=4.9
C24K Franklin Bluff 72.33 357 P **P** **11 24 40.4 0.0**
baz=6.4
D27M Malcolm River 72.34 354 lAmb lAmb 11 24 43.1
comp=Z,40nm,1.4s
D27M Malcolm River 72.34 354 P **P** **11 24 40.9 +0.3**
baz=13
KLR Kul'dur 72.39 41 LR LR 12 01 21.9
comp=Z,757nm,18.2s,baz=220,slow=40
INK Inuvik 72.51 351 P **P** **11 24 42.1 +0.6**
INK lAmb lAmb 11 24 42.9
comp=Z,35nm,1.4s
INK Inuvik 72.51 351 P **P** **11 24 42.1 +0.6**
INK pmax pmax
comp=Z,35nm,1.4s
INK Inuvik 72.51 351 P **P** **11 24 41.6 +0.1**
baz=19,SNR=21
B21K Ikpikpuk River 72.57 359 P **P** **11 24 42.3 +0.5**
baz=1.6
D25K Kavik River 72.62 356 P **P** **11 24 42.8 +0.5**
D25K lAmb lAmb 11 24 44.5
comp=Z,40nm,1.4s
D25K Kavik River 72.62 356 P **P** **11 24 42.4 +0.1**
baz=8.3,SNR=5.1
L56A Greenwood 72.67 310 P **P** **11 24 44.1 +1.1**
L56A lAmb lAmb 11 24 46.3
comp=Z,44nm,1.1s
B18K Kokolik River 72.76 2 P **P** **11 24 43.6 +0.6**
baz=356
E28M Babbage River 72.85 354 P **P** **11 24 44.1 +0.5**
E28M Babbage River 72.85 354 P **P** **11 24 44.1 +0.5**
baz=14,SNR=13
M57A Sunshine Farm, 72.87 309 P **P** **11 24 44.7 +0.5**
D24K Happy Valley 72.90 357 P **P** **11 24 45.2 +1.4**
D24K lAmb lAmb 11 24 46.4
comp=Z,49nm,1.4s
D24K Happy Valley 72.90 357 P **P** **11 24 44.1 +0.3**
baz=6.3
E29M Blow River 72.91 353 P **P** **11 24 44.2 +0.3**
baz=15,SNR=41
C21K Knifeblade Rid 73.04 359 P **P** **11 24 44.5 -0.2**
baz=1.4
C19K Lookout Ridge 73.07 1 P **P** **11 24 44.1 -0.8**
baz=357
D23K Nanushuk River 73.15 358 lAmb lAmb 11 24 48.1
comp=Z,59nm,1.4s
D23K Nanushuk River 73.15 358 P **P** **11 24 45.7 +0.4**
baz=4.8,SNR=7.0
D22K Ayikyak River 73.29 359 P **P** **11 24 46.0 -0.2**
baz=3.1,SNR=6.3
F31M Tsiigehtchic 73.36 351 P **P** **11 24 46.5 0.0**
baz=19,SNR=55
MA2 Magadan 73.37 25 P **P** **11 24 47.2 +0.4**
MA2 Magadan 73.37 25 P **P** **11 24 45.9 -0.9**
comp=Z,107nm,1.0s,baz=334,slow=6.2,SNR=23
MA2 LR LR 12 00 17.8
comp=Z,322nm,18.1s,baz=318,slow=38
comp=Z,107nm,1.0s
MA2 Magadan 73.37 25 P **P** **11 24 47.8 +1.0**
MA2 Magadan 73.37 25 *ce*P **P** **11 24 46.6 -0.2**
MA2 pmax pmax
comp=Z,173nm,1.0s
MA2 MLR MLR
comp=Z,1µm,16.0s
MA2 Magadan 73.37 25 P **P** **11 24 46.9 +0.1**
MA2 pP **sP** **11 24 52.1 -0.8**
E27K Coleen River 73.43 354 P **P** **11 24 47.6 +0.5**
E27K lAmb lAmb 11 24 49.3
comp=Z,65nm,1.4s
E27K Coleen River 73.43 354 P **P** **11 24 47.3 +0.2**
baz=12,SNR=13
F30M Barrier River 73.44 352 P **P** **11 24 47.6 +0.6**
F30M lAmb lAmb 11 24 48.8
comp=Z,65nm,1.4s
F30M Barrier River 73.44 352 P **P** **11 24 46.9 -0.2**
baz=17,SNR=13
TOLK Toolik Lake Re 73.44 357 P **P** **11 24 48.3 +1.2**
TOLK Toolik Lake Re 73.44 357 P **P** **11 24 47.5 +0.5**
baz=5.7,SNR=5.3
D20K Etivluk River 73.49 0 P **P** **11 24 48.1 +0.7**
D20K lAmb lAmb 11 24 49.7
comp=Z,38nm,1.2s
D20K Etivluk River 73.49 0 P **P** **11 24 47.6 +0.3**
baz=360
C18K Utukok River 73.50 2 lAmb lAmb 11 24 49.8
comp=Z,55nm,1.3s
C18K Utukok River 73.50 2 P **P** **11 24 48.2 +0.8**
baz=356,SNR=8.7
C17K DeLong Mountai 73.61 3 P **P** **11 24 47.9 -0.2**
baz=354,SNR=11
D19K Kuna River 73.70 1 lAmb lAmb 11 24 51.0
comp=Z,56nm,1.4s
D19K Kuna River 73.70 1 P **P** **11 24 48.7 0.0**
baz=359
C16K Lisburne Hills 73.72 3 P **P** **11 24 49.1 +0.5**
baz=353
GRNR Gornyy 73.74 38 ⇑*i*P **P** **11 24 48.8 -0.3**
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR MLR MLR
comp=E,420nm,15.0s
GRNR MLR MLR
comp=N,650nm,14.0s
GRNR MLR MLR
comp=Z,950nm,13.0s
E21K Killik River 73.75 359 P **P** **11 24 49.1 +0.2**
E21K lAmb lAmb 11 24 54.4
comp=Z,48nm,1.7s
E21K Killik River 73.75 359 P **P** **11 24 48.5 -0.4**
baz=2.1
SSPA Standing Stone 73.75 309 P **P** **11 24 50.1 +0.8**
SSPA lAmb lAmb 11 24 52.2
comp=Z,45nm,1.1s
E25K Arctic Village 73.77 356 lAmb lAmb 11 24 51.5
comp=Z,53nm,1.4s
E25K Arctic Village 73.77 356 P **P** **11 24 49.6 +0.6**
baz=8.9,SNR=9.0
F28M Old Crow 73.85 353 lAmb lAmb 11 24 51.4
comp=Z,63nm,1.6s
F28M Old Crow 73.85 353 P **P** **11 24 49.7 +0.2**
baz=14,SNR=10
G31M Satah River 73.92 351 lAmb lAmb 11 24 51.3
comp=Z,68nm,1.4s
G31M Satah River 73.92 351 P **P** **11 24 49.7 -0.1**
baz=18,SNR=18
E20K Nigu River 73.95 360 P **P** **11 24 50.3 +0.2**
baz=0.2
E24K Your Creek 73.96 357 P **P** **11 24 50.7 +0.5**
baz=6.6
E23K Chandalar 74.02 357 P **P** **11 24 51.1 +0.5**
baz=5.6,SNR=9.4
RDOG Red Dog Mine 74.04 3 P **P** **11 24 51.8 +1.2**
RDOG Red Dog Mine 74.04 3 P **P** **11 24 50.7 +0.1**
baz=355

G30M **tAoh Zraii Nji** 74.09 352 P P 11 24 51.4 +0.4
G30M **tAoh Zraii Nji** 74.09 352 P P 11 24 50.7 -0.2
baz=16,SNR=26
F26K **Sheenjek River** 74.10 355 IAmb IAmb 11 24 53.8
comp=Z,41nm,1.4s
F26K **Sheenjek River** 74.10 355 P P 11 24 52.2 +1.2
baz=10,SNR=14
NKL **Nikolayevsk** 74.10 34 eP P 11 24 48.4 -2.7
NKL pmax pmax
comp=N,74nm,1.0s
NKL pmax pmax
comp=E,127nm,1.0s
NKL pmax pmax
comp=Z,245nm,1.0s
NKL MLR MLR
comp=E,4µm,13.0s
NKL MLR MLR
comp=N,4µm,16.0s
NKL MLR MLR
comp=Z,5µm,18.0s
YKAW3 **Yellowknife Wh** 74.18 341 P P 11 24 52.2 +0.8
YKAW3 IAmb IAmb 11 24 53.2
comp=Z,28nm,1.1s
YKAW1 **Yellowknife Wh** 74.22 341 P P 11 24 52.5 +0.9
YKAW1 IAmb IAmb 11 24 53.4
comp=Z,40nm,1.4s
YKA **Yellowknife Ar** 74.24 341 P P 11 24 51.9 +0.1
YKA **Yellowknife Ar** 74.24 341 P P 11 24 51.1 -0.7
comp=Z,7.2nm,0.8s,baz=29,slow=6.1,SNR=27
YKA LR LR 11 59 55.1
comp=Z,497nm,18.1s,baz=34,slow=38
comp=Z,7.2nm,0.8s
YKA **Yellowknife Ar** 74.24 341 P P 11 24 51.9 +0.1
F25K **Christian Rive** 74.30 356 P P 11 24 53.2 +1.1
baz=8.9,SNR=8.8
G29M **Pine Creek** 74.35 353 P P 11 24 53.1 +0.7
G29M **Pine Creek** 74.35 353 P P 11 24 52.6 +0.2
baz=15,SNR=18
D17K **Noatak River** 74.39 3 P P 11 24 53.3 +0.7
baz=355,SNR=12
BMAR **Burnt Mountain** 74.39 355 P P 11 24 53.7 +1.0
UBPT **Khong Chiam** 74.46 83 P P 11 24 53.2 -0.7
F24K **Squaw Lake** 74.49 357 P P 11 24 54.8 +1.5
baz=7.0,SNR=14
P57A **Homestead Farm** 74.51 308 IAmb IAmb 11 24 56.6
comp=Z,34nm,1.0s
F22K **John River** 74.65 358 P P 11 24 55.2 +1.0
baz=3.5
EPYK **Eagle Plains** 74.74 352 P P 11 24 55.0 +0.3
EPYK **Eagle Plains** 74.74 352 P P 11 24 54.9 +0.2
baz=16,SNR=17
E18K **Tukpahlearik C** 74.74 2 IAmb IAmb 11 24 56.8
comp=Z,62nm,1.4s
E18K **Tukpahlearik C** 74.74 2 P P 11 24 55.2 +0.5
baz=357,SNR=14
E19K **Redstone River** 74.75 0 IAmb IAmb 11 24 56.9
comp=Z,37nm,1.0s
E19K **Redstone River** 74.75 0 P P 11 24 55.2 +0.5
baz=359
NJ2 **Nanjing** 74.78 61 eP P 11 24 54.9 -0.6
NJ2 pmax pmax
comp=Z,23nm,0.5s
G27K **Doyon Strip** 74.79 354 IAmb IAmb 11 24 57.6
comp=Z,41nm,1.5s
G27K **Doyon Strip** 74.79 354 P P 11 24 55.8 +0.8
baz=12,SNR=18
G26K **Porcupine Rive** 74.81 355 P P 11 24 56.3 +1.3
baz=10,SNR=25
COLD **Coldfoot** 74.88 357 P P 11 24 56.2 +0.8
COLD **Coldfoot** 74.88 357 P P 11 24 56.1 +0.6
baz=5.1,SNR=12
F21K **Alatna River** 74.96 359 IAmb IAmb 11 24 58.5
comp=Z,52nm,1.4s
F21K **Alatna River** 74.96 359 P P 11 24 56.8 +0.8
baz=2.5,SNR=16
H31M **Peel River** 75.00 351 P P 11 24 56.8 +0.6
H31M IAmb IAmb 11 24 57.9
comp=Z,41nm,1.3s
H31M **Peel River** 75.00 351 P P 11 24 56.2 0.0
baz=18,SNR=12
E17K **Hotham Inlet** 75.05 2 P P 11 24 56.7 +0.3
baz=356,SNR=6.3
H29M **Whitestone** 75.06 353 P P 11 24 57.1 +0.6
baz=15,SNR=11
G25K **Bearman Lake** 75.14 356 P P 11 24 58.2 +1.3
baz=8.5,SNR=6.9
F20K **Avaraart Lake** 75.16 360 IAmb IAmb 11 24 59.4
comp=Z,75nm,1.6s
F20K **Avaraart Lake** 75.16 360 P P 11 24 57.2 +0.2
baz=0.6,SNR=13
G22K **Bettles** 75.22 358 P P 11 24 57.9 +0.5
baz=4.1
G24K **Hadweenzic Riv** 75.28 356 IAmb IAmb 11 25 00.6
comp=Z,79nm,1.8s
G24K **Hadweenzic Riv** 75.28 356 P P 11 24 58.8 +0.9
baz=7.3,SNR=7.5
H27K **Steamboat Moun** 75.35 354 P P 11 24 59.0 +0.8
baz=12,SNR=32
F19K **Shaleruckik Mo** 75.37 1 IAmb IAmb 11 24 59.9
comp=Z,53nm,1.3s
F19K **Shaleruckik Mo** 75.37 1 P P 11 24 58.6 +0.3
baz=359,SNR=26
G23K **Bananza Creek** 75.39 357 P P 11 24 59.8 +1.3
G23K IAmb IAmb 11 25 01.0
comp=Z,62nm,1.6s
G23K **Bananza Creek** 75.39 357 P P 11 24 59.4 +1.0
baz=5.3,SNR=13
N53A **Lisbon** 75.44 311 IAmb IAmb 11 25 01.7
comp=Z,44nm,1.1s
MCWV **Mont Chateau** 75.54 309 P P 11 25 00.6 +0.9
MCWV IAmb IAmb 11 25 02.5
comp=Z,48nm,1.1s
F18K **Selawik** 75.58 1 P P 11 24 59.6 +0.2
baz=357,SNR=11
WRGLY **Wrigley** 75.61 345 P P 11 25 00.7 +1.0
baz=26,SNR=16
H25L **Birch Creek** 75.62 356 P P 11 25 01.0 +1.3
baz=8.7,SNR=13
USA0B **Ussuriysk Arra** 75.67 45 P P 11 25 00.1 -0.3
USA0B IAmb IAmb 11 25 00.8
comp=Z,27nm,1.0s
USA0B **Ussuriysk Arra** 75.67 45 P P 11 25 00.1 -0.3
USA0B pmax pmax
comp=Z,27nm,1.0s
USRK **Ussuriysk Ar.** 75.67 45 P P 11 24 58.9 -1.5
comp=Z,22nm,0.9s,baz=292,slow=4.7,SNR=32
USRK LR LR 12 02 09.2
comp=Z,406nm,18.1s,baz=320,slow=39
comp=Z,22nm,0.9s
G21K **Allakaket** 75.67 359 IAmb IAmb 11 25 02.4
comp=Z,52nm,1.4s
G21K **Allakaket** 75.67 359 P P 11 25 00.5 +0.5
baz=2.4
QIZ **Qiongzhong** 75.68 77 P P 11 25 01.5 +0.6
QIZ S S 11 34 42.3 +0.1
QIZ LR LR
comp=Z,210nm,16.7s
QIZ LR LR
comp=Z,340nm,16.2s
QIZ LR LR
comp=Z,710nm,16.7s
F17K **Baldwin Pennin** 75.71 2 P P 11 24 59.9 -0.2
baz=356
T59A **Double "B" Far** 75.73 306 P P 11 25 01.0 +0.2
T59A IAmb IAmb 11 25 03.2
comp=Z,32nm,1.2s
I30M **Mount Dempster** 75.81 351 P P 11 25 01.0 0.0
baz=16,SNR=29
I29M **Ogilvie Camp,** 75.89 352 P P 11 25 01.1 -0.2
baz=15,SNR=34
I28M **Miner Creek** 75.97 353 IAmb IAmb 11 25 03.7
comp=Z,47nm,1.4s
I28M **Miner Creek** 75.97 353 P P 11 25 01.8 -0.1
baz=13,SNR=14
I27K **Kandik River** 75.97 354 P P 11 25 02.4 +0.5
baz=12,SNR=20
MDP **Montagnes des** 76.00 265 LR LR 11 58 23.6
comp=Z,287nm,19.1s,baz=68,slow=36
O53A **New Philadelph** 76.00 310 IAmb IAmb 11 25 05.0
comp=Z,29nm,1.0s
G19K **Purcell Mounta** 76.07 0 P P 11 25 02.9 +0.6
baz=360,SNR=19
H24K **Noodor Dome** 76.17 356 P P 11 25 03.5 +0.6
baz=7.0,SNR=8.3
IMAR **Indian Mountai** 76.21 359 P P 11 25 04.0 +0.9
H22K **Ishtalitna Cre** 76.25 358 P P 11 25 04.7 +1.3
baz=4.2,SNR=21

H23K **Yukon River** 76.25 357 IAmb IAmb 11 25 06.3
comp=Z,63nm,1.4s
H23K **Yukon River** 76.25 357 P P 11 25 04.6 +1.2
baz=5.6,SNR=15
TNA **Tin City** 76.27 5 P P 11 25 04.9 +1.5
baz=351
VLA **Vladivostok** 76.30 46⇑ eP P 11 25 04.1 +0.1
VLA pmax pmax
comp=Z,31nm,0.6s
VLA MLR MLR
comp=Z,673nm,16.0s
G18K **Tagagawik** 76.31 1 IAmb IAmb 11 25 05.6
comp=Z,49nm,1.2s
G18K **Tagagawik** 76.31 1 P P 11 25 04.1 +0.4
baz=358,SNR=20
F15K **North Star Dit** 76.31 3 IAmb IAmb 11 25 05.6
comp=Z,45nm,1.3s
F15K **North Star Dit** 76.31 3 P P 11 25 04.3 +0.6
baz=353,SNR=6.3
PRP **Porcupine Dome** 76.35 355 IAmb IAmb 11 25 06.5
comp=Z,51nm,1.5s
PRP **Porcupine Dome** 76.35 355 P P 11 25 04.6 +0.5
baz=8.9,SNR=10
I26K **Coal Creek Min** 76.39 354 IAmb IAmb 11 25 06.5
comp=Z,61nm,1.6s
I26K **Coal Creek Min** 76.39 354 P P 11 25 05.0 +0.9
baz=11
FFC **Flin Flon** 76.42 331 P P 11 25 04.3 -0.2
FFC **Flin Flon** 76.42 331 P P 11 25 04.3 -0.2
FFC pmax pmax
comp=Z,20nm,1.1s
J30M **Hart River** 76.42 351 P P 11 25 05.5 +1.0
baz=16,SNR=73
F14K **Arctic Creek** 76.46 4 P P 11 25 04.4 -0.1
baz=352
O52A **Adamsville** 76.46 310 IAmb IAmb 11 25 07.2
comp=Z,34nm,1.0s
H21K **Melozitna Rive** 76.52 358 P P 11 25 06.2 +1.3
baz=3.0,SNR=26
R55A **Marlinton** 76.55 308 P P 11 25 06.0 +0.4
R55A IAmb IAmb 11 25 08.2
comp=Z,42nm,1.2s
EPLO **Experimental L** 76.56 324 P P 11 25 05.3 -0.1
Q54A **Coxs Mills** 76.56 309 P P 11 25 05.3 -0.3
Q54A IAmb IAmb 11 25 07.7
comp=Z,28nm,1.2s
TYV **Tymovskoe** 76.57 35 eP P 11 25 05.2 -0.2
TYV pmax pmax
comp=Z,16nm,1.3s
TYV pmax pmax
comp=Z,300nm,6.4s
KULM **Kulim** 76.61 94 P P 11 25 05.8 -0.4
G17K **Kiwalik Mounta** 76.67 2 P P 11 25 06.0 +0.3
baz=357,SNR=9.3
H19K **Roundabout Mou** 76.69 360 IAmb IAmb 11 25 08.2
comp=Z,56nm,1.4s
H19K **Roundabout Mou** 76.69 360 P P 11 25 06.5 +0.7
baz=0.0,SNR=17
COWI **Conover** 76.71 319 IAmb IAmb 11 25 08.2
comp=Z,24nm,1.0s
H20K **Anotleneega Mo** 76.72 359 P P 11 25 06.5 +0.5
baz=1.3,SNR=12
G16K **Koyuk River** 76.72 3 P P 11 25 06.5 +0.5
baz=355,SNR=7.1
J29N **Klondike Camp** 76.76 352 IAmb IAmb 11 25 08.9
comp=Z,69nm,1.6s
J29N **Klondike Camp** 76.76 352 P P 11 25 07.2 +0.8
baz=15
PSI **Prapat** 76.78 97 P P 11 25 06.6 -0.7
T57A **Hurt** 76.79 307 P P 11 25 07.5 +0.6
RPSI **Rantau Prapat** 76.85 97 IAmb IAmb 11 25 07.5
comp=Z,37nm,1.2s
I23K **Minto, Yukon-K** 76.92 357 IAmb IAmb 11 25 09.6
comp=Z,38nm,1.4s
I23K **Minto, Yukon-K** 76.92 357 P P 11 25 08.0 +0.9
baz=5.8,SNR=12
G15K **Niukluk** 77.06 3 P P 11 25 07.5 -0.4
baz=354,SNR=7.1
H18K **Honhosa River** 77.06 1 IAmb IAmb 11 25 10.3
comp=Z,63nm,1.6s
H18K **Honhosa River** 77.06 1 P P 11 25 08.7 +0.7
baz=358,SNR=8.4
ACSO **Alum Creek Sta** 77.07 311 P P 11 25 08.7 +0.2
ACSO IAmb IAmb 11 25 10.5
comp=Z,25nm,1.0s
MLY **Manley** 77.09 358 P P 11 25 09.1 +0.9
baz=4.7,SNR=14
COLA **College** 77.12 356 P P 11 25 08.9 +0.7
COLA **College** 77.12 356 P P 11 25 09.5 +1.3
COLA **College** 77.12 356 *d* iP P 11 25 08.6 +0.3
COLA pmax pmax
comp=Z,11nm,1.4s
COLA MLR MLR
comp=Z,280nm,18.0s
COLA **College** 77.12 356 P P 11 25 08.6 +0.3
baz=7.0
ULM **Lac du Bonnet** 77.14 325 *de* P P 11 25 08.6 0.0
IL31 77.17 356 P P 11 25 09.1 +0.6
ILAR **Eielson Array** 77.17 356 P P 11 25 09.0 +0.4
ILAR **Eielson Array** 77.17 356 P P 11 25 08.1 -0.5
comp=Z,3.1nm,1.1s,baz=3.8,slow=4.2,SNR=23
ILAR LR LR 12 02 16.9
comp=Z,162nm,18.4s,baz=345,slow=38
comp=Z,3.1nm,1.1s
ILAR **Eielson Array** 77.17 356 P P 11 25 09.0 +0.4
J26L **Joseph Creek** 77.22 354 P P 11 25 09.7 +0.8
J26L IAmb IAmb 11 25 10.7
comp=Z,46nm,1.6s
J26L **Joseph Creek** 77.22 354 P P 11 25 09.3 +0.3
baz=10,SNR=15
J25K **Salcha River,** 77.24 355 P P 11 25 09.8 +0.8
J25K **Salcha River,** 77.24 355 P P 11 25 09.1 0.0
baz=9.0,SNR=6.4
H17K **Granite Mounta** 77.25 2 P P 11 25 08.8 -0.2
H17K IAmb IAmb 11 25 10.0
comp=Z,58nm,2.0s
H17K **Granite Mounta** 77.25 2 P P 11 25 09.3 +0.4
baz=357
DAWY **Dawson** 77.26 352 P P 11 25 09.6 +0.5
baz=14,SNR=36
K29M **Barlow Dome** 77.27 352 P P 11 25 09.9 +0.6
baz=15,SNR=20
MAYO **Mayo, Yukon** 77.31 351 P P 11 25 10.0 +0.6
baz=16,SNR=11
CCB **Clear Creek Bu** 77.35 356 IAmb IAmb 11 25 11.2
comp=Z,40nm,1.6s
I20K **Naaghedeneel** 77.41 359 P P 11 25 10.9 +1.1
baz=1.6,SNR=6.3
ANM **Nome** 77.42 4 P P 11 25 10.0 0.0
baz=353
Q52A **Bidwell** 77.44 310 IAmb IAmb 11 25 12.6
comp=Z,34nm,1.1s
V58A **Windy Hill, Pi** 77.44 306 IAmb IAmb 11 25 13.1
comp=Z,34nm,1.2s
KS19 **Wonju Array Si** 77.44 52 IAmb IAmb 11 25 40.5
comp=Z,26nm,1.0s
NEA2 **Nenana** 77.46 357 IAmb IAmb 11 25 12.1
comp=Z,48nm,1.4s
NEA2 **Nenana** 77.46 357 P P 11 25 10.4 +0.2
baz=6.0,SNR=10
GCSA **Galena City Sc** 77.47 0 P P 11 25 10.8 +0.6
baz=360
H16K **Elim** 77.48 3 P P 11 25 10.3 0.0
baz=355
KSAR **Wonju Array Be** 77.49 52 P P 11 25 10.3 -0.5
KSAR **Wonju Array Be** 77.49 52 P P 11 25 10.3 -0.5
KSRS **Korea Array** 77.51 52 P P 11 25 09.7 -1.3
comp=Z,15nm,1.0s,baz=309,slow=5.1,SNR=41
comp=Z,15nm,1.0s
HDA **Harding Lake** 77.54 356 P P 11 25 10.6 0.0
HDA IAmb IAmb 11 25 12.1
comp=Z,47nm,1.4s
HDA **Harding Lake** 77.54 356 P P 11 25 10.8 +0.2
baz=7.7,SNR=13
K27K **Chicken** 77.56 354 P P 11 25 11.7 +0.9
baz=12
MMPY **Sheldon Lake,** 77.58 348 IAmb IAmb 11 25 14.3
comp=Z,53nm,1.2s
MMPY **Sheldon Lake,** 77.58 348 P P 11 25 12.5 +1.6
baz=20,SNR=30
GAMB **Gambell** 77.73 7 P P 11 25 10.9 -0.8
baz=348
SCRK **Sand Creek** 77.77 354 IAmb IAmb 11 25 14.5
comp=Z,48nm,1.4s
SCRK **Sand Creek** 77.77 354 P P 11 25 12.6 +0.6
baz=10,SNR=21
G40A **Rib Lake** 77.82 319 IAmb IAmb 11 25 14.4
comp=Z,34nm,1.5s
O49A **Covington** 77.90 312 IAmb IAmb 11 25 14.8
comp=Z,25nm,0.9s
U56A **King** 77.91 307 IAmb IAmb 11 25 15.8
comp=Z,34nm,1.0s
J20K **Nowinta River** 78.03 359 P P 11 25 13.8 +0.5
baz=1.9,SNR=12
BPAW **Bear Paw Mtn.** 78.03 358 IAmb IAmb 11 25 14.8
comp=Z,45nm,1.5s
BPAW **Bear Paw Mtn.** 78.03 358 P P 11 25 13.1 -0.3
baz=4.4,SNR=11
Q51A **Peebles** 78.05 310 IAmb IAmb 11 25 16.5
comp=Z,38nm,1.1s
L29M **L29M** 78.06 352 IAmb IAmb 11 25 16.0
comp=Z,58nm,1.6s
L29M **L29M** 78.06 352 P P 11 25 14.2 +0.6
baz=15,SNR=15
RIDG **Independent Ri** 78.07 355 P P 11 25 14.1 +0.4
baz=9.4,SNR=11
K24K **Donnelly Dome** 78.07 355 P P 11 25 14.0 +0.4
baz=8.6,SNR=5.8
TGTN **Hyland Airport** 78.09 347 P P 11 25 15.3 +1.4
baz=22,SNR=10.0
J19K **Poorman** 78.23 360 P P 11 25 15.2 +0.7
baz=0.7,SNR=26
N47A **Urbana** 78.25 313 IAmb IAmb 11 25 16.4
comp=Z,32nm,1.1s
I17K **Unalakleet** 78.28 2 P P 11 25 15.4 +0.7
baz=357
CHUM **Lake Minchumin** 78.29 358 P P 11 25 15.3 +0.6
baz=3.4,SNR=13
MCK **McKinley** 78.32 357 P P 11 25 14.7 -0.3
baz=6.1,SNR=7.5
W57A **Gilead** 78.40 306 P P 11 25 16.0 +0.1
M30M **Minto, Yukon** 78.41 351 P P 11 25 15.8 +0.2
baz=16,SNR=5.8
M31M **Drury Creek, Y** 78.45 350 IAmb IAmb 11 25 18.6
comp=Z,50nm,1.3s
M31M **Drury Creek, Y** 78.45 350 P P 11 25 16.9 +1.1
baz=18,SNR=26
L27K **Beaver Creek,** 78.49 353 IAmb IAmb 11 25 18.6
comp=Z,55nm,1.4s
L27K **Beaver Creek,** 78.49 353 P P 11 25 16.9 +0.9
baz=12,SNR=24
KOTAN **Kotaneelee Air** 78.53 344 P P 11 25 17.1 +0.9
baz=26,SNR=6.9
MNSI **Mandailing Nat** 78.54 98 P P 11 25 16.3 -0.6
KTH **Kantishna Hill** 78.58 357 IAmb IAmb 11 25 19.3
comp=Z,34nm,1.3s
L26K **Log Cabin Wild** 78.66 354 IAmb IAmb 11 25 19.4
comp=Z,58nm,1.6s
L26K **Log Cabin Wild** 78.66 354 P P 11 25 17.2 +0.3
baz=10,SNR=12
TRF **Thorofare Moun** 78.66 357 IAmb IAmb 11 25 19.4
comp=Z,49nm,1.5s
TRF **Thorofare Moun** 78.66 357 P P 11 25 16.6 -0.4
baz=5.0
U54A **Nelsons Funny** 78.70 308 IAmb IAmb 11 25 19.9
comp=Z,36nm,1.0s
M29M **Somme Creek** 78.74 352 IAmb IAmb 11 25 20.1
comp=Z,54nm,1.2s
M29M **Somme Creek** 78.74 352 P P 11 25 17.9 +0.4
baz=14,SNR=39
J18K **Innoko River** 78.76 0 IAmb IAmb 11 25 19.8
comp=Z,48nm,1.4s
J18K **Innoko River** 78.76 0 P P 11 25 18.0 +0.6
baz=360,SNR=14
PDPR **Patillas Dam,** 78.77 284 IAmb IAmb 11 25 20.9
comp=Z,31nm,0.9s
J17K **VABM Dome** 78.81 1 P P 11 25 18.2 +0.5
baz=358,SNR=12
SJG **San Juan** 78.81 284 LR LR 11 54 44.8
comp=Z,172nm,21.9s,baz=44,slow=32
K20K **Telida** 78.85 359 IAmb IAmb 11 25 20.2
comp=Z,43nm,1.4s
K20K **Telida** 78.85 359 P P 11 25 18.5 +0.6
baz=1.9,SNR=14
PAX **Paxson** 78.87 355 P P 11 25 17.9 -0.3
baz=8.8
J16K **Anvik River** 78.89 2 P P 11 25 18.6 +0.5
J16K IAmb IAmb 11 25 20.1
comp=Z,42nm,1.4s
J16K **Anvik River** 78.89 2 P P 11 25 18.3 +0.2
baz=357,SNR=5.5
BVCY **Beaver Creek** 79.03 353 P P 11 25 19.9 +1.0
baz=12,SNR=36
R50A **Paris** 79.12 310 P P 11 25 19.8 -0.1
M27K **Edge Creek, AK** 79.18 353 P P 11 25 20.8 +0.9
baz=12,SNR=20
M26K **Nabesna, AK** 79.24 354 IAmb IAmb 11 25 22.5
comp=Z,50nm,1.5s
M26K **Nabesna, AK** 79.24 354 P P 11 25 20.7 +0.6
baz=11,SNR=11
M44A **Midewin, Midew** 79.25 315 IAmb IAmb 11 25 22.1
comp=Z,42nm,1.3s
N32M **Quiet Lake** 79.26 349 P P 11 25 20.6 +0.4
baz=19
KMSC **Kings Mountain** 79.26 306 IAmb IAmb 11 25 23.0
comp=Z,35nm,1.2s
PPLA **Purkeypile** 79.28 358 IAmb IAmb 11 25 23.0
comp=Z,54nm,1.3s
PPLA **Purkeypile** 79.28 358 P P 11 25 20.1 -0.3
baz=3.5
J14K **Nanvaranak Lak** 79.32 3 P P 11 25 20.7 +0.3
baz=354
N31M **Braeburn, Yuko** 79.33 350 IAmb IAmb 11 25 22.4
comp=Z,48nm,1.4s
N31M **Braeburn, Yuko** 79.33 350 P P 11 25 20.5 -0.1
baz=16,SNR=14
YSS **Yuzhno-Sakhali** 79.39 37 P P 11 25 20.8 -0.4
YSS IAmb IAmb 11 25 22.5
comp=Z,50nm,1.0s
YSS **Yuzhno-Sakhali** 79.39 37 P P 11 25 21.5 +0.4
YSS **Yuzhno-Sakhali** 79.39 37 eP P 11 25 20.2 -0.9
YSS *e* 11 28 26.0
YSS *e*S S 11 35 18.3 -3.2
YSS *e*SS SS 11 40 28.6 +1.0
YSS pmax pmax
comp=Z,50nm,1.0s
YSS MLR MLR
comp=Z,1µm,14.0s
YSS MLR MLR
comp=N,900nm,15.0s
YSS MLR MLR
comp=E,800nm,13.0s
HARP **HAARP** 79.42 355 P P 11 25 21.6 +0.5
baz=9.1
K17K **Iditarod** 79.50 1 P P 11 25 22.7 +1.2
K17K IAmb IAmb 11 25 23.5
comp=Z,62nm,1.4s
K17K **Iditarod** 79.50 1 P P 11 25 21.7 +0.2
baz=359,SNR=9.2
WTLY **Watson Lake, Y** 79.50 346 P P 11 25 23.2 +1.6
WTLY IAmb IAmb 11 25 24.4
comp=Z,48nm,1.1s
WTLY **Watson Lake, Y** 79.50 346 P P 11 25 22.4 +0.8
baz=22,SNR=25
N30M **Aishikik Lake** 79.53 351 IAmb IAmb 11 25 23.9
comp=Z,44nm,1.6s
N30M **Aishikik Lake** 79.53 351 P P 11 25 22.1 +0.4
baz=15,SNR=9.5
YUK3 **Mooseek** 79.61 352 P P 11 25 23.3 +0.9
baz=13,SNR=30
R49A **Shelbyville** 79.62 311 IAmb IAmb 11 25 24.5
comp=Z,34nm,1.2s
LIRD **Liard River Hi** 79.62 345 P P 11 25 23.6 +1.4
baz=24,SNR=16
CUT **Chulitna** 79.70 357 P P 11 25 21.9 -0.6
baz=5.0
L20K **Farewell, AK** 79.73 359 P P 11 25 22.8 +0.1
baz=2.1
M24K **Tolsona, Glenn** 79.78 355 P P 11 25 23.4 +0.3
baz=8.2
YUK4 **Talbot Arm** 79.83 351 P P 11 25 23.8 +0.2
baz=14,SNR=16
BLO **Bloomington** 79.84 312 IAmb IAmb 11 26 53.0
comp=Z,49nm,1.1s
K15K **Wolf Creek Mou** 79.85 2 P P 11 25 24.4 +1.0
K15K IAmb IAmb 11 25 25.6
comp=Z,54nm,1.4s
K15K **Wolf Creek Mou** 79.85 2 P P 11 25 23.8 +0.4
baz=356,SNR=5.7
TOAD **Toad River Com** 79.95 344 P P 11 25 24.9 +0.9
baz=24,SNR=36
WHY **Whitehorse** 80.00 349 P P 11 25 25.1 +0.7
WHY **Whitehorse** 80.00 349 P P 11 25 24.4 0.0
baz=17,SNR=9.6
L18K **Granite Mounta** 80.01 0 IAmb IAmb 11 25 26.7

	comp=Z,51nm,1.4s									
L18K	**Granite Mounta**	**80.01**	**0**	P		**P**		**11 25 24.7**	**+0.5**	
	baz=360,SNR=11									
YUK8	**Steele Glacier**	**80.02**	**352**	P		**P**		**11 25 24.6**	**-0.1**	
	baz=13									
L19K	**White Mountain**	**80.04**	**359**	IAmb		IAmb		11 25 26.7		
	comp=Z,59nm,1.4s									
L19K	**White Mountain**	**80.04**	**359**	P		**P**		**11 25 25.2**	**+0.7**	
	baz=1.3,SNR=12									
O30N	**Mendenhall**	**80.06**	**350**	IAmb		IAmb		11 25 26.5		
	comp=Z,52nm,1.6s									
O30N	**Mendenhall**	**80.06**	**350**	P		**P**		**11 25 25.0**	**+0.3**	
	baz=16,SNR=10									
K13K	**Kusilvak Mount**	**80.08**	**4**	P		**P**		**11 25 24.4**	**-0.2**	
	baz=354									
L17K	**Donlin**	**80.09**	**1**	P		**P**		**11 25 25.4**	**+0.7**	
	baz=359,SNR=8.6									
P33M	**Teslin, Yukon**	**80.11**	**348**	IAmb		IAmb		11 25 27.1		
	comp=Z,55nm,1.4s									
P33M	**Teslin, Yukon**	**80.11**	**348**	P		**P**		**11 25 25.2**	**+0.3**	
	baz=19,SNR=15									
SCM	**Sheep Creek Mo**	**80.12**	**356**	P		**P**		**11 25 25.6**	**+0.7**	
	baz=7.3,SNR=8.7									
N25K	**Chitina, Valde**	**80.16**	**354**	IAmb		IAmb		11 25 26.9		
	comp=Z,48nm,1.6s									
N25K	**Chitina, Valde**	**80.16**	**354**	P		**P**		**11 25 25.3**	**+0.1**	
	baz=9.5,SNR=7.7									
SKT	**Skwentna**	**80.17**	**358**	IAmb		IAmb		11 25 27.9		
	comp=Z,45nm,1.3s									
SKT	**Skwentna**	**80.17**	**358**	P		**P**		**11 25 24.4**	**-0.8**	
	baz=4.0,SNR=13									
M23K	**Glacier View**	**80.19**	**356**	P		**P**		**11 25 25.4**	**+0.1**	
	baz=7.0,SNR=6.5									
YUK6	**Outpost Mounta**	**80.19**	**351**	P		**P**		**11 25 25.2**	**-0.3**	
	baz=14,SNR=16									
HYT	**Haines Junctio**	**80.19**	**351**	IAmb		IAmb		11 25 27.9		
	comp=Z,65nm,1.4s									
HYT	**Haines Junctio**	**80.19**	**351**	P		**P**		**11 25 26.0**	**+0.6**	
	baz=15,SNR=20									
MCARA	**McCarthy VSAT**	**80.25**	**353**	P		**P**		**11 25 25.7**	**+0.2**	
	baz=11									
GHO	**Glory Hole Cre**	**80.27**	**356**	IAmb		IAmb		11 25 27.6		
	comp=Z,77nm,1.6s									
M20K	**Styx River**	**80.31**	**358**	IAmb		IAmb		11 25 27.4		
	comp=Z,39nm,1.2s									
M20K	**Styx River**	**80.31**	**358**	P		**P**		**11 25 25.9**	**-0.1**	
	baz=2.7,SNR=10									
M19K	**Big River Lodg**	**80.31**	**359**	IAmb		IAmb		11 25 29.6		
	comp=Z,61nm,1.7s									
M19K	**Big River Lodg**	**80.31**	**359**	P		**P**		**11 25 26.4**	**+0.5**	
	baz=1.7									
WCI	**Wyandotte Cave**	**80.33**	**311**	P		**P**		**11 25 27.8**	**+1.4**	
WCI	**Wyandotte Cave**	**80.33**	**311**	P		**P**		**11 25 27.8**	**+1.4**	
WCI				pmax		pmax				
	comp=Z,27nm,1.0s									
I37A	**Lemond, Waseca**	**80.34**	**319**	IAmb		IAmb		11 25 28.1		
	comp=Z,28nm,0.9s									
M22K	**Willow**	**80.35**	**357**	P		**P**		**11 25 26.1**	**+0.1**	
M22K	**Willow**	**80.35**	**357**	P		**P**		**11 25 26.0**	**0.0**	
	baz=5.1,SNR=7.7									
KLU	**Klutina**	**80.37**	**355**	P		**P**		**11 25 26.5**	**+0.2**	
KLU				IAmb		IAmb		11 25 28.3		
	comp=Z,60nm,1.7s									
KLU	**Klutina**	**80.37**	**355**	P		**P**		**11 25 26.6**	**+0.2**	
	baz=8.4,SNR=5.8									
BARN	**Barnard Glacie**	**80.44**	**353**	P		**P**		**11 25 27.2**	**+0.3**	
PMR	**Palmer**	**80.46**	**356**	P		**P**		**11 25 27.4**	**+0.8**	
PMR				IAmb		IAmb		11 25 28.4		
	comp=Z,72nm,1.6s									
PMR	**Palmer**	**80.46**	**356**	P		**P**		**11 25 27.7**	**+1.1**	
PMR	**Palmer**	**80.46**	**356**	P		**P**		**11 25 27.4**	**+0.8**	
PMR				pmax		pmax				
	comp=Z,72nm,1.6s									
PMR	**Palmer**	**80.46**	**356**	P		**P**		**11 25 26.8**	**+0.1**	
	baz=5.9,SNR=10									
TKL	**Tuckaleechee C**	**80.47**	**308**	P		**P**		**11 25 27.2**	**-0.1**	
	comp=Z,20nm,1.1s,baz=117,slow=4.4,SNR=10									
TKL				LR		LR		12 02 48.7		
	comp=Z,523nm,18.1s,baz=56,slow=37									
	comp=Z,20nm,1.1s									
L15K	**Ungalak Mounta**	**80.47**	**2**	P		**P**		**11 25 26.4**	**-0.3**	
	baz=356,SNR=6.1									
L16K	**Owhat River**	**80.49**	**1**	P		**P**		**11 25 27.9**	**+1.1**	
L16K	**Owhat River**	**80.49**	**1**	P		**P**		**11 25 27.3**	**+0.5**	
	baz=358									
CTGM	**Chitina Glacie**	**80.50**	**353**	IAmb		IAmb		11 25 29.4		
	comp=Z,93nm,1.8s									
CTG	**Chitina Glacier**	**80.50**	**353**	P		**P**		**11 25 27.5**	**+0.4**	
	baz=12									
HDIL	**Hopedale**	**80.51**	**315**	IAmb		IAmb		11 25 29.1		
	comp=Z,35nm,1.0s									
L40A	**Anamosa**	**80.55**	**317**	IAmb		IAmb		11 25 28.9		
	comp=Z,35nm,1.0s									
O28M	**Mount Upton**	**80.57**	**352**	P		**P**		**11 25 28.1**	**+0.4**	
	baz=13,SNR=7.5									
R33M	**Jennings River**	**80.57**	**347**	P		**P**		**11 25 28.4**	**+1.0**	
	baz=20,SNR=43									
LOGN	**Logan Glacier**	**80.60**	**352**	IAmb		IAmb		11 25 29.9		
	comp=Z,72nm,1.5s									
KNK	**Knik Glacier**	**80.61**	**356**	P		**P**		**11 25 28.2**	**+0.7**	
KNK	**Knik Glacier**	**80.61**	**356**	P		**P**		**11 25 27.8**	**+0.3**	
	baz=6.4									
STLK	**Strandline Lak**	**80.66**	**358**	P		**P**		**11 25 27.8**	**0.0**	
M18K	**Stony River**	**80.74**	**360**	P		**P**		**11 25 28.7**	**+0.5**	
	baz=0.5,SNR=6.1									
L14K	**Kuka Creek**	**80.76**	**3**	P		**P**		**11 25 28.2**	**-0.1**	
	baz=355									
GRNC	**Granite Creek**	**80.77**	**353**	IAmb		IAmb		11 25 30.7		
	comp=Z,53nm,1.3s									
BMRM	**Bremner River**	**80.79**	**354**	IAmb		IAmb		11 25 30.3		
	comp=Z,71nm,1.5s									
BMRM	**Bremner River**	**80.79**	**354**	P		**P**		**11 25 28.8**	**+0.2**	
	baz=9.5,SNR=7.0									
P30M	**Million Dollar**	**80.81**	**350**	P		**P**		**11 25 29.4**	**+0.8**	
	baz=16									
M17K	**Holitna River**	**80.83**	**0**	IAmb		IAmb		11 25 31.3		
	comp=Z,53nm,1.3s									
M17K	**Holitna River**	**80.83**	**0**	P		**P**		**11 25 29.6**	**+0.9**	
	baz=359,SNR=7.8									
O29M	**Mount Kennedy**	**80.84**	**351**	P		**P**		**11 25 28.7**	**-0.2**	
	baz=14									
P32M	**Atlin**	**80.84**	**349**	P		**P**		**11 25 28.5**	**-0.4**	
	baz=18,SNR=8.8									
PEA0B	**Petropavlovsk-**	**80.85**	**26**	P		**P**		**11 25 28.0**	**-0.9**	
PEA0B				IAmb		IAmb		11 25 28.7		
	comp=Z,47nm,1.2s									
PEA0B	**Petropavlovsk-**	**80.85**	**26**	P		**P**		**11 25 28.0**	**-0.9**	
PEA0B				pmax		pmax				
	comp=Z,47nm,1.3s									
PETK	**Petropavlovsk-**	**80.85**	**26**	P		**P**		**11 25 28.0**	**-0.9**	
PETK	**Petropavlovsk-**	**80.85**	**26**	P		**P**		**11 25 27.4**	**-1.6**	
	comp=Z,17nm,1.1s,baz=341,slow=6.8,SNR=8.6									
PETK				LR		LR		12 03 50.1		
	comp=Z,432nm,18.8s,baz=315,slow=38									
	comp=Z,17nm,1.1s									
PETK	**Petropavlovsk-**	**80.85**	**26**	P		**P**		**11 25 28.0**	**-0.9**	
CRQE	**Cirque**	**80.88**	**353**	P		**P**		**11 25 29.2**	**+0.1**	
	baz=11,SNR=6.1									
CRQM	**Cirque**	**80.88**	**353**	P		**P**		**11 25 29.5**	**+0.4**	
CRQM				IAmb		IAmb		11 25 31.0		
	comp=Z,78nm,1.5s									
SMTB	**Santa Maria do**	**80.91**	**251**	*eP*		**P**		**11 25 31.6**	**+1.8**	
W52A	**Murphy**	**80.93**	**308**	P		**P**		**11 25 30.1**	**+0.4**	
ISLE	**Juniper Island**	**80.95**	**353**	IAmb		IAmb		11 25 31.4		
	comp=Z,55nm,1.4s									
TABL	**Table Mountain**	**80.99**	**352**	IAmb		IAmb		11 25 35.4		
	comp=Z,71nm,1.6s									
RC01	**Rabbit Creek A**	**80.99**	**357**	P		**P**		**11 25 29.8**	**+0.2**	
	baz=5.4,SNR=14									
OLIL	**Olney**	**81.05**	**313**	IAmb		IAmb		11 26 48.7		
	comp=Z,26nm,0.8s									
GLI	**Glacier Island**	**81.06**	**355**	P		**P**		**11 25 29.8**	**-0.1**	
	baz=7.5									
CPCT	**Cooper Cave**	**81.07**	**308**	IAmb		IAmb		11 25 33.0		
	comp=Z,40nm,1.1s									
YAH	**Yahtse**	**81.13**	**353**	P		**P**		**11 25 31.5**	**+0.9**	
YAH				IAmb		IAmb		11 25 40.5		
	comp=Z,44nm,1.3s									
U49A	**Red Boiling Sp**	**81.15**	**310**	IAmb		IAmb		11 25 33.0		
	comp=Z,43nm,1.1s									
WAX	**Waxell Ridge**	**81.15**	**353**	IAmb		IAmb		11 25 32.9		
	comp=Z,73nm,1.5s									
PWL	**Port Wells**	**81.15**	**356**	P		**P**		**11 25 30.9**	**+0.5**	
PWL				IAmb		IAmb		11 25 32.1		
	comp=Z,63nm,1.6s									
PWL	**Port Wells**	**81.15**	**356**	P		**P**		**11 25 30.4**	**-0.1**	
	baz=6.5,SNR=5.7									
M16K	**Timber Creek**	**81.19**	**1**	IAmb		IAmb		11 25 33.1		
	comp=Z,50nm,1.4s									
M16K	**Timber Creek**	**81.19**	**1**	P		**P**		**11 25 31.8**	**+1.2**	
	baz=358,SNR=7.1									
Q32M	**Nakina River**	**81.21**	**348**	IAmb		IAmb		11 25 33.8		
	comp=Z,36nm,1.1s									
Q32M	**Nakina River**	**81.21**	**348**	P		**P**		**11 25 32.5**	**+1.6**	
	baz=19,SNR=12									
SKAG	**Skagway**	**81.21**	**349**	IAmb		IAmb		11 25 33.0		
	comp=Z,46nm,1.4s									
SKAG	**Skagway**	**81.21**	**349**	P		**P**		**11 25 32.3**	**+1.6**	
SKAG	**Skagway**	**81.21**	**349**	P		**P**		**11 25 30.8**	**0.0**	
	baz=17,SNR=9.1									
PINM	**Pinnacle**	**81.23**	**352**	P		**P**		**11 25 31.4**	**+0.4**	
	baz=13,SNR=6.5									
PET	**Petropavlovsk**	**81.24**	**26**	*eP*		**P**		**11 25 30.6**	**-0.4**	
PET				*e*				11 28 33.8		
PET				*eS*		**S**		**11 35 33.8**	**-6.9**	
PET				pmax		pmax				
	comp=Z,100nm,12.4s									
PET				pmax		pmax				
	comp=Z,200nm,9.3s									
PET				pmax		pmax				
	comp=Z,200nm,9.4s									
P43A	**Skaggs, Pawnee**	**81.26**	**314**	IAmb		IAmb		11 25 33.2		
	comp=Z,23nm,0.8s									
EYAK	**Cordova Ski Ar**	**81.30**	**355**	P		**P**		**11 25 31.8**	**+0.7**	
	baz=8.5									
DLBC	**Dease Lake**	**81.30**	**346**	LR		LR		12 03 26.6		
	comp=Z,28nm,21.1s,baz=354,slow=37									
DLBC	**Dease Lake**	**81.30**	**346**	P		**P**		**11 25 32.3**	**+1.0**	
	baz=21,SNR=7.0									
MESA	**MESA**	**81.33**	**353**	P		**P**		**11 25 31.4**	**-0.2**	
	baz=12									
ASAJ	**Asahikawa**	**81.35**	**40**	P		**P**		**11 25 31.1**	**-0.7**	
	comp=Z,5.8nm,0.9s,baz=252,slow=8.9,SNR=3.6									
ASAJ				LR		LR		12 06 32.0		
	comp=Z,653nm,18.6s,baz=334,slow=39									
	comp=Z,5.8nm,0.9s									
PLBC	**Pleasant Camp**	**81.37**	**350**	P		**P**		**11 25 32.5**	**+1.0**	
	baz=16,SNR=5.7									
CAPN	**Captain Cook N**	**81.37**	**357**	P		**P**		**11 25 32.6**	**+1.1**	
	baz=4.2									
M14K	**Bethel**	**81.38**	**3**	IAmb		IAmb		11 25 33.5		
	comp=Z,35nm,1.2s									
M14K	**Bethel**	**81.38**	**3**	P		**P**		**11 25 31.6**	**0.0**	
	baz=356									
P29M	**Windy Craggy**	**81.38**	**351**	IAmb		IAmb		11 25 33.9		
	comp=Z,39nm,1.1s									
P29M	**Windy Craggy**	**81.38**	**351**	P		**P**		**11 25 32.1**	**+0.4**	
	baz=15,SNR=9.0									
N19K	**Bonanza Creek**	**81.41**	**359**	IAmb		IAmb		11 25 34.0		
	comp=Z,50nm,1.4s									
N19K	**Bonanza Creek**	**81.41**	**359**	P		**P**		**11 25 32.3**	**+0.4**	
	baz=1.6,SNR=6.2									
M15K	**Kasigluk River**	**81.48**	**2**	P		**P**		**11 25 32.4**	**+0.3**	
	baz=357									
M11K	**Mekoryuk**	**81.53**	**5**	P		**P**		**11 25 32.8**	**+0.4**	
	baz=352									
PNL	**Peninsula**	**81.55**	**351**	P		**P**		**11 25 33.0**	**+0.4**	
	baz=14									
N18K	**Kilae Creek**	**81.56**	**360**	IAmb		IAmb		11 25 35.1		
	comp=Z,58nm,1.5s									
N18K	**Kilae Creek**	**81.56**	**360**	P		**P**		**11 25 33.4**	**+0.8**	
	baz=0.5,SNR=5.2									
O22K	**Cooper Landing**	**81.60**	**357**	P		**P**		**11 25 33.0**	**+0.3**	
	baz=5.4									
T47A	**Sharon Grove**	**81.63**	**311**	IAmb		IAmb		11 25 35.2		
	comp=Z,36nm,0.9s									
M13K	**Dall Lake**	**81.66**	**3**	P		**P**		**11 25 33.9**	**+0.8**	
	baz=355									
N17K	**Nushagak Hills**	**81.71**	**0**	IAmb		IAmb		11 25 35.9		
	comp=Z,58nm,1.6s									
N17K	**Nushagak Hills**	**81.71**	**0**	P		**P**		**11 25 34.2**	**+0.8**	
	baz=359									
W50A	**Signal Mountai**	**81.72**	**308**	IAmb		IAmb		11 25 36.4		
	comp=Z,38nm,1.0s									
N16K	**Nishlik Lake**	**81.75**	**1**	P		**P**		**11 25 34.2**	**+0.7**	
	baz=358,SNR=5.0									
Y52A	**Lilburn**	**81.81**	**307**	IAmb		IAmb		11 25 36.8		
	comp=Z,26nm,0.9s									
X51A	**Calhoun**	**81.85**	**308**	IAmb		IAmb		11 25 40.6		
	comp=Z,32nm,1.3s									
P23K	**Montague Islan**	**81.96**	**355**	P		**P**		**11 25 34.5**	**-0.2**	
	baz=7.2									
SEW	**Seward**	**81.96**	**356**	IAmb		IAmb		11 25 44.9		
	comp=Z,38nm,1.3s									
SEW	**Seward**	**81.96**	**356**	P		**P**		**11 25 35.0**	**+0.3**	
	baz=5.6									
S34M	**Telegraph Cree**	**82.00**	**347**	IAmb		IAmb		11 25 38.1		
	comp=Z,39nm,1.1s									
S34M	**Telegraph Cree**	**82.00**	**347**	P		**P**		**11 25 35.6**	**+0.7**	
	baz=3,SNR=14									
N15K	**Kwethluk River**	**82.03**	**2**	P		**P**		**11 25 34.8**	**-0.2**	
	baz=357									
O19K	**Port Alsworth**	**82.03**	**359**	IAmb		IAmb		11 25 36.3		
	comp=Z,50nm,1.5s									
O19K	**Port Alsworth**	**82.03**	**359**	P		**P**		**11 25 34.6**	**-0.4**	
	baz=1.7									
O20K	**Slope Mountain**	**82.11**	**358**	P		**P**		**11 25 34.8**	**-0.7**	
	baz=3.1									
JNU	**Nanue**	**82.12**	**54**	LR		LR		12 07 21.3		
	comp=Z,659nm,18.1s,baz=316,slow=40									
SDDR	**Presa de Saban**	**82.19**	**288**	IAmb		IAmb		11 25 40.1		
	comp=Z,31nm,1.0s									
JIS	**Juneau Island**	**82.20**	**348**	P		**P**		**11 25 37.7**	**+1.8**	
N14K	**Kuskokwak Cree**	**82.22**	**3**	P		**P**		**11 25 35.9**	**0.0**	
	baz=356									
R32K	**Eaglecrest**	**82.23**	**349**	IAmb		IAmb		11 25 39.0		
	comp=Z,37nm,1.2s									
R32K	**Eaglecrest**	**82.23**	**349**	P		**P**		**11 25 36.8**	**+0.6**	
	baz=17,SNR=8.0									
SKR	**Severo-Kuril's**	**82.26**	**28**	*eP*		P		11 25 31.5	-4.9	
SKR				*eS*		S		11 35 40.9	-10	
SKR				pmax		pmax				
	comp=Z,300nm,7.2s									
SKR				MLR		MLR				
	comp=Z,400nm,17.0s									
R31K	**City Hall, Gus**	**82.28**	**349**	P		**P**		**11 25 36.5**	**+0.2**	
	baz=16									
TPRI	**Tanjung Pinang**	**82.34**	**95**	P		**P**		**11 25 38.4**	**+1.0**	
PCRV	**Puerto La Cruz**	**82.38**	**277**	LR		LR		11 57 41.4		
	comp=Z,98nm,21.5s,slow=32									
O18K	**Koktuh Hills**	**82.38**	**359**	P		**P**		**11 25 36.9**	**0.0**	
	baz=1.0									
SIUC	**Southern Illin**	**82.39**	**312**	IAmb		IAmb		11 25 39.2		
	comp=Z,37nm,1.1s									
S44A	**Carbondale**	**82.42**	**312**	IAmb		IAmb		11 25 39.3		
	comp=Z,33nm,1.0s									
Q23K	**Middleton Isla**	**82.45**	**355**	P		**P**		**11 25 37.3**	**+0.1**	
	baz=8.1									
HOM	**Homer**	**82.50**	**358**	P		**P**		**11 25 37.0**	**-0.5**	
	baz=3.8									
N38A	**Joes South For**	**82.52**	**317**	IAmb		IAmb		11 25 39.5		
	comp=Z,42nm,1.2s									
P19K	**Oil Pt**	**82.55**	**358**	P		**P**		**11 25 36.9**	**-0.9**	
	baz=2.6									
O16K	**Kokwok River B**	**82.64**	**1**	P		**P**		**11 25 38.5**	**+0.3**	
	baz=359									
WVT	**Waverly**	**82.64**	**311**	P		**P**		**11 25 38.9**	**+0.2**	
WVT	**Waverly**	**82.64**	**311**	P		**P**		**11 25 38.9**	**+0.2**	
WVT				pmax		pmax				
	comp=Z,12nm,1.0s									
T35M	**Bob Quinn**	**82.71**	**346**	IAmb		IAmb		11 25 45.4		
	comp=Z,44nm,1.6s									
T35M	**Bob Quinn**	**82.71**	**346**	P		**P**		**11 25 38.8**	**+0.1**	
	baz=21,SNR=5.2									
S31K	**Pelican**	**82.79**	**349**	P		**P**		**11 25 39.3**	**+0.3**	
	baz=16									
P18K	**Big Mountain,**	**82.84**	**359**	P		**P**		**11 25 38.8**	**-0.6**	
	baz=1.0									
FVM	**French Village**	**82.90**	**313**	IAmb		IAmb		11 25 42.1		
	comp=Z,24nm,1.0s									
O14K	**Tigyukauivet M**	**82.91**	**2**	P		**P**		**11 25 39.5**	**-0.1**	
	baz=356									
CGM3	**Cape Girardeau**	**82.93**	**312**	IAmb		IAmb		11 25 41.9		
	comp=Z,29nm,1.1s									
S32K	**Killisnoo**	**83.01**	**348**	IAmb		IAmb		11 25 43.0		
	comp=Z,27nm,1.1s									
S32K	**Killisnoo**	**83.01**	**348**	P		**P**		**11 25 39.5**	**-0.7**	
	baz=17									
O15K	**Ungalikthiuk R**	**83.03**	**2**	P		**P**		**11 25 39.6**	**-0.6**	
	baz=357									
P17K	**Kvichak River**	**83.05**	**360**	P		**P**		**11 25 39.9**	**-0.4**	
	baz=0.0									
P16K	**Nushagak River**	**83.20**	**1**	P		**P**		**11 25 40.6**	**-0.5**	
	baz=359									
X48A	**Hartselle**	**83.28**	**309**	IAmb		IAmb		11 25 43.9		
	comp=Z,30nm,1.1s									
Q19K	**Cape Douglas,**	**83.29**	**359**	P		**P**		**11 25 41.1**	**-0.6**	
	baz=2.3									
Y49A	**Blount Mountai**	**83.29**	**308**	IAmb		IAmb		11 25 44.3		
	comp=Z,23nm,1.1s									
CCM	**Cathedral Cave**	**83.32**	**314**	P		**P**		**11 25 42.1**	**-0.1**	
CCM				IAmb		IAmb		11 25 44.0		
	comp=Z,17nm,0.9s									
CCM	**Cathedral Cave**	**83.32**	**314**	P		**P**		**11 25 42.1**	**-0.1**	
CCM				pmax		pmax				
	comp=Z,17nm,0.9s									
P38A	**Dawn**	**83.50**	**316**	IAmb		IAmb		11 25 45.0		
	comp=Z,15nm,0.8s									
SIT	**Sitka**	**83.52**	**349**	P		**P**		**11 25 42.0**	**-0.8**	
	baz=17									
Q20K	**Shuyak Island**	**83.58**	**358**	P		**P**		**11 25 42.8**	**-0.3**	
	baz=3.2									
Q18K	**Katmai Hardscr**	**83.59**	**359**	P		**P**		**11 25 42.8**	**-0.5**	
	baz=1.2									
WRAK	**Wrangell Islan**	**83.63**	**347**	IAmb		IAmb		11 25 46.1		
	comp=Z,26nm,1.1s									
WRAK	**Wrangell Islan**	**83.63**	**347**	P		**P**		**11 25 42.6**	**-0.8**	
	baz=19,SNR=5.9									
KSI	**Kapahiang**	**83.65**	**100**	P		**P**		**11 25 44.2**	**-0.1**	
PBMO	**Poplar Bluff**	**83.73**	**312**	IAmb		IAmb		11 25 45.5		
	comp=Z,38nm,1.6s									
R40A	**Maddies Statio**	**83.74**	**315**	IAmb		IAmb		11 25 46.4		
	comp=Z,23nm,0.9s									
BOAV	**Boa Vista**	**83.86**	**268**	P		**P**		**11 25 46.5**	**+1.3**	
BOAV	**Boa Vista**	**83.86**	**268**	*eP*		**P**		**11 25 45.7**	**+0.4**	
Q17K	**Contact Creek**	**83.98**	**360**	P		**P**		**11 25 44.7**	**-0.6**	
	baz=0.5									
U33K	**Whale Pass**	**84.06**	**347**	P		**P**		**11 25 44.8**	**-0.8**	
	baz=18									
ITTB	**Itaituba**	**84.27**	**260**	*eP*		**P**		**11 25 48.7**	**+1.4**	
MJB9	**Matsu-Tunnel**	**84.30**	**47**	P		**P**		**11 25 46.5**	**-0.7**	
MJB9				IAmb		IAmb		11 25 47.4		
	comp=Z,19nm,1.1s									
MAJO	**Matsushiro**	**84.30**	**47**	P		**P**		**11 25 46.4**	**-0.9**	
MAJO				IAmb		IAmb		11 25 47.4		
	comp=Z,20nm,1.1s									
MAJO	**Matsushiro**	**84.30**	**47**	P		**P**		**11 25 46.9**	**-0.4**	
MAJO	**Matsushiro**	**84.30**	**47**	*ceP*		**P**		**11 25 46.5**	**-0.8**	
MAJO				pmax		pmax				
	comp=Z,16nm,1.0s									
MJAR	**Matsushiro Arr**	**84.30**	**47**	P		**P**		**11 25 47.4**	**+0.1**	
MJAR	**Matsushiro Arr**	**84.30**	**47**	P		**P**		**11 25 45.8**	**-1.5**	
	comp=Z,15nm,1.0s,baz=318,slow=5.0,SNR=25									
MJAR				LR		LR		12 07 20.0		
	comp=Z,358nm,18.0s,baz=327,slow=38									
	comp=Z,15nm,1.0s									
MJAR	**Matsushiro Arr**	**84.30**	**47**	P		**P**		**11 25 47.4**	**+0.1**	
LAO	**LASA Array**	**84.35**	**328**	P		**P**		**11 25 48.4**	**+1.1**	
SPIA	**Saint Paul Isl**	**84.36**	**7**	P		**P**		**11 25 46.5**	**-0.5**	
	baz=349									
KDAK	**Kodiak Island**	**84.41**	**358**	LR		LR		12 03 37.7		
	comp=Z,236nm,21.4s,baz=6.3,slow=36									
KDAK	**Kodiak Island**	**84.41**	**358**	*eP*		**P**		**11 25 48.4**	**+1.1**	
KDAK				pmax		pmax				
	comp=Z,39nm,1.3s									
KDAK	**Kodiak Island**	**84.41**	**358**	P		**P**		**11 25 46.5**	**-0.8**	
	baz=3.1									
JOW	**Kunigami**	**84.45**	**60**	LR		LR		12 07 53.6		
	comp=Z,329nm,18.8s,baz=132,slow=39									
JGF	**Kuroka**	**84.45**	**49**	IAmb		IAmb		11 25 48.5		
	comp=Z,29nm,1.2s									
JGF	**Kuroka**	**84.45**	**49**	P		**P**		**11 25 48.0**	**-0.1**	
LHSI	**Lahat**	**84.48**	**99**	P		**P**		**11 25 47.5**	**-0.9**	
V35K	**Ketchikan**	**84.53**	**346**	P		**P**		**11 25 47.4**	**-0.5**	
	baz=19									
R17L	**Mt. Peulik Vol**	**84.62**	**360**	P		**P**		**11 25 47.9**	**-0.6**	
	baz=0.1									
LCAR	**Lake Charles**	**84.64**	**312**	P		**P**		**11 25 49.9**	**+0.9**	
LCAR				IAmb		IAmb		11 25 52.8		
	comp=Z,30nm,1.3s									
BGNE	**Belgrade**	**84.65**	**320**	P		**P**		**11 25 49.4**	**+0.4**	
R18K	**Karluk**	**84.67**	**359**	P		**P**		**11 25 47.9**	**-0.8**	
	baz=1.6									
CRAG	**Craig**	**84.67**	**347**	P		**P**		**11 25 48.2**	**-0.5**	
	baz=18									
Z47A	**Carrollton**	**84.75**	**308**	IAmb		IAmb		11 25 55.2		
	comp=Z,28nm,1.3s									
JMM	**Marumori**	**84.85**	**45**	IAmb		IAmb		11 25 49.3

LRM	Limekiln Ridge	87.56	331	P		P	11 26 04.4	+0.9
QUOK	Quay	87.73	316	P		P	11 26 04.4	+0.3
YHH	Holmes Hill	87.79	329	P		P	11 26 04.3	-0.4
B08A	Colville Reser	87.79	336	P		P	11 26 04.8	+0.5
SDV	Santo Domingo	87.84	280	LR		LR	12 01 31.8	
	comp=Z,79nm,20.7s,baz=61,slow=33							
YHL	Hebgen Lake	87.87	330	IAmb		IAmb	11 26 07.7	
	comp=Z,29nm,1.6s							
C09A	Chrisman Ranch	87.94	335	P		P	11 26 05.5	+0.5
DLMT	Dillon	88.00	331	IAmb		IAmb	11 26 14.2	
	comp=Z,32nm,1.5s							
H17A	Grant Village	88.00	329	IAmb		IAmb	11 26 09.5	
	comp=Z,42nm,1.9s							
UNV	Unalaska Valle	88.00	6	P		P	11 26 04.5	-0.6
	baz=352							
STKI	Sintang	88.33	91	P		P	11 26 08.0	+0.6
CLDB	Colider	88.39	255	eP		P	11 26 08.6	+1.0
ARAG	Araguaiana, MT	88.47	249	eP		P	11 26 09.1	+1.2
NIKH	Nikolski High	88.65	7	P		P	11 26 07.3	-0.9
	baz=350							
D08A	Wollman Farm,	88.80	335	IAmb		IAmb	11 26 12.5	
	comp=Z,28nm,1.6s							
BW06	Boulder Array	88.91	327	P		P	11 26 10.0	0.0
PD31	Pinedale Array	88.91	327	P		P	11 26 09.8	-0.2
PDAR	Pinedale Array	88.91	327	P		P	11 26 08.9	-1.1
PDAR	Pinedale Array	88.91	327	P		P	11 26 09.2	-0.7
	comp=Z,0.6nm,0.5s,baz=39,slow=5.7,SNR=12							
PDAR				LR		LR	12 07 06.5	
	comp=Z,272nm,18.1s,baz=25,slow=36							
	comp=Z,0.6nm,0.5s							
LEM	Lembang	89.53	99	LR		LR	12 11 47.0	
	comp=Z,162nm,18.5s,baz=320,slow=39							
PDRB	Porto dos Gac	89.56	255	eP		P	11 26 14.1	+1.0
GNW	Green Mountain	89.57	338	IAmb		IAmb	11 26 16.3	
	comp=Z,22nm,1.1s							
WMOK	Wichita Mounta	89.92	316	P		P	11 26 15.1	+0.5
WMOK	Wichita Mounta	89.92	316	P		P	11 26 15.1	+0.5
WMOK				pmax		pmax		
	comp=Z,15nm,1.0s							
BBJI	Bungbulang	89.94	99	P		P	11 26 14.5	-0.5
F07A	Phinny Hill Vi	90.16	335	P		P	11 26 15.5	+0.1
F07A				IAmb		IAmb	11 26 21.5	
	comp=Z,47nm,1.8s							
G08A	Pilot Rock	90.36	335	P		P	11 26 16.7	+0.1
O20A	White River Ci	90.47	325	P		P	11 26 17.5	+0.2
O20A				IAmb		IAmb	11 26 18.4	
	comp=Z,24nm,1.2s							
TEFE	Tefe	90.70	266	eP		P	11 26 19.0	+0.6
HWUT	Hardware Ranch	90.71	328	IAmb		IAmb	11 26 19.6	
	comp=Z,25nm,1.4s							
RTBA	Rita Blanca	90.74	319	IAmb		IAmb	11 26 19.5	
	comp=Z,27nm,1.7s							
MFID	Camas Ranch	90.88	332	IAmb		IAmb	11 26 21.6	
	comp=Z,24nm,1.4s							
PLPT	Palo Pinto	91.09	314	IAmb		IAmb	11 26 22.1	
	comp=Z,18nm,0.8s							
BSUT	Blindstream Ca	91.26	327	P		P	11 26 20.9	-0.2
BSUT				IAmb		IAmb	11 26 22.4	
	comp=Z,32nm,1.7s							
JLU	Jordanelle	91.50	327	IAmb		IAmb	11 26 23.5	
	comp=Z,18nm,1.4s							
I07A	Izee	91.61	334	IAmb		IAmb	11 26 24.9	
	comp=Z,22nm,1.5s							
APMT	Aspermont	91.72	316	IAmb		IAmb	11 26 24.7	
	comp=Z,17nm,1.2s							
S22A	4UR Ranch, Cre	91.74	323	P		P	11 26 23.4	0.0
HKT	Hockley	91.75	311⇑	eP		P	11 26 24.6	+1.6
HKT				pmax		pmax		
	comp=Z,15nm,1.2s							
HKT				MLR		MLR		
	comp=Z,527nm,16.0s							
J08A	Circle Bar Ran	91.89	333	P		P	11 26 23.6	-0.1
ABTX	Abilene, Hawle	91.98	315	IAmb		IAmb	11 26 26.2	
	comp=Z,16nm,0.8s							
PV15	Paradox Valley	92.03	324	IAmb		IAmb	11 26 25.9	
	comp=Z,25nm,1.2s							
PV01	Paradox Valley	92.24	324	IAmb		IAmb	11 26 27.0	
	comp=Z,16nm,1.1s							
PV14	Lion Creek, Pa	92.26	325	P		P	11 26 25.7	+0.1
PV14				IAmb		IAmb	11 26 27.1	
	comp=Z,30nm,1.4s							
SRU	San Rafael Swe	92.33	326	IAmb		IAmb	11 26 26.7	
	comp=Z,23nm,1.6s							
PV13	Radium Mtn., P	92.34	324	IAmb		IAmb	11 26 27.4	
	comp=Z,22nm,1.3s							
PINE	Pine Mountain	92.35	335	IAmb		IAmb	11 26 29.5	
	comp=Z,25nm,1.2s							
WVOR	Wild Horse Val	92.75	333	P		P	11 26 27.9	+0.2
WVOR				IAmb		IAmb	11 26 29.6	
	comp=Z,17nm,1.4s							
WVOR	Wild Horse Val	92.75	333	P		P	11 26 27.9	+0.2
WVOR				pmax		pmax		
	comp=Z,17nm,1.4s							
Q16A	Castle Valley	92.77	326	P		P	11 26 28.0	+0.1
Q16A				IAmb		IAmb	11 26 29.2	
	comp=Z,19nm,1.6s							
ELK	Elko	92.93	330	P		P	11 26 29.4	+0.6
	comp=Z,0.9nm,0.8s,baz=66,slow=3.1,SNR=8.4							
ELK				LR		LR	12 11 16.4	
	comp=Z,337nm,18.4s,baz=34,slow=38							
	comp=Z,0.9nm,0.8s							
ROSC	El Rosal	93.21	279	LR		LR	12 04 42.2	
	comp=Z,214nm,21.7s,baz=35,slow=33							
BBOR	Butler Butte	93.73	336	IAmb		IAmb	11 26 34.8	
	comp=Z,19nm,1.2s							
ANMO	Albuquerque	93.78	321	P		P	11 26 33.5	+0.8
	comp=Z,1.4nm,0.8s,baz=191,slow=4.5,SNR=4.6							
ANMO				LR		LR	12 10 25.0	
	comp=Z,477nm,18.6s,baz=132,slow=37							
	comp=Z,1.4nm,0.8s							
ANMO	Albuquerque	93.78	321⇑	eP		P	11 26 33.1	+0.4
ANMO				pmax		pmax		
	comp=Z,12nm,3.2s							
ANMO				MLR		MLR		
	comp=Z,502nm,18.0s							
OZNA	Ozona	94.09	315	IAmb		IAmb	11 26 36.1	
	comp=Z,13nm,1.0s							
Y22D	IRIS PASSCAL I	94.71	321	P		P	11 26 35.9	-1.0
	baz=37							
YBH	Yreka Blue Hor	94.78	335	LR		LR	12 12 05.8	
	comp=Z,21nm,18.1s,baz=34,slow=37							
DRIO	Del Rio	94.93	314	IAmb		IAmb	11 26 43.0	
	comp=Z,28nm,1.5s							
DAV	Davao City (W)	95.06	77	LR		LR	12 15 27.3	
	comp=Z,134nm,18.4s,baz=334,slow=39							
PECS	Pecos	95.25	317	IAmb		IAmb	11 26 44.9	
	comp=Z,34nm,1.9s							
SAND	Sanderson	95.38	315	IAmb		IAmb	11 26 45.5	
	comp=Z,20nm,1.7s							
SIV	San Ignacio	95.57	254	LR		LR	12 11 26.3	
	comp=Z,465nm,19.3s,baz=82,slow=36							
MNTX	Cornudas Mount	95.80	318	P		P	11 26 41.3	-0.4
ALPN	Alpine	95.89	316	P		P	11 26 42.0	-0.4
NVAR	Mina Array Bea	96.12	331	P		P	11 26 44.1	+0.8
	comp=Z,0.2nm,0.4s,baz=37,slow=3.7,SNR=4.9							
NVAR				LR		LR	12 10 53.7	
	comp=Z,621nm,21.1s,baz=33,slow=36							
	comp=Z,0.2nm,0.4s							
LHV	Little Huntoon	96.36	331	IAmb		IAmb	11 26 47.3	
	comp=Z,23nm,1.4s							
TXAR	Lajitas Array	96.71	316	P		P	11 26 46.2	+0.1
TXAR	Lajitas Array	96.71	316	P		P	11 26 45.8	-0.2
	comp=Z,2.0nm,0.9s,baz=50,slow=3.9,SNR=13							
TXAR				LR		LR	12 11 06.9	
	comp=Z,132nm,18.3s,baz=36,slow=36							
	comp=Z,2.0nm,0.9s							
TXAR	Lajitas Array	96.71	316	P		P	11 26 46.2	+0.1
TX31	Lajitas Ar. Si	96.71	316	P		P	11 26 45.8	-0.2
BOAB	BOACO BROADBAND	97.00	292	P		P	11 26 47.3	0.0
V12A	Nelson	97.04	327	P		P	11 26 47.0	-0.4
JTS	Las Juntas de	97.88	290	LR		LR	12 06 20.3	
	comp=Z,190nm,21.7s,baz=32,slow=32							
CPUP	Villa Florida	99.14	244	LR		LR	12 13 40.7	
	comp=Z,162nm,18.9s,baz=271,slow=36							
PMD	Palm Desert	99.47	327	P		Pdif	11 26 57.8	-0.4
PFO	Pinyon Flats O	99.53	327	LR		LR	12 13 59.8	
	comp=Z,323nm,18.5s,baz=27,slow=37							
WRA	Warramunga Arr	118.16	94	PKP		PKPdf	11 32 01.6	-1.1
	comp=Z,0.5nm,0.7s,baz=301,slow=2.2,SNR=6.1							
WRA				PP		PP	11 33 17.9	-0.3
	comp=Z,2.6nm,1.1s,baz=309,slow=6.6,SNR=5.9							
ASAR	Alice Springs	119.80	98	PKP		PKPdf	11 32 04.3	-1.5
	comp=Z,2.5nm,0.8s,baz=323,slow=2.2,SNR=17							
ASAR				PP		PP	11 33 30.1	+0.5
	comp=Z,1.7nm,1.0s,baz=314,slow=5.8,SNR=4.4							
ASAR				PKKPbc		PKKPab	11 42 15.6	-0.9
	comp=Z,0.4nm,0.7s,baz=123,slow=4.3,SNR=4.8							

BELA	Belgrano 2	120.85	192	PKPdf		PKPdf	11 32 06.0	-0.1
QSPA	South Pole Qui	127.97	180	PKPdf		PKiKP	11 32 20.5	-0.2
QSPA	South Pole Qui	127.97	180	PKP		PKPdf	11 32 19.8	-0.3
	comp=Z,5.7nm,1.1s,baz=257,slow=3.0,SNR=4.7							
STKA	Stephens Creek	129.69	103	PKP		PKPdf	11 32 24.1	-0.4
	comp=Z,2.4nm,0.8s,baz=360,slow=8.5,SNR=3.0							
DZM	Mont Dzumac	144.41	74	eLR		LR	12 20 04.3	
	comp=Z,270nm,26.6s							
ONTNC	Quen Toro	144.56	74	PKPdf		PKPbc	11 32 51.2	+0.6
PINNC	Pines Island,	145.48	74	PKPdf		PKPdf	11 32 53.5	-0.1
PPT2	Papeete2	158.68	342	eLR		LR	12 26 38.6	
	comp=Z,249nm,23.0s							
PPT2				eLR		LR	12 26 47.5	
	comp=Z,294nm,25.8s							
TBI	Tubuai	164.11	336	eLR		LR	12 29 11.3	
	comp=Z,1μm,24.0s							

ASRS ***19*** *11:17:41.0±0.2,53.70N×91.10E,h0km,M3.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC ***19*** *11:17:45.8±4.3,53.69N×90.81E,h0km,mbtmp3.4/3, ML2.9/3,Error ellipse: s-maj=45.2km s-min=26.4km az=44.0*

ISC 19 11:17:48.4±4.1,53.7N±0.2×90.5E±0.2,h0km,n6,σ0s90/6, 2C,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.36	277	I		I	11 39 10.0	
	0.1nm,2.3s,baz=90,slow=317,SNR=7.2							
ZAA0	Zalesovo Array	3.36	277	⇑Pn		Pb	11 18 47.8	-0.9
	1.6nm,0.7s,baz=98,slow=15							
ZAA0				⇑Sn		Sg	11 19 36.7	+0.5
	9.2nm,0.8s,baz=99,slow=26							
ZALV	Zalesovo Beam	3.36	277	Pn		Pn	11 18 43.0	+0.9
	1.3nm,0.3s,baz=94,slow=11,SNR=11							
ZALV				Lg		Lg	11 19 37.7	
	2.2nm,0.3s,baz=95,slow=31,SNR=3.7							
	3.2nm,0.6s							
KURBB	Kurchatov Arra	7.95	252	Pn		Pn	11 19 44.8	-0.3
	0.3nm,0.3s,baz=67,slow=15,SNR=12							
KURBB				Lg		Lg	11 22 08.2	
	0.2nm,0.3s,baz=70,slow=33,SNR=6.1							
	2.9nm,0.5s							
MK31	Makanchi Array	8.65	221	P		Pn	11 19 55.2	+0.6
	1.3nm,0.7s,baz=38,slow=13,SNR=7.8							
MKAR	Makanchi Array	8.65	221	Pn		Pn	11 19 55.1	+0.4
	0.3nm,0.3s,baz=42,slow=15,SNR=12							
	0.8nm,0.5s							

TIF ***19*** *11:20:01.5,40.50N×41.76E,h3km±1km*
AFAD ***19*** *11:20:01.7,40.43N×41.78E,h9km±1km,MW3.8*
ISK ***19*** *11:20:01.3,40.47N×41.75E,h7km,ML2.9/14*

ISC 19 11:20:01.6±1.1,40.48N±0.02×41.76E±0.02,h2km±10km, n42,σ0s99/69,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DDEM	Demirkent	0.42	359	P		Pb	11 20 10.8	-0.9
DDEM				S		Sb	11 20 18.0	-0.5
DDEM				*i* IAML			11 20 19.0	
	comp=E,5μm,0.3s							
DDEM				*i* IAML			11 20 21.0	
	comp=N,6μm,0.3s							
HOMI	Horasan	0.44	166	P		Pg	11 20 09.5	-0.6
HOMI				S		Sg	11 20 15.9	0.0
HOMI				*i* IAML			11 20 19.0	
	comp=E,2μm,0.3s							
HOMI				*i* IAML			11 20 20.0	
	comp=N,3μm,0.3s							
SENK	Senkaya-Erzuru	0.46	79	Pg		Pg	11 20 10.9	+0.6
SENK				Sg		Sb	11 20 18.3	-1.5
KOPR	Koprukoy-ERZUR	0.49	172	Pg		Pg	11 20 10.9	0.0
KOPR				Sg		Sg	11 20 18.1	+0.8
DAGI	Agillar	0.61	11	P		Pg	11 20 14.2	+0.8
DAGI				*i* IAML			11 20 23.0	
	comp=E,643nm,0.4s							
DAGI				S		Sb	11 20 23.7	-0.5
DAGI				*i* IAML			11 20 24.0	
	comp=N,483nm,0.2s							
ERZM	Erzurum	0.65	208	P		Pg	11 20 14.3	+0.3
ERZM				S		Sb	11 20 25.5	+0.2
KRIK	Erzurum-spir	0.65	258	P		Pb	11 20 15.1	-0.7
KRIK				S		Sb	11 20 25.3	-0.1
KRIK				*i* IAML			11 20 26.0	
	comp=N,330nm,0.4s							
KRIK				*i* IAML			11 20 30.0	
	comp=E,190nm,0.4s							
GOLE	Ardahan-G¶le	0.73	60	P		Pg	11 20 16.2	+0.7
GOLE				S		Sb	11 20 27.3	-0.4
GOLE				*i* IAML			11 20 28.0	
	comp=N,1μm,0.2s							
GOLE				*i* IAML			11 20 30.0	
	comp=E,599nm,0.5s							
DBOC	Borcka	0.87	355	P		Pg	11 20 18.6	+0.3
DBOC				S		Sg	11 20 30.4	+0.9
DBOC				*i* IAML			11 20 33.0	
	comp=E,324nm,0.3s							
DBOC				*i* IAML			11 20 58.0	
	comp=N,1.0nm,0.4s							
BOZK	Kars-Merkez-Bo	0.93	83	P		Pg	11 20 19.3	-0.2
BOZK				S		Sn	11 20 34.9	-1.0
BOZK				*i* IAML			11 20 36.0	
	comp=E,117nm,0.6s							
BOZK				*i* IAML			11 20 37.0	
	comp=N,132nm,0.7s							
HOPA	Hopa-Artvin	0.94	345	Pg		Pg	11 20 19.4	-0.2
HOPA				Sg		Sb	11 20 33.3	-0.2
AHAN	Ardahan-Merkez	0.95	43	P		Pg	11 20 20.1	+0.4
AHAN				S		Sb	11 20 34.3	+0.4
AHAN				*i* IAML			11 20 37.0	
	comp=N,366nm,0.4s							
AHAN				*i* IAML			11 20 38.0	
	comp=E,358nm,0.3s							
IZDR	Rize	0.96	289	P		Pg	11 20 20.2	+0.2
IZDR				S		Sb	11 20 33.6	-0.6
IZDR				*i* IAML			11 20 34.0	
	comp=N,364nm,0.3s							
IZDR				*i* IAML			11 20 35.0	
	comp=E,422nm,0.3s							
CHOM	Cayeli-Rize	0.98	310	Pg		Pb	11 20 20.7	-0.6
CHOM				Sg		Sb	11 20 34.5	-0.2
KARS	Kars	1.01	81	Pg		Pb	11 20 21.6	-0.3
ECAT	Cat-ERZURUM	1.06	215	P		Pg	11 20 21.3	-0.5
ECAT				S		Sn	11 20 40.5	+1.5
ECAT				*i* IAML			11 20 45.0	
	comp=N,279nm,0.5s							
ECAT				*i* IAML			11 20 45.0	
	comp=E,335nm,0.7s							
KOPT	Kop Dagi	1.07	245	P		Pn	11 20 22.9	-0.9
KOPT				S		Sn	11 20 41.8	+2.4
KOPT				*i* IAML			11 20 48.0	
	comp=N,437nm,0.6s							
KOPT				*i* IAML			11 20 48.0	
	comp=E,367nm,0.7s							
BATM	Batumi	1.13	357	P		Pg	11 20 22.9	-0.3
BATM				S		Sb	11 20 38.9	0.0
BAYB	BAYBURT	1.17	260	P		Pb	11 20 24.0	-0.6
BAYB				S		Sn	11 20 40.7	-1.0
BAYB				*i* IAML			11 20 42.0	
	comp=E,215nm,0.4s							
BAYB				*i* IAML			11 20 50.0	
	comp=N,235nm,0.5s							
EPOS	Posof	1.26	35	P		Pg	11 20 26.1	+0.3
EPOS				S		Sn	11 20 43.6	-0.3
EPOS				*i* IAML			11 20 51.0	
	comp=E,109nm,0.4s							
EPOS				*i* IAML			11 20 58.0	
	comp=N,190nm,0.6s							
KOTA	Agri, Merkez-K	1.29	121	P		Pn	11 20 25.3	-1.5
KOTA				S		Sn	11 20 45.6	+0.8
KOTA				*i* IAML			11 20 50.0	
	comp=N,58nm,1.3s							
KOTA				*i* IAML			11 20 50.0	
	comp=E,49nm,0.6s							
AGRB	Hanur-Agry	1.30	133	Pn		Pn	11 20 25.7	-1.2
VRTB	Varto-Mus	1.33	190	Pn		Pb	11 20 26.7	-0.7
VRTB	Varto-Mus	1.33	190	P		Pg	11 20 27.8	+0.7
VRTB				S		Sn	11 20 50.2	+4.5
VRTB				*i* IAML			11 20 56.0	
	comp=N,311nm,1.2s							
VRTB				*i* IAML			11 20 58.0	
	comp=E,159nm,0.7s							

DORK	Agr/Tutak/Do	1.34	144	P		Pn	11 20 25.8	-1.7
DORK				S		Sn	11 20 47.0	+1.1
DORK				*i* IAML			11 20 49.0	
	comp=N,127nm,0.7s							
DORK				*i* IAML			11 20 52.0	
	comp=E,69nm,0.7s							
YEDI	Yedisu-Bingol	1.40	222	Pn		Pn	11 20 27.5	-0.7
EAK	Akyaka	1.42	81	P		Pn	11 20 27.9	-0.6
EAK				*i* IAML			11 20 51.0	
	comp=E,83nm,0.6s							
EAK				*i* IAML			11 21 10.0	
	comp=N,72nm,0.6s							
MACK	Trabzon	1.59	288	P		Pg	11 20 31.8	-0.2
MACK				S		Sg	11 20 53.8	+1.3
MACK				*i* IAML			11 20 55.0	
	comp=N,792nm,0.3s							
MACK				*i* IAML			11 20 55.0	
	comp=E,613nm,0.3s							
BGD	Bogdanovka	1.60	60	P		Pg	11 20 32.2	0.0
KTUT	Trabzon	1.60	289	Pn		Pn	11 20 30.5	-0.3
AKH	Akhalkalaki	1.61	54	P		Pg	11 20 32.5	+0.1
AKH				S		Sg	11 20 55.0	+1.7
MUSM	Mu-Merkez	1.76	186	P		Pb	11 20 33.4	-1.3
MUSM				S		Sg	11 20 57.8	-0.3
MUSM				*i* IAML			11 21 20.0	
	comp=N,40nm,2.8s							
MUSM				*i* IAML			11 21 36.0	
	comp=E,27nm,3.2s							
GURO	Guroymak-BITLI	1.93	174	Pn		Pn	11 20 35.4	-0.2
KELT	Kelkit	1.94	261	P		Pb	11 20 37.9	+0.1
KELT				S		Sg	11 21 04.6	+0.6
KELT				*i* IAML			11 21 07.0	
	comp=N,49nm,0.5s							
KELT				*i* IAML			11 21 38.0	
	comp=E,25nm,1.2s							
TASB	TASBURUN-IGDIR	1.96	104	Pn		Pn	11 20 35.9	+0.1
TRLG	Trialeti	2.06	58	P		Pg	11 20 41.1	-0.1
TKB	Tkibuli	2.09	26	P		Pb	11 20 39.7	-0.5
TKB				S		Sg	11 21 08.8	+0.1
CLDR	Caldiran	2.13	128	Pn		Pn	11 20 38.3	0.0
AKDM	Akdamar-Van	2.34	156	Pn		Pn	11 20 41.2	0.0
ESPY	Espiye-Giresun	2.35	282	Pn		Pb	11 20 42.4	-2.2
SVAN	Silvan-Diyarba	2.36	191	Pn		Pn	11 20 41.3	-0.1
GARIG	Gari	2.48	31	P		Pb	11 20 47.4	+0.5

ATH ***19*** *11:29:21.7,38.13N×23.57E,h11km±1km,ML3.3/29, Manual Solution by N.Liadopoulou First location: 2019/07/19 11:30:15, This location: 2020/07/03 05:46:19 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*

THE ***19*** *11:29:22.1,38.1N±0.9×23.6E±0.6,h6km±1km,M3.0/16, mLh3.0/16*

IDC ***19*** *11:29:22.4±4.8,38.73N×23.44E,h0km,mb3.4/3, mbtmp3.3/4,ML2.5/1,Error ellipse: s-maj=190.5km s-min=27.7km az=175.0*

ISC 19 11:29:21.8±0.8,38.13N±0.02×23.56E±0.02,h11km±5km, n75,σ0s62/99,mb3.4/3,Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ELFA	Athens-Elefsin	0.09	193	P		Pg	11 29 23.9	-0.4
ELFA				S		Sg	11 29 25.6	-0.7
ACHAR	Athens-Acharne	0.15	111	P		Pg	11 29 25.3	0.0
ACHAR				S		Sg	11 29 27.9	+0.2
NOAC	Athens-Thissio	0.20	142	P		Pg	11 29 26.2	+0.2
ATH	Athens Observa	0.20	142	P		Pg	11 29 26.0	-0.1
ATH				S		Sg	11 29 28.8	-0.1
ATH	Athens Observa	0.20	142	P		Pg	11 29 26.0	-0.1
VILL	Villia	0.20	280	P		Pg	11 29 26.3	+0.1
VILL				S		Sg	11 29 29.2	0.0
ATHP	Athens-Neo Psi	0.21	127	P		Pg	11 29 26.4	+0.1
ATHU	Athens Univers	0.24	133	P		Pg	11 29 26.7	-0.1
ATHU				S		Sg	11 29 29.9	-0.2
VIL2	Platees	0.25	290	P		Pg	11 29 26.2	-0.8
VIL2				S		Sg	11 29 29.2	-1.3
PTL	Penteli	0.25	108	P		Pg	11 29 27.1	+0.1
PTL				S		Sg	11 29 30.6	+0.1
PTL	Penteli	0.25	108	P		Pg	11 29 26.9	-0.1
DION	Dionisos Attik	0.29	100	P		Pg	11 29 28.0	+0.2
DION				S		Sg	11 29 31.8	-0.1
DION	Dionisos Attik	0.29	100	P		Pg	11 29 27.7	-0.1
DION				S		Sg	11 29 31.3	-0.6
LTK	Loutraki	0.48	258	P		Pg	11 29 31.4	+0.1
LTK				S		Sg	11 29 37.9	+0.2
LTK	Loutraki	0.48	258	P		Pg	11 29 31.4	+0.1
LTK				S		Sg	11 29 37.6	-0.1
LOUT	Loutraki	0.49	253	P		Pg	11 29 31.1	-0.3
LOUT				S		Sg	11 29 37.6	-0.2
MET4	Agioi Theodoro	0.52	195	P		Pg	11 29 31.4	-0.6
MET4				S		Sg	11 29 39.1	+0.2
MET5	Makryloggos,Me	0.53	198	P		Pg	11 29 31.8	-0.4
MET5				S		Sg	11 29 38.9	-0.4
MET6	Megalochori,Me	0.56	197	P		Pg	11 29 31.9	-0.9
LVRA	Laurium	0.57	137	P		Pg	11 29 32.5	-0.4
LVRA				S		Sg	11 29 39.3	-1.1
KIAA	Kiato	0.65	260	P		Pg	11 29 34.1	-0.4
KYMI	Kymi, Euboea I	0.66	40	P		Pg	11 29 34.5	-0.1
KYMI				S		Sb	11 29 44.4	-0.1
KYMI	Kymi, Euboea I	0.66	40	P		Pg	11 29 34.3	-0.3
LKR	Lokris	0.69	320	P		Pg	11 29 34.6	-0.5
KARY	Karystos	0.70	98	P		Pg	11 29 35.1	-0.2
KARY				S		Sg	11 29 44.3	-0.1
KARY	Karystos	0.70	98	P		Pg	11 29 34.9	-0.4
YDRA	Hydra	0.78	186	P		Pg	11 29 36.0	-0.9
AIDA	Aidipsos	0.83	331	P		Pg	11 29 37.3	-0.5
DLFA	Delphi	0.91	293	P		Pg	11 29 39.2	-0.2
AXAR	Agios Charalam	0.95	312	P		Pg	11 29 39.6	-0.6
AXAR				S		Sg	11 29 53.0	+0.3
AXAR	Agios Charalam	0.95	312	P		Pg	11 29 39.5	-0.8
GUR	Goura	0.98

ESDC	Sonseca Array	21.45	283	P		P		11 34 09.7	-0.4
	0.3nm,0.6s,baz=74,slow=10,SNR=5.4								
	0.3nm,0.6s								
KURBB	Kurchatov Arra	40.33	54	P		P		11 36 59.2	+0.1
	0.4nm,0.5s,baz=280,slow=8.4,SNR=2.4								
	0.4nm,0.5s								
MKAR	Makanchi Array	43.28	59	P		P		11 37 24.0	+0.7
	0.7nm,0.5s,baz=279,slow=8.4,SNR=7.1								
	0.7nm,0.5s								

NEIC ***19*** *11:37:43.5±1.4, 18.6°N±0.2°×68.6°W±0.06, h144km±10km, ML2.8/8, Md2.7/3(RSPR), Error ellipse: s-maj=25.9km s-min=7.3km az=188.0*
RSPR ***19*** *11:37:44.7, 18.58°N×68.67°W, h136km±1km, MD2.7/3*
SDD ***19*** *11:37:44.3±0.8, 18.39°N×68.76°W, h153km±7km, MD2.8, ML2.6, MW2.5*

ISC 19 11:37:42.6±2.4, **18.5N**±0.2°×**68.70W**±0.06°, **h151**km±16km, **n17**, σ0**80**/24, **2C-1D**, **Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SADR	**Isla Saona**	**0.30**	**194**	*e*P	g	**Pn**	**11 38 03.8**	**+0.5**
SADR				e	Sg	**Sn**	**11 38 18.4**	**-0.7**
SADR				IAML			11 38 54.4	
	comp=N,113nm,1.6s							
MIDR	**Miches**	**0.59**	**326**	*e*P	g	**Pn**	**11 38 05.7**	**+1.1**
MIDR				e	Sg	**Sn**	**11 38 21.7**	**+0.3**
MIDR				IAML			11 39 06.1	
	comp=N,20nm,1.4s							
DR12	**Loma Pena Alta**	**0.71**	**295**	Pn		**Pn**	**11 38 05.7**	**+0.4**
DR12				Sn		**Sn**	**11 38 21.4**	**-1.3**
HATOM	**Hato Mayor del**	**0.71**	**295**	*e*P	g	**Pn**	**11 38 05.6**	**+0.3**
HATOM				e	Sg	**Sn**	**11 38 21.5**	**-1.1**
HATOM				IAML			11 38 31.6	
	comp=N,24nm,1.6s							
IDE	**Isla Desecheo**	**1.17**	**95**			**Pn**	**11 38 09.8**	**+0.8**
IDE						**Sn**	**11 38 28.5**	**-0.7**
IDE	**Isla Desecheo**	**1.17**	**95**	i	eP	**Pn**	**11 38 09.8**	**+0.8**
IDE	**Isla Desecheo**	**1.17**	**95**	e	S	**Sn**	**11 38 28.5**	**-0.7**
DR08	**Loma La Naviza**	**1.34**	**291**	*e*Pg		**Pn**	**11 38 11.3**	**+0.6**
DR08				e	Sg	**Sn**	**11 38 31.2**	**-0.9**
DR08				IAML			11 38 35.9	
	comp=N,403nm,0.1s							
BANI	**BANI**	**1.57**	**267**	Pn		**Pn**	**11 38 13.8**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.59**	**107**			**Pn**	**11 38 13.7**	**+0.5**
CRPR						**Sn**	**11 38 36.5**	**-0.1**
CRPR				IAML			11 38 37.8	
	comp=N,33nm,2.0s							
CRPR	**Cabo Rojo, PR**	**1.59**	**107**	i	eP	**Pn**	**11 38 13.9**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.59**	**107**	e	S	**Sn**	**11 38 36.8**	**+0.3**
UUPR	**Utuado, UPR, P**	**1.90**	**97**	Pn		**Pn**	**11 38 16.1**	**-0.6**
UUPR				IAML			11 38 46.1	
	comp=E,70nm,0.3s							
UUPR				IAML			11 38 50.9	
	comp=N,144nm,0.4s							
OBIP	**Obispado Ponce**	**2.04**	**102**	Pn		**Pn**	**11 38 17.6**	**-0.7**
OBIP				IAML			11 39 24.4	
	comp=N,28nm,2.6s							
EMPR	**Esperanza - Ma**	**2.06**	**90**	Pn		**Pn**	**11 38 17.4**	**-1.1**
ECPR	**Experimental S**	**2.23**	**94**	i	eP	**Pn**	**11 38 21.5**	**+1.0**
ECPR	**Experimental S**	**2.23**	**94**	e	S	**Sn**	**11 38 50.0**	**+0.3**

AFAD ***19*** *11:42:17.7, 38.21°N×23.78°E, h7km±6km, MW4.0*
ATH ***19*** *11:42:19.4, 38.13°N×23.52°E, h16km, ML3.5/42, Manual Solution by E.Daskalaki First location: 2019/07/19 11:43:08, This location: 2019/07/19 12:30:22 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
IDC ***19*** *11:42:19.2±1.1, 38.27°N×23.66°E, h0km, mb3.9/7, mbtmp3.9/8, Error ellipse: s-maj=31.2km s-min=18.4km az=145.0*
NEIC ***19*** *11:42:19.2±1.4, 38.14°N±0.05°×23.59°E±0.07, h10km±1km, mb4.3/8, Error ellipse: s-maj=9.6km s-min=7.1km az=129.0*
THE ***19*** *11:42:19.8, 38.1°N±0.9°×23.5°E±0.5, h11km±1km, M3.6/16, MLh3.6/16*
NAO ***19*** *11:42:36.2, 39.58°N×21.80°E, h10km, mb3.8*

ISC 19 11:42:19.5±0.7, **38.13N**±0.02°×**23.53E**±0.01, **h11**km±5km, **n136**, σ1**03**/173, **mb4.0**/10, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ELFA	**Athens-Elefsin**	**0.09**	**174**	P		**Pg**	**11 42 22.0**	**0.0**
ELFA				S		**Sg**	**11 42 23.9**	**0.0**
VILL	**Villia**	**0.17**	**280**	P		**Pg**	**11 42 23.6**	**+0.2**
VILL				S		**Sg**	**11 42 26.4**	**+0.3**
ACHAR	**Athens-Acharne**	**0.18**	**109**	P		**Pg**	**11 42 24.2**	**+0.8**
ACHAR				S		**Sg**	**11 42 27.2**	**+1.1**
NOAC	**Athens-Thissio**	**0.22**	**137**	P		**Pg**	**11 42 24.5**	**+0.4**
NOAC				S		**Sg**	**11 42 28.0**	**+0.8**
ATH	**Athens Observa**	**0.22**	**137**	P		**Pg**	**11 42 24.6**	**+0.5**
ATH				S		**Sg**	**11 42 27.9**	**+0.7**
ATH	**Athens Observa**	**0.22**	**137**	P		**Pg**	**11 42 24.5**	**+0.4**
ATH				S		**Sg**	**11 42 28.0**	**+0.8**
VIL2	**Platees**	**0.22**	**291**	P		**Pg**	**11 42 23.7**	**-0.4**
VIL2				S		**Sg**	**11 42 26.4**	**-1.0**
ATHP	**Athens-Neo Psi**	**0.23**	**124**	P		**Pg**	**11 42 24.8**	**+0.4**
ATHP				S		**Sg**	**11 42 28.4**	**+0.7**
ATHU	**Athens Univers**	**0.26**	**129**	P		**Pg**	**11 42 25.3**	**+0.4**
ATHU				S		**Sg**	**11 42 28.9**	**+0.4**
ATHU	**Athens Univers**	**0.26**	**129**	P		**Pg**	**11 42 25.2**	**+0.3**
ATHU				S		**Sg**	**11 42 29.0**	**+0.5**
PTL	**Penteli**	**0.28**	**108**	P		**Pg**	**11 42 25.8**	**+0.6**
PTL				S		**Sg**	**11 42 29.6**	**+0.6**
PTL	**Penteli**	**0.28**	**108**	P		**Pg**	**11 42 25.6**	**+0.4**
PTL				S		**Sg**	**11 42 29.4**	**+0.4**
DION	**Dionisos Attik**	**0.32**	**100**	P		**Pb**	**11 42 26.6**	**-0.7**
DION				S		**Sb**	**11 42 30.9**	**-1.6**
DION	**Dionisos Attik**	**0.32**	**100**	P		**Pb**	**11 42 26.5**	**-0.9**
DION				S		**Sb**	**11 42 31.0**	**-1.6**
LTK	**Loutraki**	**0.46**	**256**	P		**Pg**	**11 42 28.4**	**-0.1**
LTK				S		**Sg**	**11 42 34.9**	**+0.3**
LTK	**Loutraki**	**0.46**	**256**	P		**Pg**	**11 42 28.4**	**-0.1**
LTK				S		**Sg**	**11 42 34.8**	**+0.3**
LOUT	**Loutraki**	**0.46**	**252**	P		**Pg**	**11 42 28.4**	**-0.1**
LOUT				S		**Sg**	**11 42 34.8**	**+0.2**
MET4	**Agioi Theodoro**	**0.52**	**191**	P		**Pg**	**11 42 29.5**	**-0.1**
MET4				S		**Sg**	**11 42 37.4**	**+0.9**
MET5	**Makryloggos,Me**	**0.53**	**195**	P		**Pg**	**11 42 29.7**	**-0.1**
MET5				S		**Sb**	**11 42 37.8**	**-0.6**
MET6	**Megalochori,Me**	**0.56**	**194**	P		**Pg**	**11 42 30.2**	**-0.2**
MET6				S		**Sb**	**11 42 38.8**	**-0.4**
LVRA	**Laurium**	**0.59**	**135**	P		**Pb**	**11 42 31.0**	**-0.8**
LVRA				S		**Sb**	**11 42 38.5**	**-1.7**
LKR	**Lokris**	**0.66**	**321**	P		**Pg**	**11 42 31.9**	**-0.4**
LKR	**Lokris**	**0.66**	**321**	P		**Pg**	**11 42 32.0**	**-0.4**
LKR				S		**Sg**	**11 42 41.9**	**+0.8**
KYMI	**Kymi, Euboea I**	**0.67**	**42**	P		**Pb**	**11 42 32.8**	**-0.5**
KYMI				S		**Sb**	**11 42 42.6**	**+0.1**
KYMI	**Kymi, Euboea I**	**0.67**	**42**	P		**Pb**	**11 42 32.8**	**-0.5**
KYMI				S		**Sb**	**11 42 42.5**	**-0.1**
KARY	**Karystos**	**0.72**	**98**	P		**Pb**	**11 42 33.8**	**-0.3**
KARY	**Karystos**	**0.72**	**98**	P		**Pb**	**11 42 33.7**	**-0.4**
KARY				S		**Sb**	**11 42 43.0**	**-1.1**
YDRA	**Hydra**	**0.78**	**184**	P		**Pg**	**11 42 34.3**	**-0.3**
AIDA	**Aidipsos**	**0.81**	**333**	P		**Pg**	**11 42 34.9**	**-0.3**
DLFA	**Delphi**	**0.88**	**293**	P		**Pg**	**11 42 36.7**	**+0.1**
DLFA				S		**Sg**	**11 42 48.9**	**+0.8**
AXAR	**Agios Charalam**	**0.93**	**313**	P		**Pg**	**11 42 37.0**	**-0.5**
AXAR	**Agios Charalam**	**0.93**	**313**	P		**Pg**	**11 42 36.9**	**-0.5**
GUR	**Goura**	**0.96**	**259**	P		**Pg**	**11 42 37.5**	**-0.5**
GUR				S		**Sg**	**11 42 50.9**	**+0.5**
GUR	**Goura**	**0.96**	**259**	P		**Pg**	**11 42 37.4**	**-0.5**
GUR				S		**Sg**	**11 42 49.9**	**-0.5**
AOS	**Alonnisos**	**1.07**	**15**	P		**Pg**	**11 42 39.4**	**-0.7**
AOS				S		**Sb**	**11 42 53.7**	**-0.4**
KLV	**Kalavryta, Ach**	**1.09**	**266**	P		**Pb**	**11 42 39.7**	**-0.8**
KLV	**Kalavryta, Ach**	**1.09**	**266**	P		**Pb**	**11 42 39.5**	**-0.9**
KLV				S		**Sg**	**11 42 54.3**	**-0.5**
SKY	**Skiros Island**	**1.09**	**47**	P		**Pb**	**11 42 40.0**	**-0.8**
SKY				S		**Sn**	**11 42 55.8**	**-0.1**
SKY	**Skiros Island**	**1.09**	**47**	P		**Pn**	**11 42 40.3**	**-0.5**
KALE	**Kalithea**	**1.12**	**284**	P		**Pb**	**11 42 41.3**	**+0.4**
VLX	**Vlachokerasia**	**1.19**	**230**	P		**Pn**	**11 42 41.0**	**-1.2**
VLX				S		**Sb**	**11 42 57.1**	**-0.4**
VLX	**Vlachokerasia**	**1.19**	**230**	P		**Pn**	**11 42 41.3**	**-0.8**
SERG	**Sergoula**	**1.19**	**284**	P		**Pn**	**11 42 41.3**	**-0.8**
SERG				S		**Sb**	**11 42 57.5**	**0.0**
AGG	**Agios Georgios**	**1.29**	**314**	P		**Pn**	**11 42 43.0**	**-0.5**
AGG	**Agios Georgios**	**1.29**	**314**	P		**Pn**	**11 42 43.3**	**-0.2**
AGG				S		**Sg**	**11 43 05.7**	**+4.5**
AGG	**Agios Georgios**	**1.29**	**314**	P		**Pn**	**11 42 43.1**	**-0.4**
EFP	**Efpalio**	**1.31**	**283**	P		**Pn**	**11 42 43.5**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.40**	**309**	P		**Pn**	**11 42 45.4**	**+0.3**
TNSA	**Tinos**	**1.42**	**114**	P		**Pn**	**11 42 44.4**	**-0.9**
EVR	**Evrytania**	**1.56**	**301**	P		**Pb**	**11 42 48.3**	**-0.2**
AMT	**Artemida-Makis**	**1.56**	**248**	P		**Pn**	**11 42 47.7**	**+0.5**
AMT				S		**Sb**	**11 43 09.1**	**+0.9**
ITM	**Ithomi**	**1.59**	**234**			**Pn**	**11 42 47.4**	**-0.2**
ITM	**Ithomi**	**1.59**	**234**	P		**Pn**	**11 42 47.3**	**-0.2**
MHLO	**Agia Marina, M**	**1.60**	**154**	P		**Pn**	**11 42 47.3**	**-0.4**
RLS	**Riolos of Patr**	**1.63**	**268**	P		**Pn**	**11 42 48.5**	**+0.3**
AXS	**Araxos**	**1.70**	**273**	P		**Pn**	**11 42 48.1**	**-0.9**
YRMI	**Loutra Irminis**	**1.72**	**270**	P		**Pn**	**11 42 49.0**	**-0.4**
EFSA	**Agios Efstrati**	**1.81**	**39**	P		**Pn**	**11 42 49.4**	**-1.2**
TYRN	**Tyrnavos**	**1.87**	**328**	P		**Pn**	**11 42 51.7**	**+0.2**
APE	**Apeiranthos**	**1.91**	**123**	P		**Pn**	**11 42 49.9**	**-2.2**
APE				S		**Sb**	**11 43 17.3**	**-1.0**
APE	**Apeiranthos**	**1.91**	**123**	P		**Pn**	**11 42 51.3**	**-0.8**
CHOS	**Chios island**	**2.00**	**82**	P		**Pn**	**11 42 52.9**	**-0.5**
TETR	**Tetrakomo, Epi**	**2.14**	**305**	P		**Pn**	**11 42 56.4**	**+1.2**
LIA	**Limnos Island**	**2.18**	**36**	P		**Pn**	**11 42 54.8**	**-1.0**
OUR	**Ouranopolis**	**2.23**	**9**	P		**Pn**	**11 42 55.8**	**-0.5**
ANKY	**Antikythira Is**	**2.27**	**185**	P		**Pn**	**11 42 55.9**	**-1.0**
AMGA	**Amorgos Island**	**2.29**	**124**	P		**Pn**	**11 42 57.2**	**0.0**
VLS	**Valsamata**	**2.32**	**272**	P		**Pn**	**11 42 59.3**	**+1.7**
PSDA	**Pessada-Kefalo**	**2.32**	**270**	P		**Pn**	**11 42 59.1**	**+1.5**
KARB	**zmir-Karabur**	**2.33**	**76**	P		**Pn**	**11 42 55.9**	**-1.8**
KARB				S		**Sg**	**11 43 37.0**	**+2.7**
ZEYE	**Izmir, Urla-Ze**	**2.35**	**87**	P		**Pb**	**11 43 01.9**	**+0.1**
THERA	**Ancient Thera,**	**2.35**	**138**	P		**Pn**	**11 42 57.6**	**-0.5**
FSK	**Fiskardo**	**2.36**	**279**	P		**Pn**	**11 43 00.0**	**+1.9**
URLA	**Izmir**	**2.42**	**84**	P		**Pn**	**11 42 58.6**	**-0.5**
KOCA	**Canakkale, Ayv**	**2.45**	**55**	P		**Pn**	**11 42 58.1**	**-1.4**
HORT	**Hortiatis**	**2.48**	**352**	P		**Pn**	**11 42 59.6**	**-0.4**
BOZC	**Bozcaada**	**2.60**	**48**	P		**Pn**	**11 43 00.8**	**-0.7**
SOH	**Sokhos**	**2.69**	**357**	P		**Pn**	**11 43 02.8**	**0.0**
SMTH	**Samothraki Isl**	**2.80**	**33**	P		**Pn**	**11 43 03.9**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**2.85**	**55**	P		**Pn**	**11 43 03.0**	**-1.9**
ZEDA	**zmir-Bergama**	**2.90**	**72**	P		**Pg**	**11 43 14.0**	**-1.2**
KAVA	**Kavala**	**2.96**	**15**	P		**Pn**	**11 43 05.6**	**-0.8**
SRS	**Serrai**	**2.98**	**1**	P		**Pn**	**11 43 06.5**	**-0.3**
NEST	**Nestorio**	**2.98**	**321**	P		**Pn**	**11 43 08.4**	**+1.5**
IDI	**Anoyia**	**3.04**	**159**			**Pn**	**11 43 07.7**	**+0.1**
IDI	**Anoyia**	**3.04**	**159**	P		**Pn**	**11 43 07.0**	**-0.7**
KNT	**Kendrikon**	**3.06**	**351**	P		**Pn**	**11 43 08.3**	**+0.5**
BUHA	**Balikesir, Bur**	**3.09**	**63**	P		**Pn**	**11 43 09.6**	**+1.4**
FNA	**Florina**	**3.13**	**328**			**Pn**	**11 43 09.7**	**+0.9**
FNA	**Florina**	**3.13**	**328**	P		**Pn**	**11 43 09.6**	**+0.9**
VAY	**Valandovo**	**3.27**	**347**	*i* Pn		**Pn**	**11 43 11.8**	**+1.1**
KEK	**Kerkira**	**3.31**	**300**	Pn		**Pn**	**11 43 11.9**	**+0.7**
GVD	**Gavdhos**	**3.32**	**172**	P		**Pn**	**11 43 12.8**	**+1.5**
ALN	**Alexandroupoli**	**3.38**	**34**			**Pn**	**11 43 10.9**	**-1.3**
ALN	**Alexandroupoli**	**3.38**	**34**	P		**Pn**	**11 43 11.2**	**-0.9**
RDO	**Rodhopi**	**3.38**	**27**			**Pn**	**11 43 11.4**	**-0.8**
OHR	**Ohrid**	**3.65**	**326**	*i* Pn		**Pb**	**11 43 20.4**	**-3.6**
KARP	**Karpathos**	**3.89**	**130**	Pn		**Pn**	**11 43 19.1**	**-0.2**
MANT	**Manisa**	**3.97**	**83**	Pn		**Pn**	**11 43 19.4**	**-1.2**
ARG	**Arkhangelos**	**4.14**	**116**			**Pn**	**11 43 21.8**	**-0.9**
SCTE	**Santa Cesarea**	**4.39**	**298**	Pn		**Pn**	**11 43 27.1**	**+1.1**
TIP	**Timpagrande**	**5.40**	**283**			**Pn**	**11 43 41.1**	**+1.1**
CEL	**Celeste**	**6.01**	**274**	Pn		**Pn**	**11 43 48.8**	**+0.3**
CUC	**Castrocucco**	**6.28**	**290**			**Pn**	**11 43 52.1**	**0.0**
ACER	**Acerenza**	**6.44**	**297**			**Pn**	**11 43 54.5**	**+0.2**
SGRT	**San Giovanni R**	**6.99**	**304**	Pn		**Pn**	**11 44 01.1**	**-0.7**
TIRR	**Tirgusor**	**7.31**	**29**	Pn		**Pn**	**11 44 05.0**	**-1.1**
RAFF	**Raffo Rosso**	**7.33**	**266**	Pn		**Pn**	**11 44 05.7**	**-0.7**
MLR	**Muntele Rosu**	**7.57**	**13**			**Pn**	**11 44 10.2**	**+0.3**
BRTR	**Keskin Array B**	**8.04**	**75**	Pn		**Pn**	**11 44 18.2**	**+1.9**
	2.0nm,0.8s,baz=265,slow=14,SNR=5.8							
INTR	**Introdacqua**	**8.33**	**301**			**Pn**	**11 44 20.7**	**+0.4**
ILGA	**Ilgaz**	**8.39**	**66**	Pn		**Pn**	**11 44 20.4**	**-0.8**
CAMP	**Campotosto**	**8.89**	**303**	Pn		**Pn**	**11 44 27.1**	**-0.9**
NRCA	**Norcia**	**9.22**	**304**	Pn		**Pn**	**11 44 32.2**	**-0.2**
FDMO	**Fiordimonte**	**9.33**	**305**	Pn		**Pn**	**11 44 34.2**	**+0.3**
ARPR	**Arapgir-MALATY**	**11.63**	**81**	Pn		**Pn**	**11 45 04.0**	**-1.4**
GHAJ	**Ghor Haditha**	**12.02**	**121**	Pn		**Pn**	**11 45 09.1**	**-1.6**
GEC2	**GERESS Array S**	**12.85**	**330**	Pn		**Pn**	**11 45 22.7**	**+0.5**
GERES	**GERESS Array B**	**12.85**	**330**	Pn		**Pn**	**11 45 19.9**	**-2.3**
BFO	**Black Forest**	**15.03**	**318**	Pn		**Pn**	**11 45 50.6**	**-1.1**
ECH	**Echery**	**15.60**	**315**	Pn		**Pn**	**11 45 57.6**	**-1.6**
ESDC	**Sonseca Array**	**21.42**	**283**	P		**P**	**11 47 10.1**	**+2.6**
	2.5nm,0.9s,baz=81,slow=9.5,SNR=9.9							
	2.5nm,0.9s							
FINES	**FINESS Array B**	**23.39**	**3**	P		**P**	**11 47 29.4**	**+1.4**
	1.9nm,0.8s,baz=189,slow=9.6,SNR=2.4							
	1.9nm,0.8s							
NC602	**NORSAR Array S**	**23.85**	**345**	P		**P**	**11 47 30.9**	**-1.7**
NC602				IAmb		IAmb	11 47 32.9	
	comp=Z,10nm,1.1s							
NAO01	**NORSAR Array S**	**24.08**	**345**	P		**P**	**11 47 33.8**	**-0.9**
NAO01				IAmb		IAmb	11 48 08.1	
	comp=Z,12nm,1.4s							
NB2	**NORSAR Subarra**	**24.20**	**345**	P		**P**	**11 47 34.6**	**-1.2**
	comp=Z,4.3nm,0.9s,baz=158,slow=10							
NOA	**NORSAR Array B**	**24.20**	**345**	P		**P**	**11 47 34.9**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=147,slow=9.7,SNR=6.3							
	comp=Z,1.4nm,0.8s							
NC204	**NORSAR Array S**	**24.50**	**345**	P		**P**	**11 47 38.3**	**-0.3**
NC204				IAmb		IAmb	11 47 45.3	
	comp=Z,6.8nm,1.0s							
TORD	**Torodi Ar. Bea**	**31.56**	**224**	P		**P**	**11 48 44.2**	**+2.2**
	comp=Z,2.4nm,0.6s,baz=29,slow=11,SNR=6.1							
	comp=Z,2.4nm,0.6s							
MBAR	**Mbarara**	**39.11**	**169**	P		**P**	**11 49 46.6**	**-0.5**
MBAR				IAmb		IAmb	11 50 08.1	
	comp=Z,7.7nm,1.2s							
DBIC	**Dimbokro**	**40.53**	**227**	P		**P**	**11 50 02.1**	**+3.3**
	comp=Z,3.8nm,0.7s,baz=69,slow=6.2,SNR=3.8							
	comp=Z,3.8nm,0.7s							
MBO	**M'Bour**	**42.85**	**248**	P		**P**	**11 50 17.9**	**+0.1**
MKAR	**Makanchi Array**	**43.30**	**59**	P		**P**	**11 50 20.3**	**-0.9**
MKAR	**Makanchi Array**	**43.30**	**59**	P		**P**	**11 50 21.0**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=293,slow=6.2,SNR=9.5							
	comp=Z,1.0nm,0.8s							
ZALV	**Zalesovo Beam**	**43.95**	**48**	P		**P**	**11 50 26.0**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=292,slow=7.8,SNR=3.8							
	comp=Z,1.2nm,0.7s							
ANGG	**Ammassalik, Gr**	**44.17**	**329**	P		**P**	**11 50 27.7**	**-0.1**

SKHL ***19*** *12:05:42.9±0.1, 43.40°N×145.80°E, h67km±3km, mb5.1/4*
JMA ***19*** *12:05:42.4±0.2, 43.4°N±0.5°×145.7°E±0.7, h72km±1km, MV3.8/40, NEMURO REGION*
JMA Felt II J1 at NEMURO REGION .

ISC 19 12:05:42.8±1.6, **43.42N**±0.05°×**145.73E**±0.04°, **h69**km±8km, **n16**, σ0**63**/31, **2D**, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NMR	**Nemuro--Hokkai**	**0.05**	**182**	*i* P		**Pn**	**12 05 52.8**	**-0.1**
NMR				*i* S		**Sn**	**12 06 00.2**	**0.0**
NEM2	**Nemuro 2**	**0.05**	**170**	||P	**Pn**	**12 05 52.8**	**0.0**
NEM2				||S	**Sn**	**12 06 00.1**	**-0.1**
GLVR	**Golovnino**	**0.36**	**335**	*e*P		**Pn**	**12 05 54.1**	**-0.2**
GLVR				AMB		AMB	12 05 54.5	
	2μm,0.2s							
GLVR				*i* S		**Sn**	**12 06 03.4**	**+0.7**
GLVR				A		A	12 06 04.2	
	12μm,0.3s							
GLVR				A		A	12 06 04.2	
	9μm,0.3s							
JKHN	**Kushirohamanak**	**0.53**	**231**	P		**Pn**	**12 05 55.8**	**-0.1**
JKHN				S		**Sn**	**12 06 05.7**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**0.62**	**9**	*e*P		**Pn**	**12 05 56.4**	**-0.4**
YUK				AMB		AMB	12 05 56.9	
	7μm,0.3s							
YUK				*i* S		**Sn**	**12 06 06.7**	**-0.4**
YUK				A		A	12 06 07.7	
	4μm,0.3s							
YUK				A		A	12 06 07.7	
	9μm,0.3s							
JNSB	**Nemuroshibetsu**	**0.64**	**304**	P		**Pn**	**12 05 56.8**	**-0.2**
JNSB				e	S	**Sn**	**12 06 08.0**	**+0.7**
JRA	**Rausu**	**0.68**	**320**	P		**Pn**	**12 05 57.3**	**-0.1**
JRA				S		**Sn**	**12 06 08.9**	**+0.7**
JNK	**Nakash**	**0.76**	**283**	P		**Pn**	**12 05 57.8**	**-0.5**
JNK				S		**Sn**	**12 06 08.6**	**-1.1**
AKK	**Akkeshi**	**0.76**	**239**	*e*P		**Pn**	**12 05 57.8**	**-0.6**
JAK	**Akkeshi**	**0.86**	**241**	P		**Pn**	**12 05 59.2**	**-0.4**
JAK				S		**Sn**	**12 06 11.7**	**-0.2**
SHO	**Shikotan**	**0.92**	**60**	*i* P		**Pn**	**12 06 01.6**	**+1.4**
SHO				AMB		AMB	12 06 02.8	
	230nm,0.2s							
SHO				*i* S		**Sn**	**12 06 13.5**	**+0.4**
SHO				A		A	12 06 15.0	
	3μm,0.2s							
SHO				A		A	12 06 15.0	
	4μm,0.2s							
JTKR	**Abashiri--Toko**	**1.43**	**293**	P		**Pn**	**12 06 07.1**	**+0.3**
JTKR				*e*S		**Sn**	**12 06 24.9**	**0.0**
JAR	**Ashorobuto**	**1.44**	**266**	P		**Pn**	**12 06 07.0**	**+0.1**
JAR				S		**Sn**	**12 06 25.1**	**+0.1**
JOB	**Onbets**	**1.48**	**250**	P		**Pn**	**12 06 07.5**	**+0.1**
JOB				*e*S		**Sn**	**12 06 26.6**	**+0.6**
KUR	**Kuril'sk**	**2.38**	**39**	*e*P		**Pn**	**12 06 18.9**	**-0.6**
KUR				AMB		AMB	12 06 30.3	
	80nm,0.4s							
KUR				*i* S		**Sn**	**12 06 45.8**	**-1.8**
KUR				A		A	12 06 57.4	
	320nm,0.3s							
KUR				A		A	12 06 57.4	
	220nm,0.3s							
YSS	**Yuzhno-Sakhali**	**4.11**	**330**	*e*P		**Pn**	**12 06 44.0**	**+0.9**
YSS				*e*S		**Sn**	**12 07 29.7**	**-0.3**

IDC ***19*** *12:11:51.9±0.6, 38.17°N×23.40°E, h0km, mb4.4/25, mbtmp4.4/38, ML4.2/10, MS3.5/25, Error ellipse: s-maj=12.2km s-min=11.0km az=4.0*
ISK ***19*** *12:11:52.5, 38.16°N×23.62°E, h4km, ML4.5/33*
HLW ***19*** *12:11:53.6, 38.16°N×23.91°E, h22km±7km, Ml4.3*
BGR ***19*** *12:11:53.7, 37.86°N×24.08°E, h10km*
ATH ***19*** *12:11:54.6, 38.09°N×23.57°E, h10km, Mw4.4, Moment Tensor Solution. s11 Moment tensor: Mrr-2.97; Mθθ3.74; Mϕϕ-0.77; Mrθ-2.47; Mrϕ0.17; Mθϕ1.27; Fault plane solution: NP1:ϕs246.00000°, δ31.00000°, λ-127.00000°. NP2:ϕs107.00000°, δ66.00000°, λ-70.00000°.*
PDG ***19*** *12:11:54.9±0.6, 38.14°N×23.65E, h10km±1km, ML4.3/10 Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*
NEIC ***19*** *12:11:54.2±2.0, 38.10°N±0.05°×23.66°E±0.05, h10km±1km, mb4.7/128, Mwr4.2/11, Error ellipse: s-maj=9.4km s-min=5.4km az=206.0, Moment Tension Solution. Moment tensor: Scale 10^15Nm; Mrr0.18; Mθθ1.40; Mϕϕ-1.59; Mrθ-1.38; Mθϕ-1.27; Mϕr1.44; Fault plane solution: Mo2.80000×10^15 NP1:ϕs239.70000°, δ47.30000°, λ172.49000°. NP2:ϕs334.81000°, δ84.49000°, λ42.95000°. Principal axes: T 3.0477, Plg33.0000°, Azm207.0000°; N -0.5928, Plg47.0000°, Azm341.0000°; P -2.4549, Plg24.0000°, Azm99.0000°;*
NEIC ***19*** *12:11:54.7, 38.16°N×23.60E, h10km*
THE ***19*** *12:11:55.1, 38.1°N±0.9°×23.6E±0.6, h10km±1km, M4.2/26, MLh4.2/26*
MCSM ***19*** *12:11:56.9±0.4, 38°N±3°×2°4E±°, h12km±2km, mb4.5, mB4.9, MLv4.7, Mw(mB)4.2*
NAO ***19*** *12:12:08.4, 39.20°N×21.53E, h10km, mb4.6*

ISC 19 12:11:54.3±0.5, **38.10N**±0.02°×**23.59E**±0.01, **h15**km±3km, **n783**, σ0**95**/818, **mb4.6**/100, **MS3.5**/17, **28C-25D

MAKR Makrakomi, Fth 1.46 309 P Pb 12 12 21.4 +0.2
MAKR Makrakomi, Fth 1.46 309 P Pb 12 12 21.2 0.0
MAKR S Sb 12 12 39.9 +0.3
MNVA Monemvasia 1.48 197 P Pb 12 12 21.2 -0.2
MHLO Agia Marina, M 1.55 155 P Pn 12 12 22.0 +0.6
MHLO Agia Marina, M 1.55 155 P Pn 12 12 21.8 +0.4
ITM Ithomi 1.61 236 Pn Pb 12 12 23.3 -0.5
ITM Sn Sg 12 12 45.8 -0.3
ITM Ithomi 1.61 236 Pb 12 12 23.2 -0.5
ITM Ithomi 1.61 236 P Pb 12 12 23.2 -0.6
ITM Ithomi 1.61 236 P Pb 12 12 23.1 -0.6
EVR Evrytania 1.61 301 P Pg 12 12 24.7 -0.7
EVR Evrytania 1.61 301 P Pb 12 12 24.4 +0.5
RLS Riolos of Patr 1.67 269 P Pb 12 12 24.7 -0.1
RLS Riolos of Patr 1.67 269 P Pb 12 12 24.9 +0.1
PVO Paravola 1.70 288 P Pb 12 12 25.3 0.0
PVO Paravola 1.70 288 P Pb 12 12 25.1 -0.2
AXS Araxos 1.75 274 P Pb 12 12 25.7 -0.4
YRMI Loutra Irminis 1.77 271 P Pb 12 12 26.0 -0.4
EFSA Agios Efstrati 1.81 37 P Pn 12 12 24.6 -0.3
LRSO Larissa Observ 1.82 330 P Pb 12 12 26.3 -1.1
PAIG Paliouri 1.82 2 P Pn 12 12 25.2 0.0
APE Apeiranthos 1.86 123 Pn Pn 12 12 26.1 +0.4
APE Apeiranthos 1.86 123 P Pn 12 12 26.1 +0.4
APE Apeiranthos 1.86 123 ⇑P Pn 12 12 26.6 +0.9
APE Apeiranthos 1.86 123 P Pn 12 12 25.9 +0.3
APE S Sn 12 12 47.9 -1.0
KTHA Kythira Island 1.89 193 Pn Pn 12 12 26.3 +0.2
KTHA Sn Sb 12 12 52.8 +0.9
KTHA Kythira Island 1.89 193 P Pn 12 12 26.2 +0.2
PYL2 Kinigos 1.90 232 P Pn 12 12 27.8 -1.0
TYRN Tyrnavos 1.92 327 P Pn 12 12 27.3 +0.9
TYRN Tyrnavos 1.92 327 P Pn 12 12 27.3 +0.8
CHOS Chios island 1.96 81 Pn Pn 12 12 27.4 +0.2
CHOS Sn Sn 12 12 52.1 +0.5
CHOS Chios island 1.96 81 P Pn 12 12 27.7 +0.5
CHOS Chios island 1.96 81 P Pn 12 12 26.8 -0.4
MTHA Methoni 1.97 230 P Pb 12 12 29.6 -0.3
EAG2 Marmaro, Chios 2.03 77 P Pn 12 12 28.5 +0.5
SIGR SIGRI 2.09 57 Pn Pn 12 12 28.6 -0.2
SIGR SIGRI 2.09 57 P Pn 12 12 28.9 0.0
SIGR SIGRI 2.09 57 P Pn 12 12 28.7 -0.1
CESE eme 2.15 83 Pn Pn 12 12 29.5 -0.1
SAP3 Santorini-Thir 2.18 139 P Pn 12 12 30.5 +0.5
CMBO Columbo, Santo 2.18 138 P Pn 12 12 30.9 +0.8
LIA Limnos Island 2.18 34 P Pn 12 12 29.8 -0.3
LIA Limnos Island 2.18 34 P Pn 12 12 29.7 -0.3
THR5 Thira Island, 2.19 140 P Pn 12 12 31.1 +0.9
TETR Tetrakomo, Epi 2.19 305 P Pb 12 12 32.3 -1.5
TETR Tetrakomo, Epi 2.19 305 P Pn 12 12 32.0 +1.7
KYPS Kipseli, Zakin 2.20 263 P Pb 12 12 32.3 -1.5
LTHK Lithakia 2.21 261 P Pb 12 12 32.3 -1.7
AMGA Amorgos Island 2.23 124 P Pn 12 12 31.4 +0.6
ANKY Antikythira Is 2.24 186 P Pn 12 12 30.6 -0.3
OUR Ouranopolis 2.25 8 Pn Pn 12 12 31.1 +0.1
OUR Sn Sn 12 12 57.8 -0.7
OUR Ouranopolis 2.25 8 P Pn 12 12 31.1 +0.1
OUR Ouranopolis 2.25 8 P Pn 12 12 31.3 +0.2
NYDR Nydri-Lefkada 2.35 286 P Pn 12 12 34.1 +1.7
VLS Valsamata 2.37 273 P Pn 12 12 33.7 +1.1
PSDA Pessada-Kefalo 2.37 271 P Pn 12 12 34.1 +1.4
URLA Izmir 2.38 83 Pn Pn 12 12 33.0 +0.1
LKD2 Lefkada island 2.40 288 P Pb 12 12 35.6 -1.7
GPNR Gulpinar-Canak 2.41 55 Pn Pn 12 12 32.9 -0.2
FSK Fiskardo 2.41 279 P Pb 12 12 35.7 -1.7
TSLK Tsoukalades, L 2.41 288 P Pb 12 12 36.4 -1.0
HORT Hortiatis 2.52 352 P Pn 12 12 35.3 +0.7
DMLN Damoulianata-K 2.54 274 P Pn 12 12 36.8 +1.8
FOCM Foa 2.54 75 Pn Pn 12 12 35.1 +0.1
THE Thessaloniki 2.57 349 P Pn 12 12 35.5 +0.1
BOZC Bozcaada 2.59 47 Pn Pn 12 12 35.3 -0.4
SMG Samos 2.60 98 P Pn 12 12 36.0 +0.1
CHAN Chania 2.60 172 P Pn 12 12 36.0 +0.1
KZN Kozani 2.62 328 P Pn 12 12 37.4 +1.2
THAS Thassos island 2.65 19 P Pn 12 12 35.6 -0.9
SOH Sokhos 2.72 356 P Pn 12 12 38.1 +0.6
EZNE Ezine-Canakkal 2.73 52 Pn Pn 12 12 37.5 0.0
BLCB Balcova 2.73 83 Pn Pn 12 12 37.7 0.0
EZN Ezine 2.74 50 Pn Pn 12 12 37.6 -0.2
EZN Ezine 2.74 50 ⇑P Pn 12 12 38.1 +0.4
EZN Ezine 2.74 50 P Pn 12 12 37.5 -0.2
GADA Gvkgeada 2.75 40 Pn Pn 12 12 37.9 0.0
SMTH Samothraki Isl 2.81 32 P Pn 12 12 37.8 -0.9
PRNS Prines Rethymn 2.83 165 P Pn 12 12 39.6 +0.6
KNDR Palaiochora Ch 2.86 178 Pn Pn 12 12 41.1 +1.7
KNDR Palaiochora Ch 2.86 178 P Pn 12 12 39.9 +0.4
GCAM G?zelcaml? 2.91 97 Pn Pn 12 12 40.8 +0.7
IGT Igoumenitsa 2.92 300 P Pn 12 12 41.1 +0.9
KAVA Kavala 2.98 14 P Pn 12 12 40.9 -0.2
IDI Anoyia 3.00 159 Pn Pn 12 12 42.4 +1.0
IDI Anoyia 3.00 159 Pn 12 12 41.9 +0.5
IDI Anoyia 3.00 159 Pn Pn 12 12 42.2 +0.9
108nm,0.4s,baz=338,slow=12,SNR=83
IDI Sn Sn 12 13 15.9 -1.1
95nm,0.3s,baz=78,slow=21,SNR=11
IDI LR LR 12 14 22.6
comp=Z,520nm,18.6s,baz=286,slow=48
IDI Anoyia 3.00 159 P Pn 12 12 41.9 +0.5
COMU Canakkale 3.00 47 Pn Pn 12 12 41.5 +0.1
SRS Serrai 3.01 0 P Pn 12 12 41.8 +0.3
NEST Nestorio 3.04 320 P Pn 12 12 43.7 +1.8
YKAV Yalikavak-Bodr 3.09 107 Pn Pn 12 12 43.1 +0.5
KNT Kendrikon 3.10 350 P Pn 12 12 43.9 +1.2
BODT Bodrum 3.13 108 Pn Pn 12 12 44.0 +0.8
TMBK Timbaki Herakl 3.17 162 P Pn 12 12 45.2 +1.6
FNA Florina 3.18 328 Pn 12 12 45.6 +1.7
FNA Florina 3.18 328 P Pn 12 12 43.5 -0.4
GELI Tayfur-Gelibol 3.21 43 Pn Pn 12 12 44.4 +0.2
BDRM Kayabasi 3.23 107 ⇑P Pn 12 12 46.0 +1.5
CAVK Edirne/Enez-Ca 3.27 37 ⇓P Pn 12 12 45.4 +0.4
GVD Gavdhos 3.28 173 Pn Pn 12 12 46.8 +1.6
GVD Gavdhos 3.28 173 P Pn 12 12 46.8 +1.6
ENEZ Enez 3.30 36 Pn Pn 12 12 45.6 +0.2
CANM Can-anakkale 3.30 54 Pn Pn 12 12 45.7 +0.2
VAY Valandovo 3.31 347 iPn Pn 12 12 47.4 +1.8
LPK Lapseki 3.35 46 Pn Pn 12 12 46.5 +0.4
KEK Kerkira 3.37 300 Pn Pn 12 12 47.7 +1.3
KEK Kerkira 3.37 300 Pn Pn 12 12 46.3 -0.1
ALN Alexandroupoli 3.38 33 Pn Pn 12 12 46.3 -0.2
ALN Alexandroupoli 3.38 33 12 12 46.1 -0.4
YENI Yenice-Canakka 3.38 56 Pn Pn 12 12 47.1 +0.5
RDO Rodhopi 3.39 26 Pn Pn 12 12 46.7 0.0
RDO Rodhopi 3.39 26 Pn 12 12 46.7 0.0
RDO Rodhopi 3.39 26 P Pn 12 12 46.3 -0.4
ERIK Erikli-Kesan 3.42 41 Pn Pn 12 12 47.5 +0.4
ZKR Zakros 3.66 144 Pn Pn 12 12 51.9 +1.5
ZKR Zakros 3.66 144 P Pn 12 12 51.7 +1.4
KRBG Karabiga-Canak 3.68 50 Pn Pn 12 12 51.0 +0.4
OHR Ohrid 3.70 325 iPn Pb 12 12 58.7 -0.7
RKY Sarkoy-Tekirda 3.79 46 Pn Pn 12 12 52.9 +0.6
UKOP Uzunkopru-Edir 3.83 37 Pn Pn 12 12 53.2 +0.5
KARP Karpathos 3.84 131 Pn 12 12 54.2 +1.3
KARP Karpathos 3.84 131 P Pn 12 12 53.5 -0.4
KARP Karpathos 3.84 131 P Pb 12 12 59.8 -2.0
KARP Karpathos 3.84 131 P Pn 12 12 53.3 +0.4
MANT Manisa 3.93 83 Pn 12 12 53.6 -0.7
ARG Arkhangelos 4.08 116 Pn 12 12 55.5 -0.7
BAND Balkesir-Ban 4.16 56 ⇑P Pn 12 12 58.9 +1.6
TAVA DENIZLI_Tavas 4.27 97 ⇑P Pn 12 13 01.3 +2.5
SCTE Santa Cesarea 4.44 298 Pn 12 13 01.4 +0.2
PHSR Pinarhisar 4.65 39 ⇑P Pn 12 13 03.8 -0.2
CTYL Yalikoy Yolu 4.95 46 P Pn 12 13 08.0 0.0
ULC Ulcinj 5.10 321 ePn Pn 12 13 11.6 +1.4
ULC iSn Sn 12 14 08.3 -0.5
ELND Elena 5.13 19 ⇓P Pn 12 13 11.1 +0.6
AKAS Kas 5.16 109 Pn Pn 12 13 11.0 -0.1
ELL Elmali 5.21 103 Pn Pn 12 13 11.4 -0.4
KLYT Kilyos 5.25 52 ⇓P Pn 12 13 13.5 +1.2
KLYT Kilyos 5.25 52 P Pn 12 13 12.5 +0.2
0.6nm1µm69nm,1.0s
DRME Dracevica, Mon 5.29 322 ⇓iPn Pn 12 13 14.2 +1.4
DRME iSn Sn 12 14 13.0 -0.6
PLVB Pleven 5.34 8 ⇑P Pn 12 13 15.0 +1.5
PDG Podgorica 5.45 324 Pn 12 13 16.6 +1.7
PDG Podgorica 5.45 324 ⇓P Pn 12 13 17.2 +2.3
PDG ⇓S Sn 12 14 19.4 +2.1
PDG Podgorica 5.45 324 ePn Pn 12 13 16.4 +1.5
PDG iSn Sn 12 14 16.7 -0.6
TIP Timpagrande 5.45 283 Pn 12 13 16.6 +1.4
TIP Timpagrande 5.45 283 ⇓P Pn 12 13 17.4 +2.3

TIP Timpagrande 5.45 283 P Pn 12 13 16.7 +1.6
0.5nm1µm128nm,0.8s
BUM Brajici-Budva 5.52 321 ePn Pn 12 13 17.5 +1.5
BUM iSn Sn 12 14 18.6 -0.7
IVA Berane 5.53 331 ePn Pn 12 13 17.6 +1.4
IVA iSn Sn 12 14 18.6 -1.0
KOME Kolasin 5.67 328 ePn Pn 12 13 19.4 +1.3
KOME iSn Sn 12 14 21.8 -1.1
CEME Cevo 5.70 323 ePn Pn 12 13 19.9 +1.5
CEME iSn Sn 12 14 22.7 -0.8
BOVS Bovan 5.71 346 ⇑P Pn 12 13 20.0 +1.5
LOZB Loznitsa 5.74 22 ⇑P Pn 12 13 19.5 +0.5
RAZG Razgrad 5.89 21 ⇓P Pn 12 13 21.4 +0.4
MATE Matera 5.91 298 ⇓P Pn 12 13 22.9 +1.7
CEL Celeste 6.06 274 Pn 12 13 25.3 +1.9
CEL Celeste 6.06 274 P Pn 12 13 25.4 +1.9
0.4nm725nm46nm,0.8s
TREB Trebinje 6.10 321 ePn Pn 12 13 24.1 +0.2
PLE Pljevlja 6.12 330 ePn Pn 12 13 25.6 +1.3
PLE iSn Sn 12 14 32.6 -1.4
BRY Bratogost 6.15 323 ePn Pn 12 13 26.1 +1.4
BRY iSn Sn 12 14 33.4 -1.4
UPM Unac-Piva 6.21 327 ePn Pn 12 13 26.9 +1.2
UPM iSn Sn 12 14 35.0 -1.5
KLINJ Klinje 6.33 325 ePn Pn 12 13 28.2 +1.0
CUC Castrocucco 6.34 290 Pn 12 13 28.9 +1.7
RUDO Rudo 6.37 331 ePn Pn 12 13 29.2 +1.6
ACER Acerenza 6.50 297 Pn 12 13 29.9 +0.5
HUMR Humele 6.50 9 ⇓P Pn 12 13 30.7 +1.3
SLUM Salum 6.73 168 P Pn 12 13 32.0 -0.6
ICOR Ion Corvin 6.80 27 ⇑P Pn 12 13 34.6 +1.1
MDVR Moldovita 6.82 349 ⇓P Pn 12 13 34.9 +1.0
HERR Herculane 6.83 353 ⇑P Pn 12 13 34.5 +0.5
SGRT San Giovanni R 7.04 304 Pn 12 13 37.0 0.0
MTUR Matau 7.20 8 ⇑P Pn 12 13 40.7 +1.6
TLBR Topalu 7.26 26 ⇑P Pn 12 13 40.9 +1.1
VAE Valguarnera 7.29 268 Pn Pn 12 13 38.2 -2.2
7.3nm,0.4s,baz=14,slow=2.2,SNR=4.6
VAE Sn Sn 12 15 00.9 -2.0
4.7nm,0.3s,baz=218,slow=13,SNR=4.7
ARR Arges 7.30 6 ⇓P Pn 12 13 41.4 +0.9
GZR Gura Zlata 7.31 356 ⇓P Pn 12 13 41.2 +0.6
TIRR Tirgusor 7.32 28 Pn 12 13 39.9 -0.6
TIRR Tirgusor 7.32 28 ⇓P Pn 12 13 41.6 +1.0
TIRR Tirgusor 7.32 28 P Pn 12 13 38.8 -1.8
0.2nm35nm,1.3s
LOT Lotru 7.34 1 ⇓P Pn 12 13 42.1 +1.0
HARR Harsova 7.35 25 ⇓P Pn 12 13 41.8 +0.8
ISR Istrita 7.35 17 ⇑P Pn 12 13 43.3 +2.2
ISR Istrita 7.35 17 P Pn 12 13 40.5 -0.7
0.4nm3µm111nm,1.0s
RAFF Raffo Rosso 7.37 266 Pn 12 13 42.9 +1.5
ANTO Ankara 7.38 73 Pn Pn 12 13 40.9 -0.7
VOIR 7.41 8 ⇑P Pn 12 13 43.3 +1.3
PAOL Paolisi 7.56 296 Pn 12 13 44.1 +0.1
TNR Turnu Rosu 7.56 4 ⇓P Pn 12 13 45.9 +1.9
MLR Muntele Rosu 7.59 13 Pn 12 13 45.5 +1.0
MLR Muntele Rosu 7.59 13 Pn Pn 12 13 45.1 +0.6
2.1nm,0.3s,baz=223,slow=5.1,SNR=29
MLR LR LR 12 16 55.2
comp=Z,279nm,19.5s,baz=272,slow=40
56nm,0.8s
MLR Muntele Rosu 7.59 13 ⇑P Pn 12 13 46.5 +2.1
NEHR Nehoiu 7.59 15 ⇑P Pn 12 13 46.4 +1.9
WDD Wied Dalam 7.60 255 Pn Pn 12 13 44.8 +0.3
TPGR Topolog 7.66 27 ⇑P Pn 12 13 46.8 +1.5
SURR Surduc 7.72 352 ⇓P Pn 12 13 47.6 +1.4
BISRR Bisoca 7.80 16 ⇓P Pn 12 13 48.9 +1.6
BISRR Bisoca 7.80 16 P Pn 12 13 46.4 -0.9
1.2nm4µm336nm,1.1s
DOPR Dopca 7.97 9 ⇑P Pn 12 13 50.9 +1.3
COVR Voineasa-Covas 7.98 13 ⇑P Pn 12 13 51.4 +1.7
BR105 Keskin Array S 7.99 75 P Pn 12 13 51.9 +1.9
0.1nm152nm20nm,0.9s
BR106 Keskin Array S 7.99 75 P Pn 12 13 52.0 +2.0
0.1nm128nm16nm,1.1s
BR104 Keskin Array S 8.00 75 P Pn 12 13 52.3 +2.1
0.1nm121nm16nm,0.9s
BR131 Keskin Array S 8.00 75 Pn 12 13 49.8 -0.4
BRTR Keskin Array B 8.00 75 Pn 12 13 50.4 +0.2
BRTR Keskin Array B 8.00 75 Pn Pn 12 13 52.6 +2.4
0.8nm,0.3s,baz=257,slow=11,SNR=42
BRTR LR LR 12 16 58.6
comp=Z,254nm,19.4s,baz=280,slow=38
12nm,0.8s
MDB Medias 8.06 4 ⇓P Pn 12 13 52.7 +2.0
PLOR5 Plostina Array 8.07 16 P Pn 12 13 49.6 -1.4
0.2nm651nm60nm,1.3s
PLOR Plostina 8.07 15 ⇑P Pn 12 13 52.9 +1.9
VRI Vrincioaia 8.10 16 ⇑P Pn 12 13 53.4 +2.0
VRI Vrincioaia 8.10 16 P Pn 12 13 50.6 -0.8
0.3nm834nm77nm,0.9s
BOSR Bodos 8.12 10 ⇓P Pn 12 13 53.4 +1.8
DB3 El Dabaa 8.15 148 P Pn 12 13 49.6 -2.5
TURR Turia 8.15 12 ⇑P Pn 12 13 53.7 +1.7
BLY Banja Luka 8.20 326 ePn Pn 12 13 53.4 +0.7
BLY Banja Luka 8.20 326 ⇑P Pn 12 13 53.8 +1.1
SIRR Siria 8.28 351 ⇓P Pn 12 13 54.8 +0.9
A050A Klekovaca 8.29 322 ePn Pn 12 13 55.1 +1.0
ILGA Ilgaz 8.36 66 Pn 12 13 55.2 +0.1
INTR Introdacqua 8.39 301 Pn 12 13 55.6 +0.2
ONER Baraj Valea Uz 8.49 13 ⇓P Pn 12 13 58.4 +1.7
A051A Mrakovica 8.53 326 ePn Pn 12 13 57.5 +0.2
TESR Tescani 8.70 14 ⇓P Pn 12 14 01.1 +1.5
DRGR 8.71 356 ⇑P Pn 12 14 00.5 +0.7
MORH Mrgy, Hungar 8.90 337 ePn Pn 12 14 01.1 -1.2
MORH Mrgy, Hungar 8.90 337 ⇓P Pn 12 14 03.6 +1.3
MORH Mrgy, Hungar 8.90 337 P Pn 12 14 02.6 +0.3
11nm,0.7s
CAMP Campotosto 8.95 303 Pn 12 14 04.2 +1.2
SWA2 8.97 169 P Pn 12 14 02.3 -1.1
NRCA Norcia 9.27 304 Pn 12 14 08.5 +1.0
FDMO Fiordimonte 9.38 305 Pn 12 14 09.9 +0.9
CESX Cesi 9.53 302 Pn Pn 12 14 11.7 +0.7
BURAR Bucovina Array 9.58 7 Pn 12 14 12.7 +0.9
BURAR Bucovina Array 9.58 7 ⇑P Pn 12 14 13.5 +1.7
BUR08 Bucovina Ar. S 9.61 7 Pn 12 14 12.9 +0.8
MILM Milestii Mici 9.62 22 eP Pn 12 14 13.0 +0.9
30nm,0.7s
MILM eS Sn 12 16 01.0 +1.2
MILM eL L 12 18 09.0
MILM LRM MLR 12 18 20.0
700nm,10.0s
DIKM Dikmen 9.64 65 P Pn 12 14 13.7 +1.1
20nm,1.0s
GCIS Gornji Cirnik 9.76 325 iPn Pn 12 14 14.4 +0.4
BEHE Becsehely 9.76 331 Pn Pn 12 14 13.8 -0.4
BEHE Becsehely 9.76 331 ePn Pn 12 14 00.7 -13
GBRS Gornja Briga 9.89 321 iPn Pn 12 14 15.8 -0.2
DOBS Dobrina 10.04 326 ePn Pn 12 14 17.9 -0.2
MPLH Magyarpolny 10.10 336 P Pn 12 14 18.9 +0.2
67nm,0.9s
NE56 Odesa 10.13 30 P Pn 12 14 18.6 -0.5
PSZ Piszkesteto 10.18 346 Pn Pn 12 14 19.2 -0.7
CRNS Crni Vrh 10.56 322 iPn Pn 12 14 24.9 -0.2
PERS Pernice 10.58 326 iPn Pn 12 14 24.7 -0.6
RYAN Fayoum 10.58 146 P Pn 12 14 25.4 0.0
SORM Soroca 10.61 18 ⇑P Pn 12 14 26.2 +0.4
SOKA Soboth 10.64 326 iPn Pn 12 14 25.9 -0.5
6.0nm,0.7s,SNR=10
OBKA Obir 10.73 324 iPn Pn 12 14 27.6 0.0
2.6nm,0.4s
OBKA iSn Sn 12 16 26.7 -0.7
8.0nm,0.6s
SABO M.te Sabotino 10.81 320 Pn 12 14 27.8 -0.8
MMAI Mount Meron Ar 10.88 114 Pn Pn 12 14 30.0 +0.5
1.5nm,0.3s,baz=276,slow=17,SNR=6.0
1.2nm,0.3s
ARSA Arzberg 10.89 330 Pn 12 14 29.6 -0.1
ARSA Arzberg 10.89 330 iPn Pn 12 14 30.1 +0.5
2.5nm,0.3s
VYHS Vyhne 10.95 343 ePN Pn 12 14 32.2 +1.8
VYHS e 12 14 36.6
RONA Rosalia, Austr 10.98 333 ePn Pn 12 14 31.6 +0.8
2.3nm,0.4s
CONA Conrad Observa 11.32 333 ePn Pn 12 14 35.9 +0.3
2.4nm,0.6s
STHS Stebnicka Huta 11.44 352 ePN Pn 12 14 40.2 +3.1
STHS e 12 14 46.8
STAL STALIGIAL 11.46 319 Pn Pn 12 14 36.7 -0.7
TEOL Teolo 11.47 313 Pn Pn 12 14 36.2 -1.4
HFRF Wahat Farafira 11.62 159 P Pn 12 14 37.6 -2.1
KEST Kesra 11.64 263 Pn Pn 12 14 39.1 -0.9

KEST Kesra 11.64 263 LR LR 12 20 04.6
comp=Z,112nm,19.6s,baz=332,slow=43
MOA Molln 11.89 328 Pn Pn 12 14 43.6 +0.4
2.3nm,0.3s,SNR=7.2
ABTA Abfaltersbach 11.89 320 iPn Pn 12 14 42.6 -0.7
4.2nm,0.3s,SNR=5.5
CTI Castel Tesino 11.89 316 Pn Pn 12 14 43.1 -0.3
GHAJ Ghor Haditha 11.96 121 12 14 44.2 -0.1
BIOA Bad Ischl, Aus 12.03 326 Pn Pn 12 14 45.1 -0.1
15nm,1.0s,SNR=6.6
KRUC Moravsky 12.12 337 ePN Pn 12 14 46.9 +0.4
LESA Schwarzleotal 12.28 323 ePn Pn 12 14 48.3 -0.3
7.7nm,1.1s
VRAC Vranov 12.28 338 ePN Pn 12 14 47.8 -0.8
VRAC Vranov 12.28 338 Pn Pn 12 14 46.1 -2.5
0.4nm,0.3s,baz=171,slow=14,SNR=4.7
1.1nm,0.3s
ASF Jabal al Asfar 12.39 115 Pn Pn 12 14 52.7 +2.5
0.3nm,0.3s,baz=338,slow=10,SNR=3.3
1.4nm,0.4s
OJC Ojcow 12.41 349 Pn Pn 12 14 49.4 -1.0
MORC Moravsky Berou 12.45 342 Pn 12 14 50.0 -1.0
MORC Moravsky Berou 12.45 342 ePN Pn 12 14 50.7 -0.3
EIL Elat 12.63 128 Pn Pn 12 14 54.1 +0.6
1.4nm,0.3s,baz=343,slow=16,SNR=14
EIL Sn Sn 12 17 07.6 -6.3
1.1nm,0.3s,baz=305,slow=14,SNR=3.4
12nm,0.7s
WTTA Wattenberg 12.68 320 iPn Pn 12 14 54.6 +0.4
2.0nm,0.6s
WATA Walderalm 12.76 320 iPn Pn 12 14 55.3 0.0
5.6nm,0.7s
SQTA Sankt Quirin 12.87 319 iPn Pn 12 14 57.1 +0.3
5.8nm,0.6s
GEC2 GERESS Array S 12.90 329 Pn 12 14 56.3 -0.9
GERES GERESS Array B 12.90 329 Pn Pn 12 14 56.5 -0.7
GERES GERESS Array B 12.90 329 Pn Pn 12 14 55.2 -2.0
1.7nm,0.8s,baz=167,slow=14,SNR=11
GERES LR LR 12 20 37.9
comp=Z,152nm,19.2s,baz=148,slow=41
FETA Feichten 13.00 317 iPn Pn 12 15 00.0 +1.5
6.2nm,1.0s
MOTA Moosalm 13.01 319 ePn Pn 12 14 58.7 +0.1
7.5nm,0.9s
AK06 Malin Array Si 13.11 16 P Pn 12 14 58.9 -0.9
AK14 Malin Array Si 13.13 16 P Pn 12 14 59.5 -0.6
AK12 Malin Array Si 13.15 16 P Pn 12 14 59.4 -1.0
AK17 Malin Array Si 13.17 15 P Pn 12 14 59.1 -1.6
AK02 Malin Array Si 13.17 16 P Pn 12 14 59.3 -1.5
KHC Kasperske Hory 13.18 330 ePN Pn 12 15 01.5 +0.6
AK15 Malin Array Si 13.19 16 P Pn 12 14 59.4 -1.6
AK01 Malin Array Si 13.21 16 P Pn 12 14 59.9 -1.3
KIEV Kiev 13.21 16 Pn Pn 12 15 00.1 -1.2
AKASG Malin Array Be 13.22 16 Pn Pn 12 14 59.6 -1.7
0.7nm,0.3s,baz=204,slow=13,SNR=9.8
AKASG LR LR 12 19 57.1
comp=Z,129nm,18.7s,baz=204,slow=37
0.4nm,0.3s
AKBB Malin Array Si 13.22 16 Pn 12 15 00.3 -1.0
AK04 Malin Array Si 13.23 16 P Pn 12 15 00.4 -1.1
RETA Reutte 13.28 319 iPn Pn 12 15 02.6 +0.4
4.0nm,0.4s
DAVOX Davos/Dischmat 13.31 315 LR LR 12 21 54.7
comp=Z,236nm,18.3s,baz=86,slow=46
RNPP2 Kostyukhnivka 13.32 6 P Pn 12 15 01.6 -1.2
RNPP1 Kostyukhnivka 13.34 6 P Pn 12 15 01.8 -1.1
TUE Stuetta 13.44 313 Pn 12 15 03.4 -1.3
HDK1 Dakhla 13.46 157 P Pn 12 15 02.4 -2.4
DAVA Damuels 13.62 317 iPn Pn 12 15 07.2 +0.3
0.1nm,0.1s
PLTM Poltava 13.94 31 P Pn 12 15 10.0 -1.1
BRG Berggiesshubel 14.49 335 eP P 12 15 26.6 +1.2
BRG Amp 12 15 27.6
comp=Z,5.0nm,0.9s
GRA1 Grafenberg Arr 14.59 326 Pn Pn 12 15 18.9 -1.3
GRF Grafenberg Arr 14.59 326 eP P 12 15 28.9 +2.3
comp=Z,4.8nm,0.8s,baz=132,slow=12
GRFO Grafenberg 14.59 326 Pn Pn 12 15 18.9 -1.2
SENIN Lac Senin/Sane 14.60 310 Pn 12 15 19.1 -1.4
BFO Black Forest 15.08 318 Pn 12 15 26.9 +0.2
CLL Collm 15.17 334 Pn Pn 12 15 26.7 -1.3
CLL Collm 15.17 334 ⇑isP P 12 15 34.7 +1.7
comp=Z,14nm,1.0s
CLL iPP pP 12 15 37.8 +0.5
CLL ex x 12 15 44.0
CLL AMS AMS 12 23 00.0
KBZ Khabaz 15.63 63 Pn P 12 15 36.5 -1.6
comp=Z,0.1nm,0.3s,baz=260,slow=12,SNR=8.6
comp=Z,4.7nm,1.1s
ECH Echery 15.65 315 Pn Pn 12 15 33.9 -0.4
GNI Garni 16.54 76 Pn P 12 15 49.2 +0.7
comp=Z,1.3nm,0.3s,baz=193,slow=4.2,SNR=3.4
GNI LR LR 12 22 13.4
comp=Z,131nm,20.7s,baz=288,slow=37
comp=Z,5.5nm,0.4s
MNK Minsk 16.66 9 iP Pn 12 15 46.4 -0.7
comp=E,11nm,0.8s
MNK iP Pn 12 15 46.4 -0.7
comp=N,11nm,0.8s
MNK iP Pn 12 15 46.4 -0.7
comp=Z,6.0nm,0.8s,baz=192
MNK iPP sP 12 15 55.3 -0.6
MNK iPPP PPP 12 16 03.0
MNK iS Sn 12 18 51.7 -0.1
MNK iSS SnSn 12 19 26.8 +22
MNK iLQ LQ 12 21 04.0
MNK iLR LR 12 21 41.6
MNK iLRM MLR 12 22 38.3
comp=N,354nm,16.4s
MNK iLRM MLR 12 22 52.9
comp=E,454nm,17.6s
MNK iLRM MLR 12 23 13.3
comp=Z,202nm,13.1s
NACGM Naroch 16.95 6 eP P 12 15 53.1 +0.5
CEST Esterri de Car 17.59 292 Pn 12 15 59.4 +0.4
CLF Chambon-Foret 18.42 309 P P 12 16 07.6 -1.2
CLF IAmb IAmb 12 16 14.6
comp=Z,47nm,1.3s
UCC Uccle 18.62 319 P P 12 16 10.6 -0.5
OBN Obninsk 19.16 23 P Pn 12 16 17.6 -0.2
comp=Z,4.9nm,0.3s,baz=152,slow=16,SNR=6.9
comp=Z,16nm,0.3s
ESBB Sonseca Array 21.47 283 P P 12 16 42.1 -0.2
ESDC Sonseca Array 21.47 283 P P 12 16 43.6 +1.3
ESDC Sonseca Array 21.47 283 P P 12 16 40.4 -1.9
comp=Z,4.5nm,0.9s,baz=75,slow=11,SNR=25
comp=Z,4.5nm,0.9s
TAM Tamanrasset 21.74 231 P P 12 16 46.3 +0.9
PAB San Pablo 21.78 283 P P 12 16 45.9 +0.2
BELG Belogornoye 22.01 42 P P 12 16 49.4 +1.6
comp=Z,70nm,1.0s,baz=36,slow=1.0,SNR=24
BELG LR LR 12 25 13.7
comp=Z,84nm,18.1s,baz=239,slow=36
comp=Z,70nm,1.0s
HFS Hagfors 22.93 347 P P 12 16 56.3 -1.3
comp=Z,9.8nm,0.9s,baz=153,slow=10.0,SNR=12
HFS LR LR 12 27 23.1
comp=Z,106nm,20.0s,baz=149,slow=41
comp=Z,9.8nm,0.9s
KONO Kongsberg 23.35 342 P P 12 17 01.3 -0.6
FINES FINESS Array B 23.42 3 P P 12 17 01.3 -1.2
FINES FINESS Array B 23.42 3 P P 12 17 02.3 -0.2
comp=Z,6.5nm,0.9s,baz=156,slow=10,SNR=11
FINES LR LR 12 27 44.3
comp=Z,96nm,18.6s,baz=237,slow=41
comp=Z,6.5nm,0.9s
FIA1 FINESS Array S 23.42 3 P P 12 17 03.3 +0.8
PBRG Braganca 23.48 289 eP P 12 17 02.4 -1.0
PBRG iIAmb IAmb 12 17 08.4
comp=Z,15nm,1.2s
RAYN Ar Rayn 23.70 122 P P 12 17 07.5 +1.8
MVO Moncorvo 23.72 287 eP P 12 17 05.2 -0.5
MVO iIAmb IAmb 12 17 05.4
comp=Z,18nm,1.1s
NC602 NORSAR Array S 23.89 345 P P 12 17 06.7 -0.4
PBAR Barrancos 24.04 280 eP P 12 17 11.7 +2.9
PBAR iIAmb IAmb 12 17 22.0
comp=Z,20nm,1.5s
NAO01 NORSAR Array S 24.13 345 P P 12 17 09.1 -0.2
NAO01 IAmb IAmb 12 17 10.0
comp=Z,17nm,0.8s
PMRV Marv??o 24.14 283 eP P 12 17 09.4 -0.3
PMRV iIAmb IAmb 12 17 24.1
comp=Z,14nm,1.8s
MTE Manteigas 24.16 285 P 12 17 10.3 +0.4
MTE IAmb IAmb 12 17 14.2

comp=Z,21nm,0.9s
MTE Manteigas 24.16 285 *eP* **P 12 17 10.2 +0.4**
MTE *i* IAmb IAmb 12 17 57.1
comp=Z,29nm,1.8s
PCBR Castelo Branco 24.16 284 *eP* **P 12 17 05.9 -4.0**
PCBR *i* IAmb IAmb 12 17 26.8
comp=Z,25nm,1.8s
NC405 NORSAR Array S 24.21 346 P **P 12 17 09.7 -0.4**
NC405 IAmb IAmb 12 17 15.4
comp=Z,21nm,1.3s
NB201 NORSAR Array S 24.23 345 **P 12 17 10.4 +0.1**
NB2 NORSAR Subarra 24.24 345 P **P 12 17 10.0 -0.4**
comp=Z,19nm,0.8s,baz=159,slow=10
NOA NORSAR Array B 24.24 345 P **P 12 17 09.7 -0.7**
comp=Z,8.5nm,0.8s,baz=147,slow=9.7,SNR=39
comp=Z,8.5nm,0.8s
POLO Lamas de Olo 24.28 288 *eP* **P 12 17 13.9 +2.8**
NB000 NORSAR Array S 24.32 345 **P 12 17 11.4 +0.2**
PESTR Estremoz 24.36 282 P **P 12 17 12.0 +0.2**
PESTR IAmb IAmb 12 17 15.6
comp=Z,14nm,0.9s
PESTR Estremoz 24.36 282 *eP* **P 12 17 09.4 -2.3**
PESTR *i* IAmb IAmb 12 17 15.6
comp=Z,17nm,1.0s
NC303 NORSAR Array S 24.38 346 P **P 12 17 11.6 -0.1**
NC303 IAmb IAmb 12 17 25.9
comp=Z,15nm,1.0s
PVIS Viseu 24.40 286 *eP* **P 12 17 14.1 +2.0**
NC204 NORSAR Array S 24.54 345 P **P 12 17 14.0 +0.8**
PVAQ Vaqueiros 24.71 278 P **P 12 17 14.9 +0.1**
PVAQ Vaqueiros 24.71 278 *eP* **P 12 17 14.7 -0.2**
PBEJ Beja 24.71 280 *eP* **P 12 17 15.4 +0.5**
PBEJ *i* IAmb IAmb 12 17 54.5
comp=Z,24nm,1.5s
PSARD Sardoal 24.71 283 *eP* **P 12 17 18.7 +3.8**
PMTG Montargil 24.82 282 *eP* **P 12 17 15.9 0.0**
PMTG *i* IAmb IAmb 12 17 50.8
comp=Z,28nm,1.6s
PBDV Barranco-do-Ve 24.91 278 *eP* **P 12 17 16.5 -0.2**
PBDV *i* IAmb IAmb 12 17 29.9
comp=Z,44nm,1.8s
PCVE Castro Verde 24.91 279 *eP* **P 12 17 19.0 +2.2**
PCVE *i* IAmb IAmb 12 17 42.1
comp=Z,39nm,1.7s
PCAS Casmilo, Conde 24.92 285 *eP* **P 12 17 17.5 +0.8**
PCAS *i* IAmb IAmb 12 17 19.8
comp=Z,46nm,1.8s
EKA Eskdalemuir Ar 24.93 322 P **P 12 17 15.3 -1.3**
comp=Z,6.1nm,0.8s,baz=120,slow=9.8,SNR=12
comp=Z,6.1nm,0.8s
MESJ Messejana 25.02 279 P **P 12 17 18.9 +1.3**
MESJ IAmb IAmb 12 17 21.5
comp=Z,12nm,0.8s
MESJ Messejana 25.02 279 *eP* **P 12 17 17.6 0.0**
MESJ *i* IAmb IAmb 12 17 21.5
comp=Z,23nm,2.0s
PARRA Arraiolos 25.49 282 *eP* P 12 17 14.7 -7.2
PARRA *i* IAmb IAmb 12 17 27.3
comp=Z,17nm,1.9s
KIRV Kirov 26.44 31 P **P 12 17 30.3 0.0**
comp=Z,20nm,0.8s,baz=73,slow=11,SNR=6.2
KIRV LR LR 12 27 59.8
comp=Z,77nm,20.6s,baz=205,slow=37
comp=Z,20nm,0.8s
AKTO Aktyubinsk 27.31 52 P **P 12 17 39.9 +1.7**
comp=Z,3.5nm,0.6s,baz=251,slow=7.4,SNR=12
AKTO LR LR 12 30 55.2
comp=Z,123nm,18.7s,baz=24,slow=42
comp=Z,3.5nm,0.6s
AB31 Akbulak array 28.30 55 P **P 12 17 46.8 -0.3**
ABKAR Akbulak array 28.30 55 P **P 12 17 47.4 +0.3**
ARTI Arti 29.43 40 **P 12 17 57.7 +0.6**
ARTI IAmb IAmb 12 17 59.8
comp=Z,16nm,1.1s
ARTI Arti 29.43 40 P **P 12 17 57.8 +0.7**
comp=Z,2.9nm,0.4s,baz=241,slow=5.6,SNR=6.2
ARTI LR LR 12 30 48.9
comp=Z,116nm,18.1s,baz=208,slow=39
comp=Z,2.9nm,0.4s
ARCES ARCESS Array B 31.51 1 P **P 12 18 15.7 +0.4**
ARCES IAmb IAmb 12 18 40.4
comp=Z,14nm,1.5s
ARCES ARCESS Array B 31.51 1 P **P 12 18 14.8 -0.5**
comp=Z,1.3nm,0.6s,baz=181,slow=8.4,SNR=7.2
ARCES PcP **PcP 12 21 06.6 -1.1**
comp=Z,0.3nm,0.4s,baz=197,slow=2.0,SNR=5.8
ARCES LR LR 12 32 10.3
comp=Z,180nm,18.9s,baz=166,slow=39
comp=Z,1.3nm,0.6s
TORD Torodi Ar. Bea 31.57 224 P **P 12 18 16.9 +0.5**
comp=Z,7.4nm,0.6s,baz=33,slow=11,SNR=8.3
comp=Z,7.4nm,0.6s
BRVK Borovoye 35.26 50 P **P 12 18 47.2 -1.0**
BVAR Borovoye Array 35.32 50 P **P 12 18 50.1 +1.4**
comp=Z,1.4nm,0.7s,baz=257,slow=5.3,SNR=5.9
BVAR LR LR 12 34 24.8
comp=Z,67nm,19.6s,baz=325,slow=38
comp=Z,1.4nm,0.7s
SIMJ Simiganj 35.33 75 P **P 12 18 50.0 +0.9**
KK31 Karatay Array 35.61 67 P **P 12 18 52.4 +1.0**
KKAR Karatay Array 35.61 67 P **P 12 18 51.6 +0.3**
GAR Garm 36.24 74 P **P 12 18 58.2 +1.3**
BTK Batken 36.38 72 P **P 12 18 58.9 +0.9**
BTK IAmb IAmb 12 19 00.4
comp=Z,11nm,1.0s
KBL Kabul 36.52 81 P **P 12 19 00.9 +1.5**
DRK Karamyk 37.25 72 P **P 12 19 07.1 +1.4**
BORG Borgarnes 37.37 330 LR LR 12 37 55.1
comp=Z,43nm,18.1s,baz=135,slow=42
ARSB Arslanbob 37.73 69 P **P 12 19 08.5 -1.1**
ARSB IAmb IAmb 12 19 12.4
comp=Z,13nm,1.2s
AAK Ala-Archa 38.57 67 P **P 12 19 17.2 +0.5**
BOOM Boomskoye usch 39.65 67 P **P 12 19 27.1 +1.4**
NIL Nilore 40.10 81 P **P 12 19 29.8 +0.3**
SPITS Spitsbergen Ar 40.30 358 P **P 12 19 30.3 -0.2**
comp=Z,9.6nm,0.9s,baz=140,slow=11,SNR=11
comp=Z,9.6nm,0.9s
KURBB Kurchatov Arra 40.33 54 P **P 12 19 31.6 +0.6**
comp=Z,7.1nm,0.6s,baz=280,slow=8.7,SNR=57
KURBB LR LR 12 40 47.2
comp=Z,109nm,18.2s,baz=168,slow=43
comp=Z,7.1nm,0.6s
KURK Kurchatov 40.38 54 P **P 12 19 32.2 +0.8**
DBIC Dimbokro 40.54 227 P **P 12 19 33.4 +0.3**
DBIC IAmb IAmb 12 19 41.3
comp=Z,21nm,1.0s
DBIC Dimbokro 40.54 227 P **P 12 19 33.1 +0.1**
comp=Z,11nm,0.8s,baz=55,slow=9.0,SNR=9.9
comp=Z,11nm,0.8s
KDJ Kajisay 40.62 67 P **P 12 19 35.3 +1.5**
TARG Taragay, Kyrgy 41.17 67 P **P 12 19 39.0 +0.5**
KBS Kingsbay 41.21 357 P **P 12 19 38.5 +0.5**
MAKZ Makanchi 43.06 59 P **P 12 19 54.4 +1.0**
MAKZ IAmb IAmb 12 19 55.8
comp=Z,9.4nm,0.9s
MKAR Makanchi Array 43.28 59 P **P 12 19 56.3 +1.1**
MKAR Makanchi Array 43.28 59 P **P 12 19 56.0 +0.8**
comp=Z,15nm,0.6s,baz=278,slow=6.9,SNR=151
comp=Z,15nm,0.6s
ZAA0 Zalesovo Array 43.94 48 P **P 12 20 00.8 +0.4**
ZAA0 IAmb IAmb 12 20 02.2
comp=Z,8.8nm,0.8s
ZALV Zalesovo Beam 43.94 48 P **P 12 20 00.7 +0.3**
ZALV Zalesovo Beam 43.94 48 P **P 12 20 01.1 +0.8**
comp=Z,8.3nm,0.7s,baz=280,slow=8.9,SNR=30
comp=Z,8.3nm,0.7s
ANGG Ammassalik, Gr 44.22 329 P **P 12 20 02.6 +0.2**
ANGG IAmb IAmb 12 20 15.5
comp=Z,12nm,1.0s
SUMG Summit 45.78 338 P **P 12 20 16.4 +1.1**
SUMG IAmb IAmb 12 20 20.6
comp=Z,14nm,1.2s
EVN Everest 53.06 81 P **P 12 21 11.0 -0.8**
GTA Gaotai 57.72 63 *eP* **P 12 21 44.6 0.0**
GTA pmax pmax
comp=Z,6.0nm,0.7s
SONM Songino Array 58.62 52 P **P 12 21 51.0 +0.2**
SONM IAmb IAmb 12 21 52.4
comp=Z,11nm,1.5s
SONM Songino Array 58.62 52 P **P 12 21 51.7 +0.9**
comp=Z,3.2nm,0.7s,baz=289,slow=8.6,SNR=12
comp=Z,3.2nm,0.7s
TIXI Tiksi 58.87 21 P **P 12 21 51.5 -0.5**
TIXI IAmb IAmb 12 21 53.5
comp=Z,8.0nm,1.0s

SCHQ Schefferville 60.14 318 P **P 12 21 59.9 -1.1**
comp=Z,5.0nm,0.6s,baz=52,slow=11,SNR=3.8
comp=Z,5.0nm,0.6s
RES Resolute Bay 60.50 344 P **P 12 22 04.1 +1.0**
RES IAmb IAmb 12 22 25.8
comp=Z,6.1nm,1.1s
LZH Lanzhou 62.06 65 *eP* **P 12 22 14.5 -0.1**
LZH pP sP 12 22 21.4 -0.1
LZH pmax pmax
comp=Z,18nm,1.3s
HAL Halifax 62.74 307 P **P 12 22 19.6 +0.9**
YAK Yakutsk 63.97 30 LR LR 12 51 20.0
comp=Z,55nm,18.5s,baz=268,slow=37
D62A Allapoint, All 64.92 311 P **P 12 22 33.8 +0.8**
D62A IAmb IAmb 12 22 35.0
comp=Z,5.7nm,0.9s
HHC Hu-ho-hao-te 65.07 57 *eP* **P 12 22 34.1 -0.2**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,74nm,4.6s
PZH PanZhiHua 65.30 75 P **P 12 22 35.8 -0.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
BOSA Boshof 66.39 178 LR LR 12 54 42.9
comp=Z,57nm,21.0s,baz=24,slow=39
XLT XiLinHaoTe 66.44 52 *eP* **P 12 22 43.8 +0.8**
XLT pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 67.30 83 P **P 12 22 48.4 -0.4**
CHTO IAmb IAmb 12 22 49.5
comp=Z,8.5nm,1.4s
BLKN Baker Lake 67.46 336 P **P 12 22 49.1 +0.1**
BLKN IAmb IAmb 12 22 50.8
comp=Z,3.3nm,0.7s
CMAR Chiang Mai Arr 67.50 84 P **P 12 22 50.0 0.0**
comp=Z,2.4nm,0.8s,baz=300,slow=8.0,SNR=16
comp=Z,2.4nm,0.8s
A36M Sachs Harbour 68.04 350 P **P 12 22 53.0 +0.5**
A36M Sachs Harbour 68.04 350 P **P 12 22 52.8 +0.2**
baz=26
HEH HeiHe 69.50 42 *eP* **P 12 23 02.3 +0.3**
HEH pmax pmax
comp=Z,9.0nm,0.9s
A21K Barrow 70.88 0 P **P 12 23 08.6 -1.5**
baz=360
A22K Sinclair Lake 71.19 360 P **P 12 23 10.4 -1.6**
baz=1.2
B22K Teshekpuk Lake 71.84 359 P **P 12 23 13.9 -2.1**
baz=2.5
C26K Camden Bay 71.96 356 P **P 12 23 15.1 -1.5**
baz=9.5
D28M Stokes Point 72.09 353 P **P 12 23 16.4 -1.1**
baz=15
C27K Jago River 72.18 355 P **P 12 23 17.1 -0.9**
baz=10
B20K Meade River 72.20 0 P **P 12 23 17.7 -0.4**
baz=359
C23K Ikkiik River 72.29 358 P **P 12 23 17.8 -0.9**
baz=4.8
C24K Franklin Bluff 72.34 357 P **P 12 23 18.2 -0.7**
baz=6.4
D27M Malcolm River 72.36 354 P **P 12 23 18.4 -0.7**
baz=13
INK Inuvik 72.53 351 P **P 12 23 20.4 +0.3**
INK Inuvik 72.53 351 LR LR 12 57 40.9
comp=Z,35nm,18.2s,baz=91,slow=38
INK Inuvik 72.53 351 P **P 12 23 19.5 -0.6**
baz=19
B21K Ikpikpuk River 72.58 359 P **P 12 23 19.9 -0.5**
baz=1.5
D25K Kavik River 72.63 356 P **P 12 23 21.3 +0.5**
D25K IAmb IAmb 12 23 30.4
comp=Z,8.7nm,1.3s
D25K Kavik River 72.63 356 P **P 12 23 20.3 -0.5**
baz=8.3
MEDO Medina 72.64 311 P **P 12 23 20.5 -0.7**
B18K Kokolik River 72.77 2 P **P 12 23 20.9 -0.6**
baz=356
E28M Babbage River 72.86 354 P **P 12 23 21.4 -0.7**
baz=14
D24K Happy Valley 72.91 357 P **P 12 23 21.8 -0.5**
baz=6.2
E29M Blow River 72.92 353 P **P 12 23 23.2 +0.7**
E29M Blow River 72.92 353 P **P 12 23 22.3 -0.2**
baz=15
C21K Knifeblade Rid 73.05 359 P **P 12 23 22.0 -1.2**
baz=1.3
C19K Lookout Ridge 73.08 1 P **P 12 23 22.7 -0.7**
baz=357
D23K Nanushuk River 73.16 358 P **P 12 23 24.9 +1.0**
D23K IAmb IAmb 12 23 41.5
comp=Z,13nm,1.4s
D23K Nanushuk River 73.16 358 P **P 12 23 23.2 -0.7**
baz=4.7
D22K Ayikyak River 73.30 359 P **P 12 23 26.4 +1.7**
D22K IAmb IAmb 12 23 30.2
comp=Z,12nm,1.3s
D22K Ayikyak River 73.30 359 P **P 12 23 24.1 -0.6**
baz=3.1
MA2 Magadan 73.36 25 P **P 12 23 26.3 +1.1**
MA2 Magadan 73.36 25 LR LR 12 58 22.0
comp=Z,63nm,18.3s,baz=292,slow=38
MA2 Magadan 73.36 25 P **P 12 23 26.2 +1.1**
comp=Z,45nm,1.4s
F31M Tsiigehtchic 73.38 351 P **P 12 23 25.7 +0.6**
F31M Tsiigehtchic 73.38 351 P **P 12 23 24.6 -0.5**
baz=18
E27K Coleen River 73.45 354 P **P 12 23 26.3 +0.7**
E27K IAmb IAmb 12 23 31.7
comp=Z,11nm,1.5s
E27K Coleen River 73.45 354 P **P 12 23 25.2 -0.4**
baz=12
TOLK Toolik Lake Re 73.45 357 P **P 12 23 27.0 +1.4**
TOLK IAmb IAmb 12 23 33.2
comp=Z,12nm,1.4s
TOLK Toolik Lake Re 73.45 357 P **P 12 23 25.5 -0.2**
baz=5.6
F30M Barrier River 73.46 352 P **P 12 23 25.4 -0.2**
baz=17
D20K Etivluk River 73.50 0 P **P 12 23 25.2 -0.7**
baz=360
C18K Utukok River 73.51 2 P **P 12 23 27.1 +1.1**
C18K IAmb IAmb 12 23 33.7
comp=Z,12nm,1.1s
C18K Utukok River 73.51 2 P **P 12 23 25.5 -0.5**
baz=356
C17K DeLong Mountai 73.62 3 P **P 12 23 26.0 -0.6**
baz=354
D19K Kuna River 73.71 1 P **P 12 23 26.7 -0.5**
baz=359
C16K Lisburne Hills 73.73 3 P **P 12 23 26.8 -0.4**
baz=353
E21K Killik River 73.76 359 P **P 12 23 26.9 -0.5**
baz=2.0
E25K Arctic Village 73.78 356 P **P 12 23 29.2 +1.6**
E25K IAmb IAmb 12 23 58.1
comp=Z,8.7nm,1.4s
E25K Arctic Village 73.78 356 P **P 12 23 27.1 -0.5**
baz=8.9
F28M Old Crow 73.86 353 P **P 12 23 28.6 +0.5**
F28M IAmb IAmb 12 23 41.7
comp=Z,7.2nm,1.4s
F28M Old Crow 73.86 353 P **P 12 23 27.4 -0.6**
baz=14
G31M Satah River 73.94 351 P **P 12 23 28.8 +0.4**
G31M Satah River 73.94 351 P **P 12 23 28.2 -0.2**
baz=18
E20K Nigu River 73.96 360 P **P 12 23 27.9 -0.8**
baz=0.2
E24K Your Creek 73.97 357 P **P 12 23 29.9 +1.1**
E24K IAmb IAmb 12 23 40.2
comp=Z,9.6nm,1.4s
E24K Your Creek 73.97 357 P **P 12 23 28.3 -0.4**
baz=6.5
E23K Chandalar 74.04 357 P **P 12 23 28.8 -0.3**
baz=5.5
RDOG Red Dog Mine 74.05 3 P **P 12 23 28.6 -0.5**
baz=355
G30M tAoh Zraii Nji 74.11 352 P **P 12 23 29.3 -0.2**
G30M IAmb IAmb 12 23 36.3
comp=Z,9.5nm,1.5s
G30M tAoh Zraii Nji 74.11 352 P **P 12 23 29.5 0.0**
baz=16
F26K Sheenjek River 74.12 355 P **P 12 23 30.7 +1.1**
F26K IAmb IAmb 12 23 32.1
comp=Z,11nm,1.4s

F26K Sheenjek River 74.12 355 P **P 12 23 29.4 -0.2**
baz=10.0
YKA Yellowknife Ar 74.26 341 P **P 12 23 28.1 -2.2**
comp=Z,1.8nm,0.8s,baz=34,slow=5.9,SNR=6.5
comp=Z,1.8nm,0.8s
F25K Christian Rive 74.31 356 P **P 12 23 31.8 +1.1**
F25K Christian Rive 74.31 356 P **P 12 23 30.4 -0.3**
baz=8.8
G29M Pine Creek 74.37 353 P **P 12 23 31.8 +0.8**
G29M IAmb IAmb 12 23 31.9
comp=Z,4.7nm,0.8s
G29M Pine Creek 74.37 353 P **P 12 23 30.6 -0.4**
baz=15
D17K Noatak River 74.40 3 P **P 12 23 30.8 -0.3**
baz=354
BMAR Burnt Mountain 74.41 355 P **P 12 23 32.6 +1.4**
F24K Squaw Lake 74.50 357 P **P 12 23 31.3 -0.5**
F24K IAmb IAmb 12 23 58.8
comp=Z,6.9nm,1.2s
F24K Squaw Lake 74.50 357 P **P 12 23 31.7 -0.1**
baz=7.0
P57A Homestead Farm 74.55 308 P **P 12 23 31.6 -0.9**
F22K John River 74.66 358 P **P 12 23 32.7 0.0**
baz=3.4
E18K Tukpahlearik C 74.75 2 P **P 12 23 32.7 -0.4**
baz=357
EPYK Eagle Plains 74.75 352 P **P 12 23 32.9 -0.4**
baz=16
E19K Redstone River 74.76 0 P **P 12 23 33.2 0.0**
baz=359
G27K Doyon Strip 74.81 354 P **P 12 23 34.9 +1.3**
G27K Doyon Strip 74.81 354 P **P 12 23 33.4 -0.2**
baz=12
G26K Porcupine Rive 74.83 355 P **P 12 23 33.5 -0.1**
baz=10
COLD Coldfoot 74.89 357 P **P 12 23 34.1 +0.1**
baz=5.0
F21K Alatna River 74.98 359 P **P 12 23 34.1 -0.4**
baz=2.4
H31M Peel River 75.02 351 P **P 12 23 34.2 -0.6**
baz=18
E17K Hotham Inlet 75.06 2 P **P 12 23 34.6 -0.3**
baz=356
H29M Whitestone 75.08 353 IAmb IAmb 12 23 35.9
comp=Z,4.5nm,0.8s
H29M Whitestone 75.08 353 P **P 12 23 35.0 -0.1**
baz=15,SNR=6.2
G25K Bearman Lake 75.16 356 P **P 12 23 35.5 0.0**
baz=8.4
F20K Avaraart Lake 75.17 360 P **P 12 23 35.4 -0.2**
baz=0.6
G22K Bettles 75.23 358 P **P 12 23 35.6 -0.3**
baz=4.0
G24K Hadweenzic Riv 75.30 356 P **P 12 23 35.9 -0.5**
baz=7.3
H27K Steamboat Moun 75.36 354 P **P 12 23 36.4 -0.4**
baz=12,SNR=5.5
F19K Shaleruckik Mo 75.39 1 IAmb IAmb 12 23 38.7
comp=Z,6.4nm,1.1s
F19K Shaleruckik Mo 75.39 1 P **P 12 23 36.3 -0.5**
baz=359
G23K Bananza Creek 75.40 357 P **P 12 23 36.6 -0.4**
baz=5.2
F18K Selawik 75.60 1 P **P 12 23 37.9 -0.1**
baz=357
WRGLY Wrigley 75.64 345 P **P 12 23 39.9 +1.6**
WRGLY Wrigley 75.64 345 P **P 12 23 38.2 -0.1**
baz=26
H25L Birch Creek 75.64 356 P **P 12 23 38.1 -0.2**
baz=8.6
USRK Ussuriysk Ar. 75.65 45 P **P 12 23 38.1 -0.7**
comp=Z,3.1nm,0.6s,baz=287,slow=5.0,SNR=4.4
comp=Z,3.1nm,0.6s
G21K Allakaket 75.69 359 P **P 12 23 38.6 0.0**
baz=2.4
F17K Baldwin Pennin 75.72 2 P **P 12 23 37.8 -0.9**
baz=356
I30M Mount Dempster 75.82 351 P **P 12 23 38.6 -1.0**
baz=16,SNR=7.9
I29M Ogilvie Camp, 75.91 352 P **P 12 23 39.5 -0.4**
baz=15
I28M Miner Creek 75.98 353 P **P 12 23 39.7 -0.7**
baz=13
I27K Kandik River 75.99 354 P **P 12 23 40.2 -0.2**
baz=12
G19K Purcell Mounta 76.08 0 IAmb IAmb 12 23 42.8
comp=Z,9.3nm,1.1s
G19K Purcell Mounta 76.08 0 P **P 12 23 40.6 -0.2**
baz=359
H24K Noodor Dome 76.18 356 P **P 12 23 41.2 -0.3**
baz=6.9
H22K Ishtalitna Cre 76.26 358 P **P 12 23 40.9 -0.9**
baz=4.1,SNR=6.5
H23K Yukon River 76.27 357 IAmb IAmb 12 24 04.2
comp=Z,9.2nm,1.4s
H23K Yukon River 76.27 357 P **P 12 23 41.0 -1.0**
baz=5.5
TNA Tin City 76.28 5 P **P 12 23 41.5 -0.4**
baz=351
G18K Tagagawik 76.32 1 IAmb IAmb 12 23 43.8
comp=Z,4.8nm,0.9s
G18K Tagagawik 76.32 1 P **P 12 23 42.1 -0.1**
baz=358
F15K North Star Dit 76.32 3 P **P 12 23 42.1 -0.1**
baz=353
PRP Porcupine Dome 76.36 355 P **P 12 23 41.3 -1.3**
baz=8.8
I26K Coal Creek Min 76.41 354 P **P 12 23 42.6 -0.1**
baz=11
J30M Hart River 76.44 351 P **P 12 23 44.0 +0.9**
J30M Hart River 76.44 351 P **P 12 23 42.4 -0.6**
baz=16,SNR=12
F14K Arctic Creek 76.47 4 P **P 12 23 42.7 -0.3**
baz=352
H21K Melozitna Rive 76.53 358 P **P 12 23 45.0 +1.5**
H21K Melozitna Rive 76.53 358 P **P 12 23 42.8 -0.6**
baz=2.9,SNR=5.6
G17K Kiwalik Mounta 76.68 2 P **P 12 23 43.1 -1.1**
baz=357
H19K Roundabout Mou 76.70 0 IAmb IAmb 12 23 46.3
comp=Z,8.2nm,1.2s
H19K Roundabout Mou 76.70 0 P **P 12 23 43.9 -0.4**
baz=360
H20K Anotleneega Mo 76.73 359 P **P 12 23 43.9 -0.6**
baz=1.2
G16K Koyuk River 76.73 3 P **P 12 23 44.1 -0.4**
baz=355
J29N Klondike Camp 76.78 352 P **P 12 23 44.2 -0.7**
baz=15
I23K Minto, Yukon-K 76.94 357 P **P 12 23 45.2 -0.4**
baz=5.7
G15K Niukluk 77.06 3 P **P 12 23 45.8 -0.6**
baz=354
H18K Honhosa River 77.07 1 P **P 12 23 46.2 -0.3**
baz=358
MLY Manley 77.11 358 P **P 12 23 46.4 -0.3**
baz=4.6
COLA College 77.14 356 P **P 12 23 45.8 -1.0**
baz=6.9
ILAR Eielson Array 77.19 356 P **P 12 23 45.5 -1.6**
comp=Z,0.7nm,0.9s,baz=354,slow=3.6,SNR=6.3
comp=Z,0.7nm,0.9s
J26L Joseph Creek 77.23 354 P **P 12 23 46.8 -0.7**
baz=10
J25K Salcha River, 77.25 355 P **P 12 23 47.2 -0.3**
baz=8.9
H17K Granite Mounta 77.26 2 P **P 12 23 47.0 -0.5**
baz=357
DAWY Dawson 77.28 352 IAmb IAmb 12 23 49.1
comp=Z,4.4nm,0.8s
DAWY Dawson 77.28 352 P **P 12 23 47.3 -0.4**
baz=14,SNR=6.8
K29M Barlow Dome 77.29 352 P **P 12 23 46.9 -1.0**
baz=15
MAYO Mayo, Yukon 77.33 351 P **P 12 23 47.4 -0.6**
baz=16
ANM Nome 77.43 4 P **P 12 23 48.2 -0.2**
baz=353
I20K Naaghedeneel 77.43 359 P **P 12 23 47.4 -1.0**
baz=1.6
NEA2 Nenana 77.48 357 P **P 12 23 48.0 -0.7**
baz=5.9
KSRS Korea Array 77.49 52 P **P 12 23 49.0 -0.2**
comp=Z,2.6nm,0.7s,baz=311,slow=5.4,SNR=12
comp=Z,2.6nm,0.7s
H16K Elim 77.49 3 P **P 12 23 48.1 -0.7**
baz=355
HDA Harding Lake 77.55 356 P **P 12 23 48.5 -0.7**

	baz=7.6						
WRH	Wood River Hil	77.55	356	IAmb	IAmb	12 23 50.4	
	comp=Z,4.1nm,0.7s						
K27K	Chicken	77.57	354	P	P	12 23 48.8	-0.5
	baz=12						
MMPY	Sheldon Lake,	77.60	348	IAmb	IAmb	12 23 52.6	
	comp=Z,12nm,1.3s						
MMPY	Sheldon Lake,	77.60	348	P	P	12 23 49.2	-0.3
	baz=20,SNR=5.2						
GAMB	Gambell	77.73	7	P	P	12 23 49.4	-0.8
	baz=348						
SCRK	Sand Creek	77.78	354	P	P	12 23 50.2	-0.4
	baz=10.0						
J20K	Nowinta River	78.04	359	P	P	12 23 51.6	-0.2
	baz=1.8						
BPAW	Bear Paw Mtn.	78.05	358	P	P	12 23 51.4	-0.5
	baz=4.3						
L29M	L29M	78.07	352	P	P	12 23 51.6	-0.5
	baz=15						
RIDG	Independent Ri	78.08	355	P	P	12 23 51.5	-0.7
	baz=9.3						
K24K	Donnelly Dome	78.08	355	P	P	12 23 52.0	-0.2
	baz=8.5						
TGTN	Hyland Airport	78.11	347	P	P	12 23 52.0	-0.4
	baz=22						
J19K	Poorman	78.24	360	IAmb	IAmb	12 23 58.8	
	comp=Z,11nm,1.4s						
J19K	Poorman	78.24	360	P	P	12 23 52.9	-0.1
	baz=0.6						
I17K	Unalakleet	78.29	2	P	P	12 23 52.4	-0.9
	baz=356						
CHUM	Lake Minchumin	78.30	358	P	P	12 23 53.4	+0.1
	baz=3.3						
MCK	McKinley	78.33	357	P	P	12 23 53.6	+0.1
	baz=6.0						
M30M	Minto, Yukon	78.43	351	P	P	12 23 53.2	-1.0
	baz=16						
M31M	Drury Creek, Y	78.47	350	IAmb	IAmb	12 24 00.5	
	comp=Z,6.9nm,1.2s						
M31M	Drury Creek, Y	78.47	350	P	P	12 23 55.2	+0.8
	baz=18,SNR=5.1						
BCAR	Beaver Creek A	78.50	353	P	P	12 23 55.7	+1.2
L27K	Beaver Creek,	78.50	353	IAmb	IAmb	12 24 02.3	
	comp=Z,7.2nm,1.4s						
L27K	Beaver Creek,	78.50	353	P	P	12 23 55.3	+0.8
	baz=12						
KOTAN	Kotaneelee Air	78.56	344	P	P	12 23 54.9	+0.1
	baz=25						
TRF	Thorofare Moun	78.67	357	P	P	12 23 55.9	+0.3
	baz=4.9						
L26K	Log Cabin Wild	78.67	354	P	P	12 23 55.4	-0.1
	baz=10						
M29M	Somme Creek	78.76	352	IAmb	IAmb	12 23 57.8	
	comp=Z,4.4nm,0.8s						
M29M	Somme Creek	78.76	352	P	P	12 23 56.4	+0.4
	baz=14,SNR=6.5						
J18K	Innoko River	78.77	0	P	P	12 23 56.7	+0.7
	baz=360						
J17K	VABM Dome	78.82	1	P	P	12 23 56.3	+0.1
	baz=358						
K20K	Telida	78.86	359	P	P	12 23 56.8	+0.3
	baz=1.9						
PAX	Paxson	78.89	355	P	P	12 23 56.6	-0.2
	baz=8.8						
J16K	Anvik River	78.90	2	P	P	12 23 55.5	-1.1
	baz=357						
BVCY	Beaver Creek	79.05	353	P	P	12 23 56.6	-0.9
	baz=12,SNR=5.9						
M27K	Edge Creek, AK	79.20	353	P	P	12 23 58.4	-0.1
	baz=12						
M26K	Nabesna, AK	79.26	354	P	P	12 23 58.8	+0.1
	baz=11						
N32M	Quiet Lake	79.28	349	IAmb	IAmb	12 24 01.0	
	comp=Z,11nm,1.1s						
N32M	Quiet Lake	79.28	349	P	P	12 23 59.1	+0.2
	baz=18,SNR=6.1						
PPLA	Purkeypile	79.29	358	P	P	12 23 59.1	+0.1
	baz=3.4						
J14K	Nanvaranak Lak	79.33	3	P	P	12 23 59.3	+0.4
	baz=354						
N31M	Braeburn, Yuko	79.35	350	P	P	12 23 59.0	-0.2
	baz=16						
HARP	HAARP	79.43	355	P	P	12 23 59.6	0.0
	baz=9.0						
K17K	Iditarod	79.51	1	P	P	12 24 00.2	+0.2
	baz=358						
WTLY	Watson Lake, Y	79.53	346	IAmb	IAmb	12 24 02.6	
	comp=Z,7.3nm,0.9s						
WTLY	Watson Lake, Y	79.53	346	P	P	12 24 01.0	+0.8
	baz=22,SNR=6.4						
N30M	Aishikik Lake	79.55	351	P	P	12 24 00.9	+0.6
	baz=15						
YUK3	Moose Creek	79.63	352	P	P	12 24 01.6	+0.7
	baz=13,SNR=7.8						
LIRD	Liard River Hi	79.64	345	P	P	12 24 01.2	+0.4
	baz=24						
L20K	Farewell, AK	79.74	359	P	P	12 24 00.8	-0.5
	baz=2.0						
M24K	Tolsona, Glenn	79.79	355	P	P	12 24 00.4	-1.2
	baz=8.2						
YUK4	Talbot Arm	79.85	351	P	P	12 24 00.8	-1.3
	baz=14						
K15K	Wolf Creek Mou	79.86	2	P	P	12 24 01.2	-0.7
	baz=356						
TOAD	Toad River Com	79.97	344	P	P	12 24 01.8	-0.9
	baz=24,SNR=7.4						
WHY	Whitehorse	80.02	349	P	P	12 24 02.0	-0.9
	baz=17						
L18K	Granite Mounta	80.02	0	P	P	12 24 02.3	-0.5
	baz=360						
L19K	White Mountain	80.05	359	P	P	12 24 02.7	-0.3
	baz=1.2						
O30N	Mendenhall	80.08	350	P	P	12 24 02.5	-0.7
	baz=16						
K13K	Kusilvak Mount	80.09	4	P	P	12 24 03.0	-0.1
	baz=353						
L17K	Donlin	80.10	1	P	P	12 24 03.2	+0.1
	baz=358						
P33M	Teslin, Yukon	80.13	348	P	P	12 24 03.2	-0.3
	baz=19						
SCM	Sheep Creek Mo	80.14	356	P	P	12 24 02.2	-1.3
	baz=7.2						
N25K	Chitina, Valde	80.18	354	P	P	12 24 02.0	-1.8
	baz=9.4						
SKT	Skwentna	80.19	358	IAmb	IAmb	12 24 03.8	
	comp=Z,4.5nm,0.6s						
SKT	Skwentna	80.19	358	P	P	12 24 03.2	-0.5
	baz=3.9						
M23K	Glacier View	80.20	356	P	P	12 24 03.2	-0.5
	baz=6.9						
YUK6	Outpost Mounta	80.20	351	P	P	12 24 03.5	-0.6
	baz=14						
HYT	Haines Junctio	80.21	351	IAmb	IAmb	12 24 06.2	
	comp=Z,8.9nm,1.3s						
HYT	Haines Junctio	80.21	351	P	P	12 24 03.3	-0.7
	baz=15						
MCARA	McCarthy VSAT	80.26	354	P	P	12 24 03.4	-0.7
	baz=11						
M20K	Styx River	80.33	358	P	P	12 24 03.7	-0.9
	baz=2.6						
M19K	Big River Lodg	80.33	359	P	P	12 24 03.6	-0.9
	baz=1.6						
M22K	Willow	80.36	357	P	P	12 24 04.1	-0.5
	baz=5.0						
KLU	Klutina	80.39	355	P	P	12 24 03.3	-1.5
	baz=8.3						
PMR	Palmer	80.48	356	P	P	12 24 05.2	0.0
	baz=5.8						
L15K	Ungalak Mounta	80.48	2	P	P	12 24 05.2	0.0
	baz=356						
L16K	Owhat River	80.50	1	P	P	12 24 04.7	-0.6
	baz=358						
CTG	Chitna Glacier	80.52	353	P	P	12 24 05.2	-0.5
	baz=12						
O28M	Mount Upton	80.58	352	P	P	12 24 05.8	-0.4
	baz=13						
R33M	Jennings River	80.59	347	IAmb	IAmb	12 24 09.0	
	comp=Z,10.0nm,0.9s						
R33M	Jennings River	80.59	347	P	P	12 24 07.3	+1.3
	baz=20,SNR=8.8						
KNK	Knik Glacier	80.62	356	P	P	12 24 06.3	+0.3
	baz=6.3						
M18K	Stony River	80.75	360	P	P	12 24 06.5	-0.2
	baz=0.5						
L14K	Kuka Creek	80.77	3	P	P	12 24 06.3	-0.5
	baz=355						
BMRM	Bremner River	80.81	354	P	P	12 24 06.3	-0.8
	baz=9.4						
P30M	Million Dollar	80.82	350	P	P	12 24 07.0	-0.2
	baz=15						
PETK	Petropavlovsk-	80.84	26	LR	LR	13 02 03.9	
	comp=Z,38nm,18.7s,baz=300,slow=37						
M17K	Holitna River	80.84	0	P	P	12 24 05.9	-1.3
	baz=359						
O29M	Mount Kennedy	80.85	351	P	P	12 24 07.0	-0.5
	baz=14						
P32M	Atlin	80.86	349	P	P	12 24 06.6	-0.8
	baz=18						
CRQE	Cirque	80.89	353	P	P	12 24 08.0	+0.4
	baz=11						
RC01	Rabbit Creek A	81.01	357	P	P	12 24 08.6	+0.5
	baz=5.3						
GLI	Glacier Island	81.07	355	P	P	12 24 08.6	+0.2
	baz=7.4						
CPCT	Cooper Cave	81.11	308	IAmb	IAmb	12 24 11.7	
	comp=Z,6.9nm,1.0s						
PWL	Port Wells	81.17	356	P	P	12 24 08.1	-0.9
	baz=6.4						
U49A	Red Boiling Sp	81.18	310	IAmb	IAmb	12 24 11.3	
	comp=Z,6.4nm,0.9s						
M16K	Timber Creek	81.20	1	P	P	12 24 09.2	0.0
	baz=358						
Q32M	Nakina River	81.23	348	P	P	12 24 10.2	+0.6
	baz=19						
SKAG	Skagway	81.23	349	P	P	12 24 09.7	+0.4
	baz=17						
PINM	Pinnacle	81.25	352	P	P	12 24 09.8	+0.3
	baz=13						
EYAK	Cordova Ski Ar	81.31	355	P	P	12 24 09.8	+0.1
	baz=8.5						
DLBC	Dease Lake	81.32	346	P	P	12 24 10.3	+0.4
	baz=21						
MESA	MESA	81.35	353	P	P	12 24 10.7	+0.5
	baz=12						
PLBC	Pleasant Camp	81.39	350	P	P	12 24 10.9	+0.8
	baz=16						
CAPN	Captain Cook N	81.39	357	P	P	12 24 10.8	+0.8
	baz=4.2						
M14K	Bethel	81.39	3	P	P	12 24 10.4	+0.3
	baz=356						
P29M	Windy Craggy	81.40	351	P	P	12 24 09.4	-0.9
	baz=15						
N19K	Bonanza Creek	81.42	359	P	P	12 24 09.3	-1.1
	baz=1.5						
M15K	Kasigluk River	81.49	2	P	P	12 24 09.7	-0.9
	baz=357						
N18K	Kilae Creek	81.57	360	P	P	12 24 10.9	-0.2
	baz=0.4						
M13K	Dall Lake	81.67	3	P	P	12 24 10.9	-0.7
	baz=354						
N17K	Nushagak Hills	81.72	0	P	P	12 24 10.3	-1.6
	baz=359						
N16K	Nishlik Lake	81.76	1	P	P	12 24 10.7	-1.4
	baz=358						
P23K	Montague Islan	81.97	355	P	P	12 24 12.1	-1.1
	baz=7.1						
SEW	Seward	81.98	356	P	P	12 24 12.5	-0.7
	baz=5.5						
S34M	Telegraph Cree	82.02	347	IAmb	IAmb	12 24 16.3	
	comp=Z,5.6nm,0.8s						
S34M	Telegraph Cree	82.02	347	P	P	12 24 12.4	-1.1
	baz=20						
O19K	Port Alsworth	82.04	359	P	P	12 24 12.2	-1.3
	baz=1.6						
O20K	Slope Mountain	82.12	358	P	P	12 24 12.6	-1.5
	baz=3.0						
N14K	Kuskokwak Cree	82.23	3	P	P	12 24 14.0	-0.5
	baz=356						
R32K	Eaglecrest	82.25	349	P	P	12 24 14.9	+0.2
	baz=17						
O18K	Kotuh Hills	82.39	359	P	P	12 24 14.9	-0.6
	baz=0.9						
Q23K	Middleton Isla	82.47	355	P	P	12 24 14.4	-1.3
	baz=8.0						
O16K	Kokwok River B	82.65	1	P	P	12 24 15.8	-1.0
	baz=359						
T35M	Bob Quinn	82.73	346	P	P	12 24 17.6	+0.4
	baz=20						
S31K	Pelican	82.81	349	P	P	12 24 17.3	-0.2
	baz=16						
P18K	Big Mountain,	82.86	359	P	P	12 24 17.5	-0.4
	baz=0.9						
O14K	Tigyukauivet M	82.92	3	P	P	12 24 17.5	-0.6
	baz=356						
S32K	Killisnoo	83.03	348	P	P	12 24 18.2	-0.5
	baz=17						
O15K	Ungalikthiuk R	83.04	2	P	P	12 24 18.4	-0.3
	baz=357						
CCM	Cathedral Cave	83.36	314	P	P	12 24 21.6	+0.8
CCM				IAmb	IAmb	12 24 22.2	
	comp=Z,5.6nm,0.8s						
SIT	Sitka	83.54	349	P	P	12 24 20.7	-0.7
	baz=16						
Q18K	Katmai Hardscr	83.60	359	P	P	12 24 21.0	-0.8
	baz=1.1						
WRAK	Wrangell Islan	83.65	347	P	P	12 24 21.2	-0.7
	baz=19						
Q17K	Contact Creek	83.99	360	P	P	12 24 22.7	-1.1
	baz=0.4						
U33K	Whale Pass	84.08	347	P	P	12 24 23.7	-0.5
	baz=18						
MJAR	Matsushiro Arr	84.28	47	P	P	12 24 25.2	-0.5
KDAK	Kodiak Island	84.42	358	P	P	12 24 24.8	-1.1
	baz=3.0						
V35K	Ketchikan	84.55	346	P	P	12 24 25.2	-1.3
	baz=19						
R17L	Mt. Peulik Vol	84.63	360	P	P	12 24 25.1	-1.8
	baz=0.0						
CRAG	Craig	84.69	347	P	P	12 24 26.4	-0.8
	baz=18						
EGMT	Eagleton	84.72	331		P	12 24 28.8	+1.1
FCAR	Ozark Folk Cen	85.37	313	P	P	12 24 31.8	+0.7
FCAR				IAmb	IAmb	12 24 32.6	
	comp=Z,5.1nm,0.8s						
WHAR	Wooly Hollow	85.89	312	P	P	12 24 32.6	-1.0
WHAR				IAmb	IAmb	12 24 34.9	
	comp=Z,6.3nm,0.9s						
S14K	Fog Glacier	85.94	2	P	P	12 24 32.5	-1.1
	baz=358						
CHGN	Chignik	85.95	1	P	P	12 24 33.0	-0.5
	baz=358						
S12K	Black Hills	86.44	3	P	P	12 24 35.3	-0.7
	baz=356						
CHIR	Chirikof Islan	86.44	360	P	P	12 24 35.7	-0.3
	baz=0.6						
OVMT	Ovando	86.75	332	P	P	12 24 37.8	-0.1
T35A	Sooner Cattle	87.11	316	P	P	12 24 40.8	+1.1
NEW	Newport	87.18	335		P	12 24 40.6	+0.8
NEW				IAmb	IAmb	12 24 42.0	
	comp=Z,4.6nm,0.9s						
NEW	Newport	87.18	335	LR	LR	13 06 57.4	
	comp=Z,39nm,18.1s,baz=0.5,slow=38						
YNE	Yellowstone No	87.30	329	P	P	12 24 41.0	+0.3
YNE				IAmb	IAmb	12 24 42.5	
	comp=Z,6.8nm,1.5s						
CHNA	Chernabura Isl	87.39	2	P	P	12 24 40.1	-0.5
	baz=358						
BPMT	Black Pine Rid	87.44	332	P	P	12 24 41.7	+0.3
UNV	Unalaska Valle	88.01	6	P	P	12 24 43.6	0.0
	baz=352						
KKM	Kota Kinabalu	88.38	84	P	P	12 24 46.9	+0.8
NIKH	Nikolski High	88.66	7	P	P	12 24 46.6	-0.1
	baz=350						
PDAR	Pinedale Array	88.94	327	P	P	12 24 48.0	-0.5
PDAR	Pinedale Array	88.94	327	LR	LR	13 05 58.2	
	comp=Z,19nm,18.4s,baz=55,slow=37						
WMOK	Wichita Mounta	89.96	316	P	P	12 24 53.6	+0.4
WMOK				IAmb	IAmb	12 24 54.3	
	comp=Z,6.0nm,1.2s						
PV01	Paradox Valley	92.27	324	P	P	12 25 03.9	-0.3
PV01				IAmb	IAmb	12 25 05.1	
	comp=Z,3.3nm,1.1s						
TXAR	Lajitas Array	96.75	316	P	P	12 25 24.4	-0.2
	comp=Z,0.3nm,0.5s,baz=57,slow=4.6,SNR=5.1						
	comp=Z,0.3nm,0.5s						

*SJA **19** 12:12:12.0±0.7, 23°.93S×66°.88W, h221km±6km, ML3.9, MW3.7*
*NEIC **19** 12:12:15.6±1.8, 23°.91S±0°.07×67°.38W±0°.07, h239km±8km, mb4.1/7, Error ellipse: s-maj=12.0km s-min=6.7km az=133.0*
ISC 19 12:12:13.5±0.7, 23°.96S±0°.04×66°.94W±0°.04, h215km±7km, n62, σ1§65/88, mb4.0/4, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		0.61	116	eP	Pn	12 12 36.9	-6.4
SALTA				eP	Pn	12 12 42.4	-0.9
AF01	San Pedro de A	1.51	311	Pn	Pn	12 12 49.8	+0.8
AF01				Sn	S	12 13 17.8	+1.5
AF01	San Pedro de A	1.51	311	eP	Pn	12 12 38.0	-11
AF01				eS	S	12 13 24.0	+7.7
SLA	San Lorenzo	1.52	120	eP	Pn	12 12 48.2	-0.6
SLA				eS	S	12 13 16.2	+0.1
AZAP	Zapla	1.73	99	eP	Pn	12 12 49.7	-1.1
YJA	Yavi	2.21	37	eP	Pn	12 12 55.4	-0.4
YJA				eS	S	12 13 25.4	-2.9
FSA	Cafayete	2.32	158	eP	Pn	12 12 56.1	-0.4
FSA				eS	S	12 13 27.1	-2.8
GO02	Mina Guanaco	2.69	243		Pn	12 13 01.2	+0.5
GO02				Sn	S	12 13 37.2	-0.2
GO02	Mina Guanaco	2.69	243	eP	Pn	12 13 01.2	+0.5
GO02				eS	S	12 13 37.5	+0.1
ALOL	LOMAS DE OLMED	2.71	88	eP	Pn	12 12 59.8	-0.9
PB06	IPOC Station P	2.72	297		Pn	12 13 01.3	+0.4
PB06				Sn	S	12 13 36.0	-1.6
PB06	IPOC Station P	2.72	297	eP	Pn	12 13 00.7	-0.2
PB06				eS	S	12 13 36.8	-0.8
PB06				IAML		12 13 38.9	
	comp=Z,336nm,0.3s						
PB09	IPOC Station P	3.02	315		Pn	12 13 05.0	+0.7
PB09				Sn	S	12 13 43.0	-0.8
PB09	IPOC Station P	3.02	315	eP	Pn	12 13 05.1	+0.8
PB09				eS	S	12 13 43.3	-0.5
PB09				IAML		12 13 45.3	
	comp=Z,154nm,0.2s						
PB05	IPOC Station P	3.19	289		Pn	12 13 06.1	0.0
PB05				Sn	S	12 13 44.8	-2.4
PB05	IPOC Station P	3.19	289	eP	Pn	12 13 06.2	0.0
PB05				eS	S	12 13 45.1	-2.1
PB05				IAML		12 13 48.6	
	comp=Z,152nm,0.3s						
PB03	IPOC Station P	3.21	306		Pn	12 13 06.7	+0.1
PB03				Sn	S	12 13 45.6	-2.2
PB03	IPOC Station P	3.21	306	eP	Pn	12 13 06.6	0.0
PB03				IAML		12 13 49.8	
	comp=Z,328nm,0.3s						
PB14	IPOC Station P	3.23	257		Pn	12 13 07.0	+0.2
PB14				Sn	S	12 13 46.5	-1.8
PB14	IPOC Station P	3.23	257	eP	Pn	12 13 07.0	+0.2
PB14				eS	S	12 13 47.7	-0.6
PB14				IAML		12 13 48.5	
	comp=Z,116nm,0.3s						
PB10	IPOC Station P	3.34	277		Pn	12 13 08.3	+0.5
PB10	IPOC Station P	3.34	277	eP	Pn	12 13 08.2	+0.4
PB10				eS	S	12 13 48.9	-1.2
PB10				IAML		12 13 50.5	
	comp=Z,133nm,0.5s						
AC02	Maricunga	3.48	214		Pn	12 13 10.7	+0.7
AC02	Maricunga	3.48	214	eP	Pn	12 13 10.6	+0.6
AC02				eS	S	12 13 53.3	-0.8
AC02				IAML		12 13 59.1	
	comp=Z,254nm,0.8s						
PB01	IPOC Station P	3.73	320		Pn	12 13 12.8	+0.1
PB01	IPOC Station P	3.73	320	eP	Pn	12 13 12.6	-0.1
PB01				eS	S	12 13 56.9	-2.0
PB01				IAML		12 14 00.3	
	comp=Z,190nm,0.3s						
PB02	IPOC Station P	3.79	313	Pn	Pn	12 13 13.0	-0.3
PB02	IPOC Station P	3.79	313	eP	Pn	12 13 13.1	-0.3
PB02				eS	S	12 13 57.4	-2.7
PB02				IAML		12 14 02.8	
	comp=Z,350nm,0.2s						
AC01	Pan de Azucar	3.97	236		Pn	12 13 14.9	-0.6
AC01	Pan de Azucar	3.97	236	eP	Pn	12 13 14.7	-0.7
AC01				eS	S	12 14 00.8	-3.1
AC01				IAML		12 14 02.3	
	comp=Z,66nm,0.2s						
PATCX	Punta Patache	4.31	316		Pn	12 13 19.4	-0.4
PATCX	Punta Patache	4.31	316	eP	Pn	12 13 18.9	-0.9
PATCX				eS	S	12 14 09.0	-2.6
PATCX				IAML		12 14 14.3	
	comp=Z,118nm,0.4s						
PB08	IPOC Station P	4.32	331		Pn	12 13 21.0	+0.9
TA01	Diego Aracena	4.51	318	Pn	Pn	12 13 20.6	-1.6
TA01	Diego Aracena	4.51	318	eP	Pn	12 13 21.4	-0.8
TA01				eS	S	12 14 13.3	-2.8
TA01				IAML		12 14 18.7	
	comp=Z,45nm,0.3s						
HMBC	Humberstone	4.57	323		Pn	12 13 22.2	-0.8
AC06	Mina Casimiro	4.58	222		Pn	12 13 22.0	-1.0
GO03	Copiapo	4.68	219		Pn	12 13 23.5	-0.8
GO03	Copiapo	4.68	219	eP	Pn	12 13 23.9	-0.3
GO03				eS	S	12 14 18.1	-1.9
TA02	Huaiquique	4.71	321	Pn	Pn	12 13 22.5	-2.1
GO01	Chusmiza	4.75	333		Pn	12 13 25.6	-0.1
GO01	Chusmiza	4.75	333	eP	Pn	12 13 26.5	+0.8
GO01				eS	S	12 14 21.1	-1.2
PB11	IPOC Station P	4.88	328		Pn	12 13 26.7	-0.2
PB11	IPOC Station P	4.88	328	eP	Pn	12 13 26.2	-0.7
PB11				eS	S	12 14 21.2	-3.4
PB11				IAML		12 14 23.3	
	comp=Z,142nm,0.2s						
VCA	Vinchina	4.89	193	eP	Pn	12 13 24.1	-3.0
VCA				eS	S	12 14 21.9	-3.1
AC04	Llanos de Chal	5.63	220	Pn	Pn	12 13 36.0	-0.2
PB16	IPOC Station P	6.08	336		Pn	12 13 42.0	-0.7
CO01	Juntas del Tor	6.62	204	Pn	Pn	12 13 49.5	+0.4
PB18	Visviri	6.76	339	Pn	Pn	12 13 49.9	-1.5
GO04	Tololo Observa	7.08	208	Pn	Pn	12 13 54.4	-0.6
CO03	El Pedregal	7.62	205	Pn	Pn	12 14 01.6	-0.3
LPAZ	La Paz	7.71	351		Pn	12 14 04.2	+0.6
CO02	Combarbal	8.07	206	Pn	Pn	12 14 05.0	-2.6
PLTB	Pedras Altas	14.12	126	Pn	P	12 15 26.7	+1.0
TRQA	Tornquist	14.68	164	Pn	Pn	12 15 31.0	-0.2
VAO	Valinhos	18.35	91	P	P	12 16 12.7	+0.3
BDFB	Brasilia	19.62	69	P	P	12 16 27.4	+1.3
BDFB				IAmb	IAmb	12 16 27.6	
	comp=Z,16nm,0.8s						
COHC	Cochancay	24.46	329	P	P	12 17 09.1	-3.8
BOAV	Boa Vista	26.93	14	P	P	12 17 34.7	-0.4
BOAV				IAmb	IAmb	12 17 56.2	
	comp=Z,4.8nm,1.2s						
ESPZ	Base Esperanza	39.98	173	P	P	12 19 28.1	+1.2
ESPZ				IAmb	IAmb	12 19 48.5	
	comp=Z,8.3nm,0.9s						
SNAA	Sanae	59.37	161	P	P	12 21 55.4	+2.5
SNAA				IAmb	IAmb	12 22 03.8	
	comp=Z,5.3nm,1.5s						
TORD	Torodi Ar. Bea	76.50	69	P	P	12 23 41.3	+1.0
TORD				IAmb	IAmb	12 24 13.3	
	comp=Z,2.4nm,1.4s						

*OSPL **19** 12:21:16.3±1.1, 18°.70N×69°.59W, h106km±7km, ML2.5*
*SDD **19** 12:21:19.4±1.5, 18°.88N×69°.83W, h96km±11km, MD3.2, ML3.0, MW3.1*
ISC 19 12:21:18.2±1.8, 18°.76N±0°.06×69°.81W±0°.05, h96km±11km, n14, σ1§12/25, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR08	Loma La Naviza	0.28	314	ePg	Pn	12 21 32.1	-0.2
DR08				eSg	Sn	12 21 41.9	-0.9
DR08				IAML		12 21 42.2	
	comp=N,7μm,0.1s						
SDD	Santo Domingo	0.32	199	*i* P	Pn	12 21 31.1	-1.3
SDD				eS	Sn	12 21 42.5	-0.5
HATOM	Hato Mayor del	0.40	86	ePg	Pn	12 21 33.0	+0.1
HATOM				eSg	Sn	12 21 43.7	-0.2
HATOM				IAML		12 21 46.5	
	comp=N,52nm,0.3s						
BANI	BANI	0.64	235	ePg	Pn	12 21 35.4	+0.6
BANI				eSg	Sn	12 21 48.4	+1.1
BANI				IAML		12 21 51.8	
	comp=N,319nm,0.1s						
MIDR	Miches	0.75	73	ePg	Pn	12 21 36.6	+1.0
M

SDDR				*e*S		**Sn**	**12 22 03.3**	**+1.0**
SDDR				IAML			12 22 08.3	
	comp=Z,18nm,0.3s							
LONE3	**El Aguacate, B**	**1.58**	**265**	*i* P		**Pn**	**12 21 47.5**	**+2.2**
LONE3				*e*S		**Sn**	**12 22 08.2**	**+2.4**
LONE3				IAML			12 22 10.7	
	comp=Z,14nm,2.3s							
LODU1	**El Espartillar**	**1.64**	**256**	*i* P		**Pn**	**12 21 46.5**	**+0.5**
LODU1				IAML			12 22 09.9	
	comp=Z,34nm,0.5s							
LOPP1	**Punta Rusia, P**	**1.71**	**310**	*i* P		**Pn**	**12 21 46.3**	**-0.5**
LOPP1				*e*S		**Sn**	**12 22 09.4**	**+0.8**
LOVI	**El Cajuil, Ovi**	**1.77**	**237**	*i* P		**Pn**	**12 21 46.5**	**-1.1**
LOVI				*e*S		**Sn**	**12 22 08.4**	**-1.6**
LOVI				IAML			12 22 08.5	
	comp=Z,65nm,0.7s							
LOBH	**Bahia de las A**	**1.96**	**243**	*i* P		**Pn**	**12 21 49.4**	**-0.7**
LOBH				*e*S		**Sn**	**12 22 13.9**	**-0.5**
LOBH				IAML			12 22 21.9	
	comp=Z,63nm,1.7s							
GRTK	**Grand Turk**	**3.00**	**336**	*i* P		**Pn**	**12 22 02.3**	**-1.6**

IDC 19 12:25:08.7±3.5,1°.50S×133°.39E,h0km,mb3.7/2, mbtmp3.7/3,ML3.6/1,Error ellipse: s-maj=181.9km s-min=29.5km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.35**	**177**	P	Pn	12 29 24.6	-0.2
	0.2nm,0.3s,baz=356,slow=12,SNR=5.9 1.1nm,0.6s						
ASAR	**Alice Springs**	**22.04**	**179**	P	P	12 30 05.2	+0.1
	2.7nm,0.7s,baz=1.0,slow=11,SNR=46 2.7nm,0.7s						
MKAR	**Makanchi Array**	**65.64**	**324**	P	P	12 35 54.8	-0.1
	0.3nm,0.4s,baz=123,slow=5.3,SNR=2.8 0.3nm,0.4s						

*NEIC **19** 12:33:17.8±1.3,9°.25S±0°.08×116°.20E±0°.06,h124km±9km, mb4.2/17, Error ellipse: s-maj=11.7km s-min=9.0km az=182.0*
*DJA **19** 12:33:17.5±0.2,9°.3S±3°×11°.6E±°,h110km±4km,M4.2/17, mB4.7/4,mb4.2/12,MLv4.3/17,Mw(mB)3.9/4*
*IDC **19** 12:33:18.6±4.5,8°.95S×116°.30E,h148km±44km,mb3.4/7, mbtmp3.9/9,MS3.5/1,Error ellipse: s-maj=43.1km s-min=17.8km az=70.0*

ISC 19 12:33:18.5±0.5,9°.19S±0°.05×116°.27E±0°.04,h150km,n59, σ2s14/64,mb3.9/9,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**1.52**	**316**	P	**Pn**	**12 33 45.8**	**-2.5**
SRBI				S	**Sn**	**12 34 06.7**	**-4.4**
PLAI	**Plampang**	**1.53**	**76**	P	**Pn**	**12 33 46.5**	**-1.9**
PLAI				S	**Sn**	**12 34 07.8**	**-3.4**
JAGI	**Jajag, Banyuwa**	**2.21**	**289**		**Pn**	**12 33 53.5**	**-2.7**
JAGI				Sn	**Sn**	**12 34 20.9**	**-4.3**
JAGI	**Jajag, Banyuwa**	**2.21**	**289**	P	**Pn**	**12 33 53.5**	**-2.7**
GMJI	**Gumukmas**	**2.94**	**288**	P	**Pn**	**12 34 02.6**	**-2.5**
WBSI	**Waikabubak, Su**	**3.11**	**98**	P	**Pn**	**12 34 04.0**	**-3.3**
KMMI	**Kalianget**	**3.12**	**313**	P	**Pn**	**12 34 07.4**	**0.0**
WSI	**Waingapu**	**4.00**	**97**	P	**Pn**	**12 34 16.3**	**-2.5**
BASI	**Baing, Sumba**	**4.37**	**104**	P	**Pn**	**12 34 21.3**	**-2.3**
PCJI	**Pacitan**	**5.13**	**281**	P	**Pn**	**12 34 33.0**	**-0.7**
	0.4nm51nm,1.3s						
BSSI	**Bau Bau, Buton**	**5.16**	**54**	P	**Pn**	**12 34 33.7**	**-0.4**
EDFI	**Ende, Flores**	**5.37**	**86**	P	**Pn**	**12 34 34.3**	**-2.7**
	0.4nm1μm24nm,0.6s						
KAPI	**Kappang**	**5.40**	**40**		**Pn**	**12 34 37.2**	**0.0**
KAPI				Sn	**Sn**	**12 35 37.5**	**-1.3**
KAPI	**Kappang**	**5.40**	**40**	P	**Pn**	**12 34 35.9**	**-1.3**
	57nm,0.5s,baz=218,slow=9.0,SNR=17						
KAPI				S	**Sn**	**12 35 35.3**	**-3.5**
	24nm,0.6s,baz=40,slow=22,SNR=9.2						
BKSI	**Bulukumba**	**5.42**	**45**	P	**Pn**	**12 34 37.2**	**-0.3**
WOJI	**Wonogiri, Jawa**	**5.46**	**284**	P	**Pn**	**12 34 37.3**	**-0.7**
	0.4nm72nm,2.1s						
UGM	**Wanagama**	**5.83**	**282**	Pn	**Pn**	**12 34 39.6**	**-3.3**
UGM				Sn	**Sn**	**12 35 47.0**	**-2.0**
UGM	**Wanagama**	**5.83**	**282**	P	**Pn**	**12 34 42.2**	**-0.8**
	79nm,1.6s						
MMRI	**Maumere**	**5.92**	**85**	Pn	**Pn**	**12 34 44.0**	**-0.2**
BNSI	**Bone**	**6.10**	**39**	P	**Pn**	**12 34 47.0**	**+0.5**
	0.1nm45nm,0.9s						
SPSI	**Sidrap Palu**	**6.25**	**34**	P	**Pn**	**12 34 50.0**	**+1.4**
	0.1nm1μm17nm,0.9s						
BATI	**Baumata**	**7.36**	**98**	S	**Sn**	**12 36 22.7**	**-3.0**
	24nm,0.4s,baz=259,slow=16,SNR=5.6						
SOEI	**Soe**	**7.91**	**95**	Pn	**Pn**	**12 35 10.6**	**-0.2**
MBWA	**Marble Bar**	**12.35**	**165**	Pn	**Pn**	**12 36 07.6**	**-1.8**
FITZ	**Fitzroy Crossi**	**12.69**	**135**	P	**Pn**	**12 36 14.2**	**+0.4**
	1.5nm,0.5s,baz=328,slow=12,SNR=12						
FITZ				S	**Sn**	**12 38 27.8**	**-6.5**
	2.3nm,0.4s,baz=183,slow=22,SNR=8.0						
PSA00	**Pilbara Seismi**	**12.78**	**165**	Pn	**Pn**	**12 36 13.4**	**-1.5**
GIRL	**Giralia**	**13.52**	**188**	Pn	**Pn**	**12 36 22.9**	**-1.4**
KNRA	**Kununurra**	**13.79**	**119**	Pn	**Pn**	**12 36 27.9**	**0.0**
MYLDM	**Lahad Datu**	**14.45**	**9**	Pn	**P**	**12 36 36.8**	**-2.0**
MTN	**Manton Dam**	**15.03**	**105**	Pn	**Pn**	**12 36 43.3**	**-0.1**
MTN				IAmb	IAmb	12 36 52.6	
	comp=Z,28nm,1.4s						
KKM	**Kota Kinabalu**	**15.14**	**360**	Pn	**P**	**12 36 45.6**	**-0.8**
KKM				IAmb	IAmb	12 36 55.2	
	comp=Z,12nm,0.7s						
FAKI	**Fak Fak**	**17.06**	**70**	P	**P**	**12 37 06.1**	**-1.5**
WB0	**Warramunga Arr**	**20.43**	**123**	P	**P**	**12 37 44.9**	**+0.7**
WRA	**Warramunga Arr**	**20.47**	**123**	P	**P**	**12 37 45.9**	**+1.3**
WRA	**Warramunga Arr**	**20.47**	**123**	P	**P**	**12 37 44.9**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=299,slow=12,SNR=14						
WRA				S	**S**	**12 41 28.7**	**+3.0**
	comp=Z,0.8nm,0.8s,baz=297,slow=25,SNR=6.4 comp=Z,0.7nm,0.5s						
WRAB	**Tennant Creek**	**20.47**	**123**	P	**P**	**12 37 45.7**	**+1.0**
WRAB				IAmb	IAmb	12 38 28.8	
	comp=Z,8.3nm,1.3s						
WR8	**Warramunga Arr**	**20.61**	**123**	P	**P**	**12 37 47.4**	**+1.3**
WR8				IAmb	IAmb	12 38 04.0	
	comp=Z,10nm,1.3s						
ASAR	**Alice Springs**	**22.17**	**133**	P	**P**	**12 38 04.0**	**+1.5**
ASAR	**Alice Springs**	**22.17**	**133**	P	**P**	**12 38 03.6**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=307,slow=9.2,SNR=32						
ASAR				PcP	**PcP**	**12 41 55.1**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=303,slow=1.9,SNR=4.3 comp=Z,1.8nm,0.7s						
AS31	**Alice Springs**	**22.17**	**133**	P	**P**	**12 38 02.9**	**+0.3**
NWAO	**Narrogin (SRO)**	**23.64**	**178**	LR	LR	12 47 50.9	
	comp=Z,107nm,18.8s,baz=346,slow=36						
LHMI	**Lhok Sumawe**	**24.01**	**306**	P	**P**	**12 38 21.0**	**+1.4**
FORT	**Forrest**	**24.13**	**155**	P	**P**	**12 38 21.1**	**+0.6**
FORT				IAmb	IAmb	12 38 25.0	
	comp=Z,4.1nm,0.8s						
BBOO	**Buckleboo**	**29.78**	**145**	P	**P**	**12 39 12.7**	**+1.6**
STKA	**Stephens Creek**	**32.58**	**137**	P	**P**	**12 39 36.3**	**+0.6**
STKA				IAmb	IAmb	12 39 52.5	
	comp=Z,7.3nm,1.1s						
STKA	**Stephens Creek**	**32.58**	**137**	P	**P**	**12 39 38.4**	**+2.7**
	comp=Z,0.8nm,0.4s,baz=327,slow=13,SNR=3.2 comp=Z,0.8nm,0.4s						
RABL	**Rabaul**	**35.98**	**84**	P	**P**	**12 40 06.6**	**+1.4**
H08S2	**Diego Garcia H**	**43.32**	**269**	T	T	13 27 14.6	
	baz=95,slow=76,SNR=2.7						
H08S3	**Diego Garcia H**	**43.33**	**269**	T	T	13 27 11.0	
	baz=95,slow=76,SNR=2.6						
H08S1	**Diego Carcia H**	**43.33**	**269**	T	T	13 27 05.1	
	baz=95,slow=76,SNR=2.8						
MKAR	**Makanchi Array**	**63.44**	**335**	P	**P**	**12 43 29.7**	**-2.5**
	comp=Z,0.3nm,0.4s,baz=162,slow=5.0,SNR=4.4 comp=Z,0.3nm,0.4s						
KK31	**Karatay Array**	**66.65**	**325**	P	**P**	**12 43 53.5**	**+0.5**
KK31				IAmb	IAmb	12 44 24.2	
	comp=Z,1.9nm,1.1s						
KKAR	**Karatay Array**	**66.65**	**325**	P	**P**	**12 43 53.3**	**+0.3**
MAW	**Mawson**	**68.15**	**199**	P	**P**	**12 44 04.3**	**+2.2**
	comp=Z,1.2nm,0.7s,baz=90,slow=8.1,SNR=4.7 comp=Z,1.2nm,0.7s						
VNDA	**Vanda**	**72.23**	**171**	P	**P**	**12 44 28.1**	**+1.4**
VNDA	**Vanda**	**72.23**	**171**	P	**P**	**12 44 29.4**	**+2.7**
	comp=Z,1.3nm,0.9s,baz=309,slow=5.7,SNR=4.8 comp=Z,1.3nm,0.9s						
QSPA	**South Pole Qui**	**80.80**	**180**	P	**P**	**12 45 18.0**	**+2.7**
QSPA				IAmb	IAmb	12 45 44.0	
	comp=Z,7.3nm,1.4s						
QSPA	**South Pole Qui**	**80.80**	**180**	P	**P**	**12 45 17.5**	**+2.2**
	comp=Z,1.4nm,0.9s,baz=332,slow=1.6,SNR=3.1 comp=Z,1.4nm,0.9s						
BELA	**Belgrano 2**	**91.56**	**186**	P	**P**	**12 46 09.8**	**+2.0**
BELA				IAmb	IAmb	12 46 10.8	
	comp=Z,2.6nm,1.0s						

IDC 19 12:34:10.5±4.6,12°.66S×166°.48E,h0km,mb3.6/4, mbtmp3.6/4,MS3.0/1,Error ellipse: s-maj=193.2km s-min=34.7km az=139.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.64**	**253**	P	P	12 40 35.3	-0.5
	0.4nm,0.7s,baz=83,slow=9.2,SNR=2.0 0.4nm,0.7s						
ASAR	**Alice Springs**	**32.75**	**246**	P	P	12 40 45.5	0.0
	0.3nm,0.7s,baz=69,slow=9.7,SNR=4.9 0.3nm,0.7s						
GUMO	**Guam**	**33.75**	**320**	LR	LR	12 55 47.0	
	comp=Z,21nm,18.6s,baz=179,slow=38						
ILAR	**Eielson Array**	**84.81**	**18**	P	P	12 46 46.1	-0.4
	0.2nm,0.6s,baz=234,slow=5.4,SNR=5.0 0.2nm,0.6s						
MKAR	**Makanchi Array**	**95.18**	**317**	P	P	12 47 36.7	+0.7
	0.7nm,0.8s,baz=92,slow=6.6,SNR=5.2 0.7nm,0.8s						

*DJA **19** 12:40:03.2±0.3,8°.3S±9°×11°.6E±°,h267km±5km,M4.2/15, mB5.0/1,mb4.2/10,MLv4.2/15,Mw(mB)4.4/1*
*IDC **19** 12:40:05.0±7.5,8°.09S×116°.09E,h237km±59km,mb3.3/3, mbtmp4.0/5,Error ellipse: s-maj=84.9km s-min=60.6km az=41.0*

ISC 19 12:40:04.4±1.0,8°.0S±0°.1×116°.02E±0°.08,h250km,n24, σ1s29/27,mb3.9/3,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**0.81**	**265**	P	**Pn**	**12 40 39.6**	**+1.2**
JAGI	**Jajag, Banyuwa**	**1.91**	**256**	P	**Pn**	**12 40 45.8**	**-0.2**
PLAI	**Plampang**	**1.91**	**115**	P	**Pn**	**12 40 46.9**	**+0.8**
PLAI				S	**S**	**12 41 19.5**	**+0.5**
KMMI	**Kalianget**	**2.25**	**295**	P	**Pn**	**12 40 50.1**	**+0.9**
GMJI	**Gumukmas**	**2.57**	**264**	P	**Pn**	**12 40 52.2**	**-0.1**
WBSI	**Waikabubak, Su**	**3.70**	**116**	P	**Pn**	**12 41 03.1**	**-1.7**
WSI	**Waingapu**	**4.53**	**112**	P	**Pn**	**12 41 13.5**	**-1.1**
PCJI	**Pacitan**	**4.80**	**268**	P	**Pn**	**12 41 17.4**	**-0.4**
BKSI	**Bulukumba**	**4.87**	**57**	P	**Pn**	**12 41 18.9**	**+0.2**
BASI	**Baing, Sumba**	**5.00**	**116**	P	**Pn**	**12 41 20.3**	**+0.1**
WOJI	**Wonogiri, Jawa**	**5.05**	**272**	P	**Pn**	**12 41 20.6**	**-0.3**
	0.4nm33nm,1.2s						
UGM	**Wanagama**	**5.45**	**271**	P	**Pn**	**12 41 25.9**	**+0.1**
	0.6nm108nm,2.3s						
EDFI	**Ende, Flores**	**5.66**	**98**	P	**Pn**	**12 41 28.1**	**-0.3**
	0.4nm3μm45nm,0.5s						
MMRI	**Maumere**	**6.18**	**96**	P	**Pn**	**12 41 34.9**	**+0.1**
	0.3nm52nm,0.5s						
BKB	**Balikpapan**	**6.76**	**7**	P	**Pn**	**12 41 44.7**	**+2.5**
BATI	**Baumata**	**7.85**	**107**	P	**Pn**	**12 41 56.1**	**+0.2**
	18nm,0.3s,baz=280,slow=6.3,SNR=6.8						
BATI				S	**S**	**12 43 22.9**	**-2.8**
	12nm,0.3s,baz=308,slow=18,SNR=2.0						
BATI	**Baumata**	**7.85**	**107**	P	**Pn**	**12 41 55.1**	**-0.8**
	43nm,0.9s						
SOEI	**Soe**	**8.33**	**103**	P	**Pn**	**12 42 00.5**	**-1.5**
	42nm,0.8s						
CNJI	**Cibinong**	**8.84**	**274**	P	**Pn**	**12 42 07.0**	**-1.4**
	29nm,1.1s						
CGJI	**Cibinong**	**10.34**	**277**	P	**Pn**	**12 42 25.1**	**-2.2**
FITZ	**Fitzroy Crossi**	**13.71**	**138**	P	**P**	**12 43 10.5**	**+0.4**
	1.8nm,0.5s,baz=316,slow=8.7,SNR=6.1						
FITZ				S	**S**	**12 45 43.6**	**+2.4**
	3.6nm,1.0s,baz=36,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**21.34**	**126**	P	**P**	**12 44 32.4**	**0.0**
	1.6nm,0.5s,baz=299,slow=12,SNR=39 1.6nm,0.5s						
ASAR	**Alice Springs**	**23.15**	**134**	P	**P**	**12 44 49.7**	**+0.6**
	1.2nm,0.5s,baz=305,slow=8.7,SNR=28 1.2nm,0.5s						
STKA	**Stephens Creek**	**33.61**	**138**	P	**P**	**12 46 22.9**	**+1.4**
	1.8nm,0.6s,baz=316,slow=8.6,SNR=6.3 1.8nm,0.6s						

IDC 19 12:46:44.3±2.1,0°.64N×126°.78E,h0km,mb3.7/3, mbtmp3.8/3,Error ellipse: s-maj=171.1km s-min=26.2km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.75**	**161**	P	P	12 51 36.6	-1.0
	1.5nm,0.5s,baz=339,slow=11,SNR=28 1.5nm,0.5s						
ASAR	**Alice Springs**	**25.13**	**164**	P	P	12 52 11.9	+0.7
	2.2nm,0.8s,baz=344,slow=12,SNR=46 2.2nm,0.8s						
MKAR	**Makanchi Array**	**60.12**	**326**	P	P	12 56 53.5	-0.1
	0.3nm,0.4s,baz=121,slow=5.8,SNR=4.7 0.3nm,0.4s						

*IDC **19** 12:48:41.3±0.8,2°.54N×125°.87E,h0km,mb4.1/11, mbtmp4.1/11,Error ellipse: s-maj=69.3km s-min=14.4km az=72.0*
*DJA **19** 12:48:46.9±0.2,3°.N±2°×12°.6E±°,h10km,M4.3/15,mB5.1/3, mb4.4/11,MLv4.2/15,Mw(mB)4.5/3,MwMwp4.8/1, Mwp5.1/1*

ISC 19 12:48:47.0±0.7,2°.66N±0°.06×126°.44E±0°.09,h35km,n33, σ1s77/33,mb4.1/10,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.37**	**318**	P	**Pn**	**12 49 09.7**	**0.0**
SGSI				S	**Sn**	**12 49 26.1**	**-0.5**
TNTI	**Ternate**	**2.09**	**154**	P	**Pn**	**12 49 22.6**	**+3.0**
TNTI	**Ternate**	**2.09**	**154**	P	**Pn**	**12 49 22.7**	**+3.1**
KMSI	**Cibinong**	**3.21**	**230**	P	**Pn**	**12 49 36.1**	**+1.1**
SANI	**Sanana**	**4.70**	**185**	P	**Pn**	**12 49 55.6**	**+0.1**
SANI	**Sanana**	**4.70**	**185**	S	**Sn**	**12 50 46.7**	**-2.1**
SANI	**Sanana**	**4.70**	**185**	P	**Pn**	**12 49 55.4**	**-0.1**
MRSI	**Marisa**	**4.99**	**244**	P	**Pn**	**12 50 00.9**	**+1.4**
LUWI	**Luwuk**	**5.19**	**225**	P	**Pn**	**12 50 04.3**	**+2.0**
TOLI2	**Tolitoli**	**5.86**	**255**	P	**Pn**	**12 50 11.0**	**-0.4**
NLAI	**Namlea**	**5.89**	**174**	P	**Pn**	**12 50 13.5**	**+1.6**
APSI	**Ampana**	**5.96**	**234**	P	Pn	12 50 17.7	+4.9
	0.3nm1μm62nm,1.0s						
MPSI	**Mapaga**	**6.93**	**251**	P	**Pn**	**12 50 26.5**	**+0.3**
	0.1nm1nm,0.7s						
MYLDM	**Lahad Datu**	**8.31**	**288**	P	**Pn**	**12 50 47.6**	**+2.5**
TTSI	**Tana Toraja**	**8.71**	**229**	P	**Pn**	**12 50 52.2**	**+1.6**
	19nm,0.8s						
SPSI	**Sidrap Palu**	**9.36**	**225**	P	**Pn**	**12 51 02.1**	**+2.5**
	7.8nm,0.6s						
KKM	**Kota Kinabalu**	**10.73**	**289**	P	**Pn**	**12 51 21.4**	**+2.9**
EDFI	**Ende, Flores**	**12.28**	**203**	P	**Pn**	**12 51 41.8**	**+2.2**
KDU	**Kakadu**	**16.38**	**159**	P	**Pn**	**12 52 35.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**20.64**	**182**	P	**P**	**12 53 22.6**	**-1.2**
	2.4nm,0.4s,baz=25,slow=9.8,SNR=26 2.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.64**	**182**	P	**P**	**12 53 22.5**	**-1.2**
TPUB	**Ta-pu**	**21.28**	**345**	P	**P**	**12 53 34.0**	**+3.4**
WRA	**Warramunga Arr**	**23.76**	**161**	P	**P**	**12 53 55.3**	**-1.2**
	3.4nm,0.5s,baz=337,slow=11,SNR=39 3.4nm,0.5s						
QIS	**Mount Isa**	**26.44**	**151**	P	**P**	**12 54 21.1**	**+0.2**
ASAR	**Alice Springs**	**27.16**	**165**	P	**P**	**12 54 27.4**	**+0.1**
	0.7nm,0.3s,baz=335,slow=8.7,SNR=18 0.7nm,0.3s						
KSRS	**Korea Array**	**34.66**	**2**	P	**P**	**12 55 34.2**	**+1.1**
	1.2nm,0.5s,baz=179,slow=10,SNR=8.5 1.2nm,0.5s						
STKA	**Stephens Creek**	**37.24**	**158**	P	**P**	**12 55 55.3**	**-0.1**
	1.2nm,0.6s,baz=346,slow=7.6,SNR=8.0 1.2nm,0.6s						
SONM	**Songino Array**	**48.22**	**342**	P	**P**	**12 57 23.3**	**-1.1**
	0.4nm,0.4s,baz=148,slow=10,SNR=2.5 0.4nm,0.4s						
MKAR	**Makanchi Array**	**58.27**	**326**	P	**P**	**12 58 36.1**	**-2.2**
	0.4nm,0.3s,baz=120,slow=6.7,SNR=6.3 0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**62.48**	**328**	P	**P**	**12 59 05.0**	**-1.9**
	3.0nm,0.2s,baz=124,slow=6.1,SNR=4.7 3.0nm,0.2s						
BVAR	**Borovoye Array**	**68.06**	**327**	P	**P**	**12 59 41.1**	**-1.9**
	0.6nm,0.4s,baz=139,slow=9.9,SNR=3.7 0.6nm,0.4s						
ARCES	**ARCESS Array B**	**91.35**	**340**	P	**P**	**13 01 48.6**	**-0.3**
	1.3nm,0.8s,baz=77,slow=5.2,SNR=3.6 1.3nm,0.8s						
FINES	**FINESS Array B**	**92.63**	**332**	P	**P**	**13 01 53.4**	**-1.6**
	1.2nm,0.7s,baz=77,slow=5.8,SNR=5.1 1.2nm,0.7s						

*NEIC **19** 12:58:57.8±1.3,35°.630N±0°.008×117°.58W±0°.01, h10km±1km,Error ellipse: s-maj=2.2km s-min=1.5km az=150.0*

PAS 19 12:58:58.3±1.3,35°.624N±0°.008×117°.57W±0°.01, h8km±1km,ML3.2/199,ML2.9/140(NEIC),Error ellipse: s-maj=1.2km s-min=1.1km az=210.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.07**	**110**		Pg	12 59 00.3	0.0
WSHM					Sg	12 59 01.9	+0.2
WSHM				IAML		12 59 02.1	
	10μm,0.1s						
GPO	**China Lake**	**0.08**	**290**		Pg	12 59 00.5	+0.1
GPO					Sg	12 59 02.5	+0.7
SRTC	**Snort**	**0.16**	**295**		Pg	12 59 02.0	+0.4
LRMC	**Laurel Mtn Rad**	**0.17**	**212**	Pg	Pg	12 59 01.8	0.0
CLC	**China Lake**	**0.19**	**354**	Pg	Pg	12 59 02.2	0.0
CLC				IAML		12 59 05.4	
	comp=N,5μm,0.3s						
CLC				IAML		12 59 05.5	
	comp=E,4μm,0.4s						
CCCA	**Chr Cany lake**	**0.20**	**120**	Pg	Pg	12 59 02.7	+0.4
CCCA				Sg	Sg	12 59 06.0	+1.0
CCCA				IAML		12 59 08.0	
	comp=N,4μm,0.4s						
TOW	**Tower One**	**0.24**	**320**		Pg	12 59 03.5	+0.3
TOW					Sg	12 59 07.8	+1.4
WNMM	**Nine Mile Cany**	**0.35**	**309**		Pg	12 59 05.0	-0.1
WNMM					Sg	12 59 10.0	+0.3
WVPM	**Volcano Peak E**	**0.38**	**329**		Pg	12 59 05.5	-0.3
WVPM					Sg	12 59 11.1	+0.2
JRC2	**Joshua Ridge**	**0.41**	**332**		Pg	12 59 06.0	-0.3
JRC2					Sg	12 59 11.7	+0.1
DTP	**Desert Tortois**	**0.42**	**212**		Pg	12 59 06.0	-0.4
MPMC	**Manual Prospec**	**0.44**	**9**		Pg	12 59 06.7	-0.2
MPMC					Sg	12 59 12.8	+0.1
MPMC				IAML		12 59 13.2	
	comp=E,2μm,0.7s						
MPMC				IAML		12 59 13.2	
	comp=N,2μm,0.5s						
WRVM	**Rose V. Centra**	**0.46**	**326**		Pg	12 59 06.9	-0.4
WRVM					Sg	12 59 13.3	-0.1
WBSM	**Bird Springs**	**0.47**	**260**		Pg	12 59 07.1	-0.3
WBSM					Sg	12 59 13.4	-0.2
MFS	**McCloud Flat S**	**0.54**	**335**		Pg	12 59 08.4	-0.4
MFS					Sg	12 59 15.9	-0.1
WORM	**Onyx Ranch**	**0.55**	**278**		Pg	12 59 08.5	-0.5
WORM					Sg	12 59 15.7	-0.4
CCAC	**Calif City Air**	**0.59**	**218**		Pg	12 59 09.4	-0.4
WHFM	**Hanning Flat**	**0.64**	**277**		Pg	12 59 10.0	-0.5
WHFM					Sg	12 59 18.7	-0.2
QSM	**Queen of Sheba**	**0.67**	**59**		Pg	12 59 10.8	-0.3
QSM					Sg	12 59 19.6	-0.2
GSC	**Goldstone, Bar**	**0.70**	**117**		Pg	12 59 11.5	-0.4
GSC				IAML		12 59 24.1	
	comp=N,736nm,0.3s						
GSC				IAML		12 59 25.6	
	comp=E,817nm,0.4s						
GSC	**Goldstone, Bar**	**0.70**	**117**		Sg	12 59 21.1	0.0
ISA	**Isabella, Lake**	**0.73**	**273**		Pg	12 59 11.8	-0.6
ISA				IAML		12 59 22.1	
	comp=E,536nm,0.3s						
ISA				IAML		12 59 22.7	
	comp=N,392nm,0.2s						
ISA	**Isabella, Lake**	**0.73**	**273**		Sg	12 59 21.9	-0.1
HYS	**Haystack Butte**	**0.76**	**180**		Pg	12 59 12.2	-0.7
WASM	**Alta Sierra Ca**	**0.81**	**278**		Pg	12 59 13.2	-0.6
WASM					Sg	12 59 24.1	-0.3
EDW2	**Edwards Air Fo**	**0.82**	**205**		Pg	12 59 13.1	-0.9
EDW2					Sg	12 59 24.0	-0.6
RRX	**Edison Barstow**	**0.88**	**148**		Pb	12 59 15.6	-0.2
RRX					Sg	12 59 26.6	-0.2
CWC	**Cottonwood Cre**	**0.91**	**333**	Pg	Pg	12 59 15.3	-0.6
CWC				IAML		12 59 30.4	
	comp=E,302nm,0.2s						
CWC				IAML		12 59 31.1	
	comp=N,312nm,0.2s						
CWC	**Cottonwood Cre**	**0.91**	**333**		Sg	12 59 27.3	-0.4
TPO	**Tropico Hills**	**0.92**	**216**		Pg	12 59 15.3	-0.6
TPO					Sg	12 59 27.7	-0.1
GWY	**Greenwater Val**	**0.92**	**52**		Pg	12 59 15.5	-0.6
GWY					Sg	12 59 27.9	-0.2
GWY				IAML		12 59 30.5	
	comp=N,637nm,0.3s						
GWY				IAML		12 59 30.8	
	comp=E,667nm,0.4s						
CGO	**Cerro Gordo**	**0.94**	**349**		Pg	12 59 15.8	-0.6
CGO					Sg	12 59 28.6	-0.1
SBB	**Saddle Back Bu**	**0.96**	**193**		Pg	12 59 15.7	-0.9
TEJ	**El Tejon**	**0.99**	**247**		Pg	12 59 16.1	-1.3
TEJ					Sg	12 59 29.0	-1.2
FURC	**Furnace Creek,**	**1.02**	**34**		Pg	12 59 17.5	-0.4
FURC					Sb	12 59 31.6	-0.1
ADO	**Adelanto Recei**	**1.08**	**174**		Pg	12 59 18.8	-0

PASC				IAML		12 59 50.6		
	comp=N,99nm,0.4s							
PASC				IAML		12 59 53.7		
	comp=E,91nm,0.5s							
OAT	**Oat Mountain**	**1.54**	**214**		Pg	12 59 27.8	0.0	
PSRC	**Puddingstone R**	**1.54**	**187**		Pg	12 59 27.7	-0.1	
SVD	**Seven Oaks Dam**	**1.56**	**165**		Sb	12 59 48.0	+0.5	
LCH	**Last Change Ra**	**1.61**	**358**		Pn	12 59 26.5	-0.7	
BLCC	**Black Canyon**	**1.65**	**214**		Pn	12 59 27.0	-0.6	
MTPC	**Mountain Pass**	**1.65**	**94**		Pn	12 59 26.3	-1.5	
MTPC				IAML		12 59 50.7		
	comp=N,82nm,0.5s							
GMN	**Gold Mountain**	**1.69**	**9**		Pn	12 59 27.9	-0.5	
GMN				IAML		12 59 53.5		
	comp=N,100nm,0.5s							
GMN				IAML		12 59 53.8		
	comp=E,74nm,0.4s							
TPNV	**Topopah Spring**	**1.70**	**39**		Pn	12 59 27.6	-0.8	
TPNV				IAML		12 59 56.3		
	comp=E,100nm,0.4s							
TPNV				IAML		13 00 01.7		
	comp=E,107nm,0.7s							
DSP	**Deep Springs**	**1.77**	**350**		Pn	12 59 28.8	-0.5	
DSP				IAML		12 59 55.7		
	comp=E,65nm,0.6s							
BHPR	**Bishop**	**1.83**	**337**		Pn	12 59 29.9	-0.4	
MZP	**Montezuma Peak**	**2.08**	**4**		Pn	12 59 33.3	-0.4	
SHPR	**Sheep Range**	**2.14**	**65**	Pn	Pn	12 59 34.1	-0.5	
CRY	**Cary Ranch**	**2.17**	**161**		Pn	12 59 34.0	-0.7	
PMD	**Palm Desert**	**2.20**	**153**	Pn	Pn	12 59 33.8	-1.4	
PMD				IAML		13 00 10.1		
	comp=E,47nm,0.6s							
PFO	**Pinyon Flats O**	**2.21**	**155**	Pn	Pn	12 59 34.2	-1.2	
PFO				IAML		13 00 10.1		
	comp=E,50nm,0.5s							
SNDA	**J Saunders Pla**	**2.21**	**159**		Pn	12 59 34.7	-0.8	
V12A	**Nelson**	**2.22**	**87**	Pn	Pn	12 59 34.0	-1.5	
V12A				IAML		13 00 11.8		
	comp=E,42nm,0.4s							
BENR	**Benton**	**2.24**	**339**		Pb	12 59 39.6	+0.4	
BZNA	**Buzz No.'s Pla**	**2.25**	**160**		Pn	12 59 35.4	-0.6	
FRD	**Ford Ranch, An**	**2.27**	**159**		Pn	12 59 35.4	-0.8	
FRD	**Ford Ranch, An**	**2.27**	**159**		Pn	12 59 35.4	-0.8	
TPH	**Tonopah**	**2.46**	**6**		Pn	12 59 38.6	-0.3	
TPH				IAML		13 00 27.5		
	comp=E,103nm,0.8s							
S11A	**Rachel**	**2.50**	**36**	Pn	Pn	12 59 38.8	-0.5	
S11A				IAML		13 00 22.0		
	comp=E,70nm,0.7s							
S11A				IAML		13 00 27.0		
	comp=N,38nm,1.0s							
BORC	**Borrego Spring**	**2.54**	**158**	Pn	Pn	12 59 38.8	-1.0	
BORC				IAML		13 00 19.5		
	comp=E,91nm,0.9s							
BORC				IAML		13 00 21.6		
	comp=N,72nm,0.7s							
MATG	**Mataguay Scout**	**2.54**	**162**		Pn	12 59 39.2	-0.7	
NEE2	**Needles Airpor**	**2.57**	**109**	Pn	Pn	12 59 38.9	-1.3	
NEE2				IAML		13 00 28.5		
	comp=N,77nm,0.5s							
NEE2				IAML		13 00 31.5		
	comp=E,65nm,0.6s							
DPP	**Dos Picos Cty**	**2.67**	**169**		Pn	12 59 40.9	-0.8	
DPP				IAML		13 00 22.3		
	comp=E,42nm,0.4s							
DPP				IAML		13 00 23.8		
	comp=N,26nm,0.2s							
PMPB	**Monarch Peak**	**2.69**	**284**	Pn	Pn	12 59 40.3	-1.5	
PMPB				IAML		13 00 35.7		
	comp=E,42nm,0.8s							
PMPB				IAML		13 00 38.2		
	comp=N,44nm,0.7s							
PRN	**Pahroc Range**	**2.70**	**48**	Pn	Pn	12 59 41.8	-0.3	
PRN				IAML		13 00 33.5		
	comp=E,38nm,0.8s							
PRN				IAML		13 00 34.9		
	comp=N,38nm,0.8s							
LHV	**Little Huntoon**	**2.73**	**344**		Pn	12 59 42.8	+0.5	
LHV				IAML		13 00 31.5		
	comp=E,24nm,1.0s							
NV11	**Mina Array Sit**	**2.84**	**351**		Pn	12 59 44.1	0.0	
NVAR	**Mina Array Bea**	**2.86**	**348**		Pn	12 59 44.4	0.0	
BBGB	**Big Mountain B**	**2.96**	**290**	Pn	Pn	12 59 45.2	-0.5	
W13A	**Hualapai Mount**	**3.06**	**99**		Pn	12 59 45.9	-1.3	
RYN	**Ryan**	**3.09**	**346**	Pn	Pn	12 59 46.7	-0.9	
BLYC	**Blythe**	**3.13**	**126**		Pn	12 59 45.7	-2.3	
BLYC				IAML		13 00 37.8		
	comp=N,28nm,0.5s							
BLYC				IAML		13 00 38.3		
	comp=E,24nm,0.4s							
R11B	**Troy Canyon, C**	**3.15**	**30**		Pn	12 59 47.7	-0.7	
TKX	**Tecate**	**3.15**	**165**	Pn	Pn	12 59 46.9	-1.3	
WAKR	**Walker**	**3.24**	**333**	Pn	Pn	12 59 49.4	-0.2	
YUH	**Yuha Desert**	**3.27**	**155**	Pn	Pn	12 59 49.3	-0.6	
SAO	**San Andreas Ge**	**3.33**	**291**	Pn	Pn	12 59 51.1	+0.4	
CBX	**Cerro Bola**	**3.39**	**167**		Pn	12 59 51.6	0.0	
GLA	**Glamis**	**3.43**	**138**	Pn	Pn	12 59 50.2	-1.8	
GLA				IAML		13 00 50.1		
	comp=N,36nm,0.8s							
GLA				IAML		13 00 51.4		
	comp=E,43nm,0.6s							
ESJX	**Sierra Juarez**	**3.85**	**159**	Pn	Pn	12 59 57.7	-0.4	
ESJX				IAML		13 01 00.1		
	comp=E,19nm,0.6s							
ESJX				IAML		13 01 02.7		
	comp=N,13nm,0.6s							
CCUT	**Cedar City**	**3.90**	**59**	Pn	Pn	12 59 59.1	+0.5	
KNB	**Kanab**	**4.08**	**69**	Pn	Pn	12 59 59.8	-1.3	
KNB				IAML		13 01 16.6		
	comp=N,7.9nm,1.6s							
MPK	**Martis Peak**	**4.15**	**333**	Pn	Pn	13 00 02.0	-0.3	
PSUT	**Pine Spring**	**4.16**	**45**	Pn	Pn	13 00 01.8	-0.4	
PSUT				IAML		13 01 23.8		
	comp=N,7.6nm,1.1s							
SPR3	**Spring Creek 3**	**4.25**	**37**	Pn	Pn	13 00 02.3	-1.3	
SPR3				IAML		13 01 14.8		
	comp=N,7.4nm,1.1s							
SPR3				IAML		13 01 14.8		
	comp=E,8.6nm,1.3s							
AFDM	**Forest Hills D**	**4.28**	**322**	Pn	Pn	13 00 03.4	-0.4	
AFDM				IAML		13 01 19.7		
	comp=N,9.8nm,0.5s							
AFDM				IAML		13 01 20.2		
	comp=E,15nm,0.9s							
PAHR	**Pah Rah Range**	**4.32**	**341**	Pn	Pn	13 00 04.3	-0.2	
PAHR				IAML		13 00 58.3		
	comp=N,6.5nm,5.0s							
PAHR				IAML		13 02 03.1		
	comp=E,7.3nm,3.8s							
U15A	**North Rim**	**4.36**	**78**	Pn	Pn	13 00 05.4	+0.3	
U15A				IAML		13 01 15.9		
	comp=N,7.2nm,0.8s							
U15A				IAML		13 01 17.8		
	comp=E,10nm,0.8s							
BEKR	**Beckworth**	**4.78**	**333**	Pn	Pn	13 00 10.0	-0.7	
BEKR				IAML		13 01 41.8		
	comp=N,6.6nm,1.4s							
BEKR				IAML		13 01 42.5		
	comp=E,11nm,0.9s							
ELK	**Elko**	**5.43**	**19**	Pn	Pn	13 00 18.8	-1.0	

IDC 19 13:01:34.6±2.1, 0.22N×126.30E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=170.2km s-min=28.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.53**	**159**	P	P	13 06 24.4	-1.2
	0.3nm,0.5s,baz=337,slow=11,SNR=9.2 0.3nm,0.5s						
ASAR	**Alice Springs**	**24.86**	**163**	P	P	13 07 00.1	+0.9
	0.3nm,0.6s,baz=348,slow=13,SNR=8.8 0.3nm,0.6s						
MKAR	**Makanchi Array**	**60.20**	**327**	P	P	13 11 44.4	-0.1
	0.1nm,0.5s,baz=124,slow=5.8,SNR=1.9 0.1nm,0.5s						

*CATAC **19** 13:07:20.9±1.7, 7.7N±5.5×7.3W±1.1, h159km±19km, M3.5/8, MLv3.5/8, confirmed*
*RSNC **19** 13:07:21.8±0.0, 7.1N±1.3×7.3W±1.1, h150km±2km, M3.0, ML2.9*
ISC 19 13:07:20.5±1.4, 6.86N±0.03×73.12W±0.04, h156km±8km, n34, σ1.18/62, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**194**	P	**Pn**	**13 07 42.0**	**0.0**
BARC				S	**Sn**	**13 07 57.2**	**-1.2**
PAMC	**Pamplona, Colo**	**0.63**	**41**	P	**Pn**	**13 07 45.0**	**+1.2**
PAMC				S	**Sn**	**13 08 01.9**	**+0.4**
RUSC	**La Rusia**	**0.96**	**178**	P	**Pn**	**13 07 45.8**	**-0.2**
RUSC	**La Rusia**	**0.96**	**178**	P	**Pn**	**13 07 45.9**	**-0.2**
RUSC				S	**Sn**	**13 08 04.6**	**-1.1**
PTBC	**PUERTO BERRIO,**	**1.37**	**257**	P	**Pn**	**13 07 48.6**	**-0.6**
PTBC				S	**Sn**	**13 08 09.1**	**-2.1**
TAMC	**Tame, Arauca**	**1.38**	**108**	P	**Pn**	**13 07 50.4**	**+1.1**
TAMC				S	**Sn**	**13 08 12.0**	**+0.6**
OCAC	**Ocana**	**1.39**	**352**	P	**Pn**	**13 07 50.3**	**+0.8**
OCAC				S	**Sn**	**13 08 12.6**	**+0.8**
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	P	**Pn**	**13 07 54.4**	**+0.2**
ZARC				S	**Sn**	**13 08 19.8**	**-0.3**
NORC	**Norcasia**	**2.17**	**234**	P	**Pn**	**13 07 57.9**	**-0.1**
NORC				S	**Sn**	**13 08 25.8**	**-1.1**
CHIC	**Chingaza**	**2.30**	**196**	P	**Pn**	**13 08 00.3**	**+0.4**
CHIC				S	**Sn**	**13 08 29.6**	**-0.7**
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**13 08 01.6**	**+1.3**
ROSC				S	**Sn**	**13 08 32.6**	**+1.6**
HELC	**Santa Helena**	**2.49**	**255**	P	**Pn**	**13 08 03.3**	**+1.2**
HELC	**Santa Helena**	**2.49**	**255**	P	**Pn**	**13 08 02.6**	**+0.5**
HELC				S	**Sn**	**13 08 36.3**	**+2.1**
CVER	**Cruz Verde, Cu**	**2.51**	**202**	P	**Pn**	**13 08 03.5**	**+1.0**
CVER				S	**Sn**	**13 08 35.1**	**+0.2**
UREC	**San Jos de Ur**	**2.56**	**290**	P	**Pn**	**13 08 01.5**	**-1.1**
UREC				S	**Sn**	**13 08 32.7**	**-2.4**
GUY2C	**Guyana, Caldas**	**2.77**	**234**	P	**Pn**	**13 08 06.3**	**+0.7**
GUY2C				S	**Sn**	**13 08 43.7**	**+3.2**
VILC	**Villavicencio,**	**2.79**	**192**	P	**Pn**	**13 08 05.6**	**0.0**
VILC				S	**Sn**	**13 08 39.9**	**-0.6**
PTGC	**Puerto Gaitan,**	**2.82**	**160**	P	**Pn**	**13 08 05.1**	**-0.7**
PTGC				S	**Sn**	**13 08 38.6**	**-2.4**
CBOC	**Ciudad Bolivar**	**3.04**	**251**	P	**Pn**	**13 08 09.4**	**+0.6**
CBOC				S	**Sn**	**13 08 46.8**	**+0.6**
DBBC	**Dabeiba**	**3.08**	**273**	P	**Pn**	**13 08 09.4**	**+0.3**
DBBC				S	**Sn**	**13 08 45.5**	**-1.3**
SDV	**Santo Domingo**	**3.18**	**51**	P	**Pn**	**13 08 11.2**	**+0.7**
SDV				S	**Sn**	**13 08 48.7**	**-0.6**
ARGC	**Ariguani, Magd**	**3.18**	**339**	P	**Pn**	**13 08 13.0**	**+2.6**
ARGC				S	**Sn**	**13 08 51.0**	**+1.8**
ANIL	**Santa Ana**	**3.27**	**224**	P	**Pn**	**13 08 13.4**	**+1.5**
ANIL				S	**Sn**	**13 08 53.0**	**+1.3**
PRAC	**Prado**	**3.59**	**210**	P	**Pn**	**13 08 16.0**	**+0.3**
PRAC	**Prado**	**3.59**	**210**	P	**Pn**	**13 08 15.9**	**+0.3**
PRAC				S	**Sn**	**13 08 58.0**	**-0.5**
APAC	**Apartado, Choc**	**3.59**	**287**	P	**Pn**	**13 08 15.7**	**+0.1**
APAC				S	**Sn**	**13 08 57.6**	**-0.8**
ORTC	**Ortega, Tolima**	**3.62**	**216**	P	**Pn**	**13 08 16.1**	**+0.1**
ORTC				S	**Sn**	**13 09 00.0**	**+0.8**
SJCC	**San Jacinto, C**	**3.64**	**326**	P	**Pn**	**13 08 16.1**	**-0.2**
SJCC	**San Jacinto, C**	**3.64**	**326**	P	**Pn**	**13 08 15.6**	**-0.8**
SJCC				S	**Sn**	**13 08 57.0**	**-2.8**
PLMC	**San Jos del P**	**3.70**	**239**	P	**Pn**	**13 08 17.4**	**+0.3**
PLMC				S	**Sn**	**13 09 00.3**	**-0.8**
URMC	**La Uribe, Meta**	**3.80**	**199**	P	**Pn**	**13 08 19.1**	**+0.6**
URMC				S	**Sn**	**13 09 02.8**	**-0.7**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P	**Pn**	**13 08 22.2**	**-0.6**
CRJC				S	**Sn**	**13 09 10.5**	**-0.9**
GUVC	**San Jose del G**	**4.31**	**174**	P	**Pn**	**13 08 24.6**	**-0.4**
SMRC	**Santa Marta, M**	**4.42**	**346**	P	**Pn**	**13 08 26.9**	**+0.6**

*NEIC **19** 13:14:26.1±1.2, 35.891N±0.008×117.669W±0.009, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.6km az=224.0*
PAS 19 13:14:26.7±1.2, 35.894N±0.008×117.69W±0.01, h3km±3km, Mwr3.5/4, ML3.4/128(NEIC), Error ellipse: s-maj=1.4km s-min=1.1km az=57.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.10**	**138**		Pg	13 14 28.9	+0.2
CLC				Sg	Sg	13 14 30.1	-0.1
TOW	**Tower One**	**0.11**	**217**		Pg	13 14 29.4	+0.6
TOW					Sg	13 14 32.0	+1.8
WVPM	**Volcano Peak E**	**0.12**	**297**		Pg	13 14 29.4	+0.3
WVPM					Sg	13 14 31.6	+0.8
WRVM	**Rose V. Centra**	**0.20**	**304**		Pg	13 14 30.9	+0.2
WRVM					Sg	13 14 33.0	+0.6
SRTC	**Snort**	**0.21**	**195**		Pg	13 14 31.3	+0.6
SRTC					Sg	13 14 35.2	+1.8
MPMC	**Manual Prospec**	**0.23**	**44**	Pg	Pg	13 14 31.3	+0.2
GPO	**China Lake**	**0.24**	**176**		Pg	13 14 31.6	+0.2
GPO					Sg	13 14 36.0	+1.5
MFS	**McCloud Flat S**	**0.26**	**328**		Pg	13 14 31.9	+0.2
MFS					Sg	13 14 35.8	+0.5
WSHM	**Spangler Hills**	**0.33**	**152**		Pg	13 14 33.1	+0.1
WSHM					Sg	13 14 38.4	+1.0
WSHM	**Spangler Hills**	**0.33**	**152**	IAML		13 14 38.9	
WSHM	6μm,0.5s			IAML		13 14 39.5	
	3μm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.41**	**180**		Pg	13 14 34.6	0.0
LRMC	**Laurel Mtn Rad**	**0.41**	**180**		Sg	13 14 40.8	+0.8
LRMC	**Laurel Mtn Rad**	**0.41**	**180**	IAML		13 14 41.9	
	comp=N,4μm,0.5s						
LRMC				IAML		13 14 42.3	
	comp=E,4μm,0.6s						
CCCA	**Chr Cany lake**	**0.45**	**145**		Pg	13 14 35.8	+0.5
CCCA	**Chr Cany lake**	**0.45**	**145**		Sg	13 14 42.6	+1.4
CCCA	**Chr Cany lake**	**0.45**	**145**	IAML		13 14 44.2	
	comp=N,6μm,0.7s						
CCCA				IAML		13 14 48.3	
	comp=E,4μm,0.7s						
WORM	**Onyx Ranch**	**0.49**	**247**		Pg	13 14 36.0	-0.2
WORM					Sg	13 14 42.8	+0.2
WBSM	**Bird Springs**	**0.51**	**226**		Sg	13 14 43.8	+0.6
WHFM	**Hanning Flat**	**0.57**	**250**		Pg	13 14 37.6	-0.1
WHFM					Sg	13 14 45.5	+0.3
CWC	**Cottonwood Cre**	**0.63**	**330**		Pg	13 14 38.9	+0.1
CWC					Sg	13 14 47.5	+0.5
CWC	**Cottonwood Cre**	**0.63**	**330**	IAML		13 14 48.2	
	comp=E,2μm,0.3s						
CWC				IAML		13 14 49.4	
	comp=N,2μm,0.2s						
DTP	**Desert Tortois**	**0.64**	**192**		Pg	13 14 38.6	-0.3
DTP					Sg	13 14 47.4	+0.2
CGO	**Cerro Gordo**	**0.66**	**352**		Pg	13 14 38.9	-0.5
CGO					Sg	13 14 48.2	+0.2
QSM	**Queen of Sheba**	**0.67**	**84**		Pg	13 14 39.2	-0.2
QSM	**Queen of Sheba**	**0.67**	**84**	Sg	Sg	13 14 47.9	-0.2
QSM				IAML		13 14 52.7	
	comp=N,4μm,0.6s						
QSM				IAML		13 14 52.9	
	comp=E,5μm,0.6s						
ISA	**Isabella, Lake**	**0.68**	**250**		Pg	13 14 39.6	-0.1
ISA	**Isabella, Lake**	**0.68**	**250**		Sg	13 14 48.8	+0.2
ISA	**Isabella, Lake**	**0.68**	**250**	IAML		13 14 49.1	
	comp=N,2μm,0.4s						
ISA				IAML		13 14 49.9	
	comp=E,2μm,0.5s						
WASM	**Alta Sierra Ca**	**0.73**	**258**		Pg	13 14 40.5	-0.1
WASM					Sg	13 14 50.3	+0.3
CCAC	**Calif City Air**	**0.79**	**200**		Pg	13 14 41.5	-0.2
CCAC					Sg	13 14 52.5	+0.6
GWY	**Greenwater Val**	**0.87**	**70**		Pg	13 14 43.4	-0.1
GWY				IAML		13 14 57.6	
	comp=E,2μm,0.5s						
GWY				IAML		13 15 01.2	
	comp=N,2μm,0.4s						
FURC	**Furnace Creek,**	**0.88**	**49**		Pg	13 14 43.6	+0.2
GSC	**Goldstone, Bar**	**0.93**	**129**		Pg	13 14 44.0	-0.5
GSC					Pn	13 14 56.2	+9.4
GSC	**Goldstone, Bar**	**0.93**	**129**	IAML		13 14 59.3	
	comp=N,1μm,0.6s						
GSC				IAML		13 14 59.5	
	comp=E,1μm,0.8s						
SPG2	**Springville 2**	**0.93**	**290**		Pg	13 14 43.8	-0.7
HYS	**Haystack Butte**	**1.03**	**175**		Pg	13 14 45.8	-0.7
HYS					Sg	13 15 00.3	+0.4
EDW2	**Edwards Air Fo**	**1.04**	**194**		Pg	13 14 45.8	-0.9
EDW2					Sg	13 14 59.4	-0.8
TEJ	**El Tejon**	**1.05**	**231**		Pg	13 14 46.0	-0.8
TEJ					Sg	13 14 59.9	-0.6
TPO	**Tropico Hills**	**1.11**	**204**		Pg	13 14 47.1	-0.8
TPO	**Tropico Hills**	**1.11**	**204**		Sg	13 15 02.2	+0.1
TPO	**Tropico Hills**	**1.11**	**204**	IAML		13 15 05.3	
	comp=N,1μm,0.9s						
TPO				IAML		13 15 07.9	
	comp=E,858nm,0.6s						
GRAC	**Grapevine Rang**	**1.13**	**13**		Pg	13 14 47.8	-0.5
GRAC					Sg	13 15 03.4	+0.4
GRAC	**Grapevine Rang**	**1.13**	**13**	IAML		13 15 07.8	
	comp=N,1μm,0.9s						
VES	**Vestal, Richgr**	**1.14**	**268**		Pg	13 14 48.0	-0.5
VES					Sg	13 15 02.7	-0.6
WCT	**Wildcat Mounta**	**1.24**	**43**		Pg	13 14 49.9	-0.6
WCT				IAML		13 15 11.6	
	comp=E,407nm,1.0s						
AMDNV	**Amargosa**	**1.27**	**63**		Pg	13 14 49.9	-1.0
GMN	**Gold Mountain**	**1.45**	**14**		Pn	13 14 53.4	-0.7
GMN				IAML		13 15 16.4	
	comp=N,516nm,0.5s						
DSP	**Deep Springs**	**1.49**	**351**		Pn	13 14 53.9	-0.5
DSP				IAML		13 15 16.0	
	comp=N,380nm,0.6s						
TPNV	**Topopah Spring**	**1.56**	**47**		Pn	13 14 54.8	-0.8
TPNV				IAML		13 15 20.8	
	comp=N,316nm,0.7s						
TPNV				IAML		13 15 23.2	
	comp=N,334nm,0.7s						
BFSC	**Mount Baldy Ra**	**1.65**	**179**		Sn	13 15 18.0	-0.6
BFSC				IAML		13 15 21.3	
	comp=E,265nm,0.4s						
BFSC				IAML		13 15 22.0	
	comp=N,286nm,0.6s						
MWC	**Mount Wilson**	**1.69**	**191**		Pn	13 14 57.1	-0.3
MWC				IAML		13 15 22.2	
	comp=E,429nm,0.5s						
MWC				IAML		13 15 23.3	
	comp=N,520nm,0.7s						
MTPC	**Mountain Pass**	**1.78**	**103**		Pn	13 14 57.2	-1.4
MTPC				IAML		13 15 24.0	
	comp=N,463nm,0.4s						
MTPC				IAML		13 15 25.5	
	comp=E,464nm,0.5s						
CRGC	**Crocker Grade**	**1.79**	**249**		Pn	13 14 59.3	+0.7
SHPR	**Sheep Range**	**2.13**	**73**		Pn	13 15 02.8	-0.6
TPH	**Tonopah**	**2.21**	**10**		Pn	13 15 04.0	-0.5
ELS	**Elsinore Mount**	**2.25**	**175**		Pn	13 15 04.2	-0.8
V12A	**Nelson**	**2.31**	**93**		Pn	13 15 04.5	-1.2
V12A				IAML		13 15 42.0	
	comp=N,271nm,0.6s						
V12A				IAML		13 15 44.3	
	comp=E,185nm,0.6s						
S11A	**Rachel**	**2.34**	**41**		Pn	13 15 05.9	-0.3
S11A				IAML		13 15 43.4	
	comp=N,258nm,0.9s						
S11A				IAML		13 15 54.5	
	comp=E,309nm,0.9s						
PSMM	**Smith Mountain**	**2.37**	**275**		Pn	13 15 07.3	+0.7
LHV	**Little Huntoon**	**2.44**	**345**		Pn	13 15 07.7	+0.2
LHV				IAML		13 15 46.7	
	comp=N,146nm,0.5s						
LHV				IAML		13 15 53.2	
	comp=E,161nm,1.1s						
PMD	**Palm Desert**	**2.48**	**154**		Pn	13 15 07.0	-1.1
PFO	**Pinyon Flats O**	**2.49**	**156**		Pn	13 15 07.3	-1.0
NV11	**Mina Array Sit**	**2.56**	**352**		Pn	13 15 09.1	-0.2
NVAR	**Mina Array Bea**	**2.58**	**349**		Pn	13 15 09.5	-0.1
PRN	**Pahroc Range**	**2.60**	**54**		Pn	13 15 09.5	-0.4
PRN				IAML		13 16 01.0	
	comp=N,184nm,0.7s						
PRN				IAML		13 16 01.4	
	comp=E,237nm,0.9s						
MYLM	**Yosemite Lake**	**2.66**	**305**		Pb	13 15 13.8	-1.1
RYN	**Ryan**	**2.81**	**346**		Pn	13 15 13.1	+0.4
BORC	**Borrego Spring**	**2.82**	**158**		Pn	13 15 12.0	-0.7
BORC				IAML		13 16 00.7	
	comp=E,111nm,0.9s						
BORC				IAML		13 16 09.0	
	comp=N,78nm,0.8s						
DPP	**Dos Picos Cty**	**2.95**	**168**		Pn	13 15 14.1	-0.4
DPP				IAML		13 16 00.3	
	comp=E,101nm,0.6s						
R11B	**Troy Canyon, C**	**2.97**	**34**		Pn	13 15 14.4	-0.6
CMB	**Columbia Colle**	**3.04**	**315**		Pn	13 15 15.7	-0.1
CMB				IAML		13 16 07.1	
	comp=N,89nm,0.6s						
CMB				IAML		13 16 07.2	
	comp=E,75nm,0.7s						
SAO	**San Andreas Ge**	**3.16**	**287**		Pn	13 15 17.2	-0.2
W13A	**Hualapai Mount**	**3.20**	**103**		Pn	13 15 16.9	-1.2
W13A				IAML		13 16 11.6	
	comp=E,60nm,0.9s						
W13A				IAML		13 16 11.6	
	comp=N,65nm,1.2s						
BLYC	**Blythe**	**3.37**	**129**		Pn	13 15 18.3	-1.9
BLYC				IAML		13 16 29.7	
	comp=N,54nm,0.8s						
CBX	**Cerro Bola**	**3.67**	**166**		Pn	13 15 24.4	-0.1
GLA	**Glamis**	**3.69**	**139**		Pn	13 15 22.7	-2.0
GLA				IAML		13 16 33.5	
	comp=E,84nm,0.8s						
GLA				IAML		13 16 35.3	
	comp=N,64nm,0.7s						
LCMT	**Little Creek M**	**3.75**	**71**		Pn	13 15 24.9	-0.7
CCUT	**Cedar City**	**3.84**	**63**	Pn	Pn	13 15 27.5	+0.5
PSUT	**Pine Spring**	**4.04**	**48**		Pn	13 15 29.0	-0.6
PSUT				IAML		13 16 45.9	
	comp=E,62nm,1.2s						
PSUT				IAML		13 16 53.5	
	comp=N,34nm,1.2s						
KNB	**Kanab**	**4.08**	**73**		Pn	13 15 30.8	+0.7
KNB				IAML		13 16 42.7	
	comp=E,32nm,0.9s						
KNB				IAML		13 16 48.4	
	comp=N,41nm,1.2s						
SPR3	**Spring Creek 3**	**4.09**	**40**		Pn	13 15 29.1	-1.3
SPR3				IAML		13 16 41.2	
	comp=E,28nm,0.8s						
U15A	**North Rim**	**4.40**	**81**		Pn	13 15 34.4	-0.2
U15A				IAML		13 16 43.8	
	comp=E,48nm,0.9s						
U15A				IAML		13 16 46.7	
	comp=N,36nm,0.8s						
ELK	**Elko**	**5.21**	**21**		Pn	13 15 46.0	+0.3
X16A	**Lo Mia Camp, P**	**5.32**	**104**		Pn

s-maj=26.7km s-min=13.0km az=31.0
ISC 19 13:34:18.6±0.5,**66°30N**±0.02×**157°31W**±0.03,**h10**km,
n138,σ1**00**/120,**mb3.4/7,Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.18**	**151**		**Pg**	**13 34 21.8**	**-0.7**
G19K					**Sg**	**13 34 24.5**	**-0.7**
G19K				IAML		13 34 25.3	
	comp=E,24μm,0.8s						
F19K	**Shaleruckik Mo**	**0.56**	**341**		**Pg**	**13 34 28.4**	**-1.1**
F19K					**Sg**	**13 34 36.2**	**-0.7**
G18K	**Tagagawik**	**0.68**	**234**		**Pg**	**13 34 31.0**	**-0.8**
G18K	**Tagagawik**	**0.68**	**234**		**Sg**	**13 34 39.1**	**-1.7**
G18K				IAML		13 34 43.4	
	comp=N,3μm,0.9s						
G18K				IAML		13 34 43.4	
	comp=E,3μm,0.7s						
H19K	**Roundabout Mou**	**0.86**	**155**		**Pg**	**13 34 34.2**	**-0.8**
H19K					**Sg**	**13 34 45.5**	**-0.7**
H19K				IAML		13 34 50.2	
	comp=E,4μm,0.5s						
H19K				IAML		13 34 50.6	
	comp=N,4μm,0.3s						
F20K	**Avaraart Lake**	**0.98**	**39**		**Pg**	**13 34 35.9**	**-1.5**
F20K				Sg	**Sg**	**13 34 49.1**	**-1.0**
F20K				IAML		13 34 53.0	
	comp=E,4μm,0.5s						
F18K	**Selawik**	**0.99**	**289**		**Pg**	**13 34 36.2**	**-1.3**
F18K					**Sb**	**13 34 50.2**	**-0.6**
E19K	**Redstone River**	**1.16**	**2**		**Pb**	**13 34 39.5**	**-1.3**
E19K				Sg	**Sb**	**13 34 54.2**	**-1.6**
E19K				IAML		13 34 58.3	
	comp=N,3μm,0.5s						
E19K				IAML		13 35 00.3	
	comp=E,3μm,0.5s						
H18K	**Honhosa River**	**1.23**	**201**		**Sb**	**13 34 56.5**	**-1.5**
H18K				IAML		13 35 00.2	
	comp=E,2μm,0.9s						
H18K	**Honhosa River**	**1.23**	**201**		**Pn**	**13 34 40.7**	**-1.2**
H20K	**Anotleneega Mo**	**1.29**	**128**		**Pn**	**13 34 41.6**	**-1.0**
H20K					**Sg**	**13 35 00.1**	**+0.1**
IMAR	**Indian Mountai**	**1.48**	**101**		**Pn**	**13 34 44.5**	**-0.8**
G21K	**Allakaket**	**1.55**	**80**	Pn	**Pn**	**13 34 45.7**	**-0.5**
GCSA	**Galena City Sc**	**1.57**	**173**		**Pb**	**13 34 46.4**	**-1.4**
GCSA					**Sb**	**13 35 07.0**	**-0.6**
G17K	**Kiwalik Mounta**	**1.59**	**241**		**Pn**	**13 34 45.7**	**-1.1**
G17K					**Sb**	**13 35 07.3**	**-0.9**
F17K	**Baldwin Pennin**	**1.59**	**277**		**Pn**	**13 34 46.2**	**-0.6**
F17K				IAML		13 35 10.4	
	comp=N,1μm,1.1s						
F17K				IAML		13 35 10.6	
	comp=E,1μm,1.0s						
H17K	**Granite Mounta**	**1.75**	**219**		**Pn**	**13 34 48.1**	**-0.8**
H17K				IAML		13 35 14.0	
	comp=E,1μm,0.8s						
H17K				IAML		13 35 15.7	
	comp=N,992nm,0.7s						
F21K	**Alatna River**	**1.78**	**57**		**Pn**	**13 34 49.0**	**-0.4**
F21K				IAML		13 35 17.1	
	comp=N,2μm,0.7s						
I20K	**Naaghedeneel**	**1.92**	**141**		**Pb**	**13 34 51.5**	**-2.2**
H21K	**Melozitna Rive**	**1.96**	**107**		**Pn**	**13 34 51.2**	**-0.7**
H21K				IAML		13 35 23.2	
	comp=E,822nm,0.8s						
H21K				IAML		13 35 23.3	
	comp=N,752nm,0.6s						
E17K	**Hotham Inlet**	**1.96**	**296**		**Pn**	**13 34 51.5**	**-0.3**
E20K	**Nigu River**	**2.01**	**12**		**Pb**	**13 34 53.6**	**-1.7**
D19K	**Kuna River**	**2.22**	**352**		**Pb**	**13 34 56.3**	**-2.6**
D19K	**Kuna River**	**2.22**	**352**	IAML		13 35 32.1	
	comp=E,630nm,0.8s						
D19K				IAML		13 35 33.0	
	comp=N,930nm,0.6s						
G16K	**Koyuk River**	**2.27**	**249**		**Pn**	**13 34 54.6**	**-1.5**
G16K				IAML		13 35 31.4	
	comp=N,642nm,0.6s						
G22K	**Bettles**	**2.40**	**72**		**Pn**	**13 34 56.9**	**-1.0**
J19K	**Poorman**	**2.43**	**162**		**Pn**	**13 34 58.3**	**0.0**
D20K	**Etivluk River**	**2.44**	**6**		**Pn**	**13 34 59.0**	**+0.6**
D20K	**Etivluk River**	**2.44**	**6**	IAML		13 35 37.0	
	comp=N,481nm,0.8s						
D20K				IAML		13 35 40.2	
	comp=E,787nm,0.6s						
E21K	**Killik River**	**2.51**	**29**		**Pn**	**13 34 59.5**	**+0.1**
E21K				IAML		13 35 43.5	
	comp=N,440nm,0.6s						
E21K				IAML		13 35 44.6	
	comp=E,442nm,0.7s						
J20K	**Nowinta River**	**2.52**	**147**		**Pn**	**13 34 59.2**	**-0.3**
J20K				IAML		13 35 45.4	
	comp=E,614nm,0.7s						
J20K				IAML		13 35 47.2	
	comp=N,424nm,0.8s						
D17K	**Noatak River**	**2.67**	**304**		**Pn**	**13 35 01.6**	**0.0**
C18K	**Utukok River**	**2.79**	**329**		**Pn**	**13 35 02.9**	**-0.4**
RDOG	**Red Dog Mine**	**2.80**	**311**		**Pn**	**13 35 02.8**	**-0.7**
I17K	**Unalakleet**	**2.82**	**212**		**Pn**	**13 35 02.9**	**-0.7**
J18K	**Innoko River**	**2.86**	**175**		**Pn**	**13 35 04.0**	**-0.2**
C19K	**Lookout Ridge**	**2.94**	**344**		**Pn**	**13 35 05.3**	**-0.2**
C19K				IAML		13 36 01.7	
	comp=N,276nm,0.9s						
G23K	**Bananza Creek**	**2.95**	**79**	IAML		13 35 56.3	
	comp=E,367nm,0.6s						
COLD	**Coldfoot**	**2.97**	**69**		**Pn**	**13 35 05.2**	**-0.6**
COLD				IAML		13 35 56.0	
	comp=E,262nm,0.9s						
COLD				IAML		13 35 58.0	
	comp=N,388nm,1.3s						
MLY	**Manley**	**3.01**	**112**		**Pn**	**13 35 05.4**	**-0.9**
MLY				IAML		13 36 00.8	
	comp=N,284nm,1.2s						
J17K	**VABM Dome**	**3.02**	**195**		**Pn**	**13 35 06.4**	**0.0**
J17K				IAML		13 35 59.9	
	comp=N,248nm,0.8s						
J17K				IAML		13 36 01.2	
	comp=E,312nm,1.1s						
C21K	**Knifeblade Rid**	**3.02**	**17**		**Pn**	**13 35 06.3**	**-0.2**
F15K	**North Star Dit**	**3.06**	**262**		**Pn**	**13 35 05.5**	**-1.4**
F15K				IAML		13 36 01.1	
	comp=E,316nm,0.7s						
F15K				IAML		13 36 04.2	
	comp=N,363nm,0.8s						
G15K	**Niukluk**	**3.08**	**248**		**Pn**	**13 35 05.6**	**-1.7**
D22K	**Ayikyak River**	**3.14**	**32**		**Pn**	**13 35 08.6**	**+0.5**
D22K				IAML		13 36 06.0	
	comp=N,273nm,1.1s						
C17K	**DeLong Mountai**	**3.15**	**317**		**Pn**	**13 35 08.5**	**+0.4**
CHUM	**Lake Minchumin**	**3.22**	**137**		**Pn**	**13 35 09.3**	**+0.2**
K20K	**Telida**	**3.27**	**153**		**Pn**	**13 35 09.8**	**0.0**
K20K	**Telida**	**3.27**	**153**	IAML		13 36 13.9	
	comp=N,236nm,1.7s						
J16K	**Anvik River**	**3.34**	**206**		**Pn**	**13 35 10.7**	**-0.1**
J16K				IAML		13 36 07.4	
	comp=N,290nm,0.9s						
BPAW	**Bear Paw Mtn.**	**3.46**	**127**		**Pn**	**13 35 12.3**	**-0.3**
E23K	**Chandalar**	**3.48**	**56**	IAML		13 36 13.1	
	comp=N,306nm,1.0s						
B21K	**Ikpikpuk River**	**3.48**	**16**		**Pn**	**13 35 12.1**	**-0.7**
B21K				IAML		13 36 13.7	
	comp=E,289nm,0.6s						
B21K				IAML		13 36 14.6	
	comp=N,276nm,0.9s						
B18K	**Kokolik River**	**3.51**	**333**		**Pn**	**13 35 13.3**	**+0.1**
K17K	**Iditarod**	**3.63**	**187**		**Pn**	**13 35 14.3**	**-0.5**
K17K	**Iditarod**	**3.63**	**187**	IAML		13 36 20.9	
	comp=E,257nm,0.9s						
K17K				IAML		13 36 22.3	
	comp=N,170nm,1.0s						
D23K	**Nanushuk River**	**3.68**	**40**		**Pn**	**13 35 16.4**	**+0.9**
D23K				IAML		13 36 31.5	
	comp=N,260nm,1.0s						
C16K	**Lisburne Hills**	**3.69**	**306**		**Pn**	**13 35 16.1**	**+0.5**
B20K	**Meade River**	**3.72**	**1**		**Pn**	**13 35 16.0**	**0.0**
B20K	**Meade River**	**3.72**	**1**	IAML		13 36 23.1	
	comp=N,188nm,0.9s						
ANM	**Nome**	**3.79**	**246**	Pn	**Pn**	**13 35 16.3**	**-0.7**
ANM				IAML		13 36 27.9	
	comp=N,164nm,0.9s						
ANM				IAML		13 36 31.4	
	comp=E,153nm,1.3s						
F14K	**Arctic Creek**	**3.79**	**261**		**Pn**	**13 35 15.9**	**-1.1**
NEA2	**Nenana**	**3.84**	**113**	IAML		13 36 23.1	
	comp=E,154nm,0.9s						
NEA2				IAML		13 36 25.4	
	comp=N,139nm,1.1s						
E24K	**Your Creek**	**3.87**	**59**		**Pn**	**13 35 17.8**	**-0.3**
E24K	**Your Creek**	**3.87**	**59**	IAML		13 36 30.6	
	comp=N,186nm,0.8s						
H24K	**Noodor Dome**	**3.87**	**93**	IAML		13 36 25.2	
	comp=E,228nm,0.9s						
G24K	**Hadweenzic Riv**	**3.96**	**80**		**Pn**	**13 35 18.4**	**-1.0**
PPLA	**Purkeypile**	**4.07**	**145**	IAML		13 36 37.8	
	comp=N,126nm,0.9s						
PPLA				IAML		13 36 45.4	
	comp=E,156nm,1.4s						
L18K	**Granite Mounta**	**4.11**	**176**		**Pn**	**13 35 21.6**	**+0.2**
L18K	**Granite Mounta**	**4.11**	**176**	IAML		13 36 39.4	
	comp=N,136nm,0.8s						
L20K	**Farewell, AK**	**4.12**	**157**		**Pn**	**13 35 22.0**	**+0.5**
TRF	**Thorofare Moun**	**4.14**	**130**	IAML		13 36 33.0	
	comp=E,172nm,1.3s						
TRF				IAML		13 36 34.8	
	comp=N,189nm,1.0s						
A19K	**Wainwright**	**4.16**	**342**		**Pn**	**13 35 22.2**	**+0.1**
COLA	**College**	**4.18**	**106**		**Pn**	**13 35 22.2**	**-0.1**
WRH	**Wood River Hil**	**4.27**	**111**	IAML		13 36 37.0	
	comp=N,110nm,0.8s						
WRH				IAML		13 36 43.0	
	comp=E,93nm,1.3s						
L19K	**White Mountain**	**4.28**	**164**		**Pn**	**13 35 24.0**	**+0.3**
L19K	**White Mountain**	**4.28**	**164**	IAML		13 36 42.0	
	comp=E,108nm,1.1s						
L19K				IAML		13 36 42.4	
	comp=N,112nm,1.0s						
CCB	**Clear Creek Bu**	**4.30**	**108**	IAML		13 36 35.8	
	comp=E,123nm,0.8s						
B22K	**Teshekpuk Lake**	**4.30**	**18**		**Pn**	**13 35 22.8**	**-1.2**
B22K	**Teshekpuk Lake**	**4.30**	**18**	IAML		13 36 47.1	
	comp=N,117nm,1.1s						
B22K				IAML		13 36 50.6	
	comp=E,150nm,2.2s						
C23K	**Itkillik River**	**4.35**	**32**	IAML		13 36 51.5	
	comp=E,127nm,0.7s						
C23K				IAML		13 36 53.3	
	comp=N,114nm,1.0s						
MCK	**McKinley**	**4.39**	**122**		**Pn**	**13 35 25.1**	**-0.2**
TNA	**Tin City**	**4.41**	**265**		**Pn**	**13 35 25.0**	**-0.5**
TNA	**Tin City**	**4.41**	**265**	IAML		13 36 47.4	
	comp=E,134nm,1.0s						
K15K	**Wolf Creek Mou**	**4.42**	**206**		**Pn**	**13 35 24.6**	**-1.1**
K15K				IAML		13 36 51.2	
	comp=N,91nm,1.6s						
K15K				IAML		13 36 53.6	
	comp=E,88nm,1.7s						
J14K	**Nanvaranak Lak**	**4.47**	**220**		**Pn**	**13 35 25.2**	**-1.1**
J14K	**Nanvaranak Lak**	**4.47**	**220**	IAML		13 36 53.8	
	comp=N,139nm,1.2s						
J14K				IAML		13 36 56.9	
	comp=E,158nm,1.0s						
ILAR	**Eielson Array**	**4.60**	**105**		**Pn**	**13 35 27.6**	**-0.5**
ILAR	**Eielson Array**	**4.60**	**105**	Pn	**Pn**	**13 35 27.3**	**-0.8**
	comp=E,8.6nm,0.3s,baz=292,slow=13,SNR=723						
ILAR				Sn	**Sn**	**13 36 21.0**	**-0.5**
	comp=E,2.8nm,0.3s,baz=295,slow=24,SNR=6.5						
ILAR				Lg	Lg	13 36 41.0	
	comp=E,8.5nm,0.3s,baz=304,slow=33,SNR=14						
	comp=E,43nm,0.7s						
M19K	**Big River Lodg**	**4.60**	**163**	IAML		13 36 46.9	
	comp=E,80nm,0.6s						
L16K	**Owhat River**	**4.71**	**193**		**Pn**	**13 35 28.8**	**-0.8**
C24K	**Franklin Bluff**	**4.71**	**39**	IAML		13 37 09.1	
	comp=N,121nm,1.7s						
C24K				IAML		13 37 11.9	
	comp=E,108nm,1.2s						
HDA	**Harding Lake**	**4.74**	**109**		**Pn**	**13 35 29.2**	**-0.7**
HDA				IAML		13 36 47.6	
	comp=N,97nm,0.9s						
HDA				IAML		13 37 01.0	
	comp=E,92nm,0.9s						
A22K	**Sinclair Lake**	**4.80**	**9**		**Pn**	**13 35 30.3**	**-0.5**
M20K	**Styx River**	**4.80**	**156**	IAML		13 36 29.6	
	comp=E,74nm,1.0s						
M18K	**Stony River**	**4.88**	**172**		**Pn**	**13 35 32.0**	**+0.1**
PRP	**Porcupine Dome**	**4.89**	**94**		**Pn**	**13 35 32.3**	**0.0**
PRP	**Porcupine Dome**	**4.89**	**94**	IAML		13 36 58.5	
	comp=N,103nm,1.1s						
M17K	**Holitna River**	**4.92**	**181**		**Pn**	**13 35 32.8**	**+0.2**
L15K	**Ungalak Mounta**	**4.99**	**204**		**Pn**	**13 35 33.2**	**-0.3**
SKT	**Skwentna**	**5.02**	**147**	IAML		13 37 05.2	
	comp=E,77nm,1.1s						
A21K	**Barrow**	**5.05**	**3**		**Pn**	**13 35 33.6**	**-0.7**
BMAR	**Burnt Mountain**	**5.14**	**72**		**Pn**	**13 35 35.2**	**-0.5**
J25K	**Salcha River,**	**5.26**	**103**		**Pn**	**13 35 36.2**	**-1.0**
J25K	**Salcha River,**	**5.26**	**103**	IAML		13 37 08.5	
	comp=N,81nm,1.3s						
J25K				IAML		13 37 09.1	
	comp=E,74nm,1.5s						
M16K	**Timber Creek**	**5.35**	**189**		**Pn**	**13 35 37.6**	**-0.9**
M16K	**Timber Creek**	**5.35**	**189**	IAML		13 37 29.2	
	comp=N,53nm,0.9s						
K13K	**Kusilvak Mount**	**5.44**	**220**	Pn	**Pn**	**13 35 38.5**	**-1.1**
K24K	**Donnelly Dome**	**5.49**	**112**		**Pn**	**13 35 39.8**	**-0.6**
L14K	**Kuka Creek**	**5.52**	**208**	Pn	**Pn**	**13 35 39.8**	**-0.9**
N17K	**Nushagak Hills**	**5.80**	**179**		**Pn**	**13 35 45.4**	**+0.8**
M15K	**Kasigluk River**	**5.83**	**197**		**Pn**	**13 35 44.8**	**-0.2**
N16K	**Nishlik Lake**	**5.89**	**187**		**Pn**	**13 35 45.5**	**-0.4**
SCRK	**Sand Creek**	**6.08**	**106**		**Pn**	**13 35 48.0**	**-0.6**
RDT	**Redoubt**	**6.16**	**157**		**Pn**	**13 35 50.5**	**+0.9**
N15K	**Kwethluk River**	**6.29**	**193**	Pn	**Pn**	**13 35 49.9**	**-1.3**
E27K	**Coleen River**	**6.38**	**66**	Pn	**Pn**	**13 35 51.9**	**-0.7**
M24K	**Tolsona, Glenn**	**6.43**	**126**		**Pn**	**13 35 54.1**	**+0.8**
I27K	**Kandik River**	**6.45**	**89**		**Pn**	**13 35 53.0**	**-0.6**
HARP	**HAARP**	**6.57**	**121**		**Pn**	**13 35 54.4**	**-0.8**
KLU	**Klutina**	**6.96**	**129**		**Pn**	**13 35 59.9**	**-0.7**
N25K	**Chitina, Valde**	**7.31**	**124**		**Pn**	**13 36 06.0**	**+0.7**
BCAR	**Beaver Creek A**	**7.40**	**109**		**Pn**	**13 36 06.2**	**-0.3**
M27K	**Edge Creek, AK**	**7.77**	**113**		**Pn**	**13 36 11.0**	**-0.7**
KDAK	**Kodiak Island**	**8.83**	**163**	Pn	**Pn**	**13 36 27.3**	**+1.2**
	comp=N,0.3nm,0.3s,baz=15,slow=8.4,SNR=4.6						
	comp=N,4.4nm,0.8s						
INK	**Inuvik**	**9.38**	**67**	Pn	**Pn**	**13 36 32.6**	**-1.0**
	comp=N,0.4nm,0.3s,baz=287,slow=15,SNR=4.2						
	comp=N,1.4nm,0.5s						
O28M	**Mount Upton**	**9.42**	**118**		**Pn**	**13 36 33.2**	**-1.2**
N30M	**Aishikik Lake**	**10.12**	**109**		**Pn**	**13 36 42.1**	**-1.7**
A36M	**Sachs Harbour**	**12.62**	**49**		**Pn**	**13 37 15.8**	**-2.0**
DLBC	**Dease Lake**	**14.79**	**109**	Pn	**P**	**13 37 52.0**	**-1.6**
	baz=310,slow=16,SNR=4.6						
	comp=N,0.2nm,0.7s						
SEY	**Seymchan**	**21.34**	**285**	P	**P**	**13 39 08.3**	**+2.9**
	comp=N,1.5nm,0.8s,baz=51,slow=13,SNR=4.0						
	comp=N,1.5nm,0.8s						
NVAR	**Mina Array Bea**	**35.62**	**122**	P	**P**	**13 41 18.8**	**+2.3**
	comp=N,0.3nm,0.5s,baz=327,slow=9.8,SNR=2.5						
	comp=N,0.3nm,0.5s						
SCHQ	**Schefferville**	**41.92**	**60**	LR	LR	14 00 48.6	
	comp=N,55nm,19.8s,baz=266,slow=38						
TXAR	**Lajitas Array**	**49.08**	**111**	P	**P**	**13 43 06.9**	**+1.1**
	comp=N,0.2nm,0.5s,baz=347,slow=9.7,SNR=2.6						
	comp=N,0.2nm,0.5s						
SONM	**Songino Array**	**49.75**	**299**	P	**P**	**13 43 11.9**	**+1.1**
	comp=N,0.4nm,0.4s,baz=9.2,slow=8.9,SNR=1.9						
	comp=N,0.4nm,0.4s						
BVAR	**Borovoye Array**	**55.62**	**327**	P	**P**	**13 43 55.8**	**+1.8**
	comp=N,0.5nm,0.5s,baz=55,slow=12,SNR=2.1						
	comp=N,0.5nm,0.5s						
MKAR	**Makanchi Array**	**58.39**	**316**	P	**P**	**13 44 15.4**	**+1.7**
	comp=N,0.2nm,0.5s,baz=32,slow=6.2,SNR=2.5						
	comp=N,0.2nm,0.5s						
ESDC	**Sonseca Array**	**72.37**	**21**	P	**P**	**13 45 46.1**	**+1.7**
	comp=N,0.5nm,0.7s,baz=349,slow=5.5,SNR=4.6						
	comp=N,0.5nm,0.7s						

*NEIC **19** 13:52:21.4±1.2,36°113N±0°010×117°83W±0°01, h5km±3km, Error ellipse: s-maj=1.8km s-min=1.4km az=59.0*
PAS 19 13:52:21.9±1.5,**36°111N**±0°010×**117°84W**±0°01, **h2**km±1km,**Mwr3.4**/4,**ML3.2**/112(NEIC),**Error ellipse: s-maj=1.6km s-min=1.4km az=54.0,California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.01**	**297**		Pg	13 52 22.9	+0.3
WRVM	**Rose V. Centra**	**0.11**	**202**		Pg	13 52 24.4	+0.3
JRC2	**Joshua Ridge**	**0.13**	**169**		Pg	13 52 24.8	+0.3
WVPM	**Volcano Peak E**	**0.16**	**174**		Pg	13 52 25.3	+0.2
WNMM	**Nine Mile Cany**	**0.27**	**191**		Pg	13 52 27.3	+0.2
MPMC	**Manual Prospec**	**0.29**	**100**	Pg	Pg	13 52 27.7	+0.2
MPMC					Sg	13 52 31.2	-0.1
MPMC				IAML		13 52 33.7	
	comp=N,2μm,0.6s						
MPMC				IAML		13 52 33.7	
	comp=E,4μm,0.5s						
TOW	**Tower One**	**0.31**	**168**		Pg	13 52 28.5	+0.7
CLC	**China Lake**	**0.35**	**146**		Pg	13 52 28.8	+0.1
CLC					Sg	13 52 33.3	0.0
CWC	**Cottonwood Cre**	**0.38**	**329**		Pg	13 52 29.3	0.0
CWC					Sg	13 52 34.0	-0.3
CWC				IAML		13 52 35.1	
	comp=E,2μm,0.3s						
CWC				IAML		13 52 36.1	
	comp=N,2μm,0.2s						
SRTC	**Snort**	**0.42**	**170**		Pg	13 52 30.7	+0.7
CGO	**Cerro Gordo**	**0.44**	**4**		Pg	13 52 30.3	-0.1
WSHM	**Spangler Hills**	**0.58**	**151**		Pg	13 52 33.0	0.0
WSHM				IAML		13 52 41.8	
	comp=N,1μm,0.4s						
WBSM	**Bird Springs**	**0.62**	**203**		Sg	13 52 42.3	+0.3
LRMC	**Laurel Mtn Rad**	**0.64**	**168**		Pg	13 52 34.2	0.0
LRMC				IAML		13 52 43.9	
	comp=E,852nm,0.6s						
LRMC	**Laurel Mtn Rad**	**0.64**	**168**		Sg	13 52 43.1	+0.6
ISA	**Isabella, Lake**	**0.68**	**229**		Pg	13 52 34.9	-0.1
ISA				IAML		13 52 44.5	
	comp=N,1μm,0.6s						
ISA				IAML		13 52 45.0	
	comp=E,1μm,0.4s						
ISA	**Isabella, Lake**	**0.68**	**229**		Sg	13 52 44.2	+0.3
WASM	**Alta Sierra Ca**	**0.69**	**238**		Pg	13 52 35.2	0.0
CCCA	**Chr Cany lake**	**0.70**	**146**		Pg	13 52 35.7	+0.3
CCCA	**Chr Cany lake**	**0.70**	**146**	IAML		13 52 50.7	
	comp=E,2μm,1.1s						
SPG2	**Springville 2**	**0.76**	**277**		Pg	13 52 36.1	-0.3
SPG2					Sg	13 52 46.1	-0.1
QSM	**Queen of Sheba**	**0.80**	**100**		Pg	13 52 37.1	-0.1
QSM				Sg	Sg	13 52 47.4	-0.3
QSM				IAML		13 52 52.4	
	comp=N,2μm,0.6s						
GWY	**Greenwater Val**	**0.95**	**85**	IAML		13 52 58.1	
	comp=E,917nm,0.6s						
GRAC	**Grapevine Rang**	**0.96**	**23**		Pg	13 52 40.0	-0.4
GRAC					Sg	13 52 53.5	+0.7
GRAC	**Grapevine Rang**	**0.96**	**23**	IAML		13 52 56.9	
	comp=N,1μm,0.7s						
GRAC				IAML		13 52 58.5	
	comp=E,1μm,0.7s						
TIN	**Tinemaha, Big**	**0.99**	**342**		Pg	13 52 40.8	-0.2
TIN					Sg	13 52 54.7	+0.8
VES	**Vestal, Richgr**	**1.04**	**255**		Pg	13 52 41.7	-0.3
VES					Sg	13 52 55.9	+0.4
TEJ	**El Tejon**	**1.12**	**218**		Pg	13 52 42.6	-0.8
GSC	**Goldstone, Bar**	**1.17**	**134**		Pg	13 52 43.6	-0.6
GSC				IAML		13 53 04.8	
	comp=N,466nm,0.6s						
GSC				IAML		13 53 06.7	
	comp=E,665nm,0.6s						
WCT	**Wildcat Mounta**	**1.19**	**55**		Pg	13 52 44.2	-0.6
WCT				IAML		13 53 05.3	
	comp=N,332nm,1.2s						
WCT				IAML		13 53 05.3	
	comp=E,608nm,1.1s						
DSP	**Deep Springs**	**1.26**	**355**		Pg	13 52 45.1	-1.0
DSP					Sg	13 53 02.5	0.0
DSP				IAML		13 53 03.2	
	comp=E,349nm,0.4s						
DSP				IAML		13 53 08.7	
	comp=N,310nm,0.7s						
VOG	**Valley Oaks Go**	**1.27**	**280**		Pg	13 52 45.7	-0.5
TPO	**Tropico Hills**	**1.27**	**195**		Pg	13 52 45.5	-0.8
TPO				IAML		13 53 06.0	
	comp=E,688nm,0.7s						
TPO				IAML		13 53 07.3	
	comp=N,772nm,0.9s						
GMN	**Gold Mountain**	**1.27**	**21**		Pg	13 52 45.7	-0.7
GMN				IAML		13 53 08.5	
	comp=N,318nm,0.6s						
MTUM	**Tungsten Hills**	**1.37**	**335**		Pg	13 52 47.5	-0.7
TPNV	**Topopah Spring**	**1.53**	**56**		Pn	13 52 49.9	-0.6
TPNV				IAML		13 53 17.5	
	comp=N,514nm,0.6s						
TPNV				IAML		13 53 17.7	
	comp=N,427nm,0.8s						
MZP	**Montezuma Peak**	**1.63**	**13**		Pn	13 52 51.7	-0.2
OSI	**Osito Audit: C**	**1.66**	**206**		Pn	13 52 52.1	0.0
OSI				IAML		13 53 23.8	
	comp=E,329nm,0.6s						
OSI				IAML		13 53 23.8	
	comp=N,225nm,0.8s						
KCC	**Kaiser Creek**	**1.70**	**316**		Pn	13 52 52.9	+0.3
TUQ	**Turquoise Moun**	**1.70**	**113**		Pn	13 52 51.6	-1.1
BFSC	**Mount Baldy Ra**	**1.87**	**175**		Pn	13 52 54.6	-0.6
MWC	**Mount Wilson**	**1.89**	**185**		Pn	13 52 55.1	-0.3
MWC				IAML		13 53 24.1	
	comp=E,202nm,1.0s						
MWC				IAML		13 53 24.3	
	comp=N,194nm,0.5s						
PASC	**Pasadena Art C**	**1.96**	**188**		Pn	13 52 55.9	-0.2
PASC				IAML		13 53 27.0	
	comp=E,148nm,0.9s						
MTPC	**Mountain Pass**	**1.96**	**108**		Pn	13 52 55.3	-1.1
MTPC				IAML		13 53 26.4	
	comp=E,174nm,0.3s						
MTPC				IAML		13 53 32.7	
	comp=N,149nm,0.7s						
PKM	**Mcpherson Peak**	**2.02**	**233**		Pb	13 52 58.5	-1.0
TPH	**Tonopah**	**2.02**	**14**		Pn	13 52 56.9	-0.4
PKD	**Bear Valley Ra**	**2.20**	**266**		Pn	13 53 00.3	+0.8
SHPR	**Sheep Range**	**2.20**	**79**		Pn	13 52 59.5	-0.2
LHV	**Little Huntoon**	**2.20**	**346**		Pn	13 52 59.5	0.0
LHV				IAML		13 53 42.0	
	comp=N,114nm,1.5s						
LHV				IAML	

PAVE	**Pavencul**	**1.75**	**78**	*e*P		**Pb**	**13 53 15.8**	**+0.8**
PAVE				*e*S		**Sb**	**13 53 35.5**	**-1.1**
NILT	**Santiago Nilte**	**1.84**	**340**	*i* P		**Pn**	**13 53 14.8**	**+1.5**
NILT				*e*S		**Sn**	**13 53 33.0**	**-2.6**
TGIG		**2.09**	**22**	*e*P		**Pb**	**13 53 19.1**	**-1.7**
TGIG				*i* S		**Sn**	**13 53 41.0**	**-1.0**
TGIG		**2.09**	**22**	*i* P		**Pb**	**13 53 19.1**	**-1.7**
TGIG				IAML			13 53 45.6	
	comp=E,73nm,0.4s							
CCIG	**Comitan**	**2.26**	**50**	*e*P		**Pb**	**13 53 23.6**	**-0.1**
CCIG				*e*S		**Sn**	**13 53 44.9**	**-1.5**
CCIG	**Comitan**	**2.26**	**50**	*e*P		**Pb**	**13 53 24.3**	**+0.5**
HUIG	**Huatulco**	**2.28**	**294**	*e*P		**Pb**	**13 53 22.6**	**-1.4**
HUIG				*i* S		**Sn**	**13 53 45.6**	**-1.0**
UXUV	**UXUV**	**2.48**	**356**	*e*P		**Pn**	**13 53 24.7**	**+2.6**
UXUV				*i* S		**Sn**	**13 53 51.2**	**-0.3**
STG2	**El Palmar, Qui**	**2.52**	**99**	*i* P		**Pn**	**13 53 23.6**	**+0.8**
STG2				*i* S		**Sn**	**13 53 49.4**	**-3.3**
STG0	**El Palmar, Qui**	**2.55**	**99**	*i* P		**Pn**	**13 53 24.7**	**+1.5**
STG0				*i* S		**Sn**	**13 53 50.8**	**-2.7**
STG0				IAML			13 53 58.5	
	comp=E,263nm,0.3s							
PEIG	**Puerto Escondi**	**3.30**	**291**	*e*P		**Pn**	**13 53 36.4**	**+3.0**
PEIG				*e*S		**Sn**	**13 54 09.6**	**-2.1**
NEUV	**Arroyo Zacate**	**3.37**	**328**	*e*P		**Pn**	**13 53 37.3**	**+2.9**
NEUV				*i* S		**Sn**	**13 54 12.3**	**-1.2**

*IDC **19** 13:57:50.7±1.2,0.°39S×98.°17E,h0km,mb4.1/10, mbtmp4.0/12,ML4.0/2,MS3.4/3,Error ellipse: s-maj=42.3km s-min=15.4km az=64.0*
*NEIC **19** 13:57:52.1±1.1,0.°46S±0.°08×98.°01E±0.°07,h10km±1km, mb4.4/19,Error ellipse: s-maj=17.5km s-min=6.5km az=221.0*
*DJA **19** 13:57:54.8±0.5,0.°5S±3.°×9.°8E±.°, h53km±23km,M4.6/17, mB5.5/2,mb4.8/10,MLv4.5/17,Mw(mB)5.0/2*
ISC 19 13:57:54.5±0.6,**0.°41S**±0.°05×**98.°09E**±0.°07,**h27**km,**n72,** σ1ᵎ**36**/65,**mb4.4**/19,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**1.35**	**132**	P	**Pn**	**13 58 18.1**	**+0.4**
SISI				Pn	**Pn**	**13 58 18.0**	**+0.4**
SISI				Pg	**Pb**	**13 58 22.7**	**+3.5**
GSI	**Gunungsitoli**	**1.78**	**343**		**Pn**	**13 58 23.1**	**-0.4**
GSI	**Gunungsitoli**	**1.78**	**343**	P	**Pn**	**13 58 22.8**	**-0.7**
GSI				Pn	**Pn**	**13 58 22.8**	**-0.7**
GSI				Pg	**Pb**	**13 58 29.9**	**+3.4**
MNSI	**Mandailing Nat**	**1.91**	**51**	P	**Pn**	**13 58 26.5**	**+1.2**
SBSI	**Sibolga**	**2.10**	**22**	P	**Pb**	**13 58 32.8**	**+0.8**
PPI	**Padang Panjang**	**2.31**	**91**	P	**Pn**	**13 58 31.4**	**+0.6**
PPSI	**Pulau Pagai**	**3.02**	**141**	P	**Pn**	**13 58 41.4**	**+0.7**
RPSI	**Rantau Prapat**	**3.19**	**15**		**Pn**	**13 58 40.9**	**-2.1**
RPSI	**Rantau Prapat**	**3.19**	**15**		**Pn**	**13 58 42.8**	**-0.2**
PSI	**Prapat**	**3.30**	**15**	Pn	**Pn**	**13 58 40.9**	**-3.6**
	6.4nm,0.3s,baz=174,slow=7.4,SNR=9.9						
PSI				LR	LR	14 00 19.3	
	comp=Z,498nm,19.1s,baz=232,slow=47 7.7nm,0.3s						
KSI	**Kapahiang**	**5.53**	**126**	P	**Pn**	**13 59 15.7**	**+0.5**
	138nm,0.5s						
IPM	**Ipoh**	**5.67**	**31**		**Pn**	**13 59 17.8**	**+0.6**
KULM	**Kulim**	**6.21**	**24**	Pn	**Pn**	**13 59 25.6**	**+1.1**
MNAI	**Manna**	**6.25**	**129**	Pn	**Pn**	**13 59 25.1**	**0.0**
MNAI				Sn	**Sn**	**14 00 30.8**	**-4.8**
MNAI	**Manna**	**6.25**	**129**	P	**Pn**	**13 59 24.4**	**-0.6**
	220nm,1.1s						
LHSI	**Lahat**	**6.40**	**122**	P	**Pn**	**13 59 28.6**	**+1.5**
	0.3nm1μm79nm,0.9s						
MDSI	**Maura Dua**	**7.30**	**124**	P	**Pn**	**13 59 39.9**	**+0.4**
	0.1nm35nm,0.7s						
LWLI	**Liwa**	**7.51**	**128**	P	**Pn**	**13 59 44.7**	**+2.2**
	112nm,0.6s						
KASI	**Kota Agung**	**8.17**	**129**	P	**Pn**	**13 59 52.0**	**+0.6**
	28nm,1.1s						
CGJI	**Cibinong**	**9.77**	**129**	P	**Pn**	**14 00 12.2**	**-1.2**
	33nm,1.3s						
SKJI	**Sukabumi**	**10.69**	**128**	P	**Pn**	**14 00 23.3**	**-2.7**
SBUM	**Sibu**	**14.41**	**79**	Pn	**Pn**	**14 01 19.4**	**+2.5**
CMAR	**Chiang Mai Arr**	**18.77**	**3**	P	**P**	**14 02 11.4**	**-0.4**
	0.4nm,0.3s,baz=179,slow=11,SNR=4.1						
CMAR				LR	LR	14 10 13.4	
	comp=Z,100nm,20.5s,baz=200,slow=40 0.9nm,0.3s						
PALK	**Pallekele**	**18.95**	**294**	LR	LR	14 08 30.6	
	comp=Z,112nm,18.2s,baz=117,slow=34						
KKM	**Kota Kinabalu**	**19.19**	**70**	P	**P**	**14 02 17.1**	**+0.5**
KKM				IAmb	IAmb	14 02 19.3	
	comp=Z,18nm,0.8s						
H08S2	**Diego Garcia H**	**26.51**	**254**	T	T	14 31 14.5	
	baz=75,slow=75,SNR=1496						
H08S3	**Diego Garcia H**	**26.52**	**254**	T	T	14 31 09.5	
	baz=75,slow=75,SNR=1755						
H08S1	**Diego Carcia H**	**26.53**	**254**	T	T	14 31 12.2	
	baz=75,slow=75,SNR=651						
H01W3	**Cape Leeuwin H**	**37.43**	**158**	T	T	14 44 38.8	
	baz=334,slow=75,SNR=4.9						
H01W2	**Cape Leeuwin H**	**37.44**	**158**	T	T	14 44 38.0	
	baz=334,slow=75,SNR=6.0						
H01W1	**Cape Leeuwin H**	**37.44**	**158**	T	T	14 44 35.5	
	baz=334,slow=75,SNR=8.2						
WB0	**Warramunga Ar**	**40.41**	**121**	P	**P**	**14 05 30.2**	**-0.6**
WB0				IAmb	IAmb	14 06 01.7	
	comp=Z,8.9nm,1.4s						
WRA	**Warramunga Ar**	**40.44**	**121**	P	**P**	**14 05 29.9**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=300,slow=9.0,SNR=8.9 comp=Z,1.0nm,0.7s						
WRAB	**Tennant Creek**	**40.45**	**121**	P	**P**	**14 05 30.4**	**-0.6**
WRAB				IAmb	IAmb	14 06 06.5	
	comp=Z,11nm,1.5s						
WB2	**Warramunga Ar**	**40.45**	**121**	P	**P**	**14 05 30.3**	**-0.8**
WR8	**Warramunga Ar**	**40.58**	**121**	P	**P**	**14 05 31.2**	**-1.0**
WR8				IAmb	IAmb	14 06 04.3	
	comp=Z,12nm,1.5s						
WR0	**Warramunga Arr**	**40.62**	**121**	P	**P**	**14 05 31.7**	**-0.8**
AS31	**Alice Springs**	**41.73**	**126**	P	**P**	**14 05 40.9**	**-0.7**
ASAR	**Alice Springs**	**41.73**	**126**	P	**P**	**14 05 41.7**	**+0.1**
ASAR	**Alice Springs**	**41.73**	**126**	P	**P**	**14 05 40.8**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=293,slow=8.1,SNR=17						
ASAR				PcP	**PcP**	**14 07 39.1**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=279,slow=2.7,SNR=5.5 comp=Z,0.8nm,0.4s						
KDJ	**Kajisay**	**46.36**	**338**	P	**P**	**14 06 17.2**	**-1.5**
KDJ				IAmb	IAmb	14 06 45.6	
	comp=Z,4.0nm,0.9s						
KSRS	**Korea Array**	**46.68**	**33**	P	**P**	**14 06 20.8**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=224,slow=9.3,SNR=6.3 comp=Z,1.8nm,0.8s						
SONM	**Songino Array**	**48.59**	**7**	P	**P**	**14 06 35.9**	**0.0**
SONM				IAmb	IAmb	14 06 42.6	
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**48.59**	**7**	P	**P**	**14 06 37.0**	**+1.1**
	comp=Z,3.8nm,0.8s,baz=196,slow=7.9,SNR=5.1 comp=Z,3.8nm,0.8s						
ULN	**Ulaanbaatar**	**48.71**	**8**	P	**P**	**14 06 36.3**	**-0.5**
ULN				IAmb	IAmb	14 06 43.6	
	comp=Z,3.1nm,0.8s						
MK31	**Makanchi Array**	**49.01**	**346**	P	**P**	**14 06 39.1**	**+0.2**
MK31				IAmb	IAmb	14 06 40.3	
	comp=Z,2.4nm,0.8s						
MKAR	**Makanchi Array**	**49.01**	**346**	P	**P**	**14 06 38.8**	**-0.2**
MKAR	**Makanchi Array**	**49.01**	**346**	P	**P**	**14 06 39.7**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=151,slow=8.1,SNR=25 comp=Z,2.6nm,0.6s						
MAKZ	**Makanchi**	**49.10**	**345**	P	**P**	**14 06 40.4**	**+0.7**
STKA	**Stephens Creek**	**51.62**	**132**	P	**P**	**14 06 56.9**	**-2.1**
STKA	**Stephens Creek**	**51.62**	**132**	P	**P**	**14 06 59.7**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=308,slow=8.2,SNR=7.9 comp=Z,1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**53.51**	**345**	P	**P**	**14 07 12.8**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=170,slow=7.6,SNR=7.2 comp=Z,0.6nm,0.5s						
USRK	**Ussuriysk Ar.**	**53.70**	**30**	P	**P**	**14 07 13.7**	**-0.4**
USRK	**Ussuriysk Ar.**	**53.70**	**30**	P	**P**	**14 07 14.0**	**-0.1**
	comp=Z,8.7nm,0.8s,baz=232,slow=4.4,SNR=13 comp=Z,8.7nm,0.8s						
ZAA0	**Zalesovo Array**	**55.28**	**350**	P	**P**	**14 07 25.9**	**+0.5**
ZAA0				IAmb	IAmb	14 07 36.6	
	comp=Z,3.3nm,0.9s						
ZALV	**Zalesovo Beam**	**55.28**	**350**	P	**P**	**14 07 25.9**	**+0.5**
ZALV	**Zalesovo Beam**	**55.28**	**350**	P	**P**	**14 07 25.2**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=168,slow=6.6,SNR=9.3 comp=Z,2.2nm,0.5s						
BVAR	**Borovoye Array**	**58.05**	**341**	P	**P**	**14 07 44.5**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=160,slow=10,SNR=4.9 comp=Z,0.7nm,0.4s						
ABKAR	**Akbulak array**	**59.34**	**332**	P	**P**	**14 07 52.9**	**-1.3**
H04N2	**CROZET ISLANDS**	**60.96**	**215**	T	T	15 14 11.2	
	baz=55,slow=75,SNR=803						
H04N1	**CROZET ISLANDS**	**60.98**	**215**	T	T	15 14 11.7	
	baz=55,slow=75,SNR=968						
H04N3	**CROZET ISLANDS**	**60.98**	**215**	T	T	15 14 10.4	
	baz=55,slow=75,SNR=1126						
YSS	**Yuzhno-Sakhali**	**61.18**	**33**	P	**P**	**14 08 06.2**	**-0.6**
H04S1	**CROZET ISLANDS**	**61.28**	**214**	T	T	15 14 37.3	
	baz=54,slow=75,SNR=411						
H04S3	**CROZET ISLANDS**	**61.30**	**214**	T	T	15 14 31.7	
	baz=54,slow=75,SNR=405						
H04S2	**CROZET ISLANDS**	**61.30**	**214**	T	T	15 14 38.3	
	baz=54,slow=75,SNR=229						
YAK	**Yakutsk**	**66.71**	**16**	P	**P**	**14 08 42.9**	**0.0**
MBAR	**Mbarara**	**67.35**	**270**	P	**P**	**14 08 47.7**	**-0.5**
TIXI	**Tiksi**	**74.61**	**10**	P	**P**	**14 09 31.5**	**+0.7**
TIXI				IAmb	IAmb	14 09 48.2	
	comp=Z,2.7nm,0.6s						
QSPA	**South Pole Qui**	**89.54**	**180**	P	**P**	**14 10 49.1**	**-0.3**
QSPA				IAmb	IAmb	14 10 52.4	
	comp=Z,4.7nm,1.4s						
CPUP	**Villa Florida**	**144.38**	**220**	PKP	**PKPdf**	**14 17 29.1**	**0.0**
	comp=Z,1.1nm,0.6s,baz=356,slow=2.4,SNR=7.8						
TXAR	**Lajitas Array**	**144.53**	**34**	PKP	**PKPdf**	**14 17 29.1**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=264,slow=1.3,SNR=6.3						

*NEIC **19** 13:59:34.6±0.5,19.°12N±0.°04×155.°52W±0.°03,h44km±4km, Error ellipse: s-maj=6.4km s-min=3.3km az=156.0*
HVO 19 13:59:34.6±1.1,**19.°02N**±0.°08×**155.°49W**±0.°06,**h46**km±4km, **ML2.2**/12,**ML2.5**/36(NEIC),**Error ellipse: s-maj=13.5km s-min=3.9km az=146.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.24**	**21**		Pn	13 59 42.3	-0.6
KHU	**Kahuku**	**0.26**	**332**		Pn	13 59 42.3	-1.0
KHU					Sn	13 59 47.8	-1.5
HLP	**Hilina Pali**	**0.33**	**32**		Pn	13 59 43.1	-0.7
AIN	**Ainahou**	**0.35**	**5**		Pn	13 59 43.5	-0.7
SDHHI	**Sand Hill**	**0.41**	**26**		Pn	13 59 43.6	-1.1
WRMHI	**West Rim**	**0.43**	**25**		Pn	13 59 43.7	-1.2
WRMHI					Sn	13 59 50.3	-1.9
RIM	**Rim**	**0.43**	**28**		Pn	13 59 43.8	-1.1
RIM					Sn	13 59 50.4	-1.7
KKO	**Keanakako'i**	**0.43**	**29**		Pn	13 59 43.8	-1.2
KKO					Sn	13 59 51.5	-0.8
PUH	**Pauahi**	**0.44**	**36**		Sn	13 59 51.0	-1.4
PUH	**Pauahi**	**0.44**	**36**		Pn	13 59 44.0	-1.1
PUH				IAML		13 59 55.6	
	comp=E,245nm,2.6s						
PUH				IAML		13 59 57.5	
	comp=N,278nm,2.2s						
OBL	**Observatory Le**	**0.44**	**26**		Pn	13 59 43.8	-1.3
OBL					Sn	13 59 51.1	-1.4
UWE	**Uwekahuna**	**0.44**	**25**		Pn	13 59 44.0	-1.1
UWE					Sn	13 59 51.0	-1.5
UWB	**Uwekahuna Bluf**	**0.45**	**26**		Pn	13 59 43.9	-1.3
UWB					Sn	13 59 51.1	-1.6
HATHI	**Halema'uma'u T**	**0.46**	**28**		Pn	13 59 44.0	-1.3
HATHI					Sn	13 59 51.4	-1.4
HATHI	**Halema'uma'u T**	**0.46**	**28**	IAML		13 59 55.8	
	comp=E,230nm,1.0s						
HATHI				IAML		14 00 07.6	
	comp=N,228nm,1.1s						
SBLHI	**Steaming Bluff**	**0.46**	**27**		Pn	13 59 43.9	-1.4
SBLHI					Sn	13 59 50.5	-2.3
KNHH	**Kane Nui o Ham**	**0.47**	**40**		Pn	13 59 44.2	-1.2
MWH	**Mokuaweoweo**	**0.48**	**348**		Pn	13 59 44.6	-1.3
MWH	**Mokuaweoweo**	**0.48**	**348**	IAML		13 59 58.6	
	comp=N,300nm,2.1s						
MLH	**Mauna Loa**	**0.48**	**12**		Pn	13 59 44.6	-1.1
MLH					Sn	13 59 52.5	-1.0
MLH	**Mauna Loa**	**0.48**	**12**	IAML		13 59 60.0	
	comp=E,208nm,1.0s						
MLH				IAML		14 00 06.8	
	comp=N,298nm,2.7s						
RSD	**Rainshed**	**0.49**	**24**		Pn	13 59 45.1	-0.5
STCH	**Steam Cracks**	**0.50**	**43**		Sn	13 59 51.7	-1.9
STCH	**Steam Cracks**	**0.50**	**43**		Pn	13 59 44.4	-1.3
STCH				IAML		13 59 56.1	
	comp=N,147nm,2.4s						
STCH				IAML		14 00 06.6	
	comp=E,119nm,1.9s						
JCUZ	**Jacuzzi**	**0.52**	**45**		Pn	13 59 44.7	-1.3
NPOC	**North of Pu'u**	**0.52**	**44**		Pn	13 59 44.7	-1.3
ALEP	**Alea Permanent**	**0.54**	**344**		Pn	13 59 44.8	-1.7
ALEP					Sn	13 59 52.3	-2.7
HMH	**Humu'ula Sheep**	**0.58**	**1**		Pn	13 59 45.8	-1.2
HMH					Sn	13 59 54.4	-1.5
HMH	**Humu'ula Sheep**	**0.58**	**1**	IAML		13 59 57.6	
	comp=E,244nm,0.8s						
HMH				IAML		14 00 11.9	
	comp=N,171nm,2.6s						
JOKA	**Jonika Flow**	**0.62**	**48**		Pn	13 59 45.7	-1.5
JOKA				IAML		14 00 03.9	
	comp=E,165nm,1.4s						
CPH	**Captain Cook**	**0.62**	**319**		Pn	13 59 45.8	-1.4
KHLU	**Kahalu`u**	**0.69**	**326**		Pn	13 59 46.4	-1.7
KHLU					Sn	13 59 55.5	-2.5
KHLU	**Kahalu`u**	**0.69**	**326**	IAML		14 00 14.9	
	comp=N,180nm,3.5s						
HUH	**Hualalai**	**0.74**	**334**		Pn	13 59 47.6	-1.4
HUH					Sn	13 59 57.2	-2.2
HPAH	**Hawaii Prepara**	**1.03**	**349**	Pn	Pn	13 59 51.2	-1.5
HPAH				IAML		14 00 00.0	
	comp=N,105nm,2.7s						
HPAH				IAML		14 00 18.9	
	comp=E,136nm,2.5s						

*VAO **19** 14:07:14.7±1.7,23.°04S×67.°46W,h169km±11km,mb4.5*
*SJA **19** 14:07:28.6±0.6,22.°03S×67.°21W,h172km±9km,ML4.1, MW3.8*
*SCB **19** 14:07:29.4±1.0,22.°05S×67.°22W,h169km±12km,ML4.1/2, MW3.4,Error ellipse: s-maj=4.0km s-min=3.2km az=0.0*
ISC 19 14:07:27.6±0.9,**22.°01S**±0.°05×**67.°16W**±0.°04,**h180**km,**n39,** σ1ᵎ**76**/46,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.54**	**96**	*e*P	**Pn**	**14 08 02.6**	**+2.1**
YJA				*e*S	**Sn**	**14 08 27.1**	**+1.4**
YJA	**Yavi**	**1.54**	**96**	Pg	**Pn**	**14 08 02.4**	**+2.0**
MOCB	**Mochara**	**1.61**	**62**	Pg	**Pn**	**14 08 03.1**	**+1.9**
PB09	**IPOC Station P**	**1.94**	**276**	Pg	**Pn**	**14 08 06.2**	**+1.9**
PB06	**IPOC Station P**	**2.34**	**252**	Pg	**Pn**	**14 08 09.9**	**+1.3**
PB01	**IPOC Station P**	**2.37**	**294**	Pg	**Pn**	**14 08 10.1**	**+1.2**
PB03	**IPOC Station P**	**2.41**	**269**	Pg	**Pn**	**14 08 10.6**	**+1.2**
PB08	**IPOC Station P**	**2.63**	**315**	Pg	**Pn**	**14 08 14.5**	**+2.2**
PB02	**IPOC Station P**	**2.63**	**285**	Pg	**Pn**	**14 08 13.1**	**+1.1**
PB02				Sg	**Sn**	**14 08 46.5**	**0.0**
PB02				IAML		14 08 51.0	
	411nm,0.2s						
AZAP	**Zapla**	**2.93**	**139**	*e*P	**Pn**	**14 08 17.4**	**+1.7**
AZAP				*e*S	**Sn**	**14 08 50.5**	**-2.6**
PB05	**IPOC Station P**	**2.94**	**253**	Pg	**Pn**	**14 08 16.6**	**+1.0**
GO01	**Chusmiza**	**3.01**	**320**	Pg	**Pn**	**14 08 18.6**	**+1.7**
HMBC	**Humberstone**	**3.07**	**304**	*e*P	**Pn**	**14 08 17.7**	**+0.4**
HMBC				*e*S	**Sn**	**14 08 55.2**	**-0.8**
HMBC				IAML		14 08 58.7	
	comp=Z,470nm,0.4s						
SLA	**San Lorenzo**	**3.10**	**151**	*e*P	**Pn**	**14 08 20.4**	**+2.8**
SLA				*e*S	**Sn**	**14 08 54.5**	**-2.2**
PB11	**IPOC Station P**	**3.23**	**313**	Pg	**Pn**	**14 08 20.3**	**+1.0**
PB11				Sg	**Sn**	**14 08 59.3**	**-0.3**
PB11				IAML		14 09 00.8	
	comp=Z,624nm,0.4s						
ALOL	**LOMAS DE OLMED**	**3.44**	**122**	*e*P	**Pn**	**14 08 22.4**	**+0.7**
PB10	**IPOC Station P**	**3.47**	**244**	*e*P	**Pn**	**14 08 23.1**	**+1.0**
PB10				*e*S	**Sn**	**14 09 02.9**	**-1.7**
PB10	**IPOC Station P**	**3.47**	**244**	Pg	**Pn**	**14 08 23.2**	**+1.1**
SOEO	**Opoqueri**	**3.50**	**349**	Pg	**Pn**	**14 08 25.8**	**+2.9**
PB14	**IPOC Station P**	**3.96**	**228**	*e*P	**Pn**	**14 08 29.3**	**+0.8**
PB14				*e*S	**Sn**	**14 09 14.9**	**-1.2**
PB14				IAML		14 09 21.7	
	comp=Z,166nm,0.8s						
PB14	**IPOC Station P**	**3.96**	**228**	Pg	**Pn**	**14 08 29.4**	**+0.9**
FSA	**Cafayete**	**4.22**	**165**	*e*P	**Pn**	**14 08 34.8**	**+3.0**
PB16	**IPOC Station P**	**4.27**	**329**	*e*P	**Pn**	**14 08 29.9**	**-2.8**
PB16	**IPOC Station P**	**4.27**	**329**	Pg	**Pn**	**14 08 34.7**	**+1.9**
BBOJ	**La Paz, Jacaqu**	**5.10**	**349**	Pg	**Pn**	**14 08 46.2**	**+2.7**
SOEJ	**Jacaque**	**5.10**	**349**	Pg	**Pn**	**14 08 45.7**	**+2.2**
BBOE	**La Paz, Chanca**	**5.23**	**351**	Pg	**Pn**	**14 08 47.2**	**+2.0**
BBOD	**La Paz, Gloria**	**5.51**	**346**	Pg	**Pn**	**14 08 50.9**	**+2.0**
LPAZ	**La Paz**	**5.76**	**351**	Pg	**Pn**	**14 08 54.2**	**+2.0**
LPAZ	**La Paz**	**5.76**	**351**	*e*P	**Pn**	**14 08 52.4**	**+0.1**
BBOB	**La Paz, Bander**	**5.91**	**351**	Pg	**Pn**	**14 08 55.9**	**+1.9**
BBSD	**Serra de San D**	**7.82**	**53**	*e*P	**Pn**	**14 09 16.6**	**-2.0**
PTLB	**Pontes e Lacer**	**10.02**	**51**	*e*P	**Pn**	**14 09 45.5**	**-1.9**
VILB	**Vilhena**	**11.19**	**38**	*e*P	**Pn**	**14 10 02.9**	**+0.2**
FRTB	**Fartura**	**16.30**	**98**	*e*P	P	14 10 56.4	-10
TEFE	**Tefe**	**18.55**	**8**	*e*P	**P**	**14 11 30.0**	**-0.9**
NPGB	**Novo Progresso**	**18.74**	**39**	*e*P	**P**	**14 11 31.9**	**-1.0**
MACA	**Manacapuru-AM**	**19.76**	**19**	*e*P	**P**	**14 11 43.5**	**-0.6**
ITTB	**Itaituba**	**20.74**	**34**	*e*P	**P**	**14 11 53.2**	**-1.3**

*SNET **19** 14:20:33.6±1.0,13.°36N×88.°11W,h2km,ML2.8*
CATAC 19 14:20:34.1±0.5,**13.°N**±4.°×**8.°8W**±.°,**h4**km±1km,**M3.3**/6, **MLv3.3**/6,**Error ellipse: s-maj=10.5km s-min=2.8km az=25.8,confirmed,El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLLM	**Bellamira**	**0.16**	**325**	*i* P	Pg	14 20 37.9	+0.5
CNRM	**Centro Naciona**	**0.17**	**350**	*e*P	Pg	14 20 37.4	-0.1
CNRM	**Centro Naciona**	**0.17**	**350**	P	Pg	14 20 37.3	-0.1
CNRM	**Centro Naciona**	**0.17**	**350**	S	Sg	14 20 40.5	+0.9
VSM	**San Miguel**	**0.18**	**313**	*i* P	Pg	14 20 38.4	+0.8
LCY	**Lacayo**	**0.19**	**308**	*e*P	Pg	14 20 38.8	+1.0
PACA	**Pacayal**	**0.24**	**312**	*e*P	Pg	14 20 39.6	+0.8
PACA	**Pacayal**	**0.24**	**312**	S	Sg	14 20 43.5	+1.6
PACA	**Pacayal**	**0.24**	**312**	P	Pg	14 20 39.5	+0.7
LCND	**La Caada**	**0.24**	**90**	*e*P	Pg	14 20 38.9	+0.1
LCND				*e*P		14 20 39.2	
LCND				*e*S	Sg	14 20 42.8	+0.7
LCND	**La Caada**	**0.24**	**90**	P	Pg	14 20 39.0	+0.2
LCND	**La Caada**	**0.24**	**90**	S	Sg	14 20 43.0	+1.0
CNCH	**Conchagua**	**0.30**	**96**	*e*P	Pg	14 20 40.3	+0.4
CNCH	**Conchagua**	**0.30**	**96**	S	Sg	14 20 44.7	+0.8
CNCH	**Conchagua**	**0.30**	**96**	P	Pg	14 20 40.4	+0.5
TECA	**Tecapa**	**0.40**	**298**	*e*P	Pb	14 20 42.8	-1.0
CAHU	**Cacacuatique**	**0.47**	**352**	*e*P	Pg	14 20 42.3	-0.8
PQSS	**Presa 15 de Se**	**0.52**	**308**	*e*P	Pg	14 20 44.2	+0.2
PQSS	**Presa 15 de Se**	**0.52**	**308**	P	Pg	14 20 44.3	+0.3
PQSS	**Presa 15 de Se**	**0.52**	**308**	S	Sg	14 20 50.7	0.0
PKGN	**Cerro Pekin**	**1.30**	**119**	P	Pg	14 20 58.3	-0.8
PKGN				S	Sg	14 21 15.5	-0.4
MTO3	**Montecristo**	**1.61**	**313**	*e*P	Pn	14 21 02.7	-0.7
RCVN	**Varillal2**	**1.91**	**82**	P	Pn	14 21 07.9	+0.2
RCVN				S	Sn	14 21 32.7	+0.4

*DJA **19** 14:30:14.2±0.3,1.°S±3.°×12.°9E±.°, h10km,M3.7/8,mb4.2/1, MLv3.4/8*
*IDC **19** 14:30:14.1±2.5,1.°76S×127.°87E,h0km,mb3.3/2, mbtmp3.3/3,ML3.4/1,Error ellipse: s-maj=193.5km s-min=28.1km az=67.0*
ISC 19 14:30:16.8±1.1,**1.°16S**±0.°08×**129.°04E**±0.°07,**h35**km,**n7,** σ1ᵎ**28**/8,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**2.17**	**183**	P	**Pn**	**14 30 50.5**	**0.0**
SWI	**Sorong**	**2.24**	**82**	P	**Pn**	**14 30 50.3**	**-1.1**
SWI				S	**Sn**	**14 31 19.1**	**+1.3**
TNTI	**Ternate**	**2.55**	**319**	P	**Pn**	**14 30 54.9**	**-0.7**
FAKI	**Fak Fak**	**3.65**	**119**	P	**Pn**	**14 31 10.6**	**-0.3**
WRA	**Warramunga Arr**	**19.38**	**165**	P	**P**	**14 34 38.0**	**-1.7**
	0.1nm,0.3s,baz=343,slow=13,SNR=6.7 0.5nm,0.6s						
ASAR	**Alice Springs**	**22.86**	**168**	P	**P**	**14 35 16.9**	**-0.4**
	0.8nm,0.6s,baz=345,slow=11,SNR=22 0.8nm,0.6s						
MKAR	**Makanchi Array**	**62.87**	**326**	P	**P**	**14 40 40.6**	**+1.3**
	0.2nm,0.6s,baz=110,slow=7.8

RAGZ	**Rawiri**	**3.15 235**	P	Pn	14 41 44.8	+0.4
RAGZ			S	Sn	14 42 22.3	+0.4
URZ	**Urewera**	**3.24 241**	P	Pn	14 41 45.6	+0.1
URZ			S	Sn	14 42 24.4	+0.4
MHGZ	**Mahia Peninsul**	**3.27 222**	P	Pn	14 41 45.6	-0.4
MHGZ			S	Sn	14 42 25.8	+1.0
KNZ	**Kokohu**	**3.31 226**	P	Pn	14 41 45.8	-0.7
KNZ			S	Sn	14 42 25.4	-0.3
SNGZ	**Shannon Statio**	**3.36 232**	P	Pn	14 41 47.6	+0.4
SNGZ			S	Sn	14 42 27.5	+0.5
MUGZ	**Murupara**	**3.58 240**	P	Pn	14 41 51.0	+0.8
MUGZ			S	Sn	14 42 31.0	-1.4
RAHZ	**Arahi**	**3.60 232**	P	Pn	14 41 50.4	-0.1
RAHZ			S	Sn	14 42 33.7	+0.8
WHHZ	**Waihua**	**3.60 229**	P	Pn	14 41 50.3	-0.2
WHHZ			S	Sn	14 42 33.8	+0.8
MTHZ	**Maungataniwha**	**3.72 235**	P	Pn	14 41 52.0	-0.2
MTHZ			S	Sn	14 42 36.7	+0.8
ARHZ	**Aropaoanui**	**3.86 228**	P	Pn	14 41 53.9	-0.2
ARHZ			S	Sn	14 42 40.8	+1.4
NMHZ	**Naumai**	**3.88 232**	P	Pn	14 41 54.7	+0.3
NMHZ			S	Sn	14 42 40.9	+1.0
TOZ	**Tahuroa Road**	**4.28 255**	P	Pn	14 41 59.3	-0.5
MKAZ	**Moumakai**	**4.47 264**	P	Pn	14 42 01.2	-1.2
ETAZ	**East Tamaki Re**	**4.65 266**	P	Pn	14 42 05.0	+0.1
MBAZ	**Motutapu North**	**4.67 268**	P	Pn	14 42 04.7	-0.6
NGZ	**Ngauruhoe**	**4.71 238**	P	Pn	14 42 06.0	+0.1
NGZ			S	Sn	14 42 58.4	-2.1
WAZ	**Wanganui**	**5.42 235**	P	Pn	14 42 15.1	-0.4
WAZ			S	Sn	14 43 16.4	-1.3
CTZ	**Chatham Island**	**7.26 165**	P	Pn	14 42 40.8	0.0
CTZ			S	Sn	14 43 54.5	-8.7

IDC 19 14:41:42.9±2.6, 1°38'S×128°38'E, h0km, mb3.3/2, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=186.2km s-min=28.3km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.22**	**164**	P	P	14 46 07.7	-1.0
	0.1nm,0.3s,baz=347,slow=13,SNR=6.1						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**22.69**	**168**	P	P	14 46 47.2	+0.9
	0.5nm,0.7s,baz=346,slow=10,SNR=18						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**62.93**	**326**	P	P	14 52 10.9	-0.3
	0.2nm,0.5s,baz=120,slow=8.5,SNR=1.9						
	0.2nm,0.5s						

*SJA **19** 14:45:25.1±0.7, 21°.96S×68°.63W, h131km±4km, ML3.7, MW3.7*

*GUC **19** 14:45:27.4±0.8, 21°.95S×68°.64W, h121km±5km, ML3.7*

ISC 19 14:45:25.6±1.3, 21°.98S±0°.03×68°.57W±0°.04, h127km±9km, n38, σ1°05/66, 3C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.65**	**286**	*i* P	**Pn**	**14 45 45.9**	**+0.3**
PB09				*e*S	**Sn**	**14 45 60.0**	**-0.6**
PB09				IAML		14 46 03.1	
	comp=N,2μm,0.2s						
PB09	**IPOC Station P**	**0.65**	**286**	*e*P	**Pn**	**14 45 45.6**	**0.0**
PB09				*e*S	**Sn**	**14 46 00.6**	**0.0**
PB09				IAML		14 46 04.3	
	comp=Z,1μm,0.1s						
AF01	**San Pedro de A**	**1.03**	**160**	*e*P	**Pn**	**14 45 50.0**	**+1.2**
AF01	**San Pedro de A**	**1.03**	**160**	*e*P	**Pn**	**14 45 50.1**	**+1.2**
AF01				*e*S	**Sn**	**14 46 04.6**	**-2.0**
AF01				IAML		14 46 31.1	
	comp=Z,1μm,1.0s						
PB03	**IPOC Station P**	**1.10**	**266** ↑	*i* P	**Pn**	**14 45 49.6**	**+0.1**
PB03				*e*S	**Sn**	**14 46 07.2**	**-0.3**
PB03				IAML		14 46 09.2	
	comp=E,2μm,0.3s						
PB03	**IPOC Station P**	**1.10**	**266**	*e*P	**Pn**	**14 45 49.5**	**+0.1**
PB03				*e*S	**Sn**	**14 46 07.0**	**-0.5**
PB03				IAML		14 46 09.2	
	comp=Z,2μm,0.2s						
PB06	**IPOC Station P**	**1.18**	**232** ↑	*i* P	**Pn**	**14 45 50.8**	**+0.6**
PB06				*e*S	**Sn**	**14 46 09.0**	**+0.1**
PB06				IAML		14 46 09.6	
	comp=N,2μm,0.4s						
PB06	**IPOC Station P**	**1.18**	**232**	*e*P	**Pn**	**14 45 50.1**	**-0.1**
PB06				*e*S	**Sn**	**14 46 09.8**	**+0.9**
PB06				IAML		14 46 12.5	
	comp=Z,1μm,0.3s						
PB01	**IPOC Station P**	**1.27**	**317** ↓	*i* P	**Pn**	**14 45 51.0**	**-0.1**
PB01				*e*S	**Sn**	**14 46 09.8**	**-0.5**
PB01				IAML		14 46 11.3	
	comp=E,2μm,0.4s						
PB01	**IPOC Station P**	**1.27**	**317**	*e*P	**Pn**	**14 45 51.0**	**-0.1**
PB01				*e*S	**Sn**	**14 46 10.2**	**-0.2**
PB01				IAML		14 46 11.8	
	comp=Z,1μm,0.2s						
PB02	**IPOC Station P**	**1.40**	**298** ↑	*e*P	**Pn**	**14 45 52.6**	**0.0**
PB02	**IPOC Station P**	**1.40**	**298**	*e*P	**Pn**	**14 45 52.5**	**0.0**
PB02				*e*S	**Sn**	**14 46 12.2**	**-0.7**
PB05	**IPOC Station P**	**1.75**	**240**	*e*P	**Pn**	**14 45 56.8**	**+0.3**
PB05				*e*S	**Sn**	**14 46 20.2**	**+0.2**
PB05	**IPOC Station P**	**1.75**	**240**	*e*P	**Pn**	**14 45 56.7**	**+0.3**
PB05				*e*S	**Sn**	**14 46 21.0**	**+0.9**
PB05				IAML		14 46 31.1	
	comp=Z,220nm,0.5s						
PX03	**IPOC Station P**	**1.85**	**327**	*e*P	**Pn**	**14 45 57.2**	**-0.6**
PATCX	**Punta Patache**	**1.87**	**308**	*e*P	**Pn**	**14 45 57.8**	**-0.1**
PATCX				*e*S	**Sn**	**14 46 21.9**	**-0.8**
PATCX				IAML		14 46 24.8	
	comp=E,973nm,0.3s						
PATCX	**Punta Patache**	**1.87**	**308**	*e*P	**Pn**	**14 45 57.9**	**-0.1**
PATCX				*e*S	**Sn**	**14 46 23.0**	**+0.3**
PATCX				IAML		14 46 25.5	
	comp=Z,598nm,0.4s						
PB08	**IPOC Station P**	**1.91**	**343**	*i* P	**Pn**	**14 45 59.7**	**+0.9**
PB08				*e*S	**Sn**	**14 46 24.4**	**+0.4**
PB08				IAML		14 46 25.9	
	comp=E,485nm,0.2s						
PB08	**IPOC Station P**	**1.91**	**343**	*e*P	**Pn**	**14 45 59.6**	**+0.9**
PB08				*e*S	**Sn**	**14 46 25.4**	**+1.4**
PB08				IAML		14 46 26.9	
	comp=Z,214nm,0.2s						
TA01	**Diego Aracena**	**2.06**	**313**	*e*P	**Pn**	**14 45 59.8**	**-0.3**
TA01				*e*S	**Sn**	**14 46 25.9**	**-0.7**
TA01				IAML		14 46 27.2	
	comp=Z,326nm,0.2s						
HMBC	**Humberstone**	**2.09**	**324**	*i* P	**Pn**	**14 46 00.3**	**-0.5**
HMBC				*e*S	**Sn**	**14 46 26.3**	**-1.3**
HMBC				IAML		14 46 30.5	
	comp=N,628nm,0.1s						
HMBC	**Humberstone**	**2.09**	**324**	*e*P	**Pn**	**14 46 00.2**	**-0.5**
HMBC				*e*S	**Sn**	**14 46 27.4**	**-0.1**
HMBC				IAML		14 46 36.8	
	comp=Z,442nm,0.3s						
TA02	**Huaiquique**	**2.24**	**319**	*e*P	**Pn**	**14 46 02.2**	**-0.2**
TA02				*e*S	**Sn**	**14 46 30.9**	**+0.3**
TA02				IAML		14 46 37.6	
	comp=Z,382nm,0.1s						
GO01	**Chusmiza**	**2.37**	**346**	*i* P	**Pn**	**14 46 05.0**	**+0.5**
GO01	**Chusmiza**	**2.37**	**346**	*e*P	**Pn**	**14 46 04.7**	**+0.1**
GO01				*e*S	**Sn**	**14 46 36.8**	**+2.4**
PB10	**IPOC Station P**	**2.39**	**230**	*e*P	**Pn**	**14 46 04.6**	**+0.4**
PB10	**IPOC Station P**	**2.39**	**230**	*e*P	**Pn**	**14 46 04.6**	**+0.4**
PB10				*e*S	**Sn**	**14 46 32.2**	**-1.7**
PB11	**IPOC Station P**	**2.43**	**335**	*e*P	**Pn**	**14 46 04.8**	**-0.2**
PB11				*e*S	**Sn**	**14 46 34.3**	**-0.9**
PB11				IAML		14 46 35.6	
	comp=E,475nm,0.3s						
PB11	**IPOC Station P**	**2.43**	**335**	*e*P	**Pn**	**14 46 04.6**	**-0.4**
PB11				*e*S	**Sn**	**14 46 35.1**	**-0.1**
PB11				IAML		14 46 36.1	
	comp=Z,207nm,0.4s						
YJA	**Yavi**	**2.84**	**95**	*e*P	**Pn**	**14 46 09.5**	**-0.9**
YJA				*e*S	**Sn**	**14 46 43.9**	**-1.1**
SALTA		**3.03**	**138**	*e*P	**Pn**	**14 46 10.3**	**-2.7**
SALTA				*e*P		14 46 10.9	
PB14	**IPOC Station P**	**3.13**	**212**	*e*P	**Pn**	**14 46 14.4**	**+0.3**
PB14				*e*S	**Sn**	**14 46 50.8**	**-0.8**
PB14				IAML		14 47 03.2	
	comp=Z,190nm,0.4s						
HJA	**Humahuaca**	**3.16**	**113**	*e*P	Pn	14 46 27.3	+13
GO02	**Mina Guanaco**	**3.31**	**196**	*e*P	**Pn**	**14 46 17.3**	**+0.9**
GO02				*e*S	**Sn**	**14 46 56.7**	**+1.0**
PB16	**IPOC Station P**	**3.73**	**346**	*e*P	**Pn**	**14 46 22.8**	**+0.5**
AZAP	**Zapla**	**3.92**	**125**	*e*P	**Pn**	**14 46 26.4**	**+1.9**
AC01	**Pan de Azucar**	**4.55**	**204**	*e*P	**Pn**	**14 46 31.5**	**-1.1**
AC01				*e*S	**Sn**	**14 47 21.6**	**-3.1**
AC01				IAML		14 47 38.3	
	comp=Z,67nm,0.4s						
AC02	**Maricunga**	**4.86**	**186**	*e*P	**Pn**	**14 46 38.0**	**+0.8**
AC02				*e*S	**Sn**	**14 47 36.5**	**+3.6**
AC02				IAML		14 47 47.0	
	comp=Z,37nm,0.3s						

*OTT **19** 14:47:33.5±0.4, 43°.49N×74°.18W, h5km, MN2.7/12, New York State, U.S. 172km southeast from Brockville, On Northern Appalachians Seismic Zone.*

*NEIC **19** 14:47:33.5±1.2, 43°.48N±0°.02×74°.21W±0°.01, h3km±5km, mb_Lg2.4/12, ML2.2/13(LDO), Error ellipse: s-maj=2.3km s-min=1.5km az=185.0*

*LDO **19** 14:47:34.0±1.4, 43°.47N±0°.01×74°.21W±0°.02, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.2km az=211.0*

ISC 19 14:47:32.7±1.1, 43°.50N±0°.03×74°.19W±0°.02, h4km±10km, n43, σ0°.94/63, New York

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J59A	**Piesco**	**0.23**	**261**		**Pg**	**14 47 37.4**	**+0.2**
J59A					**Sg**	**14 47 40.7**	**+0.4**
ACCN	**Adirondack Com**	**0.40**	**107**		**Pg**	**14 47 40.8**	**+0.5**
ACCN					**Sg**	**14 47 46.2**	**+0.8**
TRY	**Troy**	**0.86**	**153**		**Pg**	**14 47 48.8**	**-0.3**
TRY					**Sg**	**14 47 59.7**	**-0.6**
CFNY	**Clifton-Fine,**	**0.91**	**317**		**Pg**	**14 47 50.5**	**+0.4**
CFNY					**Sg**	**14 48 02.0**	**0.0**
MCVT	**Middlebury Col**	**0.98**	**62**		**Pg**	**14 47 51.1**	**-0.4**
MCVT					**Sg**	**14 48 04.8**	**+0.7**
LONY	**Lake Ozonia**	**1.16**	**346**		**Pg**	**14 47 53.9**	**-1.0**
LONY					**Sg**	**14 48 09.5**	**-0.3**
WCNY	**West Carthage**	**1.17**	**295**		**Pg**	**14 47 54.4**	**-0.7**
HBVT	**Hinesburg**	**1.18**	**43**		**Pg**	**14 47 54.3**	**-1.1**
HBVT					**Sg**	**14 48 11.0**	**+0.3**
PTNY	**Frank Revetta**	**1.19**	**333**		**Pg**	**14 47 55.3**	**-0.3**
J61A	**Chester**	**1.20**	**97**		**Pg**	**14 47 54.7**	**-1.0**
J61A				Sg	**Sg**	**14 48 10.6**	**-0.6**
J57A	**Williamstown**	**1.32**	**267**		**Pn**	**14 47 56.6**	**-1.3**
J57A				Sg	**Sg**	**14 48 14.1**	**-0.9**
VT1	**Waterbury**	**1.33**	**51**		**Pn**	**14 47 57.8**	**-0.3**
VT1					**Sb**	**14 48 15.1**	**-0.5**
HNH	**Hanover**	**1.40**	**81**		**Pn**	**14 47 58.5**	**-0.4**
FRNY	**Flat Rock**	**1.40**	**18**	PG	**Pn**	**14 47 57.6**	**-1.4**
FRNY				SG	**Sb**	**14 48 17.0**	**-0.7**
FRNY				Trac		14 48 20.7	
	comp=Z,67nm,0.3s						
L59A	**Walton**	**1.45**	**206**		**Pn**	**14 47 59.2**	**-0.6**
L61B	**Northampton**	**1.52**	**133**		**Pn**	**14 48 01.1**	**+0.4**
K62A	**Royalston**	**1.66**	**120**		**Pn**	**14 48 03.6**	**+1.0**
WBO	**Williamsburg**	**1.69**	**333**	Pn	**Pn**	**14 48 03.0**	**0.0**
WBO				IAmb_Lg		14 48 29.2	
	comp=Z,23nm,0.8s						
WBO	**Williamsburg**	**1.69**	**333**	PN	**Pn**	**14 48 04.4**	**+1.4**
WBO				SN	**Sn**	**14 48 26.3**	**+1.2**
WBO				Trac		14 48 29.3	
	comp=Z,18nm,0.1s						
LBNH	**Lisbon**	**1.80**	**65**	Pn	**Pn**	**14 48 05.6**	**+1.1**
KGNO	**Kingston**	**1.82**	**294**	PN	**Pn**	**14 48 05.0**	**+0.3**
KGNO				SN	**Sn**	**14 48 28.8**	**+0.6**
KGNO				Trac		14 48 34.8	
	comp=Z,4,6nm,0.0s						
BINY	**Binghamton**	**1.85**	**226**	Pn	**Pn**	**14 48 06.1**	**+0.8**
BINY				IAmb_Lg		14 48 34.4	
	comp=Z,24nm,0.9s						
K57A	**Scipio Center**	**1.87**	**247**	Pn	**Pn**	**14 48 05.9**	**+0.4**
PECO	**Prince Edward**	**2.08**	**283**	Pn	**Pn**	**14 48 09.3**	**+0.9**
PECO	**Prince Edward**	**2.08**	**283**	PN	**Pn**	**14 48 08.9**	**+0.5**
PECO				SN	**Sn**	**14 48 34.7**	**0.0**
PECO				Trac		14 48 47.6	
	comp=Z,9.0nm,0.1s						
I62A	**Tamworth**	**2.10**	**79**	Pn	**Pn**	**14 48 09.9**	**+1.2**
HRV	**Adam Dziewonsk**	**2.17**	**116**	Pn	**Pn**	**14 48 10.1**	**+0.5**
WES	**Weston**	**2.38**	**117**	Pn	**Pn**	**14 48 12.6**	**+0.1**
GAC	**Glen Almond**	**2.39**	**338**	PN	**Pn**	**14 48 13.4**	**+0.8**
GAC				SN	**Sn**	**14 48 43.0**	**+0.7**
GAC				Trac		14 49 01.1	
	comp=Z,6.0nm,0.2s						
H62A	**Milan**	**2.44**	**63**	Pn	**Pn**	**14 48 14.4**	**+1.2**
PLVO	**Plevna**	**2.58**	**308**	PN	**Pn**	**14 48 15.7**	**+0.4**
PLVO				SN	**Sn**	**14 48 47.2**	**0.0**
PLVO				Trac		14 48 56.0	
	comp=Z,6.4nm,0.1s						
J55A	**Hilton**	**2.66**	**266**	Pn	**Pn**	**14 48 18.3**	**+2.0**
DELO	**Deloro Mine**	**2.68**	**294**	Pn	**Pn**	**14 48 18.4**	**+1.8**
DELO				IAmb_Lg		14 49 05.0	
	comp=Z,15nm,1.3s						
DELO	**Deloro Mine**	**2.68**	**294**	PN	**Pn**	**14 48 16.7**	**+0.2**
DELO				SN	**Sn**	**14 48 49.1**	**-0.3**
DELO				LG	Lg	14 48 56.0	
DELO				Trac		14 48 56.1	
	comp=Z,8.1nm,0.1s						
TRQ	**Mont Tremblant**	**2.73**	**355**	Pn	**Pn**	**14 48 18.2**	**+0.8**
TRQ	**Mont Tremblant**	**2.73**	**355**	PN	**Pn**	**14 48 17.8**	**+0.3**
TRQ				SN	**Sn**	**14 48 51.3**	**+0.3**
TRQ				LG	Lg	14 48 59.2	
TRQ				Trac		14 49 03.3	
	comp=Z,9.6nm,0.2s						
M57A	**Sunshine Farm,**	**3.07**	**226**	Pn	**Pn**	**14 48 22.4**	**+0.4**
PEMO	**Pembroke**	**3.08**	**316**	PN	**Pn**	**14 48 22.2**	**+0.1**
PEMO				SN	**Sn**	**14 48 59.2**	**-0.2**
PEMO				Trac		14 49 10.3	
	comp=Z,4.0nm,0.1s						
MEDO	**Medina**	**3.13**	**265**	PN	**Pn**	**14 48 23.4**	**+0.7**
MEDO				SN	**Sn**	**14 49 00.3**	**-0.3**
MEDO				Trac		14 49 16.4	
	comp=Z,5.1nm,0.2s						
G62A	**West of Eustis**	**3.13**	**56**	Pn	**Pn**	**14 48 24.3**	**+1.5**
N58A	**Sunbury**	**3.25**	**216**	IAmb_Lg		14 49 18.7	
	comp=Z,8.2nm,1.0s						
SADO	**Sadowa**	**3.79**	**291**	PN	**Pn**	**14 48 34.8**	**+3.0**
SADO				SN	**Sn**	**14 49 14.2**	**-2.6**
SADO				LG	Lg	14 49 31.2	
SADO				Trac		14 49 34.9	
	comp=Z,0.5nm,0.0s						
SSPA	**Standing Stone**	**3.97**	**225**	Pn	**Pn**	**14 48 34.9**	**+0.6**

*NIC **19** 15:01:16.8, 36°.63N×35°.57E, h8km±1km, Ml3.1/12*

*IDC **19** 15:01:16.9±1.4, 36°.47N×35°.80E, h0km, mb3.6/3, mbtmp3.4/8, ML3.4/5, MS2.8/1, Error ellipse: s-maj=49.5km s-min=12.7km az=80.0*

*ISK **19** 15:01:17.9, 36°.40N×35°.61E, h8km, ML3.2/29*

*AFAD **19** 15:01:18.3, 36°.44N×35°.63E, h7km±4km, MW3.5*

*GRAL **19** 15:01:19.9±0.4, 36°.40N×35°.69E, h0km±217km, MD3.7*

*GII **19** 15:01:21.7±0.0, 36°.22N±0°.02×35°.441E±0°.007, h1km, Mws3.2, confirmed*

ISC 19 15:01:18.7±1.0, 36°.45N±0°.02×35°.63E±0°.02, h11km±7km, n121, σ0°.83/153, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASUZ	**Hatay-Arsuz**	**0.20**	**141**	P	**Pg**	**15 01 22.9**	**+0.1**
ASUZ				S	**Sg**	**15 01 26.0**	**+0.3**
TAHT	**Tahtakopru-Hat**	**0.45**	**99**	Pg	**Pg**	**15 01 27.2**	**-0.3**
TAHT				Sg	**Sb**	**15 01 34.5**	**-0.9**
CEYT	**Ceyhan**	**0.57**	**9**	Pg	**Pb**	**15 01 30.2**	**-0.5**
HASA	**Hatay-Hassa-Ha**	**0.75**	**66**	P	**Pg**	**15 01 32.7**	**-0.5**
HASA				S	**Sb**	**15 01 44.8**	**+0.7**
RHAN	**Hatay/Reyhanl**	**0.81**	**103**	P	**Pg**	**15 01 34.2**	**0.0**
RHAN				S	**Sg**	**15 01 45.0**	**+0.2**
DED	**Mersin**	**0.84**	**308**	P	**Pg**	**15 01 34.8**	**-0.2**
DED				S	**Sb**	**15 01 46.9**	**+0.1**
KARA	**Karaisali**	**0.94**	**330**	Pg	**Pg**	**15 01 36.1**	**-0.6**
MERS	**Mersin**	**0.99**	**296**	Pg	**Pg**	**15 01 37.5**	**-0.2**
MERS				Sg	**Sb**	**15 01 51.4**	**+0.5**
AKO	**Adana**	**1.02**	**352**	P	**Pg**	**15 01 37.2**	**-1.1**
GULE	**Gulek**	**1.08**	**321**	P	**Pb**	**15 01 39.4**	**-0.2**
KAMA	**Osmaniye**	**1.11**	**48**	P	**Pb**	**15 01 40.1**	**+0.1**
KAMA				S	**Sb**	**15 01 54.6**	**0.0**
KIZK	**Mersin**	**1.20**	**272**	Pn	**Pg**	**15 01 40.8**	**-0.9**
KIZK				Sn	**Sn**	**15 01 57.9**	**+0.2**
KIZK	**Mersin**	**1.20**	**272**	P	**Pg**	**15 01 40.3**	**-1.4**
KIZK				S	**Sn**	**15 01 58.2**	**+0.5**
KUZU	**Kuzuini**	**1.21**	**74**	P	**Pg**	**15 01 40.8**	**-1.0**
KUZU				S	**Sg**	**15 01 56.2**	**-1.3**
ANDN	**Andirin**	**1.27**	**27**	P	**Pg**	**15 01 43.6**	**+0.6**
ANDN				S	**Sn**	**15 02 00.6**	**+1.0**
CMRD	**Camardi-Nigde**	**1.32**	**337**	Pn	**Pn**	**15 01 42.7**	**-0.5**
SLFK	**Silifke-Mersin**	**1.36**	**268**	Pn	**Pn**	**15 01 43.3**	**-0.3**
SLFK					**Sn**	**15 02 01.9**	**+0.2**
SILI	**Silifke-Mersin**	**1.38**	**267**	Pn	**Pn**	**15 01 43.7**	**-0.2**
GAZ	**Gaziantep**	**1.46**	**60**	Pn	**Pb**	**15 01 46.1**	**+0.2**
GAZ	**Gaziantep**	**1.46**	**60**	P	**Pn**	**15 01 44.0**	**-1.1**
GAZ				S	**Sn**	**15 02 02.8**	**-1.5**
GAZ				AML	AML	15 02 10.4	
	3.0nm,0.4s						
GAZ				AML	AML	15 02 14.6	
	1.9nm,0.6s						
KMRS	**Kahramanmaras**	**1.47**	**43**	Pn	**Pn**	**15 01 45.3**	**+0.2**
EREN	**Erenkoy**	**1.50**	**233**	Pn	**Pn**	**15 01 45.2**	**-0.3**
KERG	**Konya-Eregli**	**1.55**	**309**	P	**Pn**	**15 01 46.3**	**-0.1**
KERG				S	**Sn**	**15 02 06.8**	**+0.3**
KEBE	**Keben-Mersin**	**1.55**	**271**	Pn	**Pn**	**15 01 46.5**	**+0.2**
KARG	**Kargicak-Mersi**	**1.57**	**262**	Pn	**Pn**	**15 01 45.9**	**-0.7**
IKL	**Isikli**	**1.58**	**263**	Pn	**Pn**	**15 01 46.7**	**0.0**
TISA	**Tisan-Mersin**	**1.60**	**260**	Pn	**Pn**	**15 01 46.9**	**-0.1**
YESI	**Yesilovacik-Me**	**1.63**	**262**	Pn	**Pn**	**15 01 47.4**	**+0.1**
YAHY	**KAYSERI_Yahyal**	**1.66**	**353**	P	**Pn**	**15 01 47.8**	**-0.1**
YAHY				S	**Sb**	**15 02 11.0**	**+0.6**
NIDE	**Nigde/Merkez-G**	**1.69**	**336**	P	**Pn**	**15 01 48.5**	**+0.1**
TEPK	**Tepekoy-MERSIN**	**1.70**	**263**	Pn	**Pn**	**15 01 48.4**	**0.0**
GULN	**MERSIN_Gulnar**	**1.71**	**262**	P	**Pn**	**15 01 47.8**	**-0.7**
GULN				S	**Sn**	**15 02 10.9**	**+0.7**
AKK1	**Akkuyu-Mersin**	**1.72**	**260**	Pn	**Pn**	**15 01 48.2**	**-0.3**
NZIP	**Nizip/Gaziante**	**1.75**	**69**	P	**Pn**	**15 01 48.9**	**-0.1**
NZIP				S	**Sn**	**15 02 11.7**	**+0.4**
TEVE	**Tevekalti-Mers**	**1.77**	**270**	Pn	**Pn**	**15 01 49.2**	**-0.1**
OREN	**Orenkoy-Mersin**	**1.77**	**263**	Pn	**Pn**	**15 01 49.4**	**+0.1**
GZT	**Gaziantep**	**1.79**	**59**	P	**Pn**	**15 01 49.9**	**+0.1**
GZT				S	**Sg**	**15 02 17.1**	**+0.7**
YORU	**Yoruktepe-Mers**	**1.82**	**261**	Pn	**Pn**	**15 01 49.9**	**-0.1**
NIG	**Nigde**	**1.85**	**334**	Pn	**Pn**	**15 01 50.9**	**+0.3**
PARAL	**Paralimni**	**1.94**	**222**	P	**Pn**	**15 01 51.7**	**0.0**
PARAL				S	**Sb**	**15 02 19.2**	**+0.8**
PARAL				AML	AML	15 02 29.0	
	0.4nm,0.7s						
PARAL				AML	AML	15 02 34.7	
	0.6nm,0.9s						
BERE	**Bereket-Mersin**	**1.95**	**268**	Pn	**Pn**	**15 01 51.8**	**0.0**
BERE				S	**Sn**	**15 02 16.7**	**+0.3**
BEIL	**Beino**	**1.95**	**166**	*e*P	**Pn**	**15 01 52.1**	**+0.2**
BEIL				*e*S	**Sn**	**15 02 16.0**	**-0.5**
YESY	**Yesilyurt**	**2.01**	**312**	Pn	**Pn**	**15 01 53.6**	**+0.8**
KRMN	**Karaman**	**2.04**	**292**	Pn	**Pn**	**15 01 53.5**	**+0.5**
SARI	**SarD1z-Kayseri**	**2.06**	**17**	Pn	**Pn**	**15 01 54.5**	**+1.1**
MVOU	**Mavrovouni**	**2.17**	**229**	P	**Pn**	**15 01 54.5**	**-0.2**
MVOU				S	**Sb**	**15 02 23.7**	**-1.1**
MVOU				AML	AML	15 02 33.3	
	0.3nm,0.6s						
MVOU				AML	AML	15 02 35.7	
	0.4nm,0.8s						
HWQ	**Hawqa**	**2.18**	**173**	*e*P	**Pn**	**15 01 55.5**	**+0.5**
HWQ				*e*S	**Sn**	**15 02 21.4**	**-0.7**
GULA	**Gulagac**	**2.20**	**330**	Pn	**Pn**	**15 01 56.4**	**+1.1**
FKH	**Fakeheh**	**2.29**	**164**	*e*P	**Pn**	**15 01 57.0**	**+0.5**
CSS	**Mathiatis**	**2.39**	**232**	S	**Sn**	**15 02 26.0**	**-1.1**
CSS	**Mathiatis**	**2.39**	**232**	P	**Pn**	**15 01 58.7**	**+0.9**
CSS	**Mathiatis**	**2.39**	**232**	P	**Pn**	**15 01 57.3**	**-0.5**
CSS				S	**Sn**	**15 02 28.6**	**+1.5**
CSS				AML	AML	15 02 40.2	
	0.2nm,0.7s						
CSS				AML	AML	15 02 43.5	
	0.2nm,0.5s						
BNN	**Bunyan**	**2.41**	**4**	Pn	**Pn**	**15 01 59.4**	**+1.2**
SULT	**Sultanhani-AKS**	**2.43**	**317**	Pn	**Pn**	**15 01 59.2**	**+0.7**
BHL	**Bhannes**	**2.54**	**180**	*e*P	**Pn**	**15 02 00.3**	**+0.3**
XYLS	**Xyliatos**	**2.54**	**237**	P	**Pn**	**15 01 59.0**	**-0.9**
XYLS				S	**Sn**	**15 02 32.2**	**+1.2**
XYLS				AML	AML	15 02 42.5	
	0.3nm,0.5s						
XYLS				AML	AML	15 02 45.4	
	0.3nm,0.3s						
ASGA	**Asgata**	**2.55**	**230**	P	**Pn**	**15 02 00.8**	**+0.7**
ASGA				S	**Sn**	**15 02 33.0**	**+1.8**
ASGA				AML	AML	15 02 42.8	
	0.2nm,0.4s						
ASGA				AML	AML	15 02 46.1	
	0.3nm,1.1s						
DARE	**Darende-Malaty**	**2.58**	**34**	Pn	**Pn**	**15 02 02.2**	**+1.7**
ZAHL	**Zahle**	**2.59**	**175**	*e*P	**Pn**	**15 02 01.1**	**+0.4**
TROD	**Troodos**	**2.70**	**237**	P	**Pn**	**15 02 01.4**	**-0.9**
TROD				AML	AML	15 02 53.5	
	0.

MSBI	**Mazada**	**5.13**	**183**	S	**Sn**	**15 03 35.1**	**+0.5**
MSBI	**Mazada**	**5.13**	**183**	P	**Pn**	**15 02 36.6**	**+1.2**
GHAJ	**Ghor Haditha**	**5.13**	**181**	S	**Sn**	**15 03 34.9**	**+0.2**
GHAJ	**Ghor Haditha**	**5.13**	**181**	P	**Pn**	**15 02 37.5**	**+2.1**
KZIT	**Kziot**	**5.62**	**191**	S	**Sn**	**15 03 45.7**	**-1.1**
KZIT	**Kziot**	**5.62**	**191**	P	**Pn**	**15 02 43.4**	**+1.1**
ZFRI	**Zfri**	**5.89**	**184**	S	**Sn**	**15 03 53.5**	**+0.1**
ZFRI	**Zfri**	**5.89**	**184**	P	**Pn**	**15 02 46.8**	**+0.9**
PRNI	**Paran**	**6.10**	**185**	S	**Sn**	**15 03 58.8**	**+0.1**
PRNI	**Paran**	**6.10**	**185**	P	**Pn**	**15 02 50.1**	**+1.3**
KRMI	**Paran Flat**	**6.36**	**187**	S	**Sn**	**15 04 05.0**	**0.0**
KRMI	**Paran Flat**	**6.36**	**187**	P	**Pn**	**15 02 53.8**	**+1.4**
HRFI	**Mount Harif**	**6.41**	**185**	S	**Sn**	**15 04 06.3**	**0.0**
HRFI	**Mount Harif**	**6.41**	**185**	P	**Pn**	**15 02 54.7**	**+1.5**
MBRI	**Mt Berech**	**6.66**	**185**	S	**Sn**	**15 04 12.8**	**+0.2**
MBRI	**Mt Berech**	**6.66**	**185**	P	**Pn**	**15 02 58.5**	**+1.9**
EIL	**Elat**	**6.78**	**185**	Pn	**Pn**	**15 02 59.4**	**+1.2**
	0.4nm,0.3s,baz=3.8,slow=15,SNR=4.2						
EIL				Sn	**Sn**	**15 04 17.1**	**+1.6**
	0.9nm,0.3s,baz=75,slow=6.1,SNR=12 2.1nm,0.6s						
EIL	**Elat**	**6.78**	**185**	S	**Sn**	**15 04 15.2**	**-0.3**
EIL	**Elat**	**6.78**	**185**	P	**Pn**	**15 02 59.6**	**+1.4**
AKASG	**Malin Array Be**	**14.98**	**344**	Pn	**Pn**	**15 04 50.9**	**+0.7**
	0.7nm,0.3s,baz=156,slow=12,SNR=4.2						
AKASG				LR	LR	15 10 35.1	
	comp=Z,31nm,18.9s,baz=60,slow=37 0.1nm,0.3s						
GERES	**GERESS Array B**	**20.25**	**315**	P	**P**	**15 05 53.0**	**-1.0**
	0.4nm,0.5s,baz=116,slow=12,SNR=4.2 0.4nm,0.5s						
FINES	**FINESS Array B**	**25.74**	**349**	P	**P**	**15 06 48.5**	**-0.4**
	2.2nm,0.9s,baz=147,slow=9.5,SNR=3.6 2.2nm,0.9s						
ARCES	**ARCESS Array B**	**33.61**	**354**	P	**P**	**15 07 58.2**	**-0.5**
	2.1nm,1.0s,baz=179,slow=12,SNR=1.9 2.1nm,1.0s						

*ECX **19** 15:07:46.0±0.3,31.60N×114.50W,h20km±2km, ML2.9*
*MEX **19** 15:07:46.0±0.4,31.53N×114.72W,h3km±3km, MD3.1*
ISC 19 15:07:44.1±1.2**,31.63N**±0.04×**114.54W**±0.03**,**
h13km±11km**,n17,**σ0**.96**/29**,5C-2D,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EDOMX	**El Doctor, EDO**	**0.37**	**331**	*e*	P	**Pn**		**15 07 54.1**	**-1.1**
EDOMX				*e*	S	**Sb**		**15 07 60.0**	**+1.7**
EDOMX				IAML				15 08 01.3	
	comp=E,2μm,0.2s								
EDOMX				*e*				15 08 01.3	
ECBX	**El Chinero**	**0.47**	**250**	↑*i*	P	**Pb**		**15 07 54.7**	**+0.5**
ECBX					S	**Sb**		**15 08 01.6**	**+0.6**
SFX	**San Felipe**	**0.65**	**205**	↑*e*	P	**Pb**		**15 07 57.4**	**+0.1**
SFX					S	**Sb**		**15 08 06.4**	**+0.1**
SFX				IAML				15 08 07.1	
	comp=E,431nm,0.3s								
SFX	**San Felipe**	**0.65**	**205**	*i*	P	**Pb**		**15 07 57.3**	**+0.1**
SFX				*i*	S	**Sb**		**15 08 06.2**	**0.0**
RHX	**Rio Hardy**	**0.81**	**308**	*e*	P	**Pb**		**15 07 59.7**	**-0.4**
RHX				*e*	S	**Sb**		**15 08 11.3**	**+0.4**
AGSX	**Ej. Aguas Cali**	**0.83**	**320**	*e*	S	**Sn**		**15 08 13.0**	**-0.5**
PPXB	**Puerto Peasco**	**0.83**	**111**	*e*	P	**Pg**		**15 07 59.7**	**-0.4**
PPXB				*e*	S	**Sg**		**15 08 10.3**	**-0.6**
PPXB				IAML				15 08 11.9	
	comp=E,211nm,0.1s								
PPXB				⇓*e*				15 08 11.9	
PPXB				IAML				15 08 12.0	
	comp=N,567nm,0.4s								
PPXB				⇓*e*				15 08 12.0	
MBIG	**Mexicali**	**0.96**	**324**	*e*	P	Pn		15 08 08.8	+5.6
MBIG				*e*	S	**Sn**		**15 08 18.9**	**+2.2**
SPIG	**San Pedro Mart**	**0.99**	**234**	*e*	P	**Pb**		**15 08 03.6**	**+0.4**
SPIG				*e*	S	**Sb**		**15 08 16.8**	**+0.5**
SPIG	**San Pedro Mart**	**0.99**	**234**	*e*	P	**Pg**		**15 08 03.0**	**-0.2**
SPIG				*e*	S	**Sg**		**15 08 16.3**	**+0.1**
CPBX	**Cerro Prieto**	**1.02**	**320**	*e*	P	**Pn**		**15 08 04.1**	**0.0**
CPBX				IAML				15 08 23.2	
	comp=N,418nm,0.2s								
ALAMX	**Rancho Alamar**	**1.07**	**291**	*e*	P	**Pn**		**15 08 04.8**	**+0.1**
VTX	**Valle De La Tr**	**1.09**	**258**	⇑*e*	P	**Pb**		**15 08 04.9**	**0.0**
VTX					S	**Sb**		**15 08 20.2**	**+1.1**
SQX	**San Quintin**	**1.56**	**228**	*e*	P	**Pn**		**15 08 12.3**	**+0.8**
SQX				IAML				15 08 34.2	
	comp=N,189nm,0.3s								
SQX				⇑*e*				15 08 34.2	
SQX				⇑*e*				15 08 34.5	
SQX				IAML				15 08 34.5	
	comp=E,322nm,0.3s								
CBX	**Cerro Bola**	**1.93**	**291**	*e*	P	**Pn**		**15 08 16.6**	**-0.2**
CBX				*e*	S	**Sn**		**15 08 39.5**	**-1.5**
TJIG	**Tijuana**	**1.98**	**294**	*e*	P	**Pn**		**15 08 16.4**	**-1.0**
TJIG				*e*	S	**Sn**		**15 08 39.8**	**-2.4**
TUC	**Tucson**	**3.26**	**77**	*e*	P	**Pg**		**15 08 47.5**	**+0.9**
TUC				*e*	S	**Sb**		**15 09 21.6**	**+0.2**

*ECX **19** 15:09:54.7±0.4,31.59N×114.50W,h20km±3km, ML2.6*
*MEX **19** 15:09:54.3±0.4,31.57N×114.59W,h9km±7km, MD3.0*
ISC 19 15:09:52.6±1.4**,31.65N**±0.05×**114.53W**±0.03**,**
h15km±11km**,n15,**σ0**.68**/27**,4C,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EDOMX	**El Doctor, EDO**	**0.35**	**329**	*e*	S	**Sn**		**15 10 09.3**	**-0.7**
ECBX	**El Chinero**	**0.48**	**248**	⇑*i*	P	**Pb**		**15 10 03.4**	**+0.7**
ECBX					S	**Sb**		**15 10 10.2**	**+0.6**
ECBX				IAML				15 10 10.6	
	comp=N,279nm,0.3s								
RITX	**Riito Sonora**	**0.63**	**325**	*e*	P	**Pn**		**15 10 07.0**	**0.0**
RITX				*e*	S	**Sn**		**15 10 16.8**	**0.0**
SFX	**San Felipe**	**0.67**	**204**	*e*	P	**Pb**		**15 10 06.1**	**+0.1**
SFX				*e*	S	**Sb**		**15 10 15.1**	**-0.1**
SFX	**San Felipe**	**0.67**	**204**	*i*	P	**Pb**		**15 10 06.0**	**0.0**
SFX				*i*	S	**Sg**		**15 10 14.8**	**+0.2**
RHX	**Rio Hardy**	**0.80**	**307**	⇑*e*	P	**Pn**		**15 10 08.3**	**-1.0**
RHX				*e*	S	**Sn**		**15 10 20.0**	**-1.0**
PPXB	**Puerto Peasco**	**0.83**	**112**	*e*	P	**Pb**		**15 10 08.4**	**-0.3**
PPXB				*e*	S	**Sb**		**15 10 19.0**	**-0.7**
PPXB				IAML				15 10 20.4	
	comp=E,185nm,0.5s								
PPXB				⇑*e*				15 10 20.4	
PPXB				IAML				15 10 20.8	
	comp=N,257nm,0.4s								
SPIG	**San Pedro Mart**	**1.00**	**233**	*e*	P	**Pb**		**15 10 11.7**	**-0.2**
SPIG				*e*	S	**Sb**		**15 10 25.4**	**+0.4**
SPIG	**San Pedro Mart**	**1.00**	**233**	*e*	P	**Pb**		**15 10 11.6**	**-0.2**
SPIG				*i*	S	**Sg**		**15 10 25.0**	**-0.2**
ALAMX	**Rancho Alamar**	**1.06**	**290**	*e*	P	**Pn**		**15 10 13.9**	**+0.9**
VTX	**Valle De La Tr**	**1.10**	**257**	⇑*e*	P	**Pg**		**15 10 13.6**	**-0.2**
VTX				*e*	S	**Sg**		**15 10 28.4**	**+0.2**
VTX				*e*				15 10 30.2	
SQX	**San Quintin**	**1.58**	**227**	*e*	P	**Pn**		**15 10 20.4**	**+0.3**
SQX				*e*	S	**Sb**		**15 10 41.0**	**-0.2**
CBX	**Cerro Bola**	**1.93**	**291**	*e*	P	**Pn**		**15 10 24.3**	**-0.7**
CBX				*e*	S	**Sn**		**15 10 49.0**	**0.0**
TJIG	**Tijuana**	**1.98**	**294**	*e*	P	**Pn**		**15 10 26.0**	**+0.4**
TJIG				*e*	S	**Sn**		**15 10 50.2**	**0.0**
TUC	**Tucson**	**3.25**	**77**	*e*	S	**Sb**		**15 11 31.7**	**+2.2**

*IDC **19** 15:19:53.2±1.0,27.59N×92.60E,h0km, mb3.8/8,*
mbtmp3.8/9, ML3.9/1, Error ellipse: s-maj=88.6km s-min=16.0km az=57.0
ISC 19 15:19:54.9±0.9**,27.7N**±0.1×**92.83E**±0.08**,h10**km**,n18,**
σ1**.27**/27**,mb3.9/7,Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAMN	**Ramite**	**5.60**	**263**	Pn		Pn	**Pn**	**15 21 20.1**	**+1.6**
	baz=263,slow=0.0								
RAMN				Sn			**Sn**	**15 22 24.2**	**+1.2**
	59nm,0.5s,baz=263,slow=0.0								
GUN	**Gumba**	**6.16**	**273**	Pn		Pn	**Pn**	**15 21 28.2**	**+1.9**
	baz=272,slow=0.0								
GUN				Sn			**Sn**	**15 22 36.8**	**-0.2**
	54nm,0.5s,baz=272,slow=0.0								
PKI	**Pulchoki**	**6.58**	**270**	Pn		Pn	**Pn**	**15 21 32.9**	**+0.8**
	baz=270,slow=0.0								
PKI				Sn			**Sn**	**15 22 47.7**	**+0.2**
	23nm,0.4s,baz=270,slow=0.0								
PKIN	**Phulchoki**	**6.60**	**270**	Pn		Pn	**Pn**	**15 21 33.5**	**+1.3**
	baz=270,slow=0.0								
PKIN				Sn			**Sn**	**15 22 47.9**	**+0.2**
	33nm,0.4s,baz=270,slow=0.0								
KKN	**Kakani**	**6.69**	**272**	Pn		Pn	**Pn**	**15 21 35.4**	**+1.9**
	baz=272,slow=0.0								
KKN				Sn			**Sn**	**15 22 50.2**	**+0.3**
	46nm,0.5s,baz=272,slow=0.0								
GKN	**Gorkha**	**7.26**	**274**	Pn		Pn	**Pn**	**15 21 42.2**	**+1.0**
	baz=273,slow=0.0								
GKN				Sn			**Sn**	**15 23 02.6**	**-1.2**
	23nm,0.3s,baz=273,slow=0.0								
DANN	**Dangsing**	**8.04**	**276**	Pn		Pn	**Pn**	**15 21 53.4**	**+1.3**
	baz=276,slow=0.0								
DANN				Sn			**Sn**	**15 23 21.7**	**-1.5**
	33nm,0.5s,baz=276,slow=0.0								
KOLN	**Koldanda**	**8.18**	**272**	Pn		Pn	**Pn**	**15 21 53.7**	**-0.2**
	baz=272,slow=0.0								
KOLN				Sn			**Sn**	**15 23 24.4**	**-2.2**
	16nm,0.3s,baz=272,slow=0.0								
PYUN	**Piuthan**	**8.71**	**275**	Pn		Pn	**Pn**	**15 22 00.4**	**-0.9**
	baz=274,slow=0.0								
PYUN				Sn			**Sn**	**15 23 36.6**	**-3.1**
	24nm,0.4s,baz=274,slow=0.0								
CMAR	**Chiang Mai Arr**	**10.81**	**147**	Pn		Pn	**Pn**	**15 22 29.0**	**-0.8**
	0.3nm,0.3s,baz=320,slow=13,SNR=8.2 1.0nm,0.7s								
MKAR	**Makanchi Array**	**20.75**	**339**	P		P	**P**	**15 24 35.9**	**0.0**
	0.8nm,0.5s,baz=148,slow=13,SNR=16 0.8nm,0.5s								
KURBB	**Kurchatov Arra**	**25.31**	**338**	P		P	**P**	**15 25 22.3**	**+0.7**
	1.0nm,0.7s,baz=151,slow=10,SNR=7.9 1.0nm,0.7s								
ZALV	**Zalesovo Beam**	**26.84**	**349**	P		P	**P**	**15 25 36.6**	**+1.2**
	0.7nm,0.5s,baz=161,slow=9.2,SNR=2.6 0.7nm,0.5s								
HFS	**Hagfors**	**61.03**	**326**	P		P	**P**	**15 30 08.3**	**-0.1**
	0.6nm,0.5s,baz=74,slow=11,SNR=5.9 0.6nm,0.5s								
WRA	**Warramunga Arr**	**62.13**	**135**	P		P	**P**	**15 30 16.4**	**0.0**
	4.3nm,0.7s,baz=323,slow=7.3,SNR=8.8 4.3nm,0.7s								
NOA	**NORSAR Array B**	**62.14**	**327**	P		P	**P**	**15 30 15.0**	**-1.0**
	0.3nm,0.7s,baz=89,slow=5.8,SNR=3.5 0.3nm,0.7s								
GERES	**GERESS Array B**	**62.74**	**313**	P		P	**P**	**15 30 20.5**	**+0.1**
	0.3nm,0.4s,baz=67,slow=8.0,SNR=3.8 0.3nm,0.4s								
ASAR	**Alice Springs**	**64.67**	**138**	P		P	**P**	**15 30 33.5**	**+0.3**
	3.6nm,0.5s,baz=322,slow=6.5,SNR=19 3.6nm,0.5s								

IDC 19 15:21:38.2±5.5**,28.04N×93.58E,h0**km**,mb4.1**/2**,**
mbtmp4.1/2**,Error ellipse: s-maj=532.6km**
s-min=32.7km az=60.0,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**20.71**	**338**	P		P	P	15 26 20.1	0.0
WRA	**Warramunga Arr**	**61.88**	**136**	P		P	P	15 31 59.7	+0.1
	1.3nm,0.6s,baz=318,slow=7.1,SNR=5.0 1.3nm,0.6s								
ASAR	**Alice Springs**	**64.46**	**139**	P		P	P	15 32 16.6	-0.1
	1.1nm,0.5s,baz=324,slow=6.6,SNR=8.9 1.1nm,0.5s								

*IDC **19** 15:23:40.6±0.7,3.69N×126.38E,h0km,mb4.1/11,*
mbtmp4.1/12,ML4.0/1,MS3.2/8, Error ellipse:
s-maj=42.3km s-min=13.3km az=72.0
*DJA **19** 15:23:46.8±0.5,4.1N×12.7E±.°,h24km±6km, M4.5/15,*
mB5.1/5,mb4.6/13,MLv4.5/15,Mw(mB)4.5/5
*NEIC **19** 15:23:48.6±1.7,3.68N±0.10×126.6E±0.2,h61km±8km,*
mb4.4/16, Error ellipse: s-maj=27.8km s-min=11.2km az=69.0
ISC 19 15:23:47.6±0.5**,3.68N**±0.06×**126.60E**±0.08**,h53**km**,n64,**
σ1**69**/57**,mb4.3**/19**,MS3.2**/7**,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.06**	**271**	P		P	**Pn**	**15 24 05.6**	**-0.7**
TNTI	**Ternate**	**2.98**	**165**				**Pn**	**15 24 33.3**	**+0.7**
TNTI	**Ternate**	**2.98**	**165**	P		P	**Pn**	**15 24 33.4**	**+0.9**
TNTI				S			**Sn**	**15 25 09.3**	**+2.2**
KMSI	**Cibinong**	**4.04**	**220**	P		P	**Pn**	**15 24 50.4**	**+3.4**
MRSI	**Marisa**	**5.63**	**236**	P		P	**Pn**	**15 25 12.0**	**+3.2**
	0.6nm2μm147nm,0.8s								
SANI	**Sanana**	**5.72**	**186**	P		P	**Pn**	**15 25 08.9**	**-1.1**
	0.1nm20nm,0.5s								
LUWI	**Luwuk**	**6.05**	**219**	P		Pn		15 25 19.9	+5.4
	0.7nm2μm133nm,0.9s								
TOLI2	**Tolitoli**	**6.34**	**246**				**Pn**	**15 25 19.1**	**+0.6**
SWI	**Sorong**	**6.49**	**134**	P		P	**Pn**	**15 25 21.1**	**+0.6**
	0.2nm37nm,0.5s								
APSI	**Ampana**	**6.72**	**227**	P		Pn		15 25 29.2	+5.4
NLAI	**Namlea**	**6.89**	**176**	P		P	**Pn**	**15 25 26.3**	**+0.3**
	0.3nm49nm,0.8s								
MPSI	**Mapaga**	**7.47**	**244**	P		P	**Pn**	**15 25 36.1**	**+2.1**
MYLDM	**Lahad Datu**	**8.21**	**281**				**Pn**	**15 25 47.6**	**+3.4**
FAKI	**Fak Fak**	**8.65**	**139**	Pn			**Pn**	**15 25 51.3**	**+1.0**
FAKI	**Fak Fak**	**8.65**	**139**	P		P	**Pn**	**15 25 51.0**	**+0.8**
	43nm,1.2s								
TTSI	**Tana Toraja**	**9.51**	**225**	P		P	**Pn**	**15 26 05.6**	**+3.6**
	20nm,0.9s								
KKM	**Kota Kinabalu**	**10.61**	**283**	Pn			**Pn**	**15 26 19.2**	**+2.1**
KAPI	**Kappang**	**11.01**	**218**	LR		LR		15 30 51.1	
	comp=Z,113nm,21.7s,baz=86,slow=40								
EDFI	**Ende, Flores**	**13.28**	**202**	P		P		15 27 08.2	+6.4
SBUM	**Sibu**	**14.41**	**266**	Pn			**Pn**	**15 27 07.5**	**-1.2**
GENI	**Genyem**	**14.93**	**114**	P		P		**15 27 21.8**	**+1.7**
JAY	**Jayapura**	**15.38**	**113**	Pn			**Pn**	**15 27 22.3**	**+0.8**
	0.6nm,0.3s,baz=200,slow=3.3,SNR=5.4 10nm,0.7s								
MTN	**Manton Dam**	**17.02**	**165**	Pn			**Pn**	**15 27 39.5**	**-2.6**
MTN				IAmb		IAmb	IAmb	15 28 06.5	
	comp=Z,28nm,1.4s								
KNRA	**Kununurra**	**19.35**	**174**				**P**	**15 28 08.9**	**+0.1**
GUMO	**Guam**	**20.56**	**60**	LR		LR	LR	15 35 06.9	
	comp=Z,32nm,20.2s,baz=210,slow=33								
LEM	**Lembang**	**21.63**	**241**	LR		LR	LR	15 37 30.2	
	comp=Z,151nm,18.5s,baz=203,slow=39								
FITZ	**Fitzroy Crossi**	**21.66**	**182**				**P**	**15 28 33.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**21.66**	**182**	P		P	**P**	**15 28 33.9**	**+0.1**
	comp=Z,7.0nm,0.8s,baz=16,slow=9.2,SNR=26 comp=Z,7.0nm,0.8s								
WB0	**Warramunga Arr**	**24.52**	**162**				**P**	**15 29 01.6**	**-0.7**
WB0				IAmb		IAmb	IAmb	15 29 04.3	
	comp=Z,13nm,0.8s								
WRAB	**Tennant Creek**	**24.67**	**162**	P		P	**P**	**15 29 02.7**	**-1.0**
WRAB				IAmb		IAmb	IAmb	15 29 05.9	
	comp=Z,16nm,0.9s								
WRA	**Warramunga Arr**	**24.67**	**162**				**P**	**15 29 02.5**	**-1.2**
WRA	**Warramunga Arr**	**24.67**	**162**	P		P	**P**	**15 29 03.3**	**-0.4**
	comp=Z,10nm,0.9s,baz=343,slow=11,SNR=48								
WRA				S		S	**S**	**15 33 25.6**	**+3.8**
	comp=Z,0.9nm,0.9s,baz=340,slow=15,SNR=4.9 comp=Z,10nm,0.9s								
WR8	**Warramunga Arr**	**24.73**	**162**				**P**	**15 29 04.2**	**-0.1**
WR8				IAmb		IAmb	IAmb	15 29 05.6	
	comp=Z,9.9nm,0.9s								
MBWA	**Marble Bar**	**25.58**	**195**	P		P	**P**	**15 29 12.5**	**+0.5**
MBWA				IAmb		IAmb	IAmb	15 29 14.5	
	comp=Z,9.8nm,0.9s								
PSA00	**Pilbara Seismi**	**25.95**	**194**				**P**	**15 29 15.0**	**-0.3**
PSA00				IAmb		IAmb	IAmb	15 29 17.4	
	comp=Z,17nm,0.8s								
AS31	**Alice Springs**	**28.09**	**166**	P		P	**P**	**15 29 34.1**	**-0.5**
ASAR	**Alice Springs**	**28.09**	**166**	P		P	**P**	**15 29 33.7**	**-0.9**
ASAR				PcP		PcP	**PcP**	**15 32 48.6**	**+0.5**
ASAR	**Alice Springs**	**28.09**	**166**	P		P	**P**	**15 29 35.0**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=346,slow=7.1,SNR=20 comp=Z,1.3nm,0.7s								
PZH	**PanZhiHua**	**32.89**	**316**	P		P	**P**	**15 30 18.3**	**+1.3**
KSRS	**Korea Array**	**33.64**	**2**	P		P	**P**	**15 30 23.3**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=180,slow=9.5,SNR=12 comp=Z,1.3nm,0.5s								
MORW	**Morawa**	**34.10**	**197**	P		P	**P**	**15 30 23.0**	**-4.3**
FORT	**Forrest**	**34.29**	**178**	P		P	**P**	**15 30 26.2**	**-2.7**
FORT				IAmb		IAmb	IAmb	15 30 30.8	
	comp=Z,6.3nm,0.8s								
MJAR	**Matsushiro Arr**	**34.41**	**17**	LR		LR	LR	15 48 39.3	
	comp=Z,25nm,18.1s,baz=196,slow=44								
HNR	**Honiara**	**35.70**	**112**	LR		LR	LR	15 44 29.1	
	comp=Z,39nm,19.1s,baz=228,slow=35								
BBOO	**Buckleboo**	**37.38**	**167**	P		P	**P**	**15 30 55.0**	**-0.5**
STKA	**Stephens Creek**	**38.13**	**159**				**P**	**15 31 02.2**	**+0.5**
STKA	**Stephens Creek**	**38.13**	**159**	P		P	**P**	**15 31 02.2**	**+0.5**
	comp=Z,4.3nm,0.7s,baz=355,slow=8.7,SNR=11 comp=Z,4.3nm,0.7s								
HHC	**Hu-ho-hao-te**	**39.41**	**342**	*e*P			**P**	**15 31 14.6**	**+2.1**
HHC				pmax		pmax			
	comp=Z,11nm,0.6s								
HHC				pmax		pmax			
	comp=Z,65nm,4.9s								
USRK	**Ussuriysk Ar.**	**40.64**	**6**	P		P	**P**	**15 31 22.8**	**+0.3**
ASAJ	**Asahikawa**	**42.68**	**17**	LR		LR		15 48 49.3	
	comp=Z,29nm,20.1s,baz=184,slow=35								
EVN	**Everest**	**44.92**	**307**	P		P	**P**	**15 31 57.4**	**-0.8**
SONM	**Songino Array**	**47.31**	**342**	P		P	**P**	**15 32 15.5**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=158,slow=7.4,SNR=4.7								
SONM				LR		LR		15 52 04.1	
	comp=Z,36nm,20.2s,baz=177,slow=36 comp=Z,0.5nm,0.5s								
WMQ	**Urumqi**	**52.69**	**325**	*e*P		P	**P**	**15 32 58.9**	**+2.0**
WMQ				sP		sP	sP	15 33 24.9	+8.9
PETK	**Petropavlovsk-**	**55.53**	**22**	P		P	**P**	**15 33 14.9**	**-2.4**
PETK	**Petropavlovsk-**	**55.53**	**22**	P		P	**P**	**15 33 17.8**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=226,slow=7.2,SNR=2.0 comp=Z,1.9nm,0.6s								
MKAR	**Makanchi Array**	**57.52**	**325**	P		P	**P**	**15 33 28.8**	**-2.9**
MKAR	**Makanchi Array**	**57.52**	**325**	P		P	**P**	**15 33 31.0**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=118,slow=7.7,SNR=16 comp=Z,0.5nm,0.4s								
ZALV	**Zalesovo Beam**	**60.58**	**333**	P		P	**P**	**15 33 51.6**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=116,slow=9.8,SNR=2.0 comp=Z,0.4nm,0.4s								
MLZ	**Mavora Lakes**	**61.21**	**148**	P		P	**P**	**15 33 55.6**	**-1.5**
KURBB	**Kurchatov Arra**	**61.71**	**327**	P		P	**P**	**15 33 59.2**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=130,slow=6.2,SNR=19 comp=Z,1.3nm,0.6s								
KURK	**Kurchatov**	**61.71**	**328**	P		P	**P**	**15 34 00.1**	**-0.3**
KURK				IAmb		IAmb	IAmb	15 34 25.7	
	comp=Z,3.4nm,0.9s								
SEY	**Seymchan**	**62.12**	**13**	LR		LR	LR	16 02 41.7	
	comp=Z,16nm,19.8s,baz=354,slow=38								
BVAR	**Borovoye Array**	**67.29**	**327**	P		P	**P**	**15 34 37.0**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=127,slow=9.8,SNR=6.6 comp=Z,0.9nm,0.4s								
ABKAR	**Akbulak array**	**72.11**	**321**	P		P	**P**	**15 35 05.4**	**-1.1**

*SOME **19** 15:39:05.6,44.32N×81.90E,h30km*
NNC 19 15:39:09.3±1.4**,44.54N×81.14E,h0**km**,mb2.4,mpv2.1,**
5C-1D,Error ellipse: s-maj=28.6km s-min=7.8km
az=123.0,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.23**	**208**	P		Pg		15 39 30.8	-2.0
	3.0nm,0.2s								
KTMS				S		Sg		15 39 48.0	-0.8
	22nm,0.2s								
KTMS	**Ketmen**	**1.23**	**208**	*e*P		Pg		15 39 30.9	-1.9
	1.3nm,0.1s								
KTMS				*e*S		Sg		15 39 48.0	-0.8
	22nm,0.2s								
KNOS	**Konyrlen**	**1.41**	**263**	P		Pb		15 39 40.4	+3.8
	3.2nm,0.2s								
KNOS				S		Sn		15 40 05.0	+9.2
	17nm,0.3s								
PDGK	**Podgornoye**	**1.69**	**225**	⇑Pn		Pn		15 39 39.2	-1.1
	8.8nm,2.4s								
PDGK				⇑Sn		Sg		15 40 04.3	+0.6
	16nm,0.7s								
SHLS	**Shalkode**	**1.84**	**222**	P		Pn		15 39 38.4	-3.8
	5.3nm,0.2s								
SHLS				S		Sn		15 40 01.4	-4.8
	88nm,0.2s								
SHLS	**Shalkode**	**1.84**	**222**	*e*P		Pn		15 39 38.4	-3.9
	3.1nm,0.1s								
SHLS				*e*S		Sn		15 40 01.4	-4.8
	88nm,0.2s								
BLB	**Baldybastay**	**1.96**	**258**	Lg		Lg		15 40 19.1	
	25nm,0.2s								
MAKZ	**Makanchi**	**2.35**	**14**	⇑Pn		Pn		15 39 49.5	+0.3
	1.9nm,0.9s								
MAKZ				⇑Lg		Lg		15 40 24.9	
	7.2nm,0.7s								
KURS	**Kuram**	**2.38**	**245**	*e*P		Pg		15 40 06.8	+12
	0.6nm,0.0s							

AAK	**Ala-Archa**	**6.92**	**26**	P		**Pn**	**15 43 22.5**	**+2.6**
	comp=N,48nm,0.4s,baz=189,slow=5.2,SNR=41							
AAK				S		**S**	**15 44 38.1**	**-0.5**
	comp=N,18nm,0.5s,baz=2.3,slow=23,SNR=4.3							
BHK	**Bhakra**	**7.09**	**134**	*eP*		Pn	15 43 28.1	+5.9
BHK				IAML			15 44 44.5	
	comp=E,203nm,0.2s							
BHK				*eS*		**S**	**15 44 45.5**	**+2.7**
BHK				IAML			15 44 46.0	
	comp=N,234nm,0.6s							
KBK	**Karagaybulak**	**7.10**	**28**	P		**Pn**	**15 43 25.2**	**+2.9**
	SNR=24							
FRU1	**Bishkek**	**7.12**	**26**	Pn		**Pn**	**15 43 25.3**	**+2.9**
ULHL	**Ulahol**	**7.32**	**36**	P		**Pn**	**15 43 28.3**	**+3.0**
	SNR=37							
CHMS	**Chumysh**	**7.32**	**26**	P		**Pn**	**15 43 27.2**	**+2.1**
	SNR=21							
BOOM	**Boomskoye usch**	**7.37**	**34**			**Pn**	**15 43 28.7**	**+2.8**
USP	**Ospenovka**	**7.48**	**24**	P		**Pn**	**15 43 28.6**	**+1.5**
	SNR=63							
TKM2	**Tokmak 2**	**7.58**	**30**	P		**Pn**	**15 43 31.0**	**+2.4**
	SNR=61							
KDJ	**Kajisay**	**7.71**	**41**	Pn		**Pn**	**15 43 33.2**	**+2.9**
SMLA	**Simla**	**7.75**	**132**	*eP*		**Pn**	**15 43 33.4**	**+2.7**
SMLA				*eS*		**S**	**15 44 52.8**	**-5.4**
SMLA				IAML			15 45 00.9	
	comp=E,93nm,0.4s							
SMLA				IAML			15 45 03.2	
	comp=N,90nm,0.1s							
TARG	**Taragay, Kyrgy**	**7.78**	**45**			**Pn**	**15 43 33.7**	**+2.3**
MTBS	**Maitube**	**8.10**	**33**	P		**Pn**	**15 43 37.9**	**+2.7**
IZV	**Izvestkoviy**	**8.11**	**34**	P		**Pn**	**15 43 38.2**	**+2.8**
KLP	**Kalpa**	**8.16**	**125**	*eP*		**Pn**	**15 43 38.0**	**+1.6**
KLP				*eS*		**S**	**15 45 04.5**	**-4.1**
KLP				IAML			15 45 10.8	
	comp=E,115nm,0.1s							
KLP				IAML			15 45 14.3	
	comp=N,152nm,1.2s							
KOTS	**Kotyrbulak**	**8.49**	**35**	P		**Pn**	**15 43 43.6**	**+3.2**
DDI	**Dehra Dun**	**8.86**	**132**	*eP*		**Pn**	**15 43 46.9**	**+1.7**
DDI				*eS*		**S**	**15 45 18.9**	**-5.8**
DDI				IAML			15 45 28.0	
	comp=N,196nm,0.1s							
DDI				IAML			15 45 30.2	
	comp=E,163nm,0.4s							
MAKZ	**Makanchi**	**13.45**	**36**			**P**	**15 44 45.1**	**-0.9**
MK31	**Makanchi Array**	**13.59**	**37**	Pn		**P**	**15 44 47.1**	**-0.5**
MKAR	**Makanchi Array**	**13.59**	**37**			**P**	**15 44 46.6**	**-1.0**
MKAR	**Makanchi Array**	**13.59**	**37**	P		**Pn**	**15 44 46.2**	**+0.9**
	comp=E,11nm,0.7s,baz=228,slow=13,SNR=62							
AB31	**Akbulak array**	**14.88**	**332**			**Pn**	**15 45 00.1**	**-1.0**
AB31	**Akbulak array**	**14.88**	**332**	P		**P**	**15 45 03.1**	**+1.3**
	comp=E,1.6nm,0.3s,baz=151,slow=12,SNR=55							
ABKAR	**Akbulak array**	**14.88**	**332**			**Pn**	**15 45 00.3**	**-0.9**
WMQ	**Urumqi**	**15.10**	**56**	*eP*		**P**	**15 45 07.6**	**+3.2**
KURBB	**Kurchatov Arra**	**15.30**	**20**	P		**Pn**	**15 45 06.3**	**+0.1**
	comp=E,5.8nm,0.6s,baz=209,slow=11,SNR=40							
KURK	**Kurchatov**	**15.41**	**20**			**P**	**15 45 08.1**	**+0.5**
BVAR	**Borovoye Array**	**16.55**	**360**	P		**Pn**	**15 45 20.9**	**-0.3**
	comp=E,6.7nm,0.5s,baz=167,slow=12,SNR=33							
BVAR				S		**S**	**15 48 21.1**	**-1.6**
	comp=E,6.6nm,0.9s,baz=171,slow=21,SNR=8.1							
AKTO	**Aktyubinsk**	**16.57**	**331**	P		**Pn**	**15 45 21.1**	**-0.4**
	comp=E,5.9nm,0.4s,baz=148,slow=9.1,SNR=22							
AKTO				S		**S**	**15 48 22.0**	**-1.2**
	comp=E,2.4nm,0.7s,baz=235,slow=14,SNR=4.3							
BRVK	**Borovoye**	**16.58**	**360**	P		**Pn**	**15 45 21.5**	**-0.1**
BRVK				IAmb		IAmb	15 45 24.3	
	comp=Z,9.7nm,0.7s							
WSAR	**Wadi Sarin**	**16.66**	**221**	P		**P**	**15 45 20.5**	**-1.2**
	baz=229,slow=24,SNR=4.6							
ZAA0	**Zalesovo Array**	**20.14**	**25**			**P**	**15 46 00.2**	**+1.1**
ZAA0				IAmb		IAmb	15 46 06.9	
	comp=Z,6.2nm,0.8s							
ZALV	**Zalesovo Beam**	**20.14**	**25**			**P**	**15 46 00.2**	**+1.1**
ZALV	**Zalesovo Beam**	**20.14**	**25**	P		**P**	**15 46 00.3**	**+1.3**
	comp=Z,9.9nm,0.5s,baz=222,slow=11,SNR=43							
ZALV				S		**S**	**15 49 32.6**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=215,slow=18,SNR=3.7							
	comp=Z,9.9nm,0.5s							
GNI	**Garni**	**20.45**	**288**	P		**P**	**15 46 03.4**	**+0.7**
	comp=Z,13nm,0.7s,baz=18,slow=8.3,SNR=3.9							
	comp=Z,13nm,0.7s							
ARTI	**Arti**	**21.51**	**342**			**P**	**15 46 13.9**	**+0.5**
ARTI	**Arti**	**21.51**	**342**	P		**P**	**15 46 14.9**	**+1.4**
	comp=Z,7.3nm,0.4s,baz=177,slow=5.6,SNR=8.3							
	comp=Z,7.3nm,0.4s							
PZH	**PanZhiHua**	**28.40**	**102**	P		**P**	**15 47 17.6**	**+1.2**
BRTR	**Keskin Array B**	**28.99**	**288**	P		**P**	**15 47 21.0**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=97,slow=10,SNR=4.2							
	comp=Z,0.7nm,0.6s							
CMAR	**Chiang Mai Arr**	**30.86**	**118**	PP		PP	15 48 48.5	-3.5
	comp=Z,0.4nm,0.4s,baz=306,slow=14,SNR=4.2							
HHC	**Hu-ho-hao-te**	**32.22**	**69**	*eP*		**P**	**15 47 51.4**	**+1.6**
HHC				pmax		pmax		
	comp=Z,9.0nm,0.5s							
HHC				pmax		pmax		
	comp=Z,170nm,6.8s							
AKASG	**Malin Array Be**	**32.59**	**309**	P		**P**	**15 47 51.9**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=85,slow=6.9,SNR=6.7							
AKASG				PP		**PP**	**15 49 11.4**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=87,slow=10,SNR=8.7							
	comp=Z,0.8nm,0.5s							
FINES	**FINESS Array B**	**37.24**	**326**	P		**P**	**15 48 32.0**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=121,slow=11,SNR=10							
	comp=Z,2.6nm,0.7s							
ARCES	**ARCESS Array B**	**40.99**	**338**	P		**P**	**15 49 03.5**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=107,slow=8.2,SNR=11							
	comp=Z,2.6nm,0.7s							
HFS	**Hagfors**	**42.79**	**322**	P		**P**	**15 49 17.2**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=95,slow=12,SNR=29							
	comp=Z,1.2nm,0.3s							
NB2	**NORSAR Subarra**	**44.12**	**323**	P		**P**	**15 49 27.3**	**-1.2**
	comp=Z,1.2nm,0.4s,baz=101,slow=7.9							
NOA	**NORSAR Array B**	**44.12**	**323**	P		**P**	**15 49 27.9**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=104,slow=7.3,SNR=13							
	comp=Z,1.5nm,0.6s							
EKA	**Eskdalemuir Ar**	**51.98**	**316**	P		**P**	**15 50 26.9**	**-1.8**
	comp=Z,1.3nm,0.7s,baz=70,slow=6.6,SNR=3.5							
	comp=Z,1.3nm,0.7s							
BOSA	**Boshof**	**77.42**	**220**	P		**P**	**15 53 11.8**	**-1.6**
	comp=Z,3.5nm,0.9s,baz=358,slow=5.8,SNR=1.7							
	comp=Z,3.5nm,0.9s							
YKA	**Yellowknife Ar**	**81.29**	**2**	P		**P**	**15 53 33.5**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=353,slow=6.0,SNR=6.5							
	comp=Z,1.1nm,0.8s							
WRA	**Warramunga Arr**	**82.38**	**122**	P		**P**	**15 53 38.4**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=322,slow=4.9,SNR=5.7							
	comp=Z,0.6nm,0.8s							
ASAR	**Alice Springs**	**84.63**	**124**	P		**P**	**15 53 49.8**	**-1.7**
	comp=Z,0.8nm,0.8s,baz=312,slow=4.8,SNR=9.0							
	comp=Z,0.8nm,0.8s							

IDC ***19*** *16:00:40.7±1.5,6.˚46S×72.˚79E,h0km,mb3.7/3, mbtmp3.7/3,Error ellipse: s-maj=58.8km s-min=18.5km az=106.0*

ISC 19 16:00:42.1±1.3,6.˚5S±0.˚1×72.˚8E±0.˚4,h10km,n12,σ0°48/9, mb4.0/3,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S3	**Diego Garcia H**	**1.20**	**193**	Pn	**Pg**	**16 01 04.9**	**-0.4**
	baz=2.6,slow=18						

IDC ***19*** *16:04:56.1±1.7,59.˚64N×153.˚72W,h88km±20km,mb3.4/8, mbtmp3.7/11,Error ellipse: s-maj=17.9km s-min=16.2km az=29.0*

NEIC ***19*** *16:04:58.5±0.6,59.˚68N±0.˚04×153.˚33W±0.˚09, h111km±5km,Error ellipse: s-maj=7.0km s-min=5.2km az=110.0*

AEIC ***19*** *16:04:59.4±0.7,59.˚66N±0.˚05×153.˚32W±0.˚07, h108km±4km,ML3.4,mb3.8/3(NEIC),ML3.6/160(NEIC), Error ellipse: s-maj=7.7km s-min=5.6km az=177.0*

ISC 19 16:04:58.4±0.6,59.˚65N±0.˚04×153.˚32W±0.˚05, h114km±5km,n162,σ0°98/141,mb3.8/8,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
P19K	**Oil Pt**	**0.05**	**87**		**Pn**	**16 05 13.8**	**-0.3**
P19K	**Oil Pt**	**0.05**	**87**		**Sn**	**16 05 25.1**	**-0.9**
AUL	**Augustine Lava**	**0.28**	**192**		**Pn**	**16 05 14.5**	**-0.1**
AUL					**Sn**	**16 05 26.5**	**-0.3**
AU22	**Augustine Moun**	**0.28**	**184**		**Pn**	**16 05 14.4**	**-0.2**
AU22					**Sn**	**16 05 26.2**	**-0.5**
AUCH	**Augustine Cone**	**0.29**	**192**		**Pn**	**16 05 14.6**	**-0.1**
ILS	**Iliamna Low So**	**0.33**	**22**		**Pn**	**16 05 14.6**	**-0.4**
ILS					**Sn**	**16 05 26.2**	**-1.2**
ILSW	**Iliamna Southw**	**0.35**	**15**		**Pn**	**16 05 14.4**	**-0.6**
ILSW				IAML		16 05 27.4	
	comp=N,3μm,0.7s						
ILSW	**Iliamna Southw**	**0.35**	**15**		**Sn**	**16 05 26.2**	**-1.4**
IVE	**Iliamna Volcan**	**0.40**	**23**		**Pn**	**16 05 14.9**	**-0.4**
IVE					**Sn**	**16 05 26.7**	**-1.3**
O20K	**Slope Mountain**	**0.56**	**39**		**Pn**	**16 05 15.9**	**-0.3**
O20K					**Sn**	**16 05 28.7**	**-0.9**
Q19K	**Cape Douglas,**	**0.74**	**193**		**Pn**	**16 05 17.3**	**-0.3**
Q19K				IAML		16 05 36.7	
	comp=N,1μm,0.9s						
Q19K				IAML		16 05 40.1	
	comp=E,992nm,1.1s						
O19K	**Port Alsworth**	**0.74**	**318**		**Sn**	**16 05 30.6**	**-1.3**
O19K	**Port Alsworth**	**0.74**	**318**		**Pn**	**16 05 16.8**	**-0.7**
RED	**Redoubt Volcan**	**0.82**	**19**		**Pn**	**16 05 17.9**	**-0.5**
RED				IAML		16 05 33.1	
	comp=E,2μm,0.7s						
RED				IAML		16 05 35.2	
	comp=N,884nm,0.5s						
HOM	**Homer**	**0.85**	**89**		**Pn**	**16 05 18.6**	**+0.2**
NCT	**North Crescent**	**0.94**	**12**		**Pn**	**16 05 19.0**	**-0.4**
O18K	**Koktuh Hills**	**0.98**	**283**		**Pn**	**16 05 18.9**	**-0.8**
O18K				IAML		16 05 35.5	
	comp=E,589nm,0.5s						
O18K				IAML		16 05 35.0	
	comp=N,1μm,0.8s						
P18K	**Big Mountain,**	**1.01**	**256**		**Pn**	**16 05 19.1**	**-1.0**
CNPM	**China Poot**	**1.07**	**96**		**Pn**	**16 05 20.5**	**-0.2**
CNPM				IAML		16 05 40.4	
	comp=E,1μm,0.6s						
CNPM				IAML		16 05 40.7	
	comp=N,2μm,0.4s						
SYI	**Shuyak Island**	**1.15**	**155**		**Pn**	**16 05 21.3**	**-0.2**
SYI				IAML		16 05 39.4	
	comp=E,1μm,0.3s						
SYI				IAML		16 05 39.8	
	comp=N,1μm,0.4s						
N19K	**Bonanza Creek**	**1.30**	**334**		**Pn**	**16 05 22.7**	**-0.5**
N19K				IAML		16 05 41.9	
	comp=E,299nm,0.9s						
CAPN	**Captain Cook N**	**1.56**	**43**		**Pn**	**16 05 27.6**	**+1.5**
N18K	**Kilae Creek**	**1.65**	**310**		**Pn**	**16 05 26.5**	**-0.7**
N18K				IAML		16 05 48.1	
	comp=N,220nm,1.0s						
P17K	**Kvichak River**	**1.66**	**255**		**Pn**	**16 05 27.0**	**-0.3**
SPU	**Mount Spurr**	**1.66**	**22**		**Pn**	**16 05 27.1**	**-0.4**
SPU				IAML		16 05 51.5	
	comp=E,235nm,0.6s						
SPCN	**Chakachatna No**	**1.68**	**19**		**Pn**	**16 05 27.5**	**-0.1**
ACHA	**Angle Creek He**	**1.78**	**217**		**Pn**	**16 05 28.7**	**-0.2**
ANCK	**Angle Creek**	**1.84**	**219**		**Pn**	**16 05 29.6**	**0.0**
CAHL	**Cahill**	**1.90**	**214**		**Pn**	**16 05 30.5**	**0.0**
KDAK	**Kodiak Island**	**1.91**	**168**		**Pn**	**16 05 29.3**	**-1.1**
KDAK				IAML		16 05 54.3	
	comp=E,438nm,0.5s						
KDAK				IAML		16 05 54.9	
	comp=E,658nm,0.5s						
KDAK	**Kodiak Island**	**1.91**	**168**	P	**Pn**	**16 05 29.3**	**-1.1**
	comp=E,52nm,0.3s,baz=7.3,slow=5.7,SNR=217						
KDAK				S	**Sn**	**16 05 51.6**	**-3.3**
	comp=E,121nm,0.4s,baz=78,slow=4.0,SNR=6.4						
Q16K	**King Salmon**	**1.98**	**242**		**Pn**	**16 05 31.2**	**0.0**
O22K	**Cooper Landing**	**1.99**	**64**		**Pn**	**16 05 31.4**	**0.0**
SEW	**Seward**	**2.00**	**75**		**Pn**	**16 05 31.1**	**-0.5**
SEW				IAML		16 06 03.9	
	comp=E,331nm,0.7s						
SEW				IAML		16 06 05.0	
	comp=N,405nm,0.6s						
N17K	**Nushagak Hills**	**2.13**	**296**		**Pn**	**16 05 32.8**	**-0.3**
N17K				IAML		16 05 58.9	
	comp=N,202nm,0.8s						
FIS	**Fire Island**	**2.15**	**44**		**Pn**	**16 05 33.9**	**+0.5**
FIS	**Fire Island**	**2.15**	**44**	IAML		16 06 05.6	
	comp=E,762nm,1.1s						
M20K	**Styx River**	**2.24**	**2**		**Pn**	**16 05 34.7**	**0.0**
RC01	**Rabbit Creek A**	**2.29**	**49**		**Pn**	**16 05 35.1**	**-0.1**
M19K	**Big River Lodg**	**2.32**	**347**		**Pn**	**16 05 35.0**	**-0.5**
O16K	**Kokwok River B**	**2.42**	**271**		**Pn**	**16 05 37.0**	**0.0**
O16K				IAML		16 06 07.9	
	comp=E,116nm,0.9s						
OHAK	**Old Harbor**	**2.44**	**180**	P	**Pn**	**16 05 35.3**	**-1.8**
OHAK	**Old Harbor**	**2.44**	**180**	S	**Sn**	**16 06 03.8**	**-2.9**
PLK2	**Peulik 2**	**2.46**	**221**		**Pn**	**16 05 37.8**	**+0.4**
P16K	**Nushagak River**	**2.47**	**257**		**Pn**	**16 05 37.8**	**+0.3**
P16K				IAML		16 06 10.6	
	comp=N,143nm,0.8s						
P16K				IAML		16 06 30.1	
	comp=E,116nm,0.9s						
SKT	**Skwentna**	**2.50**	**20**		**Pn**	**16 05 38.0**	**0.0**
SKT				IAML		16 06 12.4	
	comp=N,154nm,0.4s						
SKT				IAML		16 06 16.9	
	comp=E,173nm,0.4s						
PLK1	**Peulik 1**	**2.52**	**224**		**Pn**	**16 05 38.3**	**+0.1**
PLK4	**Peulik 4**	**2.57**	**219**		**Pn**	**16 05 39.2**	**+0.2**
PLK4				IAML		16 06 13.6	
	comp=N,180nm,1.1s						
PLK4				IAML		16 06 14.1	
	comp=E,122nm,0.9s						
L19K	**White Mountain**	**2.65**	**344**		**Pn**	**16 05 39.3**	**-0.6**
M17K	**Holitna River**	**2.69**	**313**		**Pn**	**16 05 40.1**	**-0.3**
M17K				IAML		16 06 12.6	
	comp=N,173nm,0.9s						
M17K				IAML		16 06 49.1	
	comp=E,103nm,0.8s						
PWL	**Port Wells**	**2.77**	**62**		**Pn**	**16 05 40.4**	**-1.0**
PMR	**Palmer**	**2.84**	**45**	P	**Pn**	**16 05 41.8**	**-0.5**
PMR	**Palmer**	**2.84**	**45**	S	**Sn**	**16 06 14.2**	**-1.9**
L20K	**Farewell, AK**	**2.85**	**355**		**Pn**	**16 05 42.4**	**-0.2**
N16K	**Nishlik Lake**	**2.85**	**289**		**Pn**	**16 05 42.8**	**+0.2**
KNK	**Knik Glacier**	**2.98**	**52**		**Pn**	**16 05 43.4**	**-0.9**
P23K	**Montague Islan**	**3.01**	**81**		**Pn**	**16 05 44.5**	**-0.1**
P23K				IAML		16 06 21.4	
	comp=E,196nm,0.3s						
P23K				IAML		16 06 25.6	
	comp=N,195nm,0.5s						
L18K	**Granite Mounta**	**3.06**	**329**		**Pn**	**16 05 44.5**	**-0.7**
M16K	**Timber Creek**	**3.12**	**299**	IAML		16 06 22.4	
	comp=N,94nm,0.8s						
SII	**Sitkinak Islan**	**3.13**	**189**		**Pn**	**16 05 44.9**	**-1.4**
SII				IAML		16 06 21.6	
	comp=N,319nm,0.7s						
SII				IAML		16 06 24.2	
	comp=E,288nm,0.6s						
SII	**Sitkinak Islan**	**3.13**	**189**	P	**Pn**	**16 05 44.8**	**-1.4**
SII	**Sitkinak Islan**	**3.13**	**189**	S	**Sn**	**16 06 20.1**	**-3.1**
PPLA	**Purkeypile**	**3.30**	**9**		**Pn**	**16 05 48.9**	**+0.3**
PPLA	**Purkeypile**	**3.30**	**9**	IAML		16 06 29.3	
	comp=E,79nm,0.8s						
GLI	**Glacier Island**	**3.34**	**66**	IAML		16 06 26.4	
	comp=N,266nm,0.7s						
N15K	**Kwethluk River**	**3.45**	**282**		**Pn**	**16 05 50.8**	**+0.3**
N15K	**Kwethluk River**	**3.45**	**282**	IAML		16 06 31.8	
	comp=N,210nm,0.8s						
N15K				IAML		16 06 32.3	
	comp=E,112nm,0.7s						
HIN	**Hinchinbrook I**	**3.50**	**75**	IAML		16 06 34.4	
	comp=N,156nm,0.6s						
HIN				IAML		16 06 37.3	
	comp=N,203nm,0.7s						
Q23K	**Middleton Isla**	**3.56**	**91**	IAML		16 06 35.5	
	comp=N,98nm,0.5s						
Q23K				IAML		16 06 37.8	
	comp=E,108nm,0.9s						
FID	**Port Fidalgo**	**3.59**	**69**	IAML		16 06 31.9	
	comp=E,253nm,0.5s						
SCM	**Sheep Creek Mo**	**3.67**	**51**	IAML		16 06 36.9	
	comp=E,228nm,0.7s						
SCM				IAML		16 06 37.2	
	comp=N,226nm,0.7s						
M15K	**Kasigluk River**	**3.83**	**289**		**Pn**	**16 05 55.4**	**0.0**
EYAK	**Cordova Ski Ar**	**3.90**	**73**	IAML		16 06 40.5	
	comp=E,56nm,0.8s						
EYAK				IAML		16 07 08.2	
	comp=N,65nm,0.8s						
EYAK	**Cordova Ski Ar**	**3.90**	**73**	P	**Pn**	**16 05 56.0**	**-0.3**
K17K	**Iditarod**	**3.91**	**324**	IAML		16 06 58.1	
	comp=E,43nm,1.0s						
DIV	**Divide**	**4.03**	**65**	IAML		16 06 49.0	
	comp=N,122nm,0.7s						
DIV				IAML		16 06 55.7	
	comp=E,71nm,0.5s						
TRF	**Thorofare Moun**	**4.08**	**20**	IAML		16 06 45.9	
	comp=E,53nm,0.5s						
TRF				IAML		16 06 48.1	
	comp=N,82nm,0.6s						
KTH	**Kantishna Hill**	**4.08**	**15**	IAML		16 06 47.4	
	comp=N,74nm,0.8s						
KTH				IAML		16 06 48.2	
	comp=E,72nm,0.5s						
N14K	**Kuskokwak Cree**	**4.24**	**277**		**Pn**	**16 06 01.4**	**+0.6**
N14K	**Kuskokwak Cree**	**4.24**	**277**	IAML		16 06 50.2	
	comp=N,51nm,1.2s						
N14K				IAML		16 07 25.5	
	comp=E,34nm,1.2s						
RND	**Reindeer**	**4.33**	**28**	IAML		16 06 52.1	
	comp=N,42nm,0.8s						
RND				IAML		16 07 11.5	
	comp=E,62nm,0.8s						
M14K	**Bethel**	**4.45**	**288**		**Pn**	**16 06 03.0**	**-0.7**
M14K	**Bethel**	**4.45**	**288**	IAML		16 07 16.7	
	comp=N,23nm,1.2s						
L15K	**Ungalak Mounta**	**4.50**	**300**		**Pn**	**16 06 04.5**	**0.0**
BMRM	**Bremner River**	**4.53**	**69**	IAML		16 06 57.3	
	comp=E,107nm,0.4s						
BMRM				IAML		16 06 57.4	
	comp=N,117nm,0.4s						
MCK	**McKinley**	**4.60**	**25**		**Pn**	**16 06 05.8**	**0.0**
MCK	**McKinley**	**4.60**	**25**	IAML		16 06 57.8	
	comp=E,39nm,0.6s						
MCK				IAML		16 07 03.0	
	comp=N,42nm,0.8s						
BPAW	**Bear Paw Mtn.**	**4.60**	**13**	IAML		16 06 59.0	
	comp=N,26nm,0.6s						
N25K	**Chitina, Valde**	**4.72**	**62**	IAML		16 07 01.2	
	comp=E,98nm,0.6s						
K15K	**Wolf Creek Mou**	**4.80**	**307**		**Pn**	**16 06 08.4**	**-0.1**
HARP	**HAARP**	**4.83**	**52**		**Pn**	**16 06 09.3**	**+0.3**
BWN	**Browne**	**4.89**	**20**	IAML		16 07 34.8	
	comp=N,78nm,0.9s						
BWN				IAML		16 07 47.1	
	comp=E,53nm,0.8s						
L14K	**Kuka Creek**	**4.93**	**294**		**Pn**	**16 06 10.4**	**+0.2**
L14K	**Kuka Creek**	**4.93**	**294**	IAML		16 07 23.7	
	comp=N,26nm,1.1s						
L14K				IAML		16 07 29.1	
	comp=E,21nm,1.2s						
WACK	**Wrangell Chich**	**4.99**	**58**		**Pn**	**16 06 11.2**	**0.0**
GLB	**Gilahina Butte**	**5.03**	**65**	IAML		16 07 09.3	
	comp=E,68nm,0.8s						
PAX	**Paxson**	**5.04**	**45**	IAML		16 07 22.8	
	comp=E,36nm,0.8s						
PAX				IAML		16 07 23.5	
	comp=N,47nm,1.0s						
VRDI	**Verde Repeater**	**5.14**	**68**	IAML		16 07 12.2	
	comp=N,60nm,0.7s						
VRDI				IAML		16 07 12.5	
	comp=E,36nm,0.4s						
I20K	**Naaghedeneel**	**5.19**	**355**	IAML		16 07 51.5	
	comp=E,60nm,1.2s						
I20K				IAML		16 08 12.0	
	comp=N,49nm,1.1s						
NEA2	**Nenana**	**5.35**	**20**	IAML		16 07 14.5	
	comp=E,14nm,0.5s						
NEA2				IAML		16 07 14.7	
	comp=N,16nm,0.8s						
TGL	**Tana Glacier**	**5.35**	**74**	IAML		16 07 19.1	
	comp=E,59nm,0.5s						
TGL				IAML		16 07 19.5	
	comp=N,41nm,0.5s						
K24K	**Donnelly Dome**	**5.50**	**37**		**Pn**	**16 06 18.2**	**+0.3**
MLY	**Manley**	**5.53**	**11**		**Pn**	**16 06 17.6**	**-0.7**
HDA	**Harding Lake**	**5.64**	**29**		**Pn**	**16 06 18.8**	**-0.9**
BAGL	**Bagley Icefiel**	**5.69**	**77**		**Pn**	**16 06 20.2**	**-0.2**
M26K	**Nabesna, AK**	**5.73**	**57**		**Pn**	**16 06 21.4**	**+0.3**
COLA	**College**	**5.83**	**24**	P	**Pn**	**16 06 22.2**	**-0.1**
	comp=N,5.1nm,0.7s						
CHNA	**Chernabura Isl**	**5.91**	**218**	P	**Pn**	**16 06 24.5**	**+1.1**
	comp=N,33nm,1.0s						
ILAR	**Eielson Array**	**5.95**	**28**	P	**Pn**	**16 06 23.1**	**-0.9**
	comp=N,6.6nm,0.4s,baz=216,slow=14,SNR=92						
ILAR				S	**Sn**	**16 07 26.5**	**-4.3**
	comp=N,3.1nm,0.6s,baz=207,slow=16,SNR=5.5						
CHX	**Chaix Hills**	**6.17**	**81**		**Pn**	**16 06 26.9**	**-0.1**
M27K	**Edge Creek, AK**	**6.19**	**59**		**Pn**	**16 06 27.6**	**+0.2**
H22K	**Ishtalitna Cre**	**6.33**	**7**		**Pn**	**16 06 29.3**	**+0.1**
YUK2	**White River**	**6.49**	**65**		**Pn**	**16 06 31.7**	**+0.4**
PCA	**Pinnacle**	**6.59**	**80**		**Pn**	**16 06 33.3**	**+0.5**
O28M	**Mount Upton**	**6.64**	**75**		**Pn**	**16 06 33.9**	**+0.3**
BVCY	**Beaver Creek**	**6.66**	**60**		**Pn**	**16 06 34.4**	**+0.8**
J26L	**Joseph Creek**	**6.68**	**39**		**Pn**	**16 06 33.1**	**-0.9**
H24K	**Noodor Dome**	**6.69**	**20**		**Pn**	**16 06 33.4**	**-0.6**
YUK8	**Steele Glacier**	**6.90**	**70**		**Pn**	**16 06 37.6**	**+0.6**
BCPM	**Bancas Point**	**6.91**	**82**		**Pn**	**16 06 37.6**	**+0.5**
PNL	**Peninsula**	**7.06**	**84**	P	**Pn**	**16 06 38.6**	**-0.4**
F19K	**Shaleruckik Mo**	**7.48**	**346**		**Pn**	**16 06 44.6**	**0.0**
YUK6	**Outpost Mounta**	**7.54**	**74**		**Pn**

P33M	**Teslin, Yukon**	**10.30**	**78**	Pn	**Pn**	**16 07 23.8**	**+0.9**
MMPY	**Sheldon Lake,**	**11.05**	**65**	Pn	**Pn**	**16 07 33.8**	**+0.8**
U33K	**Whale Pass**	**11.31**	**99**	Pn	**Pn**	**16 07 36.5**	**+0.2**
CRAG	**Craig**	**11.61**	**102**	Pn	**Pn**	**16 07 40.9**	**+0.6**
CRAG	**Craig**	**11.61**	**102**	P	**Pn**	**16 07 40.8**	**+0.4**
	comp=N,23nm,1.5s						
DLBC	**Dease Lake**	**12.04**	**86**	P	**Pn**	**16 07 48.2**	**+2.1**
	comp=N,0.2nm,0.3s,baz=202,slow=15,SNR=8.3						
DLBC				S	**Sn**	**16 09 57.6**	**-0.8**
	comp=N,0.1nm,0.5s,baz=266,slow=27,SNR=3.2						
DIB	**Dawson Inlet,**	**13.18**	**110**	Pn	**Pn**	**16 08 00.0**	**-0.9**
ATKA	**Atka Island**	**13.83**	**247**	Pn	**Pn**	**16 08 10.0**	**+0.7**
ATKA	**Atka Island**	**13.83**	**247**	P	**Pn**	**16 08 08.8**	**-0.5**
	comp=N,16nm,1.2s						
ADK	**Adak**	**15.21**	**250**	Pn	**Pn**	**16 08 27.6**	**+0.7**
ADK				IAmb	IAmb	16 08 37.1	
	comp=Z,8.3nm,1.0s						
ADK	**Adak**	**15.21**	**250**	P	**Pn**	**16 08 27.8**	**+1.0**
	comp=Z,3.6nm,1.9s						
KIWB	**Kanaga Island**	**15.45**	**250**	Pn	**Pn**	**16 08 31.1**	**+1.2**
KIWB				IAmb	IAmb	16 08 44.8	
	comp=Z,6.1nm,0.9s						
AMKA	**Amchitka**	**17.46**	**254**	P	**Pn**	**16 08 54.7**	**+0.2**
YKAW3	**Yellowknife Wh**	**18.73**	**64**	P	**P**	**16 09 08.4**	**+0.5**
YKAW3				IAmb	IAmb	16 09 09.6	
	comp=Z,2.2nm,0.8s						
YKA	**Yellowknife Ar**	**18.75**	**65**	P	**P**	**16 09 08.0**	**0.0**
	comp=Z,0.6nm,0.6s,baz=280,slow=11,SNR=5.6						
PETK	**Petropavlovsk-**	**27.35**	**278**	P	**P**	**16 10 30.2**	**-2.1**
	comp=Z,1.2nm,0.8s,baz=71,slow=13,SNR=7.5						
	comp=Z,1.2nm,0.8s						
NVAR	**Mina Array Bea**	**30.70**	**118**	P	**P**	**16 11 05.6**	**+3.2**
	comp=Z,1.1nm,0.7s,baz=311,slow=8.3,SNR=2.2						
	comp=Z,1.1nm,0.7s						
PDAR	**Pinedale Array**	**31.47**	**103**	P	**P**	**16 11 11.9**	**+2.8**
	comp=Z,0.2nm,0.5s,baz=316,slow=11,SNR=2.1						
	comp=Z,0.2nm,0.5s						
TXAR	**Lajitas Array**	**45.01**	**110**	P	**P**	**16 13 02.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=331,slow=7.9,SNR=2.0						
	comp=Z,0.2nm,0.5s						
KSRS	**Korea Array**	**53.10**	**283**	P	**P**	**16 14 03.5**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=39,slow=7.4,SNR=4.7						
	comp=Z,0.9nm,0.6s						
SONM	**Songino Array**	**54.86**	**306**	P	**P**	**16 14 16.5**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=38,slow=7.0,SNR=4.6						
	comp=Z,1.0nm,0.4s						
ZALV	**Zelesovo Beam**	**57.56**	**323**	P	**P**	**16 14 34.5**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=26,slow=8.0,SNR=2.8						
	comp=Z,0.9nm,0.5s						
BVAR	**Borovoye Array**	**62.30**	**332**	P	**P**	**16 15 07.5**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=40,slow=9.7,SNR=5.3						
	comp=Z,1.2nm,0.6s						

NEIC ***19*** *16:16:57.9±1.4,35.°702N±0.°009×117.°47W±0.°01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.5km az=26.0*

PAS 19 16:16:58.4±1.2**,35.°72N**±0.°01×**117.°50W**±0.°01**, h4**km±3km, ML3.6**/229**, ML3.3**/128(NEIC), **Error ellipse: s-maj=2.3km s-min=1.2km az=152.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.12**	**179**	Pg	Pg	16 17 01.0	+0.2
WSHM	**Spangler Hills**	**0.12**	**179**		Sg	16 17 02.9	+0.5
CLC	**China Lake**	**0.13**	**320**		Pg	16 17 01.2	+0.2
CLC				IAML		16 17 03.6	
	comp=E,18μm,0.6s						
CLC				IAML		16 17 03.6	
	comp=N,16μm,0.3s						
GPO	**China Lake**	**0.15**	**244**		Pg	16 17 01.7	+0.3
SRTC	**Snort**	**0.21**	**263**		Pg	16 17 03.0	+0.5
SRTC					Sg	16 17 06.9	+1.7
CCCA	**Chr Cany lake**	**0.22**	**151**	Pg	Pg	16 17 03.2	+0.5
TOW	**Tower One**	**0.24**	**293**		Pg	16 17 03.6	+0.6
TOW					Sg	16 17 07.8	+1.6
LRMC	**Laurel Mtn Rad**	**0.28**	**213**	Pg	Pg	16 17 03.9	0.0
MPMC	**Manual Prospec**	**0.34**	**1**	Pg	Pg	16 17 05.0	-0.1
MPMC				IAML		16 17 10.7	
	comp=E,6μm,0.6s						
WVPM	**Volcano Peak E**	**0.35**	**312**		Pg	16 17 05.3	0.0
WVPM					Sg	16 17 10.3	+0.5
WNMM	**Nine Mile Cany**	**0.36**	**291**		Pg	16 17 05.4	+0.1
WRVM	**Rose V. Centra**	**0.43**	**312**		Pg	16 17 06.8	0.0
MFS	**McCloud Flat S**	**0.50**	**324**		Pg	16 17 07.9	-0.1
MFS					Sg	16 17 14.8	+0.4
DTP	**Desert Tortois**	**0.53**	**213**		Pg	16 17 08.2	-0.4
DTP					Sg	16 17 15.4	-0.1
QSM	**Queen of Sheba**	**0.57**	**64**		Pg	16 17 09.1	-0.2
QSM	**Queen of Sheba**	**0.57**	**64**	IAML		16 17 18.5	
	comp=E,1μm,0.2s						
QSM				IAML		16 17 23.3	
	comp=N,1μm,0.6s						
WORM	**Onyx Ranch**	**0.61**	**268**		Pg	16 17 09.8	-0.3
WHFM	**Hanning Flat**	**0.69**	**269**		Pg	16 17 11.4	-0.3
GSC	**Goldstone, Bar**	**0.70**	**126**		Pg	16 17 11.6	-0.3
CCAC	**Calif City Air**	**0.70**	**217**		Pg	16 17 11.7	-0.3
ISA	**Isabella, Lake**	**0.80**	**266**		Pg	16 17 13.4	-0.4
ISA				IAML		16 17 24.6	
	comp=N,1μm,0.3s						
ISA				IAML		16 17 24.9	
	comp=E,1μm,0.2s						
GWY	**Greenwater Val**	**0.82**	**55**		Pg	16 17 13.6	-0.5
GWY	**Greenwater Val**	**0.82**	**55**	IAML		16 17 28.7	
	comp=E,1μm,0.3s						
GWY				IAML		16 17 30.6	
	comp=N,719nm,0.4s						
HYS	**Haystack Butte**	**0.85**	**184**		Pg	16 17 14.1	-0.7
CWC	**Cottonwood Cre**	**0.86**	**327**		Pg	16 17 14.8	-0.3
CWC					Sg	16 17 27.1	+0.8
WASM	**Alta Sierra Ca**	**0.86**	**272**		Pg	16 17 14.6	-0.4
WASM					Sg	16 17 25.7	-0.5
CGO	**Cerro Gordo**	**0.87**	**343**		Sg	16 17 25.6	-0.8
FURC	**Furnace Creek,**	**0.91**	**34**		Pg	16 17 15.8	0.0
FURC					Sg	16 17 28.1	+0.5
EDW2	**Edwards Air Fo**	**0.93**	**206**		Pg	16 17 15.3	-0.9
EDW2					Sg	16 17 27.7	-0.5
RRX	**Edison Barstow**	**0.93**	**154**		Pg	16 17 15.8	-0.5
SHOC	**Shoshone, Teco**	**1.01**	**79**		Pg	16 17 17.9	+0.2
TPO	**Tropico Hills**	**1.03**	**216**		Pg	16 17 17.3	-0.9
TPO					Sg	16 17 31.6	+0.1
SBB	**Saddle Back Bu**	**1.06**	**195**		Pg	16 17 17.8	-0.9
SBB					Sg	16 17 31.5	-1.0
TEJ	**El Tejon**	**1.09**	**244**		Pg	16 17 18.0	-1.3
TEJ					Sg	16 17 32.5	-0.9
SPG2	**Springville 2**	**1.14**	**296**		Pg	16 17 19.4	-0.9
SPG2					Sg	16 17 33.9	-1.1
ARVC	**Arvin**	**1.24**	**242**		Pg	16 17 21.9	-0.3
DSCC	**Desert Studies**	**1.27**	**116**		Pg	16 17 21.1	-1.7
GRAC	**Grapevine Rang**	**1.28**	**5**		Pg	16 17 22.4	-0.6
WCT	**Wildcat Mounta**	**1.28**	**33**		Pg	16 17 21.8	-1.3
WCT				IAML		16 17 40.9	
	comp=E,497nm,0.4s						
WCT				IAML		16 17 41.4	
	comp=N,289nm,0.5s						
TUQ	**Turquoise Moun**	**1.31**	**102**		Pg	16 17 22.2	-1.3
BFSC	**Mount Baldy Ra**	**1.48**	**185**		Pn	16 17 24.8	-1.1
BFSC				IAML		16 17 46.2	
	comp=E,422nm,0.3s						
BFSC				IAML		16 17 46.5	
	comp=N,571nm,0.5s						
OSI	**Osito Audit: C**	**1.49**	**223**		Pn	16 17 26.0	0.0
OSI				IAML		16 17 48.9	
	comp=N,639nm,0.8s						
OSI				IAML		16 17 49.8	
	comp=E,656nm,0.8s						
TPNV	**Topopah Spring**	**1.59**	**39**		Pn	16 17 26.4	-1.1
TPNV				IAML		16 17 51.3	
	comp=E,293nm,0.9s						
TPNV				IAML		16 17 51.6	
	comp=E,375nm,0.4s						
GMN	**Gold Mountain**	**1.59**	**7**		Pg	16 17 26.7	-0.9
GMN				IAML		16 17 52.1	
	comp=N,300nm,0.5s						
GMN				IAML		16 17 54.3	
	comp=E,210nm,0.5s						
MTPC	**Mountain Pass**	**1.60**	**98**		Pn	16 17 25.8	-1.8
MTPC				IAML		16 17 50.4	
	comp=N,309nm,0.4s						
MTPC				IAML		16 17 51.4	
	comp=E,407nm,0.3s						
PASC	**Pasadena Art C**	**1.64**	**200**		Pn	16 17 27.2	-0.9
PASC				IAML		16 17 54.2	
	comp=E,431nm,0.4s						
PASC				IAML		16 17 55.6	
	comp=N,369nm,0.7s						
DSP	**Deep Springs**	**1.69**	**347**		Pn	16 17 28.2	-0.5
SHPR	**Sheep Range**	**2.05**	**67**		Pn	16 17 32.8	-0.9
ELS	**Elsinore Mount**	**2.06**	**178**		Pn	16 17 32.8	-1.1
ELS				IAML		16 18 05.6	
	comp=N,159nm,0.3s						
ELS				IAML		16 18 10.3	
	comp=E,195nm,0.6s						
PKM	**Mcpherson Peak**	**2.07**	**247**		Pb	16 17 36.2	-0.4
PMD	**Palm Desert**	**2.26**	**156**		Pn	16 17 34.8	-1.7
PMD				IAML		16 18 11.3	
	comp=E,101nm,0.4s						
PFO	**Pinyon Flats O**	**2.27**	**158**		Pn	16 17 35.2	-1.5
TPH	**Tonopah**	**2.37**	**5**		Pn	16 17 37.6	-0.5
S11A	**Rachel**	**2.38**	**36**		Pn	16 17 37.5	-0.9
S11A				IAML		16 18 21.2	
	comp=N,238nm,0.8s						
S11A				IAML		16 18 26.7	
	comp=E,249nm,0.8s						
SBI	**Santa Barbara**	**2.56**	**210**		Pn	16 17 39.6	-1.0
PRN	**Pahroc Range**	**2.59**	**49**		Pn	16 17 40.6	-0.6
BORC	**Borrego Spring**	**2.60**	**160**	Pn	Pn	16 17 39.9	-1.3
BORC				IAML		16 18 22.6	
	comp=E,107nm,0.6s						
BORC				IAML		16 18 24.2	
	comp=N,92nm,0.4s						
PMPB	**Monarch Peak**	**2.73**	**282**		Pn	16 17 43.1	+0.1
PMPB				IAML		16 18 29.7	
	comp=E,182nm,0.8s						
PMPB				IAML		16 18 34.5	
	comp=N,193nm,0.9s						
DPP	**Dos Picos Cty**	**2.75**	**170**		Pn	16 17 42.2	-1.1
DPP				IAML		16 18 24.4	
	comp=E,112nm,0.3s						
NV11	**Mina Array Sit**	**2.76**	**349**		Pg	16 17 50.6	-0.8
NVAR	**Mina Array Bea**	**2.79**	**347**		Pg	16 17 50.9	-0.9
W13A	**Hualapai Mount**	**3.01**	**101**	IAML		16 18 37.3	
	comp=N,69nm,0.7s						
W13A				IAML		16 18 39.7	
	comp=E,51nm,0.7s						
R11B	**Troy Canyon, C**	**3.04**	**30**		Pg	16 17 55.3	-1.4
WAKR	**Walker**	**3.19**	**331**		Pb	16 17 57.2	+1.5
CBX	**Cerro Bola**	**3.46**	**168**		Pn	16 17 52.8	-0.4
CBX				IAML		16 18 47.0	
	comp=N,102nm,0.5s						
LCMT	**Little Creek M**	**3.67**	**68**		Pn	16 17 56.1	+0.1
CCUT	**Cedar City**	**3.79**	**60**		Pn	16 17 58.0	+0.1
ESJX	**Sierra Juarez**	**3.92**	**160**		Pn	16 17 58.8	-0.7
ESJX				IAML		16 19 26.7	
	comp=E,26nm,0.1s						
ESJX				IAML		16 19 45.4	
	comp=N,23nm,0.1s						
PSUT	**Pine Spring**	**4.05**	**45**	IAML		16 19 14.0	
	comp=N,29nm,0.6s						
PSUT				IAML		16 19 20.8	
	comp=E,30nm,1.2s						
MPK	**Martis Peak**	**4.10**	**331**	IAML		16 19 21.1	
	comp=N,57nm,1.1s						
MPK				IAML		16 19 22.3	
	comp=E,47nm,0.6s						
SPR3	**Spring Creek 3**	**4.13**	**37**		Pb	16 18 14.3	+2.4
SPR3				IAML		16 19 12.0	
	comp=E,21nm,1.0s						
SPR3				IAML		16 19 17.5	
	comp=N,19nm,0.7s						
AFDM	**Forest Hills D**	**4.25**	**320**		Pb	16 18 15.7	+2.0
AFDM				IAML		16 19 18.2	
	comp=E,34nm,0.9s						
AFDM				IAML		16 19 18.7	
	comp=N,24nm,0.7s						
113A	**Mohawk Valley,**	**4.26**	**133**	IAML		16 19 20.8	
	comp=N,26nm,0.8s						
U15A	**North Rim**	**4.28**	**79**	IAML		16 19 16.2	
	comp=E,21nm,0.8s						
U15A				IAML		16 19 33.8	
	comp=N,17nm,0.9s						
VTX	**Valle De La Tr**	**4.54**	**161**	IAML		16 19 35.9	
	comp=E,25nm,0.1s						
VTX				IAML		16 19 35.9	
	comp=N,36nm,0.1s						
BEKR	**Beckworth**	**4.72**	**332**	IAML		16 19 37.5	
	comp=N,12nm,0.5s						
BEKR				IAML		16 19 43.9	
	comp=E,28nm,0.6s						

IDC ***19*** *16:31:21.6±1.1,0.°55S×128.°05E,h0km,mb3.6/6, mbtmp3.7/8,ML3.8/2,MS3.7/1, Error ellipse: s-maj=41.6km s-min=18.3km az=81.0*

DJA ***19*** *16:31:26.1±0.2,1.°3S×2.°2×12.°8E±.°1,h10km,M4.3/15,mB5.4/1, mb4.6/6,MLv4.1/15,Mw(mB)4.8/1*

ISC 19 16:31:27.4±0.8**,0.°64S**±0.°05×**127.°99E**±0.°09**, h35**km**, n23,** σ1°**44/24, mb3.8/5, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.54**	**336**	P	**Pn**	**16 31 52.7**	**+0.3**
TNTI				S	Sn	**16 32 14.2**	**+3.0**
SANI	**Sanana**	**2.44**	**235**	P	**Pn**	**16 32 02.9**	**-1.9**
NLAI	**Namlea**	**2.73**	**199**	P	**Pn**	**16 32 09.7**	**+0.9**
NLAI				S	**Sn**	**16 32 41.8**	**+1.3**
MSAI	**Masohi**	**2.84**	**161**	P	**Pn**	**16 32 13.3**	**+2.9**
AAI	**Ambon**	**3.03**	**176**	P	**Pn**	**16 32 14.0**	**+1.1**
SWI	**Sorong**	**3.28**	**94**	P	**Pn**	**16 32 18.1**	**+1.8**
KMSI	**Cibinong**	**4.19**	**287**	P	**Pn**	**16 32 29.5**	**+0.6**
FAKI	**Fak Fak**	**4.82**	**118**	P	**Pn**	**16 32 37.7**	**+0.1**
LUWI	**Luwuk**	**5.23**	**266**	P	**Pn**	**16 32 43.0**	**-0.2**
	0.4nm68nm,0.7s						
APSI	**Ampana**	**6.35**	**268**	P	**Pn**	**16 32 58.9**	**+0.3**
MPSI	**Mapaga**	**8.15**	**277**	P	**Pn**	**16 33 24.8**	**+1.5**
TTSI	**Tana Toraja**	**8.51**	**254**	P	**Pn**	**16 33 28.8**	**+0.6**
	32nm,0.6s						
BNSI	**Bone**	**8.71**	**245**	P	**Pn**	**16 33 31.2**	**+0.1**
	17nm,0.6s						
BKSI	**Bulukumba**	**9.13**	**239**	P	**Pn**	**16 33 37.9**	**+1.2**
KAPI	**Kappang**	**9.30**	**242**	Pn	**Pn**	**16 33 39.7**	**+0.5**
	1.9nm,0.3s,baz=39,slow=9.9,SNR=4.7						
	6.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**17.50**	**187**	P	**P**	**16 35 29.9**	**+0.2**
	0.1nm,0.3s,baz=12,slow=6.6,SNR=7.4						
	1.5nm,0.6s						
WRA	**Warrannunga Arr**	**20.16**	**162**	P	**P**	**16 35 57.7**	**-1.2**
	0.4nm,0.4s,baz=345,slow=12,SNR=12						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**23.59**	**166**	P	**P**	**16 36 35.0**	**-0.2**
	2.4nm,0.6s,baz=346,slow=11,SNR=29						
	2.4nm,0.6s						
MJAR	**Matsushiro Arr**	**38.20**	**13**	P	**P**	**16 38 42.7**	**-1.2**
	0.9nm,0.5s,baz=192,slow=9.6,SNR=4.9						
	0.9nm,0.5s						
DZM	**Mont Dzumac**	**43.07**	**122**	LR	LR	16 58 02.9	
	comp=Z,92nm,18.1s,baz=214,slow=37						
SONM	**Songino Array**	**51.82**	**342**	P	**P**	**16 40 32.5**	**+0.4**
	0.2nm,0.3s,baz=147,slow=6.4,SNR=1.9						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**61.85**	**326**	P	**P**	**16 41 40.5**	**-2.7**
	0.3nm,0.4s,baz=110,slow=8.8,SNR=7.7						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**66.08**	**328**	P	**P**	**16 42 10.7**	**-0.2**
	0.4nm,0.5s,baz=128,slow=6.2,SNR=1.9						
	0.4nm,0.5s						

NEIC ***19*** *16:44:42.6±1.6,52.°07N±0.°07×173.°8E±0.°1,h34km±9km, mb3.9/25, Error ellipse: s-maj=11.4km s-min=9.9km az=111.0*

IDC ***19*** *16:44:43.9±3.8,52.°17N×174.°01E,h38km±25km,mb3.5/10, mbtmp3.7/12,ML3.3/2, Error ellipse: s-maj=32.4km s-min=19.2km az=3.0*

ISC 19 16:44:41.9±0.8**,52.°07N**±0.°07×**173.°84E**±0.°06**, h28**km**, n51,** σ1°**12/49, mb3.9**/16**, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**0.68**	**13**		**Pn**	**16 44 55.2**	**-0.4**
SHEM				Sn	**Sn**	**16 45 05.3**	**+0.1**
SHEM	**Shemya Is, Ala**	**0.68**	**13**	Pn	**Pn**	**16 44 55.3**	**-0.4**
	251nm,0.3s,baz=161,slow=4.8,SNR=84						
SHEM				Sn	**Sb**	**16 45 04.9**	**+0.6**
	baz=329,slow=19						
SMY	**Shemya**	**0.68**	**13**		**Pn**	**16 44 55.3**	**-0.3**
SMY				Sn	**Sn**	**16 45 05.6**	**+0.3**
AMKA	**Amchitka**	**3.47**	**99**		**Pn**	**16 45 33.6**	**-0.4**
KIWB	**Kanaga Island**	**5.58**	**89**	Pn	**Pn**	**16 46 03.2**	**+0.2**
ADK	**Adak**	**5.86**	**88**	Pn	**Pn**	**16 46 05.6**	**-1.3**
ATKA	**Atka Island**	**7.37**	**84**	Pn	**Pn**	**16 46 28.3**	**+0.8**
PEA0B	**Petropavlovsk-**	**9.88**	**282**	Pn	**Pn**	**16 47 01.6**	**-0.4**
PETK	**Petropavlovsk-**	**9.88**	**282**	Pn	**Pn**	**16 47 04.2**	**+2.2**
	0.2nm,0.3s,baz=90,slow=21,SNR=10						
PETK				Sn	**Sn**	**16 48 50.1**	**-1.7**
	0.3nm,0.3s,baz=25,slow=20,SNR=4.4						
	2.0nm,0.7s						
K13K	**Kusilvak Mount**	**15.24**	**41**	Pn	**Pn**	**16 48 15.6**	**+0.7**
K13K				IAmb	IAmb	16 48 46.0	
	comp=Z,10nm,1.1s						
L14K	**Kuka Creek**	**15.79**	**45**	P	**P**	**16 48 26.4**	**+0.7**
L14K				IAmb	IAmb	16 48 38.4	
	comp=Z,9.4nm,1.2s						
M14K	**Bethel**	**15.88**	**47**	P	**P**	**16 48 27.1**	**+0.6**
M14K				IAmb	IAmb	16 48 32.6	
	comp=Z,20nm,1.4s						
N15K	**Kwethluk River**	**16.55**	**50**	P	**P**	**16 48 35.5**	**+1.4**
N15K				IAmb	IAmb	16 48 59.6	
	comp=Z,21nm,1.3s						
M16K	**Timber Creek**	**17.35**	**48**	P	**P**	**16 48 44.3**	**+1.4**
M16K				IAmb	IAmb	16 48 48.4	
	comp=Z,13nm,1.4s						
H18K	**Honhosa River**	**19.30**	**37**	Pn	**Pn**	**16 49 06.2**	**+0.7**
G18K	**Tagagawik**	**19.57**	**34**	P	**P**	**16 49 07.0**	**-0.3**
OHAK	**Old Harbor**	**19.58**	**62**	P	**P**	**16 49 05.0**	**-2.4**
J19K	**Poorman**	**19.85**	**41**	P	**P**	**16 49 10.4**	**0.0**
KDAK	**Kodiak Island**	**19.98**	**60**	P	**P**	**16 49 10.0**	**-1.7**
KDAK	**Kodiak Island**	**19.98**	**60**	P	**P**	**16 49 09.8**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=115,slow=1.1,SNR=11						
	comp=Z,2.2nm,0.6s						
F19K	**Shaleruckik Mo**	**20.38**	**33**	P	**P**	**16 49 15.8**	**-0.2**
F19K				IAmb	IAmb	16 49 17.5	
	comp=Z,4.1nm,0.9s						
C18K	**Utukok River**	**20.44**	**26**	P	**P**	**16 49 16.5**	**-0.3**
J20K	**Nowinta River**	**20.52**	**41**	P	**P**	**16 49 14.6**	**-3.0**
J20K				IAmb	IAmb	16 49 31.9	
	comp=Z,3.3nm,0.7s						
F20K	**Avaraart Lake**	**21.18**	**33**	P	**P**	**16 49 23.9**	**-0.7**
D19K	**Kuna River**	**21.22**	**29**	P	**P**	**16 49 24.7**	**-0.4**
G21K	**Allakaket**	**21.70**	**36**	P	**P**	**16 49 29.8**	**-0.5**
G21K				IAmb	IAmb	16 50 06.4	
	comp=Z,6.7nm,1.4s						
D20K	**Etivluk River**	**21.79**	**29**	P	**P**	**16 49 31.9**	**+0.6**
D20K				IAmb	IAmb	16 49 45.2	
	comp=Z,6.8nm,1.2s						
F21K	**Alatna River**	**22.03**	**34**	P	**P**	**16 49 33.7**	**-0.2**
F21K				IAmb	IAmb	16 49 56.1	
	comp=Z,5.4nm,1.4s						
SCM	**Sheep Creek Mo**	**22.97**	**50**	P	**P**	**16 49 43.8**	**-0.1**
H24K	**Noodor Dome**	**23.59**	**40**	P	**P**	**16 49 50.0**	**0.0**
H24K				IAmb	IAmb	16 50 29.5	
	comp=Z,4.3nm,1.2s						
ILAR	**Eielson Array**	**23.70**	**42**	P	**P**	**16 49 49.9**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=249,slow=9.5,SNR=4.8						
	comp=Z,0.3nm,0.5s						
TOLK	**Toolik Lake Re**	**23.99**	**32**	P	**P**	**16 49 54.2**	**+0.5**
TOLK				IAmb	IAmb	16 50 05.8	
	comp=Z,4.7nm,1.1s						
C23K	**Itkillik River**	**24.20**	**29**	P	**P**	**16 49 56.1**	**+0.5**
C23K				IAmb	IAmb	16 50 01.2	
	comp=Z,3.8nm,0.8s						
SCRK	**Sand Creek**	**24.79**	**45**	P	**P**	**16 50 00.8**	**-0.4**
J26L	**Joseph Creek**	**25.05**	**44**	P	**P**	**16 50 02.9**	**-0.7**
C27K	**Jago River**	**26.30**	**32**	P	**P**	**16 50 12.0**	**-2.7**
H11N2	**WAKE ISLAND Hy**	**32.73**	**192**	T	T	17 26 17.0	
	baz=8.4,slow=76,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**32.74**	**192**	T	T	17 26 14.6	
	baz=8.4,slow=76,SNR=21						
H11N1	**WAKE ISLAND Hy**	**32.75**	**192**	T	T	17 26 14.8	
	baz=8.4,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**33.96**	**192**	T	T	17 27 46.5	
	baz=8.2,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**33.98**	**192**	T	T	17 27 47.7	
	baz=8.2,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**33.98**	**192**	T	T	17 27 47.8	
	baz=8.2,slow=76,SNR=18						
SPITS	**Spitsbergen Ar**	**49.28**	**354**	P	**P**	**16 53 26.1**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=54,slow=8.4,SNR=6.6						
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**50.39**	**68**	P	**P**	**16 53 36.8**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=304,slow=3.4,SNR=4.2						
	comp=Z,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**55.24**	**309**	P	**P**	**16 54 12.8**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=48,slow=7.1,SNR=4.3						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**55.93**	**304**	P	**P**	**16 54 17.8**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=52,slow=6.8,SNR=6.6						
	comp=Z,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**56.51**	**347**	P	**P**	**16 54 19.4**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=25,slow=8.2,SNR=6.3						
	comp=Z,1.7nm,0.8s						
TXAR	**Lajitas Array**	**63.01**	**76**	P	**P**	**16 55 06.4**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=317,slow=6.2,SNR=5.5						
	comp=Z,0.3nm,0.5s						
NOA	**NORSAR Array B**	**66.38**	**351**	P	**P**	**16 55 28.5**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=11,slow=7.0,SNR=7.0						
	comp=Z,0.4nm,0.5s						
HFS	**Hagfors**	**67.01**	**349**	P	**P**	**16 55 32.1**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=

ELZG	**Elazig**	**1.43**	**57**	P	**Pb**	16 47 34.0	**-0.6**
ELZG				S	**Sn**	16 47 56.0	**+2.3**
ARPR	**Arapgir-MALATY**	**1.53**	**26**	Pn	**Pg**	16 47 36.3	**-0.2**
CEYT	**Ceyhan**	**1.54**	**243**	Pn	**Pn**	16 47 34.8	**-0.7**
CEYT				Sn	**Sn**	16 47 55.9	**-0.2**
RHAN	**Hatay/Reyhanl**	**1.61**	**205**	P	**Pn**	16 47 35.0	**-1.5**
RHAN				S	**Sn**	16 47 57.1	**-0.8**
AKO	**Adana**	**1.62**	**261**	P	**Pn**	16 47 35.7	**-1.0**
CUAYA	**Sivas-Altinyay**	**1.64**	**340**	P	**Pg**	16 47 38.4	**-0.1**
CUAYA				S	**Sg**	16 48 02.2	**+2.4**
TAHT	**Tahtakopru-Hat**	**1.69**	**218**	Pn	**Pn**	16 47 37.0	**-0.6**
TAHT				Sn	**Sn**	16 47 59.2	**-0.6**
BNN	**Bunyan**	**1.70**	**312**	Pn	**Pn**	16 47 37.9	**0.0**
BNN				Sn	**Sg**	16 48 01.3	**-0.4**
YAHY	**KAYSERI_Yahyal**	**1.70**	**283**	P	**Pn**	16 47 37.7	**-0.2**
YAHY				S	**Sn**	16 48 00.2	**-0.1**
ASUZ	**Hatay-Arsuz**	**1.96**	**224**	P	**Pb**	16 47 43.8	**+0.3**
ASUZ				S	**Sb**	16 48 08.1	**-0.1**
CMRD	**Camardi-Nigde**	**1.96**	**269**	Pn	**Pn**	16 47 40.8	**-0.7**
KARA	**Karaisali**	**1.97**	**257**	Pn	**Pn**	16 47 40.9	**-0.6**
DED	**Mersin**	**2.25**	**251**	P	**Pn**	16 47 44.3	**-1.1**
DED				S	**Sn**	16 48 11.5	**-2.2**
NIG	**Nigde**	**2.29**	**281**	Pn	**Pn**	16 47 45.8	**-0.3**
MERS	**Mersin**	**2.49**	**251**	Pn	**Pn**	16 47 48.8	**+0.1**
BEIL	**Beino**	**3.34**	**198**	*eP*	**Pn**	16 47 59.6	**-0.7**
FKH	**Fakeheh**	**3.57**	**194**	*eP*	**Pn**	16 48 02.6	**-1.1**
BRTR	**Keskin Array B**	**3.60**	**305**	Pn	**Pn**	16 48 04.3	**+0.4**
	0.7nm,0.3s,baz=126,slow=16,SNR=13						
BRTR				Pg	**Pb**	16 48 13.1	**+1.6**
	1.5nm,0.3s,baz=133,slow=17,SNR=21						
BRTR				Lg	Lg	16 49 02.6	
	1.5nm,0.3s,baz=121,slow=28,SNR=5.1 1.8nm,0.5s						
HWQ	**Hawqa**	**3.65**	**200**	*eP*	**Pn**	16 48 03.9	**-0.8**
BHL	**Bhannes**	**4.08**	**202**	*eP*	**Pn**	16 48 10.4	**-0.3**
DQRL	**Deir Qamar**	**4.29**	**202**	*eP*	**Pn**	16 48 13.7	**+0.2**
CSS	**Mathiatis**	**4.32**	**232**	S	**Sb**	16 49 17.9	**+1.5**
CSS	**Mathiatis**	**4.32**	**232**	P	**Pn**	16 48 12.4	**-1.5**
QRWL	**Qaraoun**	**4.41**	**200**	*eP*	**Pn**	16 48 15.1	**0.0**
RCY	**Rachaya**	**4.42**	**198**	*eP*	**Pn**	16 48 15.0	**-0.3**
SHBL	**Chebaa**	**4.58**	**198**	*eP*	**Pn**	16 48 17.4	**-0.2**
NATI	**Neve Ativ**	**4.67**	**199**	S	**Sb**	16 49 34.9	**+5.6**
NATI	**Neve Ativ**	**4.67**	**198**	P	**Pn**	16 48 20.1	**+1.6**
GEM	**Giv'at Ha'Em**	**4.73**	**199**	S	**Sb**	16 49 33.3	**+5.1**
GEM	**Giv'at Ha'Em**	**4.73**	**199**	P	**Pn**	16 48 21.2	**+1.7**
MMA0B	**Mount Meron ar**	**4.99**	**200**	S	**Sb**	16 49 39.6	**+4.0**
MMA0B	**Mount Meron ar**	**4.99**	**200**	P	**Pn**	16 48 24.1	**+1.0**
MMAI	**Mount Meron Ar**	**4.99**	**200**	Pn	**Pn**	16 48 21.8	**-1.3**
	2.8nm,0.3s,baz=15,slow=13,SNR=14						
MMAI				Lg	Lg	16 49 45.2	
	9.9nm,0.3s,baz=39,slow=31,SNR=5.6						
MMAI				LR	LR	16 50 07.9	
	comp=Z,32nm,21.7s,baz=44,slow=37 1.3nm,0.3s						
HNTI	**Hanita**	**4.99**	**203**	S	**Sb**	16 49 39.8	**+4.2**
HNTI	**Hanita**	**4.99**	**203**	P	**Pn**	16 48 23.8	**+0.8**
BLGI	**Bet Lehem HaGe**	**5.31**	**201**	S	**Sb**	16 49 47.3	**+2.5**
BLGI	**Bet Lehem HaGe**	**5.31**	**201**	P	**Pn**	16 48 29.7	**+2.3**
OFRI	**`Ofer**	**5.48**	**202**	S	**Sb**	16 49 51.5	**+1.8**
OFRI	**`Ofer**	**5.48**	**202**	P	**Pn**	16 48 31.4	**+1.6**
MMLI	**Mount Malkishu**	**5.53**	**198**	S	**Sb**	16 49 52.1	**+0.9**
MMLI	**Mount Malkishu**	**5.53**	**198**	P	**Pn**	16 48 32.4	**+2.0**
HMDT	**Nahal Hemdat**	**5.68**	**197**	S	**Sb**	16 49 56.5	**+1.0**
HMDT	**Nahal Hemdat**	**5.68**	**197**	P	**Pn**	16 48 34.6	**+2.1**
GHAJ	**Ghor Haditha**	**6.59**	**194**	S	**Sb**	16 50 18.3	**-3.3**
GHAJ	**Ghor Haditha**	**6.59**	**194**	P	**Pn**	16 48 46.6	**+1.6**
APE	**Apeiranthos**	**9.52**	**270**	Pn		16 49 14.0	-11
AKASG	**Malin Array Be**	**14.24**	**338**	LR	LR	16 56 03.0	
	comp=Z,21nm,18.9s,baz=160,slow=38						
VRAC	**Vranov**	**1.99**	**314**	LR	LR	16 59 47.8	
	comp=Z,19nm,18.6s,baz=108,slow=40						
GERES	**GERESS Array B**	**20.47**	**310**	P	**P**	**16 51 46.4**	**+0.3**
	1.4nm,0.9s,baz=116,slow=9.2,SNR=5.0 1.4nm,0.9s						
FINES	**FINESS Array B**	**24.79**	**347**	P	**P**	**16 52 29.7**	**-0.5**
	1.5nm,0.9s,baz=167,slow=6.6,SNR=1.9 1.5nm,0.9s						
NOA	**NORSAR Array B**	**28.55**	**333**	LR	LR	17 05 50.4	
	comp=Z,14nm,19.1s,baz=220,slow=39						
MKAR	**Makanchi Array**	**34.00**	**60**	P	**P**	**16 53 52.6**	**+0.4**
	0.2nm,0.5s,baz=276,slow=5.8,SNR=2.2 0.2nm,0.5s						

DJA 19 16:57:24.2±1.2,8°S±4.7°×11°8E±°,h12km±11km,M3.8/13, mb4.0/2,MLv3.6/13,Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.92**	**177**	P	Pb	16 57 42.2	0.0
PLAI				S	Sb	16 57 54.8	+0.4
WBSI	**Waikabubak, Su**	**2.38**	**137**	P	Pn	16 58 03.4	+0.2
SRBI	**Singaraja**	**2.50**	**266**	P	Pn	16 58 04.8	+0.1
BSSI	**Bau Bau, Buton**	**3.25**	**58**	P	Pn	16 58 14.1	-0.9
BKSI	**Bulukumba**	**3.49**	**43**	P	Pn	16 58 18.0	-0.4
JAGI	**Jajag, Banyuwa**	**3.59**	**261**	P	Pn	16 58 19.2	-0.5
KMMI	**Kalianget**	**3.83**	**282**	P	Pn	16 58 23.5	+0.5
EDFI	**Ende, Flores**	**4.01**	**102**	P	Pn	16 58 25.8	+0.2
BNSI	**Bone**	**4.20**	**34**	P	Pn	16 58 29.3	+1.1
GMJI	**Gumukmas**	**4.26**	**265**	P	Pn	16 58 28.7	-0.2
SPSI	**Sidrap Palu**	**4.40**	**28**	P	Pn	16 58 30.9	0.0
TTSI	**Tana Toraja**	**5.25**	**23**	P	Pn	16 58 43.0	+0.4
	0.1nm3.7nm,0.6s						
PCJI	**Pacitan**	**6.50**	**267**	P	Pn	16 59 00.9	+1.2

*AFAD **19** 16:57:28.0,38°12N×22°48E,h24km, MW3.7*
*ISK **19** 16:57:36.6,38°39N×23°51E,h5km, ML3.3/23*
*THE **19** 16:57:37.8,38°4N±0°6×23°5E±0°7,h11km±3km, M3.5/17, MLh3.5/17*
*ATH **19** 16:57:37.8,38°39N×23°50E,h6km±1km, ML3.3/41, Manual Solution by E.Daskalaki First location: 2019/07/19 16:58:29, This location: 2019/07/19 17:28:54 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*IDC **19** 16:57:37.5±1.3,38°53N×23°41E,h0km, mb3.7/9, mbtmp3.6/11,ML2.6/2,Error ellipse: s-maj=24.7km s-min=18.4km az=180.0*
*NAO **19** 16:57:49.5,39°17N×21°94E,h10km, mb3.7*
ISC 19 16:57:37.9±0.9,38°39N±0°02×23°49E±0°01,h9km±7km, n139,σ0s91/185,mb3.6/8,8C-2D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIL2	**Platees**	**0.25**	**225**	P	**Pg**	**16 57 42.8**	**-0.1**
VIL2				S	**Sg**	**16 57 46.8**	**+0.6**
VILL	**Villia**	**0.26**	**212**	P	**Pg**	**16 57 42.9**	**-0.3**
VILL				S	**Sg**	**16 57 47.4**	**+0.7**
ELFA	**Athens-Elefsin**	**0.34**	**173**	P	**Pg**	**16 57 44.5**	**-0.1**
ACHAR	**Athens-Acharne**	**0.37**	**147**	P	**Pg**	**16 57 45.0**	**-0.1**
ACHAR				S	**Sg**	**16 57 49.2**	**-0.7**
PTL	**Penteli**	**0.45**	**139**	P	**Pg**	**16 57 46.2**	**-0.4**
PTL				S	**Sg**	**16 57 52.2**	**-0.3**
PTL	**Penteli**	**0.45**	**139**	P	**Pg**	**16 57 46.2**	**-0.4**
PTL				S	**Sg**	**16 57 52.4**	**-0.1**
NOAC	**Athens-Thissio**	**0.45**	**156**	P	**Pg**	**16 57 46.6**	**0.0**
NOAC				S	**Sg**	**16 57 52.7**	**+0.2**
ATH	**Athens Observa**	**0.45**	**157**	P	**Pg**	**16 57 46.5**	**-0.1**
ATH				S	**Sg**	**16 57 52.4**	**-0.1**
ATH	**Athens Observa**	**0.45**	**157**	P	**Pg**	**16 57 46.6**	**-0.1**
ATH				S	**Sg**	**16 57 52.6**	**+0.1**
DION	**Dionisos Attik**	**0.46**	**131**	P	**Pg**	**16 57 46.9**	**0.0**
DION				S	**Sg**	**16 57 53.0**	**0.0**
DION	**Dionisos Attik**	**0.46**	**131**	P	**Pg**	**16 57 46.8**	**-0.1**
DION				S	**Sg**	**16 57 53.1**	**+0.1**
LKR	**Lokris**	**0.47**	**305**	P	**Pg**	**16 57 46.8**	**-0.2**
LKR				S	**Sb**	**16 57 54.4**	**-1.0**
LKR	**Lokris**	**0.47**	**305**	P	**Pg**	**16 57 46.8**	**-0.2**
LKR				S	**Sg**	**16 57 54.0**	**+0.8**
ATHU	**Athens Univers**	**0.48**	**151**	P	**Pg**	**16 57 46.7**	**-0.5**
ATHU				S	**Sg**	**16 57 52.8**	**-0.6**
ATHU	**Athens Univers**	**0.48**	**151**	P	**Pg**	**16 57 46.9**	**-0.3**
ATHU				S	**Sg**	**16 57 53.2**	**-0.3**
KYMI	**Kymi, Euboea I**	**0.54**	**62**	P	**Pg**	**16 57 48.4**	**0.0**
KYMI				S	**Sb**	**16 57 56.5**	**-0.9**
KYMI	**Kymi, Euboea I**	**0.54**	**62**	P	**Pg**	**16 57 48.2**	**-0.1**
KYMI				S	**Sg**	**16 57 55.7**	**+0.2**
LTK	**Loutraki**	**0.55**	**229**	P	**Pg**	**16 57 48.2**	**-0.4**
LTK				S	**Sg**	**16 57 56.4**	**+0.6**
LOUT	**Loutraki**	**0.57**	**226**	P	**Pg**	**16 57 48.7**	**-0.2**
LOUT				S	**Sb**	**16 57 57.2**	**-1.1**
AIDA	**Aidipsos**	**0.58**	**324**	P	**Pg**	**16 57 49.2**	**0.0**
AIDA				S	**Sg**	**16 57 57.5**	**+0.7**
AXAR	**Agios Charalam**	**0.76**	**301**	P	**Pg**	**16 57 52.0**	**-0.5**
AXAR				S	**Sb**	**16 58 04.5**	**+0.8**
AXAR	**Agios Charalam**	**0.76**	**301**	P	**Pg**	**16 57 52.0**	**-0.5**
AXAR				S	**Sb**	**16 58 02.9**	**-0.8**
MET4	**Agioi Theodoro**	**0.77**	**185**	P	**Pg**	**16 57 52.5**	**-0.2**
MET4				S	**Sb**	**16 58 03.6**	**-0.3**
MET5	**Makryloggos,Me**	**0.77**	**188**	P	**Pg**	**16 57 52.5**	**-0.2**
MET5				S	**Sb**	**16 58 04.1**	**0.0**
DLFA	**Delphi**	**0.79**	**277**	P	**Pg**	**16 57 52.3**	**-0.8**
DLFA				S	**Sb**	**16 58 04.8**	**+0.1**
MET6	**Megalochori,Me**	**0.80**	**188**	P	**Pg**	**16 57 52.9**	**-0.4**
MET6				S	**Sb**	**16 58 05.4**	**+0.5**
LVRA	**Laurium**	**0.81**	**146**	P	**Pg**	**16 57 53.2**	**-0.2**
LVRA				S	**Sb**	**16 58 04.6**	**-0.6**
KARY	**Karystos**	**0.82**	**115**	P	**Pb**	**16 57 53.7**	**-0.8**
KARY	**Karystos**	**0.82**	**115**	P	**Pg**	**16 57 53.3**	**-0.5**
KARY				S	**Sb**	**16 58 05.3**	**-0.4**
AOS	**Alonnisos**	**0.84**	**21**	P	**Pg**	**16 57 53.5**	**-0.7**
AOS				S	**Sb**	**16 58 05.5**	**-0.6**
NEO	**Neokhori**	**0.94**	**347**	P	**Pb**	**16 57 56.0**	**-0.5**
NEO				S	**Sn**	**16 58 10.2**	**-1.0**
NEO	**Neokhori**	**0.94**	**347**	P	**Pg**	**16 57 55.6**	**-0.4**
NEO				S	**Sb**	**16 58 10.0**	**+0.8**
SKY	**Skiros Island**	**0.96**	**59**	P	**Pg**	**16 57 56.2**	**-0.3**
SKY	**Skiros Island**	**0.96**	**59**	P	**Pg**	**16 57 56.2**	**-0.3**
SKY				S	**Sb**	**16 58 09.6**	**-0.2**
GUR	**Goura**	**1.01**	**244**	P	**Pn**	**16 57 58.0**	**-0.4**
GUR				S	**Sb**	**16 58 11.8**	**+0.6**
GUR	**Goura**	**1.01**	**244**	P	**Pg**	**16 57 58.2**	**-1.2**
GUR				S	**Sb**	**16 58 11.0**	**-0.1**
KALE	**Kalithea**	**1.06**	**271**	P	**Pg**	**16 57 57.9**	**-0.4**
KALE				S	**Sn**	**16 58 13.8**	**-0.3**
KALE	**Kalithea**	**1.06**	**271**	P	**Pg**	**16 57 57.0**	**-1.3**
KALE				S	**Sn**	**16 58 13.4**	**-0.7**
AGG	**Agios Georgios**	**1.11**	**305**	P	**Pg**	**16 57 58.2**	**-1.0**
AGG	**Agios Georgios**	**1.11**	**305**	P	**Pg**	**16 57 58.0**	**-1.2**
AGG				S	**Sb**	**16 58 13.9**	**0.0**
KLV	**Kalavryta, Ach**	**1.11**	**252**	P	**Pn**	**16 57 59.5**	**-0.3**
KLV				S	**Sb**	**16 58 14.4**	**+0.4**
KLV	**Kalavryta, Ach**	**1.11**	**252**	P	**Pb**	**16 57 59.2**	**-0.1**
KLV				S	**Sn**	**16 58 14.7**	**-0.6**
SERG	**Sergoula**	**1.13**	**272**	P	**Pg**	**16 57 58.6**	**-0.9**
SERG	**Sergoula**	**1.13**	**272**	P	**Pg**	**16 57 58.1**	**-1.5**
MAKR	**Makrakomi, Fth**	**1.23**	**301**	P	**Pg**	**16 58 00.9**	**-0.8**
EFP	**Efpalio**	**1.25**	**272**	P	**Pn**	**16 58 01.3**	**-0.2**
EFP				S	**Sn**	**16 58 19.1**	**+0.6**
EFP	**Efpalio**	**1.25**	**272**	P	**Pn**	**16 58 00.7**	**-0.9**
EFP				S	**Sn**	**16 58 18.7**	**+0.2**
VLX	**Vlachokerasia**	**1.34**	**221**	P	**Pb**	**16 58 03.2**	**-0.2**
VLX				S	**Sn**	**16 58 21.2**	**+0.1**
EVR	**Evrytania**	**1.42**	**292**	P	**Pg**	**16 58 05.9**	**+0.7**
PVO	**Paravola**	**1.56**	**279**	P	**Pb**	**16 58 07.0**	**+0.1**
TNSA	**Tinos**	**1.57**	**122**	P	**Pn**	**16 58 05.7**	**-0.2**
RLS	**Riolos of Patr**	**1.63**	**259**	P	**Pb**	**16 58 07.7**	**-0.5**
AMT	**Artemida-Makis**	**1.65**	**239**	P	**Pg**	**16 58 09.1**	**-0.3**
TYRN	**Tyrnavos**	**1.65**	**324**	P	**Pn**	**16 58 07.5**	**+0.4**
AXS	**Araxos**	**1.67**	**264**	P	**Pb**	**16 58 08.6**	**-0.3**
ITM	**Ithomi**	**1.73**	**226**	Pn	**Pb**	**16 58 09.6**	**-0.3**
ITM				Sn	**Sg**	**16 58 33.3**	**-0.1**
ITM	**Ithomi**	**1.73**	**226**	P	**Pb**	**16 58 09.3**	**-0.6**
TETR	**Tetrakomo, Epi**	**1.98**	**300**	P	**Pn**	**16 58 12.3**	**+0.5**
OUR	**Ouranopolis**	**1.98**	**11**	Pn	**Pn**	**16 58 11.6**	**-0.1**
OUR	**Ouranopolis**	**1.98**	**11**	P	**Pn**	**16 58 11.6**	**-0.1**
LIA	**Limnos Island**	**2.00**	**41**	P	**Pn**	**16 58 11.4**	**-0.5**
CHOS	**Chios island**	**2.02**	**89**	Pn	**Pn**	**16 58 12.5**	**+0.3**
CHOS				Sn	**Sb**	**16 58 39.2**	**-0.8**
CHOS	**Chios island**	**2.02**	**89**	P	**Pn**	**16 58 12.4**	**+0.1**
SIGR	**SIGRI**	**2.02**	**65**	Pn	**Pn**	**16 58 12.9**	**+0.7**
SIGR	**SIGRI**	**2.02**	**65**	P	**Pn**	**16 58 11.9**	**-0.3**
PYL2	**Kinigos**	**2.04**	**224**	P	**Pb**	**16 58 14.3**	**-0.8**
APE	**Apeiranthos**	**2.08**	**128**	Pn	**Pn**	**16 58 13.1**	**0.0**
APE	**Apeiranthos**	**2.08**	**128**	P	**Pn**	**16 58 12.9**	**-0.2**
KTHA	**Kythira Island**	**2.15**	**189**	Pn	**Pn**	**16 58 14.7**	**+0.7**
HORT	**Hortiatis**	**2.23**	**352**	P	**Pn**	**16 58 15.2**	**0.0**
FSK	**Fiskardo**	**2.30**	**273**	P	**Pb**	**16 58 18.3**	**-1.3**
PSDA	**Pessada-Kefalo**	**2.30**	**264**	P	**Pb**	**16 58 18.3**	**-1.4**
KARB	**zmir-Karabur**	**2.31**	**82**	P	**Pg**	**16 58 21.4**	**-0.8**
KZN	**Kozani**	**2.34**	**326**	P	**Pn**	**16 58 17.6**	**+1.0**
ZEYE	**Izmir, Urla-Ze**	**2.37**	**93**	P	**Pn**	**16 58 17.5**	**+0.5**
ZEYE				S	**Sg**	**16 58 54.6**	**+0.4**
THAS	**Thassos island**	**2.41**	**23**	P	**Pn**	**16 58 16.8**	**-0.8**
SOH	**Sokhos**	**2.44**	**358**	P	**Pn**	**16 58 17.4**	**+0.6**
URLA	**Urla**	**2.44**	**90**	Pn	**Pn**	**16 58 18.4**	**+0.4**
URLA	**Izmir**	**2.44**	**90**	P	**Pn**	**16 58 18.4**	**+0.4**
DMLN	**Damoulianata-K**	**2.46**	**268**	P	**Pn**	**16 58 20.5**	**-1.8**
BOZC	**Bozcaada**	**2.47**	**53**	Pn	**Pn**	**16 58 19.4**	**+1.0**
ANKY	**Antikythira Is**	**2.52**	**184**	P	**Pn**	**16 58 19.1**	**+0.1**
THERA	**Ancient Thera,**	**2.56**	**141**	P	**Pn**	**16 58 20.2**	**+0.6**
GOAD	**anakkale-G¶**	**2.58**	**46**	P	**Pg**	**16 58 28.9**	**+1.5**
GOAD				S	**Sg**	**16 58 59.4**	**-1.5**
GADA	**Gvkgeada**	**2.60**	**45**	Pn	**Pn**	**16 58 21.2**	**+1.1**
SMTH	**Samothraki Isl**	**2.61**	**37**	P	**Pn**	**16 58 19.3**	**-1.1**
EZN	**Ezine**	**2.63**	**56**	Pn	**Pn**	**16 58 21.9**	**+1.3**
EZN	**Ezine**	**2.63**	**56**	P	**Pg**	**16 58 27.2**	**-1.2**
AYVA	**Ayvalik**	**2.66**	**69**	P	**Pg**	**16 58 29.6**	**+0.6**
AYVA				S	**Sg**	**16 59 03.2**	**-0.2**
IGT	**Igoumenitsa**	**2.71**	**296**	P	**Pn**	**16 58 23.8**	**+2.0**
SMG	**Samos**	**2.73**	**103**	P	**Pn**	**16 58 21.9**	**0.0**
SRS	**Serrai**	**2.73**	**2**	P	**Pn**	**16 58 22.0**	**0.0**
BAYC	**CANAKKALE_Bayr**	**2.74**	**59**	P	**Pn**	**16 58 22.1**	**0.0**
BAYC				S	**Sn**	**16 58 53.6**	**-1.7**
NEST	**Nestorio**	**2.77**	**318**	P	**Pn**	**16 58 23.6**	**+1.0**
BLCB	**Balcova**	**2.79**	**89**	Pn	**Pn**	**16 58 24.3**	**+1.5**
CNKL	**anakkale-Mer**	**2.81**	**52**	P	**Pn**	**16 58 23.2**	**+0.2**
KNT	**Kendrikon**	**2.81**	**351**	P	**Pn**	**16 58 24.0**	**+0.9**
FNA	**Florina**	**2.90**	**326**	P	**Pn**	**16 58 25.9**	**+1.5**
GELI	**Tayfur-Gelibol**	**3.06**	**48**	Pn	**Pn**	**16 58 27.8**	**+1.3**
ENEZ	**Enez**	**3.12**	**40**	Pn	**Pn**	**16 58 29.1**	**+1.8**
KNDR	**Palaiochora Ch**	**3.15**	**177**	Pn	**Pn**	**16 58 29.3**	**+1.6**
KEK	**Kerkira**	**3.17**	**296**	Pn	**Pn**	**16 58 30.0**	**+2.0**
RDO	**Rodhopi**	**3.18**	**29**	Pn	**Pn**	**16 58 29.1**	**+1.0**
ALN	**Alexandroupoli**	**3.19**	**37**	Pn	**Pn**	**16 58 29.7**	**+1.4**
ERIK	**Erikli-Kesan**	**3.27**	**45**	Pn	**Pn**	**16 58 31.2**	**+1.9**
IDI	**Anoyia**	**3.29**	**160**	Pn	**Pn**	**16 58 31.6**	**+1.9**
IDI	**Anoyia**	**3.29**	**160**	P	**Pn**	**16 58 30.2**	**+0.5**
BODT	**Bodrum**	**3.30**	**112**	Pn	**Pn**	**16 58 30.7**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**3.50**	**96**	Pn	**Pn**	**16 58 31.4**	**+1.8**
IZMR	**zmir-demi**	**3.52**	**93**	P	**Pg**	**16 58 45.8**	**+0.5**
KDZ	**Kurdzhali**	**3.54**	**23**	Pn	**Pn**	**16 58 33.9**	**+0.8**
GVD	**Gavdhos**	**3.57**	**172**	Pn	**Pn**	**16 58 35.6**	**+2.1**
ODEM	**Odemis-Izmir**	**3.61**	**90**	Pn	**Pn**	**16 58 36.2**	**+2.1**
DAT	**Datca**	**3.64**	**116**	Pn	**Pn**	**16 58 36.4**	**+1.7**
PLD	**Plovdiv**	**3.88**	**14**	Pn	**Pn**	**16 58 39.0**	**+1.3**
SUSR	**Susurluk-Balik**	**3.90**	**65**	Pn	**Pn**	**16 58 39.5**	**+1.4**
ZKR	**Zakros**	**3.93**	**145**	Pn	**Pn**	**16 58 40.4**	**+1.9**
EDRB	**Edirne**	**4.26**	**35**	Pn	**Pn**	**16 58 44.9**	**+1.9**
ELND	**Elena**	**4.89**	**21**	⇓P	**Pn**	**16 58 51.5**	**-0.1**
PDG	**Podgorica**	**5.17**	**323**	⇑P	**Pn**	**16 58 57.4**	**+1.9**
TIP	**Timpagrande**	**5.32**	**281**	⇑P	**Pn**	**16 59 00.7**	**+3.0**
HERR	**Herculane**	**6.54**	**353**	⇑P	**Pn**	**16 59 14.8**	**+0.5**
ARR	**Arges**	**7.03**	**7**	⇑P	**Pn**	**16 59 20.1**	**-1.0**
VOIR		**7.14**	**9**	⇑P	**Pn**	**16 59 22.0**	**-0.6**
MLR	**Muntele Rosu**	**7.33**	**14**	⇑P	**Pn**	**16 59 27.6**	**+2.3**
PLOR	**Plostina**	**7.82**	**16**	⇑P	**Pn**	**16 59 29.9**	**-2.0**
BRTR	**Keskin Array B**	**8.01**	**77**	Pn	**Pn**	**16 59 36.4**	**+1.8**
	0.1nm,0.3s,baz=261,slow=14,SNR=3.1 0.5nm,0.6s						
VARL	**Varlezi**	**8.18**	**22**	⇑P	Pn	16 59 29.9	-6.8
GERES	**GERESS Array B**	**12.62**	**329**	Pn	**Pn**	**17 00 37.3**	**-0.4**
	baz=139,slow=13,SNR=2.5 0.1nm,0.3s						
ESDC	**Sonseca Array**	**21.34**	**282**	P	**P**	**17 02 25.9**	**+0.6**
	0.8nm,0.6s,baz=77,slow=10,SNR=6.8 0.8nm,0.6s						
HFS	**Hagfors**	**22.64**	**347**	P	**P**	**17 02 38.2**	**-0.8**
	0.9nm,0.5s,baz=134,slow=11,SNR=8.8 0.9nm,0.5s						
FINES	**FINESS Array B**	**23.14**	**3**	P	**P**	**17 02 43.2**	**-1.0**
	2.0nm,0.9s,baz=170,slow=17,SNR=2.1 2.0nm,0.9s						
NB2	**NORSAR Subarra**	**23.94**	**345**	P	**P**	**17 02 52.1**	**-0.1**
	comp=Z,4.2nm,1.4s,baz=158,slow=10						
NOA	**NORSAR Array B**	**23.94**	**345**	P	**P**	**17 02 51.2**	**-1.0**
	comp=Z,1.1nm,0.9s,baz=156,slow=9.2,SNR=4.1 comp=Z,1.1nm,0.9s						
EKA	**Eskdalemuir Ar**	**24.66**	**322**	P	**P**	**17 02 57.4**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=117,slow=8.9,SNR=3.7 comp=Z,0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**31.73**	**223**	P	**P**	**17 04 03.5**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=28,slow=9.4,SNR=4.9 comp=Z,2.2nm,0.6s						
BVAR	**Borovoye Array**	**35.20**	**50**	P	**P**	**17 04 33.1**	**+0.9**
	comp=Z,2.9nm,0.7s,baz=246,slow=9.6,SNR=14 comp=Z,2.9nm,0.7s						
MKAR	**Makanchi Array**	**43.20**	**59**	P	**P**	**17 05 40.0**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=272,slow=8.0,SNR=10 comp=Z,0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**43.81**	**49**	P	**P**	**17 05 44.5**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=282,slow=9.0,SNR=5.6 comp=Z,1.2nm,0.5s						

*SNET **19** 17:05:26.3±0.9,12°.86N×88°.80W,h31km, ML3.3*
*CATAC **19** 17:05:27.1±0.5,13°N±4°×8°.9W±°,h35km±5km, M3.2/13, MLv3.2/13,Error ellipse: s-maj=8.7km s-min=3.2km az=27.8,confirmed*
*GCG **19** 17:05:29.0±0.6,13°.08N×88°.92W,h77km±16km, MD3.6*
ISC 19 17:05:26.9±1.5,12°.89N±0°.08×88°.77W±0°.04,h53km±19km, n50,σ0s54/57,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.64**	**359**	P	**Pn**	**17 05 39.5**	**-0.5**
TECO	**Alcaldia de Te**	**0.64**	**359**	S	**Sn**	**17 05 48.1**	**-1.5**
TECA	**Tecapa**	**0.65**	**23**	*i* P	**Pn**	**17 05 40.3**	**-0.1**
TECA				*i* P		17 05 40.4	
TECA				*e*S	**Sn**	**17 05 50.2**	**+0.2**
LCY	**Lacayo**	**0.70**	**41**	*e*P	**Pn**	**17 05 40.8**	**-0.1**
VSM	**San Miguel**	**0.72**	**42**	*i* P	**Pn**	**17 05 41.3**	**0.0**
PACA	**Pacayal**	**0.72**	**37**	*e*P	**Pn**	**17 05 41.4**	**+0.3**
PACA	**Pacayal**	**0.72**	**37**	P	**Pn**	**17 05 41.4**	**+0.3**
PACA	**Pacayal**	**0.72**	**37**	S	**Sn**	**17 05 51.6**	**+0.1**
COEG	**Centro de Oper**	**0.73**	**351**	S	**Sn**	**17 05 51.5**	**-0.2**
COEG	**Centro de Oper**	**0.73**	**351**	P	**Pn**	**17 05 41.1**	**-0.2**
UESV	**Universidad de**	**0.74**	**358**	P	**Pn**	**17 05 41.1**	**-0.2**
UESV	**Universidad de**	**0.74**	**358**	S	**Sn**	**17 05 52.0**	**+0.2**
BLLM	**Bellamira**	**0.75**	**43**	*e*P	**Pn**	**17 05 41.5**	**0.0**
PQSS	**Presa 15 de Se**	**0.76**	**15**	*e*P	**Pn**	**17 05 41.6**	**+0.

*IDC **19** 17:13:40.4±5.4, 11°.24N×95°.44E, h0km, mb3.7/5, mbtmp3.6/6, ML3.3/1, Error ellipse: s-maj=116.0km s-min=48.9km az=142.0*

ISC 19 17:13:46.3±9.3, 11°N±1°×95°.5E±0°.9, h35km, n6, σ1§21/6, mb3.8/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.78**	**25**	P	**Pn**			**17 15 37.1**	**0.0**
	0.1nm,0.3s,baz=220,slow=15,SNR=5.5								
	0.5nm,0.5s								
MKAR	**Makanchi Array**	**37.03**	**345**	P	**P**			**17 20 52.1**	**-0.7**
	0.4nm,0.8s,baz=157,slow=7.7,SNR=4.1								
	0.4nm,0.8s								
ZALV	**Zalesovo Beam**	**43.31**	**351**	P	**P**			**17 21 45.9**	**+1.3**
	0.2nm,0.3s,baz=157,slow=8.0,SNR=4.8								
	0.2nm,0.3s								
BRTR	**Keskin Array B**	**61.22**	**309**	P	**P**			**17 23 59.0**	**+0.8**
	0.7nm,0.6s,baz=114,slow=6.5,SNR=5.0								
	0.7nm,0.6s								
FINES	**FINESS Array B**	**70.28**	**331**	P	**P**			**17 24 55.1**	**-0.7**
	0.6nm,0.6s,baz=90,slow=9.7,SNR=3.9								
	0.6nm,0.6s								
HFS	**Hagfors**	**76.14**	**329**	P	**P**			**17 25 29.5**	**-1.0**
	0.7nm,0.7s,baz=110,slow=8.1,SNR=3.7								
	0.7nm,0.7s								

*IDC **19** 17:14:31.7±13.0, 6°.50S×128°.87E, h167km±143km, mb3.2/1, mbtmp4.1/4, ML4.1/3, Error ellipse: s-maj=90.0km s-min=50.1km az=32.0*
*DJA **19** 17:14:32.7±0.5, 6°.S±3°×12°.9E±°, h285km±10km, M4.2/14, mB4.8/4, mb4.1/7, MLv4.3/14, Mw(mB)4.0/4*

ISC 19 17:14:34.5±0.9, 6°.59S±0°.07×129°.10E±0°.08, h200km, n23, σ2§56/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.21**	**21**	P	**Pn**			**17 15 17.1**	**+1.9**
SAUI	**Saumlaki**	**2.59**	**122**	P	**Pn**			**17 15 21.8**	**+2.4**
SAUI	**Saumlaki**	**2.59**	**122**	S	**Sn**			**17 15 58.8**	**+4.4**
SAUI	**Saumlaki**	**2.59**	**122**	P	**Pn**			**17 15 21.7**	**+2.4**
AAI	**Ambon**	**3.02**	**343**	P	**Pn**			**17 15 26.9**	**+2.4**
MSAI	**Masohi**	**3.23**	**357**	P	**Pn**			**17 15 28.5**	**+1.6**
NLAI	**Namlea**	**3.88**	**329**	P	**Pn**			**17 15 37.7**	**+2.9**
FAKI	**Fak Fak**	**4.81**	**41**	P	**Pn**			**17 15 44.6**	**-2.0**
FAKI	**Fak Fak**	**4.81**	**41**	P	**Pn**			**17 15 44.1**	**-2.5**
KMPI	**Kaimana, Papua**	**5.43**	**58**	P	**Pn**			**17 15 52.0**	**-2.5**
SANI	**Sanana**	**5.47**	**325**	P	**Pn**			**17 15 56.1**	**+1.1**
	0.1nm40nm,1.1s								
SOEI	**Soe**	**5.72**	**236**	P	**Pn**			**17 16 00.8**	**+2.5**
	0.2nm24nm,0.9s								
DRS	**Darwin Rock St**	**6.07**	**163**	P	**Pn**			**17 16 04.4**	**+1.7**
SWI	**Sorong**	**6.09**	**21**	P	**Pn**			**17 16 00.7**	**-2.3**
	0.2nm1µm20nm,1.1s								
BATI	**Baumata**	**6.46**	**236**	P	**Pn**			**17 16 09.9**	**+2.0**
	0.2nm23nm,1.1s								
MTN	**Manton Dam**	**6.53**	**162**	P	**Pn**			**17 16 09.6**	**+0.9**
KDU	**Kakadu**	**6.91**	**151**	P	**Pn**			**17 16 14.1**	**+0.5**
RKPI	**Ransiki, Papua**	**7.15**	**45**	P	Pn			17 16 09.8	-7.0
	35nm,1.0s								
EDFI	**Ende, Flores**	**7.65**	**253**	P	**Pn**			**17 16 26.4**	**+3.1**
FITZ	**Fitzroy Crossi**	**11.92**	**196**	P	**Pn**			**17 17 18.7**	**+0.2**
	0.4nm,0.3s,baz=27,slow=11,SNR=18								
FITZ				S	**Sn**			**17 19 25.8**	**-5.7**
	2.5nm,0.3s,baz=309,slow=22,SNR=6.9								
	0.7nm,0.3s								
WRA	**Warramunga Arr**	**14.21**	**160**	P	**Pn**			**17 17 46.8**	**-0.4**
	1.1nm,0.3s,baz=338,slow=10.0,SNR=30								
	1.2nm,0.3s								
ASAR	**Alice Springs**	**17.59**	**165**	P	**Pn**			**17 18 27.8**	**-0.2**
	2.5nm,0.3s,baz=340,slow=9.1,SNR=157								
	16nm,0.6s								
MKAR	**Makanchi Array**	**67.40**	**327**	P	**P**			**17 25 07.8**	**-0.6**
	0.2nm,0.3s,baz=118,slow=7.7,SNR=9.6								
	0.2nm,0.3s								

DJA 19 17:16:02.6±1.9, 4°N±14°×126°.8E±1°.0, h10km, M4.0/7, mb4.6/1, MLv3.7/7, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.87**	**262**	P	Pn			17 16 49.6	+1.2
SGSI				S	Sn			17 17 24.0	+1.0
TNTI	**Ternate**	**3.46**	**197**	P	Pn			17 16 57.1	+0.5
KMSI	**Cibinong**	**5.62**	**231**	P	Pn			17 17 26.0	-0.3

IDC 19 17:16:38.9±32.0, 16°.54S×177°.23W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=621.4km s-min=161.0km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.28**	**240**	P	P			17 24 17.7	-0.2
	0.9nm,0.5s,baz=106,slow=7.4,SNR=2.3								
	0.9nm,0.5s								
WRA	**Warramunga Arr**	**46.00**	**258**	P	P			17 25 04.2	-0.2
	0.3nm,0.5s,baz=93,slow=8.0,SNR=1.9								
	0.3nm,0.5s								
ASAR	**Alice Springs**	**46.26**	**253**	P	P			17 25 06.5	+0.2
	3.9nm,0.6s,baz=89,slow=8.1,SNR=29								
	3.9nm,0.6s								
FITZ	**Fitzroy Crossi**	**54.37**	**259**	P	P			17 26 07.5	-0.5
	1.6nm,0.9s,baz=113,slow=7.7,SNR=1.8								
	1.6nm,0.9s								

DJA 19 17:16:41.0±0.5, 4°S±5°×137°.7E±°, h170km±6km, M4.0/8, mb4.2/2, MLv3.9/8, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**2.10**	**337**	P	Pn			17 17 18.2	-0.3
SRPI				S	Sn			17 17 46.2	-1.4
SMPI	**Sarmi**	**2.44**	**42**	P	Pn			17 17 22.7	+0.3
BAKI	**Biak**	**2.77**	**340**	P	Pn			17 17 28.1	+1.6
BAKI				S	Sn			17 18 03.1	+1.3
GENI	**Genyem**	**3.32**	**69**	P	Pn			17 17 33.6	+0.4
RKPI	**Ransiki, Papua**	**3.68**	**308**	P	Pn			17 17 30.1	-7.7
JAY	**Jayapura**	**3.85**	**71**	P	Pn			17 17 40.1	+0.1
FAKI	**Fak Fak**	**4.89**	**280**	P	Pn			17 17 52.4	-1.0
SWI	**Sorong**	**6.50**	**297**	P	Pn			17 18 13.8	-0.8
	0.1nm17nm,0.6s								

*FUNV **19** 17:23:04.1, 10°.43N×62°.41W, h20km, MW3.6*

ISC 19 17:23:03.6±1.3, 10°.40N±0°.08×62°.44W±0°.05, h75km, n6, σ1§55/10, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSKH	**Kent House, Po**	**0.94**	**73**	*eP*	**Pn**			**17 23 22.5**	**+0.8**
PSKH				*eS*	**Sn**			**17 23 34.4**	**-0.7**
TRN	**Trinidad (W)**	**1.05**	**76**	*eP*	**Pn**			**17 23 23.5**	**+0.5**
TRN				*eS*	**Sn**			**17 23 36.3**	**-1.2**
PCRV	**Puerto La Cruz**	**2.17**	**264**	*eP*	**Pn**			**17 23 38.9**	**+1.2**
PCRV				*eS*	**Sn**			**17 24 04.1**	**+0.4**
LUEV	**Luepa**	**4.63**	**168**	*eP*	**Pn**			**17 24 13.0**	**+1.7**
LUEV				*eS*	**Sn**			**17 25 02.0**	**-1.8**
CACV	**CAICARA DEL OR**	**4.93**	**236**	*eP*	Pn			17 24 10.2	-5.0
CACV				*eS*	Sn			17 24 59.9	-11
BAUV	**El Baul**	**5.71**	**256**	*eP*	**Pn**			**17 24 26.1**	**+0.2**
BAUV				*eS*	**Sn**			**17 25 27.6**	**-2.5**

*CATAC **19** 17:23:39.7±1.4, 11°.N±2°×8°.7W±°, h27km±4km, M4.0/49, MLv4.0/49, Error ellipse: s-maj=3.8km s-min=2.4km az=26.5, confirmed*
*UCR **19** 17:23:40.9±0.9, 11°.65N×86°.73W, h71km±16km, MW4.3*
*SNET **19** 17:23:44.4±1.1, 11°.63N×87°.01W, h32km±565km, ML3.6*

ISC 19 17:23:39.7±1.4, 11°.37N±0°.04×86°.91W±0°.03, h29km±13km, n91, σ0§77/108, 3C-27D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.85**	**44**	⇓P	**Pb**			**17 23 55.8**	**-0.2**
COPN	**Copaltepe**	**0.87**	**21**	⇓*eP*	**Pn**			**17 23 55.6**	**-0.4**
COPN	**Copaltepe**	**0.87**	**21**	⇓P	**Pn**			**17 23 55.7**	**-0.2**
SAPS	**Ciudad Sandino**	**0.94**	**32**	⇓P	**Pn**			**17 23 56.5**	**-0.4**
NADN	**Granada**	**0.94**	**66**	*eP*	**Pn**			**17 23 56.4**	**-0.6**
NADN	**Granada**	**0.94**	**66**	⇓P	**Pn**			**17 23 56.6**	**-0.4**
NADN				S	**Sn**			**17 24 09.6**	**+0.1**
ABCN	**Banco Central**	**0.95**	**38**	P	**Pn**			**17 23 57.2**	**+0.1**
ABCN	**Banco Central**	**0.95**	**38**	S	**Sn**			**17 24 11.2**	**+1.4**
NANN	**Nandasmo**	**0.96**	**54**	⇓P	**Pb**			**17 23 57.9**	**+0.2**
UNAN	**Cigeo UNAN**	**0.97**	**40**	⇓P	**Pn**			**17 23 57.0**	**-0.4**
UNAN				S	**Sn**			**17 24 10.7**	**+0.5**
AMTN	**Mateare**	**0.98**	**28**	P	**Pn**			**17 23 57.5**	**-0.1**
TISN	**Laguna Tiscapa**	**0.99**	**39**	⇓P	**Pn**			**17 23 57.3**	**-0.4**
ALLN	**Telcor Managua**	**1.00**	**38**	P	**Pn**			**17 23 57.7**	**-0.1**
ALLN	**Telcor Managua**	**1.00**	**38**	S	**Sn**			**17 24 10.9**	**0.0**
APQ2	**Apoyeque**	**1.00**	**35**	P	**Pn**			**17 23 57.2**	**-0.7**
APQ2				S	**Sn**			**17 24 10.8**	**-0.2**
APQ3	**Volcan Apoyequ**	**1.04**	**30**	⇓P	**Pn**			**17 23 58.1**	**-0.3**
ARIN	**Rivas**	**1.06**	**85**	P	**Pn**			**17 23 58.3**	**-0.3**
ARIN	**Rivas**	**1.06**	**85**	S	**Sb**			**17 24 13.3**	**+0.4**
WILN	**Americas 2**	**1.06**	**42**	⇓P	**Pn**			**17 23 58.3**	**-0.3**
WILN				S	**Sb**			**17 24 13.0**	**+0.1**
AERN	**Aeropuerto Man**	**1.06**	**43**	P	**Pn**			**17 23 58.4**	**-0.3**
AERN	**Aeropuerto Man**	**1.06**	**43**	S	**Sb**			**17 24 13.0**	**0.0**
BC84	**Volcan Momotom**	**1.08**	**19**	S	**Sn**			**17 24 13.2**	**+0.2**
BC84	**Volcan Momotom**	**1.08**	**19**	P	**Pn**			**17 23 58.8**	**-0.1**
MOMN	**Momotombo**	**1.10**	**19**	⇓P	**Pn**			**17 23 58.8**	**-0.4**
MOMN				S	**Sn**			**17 24 12.8**	**-0.6**
PACN	**Al O del Volca**	**1.13**	**6**	⇓P	**Pn**			**17 23 59.5**	**-0.2**
PACN				S	**Sb**			**17 24 15.1**	**+0.1**
CNGA	**Al SSO del Vol**	**1.14**	**10**	⇓P	**Pn**			**17 23 59.6**	**-0.2**
MOM2	**El Cardon**	**1.14**	**21**	⇓P	**Pn**			**17 23 59.5**	**-0.2**
MOM2				S	**Sn**			**17 24 13.8**	**-0.6**
CNGN	**Cerro Negro**	**1.15**	**10**	P	**Pn**			**17 23 59.6**	**-0.2**
JAPN	**Al SSO del Vol**	**1.22**	**82**	*eP*	**Pn**			**17 24 00.9**	**+0.1**
JAPN	**Al SSO del Vol**	**1.22**	**82**	P	**Pn**			**17 24 01.2**	**+0.4**
PLRN	**Geotermica Pol**	**1.22**	**7**	⇓P	**Pn**			**17 24 00.1**	**-0.8**
PLRN				S	**Sn**			**17 24 16.4**	**0.0**
ILCN	**San Idelfonso**	**1.22**	**10**	⇓P	**Pn**			**17 24 00.2**	**-0.6**
ILCN				S	**Sb**			**17 24 18.1**	**+0.5**
MORN	**Al O del Volca**	**1.25**	**82**	⇓P	**Pn**			**17 24 01.2**	**-0.1**
POLN	**Al Sur del Vol**	**1.28**	**4**	⇓P	**Pn**			**17 24 01.2**	**-0.5**
POLN				S	**Sn**			**17 24 17.8**	**-0.1**
LCRUZ	**La Cruz**	**1.29**	**103**	*eP*	**Pn**			**17 24 01.4**	**-0.4**
LCRUZ				*eS*	**Sb**			**17 24 19.3**	**-0.1**
PKGN	**Cerro Pekin**	**1.30**	**357**	⇓P	**Pn**			**17 24 01.9**	**+0.1**
PKGN				S	**Sb**			**17 24 19.0**	**-0.7**
CRIN	**San Cristobal**	**1.33**	**354**	⇑*eP*	**Pn**			**17 24 02.5**	**0.0**
CRIN	**San Cristobal**	**1.33**	**354**	⇓P	**Pn**			**17 24 02.6**	**+0.1**
CARN	**Rivas**	**1.37**	**97**	*eP*	**Pn**			**17 24 03.3**	**+0.4**
CARN	**Rivas**	**1.37**	**97**	⇓P	**Pn**			**17 24 02.8**	**-0.1**
CARN				S	**Sb**			**17 24 21.8**	**0.0**
AESN	**El Sauce Leon**	**1.55**	**13**	P	**Pn**			**17 24 05.4**	**0.0**
VRLE	**La Escondida,**	**1.62**	**111**	*eP*	**Pn**			**17 24 06.6**	**+0.2**
BOAB	**BOACO BROADBAN**	**1.62**	**48**	S	**Sn**			**17 24 26.4**	**0.0**
BOAB	**BOACO BROADBAN**	**1.62**	**48**	⇓P	**Pn**			**17 24 05.8**	**-0.5**
POTN	**Potosi Cosigui**	**1.72**	**340**	⇓P	**Pn**			**17 24 08.0**	**+0.2**
POTN				S	**Sn**			**17 24 29.5**	**+0.6**
MESS	**Mesas**	**1.79**	**110**	*eP*	**Pn**			**17 24 09.5**	**+0.7**
ACON	**Acoyapa**	**1.80**	**70**	*eP*	**Pn**			**17 24 07.3**	**-1.5**
ACON	**Acoyapa**	**1.80**	**70**	P	**Pn**			**17 24 07.9**	**-1.0**
ELVJ	**El Viejo (Barb**	**1.80**	**120**	*eP*	**Pn**			**17 24 07.5**	**-1.3**
MATN	**Matagalpa**	**1.83**	**32**	⇓P	**Pn**			**17 24 08.0**	**-1.2**
VMAR	**Armenia, Volca**	**1.85**	**107**	*eP*	**Pn**			**17 24 10.1**	**+0.6**
TIMP	**Tierras Morena**	**2.01**	**113**	*eP*	**Pn**			**17 24 12.6**	**+0.7**
INDI	**Punta indio, G**	**2.03**	**137**	⇑P	**Pn**			**17 24 11.0**	**-1.0**
CNCH	**Conchagua**	**2.10**	**335**	*eP*	**Pn**			**17 24 13.2**	**+0.1**
CNCH				*eS*	**Sn**			**17 24 37.4**	**-1.0**
CNCH	**Conchagua**	**2.10**	**335**	S	**Sn**			**17 24 39.5**	**+1.1**
CNCH	**Conchagua**	**2.10**	**335**	⇑P	**Pn**			**17 24 13.2**	**+0.1**
CHOHN	**Orocuina**	**2.11**	**353**	S	**Sb**			**17 24 41.6**	**-1.7**
CHOHN	**Orocuina**	**2.11**	**353**	⇓P	**Pn**			**17 24 13.9**	**+0.7**
LCND	**La Caada**	**2.15**	**334**	*eP*	**Pn**			**17 24 13.8**	**+0.1**
LCND				IAML				17 24 46.9	
	comp=Z,482nm,0.4s								
LCND	**La Caada**	**2.15**	**334**	⇓P	**Pn**			**17 24 13.9**	**+0.2**
JTS	**Las Juntas de**	**2.20**	**119**	P	**Pn**			**17 24 15.8**	**+1.4**
OCON	**Estacion meteo**	**2.29**	**11**	P	**Pn**			**17 24 16.2**	**+0.6**
RCPN	**Sur Rio San Ju**	**2.29**	**20**	⇓P	**Pn**			**17 24 15.5**	**-0.2**
RCVN	**Varillal2**	**2.31**	**18**	S	**Sn**			**17 24 44.0**	**+0.5**
RCVN	**Varillal2**	**2.31**	**18**	P	**Pn**			**17 24 16.5**	**+0.5**
BLLM	**Bellamira**	**2.44**	**328**	*eP*	**Pn**			**17 24 18.5**	**+0.8**
LCY	**Lacayo**	**2.45**	**327**	*eP*	**Pn**			**17 24 19.3**	**+1.4**
PACA	**Pacayal**	**2.50**	**327**	*eP*	**Pn**			**17 24 19.6**	**+1.0**
PACA	**Pacayal**	**2.50**	**327**	P	**Pn**			**17 24 19.8**	**+1.1**
COVE	**Coope Vega, Sa**	**2.54**	**104**	P	**Pn**			**17 24 19.3**	**+0.2**
YUSH	**Yuscaran**	**2.57**	**1**	P	**Pn**			**17 24 20.4**	**+0.8**
TECA	**Tecapa**	**2.62**	**324**	*eP*	**Pn**			**17 24 21.9**	**+1.6**
ESPN	**Las Esperanzas**	**2.68**	**72**	P	**Pn**			**17 24 21.5**	**+0.6**
TGUH	**Tegucigalpa,Un**	**2.70**	**352**	P	**Pn**			**17 24 22.3**	**+1.0**
TGUH				S	**Sn**			**17 24 54.6**	**+1.5**
PQSS	**Presa 15 de Se**	**2.76**	**324**	*eP*	**Pn**			**17 24 23.5**	**+1.5**
PQSS	**Presa 15 de Se**	**2.76**	**324**	P	**Pn**			**17 24 22.7**	**+0.6**
PQSS	**Presa 15 de Se**	**2.76**	**324**	S	**Sn**			**17 24 56.0**	**+1.5**
COEG	**Centro de Oper**	**2.95**	**320**	P	**Pn**			**17 24 25.1**	**+0.4**
MARCA	**Marcala la Paz**	**2.98**	**339**	P	**Pn**			**17 24 25.0**	**-0.2**
LFRS	**El Faro**	**3.07**	**317**	*eP*	**Pn**			**17 24 28.2**	**+1.7**
SIUN	**Universidad Ur**	**3.13**	**42**	P	**Pn**			**17 24 27.9**	**+0.8**
PMON	**Piamonte**	**3.31**	**315**	P	**Pn**			**17 24 30.3**	**+0.6**
JAYA	**Jayaque - finc**	**3.36**	**313**	*eP*	**Pn**			**17 24 31.3**	**+0.8**
JAYA				*eS*	**Sn**			**17 25 07.8**	**-1.8**
JAYA	**Jayaque - finc**	**3.36**	**313**	P	**Pn**			**17 24 31.6**	**+1.1**
JAYA	**Jayaque - finc**	**3.36**	**313**	S	**Sn**			**17 25 08.5**	**-1.1**
NUBE	**Las Nubes**	**3.77**	**312**	S	**Sn**			**17 25 17.6**	**-1.9**
NUBE	**Las Nubes**	**3.77**	**312**	P	**Pn**			**17 24 36.2**	**+0.1**
MTOS	**Montecristo**	**3.85**	**322**	P	**Pn**			**17 24 37.8**	**+0.6**
FAME	**Alcaldia de Sa**	**3.90**	**309**	P	**Pn**			**17 24 38.2**	**+0.4**
FAME	**Alcaldia de Sa**	**3.90**	**309**	S	**Sn**			**17 25 20.7**	**-2.0**
ESQI	**Esquipulas**	**3.96**	**324**	P	**Pn**			**17 24 39.1**	**+0.5**

*IDC **19** 17:31:48.0±3.1, 4°.10S×151°.84E, h0km, mb4.2/6, mbtmp4.2/6, Error ellipse: s-maj=73.9km s-min=29.1km az=92.0*
*NEIC **19** 17:32:12.3±1.3, 4°.33S±0°.09×151°.75E±0°.09, h219km±8km, mb4.4/22, Error ellipse: s-maj=13.9km s-min=11.9km az=156.0*

ISC 19 17:32:11.2±0.8, 4°.31S±0°.09×151°.73E±0°.07, h200km, n52, σ1§85/53, mb4.4/16, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.45**	**74**		**Pn**			**17 32 40.9**	**+2.7**
RABL					Sn			**17 33 04.0**	**+5.1**
MANU	**Manus Island**	**4.91**	**297**		**Pn**			**17 33 26.3**	**+1.8**
PMG	**Port Moresby**	**6.80**	**222**	Pn	**Pn**			**17 35 50.0**	**+1.2**
PMG	**Port Moresby**	**6.80**	**222**	P	**Pn**			**17 33 50.9**	**+2.0**
PMG	**Port Moresby**	**6.80**	**222**	S	**Sn**			**17 35 12.0**	**+5.7**
HNR	**Honiara**	**9.61**	**122**	Pn	**Pn**			**17 34 25.2**	**-0.3**
COEN	**Coen**	**12.77**	**221**		**Pn**			**17 35 06.6**	**+0.7**
COEN	**Coen**	**12.77**	**221**	P	**Pn**			**17 35 08.2**	**+2.3**
CTAO	**Charters Tower**	**16.56**	**198**		**P**			**17 35 51.8**	**+0.3**
CTAO				IAmb	IAmb			17 35 55.4	
	comp=Z,18nm,1.1s								
CTAO	**Charters Tower**	**16.56**	**198**	P	**Pn**			**17 35 53.6**	**+1.2**
BOXOZ	**Borroloola**	**19.13**	**231**	P	**P**			**17 36 17.8**	**-1.6**
FAKI	**Fak Fak**	**19.49**	**273**	P	**P**			**17 36 23.0**	**-0.4**
QIS	**Mount Isa**	**20.00**	**215**	P	**P**			**17 36 28.4**	**-0.4**
KDU	**Kakadu**	**20.77**	**245**	P	**P**			**17 36 36.5**	**-0.5**
EIDS	**Eidsvold**	**20.95**	**182**	P	**P**			**17 36 35.7**	**-3.0**
EIDS				IAmb	IAmb			17 36 54.7	
	comp=Z,10nm,1.3s								
MTN	**Manton Dam**	**22.04**	**246**	P	**P**			**17 36 48.7**	**-1.3**
MTN				IAmb	IAmb			17 36 55.7	
	comp=Z,30nm,1.4s								
MTN	**Manton Dam**	**22.04**	**246**	P	**P**			**17 36 49.8**	**-0.2**
DZM	**Mont Dzumac**	**22.69**	**142**	P	**P**			**17 36 55.1**	**-0.9**
DZM	**Mont Dzumac**	**22.69**	**142**	P	**P**			**17 36 55.7**	**-0.3**
WB0	**Warramunga Arr**	**22.84**	**226**		**P**			**17 36 56.4**	**-0.9**
WR8	**Warramunga Arr**	**22.88**	**226**		**P**			**17 36 56.7**	**-1.0**
WRA	**Warramunga Arr**	**22.99**	**226**		**P**			**17 36 56.7**	**-2.0**
WRA	**Warramunga Arr**	**22.99**	**226**	P	**P**			**17 36 57.6**	**-1.1**
	comp=Z,20nm,0.4s,baz=48,slow=9.3,SNR=291								
	comp=Z,20nm,0.4s								
OUENC	**Ouen Island, N**	**23.20**	**142**	P	**P**			**17 37 02.1**	**+1.7**
	comp=Z,19nm,1.5s								
QLP	**Quilpie**	**23.28**	**197**	P	**P**			**17 37 03.0**	**+1.9**
KNRA	**Kununurra**	**25.25**	**242**	P	**P**			**17 37 16.9**	**-2.3**
KNRA				IAmb	IAmb			17 37 23.0	
	comp=Z,11nm,1.4s								
AS01	**Alice Springs**	**25.78**	**220**	P	**P**			**17 37 22.3**	**-1.6**
	comp=Z,5.4nm,0.8s								
AS31	**Alice Springs**	**25.81**	**220**		**P**			**17 37 23.3**	**-0.9**
ASAR	**Alice Springs**	**25.81**	**220**	P	**P**			**17 37 22.5**	**-1.7**
ASAR	**Alice Springs**	**25.81**	**220**	P	**P**			**17 37 23.0**	**-1.2**
	comp=Z,2.5nm,0.3s,baz=50,slow=8.4,SNR=126								
	comp=Z,2.5nm,0.3s								
ARMA	**Armidale**	**25.97**	**180**	P	**P**			**17 37 24.1**	**-1.5**
ARMA				IAmb	IAmb			17 37 40.2	
	comp=Z,19nm,1.5s								
CMSA	**Cobar Meteorol**	**27.67**	**191**	P	**P**			**17 37 41.7**	**+1.1**
FITZ	**Fitzroy Crossi**	**28.97**	**240**	P	**P**			**17 37 50.9**	**-1.5**
	comp=Z,2.5nm,0.3s,baz=53,slow=9.4,SNR=50								
	comp=Z,2.5nm,0.3s								
STKA	**Stephens Creek**	**29.02**	**198**	P	**P**			**17 37 51.4**	**-1.3**
STKA	**Stephens Creek**	**29.02**	**198**	P	**P**			**17 37 51.3**	**-1.4**
	comp=Z,1.1nm,0.4s,baz=15,slow=15,SNR=4.5								
	comp=Z,1.1nm,0.4s								
STKA	**Stephens Creek**	**29.02**	**198**	P	**P**			**17 37 54.7**	**+2.0**
CAN	**Canberra**	**30.96**	**184**	P	**P**			**17 38 08.6**	**-1.1**
HTT	**Hallett**	**31.34**	**201**	P	**P**			**17 38 13.2**	**+0.1**
BBOO	**Buckleboo**	**31.91**	**205**	P	**P**			**17 38 16.5**	**-1.5**
BBOO				IAmb	IAmb			17 38 29.9	
	comp=Z,21nm,1.4s								
BBOO	**Buckleboo**	**31.91**	**205**	P	**P**			**17 38 17.0**	**-1.1**
FORT	**Forrest**	**34.51**	**218**	P	**P**			**17 38 39.1**	**-1.4**
FORT				IAmb	IAmb			17 38 49.5	
	comp=Z,12nm,1.2s								
MBWA	**Marble Bar**	**35.30**	**239**	P	**P**			**17 38 45.5**	**-2.0**
MBWA				IAmb	IAmb			17 38 56.8	
	comp=Z,9.9nm,1.3s								
PSA00	**Pilbara Seismi**	**35.37**	**238**	P	**P**			**17 38 45.8**	**-2.2**
PSA00				IAmb	IAmb			17 39 02.1	
	comp=Z,10nm,1.5s								
PSA00	**Pilbara Seismi**	**35.37**	**238**	P	**P**			**17 38 46.1**	**-2.0**
PSA00				IAmb	IAmb			17 39 07.2	
	comp=Z,7.5nm,1.1s								
CORO	**Coronation Par**	**37.20**	**186**	P	**P**			**17 39 05.0**	**+1.8**
MEEK	**Meekatharra**	**38.66**	**232**	P	**P**			**17 39 14.4**	**-1.3**
MORW	**Morawa**	**41.83**	**230**	P	**P**			**17 39 39.6**	**-2.1**
MORW				IAmb	IAmb			17 40 08.4	
	comp=Z,25nm,1.2s								
KLBR	**Kellerberrin**	**41.87**	**226**	P	**P**			**17 39 39.8**	**-2.2**
CMAR	**Chiang Mai Arr**	**56.71**	**295**	P	**P**			**17 41 35.2**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=107,slow=3.9,SNR=4.6								
	comp=Z,0.7nm,0.8s								
VNDA	**Vanda**	**73.35**	**178**	P	**P**			**17 43 21.1**	**+0.5**
MKAR	**Makanchi Array**	**79.26**	**319**	P	**P**			**17 43 54.2**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=98,slow=7.4,SNR=2.9								
	comp=Z,0.3nm,0.6s								
QSPA	**South Pole Qui**	**85.64**	**180**	P	**P**			**17 44 25.6**	**-1.6**

*NEIC **19** 17:42:24.1±1.9, 31°.72N±0°.03×114°.55W±0°.03, h10km±2km, ML3.4/68, Error ellipse: s-maj=5.7km s-min=3

	comp=E,127nm,0.2s							
PMD	**Palm Desert**	**2.58**	**322**			**Pn**	**17 43 05.7**	**+0.1**
PFO	**Pinyon Flats O**	**2.60**	**321**			**Pn**	**17 43 06.7**	**+0.8**
Y14A	**Wickenburg**	**2.63**	**28**			**Pn**	**17 43 07.6**	**+1.3**
Y14A					IAML		17 43 51.0	
	comp=N,257nm,0.4s							
Y14A					IAML		17 43 54.9	
	comp=E,267nm,0.5s							
NEE2	**Needles Airpor**	**3.15**	**358**			**Pn**	**17 43 12.6**	**-0.8**
NEE2					IAML		17 44 16.3	
	comp=N,176nm,0.6s							
ELS	**Elsinore Mount**	**3.21**	**310**	Pn		**Pn**	**17 43 13.8**	**-0.4**
TUC	**Tucson**	**3.22**	**77**			**Pn**	**17 43 15.4**	**+1.0**
TUC					IAML		17 44 14.9	
	comp=N,65nm,0.8s							
W13A	**Hualapai Mount**	**3.51**	**8**			**Pn**	**17 43 19.7**	**+1.1**
BFSC	**Mount Baldy Ra**	**3.74**	**315**			**Pn**	**17 43 21.3**	**-0.3**
X16A	**Lo Mia Camp, P**	**3.79**	**42**			**Pn**	**17 43 22.1**	**-0.3**
X16A					IAML		17 44 32.1	
	comp=E,87nm,0.8s							
X16A					IAML		17 44 44.6	
	comp=N,71nm,1.0s							
MTPC	**Mountain Pass**	**3.97**	**347**	Pn		**Pn**	**17 43 24.4**	**-0.4**
GSC	**Goldstone, Bar**	**4.16**	**333**			**Pn**	**17 43 27.9**	**+0.5**
319A	**Douglas**	**4.45**	**92**			**Pn**	**17 43 30.9**	**-0.5**
CCCA	**Chr Cany lake**	**4.58**	**329**	Pn		**Pn**	**17 43 33.7**	**+0.5**
DUN6	**Lazy B Ranch**	**4.67**	**77**			**Pn**	**17 43 32.7**	**-1.7**
WUAZ	**Wupatki**	**4.68**	**33**			**Pn**	**17 43 33.5**	**-1.0**
QSM	**Queen of Sheba**	**4.78**	**336**			**Pn**	**17 43 37.0**	**+1.3**
X18A	**Snowflake**	**4.79**	**51**			**Pn**	**17 43 35.6**	**-0.4**
X18A					IAML		17 45 04.1	
	comp=N,43nm,0.7s							
GWY	**Greenwater Val**	**4.91**	**339**			**Pn**	**17 43 38.1**	**+0.4**
U15A	**North Rim**	**5.14**	**20**			**Pn**	**17 43 40.1**	**-0.8**
U15A					IAML		17 45 23.2	
	comp=N,16nm,1.0s							
U15A					IAML		17 45 23.9	
	comp=E,23nm,1.2s							
W18A	**Petrified Fore**	**5.29**	**47**			**Pn**	**17 43 41.3**	**-1.7**
LCMT	**Little Creek M**	**5.48**	**10**			**Pn**	**17 43 43.3**	**-2.3**
KNB	**Kanab**	**5.56**	**14**			**Pn**	**17 43 44.9**	**-1.8**
PRN	**Pahroc Range**	**5.80**	**356**			**Pn**	**17 43 48.9**	**-1.0**
R11B	**Troy Canyon, C**	**6.78**	**353**	Pn		**Pn**	**17 44 02.6**	**-0.8**
BNM	**Barren Site**	**7.08**	**67**	Pn		**Pn**	**17 44 05.5**	**-2.0**
NV11	**Mina Array Sit**	**7.44**	**337**	Pn		**Pn**	**17 44 12.1**	**-0.3**
MVCO	**Mesa Verde**	**7.46**	**40**	Pn		**Pn**	**17 44 12.4**	**-0.4**
ANMO	**Albuquerque**	**7.50**	**62**	Pn		**Pn**	**17 44 12.7**	**-0.6**

NEIC ***19*** *17:48:26.8±2.1,31°.67N±0°.02×114°.44W±0°.02,h10km±2km, ML3.1/62, Error ellipse: s-maj=3.7km s-min=3.1km az=345.0*

ECX ***19*** *17:48:31.8±0.6,31°.62N×114°.50W,h20km±4km, ML3.4*

ISC 19 17:48:28.5±1.1,31°.68N±0°.03×114°.45W±0°.02, h15km±10km,n44,σ1s02/56,4C-6D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDOMX	**El Doctor, EDO**	**0.38**	**319**	*eP*	**Pn**	**17 48 39.4**	**-0.1**
ECBX	**El Chinero**	**0.55**	**249**	⇑*eP*	**Pb**	**17 48 41.1**	**+1.2**
ECBX				*eS*	**Sb**	**17 48 47.8**	**+0.2**
ECBX				⇓*e*		17 48 48.3	
ECBX				IAML		17 48 48.3	
	comp=N,1μm,0.2s						
ECBX				⇓*e*		17 48 48.5	
ECBX				IAML		17 48 48.5	
	comp=E,2μm,0.4s						
RITX	**Riito Sonora**	**0.65**	**319**	*eP*	**Pn**	**17 48 43.8**	**+0.6**
RITX				*eS*	**Sn**	**17 48 53.4**	**+0.1**
SFX	**San Felipe**	**0.72**	**208**		**Pg**	**17 48 41.1**	**-1.4**
SFX				Sg	**Sg**	**17 48 50.0**	**-2.1**
SFX	**San Felipe**	**0.72**	**208**	⇑*eP*	**Pn**	**17 48 43.9**	**-0.3**
SFX				*eS*	**Sb**	**17 48 52.8**	**+0.3**
SFX				⇓*e*		17 48 53.3	
SFX				IAML		17 48 53.3	
	comp=N,2μm,0.5s						
SFX				IAML		17 48 53.6	
	comp=E,2μm,0.3s						
SFX				⇓*e*		17 48 53.6	
PPXB	**Puerto Peasco**	**0.78**	**116**	*eP*	**Pn**	**17 48 45.6**	**+0.6**
PPXB				*eS*	**Sn**	**17 48 56.7**	**+0.4**
PPXB				⇓*e*		17 48 58.4	
PPXB				IAML		17 48 58.4	
	comp=E,910nm,0.2s						
PPXB				⇓*e*		17 48 58.5	
AGSX	**Ej. Aguas Cali**	**0.84**	**314**	*eP*	**Pn**	**17 48 46.7**	**+0.8**
AGSX				*eS*	**Sn**	**17 48 58.3**	**+0.3**
RHX	**Rio Hardy**	**0.84**	**303**	*eP*	**Pg**	**17 48 46.0**	**+1.2**
RHX				*eS*	**Sn**	**17 48 58.3**	**+0.3**
PIX	**Pinacate**	**0.85**	**98**		**Pb**	**17 48 45.7**	**+0.7**
PIX				IAML		17 49 00.9	
	comp=E,1μm,0.5s						
PIX	**Pinacate**	**0.85**	**98**	⇑*eP*	**Pb**	**17 48 46.0**	**+1.0**
PIX				*eS*	**Sg**	**17 48 57.9**	**+1.6**
PIX				*e*		17 49 00.7	
PIX				IAML		17 49 00.7	
	comp=E,760nm,0.2s						
SPIG	**San Pedro Mart**	**1.07**	**234**	*eP*	**Pn**	**17 48 49.9**	**+0.6**
SPIG				*eS*	**Sg**	**17 49 03.5**	**+0.2**
ALAMX	**Rancho Alamar**	**1.12**	**288**	*eP*	**Pb**	**17 48 49.8**	**+0.2**
VTX	**Valle De La Tr**	**1.17**	**256**		**Pb**	**17 48 50.8**	**+0.2**
VTX				IAML		17 49 17.3	
	comp=N,539nm,0.4s						
VTX				IAML		17 49 17.7	
	comp=E,608nm,0.7s						
113A	**Mohawk Valley,**	**1.23**	**28**		**Pn**	**17 48 51.2**	**0.0**
113A				Sg	**Sb**	**17 49 06.1**	**-1.2**
ESJX	**Sierra Juarez**	**1.32**	**285**		**Pn**	**17 48 52.0**	**-0.5**
ESJX				IAML		17 49 08.7	
	comp=N,240nm,0.1s						
ESJX				IAML		17 49 09.1	
	comp=E,384nm,0.2s						
GLA	**Glamis**	**1.41**	**347**		**Pn**	**17 48 53.4**	**-0.4**
GLA				Sg	**Sn**	**17 49 10.8**	**-1.3**
GLA				IAML		17 49 25.6	
	comp=E,416nm,0.8s						
GLA				IAML		17 49 32.0	
	comp=N,359nm,0.6s						
214A	**Organ Pipe Nat**	**1.42**	**78**		**Pn**	**17 48 54.1**	**+0.2**
214A				IAML		17 49 19.0	
	comp=N,473nm,0.5s						
YUH	**Yuha Desert**	**1.58**	**308**		**Pn**	**17 48 56.8**	**+0.8**
SQX	**San Quintin**	**1.64**	**228**	*eP*	**Pb**	**17 48 59.0**	**+0.5**
SQX				*eS*	**Sb**	**17 49 19.1**	**+0.1**
SQX				IAML		17 49 20.9	
	comp=E,1μm,0.3s						
SQX				⇑*e*		17 49 20.9	
SQX				IAML		17 49 22.4	
	comp=N,693nm,0.5s						
CCX	**Cicese**	**1.90**	**276**		**Pn**	**17 49 00.1**	**-0.2**
CCX				IAML		17 49 48.6	
	comp=N,265nm,0.8s						
CBX	**Cerro Bola**	**1.98**	**289**		**Pn**	**17 49 02.4**	**+0.7**
TKX	**Tecate**	**2.04**	**297**	Pn	**Pn**	**17 49 03.3**	**+1.0**
TKX				IAML		17 49 38.5	
	comp=N,175nm,0.1s						
BLYC	**Blythe**	**2.07**	**358**		**Pn**	**17 49 03.8**	**+1.1**
BLYC				IAML		17 49 50.2	
	comp=N,78nm,0.6s						
BLYC				IAML		17 49 52.0	
	comp=E,82nm,0.8s						
BORC	**Borrego Spring**	**2.30**	**314**		**Pn**	**17 49 07.4**	**+1.5**
TJX	**Tijuana**	**2.36**	**291**	Pn	**Pn**	**17 49 05.5**	**-1.2**
DPP	**Dos Picos Cty**	**2.49**	**303**	Pn	**Pn**	**17 49 09.5**	**+1.0**
DPP				IAML		17 50 01.8	
	comp=E,53nm,0.6s						
PMD	**Palm Desert**	**2.55**	**321**	Pn	**Pn**	**17 49 08.3**	**-1.1**
Y14A	**Wickenburg**	**2.56**	**28**		**Pn**	**17 49 08.5**	**-1.1**
Y14A				IAML		17 49 55.4	
	comp=N,146nm,0.5s						
Y14A				IAML		17 49 59.6	
	comp=E,135nm,0.7s						
PFO	**Pinyon Flats O**	**2.57**	**319**		**Pn**	**17 49 07.9**	**-1.8**
NEE2	**Needles Airpor**	**3.09**	**357**	Pn	**Pn**	**17 49 15.9**	**-0.9**
NEE2				IAML		17 50 23.0	
	comp=E,104nm,0.8s						
NEE2				IAML		17 50 31.2	
	comp=N,95nm,0.7s						
TUC	**Tucson**	**3.18**	**78**		**Pn**	**17 49 17.9**	**-0.2**
TUC				IAML		17 50 17.3	
	comp=N,32nm,0.7s						
TUC				IAML		17 50 19.6	
	comp=N,50nm,0.6s						

ELS	**Elsinore Mount**	**3.19**	**309**	Pn		**Pn**	**17 49 16.3**	**-1.9**
W13A	**Hualapai Mount**	**3.45**	**8**			**Pn**	**17 49 22.3**	**+0.4**
W13A					IAML		17 50 27.8	
	comp=N,21nm,1.0s							
W13A					IAML		17 50 37.4	
	comp=E,24nm,0.8s							
BFSC	**Mount Baldy Ra**	**3.71**	**314**			**Pn**	**17 49 26.2**	**+0.7**
X16A	**Lo Mia Camp, P**	**3.72**	**42**			**Pn**	**17 49 25.3**	**-0.4**
X16A					IAML		17 50 36.8	
	comp=E,53nm,0.8s							
X16A					IAML		17 50 49.3	
	comp=N,46nm,1.0s							
V12A	**Nelson**	**4.05**	**355**	Pn		**Pn**	**17 49 28.4**	**-1.7**
319A	**Douglas**	**4.42**	**93**			**Pn**	**17 49 36.3**	**+1.1**
WUAZ	**Wupatki**	**4.61**	**33**			**Pn**	**17 49 37.1**	**-0.7**
DUN6	**Lazy B Ranch**	**4.63**	**78**	Pn		**Pn**	**17 49 36.5**	**-1.6**
X18A	**Snowflake**	**4.73**	**52**	Pn		**Pn**	**17 49 37.3**	**-2.2**
U15A	**North Rim**	**5.07**	**20**			**Pn**	**17 49 44.0**	**-0.2**
U15A					IAML		17 51 23.1	
	comp=N,10nm,1.1s							
U15A					IAML		17 51 40.6	
	comp=E,14nm,1.8s							
W18A	**Petrified Fore**	**5.23**	**48**			**Pn**	**17 49 46.6**	**+0.2**
LCMT	**Little Creek M**	**5.42**	**10**			**Pn**	**17 49 48.4**	**-0.5**
KNB	**Kanab**	**5.50**	**14**	Pn		**Pn**	**17 49 48.5**	**-1.5**

SJA 19 17:52:51.8±0.7,23°.95N×66°.67W,h219km±5km,ML3.5, MW3.5,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.41**	**132**	*eP*	Pn	17 53 21.8	+0.4
SLA	**San Lorenzo**	**1.31**	**126**	*eP*	Pn	17 53 26.3	+0.4
SLA				*eS*	S	17 53 50.9	-1.4
HJA	**Humahuaca**	**1.37**	**58**	*eP*	Pn	17 53 18.1	-8.5
AZAP	**Zapla**	**1.49**	**101**	*eP*	Pn	17 53 27.6	+0.2
AZAP				*eS*	S	17 53 54.9	-0.1
AF01	**San Pedro de A**	**1.71**	**305**	*eP*	Pn	17 53 31.6	+2.2
AF01				*eS*	S	17 53 57.5	-0.9
YJA	**Yavi**	**2.06**	**31**	*eP*	Pn	17 53 34.2	+1.3
YJA				*eS*	S	17 54 05.1	+0.5
GO02	**Mina Guanaco**	**2.92**	**245**	*eP*	Pn	17 53 42.4	+0.5
GO02				*eS*	S	17 54 20.4	-0.4
PB06	**IPOC Station P**	**2.94**	**294**	*eP*	Pn	17 53 42.8	+0.8
PB06				*eS*	S	17 54 20.4	-0.6
PB06				IAML		17 54 21.7	
	comp=Z,106nm,0.3s						
PB09	**IPOC Station P**	**3.20**	**312**	*eP*	Pn	17 53 46.3	+1.4
PB09				*eS*	S	17 54 26.3	0.0
PB09				IAML		17 54 27.0	
	comp=Z,60nm,0.3s						
PB03	**IPOC Station P**	**3.41**	**303**	*eP*	Pn	17 53 48.1	+0.7
PB03				*eS*	S	17 54 29.4	-1.5
PB03				IAML		17 54 30.9	
	comp=Z,152nm,0.2s						
PB05	**IPOC Station P**	**3.42**	**288**	*eP*	Pn	17 53 48.0	+0.5
PB05				*eS*	S	17 54 29.3	-1.7
PB05				IAML		17 54 30.9	
	comp=Z,29nm,0.1s						
PB14	**IPOC Station P**	**3.47**	**258**	*eP*	Pn	17 53 48.5	+0.3
PB14				*eS*	S	17 54 30.3	-2.0
PB14				IAML		17 54 32.9	
	comp=Z,34nm,0.3s						
PB10	**IPOC Station P**	**3.59**	**276**	*eP*	Pn	17 53 49.8	+0.5
PB10				*eS*	S	17 54 33.3	-1.0
PB10				IAML		17 54 35.4	
	comp=Z,44nm,0.3s						
AC02	**Maricunga**	**3.63**	**217**	*eP*	Pn	17 53 51.3	+1.0
AC02				*eS*	S	17 54 35.5	-0.6
AC02				IAML		17 54 44.0	
	comp=Z,36nm,4.6s						
PB01	**IPOC Station P**	**3.89**	**317**	*eP*	Pn	17 53 53.8	+0.6
PB01				*eS*	S	17 54 39.8	-1.4
PB01				IAML		17 54 43.5	
	comp=Z,78nm,0.2s						
PB02	**IPOC Station P**	**3.97**	**311**	*eP*	Pn	17 53 54.4	+0.4
PB02				*eS*	S	17 54 40.6	-2.1
PB02				IAML		17 54 50.4	
	comp=Z,91nm,0.3s						
AC01	**Pan de Azucar**	**4.18**	**238**	*eP*	Pn	17 53 40.0	-16
AC01				*eS*	S	17 54 44.2	-3.1
AC01				IAML		17 55 13.8	
	comp=Z,32nm,3.1s						
PB08	**IPOC Station P**	**4.43**	**328**	*eP*	Pn	17 54 01.9	+1.8
PB08				*eS*	S	17 54 53.6	-0.1
PB08				IAML		17 54 56.7	
	comp=Z,25nm,0.5s						
PATCX	**Punta Patache**	**4.48**	**313**	*eP*	Pn	17 53 59.8	-0.6
PATCX				IAML		17 54 51.8	
	comp=Z,45nm,3.1s						
PATCX				*eS*	S	17 54 52.8	-1.4
HMBC	**Humberstone**	**4.72**	**320**	*eP*	Pn	17 54 03.4	+0.1
HMBC				*eS*	S	17 54 56.6	-3.0
HMBC				IAML		17 54 58.6	
	comp=Z,49nm,0.2s						
PB11	**IPOC Station P**	**5.01**	**326**	*eS*	S	17 55 02.3	-4.0
PB11				IAML		17 55 04.7	
	comp=Z,25nm,1.4s						

IDC ***19*** *18:00:44.0±3.1,38°.83N×142°.62E,h61km±25km, mb3.3/3, mbtmp3.5/6,ML2.8/3, Error ellipse: s-maj=35.6km s-min=13.2km az=113.0*

JMA ***19*** *18:00:47.4±0.1,38°.9N±0°.2×142°.0E±0°.5,h54km, MV3.7/39, KINKAZAN REGION*

JMA Felt I J1 at KINKAZAN REGION .

ISC 19 18:00:45.4±1.5,38°.89N±0°.06×142°.2E±0°.1,h53km±11km, n23,σ1s67/28,mb3.8/3,7D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.43**	**296**	*i* P	**Pn**	**18 00 56.9**	**+0.8**
OFUJ				S	**Sn**	**18 01 03.5**	**-0.3**
JKMT	**Kesennumamotoy**	**0.55**	**262**	*i* P	**Pn**	**18 00 58.0**	**+0.6**
JKMT				S	**Sn**	**18 01 05.4**	**-0.8**
JMK	**Ichinoseki**	**0.74**	**275**	⇓*i*P	**Pn**	**18 01 00.1**	**+0.3**
JMK				⇓S	**Sn**	**18 01 09.2**	**-1.2**
JIO	**Ouri**	**0.78**	**236**	*i* P	**Pn**	**18 01 01.0**	**+0.8**
JIO				S	**Sn**	**18 01 10.6**	**-0.5**
JOM	**Ohasama**	**0.89**	**311**	⇓*i*P	**Pn**	**18 01 02.2**	**+0.4**
JOM				⇓S	**Sn**	**18 01 13.1**	**-0.8**
JTH	**Tanohata**	**1.07**	**347**	*i* P	**Pn**	**18 01 05.4**	**+1.2**
JTH				S	**Sn**	**18 01 19.1**	**+1.0**
JOU	**Okura**	**1.29**	**246**	P	**Pn**	**18 01 07.7**	**+0.5**
JOU				S	**Sn**	**18 01 22.8**	**-0.6**
JRG	**Rokugo**	**1.29**	**293**	⇓*i*P	**Pn**	**18 01 07.2**	**0.0**
JRG				⇓S	**Sn**	**18 01 21.5**	**-1.9**
JYK	**Kaneyama**	**1.41**	**272**	⇓*i*P	**Pn**	**18 01 08.9**	**+0.2**
JMM	**Marumori**	**1.49**	**227**	*i* P	**Pn**	**18 01 10.3**	**+0.5**
JMM				S	**Sn**	**18 01 27.8**	**-0.4**
JANG	**Nango**	**1.56**	**341**	P	**Pn**	**18 01 11.6**	**+0.8**
MJAR	**Matsushiro Arr**	**3.92**	**234**	P	**Pn**	**18 01 45.8**	**+2.7**
	0.1nm,0.3s,baz=42,slow=12,SNR=6.5						
MJAR				S	**Sn**	**18 02 32.7**	**+4.9**
	1.5nm,0.6s,baz=64,slow=22,SNR=4.3 0.9nm,0.4s						
ASAJ	**Asahikawa**	**5.23**	**3**	P	**Pn**	**18 02 01.9**	**+0.9**
	0.5nm,0.3s,baz=207,slow=14,SNR=11						
ASAJ				S	**Sn**	**18 02 58.7**	**-1.2**
	1.9nm,0.4s,baz=27,slow=26,SNR=1.4 1.5nm,0.3s						
USRK	**Ussuriysk Ar.**	**9.29**	**308**	P	**Pn**	**18 03 00.3**	**+3.7**
	0.1nm,0.3s,baz=113,slow=14,SNR=4.3 1.9nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.65**	**125**	T	T	18 37 05.7	
	baz=317,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**28.66**	**125**	T	T	18 37 06.0	
	baz=317,slow=75,SNR=64						
H11N3	**WAKE ISLAND Hy**	**28.67**	**125**	T	T	18 37 07.0	
	baz=317,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy**	**29.43**	**127**	T	T	18 38 12.4	
	baz=318,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**29.43**	**127**	T	T	18 38 04.2	
	baz=318,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**29.45**	**127**	T	T	18 38 15.3	
	baz=318,slow=76,SNR=18						
MKAR	**Makanchi Array**	**43.66**	**301**	P	**P**	**18 08 45.1**	**+0.4**
	0.5nm,0.7s,baz=83,slow=10.0,SNR=4.8 0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**45.35**	**307**	P	**P**	**18 08 58.5**	**+0.4**
	0.8nm,0.5s,baz=80,slow=8.0,SNR=9.4 0.8nm,0.5s						
WRA	**Warramunga Arr**	**58.98**	**189**	P	**P**	**18 10 36.9**	**-2.6**
	0.3nm,0.4s,baz=6.3,slow=6.8,SNR=4.7 0.3nm,0.4s						

SNET ***19*** *18:06:55.7±0.6,12°.00N×87°.29W,h18km±841km, ML2.9*

CATAC 19 18:06:54.1±0.3,12°.N±2°×87°.W±°,h36km±3km,M3.4/34, MLv3.4/34,3C-17D,Error ellipse: s-maj=5.4km s-min=2.3km az=33.0,confirmed,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.54**	**61**	⇓P	Pn	18 07 06.5	+1.1
PACN	**Al O del Volca**	**0.64**	**26**	⇓P	Pn	18 07 07.6	+0.8
CNGA	**Al SSO del Vol**	**0.68**	**33**	⇓P	Pn	18 07 08.1	+0.7
CNGA				S	Sn	18 07 17.9	+1.2
CNGN	**Cerro Negro**	**0.69**	**33**	⇓P	Pn	18 07 08.0	+0.6
SAPS	**Ciudad Sandino**	**0.70**	**69**	P	Pn	18 07 08.9	+1.3
SAPS	**Ciudad Sandino**	**0.70**	**69**	S	Sn	18 07 19.7	+2.5
AMTN	**Mateare**	**0.70**	**63**	S	Sn	18 07 19.5	+2.2
AMTN	**Mateare**	**0.70**	**63**	P	Pn	18 07 08.6	+1.0
BC84	**Volcan Momotom**	**0.70**	**48**	P	Pn	18 07 08.5	+0.9
BC84	**Volcan Momotom**	**0.70**	**48**	S	Sn	18 07 18.6	+1.4
MOMN	**Momotombo**	**0.71**	**47**	⇓P	Pn	18 07 08.4	+0.6
MOMN				S	Sn	18 07 18.9	+1.4
PLRN	**Geotermica Pol**	**0.72**	**25**	P	Pn	18 07 08.4	+0.5
PLRN				S	Sn	18 07 18.9	+1.1
ILCN	**San Idelfonso**	**0.75**	**29**	⇓P	Pn	18 07 08.8	+0.6
ILCN				S	Sn	18 07 19.7	+1.4
PKGN	**Cerro Pekin**	**0.75**	**7**	⇓P	Pn	18 07 08.9	+0.7
PKGN				S	Sn	18 07 20.2	+1.8
CRUN	**El Crucero**	**0.76**	**85**	P	Pn	18 07 09.0	+0.5
POLN	**Al Sur del Vol**	**0.77**	**20**	⇓P	Pn	18 07 09.0	+0.5
POLN				S	Sn	18 07 20.2	+1.3
MOM2	**El Cardon**	**0.77**	**48**	⇓P	Pn	18 07 09.3	+0.8
MOM2				S	Sn	18 07 20.9	+2.0
ABCN	**Banco Central**	**0.78**	**75**	S	Sn	18 07 20.5	+1.4
ABCN	**Banco Central**	**0.78**	**75**	P	Pn	18 07 09.2	+0.7
APQ3	**Volcan Apoyequ**	**0.78**	**63**	P	Pn	18 07 09.5	+0.9
APQ3				S	Sn	18 07 20.8	+1.8
CRIN	**San Cristobal**	**0.78**	**2**	⇓P	Pn	18 07 09.3	+0.7
APQ2	**Apoyeque**	**0.79**	**69**	⇓P	Pn	18 07 09.8	+0.3
APQ2				S	Sn	18 07 20.8	+1.6
UNAN	**Cigeo UNAN**	**0.81**	**76**	⇓P	Pn	18 07 09.3	+0.3
UNAN				S	Sn	18 07 21.4	+1.5
ALLN	**Telcor Managua**	**0.82**	**73**	S	Sn	18 07 21.8	+1.7
ALLN	**Telcor Managua**	**0.82**	**73**	P	Pn	18 07 10.0	+0.8
TISN	**Laguna Tiscapa**	**0.82**	**74**	P	Pn	18 07 09.8	+0.7
SABN	**Sabanita**	**0.90**	**88**	P	Pn	18 07 10.6	+0.4
WILN	**Americas 2**	**0.90**	**75**	⇓P	Pn	18 07 11.2	+1.0
WILN				S	Sn	18 07 24.2	+2.1
AERN	**Aeropuerto Man**	**0.92**	**76**	S	Sn	18 07 23.9	+1.4
AERN	**Aeropuerto Man**	**0.92**	**76**	P	Pn	18 07 10.8	+0.4
NANN	**Nandasmo**	**0.94**	**89**	P	Pn	18 07 12.2	+1.4
NANN	**Nandasmo**	**0.94**	**89**	S	Sn	18 07 25.9	+2.9
NADN	**Granada**	**1.04**	**99**	⇑P	Pn	18 07 12.3	+0.2
NADN				S	Sn	18 07 25.5	+0.1
POTN	**Potosi Cosigui**	**1.15**	**339**	P	Pn	18 07 14.5	+0.8
POTN				S	Sn	18 07 28.7	+0.5
ARIN	**Rivas**	**1.30**	**111**	S	Sn	18 07 31.9	0.0
ARIN	**Rivas**	**1.30**	**111**	P	Pn	18 07 15.6	-0.1
JAPN	**Al SSO del Vol**	**1.42**	**106**	⇓P	Pn	18 07 18.4	+0.9
MORN	**Al O del Volca**	**1.45**	**105**	P	Pn	18 07 17.7	-0.1
MORN				S	Sn	18 07 36.6	+1.1
BOAB	**BOACO BROADBAN**	**1.48**	**69**	S	Sn	18 07 37.0	+0.8
BOAB	**BOACO BROADBAN**	**1.48**	**69**	⇓P	Pn	18 07 18.6	+0.5
MATN	**Matagalpa**	**1.51**	**48**	S	Sn	18 07 37.5	+0.3
MATN	**Matagalpa**	**1.51**	**48**	⇓P	Pn	18 07 18.3	-0.4
CNCH	**Conchagua**	**1.54**	**331**	*eP*	Pn	18 07 19.8	+0.7
CNCH				*eS*	Sn	18 07 39.3	+1.4
CNCH	**Conchagua**	**1.54**	**331**	S	Sn	18 07 38.8	+0.9
CNCH	**Conchagua**	**1.54**	**331**	⇓P	Pn	18 07 18.9	-0.2
CARN	**Rivas**	**1.69**	**115**	⇑P	Pn	18 07 18.3	-2.8
CARN				S	Sn	18 07 43.2	+1.7
RCPN	**Sur Rio San Ju**	**1.86**	**31**	P	Pn	18 07 23.2	-0.4
RCVN	**Varillal2**	**1.86**	**27**	P	Pn	18 07 25.1	+1.5
BLLM	**Bellamira**	**1.89**	**323**	*eP*	Pn	18 07 24.5	+0.5
LCV	**Lacayo**	**1.91**	**322**	*eP*	Pn	18 07 24.6	+0.4
PACA	**Pacayal**	**1.96**	**322**	*eP*	Pn	18 07 25.8	+0.8
PACA				*eS*	Sn	18 07 49.1	+0.6
PACA				IAML		18 07 52.1	
	comp=Z,632nm,0.3s						
PACA	**Pacayal**	**1.96**	**322**	P	Pn	18 07 25.7	+0.7
PQSS	**Presa 15 de Se**	**2.23**	**320**	*eP*	Pn	18 07 29.3	+0.8
PQSS				*eS*	Sn	18 07 54.6	-0.2
PQSS				IAML		18 07 58.9	
	comp=Z,15nm,0.1s						
PQSS	**Presa 15 de Se**	**2.23**	**320**	S	Sn	18 07 55.3	+0.5
PQSS	**Presa 15 de Se**	**2.23**	**320**	⇑P	Pn	18 07 29.4	+0.9
NUBE	**Las Nubes**	**3.29**	**307**	S	Sn	18 08 21.1	-0.2
NUBE	**Las Nubes**	**3.29**	**307**	P	Pn	18 07 43.7	+0.4

**IDC 19 18:11:33.3±2.5,17°.61S×177°.73W,h0km,mb4.0/4, mbtmp4.0/4,Error ellipse: s-maj=234.6km s

AGSX	**Ej. Aguas Cali**	**0.88**	**319**	*eP*		**Pb**	**18 22 43.6**	**-0.3**
AGSX				*eS*		**Sg**	**18 22 55.7**	**-0.1**
PESCX	**Ej. Pescaderos**	**0.93**	**334**	*eS*		**Sg**	**18 22 57.3**	**+0.1**
SPIG	**San Pedro Mart**	**1.01**	**237**⇑	*eP*		**Pb**	**18 22 46.0**	**-0.2**
SPIG				*eS*		**Sg**	**18 23 00.2**	**+0.5**
CPBX	**Cerro Prieto**	**1.08**	**320**			**Pg**	**18 22 48.0**	**+0.2**
VTX	**Valle De La Tr**	**1.13**	**260**			**Pb**	**18 22 47.8**	**-0.4**
VTX				IAML			18 23 14.4	
	comp=E,2µm,0.4s							
VTX				IAML			18 23 14.8	
	comp=N,819nm,0.7s							
VTX	**Valle De La Tr**	**1.13**	**260**⇑	*eP*		**Pb**	**18 22 47.8**	**-0.4**
113A	**Mohawk Valley,**	**1.32**	**27**			**Pn**	**18 22 50.5**	**-0.2**
113A				IAML			18 23 09.3	
	comp=E,754nm,0.3s							
113A				IAML			18 23 10.2	
	comp=N,698nm,0.3s							
ESJX	**Sierra Juarez**	**1.32**	**288**			**Pn**	**18 22 49.7**	**-1.1**
ESJX				IAML			18 23 11.7	
	comp=E,441nm,0.1s							
ESJX				IAML			18 23 18.7	
	comp=N,425nm,0.7s							
214A	**Organ Pipe Nat**	**1.47**	**75**			**Pn**	**18 22 52.9**	**+0.2**
214A				IAML			18 23 15.6	
	comp=N,854nm,0.4s							
GLA	**Glamis**	**1.48**	**349**			**Pn**	**18 22 52.6**	**-0.4**
GLA				IAML			18 23 22.3	
	comp=E,1µm,0.7s							
SQX	**San Quintin**	**1.57**	**230**	*eP*		**Pn**	**18 22 54.6**	**+0.5**
SQX				*eS*		**Sn**	**18 23 14.8**	**+0.6**
SQX				*e*			18 23 17.5	
SQX				IAML			18 23 17.5	
	comp=E,862nm,0.4s							
SQX				IAML			18 23 27.5	
	comp=N,1µm,0.6s							
SQX			⇑	*e*			18 23 27.5	
YUH	**Yuha Desert**	**1.61**	**311**			**Pn**	**18 22 53.1**	**-1.7**
YUH				IAML			18 23 19.6	
	comp=E,332nm,0.4s							
CCX	**Cicese**	**1.88**	**279**	Pn		**Pn**	**18 22 57.5**	**-0.9**
CCX				IAML			18 23 39.2	
	comp=E,561nm,0.5s							
CCX				IAML			18 23 45.3	
	comp=N,478nm,0.5s							
CBX	**Cerro Bola**	**1.99**	**292**	Pn		**Pn**	**18 23 00.0**	**0.0**
TKX	**Tecate**	**2.05**	**299**	Pn		**Pn**	**18 23 00.7**	**-0.1**
TKX				IAML			18 23 32.5	
	comp=N,412nm,0.2s							
TKX				IAML			18 23 32.6	
	comp=E,399nm,0.2s							
BLYC	**Blythe**	**2.15**	**359**			**Pn**	**18 23 02.5**	**+0.3**
BLYC				IAML			18 23 46.9	
	comp=N,178nm,0.6s							
BLYC				IAML			18 23 54.8	
	comp=E,200nm,0.8s							
BORC	**Borrego Spring**	**2.34**	**316**			**Pn**	**18 23 05.3**	**+0.6**
TJX	**Tijuana**	**2.37**	**293**	Pn		**Pn**	**18 23 05.3**	**+0.2**
DPP	**Dos Picos Cty**	**2.51**	**304**			**Pn**	**18 23 07.2**	**+0.1**
DPP				IAML			18 23 46.4	
	comp=E,151nm,0.2s							
PMD	**Palm Desert**	**2.60**	**322**			**Pn**	**18 23 09.1**	**+0.8**
PFO	**Pinyon Flats O**	**2.61**	**321**			**Pn**	**18 23 08.4**	**-0.2**
Y14A	**Wickenburg**	**2.65**	**28**			**Pn**	**18 23 09.9**	**+0.9**
NEE2	**Needles Airpor**	**3.17**	**358**			**Pn**	**18 23 12.4**	**-3.7**
TUC	**Tucson**	**3.22**	**76**			**Pn**	**18 23 16.6**	**-0.3**
TUC				IAML			18 24 16.3	
	comp=E,92nm,0.6s							
TUC				IAML			18 24 26.0	
	comp=E,54nm,0.7s							
ELS	**Elsinore Mount**	**3.22**	**310**			**Pn**	**18 23 13.2**	**-3.8**
ELS				IAML			18 24 23.6	
	comp=E,70nm,0.5s							
W13A	**Hualapai Mount**	**3.53**	**8**			**Pn**	**18 23 19.8**	**-1.5**
W13A				IAML			18 24 23.1	
	comp=N,55nm,0.4s							
W13A				IAML			18 24 34.1	
	comp=E,56nm,0.9s							
BFSC	**Mount Baldy Ra**	**3.75**	**315**			**Pn**	**18 23 24.2**	**-0.2**
X16A	**Lo Mia Camp, P**	**3.80**	**41**			**Pn**	**18 23 25.8**	**+0.8**
MTPC	**Mountain Pass**	**3.98**	**347**			**Pn**	**18 23 27.7**	**+0.2**
HSIG		**3.99**	**129**	Pn		**Pn**	**18 23 26.6**	**-0.8**
MWC	**Mount Wilson**	**3.99**	**312**			**Pn**	**18 23 28.2**	**+0.6**
MWC				IAML			18 24 49.1	
	comp=E,39nm,1.2s							
MWC				IAML			18 24 49.1	
	comp=N,31nm,0.8s							
PASC	**Pasadena Art C**	**4.04**	**310**	Pn		**Pn**	**18 23 29.1**	**+0.9**
GSC	**Goldstone, Bar**	**4.18**	**333**			**Pn**	**18 23 31.0**	**+1.0**
GSC				IAML			18 24 59.6	
	comp=E,31nm,1.1s							
NZIG	**Nacozari, Sono**	**4.40**	**105**			**Pb**	**18 23 41.3**	**-2.6**
NZIG						**Sb**	**18 24 31.5**	**-5.5**
319A	**Douglas**	**4.45**	**91**			**Pn**	**18 23 34.0**	**+0.2**
DUN6	**Lazy B Ranch**	**4.67**	**77**	Pn		**Pn**	**18 23 38.0**	**+1.1**
WUAZ	**Wupatki**	**4.69**	**33**			**Pn**	**18 23 38.8**	**+1.5**
QSM	**Queen of Sheba**	**4.79**	**336**			**Pn**	**18 23 38.5**	**0.0**
X18A	**Snowflake**	**4.80**	**51**			**Pn**	**18 23 39.5**	**+0.8**
GWY	**Greenwater Val**	**4.93**	**339**			**Pn**	**18 23 41.0**	**+0.5**
SHPR	**Sheep Range**	**4.93**	**354**	Pn		**Pn**	**18 23 41.2**	**+0.7**
U15A	**North Rim**	**5.15**	**20**			**Pn**	**18 23 46.6**	**+3.0**
W18A	**Petrified Fore**	**5.30**	**47**			**Pn**	**18 23 47.2**	**+1.6**
LCMT	**Little Creek M**	**5.50**	**10**			**Pn**	**18 23 49.5**	**+1.2**
TPNV	**Topopah Spring**	**5.54**	**345**	Pn		**Pn**	**18 23 50.1**	**+1.2**
KNB	**Kanab**	**5.58**	**14**			**Pn**	**18 23 52.1**	**+2.7**
PRN	**Pahroc Range**	**5.82**	**356**			**Pn**	**18 23 54.7**	**+2.0**
CCUT	**Cedar City**	**6.01**	**9**			**Pn**	**18 23 54.1**	**-1.3**
SZCU	**Shurtz Canyon**	**6.09**	**10**	Pn		**Pn**	**18 23 56.5**	**-0.1**
DSP	**Deep Springs**	**6.44**	**334**	Pn		**Pn**	**18 24 01.1**	**+0.1**
SBM	**South Baldy**	**6.59**	**67**	Pn		**Pn**	**18 24 03.8**	**+0.3**
R11B	**Troy Canyon, C**	**6.80**	**353**	Pn		**Pn**	**18 24 08.3**	**+2.1**
LENM	**Lemitar**	**6.81**	**66**	Pn		**Pn**	**18 24 06.7**	**+0.3**
CRNM	**Carthage**	**6.93**	**68**	Pn		**Pn**	**18 24 09.3**	**+1.2**
PSUT	**Pine Spring**	**6.94**	**4**	Pn		**Pn**	**18 24 08.6**	**+0.4**
HMU	**Henry Mountain**	**7.03**	**25**	Pn		**Pn**	**18 24 10.8**	**+1.3**
SPR3	**Spring Creek 3**	**7.39**	**1**	Pn		**Pn**	**18 24 15.6**	**+1.2**
MVCO	**Mesa Verde**	**7.47**	**40**	Pn		**Pn**	**18 24 15.8**	**+0.4**
MNTX	**Cornudas Mount**	**7.76**	**87**	Pn		**Pn**	**18 24 21.3**	**+2.1**
PV05	**Paradox Valley**	**7.83**	**33**	Pn		**Pn**	**18 24 22.6**	**+2.1**
PV13	**Radium Mtn., P**	**8.03**	**34**	Pn		**Pn**	**18 24 24.0**	**+0.9**
PV18	**Skein Mesa, Pa**	**8.06**	**33**	Pn		**Pn**	**18 24 23.6**	**+0.1**
PV03	**Paradox Valley**	**8.09**	**33**	Pn		**Pn**	**18 24 24.9**	**+0.9**
PV10	**Paradox Valley**	**8.10**	**32**	Pn		**Pn**	**18 24 23.9**	**-0.3**
PV02	**Paradox Valley**	**8.11**	**34**	Pn		**Pn**	**18 24 25.1**	**+0.9**
PV16	**Nyswonger Mesa**	**8.11**	**33**	Pn		**Pn**	**18 24 26.7**	**+2.5**
PV20	**West Nyswonger**	**8.11**	**32**	Pn		**Pn**	**18 24 22.5**	**-1.6**
PV01	**Paradox Valley**	**8.13**	**35**	Pn		**Pn**	**18 24 25.6**	**+1.1**

*IDC **19** 18:23:24.1±0.9, 3˚.26N×126˚.23E, h0km, mb4.2/12, mbtmp4.2/12, Error ellipse: s-maj=71.0km s-min=13.8km az=68.0*

*NEIC **19** 18:23:40.2±2.2, 2˚.9N±0˚.1×125˚.77E±0˚.10, h129km±8km, mb4.5/27, Error ellipse: s-maj=19.3km s-min=10.9km az=212.0*

*DJA **19** 18:23:43.4±0.4, 3˚N±3˚×12˚6E±˚, h109km±7km, M4.6/16, mB5.6/3, mb4.7/7, MLv4.5/16, Mw(mB)5.1/3*

ISC 19 18:23:40.0±0.5, 2.80N±0.05×125.73E±0.06, h129km, n71, σ1°63/76, mb4.4/24, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.90**	**347**	P	**Pn**	**18 24 04.1**	**+2.1**
SGSI				S	**Sn**	**18 24 22.1**	**+3.5**
TNTI	**Ternate**	**2.60**	**141**		**Pn**	**18 24 23.2**	**+1.7**
TNTI					**Sn**	**18 24 54.7**	**+1.3**
TNTI	**Ternate**	**2.60**	**141**	P	**Pn**	**18 24 23.8**	**+2.4**
TNTI	**Ternate**	**2.60**	**141**	S	**Sn**	**18 24 55.2**	**+1.9**
TNTI	**Ternate**	**2.60**	**141**	P	**Pn**	**18 24 23.6**	**+2.2**
TNTI				S	**Sn**	**18 24 54.6**	**+1.3**
KMSI	**Cibinong**	**2.82**	**218**	P	**Pn**	**18 24 27.7**	**+3.4**
MRSI	**Marisa**	**4.44**	**239**	P	**Pn**	**18 24 49.0**	**+3.4**
SANI	**Sanana**	**4.83**	**177**	P	**Pn**	**18 24 50.9**	**+0.1**
SANI	**Sanana**	**4.83**	**177**	P	**Pn**	**18 24 50.0**	**-0.8**
SANI				S	**Sn**	**18 25 41.0**	**-4.9**
LUWI	**Luwuk**	**4.83**	**218**	P	**Pn**	**18 24 54.0**	**+3.1**
TOLI2	**Tolitoli**	**5.22**	**251**		**Pn**	**18 24 58.4**	**+2.2**
TOLI2	**Tolitoli**	**5.22**	**251**	P	**Pn**	**18 24 58.9**	**+2.8**
APSI	**Ampana** 0.2nm23nm,0.9s	**5.50**	**228**	P	Pn	18 25 04.5	+4.6
NLAI	**Namlea** 7µm259nm,0.8s	**6.16**	**167**	P	**Pn**	**18 25 09.7**	**+1.0**
MPSI	**Mapaga**	**6.32**	**247**	P	**Pn**	**18 25 13.4**	**+2.5**
MSAI	**Masohi** 0.5nm83nm,0.7s	**6.89**	**152**	P	**Pn**	**18 25 21.2**	**+2.6**
AAI	**Ambon**	**6.90**	**159**	P	**Pn**	**18 25 20.3**	**+1.6**
FAKI	**Fak Fak**	**8.65**	**131**	Pn	**Pn**	**18 25 43.4**	**+1.1**
FAKI	**Fak Fak**	**8.65**	**131**	P	**Pn**	**18 25 44.6**	**+2.4**
SBUM	**Sibu**	**13.50**	**269**	P	**P**	**18 26 53.2**	**+2.1**
KSM	**Kuching**	**15.47**	**265**		**P**	**18 27 12.1**	**-0.9**
DRS	**Darwin Rock St** 23nm,0.6s	**15.98**	**161**	P	**Pn**	**18 27 17.6**	**-0.1**
MTN	**Manton Dam**	**16.44**	**161**		**Pn**	**18 27 21.6**	**-1.8**
MTN	**Manton Dam**	**16.44**	**161**	P	**Pn**	**18 27 22.9**	**-0.5**
KDU	**Kakadu**	**16.78**	**157**	P	**P**	**18 27 26.7**	**-0.8**
KNRA	**Kununurra**	**18.61**	**171**	P	**P**	**18 27 47.2**	**-0.3**
KNRA				IAmb	IAmb	18 27 49.9	
	comp=Z,20nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.77**	**180**	P	**P**	**18 28 11.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**20.77**	**180**	P	**P**	**18 28 12.0**	**+1.1**
	comp=Z,2.9nm,0.3s,baz=13,slow=10,SNR=36						
	comp=Z,2.9nm,0.3s						
UBPT	**Khong Chiam**	**23.50**	**303**	P	**P**	**18 28 38.3**	**-0.2**
UBPT				IAmb	IAmb	18 29 05.7	
	comp=Z,20nm,1.3s						
WB0	**Warramunga Arr**	**23.99**	**160**		**P**	**18 28 42.5**	**-0.4**
WB0				IAmb	IAmb	18 28 44.9	
	comp=Z,26nm,1.0s						
COEN	**Coen**	**24.01**	**134**	P	**P**	**18 28 42.4**	**-0.7**
COEN				IAmb	IAmb	18 28 45.2	
	comp=Z,12nm,1.0s						
COEN	**Coen**	**24.01**	**134**	P	**P**	**18 28 44.1**	**+1.0**
WRAB	**Tennant Creek**	**24.13**	**160**	P	**P**	**18 28 44.0**	**-0.1**
WRAB				IAmb	IAmb	18 28 46.4	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**24.13**	**160**		**P**	**18 28 42.8**	**-1.3**
WRA	**Warramunga Arr**	**24.13**	**160**	P	**P**	**18 28 44.5**	**+0.3**
	comp=Z,14nm,0.8s,baz=336,slow=10,SNR=77						
	comp=Z,14nm,0.8s						
WR8	**Warramunga Arr**	**24.20**	**160**		**P**	**18 28 44.4**	**-0.4**
WR8				IAmb	IAmb	18 28 47.1	
	comp=Z,11nm,0.8s						
QIS	**Mount Isa**	**26.91**	**150**	P	**P**	**18 29 10.1**	**+0.8**
AS31	**Alice Springs**	**27.49**	**164**		**P**	**18 29 14.5**	**+0.1**
ASAR	**Alice Springs**	**27.49**	**164**	P	**P**	**18 29 14.9**	**+0.5**
ASAR	**Alice Springs**	**27.49**	**164**	P	**P**	**18 29 15.1**	**+0.7**
	comp=Z,2.0nm,0.4s,baz=342,slow=6.8,SNR=159						
	comp=Z,2.0nm,0.4s						
AS01	**Alice Springs**	**27.50**	**164**	P	**P**	**18 29 14.6**	**+0.1**
	comp=Z,4.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.50**	**303**	P	**P**	**18 29 40.8**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=114,slow=9.0,SNR=1.9						
	comp=Z,0.4nm,0.5s						
FORT	**Forrest**	**33.47**	**176**	P	**P**	**18 30 06.9**	**0.0**
FORT				IAmb	IAmb	18 30 51.3	
	comp=Z,7.7nm,0.9s						
BBOO	**Buckleboo**	**36.74**	**165**	P	**P**	**18 30 34.5**	**-0.5**
EIDS	**Eidsvold**	**37.26**	**140**	P	**P**	**18 30 39.7**	**+0.2**
EIDS				IAmb	IAmb	18 31 22.1	
	comp=Z,8.3nm,1.2s						
STKA	**Stephens Creek**	**37.64**	**158**	P	**P**	**18 30 43.3**	**+0.7**
STKA	**Stephens Creek**	**37.64**	**158**	P	**P**	**18 30 42.8**	**+0.2**
	comp=Z,3.7nm,0.4s,baz=339,slow=9.9,SNR=12						
	comp=Z,3.7nm,0.4s						
ARMA	**Armidale**	**41.26**	**145**	P	**P**	**18 31 14.2**	**+1.4**
ARMA				IAmb	IAmb	18 31 25.9	
	comp=Z,17nm,1.2s						
CAN	**Canberra**	**43.75**	**152**	P	**P**	**18 31 33.4**	**+0.6**
LHI	**Lord Howe Isla**	**46.57**	**140**	P	**P**	**18 31 55.3**	**+0.2**
SONM	**Songino Array**	**47.87**	**342**	P	**P**	**18 32 02.8**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=156,slow=8.7,SNR=2.6						
	comp=Z,0.3nm,0.4s						
PINNC	**Pines Island,**	**47.90**	**124**	P	**P**	**18 32 05.7**	**+0.2**
MKAR	**Makanchi Array**	**57.75**	**326**	P	**P**	**18 33 15.8**	**-1.7**
MKAR				PcP	**PcP**	**18 34 08.4**	**-0.6**
MKAR	**Makanchi Array**	**57.75**	**326**	P	**P**	**18 33 16.6**	**-0.9**
	comp=Z,2.8nm,0.4s,baz=122,slow=7.6,SNR=75						
	comp=Z,2.8nm,0.4s						
MAKZ	**Makanchi**	**57.94**	**326**	P	**P**	**18 33 17.5**	**-1.3**
MAKZ				IAmb	IAmb	18 33 19.5	
	comp=Z,2.6nm,0.4s						
MAKZ				PcP	**PcP**	**18 34 08.1**	**-1.6**
KDJ	**Kajisay**	**58.38**	**319**	P	**P**	**18 33 21.2**	**-1.0**
KDJ				IAmb	IAmb	18 33 25.2	
	comp=Z,3.6nm,0.8s						
ZALV	**Zalesovo Beam**	**60.96**	**334**	P	**P**	**18 33 37.3**	**-2.1**
	comp=Z,0.5nm,0.4s,baz=138,slow=7.1,SNR=2.5						
	comp=Z,0.5nm,0.4s						
LBZ	**Lake Benmore**	**61.49**	**145**	P	**P**	**18 33 44.2**	**+1.0**
KURBB	**Kurchatov Arra**	**61.98**	**328**	P	**P**	**18 33 45.1**	**-1.2**
	comp=Z,1.9nm,0.4s,baz=129,slow=5.8,SNR=42						
	comp=Z,1.9nm,0.4s						
KURK	**Kurchatov**	**61.99**	**328**	P	**P**	**18 33 45.0**	**-1.4**
KKAR	**Karatay Array**	**63.23**	**318**	P	**P**	**18 33 53.2**	**-1.6**
BVAR	**Borovoye Array**	**67.55**	**327**	P	**P**	**18 34 21.4**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=36,slow=6.5,SNR=6.7						
	comp=Z,0.5nm,0.4s						
BRVK	**Borovoye**	**67.63**	**327**	P	**P**	**18 34 21.3**	**-1.6**
AB31	**Akbulak array**	**72.24**	**321**	P	**P**	**18 34 49.6**	**-1.5**
ABKAR	**Akbulak array**	**72.24**	**321**	P	**P**	**18 34 49.8**	**-1.4**
L18K	**Granite Mounta**	**81.75**	**28**	P	**P**	**18 35 45.9**	**+1.8**
L18K				IAmb	IAmb	18 35 55.7	
	comp=Z,7.5nm,1.4s						
D19K	**Kuna River**	**82.34**	**21**	P	**P**	**18 35 48.1**	**+1.0**
D19K				IAmb	IAmb	18 35 49.1	
	comp=Z,16nm,1.4s						
C23K	**Itkillik River**	**85.19**	**20**	P	**P**	**18 36 02.6**	**+1.0**
BMAR	**Burnt Mountain**	**87.31**	**23**	P	**P**	**18 36 13.0**	**+0.9**
ARCES	**ARCESS Array B**	**90.97**	**340**	P	**P**	**18 36 28.7**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=62,slow=5.3,SNR=4.4						
	comp=Z,1.7nm,0.8s						
FINES	**FINESS Array B**	**92.17**	**332**	P	**P**	**18 36 33.2**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=55,slow=7.2,SNR=5.5						
	comp=Z,0.7nm,0.6s						

*AEIC **19** 18:28:25.0±1.4, 50˚.18N±0˚.10×176˚.19W±0˚.10, h6km±8km, Error ellipse: s-maj=14.2km s-min=9.1km az=174.0*

NEIC 19 18:28:22.9±1.7, 50˚.37N±0˚.02×176˚.21W±0˚.09, h10km±2km, mb3.8/12, ML3.4/10, ML3.0(AEIC), Error ellipse: s-maj=9.5km s-min=3.4km az=257.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETKA	**Kagalaska Isla**	**1.50**	**355**		Pn	18 28 49.9	+0.1
ETKA					Sn	18 29 08.5	-0.9
ETKA					Sb	18 29 09.6	-0.2
KIMD	**Kanaga Island**	**1.53**	**336**		Pn	18 28 50.5	+0.2
KIMD					Sn	18 29 10.1	-0.1
KIMD					Sb	18 29 10.4	-0.4
ADK	**Adak**	**1.54**	**349**		Pn	18 28 50.2	-0.2
ADK				IAML		18 29 12.7	
	480nm,0.3s						
ADK				IAML		18 29 15.3	
	329nm,0.3s						
ADK	**Adak**	**1.54**	**349**		Sn	18 29 09.3	-1.2
KIWB	**Kanaga Island**	**1.60**	**339**		Pn	18 28 51.3	+0.1
KIWB					Sn	18 29 10.3	-1.5
KIWB				IAML		18 29 18.7	
	comp=E,221nm,0.5s						
KIKV	**Kanaga Island**	**1.62**	**339**		Pb	18 28 52.3	-0.6
KIKV					Sb	18 29 13.1	-0.4
GSIG	**Igitkin Island**	**1.63**	**6**		Pn	18 28 51.8	+0.2
GSIG					Sn	18 29 13.0	+0.4
ADAG	**Mount Adagdak**	**1.63**	**352**		Pn	18 28 52.3	+0.6
ADAG					Sb	18 29 13.8	+0.2
GSCK	**Great Sitkin C**	**1.64**	**1**		Pn	18 28 52.4	+0.6
GSCK					Sb	18 29 14.2	+0.2
KINC	**Kanaga Island**	**1.67**	**340**		Pn	18 28 52.0	0.0
KINC					Sb	18 29 14.8	+0.2
KICM	**Kanaga Island**	**1.67**	**339**		Pn	18 28 52.8	+0.7
GSMY	**Great Sitkin M**	**1.68**	**3**		Sb	18 29 15.2	+0.2
GSTD	**Great Sitkin T**	**1.69**	**1**		Sn	18 29 14.1	-0.1
GSTR	**Great Sitkin T**	**1.73**	**3**		Pn	18 28 53.4	+0.4
GSTR					Sn	18 29 13.6	-1.5
ATKA	**Atka Island**	**2.23**	**34**		Pn	18 28 59.3	-0.5
ATKA				IAML		18 29 27.8	
	comp=E,139nm,0.4s						
AMKA	**Amchitka**	**3.01**	**291**		Pn	18 29 09.4	-1.2
CESW	**Semis' Southwe**	**3.07**	**302**		Pn	18 29 11.7	+0.3
NIKH	**Nikolski High**	**5.27**	**58**	Pn	Pn	18 29 41.4	-0.2
NIKH				IAML		18 30 40.9	
	comp=N,41nm,0.9s						
NIKH				IAML		18 32 59.9	
	comp=E,35nm,1.3s						
OKTU	**Okmok Mt. Tuli**	**5.89**	**56**		Pn	18 29 51.5	+1.3
SHEM	**Shemya Is, Ala**	**6.49**	**295**	Pn	Pn	18 29 56.0	-2.3
SMY	**Shemya**	**6.49**	**295**	Pn	Pn	18 29 55.7	-2.6
UNV	**Unalaska Valle**	**6.92**	**56**	Pn	Pn	18 30 05.2	+1.0
SDPT	**Sand Point**	**10.73**	**56**	Pn	Pn	18 30 55.9	-0.6
CNBA	**Chernabura Isl**	**11.04**	**60**	Pn	Pn	18 30 59.8	-0.8
OHAK	**Old Harbor**	**15.13**	**54**	Pn	Pn	18 31 52.4	-4.1
J17K	**VABM Dome**	**15.98**	**29**	Pn	Pn	18 32 07.0	-0.6
J17K				IAmb	IAmb	18 32 25.3	
	comp=Z,8.7nm,1.1s						
L18K	**Granite Mounta**	**15.98**	**35**	Pn	Pn	18 32 07.6	+0.1
L18K				IAmb	IAmb	18 32 10.7	
	comp=Z,5.9nm,1.4s						
SYI	**Shuyak Island**	**16.04**	**50**	Pn	Pn	18 32 05.4	-2.9
J18K	**Innoko River**	**16.79**	**31**	P	P	18 32 20.2	+0.2
J18K				IAmb	IAmb	18 32 23.2	
	comp=Z,6.7nm,1.4s						
H17K	**Granite Mounta**	**16.92**	**24**	P	P	18 32 22.5	+1.0
H17K				IAmb	IAmb	18 32 25.9	
	comp=Z,9.9nm,1.4s						
K20K	**Telida**	**17.64**	**34**		Pn	18 32 28.4	0.0
SKT	**Skwentna**	**17.86**	**40**		P	18 32 32.4	+0.5
FID	**Port Fidalgo**	**19.58**	**47**	P	P	18 32 48.7	-2.1
SCM	**Sheep Creek Mo**	**19.58**	**43**	P	P	18 32 50.1	-0.7
SCM				IAmb	IAmb	18 33 29.3	
	comp=Z,12nm,1.3s						
RND	**Reindeer**	**19.63**	**38**	P	P	18 32 50.5	-0.9
RND				IAmb	IAmb	18 33 31.2	
	comp=Z,4.6nm,1.0s						
D19K	**Kuna River**	**20.22**	**19**	P	P	18 32 58.1	+0.4
D19K				IAmb	IAmb	18 33 06.5	
	comp=Z,16nm,1.5s						

*NEIC **19** 18:40:14.5±0.7, 33˚.454N±0˚.006×116˚.581W±0˚.007, h10km±1km, Error ellipse: s-maj=2.7km s-min=1.3km az=251.0*

PAS 19 18:40:14.9±0.7, 33˚.453N±0˚.007×116˚.576W±0˚.010, h11km±3km, ML3.6/153, ML3.5/80(NEIC), Error ellipse: s-maj=1.1km s-min=1.1km az=67.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNDA	**J Saunders Pla**	**0.10**	**343**		Pg	18 40 17.9	0.0
SNDA					Sg	18 40 19.8	-0.1
CRY	**Cary Ranch**	**0.17**	**310**		Pg	18 40 18.9	0.0
PFO	**Pinyon Flats O**	**0.19**	**32**		Pg	18 40 18.8	-0.3
PFO					Sg	18 40 21.5	-0.5
PFO	**Pinyon Flats O**	**0.19**	**32**		Pg	18 40 18.4	-0.7
PFO				IAML		18 40 21.8	
	8µm,0.7s						
PFO				IAML		18 40 21.8	
	5µm,0.4s						
XPFO	**Pinon Flat**	**0.19**	**33**		Pg	18 40 18.7	-0.3
XPFO					Sg	18 40 21.5	-0.5
BORC	**Borrego Spring**	**0.23**	**144**		Sg	18 40 22.8	-0.1
GVDA	**Garner Valley**	**0.23**	**339**		Pg	18 40 19.6	-0.3
PMD	**Palm Desert**	**0.26**	**40**	Pg	Pg	18 40 19.5	-0.7
PMD				IAML		18 40 23.5	
	comp=N,6µm,0.2s						
PMD				IAML		18 40 23.7	
	comp=E,13µm,0.4s						
PLM	**Palomar**	**0.26**	**248**		Pg	18 40 20.4	+0.1
PLM					Sg	18 40 24.5	+0.6
MATG	**Mataguay Scout**	**0.26**	**193**		Pg	18 40 20.5	+0.1
MATG					Sg	18 40 24.2	+0.2
JUEM	**Julian Eagle M**	**0.37**	**183**		Pg	18 40 22.3	-0.1
JUEM					Sg	18 40 27.5	+0.2
POB	**Polly Butte**	**0.37**	**309**		Pg	18 40 22.1	-0.3
POB					Sg	18 40 26.9	-0.4
SLH	**Sleepy Hollow**	**0.37**	**134**		Pg	18 40 22.4	0.0
SLH					Sg	18 40 27.8	+0.4
DGR	**Domenigoni Val**	**0.41**	**299**		Pg	18 40 22.8	-0.3
DGR					Sg	18 40 28.1	-0.5
BACC	**Bachelor Mtn.**	**0.42**	**292**		Pg	18 40 22.9	-0.3
HMTC	**Hemet**	**0.44**	**306**		Pg	18 40 23.2	-0.4
HMTC					Sg	18 40 28.9	-0.6
DEVC	**Devers**	**0.48**	**360**		Pg	18 40 24.1	-0.3
DEVC					Sg	18 40 30.5	-0.3
EW2	**E Wide Canyon**	**0.51**	**16**		Pg	18 40 24.5	-0.4
EW2					Sg	18 40 31.6	0.0
**SAL

CLTC	**Calectric**	**0.89**	**316**			Sg	18 40 43.9	+0.2
IKP	**In-Ko-Pah, Jac**	**0.89**	**154**			Pg	18 40 31.4	-0.7
IKP						Sg	18 40 42.9	-0.9
OLP	**Otay Lakes Par**	**0.89**	**200**			Pg	18 40 31.1	-1.1
OLP						Sg	18 40 42.9	-0.9
SIL	**Silver Peak**	**0.92**	**347**			Pg	18 40 31.8	-0.8
COK2	**Cook Ranch 2**	**0.93**	**130**			Pg	18 40 31.5	-1.4
COK2						Sb	18 40 46.0	+0.5
BC3	**Big Chuckawall**	**0.96**	**78**			Pg	18 40 32.1	-1.3
BC3						Sg	18 40 44.7	-1.2
YUH	**Yuha Desert**	**0.97**	**145**		Pg	Pg	18 40 32.1	-1.5
YUH	**Yuha Desert**	**0.97**	**145**			Sg	18 40 45.6	-0.7
MLSC	**Mira Loma**	**0.99**	**304**			Pg	18 40 32.5	-1.5
MLSC						Sg	18 40 45.5	-1.4
WESC	**Westside Schoo**	**0.99**	**134**			Pg	18 40 32.4	-1.6
WESC						Sb	18 40 47.8	+0.6
TJX	**Tijuana**	**1.02**	**203**			Pg	18 40 33.1	-1.5
CHNC	**Chino**	**1.07**	**301**			Sg	18 40 48.1	-1.3
SS2	**San Sevaine**	**1.08**	**315**			Pb	18 40 34.2	-1.4
CBX	**Cerro Bola**	**1.14**	**184**			Pb	18 40 35.2	-1.5
BFSC	**Mount Baldy Ra**	**1.19**	**311**			Pb	18 40 35.7	-2.0
BFSC					IAML		18 40 55.0	
	comp=E,742nm,0.5s							
BFSC					IAML		18 40 56.0	
	comp=N,680nm,0.5s							
MWC	**Mount Wilson**	**1.45**	**302**			Pn	18 40 40.5	-0.8
MWC					IAML		18 41 05.8	
	comp=E,908nm,0.6s							
CPBX	**Cerro Prieto**	**1.48**	**134**	Pn	Pn	Pn	18 40 41.2	-0.4
GLA	**Glamis**	**1.52**	**105**			Pn	18 40 39.5	-2.6
GLA					IAML		18 41 18.7	
	comp=E,407nm,0.8s							
PASC	**Pasadena Art C**	**1.52**	**299**			Pn	18 40 41.4	-0.7
PASC					IAML		18 41 02.0	
	comp=N,570nm,0.8s							
PASC					IAML		18 41 02.2	
	comp=E,522nm,0.5s							
ESJX	**Sierra Juarez**	**1.54**	**160**			Pn	18 40 41.2	-1.3
ESJX					IAML		18 41 03.3	
	comp=N,507nm,0.3s							
ESJX					IAML		18 41 03.4	
	comp=E,929nm,0.4s							
CCX	**Cicese**	**1.58**	**183**			Pn	18 40 42.8	-0.1
CCX					IAML		18 41 05.5	
	comp=E,507nm,0.8s							
CCX					IAML		18 41 06.1	
	comp=N,701nm,0.6s							
BLYC	**Blythe**	**1.74**	**80**			Pn	18 40 43.1	-2.0
BLYC					IAML		18 41 13.4	
	comp=E,341nm,0.7s							
GSC	**Goldstone, Bar**	**1.85**	**354**			Pn	18 40 44.8	-2.0
GSC					IAML		18 41 26.1	
	comp=E,357nm,0.6s							
TPO	**Tropico Hills**	**1.98**	**317**			Pn	18 40 46.4	-2.0
TPO					IAML		18 41 19.4	
	comp=N,435nm,0.5s							
TPO					IAML		18 41 20.1	
	comp=E,388nm,0.7s							
NEE2	**Needles Airpor**	**2.09**	**51**			Pn	18 40 48.8	-1.2
OSI	**Osito Audit: C**	**2.13**	**304**			Pn	18 40 49.8	-0.7
OSI					IAML		18 41 24.2	
	comp=E,298nm,0.8s							
OSI					IAML		18 41 25.2	
	comp=N,363nm,0.7s							
VTX	**Valle De La Tr**	**2.16**	**162**			Pn	18 40 50.7	-0.3
VTX					IAML		18 41 22.2	
	comp=N,321nm,0.5s							
VTX					IAML		18 41 22.6	
	comp=E,289nm,0.6s							
CCCA	**Chr Cany lake**	**2.17**	**343**			Pn	18 40 51.0	-0.1
CCCA					IAML		18 41 25.2	
	comp=E,639nm,0.6s							
CCCA					IAML		18 41 31.1	
	comp=N,518nm,0.7s							
MTPC	**Mountain Pass**	**2.20**	**22**			Pn	18 40 50.0	-1.6
LRMC	**Laurel Mtn Rad**	**2.22**	**336**			Pn	18 40 50.3	-1.5
LRMC					IAML		18 41 26.2	
	comp=E,301nm,0.4s							
LRMC					IAML		18 41 27.2	
	comp=N,616nm,0.5s							
WSHM	**Spangler Hills**	**2.27**	**341**			Pn	18 40 48.8	-3.7
113A	**Mohawk Valley,**	**2.46**	**105**			Pn	18 40 50.8	-4.1
CLC	**China Lake**	**2.50**	**341**	Pn	Pn	Pn	18 40 54.2	-1.5
QSM	**Queen of Sheba**	**2.52**	**355**			Pn	18 40 54.5	-1.3
ISA	**Isabella, Lake**	**2.70**	**325**			Pn	18 40 57.4	-1.1
MPMC	**Manual Prospec**	**2.71**	**344**	Pn	Pn	Pn	18 40 56.7	-1.9
GWY	**Greenwater Val**	**2.73**	**358**			Pn	18 40 57.3	-1.6
W13A	**Hualapai Mount**	**2.77**	**53**			Pn	18 40 58.3	-1.2
SFX	**San Felipe**	**2.82**	**148**			Pn	18 40 57.8	-2.1
Y14A	**Wickenburg**	**3.02**	**80**			Pn	18 41 01.3	-1.5
CWC	**Cottonwood Cre**	**3.23**	**338**			Pn	18 41 05.2	-0.5
PIX	**Pinacate**	**3.24**	**125**			Pn	18 41 05.3	-0.4
SHPR	**Sheep Range**	**3.26**	**20**			Pn	18 41 05.5	-0.7
WCT	**Wildcat Mounta**	**3.33**	**359**	Pn	Pn	Pn	18 41 07.1	0.0
TPNV	**Topopah Spring**	**3.50**	**4**			Pn	18 41 08.9	-0.6
TPNV					IAML		18 42 17.6	
	comp=N,58nm,1.1s							
214A	**Organ Pipe Nat**	**3.51**	**114**			Pn	18 41 09.1	-0.4
GRAC	**Grapevine Rang**	**3.59**	**350**			Pn	18 41 10.4	-0.2
GRAC					IAML		18 42 13.5	
	comp=N,70nm,0.7s							
GMN	**Gold Mountain**	**3.88**	**352**			Pn	18 41 14.1	-0.7
DSP	**Deep Springs**	**4.07**	**344**			Pn	18 41 17.2	+0.1
PRN	**Pahroc Range**	**4.14**	**17**			Pn	18 41 18.5	+0.3
MZP	**Montezuma Peak**	**4.29**	**351**			Pn	18 41 20.5	0.0
PMPB	**Monarch Peak**	**4.43**	**310**			Pn	18 41 21.8	-0.5
LCMT	**Little Creek M**	**4.48**	**37**			Pn	18 41 22.4	-0.5
U15A	**North Rim**	**4.60**	**49**			Pn	18 41 23.8	-0.9
TPH	**Tonopah**	**4.64**	**354**			Pn	18 41 24.4	-0.9
WUAZ	**Wupatki**	**4.76**	**63**			Pn	18 41 25.8	-1.1
WUAZ					IAML		18 42 52.1	
	comp=N,25nm,1.7s							
WUAZ					IAML		18 42 54.2	
	comp=N,30nm,1.3s							
BBGB	**Big Mountain B**	**4.81**	**312**	Pn	Pn	Pn	18 41 27.4	-0.1
CCUT	**Cedar City**	**4.86**	**32**	Pn	Pn	Pn	18 41 27.5	-0.7
R11B	**Troy Canyon, C**	**4.95**	**9**			Pn	18 41 29.1	-0.4
TUC	**Tucson**	**5.00**	**102**			Pn	18 41 29.1	-1.0
LHV	**Little Huntoon**	**5.04**	**342**			Pn	18 41 28.8	-1.6
NVAR	**Mina Array Bea**	**5.16**	**345**			Pn	18 41 28.5	-3.9
RYN	**Ryan**	**5.40**	**344**			Pn	18 41 32.0	-3.6
PSUT	**Pine Spring**	**5.53**	**23**			Pn	18 41 35.2	-2.2
X18A	**Snowflake**	**5.61**	**77**			Pn	18 41 38.1	-0.4
PV05	**Paradox Valley**	**7.63**	**51**			Pn	18 42 06.0	-0.3
PV18	**Skein Mesa, Pa**	**7.85**	**50**	Pn	Pn	Pn	18 42 07.7	-1.6
PV13	**Radium Mtn., P**	**7.86**	**51**	Pn	Pn	Pn	18 42 07.9	-1.5
PV11	**David Mesa, Pa**	**7.90**	**50**			Pn	18 42 08.4	-1.6

*IDC **19** 18:44:19.5±4.6, 6°48S×154°78E, **h0**km, **mb3.6**/5, **mbtmp3.6**/5, **MS2.4**/1, **Error ellipse: s-maj=123.4km s-min=31.2km az=109.0, Bougainville-Solomon Islands region***

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.90**	**120**	LR	LR	18 47 37.2	
	comp=Z,34nm,20.1s,baz=260,slow=34						
WRA	**Warramunga Arr**	**23.94**	**234**	P	P	18 49 35.8	+0.1
	0.8nm,0.5s,baz=57,slow=9.6,SNR=16						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**26.36**	**227**	P	P	18 49 56.9	-0.8
	0.6nm,0.9s,baz=53,slow=10,SNR=5.3						
	0.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**60.37**	**295**	P	P	18 54 32.5	+1.5
	0.4nm,0.6s,baz=110,slow=6.3,SNR=2.8						
	0.4nm,0.6s						
SONM	**Songino Array**	**68.79**	**327**	P	P	18 55 24.5	-1.2
	0.2nm,0.3s,baz=123,slow=5.3,SNR=2.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**82.88**	**319**	P	P	18 56 46.6	+0.4
	0.6nm,0.7s,baz=99,slow=6.2,SNR=5.6						
	0.6nm,0.7s						

KRSC 19 18:54:00.6±1.5, 56°22N×164°39E, h47km±20km, MI3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.88**	**270**	*e*P	Pn	18 54 16.6	+0.1
KBTR				*e*S	Sn	18 54 27.3	-0.8
KBG	**Krutoberegovo**	**0.94**	**273**	*e*P	Pn	18 54 17.5	+0.2
KBG				*e*S	Sn	18 54 29.4	-0.2
BKI	**Bering**	**1.36**	**138**	*e*P	Pn	18 54 25.9	+2.8
BKI				*e*S	Sn	18 54 43.1	+3.2
SMKR	**Semkarok**	**1.66**	**284**	*e*P	Pn	18 54 29.8	+2.5
SMKR				*e*S	Sn	18 54 50.2	+2.7
BDR	**Baidarnaya**	**1.80**	**282**	*e*S	Sn	18 54 54.6	+3.8
SRKR	**Sorokina**	**1.84**	**285**	*e*S	Sn	18 54 55.1	+3.3
ZLN	**Zelenaya**	**2.02**	**266**	*e*P	Pn	18 54 35.7	+3.5
CIRR	**Tsirk**	**2.04**	**268**	*e*P	Pn	18 54 35.9	+3.4
KLY	**Klyuchi**	**2.08**	**274**	*e*P	Pn	18 54 34.5	+1.5
KLY				*e*S	Sn	18 54 58.2	+0.5
BZGR	**Bezymyannyi-Gr**	**2.09**	**264**	*e*P	Pn	18 54 36.3	+3.1
BZWR	**Bezymyannyi-We**	**2.19**	**265**	*e*P	Pn	18 54 38.2	+3.6
BZMR	**Bezymyannaya**	**2.20**	**264**	*e*P	Pn	18 54 38.2	+3.4
MKZ	**Mys Kozlova**	**2.26**	**223**	*e*P	Pn	18 54 37.5	+2.1
MKZ				*e*S	Sn	18 55 02.6	+0.8
SRDR	**Sredinnyy**	**2.61**	**274**	*e*P	Pn	18 54 43.9	+3.7
SRDR				*e*S	Sn	18 55 15.2	+4.6
OSSR	**Ossora**	**3.12**	**347**	*e*P	Pn	18 54 49.9	+2.8
OSSR				*e*S	Sn	18 55 23.5	+0.4
ESO	**Esso**	**3.20**	**267**	*e*P	Pn	18 54 52.4	+4.1
SPN	**Mys Shipunski**	**4.03**	**221**	*e*P	Pn	18 55 02.4	+2.7
SPN				*e*S	Sn	18 55 45.1	-0.4
NLC	**Nalytchevo**	**4.23**	**226**	*e*P	Pn	18 55 05.9	+3.5
SDLR	**Sedlovina**	**4.34**	**229**	*e*P	Pn	18 55 07.7	+3.6
KRER	**Koryakskii**	**4.38**	**230**	*e*P	Pn	18 55 08.9	+4.2
KRX	**Arik**	**4.39**	**232**	*e*P	Pn	18 55 09.5	+4.8
SMAR	**Somma**	**4.39**	**230**	*e*P	Pn	18 55 08.3	+3.5
AVH	**Avacha**	**4.42**	**230**	*e*P	Pn	18 55 09.5	+4.5
UGLR	**Uglovaya**	**4.42**	**229**	*e*P	Pn	18 55 08.8	+3.8
GNL	**Ganaly**	**4.50**	**238**	*e*P	Pn	18 55 10.2	+4.0
DALK	**Dalny**	**4.58**	**228**	*e*P	Pn	18 55 10.5	+3.3
KRMR	**Karymshinskiy**	**4.98**	**230**	*e*P	Pn	18 55 17.8	+5.1
GRL	**Gorelyy**	**5.21**	**228**	*e*P	Pn	18 55 21.0	+5.1
MTVR	**Mutnovka**	**5.21**	**227**	*e*P	Pn	18 55 20.2	+4.2
ASAK	**Asacha**	**5.41**	**227**	*e*P	Pn	18 55 23.1	+4.5
KMSK	**Kamenskaya**	**6.33**	**8**	*e*P	Pn	18 55 36.1	+4.9

*NEIC **19** 18:55:48.0±2.4, 31°.90N±0°.03×114°.53W±0°.04, h10km±2km, ML3.0/44, Error ellipse: s-maj=7.1km s-min=3.5km az=302.0*
*ECX **19** 18:55:52.1±0.5, 31°.59N×114°.50W, h20km±4km, ML3.4*
ISC 19 18:55:49.5±1.2, 31°.72N±0°.03×114°.51W±0°.03, h22km±6km, n33, σ1§09/41, 7C-4D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDOMX	**El Doctor, EDO**	**0.31**	**320**	*e*S	**Sn**	**18 56 06.5**	**+1.8**
EDOMX				IAML		18 56 07.2	
	comp=E,5μm,0.2s						
EDOMX				⇓*e*		18 56 07.2	
EDOMX				IAML		18 56 07.3	
	comp=N,4μm,0.1s						
EDOMX				⇑*e*		18 56 07.3	
ECBX	**El Chinero**	**0.53**	**242**	⇑*eP*	**Pn**	**18 56 00.8**	**-0.9**
ECBX				*e*S	**Sb**	**18 56 07.7**	**+0.5**
RITX	**Riito Sonora**	**0.59**	**319**	*e*S	**Sn**	**18 56 14.2**	**+2.7**
SFX	**San Felipe**	**0.74**	**203**		**Pb**	**18 56 03.4**	**-0.3**
SFX	**San Felipe**	**0.74**	**203**	⇑*eP*	**Pb**	**18 56 03.5**	**-0.1**
SFX				*e*S	**Sb**	**18 56 12.3**	**-1.0**
SFX				IAML		18 56 13.1	
	comp=N,944nm,0.5s						
RHX	**Rio Hardy**	**0.78**	**302**	⇑*eP*	**Pn**	**18 56 05.8**	**+0.6**
RHX				*e*S	**Sn**	**18 56 17.8**	**+1.6**
PPXB	**Puerto Peasco**	**0.84**	**117**	*e*P	**Pn**	**18 56 05.6**	**-0.4**
PPXB				*e*S	**Sn**	**18 56 16.6**	**-1.0**
PPXB				⇑*e*		18 56 17.9	
PPXB				IAML		18 56 17.9	
	comp=E,879nm,0.3s						
PPXB				⇑*e*		18 56 18.1	
PPXB				IAML		18 56 18.1	
	comp=N,2μm,0.3s						
PIX	**Pinacate**	**0.91**	**100**		**Pb**	**18 56 06.8**	**+0.3**
PIX	**Pinacate**	**0.91**	**100**	⇓*eP*	**Pb**	**18 56 07.2**	**+0.6**
PIX				*e*S	**Sn**	**18 56 20.1**	**+0.8**
PIX				IAML		18 56 20.8	
	comp=E,784nm,0.3s						
PIX				*e*		18 56 20.8	
PIX				*e*		18 56 20.9	
PIX				IAML		18 56 20.9	
	comp=N,1μm,0.5s						
CPBX	**Cerro Prieto**	**0.97**	**316**		**Pn**	**18 56 06.8**	**-1.0**
SPIG	**San Pedro Mart**	**1.06**	**231**	*e*P	**Pn**	**18 56 09.1**	**-0.2**
SPIG				*e*S	**Sn**	**18 56 23.0**	**-0.6**
VTX	**Valle De La Tr**	**1.14**	**254**		**Pb**	**18 56 10.9**	**+0.4**
VTX				IAML		18 56 37.2	
	comp=N,382nm,0.4s						
VTX				IAML		18 56 37.5	
	comp=E,465nm,0.8s						
VTX	**Valle De La Tr**	**1.14**	**254**	⇑*eP*	**Pb**	**18 56 11.0**	**+0.4**
VTX				*e*S	**Sb**	**18 56 26.2**	**+1.3**
113A	**Mohawk Valley,**	**1.22**	**31**		**Pb**	**18 56 12.9**	**+1.1**
113A				IAML		18 56 33.3	
	comp=N,268nm,0.6s						
ESJX	**Sierra Juarez**	**1.26**	**283**		**Pb**	**18 56 11.9**	**-0.7**
ESJX				IAML		18 56 28.5	
	comp=N,282nm,0.1s						
ESJX				IAML		18 56 28.9	
	comp=E,416nm,0.2s						
GLA	**Glamis**	**1.36**	**349**		**Pb**	**18 56 14.0**	**-0.3**
GLA				IAML		18 56 45.3	
	comp=E,422nm,0.8s						
GLA				IAML		18 56 51.8	
	comp=N,335nm,0.6s						
214A	**Organ Pipe Nat**	**1.46**	**80**		**Pb**	**18 56 16.1**	**0.0**
214A				IAML		18 56 38.8	
	comp=N,350nm,0.5s						
YUH	**Yuha Desert**	**1.52**	**308**		**Pb**	**18 56 15.7**	**-1.2**
SQX	**San Quintin**	**1.64**	**226**	*e*P	**Pn**	**18 56 17.8**	**+0.8**
SQX				*e*S	**Sb**	**18 56 38.4**	**-0.7**
SQX				⇓*e*		18 56 40.9	
SQX				IAML		18 56 40.9	
	comp=E,699nm,0.2s						
SQX				IAML		18 56 43.3	
	comp=N,461nm,0.4s						
SQX				⇓*e*		18 56 43.3	
CCX	**Cicese**	**1.84**	**275**		**Pb**	**18 56 21.3**	**-1.1**
CCX				IAML		18 57 08.7	
	comp=N,219nm,0.7s						
CBX	**Cerro Bola**	**1.93**	**288**		**Pn**	**18 56 22.0**	**+0.9**
TKX	**Tecate**	**1.97**	**296**		**Pn**	**18 56 22.1**	**+0.4**
TKX				IAML		18 57 09.7	
	comp=N,200nm,0.1s						
BLYC	**Blythe**	**2.03**	**360**		**Pn**	**18 56 19.9**	**-2.5**
BLYC				IAML		18 57 09.4	
	comp=N,86nm,0.7s						
BLYC				IAML		18 57 24.8	
	comp=E,73nm,0.7s						
BORC	**Borrego Spring**	**2.23**	**314**		**Pn**	**18 56 23.6**	**-1.6**
DPP	**Dos Picos Cty**	**2.42**	**302**		**Pn**	**18 56 26.2**	**-1.7**
DPP				IAML		18 57 10.0	
	comp=N,42nm,0.2s						
PMD	**Palm Desert**	**2.49**	**321**		**Pn**	**18 56 27.7**	**-1.0**
PFO	**Pinyon Flats O**	**2.50**	**319**		**Pn**	**18 56 28.3**	**-0.8**
ELS	**Elsinore Mount**	**3.12**	**309**		**Pn**	**18 56 38.2**	**+0.6**
ELS				IAML		18 57 54.8	
	comp=E,23nm,0.6s						
TUC	**Tucson**	**3.22**	**78**		**Pn**	**18 56 39.4**	**+0.5**
TUC				IAML		18 57 37.2	
	comp=E,36nm,0.7s						
TUC				IAML		18 57 39.5	
	comp=E,48nm,0.7s						
X16A	**Lo Mia Camp, P**	**3.72**	**43**	Pn	**Pn**	**18 56 45.2**	**-0.7**
V12A	**Nelson**	**4.01**	**356**		**Pn**	**18 56 48.8**	**-0.9**
DUN6	**Lazy B Ranch**	**4.67**	**78**	Pn	**Pn**	**18 56 58.3**	**-0.5**
SHPR	**Sheep Range**	**4.80**	**354**	Pn	**Pn**	**18 56 59.7**	**-1.0**

AUST 19 19:20:58.7±0.7, 18°S±5°×12°0E±°, h10km, mb4.2/5, ML2.8/2, ML3.2/3, Error ellipse: s-maj=15.0km s-min=8.2km az=131.8, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.88**	**192**	P	Pn	19 21 46.1	+1.4
MBWA				S	Sn	19 22 19.7	+0.3
PSAC1	**Pilbara Seismi**	**3.23**	**190**	P	Pn	19 21 50.8	+1.3
PSAC1				S	Sn	19 22 28.0	-0.1
GIRL	**Giralia**	**7.19**	**232**	P	Pn	19 22 43.9	-0.1
	comp=Z,199μmcomp=Z,53nm,1.6s,comp=Z,0.2nm						
MEEK	**Meekatharra**	**8.43**	**191**	P	Pn	19 23 01.2	+0.2
	comp=Z,36nm,2.4s,comp=Z,0.1nm						
KNRA	**Kununurra**	**8.43**	**73**	P	Pn	19 23 00.3	-0.8
	comp=Z,0.0nmcomp=Z,6.3nm,1.7s						
CVQOZ	**Cooralya Stati**	**8.46**	**223**	P	Pn	19 23 00.4	-0.9
	comp=Z,67nm,1.5s,comp=Z,0.9nm						
WRKA	**Warakurna**	**9.92**	**134**	P	Pn	19 23 21.6	+0.1
	comp=Z,6.4nm,2.5s,comp=Z,0.0nm						

*SOME **19** 19:23:24.1, 43°.97N×81°.77E, h15km*
NNC 19 19:23:27.7±1.8, 44°08N×81°42E, h0km, mb2.4, mpv2.1, 3C-2D, Error ellipse: s-maj=27.4km s-min=6.1km az=132.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.00**	**231**	P	Pg	19 23 45.5	-1.3
	2.7nm,0.1s						
KTMS				S	Sb	19 24 00.9	-0.8
	16nm,0.1s						
KTMS	**Ketmen**	**1.00**	**231**	*e*P	Pg	19 23 45.6	-1.2
	1.6nm,0.1s						
KTMS				*e*S	Sb	19 24 01.0	-0.7
	16nm,0.1s						
PDGK	**Podgornoye**	**1.59**	**242**	⇓P	Pn	19 23 55.7	-1.5
	1.7nm,0.7s						
PDGK				⇑S	Sg	19 24 18.9	+0.2
	3.4nm,0.3s						
KNOS	**Konyrlen**	**1.63**	**281**	P	Pg	19 23 59.7	+0.7
	1.3nm,0.1s						
KNOS				S	Sg	19 24 24.7	+4.6
	9.2nm,0.2s						
SHLS	**Shalkode**	**1.69**	**238**	P	Pn	19 23 53.2	-5.5
	5.8nm,0.2s						
SHLS				S	Sn	19 24 14.0	-7.1
	29nm,0.2s						
SHLS	**Shalkode**	**1.69**	**238**	*e*P	Pn	19 23 53.2	-5.5
	5.8nm,0.1s						
SHLS				*e*S	Sn	19 24 14.0	-7.1
	28nm,0.3s						
BLB	**Baldybastay**	**2.12**	**271**	Lg	Lg	19 24 37.7	
	13nm,0.2s						
SATY	**Saty**	**2.42**	**246**	Pg	Pb	19 24 11.5	-0.6
	1.6nm,0.1s						
SATY				Lg	Lg	19 24 45.6	
	8.3nm,0.1s						
MAKZ	**Makanchi**	**2.75**	**8**	⇑Pn	Pn	19 24 15.1	+1.9
	2.6nm,1.4s						
MAKZ				Pg	Pb	19 24 16.7	-1.1
	3.6nm,1.4s						
MAKZ				⇓Lg	Lg	19 24 55.2	
	1.7nm,1.4s						
MK31	**Makanchi Array**	**2.78**	**12**	Pn	Pn	19 24 12.9	-0.6
	0.1nm,0.3s,baz=196,slow=13,SNR=3.4						
MK31				Pg	Pb	19 24 18.6	+0.3
	0.1nm,0.2s,baz=196,slow=15,SNR=6.5						
MK31				⇑Lg	Lg	19 24 56.5	
	0.6nm,0.5s,baz=193,slow=26						
KOTS	**Kotyrbulak**	**3.24**	**256**	*e*P	Pb	19 24 26.5	+0.3
	0.6nm,0.1s						
KOTS				*e*S	Sg	19 25 11.1	-0.6
	2.9nm,0.2s						

*IDC **19** 19:28:08.3±0.7, 12°.66S×166°.31E, h0km, mb4.4/17, mbtmp4.4/18, ML5.0/1, MS3.8/23, Error ellipse: s-maj=24.4km s-min=16.0km az=92.0*
*NEIC **19** 19:28:10.4±2.6, 12°.38S±0°.09×166°.1E±0°.1, h10km±1km, mb4.7/32, Error ellipse: s-maj=20.5km s-min=12.9km az=58.0*
ISC 19 19:28:09.8±0.5, 12°43S±0°.07×166°17E±0°.09, h10km, n85, σ1§16/73, mb4.6/29, MS3.8/22, 3C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.80**	**295**	Pn	**Pn**	**19 29 48.4**	**-1.4**
HNR				Sn	**Sn**	**19 31 05.3**	**-2.1**
HNR	**Honiara**	**6.80**	**295**	Pn	**Pn**	**19 29 53.4**	**+3.6**
	28nm,0.3s,baz=167,slow=2.7,SNR=19						
HNR				Sn	**Sn**	**19 31 07.1**	**-0.3**
	32nm,0.3s,baz=196,slow=12,SNR=4.6						
HNR				LR	LR	19 33 02.0	
	comp=Z,477nm,19.1s,baz=136,slow=42						
	270nm,0.7s						
DZM	**Mont Dzumac**	**9.59**	**178**	Pn	**Pn**	**19 30 29.0**	**+0.9**
ONTNC	**Quen Toro**	**9.82**	**178**	Pn	**Pn**	**19 30 30.9**	**-0.4**
PINNC	**Pines Island,**	**10.20**	**173**	Pn	**Pn**	**19 30 37.4**	**+1.0**
EIDS	**Eidsvold**	**19.19**	**226**	P	**P**	**19 32 34.4**	**+0.5**
CTAO	**Charters Tower**	**20.57**	**246**	P	**P**	**19 32 50.1**	**+1.1**
ARMA	**Armidale**	**22.40**	**215**	P	**P**	**19 33 09.7**	**+1.0**
COEN	**Coen**	**22.44**	**264**	P	**P**	**19 33 09.8**	**+0.6**
JAY	**Jayapura**	**27.08**	**289**	LR	LR	19 46 02.2	
	comp=Z,107nm,18.8s,baz=114,slow=39						
BKZ	**Black Stump Fm**	**28.15**	**163**	P	**P**	**19 34 03.4**	**+1.0**
BKZ				IAmb	IAmb	19 34 34.2	
	comp=Z,30nm,1.4s						
STKA	**Stephens Creek**	**29.75**	**225**	P	**P**	**19 34 18.0**	**+1.4**
STKA	**Stephens Creek**	**29.75**	**225**	P	**P**	**19 34 14.5**	**-2.1**
	comp=Z,5.4nm,0.8s,baz=48,slow=10,SNR=8.5						
STKA				LR	LR	19 46 18.8	
	comp=Z,335nm,18.1s,baz=34,slow=37						
	comp=Z,5.4nm,0.8s						
WR8	**Warramunga Arr**	**31.28**	**252**	P	**P**	**19 34 30.5**	**+0.2**
WR8				IAmb	IAmb	19 35 13.3	
	comp=Z,8.6nm,1.2s						
WB0	**Warramunga Arr**	**31.35**	**252**	P	**P**	**19 34 30.9**	**0.0**
WRA	**Warramunga Arr**	**31.43**	**252**	P	**P**	**19 34 31.6**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=83,slow=9.0,SNR=13						
WRA				PcP	**PcP**	**19 37 24.6**	**-0.5**
	comp=Z,1.4nm,0.

comp=Z,11nm,0.9s,baz=142,slow=6.5,SNR=16
comp=Z,11nm,0.9s
VNDA Vanda 65.12 181 P **P** **19 38 49.3 -1.1**
comp=Z,0.5nm,0.7s,baz=336,slow=7.2,SNR=2.4
VNDA LR LR 20 03 18.7
comp=Z,45nm,19.4s,baz=282,slow=32
comp=Z,0.5nm,0.7s
SBA Scott Base 65.42 180 P **P** **19 38 52.9 +0.5**
SBA IAmb IAmb 19 38 54.9
comp=Z,7.2nm,1.5s
PETK Petropavlovsk- 65.68 354 LR LR 20 03 47.0
comp=Z,48nm,19.5s,baz=162,slow=32
MDJ Mudanjiang 65.77 332 **P** **19 38 55.7 +0.7**
MA2 Magadan 72.83 352 LR LR 20 06 21.9
comp=Z,65nm,21.7s,baz=182,slow=31
CM31 Chiang Mai Arr 73.05 294 P **P** **19 39 38.4 -2.3**
CM31 IAmb IAmb 19 39 55.8
comp=Z,6.2nm,0.8s
CMAR Chiang Mai Arr 73.05 294 P **P** **19 39 38.4 -2.3**
CMAR Chiang Mai Arr 73.05 294 P **P** **19 39 43.4 +2.7**
comp=Z,0.9nm,0.8s,baz=136,slow=4.4,SNR=5.1
comp=Z,0.9nm,0.8s
HIA Hailar 73.78 330 P **P** **19 39 43.9 -0.5**
HIA IAmb IAmb 19 39 47.5
comp=Z,9.0nm,0.9s
SEY Seymchan 75.89 354 LR LR 20 09 39.9
comp=Z,94nm,20.3s,baz=182,slow=33
QSPA South Pole Qui 77.58 180 **P** **19 40 05.9 -0.2**
QSPA IAmb IAmb 19 40 13.5
comp=Z,11nm,1.0s
QSPA South Pole Qui 77.58 180 P **P** **19 40 06.0 -0.1**
comp=Z,5.3nm,0.9s,baz=348,slow=2.7,SNR=16
comp=Z,5.3nm,0.9s
KDAK Kodiak Island 77.71 21 LR LR 20 08 13.9
comp=Z,79nm,20.3s,baz=209,slow=31
L18K Granite Mounta 79.87 17 P **P** **19 40 19.2 +0.8**
SONM Songino Array 80.03 324 P **P** **19 40 19.2 -0.6**
SONM IAmb IAmb 19 40 23.2
comp=Z,6.5nm,1.2s
SONM Songino Array 80.03 324 P **P** **19 40 21.5 +1.7**
comp=Z,1.0nm,0.4s,baz=140,slow=6.2,SNR=13
comp=Z,1.0nm,0.4s
MAW Mawson 83.60 202 P **P** **19 40 36.5 -1.6**
comp=Z,2.9nm,0.9s,baz=59,slow=5.9,SNR=6.5
comp=Z,2.9nm,0.9s
HDA Harding Lake 84.42 19 **P** **19 40 41.5 -0.7**
HDA IAmb IAmb 19 40 47.4
comp=Z,3.7nm,0.7s
ILAR Eielson Array 84.69 18 P **P** **19 40 42.8 -0.8**
comp=Z,0.5nm,0.6s,baz=240,slow=5.6,SNR=8.9
comp=Z,0.5nm,0.6s
J25K Salcha River, 85.05 19 P **P** **19 40 44.7 -0.8**
J25K IAmb IAmb 19 40 50.9
comp=Z,2.9nm,0.8s
PFO Pinyon Flats O 86.54 55 LR LR 20 15 51.9
comp=Z,69nm,18.2s,baz=232,slow=33
NVAR Mina Array Bea 86.60 50 LR LR 20 14 18.0
comp=Z,136nm,18.6s,baz=214,slow=32
PALK Pallekele 87.16 278 LR LR 20 26 07.7
comp=Z,64nm,18.1s,baz=68,slow=40
BELA Belgrano 2 89.08 176 P **P** **19 41 04.7 -0.3**
BELA IAmb IAmb 19 41 11.8
comp=Z,5.2nm,1.0s
LPIG La Paz 89.20 65 LR LR 20 14 53.2
comp=Z,27nm,18.9s,baz=11,slow=32
INK Inuvik 91.07 19 LR LR 20 21 26.0
comp=Z,60nm,18.1s,baz=220,slow=35
PV10 Paradox Valley 93.58 52 P **P** **19 41 26.6 -0.2**
MKAR Makanchi Array 94.81 317 P **P** **19 41 33.4 +1.4**
comp=Z,3.5nm,1.0s,baz=98,slow=5.6,SNR=13
comp=Z,3.5nm,1.0s
ANMO Albuquerque 94.89 55 LR LR 20 20 19.6
comp=Z,119nm,18.0s,baz=334,slow=33
ZAA0 Zalesovo Array 94.92 324 P **P** **19 41 31.8 -0.5**
ZAA0 IAmb IAmb 19 41 33.7
comp=Z,3.9nm,0.8s
ZALV Zalesovo Beam 94.92 324 **P** **19 41 31.3 -0.9**
ZALV Zalesovo Beam 94.92 324 P **P** **19 41 33.1 +0.8**
comp=Z,3.0nm,0.7s,baz=114,slow=3.6,SNR=13
comp=Z,3.0nm,0.7s
TROLL Troll, Antarti 95.04 185 ⇑P **P** **19 41 32.7 -0.1**
comp=Z,200nm,0.8s
SNAA Sanae 95.76 183 ⇑P **P** **19 41 36.1 +0.1**
SNAA Sanae 95.76 183 **P** **19 41 35.9 -0.1**
SNAA IAmb IAmb 19 41 43.7
comp=Z,3.6nm,1.0s
SNAA Sanae 95.76 183 P **P** **19 41 35.3 -0.7**
comp=Z,0.8nm,0.9s,baz=196,slow=6.4,SNR=9.6
comp=Z,0.8nm,0.9s
TXAR Lajitas Array 96.12 61 LR LR 20 20 16.5
comp=Z,24nm,18.6s,baz=274,slow=32
VNA3 Neumayer Olymp 96.47 181 ⇑P **P** **19 41 38.2 -1.0**
comp=Z,1.9nm,0.7s
KURBB Kurchatov Arra 98.01 320 P **P** **19 41 46.5 +0.1**
comp=Z,0.7nm,0.2s,baz=112,slow=3.1,SNR=6.2
comp=Z,0.7nm,0.2s
ARCES ARCESS Array B 117.78 345 PKP **PKPdf** **19 46 55.2 -0.8**
comp=Z,2.4nm,1.0s,baz=52,slow=2.1,SNR=8.8
AKASG Malin Array Be 128.25 326 PKP **PKiKP** **19 47 17.8 +0.6**
comp=Z,0.1nm,0.2s,baz=64,slow=2.2,SNR=4.9
BRTR Keskin Array B 130.20 312 PKP **PKPdf** **19 47 19.8 -1.0**
comp=Z,0.5nm,0.6s,baz=225,slow=0.3,SNR=4.2
BRTR SKPbc **SKPbc** **19 50 46.3 +2.2**
comp=Z,0.3nm,0.5s,baz=150,slow=5.7,SNR=3.7
GERES GERESS Array B 137.13 333 PKP **PKPdf** **19 47 33.8 +0.2**
comp=Z,0.6nm,0.8s,baz=68,slow=2.6,SNR=4.2
GERES SKPbc **SKiKP** **19 51 09.9 -1.8**
comp=Z,0.2nm,0.4s,baz=35,slow=4.9,SNR=5.2
KEST Kesra 148.76 322 PKPbc **PKiKP** **19 47 59.8 +0.2**
comp=Z,9.0nm,0.8s,baz=210,slow=0.4,SNR=12
ESDC Sonseca Array 151.50 344 PKPbc **PKiKP** **19 48 05.8 +0.7**
comp=Z,1.0nm,0.9s,baz=39,slow=2.5,SNR=5.9

CATAC 19 19:32:25.7±0.5, 12°N±3°×8°7W±°, h51km±4km, M2.9/16, MLv2.9/16, 1C-15D, Error ellipse: s-maj=8.1km s-min=4.4km az=42.6, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.33**	**23**	⇓P	Pn	19 32 36.7	+1.4
COPN				S	Sn	19 32 45.3	+3.3
SAPS	**Ciudad Sandino**	**0.42**	**47**	S	Sn	19 32 46.5	+2.7
SAPS	**Ciudad Sandino**	**0.42**	**47**	⇓P	Pn	19 32 37.5	+1.2
CRUN	**El Crucero**	**0.43**	**76**	⇓P	Pn	19 32 36.9	+0.5
TISN	**Laguna Tiscapa**	**0.52**	**59**	⇓P	Pn	19 32 38.3	+1.0
SABN	**Sabanita**	**0.55**	**82**	⇓P	Pn	19 32 37.7	0.0
MOMN	**Momotombo**	**0.56**	**19**	⇓P	Pn	19 32 39.0	+1.2
MOMN				S	Sn	19 32 48.7	+2.3
NANN	**Nandasmo**	**0.59**	**84**	S	Sn	19 32 50.8	+3.6
NANN	**Nandasmo**	**0.59**	**84**	⇓P	Pn	19 32 40.1	+1.9
CNGA	**Al SSO del Vol**	**0.61**	**2**	⇓P	Pn	19 32 39.6	+1.1
CNGA				S	Sn	19 32 50.2	+2.5
CNGN	**Cerro Negro**	**0.62**	**2**	S	Sn	19 32 50.5	+2.7
CNGN	**Cerro Negro**	**0.62**	**2**	P	Pn	19 32 39.6	+1.0
PLRN	**Geotermica Pol**	**0.70**	**356**	⇓P	Pn	19 32 40.8	+1.2
PLRN				S	Sn	19 32 51.8	+2.2
POLN	**Al Sur del Vol**	**0.77**	**353**	P	Pn	19 32 41.6	+1.1
PKGN	**Cerro Pekin**	**0.82**	**342**	⇓P	Pn	19 32 42.4	+1.2
PKGN				S	Sn	19 32 53.4	+1.0
JAPN	**Al SSO del Vol**	**1.08**	**109**	⇓P	Pn	19 32 45.0	+0.4
MORN	**Al O del Volca**	**1.10**	**107**	⇓P	Pn	19 32 45.0	0.0
BOAB	**BOACO BROADBAN**	**1.18**	**61**	S	Sn	19 33 02.1	+1.2
BOAB	**BOACO BROADBAN**	**1.18**	**61**	⇓P	Pn	19 32 46.0	+0.1
MATN	**Matagalpa**	**1.30**	**37**	S	Sn	19 33 04.1	0.0
MATN	**Matagalpa**	**1.30**	**37**	⇓P	Pn	19 32 47.3	-0.4
RCPN	**Sur Rio San Ju**	**1.75**	**20**	S	Sn	19 33 15.3	+0.3
RCPN	**Sur Rio San Ju**	**1.75**	**20**	⇓P	Pn	19 32 53.9	+0.1
CNCH	**Conchagua**	**1.76**	**322**	⇑P	Pn	19 32 53.8	-0.2

IDC 19 19:39:15.2±2.2, 1°57N×126°90E, h0km, mb3.4/3, mbtmp3.4/3, MS3.1/1, Error ellipse: s-maj=176.7km s-min=26.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.59**	**162**	P	P	19 44 17.7	+0.3
	0.9nm,0.4s,baz=340,slow=11,SNR=14						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**25.99**	**165**	P	P	19 44 49.6	-0.3
	0.2nm,0.3s,baz=341,slow=9.1,SNR=6.4						
	0.2nm,0.3s						
JNU	**Nakatsue**	**31.61**	**6**	LR	LR	20 03 32.0	
	comp=Z,32nm,18.7s,baz=137,slow=46						

MKAR Makanchi Array 59.42 326 P **P** 19 49 19.7 0.0
0.2nm,0.4s,baz=114,slow=8.1,SNR=4.8
0.2nm,0.4s

WEL 19 19:47:03.6±0.3, 43°S±2°×17°3E±°, h5km, M3.3/30, ML3.5/16, MLv3.3/30, Error ellipse: s-maj=3.6km s-min=3.0km az=113.6, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSES	**Hanmer Springs**	**0.16**	**14**	P	Pg	19 47 07.4	+0.5
WTMC	**Te Mara Farm W**	**0.21**	**73**	P	Pg	19 47 08.3	+0.5
WAKC	**Waikari**	**0.28**	**191**	P	Pg	19 47 09.8	+0.6
GVZ	**Greta Valley S**	**0.34**	**147**	P	Pg	19 47 11.0	+0.7
GVZ				S	Sb	19 47 16.6	-1.4
LTZ	**Lake Taylor**	**0.39**	**255**	P	Pg	19 47 11.8	+0.7
LTZ				S	Sg	19 47 17.7	+1.4
AMCZ	**Amberley**	**0.50**	**191**	P	Pb	19 47 14.4	-0.6
SJFS	**Springs Juncti**	**0.56**	**308**	P	Pg	19 47 14.8	+0.3
SJFS				S	Sg	19 47 22.7	+0.9
KHZ	**Kahutara**	**0.62**	**65**	P	Pg	19 47 15.9	+0.3
OXZ	**Oxford**	**0.84**	**220**	P	Pg	19 47 20.1	+0.3
OXZ				S	Sb	19 47 32.4	0.0
THZ	**Tophouse**	**0.93**	**6**	P	Pg	19 47 21.0	-0.3
INZ	**Inchbonnie**	**0.98**	**267**	P	Pg	19 47 22.4	-0.1
MQZ	**McQueen's Vall**	**1.03**	**185**	P	Pg	19 47 22.2	-1.2
OKCZ	**Okains Bay**	**1.06**	**169**	P	Pg	19 47 23.2	-0.8
RACZ	**Rakaia**	**1.14**	**204**	P	Pg	19 47 24.0	-1.6
DSZ	**Denniston Nort**	**1.18**	**322**	P	Pg	19 47 26.4	+0.1
AKCZ	**Akaroa Harbour**	**1.19**	**175**	P	Pg	19 47 24.7	-1.8
MHCZ	**Mount Hutt**	**1.23**	**226**	P	Pg	19 47 25.4	-1.7
BSWZ	**Blackbirch Sta**	**1.27**	**40**	P	Pg	19 47 27.4	-0.5
MRNZ	**Matariki Terra**	**1.28**	**359**	P	Pn	19 47 27.4	-0.8
CMWZ	**Cape Campbell**	**1.42**	**49**	P	Pg	19 47 32.7	+1.9
WACZ	**Wakanui South**	**1.43**	**208**	P	Pn	19 47 28.1	-2.2
TUWZ	**Tuamarina**	**1.52**	**35**	P	Pn	19 47 31.7	+0.2
NNZ	**Nelson**	**1.53**	**17**	P	Pn	19 47 31.3	-0.3
WVZ	**Waitaha Valley**	**1.55**	**255**	P	Pn	19 47 31.8	-0.1
RPZ	**Rata Peaks**	**1.63**	**230**	P	Pn	19 47 31.2	-1.8
TKNZ	**Takaka Hill**	**1.65**	**5**	P	Pn	19 47 33.4	0.0
ARCZ	**Arundel**	**1.72**	**222**	P	Pn	19 47 32.3	-2.0
TCW	**Tory Channel**	**1.85**	**38**	P	Pn	19 47 34.9	-1.1
QRZ	**Quartz Range**	**1.86**	**354**	P	Pn	19 47 36.2	0.0
DUWZ	**D'Urville Isla**	**2.06**	**25**	P	Pn	19 47 39.2	+0.2
TMZ	**Timaru**	**2.13**	**217**	P	Pn	19 47 37.7	-2.3
PLWZ	**Palliser**	**2.15**	**60**	P	Pn	19 47 38.0	-2.2
MSWZ	**Moikau Station**	**2.23**	**56**	P	Pn	19 47 39.2	-2.2
CAW	**Cannon Point**	**2.32**	**48**	P	Pn	19 47 40.8	-1.8
FOZ	**Fox Glacier**	**2.33**	**248**	P	Pn	19 47 43.7	+1.1
KIW	**Kapiti Island**	**2.42**	**42**	P	Pn	19 47 43.0	-0.9
MTW	**Mount Morrison**	**2.54**	**54**	P	Pn	19 47 43.6	-1.9
LBZ	**Lake Benmore**	**2.54**	**227**	P	Pn	19 47 44.7	-0.8
OGWZ	**Otaki Gorge**	**2.58**	**45**	P	Pn	19 47 44.3	-1.8
HOWZ	**Holdsworth Sta**	**2.71**	**50**	P	Pb	19 47 52.9	+0.2
ODZ	**Otahua Downs**	**2.82**	**212**	P	Pn	19 47 46.9	-2.4
MRZ	**Mangatainoka R**	**2.91**	**47**	P	Pn	19 47 48.4	-2.3
NBEZ	**Newall Road No**	**3.51**	**14**	P	Pn	19 48 00.8	+2.0
PKE	**Pukeiti**	**3.60**	**15**	P	Pn	19 48 01.8	+1.6
PNHZ	**Pukenui**	**3.78**	**44**	P	Pn	19 48 03.0	+0.4
VRZ	**Vera Road**	**3.86**	**24**	P	Pn	19 48 04.6	+1.0
WNVZ	**Wahianoa**	**3.97**	**33**	P	Pb	19 48 09.9	-4.3
NNVZ	**North Ngauruho**	**4.15**	**32**	P	Pb	19 48 13.3	-3.9
HIZ	**Hauiti**	**4.46**	**21**	P	Pn	19 48 12.0	+0.2
TLZ	**Tolley Road**	**4.83**	**27**	P	Pn	19 48 17.5	+0.5
TOZ	**Tahuroa Road**	**5.37**	**24**	P	Pn	19 48 24.8	+0.5
MKAZ	**Moumakai**	**5.87**	**19**	P	Pn	19 48 31.0	-0.1
CNGZ	**Carnagh Statio**	**5.89**	**46**	P	Pn	19 48 35.4	+3.9
WIAZ	**Waiheke Island**	**6.16**	**18**	P	Pn	19 48 35.5	+0.3

*ISK **19** 19:59:40.6, 38°79N×38°13E, h5km, ML2.2/11*
*AFAD **19** 19:59:40.8, 38°77N×38°15E, h7km±3km, ML2.5*
ISC 19 19:59:41.1±1.1, 38°79N±0°02×38°15E±0°03, h6km±10km, n18, σ1°00/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HEKM	**Malatya_Hekimh**	**0.17**	**301**	P	**Pg**	**19 59 44.6**	**-0.1**
HEKM				S	**Sg**	**19 59 48.5**	**+1.3**
HEKM				*i* IAML		19 59 49.0	
	comp=E,2μm,0.3s						
HEKM				*i* IAML		19 59 51.0	
	comp=N,3μm,0.5s						
ARPR	**Arapgir-MALATY**	**0.34**	**25**	Pg	**Pb**	**19 59 48.5**	**-1.2**
ARPR				Sg	**Sb**	**19 59 54.2**	**-1.2**
MAYA	**Malatya/Merkez**	**0.51**	**155**	P	**Pg**	**19 59 50.3**	**-0.7**
MAYA				S	**Sg**	**19 59 58.2**	**+0.6**
AKCD	**Akcadag**	**0.52**	**200**	P	**Pg**	**19 59 50.7**	**-0.6**
AKCD				S	**Sb**	**19 59 59.2**	**-1.5**
AKCD				*i* IAML		20 00 02.0	
	comp=E,347nm,0.3s						
AKCD				*i* IAML		20 00 05.0	
	comp=N,377nm,0.3s						
DARE	**Darende-Malaty**	**0.56**	**248**	Pg	**Pg**	**19 59 51.5**	**-0.5**
DARE				Sg	**Sb**	**20 00 01.0**	**-0.8**
ELZG	**Elazig**	**0.71**	**114**	P	**Pg**	**19 59 54.3**	**-0.6**
ELZG				S	**Sb**	**20 00 05.1**	**-1.1**
ELZG				*i* IAML		20 00 07.0	
	comp=E,216nm,0.3s						
ELZG				*i* IAML		20 00 09.0	
	comp=N,155nm,0.3s						
ILIC	**ilic-Erzincan**	**0.74**	**26**	Pg	**Pb**	**19 59 56.3**	**-0.2**
ILIC				Sg	**Sb**	**20 00 06.8**	**-0.1**
AZEY	**Adyaman-Merk**	**0.98**	**175**	P	**Pb**	**20 00 00.2**	**-0.4**
AZEY				S	**Sn**	**20 00 17.0**	**+1.4**
CUZAR	**Zara_SIVAS**	**1.14**	**345**	P	**Pn**	**20 00 04.0**	**+0.3**
CUAYA	**Sivas-Altinyay**	**1.19**	**294**	P	**Pg**	**20 00 03.5**	**-0.6**
CUAYA				S	**Sg**	**20 00 19.2**	**-0.3**
SARI	**SarD1z-Kayseri**	**1.41**	**255**	Pn	**Pg**	**20 00 07.9**	**-0.3**
SARI				Sn	**Sn**	**20 00 28.2**	**+1.7**
SVSK	**Karacayir**	**1.44**	**322**	Pn	**Pg**	**20 00 08.6**	**-0.1**
SVSK				Sn	**Sg**	**20 00 29.3**	**+1.9**
URFA	**Urfa**	**1.45**	**158**	Pn	**Pg**	**20 00 09.0**	**+0.1**
URFA				Sn	**Sg**	**20 00 29.5**	**+1.9**
KMRS	**Kahramanmaras**	**1.62**	**218**	Pn	**Pg**	**20 00 11.3**	**-0.8**
KMRS				Sn	**Sg**	**20 00 33.7**	**+0.6**
RSDY	**Resadiye-TOKAT**	**1.73**	**339**	Pn	**Pb**	**20 00 12.8**	**-0.5**
GAZ	**Gaziantep**	**1.78**	**205**	Pn	**Pb**	**20 00 13.8**	**-0.3**
BNN	**Bunyan**	**1.80**	**273**	Pn	**Pb**	**20 00 13.8**	**-0.8**
TOKT	**Tokat**	**1.97**	**321**	Pn	**Pb**	**20 00 16.2**	**-1.2**

IDC 19 20:03:00.2±1.9, 30°97S×178°25W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=55.3km s-min=37.5km az=44.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.87**	**268**	P	P	20 11 00.4	-0.1
	0.6nm,0.7s,baz=108,slow=7.1,SNR=7.5						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**43.91**	**273**	P	P	20 11 08.8	-0.2
	0.6nm,0.4s,baz=113,slow=7.9,SNR=13						
	0.6nm,0.4s						
QSPA	**South Pole Qui**	**59.14**	**180**	P	P	20 13 02.3	-0.1
	0.8nm,0.8s,baz=24,slow=1.3,SNR=5.6						
	0.8nm,0.8s						
FINES	**FINESS Array B**	**145.61**	**339**	PKPbc	PKPdf	20 22 39.2	-0.5
	2.2nm,0.8s,baz=48,slow=4.3,SNR=17						

*GCG **19** 20:05:07.7±0.8, 12°90N×88°64W, h60km±14km, MD3.7, ML2.8*
*SNET **19** 20:05:07.4±0.7, 12°89N×88°57W, h64km, ML3.8*
*CATAC **19** 20:05:07.6±0.3, 13°N±3°×8°9W±°, h44km±7km, M3.9/23, MLv3.9/23, Error ellipse: s-maj=6.8km s-min=2.5km az=20.0, confirmed*
ISC 19 20:05:08.1±1.3, 12°82N±0°07×88°58W±0°03, h45km±27km, n74, σ1°35/88, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCY	**Lacayo**	**0.66**	**25**	*i* P	**Pn**	**20 05 21.1**	**-0.2**
TECA	**Tecapa**	**0.67**	**6**	*e*P	**Pn**	**20 05 21.3**	**-0.3**
TECA				*e*P		20 05 21.3	
TECA				*e*S	**Sn**	**20 05 31.8**	**+0.7**
PACA	**Pacayal**	**0.69**	**21**	*e*P	**Pn**	**20 05 21.8**	**+0.1**
PACA	**Pacayal**	**0.69**	**21**	*i* P	**Pn**	**20 05 21.7**	**0.0**
PACA	**Pacayal**	**0.69**	**21**	P	**Pn**	**20 05 21.9**	**+0.1**
PACA	**Pacayal**	**0.69**	**21**	S	**Sn**	**20 05 32.8**	**+1.4**
BLLM	**Bellamira**	**0.70**	**28**	*i* P	**Pn**	**20 05 21.6**	**-0.1**
TECO	**Alcaldia de Te**	**0.74**	**344**	*e*P	**Pn**	**20 05 21.6**	**-0.7**
TECO				*e*S	**Sn**	**20 05 32.4**	**0.0**
TECO	**Alcaldia de Te**	**0.74**	**344**	P	**Pn**	**20 05 21.5**	**-0.7**
CNRM	**Centro Naciona**	**0.76**	**31**	P	**Pn**	**20 05 22.6**	**+0.1**
CNRM	**Centro Naciona**	**0.76**	**31**	S	**Sn**	**20 05 34.0**	**+1.0**
PQSS	**Presa 15 de Se**	**0.80**	**1**	*e*P	**Pn**	**20 05 22.6**	**-0.4**
PQSS				*e*S	**Sn**	**20 05 34.2**	**+0.4**
PQSS	**Presa 15 de Se**	**0.80**	**1**	P	**Pn**	**20 05 22.6**	**-0.4**
LCND	**La Caada**	**0.83**	**54**	*e*P	**Pn**	**20 05 23.1**	**-0.3**
LCND				*e*S	**Sn**	**20 05 35.6**	**+1.1**
LCND	**La Caada**	**0.83**	**54**	*i* P	**Pn**	**20 05 23.2**	**-0.2**
LCND	**La Caada**	**0.83**	**54**	P	**Pn**	**20 05 23.4**	**0.0**
UESV	**Universidad de**	**0.83**	**346**	*e*P	**Pn**	**20 05 22.9**	**-0.6**
UESV	**Universidad de**	**0.83**	**346**	P	**Pn**	**20 05 23.0**	**-0.6**
UESV	**Universidad de**	**0.83**	**346**	S	**Sn**	**20 05 35.2**	**+0.4**
CNCH	**Conchagua**	**0.85**	**58**	*e*P	**Pn**	**20 05 23.5**	**-0.4**
CNCH				*e*P		20 05 25.6	
CNCH	**Conchagua**	**0.85**	**58**	P	**Pn**	**20 05 23.7**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.89**	**350**	*i* P	**Pn**	**20 05 23.9**	**-0.4**
SCLA				*e*S	**Sn**	**20 05 36.8**	**+0.7**
SCLA	**Alcaldia de Sa**	**0.89**	**350**	P	**Pn**	**20 05 24.1**	**-0.2**
LFRS	**El Faro**	**0.93**	**329**	*i* P	**Pn**	**20 05 24.0**	**-0.9**
PAVA	**Las Pavas**	**0.95**	**338**	*e*P	**Pn**	**20 05 24.5**	**-0.8**
PAVA				*e*S	**Sn**	**20 05 37.8**	**0.0**
PAVA	**Las Pavas**	**0.95**	**338**	P	**Pn**	**20 05 24.8**	**-0.5**
LALI	**Alcalda de L**	**0.98**	**313**	*e*P	**Pn**	**20 05 24.4**	**-1.1**
LALI				*e*S	**Sn**	**20 05 36.3**	**-1.9**
LALI				IAML		20 05 39.2	
	comp=E,240nm,0.2s						
LOMA	**Loma Larga**	**1.00**	**325**	*e*P	**Pn**	**20 05 24.9**	**-1.0**
LOMA	**Loma Larga**	**1.00**	**325**	S	**Sn**	**20 05 38.3**	**-0.7**
LOMA	**Loma Larga**	**1.00**	**325**	P	**Pn**	**20 05 25.3**	**-0.6**
CAHU	**Cacacuatique**	**1.01**	**21**	*e*P	**Pn**	**20 05 25.4**	**-0.6**
LBRS	**Las Brisas**	**1.02**	**334**	*e*P	**Pn**	**20 05 25.4**	**-0.7**
LFU	**La Fuente**	**1.06**	**331**	*e*P	**Pn**	**20 05 25.9**	**-0.7**
POTN	**Potosi Cosigui**	**1.06**	**80**	P	**Pn**	**20 05 26.5**	**0.0**
BOQS	**Boqueron**	**1.14**	**323**	*e*P	**Pn**	**20 05 27.0**	**-0.8**
PMON	**Piamonte**	**1.14**	**321**	*e*P	**Pn**	**20 05 27.3**	**-0.4**
PMON	**Piamonte**	**1.14**	**321**	P	**Pn**	**20 05 27.1**	**-0.7**
PMON	**Piamonte**	**1.14**	**321**	S	**Sn**	**20 05 41.9**	**-0.4**
JAYA	**Jayaque - finc**	**1.19**	**314**	*e*P	**Pn**	**20 05 27.2**	**-1.2**
JAYA	**Jayaque - finc**	**1.19**	**314**	*e*P	**Pn**	**20 05 27.0**	**-1.4**
JAYA				*e*S	**Sn**	**20 05 41.9**	**-1.6**
JAYA	**Jayaque - finc**	**1.19**	**314**	S	**Sn**	**20 05 43.1**	**-0.4**
JAYA	**Jayaque - finc**	**1.19**	**314**	P	**Pn**	**20 05 27.4**	**-1.0**
SBLS	**San Blas**	**1.43**	**315**	*e*P	**Pn**	**20 05 31.0**	**-0.9**
SBLS				*e*P		20 05 31.5	
CRIN	**San Cristobal**	**1.50**	**94**	P	**Pn**	**20 05 33.4**	**+0.8**
CRIN	**San Cristobal**	**1.50**	**94**	S	**Sn**	**20 05 52.3**	**+1.3**
CHOHN	**Orocuina**	**1.53**	**65**	P	**Pn**	**20 05 32.6**	**-0.5**
CHOHN	**Orocuina**	**1.53**	**65**	S	**Sn**	**20 05 51.7**	**-0.2**
PKGN	**Cerro Pekin**	**1.57**	**95**	P	**Pn**	**20 05 33.5**	**-0.1**
PKGN				S	**Sn**	**20 05 53.0**	**+0.4**
NUBE	**Las Nubes**	**1.59**	**313**	*e*P	**Pn**	**20 05 32.9**	**-1.1**
NUBE	**Las Nubes**	**1.59**	**313**	*e*P	**Pn**	**20 05 32.8**	**-1.1**
NUBE				*e*S	**Sn**	**20 05 52.3**	**-1.1**
NUBE	**Las Nubes**	**1.59**	**313**	P	**Pn**	**20 05 32.8**	**-1.1**
FAME	**Alcaldia de Sa**	**1.73**	**306**	P	**Pn**	**20 05 34.8**	**-0.9**
FAME	**Alcaldia de Sa**	**1.73**	**306**	S	**Sn**	**20 05 54.4**	**-2.3**
POLN	**Al Sur del Vol**	**1.73**	**96**	P	**Pn**	**20 05 35.5**	**-0.3**
POLN				S	**Sn**	**20 05 56.8**	**+0.1**
MTO3	**Montecristo**	**1.74**	**334**	*i* P	**Pn**	**20 05 35.1**	**-1.0**
MTO3	**Montecristo**	**1.74**	**334**	P	**Pn**	**20 05 35.2**	**-0.9**
TGUH	**Tegucigalpa,Un**	**1.77**	**46**	P	**Pn**	**20 05 36.1**	**-0.3**
TGUH				S	**Sn**	**20 05 58.1**	**+0.4**
CNGA	**Al SSO del Vol**	**1.86**	**100**	P	**Pn**	**20 05 37.5**	**0.0**
CNGA				S	**Sn**	**20 05 60.0**	**+0.1**
CNGN	**Cerro Negro**	**1.86**	**100**	P	**Pn**	**20 05 38.3**	**+0.6**
CNGN	**Cerro Negro**	**1.86**	**100**	S	**Sn**	**20 05 59.7**	**-0.3**
SARH	**Santa Rosa de**	**1.95**	**355**	P	**Pn**	**20 05 39.0**	**+0.2**
YUSH	**Yuscaran**	**2.03**	**56**	P	**Pn**	**20 05 39.6**	**-0.3**
YUSH	**Yuscaran**	**2.03**	**56**	S	**Sn**	**20 06 04.5**	**+0.3**
MOMN	**Momotombo**	**2.03**	**101**	P	**Pn**	**20 05 40.3**	**+0.4**
MOMN				S	**Sn**	**20 06 03.3**	**-0.9**
COPN	**Copaltepe**	**2.04**	**108**	P	**Pn**	**20 05 40.3**	**+0.3**
OCON	**Estacion meteo**	**2.20**	**68**	P	**Pn**	**20 05 41.3**	**-0.9**
OCON				S	**Sn**	**20 06 07.5**	**-0.7**
RCPN	**Sur Rio San Ju**	**2.52**	**74**	P	**Pn**	**20 05 45.9**	**-0.7**
MATN	**Matagalpa**	**2.59**	**87**	P	**Pn**	**20 05 46.3**	**-1.4**
MATN	**Matagalpa**	**2.59**	**87**	S	**Sn**	**20 06 16.6**	**-1.4**
BOAB	**BOACO BROADBAN**	**2.87**	**97**	S	**Sn**	**20 06 23.8**	**-0.9**
BOAB	**BOACO BROADB

SDLR	Sedlovina	3.15	26	PN	Pn	20 07 25.9	+0.7
SDLR	Sedlovina	3.15	26	eP	Pn	20 07 26.0	+0.7
KRX	Arik	3.16	23	PN	Pn	20 07 26.8	+1.4
KRX	Arik	3.16	23	eP	Pn	20 07 26.9	+1.4
NLC	Nalytchevo	3.19	31	PN	Pn	20 07 24.6	-1.1
NLC	Nalytchevo	3.19	31	eP	Pn	20 07 24.6	-1.1
GNL	Ganaly	3.33	14	PN	Pn	20 07 29.5	+1.8
GNL	Ganaly	3.33	14	eP	Pn	20 07 29.5	+1.8
SPN	Mys Shipunski	3.38	37	PN	Pn	20 07 28.0	-0.2
SPN				S	Sn	20 08 04.3	-2.9
SPN	Mys Shipunski	3.38	37	eP	Pn	20 07 28.1	-0.2
SPN				eS	Sn	20 08 04.4	-2.9
MKZ	Mys Kozlova	5.15	35	PN	Pn	20 07 50.8	-1.4
MKZ	Mys Kozlova	5.15	35	eP	Pn	20 07 50.9	-1.4
TUMD	Tumrok D	5.27	24	PN	Pn	20 07 56.7	+2.8
TUMD	Tumrok D	5.27	24	eP	Pn	20 07 56.8	+2.8
TYV	Tymovskoe	8.88	278	ePN	Pn	20 08 43.2	+0.2
TYV				eS	Sn	20 10 18.1	-3.1
TYV				pmax	pmax		
	comp=Z,8.0nm,1.2s						
TYV				pmax	pmax		
	comp=Z,200nm,3.6s						
TYV				smax	smax		
	comp=N,7.0nm,1.2s						
TYV				smax	smax		
	comp=E,6.0nm,1.2s						
TYV				smax	smax		
	comp=E,200nm,4.9s						
SHO	Shikotan	9.37	229	eP	Pn	20 08 51.1	+1.3
MA2	Magadan	9.72	342	i PN	Pn	20 08 54.2	-0.3
YUK	Yuzh-Kuril'sk	9.73	233	i PN	Pn	20 08 54.3	-0.4
YSS	Yuzhno-Sakhali	9.81	254	ePN	Pn	20 08 52.5	-3.3
VLA	Vladivostok	18.40	256	i P	Pn	20 10 47.9	+1.0
YAK	Yakutsk	18.75	318	i P	P	20 10 49.5	0.0
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MAJO	Matsushiro	19.21	231	i P	P	20 10 55.5	+0.7
MAJO				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KSRS	Korea Array	24.23	249	P	P	20 11 48.1	+1.7
	comp=Z,0.7nm,0.6s,baz=46,slow=9.4,SNR=2.3						
	comp=Z,0.7nm,0.6s						
TIXI	Tiksi	24.67	339	i P	P	20 11 48.8	-1.2
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KDAK	Kodiak Island	30.02	56	i P	P	20 12 40.2	+2.2
KDAK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
H11N2	WAKE ISLAND Hy	31.74	161	T	T	20 46 35.3	
	baz=348,slow=76,SNR=160						
H11N3	WAKE ISLAND Hy	31.75	161	T	T	20 46 39.8	
	baz=348,slow=76,SNR=377						
H11N1	WAKE ISLAND Hy	31.76	161	T	T	20 46 39.9	
	baz=348,slow=76,SNR=138						
COLA	College	31.80	42	i P	P	20 12 57.8	+4.2
COLA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR	Eielson Array	32.21	42	P	P	20 12 58.1	+0.9
	comp=Z,0.2nm,0.4s,baz=270,slow=7.7,SNR=2.0						
	comp=Z,0.2nm,0.4s						
H11S1	WAKE ISLAND Hy	32.89	162	T	T	20 48 01.3	
	baz=348,slow=76,SNR=286						
H11S3	WAKE ISLAND Hy	32.90	162	T	T	20 47 58.4	
	baz=348,slow=76,SNR=262						
H11S2	WAKE ISLAND Hy	32.91	162	T	T	20 47 58.9	
	baz=348,slow=76,SNR=370						
ZALV	Zalesovo Beam	42.40	304	P	P	20 14 21.9	-1.4
	comp=Z,0.5nm,0.5s,baz=66,slow=5.7,SNR=2.6						
	comp=Z,0.5nm,0.5s						
KURK	Kurchatov	47.29	302	i P	P	20 15 01.4	-0.8
KURK				pmax	pmax		
	comp=Z,5.0nm,1.6s						
MKAR	Makanchi Array	47.35	296	P	P	20 15 01.8	-1.0
	comp=Z,0.5nm,0.3s,baz=61,slow=6.9,SNR=18						
	comp=Z,0.5nm,0.3s						
KURBB	Kurchatov Arra	47.39	302	P	P	20 15 02.1	-0.9
	comp=Z,0.4nm,0.5s,baz=60,slow=7.1,SNR=4.0						
	comp=Z,0.4nm,0.5s						
BVAR	Borovoye Array	50.33	308	P	P	20 15 23.9	-1.4
	comp=Z,0.8nm,0.5s,baz=64,slow=6.5,SNR=4.7						
	comp=Z,0.8nm,0.5s						
BVAR	Borovoye Array	50.33	308	P	P	20 15 24.0	-1.4
ARCES	ARCESS Array B	55.09	341	P	P	20 15 57.9	-2.4
	comp=Z,2.3nm,0.9s,baz=34,slow=8.0,SNR=5.0						
	comp=Z,2.3nm,0.9s						
CMAR	Chiang Mai Arr	55.50	257	P	P	20 16 05.8	+1.9
	comp=Z,1.1nm,0.6s,baz=30,slow=6.8,SNR=7.3						
	comp=Z,1.1nm,0.6s						
PDAR	Pinedale Array	60.73	57	P	P	20 16 41.9	+1.5
	comp=Z,0.7nm,0.7s,baz=354,slow=1.5,SNR=7.5						
	comp=Z,0.7nm,0.7s						
FINES	FINESS Array B	61.64	335	P	P	20 16 43.6	-2.3
	comp=Z,0.6nm,0.7s,baz=24,slow=7.9,SNR=4.1						
	comp=Z,0.6nm,0.7s						
NB2	NORSAR Subarra	65.42	342	P	P	20 17 10.2	-0.7
	comp=Z,0.2nm,0.4s,baz=24,slow=6.9						
NOA	NORSAR Array B	65.42	342	P	P	20 17 09.8	-1.1
	comp=Z,0.3nm,0.5s,baz=23,slow=6.0,SNR=7.4						
	comp=Z,0.3nm,0.5s						
HFS	Hagfors	65.75	341	P	P	20 17 12.2	-0.7
	comp=Z,0.3nm,0.3s,baz=36,slow=3.4,SNR=11						
	comp=Z,0.3nm,0.3s						
AKASG	Malin Array Be	69.70	327	P	P	20 17 35.1	-2.8
	comp=Z,0.2nm,0.3s,baz=33,slow=6.5,SNR=2.1						
	comp=Z,0.2nm,0.3s						
EKA	Eskdalemuir Ar	73.22	348	P	P	20 17 58.8	-0.2
	comp=Z,0.3nm,0.3s,baz=21,slow=5.1,SNR=6.7						
	comp=Z,0.3nm,0.3s						
ESDC	Sonseca Array	88.63	345	P	P	20 19 20.8	-0.3
	comp=Z,0.3nm,0.5s,baz=1.4,slow=5.1,SNR=4.6						
	comp=Z,0.3nm,0.5s						
H03N2	Juan Fernandez	136.40	89	T	T	22 58 06.0	
	baz=312						
H03N1	Juan Fernandez	136.42	89	T	T	22 58 06.8	
	baz=312,slow=74						
H03N3	Juan Fernandez	136.42	89	T	T	22 58 06.2	
	baz=312,slow=74						

*IDC **19** 20:08:40.7±1.6, 3.°87S×136.°76E, h0km, mb3.5/1, mbtmp3.9/5, ML4.2/3, Error ellipse: s-maj=40.3km s-min=28.0km az=109.0*
*NEIC **19** 20:08:52.6±1.8, 4.°11S±0.°09×137.°54E±0.°07, h130km±7km, mb4.0/10, Error ellipse: s-maj=13.4km s-min=9.8km az=168.0*

ISC 19 20:08:53.2±0.7, **4.°13S**±0.°08×**137.°55E**±0.°06, **h150**km, **n24,** σ1**9**38/28, **mb3.8/3, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	3.54	63	Pn	Pn	20 09 46.2	-1.3
	2.3nm,0.3s,baz=231,slow=11,SNR=18						
JAY				Sn	Sn	20 10 27.8	-1.8
	6.0nm,0.3s,baz=134,slow=23,SNR=6.4						
	6.3nm,0.5s						
FAKI	Fak Fak	5.43	283	Pn	Pn	20 10 13.0	+0.6
FAKI				Sn	Sn	20 11 11.8	-2.3
MANU	Manus Island	10.02	78	Pn	Pn	20 11 13.4	-0.2
MTN	Manton Dam	10.73	216	Pn	Pn	20 11 21.5	-1.4
COEN	Coen	11.23	151	Pn	Pn	20 11 28.1	-1.4
SOEI	Soe	14.31	246	Pn	Pn	20 12 09.6	+0.3
KNRA	Kununurra	14.36	216	Pn	Pn	20 12 08.9	-0.8
WR8	Warramunga Arr	16.00	190	P	Pn	20 12 29.7	-0.5
WR8				IAmb	IAmb	20 12 32.1	
	comp=Z,5.3nm,0.5s						
WRAB	Tennant Creek	16.01	191	P	P	20 12 30.3	-0.4
WRAB				IAmb	IAmb	20 12 33.9	
	comp=Z,6.8nm,0.7s						
WRA	Warramunga Arr	16.02	191	P	Pn	20 12 28.8	-1.6
WRA	Warramunga Arr	16.02	191	Pn	P	20 12 30.9	0.0
	comp=Z,1.2nm,0.3s,baz=14,slow=12,SNR=47						
WRA				Sn	S	20 15 17.1	-12
	comp=Z,0.1nm,0.3s,baz=13,slow=22,SNR=4.2						
	comp=Z,4.8nm,0.6s						
CTAO	Charters Tower	17.98	153	P	Pn	20 12 53.0	-1.0
CTAO				IAmb	IAmb	20 13 18.5	
	comp=Z,7.2nm,1.1s						
FITZ	Fitzroy Crossi	18.12	219	P	P	20 12 54.2	+0.2
FITZ	Fitzroy Crossi	18.12	219	P	P	20 12 50.7	-3.2
	comp=Z,1.6nm,1.0s,baz=37,slow=13,SNR=1.6						
FITZ				S	S	20 15 59.5	-14
	comp=Z,1.6nm,1.0s,baz=133,slow=20,SNR=1.7						
AS31	Alice Springs	19.73	190		P	20 13 12.4	+1.0
AS31					S	20 16 46.2	+0.4
ASAR	Alice Springs	19.73	190	P	P	20 13 12.3	+0.9
ASAR	Alice Springs	19.73	190	P	Pn	20 13 12.9	-1.6
	comp=Z,2.4nm,0.3s,baz=14,slow=10.0,SNR=132						
ASAR				S	S	20 16 46.0	+0.1
	comp=Z,7.6nm,0.8s,baz=12,slow=24,SNR=29						
	comp=Z,5.1nm,0.4s						
MORW	Morawa	32.12	217	P	P	20 15 06.6	+0.2
WHZ	Wether Hill Ro	49.30	152	P	P	20 17 29.9	+3.0
MKAR	Makanchi Array	70.21	323	P	P	20 19 50.2	+0.3
MKAR	Makanchi Array	70.21	323	P	P	20 19 51.3	+1.3
	comp=Z,0.4nm,0.6s,baz=114,slow=9.3,SNR=4.5						
	comp=Z,0.4nm,0.6s						
MAKZ	Makanchi	70.41	323	P	P	20 19 51.5	+0.4
MAKZ				IAmb	IAmb	20 19 53.1	
	comp=Z,1.7nm,1.0s						
ABKAR	Akbulak array	85.06	320	P	P	20 21 12.9	+0.8
QSPA	South Pole Qui	85.82	180	P	P	20 21 17.0	+1.3
QSPA				IAmb	IAmb	20 21 27.4	
	comp=Z,4.0nm,1.2s						

NOU 19 20:09:17.1, 16.°03S×167.°51E, h58km, MLv4.2/10,
Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	0.11	228	P	Pn	20 09 27.0	+1.1
DVP	Devils Point	1.81	159	P	Pn	20 09 46.7	+0.8
KOUNC	Koumac, New Ca	5.44	214	P	Pn	20 10 35.9	+0.3
YATNC	Mamie plateau,	6.03	185	P	Pn	20 10 42.3	-1.4
DZM	Mont Dzumac	6.09	189	P	Pn	20 10 44.3	-0.4
ONTNC	Ouen Toro	6.32	189	P	Pn	20 10 48.3	+0.5
OUENC	Ouen Island, N	6.39	186	P	Pn	20 10 49.1	+0.5

*SKHL **19** 20:18:29.6±0.0, 45.°30N×153.°50E, h42km±1km, mb4.4/2*
*IDC **19** 20:18:51.3±7.3, 47.°85N×151.°67E, h108km±48km, mb3.4/8, mbtmp3.7/9, MS3.2/4, Error ellipse: s-maj=84.9km s-min=28.5km az=178.0*

ISC 19 20:18:28.3±2.3, **45.°5N**±0.°3×**153.°5E**±0.°2, **h50**km, **n23,** σ1**9**27/16, **mb3.8/8, MS3.5**/3, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	4.01	269	eP	Pn	20 19 28.8	+1.7
KUR				AMB	AMB	20 19 29.0	
	80nm,0.4s						
KUR				eS	Sn	20 20 13.2	+0.5
KUR				A	A	20 20 19.2	
	60nm,0.4s						
KUR				A	A	20 20 19.2	
	70nm,0.4s						
SHO	Shikotan	5.04	254	eP	Pn	20 19 43.5	+2.2
SHO				AMB	AMB	20 19 47.1	
	20nm,0.6s						
SHO				eS	Sn	20 20 37.3	-1.0
SHO				A	A	20 20 42.3	
	30nm,0.5s						
SHO				A	A	20 20 42.3	
	40nm,0.5s						
NMR	Nemuro--Hokkai	5.97	252	eP	Pn	20 19 55.7	+1.6
NMR				eS	Sn	20 21 00.2	-0.9
AKK	Akkeshi	6.71	252	eS	Sn	20 21 18.4	-0.8
PETK	Petropavlovsk-	8.12	18	P	Pn	20 20 24.5	+1.1
	3.0nm,0.8s,baz=232,slow=9.0,SNR=2.3						
MA2	Magadan	14.23	354	LR	LR	20 27 07.3	
	comp=Z,59nm,18.4s,baz=224,slow=42						
YAK	Yakutsk	21.57	329	LR	LR	20 30 02.5	
	comp=Z,31nm,20.0s,baz=214,slow=36						
H11N2	WAKE ISLAND Hy	27.94	152	T	T	20 56 04.4	
	baz=340						
H11N1	WAKE ISLAND Hy	27.95	152	T	T	20 56 25.6	
	baz=340						
H11N3	WAKE ISLAND Hy	27.96	152	T	T	20 56 09.6	
	baz=340						
H11S1	WAKE ISLAND Hy	29.02	154	T	T	20 57 38.4	
	baz=341						
H11S3	WAKE ISLAND Hy	29.03	154	T	T	20 57 44.7	
	baz=341						
H11S2	WAKE ISLAND Hy	29.04	154	T	T	20 57 28.2	
	baz=341						
ZALV	Zalesovo Beam	43.61	307	LR	LR	20 45 25.4	
	comp=Z,60nm,18.2s,baz=38,slow=39						
MKAR	Makanchi Array	47.81	299	P	P	20 26 59.9	-0.7
	0.8nm,0.8s,baz=64,slow=8.2,SNR=7.4						
MKAR				LR	LR	20 48 12.6	
	comp=Z,49nm,19.8s,baz=148,slow=39						
	0.8nm,0.8s						
KURBB	Kurchatov Arra	48.42	305	P	P	20 27 03.4	-1.8
	1.2nm,0.8s,baz=64,slow=8.6,SNR=5.2						
	1.2nm,0.8s						
BVAR	Borovoye Array	51.91	310	P	P	20 27 30.3	-1.2
	0.4nm,0.6s,baz=28,slow=6.5,SNR=2.7						
	0.4nm,0.6s						
FINES	FINESS Array B	65.33	335	P	P	20 29 04.0	-0.7
	1.0nm,0.6s,baz=22,slow=9.8,SNR=9.2						
	1.0nm,0.6s						
NB2	NORSAR Subarra	69.54	341	P	P	20 29 31.1	-0.3
	comp=Z,0.3nm,0.6s,baz=27,slow=6.2						
NOA	NORSAR Array B	69.54	341	P	P	20 29 31.2	-0.1
	comp=Z,0.3nm,0.6s,baz=28,slow=6.3,SNR=4.4						
	comp=Z,0.3nm,0.6s						
HFS	Hagfors	69.77	340	P	P	20 29 31.9	-0.8
	comp=Z,1.0nm,0.8s,baz=12,slow=7.6,SNR=6.0						
	comp=Z,1.0nm,0.8s						
AKASG	Malin Array Be	72.78	327	P	P	20 29 51.0	0.0
	comp=Z,1.3nm,0.6s,baz=35,slow=6.1,SNR=7.7						
	comp=Z,1.3nm,0.6s						
TXAR	Lajitas Array	77.86	61	P	P	20 30 36.9	+16
	comp=Z,0.3nm,0.6s,baz=283,slow=3.8,SNR=3.7						
	comp=Z,0.3nm,0.6s						

*IDC **19** 20:19:26.5±3.5, 44.°06N×105.°57W, h0km, mbtmp2.6/1, ML3.8/1, Error ellipse: s-maj=40.9km s-min=24.5km az=169.0*
*NEIC **19** 20:19:29.1±2.3, 43.°52N±0.°03×105.°5W±0.°1, h0km±1km, ML3.0/34, Error ellipse: s-maj=17.2km s-min=3.3km az=279.0*

ISC 19 20:19:29.8±1.2, **43.°52N**±0.°05×**105.°42W**±0.°07, **h0**km, **n29,** σ1**9**05/27, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.17	58		Pb	20 19 52.5	-0.5
K22A	Casper	1.18	223		Pg	20 19 52.2	-0.2
PD31	Pinedale Array	3.12	258		Pn	20 20 20.6	+0.2
PDAR	Pinedale Array	3.12	258		Pn	20 20 21.4	+1.0
PDAR	Pinedale Array	3.12	258	Pn	Pn	20 20 21.5	+1.1
	1.2nm,0.3s,baz=76,slow=18,SNR=50						
PDAR				Lg	Lg	20 21 05.5	
	1.6nm,0.3s,baz=66,slow=29,SNR=4.4						
	1.3nm,0.3s						
BW06	Boulder Array	3.12	258		Pn	20 20 20.4	0.0
BW06				IAML		20 21 12.9	
	31nm,0.7s						
RLMT	Red Lodge	3.19	302	Pn	Pn	20 20 21.7	+0.3
RLMT				IAML		20 21 18.3	
	33nm,1.1s						
RLMT				IAML		20 21 19.2	
	35nm,0.9s						
LAO	LASA Array	3.22	350		Pn	20 20 22.2	+0.5
LAO				IAML		20 21 31.9	
	57nm,0.9s						
YNE	Yellowstone No	3.62	296	Pn	Pn	20 20 28.0	+0.7
YNE				IAML		20 21 26.4	
	comp=E,51nm,0.7s						
ISCO	Idaho Springs	3.71	182		Pn	20 20 29.8	+1.2
LOHW	Long Hollow	3.77	273		Pn	20 20 29.0	-0.3
LOHW				IAML		20 21 32.4	
	comp=E,19nm,0.8s						
LOHW				IAML		20 21 40.6	
	comp=E,18nm,0.8s						
SNOW	Snow King Moun	3.88	271		Pn	20 20 32.3	+1.4
SNOW				IAML		20 21 51.3	
	comp=E,35nm,0.9s						
O20A	White River Ci	3.98	213		Pn	20 20 31.1	-1.1
O20A				IAML		20 22 15.2	
	comp=E,36nm,1.9s						
TPAW	Teton Pass	4.02	272		Pn	20 20 32.0	-0.8
TPAW				IAML		20 22 02.5	
	comp=E,19nm,0.9s						
TPAW				IAML		20 22 03.8	
	comp=E,32nm,0.8s						
FXWY	Fox Creek	4.08	274		Pn	20 20 34.1	+0.6
FXWY				IAML		20 21 52.8	
	comp=E,15nm,3.3s						
YHH	Holmes Hill	4.11	290	Pn	Pn	20 20 34.4	+0.3
AHID	Auburn Hatcher	4.22	262		Pn	20 20 36.4	+0.9
AHID				IAML		20 21 51.5	
	comp=E,18nm,0.8s						
BOZ	Bozeman (W)	4.90	297		Pn	20 20 45.3	+0.5
BOZ				IAML		20 22 11.2	
	comp=E,12nm,0.9s						
BOZ				IAML		20 22 13.4	
	comp=E,13nm,0.8s						
P18A	Preston Nutter	5.31	225		Pn	20 20 50.9	+0.4
PV22	Blue Mesa, Par	5.59	208		Pn	20 20 54.3	0.0
PV07	Paradox Valley	5.63	207		Pn	20 20 53.6	-1.3
HVU	Hansel Valley	5.69	255		Pn	20 20 55.4	-0.3
PV12	Saucer Basin,	5.79	207	Pn	Pn	20 21 00.4	+3.3
PV20	West Nyswonger	5.82	209		Pn	20 20 59.3	+1.7
PV16	Nyswonger Mesa	5.83	208		Pn	20 20 57.8	+0.1
PV18	Skein Mesa, Pa	5.89	208		Pn	20 20 58.3	-0.1
PV13	Radium Mtn., P	5.94	207		Pn	20 20 59.2	+0.1
I56US	NEWPORT INFRAS	9.44	304	I	I	21 10 20.0	
	baz=114,slow=308,SNR=5.5						
TXAR	Lajitas Array	14.22	174	Pg	P	20 23 56.3	+56
	baz=360,slow=19,SNR=2.3						
TXAR				Lg	Lg	20 27 04.5	
	baz=358,slow=28,SNR=3.9						

*NEIC **19** 20:42:28.1±2.0, 12.°54S±0.°04×165.°66E±0.°10, h10km±1km, mb4.4/13, Error ellipse: s-maj=16.7km s-min=5.9km az=284.0*
*NOU **19** 20:42:31.1, 12.°32S×165.°90E, h0km, MLv4.9/9, Santa Cruz Islands*
*IDC **19** 20:42:32.2±3.1, 12.°54S×165.°92E, h48km±26km, mb3.8/12, mbtmp4.1/14, ML4.0/2, MS3.2/4, Error ellipse: s-maj=29.6km s-min=14.9km az=72.0*

ISC 19 20:42:31.1±0.6, **12.°55S**±0.°06×**165.°89E**±0.°08, **h40**km, **n41,** σ1**9**77/42, **mb4.3/17, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	Luesalemba Tem	1.87	1	P	Pn	20 43 00.5	-0.2
HURO	Huro Makira	4.42	297	P	Pn	20 43 37.2	+1.5
DVP	Devils Point	5.61	157	P	Pn	20 43 59.7	+7.7
NGOA	Tingoa Renbel	5.78	279	P	Pn	20 43 55.9	+1.5
HNR	Honiara	6.60	297		Pn	20 44 01.7	-4.0
HNR				Sn	Sn	20 45 16.5	-3.2
HNR	Honiara	6.60	297	P	Pn	20 44 08.1	+2.4
	14nm,0.3s,baz=116,slow=2.0,SNR=6.9						
HNR				S	Sn	20 45 21.7	+2.0
	37nm,0.6s,baz=225,slow=11,SNR=1.2						
HNR				LR	LR	20 47 08.8	
	comp=Z,171nm,19.6s,baz=176,slow=42						
	100nm,0.6s						
HNR	Honiara	6.60	297	P	Pn	20 44 09.6	+3.9
SAVO	Savo Central	6.86	299	P	Pn	20 44 12.6	+3.4
TATA	Tatamba Isabel	7.27	304	P	Pn	20 44 17.6	+2.7
DZM	Mont Dzumac	9.49	177	Pn	Pn	20 44 45.1	-0.2
DZM	Mont Dzumac	9.49	177	P	Pn	20 44 46.9	+1.6
	0.4nm,0.3s,baz=301,slow=22,SNR=2.1						
DZM				S	Sn	20 46 31.4	+0.6
	4.3nm,0.8s,baz=195,slow=17,SNR=1.2						
DZM				LR	LR	20 47 19.0	
	comp=Z,63nm,20.5s,baz=27,slow=30						
	4.9nm,0.8s						
ONTNC	Ouen Toro	9.72	177	Pn	Pn	20 44 48.7	+0.2
PINNC	Pines Island,	10.12	172	Pn	Pn	20 44 54.3	+0.4
EIDS	Eidsvold	18.92	225	P	P	20 46 46.1	-2.5
STKA	Stephens Creek	29.47	225	P	P	20 48 28.7	-2.8
STKA	Stephens Creek	29.47	225	P	P	20 48 32.7	+1.3
	2.1nm,0.8s,baz=45,slow=10.0,SNR=5.8						
STKA				LR	LR	21 00 17.6	
	comp=Z,83nm,19.1s,baz=27,slow=36						
	2.1nm,0.8s						
WB0	Warramunga Arr	31.05	253	P	P	20 48 43.6	-2.0
WB0				IAmb	IAmb	20 49 15.4	
	comp=Z,6.9nm,1.3s						
WB2	Warramunga Arr	31.12	252	P	P	20 48 44.7	-1.4
WB2				IAmb	IAmb	20 48 56.6	
	comp=Z,4.9nm,1.1s						
WRA	Warramunga Arr	31.13	252	P	P	20 48 47.1	+0.8
	comp=Z,0.4nm,0.8s,baz=85,slow=9.7,SNR=1.8						
	comp=Z,0.4nm,0.8s						
ASAR	Alice Springs	32.27	245	P	P	20 48 56.0	-0.3
	comp=Z,1.2nm,0.9s,baz=67,slow=9.5,SNR=8.3						
	comp=Z,1.2nm,0.9s						
GUMO	Guam	33.29	321	LR	LR	21 01 29.4	
	comp=Z,54nm,22.0s,baz=156,slow=34						
TOLI2	Tolitoli	46.77	284	P	P	20 50 54.0	-3.1
MJAR	Matsushiro Arr	55.36	333	P	P	20 52 00.8	-0.4
MJAR				IAmb	IAmb	20 52 02.4	
	comp=Z,2.2nm,0.8s						
MJAR	Matsushiro Arr	55.36	333	P	P	20 52 00.3	-0.9
	comp=Z,2.7nm,0.8s,baz=167,slow=8.6,SNR=9.2						
	comp=Z,2.7nm,0.8s						
MAJO	Matsushiro	55.36	333	P	P	20 52 00.7	-0.5
MAJO				IAmb	IAmb	20 52 02.1	
	comp=Z,7.7nm,1.0s						
KSRS	Korea Array	61.19	326	P	P	20 52 43.3	+1.5
	comp=Z,1.0nm,0.7s,baz=135,slow=7.2,SNR=2.8						
	comp=Z,1.0nm,0.7s						
CMAR	Chiang Mai Arr	72.84	294	P	P	20 53 56.6	+0.3
	comp=Z,0.7nm,0.8s,baz=117,slow=5.4,SNR=4.9						
	comp=Z,0.7nm,0.8s						
QSPA	South Pole Qui	77.47	180	P	P	20 54 22.4	+0.1
QSPA				IAmb	IAmb	20 54 28.8	
	comp=Z,6.1nm,1.1s						
QSPA	South Pole Qui	77.47	180	P	P	20 54 22.4	+0.1
	comp=Z,3.1nm,0.9s,baz=247,slow=1.5,SNR=11						
	comp=Z,3.1nm,0.9s						
M16K	Timber Creek	78.45	17	P	P	20 54 27.7	+0.2
ULN	Ulaanbaatar	79.59	324	P	P	20 54 34.9	+0.7
ULN				IAmb	IAmb	20 54 36.8	
	comp=Z,3.9nm,0.8s						
SONM	Songino Array	79.95	324	P	P	20 54 37.3	+1.1
SONM	Songino Array	79.95	324	P	P	20 54 36.7	+0.5
	comp=Z,1.2nm,0.8s,baz=129,slow=5.1,SNR=7.4						
	comp=Z,1.2nm,0.8s						
J17K	VABM Dome	80.37	15	P	P	20 54 38.9	+1.0
J17K				IAmb	IAmb	20 54 41.8	
	comp=Z,6.2nm,1.1s						
CUT	Chulitna	82.13	19	P	P	20 54 47.2	0.0
MAW	Mawson	83.39	202	P	P	20 54 54.6	+0.8
	comp=Z,3.0nm,1.0s,baz=96,slow=9.2,SNR=3.8						
	comp=Z,3.0nm,1.0s						
IMAR

ODBI	**Odobesti**	**0.53**	**72**	⇓S		**Sn**	**20 45 33.0**	**+0.4**
OZUR		**0.63**	**323**	⇑P		**Pn**	**20 45 15.8**	**+0.3**
OZUR				⇑S		**Sn**	**20 45 32.8**	**-0.9**
PANC	**Panciu**	**0.63**	**64**	⇑P		**Pn**	**20 45 16.4**	**+0.9**
PANC				⇓S		**Sn**	**20 45 33.4**	**-0.2**
BOSR	**Bodos**	**0.67**	**316**	⇑P		**Pn**	**20 45 16.2**	**+0.5**
PLAR	**PLOIESTI**	**0.72**	**198**	⇑P		**Pn**	**20 45 16.6**	**+0.6**
COSR	**Cosmesti PH**	**0.73**	**69**	⇑P		**Pn**	**20 45 16.3**	**+0.3**
ONER	**Baraj Valea Uz**	**0.74**	**3**	⇑P		**Pn**	**20 45 16.8**	**+0.7**
ONER				⇑S		**Sn**	**20 45 34.5**	**-0.4**
DOPR	**Dopca**	**0.76**	**300**	⇑P		**Pn**	**20 45 16.8**	**+0.5**
DOPR				⇓S		**Sn**	**20 45 34.6**	**-0.4**
GHRR		**0.88**	**58**	⇑P		**Pn**	**20 45 18.0**	**+1.0**
GHRR				⇑S		**Sn**	**20 45 36.5**	**+0.1**
VOIR		**0.92**	**260**	⇓P		**Pn**	**20 45 18.5**	**+1.1**
VOIR				⇑S		**Sn**	**20 45 36.8**	**-0.2**
SULR		**0.92**	**183**	⇑P		**Pn**	**20 45 18.3**	**+0.9**
TUDR		**0.94**	**90**	⇑P		**Pn**	**20 45 17.9**	**+0.4**
TUDR				⇑S		**Sn**	**20 45 36.1**	**-1.0**
TESR	**Tescani**	**0.94**	**13**	⇑P		**Pn**	**20 45 18.0**	**+0.5**
MTUR	**Matau**	**0.97**	**248**	⇑P		**Pn**	**20 45 18.6**	**+0.7**
IZVR	**Izvoarele**	**1.01**	**93**	⇑P		**Pn**	**20 45 18.4**	**+0.4**
IZVR				⇑S		**Sn**	**20 45 36.8**	**-1.2**
SCHLR	**Schela**	**1.06**	**96**	⇑P		**Pn**	**20 45 18.8**	**+0.4**
SCHLR				⇑S		**Sn**	**20 45 37.6**	**-1.2**
NEGRR	**Negrea**	**1.09**	**93**	⇑P		**Pn**	**20 45 19.6**	**+0.9**
NEGRR				⇑S		**Sn**	**20 45 39.1**	**-0.2**
VARL	**Varlezi**	**1.10**	**74**	⇑P		**Pn**	**20 45 19.5**	**+0.7**
VARL				⇑S		**Sn**	**20 45 38.9**	**-0.6**
BIR	**Birlad**	**1.12**	**53**	⇑P		**Pn**	**20 45 19.9**	**+0.9**
BIR				⇓S		**Sn**	**20 45 39.1**	**-0.8**
INCR	**INCERC-Sediu C**	**1.16**	**186**	⇑S		**Sn**	**20 45 39.7**	**-0.7**
SCTR	**Scanteiesti**	**1.17**	**86**	⇑P		**Pn**	**20 45 20.4**	**+1.0**
SCTR				⇓S		**Sn**	**20 45 39.8**	**-0.7**
LEHL	**Lehliu**	**1.18**	**163**	⇑P		**Pn**	**20 45 20.3**	**+0.8**
LEHL				⇓S		**Sn**	**20 45 40.5**	**-0.1**
CIOR	**Ciorogarla**	**1.19**	**196**	⇓P		**Pn**	**20 45 20.3**	**+0.7**
CIOR				⇓S		**Sn**	**20 45 40.4**	**-0.5**
TATR	**Tatarca**	**1.21**	**89**	⇑P		**Pn**	**20 45 20.6**	**+1.0**
TATR				⇑S		**Sn**	**20 45 40.5**	**-0.5**
GISR	**Galati**	**1.22**	**97**	⇓P		**Pn**	**20 45 20.8**	**+1.0**
GISR				⇑S		**Sn**	**20 45 40.8**	**-0.5**
VLDR	**Vladesti**	**1.25**	**78**	⇑P		**Pn**	**20 45 21.0**	**+0.9**
VLDR				⇑S		**Sn**	**20 45 41.0**	**-0.8**
BUC1	**Bucharest**	**1.27**	**190**	⇑P		**Pn**	**20 45 21.2**	**+0.9**
BUC1				⇑S		**Sn**	**20 45 41.7**	**-0.4**
GIUM	**Giurgiulesti**	**1.32**	**94**	⇑P		**Pn**	**20 45 22.2**	**+1.4**
GIUM				⇓S		**Sn**	**20 45 43.0**	**+0.1**
CFR	**Carcaliu**	**1.34**	**108**	⇑P		**Pn**	**20 45 21.6**	**+0.7**
CFR				⇑S		**Sn**	**20 45 42.4**	**-0.8**
HUMR	**Humele**	**1.44**	**222**	⇑P		**Pn**	**20 45 22.3**	**+0.5**
HUMR				⇓S		**Sn**	**20 45 44.0**	**-0.9**
HARR	**Harsova**	**1.45**	**128**	⇓P		**Pn**	**20 45 22.7**	**+0.7**
VASR	**Vaslui**	**1.46**	**44**	⇑P		**Pn**	**20 45 22.9**	**+0.9**
TLBR	**Topalu**	**1.61**	**130**	⇑P		**Pn**	**20 45 24.4**	**+0.8**
TLBR				⇑S		**Sn**	**20 45 46.7**	**-1.3**
TPGR	**Topolog**	**1.65**	**116**	⇑P		**Pn**	**20 45 24.6**	**+0.5**
COPA	**Copaceanca**	**1.67**	**209**	⇑P		**Pn**	**20 45 24.8**	**+0.6**
COPA				⇑S		**Sn**	**20 45 48.1**	**-1.0**
CVDA	**Cernavoda**	**1.75**	**136**	⇓P		**Pn**	**20 45 26.1**	**+1.0**
CVDA				⇑S		**Sn**	**20 45 49.5**	**-1.1**
TLCR		**1.80**	**102**	⇑P		**Pn**	**20 45 26.6**	**+1.0**
TLCR				⇑S		**Sn**	**20 45 51.5**	**-0.1**
LOT	**Lotru**	**1.81**	**266**	⇓P		**Pn**	**20 45 27.0**	**+1.2**
LOT				⇑S		**Sn**	**20 45 51.8**	**-0.2**
ICOR	**Ion Corvin**	**1.81**	**144**	⇓P		**Pn**	**20 45 26.5**	**+0.7**
ICOR				⇓S		**Sn**	**20 45 51.0**	**-0.9**
TIRR	**Tirgusor**	**1.86**	**127**	⇑P		**Pn**	**20 45 27.1**	**+0.8**
RAZG	**Razgrad**	**2.04**	**176**	⇑S		**Sn**	**20 45 55.3**	**-1.1**
MFTR	**Murfatlar**	**2.06**	**133**	⇓P		**Pn**	**20 45 29.4**	**+0.9**
MFTR				⇑S		**Sn**	**20 45 55.7**	**-1.0**
ZIMR		**2.06**	**200**	⇓P		**Pn**	**20 45 28.3**	**-0.2**
ZIMR				⇓S		**Sn**	**20 45 55.8**	**-1.0**
BURAR	**Bucovina Array**	**2.16**	**340**	⇓P		**Pn**	**20 45 32.1**	**+2.3**
MILM	**Milestii Mici**	**2.17**	**52**	⇑P		**Pn**	**20 45 30.3**	**+0.5**
MILM	**Milestii Mici**	**2.17**	**52**	*e*P		**Pn**	**20 45 30.0**	**+0.3**
	19nm,0.1s							
MILM				*e*S		**Sn**	**20 45 57.0**	**-2.1**
	70nm,0.1s							
MILM	**Milestii Mici**	**2.17**	**52**	P		**Pn**	**20 45 30.0**	**+0.3**
MILM				Pm			20 45 30.4	
MILM				S		**Sn**	**20 45 57.0**	**-2.1**
MILM				Sm			20 45 57.1	
MILM				m			20 45 57.5	
TSCT	**Constanta Port**	**2.19**	**130**	⇑S		**Sn**	**20 45 58.9**	**-0.6**
KIS	**Kishinev**	**2.22**	**50**	*e*P		**Pn**	**20 45 31.0**	**+0.7**
	8.0nm,0.1s							
KIS				*e*S		**Sn**	**20 45 58.8**	**-1.3**
	110nm,0.2s							
KIS	**Kishinev**	**2.22**	**50**	P		**Pn**	**20 45 31.0**	**+0.7**
KIS				Pm			20 45 31.7	
KIS				S		**Sn**	**20 45 58.8**	**-1.3**
KIS				Sm			20 45 58.9	
KIS				m			20 46 00.0	
LOZB	**Loznitsa**	**2.24**	**175**	⇑P		**Pn**	**20 45 31.3**	**+0.7**
LOZB				⇓S		**Sn**	**20 45 59.5**	**-1.0**
PSN	**Preselentsi**	**2.35**	**146**	⇑P		**Pn**	**20 45 33.4**	**+1.5**
PSN				S		**Sn**	**20 46 02.7**	**-0.1**
SZH	**Strazhitsa**	**2.35**	**186**	*e*P		**Pn**	**20 45 32.9**	**+1.0**
SZH				S		**Sn**	**20 46 01.5**	**-1.3**
MANR	**Mangalia**	**2.40**	**137**	⇑S		**Sn**	**20 46 03.1**	**-0.8**
SRE	**Strehaia**	**2.40**	**248**	⇑P		**Pn**	**20 45 33.3**	**+0.8**
NEF	**NEVSHA**	**2.43**	**164**	P		**Pn**	**20 45 34.1**	**+1.2**
MARR	**Marisel-Cluj**	**2.48**	**297**	⇓P		**Pn**	**20 45 34.2**	**+0.7**
GZR	**Gura Zlata**	**2.51**	**267**	⇑P		**Pn**	**20 45 34.9**	**+1.1**
GZR	**Gura Zlata**	**2.51**	**267**	*e*Pg		**Pn**	**20 45 34.0**	**+0.2**
PLVB	**Pleven**	**2.53**	**210**	⇑P		**Pn**	**20 45 34.6**	**+0.6**
PRD	**Provadia**	**2.56**	**162**	P		**Pn**	**20 45 35.5**	**+1.1**
ROIA	**ROIAK**	**2.62**	**163**	*e*P		**Pn**	**20 45 36.3**	**+1.2**
ELND	**Elena**	**2.69**	**187**	⇑P		**Pn**	**20 45 36.9**	**+0.9**
DRGR		**2.78**	**297**	⇓P		**Pn**	**20 45 37.8**	**+0.7**
DRGR		**2.78**	**297**	*e*Pg		**Pn**	**20 45 37.6**	**+0.5**
VALD	**Valchedram**	**2.81**	**228**	P		**Pn**	**20 45 38.8**	**+1.3**
KSV	**Kosov**	**2.85**	**343**	*e*Pn		**Pn**	**20 45 38.5**	**+0.6**
HERR	**Herculane**	**2.86**	**257**	⇑P		**Pn**	**20 45 38.7**	**+0.7**
NSLU	**Nyzhne Selyshc**	**2.90**	**334**	*e*Pn		Pn	20 45 43.9	+5.4
MPEP	**Malo Peshtene**	**2.91**	**221**	*e*P		**Pn**	**20 45 39.7**	**+1.0**
SURR	**Surduc**	**2.95**	**275**	⇓P		**Pn**	**20 45 40.3**	**+1.1**
NDNU	**Novodnistrovsk**	**3.08**	**13**	*e*Pn		**Pn**	**20 45 41.3**	**+0.6**
NDNU				Pm			20 45 41.9	
NDNU				*e*Sn		**Sn**	**20 46 17.0**	**-1.7**
NDNU				Sm			20 46 18.0	
BZS	**Buzias**	**3.31**	**272**	*e*Pg		**Pn**	**20 45 44.4**	**+0.8**
MDVR	**Moldovita**	**3.37**	**258**	⇑P		**Pn**	**20 45 45.2**	**+0.7**
MDVR	**Moldovita**	**3.37**	**258**	*e*Pg		**Pn**	**20 45 46.1**	**+1.7**
BORS2	**Bor- Borsko je**	**3.42**	**245**	*e*Pn		**Pn**	**20 45 44.5**	**-0.6**
ZAGS	**Zajecar**	**3.42**	**240**	*e*Pn		**Pn**	**20 45 45.1**	**0.0**
KUBS	**Kucevo**	**3.51**	**252**	*e*Pn		**Pn**	**20 45 45.3**	**-0.9**
BRIU	**Brid**	**3.56**	**322**	*e*Pn		**Pn**	**20 45 47.5**	**+0.8**
VRSS	**Vrsac**	**3.56**	**264**	*e*Pn		**Pn**	**20 45 45.4**	**-1.4**
HORU	**Horodok**	**3.62**	**1**	*e*Pn		**Pn**	**20 45 48.6**	**+1.1**
BERU	**Beregovo**	**3.65**	**318**	*e*Pn		**Pn**	**20 45 49.1**	**+1.2**
STZU	**Stuzhytsa**	**4.25**	**325**	*e*Pn		**Pn**	**20 45 56.6**	**+1.0**
KOLS	**Kolonicke sedl**	**4.33**	**322**	*e*P		**Pn**	**20 45 58.6**	**+1.9**
TRUS	**Trudelj**	**4.43**	**254**	*e*Pn		**Pn**	**20 45 57.9**	**-0.1**

IDC 19 21:04:24.9±2.1,0.53N×127.07E,h0km,mb3.2/3, mbtmp3.3/3,Error ellipse: s-maj=169.5km s-min=27.1km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.55**	**161**	P	P	21 09 15.8	-0.3
	0.5nm,0.6s,baz=340,slow=11,SNR=6.9 0.5nm,0.6s						
ASAR	**Alice Springs**	**24.95**	**165**	P	P	21 09 50.4	+0.2
	0.5nm,0.7s,baz=351,slow=15,SNR=7.1 0.5nm,0.7s						
MKAR	**Makanchi Array**	**60.38**	**326**	P	P	21 14 35.9	-0.1
	0.1nm,0.3s,baz=125,slow=9.1,SNR=4.6 0.1nm,0.3s						

*MEX **19** 21:04:53.8±0.7, 13.73N×92.39W, h4km±65km, MD4.0*
*GCG **19** 21:05:03.9±0.4, 14.36N×91.75W, h46km±5km, MD3.8, ML2.2*
ISC 19 21:04:47.0±2.4, 13.6N±0.1×92.46W±0.07, h11km±13km, n16,σ1s75/23, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**1.22**	**37**	*e*P	**Pn**	**21 05 11.9**	**+1.9**
RTAL				*e*S	**Sb**	**21 05 24.3**	**-1.5**
THIG		**1.36**	**8**	*e*S	**Sb**	**21 05 27.2**	**-2.6**
STG0	**El Palmar, Qui**	**1.39**	**51**	*e*P	**Pg**	**21 05 14.4**	**+0.7**
STG8	**El Palmar, Qui**	**1.40**	**50**	*e*P	**Pg**	**21 05 14.6**	**+0.7**
PATR	**El Naranjo**	**1.57**	**8**	*e*P	**Pb**	**21 05 16.1**	**-0.1**
PATR				*e*S	**Sb**	**21 05 33.9**	**-2.2**
PAVE	**Pavencul**	**1.65**	**10**	*e*P	**Pb**	**21 05 17.2**	**-0.4**
PAVE				*e*S	**Sb**	**21 05 36.4**	**-2.2**
FG8	**Yepocapa, Chim**	**1.97**	**69**	*i* P	**Pn**	**21 05 19.2**	**-1.3**
FG16	**Alotenango, Sa**	**2.02**	**69**	*i* P	**Pn**	**21 05 20.4**	**-0.9**
PCIG		**2.26**	**341**	*e*P	**Pn**	**21 05 26.5**	**+2.2**
PCIG				*e*S	**Sn**	**21 05 52.3**	**+0.1**
CCIG	**Comitan**	**2.73**	**7**	*e*P	**Pb**	**21 05 35.4**	**-0.6**
CCIG				*e*S	**Sb**	**21 06 05.5**	**-4.0**
CCIG	**Comitan**	**2.73**	**7**	*i* P	**Pb**	**21 05 35.4**	**-0.6**
TGIG		**3.27**	**349**	*e*P	**Pg**	**21 05 49.2**	**-0.5**
TGIG				*e*S	**Sn**	**21 06 18.6**	**+1.4**
NILT	**Santiago Nilte**	**3.65**	**325**	*e*S	**Sn**	**21 06 26.1**	**-0.4**
UXUV	**UXUV**	**4.08**	**337**	*e*P	Pn	21 05 54.4	+5.0
UXUV				*e*S	**Sn**	**21 06 36.7**	**-0.4**
CMIG	**Matias Romero**	**4.22**	**327**	*e*P	**Pb**	**21 05 58.6**	**-2.8**
CMIG				*e*S	**Sn**	**21 06 40.0**	**-0.7**
NEUV	**Arroyo Zacate**	**5.24**	**323**	*e*P	Pn	21 06 11.3	+6.0
NEUV				*e*S	**Sn**	**21 07 05.7**	**-0.1**

*GCG **19** 21:12:53.7±1.1, 14.88N×93.68W, h35km±999km, MD3.8, ML3.0*
*MEX **19** 21:12:53.3±0.6, 14.80N×93.81W, h14km±61km, MD3.9*
ISC 19 21:12:45.6±2.2, 14.58N±0.10×93.96W±0.07, h29km±17km, n12,σ1s95/24, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.32**	**32**	*e*P	**Pb**	**21 13 09.3**	**-0.6**
PCIG				*e*S	**Sn**	**21 13 22.2**	**-2.6**
PATR	**El Naranjo**	**1.75**	**72**	*e*P	**Pb**	**21 13 17.3**	**+0.1**
PATR				*e*S	**Sn**	**21 13 35.6**	**-0.1**
PAVE	**Pavencul**	**1.83**	**70**	*e*P	**Pb**	**21 13 18.4**	**-0.1**
PAVE				*e*S	**Sn**	**21 13 38.5**	**+0.9**
NILT	**Santiago Nilte**	**2.07**	**342**	*e*P	**Pb**	**21 13 22.8**	**+0.3**
NILT				*e*S	**Sn**	**21 13 40.9**	**-2.5**
TGIG		**2.33**	**20**	*e*P	**Pb**	**21 13 25.3**	**-1.7**
TGIG				*e*S	**Sn**	**21 13 50.0**	**+0.2**
TGIG		**2.33**	**20**	*e*P	**Pb**	**21 13 24.7**	**-2.3**
TGIG				*i* S	**Sn**	**21 13 49.2**	**-0.6**
TGIG				IAML		21 13 51.7	
	comp=E,67nm,0.5s						
CCIG	**Comitan**	**2.44**	**46**	*e*P	**Pb**	**21 13 28.8**	**-0.1**
CCIG				*e*S	**Sn**	**21 13 54.3**	**+1.6**
STG8	**El Palmar, Qui**	**2.53**	**93**	*i* P	**Pn**	**21 13 26.2**	**+1.2**
STG8				*i* S	**Sn**	**21 13 52.6**	**-2.4**
STG8				IAML		21 13 58.9	
	comp=N,116nm,0.2s						
STG0	**El Palmar, Qui**	**2.54**	**93**	*i* P	**Pn**	**21 13 26.7**	**+1.6**
STG0				*e*S	**Sn**	**21 13 50.8**	**-4.3**
STG0				IAML		21 13 57.6	
	comp=E,180nm,0.3s						
CMIG	**Matias Romero**	**2.65**	**340**	*e*P	**Pn**	**21 13 27.9**	**+1.5**
CMIG				*e*S	**Sn**	**21 13 54.2**	**-3.4**
UXUV	**UXUV**	**2.73**	**356**	*e*P	**Pn**	**21 13 30.0**	**+2.5**
UXUV				*e*S	**Sn**	**21 13 59.2**	**-0.3**
NEUV	**Arroyo Zacate**	**3.58**	**331**	*e*P	**Pn**	**21 13 40.8**	**+1.5**
NEUV				*e*S	**Sn**	**21 14 20.5**	**-0.1**

GCG 19 21:22:46.9±0.3, 14.29N×91.57W, h71km±8km, MD3.6, ML3.1, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**0.26**	**58**	*i* P	Pn	21 22 59.9	+1.7
STG0				IAML		21 23 15.1	
	comp=E,577nm,0.2s						
STG8	**El Palmar, Qui**	**0.27**	**52**	*i* P	Pn	21 23 00.3	+2.0
STG8				IAML		21 23 14.0	
	comp=E,400nm,0.1s						
FG16	**Alotenango, Sa**	**1.02**	**91**	*i* P	Pn	21 23 02.9	-3.1
FG16				*i* S	Sn	21 23 15.2	-5.0
FG16				IAML		21 23 18.7	
	comp=E,1μm,0.2s						
MTO3	**Montecristo**	**2.14**	**87**	*e*P	Pn	21 23 21.6	+0.9

*NEIC **19** 21:24:31.3±1.3, 2.83S×0.06×128.21E±0.06, h10km±1km, mb4.9/105,Error ellipse: s-maj=11.2km s-min=9.9km az=56.0*
*DJA **19** 21:24:33.1±0.5, 3.3S×2.2×12.8E±°, h12km±4km, M4.9/47, mb5.1/47, mB5.4/25, MLv5.1/25, Mw(mB)4.8/25, MwMwp4.7/3, Mwp5.0/3*
*IDC **19** 21:24:34.5±1.8, 2.99S×128.29E, h41km±16km, mb4.2/20, mbtmp4.5/25, ML4.8/5, MS4.0/44, Error ellipse: s-maj=19.0km s-min=8.0km az=74.0*
*GCMT **19** 21:24:35.3±0.3, 2.53S±0.02×128.15E±0.03, h34km±1km, MW4.9/59, Moment Tensor Solution. s27,c38; s59,c75; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.47±.17; Mθθ-2.24±.10; Mφφ0.76±.13; Mrθ-1.41±.12; Mφθ0.45±.10; Mφr0.62±.19; Best double couple: Mo2.46300×10^16 NP1:φs77.00000°,δ29.00000°,λ57.00000°. NP2: φs293.00000°,δ66.00000°,λ107.00000°. Principal axes: T 2.1010, Plg65.0000°, Azm232.0000°; N 0.7220, Plg15.0000°, Azm106.0000°; P -2.8240, Plg19.0000°, Azm11.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 21:24:35.0±0.3, 2.88S±0.04×128.13E±0.05, h38km, n301, σ1s49/278, mb4.9/90, MS4.0/41, 2D, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.81**	**176**	P	**Pn**	**21 24 49.3**	**-0.6**
MSAI	**Masohi**	**0.92**	**120**	P	**Pn**	**21 24 52.6**	**+1.2**
NLAI	**Namlea**	**1.09**	**251**	P	**Pn**	**21 24 53.6**	**-0.2**
SANI	**Sanana**	**2.30**	**291**	P	**Pn**	**21 25 07.7**	**-2.6**
BNDI	**Bandanaira**	**2.41**	**133**	P	**Pn**	**21 25 15.2**	**+3.3**
BNDI	**Bandanaira**	**2.41**	**133**	P	**Pn**	**21 25 14.4**	**+2.5**
TNTI	**Ternate**	**3.71**	**348**		**Pn**	**21 25 28.7**	**-1.1**
TNTI	**Ternate**	**3.71**	**348**	P	**Pn**	**21 25 29.9**	**+0.1**
TNTI	**Ternate**	**3.71**	**348**	S	**Sn**	**21 26 12.4**	**+0.2**
TNTI	**Ternate**	**3.71**	**348**	P	**Pn**	**21 25 29.4**	**-0.4**
SWI	**Sorong**	**3.71**	**57**	P	**Pn**	**21 25 29.5**	**-0.3**
FAKI	**Fak Fak**	**4.11**	**91**		**Pn**	**21 25 33.4**	**-1.9**
FAKI	**Fak Fak**	**4.11**	**91**	P	**Pn**	**21 25 35.6**	**+0.2**
FAKI	**Fak Fak**	**4.11**	**91**	S	**Sn**	**21 26 22.9**	**+0.7**
FAKI	**Fak Fak**	**4.11**	**91**	P	**Pn**	**21 25 35.5**	**+0.2**
KMSI	**Cibinong**	**5.38**	**310**	P	**Pn**	**21 25 51.9**	**-0.9**
KDI	**Kendari**	**5.61**	**259**	P	**Pn**	**21 25 57.1**	**+1.2**
KMPI	**Kaimana, Papua**	**5.62**	**98**	P	**Pn**	**21 25 56.6**	**+0.6**
LUWI	**Luwuk**	**5.66**	**289**	P	**Pn**	**21 25 56.4**	**-0.2**
	2.4nm4μm341nm,1.2s						
SAUI	**Saumlaki**	**5.97**	**148**	Pn	**Pn**	**21 26 00.6**	**-0.2**
SAUI	**Saumlaki**	**5.97**	**148**	P	**Pn**	**21 26 03.7**	**+2.8**
BBSI	**Bau Bau**	**6.12**	**245**	P	**Pn**	**21 26 04.8**	**+1.8**
	0.8nm4μm3μm187nm,1.2s						
RKPI	**Ransiki, Papua**	**6.19**	**77**	P	**Pn**	**21 26 03.7**	**-0.2**
	3μm6μm387nm,0.7s						
APSI	**Ampana**	**6.77**	**287**	P	**Pn**	**21 26 12.5**	**+0.6**
SGSI	**Sangihe**	**7.02**	**338**	P	**Pn**	**21 26 13.8**	**-1.5**
	1.5nm3μm193nm,0.6s						
MRSI	**Marisa**	**7.03**	**298**	P	**Pn**	**21 26 15.2**	**-0.3**
	1.2nm2μm156nm,0.6s						
SOEI	**Soe**	**7.84**	**209**		**Pn**	**21 26 26.9**	**+0.2**
SOEI	**Soe**	**7.84**	**209**	P	**Pn**	**21 26 30.5**	**+3.9**
SOEI	**Soe**	**7.84**	**209**	P	**Pn**	**21 26 28.9**	**+2.3**
	1.4nm3μm113nm,1.6s						
BAKI	**Biak**	**8.14**	**78**	P	**Pn**	**21 26 31.2**	**+0.5**
BNSI	**Bone**	**8.15**	**259**	P	**Pn**	**21 26 32.6**	**+1.8**
	63nm,1.1s						
SRPI	**Serui, Papua**	**8.16**	**83**	P	**Pn**	**21 26 30.5**	**-0.5**
	128nm,0.6s						
MMRI	**Maumere**	**8.19**	**225**	Pn	**Pn**	**21 26 33.9**	**+2.5**
MMRI	**Maumere**	**8.19**	**225**	P	**Pn**	**21 26 33.6**	**+2.2**
BSSI	**Bau Bau, Buton**	**8.28**	**247**	P	**Pn**	**21 26 34.6**	**+2.0**
	140nm,1.5s						
TTSI	**Tana Toraja**	**8.30**	**269**	P	**Pn**	**21 26 35.3**	**+2.4**
	70nm,0.8s						
BKSI	**Bulukumba**	**8.35**	**253**	P	**Pn**	**21 26 36.0**	**+2.4**
	2μm89nm,1.0s						
TOLI2	**Tolitoli**	**8.35**	**298**		**Pn**	**21 26 33.1**	**-0.5**
TOLI2	**Tolitoli**	**8.35**	**298**	P	**Pn**	**21 26 35.0**	**+1.4**
SPSI	**Sidrap Palu**	**8.42**	**262**	P	**Pn**	**21 26 35.3**	**+0.8**
	1μm74nm,1.1s						
PCI	**Palu**	**8.52**	**283**	P	**Pn**	**21 26 38.0**	**+2.1**
BATI	**Baumata**	**8.53**	**211**	P	**Pn**	**21 26 36.7**	**+0.7**
	10nm,0.3s,baz=177,slow=1.8,SNR=9.7						
BATI				LR	LR	21 29 53.6	
	comp=Z,2μm,21.9s,baz=24,slow=38 8.2nm,0.4s						
BATI	**Baumata**	**8.53**	**211**	P	**Pn**	**21 26 39.2**	**+3.2**
	79nm,1.0s						
KAPI	**Kappang**	**8.63**	**256**		**Pn**	**21 26 37.9**	**+0.5**
KAPI	**Kappang**	**8.63**	**256**	P	**Pn**	**21 26 39.4**	**+2.1**
	5.8nm,0.3s,baz=37,slow=5.8,SNR=13						
KAPI				LR	LR	21 30 26.4	
	comp=Z,2μm,18.3s,baz=70,slow=40 17nm,0.4s						
KAPI	**Kappang**	**8.63**	**256**	P	**Pn**	**21 26 41.3**	**+3.9**
EDFI	**Ende, Flores**	**8.66**	**227**	P	**Pn**	**21 26 40.9**	**+2.9**
	1μm52nm,0.6s						
MPSI	**Mapaga**	**8.83**	**291**	P	**Pn**	**21 26 39.2**	**-1.0**
	791nm63nm,0.7s						
DRS	**Darwin Rock St**	**9.88**	**164**	P	**Pn**	**21 26 58.4**	**+3.9**
	83nm,0.6s						
DAV	**Davao City (W)**	**10.21**	**346**	LR	LR	21 31 08.9	
	comp=Z,581nm,20.9s,baz=314,slow=38						
WSI	**Waingapu**	**10.30**	**229**	P	**Pn**	**21 27 02.3**	**+2.0**
	75nm,0.8s						
MTN	**Manton Dam**	**10.34**	**163**		**Pn**	**21 27 00.1**	**-0.7**
MTN	**Manton Dam**	**10.34**	**163**	P	**Pn**	**21 27 03.3**	**+2.5**
	comp=Z,58nm,0.7s						
MTN	**Manton Dam**	**10.34**	**163**	P	**Pn**	**21 27 03.4**	**+2.6**
MTN	**Manton Dam**	**10.34**	**163**	S	**Sn**	**21 29 00.0**	**+4.6**
SMPI	**Sarmi**	**10.60**	**85**	P	**Pn**	**21 27 04.8**	**+0.3**
	comp=Z,1μmcomp=Z,106nm,1.0s						
KDU	**Kakadu**	**10.65**	**156**	P	**Pn**	**21 27 06.2**	**+1.1**
	comp=Z,79nm,1.1s						
KDU	**Kakadu**	**10.65**	**156**	P	**Pn**	**21 27 06.4**	**+1.3**
KDU	**Kakadu**	**10.65**	**156**	S	**Sn**	**21 29 05.0**	**+1.9**
WBSI	**Waikabubak, Su**	**10.98**	**232**	P	**Pn**	**21 27 12.1**	**+2.4**
	comp=Z,1μmcomp=Z,78nm,1.0s						
BKB	**Balikpapan**	**11.34**	**278**		**Pn**	**21 27 14.2**	**-0.4**
BKB	**Balikpapan**	**11.34**	**278**	P	**Pn**	**21 27 17.8**	**+3.2**
BKB	**Balikpapan**	**11.34**	**278**	P	**Pn**	**21 27 17.4**	**+2.8**
PLAI	**Plampang**	**11.87**	**240**	P	**Pn**	**21 27 26.1**	**+4.2**
PLAI	**Plampang**	**11.87**	**240**	P	**Pn**	**21 27 24.6**	**+2.7**
	comp=Z,50nm,0.9s						
GENI	**Genyem**	**12.03**	**89**	P	**Pn**	**21 27 23.9**	**0.0**
GENI	**Genyem**	**12.03**	**89**	P	**Pn**	**21 27 24.9**	**+1.0**
MYLDM	**Lahad Datu**	**12.52**	**310**		**Pn**	**21 27 31.6**	**+1.0**
MYLDM	**Lahad Datu**	**12.52**	**310**	P	**Pn**	**21 27 32.1**	**+1.4**
JAY	**Jayapura**	**12.56**	**89**	P	**Pn**	**21 27 30.1**	**-1.3**
	comp=Z,1.9nm,0.3s,baz=254,slow=7.5,SNR=21 comp=Z,59nm,0.9s						
JAY	**Jayapura**	**12.56**	**89**	P	**Pn**	**21 27 30.2**	**-1.1**
	comp=Z,909nmcomp=Z,72nm,1.1s						
KNRA	**Kununurra**	**12.73**	**177**		**Pn**	**21 27 32.6**	**-0.9**
KNRA	**Kununurra**	**12.73**	**177**	P	**Pn**	**21 27 34.5**	**+0

MEEK Meekatharra 25.33 200 P P 21 29 57.3 -1.1
FORT Forrest 27.75 180 P P 21 30 19.5 -0.7
comp=Z,13nm,1.1s
QIZ Qiongzhong 28.24 321 P P 21 30 25.8 +1.1
QIZ S S 21 35 13.0 +4.7
QIZ LR LR
comp=N,240nm,20.4s
QIZ LR LR
comp=E,300nm,15.8s
QIZ LR LR
comp=Z,540nm,15.8s
MORW Morawa 28.47 203 P P 21 30 25.9 -0.7
BLDU Ballidu 29.63 200 P P 21 30 35.8 -1.1
PSI Prapat 29.74 281 LR LR 21 44 58.6
comp=Z,544nm,18.2s,baz=112,slow=41
BBOO Buckleboo 30.69 167 P P 21 30 44.5 -1.7
comp=Z,17nm,1.6s
BBOO Buckleboo 30.69 167 P P 21 30 44.9 -1.4
GSI Gunungsitoli 30.83 277 P P 21 30 47.7 0.0
GSI Gunungsitoli 30.83 277 P P 21 30 49.2 +1.5
STKA Stephens Creek 31.51 158 P P 21 30 53.2 -0.3
STKA Stephens Creek 31.51 158 P P 21 30 53.0 -0.5
comp=Z,37nm,1.0s
STKA Stephens Creek 31.51 158 P P 21 30 52.4 -1.1
comp=Z,3.2nm,0.4s,baz=338,slow=7.9,SNR=19
STKA LR LR 21 44 51.6
comp=Z,558nm,19.5s,baz=345,slow=39
comp=Z,3.2nm,0.4s
STKA Stephens Creek 31.51 158 P P 21 30 53.0 -0.5
NWAO Narrogin (SRO) 31.59 198 P P 21 30 52.7 -1.5
NWAO Narrogin (SRO) 31.59 198 LR LR 21 45 09.0
comp=Z,285nm,18.4s,baz=48,slow=39
NWAO Narrogin (SRO) 31.59 198 P P 21 30 53.4 -0.8
HTT Hallett 32.03 163 P P 21 30 58.5 +0.4
HNR Honiara 32.27 103 LR LR 21 45 24.0
comp=Z,200nm,19.5s,baz=281,slow=39
ARMA Armidale 35.28 143 P P 21 31 27.0 +0.5
ARMA Armidale 35.28 143 P P 21 31 28.4 +1.9
comp=Z,14nm,1.8s
CMAR Chiang Mai Arr 35.72 308 P P 21 31 30.1 -0.2
comp=Z,0.8nm,0.6s,baz=133,slow=7.1,SNR=8.1
CMAR LR LR 21 48 59.9
comp=Z,99nm,20.0s,baz=130,slow=41
comp=Z,0.8nm,0.6s
WHN Wuhan 35.75 339 P P 21 31 31.8 +1.5
NJ2 Nanjing 35.84 346 eP P 21 31 32.1 +1.0
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
JNU Nakatsue 35.90 4 LR LR 21 47 31.1
comp=Z,290nm,18.2s,baz=166,slow=38
CHTO Chiang Mai 35.91 308 P P 21 31 33.1 +1.1
YNG Young 36.52 151 P P 21 31 38.8 +1.9
comp=Z,14nm,1.6s
KMI Kunming 37.17 320 P P 21 31 45.3 +2.4
KMI pmax pmax
comp=Z,10.0nm,1.1s
CAN Canberra 37.64 152 P P 21 31 47.0 +0.5
TOO Toolangi 38.03 157 P P 21 31 50.7 +1.0
TOO Toolangi 38.03 157 P P 21 31 51.0 +1.2
comp=Z,6.5nm,2.5s
PZH PanZhiHua 38.78 321 P P 21 31 56.3 0.0
KSRS Korea Array 40.13 360 P P 21 32 06.8 -0.4
comp=Z,3.6nm,1.0s,baz=188,slow=11,SNR=7.7
comp=Z,3.6nm,1.0s
MJAR Matsushiro Arr 40.33 13 P P 21 32 07.2 -1.7
comp=Z,2.2nm,0.8s,baz=185,slow=8.0,SNR=4.8
MJAR LR LR 21 48 57.2
comp=Z,256nm,18.8s,baz=180,slow=36
comp=Z,2.2nm,0.8s
XAN Xi'an 40.94 335 P P 21 32 13.3 -0.8
XAN pmax pmax
comp=Z,14nm,1.2s
DZM Mont Dzumac 41.79 120 eS S 21 38 44.8 +8.2
comp=Z,108nm,25.1s
DZM eLR LR 21 43 56.4
comp=Z,226nm,23.9s
JMM Marumori 42.21 15 P P 21 32 24.9 +0.6
LZH Lanzhou 44.92 332 eP P 21 32 47.4 +1.0
LZH sP pP 21 32 53.6 -3.2
LZH pmax pmax
comp=Z,15nm,1.3s
LZH LR LR
comp=N,240nm,14.1s
LZH LR LR
comp=Z,190nm,13.4s
HHC Hu-ho-hao-te 46.08 343 eP P 21 32 56.8 +1.4
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,96nm,3.7s
USRK Ussuriysk Ar. 46.99 4 P P 21 33 02.8 +0.5
USRK Ussuriysk Ar. 46.99 4 P P 21 33 02.5 +0.1
comp=Z,3.0nm,0.7s,baz=193,slow=7.4,SNR=6.5
USRK LR LR 21 53 08.9
comp=Z,227nm,19.1s,baz=185,slow=36
comp=Z,3.0nm,0.7s
MDJ Mudanjiang 47.30 1 P P 21 33 05.4 +0.6
MDJ pmax pmax
comp=Z,15nm,1.1s
XLT XiLinHaoTe 47.81 348 eP P 21 33 08.3 -0.6
XLT pmax pmax
comp=Z,6.0nm,1.2s
BNX BinXian 48.41 359 ⇓P P 21 33 12.3 -1.1
BNX pmax pmax
comp=Z,6.0nm,0.9s
ASAJ Asahikawa 48.55 14 LR LR 21 52 48.8
comp=Z,175nm,20.2s,baz=183,slow=35
GTA Gaotai 49.49 331 eP P 21 33 22.6 +0.7
GTA pmax pmax
comp=Z,5.0nm,0.9s
EVN Everest 50.19 311 P P 21 33 29.3 +1.3
HEH HeiHe 52.93 359 eP P 21 33 46.8 -0.5
HEH pmax pmax
comp=Z,16nm,1.2s
ULN Ulaanbaatar 53.80 343 P P 21 33 53.7 -0.3
ULN IAmb IAmb 21 33 55.3
comp=Z,14nm,1.4s
SONM Songino Array 53.97 342 P P 21 33 54.6 -0.6
SONM Songino Array 53.97 342 P P 21 33 55.2 0.0
comp=Z,5.5nm,1.1s,baz=162,slow=7.5,SNR=16
comp=Z,5.5nm,1.1s
TUWZ Tuamarina 56.19 140 P P 21 34 11.6 +0.4
TCW Tory Channel 56.30 139 P P 21 34 11.8 -0.2
WMQ Urumqi 58.95 327 eP P 21 34 32.6 +1.9
WMQ LR LR
comp=Z,110nm,24.1s
PETK Petropavlovsk- 61.06 20 P P 21 34 44.3 -0.6
PETK Petropavlovsk- 61.06 20 P P 21 34 44.2 -0.7
comp=Z,9.9nm,1.0s,baz=209,slow=8.2,SNR=6.3
PETK LR LR 21 59 05.4
comp=Z,44nm,21.8s,baz=189,slow=34
comp=Z,9.9nm,1.0s
KSH Kashi 63.75 317 P P 21 35 04.9 +1.6
KSH pmax pmax
comp=Z,6.0nm,1.1s
MKAR Makanchi Array 63.78 327 P P 21 35 02.4 -0.8
MKAR Makanchi Array 63.78 327 P P 21 35 03.2 -0.1
comp=Z,2.4nm,0.7s,baz=116,slow=8.2,SNR=20
comp=Z,2.4nm,0.7s
KDJ Kajisay 64.24 320 P P 21 35 07.3 +0.8
KDJ IAmb IAmb 21 35 09.5
comp=Z,6.2nm,0.9s
YAK Yakutsk 64.74 1 P P 21 35 09.6 +0.5
YAK Yakutsk 64.74 1 LR LR 22 04 12.2
comp=Z,73nm,18.6s,baz=176,slow=37
MA2 Magadan 64.77 13 LR LR 22 00 31.8
comp=Z,73nm,21.8s,baz=214,slow=33
AAK Ala-Archa 66.22 320 P P 21 35 20.1 +0.7
AAK Ala-Archa 66.22 320 LR LR 22 08 21.7
comp=Z,69nm,19.7s,baz=106,slow=40
ZALV Zalesovo Beam 67.09 334 P P 21 35 23.8 -0.7
ZALV Zalesovo Beam 67.09 334 P P 21 35 23.6 -0.8
comp=Z,2.7nm,1.0s,baz=90,slow=3.0,SNR=9.1
ZALV LR LR 22 08 43.1
comp=Z,50nm,18.5s,baz=138,slow=39
comp=Z,2.7nm,1.0s
GAR Garm 67.47 314 P P 21 35 27.5 +0.1
SHEM Shemya Is, Ala 67.51 28 LR LR 21 59 29.5
comp=Z,126nm,21.1s,baz=233,slow=31
KURBB Kurchatov Arra 68.05 328 P P 21 35 30.0 -0.6
comp=Z,8.2nm,1.0s,baz=128,slow=5.8,SNR=27
comp=Z,8.2nm,1.0s
KURK Kurchatov 68.05 329 P P 21 35 30.3 -0.3
KURK IAmb IAmb 21 35 32.7
comp=Z,16nm,1.1s
SEY Seymchan 68.15 12 LR LR 22 03 40.9
comp=Z,64nm,20.9s,baz=174,slow=34
SIMJ Simiganj 68.27 314 P P 21 35 31.9 -0.6
KK31 Karatay Array 69.04 319 P P 21 35 37.0 0.0
KK31 IAmb IAmb 21 35 39.8
comp=Z,7.8nm,1.2s
KKAR Karatay Array 69.04 319 P P 21 35 37.2 +0.2
KIWB Kanaga Island 71.42 32 P P 21 35 49.8 -1.5
RAR Rarotonga 72.27 111 LR LR 22 07 56.5
comp=Z,103nm,18.5s,baz=135,slow=36
ATKA Atka Island 73.18 33 P P 21 36 01.6 -0.2
BVAR Borovoye Array 73.61 328 P P 21 36 04.5 +0.1
comp=Z,5.2nm,0.9s,baz=123,slow=7.3,SNR=24
comp=Z,5.2nm,0.9s
BRVK Borovoye 73.68 328 P P 21 36 04.7 0.0
BRVK IAmb IAmb 21 36 06.4
comp=Z,19nm,1.4s
TIXI Tiksi 74.39 0 P
TIXI IAmb IAmb 21 36 10.0
comp=Z,14nm,1.2s
TIXI Tiksi 74.39 0 LR LR 22 09 06.9
comp=Z,148nm,20.5s,baz=189,slow=36
VNDA Vanda 76.74 173 P P 21 36 21.2 -0.7
VNDA Vanda 76.74 173 P P 21 36 20.9 -1.0
comp=Z,0.8nm,0.4s,baz=313,slow=8.0,SNR=5.7
VNDA LR LR 22 08 04.8
comp=Z,121nm,22.0s,baz=335,slow=34
comp=Z,0.8nm,0.4s
MAW Mawson 78.10 201 P P 21 36 28.9 -0.8
comp=Z,16nm,1.4s,baz=60,slow=6.8,SNR=5.2
MAW LR LR 22 07 27.0
comp=Z,83nm,21.3s,baz=68,slow=33
comp=Z,16nm,1.4s
AB31 Akbulak array 78.14 322 P P 21 36 29.7 -0.6
ABKAR Akbulak array 78.14 322 P P 21 36 30.0 -0.3
ARTI Arti 81.33 328 P P 21 36 46.8 -0.6
PPT2 Papeete2 81.79 107 eLR LR 22 02 15.8
comp=Z,114nm,25.2s
PPT Papeete 81.79 107 LR LR 22 13 51.8
comp=Z,37nm,19.0s,baz=301,slow=36
TBI Tubuai 81.90 113 eLR LR 22 02 22.7
comp=Z,593nm,29.2s
F15K North Star Dit 83.42 23 P P 21 36 58.5 +0.3
F15K PcP 21 37 00.7 -1.8
K15K Wolf Creek Mou 83.51 26 P P 21 36 58.8 +0.1
C16K Lisburne Hills 84.16 20 P P 21 37 02.0 +0.2
G16K Koyuk River 84.20 23 P P 21 37 01.6 -0.5
M16K Timber Creek 84.30 28 P P 21 37 02.7 0.0
M16K IAmb IAmb 21 37 06.4
comp=Z,17nm,1.2s
O16K Kokwok River B 84.32 29 P P 21 37 02.1 -0.8
O16K IAmb IAmb 21 37 56.7
comp=Z,23nm,1.6s
J17K VABM Dome 84.92 26 P P 21 37 05.9 0.0
J17K IAmb IAmb 21 37 29.0
comp=Z,12nm,1.3s
K17K Iditarod 85.07 26 P P 21 37 06.7 +0.1
N18K Kilae Creek 85.66 29 P P 21 37 09.7 +0.1
N18K IAmb IAmb 21 37 13.3
comp=Z,10nm,1.2s
L18K Granite Mounta 85.66 27 P P 21 37 09.0 -0.6
L18K IAmb IAmb 21 37 12.0
comp=Z,7.8nm,1.1s
G18K Tagagawik 85.81 23 P P 21 37 10.5 +0.2
G18K IAmb IAmb 21 37 23.0
comp=Z,10.0nm,1.5s
N19K Bonanza Creek 86.36 29 P P 21 37 13.3 +0.1
N19K IAmb IAmb 21 37 15.8
comp=Z,11nm,0.9s
L19K White Mountain 86.49 27 P P 21 37 13.3 -0.3
L19K IAmb IAmb 21 37 22.8
comp=Z,7.4nm,1.2s
G19K Purcell Mounta 86.50 23 P P 21 37 13.7 +0.1
G19K IAmb IAmb 21 37 16.9
comp=Z,14nm,1.3s
J19K Poorman 86.57 25 P P 21 37 13.7 -0.2
J19K IAmb IAmb 21 37 48.2
comp=Z,13nm,1.6s
H19K Roundabout Mou 86.60 24 P P 21 37 14.6 +0.5
H19K IAmb IAmb 21 37 17.5
comp=Z,14nm,1.5s
KDAK Kodiak Island 86.71 32 P P 21 37 15.4 +0.6
KDAK Kodiak Island 86.71 32 LR LR 22 10 28.9
comp=Z,124nm,21.9s,baz=236,slow=32
D19K Kuna River 86.75 21 P P 21 37 14.7 -0.1
GNI Garni 86.79 310 LR LR 22 23 10.2
comp=Z,25nm,19.3s,baz=94,slow=40
E19K Redstone River 86.79 22 P P 21 37 15.1 +0.1
E19K IAmb IAmb 21 37 20.1
comp=Z,5.6nm,0.9s
SYO Syowa Base 86.81 201 ⇓eP P 21 37 16.8 +1.8
ILSW Iliamna Southw 86.84 30 P P 21 37 15.2 -0.4
ILSW IAmb IAmb 21 39 11.0
comp=Z,22nm,1.5s
QSPA South Pole Qui 87.07 180 P P 21 37 15.9 -0.7
QSPA IAmb IAmb 21 37 16.9
comp=Z,9.3nm,1.1s
QSPA South Pole Qui 87.07 180 P P 21 37 15.7 -0.9
comp=Z,4.9nm,0.9s,baz=335,slow=2.9,SNR=11
QSPA LR LR 22 16 41.9
comp=Z,156nm,18.9s,baz=355,slow=36
comp=Z,4.9nm,0.9s
M20K Styx River 87.22 28 P P 21 37 17.1 -0.3
J20K Nowinta River 87.24 25 P P 21 37 16.9 -0.4
J20K IAmb IAmb 21 37 23.3
comp=Z,9.2nm,1.4s
F20K Avaraart Lake 87.25 22 P P 21 37 17.0 -0.3
F20K IAmb IAmb 21 38 59.4
comp=Z,13nm,1.7s
D20K Etivluk River 87.34 21 P P 21 37 17.3 -0.4
G23K Bananza Creek 89.39 23 P P 21 37 27.6 +0.1
I23K Minto, Yukon-K 89.44 25 P P 21 37 27.3 -0.3
I23K IAmb IAmb 21 37 29.4
comp=Z,10nm,1.4s
H23K Yukon River 89.46 24 P P 21 37 27.3 -0.5
H23K IAmb IAmb 21 37 29.6
comp=Z,9.4nm,1.4s
D23K Nanushuk River 89.50 21 P P 21 37 27.5 -0.4
D23K IAmb IAmb 21 37 30.9
comp=Z,13nm,1.3s
E23K Chandalar 89.75 22 P P 21 37 29.7 +0.6
E23K IAmb IAmb 21 37 32.1
comp=Z,5.3nm,0.9s
WRH Wood River Hil 89.89 26 P P 21 37 27.7 -2.1
SCM Sheep Creek Mo 89.93 28 P P 21 37 30.1 -0.1
CCB Clear Creek Bu 90.03 25 P P 21 37 29.6 -0.8
H24K Noodor Dome 90.14 24 P P 21 37 30.9 -0.1
H24K IAmb IAmb 21 37 33.5
comp=Z,10nm,1.4s
ILAR Eielson Array 90.44 25 P P 21 37 31.1 -1.3
comp=Z,1.1nm,0.8s,baz=274,slow=4.3,SNR=7.3
ILAR LR LR 22 14 38.7
comp=Z,50nm,19.9s,baz=262,slow=33
comp=Z,1.1nm,0.8s
PAX Paxson 90.90 27 P P 21 37 33.5 -1.1
PAX IAmb IAmb 21 37 37.1
comp=Z,9.2nm,1.6s
TAOE Nuku Hiva Isla 91.26 99 eLR LR 22 06 39.2
comp=Z,141nm,24.0s
GLB Gilahina Butte 91.58 29 P P 21 37 36.8 -1.0
GLB IAmb IAmb 21 37 40.9
comp=Z,11nm,1.3s
BMAR Burnt Mountain 91.59 23 P P 21 37 37.2 -0.5
F26K Sheenjek River 91.77 22 P P 21 37 38.2 -0.3
F26K IAmb IAmb 21 37 41.0
comp=Z,6.4nm,1.3s
J26L Joseph Creek 91.84 26 P P 21 37 38.4 -0.6
CRQM Cirque 91.87 29 P P 21 37 38.4 -0.9
G26K Porcupine Rive 91.87 23 P P 21 37 37.4 -1.6
G26K IAmb IAmb 21 37 42.1
comp=Z,5.5nm,1.2s
ASF Jabal al Asfar 92.56 302 LR LR 22 27 52.0
comp=Z,46nm,18.5s,baz=138,slow=41
L27K Beaver Creek, 92.56 27 P P 21 37 42.1 -0.2
L27K IAmb IAmb 21 37 44.6
comp=Z,8.8nm,1.6s
BCAR Beaver Creek A 92.58 27 P P 21 37 42.8 +0.4
G27K Doyon Strip 92.71 23 P P 21 37 42.5 -0.4
H27K Steamboat Moun 92.75 24 P P 21 37 42.9 -0.2
CTGM Chitina Glacie 92.76 29 P P 21 37 41.8 -1.5
CTGM IAmb IAmb 21 37 46.5
comp=Z,12nm,1.3s
O28M Mount Upton 93.31 29 P P 21 37 45.9 -0.2
O28M IAmb IAmb 21 37 48.4
comp=Z,11nm,1.2s
I28M Miner Creek 93.41 25 P P 21 37 46.6 +0.4
I28M IAmb IAmb 21 38 06.8
comp=Z,6.8nm,1.1s
E28M Babbage River 93.52 22 P P 21 37 46.1 -0.4
DAWY Dawson 93.66 26 P P 21 37 46.7 -0.6
DAWY IAmb IAmb 21 37 49.9
comp=Z,7.7nm,1.4s
MMAI Mount Meron Ar 93.84 303 LR LR 22 27 52.2
comp=Z,55nm,18.1s,baz=110,slow=40
I29M Ogilvie Camp, 94.09 25 P P 21 37 49.1 -0.2
I29M IAmb IAmb 21 37 51.0
comp=Z,11nm,1.2s
M29M Somme Creek 94.11 28 P P 21 37 49.4 -0.1
M29M IAmb IAmb 21 37 52.0
comp=Z,4.3nm,1.1s
G29M Pine Creek 94.14 23 P P 21 37 48.4 -1.1
G29M IAmb IAmb 21 37 52.5
comp=Z,12nm,1.2s
EIL Elat 94.18 299 LR LR 22 28 07.5
comp=Z,57nm,18.2s,baz=64,slow=40
L29M L29M 94.25 27 P P 21 37 50.2 +0.1
L29M IAmb IAmb 21 37 53.5
comp=Z,12nm,1.3s
K29M Barlow Dome 94.49 26 P P 21 37 49.8 -1.4
K29M IAmb IAmb 21 37 55.5
comp=Z,6.5nm,1.4s
EPYK Eagle Plains 94.69 24 P P 21 37 51.5 -0.5
EPYK IAmb IAmb 21 37 54.8
comp=Z,6.4nm,0.9s
N30M Aishikik Lake 94.80 29 P P 21 37 52.1 -0.5
N30M IAmb IAmb 21 37 54.4
comp=Z,4.7nm,1.1s
G30M tAoh Zraii Nji 94.85 23 P P 21 37 51.6 -1.1
G30M IAmb IAmb 21 37 53.1
comp=Z,9.2nm,1.4s
M30M Minto, Yukon 94.88 28 P P 21 37 53.0 0.0
F30M Barrier River 94.97 22 P P 21 37 53.4 +0.1
F30M IAmb IAmb 21 37 55.9
comp=Z,12nm,1.4s
J30M Hart River 94.97 26 P P 21 37 53.2 -0.2
J30M IAmb IAmb 21 37 58.2
comp=Z,9.6nm,1.6s
BRTR Keskin Array B 95.28 309 P P 21 37 55.6 +0.1
comp=Z,0.2nm,0.5s,baz=48,slow=2.1,SNR=3.8
BRTR LR LR 22 30 06.0
comp=Z,27nm,18.4s,baz=118,slow=41
comp=Z,0.2nm,0.5s
CSS Mathiatis 95.58 305 P P 21 37 55.7 -1.1
G31M Satah River 95.62 23 P P 21 37 55.6 -0.5
H31M Peel River 95.70 24 P P 21 37 56.7 +0.1
H31M IAmb IAmb 21 37 58.0
comp=Z,7.4nm,1.4s
INK Inuvik 95.75 22 P P 21 37 55.8 -0.9
INK IAmb IAmb 21 39 31.8
comp=Z,3.6nm,0.7s
F31M Tsiigehtchic 95.77 23 P P 21 37 56.4 -0.4
F31M IAmb IAmb 21 41 01.2
comp=Z,5.4nm,0.8s
ARCES ARCESS Array B 97.09 340 P Pdif 21 38 02.7 -0.2
comp=Z,4.2nm,1.1s,baz=54,slow=7.1,SNR=5.1
ARCES LR LR 22 28 06.6
comp=Z,70nm,18.5s,baz=104,slow=39
comp=Z,4.2nm,1.1s
SPITS Spitsbergen Ar 97.19 349 LR LR 22 27 39.2
comp=Z,53nm,19.3s,baz=66,slow=39
MATP Matopo 98.02 249 LR LR 22 19 12.3
comp=Z,46nm,18.9s,baz=91,slow=33
LSZ Lusaka 98.82 254 LR LR 22 16 29.8
comp=Z,135nm,20.0s,baz=112,slow=32
SNAA Sanae 99.20 194 P Pdif 21 38 12.1 -0.3
comp=Z,1.0nm,0.9s,baz=121,slow=2.9,SNR=2.6
SNAA LR LR 22 21 54.4
comp=Z,88nm,19.4s,baz=85,slow=35
comp=Z,1.0nm,0.9s
BOSA Boshof 99.90 240 LR LR 22 15 15.6
comp=Z,76nm,21.9s,baz=55,slow=30
TXAR Lajitas Array 124.31 56 PKP PKiKP 21 43 31.0 0.0
comp=Z,0.1nm,0.4s,baz=225,slow=8.7,SNR=3.9
CPUP Villa Florida 150.49 170 PKPbc PKPbc 21 44 22.8 -0.7
comp=Z,1.5nm,0.9s,baz=112,slow=2.0,SNR=5.7
LPAZ La Paz 155.08 140 PKPab PKPab 21 44 48.1 -2.1
comp=Z,1.2nm,0.6s,baz=174,slow=1.6,SNR=4.3

NOU 19 21:39:20.2, 20.74S×170.01E, h146km, MLv3.9/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INH	Isangel	1.37	330	P		21 39 48.1	-0.1
PINNC	Pines Island,	3.03	232	P		21 40 07.8	+0.1
YATNC	Mamie plateau,	3.19	245	P		21 40 09.1	-0.7
OUENC	Ouen Island, N	3.39	240	P		21 40 13.3	+0.9
DZM	Mont Dzumac	3.58	248	P		21 40 14.0	-0.9
ONTNC	Ouen Toro	3.66	244	P		21 40 16.0	+0.1
VLAKA	Lakatoro	5.22	332	P		21 40 35.3	-1.3
KOUNC	Koumac, New Ca	5.36	271	P		21 40 38.8	+0.4

IDC 19 21:43:13.5±0.8, 9.84N×125.60E, h0km, mb3.9/13, mbtmp3.9/14, ML3.9/1, Error ellipse: s-maj=30.6km s-min=14.8km az=79.0

ISC 19 21:43:18.9±0.7, 9.93N±0.07×125.7E±0.2, h35km, n17, σ1§43/15, mb3.9/13, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	2.84	182	Pn		Pn 21 44 01.1	-0.7
	21nm,0.3s,baz=39,slow=7.4,SNR=4.5						
DAV				Sn		Sn 21 44 38.6	+3.7
	67nm,0.3s,baz=90,slow=22,SNR=1.7						
	187nm,0.5s						
CMAR	Chiang Mai Arr	27.24	291	P		P 21 48 58.6	-1.3
	0.9nm,0.7s,baz=107,slow=7.5,SNR=7.5						
	0.9nm,0.7s						
KSRS	Korea Array	27.48	4	P		P 21 49 02.5	+0.7
	1.4nm,0.7s,baz=184,slow=9.5,SNR=5.1						
	1.4nm,0.7s						
MJAR	Matsushiro Arr	28.83	21	P		P 21 49 13.7	-0.3
	1.7nm,1.0s,baz=204,slow=8.0,SNR=4.4						
	1.7nm,1.0s						
WRA	Warramunga Arr	30.88	164	P		P 21 49 30.4	-1.9
	0.3nm,0.6s,baz=344,slow=8.7,SNR=2.2						
	0.3nm,0.6s						
ASAR	Alice Springs	34.34	167	P		P 21 50 01.6	-1.0
	0.3nm,0.6s,baz=350,slow=7.3,SNR=4.2						
	0.3nm,0.6s						
USRK	Ussuriysk Ar.	34.58	8	P		P 21 50 05.2	+0.9
	4.8nm,0.7s,baz=190,slow=9.4,SNR=8.4						
	4.8nm,0.7s						
H11N1	WAKE ISLAND Hy	40.91	71	T		T 22 34 24.4	
	baz=264,slow=74,SNR=20						
H11N2	WAKE ISLAND Hy	40.92	71	T		T 22 34 23.4	
	baz=264,slow=74,SNR=20						
H11N3	WAKE ISLAND Hy	40.93	71	T		T 22 34 24.3	
	baz=264,slow=74,SNR=21						
SONM	Songino Array	41.14	340	P		P 21 51 00.3	+0.5
	0.3nm,0.4s,baz=158,slow=7.2,SNR=3.5						
	0.3nm,0.4s						
STKA	Stephens Creek	44.27	160	P		P 21 51 24.4	-0.9
	1.5nm,0.6s,baz=318,slow=11,SNR=5.5						
	1.5nm,0.6s						
PETK	Petropavlovsk-	50.19	25	P		P 21 52 12.1	+1.0
	2.3nm,0.7s,baz=237,slow=5.1,SNR=4.0						
	2.3nm,0.7s						
MKAR	Makanchi Array	51.95	323	P		P 21 52 25.1	+0.6
	0.9nm,0.6s,baz=122,slow=8.5,SNR=8.5						
	0.9nm,0.6s						
KURBB	Kurchatov Arra	56.02	326	P		P 21 52 54.0	-0.1
	0.7nm,0.6s,baz=125,slow=7.0,SNR=7.1						
	0.7nm,0.6s						
ARCES	ARCESS Array B	84.31	340	P		P 21 55 46.6	-0.3
	0.9nm,0.7s,baz=81,slow=7.6,SNR=3.7						
	0.9nm,0.7s						
FINES	FINESS Array B	85.91	332	P		P 21 55 55.3	+0.2
	0.7nm,0.6s,baz=64,slow=5.3,SNR=8.9						
	0.7nm,0.6s						

TEH 19 21:45:41.9, 28.96N×57.30E, h110km
IDC 19 21:45:43.7±2.9, 28.89N×57.27E, h114km±35km, mb3.2/15, mbtmp3.7/18, MS3.1/1, Error ellipse: s-maj=26.5km s-min=16.2km az=158.0
OMAN 19 21:45:43.9±0.1, 28.71N×56.94E, h11km±2km, mb4.8/10, ml4.2/16, Error ellipse: s-maj=3.6km s-min=1.0km az=37.0
DSN 19 21:45:44.2±1.7, 28.66N×57.22E, h10km, ML3.8/15, Error ellipse: s-maj=30.0km s-min=16.6km az=107.0

ISC 19 21:45:42.7±0.6, 28°92N±0'03×57°21E±0'04, h100km, n105, σ1°23/129, mb3.6/14, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGRK	Negar Kerman	0.83	330	Pg	Pn	21 46 03.3	+1.4
CHMN	Cheshme madani	0.98	17	Pg	Pn	21 46 03.5	+0.2
CHMN				Sg	Sn	21 46 18.4	-0.3
KHNJ	Kahnooj	1.06	156	Pg	Pn	21 46 05.1	+1.2
KHNJ				Sg	Sn	21 46 22.0	+2.1
KBAM	BAM	1.11	79	Pg	Pn	21 46 03.8	-0.7
KRBR	Kerman	1.13	340	Pg	Pn	21 46 06.3	+1.4
KRM1	Kerman Provinc	1.58	2	Pg	Pn	21 46 10.8	+0.7
KHGB	Koh Gabri	1.58	336	Pg	Pn	21 46 11.3	+1.0
IBND	Bandar-abas	1.58	202	Pg	Pn	21 46 11.3	+1.3
GENO	Geno	1.77	211	Pn	Pn	21 46 14.2	+1.6
LAR1	LAR	2.80	244	Pn	Pn	21 46 27.5	+1.7
SHME	Shamm SNR=78	3.02	199	P	Pn	21 46 29.5	+0.8
SHME				S	Sn	21 47 02.3	-1.8
SHME	Shamm SNR=79	3.02	199	*e*P	Pn	21 46 29.7	+0.9
SHME				S	Sn	21 47 03.2	-1.0
JASK	Jask - Hormozg	3.10	169	Pn	Pn	21 46 30.4	+0.6
JASK	Jask - Hormozg SNR=10	3.10	169	P	Pn	21 46 30.4	+0.6
JASK				S	Sn	21 47 04.5	-1.6
ZHSF	Zahedan	3.19	77	Pn	Pn	21 46 31.0	-0.1
JHRM	Jahrom	3.22	263	Pn	Pn	21 46 32.8	+1.3
IMEH	Mehriz	3.33	318	Pn	Pn	21 46 34.5	+1.4
BSRN	Basiran	3.45	28	Pn	Pn	21 46 34.4	-0.3
NHDN	Nehbandan	3.48	44	Pn	Pn	21 46 35.0	0.0
UMQ	Umm Al-Quwin SNR=21	3.66	203	P	Pn	21 46 39.8	+2.5
UMQ				S	Sn	21 47 21.0	+1.5
UMQ	Umm Al-Quwin SNR=21	3.66	203	*i* P	Pn	21 46 39.2	+1.9
MASF	Masafi SNR=30	3.66	195	P	Pn	21 46 38.8	+1.4
MASF				S	Sn	21 47 20.3	+0.6
MSFE	Esma-Masafi SNR=30	3.67	195	*i* P	Pn	21 46 38.3	+0.7
QIR1	Qir	3.69	264	Pn	Pn	21 46 39.5	+1.7
MDH	Madha SNR=7.5	3.70	193	P	Pn	21 46 37.7	-0.2
MDH				S	Sn	21 47 19.0	-1.6
MDH	Madha SNR=8.8	3.70	193	*i* P	Pn	21 46 37.8	-0.2
IKOO	Kooshah	3.82	23	Pn	Pn	21 46 39.0	-0.7
LMD1	Lamerd	3.91	247	Pn	Pn	21 46 42.6	+1.9
UOSS	Minazif	4.06	193	P	Pn	21 46 42.7	-0.1
UOSS				S	Sn	21 47 28.5	-0.8
UOSS	Minazif SNR=11	4.06	193	*i* P	Pn	21 46 42.4	-0.5
ICHK	Chekchek	4.10	325	Pn	Pn	21 46 45.1	+1.7
TPRV	Parvadeh(Tabas	4.12	354	Pn	Pn	21 46 45.2	+1.6
NAZ	Nazwa, Dubai SNR=66	4.16	200	P	Pn	21 46 45.7	+1.7
NAZ				S	Sn	21 47 30.4	-1.2
NAZ	Nazwa, Dubai SNR=65	4.16	200	*i* P	Pn	21 46 45.8	+1.7
SHI	Shiraz	4.17	281	Pn	Pn	21 46 45.6	+1.2
HATD	Hatta, Dubai	4.19	194	P	Pn	21 46 44.5	-0.1
HATD				S	Sn	21 47 31.4	-1.1
HATD	Hatta, Dubai	4.19	194	P	Pn	21 46 44.4	-0.1
ISAD	Sadrabad	4.26	315	Pn	Pn	21 46 47.6	+1.9
ASHO	Ashiyiah SNR=72	4.35	194	P	Pn	21 46 46.5	-0.2
ASHO				S	Sn	21 47 35.6	-0.7
ASHO	Ashiyiah SNR=72	4.35	194	*i* P	Pn	21 46 48.0	+1.4
FAQ	Al Faqa, Dubai SNR=68	4.41	200	P	Pn	21 46 48.8	+1.4
FAQ				S	Sn	21 47 36.7	-0.9
FAQ	Al Faqa, Dubai SNR=68	4.41	200	*i* P	Pn	21 46 48.9	+1.4
CHBR	Chabahar	4.41	138	Pn	Pn	21 46 45.7	-1.8
ASUD	Al Ashush, Dub SNR=78	4.60	202	P	Pn	21 46 51.9	+1.8
ASUD				S	Sn	21 47 41.2	-1.1
ASUD	Al Ashush, Dub SNR=78	4.60	202	*i* P	Pn	21 46 52.0	+2.0
TKDS	Koohdasht(Taba	4.68	359	Pn	Pn	21 46 51.8	+0.7
AFRZ	Afriz	4.75	19	Pn	Pn	21 46 52.3	+0.1
AJN	Ajban SNR=14	4.78	205	P	Pn	21 46 53.9	+1.5
AJN				S	Sn	21 47 45.0	-1.6
AJN	Ajban SNR=14	4.78	205	*i* P	Pn	21 46 53.9	+1.5
SOHO	SOHO	4.81	187	P	Pn	21 46 51.6	-1.2
SOHO	SOHO SNR=23	4.81	187	*i* P	Pn	21 46 51.6	-1.2
KAZ2	Kazeron-Fars-I	4.90	279	Pn	Pn	21 46 55.4	+1.2
ALNE	Al Ain SNR=14	5.02	195	P	Pn	21 46 56.8	+1.1
ALNE				S	Sn	21 47 52.2	-0.4
ALNE	Al Ain SNR=14	5.02	195	*i* P	Pn	21 46 56.8	+1.1
IRAM	Ramesheh	5.07	306	Pn	Pn	21 46 57.8	+1.2
ANAR	Anarak	5.20	326	Pn	Pn	21 47 00.3	+2.1
DSBU	Dashti - Bushe	5.26	265	Pn	Pn	21 46 59.9	+0.9
KLNJ	Kolanjah	5.30	294	Pn	Pn	21 47 01.5	+1.6
HOQ	Hoqain	5.32	179	Pn	Pn	21 46 58.6	-1.2
HOQ	Hoqain SNR=91	5.32	179	P	Pn	21 46 59.6	-0.2
SHRT	Shahrakht	5.39	28	Pn	Pn	21 47 01.6	+0.8
BIDO	Bidbid	5.44	171	P	Pn	21 47 03.1	+1.6
JRN	Qarnain Island SNR=8.2	5.56	226	P	Pn	21 47 03.0	0.0
JRN				S	Sn	21 48 03.5	-2.1
ARQ	Araqi SNR=272	5.60	187	P	Pn	21 47 05.0	+1.4
ARQ				S	Sn	21 48 07.3	+0.6
WSAR	Wadi Sarin 0.1nm,0.3s,baz=9.5,slow=24,SNR=34	5.80	167	P	Pn	21 47 05.8	-0.5
WSAR	0.3nm,0.3s,baz=186,slow=24,SNR=4.1			S	Sn	21 48 02.3	-9.3
WSAR	Wadi Sarin	5.80	167	P	Pn	21 47 05.9	-0.5
SMDO	Samad	5.89	172	P	Pn	21 47 08.9	+1.2
IBRJ	Brojen	5.94	302	Pn	Pn	21 47 10.2	+1.8
TAPT	Tabas- Tapeh t	5.94	360	Pn	Pn	21 47 09.6	+1.3
BSY	Bisya	6.15	180	P	Pn	21 47 12.5	+1.4
GHWR	Ruwais	6.29	219	P	Pn	21 47 12.4	-0.5
GHWR				S	Sn	21 48 19.9	-3.4
SHMA	Al-Shehemyia SNR=29	6.34	243	P	Pn	21 47 13.3	-0.3
SHMA				S	Sn	21 48 23.0	-1.6
ZNGN	Zangian	6.34	302	Pn	Pn	21 47 15.4	+1.4
UMZA	Um Al Zommool	6.45	197	P	Pn	21 47 15.4	+0.2
JHBN	Jahan bin	6.54	302	Pn	Pn	21 47 17.7	+1.1
JMDO	Jabal Madar	6.57	173	P	Pn	21 47 18.3	+1.4
SAKB	Bahrain	6.62	245	P	Pn	21 47 16.9	-0.5
SAKB				S	Sn	21 48 29.9	-1.5
MZR	Muzera SNR=10.0	6.79	211	P	Pn	21 47 19.2	-0.5
MZR	Muzera SNR=9.9	6.79	211	*i* P	Pn	21 47 18.8	-0.9
TRNA	Turayna SNR=35	6.79	234	P	Pn	21 47 19.2	-0.6
TRNA				S	Sn	21 48 33.0	-2.7
SLWR	Sila	6.92	227	P	Pn	21 47 21.0	-0.5
JLN	Jalan Bani Buh SNR=24	7.03	163	P	Pn	21 47 22.0	-1.1
SMRA	Abu-Samra SNR=7.6	7.06	235	P	Pn	21 47 23.2	-0.3
SMRA				S	Sn	21 48 39.6	-2.6
MHTO	MHTO SNR=28	7.93	175	P	Pn	21 47 37.3	+1.9
KBD	Kabd	8.34	274	P	Pn	21 47 41.4	+0.7
ASF	Jabal al Asfar 1.7nm,0.3s,baz=144,slow=7.9,SNR=5.9	17.80	286	P	Pn	21 49 45.3	+1.2
ASF	1.4nm,0.5s,baz=320,slow=20,SNR=2.0			S	Sn	21 52 47.9	-15
MMAI	Mount Meron Ar 1.4nm,0.6s,baz=96,slow=14,SNR=5.8	19.14	288	P	Pn	21 50 00.3	+0.3
EIL	Elat 2.9nm,0.7s,baz=119,slow=6.6,SNR=4.7	19.43	278	P	Pn	21 50 02.2	+1.0
AKTO	Aktyubinsk 3.9nm,0.8s,baz=179,slow=9.2,SNR=8.1	21.49	1	P	Pn	21 50 23.7	+0.5
AKTO				LR	LR	21 59 41.2	
BRTR	Keskin Array B 0.5nm,0.7s,baz=100,slow=14,SNR=3.2 0.5nm,0.7s	22.19	305	P	Pn	21 50 31.5	+0.6
BVAR	Borovoye Array 1.6nm,0.6s,baz=205,slow=7.8,SNR=6.2 1.6nm,0.6s	25.97	18	P	Pn	21 51 05.9	+0.1
MKAR	Makanchi Array 0.5nm,0.9s,baz=206,slow=6.3,SNR=2.7 0.5nm,0.9s	26.48	41	P	Pn	21 51 10.4	-0.1
KURBB	Kurchatov Arra 0.3nm,0.5s,baz=229,slow=8.5,SNR=2.4 0.3nm,0.5s	26.99	31	P	Pn	21 51 14.8	-0.1
AKASG	Malin Array Be 0.1nm,0.3s,baz=130,slow=7.8,SNR=4.8 0.1nm,0.3s	30.28	324	P	Pn	21 51 44.2	+0.1
ZALV	Zalesovo Beam 1.0nm,0.7s,baz=239,slow=8.4,SNR=4.9 1.0nm,0.7s	32.08	31	P	Pn	21 52 00.0	0.0
KOLS	Kolonicke sedl	33.32	317	*e*P	Pn	21 52 12.1	+1.2
KOLS				*e*		22 18 43.1	
FINES	FINESS Array B 0.7nm,0.4s,baz=132,slow=8.2,SNR=17 0.7nm,0.4s	38.51	336	P	Pn	21 52 55.1	+0.2
GERES	GERESS Array B 0.5nm,0.7s,baz=110,slow=7.7,SNR=5.5	38.63	313	P	Pn	21 52 55.3	-1.0
GERES				PcP	PcP	21 55 06.6	0.0
HFS	Hagfors 0.7nm,0.4s,baz=128,slow=9.6,SNR=17 0.7nm,0.4s	42.72	329	P	Pn	21 53 28.9	-0.7
NB2	NORSAR Subarra comp=Z,0.1nm,0.3s,baz=115,slow=8.6	44.22	330	P	Pn	21 53 40.9	-0.8
NOA	NORSAR Array B comp=Z,0.1nm,0.3s,baz=126,slow=8.7,SNR=3.4 comp=Z,0.1nm,0.3s	44.22	330	P	Pn	21 53 40.7	-1.0
ARCES	ARCESS Array B comp=Z,0.9nm,0.7s,baz=138,slow=7.4,SNR=3.7 comp=Z,0.9nm,0.7s	44.55	345	P	Pn	21 53 43.9	-0.2
EKA	Eskdalemuir Ar comp=Z,0.2nm,0.3s,baz=102,slow=7.3,SNR=3.6 comp=Z,0.2nm,0.3s	50.02	320	P	Pn	21 54 25.6	-1.1
ESDC	Sonseca Array comp=Z,0.4nm,0.8s,baz=78,slow=7.5,SNR=2.3 comp=Z,0.4nm,0.8s	50.79	299	P	Pn	21 54 32.1	-0.8
TORD	Torodi Ar. Bea comp=Z,0.8nm,0.3s,baz=58,slow=7.8,SNR=3.2 comp=Z,0.8nm,0.3s	53.69	265	P	Pn	21 54 54.7	+0.2

GCG 19 21:47:27.8±0.3, 13°04N×89°67W, h68km±10km, MD3.6, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	Jayaque - finc	0.64	19	*e*P	Pn	21 47 41.9	-0.3
JAYA				*e*S	Sn	21 47 52.8	+0.2
NUBE	Las Nubes	0.86	353	*i* P	Pn	21 47 45.0	+0.4
MTO3	Montecristo	1.38	12	*e*P	Pn	21 47 52.0	+0.6

*IDC **19** 22:06:43.7±1.9, 54°24N×161°79W, h0km, mb4.0/15, mbtmp4.0/17, ML3.4/2, MS3.2/1, Error ellipse: s-maj=49.9km s-min=15.8km az=145.0*

*AEIC **19** 22:06:51.4±1.4, 54°43N±0°05×161°57W±0°05, h32km±5km, Error ellipse: s-maj=7.1km s-min=4.2km az=169.0*

*NEIC **19** 22:06:52.2±1.5, 54°44N±0°05×161°55W±0°04, h45km±9km, mb3.8/31, ML4.1/38, ML3.8(AEIC), Error ellipse: s-maj=6.9km s-min=3.2km az=192.0*

ISC 19 22:06:52.3±1.0, 54°49N±0°07×161°55W±0°04, h56km±9km, n233, σ1°07/234, mb4.1/15, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAG	Hague Volcano	0.85	346		Pn	22 07 07.8	-0.5
HAG					Sn	22 07 20.2	+0.2
PS4A	Pavlof South-4	0.88	349		Pn	22 07 07.9	-0.7
PS4A					Sn	22 07 20.5	0.0
PVV	Pavlof Volcano	0.90	351		Pn	22 07 08.3	-0.5
PVV					Sn	22 07 20.8	-0.2
PS1A	Pavlof South-1	0.94	353		Pn	22 07 09.0	-0.4
PS1A					Sn	22 07 22.0	0.0
PN7A	Pavlof North-7	0.98	345		Pn	22 07 09.8	-0.2
SDPT	Sand Point	1.06	35		Pn	22 07 11.1	+0.1
SDPT					Sn	22 07 25.4	+0.6
FALS	False Pass	1.14	289		Pn	22 07 11.4	-0.7
FALS					Sn	22 07 26.5	-0.3
CNBA	Chernabura Isl	1.19	73		Pn	22 07 12.2	-0.4
CNBA					Sn	22 07 27.2	-0.6
S12K	Black Hills	1.25	347		Pn	22 07 14.0	+0.4
S12K					Sn	22 07 30.9	+1.5
S12K	comp=E,5μm,0.5s			IAML		22 07 31.9	
ISLZ	Isanotski Laza	1.28	282		Pn	22 07 13.4	-0.5
ISLZ					Sn	22 07 29.8	-0.3
ISNN	Isanotski Nort	1.34	286		Pn	22 07 14.8	+0.1
ISNN					Sn	22 07 32.7	+1.1
SSHA	Shishaldin	1.52	282		Pn	22 07 17.3	0.0
WEBT	Westdahl Beart	1.87	274		Pn	22 07 21.9	0.0
WECS	Westdahl Cape	1.88	273		Pn	22 07 22.2	+0.1
VNKR	Veniaminof 5	1.99	38		Pn	22 07 24.5	+1.0
VNFG	Fog Glacier, M	2.13	32		Pn	22 07 27.3	+1.7
VNFG	Fog Glacier, M	2.13	32		Pn	22 07 26.8	+1.2
VNFG	comp=E,2μm,0.6s			IAML		22 08 03.8	
VNFG	comp=N,2μm,0.6s			IAML		22 08 08.4	
VNHG	Veniaminof 1	2.21	37		Pn	22 07 27.8	+1.2
AKUT	Akutan	2.50	264		Pn	22 07 30.7	+0.2
AKUT	comp=N,519nm,1.2s			IAML		22 08 11.2	
CHGN	Chignik	2.55	43		Pn	22 07 31.9	+0.8
CHGN	comp=N,571nm,0.4s			IAML		22 08 10.1	
CHGN	comp=E,882nm,0.7s			IAML		22 08 17.9	
AKBBA	Akutan Broad B	2.60	263		Pn	22 07 31.9	0.0
AKGG	Akutan Green G	2.62	265		Pn	22 07 32.1	0.0
AKMO	Akutan Morgan	2.64	263		Pn	22 07 32.4	-0.1
LVA	Lava Point	2.65	265		Pn	22 07 32.5	0.0
LVA	comp=N,777nm,0.6s			IAML		22 08 13.6	
LVA	comp=E,631nm,0.7s			IAML		22 08 22.3	
AKRB	Akutan Reef Bi	2.67	264		Pn	22 07 32.9	+0.1
UNV	Unalaska Valle	2.98	259		Pn	22 07 36.6	-0.5
MTBL	Makushin Table	3.06	262		Pn	22 07 38.1	-0.1
MGOD	Makushin Gods	3.21	260		Pn	22 07 39.9	-0.4
CHIR	Chirikof Islan	3.65	66		Pn	22 07 46.2	0.0
CHIR	Chirikof Islan comp=E,243nm,0.9s	3.65	66	IAML		22 08 49.0	
OKTU	Okmok Mt. Tuli	3.99	257		Pn	22 07 51.0	0.0
OKSP	Okmok Steeple	4.18	255		Pn	22 07 53.2	-0.3
PLK4	Peulik 4	4.29	41		Pn	22 07 55.8	+0.7
PLK4	comp=N,218nm,0.8s			IAML		22 08 55.7	
PLK4	comp=E,237nm,0.9s			IAML		22 09 00.8	
PLK1	Peulik 1	4.32	38		Pn	22 07 56.4	+1.0
NIKH	Nikolski High	4.60	254	Pn	Pn	22 07 58.7	-0.5
NIKH	comp=E,121nm,0.9s			IAML		22 08 58.2	
NIKH	comp=N,162nm,0.8s			IAML		22 09 10.5	
SII	Sitkinak Islan	4.67	61	Pn	Pn	22 08 00.9	+0.7
SII	comp=N,238nm,0.7s			IAML		22 09 38.9	
O14K	Tigyukauivet M	4.78	2		Pn	22 08 02.3	+0.6
O14K	comp=E,86nm,1.1s			IAML		22 09 29.7	
O15K	Ungalikthiuk R	4.79	11		Pn	22 08 02.0	+0.1
O15K	comp=N,106nm,0.7s			IAML		22 08 56.8	
O15K	comp=E,97nm,0.6s			IAML		22 08 56.9	
CNTC	Contact Creek	4.92	37		Pn	22 08 04.7	+0.9
P16K	Nushagak River	4.96	22		Pn	22 08 04.5	+0.5
P16K	Nushagak River comp=E,178nm,0.8s	4.96	22	IAML		22 10 04.3	
CAHL	Cahill	4.99	42		Pn	22 08 05.3	+0.7
P08K	Saint George I	5.01	298	Pn	Pn	22 08 05.1	+0.3
P08K	comp=N,73nm,1.1s			IAML		22 09 37.6	
P08K	comp=E,79nm,1.2s			IAML		22 11 19.1	
ANCK	Angle Creek	5.02	40		Pn	22 08 05.7	+0.7
R18K	Karluk	5.03	49		Pn	22 08 05.8	+0.7
R18K	Karluk comp=N,149nm,0.5s	5.03	49	IAML		22 09 29.6	
ACHA	Angle Creek He	5.09	40		Pn	22 08 06.9	+0.9
OHAK	Old Harbor	5.40	56		Pn	22 08 09.9	-0.3
N14K	Kuskokwak Cree	5.45	359		Pn	22 08 11.3	+0.5
O16K	Kokwok River B	5.45	19		Pn	22 08 11.8	+0.9
P17K	Kvichak River	5.49	29		Pn	22 08 12.8	+1.4
KAHC	Katmai Hardscr	5.52	38		Pn	22 08 12.9	+1.0
SPIA	Saint Paul Isl	5.59	302	Pn	Pn	22 08 13.4	+0.6
N15K	Kwethluk River	5.75	7		Pn	22 08 15.5	+0.5
KDAK	Kodiak Island	6.00	53		Pn	22 08 17.8	-0.5
KDAK	Kodiak Island comp=N,0.9nm,0.3s,baz=165,slow=1.3,SNR=40	6.00	53	Pn	Pn	22 08 17.5	-0.8
KDAK	comp=N,0.5nm,0.3s,baz=220,slow=12,SNR=1.4 comp=N,4.5nm,0.4s			Sn	Sn	22 09 21.0	-4.6
P18K	Big Mountain,	6.01	33		Pn	22 08 18.4	-0.2
M13K	Dall Lake	6.02	351	Pn	Pn	22 08 20.0	+1.4
N16K	Nishlik Lake	6.18	13		Pn	22 08 21.7	+0.8
Q19K	Cape Douglas,	6.22	41		Pn	22 08 22.5	+1.0
M14K	Bethel	6.28	358		Pn	22 08 22.6	+0.4
O18K	Koktuh Hills	6.39	30		Pn	22 08 25.6	+1.9
M11K	Mekoryuk	6.42	339	Pn	Pn	22 08 24.6	+0.5
N17K	Nushagak Hills	6.49	19		Pn	22 08 25.8	+0.7
SYI	Shuyak Island	6.53	47		Pn	22 08 27.1	+1.5
M16K	Timber Creek	6.70	11		Pn	22 08 28.2	+0.4
P19K	Oil Pt	6.88	38	Pn	Pn	22 08 32.6	+2.2
L14K	Kuka Creek	6.90	355		Pn	22 08 32.8	+0.2
N18K	Kilae Creek	6.91	24		Pn	22 08 32.6	+1.8
ILSW	Iliamna Southw	7.15	36		Pn	22 08 36.4	+2.2
IVE	Iliamna Volcan	7.21	36		Pn	22 08 35.0	-0.1
L16K	Owhat River	7.32	8		Pn	22 08 36.5	0.0
L16K	Owhat River	7.32	8	Sn	Sn	22 09 58.2	+0.2
N19K	Bonanza Creek	7.38	28		Pn	22 08 38.7	+1.3
CNPM	China Poot	7.56	44	Pn	Pn	22 08 41.1	+1.3
RED	Redoubt Volcan	7.59	35		Pn	22 08 41.0	+0.7
K13K	Kusilvak Mount	7.64	349		Pn	22 08 41.4	+0.6
M18K	Stony River	7.65	21		Pn	22 08 41.0	+0.1
NCT	North Crescent	7.65	34		Pn	22 08 41.8	+0.7
RDT	Redoubt	7.83	35		Pn	22 08 44.8	+1.3
L17K	Donlin	7.85	11		Pn	22 08 43.6	-0.1
ATKA	Atka Island	7.91	258	Pn	Pn	22 08 44.0	-0.5
L18K	Granite Mounta	8.16	16		Pn	22 08 48.1	+0.2
J14K	Nanvaranak Lak	8.35	354		Pn	22 08 50.5	0.0
SPIJ	Mount Spurr	8.40	33	Pn	Pn	22 08 52.1	+0.9
K17K	Iditarod	8.42	10		Pn	22 08 51.5	0.0
L19K	White Mountain	8.47	22		Pn	22 08 52.9	+0.6
M20K	Styx River	8.64	28		Pn	22 08 56.8	+2.3
STLK	Strandline Lak	8.71	32	Pn	Pn	22 08 57.7	+2.2
J16K	Anvik River	8.84	3		Pn	22 08 57.6	+0.5
GSIG	Igitkin Island	8.98	260		Pn	22 08 58.7	-0.5
GSTR	Great Sitkin T	9.02	260	Pn	Pn	22 09 00.4	+0.7
J17K	VABM Dome	9.02	7	Pn	Pn	22 08 59.1	-0.6
GSMY	Great Sitkin M	9.03	260		Pn	22 08 59.8	-0.1
GSTD	Great Sitkin T	9.08	260		Pn	22 09 00.6	0.0
GSCK	Great Sitkin C	9.11	260		Pn	22 09 00.5	-0.4
RC01	Rabbit Creek A	9.13	39	Pn	Pn	22 09 02.4	+1.3
SKT	Skwentna	9.17	31		Pn	22 09 03.8	+2.0
ETKA	Kagalaska Isla	9.30	260		Pn	22 09 02.8	-0.8
I17K	Unalakleet	9.44	2	Pn	Pn	22 09 05.6	+0.3
P23K	Montague Islan	9.44	49	Pn	Pn	22 09 04.0	-1.3
ADK	Adak	9.45	260	Pn	Pn	22 09 05.7	0.0
PWL	Port Wells	9.52	43		Pn	22 09 06.4	+0.1
K20K	Telida	9.69	20	Pn	Pn	22 09 09.4	+0.5
PPLA	Purkeypile	9.72	26		Pn	22 09 10.9	+1.4
KIWB	Kanaga Island	9.73	261		Pn	22 09 09.4	-0.1
J19K	Poorman	10.00	15		Pn	22 09 12.6	-0.4
HIN	Hinchinbrook I	10.03	48		Pn	22 09 13.0	-0.5
GLI	Glacier Island	10.03	45	Pn	Pn	22 09 14.2	+0.7
FID	Port Fidalgo	10.22	46	Pn	Pn	22 09 14.8	-1.2
ANM	Nome	10.29	351	Pn	Pn	22 09 17.3	+0.3
J20K	Nowinta River	10.42	18		Pn	22 09 19.1	+0.4
SCM	Sheep Creek Mo	10.50	40		Pn	22 09 19.8	-0.1
H17K	Granite Mounta	10.51	4	Pn	Pn	22 09 20.5	+0.4
KTH	Kantishna Hill	10.59	27	Pn	Pn	22 09 23.5	+2.3
G15K	Niukluk	10.61	354		Pn	22 09 22.3	+1.0
TRF	Thorofare Moun	10.68	28		Pn	22 09 23.1	+0.6
DIV	Divide	10.71	45	Pn	Pn	22 09 23.9	+1.1
H18K	Honhosa River	10.81	7	Pn	Pn	22 09 24.3	+0.1
RAGM	Ragged Mountai	10.83	50	Pn	Pn	22 09 24.5	+0.1
KLU	Kutina	10.84	43		Pn	22 09 23.8	-1.0
G16K	Koyuk River	10.95	358	Pn	Pn	22 09 26.7	+0.7
HMT	Hamilton	10.99	51	Pn	Pn	22 09 26.6	-0.1
BPAW	Bear Paw Mtn.	11.03	25		Pn	22 09 28.8	+1.7
M24K	Tolsona, Glenn	11.10	40		Pn	22 09 29.3	+1.2
SUCK	Suckling Hills	11.11	53	Pn	Pn	22 09 28.8	+0.6
BMRM	Bremner River	11.12	47	Pn	Pn	22 09 30.3	+1.8
F15K	North Star Dit	11.36	353	Pn	Pn	22 09 33.2	+1.6
H19K	Roundabout Mou	11.36	11		Pn	22 09 31.9	+0.4
N25K	Chitina, Valde	11.44	45		Pn	22 09 32.1	-0.7
G18K	Tagagawik	11.53	6		Pn	22 09 29.6	-4.3
TNA	Tin City	11.54	347	Pn	Pn	22 09 34.3	+0.2
CRQM	Cirque	11.67	50		Pn	22 09 36.6	+0.6
WAX	Waxell Ridge	11.68	52	Pn	Pn	22 09 36.8	+0.8
GLB	Gilahina Butte	11.69	46		Pn	22 09 36.2	0.0
VRDI	Verde Repeater	11.74	48		Pn	22 09 37.0	0.0
MLY	Manley	11.87	23	Pn	Pn	22 09 39.8	+1.2
PAX	Paxson	11.88	38		Pn	22 09 39.7	+0.3
AMKA	Amchitka	11.96	263	Pn	Pn	22 09 39.0	+0.8
WRH	Wood River Hil	12.09	29	Pn	Pn	22 09 40.3	-1.3
GRNC	Granite Creek	12.29	51		Pn	22 09 45.4	+0.9
I23K	Minto, Yukon-K	12.29	25		Pn	22 09 44.7	+0.4
CCB	Clear Creek Bu	12.30	29	Pn	Pn	22 09 43.6	-0.8
K24K	Donnelly Dome	12.32	34	Pn	Pn	22 09 45.4	+0.7
BARN	Barnard Glacie	12.46	50	Pn	Pn	22 09 46.1	-0.6
M26K	Nabesna, AK	12.50	43	Pn	Pn	22 09 47.7	+0.5
F19K	Shaleruckim Mo	12.52	7	Pn	Pn	22 09 47.8	+0.4
RIDG	Independent Ri	12.59	36		Pn	22 09 48.3	-0.1
IL31		12.66	30	Pn	Pn	22 09 49.4	+0.1
ILAR	Eielson Array comp=N,0.2nm,0.3s,baz=224,slow=13,SNR=9.6	12.66	30	Pn	Pn	22 09 46.5	-2.8
ILAR	baz=214,slow=22 comp=N,0.2nm,0.3s			Sn	Sn	22 12 04.9	-3.5
G21K	Allakaket

TOLK	**Toolik Lake Re**	**15.25**	**17**	Pn	**P**	**22 10 26.3**	**-1.4**
TOLK				IAmb	IAmb	22 11 01.8	
	comp=Z,13nm,1.5s						
H27K	**Steamboat Moun**	**15.28**	**32**	Pn	**Pn**	**22 10 25.1**	**+0.8**
BMAR	**Burnt Mountain**	**15.29**	**25**	Pn	**Pn**	**22 10 25.9**	**+1.6**
I28M	**Miner Creek**	**15.31**	**36**		**Pn**	**22 10 25.6**	**+0.9**
S32K	**Killisnoo**	**15.35**	**68**	Pn	**Pn**	**22 10 25.5**	**+0.4**
S32K				IAmb	IAmb	22 10 41.9	
	comp=Z,6.1nm,0.7s						
D23K	**Nanushuk River**	**15.37**	**15**	Pn	**Pn**	**22 10 25.3**	**0.0**
D23K				IAmb	IAmb	22 10 57.3	
	comp=Z,13nm,1.4s						
K29M	**Barlow Dome**	**15.38**	**43**		**P**	**22 10 31.4**	**+2.2**
WHY	**Whitehorse**	**15.51**	**56**	Pn	**Pn**	**22 10 28.6**	**+1.4**
WHY				IAmb	IAmb	22 10 45.8	
	comp=Z,11nm,1.2s						
B21K	**Ikpikpuk River**	**15.51**	**9**	Pn	**Pn**	**22 10 28.1**	**+1.0**
G27K	**Doyon Strip**	**15.63**	**30**	Pn	**Pn**	**22 10 29.8**	**+1.1**
I29M	**Ogilvie Camp,**	**15.83**	**37**		**Pn**	**22 10 32.5**	**+1.3**
I29M				IAmb	IAmb	22 10 56.7	
	comp=Z,3.6nm,0.7s						
M31M	**Drury Creek, Y**	**16.11**	**50**		**Pn**	**22 10 35.5**	**+0.7**
M31M				IAmb	IAmb	22 10 51.7	
	comp=Z,5.4nm,0.8s						
J30M	**Hart River**	**16.17**	**41**		**P**	**22 10 41.0**	**+3.0**
C23K	**Itkillik River**	**16.18**	**14**		**P**	**22 10 38.2**	**+0.4**
H29M	**Whitestone**	**16.29**	**35**		**Pn**	**22 10 38.0**	**+1.0**
D25K	**Kavik River**	**16.42**	**19**	Pn	**P**	**22 10 40.1**	**-0.5**
I30M	**Mount Dempster**	**16.45**	**39**		**P**	**22 10 41.4**	**+0.3**
G29M	**Pine Creek**	**16.80**	**33**		**P**	**22 10 44.3**	**-0.6**
G29M				IAmb	IAmb	22 10 48.8	
	comp=Z,5.4nm,1.1s						
EPYK	**Eagle Plains**	**16.92**	**36**	P	**P**	**22 10 46.1**	**-0.1**
EPYK				IAmb	IAmb	22 11 03.2	
	comp=Z,8.5nm,0.9s						
G30M	**tAoh Zrail Nji**	**17.43**	**34**		**P**	**22 10 52.5**	**+0.8**
G30M				IAmb	IAmb	22 11 14.9	
	comp=Z,7.7nm,1.3s						
H31M	**Peel River**	**17.48**	**39**		**P**	**22 10 52.7**	**+0.4**
H31M				IAmb	IAmb	22 11 07.3	
	comp=Z,11nm,1.1s						
MMPY	**Sheldon Lake,**	**17.62**	**50**		**P**	**22 10 55.8**	**+1.8**
MMPY				IAmb	IAmb	22 11 12.0	
	comp=Z,4.3nm,0.7s						
T35M	**Bob Quinn**	**17.72**	**69**		**P**	**22 10 56.5**	**+1.5**
T35M				IAmb	IAmb	22 11 01.2	
	comp=Z,8.1nm,0.7s						
E29M	**Blow River**	**17.76**	**29**		**P**	**22 10 55.9**	**+0.5**
F30M	**Barrier River**	**17.92**	**33**		**P**	**22 10 57.0**	**-0.1**
F30M				IAmb	IAmb	22 11 11.0	
	comp=Z,5.8nm,1.2s						
G31M	**Satah River**	**18.05**	**36**	P	**P**	**22 10 57.9**	**-0.6**
INK	**Inuvik**	**19.02**	**32**	LR	LR	22 17 59.7	
	comp=Z,83nm,21.2s,baz=248,slow=35						
PEA0B	**Petropavlovsk-**	**23.88**	**284**	P	**P**	**22 12 00.1**	**-0.2**
PETK	**Petropavlovsk-**	**23.88**	**284**	P	**P**	**22 12 00.6**	**+0.3**
PETK	**Petropavlovsk-**	**23.88**	**284**	P	**P**	**22 11 58.7**	**-1.6**
	comp=Z,3.3nm,0.5s,baz=81,slow=14,SNR=16						
	comp=Z,3.3nm,0.5s						
PMPB	**Monarch Peak**	**33.37**	**106**	P	**P**	**22 13 25.9**	**+0.9**
H11N2	**WAKE ISLAND Hy**	**42.19**	**227**	T	T	22 59 31.8	
	baz=27,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**42.20**	**227**	T	T	22 59 33.2	
	baz=27,slow=76,SNR=42						
H11N1	**WAKE ISLAND Hy**	**42.21**	**227**	T	T	22 59 31.0	
	baz=27,slow=76,SNR=29						
H11S1	**WAKE ISLAND Hy**	**43.36**	**227**	T	T	23 01 00.3	
	baz=26,slow=76,SNR=47						
H11S2	**WAKE ISLAND Hy**	**43.38**	**227**	T	T	23 01 03.5	
	baz=26,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**43.38**	**227**	T	T	23 00 58.9	
	baz=26,slow=76,SNR=24						
MJAR	**Matsushiro Arr**	**44.38**	**272**	P	**P**	**22 14 56.1**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=42,slow=6.1,SNR=3.3						
	comp=Z,0.8nm,0.5s						
SONM	**Songino Array**	**54.12**	**304**	P	**P**	**22 16 11.3**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=49,slow=7.0,SNR=7.5						
	comp=Z,1.3nm,0.7s						
FINES	**FINESS Array B**	**64.25**	**356**	P	**P**	**22 17 19.9**	**-1.0**
	comp=Z,3.5nm,0.8s,baz=3.8,slow=12,SNR=11						
	comp=Z,3.5nm,0.8s						
BVAR	**Borovoye Array**	**64.53**	**328**	P	**P**	**22 17 22.2**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=30,slow=4.1,SNR=10						
	comp=Z,2.1nm,0.6s						
NB2	**NORSAR Subarra**	**64.67**	**4**	P	**P**	**22 17 23.2**	**-0.5**
	comp=Z,2.2nm,1.1s,baz=355,slow=6.5						
NOA	**NORSAR Array B**	**64.67**	**4**	P	**P**	**22 17 23.9**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=356,slow=6.6,SNR=6.0						
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**65.58**	**317**	P	**P**	**22 17 28.7**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=38,slow=6.9,SNR=2.4						
	comp=Z,0.3nm,0.7s						
HFS	**Hagfors**	**65.66**	**3**	P	**P**	**22 17 30.2**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=48,slow=3.5,SNR=9.1						
	comp=Z,2.3nm,0.8s						
EKA	**Eskdalemuir Ar**	**69.11**	**13**	P	**P**	**22 17 52.4**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=325,slow=6.1,SNR=4.0						
	comp=Z,1.2nm,0.6s						
AKASG	**Malin Array Be**	**74.79**	**353**	P	**P**	**22 18 25.4**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=11,slow=5.9,SNR=9.7						
	comp=Z,1.9nm,0.6s						
GERES	**GERESS Array B**	**76.96**	**3**	P	**P**	**22 18 39.0**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=18,slow=4.8,SNR=5.4						
	comp=Z,0.6nm,0.8s						
KBZ	**Khabaz**	**79.96**	**342**	P	**P**	**22 18 56.5**	**+1.6**
	comp=Z,1.7nm,0.8s,baz=338,slow=4.6,SNR=3.8						
	comp=Z,1.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**80.55**	**288**	P	**P**	**22 18 58.6**	**0.0**
	comp=Z,1.0nm,0.3s,baz=17,slow=5.4,SNR=6.7						
	comp=Z,1.0nm,0.3s						
ESDC	**Sonseca Array**	**84.25**	**17**	P	**P**	**22 19 19.1**	**+1.5**
	comp=Z,1.1nm,1.0s,baz=347,slow=5.4,SNR=4.2						
	comp=Z,1.1nm,1.0s						
BRTR	**Keskin Array B**	**85.25**	**348**	P	**P**	**22 19 22.8**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=47,slow=2.8,SNR=7.8						
	comp=Z,1.3nm,0.8s						
QSPA	**South Pole Qui**	**144.26**	**180**	PKP	PKPbc	22 26 19.7	+0.9
	comp=Z,0.7nm,0.5s,baz=300,slow=1.5,SNR=6.1						

IDC 19 22:09:16.7±7.2, 30.70S×179.11W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=295.2km s-min=58.5km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.14**	**268**	P	P	22 17 10.6	-0.5
	0.5nm,0.5s,baz=106,slow=7.9,SNR=8.6						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**43.15**	**273**	P	P	22 17 19.3	0.0
	0.6nm,0.3s,baz=111,slow=8.1,SNR=25						
	0.6nm,0.3s						
FINES	**FINESS Array B**	**145.09**	**339**	PKPbc	PKPbc	22 28 54.0	-0.7
	1.1nm,1.0s,baz=58,slow=4.7,SNR=5.1						

*KRNET **19** 22:18:42.5±0.1, 42.°60N×70.°51E, h13km, mb3.0*
*SOME **19** 22:18:42.0, 42.°65N×70.°48E, h15km*

ISC 19 22:18:41.7±1.2, 42.°62N±0.°03×70.°49E±0.°03, h3km±18km, n14, σ1§96/28, 8C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**luzhnay**	**0.58**	**216**	*e*P	**Pg**	**22 18 53.3**	**+0.4**
IUG				*e*S	**Sg**	**22 19 01.9**	**+1.5**
BRLS	**Borolday**	**0.63**	**311**	*e*P	**Pg**	**22 18 53.4**	**-0.4**
BRLS				*e*S	**Sg**	**22 19 01.7**	**-0.3**
BRLS	**Borolday**	**0.63**	**311**	*e*P	**Pg**	**22 18 53.4**	**-0.4**
	42nm,0.1s						
BRLS				*e*S	**Sg**	**22 19 01.7**	**-0.3**
	104nm,0.2s						
TRKS	**Terek-Say**	**1.19**	**156**	⇑*i*P	**Pg**	**22 19 05.5**	**+0.9**
TRKS				⇑*i*S	**Sg**	**22 19 23.0**	**+3.0**
ARK	**Arkit**	**1.37**	**126**	⇑*i*P	**Pb**	**22 19 08.0**	**-0.1**
ARK				⇑*i*S	**Sg**	**22 19 26.2**	**+0.5**
MNAS	**Manas**	**1.50**	**94**	⇓*i*P	**Pb**	**22 19 09.7**	**-0.5**
MNAS				⇓*i*S	**Sg**	**22 19 30.3**	**+0.5**
MRKS	**Merke**	**2.02**	**86**	*e*P	**Pb**	**22 19 19.1**	**-0.1**
MRKS				*e*S	**Sg**	**22 19 46.0**	**-0.7**
MRKS	**Merke**	**2.02**	**86**	*e*P	**Pb**	**22 19 19.1**	**-0.1**
	6.4nm,0.2s						
MRKS				*e*S	**Sg**	**22 19 46.0**	**-0.7**
	26nm,0.2s						
ARSB	**Arslanbob**	**2.27**	**124**	⇑*e*P	**Pb**	**22 19 22.3**	**-1.1**
ARSB				⇑*e*S	**Sb**	**22 19 51.6**	**-0.2**
BTK	**Batken**	**2.57**	**174**	⇑*e*P	**Pb**	**22 19 26.1**	**-2.4**
BTK				⇑*e*S	**Sb**	**22 19 58.7**	**-1.9**
BTLS	**Baital**	**3.53**	**46**	*e*P	**Pb**	**22 19 45.3**	**+0.5**
	0.5nm,0.1s						
BTLS				*e*S	**Sb**	**22 20 30.7**	**+2.5**
	2.7nm,0.1s						
KST	**Kastek**	**4.05**	**82**	*e*P	**Pb**	**22 19 54.9**	**+1.2**
	0.3nm,0.1s						
KST				*e*S	**Sg**	**22 20 47.7**	**-4.1**
	10.0nm,0.5s						
TNSS	**Tian-Shan**	**4.77**	**83**	*e*P	**Pb**	**22 20 09.2**	**+3.0**
	0.2nm,0.0s						
TNSS				*e*S	**Sg**	**22 21 11.5**	**-3.4**
	0.8nm,0.2s						
CHKK	**Chushkaly**	**4.91**	**73**	*e*P	**Pb**	**22 20 11.8**	**+3.5**
	0.8nm,0.1s						
CHKK				*e*S	**Sg**	**22 21 16.0**	**-3.3**
	2.9nm,0.2s						

CATAC 19 22:19:03.6±0.2, 12.°0N±1.°×85.°3W±0.°9, h3km±1km, M3.5/30, MLv3.5/30, 14C-4D, Error ellipse: s-maj=2.6km s-min=2.0km az=5.6, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACON	**Acoyapa**	**0.20**	**45**	⇑P	Pg	22 19 08.3	+0.9
ACON				S	Sg	22 19 11.7	+1.7
MORN	**Al O del Volca**	**0.43**	**229**	⇑P	Pg	22 19 12.6	+0.8
JAPN	**Al SSO del Vol**	**0.47**	**230**	⇑P	Pb	22 19 13.5	-0.8
JAPN				S	Sg	22 19 20.0	+1.5
ARIN	**Rivas**	**0.63**	**234**	⇑P	Pg	22 19 15.7	0.0
CARN	**Rivas**	**0.67**	**198**	P	Pg	22 19 16.2	-0.2
CARN				S	Sg	22 19 25.4	+0.4
NADN	**Granada**	**0.71**	**264**	⇑P	Pg	22 19 17.2	+0.1
NADN				S	Sg	22 19 27.3	+1.1
BOAB	**BOACO BROADBAN**	**0.71**	**331**	S	Sg	22 19 26.9	+0.6
BOAB	**BOACO BROADBAN**	**0.71**	**331**	⇑P	Pg	22 19 17.1	0.0
NANN	**Nandasmo**	**0.80**	**278**	S	Sb	22 19 30.4	-0.8
NANN	**Nandasmo**	**0.80**	**278**	⇑P	Pb	22 19 19.7	-0.3
SABN	**Sabanita**	**0.84**	**279**	⇑P	Pg	22 19 18.5	-1.1
WILN	**Americas 2**	**0.92**	**291**	⇑P	Pg	22 19 20.8	-0.3
WILN				S	Sb	22 19 34.1	-0.5
UNAN	**Cigeo UNAN**	**0.98**	**287**	⇓P	Pg	22 19 21.8	-0.5
UNAN				S	Sg	22 19 35.6	+0.6
TISN	**Laguna Tiscapa**	**0.98**	**289**	⇑P	Pg	22 19 21.9	-0.5
ALLN	**Telcor Managua**	**0.99**	**289**	P	Pg	22 19 22.0	-0.6
ALLN	**Telcor Managua**	**0.99**	**289**	S	Sb	22 19 36.5	-0.3
ABCN	**Banco Central**	**1.02**	**287**	P	Pg	22 19 22.4	-0.7
ABCN	**Banco Central**	**1.02**	**287**	S	Sb	22 19 37.5	-0.1
APQ2	**Apoyeque**	**1.05**	**291**	P	Pg	22 19 23.4	-0.4
ESPN	**Las Esperanzas**	**1.06**	**70**	P	Pg	22 19 23.1	-0.7
ESPN	**Las Esperanzas**	**1.06**	**70**	S	Sg	22 19 37.5	-0.1
SAPS	**Ciudad Sandino**	**1.12**	**288**	P	Pg	22 19 24.9	-0.1
SAPS	**Ciudad Sandino**	**1.12**	**288**	S	Sg	22 19 39.5	-0.1
APQ3	**Volcan Apoyequ**	**1.12**	**293**	P	Pg	22 19 24.4	-0.7
APQ3				S	Sb	22 19 40.1	-0.4
AMTN	**Mateare**	**1.16**	**291**	P	Pg	22 19 25.2	-0.7
MATN	**Matagalpa**	**1.25**	**332**	P	Pg	22 19 26.1	-1.4
MATN	**Matagalpa**	**1.25**	**332**	S	Sg	22 19 42.5	-1.2
MOM2	**El Cardon**	**1.29**	**298**	⇑P	Pg	22 19 27.0	-1.3
MOM2				S	Sg	22 19 45.1	0.0
COPN	**Copaltepe**	**1.30**	**286**	⇑P	Pg	22 19 26.8	-1.6
MOMN	**Momotombo**	**1.33**	**296**	⇑P	Pn	22 19 27.4	-1.7
MOMN				S	Sg	22 19 45.8	-0.6
CNGN	**Cerro Negro**	**1.51**	**296**	⇓P	Pn	22 19 30.9	-0.7
ILCN	**San Idelfonso**	**1.54**	**299**	P	Pn	22 19 30.6	-1.3
ILCN				S	Sn	22 19 52.0	-0.6
PLRN	**Geotermica Pol**	**1.61**	**298**	P	Pn	22 19 32.4	-0.5
PLRN				S	Sn	22 19 53.6	-0.5
POLN	**Al Sur del Vol**	**1.68**	**299**	⇑P	Pn	22 19 33.7	-0.1
POLN				S	Sb	22 19 56.5	-0.1
PKGN	**Cerro Pekin**	**1.83**	**297**	P	Pn	22 19 36.2	+0.3
PKGN				S	Sb	22 20 01.5	+0.6
RCPN	**Sur Rio San Ju**	**1.85**	**336**	S	Sn	22 19 59.9	-0.4
RCPN	**Sur Rio San Ju**	**1.85**	**336**	⇓P	Pn	22 19 35.5	-0.8
RCVN	**Varillal2**	**1.94**	**334**	S	Sb	22 20 04.0	-0.4
RCVN	**Varillal2**	**1.94**	**334**	⇓P	Pn	22 19 38.4	+0.8
SIUN	**Universidad Ur**	**1.95**	**16**	P	Pn	22 19 37.5	0.0
SIUN				S	Sn	22 20 03.1	+0.6
OCON	**Estacion meteo**	**2.12**	**328**	P	Pn	22 19 39.6	-0.3
OCON				S	Sb	22 20 09.5	+0.1
POTN	**Potosi Cosigui**	**2.44**	**299**	P	Pn	22 19 44.8	+0.6

*MOS **19** 22:24:02.7±0.7, 44.°49N×146.°91E, h130km, mb4.2/1, Error ellipse: s-maj=31.6km s-min=14.0km az=135.8*
*JMA **19** 22:24:03.3±0.5, 45.°N±2.°×14.°7E±.°, h102km, MV3.2/30, NEAR ETOROFU ISLAND*
*SKHL **19** 22:24:04.0±0.3, 44.°50N×146.°90E, h123km±6km, mb4.8/4, msha5.3/4*
*IDC **19** 22:24:05.2±5.2, 44.°55N×146.°69E, h144km±66km, mb3.0/2, mbtmp3.5/5, Error ellipse: s-maj=67.8km s-min=43.1km az=107.0*

ISC 19 22:24:03.9±1.0, 44.°45N±0.°07×146.°94E±0.°06, h129km±7km, n32, σ1§29/51, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.58**	**188**	*e*PN	**Pn**	**22 24 24.4**	**+1.1**
SHO				*i* S	**Sn**	**22 24 38.1**	**+0.1**
SHO				pmax	pmax		
	comp=N,47nm,0.1s						
SHO				pmax	pmax		
	comp=E,93nm,0.1s						
SHO				pmax	pmax		
	comp=Z,229nm,0.1s						
SHO				smax	smax		
	comp=N,2μm,0.3s						
SHO				smax	smax		
	comp=E,1μm,0.2s						
SHO	**Shikotan**	**0.58**	**188**	*e*P	**Pn**	**22 24 24.4**	**+1.1**
SHO				AMB	AMB	22 24 24.8	
	comp=E,160nm,0.2s						
SHO				*e*S	**Sn**	**22 24 38.2**	**+0.2**
SHO				A	A	22 24 39.2	
	comp=E,1μm,0.3s						
SHO				A	A	22 24 39.2	
	comp=E,1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.88**	**242**	*c i*PN	**Pn**	**22 24 25.1**	**-0.4**
YUK				*i* S	**Sn**	**22 24 42.0**	**0.0**
YUK				pmax	pmax		
	comp=Z,452nm,0.4s						
YUK				pmax	pmax		
	comp=N,248nm,0.2s						
YUK				pmax	pmax		
	comp=E,206nm,0.1s						
YUK				smax	smax		
	comp=E,799nm,0.4s						
YUK				smax	smax		
	comp=N,379nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.88**	**242**	*i* P	**Pn**	**22 24 25.2**	**-0.3**
YUK				AMB	AMB	22 24 28.8	
	comp=N,460nm,0.2s						
YUK				*i* S	**Sn**	**22 24 41.0**	**-1.0**
YUK				A	A	22 24 45.0	
	comp=N,780nm,0.7s						
YUK				A	A	22 24 45.0	
	comp=N,1μm,0.7s						
KUR	**Kuril'sk**	**1.03**	**40**	*d i*PN	**Pn**	**22 24 25.7**	**-1.2**
KUR				S	**Sn**	**22 24 50.0**	**+5.6**
KUR				pmax	pmax		
	comp=E,111nm,0.5s						
KUR				pmax	pmax		
	comp=Z,309nm,0.5s						
KUR				pmax	pmax		
	comp=N,111nm,0.2s						
KUR				smax	smax		
	comp=N,113nm,0.4s						
KUR				smax	smax		
	comp=E,134nm,0.4s						
KUR	**Kuril'sk**	**1.03**	**40**	*i* P	**Pn**	**22 24 25.0**	**-1.9**
KUR				AMB	AMB	22 24 26.1	
	comp=E,310nm,0.5s						
KUR				*e*S	**Sn**	**22 24 41.9**	**-2.5**
KUR				A	A	22 24 45.6	
	comp=E,100nm,0.7s						
KUR				A	A	22 24 45.6	
	comp=E,170nm,0.7s						
GLVR	**Golovnino**	**1.25**	**236**	*e*PN	**Pn**	**22 24 29.3**	**+0.2**
GLVR				*i* S	**Sn**	**22 24 48.5**	**+0.3**
GLVR				pmax	pmax		
	comp=Z,271nm,0.4s						
GLVR				pmax	pmax		
	comp=E,53nm,0.3s						
GLVR				smax	smax		
	comp=E,354nm,0.2s						
GLVR				smax	smax		
	comp=N,1μm,0.3s						
GLVR	**Golovnino**	**1.25**	**236**	*e*P	**Pn**	**22 24 29.3**	**+0.2**
GLVR				AMB	AMB	22 24 29.7	
	comp=N,270nm,0.4s						
GLVR				*i* S	**Sn**	**22 24 48.5**	**+0.3**
GLVR				A	A	22 24 50.7	
	comp=N,1μm,0.3s						
GLVR				A	A	22 24 50.7	
	comp=N,350nm,0.3s						
RUSJ	**Misakicho**	**1.26**	**255**	*e*PN	**Pn**	**22 24 28.1**	**-1.2**
NEM2	**Nemuro 2**	**1.39**	**219**	P	**Pn**	**22 24 30.1**	**-0.5**
NEM2				S	**Sn**	**22 24 49.2**	**-1.7**
NMR	**Nemuro--Hokkai**	**1.39**	**220**	⇑*i*PN	**Pn**	**22 24 30.0**	**-0.6**
NMR				*i* S	**Sn**	**22 24 49.2**	**-1.7**
NMR	**Nemuro--Hokkai**	**1.39**	**220**	*i* P	**Pn**	**22 24 30.0**	**-0.6**
NMR				*i* S	**Sn**	**22 24 49.3**	**-1.7**
JRA	**Rausu**	**1.40**	**249**	P	**Pn**	**22 24 30.4**	**-0.3**
JNSB	**Nemuroshibetsu**	**1.55**	**245**	P	**Pn**	**22 24 32.4**	**0.0**
JNK	**Nakash**	**1.82**	**243**	P	**Pn**	**22 24 35.7**	**+0.1**
JKHN	**Kushirohamanak**	**1.88**	**224**	*e*P	**Pn**	**22 24 36.3**	**0.0**
JKHN				S	**Sn**	**22 25 00.6**	**-0.4**
AKK	**Akkeshi**	**2.09**	**228**	*e*P	**Pn**	**22 24 38.9**	**+0.1**
JAK	**Akkeshi**	**2.18**	**229**	*i* P	**Pn**	**22 24 40.2**	**+0.2**
JAK				S	**Sn**	**22 25 07.4**	**-0.2**
JTKR	**Abashiri--Toko**	**2.23**	**259**	P	**Pn**	**22 24 40.4**	**-0.2**
JTKR				*e*S	**Sn**	**22 25 09.0**	**+0.3**
JAR	**Ashorobuto**	**2.57**	**244**	P	**Pn**	**22 24 46.1**	**+1.3**
JAR				*e*S	**Sn**	**22 25 19.1**	**+2.8**
JMP	**Maruseppu**	**2.61**	**262**	P	**Pn**	**22 24 45.3**	**-0.1**
JOB	**Onbets**	**2.73**	**237**	P	**Pn**	**22 24 48.0**	**+1.1**
JOB				*e*S	**Sn**	**22 25 20.6**	**+0.5**
JKK2	**Kamakawa 2**	**3.07**	**261**	P	**Pn**	**22 24 51.8**	**+0.4**
JKK2				*e*S	**Sn**	**22 25 29.6**	**+1.6**
JKA	**Kamikawa-asahi**	**3.13**	**265**	*e*P	**Pn**	**22 24 52.8**	**+0.7**
ASAJ	**Asahikawa**	**3.14**	**265**	P	**Pn**	**22 24 52.8**	**+0.6**
	comp=N,7.6nm,0.4s,baz=76,slow=10,SNR=19						
ASAJ				S	**Sn**	**22 25 28.2**	**-1.3**
	comp=N,7.0nm,0.6s,baz=134,slow=29,SNR=1.9						
ASAJ	**Asahikawa**	**3.14**	**265**	P	**Pn**	**22 24 52.8**	**+0.6**
JCH	**Churui**	**3.18**	**236**	*i* P	**Pn**	**22 24 53.3**	**+0.5**
JCH				*e*S	**Sn**	**22 25 30.1**	**-0.4**
JNBK	**Urakawa-nobuka**	**3.74**	**236**	P	**Pn**	**22 24 59.8**	**-0.3**
MJAR	**Matsushiro Arr**	**10.32**	**223**	P	**Pn**	**22 26 27.8**	**-0.7**
	comp=N,1.0nm,0.5s,baz=26,slow=13,SNR=6.3						
USRK	**Ussuriysk Ar.**	**10.72**	**274**	P	**Pn**	**22 26 32.9**	**-0.8**
	comp=N,2.8nm,0.8s,baz=86,slow=12,SNR=7.4						
ILAR	**Eielson Array**	**41.02**	**37**	P	**P**	**22 31 33.0**	**-0.8**
	comp=N,0.6nm,0.8s,baz=274,slow=7.2,SNR=4.9						
	comp=N,0.6nm,0.8s						
TXAR	**Lajitas Array**	**82.39**	**56**	P	**P**	**22 36 12.3**	**+0.7**
	comp=N,0.2nm,0.6s,baz=312,slow=5.7,SNR=4.4						
	comp=N,0.2nm,0.6s						

DJA 19 22:39:26.9±0.3, 0.°S±3.°×12.°3E±.°, h42km±12km, M3.9/13, mb4.0/4, MLv3.8/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.70**	**160**	P	Pn	22 39 40.7	+0.3
LUWI				S	Sn	22 39 52.4	+2.3
APSI	**Ampana**	**1.03**	**239**	P	Pn	22 39 45.8	+0.9
MRSI	**Marisa**	**1.03**	**325**	P	Pn	22 39 43.4	-1.6
KMSI	**Cibinong**	**1.73**	**57**	P	Pn	22 39 41.8	-13
MPSI	**Mapaga**	**2.73**	**285**	P	Pn	22 40 08.8	+0.6
PCI	**Palu**	**2.74**	**259**	P	Pn	22 40 09.2	+0.8
TTSI	**Tana Toraja**	**3.79**	**226**	P	Pn	22 40 22.9	+0.1
SANI	**Sanana**	**3.83**	**116**	P	Pn	22 40 22.0	-1.4
SPSI	**Sidrap Palu**	**4.50**	**218**	P	Pn	22 40 33.5	+0.8
BNSI	**Bone**	**4.67**	**211**	P	Pn	22 40 36.2	+1.3
BKSI	**Bulukumba**	**5.47**	**206**	P	Pn	22 40 45.1	-0.8
	0.1nm19nm,1.1s						
BSSI	**Bau Bau, Buton**	**6.08**	**200**	P	Pn	22 40 55.1	+0.8
	72nm,1.4s						

*NOU **19** 22:40:58.7, 11.°31S×165.°32E, h310km, MLv5.4/7, Santa Cruz Islands*
*NEIC **19** 22:41:08.7±1.9, 12.°50S±0.°06×165.°9E±0.°1, h10km±2km, mb4.6/12, Error ellipse: s-maj=20.7km s-min=5.0km az=61.0*
*IDC **19** 22:41:11.1±3.9, 12.°61S×166.°05E, h40km±32km, mb4.0/10, mbtmp4.2/12, ML4.2/2, MS3.4/4, Error ellipse: s-maj=32.6km s-min=15.4km az=70.0*

ISC 19 22:41:11.4±0.5, 12.°55S±0.°06×165.°99E±0.°07, h40km, n39, σ1§01/36, mb4.2/13, MS3.4/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**1.87**	**358**	P	**Pn**	**22 41 40.0**	**-1.0**
HURO	**Huro Makira**	**4.51**	**297**	P	Pn	22 41 59.8	-17
DVP	**Devils Point**	**5.57**	**158**	P	Pn	22 42 40.2	+8.4
ALEG	**Aligegeo Malai**	**6.43**	**305**	P

comp=Z,2.3nm,0.9s,baz=33,slow=0.8,SNR=6.6
comp=Z,2.3nm,0.9s
SONM Songino Array 80.01 324 P **P** **22 53 17.2 +0.3**
comp=Z,0.6nm,0.3s,baz=141,slow=5.2,SNR=6.6
comp=Z,0.6nm,0.3s
MKAR Makanchi Array 94.77 317 P **P** **22 54 28.6 -0.3**
comp=Z,1.4nm,0.7s,baz=91,slow=6.9,SNR=12
comp=Z,1.4nm,0.7s
BVAR Borovoye Array 103.27 322 Pdiff **Pdif** **22 55 05.9 -0.9**
comp=Z,0.3nm,0.4s,baz=81,slow=4.5,SNR=2.3
ARCES ARCESS Array B 117.84 345 PKP **PKPdf** **22 59 51.0 -2.0**
comp=Z,1.8nm,0.9s,baz=59,slow=1.9,SNR=8.0
FINES FINESS Array B 123.25 338 PKP **PKPdf** **23 00 02.9 -0.7**
comp=Z,4.8nm,1.2s,baz=164,slow=1.4,SNR=3.7
KEST Kesra 149.74 322 PKPbc **PKPbc** **23 00 55.2 +0.2**
comp=Z,4.3nm,0.8s,baz=27,slow=4.5,SNR=5.2
ESDC Sonseca Array 151.56 344 PKPbc **PKPbc** **23 01 00.4 -1.3**
comp=Z,0.5nm,1.0s,baz=56,slow=3.0,SNR=4.1

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*SJA **19** 22:52:36.1±0.7, 23.22S×69.14W, h96km±4km, ML3.7, MW3.8*
*GUC **19** 22:52:37.9±0.6, 23.25S×69.17W, h92km±3km, ML3.5*
ISC 19 22:52:34.9±1.4, **23.23S**±0.03×**69.13W**±0.04, **h118**km±9km, **n39**, σ2.8**47**/53, **4C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.66**	**322**	⇑*iP*			**Pn**	**22 52 54.0**	**0.0**
PB06				*eS*			**Sn**	**22 53 06.1**	**-2.1**
PB06					IAML			22 53 07.6	
	comp=E,6μm,0.1s								
PB06	**IPOC Station P**	**0.66**	**322**	*eP*			**Pn**	**22 52 53.8**	**-0.2**
PB06				*eS*			**Sn**	**22 53 06.3**	**-1.9**
PB06					IAML			22 53 07.8	
	comp=Z,3μm,0.1s								
AF01	**San Pedro de A**	**0.92**	**73**	*eP*			**Pn**	**22 52 57.3**	**+1.0**
AF01				*eS*			**Sn**	**22 53 12.2**	**-0.2**
AF01	**San Pedro de A**	**0.92**	**73**	*eP*			**Pn**	**22 52 57.4**	**+1.1**
AF01				*eS*			**Sn**	**22 53 11.8**	**-0.6**
AF01					IAML			22 53 12.5	
	comp=Z,5μm,0.1s								
PB05	**IPOC Station P**	**1.05**	**290**⇑	*eP*			**Pn**	**22 52 57.9**	**+0.4**
PB05				*eS*			**Sn**	**22 53 13.4**	**-1.0**
PB05					IAML			22 53 19.4	
	comp=E,1μm,0.3s								
PB05	**IPOC Station P**	**1.05**	**290**	*eP*			**Pn**	**22 52 57.8**	**+0.4**
PB05				*eS*			**Sn**	**22 53 14.2**	**-0.3**
PB05					IAML			22 53 19.5	
	comp=Z,623nm,0.4s								
PB03	**IPOC Station P**	**1.30**	**334**⇑	*iP*			**Pn**	**22 53 01.6**	**+1.4**
PB03				*eS*			**Sn**	**22 53 19.5**	**+0.1**
PB03	**IPOC Station P**	**1.30**	**334**	*eP*			**Pn**	**22 53 00.8**	**+0.6**
PB03				*eS*			**Sn**	**22 53 19.4**	**+0.1**
PB03					IAML			22 53 24.6	
	comp=Z,1μm,0.2s								
PB10	**IPOC Station P**	**1.34**	**257**	*eP*			**Pn**	**22 53 01.2**	**+0.8**
PB10				*eS*			**Sn**	**22 53 18.8**	**-0.9**
PB10					IAML			22 53 24.1	
	comp=N,800nm,0.3s								
PB10	**IPOC Station P**	**1.34**	**257**	*eP*			**Pn**	**22 53 00.8**	**+0.4**
PB10				*eS*			**Sn**	**22 53 14.2**	**-5.4**
PB10					IAML			22 53 23.8	
	comp=Z,966nm,0.6s								
PB09	**IPOC Station P**	**1.43**	**356**	*eP*			**Pn**	**22 53 03.9**	**+2.4**
PB09					IAML			22 53 27.4	
	comp=N,752nm,0.3s								
PB09	**IPOC Station P**	**1.43**	**356**	*eP*			**Pn**	**22 53 03.8**	**+2.2**
PB09				*eS*			**Sn**	**22 53 23.4**	**+1.7**
PB09					IAML			22 53 27.1	
	comp=Z,598nm,0.5s								
PB14	**IPOC Station P**	**1.82**	**220**	*eP*			**Pn**	**22 53 08.0**	**+1.6**
PB14				*eS*			**Sn**	**22 53 30.1**	**-0.2**
PB14	**IPOC Station P**	**1.82**	**220**	*eP*			**Pn**	**22 53 07.3**	**+1.0**
PB14					IAML			22 53 34.4	
	comp=Z,957nm,0.4s								
GO02	**Mina Guanaco**	**1.97**	**192**	*eP*			**Pn**	**22 53 09.8**	**+1.6**
GO02	**Mina Guanaco**	**1.97**	**192**	*eP*			**Pn**	**22 53 09.8**	**+1.6**
GO02				*eS*			**Sn**	**22 53 35.1**	**+1.4**
PB02	**IPOC Station P**	**2.02**	**339**	*eP*			**Pn**	**22 53 10.9**	**+2.2**
PB02	**IPOC Station P**	**2.02**	**339**	*eP*			**Pn**	**22 53 10.9**	**+2.2**
PB02				*eS*			**Sn**	**22 53 39.2**	**+4.7**
PB02					IAML			22 53 44.5	
	comp=Z,758nm,0.4s								
PB01	**IPOC Station P**	**2.20**	**351**	*eP*			**Pn**	**22 53 13.4**	**+2.5**
PB01				*eS*			**Sn**	**22 53 40.7**	**+2.3**
PATCX	**Punta Patache**	**2.57**	**338**	*eP*			**Pn**	**22 53 17.2**	**+1.5**
PATCX	**Punta Patache**	**2.57**	**338**	*eP*			**Pn**	**22 53 17.2**	**+1.5**
PATCX				*eS*			Sn	22 54 02.2	+15
PATCX					IAML			22 54 07.6	
	comp=Z,204nm,0.6s								
SALTA		**2.75**	**112**	*eP*			**Pn**	**22 53 22.5**	**+4.2**
SALTA		**2.75**	**112**	*eP*			**Pn**	**22 53 19.1**	**+0.9**
SALTA				*eP*				22 53 19.4	
TA01	**Diego Aracena**	**2.82**	**340**	*eP*			**Pn**	**22 53 21.4**	**+2.5**
TA01	**Diego Aracena**	**2.82**	**340**	*eP*			Pn	22 53 10.7	-8.1
TA01					IAML			22 54 16.5	
	comp=Z,127nm,0.5s								
PB08	**IPOC Station P**	**3.07**	**360**⇓	*eP*			**Pn**	**22 53 25.1**	**+2.6**
PB08	**IPOC Station P**	**3.07**	**360**	*eS*			**Sn**	**22 53 51.3**	**-7.8**
PB08					IAML			22 54 23.9	
	comp=Z,115nm,0.4s								
TA02	**Huaiquique**	**3.08**	**342**	*eS*			**Sn**	**22 53 55.0**	**-3.8**
TA02					IAML			22 53 55.2	
	comp=Z,202nm,0.2s								
AC01	**Pan de Azucar**	**3.20**	**204**	*eS*			**Sn**	**22 54 00.3**	**-1.3**
AC01					IAML			22 54 11.7	
	comp=Z,165nm,0.5s								
HJA	**Humahuaca**	**3.42**	**90**	*eP*			Pn	22 53 11.8	-15
PB11	**IPOC Station P**	**3.48**	**352**⇑	*eP*			**Pn**	**22 53 29.2**	**+1.5**
PB11	**IPOC Station P**	**3.48**	**352**	*eP*			**Pn**	**22 53 29.1**	**+1.4**
PB11				*eS*			**Sn**	**22 54 01.7**	**-6.8**
PB11					IAML			22 54 35.6	
	comp=Z,134nm,0.5s								
GO01	**Chusmiza**	**3.54**	**359**	*eP*			**Pn**	**22 53 31.1**	**+2.3**
GO01	**Chusmiza**	**3.54**	**359**	*eP*			**Pn**	**22 53 31.2**	**+2.3**
AC02	**Maricunga**	**3.59**	**180**	*eP*			**Pn**	**22 53 32.2**	**+2.7**
AC02				*eS*			Sn	22 53 56.0	-16
AC02					IAML			22 54 37.2	
	comp=Z,131nm,0.5s								
AZAP	**Zapla**	**3.86**	**106**	*eP*			**Pn**	**22 53 32.0**	**-0.7**
FSA	**Cafayete**	**4.06**	**136**	*eP*			**Pn**	**22 53 34.3**	**-1.1**
GO03	**Copiapo**	**4.46**	**193**	*eP*			**Pn**	**22 53 41.6**	**+0.9**
ALOL	**LOMAS DE OLMED**	**4.76**	**98**	*eP*			**Pn**	**22 53 43.2**	**-1.5**

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*NDI **19** 22:54:22.1±1.8, 27.77N×92.82E, h11km±7km, ML5.2, MW5.2*
*MOS **19** 22:54:22.8±0.8, 27.71N×92.77E, h15km, mb5.4/97, MS4.5/27, Error ellipse: s-maj=5.9km s-min=3.0km az=123.9*
*NEIC **19** 22:54:24.7±1.3, 27.74N±0.04×92.80E±0.07, h10km±1km, mb5.4/431, Mww4.9/9, Error ellipse: s-maj=11.6km s-min=5.5km az=111.0*
*NEIC **19** 22:54:24.8, 27.73N×92.81E, h30km*
*NEIC **19** 22:54:24.8, 27.53N×92.47E, h30km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^16^Nm; Mrr1.04; Mθθ-0.86; Mφφ-0.18; Mr2.06; Mθφ-0.66; Mφr0.46; Fault plane solution: M0 2.42000×10^16^ NP1: φs218.87000°, δ16.79000°, λ54.67000°. NP2: φs75.38000°, δ76.37000°, λ99.90000°. Principal axes: T 2.3621, Plg58.0000°, Azm358.0000°; N 0.1050, Plg10.0000°, Azm253.0000°; P -2.4671, Plg31.0000°, Azm157.0000°;*
*BJI **19** 22:54:25.0, 27.66N×92.94E, h10km, mB5.2/33, mb5.2/72, ML5.1/6, Ms4.8/65, Ms7 4.5/64*
*IDC **19** 22:54:26.6±1.6, 27.70N×92.80E, h28km±10km, mb4.9/30, mbtmp5.1/31, ML5.6/2, MS4.2/69, Error ellipse: s-maj=12.8km s-min=9.7km az=45.0*
*GCMT **19** 22:54:27.7±0.3, 27.67N±0.02×92.99E±0.03, h26km±1km, MW4.9/74, Moment Tensor Solution. s22, c25; s74, c102; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr1.35±.12; Mθθ-0.24±.08; Mφφ-1.11±.07; Mr0.32±.23; Mθφ0.20±.07; Mφr1.55±.17; Best double couple: M0 2.94100×10^16^ NP1: φs187.00000°, δ12.00000°, λ47.00000°. NP2: φs51.00000°, δ81.00000°, λ98.00000°. Principal axes: T 3.4350, Plg53.0000°, Azm330.0000°; N -0.9870, Plg8.0000°, Azm229.0000°; P -2.4480, Plg36.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **19** 22:54:33.1, 28.10N×92.08E, h33km, mb5.2, Ms4.3*
ISC 19 22:54:23.9±0.4, **27.65N**±0.02×**92.76E**±0.02, **h12**km±2km, **h12**km:**pP-P, n1579**, σ1.**18**/1581, **mb5.4**/455, **MS4.3**/103, **84C-72D, Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZIRO	**ZIRO**	**0.98**	**97**	*eP*			**Pg**	**22 54 40.4**	**-2.4**
ZIRO				*eS*			**Sg**	**22 54 53.7**	**-1.9**
ZIRO					IAML			22 54 57.4	
	comp=N,307μm,0.4s								
ZIRO					IAML			22 54 59.7	
	comp=E,338μm,0.2s								
TEZP	**TEZPUR**	**1.03**	**178**	*eP*			**Pn**	**22 54 44.1**	**0.0**
TEZP				*eS*			**Sn**	**22 55 00.2**	**+1.7**
TEZP					IAML			22 55 05.0	
	comp=N,84μm,0.2s								
TEZP					IAML			22 55 05.0	
	comp=E,88μm,0.2s								
SHL	**Shillong**	**2.22**	**201**				**Pb**	**22 55 03.1**	**-0.9**
SHL							**Sg**	**22 55 35.2**	**-0.1**
SHL	**Shillong**	**2.22**	**201**	P			**Pb**	**22 55 03.4**	**-0.6**
SHL	**Shillong**	**2.22**	**201**	*eP*			**Pn**	**22 55 00.8**	**+0.1**
SHL				*eS*			**Sn**	**22 55 29.1**	**+1.0**
SHL					IAML			22 55 35.7	
	comp=N,25μm,0.3s								
SHL					IAML			22 55 36.7	
	comp=E,26μm,0.3s								
SHL	**Shillong**	**2.22**	**201**	P			**Pb**	**22 55 03.1**	**-0.9**
SHL							**Sg**	**22 55 35.2**	**-0.1**
KOHI	**KOHIMA**	**2.27**	**148**	*eP*			**Pn**	**22 55 01.1**	**-0.3**
KOHI				*eS*			**Sn**	**22 55 29.6**	**+0.2**
KOHI					IAML			22 55 41.7	
	comp=N,38μm,0.4s								
KOHI					IAML			22 55 41.9	
	comp=E,46μm,0.5s								
LSA	**Lhasa**	**2.48**	**326**	Pg			**Pb**	**22 55 09.5**	**+0.9**
LSA				Sg			**Sg**	**22 55 44.8**	**+1.1**
LSA				smax			smax		
	comp=E,4μm,0.7s								
IMP	**Imphal**	**3.01**	**159**	*eP*			**Pn**	**22 55 11.4**	**0.0**
IMP				*eS*			**Sn**	**22 55 47.3**	**-0.1**
IMP					IAML			22 55 48.7	
	comp=N,5μm,0.2s								
IMP					IAML			22 55 50.8	
	comp=E,5μm,0.6s								
AZL	**Aizawl**	**3.90**	**181**	*i* P			**Pn**	**22 55 23.8**	**+0.1**
AZL				*eP*			Pb	22 55 24.1	-8.6
AZL				*eS*			**Sn**	**22 56 08.6**	**-0.9**
AZL					IAML			22 56 13.9	
	comp=E,4μm,0.4s								
AZL					IAML			22 56 13.9	
	comp=N,7μm,0.4s								
AGT	**Agartala**	**3.99**	**200**	*eP*			**Pn**	**22 55 25.1**	**+0.3**
AGT				*eS*			**Sn**	**22 56 13.0**	**+1.4**
AGT					IAML			22 56 36.1	
	comp=N,10μm,0.7s								
AGT					IAML			22 56 36.7	
	comp=E,7μm,0.6s								
ODAN	**Odare**	**4.84**	**262**	Pn			**Pb**	**22 55 52.1**	**+3.3**
	baz=240,slow=0.0								
ODAN					Sn		**Sb**	**22 56 49.7**	**+2.6**
	comp=E,16μm,0.6s,baz=240,slow=0.0								
ODAN	**Odare**	**4.84**	**262**		Sn		**Sn**	**22 56 36.5**	**+3.6**
	comp=E,16μm,0.6s,baz=257,slow=0.0								
BRDH	**Bariadhala**	**5.06**	**192**	Pn			**Pn**	**22 55 41.4**	**+1.9**
	comp=E,296nm,0.3s,baz=42,slow=9.8,SNR=69								
BRDH					Sn		**Sn**	**22 56 39.7**	**+1.8**
	comp=E,357nm,0.3s,baz=347,slow=23,SNR=9.1								
BRDH					LR		LR	22 58 00.4	
	comp=E,2μm,19.7s,baz=26,slow=42								
SAIH	**SAIHA**	**5.15**	**178**	*eP*			**Pn**	**22 55 40.8**	**0.0**
SAIH				*eS*			**Sn**	**22 56 38.4**	**-1.9**
SAIH					IAML			22 56 48.1	
	comp=E,8μm,0.8s								
SAIH					IAML			22 56 49.6	
	comp=N,7μm,0.8s								
RAMN	**Ramite**	**5.52**	**264**	Pn			**Pn**	**22 55 48.7**	**+2.6**
	baz=244,slow=0.0								
RAMN					Sn		**Sb**	**22 57 00.9**	**-5.8**
	comp=N,2μm,0.5s,baz=244,slow=0.0								
RAMN	**Ramite**	**5.52**	**264**	Pg			**Pg**	**22 56 06.2**	**-3.5**
	baz=260,slow=0.0								
TNCH	**TengChong**	**5.79**	**116**	⇓Pn			**Pn**	**22 55 52.1**	**+2.3**
TNCH					Sn		**Sn**	**22 56 59.9**	**+3.6**
TNCH					Sg		**Sg**	**22 57 31.0**	**+1.1**
TNCH					smax		smax		
	comp=N,2μm,1.9s								
TNCH					smax		smax		
	comp=N,1μm,1.6s								
TNCH					LR		LR		
	comp=N,9μm,12.4s								
TNCH					LR		LR		
	comp=N,9μm,10.4s								
TNCH					LR		LR		
	comp=N,9μm,16.0s								
GUN	**Gumba**	**6.10**	**274**	Pn			**Pn**	**22 55 57.5**	**+3.3**
	baz=254,slow=0.0								
GUN					Sn		**Sn**	**22 57 04.6**	**+0.6**
	comp=N,3μm,0.4s,baz=254,slow=0.0								
GUN	**Gumba**	**6.10**	**274**	Pn			**Pn**	**22 55 57.4**	**+3.3**
	baz=270,slow=0.0								
GUN					Sn		**Sn**	**22 57 04.3**	**+0.3**
	comp=N,3μm,0.4s,baz=270,slow=0.0								
PKI	**Pulchoki**	**6.52**	**271**	Pn			**Pn**	**22 56 02.4**	**+2.5**
	baz=252,slow=0.0								
PKI					Sn		**Sn**	**22 57 16.5**	**+2.1**
	comp=N,2μm,0.6s,baz=252,slow=0.0								
PKI	**Pulchoki**	**6.52**	**271**	Pn			**Pn**	**22 56 02.5**	**+2.5**
	baz=267,slow=0.0								
PKI					Sn		**Sn**	**22 57 14.5**	**+0.1**
	comp=N,1μm,0.5s,baz=267,slow=0.0								
PKIN	**Phulchoki**	**6.53**	**271**	Pn			**Pn**	**22 56 03.6**	**+3.6**
	baz=253,slow=0.0								
PKIN					Sn		**Sn**	**22 57 17.7**	**+3.1**
	comp=N,2μm,0.5s,baz=253,slow=0.0								
PKIN	**Phulchoki**	**6.53**	**271**	Pn			**Pn**	**22 56 02.5**	**+2.5**
	baz=267,slow=0.0								
PKIN					Sn		**Sn**	**22 57 14.2**	**-0.4**
	comp=N,2μm,0.5s,baz=267,slow=0.0								
KKN	**Kakani**	**6.63**	**273**	Pn			**Pn**	**22 56 04.1**	**+2.8**
	baz=255,slow=0.0								
KKN					Sn		**Sn**	**22 57 18.6**	**+1.7**
	comp=N,3μm,0.6s,baz=255,slow=0.0								
KKN	**Kakani**	**6.63**	**273**	Pn			**Pn**	**22 56 03.9**	**+2.6**
	baz=269,slow=0.0								
KKN					Sn		**Sn**	**22 57 18.1**	**+1.2**
	comp=N,3μm,0.6s,baz=269,slow=0.0								
DMN	**Daman**	**6.79**	**271**	Pn			**Pn**	**22 56 07.1**	**+3.6**
	baz=254,slow=0.0								
DMN					Sn		**Sn**	**22 57 25.8**	**+4.9**
	comp=N,3μm,0.7s,baz=254,slow=0.0								
DMN	**Daman**	**6.79**	**271**	Pn			**Pn**	**22 56 06.4**	**+2.9**
	baz=268,slow=0.0								
DMN					Sn		**Sn**	**22 57 22.8**	**+1.9**
	comp=N,2μm,0.7s,baz=268,slow=0.0								
GKN	**Gorkha**	**7.20**	**275**	Pn			**Pn**	**22 56 10.9**	**+1.8**
	baz=258,slow=0.0								
GKN					Sn		**Sn**	**22 57 31.6**	**+0.7**
	comp=N,5μm,0.8s,baz=258,slow=0.0								
GKN	**Gorkha**	**7.20**	**275**	Pn			**Pn**	**22 56 10.9**	**+1.8**
	baz=271,slow=0.0								
GKN					Sn		**Sn**	**22 57 30.9**	**0.0**
	comp=N,5μm,0.8s,baz=271,slow=0.0								
DANN	**Dangsing**	**7.98**	**277**	Pn			**Pn**	**22 56 19.8**	**-0.2**
	baz=261,slow=0.0								
DANN					Sn		**Sn**	**22 57 43.7**	**-6.7**
	comp=N,5μm,0.6s,baz=261,slow=0.0								
DANN	**Dangsing**	**7.98**	**277**	Pn			**Pn**	**22 56 20.1**	**+0.1**
	baz=274,slow=0.0								
DANN					Sn		**Sn**	**22 57 50.3**	**-0.1**
	comp=N,5μm,0.6s,baz=274,slow=0.0								
KOLN	**Koldanda**	**8.12**	**273**	Pn			**Pn**	**22 56 22.5**	**+0.8**
	baz=258,slow=0.0								
KOLN					Sn		**Sn**	**22 57 54.2**	**+0.7**
	comp=N,1μm,0.4s,baz=258,slow=0.0								
KOLN	**Koldanda**	**8.12**	**273**	Pn			**Pn**	**22 56 22.5**	**+0.8**
	baz=270,slow=0.0								
KOLN					Sn		**Sn**	**22 57 52.4**	**-1.1**
	comp=N,1μm,0.4s,baz=270,slow=0.0								
KNTI	**KHUNTI**	**8.16**	**238**	*eP*			**Pn**	**22 56 17.6**	**-4.6**
KNTI					IAmb		IAmb	22 56 36.9	
	comp=Z,284nm,0.7s								
KNTI				*eS*			Sn	22 57 41.8	-13
PYUN	**Piuthan**	**8.65**	**275**	Pn			**Pn**	**22 56 29.4**	**+0.3**
	baz=261,slow=0.0								
PYUN					Sn		**Sn**	**22 58 02.7**	**-4.1**
	comp=Z,4μm,0.7s,baz=261,slow=0.0								
PYUN	**Piuthan**	**8.65**	**275**	Pn			**Pn**	**22 56 29.2**	**+0.1**
	baz=272,slow=0.0								
PYUN					Sn		**Sn**	**22 58 04.2**	**-2.6**
	comp=Z,4μm,0.7s,baz=272,slow=0.0								
GOMU	**GeErMu**	**8.70**	**11**	P			**Pn**	**22 56 30.6**	**+0.8**
GOMU				S			**Sn**	**22 58 10.5**	**+2.5**
GOMU				pmax			pmax		
	comp=Z,24nm,0.8s								
GOMU					LR		LR		
	comp=Z,4μm,10.8s								
GOMU					LR		LR		
	comp=Z,1μm,10.9s								
GOMU					LR		LR		
	comp=Z,6μm,10.4s								
KMI	**Kunming**	**9.30**	**103**	P			**Pn**	**22 56 39.4**	**+1.4**
KMI				S			**Sn**	**22 58 26.9**	**+4.2**
KMI				pmax			pmax		
	comp=Z,64nm,0.9s								
KMI					LR		LR		
	comp=Z,3μm,13.6s								
KMI					LR		LR		
	comp=Z,3μm,13.4s								
KMI					LR		LR		
	comp=Z,4μm,16.9s								
ALBI	**Allahabad**	**10.08**	**259**	*eP*			**Pn**	**22 56 47.3**	**-1.2**
ALBI					IAmb		IAmb	22 57 14.2	
	comp=Z,202nm,0.7s								
ALBI				*eS*			**Sn**	**22 58 38.0**	**-3.6**
CD2	**Chengdu**	**10.14**	**69**	P			**Pn**	**22 56 52.6**	**+3.3**
CD2				S			**Sn**	**22 58 45.5**	**+2.5**
CD2				pmax			pmax		
	comp=Z,100nm,5.0s								
CD2					LR		LR		
	comp=Z,5μm,9.0s								
CD2					LR		LR		
	comp=Z,2μm,10.0s								
CHTO	**Chiang Mai**	**10.47**	**146**				**Pn**	**22 56 54.9**	**+1.0**
CHTO	**Chiang Mai**	**10.47**	**146**	P			**Pn**	**22 56 55.7**	**+1.8**
CHTO	**Chiang Mai**	**10.47**	**146**	P			**Pn**	**22 56 55.3**	**+1.4**
CHTO	**Chiang Mai**	**10.47**	**146**	P			**Pn**	**22 56 54.9**	**+1.0**
CM31	**Chiang Mai Arr**	**10.78**	**147**				**Pn**	**22 56 59.3**	**+1.2**
CM31	**Chiang Mai Arr**	**10.78**	**147**	P			**Pn**	**22 57 00.6**	**+2.6**
CMAR	**Chiang Mai Arr**	**10.78**	**147**				**Pn**	**22 56 59.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**10.78**	**147**	Pn			**Pn**	**22 56 59.8**	**+1.7**
	comp=Z,9.0nm,0.3s,baz=317,slow=13,SNR=298								
CMAR					LR		LR	23 01 50.5	
	comp=Z,2μm,20.5s,baz=330,slow=41								
CMAR					ScP		**ScP**	**23 06 30.9**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=298,slow=2.9,SNR=4.7								
	comp=Z,60nm,0.7s								
BLSP	**Bilaspur**	**11.10**	**243**	*eP*			**Pn**	**22 57 01.1**	**-1.3**
BLSP					IAmb		IAmb	22 57 04.4	
	comp=Z,181nm,0.3s								
BLSP				*eS*			Sn	22 58 57.3	-9.2
LGTI	**Lohaghat**	**11.14**	**282**	*eP*			**Pn**	**22 57 02.8**	**-0.2**
LGTI					IAmb		IAmb	22 57 12.2	
	comp=Z,197nm,0.6s								
LGTI				*eS*			**Sn**	**22 59 00.2**	**-7.3**
PTH	**Pithoragarh**	**11.18**	**283**	*eP*			**Pn**	**22 57 01.7**	**-2.0**
PTH					IAmb		IAmb	22 57 11.4	
	comp=Z,256nm,1.0s								
PTH				*eS*			Sn	22 58 58.2	-11
SLVN	**Son La**	**11.94**	**119**				**Pn**	**22 57 14.4**	**+0.4**
GYA	**Guiyang**	**12.45**	**92**	⇓P			**Pn**	**22 57 21.8**	**+0.7**
GYA				pmax			pmax		
	comp=Z,110nm,0.7s								
LZH	**Lanzhou**	**12.62**	**45**	⇑P			**Pn**	**22 57 23.3**	**-0.1**
LZH				S			**Sn**	**22 59 49.6**	**+5.7**
LZH				SS			**SnSn**	**23 00 02.8**	**+6.6**
LZH				pmax			pmax		
	comp=Z,140nm,1.3s								
LZH				pmax			pmax		
	comp=Z,260nm,4.8s								
LZH					LR		LR		
	comp=Z,6μm,11.3s								
LZH					LR		LR		
	comp=Z,5μm,11.7s								
LZH					LR		LR		
	comp=Z,2μm,12.0s								
JHNI	**Jhansi**	**12.91**	**264**	*eP*			**Pn**	**22 57 24.6**	**-2.6**
JHNI					IAmb		IAmb	22 57 34.4	
	comp=Z,82nm,0.7s								
JHNI				*eS*			Sn	22 59 38.0	-13
GTA	**Gaotai**	**13.11**	**25**	*eP*			**Pn**	**22 57 30.1**	**0.0**
GTA				sP			P	22 57 39.6	-0.7
GTA				PcP			**PcP**	**23 03 03.5**	**+1.6**
GTA				ScP			**ScP**	**23 06 34.6**	**-0.4**
GTA				ScS			**ScS**	**23 10 09.8**	**-1.9**
GTA				pmax			pmax		
	comp=Z,73nm,0.6s								
GTA					LR		LR		
	comp=Z,2μm,12.7s								
GTA					LR		LR		
	comp=Z,2μm,12.0s								
GTA					LR		LR		
	comp=Z,2μm,12.7s								
UGON	**Onchagaon**	**13.14**	**276**	IAmb			IAmb	22 57 28.2	
	comp=Z,985nm,1.2s								
UGON				*eP*			**Pn**	**22 57 28.2**	**-2.1**
UGON				*eS*			Sn	22 59 44.2	-12
DDI	**Dehra Dun**	**13.14**	**285**	*eP*			**Pn**	**22 57 27.9**	**-2.5**
DDI					IAmb		IAmb	22 57 32.5	
	comp=Z,352nm,0.6s								
DDI				*eS*			Sn	22 59 43.7	-13
KLP	**Kalpa**	**13.20**	**291**	*eP*			**Pn**	**22 57 28.5**	**-2.9**
KLP					IAmb		IAmb	22 57 55.8	
	comp=Z,168nm,0.7s								
KLP				*eS*			Sn	22 59 44.7	-14
NPLP	**NPLP New Delhi**	**13.79**	**278**	*eP*			**Pn**	**22 57 38.2**	**-1.0**
NPLP					IAmb		IAmb

WMQ pmax pmax
comp=Z,440nm,3.6s
WMQ LR LR
comp=Z,3μm,13.9s
WMQ LR LR
comp=Z,2μm,12.1s
WMQ LR LR
comp=Z,2μm,18.5s
UBPT Khong Chiam 17.06 134 Pn 22 58 23.0 +0.7
UBPT Khong Chiam 17.06 134 P **P** **22 58 24.0 -0.1**
NIL Nilore 17.80 294 P **Pn** **22 58 27.9 -3.7**
NIL IAmb IAmb 22 58 40.6
comp=Z,299nm,1.2s
NIL Nilore 17.80 294 P **Pn** **22 58 28.5 -3.1**
NIL Nilore 17.80 294 P **Pn** **22 58 27.9 -3.7**
NIL pmax pmax
comp=Z,299nm,1.2s
CNSH ChangSha 17.84 84 P **Pn** **22 58 30.1 -1.9**
CNSH S **Sn** **23 01 46.1 -4.7**
CNSH pmax pmax
comp=Z,54nm,0.7s
CNSH LR LR
comp=Z,900nm,9.7s
QIZ Qiongzhong 17.87 115 P **P** **22 58 33.0 -0.1**
QIZ Qiongzhong 17.87 115 P **Pn** **22 58 32.6 +0.2**
QIZ S **Sn** **23 01 53.0 +1.4**
QIZ pmax pmax
comp=Z,110nm,1.0s
QIZ pmax pmax
comp=Z,370nm,2.8s
QIZ LR LR
comp=Z,290nm,11.8s
QIZ LR LR
comp=Z,750nm,17.0s
QIZ LR LR
comp=Z,2μm,15.0s
QIZ Qiongzhong 17.87 115 P **P** **22 58 33.9 +0.9**
LYN LuoYang 18.21 63 ⇓P **P** **22 58 38.0 +1.3**
LYN sP sP 22 58 44.9 +2.0
LYN sS S 23 02 04.4 -0.6
LYN pmax pmax
comp=Z,52nm,0.9s
LYN LR LR
comp=Z,2μm,10.0s
LYN LR LR
comp=Z,930nm,10.0s
LYN LR LR
comp=Z,610nm,7.9s
KSH Kashi 18.28 315 P **Pn** **22 58 37.4 -0.1**
KSH sP sP 22 58 45.6 +1.9
KSH S **S** **23 02 07.6 +1.0**
KSH pmax pmax
comp=Z,88nm,1.2s
KSH LR LR
comp=N,870nm,14.1s
KSH LR LR
comp=E,2μm,18.5s
KSH LR LR
comp=Z,2μm,21.0s
TARG Taragay, Kyrgy 18.62 323 P **P** **22 58 41.6 -0.1**
TARG IAmb IAmb 22 58 49.7
comp=Z,256nm,1.2s
TARG Taragay, Kyrgy 18.62 323 P **P** **22 58 41.6 -0.1**
TARG pmax pmax
comp=Z,256nm,1.2s
SHLS Shalkode 18.85 329 *e*P **P** **22 58 41.3 -2.5**
SHLS Shalkode 18.85 329 *e*P **P** **22 58 41.4 -2.5**
PDGK Podgornoye 18.97 329 P **Pn** **22 58 45.7 -0.1**
WHN Wuhan 19.09 76 ⇑P **P** **22 58 46.3 -0.1**
WHN sP **sP** **22 58 52.8 +0.7**
WHN S **Sn** **23 02 17.5 -3.4**
WHN pmax pmax
comp=Z,250nm,0.8s
WHN LR LR
comp=Z,3μm,14.2s
BTO Baotou 19.22 43 *e*P **P** **22 58 47.3 -0.6**
BTO sP **sP** **22 58 53.8 -0.2**
BTO PP **PnPn** **22 59 02.4 +0.7**
BTO S **Sn** **23 02 22.6 -1.6**
BTO pmax pmax
comp=Z,110nm,0.9s
BTO pmax pmax
comp=Z,340nm,3.7s
BTO LR LR
comp=Z,3μm,13.4s
BTO LR LR
comp=Z,2μm,11.8s
BTO LR LR
comp=Z,2μm,10.4s
KDJ Kajisay 19.24 323 P **P** **22 58 47.5 -0.7**
KDJ IAmb IAmb 22 58 52.9
comp=Z,139nm,0.9s
KDJ Kajisay 19.24 323 P **P** **22 58 47.5 -0.7**
KDJ pmax pmax
comp=Z,139nm,0.9s
SATY Saty 19.28 327 *e*P **P** **22 58 48.4 -0.1**
SATY pmax pmax
comp=Z,89nm,0.9s
SATY Saty 19.28 327 *e*P **P** **22 58 48.5 -0.1**
comp=Z,89nm,0.9s
TIY Taiyuan 19.33 54 P **P** **22 58 48.6 -0.5**
TIY S **Sn** **23 02 23.0 -3.8**
TIY pmax pmax
comp=Z,58nm,0.6s
TIY LR LR
comp=Z,1μm,11.6s
TIY LR LR
comp=Z,840nm,9.8s
TIY LR LR
comp=Z,510nm,11.1s
NRN Naryn 19.43 319 P **Pn** **22 58 51.9 +0.3**
NRN Naryn 19.43 319 P **Pn** **22 58 51.9 +0.3**
NRN pmax pmax
comp=Z,107nm,1.2s
ULHL Ulahol 19.83 322 P **Pn** **22 58 57.0 +0.8**
SNR=32
TNSS Tian-Shan 19.99 324 *e*P **P** **22 58 56.1 -0.6**
TNSS Tian-Shan 19.99 324 *e*P **P** **22 58 56.2 -0.5**
BOOM Boomskoye usch 20.16 322 P Pn 22 58 59.2 -0.8
BOOM IAmb IAmb 22 59 27.5
comp=Z,153nm,1.2s
BOOM Boomskoye usch 20.16 322 P Pn 22 58 59.3 -0.7
BOOM pmax pmax
comp=Z,153nm,1.2s
HHC Hu-ho-hao-te 20.32 45 *e*P **P** **22 59 00.3 +0.5**
HHC S **S** **23 02 45.1 -2.4**
HHC sS sS 23 02 52.8 -1.3
HHC pmax pmax
comp=Z,28nm,1.0s
HHC pmax pmax
comp=Z,130nm,3.6s
HHC LR LR
comp=Z,880nm,10.6s
HHC LR LR
comp=Z,660nm,9.0s
HHC LR LR
comp=Z,990nm,12.1s
CHKK Chushkaly 20.56 326 *e*P **P** **22 59 02.5 +0.1**
CHKK Chushkaly 20.56 326 *e*P **P** **22 59 02.5 +0.1**
TKM2 Tokmak 2 20.63 322 P Pn 22 59 05.4 -0.3
SNR=229
ZSN Zaisan 20.71 345 *e*P **P** **22 59 04.1 +0.2**
ZSN pmax pmax
comp=Z,54nm,1.0s
ZSN Zaisan 20.71 345 *e*P **P** **22 59 04.2 +0.2**
comp=Z,54nm,1.0s
TDK Taldyqorghan 20.76 330 *e*P **P** **22 59 04.6 +0.1**
TDK pmax pmax
comp=Z,135nm,1.3s
TDK Taldyqorghan 20.76 330 *e*P **P** **22 59 04.7 +0.1**
comp=Z,135nm,1.3s
UCH Uchtor 20.80 319 P Pn 22 59 07.2 -0.6
SNR=49
MK31 Makanchi Array 20.81 339 *i* P **P** **22 59 05.2 +0.2**
MK31 pmax pmax
comp=Z,58nm,0.6s
MKAR Makanchi Array 20.81 339 **P** **22 59 04.5 -0.5**
MKAR Makanchi Array 20.81 339 P **P** **22 59 05.0 0.0**
comp=Z,44nm,0.6s,baz=146,slow=14,SNR=540
MKAR PcP **PcP** **23 03 14.0 +0.3**
comp=Z,8.1nm,0.5s,baz=174,slow=2.0,SNR=14
MKAR ScP **ScP** **23 06 48.4 -1.8**
comp=Z,4.5nm,1.0s,baz=129,slow=3.3,SNR=8.4
MKAR LR LR 23 08 46.3
comp=Z,529nm,20.4s,baz=92,slow=41
MKAR P3KPbc 23 33 04.5
comp=Z,0.6nm,0.8s,baz=5.1,slow=6.5,SNR=6.0
comp=Z,44nm,0.6s
KBK Karagaybulak 20.82 321 P Pn 22 59 07.8 -0.1
SNR=75
HNS HongShan 20.86 57 ⇑P **P** **22 59 05.6 -0.1**
HNS S **S** **23 02 57.3 -0.8**
HNS pmax pmax
comp=Z,130nm,0.8s
HNS LR LR
comp=Z,530nm,7.7s
HNS LR LR
comp=Z,690nm,9.4s
HNS LR LR
comp=Z,510nm,11.2s
KUU Kurty 20.91 325 *e*P **P** **22 59 06.1 -0.1**
KUU pmax pmax
comp=Z,88nm,0.8s
KUU Kurty 20.91 325 *e*P **P** **22 59 06.1 -0.1**
comp=Z,88nm,0.8s
MAKZ Makanchi 20.92 339 **P** **22 59 06.3 0.0**
MAKZ Makanchi 20.92 339 P **P** **22 59 06.3 0.0**
MAKZ pmax pmax
comp=Z,67nm,0.6s
DRK Karamyk 21.02 309 IAmb IAmb 22 59 13.6
comp=Z,153nm,0.8s
AAK Ala-Archa 21.06 320 P **P** **22 59 10.1 +2.1**
SNR=28
AAK Ala-Archa 21.06 320 **P** **22 59 09.1 +1.1**
AAK IAmb IAmb 22 59 15.7
comp=Z,126nm,1.1s
AAK Ala-Archa 21.06 320 P **P** **22 59 09.5 +1.5**
comp=Z,69nm,0.6s,baz=142,slow=7.4,SNR=62
AAK LR LR 23 08 19.5
comp=Z,690nm,21.2s,baz=122,slow=40
comp=Z,69nm,0.6s
AAK Ala-Archa 21.06 320 P **P** **22 59 10.6 +2.6**
AAK P **P** **22 59 10.6 +2.6**
AAK S **S** **23 03 03.3 +0.9**
AAK S **S** **23 03 03.3 +0.9**
AAK Ala-Archa 21.06 320*c i*P **P** **22 59 10.0 +2.0**
AAK pmax pmax
comp=Z,140nm,1.3s
AAK Ala-Archa 21.06 320 *i* P **P** **22 59 10.1 +2.1**
SNR=39
FRU1 Bishkek 21.10 321 P **P** **22 59 09.6 +1.4**
FRU1 IAmb IAmb 22 59 24.6
comp=Z,218nm,1.2s
FRU1 Bishkek 21.10 321 P **P** **22 59 09.6 +1.4**
FRU1 pmax pmax
comp=Z,218nm,1.2s
CHMS Chumysh 21.15 321 P **P** **22 59 10.2 +1.4**
SNR=31
ARSB Arslanbob 21.19 315 P **P** **22 59 09.6 +0.3**
ARSB IAmb IAmb 22 59 20.6
comp=Z,151nm,0.9s
ARSB Arslanbob 21.19 315 P **P** **22 59 09.6 +0.3**
ARSB pmax pmax
comp=Z,151nm,0.9s
KBL Kabul 21.41 295 **P** **22 59 12.7 +0.9**
KBL Kabul 21.41 295 P **P** **22 59 12.9 +1.0**
KBL S **S** **23 03 08.8 -0.6**
KBL Kabul 21.41 295 P **P** **22 59 12.7 +0.9**
KBL pmax pmax
comp=Z,433nm,0.6s
USP Ospenovka 21.46 321 P **P** **22 59 13.3 +1.1**
SNR=70
DLV Lat 21.48 134 **P** **22 59 13.2 +0.5**
DLV IAmb IAmb 22 59 23.2
comp=Z,216nm,1.0s
EKS2 Erkin-Say 21.49 319 P **P** **22 59 14.6 +2.0**
SNR=146
SGDS Sogindy 21.51 322 *e*P **P** **22 59 12.7 0.0**
GAR Garm 21.84 307 **P** **22 59 16.7 +0.4**
BTK Batken 21.96 310 **P** **22 59 18.1 +0.6**
BTK Batken 21.96 310 P **P** **22 59 18.1 +0.6**
BTK pmax pmax
comp=Z,404nm,0.9s
TIA Tai'an 22.33 61 P **P** **22 59 21.0 -0.5**
TIA S **S** **23 03 30.3 +3.5**
TIA pmax pmax
comp=Z,54nm,1.1s
TIA LR LR
comp=Z,630nm,10.8s
TIA LR LR
comp=Z,480nm,5.1s
TIA LR LR
comp=Z,480nm,10.8s
SIMJ Simiganj 22.65 305 **P** **22 59 24.3 -0.7**
SIMJ IAmb IAmb 22 59 34.8
comp=Z,136nm,1.1s
LHMI Lhok Sumawe 22.66 169 P **P** **22 59 26.4 +1.4**
LHMI Lhok Sumawe 22.66 169 P **P** **22 59 26.5 +1.4**
SONM Songino Array 22.79 24 **P** **22 59 25.9 -0.5**
SONM Songino Array 22.79 24 P **P** **22 59 26.5 +0.1**
comp=Z,28nm,0.5s,baz=215,slow=13,SNR=125
SONM ScP **ScP** **23 06 54.4 -1.0**
comp=Z,0.7nm,0.7s,baz=270,slow=2.8,SNR=3.5
SONM LR LR 23 09 04.0
comp=Z,496nm,20.8s,baz=207,slow=39
comp=Z,28nm,0.5s
SONM Songino Array 22.79 24 P **P** **22 59 25.9 -0.5**
SONM pmax pmax
comp=Z,124nm,1.4s
DZET Dzherino 22.83 305 P **P** **22 59 26.5 -0.4**
DZET pmax pmax
comp=Z,126nm,1.0s
BTLS Baital 22.89 324 *e*P **P** **22 59 27.2 -0.1**
BTLS pmax pmax
comp=Z,48nm,0.8s
BTLS Baital 22.89 324 *e*P **P** **22 59 27.2 -0.1**
comp=Z,48nm,0.8s
BJT Baijiatuau 22.95 51 P **P** **22 59 28.1 +0.1**
BJT IAmb IAmb 22 59 30.9
comp=Z,77nm,0.7s
BJT Baijiatuau 22.95 51 P **P** **22 59 29.1 +1.1**
BJT Baijiatuau 22.95 51 P **P** **22 59 28.1 +0.1**
BJT pmax pmax
comp=Z,77nm,0.7s
BJI Beijing 22.97 51 P **P** **22 59 29.3 +1.2**
BJI S **S** **23 03 37.5 -0.7**
BJI pmax pmax
comp=Z,54nm,0.7s
BJI pmax pmax
comp=Z,44nm,4.2s
BJI LR LR
comp=Z,560nm,15.8s
BJI LR LR
comp=Z,320nm,17.6s
BJI LR LR
comp=Z,500nm,15.5s
NJ2 Nanjing 23.03 73 *e*P **P** **22 59 28.3 -0.6**
NJ2 pmax pmax
comp=Z,48nm,0.7s
NJ2 pmax pmax
comp=Z,1μm,4.3s
ULN Ulaanbaatar 23.06 25 **P** **22 59 28.4 -0.8**
ULN IAmb IAmb 22 59 29.9
comp=Z,60nm,0.6s
ULN Ulaanbaatar 23.06 25 P **P** **22 59 29.1 -0.1**
ULN S **S** **23 03 39.8 -0.2**
ULN Ulaanbaatar 23.06 25*c i*P **P** **22 59 28.9 -0.3**
ULN pmax pmax
comp=Z,83nm,1.0s
DZA Taraz 23.08 317 *e*P **P** **22 59 29.4 0.0**
DZA Taraz 23.08 317 *e*P **P** **22 59 29.4 0.0**
KNMB Chin-men Tao 23.23 92 P **P** **22 59 28.9 -2.1**
PALK Pallekele 23.27 212 LR LR 23 11 32.6
comp=Z,614nm,19.4s,baz=34,slow=44
PALK Pallekele 23.27 212 P **P** **22 59 32.8 +1.3**
QZH Quanzhou 23.31 91 *e*P **P** **22 59 26.0 -5.8**
QZH S **S** **23 03 41.9 -2.3**
QZH LR LR
comp=E,2μm,14.4s
QZH LR LR
comp=Z,2μm,13.4s
KULM Kulim 23.48 160 **P** **22 59 33.3 -0.2**
KULM Kulim 23.48 160 P **P** **22 59 34.2 +0.7**
IUG Iuzhnay 23.49 314 *e*P **P** **22 59 33.4 -0.2**
IUG pmax pmax
comp=Z,44nm,0.8s
IUG Iuzhnay 23.49 314 *e*P **P** **22 59 33.4 -0.2**
comp=Z,44nm,0.8s
KK31 Karatay Array 23.70 316 **P** **22 59 35.7 +0.2**
KK31 Karatay Array 23.70 316 P **P** **22 59 35.7 +0.2**
KK31 pmax pmax
comp=Z,28nm,0.8s
KKAR Karatay Array 23.70 316 **P** **22 59 35.3 -0.2**
KKAR Karatay Array 23.70 316 P **P** **22 59 35.3 -0.2**
CHM Chimkent 23.85 314 *e*P **P** **22 59 37.2 +0.2**
CHM Chimkent 23.85 314 *e*P **P** **22 59 37.2 +0.2**
BRLS Boroldav 24.08 316 *e*P **P** **22 59 38.9 -0.2**
BRLS pmax pmax
comp=Z,48nm,1.4s
BRLS Boroldav 24.08 316 *e*P **P** **22 59 38.9 -0.2**
comp=Z,48nm,1.4s
ZAK Zakamensk 24.08 17 *e*P **P** **22 59 39.1 0.0**
ZAK pmax pmax
comp=Z,47nm,0.9s
IPM Ipoh 24.36 160 **P** **22 59 41.2 -0.7**
IPM IAmb IAmb 22 59 43.5
comp=Z,142nm,1.5s
IPM Ipoh 24.36 160 P **P** **22 59 41.5 -0.4**
TSI Tuntungan 24.65 166 P **P** **22 59 43.3 -1.2**
MOY Mondy 24.77 12 *e*P **P** **22 59 46.2 +0.7**
MOY pmax pmax
comp=Z,48nm,1.9s
XLT XiLinHaoTe 24.79 43 *e*P **P** **22 59 46.8 +1.1**
XLT S **S** **23 04 15.8 +7.8**
XLT pmax pmax
comp=Z,98nm,1.2s
XLT LR LR
comp=Z,530nm,12.7s
XLT LR LR
comp=Z,710nm,13.5s
KURBB Kurchatov Arra 25.36 339 P **P** **22 59 51.1 +0.5**
comp=Z,72nm,0.8s,baz=151,slow=10,SNR=176
KURBB PcP **PcP** **23 03 23.3 +0.3**
comp=Z,6.9nm,0.6s,baz=160,slow=1.9,SNR=6.0
KURBB ScP **ScP** **23 06 59.7 -2.4**
comp=Z,1.8nm,0.3s,baz=157,slow=2.4,SNR=11
KURBB LR LR 23 11 17.9
comp=Z,586nm,21.6s,baz=192,slow=40
KURBB P3KPbc 23 32 49.6
comp=Z,0.7nm,0.4s,baz=324,slow=5.3,SNR=9.8
comp=Z,72nm,0.8s
KURBB Kurchatov Arra 25.36 339 P **P** **22 59 50.4 -0.3**
PSI Prapat 25.41 166 LR LR 23 12 14.1
comp=Z,362nm,18.6s,baz=330,slow=42
PSI Prapat 25.41 166 P **P** **22 59 52.4 +0.9**
PSI Prapat 25.41 166 P **P** **22 59 52.0 +0.5**
PSI pmax pmax
comp=Z,72nm,0.8s
KURK Kurchatov 25.42 339 **P** **22 59 50.9 -0.2**
KURK IAmb IAmb 22 59 54.7
comp=Z,115nm,0.9s
KURK Kurchatov 25.42 339 P **P** **22 59 52.2 +1.0**
KURK Kurchatov 25.42 339*c i*P **P** **22 59 51.4 +0.3**
KURK pmax pmax
comp=Z,179nm,1.3s
RPSI Rantau Prapat 25.51 166 **P** **22 59 52.0 -0.3**
RPSI IAmb IAmb 22 59 53.5
comp=Z,72nm,0.8s
SSLB Suanglung 25.67 92 **P** **22 59 53.6 -0.1**
YHNB Yeheng 25.84 90 P **P** **22 59 56.1 +0.8**
TWG Pinlang 26.03 94 P **P** **22 59 58.2 +1.2**
TWG IAmb IAmb 23 00 00.3
comp=Z,48nm,0.8s
IRK Irkutsk 26.03 16 *e*P **P** **22 59 57.8 +1.0**
IRK pmax pmax
comp=Z,135nm,1.3s
YULB Yu-li 26.08 93 **P** **22 59 57.6 +0.2**
NACB Ninganchiao 26.14 91 P **P** **22 59 58.7 +0.6**
NACB IAmb IAmb 23 00 01.1
comp=Z,88nm,1.0s
NACB Ninganchiao 26.14 91 P **P** **22 59 58.2 +0.2**
DL2 Dalian 26.51 58 P **P** **23 00 01.6 +0.4**
DL2 S **S** **23 04 37.4 +2.3**
DL2 pmax pmax
comp=Z,110nm,0.8s
DL2 pmax pmax
comp=Z,590nm,4.0s
DL2 LR LR
comp=Z,540nm,5.6s
DL2 LR LR
comp=Z,790nm,5.7s
DL2 LR LR
comp=Z,580nm,8.2s
GSI Gunungsitoli 26.60 169 P **P** **23 00 03.4 +1.2**
GSI Gunungsitoli 26.60 169 P **P** **23 00 02.5 +0.3**
comp=Z,219nm,0.7s
ZALV Zalesovo Beam 26.91 350 P **P** **23 00 04.7 +0.1**
ZALV Zalesovo Beam 26.91 350 P **P** **23 00 04.8 +0.2**
comp=Z,29nm,0.4s,baz=170,slow=7.8,SNR=150
ZALV LR LR 23 12 00.7
comp=Z,788nm,21.4s,baz=151,slow=39
comp=Z,29nm,0.4s
ZALV Zalesovo Beam 26.91 350 *i* P **P** **23 00 04.9 +0.2**
ZALV pmax pmax
comp=Z,30nm,0.4s
BRZS Berezniki 27.07 331 *e*P **P** **23 00 06.3 +0.2**
BRZS Berezniki 27.07 331 *e*P **P** **23 00 06.4 +0.2**
MNSI Mandailing Nat 27.50 165 P **P** **23 00 09.4 -0.8**
comp=Z,2μmcomp=Z,167nm,0.9s
BKNI Bangkinang 28.31 162 P **P** **23 00 19.4 +1.9**
SNY Shenyang 28.83 53 ⇓P **P** **23 00 21.8 -0.1**
SNY pmax pmax
comp=Z,26nm,0.8s
PPI Padang Panjang 28.90 164 P **P** **23 00 21.9 -0.8**
comp=Z,62nm,0.9s
TGY Tagaytay City 29.49 111 LR LR 23 12 12.7
comp=Z,248nm,20.6s,baz=4.5,slow=36
HIA Hailar 29.93 37 P **P** **23 00 32.4 +0.7**
HIA IAmb IAmb 23 00 33.9
comp=Z,33nm,0.5s
HIA Hailar 29.93 37 P **P** **23 00 33.2 +1.5**
HIA Hailar 29.93 37 P **P** **23 00 32.4 +0.7**
HIA pmax pmax
comp=Z,33nm,0.5s
BVA0 Borovoye Array 30.30 333 P **P** **23 00 35.1 +0.3**
BVAR Borovoye Array 30.30 333 P **P** **23 00 35.4 +0.6**
comp=Z,13nm,0.4s,baz=139,slow=12,SNR=141
BVAR PcP **PcP** **23 03 35.2 +0.2**
comp=Z,5.3nm,0.5s,baz=158,slow=2.2,SNR=7.0
BVAR ScP **ScP** **23 07 14.9 -2.3**
comp=Z,3.5nm,0.8s,baz=146,slow=3.4,SNR=4.9
BVAR LR LR 23 14 17.3
comp=Z,2μm,18.2s,baz=141,slow=39
BVAR P3KPbc 23 32 28.8
comp=Z,1.4nm,0.6s,baz=309,slow=4.6,SNR=10.0
comp=Z,13nm,0.4s
BRVK Borovoye 30.36 333 **P** **23 00 35.4 +0.1**
BRVK Borovoye 30.36 333 P **P** **23 00 36.1 +0.7**
BRVK P **P** **23 00 36.1 +0.7**
BRVK Borovoye 30.36 333*c i*P **P** **23 00 35.5 +0.1**
BRVK pmax pmax
comp=Z,30nm,1.2s
TJN Taejon 30.48 65 P **P** **23 00 37.3 +0.7**
JLN Jalan Bani Buh 30.68 267 P **P** **23 00 38.9 +0.4**
SNR=6.9
CN2 Changchun 30.80 50 P **P** **23 00 40.1 +0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,1μm,11.0s
CN2 LR LR
comp=Z,500nm,11.0s
CN2 LR LR
comp=Z,400nm,10.0s
KKM Kota Kinabalu 30.96 130 **P** **23 00 41.3 +0.2**
KKM IAmb IAmb 23 00 43.7
comp=Z,54nm,1.3s
KSAR Wonju Array Be 31.03 63 P **P** **23 00 40.1 -1.3**
KSAR Wonju Array Be 31.03 63 P **P** **23 00 40.1 -1.3**
KSRS Korea Array 31.06 63 P **P** **23 00 40.6 -1.1**
comp=Z,5.7nm,0.5s,baz=254,slow=8.8,SNR=20
KSRS PcP **PcP** **23 03 37.5 +0.2**
comp=Z,2.3nm,0.7s,baz=263,slow=2.4,SNR=4.9
KSRS ScP **ScP** **23 07 17.1 -2.9**
comp=Z,1.7nm,0.9s,baz=236,slow=4.2,SNR=5.6
KSRS LR LR 23 15 03.4
comp=Z,162μm,19.6s,baz=260,slow=40
comp=Z,5.7nm,0.5s
WSAR Wadi Sarin 31.07 270 P **P** **23 00 42.5 +0.5**
SBUM Sibu 31.22 140 P **P** **23 00 43.9 +0.6**
BIDO Bidbid 31.44 270 P **P** **23 00 45.9 +0.6**
JOW Kunigami 31.52 83 LR LR 23 15 30.5
comp=Z,406nm,18.1s,baz=98,slow=40
SMDO Samad 31.63 270 P **P** **23 00 47.4 +0.3**
SNR=14
SMDO P **P** **23 00 47.4 +0.3**
SNR=14
JMDO Jabal Madar 31.77 268 P **P** **23 00 48.8 +0.6**

HOQ Hoqain 32.15 271 P **P** 23 00 52.5 +1.0
MHTO MHTO 32.31 266 P **P** 23 00 53.6 +0.7
MHTO P **P** 23 00 53.6 +0.7
BSY Bisya 32.47 269 P **P** 23 00 54.7 +0.3
BSY P **P** 23 00 54.7 +0.3
KSI Kapahiang 32.54 162 P **P** 23 00 54.2 -0.7
MDH Madha 32.65 274 P **P** 23 00 55.4 -0.4
SOHO SOHO 32.70 272 P **P** 23 00 57.6 +1.3
SOHO P **P** 23 00 57.6 +1.3
BNX BinXian 32.80 47 ⇑P **P** 23 00 57.8 +0.9
BNX pmax pmax
comp=Z,83nm,1.0s
UOSS Minazif 32.81 274 P **P** 23 00 57.4 +0.1
HATD Hatta, Dubai 32.90 274 P **P** 23 00 59.4 +1.4
HATD Hatta, Dubai 32.90 274 P **P** 23 00 59.7 +1.7
ARQ Araqi 32.91 271 P **P** 23 00 59.0 +0.8
ARQ P **pP** 23 00 59.2 -3.3
LHSI Lahat 32.98 160 P **P** 23 00 57.1 -1.6
comp=Z,34nm,0.8s
ASHO Ashiyiah 32.99 273 *i* P **P** 23 01 00.1 +1.2
SNR=9.0
AB31 Akbulak array 33.15 320 *i* P **P** 23 01 00.9 +0.9
ABKAR Akbulak array 33.15 320 P **P** 23 01 00.7 +0.7
MYLDM Lahad Datu 33.16 128 **P** 23 01 00.9 +0.6
MYLDM IAmb IAmb 23 01 08.7
comp=Z,53nm,1.0s
MYLDM Lahad Datu 33.16 128 P **P** 23 01 00.5 +0.2
JNU Nakatsue 33.21 71 LR LR 23 16 43.8
comp=Z,239nm,19.6s,baz=262,slow=40
JNU Nakatsue 33.21 71 P **P** 23 01 01.4 +0.7
ALNE Al Ain 33.41 272 P **P** 23 01 03.5 +0.9
ALNE Al Ain 33.41 272 *i* P **P** 23 01 03.2 +0.7
SNR=6.7
MDSI Maura Dua 33.80 159 P **P** 23 01 03.8 -2.1
comp=Z,1µmcomp=Z,46nm,1.0s
MDJ Mudanjiang 33.88 50 P **P** 23 01 06.1 -0.3
MDJ pmax pmax
comp=Z,15nm,0.9s
PSTR Posyet 34.21 54⇑ *e*P **P** 23 01 09.2 0.0
HEH HeiHe 34.68 40 *e*P **P** 23 01 14.3 +1.1
HEH pmax pmax
comp=Z,42nm,0.9s
HEH LR LR
comp=Z,880nm,13.1s
HEH LR LR
comp=Z,630nm,14.5s
HEH LR LR
comp=Z,770nm,10.8s
AKTO Aktyubinsk 34.81 320 LR LR 23 16 38.6
comp=Z,449nm,19.8s,baz=172,slow=38
AKTO Aktyubinsk 34.81 320 P **P** 23 01 14.6 +0.3
VLA Vladivostok 35.09 54 *de*P **P** 23 01 17.3 +0.5
VLA pmax pmax
comp=Z,58nm,0.9s
USA0B Ussuriysk Arra 35.42 52 P **P** 23 01 19.2 -0.5
USA0B Ussuriysk Arra 35.42 52 P **P** 23 01 19.2 -0.5
USA0B pmax pmax
comp=Z,8.0nm,0.8s
USRK Ussuriysk Ar. 35.42 52 P **P** 23 01 19.1 -0.5
comp=Z,5.4nm,0.7s,baz=258,slow=11,SNR=10
comp=Z,5.4nm,0.7s
JRN Qarnain Island 35.77 275 P **P** 23 01 22.9 0.0
JRN P **P** 23 01 22.9 0.0
GHWR Ruwais 35.98 273 P **P** 23 01 24.8 0.0
GHWR P **P** 23 01 24.8 0.0
ZEA Zeya 36.32 35 *e*P **P** 23 01 29.2 +1.9
ZEA pmax pmax
comp=N,50nm,0.8s
ZEA pmax pmax
comp=E,60nm,0.7s
ZEA pmax pmax
comp=Z,130nm,0.7s
ZEA MLR MLR
comp=E,300nm,10.0s
ZEA MLR MLR
comp=N,200nm,9.0s
ZEA MLR MLR
comp=Z,300nm,9.0s
DOK Doka 36.52 264 P **P** 23 01 29.6 +0.2
RBK Rabkut 36.87 262 P **P** 23 01 33.0 +0.5
SVE Sverdlovsk 37.00 331 *de*P **P** 23 01 33.8 +0.8
SVE pmax pmax
comp=Z,66nm,1.0s
SVE MLR MLR
comp=Z,1µm,20.0s
SLWR Sila 37.01 274 P **P** 23 01 33.6 +0.2
DAV Davao City (W) 37.22 117 LR LR 23 19 01.8
comp=Z,193nm,19.7s,baz=310,slow=40
SHMA Al-Shehemyia 37.23 277 P **P** 23 01 36.1 +0.7
TRNA Turayna 37.27 275 P **P** 23 01 35.9 +0.2
SNR=11
SAKB Bahrain 37.59 277 P **P** 23 01 39.0 +0.6
SMRA Abu-Samra 37.61 275 P **P** 23 01 38.8 +0.2
MPSI Mapaga 37.62 132 P **P** 23 01 40.2 +1.4
TOLI2 Tolitoli 37.65 130 **P** 23 01 38.9 -0.1
TOLI2 IAmb IAmb 23 01 48.6
comp=Z,72nm,1.1s
TOLI2 Tolitoli 37.65 130 P **P** 23 01 40.1 +1.1
ARTI Arti 37.73 329 **P** 23 01 39.0 -0.3
ARTI IAmb IAmb 23 01 41.4
comp=Z,30nm,0.4s
ARTI Arti 37.73 329 LR LR 23 19 06.4
comp=Z,1µm,19.5s,baz=117,slow=39
ARTI Arti 37.73 329 *c* P **P** 23 01 38.9 -0.3
ARTI PPP PPP 23 03 24.7
ARTI 23 03 55.4
ARTI S **S** 23 07 31.1 +1.8
ARTI pmax pmax
comp=Z,35nm,1.4s
ARTI MLR MLR
comp=Z,884nm,17.0s
LKRN Lenkeran, Azer 38.10 298 P **P** 23 01 44.2 +1.6
INU Inuyama 38.26 67 P **P** 23 01 43.3 -0.7
SMRI Semarang 38.51 151 P **P** 23 01 47.0 +0.8
SMRI IAmb IAmb 23 02 01.3
comp=Z,78nm,1.0s
SMRI Semarang 38.51 151 P **P** 23 01 46.7 +0.5
comp=Z,105nm,1.1s
PCI Palu 38.51 133 P **P** 23 01 47.2 +0.9
comp=Z,54nm,1.5s
JGF Kuroka 38.53 67 P **P** 23 01 45.1 -1.2
JGF Kuroka 38.53 67 P **P** 23 01 45.9 -0.4
MRSI Marisa 38.90 129 P **P** 23 01 50.7 +1.2
comp=Z,51nm,0.8s
AKT Akhty 39.13 303 *c* P **P** 23 01 52.2 +0.8
AKT *e* 23 03 22.1
AKT *e*S **S** 23 07 49.4 -1.6
AKT pmax pmax
comp=Z,105nm,0.8s
AKT MLR MLR
comp=Z,604nm,19.0s
MJB9 Matsu-Tunnel 39.21 65 P **P** 23 01 51.5 -0.5
MAJO Matsushiro 39.21 65 **P** 23 01 51.2 -0.7
MAJO Matsushiro 39.21 65 P **P** 23 01 51.9 -0.1
MAJO Matsushiro 39.21 65 *d* P **P** 23 01 51.0 -1.0
MAJO pmax pmax
comp=Z,22nm,0.9s
MJAR Matsushiro Arr 39.21 65 **P** 23 01 51.8 -0.2
MJAR Matsushiro Arr 39.21 65 P **P** 23 01 51.6 -0.4
comp=Z,35nm,1.1s,baz=273,slow=8.2,SNR=62
MJAR PcP **PcP** 23 04 00.3 -0.8
comp=Z,3.8nm,0.6s,baz=221,slow=2.2,SNR=4.9
MJAR ScP **ScP** 23 07 46.7 -2.8
comp=Z,3.8nm,0.9s,baz=268,slow=4.5,SNR=7.2
MJAR LR LR 23 19 09.8
comp=Z,138nm,20.6s,baz=261,slow=38
comp=Z,35nm,1.1s
MJAR Matsushiro Arr 39.21 65 P **P** 23 01 51.8 -0.2
MJAR pmax pmax
comp=Z,27nm,1.2s
MAK Makhachkala 39.47 305 *e*P **P** 23 01 52.4 -1.6
MAK *e* 23 03 22.7
MAK *e*S **S** 23 07 54.6 -1.2
MAK *e*SS **SS** 23 10 47.0 -3.1
MAK pmax pmax
comp=Z,99nm,1.1s
MAK MLR MLR
comp=Z,2µm,19.0s
KBD Kabd 39.48 283 P **P** 23 01 55.3 +1.0
SEKA Sheki 39.50 302 P **P** 23 01 55.2 +0.8
MNGR Mingechevir, A 39.55 301 P **P** 23 01 56.4 +1.7
APSI Ampana 39.71 131 P **P** 23 01 56.3 0.0
comp=Z,916nmcomp=Z,60nm,0.9s
GANJ Ganja 40.12 301 P **P** 23 02 01.0 +1.5

TTSI Tana Toraja 40.14 135 P **P** 23 02 01.0 +1.1
comp=Z,55nm,1.1s
GRNR Gornyy 40.17 43 ⇓ *i* P **P** 23 02 00.2 +0.4
GRNR pmax pmax
comp=E,20nm,0.7s
GRNR pmax pmax
comp=Z,30nm,0.8s
GRNR MLR MLR
comp=E,320nm,18.0s
GRNR MLR MLR
comp=N,210nm,22.0s
GRNR MLR MLR
comp=Z,280nm,14.0s
KMSI Cibinong 40.26 127 P **P** 23 02 01.2 +0.3
LUWI Luwuk 40.57 130 P **P** 23 02 02.3 -1.1
comp=Z,113nm,1.0s
SPSI Sidrap Palu 40.83 136 P **P** 23 02 05.4 -0.1
comp=Z,60nm,1.2s
JMM Marumori 41.27 63 P **P** 23 02 08.2 -0.8
JMM IAmb IAmb 23 02 09.2
comp=Z,68nm,0.7s
JMM Marumori 41.27 63 P **P** 23 02 09.1 +0.1
GNI Garni 41.29 300 **P** 23 02 09.8 +0.4
GNI IAmb IAmb 23 02 27.9
comp=Z,86nm,1.0s
GNI Garni 41.29 300 LR LR 23 21 38.5
comp=Z,376nm,20.6s,baz=100,slow=40
GNI Garni 41.29 300 *c* *i* P **P** 23 02 11.5 +2.1
GNI pmax pmax
comp=Z,77nm,1.0s
GNI MLR MLR
comp=Z,321nm,18.0s
JTM Tenmabayashi 41.55 59 P **P** 23 02 11.6 +0.3
BELG Belogornoye 41.55 319 LR LR 23 23 00.4
comp=Z,222nm,19.7s,baz=96,slow=41
BELG Belogornoye 41.55 319 *c* *i* P **P** 23 02 09.5 -1.6
BELG pmax pmax
comp=Z,8.0nm,1.0s
KAPI Kappang 41.64 137 P **P** 23 02 13.0 +0.7
KAPI Kappang 41.64 137 LR LR 23 22 15.3
comp=Z,299nm,18.8s,baz=294,slow=40
KAPI Kappang 41.64 137 ⇑ *e*P **P** 23 02 12.7 +0.5
KAPI pmax pmax
comp=Z,12nm,0.9s
OZAP Van, Ozalp-Mer 41.84 298 ⇑P **P** 23 02 15.8 +1.8
YAK Yakutsk 42.14 25 **P** 23 02 16.3 +0.5
YAK IAmb IAmb 23 02 17.0
comp=Z,74nm,0.7s
YAK Yakutsk 42.14 25 *c* *i* P **P** 23 02 16.0 +0.2
YAK *e* 23 03 53.5
YAK *e* 23 04 09.5
YAK *e*S **S** 23 08 33.2 -1.9
YAK *e*SS **SS** 23 11 41.5 -1.1
YAK *e* 23 12 15.9
YAK pmax pmax
comp=Z,58nm,0.9s
YAK pmax pmax
comp=E,15nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=Z,26nm,1.1s
YAK pmax pmax
comp=N,15nm,1.5s
YAK pmax pmax
comp=E,18nm,1.8s
YAK smax smax
comp=N,75nm,3.3s
YAK smax smax
comp=E,36nm,3.8s
YAK MLR MLR
comp=Z,700nm,15.0s
YAK MLR MLR
comp=N,458nm,14.0s
YAK MLR MLR
comp=E,512nm,15.0s
GEVA Gevas 42.58 298 P **P** 23 02 20.7 +0.8
KARS Kars 42.58 301 P **P** 23 02 21.2 +1.3
KARS IAmb IAmb 23 02 23.4
comp=Z,102nm,0.9s
KARS Kars 42.58 301 P **P** 23 02 21.2 +1.3
KARS pmax pmax
comp=Z,102nm,0.9s
TNTI Ternate 42.59 123 P **P** 23 02 20.3 +0.2
RAYN Ar Rayn 42.62 275 **P** 23 02 20.7 +0.4
RAYN Ar Rayn 42.62 275 P **P** 23 02 20.9 +0.6
RAYN Ar Rayn 42.62 275 P **P** 23 02 20.7 +0.4
RAYN pmax pmax
comp=Z,18nm,0.6s
RAYN Ar Rayn 42.62 275 *i* P **P** 23 02 20.7 +0.4
SNR=32
KBZ Khabaz 42.90 305 P **P** 23 02 22.1 -0.1
comp=Z,12nm,0.8s,baz=154,slow=3.7,SNR=26
KBZ LR LR 23 22 57.0
comp=Z,592nm,19.2s,baz=88,slow=40
comp=Z,12nm,0.8s
KBZ Khabaz 42.90 305 *c* *i* P **P** 23 02 22.7 +0.5
KBZ pmax pmax
comp=Z,14nm,0.9s
ASAJ Asahikawa 42.92 54 LR LR 23 20 34.5
comp=Z,134nm,19.1s,baz=240,slow=37
ASAJ Asahikawa 42.92 54 P **P** 23 02 22.3 -0.1
ASAJ pmax pmax
comp=Z,33nm,0.8s
JKA Kamikawa-asahi 42.92 54 P **P** 23 02 22.3 -0.1
GOF Gofitskoye 42.93 307 *c* *i* P **P** 23 02 23.4 +0.9
GOF *e*S **S** 23 08 47.1 -0.1
KIRV Kirov 43.01 328 LR LR 23 22 11.4
comp=Z,888nm,18.6s,baz=117,slow=39
KIRV Kirov 43.01 328 *c* *i* P **P** 23 02 23.0 +0.1
KIV Kislovodsk 43.07 306 P **P** 23 02 24.1 +0.3
KIV IAmb IAmb 23 02 34.0
comp=Z,94nm,1.1s
KIV Kislovodsk 43.07 306 P **P** 23 02 25.0 +1.3
KIV P **P** 23 02 25.0 +1.3
KIV Kislovodsk 43.07 306 ⇑P **P** 23 02 24.9 +1.1
KIV Kislovodsk 43.07 306 *e*P **P** 23 02 23.6 -0.1
KIV *e*S **S** 23 08 49.1 -0.4
KIV pmax pmax
comp=Z,60nm,1.0s
KIV pmax pmax
comp=Z,47nm,4.3s
KIV MLR MLR
comp=Z,376nm,16.0s
KIV Kislovodsk 43.07 306 *i* P **P** 23 02 24.6 +0.8
SNR=24
KIV Kislovodsk 43.07 306 P **P** 23 02 24.5 +0.8
comp=Z,722nmcomp=Z,69nm,1.1s
ERM Erimo 43.18 57 P **P** 23 02 24.8 +0.3
ERM IAmb IAmb 23 02 26.0
comp=Z,75nm,1.0s
ERM Erimo 43.18 57 P **P** 23 02 24.9 +0.4
ERM Erimo 43.18 57 *de*P **P** 23 02 24.8 +0.3
ERM pmax pmax
comp=Z,42nm,0.7s
YSS Yuzhno-Sakhali 43.37 50 P **P** 23 02 26.4 +0.5
YSS IAmb IAmb 23 02 27.5
comp=Z,47nm,0.6s
YSS Yuzhno-Sakhali 43.37 50 *e*P **P** 23 02 26.9 +0.9
YSS *e* 23 04 03.9
YSS *e*S **S** 23 08 53.0 -0.6
YSS *e*SS **SS** 23 12 03.4 -3.8
YSS pmax pmax
comp=Z,40nm,0.9s
YSS MLR MLR
comp=Z,200nm,18.0s
YSS MLR MLR
comp=N,200nm,16.0s
YSS MLR MLR
comp=E,300nm,16.0s
GURO Guroymak-BITLI 43.38 298 P **P** 23 02 27.9 +1.6
GURO IAmb IAmb 23 02 29.4
comp=Z,111nm,1.4s
PLAI Plampang 43.61 143 P **P** 23 02 27.6 -0.6
TYV Tymovskoe 44.01 44 *e*P **P** 23 02 32.3 +1.2
TYV pmax pmax
comp=Z,13nm,1.4s
TYV pmax pmax
comp=Z,200nm,3.2s
KOPT Kop Dagi 44.55 300 P **P** 23 02 36.3 +0.4
KOPT IAmb IAmb 23 02 46.5
comp=Z,43nm,1.2s
VRH Novokhopyorsk 44.78 316 *e*P **P** 23 02 37.0 -0.2
VRH pmax pmax
comp=Z,96nm,1.2s
ERBR Yeremizino-Bor 44.79 308 *e*P **P** 23 02 37.3 -0.1

ERBR *e**PP **pP** 23 02 40.7 -1.4
ERBR *e* 23 04 26.7
ERBR *e*S **S** 23 09 13.7 -0.6
ERBR pmax pmax
comp=Z,63nm,0.7s
ERBR MLR MLR
comp=Z,534nm,15.0s
VSLR Vesyoloye 44.96 305 *c* *i* P **P** 23 02 39.5 +0.7
VSLR pmax pmax
comp=Z,66nm,1.0s
NLAI Namlea 45.14 127 P **P** 23 02 42.3 +1.8
comp=Z,44nm,1.1s
WBSI Waikabubak, Su 45.17 141 P **P** 23 02 37.9 -2.8
SOC Sochi 45.19 305 *e*P **P** 23 02 39.7 -0.9
SOC *e* 23 04 24.1
SOC *e*PPP PPP 23 05 02.6
SOC *e*S **S** 23 09 21.1 +0.9
SOC *e*SSS SSS 23 13 27.5
SOC pmax pmax
comp=Z,70nm,1.0s
SOC MLR MLR
comp=Z,285nm,16.0s
WSI Waingapu 45.70 140 P **P** 23 02 42.8 -2.1
EDFI Ende, Flores 45.76 138 P **P** 23 02 42.7 -2.8
comp=Z,37nm,0.9s
MMRI Maumere 46.00 137 P **P** 23 02 45.6 -1.6
MMRI Maumere 46.00 137 P **P** 23 02 45.8 -1.5
comp=Z,91nm,0.8s
ARPR Arapgir-MALATY 46.24 299 P **P** 23 02 50.6 +1.4
VSR Storozhevoye 46.36 316 *e*P **P** 23 02 46.5 -3.3
VSR pmax pmax
comp=Z,20nm,1.1s
VORR Voronezh 46.41 316 *e*P **P** 23 02 49.4 -0.8
VORR pmax pmax
comp=Z,37nm,0.5s
SWI Sorong 46.59 121 P **P** 23 02 51.4 -0.6
comp=Z,2µmcomp=Z,48nm,0.9s
LPSR Galich'ya Gora 46.75 317 *e*P **P** 23 02 49.7 -3.1
LPSR pmax pmax
comp=Z,30nm,1.0s
ANN Anapa 46.88 307 *e*P **P** 23 02 53.0 -0.9
ANN *e**PP **pP** 23 02 56.3 -2.3
ANN *e* 23 04 34.1
ANN *e*S **S** 23 09 42.5 -1.9
ANN pmax pmax
comp=Z,46nm,0.7s
ANN MLR MLR
comp=E,312nm,15.0s
ANN MLR MLR
comp=N,277nm,14.0s
ANN MLR MLR
comp=Z,359nm,15.0s
GAZ Gaziantep 47.26 296 P **P** 23 02 57.6 +0.5
GAZ IAmb IAmb 23 02 59.2
comp=Z,30nm,0.7s
TOKA Tokat 47.62 301 P **P** 23 03 00.6 +0.8
KHAM Kharkiv 48.04 314 P **P** 23 03 03.1 +0.1
BATI Baumata 48.09 137 LR LR 23 25 26.3
comp=Z,524nm,20.9s,baz=291,slow=39
BATI Baumata 48.09 137 P **P** 23 03 01.4 -2.3
comp=Z,39nm,0.8s
SOEI Soe 48.11 136 P **P** 23 03 04.5 +0.6
SOEI Soe 48.11 136 P **P** 23 03 03.0 -0.9
MOS Moscow 48.12 321 *e*P **P** 23 03 02.2 -1.2
MOS pmax pmax
comp=Z,41nm,0.7s
ASF Jabal al Asfar 48.18 290 LR LR 23 26 52.8
comp=Z,240nm,18.5s,baz=85,slow=40
BNN Bunyan 48.20 299 P **P** 23 03 04.8 +0.4
BNN IAmb IAmb 23 03 06.7
comp=Z,53nm,1.3s
TIXI Tiksi 48.33 14 P **P** 23 03 04.6 -0.2
TIXI IAmb IAmb 23 03 05.3
comp=Z,22nm,0.5s
TIXI Tiksi 48.33 14 LR LR 23 24 31.3
comp=Z,246nm,18.7s,baz=199,slow=37
TIXI Tiksi 48.33 14 ⇑ *e*P **P** 23 03 04.0 -0.7
TIXI pmax pmax
comp=Z,17nm,0.9s
TIXI MLR MLR
comp=Z,250nm,14.0s
DIKM Dikmen 48.48 302 ⇓P **P** 23 03 07.7 +1.3
DIKM Dikmen 48.48 302 P **P** 23 03 06.9 +0.5
comp=Z,35nm,1.1s
KLMR Klimovskoe 48.51 328 *e*P **P** 23 03 03.0 -3.3
KLMR *e* 23 04 29.3
KLMR pmax pmax
comp=Z,82nm,1.5s
OBN Obninsk 48.59 320 P **P** 23 03 06.0 -1.0
OBN Obninsk 48.59 320 LR LR 23 25 51.1
comp=Z,574nm,19.2s,baz=36,slow=39
OBN Obninsk 48.59 320 *ce*P **P** 23 03 06.5 -0.5
OBN *i* 23 03 11.0
OBN *i* 23 04 36.5
OBN pmax pmax
comp=Z,23nm,1.0s
OBN MLR MLR
comp=Z,561nm,18.0s
OBN Obninsk 48.59 320 P **P** 23 03 06.4 -0.5
comp=Z,40nm,1.2s
FAKI Fak Fak 48.68 122 P **P** 23 03 07.7 -0.5
FAKI IAmb IAmb 23 03 16.1
comp=Z,44nm,0.8s
FAKI Fak Fak 48.68 122 P **P** 23 03 08.5 +0.3
SIM Simferopol' 49.24 307 *e*P **P** 23 03 09.6 -2.6
SIM pmax pmax
comp=Z,71nm,1.4s
SIM MLR MLR
comp=Z,211nm,21.0s
RKPI Ransiki, Papua 49.24 119 P **P** 23 03 12.8 +0.2
comp=Z,64nm,0.8s
MMAI Mount Meron Ar 49.28 291 P **P** 23 03 14.1 +1.4
comp=Z,2.3nm,0.4s,baz=59,slow=5.0,SNR=24
MMAI LR LR 23 28 33.6
comp=Z,210nm,18.4s,baz=75,slow=42
comp=Z,2.3nm,0.4s
ATD Arta Tunnel 49.34 261 P **P** 23 03 13.9 +0.5
ATD IAmb IAmb 23 03 16.2
comp=Z,28nm,0.8s
ATD Arta Tunnel 49.34 261 LR LR 23 22 43.9
comp=Z,5.2nm,20.9s,baz=76,slow=34
ATD Arta Tunnel 49.34 261 P **P** 23 03 15.0 +1.6
BZK Bozkurt 49.40 303 P **P** 23 03 13.9 +0.5
BZK Bozkurt 49.40 303 ⇓P **P** 23 03 14.4 +0.9
BZK Bozkurt 49.40 303 P **P** 23 03 13.9 +0.5
comp=Z,1µmcomp=Z,127nm,0.9s
GHAJ Ghor Haditha 49.45 289 P **P** 23 03 13.9 -0.1
ILGA Ilgaz 49.67 302 P **P** 23 03 16.7 +0.9
KIRS Kirsehir-Merke 49.67 299 ⇓P **P** 23 03 16.9 +1.3
BR104 Keskin Array S 49.83 300 P **P** 23 03 17.4 +0.4
comp=Z,239nmcomp=Z,30nm,0.9s
BR131 Keskin Array S 49.83 300 IAmb IAmb 23 03 19.3
comp=Z,24nm,0.8s
BR131 Keskin Array S 49.83 300 P **P** 23 03 17.7 +0.7
BR131 Keskin Array S 49.83 300 *c* *i* P **P** 23 03 17.1 +0.1
BRTR Keskin Array B 49.83 300 P **P** 23 03 17.1 +0.1
BRTR Keskin Array B 49.83 300 P **P** 23 03 17.3 +0.3
comp=Z,15nm,0.7s,baz=107,slow=7.7,SNR=90
BRTR ScP **ScP** 23 08 30.6 -2.5
comp=Z,1.3nm,0.9s,baz=116,slow=5.6,SNR=4.1
BRTR LR LR 23 28 26.1
comp=Z,146nm,18.5s,baz=120,slow=41
comp=Z,15nm,0.7s
BR106 Keskin Array S 49.85 300 P **P** 23 03 17.6 +0.5
comp=Z,212nmcomp=Z,29nm,0.9s
BR105 Keskin Array S 49.85 300 P **P** 23 03 17.3 +0.2
comp=Z,257nmcomp=Z,32nm,0.9s
EIL Elat 50.30 287 LR LR 23 28 00.9
comp=Z,420nm,18.2s,baz=75,slow=40
GUMO Guam 50.40 95 LR LR 23 25 45.6
comp=Z,171nm,19.7s,baz=276,slow=37
MA2 Magadan 50.46 34 LR LR 23 26 35.3
comp=Z,94nm,19.1s,baz=252,slow=38
ANTO Ankara 50.47 300 P **P** 23 03 22.4 +0.7
ANTO IAmb IAmb 23 03 24.5
comp=Z,57nm,0.9s
ANTO Ankara 50.47 300 P **P** 23 03 22.8 +1.1
ANTO Ankara 50.47 300 ⇓P **P** 23 03 23.0 +1.3
ANTO Ankara 50.47 300 P **P** 23 03 22.4 +0.7
ANTO pmax pmax
comp=Z,57nm,1.0s
ANTO Ankara 50.47 300 P **P** 23 03 22.4 +0.7
comp=Z,375nmcomp=Z,33nm,1.3s
ANTO pP **sP** 23 03 28.0 0.0
comp=Z,375nmcomp=Z,33nm,1.3s

BAKI **Biak** 50.55 117 P P 23 03 23.6 +1.1
comp=Z,51nm,0.8s
CSS **Mathiatis** 50.66 294 P P 23 03 22.9 -0.2
CSS **Mathiatis** 50.66 294 P P 23 03 23.4 +0.2
comp=Z,20nm,1.1s
SAUI **Saumlaki** 51.43 128 P P 23 03 29.1 0.0
NE56 **Odesa** 51.47 309 P P 23 03 27.8 -1.2
MDUB **Mudurnu** 51.63 301 P P 23 03 31.1 +0.6
SAHE **Sakarya_HENDEK** 51.85 302 ⇓P P 23 03 32.5 +0.5
SEY **Seymchan** 52.00 30 LR LR 23 29 31.6
comp=Z,212nm,18.5s,baz=250,slow=40
SEY **Seymchan** 52.00 30 *de*P P 23 03 33.6 +0.9
SEY pmax pmax
comp=Z,11nm,1.0s
PURM **Purcari** 52.18 309 ⇑P P 23 03 34.2 -0.1
PURM **Purcari** 52.18 309 P P 23 03 34.7 +0.4
comp=Z,2μmcomp=Z,214nm,1.0s
BAL3X **Bal3x, Balta** 52.33 311 P P 23 03 35.7 +0.3
ISP **Isparta** 52.47 298 P P 23 03 36.4 -0.3
ISP IAmb IAmb 23 03 37.5
comp=Z,42nm,0.8s
ISP **Isparta** 52.47 298 *ce*P P 23 03 36.5 -0.3
ISP pmax pmax
comp=Z,12nm,0.6s
AK09 **Malin Array Si** 52.54 314 P P 23 03 36.6 -0.3
AK08 **Malin Array Si** 52.55 314 P P 23 03 36.6 -0.4
AK10 **Malin Array Si** 52.56 314 P P 23 03 36.8 -0.3
AKASG **Malin Array Be** 52.58 314 P P 23 03 36.6 -0.5
AKASG **Malin Array Be** 52.58 314 P P 23 03 36.7 -0.5
comp=Z,4.2nm,0.3s,baz=80,slow=6.7,SNR=87
AKASG ScP ScP 23 08 41.0 -3.5
comp=Z,1.2nm,0.7s,baz=72,slow=4.9,SNR=4.4
AKASG LR LR 23 30 50.3
comp=Z,216nm,18.8s,baz=90,slow=42
comp=Z,4.2nm,0.3s
AKASG **Malin Array Be** 52.58 314 *i* P P 23 03 36.7 -0.5
AKASG pmax pmax
comp=Z,8.0nm,0.3s
AKBB **Malin Array Si** 52.58 314 P P 23 03 36.1 -1.1
AKBB IAmb IAmb 23 03 37.5
comp=Z,26nm,0.8s
AKBB **Malin Array Si** 52.58 314 P P 23 03 36.1 -1.1
AKBB pmax pmax
comp=Z,26nm,0.8s
AKBB **Malin Array Si** 52.58 314 P P 23 03 36.5 -0.7
AK03 **Malin Array Si** 52.58 314 P P 23 03 36.6 -0.6
AK01 **Malin Array Si** 52.58 314 P P 23 03 36.6 -0.6
KIEV **Kiev** 52.59 314 P P 23 03 37.1 -0.2
KIEV **Kiev** 52.59 314 ⇓P P 23 03 37.0 -0.2
KIEV **Kiev** 52.59 314 P P 23 03 37.1 -0.2
KIEV pmax pmax
comp=Z,23nm,0.8s
KIEV **Kiev** 52.59 314 *i* P P 23 03 36.5 -0.8
SNR=29
KIEV **Kiev** 52.59 314 P P 23 03 36.6 -0.7
comp=Z,164nm,1.2s
AK07 **Malin Array Si** 52.59 314 P P 23 03 36.8 -0.5
AK02 **Malin Array Si** 52.59 314 P P 23 03 36.6 -0.7
AK06 **Malin Array Si** 52.59 314 P P 23 03 37.0 -0.3
AK04 **Malin Array Si** 52.61 314 P P 23 03 36.8 -0.7
AK15 **Malin Array Si** 52.64 314 P P 23 03 37.2 -0.5
AK23 **Malin Array Si** 52.64 314 P P 23 03 37.2 -0.5
PUL **Pulkovo** 52.70 326 *de*P P 23 03 38.4 +0.4
PUL pmax pmax
comp=Z,57nm,1.1s
LVZ **Lovozero** 52.79 336 *de*P P 23 03 38.4 -0.2
LVZ pmax pmax
comp=Z,66nm,2.5s
LVZ **Lovozero** 52.79 336 P P 23 03 38.3 -0.3
comp=Z,47nm,2.1s
JOF **Joensuu** 52.80 330 *e*P P 23 03 39.2 +0.5
KIS **Kishinev** 52.89 310 *i*P P 23 03 38.0 -1.6
comp=Z,70nm,2.2s
KIS *e*L L 23 27 58.0
KIS LRM MLR 23 29 30.0
comp=Z,200nm,18.0s
KIS **Kishinev** 52.89 310 *c i*P P 23 03 38.0 -1.6
KIS pmax pmax
comp=Z,70nm,2.2s
KIS MLR MLR
comp=Z,200nm,18.0s
KIS **Kishinev** 52.89 310 P P 23 03 39.2 -0.4
comp=Z,44nm,0.7s
MILM **Milestii Mici** 52.90 309 ⇑ *i*P P 23 03 38.0 -1.6
comp=Z,160nm,1.1s
MILM **Milestii Mici** 52.90 309 *e*PcP PcP 23 04 36.0 -13
MILM *e*S S 23 11 05.0 -3.4
MILM *e*L L 23 27 59.0
MILM LRM MLR 23 29 18.0
comp=Z,300nm,18.5s
JURR **Jurilovca** 52.97 307 ⇓P P 23 03 40.2 0.0
TLCR 52.99 307 ⇓P P 23 03 40.8 +0.5
TLCR 52.99 307 P P 23 03 40.8 +0.5
SMPI **Sarmi** 53.10 116 P P 23 03 41.5 0.0
comp=Z,3μmcomp=Z,89nm,1.2s
ELL **Elmali** 53.12 297 P P 23 03 41.4 -0.2
ELL **Elmali** 53.12 297 P P 23 03 41.4 -0.2
ELL pmax pmax
comp=Z,266nm,0.7s
APA **Apatity** 53.14 336 *e*P P 23 03 37.7 -3.4
APA *e*S S 23 11 08.8 -2.3
APA MLR MLR
comp=Z,838nm,12.7s
SORM **Soroca** 53.17 311 ⇓P P 23 03 41.5 -0.1
SORM **Soroca** 53.17 311 P P 23 03 41.5 -0.1
SORM **Soroca** 53.17 311 P P 23 03 41.0 -0.6
comp=Z,578nmcomp=Z,53nm,0.9s
KLYT **Kilyos** 53.17 302 P P 23 03 41.3 -0.4
comp=Z,68nm,1.1s
EFOR **EFORIE** 53.20 306 ⇓P P 23 03 42.5 +0.7
MANR **Mangalia** 53.25 306 ⇑P P 23 03 42.8 +0.5
TPGR **Topolog** 53.29 307 ⇓P P 23 03 42.8 +0.2
TIRR **Tirgusor** 53.32 306 P P 23 03 42.7 -0.1
TIRR IAmb IAmb 23 03 44.0
comp=Z,40nm,1.3s
TIRR **Tirgusor** 53.32 306 ⇓P P 23 03 43.4 +0.6
TIRR **Tirgusor** 53.32 306 P P 23 03 42.7 -0.1
TIRR pmax pmax
comp=Z,40nm,1.3s
TIRR **Tirgusor** 53.32 306 P P 23 03 42.7 -0.1
comp=Z,24nm,1.3s
MFTR **Murfatlar** 53.34 306 ⇑P P 23 03 43.7 +0.8
KALB **Balgarevo** 53.41 305 ⇑P P 23 03 44.8 +1.4
AKAS **Kas** 53.45 296 P P 23 03 43.0 -1.0
VLDR **Vladesti** 53.46 308 ⇓P P 23 03 44.8 +1.0
CFR **Carcaliu** 53.47 307 ⇓P P 23 03 44.3 +0.5
CFR **Carcaliu** 53.47 307 P P 23 03 44.3 +0.5
PEA0B **Petropavlovsk-** 53.50 43 P P 23 03 43.7 -0.3
PEA0B **Petropavlovsk-** 53.50 43 P P 23 03 43.7 -0.3
PEA0B pmax pmax
comp=Z,22nm,0.8s
PETK **Petropavlovsk-** 53.50 43 P P 23 03 43.5 -0.5
PETK **Petropavlovsk-** 53.50 43 P P 23 03 44.1 +0.1
comp=Z,23nm,0.9s,baz=233,slow=5.1,SNR=15
PETK LR LR 23 28 57.7
comp=Z,134nm,18.9s,baz=262,slow=39
comp=Z,23nm,0.9s
MNK **Minsk** 53.51 319 *i* P P 23 03 43.3 -0.7
MNK *i* 23 04 49.4
MNK *i* 23 05 44.4
MNK *i* PPP PPP 23 06 51.9
MNK *i* S S 23 11 14.5 -2.0
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=Z,20nm,0.8s
MNK pmax pmax
comp=N,13nm,0.7s
MNK MLR MLR
comp=Z,354nm,16.0s
MNK MLR MLR
comp=N,337nm,17.0s
MNK MLR MLR
comp=E,194nm,16.0s
LUBAR **Lubar, Ukraine** 53.52 313 P P 23 03 43.5 -0.7
SCTR **Scanteiesti** 53.53 308 ⇓P P 23 03 45.4 +1.1
MI28 **Mi28,Pidlybu** 53.56 314 P P 23 03 44.1 -0.4
TLBR **Topalu** 53.58 307 ⇓P P 23 03 45.1 +0.4
PSN **Preselentsi** 53.59 305 *e*P P 23 03 45.9 +1.1
VASR **Vaslui** 53.61 309 ⇑P P 23 03 45.4 +0.5
VARL **Varlezi** 53.62 308 ⇓P P 23 03 46.0 +1.0
HARR **Harsova** 53.65 307 ⇑P P 23 03 46.3 +1.0
HARR **Harsova** 53.65 307 P P 23 03 46.2 +1.0
IZVR **Izvoarele** 53.70 308 ⇑P P 23 03 46.9 +1.3

IASR **Iasi** 53.73 310 ⇑P P 23 03 45.7 -0.1
BIR **Birlad** 53.75 309 ⇑P P 23 03 47.2 +1.2
BIR **Birlad** 53.75 309 P P 23 03 47.1 +1.2
TUDR 53.77 308 ⇓P P 23 03 46.9 +0.8
TAVA **DENIZLI_Tavas** 53.79 298 ⇑P P 23 03 46.2 -0.3
ICOR **Ion Corvin** 53.79 306 ⇓P P 23 03 47.7 +1.5
NDNU **Novodnistrovsk** 53.81 312 P P 23 03 46.0 -0.3
MANT **Manisa** 53.90 299 P P 23 03 47.2 -0.3
MANT IAmb IAmb 23 03 48.4
comp=Z,60nm,1.3s
GHRR 53.91 308 ⇑P P 23 03 48.0 +0.9
GHRR 53.91 308 P P 23 03 48.0 +0.9
PET **Petropavlovsk** 54.07 43 *e*P P 23 03 45.8 -2.4
PET *e*S S 23 11 20.4 -3.8
PET MLR MLR
comp=Z,200nm,17.0s
PET MLR MLR
comp=Z,200nm,17.0s
PANC **Panciu** 54.11 308 ⇑P P 23 03 50.0 +1.5
PRD **Provadia** 54.17 305 *e*P P 23 03 49.4 +0.4
IDID **Didziasalis** 54.20 320 *e*P P 23 03 49.5 +0.4
NEF **NEVSHA** 54.25 305 *e*P P 23 03 50.7 +1.0
PHSR **Pinarhisar** 54.26 303 ⇓P P 23 03 49.7 0.0
VSU **Vasula** 54.39 324 *c i*P P 23 03 48.9 -1.5
VSU pmax pmax
comp=Z,85nm,1.7s
VSU **Vasula** 54.39 324 *e*P P 23 03 49.5 -0.9
VRI **Vrincioaia** 54.40 308 ⇓P P 23 03 52.0 +1.3
VRI **Vrincioaia** 54.40 308 P P 23 03 52.0 +1.3
VRI **Vrincioaia** 54.40 308 P P 23 03 51.5 +0.8
comp=Z,899nmcomp=Z,86nm,1.0s
TESR **Tescani** 54.41 309 ⇓P P 23 03 51.5 +0.7
TESR **Tescani** 54.41 309 P P 23 03 50.8 0.0
comp=Z,480nmcomp=Z,45nm,1.2s
KMPD **K-Podol'skiy** 54.41 312 P P 23 03 49.4 -1.3
BISRR **Bisoca** 54.44 308 ⇓P P 23 03 52.5 +1.4
PLOR5 **Plostina Array** 54.45 308 P P 23 03 52.0 +0.9
comp=Z,2μmcomp=Z,288nm,0.7s
PLOR **Plostina** 54.46 308 ⇑P P 23 03 52.4 +1.2
PLOR **Plostina** 54.46 308 P P 23 03 52.4 +1.2
IIGN **Ignalina** 54.50 320 *e*P P 23 03 51.4 +0.1
ISAL **Salakas** 54.56 320 *e*P P 23 03 52.5 +0.8
ISR **Istrita** 54.59 307 ⇓P P 23 03 53.9 +1.6
ISR **Istrita** 54.59 307 P P 23 03 53.8 +1.6
ONER **Baraj Valea Uz** 54.60 309 ⇑P P 23 03 53.2 +1.0
ARG **Arkhangelos** 54.62 296 P P 23 03 52.4 -0.1
ARG IAmb IAmb 23 04 03.9
comp=Z,30nm,0.7s
ARG **Arkhangelos** 54.62 296 P P 23 03 52.4 -0.1
ARG pmax pmax
comp=Z,30nm,0.7s
GENI **Genyem** 54.62 116 P P 23 03 52.5 -0.2
comp=Z,2μmcomp=Z,76nm,1.5s
PRAR **RASCA** 54.64 310 ⇓P P 23 03 52.6 +0.2
RNPP9 **Sopachiv** 54.68 315 P P 23 03 52.3 -0.3
RNPP5 **Staryi Chortor** 54.68 315 P P 23 03 52.4 -0.2
RNPP8 **Varash** 54.70 315 P P 23 03 52.3 -0.5
LOZB **Loznitsa** 54.74 305 ⇑P P 23 03 53.5 +0.3
COVR **Voineasa-Covas** 54.77 308 ⇑P P 23 03 53.8 +0.3
RAZG **Razgrad** 54.78 305 ⇓P P 23 03 54.3 +0.8
SULR 54.84 307 ⇑P P 23 03 54.9 +1.0
ARBE **Arbavere** 54.86 325 *e*P P 23 03 54.0 +0.3
TURR **Turia** 54.88 309 ⇑P P 23 03 55.5 +1.2
JMB **Yambol** 54.89 304 *e*P P 23 03 55.1 +0.8
MLR **Muntele Rosu** 54.98 308 P P 23 03 55.5 +0.4
MLR **Muntele Rosu** 54.98 308 LR LR 23 31 16.0
comp=Z,666nm,21.5s,baz=64,slow=40
MLR **Muntele Rosu** 54.98 308 ⇓P P 23 03 56.6 +1.5
MLR **Muntele Rosu** 54.98 308 P P 23 03 56.6 +1.5
FIA1 **FINESS Array S** 55.00 327 P P 23 03 54.2 -0.5
FINES **FINESS Array B** 55.00 327 P P 23 03 54.1 -0.6
FINES **FINESS Array B** 55.00 327 P P 23 03 54.7 0.0
comp=Z,19nm,0.6s,baz=92,slow=8.0,SNR=160
FINES LR LR 23 31 35.5
comp=Z,232nm,19.6s,baz=101,slow=40
comp=Z,19nm,0.6s
BDRM **Kayabasi** 55.01 297 ⇓P P 23 03 55.2 -0.1
OZUR 55.04 309 ⇑P P 23 03 55.6 +0.3
MBWA **Marble Bar** 55.09 149 P P 23 03 55.9 0.0
MBWA IAmb IAmb 23 03 57.0
comp=Z,64nm,1.1s
MBWA **Marble Bar** 55.09 149 P P 23 03 56.1 +0.1
comp=Z,69nm,1.0s
MBWA **Marble Bar** 55.09 149 P P 23 03 56.2 +0.3
MBWA **Marble Bar** 55.09 149 P P 23 03 56.0 +0.1
BOSR **Bodos** 55.13 309 ⇓P P 23 03 57.2 +1.2
VADS **Vadso** 55.27 338 *e*P P 23 03 55.6 -1.0
BURAR **Bucovina Array** 55.30 310 P P 23 03 57.1 -0.3
BURAR **Bucovina Array** 55.30 310 ⇑P P 23 03 57.8 +0.4
BURAR **Bucovina Array** 55.30 310 P P 23 03 57.7 +0.4
ELND **Elena** 55.31 305 ⇓P P 23 03 57.5 +0.1
DOPR **Dopca** 55.33 308 ⇓P P 23 03 58.1 +0.6
KSV **Kosov** 55.35 311 P P 23 03 57.1 -0.5
EZN **Ezine** 55.41 301 ⇓P P 23 03 58.7 +0.5
EZN **Ezine** 55.41 301 P P 23 03 58.6 +0.5
EZN **Ezine** 55.41 301 P P 23 03 58.2 +0.1
comp=Z,947nmcomp=Z,36nm,1.0s
KNRA **Kununcurra** 55.44 137 P P 23 03 58.4 -0.1
KNRA **Kununcurra** 55.44 137 P P 23 03 58.6 +0.1
comp=Z,88nm,0.9s
PSAC1 **Pilbara Seismi** 55.45 149 P P 23 03 58.8 +0.3
comp=Z,77nm,1.3s
ALN **Alexandroupoli** 55.46 302 P P 23 03 58.5 +0.1
ALN IAmb IAmb 23 03 59.6
comp=Z,27nm,0.8s
ALN **Alexandroupoli** 55.46 302 P P 23 03 58.5 +0.1
ALN pmax pmax
comp=Z,27nm,0.8s
PSA00 **Pilbara Seismi** 55.51 149 P P 23 03 58.8 0.0
PSA00 IAmb IAmb 23 03 59.9
comp=Z,44nm,1.0s
PSA00 **Pilbara Seismi** 55.51 149 P P 23 03 59.0 +0.1
PSA00 IAmb IAmb 23 03 59.9
comp=Z,28nm,1.1s
PSA00 **Pilbara Seismi** 55.51 149 P P 23 03 59.0 +0.1
comp=Z,58nm,1.1s
PSA00 **Pilbara Seismi** 55.51 149 P P 23 03 59.5 +0.6
KARP **Karpathos** 55.52 296 *e*P P 23 03 59.2 +0.2
KARP **Karpathos** 55.52 296 P P 23 03 59.0 0.0
comp=Z,2μmcomp=Z,343nm,0.8s
FITZ **Fitzroy Crossi** 55.53 141 P P 23 03 59.1 0.0
FITZ **Fitzroy Crossi** 55.53 141 P P 23 03 58.9 -0.2
comp=Z,6.7nm,1.3s
FITZ **Fitzroy Crossi** 55.53 141 P P 23 03 59.5 +0.4
KDU **Kakadu** 55.59 131 P P 23 03 58.8 -0.8
comp=Z,43nm,1.2s
VOIR 55.61 308 ⇓P P 23 03 59.8 +0.2
VOIR 55.61 308 P P 23 03 59.8 +0.2
VOIR 55.61 308 P P 23 03 59.4 -0.2
MTUR **Matau** 55.63 308 ⇓P P 23 04 00.7 +0.9
MTUR **Matau** 55.63 308 P P 23 04 00.6 +0.9
COPA **Copaceanca** 55.64 306 ⇓P P 23 04 00.4 +0.7
KEF **Keuruu** 55.64 328 *e*P P 23 03 59.5 +0.1
MEF **Metsahovi** 55.71 326 *e*P P 23 04 00.2 +0.3
PABE **Paberze** 55.79 320 P P 23 04 00.2 -0.3
PABE **Paberze** 55.79 320 *e*P P 23 04 00.7 +0.2
RDO **Rodhopi** 55.80 303 P P 23 04 00.6 -0.3
VSVD **Vaisvydziai** 55.81 321 *e*P P 23 04 00.8 +0.1
KDZ **Kurdzhali** 55.88 303 *e*P P 23 04 02.0 +0.5
ARR **Arges** 55.91 308 ⇑P P 23 04 01.8 +0.1
ARCR **ARCALIA** 55.93 310 ⇑P P 23 04 02.9 +1.2
KEV **Kevo** 55.97 337 P P 23 04 01.5 -0.1
KEV **Kevo** 55.97 337 P P 23 04 01.5 -0.1
KEV pmax pmax
comp=Z,19nm,0.9s
TNR **Turnu Rosu** 56.13 308 ⇑P P 23 04 04.1 +0.9
TNR **Turnu Rosu** 56.13 308 P P 23 04 04.1 +0.9
PLVB **Pleven** 56.16 305 ⇓P P 23 04 04.1 +0.7
VLAD **Vladila** 56.24 306 ⇑P P 23 04 04.4 +0.4
PLD **Plovdiv** 56.24 304 *e*P P 23 04 04.5 +0.5
SUW **Suwalki** 56.26 318 *e*P P 23 04 03.2 -0.7
SUW **Suwalki** 56.26 318 *e*P P 23 04 03.9 -0.1
ARA0 **ARCESS Array S** 56.44 337 *e*P P 23 04 05.3 +0.3
ARCES **ARCESS Array B** 56.44 337 P P 23 04 04.9 -0.1
ARCES **ARCESS Array B** 56.44 337 P P 23 04 05.2 +0.2
comp=Z,9.8nm,0.8s,baz=81,slow=7.6,SNR=18
ARCES PcP PcP 23 05 02.3 +0.5
comp=Z,6.5nm,0.5s,baz=94,slow=4.0,SNR=16
ARCES LR LR 23 30 26.4
comp=Z,515nm,18.9s,baz=106,slow=38
comp=Z,9.8nm,0.8s
ARCES **ARCESS Array B** 56.44 337 P P 23 04 04.9 -0.1
ARCES pmax pmax

BMR **Baia Mare** 56.46 311 ⇑P P 23 04 06.2 +0.7
BMR **Baia Mare** 56.46 311 P P 23 04 06.1 +0.7
CJR **Cluj-Napoca** 56.48 310 ⇓P P 23 04 07.0 +1.2
CJR **Cluj-Napoca** 56.48 310 P P 23 04 06.9 +1.2
LOT **Lotru** 56.51 308 ⇓P P 23 04 06.4 +0.4
CBBR **Cluj-Babes-Bol** 56.51 310 ⇑P P 23 04 06.7 +0.8
KWP **Kalwaria Pacla** 56.80 313 *e*P P 23 04 08.2 +0.3
MPEP **Malo Peshtene** 56.80 306 *e*P P 23 04 09.4 +1.4
MARR **Marisel-Cluj** 56.82 310 ⇓P P 23 04 09.3 +1.1
MESR **Meseseni** 56.88 310 ⇑P P 23 04 09.0 +0.5
VALD **Valchedram** 56.97 306 *e*P P 23 04 10.7 +1.5
RAF **Rauma** 57.05 327 *e*P P 23 04 10.0 +0.6
DEV **Deva** 57.06 309 ⇑P P 23 04 10.7 +0.9
DEV **Deva** 57.06 309 P P 23 04 10.7 +0.9
DRGR 57.08 310 ⇓P P 23 04 11.0 +1.0
DRGR 57.08 310 P P 23 04 11.0 +1.0
KOLS **Kolonicke sedl** 57.15 312 *e*P P 23 04 10.7 +0.3
KOLS pmax pmax
comp=Z,10.0nm,0.7s
KOLS **Kolonicke sedl** 57.15 312 *e*P P 23 04 10.7 +0.3
KTK1 **Kautokeino** 57.15 336 *e*P P 23 04 09.9 -0.2
CEI **Carei** 57.15 311 ⇑P P 23 04 10.4 0.0
CEI **Carei** 57.15 311 P P 23 04 10.4 0.0
PLNA **Plana** 57.16 305 *e*P P 23 04 11.7 +1.0
GZR **Gura Zlata** 57.21 308 ⇓P P 23 04 11.3 +0.4
GZR **Gura Zlata** 57.21 308 P P 23 04 11.3 +0.4
PUNG **Punghina** 57.25 307 ⇓P P 23 04 11.6 +0.5
HAMF **Hammerfest** 57.26 338 *e*P P 23 04 11.5 +0.8
VTS **Vitosha** 57.28 305 *e*P P 23 04 12.5 +0.9
IDI **Anoyia** 57.39 296 P P 23 04 12.0 -0.4
HERR **Herculane** 57.53 307 ⇑P P 23 04 13.6 +0.5
SURR **Surduc** 57.62 309 ⇓P P 23 04 15.0 +1.3
STHS **Stebnicka Huta** 57.77 313 *e*P P 23 04 14.2 -0.6
STHS pmax pmax
comp=Z,12nm,1.2s
STHS **Stebnicka Huta** 57.77 313 *e*P P 23 04 14.2 -0.6
BEL **Belsk** 57.83 316 *e*P P 23 04 15.3 +0.2
SIRR **Siria** 57.87 309 ⇓P P 23 04 16.5 +1.0
VAY **Valandovo** 57.98 303 ⇑P P 23 04 15.7 -0.7
BZS **Buzias** 57.99 308 ⇑P P 23 04 16.2 -0.2
BZS **Buzias** 57.99 308 P P 23 04 16.1 -0.2
MDVR **Moldovita** 58.04 307 ⇓P P 23 04 16.5 -0.3
HOPEN **Hopen** 58.15 345 *e*P P 23 04 17.7 +0.7
JETT **Jettan, Norway** 58.21 337 *e*P P 23 04 17.6 +0.1
BOVS **Bovan** 58.22 306 ⇓P P 23 04 17.9 -0.1
LIT **Litokhoron** 58.27 302 P P 23 04 17.6 -0.8
LIT **Litokhoron** 58.27 302 P P 23 04 17.6 -0.8
LIT pmax pmax
comp=Z,20nm,0.8s
BANR **Banloc** 58.35 308 ⇑P P 23 04 20.0 +1.1
NIE **Niedzica** 58.38 313 *e*P P 23 04 19.9 +0.8
BILL **Bilibino** 58.50 25 P P 23 04 20.7 +1.1
BILL **Bilibino** 58.50 25 *c i*P P 23 04 20.6 +1.1
BILL pmax pmax
comp=Z,50nm,0.9s
OJC **Ojcow** 58.61 314 *e*P P 23 04 20.4 -0.2
TRO **Tromso** 58.74 337 *e*P P 23 04 21.3 +0.1
PSZ **Piszkesteto** 58.84 311 P P 23 04 22.2 -0.1
PSZ IAmb IAmb 23 04 23.6
comp=Z,20nm,0.9s
PSZ **Piszkesteto** 58.84 311 ⇓P P 23 04 23.1 +0.8
PSZ **Piszkesteto** 58.84 311 P P 23 04 22.3 -0.1
PSZ pmax pmax
comp=Z,20nm,0.9s
PSZ **Piszkesteto** 58.84 311 *e*P P 23 04 21.6 -0.8
LANS **Liptovska Anna** 58.96 313 *e*P P 23 04 23.7 +0.6
LANS pmax pmax
comp=Z,4.0nm,0.7s
LANS **Liptovska Anna** 58.96 313 *e*P P 23 04 23.7 +0.6
BJO1 **Bjornoya** 59.24 343 *e*P P 23 04 22.8 -1.8
ITM **Ithomi** 59.30 299 P P 23 04 24.1 -1.6
OHR **Ohrid** 59.34 303 *i*P P 23 04 24.4 -1.5
MEEK **Meekatharra** 59.43 153 P P 23 04 26.6 +0.1
comp=Z,48nm,1.1s
MEEK **Meekatharra** 59.43 153 P P 23 04 26.9 +0.4
VYHS **Vyhne** 59.46 312 *e*P P 23 04 26.5 -0.1
VYHS pmax pmax
comp=Z,25nm,1.3s
VYHS **Vyhne** 59.46 312 *e*P P 23 04 26.5 -0.1
IVA **Berane** 59.66 306 ⇑ *i*P P 23 04 27.9 -0.2
LODK **Lodwar** 59.70 257 P P 23 04 29.5 +0.7
LODK **Lodwar** 59.70 257 P P 23 04 29.9 +1.2
SNR=11
OKC **Ostrava-Krasne** 59.72 314 *e*P P 23 04 28.8 +0.5
OKC **Ostrava-Krasne** 59.72 314 *e*P P 23 04 28.8 +0.5
GKP **Gorka Klasztor** 59.84 318 *e*P P 23 04 29.2 +0.1
GKP **Gorka Klasztor** 59.84 318 *e*P P 23 04 28.8 -0.2
RUDO **Rudo** 59.90 306 *e*P P 23 04 29.3 -0.4
SRO **Srobarova** 59.91 311 *e*P P 23 04 31.0 +1.4
SRO pmax pmax
comp=Z,31nm,1.0s
SRO **Srobarova** 59.91 311 *e*P P 23 04 31.0 +1.4
KOME **Kolasin** 59.94 306 ⇑ *i*P P 23 04 29.9 -0.1
PLE **Pljevlja** 59.94 306 ⇑ *i*P P 23 04 30.5 +0.4
STEB **Steborice** 59.94 314 *e*P P 23 04 30.2 +0.4
MORH **Mrgy, Hungar** 59.94 310 *e*P P 23 04 29.5 -0.4
MORH **Mrgy, Hungar** 59.94 310 ⇑P P 23 04 30.0 +0.1
TIR **Tirana** 59.98 304 IAmb IAmb 23 04 35.1
comp=Z,28nm,0.7s
FAUS **Fauske** 59.99 334 *e*P P 23 04 29.3 -0.5
MAUC **Maruska** 59.99 313 *e*P P 23 04 31.0 +0.8
STEI **Steigen** 60.01 335 *e*P P 23 04 29.2 -0.7
MORC **Moravsky Berou** 60.11 314 IAmb IAmb 23 04 32.5
comp=Z,27nm,0.9s
MORC **Moravsky Berou** 60.11 314 *e*P P 23 04 31.4 +0.3
MORC **Moravsky Berou** 60.11 314 ⇑P P 23 04 31.7 +0.6
MORC **Moravsky Berou** 60.11 314 P P 23 04 31.7 +0.6
JAVC **Velka Javorina** 60.17 313 *e*P P 23 04 32.4 +0.9
MANU **Manus Island** 60.20 110 P P 23 04 31.8 -0.2
MANU IAmb IAmb 23 04 33.7
comp=Z,36nm,0.8s
PDG **Podgorica** 60.21 305 ⇑P P 23 04 31.4 -0.3
PDG **Podgorica** 60.21 305 ⇑P P 23 04 31.2 -0.6
DRME **Dracevica, Mon** 60.31 305 ⇑P P 23 04 31.8 -0.7
UPM **Unac-Piva** 60.31 306 ⇑P P 23 04 32.7 0.0
ULC **Ulcinj** 60.31 305 ⇑P P 23 04 31.5 -1.0
SPB2 **Spitsbergen Ar** 60.34 347 P P 23 04 32.5 +0.4
SPB2 IAmb IAmb 23 04 33.2
comp=Z,18nm,0.7s
MOR8 **Moi Rana** 60.34 333 *e*P P 23 04 31.0 -1.3
SPA0 **Spitsbergen Ar** 60.34 347 *e*P P 23 04 32.6 +0.5
SPITS **Spitsbergen Ar** 60.34 347 P P 23 04 32.8 +0.7
comp=Z,12nm,0.5s,baz=99,slow=11,SNR=33
SPITS LR LR 23 35 09.2
comp=Z,334nm,18.6s,baz=89,slow=40
comp=Z,12nm,0.5s
SPITS **Spitsbergen Ar** 60.34 347 P P 23 04 32.6 +0.5
SPITS pmax pmax
comp=Z,45nm,1.1s
NKME **Niksic** 60.36 306 ⇑ *i*P P 23 04 32.4 -0.5
KEK **Kerkira** 60.37 302 P P 23 04 33.5 +0.6
KEK IAmb IAmb 23 04 42.8
comp=Z,64nm,1.5s
SMOL **Smolenice** 60.38 312 *e*P P 23 04 33.1 +0.2
SMOL pmax pmax
comp=Z,15nm,1.8s
CEME **Cevo** 60.43 305 ⇑ *i*P P 23 04 32.8 -0.6
KMBO **Kilima Mbogo** 60.44 251 P P 23 04 34.6 +0.5
KMBO **Kilima Mbogo** 60.44 251 P P 23 04 35.3 +1.2
KMBO **Kilima Mbogo** 60.44 251 P P 23 04 34.6 +0.5
KMBO pmax pmax
comp=Z,25nm,1.5s
KMBO **Kilima Mbogo** 60.44 251 *i* P P 23 04 35.5 +1.5
SNR=10
BUM **Brajici-Budva** 60.50 305 ⇑ *i*P P 23 04 33.5 -0.3
MODS **Modra-Piesok** 60.50 312 *e*P P 23 04 32.1 -1.6
MODS pmax pmax
comp=Z,38nm,1.1s
MODS **Modra-Piesok** 60.50 312 *e*P P 23 04 32.1 -1.6
KLINJ **Klinje** 60.54 306 *e*P P 23 04 33.2 -1.0
KRLC **Kraliky** 60.55 314 AMS AMS 23 33 10.0
comp=Z,300nm,14.4s
BRY **Bratogost** 60.63 306 ⇑ *i*P P 23 04 34.7 -0.2
LOF **Lofoten** 60.64 335 *e*P P 23 04 33.4 -0.8
MORW **Morawa** 60.65 157 P P 23 04 35.1 +0.3
comp=Z,48nm,1.6s
MORW **Morawa** 60.65 157 P P 23 04 35.2 +0.4
KSP **Ksiaz** 60.75 315 *e*P P 23 04 35.7 +0.4
HCY **Herceg Novi** 60.76 305 ⇑ *i*P P 23 04 35.1 -0.4
VAGH **Vaagaholmen** 60.79 333 *e*P P 23 04 34.4 -1.0
VRAC **Vranov** 60.80 313 *e*P P 23 04 36.4 +0.7

VRAC Vranov 60.80 313 LR LR 23 35 17.5
comp=Z,460nm,18.7s,baz=88,slow=40
VRAC Vranov 60.80 313 ⇓P **P** **23 04 36.9 +1.2**
VRAC Vranov 60.80 313 P **P** **23 04 36.9 +1.2**
DPC Dobruska-Polom 60.80 314 *eP* **P** **23 04 36.6 +0.8**
DPC AMS AMS 23 35 10.0
comp=Z,400nm,13.3s
DPC Dobruska-Polom 60.80 314 *eP* **P** **23 04 36.6 +0.8**
DPC MLR MLR
comp=Z,400nm,13.3s
TREB Trebinje 60.80 306 *eP* **P** **23 04 34.9 -1.0**
OSTC Ostas 60.84 315 *eP* **P** **23 04 36.5 +0.5**
OSTC AMS AMS 23 35 00.0
comp=Z,400nm,16.6s
OSTC Ostas 60.84 315 *eP* **P** **23 04 36.5 +0.5**
OSTC MLR MLR
comp=Z,400nm,16.6s
KONS Konsvik 60.86 333 *eP* **P** **23 04 35.0 -0.8**
LEIR Leirfjorden 60.88 333 *eP* **P** **23 04 35.1 -0.8**
STOK Stokkvaagen 60.91 333 *eP* **P** **23 04 34.4 -1.7**
CHVC Chvalec 60.94 315 *eP* **P** **23 04 37.5 +0.8**
CHVC AMS AMS 23 33 20.0
comp=Z,400nm,13.2s
CHVC Chvalec 60.94 315 *eP* **P** **23 04 37.5 +0.8**
CHVC MLR MLR
comp=Z,400nm,13.2s
KRUC Moravsky 60.97 313 *eP* **P** **23 04 37.2 +0.4**
BSD Bornholm Skovb 60.97 320 *eP* **P** **23 04 35.6 -1.2**
BSD Bornholm Skovb 60.97 320 *i* P **P** **23 04 35.5 -1.2**
BSD IAmb IAmb 23 04 36.1
comp=Z,12nm,0.7s
UPC Upice 60.98 315 *eP* **P** **23 04 37.5 +0.6**
UPC AMS AMS 23 35 00.0
comp=Z,400nm,14.4s
UPC Upice 60.98 315 *eP* **P** **23 04 37.5 +0.6**
UPC MLR MLR
comp=Z,400nm,14.4s
HFS Hagfors 61.06 326 P **P** **23 04 36.9 -0.3**
comp=Z,58nm,0.5s,baz=88,slow=7.9,SNR=546
HFS LR LR 23 32 52.1
comp=Z,340nm,19.1s,baz=88,slow=38
comp=Z,58nm,0.5s
BEHE Becsehely 61.17 310 P **P** **23 04 38.9 +0.6**
BEHE IAmb IAmb 23 04 39.8
comp=Z,23nm,1.0s
BEHE Becsehely 61.17 310 *eP* **P** **23 04 37.0 -1.3**
BLY Banja Luka 61.22 308 *eP* **P** **23 04 38.3 -0.4**
BLY Banja Luka 61.22 308 ⇓P **P** **23 04 39.2 +0.5**
RONA Rosalia, Austr 61.27 312 *i* P **P** **23 04 38.9 -0.1**
comp=Z,0.2nm,0.1s,SNR=18
A051A Mrakovica 61.36 308 *eP* **P** **23 04 37.4 -2.3**
DEL Delary 61.38 322 *i* P **P** **23 04 38.6 -0.9**
NSS Namsos 61.47 331 *eP* **P** **23 04 38.9 -1.0**
TREC Trest 61.51 313 *eP* **P** **23 04 41.3 +0.7**
TREC Trest 61.51 313 *eP* **P** **23 04 41.3 +0.7**
CONA Conrad Observa 61.51 312 *i* P **P** **23 04 40.5 -0.2**
comp=Z,56nm,0.9s,SNR=50
KOGS Kog 61.53 310 *i* P **P** **23 04 40.5 -0.2**
A050A Klekovaca 61.73 308 *eP* **P** **23 04 41.4 -0.8**
LUNU Lund 61.73 321 *i* P **P** **23 04 41.5 -0.3**
BORU Boraas 61.83 323 *i* P **P** **23 04 42.0 -0.5**
GOPC GO Pecny, Ondr 61.85 314 *eP* **P** **23 04 43.5 +0.6**
GOPC GO Pecny, Ondr 61.85 314 *eP* **P** **23 04 43.5 +0.6**
ARSA Arzberg 61.87 311 P **P** **23 04 42.6 -0.4**
ARSA Arzberg 61.87 311 *i* P **P** **23 04 42.9 -0.1**
comp=Z,17nm,0.7s,SNR=9.5
PVCC Panska Ves 61.88 315 *eP* **P** **23 04 43.6 +0.6**
PVCC Panska Ves 61.88 315 *eP* **P** **23 04 43.6 +0.6**
BJUU Bjuv 61.91 321 *i* P **P** **23 04 42.5 -0.5**
FABU Falkenberg 61.94 322 *i* P **P** **23 04 42.4 -0.9**
PRU Pruhonice 61.99 314 *eP* **P** **23 04 44.1 +0.3**
PRU AMS AMS 23 34 40.0
comp=Z,300nm,11.4s
PRU Pruhonice 61.99 314 *eP* **P** **23 04 44.1 +0.3**
PRU MLR MLR
comp=Z,300nm,11.4s
RUE Ruedersdorf 62.03 317 *eP* **P** **23 04 44.5 +0.5**
RUE Ruedersdorf 62.03 317 *eP* **P** **23 04 44.0 +0.1**
comp=Z,20nm,0.7s,baz=77,slow=6.6
PRA Prague 62.05 314 *eP* **P** **23 04 44.6 +0.5**
PRA AMS AMS 23 34 10.0
comp=Z,400nm,12.9s
PRA Prague 62.05 314 *eP* **P** **23 04 44.6 +0.5**
PRA MLR MLR
comp=Z,400nm,12.9s
NC602 NORSAR Array S 62.05 327 *eP* **P** **23 04 43.2 -0.8**
WRA Warramunga Arr 62.12 135 P **P** **23 04 44.6 -0.4**
WRA Warramunga Arr 62.12 135 P **P** **23 04 45.4 +0.4**
comp=Z,193nm,0.7s,baz=323,slow=7.4,SNR=551
WRA PKP2bc 23 33 59.2
comp=Z,1.5nm,0.6s,baz=142,slow=2.3,SNR=9.1
WRA LR LR 23 34 42.9
comp=Z,130nm,20.0s,baz=304,slow=39
WRAB Tennant Creek 62.12 135 P **P** **23 04 45.2 +0.3**
WRAB Tennant Creek 62.12 135*d* *i*P **P** **23 04 45.4 +0.5**
WRAB pmax pmax
comp=Z,150nm,0.8s
NB201 NORSAR Array S 62.13 327 P **P** **23 04 43.9 -0.7**
NB201 IAmb IAmb 23 04 44.9
comp=Z,25nm,0.7s
NB2 NORSAR Subarra 62.17 327 P **P** **23 04 44.2 -0.6**
comp=Z,24nm,0.6s,baz=82,slow=6.5
NB2 NORSAR Subarra 62.17 327 P **P** **23 04 44.2 -0.6**
baz=82,slow=6.5
NOA NORSAR Array B 62.17 327 P **P** **23 04 44.0 -0.9**
comp=Z,26nm,0.7s,baz=83,slow=6.7,SNR=278
NOA LR LR 23 33 58.3
comp=Z,308nm,18.6s,baz=80,slow=38
comp=Z,26nm,0.7s
NOA NORSAR Array B 62.17 327 P **P** **23 04 44.0 -0.9**
RICC Richard 62.17 315 *eP* **P** **23 04 45.3 +0.3**
BRG Berggiesshubel 62.21 315 *eP* **P** **23 04 45.5 +0.3**
comp=Z,4.7nm,0.7s,baz=77,slow=6.6
BRG Berggiesshubel 62.21 315⇑*i*P **P** **23 04 45.6 +0.3**
BRG Amp 23 04 46.1
comp=Z,14nm,0.7s
BRG Berggiesshubel 62.21 315 P P 23 04 50.3 +5.0
BRG Amp 23 04 52.4
comp=Z,10nm,0.8s
BRG Berggiesshubel 62.21 315 S **S** **23 13 11.0 +0.4**
BRG Berggiesshubel 62.21 315 SS SS 23 17 12.0 -1.3
BLDU Ballidu 62.30 157 P **P** **23 04 45.6 -0.3**
comp=Z,78nm,1.4s
BLDU Ballidu 62.30 157 P **P** **23 04 45.6 -0.3**
SOKA Soboth 62.31 311 *i* P **P** **23 04 45.9 -0.2**
comp=Z,14nm,0.4s,SNR=26
ONAU Onsala 62.31 323 *i* P **P** **23 04 44.4 -1.4**
ZVC Zvikov 62.32 314 AMS AMS 23 36 00.0
comp=Z,400nm,21.4s
NAO01 NORSAR Array S 62.36 327 P **P** **23 04 45.1 -1.0**
NAO01 IAmb IAmb 23 04 46.2
comp=Z,25nm,0.8s
CKRC Cesky Krumlov 62.36 313 *eP* **P** **23 04 47.0 +0.7**
CKRC AMS AMS 23 35 40.0
comp=Z,400nm,17.4s
CKRC Cesky Krumlov 62.36 313 *eP* **P** **23 04 47.0 +0.7**
CKRC MLR MLR
comp=Z,400nm,17.4s
MATE Matera 62.47 304 *eP* **P** **23 04 46.3 -0.8**
OSL Oslo 62.56 326 *eP* **P** **23 04 47.3 -0.1**
MOA Molln 62.58 312 *i* P **P** **23 04 47.6 -0.2**
comp=Z,5.9nm,0.8s,SNR=21
WRKA Warakurna 62.58 144 P **P** **23 04 48.6 +0.6**
comp=Z,48nm,0.9s
VNDS Vrh nad Dolski 62.66 310 *i* P **P** **23 04 48.5 +0.2**
OBKA Obir 62.67 310 *eP* **P** **23 04 48.3 -0.2**
comp=Z,14nm,0.9s,SNR=16
GBRS Gornja Briga 62.70 309 *i* P **P** **23 04 48.8 +0.1**
CLL Collm 62.71 316⇑*eP* **P** **23 04 47.8 -0.8**
comp=Z,19nm,1.2s
CLL *i* x x 23 04 52.9
CLL *i* PP **PP** **23 07 06.5 +0.3**
comp=Z,11nm,1.4s
CLL *e*S **S** **23 13 12.0 -4.9**
CLL *e*SS **SS** **23 17 25.0 +3.9**
CLL AMS AMS 23 36 00.0
comp=Z,200nm,18.3s
CLL Collm 62.71 316 *eP* **P** **23 04 48.5 0.0**
comp=Z,12nm,1.0s,baz=77,slow=6.6
GEC2 GERESS Array S 62.75 313 *eP* **P** **23 04 49.4 +0.4**
comp=Z,25nm,0.7s,baz=77,slow=6.6
GERES GERESS Array B 62.75 313 P **P** **23 04 49.1 +0.1**
comp=Z,24nm,0.6s,baz=72,slow=6.1,SNR=308
GERES PKP2bc 23 34 00.7
comp=Z,0.2nm,0.6s,baz=233,slow=1.3,SNR=4.6

GERES LR LR 23 34 57.1
comp=Z,318nm,19.0s,baz=84,slow=39
comp=Z,24nm,0.6s
KHC Kasperske Hory 62.77 313 *eP* **P** **23 04 49.5 +0.4**
KHC Kasperske Hory 62.77 313 *eP* **P** **23 04 49.5 +0.4**
TIP Timpagrande 62.79 302⇑P **P** **23 04 49.0 -0.4**
SGRT San Giovanni R 62.91 305 IAmb IAmb 23 04 51.1
comp=Z,23nm,0.8s
ACER Acerenza 62.99 304 P **P** **23 04 50.1 -0.6**
BIOA Bad Ischl, Aus 63.03 312 *eP* **P** **23 04 50.4 -0.4**
comp=Z,12nm,0.4s,SNR=15
DOMB Dombas 63.06 328 *eP* **P** **23 04 49.7 -1.0**
JAVS Javornik 63.13 310 *i* P **P** **23 04 51.0 -0.6**
KONO Kongsberg 63.17 326 P **P** **23 04 51.1 -0.3**
KONO IAmb IAmb 23 04 52.0
comp=Z,25nm,0.7s
KONO Kongsberg 63.17 326*ce*P **P** **23 04 50.9 -0.5**
KONO pmax pmax
comp=Z,25nm,0.8s
KONO Kongsberg 63.17 326 *eP* **P** **23 04 51.3 -0.1**
WET Wettzell 63.22 314 *eP* **P** **23 04 52.5 +0.5**
comp=Z,12nm,0.8s,baz=77,slow=6.6
TANN Tannenbergstha 63.22 315 *eP* **P** **23 04 52.3 +0.3**
comp=Z,11nm,0.8s,baz=77,slow=6.6
OVD Ostervraa, Den 63.24 323 *i* P **P** **23 04 51.9 0.0**
MYKA Terra Mystica 63.26 311 *i* P **P** **23 04 51.5 -0.9**
comp=Z,2.7nm,0.4s,SNR=6.8
CUC Castrocucco 63.29 303 IAmb IAmb 23 04 53.9
comp=Z,29nm,0.8s
MUN Mundaring 63.37 158 P **P** **23 04 52.8 -0.2**
comp=Z,68nm,0.9s
MUN Mundaring 63.37 158 P **P** **23 04 53.2 +0.2**
SHEM Shemya Is, Ala 63.41 42 P **P** **23 04 53.1 0.0**
SMY Shemya 63.41 42 P **P** **23 04 53.7 +0.6**
SMY Shemya 63.41 42 P **P** **23 04 53.7 +0.6**
SMY pmax pmax
comp=Z,79nm,0.7s
SABO M.te Sabotino 63.43 310 IAmb IAmb 23 04 54.2
comp=Z,20nm,0.7s
NEUB Neuenburg 63.49 316 *eP* **P** **23 04 53.9 +0.2**
comp=Z,25nm,0.8s,baz=77,slow=6.6
ROTZ Rotzenmuhle 63.52 314 *eP* **P** **23 04 54.8 +0.9**
comp=Z,7.6nm,0.8s,baz=77,slow=6.6
MANZ Manzenberg 63.53 315 *eP* **P** **23 04 54.9 +0.8**
comp=Z,4.8nm,1.1s,baz=77,slow=6.6
KLBR Kellerberrin 63.55 156 P **P** **23 04 53.9 -0.4**
comp=Z,85nm,0.9s
KLBR Kellerberrin 63.55 156 P **P** **23 04 54.1 -0.1**
RJOB Jochberg 63.58 312 *eP* **P** **23 04 54.4 0.0**
comp=Z,20nm,1.1s,baz=77,slow=6.6
FLTG Flechtingen 63.59 317 *eP* **P** **23 04 54.1 -0.2**
comp=Z,19nm,0.9s,baz=77,slow=6.6
SKAR Skarslia 63.63 327 *eP* **P** **23 04 54.7 +0.1**
MOL Molde 63.67 329 *eP* **P** **23 04 54.0 -0.7**
MOX Moxa 63.70 315 *eP* **P** **23 04 55.5 +0.3**
comp=Z,12nm,0.9s,baz=77,slow=6.6
MOX *e*L L 23 37 13.5
comp=Z,232nm,19.0s
LESA Schwarzleotal 63.72 312 *i* P **P** **23 04 55.1 -0.3**
comp=Z,42nm,0.7s,SNR=20
BSEG Bad Segeberg 63.81 319 *eP* **P** **23 04 56.4 +0.7**
comp=Z,21nm,0.7s,baz=77,slow=6.6
MUD Monsted U'grnd 63.96 322 *i* P **P** **23 04 57.2 +0.5**
MUD IAmb IAmb 23 04 58.0
comp=Z,7.0nm,0.7s
HOMB Homborsund 63.97 324 *eP* **P** **23 04 56.5 -0.3**
HOMB Homborsund 63.97 324 *i* P **P** **23 04 56.4 -0.3**
ASSE Asse, Remlinge 63.97 317 *eP* **P** **23 04 56.8 +0.1**
comp=Z,6.4nm,0.9s,baz=77,slow=6.6
ABTA Abfaltersbach 63.99 311 *i* P **P** **23 04 56.0 -1.2**
comp=Z,26nm,1.3s,SNR=16
AKN Aakres 63.99 329 *eP* **P** **23 04 57.4 +0.5**
GRA1 Grafenberg Arr 64.16 314 IAmb IAmb 23 05 00.0
comp=Z,39nm,1.1s
GRF Grafenberg Arr 64.16 314 *eP* **P** **23 04 58.8 +0.7**
comp=Z,23nm,1.0s,baz=77,slow=6.6
GRF *e*L L 23 34 57.7
comp=Z,153nm,19.0s
GRFO Grafenberg 64.16 314 P **P** **23 04 58.5 +0.4**
GRFO IAmb IAmb 23 04 60.0
comp=Z,42nm,1.2s
GRFO Grafenberg 64.16 314 P **P** **23 04 58.6 +0.4**
GRFO pmax pmax
comp=Z,42nm,1.2s
CLZ Clausthal 64.21 317 *eP* **P** **23 04 59.0 +0.5**
comp=Z,33nm,0.8s,baz=77,slow=6.6
NRDL Niedersach Rie 64.23 318 *eP* **P** **23 04 59.4 +1.0**
comp=Z,29nm,0.9s,baz=77,slow=6.6
CAMP Campotosto 64.39 306 IAmb IAmb 23 05 00.7
comp=Z,29nm,0.8s
AQU L'Aquila 64.45 306 *eP* **P** **23 04 59.6 -0.7**
WTTA Wattenberg 64.45 312 *i* P **P** **23 04 59.5 -0.9**
comp=Z,13nm,0.4s,SNR=20
WATA Walderalm 64.47 312 *i* P **P** **23 04 59.4 -1.1**
comp=Z,2.5nm,0.3s,SNR=14
FUR Furstenfeldbru 64.47 313 *eP* **P** **23 05 00.9 +0.6**
comp=Z,40nm,0.9s,baz=77,slow=6.6
FDMO Fiordimonte 64.50 307 IAmb IAmb 23 05 07.2
comp=Z,25nm,0.9s
GTTG Gottingen 64.53 317 *eP* **P** **23 05 00.9 +0.4**
comp=Z,10nm,0.7s,baz=77,slow=6.6
NRCA Norcia 64.53 307 IAmb IAmb 23 05 02.6
comp=Z,36nm,1.2s
HYA Hoyanger 64.56 328 *eP* **P** **23 04 59.5 -1.0**
NWAO Narrogin (SRO) 64.58 157 P **P** **23 05 00.5 -0.5**
comp=Z,87nm,2.6s
NWAO Narrogin (SRO) 64.58 157 LR LR 23 36 55.8
comp=Z,116nm,18.4s,baz=325,slow=40
NWAO Narrogin (SRO) 64.58 157 P **P** **23 05 00.9 -0.1**
NWAO Narrogin (SRO) 64.58 157 P **P** **23 05 01.5 +0.5**
ODD1 Odda 64.60 326 *eP* **P** **23 05 00.5 -0.4**
SNART Snartemo 64.62 324 *eP* **P** **23 05 01.6 +0.6**
SNART Snartemo 64.62 324 *i* P **P** **23 05 01.2 +0.2**
AS31 Alice Springs 64.65 138 P **P** **23 05 02.2 +0.5**
comp=Z,88nm,0.6s
ASAR Alice Springs 64.65 138 P **P** **23 05 02.3 +0.6**
ASAR Alice Springs 64.65 138 P **P** **23 05 02.4 +0.7**
comp=Z,135nm,0.5s,baz=322,slow=6.6,SNR=1949
ASAR PKP2bc 23 33 53.0
comp=Z,1.5nm,0.8s,baz=139,slow=3.1,SNR=8.3
ASAR LR LR 23 36 03.6
comp=Z,151nm,20.9s,baz=308,slow=39
ASAR Alice Springs 64.65 138 P **P** **23 05 02.3 +0.6**
UBBA Unterbreizbach 64.67 316 *eP* **P** **23 05 01.6 +0.3**
comp=Z,3.6nm,0.7s,baz=77,slow=6.6
AS01 Alice Springs 64.68 138 P **P** **23 05 02.6 +0.8**
CTI Castel Tesino 64.73 310 P **P** **23 05 01.4 -0.8**
CTI IAmb IAmb 23 05 02.4
comp=Z,21nm,0.8s
CTI Castel Tesino 64.73 310 P **P** **23 05 01.4 -0.8**
CTI pmax pmax
comp=Z,21nm,0.8s
SQTA Sankt Quirin 64.74 312 *i* P **P** **23 05 01.1 -1.1**
comp=Z,24nm,0.5s,SNR=19
MOTA Moosalm 64.78 312 *i* P **P** **23 05 01.5 -1.0**
comp=Z,39nm,0.9s,SNR=19
BLS5 Blasjo 64.78 326 *eP* **P** **23 05 01.6 -0.5**
RETA Reutte 64.97 312 *i* P **P** **23 05 03.1 -0.6**
comp=Z,12nm,0.4s,SNR=19
FOO Floro 65.01 328 *eP* **P** **23 05 02.7 -0.7**
VAE Valguarnera 65.02 301 LR LR 23 39 26.3
comp=Z,96nm,18.1s,baz=106,slow=42
FETA Feichten 65.11 312 *i* P **P** **23 05 03.8 -0.8**
comp=Z,38nm,1.0s,SNR=19
BER Bergen 65.13 327 *eP* **P** **23 05 03.7 -0.6**
PATS Pohnpei 65.22 95 P **P** **23 05 05.8 +0.2**
PATS Pohnpei 65.22 95 P **P** **23 05 06.2 +0.6**
comp=Z,122nm,1.1s
WDD Wied Dalam 65.41 299 P **P** **23 05 06.1 -0.4**
WDD IAmb IAmb 23 05 13.0
comp=Z,35nm,0.9s
KMY Karmoy 65.43 326 *eP* **P** **23 05 05.5 -0.8**
FUORN Ofenpass-Fuorn 65.52 311 P **P** **23 05 06.9 -0.6**
FUORN IAmb IAmb 23 05 16.8
comp=Z,13nm,0.8s
KASTN Kahler Asten 65.55 317 *eP* **P** **23 05 08.0 +0.8**
comp=Z,4.6nm,0.9s,baz=77,slow=6.6
DAVA Damuels 65.60 312 *i* P **P** **23 05 07.1 -0.7**
comp=Z,25nm,0.8s,SNR=17
ZCCA Zocca 65.63 309 P **P** **23 05 08.5 +0.6**
ZCCA IAmb IAmb 23 05 26.5
comp=Z,29nm,0.9s
OSSC Osservatorio P 65.67 308 IAmb IAmb 23 05 16.6
comp=Z,19nm,0.9s
STU Stuttgart 65.67 314 *eP* **P** **23 05 08.7 +0.7**
STU Stuttgart 65.67 314 *eP* **P** **23 05 08.5 +0.5**

comp=Z,79nm,0.8s,baz=77,slow=6.6
IBBN Ibbenburen 65.68 318 *eP* **P** **23 05 08.3 +0.3**
comp=Z,9.5nm,0.7s,baz=77,slow=6.6
MBAR Mbarara 65.71 256 P **P** **23 05 09.4 +0.5**
MBAR Mbarara 65.71 256 P **P** **23 05 10.1 +1.1**
MBAR Mbarara 65.71 256*c* *i*P **P** **23 05 10.0 +1.1**
MBAR pmax pmax
comp=Z,7.0nm,0.9s
MBAR pmax pmax
comp=Z,6.0nm,0.8s
DAVOX Davos/Dischmat 65.73 312 LR LR 23 37 10.9
comp=Z,343nm,20.6s,baz=77,slow=39
TNS Taunus Mts 65.77 316 *eP* **P** **23 05 09.5 +0.8**
comp=Z,25nm,0.8s,baz=77,slow=6.6
QIS Mount Isa 65.96 132 P **P** **23 05 10.4 +0.2**
comp=Z,55nm,1.2s
QIS Mount Isa 65.96 132 P **P** **23 05 10.9 +0.7**
PRMA PARMA 65.98 309 P **P** **23 05 10.7 +0.7**
PRMA IAmb IAmb 23 05 19.4
comp=Z,34nm,1.0s
TUE Stuetta 66.17 311 IAmb IAmb 23 05 13.0
comp=Z,21nm,0.8s
BUG Bochum--Univer 66.19 317 *eP* **P** **23 05 11.7 +0.4**
comp=Z,13nm,0.8s,baz=77,slow=6.6
VOI Vohitsoka 66.34 227 P **P** **23 05 13.2 +0.5**
VOI IAmb IAmb 23 05 20.1
comp=Z,29nm,0.7s
VOI Vohitsoka 66.34 227 P **P** **23 05 13.5 +0.8**
BFO Black Forest 66.34 314 P **P** **23 05 12.1 -0.3**
BFO Black Forest 66.34 314 P **P** **23 05 12.1 -0.3**
BFO pmax pmax
comp=Z,16nm,1.0s
BFO Black Forest 66.34 314 *eP* **P** **23 05 12.3 -0.1**
comp=Z,7.0nm,0.9s,baz=77,slow=6.6
MSSA Maissana 66.65 309 IAmb IAmb 23 05 38.7
comp=Z,21nm,1.0s
AMKA Amchitka 66.84 43 P **P** **23 05 15.5 0.0**
BTNL Ternell 67.11 316 *dP* **P** **23 05 17.6 +0.4**
comp=Z,14nm,0.9s
FORT Forrest 67.17 147 P **P** **23 05 18.2 +0.5**
FORT IAmb IAmb 23 05 19.9
comp=Z,22nm,0.8s
FORT Forrest 67.17 147 P **P** **23 05 18.4 +0.7**
comp=Z,32nm,0.8s
MEM Membach 67.18 316 *dP* **P** **23 05 17.8 +0.2**
comp=Z,15nm,0.9s
BHOU Houvegnez 67.25 316 *dP* **P** **23 05 18.5 +0.4**
comp=Z,11nm,1.0s
WLF Walferdange 67.35 315 *dP* **P** **23 05 19.7 +1.0**
comp=Z,42nm,1.1s
WLF Walferdange 67.35 315 *eP* **P** **23 05 20.0 +1.2**
comp=Z,47nm,0.9s,baz=77,slow=6.6
BSTI Sart Tilman 67.45 316 *dP* **P** **23 05 19.9 +0.5**
comp=Z,3.0nm,1.0s
SENIN Lac Senin/Sane 67.56 312 IAmb IAmb 23 05 22.3
comp=Z,26nm,0.8s
MTSU Mount Surprise 67.57 126 P **P** **23 05 20.9 +0.4**
comp=Z,8.1nm,0.7s
BCLA Clavier 67.66 316 *dP* **P** **23 05 20.9 +0.3**
comp=Z,11nm,1.0s
JMIC Jan Mayen 67.70 340 LR LR 23 38 27.0
comp=Z,121nm,20.6s,baz=70,slow=39
RCHB Rochefort 67.78 316 *dP* **P** **23 05 21.3 -0.1**
comp=Z,9.0nm,1.0s
BGES Gesves 67.81 316 *dP* **P** **23 05 21.8 +0.2**
comp=Z,9.9nm,1.0s
GAMB Gambell 67.94 28 P **P** **23 05 22.7 +0.5**
baz=288
DAG Danmarks Havn 68.00 347 *i* P **P** **23 05 21.6 -0.8**
DAG IAMs_20 IAMs_20 23 05 23.0
comp=Z,8.2nm,0.5s
BMRD Maredsous 68.02 316 *dP* **P** **23 05 23.2 +0.3**
comp=Z,13nm,0.8s
UCC Uccle 68.13 317 P **P** **23 05 23.4 -0.2**
UCC Uccle 68.13 317 P **P** **23 05 23.4 -0.2**
UCC pmax pmax
comp=Z,12nm,1.0s
VSL Villasalto 68.19 304 IAmb IAmb 23 05 25.1
comp=Z,28nm,1.0s
DOU Dourbes 68.19 316 *dP* **P** **23 05 22.7 -1.4**
comp=Z,6.7nm,0.9s
FOMA Nahampoana Res 68.43 224 P **P** **23 05 26.5 +0.7**
FOMA IAmb IAmb 23 05 33.2
comp=Z,24nm,0.6s
C16K Lisburne Hills 68.88 23 P **P** **23 05 28.3 +0.3**
C16K Lisburne Hills 68.88 23 P **P** **23 05 29.0 +1.1**
baz=292,SNR=9.6
TNA Tin City 68.90 26 P **P** **23 05 29.2 +1.0**
baz=290
ADK Adak 69.09 42 P **P** **23 05 30.5 +0.9**
KEST Kesra 69.44 300 P **P** **23 05 32.6 +0.5**
KEST IAmb IAmb 23 05 33.7
comp=Z,42nm,0.9s
KEST Kesra 69.44 300 P **P** **23 05 32.4 +0.3**
comp=Z,33nm,0.9s,baz=11,slow=1.6,SNR=33
KEST LR LR 23 41 52.5
comp=Z,80nm,18.4s,baz=302,slow=41
comp=Z,33nm,0.9s
DBG Daneborg 69.51 344 *i* P **P** **23 05 31.9 +0.1**
DBG IAmb IAmb 23 05 33.0
comp=Z,14nm,0.8s
A19K Wainwright 69.52 20 P **P** **23 05 33.4 +1.5**
baz=295
C17K DeLong Mountai 69.54 22 P **P** **23 05 33.4 +1.3**
baz=293,SNR=5.5
F14K Arctic Creek 69.55 26 P **P** **23 05 33.4 +1.2**
baz=292,SNR=12
B18K Kokolik River 69.64 21 P **P** **23 05 34.0 +1.3**
baz=294,SNR=7.6
SSB Saint Sauveur 69.73 311 IAmb IAmb 23 05 34.6
comp=Z,17nm,0.8s
RDOG Red Dog Mine 69.80 23 P **P** **23 05 33.1 -0.6**
D17K Noatak River 69.89 23 P **P** **23 05 35.6 +1.4**
baz=294,SNR=17
DRUM Mains of Drumt 70.03 324 *eP* **P** **23 05 35.4 +0.1**
DRUM IAmb IAmb 23 05 36.1
comp=Z,56nm,1.0s
F15K North Star Dit 70.11 25 P **P** **23 05 36.2 +0.5**
F15K IAmb IAmb 23 05 38.1
comp=Z,62nm,1.4s
F15K North Star Dit 70.11 25 P **P** **23 05 37.0 +1.3**
baz=293,SNR=11
C18K Utukok River 70.14 22 P **P** **23 05 36.6 +0.8**
C18K IAmb IAmb 23 05 38.0
comp=Z,40nm,1.1s
C18K Utukok River 70.14 22 P **P** **23 05 37.2 +1.4**
baz=295,SNR=12
MCD Coleburn Disti 70.19 325 *eP* **P** **23 05 36.6 +0.3**
MCD IAmb IAmb 23 05 37.3
comp=Z,74nm,0.9s
BIGH Upper Bighouse 70.20 326 *eP* **P** **23 05 36.1 -0.1**
BIGH IAmb IAmb 23 05 37.4
comp=Z,40nm,0.9s
CTAO Charters Tower 70.22 127 P **P** **23 05 37.5 +0.5**
CTAO IAmb IAmb 23 05 38.5
comp=Z,26nm,0.8s
CTAO Charters Tower 70.22 127 P **P** **23 05 37.1 +0.1**
CTAO Charters Tower 70.22 127 P **P** **23 05 37.5 +0.5**
CTAO pmax pmax
comp=Z,26nm,0.8s
ANM Nome 70.27 27 P **P** **23 05 37.6 +0.9**
ANM IAmb IAmb 23 05 38.6
comp=Z,24nm,0.6s
ANM Nome 70.27 27 P **P** **23 05 37.6 +0.9**
ANM pmax pmax
comp=Z,24nm,0.6s
ANM Nome 70.27 27 P **P** **23 05 37.5 +0.9**
baz=293,SNR=6.8
A21K Barrow 70.34 19 P **P** **23 05 38.2 +1.3**
baz=298
ATKA Atka Island 70.44 41 P **P** **23 05 39.3 +1.4**
ESY Stoneypath 70.44 324 *eP* **P** **23 05 37.8 -0.1**
C19K Lookout Ridge 70.46 21 P **P** **23 05 39.0 +1.1**
C19K Lookout Ridge 70.46 21 P **P** **23 05 39.6 +1.8**
baz=296,SNR=19
EDMD Edmundbyers 70.47 322 *eP* **P** **23 05 38.0 0.0**
EDMD IAmb IAmb 23 05 38.3
comp=Z,28nm,0.6s
E17K Hotham Inlet 70.58 24 P **P** **23 05 40.0 +1.4**
baz=295,SNR=12
G15K Niukluk 70.62 26 P **P** **23 05 39.8 +1.0**
baz=294,SNR=6.0
B20K Meade River 70.81 20 P **P** **23 05 40.5 +0.7**
B20K Meade River 70.81 20 P **P** **23 05 41.5 +1.6**
baz=298
CWF Charnwood Fore 70.83 320 *eP* **P** **23 05 40.0 -0.2**

CWF IAmb IAmb 23 05 40.3
comp=Z,13nm,0.7s
E18K Tukpahlearik C 70.87 23 P P **23 05 40.7 +0.4**
E18K IAmb IAmb 23 05 42.5
comp=Z,18nm,0.8s
E18K Tukpahlearik C 70.87 23 P P **23 05 41.6 +1.3**
baz=296,SNR=11
EKA Eskdalemuir Ar 70.93 323 P P **23 05 41.0 +0.2**
comp=Z,14nm,0.5s,baz=72,slow=5.7,SNR=52
comp=Z,14nm,0.5s
EKB Eskdalemuir 70.95 323 P P **23 05 41.2 +0.2**
EKB IAmb IAmb 23 05 42.0
comp=Z,29nm,0.8s
ESK Eskdalemuir 70.97 323 P P **23 05 41.0 0.0**
ESK IAmb IAmb 23 05 42.0
comp=Z,28nm,0.8s
ESK Eskdalemuir 70.97 323 *e*P P **23 05 41.2 +0.1**
ESK IAmb IAmb 23 05 41.8
comp=Z,30nm,0.8s
ESK Eskdalemuir 70.97 323 P P **23 05 41.0 0.0**
ESK pmax pmax
comp=Z,28nm,0.8s
A22K Sinclair Lake 70.97 19 P P **23 05 42.4 +1.7**
baz=300
F17K Baldwin Pennin 71.06 24 P P **23 05 42.6 +1.2**
F17K Baldwin Pennin 71.06 24 P P **23 05 43.2 +1.8**
baz=296,SNR=21
G16K Koyuk River 71.11 25 P P **23 05 42.4 +0.7**
G16K Koyuk River 71.11 25 P P **23 05 43.1 +1.4**
baz=295
D19K Kuna River 71.22 22 P P **23 05 43.2 +0.8**
D19K Kuna River 71.22 22 P P **23 05 43.8 +1.4**
baz=298,SNR=22
WOL Wolverton 71.29 319 *e*P P **23 05 43.3 +0.2**
P08K Saint George I 71.40 35 P P **23 05 44.5 +0.8**
baz=292
PGBU Glenifferbraes 71.46 324 *e*P P **23 05 44.4 +0.4**
H16K Elim 71.47 26 P P **23 05 45.0 +1.0**
baz=295,SNR=9.8
M11K Mekoryuk 71.56 31 P P **23 05 45.9 +1.4**
baz=293
F18K Selawik 71.57 24 P P **23 05 45.9 +1.4**
baz=297,SNR=12
NEWG New Galloway 71.58 323 *e*P P **23 05 45.1 +0.3**
NEWG IAmb IAmb 23 05 45.8
comp=Z,94nm,1.4s
D20K Etivluk River 71.60 21 P P **23 05 45.6 +0.9**
D20K Etivluk River 71.60 21 P P **23 05 46.2 +1.5**
baz=299,SNR=36
K13K Kusilvak Mount 71.62 29 P P **23 05 45.7 +0.8**
K13K IAmb IAmb 23 05 46.9
comp=Z,30nm,1.1s
K13K Kusilvak Mount 71.62 29 P P **23 05 45.9 +1.0**
baz=294,SNR=7.5
STRD Stroud 71.67 319 *e*P P **23 05 45.5 +0.1**
STRD IAmb IAmb 23 05 46.7
comp=Z,71nm,0.7s
G17K Kiwalik Mounta 71.70 25 P P **23 05 46.6 +1.2**
baz=296,SNR=11
J14K Nanvaranak Lak 71.75 28 IAmb IAmb 23 05 47.5
comp=Z,42nm,1.2s
J14K Nanvaranak Lak 71.75 28 P P **23 05 46.7 +1.1**
baz=295,SNR=9.5
B22K Teshekpuk Lake 71.75 19 P P **23 05 46.2 +0.7**
B22K Teshekpuk Lake 71.75 19 P P **23 05 47.0 +1.5**
baz=301
LAWE Loch Awe, Argy 71.77 324 *e*P P **23 05 46.1 +0.2**
LAWE IAmb IAmb 23 05 46.9
comp=Z,33nm,1.0s
B21K Ikpikpuk River 71.77 20 P P **23 05 46.6 +0.9**
B21K Ikpikpuk River 71.77 20 P P **23 05 47.4 +1.8**
baz=300,SNR=17
LEWI Lewis, Hebride 71.78 327 *e*P P **23 05 46.4 +0.5**
LEWI IAmb IAmb 23 05 47.1
comp=Z,67nm,1.4s
HLM1 Long Mynd 71.81 320 *e*P P **23 05 46.6 +0.4**
HLM1 IAmb IAmb 23 05 46.9
comp=Z,15nm,0.7s
FOEL Foel Wylfa 71.85 321 *e*P P **23 05 47.1 +0.6**
FOEL IAmb IAmb 23 05 47.6
comp=Z,63nm,0.8s
C21K Knifeblade Rid 71.95 20 P P **23 05 48.7 +1.9**
baz=300,SNR=14
E20K Nigu River 71.96 21 P P **23 05 48.3 +1.4**
baz=300,SNR=31
E19K Redstone River 72.00 22 P P **23 05 48.0 +0.8**
E19K IAmb IAmb 23 05 49.2
comp=Z,36nm,0.8s
E19K Redstone River 72.00 22 P P **23 05 48.3 +1.2**
baz=299,SNR=30
MONM Monmouth 72.02 320 *e*P P **23 05 47.5 +0.1**
MONM IAmb IAmb 23 05 48.2
comp=Z,45nm,0.7s
MCH1 Michaelchurch 72.07 320 *e*P P **23 05 47.8 0.0**
MCH1 IAmb IAmb 23 05 48.5
comp=Z,44nm,1.0s
IOMK Kirk Michael 72.09 322 *e*P P **23 05 48.3 +0.5**
IOMK IAmb IAmb 23 05 48.6
comp=Z,19nm,0.8s
F19K Shaleruckik Mo 72.12 23 P P **23 05 48.1 +0.3**
F19K IAmb IAmb 23 05 49.7
comp=Z,56nm,1.1s
F19K Shaleruckik Mo 72.12 23 P P **23 05 48.6 +0.8**
baz=298,SNR=34
H17K Granite Mounta 72.23 25 P P **23 05 49.6 +1.1**
H17K IAmb IAmb 23 05 51.0
comp=Z,59nm,1.2s
H17K Granite Mounta 72.23 25 P P **23 05 50.1 +1.5**
baz=297,SNR=22
G18K Tagagawik 72.25 24 P P **23 05 49.0 +0.3**
G18K Tagagawik 72.25 24 P P **23 05 49.3 +0.7**
baz=298,SNR=8.8
WLF1 Llynfaes 72.37 321 *e*P P **23 05 49.8 +0.2**
I17K Unalakleet 72.41 26 P P **23 05 51.0 +1.4**
I17K Unalakleet 72.41 26 P P **23 05 51.1 +1.6**
baz=297,SNR=6.9
EUNU Eureka 72.52 360 P P **23 05 51.2 +1.1**
E21K Killik River 72.58 21 P P **23 05 51.7 +1.1**
E21K Killik River 72.58 21 P P **23 05 51.9 +1.3**
baz=301
G19K Purcell Mounta 72.70 24 P P **23 05 52.1 +0.8**
G19K IAmb IAmb 23 05 53.5
comp=Z,53nm,1.4s
G19K Purcell Mounta 72.70 24 P P **23 05 52.5 +1.2**
baz=299,SNR=19
H18K Honhosa River 72.71 25 P P **23 05 52.3 +0.9**
H18K IAmb IAmb 23 05 53.6
comp=Z,52nm,1.1s
H18K Honhosa River 72.71 25 P P **23 05 52.6 +1.2**
baz=298,SNR=28
F20K Avaraart Lake 72.72 22 P P **23 05 52.5 +1.1**
baz=300,SNR=38
J16K Anvik River 72.72 27 P P **23 05 52.6 +1.1**
J16K Anvik River 72.72 27 P P **23 05 52.8 +1.3**
baz=297,SNR=15
L14K Kuka Creek 72.72 29 P P **23 05 52.6 +1.1**
L14K Kuka Creek 72.72 29 P P **23 05 52.6 +1.1**
baz=296
D22K Ayikyak River 72.74 20 P P **23 05 52.8 +1.2**
D22K Ayikyak River 72.74 20 P P **23 05 53.3 +1.7**
baz=302,SNR=31
K15K Wolf Creek Mou 72.79 28 P P **23 05 52.8 +0.9**
K15K IAmb IAmb 23 05 53.9
comp=Z,25nm,0.6s
K15K Wolf Creek Mou 72.79 28 P P **23 05 53.5 +1.6**
baz=297,SNR=8.1
C23K Itkillik River 72.83 19 P P **23 05 53.3 +1.3**
baz=304,SNR=101
M13K Dall Lake 72.84 30 P P **23 05 53.0 +0.8**
M13K Dall Lake 72.84 30 P P **23 05 53.1 +1.0**
baz=296
BBOO Buckleboo 72.86 143 P P **23 05 53.0 +0.3**
comp=Z,97nm,1.0s
BBOO Buckleboo 72.86 143 P P **23 05 53.2 +0.5**
CEST Esterri de Car 72.89 309 IAmb IAmb 23 05 53.9
comp=Z,22nm,0.8s
NEEM North Greenlan 72.91 352 *i*P P **23 05 53.2 +0.4**
NEEM IAmb IAmb 23 05 54.0
comp=Z,48nm,0.5s
RSBS Rosebush, Pemb 73.08 320 *e*P P **23 05 54.1 +0.3**
RSBS IAmb IAmb 23 05 54.7
comp=Z,60nm,0.7s
L15K Ungalak Mounta 73.09 29 P P **23 05 54.6 +0.9**
baz=297,SNR=7.5
NIKH Nikolski High 73.18 39 P P **23 05 55.5 +1.1**
baz=294

QLP Quilpie 73.19 133 P P **23 05 55.6 +0.9**
comp=Z,96nm,1.1s
QLP Quilpie 73.19 133 P P **23 05 56.0 +1.3**
DYA Yadsworthy 73.21 318 *e*P P **23 05 54.6 0.0**
H19K Roundabout Mou 73.23 24 P P **23 05 55.4 +1.0**
H19K IAmb IAmb 23 05 57.1
comp=Z,37nm,0.9s
H19K Roundabout Mou 73.23 24 P P **23 05 56.0 +1.6**
baz=300,SNR=37
J17K VABM Dome 73.28 27 IAmb IAmb 23 05 56.7
comp=Z,28nm,0.6s
J17K VABM Dome 73.28 27 P P **23 05 55.9 +1.1**
baz=298,SNR=16
D23K Nanushuk River 73.30 20 P P **23 05 56.5 +1.6**
D23K Nanushuk River 73.30 20 P P **23 05 56.2 +1.4**
baz=304
M14K Bethel 73.30 30 IAmb IAmb 23 05 56.9
comp=Z,42nm,0.8s
M14K Bethel 73.30 30 P P **23 05 56.1 +1.2**
baz=297,SNR=13
HTL Hartland 73.31 319 *e*P P **23 05 55.5 +0.3**
HTL IAmb IAmb 23 05 56.1
comp=Z,53nm,0.8s
F21K Alatna River 73.38 22 IAmb IAmb 23 05 57.5
comp=Z,41nm,0.9s
F21K Alatna River 73.38 22 P P **23 05 56.6 +1.2**
baz=302,SNR=47
C24K Franklin Bluff 73.45 19 P P **23 05 56.6 +1.0**
C24K Franklin Bluff 73.45 19 P P **23 05 56.9 +1.3**
baz=305
GCSA Galena City Sc 73.46 25 P P **23 05 57.3 +1.5**
baz=300
SBD Saint Breward 73.60 319 *e*P P **23 05 56.7 -0.2**
F22K John River 73.65 21 P P **23 05 58.0 +1.1**
baz=303
D24K Happy Valley 73.74 19 P P **23 05 58.6 +1.2**
baz=306,SNR=24
G21K Allakaket 73.75 22 IAmb IAmb 23 05 59.3
comp=Z,22nm,0.7s
G21K Allakaket 73.75 22 P P **23 05 58.4 +0.9**
baz=302,SNR=42
N14K Kuskokwak Cree 73.80 30 P P **23 05 58.5 +0.6**
N14K Kuskokwak Cree 73.80 30 P P **23 05 58.4 +0.6**
baz=297
H20K Anotleneega Mo 73.81 24 P P **23 05 59.2 +1.3**
baz=301,SNR=42
TOLK Toolik Lake Re 73.82 20 P P **23 05 58.5 +0.5**
TOLK Toolik Lake Re 73.82 20 P P **23 05 59.0 +1.0**
baz=305,SNR=8
M15K Kasigluk River 73.88 29 P P **23 05 59.3 +1.0**
baz=298,SNR=9.4
K17K Iditarod 73.92 27 P P **23 05 59.6 +1.1**
K17K Iditarod 73.92 27 P P **23 06 00.1 +1.6**
baz=299,SNR=22
L16K Owhat River 73.92 28 P P **23 05 59.4 +0.8**
L16K Owhat River 73.92 28 P P **23 05 59.9 +1.3**
baz=298
IMAR Indian Mountai 73.95 23 P P **23 05 59.2 +0.5**
TATA Tatamba Isabel 74.02 109 P P **23 06 00.2 +0.3**
UNV Unalaska Valle 74.10 37 P P **23 06 00.9 +1.1**
baz=295
E23K Chandalar 74.14 20 P P **23 06 00.9 +1.0**
E23K Chandalar 74.14 20 P P **23 06 01.5 +1.6**
baz=305,SNR=35
J18K Innoko River 74.17 26 P P **23 06 01.3 +1.2**
baz=300,SNR=54
G22K Bettles 74.19 22 P P **23 06 01.1 +1.1**
baz=304
L17K Donlin 74.20 28 P P **23 06 01.9 +1.6**
baz=299,SNR=11
O14K Tigyukauivet M 74.30 31 P P **23 06 01.8 +1.0**
baz=298
J19K Poorman 74.32 25 P P **23 06 01.8 +1.0**
J19K Poorman 74.32 25 P P **23 06 02.2 +1.4**
baz=301,SNR=69
I20K Naaghedeneel 74.32 24 P P **23 06 02.1 +1.3**
I20K IAmb IAmb 23 06 04.4
comp=Z,50nm,1.0s
I20K Naaghedeneel 74.32 24 P P **23 06 02.5 +1.7**
baz=302,SNR=5.7
D25K Kavik River 74.34 18 IAmb IAmb 23 06 03.6
comp=Z,38nm,0.7s
D25K Kavik River 74.34 18 P P **23 06 02.1 +1.1**
baz=308,SNR=32
C26K Camden Bay 74.37 18 P P **23 06 02.5 +1.4**
baz=309
N15K Kwethluk River 74.39 30 P P **23 06 02.4 +1.0**
N15K Kwethluk River 74.39 30 P P **23 06 02.0 +0.7**
baz=298
COLD Coldfoot 74.44 21 P P **23 06 02.6 +1.1**
COLD IAmb IAmb 23 06 04.0
comp=Z,20nm,0.7s
COLD Coldfoot 74.44 21 P P **23 06 02.7 +1.2**
baz=305
H21K Melozitna Rive 74.45 23 IAmb IAmb 23 06 04.0
comp=Z,80nm,1.3s
H21K Melozitna Rive 74.45 23 P P **23 06 03.0 +1.3**
baz=303,SNR=58
M16K Timber Creek 74.47 29 P P **23 06 02.1 +0.3**
M16K Timber Creek 74.47 29 P P **23 06 02.8 +1.0**
baz=299,SNR=7.6
E24K Your Creek 74.48 20 P P **23 06 03.2 +1.4**
baz=306,SNR=100
SUMG Summit 74.68 346 IAmb IAmb 23 06 04.5
comp=Z,43nm,1.1s
SUMG Summit 74.68 346 *i*P P **23 06 03.0 -0.3**
HNR Honiara 74.69 109 LR LR 23 39 36.4
comp=Z,49nm,19.3s,baz=312,slow=36
J20K Nowinta River 74.77 25 P P **23 06 04.5 +1.0**
J20K IAmb IAmb 23 06 06.3
comp=Z,38nm,0.9s
J20K Nowinta River 74.77 25 P P **23 06 05.0 +1.5**
baz=302,SNR=43
G23K Bananza Creek 74.80 21 P P **23 06 04.7 +1.0**
G23K IAmb IAmb 23 06 06.0
comp=Z,40nm,1.3s
G23K Bananza Creek 74.80 21 P P **23 06 04.9 +1.2**
baz=305,SNR=25
H22K Ishtalitna Cre 74.81 23 P P **23 06 05.1 +1.3**
baz=304,SNR=20
L18K Granite Mounta 74.81 27 P P **23 06 04.4 +0.6**
L18K Granite Mounta 74.81 27 P P **23 06 04.6 +0.9**
baz=301,SNR=11
N16K Nishlik Lake 74.82 29 P P **23 06 04.9 +1.0**
baz=299
BORG Borgarnes 74.83 336 LR LR 23 40 36.6
comp=Z,154nm,18.8s,baz=60,slow=37
C27K Jago River 74.88 18 P P **23 06 05.4 +1.4**
C27K IAmb IAmb 23 06 06.5
comp=Z,30nm,0.8s
C27K Jago River 74.88 18 P P **23 06 05.2 +1.2**
baz=310,SNR=18
HTT Hallett 74.89 141 P P **23 06 05.0 +0.3**
HTT Hallett 74.89 141 P P **23 06 05.1 +0.5**
M17K Holitna River 74.92 28 P P **23 06 05.6 +1.2**
M17K IAmb IAmb 23 06 06.7
comp=Z,19nm,0.7s
M17K Holitna River 74.92 28 P P **23 06 06.0 +1.6**
baz=300,SNR=7.2
O15K Ungalikthiuk R 74.99 31 P P **23 06 05.1 +0.3**
O15K Ungalikthiuk R 74.99 31 P P **23 06 05.4 +0.6**
baz=299
F24K Squaw Lake 74.99 20 P P **23 06 05.8 +1.1**
F24K IAmb IAmb 23 06 07.2
comp=Z,26nm,0.7s
F24K Squaw Lake 74.99 20 P P **23 06 05.9 +1.1**
baz=307,SNR=38
K20K Telida 75.24 25 P P **23 06 07.5 +1.3**
K20K IAmb IAmb 23 06 09.0
comp=Z,46nm,1.1s
K20K Telida 75.24 25 P P **23 06 07.6 +1.3**
baz=302,SNR=36
STKA Stephens Creek 75.28 139 P P **23 06 06.9 +0.1**
comp=Z,203nm,1.1s
STKA Stephens Creek 75.28 139 P P **23 06 07.0 +0.1**
comp=Z,20nm,0.8s,baz=322,slow=7.1,SNR=22
STKA LR LR 23 45 45.9
comp=Z,141nm,18.3s,baz=334,slow=41
comp=Z,20nm,0.8s
STKA Stephens Creek 75.28 139 P P **23 06 07.3 +0.5**
STKA Stephens Creek 75.28 139 P P **23 06 07.0 +0.2**
E25K Arctic Village 75.32 19 P P **23 06 08.0 +1.3**
baz=309,SNR=12
H23K Yukon River 75.47 22 IAmb IAmb 23 06 10.3
comp=Z,38nm,1.4s
H23K Yukon River 75.47 22 P P **23 06 09.0 +1.5**
baz=306,SNR=20

N17K Nushagak Hills 75.47 29 P P **23 06 07.5 -0.1**
N17K Nushagak Hills 75.47 29 P P **23 06 09.1 +1.5**
baz=301
MLY Manley 75.52 23 P P **23 06 08.8 +0.9**
MLY Manley 75.52 23 P P **23 06 09.3 +1.4**
baz=305,SNR=46
M18K Stony River 75.54 27 P P **23 06 09.2 +1.3**
baz=302,SNR=8.4
O16K Kokwok River B 75.55 30 P P **23 06 08.4 +0.3**
O16K Kokwok River B 75.55 30 P P **23 06 09.4 +1.3**
baz=300,SNR=7.3
L19K White Mountain 75.57 27 P P **23 06 08.2 0.0**
L19K White Mountain 75.57 27 P P **23 06 09.6 +1.4**
baz=302,SNR=15
CHUM Lake Minchumin 75.61 24 P P **23 06 09.9 +1.6**
baz=304,SNR=6.3
G24K Hadweenzic Riv 75.62 21 P P **23 06 09.5 +1.1**
G24K IAmb IAmb 23 06 10.9
comp=Z,24nm,0.8s
G24K Hadweenzic Riv 75.62 21 P P **23 06 09.9 +1.6**
baz=307,SNR=21
F25K Christian Rive 75.63 20 P P **23 06 09.9 +1.4**
F25K IAmb IAmb 23 06 11.4
comp=Z,49nm,1.0s
F25K Christian Rive 75.63 20 P P **23 06 10.2 +1.8**
baz=309,SNR=61
LSZ Lusaka 75.71 244 P P **23 06 10.7 +0.9**
LSZ IAmb IAmb 23 06 11.5
comp=Z,20nm,0.5s
LSZ Lusaka 75.71 244 P P **23 06 10.7 +0.9**
LSZ Lusaka 75.71 244 P P **23 06 10.7 +0.9**
LSZ pmax pmax
comp=Z,20nm,0.5s
L20K Farewell, AK 75.79 26 P P **23 06 10.7 +1.2**
baz=303,SNR=11
D27M Malcolm River 75.86 17 P P **23 06 10.7 +0.9**
D27M Malcolm River 75.86 17 P P **23 06 11.2 +1.4**
baz=312,SNR=5.7
P16K Nushagak River 75.88 30 P P **23 06 10.9 +1.0**
baz=300
M19K Big River Lodg 75.90 27 P P **23 06 10.5 +0.5**
M19K Big River Lodg 75.90 27 P P **23 06 11.6 +1.6**
baz=303
I23K Minto, Yukon-K 75.93 23 P P **23 06 11.1 +1.0**
I23K IAmb IAmb 23 06 12.6
comp=Z,50nm,1.4s
I23K Minto, Yukon-K 75.93 23 P P **23 06 11.4 +1.3**
baz=306,SNR=23
N18K Kilae Creek 75.94 28 P P **23 06 10.5 +0.2**
N18K IAmb IAmb 23 06 12.2
comp=Z,17nm,0.5s
N18K Kilae Creek 75.94 28 P P **23 06 11.6 +1.3**
baz=302,SNR=13
BPAW Bear Paw Mtn. 75.97 24 P P **23 06 11.1 +0.7**
BPAW IAmb IAmb 23 06 13.1
comp=Z,45nm,0.8s
BPAW Bear Paw Mtn. 75.97 24 P P **23 06 11.6 +1.1**
baz=305,SNR=47
SOEG Soedalen 75.97 341 *i*P P **23 06 10.7 +0.4**
F26K Sheenjek River 76.01 19 IAmb IAmb 23 06 13.6
comp=Z,19nm,0.5s
F26K Sheenjek River 76.01 19 P P **23 06 12.1 +1.5**
baz=310,SNR=28
G25K Bearman Lake 76.01 20 P P **23 06 12.4 +1.9**
baz=308,SNR=14
H24K Noodor Dome 76.01 22 IAmb IAmb 23 06 13.2
comp=Z,24nm,1.1s
H24K Noodor Dome 76.01 22 P P **23 06 12.2 +1.6**
baz=307,SNR=30
BMAR Burnt Mountain 76.05 20 P P **23 06 12.2 +1.4**
PPLA Purkeypile 76.21 25 P P **23 06 12.9 +0.9**
PPLA Purkeypile 76.21 25 P P **23 06 12.9 +0.9**
baz=304,SNR=20
KTH Kantishna Hill 76.31 24 IAmb IAmb 23 06 15.4
comp=Z,33nm,1.4s
NEA2 Nenana 76.36 23 IAmb IAmb 23 06 14.6
comp=Z,31nm,0.7s
NEA2 Nenana 76.36 23 P P **23 06 13.8 +1.2**
baz=306,SNR=43
D28M Stokes Point 76.38 17 P P **23 06 13.9 +1.3**
baz=314
FYU Fort Yukon 76.40 20 P P **23 06 14.4 +1.6**
E27K Coleen River 76.41 18 P P **23 06 13.7 +0.9**
E27K IAmb IAmb 23 06 15.2
comp=Z,30nm,1.1s
E27K Coleen River 76.41 18 P P **23 06 14.2 +1.4**
baz=312,SNR=21
H25L Birch Creek 76.41 21 P P **23 06 14.5 +1.7**
baz=309
M20K Styx River 76.41 26 P P **23 06 14.2 +1.1**
M20K IAmb IAmb 23 06 15.1
comp=Z,24nm,0.6s
M20K Styx River 76.41 26 P P **23 06 14.6 +1.5**
baz=304,SNR=25
N19K Bonanza Creek 76.46 28 P P **23 06 14.1 +0.8**
N19K Bonanza Creek 76.46 28 P P **23 06 14.5 +1.2**
baz=303,SNR=9.6
BWN Browne 76.47 23 P P **23 06 14.1 +0.9**
BWN IAmb IAmb 23 06 16.3
comp=Z,57nm,1.1s
P17K Kvichak River 76.49 30 P P **23 06 14.4 +1.0**
baz=302,SNR=5.9
S14K Fog Glacier 76.53 33 P P **23 06 15.2 +1.3**
baz=300
SDPT Sand Point 76.54 34 P P **23 06 15.0 +1.2**
baz=299
G26K Porcupine Rive 76.60 20 P P **23 06 15.4 +1.5**
G26K Porcupine Rive 76.60 20 P P **23 06 16.0 +2.1**
baz=310,SNR=42
TRF Thorofare Moun 76.60 24 P P **23 06 14.9 +0.7**
TRF Thorofare Moun 76.60 24 P P **23 06 14.9 +0.7**
baz=306,SNR=14
POKR Poker Plat Res 76.60 22 P P **23 06 14.7 +0.7**
POKR Poker Plat Res 76.60 22 P P **23 06 15.4 +1.4**
baz=308
COLA College 76.61 22 P P **23 06 15.1 +1.2**
COLA College 76.61 22 P P **23 06 16.2 +2.3**
COLA College 76.61 22 P P **23 06 15.1 +1.2**
COLA pmax pmax
comp=Z,55nm,0.8s
COLA College 76.61 22 P P **23 06 14.8 +0.9**
baz=307
Q16K King Salmon 76.66 30 P P **23 06 15.0 +0.6**
baz=302
O18K Koktuh Hills 76.67 29 P P **23 06 15.6 +1.1**
O18K IAmb IAmb 23 06 17.2
comp=Z,22nm,0.6s
O18K Koktuh Hills 76.67 29 P P **23 06 15.5 +1.1**
baz=302,SNR=8.4
E28M Babbage River 76.68 17 IAmb IAmb 23 06 16.6
comp=Z,30nm,0.8s
E28M Babbage River 76.68 17 P P **23 06 15.5 +1.1**
baz=314,SNR=30
CCB Clear Creek Bu 76.76 23 IAmb IAmb 23 06 15.7
comp=Z,14nm,0.5s
WRH Wood River Hil 76.77 23 IAmb IAmb 23 06 16.2
comp=Z,12nm,0.6s
P18K Big Mountain, 76.91 29 IAmb IAmb 23 06 17.1
comp=Z,16nm,0.7s
P18K Big Mountain, 76.91 29 P P **23 06 16.6 +0.8**
baz=302
MCK McKinley 76.92 24 IAmb IAmb 23 06 17.4
comp=Z,28nm,0.6s
MCK McKinley 76.92 24 P P **23 06 16.2 +0.4**
baz=307,SNR=17
PRP Porcupine Dome 76.98 21 P P **23 06 17.8 +1.5**
baz=309,SNR=31
SKT Skwentna 76.98 26 IAmb IAmb 23 06 17.7
comp=Z,41nm,1.0s
SKT Skwentna 76.98 26 P P **23 06 16.8 +0.6**
baz=305,SNR=37
IL31 77.00 22 IAmb IAmb 23 06 17.3
comp=Z,25nm,0.8s
ILAR Eielson Array 77.00 22 P P **23 06 15.7 -0.5**
ILAR Eielson Array 77.00 22 P P **23 06 16.0 -0.2**
comp=Z,18nm,0.7s,baz=302,slow=4.8,SNR=145
ILAR PP PP **23 09 07.5 -1.4**
comp=Z,1.6nm,0.7s,baz=304,slow=7.0,SNR=4.9
ILAR LR LR 23 43 23.3
comp=Z,239nm,19.8s,baz=299,slow=38
comp=Z,18nm,0.7s
EIDS Eidsvold 77.02 128 P P **23 06 17.2 +0.4**
EIDS Eidsvold 77.02 128 P P **23 06 17.2 +0.4**
comp=Z,22nm,0.9s
CHGN Chignik 77.07 33 P P **23 06 16.7 0.0**
CHGN IAmb IAmb 23 06 18.1
comp=Z,47nm,1.2s

CHGN Chignik 77.07 33 P P 23 06 16.7 0.0
baz=301
STLK Strandline Lak 77.14 26 P P 23 06 17.8 +0.6
RND Reindeer 77.15 24 P P 23 06 17.3 +0.1
RND IAmb IAmb 23 06 19.0
comp=Z,70nm,1.4s
RND Reindeer 77.15 24 P P 23 06 17.3 +0.1
RND pmax pmax
comp=Z,70nm,1.4s
HDA Harding Lake 77.20 23 P P 23 06 16.8 -0.6
baz=308,SNR=6.0
A36M Sachs Harbour 77.22 11 P P 23 06 17.9 +0.7
baz=326,SNR=55
CUT Chulitna 77.22 25 P P 23 06 17.8 +0.3
baz=306
Q17K Contact Creek 77.22 30 P P 23 06 17.2 -0.5
baz=302
SPU Mount Spurr 77.24 27 P P 23 06 18.7 +1.0
CHNA Chernabura Isl 77.24 34 P P 23 06 18.6 +0.9
CHNA Chernabura Isl 77.24 34 P P 23 06 17.7 0.0
baz=300
CNBA Chernabura Isl 77.24 34 P P 23 06 18.7 +1.0
CNBA IAmb IAmb 23 06 26.5
comp=Z,32nm,1.0s
E29M Blow River 77.26 17 IAmb IAmb 23 06 19.8
comp=Z,26nm,0.7s
E29M Blow River 77.26 17 P P 23 06 18.8 +1.2
baz=315,SNR=35
F28M Old Crow 77.28 18 IAmb IAmb 23 06 19.9
comp=Z,21nm,0.8s
F28M Old Crow 77.28 18 P P 23 06 18.9 +1.1
baz=314,SNR=26
G27K Doyon Strip 77.32 19 P P 23 06 19.0 +1.0
baz=312,SNR=20
R17L Mt. Peulik Vol 77.34 31 P P 23 06 19.3 +1.0
baz=302
Q18K Katmai Hardscr 77.41 30 P P 23 06 18.2 -0.6
baz=303,SNR=6.0
TAM Tamanrasset 77.45 289 P P 23 06 19.5 -0.2
TAM Tamanrasset 77.45 289 P P 23 06 19.5 -0.2
TAM pmax pmax
comp=Z,33nm,0.4s
ILSW Iliamna Southw 77.47 28 P P 23 06 19.5 +0.4
CMSA Cobar Meteorol 77.51 136 P P 23 06 20.1 +0.6
comp=Z,60nm,0.8s
CMSA Cobar Meteorol 77.51 136 P P 23 06 20.5 +1.0
J25K Salcha River, 77.61 22 IAmb IAmb 23 06 20.4
comp=Z,16nm,0.7s
J25K Salcha River, 77.61 22 P P 23 06 19.5 -0.2
baz=310,SNR=29
P19K Oil Pt 77.62 28 P P 23 06 19.5 -0.3
P19K IAmb IAmb 23 06 21.4
comp=Z,45nm,0.9s
P19K Oil Pt 77.62 28 P P 23 06 19.7 -0.1
baz=304
O20K Slope Mountain 77.63 28 P P 23 06 19.9 0.0
baz=304
M22K Willow 77.66 26 P P 23 06 20.1 +0.1
M22K Willow 77.66 26 P P 23 06 20.2 +0.3
baz=306
ESBB Sonseca Array 77.67 308 P P 23 06 20.4 -0.1
ESDC Sonseca Array 77.67 308 P P 23 06 20.2 -0.3
ESDC Sonseca Array 77.67 308 P P 23 06 21.0 +0.4
comp=Z,9.0nm,0.9s,baz=55,slow=6.3,SNR=53
ESDC PP PP 23 09 14.5 -0.9
comp=Z,3.2nm,0.9s,baz=58,slow=8.5,SNR=5.5
ESDC LR LR 23 46 18.7
comp=Z,113nm,19.8s,baz=42,slow=40
comp=Z,9.0nm,0.9s
H27K Steamboat Moun 77.75 20 P P 23 06 21.4 +1.0
H27K IAmb IAmb 23 06 23.1
comp=Z,35nm,1.0s
H27K Steamboat Moun 77.75 20 P P 23 06 21.8 +1.3
baz=312,SNR=49
RES Resolute Bay 77.79 2 P P 23 06 20.8 +0.4
RES Resolute Bay 77.79 2 LR LR 23 42 11.3
comp=Z,148nm,21.2s,baz=13,slow=37
RES Resolute Bay 77.79 2 P P 23 06 20.8 +0.4
RES pmax pmax
comp=Z,12nm,1.0s
CAPN Captain Cook N 77.83 27 P P 23 06 20.7 -0.2
baz=305
Q19K Cape Douglas, 77.85 29 P P 23 06 20.8 -0.3
Q19K IAmb IAmb 23 06 31.0
comp=Z,39nm,1.1s
Q19K Cape Douglas, 77.85 29 P P 23 06 20.7 -0.4
baz=304
I26K Coal Creek Min 77.87 21 P P 23 06 22.4 +1.3
baz=311
K24K Donnelly Dome 77.98 23 P P 23 06 22.2 +0.4
baz=309,SNR=42
PAB San Pablo 78.00 308 P P 23 06 22.8 +0.4
PAB San Pablo 78.00 308 P P 23 06 22.8 +0.4
PAB pmax pmax
comp=Z,17nm,1.3s
PMR Palmer 78.14 26 P P 23 06 22.8 +0.2
PMR IAmb IAmb 23 06 23.7
comp=Z,27nm,0.7s
PMR Palmer 78.14 26 P P 23 06 22.8 +0.2
PMR pmax pmax
comp=Z,27nm,0.7s
PMR Palmer 78.14 26 P P 23 06 23.1 +0.5
baz=307,SNR=6.6
I27K Kandik River 78.15 20 P P 23 06 24.5 +1.8
baz=313,SNR=79
RC01 Rabbit Creek A 78.20 26 P P 23 06 23.2 +0.2
RC01 IAmb IAmb 23 06 24.4
comp=Z,35nm,1.0s
RC01 Rabbit Creek A 78.20 26 P P 23 06 23.7 +0.7
baz=307,SNR=8.6
R18K Karluk 78.25 30 P P 23 06 22.8 -0.4
baz=303
J26L Joseph Creek 78.27 22 P P 23 06 24.3 +0.9
baz=311,SNR=85
HOM Homer 78.28 28 P P 23 06 23.7 +0.3
baz=305
G29M Pine Creek 78.28 18 IAmb IAmb 23 06 24.9
comp=Z,16nm,0.7s
G29M Pine Creek 78.28 18 P P 23 06 24.4 +1.0
baz=315,SNR=23
RIDG Independent Ri 78.34 23 P P 23 06 24.1 +0.3
baz=310,SNR=39
F30M Barrier River 78.38 17 IAmb IAmb 23 06 26.0
comp=Z,37nm,0.8s
F30M Barrier River 78.38 17 P P 23 06 25.1 +1.3
baz=317,SNR=36
INK Inuvik 78.42 16 IAmb IAmb 23 06 25.8
comp=Z,35nm,0.9s
INK Inuvik 78.42 16 LR LR 23 45 27.9
comp=Z,52nm,19.2s,baz=315,slow=39
INK Inuvik 78.42 16 P P 23 06 25.0 +1.0
baz=319,SNR=26
SCRK Sand Creek 78.48 22 IAmb IAmb 23 06 26.4
comp=Z,43nm,0.8s
SCRK Sand Creek 78.48 22 P P 23 06 25.4 +0.8
baz=311,SNR=79
KNK Knik Glacier 78.50 25 IAmb IAmb 23 06 26.6
comp=Z,30nm,0.8s
KNK Knik Glacier 78.50 25 P P 23 06 25.5 +0.9
baz=308,SNR=6.3
CNPM China Poot 78.52 28 P P 23 06 25.6 +0.7
CNPM IAmb IAmb 23 06 42.3
comp=Z,52nm,1.4s
BRLK Bradley Lake 78.53 28 IAmb IAmb 23 06 25.6
comp=Z,43nm,0.8s
M23K Glacier View 78.55 25 P P 23 06 25.5 +0.6
baz=308,SNR=14
Q20K Shuyak Island 78.56 29 P P 23 06 25.1 +0.1
baz=305
PAX Paxson 78.62 23 P P 23 06 25.8 +0.4
baz=310,SNR=16
PBRG Braganca 78.63 311 eP P 23 06 25.9 +0.1
PBRG i IAmb IAmb 23 06 34.1
comp=Z,15nm,1.7s
SCM Sheep Creek Mo 78.67 25 P P 23 06 26.7 +1.0
baz=308,SNR=17
H29M Whitestone 78.68 19 IAmb IAmb 23 06 27.4
comp=Z,38nm,1.1s
H29M Whitestone 78.68 19 P P 23 06 26.4 +0.9
baz=315,SNR=28
G30M tAoh Zraii Nji 78.73 18 P P 23 06 26.4 +0.6
baz=317,SNR=61
I28M Miner Creek 78.77 20 IAmb IAmb 23 06 27.9
comp=Z,38nm,1.4s
I28M Miner Creek 78.77 20 P P 23 06 27.0 +0.8
baz=314,SNR=22
PWL Port Wells 78.89 26 IAmb IAmb 23 06 28.1
comp=Z,34nm,0.6s
PWL Port Wells 78.89 26 P P 23 06 27.1 +0.3
baz=308,SNR=8.0
SEW Seward 78.91 27 P P 23 06 27.4 +0.6
SEW Seward 78.91 27 P P 23 06 27.0 +0.2
baz=307
M24K Tolsona, Glenn 78.92 24 P P 23 06 28.3 +1.3
M24K IAmb IAmb 23 06 29.6
comp=Z,44nm,0.8s
M24K Tolsona, Glenn 78.92 24 P P 23 06 26.7 -0.3
baz=309,SNR=9.4
SII Sitkinak Islan 78.92 31 P P 23 06 27.7 +0.6
SII Sitkinak Islan 78.92 31 P P 23 06 26.9 -0.2
baz=304
KDAK Kodiak Island 78.95 30 P P 23 06 27.6 +0.4
KDAK Kodiak Island 78.95 30 LR LR 23 46 00.6
comp=Z,116nm,18.6s,baz=302,slow=39
KDAK Kodiak Island 78.95 30c iP P 23 06 27.2 0.0
KDAK pmax pmax
comp=Z,23nm,0.9s
KDAK Kodiak Island 78.95 30 P P 23 06 27.0 -0.2
baz=305
OHAK Old Harbor 78.96 30 IAmb IAmb 23 06 27.9
comp=Z,18nm,0.5s
OHAK Old Harbor 78.96 30 P P 23 06 27.7 +0.5
OHAK Old Harbor 78.96 30 P P 23 06 27.1 -0.1
baz=304,SNR=9.2
F31M Tsiigehtchic 79.03 17 IAmb IAmb 23 06 29.0
comp=Z,48nm,1.4s
F31M Tsiigehtchic 79.03 17 P P 23 06 27.9 +0.5
baz=319,SNR=8.6
EPYK Eagle Plains 79.04 18 IAmb IAmb 23 06 28.4
comp=Z,22nm,0.6s
EPYK Eagle Plains 79.04 18 P P 23 06 27.9 +0.4
baz=317,SNR=21
K27K Chicken 79.07 22 P P 23 06 28.6 +0.9
K27K IAmb IAmb 23 06 37.1
comp=Z,43nm,1.1s
K27K Chicken 79.07 22 P P 23 06 29.0 +1.3
baz=312
HARP HAARP 79.10 24 P P 23 06 28.9 +1.0
baz=310,SNR=9.2
MVO Moncorvo 79.11 311 eP P 23 06 28.7 +0.2
MVO i IAmb IAmb 23 06 29.6
comp=Z,31nm,0.9s
MENT Mentasta 79.25 23 P P 23 06 29.0 +0.2
G31M Satah River 79.28 17 IAmb IAmb 23 06 30.2
comp=Z,42nm,0.8s
G31M Satah River 79.28 17 P P 23 06 29.2 +0.4
baz=319,SNR=45
I29M Ogilvie Camp, 79.31 19 P P 23 06 29.9 +0.9
L26K Log Cabin Wild 79.32 23 P P 23 06 30.2 +1.1
L26K Log Cabin Wild 79.32 23 P P 23 06 30.2 +1.1
baz=312
GLI Glacier Island 79.35 25 P P 23 06 29.1 -0.2
GLI Glacier Island 79.35 25 P P 23 06 29.9 +0.5
baz=309
KLU Klutina 79.41 25 P P 23 06 30.4 +0.7
KLU IAmb IAmb 23 06 32.0
comp=Z,58nm,1.0s
KLU Klutina 79.41 25 P P 23 06 31.1 +1.4
baz=310,SNR=30
PVRL Vila Real 79.52 311 eP P 23 06 31.4 +0.7
PVRL i IAmb IAmb 23 06 32.1
comp=Z,20nm,1.6s
PCAB Cabril 79.53 312 eP P 23 06 30.2 -0.5
PCAB i IAmb IAmb 23 06 33.8
comp=Z,21nm,1.7s
POLO Lamas de Olo 79.53 311 eP P 23 06 31.4 +0.6
POLO i IAmb IAmb 23 06 32.3
comp=Z,6.5nm,1.3s
ANGG Ammassalik, Gr 79.55 341 P P 23 06 31.1 +0.9
PGAV Gavieira, Arco 79.57 312 eP P 23 06 31.7 +0.7
PGAV i IAmb IAmb 23 06 35.1
comp=Z,26nm,1.3s
FID Port Fidalgo 79.67 25 IAmb IAmb 23 06 33.1
comp=Z,47nm,1.2s
DIV Divide 79.69 25 IAmb IAmb 23 06 33.4
comp=Z,27nm,0.8s
POIN Pond Inlet 79.71 357 P P 23 06 31.8 +0.8
POIN IAmb IAmb 23 06 32.6
comp=Z,34nm,1.0s
P23K Montague Islan 79.79 26 P P 23 06 32.6 +0.9
baz=309
MTE Manteigas 79.81 310 P P 23 06 32.7 +0.4
MTE Manteigas 79.81 310 eP P 23 06 33.2 +1.0
MTE i IAmb IAmb 23 06 33.7
comp=Z,35nm,1.0s
L27K Beaver Creek, 79.81 22 P P 23 06 33.1 +1.3
L27K IAmb IAmb 23 06 34.7
comp=Z,44nm,0.7s
L27K Beaver Creek, 79.81 22 P P 23 06 33.7 +1.9
baz=313,SNR=105
N25K Chitina, Valde 79.82 24 P P 23 06 33.3 +1.4
N25K Chitina, Valde 79.82 24 P P 23 06 33.5 +1.6
baz=311,SNR=37
BCAR Beaver Creek A 79.82 22 P P 23 06 33.4 +1.4
M26K Nabesna, AK 79.86 23 P P 23 06 33.6 +1.5
baz=312,SNR=27
HIN Hinchinbrook I 79.89 26 P P 23 06 33.0 +0.7
HIN IAmb IAmb 23 06 34.5
comp=Z,53nm,1.0s
ILULI Ilulissat 79.89 348 P P 23 06 32.0 0.0
ILULI IAmb IAmb 23 06 33.0
comp=Z,34nm,1.1s
ILULI Ilulissat 79.89 348 P P 23 06 32.1 0.0
ILULI pmax pmax
comp=Z,34nm,1.1s
PVIS Viseu 79.90 311 eP P 23 06 33.1 +0.4
DAWY Dawson 79.90 21 P P 23 06 32.3 0.0
DAWY Dawson 79.90 21 P P 23 06 33.2 +0.9
baz=315,SNR=14
I30M Mount Dempster 79.97 19 IAmb IAmb 23 06 34.3
comp=Z,39nm,0.9s
I30M Mount Dempster 79.97 19 P P 23 06 33.3 +0.5
baz=317,SNR=54
J29N Klondike Camp 79.99 20 P P 23 06 34.1 +1.3
J29N IAmb IAmb 23 06 35.0
comp=Z,37nm,1.0s
J29N Klondike Camp 79.99 20 P P 23 06 34.0 +1.2
baz=316
PCBR Castelo Branco 80.02 310 eP P 23 06 34.1 +0.7
PCBR i IAmb IAmb 23 06 35.0
comp=Z,20nm,0.9s
EYAK Cordova Ski Ar 80.08 25 P P 23 06 34.3 +1.1
EYAK IAmb IAmb 23 06 35.2
comp=Z,22nm,0.7s
EYAK Cordova Ski Ar 80.08 25 P P 23 06 33.9 +0.7
baz=310,SNR=5.3
H31M Peel River 80.11 18 P P 23 06 33.9 +0.5
baz=319,SNR=64
PMRV Marv??o 80.15 309 eP P 23 06 34.5 +0.4
PMRV i IAmb IAmb 23 06 35.5
comp=Z,27nm,1.8s
POGA Pongola 80.16 232 IAmb IAmb 23 06 44.2
comp=Z,31nm,0.7s
GLB Gilahina Butte 80.21 24 P P 23 06 35.0 +1.0
GLB IAmb IAmb 23 06 36.5
comp=Z,45nm,1.5s
BMRM Bremner River 80.23 25 P P 23 06 35.5 +1.4
baz=311,SNR=26
M27K Edge Creek, AK 80.28 23 IAmb IAmb 23 06 45.1
comp=Z,39nm,0.9s
M27K Edge Creek, AK 80.28 23 P P 23 06 36.0 +1.6
baz=313,SNR=37
J30M Hart River 80.47 19 P P 23 06 35.7 +0.2
J30M Hart River 80.47 19 P P 23 06 36.1 +0.6
baz=317,SNR=34
VRDI Verde Repeater 80.48 24 P P 23 06 36.5 +0.8
VRDI IAmb IAmb 23 06 38.2
comp=Z,42nm,1.4s
COI Coimbra 80.49 310 P P 23 06 35.8 -0.1
COI IAmb IAmb 23 06 36.9
comp=Z,26nm,0.9s
COI Coimbra 80.49 310 eP P 23 06 36.6 +0.8
COI i IAmb IAmb 23 06 37.1
comp=Z,36nm,1.1s
COI Coimbra 80.49 310 P P 23 06 35.8 -0.1
COI pmax pmax
comp=Z,26nm,0.9s
PBAR Barrancos 80.49 308 eP P 23 06 36.2 +0.3
PBAR i IAmb IAmb 23 06 37.0
comp=Z,29nm,0.8s
MCARA McCarthy VSAT 80.53 24 P P 23 06 36.9 +1.2
MCARA IAmb IAmb 23 06 38.5
comp=Z,50nm,0.8s
MCARA McCarthy VSAT 80.53 24 P P 23 06 37.3 +1.6
baz=312,SNR=17
Q23K Middleton Isla 80.56 26 P P 23 06 36.9 +1.1
baz=310
BVCY Beaver Creek 80.58 22 P P 23 06 37.4 +1.4
baz=314,SNR=5.3
RAGM Ragged Mountai 80.59 25 P P 23 06 37.2 +1.2
RAGM IAmb IAmb 23 06 51.6
comp=Z,34nm,0.9s
ARMA Armidale 80.59 131 P P 23 06 37.7 +1.2
ARMA Armidale 80.59 131 P P 23 06 36.9 +0.4
PSARD Sardoal 80.60 310 eP P 23 06 37.2 +0.7
PSARD i IAmb IAmb 23 06 37.7
comp=Z,42nm,0.8s
K29M Barlow Dome 80.64 20 IAmb IAmb 23 06 38.5
comp=Z,30nm,0.9s
K29M Barlow Dome 80.64 20 P P 23 06 37.6 +1.2
baz=316,SNR=41
HMT Hamilton 80.78 25 P P 23 06 37.8 +0.7
HMT IAmb IAmb 23 06 39.4
comp=Z,47nm,1.1s
PMTG Montargil 80.89 309 eP P 23 06 38.5 +0.5
PMTG i IAmb IAmb 23 06 39.3
comp=Z,33nm,1.3s
CRQM Cirque 80.91 24 P P 23 06 38.3 +0.3
CRQM IAmb IAmb 23 06 53.1
comp=Z,51nm,1.2s
CRQE Cirque 80.93 24 P P 23 06 39.5 +1.5
baz=312,SNR=8.3
L29M L29M 80.98 21 P P 23 06 39.5 +1.4
L29M IAmb IAmb 23 06 40.6
comp=Z,38nm,1.3s
L29M L29M 80.98 21 P P 23 06 39.5 +1.4
baz=316,SNR=26
EVO Evora 81.00 309 eP P 23 06 38.8 +0.2
EVO i IAmb IAmb 23 06 48.0
comp=Z,24nm,1.2s
TGL Tana Glacier 81.03 24 P P 23 06 39.3 +0.8
SUCK Suckling Hills 81.13 25 P P 23 06 40.1 +1.2
SUCK IAmb IAmb 23 06 54.8
comp=Z,44nm,1.2s
PBEJ Beja 81.14 308 eP P 23 06 40.4 +1.0
PBEJ i IAmb IAmb 23 06 45.7
comp=Z,20nm,1.5s
YUK3 Moose Creek 81.16 23 P P 23 06 40.7 +1.3
baz=314,SNR=12
MDT Midelt 81.18 302 LR LR 23 46 31.7
comp=Z,67nm,21.5s,baz=58,slow=38
WAX Waxell Ridge 81.22 24 P P 23 06 41.0 +1.5
WAX IAmb IAmb 23 06 42.4
comp=Z,36nm,0.8s
BARN Barnard Glacie 81.24 24 P P 23 06 41.2 +1.5
BARN IAmb IAmb 23 06 42.6
comp=Z,32nm,0.7s
BGLC Bering Glacier 81.28 25 P P 23 06 40.8 +1.1
baz=312
ISLE Juniper Island 81.31 24 P P 23 06 41.0 +1.0
ISLE IAmb IAmb 23 06 50.2
comp=Z,31nm,0.8s
PVAQ Vaqueiros 81.32 308 eP P 23 06 41.0 +0.6
PVAQ i IAmb IAmb 23 06 41.5
comp=Z,46nm,0.9s
M29M Somme Creek 81.36 22 P P 23 06 41.6 +1.4
M29M IAmb IAmb 23 06 42.9
comp=Z,22nm,0.8s
M29M Somme Creek 81.36 22 P P 23 06 42.0 +1.8
baz=316,SNR=41
CTG Chitna Glacier 81.42 24 P P 23 06 42.3 +1.7
baz=313,SNR=19
CTGM Chitina Glacie 81.42 24 P P 23 06 41.6 +1.0
CTGM IAmb IAmb 23 06 43.5
comp=Z,38nm,0.8s
GRNC Granite Creek 81.43 24 P P 23 06 42.1 +1.4
GRNC IAmb IAmb 23 06 51.2
comp=Z,24nm,0.8s
PCVE Castro Verde 81.44 308 eP P 23 06 41.5 +0.5
PCVE i IAmb IAmb 23 07 23.2
comp=Z,72nm,1.7s
MESJ Messejana 81.47 308 eP P 23 06 41.6 +0.5
MESJ IAmb IAmb 23 06 42.8
comp=Z,20nm,0.8s
MESJ Messejana 81.47 308 P P 23 06 41.4 +0.2
MESJ IAmb IAmb 23 06 42.6
comp=Z,19nm,0.7s
MESJ Messejana 81.47 308 eP P 23 06 41.8 +0.6
MESJ Messejana 81.47 308 P P 23 06 41.4 +0.2
MESJ pmax pmax
comp=Z,19nm,0.7s
PARRA Arraiolos 81.57 309 eP P 23 06 38.0 -3.7
PARRA i IAmb IAmb 23 06 47.5
comp=Z,18nm,1.4s
TOO Toolangi 81.58 140 P P 23 06 42.5 +1.0
TOO Toolangi 81.58 140 P P 23 06 42.5 +1.0
TOO pmax pmax
comp=Z,25nm,1.5s
LOGN Logan Glacier 81.63 24 P P 23 06 42.9 +1.1
LOGN IAmb IAmb 23 06 52.7
comp=Z,58nm,1.4s
SFJD Kangerlussuaq 81.68 346 P P 23 06 42.2 +0.5
SFJD IAmb IAmb 23 06 42.4
comp=Z,34nm,0.8s
SFJD Kangerlussuaq 81.68 346 LR LR 23 48 16.3
comp=Z,294nm,18.9s,baz=18,slow=40
SFJD Kangerlussuaq 81.68 346 P P 23 06 42.2 +0.5
SFJD pmax pmax
comp=Z,34nm,0.8s
YAH Yahtse 81.69 24 P P 23 06 43.0 +0.8
MESA MESA 81.74 24 P P 23 06 43.0 +0.7
MESA MESA 81.74 24 P P 23 06 43.7 +1.3
baz=313,SNR=13
YUK8 Steele Glacier 81.74 23 P P 23 06 43.5 +1.0
baz=315,SNR=13
M30M Minto, Yukon 81.79 21 P P 23 06 43.0 +0.6
M30M Minto, Yukon 81.79 21 P P 23 06 43.5 +1.1
baz=317,SNR=12
TABL Table Mountain 81.85 24 P P 23 06 43.6 +0.6
TABL IAmb IAmb 23 07 07.8
comp=Z,53nm,1.4s
O28M Mount Upton 81.96 23 P P 23 06 44.5 +0.8
O28M IAmb IAmb 23 06 57.8
comp=Z,22nm,0.9s
O28M Mount Upton 81.96 23 P P 23 06 44.7 +1.1
baz=314
MORF Marmelete 82.03 308 eP P 23 06 45.7 +1.5
MORF i IAmb IAmb 23 06 59.5
comp=Z,81nm,1.6s
YUK4 Talbot Arm 82.08 22 P P 23 06 45.0 +0.8
baz=316
CAN Canberra 82.11 137 P P 23 06 45.8 +1.4
CAN IAmb IAmb 23 06 53.9
comp=Z,73nm,1.5s
CAN Canberra 82.11 137 P P 23 06 45.8 +1.4
CAN pmax pmax
comp=Z,73nm,1.5s
PFVI Vila Bisbo 82.23 308 eP P 23 06 46.2 +1.0
PFVI i IAmb IAmb 23 06 49.9
comp=Z,95nm,1.6s
CNB Canberra Magne 82.32 136 P P 23 06 45.8 +0.2
PCA Pinnacle 82.41 24 P P 23 06 46.5 +0.7
PCA IAmb IAmb 23 06 48.5
comp=Z,20nm,0.7s
PINM Pinnacle 82.41 24 P P 23 06 47.2 +1.4
baz=314,SNR=5.5
YUK6 Outpost Mounta 82.47 23 P P 23 06 47.6 +1.3
baz=316,SNR=12
N30M Aishikik Lake 82.52 22 P P 23 06 46.6 +0.3
N30M IAmb IAmb 23 06 49.0
comp=Z,44nm,1.5s
N30M Aishikik Lake 82.52 22 P P 23 06 47.9 +1.6
baz=317,SNR=14
BCPM Bancas Point 82.73 24 P P 23 06 48.7 +1.4
BCPM IAmb IAmb 23 07 04.9
comp=Z,28nm,1.2s
M31M Drury Creek, Y 82.82 20 P P 23 06 48.6 +0.8
M31M IAmb IAmb 23 06 49.8
comp=Z,42nm,1.4s
M31M Drury Creek, Y 82.82 20 P P 23 06 48.9 +1.1
baz=319,SNR=22
HYT Haines Junctio 82.84 22 P P 23 06 48.4 +0.4
HYT IAmb IAmb 23 06 50.6
comp=Z,24nm,0.9s
HYT Haines Junctio 82.84 22 P P 23 06 49.5 +1.4
baz=317,SNR=22
O29M Mount Kennedy 82.85 23 P P 23 06 49.4 +1.2
baz=316
N31M Braeburn, Yuko 82.92 21 P P 23 06 49.8 +1.4

baz=318,SNR=13
PNL Peninsula 83.02 24 P **P 23 06 50.0 +1.1**
PNL Peninsula 83.02 24 P **P 23 06 50.5 +1.6**
baz=315,SNR=5.6
ILON Igloolik, Nuna 83.18 358 IAmb IAmb 23 06 50.3
comp=Z,18nm,0.8s
LBTB Lobatse 83.21 237 IAmb IAmb 23 06 58.7
comp=Z,14nm,0.7s
LBTB Lobatse 83.21 237 LR LR 23 41 08.4
comp=Z,63nm,21.6s,baz=52,slow=34
O30N Mendenhall 83.35 22 P **P 23 06 51.4 +0.8**
O30N IAmb IAmb 23 06 53.3
comp=Z,33nm,1.1s
O30N Mendenhall 83.35 22 P **P 23 06 52.2 +1.6**
baz=318,SNR=23
MMPY Sheldon Lake, 83.43 19 P **P 23 06 52.1 +1.1**
MMPY Sheldon Lake, 83.43 19 P **P 23 06 52.5 +1.5**
baz=322,SNR=57
P30M Million Dollar 83.54 23 P **P 23 06 52.8 +1.2**
baz=317
P29M Windy Craggy 83.63 23 P **P 23 06 52.6 +0.6**
P29M Windy Craggy 83.63 23 P **P 23 06 53.2 +1.2**
baz=316,SNR=5.6
QNGWA Qangwa 83.63 244 P **P 23 06 54.2 +1.5**
WHY Whitehorse 83.83 21 P **P 23 06 53.7 +0.5**
WHY IAmb IAmb 23 06 54.6
comp=Z,23nm,0.6s
WHY Whitehorse 83.83 21 P **P 23 06 53.9 +0.7**
baz=319,SNR=16
N32M Quiet Lake 84.03 20 P **P 23 06 55.0 +0.9**
baz=320
PLBC Pleasant Camp 84.24 23 P **P 23 06 56.4 +1.4**
baz=318,SNR=9.0
NUUK Nuuk 84.33 345 *i* P **P 23 06 55.2 -0.2**
GRTLG Ghanzi 84.57 243 IAmb IAmb 23 07 06.3
comp=Z,25nm,1.2s
SKAG Skagway 84.59 22 P **P 23 06 59.1 +2.3**
SKAG IAmb IAmb 23 06 59.8
comp=Z,35nm,1.1s
SKAG Skagway 84.59 22 P **P 23 06 58.4 +1.5**
baz=318
P33M Teslin, Yukon 84.84 21 P **P 23 06 59.2 +1.0**
P33M IAmb IAmb 23 06 59.8
comp=Z,13nm,0.7s
P33M Teslin, Yukon 84.84 21 P **P 23 06 59.2 +1.0**
baz=320,SNR=12
TOA0 Torodi Ar. Sit 84.93 282 P **P 23 07 00.6 +1.2**
TORD Torodi Ar. Bea 84.93 282 P **P 23 06 59.8 +0.4**
TORD Torodi Ar. Bea 84.93 282 P **P 23 07 00.1 +0.8**
comp=Z,12nm,0.6s,baz=44,slow=6.1,SNR=19
comp=Z,12nm,0.6s
WRGLY Wrigley 84.98 16 P **P 23 06 59.7 +1.0**
WRGLY IAmb IAmb 23 07 00.5
comp=Z,20nm,1.0s
WRGLY Wrigley 84.98 16 P **P 23 06 59.6 +0.8**
baz=328,SNR=5.8
P32M Atlin 85.03 22 P **P 23 07 00.1 +1.0**
P32M IAmb IAmb 23 07 01.7
comp=Z,17nm,1.0s
P32M Atlin 85.03 22 P **P 23 07 00.5 +1.3**
baz=320,SNR=5.6
TGTN Hyland Airport 85.15 18 P **P 23 07 01.2 +1.4**
baz=324,SNR=6.5
CORO Coronation Par 85.19 142 P **P 23 07 00.1 +0.1**
S31K Pelican 85.39 24 P **P 23 07 02.1 +1.2**
baz=318
BOSA Boshof 85.50 235 IAmb IAmb 23 07 12.0
comp=Z,33nm,1.1s
BOSA Boshof 85.50 235 P **P 23 07 02.1 +0.1**
comp=Z,8.8nm,0.5s,baz=59,slow=2.7,SNR=33
comp=Z,8.8nm,0.5s
R32K Eaglecrest 85.76 23 P **P 23 07 03.9 +1.1**
R32K Eaglecrest 85.76 23 P **P 23 07 03.9 +1.1**
baz=319
Q32M Nakina River 85.99 22 P **P 23 07 05.1 +1.0**
Q32M Nakina River 85.99 22 P **P 23 07 05.4 +1.2**
baz=321,SNR=5.4
LKGWE Lokgwabe 86.04 240 P **P 23 07 03.0 -1.8**
R33M Jennings River 86.06 21 P **P 23 07 04.9 +0.5**
R33M Jennings River 86.06 21 P **P 23 07 05.8 +1.4**
baz=322,SNR=14
WTLY Watson Lake, Y 86.15 19 P **P 23 07 05.1 +0.4**
WTLY Watson Lake, Y 86.15 19 P **P 23 07 05.5 +0.8**
baz=324,SNR=7.4
KOOLE Kule 86.23 242 P **P 23 07 06.3 +0.5**
KOOLE IAmb IAmb 23 07 18.2
comp=Z,45nm,1.4s
S32K Killisnoo 86.35 23 P **P 23 07 07.1 +1.4**
baz=319
SIT Sitka 86.39 24 P **P 23 07 07.1 +1.2**
baz=319
DZM Mont Dzumac 86.64 117 *e*LR LR 23 34 33.7
comp=Z,88nm,27.1s
DLBC Dease Lake 87.12 21 LR LR 23 49 19.0
comp=Z,15nm,21.0s,baz=292,slow=38
DLBC Dease Lake 87.12 21 P **P 23 07 11.0 +1.4**
baz=323,SNR=9.7
S34M Telegraph Cree 87.18 22 P **P 23 07 11.2 +1.5**
S34M IAmb IAmb 23 07 12.7
comp=Z,18nm,1.1s
S34M Telegraph Cree 87.18 22 P **P 23 07 11.3 +1.5**
baz=322,SNR=9.5
YKAW3 Yellowknife Wh 87.47 12 P **P 23 07 10.9 -0.1**
YKAW3 IAmb IAmb 23 07 12.1
comp=Z,17nm,1.2s
KOTAN Kotaneelee Air 87.47 17 P **P 23 07 11.9 +0.9**
baz=328
YKA Yellowknife Ar 87.53 12 P **P 23 07 10.9 -0.4**
YKA Yellowknife Ar 87.53 12 P **P 23 07 11.1 -0.2**
comp=Z,4.4nm,0.8s,baz=338,slow=5.5,SNR=35
YKA LR LR 23 48 10.7
comp=Z,71nm,21.9s,baz=356,slow=37
comp=Z,4.4nm,0.8s
YKA Yellowknife Ar 87.53 12 P **P 23 07 10.9 -0.4**
YKAW1 Yellowknife Wh 87.56 12 P **P 23 07 11.5 0.0**
YKAW1 IAmb IAmb 23 07 12.5
comp=Z,20nm,1.1s
FRB Frobisher Bay 87.72 352 LR LR 23 50 39.7
comp=Z,108nm,21.3s,baz=31,slow=38
U33K Whale Pass 87.91 24 P **P 23 07 13.9 +0.7**
baz=320
WRAK Wrangell Islan 87.94 23 P **P 23 07 14.6 +1.2**
baz=321
BLKN Baker Lake 88.08 4 P **P 23 07 12.9 -1.0**
T35M Bob Quinn 88.21 22 P **P 23 07 15.7 +0.9**
T35M IAmb IAmb 23 07 24.5
comp=Z,16nm,1.2s
T35M Bob Quinn 88.21 22 P **P 23 07 16.1 +1.4**
baz=323,SNR=7.3
TOAD Toad River Com 88.22 19 P **P 23 07 15.5 +0.7**
baz=327,SNR=7.8
BBB Bella Bella 92.82 24 LR LR 23 50 42.4
comp=Z,107nm,21.0s,baz=333,slow=36
KUQ Kuujjuuaa 93.12 350 P **P 23 07 37.0 -0.4**
DBIC Dimbokro 93.64 279 P **P 23 07 40.5 -0.2**
comp=Z,3.6nm,0.6s,baz=64,slow=5.8,SNR=7.9
DBIC LR LR 23 54 23.9
comp=Z,103nm,20.8s,baz=92,slow=38
comp=Z,3.6nm,0.6s
SCHQ Schefferville 96.00 348 IAmb IAmb 23 07 51.3
comp=Z,7.0nm,0.7s
SCHQ Schefferville 96.00 348 P **P 23 07 50.5 -0.2**
comp=Z,6.6nm,0.5s,baz=34,slow=3.3,SNR=24
SCHQ LR LR 23 55 00.2
comp=Z,229nm,20.8s,baz=34,slow=38
comp=Z,6.6nm,0.5s
MAW Mawson 97.57 191 LR LR 23 47 47.9
comp=Z,88nm,20.0s,baz=350,slow=33
NEW Newport 99.81 20 LR LR 23 57 45.5
comp=Z,179nm,18.6s,baz=5.0,slow=38
PDAR Pinedale Array 106.97 17 PKiKP **PKiKP 23 12 49.5 -0.5**
comp=Z,0.4nm,0.7s,baz=31,slow=3.5,SNR=3.8
QSPA South Pole Qui 117.45 180 **PKPdf 23 13 08.6 -0.2**
QSPA South Pole Qui 117.45 180 PKP **PKPdf 23 13 08.3 -0.5**
comp=Z,1.7nm,0.7s,baz=284,slow=1.5,SNR=16
MNTX Cornudas Mount 118.50 18 **PKiKP 23 13 12.5 +0.5**
TXAR Lajitas Array 121.19 17 PKPdf **PKPdf 23 13 17.2 -0.1**
TXAR Lajitas Array 121.19 17 PKP **PKPdf 23 13 17.3 0.0**
comp=Z,1.1nm,0.5s,baz=43,slow=1.0,SNR=26
PPT2 Papeete2 122.11 94 *e*LR LR 23 50 54.6
comp=Z,84nm,26.5s
PPT2 *e*LR LR 23 50 55.7
comp=Z,101nm,28.8s
TBI Tubuai 124.19 101 *e*LR LR 23 51 44.6
comp=Z,595nm,33.0s
TBI *e*LR LR 23 51 48.3
comp=Z,921nm,32.0s

OBIP Obispado Ponce 130.37 334 **PKPdf 23 13 34.7 -0.2**
SDV Santo Domingo 140.27 334 *e*P **PKPdf 23 13 53.2 -0.5**
ITTB Itaituba 142.09 302 *e*P **PKPdf 23 13 56.9 +0.2**
RUSC La Rusia 143.95 336 PKPab 23 13 57.6 -0.2
MACA Manacapuru-AM 144.84 309 *e*P PKPbc 23 14 00.8 +0.2
ARAG Araguaiana, MT 145.12 282 *e*P **PKPbc 23 14 01.1 -0.4**
ROSC El Rosal 145.37 337 PKPbc **PKPdf 23 14 04.2 +1.1**
comp=Z,213nm,0.6s,baz=116,slow=12,SNR=68
ITRB Iturama 145.41 275 *e*P **PKPbc 23 14 02.3 0.0**
FRTB Fartura 145.81 269 *e*P **PKPbc 23 14 03.3 -0.2**
CLDB Colider 146.09 293 *e*P **PKPbc 23 14 04.4 -0.2**
PCMB Pacaembu 146.82 272 *e*P **PKPdf 23 14 05.4 +0.6**
LDASE Londrina, Braz 147.20 269 *e*P **PKPdf 23 14 05.6 +0.2**
C2SB Chapadao do Su 147.25 278 *e*P **PKPdf 23 14 05.8 +0.3**
PDRB Porto dos Gac 147.25 293 *e*P **PKPdf 23 14 06.2 +0.6**
TEFE Tefe 147.72 314 *e*P **PKPdf 23 14 06.2 -0.3**
TRCB Terra Rica 148.38 271 *e*P **PKPdf 23 14 08.4 +1.0**
SALV Santo Antonio 148.55 285 *e*P **PKPdf 23 14 08.4 +0.7**
CPSB Cacapava Do Su 150.38 257 *e*P **PKPdf 23 14 10.9 +0.6**
AQDB Aquidauana 150.38 277 *e*P **PKPdf 23 14 10.4 -0.1**
AMBA Amambai (Brazi 150.51 272 *e*P **PKPdf 23 14 10.4 -0.3**
PLTB Pedras Altas 150.56 254 **PKPab 23 14 22.4 -0.3**
OTAV Otavalo 151.01 342 *e*P **PKPdf 23 14 11.7 -0.7**
PTLB Pontes e Lacer 151.25 289 **PKPbc 23 14 17.9 0.0**
PTLB Pontes e Lacer 151.25 289 *e*P **PKPdf 23 14 12.5 +0.5**
BDQN Bodoquena, MS 151.30 278 *e*P **PKPdf 23 14 12.5 +0.6**
TBTG Tabatinga, AM 151.40 322 *e*P **PKPdf 23 14 12.9 +0.6**
SJPY San Joaquin 152.00 268 *e*P **PKPdf 23 14 13.8 +0.8**
SIV San Ignacio 153.14 290 PKP **PKPdf 23 14 14.5 -0.3**
comp=Z,1.6nm,0.8s,baz=83,slow=4.7,SNR=6.9
SIV PKPbc **PKPbc 23 14 21.9 -0.3**
comp=Z,4.3nm,0.5s,baz=69,slow=2.9,SNR=16
CPUP Villa Florida 153.34 266 PKP **PKPdf 23 14 14.8 0.0**
comp=Z,0.7nm,0.7s,baz=237,slow=4.3,SNR=5.4
CPUP PKPbc **sPKPdf 23 14 21.5 +0.3**
comp=Z,2.1nm,0.6s,baz=292,slow=2.1,SNR=19
LPAZ La Paz 159.01 299 PKP **PKPdf 23 14 22.2 -1.1**
comp=Z,1.4nm,0.8s,baz=326,slow=4.1,SNR=5.4
LPAZ PKPab **PKPab 23 14 58.7 -0.9**
comp=Z,2.0nm,0.6s,baz=22,slow=4.8,SNR=5.0
PLCA Paso Flores 161.04 222 PKPab **PKPab 23 15 07.3 0.0**
comp=Z,5.1nm,1.0s,baz=154,slow=2.9,SNR=3.5
CFA Coronel Fontan 163.01 252 PKP **PKPdf 23 14 26.9 +0.4**
comp=Z,1.4nm,0.8s,baz=207,slow=2.3,SNR=2.8

*SJA **19** 23:08:56.2±1.4, 21°.75S×68°.57W, h130km, ML3.4, MW3.5*
*GUC **19** 23:08:57.9±0.7, 21°.72S×68°.57W, h126km±4km, ML3.5*
ISC 19 23:08:56.9±1.5, 21°.76S±0°.03×68°.71W±0°.07, h143km±9km, n33, σ1°.24/57, 3C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.49**	**265**	↑*i*P		**Pn**		**23 09 17.2**	**-0.5**
PB09				*e*S		**Sn**		**23 09 32.6**	**-0.8**
PB09				IAML				23 09 34.5	
	comp=E,494nm,0.2s								
PB09	**IPOC Station P**	**0.49**	**265**	*e*P		**Pn**		**23 09 17.2**	**-0.5**
PB09				*e*S		**Sn**		**23 09 33.8**	**+0.4**
PB09				IAML				23 09 36.8	
	comp=Z,304nm,0.2s								
PB03	**IPOC Station P**	**1.01**	**253**	↑*i*P		**Pn**		**23 09 21.6**	**+0.3**
PB03				*e*S		**Sn**		**23 09 39.8**	**-0.1**
PB03				IAML				23 09 40.4	
	comp=E,767nm,0.2s								
PB03	**IPOC Station P**	**1.01**	**253**	*e*P		**Pn**		**23 09 20.9**	**-0.4**
PB03				*e*S		**Sn**		**23 09 40.3**	**+0.4**
PB03				IAML				23 09 40.4	
	comp=Z,888nm,0.3s								
PB01	**IPOC Station P**	**1.01**	**314**	*e*P		**Pn**		**23 09 20.9**	**-0.4**
PB01				*e*S		**Sn**		**23 09 38.7**	**-1.1**
PB01				IAML				23 09 40.4	
	comp=N,1μm,0.3s								
PB01	**IPOC Station P**	**1.01**	**314**	*e*P		**Pn**		**23 09 20.9**	**-0.4**
PB01				*e*S		**Sn**		**23 09 39.4**	**-0.4**
PB01				IAML				23 09 40.9	
	comp=Z,980nm,0.2s								
PB02	**IPOC Station P**	**1.18**	**291**	*e*P		**Pn**		**23 09 23.1**	**+0.2**
PB02				*e*S		**Sn**		**23 09 42.8**	**+0.2**
PB02				IAML				23 09 43.9	
	comp=N,2μm,0.3s								
PB02	**IPOC Station P**	**1.18**	**291**	*e*P		**Pn**		**23 09 22.9**	**+0.1**
PB02				*e*S		**Sn**		**23 09 43.2**	**+0.5**
PB02				IAML				23 09 44.2	
	comp=Z,1μm,0.2s								
PB06	**IPOC Station P**	**1.24**	**220**	↑*i*P		**Pn**		**23 09 23.9**	**+0.4**
PB06				*e*S		**Sn**		**23 09 43.8**	**0.0**
PB06				IAML				23 09 45.3	
	comp=E,1μm,0.2s								
PB06	**IPOC Station P**	**1.24**	**220**	*e*P		**Pn**		**23 09 23.3**	**-0.2**
PB06				*e*S		**Sn**		**23 09 44.3**	**+0.6**
PB06				IAML				23 09 45.3	
	comp=Z,448nm,0.2s								
AF01	**San Pedro de A**	**1.29**	**158**	*e*P		**Pn**		**23 09 23.5**	**-0.6**
AF01	**San Pedro de A**	**1.29**	**158**	*e*P		**Pn**		**23 09 23.7**	**-0.4**
AF01				*e*S		**Sn**		**23 09 47.4**	**+2.5**
AF01				IAML				23 09 59.8	
	comp=Z,333nm,1.1s								
PATCX	**Punta Patache**	**1.63**	**304**	*e*P		**Pn**		**23 09 27.9**	**+0.4**
PATCX				*e*S		**Sn**		**23 09 51.1**	**+0.2**
PATCX				IAML				23 09 52.8	
	comp=E,758nm,0.2s								
PATCX	**Punta Patache**	**1.63**	**304**	*e*P		**Pn**		**23 09 28.3**	**+0.8**
PATCX				*e*S		**Sn**		**23 09 51.7**	**+0.8**
PATCX				IAML				23 09 53.5	
	comp=Z,232nm,0.1s								
PB08	**IPOC Station P**	**1.66**	**346**	↓*i*P		**Pn**		**23 09 28.2**	**+0.1**
PB08				*e*S		**Sn**		**23 09 51.2**	**-0.8**
PB08				IAML				23 09 53.8	
	comp=E,409nm,0.3s								
PB08	**IPOC Station P**	**1.66**	**346**	*e*P		**Pn**		**23 09 28.2**	**+0.1**
PB08				*e*S		**Sn**		**23 09 52.1**	**+0.2**
PB08				IAML				23 09 54.2	
	comp=Z,202nm,0.3s								
PB05	**IPOC Station P**	**1.76**	**231**	*i*P		**Pn**		**23 09 29.7**	**+0.7**
PB05				*e*S		**Sn**		**23 09 54.2**	**+0.7**
PB05				IAML				23 09 55.7	
	comp=N,217nm,0.2s								
PB05	**IPOC Station P**	**1.76**	**231**	*e*P		**Pn**		**23 09 29.4**	**+0.4**
PB05				*e*S		**Sn**		**23 09 54.9**	**+1.4**
PB05				IAML				23 09 58.9	
	comp=Z,134nm,0.2s								
TA01	**Diego Aracena**	**1.81**	**311**	*e*P		**Pn**		**23 09 29.5**	**+0.1**
TA01	**Diego Aracena**	**1.81**	**311**	*e*P		**Pn**		**23 09 29.7**	**+0.3**
TA01				*e*S		**Sn**		**23 09 55.0**	**+0.7**
TA01				IAML				23 09 56.1	
	comp=Z,195nm,0.6s								
HMBC	**Humberstone**	**1.83**	**323**	*e*P		**Pn**		**23 09 29.4**	**-0.4**
HMBC				*e*S		**Sn**		**23 09 54.4**	**-0.7**
HMBC				IAML				23 09 55.9	
	comp=N,664nm,0.4s								
HMBC	**Humberstone**	**1.83**	**323**	*e*P		**Pn**		**23 09 29.5**	**-0.4**
HMBC				*e*S		**Sn**		**23 09 55.3**	**+0.2**
HMBC				IAML				23 10 01.5	
	comp=Z,342nm,0.2s								
TA02	**Huaiquique**	**1.98**	**318**	*e*P		**Pn**		**23 09 31.3**	**-0.2**
TA02				*e*S		**Sn**		**23 10 01.7**	**+3.7**
TA02				IAML				23 10 07.1	
	comp=Z,442nm,0.1s								
GO01	**Chusmiza**	**2.12**	**348**	*e*P		**Pn**		**23 09 33.1**	**-0.6**
GO01				IAML				23 10 03.5	
	comp=N,485nm,0.3s								
GO01	**Chusmiza**	**2.12**	**348**	*e*P		Pn		23 09 17.8	-16
GO01				*e*S		**Sn**		**23 10 02.3**	**+0.5**
PB11	**IPOC Station P**	**2.17**	**336**	*i*P		**Pn**		**23 09 33.4**	**-0.5**
PB11				*e*S		**Sn**		**23 10 01.0**	**-1.2**
PB11				IAML				23 10 03.1	
	comp=N,484nm,0.3s								
PB11	**IPOC Station P**	**2.17**	**336**	*e*P		**Pn**		**23 09 33.4**	**-0.5**
PB11				*e*S		**Sn**		**23 10 02.3**	**+0.1**
PB11				IAML				23 10 05.6	
	comp=Z,166nm,0.1s								
PB10	**IPOC Station P**	**2.44**	**224**	*e*P		**Pn**		**23 09 38.4**	**+1.5**
PB10				*e*S		**Sn**		**23 10 02.1**	**-5.8**
PB10				IAML				23 10 22.3	
	comp=Z,50nm,1.6s								
PB14	**IPOC Station P**	**3.25**	**208**	*e*P		Pn		23 09 40.3	-7.3
PB14				*e*S		Sn		23 10 14.7	-12
PB14				IAML				23 10 37.0	
	comp=Z,69nm,0.4s								
HJA	**Humahuaca**	**3.38**	**116**	*e*P		Pn		23 10 08.7	+19
PB16	**IPOC Station P**	**3.48**	**347**	*e*P		**Pn**		**23 09 51.1**	**+0.2**
AC01	**Pan de Azucar**	**4.70**	**201**	*e*P		**Pn**		**23 10 05.3**	**-0.9**
AC01				*e*S		**Sn**		**23 10 58.1**	**-2.2**
AC01				IAML				23 11 26.6	
	comp=Z,44nm,2.4s								
AC02	**Maricunga**	**5.07**	**184**	*e*P		**Pn**		**23 10 11.6**	**0.0**
AC02				*e*S		**Sn**		**23 11 12.3**	**+2.5**

IDC 19 23:22:45.4±1.4, 29°.80S×177°.70W, h79km±16km, mb3.4/3, mbtmp3.7/3, Error ellipse: s-maj=36.6km s-min=19.2km az=172.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.58**	**341**	P		P	Pn	23 23 00.6	+0.9
	685nm,0.2s,baz=32,slow=22,SNR=16								
RAO				S			Sn	23 23 12.2	+1.8
	4μm,0.2s,baz=159,slow=23,SNR=18								
ASAR	**Alice Springs**	**43.40**	**266**	P		P		23 30 39.9	-0.6
	0.3nm,0.5s,baz=107,slow=7.7,SNR=4.8								
	0.3nm,0.5s								
WRA	**Warramunga Arr**	**44.34**	**271**	P		P		23 30 47.5	-0.4
	0.6nm,0.3s,baz=110,slow=8.1,SNR=14								
	0.6nm,0.3s								
QSPA	**South Pole Qui**	**60.31**	**180**	P		P		23 32 45.6	0.0
	1.1nm,0.9s,baz=18,slow=3.2,SNR=10								
	1.1nm,0.9s								
FINES	**FINESS Array B**	**144.67**	**340**	PKP		PKPdf		23 42 12.8	+0.7
	1.2nm,0.6s,baz=46,slow=4.0,SNR=8.0								

IDC 19 23:26:42.8±2.2, 0°.48S×128°.16E, h0km, mb3.3/3, mbtmp3.5/4, ML3.7/1, MS3.4/1, Error ellipse: s-maj=120.2km s-min=26.8km az=71.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**12.71**	**99**	LR		LR		23 35 54.8	
	comp=Z,147nm,19.2s,baz=228,slow=43								
FITZ	**Fitzroy Crossi**	**17.68**	**188**	P		P		23 30 51.7	0.0
	0.2nm,0.3s,baz=7.2,slow=10,SNR=8.8								
	2.1nm,0.7s								
WRA	**Warramunga Arr**	**20.27**	**163**	P		P		23 31 18.6	-1.6
	0.5nm,0.7s,baz=344,slow=13,SNR=4.9								
	0.5nm,0.7s								
ASAR	**Alice Springs**	**23.72**	**167**	P		P		23 31 57.4	+0.6
	1.0nm,0.6s,baz=345,slow=10,SNR=12								
	1.0nm,0.6s								
MKAR	**Makanchi Array**	**61.81**	**326**	P		P		23 37 03.6	-0.1
	0.4nm,0.8s,baz=112,slow=8.5,SNR=3.5								
	0.4nm,0.8s								

NOU 19 23:28:13.8, 12°.40S×166°.09E, h154km, MLv4.5/9, Santa Cruz Islands, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**1.74**	**354**	P		P	Pn	23 28 44.9	-1.3
LUES	**Luesalemba Tem**	**1.74**	**354**	P		P	Sn	23 29 13.3	+2.1
VLAKA	**Lakatoro**	**3.90**	**161**	P		P	Pn	23 29 12.6	-0.3
HURO	**Huro Makira**	**4.53**	**295**	P		P	Pn	23 29 21.4	+0.2
HURO	**Huro Makira**	**4.53**	**295**	S		S	Sn	23 30 13.6	0.0
NGOA	**Tingoa Renbel**	**5.96**	**277**	P		P	Pn	23 29 39.7	-0.3
KOUNC	**Koumac, New Ca**	**8.29**	**192**	P		P	Pn	23 30 12.1	+1.1
DZM	**Mont Dzumac**	**9.62**	**178**	P		P	Pn	23 30 30.2	+1.3

*NEIC **19** 23:33:44.9±1.6, 35°.659N±0°.009×117°.47W±0°.01, h7km±1km, Error ellipse: s-maj=1.5km s-min=1.1km az=137.0*
PAS 19 23:33:45.4±1.3, 35°.652N±0°.010×117°.49W±0°.01, h9km±4km, ML3.5/267, MLh3.2/158(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=129.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.05**	**181**				Pg	23 33 47.3	0.0
WSHM						Sg	Sg	23 33 48.9	+0.2
GPO	**China Lake**	**0.14**	**269**				Pg	23 33 48.6	+0.1
GPO							Sg	23 33 51.4	+0.8
CCCA	**Chr Cany lake**	**0.16**	**141**			Pg	Pg	23 33 49.3	+0.4
CCCA						Sg	Sg	23 33 52.2	+0.9
CLC	**China Lake**	**0.18**	**332**				Pg	23 33 49.2	-0.1
CLC						Sg	Sg	23 33 52.1	+0.2
CLC						IAML		23 33 52.4	
	comp=E,8μm,0.2s								
CLC						IAML		23 33 52.9	
	comp=N,6μm,0.2s								
SRTC	**Snort**	**0.21**	**281**				Pg	23 33 50.1	+0.3
SRTC							Sg	23 33 54.1	+1.4
LRMC	**Laurel Mtn Rad**	**0.23**	**222**				Pg	23 33 50.0	-0.1
LRMC						Sg	Sg	23 33 53.6	+0.2
TOW	**Tower One**	**0.27**	**305**				Pg	23 33 51.1	+0.3
TOW							Sg	23 33 55.9	+1.3
WNMM	**Nine Mile Cany**	**0.39**	**300**				Pg	23 33 52.9	-0.1
WVPM	**Volcano Peak E**	**0.40**	**318**				Pg	23 33 53.0	-0.3
WVPM							Sg	23 33 58.6	+0.1
MPMC	**Manual Prospec**	**0.41**	**0**				Pg	23 33 53.0	-0.4
MPMC						IAML		23 33 59.3	
	comp=N,2μm,0.6s								
MPMC						IAML		23 34 00.7	
	comp=E,2μm,0.7s								
MPMC	**Manual Prospec**	**0.41**	**0**				Sg	23 33 58.7	-0.1
JRC2	**Joshua Ridge**	**0.42**	**322**				Sg	23 33 59.4	+0.2
WCSM	**Coso Springs S**	**0.43**	**329**				Pg	23 33 53.6	-0.3
WCSM							Sg	23 34 00.0	+0.3
DTP	**Desert Tortois**	**0.48**	**217**				Pg	23 33 54.2	-0.5
DTP							Sg	23 34 00.4	-0.6
WRVM	**Rose V. Centra**	**0.48**	**318**				Pg	23 33 54.4	-0.4
WRVM							Sg	23 34 01.1	0.0
MFS	**McCloud Flat S**	**0.55**	**328**				Pg	23 33 55.8	-0.3
MFS							Sg	23 34 03.6	+0.2
QSM	**Queen of Sheba**	**0.59**	**58**				Pg	23 33 56.6	-0.4
QSM	**Queen of Sheba**	**0.59**	**58**			Sg	Sg	23 34 04.4	-0.3
QSM						IAML		23 34 05.0	
	comp=E,2μm,0.2s								
QSM						IAML		23 34 05.2	
	comp=N,3μm,0.2s								
WORM	**Onyx Ranch**	**0.61**	**274**				Pg	23 33 56.7	-0.5
WORM							Sg	23 34 04.8	-0.5
CCAC	**Calif City Air**	**0.66**	**221**				Pg	23 33 57.7	-0.4
CCAC							Sg	23 34 06.8	+0.1
GSC	**Goldstone, Bar**	**0.66**	**122**				Pg	23 33 57.6	-0.6
GSC						Sg	Sg	23 34 06.5	-0.3
GSC						IAML		23 34 09.4	
	comp=E,2μm,0.5s								
GSC						IAML		23 34 09.8	
	comp=N,2μm,0.3s								
WHFM	**Hanning Flat**	**0.70**	**274**				Pg	23 33 58.3	-0.6
WHFM							Sg	23 34 07.5	-0.5
HYS	**Haystack Butte**	**0.79**	**185**				Pg	23 33 59.8	-0.8
HYS							Sg	23 34 10.3	-0.6
ISA	**Isabella, Lake**	**0.80**	**271**				Pg	23 34 00.2	-0.6
ISA						IAML		23 34 11.7	
	comp=E,969nm,0.1s								
ISA						IAML		23 34 15.3	
	comp=N,784nm,0.3s								
GWY	**Greenwater Val**	**0.85**	**51**				Pg	23 34 01.2	-0.7
GWY	**Greenwater Val**	**0.85**	**51**			Sg	Sg	23 34 12.7	-0.3
GWY						IAML		23 34 15.3	
	comp=N,1μm,0.4s								
GWY						IAML		23 34 16.3	
	comp=E,1μm,0.3s								
WASM	**Alta Sierra Ca**	**0.87**	**276**				Pg	23 34 01.5	-0.7
WASM							Sg	23 34 13.1	-0.5
EDW2	**Edwards Air Fo**	**0.87**	**208**				Pg	23 34 01.2	-0.9
EDW2							Sg	23 34 12.6	-0.9
RRX	**Edison Barstow**	**

WCT	**Wildcat Mounta**	**1.34**	**31**		Pn	23 34 09.2	-1.2
WCT				IAML		23 34 29.5	
	comp=E,363nm,0.4s						
WCT				IAML		23 34 30.0	
	comp=N,303nm,0.3s						
GRAC	**Grapevine Rang**	**1.34**	**4**		Pn	23 34 09.6	-0.9
BFSC	**Mount Baldy Ra**	**1.42**	**186**		Pn	23 34 10.8	-0.7
BFSC				IAML		23 34 30.8	
	comp=E,454nm,0.6s						
BFSC				IAML		23 34 31.4	
	comp=N,451nm,0.4s						
OSI	**Osito Audit: C**	**1.45**	**225**		Pn	23 34 11.8	0.0
OSI				IAML		23 34 33.7	
	comp=N,450nm,0.7s						
OSI				IAML		23 34 35.5	
	comp=E,335nm,0.5s						
MWC	**Mount Wilson**	**1.50**	**198**		Pn	23 34 12.6	-0.1
MWC				IAML		23 34 35.7	
	comp=E,584nm,0.6s						
PASC	**Pasadena Art C**	**1.58**	**201**		Pn	23 34 13.9	+0.2
PASC				IAML		23 34 40.5	
	comp=E,361nm,0.7s						
PASC				IAML		23 34 41.3	
	comp=N,240nm,0.4s						
MTPC	**Mountain Pass**	**1.59**	**95**		Pn	23 34 12.3	-1.6
MTPC				IAML		23 34 36.2	
	comp=N,396nm,0.3s						
MTPC				IAML		23 34 36.4	
	comp=E,386nm,0.3s						
TPNV	**Topopah Spring**	**1.64**	**37**		Pn	23 34 13.7	-0.9
TPNV					Pg	23 34 16.8	0.0
TPNV				IAML		23 34 39.6	
	comp=E,340nm,0.5s						
TPNV				IAML		23 34 40.4	
	comp=E,259nm,0.4s						
GMN	**Gold Mountain**	**1.66**	**6**		Pn	23 34 14.2	-0.7
GMN				IAML		23 34 41.8	
	comp=N,152nm,0.5s						
GMRC	**Granite Mounta**	**1.73**	**119**		Pn	23 34 13.8	-2.0
DSP	**Deep Springs**	**1.76**	**347**		Pn	23 34 14.6	-1.4
ELS	**Elsinore Mount**	**2.00**	**178**		Pn	23 34 18.6	-0.8
ELS				IAML		23 34 54.7	
	comp=E,156nm,0.8s						
ELS				IAML		23 34 56.3	
	comp=N,99nm,0.5s						
MZP	**Montezuma Peak**	**2.05**	**2**		Pn	23 34 19.9	-0.5
PKM	**Mcpherson Peak**	**2.05**	**249**		Pb	23 34 22.6	-0.3
SHPR	**Sheep Range**	**2.07**	**65**		Pn	23 34 19.9	-0.7
SHPR				Pg	Pb	23 34 23.8	+0.5
PMD	**Palm Desert**	**2.20**	**155**		Pn	23 34 20.7	-1.4
PFO	**Pinyon Flats O**	**2.21**	**157**		Pn	23 34 21.0	-1.3
PFO				Pg	Pb	23 34 26.4	+0.8
SNDA	**J Saunders Pla**	**2.22**	**161**		Pn	23 34 21.7	-0.8
TPH	**Tonopah**	**2.43**	**5**		Pn	23 34 24.9	-0.6
TPH					Pb	23 34 30.3	+0.9
S11A	**Rachel**	**2.43**	**35**	Pg	Pg	23 34 31.5	-0.5
S11A				IAML		23 35 05.2	
	comp=E,143nm,0.8s						
S11A				IAML		23 35 09.0	
	comp=N,148nm,0.9s						
NEE2	**Needles Airpor**	**2.51**	**110**		Pg	23 34 32.1	-1.4
BORC	**Borrego Spring**	**2.54**	**159**		Pb	23 34 31.8	+0.7
BORC				IAML		23 35 07.5	
	comp=E,55nm,0.7s						
BORC				IAML		23 35 08.6	
	comp=N,64nm,0.6s						
PRN	**Pahroc Range**	**2.63**	**48**		Pn	23 34 27.9	-0.4
PRN				Pg	Pg	23 34 36.0	+0.2
PRN				IAML		23 35 14.8	
	comp=N,102nm,0.6s						
PRN				IAML		23 35 17.3	
	comp=E,112nm,0.7s						
SALN	**Salton City**	**2.67**	**152**	Pg	Pg	23 34 35.5	-1.1
DPP	**Dos Picos Cty**	**2.69**	**170**		Pn	23 34 28.1	-0.7
DPP				IAML		23 35 09.3	
	comp=N,55nm,0.6s						
DPP				IAML		23 35 09.9	
	comp=E,78nm,0.7s						
LHV	**Little Huntoon**	**2.72**	**343**		Pn	23 34 29.9	+0.7
PMPB	**Monarch Peak**	**2.74**	**283**	Pn	Pn	23 34 29.1	-0.6
PMPB				IAML		23 35 16.4	
	comp=E,136nm,1.0s						
PMPB				IAML		23 35 18.5	
	comp=N,130nm,1.0s						
NV11	**Mina Array Sit**	**2.83**	**349**		Pn	23 34 30.9	0.0
NV11				Pg	Pg	23 34 38.1	-1.4
NVAR	**Mina Array Bea**	**2.85**	**347**		Pn	23 34 30.8	-0.5
NVAR				Pg	Pb	23 34 38.1	+1.6
W13A	**Hualapai Mount**	**3.00**	**100**	Pn	Pn	23 34 32.0	-1.4
W13A				IAML		23 35 22.2	
	comp=N,56nm,0.8s						
W13A				IAML		23 35 23.0	
	comp=E,56nm,0.7s						
R11B	**Troy Canyon, C**	**3.09**	**29**	IAML		23 35 24.6	
	comp=E,48nm,0.6s						
BLYC	**Blythe**	**3.10**	**127**	IAML		23 35 23.7	
	comp=N,85nm,0.6s						
BLYC				IAML		23 35 23.7	
	comp=E,85nm,0.5s						
CMB	**Columbia Colle**	**3.32**	**317**	IAML		23 35 35.4	
	comp=N,40nm,0.5s						
CMB				IAML		23 35 38.5	
	comp=E,42nm,0.6s						
GLA	**Glamis**	**3.40**	**139**	IAML		23 35 38.8	
	comp=N,81nm,0.6s						
ESJX	**Sierra Juarez**	**3.86**	**160**	IAML		23 36 17.8	
	comp=N,50nm,0.1s						
ESJX				IAML		23 36 17.9	
	comp=E,60nm,0.1s						
Y14A	**Wickenburg**	**4.07**	**114**	IAML		23 35 57.3	
	comp=N,59nm,0.4s						
Y14A				IAML		23 36 01.0	
	comp=E,39nm,0.6s						
PSUT	**Pine Spring**	**4.09**	**44**	IAML		23 36 07.1	
	comp=E,22nm,1.0s						
PSUT				IAML		23 36 07.3	
	comp=N,24nm,1.3s						
SPR3	**Spring Creek 3**	**4.18**	**36**	IAML		23 35 57.2	
	comp=E,15nm,1.3s						
SPR3				IAML		23 35 59.7	
	comp=N,21nm,0.5s						
U15A	**North Rim**	**4.29**	**78**	IAML		23 36 06.5	
	comp=N,15nm,0.8s						
U15A				IAML		23 36 20.8	
	comp=E,13nm,1.1s						
AFDM	**Forest Hills D**	**4.30**	**321**	IAML		23 36 04.9	
	comp=E,26nm,0.6s						
AFDM				IAML		23 36 07.1	
	comp=N,17nm,0.8s						
BEKR	**Beckworth**	**4.78**	**332**	IAML		23 36 33.8	
	comp=E,22nm,0.7s						
BEKR				IAML		23 36 34.5	
	comp=N,12nm,0.6s						
WUAZ	**Wupatki**	**4.99**	**90**	IAML		23 36 27.7	
	comp=N,18nm,0.9s						
WUAZ				IAML		23 36 32.6	
	comp=N,15nm,0.5s						
X16A	**Lo Mia Camp, P**	**5.12**	**102**	IAML		23 36 37.6	
	comp=E,9.3nm,0.8s						
X16A				IAML		23 36 39.4	
	comp=N,9.6nm,0.8s						
ELK	**Elko**	**5.38**	**19**	IAML		23 36 37.4	
	comp=N,7.1nm,0.8s						

ISC 20 00:16:29.0±1.3,**45°21N**±0°06×**14°56E**±0°06,**h8**km±11km,
n10,σ0°**83**/16,**Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RIY	**Rijeka**	**0.13**	**334**	*i* Pg		**Pg**	**00 16 32.1**	**+0.3**
RIY				Sg		**Sg**	**00 16 33.5**	**-0.3**
RIY	**Rijeka**	**0.13**	**334**	Sg		**Sg**	**00 16 33.8**	**0.0**
KNDS	**Knezji Dol**	**0.34**	**338**	*i* Pg		**Pg**	**00 16 36.0**	**+0.2**
KNDS				*i* Sg		**Sg**	**00 16 41.3**	**+1.0**
GBRS	**Gornja Briga**	**0.36**	**29**	*i* Pg		**Pb**	**00 16 36.8**	**-1.0**
GBRS				*i* Sg		**Sg**	**00 16 42.1**	**+1.0**
GBRS				IAML			00 16 43.1	
	comp=Z,3.9nm,0.1s							
RABC	**Rab**	**0.49**	**161**	Sg		**Sb**	**00 16 46.8**	**-0.2**
SKDS	**Skadanscina**	**0.51**	**311**	*i* Pg		**Pg**	**00 16 38.7**	**-0.2**
SKDS				*i* Sg		**Sg**	**00 16 46.3**	**+0.6**
SKDS				IAML			00 16 47.4	
	comp=Z,3.1nm,0.1s							
CEY	**Cerknica**	**0.54**	**350**	*i* Pg		**Pb**	**00 16 39.9**	**-0.8**
CEY				*i* Sg		**Sg**	**00 16 48.0**	**+1.5**
CEY				IAML			00 16 49.0	
	comp=Z,1.6nm,0.1s							
VISS	**Visnje**	**0.62**	**18**	*i* Pg		**Pg**	**00 16 41.0**	**-0.1**
VISS				*i* Sg		**Sg**	**00 16 50.0**	**+0.8**
VISS				IAML			00 16 51.5	
	comp=Z,1.3nm,0.1s							
OZLJ	**Ozalj**	**0.76**	**57**	Sg		**Sb**	**00 16 54.2**	**-0.6**
VIRC	**Vir**	**0.98**	**159**	Sg		**Sn**	**00 17 04.1**	**+1.0**

NOU ***20*** *00:18:01.6, 18°.12S×120°.20E, h0km, mb5.0/20, Western Australia*
NEIC ***20*** *00:18:02.8±2.4, 18°.06S±0°.07×120°.21E±0°.09, h10km±2km, mb4.6/5, Error ellipse: s-maj=14.4km s-min=12.2km az=290.0*
AUST ***20*** *00:18:03.1±0.2, 18°.S±2°×12°.0E±°, h10km, mb5.1/30, ML4.3/7, ML5.5/2, Error ellipse: s-maj=6.2km s-min=4.3km az=118.8*
IDC ***20*** *00:18:03.8±0.8, 18°.02S×120°.52E, h0km, mb4.1/8, mbtmp4.4/14, ML4.6/6, MS3.7/13, Error ellipse: s-maj=24.7km s-min=12.1km az=45.0*

ISC 20 00:18:03.5±0.5,**18°13S**±0°05×**120°33E**±0°05,**h10**km,**n122**,
σ1**84**/119,**mb4.5**/18,**MS3.7**/8,**Western Australia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSA00	**Pilbara Seismi**	**3.46**	**187**			**Pn**	**00 18 58.3**	**+0.9**
PSA00	**Pilbara Seismi**	**3.46**	**187**			**Pn**	**00 18 57.3**	**-0.1**
PSA00	**Pilbara Seismi**	**3.46**	**187**	P		**Pn**	**00 18 58.7**	**+1.3**
PSA00	**Pilbara Seismi**	**3.46**	**187**	P		**Pn**	**00 18 58.4**	**+1.0**
FITZ	**Fitzroy Crossi**	**5.05**	**90**	P		**Pn**	**00 19 20.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**5.05**	**90**	S		**Sn**	**00 20 17.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**5.05**	**90**	Pn		**Pn**	**00 19 20.2**	**+0.9**
	35nm,0.3s,baz=288,slow=9.3,SNR=238							
FITZ				Sn		**Sn**	**00 20 16.4**	**-1.4**
	49nm,0.3s,baz=194,slow=20,SNR=9.5							
FITZ				Lg		Lg	00 20 43.5	
	51nm,0.3s,baz=0.0,slow=16,SNR=3.2							
	86nm,0.2s							
GIRL	**Giralia**	**7.27**	**231**			**Pn**	**00 19 48.7**	**-1.1**
GIRL	**Giralia**	**7.27**	**231**	P		**Pn**	**00 19 50.8**	**+1.0**
	comp=Z,126nm,1.1s,comp=Z,0.6nmcomp=Z,1527μm							
BASI	**Baing, Sumba**	**7.87**	**2**	P		**Pn**	**00 19 59.9**	**+1.8**
	comp=Z,0.7nmcomp=Z,143nm,1.3s							
WSI	**Waingapu**	**8.41**	**360**	P		**Pn**	**00 20 05.8**	**+0.3**
	comp=Z,145nm,0.6s							
KNRA	**Kununurra**	**8.43**	**74**			**Pn**	**00 20 06.2**	**+0.4**
KNRA	**Kununurra**	**8.43**	**74**	P		**Pn**	**00 20 06.7**	**+0.9**
	comp=Z,75nm,0.5s,comp=Z,0.6nm							
WBSI	**Waikabubak, Su**	**8.49**	**354**	P		**Pn**	**00 20 06.2**	**-0.4**
	comp=Z,99nm,0.7s							
BATI	**Baumata**	**8.51**	**23**	Pn		**Pn**	**00 20 06.6**	**-0.4**
	comp=Z,12nm,0.3s,baz=254,slow=6.5,SNR=4.5							
BATI				Sn		**Sn**	**00 21 40.3**	**-2.8**
	comp=Z,18nm,0.3s,baz=138,slow=21,SNR=7.4							
	comp=Z,14nm,0.3s							
BATI	**Baumata**	**8.51**	**23**	P		**Pn**	**00 20 07.2**	**+0.2**
	comp=Z,68nm,0.6s							
CVQOZ	**Cooralya Stati**	**8.57**	**222**	P		**Pn**	**00 20 08.2**	**+0.5**
	comp=Z,336nm,0.7s,comp=Z,3.4nm							
CVQOZ				S		**Sn**	**00 21 38.6**	**-5.9**
MEEK	**Meekatharra**	**8.62**	**190**	P		**Pn**	**00 20 08.5**	**+0.2**
MEEK	**Meekatharra**	**8.62**	**190**	P		**Pn**	**00 20 08.8**	**+0.5**
SOEI	**Soe**	**9.16**	**25**	Pn		**Pn**	**00 20 14.8**	**-1.1**
SOEI	**Soe**	**9.16**	**25**	P		**Pn**	**00 20 16.5**	**+0.6**
	comp=Z,77nm,0.9s							
EDFI	**Ende, Flores**	**9.42**	**8**	P		**Pn**	**00 20 18.0**	**-1.4**
	comp=Z,16nm,0.7s,comp=Z,0.1nm							
EDFI	**Ende, Flores**	**9.42**	**8**	P		**Pn**	**00 20 18.2**	**-1.2**
PLAI	**Plampang**	**9.57**	**345**	P		**Pn**	**00 20 21.4**	**-0.1**
	comp=Z,70nm,0.7s,comp=Z,0.1nm							
PLAI	**Plampang**	**9.57**	**345**	P		**Pn**	**00 20 21.0**	**-0.5**
PLAI	**Plampang**	**9.57**	**345**	P		**Pn**	**00 20 20.4**	**-1.1**
	comp=Z,69nm,0.7s							
MMRI	**Maumere**	**9.62**	**11**	P		**Pn**	**00 20 24.4**	**+2.3**
	comp=Z,63nm,0.6s							
WRKA	**Waikurina**	**10.11**	**134**	P		**Pn**	**00 20 29.3**	**+0.5**
	comp=Z,18nm,0.7s,comp=Z,0.3nm							
SRBI	**Singaraja**	**11.16**	**333**	P		**Pn**	**00 20 42.4**	**-0.8**
	comp=Z,75nm,1.1s							
JAGI	**Jajag, Banyuwa**	**11.32**	**327**			**Pn**	**00 20 42.8**	**-2.7**
JAGI	**Jajag, Banyuwa**	**11.32**	**327**	P		**Pn**	**00 20 42.6**	**-2.9**
	comp=Z,220nm,0.9s							
JAGI	**Jajag, Banyuwa**	**11.32**	**327**	P		**Pn**	**00 20 42.8**	**-2.7**
JAGI	**Jajag, Banyuwa**	**11.32**	**327**	P		**Pn**	**00 20 43.1**	**-2.4**
	comp=Z,4μmcomp=Z,227nm,0.9s							
MORW	**Morawa**	**11.57**	**199**			**Pn**	**00 20 47.4**	**-1.5**
MORW	**Morawa**	**11.57**	**199**	P		**Pn**	**00 20 47.1**	**-1.8**
	comp=Z,48nm,1.3s							
MORW	**Morawa**	**11.57**	**199**	P		**Pn**	**00 20 46.9**	**-2.0**
DPH	**Darwin Parliam**	**11.60**	**62**	P		**Pn**	**00 20 50.1**	**+0.9**
	comp=Z,55nm,0.6s							
MTN	**Manton Dam**	**11.66**	**65**			**Pn**	**00 20 49.0**	**-1.1**
MTN	**Manton Dam**	**11.66**	**65**	P		**Pn**	**00 20 50.2**	**0.0**
	comp=Z,149nm,0.5s							
MTN	**Manton Dam**	**11.66**	**65**	P		**Pn**	**00 20 50.1**	**0.0**
DRS	**Darwin Rock St**	**11.66**	**62**	P		**Pn**	**00 20 50.1**	**0.0**
	comp=Z,36nm,1.1s							
DRS	**Darwin Rock St**	**11.66**	**62**	P		**Pn**	**00 20 50.6**	**+0.5**
GMJI	**Gumukmas**	**11.87**	**325**	P		**Pn**	**00 20 50.2**	**-2.7**
BKSI	**Bulukumba**	**12.73**	**359**	P		**Pn**	**00 21 07.5**	**+2.8**
BLDU	**Ballidu**	**12.86**	**194**	P		**Pn**	**00 21 04.9**	**-1.5**
	comp=Z,83nm,0.8s							
BLDU	**Ballidu**	**12.86**	**194**	P		**Pn**	**00 21 04.7**	**-1.7**
KDU	**Kakadu**	**12.90**	**67**	P		**Pn**	**00 21 06.0**	**-0.9**
	comp=Z,58nm,0.7s							
KDU	**Kakadu**	**12.90**	**67**	P		**Pn**	**00 21 06.3**	**-0.7**
KAPI	**Kappang**	**13.05**	**357**	Pn		**Pn**	**00 21 09.2**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=209,slow=19,SNR=3.8							
KAPI				Sn		**Sn**	**00 23 29.6**	**-4.8**
	comp=Z,0.7nm,0.3s,baz=107,slow=20,SNR=1.3							
KAPI				LR		LR	00 27 24.5	
	comp=Z,176nm,18.1s,baz=134,slow=43							
	comp=Z,5.4nm,0.5s							
KMBL	**Kambalda**	**13.26**	**174**	P		Pn	00 21 06.5	-5.3
WRA	**Warramunga Arr**	**13.37**	**100**			**Pn**	**00 21 12.7**	**-0.8**
WRA	**Warramunga Arr**	**13.37**	**100**	Pn		**Pn**	**00 21 12.2**	**-1.2**
	comp=Z,3.8nm,0.3s,baz=270,slow=15,SNR=117							
WRA				Sn		**Sn**	**00 23 39.5**	**-2.9**
	comp=Z,7.2nm,0.3s,baz=282,slow=24,SNR=6.8							
WRA				Lg		Lg	00 25 07.3	
	baz=255,slow=26							
WRA				LR		LR	00 26 59.9	
	comp=Z,423nm,20.2s,baz=320,slow=40							
	comp=Z,4.6nm,0.4s							
WRAB	**Tennant Creek**	**13.38**	**100**			**Pn**	**00 21 12.5**	**-1.1**
WRAB	**Tennant Creek**	**13.38**	**100**	P		**Pn**	**00 21 12.8**	**-0.8**
	comp=Z,25nm,0.7s							
WB0	**Warramunga Arr**	**13.41**	**99**			**Pn**	**00 21 12.7**	**-1.2**
WR8	**Warramunga Arr**	**13.52**	**100**			**Pn**	**00 21 14.6**	**-0.9**
WR0	**Warramunga Arr**	**13.56**	**100**	Pn		**Pn**	**00 21 15.2**	**-0.9**
KLBR	**Kellerberrin**	**13.61**	**189**	P		**Pn**	**00 21 15.4**	**-1.2**
	comp=Z,191nm,0.5s							
KLBR	**Kellerberrin**	**13.61**	**189**	P		**Pn**	**00 21 15.1**	**-1.5**
AS31	**Alice Springs**	**13.83**	**116**			**Pn**	**00 21 18.2**	**-1.6**
AS31	**Alice Springs**	**13.83**	**116**	P		**Pn**	**00 21 18.9**	**-0.8**
	comp=Z,15nm,0.6s							
ASAR	**Alice Springs**	**13.83**	**116**	Pn		**Pn**	**00 21 18.4**	**-1.4**
	comp=Z,2.7nm,0.3s,baz=294,slow=12,SNR=75							
ASAR				Sn		**Sn**	**00 23 48.1**	**-5.3**
	comp=Z,4.5nm,0.3s,baz=302,slow=24,SNR=10							
ASAR				Lg		Lg	00 25 17.6	
	baz=29,slow=38							
ASAR				LR		LR	00 26 56.8	
	comp=Z,277nm,18.1s,baz=305,slow=39							
	comp=Z,9.8nm,0.5s							
AS01	**Alice Springs**	**13.87**	**116**	P		**Pn**	**00 21 19.3**	**-0.9**
UGM	**Wanagama**	**13.94**	**316**	Pn		**Pn**	**00 21 18.9**	**-2.3**
UGM	**Wanagama**	**13.94**	**316**	P		**Pn**	**00 21 19.4**	**-1.8**
UGM	**Wanagama**	**13.94**	**316**	P		**Pn**	**00 21 18.4**	**-2.8**
	comp=Z,88nm,0.6s							
MUN	**Mundaring**	**14.28**	**194**	P		**Pn**	**00 21 23.9**	**-2.0**
	comp=Z,86nm,1.1s							
MUN	**Mundaring**	**14.28**	**194**	P		**Pn**	**00 21 23.8**	**-2.1**
FORT	**Forrest**	**14.42**	**152**			**Pn**	**00 21 28.2**	**+0.5**
FORT	**Forrest**	**14.42**	**152**	P		**Pn**	**00 21 25.3**	**-2.5**
	comp=Z,66nm,0.8s							
DNDOZ	**Balladonia**	**14.62**	**168**	P		**Pn**	**00 21 28.6**	**-1.9**
	comp=Z,457nm,0.7s							
NWAO	**Narrogin (SRO)**	**15.00**	**190**	P		**Pn**	**00 21 33.0**	**-2.5**
	comp=Z,180nm,0.6s							
NWAO	**Narrogin (SRO)**	**15.00**	**190**	Pn		**Pn**	**00 21 33.2**	**-2.4**
	comp=Z,5.2nm,0.3s,baz=14,slow=12,SNR=33							
NWAO				Sn		Sn	00 24 10.3	-11
	comp=Z,11nm,0.3s,baz=319,slow=20,SNR=13							
NWAO				Lg		Lg	00 25 50.8	
	comp=Z,3.6nm,0.3s,baz=100,slow=12,SNR=3.4							
NWAO				LR		LR	00 27 31.6	
	comp=Z,190nm,20.3s,baz=54,slow=38							
NWAO	**Narrogin (SRO)**	**15.00**	**190**	P		**Pn**	**00 21 32.9**	**-2.7**
TTSI	**Tana Toraja**	**15.00**	**358**	P		**P**	**00 21 41.1**	**-0.1**
RKGY	**Rocky Gully**	**16.68**	**190**	P		**Pn**	**00 21 56.7**	**-0.8**
	comp=Z,37nm,0.9s							
LEM	**Lembang**	**16.73**	**311**	Pn		**P**	**00 22 00.2**	**-0.3**
	comp=Z,3.8nm,0.3s,baz=143,slow=20,SNR=1.8							
LEM				LR		LR	00 28 23.6	
	comp=Z,211nm,18.1s,baz=30,slow=37							
	comp=Z,14nm,0.5s							
MULG	**Mulgathing**	**17.39**	**137**	P		**Pn**	**00 22 07.1**	**+0.8**
	comp=Z,90nm,0.8s							
QIS	**Mount Isa**	**18.35**	**101**	P		**P**	**00 22 18.4**	**0.0**
	comp=Z,46nm,0.7s							
QIS	**Mount Isa**	**18.35**	**101**	P		**Pn**	**00 22 19.1**	**+0.8**
TOLI2	**Tolitoli**	**19.12**	**1**	P		**P**	**00 22 24.9**	**-1.9**
TOLI2				IAmb		IAmb	00 22 32.7	
	comp=Z,22nm,1.2s							
TOLI2	**Tolitoli**	**19.12**	**1**	P		**Pn**	**00 22 27.5**	**-0.2**
	comp=Z,16nm,0.9s							
BBOO	**Buckleboo**	**20.34**	**139**	P		**P**	**00 22 41.2**	**+1.2**
BBOO				IAmb		IAmb	00 22 51.0	
	comp=Z,26nm,0.7s							
BBOO	**Buckleboo**	**20.34**	**139**	P		**P**	**00 22 41.4**	**+1.4**
	comp=Z,44nm,1.0s							
BBOO	**Buckleboo**	**20.34**	**139**	P		**P**	**00 22 41.5**	**+1.4**
LCRK	**Leigh Creek**	**20.37**	**130**	P		Pn	00 22 42.3	-0.1
	comp=Z,27nm,1.4s							
INKA	**Innaminka**	**21.07**	**121**	P		**P**	**00 22 50.6**	**+2.6**
	comp=Z,20nm,0.9s							
YAPP	**Yappala Statio**	**21.23**	**134**	P		**P**	**00 22 51.0**	**+1.3**
	comp=Z,70nm,0.8s							
WHYH	**Whyalla**	**21.45**	**137**	P		**P**	**00 22 53.2**	**+1.2**
	comp=Z,56nm,0.8s							
SBUM	**Sibu**	**21.95**	**338**	P		**P**	**00 22 54.5**	**-3.1**
COEN	**Coen**	**22.34**	**83**	P		**P**	**00 22 59.1**	**-2.6**
COEN				IAmb		IAmb	00 23 05.7	
	comp=Z,30nm,1.1s							
COEN	**Coen**	**22.34**	**83**	P		**P**	**00 23 03.1**	**+1.4**
HTT	**Hallett**	**22.58**	**136**	P		**P**	**00 23 05.1**	**+0.9**
STKA	**Stephens Creek**	**23.58**	**130**	P		**P**	**00 23 15.7**	**+1.2**
STKA	**Stephens Creek**	**23.58**	**130**	P		**P**	**00 23 16.0**	**+1.5**
	comp=Z,4.1nm,0.6s,baz=302,slow=11,SNR=9.8							
STKA				S		**S**	**00 27 30.8**	**+2.0**
	comp=Z,12nm,0.8s,baz=319,slow=18,SNR=4.1							
STKA				LR		LR	00 33 14.6	
	comp=Z,348nm,18.2s,baz=293,slow=39							
	comp=Z,4.1nm,0.6s							
STKA	**Stephens Creek**	**23.58**	**130**	P		**P**	**00 23 16.0**	**+1.5**
QLP	**Quilpie**	**23.62**	**115**	P		**P**	**00 23 16.8**	**+1.9**
CMAR	**Chiang Mai Arr**	**42.00**	**329**	P		**P**	**00 25 56.2**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=162,slow=5.9,SNR=4.9							
CMAR				LR		LR	00 46 23.9	
	comp=Z,59nm,18.3s,baz=200,slow=40							
	comp=Z,1.1nm,0.3s							
H08S2	**Diego Garcia H**	**47.65**	**276**	T		T	01 16 52.0	
	baz=107,slow=76,SNR=24							
H08S3	**Diego Garcia H**	**47.67**	**276**	T		T	01 16 48.5	
	baz=107,slow=76,SNR=29							
H08S1	**Diego Garcia H**	**47.67**	**276**	T		T	01 16 54.0	
	baz=107,slow=76,SNR=17							
PZH	**PanZhiHua**	**47.90**	**337**	P		**P**	**00 26 43.5**	**+1.3**
BRDH	**Bariadhala**	**49.31**	**324**	LR		LR	00 52 52.1	
	comp=Z,230nm,18.0s,baz=146,slow=42							
NJ2	**Nanjing**	**49.91**	**358**	*e*P		**P**	**00 26 58.1**	**+0.7**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.8s							
XAN	**Xi'an**	**53.01**	**348**	P		**P**	**00 27 20.9**	**+0.3**
XAN				pP		sP	00 27 23.8	-1.2
XAN				pmax		pmax		
	comp=Z,15nm,0.7s							
KSRS	**Korea Array**	**55.75**	**7**	P		**P**	**00 27 42.2**	**+1.8**
	comp=Z,2.0nm,0.7s,baz=184,slow=6.9,SNR=7.0							
	comp=Z,2.0nm,0.7s							
LZH	**Lanzhou**	**56.13**	**344**	*e*P		**P**	**00 27 45.9**	**+2.5**
LZH				pP		sP	00 27 51.0	+3.2
LZH				pmax		pmax		
	comp=Z,14nm,0.8s							
HHC	**Hu-ho-hao-te**	**59.24**	**352**	*e*P		**P**	**00 28 06.4**	**+1.3**
GTA	**Gaotai**	**60.37**	**342**	*e*P		**P**	**00 28 16.3**	**+3.3**
GTA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
XLT	**XiLinHaoTe**	**61.85**	**357**	*e*P		**P**	**00 28 24.8**	**+1.9**
XLT				pP		sP	00 28 30.3	+3.0
XLT				PP		**PcP**	**00 28 59.4**	**-4.4**
XLT				pmax		pmax		
	comp=Z,4.0nm,0.9s							
XLT				pmax		pmax		
	comp=Z,4.0nm,0.9s							
ASAJ	**Asahikawa**	**65.21**	**17**	LR		LR	01 00 18.7	
	comp=Z,16nm,19.2s,baz=178,slow=

KRMR Karymshinskiy 2.84 36 *e*P Pn 00 23 20.6 +1.5
PEA0B Petropavlovsk- 2.92 29 Pn 00 23 20.4 +0.3
PEA0B Petropavlovsk- 2.92 29 *de*PN Pn 00 23 21.8 +1.7
PETK Petropavlovsk- 2.92 29 Pn 00 23 20.0 -0.1
PETK Petropavlovsk- 2.92 29 P Pn 00 23 21.2 +1.1
comp=N,11nm,0.6s,baz=196,slow=9.8,SNR=40
PETK S Sn 00 23 58.9 +2.9
comp=N,16nm,0.5s,baz=165,slow=12,SNR=5.3
PET Petropavlovsk 3.19 39 Pn Pn 00 23 24.1 +0.6
PET Petropavlovsk 3.19 39 *e*PN Pn 00 23 24.8 +1.3
PET *e*S Sn 00 24 03.4 +1.3
PET smax smax
comp=N,200nm,0.6s
PET smax smax
comp=E,94nm,0.7s
INSR Institute 3.21 38 *e*S Sn 00 24 05.9 +3.5
DALK Dalny 3.24 39 PN Pn 00 23 25.3 +1.2
DALK S Sn 00 24 03.9 +0.8
DALK Dalny 3.24 39 *e*P Pn 00 23 25.4 +1.2
DALK *e*S Sn 00 24 03.9 +0.8
KOK Koryaka 3.39 36 PN Pn 00 23 28.8 +2.6
KOK S Sn 00 24 10.7 +3.9
KOK Koryaka 3.39 36 *e*P Pn 00 23 28.9 +2.6
KOK *e*S Sn 00 24 10.7 +3.9
UGLR Uglovaya 3.40 38 PN Pn 00 23 28.7 +2.4
UGLR Uglovaya 3.40 38 *e*P Pn 00 23 28.7 +2.4
AVH Avacha 3.41 37 PN Pn 00 23 28.7 +2.3
AVH S Sn 00 24 11.0 +3.8
AVH Avacha 3.41 37 *e*P Pn 00 23 28.7 +2.3
AVH *e*S Sn 00 24 11.1 +3.8
SMAR Somma 3.43 37 PN Pn 00 23 29.3 +2.5
SMAR Somma 3.43 37 *e*P Pn 00 23 29.4 +2.5
KRER Koryakskii 3.45 36 PN Pn 00 23 28.8 +1.8
KRER S Sn 00 24 09.3 +1.1
KRER Koryakskii 3.45 36 *e*P Pn 00 23 28.8 +1.8
KRER *e*S Sn 00 24 09.4 +1.1
KRX Arik 3.45 35 PN Pn 00 23 29.0 +2.0
KRX Arik 3.45 35 *e*P Pn 00 23 29.0 +2.0
SDLR Sedlovina 3.48 38 PN Pn 00 23 28.9 +1.6
SDLR Sedlovina 3.48 38 *e*P Pn 00 23 29.0 +1.6
GNL Ganaly 3.51 26 PN Pn 00 23 29.1 +1.4
GNL Ganaly 3.51 26 *e*P Pn 00 23 29.1 +1.4
NLC Nalytchevo 3.59 42 PN Pn 00 23 27.9 -0.6
NLC S Sn 00 24 08.4 -2.7
NLC Nalytchevo 3.59 42 *e*P Pn 00 23 28.0 -0.6
NLC *e*S Sn 00 24 08.4 -2.7
SPN Mys Shipunski 3.84 47 PN Pn 00 23 31.4 -0.5
SPN S Sn 00 24 14.8 -2.2
SPN Mys Shipunski 3.84 47 *e*P Pn 00 23 31.4 -0.5
SPN *e*S Sn 00 24 14.9 -2.2
TUMD Tumrok D 5.55 31 PN Pn 00 23 56.1 +1.7
TUMD Tumrok D 5.55 31 *e*P Pn 00 23 56.2 +1.7
MKZ Mys Kozlova 5.57 42 PN Pn 00 23 53.1 -1.5
MKZ Mys Kozlova 5.57 42 *e*P Pn 00 23 53.1 -1.5
MKZ *e*S Sn 00 24 51.2 -6.5
ESO Esso 5.72 19 PN Pn 00 23 58.8 +2.2
ESO Esso 5.72 19 *e*P Pn 00 23 58.9 +2.2
KMNR Kamenistaya 5.96 28 PN Pn 00 24 01.9 +2.0
KMNR Kamenistaya 5.96 28 *e*P Pn 00 24 01.9 +2.0
KPT Kopyto 6.14 27 PN Pn 00 24 03.5 +1.2
KPT Kopyto 6.14 27 *e*P Pn 00 24 03.5 +1.2
SMKR Semkarok 7.03 29 PN Pn 00 24 15.9 +1.8
SMKR Semkarok 7.03 29 *e*P Pn 00 24 15.9 +1.8
KBG Krutoberegovo 7.18 35 PN Pn 00 24 16.9 +0.8
KBG Krutoberegovo 7.18 35 *e*P Pn 00 24 16.9 +0.8
KBTR Krutoberegovo 7.19 35 PN Pn 00 24 15.0 -1.2
KBTR Krutoberegovo 7.19 35 *e*P Pn 00 24 15.1 -1.2
BKI Bering 7.92 50 PN Pn 00 24 24.4 -1.5
BKI Bering 7.92 50 *e*P Pn 00 24 24.5 -1.5
YSS Yuzhno-Sakhali 9.07 251 *e*PN Pn 00 24 42.5 +1.1
YSS pmax pmax
comp=Z,10.0nm,0.9s
ASAJ Asahikawa 10.79 238 P Pn 00 25 09.1 +4.8
comp=Z,6.5nm,0.5s,baz=44,slow=11,SNR=4.0
SHEM Shemya Is, Ala 11.84 72 P Pn 00 25 22.5 +4.7
comp=Z,23nm,0.3s,baz=290,slow=16,SNR=2.3
SHEM S Sn 00 27 23.7 -4.8
comp=Z,40nm,0.6s,baz=312,slow=23,SNR=6.8
ERM Erimo 12.01 229 Pn Pn 00 25 20.6 +0.6
ERM Erimo 12.01 229↑ *e*PN Pn 00 25 19.4 -0.7
SEY Seymchan 12.49 354 P Pn 00 25 26.6 +0.4
comp=Z,5.6nm,1.1s,baz=182,slow=16,SNR=4.4
SEY Seymchan 12.49 354↑ *e*PN Pn 00 25 27.2 +1.0
SEY pmax pmax
comp=Z,4.0nm,1.0s
JTM Tenmabayashi 13.96 231 Pn Pn 00 25 43.8 -1.3
AMKA Amchitka 15.09 78 Pn Pn 00 25 59.5 +0.3
USA0B Ussuriysk Arra 17.02 257↑ *e*P P 00 26 20.7 -1.4
KIWB Kanaga Island 17.24 75 P P 00 26 24.1 -0.4
KIWB IAmb IAmb 00 26 41.0
comp=Z,15nm,1.1s
ZEA Zeya 17.48 291 *e*P Pn 00 26 29.0 +0.8
ZEA pmax pmax
comp=Z,10.0nm,1.2s
VLA Vladivostok 17.65 254↑ *e*P Pn 00 26 30.0 -0.3
VLA pmax pmax
comp=Z,13nm,0.6s
HEH HeiHe 17.77 280 *e*P Pn 00 26 32.3 +0.6
HEH pmax pmax
comp=Z,11nm,1.0s
YAK Yakutsk 18.14 319 P P 00 26 33.8 -0.4
YAK Yakutsk 18.14 319 P Pn 00 26 35.1 -0.7
comp=Z,62nm,0.5s,baz=94,slow=4.8,SNR=9.5
YAK Yakutsk 18.14 319 *e*P P 00 26 34.3 +0.1
YAK *e*S S 00 29 52.5 -1.3
YAK pmax pmax
comp=Z,75nm,1.2s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.5s
YAK smax smax
comp=N,94nm,4.9s
YAK smax smax
comp=E,24nm,3.2s
BILL Bilibino 18.32 13 P 00 26 35.5 -0.7
BILL Bilibino 18.32 13 *c i*P P 00 26 36.5 +0.3
BILL pmax pmax
comp=Z,11nm,0.6s
MAJO Matsushiro 18.68 228↑ *e*P Pn 00 26 42.3 -0.1
MAJO pmax pmax
comp=Z,14nm,2.3s
MJAR Matsushiro Arr 18.68 228 P Pn 00 26 42.6 +0.2
comp=Z,1.2nm,0.6s,baz=23,slow=11,SNR=5.3
ATKA Atka Island 19.01 73 P P 00 26 44.6 +0.8
INU Inuyama 20.21 228 P P 00 26 56.7 -0.1
P08K Saint George I 21.51 60 P P 00 27 10.3 -0.2
baz=269
GAMB Gambell 21.89 40 P P 00 27 14.4 0.0
baz=249
NIKH Nikolski High 22.13 70 P P 00 27 18.0 +1.0
baz=279
M11K Mekoryuk 23.56 51 P P 00 27 29.2 -1.0
baz=263
TNA Tin City 24.05 38 P P 00 27 34.3 -0.4
baz=250
TIXI Tiksi 24.29 340 P P 00 27 35.8 -0.9
TIXI IAmb IAmb 00 27 37.8
comp=Z,10nm,0.7s
TIXI Tiksi 24.29 340↓ *e*P P 00 27 35.5 -1.3
TIXI *i* *PP pP 00 28 07.0 +0.1
TIXI pmax pmax
comp=Z,11nm,0.8s
K13K Kusilvak Mount 24.52 47 P P 00 27 38.8 -0.2
baz=261
F14K Arctic Creek 24.65 38 P P 00 27 39.8 -0.3
baz=252
ANM Nome 24.77 41 P P 00 27 40.2 -1.0
baz=255
M13K Dall Lake 24.97 51 P P 00 27 42.2 -0.8
baz=266
J14K Nanvaranak Lak 25.16 45 P P 00 27 45.4 +0.6
J14K IAmb IAmb 00 28 10.8
comp=Z,13nm,1.1s
J14K Nanvaranak Lak 25.16 45 P P 00 27 43.8 -1.0
baz=261
L14K Kuka Creek 25.38 49 P P 00 27 46.7 0.0
baz=264
F15K North Star Dit 25.39 38 P P 00 27 47.0 +0.2
F15K IAmb IAmb 00 28 08.5
comp=Z,9.2nm,1.2s
F15K North Star Dit 25.39 38 P P 00 27 46.3 -0.5
baz=253

G15K Niukluk 25.44 40 P P 00 27 47.2 0.0
baz=255
M14K Bethel 25.68 50 P P 00 27 49.8 +0.4
baz=266
S12K Black Hills 25.74 62 P P 00 27 50.3 +0.3
baz=277
N14K Kuskokwak Cree 25.77 52 P P 00 27 50.0 -0.2
baz=268
O14K Tigyukauivet M 25.97 54 P P 00 27 51.9 -0.2
baz=270
L15K Ungalak Mounta 25.98 48 P P 00 27 51.7 -0.4
baz=265
C16K Lisburne Hills 26.01 33 P P 00 27 51.4 -0.9
C16K Lisburne Hills 26.01 33 P P 00 27 51.9 -0.4
baz=247
K15K Wolf Creek Mou 26.03 47 P P 00 27 53.0 +0.4
K15K Wolf Creek Mou 26.03 47 P P 00 27 51.8 -0.8
baz=264
H16K Elim 26.10 41 P P 00 27 52.9 -0.3
baz=258
G16K Koyuk River 26.22 40 P P 00 27 54.3 0.0
G16K IAmb IAmb 00 27 59.9
comp=Z,8.7nm,1.3s
G16K Koyuk River 26.22 40 P P 00 27 53.1 -1.1
baz=256
M15K Kasigluk River 26.30 50 P P 00 27 54.3 -0.7
baz=268
J16K Anvik River 26.58 45 P P 00 27 57.8 +0.3
J16K IAmb IAmb 00 28 37.5
comp=Z,7.7nm,1.1s
J16K Anvik River 26.58 45 P P 00 27 56.5 -1.0
baz=262
N15K Kwethluk River 26.58 52 P P 00 27 58.5 +0.9
N15K Kwethluk River 26.58 52 P P 00 27 57.2 -0.3
baz=269
D17K Noatak River 26.60 34 P P 00 27 56.6 -1.0
baz=251
I17K Unalakleet 26.62 43 P P 00 27 56.9 -1.0
baz=261
SDPT Sand Point 26.68 62 P P 00 27 57.8 -0.6
baz=279
O15K Ungalikthiuk R 26.71 54 P P 00 27 57.9 -0.8
baz=272
C17K DeLong Mountai 26.84 33 P P 00 27 58.5 -1.3
baz=250
E17K Hotham Inlet 26.88 36 P P 00 27 59.2 -0.9
baz=254
F17K Baldwin Pennin 26.92 38 P P 00 27 58.5 -2.0
F17K IAmb IAmb 00 28 02.5
comp=Z,11nm,1.1s
F17K Baldwin Pennin 26.92 38 P P 00 27 59.4 -1.1
baz=256
G17K Kiwalik Mounta 26.94 40 P P 00 28 00.5 -0.3
baz=258
L16K Owhat River 26.94 48 P P 00 27 59.9 -0.8
baz=267
S14K Fog Glacier 27.07 60 P P 00 28 02.3 +0.2
baz=277
H17K Granite Mounta 27.14 41 P P 00 28 03.1 +0.6
H17K IAmb IAmb 00 28 03.8
comp=Z,6.7nm,1.1s
H17K Granite Mounta 27.14 41 P P 00 28 02.5 +0.1
baz=260
M16K Timber Creek 27.16 50 P P 00 28 02.9 +0.1
M16K IAmb IAmb 00 28 41.6
comp=Z,7.6nm,1.1s
M16K Timber Creek 27.16 50 P P 00 28 02.4 -0.4
baz=269
XLT XiLinHaoTe 27.24 271 *e*P P 00 28 05.8 +2.1
N16K Nishlik Lake 27.24 51 P P 00 28 03.5 0.0
baz=270
CHNA Chernabura Isl 27.26 63 P P 00 28 03.5 -0.2
baz=280
J17K VABM Dome 27.27 45 P P 00 28 04.1 +0.4
J17K VABM Dome 27.27 45 P P 00 28 03.8 +0.1
baz=264
E18K Tukpahlearik C 27.43 36 P P 00 28 05.6 +0.6
E18K Tukpahlearik C 27.43 36 P P 00 28 03.8 -1.3
baz=254
L17K Donlin 27.52 47 P P 00 28 04.6 -1.3
baz=267
K17K Iditarod 27.56 46 P P 00 28 06.2 0.0
K17K Iditarod 27.56 46 P P 00 28 06.4 +0.1
baz=266
C18K Utukok River 27.58 33 P P 00 28 06.3 -0.1
C18K Utukok River 27.58 33 P P 00 28 06.1 -0.4
baz=252
F18K Selawik 27.58 38 P P 00 28 05.9 -0.5
baz=257
O16K Kokwok River B 27.59 53 P P 00 28 06.7 +0.2
baz=272
H18K Honhosa River 27.82 41 P P 00 28 08.7 +0.1
H18K IAmb IAmb 00 28 09.5
comp=Z,3.3nm,0.5s
H18K Honhosa River 27.82 41 P P 00 28 08.2 -0.4
baz=261
G18K Tagagawik 27.83 39 P P 00 28 09.1 +0.4
G18K IAmb IAmb 00 28 09.2
comp=Z,4.5nm,0.6s
G18K Tagagawik 27.83 39 P P 00 28 08.1 -0.6
baz=260
M17K Holitna River 27.90 49 P P 00 28 10.5 +1.2
M17K IAmb IAmb 00 28 10.6
comp=Z,5.6nm,0.5s
M17K Holitna River 27.90 49 P P 00 28 09.1 -0.3
baz=269
N17K Nushagak Hills 28.02 51 P P 00 28 11.0 +0.6
N17K IAmb IAmb 00 28 41.0
comp=Z,10nm,1.3s
N17K Nushagak Hills 28.02 51 P P 00 28 10.3 -0.1
baz=271
A19K Wainwright 28.16 30 P P 00 28 11.2 -0.2
baz=249
C19K Lookout Ridge 28.28 32 P P 00 28 12.7 +0.1
C19K Lookout Ridge 28.28 32 P P 00 28 12.5 -0.2
baz=253
L18K Granite Mounta 28.28 47 P P 00 28 13.2 +0.6
L18K IAmb IAmb 00 28 30.8
comp=Z,9.0nm,1.4s
L18K Granite Mounta 28.28 47 P P 00 28 13.0 +0.4
baz=268
J18K Innoko River 28.34 45 P P 00 28 13.4 +0.2
J18K Innoko River 28.34 45 P P 00 28 13.4 +0.2
baz=266
F19K Shaleruckik Mo 28.36 37 P P 00 28 12.9 -0.4
F19K Shaleruckik Mo 28.36 37 P P 00 28 13.3 0.0
baz=259
G19K Purcell Mounta 28.50 39 P P 00 28 13.8 -0.8
G19K Purcell Mounta 28.50 39 P P 00 28 14.4 -0.2
baz=261
D19K Kuna River 28.62 34 P P 00 28 15.6 -0.1
D19K IAmb IAmb 00 28 35.0
comp=Z,12nm,1.4s
D19K Kuna River 28.62 34 P P 00 28 15.4 -0.3
baz=255
R17L Mt. Peulik Vol 28.64 57 P P 00 28 15.8 -0.2
baz=277
N18K Kilae Creek 28.66 51 P P 00 28 16.4 +0.3
N18K IAmb IAmb 00 28 53.5
comp=Z,12nm,1.4s
N18K Kilae Creek 28.66 51 P P 00 28 16.3 +0.3
baz=272
H19K Roundabout Mou 28.67 40 P 00 28 16.2 +0.2
H19K Roundabout Mou 28.67 40 P P 00 28 15.9 -0.2
baz=262,SNR=9.3
M18K Stony River 28.68 49 P P 00 28 16.6 +0.4
baz=270
E19K Redstone River 28.70 36 P P 00 28 16.8 +0.4
E19K Redstone River 28.70 36 P P 00 28 16.5 +0.2
baz=258
Q17K Contact Creek 28.82 56 P P 00 28 17.4 -0.2
baz=276
J19K Poorman 28.86 44 P P 00 28 18.2 +0.4
J19K Poorman 28.86 44 P P 00 28 17.4 -0.4
baz=266
O18K Koktuh Hills 29.04 52 P P 00 28 19.0 -0.4
baz=274
P18K Big Mountain, 29.06 53 P P 00 28 19.3 -0.3
baz=275
L19K White Mountain 29.14 47 P P 00 28 20.9 +0.6
L19K White Mountain 29.14 47 P P 00 28 20.0 -0.3
baz=270
F20K Avaraart Lake 29.19 37 P P 00 28 21.6 +0.9
F20K Avaraart Lake 29.19 37 P P 00 28 20.3 -0.4
baz=260
D20K Etivluk River 29.21 34 P P 00 28 21.1 +0.2
D20K IAmb IAmb 00 28 21.5
comp=Z,8.5nm,1.1s
D20K Etivluk River 29.21 34 P P 00 28 19.7 -1.2
baz=257
Q18K Katmai Hardscr 29.24 55 P P 00 28 21.2 -0.1
baz=276
E20K Nigu River 29.25 35 P P 00 28 21.1 -0.2
baz=258
H20K Anotleneega Mo 29.32 41 P P 00 28 21.7 -0.1
baz=264
CHIR Chirikof Islan 29.32 60 P P 00 28 22.0 +0.1
baz=281
N19K Bonanza Creek 29.34 50 P P 00 28 22.9 +0.7
N19K IAmb IAmb 00 29 03.2
comp=Z,6.5nm,1.2s
N19K Bonanza Creek 29.34 50 P P 00 28 21.8 -0.4
baz=273
M19K Big River Lodg 29.36 48 P P 00 28 21.4 -0.8
baz=271
B20K Meade River 29.36 31 P P 00 28 21.2 -0.9
baz=254
I20K Naaghedeneel 29.42 42 P P 00 28 22.1 -0.5
baz=266
O19K Port Alsworth 29.46 51 P P 00 28 23.2 +0.1
baz=274
K20K Telida 29.52 45 P P 00 28 24.6 +1.0
K20K Telida 29.52 45 P P 00 28 24.2 +0.6
baz=269
J20K Nowinta River 29.52 43 P P 00 28 24.1 +0.5
J20K IAmb IAmb 00 28 24.2
comp=Z,3.2nm,0.6s
J20K Nowinta River 29.52 43 P P 00 28 23.3 -0.3
baz=267,SNR=5.9
L20K Farewell, AK 29.59 47 P P 00 28 23.5 -0.9
baz=270
R18K Karluk 29.67 57 P P 00 28 24.6 -0.4
baz=279
IMAR Indian Mountai 29.83 40 P P 00 28 26.4 +0.1
Q19K Cape Douglas, 29.91 54 P P 00 28 26.8 -0.4
baz=277
A21K Barrow 29.93 29 P P 00 28 26.5 -0.5
baz=252
C21K Knifeblade Rid 29.95 33 P P 00 28 27.3 -0.1
baz=258
M20K Styx River 29.95 48 P P 00 28 28.5 +0.9
M20K Styx River 29.95 48 P P 00 28 26.5 -1.1
baz=272
SII Sitkinak Islan 29.98 59 P P 00 28 27.9 +0.1
baz=280
G21K Allakaket 29.99 39 P P 00 28 28.1 +0.3
G21K Allakaket 29.99 39 P P 00 28 27.6 -0.1
baz=264
F21K Alatna River 30.09 37 P P 00 28 30.2 +1.6
F21K Alatna River 30.09 37 P P 00 28 28.5 -0.1
baz=262
E21K Killik River 30.10 35 P P 00 28 28.9 +0.2
baz=260
B21K Ikpikpuk River 30.11 32 P P 00 28 29.6 +0.9
B21K Ikpikpuk River 30.11 32 P P 00 28 29.0 +0.2
baz=257
H21K Melozitna Rive 30.19 40 P P 00 28 29.6 +0.1
H21K Melozitna Rive 30.19 40 P P 00 28 29.7 +0.1
baz=266
O20K Slope Mountain 30.31 52 P P 00 28 30.4 -0.3
baz=276
OHAK Old Harbor 30.34 57 P P 00 28 30.1 -0.8
OHAK Old Harbor 30.34 57 P P 00 28 30.9 -0.1
baz=280
PPLA Purkeypile 30.37 46 P P 00 28 32.1 +0.8
PPLA IAmb IAmb 00 29 00.9
comp=Z,12nm,1.4s
PPLA Purkeypile 30.37 46 P P 00 28 31.2 -0.1
baz=271
STLK Strandline Lak 30.59 49 P P 00 28 34.0 +0.8
STLK IAmb IAmb 00 28 34.8
comp=Z,4.3nm,0.6s
Q20K Shuyak Island 30.60 54 P P 00 28 33.4 +0.2
baz=278
F22K John River 30.62 37 P P 00 28 33.3 -0.1
baz=263
KDAK Kodiak Island 30.63 56 P P 00 28 32.7 -0.7
KDAK Kodiak Island 30.63 56 P P 00 28 32.7 -0.7
KDAK pmax pmax
comp=Z,25nm,1.5s
KDAK Kodiak Island 30.63 56 P P 00 28 34.0 +0.6
baz=280
D22K Ayikyak River 30.64 34 P P 00 28 34.0 +0.5
D22K IAmb IAmb 00 28 35.2
comp=Z,5.0nm,0.5s
D22K Ayikyak River 30.64 34 P P 00 28 33.4 -0.1
baz=260
B22K Teshekpuk Lake 30.68 31 P P 00 28 33.4 -0.3
baz=257
SKT Skwentna 30.71 48 P P 00 28 34.3 +0.1
SKT Skwentna 30.71 48 P P 00 28 34.1 0.0
baz=273
H22K Ishtalitna Cre 30.79 40 P P 00 28 34.8 0.0
baz=267
G22K Bettles 30.82 38 P P 00 28 35.0 0.0
baz=265
BPAW Bear Paw Mtn. 30.90 44 P P 00 28 35.9 +0.1
BPAW IAmb IAmb 00 28 39.5
comp=Z,3.2nm,0.6s
BPAW Bear Paw Mtn. 30.90 44 P P 00 28 36.3 +0.5
baz=270
KTH Kantishna Hill 30.93 45 P P 00 28 37.2 +1.1
CAPN Captain Cook N 30.98 50 P P 00 28 36.9 +0.5
baz=276
MLY Manley 31.02 42 P P 00 28 37.5 +0.6
MLY Manley 31.02 42 P P 00 28 37.1 +0.2
baz=269
CNPM China Poot 31.07 52 P P 00 28 37.3 -0.1
TRF Thorofare Moun 31.22 45 P P 00 28 38.9 +0.1
TRF IAmb IAmb 00 28 39.4
comp=Z,3.6nm,0.6s
TRF Thorofare Moun 31.22 45 P P 00 28 38.4 -0.4
baz=272
COLD Coldfoot 31.36 37 P P 00 28 39.9 +0.2
COLD IAmb IAmb 00 28 40.6
comp=Z,4.4nm,0.7s
COLD Coldfoot 31.36 37 P P 00 28 39.5 -0.3
baz=266
D23K Nanushuk River 31.37 34 P P 00 28 39.4 -0.5
baz=262
G23K Bananza Creek 31.39 38 P 00 28 40.1 +0.1
G23K Bananza Creek 31.39 38 P P 00 28 39.4 -0.7
baz=267
C23K Itkillik River 31.52 32 P P 00 28 41.4 +0.3
C23K Itkillik River 31.52 32 P P 00 28 40.6 -0.6
baz=261
H23K Yukon River 31.54 40 P P 00 28 41.9 +0.5
H23K IAmb IAmb 00 28 43.1
comp=Z,3.8nm,0.7s
H23K Yukon River 31.54 40 P P 00 28 40.5 -1.0
baz=269,SNR=5.1
I23K Minto, Yukon-K 31.61 42 P P 00 28 42.1 +0.1
I23K IAmb IAmb 00 28 46.8
comp=Z,2.3nm,0.4s
I23K Minto, Yukon-K 31.61 42 P P 00 28 41.4 -0.5
baz=270
RC01 Rabbit Creek A 31.63 49 P P 00 28 41.8 -0.4
baz=276
SONM Songino Array 31.64 284 P P 00 28 43.1 +0.5
comp=Z,0.3nm,0.4s,baz=68,slow=9.5,SNR=1.8
SONM PcP PcP 00 31 31.4 +0.5
comp=Z,0.7nm,0.5s,baz=52,slow=3.4,SNR=2.6
comp=Z,0.3nm,0.4s
E23K Chandalar 31.65 36 P 00 28 42.8 +0.4
E23K Chandalar 31.65 36 P P 00 28 41.5 -0.9
baz=265,SNR=7.4
HHC Hu-ho-hao-te 31.67 269 *e*P P 00 28 43.3 +0.4
HHC pmax pmax
comp=Z,22nm,0.6s
HHC pmax pmax
comp=Z,47nm,7.2s
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,120nm,5.0s
TOLK Toolik Lake Re 31.73 35 P P 00 28 43.4 +0.4
TOLK IAmb IAmb 00 28 44.4
comp=Z,4.6nm,0.6s
TOLK Toolik Lake Re 31.73 35 P P 00 28 42.1 -1.0
baz=264
NEA2 Nenana 31.73 43 P P 00 28 43.0 0.0
NEA2 Nenana 31.73 43 P P 00 28 42.3 -0.8
baz=271,SNR=6.5
MCK McKinley 31.82 44 P P 00 28 44.1 +0.2

baz=273
SEW Seward 31.89 51 P P 00 28 44.6 +0.2
baz=278
D24K Happy Valley 32.05 34 P 00 28 46.1 +0.3
D24K Happy Valley 32.05 34 P P 00 28 46.1 +0.3
baz=264,SNR=5.4
E24K Your Creek 32.08 36 P P 00 28 46.5 +0.4
E24K Your Creek 32.08 36 P P 00 28 45.7 -0.4
baz=266,SNR=11
WRH Wood River Hil 32.16 43 P P 00 28 47.2 +0.4
WRH IAmb IAmb 00 28 48.4
comp=Z,6.0nm,0.6s
C24K Franklin Bluff 32.16 33 P P 00 28 47.4 +0.7
baz=263
KNK Knik Glacier 32.21 49 P P 00 28 46.9 -0.4
baz=277
H24K Noodor Dome 32.23 40 P P 00 28 47.3 -0.1
baz=270
COLA College 32.25 42 *de*P P 00 28 47.7 +0.2
COLA pmax pmax
comp=Z,8.0nm,0.8s
F24K Squaw Lake 32.27 37 P 00 28 48.1 +0.3
F24K IAmb IAmb 00 28 48.5
comp=Z,3.9nm,0.7s
F24K Squaw Lake 32.27 37 P P 00 28 47.2 -0.6
baz=267,SNR=5.3
PWL Port Wells 32.34 50 P P 00 28 47.9 -0.5
PWL Port Wells 32.34 50 P P 00 28 48.5 +0.1
baz=278
G24K Hadweenzic Riv 32.40 39 P P 00 28 48.0 -0.9
baz=269,SNR=5.9
POKR Poker Plat Res 32.42 42 P P 00 28 49.0 -0.1
baz=272
M23K Glacier View 32.52 48 P P 00 28 49.6 -0.4
baz=277
HDA Harding Lake 32.66 43 P P 00 28 51.2 +0.1
baz=273,SNR=12
IL31 32.67 42 IAmb IAmb 00 28 51.8
comp=Z,6.4nm,0.6s
ILAR Eielson Array 32.67 42 P P 00 28 51.2 0.0
ILAR Eielson Array 32.67 42 P P 00 28 50.9 -0.4
comp=Z,4.2nm,0.6s,baz=263,slow=5.9,SNR=45
comp=Z,4.2nm,0.6s
ILAR Eielson Array 32.67 42 P P 00 28 51.2 0.0
SCM Sheep Creek Mo 32.70 48 P P 00 28 51.7 +0.1
SCM IAmb IAmb 00 28 52.6
comp=Z,6.0nm,0.9s
SCM Sheep Creek Mo 32.70 48 P P 00 28 51.7 +0.1
SCM pmax pmax
comp=Z,6.0nm,0.9s
SCM Sheep Creek Mo 32.70 48 P P 00 28 51.7 +0.1
baz=277
P23K Montague Islan 32.92 51 P P 00 28 53.4 -0.1
baz=280
GLI Glacier Island 32.94 49 P P 00 28 54.9 +1.2
GLI IAmb IAmb 00 29 01.2
comp=Z,9.9nm,1.1s
GLI Glacier Island 32.94 49 P P 00 28 53.2 -0.4
baz=279
D25K Kavik River 32.94 34 P P 00 28 53.1 -0.5
baz=266,SNR=18
G25K Bearman Lake 32.95 38 P P 00 28 53.3 -0.3
baz=270
H25L Birch Creek 33.07 39 P P 00 28 53.9 -0.8
baz=271
F25K Christian Rive 33.13 37 P P 00 28 54.2 -1.1
baz=269
E25K Arctic Village 33.17 36 IAmb IAmb 00 28 57.0
comp=Z,4.4nm,0.6s
E25K Arctic Village 33.17 36 P P 00 28 54.6 -1.0
baz=269
M24K Tolsona, Glenn 33.21 47 P P 00 28 55.4 -0.6
baz=277
PRP Porcupine Dome 33.21 41 P P 00 28 54.8 -1.3
baz=273,SNR=13
K24K Donnelly Dome 33.21 44 IAmb IAmb 00 28 56.1
comp=Z,7.2nm,0.8s
K24K Donnelly Dome 33.21 44 P P 00 28 55.7 -0.3
baz=275
FID Port Fidalgo 33.26 50 P P 00 28 56.0 -0.4
FID IAmb IAmb 00 29 01.7
comp=Z,9.1nm,1.0s
J25K Salcha River, 33.33 42 P P 00 28 56.5 -0.5
J25K IAmb IAmb 00 28 57.1
comp=Z,5.7nm,0.5s
J25K Salcha River, 33.33 42 P P 00 28 55.9 -1.1
baz=274,SNR=15
KLU Klutina 33.41 48 P P 00 28 57.4 -0.4
baz=279
PAX Paxson 33.43 45 P P 00 28 58.9 +0.9
PAX Paxson 33.43 45 P P 00 28 58.9 +0.9
PAX pmax pmax
comp=Z,4.0nm,1.2s
PAX Paxson 33.43 45 P P 00 28 57.4 -0.6
baz=277
C26K Camden Bay 33.49 33 P P 00 28 57.4 -0.9
baz=267
BMAR Burnt Mountain 33.54 37 P P 00 28 59.8 +1.0
Q23K Middleton Isla 33.55 52 P P 00 28 58.7 -0.2
baz=281
RIDG Independent Ri 33.63 44 IAmb IAmb 00 28 59.7
comp=Z,4.0nm,0.7s
RIDG Independent Ri 33.63 44 P P 00 28 59.0 -0.6
baz=276
EYAK Cordova Ski Ar 33.64 50 P P 00 28 59.9 +0.2
baz=280
HARP HAARP 33.65 46 P P 00 28 59.9 +0.2
baz=278
F26K Sheenjek River 33.71 37 P P 00 29 00.1 -0.1
baz=271
G26K Porcupine Rive 33.86 38 IAmb IAmb 00 29 02.8
comp=Z,5.9nm,0.6s
G26K Porcupine Rive 33.86 38 P P 00 29 01.6 +0.1
baz=272
C27K Jago River 33.89 33 P P 00 29 02.5 +0.8
C27K IAmb IAmb 00 29 03.6
comp=Z,6.9nm,1.1s
C27K Jago River 33.89 33 P P 00 29 02.1 +0.3
baz=268
SCRK Sand Creek 33.98 43 IAmb IAmb 00 29 02.9
comp=Z,6.3nm,1.1s
SCRK Sand Creek 33.98 43 P P 00 29 02.4 -0.4
baz=276,SNR=7.3
DOT Dot Lake 33.99 44 IAmb IAmb 00 29 03.1
comp=Z,5.0nm,0.6s
N25K Chitina, Valde 34.02 48 P P 00 29 04.1 +1.0
N25K IAmb IAmb 00 29 04.3
comp=Z,4.0nm,0.5s
N25K Chitina, Valde 34.02 48 P P 00 29 03.5 +0.4
baz=279
J26L Joseph Creek 34.11 42 P P 00 29 04.0 +0.1
baz=276
BMRM Bremner River 34.12 49 P P 00 29 04.5 +0.6
baz=280
RAGM Ragged Mountai 34.20 50 P P 00 29 05.8 +1.2
I26K Coal Creek Min 34.21 41 P P 00 29 05.2 +0.7
baz=275
GLB Gilahina Butte 34.42 48 P P 00 29 06.5 0.0
GLB IAmb IAmb 00 29 18.4
comp=Z,8.0nm,1.5s
M26K Nabesna, AK 34.64 46 P P 00 29 08.8 +0.4
baz=280
E27K Coleen River 34.66 36 P P 00 29 09.5 +1.1
E27K Coleen River 34.66 36 P P 00 29 08.8 +0.4
baz=272
G27K Doyon Strip 34.71 38 P P 00 29 09.1 +0.2
baz=274
MCARA McCarthy VSAT 34.80 48 P P 00 29 09.4 -0.3
baz=281
H27K Steamboat Moun 34.80 39 IAmb IAmb 00 29 11.2
comp=Z,3.6nm,0.7s
H27K Steamboat Moun 34.80 39 P P 00 29 09.9 +0.2
baz=275,SNR=8.1
K27K Chicken 34.81 43 P P 00 29 09.4 -0.4
baz=278
I27K Kandik River 34.83 40 P P 00 29 09.7 -0.3
baz=276
D27M Malcolm River 34.86 34 IAmb IAmb 00 29 11.3
comp=Z,13nm,1.1s
D27M Malcolm River 34.86 34 P P 00 29 09.7 -0.5
baz=271,SNR=8.4
CRQM Cirque 34.87 49 P P 00 29 11.2 +0.7
CRQM IAmb IAmb 00 29 14.2
comp=Z,7.8nm,0.8s
CRQE Cirque 34.89 49 P P 00 29 10.5 -0.1
baz=282
L27K Beaver Creek, 35.07 45 IAmb IAmb 00 29 13.9
comp=Z,7.2nm,0.7s
L27K Beaver Creek, 35.07 45 P P 00 29 12.6 +0.6
baz=279,SNR=14
BCAR Beaver Creek A 35.08 45 P 00 29 12.6 +0.4
M27K Edge Creek, AK 35.16 46 P P 00 29 14.1 +1.2
M27K IAmb IAmb 00 29 15.0
comp=Z,6.7nm,1.0s
M27K Edge Creek, AK 35.16 46 P P 00 29 13.6 +0.6
baz=280,SNR=8.3
F28M Old Crow 35.34 37 IAmb IAmb 00 29 15.5
comp=Z,5.4nm,0.5s
F28M Old Crow 35.34 37 P P 00 29 14.3 0.0
baz=275
E28M Babbage River 35.40 35 P P 00 29 14.3 -0.4
baz=274
GRNC Granite Creek 35.54 49 P P 00 29 17.1 +0.8
GRNC IAmb IAmb 00 29 18.0
comp=Z,4.4nm,0.6s
I28M Miner Creek 35.54 41 IAmb IAmb 00 29 17.4
comp=Z,3.2nm,0.6s
I28M Miner Creek 35.54 41 P P 00 29 16.1 0.0
baz=278,SNR=6.9
MESA MESA 35.57 50 P P 00 29 16.3 -0.2
baz=283
BVCY Beaver Creek 35.62 46 P P 00 29 16.9 +0.2
baz=281,SNR=5.1
YAH Yahtse 35.62 49 P P 00 29 18.0 +1.0
YAH IAmb IAmb 00 29 19.0
comp=Z,8.0nm,0.8s
D28M Stokes Point 35.65 34 P P 00 29 16.5 -0.3
baz=273
CTG Chitna Glacier 35.69 48 P P 00 29 17.7 +0.3
baz=283
CTGM Chitina Glacie 35.69 48 P P 00 29 18.1 +0.6
CTGM IAmb IAmb 00 29 19.7
comp=Z,8.4nm,0.9s
TABL Table Mountain 35.90 49 P P 00 29 20.3 +1.0
TABL IAmb IAmb 00 29 47.4
comp=Z,12nm,1.2s
YUK3 Moose Creek 35.93 47 P P 00 29 19.8 +0.2
baz=282
DAWY Dawson 35.98 43 P P 00 29 20.4 +0.6
baz=280
E29M Blow River 36.02 35 IAmb IAmb 00 29 21.6
comp=Z,10nm,1.1s
E29M Blow River 36.02 35 P P 00 29 20.3 +0.3
baz=275,SNR=8.1
H29M Whitestone 36.08 39 IAmb IAmb 00 29 22.3
comp=Z,4.9nm,0.8s
H29M Whitestone 36.08 39 P P 00 29 21.3 +0.7
baz=278
G29M Pine Creek 36.13 38 IAmb IAmb 00 29 23.0
comp=Z,5.0nm,0.8s
G29M Pine Creek 36.13 38 P P 00 29 21.1 +0.1
baz=277,SNR=6.3
O28M Mount Upton 36.28 48 P P 00 29 22.7 +0.1
baz=284
YUK8 Steele Glacier 36.36 48 P P 00 29 23.4 +0.1
baz=283
PCA Pinnacle 36.41 50 P P 00 29 24.0 +0.5
PINM Pinnacle 36.41 50 P P 00 29 23.2 -0.3
baz=285
M29M Somme Creek 36.70 45 IAmb IAmb 00 29 27.9
comp=Z,3.4nm,0.6s
M29M Somme Creek 36.70 45 P P 00 29 26.8 +0.8
baz=283,SNR=6.8
L29M L29M 36.71 44 IAmb IAmb 00 29 28.3
comp=Z,11nm,1.1s
L29M L29M 36.71 44 P P 00 29 26.4 +0.4
baz=282,SNR=9.8
EPYK Eagle Plains 36.72 39 P P 00 29 25.9 -0.1
baz=279
BCPM Bancas Point 36.75 50 P P 00 29 27.1 +0.9
BCPM IAmb IAmb 00 29 27.8
comp=Z,7.5nm,0.7s
G30M tAoh Zrzii Nji 36.82 38 P P 00 29 27.3 +0.4
baz=279
K29M Barlow Dome 36.83 43 P P 00 29 27.6 +0.5
baz=282
YUK4 Talbot Arm 36.87 47 P P 00 29 27.8 +0.3
baz=284
F30M Barrier River 36.90 37 IAmb IAmb 00 29 29.6
comp=Z,7.2nm,0.8s
F30M Barrier River 36.90 37 P P 00 29 27.3 -0.1
baz=278,SNR=6.4
PNL Peninsula 36.94 50 P P 00 29 28.1 +0.2
baz=286
I30M Mount Dempster 37.05 41 IAmb IAmb 00 29 30.2
comp=Z,6.9nm,0.8s
I30M Mount Dempster 37.05 41 P P 00 29 28.7 -0.2
baz=281,SNR=16
YUK6 Outpost Mounta 37.10 48 P P 00 29 29.3 -0.2
baz=285
J30M Hart River 37.19 42 P P 00 29 30.9 +0.7
J30M Hart River 37.19 42 P P 00 29 30.3 +0.1
baz=282
M30M Minto, Yukon 37.43 45 P P 00 29 31.8 -0.2
M30M Minto, Yukon 37.43 45 P P 00 29 32.3 +0.3
baz=284
HYT Haines Junctio 37.54 48 P 00 29 34.2 +1.1
HYT Haines Junctio 37.54 48 P P 00 29 33.2 +0.1
baz=286
N30M Aishikik Lake 37.57 47 P P 00 29 33.3 +0.1
baz=285
G31M Satah River 37.59 37 P P 00 29 33.3 +0.1
G31M IAmb IAmb 00 29 34.5
comp=Z,2.9nm,0.4s
G31M Satah River 37.59 37 P P 00 29 33.5 +0.3
baz=280,SNR=6.5
INK Inuvik 37.64 35 IAmb IAmb 00 29 34.9
comp=Z,4.3nm,0.7s
INK Inuvik 37.64 35 P P 00 29 33.4 -0.2
baz=279,SNR=5.5
F31M Tsiigehtchic 37.70 37 P P 00 29 34.8 +0.7
F31M Tsiigehtchic 37.70 37 P P 00 29 34.0 -0.2
baz=280
P29M Windy Craggy 37.76 50 P P 00 29 35.7 +0.8
baz=287
H31M Peel River 37.77 39 P 00 29 35.4 +0.6
H31M IAmb IAmb 00 29 36.5
comp=Z,4.6nm,0.9s
H31M Peel River 37.77 39 P P 00 29 34.3 -0.6
baz=282
P30M Million Dollar 37.99 49 P P 00 29 37.7 +0.9
baz=287
N31M Braeburn, Yuko 38.17 46 P 00 29 40.0 +1.8
N31M IAmb IAmb 00 29 40.9
comp=Z,5.4nm,0.8s
N31M Braeburn, Yuko 38.17 46 P P 00 29 39.2 +1.0
baz=286
O30N Mendenhall 38.22 48 IAmb IAmb 00 29 40.9
comp=Z,6.2nm,0.8s
O30N Mendenhall 38.22 48 P P 00 29 39.1 +0.4
baz=287,SNR=8.9
PLBC Pleasant Camp 38.48 50 P P 00 29 41.9 +1.1
baz=288
M31M Drury Creek, Y 38.61 45 P P 00 29 43.8 +1.9
M31M Drury Creek, Y 38.61 45 P P 00 29 43.1 +1.2
baz=286
WHY Whitehorse 38.82 47 P P 00 29 45.1 +1.3
WHY IAmb IAmb 00 29 46.2
comp=Z,4.9nm,0.7s
WHY Whitehorse 38.82 47 P P 00 29 44.2 +0.4
baz=288
SKAG Skagway 38.98 49 P P 00 29 46.2 +1.2
baz=289
LZH Lanzhou 39.36 269 *e*P P 00 29 47.6 -1.0
LZH pP pP 00 30 14.5 -6.5
LZH pmax pmax
comp=Z,12nm,0.7s
N32M Quiet Lake 39.51 46 P P 00 29 50.4 +0.9
baz=288
P32M Atlin 39.72 49 P P 00 29 51.4 +0.3
baz=290
A36M Sachs Harbour 39.77 29 P 00 29 52.0 +0.7
A36M Sachs Harbour 39.77 29 P P 00 29 52.0 +0.7
baz=282,SNR=6.7
R32K Eaglecrest 39.77 51 P P 00 29 53.2 +1.6
R32K Eaglecrest 39.77 51 P P 00 29 52.3 +0.7
baz=291
SIT Sitka 39.80 53 P P 00 29 52.6 +0.8
baz=292
MMPY Sheldon Lake, 39.88 44 P P 00 29 53.2 +0.7
baz=288
P33M Teslin, Yukon 39.94 48 P P 00 29 53.3 +0.3
baz=290
S32K Killisnoo 40.03 52 P P 00 29 55.1 +1.5
baz=292
Q32M Nakina River 40.63 49 P P 00 30 01.1 +2.2
Q32M Nakina River 40.63 49 P P 00 29 59.6 +0.8
baz=291
R33M Jennings River 41.10 48 P P 00 30 04.6 +2.0
R33M IAmb IAmb 00 30 05.5
comp=Z,4.9nm,0.8s
R33M Jennings River 41.10 48 P P 00 30 03.4 +0.8
baz=292
S34M Telegraph Cree 41.58 50 P P 00 30 07.1 +0.8
baz=293
ZAA0 Zalesovo Array 41.67 303 P P 00 30 06.9 -0.2
ZALV Zalesovo Beam 41.67 303 P P 00 30 07.0 -0.1
ZALV Zalesovo Beam 41.67 303 P P 00 30 06.9 -0.2
comp=Z,1.5nm,0.4s,baz=68,slow=7.0,SNR=5.9
ZALV PcP PcP 00 32 01.1 +0.2
comp=Z,1.3nm,0.4s,baz=84,slow=3.6,SNR=6.3
comp=Z,1.5nm,0.4s
WTLY Watson Lake, Y 41.85 47 P P 00 30 09.7 +1.1
baz=292
DLBC Dease Lake 41.91 49 P P 00 30 09.2 +0.1
baz=293
T35M Bob Quinn 42.39 51 P P 00 30 13.7 +0.7
baz=295
WRGLY Wrigley 43.02 41 P P 00 30 18.2 +0.3
baz=293
HG4B Hotspring 43.99 58 P P 00 30 26.3 +0.5
TOAD Toad River Com 44.03 47 P P 00 30 27.0 +0.9
baz=296
EUNU Eureka 45.07 12 P P 00 30 34.5 +0.3
HOLB Holberg 46.47 59 P P 00 30 45.9 +0.5
KURK Kurchatov 46.55 302 P 00 30 46.1 +0.1
KURK IAmb IAmb 00 30 46.7
comp=Z,4.4nm,0.6s
KURK Kurchatov 46.55 302 *ce*P P 00 30 46.2 +0.2
KURK pmax pmax
comp=Z,4.0nm,1.0s
MK31 Makanchi Array 46.58 295 *de*P P 00 30 46.1 -0.2
MK31 *i* *PP pP 00 31 19.9 +0.2
MKAR Makanchi Array 46.58 295 P P 00 30 46.4 +0.1
MKAR Makanchi Array 46.58 295 P P 00 30 47.4 +1.1
comp=Z,0.9nm,0.4s,baz=57,slow=6.3,SNR=12
MKAR PcP PcP 00 32 19.2 +1.4
comp=Z,0.3nm,0.4s,baz=65,slow=3.4,SNR=4.2
comp=Z,0.9nm,0.4s
MKAR Makanchi Array 46.58 295 *i**e*P P 00 30 46.2 -0.1
MKAR pmax pmax
comp=Z,9.0nm,0.4s
KURBB Kurchatov Arra 46.65 301 P P 00 30 46.8 0.0
comp=Z,1.9nm,0.4s,baz=64,slow=7.9,SNR=8.2
KURBB PcP PcP 00 32 18.6 +0.6
comp=Z,0.8nm,0.3s,baz=61,slow=3.6,SNR=4.6
comp=Z,1.9nm,0.4s
RES Resolute Bay 46.73 20 P P 00 30 47.6 +0.5
RES IAmb IAmb 00 31 08.2
comp=Z,7.8nm,1.0s
RES Resolute Bay 46.73 20 P P 00 30 47.6 +0.5
RES pmax pmax
comp=Z,8.0nm,1.0s
MAKZ Makanchi 46.75 295 P P 00 30 48.0 +0.3
MAKZ Makanchi 46.75 295 P P 00 30 48.0 +0.3
MAKZ pmax pmax
comp=Z,2.0nm,0.8s
YKAW3 Yellowknife Wh 46.96 39 P 00 30 49.9 +0.9
YKAW3 IAmb IAmb 00 30 50.5
comp=Z,4.2nm,0.8s
YKA Yellowknife Ar 46.99 39 P P 00 30 49.8 +0.5
YKA Yellowknife Ar 46.99 39 P P 00 30 50.0 +0.8
comp=Z,2.8nm,0.8s,baz=302,slow=8.2,SNR=20
YKA PcP PcP 00 32 20.3 +1.4
comp=Z,0.4nm,0.7s,baz=302,slow=4.5,SNR=3.9
comp=Z,2.8nm,0.8s
YKAW1 Yellowknife Wh 47.05 39 P P 00 30 51.1 +1.4
YKAW1 IAmb IAmb 00 30 51.1
comp=Z,5.0nm,1.0s
PZH PanZhiHua 47.09 260 P P 00 30 51.6 +1.0
SPITS Spitsbergen Ar 49.11 350 P P 00 31 03.5 -1.9
comp=Z,0.9nm,0.4s,baz=58,slow=7.9,SNR=7.2
comp=Z,0.9nm,0.4s
SPITS Spitsbergen Ar 49.11 350 P P 00 31 03.3 -2.0
SPITS pmax pmax
comp=Z,25nm,1.3s
BVAR Borovoye Array 49.63 308 P P 00 31 09.2 -0.4
comp=Z,4.5nm,0.6s,baz=60,slow=8.3,SNR=26
BVAR PcP PcP 00 32 28.5 -0.2
comp=Z,1.1nm,0.3s,baz=78,slow=5.0,SNR=6.6
comp=Z,4.5nm,0.6s
BRVK Borovoye 49.66 308 P 00 31 09.5 -0.3
BRVK IAmb IAmb 00 31 10.3
comp=Z,4.4nm,0.7s
BRVK Borovoye 49.66 308 *de*P P 00 31 09.4 -0.4
BRVK pmax pmax
comp=Z,3.0nm,0.8s
POIN Pond Inlet 51.60 18 P P 00 31 23.7 -0.3
KDJ Kajisay 52.26 293 P P 00 31 30.1 +0.5
KDJ IAmb IAmb 00 31 31.6
comp=Z,6.5nm,0.8s
KDJ Kajisay 52.26 293 P P 00 31 30.2 +0.5
KDJ pmax pmax
comp=Z,7.0nm,0.8s
B08A Colville Reser 52.50 57 P P 00 31 31.7 +0.6
BLKN Baker Lake 52.80 31 P 00 31 32.9 -0.1
ILON Igloolik, Nuna 53.28 22 P P 00 31 36.1 -0.3
ILON IAmb IAmb 00 31 36.8
comp=Z,9.0nm,1.0s
ARTI Arti 53.33 317 *c i*P P 00 31 36.0 -1.0
ARTI 00 33 36.0
ARTI S S 00 38 57.2 +0.5
ARTI SS SKiKP 00 42 34.8 -1.9
ARTI pmax pmax
comp=Z,6.0nm,1.4s
ARCES ARCESS Array B 54.73 341 P P 00 31 45.0 -2.0
ARCES IAmb IAmb 00 32 12.3
comp=Z,6.2nm,1.1s
ARCES ARCESS Array B 54.73 341 P P 00 31 45.1 -1.8
comp=Z,0.5nm,0.4s,baz=35,slow=8.0,SNR=11
comp=Z,0.5nm,0.4s
ARCES ARCESS Array B 54.73 341 P P 00 31 45.0 -2.0
ARCES pmax pmax
comp=Z,6.0nm,1.2s
CMAR Chiang Mai Arr 54.74 256 P P 00 31 50.1 +2.3
comp=Z,1.3nm,0.3s,baz=35,slow=7.2,SNR=9.6
CMAR PcP PcP 00 32 49.2 +0.7
comp=Z,1.2nm,0.3s,baz=59,slow=3.1,SNR=1.0
comp=Z,1.3nm,0.3s
PLID Pearl Lake 56.33 58 P P 00 32 00.1 +1.1
PLID IAmb IAmb 00 32 00.9
comp=Z,3.7nm,0.7s
SUMG Summit 56.77 5 *i* P P 00 32 00.0 -1.9
AB31 Akbulak array 57.14 309 P P 00 32 04.0 -0.4
ABKAR Akbulak array 57.14 309 P P 00 32 03.9 -0.5
BOZ Bozeman (W) 58.33 55 P P 00 32 14.3 +1.3
BOZ IAmb IAmb 00 32 14.6
comp=Z,2.7nm,0.7s
BOZ Bozeman (W) 58.33 55 P P 00 32 14.3 +1.3
BOZ pmax pmax
comp=Z,3.0nm,0.7s
TPAW Teton Pass 60.10 57 P P 00 32 26.2 +0.9
TPAW IAmb IAmb 00 32 28.4
comp=Z,2.9nm,0.6s
NIL Nilore 60.13 288 P P 00 32 25.5 +0.1
NIL Nilore 60.13 288 P P 00 32 25.5 +0.1
NIL pmax pmax
comp=Z,7.0nm,0.7s
HWUT Hardware Ranch 61.06 59 P P 00 32 32.8 +1.1
HWUT IAmb IAmb 00 32 34.1
comp=Z,3.4nm,0.7s
FINES FINESS Array B 61.20 335 P P 00 32 31.1 -1.0
comp=Z,1.3nm,0.4s,baz=30,slow=7.8,SNR=31
FINES PcP PcP 00 33 12.7 -0.5
comp=Z,2.3nm,0.6s,baz=47,slow=3.4,SNR=7.4
comp=Z,1.3nm,0.4s
FINES FINESS Array B 61.20 335 *i* P P 00 32 30.1 -2.0
FINES pmax pmax
comp=Z,1.0nm,0.4s
PD31 Pinedale Array 61.34 57 P P 00 32 34.6 +0.9
PD31 IAmb IAmb 00 32 35.5
comp=Z,2.8nm,0.7s
PDAR Pinedale Array 61.34 57 P P 00 32 34.4 +0.7
PDAR Pinedale Array 61.34 57 P P 00 32 35.0 +1.3
comp=Z,1.8nm,0.5s,baz=336,slow=1.3,SNR=27
comp=Z,1.8nm,0.5s
BSUT Blindstream Ca 62.24 59 P P 00 32 40.8 +1.0
PASC Pasadena Art C 62.40 69 P P 00 32 43.1 +2.5
P18A Preston Nutter 63.15 60 P P 00 32 46.7 +0.8
P18A IAmb IAmb 00 32 48.3

comp=Z,4.1nm,1.2s
RSSD Black Hills 63.26 52 P P 00 32 47.2 +0.8
RSSD IAmb IAmb 00 32 47.8
comp=Z,4.4nm,0.6s
RSSD Black Hills 63.26 52 P P 00 32 47.2 +0.8
RSSD pmax pmax
comp=Z,4.0nm,0.6s
SRU San Rafael Swe 63.36 60 IAmb IAmb 00 32 49.1
comp=Z,5.9nm,0.9s
PV14 Lion Creek, Pa 64.71 60 P P 00 32 56.7 +0.7
PV14 IAmb IAmb 00 33 17.9
comp=Z,4.8nm,0.8s
PV22 Blue Mesa, Par 64.73 60 P P 00 32 57.0 +0.9
PV22 IAmb IAmb 00 32 57.8
comp=Z,3.2nm,0.6s
PV16 Nyswonger Mesa 64.82 60 IAmb IAmb 00 32 58.2
comp=Z,3.3nm,0.7s
PV11 David Mesa, Pa 64.85 60 P P 00 32 58.6 +1.8
PV18 Skein Mesa, Pa 64.87 60 P P 00 32 58.1 +1.2
PV07 Paradox Valley 64.87 60 P P 00 32 57.7 +0.8
PV07 IAmb IAmb 00 32 58.3
comp=Z,2.7nm,0.6s
NC204 NORSAR Array S 64.94 342 P P 00 32 56.4 -0.4
PV13 Radium Mtn., P 64.98 60 P P 00 32 59.0 +1.3
PV02 Paradox Valley 64.99 60 P P 00 32 57.0 -0.7
PV02 IAmb IAmb 00 33 02.9
comp=Z,6.6nm,1.2s
NB201 NORSAR Array S 65.05 342 P P 00 32 56.5 -1.0
NB201 IAmb IAmb 00 33 40.3
comp=Z,8.3nm,1.3s
NB2 NORSAR Subarra 65.07 342 P P 00 32 56.2 -1.5
comp=Z,0.1nm,0.3s,baz=27,slow=6.5
NOA NORSAR Array B 65.07 342 P P 00 32 56.7 -1.0
comp=Z,0.2nm,0.3s,baz=25,slow=3.7,SNR=13
NOA PcP **PcP 00 33 28.0 -1.2**
comp=Z,0.5nm,0.6s,baz=25,slow=3.4,SNR=6.0
comp=Z,0.2nm,0.3s
PV01 Paradox Valley 65.13 60 P P 00 32 59.3 +0.6
PV01 IAmb IAmb 00 33 01.6
comp=Z,6.6nm,1.5s
NBO00 NORSAR Array S 65.17 342 P P 00 32 57.7 -0.5
NBO00 IAmb IAmb 00 33 13.5
comp=Z,6.5nm,1.3s
NC602 NORSAR Array S 65.28 341 P P 00 32 58.5 -0.5
HFS Hagfors 65.38 340 P P 00 32 57.7 -1.8
comp=Z,0.5nm,0.3s,baz=46,slow=5.9,SNR=18
HFS PcP **PcP 00 33 29.2 -1.2**
comp=Z,0.8nm,0.5s,baz=46,slow=4.3,SNR=5.0
comp=Z,0.5nm,0.3s
EYMN Ely 66.31 42 P P 00 33 05.6 -0.2
OGNE Ogallala 66.58 54 P P 00 33 08.5 +0.8
IVI Ivigtut 66.98 12 P P 00 33 09.4 -0.3
ECSD EROS Data Cent 67.19 48 P P 00 33 11.7 +0.3
ECSD IAmb IAmb 00 33 12.3
comp=Z,5.5nm,0.8s
ANMO Albuquerque 68.61 61⇑ *eP* **P 00 33 22.0 +1.3**
ANMO pmax pmax
comp=Z,1.0nm,1.3s
AKASG Malin Array Be 69.18 327 P P 00 33 21.8 -1.8
comp=Z,0.5nm,0.4s,baz=35,slow=6.7,SNR=4.1
comp=Z,0.5nm,0.4s
SCHQ Schefferville 69.20 25 P P 00 33 23.6 -0.3
SCHQ IAmb IAmb 00 33 25.5
comp=Z,9.6nm,1.2s
SCHQ Schefferville 69.20 25 P P 00 33 23.4 -0.3
comp=Z,2.2nm,0.3s,baz=4.4,slow=6.2,SNR=14
comp=Z,2.2nm,0.3s
SMRI Semarang 69.25 229 P P 00 33 22.6 -1.9
UGM Wanagama 69.97 228 P P 00 33 29.7 +0.8
WRA Warramunga Arr 72.62 201 P P 00 33 46.0 +1.3
comp=Z,1.3nm,0.6s,baz=17,slow=6.2,SNR=3.4
comp=Z,1.3nm,0.6s
WRA Warramunga Arr 72.62 201 P P 00 33 46.0 +1.3
EKA Eskdalemuir Ar 72.95 347 P P 00 33 46.3 +0.1
comp=Z,0.7nm,0.4s,baz=20,slow=5.0,SNR=10.0
comp=Z,0.7nm,0.4s
TXAR Lajitas Array 74.37 63 P P 00 33 56.2 +1.0
comp=Z,0.9nm,0.4s,baz=295,slow=5.2,SNR=22
comp=Z,0.9nm,0.4s
VYHS Vyhne 74.48 332 *eP* **P 00 33 53.7 -1.7**
VYHS Vyhne 74.48 332 *eP* **P 00 33 53.7 -1.7**
GERES GERESS Array B 75.64 335 P P 00 34 01.4 -0.7
comp=Z,0.4nm,0.3s,baz=31,slow=6.0,SNR=6.4
comp=Z,0.4nm,0.3s
ASAR Alice Springs 76.31 200 P P 00 34 08.1 +2.1
comp=Z,1.2nm,0.5s,baz=12,slow=4.9,SNR=10
comp=Z,1.2nm,0.5s
BRTR Keskin Array B 76.59 318 P P 00 34 07.1 -0.6
comp=Z,0.4nm,0.6s,baz=36,slow=2.2,SNR=2.9
comp=Z,0.4nm,0.6s
MMAI Mount Meron Ar 81.35 313 P P 00 34 34.0 +0.3
comp=Z,2.1nm,0.5s,baz=40,slow=6.6,SNR=19
comp=Z,2.1nm,0.5s
ESDC Sonseca Array 88.31 344 P P 00 35 07.3 -1.0
comp=Z,0.7nm,0.5s,baz=358,slow=4.0,SNR=18
comp=Z,0.7nm,0.5s
KEST Kesra 88.98 333 P P 00 35 12.2 +0.7
comp=Z,0.9nm,0.5s,baz=82,slow=1.0,SNR=5.5
comp=Z,0.9nm,0.5s
CPUP Villa Florida 145.23 58 PKPbc **PKPbc 00 41 53.6 +0.3**
comp=Z,0.7nm,0.9s,baz=340,slow=1.6,SNR=3.9

NIED ***20*** *01:27:20.9, 36.38N×140.78E, h56km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr2.04; Mθθ-0.88; Mφφ-1.16; Mrθ 0.68; Mrφ-0.79; Mθφ-1.25; Fault plane solution: M₀2.31000×10¹⁴ NP1:φ₁58.00000°, δ40.00000°, λ127.00000°. NP2:φ₂193.00000°, δ59.00000°, λ63.00000°.*
JMA ***20*** *01:27:20.9±0.1, 36.4N±0.2×140.8E±0.6, h56km, MV3.7/39, E OFF IBARAKI PREF*
JMA Felt II J1 at E OFF IBARAKI PREF .
IDC ***20*** *01:27:21.7±4.7, 36.33N×140.79E, h62km±41km, mb3.2/4, mbtmp3.4/5, ML2.5/1, Error ellipse: s-maj=35.2km s-min=32.6km az=69.0*
ISC 20 01:27:21.0±1.0, 36.40N±0.05×140.83E±0.07, h53km±7km, n26, σ0965/33, mb3.6/4, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHYU	**Hitachinakayam**	**0.20**	**253**	*i* P		**Pn**	**01 27 29.8**	**+0.2**
JHYU				S		**Sn**	**01 27 36.2**	**+0.4**
JHO	**Hitachi**	**0.29**	**315**	P		**Pn**	**01 27 30.6**	**+0.2**
JHO				S		**Sn**	**01 27 37.3**	**+0.3**
JIHU	**Itakohorinouch**	**0.50**	**209**	P		**Pn**	**01 27 32.7**	**+0.3**
JIHU				*e*S		**Sn**	**01 27 41.8**	**+1.2**
JYT	**Yasato**	**0.54**	**251**	P		**Pn**	**01 27 32.6**	**-0.2**
JYT				*e*S		**Sn**	**01 27 40.8**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.70**	**358**	⇓P		**Pn**	**01 27 34.8**	**-0.2**
ONAJ				⇓*e*S		**Sn**	**01 27 44.8**	**-0.2**
JFK	**Kawauchi**	**0.96**	**2**	*e*P		**Pn**	**01 27 38.1**	**-0.3**
JFK				*e*S		**Sn**	**01 27 50.6**	**-0.5**
JAG	**Ashikaga**	**1.11**	**272**	P		**Pn**	**01 27 40.2**	**-0.1**
JAG				*e*S		**Sn**	**01 27 54.0**	**-0.5**
JOTO	**OTAMA OYAMA**	**1.22**	**341**	*i* P		**Pn**	**01 27 42.4**	**+0.6**
JOTO				*e*S		**Sn**	**01 27 58.3**	**+1.0**
JKT	**Katashina**	**1.32**	**286**	*e*P		**Pn**	**01 27 43.2**	**0.0**
JFY	**Yanaizu**	**1.35**	**318**	⇓*i* P		**Pn**	**01 27 44.1**	**+0.6**
JMM	**Marumori**	**1.46**	**359**	P		**Pn**	**01 27 45.8**	**+0.8**
JMM	**Marumori**	**1.46**	**359**	P		**Pn**	**01 27 45.3**	**+0.2**
JMM				*e*S		**Sn**	**01 28 03.2**	**+0.1**
MJAR	**Matsushiro Arr**	**2.11**	**275**	P		**Pn**	**01 27 54.1**	**+0.2**
	1.7nm,0.3s,baz=101,slow=8.6,SNR=46							
MJAR				S		**Sn**	**01 28 19.2**	**+0.1**
	14nm,0.3s,baz=74,slow=32,SNR=5.0							
	8.0nm,0.3s							
MAJO	**Matsushiro**	**2.12**	**275**	P		**Pn**	**01 27 55.1**	**+1.1**
JSD	**Sado**	**2.62**	**309**	P		**Pn**	**01 28 01.8**	**+1.0**
INU	**Inuyama**	**3.27**	**252**	P		**Pn**	**01 28 10.7**	**+1.0**
JHJ2	**Mitsune**	**3.39**	**194**	P		**Pn**	**01 28 11.3**	**0.0**
JTM	**Tenmabayashi**	**4.38**	**2**	P		**Pn**	**01 28 26.3**	**+1.3**
ERM	**Erimo**	**5.89**	**17**	P		**Pn**	**01 28 45.1**	**-0.5**
H11S1	**WAKE ISLAND Hy**	**28.93**	**121**	T		T	02 03 41.2	
	baz=314,slow=76,SNR=32							
H11S3	**WAKE ISLAND Hy**	**28.93**	**121**	T		T	02 03 41.2	
	baz=314,slow=76,SNR=9.4							
H11S2	**WAKE ISLAND Hy**	**28.94**	**121**	T		T	02 03 41.2	
	baz=314,slow=76,SNR=2.4							
MKAR	**Makanchi Array**	**44.06**	**303**	P		**P**	**01 35 23.9**	**+0.4**
	0.2nm,0.7s,baz=80,slow=9.2,SNR=2.4							
	0.2nm,0.7s							
KURBB	**Kurchatov Arra**	**46.02**	**308**	P		**P**	**01 35 38.3**	**-0.8**
	0.7nm,0.5s,baz=82,slow=7.9,SNR=3.8							
	0.7nm,0.5s							
ILAR	**Eielson Array**	**50.28**	**32**	P		**P**	**01 36 11.8**	**+0.1**
	0.5nm,0.8s,baz=278,slow=6.8,SNR=3.2							
	0.5nm,0.8s							
WRA	**Warramunga Arr**	**56.37**	**187**	P		**P**	**01 36 56.0**	**-0.9**
	0.5nm,0.9s,baz=4.9,slow=7.4,SNR=2.0							
	0.5nm,0.9s							

THE ***20*** *01:44:25.9, 35.15N×2.6E±1.3, h57km±17km, MLh3.0/3*
ISK ***20*** *01:44:26.5, 34.98N×25.60E, h5km, ML2.8/28*
ATH ***20*** *01:44:27.1, 34.99N×25.64E, h6km±1km, ML3.1/7, Manual Solution by A.Plessa First location: 2019/07/20 01:45:40, This location: 2019/07/20 07:02:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 0 km*
IDC ***20*** *01:44:28.2±1.8, 34.86N×25.66E, h0km, mb3.9/2, mbtmp3.4/5, ML3.0/3, Error ellipse: s-maj=45.8km s-min=26.9km az=136.0*
AFAD ***20*** *01:44:29.5, 34.90N×25.75E, h5km±3km, ML2.5*
ISC 20 01:44:27.6±1.3, 34.99N±0.06×25.62E±0.02, h2km±9km, n61, σ1§39/82, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZKR	**Zakros**	**0.51**	**75**	Pg		**Pg**	**01 44 36.7**	**-0.6**
ZKR				Sg		**Sg**	**01 44 46.3**	**+2.4**
ZKR	**Zakros**	**0.51**	**75**	P		**Pg**	**01 44 36.5**	**-0.8**
ZKR	**Zakros**	**0.51**	**75**	P		**Pg**	**01 44 36.7**	**-0.6**
ZKR				S		**Sg**	**01 44 43.8**	**-0.1**
IACM	**Heraklion**	**0.55**	**306**	P		**Pg**	**01 44 38.8**	**+0.7**
IACM				S		**Sb**	**01 44 48.7**	**+0.4**
IACM	**Heraklion**	**0.55**	**306**	P		**Pg**	**01 44 38.0**	**-0.2**
IACM				S		**Sg**	**01 44 45.5**	**+0.2**
IDI	**Anoyia**	**0.67**	**297**	Pg		**Pg**	**01 44 40.2**	**-0.2**
IDI				Sg		**Sg**	**01 44 50.7**	**+1.6**
IDI	**Anoyia**	**0.67**	**297**	P		**Pg**	**01 44 39.9**	**-0.5**
IDI				S		**Sb**	**01 44 51.3**	**-0.5**
IDI	**Anoyia**	**0.67**	**297**	P		**Pg**	**01 44 39.5**	**-1.0**
IDI				S		**Sg**	**01 44 49.5**	**+0.4**
TMBK	**Timbaki Herakl**	**0.70**	**277**	P		**Pg**	**01 44 41.0**	**-0.1**
TMBK				S		**Sb**	**01 44 52.5**	**-0.3**
TMBK	**Timbaki Herakl**	**0.70**	**277**	P		**Pg**	**01 44 41.0**	**-0.1**
TMBK				S		**Sg**	**01 44 50.6**	**+0.4**
PRNS	**Prines Rethymn**	**0.99**	**293**	P		**Pg**	**01 44 46.3**	**-0.2**
GVD	**Gavdhos**	**1.27**	**264**	Pn		**Pn**	**01 44 51.7**	**-0.6**
KARP	**Karpathos**	**1.38**	**66**	Pn		**Pn**	**01 44 53.9**	**-0.1**
KARP				Sn		**Sg**	**01 45 14.5**	**+2.5**
KARP	**Karpathos**	**1.38**	**66**	P		**Pn**	**01 44 53.0**	**-1.0**
CHAN	**Chania**	**1.40**	**293**	P		**Pn**	**01 44 53.5**	**-0.6**
SNT5	**Nea Kammeni, S**	**1.43**	**353**	P		**Pn**	**01 44 53.0**	**-1.5**
KNDR	**Palaiochora Ch**	**1.60**	**279**	Pn		**Pb**	**01 44 57.5**	**-0.4**
APE	**Apeiranthos**	**2.08**	**358**	Pn		**Pn**	**01 45 04.1**	**+0.5**
APE	**Apeiranthos**	**2.08**	**358**	P		**Pn**	**01 45 02.9**	**-0.7**
ANKY	**Antikythira Is**	**2.09**	**296**	P		**Pn**	**01 45 04.1**	**+0.5**
YAZI	**Mula-Dat§a-**	**2.25**	**41**	P		**Pn**	**01 45 04.6**	**-1.3**
YAZI				S		**Sn**	**01 45 33.9**	**-0.4**
DAT	**Datca**	**2.36**	**42**	Pn		**Pn**	**01 45 08.1**	**+0.6**
ARG	**Arkhangelos**	**2.38**	**58**	Pn		**Pn**	**01 45 08.7**	**+1.0**
ARG	**Arkhangelos**	**2.38**	**58**	P		**Pn**	**01 45 08.4**	**+0.7**
KTHA	**Kythira Island**	**2.44**	**302**	Pn		**Pn**	**01 45 08.9**	**+0.4**
BODT	**Bodrum**	**2.48**	**33**	Pn		**Pn**	**01 45 09.9**	**+0.8**
BDRM	**Kayabasi**	**2.55**	**35**	P		**Pb**	**01 45 13.0**	**-1.1**
TURN	**Turunc**	**2.78**	**49**	Pn		**Pn**	**01 45 13.9**	**+0.8**
TURN	**Turunc**	**2.78**	**49**	P		**Pn**	**01 45 12.3**	**-0.9**
TURN				S		**Sn**	**01 45 42.6**	**-4.7**
MLSB	**Milas**	**2.89**	**37**	Pn		**Pn**	**01 45 15.7**	**+1.0**
GCAM	**G?zelcaml?**	**3.01**	**25**	Pn		**Pn**	**01 45 17.4**	**+1.2**
DALY	**Dalyan (Mula)**	**3.07**	**53**	Pn		**Pn**	**01 45 18.4**	**+1.3**
MULA	**Mugla, Merkez-**	**3.15**	**43**	P		**Pn**	**01 45 18.7**	**+0.4**
MULA				S		**Sn**	**01 45 54.9**	**-1.6**
MULA				*i* IAML			01 46 03.0	
	comp=N,14nm,0.7s							
MULA				*i* IAML			01 46 06.0	
	comp=E,21nm,1.2s							
AYDN	**Tasoluk**	**3.23**	**34**	P		**Pb**	**01 45 23.5**	**-2.2**
AYDN				S		**Sn**	**01 45 59.5**	**+0.9**
FETY	**Fethiye**	**3.26**	**59**	Pn		**Pn**	**01 45 20.9**	**+1.1**
IZZE	**Mula-Seydike**	**3.27**	**63**	P		**Pn**	**01 45 20.5**	**+0.6**
IZZE				S		**Sn**	**01 45 58.4**	**-1.1**
IZZE				*i* IAML			01 46 01.0	
	comp=N,32nm,0.5s							
IZZE				*i* IAML			01 46 04.0	
	comp=E,23nm,0.5s							
SABU	**Mula-Dalaman**	**3.28**	**55**	P		**Pn**	**01 45 22.1**	**+2.0**
SABU				S		**Sn**	**01 46 02.6**	**+2.9**
SABU				*i* IAML			01 46 08.0	
	comp=N,21nm,0.7s							
SABU				*i* IAML			01 46 16.0	
	comp=E,20nm,1.3s							
CHOS	**Chios island**	**3.41**	**6**	Pn		**Pn**	**01 45 22.9**	**+1.0**
URLA	**Izmir**	**3.46**	**13**	Pn		**Pn**	**01 45 23.7**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**3.48**	**31**	Pn		**Pn**	**01 45 24.0**	**+1.2**
AKAS	**Kas**	**3.48**	**68**	Pn		**Pn**	**01 45 23.9**	**+1.0**
ESEN	**Aydn-Nazilli**	**3.57**	**37**	P		**Pn**	**01 45 25.4**	**+1.5**
ESEN				S		**Sn**	**01 46 09.3**	**+2.6**
CAME	**Cameli-Denizli**	**3.57**	**56**	Pn		**Pn**	**01 45 25.4**	**+1.2**
BLCB	**Balcova**	**3.58**	**18**	Pn		**Pn**	**01 45 25.6**	**+1.5**
DNZT	**Denizli-Tavas-**	**3.58**	**49**	P		**Pn**	**01 45 25.2**	**+0.9**
DNZT				S		**Sn**	**01 46 07.7**	**+0.4**
DNZT				*i* IAML			01 46 16.0	
	comp=E,18nm,0.7s							
DNZT				*i* IAML			01 46 25.0	
	comp=N,13nm,1.6s							
TAVA	**DENIZLI_Tavas**	**3.64**	**46**	P		**Pn**	**01 45 28.0**	**+3.0**
TAVA				S		**Sb**	**01 46 14.4**	**-2.9**
TAVA				*i* IAML			01 46 35.0	
	comp=E,9.1nm,0.5s							
TAVA				*i* IAML			01 46 42.0	
	comp=N,6.5nm,1.1s							
IZMR	**zmir-demi**	**3.66**	**30**	P		**Pn**	**01 45 26.4**	**+1.1**
NAZL	**Nazilli-Aydin**	**3.67**	**35**	Pn		**Pn**	**01 45 26.8**	**+1.4**
CAEL	**Denizli, Camel**	**3.68**	**54**	P		**Pn**	**01 45 27.4**	**+1.8**
CAEL				S		**Sb**	**01 46 17.5**	**-1.1**
ITM	**Ithomi**	**3.71**	**307**	Pn		**Pn**	**01 45 26.9**	**+1.0**
ODEM	**Odemis-Izmir**	**3.83**	**30**	Pn		**Pn**	**01 45 28.9**	**+1.2**
APMY	**Acipayam-Deniz**	**3.88**	**49**	Pn		**Pn**	**01 45 30.0**	**+1.7**
ELL	**Elmali**	**3.90**	**62**	Pn		**Pn**	**01 45 30.3**	**+1.6**
KIRA	**zmir-Kiraz**	**3.91**	**34**	P		**Pn**	**01 45 30.9**	**+2.1**
KIRA				S		**Sn**	**01 46 16.4**	**+1.1**
KIRA				*i* IAML			01 46 28.0	
	comp=N,6.1nm,1.5s							
KIRA				*i* IAML			01 46 57.0	
	comp=E,7.5nm,1.8s							
KULA	**Kula-Manisa**	**4.29**	**34**	Pn		**Pn**	**01 45 35.5**	**+1.6**
GORD	**Gordes-Manisa**	**4.42**	**27**	Pn		**Pn**	**01 45 37.8**	**+2.1**
BRTR	**Keskin Array B**	**7.95**	**51**	Pn		**Pn**	**01 46 25.7**	**+1.4**
	0.1nm,0.3s,baz=235,slow=12,SNR=3.1							
	0.4nm,0.7s							
AKASG	**Malin Array Be**	**15.93**	**8**	Pn		**P**	**01 48 15.4**	**-1.1**
	0.5nm,0.3s,baz=199,slow=11,SNR=2.9							
	0.3nm,0.4s							
GERES	**GERESS Array B**	**16.41**	**331**	Pn		**P**	**01 48 21.4**	**-0.7**
	baz=142,slow=10.0,SNR=1.7							
	0.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**30.67**	**231**	P		**P**	**01 50 44.0**	**+0.3**
	2.2nm,0.5s,baz=43,slow=9.1,SNR=1.3							
	2.2nm,0.5s							
MKAR	**Makanchi Array**	**43.56**	**56**	P		**P**	**01 52 34.4**	**+1.6**
	0.3nm,0.5s,baz=274,slow=7.8,SNR=4.4							
	0.3nm,0.5s							

IDC 20 01:59:25.9±2.4, 0.87S×128.28E, h0km, mb3.2/2, mbtmp3.2/3, ML2.6/1, Error ellipse: s-maj=165.4km s-min=29.6km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.86**	**163**	P		P	02 03 58.3	-0.5
	baz=342,slow=11,SNR=0.9							
	0.4nm,0.6s							
ASAR	**Alice Springs**	**23.31**	**167**	P		P	02 04 36.1	+0.4
	0.4nm,0.6s,baz=346,slow=12,SNR=4.6							
	0.4nm,0.6s							
MKAR	**Makanchi Array**	**62.20**	**326**	P		P	02 09 49.3	-0.1
	0.2nm,0.4s,baz=106,slow=7.4,SNR=2.6							
	0.2nm,0.4s							

IDC ***20*** *02:10:37.4±1.2, 13.69N×90.81W, h0km, mb4.2/15, mbtmp4.2/17, ML4.5/2, MS3.6/29, Error ellipse: s-maj=38.6km s-min=21.6km az=31.0*
GCG ***20*** *02:10:41.6±2.2, 13.61N×91.47W, h12km±16km, MD4.1, ML4.6*
CATAC ***20*** *02:10:42.3±0.8, 14.5N±5.5×9.1W±5.5, h7km±6km, M4.5/20, MLv4.5/20, Error ellipse: s-maj=12.3km s-min=7.2km az=27.9, confirmed*
SNET ***20*** *02:10:44.3±1.2, 13.66N×91.25W, h11km±12km, ML4.1*
NEIC ***20*** *02:10:46.3±2.7, 13.82N±0.08×91.35W±0.07, h35km±2km, mb4.6/268, Error ellipse: s-maj=14.6km s-min=9.4km az=216.0*
ISC 20 02:10:40.1±1.4, 13.54N±0.04×91.47W±0.03, h15km±8km, n526, σ1§27/410, mb4.6/131, MS3.6/27, 7D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STG0	**El Palmar, Qui**	**0.89**	**8**	⇓*i* P		**Pn**	**02 11 01.1**	**+2.8**
STG0				*i* S		**Sn**	**02 11 15.9**	**+4.9**
STG0				IAML			02 11 25.8	
	comp=E,25μm,0.3s							
STG2	**El Palmar, Qui**	**0.89**	**6**	⇓*i* P		**Pn**	**02 11 01.4**	**+3.0**
STG2				*i* S		**Sn**	**02 11 15.4**	**+4.3**
STG8	**El Palmar, Qui**	**0.91**	**7**	⇓*i* P		**Pn**	**02 11 01.7**	**+3.1**
STG8				*i* S		**Sn**	**02 11 16.5**	**+4.8**
STG8				IAML			02 11 22.0	
	comp=E,19μm,0.5s							
ESSJ	**San Jos, E**	**0.94**	**89**	*i* P		**Pg**	**02 10 57.3**	**-1.1**
ESSJ				*i* S		**Sg**	**02 11 08.9**	**-1.8**
RTAL	**Retalhuleu**	**1.00**	**347**			**Pg**	**02 10 59.2**	**-0.3**
RTAL	**Retalhuleu**	**1.00**	**347**	P		**Pg**	**02 10 59.0**	**-0.6**
ESSG	**Sabana Grande**	**1.04**	**36**	*i* P		**Pg**	**02 10 59.7**	**-0.6**
ESSG				*i* S		**Sg**	**02 11 13.1**	**-0.9**
FG8	**Yepocapa, Chim**	**1.13**	**51**	⇓*i* P		**Pb**	**02 10 59.7**	**-1.8**
FG8				*i* S		**Sb**	**02 11 14.1**	**-2.1**
FG16	**Alotenango, Sa**	**1.18**	**52**	⇓*i* P		**Pb**	**02 11 00.7**	**-1.7**
SOKI	**Kika Raxquin**	**1.27**	**3**	*i* P		**Pb**	**02 11 03.6**	**-0.5**
SOKI				*i* S		**Sb**	**02 11 19.4**	**-1.0**
SOKI				IAML			02 11 43.1	
	comp=E,17μm,0.8s							
GCG4	**OSOP**	**1.38**	**41**	*i* P		**Pn**	**02 11 05.9**	**+0.8**
GCG4				*i* S		**Sn**	**02 11 23.9**	**+0.7**
GCG4				IAML			02 11 38.2	
	comp=N,6μm,0.4s							
SMCA	**Catarina**	**1.43**	**336**	*i* P		**Pn**	**02 11 04.8**	**-0.9**
SMCA				*i* S		**Sb**	**02 11 25.1**	**+0.4**
SMCA				IAML			02 11 30.0	
	comp=N,4μm,0.8s							
FAME	**Alcaldia de Sa**	**1.45**	**78**	P		**Pn**	**02 11 06.2**	**+0.4**
THIG		**1.56**	**330**	*i* P		**Pn**	**02 11 07.1**	**-0.3**
THIG				*i* S		**Sn**	**02 11 26.2**	**-1.2**
THIG				IAML			02 11 30.1	
	comp=E,10μm,0.5s							
NUBE	**Las Nubes**	**1.68**	**78**	*e*P		**Pn**	**02 11 09.4**	**+0.2**
NUBE				*e*S		**Sn**	**02 11 29.5**	**-1.0**
NUBE	**Las Nubes**	**1.68**	**78**	*i* P		**Pn**	**02 11 09.5**	**+0.4**
NUBE				*i* S		**Sn**	**02 11 29.2**	**-1.4**
NUBE	**Las Nubes**	**1.68**	**78**	P		**Pn**	**02 11 09.6**	**+0.4**
LOAL	**Lomas de Alarc**	**1.70**	**74**	*e*P		**Pn**	**02 11 10.4**	**+1.0**
LOAL				*e*S		**Sn**	**02 11 30.8**	**-0.2**
LOAL	**Lomas de Alarc**	**1.70**	**74**	P		**Pn**	**02 11 10.1**	**+0.7**
LOAL	**Lomas de Alarc**	**1.70**	**74**	S		**Sn**	**02 11 31.1**	**+0.1**
SLOZ	**Alcaldia de Sa**	**1.71**	**73**	*e*P		**Pn**	**02 11 10.1**	**+0.7**
SLOZ				*e*S		**Sn**	**02 11 30.5**	**-0.6**
SLOZ	**Alcaldia de Sa**	**1.71**	**73**	P		**Pn**	**02 11 10.2**	**+0.7**
HUEH	**Huehuetenango**	**1.77**	**359**			**Pn**	**02 11 11.4**	**+1.0**
HUEH	**Huehuetenango**	**1.77**	**359**	*i* P		**Pn**	**02 11 11.5**	**+1.0**
HUEH				IAML			02 11 45.9	
	comp=E,13μm,0.8s							
HUEH	**Huehuetenango**	**1.77**	**359**	P		**Pn**	**02 11 12.0**	**+1.6**
QUIS	**Sacapulas**	**1.78**	**12**	*i* P		**Pn**	**02 11 12.2**	**+1.7**
QUIS				*i* S		**Sg**	**02 11 36.7**	**-0.7**
QUIS				IAML			02 11 38.5	
	comp=E,12μm,0.9s							
RTR	**El Retiro**	**1.81**	**79**	*e*P		**Pn**	**02 11 11.9**	**+0.9**
SNJE	**San Jose**	**1.84**	**80**	*e*P		**Pn**	**02 11 12.2**	**+0.7**
UNIC	**Universidad Ca**	**1.92**	**77**	P		**Pn**	**02 11 13.9**	**+1.6**
UNIC	**Universidad Ca**	**1.92**	**77**	S		**Sn**	**02 11 37.3**	**+1.0**
JAYA	**Jayaque - finc**	**1.97**	**87**	*e*P		**Pn**	**02 11 13.5**	**+0.4**
JAYA				*e*S		**Sn**	**02 11 36.6**	**-1.0**
JAYA				IAML			02 11 44.5	
	comp=Z,4μm,0.2s							
JAYA	**Jayaque - finc**	**1.97**	**87**	⇓*i* P		**Pn**	**02 11 13.6**	**+0.4**
JAYA				*i* S		**Sn**	**02 11 37.5**	**-0.2**
JAYA	**Jayaque - finc**	**1.97**	**87**	P		**Pn**	**02 11 13.8**	**+0.6**
CEDA	**San Andres**	**2.03**	**82**	*e*P		**Pn**	**02 11 15.1**	**+1.1**
CEDA				IAML			02 11 52.6	
	comp=Z,4μm,0.5s							
LALI	**Alcalda de L**	**2.09**	**91**	*i* P		**Pn**	**02 11 16.1**	**+1.4**
LALI				*i* S		**Sn**	**02 11 43.4**	**+2.9**
LALI	**Alcalda de L**	**2.09**	**91**	P		**Pn**	**02 11 16.5**	**+1.8**
PMON	**Piamonte**	**2.10**	**85**	*e*P		**Pn**	**02 11 15.8**	**+0.9**
PMON	**Piamonte**	**2.10**	**85**	P		**Pn**	**02 11 16.3**	**+1.4**
BOQS	**Boqueron**	**2.14**	**85**	*e*P		**Pn**	**02 11 16.1**	**+1.2**
BOQS				*e*S		**Sn**	**02 11 43.4**	**+1.5**
PIC2	**El Picacho**	**2.16**	**84**	*e*P		**Pn**	**02 11 17.3**	**+1.4**
UEES	**Universidad Ev**	**2.17**	**85**	*e*P		**Pn**

ACON Acoyapa 6.34 104 Pn Pn 02 12 16.7 +3.6
SIUN Universidad Ur 6.51 88 Pn **Pn 02 12 17.4 +1.8**
JTS Las Juntas de 7.15 116 Pn 02 12 28.8 +4.5
JTS Las Juntas de 7.15 116 Pn **Pn 02 12 27.9 +3.6**
comp=N,2.3nm,0.3s,baz=302,slow=18,SNR=7.0
JTS Sn Sn 02 13 38.8 -6.5
baz=0.6,slow=22
TEIG Tepich 7.32 24 Pn 02 12 28.1 +1.6
TLIG Tlapa 7.92 301 Pn 02 12 38.2 +3.2
LCR2 La Lucha 2 8.23 117 Pn 02 12 44.6 +5.3
PIRO Carate, Puerto 9.48 122 Pn 02 13 02.3 +6.0
BRU2 Volcan 9.82 118 Pn 02 13 06.4 +5.3
MOIG Morelia 11.13 305 Pn 02 13 22.7 +3.6
MTDJ Mount Denham 14.19 69 P P 02 14 08.3 +0.1
833A Chaparral WMA, 16.45 335 Pn 02 14 32.2 +1.6
HNDO Hondo 17.48 337 P P 02 14 45.7 +1.0
656A Willston 17.79 26 P **Pn 02 14 47.1 -0.2**
656A IAmb IAmb 02 15 04.8
comp=Z,29nm,0.8s
553A Crawfordville 17.80 20 P P 02 14 49.2 +1.1
DRIO Del Rio 17.93 333 Pn 02 14 49.3 +0.1
250A Grady 18.96 14 P P 02 15 01.9 +0.9
BRDY Brady 18.97 340 Pn 02 15 02.8 +1.1
ROSC El Rosal 19.00 115 P P 02 15 02.3 +0.4
comp=Z,6.2nm,0.3s,baz=213,slow=22,SNR=4.6
TIGA Tifton 19.23 21 IAmb IAmb 02 15 27.2
comp=Z,32nm,0.7s
TXAR Lajitas Array 19.36 326 P Pn 02 15 07.7 +1.1
TXAR Lajitas Array 19.36 326 P Pn 02 15 08.3 +1.7
comp=Z,0.6nm,0.3s,baz=154,slow=12,SNR=163
TXAR LR LR 02 22 25.7
comp=Z,42nm,20.8s,baz=126,slow=36
comp=Z,13nm,0.7s
TX31 Lajitas Ar. Si 19.36 326 P Pn 02 15 08.3 +1.7
H06E1 SOCORRO T-PHAS 19.39 288 T T 02 34 36.8
SNR=4.2
OZNA Ozona 19.45 334 IAmb IAmb 02 15 09.8
comp=Z,17nm,0.7s
FW14 Alvarado 19.49 345 IAmb IAmb 02 15 15.4
comp=Z,24nm,0.8s
RUSC La Rusia 19.64 111 P P 02 15 10.6 +1.6
FLOC Florencia 19.65 126 P Pn 02 15 12.3 +2.2
FLOC IAmb IAmb 02 15 21.7
comp=Z,28nm,1.1s
Z47A Carrollton 19.81 8 P P 02 15 11.3 +1.1
Z47A IAmb IAmb 02 15 32.8
comp=Z,20nm,0.7s
LRAL Lakeview Retre 19.83 11 P P 02 15 10.8 +0.4
Y45A Yeager Farm, C 20.31 5 P P 02 15 17.5 +1.8
Y45A IAmb IAmb 02 15 18.5
comp=Z,24nm,0.6s
SGCY Sterling City 20.32 336 P P 02 15 16.9 +1.0
SGCY IAmb IAmb 02 15 18.2
comp=Z,33nm,0.8s
ABTX Abilene, Hawle 20.41 340 P P 02 15 17.4 +0.5
ABTX IAmb IAmb 02 15 19.2
comp=Z,24nm,0.7s
MNHN Monahans 20.53 331 P P 02 15 20.1 +1.9
LPIG La Paz 20.67 303 LR LR 02 23 51.7
comp=Z,114nm,18.5s,baz=178,slow=38
Y49A Blount Mountai 20.74 12 P P 02 15 20.5 +0.1
SDV Santo Domingo 20.95 101 LR LR 02 24 23.2
comp=Z,166nm,18.9s,baz=270,slow=41
MIAR Mount Ida 21.00 355 P 02 15 22.2 -0.9
MIAR IAmb IAmb 02 15 45.2
comp=Z,25nm,1.2s
GOGA Godfrey 21.08 19 IAmb IAmb 02 15 47.7
comp=Z,24nm,1.2s
SN05 Snyder 5 21.08 337 IAmb IAmb 02 15 25.4
comp=Z,22nm,0.6s
ODSA Odessa 21.09 333 IAmb IAmb 02 15 26.6
comp=Z,28nm,1.0s
WTFS Witchita Falls 21.11 344 IAmb IAmb 02 15 57.4
comp=Z,15nm,0.8s
UALR University of 21.15 358 IAmb IAmb 02 15 28.3
comp=Z,23nm,0.7s
X48A Hartselle 21.20 10 P P 02 15 25.9 +0.6
X48A IAmb IAmb 02 15 49.9
comp=Z,13nm,0.7s
VHRN Van Horn 21.20 326 IAmb IAmb 02 15 29.7
comp=Z,20nm,0.7s
APMT Aspermont 21.21 340 IAmb IAmb 02 15 27.3
comp=Z,23nm,0.7s
Y52A Lilburn 21.32 17 IAmb IAmb 02 15 44.1
comp=Z,15nm,0.7s
POST Post 21.48 336 IAmb IAmb 02 15 30.0
comp=Z,25nm,0.7s
WHAR Wooly Hollow 21.67 358 P 02 15 29.1 -1.2
DKNS Dickens 21.80 338 IAmb IAmb 02 15 37.4
comp=Z,18nm,0.6s
MNTX Cornudas Mount 22.13 327 IAmb IAmb 02 15 39.5
comp=Z,22nm,0.7s
FNO Franklin 22.27 347 IAmb IAmb 02 16 06.5
comp=Z,51nm,1.4s
LCAR Lake Charles 22.43 1 IAmb IAmb 02 15 39.5
comp=Z,13nm,0.7s
CPCT Cooper Cave 22.70 15 IAmb IAmb 02 16 03.6
comp=Z,21nm,1.1s
WVT Waverly 22.73 8 P P 02 15 39.9 -1.7
SMWD Samnorwood 22.89 341 IAmb IAmb 02 15 44.4
comp=Z,25nm,0.8s
TKL Tuckaleechee C 23.09 16 IAmb IAmb 02 16 00.9
comp=Z,30nm,1.1s
PBMO Poplar Bluff 23.16 2 IAmb IAmb 02 15 45.7
comp=Z,13nm,0.7s
AMTX Amarillo 23.17 338 IAmb IAmb 02 15 51.2
comp=Z,19nm,0.6s
V53A Saluda 23.37 18 IAmb IAmb 02 16 03.9
comp=Z,13nm,0.9s
KMSC Kings Mountain 23.37 21 IAmb IAmb 02 16 08.0
comp=Z,14nm,0.9s
U49A Red Boiling Sp 23.44 12 IAmb IAmb 02 16 10.5
comp=Z,12nm,0.9s
MGMO Mountain Grove 23.52 358 IAmb IAmb 02 15 49.3
comp=Z,26nm,1.3s
T47A Sharon Grove 23.67 9 IAmb IAmb 02 16 15.4
comp=Z,19nm,0.7s
V55A Taylorsville 24.05 21 IAmb IAmb 02 16 16.5
comp=Z,13nm,1.0s
T50A Nancy 24.12 13 IAmb IAmb 02 16 16.4
comp=Z,16nm,1.2s
319A Douglas 24.14 320 IAmb IAmb 02 15 59.5
comp=Z,27nm,1.3s
ATAH Atahualpa 24.30 147 LR LR 02 24 19.0
comp=Z,167nm,19.3s,baz=350,slow=34
CCM Cathedral Cave 24.41 0 P P 02 15 55.8 -2.3
CCM IAmb IAmb 02 15 58.3
comp=Z,19nm,0.7s
U54A Nelsons Funny 24.46 19 IAmb IAmb 02 16 37.4
comp=Z,21nm,1.0s
R40A Maddies Statio 24.66 358 IAmb IAmb 02 16 00.2
comp=Z,14nm,0.8s
Y22D IRIS PASSCAL I 24.79 328 P P 02 16 02.3 +0.5
baz=141
V58A Windy Hill, Pi 24.79 25 IAmb IAmb 02 16 00.6
comp=Z,8.5nm,0.8s
RTBA Rita Blanca 24.94 338 IAmb IAmb 02 16 04.8
comp=Z,8.8nm,0.6s
S51A Beattyville 25.00 15 sP 02 16 17.9 +8.1
S51A IAmb IAmb 02 16 25.3
comp=Z,16nm,0.9s
WCI Wyandotte Cave 25.01 10 P P 02 16 01.3 -2.3
WCI IAmb IAmb 02 16 30.2
comp=Z,15nm,0.9s
ANMO Albuquerque 25.25 330 P P 02 16 07.1 +1.1
ANMO Albuquerque 25.25 330 P P 02 16 07.5 +1.5
comp=Z,3.9nm,0.6s,baz=243,slow=12,SNR=9.8
ANMO LR LR 02 27 15.8
comp=Z,69nm,20.0s,baz=220,slow=39
comp=Z,3.9nm,0.6s
OLIL Olney 25.27 6 IAmb IAmb 02 16 38.0
comp=Z,15nm,0.9s
TUC Tucson 25.71 320 P P 02 16 12.2 +2.1
P40A Paris 25.89 359 IAmb IAmb 02 16 11.8
comp=Z,12nm,0.7s
Q51A Peebles 26.38 14 sP 02 16 29.9 +7.7
T59A Double "B" Far 26.44 26 IAmb IAmb 02 16 15.6
comp=Z,9.4nm,0.8s
PCRV Puerto La Cruz 26.46 94 LR LR 02 28 56.8
comp=Z,92nm,18.0s,slow=42
P51A Williamsport 26.88 14 IAmb IAmb 02 16 56.3
comp=Z,15nm,1.0s
N38A Joes South For 27.19 357 IAmb IAmb 02 16 24.6
comp=Z,13nm,0.8s
X16A Lo Mia Camp, P 27.55 322 P P 02 16 29.1 +2.3
O52A Adamsville 27.79 16 sP 02 16 43.0 +8.0
O52A IAmb IAmb 02 16 50.4
comp=Z,15nm,1.0s
MVCO Mesa Verde 28.05 330 IAmb IAmb 02 16 33.8
comp=Z,7.9nm,0.8s
Y14A Wickenburg 28.19 320 P P 02 16 33.1 +0.7
L40A Anamosa 28.42 0 IAmb IAmb 02 17 05.3
comp=Z,14nm,1.2s
PV02 Paradox Valley 28.96 331 IAmb IAmb 02 16 42.2
comp=Z,22nm,1.4s
PV13 Radium Mtn., P 28.96 331 IAmb IAmb 02 16 42.0
comp=Z,16nm,1.4s
PV05 Paradox Valley 29.03 330 IAmb IAmb 02 16 42.3
comp=Z,14nm,1.2s
PV03 Paradox Valley 29.05 331 IAmb IAmb 02 16 42.6
comp=Z,13nm,1.3s
PV18 Skein Mesa, Pa 29.07 331 IAmb IAmb 02 16 45.5
comp=Z,10nm,0.9s
PV12 Saucer Basin, 29.08 331 IAmb IAmb 02 16 43.0
comp=Z,14nm,0.7s
PV16 Nyswonger Mesa 29.13 331 IAmb IAmb 02 16 43.2
comp=Z,15nm,1.4s
PV10 Paradox Valley 29.24 331 IAmb IAmb 02 16 43.6
comp=Z,9.1nm,1.0s
PV23 Carpenter Ridg 29.29 331 IAmb IAmb 02 16 44.6
comp=Z,10nm,0.9s
HMU Henry Mountain 29.73 328 IAmb IAmb 02 17 23.6
comp=Z,12nm,1.0s
KNB Kanab 30.18 325 IAmb IAmb 02 16 54.4
comp=Z,6.3nm,0.8s
PFO Pinyon Flats O 30.25 316 LR LR 02 30 26.5
comp=Z,133nm,18.4s,baz=65,slow=39
V12A Nelson 30.50 320 IAmb IAmb 02 16 56.3
comp=Z,8.0nm,0.9s
SZCU Shurtz Canyon 30.74 325 IAmb IAmb 02 16 58.9
comp=Z,7.4nm,0.9s
PSUT Pine Spring 31.83 326 IAmb IAmb 02 17 09.2
comp=Z,5.7nm,0.8s
TPNV Topopah Spring 32.15 321 P P 02 17 09.8 +2.3
TPNV IAmb IAmb 02 17 31.1
comp=Z,6.9nm,1.1s
WCT Wildcat Mounta 32.28 320 IAmb IAmb 02 17 21.5
comp=Z,4.1nm,0.6s
SPR3 Spring Creek 3 32.42 326 IAmb IAmb 02 17 13.5
comp=Z,7.1nm,0.9s
SADO Sadowa 32.85 16 LR LR 02 31 30.8
comp=Z,132nm,18.9s,baz=202,slow=38
HWUT Hardware Ranch 32.98 332 IAmb IAmb 02 17 18.0
comp=Z,6.5nm,0.9s
PDAR Pinedale Array 33.05 335 P P 02 17 16.2 +0.8
comp=Z,0.6nm,0.5s,baz=121,slow=10,SNR=8.8
PDAR PcP PcP 02 19 58.6 -0.3
comp=Z,0.5nm,0.5s,baz=136,slow=6.7,SNR=5.4
PDAR LR LR 02 32 51.2
comp=Z,36nm,18.9s,baz=140,slow=40
comp=Z,0.6nm,0.5s
BGU Big Grassy Mou 33.15 329 IAmb IAmb 02 17 18.8
comp=Z,4.7nm,0.8s
BUKO Buck Lake 33.40 16 IAmb IAmb 02 17 17.5
comp=Z,11nm,1.0s
AHID Auburn Hatcher 33.70 334 IAmb IAmb 02 17 26.2
comp=Z,3.7nm,0.6s
ELK Elko 34.15 327 IAmb IAmb 02 17 29.4
comp=Z,5.0nm,0.8s
ELK Elko 34.15 327 P P 02 17 27.0 +2.0
comp=Z,5.2nm,0.8s,baz=143,slow=6.6,SNR=35
ELK PcP PcP 02 20 02.0 -0.1
comp=Z,0.3nm,0.3s,baz=132,slow=2.1,SNR=3.9
comp=Z,5.2nm,0.8s
TPAW Teton Pass 34.22 334 IAmb IAmb 02 17 34.6
comp=Z,12nm,1.3s
NV11 Mina Array Sit 34.26 321 IAmb IAmb 02 17 31.4
comp=Z,5.9nm,0.8s
NVAR Mina Array Bea 34.35 321 P P 02 17 28.7 +1.9
NVAR Mina Array Bea 34.35 321 P P 02 17 29.5 +2.7
comp=Z,6.0nm,0.7s,baz=133,slow=7.7,SNR=27
NVAR PcP PcP 02 20 03.5 +0.9
comp=Z,1.6nm,0.7s,baz=139,slow=2.7,SNR=6.9
comp=Z,6.0nm,0.7s
LHV Little Huntoon 34.36 321 IAmb IAmb 02 17 38.5
comp=Z,7.7nm,1.0s
MACA Manacapuru-AM 34.76 116 P P 02 17 30.8 +0.4
HLID Hailey 35.82 331 IAmb IAmb 02 17 41.6
comp=Z,7.9nm,1.2s
MFID Camas Ranch 36.39 330 IAmb IAmb 02 17 48.4
comp=Z,9.8nm,1.2s
DLMT Dillon 36.43 335 IAmb IAmb 02 17 47.3
comp=Z,8.1nm,1.0s
WVOR Wild Horse Val 37.16 326 IAmb IAmb 02 17 54.9
comp=Z,6.8nm,0.8s
LPAZ La Paz 37.56 141 LR LR 02 33 06.0
comp=Z,130nm,18.4s,baz=313,slow=36
PLID Pearl Lake 37.72 331 IAmb IAmb 02 17 57.1
comp=Z,6.9nm,0.8s
I07A Izee 38.74 327 IAmb IAmb 02 18 07.4
comp=Z,7.3nm,1.0s
PINE Pine Mountain 39.32 326 IAmb IAmb 02 18 11.7
comp=Z,9.1nm,0.8s
H04A Detroit Lake 40.58 326 P P 02 18 19.6 +0.4
NEW Newport 40.63 334 P P 02 18 19.9 +0.2
NEW Newport 40.63 334 P P 02 18 19.8 +0.2
comp=Z,2.3nm,0.6s,baz=156,slow=10.0,SNR=6.9
NEW LR LR 02 37 50.3
comp=Z,55nm,19.1s,baz=121,slow=40
comp=Z,2.3nm,0.6s
MXC Moxie City 40.87 329 IAmb IAmb 02 18 23.9
comp=Z,8.6nm,1.2s
SIV San Ignacio 42.00 133 LR LR 02 35 27.8
comp=Z,139nm,18.5s,baz=294,slow=36
LLLB Lillooet 44.46 333 IAmb IAmb 02 18 52.3
comp=Z,18nm,1.5s
SCHQ Schefferville 45.47 20 P P 02 18 55.6 -3.1
comp=Z,5.6nm,0.8s,baz=226,slow=9.1,SNR=5.2
SCHQ LR LR 02 39 08.6
comp=Z,179nm,18.4s,baz=219,slow=38
comp=Z,5.6nm,0.8s
YKAW1 Yellowknife Wh 51.55 347 P P 02 19 44.5 -0.8
YKAW1 IAmb IAmb 02 19 45.0
comp=Z,6.7nm,0.7s
YKA Yellowknife Ar 51.59 347 P P 02 19 44.8 -0.8
comp=Z,2.3nm,0.6s,baz=113,slow=16,SNR=31
YKA PcP PcP 02 20 57.8 -1.6
comp=Z,0.9nm,0.7s,baz=153,slow=3.2,SNR=5.8
YKA LR LR 02 47 11.4
comp=Z,44nm,19.2s,baz=44,slow=43
comp=Z,2.3nm,0.6s
YKAW3 Yellowknife Wh 51.65 347 IAmb IAmb 02 19 45.8
comp=Z,4.9nm,0.9s
CPUP Villa Florida 51.70 140 LR LR 02 41 02.6
comp=Z,22nm,19.1s,baz=140,slow=36
TOAD Toad River Com 51.75 338 P P 02 19 46.6 -0.3
baz=136
V35K Ketchikan 51.99 332 P P 02 19 48.9 +0.2
baz=127
KOTAN Kotaneelee Air 52.29 340 P P 02 19 51.2 +0.3
baz=138
T35M Bob Quinn 52.42 334 IAmb IAmb 02 19 54.2
comp=Z,6.2nm,1.1s
T35M Bob Quinn 52.42 334 P P 02 19 53.4 +1.4
baz=130
CRAG Craig 52.77 332 P P 02 19 56.0 +1.5
baz=126
WRAK Wrangell Islan 52.98 333 P P 02 19 57.6 +1.6
baz=127
U33K Whale Pass 53.15 332 P P 02 19 58.6 +1.4
baz=126
TAOE Nuku Hiva Isla 53.20 248 eS **S 02 27 25.5 -3.9**
comp=Z,29nm,23.9s
TAOE eLR LR 02 35 23.6
comp=Z,34nm,20.6s
DLBC Dease Lake 53.28 336 P P 02 19 59.8 +1.5
comp=Z,0.8nm,0.7s,baz=119,slow=6.0,SNR=26
comp=Z,0.8nm,0.7s
DLBC Dease Lake 53.28 336 P P 02 19 59.9 +1.5
baz=131
S34M Telegraph Cree 53.39 335 P P 02 20 00.9 +1.9
baz=129
WTLY Watson Lake, Y 53.94 338 IAmb IAmb 02 20 04.2
comp=Z,6.4nm,0.8s
WTLY Watson Lake, Y 53.94 338 P P 02 20 03.7 +0.7
baz=133
R33M Jennings River 54.27 336 IAmb IAmb 02 20 07.2
comp=Z,3.3nm,0.7s
R33M Jennings River 54.27 336 P P 02 20 06.4 +0.8
baz=130
Q32M Nakina River 54.51 335 IAmb IAmb 02 20 09.5
comp=Z,6.2nm,0.8s
Q32M Nakina River 54.51 335 P P 02 20 07.9 +0.3
baz=128
S32K Killisnoo 54.59 333 P P 02 20 08.2 +0.4
baz=125
SIT Sitka 54.69 332 P P 02 20 08.8 +0.3
baz=124
TGTN Hyland Airport 54.73 339 P P 02 20 10.0 +1.2
baz=134
R32K Eaglecrest 55.03 334 P P 02 20 11.6 +0.6
baz=126
P32M Atlin 55.49 335 P P 02 20 15.4 +1.1
baz=127
P33M Teslin, Yukon 55.52 336 P P 02 20 15.1 +0.5
baz=129
S31K Pelican 55.60 333 P P 02 20 16.1 +1.0
baz=124
N32M Quiet Lake 56.21 337 P P 02 20 20.2 +0.7
baz=129
PLBC Pleasant Camp 56.50 334 P P 02 20 22.8 +1.3
baz=124
MMPY Sheldon Lake, 56.51 339 IAmb IAmb 02 20 22.9
comp=Z,5.9nm,0.9s
WHY Whitehorse 56.60 336 P P 02 20 22.9 +0.5
baz=127
P30M Million Dollar 57.13 335 P P 02 20 26.9 +0.8
baz=124
O30N Mendenhall 57.15 336 IAmb IAmb 02 20 27.7
comp=Z,5.5nm,0.7s
O30N Mendenhall 57.15 336 P P 02 20 27.1 +0.9
baz=125
P29M Windy Craggy 57.18 334 P P 02 20 27.1 +0.7
baz=123
M31M Drury Creek, Y 57.36 338 P P 02 20 28.3 +0.7
baz=128
PLCA Paso Flores 57.38 161 LR LR 02 40 06.7
comp=Z,137nm,19.1s,baz=221,slow=31
N31M Braeburn, Yuko 57.45 337 IAmb IAmb 02 20 29.6
comp=Z,5.0nm,0.8s
N31M Braeburn, Yuko 57.45 337 P P 02 20 28.8 +0.6
baz=126
HYT Haines Junctio 57.75 335 P P 02 20 31.5 +0.9
baz=124
PNL Peninsula 57.91 334 P P 02 20 32.2 +0.6
baz=121
N30M Aishikik Lake 57.94 336 IAmb IAmb 02 20 33.5
comp=Z,3.9nm,0.8s
N30M Aishikik Lake 57.94 336 P P 02 20 32.2 +0.4
baz=125
YUK6 Outpost Mounta 58.16 335 P P 02 20 34.0 +0.5
baz=123
M30M Minto, Yukon 58.48 337 IAmb IAmb 02 20 54.9
comp=Z,5.3nm,1.5s
M30M Minto, Yukon 58.48 337 P P 02 20 36.1 +0.6
baz=126
YUK4 Talbot Arm 58.50 336 P P 02 20 35.4 -0.5
baz=123
PINM Pinnacle 58.50 334 P P 02 20 36.4 +0.7
baz=121
M29M Somme Creek 59.04 337 P P 02 20 40.3 +0.8
baz=124
MESA MESA 59.28 333 P P 02 20 41.6 +0.3
baz=119
L29M L29M 59.29 337 P P 02 20 42.1 +1.0
baz=124
CTG Chitna Glacier 59.41 334 P P 02 20 42.3 +0.2
baz=120
YUK3 Moose Creek 59.46 335 P P 02 20 42.7 +0.1
baz=121
K29M Barlow Dome 59.49 338 P P 02 20 42.7 +0.1
baz=125
J30M Hart River 59.50 339 P P 02 20 42.3 -0.4
baz=127
H31M Peel River 59.62 341 P P 02 20 43.0 -0.4
baz=130
SFJD Kangerlussuaq 59.79 17 LR LR 02 47 29.1
comp=Z,115nm,18.2s,baz=220,slow=37
I30M Mount Dempster 59.91 340 IAmb IAmb 02 20 46.0
comp=Z,2.8nm,0.8s
I30M Mount Dempster 59.91 340 P P 02 20 45.5 0.0
baz=127
CRQE Cirque 60.05 334 P P 02 20 46.4 -0.1
baz=118
DAWY Dawson 60.29 338 P P 02 20 48.3 +0.3
baz=124
G31M Satah River 60.32 342 P P 02 20 47.0 -1.0
G31M IAmb IAmb 02 20 47.6
comp=Z,3.0nm,0.7s
G31M Satah River 60.32 342 P P 02 20 47.5 -0.6
baz=130,SNR=5.6
MCARA McCarthy VSAT 60.33 334 P P 02 20 47.9 -0.3
baz=118
M27K Edge Creek, AK 60.34 336 P P 02 20 48.2 -0.3
baz=120
F31M Tsiigehtchic 60.51 343 P P 02 20 48.8 -0.5
baz=131
I29M Ogilvie Camp, 60.65 339 P P 02 20 50.5 +0.1
baz=125
BCAR Beaver Creek A 60.66 336 P P 02 20 51.0 +0.4
L27K Beaver Creek, 60.68 336 IAmb IAmb 02 20 51.8
comp=Z,5.3nm,0.8s
L27K Beaver Creek, 60.68 336 P P 02 20 51.2 +0.5
baz=121
EPYK Eagle Plains 60.73 341 P P 02 20 50.7 -0.3
baz=127
BMRM Bremner River 60.81 333 P P 02 20 51.6 0.0
baz=117
M26K Nabesna, AK 60.81 335 P P 02 20 52.0 +0.4
baz=119
G30M tAoh Zraii Nji 60.95 342 P P 02 20 52.3 -0.2
baz=128
INK Inuvik 61.02 343 IAmb IAmb 02 20 52.8
comp=Z,3.3nm,0.7s
INK Inuvik 61.02 343 LR LR 02 53 16.1
comp=Z,65nm,18.1s,baz=128,slow=42
INK Inuvik 61.02 343 P P 02 20 52.4 -0.4
baz=132
N25K Chitina, Valde 61.10 334 P P 02 20 53.2 -0.4
baz=117
EYAK Cordova Ski Ar 61.13 333 P P 02 20 53.3 -0.4
baz=115
RES Resolute Bay 61.16 359 LR LR 02 50 11.5
comp=Z,93nm,18.9s,baz=220,slow=39
H29M Whitestone 61.17 340 P P 02 20 53.3 -0.6
baz=126
F30M Barrier River 61.22 342 IAmb IAmb 02 20 54.1
comp=Z,6.2nm,0.8s
F30M Barrier River 61.22 342 P P 02 20 54.0 -0.2
baz=129,SNR=5.1
L26K Log Cabin Wild 61.26 336 P P 02 20 54.7 +0.1
baz=119
I28M Miner Creek 61.26 339 P P 02 20 54.3 -0.4
baz=124
K27K Chicken 61.27 337 IAmb IAmb 02 20 55.4
comp=Z,2.3nm,0.8s
K27K Chicken 61.27 337 P P 02 20 54.1 -0.6
baz=121
G29M Pine Creek 61.47 341 P P 02 20 55.8 -0.2
baz=126
KLU Klutina 61.61 334 P P 02 20 57.3 +0.3
baz=116
P23K Montague Islan 61.64 332 P P 02 20 57.2 +0.1
baz=114
HARP HAARP 61.70 335 P P 02 20 57.8 +0.2
baz=117
A36M Sachs Harbour 61.79 349 P P 02 20 58.3 +0.3
baz=142
DOT Dot Lake 61.84 336 IAmb IAmb 02 20 59.7
comp=Z,4.5nm,0.8s
GLI Glacier Island 61.87 333 P P 02 20 58.9 +0.3
baz=114
I27K Kandik River 61.93 339 P P 02 20 59.1 0.0
baz=122
SCRK Sand Creek 61.97 337 P P 02 20 59.6 +0.1
baz=119
M24K Tolsona, Glenn 61.99 334 P P 02 20 59.5 -0.1
baz=116
J26L Joseph Creek 62.07 337 IAmb IAmb 02 21 41.1
comp=Z,3.1nm,0.7s
J26L Joseph Creek 62.07 337 P P 02 20 59.7 -0.5
baz=120,SNR=7.1
PAX Paxson 62.09 335 IAmb IAmb 02 21 01.1
comp=Z,4.1nm,0.7s
PAX Paxson 62.09 335 P P 02 20 59.6 -0.7
baz=117,SNR=5.8
RIDG Independent Ri 62.19 336 P P 02 21 00.6 -0.3
baz=118
H27K Steamboat Moun 62.24 339 IAmb IAmb 02 21 02.0
comp=Z,3.4nm,0.9s
H27K Steamboat Moun 62.24 339 P P 02 21 00.8 -0.3
baz=122

E29M	Blow River	62.32	342	P	P	02 21 01.1	-0.5
	baz=127						
I26K	Coal Creek Min	62.33	338	IAmb	IAmb	02 21 02.9	
	comp=Z,2.3nm,0.6s						
I26K	Coal Creek Min	62.33	338	P	P	02 21 02.0	+0.3
	baz=120						
SCM	Sheep Creek Mo	62.37	334	P	P	02 21 01.9	-0.2
	baz=114						
PWL	Port Wells	62.41	332	P	P	02 21 01.7	-0.7
	baz=113						
F28M	Old Crow	62.47	341	P	P	02 21 02.5	-0.1
	baz=125,SNR=12						
M23K	Glacier View	62.52	334	P	P	02 21 02.6	-0.5
	baz=114						
K24K	Donnelly Dome	62.59	336	P	P	02 21 02.9	-0.6
	baz=117						
G27K	Doyon Strip	62.59	340	P	P	02 21 02.8	-0.8
	baz=122						
KNK	Knik Glacier	62.69	333	P	P	02 21 03.9	-0.4
	baz=113						
J25K	Salcha River,	62.81	337	IAmb	IAmb	02 21 06.1	
	comp=Z,4.4nm,0.8s						
J25K	Salcha River,	62.81	337	P	P	02 21 04.5	-0.6
	baz=118,SNR=7.5						
E28M	Babbage River	62.94	342	P	P	02 21 05.1	-0.6
	baz=126						
PMR	Palmer	63.05	333	P	P	02 21 06.5	-0.1
	baz=113						
RC01	Rabbit Creek A	63.13	332	P	P	02 21 07.3	+0.1
	baz=112						
D28M	Stokes Point	63.14	343	P	P	02 21 07.1	+0.1
	baz=127						
PRP	Porcupine Dome	63.29	338	IAmb	IAmb	02 21 09.0	
	comp=Z,4.3nm,0.8s						
PRP	Porcupine Dome	63.29	338	P	P	02 21 08.5	+0.1
	baz=118						
HDA	Harding Lake	63.32	336	IAmb	IAmb	02 21 08.4	
	comp=Z,3.3nm,0.6s						
HDA	Harding Lake	63.32	336	P	P	02 21 08.4	+0.1
	baz=116						
E27K	Coleen River	63.33	341	IAmb	IAmb	02 21 08.6	
	comp=Z,3.4nm,0.9s						
E27K	Coleen River	63.33	341	P	P	02 21 07.6	-0.8
	baz=123						
KDAK	Kodiak Island	63.38	328	LR	LR	02 51 08.7	
	comp=Z,32nm,18.1s,baz=92,slow=38						
KDAK	Kodiak Island	63.38	328	P	P	02 21 08.6	-0.2
	baz=108						
G26K	Porcupine Rive	63.38	340	P	P	02 21 08.9	+0.2
	baz=120						
ILAR	Eielson Array	63.46	337	P	P	02 21 08.8	-0.5
	comp=Z,3.5nm,1.0s,baz=132,slow=4.8,SNR=27						
ILAR				LR	LR	02 51 02.3	
	comp=Z,74nm,19.0s,baz=116,slow=38						
	comp=Z,3.5nm,1.0s						
HOM	Homer	63.51	331	P	P	02 21 09.7	+0.1
	baz=109						
Q20K	Shuyak Island	63.54	329	P	P	02 21 10.5	+0.6
	baz=108						
OHAK	Old Harbor	63.57	328	P	P	02 21 10.6	+0.5
	baz=106						
D27M	Malcolm River	63.73	342	P	P	02 21 10.6	-0.5
	baz=124						
CCB	Clear Creek Bu	63.76	336	IAmb	IAmb	02 21 47.6	
	comp=Z,3.3nm,1.0s						
MCK	McKinley	63.83	335	P	P	02 21 12.1	+0.4
	baz=114						
SII	Sitkinak Islan	63.86	327	P	P	02 21 11.5	-0.6
	baz=105						
CUT	Chulitna	63.86	334	P	P	02 21 12.4	+0.5
	baz=112						
F26K	Sheenjek River	63.89	340	IAmb	IAmb	02 21 13.1	
	comp=Z,3.2nm,1.0s						
F26K	Sheenjek River	63.89	340	P	P	02 21 12.2	+0.1
	baz=120						
BMAR	Burnt Mountain	63.90	340	P	P	02 21 12.1	-0.1
G25K	Bearman Lake	64.09	339	P	P	02 21 13.1	-0.2
	baz=118						
O20K	Slope Mountain	64.12	331	P	P	02 21 13.8	0.0
	baz=108						
NEA2	Nenana	64.23	336	IAmb	IAmb	02 21 14.8	
	comp=Z,3.5nm,0.6s						
NEA2	Nenana	64.23	336	P	P	02 21 14.4	+0.1
	baz=114						
Q19K	Cape Douglas,	64.25	329	P	P	02 21 14.6	0.0
	baz=107						
SKT	Skwentna	64.26	333	P	P	02 21 14.6	0.0
	baz=110,SNR=12						
TRF	Thorofare Moun	64.27	335	P	P	02 21 14.6	-0.2
	baz=112,SNR=9.0						
P19K	Oil Pt	64.27	330	P	P	02 21 14.8	+0.1
	baz=108						
R18K	Karluk	64.27	328	P	P	02 21 14.6	0.0
	baz=106						
H24K	Noodor Dome	64.31	338	IAmb	IAmb	02 21 15.6	
	comp=Z,4.8nm,0.9s						
H24K	Noodor Dome	64.31	338	P	P	02 21 14.8	-0.1
	baz=116,SNR=5.3						
F25K	Christian Rive	64.33	340	IAmb	IAmb	02 21 16.4	
	comp=Z,3.4nm,0.8s						
F25K	Christian Rive	64.33	340	P	P	02 21 14.8	-0.3
	baz=119,SNR=5.7						
CHIR	Chirikof Islan	64.44	326	P	P	02 21 15.4	-0.5
	baz=104						
G24K	Hadweenzic Riv	64.55	339	P	P	02 21 15.9	-0.5
	baz=116						
E25K	Arctic Village	64.56	340	IAmb	IAmb	02 21 17.7	
	comp=Z,7.7nm,1.3s						
E25K	Arctic Village	64.56	340	P	P	02 21 16.3	-0.2
	baz=119						
I23K	Minto, Yukon-K	64.57	337	P	P	02 21 16.6	+0.1
	baz=114,SNR=12						
C27K	Jago River	64.75	342	P	P	02 21 16.7	-1.0
	baz=122						
BPAW	Bear Paw Mtn.	64.80	335	P	P	02 21 17.7	-0.4
	baz=112,SNR=12						
Q18K	Katmai Hardscr	64.85	329	P	P	02 21 18.3	-0.4
	baz=106						
PPLA	Purkeypile	64.87	334	P	P	02 21 18.2	-0.6
	baz=110,SNR=5.2						
H23K	Yukon River	64.92	337	P	P	02 21 18.3	-0.5
	baz=114						
M20K	Styx River	64.94	333	P	P	02 21 18.5	-0.6
	baz=109						
F24K	Squaw Lake	65.06	339	P	P	02 21 19.2	-0.6
	baz=116						
MLY	Manley	65.06	336	P	P	02 21 19.8	0.0
MLY	Manley	65.06	336	P	P	02 21 19.3	-0.6
	baz=113,SNR=23						
PPT	Papeete	65.14	243	LR	LR	02 42 09.1	
	comp=Z,81nm,20.7s,baz=345,slow=29						
PPT2	Papeete2	65.15	243	*e*LR	LR	02 40 47.6	
	comp=Z,159nm,27.0s						
PPT2				*e*LR	LR	02 40 59.5	
	comp=Z,79nm,23.8s						
P18K	Big Mountain,	65.17	330	P	P	02 21 20.1	-0.5
	baz=106						
Q17K	Contact Creek	65.20	328	P	P	02 21 20.8	-0.1
	baz=105						
N19K	Bonanza Creek	65.22	331	P	P	02 21 20.4	-0.6
	baz=107,SNR=7.4						
C26K	Camden Bay	65.26	342	P	P	02 21 20.6	-0.4
	baz=120						
R17L	Mt. Peulik Vol	65.28	328	P	P	02 21 21.1	-0.2
	baz=104						
O18K	Koktuh Hills	65.29	330	P	P	02 21 21.2	-0.1
	baz=106						
D25K	Kavik River	65.41	341	P	P	02 21 21.7	-0.3
	baz=119						
L20K	Farewell, AK	65.46	333	P	P	02 21 22.2	-0.2
	baz=108,SNR=23						
G23K	Bananza Creek	65.47	338	IAmb	IAmb	02 21 55.5	
	comp=Z,2.8nm,0.8s						
G23K	Bananza Creek	65.47	338	P	P	02 21 22.4	0.0
	baz=114						
M19K	Big River Lodg	65.51	332	P	P	02 21 22.3	-0.4
	baz=108						
E24K	Your Creek	65.51	340	P	P	02 21 21.9	-0.8
	baz=116						
H22K	Ishtalitna Cre	65.64	337	P	P	02 21 23.2	-0.3
	baz=112						
Q16K	King Salmon	65.69	329	P	P	02 21 24.3	+0.4
	baz=104						
P17K	Kvichak River	65.72	329	P	P	02 21 24.1	0.0
	baz=105						
COLD	Coldfoot	65.74	339	P	P	02 21 24.3	+0.2
	baz=114						
L19K	White Mountain	65.80	333	IAmb	IAmb	02 21 25.3	
	comp=Z,6.1nm,0.8s						
L19K	White Mountain	65.80	333	P	P	02 21 24.4	-0.2
	baz=107						
K20K	Telida	65.83	334	P	P	02 21 24.4	-0.3
	baz=109,SNR=12						
N18K	Kilae Creek	65.84	331	P	P	02 21 24.9	-0.1
	baz=106						
E23K	Chandalar	65.89	340	IAmb	IAmb	02 21 26.6	
	comp=Z,4.8nm,0.8s						
E23K	Chandalar	65.89	340	P	P	02 21 25.4	+0.3
	baz=115						
M18K	Stony River	66.04	332	P	P	02 21 26.0	-0.1
	baz=106,SNR=6.7						
G22K	Bettles	66.09	338	P	P	02 21 26.6	+0.3
	baz=113						
H21K	Melozitna Rive	66.10	337	IAmb	IAmb	02 21 26.6	
	comp=Z,3.3nm,0.8s						
H21K	Melozitna Rive	66.10	337	P	P	02 21 26.3	-0.2
	baz=111						
D24K	Happy Valley	66.10	341	P	P	02 21 26.6	+0.1
	baz=116						
TOLK	Toolik Lake Re	66.12	340	P	P	02 21 26.6	0.0
	baz=115						
J20K	Nowinta River	66.13	335	P	P	02 21 25.9	-0.7
	baz=109,SNR=9.1						
C24K	Franklin Bluff	66.32	341	P	P	02 21 27.6	-0.2
	baz=116						
N17K	Nushagak Hills	66.42	331	P	P	02 21 28.0	-0.6
	baz=104,SNR=5.7						
P16K	Nushagak River	66.45	329	P	P	02 21 28.5	-0.3
	baz=103						
CHNA	Chernabura Isl	66.45	324	P	P	02 21 28.4	-0.5
	baz=100						
SUMG	Summit	66.54	15	P	P	02 21 27.5	-2.1
SUMG				IAmb	IAmb	02 21 29.5	
	comp=Z,4.3nm,0.7s						
F22K	John River	66.56	339	P	P	02 21 29.0	-0.3
	baz=112						
D23K	Nanushuk River	66.63	340	P	P	02 21 29.8	0.0
	baz=114						
O16K	Kokwok River B	66.63	329	P	P	02 21 30.2	+0.2
	baz=103						
L18K	Granite Mounta	66.64	332	P	P	02 21 30.1	+0.2
	baz=106						
G21K	Allakaket	66.67	337	IAmb	IAmb	02 21 30.9	
	comp=Z,5.6nm,0.8s						
G21K	Allakaket	66.67	337	P	P	02 21 30.4	+0.2
	baz=110,SNR=6.2						
J19K	Poorman	66.69	334	P	P	02 21 29.6	-0.6
	baz=107,SNR=11						
S14K	Fog Glacier	66.70	326	P	P	02 21 30.6	0.0
	baz=100						
M17K	Holitna River	66.76	331	P	P	02 21 30.0	-0.7
	baz=105						
H20K	Anotleneega Mo	66.86	336	P	P	02 21 31.1	-0.2
	baz=109,SNR=5.9						
F21K	Alatna River	66.92	338	P	P	02 21 31.6	-0.1
	baz=111,SNR=10						
C23K	Itkillik River	66.97	341	P	P	02 21 31.4	-0.5
	baz=115						
J18K	Innoko River	67.00	334	IAmb	IAmb	02 21 33.3	
	comp=Z,3.2nm,0.7s						
J18K	Innoko River	67.00	334	P	P	02 21 32.4	+0.1
	baz=106						
SDPT	Sand Point	67.05	325	P	P	02 21 32.4	-0.2
	baz=99						
N16K	Nishlik Lake	67.17	330	P	P	02 21 33.4	0.0
	baz=103						
L17K	Donlin	67.34	332	P	P	02 21 34.3	-0.2
	baz=104						
M16K	Timber Creek	67.38	331	P	P	02 21 34.8	+0.1
	baz=103						
O15K	Ungalikthiuk R	67.41	329	P	P	02 21 35.0	+0.1
	baz=102						
H19K	Roundabout Mou	67.49	336	P	P	02 21 34.8	-0.5
	baz=107,SNR=7.1						
K17K	Iditarod	67.49	333	P	P	02 21 35.0	-0.4
	baz=104						
E21K	Killik River	67.53	339	P	P	02 21 35.0	-0.6
	baz=111						
TBI	Tubuai	67.54	237	*e*LR	LR	02 42 06.2	
	comp=Z,380nm,26.2s						
F20K	Avaraart Lake	67.68	338	IAmb	IAmb	02 21 37.1	
	comp=Z,3.2nm,0.8s						
F20K	Avaraart Lake	67.68	338	P	P	02 21 35.8	-0.6
	baz=108						
N15K	Kwethluk River	67.74	330	P	P	02 21 36.8	-0.2
	baz=102						
L16K	Owhat River	67.78	332	P	P	02 21 36.9	-0.3
	baz=103						
G19K	Purcell Mounta	67.92	336	P	P	02 21 38.3	+0.2
	baz=107,SNR=5.3						
S12K	Black Hills	67.99	325	P	P	02 21 39.0	+0.3
	baz=98						
J17K	VABM Dome	68.00	333	P	P	02 21 38.5	-0.1
	baz=104						
B22K	Teshekpuk Lake	68.05	341	P	P	02 21 38.2	-0.5
	baz=112						
C21K	Knifeblade Rid	68.06	340	P	P	02 21 38.4	-0.5
	baz=110						
M15K	Kasigluk River	68.14	330	P	P	02 21 39.0	-0.5
	baz=101						
O14K	Tigyukauivet M	68.15	329	P	P	02 21 39.1	-0.5
	baz=100						
H18K	Honhosa River	68.15	335	P	P	02 21 39.2	-0.3
	baz=105						
B21K	Ikpikpuk River	68.17	340	P	P	02 21 39.5	0.0
	baz=111						
E20K	Nigu River	68.24	339	P	P	02 21 39.7	-0.4
	baz=108						
E19K	Redstone River	68.37	338	P	P	02 21 40.6	-0.2
	baz=107						
F19K	Shaleruckik Mo	68.39	337	P	P	02 21 40.5	-0.4
	baz=106						
G18K	Tagagawik	68.47	336	P	P	02 21 41.2	-0.2
	baz=105						
N14K	Kuskokwak Cree	68.48	329	P	P	02 21 41.6	0.0
	baz=100						
D20K	Etivluk River	68.54	339	IAmb	IAmb	02 21 43.5	
	comp=Z,6.1nm,0.8s						
D20K	Etivluk River	68.54	339	P	P	02 21 42.1	+0.2
	baz=108						
J16K	Anvik River	68.64	333	P	P	02 21 42.5	-0.1
	baz=102,SNR=7.4						
L15K	Ungalak Mounta	68.71	331	P	P	02 21 43.8	+0.7
	baz=101						
H17K	Granite Mounta	68.73	335	P	P	02 21 44.2	+1.0
	baz=104						
M14K	Bethel	68.77	330	P	P	02 21 44.1	+0.8
	baz=100,SNR=5.6						
A22K	Sinclair Lake	68.78	342	P	P	02 21 44.0	+0.7
	baz=111						
I17K	Unalakleet	68.82	334	P	P	02 21 44.9	+1.3
	baz=102						
K15K	Wolf Creek Mou	68.86	332	P	P	02 21 44.9	+0.9
	baz=101						
D19K	Etivluk River	69.00	339	P	P	02 21 45.1	+0.4
	baz=107						
F18K	Selawik	69.04	337	P	P	02 21 45.1	+0.2
	baz=105						
B20K	Meade River	69.13	340	P	P	02 21 46.4	+0.9
	baz=108						
G17K	Kiwalik Mounta	69.17	335	P	P	02 21 46.7	+0.9
	baz=103						
L14K	Kuka Creek	69.22	331	P	P	02 21 46.9	+0.8
	baz=106						
M13K	Dall Lake	69.38	330	P	P	02 21 48.1	+0.9
	baz=99						
A21K	Barrow	69.39	342	P	P	02 21 48.1	+1.0
	baz=109						
E18K	Tukpahlearik C	69.61	337	P	P	02 21 49.1	+0.5
	baz=104						
F17K	Baldwin Pennin	69.62	336	P	P	02 21 49.1	+0.5
	baz=103						
H16K	Elim	69.64	334	P	P	02 21 48.7	0.0
	baz=101						
C19K	Lookout Ridge	69.68	339	P	P	02 21 49.7	+0.7
	baz=106						
G16K	Koyuk River	69.84	335	P	P	02 21 49.6	-0.3
	baz=102						
J14K	Nanvaranak Lak	69.86	332	P	P	02 21 50.8	+0.7
	baz=100						
E17K	Hotham Inlet	69.99	337	P	P	02 21 51.3	+0.4
	baz=103						
C18K	Utukok River	70.13	339	P	P	02 21 52.1	+0.3
	baz=104						
K13K	Kusilvak Mount	70.24	331	P	P	02 21 53.1	+0.6
	baz=98						
UNV	Unalaska Valle	70.35	323	P	P	02 21 53.3	0.0
	baz=94						
G15K	Niukluk	70.46	335	P	P	02 21 54.0	+0.2
	baz=100						
A19K	Wainwright	70.47	340	P	P	02 21 53.8	+0.1
	baz=104						
B18K	Kokolik River	70.51	339	P	P	02 21 54.3	+0.3
	baz=104						
D17K	Noatak River	70.60	337	P	P	02 21 55.2	+0.7
	baz=102						
RDOG	Red Dog Mine	70.61	338	P	P	02 21 55.2	+0.5
	baz=102						
M11K	Mekoryuk	70.78	330	P	P	02 21 56.2	+0.4
	baz=96						
C17K	DeLong Mountai	70.80	338	P	P	02 21 56.3	+0.5
	baz=102						
F15K	North Star Dit	70.84	335	P	P	02 21 56.1	+0.1
	baz=100						
ANM	Nome	70.95	334	P	P	02 21 57.2	+0.4
	baz=98						
F14K	Arctic Creek	71.49	335	P	P	02 22 00.4	+0.4
	baz=98						
C16K	Lisburne Hills	71.55	338	P	P	02 22 00.5	+0.2
	baz=100						
TNA	Tin City	72.16	335	P	P	02 22 04.2	+0.2
	baz=96						
P08K	Saint George I	72.24	325	P	P	02 22 04.6	-0.1
	baz=92						
SPIA	Saint Paul Isl	72.65	326	P	P	02 22 07.3	+0.3
	baz=92						
GAMB	Gambell	73.64	333	P	P	02 22 12.3	-0.5
	baz=92						
EKA	Eskdalemuir Ar	78.03	36	P	P	02 22 34.9	-3.3
	comp=Z,1.5nm,0.7s,baz=271,slow=5.8,SNR=4.0						
	comp=Z,1.5nm,0.7s						
ESDC	Sonseca Array	79.59	52	P	P	02 22 44.0	-3.2
	comp=Z,0.6nm,0.9s,baz=292,slow=4.3,SNR=2.8						
	comp=Z,0.6nm,0.9s						
MDT	Midelt	80.19	59	LR	LR	02 51 59.3	
	comp=Z,22nm,19.2s,baz=237,slow=31						
SPITS	Spitsbergen Ar	80.43	11	P	P	02 22 48.9	-2.0
	comp=Z,5.5nm,0.9s,baz=297,slow=9.4,SNR=2.3						
	comp=Z,5.5nm,0.9s						
NB2	NORSAR Subarra	84.30	29	P	P	02 23 09.3	-2.1
	comp=Z,4.2nm,1.4s,baz=289,slow=5.3						
NOA	NORSAR Array B	84.30	29	P	P	02 23 09.3	-2.1
	comp=Z,0.8nm,0.9s,baz=288,slow=5.2,SNR=5.0						
NOA				LR	LR	02 58 32.7	
	comp=Z,17nm,21.2s,baz=80,slow=34						
	comp=Z,0.8nm,0.9s						
HFS	Hagfors	85.75	29	P	P	02 23 16.3	-2.4
	comp=Z,1.5nm,0.8s,baz=221,slow=5.9,SNR=4.3						
	comp=Z,1.5nm,0.8s						
ARCES	ARCESS Array B	86.41	18	P	P	02 23 19.4	-2.3
	comp=Z,1.2nm,0.8s,baz=40,slow=9.6,SNR=4.1						
	comp=Z,1.2nm,0.8s						
DAVOX	Davos/Dischmat	87.85	42	LR	LR	02 56 59.8	
	comp=Z,27nm,21.1s,baz=265,slow=32						
VRAC	Vranov	91.23	38	LR	LR	03 06 08.1	
	comp=Z,26nm,18.1s,baz=308,slow=37						
MA2	Magadan	91.73	333	LR	LR	03 08 41.1	
	comp=Z,30nm,18.2s,baz=66,slow=38						
YAK	Yakutsk	98.05	342	LR	LR	03 16 44.8	
	comp=Z,21nm,18.2s,baz=86,slow=40						
DZM	Mont Dzumac	106.01	251	*e*LR	LR	03 00 03.5	
	comp=Z,57nm,24.3s						
KURBB	Kurchatov Arra	115.51	7	PKP	PKiKP	02 29 21.3	-0.4
	comp=Z,0.4nm,0.4s,baz=346,slow=1.7,SNR=6.4						
MKAR	Makanchi Array	119.68	5	PKP	PKPdf	02 29 28.9	-0.9
	comp=Z,0.4nm,0.5s,baz=343,slow=1.3,SNR=4.2						
WRA	Warramunga Arr	135.78	255	PKP	PKPdf	02 30 01.6	+0.5
	comp=Z,0.7nm,0.8s,baz=88,slow=2.3,SNR=7.9						
ASAR	Alice Springs	136.00	250	PKP	PKPdf	02 30 02.0	+0.4
	comp=Z,0.7nm,0.7s,baz=92,slow=1.8,SNR=6.9						
CMAR	Chiang Mai Arr	146.59	342	PKPbc	PKPdf	02 30 21.6	+1.0
	comp=Z,10nm,0.8s,baz=339,slow=3.8,SNR=48						

IDC 20 02:11:33.7±1.9, 1°08S×127°88E, h0km, mb3.5/2, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=75.7km s-min=22.9km az=78.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	17.06	187	P	P	02 15 35.1	-0.6
	0.2nm,0.3s,baz=2.7,slow=5.7,SNR=6.4						
FITZ				S	Sn	02 18 45.0	+0.7
	1.2nm,0.9s,baz=41,slow=14,SNR=1.5						
	1.6nm,0.6s						
WRA	Warramunga Arr	19.79	162	P	P	02 16 05.2	-0.6
	0.1nm,0.3s,baz=340,slow=12,SNR=6.1						
	0.5nm,0.6s						
ASAR	Alice Springs	23.20	166	P	P	02 16 42.7	+0.2
	0.5nm,0.4s,baz=345,slow=11,SNR=16						
	0.5nm,0.4s						
MKAR	Makanchi Array	62.15	326	P	P	02 21 56.7	-0.1
	0.5nm,0.7s,baz=128,slow=6.1,SNR=3.8						
	0.5nm,0.7s						

*IDC **20** 02:13:55.2±3.7, 13°.74N×91°.08W, h0km, mb3.6/9, mbtmp3.7/11, ML3.9/2, Error ellipse: s-maj=70.3km s-min=40.7km az=180.0*

*CATAC **20** 02:13:58.4±0.7, 14°.N±4°×9°.1W±°, h21km±6km, M4.4/13, MLv4.4/13, Error ellipse: s-maj=9.8km s-min=3.5km az=36.3, confirmed*

*GCG **20** 02:13:58.7±2.1, 13°.59N×91°.54W, h46km±57km, MD4.0, ML4.3*

*SNET **20** 02:14:00.3±1.2, 13°.80N×91°.29W, h11km±9km, ML4.0*

*NEIC **20** 02:14:01.3±2.7, 13°.63N±0°.05×91°.45W±0°.07, h35km±2km, mb4.2/40, Error ellipse: s-maj=14.6km s-min=3.0km az=231.0*

ISC 20 02:14:00.5±1.3, 13°.61N±0°.06×91°.45W±0°.04, h33km±3km, n131, σ1§32/145, mb4.1/25, 4C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STG0	El Palmar, Qui	0.82	7	⇓*i* P	Pb	02 14 17.7	+1.2
STG0				IAML		02 14 36.3	
	comp=E,11μm,0.3s						
STG2	El Palmar, Qui	0.83	5	⇑*i* P	Pb	02 14 18.0	+1.4
STG8	El Palmar, Qui	0.84	6	⇑*i* P	Pb	02 14 18.4	+1.4
STG8				IAML		02 14 40.2	
	comp=N,10μm,0.4s						
ESSJ	San Jos, E	0.92	93	*i* P	Pn	02 14 13.8	-3.2
ESSJ				*i* S	Sb	02 14 25.9	-4.1
RTAL	Retalhuleu	0.94	345		Pn	02 14 15.9	-1.6
RTAL				Sn	Sn	02 14 29.3	-0.5
RTAL	Retalhuleu	0.94	345	*e*P	Pn	02 14 15.8	-1.6
RTAL	Retalhuleu	0.94	345	P	Pn	02 14 15.6	-1.9
ESSG	Sabana Grande	0.97	38	*i* P	Pn	02 14 16.3	-1.6
ESSG				IAML		02 14 30.3	
	comp=E,6μm,0.1s						
FG8	Yepocapa, Chim	1.07	53	⇓*i* P	Pn	02 14 16.4	-3.0
FG8				*i* S	Sn	02 14 32.3	-0.9
FG16	Alotenango, Sa	1.12	54	⇑*i* P	Pn	02 14 17.4	-2.7
FG16				*i* S	Sn	02 14 31.7	-2.7
FG16				IAML		02 14 32.9	
	comp=N,31μm,0.3s						
SOKI	Kika Raxquin	1.21	2	*i* P	Pn	02 14 20.1	-1.4
SOKI				IAML		02 14 37.8	
	comp=N,6μm,0.7s						
GCG4	OSOP	1.32	42	*i* P	Pn	02 14 22.6	-0.1
GCG4				*i* S	Sn	02 14 40.1	+0.8
GCG4				IAML		02 14 45.1	
	comp=E,5μm,0.8s						
SMCA	Catarina	1.38	334	*i* P	Pn	02 14 21.5	-2.0
SMCA				IAML		02 14 51.0	
	comp=N,1μm,0.7s						
FAME	Alcaldia de Sa	1.41	80	P	Pn	02 14 22.5	-1.4
THIG		1.52	328	*i* P	Pn	02 14 23.8	-1.5
THIG				*i* S	Sn	02 14 42.1	-1.8
THIG				IAML		02 14 46.5	
	comp=E,3μm,0.7s						
NUBE	Las Nubes	1.64	80	*e*P	Pn	02 14 26.2	-1.0
NUBE				*e*S	Sn	02 14 46.0	-1.3
NUBE	Las Nubes	1.64	80	⇑*i* P	Pn	02 14 26.1	-1.0
NUBE	Las Nubes	1.64	80	P	Pn	02 14 26.5	-0.7
LOAL	Lomas de Alarc	1.66	76	*e*P	Pn	02 14 26.9	-0.5
LOAL				*e

HUEH	**Huehuetenango**	**1.70**	**358**	*eP*		**Pn**	**02 14 28.0**	**0.0**
HUEH				*eS*		**Sn**	**02 14 48.5**	**-0.3**
HUEH	**Huehuetenango**	**1.70**	**358**	*i* P		**Pn**	**02 14 28.1**	**0.0**
HUEH				IAML			02 15 00.0	
	comp=N,4μm,0.7s							
HUEH	**Huehuetenango**	**1.70**	**358**	P		**Pn**	**02 14 28.0**	**0.0**
HUEH	**Huehuetenango**	**1.70**	**358**	S		**Sn**	**02 14 51.3**	**+2.5**
QUIS	**Sacapulas**	**1.71**	**11**	*i* P		**Pn**	**02 14 28.9**	**+0.8**
QUIS				IAML			02 14 55.1	
	comp=E,3μm,0.6s							
RTR	**El Retiro**	**1.77**	**80**	*eP*		**Pn**	**02 14 28.5**	**-0.5**
JAYA	**Jayaque - finc**	**1.94**	**88**	*eP*		**Pn**	**02 14 30.2**	**-1.1**
JAYA				IAML			02 15 00.7	
	comp=Z,2μm,0.3s							
JAYA	**Jayaque - finc**	**1.94**	**88**	*i* P		**Pn**	**02 14 30.3**	**-1.0**
JAYA				*i* S		**Sn**	**02 14 54.2**	**-0.4**
JAYA	**Jayaque - finc**	**1.94**	**88**	P		**Pn**	**02 14 31.3**	**0.0**
CEDA	**San Andres**	**2.00**	**84**	P		**Pn**	**02 14 31.0**	**-1.0**
CEDA	**San Andres**	**2.00**	**84**	S		**Sn**	**02 14 57.1**	**+1.1**
LALI	**Alcalda de L**	**2.07**	**93**	*eP*		**Pn**	**02 14 32.8**	**0.0**
LALI	**Alcalda de L**	**2.07**	**93**	*i* P		**Pn**	**02 14 32.9**	**0.0**
LALI	**Alcalda de L**	**2.07**	**93**	P		**Pn**	**02 14 32.1**	**-0.8**
LALI	**Alcalda de L**	**2.07**	**93**	S		**Sn**	**02 14 57.5**	**0.0**
PMON	**Piamonte**	**2.07**	**87**	*eP*		**Pn**	**02 14 32.4**	**-0.7**
PMON	**Piamonte**	**2.07**	**87**	P		**Pn**	**02 14 33.6**	**+0.5**
PMON	**Piamonte**	**2.07**	**87**	S		**Sn**	**02 14 58.8**	**+0.9**
BQOS	**Boqueron**	**2.11**	**86**	*eP*		**Pn**	**02 14 33.0**	**-0.6**
PIC2	**El Picacho**	**2.13**	**86**	*eP*		**Pn**	**02 14 34.8**	**+0.8**
UEES	**Universidad Ev**	**2.15**	**87**	P		**Pn**	**02 14 34.1**	**+0.1**
UEES	**Universidad Ev**	**2.15**	**87**	S		**Sn**	**02 15 00.1**	**+0.5**
MTO3	**Montecristo**	**2.17**	**69**	Pn		**Pn**	**02 14 34.5**	**0.0**
MTO3	**Montecristo**	**2.17**	**69**	*i* P		**Pn**	**02 14 35.1**	**+0.6**
UTEC	**Universidad Te**	**2.18**	**87**	P		**Pn**	**02 14 34.1**	**-0.5**
UTEC	**Universidad Te**	**2.18**	**87**	S		**Sn**	**02 15 02.1**	**+1.6**
PANCS	**Alcalda de**	**2.20**	**90**	S		**Sn**	**02 15 01.0**	**+0.1**
LOMA	**Loma Larga**	**2.21**	**89**	*eP*		**Pn**	**02 14 34.6**	**-0.3**
LOMA				*eS*		**Sn**	**02 15 02.0**	**+0.7**
LOMA	**Loma Larga**	**2.21**	**89**	P		**Pn**	**02 14 34.8**	**-0.2**
ESQI	**Esquipulas**	**2.25**	**65**	Pn		**Pn**	**02 14 36.0**	**+0.5**
ESQI	**Esquipulas**	**2.25**	**65**	*eP*		**Pn**	**02 14 34.1**	**-1.4**
ESQI				*eS*		**Sn**	**02 15 02.1**	**-0.1**
LFU	**La Fuente**	**2.27**	**86**	*eP*		**Pn**	**02 14 36.2**	**+0.5**
LFRS	**El Faro**	**2.32**	**89**	*eP*		**Pn**	**02 14 36.1**	**-0.3**
LFRS				*eS*		**Sn**	**02 15 05.0**	**+1.2**
LBRS	**Las Brisas**	**2.34**	**87**	*eP*		**Pn**	**02 14 37.4**	**+0.7**
PAVA	**Las Pavas**	**2.44**	**87**	*eP*		**Pn**	**02 14 38.1**	**0.0**
PAVA				IAML			02 15 20.1	
	comp=Z,541nm,0.4s							
COEG	**Centro de Oper**	**2.49**	**89**	*eP*		**Pn**	**02 14 39.2**	**+0.4**
COEG				IAML			02 15 18.4	
	comp=E,1μm,0.4s							
SCLA	**Alcaldia de Sa**	**2.64**	**88**	*eP*		**Pn**	**02 14 40.8**	**0.0**
CCIG	**Comitan**	**2.74**	**346**			**Pn**	**02 14 43.9**	**+1.5**
SARH	**Santa Rosa de**	**2.85**	**66**	*i* P		**Pn**	**02 14 44.2**	**+0.5**
LCND	**La Caada**	**3.47**	**94**	*eP*		**Pn**	**02 14 52.5**	**+0.3**
CNCH	**Conchagua**	**3.53**	**95**	*eP*		**Pn**	**02 14 53.4**	**+0.3**
PETF	**Flores**	**3.62**	**25**	Pn		**Pn**	**02 14 55.2**	**+0.9**
TGUH	**Tegucigalpa,Un**	**4.08**	**83**	Pn		**Pn**	**02 14 50.7**	**0.0**
HERN	**Volcan Telica**	**4.60**	**102**			**Pn**	**02 15 08.0**	**+0.1**
CMIG	**Matias Romero**	**4.80**	**317**	Pn		**Pn**	**02 15 10.5**	**0.0**
	comp=Z,2.8nm,0.3s,baz=159,slow=17,SNR=0.8							
CMIG				Sn		**Sn**	**02 16 04.4**	**-0.5**
	comp=Z,9.3nm,0.3s,baz=125,slow=9.2,SNR=2.5							
	comp=Z,15nm,0.5s							
BOAB	**BOACO BROADBAN**	**5.75**	**101**	Pn		**Pn**	**02 15 23.4**	**-0.1**
SIUN	**Universidad Ur**	**6.49**	**88**	Pn		**Pn**	**02 15 33.8**	**+0.1**
JTS	**Las Juntas de**	**7.16**	**117**	Pn		**Pn**	**02 15 44.2**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=288,slow=20,SNR=0.8							
JTS				Sn		**Sn**	**02 17 03.8**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=324,slow=20,SNR=0.9							
TEIG	**Tepich**	**7.25**	**24**	Pn		**Pn**	**02 15 45.6**	**+1.5**
LCR2	**La Lucha 2**	**8.24**	**117**	Pn		**Pn**	**02 15 59.7**	**+1.8**
PIRO	**Carate, Puerto**	**9.49**	**122**			**Pn**	**02 16 18.4**	**+3.4**
553A	**Crawfordville**	**17.73**	**20**	P		**P**	**02 18 07.0**	**+1.6**
553A				IAmb	IAmb		02 18 33.3	
	comp=Z,22nm,0.9s							
BRDY	**Brady**	**18.92**	**340**	P		**Pn**	**02 18 19.7**	**+0.4**
TXAR	**Lajitas Array**	**19.32**	**326**	P		**Pn**	**02 18 24.6**	**+0.3**
TXAR	**Lajitas Array**	**19.32**	**326**	P		**Pn**	**02 18 24.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=154,slow=12,SNR=14							
	comp=Z,2.7nm,0.7s							
TX31	**Lajitas Ar. Si**	**19.32**	**326**			**Pn**	**02 18 24.3**	**0.0**
H06E1	**SOCORRO T-PHAS**	**19.40**	**288**	T		T	02 38 21.6	
OZNA	**Ozona**	**19.40**	**334**	P		**P**	**02 18 24.5**	**+0.6**
Z47A	**Carrollton**	**19.74**	**8**	Pn		**Pn**	**02 18 29.2**	**0.0**
Z47A				IAmb	IAmb		02 18 33.0	
	comp=Z,7.2nm,0.8s							
MNHN	**Monahans**	**20.49**	**331**			Pn	02 18 37.0	-1.0
MNHN				IAmb	IAmb		02 18 38.0	
	comp=Z,10nm,0.8s							
Y49A	**Blount Mountai**	**20.67**	**12**	P		**P**	**02 18 37.7**	**+0.1**
GOGA	**Godfrey**	**21.01**	**19**	P		**P**	**02 18 42.2**	**+0.9**
GOGA				IAmb	IAmb		02 19 03.4	
	comp=Z,8.8nm,1.1s							
PECS	**Pecos**	**21.05**	**329**	P		**P**	**02 18 42.8**	**+1.0**
PECS				IAmb	IAmb		02 18 44.0	
	comp=Z,6.7nm,0.8s							
APMT	**Aspermont**	**21.16**	**340**	P		**P**	**02 18 42.5**	**-0.4**
APMT				IAmb	IAmb		02 18 43.7	
	comp=Z,6.0nm,0.7s							
VHRN	**Van Horn**	**21.16**	**326**			**P**	**02 18 44.3**	**+1.2**
VHRN				IAmb	IAmb		02 18 46.1	
	comp=Z,4.8nm,0.7s							
MNTX	**Cornudas Mount**	**22.09**	**327**			**P**	**02 18 53.9**	**+1.1**
MNTX				IAmb	IAmb		02 18 57.7	
	comp=Z,5.3nm,0.6s							
LCAR	**Lake Charles**	**22.37**	**1**	P		**P**	**02 18 53.7**	**-2.1**
LCAR				IAmb	IAmb		02 18 56.6	
	comp=Z,4.3nm,0.7s							
BG3	**Lake Jocassee**	**22.64**	**18**	P		**P**	**02 18 58.0**	**-0.8**
TKL	**Tuckaleechee C**	**23.02**	**16**	P		**P**	**02 19 00.6**	**-2.1**
TKL				IAmb	IAmb		02 19 24.3	
	comp=Z,11nm,1.2s							
TKL	**Tuckaleechee C**	**23.02**	**16**	P		**P**	**02 19 00.2**	**-2.5**
	comp=Z,1.7nm,0.5s,baz=190,slow=12,SNR=2.4							
	comp=Z,1.7nm,0.5s							
AMTX	**Amarillo**	**23.12**	**338**	P		**P**	**02 19 03.0**	**-0.8**
AMTX				IAmb	IAmb		02 19 04.7	
	comp=Z,4.6nm,0.7s							
U49A	**Red Boiling Sp**	**23.37**	**12**	P		**P**	**02 19 04.2**	**-2.0**
TZTN	**Tazewell**	**23.91**	**16**	P		**P**	**02 19 09.7**	**-1.6**
TZTN				IAmb	IAmb		02 19 30.9	
	comp=Z,7.3nm,1.1s							
CCM	**Cathedral Cave**	**24.35**	**0**			**P**	**02 19 13.6**	**-1.8**
CCM				IAmb	IAmb		02 19 15.0	
	comp=Z,5.4nm,0.6s							
U54A	**Nelsons Funny**	**24.39**	**19**	P		**P**	**02 19 15.2**	**-0.7**
U54A				IAmb	IAmb		02 19 19.6	
	comp=Z,6.8nm,0.7s							
BNM	**Barren Site**	**24.66**	**329**	P		**P**	**02 19 19.8**	**+1.3**
ANMO	**Albuquerque**	**25.21**	**330**	P		**P**	**02 19 24.1**	**+0.6**
ANMO	**Albuquerque**	**25.21**	**330**	P		**P**	**02 19 23.8**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=230,slow=8.0,SNR=3.6							
	comp=Z,1.2nm,0.6s							
P40A	**Paris**	**25.83**	**359**	P		**P**	**02 19 28.0**	**-0.7**
P40A				IAmb	IAmb		02 19 28.9	
	comp=Z,3.4nm,0.6s							
O54A	**Avella**	**28.20**	**18**	P		**P**	**02 19 48.1**	**-2.0**
PV12	**Saucer Basin,**	**29.03**	**331**	P		**P**	**02 19 59.3**	**+1.5**
PV12				IAmb	IAmb		02 20 10.8	
	comp=Z,7.3nm,1.2s							
SADO	**Sadowa**	**32.78**	**16**	P		**P**	**02 20 27.4**	**-3.1**
	comp=Z,2.1nm,0.7s,baz=202,slow=11,SNR=3.2							
	comp=Z,2.1nm,0.7s							
PDAR	**Pinedale Array**	**33.00**	**335**	P		**P**	**02 20 32.7**	**0.0**
	comp=Z,0.4nm,0.6s,baz=146,slow=7.6,SNR=1.8							
	comp=Z,0.4nm,0.6s							
ELK	**Elko**	**34.11**	**327**	P		**P**	**02 20 44.9**	**+2.5**
ELK	**Elko**	**34.11**	**327**	P		**P**	**02 20 42.3**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=137,slow=6.5,SNR=5.3							
	comp=Z,1.1nm,0.7s							
NVAR	**Mina Array Bea**	**34.31**	**321**	P		**P**	**02 20 44.0**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=130,slow=7.9,SNR=5.7							
	comp=Z,1.6nm,0.7s							
HLID	**Hailey**	**35.78**	**331**	P		**P**	**02 20 58.5**	**+1.8**
J08A	**Circle Bar Ran**	**37.66**	**327**	P		**P**	**02 21 13.8**	**+1.1**
PLID	**Pearl Lake**	**37.68**	**331**	P		**P**	**02 21 12.9**	**0.0**
PLID				IAmb	IAmb		02 21 13.8	
	comp=Z,4.7nm,1.4s							
D62A	**Allapoint, All**	**38.28**	**25**	P		**P**	**02 21 18.2**	**+0.5**
H04A	**Detroit Lake**	**40.54**	**326**	P		**P**	**02 21 37.5**	**+0.9**
C09A	**Chrisman Ranch**	**40.75**	**332**	P		**P**	**02 21 38.8**	**+0.5**
C09A				IAmb	IAmb		02 21 39.8	
	comp=Z,4.0nm,0.6s							

YKAW1	**Yellowknife Wh**	**51.49**	**347**	P		**P**	**02 23 00.8**	**-1.7**
YKAW1				IAmb	IAmb		02 23 09.0	
	comp=Z,3.1nm,1.2s							
YKA	**Yellowknife Ar**	**51.53**	**347**	P		**P**	**02 23 01.0**	**-1.8**
YKA	**Yellowknife Ar**	**51.53**	**347**	P		**P**	**02 23 01.6**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=113,slow=16,SNR=6.2							
	comp=Z,0.4nm,0.6s							
YKAW3	**Yellowknife Wh**	**51.59**	**347**	P		**P**	**02 23 01.8**	**-1.5**
YKAW3				IAmb	IAmb		02 23 12.5	
	comp=Z,2.8nm,1.1s							
DLBC	**Dease Lake**	**53.23**	**336**	P		**P**	**02 23 16.1**	**+0.5**
	comp=Z,0.1nm,0.6s,baz=145,slow=12,SNR=4.0							
	comp=Z,0.1nm,0.6s							
Q32M	**Nakina River**	**54.47**	**335**	P		**P**	**02 23 25.8**	**+1.0**
MMPY	**Sheldon Lake,**	**56.46**	**339**	P		**P**	**02 23 38.7**	**-0.2**
RCBR	**Riachuelo**	**58.42**	**106**	P		**P**	**02 23 53.1**	**-0.4**
M29M	**Somme Creek**	**58.99**	**337**	P		**P**	**02 23 56.5**	**-0.2**
BCAR	**Beaver Creek A**	**60.61**	**336**	P		**P**	**02 24 07.4**	**-0.4**
N25K	**Chitina, Valde**	**61.05**	**334**	P		**P**	**02 24 11.2**	**+0.3**
HIN	**Hinchinbrook I**	**61.35**	**332**	P		**P**	**02 24 13.2**	**+0.3**
ILAR	**Eielson Array**	**63.41**	**337**	P		**P**	**02 24 26.4**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=187,slow=6.3,SNR=5.4							
	comp=Z,0.3nm,0.7s							
SKT	**Skwentna**	**64.21**	**333**	P		**P**	**02 24 31.4**	**-0.5**
NJ2	**Nanjing**	**126.11**	**328**	*eP*		**Pdif**	**02 29 43.3**	**+4.4**
NJ2				pmax	pmax			
	comp=Z,5.0nm,0.7s							
LZH	**Lanzhou**	**128.50**	**344**	*eP*		**Pdif**	**02 29 53.1**	**+3.4**
LZH				sP	sPdif		02 30 08.5	+4.4
LZH				pmax	pmax			
	comp=Z,14nm,1.1s							
CMAR	**Chiang Mai Arr**	**146.53**	**342**	PKPbc		**PKPbc**	**02 33 39.2**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=58,slow=3.2,SNR=1.3							

*IDC **20** 02:18:11.8±1.4,37.39N×29.94E,h0km,mb3.3/2,*
mbtmp3.5/9,ML3.1/5,MS2.5/1,Error ellipse: s-maj=21.7km
s-min=18.1km az=50.0
*AFAD **20** 02:18:11.8,37.33N×29.83E,h7km±4km,MW3.3*
*ISK **20** 02:18:11.5,37.35N×29.82E,h8km,ML3.2/34*
*GII **20** 02:18:13.5±0.0,37.41N±0.02×30.063E±0.008,*
h25km,Mws2.9,confirmed

ISC 20 02:18:11.7±1.0, 37.34N±0.02×29.88E±0.02, h10km±8km, n94, σ1§27/114, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.27**	**248**	P		**Pg**		**02 18 16.9**	**-0.3**
GOLH				S		**Sg**		**02 18 21.8**	**+0.9**
GOLH				*i* IAML				02 18 22.0	
	comp=E,7μm,0.5s								
GOLH				*i* IAML				02 18 23.0	
	comp=N,5μm,0.2s								
BRDR	**BURDUR-Merkez**	**0.39**	**23**	P		**Pb**		**02 18 19.8**	**-0.9**
BRDR				S		**Sb**		**02 18 25.8**	**-1.0**
BRDR				*i* IAML				02 18 31.0	
	comp=N,1μm,0.3s								
BRDR				*i* IAML				02 18 32.0	
	comp=E,1μm,0.7s								
INCE	**Denizli-Bozkur**	**0.44**	**327**	P		**Pg**		**02 18 20.5**	**+0.2**
INCE				S		**Sb**		**02 18 28.1**	**-0.2**
INCE				*i* IAML				02 18 32.0	
	comp=E,1μm,0.4s								
INCE				*i* IAML				02 18 33.0	
	comp=N,1μm,0.3s								
APMY	**Acipayam-Deniz**	**0.47**	**286**	Pg		**Pg**		**02 18 20.4**	**-0.6**
APMY				Sg		**Sg**		**02 18 27.4**	**+0.1**
CAEL	**Denizli, Camel**	**0.49**	**244**	P		**Pg**		**02 18 21.4**	**+0.1**
CAEL				S		**Sg**		**02 18 28.6**	**+0.7**
CAEL				*i* IAML				02 18 29.0	
	comp=N,2μm,0.5s								
CAEL				*i* IAML				02 18 34.0	
	comp=E,3μm,0.4s								
KORT	**Korkueli**	**0.51**	**131**	Pg		**Pb**		**02 18 22.8**	**-0.1**
KORT				Sg		**Sb**		**02 18 30.8**	**+0.5**
KORT	**Korkueli**	**0.51**	**131**	P		**Pb**		**02 18 22.8**	**-0.1**
KORT				S		**Sb**		**02 18 31.9**	**+1.6**
KORT				*i* IAML				02 18 32.0	
	comp=E,4μm,0.5s								
KORT				*i* IAML				02 18 33.0	
	comp=N,3μm,0.5s								
KNIK	**Mula-Seydike**	**0.55**	**206**	P		**Pg**		**02 18 21.5**	**-0.8**
KNIK				S		**Sg**		**02 18 30.9**	**+1.3**
BCK	**Bucak**	**0.58**	**78**	Pg		**Pb**		**02 18 23.1**	**-1.0**
ELL	**Elmali**	**0.59**	**177**	Pg		**Pb**		**02 18 22.4**	**-0.8**
BASM	**Basmaki-Afyon**	**0.60**	**13**	Pg		**Pb**		**02 18 23.7**	**-0.6**
CAME	**Cameli-Denizli**	**0.60**	**229**	Pg		**Pg**		**02 18 22.9**	**-0.5**
CAME				Sg		**Sg**		**02 18 31.8**	**+0.4**
DNZT	**Denizli-Tavas-**	**0.68**	**265**	P		**Pg**		**02 18 23.6**	**-1.3**
DNZT				P		**Pb**		**02 18 23.7**	**-2.0**
DNZT				S		**Sg**		**02 18 33.9**	**+0.1**
ISP	**Isparta**	**0.70**	**47**	Pg		**Pb**		**02 18 25.4**	**-0.8**
ISP				Sg		**Sn**		**02 18 36.8**	**-2.1**
ISP	**Isparta**	**0.70**	**47**	P		**Pg**		**02 18 24.5**	**-0.8**
ISP				S		**Sg**		**02 18 33.1**	**-1.5**
DNIZ	**Denizli-Tavas-**	**0.72**	**294**	P		**Pg**		**02 18 25.2**	**-0.5**
DNIZ				S		**Sg**		**02 18 36.2**	**+1.0**
DNIZ				*i* IAML				02 18 37.0	
	comp=N,2μm,0.4s								
DNIZ				*i* IAML				02 18 39.0	
	comp=E,2μm,0.5s								
TAVA	**DENIZLI_Tavas**	**0.78**	**280**	P		**Pg**		**02 18 26.0**	**-0.7**
TAVA				S		**Sg**		**02 18 37.0**	**+0.1**
TAVA				*i* IAML				02 18 38.0	
	comp=N,414nm,0.6s								
TAVA				*i* IAML				02 18 43.0	
	comp=E,328nm,0.5s								
SABU	**Mula-Dalaman**	**0.89**	**235**	P		**Pg**		**02 18 28.5**	**-0.3**
SABU				S		**Sg**		**02 18 39.8**	**-0.6**
SABU				*i* IAML				02 18 43.0	
	comp=N,543nm,0.3s								
SABU				*i* IAML				02 18 43.0	
	comp=E,394nm,0.4s								
FETY	**Fethiye**	**0.95**	**222**	Pg		**Pg**		**02 18 29.3**	**-0.6**
DALY	**Dalyan (Mula)**	**1.11**	**242**	Pg		**Pg**		**02 18 32.0**	**-1.0**
AKAS	**Kas**	**1.12**	**191**	Pn		**Pg**		**02 18 33.6**	**+0.3**
SHUT	**Suhut-Afyon**	**1.32**	**24**	Pn		**Pg**		**02 18 36.9**	**-0.3**
SDAG	**Sultandagi-AFY**	**1.37**	**37**	Pn		**Pg**		**02 18 37.9**	**-0.2**
NAZL	**Nazilli-Aydin**	**1.40**	**297**	Pn		**Pn**		**02 18 37.2**	**-0.2**
TURN	**Turunc**	**1.42**	**247**	Pn		**Pn**		**02 18 37.8**	**+0.2**
SEYD	**Seydisehir-KON**	**1.57**	**87**	Pn		**Pg**		**02 18 41.1**	**-0.6**
MLSB	**Milas**	**1.67**	**269**	Pn		**Pn**		**02 18 41.1**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.69**	**292**	Pn		**Pn**		**02 18 40.9**	**-0.5**
ODEM	**Odemis-Izmir**	**1.71**	**304**	Pn		**Pn**		**02 18 41.5**	**-0.1**
BLVD	**Bolvadin-AFYON**	**1.74**	**33**	Pn		**Pb**		**02 18 43.3**	**-0.6**
ARG	**Arkhangelos**	**1.80**	**232**	Pn		**Pn**		**02 18 43.5**	**+0.7**
SIMA	**Simav-Kutahya**	**1.88**	**338**	Pn		**Pn**		**02 18 44.4**	**+0.4**
DAT	**Datca**	**1.94**	**252**	Pn		**Pn**		**02 18 45.1**	**+0.3**
GORD	**Gordes-Manisa**	**2.06**	**320**	Pn		**Pn**		**02 18 46.4**	**-0.1**
KONT	**Konya--Tatoy**	**2.06**	**72**	Pn		**Pb**		**02 18 48.3**	**-1.0**
BODT	**Bodrum**	**2.07**	**263**	Pn		**Pn**		**02 18 46.9**	**+0.4**
HDMB	**Hadim**	**2.12**	**99**	Pn		**Pb**		**02 18 49.4**	**-1.0**
GCAM	**G?zelcaml?**	**2.13**	**281**	Pn		**Pn**		**02 18 47.8**	**+0.5**
TVSB	**Tavsanli**	**2.13**	**351**	Pn		**Pn**		**02 18 48.1**	**+0.6**
LADK	**Ladik-KONYA**	**2.15**	**66**	Pn		**Pb**		**02 18 49.5**	**-1.4**
CIFT	**Cifteler, Eski**	**2.22**	**24**	Pn		**Pn**		**02 18 49.3**	**+0.6**
SVRH	**Sivrihisar-ESK**	**2.47**	**31**	Pn		**Pn**		**02 18 53.5**	**+1.4**
BLCB	**Balcova**	**2.47**	**296**	Pn		**Pn**		**02 18 52.4**	**+0.3**
URLA	**Izmir**	**2.79**	**292**	Pn		**Pn**		**02 18 57.3**	**+0.9**
KARP	**Karpathos**	**2.83**	**232**	Pn		**Pn**		**02 18 58.3**	**+1.3**
SUSR	**Susurluk-Balik**	**2.97**	**332**	Pn		**Pn**		**02 18 59.9**	**+1.0**
APE	**Apeiranthos**	**3.48**	**267**	S		**Sn**		**02 19 50.5**	**+3.3**
APE	**Apeiranthos**	**3.48**	**267**	P		**Pn**		**02 19 07.5**	**+1.5**
CSS	**Mathiatis**	**3.67**	**129**	S		**Sn**		**02 19 49.7**	**-2.2**
CSS	**Mathiatis**	**3.67**	**129**	P		**Pn**		**02 19 08.2**	**-0.3**
BRTR	**Keskin Array B**	**3.79**	**50**	Pn		**Pn**		**02 19 12.2**	**+1.9**
	0.5nm,0.3s,baz=232,slow=14,SNR=12								
BRTR				Sn		**Sn**		**02 19 57.5**	**+2.4**
	0.4nm,0.3s,baz=223,slow=26,SNR=4.6								
	1.7nm,0.5s								
IDI	**Anoyia**	**4.52**	**245**	Pn		**Pn**		**02 19 22.5**	**+2.2**
	6.3nm,0.3s,baz=56,slow=18,SNR=16								
IDI				Sn		**Sn**		**02 20 09.0**	**-3.9**
	0.7nm,0.3s,baz=109,slow=18,SNR=1.5								
HNTI	**Hanita**	**6.07**	**133**	S		**Sn**		**02 20 48.9**	**-2.2**
HNTI	**Hanita**	**6.07**	**133**	P		**Pn**		**02 19 41.5**	**0.0**
MMA0B	**Mount Meron ar**	**6.25**	**132**	S		**Sn**		**02 20 54.3**	**-1.4**
MMA0B	**Mount Meron ar**	**6.25**	**132**	P		**Pn**		**02 19 43.8**	**-0.3**
MMAI	**Mount Meron Ar**	**6.25**	**132**	Pn		**Pn**		**02 19 45.9**	**+1.8**
	8.0nm,0.3s,baz=309,slow=12,SNR=93								
MMAI				Sn		**Sn**		**02 20 54.4**	**-1.3**
	2.0nm,0.3s,baz=332,slow=30,SNR=5.2								
GEM	**Giv'at Ha'Em**	**6.28**	**129**	S		**Sn**		**02 20 54.3**	**-1.8**
GEM	**Giv'at Ha'Em**	**6.28**	**129**	P		**Pn**		**02 19 44.5**	**+0.2**
NATI	**Neve Ativ**	**6.29**	**129**	S		**Sn**		**02 20 54.5**	**-1.8**
NATI	**Neve Ativ**	**6.29**	**129**	P		**Pn**		**02 19 44.4**	**-0.1**
OFRI	**`Ofer**	**6.30**	**137**	S		**Sn**		**02 20 54.7**	**-2.2**
OFRI	**`Ofer**	**6.30**	**137**	P		**Pn**		**02 19 44.5**	**-0.3**
MMLI	**Mount Malkishu**	**6.68**	**135**	S		**Sn**		**02 21 04.5**	**-1.7**
MMLI	**Mount Malkishu**	**6.68**	**135**	P		**Pn**		**02 19 49.8**	**-0.2**
HMDT	**Nahal Hemdat**	**6.88**	**136**	S		**Sn**		**02 21 09.1**	**-1.9**
HMDT	**Nahal Hemdat**	**6.88**	**136**	P		**Pn**		**02 19 52.8**	**+0.2**
UJAP	**Al Uja**	**7.08**	**138**	S		**Sn**		**02 21 13.9**	**-1.9**
UJAP	**Al Uja**	**7.08**	**138**	P		**Pn**		**02 19 55.3**	**0.0**
AMAZ	**Amatzia**	**7.13**	**143**	S		**Sn**		**02 21 16.2**	**-1.1**
AMAZ	**Amatzia**	**7.13**	**143**	P		**Pn**		**02 19 56.2**	**0.0**
DSI	**Dead Sea**	**7.33**	**140**	S		**Sn**		**02 21 21.0**	**-1.2**
DSI	**Dead Sea**	**7.33**	**140**	P		**Pn**		**02 19 58.8**	**0.0**
YTIR	**Yattir**	**7.37**	**142**	S		**Sn**		**02 21 22.7**	**-0.5**
YTIR	**Yattir**	**7.37**	**142**	P		**Pn**		**02 19 59.8**	**+0.4**
KZIT	**Kziot**	**7.43**	**148**	S		**Sn**		**02 21 24.1**	**-0.5**
KZIT	**Kziot**	**7.43**	**148**	P		**Pn**		**02 20 00.3**	**+0.1**
GHAJ	**Ghor Haditha**	**7.64**	**140**	S		**Sn**		**02 21 28.9**	**-0.8**
GHAJ	**Ghor Haditha**	**7.64**	**140**	P		**Pn**		**02 20 03.6**	**+0.5**
ASF	**Jabal al Asfar**	**7.74**	**130**	Pn		**Pn**		**02 20 06.7**	**+2.1**
	0.8nm,0.3s,baz=352,slow=16,SNR=8.7								
ASF				Sn		**Sn**		**02 21 35.7**	**+3.3**
	baz=30,slow=20								
	1.2nm,0.3s								
PRNI	**Paran**	**8.17**	**147**	S		**Sn**		**02 21 41.5**	**-1.4**
PRNI	**Paran**	**8.17**	**147**	P		**Pn**		**02 20 10.6**	**+0.2**
HRFI	**Mount Harif**	**8.46**	**148**	S		**Sn**		**02 21 48.7**	**-1.1**
HRFI	**Mount Harif**	**8.46**	**148**	P		**Pn**		**02 20 14.7**	**+0.4**
MBRI	**Mt Berech**	**8.62**	**149**	S		**Sn**		**02 21 53.3**	**-0.6**
MBRI	**Mt Berech**	**8.62**	**149**	P		**Pn

H11S1	**WAKE ISLAND Hy**	**28.55**	**124**	T	T	03 12 51.7	
	baz=316,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**28.55**	**124**	T	T	03 12 54.2	
	baz=316,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.57**	**124**	T	T	03 13 04.5	
	baz=316,slow=76,SNR=7.3						
MKAR	**Makanchi Array**	**44.44**	**302**	P	**P**	**02 45 24.9**	**+2.6**
	0.3nm,0.7s,baz=99,slow=8.9,SNR=2.3						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**46.27**	**308**	P	**P**	**02 45 38.3**	**+1.6**
	0.6nm,0.6s,baz=82,slow=8.0,SNR=4.8						
	0.6nm,0.6s						
ARTI	**Arti**	**56.64**	**319**	LR	LR	03 13 55.7	
	comp=Z,57nm,18.3s,baz=130,slow=39						
WRA	**Warramunga Arr**	**57.35**	**189**	P	**P**	**02 46 58.8**	**-0.8**
	0.6nm,1.0s,baz=8.8,slow=6.5,SNR=2.6						
	0.6nm,1.0s						

*IDC **20** 02:37:51.8±12.0, 36°.23N×71°.69E, h125km±136km, mb3.3/5, mbtmp3.6/8, ML2.7/2, Error ellipse: s-maj=82.9km s-min=65.5km az=108.0*

ISC 20 02:37:53.5±1.5, 36°.8N±0°.1×71°.1E±0°.1, h100km, n11, σ1s43/13, mb3.5/4, 1C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KK31	**Karatay Array**	**6.34**	**356**	⇑P		**Pn**	**02 39 25.1**	**+0.7**
	1.2nm,0.2s,baz=175,slow=12,SNR=57							
KK31				⇓S		**Sn**	**02 40 36.0**	**+0.7**
	1.3nm,0.3s,baz=180,slow=13,SNR=3.5							
MKAR	**Makanchi Array**	**13.00**	**36**	P		**Pn**	**02 40 53.9**	**-0.3**
	baz=221,slow=15,SNR=2.3							
	0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**14.83**	**19**	P		**P**	**02 41 20.3**	**-0.8**
	baz=209,slow=9.6,SNR=4.1							
	0.3nm,0.4s							
AB31	**Akbulak array**	**14.90**	**330**	P		**Pn**	**02 41 17.4**	**-1.4**
	0.4nm,0.3s,baz=151,slow=11,SNR=15							
AB31				S		**Sn**	**02 44 01.7**	**-1.4**
	0.5nm,0.3s,baz=157,slow=23,SNR=2.8							
ZALV	**Zalesovo Beam**	**19.62**	**25**	P		**P**	**02 42 13.4**	**-0.3**
	2.0nm,0.4s,baz=213,slow=10.0,SNR=0.9							
AKASG	**Malin Array Be**	**32.87**	**308**	P		**P**	**02 44 19.0**	**+1.4**
	0.1nm,0.3s,baz=82,slow=6.9,SNR=2.2							
	0.1nm,0.3s							
FINES	**FINESS Array B**	**37.32**	**326**	P		**P**	**02 44 58.1**	**+2.4**
	1.0nm,0.8s,baz=111,slow=9.1,SNR=1.6							
	1.0nm,0.8s							
HFS	**Hagfors**	**42.92**	**322**	P		**P**	**02 45 43.0**	**+1.1**
	0.9nm,0.9s,baz=116,slow=10,SNR=5.2							
	0.9nm,0.9s							
NB2	**NORSAR Subarra**	**44.23**	**323**	P		**P**	**02 45 54.2**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=100,slow=7.9							
NOA	**NORSAR Array B**	**44.23**	**323**	P		**P**	**02 45 53.1**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=96,slow=8.1,SNR=4.1							
	comp=Z,0.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**65.84**	**269**	P		**P**	**02 48 27.0**	**-1.6**
	comp=Z,2.8nm,0.6s,baz=43,slow=4.0,SNR=1.3							
	comp=Z,2.8nm,0.6s							

*NEIC **20** 02:38:42.7±1.5, 35°.885N±0°.009×117°.65W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.8km az=267.0, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr-1.60; Mθθ-2.99; Mϕϕ4.59; Mrθ-1.82; Mθϕ0.60; Mϕr0.59; Fault plane solution: Mo4.51000×10^14 NP1:φs145.16000°,δ69.67000°,λ-150.93000°. Principal axes: T 4.6750, Plg4.0000°, Azm273.0000°; N -0.3557, Plg55.0000°, Azm177.0000°; P -4.3194, Plg35.0000°, Azm6.0000°;*

*PAS **20** 02:38:43.4±1.1, 35°.882N±0°.008×117°.69W±0°.01, h4km±3km, Mwr3.7/6, ML3.7/157(NEIC), Mwr3.7/89(NEIC) Error ellipse: s-maj=1.8km s-min=1.2km az=77.0*

*NEIC **20** 02:38:43.3, 35°.88N×117°.69W, h4km*

*IDC **20** 02:38:43.6±0.8, 35°.89N×117°.60W, h0km, mbtmp3.1/5, ML3.4/5, Error ellipse: s-maj=16.3km s-min=5.6km az=75.0*

ISC 20 02:38:43.5±0.8, 35°.88N±0°.02×117°.68W±0°.02, h10km±5km, n95, σ0s89/100, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CLC	**China Lake**	**0.09**	**136**			**Pg**	**02 38 45.5**	**-0.7**
CLC					IAML		02 38 47.5	
	comp=N,25μm,0.8s							
CLC					IAML		02 38 47.5	
	comp=E,41μm,0.7s							
TOW	**Tower One**	**0.10**	**224**			**Pg**	**02 38 45.9**	**-0.3**
TOW						**Sg**	**02 38 48.5**	**+0.3**
WVPM	**Volcano Peak E**	**0.13**	**301**			**Pg**	**02 38 46.1**	**-0.6**
WVPM						**Sg**	**02 38 48.2**	**-0.8**
JRC2	**Joshua Ridge**	**0.15**	**313**			**Pg**	**02 38 46.4**	**-0.6**
JRC2						**Sg**	**02 38 48.7**	**-0.7**
WCSM	**Coso Springs S**	**0.16**	**333**			**Pg**	**02 38 46.5**	**-0.6**
WCSM						**Sg**	**02 38 49.0**	**-0.8**
SRTC	**Snort**	**0.20**	**197**			**Pg**	**02 38 47.7**	**0.0**
SRTC						**Sg**	**02 38 51.1**	**+0.5**
WRVM	**Rose V. Centra**	**0.21**	**306**			**Pg**	**02 38 47.5**	**-0.5**
WRVM						**Sg**	**02 38 50.6**	**-0.5**
MPMC	**Manual Prospec**	**0.23**	**41**			**Pg**	**02 38 48.2**	**-0.3**
GPO	**China Lake**	**0.23**	**177**			**Pg**	**02 38 48.0**	**-0.3**
GPO						**Sg**	**02 38 51.9**	**+0.2**
MFS	**McCloud Flat S**	**0.27**	**329**			**Pg**	**02 38 48.7**	**-0.4**
MFS						**Sg**	**02 38 52.7**	**-0.2**
WSHM	**Spangler Hills**	**0.32**	**152**			**Pg**	**02 38 49.6**	**-0.4**
WSHM	**Spangler Hills**	**0.32**	**152**			**Sg**	**02 38 54.7**	**+0.4**
LRMC	**Laurel Mtn Rad**	**0.40**	**180**			**Pg**	**02 38 51.1**	**-0.4**
LRMC						**Sg**	**02 38 56.8**	**0.0**
LRMC					IAML		02 38 57.9	
	comp=N,10μm,0.4s							
LRMC					IAML		02 38 57.9	
	comp=E,13μm,0.4s							
CCCA	**Chr Cany lake**	**0.44**	**144**			**Pg**	**02 38 52.3**	**+0.1**
CCCA	**Chr Cany lake**	**0.44**	**144**			**Sb**	**02 38 58.9**	**-1.1**
CCCA	**Chr Cany lake**	**0.44**	**144**		IAML		02 38 59.8	
	comp=E,18μm,0.7s							
CCCA					IAML		02 38 60.0	
	comp=N,15μm,0.6s							
WORM	**Onyx Ranch**	**0.50**	**248**			**Pg**	**02 38 52.5**	**-0.6**
WORM						**Sg**	**02 38 59.1**	**-0.7**
WBSM	**Bird Springs**	**0.51**	**228**			**Sg**	**02 38 60.0**	**-0.3**
WHFM	**Hanning Flat**	**0.58**	**251**			**Pg**	**02 38 54.1**	**-0.6**
WHFM						**Sg**	**02 39 01.9**	**-0.4**
DTP	**Desert Tortois**	**0.63**	**193**			**Pg**	**02 38 55.0**	**-0.7**
DTP						**Sg**	**02 39 03.6**	**-0.4**
CWC	**Cottonwood Cre**	**0.64**	**330**			**Pg**	**02 38 55.7**	**-0.3**
CWC	**Cottonwood Cre**	**0.64**	**330**			**Sg**	**02 39 04.5**	**-0.1**
CWC	**Cottonwood Cre**	**0.64**	**330**		IAML		02 39 04.8	
	comp=E,3μm,0.3s							
CWC					IAML		02 39 07.9	
	comp=N,3μm,0.2s							
QSM	**Queen of Sheba**	**0.66**	**83**			**Pg**	**02 38 55.9**	**-0.5**
QSM	**Queen of Sheba**	**0.66**	**83**			**Sb**	**02 39 05.2**	**-1.2**
QSM	**Queen of Sheba**	**0.66**	**83**		IAML		02 39 09.5	
	comp=E,6μm,0.7s							
QSM					IAML		02 39 10.2	
	comp=N,5μm,0.5s							
ISA	**Isabella, Lake**	**0.68**	**251**			**Pg**	**02 38 56.1**	**-0.7**
ISA					IAML		02 39 05.4	
	comp=N,5μm,0.4s							
ISA					IAML		02 39 06.3	
	comp=E,3μm,0.3s							
WASM	**Alta Sierra Ca**	**0.73**	**259**			**Pg**	**02 38 57.0**	**-0.6**
WASM						**Sg**	**02 39 06.7**	**-0.5**
CCAC	**Calif City Air**	**0.78**	**201**			**Pg**	**02 38 57.9**	**-0.7**
CCAC						**Sg**	**02 39 08.7**	**-0.1**
GWY	**Greenwater Val**	**0.87**	**69**			**Pg**	**02 38 60.0**	**-0.4**
GWY						**Sb**	**02 39 11.8**	**-0.8**
GWY					IAML		02 39 14.7	
	comp=E,3μm,0.7s							
GWY					IAML		02 39 15.1	
	comp=N,3μm,0.5s							
FURC	**Furnace Creek,**	**0.88**	**48**			**Pb**	**02 39 00.6**	**-0.3**
FURC						**Sb**	**02 39 12.6**	**0.0**
GSC	**Goldstone, Bar**	**0.92**	**129**			**Pg**	**02 39 00.4**	**-0.8**
GSC	**Goldstone, Bar**	**0.92**	**129**			**Sg**	**02 39 13.0**	**-0.1**
GSC	**Goldstone, Bar**	**0.92**	**129**		IAML		02 39 16.4	
	comp=E,3μm,0.6s							
GSC					IAML		02 39 16.6	
	comp=N,2μm,0.9s							

SPG2	**Springville 2**	**0.94**	**290**			Pn	02 39 12.4 +10
HYS	**Haystack Butte**	**1.02**	**175**			**Pg**	**02 39 02.2 -1.0**
HYS						**Sg**	**02 39 16.0 -0.5**
EDW2	**Edwards Air Fo**	**1.03**	**195**			**Pg**	**02 39 02.2 -1.2**
EDW2						**Sg**	**02 39 15.7 -1.1**
TEJ	**El Tejon**	**1.05**	**232**			**Sg**	**02 39 16.1 -1.3**
TPO	**Tropico Hills**	**1.10**	**204**			**Pg**	**02 39 03.5 -1.1**
TPO	**Tropico Hills**	**1.10**	**204**			**Sg**	**02 39 18.5 -0.4**
TPO	**Tropico Hills**	**1.10**	**204**		IAML		02 39 21.4
	comp=N,3μm,0.8s						
TPO					IAML		02 39 24.5
	comp=E,3μm,0.7s						
GRAC	**Grapevine Rang**	**1.14**	**13**			**Pg**	**02 39 04.7 -0.7**
GRAC					IAML		02 39 26.3
	comp=E,2μm,0.5s						
GRAC					IAML		02 39 28.9
	comp=N,2μm,0.8s						
MAGC	**SCE Magundon P**	**1.14**	**243**			**Pg**	**02 39 04.5 -0.9**
MAGC						**Sg**	**02 39 19.4 -0.8**
VES	**Vestal, Richgr**	**1.14**	**268**			**Pg**	**02 39 04.6 -0.9**
VES						**Sg**	**02 39 20.2 -0.1**
WCT	**Wildcat Mounta**	**1.24**	**43**			**Pg**	**02 39 06.6 -0.8**
WCT					IAML		02 39 26.0
	comp=N,1μm,0.7s						
WCT					IAML		02 39 27.9
	comp=E,1μm,0.7s						
AMDNV	**Amargosa**	**1.27**	**63**			**Pg**	**02 39 06.5 -1.4**
GMN	**Gold Mountain**	**1.45**	**13**			**Pn**	**02 39 10.1 0.0**
GMN					IAML		02 39 33.0
	comp=N,724nm,0.5s						
GMN					IAML		02 39 35.4
	comp=E,607nm,0.7s						
DSP	**Deep Springs**	**1.50**	**351**			**Pn**	**02 39 10.6 +0.1**
DSP					IAML		02 39 32.8
	comp=E,822nm,0.6s						
OSI	**Osito Audit: C**	**1.53**	**214**			**Pb**	**02 39 12.6 +0.6**
OSI					IAML		02 39 38.1
	comp=N,863nm,0.8s						
OSI					IAML		02 39 42.1
	comp=E,1μm,0.7s						
TPNV	**Topopah Spring**	**1.57**	**47**			**Pn**	**02 39 11.4 -0.1**
TPNV					IAML		02 39 39.7
	comp=E,1μm,0.6s						
TPNV					IAML		02 39 40.4
	comp=E,1μm,0.6s						
BFSC	**Mount Baldy Ra**	**1.64**	**179**		IAML		02 39 36.0
	comp=N,602nm,0.2s						
BFSC					IAML		02 39 36.7
	comp=E,822nm,0.5s						
MWC	**Mount Wilson**	**1.68**	**191**			**Pn**	**02 39 14.1 +0.9**
PASC	**Pasadena Art C**	**1.76**	**194**		IAML		02 39 48.9
	comp=E,607nm,0.9s						
MTPC	**Mountain Pass**	**1.77**	**102**			**Pn**	**02 39 13.7 -0.7**
MTPC					IAML		02 39 42.3
	comp=E,730nm,0.6s						
MTPC					IAML		02 39 42.7
	comp=N,833nm,0.6s						
SHPR	**Sheep Range**	**2.13**	**72**			**Pn**	**02 39 19.7 +0.4**
TPH	**Tonopah**	**2.22**	**9**			**Pn**	**02 39 20.8 +0.3**
ELS	**Elsinore Mount**	**2.24**	**175**			**Pn**	**02 39 20.9 +0.2**
ELS					IAML		02 39 57.7
	comp=E,314nm,0.5s						
POB	**Polly Butte**	**2.28**	**164**			**Pn**	**02 39 21.3 +0.1**
S11A	**Rachel**	**2.34**	**41**			**Pn**	**02 39 21.9 -0.3**
LHV	**Little Huntoon**	**2.46**	**345**			**Pn**	**02 39 24.6 +1.0**
LHV					IAML		02 40 16.5
	comp=N,243nm,0.9s						
PMD	**Palm Desert**	**2.47**	**154**			**Pn**	**02 39 23.1 -0.7**
PMD					IAML		02 40 06.4
	comp=E,229nm,1.3s						
PFO	**Pinyon Flats O**	**2.48**	**156**			**Pn**	**02 39 23.5 -0.5**
PFO					IAML		02 40 07.1
	comp=E,204nm,1.3s						
PFO	**Pinyon Flats O**	**2.48**	**156**	Pn		**Pn**	**02 39 23.5 -0.5**
	comp=E,1.9nm,0.3s,baz=340,slow=14,SNR=18						
PFO				Pg		**Pb**	**02 39 29.5 +1.3**
	comp=E,14nm,0.3s,baz=336,slow=15,SNR=32						
PFO				Lg	Lg		02 40 01.6
	comp=E,44nm,0.3s,baz=238,slow=16,SNR=13						
	comp=E,5.3nm,0.2s						
PMPB	**Monarch Peak**	**2.55**	**278**			**Pn**	**02 39 25.8 +0.8**
NV11	**Mina Array Sit**	**2.57**	**352**			**Pn**	**02 39 26.1 +0.8**
NVAR	**Mina Array Bea**	**2.59**	**349**			**Pn**	**02 39 26.1 +0.4**
NVAR	**Mina Array Bea**	**2.59**	**349**	Pn		**Pn**	**02 39 26.8 +1.1**
	comp=E,3.6nm,0.3s,baz=172,slow=12,SNR=42						
NVAR				Pg		**Pb**	**02 39 31.6 +1.5**
	comp=E,50nm,0.3s,baz=178,slow=16,SNR=43						
NVAR				Lg	Lg		02 40 05.3
	comp=E,14nm,0.3s,baz=173,slow=28,SNR=4.5						
	comp=E,9.4nm,0.5s						
PRN	**Pahroc Range**	**2.60**	**53**			**Pn**	**02 39 25.8 0.0**
PRN					IAML		02 40 17.8
	comp=N,522nm,0.9s						
PRN					IAML		02 40 18.3
	comp=E,551nm,0.8s						
MYLM	**Yosemite Lake**	**2.67**	**305**			**Pb**	**02 39 30.4 -0.9**
NEE2	**Needles Airpor**	**2.74**	**113**			**Pn**	**02 39 26.5 -1.0**
NEE2					IAML		02 40 12.9
	comp=E,491nm,0.7s						
NEE2					IAML		02 40 19.4
	comp=N,485nm,0.8s						
BBGB	**Big Mountain B**	**2.81**	**285**			**Pn**	**02 39 30.6 +2.1**
RYN	**Ryan**	**2.82**	**346**			**Pn**	**02 39 29.6 +0.8**
WAKR	**Walker**	**2.94**	**349**		IAML		02 40 33.4
	comp=N,133nm,0.7s						
Q09A	**Carvers**	**2.97**	**7**			**Pn**	**02 39 31.9 +1.0**
Q09A					IAML		02 40 25.1
	comp=E,381nm,0.7s						
R11B	**Troy Canyon, C**	**2.98**	**34**			**Pn**	**02 39 32.4 +1.5**
R11B					IAML		02 40 19.3
	comp=E,164nm,1.3s						
CMB	**Columbia Colle**	**3.05**	**316**			**Pn**	**02 39 31.1 -0.8**
CMB					IAML		02 40 20.1
	comp=E,152nm,0.8s						
CMB					IAML		02 40 27.2
	comp=N,176nm,0.5s						
BLYC	**Blythe**	**3.35**	**128**		IAML		02 40 32.2
	comp=N,166nm,1.0s						
BLYC					IAML		02 40 34.6
	comp=E,143nm,1.1s						
YUH	**Yuha Desert**	**3.54**	**155**			**Pn**	**02 39 39.5 +1.0**
GLA	**Glamis**	**3.68**	**139**		IAML		02 40 50.3
	comp=N,169nm,0.7s						
CCUT	**Cedar City**	**3.85**	**63**			**Pn**	**02 39 43.5 +0.6**
KNB	**Kanab**	**4.08**	**72**		IAML		02 40 59.8
	comp=E,65nm,0.9s						
KNB					IAML		02 41 05.1
	comp=N,61nm,1.1s						
CCX	**Cicese**	**4.09**	**168**		IAML		02 40 55.4
	comp=N,67nm,0.6s						
CCX					IAML		02 40 55.6
	comp=E,98nm,0.7s						
SPR3	**Spring Creek 3**	**4.09**	**40**		IAML		02 40 57.6
	comp=N,65nm,1.2s						
SPR3					IAML		02 40 58.1
	comp=E,112nm,1.1s						
ESJX	**Sierra Juarez**	**4.13**	**159**			**Pn**	**02 39 46.5 -0.2**
ESJX					IAML		02 40 54.1
	comp=E,74nm,1.2s						
Y14A	**Wickenburg**	**4.30**	**115**		IAML		02 41 07.5
	comp=N,105nm,0.8s						
Y14A					IAML		02 41 10.6
	comp=E,60nm,0.8s						
U15A	**North Rim**	**4.39**	**81**		IAML		02 41 00.5
	comp=E,57nm,0.9s						
U15A					IAML		02 41 07.8
	comp=N,58nm,0.7s						
113A	**Mohawk Valley,**	**4.49**	**133**			**Pn**	**02 39 50.4 -1.1**
WUAZ	**Wupatki**	**5.14**	**92**		IAML		02 41 30.5
	comp=N,65nm,1.3s						
ELK	**Elko**	**5.22**	**21**	Pn		**Pn**	**02 40 03.2 +1.4**
	comp=N,0.8nm,0.3s,baz=184,slow=15,SNR=14						
ELK				Pg		**Pg**	**02 40 21.0 -2.5**
	comp=N,4.6nm,0.3s,baz=221,slow=15,SNR=21						
ELK				Lg	Lg		02 41 27.1
	comp=N,2.9nm,0.3s,baz=144,slow=8.8,SNR=10						
	comp=N,2.3nm,0.3s						
YBH	**Yreka Blue Hor**	**7.04**	**328**	Pg		**Pb**	**02 40 45.6 -0.3**
	baz=169,slow=15,SNR=1.7						
YBH				Lg	Lg		02 42 25.0
	baz=184,slow=12,SNR=3.3						
PV16	**Nyswonger Mesa**	**7.41**	**68**			**Pn**	**02 40 31.2 -0.7**
PV21	**Cone Mtn., Par**	**7.44**	**66**			**Pn**	**02 40 32.0 -0.3**
ANMO	**Albuquerque**	**9.21**	**93**	Pg		Pn	02 41 31.2 +35
	comp=N,0.1nm,0.3s,baz=16,slow=13,SNR=6.0						
ANMO				Lg	Lg		02 43 31.2
	comp=N,0.1nm,0.3s,baz=263,slow=18,SNR=3.8						
PDAR	**Pinedale Array**	**9.31**	**40**	Pn		**Pn**	**02 41 01.8 +3.8**
	comp=N,0.1nm,0.3s,baz=213,slow=11,SNR=3.5						
PDAR				Lg	Lg		02 43 35.6
	comp=N,0.1nm,0.3s,baz=216,slow=30,SNR=6.6						
	comp=N,0.3nm,0.5s						
TXAR	**Lajitas Array**	**13.49**	**115**	Pn		**Pn**	**02 41 56.8 +1.7**
	baz=300,slow=15,SNR=2.4						
	comp=N,0.1nm,0.4s						

*ISK **20** 02:58:36.6, 37°.33N×29°.84E, h8km, ML3.1/28*

*AFAD **20** 02:58:37.1, 37°.31N×29°.85E, h7km±2km, ML3.2*

*GII **20** 02:58:37.3±0.0, 37°.37N±0°.05×29°.70E±0°.02, h12km, Mws3.3, confirmed*

*IDC **20** 02:58:38.0±1.2, 37°.41N×30°.04E, h0km, mb4.0/2, mbtmp3.8/7, ML2.9/4, Error ellipse: s-maj=21.3km s-min=16.9km az=144.0*

ISC 20 02:58:37.6±1.1, 37°.33N±0°.02×29°.84E±0°.02, h1km±9km, n69, σ0s97/87, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GOLH	**Golhisar**	**0.24**	**247**	P		**Pg**	**02 58 42.3**	**+0.2**
GOLH				S		**Sg**	**02 58 46.6**	**+1.3**
GOLH				*i*	IAML		02 58 48.0	
	comp=E,5μm,0.6s							
GOLH				*i*	IAML		02 58 50.0	
	comp=N,3μm,0.4s							
BRDR	**BURDUR-Merkez**	**0.41**	**26**	P		**Pg**	**02 58 45.0**	**-0.4**
BRDR				S		**Sg**	**02 58 51.7**	**+1.0**
INCE	**Denizli-Bozkur**	**0.43**	**331**	P		**Pg**	**02 58 46.1**	**+0.2**
INCE				S		**Sg**	**02 58 53.3**	**+1.7**
APMY	**Acipayam-Deniz**	**0.45**	**289**	Pg		**Pg**	**02 58 45.9**	**-0.3**
APMY				Sg		**Sg**	**02 58 53.1**	**+1.0**
CAEL	**Denizli, Camel**	**0.46**	**244**	P		**Pg**	**02 58 46.2**	**-0.3**
CAEL				S		**Sg**	**02 58 53.7**	**+1.2**
CAEL				*i*	IAML		02 58 57.0	
	comp=N,2μm,0.5s							
CAEL				*i*	IAML		02 58 59.0	
	comp=E,2μm,0.5s							
KORT	**Korkueli**	**0.53**	**128**	Pg		**Pg**	**02 58 47.1**	**-0.6**
KNIK	**Mula-Seydike**	**0.53**	**204**	P		**Pg**	**02 58 47.5**	**-0.2**
KNIK				S		**Sg**	**02 58 55.7**	**+1.2**
CAME	**Cameli-Denizli**	**0.57**	**228**	Pg		**Pg**	**02 58 47.7**	**-0.9**
CAME				Sg		**Sg**	**02 58 56.9**	**+0.8**
ELL	**Elmali**	**0.58**	**174**	Pg		**Pg**	**02 58 47.6**	**-1.2**
ELL				Sg		**Sg**	**02 58 57.0**	**+0.7**
BASM	**Basmaki-Afyon**	**0.61**	**16**	Pg		**Pg**	**02 58 48.9**	**-0.5**
BCK	**Bucak**	**0.61**	**77**	Pg		**Pg**	**02 58 48.5**	**-0.9**
BCK				Sg		**Sg**	**02 58 58.3**	**+1.0**
DNZT	**Denizli-Tavas-**	**0.65**	**266**	P		**Pg**	**02 58 49.5**	**-0.6**
DNZT				S		**Sg**	**02 58 59.5**	**+1.0**
DNIZ	**Denizli-Tavas-**	**0.70**	**295**	P		**Pg**	**02 58 50.8**	**-0.3**
DNIZ				S		**Sb**	**02 59 02.5**	**-0.5**
DNIZ				*i*	IAML		02 59 03.0	
	comp=N,1μm,0.5s							
DNIZ				*i*	IAML		02 59 05.0	
	comp=E,1μm,0.4s							
ISP	**Isparta**	**0.73**	**48**	Pg		**Pg**	**02 58 50.9**	**-0.8**
ISP				Sg		**Sg**	**02 59 01.9**	**+0.7**
ISP	**Isparta**	**0.73**	**48**	P		**Pg**	**02 58 51.9**	**+0.2**
ISP				S		**Sb**	**02 59 03.7**	**-0.3**
TAVA	**DENIZLI_Tavas**	**0.75**	**281**	P		**Pg**	**02 58 51.2**	**-0.7**
TAVA				S		**Sb**	**02 59 03.3**	**-0.9**
ANTB	**Antalya**	**0.78**	**123**	Pg		**Pg**	**02 58 52.5**	**-0.1**
FETY	**Fethiye**	**0.92**	**221**	Pg		**Pg**	**02 58 54.3**	**-0.9**
KEMT	**Kemer-ANTALYA**	**0.93**	**141**	Pg		**Pg**	**02 58 54.7**	**-0.6**
DALY	**Dalyan (Mula)**	**1.07**	**242**	Pg		**Pg**	**02 58 56.9**	**-1.3**
DEMR	**Demre-Antalya**	**1.09**	**177**	Pn		**Pb**	**02 58 58.1**	**-1.2**
AKAS	**Kas**	**1.11**	**190**	Pn		**Pg**	**02 58 58.4**	**-0.5**
SHUT	**Suhut-Afyon**	**1.35**	**25**	Pn		**Pn**	**02 59 02.2**	**-1.5**
NAZL	**Nazilli-Aydin**	**1.38**	**298**	Pn		**Pn**	**02 59 02.7**	**-1.4**
TURN	**Turunc**	**1.39**	**247**	Pn		**Pn**	**02 59 02.8**	**-1.3**
SDAG	**Sultandagi-AFY**	**1.40**	**37**	Pn		**Pn**	**02 59 02.9**	**-1.5**
SEYD	**Seydisehir-KON**	**1.60**	**87**	Pn		**Pn**	**02 59 05.9**	**-1.2**
MLSB	**Milas**	**1.64**	**269**	Pn		**Pn**	**02 59 06.6**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**1.66**	**292**	Pn		**Pn**	**02 59 06.8**	**-1.3**
ODEM	**Odemis-Izmir**	**1.69**	**305**	Pn		**Pn**	**02 59 06.7**	**-1.6**
GEDZ	**Gediz**	**1.75**	**349**	Pn		**Pn**	**02 59 08.1**	**-1.1**
SHAP	**Saphane-Kutahy**	**1.76**	**344**	Pn		**Pn**	**02 59 08.3**	**-1.1**
ARG	**Arkhangelos**	**1.77**	**232**	Pn		**Pn**	**02 59 08.4**	**-0.9**
BLVD	**Bolvadin-AFYON**	**1.77**	**34**	Pn		**Pn**	**02 59 08.5**	**-1.0**
SIMA	**Simav-Kutahya**	**1.88**	**339**	Pn		**Pn**	**02 59 09.2**	**-1.8**
DAT	**Datca**	**1.90**	**252**	Pn		**Pn**	**02 59 10.6**	**-0.7**
BODT	**Bodrum**	**2.04**	**263**	Pn		**Pn**	**02 59 12.1**	**-1.0**
GCAM	**G?zelcaml?**	**2.10**	**281**	Pn		**Pn**	**02 59 13.2**	**-0.8**
TVSB	**Tavsanli**	**2.14**	**352**	Pn		**Pn**	**02 59 13.8**	**-0.8**
BLCB	**Balcova**	**2.45**	**296**	Pn		**Pn**	**02 59 17.9**	**-0.9**
BRTR	**Keskin Array B**	**3.82**	**50**	Pn		**Pn**	**02 59 37.4**	**-0.4**
	0.3nm,0.3s,baz=227,slow=16,SNR=9.0							
BRTR						**Sn**	**03 00 22.1**	**-1.3**
	0.3nm,0.3s,baz=220,slow=26,SNR=5.5							
IDI	**Anoyia**	**4.48**	**244**	Pn		**Pn**	**02 59 48.2**	**+1.4**
	4.5nm,0.5s,baz=53,slow=17,SNR=11	

0.4nm,0.4s
KURBB **Kurchatov Arra** 71.34 329 P P 03 17 52.0 +0.1
0.3nm,0.5s,baz=133,slow=4.7,SNR=5.0
0.3nm,0.5s

CATAC ***20*** *03:15:05.1±0.6, 13°N±4°×9°2W±°, h1km, M3.6/13, MLv3.6/13, Error ellipse: s-maj=9.3km s-min=6.4km az=32.8, confirmed*
GCG ***20*** *03:15:10.1±1.9, 13°30N×91°39W, h32km±16km, MD4.1, MW3.1*
ISC 20 03:15:11.6±2.5, **13°3N**±0°1×**91°31W**±0°09, **h28**km, **n31**, σ1§52/32, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**1.13**	**358**	*i* P	**Pb**	**03 15 33.3**	**+0.7**
STG2	**El Palmar, Qui**	**1.14**	**357**	*e*P	**Pb**	**03 15 33.8**	**+1.0**
STG8	**El Palmar, Qui**	**1.15**	**358**	*i* P	**Pb**	**03 15 34.2**	**+1.1**
ESSG	**Sabana Grande**	**1.18**	**23**	*i* P	**Pn**	**03 15 30.5**	**-1.8**
FG16	**Alotenango, Sa**	**1.25**	**38**	*i* P	**Pn**	**03 15 31.7**	**-1.6**
FAME	**Alcaldia de Sa**	**1.37**	**66**	P	**Pn**	**03 15 32.4**	**-2.5**
FAME	**Alcaldia de Sa**	**1.37**	**66**	S	**Sb**	**03 15 55.2**	**+1.4**
SOKI	**Kika Raxquin**	**1.52**	**357**	*i* P	**Pn**	**03 15 35.8**	**-1.5**
NUBE	**Las Nubes**	**1.60**	**68**	*e*P	**Pn**	**03 15 36.7**	**-1.6**
NUBE	**Las Nubes**	**1.60**	**68**	P	**Pn**	**03 15 36.5**	**-1.7**
NUBE	**Las Nubes**	**1.60**	**68**	S	**Sb**	**03 16 05.4**	**+4.8**
SLOZ	**Alcaldia de Sa**	**1.65**	**64**	P	**Pn**	**03 15 38.1**	**-0.7**
SLOZ	**Alcaldia de Sa**	**1.65**	**64**	S	**Sb**	**03 16 02.3**	**+0.5**
JAYA	**Jayaque - finc**	**1.84**	**79**	*e*P	**Pn**	**03 15 40.5**	**-1.1**
JAYA				*i* S	**Sn**	**03 16 04.1**	**+0.1**
JAYA	**Jayaque - finc**	**1.84**	**79**	P	**Pn**	**03 15 40.9**	**-0.7**
PMON	**Piamonte**	**1.98**	**78**	S	**Sb**	**03 16 11.3**	**-0.2**
PMON	**Piamonte**	**1.98**	**78**	P	**Pn**	**03 15 43.3**	**-0.1**
QUIS	**Sacapulas**	**2.00**	**6**	*i* P	**Pb**	**03 15 44.2**	**-3.2**
HUEH	**Huehuetenango**	**2.02**	**355**	P	**Pn**	**03 15 43.9**	**-0.2**
UEES	**Universidad Ev**	**2.06**	**78**	P	**Pn**	**03 15 44.0**	**-0.4**
LOMA	**Loma Larga**	**2.11**	**80**	P	**Pn**	**03 15 43.5**	**-1.7**
MTO3	**Montecristo**	**2.19**	**60**	*i* P	**Pn**	**03 15 46.1**	**-0.2**
MTO3	**Montecristo**	**2.19**	**60**	S	**Sb**	**03 16 18.2**	**+0.8**
MTO3	**Montecristo**	**2.19**	**60**	P	**Pn**	**03 15 45.8**	**-0.6**
PAVA	**Las Pavas**	**2.34**	**79**	P	**Pn**	**03 15 48.9**	**+0.5**
COEG	**Centro de Oper**	**2.38**	**82**	P	**Pn**	**03 15 49.0**	**0.0**
TECO	**Alcaldia de Te**	**2.47**	**84**	P	**Pn**	**03 15 49.2**	**-0.9**
SCLA	**Alcaldia de Sa**	**2.54**	**81**	P	**Pn**	**03 15 51.0**	**0.0**
SARH	**Santa Rosa de**	**2.88**	**59**	*i* P	**Pn**	**03 15 56.0**	**+0.3**
CCIG	**Comitan**	**3.08**	**345**	*e*P	**Pn**	**03 15 59.1**	**+0.6**
LCND	**La Caada**	**3.33**	**89**	P	**Pn**	**03 16 01.0**	**-0.8**

SSNC ***20*** *03:20:47.2±1.1, 20°14N×72°96W, h1km±4km, MD3.4, ML3.1, MW3.2*
OSPL ***20*** *03:20:48.5±1.8, 20°07N×73°02W, h8km±10km, ML3.3*
SDD ***20*** *03:20:49.1±2.4, 20°06N×72°98W, h27km±31km, MD3.5, ML3.4*
ISC 20 03:20:46.0±1.3, **20°16N**±0°05×**72°98W**±0°02, **h14**km±11km, **n36**, σ1§12/62, **13C-5D, Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**1.18**	**271**	*e*P	**Pg**	**03 21 08.6**	**-0.1**
MASC				*e*S	**Sg**	**03 21 24.0**	**-0.1**
MASC				IAML		03 21 26.9	
	comp=N,445nm,0.2s						
MASC				IAML		03 21 27.5	
	comp=E,240nm,0.1s						
MASC	**Masc**	**1.18**	**271**	⇑*e*Pg	**Pg**	**03 21 08.8**	**+0.1**
MASC				⇑*e*Sg	**Sn**	**03 21 25.6**	**+1.7**
MASC				IAML		03 21 26.0	
	comp=N,767nm,0.9s						
MASC	**Masc**	**1.18**	**271**	*i* P	**Pg**	**03 21 08.7**	**+0.1**
MASC				*e*S	**Sb**	**03 21 23.8**	**+0.5**
MASC				IAML		03 21 26.0	
	comp=Z,664nm,0.2s						
LODA1	**ITESIL, Dajabo**	**1.35**	**117**	⇑*e*Pg	**Pb**	**03 21 11.4**	**+0.4**
LODA1				⇓*e*Sg	**Sb**	**03 21 28.7**	**+0.6**
LODA1	**ITESIL, Dajabo**	**1.35**	**117**	*i* P	**Pb**	**03 21 11.2**	**+0.2**
LODA1				*e*S	**Sn**	**03 21 28.8**	**+0.7**
LODA1				IAML		03 21 30.4	
	comp=Z,2µm,0.5s						
LOPP1	**Punta Rusia, P**	**1.70**	**100**	*i* P	**Pb**	**03 21 16.5**	**-0.5**
LOPP1				*e*S	**Sb**	**03 21 38.0**	**-0.3**
LOPP1				IAML		03 21 49.1	
	comp=Z,331nm,1.0s						
QMBU	**Quimbuelo**	**1.72**	**272**	*e*P	**Pn**	**03 21 15.9**	**+0.3**
QMBU				*e*S	**Sn**	**03 21 37.3**	**-0.2**
QMBU				IAML		03 21 40.2	
	comp=N,932nm,0.3s						
QMBU				IAML		03 21 40.3	
	comp=E,765nm,0.2s						
QMBU	**Quimbuelo**	**1.72**	**272**	⇑*e*Pg	**Pb**	**03 21 17.2**	**-0.2**
QMBU				⇑*e*Sg	**Sb**	**03 21 39.4**	**+0.4**
QMBU				IAML		03 21 40.2	
	comp=N,940nm,0.3s						
PAPH	**Port-au-Prince**	**1.75**	**158**	*e*P	**Pn**	**03 21 16.2**	**+0.2**
PAPH				*e*S	**Sn**	**03 21 36.9**	**-1.2**
PAPH				IAML		03 21 39.2	
	comp=E,104nm,0.3s						
PAPH				IAML		03 21 39.2	
	comp=N,88nm,0.2s						
PAPH	**Port-au-Prince**	**1.75**	**158**	*i* P	**Pn**	**03 21 16.2**	**+0.2**
PAPH				*e*S	**Sn**	**03 21 36.7**	**-1.4**
REDR	**Restauracion**	**1.79**	**123**	⇓*e*Pg	**Pn**	**03 21 12.3**	**-4.2**
REDR				⇑*e*Sg	Sn	03 21 30.6	-8.4
REDR				IAML		03 21 33.7	
	comp=N,856nm,0.3s						
LUDR	**Luperon**	**1.92**	**98**	⇑*e*Pg	**Pb**	**03 21 21.1**	**+0.3**
LUDR				⇑*e*Sg	**Sb**	**03 21 44.1**	**-0.5**
NMDO	**Nuevo Mundo**	**1.92**	**282**	*e*P	**Pn**	**03 21 18.5**	**+0.2**
NMDO				*e*S	**Sn**	**03 21 41.5**	**-0.8**
NMDO				IAML		03 21 50.7	
	comp=E,196nm,0.2s						
NMDO				IAML		03 21 51.3	
	comp=N,210nm,0.3s						
MOAC	**Moa**	**1.93**	**285**	*e*P	**Pn**	**03 21 18.4**	**+0.1**
MOAC				*e*S	**Sn**	**03 21 43.2**	**+0.8**
MOAC				IAML		03 21 51.2	
	comp=E,120nm,0.2s						
MOAC				IAML		03 21 51.9	
	comp=N,192nm,0.2s						
JIDR	**Jimani**	**1.97**	**147**	⇓*e*Pg	**Pn**	**03 21 19.6**	**+0.6**
JIDR				⇑*e*Sg	**Sn**	**03 21 44.6**	**+1.0**
JIDR				IAML		03 21 45.0	
	comp=N,229nm,0.4s						
SDDR	**Presa de Saban**	**1.98**	**126**	*e*P	**Pn**	**03 21 19.5**	**+0.5**
SDDR				*e*S	**Sn**	**03 21 41.9**	**-1.9**
SDDR				IAML		03 21 48.0	
	comp=N,116nm,0.4s						
SDDR				IAML		03 21 48.6	
	comp=N,140nm,0.3s						
SDDR	**Presa de Saban**	**1.98**	**126**	⇑*e*Pg	**Pn**	**03 21 19.6**	**+0.5**
SDDR				⇓*e*Sg	**Sn**	**03 21 44.3**	**+0.5**
SDDR				IAML		03 21 52.4	
	comp=N,224nm,0.8s						
SDDR	**Presa de Saban**	**1.98**	**126**	*i* P	**Pn**	**03 21 19.7**	**+0.5**
SDDR				*e*S	**Sn**	**03 21 43.1**	**-0.7**
SDDR				IAML		03 21 49.7	
	comp=Z,201nm,0.8s						
GTBY	**Guantanamo Bay**	**2.02**	**264**	*e*P	**Pn**	**03 21 20.7**	**+1.0**
GTBY				*e*S	**Sn**	**03 21 44.4**	**-0.3**
GTBY				IAML		03 21 49.0	
	comp=Z,51nm,0.3s						
GTBY				IAML		03 21 49.1	
	comp=Z,64nm,0.3s						
GTBY	**Guantanamo Bay**	**2.02**	**264**	⇑*e*Pg	**Pn**	**03 21 21.3**	**+1.6**
GTBY				⇑*e*Sg	**Sn**	**03 21 45.3**	**+0.6**
GTBY				IAML		03 21 48.1	
	comp=N,136nm,0.7s						
GTBY	**Guantanamo Bay**	**2.02**	**264**	*i* P	**Pn**	**03 21 20.0**	**+0.4**
GTBY				*e*S	**Sn**	**03 21 44.8**	**+0.1**
GTBY				IAML		03 21 53.0	
	comp=Z,96nm,0.5s						
LONE3	**El Aguacate, B**	**2.11**	**137**	*i* P	**Pn**	**03 21 22.1**	**+1.1**
LONE3				IAML		03 21 53.1	
	comp=Z,125nm,0.8s						
GRTK	**Grand Turk**	**2.19**	**52**	*e*P	**Pn**	**03 21 22.6**	**+0.6**
GRTK	**Grand Turk**	**2.19**	**52**	*i* P	**Pb**	**03 21 23.5**	**-1.8**
SC01	**Santiago de lo**	**2.24**	**109**	⇓*e*Pg	**Pn**	**03 21 24.5**	**+1.8**
SC01				⇑*e*Sg	**Sn**	**03 21 51.3**	**+1.1**
SC01				IAML		03 21 59.0	
	comp=N,335nm,0.8s						
SC01	**Santiago de lo**	**2.24**	**109**	*i* P	**Pb**	**03 21 26.2**	**0.0**
SC01				*e*S	**Sn**	**03 21 51.5**	**+1.4**
SC01				IAML		03 22 05.3	
	comp=Z,164nm,0.5s						
LODU1	**El Espartillar**	**2.29**	**141**	*i* P	**Pn**	**03 21 24.2**	**+0.8**
LODU1				IAML		03 22 07.0	
	comp=Z,168nm,0.4s						
RCC	**Rio Carpintero**	**2.56**	**267**	*e*P	**Pn**	**03 21 27.4**	**+0.3**
RCC				*e*S	**Sn**	**03 21 57.6**	**-0.5**
RCC				IAML		03 22 02.1	
	comp=E,107nm,0.2s						
RCC				IAML		03 22 03.8	
	comp=N,56nm,0.2s						
LOBH	**Bahia de las A**	**2.62**	**151**	*i* P	**Pn**	**03 21 29.1**	**+1.3**
LOBH				IAML		03 22 11.1	
	comp=Z,83nm,3.1s						
PINC	**Pinares de May**	**2.66**	**277**	*e*P	**Pn**	**03 21 29.3**	**+0.9**
PINC				*e*S	**Sn**	**03 22 00.9**	**+0.4**
PINC				IAML		03 22 10.5	
	comp=N,126nm,0.1s						
PINC				IAML		03 22 10.8	
	comp=E,119nm,0.1s						
MARVS	**Santiago de Cu**	**2.75**	**267**	*e*P	**Pn**	**03 21 30.1**	**+0.4**
MARVS				*e*S	**Sn**	**03 22 02.3**	**-0.5**
MARVS				IAML		03 22 05.7	
	comp=E,57nm,0.1s						
MARVS				IAML		03 22 06.0	
	comp=N,44nm,0.3s						
LOVI	**El Cajuil, Ovi**	**2.80**	**147**	*i* P	**Pn**	**03 21 30.9**	**+0.5**
LOVI				IAML		03 22 26.1	
	comp=Z,141nm,0.7s						
YAR	**Yar**	**3.18**	**274**	*e*P	**Pn**	**03 21 36.1**	**+0.4**
CHIV	**Chivirico**	**3.24**	**267**	*e*P	**Pn**	**03 21 36.6**	**+0.3**
CHIV				IAML		03 22 19.2	
	comp=E,14nm,0.2s						
CHIV				IAML		03 22 19.8	
	comp=N,14nm,0.2s						
LMGC	**Las Mercedes**	**3.79**	**269**	*e*P	**Pn**	**03 21 44.3**	**+0.4**
MTDJ	**Mount Denham**	**4.72**	**247**	*i* P	**Pn**	**03 21 56.7**	**-0.2**
MTDJ				*e*S	**Sn**	**03 22 47.2**	**-4.2**

MDD ***20*** *03:24:56.2±0.3, 37°18N×7°43W, h10km, mb_Lg3.2/31, Error ellipse: s-maj=2.5km s-min=1.7km az=20.0*
CNRM ***20*** *03:24:56.2, 37°06N×7°45W, h29km, ML3.2*
SFS ***20*** *03:24:56.9, 37°14N×7°48W, h22km, ML3.5/18, ML3.4/24, MLv3.2/24*
INMG ***20*** *03:24:57.3±1.7, 37°16N×7°44W, h19km±2km, ML2.9, Error ellipse: s-maj=1.8km s-min=1.6km az=35.0, #DIST_RANGE: LOCAL #IPMA_REGION: SW V.R.Sto Antonio #FELT: II/III (MM56) at V.R.S. Antonio (Faro)*
IGIL ***20*** *03:24:57.2, 37°15N×7°46W, h18km, ML3.4*
ISC 20 03:24:56.0±0.9, **37°14N**±0°02×**7°45W**±0°02, **h26**km±8km, **n106**, σ2§11/189, **2C-9D, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAV	**Tavira**	**0.16**	**267**	*e*Sg	**Sb**	**03 25 05.4**	**+0.4**
PVAQ	**Vaqueiros**	**0.34**	**322**	Pg	**Pn**	**03 25 04.3**	**-1.0**
PVAQ	**Vaqueiros**	**0.34**	**322**	⇓*i*Pg	**Pn**	**03 25 04.2**	**-1.0**
PVAQ				*e*Sg	**Sb**	**03 25 09.0**	**0.0**
PVAQ				*i* IAML		03 25 09.5	
PVAQ				*i* IAML		03 25 09.6	
PVAQ				*i* IAML		03 25 10.2	
PVAQ	**Vaqueiros**	**0.34**	**322**	P	**Pn**	**03 25 04.3**	**-1.0**
PVAQ	**Vaqueiros**	**0.34**	**322**	S	**Sn**	**03 25 09.4**	**-1.9**
PFARO	**Faro**	**0.39**	**254**	*e*Pg	**Pn**	**03 25 05.2**	**-0.7**
PFARO				*e*Sg	**Sb**	**03 25 11.6**	**+1.4**
PFARO				*i* IAML		03 25 12.8	
PFARO				*i* IAML		03 25 13.7	
PFARO				*i* IAML		03 25 13.7	
PBDV	**Barranco-do-Ve**	**0.40**	**286**	⇑*i*Pg	**Pn**	**03 25 05.2**	**-0.8**
PBDV				*e*Sg	**Sb**	**03 25 10.7**	**+0.2**
PBDV				*i* IAML		03 25 11.4	
PBDV				*i* IAML		03 25 11.5	
PBDV				*i* IAML		03 25 12.0	
EGRO	**El Granado**	**0.40**	**357**	Pg	**Pn**	**03 25 05.3**	**-0.7**
EGRO				Sg	**Sn**	**03 25 10.7**	**-2.1**
EGRO				*i* IVmb_Lg		03 25 11.3	
ARNO	**Arenosillo**	**0.58**	**93**	Sg	**Sn**	**03 25 17.2**	**+0.1**
ARNO				Pg	**Pn**	**03 25 08.6**	**+0.1**
PCVE	**Castro Verde**	**0.68**	**317**	Sg	**Sn**	**03 25 18.6**	**-1.1**
PCVE				Pg	**Pn**	**03 25 09.5**	**-0.5**
PCVE	**Castro Verde**	**0.68**	**317**	*e*P	**Pn**	**03 25 09.5**	**-0.5**
PCVE				*e*S	**Sn**	**03 25 18.6**	**-1.1**
PCVE				*i* IAML		03 25 19.8	
PCVE				*i* IAML		03 25 20.0	
PCVE				*i* IAML		03 25 20.3	
PPOR	**Portimao**	**0.86**	**270**	*e*S	**Sn**	**03 25 24.5**	**+0.3**
PPOR				*i* IAML		03 25 24.9	
PPOR				*i* IAML		03 25 26.7	
EMIN	**Mina Concepcio**	**0.89**	**44**	Pg	**Pn**	**03 25 12.9**	**+0.2**
EMIN				Sg	**Sn**	**03 25 23.7**	**-1.1**
EMIN				*i* IVmb_Lg		03 25 25.0	
MESJ	**Messejana**	**0.93**	**319**	*e*P	**Pn**	**03 25 13.2**	**-0.1**
MESJ				*e*S	**Sn**	**03 25 25.1**	**-0.8**
MESJ				IAML		03 25 27.1	
	comp=N,507nm,0.2s						
MESJ	**Messejana**	**0.93**	**319**	⇓*e*P	**Pn**	**03 25 13.2**	**-0.1**
MESJ				*e*S	**Sn**	**03 25 25.1**	**-0.8**
MESJ				*i* IAML		03 25 26.2	
MESJ				*i* IAML		03 25 27.0	
MESJ				*i* IAML		03 25 27.1	
PBEJ	**Beja**	**0.95**	**340**	⇓*e*P	**Pn**	**03 25 13.4**	**-0.2**
PBEJ				*e*S	**Sn**	**03 25 26.1**	**-0.2**
PBEJ				*i* IAML		03 25 27.1	
PBEJ				*i* IAML		03 25 28.4	
PBEJ				*i* IAML		03 25 29.0	
MORF	**Marmelete**	**0.97**	**280**	*e*P	**Pb**	**03 25 14.4**	**+0.2**
MORF				*e*S	**Sb**	**03 25 26.6**	**-0.1**
MORF				IAML		03 25 29.4	
	comp=N,1µm,0.1s						
MORF	**Marmelete**	**0.97**	**280**	*e*P	**Pb**	**03 25 14.4**	**+0.2**
MORF				*e*S	**Sn**	**03 25 27.5**	**+0.6**
MORF				*i* IAML		03 25 29.4	
MORF				*i* IAML		03 25 29.4	
MORF				*i* IAML		03 25 29.4	
PLAGO	**Lagos**	**0.99**	**268**	*e*P	**Pb**	**03 25 14.8**	**+0.3**
PLAGO				*e*S	**Sn**	**03 25 27.5**	**+0.3**
PLAGO				*i* IAML		03 25 28.9	
PLAGO				*i* IAML		03 25 30.3	
PLAGO				*i* IAML		03 25 40.8	
PALJ	**Aljezur**	**1.09**	**280**	*e*S	**Sn**	**03 25 31.0**	**+1.3**
PBAR	**Barrancos**	**1.09**	**17**	Sn	**Sn**	**03 25 29.5**	**-0.2**
PBAR				Pn	**Pb**	**03 25 15.4**	**-0.8**
PBAR	**Barrancos**	**1.09**	**17**	⇓*e*P	**Pb**	**03 25 15.4**	**-0.8**
PBAR				*e*S	**Sn**	**03 25 30.1**	**+0.3**
PBAR				*i* IAML		03 25 30.4	
PBAR				*i* IAML		03 25 31.0	
PBAR				*i* IAML		03 25 32.4	
PTEO	**Sao Teotonio**	**1.09**	**292**	*e*P	**Pb**	**03 25 15.9**	**-0.3**
PTEO				*e*S	**Sn**	**03 25 30.8**	**+1.0**
PTEO				*i* IAML		03 25 32.1	
PTEO				*i* IAML		03 25 33.2	
PTEO				*i* IAML		03 25 33.5	
PFVI	**Vila Bisbo**	**1.10**	**270**	Sn	**Sn**	**03 25 30.1**	**+0.1**
PFVI				Pn	**Pn**	**03 25 15.3**	**-0.3**
PFVI	**Vila Bisbo**	**1.10**	**270**	*e*P	**Pn**	**03 25 15.3**	**-0.3**
PFVI				*e*S	**Sb**	**03 25 31.1**	**+0.8**
PFVI				*i* IAML		03 25 33.2	
PFVI				*i* IAML		03 25 34.0	
PFVI				*i* IAML		03 25 35.4	
PFVI	**Vila Bisbo**	**1.10**	**270**	P	**Pn**	**03 25 15.1**	**-0.5**
PFVI	**Vila Bisbo**	**1.10**	**270**	S	**Sb**	**03 25 31.0**	**+0.8**
PSVI	**Cabo S. Vicent**	**1.24**	**265**	*e*S	**Sb**	**03 25 35.3**	**+1.1**
ESPR	**Espera**	**1.31**	**101**	Sn	**Sb**	**03 25 35.6**	**-0.6**
ESPR				Pn	**Pb**	**03 25 19.2**	**-0.6**
ESPR	**Espera**	**1.31**	**101**	Pn	**Pb**	**03 25 19.1**	**-0.8**
ESPR				Pg	**Pn**	**03 25 21.1**	**+2.6**
ESPR				Sn	**Sb**	**03 25 37.2**	**+1.0**
ESPR				*i* IVmb_Lg		03 25 41.8	
PSINE	**Sines**	**1.39**	**307**	*e*S	**Sb**	**03 25 39.1**	**+0.5**
EVO	**Evora**	**1.46**	**343**	Pn	**Pb**	**03 25 20.7**	**-1.8**
EVO				Sn	**Sb**	**03 25 39.5**	**-1.2**
EVO	**Evora**	**1.46**	**343**	*e*Pn	**Pb**	**03 25 20.7**	**-1.8**
EVO				*i* IAML		03 25 43.4	
EVO				*i* IAML		03 25 44.1	
EVO				*i* IAML		03 25 48.2	
EBAD	**Badajoz**	**1.66**	**12**	Pn	**Pn**	**03 25 23.0**	**-0.4**
EBAD				Sn	**Sb**	**03 25 44.2**	**-2.1**
EBAD				*i* IVmb_Lg		03 25 48.8	
EJIF	**Jimena Fronter**	**1.73**	**113**	Pn	**Pn**	**03 25 24.9**	**+0.6**
EJIF				Sn	**Sb**	**03 25 46.2**	**-2.2**
PESTR	**Estremoz**	**1.73**	**356**	Pn	**Pn**	**03 25 24.1**	**-0.3**
PESTR				Sn	**Sb**	**03 25 46.0**	**-2.5**
PESTR	**Estremoz**	**1.73**	**356**	*e*Pn	**Pn**	**03 25 24.2**	**-0.2**
PESTR				*e*Pg	**Pb**	**03 25 28.1**	**+1.0**
PESTR				*i* IAML		03 25 51.3	
PESTR				*i* IAML		03 25 55.0	
PESTR				*i* IAML		03 25 57.6	
PESTR	**Estremoz**	**1.73**	**356**	P	**Pb**	**03 25 28.9**	**+1.8**
PESTR	**Estremoz**	**1.73**	**356**	S	**Sb**	**03 25 48.2**	**-0.3**
ECAB	**El Cabril**	**1.87**	**59**	Pn	**Pn**	**03 25 25.9**	**-0.4**
ECAB				Sn	**Sb**	**03 25 50.9**	**-1.6**
ECAB	**El Cabril**	**1.87**	**59**	Pn	**Pn**	**03 25 26.0**	**-0.3**
ECAB				Pg	**Pb**	**03 25 30.1**	**+0.7**
ECAB				Sn	**Sb**	**03 25 49.1**	**-3.3**
ECAB				*i* IVmb_Lg	**Sn**	**03 25 54.2**	**+5.1**
ECAB				Sg	**Sn**	**03 25 54.2**	**+5.1**
PACT	**Alcochete**	**1.96**	**327**	*e*Pn	**Pn**	**03 25 28.1**	**+0.6**
PACT				*e*Pg	**Pb**	**03 25 33.3**	**+2.3**
PACT				*e*Sg	**Sb**	**03 25 58.1**	**+3.1**
PACT				*i* IAML		03 26 02.7	
PACT				*i* IAML		03 26 04.3	
PACT				*i* IAML		03 26 07.3	
PMTG	**Montargil**	**2.02**	**343**	*e*Pn	**Pn**	**03 25 28.3**	**-0.1**
PMTG				*e*Pg	**Pb**	**03 25 32.6**	**+0.5**
PMTG				*e*Sn	**Sn**	**03 25 52.6**	**-0.2**
PMTG				*e*Sg	**Sb**	**03 25 59.0**	**+2.1**
PMTG				*i* IAML		03 26 03.6	
PMTG				*i* IAML		03 26 03.8	
PMTG				*i* IAML		03 26 03.9	
LIS	**Lisbon**	**2.07**	**320**	*e*Sg	**Sb**	**03 26 01.1**	**+2.8**
LIS				*i* IAML		03 26 07.0	
LIS				*i* IAML		03 26 07.5	
LIS				*i* IAML		03 26 07.6	
ECEU	**Ceuta**	**2.08**	**126**	Sn	**Sn**	**03 25 54.9**	**+0.7**
PARRA	**Arraiolos**	**2.10**	**324**	⇓*e*Pn	Pn	03 25 24.5	-4.9
PARRA				*e*Pg	**Pb**	**03 25 29.1**	**-4.2**
PARRA				*i* IAML		03 25 55.0	
PARRA				*i* IAML		03 25 55.7	
PARRA				*i* IAML		03 25 56.2	
SMIR	**Smir Dam**	**2.21**	**130**	P	**Pn**	**03 25 32.1**	**+1.1**
SMIR	**Smir Dam**	**2.21**	**130**	S	**Sn**	**03 25 57.0**	**-0.4**
EMIJ	**Mijas**	**2.22**	**104**	Pn	**Pn**	**03 25 31.6**	**+0.4**
EMIJ	**Mijas**	**2.22**	**104**	Pn	**Pn**	**03 25 31.6**	**+0.4**
EMIJ				Sn	**Sb**	**03 25 59.7**	**-2.9**
EMIJ				*i* IVmb_Lg		03 26 10.3	
PMRV	**Marv??o**	**2.29**	**1**	*e*Pn	**Pn**	**03 25 31.9**	**-0.1**
PMRV				*e*Pg	**Pb**	**03 25 39.7**	**+3.1**
PMRV				*e*Sg	**Sb**	**03 26 04.3**	**-0.2**
PMRV				*i* IAML		03 26 11.2	
PMRV				*i* IAML		03 26 11.3	
PMRV				*i* IAML		03 26 11.7	
PMAFR	**Mafra**	**2.32**	**322**	Pn	**Pn**	**03 25 33.0**	**+0.4**
PMAFR	**Mafra**	**2.32**	**322**	*e*Pn	**Pn**	**03 25 32.9**	**+0.4**
PMAFR				*e*Sg	**Sb**	**03 26 09.3**	**+3.9**
PMAFR				*i* IAML		03 26 11.1	
PMAFR				*i* IAML		03 26 12.8	
PMAFR				*i* IAML		03 26 13.7	
EMAL	**Malaga-Limoner**	**2.45**	**98**	Pn	**Pn**	**03 25 34.8**	**+0.6**
EMAL				Sn	**Sn**	**03 26 04.1**	**+0.8**
EADA	**Adamuz**	**2.50**	**65**	Pn	**Pn**	**03 25 35.1**	**+0.1**
EADA	**Adamuz**	**2.50**	**65**	Pn	**Pn**	**03 25 35.1**	**+0.1**
EADA				Sn	**Sn**	**03 26 03.5**	**-1.3**
EADA				Sg	**Sb**	**03 26 12.5**	**+1.8**
EADA				*i* IVmb_Lg		03 26 16.2	
PSARD	**Sardoal**	**2.52**	**347**	⇓*e*Pn	**Pn**	**03 25 35.3**	**0.0**
PSARD				*e*Sn	**Sn**	**03 26 04.9**	**-0.3**
PSARD				*e*Sg	**Sb**	**03 26 14.2**	**+3.0**
PSARD				*i* IAML		03 26 21.0	
PSARD				*i* IAML		03 26 22.3	
PSARD				*i* IAML		03 26 24.9	
CHEFC	**Chefchaouen**	**2.65**	**139**	P	**Pn**	**03 25 37.9**	**+0.8**
CHEFC	**Chefchaouen**	**2.65**	**139**	S	**Sn**	**03 26 09.2**	**+0.8**
EGOR	**Sierra Gorda,**	**2.67**	**90**	Pn	**Pn**	**03 25 37.9**	**+0.4**
EGOR				Sn	**Sn**	**03 26 10.0**	**+1.0**
EGOR	**Sierra Gorda,**	**2.67**	**90**	Pn	**Pn**	**03 25 37.9**	**+0.4**
EGOR				Sn	**Sn**	**03 26 09.7**	**+0.7**
EGOR				*i* IVmb_Lg		03 26 26.0	
PCBR	**Castelo Branco**	**2.70**	**360**	⇓*e*Pn	**Pn**	**03 25 37.6**	**0.0**
PCBR				*e*Sn	**Sn**	**03 26 09.0**	**-0.6**
PCBR				*e*Sg	**Sb**	**03 26 20.9**	**+4.6**
PCBR				*i* IAML		03 26 24.5	
PCBR				*i* IAML		03 26 29.0	
PCBR				*i* IAML		03 26 29.8	
PCAS	**Casmilo, Conde**	**3.03**	**345**	*e*Pn	**Pn**	**03 25 42.3**	**+0.1**
PCAS				*e*Sn	**Sn**	**03 26 17.1**	**-0.5**
PCAS				*e*Sg	**Sb**	**03 26 29.9**	**+4.2**
PCAS				*i* IAML		03 26 39.7	
PCAS				*i* IAML		03 26 41.4	
PCAS				*i* IAML		03 26 43.4	
ELGU	**Los Guajares,**	**3.08**	**94**	Pn	**Pn**	**03 25 44.7**	**+1.8**
ELGU	**Los Guajares,**	**3.08

PCAB				*e*Sn	**Sn**	**03 26 53.2**	**-2.9**
PCAB				*i* IAML		03 26 55.2	
PCAB				*i* IAML		03 27 29.2	
PCAB				*i* IAML		03 27 33.6	
PBRG	**Braganca**	**4.70**	**7**	*e*Pn	**Pn**	**03 26 04.8**	**-0.4**
PBRG				*e*Sn	**Sn**	**03 26 54.4**	**-4.4**
PBRG				*i* IAML		03 27 30.3	
PBRG				*i* IAML		03 27 34.2	
ELOB	**Lobios**	**4.75**	**355**	Pn	**Pn**	**03 26 05.6**	**-0.3**
ELOB				Sn	**Sn**	**03 26 57.0**	**-3.2**
ELOB				*i* IVmb_Lg		03 26 59.7	
MD31	**MD31**	**4.80**	**152**	P	**Pn**	**03 26 06.5**	**-0.1**
ECAL	**Calabor**	**4.83**	**6**	Pn	**Pn**	**03 26 06.7**	**-0.3**
ECAL				Sn	**Sn**	**03 26 58.2**	**-4.0**
ECAL	**Calabor**	**4.83**	**6**	Pn	**Pn**	**03 26 06.8**	**-0.3**
ECAL				Sn	**Sn**	**03 26 60.0**	**-2.2**
ECAL				*i* IVmb_Lg		03 27 39.0	
PGAV	**Gavieira, Arco**	**4.87**	**353**	*e*Pn	**Pn**	**03 26 07.3**	**-0.2**
PGAV				*e*Sn	**Sn**	**03 27 00.1**	**-3.0**
PGAV				*i* IAML		03 27 36.9	
PGAV				*i* IAML		03 27 40.7	
PGAV				*i* IAML		03 27 42.3	
MDT	**Midelt**	**4.90**	**151**	P	**Pn**	**03 26 07.6**	**-0.5**
ETOR	**Torete**	**5.59**	**47**	Pn	**Pn**	**03 26 17.4**	**0.0**
ETOR				Sn	**Sn**	**03 27 16.5**	**-4.3**
ETOR				*i* IVmb_Lg		03 28 06.1	
ECHE	**Chera**	**5.66**	**62**	Pn	**Pn**	**03 26 18.5**	**+0.2**
EAGO	**Agolada(Pontev**	**5.68**	**355**	Pn	**Pn**	**03 26 18.3**	**-0.4**
EAGO				Sn	**Sn**	**03 27 19.2**	**-3.9**
EMAZ	**Mazaricos**	**5.92**	**349**	Pn	**Pn**	**03 26 21.7**	**-0.3**
EMAZ				Sn	**Sn**	**03 27 26.4**	**-2.6**
EBEN2	**Beniarda presa**	**5.95**	**73**	Pn	**Pn**	**03 26 20.9**	**-1.4**
TIO	**Tiouine**	**6.20**	**178**	Sn	**Sn**	**03 27 30.6**	**-5.3**
TIO				Pn	**Pn**	**03 26 25.5**	**-0.4**
TIO	**Tiouine**	**6.20**	**178**	P	**Pn**	**03 26 25.9**	**0.0**
EMOS	**Mosqueruela**	**6.34**	**57**	Sn	**Sn**	**03 27 34.3**	**-5.1**
ELAN	**Lanestosa**	**6.82**	**26**	Sn	**Sn**	**03 27 45.9**	**-5.2**

*IDC **20** 03:33:08.8±1.1, 12°.62S×166°.07E, h0km, mb4.0/11, mbtmp4.0/11, MS3.2/2, Error ellipse: s-maj=38.1km s-min=24.3km az=93.0*

ISC 20 03:33:14.8±1.0, **12°.6S**±0°.2×**166°.0E**±0°.2, **h40km, n14,** σ0.8**80**/12, **mb4.1**/11, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.22**	**252**	P	**P**	**03 39 31.4**	**+0.7**
	0.5nm,1.0s,baz=83,slow=9.1,SNR=2.1						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**32.35**	**246**	P	**P**	**03 39 41.3**	**+0.7**
	0.6nm,0.8s,baz=65,slow=9.7,SNR=6.4						
	0.6nm,0.8s						
GUMO	**Guam**	**33.44**	**320**	LR	LR	03 54 41.0	
	comp=Z,30nm,18.5s,baz=242,slow=39						
MJAR	**Matsushiro Arr**	**55.50**	**333**	P	**P**	**03 42 45.1**	**-0.8**
	2.2nm,0.7s,baz=170,slow=8.8,SNR=10						
	2.2nm,0.7s						
USRK	**Ussuriysk Ar.**	**64.48**	**334**	P	**P**	**03 43 47.7**	**+0.4**
	2.6nm,0.8s,baz=126,slow=5.5,SNR=5.5						
	2.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**72.99**	**294**	P	**P**	**03 44 39.9**	**-1.0**
	0.7nm,0.3s,baz=96,slow=7.9,SNR=4.4						
	0.7nm,0.3s						
QSPA	**South Pole Qui**	**77.38**	**180**	P	**P**	**03 45 05.8**	**+0.4**
	1.7nm,0.8s,baz=318,slow=2.5,SNR=7.0						
	1.7nm,0.8s						
SONM	**Songino Array**	**80.10**	**324**	P	**P**	**03 45 20.9**	**+0.2**
	0.5nm,0.6s,baz=113,slow=3.8,SNR=2.3						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**84.93**	**18**	P	**P**	**03 45 46.1**	**+0.9**
	0.4nm,0.7s,baz=232,slow=4.1,SNR=2.8						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**94.86**	**317**	P	**P**	**03 46 32.9**	**+0.3**
	0.8nm,0.7s,baz=109,slow=4.8,SNR=5.3						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**94.99**	**324**	P	**P**	**03 46 32.4**	**-0.6**
	0.9nm,0.6s,baz=90,slow=3.0,SNR=3.9						
	0.9nm,0.6s						
SNAA	**Sanae**	**95.56**	**184**	P	**P**	**03 46 34.3**	**-1.2**
	0.5nm,0.9s,baz=180,slow=5.1,SNR=1.5						
	0.5nm,0.9s						
TXAR	**Lajitas Array**	**96.35**	**61**	LR	LR	04 22 22.2	
	comp=Z,11nm,20.9s,baz=300,slow=31						
KEST	**Kesra**	**148.83**	**322**	PKPbc	**PKPbc**	**03 52 59.2**	**+0.6**
	2.5nm,0.7s,baz=16,slow=4.4,SNR=4.4						

*NEIC **20** 03:46:50.7±2.5, 37°.59N±0°.05×20°.67E±0°.08, h10km±2km, ML2.6/18, Error ellipse: s-maj=11.3km s-min=6.6km az=58.0*
*THE **20** 03:46:51.4, 38°N±2°×2°1E±°, h16km±2km, M2.9/6, MLh2.9/6*
*ATH **20** 03:46:51.1, 37°.66N×20°.72E, h16km±1km, ML2.8/14, Manual Solution by F.Xalaris First location: 2019/07/20 03:47:52, This location: 2021/06/05 09:55:30 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

ISC 20 03:46:51.1±1.1, **37°.66N**±0°.04×**20°.73E**±0°.04, **h12km**±6km, **n43,** σ0.9**69**/56, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.07**	**84**	P	**Pg**	**03 46 53.4**	**-0.3**
LTHK	**Lithakia**	**0.10**	**58**	P	**Pg**	**03 46 53.4**	**-0.6**
KYPS	**Kipseli, Zakin**	**0.18**	**25**	P	**Pg**	**03 46 55.6**	**+0.4**
KYPS				S	**Sg**	**03 46 58.0**	**0.0**
ZAK2	**Zakynthos**	**0.19**	**46**	P	**Pb**	**03 46 56.1**	**-0.5**
ORTH	**Orthonies,Zaky**	**0.20**	**353**	P	**Pg**	**03 46 56.0**	**+0.5**
ORTH				S	**Sb**	**03 46 59.6**	**+1.1**
ORTH	**Orthonies,Zaky**	**0.20**	**353**	P	**Pg**	**03 46 56.0**	**+0.5**
ORTH				S	**Sg**	**03 46 58.6**	**0.0**
CLEM	**Kyllini,Ilia,G**	**0.40**	**54**	P	**Pg**	**03 46 59.4**	**+0.3**
CLEM				S	**Sg**	**03 47 05.0**	**+0.6**
RTZL	**Ratzakli, Kefa**	**0.42**	**5**	P	**Pg**	**03 46 59.7**	**+0.2**
RTZL				S	**Sb**	**03 47 06.4**	**-0.4**
PSDA	**Pessada-Kefalo**	**0.47**	**346**	P	**Pg**	**03 47 00.7**	**+0.3**
PSDA				S	**Sb**	**03 47 08.0**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.47**	**346**	P	**Pg**	**03 47 00.8**	**+0.3**
PSDA				S	**Sg**	**03 47 07.1**	**+0.4**
VLS	**Valsamata**	**0.53**	**348**	P	**Pg**	**03 47 01.6**	**+0.1**
VLS				S	**Sb**	**03 47 09.8**	**-0.2**
VLS	**Valsamata**	**0.53**	**348**	P	**Pg**	**03 47 01.5**	**-0.1**
VLS				S	**Sg**	**03 47 08.5**	**-0.1**
DMLN	**Damoulianata-K**	**0.65**	**335**	P	**Pb**	**03 47 04.1**	**-0.3**
DMLN				S	**Sb**	**03 47 12.7**	**-0.6**
DMLN	**Damoulianata-K**	**0.65**	**335**	P	**Pb**	**03 47 03.9**	**-0.4**
YRMI	**Loutra Irminis**	**0.67**	**48**	P	**Pg**	**03 47 04.0**	**0.0**
RLS	**Riolos of Patr**	**0.71**	**55**	P	**Pg**	**03 47 04.9**	**0.0**
RLS	**Riolos of Patr**	**0.71**	**55**	P	**Pg**	**03 47 04.9**	**0.0**
RLS				S	**Sg**	**03 47 14.6**	**+0.4**
AXS	**Araxos**	**0.75**	**43**	P	**Pg**	**03 47 05.2**	**-0.4**
AMT	**Artemida-Makis**	**0.79**	**99**	P	**Pg**	**03 47 06.3**	**-0.1**
FSK	**Fiskardo**	**0.81**	**351**	P	**Pb**	**03 47 06.2**	**-0.9**
FSK				S	**Sb**	**03 47 17.8**	**-0.3**
EVGI	**Lefkada island**	**0.97**	**357**	P	**Pb**	**03 47 08.9**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.06**	**359**	P	**Pb**	**03 47 10.5**	**-0.8**
ITM	**Ithomi**	**1.07**	**116**	Pg	**Pb**	**03 47 11.2**	**-0.3**
ITM				IAML		03 47 33.0	
	comp=N,111nm,0.7s						
ITM	**Ithomi**	**1.07**	**116**	P	**Pb**	**03 47 11.2**	**-0.3**
ITM				S	**Sg**	**03 47 26.0**	**+0.4**
LKD2	**Lefkada island**	**1.13**	**357**	P	**Pb**	**03 47 11.8**	**-0.8**
PVO	**Paravola**	**1.15**	**33**	P	**Pb**	**03 47 12.8**	**-0.1**
TSLK	**Tsoukalades, L**	**1.17**	**357**	P	**Pn**	**03 47 12.6**	**-0.7**
KLV	**Kalavryta, Ach**	**1.19**	**71**	P	**Pn**	**03 47 13.3**	**-0.3**
EFP	**Efpalio**	**1.21**	**50**	P	**Pn**	**03 47 13.5**	**-0.2**
GUR	**Goura**	**1.31**	**77**	P	**Pb**	**03 47 15.4**	**-0.3**
KALE	**Kalithea**	**1.34**	**56**	P	**Pn**	**03 47 15.4**	**-0.2**
EVR	**Evrytania**	**1.52**	**34**	P	**Pg**	**03 47 20.1**	**-0.2**
KEK	**Kerkira**	**2.18**	**341**	Pn	**Pn**	**03 47 26.7**	**-0.4**
KEK				IAML		03 48 27.9	
	comp=E,32nm,0.8s						
LIT	**Litokhoron**	**2.80**	**29**	Pn	**Pn**	**03 47 36.4**	**+0.7**
LIT				IAML		03 48 32.3	
	comp=N,19nm,0.8s						
LIT				IAML		03 48 33.0	
	comp=E,14nm,1.0s						
FNA	**Florina**	**3.17**	**9**	Pn	**Pn**	**03 47 40.7**	**0.0**
TIP	**Timpagrande**	**3.47**	**297**	Pn	**Pn**	**03 47 44.9**	**0.0**
IDI	**Anoyia**	**4.10**	**124**	Pn	**Pn**	**03 47 54.8**	**+1.2**
IDI				IAML		03 50 04.1	
	comp=E,12nm,1.6s						
CUC	**Castrocucco**	**4.49**	**303**	Pn	**Pn**	**03 47 58.2**	**-0.7**
CUC				IAML		03 49 02.2	
	comp=N,4.2nm,1.3s						
CUC				IAML		03 49 39.7	
	comp=E,5.3nm,1.6s						
ACER	**Acerenza**	**4.86**	**312**	Pn	**Pn**	**03 48 04.7**	**+0.8**
PDG	**Podgorica**	**4.90**	**347**	Pn	**Pn**	**03 48 06.2**	**+1.6**
PDG				IAML		03 49 07.5	
	comp=N,5.3nm,0.5s						
PDG				IAML		03 49 17.9	
	comp=E,5.7nm,0.7s						
RDO	**Rodhopi**	**5.10**	**45**	Pn	**Pn**	**03 48 09.4**	**+2.2**
RDO				IAML		03 50 15.2	
	comp=E,5.5nm,2.2s						
SGRT	**San Giovanni R**	**5.61**	**318**	Pn	**Pn**	**03 48 14.2**	**-0.2**
NRCA	**Norcia**	**7.79**	**314**	Pn	**Pn**	**03 48 46.6**	**+2.4**

IDC 20 03:52:26.9±1.2, **30°.03S×178°.45W, h0km, mb3.8**/3, **mbtmp3.8**/3, **Error ellipse: s-maj=37.4km s-min=16.8km az=127.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.90**	**31**	Pn	Pn	03 52 47.0	+0.2
	269nm,0.3s,baz=128,slow=19,SNR=10						
RAO				Sn	Sn	03 53 00.4	-0.1
	176nm,0.3s,baz=118,slow=24,SNR=7.9						
ASAR	**Alice Springs**	**42.74**	**267**	P	P	04 00 26.7	+0.5
	0.4nm,0.7s,baz=107,slow=8.2,SNR=6.9						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**43.70**	**272**	P	P	04 00 32.7	-1.2
	0.8nm,0.9s,baz=108,slow=7.5,SNR=4.5						
	0.8nm,0.9s						
QSPA	**South Pole Qui**	**60.08**	**180**	P	P	04 02 35.3	-0.4
	3.2nm,0.8s,baz=38,slow=1.7,SNR=8.3						
	3.2nm,0.8s						
H03S2	**Juan Fernandez**	**81.00**	**124**	T	T	05 34 13.9	
	baz=238,slow=74,SNR=7.9						
H03S1	**Juan Fernandez**	**81.01**	**124**	T	T	05 34 15.0	
	baz=238,slow=74,SNR=7.5						
H03S3	**Juan Fernandez**	**81.01**	**124**	T	T	05 34 15.7	
	baz=238,slow=74,SNR=7.4						
H03N3	**Juan Fernandez**	**81.19**	**123**	T	T	05 34 20.5	
	baz=238,slow=26,SNR=7.1						
H03N2	**Juan Fernandez**	**81.19**	**123**	T	T	05 34 17.4	
	baz=238,slow=26,SNR=5.6						
H03N1	**Juan Fernandez**	**81.20**	**123**	T	T	05 34 19.8	
	baz=238,slow=26,SNR=6.8						
FINES	**FINESS Array B**	**144.66**	**340**	PKP	PKPdf	04 12 06.1	+1.3
	0.7nm,0.7s,baz=16,slow=1.7,SNR=4.1						

*NIED **20** 03:56:33.0, 37°.97N×140°.69E, h104km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr0.68; Mϑϑ0.31; Mϕϕ -0.99; Mrϑ-0.55; Mϑϕ-0.40; Mϕr-0.00; Fault plane solution: M0 1.11000×10^15^ NP1: ϕs344.00000°, δ52.00000°, λ39.00000°. NP2: ϕs227.00000°, δ61.00000°, λ134.00000°.*
*JMA **20** 03:56:33.0±0.1, 38°.0N±0°.2×140°.7E±0°.3, h104km, MD3.8/40, MV4.0/40, SOUTHERN MIYAGI PREF*
JMA Felt II J1 at SOUTHERN MIYAGI PREF .
*NEIC **20** 03:56:33.1±2.5, 37°.97N±0°.07×140°.7E±0°.1, h105km±3km, mb4.4/20, Error ellipse: s-maj=13.7km s-min=8.9km az=114.0*
*IDC **20** 03:56:34.1±1.4, 37°.98N×140°.59E, h116km±12km, mb3.8/13, mbtmp4.1/17, MS2.9/2, Error ellipse: s-maj=15.4km s-min=10.3km az=108.0*

ISC 20 03:56:32.8±0.6, **37°.99N**±0°.04×**140°.68E**±0°.04, **h106km**±5km, **n107,** σ1.9**10**/105, **mb4.3**/26, **4D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMM	**Marumori**	**0.15**	**143**	P	**Pn**	**03 56 47.5**	**0.0**
JMM				Sn	**Sn**	**03 56 58.3**	**-0.3**
JMM	**Marumori**	**0.15**	**143**	P	**Pn**	**03 56 47.4**	**-0.1**
JMM	**Marumori**	**0.15**	**143**	P	**Pn**	**03 56 47.5**	**0.0**
JMM				*e*S	**Sn**	**03 56 58.2**	**-0.3**
JMM	**Marumori**	**0.15**	**143**	A	A	03 56 47.5	
	comp=N,12nm,0.4s,comp=E,14nm,1.6s						
JMST	**Minamisoumatoc**	**0.31**	**148**	P	**Pn**	**03 56 47.9**	**-0.1**
JMST				*e*S	**Sn**	**03 56 59.3**	**-0.2**
JMST	**Minamisoumatoc**	**0.31**	**148**	A	A	03 56 47.9	
	comp=N,26nm,0.5s,comp=E,18nm,0.4s						
JOU	**Okura**	**0.38**	**358**	P	**Pn**	**03 56 48.8**	**+0.3**
JOU				*e*S	**Sn**	**03 57 00.5**	**+0.2**
JYAR	**Yonezawaarcadi**	**0.43**	**261**	A	A	03 56 48.8	
	comp=N,14nm,1.4s,comp=E,13nm,1.0s						
JOTO	**OTAMA OYAMA**	**0.51**	**213**	*i* P	**Pn**	**03 56 49.2**	**0.0**
JOTO				*e*S	**Sn**	**03 57 01.6**	**0.0**
JOTO	**OTAMA OYAMA**	**0.51**	**213**	A	A	03 56 49.2	
	comp=N,17nm,1.2s,comp=E,8.0nm,0.3s						
JYS	**Shirataka**	**0.54**	**296**	P	**Pn**	**03 56 49.6**	**+0.2**
JYS				*e*S	**Sn**	**03 57 02.4**	**+0.4**
JYS	**Shirataka**	**0.54**	**296**	A	A	03 56 49.6	
	comp=N,7.0nm,1.7s,comp=E,11nm,1.9s						
JFK	**Kawauchi**	**0.64**	**166**	⇓P	**Pn**	**03 56 50.2**	**-0.1**
JFK				⇓*e*S	**Sn**	**03 57 02.6**	**-0.8**
JFK	**Kawauchi**	**0.64**	**166**	A	A	03 56 50.2	
	comp=N,6.0nm,0.6s,comp=E,5.0nm,1.4s						
JOFO	**Osakifurukawao**	**0.64**	**16**	A	A	03 56 50.5	
	comp=N,9.0nm,0.4s,comp=E,26nm,0.8s						
JIKH	**Ishinomakikobu**	**0.70**	**62**	A	A	03 56 50.8	
	comp=N,14nm,0.3s,comp=E,15nm,0.3s						
JIO	**Ouri**	**0.70**	**48**	P	**Pn**	**03 56 50.9**	**+0.2**
JIO				S	**Sn**	**03 57 03.9**	**-0.3**
JIO	**Ouri**	**0.70**	**48**	A	A	03 56 50.9	
	comp=N,7.0nm,4.6s,comp=E,15nm,0.3s						
ONAJ	**Iwakimizuishiy**	**0.89**	**174**	A	A	03 56 52.3	
	comp=N,22nm,0.3s,comp=E,17nm,0.2s						
JYK	**Kaneyama**	**0.96**	**345**	P	**Pn**	**03 56 53.6**	**+0.3**
JYK				*e*S	**Sn**	**03 57 09.0**	**+0.3**
JFY	**Yanaizu**	**0.97**	**234**	*e*P	**Pn**	**03 56 53.3**	**0.0**
JFY				*e*S	**Sn**	**03 57 08.6**	**-0.2**
JYA	**Atsumi**	**0.97**	**309**	P	**Pn**	**03 56 53.5**	**+0.2**
JYA				*e*S	**Sn**	**03 57 09.2**	**+0.3**
JYA	**Atsumi**	**0.97**	**309**	A	A	03 56 53.5	
	comp=N,6.0nm,0.8s,comp=E,10.0nm,1.1s						
JKMT	**Kesennumamotoy**	**1.03**	**37**	A	A	03 56 54.2	
	comp=N,12nm,0.4s,comp=E,11nm,0.4s						
JMK	**Ichinoseki**	**1.05**	**23**	P	**Pn**	**03 56 54.5**	**+0.3**
JMK				*e*S	**Sn**	**03 57 10.6**	**+0.3**
JNS	**Sasagawa**	**1.09**	**262**	P	**Pn**	**03 56 54.8**	**+0.2**
JNS				*e*S	**Sn**	**03 57 11.0**	**-0.1**
JAW	**Awa shima**	**1.22**	**293**	⇓P	**Pn**	**03 56 56.1**	**+0.1**
JAW				⇓*e*S	**Sn**	**03 57 13.3**	**-0.4**
OFUJ	**Ofunato**	**1.34**	**35**	A	A	03 56 57.8	
	comp=N,5.0nm,0.8s,comp=E,4.0nm,0.6s						
JRG	**Rokugo**	**1.41**	**358**	P	**Pn**	**03 56 59.0**	**+0.7**
JRG				*e*S	**Sn**	**03 57 18.8**	**+1.3**
JRG	**Rokugo**	**1.41**	**358**	A	A	03 56 59.0	
	comp=N,4.0nm,5.6s,comp=E,5.0nm,0.8s						
JOM	**Ohasama**	**1.56**	**18**	P	**Pn**	**03 57 00.8**	**+0.7**
JOM				*e*S	**Sn**	**03 57 21.1**	**+0.3**
JAG	**Ashikaga**	**1.84**	**213**	P	**Pn**	**03 57 03.9**	**+0.4**
JSD	**Sado**	**1.91**	**272**	P	**Pn**	**03 57 03.7**	**-0.7**
JSD	**Sado**	**1.91**	**272**	S	**Sn**	**03 57 27.3**	**-1.3**
MAJO	**Matsushiro**	**2.44**	**235**		**Pn**	**03 57 11.9**	**+0.6**
MAJO	**Matsushiro**	**2.44**	**235**	P	**Pn**	**03 57 11.8**	**+0.5**
MJAR	**Matsushiro Arr**	**2.44**	**235**		**Pn**	**03 57 11.3**	**0.0**
MJAR	**Matsushiro Arr**	**2.44**	**235**	P	**Pn**	**03 57 12.0**	**+0.7**
	comp=E,17nm,0.3s,baz=34,slow=14,SNR=108						
MJAR				S	**Sn**	**03 57 42.3**	**+1.4**
	comp=E,14nm,0.6s,baz=25,slow=17,SNR=3.2						
MJAR				LR	LR	03 58 27.4	
	comp=E,78nm,19.7s,baz=174,slow=48						
MJB9	**Matsu-Tunnel**	**2.44**	**235**		**Pn**	**03 57 11.9**	**+0.6**
JTM	**Tenmabayashi**	**2.81**	**6**		**Pn**	**03 57 16.9**	**+0.7**
JTM	**Tenmabayashi**	**2.81**	**6**	S	**Sn**	**03 57 47.2**	**-2.3**
JGF	**Kuroka**	**3.58**	**229**		**Pn**	**03 57 27.7**	**+1.3**
JGF	**Kuroka**	**3.58**	**229**	P	**Pn**	**03 57 26.8**	**+0.4**
JGF	**Kuroka**	**3.58**	**229**	S	**Sn**	**03 58 09.1**	**+1.3**
INU	**Inuyama**	**3.95**	**229**		**Pn**	**03 57 32.4**	**+1.1**
INU	**Inuyama**	**3.95**	**229**	P	**Pn**	**03 57 32.6**	**+1.3**
ERM	**Erimo**	**4.45**	**25**	Pn	**Pn**	**03 57 36.8**	**-1.2**
ERM	**Erimo**	**4.45**	**25**	P	**Pn**	**03 57 36.8**	**-1.2**
ERM	**Erimo**	**4.45**	**25**	S	**Sn**	**03 58 26.5**	**-2.2**
JHJ2	**Mitsune**	**4.91**	**189**	Pn	**Pn**	**03 57 42.2**	**-2.1**
JHJ2	**Mitsune**	**4.91**	**189**	P	**Pn**	**03 57 44.2**	**-0.1**
ASAJ	**Asahikawa**	**6.29**	**13**	P	**Pn**	**03 58 03.7**	**+0.7**
	comp=E,3.7nm,0.3s,baz=218,slow=17,SNR=5.6						
ASAJ				S	**Sn**	**03 59 13.6**	**+0.2**
	comp=E,8.2nm,0.6s,baz=278,slow=33,SNR=4.4						
JKA	**Kamikawa-asahi**	**6.29**	**13**	Pn	**Pn**	**03 58 01.4**	**-1.6**
USA0B	**Ussuriysk Arra**	**9.03**	**316**	Pn	**Pn**	**03 58 42.0**	**+1.9**
USRK	**Ussuriysk Ar.**	**9.03**	**316**	Pn	**Pn**	**03 58 42.0**	**+1.9**
USRK	**Ussuriysk Ar.**	**9.03**	**316**	P	**Pn**	**03 58 41.9**	**+1.8**
	comp=E,4.5nm,0.5s,baz=125,slow=14,SNR=8.6						
KSRS	**Korea Array**	**10.12**	**271**	P	**Pn**	**03 58 57.2**	**+2.3**
	comp=E,8.2nm,0.8s,baz=83,slow=14,SNR=14						
JCJ	**Chichijima**	**10.93**	**173**	P	Pn	03 59 01.3	-4.7
	baz=0.0,slow=0.0						
XLT	**XiLinHaoTe**	**19.47**	**295**	*e*P	**P**	**04 00 48.8**	**-2.3**
XLT				pP	pP	04 01 07.8	-3.1
XLT				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**22.63**	**286**	*e*P	**P**	**04 01 23.3**	**-1.6**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,48nm,4.8s						
SONM	**Songino Array**	**26.78**	**303**	P	**P**	**04 02 01.1**	**-1.6**
SONM	**Songino Array**	**26.78**	**303**	P	**P**	**04 02 01.7**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=104,slow=8.3,SNR=11						
	comp=Z,2.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**29.14**	**121**	T	T	04 32 58.4	
	baz=315,slow=75,SNR=115						
H11N1	**WAKE ISLAND Hy**	**29.14**	**121**	T	T	04 32 56.4	
	baz=315,slow=75,SNR=216						
H11N3	**WAKE ISLAND Hy**	**29.15**	**121**	T	T	04 32 50.5	
	baz=315,slow=75,SNR=118						
LZH	**Lanzhou**	**29.35**	**278**	*e*P	**P**	**04 02 21.8**	**-3.9**
LZH				pP	pP	04 02 47.3	-2.1
LZH				sP	sP	04 02 57.8	-3.9
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH				pmax	pmax		
	comp=Z,250nm,4.8s						
H11S1	**WAKE ISLAND Hy**	**29.86**	**123**	T	T	04 33 42.7	
	baz=317,slow=76,SNR=94						
H11S3	**WAKE ISLAND Hy**	**29.87**	**123**	T	T	04 33 48.6	
	baz=317,slow=76,SNR=105						
H11S2	**WAKE ISLAND Hy**	**29.88**	**123**	T	T	04 33 48.4	
	baz=317,slow=76,SNR=63						
PZH	**PanZhiHua**	**34.64**	**262**	P	**P**	**04 03 12.8**	**+0.8**
ZAA0	**Zalesovo Array**	**40.85**	**312**	P	**P**	**04 04 03.0**	**-0.8**
ZAA0				IAmb	IAmb	04 04 04.3	
	comp=Z,4.4nm,0.8s						
ZALV	**Zalesovo Beam**	**40.85**	**312**		**P**	**04 04 03.3**	**-0.5**
ZALV	**Zalesovo Beam**	**40.85**	**312**	P	**P**	**04 04 03.0**	**-0.7**
	comp=Z,3.9nm,0.6s,baz=79,slow=7.7,SNR=15						
	comp=Z,3.9nm,0.6s						
MKAR	**Makanchi Array**	**43.12**	**301**		**P**	**04 04 21.7**	**-0.8**
MKAR	**Makanchi Array**	**43.12**	**301**	P	**P**	**04 04 21.9**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=88,slow=9.8,SNR=28						
	comp=Z,2.9nm,0.7s						
MAKZ	**Makanchi**	**43.34**	**301**		**P**	**04 04 23.3**	**-0.8**
MAKZ				IAmb	IAmb	04 04 24.5	
	comp=Z,4.5nm,0.8s						
KURBB	**Kurchatov Arra**	**44.96**	**307**	P	**P**	**04 04 36.6**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=83,slow=8.5,SNR=19						
	comp=Z,1.1nm,0.6s						
D22K	**Ayikyak River**	**46.78**	**27**	P	**P**	**04 04 52.2**	**+1.2**
D22K				IAmb	IAmb	04 04 52.7	
	comp=Z,9.7nm,1.4s						
TARG	**Taragay, Kyrgy**	**47.46**	**295**	IAmb	IAmb	04 04 59.1	
	comp=Z,4.5nm,0.6s						
KDJ	**Kajisay**	**47.79**	**296**	P	**P**	**04 04 59.8**	**+0.3**
KDJ				IAmb	IAmb	04 05 00.7	
	comp=Z,3.3nm,0.5s						
BOOM	**Boomskoye usch**	**48.56**	**297**	P	**P**	**04 05 06.5**	**+1.1**
BOOM				IAmb	IAmb	04 05 07.6	
	comp=Z,3.2nm,0.6s						
PWL	**Port Wells**	**48.66**	**38**	P	**P**	**04 05 03.8**	**-1.9**
ILAR	**Eielson Array**	**49.01**	**33**	P	**P**	**04 05 08.9**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=273,slow=6.1,SNR=9.6						
ILAR				PcP	**PcP**	**04 06 30.1**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=306,slow=5.3,SNR=2.5						
	comp=Z,0.6nm,0.6s						
BVAR	**Borovoye Array**	**49.51**	**312**	P	**P**	**04 05 12.9**	**+0

H11N3 WAKE ISLAND Hy 28.71 152 T T 04 42 52.4
baz=340,slow=76,SNR=5.5
H11S1 WAKE ISLAND Hy 29.77 153 T T 04 44 19.6
baz=340,slow=76,SNR=7.1
H11S3 WAKE ISLAND Hy 29.78 153 T T 04 44 07.4
baz=340,slow=76,SNR=4.1
H11S2 WAKE ISLAND Hy 29.79 153 T T 04 44 11.2
baz=340,slow=76,SNR=4.6
MKAR Makanchi Array 47.18 298 P **P** **04 13 41.7 +0.1**
0.5nm,0.7s,baz=56,slow=11,SNR=4.1
0.5nm,0.7s
KURBB Kurchatov Arra 47.76 304 P **P** **04 13 45.3 -0.6**
0.7nm,0.8s,baz=68,slow=9.0,SNR=3.8
0.7nm,0.8s
FINES FINESS Array B 64.58 335 P **P** **04 15 45.7 -0.2**
1.6nm,0.8s,baz=31,slow=16,SNR=4.2
1.6nm,0.8s
PDAR Pinedale Array 65.17 54 P **P** **04 15 51.0 +0.6**
0.2nm,0.7s,baz=303,slow=2.9,SNR=2.1
0.2nm,0.7s
NOA NORSAR Array B 68.81 341 P **P** **04 16 12.3 -0.6**
0.3nm,0.7s,baz=29,slow=4.0,SNR=3.3
0.3nm,0.7s
HFS Hagfors 69.03 340 P **P** **04 16 13.1 -1.1**
0.6nm,0.6s,baz=79,slow=3.2,SNR=5.8
0.6nm,0.6s
AKASG Malin Array Be 72.04 326 P **P** **04 16 32.4 -0.4**
0.9nm,0.5s,baz=36,slow=6.3,SNR=5.9
0.9nm,0.5s
TXAR Lajitas Array 77.86 60 P **P** **04 17 07.0 +0.1**
0.3nm,0.7s,baz=287,slow=3.5,SNR=3.4
0.3nm,0.7s

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*IDC **20** 04:19:20.1±2.0,30°.49N×139°.65E,h0km,mb3.6/5, mbtmp3.6/7, ML2.9/2, MS3.8/1, Error ellipse: s-maj=99.8km s-min=23.9km az=78.0*
*JMA **20** 04:19:30.7±0.5,31°.N±2°.×14°.1E±°, h78km, MV3.4/14, NEAR TORISHIMA IS*
ISC 20 04:19:25.2±1.2, 30°.56N±0°.09×139°.7E±0°.2, h35km, n13, σ2°.69/14, mb3.7/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.55**	**2**	*eP*		Pn	04 20 09.4	+5.3
JHJ2				*eS*		**Sn**	**04 20 38.7**	**+4.8**
BSO1	**Boso 1**	**4.22**	**14**	*eP*		**Pn**	**04 20 27.2**	**+0.7**
BSO3	**Boso 3**	**4.29**	**9**	*eP*		**Pn**	**04 20 28.9**	**+1.2**
BSO3				*eS*		**Sn**	**04 21 12.9**	**-3.5**
JAG	**Ashikaga**	**5.86**	**358**	*eP*		Pn	04 20 53.3	+3.7
JAG				*eS*		**Sn**	**04 21 57.3**	**+1.8**
JHO	**Hitachi**	**6.08**	**6**	*eP*		**Pn**	**04 20 53.1**	**+0.5**
JHO				*eS*		**Sn**	**04 21 55.6**	**-5.3**
MJAR	**Matsushiro Arr**	**6.10**	**348**	Pn		**Pn**	**04 20 52.0**	**-0.9**
	0.1nm,0.3s,baz=143,slow=12,SNR=1.6							
	0.5nm,0.3s							
KSRS	**Korea Array**	**11.96**	**308**	Pn		**Pn**	**04 22 10.9**	**-2.2**
	0.3nm,0.3s,baz=97,slow=40,SNR=1.7							
	0.6nm,0.5s							
TGY	**Tagaytay City**	**23.82**	**231**	LR		LR	04 33 31.5	
	comp=Z,209nm,18.2s,baz=168,slow=36							
WRA	**Warramunga Arr**	**50.47**	**187**	P		**P**	**04 28 19.2**	**-0.6**
	0.3nm,0.6s,baz=6.9,slow=7.4,SNR=1.8							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**54.20**	**187**	P		**P**	**04 28 46.5**	**-0.9**
	0.4nm,0.9s,baz=2.2,slow=7.3,SNR=1.6							
	0.4nm,0.9s							
FINES	**FINESS Array B**	**73.90**	**333**	P		**P**	**04 30 56.4**	**+0.1**
	0.3nm,0.3s,baz=69,slow=6.5,SNR=6.6							
	0.3nm,0.3s							
AKASG	**Malin Array Be**	**78.56**	**323**	P		**P**	**04 31 23.4**	**+0.4**
	0.6nm,0.4s,baz=53,slow=5.5,SNR=6.2							
	0.6nm,0.4s							
BRTR	**Keskin Array B**	**82.08**	**312**	P		**P**	**04 31 44.3**	**+1.9**
	0.6nm,0.7s,baz=134,slow=4.2,SNR=3.3							
	0.6nm,0.7s							

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*IDC **20** 04:28:57.0±0.8,3°.98N×126°.49E,h0km,mb4.1/13, mbtmp4.1/13, MS3.0/5, Error ellipse: s-maj=54.3km s-min=14.1km az=70.0*
*NEIC **20** 04:29:05.7±1.5,4°.0N±0°.1×126°.43E±0°.08,h54km±11km, mb4.5/11, Error ellipse: s-maj=14.9km s-min=11.4km az=182.0*
ISC 20 04:29:03.8±0.6,3°.98N±0°.09×126°.5E±0°.1, h45km, n32, σ1°.12/27, mb4.2/18, MS3.1/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.19**	**344**		LR	LR	04 31 14.9	
	comp=Z,174nm,19.7s,baz=162,slow=43							
TNTI	**Ternate**	**3.31**	**164**	Pn		**Pn**	**04 29 54.4**	**+1.2**
TOLI2	**Tolitoli**	**6.34**	**243**			**Pn**	**04 30 36.4**	**+1.5**
MTN	**Manton Dam**	**17.35**	**165**	Pn		**Pn**	**04 33 00.0**	**-2.8**
KNRA	**Kununurra**	**19.66**	**173**	P		**P**	**04 33 29.4**	**+0.3**
KNRA					IAmb	IAmb	04 33 41.0	
	comp=Z,15nm,1.3s							
SSLB	**Suanglung**	**20.40**	**345**	P		**P**	**04 33 37.0**	**-0.1**
SSLB					IAmb	IAmb	04 34 16.6	
	comp=Z,44nm,1.5s							
GUMO	**Guam**	**20.53**	**61**	LR		LR	04 40 06.7	
	comp=Z,31nm,21.9s,baz=260,slow=33							
FITZ	**Fitzroy Crossi**	**21.95**	**182**	P		**P**	**04 33 52.1**	**-1.7**
	comp=Z,10nm,0.7s,baz=360,slow=6.5,SNR=33							
	comp=Z,10nm,0.7s							
WB0	**Warramunga Arr**	**24.86**	**162**	P		**P**	**04 34 21.5**	**-0.8**
WB0					IAmb	IAmb	04 34 49.4	
	comp=Z,8.4nm,1.0s							
WRA	**Warramunga Arr**	**25.00**	**162**	P		**P**	**04 34 23.1**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=337,slow=11,SNR=14							
	comp=Z,2.3nm,0.8s							
WR8	**Warramunga Arr**	**25.07**	**162**	P		**P**	**04 34 23.8**	**-0.4**
WR8					IAmb	IAmb	04 34 42.6	
	comp=Z,16nm,1.4s							
ASAR	**Alice Springs**	**28.42**	**166**	P		**P**	**04 34 54.2**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=355,slow=14,SNR=4.4							
	comp=Z,1.2nm,0.5s							
CMAR	**Chiang Mai Arr**	**30.51**	**300**	P		**P**	**04 35 13.2**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=110,slow=8.8,SNR=5.8							
	comp=Z,0.9nm,0.3s							
KSRS	**Korea Array**	**33.34**	**2**	P		**P**	**04 35 37.8**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=181,slow=9.7,SNR=1.9							
	comp=Z,0.7nm,0.5s							
BBOO	**Buckleboo**	**37.70**	**167**	P		**P**	**04 36 15.6**	**+0.4**
EIDS	**Eidsvold**	**37.72**	**142**	P		**P**	**04 36 15.7**	**+0.4**
EIDS					IAmb	IAmb	04 36 26.4	
	comp=Z,17nm,1.4s							
STKA	**Stephens Creek**	**38.46**	**159**	P		**P**	**04 36 21.9**	**+0.4**
STKA	**Stephens Creek**	**38.46**	**159**	P		**P**	**04 36 19.4**	**-2.1**
	comp=Z,5.7nm,0.7s,baz=338,slow=11,SNR=7.8							
	comp=Z,5.7nm,0.7s							
ARMA	**Armidale**	**41.82**	**147**	P		**P**	**04 36 50.3**	**+0.8**
ARMA					IAmb	IAmb	04 36 51.6	
	comp=Z,8.8nm,0.8s							
ASAJ	**Asahikawa**	**42.44**	**17**	LR		LR	04 58 46.0	
	comp=Z,14nm,18.4s,baz=152,slow=42							
MSVF	**Nonsavu**	**55.26**	**115**	P		**P**	**04 38 35.1**	**+2.0**
MSVF					IAmb	IAmb	04 38 37.0	
	comp=Z,11nm,1.1s							
MKAR	**Makanchi Array**	**57.20**	**325**	P		**P**	**04 38 46.6**	**+0.2**
MKAR	**Makanchi Array**	**57.20**	**325**	P		**P**	**04 38 46.1**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=114,slow=7.0,SNR=7.3							
	comp=Z,0.7nm,0.4s							
YAK	**Yakutsk**	**57.97**	**2**	LR		LR	05 05 23.6	
	comp=Z,22nm,18.1s,baz=214,slow=38							
ZALV	**Zalesovo Beam**	**60.24**	**333**	P		**P**	**04 39 05.4**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=104,slow=6.1,SNR=1.7							
	comp=Z,0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**61.38**	**327**	P		**P**	**04 39 14.9**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=123,slow=6.4,SNR=9.9							
	comp=Z,1.2nm,0.7s							
BVAR	**Borovoye Array**	**66.96**	**327**	P		**P**	**04 39 51.7**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=70,slow=6.3,SNR=1.6							
	comp=Z,0.3nm,0.3s							
VNDA	**Vanda**	**83.71**	**173**	P		**P**	**04 41 27.3**	**-0.2**
VNDA	**Vanda**	**83.71**	**173**	P		**P**	**04 41 28.0**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=317,slow=6.4,SNR=2.9							
	comp=Z,0.6nm,0.4s							
ARCES	**ARCESS Array B**	**90.12**	**340**	P		**P**	**04 41 58.6**	**-0.2**
	comp=Z,4.0nm,1.2s,baz=79,slow=5.0,SNR=1.6							
	comp=Z,4.0nm,1.2s							
FINES	**FINESS Array B**	**91.48**	**332**	P		**P**	**04 42 04.4**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=111,slow=8.5,SNR=1.9							
	comp=Z,1.0nm,0.9s							
NOA	**NORSAR Array B**	**98.44**	**334**	LR		LR	05 32 05.8	
	comp=Z,11nm,18.8s,baz=100,slow=38							

JMA 20 04:30:05.7±0.1, 24°.0N±0°.6×123°.4E±0°.3, h33km±1km, MV1.6/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.41**	**85**	*eP*		Pb	04 30 14.5	-0.3
HATJ				*eS*		Sb	04 30 20.7	-0.3
IRIF	**Iriomote-Funau**	**0.46**	**47**	*eP*		Pb	04 30 15.2	-0.3
IRIF				*eS*		Sb	04 30 22.1	-0.2
YOJ	**Yonaguni jima**	**0.54**	**324**	*eP*		Pb	04 30 16.6	-0.3
YOJ				*eS*		Sb	04 30 24.8	+0.1
JYNG	**Yonagunijimaku**	**0.57**	**318**	*eP*		Pb	04 30 17.0	-0.4
JYNG				*eS*		Sb	04 30 25.1	-0.4
JKRS	**Kuro-shima**	**0.63**	**70**	*eP*		Pn	04 30 18.0	-0.2
JKRS				*eS*		Sn	04 30 27.4	+0.2
JIJ	**Ishigaki jima**	**0.79**	**64**	*eP*		Pn	04 30 20.0	-0.5
JIJ				*eS*		Sn	04 30 31.1	-0.1
JISG	**Ishigakijimahi**	**1.03**	**57**	*eP*		Pn	04 30 24.0	+0.1
JISG				*eS*		Sb	04 30 37.7	-0.5

TAP 20 04:30:45.8, 23°.41N×121°.31E, h34km, ML0.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YULB	**Yu-li**	**0.02**	**221**	*eP*		Pb	04 30 51.4	-0.1
YULB				*eS*		Sb	04 30 55.1	-0.2
TWF1	**Yuli**	**0.06**	**195**	*eP*		Pb	04 30 51.4	-0.2
TWF1				*eS*		Sb	04 30 55.3	-0.2
EHYH	**Wanrong**	**0.09**	**19**	*eP*		Pb	04 30 51.5	-0.2
EHYH				*eS*		Sb	04 30 55.6	-0.1
EHY	**Hungye**	**0.10**	**4**	*eP*		Pb	04 30 51.5	-0.3
EHY				*eS*		Sb	04 30 55.6	-0.2
HGSD	**Ruisui**	**0.13**	**51**	*eP*		Pb	04 30 52.3	+0.3
HGSD				*eS*		Sb	04 30 56.8	+0.7
FULB	**Fuli**	**0.21**	**185**	*eP*		Pb	04 30 52.9	+0.2
FULB				*eS*		Sb	04 30 58.6	+1.2
EHD	**Haiduan**	**0.28**	**201**	*eP*		Pn	04 30 53.0	-0.3
EHD				*eS*		Sn	04 30 57.8	+0.5
WARBT	**Fenglin Townsh**	**0.31**	**12**	*eP*		Pb	04 30 53.5	-0.3
WARBT				*eS*		Sn	04 30 58.7	0.0
ELDTW	**Lidau**	**0.35**	**231**	*eP*		Pn	04 30 54.6	0.0
ELDTW				*eS*		Sb	04 31 00.4	+0.1
EDH	**Donghe**	**0.44**	**181**	*eP*		Pb	04 30 54.8	-0.8
EDH				*eS*		Sb	04 31 02.2	+0.1

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*NOU **20** 04:34:04.6, 18°.26S×119°.69E, h0km, mb4.5/10, Northwest of Australia*
*AUST **20** 04:34:04.8±0.3, 18°.S±3°.×12°.0E±°, h10km, mb4.4/15, ML3.5/7, ML4.1/3, MwMwp4.7/1, Mwp5.1/1, Error ellipse: s-maj=8.6km s-min=4.6km az=136.7*
ISC 20 04:34:03.8±0.9, 18°.32S±0°.06×120°.34E±0°.07, h10km, n37, σ2°.53/37, Western Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PSA00	**Pilbara Seismi**	**3.27**	**188**	P		**Pn**	**04 34 58.7**	**+3.6**
PSA00				S		**Sn**	**04 35 36.5**	**+2.4**
PSA00	**Pilbara Seismi**	**3.27**	**188**	P		**Pn**	**04 34 58.8**	**+3.6**
PSA00	**Pilbara Seismi**	**3.27**	**188**	S		**Sn**	**04 35 37.0**	**+2.9**
PSAB1	**Pilbara Seismi**	**3.27**	**189**	P		**Pn**	**04 34 58.8**	**+3.6**
FITZ	**Fitzroy Crossi**	**5.04**	**88**	S		**Sn**	**04 36 18.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**5.04**	**88**	P		**Pn**	**04 35 21.4**	**+1.8**
GIRL	**Giralia**	**7.16**	**232**	P		**Pn**	**04 35 51.5**	**+2.9**
	comp=Z,78nm,1.9s,comp=Z,0.2nmcomp=Z,307µm							
GIRL						**Sn**	**04 37 07.4**	**-2.7**
MEEK	**Meekatharra**	**8.43**	**191**	P		**Pn**	**04 36 08.8**	**+2.6**
	comp=Z,31nm,1.0s,comp=Z,0.2nm							
MEEK	**Meekatharra**	**8.43**	**191**	S		**Sn**	**04 37 38.7**	**-2.7**
MEEK	**Meekatharra**	**8.43**	**191**	P		**Pn**	**04 36 08.7**	**+2.6**
CVQOZ	**Cooralya Stati**	**8.44**	**223**	P		**Pn**	**04 36 09.2**	**+3.1**
	comp=Z,459nm,2.1s,comp=Z,1.5nm							
KNRA	**Kununurra**	**8.47**	**73**	P		**Pn**	**04 36 08.1**	**+1.4**
	comp=Z,29nm,1.1s,comp=Z,0.1nm							
WRKA	**Warakurna**	**9.96**	**133**	P		**Pn**	**04 36 29.8**	**+2.6**
	comp=Z,5.7nm,1.4s,comp=Z,0.0nm							
TWSI	**Taliwang, Sumb**	**10.10**	**340**	P		**Pn**	**04 36 28.3**	**-0.8**
	comp=Z,0.0nmcomp=Z,22nm,1.8s,comp=Z,0.1nm							
MORW	**Morawa**	**11.40**	**199**	P		**Pn**	**04 36 47.6**	**+0.9**
	comp=Z,28nm,2.1s							
MORW	**Morawa**	**11.40**	**199**	S		Sn	04 38 46.2	-8.1
MORW	**Morawa**	**11.40**	**199**	P		**Pn**	**04 36 47.7**	**+0.9**
MTN	**Manton Dam**	**11.73**	**64**	P		**Pn**	**04 36 51.2**	**-0.2**
	comp=Z,17nm,0.8s							
BLDU	**Ballidu**	**12.68**	**194**	P		**Pn**	**04 37 05.2**	**+0.9**
	comp=Z,29nm,1.8s							
BLDU	**Ballidu**	**12.68**	**194**	P		**Pn**	**04 37 05.7**	**+1.4**
KDU	**Kakadu**	**12.96**	**66**	P		**Pn**	**04 37 08.3**	**+0.1**
	comp=Z,14nm,2.7s							
KMBL	**Kambalda**	**13.06**	**174**	P		**Pn**	**04 37 07.0**	**-2.6**
KAPI	**Kappang**	**13.24**	**357**	P		**Pn**	**04 37 12.4**	**+0.4**
WC1	**Warramunga Arr**	**13.32**	**99**	P		**Pn**	**04 37 14.4**	**+1.2**
WC1	**Warramunga Arr**	**13.32**	**99**	S		Sn	04 39 32.4	-9.2
WRAB	**Tennant Creek**	**13.34**	**99**	P		**Pn**	**04 37 10.8**	**-2.6**
KLBR	**Kellerberrin**	**13.42**	**190**	P		**Pn**	**04 37 15.3**	**+0.9**
	comp=Z,29nm,1.7s							
KLBR	**Kellerberrin**	**13.42**	**190**	S		Sn	04 39 34.1	-10
KLBR	**Kellerberrin**	**13.42**	**190**	P		**Pn**	**04 37 15.5**	**+1.1**
	comp=Z,29nm,1.7s							
AS31	**Alice Springs**	**13.73**	**115**	P		**P**	**04 37 24.6**	**-2.9**
AS01	**Alice Springs**	**13.77**	**115**	P		**P**	**04 37 29.4**	**+1.5**
	comp=Z,4.7nm,1.2s							
MUN	**Mundaring**	**14.10**	**195**	P		**Pn**	**04 37 24.3**	**+0.6**
	comp=Z,51nm,1.4s							
MUN	**Mundaring**	**14.10**	**195**	P		**Pn**	**04 37 24.1**	**+0.4**
FORT	**Forrest**	**14.24**	**152**	P		**Pn**	**04 37 25.5**	**-0.2**
	comp=Z,19nm,2.7s							
NWAO	**Narrogin (SRO)**	**14.81**	**190**	P		**Pn**	**04 37 33.2**	**-0.2**
	comp=Z,75nm,1.2s							
NWAO	**Narrogin (SRO)**	**14.81**	**190**	P		**Pn**	**04 37 32.9**	**-0.5**
RKGY	**Rocky Gully**	**16.50**	**190**	P		**Pn**	**04 37 57.1**	**+1.7**
	comp=Z,36nm,2.1s							
RKGY				P		**Sn**	**04 40 50.2**	**-8.4**

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*IDC **20** 05:31:42.8±0.7,29°.93S×179°.08W, h0km, mb4.1/7, mbtmp4.1/8, ML3.8/1, MS3.6/18, Error ellipse: s-maj=24.4km s-min=15.5km az=134.0*
ISC 20 05:31:47.9±0.6, 29°.91S±0°.09×179°.1W±0°.1, h35km, n45, σ1°.33/23, mb4.3/9, MS3.7/16, 4C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.19**	**57**	Pn		**Pn**	**05 32 07.1**	**-0.9**
	873nm,0.3s,baz=97,slow=4.6,SNR=24							
RAO						Sn	**05 32 23.7**	**+0.7**
	254nm,0.3s,baz=270,slow=20,SNR=6.2							
URZ	**Urewera**	**8.91**	**200**	Pn		**Pn**	**05 33 52.7**	**-1.3**
	0.9nm,0.3s,baz=297,slow=3.7,SNR=1.5							
URZ						Sn	**05 35 34.4**	**+1.3**
	0.3nm,0.3s,baz=342,slow=13,SNR=2.0							
	2.9nm,0.3s							
DZM	**Mont Dzumac**	**15.19**	**298**	*eP*		**P**	**05 35 24.7**	**+0.2**
	112nm,27.2s							
DZM				*e*	LR	LR	05 38 59.1	
	1µm,26.1s							
DZM	**Mont Dzumac**	**15.19**	**298**	LR		LR	05 40 01.3	
	comp=Z,692nm,18.5s,baz=174,slow=33							
RAR	**Rarotonga**	**19.41**	**68**	LR		LR	05 43 22.1	
	comp=Z,93nm,18.2s,baz=238,slow=36							
TBI	**Tubuai**	**27.20**	**83**	*e*	S	S	05 42 20.8	+16
	2µm,27.2s							
TBI				*e*	LR	LR	05 44 20.6	
	856nm,27.8s							
TBI				*e*	LR	LR	05 44 20.9	
	1µm,28.2s							
HNR	**Honiara**	**28.29**	**312**	LR		LR	05 46 50.8	
	comp=Z,173nm,20.4s,baz=235,slow=32							
PPT2	**Papeete2**	**29.55**	**72**	*e*	LR	LR	05 45 20.7	
	108nm,25.8s							
PPT2				*e*	LR	LR	05 45 26.3	
	132nm,28.2s							
PPT	**Papeete**	**29.56**	**72**	LR		LR	05 47 36.6	
	comp=Z,55nm,18.4s,baz=308,slow=32							
STKA	**Stephens Creek**	**33.70**	**256**	LR		LR	05 49 32.5	
	comp=Z,117nm,19.3s,baz=83,slow=32							
TAOE	**Nuku Hiva Isla**	**41.97**	**68**	*e*	LR	LR	05 51 01.4	
	52nm,23.9s							
ASAR	**Alice Springs**	**42.22**	**267**	P		**P**	**05 39 36.4**	**-1.4**
	0.2nm,0.4s,baz=105,slow=7.9,SNR=6.6							
ASAR					LR	LR	05 56 58.1	
	comp=Z,211nm,18.1s,baz=115,slow=36							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**43.16**	**272**	P		**P**	**05 39 45.8**	**+0.4**
	1.3nm,0.9s,baz=111,slow=7.8,SNR=4.8							
WRA					PcP	**PcP**	**05 41 36.8**	**+2.2**
	0.8nm,0.9s,baz=110,slow=2.8,SNR=2.6							
WRA					LR	LR	05 56 49.4	
	comp=Z,143nm,18.1s,baz=110,slow=35							
	1.3nm,0.9s							
JAY	**Jayapura**	**46.86**	**298**	LR		LR	05 57 13.2	
	comp=Z,63nm,21.5s,baz=268,slow=33							
FITZ	**Fitzroy Crossi**	**51.44**	**270**	LR		LR	06 02 01.4	
	comp=Z,135nm,18.7s,baz=66,slow=35							
GUMO	**Guam**	**55.49**	**316**	LR		LR	06 01 20.8	
	comp=Z,71nm,21.9s,baz=124,slow=32							
QSPA	**South Pole Qui**	**60.19**	**180**	P		**P**	**05 41 52.4**	**+0.4**
	9.1nm,1.0s,baz=300,slow=1.3,SNR=18							
	9.1nm,1.0s							
MAW	**Mawson**	**72.44**	**201**	P		**P**	**05 43 09.8**	**-0.4**
	1.7nm,0.3s,baz=68,slow=14,SNR=29							
MAW					LR	LR	06 13 53.2	
	comp=Z,64nm,18.3s,baz=103,slow=35							
	1.7nm,0.3s							
MJAR	**Matsushiro Arr**	**77.33**	**326**	P		**P**	**05 43 40.1**	**+1.2**
	0.7nm,0.3s,baz=167,slow=6.1,SNR=1.2							
	0.7nm,0.3s							
TROLL	**Troll, Antarti**	**78.35**	**181**	⇑P		**P**	**05 43 42.2**	**-2.1**
	comp=Z,203nm,0.9s							
SNAA	**Sanae**	**78.66**	**179**	⇑P		**P**	**05 43 45.1**	**-0.9**
	comp=Z,50nm,1.0s							
SNAA	**Sanae**	**78.66**	**179**	P		**P**	**05 43 47.4**	**+1.5**
	comp=Z,3.4nm,1.1s,baz=212,slow=2.5,SNR=4.5							
	comp=Z,3.4nm,1.1s							
VNA3	**Neumayer Olymp**	**78.85**	**177**	⇑P		**P**	**05 43 49.3**	**+2.4**
	comp=Z,6.4nm,0.8s							
VNA1	**Neumayer--Stat**	**79.51**	**177**	⇑P		**P**	**05 43 52.7**	**+2.3**
	comp=Z,5.7nm,1.1s							
H03S2	**Juan Fernandez**	**81.50**	**124**	T		T	07 13 36.3	
	baz=238,slow=74,SNR=20							
H03S1	**Juan Fernandez**	**81.51**	**124**	T		T	07 13 37.2	
	baz=238,slow=74,SNR=17							
H03S3	**Juan Fernandez**	**81.51**	**124**	T		T	07 13 37.6	
	baz=238,slow=74,SNR=17							
H03N3	**Juan Fernandez**	**81.69**	**124**	T		T	07 13 49.0	
	baz=232,slow=76,SNR=32							
H03N2	**Juan Fernandez**	**81.69**	**124**	T		T	07 13 48.5	
	baz=232,slow=76,SNR=26							
H03N1	**Juan Fernandez**	**81.70**	**124**	T		T	07 13 48.1	
	baz=232,slow=76,SNR=42							
LPIG	**La Paz**	**85.06**	**59**	LR		LR	06 14 01.9	
	comp=Z,25nm,20.8s,baz=179,slow=30							
PFO	**Pinyon Flats O**	**86.56**	**48**	LR		LR	06 16 16.3	
	comp=Z,34nm,18.2s,baz=200,slow=31							
NVAR	**Mina Array Bea**	**88.51**	**43**	P		**P**	**05 44 36.9**	**0.0**
	comp=Z,0.4nm,0.8s,baz=232,slow=3.5,SNR=2.6							
	comp=Z,0.4nm,0.8s							
KDAK	**Kodiak Island**	**90.15**	**14**	LR		LR	06 19 21.5	
	comp=Z,20nm,18.2s,baz=195,slow=32							
TXAR	**Lajitas Array**	**92.90**	**58**	LR		LR	06 17 11.9	
	comp=Z,11nm,20.6s,baz=250,slow=29							
ANMO	**Albuquerque**	**93.99**	**52**	LR		LR	06 26 25.0	
	comp=Z,24nm,18.1s,baz=339,slow=35							
NEW	**Newport**	**95.52**	**36**	LR		LR	06 20 07.2	
	comp=Z,29nm,20.6s,baz=214,slow=30							
PDAR	**Pinedale Array**	**96.42**	**44**	LR		LR	06 20 58.5	
	comp=Z,16nm,21.1s,baz=244,slow=31							
FINES	**FINESS Array B**	**144.37**	**339**	PKP		**PKPdf**	**05 51 19.2**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=130,slow=5.1,SNR=5.4							
NB2	**NORSAR Subarra**	**148.13**	**351**	PKP		PKPab	05 51 39.8	+7.6
	comp=Z,1.6nm,1.0s,baz=16,slow=3.2							
NOA	**NORSAR Array B**	**148.13**	**351**	PKPbc		**PKiKP**	**05 51 30.6**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=36,slow=6.8,SNR=1.1							
HFS	**Hagfors**	**148.58**	**348**	PKPbc		**PKiKP**	**05 51 31.9**	**0.0**
	comp=Z,1.0nm,0.7s,baz=98,slow=7.6,SNR=2.6							
AKASG	**Malin Array Be**	**150.36**	**322**	PKPbc		**PKPbc**	**05 51 34.7**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=52,slow=3.1,SNR=1.8							
MMAI	**Mount Meron Ar**	**150.52**	**285**	PKPbc		**PKPbc**	**05 51 34.7**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=120,slow=13,SNR=1.8							
BRTR	**Keskin Array B**	**151.56**	**299**	PKPbc		**PKPbc**	**05 51 37.5**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=95,slow=3.1,SNR=1.2							

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*IDC **20** 05:35:17.6±1.0,27°.37N×92°.19E, h0km, mb3.6/12, mbtmp3.6/12, MS4.0/2, Error ellipse: s-maj=47.1km s-min=18.2km az=56.0*
ISC 20 05:35:19.9±1.1, 27°.4N±0°.2×92°.2E±0°.2, h15km, n16, σ0°.91/14, mb3.8/11, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array

TASR Sg Sg 05 49 58.7 +2.8
KALT2 Kaltan 2 4.96 265 Sg Sg 05 50 03.3 +2.3
YALR Yailyu, Altay 5.36 248 Sg Sg 05 50 17.2 +3.5

IDC 20 05:51:15.8±2.2, 15°02'S×172°79'W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=130.6km s-min=29.4km az=149.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	50.51	256	P	P	06 00 17.0	+0.8
	0.4nm,1.0s,baz=97,slow=7.3,SNR=1.6						
	0.4nm,1.0s						
ASAR	Alice Springs	50.79	252	P	P	06 00 17.8	-0.5
	0.7nm,0.4s,baz=88,slow=8.2,SNR=17						
	0.7nm,0.4s						
TXAR	Lajitas Array	79.91	56	P	P	06 03 27.6	+0.4
	0.3nm,0.8s,baz=234,slow=5.5,SNR=3.5						
	0.3nm,0.8s						
ILAR	Eielson Array	81.97	11	P	P	06 03 36.7	-0.4
	0.3nm,0.8s,baz=194,slow=9.3,SNR=4.4						
	0.3nm,0.8s						

IDC 20 05:57:17.3±2.2, 0°90S×127°31E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=163.0km s-min=28.4km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	20.13	160	P	P	06 01 53.6	+0.5
	0.5nm,0.4s,baz=340,slow=12,SNR=17						
	0.5nm,0.4s						
ASAR	Alice Springs	23.51	165	P	P	06 02 28.8	-0.4
	0.4nm,0.5s,baz=343,slow=12,SNR=7.4						
	0.4nm,0.5s						
MKAR	Makanchi Array	61.69	326	P	P	06 07 37.2	-0.1
	0.1nm,0.4s,baz=121,slow=7.6,SNR=1.6						
	0.1nm,0.4s						

IDC 20 06:01:23.4±1.6, 18°71S×174°04W, h61km±7km, mb3.7/5, mbtmp4.1/5, Error ellipse: s-maj=44.1km s-min=26.1km az=123.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	20.95	200	P	P	06 06 01.1	-0.2
	14nm,1.1s,baz=30,slow=7.9,SNR=2.0						
URZ				pP	pP	06 06 13.9	-0.6
	7.9nm,0.7s,baz=0.9,slow=9.5,SNR=1.8						
	14nm,1.1s						
WRA	Warramunga Arr	48.57	260	P	P	06 10 00.3	-0.7
	1.0nm,0.7s,baz=95,slow=7.2,SNR=22						
WRA				pP	pP	06 10 16.9	+0.5
	1.0nm,0.5s,baz=97,slow=8.6,SNR=6.5						
	1.0nm,0.7s						
ASAR	Alice Springs	48.58	255	P	P	06 10 01.5	+0.4
	2.7nm,0.6s,baz=87,slow=8.8,SNR=40						
ASAR				pP	pP	06 10 17.7	+1.2
	1.2nm,0.4s,baz=88,slow=8.1,SNR=7.6						
	2.7nm,0.6s						
FITZ	Fitzroy Crossi	56.98	260	P	P	06 11 01.9	-1.2
	4.8nm,1.2s,baz=108,slow=6.4,SNR=2.8						
FITZ				pP	pP	06 11 19.9	+0.8
	2.4nm,1.0s,baz=126,slow=8.7,SNR=1.3						
	4.8nm,1.2s						
ILAR	Eielson Array	85.79	11	P	P	06 13 56.9	+1.3
	0.3nm,1.0s,baz=214,slow=6.4,SNR=1.4						
ILAR				pP	pP	06 14 11.3	-1.1
	0.3nm,0.8s,baz=206,slow=5.2,SNR=3.0						
	0.3nm,1.0s						

IDC 20 06:08:19.9±2.5, 30°49S×178°81W, h0km, mb3.7/3, mbtmp3.8/4, ML2.9/1, MS4.0/1, Error ellipse: s-maj=60.2km s-min=37.9km az=54.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	8.45	202	Pn	Pn	06 10 25.7	+2.1
	0.2nm,0.3s,baz=330,slow=20,SNR=1.7						
URZ				Sn	Sn	06 11 47.4	-12
	0.3nm,0.3s,baz=291,slow=17,SNR=1.1						
	11nm,1.1s						
ASAR	Alice Springs	42.40	267	P	P	06 16 16.1	-0.4
	0.3nm,0.4s,baz=106,slow=7.5,SNR=4.6						
	0.3nm,0.4s						
WRA	Warramunga Arr	43.40	273	P	P	06 16 24.4	-0.2
	0.4nm,0.3s,baz=112,slow=7.9,SNR=10						
WRA				LR	LR	06 32 26.0	
	comp=Z,182nm,21.6s,baz=18,slow=33						
	0.4nm,0.3s						
QSPA	South Pole Qui	59.62	180	P	P	06 18 24.3	-1.2
	1.0nm,0.8s,baz=55,slow=2.1,SNR=2.3						
	1.0nm,0.8s						
FINES	FINESS Array B	144.99	339	PKP	PKPdf	06 27 59.4	+1.0
	0.8nm,0.6s,baz=40,slow=2.1,SNR=4.9						

*NEIC **20** 06:13:54.7±1.3, 5°37S±0°08×134°0E±0°1, h10km±1km, mb4.6/11, Error ellipse: s-maj=18.6km s-min=12.3km az=70.0*
*IDC **20** 06:13:54.2±1.0, 5°55S×133°37E, h0km, mb4.1/7, mbtmp4.0/10, ML4.0/3, MS3.7/9, Error ellipse: s-maj=69.9km s-min=17.5km az=73.0*
*DJA **20** 06:14:01.0±1.1, 5°S±3°×13°4E±°, h27km±11km, M5.0/13, mB5.5/3, mb5.1/6, MLv4.9/13, Mw(mB)5.0/3*

ISC 20 06:13:58.6±0.5, 5°39S±0°05×133°96E±0°07, h35km, n70, σ1§83/62, mb4.5/20, MS3.6/9, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMPI	Kaimana, Papua	1.74	352	P	Pn	06 14 24.7	-1.7
KMPI				S	Sn	06 14 44.8	-2.5
FAKI	Fak Fak	2.99	325		Pn	06 14 41.6	-2.0
FAKI	Fak Fak	2.99	325	P	Pn	06 14 42.2	-1.4
FAKI	Fak Fak	2.99	325	P	Pn	06 14 41.9	-1.7
SAUI	Saumlaki	3.69	226	P	Pn	06 14 57.1	+3.9
SAUI				S	Sn	06 15 38.0	+2.5
RKPI	Ransiki, Papua	3.86	3	P	Pn	06 14 57.0	+1.4
BNDI	Bandanaira	4.13	282	P	Pn	06 15 00.7	+1.4
BNDI	Bandanaira	4.13	282	P	Pn	06 14 59.6	+0.3
BNDI				S	Sn	06 15 43.7	-2.7
SWI	Sorong	5.24	329	P	Pn	06 15 12.7	-1.9
MSAI	Masohi	5.41	292	P	Pn	06 15 16.2	-0.7
	1.6nm173nm,0.9s						
AAI	Ambon	5.99	286	P	Pn	06 15 23.3	-1.6
	0.7nm217nm,0.9s						
GENI	Genyem	6.79	66	P	Pn	06 15 43.2	+7.4
NLAI	Namlea	7.17	287	P	Pn	06 15 42.4	+1.4
	0.5nm82nm,0.8s						
KDU	Kakadu	7.40	191	P	Pn	06 15 44.3	+0.1
DRS	Darwin Rock St	7.62	203	P	Pn	06 15 49.0	+1.7
MTN	Manton Dam	7.91	200		Pn	06 15 49.6	-1.7
MTN	Manton Dam	7.91	200	P	Pn	06 15 52.6	+1.3
SOEI	Soe	10.54	245		Pn	06 16 25.7	-1.7
SOEI	Soe	10.54	245	P	Pn	06 16 27.9	+0.5
BATI	Baumata	11.27	244	Sn	Sn	06 18 26.8	-15
	9.4nm,0.3s,baz=67,slow=7.7,SNR=1.4						
KNRA	Kununurra	11.42	206		Pn	06 16 37.0	-2.5
COEN	Coen	12.44	134	Pn	Pn	06 16 51.3	-2.1
COEN	Coen	12.44	134	P	Pn	06 16 51.7	-1.7
KAPI	Kappang	14.15	271	LR	LR	06 22 35.9	
	comp=Z,292nm,20.3s,baz=96,slow=38						
WRAB	Tennant Creek	14.46	179		Pn	06 17 18.8	-2.1
WRA	Warramunga Arr	14.47	179		Pn	06 17 18.4	-2.6
WRA	Warramunga Arr	14.47	179	Pn	Pn	06 17 16.8	-4.3
	0.5nm,0.3s,baz=354,slow=13,SNR=21						
WRA				Sn	Sn	06 19 45.1	-15
	0.8nm,0.3s,baz=360,slow=23,SNR=5.6						
WRA				Lg	Lg	06 21 21.3	
	baz=6.7,slow=26						
	2.1nm,0.9s						
FITZ	Fitzroy Crossi	15.02	212		Pn	06 17 24.5	-3.9
FITZ	Fitzroy Crossi	15.02	212	Pn	Pn	06 17 21.1	-7.3
	1.6nm,0.3s,baz=38,slow=11,SNR=35						
FITZ				Sn	Sn	06 20 00.3	-13
	5.0nm,0.3s,baz=76,slow=14,SNR=11						
	1.7nm,0.3s						
QIS	Mount Isa	16.04	161	P	Pn	06 17 41.5	-0.2
AS01	Alice Springs	18.17	180	P	P	06 18 09.1	+0.8
AS31	Alice Springs	18.17	180		Pn	06 18 05.6	-2.7
ASAR	Alice Springs	18.17	180		Pn	06 18 06.1	-2.2
ASAR	Alice Springs	18.17	180	P	Pn	06 18 05.5	-2.9
	0.2nm,0.3s,baz=2.3,slow=11,SNR=9.7						
ASAR				S	Sn	06 21 17.1	-13
	1.8nm,0.6s,baz=2.9,slow=28,SNR=4.3						
ASAR				Lg	Lg	06 23 17.0	
	baz=4.1,slow=30						
	2.2nm,0.8s						
MBWA	Marble Bar	20.88	220	P	P	06 18 37.4	-0.6
MBWA				IAmb	IAmb	06 18 51.1	
	comp=Z,28nm,1.1s						
PSA00	Pilbara Seismi	21.11	219	P	P	06 18 39.9	-0.6
PSA00				IAmb	IAmb	06 19 01.3	
	comp=Z,46nm,1.4s						
GUMO	Guam	21.75	30	LR	LR	06 27 58.5	
	comp=Z,119nm,18.0s,baz=228,slow=38						
SBUM	Sibu	23.07	289		P	06 18 59.6	-1.7
SBUM				IAmb	IAmb	06 19 14.8	
	comp=Z,25nm,1.4s						
KSM	Kuching	24.59	285	P	P	06 19 15.0	-0.8
FORT	Forrest	25.86	192	P	P	06 19 27.5	+0.4
FORT				IAmb	IAmb	06 19 56.7	
	comp=Z,13nm,0.8s						
HNR	Honiara	26.07	100	LR	LR	06 30 55.1	
	comp=Z,162nm,20.0s,baz=237,slow=38						
STKA	Stephens Creek	27.30	166	P	P	06 19 42.4	+2.3
	comp=Z,2.4nm,0.8s,baz=326,slow=11,SNR=1.1						
	comp=Z,2.4nm,0.8s						
QIZ	Qiongzhong	33.96	316	P	P	06 20 38.8	-0.2
QIZ				S	S	06 26 05.8	+3.9
QIZ				LR	LR		
	comp=N,180nm,9.6s						
QIZ				LR	LR		
	comp=E,230nm,12.2s						
QIZ				LR	LR		
	comp=Z,380nm,12.2s						
DZM	Mont Dzumac	35.52	121	LR	LR	06 33 10.0	
	comp=Z,86nm,21.8s,baz=242,slow=32						
NJ2	Nanjing	39.92	340	eP	P	06 21 30.3	+0.8
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH	PanZhiHua	44.49	317	P	P	06 22 08.8	+1.8
XAN	Xi'an	45.81	331	P	P	06 22 19.3	+2.0
XAN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LZH	Lanzhou	49.99	328	eP	P	06 22 49.4	-0.4
LZH				sP	sP	06 23 01.4	-1.5
LZH				pmax	pmax		
	comp=Z,14nm,1.3s						
HHC	Hu-ho-hao-te	50.39	338	eP	P	06 22 53.8	+1.1
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,79nm,4.7s						
URZ	Urewera	51.00	136	LR	LR	06 45 35.7	
	comp=Z,246nm,18.2s,baz=300,slow=37						
RAO	Raoul Island	51.23	123	LR	LR	06 43 32.0	
	comp=Z,42nm,21.1s,baz=308,slow=34						
XLT	XiLinHaoTe	51.65	344	eP	P	06 23 08.0	+6.0
XLT				pP	pP	06 23 12.1	+0.6
XLT				sP	pwP	06 23 15.5	-0.5
XLT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
XLT				pmax	pmax		
	comp=Z,92nm,3.8s						
GTA	Gaotai	54.60	328	eP	P	06 23 26.4	+2.5
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WMQ	Urumqi	64.29	325	eP	P	06 24 32.5	+1.8
WMQ				pmax	pmax		
	comp=Z,12nm,0.9s						
MKAR	Makanchi Array	69.12	325	P	P	06 25 01.0	-0.4
MKAR	Makanchi Array	69.12	325	P	P	06 25 01.6	+0.2
	comp=Z,1.4nm,0.7s,baz=116,slow=8.2,SNR=14						
MKAR				LR	LR	06 59 32.9	
	comp=Z,32nm,18.3s,baz=76,slow=40						
	comp=Z,1.4nm,0.7s						
ZALV	Zalesovo Beam	71.96	332	P	P	06 25 18.4	0.0
	comp=Z,0.3nm,0.3s,baz=114,slow=9.6,SNR=1.4						
	comp=Z,0.3nm,0.3s						
KURK	Kurchatov	73.27	327	P	P	06 25 26.0	-0.4
KURK				IAmb	IAmb	06 25 40.9	
	comp=Z,7.5nm,1.3s						
KURBB	Kurchatov Arra	73.27	327	P	P	06 25 26.2	-0.2
	comp=Z,1.9nm,1.0s,baz=129,slow=5.5,SNR=11						
	comp=Z,1.9nm,1.0s						
GAR	Garm	73.39	313	P	P	06 25 26.9	-0.6
VNDA	Vanda	73.59	174	P	P	06 25 28.9	+1.1
	comp=Z,0.8nm,0.6s,baz=309,slow=8.7,SNR=2.4						
	comp=Z,0.8nm,0.6s						
KK31	Karatay Array	74.79	317	P	P	06 25 35.0	-0.5
KK31				IAmb	IAmb	06 25 53.5	
	comp=Z,4.8nm,1.2s						
KKAR	Karatay Array	74.79	317	P	P	06 25 34.7	-0.7
TIXI	Tiksi	76.96	358	LR	LR	06 59 36.7	
	comp=Z,76nm,20.1s,baz=158,slow=36						
BVAR	Borovoye Array	78.86	327	P	P	06 25 58.0	-0.2
	comp=Z,1.8nm,0.8s,baz=138,slow=5.4,SNR=7.0						
	comp=Z,1.8nm,0.8s						
BRVK	Borovoye	78.93	327	P	P	06 25 58.3	-0.2
BRVK				IAmb	IAmb	06 26 14.8	
	comp=Z,5.5nm,1.2s						
QSPA	South Pole Qui	84.57	180	P	P	06 26 28.7	+0.5
	comp=Z,2.3nm,1.1s,baz=309,slow=2.3,SNR=7.4						
	comp=Z,2.3nm,1.1s						
CPUP	Villa Florida	146.62	161	PKPbc	PKPbc	06 33 37.1	-0.2
	comp=Z,1.1nm,0.9s,baz=132,slow=1.8,SNR=5.9						
LPAZ	La Paz	149.31	135	PKPbc	PKiKP	06 33 46.2	-0.6
	comp=Z,2.0nm,1.0s,baz=271,slow=1.5,SNR=5.8						

*IDC **20** 06:19:21.8±0.6, 0°48S×127°87E, h0km, mb4.0/16, mbtmp4.1/17, ML4.6/1, MS3.6/6, Error ellipse: s-maj=29.2km s-min=13.8km az=79.0*
*NEIC **20** 06:19:26.1±1.4, 0°44S±0°06×127°86E±0°08, h10km±1km, mb4.7/23, Error ellipse: s-maj=14.6km s-min=7.9km az=62.0*
*DJA **20** 06:19:28.0±0.9, 1°S±2°×12°8E±°, h28km±10km, M4.7/19, mB5.2/5, mb4.9/13, MLv4.7/19, Mw(mB)4.6/5*

ISC 20 06:19:28.3±0.4, 0°54S±0°04×127°83E±0°06, h35km, n75, σ1§39/78, mb4.4/28, MS3.6/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	1.38	340		Pn	06 19 49.9	-1.2
TNTI	Ternate	1.38	340	P	Pn	06 19 50.5	-0.5
TNTI				S	Sn	06 20 10.1	+2.0
SANI	Sanana	2.38	231	P	Pn	06 20 03.1	-1.7
SANI				S	Sn	06 20 31.8	-0.9
NLAI	Namlea	2.78	195	P	Pn	06 20 10.5	+0.2
NLAI				S	Sn	06 20 44.0	+1.3
MSAI	Masohi	3.00	159	P	Pn	06 20 13.9	+0.6
MSAI				S	Sn	06 20 51.1	+3.0
AAI	Ambon	3.15	173	P	Pn	06 20 15.1	-0.3
SWI	Sorong	3.44	95	P	Pn	06 20 19.5	0.0
KMSI	Cibinong	4.00	286	P	Pn	06 20 26.5	-0.6
KMSI				S	Sn	06 21 14.1	+1.2
BNDI	Bandanaira	4.47	152	P	Pn	06 20 31.9	-1.7
SGSI	Sangihe	4.78	331	P	Pn	06 20 40.2	+2.3
FAKI	Fak Fak	5.01	118		Pn	06 20 39.9	-1.1
FAKI	Fak Fak	5.01	118	P	Pn	06 20 39.4	-1.6
	0.5nm110nm,0.8s						
LUWI	Luwuk	5.08	264	P	Pn	06 20 41.7	-0.3
	1.7nm4µm150nm,0.7s						
MRSI	Marisa	5.97	280	P	Pn	06 20 54.5	+0.2
	0.3nm64nm,0.7s						
APSI	Ampana	6.19	267	P	Pn	06 20 57.0	-0.2
	2µm187nm,0.6s						
TOLI2	Tolitoli	7.24	283		Pn	06 21 12.4	+0.9
MPSI	Mapaga	7.98	276	P	Pn	06 21 23.3	+1.5
BNSI	Bone	8.62	243	P	Pn	06 21 31.4	+0.8
	55nm,1.2s						
SPSI	Sidrap Palu	8.74	247	P	Pn	06 21 33.2	+0.9
BKSI	Bulukumba	9.04	238	P	Pn	06 21 38.0	+1.6
	735nm66nm,0.5s						
BSSI	Bau Bau, Buton	9.20	233	P	Pn	06 21 39.8	+1.2
	99nm,1.9s						
KAPI	Kappang	9.21	241		Pn	06 21 40.4	+1.7
KAPI	Kappang	9.21	241	Pn	Pn	06 21 36.5	-2.3
	6.2nm,0.3s,baz=90,slow=3.6,SNR=23						
KAPI				Sn	Sn	06 23 20.0	-1.2
	0.7nm,0.3s,baz=339,slow=17,SNR=1.5						
	27nm,0.5s						
EDFI	Ende, Flores	10.20	217	P	Pn	06 21 53.8	+1.5
	25nm,1.1s						
MYLDM	Lahad Datu	10.91	301	Pn	Pn	06 22 01.4	-0.6
MTN	Manton Dam	12.66	165	Pn	Pn	06 22 24.1	-1.9
KSM	Kuching	17.63	277		Pn	06 23 31.4	+0.1
KSM				IAmb	IAmb	06 23 58.2	
	comp=Z,20nm,0.3s						
COEN	Coen	20.21	132	P	P	06 24 00.7	+0.4
COEN				IAmb	IAmb	06 24 09.9	
	comp=Z,27nm,1.1s						
WRA	Warramunga Arr	20.31	162	P	P	06 24 01.4	-0.1
WRA	Warramunga Arr	20.31	162	P	P	06 23 59.5	-1.9
	comp=Z,3.1nm,0.6s,baz=341,slow=12,SNR=3.4						
	comp=Z,3.1nm,0.6s						
AS31	Alice Springs	23.73	166	P	P	06 24 37.0	-0.4
ASAR	Alice Springs	23.74	166	P	P	06 24 37.2	-0.2
ASAR	Alice Springs	23.74	166	P	P	06 24 36.3	-1.2
	comp=Z,5.2nm,0.5s,baz=345,slow=12,SNR=14						
ASAR				PcP	PcP	06 28 21.6	+0.6
	comp=Z,0.4nm,0.6s,baz=20,slow=3.0,SNR=2.4						
	comp=Z,5.2nm,0.5s						
TPUB	Ta-pu	24.71	344	P	P	06 24 46.3	0.0
TPUB				IAmb	IAmb	06 24 55.7	
	comp=Z,28nm,0.9s						
GIRL	Giralia	25.65	210	P	P	06 24 55.6	+0.8
RPSI	Rantau Prapat	29.07	276	P	P	06 25 26.2	+0.4
RPSI				IAmb	IAmb	06 25 27.4	
	comp=Z,16nm,1.0s						
FORT	Forrest	30.08	180	P	P	06 25 34.2	-0.2
FORT				IAmb	IAmb	06 25 36.2	
	comp=Z,16nm,1.0s						
JNU	Nakatsue	33.60	5	LR	LR	06 37 41.3	
	comp=Z,123nm,20.5s,baz=186,slow=33						
STKA	Stephens Creek	33.78	159	P	P	06 26 07.6	+0.7
STKA	Stephens Creek	33.78	159	P	P	06 26 05.0	-1.9
	comp=Z,6.4nm,1.1s,baz=6.6,slow=4.7,SNR=3.7						
	comp=Z,6.4nm,1.1s						
CMAR	Chiang Mai Arr	34.09	305	P	P	06 26 10.6	+0.8
CMAR	Chiang Mai Arr	34.09	305	P	P	06 26 07.1	-2.7
	comp=Z,1.4nm,0.3s,baz=119,slow=8.9,SNR=4.7						
	comp=Z,1.4nm,0.3s						
CHTO	Chiang Mai	34.27	306	P	P	06 26 11.9	+0.5
MJAR	Matsushiro Arr	38.13	14	P	P	06 26 41.1	-3.0
	comp=Z,1.9nm,0.7s,baz=189,slow=9.6,SNR=7.4						
MJAR				LR	LR	06 40 52.3	
	comp=Z,65nm,20.8s,baz=190,slow=34						
	comp=Z,1.9nm,0.7s						
USRK	Ussuriysk Ar.	44.70	4	P	P	06 27 35.7	-2.1
	comp=Z,0.8nm,0.6s,baz=232,slow=14,SNR=1.1						
USRK				LR	LR	06 44 26.2	
	comp=Z,74nm,21.1s,baz=197,slow=34						
	comp=Z,0.8nm,0.6s						
XLT	XiLinHaoTe	45.47	348	eP	P	06 27 53.3	+9.2
XLT				pP	sP	06 27 58.4	-0.3
XLT				sP	pP	06 28 02.8	+8.3
XLT				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ASAJ	Asahikawa	46.37	15	LR	LR	06 46 05.7	
	comp=Z,55nm,20.9s,baz=180,slow=35						
GTA	Gaotai	47.31	330	eP	P	06 28 01.5	+2.8
GTA				pP	pP	06 28 06.3	-2.9
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	Songino Array	51.67	342	P	P	06 28 30.2	-1.6
	comp=Z,0.6nm,0.5s,baz=178,slow=4.3,SNR=3.5						
SONM				LR	LR	06 51 42.4	
	comp=Z,65nm,18.2s,baz=134,slow=38						
	comp=Z,0.6nm,0.5s						
BKZ	Black Stump Fm	58.72	137	P	P	06 29 24.1	+1.3
BKZ				IAmb	IAmb	06 29 33.6	
	comp=Z,7.6nm,1.1s						
PEA0B	Petropavlovsk-	58.98	21	P	P	06 29 24.9	+0.7
PETK	Petropavlovsk-	58.98	21	P	P	06 29 24.7	+0.4
PETK	Petropavlovsk-	58.98	21	P	P	06 29 22.5	-1.7
	comp=Z,3.0nm,0.9s,baz=224,slow=6.9,SNR=1.9						
	comp=Z,3.0nm,0.9s						
MKAR	Makanchi Array	61.68	326	P	P	06 29 42.5	-0.3
	comp=Z,0.4nm,0.3s,baz=114,slow=7.8,SNR=8.0						
	comp=Z,0.4nm,0.3s						
ZALV	Zalesovo Beam	64.87	334	P	P	06 30 02.6	-1.2
	comp=Z,1.2nm,0.8s,baz=98,slow=9.1,SNR=3.5						
	comp=Z,1.2nm,0.8s						
KURBB	Kurchatov Arra	65.91	328	P	P	06 30 09.6	-1.0
	comp=Z,1.1nm,0.7s,baz=125,slow=6.2,SNR=8.8						
	comp=Z,1.1nm,0.7s						
KURK	Kurchatov	65.91	328	P	P	06 30 11.3	+0.7
KURK				IAmb	IAmb	06 30 20.4	
	comp=Z,5.2nm,0.9s						
KK31	Karatay Array	67.10	318	P	P	06 30 18.0	-0.4
KK31				IAmb	IAmb	06 30 24.9	
	comp=Z,2.2nm,0.9s						
KKAR	Karatay Array	67.10	318	P	P	06 30 18.7	+0.3
BVAR	Borovoye Array	71.48	328	P	P	06 30 44.5	-0.8
	comp=Z,0.5nm,0.5s,baz=98,slow=9.1,SNR=4.5						
	comp=Z,0.5nm,0.5s						
AB31	Akbulak array	76.14	321	P	P	06 31 13.9	+1.3
ABKAR	Akbulak array	76.14	321	P	P	06 31 13.6	+1.0
VNDA	Vanda	79.08	173	P	P	06 31 32.2	+3.6
VNDA	Vanda	79.08	173	P	P	06 31 27.9	-0.7
	comp=Z,1.1nm,0.8s,baz=343,slow=6.6,SNR=2.2						
	comp=Z,1.1nm,0.8s						
MAW	Mawson	80.17	201	P	P	06 31 33.6	-1.0
	comp=Z,2.8nm,1.0s,baz=32,slow=6.5,SNR=4.0						
	comp=Z,2.8nm,1.0s						
VOI	Vohitsoka	81.48	248	P	P	06 31 43.1	+0.3
VOI				IAmb	IAmb	06 31 50.8	
	comp=Z,9.9nm,1.1s						
L16K	Owhat River	82.33	27	P	P	06 31 47.5	+1.3
L16K				IAmb	IAmb	06 31 56.8	
	comp=Z,4.6nm,1.1s						
K17K	Iditarod	83.12	26	P	P	06 31 51.2	+0.9
L18K	Granite Mounta	83.73	27	P	P	06 31 54.6	+1.2
L18K				IAmb	IAmb	06 32 04.0	
	comp=Z,6.7nm,1.1s						
C19K	Lookout Ridge	84.33	20	P	P	06 31 57.8	+1.3
C19K				IAmb	IAmb	06 32 08.3	
	comp=Z,2.7nm,0.9s						
N19K	Bonanza Creek	84.47	29	P	P	06 31 59.2	+1.9
M19K	Big River Lodg	84.72	28	P	P	06 32 01.2	+2.7
M19K				IAmb	IAmb	06 32 08.5	
	comp=Z,5.1nm,0.9s						
ILAR	Eielson Array	88.46	25	P	P	06 32 15.9	-0.8
	comp=Z,0.3nm,0.9s,baz=281,slow=6.3,SNR=4.9						
	comp=Z,0.3nm,0.9s						
QSPA	South Pole Qui	89.40	180	P	P	06 32 21.2	0.0
	comp=Z,2.7nm,1.0s,baz=4.8,slow=1.6,SNR=12						
	comp=Z,2.7nm,1.0s						
ASF	Jabal al Asfar	91.07	302	LR	LR	07 19 44.3	
	comp=Z,50nm,19.7s,baz=182,slow=40						

*NAO **20** 06:24:32.0, 35°66N×22°52E, h10km, mb3.4*
*IDC **20** 06:24:57.0±1.6, 38°61N×21°92E, h

KLV	**Kalavryta, Ach**	**0.47**	**153**	P	**Pg**	**06 25 05.9**	**-0.9**
KLV				S	**Sg**	**06 25 13.3**	**+0.2**
KLV	**Kalavryta, Ach**	**0.47**	**153**	P	**Pg**	**06 25 05.9**	**-0.9**
KLV				S	**Sg**	**06 25 12.6**	**-0.5**
AXS	**Araxos**	**0.48**	**237**	P	**Pg**	**06 25 06.3**	**-0.8**
DLFA	**Delphi**	**0.48**	**88**	P	**Pb**	**06 25 06.8**	**-1.3**
RLS	**Riolos of Patr**	**0.52**	**220**	P	**Pg**	**06 25 07.1**	**-0.8**
RLS				S	**Sg**	**06 25 14.8**	**+0.1**
RLS	**Riolos of Patr**	**0.52**	**220**	P	**Pg**	**06 25 07.1**	**-0.8**
YRMI	**Loutra Irminis**	**0.55**	**230**	P	**Pg**	**06 25 07.6**	**-0.9**
MAKR	**Makrakomi, Fth**	**0.59**	**19**	P	**Pn**	**06 25 10.0**	**-1.8**
MAKR	**Makrakomi, Fth**	**0.59**	**19**	P	**Pn**	**06 25 09.9**	**-1.8**
GUR	**Goura**	**0.64**	**145**	P	**Pg**	**06 25 09.0**	**-1.1**
GUR				S	**Sg**	**06 25 17.9**	**-0.6**
GUR	**Goura**	**0.64**	**145**	P	**Pg**	**06 25 08.9**	**-1.1**
GUR				S	**Sg**	**06 25 17.9**	**-0.6**
AGG	**Agios Georgios**	**0.66**	**32**	P	**Pn**	**06 25 10.7**	**-2.2**
AGG				S	**Sn**	**06 25 22.0**	**-1.2**
AGG	**Agios Georgios**	**0.66**	**32**	P	**Pn**	**06 25 11.1**	**-1.8**
AGG				S	**Sn**	**06 25 20.9**	**-2.2**
AGG				*i* IAML		06 25 29.0	
	comp=N,517nm,0.4s						
AGG	**Agios Georgios**	**0.66**	**32**	P	**Pn**	**06 25 10.4**	**-2.4**
AXAR	**Agios Charalam**	**0.68**	**63**	P	**Pn**	**06 25 10.9**	**-2.2**
AXAR				S	**Sn**	**06 25 23.0**	**-0.6**
AXAR	**Agios Charalam**	**0.68**	**63**	P	**Pn**	**06 25 10.9**	**-2.2**
AMPL	**Ampelaki**	**0.70**	**312**	P	**Pb**	**06 25 12.2**	**+0.4**
KIAA	**Kiato**	**0.81**	**123**	P	**Pn**	**06 25 14.2**	**-0.7**
LKR	**Lokris**	**0.89**	**77**	P	**Pn**	**06 25 15.1**	**-0.8**
RTZL	**Ratzakli, Kefa**	**0.96**	**247**	P	**Pg**	**06 25 15.2**	**-0.9**
LTK	**Loutraki**	**0.96**	**117**	P	**Pn**	**06 25 16.1**	**-0.7**
NYDR	**Nydri-Lefkada**	**0.96**	**286**	P	**Pg**	**06 25 15.7**	**-0.5**
EVGI	**Lefkada island**	**0.98**	**280**	P	**Pg**	**06 25 15.9**	**-0.6**
LOUT	**Loutraki**	**0.98**	**118**	P	**Pn**	**06 25 16.7**	**-0.4**
LKD2	**Lefkada island**	**1.02**	**289**	P	**Pg**	**06 25 17.1**	**-0.2**
FSK	**Fiskardo**	**1.04**	**270**	P	**Pg**	**06 25 16.8**	**-0.9**
VLS	**Valsamata**	**1.06**	**255**	P	**Pg**	**06 25 16.4**	**-1.6**
PSDA	**Pessada-Kefalo**	**1.08**	**252**	P	**Pg**	**06 25 16.8**	**-1.7**
LTHK	**Lithakia**	**1.12**	**228**	P	**Pb**	**06 25 17.5**	**-1.4**
ORTH	**Orthonies,Zaky**	**1.12**	**237**	P	**Pg**	**06 25 17.5**	**-1.7**
TYRN	**Tyrnavos**	**1.28**	**12**	P	**Pn**	**06 25 22.4**	**+1.2**
NEO	**Neokhori**	**1.34**	**51**	P	**Pg**	**06 25 23.4**	**-0.1**
JAN	**Janina**	**1.44**	**326**	P	**Pg**	**06 25 25.9**	**+0.5**
IGT	**Igoumenitsa**	**1.62**	**312**	P	**Pg**	**06 25 28.6**	**-0.1**
LIT	**Litokhoron**	**1.71**	**16**	P	**Pg**	**06 25 28.9**	**-1.6**
LIT				S	**Sg**	**06 25 51.0**	**-1.6**
LIT				*i* IAML		06 26 02.0	
	comp=N,300nm,1.1s						
LIT	**Litokhoron**	**1.71**	**16**	P	**Pg**	**06 25 29.0**	**-1.4**
FNA	**Florina**	**2.35**	**351**	P	**Pb**	**06 25 39.3**	**-0.7**
OHR	**Ohrid**	**2.78**	**343**	*i* Pn	**Pb**	**06 25 47.2**	**-0.1**
VAY	**Valandovo**	**2.91**	**10**	*i* Pn	**Pb**	**06 25 47.8**	**-1.6**
APE	**Apeiranthos**	**3.21**	**115**	P	**Pn**	**06 25 48.9**	**+1.1**
IDI	**Anoyia**	**3.98**	**142**	Pn	**Pn**	**06 25 59.5**	**+1.1**
	4.1nm,0.4s,baz=297,slow=19,SNR=9.1						
IDI				Sn	**Sn**	**06 26 43.3**	**-1.7**
	4.3nm,0.3s,baz=60,slow=14,SNR=5.6						
ALN	**Alexandroupoli**	**4.03**	**52**	P	**Pn**	**06 26 01.1**	**+2.0**
MLR	**Muntele Rosu**	**7.65**	**22**	Pn	**Pn**	**06 26 47.5**	**-1.4**
	0.2nm,0.3s,baz=174,slow=7.4,SNR=1.5						
	1.5nm,0.6s						
BRTR	**Keskin Array B**	**9.23**	**78**	Pn	**Pn**	**06 27 13.3**	**+2.8**
	0.3nm,0.3s,baz=258,slow=12,SNR=6.3						
	0.9nm,0.4s						
SOKA	**Soboth**	**9.64**	**331**	*i* Pn	**Pn**	**06 27 18.9**	**+2.7**
	1.2nm,0.6s						
OBKA	**Obir**	**9.69**	**328**	*e*Pn	**Pn**	**06 27 19.8**	**+2.9**
	0.8nm,0.5s						
ESDC	**Sonseca Array**	**20.09**	**282**	P	**P**	**06 29 32.1**	**+1.1**
	0.4nm,0.7s,baz=85,slow=9.0,SNR=1.6						
	0.4nm,0.7s						
HFS	**Hagfors**	**22.31**	**349**	P	**P**	**06 29 55.1**	**+0.4**
	0.6nm,0.5s,baz=154,slow=11,SNR=8.6						
	0.6nm,0.5s						
FINES	**FINESS Array B**	**23.16**	**5**	P	**P**	**06 30 03.4**	**-0.2**
	1.9nm,0.8s,baz=184,slow=9.6,SNR=7.4						
	1.9nm,0.8s						
NB2	**NORSAR Subarra**	**23.57**	**347**	P	**P**	**06 30 08.0**	**+0.2**
	comp=Z,0.7nm,1.0s,baz=159,slow=9.3						
NOA	**NORSAR Array B**	**23.57**	**347**	P	**P**	**06 30 07.5**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=220,slow=14,SNR=5.9						
	comp=Z,0.2nm,0.5s						
EKA	**Eskdalemuir Ar**	**23.83**	**323**	P	**P**	**06 30 09.9**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=126,slow=11,SNR=4.5						
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**31.20**	**2**	P	**P**	**06 31 16.4**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=191,slow=10,SNR=5.2						
	comp=Z,0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**41.20**	**54**	P	**P**	**06 32 42.4**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=276,slow=8.4,SNR=2.7						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**44.24**	**59**	P	**P**	**06 33 07.5**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=275,slow=7.4,SNR=28						
	comp=Z,1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**44.70**	**48**	P	**P**	**06 33 10.8**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=260,slow=8.6,SNR=2.9						
	comp=Z,0.6nm,0.4s						

*IDC **20** 06:30:41.6±1.0,53°.37S×24°.36E, h0km, mb4.1/8, mbtmp4.2/8, MS3.7/19, Error ellipse: s-maj=36.9km s-min=18.9km az=82.0*

ISC 20 06:30:43.1±1.0,53°.3S±0°.1×24°.4E±0°.2, h10km, n33, σ1§01/15, mb4.2/9, MS3.8/19, 4C, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	**CROZET ISLANDS**	**18.70**	**81**	T	T	06 53 54.0	
	baz=240,slow=75,SNR=373						
H04S3	**CROZET ISLANDS**	**18.70**	**81**	T	T	06 53 55.9	
	baz=240,slow=75,SNR=333						
H04S1	**CROZET ISLANDS**	**18.72**	**81**	T	T	06 53 54.7	
	baz=240,slow=75,SNR=490						
TROLL	**Troll, Antarti**	**21.01**	**199**	⇑P	**P**	**06 35 26.3**	**-0.2**
	comp=Z,447nm,0.9s						
SNAA	**Sanae**	**21.91**	**203**	⇑P	**P**	**06 35 36.9**	**+0.9**
	comp=Z,655nm,1.0s						
SNAA	**Sanae**	**21.91**	**203**	P	**P**	**06 35 35.8**	**-0.3**
	comp=Z,17nm,0.9s,baz=50,slow=10,SNR=37						
SNAA				LR	LR	06 42 03.3	
	comp=Z,177nm,21.4s,baz=22,slow=31						
	comp=Z,17nm,0.9s						
VNA1	**Neumayer--Stat**	**22.68**	**208**	⇑P	**P**	**06 35 45.9**	**+1.7**
	comp=Z,30nm,1.0s						
MAW	**Mawson**	**23.20**	**143**	P	**P**	**06 35 50.8**	**+1.2**
	comp=Z,5.1nm,1.1s,baz=274,slow=10.0,SNR=5.7						
MAW				LR	LR	06 43 01.1	
	comp=Z,51nm,18.9s,baz=292,slow=32						
	comp=Z,5.1nm,1.1s						
VNA3	**Neumayer Olymp**	**23.39**	**207**	⇑P	**P**	**06 35 52.0**	**+0.5**
	comp=Z,5.2nm,0.8s						
BOSA	**Boshof**	**24.71**	**2**	P	**P**	**06 36 04.0**	**-0.4**
	comp=Z,6.4nm,1.1s,baz=173,slow=14,SNR=4.3						
BOSA				LR	LR	06 43 46.6	
	comp=Z,152nm,21.0s,baz=204,slow=32						
	comp=Z,6.4nm,1.1s						
LBTB	**Lobatse**	**28.30**	**2**	LR	LR	06 45 43.3	
	comp=Z,138nm,21.9s,baz=175,slow=32						
MATP	**Matopo**	**33.00**	**7**	LR	LR	06 48 36.3	
	comp=Z,83nm,21.2s,baz=178,slow=32						
QSPA	**South Pole Qui**	**36.88**	**180**	P	**P**	**06 37 49.9**	**-1.5**
	comp=Z,2.5nm,0.9s,baz=235,slow=2.2,SNR=14						
QSPA				LR	LR	06 51 52.9	
	comp=Z,130nm,21.1s,baz=260,slow=34						
	comp=Z,2.5nm,0.9s						
LSZ	**Lusaka**	**38.09**	**6**	LR	LR	06 52 04.7	
	comp=Z,142nm,20.1s,baz=166,slow=34						
PMSA	**Palmer Station**	**43.12**	**219**	LR	LR	06 54 06.5	
	comp=Z,108nm,18.3s,baz=136,slow=33						
USHA	**Ushuaia**	**50.55**	**228**	LR	LR	06 57 09.2	
	comp=Z,136nm,19.0s,baz=217,slow=31						
H10S2	**ASCENSION HYDR**	**54.29**	**310**	T	T	07 39 13.6	
	baz=69,slow=74,SNR=13						
H10S3	**ASCENSION HYDR**	**54.30**	**310**	T	T	07 39 12.7	
	baz=151,slow=74,SNR=13						
PLCA	**Paso Flores**	**61.28**	**240**	P	**P**	**06 40 58.5**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=128,slow=10,SNR=3.2						
	comp=Z,1.6nm,0.8s						
CPUP	**Villa Florida**	**64.52**	**260**	P	**P**	**06 41 19.9**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=53,slow=0.6,SNR=3.6						
CPUP				LR	LR	07 05 53.6	
	comp=Z,10.0nm,18.1s,baz=350,slow=33						
	comp=Z,0.7nm,0.9s						
DBIC	**Dimbokro**	**64.71**	**327**	P	**P**	**06 41 20.8**	**-0.5**
	comp=Z,3.7nm,0.8s,baz=198,slow=11,SNR=3.3						
DBIC				LR	LR	07 06 07.4	
	comp=Z,24nm,18.6s,baz=131,slow=33						
	comp=Z,3.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**69.03**	**336**	P	**P**	**06 41 49.4**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=152,slow=6.5,SNR=3.7						
	comp=Z,2.7nm,0.6s						
PALK	**Pallekele**	**76.72**	**58**	LR	LR	07 10 13.5	
	comp=Z,77nm,20.4s,baz=196,slow=31						
LPAZ	**La Paz**	**78.62**	**258**	LR	LR	07 15 45.9	
	comp=Z,26nm,18.0s,baz=130,slow=34						
EIL	**Elat**	**83.17**	**9**	LR	LR	07 18 15.2	
	comp=Z,39nm,20.1s,baz=246,slow=34						
MMAI	**Mount Meron Ar**	**86.52**	**9**	LR	LR	07 21 24.2	
	comp=Z,42nm,18.8s,baz=168,slow=35						
KEST	**Kesra**	**89.67**	**348**	LR	LR	07 26 00.9	
	comp=Z,47nm,18.3s,baz=321,slow=37						
GNI	**Garni**	**94.75**	**15**	LR	LR	07 27 56.9	
	comp=Z,35nm,18.8s,baz=168,slow=36						
PCRV	**Puerto La Cruz**	**97.52**	**277**	LR	LR	07 24 09.8	
	comp=Z,45nm,18.9s,slow=33						
MLR	**Muntele Rosu**	**98.46**	**1**	LR	LR	07 31 12.8	
	comp=Z,55nm,18.9s,baz=155,slow=37						
PDAR	**Pinedale Array**	**148.01**	**270**	PKPbc	**PKPbc**	**06 50 27.1**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=151,slow=3.4,SNR=3.7						
NVAR	**Mina Array Bea**	**150.48**	**255**	PKPbc	**PKPbc**	**06 50 33.9**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=145,slow=5.4,SNR=3.6						
YKA	**Yellowknife Ar**	**156.78**	**309**	PKPab	**PKPab**	**06 51 08.1**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=83,slow=4.4,SNR=6.9						

*SOME **20** 06:34:47.8, 39°.73N×75°.93E, h5km*
*NNC **20** 06:34:49.8±0.8, 39°.78N×75°.96E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=5.5km s-min=3.5km az=162.0*
*KRNET **20** 06:34:53.1±0.1, 39°.88N×76°.00E, mb3.0*

ISC 20 06:34:56.8±1.9, 40°.02N±0°.09×75°.89E±0°.04, h10km, n30, σ1§57/45, 13C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.42**	**3**	⇑*e*P	**Pn**	**06 35 22.2**	**-0.7**
NRN				⇑*i*S	**Sg**	**06 35 43.5**	**+1.1**
SALK	**Salom-Alik**	**1.80**	**299**	⇑*i*P	**Pb**	**06 35 29.3**	**-0.7**
SALK				⇑*i*S	**Sg**	**06 35 55.8**	**+1.0**
TARG	**Taragay, Kyrgy**	**2.24**	**40**	⇑*i*P	**Pn**	**06 35 34.8**	**+0.4**
TARG				⇑*i*S	**Sb**	**06 36 05.0**	**-0.6**
ULHL	**Ulahol**	**2.24**	**7**	⇓*i*P	**Pn**	**06 35 35.4**	**+1.2**
ULHL				⇓*i*S	**Sb**	**06 36 06.4**	**+1.0**
KDJ	**Kajisay**	**2.32**	**24**	⇑*e*P	**Pn**	**06 35 36.0**	**+0.7**
KDJ				⇑*e*S	**Sb**	**06 36 07.7**	**0.0**
BOOM	**Boomskoye usch**	**2.47**	**1**	⇓*e*P	**Pn**	**06 35 39.0**	**+1.7**
BOOM				⇓*e*S	**Sb**	**06 36 12.1**	**+0.2**
AAK	**Ala-Archa**	**2.82**	**339**	⇑Pg	**Pb**	**06 35 46.0**	**-1.4**
	3.5nm,0.6s						
AAK				⇓Lg	Lg	06 36 27.7	
	4.1nm,0.5s						
KST	**Kastek**	**3.02**	**1**	Pg	**Pb**	**06 35 49.4**	**-1.4**
	4.9nm,0.4s						
KST				Lg	Lg	06 36 33.8	
	11nm,0.7s						
KST	**Kastek**	**3.02**	**1**	*e*P	**Pb**	**06 35 49.4**	**-1.4**
	4.9nm,0.4s						
KST				*e*S	**Sg**	**06 36 33.8**	**-0.1**
	11nm,0.7s						
IZV	**Izvestkoviy**	**3.06**	**10**	Pg	**Pb**	**06 35 49.9**	**-1.6**
	0.5nm,0.1s						
IZV				Lg	Lg	06 36 34.8	
	4.4nm,0.4s						
IZV	**Izvestkoviy**	**3.06**	**10**	*e*P	**Pb**	**06 35 49.9**	**-1.6**
	0.5nm,0.1s						
IZV				*e*S	**Sg**	**06 36 34.8**	**-0.4**
	4.4nm,0.4s						
PRZ	**Przheval'sk**	**3.10**	**37**	⇑*e*P	**Pn**	**06 35 46.7**	**+0.7**
PRZ				⇑*e*S	**Sn**	**06 36 26.1**	**+2.8**
TNSS	**Tian-Shan**	**3.12**	**14**	Pg	**Pb**	**06 35 50.7**	**-1.9**
	1.4nm,0.5s						
TNSS				Lg	Lg	06 36 36.0	
	1.7nm,0.5s						
TNSS	**Tian-Shan**	**3.12**	**14**	*e*P	**Pb**	**06 35 50.7**	**-1.9**
	1.4nm,0.5s						
TNSS				*e*S	**Sg**	**06 36 36.0**	**-1.0**
	1.7nm,0.5s						
MTBS	**Maitube**	**3.13**	**7**	Pg	**Pb**	**06 35 50.1**	**-2.6**
	2.2nm,0.1s						
MTBS				Lg	Lg	06 36 35.0	
	8.9nm,0.2s						
MTBS	**Maitube**	**3.13**	**7**	*e*P	**Pb**	**06 35 50.1**	**-2.6**
	2.2nm,0.1s						
MTBS				*e*S	**Sg**	**06 36 35.0**	**-2.5**
	8.9nm,0.2s						
DGS	**Degeres**	**3.22**	**358**	Pg	**Pb**	**06 35 52.6**	**-1.6**
	8.7nm,0.6s						
DGS				Lg	Lg	06 36 39.7	
	8.0nm,0.6s						
KOTS	**Kotyrbulak**	**3.34**	**15**	Pg	**Pb**	**06 35 54.9**	**-1.3**
	2.8nm,0.2s						
KOTS				Lg	Lg	06 36 43.8	
	14nm,0.4s						
KOTS	**Kotyrbulak**	**3.34**	**15**	*e*P	**Pb**	**06 35 54.9**	**-1.3**
	2.8nm,0.2s						
KOTS				*e*S	**Sg**	**06 36 43.8**	**-0.3**
	14nm,0.4s						
MRKS	**Merke**	**3.38**	**324**	Pg	**Pb**	**06 35 55.6**	**-1.3**
	1.4nm,0.1s						
MRKS				Lg	Lg	06 36 44.4	
	12nm,0.4s						
MRKS	**Merke**	**3.38**	**324**	*e*P	**Pb**	**06 35 55.6**	**-1.3**
	1.4nm,0.1s						
MRKS				*e*S	**Sg**	**06 36 44.4**	**-1.1**
	12nm,0.4s						
SATY	**Saty**	**3.58**	**31**	Pg	**Pb**	**06 35 58.8**	**-1.4**
	0.7nm,0.1s						
SATY				Lg	Lg	06 36 49.9	
	4.8nm,0.2s						
PDGK	**Podgornoye**	**4.26**	**38**	⇑Pg	**Pb**	**06 36 09.9**	**-2.1**
	1.8nm,0.7s						
PDGK				⇑Lg	Lg	06 37 08.8	
	6.9nm,0.7s						
ARXS	**Arharly**	**4.43**	**18**	Pg	**Pb**	**06 36 14.1**	**-0.7**
	1.0nm,0.4s						
ARXS				Lg	Lg	06 37 16.4	
	3.7nm,0.4s						
IUG	**Iuzhnay**	**4.91**	**298**	Pg	**Pb**	**06 36 22.0**	**-1.0**
	3.6nm,0.3s						
IUG				Lg	Lg	06 37 29.8	
	35nm,0.5s						
KNOS	**Konyrlen**	**4.98**	**28**	Pg	**Pb**	**06 36 24.7**	**+0.6**
	0.8nm,0.3s						
KNOS				Lg	Lg	06 37 34.4	
	4.5nm,0.1s						
BTLS	**Baital**	**5.20**	**345**	Pg	**Pb**	**06 36 29.6**	**+1.7**
	2.1nm,0.5s						
BTLS				Lg	Lg	06 37 42.9	
	3.9nm,0.7s						
BTLS	**Baital**	**5.20**	**345**	*e*P	**Pb**	**06 36 29.6**	**+1.7**
	2.1nm,0.5s						
BTLS				*e*S	**Sg**	**06 37 42.9**	**-0.8**
	3.9nm,0.7s						
BRLS	**Boroldaу**	**5.45**	**305**	Pg	**Pb**	**06 36 32.5**	**+0.4**
	1.0nm,0.3s						
BRLS				Lg	Lg	06 37 47.1	
	8.5nm,0.4s						
BRLS	**Boroldaу**	**5.45**	**305**	*e*P	**Pb**	**06 36 32.5**	**+0.4**
	1.0nm,0.3s						
BRLS				*e*S	**Sg**	**06 37 47.1**	**-4.6**
	8.5nm,0.4s						

*NEIC **20** 06:36:47.3±1.4, 39°.05N±0°.01×118°.67W±0°.01, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.3km az=299.0*

REN 20 06:36:48.0±1.6, 39°.02N±0°.02×118°.74W±0°.02, h0km, ML2.4/8, ML2.4/30(NEIC), Error ellipse: s-maj=3.1km s-min=1.9km az=220.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RYN	**Ryan**	**0.42**	**156**		Pg	06 36 56.1	+0.1
RYN					Sg	06 37 02.4	+0.8
RYN	**Ryan**	**0.42**	**156**	IAML		06 37 02.5	
	comp=E,381nm,0.2s						
RYN				IAML		06 37 03.1	
	comp=N,432nm,0.3s						
NV09	**Mina Array Sit**	**0.66**	**151**		Pg	06 37 00.7	0.0
NVAR	**Mina Array Bea**	**0.68**	**150**		Pg	06 37 00.4	-0.5
NV08	**Mina Array Sit**	**0.70**	**151**		Pg	06 37 01.2	-0.1
NV11	**Mina Array Sit**	**0.74**	**142**		Pg	06 37 02.0	-0.2
NV11					Sg	06 37 12.3	+0.5
NV11	**Mina Array Sit**	**0.74**	**142**	IAML		06 37 12.7	
	comp=E,133nm,0.4s						
NV11				IAML		06 37 12.8	
	comp=N,152nm,0.4s						
WAKR	**Walker**	**0.75**	**227**		Pg	06 37 02.2	0.0
WAKR	**Walker**	**0.75**	**227**	IAML		06 37 13.0	
	comp=E,252nm,0.3s						
LHV	**Little Huntoon**	**0.79**	**166**		Pg	06 37 03.0	-0.1
LHV					Sg	06 37 14.1	+0.9
LHV	**Little Huntoon**	**0.79**	**166**	IAML		06 37 14.4	
	comp=N,131nm,0.3s						
LHV				IAML		06 37 14.9	
	comp=E,104nm,0.5s						
PAHR	**Pah Rah Range**	**0.85**	**324**		Pg	06 37 04.4	+0.1
PAHR	**Pah Rah Range**	**0.85**	**324**	IAML		06 37 19.8	
	comp=N,130nm,0.4s						
PAHR				IAML		06 37 20.1	
	comp=E,91nm,0.7s						
MPK	**Martis Peak**	**1.04**	**286**		Pb	06 37 09.0	0.0
MPK	**Martis Peak**	**1.04**	**286**	IAML		06 37 26.8	
	comp=N,82nm,0.5s						
PEAR	**Peavine Mounta**	**1.11**	**302**		Pg	06 37 09.3	-0.1
Q09A	**Carvers**	**1.23**	**98**		Pg	06 37 11.1	-0.4
DONR	**Donner Summit**	**1.27**	**286**		Pg	06 37 12.2	-0.1
BENR	**Benton**	**1.31**	**174**		Pg	06 37 12.3	-0.7
MDYM	**Dry Creek**	**1.37**	**189**		Pn	06 37 14.7	0.0
MCBM	**Casa Benchmark**	**1.38**	**185**		Pg	06 37 14.5	+0.1
TPH	**Tonopah**	**1.52**	**128**		Pn	06 37 15.3	-1.3
CMB	**Columbia Colle**	**1.62**	**233**		Pn	06 37 17.7	-0.2
CMB	**Columbia Colle**	**1.62**	**233**		Pn	06 37 17.3	-0.5
CMB	**Columbia Colle**	**1.62**	**233**	IAML		06 37 40.8	
	comp=N,62nm,0.8s						
CMB				IAML		06 37 40.9	
	comp=E,56nm,0.7s						
MZP	**Montezuma Peak**	**1.69**	**140**		Pn	06 37 18.1	-1.0
MZP				IAML		06 37 43.4	
	comp=E,29nm,0.5s						
MZP				IAML		06 37 44.0	
	comp=N,39nm,0.6s						
BHPR	**Bishop**	**1.73**	**173**		Pn	06 37 20.0	+0.5
AFDM	**Forest Hills D**	**1.74**	**268**		Pn	06 37 18.4	-1.1
DSP	**Deep Springs**	**1.75**	**159**		Pn	06 37 18.9	-0.7
GMN	**Gold Mountain**	**2.08**	**145**		Pn	06 37 23.6	-0.7
GMN				IAML		06 37 56.0	
	comp=N,43nm,0.7s						
GMN				IAML		06 37 57.1	
	comp=E,29nm,0.6s						
R11B	**Troy Canyon, C**	**2.56**	**104**		Pn	06 37 29.1	-1.8
S11A	**Rachel**	**2.73**	**119**	Pn	Pn	06 37 31.4	-1.7
HATC	**Hat Creek Radi**	**2.76**	**312**	Pn	Pn	06 37 32.1	-1.4
BBGB	**Big Mountain B**	**3.04**	**217**	Pn	Pn	06 37 36.7	-0.7
PRN	**Pahroc Range**	**3.32**	**118**		Pn	06 37 40.3	-1.0

*IDC **20** 06:37:50.1±0.9, 0°.76S×128°.56E, h0km, mb4.0/8, mbtmp4.0/11, ML4.2/2, Error ellipse: s-maj=37.8km s-min=16.7km az=77.0*
*NEIC **20** 06:37:53.6±1.0, 0°.69S±0°.09×128°.39E±0°.09, h10km±1km, mb4.2/10, Error ellipse: s-maj=19.1km s-min=10.4km az=47.0*
*DJA **20** 06:37:55.8±1.0, 1°.S±2°.×12°.8E±°, h21km±9km, M4.6/19, mB5.1/5, mb4.8/12, MLv4.7/19, Mw(mB)4.5/5*

ISC 20 06:37:53.7±0.6, 0°.80S±0°.05×128°.29E±0°.07, h17km, n55, σ1§72/56, mb4.1/13, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.82**	**329**		**Pn**	**06 38 24.2**	**0.0**
TNTI	**Ternate**	**1.82**	**329**	P	**Pn**	**06 38 24.7**	**+0.5**
TNTI				S	**Sn**	**06 38 49.8**	**+3.0**
MSAI	**Masohi**	**2.61**	**166**	P	**Pn**	**06 38 37.6**	**+2.5**
MSAI				S	**Sn**	**06 39 11.0**	**+4.6**
SANI	**Sanana**	**2.61**	**242**	P	**Pn**	**06 38 34.4**	**-0.8**
SANI				S	**Sn**	**06 39 05.3**	**-1.2**
NLAI	**Namlea**	**2.70**	**206**	P	**Pn**	**06 38 37.2**	**+0.9**
NLAI				S	**Sn**	**06 39 08.5**	**-0.1**
AAI	**Ambon**	**2.87**	**182**	P	**Pn**	**06 38 40.7**	**+2.0**
SWI	**Sorong**	**2.97**	**91**	P	**Pn**	**06 38 42.0**	**+1.9**
BNDI	**Bandanaira**	**4.03**	**156**	P	**Pn**	**06 38 57.0**	**+2.3**
FAKI	**Fak Fak**	**4.48**	**118**		**Pn**	**06 39 00.9**	**0.0**
FAKI	**Fak Fak**	**4.48**	**118**	P	**Pn**	**06 39 00.7**	**-0.2**
KMSI	**Cibinong**	**4.52**	**288**	P	**Pn**	**06 39 02.7**	**+1.3**
SGSI	**Sangihe**	**5.24**	**328**	P	**Pn**	**06 39 12.7**	**+1.3**
LUWI	**Luwuk**	**5.52**	**267**	P	**Pn**	**06 39 14.8**	**-0.4**
	0.8nm106nm,0.9s						
MRSI	**Marisa**	**6.47**	**281**	P	**Pn**	**06 39 29.6**	**+1.3**
	0.3nm28nm,0.6s						
APSI	**Ampana**	**6.64**	**269**	P	**Pn**	**06 39 31.7**	**+1.1**
	2µm88nm,0.4s						
TOLI2	**Tolit

BVAR	Borovoye Array	71.95	327	P	P	06 49 16.3	+0.1
	comp=Z,0.4nm,0.5s,baz=111,slow=7.9,SNR=1.6						
	comp=Z,0.4nm,0.5s						
ABKAR	Akbulak array	76.63	321	P	P	06 49 42.7	-0.9
QSPA	South Pole Qui	89.13	180	P	P	06 50 48.5	+0.3
	comp=Z,0.8nm,0.7s,baz=282,slow=2.3,SNR=8.9						
	comp=Z,0.8nm,0.7s						

*IDC **20** 07:11:09.2±1.2, 6°.81S×128°.67E, h0km, mb3.8/5, mbtmp4.0/8, ML4.3/3, MS3.4/1, Error ellipse: s-maj=88.5km s-min=20.0km az=72.0*

ISC 20 07:11:15.1±0.9, 6°.91S±0°.09×128°.42E±0°.09, h35km, n18, σ1s79/15, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	Baumata	5.74	235	Sn	Sn	07 13 44.5	+2.0
	16nm,0.3s,baz=36,slow=14,SNR=4.1						
DRS	Darwin Rock St	6.01	156	P	Pn	07 12 50.0	+8.4
DRS	Darwin Rock St	6.01	156	S	Sn	07 13 50.0	+0.8
MTN	Manton Dam	6.48	156	P	Pn	07 12 55.4	+7.4
MTN	Manton Dam	6.48	156	S	Sn	07 13 59.9	-0.9
KDU	Kakadu	7.00	146	P	Pn	07 13 03.5	+8.3
KDU	Kakadu	7.00	146	S	Sn	07 14 13.4	-0.1
FITZ	Fitzroy Crossi	11.45	193	Pn	Pn	07 13 55.5	-0.7
	1.0nm,0.3s,baz=17,slow=10,SNR=33						
FITZ				Sn	Sn	07 15 49.5	-14
	2.0nm,0.3s,baz=71,slow=22,SNR=7.8						
	3.2nm,0.3s						
FITZ	Fitzroy Crossi	11.45	193	P	Pn	07 13 55.7	-0.6
WRA	Warramunga Arr	14.18	157	Pn	Pn	07 14 33.3	-0.3
	1.2nm,0.3s,baz=325,slow=13,SNR=31						
WRA				Sn	Sn	07 16 57.9	-12
	3.0nm,0.3s,baz=324,slow=23,SNR=8.0						
	1.6nm,0.3s						
COEN	Coen	16.11	117	P	P	07 15 06.9	+4.9
QIS	Mount Isa	17.37	142	P	P	07 15 17.2	+1.2
ASAR	Alice Springs	17.48	163	P	P	07 15 16.6	-0.6
	1.6nm,0.3s,baz=344,slow=12,SNR=169						
ASAR				S	Sn	07 18 16.1	-14
	0.9nm,0.5s,baz=348,slow=26,SNR=1.9						
	10nm,0.6s						
STKA	Stephens Creek	27.72	155	P	P	07 16 58.0	-2.3
	2.7nm,0.9s,baz=330,slow=8.0,SNR=3.4						
STKA				LR	LR	07 29 09.1	
	comp=Z,90nm,20.8s,baz=210,slow=39						
	2.7nm,0.9s						
SONM	Songino Array	57.87	343	P	P	07 21 02.6	-0.9
	0.3nm,0.3s,baz=155,slow=4.8,SNR=1.7						
	0.3nm,0.3s						
MKAR	Makanchi Array	67.30	328	P	P	07 22 06.8	+0.3
	0.3nm,0.4s,baz=117,slow=8.8,SNR=7.0						
	0.3nm,0.4s						
ZALV	Zalesovo Beam	70.81	334	P	P	07 22 27.9	-0.1
	0.6nm,0.4s,baz=147,slow=4.4,SNR=2.8						
	0.6nm,0.4s						
BVAR	Borovoye Array	77.15	328	P	P	07 23 04.6	-0.6
	0.3nm,0.5s,baz=125,slow=7.6,SNR=2.1						
	0.3nm,0.5s						

*IDC **20** 07:12:56.3±1.0, 4°.84S×130°.68E, h0km, mb3.9/7, mbtmp4.2/11, ML4.6/4, MS3.2/2, Error ellipse: s-maj=43.5km s-min=17.3km az=71.0*

*NEIC **20** 07:13:08.7±1.4, 4°.92S±0°.05×130°.5E±0°.1, h108km±9km, mb4.1/10, Error ellipse: s-maj=19.4km s-min=6.2km az=79.0*

ISC 20 07:13:08.2±0.7, 4°.96S±0°.05×130°.68E±0°.08, h100km, n38, σ2s21/34, mb3.8/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	Bandanaira	0.89	300	P	Pn	07 13 30.3	+2.9
FAKI	Fak Fak	2.56	38		Pn	07 13 49.5	+1.3
FAKI				Sn	Sn	07 14 18.9	+0.1
FAKI	Fak Fak	2.56	38	P	Pn	07 13 49.5	+1.3
SAUI	Saumlaki	3.06	168		Pn	07 13 57.2	+2.4
SAUI	Saumlaki	3.06	168	P	Pn	07 13 57.7	+2.9
SAUI	Saumlaki	3.06	168	S	Sn	07 14 35.3	+4.6
SANI	Sanana	5.50	302	P	Pn	07 14 28.7	+1.0
DRS	Darwin Rock St	7.42	178	P	Pn	07 14 55.2	+1.3
MTN	Manton Dam	7.84	177	Pn	Pn	07 14 59.2	-0.4
KDU	Kakadu	7.88	167	P	Pn	07 15 00.4	+0.4
BATI	Baumata	8.69	233	Pn	Pn	07 15 02.7	-8.4
	14nm,0.3s,baz=58,slow=15,SNR=1.8						
	58nm,0.5s						
KNRA	Kununurra	10.81	190		Pn	07 15 38.5	-1.5
KAPI	Kappang	10.88	269	Pn	Pn	07 15 35.4	-5.5
	2.4nm,0.3s,baz=165,slow=17,SNR=1.9						
	4.8nm,0.3s						
DAV	Davao City (W)	12.99	337	Pn	Pn	07 16 01.6	-7.4
	77nm,0.3s,baz=130,slow=12,SNR=1.4						
FITZ	Fitzroy Crossi	13.95	200	Sn	Sn	07 18 42.9	-12
	0.8nm,0.3s,baz=277,slow=17,SNR=1.9						
COEN	Coen	15.22	127	Pn	Pn	07 16 38.9	+1.2
COEN				IAmb	IAmb	07 16 39.6	
	comp=Z,15nm,1.2s						
WRAB	Tennant Creek	15.30	167		Pn	07 16 37.5	-1.3
WRAB				IAmb	IAmb	07 17 03.3	
	comp=Z,24nm,1.1s						
WRA	Warramunga Arr	15.31	167		Pn	07 16 37.7	-1.2
WRA	Warramunga Arr	15.31	167	Pn	Pn	07 16 36.8	-2.1
	1.8nm,0.3s,baz=347,slow=13,SNR=12						
WRA				Sn	Sn	07 19 14.5	-14
	comp=Z,0.7nm,0.3s,baz=338,slow=24,SNR=2.8						
	comp=Z,6.3nm,0.6s						
AS31	Alice Springs	18.85	171	P	Pn	07 17 21.8	-0.3
ASAR	Alice Springs	18.86	171		P	07 17 20.3	-0.2
ASAR	Alice Springs	18.86	171	P	Pn	07 17 21.4	-0.8
	comp=Z,2.6nm,0.3s,baz=351,slow=10,SNR=33						
ASAR				S	S	07 20 40.9	-8.9
	comp=Z,0.6nm,0.5s,baz=353,slow=28,SNR=3.0						
	comp=Z,8.6nm,0.4s						
PSA00	Pilbara Seismi	19.57	211	P	P	07 17 27.0	-1.3
PSA00				IAmb	IAmb	07 17 56.9	
	comp=Z,12nm,1.1s						
STKA	Stephens Creek	28.66	160	P	P	07 18 55.6	0.0
STKA	Stephens Creek	28.66	160	P	P	07 18 56.5	+0.8
	comp=Z,1.2nm,0.5s,baz=331,slow=10,SNR=1.8						
	comp=Z,1.2nm,0.5s						
MJAR	Matsushiro Arr	41.88	9	P	P	07 20 48.3	-0.4
ASAJ	Asahikawa	50.02	11	LR	LR	07 44 24.2	
	comp=Z,9.7nm,18.3s,baz=170,slow=38						
MKAR	Makanchi Array	66.91	326	P	P	07 23 49.2	-0.6
MKAR	Makanchi Array	66.91	326	P	P	07 23 50.6	+0.8
	comp=Z,0.8nm,0.4s,baz=112,slow=8.6,SNR=14						
	comp=Z,0.8nm,0.4s						
ZALV	Zalesovo Beam	70.07	333	P	P	07 24 09.6	+0.3
	comp=Z,0.3nm,0.4s,baz=120,slow=6.2,SNR=1.7						
	comp=Z,0.3nm,0.4s						
KURBB	Kurchatov Arra	71.14	328	P	P	07 24 16.1	+0.2
	comp=Z,0.3nm,0.5s,baz=125,slow=5.8,SNR=4.5						
	comp=Z,0.3nm,0.5s						
VNDA	Vanda	74.38	173	P	P	07 24 35.0	+0.4
VNDA				IAmb	IAmb	07 24 36.5	
	comp=Z,1.7nm,0.7s						
VNDA	Vanda	74.38	173	P	P	07 24 36.1	+1.5
	comp=Z,1.6nm,0.6s,baz=13,slow=1.8,SNR=6.2						
	comp=Z,1.6nm,0.6s						
BVAR	Borovoye Array	76.72	327	P	P	07 24 48.0	-0.4
	comp=Z,0.4nm,0.4s,baz=193,slow=5.6,SNR=2.4						
	comp=Z,0.4nm,0.4s						
BRVK	Borovoye	76.79	327	P	P	07 24 47.1	-1.6
BRVK				IAmb	IAmb	07 24 55.5	
	comp=Z,2.1nm,1.2s						
QSPA	South Pole Qui	85.00	180	P	P	07 25 31.7	-0.6
QSPA				IAmb	IAmb	07 26 13.7	
	comp=Z,5.5nm,1.4s						
QSPA	South Pole Qui	85.00	180	P	P	07 25 32.2	-0.1
	comp=Z,0.5nm,1.0s,baz=275,slow=7.1,SNR=1.1						
	comp=Z,0.5nm,1.0s						
KVAR	Kislovodsk Arr	91.95	314	LR	LR	08 13 45.5	
	comp=Z,30nm,19.2s,baz=262,slow=40						

*KRNET **20** 07:18:23.8±0.1, 41°.23N×72°.58E, h17km, mb2.3*

*SOME **20** 07:18:24.4, 41°.27N×72°.57E, h5km*

*ISU **20** 07:18:24, 41°.20N×72°.66E, h15km*

*NNC **20** 07:18:26.4±2.2, 41°.26N×72°.62E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=18.8km s-min=7.1km az=176.0*

ISC 20 07:18:24.3±1.0, 41°.25N±0°.02×72°.61E±0°.02, h14km±10km, n28, σ1s36/47, 16C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	Arslanbob	0.29	75	⇑eP	Pg	07 18 30.4	0.0
ARSB				⇑eS	Sg	07 18 34.9	+0.4
TSTA	Tashata	0.68	189	P	Pg	07 18 37.1	-0.4
TSTA				S	Sg	07 18 46.3	-0.2
ARK	Arkit	0.73	319	⇓iP	Pg	07 18 37.6	-1.0
ARK				⇓iS	Sg	07 18 47.9	-0.3
SALK	Salom-Alik	0.98	111	⇑iP	Pb	07 18 42.6	-0.6
SALK				⇑iS	Sb	07 18 56.2	+0.1
TRKS	Terek-Say	1.14	285	⇑iP	Pb	07 18 44.0	-1.9
TRKS				⇑iS	Sb	07 18 58.3	-2.4
MNAS	Manas	1.24	356	⇑iP	Pb	07 18 47.3	-0.3
MNAS				⇑iS	Sg	07 19 04.1	-0.2
CHMI	Chimion	1.28	221	P	Pg	07 18 49.2	+0.2
SFK	Sufi-Kurgan	1.41	151	eP	Pn	07 18 50.1	+0.3
SFK				⇑eS	Sb	07 19 08.5	+0.1
CHDK	Chadak	1.43	259	P	Pb	07 18 51.3	+0.5
CHDK				S	Sg	07 19 11.1	+0.6
MRKS	Merke	1.56	17	P	Pg	07 18 53.7	-0.6
	3.4nm,0.3s						
MRKS				S	Sg	07 19 14.8	+0.2
	15nm,0.3s						
MRKS	Merke	1.56	17	eP	Pg	07 18 53.6	-0.6
	3.4nm,0.3s						
MRKS				eS	Sg	07 19 14.8	+0.2
	15nm,0.3s						
BTK	Batken	1.81	229	⇓eP	Pb	07 18 56.5	-0.8
BTK				⇓eS	Sb	07 19 20.0	+0.1
AAK	Ala-Archa	1.97	45	⇑Pn	Pg	07 19 01.4	-0.8
	0.6nm,0.3s						
AAK				⇑Sn	Sg	07 19 28.5	+0.7
	3.6nm,0.6s						
CHMG	Chimgan	1.98	280	S	Sg	07 19 28.3	+0.3
CHRV	Charvak	2.04	282	S	Sg	07 19 30.0	+0.2
IUG	Iuzhnay	2.13	296	Pg	Pb	07 19 03.6	+0.8
	7.4nm,0.2s						
IUG				Lg	Lg	07 19 31.6	
	20nm,0.2s						
KK31	Karatay Array	2.42	321	⇑Pn	Pb	07 19 08.0	+0.4
	1.2nm,0.3s,baz=142,slow=24,SNR=21						
KK31				⇑Sn	Sg	07 19 40.6	-1.6
	1.6nm,0.2s,baz=133,slow=25,SNR=9.8						
NRN	Naryn	2.56	85	eP	Pn	07 19 07.2	+1.6
NRN				⇓eS	Sb	07 19 39.0	-2.6
BRLS	Boroldoy	2.73	312	Pg	Pb	07 19 13.1	+0.3
	2.7nm,0.3s						
BRLS				Lg	Lg	07 19 48.0	
	6.9nm,0.3s						
BRLS	Boroldoy	2.73	312	eP	Pb	07 19 13.1	+0.3
	2.7nm,0.3s						
BRLS				eS	Sb	07 19 48.0	+1.9
	6.9nm,0.3s						
BOOM	Boomskoye usch	2.78	62	⇑eP	Pn	07 19 10.8	+2.3
BOOM				⇑eS	Sb	07 19 45.3	-2.4
KST	Kastek	3.07	53	Pg	Pg	07 19 22.0	-1.1
	1.4nm,0.2s						
KST				Lg	Lg	07 20 03.1	
	12nm,0.7s						
KST	Kastek	3.07	53	eP	Pg	07 19 22.0	-1.1
	1.4nm,0.2s						
KST				eS	Sg	07 20 03.1	+0.3
	12nm,0.7s						
DGS	Degeres	3.08	49	Pg	Pg	07 19 21.6	-1.6
	1.7nm,0.4s						
DGS				Lg	Lg	07 20 02.4	
	13nm,0.7s						
TNSS	Tian-Shan	3.68	60	Pg	Pg	07 19 33.2	-1.7
	0.5nm,0.2s						
TNSS				Lg	Lg	07 20 22.8	
	0.7nm,0.3s						
TNSS	Tian-Shan	3.68	60	eP	Pg	07 19 33.2	-1.7
	0.5nm,0.2s						
TNSS				eS	Sg	07 20 22.8	+0.2
	0.7nm,0.3s						
BTLS	Baital	3.93	15	Pg	Pb	07 19 36.2	+2.9
	1.2nm,0.3s						
BTLS				Lg	Lg	07 20 27.3	
	3.9nm,0.4s						
BTLS	Baital	3.93	15	eP	Pb	07 19 36.2	+2.9
	1.2nm,0.3s						
BTLS				eS	Sg	07 20 27.3	-3.2
	3.9nm,0.4s						

*IDC **20** 07:54:59.1±1.6, 11°.96S×165°.20E, h0km, mb3.9/8, mbtmp3.9/9, ML3.5/1, MS3.2/3, Error ellipse: s-maj=47.9km s-min=26.8km az=111.0*

ISC 20 07:55:04.5±1.1, 12°.0S±0°.1×165°.2E±0°.3, h35km, n12, σ0s86/9, mb4.0/8, MS3.3/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	10.12	173	Pn	Pn	07 57 27.9	+0.3
	0.4nm,0.3s,baz=298,slow=20,SNR=1.6						
	3.3nm,0.5s						
WRA	Warramunga Arr	30.63	251	P	P	08 01 14.7	-1.0
	0.3nm,0.8s,baz=84,slow=7.8,SNR=1.8						
	0.3nm,0.8s						
ASAR	Alice Springs	31.87	244	P	P	08 01 26.6	-0.1
	0.2nm,0.5s,baz=74,slow=10,SNR=4.9						
	0.2nm,0.5s						
MJAR	Matsushiro Arr	54.52	333	P	P	08 04 30.2	+1.1
	1.8nm,0.7s,baz=162,slow=9.0,SNR=9.1						
	1.8nm,0.7s						
ASAJ	Asahikawa	59.47	341	LR	LR	08 28 05.3	
	comp=Z,17nm,19.0s,baz=66,slow=33						
USRK	Ussuriysk Ar.	63.51	334	P	P	08 05 30.7	-0.5
	0.9nm,0.3s,baz=148,slow=6.1,SNR=2.2						
	0.9nm,0.3s						
SHEM	Shemya Is, Ala	64.89	6	LR	LR	08 28 27.9	
	comp=Z,21nm,19.8s,baz=106,slow=31						
MA2	Magadan	72.24	352	LR	LR	08 33 48.6	
	comp=Z,16nm,18.9s,baz=290,slow=32						
SONM	Songino Array	79.06	324	P	P	08 07 06.1	+0.8
	0.6nm,0.6s,baz=138,slow=6.7,SNR=3.0						
	0.6nm,0.6s						
ILAR	Eielson Array	84.56	19	P	P	08 07 32.7	-1.1
	0.3nm,0.6s,baz=230,slow=6.3,SNR=6.2						
	0.3nm,0.6s						
MKAR	Makanchi Array	93.79	317	P	P	08 08 18.4	+0.3
	1.1nm,0.8s,baz=94,slow=5.9,SNR=8.3						
	1.1nm,0.8s						
ZALV	Zalesovo Beam	93.96	324	P	P	08 08 18.4	-0.2
	0.7nm,0.5s,baz=149,slow=3.1,SNR=4.1						
	0.7nm,0.5s						

*GII **20** 08:10:14.9±0.0, 36°.564N±0°.002×26°.693E±0°.001, h10km, Mws3.1, confirmed*

*HLW **20** 08:10:21.7, 36°.65N×27°.01E, h115km±18km, Ml3.3*

*ISK **20** 08:10:23.8, 36°.65N×26°.82E, h138km±1km, ML3.0/25*

*IDC **20** 08:10:23.0±0.9, 36°.51N×26°.89E, h137km±16km, mb3.3/4, mbtmp3.6/10, Error ellipse: s-maj=18.9km s-min=11.1km az=0.0*

*THE **20** 08:10:24.8, 37°N±59°×2°.7E±1°.4, h132km±46km, M2.9/4, MLh2.9/4*

ISC 20 08:10:23.2±0.8, 36°.53N±0°.05×26°.91E±0°.06, h150km, n83, σ1s57/88, mb3.4/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	Datca	0.57	70	Pg	Pn	08 10 45.2	+0.2
DAT				Sg	Sn	08 11 00.3	-1.4
BODT	Bodrum	0.62	31	Pg	Pn	08 10 44.6	-0.6
BODT				Sg	Sn	08 10 59.5	-2.5
BODT	Bodrum	0.62	31	P	Pn	08 10 44.6	-0.6
KARP	Karpathos	1.00	168	Pn	Pn	08 10 48.9	+0.8
ARG	Arkhangelos	1.03	107	Pn	Pn	08 10 49.6	+1.4
ARG	Arkhangelos	1.03	107	P	Pn	08 10 49.6	+1.4
MLSB	Milas	1.03	42	Pg	Pn	08 10 48.2	0.0
TURN	Turunc	1.10	77	Pn	Pn	08 10 49.3	+0.5
TURN				Sn	Sn	08 11 07.4	-0.9
SMG	Samos	1.18	357	P	Pn	08 10 48.3	-1.2
GCAM	G?zelcaml?	1.20	12	Pn	Pn	08 10 48.9	-0.7
APE	Apeiranthos	1.23	296	Pn	Pn	08 10 49.5	-0.5
DALY	Dalyan (Mula)	1.43	78	Pn	Pn	08 10 53.4	+1.4
ZKR	Zakros	1.52	202	Pn	Pn	08 10 54.6	+1.6
AYDB	Zeytinkoy-Aydi	1.62	29	Pn	Pn	08 10 53.7	-0.4
FETY	Fethiye	1.75	86	Pn	Pn	08 10 56.6	+1.1
NAZL	Nazilli-Aydin	1.81	37	Pn	Pn	08 10 55.8	-0.3
URLA	Izmir	1.84	352	Pn	Pn	08 10 55.0	-1.5
CAME	Cameli-Denizli	1.97	77	Pn	Pn	08 10 59.1	+1.1
CHOS	Chios island	1.97	340	Pn	Pn	08 10 56.7	-1.3
CHOS	Chios island	1.97	340	P	Pn	08 10 56.7	-1.3
ODEM	Odemis-Izmir	1.97	28	Pn	Pn	08 10 57.5	-0.5
IDI	Anoyia	2.06	233	Pn	Pn	08 10 59.2	+0.2
IDI	Anoyia	2.06	233	P	Pn	08 10 58.8	-0.2
	15nm,0.3s,baz=61,slow=19,SNR=6.9						
IDI				S	Sn	08 11 24.5	-2.0
	168nm,0.3s,baz=127,slow=20,SNR=32						
APMY	Acipayam-Deniz	2.13	63	Pn	Pn	08 11 00.7	+0.8
AKAS	Kas	2.20	97	Pn	Pn	08 11 02.2	+1.5
DEMR	Demre-Antalya	2.44	96	Pn	Pn	08 11 05.3	+1.8
SIGR	SIGRI	2.80	343	Pn	Pn	08 11 06.6	-1.4
GVD	Gavdhos	2.85	234	Pn	Pn	08 11 09.5	+0.9
KNDR	Palaiochora Ch	2.92	245	Pn	Pn	08 11 10.5	+1.0
KTHA	Kythira Island	3.12	266	Pn	Pn	08 11 11.8	-0.2
MATC	Matruh	5.18	177	P	Pn	08 11 39.5	+0.5
SLUM	Salum	5.22	196	P	Pn	08 11 40.4	+0.9
CSS	Mathiatis	5.45	105	S	Sn	08 12 43.9	-0.7
CSS	Mathiatis	5.45	105	P	Pn	08 11 39.0	-3.6
DB3	El Dabaa	5.65	166	P	Pn	08 11 45.2	0.0
BRTR	Keskin Array B	6.19	57	P	Pn	08 11 54.4	+1.9
	2.4nm,0.9s,baz=233,slow=14,SNR=9.2						
HNTI	Hanita	7.62	114	S	Sn	08 13 36.5	0.0
HNTI	Hanita	7.62	114	P	Pn	08 12 08.7	-2.8
OFRI	`Ofer	7.72	118	S	Sn	08 13 39.2	+0.2
OFRI	`Ofer	7.72	118	P	Pn	08 12 10.1	-2.7
MMA0B	Mount Meron ar	7.82	114	S	Sn	08 13 41.5	0.0
MMA0B	Mount Meron ar	7.82	114	P	Pn	08 12 12.2	-2.0
MMAI	Mount Meron Ar	7.82	114	P	Pn	08 12 15.0	+0.8
	3.3nm,0.3s,baz=301,slow=12,SNR=24						
MMAI				S	Sn	08 13 39.5	-2.0
	3.3nm,0.3s,baz=311,slow=23,SNR=12						
GEM	Giv'at Ha'Em	7.92	112	S	Sn	08 13 43.3	-0.4
GEM	Giv'at Ha'Em	7.92	112	P	Pn	08 12 12.8	-2.7
RYAN	Fayoum	7.95	158	P	Pn	08 12 16.8	+0.9
NATI	Neve Ativ	7.95	112	S	Sn	08 13 45.4	+0.9
NATI	Neve Ativ	7.95	112	P	Pn	08 12 13.2	-2.6
MMLI	Mount Malkishu	8.13	118	S	Sn	08 13 49.0	+0.1
MMLI	Mount Malkishu	8.13	118	P	Pn	08 12 15.6	-2.7
HMDT	Nahal Hemdat	8.30	118	S	Sn	08 13 53.3	+0.4
HMDT	Nahal Hemdat	8.30	118	P	Pn	08 12 18.0	-2.5
AMAZ	Amatzia	8.31	125	S	Sn	08 13 54.0	+0.8
AMAZ	Amatzia	8.31	125	P	Pn	08 12 18.2	-2.4
KZIT	Kziot	8.39	130	S	Sn	08 13 55.0	-0.1
KZIT	Kziot	8.39	130	P	Pn	08 12 19.2	-2.5
YTIR	Yattir	8.55	125	S	Sn	08 13 58.8	-0.2
YTIR	Yattir	8.55	125	P	Pn	08 12 21.2	-2.8
DSI	Dead Sea	8.60	123	S	Sn	08 14 00.8	+0.8
DSI	Dead Sea	8.60	123	P	Pn	08 12 21.8	-2.7
ZAF	Zafarana	8.64	145	P	Pn	08 12 26.5	+1.4
MSBI	Mazada	8.74	124	S	Sn	08 14 04.2	+0.8
MSBI	Mazada	8.74	124	P	Pn	08 12 23.7	-2.7
GHAJ	Ghor Haditha	8.88	123	S	Sn	08 14 07.5	+0.6
GHAJ	Ghor Haditha	8.88	123	P	Pn	08 12 25.8	-2.5
KRMI	Paran Flat	9.14	132	S	Sn	08 14 13.1	-0.2
KRMI	Paran Flat	9.14	132	P	Pn	08 12 29.4	-2.4
PRNI	Paran	9.15	130	S	Sn	08 14 13.6	+0.1
PRNI	Paran	9.15	130	P	Pn	08 12 29.6	-2.3
ASF	Jabal al Asfar	9.33	115	P	Pn	08 12 35.9	+1.5
	1.2nm,0.3s,baz=348,slow=19,SNR=2.0						
HRFI	Mount Harif	9.39	131	S	Sn	08 14 20.7	+1.4
HRFI	Mount Harif	9.39	131	P	Pn	08 12 32.9	-2.3
MBRI	Mt Berech	9.49	133	S	Sn	08 14 22.3	+0.5
MBRI	Mt Berech	9.49	133	P	Pn	08 12 34.1	-2.4
EIL	Elat	9.61	133	P	Pn	08 12 38.1	+0.2
	2.2nm,0.6s,baz=337,slow=15,SNR=2.4						
EIL				S	Sn	08 14 21.2	-3.2
	6.5nm,0.5s,baz=324,slow=18,SNR=8.3						
EIL	Elat	9.61	133	S	Sn	08 14 24.4	0.0
EIL	Elat	9.61	133	P	Pn	08 12 35.8	-2.2
HHRG	Al Ghardaqah	10.87	147	P	Pn	08 12 59.7	+5.0
AKASG	Malin Array Be	14.26	6	P	P	08 13 40.7	-0.3
	0.1nm,0.3s,baz=198,slow=12,SNR=4.0						
FINES	FINESS Array B	24.94	359	P	P	08 15 32.9	+0.7
	0.6nm,0.5s,baz=163,slow=9.8,SNR=5.3						
	0.6nm,0.5s						
HFS	Hagfors	25.10	344	P	P	08 15 33.5	-0.2
	0.7nm,0.5s,baz=138,slow=11,SNR=8.0						
	0.7nm,0.5s						
TORD	Torodi Ar. Bea	32.46	231	P	P	08 16 41.4	+2.0
	1.8nm,0.3s,baz=40,slow=10,SNR=4.2						
	1.8nm,0.3s						
KURBB	Kurchatov Arra	39.16	52	P	P	08 17 37.7	+1.6
	0.3nm,0.5s,baz=271,slow=8.6,SNR=2.7						
	0.3nm,0.5s						

IDC 20 08:33:34.1±1.4, 19°.08N×122°.87E, h0km, mb3.5/3, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=74.1km s-min=25.0km az=69.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	Nakatsue	15.71	26	Pn	Pn	08 37 17.1	+0.1
	0.1nm,0.3s,baz=203,slow=13,SNR=3.5						
	13nm,1.0s						
WRA	Warramunga Arr	40.38	163	P	P	08 41 12.5	-1.5
	0.2nm,0.3s,baz=345,slow=8.0,SNR=15						
	0.2nm,0.3s						
MKAR	Makanchi Array	43.15	319	P	P	08 41 36.3	-0.2
	0.2nm,0.4s,baz=111,slow=8.8,SNR=5.1						
	0.2nm,0.4s						
ASAR	Alice Springs	43.83	165	P	P	08 41 43.4	+1.2
	0.5nm,0.4s,baz=345,slow=7.4,SNR=16						
	0.5nm,0.4s						

*IDC **20** 08:42:33.0±1.2, 18°.28S×172°.72W, h0km

ARMA Armidale 34.75 243 P **P** 08 49 23.0 **-1.4**
ARMA IAmb IAmb 08 49 24.9
comp=Z,8.5nm,1.1s
CTAO Charters Tower 39.00 260 P **P** **08 49 59.1 -1.4**
CTAO IAmb IAmb 08 50 00.2
comp=Z,7.2nm,0.6s
KIP Kipapa 41.93 20 P **P** **08 50 24.5 -0.1**
STKA Stephens Creek 43.48 243 P **P** **08 50 35.9 -1.3**
WR8 Warramunga Arr 50.01 259 P **P** **08 51 27.4 -1.1**
WR8 IAmb IAmb 08 51 32.0
comp=Z,3.3nm,0.9s
WRA Warramunga Arr 50.16 259 P **P** **08 51 28.1 -1.6**
WRA Warramunga Arr 50.16 259 P **P** **08 51 28.1 -1.6**
comp=Z,4.7nm,0.8s,baz=96,slow=8.4,SNR=64
comp=Z,4.7nm,0.8s
AS31 Alice Springs 50.17 254 **P** **08 51 29.0 -0.8**
ASAR Alice Springs 50.17 254 P **P** **08 51 28.8 -1.0**
ASAR Alice Springs 50.17 254 P **P** **08 51 29.1 -0.7**
comp=Z,3.5nm,0.7s,baz=91,slow=8.4,SNR=68
comp=Z,3.5nm,0.7s
MTN Manton Dam 54.48 267 P **P** **08 52 00.7 -1.2**
KNRA Kununurra 56.11 263 P **P** **08 52 11.3 -2.2**
KNRA IAmb IAmb 08 52 14.6
comp=Z,4.9nm,0.9s
SHEM Shemya Is, Ala 71.71 351 LR LR 09 23 10.7
comp=Z,20nm,18.4s,baz=126,slow=34
QSPA South Pole Qui 71.75 180 P **P** **08 53 54.7 -1.2**
QSPA South Pole Qui 71.75 180 P **P** **08 53 56.7 +0.8**
comp=Z,1.4nm,0.9s,baz=41,slow=4.1,SNR=5.9
comp=Z,1.4nm,0.9s
MAJO Matsushiro 71.76 320 P **P** **08 53 56.0 -0.3**
MAJO IAmb IAmb 08 54 16.9
comp=Z,2.3nm,1.1s
MJB9 Matsu-Tunnel 71.77 320 P **P** **08 53 56.0 -0.3**
CCX Cicese 73.09 47 P **P** **08 54 03.3 -0.9**
TXAR Lajitas Array 81.46 55 P **P** **08 54 54.8 +3.4**
comp=Z,0.4nm,0.8s,baz=238,slow=7.2,SNR=4.8
comp=Z,0.4nm,0.8s
H03S2 Juan Fernandez 82.82 123 T T 10 26 00.3
baz=250,slow=75,SNR=12
H03S1 Juan Fernandez 82.83 123 T T 10 25 53.7
baz=250,slow=75,SNR=13
H03S3 Juan Fernandez 82.84 123 T T 10 25 52.6
baz=250,slow=75,SNR=14
SNAA Sanae 89.96 177 P **P** **08 55 32.7 -0.2**
comp=Z,1.1nm,1.0s,baz=168,slow=14,SNR=3.1
comp=Z,1.1nm,1.0s
KURBB Kurchatov Arra 116.00 318 PKP **PKiKP** **09 01 16.5 -0.1**
comp=Z,0.2nm,0.5s,baz=108,slow=1.9,SNR=4.1

IDC 20 08:46:43.4±7.5, 30°.99S×179°.75E, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=309.4km s-min=62.6km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.15**	**269**	P	P	08 54 29.1	-0.6
	0.3nm,0.4s,baz=106,slow=7.5,SNR=2.3						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**42.19**	**274**	P	P	08 54 38.4	+0.2
	0.3nm,0.3s,baz=111,slow=8.1,SNR=6.0						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**145.00**	**338**	PKPbc	PKPbc	09 06 20.6	-0.7
	1.2nm,1.0s,baz=48,slow=2.8,SNR=4.5						

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*NEIC **20** 09:08:00.5±0.8, 3°.7S±0°.1×152°.7E±0°.1, h157km±8km, mb4.0/14, Error ellipse: s-maj=20.4km s-min=13.2km az=124.0*
*IDC **20** 09:08:00.2±3.3, 4°.04S×152°.98E, h163km±25km, mb3.4/6, mbtmp3.8/6, Error ellipse: s-maj=61.4km s-min=17.4km az=118.0*
ISC 20 09:07:59.3±0.7, 3°.8S±0°.1×152°.7E±0°.1, h150km, n25, σ1^{s}10/29, mb4.0/14, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.63**	**234**		**Pn**	**09 08 23.3**	**+1.9**
MANU	**Manus Island**	**5.59**	**288**	Pn	**Pn**	**09 09 21.2**	**+0.6**
EIDS	**Eidsvold**	**21.48**	**184**	P	**P**	**09 12 36.1**	**-0.1**
EIDS				IAmb	IAmb	09 12 57.0	
	comp=Z,6.9nm,1.1s						
DZM	**Mont Dzumac**	**22.53**	**145**	P	**P**	**09 12 47.8**	**+0.9**
MTN	**Manton Dam**	**23.11**	**246**	P	**P**	**09 12 52.5**	**+0.3**
WB0	**Warramunga Arr**	**23.86**	**227**	P	**P**	**09 12 59.3**	**+0.2**
WB0				IAmb	IAmb	09 12 59.8	
	comp=Z,6.8nm,1.1s						
WR8	**Warramunga Arr**	**23.90**	**226**	P	**P**	**09 12 59.9**	**+0.4**
WR8				IAmb	IAmb	09 13 01.7	
	comp=Z,4.8nm,1.0s						
WRAB	**Tennant Creek**	**24.00**	**227**	P	**P**	**09 13 00.7**	**+0.4**
WRAB				IAmb	IAmb	09 13 02.2	
	comp=Z,3.1nm,0.8s						
WRA	**Warramunga Arr**	**24.01**	**227**	P	**P**	**09 13 00.1**	**-0.4**
WRA	**Warramunga Arr**	**24.01**	**227**	P	**P**	**09 13 00.8**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=50,slow=9.8,SNR=60						
WRA				PcP	**PcP**	**09 16 38.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=49,slow=2.4,SNR=5.4						
WRA				ScP	**ScP**	**09 19 59.8**	**-3.4**
	comp=Z,0.3nm,0.9s,baz=48,slow=2.6,SNR=0.7						
	comp=Z,1.6nm,0.3s						
KNRA	**Kununurra**	**26.31**	**242**	P	**P**	**09 13 20.7**	**-0.6**
KNRA				IAmb	IAmb	09 13 37.3	
	comp=Z,4.0nm,1.1s						
ARMA	**Armidale**	**26.48**	**182**	P	**P**	**09 13 23.4**	**+0.7**
ARMA				IAmb	IAmb	09 13 24.2	
	comp=Z,2.6nm,0.8s						
AS31	**Alice Springs**	**26.80**	**221**	P	**P**	**09 13 25.5**	**-0.1**
ASAR	**Alice Springs**	**26.80**	**221**	P	**P**	**09 13 24.8**	**-0.9**
ASAR	**Alice Springs**	**26.80**	**221**	P	**P**	**09 13 25.4**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=54,slow=9.1,SNR=11						
ASAR				PcP	**PcP**	**09 16 44.8**	**0.0**
	comp=Z,1.5nm,1.2s,baz=18,slow=3.9,SNR=2.4						
ASAR				ScP	**ScP**	**09 20 09.1**	**-2.0**
	comp=Z,0.3nm,0.8s,baz=43,slow=3.2,SNR=1.1						
	comp=Z,0.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**30.03**	**240**	P	**P**	**09 13 53.7**	**-0.6**
CAN	**Canberra**	**31.53**	**186**	P	**P**	**09 14 08.0**	**+0.7**
CAN				IAmb	IAmb	09 14 12.7	
	comp=Z,4.0nm,1.1s						
MBWA	**Marble Bar**	**36.36**	**239**	P	**P**	**09 14 48.9**	**-0.3**
PSA00	**Pilbara Seismi**	**36.43**	**238**	P	**P**	**09 14 49.1**	**-0.6**
PSA00				IAmb	IAmb	09 15 17.9	
	comp=Z,3.2nm,1.1s						
PETK	**Petropavlovsk-**	**56.87**	**4**	P	**P**	**09 17 29.8**	**+1.6**
	comp=Z,1.0nm,0.6s,baz=152,slow=3.9,SNR=5.8						
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**65.43**	**328**	P	**P**	**09 18 27.5**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=147,slow=8.1,SNR=2.0						
	comp=Z,0.3nm,0.5s						
ILAR	**Eielson Array**	**81.30**	**22**	P	**P**	**09 19 57.8**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=246,slow=5.2,SNR=6.0						
	comp=Z,0.3nm,0.6s						
PDAR	**Pinedale Array**	**98.28**	**48**	P	**P**	**09 21 18.6**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=337,slow=3.6,SNR=2.4						
	comp=Z,0.3nm,0.7s						
GERES	**GERESS Array B**	**123.16**	**329**	PKP	**PKPdf**	**09 26 38.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=48,slow=2.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**149.87**	**290**	PKPbc	**PKPbc**	**09 27 32.8**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=74,slow=2.3,SNR=5.4						

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*SNET **20** 09:25:01.0±1.0, 13°.37N×90°.03W, h23km±8km, ML2.9*
*CATAC **20** 09:25:02.1±0.6, 13°.N±3°.×9°.0W±°., h1km, M3.1/12, MLv3.1/12, Error ellipse: s-maj=8.1km s-min=7.2km az=115.8, confirmed*
*GCG **20** 09:25:04.3±0.5, 13°.68N×90°.29W, h89km±5km, MD3.4, ML3.2*
ISC 20 09:25:05.4±2.0, 13°.3N±0°.1×90°.33W±0°.05, h38km, n38, σ1^{s}99/40, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	**0.34**	**331**	*i* P	Pn	09 25 18.6	+4.7
ESSJ				*i* S	Sn	09 25 31.8	+11
NUBE	**Las Nubes**	**0.83**	**40**	*e*P	**Pn**	**09 25 18.2**	**-2.6**
NUBE				*e*S	**Sn**	**09 25 32.5**	**+0.6**
SBLS	**San Blas**	**0.90**	**50**	*e*P	**Pn**	**09 25 20.2**	**-1.5**
LOAL	**Lomas de Alarc**	**0.91**	**36**	*e*P	**Pn**	**09 25 20.6**	**-1.1**
LOAL	**Lomas de Alarc**	**0.91**	**36**	P	**Pn**	**09 25 20.8**	**-0.9**
LOAL	**Lomas de Alarc**	**0.91**	**36**	S	**Sn**	**09 25 34.4**	**+0.8**
RTR	**El Retiro**	**0.92**	**46**	*e*P	**Pn**	**09 25 21.1**	**-0.9**
SLOZ	**Alcaldia de Sa**	**0.93**	**35**	*e*P	**Pn**	**09 25 20.9**	**-1.1**
SLOZ	**Alcaldia de Sa**	**0.93**	**35**	P	**Pn**	**09 25 21.1**	**-0.9**
SLOZ	**Alcaldia de Sa**	**0.93**	**35**	S	**Sn**	**09 25 34.8**	**+0.7**
JAYA	**Jayaque - finc**	**0.94**	**65**	*e*P	**Pn**	**09 25 19.9**	**-2.4**
JAYA	**Jayaque - finc**	**0.94**	**65**	P	**Pn**	**09 25 18.0**	**-4.3**
JAYA	**Jayaque - finc**	**0.94**	**65**	S	**Sn**	**09 25 35.1**	**+0.5**
FG16	**Alotenango, Sa**	**1.02**	**350**	*i* S	**Sn**	**09 25 40.0**	**+3.4**
UNIC	**Universidad Ca**	**1.04**	**47**	P	**Pn**	**09 25 22.7**	**-0.9**
UNIC	**Universidad Ca**	**1.04**	**47**	S	**Sn**	**09 25 37.4**	**+0.4**
PMON	**Piamonte**	**1.09**	**65**	P	**Pn**	**09 25 21.4**	**-2.8**
BOQS	**Boqueron**	**1.13**	**65**	*e*P	**Pn**	**09 25 24.2**	**-0.6**
UEES	**Universidad Ev**	**1.15**	**67**	P	**Pn**	**09 25 24.2**	**-0.9**
LOMA	**Loma Larga**	**1.19**	**71**	*e*P	**Pn**	**09 25 24.7**	**-0.9**
LOMA	**Loma Larga**	**1.19**	**71**	P	**Pn**	**09 25 24.5**	**-1.1**
LOMA	**Loma Larga**	**1.19**	**71**	S	**Sn**	**09 25 43.0**	**+2.3**
ESSG	**Sabana Grande**	**1.22**	**337**	*e*P	**Pn**	**09 25 22.6**	**-3.3**
ESSG				*e*S	**Sn**	**09 25 36.9**	**-4.4**
LFRS	**El Faro**	**1.29**	**74**	*e*P	**Pn**	**09 25 25.9**	**-1.0**
PAVA	**Las Pavas**	**1.43**	**71**	P	**Pn**	**09 25 29.3**	**+0.5**
COEG	**Centro de Oper**	**1.46**	**76**	*e*P	**Pn**	**09 25 28.9**	**-0.3**
COEG	**Centro de Oper**	**1.46**	**76**	P	**Pn**	**09 25 29.0**	**-0.3**
MTO3	**Montecristo**	**1.47**	**40**	*e*P	**Pn**	**09 25 29.0**	**-0.6**
MTO3	**Montecristo**	**1.47**	**40**	P	**Sn**	**09 25 29.0**	**-0.6**
MTO3	**Montecristo**	**1.47**	**40**	S	**Sn**	**09 25 49.7**	**+2.0**
STG0	**El Palmar, Qui**	**1.52**	**320**	*i* P	**Pn**	**09 25 32.1**	**+1.9**
STG0				*e*S	**Sn**	**09 25 54.0**	**+5.2**
TECO	**Alcaldia de Te**	**1.53**	**79**	P	**Pn**	**09 25 29.6**	**-0.6**
UESV	**Universidad de**	**1.55**	**76**	P	**Pn**	**09 25 30.3**	**-0.2**
STG2	**El Palmar, Qui**	**1.55**	**319**	*i* P	Pn	09 25 33.0	+2.4
ESQI	**Esquipulas**	**1.61**	**36**	*e*P	**Pn**	**09 25 31.1**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.62**	**74**	P	**Pn**	**09 25 31.7**	**+0.3**
QUIS	**Sacapulas**	**2.15**	**340**	*e*P	**Pn**	**09 25 38.7**	**-0.1**
QUIS				*i* S	**Sn**	**09 26 05.4**	**+1.0**
SMCA	**Catarina**	**2.32**	**313**	*e*P	**Pn**	**09 25 38.0**	**-3.1**

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*TEH **20** 09:27:47.6, 26°.80N×55°.80E, h10km±43km*
*DSN **20** 09:27:49.5±0.6, 27°.08N×55°.94E, h10km, Error ellipse: s-maj=30.4km s-min=4.4km az=78.0*
*OMAN **20** 09:27:52.0±0.1, 27°.01N×56°.17E, h19km±1km, ml2.8/12, Error ellipse: s-maj=2.4km s-min=1.5km az=342.0*
ISC 20 09:27:49.6±1.4, 27°.01N±0°.03×55°.95E±0°.06, h9km±12km, n37, σ1^{s}21/46, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.43**	**27**	Pg	**Pn**	**09 28 01.5**	**-0.7**
GENO	**Geno**	**0.44**	**27**	Pg	**Pn**	**09 28 01.5**	**-0.7**
SHME	**Shamm**	**0.97**	**170**	P	**Pn**	**09 28 09.5**	**+0.1**
	SNR=13						
SHME				S	**Sn**	**09 28 23.0**	**-0.4**
	SNR=7.8						
SHME	**Shamm**	**0.97**	**170**	P	**Pn**	**09 28 09.1**	**-0.4**
SHME				S	**Sn**	**09 28 24.2**	**+0.9**
BANOM	**Banah**	**1.13**	**164**	P	**Pn**	**09 28 12.9**	**+1.3**
BANOM				S	**Sn**	**09 28 28.5**	**+1.2**
BANOM	**Banah**	**1.13**	**164**	P	**Pn**	**09 28 12.3**	**+0.7**
UMQ	**Umm Al-Quwin**	**1.50**	**190**	P	**Pg**	**09 28 18.1**	**-0.3**
UMQ				S	**Sg**	**09 28 38.9**	**+1.0**
LAR1	**LAR**	**1.54**	**295**	Pg	**Pn**	**09 28 17.2**	**-0.2**
MASF	**Masafi**	**1.64**	**173**	P	**Pb**	**09 28 20.5**	**+0.3**
	SNR=11						
MASF				S	**Sb**	**09 28 40.8**	**-0.2**
MSFE	**Esma-Masafi**	**1.66**	**173**	P	**Pb**	**09 28 19.8**	**-0.5**
MDH	**Madha**	**1.73**	**169**	P	**Pb**	**09 28 21.2**	**-0.5**
MDH				S	**Sb**	**09 28 43.4**	**-0.1**
MDH	**Madha**	**1.73**	**169**	P	**Pb**	**09 28 21.1**	**-0.5**
KHNJ	**Kahnooj**	**1.82**	**59**	Pn	**Pg**	**09 28 25.1**	**+0.6**
NAZ	**Nazwa, Dubai**	**2.03**	**187**	P	**Pb**	**09 28 26.1**	**-0.5**
JASK	**Jask - Hormozg**	**2.06**	**123**	Pn	**Pn**	**09 28 24.9**	**+0.5**
JASK	**Jask - Hormozg**	**2.06**	**123**	P	**Pn**	**09 28 23.7**	**-0.8**
UOSS	**Minazif**	**2.07**	**174**	P	**Pn**	**09 28 25.7**	**+1.2**
UOSS	**Minazif**	**2.07**	**174**	P	**Pn**	**09 28 25.2**	**+0.6**
HATD	**Hatta, Dubai**	**2.18**	**176**	P	**Pb**	**09 28 28.5**	**-0.8**
ASHO	**Ashiyiah**	**2.32**	**177**	P	**Pn**	**09 28 29.6**	**+1.5**
	SNR=10						
ASHO				S	**Sn**	**09 28 57.9**	**+1.2**
ASHO	**Ashiyiah**	**2.32**	**177**	P	**Pn**	**09 28 28.8**	**+0.8**
ASUD	**Al Ashush, Dub**	**2.44**	**193**	P	**Pb**	**09 28 32.3**	**-1.3**
ASUD				S	**Sb**	**09 29 02.1**	**-1.8**
AJN	**Ajban**	**2.59**	**200**	P	**Pb**	**09 28 34.8**	**-1.4**
NGRK	**Negar Kerman**	**2.71**	**15**	Pn	**Pb**	**09 28 38.2**	**-0.3**
SOHO	**SOHO**	**2.91**	**169**	P	**Pn**	**09 28 37.0**	**+0.8**
KRBR	**Kerman**	**3.04**	**13**	Pn	**Pb**	**09 28 43.7**	**-0.5**
KBAM	**BAM**	**3.06**	**46**	Pn	**Pb**	**09 28 44.6**	**+0.2**
HOQ	**Hoqain**	**3.63**	**160**	P	**Pn**	**09 28 46.4**	**+0.4**
ARQ	**Araqi**	**3.70**	**172**	P	**Pn**	**09 28 48.0**	**+1.0**
	SNR=8.6						
ARQ				S	**Sn**	**09 29 31.0**	**+0.3**
SMDO	**Samad**	**4.37**	**154**	P	**Pn**	**09 28 54.3**	**-2.1**
BSY	**Bisya**	**4.40**	**165**	P	**Pn**	**09 28 57.4**	**+0.8**
WSAR	**Wadi Sarin**	**4.47**	**146**	P	**Pn**	**09 28 54.2**	**-3.4**
IMEH	**Mehriz**	**4.52**	**345**	Pn	**Pn**	**09 29 02.3**	**+3.9**
JMDO	**Jabal Madar**	**5.02**	**157**	P	**Pn**	**09 29 03.5**	**-1.6**
JLN	**Jalan Bani Buh**	**5.78**	**146**	P	**Pn**	**09 29 16.6**	**+1.1**
MHTO	**MHTO**	**6.28**	**162**	P	**Pn**	**09 29 22.7**	**+0.3**
DQM	**DQM**	**7.20**	**168**	P	**Pn**	**09 29 35.2**	**+0.2**

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*IDC **20** 09:29:02.9±0.6, 29°.46S×111°.67W, h0km, mb4.1/8, mbtmp4.1/8, MS4.0/4, Error ellipse: s-maj=34.9km s-min=18.8km az=83.0*
*NEIC **20** 09:29:04.7±1.3, 29°.4S±0°.1×111°.9W±0°.1, h10km±1km, mb4.8/136, Error ellipse: s-maj=21.4km s-min=17.0km az=303.0*
ISC 20 09:29:04.4±0.5, 29°.42S±0°.08×111°.73W±0°.09, h10km, n122, σ0^{s}77/80, mb4.8/70, MS4.0/4, 5C, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**3.11**	**43**		**Pn**	**09 29 52.0**	**-1.6**
PTCN	**Pitcairn Islan**	**16.89**	**280**	P	**Pn**	**09 33 00.6**	**-0.4**
H03N2	**Juan Fernandez**	**28.21**	**107**	T	T	10 04 26.6	
	baz=273,slow=73,SNR=60						
H03N3	**Juan Fernandez**	**28.21**	**107**	T	T	10 04 27.7	
	baz=273,slow=73,SNR=76						
H03N1	**Juan Fernandez**	**28.22**	**107**	T	T	10 04 27.2	
	baz=273,slow=73,SNR=72						
BO01	**Tunca**	**34.70**	**109**	P	**P**	**09 35 54.6**	**+0.1**
BO01				IAmb	IAmb	09 37 08.8	
	comp=Z,17nm,1.2s						
MT02	**Curacav**	**34.73**	**107**	P	**P**	**09 35 56.0**	**+1.2**
MT09	**Talagante**	**34.81**	**108**	P	**P**	**09 35 55.6**	**0.0**
AC01	**Pan de Azucar**	**36.41**	**95**	P	**P**	**09 36 10.4**	**+1.1**
ZON	**Zonda**	**36.99**	**104**	P	**P**	**09 36 15.2**	**+0.9**
ZON				IAmb	IAmb	09 36 18.8	
	comp=Z,14nm,1.3s						
ATAH	**Atahualpa**	**38.41**	**61**	LR	LR	09 48 19.2	
	comp=Z,106nm,18.9s,baz=230,slow=30						
COHC	**Cochancay**	**40.87**	**55**		**P**	**09 36 48.0**	**+1.2**
TRQA	**Tornquist**	**41.84**	**115**	P	**P**	**09 36 55.8**	**+1.2**
TRQA				IAmb	IAmb	09 37 22.3	
	comp=Z,53nm,1.9s						
LPAZ	**La Paz**	**42.02**	**82**		**P**	**09 36 57.4**	**+0.4**
LPAZ	**La Paz**	**42.02**	**82**	P	**P**	**09 36 57.4**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=272,slow=4.2,SNR=9.2						
	comp=Z,2.6nm,0.7s						
CZSB	**Cruzeiro do Su**	**42.52**	**67**		**P**	**09 37 01.1**	**+0.7**
CZSB				IAmb	IAmb	09 37 02.4	
	comp=Z,28nm,1.2s						
OTAV	**Otavalo**	**43.34**	**53**	P	**P**	**09 37 08.6**	**+1.2**
PMSA	**Palmer Station**	**46.11**	**154**	P	**P**	**09 37 28.5**	**0.0**
JTS	**Las Juntas de**	**47.17**	**37**	LR	LR	09 52 32.8	
	comp=Z,209nm,19.6s,baz=209,slow=30						
TLIG	**Tlapa**	**48.40**	**17**	P	**P**	**09 37 47.1**	**+0.1**
TLIG				IAmb	IAmb	09 37 50.0	
	comp=Z,13nm,1.1s						
MOIG	**Morelia**	**49.86**	**13**	P	**P**	**09 37 57.8**	**-0.4**
PTLB	**Pontes e Lacer**	**50.18**	**86**	P	**P**	**09 38 00.8**	**+0.3**
PTLB				IAmb	IAmb	09 39 18.1	
	comp=Z,20nm,1.8s						
VILB	**Vilhena**	**50.36**	**82**	P	**P**	**09 38 02.6**	**+0.6**
VILB				IAmb	IAmb	09 38 03.5	
	comp=Z,18nm,1.2s						
NIUE	**Niue**	**53.59**	**267**		**P**	**09 38 27.4**	**+1.5**
SDV	**Santo Domingo**	**54.92**	**53**	LR	LR	09 59 06.7	
	comp=Z,118nm,18.2s,baz=246,slow=33						
MACA	**Manacapuru-AM**	**54.94**	**72**		**P**	**09 38 35.5**	**-0.4**
HPIG		**56.33**	**7**	P	**P**	**09 38 46.3**	**+0.5**
BAUV	**El Baul**	**56.78**	**55**	P	**P**	**09 38 49.4**	**+0.4**
BOAV	**Boa Vista**	**58.28**	**66**		**P**	**09 38 59.4**	**-0.2**
BOAV				IAmb	IAmb	09 39 00.3	
	comp=Z,12nm,1.3s						
833A	**Chaparral WMA,**	**58.62**	**13**	P	**P**	**09 39 02.4**	**+0.7**
833A				IAmb	IAmb	09 39 03.9	
	comp=Z,8.5nm,0.9s						
BELA	**Belgrano 2**	**58.75**	**166**	P	**P**	**09 39 02.6**	**+0.6**
BELA				IAmb	IAmb	09 39 03.3	
	comp=Z,7.5nm,1.2s						
TXAR	**Lajitas Array**	**58.93**	**8**	P	**P**	**09 39 03.3**	**-0.6**
TXAR	**Lajitas Array**	**58.93**	**8**	P	**P**	**09 39 03.7**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=192,slow=9.6,SNR=5.6						
	comp=Z,0.6nm,0.7s						
TX31	**Lajitas Ar. Si**	**58.93**	**8**	P	**P**	**09 39 03.6**	**-0.3**
TX31				IAmb	IAmb	09 39 21.4	
	comp=Z,13nm,2.0s						
DRIO	**Del Rio**	**59.47**	**11**	P	**P**	**09 39 07.2**	**-0.3**
DRIO				IAmb	IAmb	09 39 08.8	
	comp=Z,4.8nm,0.8s						
SAND	**Sanderson**	**59.75**	**10**		**P**	**09 39 10.2**	**+0.7**
HNDO	**Hondo**	**59.81**	**13**	P	**P**	**09 39 10.4**	**+0.5**
ALPN	**Alpine**	**59.96**	**8**		**P**	**09 39 11.7**	**+0.6**
PCRV	**Puerto La Cruz**	**60.07**	**56**	LR	LR	10 01 12.5	
	comp=Z,183nm,21.9s,slow=32						
VHRN	**Van Horn**	**60.22**	**7**	P	**P**	**09 39 13.3**	**+0.4**
319A	**Douglas**	**60.50**	**2**	P	**P**	**09 39 15.2**	**+0.4**
319A				IAmb	IAmb	09 39 17.1	
	comp=Z,7.0nm,0.7s						
MLDN	**Muldoon**	**60.51**	**15**	P	**P**	**09 39 15.3**	**+0.7**
JCT	**Junction City**	**60.64**	**12**		**P**	**09 39 16.2**	**+0.6**
QSPA	**South Pole Qui**	**60.76**	**180**	P	**P**	**09 39 16.6**	**+0.4**
	comp=Z,2.7nm,1.0s,baz=99,slow=4.0,SNR=4.8						
	comp=Z,2.7nm,1.0s						
OZNA	**Ozona**	**60.85**	**10**	P	**P**	**09 39 17.1**	**0.0**
OZNA				IAmb	IAmb	09 39 20.4	
	comp=Z,6.4nm,1.2s						
PECS	**Pecos**	**60.91**	**8**	P	**P**	**09 39 16.6**	**-1.0**
MNHN	**Monahans**	**61.02**	**9**		**P**	**09 39 18.8**	**+0.5**
MNHN				IAmb	IAmb	09 39 23.2	
	comp=Z,15nm,1.6s						
MNTX	**Cornudas Mount**	**61.08**	**6**	P	**P**	**09 39 18.9**	**+0.3**
435B	**Jarrell**	**61.37**	**14**	P	**P**	**09 39 21.0**	**+0.5**
TUC	**Tucson**	**61.40**	**1**	P	**P**	**09 39 20.3**	**-0.5**
BRDY	**Brady**	**61.57**	**12**		**P**	**09 39 22.0**	**+0.1**
BRDY				IAmb	IAmb	09 39 23.4	
	comp=Z,7.8nm,1.0s						
ODSA	**Odessa**	**61.82**	**9**	P	**P**	**09 39 23.5**	**-0.1**
X18A	**Snowflake**	**63.62**	**2**	IAmb	IAmb	09 39 37.7	
	comp=Z,4.7nm,0.7s						
U15A	**North Rim**	**65.50**	**360**	IAmb	IAmb	09 39 52.7	
	comp=Z,10nm,1.7s						
SHPR	**Sheep Range**	**65.65**	**357**	P	**P**	**09 39 50.9**	**+1.9**
MIAR	**Mount Ida**	**65.89**	**16**	IAmb	IAmb	09 39 51.5	
	comp=Z,5.0nm,0.8s						
VNA3	**Neumayer Olymp**	**66.21**	**160**	⇑P	**P**	**09 39 50.8**	**-1.2**
	comp=Z,4.9nm,0.8s						
MVCO	**Mesa Verde**	**66.35**	**3**	IAmb	IAmb	09 39 55.4	
	comp=Z,4.6nm,0.9s						
CCUT	**Cedar City**	**66.64**	**359**	P	**P**	**09 39 57.2**	**+1.9**
CCUT				IAmb	IAmb	09 39 57.9	
	comp=Z,8.9nm,1.6s						
VNA1	**Neumayer--Stat**	**66.86**	**159**	⇑P	**P**	**09 39 55.1**	**-1.0**
	comp=Z,6.3nm,0.9s						
WHAR	**Wooly Hollow**	**66.92**	**17**		**P**	**09 39 57.2**	**+0.3**
WHAR				IAmb	IAmb	09 40 00.9	
	comp=Z,8.3nm,1.1s						
S22A	**4UR Ranch, Cre**	**66.97**	**4**		**P**	**09 39 57.9**	**+0.4**
HMU	**Henry Mountain**	**67.01**	**1**	P	**P**	**09 39 57.6**	**-0.1**
SDCO	**Great Sand Dun**	**67.07**	**5**	P	**P**	**09 39 58.2**	**0.0**
PV01	**Paradox Valley**	**67.27**	**3**	P	**P**	**09 39 59.0**	**-0.4**
PV01				IAmb	IAmb	09 40 03.8	
	comp=Z,14nm,1.9s						
PV12	**Saucer Basin,**	**67.44**	**2**	IAmb	IAmb	09 40 02.0	
	comp=Z,6.4nm,0.8s						
PV15	**Paradox Valley**	**67.48**	**3**	IAmb	IAmb	09 40 02.2	
	comp=Z,7.5nm,0.9s						
PV10	**Paradox Valley**	**67.49**	**2**	IAmb	IAmb	09 40 20.2	
	comp=Z,7.6nm,1.0s						
U38A	**Gravette**	**67.51**	**15**	IAmb	IAmb	09 40 01.7	
	comp=Z,4.5nm,0.8s						
PV04	**Paradox Valley**	**67.51**	**2**	IAmb	IAmb	09 40 02.5	
	comp=Z,6.2nm,0.9s						
FCAR	**Ozark Folk Cen**	**67.53**	**17**	P	**P**	**09 40 00.8**	**0.0**
FCAR				IAmb	IAmb	09 40 01.9	
	comp=Z,3.9nm,0.8s						
PV07	**Paradox Valley**	**67.57**	**3**	IAmb	IAmb	09 40 03.8	
	comp=Z,4.6nm,0.8s						
PV22	**Blue Mesa, Par**	**67.66**	**2**	IAmb	IA

MAW	**Mawson**	**83.19**	**178**	P		**P**	**09 41 29.9**	**-0.5**	
	comp=Z,2.2nm,0.9s,baz=225,slow=2.5,SNR=4.6								
	comp=Z,2.2nm,0.9s								
FFC	**Flin Flon**	**84.22**	**6**	P		**P**	**09 41 36.0**	**+0.4**	
FFC				IAmb		IAmb	09 41 36.8		
	comp=Z,5.4nm,1.1s								
YKA	**Yellowknife Ar**	**91.62**	**359**	P		**P**	**09 42 10.8**	**-0.2**	
	comp=Z,0.8nm,0.9s,baz=176,slow=4.1,SNR=8.1								
	comp=Z,0.8nm,0.9s								
SONM	**Songino Array**	**145.44**	**313**	PKPbc		**PKPdf**	**09 48 42.3**	**-0.3**	
	comp=Z,2.5nm,0.8s,baz=84,slow=3.3,SNR=9.2								
BRTR	**Keskin Array B**	**149.85**	**61**	PKPbc		**PKPbc**	**09 48 53.5**	**-1.5**	
	comp=Z,1.6nm,0.9s,baz=227,slow=3.1,SNR=4.5								
CMAR	**Chiang Mai Arr**	**150.00**	**256**	PKPbc		**PKPbc**	**09 48 56.1**	**+0.3**	
	comp=Z,1.5nm,0.3s,baz=192,slow=1.4,SNR=10								
ZALV	**Zalesovo Beam**	**152.69**	**338**	PKPab		**PKPab**	**09 49 12.3**	**+0.7**	
	comp=Z,2.3nm,0.8s,baz=72,slow=4.8,SNR=6.8								
BVAR	**Borovoye Array**	**156.36**	**357**	PKP		**PKPdf**	**09 48 58.6**	**-0.4**	
	comp=Z,0.3nm,0.4s,baz=48,slow=2.1,SNR=1.5								
BVAR				PKPab		**PKPab**	**09 49 26.4**	**-0.9**	
	comp=Z,1.3nm,0.8s,baz=42,slow=2.4,SNR=4.8								
KURBB	**Kurchatov Arra**	**157.45**	**343**	PKPab		**PKPab**	**09 49 32.1**	**+0.1**	
	comp=Z,1.4nm,0.3s,baz=25,slow=3.9,SNR=7.3								
MKAR	**Makanchi Array**	**159.50**	**332**	PKPab		**PKPab**	**09 49 41.1**	**0.0**	
	comp=Z,0.5nm,0.7s,baz=37,slow=3.0,SNR=3.6								

*THE **20** 09:30:12.6, 37°N ± 13″ × 2°1E ± °, h0km ± 5km, M3.2/16, MLh3.2/16*

*ATH **20** 09:30:13.0, 36°.99N × 21°.10E, h18km ± 2km, ML3.3/10, Manual Solution by A.Plessa First location: 2019/07/20 09:31:18, This location: 2019/07/20 09:50:24 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

*IDC **20** 09:30:14.5 ± 4.1, 37°.55N × 21°.71E, h0km, mb3.5/7, mbtmp3.5/8, ML0.8/1, Error ellipse: s-maj=85.7km s-min=26.6km az=47.0*

ISC 20 09:30:12.7 ± 1.4, 36°.96N ± 0°.05 × 21°.11E ± 0°.04, h11 km ± 9km, n40, σ1§47/49, mb3.6/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MTHA	**Methoni**	**0.50**	**106**	P		P	**Pg**	**09 30 23.3**	**+0.9**
MTHA				S		S	**Sg**	**09 30 30.8**	**+1.8**
ZARO	**Zacharo**	**0.68**	**39**	P		P	**Pg**	**09 30 26.3**	**+0.4**
ZARO				S		S	**Sg**	**09 30 34.8**	**-0.2**
ITM	**Ithomi**	**0.69**	**71**	P		P	**Pg**	**09 30 26.2**	**+0.1**
ITM	**Ithomi**	**0.69**	**71**	P		P	**Pg**	**09 30 25.2**	**-0.9**
ITM				S		S	**Sg**	**09 30 34.6**	**-0.6**
KRI1	**kERI**	**0.74**	**342**	P		P	**Pg**	**09 30 27.4**	**+0.3**
AMT	**Artemida-Makis**	**0.75**	**40**	P		P	**Pg**	**09 30 27.1**	**0.0**
AMT				S		S	**Sg**	**09 30 37.3**	**+0.3**
LTHK	**Lithakia**	**0.78**	**344**	P		P	**Pg**	**09 30 27.0**	**+0.2**
LTHK	**Lithakia**	**0.78**	**344**	P		P	**Pg**	**09 30 27.8**	**-0.1**
LTHK				S		S	**Sg**	**09 30 37.3**	**-0.8**
KYPS	**Kipseli, Zakin**	**0.89**	**345**	P		P	**Pg**	**09 30 29.5**	**-0.4**
CLEM	**Kyllini,Ilia,G**	**0.93**	**1**	P		P	**Pg**	**09 30 28.9**	**-1.8**
ORTH	**Orthonies,Zaky**	**0.95**	**340**	P		P	**Pg**	**09 30 30.8**	**-0.3**
ORTH	**Orthonies,Zaky**	**0.95**	**340**	P		P	**Pg**	**09 30 30.5**	**-0.5**
VLX	**Vlachokerasia**	**1.10**	**67**	P		P	**Pg**	**09 30 33.4**	**-0.5**
VLX				S		S	**Sb**	**09 30 49.6**	**+1.6**
VLX	**Vlachokerasia**	**1.10**	**67**	P		P	**Pg**	**09 30 32.8**	**-1.0**
VLX				S		S	**Sg**	**09 30 46.8**	**-1.3**
RLS	**Riolos of Patr**	**1.14**	**14**	P		P	**Pg**	**09 30 34.2**	**-0.4**
RLS	**Riolos of Patr**	**1.14**	**14**	P		P	**Pg**	**09 30 33.9**	**-0.7**
YRMI	**Loutra Irminis**	**1.16**	**9**	P		P	**Pg**	**09 30 34.3**	**-0.7**
AXS	**Araxos**	**1.26**	**10**	P		P	**Pg**	**09 30 35.0**	**-1.8**
VLS	**Valsamata**	**1.29**	**342**	P		P	**Pg**	**09 30 36.6**	**-0.8**
VLS				S		S	**Sn**	**09 30 57.5**	**+3.6**
KLV	**Kalavryta, Ach**	**1.37**	**37**	P		P	**Pg**	**09 30 38.0**	**-1.0**
KLV				S		S	**Sn**	**09 31 00.8**	**+5.0**
KLV	**Kalavryta, Ach**	**1.37**	**37**	P		P	**Pg**	**09 30 37.5**	**-1.4**
GUR	**Goura**	**1.39**	**45**	P		P	**Pg**	**09 30 38.0**	**-1.4**
GUR	**Goura**	**1.39**	**45**	P		P	**Pg**	**09 30 37.8**	**-1.6**
DMLN	**Damoulianata-K**	**1.41**	**336**	P		P	**Pg**	**09 30 39.1**	**-0.6**
DMLN	**Damoulianata-K**	**1.41**	**336**	P		P	**Pg**	**09 30 38.8**	**-0.9**
VLI	**Veliai**	**1.49**	**99**	P		P	**Pn**	**09 30 39.1**	**-0.3**
FSK	**Fiskardo**	**1.56**	**344**	P		P	**Pn**	**09 30 41.7**	**+1.3**
EFP	**Efpalio**	**1.60**	**23**	P		P	**Pg**	**09 30 43.1**	**-0.2**
SERG	**Sergoula**	**1.64**	**27**	P		P	**Pg**	**09 30 43.7**	**-0.4**
PVO	**Paravola**	**1.69**	**11**	P		P	**Pb**	**09 30 44.5**	**+0.7**
EVGI	**Lefkada island**	**1.70**	**348**	P		P	**Pg**	**09 30 44.8**	**-0.5**
LKD2	**Lefkada island**	**1.86**	**349**	P		P	**Pb**	**09 30 47.4**	**+0.6**
IDI	**Anoyia**	**3.48**	**117**	Pn		**Pn**		**09 31 08.9**	**+2.1**
	0.5nm,0.3s,baz=277,slow=15,SNR=1.9								
IDI				Sn		**Sn**		**09 31 47.2**	**-0.9**
	1.2nm,0.3s,baz=290,slow=20,SNR=2.3								
	10nm,1.0s								
HFS	**Hagfors**	**23.68**	**351**	P		**P**		**09 35 22.4**	**-1.6**
	1.8nm,0.8s,baz=178,slow=11,SNR=4.1								
	1.8nm,0.8s								
FINES	**FINESS Array B**	**24.71**	**6**	P		**P**		**09 35 31.7**	**-1.9**
	1.3nm,0.8s,baz=180,slow=8.7,SNR=3.5								
	1.3nm,0.8s								
NOA	**NORSAR Array B**	**24.91**	**349**	P		**P**		**09 35 35.9**	**+0.5**
	0.5nm,0.8s,baz=160,slow=9.0,SNR=3.3								
	0.5nm,0.8s								
ARCES	**ARCESS Array B**	**32.73**	**3**	P		P		09 36 41.1	-3.8
	0.7nm,0.7s,baz=171,slow=8.4,SNR=4.7								
	0.7nm,0.7s								
KURBB	**Kurchatov Arra**	**42.59**	**52**	P		**P**		**09 38 05.9**	**-2.6**
	0.4nm,0.5s,baz=281,slow=8.6,SNR=7.7								
	0.4nm,0.5s								
MKAR	**Makanchi Array**	**45.55**	**57**	P		**P**		**09 38 30.2**	**-2.1**
	0.2nm,0.5s,baz=272,slow=6.7,SNR=4.7								
	0.2nm,0.5s								
ZALV	**Zalesovo Beam**	**46.17**	**47**	P		**P**		**09 38 34.8**	**-2.2**
	0.6nm,0.5s,baz=290,slow=9.1,SNR=1.9								
	0.6nm,0.5s								

*IDC **20** 09:31:46.6 ± 0.7, 15°.49S × 174°.15W, h0km, mb4.4/12, mbtmp4.4/12, MS4.8/38, Error ellipse: s-maj=33.2km s-min=17.6km az=141.0*

*NEIC **20** 09:31:47.5 ± 1.3, 15°.4S ± 0°.1 × 174°.0W ± 0°.1, h10km ± 1km, mb4.6/30, Error ellipse: s-maj=28.4km s-min=15.9km az=140.0*

*GCMT **20** 09:31:51.0 ± 0.3, 15°.07S ± 0°.02 × 174°.14W ± 0°.02, h19km ± 1km, MW5.0/82, Moment Tensor Solution. s36,c41; s82,c111; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.17±.19; Mθθ-1.75±.12; Mϕϕ-1.41±.11; Mrθ-2.85±.30; Mϕθ-1.25±.08; Mϕr-1.50±.23; Best double couple: M₀4.40100×10¹⁶ NP1:ϕs42.00000°, δ62.00000°, λ75.00000°. NP2: ϕs238.00000°, δ69.00000°, λ96.00000°. Principal axes: T 4.6020, Plg66.0000°, Azm159.0000°; N -0.3920, Plg6.0000°, Azm56.0000°; P -4.2000, Plg23.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

*BGR **20** 09:31:51.9, 16.60S × 178.43W, h33km*

ISC 20 09:31:47.2 ± 0.5, 15°.5S ± 0°.1 × 174°.1W ± 0°.1, h10 km, n124, σ1§26/74, mb4.6/26, MS4.8/37, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.72**	**55**	Pn		Pn		09 32 23.7	-7.3
RAR	**Rarotonga**	**14.71**	**115**	LR		LR		09 39 39.1	
	comp=Z,2μm,19.5s,baz=290,slow=32								
DZM	**Mont Dzumac**	**19.57**	**248**	*e*P		P		09 35 58.3	-17
	227nm,21.4s								
DZM				*e*LR		LR		09 40 28.1	
	2μm,21.9s								
PPT	**Papeete**	**23.57**	**98**	LR		LR		09 44 51.8	
	comp=Z,2μm,19.4s,baz=278,slow=33								
PPT2	**Papeete2**	**23.57**	**99**	*e*P		P		09 36 35.5	-23
	156nm,23.0s								
PPT2				*e*S		S		09 40 45.4	-27
	3μm,22.2s								
PPT2				*e*LR		LR		09 42 29.5	
	1μm,20.2s								
PPT2				*e*LR		LR		09 42 35.0	
	1μm,23.0s								
TBI	**Tubuai**	**24.46**	**112**	*e*P		P		09 36 44.7	-22
	538nm,23.0s								
TBI				*e*S		S		09 41 05.2	-22
	10μm,23.8s								
TBI				*e*LR		LR		09 43 06.8	
	9μm,22.2s								
TBI				*e*LR		LR		09 43 08.0	
	3μm,24.8s								
HNR	**Honiara**	**26.06**	**280**	LR		LR		09 46 45.9	
	comp=Z,2μm,18.8s,baz=136,slow=35								
TAOE	**Nuku Hiva Isla**	**33.77**	**83**	*e*S		S		09 43 30.7	-23
	773nm,31.5s								
TAOE				*e*SS		**SnSn**		**09 45 54.3**	**-3.9**
	1μm,22.5s								
TAOE				*e*LR		LR		09 46 58.1	
	1μm,20.5s								
ARMA	**Armidale**	**34.74**	**239**	P		**P**		**09 38 35.7**	**-2.2**
ARMA				IAmb		IAmb		09 38 39.3	
	comp=Z,20nm,1.4s								
H11S2	**WAKE ISLAND Hy**	**38.71**	**330**	T		T		10 20 05.1	
	baz=150,slow=76,SNR=935								
H11S3	**WAKE ISLAND Hy**	**38.73**	**330**	T		T		10 20 05.0	
	baz=150,slow=76,SNR=106								
H11S1	**WAKE ISLAND Hy**	**38.73**	**330**	T		T		10 20 06.4	
	baz=150,slow=76,SNR=521								
H11N3	**WAKE ISLAND Hy**	**39.67**	**331**	T		T		10 21 25.6	
	baz=151,slow=76,SNR=992								
H11N1	**WAKE ISLAND Hy**	**39.68**	**331**	T		T		10 21 25.6	
	baz=151,slow=76,SNR=1021								
H11N2	**WAKE ISLAND Hy**	**39.69**	**331**	T		T		10 21 26.7	
	baz=151,slow=76,SNR=893								
COEN	**Coen**	**41.33**	**266**	P		**P**		**09 39 32.6**	**-0.9**
COEN				IAmb		IAmb		09 39 41.6	
	comp=Z,15nm,1.0s								
STKA	**Stephens Creek**	**43.43**	**240**	P		**P**		**09 39 50.8**	**+0.3**
	comp=Z,6.5nm,0.8s,baz=63,slow=11,SNR=5.9								
	comp=Z,6.5nm,0.8s								
JAY	**Jayapura**	**46.37**	**282**	LR		LR		09 57 54.7	
	comp=Z,998nm,20.1s,baz=112,slow=34								
BBOO	**Buckleboo**	**48.21**	**240**	P		**P**		**09 40 27.7**	**-0.5**
WR0	**Warramunga Arr**	**49.01**	**257**	P		**P**		**09 40 34.6**	**+0.1**
WR0				IAmb		IAmb		09 40 54.4	
	comp=Z,12nm,1.3s								
WR8	**Warramunga Arr**	**49.04**	**257**	P		**P**		**09 40 34.6**	**-0.2**
WB0	**Warramunga Arr**	**49.16**	**257**	P		**P**		**09 40 34.6**	**-1.1**
WRAB	**Tennant Creek**	**49.19**	**257**	P		**P**		**09 40 35.5**	**-0.4**
WRAB				IAmb		IAmb		09 40 53.0	
	comp=Z,6.5nm,1.1s								
WRA	**Warramunga Arr**	**49.20**	**257**	P		**P**		**09 40 36.0**	**0.0**
WRA	**Warramunga Arr**	**49.20**	**257**	P		**P**		**09 40 35.5**	**-0.5**
	comp=Z,4.7nm,1.1s,baz=91,slow=8.1,SNR=11								
WRA				LR		LR		10 00 56.2	
	comp=Z,1μm,19.8s,baz=92,slow=36								
	comp=Z,4.7nm,1.1s								
AS31	**Alice Springs**	**49.47**	**252**			**P**		**09 40 37.7**	**-0.3**
ASAR	**Alice Springs**	**49.47**	**252**	P		**P**		**09 40 37.7**	**-0.3**
ASAR	**Alice Springs**	**49.47**	**252**	P		**P**		**09 40 38.5**	**+0.4**
	comp=Z,15nm,0.8s,baz=84,slow=8.5,SNR=28								
	comp=Z,15nm,0.8s								
GUMO	**Guam**	**49.84**	**303**	LR		LR		10 00 01.7	
	comp=Z,1μm,18.8s,baz=50,slow=34								
MTN	**Manton Dam**	**53.08**	**265**	P		**P**		**09 41 04.9**	**-0.3**
MTN				IAmb		IAmb		09 41 09.6	
	comp=Z,8.0nm,0.8s								
FITZ	**Fitzroy Crossi**	**57.56**	**258**	LR		LR		10 05 20.7	
	comp=Z,3μm,19.7s,baz=106,slow=35								
BATI	**Baucau**	**60.77**	**267**	LR		LR		10 07 25.6	
	comp=Z,880nm,18.8s,baz=124,slow=35								
PSA00	**Pilbara Seismi**	**62.56**	**253**	P		**P**		**09 42 11.6**	**-0.2**
SBA	**Scott Base**	**63.11**	**184**	P		**P**		**09 42 15.5**	**+1.0**
SBA				IAmb		IAmb		09 42 31.7	
	comp=Z,5.5nm,1.1s								
VNDA	**Vanda**	**63.22**	**186**			**P**		**09 42 16.0**	**+0.8**
VNDA	**Vanda**	**63.22**	**186**	LR		LR		10 06 42.2	
	comp=Z,661nm,19.6s,baz=36,slow=33								
DAV	**Davao City (W)**	**63.84**	**286**	LR		LR		10 09 12.8	
	comp=Z,676nm,18.3s,baz=138,slow=35								
KAPI	**Kapang**	**65.73**	**271**	LR		LR		10 12 21.1	
	comp=Z,211nm,18.1s,baz=103,slow=37								
MJAR	**Matsushiro Arr**	**68.59**	**320**	P		**P**		**09 42 50.5**	**0.0**
MJAR	**Matsushiro Arr**	**68.59**	**320**	LR		LR		10 08 01.7	
	comp=Z,660nm,21.6s,baz=125,slow=32								
SHEM	**Shemya Is, Ala**	**68.70**	**352**	LR		LR		10 09 06.5	
	comp=Z,1μm,19.8s,baz=156,slow=33								
JOW	**Kunigami**	**70.02**	**307**	LR		LR		10 08 12.1	
	comp=Z,654nm,21.4s,baz=218,slow=31								
ASAJ	**Asahikawa**	**71.28**	**329**	P		**P**		**09 43 08.4**	**+1.7**
	comp=Z,5.2nm,0.9s,baz=251,slow=8.1,SNR=4.6								
ASAJ				LR		LR		10 08 27.9	
	comp=Z,443nm,21.8s,baz=175,slow=31								
	comp=Z,5.2nm,0.9s								
JNU	**Nakatsue**	**71.39**	**313**	LR		LR		10 10 54.8	
	comp=Z,479nm,19.2s,baz=120,slow=33								
PETK	**Petropavlovsk-**	**72.52**	**343**	LR		LR		10 12 10.8	
	comp=Z,272nm,19.1s,baz=162,slow=33								
LPIG	**Lac**	**73.64**	**59**	LR		LR		10 10 13.0	
	comp=Z,492nm,18.9s,baz=222,slow=31								
QSPA	**South Pole Qui**	**74.55**	**180**	P		**P**		**09 43 27.4**	**+1.3**
QSPA				IAmb		IAmb		09 43 35.2	
	comp=Z,5.4nm,1.0s								
QSPA	**South Pole Qui**	**74.55**	**180**	P		**P**		**09 43 27.5**	**+1.3**
	comp=Z,4.2nm,0.9s,baz=26,slow=3.0,SNR=8.6								
QSPA				LR		LR		10 13 57.5	
	comp=Z,1μm,19.6s,baz=44,slow=34								
	comp=Z,4.2nm,0.9s								
GRAC	**Grapevine Rang**	**74.65**	**44**	P		**P**		**09 43 26.0**	**-1.0**
GRAC				IAmb		IAmb		09 43 29.5	
	comp=Z,7.3nm,1.1s								
NVAR	**Mina Array Bea**	**74.83**	**42**	P		**P**		**09 43 30.1**	**+1.8**
	comp=Z,3.1nm,1.0s,baz=230,slow=10,SNR=16								
	comp=Z,3.1nm,1.0s								
KDAK	**Kodiak Island**	**75.14**	**12**	P		**P**		**09 43 29.7**	**+0.4**
KDAK				IAmb		IAmb		09 43 34.2	
	comp=Z,12nm,1.2s								
KDAK	**Kodiak Island**	**75.14**	**12**	LR		LR		10 12 50.7	
	comp=Z,468nm,18.9s,baz=220,slow=33								
SHPR	**Sheep Range**	**75.88**	**45**	P		**P**		**09 43 33.7**	**-0.5**
R11B	**Troy Canyon, C**	**76.57**	**44**	P		**P**		**09 43 36.3**	**-1.8**
M14K	**Bethel**	**76.60**	**6**	P		**P**		**09 43 37.2**	**-0.3**
WVOR	**Wild Horse Val**	**76.91**	**39**	P		**P**		**09 43 39.9**	**0.0**
WVOR				IAmb		IAmb		09 43 58.5	
	comp=Z,5.7nm,1.4s								
TUC	**Tucson**	**76.95**	**51**	P		**P**		**09 43 40.4**	**+0.1**
TUC				IAmb		IAmb		09 43 42.9	
	comp=Z,7.7nm,1.4s								
USRK	**Ussuriysk Ar.**	**77.07**	**323**	LR		LR		10 14 50.0	
	comp=Z,878nm,19.4s,baz=141,slow=34								
M16K	**Timber Creek**	**77.21**	**7**	P		**P**		**09 43 41.5**	**+0.6**
X16A	**Lo Mia Camp, P**	**77.46**	**49**	P		**P**		**09 43 42.3**	**-1.0**
X16A				IAmb		IAmb		09 43 45.9	
	comp=Z,5.4nm,1.2s								
J08A	**Circle Bar Ran**	**77.54**	**38**			**P**		**09 43 41.5**	**-1.9**
J08A				IAmb		IAmb		09 43 45.4	
	comp=Z,9.7nm,1.3s								
MA2	**Magadan**	**80.06**	**343**	LR		LR		10 16 27.2	
	comp=Z,538nm,19.9s,baz=160,slow=34								
NEW	**Newport**	**81.15**	**35**	LR		LR		10 13 05.8	
	comp=Z,382nm,21.7s,baz=226,slow=30								
TXAR	**Lajitas Array**	**81.20**	**56**	P		**P**		**09 44 05.0**	**+1.3**
	comp=Z,1.7nm,1.1s,baz=224,slow=5.2,SNR=8.3								
	comp=Z,1.7nm,1.1s								
SEY	**Seymchan**	**82.44**	**345**	P		**P**		**09 44 09.9**	**+0.6**
	comp=Z,3.5nm,1.0s,baz=175,slow=5.1,SNR=3.9								
	comp=Z,3.5nm,1.0s								
ILAR	**Eielson Array**	**82.66**	**11**	P		**P**		**09 44 10.9**	**+0.5**
	comp=Z,2.3nm,1.1s,baz=223,slow=6.2,SNR=15								
	comp=Z,2.3nm,1.1s								
PDAR	**Pinedale Array**	**82.76**	**42**	P		**P**		**09 44 11.9**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=238,slow=2.8,SNR=8.6								
	comp=Z,1.3nm,0.9s								
RLMT	**Red Lodge**	**84.08**	**40**	P		**P**		**09 44 18.8**	**+0.3**
RLMT				IAmb		IAmb		09 44 21.2	
	comp=Z,7.7nm,1.4s								
MAYO	**Mayo, Yukon**	**84.18**	**16**	P		**P**		**09 44 18.6**	**+0.3**
PMSA	**Palmer Station**	**84.36**	**156**	LR		LR		10 17 52.0	
	comp=Z,620nm,18.0s,baz=246,slow=33								
CMIG	**Matias Romero**	**84.52**	**71**	LR		LR		10 14 23.5	
	comp=Z,747nm,19.7s,baz=178,slow=30								
I30M	**Mount Dempster**	**85.36**	**15**	P		**P**		**09 44 24.4**	**0.0**
I30M				IAmb		IAmb		09 44 42.4	
	comp=Z,5.6nm,1.1s								
BMAR	**Burnt Mountain**	**85.46**	**11**			**P**		**09 44 24.9**	**+0.1**
H03S2	**Juan Fernandez**	**85.69**	**124**	T		T		11 19 08.7	
	baz=251,slow=74,SNR=9.6								
H03S1	**Juan Fernandez**	**85.70**	**124**	T		T		11 19 09.7	
	baz=251,slow=74,SNR=8.4								
H03S3	**Juan Fernandez**	**85.70**	**124**	T		T		11 19 15.5	
	baz=251,slow=74,SNR=7.5								
H03N2	**Juan Fernandez**	**85.79**	**123**	T		T		11 19 15.7	
	baz=247,slow=73,SNR=6.3								
H03N3	**Juan Fernandez**	**85.79**	**123**	T		T		11 19 18.9	
	baz=247,slow=73,SNR=4.2								
H03N1	**Juan Fernandez**	**85.81**	**123**	T		T		11 19 16.0	
	baz=247,slow=73,SNR=5.5								
USHA	**Ushuaia**	**86.21**	**146**	LR		LR		10 16 13.1	
	comp=Z,612nm,19.2s,baz=212,slow=31								
MAW	**Mawson**	**87.50**	**199**	LR		LR		10 24 16.6	
	comp=Z,849nm,18.3s,baz=120,slow=36								
INK	**Inuvik**	**88.51**	**14**	LR		LR		10 17 21.4	
	comp=Z,261nm,21.9s,baz=234,slow=31								
YAK	**Yakutsk**	**88.94**	**337**	LR		LR		10 22 55.5	
	comp=Z,241nm,18.9s,baz=130,slow=34								
PLCA	**Paso Flores**	**89.93**	**132**	LR		LR		10 18 34.4	
	comp=Z,850nm,18.9s,baz=248,slow=31								
YKA	**Yellowknife Ar**	**90.44**	**24**	P		**P**		**09 44 49.7**	**+1.1**
	comp=Z,1.3nm,1.1s,baz=252,slow=4.3,SNR=10								
	comp=Z,1.3nm,1.1s								
JTS	**Las Juntas de**	**91.86**	**80**	LR		LR		10 17 34.1	
	comp=Z,694nm,20.0s,baz=229,slow=30								
CMAR	**Chiang Mai Arr**	**92.03**	**288**	P		**P**		**09 44 57.6**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=109,slow=5.8,SNR=5.3								
CMAR				LR		LR		10 23 31.0	
	comp=Z,248nm,20.0s,baz=120,slow=34								
	comp=Z,1.4nm,0.3s								
SNAA	**Sanae**	**92.85**	**177**	LR		LR		10 24 39.1	
	comp=Z,681nm,19.3s,baz=175,slow=34								
ATAH	**Atahualpa**	**93.55**	**98**	LR		LR		10 19 20.7	
	comp=Z,1μm,19.4s,baz=262,slow=30								
NNA	**Nana**	**93.66**	**103**	LR		LR		10 19 21.3	
	comp=Z,293nm,19.6s,baz=226,slow=30								
SONM	**Songino Array**	**94.48**	**318**	LR		LR		10 25 32.8	
	comp=Z,38nm,19.5s,baz=114,slow=34								
TKL	**Tuckaleechee C**	**99.10**	**56**	LR		LR		10 26 56.2	
	comp=Z,267nm,18.5s,baz=264,slow=33								
BRDH	**Bariadhala**	**99.69**	**291**	LR		LR		10 29 24.4	
	comp=Z,471nm,19.4s,baz=132,slow=35								
MORC	**Moravsky Berou**	**144.52**	**347**	PKPdf		**PKPab**		**09 51 22.3**	**0.0**
MORC	**Moravsky Berou**	**144.52**	**347**	*e*PKP		PKPbc		09 51 23.4	+0.9
ILGA	**Ilgaz**	**144.96**	**322**	PKPdf		**PKPab**		**09 51 23.5**	**-0.9**
VRAC	**Vranov**	**145.17**	**348**	*e*PKP		**PKPdf**		**09 51 25.2**	**+0.1**
JAVC	**Velka Javorina**	**145.36**	**346**	*e*PKP		**PKPdf**		**09 51 27.1**	**+1.6**
TIRR	**Tirgusor**	**145.41**	**331**			**PKPbc**		**09 51 23.1**	**-2.4**
KRUC	**Moravsky**	**145.44**	**348**	*e*PKP		**PKPdf**		**09 51 26.2**	**+0.7**
GRF	**Grafenberg Arr**	**145.62**	**354**	*e*PKPbc		**PKPab**		**09 51 27.8**	**+1.5**
	baz=10,slow=2.8								
GRFO	**Grafenberg**	**145.62**	**354**	PKPdf		**PKPdf**		**09 51 23.7**	**-2.1**
BRTR	**Keskin Array B**	**145.82**	**320**	PKPdf		**PKPdf**		**09 51 23.1**	**-3.5**
BRTR	**Keskin Array B**	**145.82**	**320**	PKPbc		**PKPab**		**09 51 28.4**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=9.5,slow=1.5,SNR=4.4								
GEC2	**GERESS Array S**	**146.13**	**351**	PKPdf		**PKPdf**		**09 51 23.4**	**-3.5**
GERES	**GERESS Array B**	**146.13**	**351**	PKPdf		**PKPdf**		**09 51 23.8**	**-3.0**
GERES	**GERESS Array B**	**146.13**	**351**	PKPbc		**PKPab**		**09 51 28.5**	**+0.2**
	comp=Z,2.9nm,1.1s,baz=50,slow=2.1,SNR=9.8								
CONA	**Conrad Observa**	**146.63**	**348**	*i* PKP		**PKPab**		**09 51 30.3**	**0.0**
	comp=Z,5.6nm,1.0s								
RONA	**Rosalia, Austr**	**146.76**	**347**	*i* PKP		**PKPab**		**09 51 31.3**	**+0.6**
	comp=Z,2.3nm,0.7s								
MOA	**Molln**	**147.00**	**350**	*i* PKP		**PKPbc**		**09 51 31.0**	**+0.7**
	comp=Z,9.0nm,1.6s								
ARSA	**Arzberg**	**147.34**	**348**	*i* PKP		**PKPab**		**09 51 33.3**	**+0.3**
	comp=Z,3.8nm,1.1s					

MYKA	**Terra Mystica**	**148.07**	**350**	*e*PKiKP	**PKPab**	**09 54 18.6**	**+0.4**
	1.3nm,0.5s								
FETA	**Feichten**	**148.10**	**353**	*e*PKP	**PKPdf**	**09 54 12.7**	**+0.3**
	3.2nm,1.3s								
ABTA	**Abfaltersbach**	**148.14**	**351**	*e*PKiKP	**PKPab**	**09 54 19.5**	**+1.0**
	3.8nm,1.1s								
ESDC	**Sonseca Array**	**154.29**	**17**	PKPbc	**PKiKP**	**09 54 31.2**	**+0.9**
	0.5nm,0.4s,baz=280,slow=2.9,SNR=2.8								
ESDC				PKPab	**PKPab**	**09 54 43.8**	**-0.3**
	0.3nm,0.5s,baz=346,slow=3.8,SNR=4.0								

*CATAC **20** 09:36:13.6±0.9,14°N±7'×9°3W±', h5km±7km,M3.3/6, MLv3.3/6,Error ellipse: s-maj=15.3km s-min=6.7km az=25.3,confirmed*
*MEX **20** 09:36:14.6±1.9,14°38N×93°37W,h10km±96km,MD4.1*
*GCG **20** 09:36:14.3±1.9,14°15N×93°10W,h20km±16km,MD3.7, ML3.0*

ISC 20 09:36:10.3±2.3,**14°26N**±0°08×**93°16W**±0°06,**h7**km±12km, **n20,** σ=**29**/34,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**1.08**	**53**	*e*P			**Pb**	**09 36 32.3**	**+0.9**
THIG				*e*S			**Sn**	**09 36 48.5**	**+1.3**
THIG		**1.08**	**53**	*i* P			**Pn**	**09 36 33.5**	**+1.6**
THIG				*i* S			**Sn**	**09 36 47.5**	**+0.3**
THIG				IAML				09 36 52.4	
	comp=E,333nm,1.2s								
SMCA	**Catarina**	**1.21**	**60**	*i* P			**Pn**	**09 36 35.5**	**+1.8**
PATR	**El Naranjo**	**1.24**	**46**	*e*P			**Pn**	**09 36 35.9**	**+1.6**
PATR				*e*S			**Sn**	**09 36 51.6**	**+0.1**
PAVE	**Pavencul**	**1.33**	**46**	*e*P			**Pn**	**09 36 37.2**	**+1.6**
PAVE				*e*S			**Sn**	**09 36 53.2**	**-0.5**
PCIG		**1.44**	**358**	*e*P			**Pn**	**09 36 39.7**	**+2.8**
PCIG				*e*S			**Sg**	**09 36 53.7**	**-3.0**
RTAL	**Retalhuleu**	**1.45**	**79**	*e*P			**Pn**	**09 36 39.1**	**+2.2**
RTAL				*e*S			**Sb**	**09 36 57.0**	**+0.7**
RTAL	**Retalhuleu**	**1.45**	**79**	P			**Pn**	**09 36 38.7**	**+1.8**
STG2	**El Palmar, Qui**	**1.74**	**84**	*i* P			**Pn**	**09 36 40.6**	**-0.6**
STG2				*i* S			Sn	09 36 56.6	-7.1
STG0	**El Palmar, Qui**	**1.77**	**84**	*i* P			**Pn**	**09 36 41.0**	**-0.6**
STG0				*i* S			**Sn**	**09 36 58.0**	**-6.6**
STG0				IAML				09 37 05.8	
	comp=E,582nm,0.5s								
HUEH	**Huehuetenango**	**1.92**	**57**	*e*P			**Pn**	**09 36 45.6**	**+1.9**
HUEH				*e*S			**Sb**	**09 37 10.4**	**+0.2**
CCIG	**Comitan**	**2.24**	**26**	*e*P			**Pg**	**09 36 53.0**	**-0.3**
CCIG				*e*S			**Sg**	**09 37 20.9**	**-1.6**
CCIG	**Comitan**	**2.24**	**26**	*i* P			**Pg**	**09 36 53.6**	**+0.2**
CCIG				*i* S			**Sg**	**09 37 22.0**	**-0.4**
CCIG				IAML				09 37 26.3	
	comp=N,48nm,0.3s								
CCIG	**Comitan**	**2.24**	**26**	P			**Pg**	**09 36 53.5**	**+0.2**
CCIG	**Comitan**	**2.24**	**26**	S			**Sg**	**09 37 23.0**	**+0.5**
TGIG		**2.51**	**1**	*e*P			**Pn**	**09 36 53.6**	**+2.0**
TGIG				*e*S			**Sn**	**09 37 20.2**	**-2.3**
TGIG		**2.51**	**1**	*i* P			**Pb**	**09 36 55.4**	**-0.4**
TGIG				*i* S			**Sb**	**09 37 26.3**	**-0.5**
TGIG				IAML				09 37 29.7	
	comp=N,62nm,0.7s								
UXUV	**UXUV**	**3.19**	**343**	*e*P			**Pb**	**09 37 06.7**	**-0.6**
UXUV				*e*S			**Sn**	**09 37 39.5**	**+0.3**
CMIG	**Matias Romero**	**3.27**	**330**	*e*P			**Pn**	**09 37 06.1**	**+4.0**
CMIG				*e*S			**Sn**	**09 37 35.5**	**-5.7**
LALI	**Alcalda de L**	**3.81**	**101**	P			**Pn**	**09 37 12.6**	**+3.2**

*SNET **20** 10:27:30.0±0.9,13°34N×90°17W,h43km±28km,ML3.0*
*CATAC **20** 10:27:30.5±1.0,13°N±5'×9°0W±', h22km±6km,M2.9/12, MLv2.9/12,Error ellipse: s-maj=12.7km s-min=10.5km az=60.0,confirmed*
*GCG **20** 10:27:31.5±0.6,13°38N×90°11W,h32km±4km,MD3.6, ML2.6,MW2.5*

ISC 20 10:27:31.3±3.7,**13°3N**±0°1×**90°1W**±0°2,**h35**km,**n40,** σ=**40**/41,**6D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.54**	**11**	P			**Pn**	**10 27 42.1**	**-0.5**
NUBE	**Las Nubes**	**0.68**	**29**	⇓*i* P			**Pn**	**10 27 44.1**	**-0.4**
NUBE	**Las Nubes**	**0.68**	**29**	*i* P			**Pn**	**10 27 44.2**	**-0.4**
NUBE	**Las Nubes**	**0.68**	**29**	P			**Pn**	**10 27 44.1**	**-0.4**
NUBE	**Las Nubes**	**0.68**	**29**	S			**Sn**	**10 27 53.7**	**-0.2**
SBLS	**San Blas**	**0.72**	**43**	⇓*i* P			**Pn**	**10 27 44.9**	**-0.2**
SBLS				⇓*e* P				10 27 45.0	
SBLS				*e*S			**Sn**	**10 27 54.6**	**-0.5**
JAYA	**Jayaque - finc**	**0.74**	**62**	*e*P			**Pn**	**10 27 44.9**	**-0.6**
JAYA	**Jayaque - finc**	**0.74**	**62**	*i* P			**Pn**	**10 27 44.9**	**-0.6**
JAYA	**Jayaque - finc**	**0.74**	**62**	P			**Pn**	**10 27 44.8**	**-0.6**
JAYA	**Jayaque - finc**	**0.74**	**62**	S			**Sn**	**10 27 55.5**	**-0.1**
RTR	**El Retiro**	**0.75**	**38**	⇓*e* P			**Sn**	**10 27 45.4**	**-0.1**
RTR				*e*S			**Sn**	**10 27 56.3**	**+0.6**
SNJE	**San Jose**	**0.75**	**42**	⇓*e* P			**Pn**	**10 27 45.4**	**-0.2**
LOAL	**Lomas de Alarc**	**0.76**	**26**	*e*P			**Pn**	**10 27 45.5**	**-0.1**
LOAL	**Lomas de Alarc**	**0.76**	**26**	P			**Pn**	**10 27 45.5**	**-0.1**
LOAL	**Lomas de Alarc**	**0.76**	**26**	S			**Sn**	**10 27 56.6**	**+0.7**
SLOZ	**Alcaldia de Sa**	**0.79**	**25**	⇓*i* P			**Pn**	**10 27 45.8**	**-0.1**
SLOZ				*e*S			**Sn**	**10 27 56.9**	**+0.4**
SLOZ	**Alcaldia de Sa**	**0.79**	**25**	P			**Pn**	**10 27 45.6**	**-0.3**
SLOZ	**Alcaldia de Sa**	**0.79**	**25**	S			**Sn**	**10 27 57.0**	**+0.5**
UNIC	**Universidad Ca**	**0.87**	**40**	P			**Pn**	**10 27 46.8**	**-0.3**
UNIC	**Universidad Ca**	**0.87**	**40**	S			**Sn**	**10 27 59.1**	**+0.4**
PMON	**Piamonte**	**0.88**	**63**	*e*P			**Pn**	**10 27 46.8**	**-0.6**
PMON	**Piamonte**	**0.88**	**63**	P			**Pn**	**10 27 46.8**	**-0.6**
BOQS	**Boqueron**	**0.92**	**63**	*e*P			**Pn**	**10 27 47.5**	**-0.5**
UEES	**Universidad Ev**	**0.95**	**65**	*e*P			**Pn**	**10 27 47.8**	**-0.5**
LOMA	**Loma Larga**	**0.98**	**70**	*e*P			**Pn**	**10 27 48.1**	**-0.6**
FG16	**Alotenango, Sa**	**1.03**	**339**	IAML				10 28 13.5	
	comp=Z,309nm,0.1s								
LFRS	**El Faro**	**1.08**	**73**	*e*P			**Pn**	**10 27 50.0**	**0.0**
PAVA	**Las Pavas**	**1.22**	**71**	P			**Pn**	**10 27 52.2**	**+0.2**
COEG	**Centro de Oper**	**1.25**	**76**	*e*P			**Pn**	**10 27 52.2**	**-0.1**
COEG	**Centro de Oper**	**1.25**	**76**	P			**Pn**	**10 27 52.0**	**-0.3**
MTO3	**Montecristo**	**1.31**	**34**	*e*P			**Pn**	**10 27 53.0**	**-0.3**
MTO3	**Montecristo**	**1.31**	**34**	*i* P			**Pn**	**10 27 53.1**	**-0.2**
MTO3				IAML				10 28 12.3	
	comp=Z,15nm,0.5s								
MTO3	**Montecristo**	**1.31**	**34**	P			**Pn**	**10 27 53.1**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.41**	**74**	*e*P			**Pn**	**10 27 54.5**	**0.0**
SCLA	**Alcaldia de Sa**	**1.41**	**74**	P			**Pn**	**10 27 54.5**	**0.0**
ESQI	**Esquipulas**	**1.46**	**31**	P			**Pn**	**10 27 55.1**	**-0.1**
PQSS	**Presa 15 de Se**	**1.55**	**78**	P			**Pn**	**10 27 56.2**	**-0.3**
STG0	**El Palmar, Qui**	**1.62**	**313**	*i* P			Pn	10 28 02.9	+5.4
STG0				IAML				10 28 34.1	
	comp=Z,122nm,0.1s								
SARH	**Santa Rosa de**	**1.97**	**42**	*i* P			**Pn**	**10 28 02.5**	**+0.3**
LCND	**La Caada**	**2.17**	**90**	P			**Pn**	**10 28 05.4**	**+0.4**

*SJA **20** 10:41:38.6±0.5,24°10S×66°84W,h218km±6km,ML3.5, MW3.5*
*GUC **20** 10:41:40.6±0.6,24°09S×67°22W,h245km±5km,ML3.6*

ISC 20 10:41:38.2±2.0,**24°07S**±0°04×**66°91W**±0°08, **h231**km±16km,**n28,** σ=**56**/53,**4C,Salta Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.44**	**117**	*e*P			**Pn**	**10 42 13.4**	**-1.0**
AF01	**San Pedro de A**	**1.61**	**313**	*e*P			**Pn**	**10 42 17.7**	**+1.6**
AF01				*e*S			**S**	**10 42 46.2**	**+0.7**
AF01				IAML				10 42 53.5	
	comp=N,150nm,0.5s								
GO02	**Mina Guanaco**	**2.67**	**245**	⇑*e* P			**Pn**	**10 42 27.0**	**+0.8**
GO02				*e*S			**S**	**10 43 02.7**	**-1.2**
GO02				IAML				10 43 04.5	
	comp=N,163nm,0.1s								
GO02	**Mina Guanaco**	**2.67**	**245**	*e*P			**Pn**	**10 42 27.1**	**+0.8**
GO02				*e*S			**S**	**10 43 03.3**	**-0.5**
PB06	**IPOC Station P**	**2.79**	**299**	⇑*e* P			**Pn**	**10 42 28.6**	**+1.1**
PB06				*e*S			**S**	**10 43 04.5**	**-1.6**
PB06	**IPOC Station P**	**2.79**	**299**	*e*P			**Pn**	**10 42 28.1**	**+0.6**
PB06				*e*S			**S**	**10 43 05.0**	**-1.0**
PB06				IAML				10 43 07.2	
	comp=Z,134nm,0.1s								
PB09	**IPOC Station P**	**3.12**	**316**	⇑*e* P			**Pn**	**10 42 33.0**	**+1.9**
PB09				*e*S			**S**	**10 43 12.5**	**-0.2**
PB09	**IPOC Station P**	**3.12**	**316**	*e*P			**Pn**	**10 42 32.7**	**+1.6**
PB09				*e*P				10 42 33.2	
PB09				*e*S			**S**	**10 43 14.2**	**+1.6**
PB09				IAML				10 43 15.1	
	comp=Z,53nm,0.2s								
PB14	**IPOC Station P**	**3.23**	**259**	*e*P			**Pn**	**10 42 33.3**	**+0.8**
PB14				*e*S			**S**	**10 43 12.6**	**-2.5**
PB14	**IPOC Station P**	**3.23**	**259**	*e*P			**Pn**	**10 42 33.2**	**+0.8**
PB14				*e*S			**S**	**10 43 14.1**	**-1.0**
PB14				IAML				10 43 20.4	
	comp=Z,52nm,2.4s								
PB05	**IPOC Station P**	**3.25**	**291**	⇑*e* P			**Pn**	**10 42 33.5**	**+0.9**
PB05				*e*S			**S**	**10 43 12.8**	**-2.5**
PB05	**IPOC Station P**	**3.25**	**291**	*e*P			**Pn**	**10 42 33.6**	**+1.1**
PB05				*e*S			**S**	**10 43 14.4**	**-0.9**
PB05				IAML				10 43 17.4	
	comp=Z,39nm,0.3s								
PB03	**IPOC Station P**	**3.30**	**307**	*e*P			**Pn**	**10 42 34.2**	**+1.1**
PB03				*e*S			**S**	**10 43 14.3**	**-2.0**
PB03	**IPOC Station P**	**3.30**	**307**	*e*P			**Pn**	**10 42 34.2**	**+1.1**
PB03				*e*S			**S**	**10 43 14.8**	**-1.5**
PB03				IAML				10 43 16.2	
	comp=Z,94nm,0.2s								
PB10	**IPOC Station P**	**3.38**	**279**	*e*P			**Pn**	**10 42 35.3**	**+1.3**
PB10	**IPOC Station P**	**3.38**	**279**	*e*P			**Pn**	**10 42 35.2**	**+1.3**
PB10				*e*S			**S**	**10 43 17.1**	**-0.6**
AC02	**Maricunga**	**3.41**	**216**	*e*P			**Pn**	**10 42 35.3**	**+0.7**
AC02				*e*S			**S**	**10 43 23.2**	**+4.2**
PB01	**IPOC Station P**	**3.84**	**321**	*e*P			**Pn**	**10 42 40.2**	**+0.8**
PB01				*e*S			**S**	**10 43 25.1**	**-2.5**
PB01	**IPOC Station P**	**3.84**	**321**	*e*P			**Pn**	**10 42 40.6**	**+1.2**
PB01				*e*S			**S**	**10 43 26.4**	**-1.2**
PB01				IAML				10 43 27.9	
	comp=Z,66nm,0.2s								
PB02	**IPOC Station P**	**3.88**	**314**	*i* P			**Pn**	**10 42 40.8**	**+0.9**
PB02				*i* S			**S**	**10 43 25.6**	**-3.0**
PB02	**IPOC Station P**	**3.88**	**314**	*e*P			**Pn**	**10 42 41.1**	**+1.2**
PB02				*e*S			**S**	**10 43 27.2**	**-1.4**
PB02				IAML				10 43 38.0	
	comp=Z,126nm,0.2s								
AC01	**Pan de Azucar**	**3.93**	**237**	*e*P			**Pn**	**10 42 40.5**	**+0.1**
AC01				*e*S			**S**	**10 43 27.4**	**-1.9**
AC01				IAML				10 44 07.2	
	comp=Z,28nm,4.2s								
PATCX	**Punta Patache**	**4.41**	**317**	*e*P			**Pn**	**10 42 47.6**	**+1.4**
PATCX				*e*S			**S**	**10 43 38.0**	**-2.0**
PATCX	**Punta Patache**	**4.41**	**317**	*e*P			**Pn**	**10 42 47.6**	**+1.4**
PATCX				*e*S			**S**	**10 43 38.8**	**-1.3**
PATCX				IAML				10 43 43.4	
	comp=Z,27nm,0.3s								
GO03	**Copiapo**	**4.61**	**220**	*e*P			**Pn**	**10 42 49.4**	**+0.7**
GO03				*e*S			**S**	**10 43 42.9**	**-1.6**
GO01	**Chusmiza**	**4.87**	**334**	*e*P			**Pn**	**10 42 54.4**	**+2.1**
GO01				*e*S			**S**	**10 43 51.7**	**+0.8**
PB11	**IPOC Station P**	**4.99**	**329**	*e*P			**Pn**	**10 42 54.6**	**+1.2**
PB11				*e*S			**S**	**10 43 51.1**	**-2.0**
ACLC	**CERRO LA CRUZ**	**5.33**	**180**	*e*P			**Pn**	**10 42 58.4**	**+0.6**
ACLC				*e*S					

*VAO **20** 10:47:12.8±0.3,0°07N×61°86W,h0km,mbR3.9*
*OSUNB **20** 10:47:13.4±0.3,0°24N×61°75W,h0km,mR3.8/7,Error ellipse: s-maj=2.5km s-min=1.9km az=0.0*

ISC 20 10:47:13.6±0.8,**0°14N**±0°05×**61°80W**±0°05,**h10**km,**n20,** σ=**31**/34,**Brazil**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOAV	**Boa Vista**	**2.58**	**30**	*e*P			**Pn**	**10 47 55.8**	**+0.3**
BOAV	**Boa Vista**	**2.58**	**30**	P			**Pn**	**10 47 56.3**	**+0.8**
BOAV				S			**Sn**	**10 48 26.5**	**-0.5**
MACA	**Manacapuru-AM**	**3.46**	**161**	*e*P			**Pn**	**10 48 07.3**	**-0.4**
MACA	**Manacapuru-AM**	**3.46**	**161**	P			**Pb**	**10 48 12.6**	**-2.6**
MACA				S			**Sb**	**10 48 56.6**	**-0.7**
TEFE	**Tefe**	**4.60**	**218**	*e*P			**Pn**	**10 48 22.4**	**-0.9**
TEFE				*e*S			**Sn**	**10 49 15.9**	**-1.0**
TEFE	**Tefe**	**4.60**	**218**	P			**Pn**	**10 48 26.6**	**+3.3**
TEFE				S			**Sn**	**10 49 20.6**	**+3.8**
SGC2	**Sao Gabriel da**	**5.19**	**267**	P			**Pn**	**10 48 33.4**	**+2.0**
SGC2				S			**Sn**	**10 49 29.8**	**-1.5**
ITTB	**Itaituba**	**7.54**	**127**	*e*P			**Pn**	**10 49 04.2**	**+0.5**
ITTB				*e*S			**Sn**	**10 50 31.0**	**+1.8**
ITTB	**Itaituba**	**7.54**	**127**	P			**Pn**	**10 49 07.6**	**+3.9**
ITTB				S			**Sn**	**10 50 31.2**	**+2.0**
MAL2	**Monte Alegre,**	**7.91**	**106**	P			**Pn**	**10 49 11.5**	**+2.6**
MAL2				S			**Sn**	**10 50 42.1**	**+3.5**
TBTG	**Tabatinga, AM**	**9.17**	**242**	*e*P			**Pn**	**10 49 25.2**	**-0.9**
TBTG				*e*S			**Sn**	**10 51 08.7**	**-0.8**
NPGB	**Novo Progresso**	**9.60**	**138**	*e*P			**Pn**	**10 49 32.3**	**+0.2**
NPGB	**Novo Progresso**	**9.60**	**138**	P			**Pn**	**10 49 36.5**	**+4.4**
NPGB				S			**Sn**	**10 51 19.7**	**-0.5**
ATM1	**UHE Belo Monte**	**10.16**	**110**	P			**Pn**	**10 49 42.2**	**+2.5**
ATM1				S			**Sn**	**10 51 29.9**	**-3.9**
BMO2	**UHE Belo Monte**	**10.40**	**110**	P			**Pn**	**10 49 45.5**	**+2.5**
BMO2				S			**Sn**	**10 51 35.0**	**-4.7**
SDV	**Santo Domingo**	**12.37**	**315**	*e*P			**Pn**	**10 50 10.4**	**+0.4**
SDV				*e*S			**Sn**	**10 52 30.2**	**+2.0**
CLDB	**Colider**	**12.46**	**152**	*e*P			**Pn**	**10 50 11.1**	**-0.2**
PDRB	**Porto dos Gac**	**12.72**	**157**	*e*P			**Pn**	**10 50 14.3**	**-0.4**
CZSB	**Cruzeiro do Su**	**13.39**	**234**	*e*P			**Pn**	**10 50 22.9**	**-1.1**
PRPB	**Parauapebas**	**13.51**	**118**	*e*P			**Pn**	**10 50 26.1**	**+0.6**
PRPB				*e*S			**Sn**	**10 52 57.9**	**+2.1**

*NEIC **20** 10:57:24.9±1.1,52°2N±0°2×174°4W±0°1,h178km±8km, mb4.0/65,ML3.6/14,ML3.2(AEIC),Error ellipse: s-maj=23.2km s-min=10.2km az=163.0*
*AEIC **20** 10:57:25.9±2.4,51°9N±0°1×174°3W±0°1,h171km±6km, Error ellipse: s-maj=21.4km s-min=9.7km az=164.0*
*IDC **20** 10:57:41.3±10.0,53°03N×173°40W,h265km±120km, mb3.1/6,mbtmp3.7/8,Error ellipse: s-maj=52.0km s-min=25.7km az=154.0*

ISC 20 10:57:25.5±0.8,**52°2N**±0°1×**174°35W**±0°07,**h171**km±7km, **n117,** σ=**91**/125,**mb3.8**/13,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.09**	**93**		**Pn**	**10 57 48.2**	**+0.2**
ATKA				Sn	**Sn**	**10 58 05.6**	**+0.3**
ATKA				IAML		10 58 06.6	
	comp=E,733nm,0.4s						
GSIG	**Igitkin Island**	**1.00**	**258**		**Pn**	**10 57 52.1**	**-0.1**
GSIG					**Sn**	**10 58 11.4**	**-1.3**
GSTR	**Great Sitkin T**	**1.06**	**265**		**Pn**	**10 57 52.9**	**+0.2**
GSTR				IAML		10 58 08.2	
	comp=E,429nm,0.4s						
GSTR				Sn	**Sn**	**10 58 14.4**	**+0.8**
GSTR				IAML		10 58 16.1	
	comp=N,580nm,0.6s						
GSMY	**Great Sitkin M**	**1.07**	**262**		**Pn**	**10 57 52.8**	**+0.1**
GSMY					**Sn**	**10 58 14.7**	**+1.0**
GSTD	**Great Sitkin T**	**1.12**	**263**		**Pn**	**10 57 53.1**	**-0.1**
GSSP	**Great Sitkin S**	**1.13**	**265**		**Pn**	**10 57 53.2**	**0.0**
GSSP					**Sn**	**10 58 16.6**	**+2.0**
GSCK	**Great Sitkin C**	**1.14**	**261**		**Pn**	**10 57 53.4**	**+0.1**
ETKA	**Kagalaska Isla**	**1.32**	**256**		**Pn**	**10 57 55.0**	**+0.2**
ETKA					**Sn**	**10 58 17.1**	**-0.4**
ADAG	**Mount Adagdak**	**1.41**	**262**		**Pn**	**10 57 55.9**	**+0.2**
ADK	**Adak**	**1.48**	**258**		**Pn**	**10 57 56.3**	**0.0**
ADK				Sn	**Sn**	**10 58 19.8**	**-0.4**
ADK				IAML		10 58 23.0	
	comp=N,320nm,0.3s						
ADK				IAML		10 58 24.6	
	comp=N,433nm,0.2s						
KIRH	**Kanaga Island**	**1.72**	**261**		**Pn**	**10 57 59.0**	**+0.1**
KIWB	**Kanaga Island**	**1.77**	**260**		**Pn**	**10 57 59.5**	**+0.2**
KIWB				Sn	**Sn**	**10 58 25.9**	**+0.5**
KIWB				IAML		10 58 27.5	
	comp=N,281nm,0.5s						
KIWB				IAML		10 58 29.6	
	comp=E,224nm,0.5s						
KIKV	**Kanaga Island**	**1.77**	**260**		**Pn**	**10 57 59.4**	**0.0**
KIMD	**Kanaga Island**	**1.84**	**257**		**Pn**	**10 58 00.3**	**+0.2**
KIMD					**Sn**	**10 58 26.3**	**-0.6**
TAPA	**Tanaga Point A**	**2.18**	**261**		**Pn**	**10 58 04.1**	**+0.2**
TASE	**Tanaga Southea**	**2.31**	**262**		**Pn**	**10 58 05.8**	**+0.4**
GAEA	**Gareloi East**	**2.75**	**263**		**Pn**	**10 58 10.9**	**+0.3**
GAKI	**Gareloi-Kavalg**	**2.84**	**258**		**Pn**	**10 58 11.7**	**+0.1**
NIKH	**Nikolski High**	**3.44**	**75**	Pn	**Pn**	**10 58 19.7**	**+0.7**
NIKH				IAML		10 59 01.1	
	comp=N,95nm,0.5s						
CEPE	**Semis' Perret**	**3.71**	**269**		**Pn**	**10 58 22.4**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**4.00**	**70**		**Pn**	**10 58 27.0**	**+0.8**
AMKA	**Amchitka**	**4.03**	**261**		**Pn**	**10 58 26.1**	**-0.4**
LSSE	**Little Sitkin**	**4.38**	**269**		**Pn**	**10 58 31.3**	**+0.3**

MREP	**Makushin Rep't**	**4.86**	**68**			**Pn**	**10 58 38.2**	**+0.8**
UNV	**Unalaska Valle**	**5.01**	**68**	Pn		**Pn**	**10 58 39.0**	**-0.2**
LVA	**Lava Point**	**5.37**	**65**	Pn		**Pn**	**10 58 44.4**	**+0.4**
AKUT	**Akutan**	**5.51**	**66**	Pn		**Pn**	**10 58 45.8**	**+0.1**
SPIA	**Saint Paul Isl**	**5.52**	**24**	Pn		**Pn**	**10 58 46.1**	**+0.3**
SDPT	**Sand Point**	**8.79**	**64**	Pn		**Pn**	**10 59 27.4**	**-1.7**
CNBA	**Chernabura Isl**	**9.18**	**68**	Pn		**Pn**	**10 59 31.8**	**-2.3**
CHGN	**Chignik**	**10.18**	**60**	Pn		**Pn**	**10 59 45.8**	**-1.5**
PLK4	**Peulik 4**	**11.67**	**55**	Pn		**Pn**	**11 00 05.9**	**-0.8**
ACHA	**Angle Creek He**	**12.39**	**54**	Pn		**Pn**	**11 00 16.1**	**+0.1**
L16K	**Owhat River**	**12.48**	**34**	Pn		**Pn**	**11 00 16.7**	**-0.2**
N17K	**Nushagak Hills**	**12.61**	**42**	Pn		**Pn**	**11 00 18.4**	**-0.3**
P18K	**Big Mountain,**	**12.90**	**49**	Pn		**Pn**	**11 00 21.5**	**-1.0**
O18K	**Koktuh Hills**	**13.12**	**47**	Pn		**Pn**	**11 00 24.9**	**-0.3**
L18K	**Granite Mounta**	**13.81**	**37**	Pn		**Pn**	**11 00 33.4**	**-0.4**
L19K	**White Mountain**	**14.47**	**39**			**P**	**11 00 45.0**	**+0.9**
M19K	**Big River Lodg**	**14.50**	**40**			**P**	**11 00 45.8**	**+1.4**
J18K	**Innoko River**	**14.61**	**33**			**P**	**11 00 46.9**	**+1.3**
CNPM	**China Poot**	**14.84**	**51**			**Pn**	**11 00 44.8**	**-1.9**
BRLK	**Bradley Lake**	**15.09**	**51**			**Pn**	**11 00 49.1**	**-0.6**
J19K	**Poorman**	**15.33**	**32**			**P**	**11 00 53.6**	**+0.1**
K20K	**Telida**	**15.46**	**36**			**Pn**	**11 00 53.7**	**-0.6**
K20K					IAmb	IAmb	11 01 08.2		
	comp=Z,4.7nm,1.1s								
SKT	**Skwentna**	**15.70**	**43**			**P**	**11 00 58.4**	**+0.7**
SKT					IAmb	IAmb	11 01 00.9		
	comp=Z,10nm,1.0s								
O22K	**Cooper Laing**	**15.88**	**49**			**Pn**	**11 00 58.0**	**-1.4**
J20K	**Nowinta River**	**15.94**	**33**	P		**Pn**	**11 00 59.8**	**-0.2**
RC01	**Rabbit Creek A**	**16.10**	**47**	P		**P**	**11 01 01.1**	**-1.0**
CAST	**Castle Rocks**	**16.23**	**38**	P		**Pn**	**11 01 04.3**	**+0.7**
CAST					IAmb	IAmb	11 01 08.7		
	comp=Z,4.0nm,0.5s								
PMR	**Palmer**	**16.57**	**46**	P		**P**	**11 01 06.1**	**-1.0**
PWL	**Port Wells**	**16.66**	**49**	P		**P**	**11 01 06.2**	**-2.0**
PWL					IAmb	IAmb	11 01 08.0		
	comp=Z,14nm,1.2s								
KTH	**Kantishna Hill**	**16.74**	**38**	P		**P**	**11 01 08.9**	**-0.2**
KTH					IAmb	IAmb	11 01 15.3		
	comp=Z,4.6nm,0.8s								
KNK	**Knik Glacier**	**16.79**	**47**	P		**P**	**11 01 09.2**	**-0.6**
P23K	**Montague Islan**	**16.83**	**52**	P		**P**	**11 01 09.6**	**-0.5**
P23K					IAmb	IAmb	11 01 29.8		
	comp=Z,10nm,1.1s								
TRF	**Thorofare Moun**	**16.93**	**39**	P		**P**	**11 01 10.7**	**-0.6**
TRF					IAmb	IAmb	11 01 14.8		
	comp=Z,6.4nm,1.0s								
PETK	**Petropavlovsk-**	**16.94**	**284**	P		Pn	11 01 25.4	+13	
	comp=Z,1.6nm,0.9s,baz=121,slow=13,SNR=6.3								
BPAW	**Bear Paw Mtn.**	**17.01**	**37**			**P**	**11 01 12.0**	**-0.1**
BPAW					IAmb	IAmb	11 01 16.4		
	comp=Z,4.1nm,0.8s								
GLI	**Glacier Island**	**17.23**	**49**	P		**P**	**11 01 12.6**	**-2.0**
GLI					IAmb	IAmb	11 01 22.3		
	comp=Z,8.2nm,0.9s								
H21K	**Melozitna Rive**	**17.33**

comp=Z,2.3nm,0.7s
NVAR Mina Array Bea 40.72 87 P **P** **11 04 51.9 +2.4**
comp=Z,0.5nm,0.6s,baz=297,slow=8.1,SNR=6.2
comp=Z,0.5nm,0.6s
PDAR Pinedale Array 43.42 76 P **P** **11 05 12.2 +0.8**
comp=Z,0.9nm,0.4s,baz=313,slow=3.3,SNR=15
comp=Z,0.9nm,0.4s
TXAR Lajitas Array 55.81 85 P **P** **11 06 46.0 +1.2**
comp=Z,0.3nm,0.5s,baz=316,slow=3.5,SNR=3.8
comp=Z,0.3nm,0.5s

*HEL **20** 11:08:55.9±0.1, 67.57N×30.41E, h0km, ML1.8, Explosion Hypocentre not reviewed by the ISC*
*IDC **20** 11:08:56.2±2.9, 67.64N×30.80E, h0km, mbtmp2.7/3, ML1.8/3, Error ellipse: s-maj=42.4km s-min=13.5km az=80.0*
*KOLA **20** 11:08:57.1, 67.57N×30.52E, h0km, ML2.2, Error ellipse: s-maj=3.6km s-min=2.3km az=30.0, Kovdor City, Mines*
*UPP **20** 11:09:07.3±3.2, 67.37N×28.04E, h0km, ML1.6*

ISC 20 11:08:54.5±0.9, 67.58N±0.05×30.53E±0.04, h0km, n19, σ1§01/25, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**0.39**	**296**	PG		11 09 02.1	
VRF				SG		11 09 07.7	
APA0	**Apatity Array**	**0.94**	**87**	P	**Pb**	**11 09 13.3**	**-0.4**
APA0				S	**Sb**	**11 09 26.1**	**-0.7**
APA	**Apatity**	**1.10**	**89**	S	**Sn**	**11 09 32.5**	**-0.5**
RAJF	**Raja-Jooseppi**	**1.23**	**318**	PG		11 09 17.6	
RAJF				SB		11 09 33.3	
KVDA	**Kovda**	**1.28**	**133**	P	**Pb**	**11 09 19.0**	**-0.4**
KVDA				S	**Sn**	**11 09 36.5**	**-0.9**
OLKF	**Oulanka, Finla**	**1.34**	**200**	PG		11 09 19.6	
OLKF				MSG		11 09 35.6	
	comp=Z,15nm,0.2s						
OLKF				SG		11 09 36.8	
KU6	**Riekki**	**1.58**	**189**	PG		11 09 24.0	
KU6				MSG		11 09 42.8	
	comp=Z,4.6nm,0.2s						
KU6				SN		11 09 44.1	
LVZ	**Lovozero**	**1.60**	**77**	P	**Pg**	**11 09 25.4**	**+0.2**
LVZ				S	**Sg**	**11 09 46.5**	**+0.5**
LVZ	**Lovozero**	**1.60**	**77**	PG		11 09 25.5	
LVZ				SG		11 09 46.2	
MSF	**Maaselka**	**1.78**	**200**	PG		11 09 27.2	
	baz=21						
MSF				SN		11 09 50.2	
RNF	**Rovaniemi**	**2.02**	**243**	PG		11 09 30.8	
	baz=63						
RNF				SG		11 09 58.2	
KU1	**Kurvinen**	**2.06**	**191**	PG		11 09 32.4	
KU2	**Taivalkoski**	**2.09**	**207**	PG		11 09 32.5	
RANF	**Ranua**	**2.16**	**225**	PG		11 09 33.3	
	baz=44						
RANF				SG		11 10 01.1	
TERR	**Teriberka**	**2.35**	**44**	P	**Pb**	**11 09 36.6**	**-1.0**
TERR				S	**Sb**	**11 10 06.6**	**-0.5**
KEV	**Kevo**	**2.53**	**331**	*e*P	**Pn**	**11 09 38.3**	**+1.5**
KEV	**Kevo**	**2.54**	**331**	PB		11 09 38.6	
KEV				MSG		11 10 10.5	
	comp=Z,4.8nm,0.2s						
KEV				SG		11 10 12.4	
KLF	**Kolari**	**2.56**	**265**	PB		11 09 37.9	
KLF				MSG		11 10 10.0	
	comp=Z,5.6nm,0.2s						
KLF				SG		11 10 13.3	
VADS	**Vadso**	**2.58**	**351**	P	**Pn**	**11 09 38.5**	**+1.0**
VADS				S	**Sn**	**11 10 10.2**	**+0.6**
VADS	**Vadso**	**2.58**	**351**	*e*P	**Pn**	**11 09 38.5**	**+1.0**
ARA0	**ARCESS Array S**	**2.69**	**319**	PN		11 09 40.6	
ARA0				SG		11 10 17.1	
ARCES	**ARCESS Array B**	**2.69**	**319**	Pn	**Pn**	**11 09 40.8**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=137,slow=16,SNR=27						
ARCES				Sn	**Sb**	**11 10 16.0**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=136,slow=27,SNR=12						
	comp=Z,0.5nm,0.2s						
ARCES	**ARCESS Array B**	**2.69**	**319**	P	**Pn**	**11 09 40.8**	**+1.7**
ARCES				S	**Sb**	**11 10 15.9**	**-1.1**
HEF	**Hetta**	**2.72**	**291**	PB		11 09 41.2	
HEF				MSG		11 10 14.7	
	comp=Z,3.6nm,0.2s						
HEF				SB		11 10 16.3	
TOF	**Tornio**	**2.88**	**241**	PN		11 09 41.8	
TOF				MSG		11 10 19.1	
	comp=Z,1.9nm,0.2s						
TOF				SG		11 10 22.4	
PAJU	**Pajala**	**2.93**	**262**	PN		11 09 42.7	
PAJU				SG		11 10 24.8	
KTK1	**Kautokeino**	**3.07**	**301**	PN		11 09 45.4	
OUL	**Oulu**	**3.13**	**219**	PG		11 09 51.9	
	baz=31						
LANU	**Lannavaara**	**3.27**	**282**	PN		11 09 47.4	
KALU	**Kalix**	**3.33**	**242**	P	**Pn**	**11 09 48.1**	**+0.3**
RMF	**Romuvaara**	**3.39**	**184**	PN		11 09 49.5	
ERTU	**Ertsjaerv**	**3.42**	**256**	PN		11 09 49.9	
	baz=67						
OBF4	**Vikkela, Lumij**	**3.54**	**221**	PN		11 09 52.1	
OBF4				SB		11 10 36.7	
KIF	**Kilpisjarvi**	**3.88**	**296**	PN		11 09 56.5	
KUA	**Kurravaara**	**3.89**	**280**	P	**Pn**	**11 09 56.1**	**+0.6**
KOVU	**Salmi**	**3.97**	**284**	P	**Pn**	**11 09 57.6**	**+1.0**
OUF	**Merijarvi**	**4.00**	**219**	PN		11 09 57.9	
	baz=33						
OBF0	**Syolatti, Pyha**	**4.02**	**223**	PN		11 09 59.4	
OBF8	**Ulkokalla**	**4.36**	**225**	PN		11 10 02.5	
I37NO	**I37NO**	**4.67**	**294**	I	I	11 36 33.0	
	baz=103,slow=320,SNR=2.4						
JOF	**Joensuu**	**4.70**	**176**	PN		11 10 06.7	
JOF				SN		11 10 59.9	
UMAU	**Umeaa**	**5.50**	**232**	P	**Pn**	**11 10 17.9**	**+0.4**
FAUS	**Fauske**	**5.86**	**275**	S	**Sn**	**11 11 29.5**	**-0.7**
BREU	**Bredtraesk**	**6.16**	**239**	P	**Pn**	**11 10 26.1**	**-0.5**
FINES	**FINESS Array B**	**6.45**	**199**	Pn	**Pn**	**11 10 32.4**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=37,slow=14,SNR=2.2						
FINES				Lg	Lg	11 12 13.1	
	comp=Z,0.1nm,0.3s,baz=19,slow=26,SNR=3.9						
	comp=Z,0.9nm,0.9s						
HFS	**Hagfors**	**10.50**	**233**	Pn	**Pn**	**11 11 26.7**	**+0.7**
	baz=39,slow=11,SNR=0.6						
	comp=Z,0.2nm,0.4s						

*IDC **20** 11:09:07.1±0.6, 0.31N×126.22E, h0km, mb4.2/15, mbtmp4.2/17, ML4.1/1, MS3.3/3, Error ellipse: s-maj=30.3km s-min=9.9km az=85.0*
*DJA **20** 11:09:11.3±0.9, 0.7N±2.2×12.6E±.1, h10km±8km, M4.2/17, mB4.7/1, mb4.3/6, MLv4.2/17, Mw(mB)3.9/1*
*NEIC **20** 11:09:13.4±1.9, 0.21N±0.08×126.44E±0.05, h35km±1km, mb4.5/35, Error ellipse: s-maj=13.9km s-min=8.3km az=174.0*

ISC 20 11:09:13.0±0.4, 0.18N±0.04×126.42E±0.07, h35km, n87, σ1§41/88, mb4.5/40, MS3.7/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.11**	**58**		**Pn**	**11 09 31.6**	**-0.5**
TNTI	**Ternate**	**1.11**	**58**	P	**Pn**	**11 09 31.9**	**-0.2**
SANI	**Sanana**	**2.25**	**191**	P	**Pn**	**11 09 47.5**	**-0.3**
SANI				S	**Sn**	**11 10 15.7**	**+1.3**
KMSI	**Cibinong**	**2.47**	**279**	P	**Pn**	**11 09 50.0**	**-0.8**
SGSI	**Sangihe**	**3.60**	**346**	P	**Pn**	**11 10 04.3**	**-2.0**
SGSI				S	**Sn**	**11 10 51.3**	**+3.7**
LUWI	**Luwuk**	**3.84**	**252**	P	**Pn**	**11 10 12.5**	**+2.8**
AAI	**Ambon**	**4.23**	**155**	P	**Pn**	**11 10 17.5**	**+2.5**
MSAI	**Masohi**	**4.30**	**144**	P	**Pn**	**11 10 20.0**	**+4.0**
MRSI	**Marisa**	**4.49**	**274**	P	**Pn**	**11 10 20.2**	**+1.6**
APSI	**Ampana**	**4.89**	**257**	P	**Pn**	**11 10 25.7**	**+1.6**
TOLI2	**Tolitoli**	**5.71**	**279**	P	**Pn**	**11 10 35.4**	**-0.1**
MPSI	**Mapaga**	**6.53**	**271**	P	**Pn**	**11 10 46.6**	**0.0**
TTSI	**Tana Toraja**	**7.33**	**244**	P	**Pn**	**11 10 57.2**	**-0.5**
	0.1nm23nm,0.8s						
SPSI	**Sidrap Palu**	**7.82**	**238**	P	**Pn**	**11 11 04.4**	**+0.1**
BKSI	**Bulukumba**	**8.33**	**229**	P	**Pn**	**11 11 12.7**	**+1.4**
	26nm,0.8s						
KAPI	**Kappang**	**8.42**	**232**	Pn	**Pn**	**11 11 10.6**	**-2.1**
	4.7nm,0.3s,baz=54,slow=14,SNR=4.7						
MYLDM	**Lahad Datu**	**9.34**	**302**	Pn	**Pn**	**11 11 24.5**	**-0.7**
EDFI	**Ende, Flores**	**10.04**	**208**	P	**Pn**	**11 11 36.8**	**+1.9**
MTN	**Manton Dam**	**13.75**	**160**	Pn	**Pn**	**11 12 23.5**	**-2.1**
SBUM	**Sibu**	**14.38**	**279**		**Pn**	**11 12 33.0**	**-1.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNRA	**Kununurra**	**15.92**	**172**		**Pn**	**11 12 53.6**	**-0.9**
KSM	**Kuching**	**16.16**	**275**		**Pn**	**11 12 56.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**18.18**	**182**	P	**P**	**11 13 22.6**	**-0.2**
	0.4nm,0.3s,baz=17,slow=7.8,SNR=14						
FITZ				S	**S**	**11 16 49.6**	**+0.5**
	0.7nm,0.4s,baz=61,slow=23,SNR=1.3						
	2.0nm,0.5s						
WB0	**Warramunga Arr**	**21.30**	**159**		**P**	**11 13 57.1**	**+0.3**
WB0				IAmb	IAmb	11 14 00.4	
	comp=Z,14nm,0.6s						
WRAB	**Tennant Creek**	**21.44**	**159**	P	**P**	**11 13 58.1**	**-0.2**
WRAB				IAmb	IAmb	11 14 00.1	
	comp=Z,14nm,0.7s						
WRA	**Warramunga Arr**	**21.45**	**159**	P	**P**	**11 13 57.4**	**-1.0**
WRA	**Warramunga Arr**	**21.45**	**159**	P	**P**	**11 13 58.8**	**+0.4**
	comp=Z,10nm,0.6s,baz=336,slow=11,SNR=124						
	comp=Z,10nm,0.6s						
WB2	**Warramunga Arr**	**21.45**	**159**	P	**P**	**11 13 58.8**	**+0.4**
WB2				IAmb	IAmb	11 14 00.3	
	comp=Z,14nm,0.7s						
WR8	**Warramunga Arr**	**21.52**	**159**		**P**	**11 13 58.8**	**-0.4**
WR8				IAmb	IAmb	11 14 01.1	
	comp=Z,13nm,0.6s						
WR0	**Warramunga Arr**	**21.53**	**159**	P	**P**	**11 13 59.9**	**+0.6**
WR0				IAmb	IAmb	11 14 01.2	
	comp=Z,8.5nm,0.6s						
COEN	**Coen**	**21.73**	**131**	P	**P**	**11 14 01.6**	**+0.1**
GUMO	**Guam**	**22.61**	**53**	LR	LR	11 23 13.4	
	comp=Z,43nm,18.9s,baz=232,slow=37						
AS31	**Alice Springs**	**24.79**	**163**		**P**	**11 14 32.3**	**+0.5**
AS31				IAmb	IAmb	11 14 34.9	
	comp=Z,5.7nm,0.6s						
ASAR	**Alice Springs**	**24.79**	**163**	P	**P**	**11 14 32.4**	**+0.6**
ASAR	**Alice Springs**	**24.79**	**163**	P	**P**	**11 14 33.0**	**+1.1**
	comp=Z,18nm,0.7s,baz=351,slow=16,SNR=181						
	comp=Z,18nm,0.7s						
MORW	**Morawa**	**30.73**	**198**	P	**P**	**11 15 25.4**	**+0.5**
FORT	**Forrest**	**30.82**	**177**	P	**P**	**11 15 26.2**	**+0.5**
NJ2	**Nanjing**	**32.50**	**348**	*e*P	**P**	**11 15 42.4**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
BBOO	**Buckleboo**	**34.05**	**165**	P	**P**	**11 15 54.5**	**+0.5**
HNR	**Honiara**	**34.71**	**107**	LR	LR	11 31 20.3	
	comp=Z,33nm,18.0s,baz=342,slow=38						
EIDS	**Eidsvold**	**34.83**	**139**	P	**P**	**11 16 00.1**	**-0.7**
EIDS				IAmb	IAmb	11 16 26.8	
	comp=Z,9.0nm,1.1s						
STKA	**Stephens Creek**	**34.97**	**157**	P	**P**	**11 16 02.5**	**+0.5**
	comp=Z,5.1nm,0.8s,baz=348,slow=11,SNR=4.5						
	comp=Z,5.1nm,0.8s						
PZH	**PanZhiHua**	**35.35**	**320**	P	**P**	**11 16 08.3**	**+2.8**
JGF	**Kuroka**	**36.69**	**15**	P	**P**	**11 16 16.8**	**+0.1**
JGF				IAmb	IAmb	11 16 30.6	
	comp=Z,4.7nm,1.1s						
KSRS	**Korea Array**	**37.12**	**2**	P	**P**	**11 16 18.9**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=181,slow=10,SNR=4.5						
	comp=Z,1.4nm,0.8s						
KS19	**Wonju Array Si**	**37.17**	**2**	P	**P**	**11 16 20.0**	**-0.7**
XAN	**Xi'an**	**37.47**	**336**	P	**P**	**11 16 22.5**	**-0.9**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MJAR	**Matsushiro Arr**	**37.80**	**16**	P	**P**	**11 16 24.2**	**-1.8**
	comp=Z,1.4nm,0.6s,baz=188,slow=8.8,SNR=10						
	comp=Z,1.4nm,0.6s						
MJB9	**Matsu-Tunnel**	**37.80**	**16**	P	**P**	**11 16 25.7**	**-0.4**
ARMA	**Armidale**	**38.74**	**144**	P	**P**	**11 16 34.3**	**+0.2**
ARMA				IAmb	IAmb	11 16 39.3	
	comp=Z,5.3nm,0.9s						
JMM	**Marumori**	**39.78**	**18**	P	**P**	**11 16 42.5**	**-0.1**
CAN	**Canberra**	**41.12**	**151**	P	**P**	**11 16 53.5**	**-0.3**
CAN				IAmb	IAmb	11 17 18.8	
	comp=Z,11nm,1.1s						
LZH	**Lanzhou**	**41.44**	**332**	*e*P	**P**	**11 16 54.3**	**-2.2**
LZH				sP	pP	11 17 01.6	-4.4
LZH				pmax	pmax		
	comp=Z,17nm,0.5s						
LZH				LR	LR		
	comp=E,170nm,12.4s						
JTM	**Tenmabayashi**	**42.56**	**16**	P	**P**	**11 17 05.1**	**-0.3**
JTM				IAmb	IAmb	11 17 34.3	
	comp=Z,8.7nm,0.9s						
HHC	**Hu-ho-hao-te**	**42.67**	**343**	*e*P	**P**	**11 17 08.3**	**+1.8**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,42nm,4.2s						
USA0B	**Ussuriysk Arra**	**44.11**	**6**	P	**P**	**11 17 17.4**	**-0.5**
USA0B				IAmb	IAmb	11 17 18.5	
	comp=Z,4.2nm,0.8s						
USRK	**Ussuriysk Ar.**	**44.11**	**6**	P	**P**	**11 17 17.1**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=215,slow=10,SNR=4.6						
	comp=Z,2.2nm,0.7s						
GTA	**Gaotai**	**46.01**	**331**	*e*P	**P**	**11 17 31.6**	**-1.6**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
JKA	**Kamikawa-asahi**	**46.06**	**16**	P	**P**	**11 17 33.6**	**+0.2**
JKA				IAmb	IAmb	11 17 54.7	
	comp=Z,7.8nm,1.1s						
ULN	**Ulaanbaatar**	**50.40**	**343**	P	**P**	**11 18 06.2**	**-0.8**
ULN				IAmb	IAmb	11 18 10.7	
	comp=Z,3.3nm,0.6s						
SONM	**Songino Array**	**50.56**	**343**	P	**P**	**11 18 07.6**	**-0.6**
SONM	**Songino Array**	**50.56**	**343**	P	**P**	**11 18 06.6**	**-1.6**
	comp=Z,1.0nm,0.6s,baz=156,slow=7.8,SNR=6.6						
	comp=Z,1.0nm,0.6s						
WMQ	**Urumqi**	**55.47**	**327**	*e*P	**P**	**11 18 47.8**	**+3.3**
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
WMQ				LR	LR		
	comp=Z,160nm,18.7s						
PEA0B	**Petropavlovsk-**	**58.82**	**21**	P	**P**	**11 19 07.7**	**-0.1**
PETK	**Petropavlovsk-**	**58.82**	**21**	P	**P**	**11 19 08.5**	**+0.7**
PETK	**Petropavlovsk-**	**58.82**	**21**	P	**P**	**11 19 07.3**	**-0.6**
	comp=Z,3.9nm,0.9s,baz=213,slow=6.5,SNR=5.4						
	comp=Z,3.9nm,0.9s						
MKAR	**Makanchi Array**	**60.31**	**327**		**P**	**11 19 16.3**	**-1.9**
MKAR	**Makanchi Array**	**60.31**	**327**	P	**P**	**11 19 16.1**	**-2.2**
	comp=Z,4.6nm,0.7s,baz=125,slow=8.1,SNR=15						
MKAR				LR	LR	11 46 48.9	
	comp=Z,59nm,19.4s,baz=323,slow=38						
	comp=Z,4.6nm,0.7s						
MAKZ	**Makanchi**	**60.49**	**326**	P	**P**	**11 19 18.1**	**-1.4**
MAKZ				IAmb	IAmb	11 19 20.4	
	comp=Z,3.3nm,0.8s						
ZAA0	**Zalesovo Array**	**63.61**	**334**	P	**P**	**11 19 42.0**	**+1.8**
ZAA0				IAmb	IAmb	11 19 50.1	
	comp=Z,3.3nm,1.1s						
ZALV	**Zalesovo Beam**	**63.61**	**334**	P	**P**	**11 19 41.5**	**+1.2**
ZALV	**Zalesovo Beam**	**63.61**	**334**	P	**P**	**11 19 38.2**	**-2.1**
	comp=Z,0.8nm,0.4s,baz=134,slow=6.4,SNR=4.0						
	comp=Z,0.8nm,0.4s						
KURBB	**Kurhaev Arra**	**64.57**	**328**	P	**P**	**11 19 44.5**	**-2.0**
	comp=Z,3.5nm,0.6s,baz=127,slow=6.0,SNR=18						
	comp=Z,3.5nm,0.6s						
KURK	**Kurchatov**	**64.57**	**329**	P	**P**	**11 19 45.3**	**-1.4**
KKAR	**Karatay Array**	**65.63**	**318**	P	**P**	**11 19 52.4**	**-1.3**
AMKA	**Amchitka**	**67.63**	**33**	P	**P**	**11 20 06.7**	**+0.4**
BVAR	**Borovoye Array**	**70.13**	**328**	P	**P**	**11 20 19.1**	**-2.7**
	comp=Z,1.2nm,0.6s,baz=148,slow=8.7,SNR=4.1						
	comp=Z,1.2nm,0.6s						
BRVK	**Borovoye**	**70.20**	**328**	P	**P**	**11 20 22.1**	**-0.1**
BRVK				IAmb	IAmb	11 20 29.4	
	comp=Z,3.6nm,0.8s						
TIXI	**Tiksi**	**71.38**	**1**		**P**	**11 20 29.8**	**+0.8**
AB31	**Akbulak array**	**74.70**	**321**	P	**P**	**11 20 47.3**	**-1.8**
ABKAR	**Akbulak array**	**74.70**	**321**	P	**P**	**11 20 48.0**	**-1.2**
VNDA	**Vanda**	**79.96**	**173**	P	**P**	**11 21 17.9**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=293,slow=6.9,SNR=3.6						
	comp=Z,1.0nm,0.9s						
RAYN	**Ar Rayn**	**81.60**	**294**	P	**P**	**11 21 26.6**	**-1.4**
RAYN				IAmb	IAmb	11 21 27.0	
	comp=Z,3.1nm,0.7s						
K17K	**Idtirod**	**83.12**	**27**	P	**P**	**11 21 35.6**	**+0.6**
L18K	**Granite Mounta**	**83.74**	**27**	P	**P**	**11 21 39.6**	**+1.4**
L18K				IAmb	IAmb	11 21 42.0	
	comp=Z,6.7nm,1.1s						
ILAR	**Eielson Array**	**88.42**	**25**	P	**P**	**11 22 01.1**	**-0.2**
	comp=Z,0.3nm,0.9s,baz=236,slow=5.7,SNR=4.1						
	comp=Z,0.3nm,0.9s						
QSPA	**South Pole Qui**	**90.11**	**180**	P	**P**	**11 22 09.1**	**-0.1**
	comp=Z,1.4nm,1.0s,baz=302,slow=3.6,SNR=2.7						
	comp=Z,1.4nm,1.0s						

*IDC **20** 11:18:11.1±4.3, 20.15S×177.80W, h491km±45km, mb3.4/14, mbtmp4.2/14, Error ellipse: s-maj=19.6km*

s-min=16.6km az=69.0
*NEIC **20** 11:18:12.1±1.7, 20.4S±0.1×177.7W±0.1, h491km±8km, mb4.2/24, Error ellipse: s-maj=21.1km s-min=18.1km az=215.0*

ISC 20 11:18:11.5±0.4, 20.20S±0.09×177.75W±0.08, h500km, n75, σ1§04/77, mb4.1/28, 4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.67**	**301**	P	**P**	**11 19 38.0**	**+2.2**
FUTU	**Fugatoga**	**5.88**	**356**	P	**P**	**11 19 48.8**	**+2.0**
NIUE	**Niue**	**7.46**	**83**	P	**P**	**11 20 02.7**	**+0.3**
AFI	**Afiamalu**	**8.47**	**43**	P	**P**	**11 20 11.0**	**-2.0**
RAO	**Raoul Island**	**9.01**	**181**	P	**P**	**11 20 16.7**	**-1.7**
PINNC	**Pines Island,**	**14.00**	**257**	P	**P**	**11 21 12.1**	**+0.9**
DZM	**Mont Dzumac**	**14.87**	**260**	P	**P**	**11 21 17.0**	**-3.5**
EIDS	**Eidsvold**	**29.15**	**254**	P	**P**	**11 23 31.8**	**+0.2**
ARMA	**Armidale**	**29.41**	**244**	P	**P**	**11 23 34.7**	**+0.8**
ARMA				IAmb	IAmb	11 24 15.4	
	comp=Z,17nm,1.4s						
CTAO	**Charters Tower**	**33.76**	**264**	P	**P**	**11 24 11.5**	**+0.3**
TOO	**Toolangi**	**36.26**	**234**	P	**P**	**11 24 32.5**	**+0.5**
TOO				IAmb	IAmb	11 24 42.2	
	comp=Z,12nm,1.5s						
STKA	**Stephens Creek**	**38.13**	**244**	P	**P**	**11 24 47.6**	**+0.3**
STKA	**Stephens Creek**	**38.13**	**244**	P	**P**	**11 24 46.6**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=82,slow=10,SNR=4.3						
STKA				PcP	**PcP**	**11 26 50.0**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=47,slow=6.8,SNR=3.0						
	comp=Z,2.6nm,0.6s						
BBOO	**Buckleboo**	**42.89**	**243**	P	**P**	**11 25 25.0**	**-0.4**
JAY	**Jayapura**	**44.17**	**288**	P	**P**	**11 25 35.8**	**0.0**
	comp=Z,7.8nm,0.6s,baz=150,slow=3.8,SNR=12						
	comp=Z,7.8nm,0.6s						
WR8	**Warramunga Arr**	**44.72**	**262**	P	**P**	**11 25 39.0**	**-0.9**
WR8				IAmb	IAmb	11 25 39.9	
	comp=Z,12nm,1.3s						
AS31	**Alice Springs**	**44.82**	**256**		**P**	**11 25 40.4**	**-0.2**
ASAR	**Alice Springs**	**44.82**	**256**	P	**P**	**11 25 39.9**	**-0.7**
ASAR	**Alice Springs**	**44.82**	**256**	P	**P**	**11 25 40.1**	**-0.5**
	comp=Z,11nm,0.8s,baz=87,slow=8.5,SNR=70						
ASAR				PcP	**PcP**	**11 27 12.2**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=106,slow=3.7,SNR=13						
	comp=Z,11nm,0.8s						
WB0	**Warramunga Arr**	**44.85**	**262**	P	**P**	**11 25 40.3**	**-0.6**
WB0				IAmb	IAmb	11 25 40.6	
	comp=Z,5.1nm,0.6s						
WRAB	**Tennant Creek**	**44.87**	**262**	P	**P**	**11 25 40.1**	**-0.9**
WRAB				IAmb	IAmb	11 25 40.8	
	comp=Z,7.1nm,1.1s						
WRA	**Warramunga Arr**	**44.88**	**262**	P	**P**	**11 25 39.5**	**-1.6**
WRA	**Warramunga Arr**	**44.88**	**262**	P	**P**	**11 25 40.2**	**-0.9**
	comp=Z,3.6nm,0.7s,baz=96,slow=7.7,SNR=64						
WRA				PcP	**PcP**	**11 27 12.4**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=92,slow=3.6,SNR=5.9						
	comp=Z,3.6nm,0.7s						
MTN	**Manton Dam**	**49.40**	**270**	P	**P**	**11 26 14.5**	**-0.7**
MTN				IAmb	IAmb	11 26 15.0	
	comp=Z,8.3nm,0.8s						
FORT	**Forrest**	**49.63**	**246**	P	**P**	**11 26 16.7**	**0.0**
FORT				IAmb	IAmb	11 26 33.8	
	comp=Z,12nm,0.9s						
KNRA	**Kununurra**	**50.91**	**266**	P	**P**	**11 26 26.2**	**-0.1**
KNRA				IAmb	IAmb	11 26 26.3	
	comp=Z,6.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.30**	**262**	P	**P**	**11 26 43.6**	**0.0**
FITZ	**Fitzroy Crossi**	**53.30**	**262**	P	**P**	**11 26 43.6**	**0.0**
	comp=Z,2.3nm,0.5s,baz=126,slow=4.5,SNR=16						
	comp=Z,2.3nm,0.5s						
BATI	**Baumata**	**57.16**	**271**	P	**P**	**11 27 11.2**	**+0.5**
	comp=Z,14nm,0.3s,baz=127,slow=10,SNR=1.9						
PSA00	**Pilbara Seismi**	**57.97**	**257**	P	**P**	**11 27 15.7**	**-0.3**
MBWA	**Marble Bar**	**58.15**	**257**	P	**P**	**11 27 17.0**	**-0.2**
MBWA				IAmb	IAmb	11 27 52.2	
	comp=Z,10nm,1.3s						
SBA	**Scott Base**	**58.18**	**184**	P	**P**	**11 27 16.4**	**-0.1**
VNDA	**Vanda**	**58.22**	**185**	P	**P**	**11 27 17.8**	**+1.0**
VNDA	**Vanda**	**58.22**	**185**	P	**P**	**11 27 18.0**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=348,slow=7.5,SNR=3.7						
	comp=Z,0.7nm,0.5s						
NWAO	**Narrogin (SRO)**	**58.71**	**243**	P	**P**	**11 27 20.7**	**-0.2**
CASY	**Casey**	**64.33**	**205**	P	**P**	**11 27 57.5**	**+0.4**
QSPA	**South Pole Qui**	**69.86**	**180**	P	**P**	**11 28 32.6**	**+1.3**
QSPA				IAmb	IAmb	11 28 33.2	
	comp=Z,6.6nm,0.8s						
QSPA	**South Pole Qui**	**69.86**	**180**	P	**P**	**11 28 32.4**	**+1.1**
	comp=Z,6.4nm,0.7s,baz=24,slow=0.3,SNR=54						
	comp=Z,6.4nm,0.7s						
SMAI	**San Martin Ant**	**78.80**	**159**	P	**P**	**11 29 22.6**	**+1.0**
SMAI				IAmb	IAmb	11 29 23.7	
	comp=Z,8.0nm,0.8s						
BELA	**Belgrano 2**	**79.82**	**173**	P	**P**	**11 29 27.0**	**+0.1**
BELA				IAmb	IAmb	11 29 27.6	
	comp=Z,5.0nm,0.8s						
NVAR	**Mina Array Bea**

comp=Z,1.5nm,0.8s

*IDC **20** 11:19:11.8±0.9,0˚.24N×126˚.16E,h0km,mb3.7/8, mbtmp3.7/10,ML3.2/2,Error ellipse: s-maj=44.8km s-min=17.1km az=73.0*

ISC 20 11:19:16.9±0.9,0˚.2N±0˚.1×126˚.3E±0˚.2,h35km,n10, σ1s09/10,mb3.7/8,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**14.65**	**101**	Pn	**Pn**	**11 22 41.5**	**-0.4**
	0.3nm,0.3s,baz=12,slow=20,SNR=1.9						
	5.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.21**	**182**	P	**P**	**11 23 25.4**	**-1.7**
	baz=45,slow=2.9,SNR=1.3						
	1.3nm,1.0s						
WRA	**Warramunga Arr**	**21.53**	**159**	P	**P**	**11 24 02.7**	**-0.5**
	0.9nm,0.4s,baz=337,slow=11,SNR=28						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**24.87**	**163**	P	**P**	**11 24 37.6**	**+1.2**
	1.8nm,0.5s,baz=350,slow=16,SNR=57						
	1.8nm,0.5s						
MJAR	**Matsushiro Arr**	**37.79**	**16**	P	**P**	**11 26 30.2**	**+0.3**
	0.7nm,0.8s,baz=197,slow=11,SNR=4.3						
	0.7nm,0.8s						
SONM	**Songino Array**	**50.48**	**343**	P	**P**	**11 28 11.5**	**0.0**
	0.3nm,0.3s,baz=144,slow=5.2,SNR=2.1						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**60.20**	**327**	P	**P**	**11 29 21.6**	**+0.2**
	0.5nm,0.6s,baz=114,slow=8.1,SNR=3.9						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**64.47**	**328**	P	**P**	**11 29 49.4**	**-0.4**
	0.2nm,0.4s,baz=134,slow=5.5,SNR=1.7						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**70.03**	**328**	P	**P**	**11 30 23.7**	**-1.3**
	0.2nm,0.4s,baz=103,slow=3.1,SNR=1.1						
	0.2nm,0.4s						
QSPA	**South Pole Qui**	**90.15**	**180**	P	**P**	**11 32 14.6**	**+1.3**
	0.8nm,0.8s,baz=354,slow=6.6,SNR=2.3						
	0.8nm,0.8s						

IDC 20 11:21:60.0±2.8,30˚.45S×177˚.78W,h0km,mb3.7/2, mbtmp3.8/3,ML3.1/1,Error ellipse: s-maj=63.7km s-min=20.2km az=105.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.20**	**354**	Pn	Pb	11 22 23.3	-0.2
	83nm,0.3s,baz=122,slow=20,SNR=1.9						
RAO				Sn	Sn	11 22 42.2	+1.3
	399nm,0.3s,baz=30,slow=22,SNR=6.6						
URZ	**Urewera**	**8.86**	**207**	Pn	Pn	11 24 09.3	0.0
	0.2nm,0.3s,baz=66,slow=20,SNR=1.7						
URZ				Sn	Sn	11 25 48.8	-1.0
	0.3nm,0.3s,baz=29,slow=19,SNR=1.1						
	8.1nm,1.0s						
ASAR	**Alice Springs**	**43.30**	**267**	P	P	11 30 03.2	-0.5
	0.3nm,0.3s,baz=105,slow=7.4,SNR=8.6						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**44.29**	**272**	P	P	11 30 12.1	+0.3
	0.8nm,0.4s,baz=110,slow=8.1,SNR=28						
	0.8nm,0.4s						
H03S2	**Juan Fernandez**	**80.28**	**123**	T	T	13 03 23.5	
	baz=238,slow=74,SNR=6.9						
H03S1	**Juan Fernandez**	**80.29**	**123**	T	T	13 03 27.1	
	baz=238,slow=74,SNR=6.6						
H03S3	**Juan Fernandez**	**80.30**	**123**	T	T	13 03 23.5	
	baz=238,slow=74,SNR=5.7						
FINES	**FINESS Array B**	**145.26**	**340**	PKPbc	PKPbc	11 41 38.0	-0.6
	0.8nm,0.4s,baz=39,slow=3.7,SNR=11						

*SNET **20** 11:32:48.2±0.7,13˚.95N×89˚.92W,h14km±6km,ML1.6*
*GCG **20** 11:32:49.1±0.3,14˚.00N×89˚.83W,h9km±4km,MD3.4*

ISC 20 11:32:47.3±5.5,14˚.0N±0˚.1×90˚.0W±0˚.3,h17km±10km,n7, σ0s22/11,3C,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**0.19**	**105**	⇑*i*P	**Pb**	**11 32 52.5**	**+0.1**
NUBE				*e*S	**Sg**	**11 32 55.3**	**-0.1**
NUBE				IAML		11 32 56.0	
	comp=Z,402nm,0.2s						
NUBE	**Las Nubes**	**0.19**	**105**	*i* P	**Pb**	**11 32 52.5**	**+0.1**
NUBE				*i* S	**Sg**	**11 32 55.2**	**-0.1**
SLOZ	**Alcaldia de Sa**	**0.19**	**68**	⇑*i*P	**Pb**	**11 32 52.4**	**0.0**
SLOZ				*e*S	**Sg**	**11 32 55.5**	**+0.2**
RTR	**El Retiro**	**0.32**	**100**	⇑*e*P	**Pb**	**11 32 54.9**	**+0.3**
SNJE	**San Jose**	**0.36**	**103**	*e*P	**Pb**	**11 32 55.6**	**+0.2**
SNJE				*e*S	**Sb**	**11 33 01.0**	**+0.1**
SNJE				IAML		11 33 02.6	
	comp=Z,27nm,0.1s						
JAYA	**Jayaque - finc**	**0.59**	**120**	*e*S	**Sb**	**11 33 07.0**	**-0.3**
MTO3	**Montecristo**	**0.74**	**53**	*e*P	**Pg**	**11 33 01.7**	**-0.1**

*NEIC **20** 11:50:03.7±1.1,61˚.31N±0˚.008×152˚.49W±0˚.02, h1km±2km,Error ellipse: s-maj=3.0km s-min=2.1km az=53.0*

AEIC 20 11:50:03.7±1.2,61˚.31N±0˚.01×152˚.53W±0˚.03,h0km±6km, ML2.1,ML2.4/38(NEIC),Error ellipse: s-maj=1.8km s-min=1.7km az=75.0,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPWE	**Spurr West**	**0.03**	**206**		Pg	11 50 04.4	0.0
CKL	**Chakachamna La**	**0.14**	**140**		Pg	11 50 06.4	0.0
SPCN	**Chakachatna No**	**0.18**	**116**		Pg	11 50 07.5	+0.3
SPCP	**Crater Peak Br**	**0.18**	**102**		Pg	11 50 07.0	-0.2
SPCP					Sg	11 50 09.8	+0.2
SPCG	**Spurr Capps Gl**	**0.24**	**93**		Pg	11 50 11.5	+3.1
SPU	**Mount Spurr**	**0.26**	**118**	Pg	Pg	11 50 08.3	-0.4
SPU					Sg	11 50 08.4	-3.6
STLK	**Strandline Lak**	**0.39**	**59**	Pg	Pg	11 50 10.6	-0.5
STLK				Sg	Sg	11 50 15.9	-0.1
M20K	**Styx River**	**0.65**	**334**		Pg	11 50 15.7	-0.4
M20K					Sg	11 50 24.9	+0.4
M20K				IAML		11 50 28.3	
	comp=E,59nm,0.8s						
DFR	**Drift River**	**0.72**	**186**		Pg	11 50 17.2	-0.3
DFR					Sg	11 50 27.1	+0.3
RDJH	**Redoubt Jeurge**	**0.73**	**191**		Pg	11 50 17.5	-0.1
RDT	**Redoubt**	**0.74**	**175**		Pg	11 50 17.3	-0.5
NCT	**North Crescent**	**0.77**	**195**		Pg	11 50 18.2	-0.3
NCT					Sg	11 50 28.9	+0.5
SKT	**Skwentna**	**0.83**	**35**		Pg	11 50 19.2	-0.4
SKT					Sg	11 50 30.5	+0.2
RDWB	**Redoubt West**	**0.83**	**191**		Pg	11 50 19.3	-0.3
CAPN	**Captain Cook N**	**0.86**	**128**		Pg	11 50 20.0	-0.1
CAPN				IAML		11 50 30.4	
	comp=E,306nm,1.1s						
RDSO	**Redoubt South**	**0.86**	**187**		Pg	11 50 19.6	-0.5
RED	**Redoubt Volcan**	**0.90**	**188**		Pg	11 50 20.2	-0.6
RED				IAML		11 50 41.5	
	comp=N,36nm,0.9s						
RED				IAML		11 50 50.4	
	comp=E,49nm,0.8s						
N19K	**Bonanza Creek**	**1.07**	**243**		Pg	11 50 24.1	-0.1
N19K				IAML		11 50 45.0	
	comp=N,69nm,0.7s						
N19K				IAML		11 50 48.7	
	comp=E,61nm,0.7s						
M19K	**Big River Lodg**	**1.08**	**305**		Pg	11 50 23.9	-0.4
M19K					Sg	11 50 38.8	+0.5
O20K	**Slope Mountain**	**1.23**	**182**		Pg	11 50 26.5	-0.8
O20K					Sn	11 50 50.2	+4.7
M22K	**Willow**	**1.24**	**68**		Pg	11 50 27.0	-0.4
M22K				IAML		11 51 11.9	
	comp=N,106nm,1.0s						
IVE	**Iliamna Volcan**	**1.31**	**191**		Sn	11 50 51.3	+3.6
L20K	**Farewell, AK**	**1.34**	**332**		Pg	11 50 28.6	-0.8
ILSW	**Iliamna Southw**	**1.36**	**193**		Pg	11 50 28.7	-1.0
ILSW				IAML		11 51 02.7	
	comp=N,41nm,1.0s						
ILSW				IAML		11 51 16.8	
	comp=E,52nm,0.8s						
RC01	**Rabbit Creek A**	**1.37**	**98**		Pg	11 50 29.0	-0.9
RC01				IAML		11 51 18.7	
	comp=E,19nm,0.9s						
RC01				IAML		11 51 19.1	
	comp=N,23nm,0.8s						
L19K	**White Mountain**	**1.42**	**309**		Pn	11 50 30.3	-0.4
O19K	**Port Alsworth**	**1.42**	**219**		Pn	11 50 30.1	-0.6
CUT	**Chulitna**	**1.54**	**43**		Pn	11 50 31.7	-0.6
M18K	**Stony River**	**1.60**	**278**		Pn	11 50 33.4	+0.1
O22K	**Cooper Landing**	**1.60**	**120**	Pn	Pn	11 50 33.1	-0.1
PPLA	**Purkeypile**	**1.60**	**5**		Pn	11 50 33.5	0.0
P19K	**Oil Pt**	**1.69**	**192**	Pn	Pb	11 50 35.6	-0.1
HOM	**Homer**	**1.71**	**165**	Pn	Pn	11 50 34.1	-0.6
BRLK	**Bradley Lake**	**1.75**	**152**		Pn	11 50 34.9	-0.3
CNPM	**China Poot**	**1.90**	**160**		Pn	11 50 37.2	-0.1
SEW	**Seward**	**1.93**	**127**		Pn	11 50 38.4	+0.6
O18K	**Koktuh Hills**	**1.97**	**223**		Pn	11 50 38.4	+0.1
L18K	**Granite Mounta**	**2.18**	**297**		Pn	11 50 42.1	+0.8
M17K	**Holitna River**	**2.37**	**274**		Pn	11 50 44.5	+0.7
N17K	**Nushagak Hills**	**2.41**	**253**	Pn	Pn	11 50 44.5	+0.2
J20K	**Nowinta River**	**2.98**	**346**		Pn	11 50 52.6	+0.4
L16K	**Owhat River**	**3.36**	**280**	Pn	Pn	11 50 57.9	+0.6
N15K	**Kwethluk River**	**3.89**	**256**	Pn	Pn	11 51 05.6	+1.0
I23K	**Minto, Yukon-K**	**4.12**	**19**	Pn	Pn	11 51 08.1	+0.4
H21K	**Melozitna Rive**	**4.37**	**358**	Pn	Pn	11 51 11.6	+0.3
IMAR	**Indian Mountai**	**4.73**	**354**	Pn	Pn	11 51 17.0	+0.8
G21K	**Allakaket**	**5.25**	**356**	Pn	Pn	11 51 23.7	+0.3
F20K	**Avaraart Lake**	**5.93**	**348**	Pn	Pn	11 51 33.8	+1.1
F21K	**Alatna River**	**5.96**	**356**	Pn	Pn	11 51 33.3	+0.2
BMAR	**Burnt Mountain**	**7.04**	**26**	Pn	Pn	11 51 49.0	+1.0

*IDC **20** 11:51:09.4±0.8,30˚.33S×69˚.71W,h0km,mb3.9/6, mbtmp3.7/9,ML3.6/3,Error ellipse: s-maj=35.7km s-min=21.9km az=99.0*
*SJA **20** 11:51:23.6±0.7,30˚.69S×69˚.07W,h120km±4km,ML4.3, MW4.0*

ISC 20 11:51:24.7±0.8,30˚.66S±0˚.03×69˚.06W±0˚.03,h109km±6km, n50,σ1s51/71,mb3.8/5,13C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACCO	**Cerro Coronel**	**0.07**	**355**	*e*P	Pn	11 51 51.9	+12
RTLL	**Cerro Villicun**	**0.83**	**143**	*e*P	**Pn**	**11 51 44.7**	**+0.4**
RTLL				*e*S	**Sn**	**11 51 59.6**	**+0.7**
SJA	**San Juan**	**0.96**	**154**	*e*P	**Pn**	**11 51 46.3**	**+0.7**
SJA				*e*S	**Sn**	**11 51 56.3**	**-5.0**
CO01	**Juntas del Tor**	**1.12**	**307**	⇓*e*P	**Pn**	**11 51 48.2**	**+0.7**
CO01				*e*S	**Sn**	**11 52 05.3**	**+0.8**
RTLS	**Leoncito**	**1.15**	**190**	*e*P	**Pn**	**11 51 48.7**	**+0.9**
RTLS				*e*S	**Sn**	**11 52 06.9**	**+1.7**
RTLS				IAML		11 52 07.7	
	comp=Z,6μm,0.8s						
AGUA	**GUANDACOL**	**1.27**	**23**	*e*P	**Pn**	**11 51 49.7**	**+0.8**
AGUA				*e*S	**Sn**	**11 52 09.1**	**+1.9**
AGUA				IAML		11 52 10.0	
	comp=Z,3μm,0.3s						
AVFE	**Valle Fertil**	**1.38**	**90**	*e*P	Pn	11 51 45.1	-5.1
AVFE				*e*P		11 51 50.8	
AVFE				*e*S	**Sn**	**11 52 10.7**	**+1.3**
AVFE				IAML		11 52 12.2	
	comp=Z,2μm,0.7s						
CO03	**El Pedregal**	**1.42**	**262**	*e*P	**Pn**	**11 51 50.7**	**+0.2**
CO03				*e*S	**Sn**	**11 52 10.4**	**+0.2**
CO03				IAML		11 52 11.3	
	comp=E,12μm,0.4s						
CO03	**El Pedregal**	**1.42**	**262**	*e*P	**Pn**	**11 51 50.8**	**+0.2**
CO03				*e*S	**Sn**	**11 52 11.0**	**+0.9**
CO03				IAML		11 52 11.2	
	comp=Z,3μm,0.3s						
GO04	**Tololo Observa**	**1.58**	**287**	*e*P	**Pn**	**11 51 52.6**	**-0.1**
GO04				*e*S	**Sn**	**11 52 13.9**	**0.0**
GO04				IAML		11 52 18.9	
	comp=N,11μm,0.5s						
GO04	**Tololo Observa**	**1.58**	**287**	*e*P	**Pn**	**11 51 53.0**	**+0.3**
GO04				*e*S	**Sn**	**11 52 14.4**	**+0.5**
AUSP	**Uspallata**	**1.58**	**190**	*e*P	Pn	11 51 45.1	-7.7
AUSP				*e*P		11 51 53.5	
AUSP				*e*S	**Sn**	**11 52 16.1**	**+2.0**
CO02	**Combarbal**	**1.75**	**251**	⇓*e*P	**Pn**	**11 51 54.4**	**-0.3**
CO02				*e*S	**Sn**	**11 52 17.5**	**0.0**
CO02				IAML		11 52 23.3	
	comp=E,6μm,0.4s						
CO02	**Combarbal**	**1.75**	**251**	*e*P	**Pn**	**11 51 54.5**	**-0.2**
CO02				*e*S	**Sn**	**11 52 18.2**	**+0.7**
CO02				IAML		11 52 19.8	
	comp=Z,2μm,0.2s						
ASAL	**Salagasta**	**1.94**	**174**	*e*P	Pn	11 51 45.1	-12
ASAL				*e*S	**Sn**	**11 52 23.1**	**+1.6**
CO05	**La Serena**	**2.02**	**291**	⇑*e*P	**Pn**	**11 51 57.3**	**-0.7**
CO05				*e*S	**Sn**	**11 52 21.6**	**-1.8**
CO05				IAML		11 52 22.2	
	comp=N,3μm,0.3s						
VCA	**Vinchina**	**2.06**	**21**	⇑*e*P	**Pn**	**11 51 59.6**	**+1.1**
VCA				IAML		11 52 27.6	
	comp=E,3μm,0.4s						
VCA	**Vinchina**	**2.06**	**21**	*e*P	**Pn**	**11 51 59.6**	**+1.1**
VCA				*e*S	**Sn**	**11 52 29.0**	**+4.6**
VCA				IAML		11 52 31.2	
	comp=Z,2μm,0.4s						
ACHE	**Chepes**	**2.12**	**104**	*e*P	Pn	11 51 45.1	-14
ACHE				*e*S	**Sn**	**11 52 26.8**	**+1.0**
APLL	**PUNTA DE LOS L**	**2.20**	**84**	*e*P	**Pn**	**11 52 01.1**	**+0.8**
APLL				*e*S	**Sn**	**11 52 23.1**	**-4.4**
APLL				*e*S		11 52 28.5	
ACLC	**CERRO LA CRUZ**	**2.20**	**57**	*e*P	Pn	11 51 47.0	-13
ACLC				*e*S	**Sn**	**11 52 29.8**	**+2.0**
CO06	**Fray Jorge**	**2.22**	**269**	*e*P	**Pn**	**11 51 58.9**	**-1.6**
CO06				IAML		11 52 25.1	
	comp=E,1μm,0.2s						
PEL	**Peldehue**	**2.84**	**209**	⇑*e*P	**Pn**	**11 52 08.4**	**-0.2**
PEL				*e*S	**Sn**	**11 52 43.0**	**+0.6**
ROCH	**El Roble**	**2.84**	**215**	⇑*e*P	**Pn**	**11 52 08.2**	**-0.6**
ROCH				IAML		11 52 43.5	
	comp=N,820nm,0.4s						
ROC1	**El Roble**	**2.85**	**215**	*e*P	**Pn**	**11 52 08.3**	**-0.6**
ROC1				*e*S	**Sn**	**11 52 42.6**	**-0.3**
MT04	**Ro Olivares**	**2.89**	**198**	⇑*e*P	**Pn**	**11 52 10.6**	**+1.2**
MT10	**Hacienda Santa**	**2.89**	**205**	⇑*e*P	**Pn**	**11 52 10.0**	**+0.6**
MT10				*e*S	**Sn**	**11 52 45.2**	**+1.4**
MT10				IAML		11 52 48.0	
	comp=E,1μm,0.4s						
MT08	**Bocatoma Ro**	**2.89**	**196**	⇑*e*P	**Pn**	**11 52 11.5**	**+2.0**
MT14	**Cerro Cal¡n**	**3.00**	**204**	⇑*e*P	**Pn**	**11 52 11.2**	**+0.5**
MT14				IAML		11 52 59.6	
	comp=E,925nm,0.5s						
MT16	**CCHEN**	**3.03**	**204**	⇑*e*P	**Pn**	**11 52 11.6**	**+0.5**
MT16				*e*S	**Sn**	**11 52 48.1**	**+1.3**
MT05	**Renca**	**3.08**	**207**	⇑*e*P	**Pn**	**11 52 11.8**	**0.0**
MT05				*e*S	**Sn**	**11 52 48.4**	**+0.5**
MT05				IAML		11 52 53.3	
	comp=N,2μm,0.4s						
MT03	**Universidad Ad**	**3.08**	**203**	⇑*e*P	**Pn**	**11 52 12.4**	**+0.5**
MT03				*e*S	**Sn**	**11 52 49.9**	**+1.6**
MT03				IAML		11 52 55.2	
	comp=E,1μm,0.3s						
MT02	**Curacav**	**3.14**	**214**	*e*P	**Pn**	**11 52 11.5**	**-1.0**
MT15	**Las Vizcachas**	**3.18**	**202**	⇑*e*P	**Pn**	**11 52 13.7**	**+0.6**
MT15				*e*S	**Sn**	**11 52 51.6**	**+1.2**
MT15				IAML		11 52 59.1	
	comp=E,1μm,0.1s						
CYA	**Choya**	**3.60**	**53**	*e*P	**Pn**	**11 52 18.2**	**-0.5**
CYA				*e*S	**Sn**	**11 52 59.1**	**-1.3**
TCA	**Tanti**	**3.89**	**101**	*e*P	**Pn**	**11 52 22.8**	**+0.1**
TCA				*e*S	**Sn**	**11 53 06.9**	**-0.7**
FSA	**Cafayete**	**5.28**	**32**	*e*P	Pn	**11 52 41.6**	**0.0**
PLCA	**Paso Flores**	**10.12**	**186**	Pn	Pn	11 53 40.8	-6.2
	comp=E,0.1nm,0.3s,baz=356,slow=12,SNR=5.0						
PLCA				Lg	Lg	11 56 33.9	
	comp=E,0.1nm,0.3s,baz=294,slow=15,SNR=1.2						
	comp=E,0.5nm,0.6s						
CPUP	**Villa Florida**	**11.18**	**70**	Pn	**Pn**	**11 53 57.5**	**-3.8**
	comp=E,0.2nm,0.3s,baz=105,slow=11,SNR=6.5						
CPUP				Sn	**Sn**	**11 56 00.4**	**-3.9**
	comp=E,0.3nm,0.3s,baz=26,slow=20,SNR=3.7						
CPUP				Lg	Lg	11 57 04.1	
	comp=E,0.1nm,0.3s,baz=67,slow=17,SNR=3.3						
	comp=E,0.7nm,0.4s						
LPAZ	**La Paz**	**14.33**	**4**	Pn	Pn	11 54 29.7	-14
	baz=294,slow=14,SNR=1.6						
	comp=E,0.2nm,0.4s						
SNAA	**Sanae**	**53.75**	**159**	P	**P**	**12 00 36.0**	**+0.6**
	comp=E,0.6nm,0.5s,baz=257,slow=3.6,SNR=2.6						
	comp=E,0.6nm,0.5s						
QSPA	**South Pole Qui**	**59.57**	**180**	P	**P**	**12 01 17.6**	**+0.9**
	comp=E,1.1nm,0.9s,baz=216,slow=8.0,SNR=2.5						
	comp=E,1.1nm,0.9s						
TXAR	**Lajitas Array**	**68.16**	**328**	P	P	12 02 06.6	-6.7
	comp=E,0.1nm,0.4s,baz=162,slow=5.4,SNR=1.2						
	comp=E,0.1nm,0.4s						
DBIC	**Dimbokro**	**71.70**	**70**	P	**P**	**12 02 35.3**	**+0.1**
	comp=E,5.1nm,0.9s,baz=219,slow=6.9,SNR=2.1						
	comp=E,5.1nm,0.9s						
MAW	**Mawson**	**75.64**	**163**	P	**P**	**12 02 58.0**	**+0.6**
	comp=E,0.5nm,0.4s,baz=243,slow=4.5,SNR=1.1						
	comp=E,0.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**80.68**	**69**	P	**P**	**12 03 25.9**	**-0.1**
	comp=E,1.8nm,0.6s,baz=264,slow=3.9,SNR=14						
	comp=E,1.8nm,0.6s						
WRA	**Warramunga Arr**	**124.89**	**207**	PKP	**PKPdf**	**12 10 11.8**	**-0.7**
	comp=E,0.5nm,0.5s,baz=162,slow=1.9,SNR=11						
KURBB	**Kurchatov Arra**	**148.71**	**41**	PKPbc	**PKPbc**	**12 10 59.2**	**+0.4**
	comp=E,0.9nm,0.3s,baz=284,slow=3.5,SNR=8.0						
ZALV	**Zalesovo Beam**	**150.06**	**31**	PKPbc	**PKPbc**	**12 11 02.2**	**+0.1**
	comp=E,3.0nm,0.4s,baz=318,slow=4.0,SNR=15						
MKAR	**Makanchi Array**	**152.65**	**46**	PKPbc	**PKPbc**	**12 11 08.4**	**+0.1**
	comp=E,1.7nm,0.7s,baz=311,slow=1.7,SNR=17						
MKAR				PKPab	**PKPab**	**12 11 19.8**	**+0.4**
	comp=E,1.7nm,0.4s,baz=309,slow=2.9,SNR=22						

*NOU **20** 11:51:41.5,43˚.49S×172˚.59E,h2km,MLv3.8/9,South Island, New Zealand*
*NEIC **20** 11:51:42.1±1.2,43˚.55S±0˚.05×172˚.70E±0˚.09,h15km±7km, ML3.3/20,Error ellipse: s-maj=10.3km s-min=5.7km az=123.0*
*WEL **20** 11:51:42.1±0.4,44˚S±3˚×17˚.3E±˚,h6km±3km,M3.5/23, ML3.8/12,MLv3.5/23,Error ellipse: s-maj=3.6km s-min=2.7km az=10.7,confirmed*

ISC 20 11:51:41.9±0.9,43˚.54S±0˚.03×172˚.62E±0˚.02,h11km±6km, n89,σ0s75/95,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUNS	**Huntsbury**	**0.04**	**147**	P	**Pg**	**11 51 43.9**	**-0.1**
MENS	**Menlo Terrace**	**0.07**	**105**	P	**Pg**	**11 51 44.2**	**0.0**
MENS				S	**Sg**	**11 51 45.8**	**0.0**
RCBS	**Redcliffs Bore**	**0.08**	**102**	P	**Pg**	**11 51 44.5**	**+0.2**
SUMS	**Sumner**	**0.10**	**106**	P	**Pg**	**11 51 44.9**	**+0.3**
DHSS	**Diamond Harbou**	**0.12**	**140**	P	**Pg**	**11 51 45.1**	**+0.3**
MQZ	**McQueen's Vall**	**0.17**	**172**		**Pg**	**11 51 45.9**	**+0.3**
MQZ				Sg	**Sg**	**11 51 48.4**	**+0.3**
MQZ	**McQueen's Vall**	**0.17**	**172**	P	**Pg**	**11 51 45.9**	**+0.3**
MQZ				S	**Sg**	**11 51 48.5**	**+0.3**
MNZS	**Menzies Bay Ba**	**0.27**	**111**	P	**Pg**	**11 51 48.1**	**+0.7**
TOKS	**Te Oka Bay Roa**	**0.30**	**158**	P	**Pg**	**11 51 48.7**	**+0.7**
DSLC	**Dunsandel Scho**	**0.33**	**248**	P	**Pg**	**11 51 49.2**	**+0.6**
DSLC				S	**Sg**	**11 51 53.9**	**+0.8**
SMHS	**Summerhill**	**0.35**	**323**	P	**Pb**	**11 51 49.7**	**-0.5**
AKSS	**Akaroa School**	**0.36**	**138**	P	**Pg**	**11 51 49.7**	**+0.5**
AMCZ	**Amberley**	**0.36**	**3**		**Pb**	**11 51 50.0**	**-0.4**
AMCZ	**Amberley**	**0.36**	**3**	P	**Pb**	**11 51 50.2**	**-0.2**
OKCZ	**Okains Bay**	**0.36**	**120**	P	**Pg**	**11 51 50.0**	**+0.8**
AKCZ	**Akaroa Harbour**	**0.39**	**148**	P	**Pg**	**11 51 50.2**	**+0.6**
RACZ	**Rakaia**	**0.40**	**242**	P	**Pg**	**11 51 50.4**	**+0.6**
OXZ	**Oxford**	**0.48**	**297**		**Pg**	**11 51 51.5**	**+0.3**
OXZ	**Oxford**	**0.48**	**297**	P	**Pg**	**11 51 51.5**	**+0.3**
OXZ				S	**Sg**	**11 51 58.2**	**+0.7**
SPRS	**Springfield Vo**	**0.55**	**292**	P	**Pg**	**11 51 52.7**	**+0.2**
SPRS				S	**Sg**	**11 52 00.6**	**+0.8**
WAKC	**Waikari**	**0.58**	**6**	P	**Pb**	**11 51 54.3**	**+0.2**
GVZ	**Greta Valley S**	**0.65**	**28**		**Pb**	**11 51 55.6**	**+0.4**
GVZ	**Greta Valley S**	**0.65**	**28**	P	**Pb**	**11 51 55.6**	**+0.4**
WACZ	**Wakanui South**	**0.69**	**235**	P	**Pb**	**11 51 56.1**	**+0.1**
MTHS	**Methven North**	**0.70**	**268**	P	**Pb**	**11 51 56.0**	**-0.1**
CSHS	**Castle Hill**	**0.73**	**295**	P	**Pg**	**11 51 56.3**	**+0.3**
MHCZ	**Mount Hutt**	**0.77**	**270**	P	**Pg**	**11 51 57.1**	**+0.4**
LTZ	**Lake Taylor**	**0.80**	**341**		**Pb**	**11 51 58.1**	**+0.1**
LTZ	**Lake Taylor**	**0.80**	**341**	P	**Pb**	**11 51 58.0**	**+0.1**
CECS	**Cheviot Emerge**	**0.87**	**33**	P	**Pb**	**11 51 59.6**	**+0.6**
ARCZ	**Arundel**	**1.12**	**248**	P	**Pb**	**11 52 02.6**	**-0.7**
RPZ	**Rata Peaks**	**1.15**	**261**		**Pb**	**11 52 03.2**	**-0.7**
RPZ	**Rata Peaks**	**1.15**	**261**	P	**Pb**	**11 52 03.1**	**-0.8**
RPZ	**Rata Peaks**	**1.15**	**261**	P	**Pb**	**11 52 03.2**	**-0.7**
INZ	**Inchbonnie**	**1.19**	**313**		**Pb**	**11 52 03.8**	**-0.6**
INZ				IAML		11 52 27.1	
	comp=N,380nm,0.8s						
INZ				IAML		11 52 28.2	
	comp=E,460nm,0.8s						
INZ	**Inchbonnie**	**1.19**	**313**	P	**Pb**	**11 52 03.9**	**-0.6**
KHZ	**Kahutara**	**1.31**	**31**		**Pn**	**11 52 05.3**	**-0.9**
KHZ	**Kahutara**	**1.31**	**31**	P	**Pn**	**11 52 05.1**	**-1.0**
KHZ	**Kahutara**	**1.31**	**31**	P	**Pn**	**11 52 05.2**	**-0.9**
TMZ	**Timaru**	**1.44**	**234**	P	**Pn**	**11 52 07.3**	**-0.7**
**

s101,c150; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.89±.16; $M_{\theta\theta}$-3.25±.11; $M_{\phi\phi}$4.14±.15; $M_{r\theta}$-1.00±.26; $M_{\theta\phi}$-0.08±.11; $M_{r\phi}$0.40±.24; Best double couple: $M_0$3.89600×10^{16} NP1:ϕ_s43.00000°,δ72.00000°, λ-11.00000°. NP2:ϕ_s136.00000°,δ79.00000°, λ-162.00000°. Principal axes: T 4.1750, Plg5.0000°, Azm269.0000°; N -0.5590, Plg69.0000°, Azm166.0000°; P -3.6170, Plg20.0000°, Azm0.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 20 11:54:16.3±0.5,29°24S±0.09×111°97W±0.08,h10km, n104,σ1§86/63,mb4.8/27,MS4.3/36,4D,Easter Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
VA02	**Isla de Pascua**	**3.05**	**48**	Pn		**Pn**	**11 55 03.2**	**-1.5**
RPN	**Rapa Nui**	**3.14**	**49**			**Pn**	**11 55 04.0**	**-1.8**
H03N2	**Juan Fernandez** baz=274,slow=74,SNR=437	**28.46**	**107**	T		T	12 29 51.3	
H03N3	**Juan Fernandez** baz=274,slow=74,SNR=407	**28.47**	**107**	T		T	12 29 52.6	
H03N1	**Juan Fernandez** baz=274,slow=74,SNR=488	**28.48**	**107**	T		T	12 29 44.7	
TAOE	**Nuku Hiva Isla** 55nm,27.9s	**33.31**	**302**	*e*S		**S**	**12 06 15.4**	**0.0**
TAOE	1μm,25.4s			*e*LR		LR	12 09 50.0	
TBI	**Tubuai** 493nm,37.2s	**34.02**	**271**	*e*S		**S**	**12 06 29.9**	**+3.9**
TBI	1μm,23.8s			*e*LR		LR	12 09 46.8	
TBI	6μm,25.0s			*e*LR		LR	12 09 57.1	
PLCA	**Paso Flores** comp=Z,324nm,19.5s,baz=246,slow=30	**35.52**	**120**	LR		LR	12 11 53.8	
PPT2	**Papeete2** 99nm,29.8s	**36.25**	**280**	*e*S		**S**	**12 06 58.3**	**-2.4**
PPT2	1μm,26.5s			*e*LR		LR	12 10 57.2	
PPT2	966nm,29.2s			*e*LR		LR	12 10 58.1	
PPT	**Papeete** comp=Z,516nm,21.9s,baz=128,slow=29	**36.26**	**280**	LR		LR	12 11 49.8	
NNA	**Nana** comp=Z,546nm,21.9s,baz=232,slow=29	**36.90**	**70**	LR		LR	12 12 27.1	
ATAH	**Atahualpa** 3.4nm,0.7s,baz=262,slow=12,SNR=3.7	**38.51**	**62**	P		**P**	**12 01 40.6**	**+1.1**
ATAH	comp=Z,190nm,18.2s,baz=233,slow=30 3.4nm,0.7s			LR		LR	12 13 47.3	
COHC	**Cochancay**	**40.94**	**56**	P		**P**	**12 01 59.0**	**-0.2**
TRQA	**Tornquist**	**42.11**	**116**	P		**P**	**12 02 08.8**	**+0.1**
LPAZ	**La Paz**	**42.20**	**82**			**P**	**12 02 08.2**	**-2.2**
LPAZ	**La Paz** 3.4nm,1.1s,baz=262,slow=2.9,SNR=8.5	**42.20**	**82**	P		**P**	**12 02 11.1**	**+0.8**
LPAZ	comp=Z,396nm,18.7s,baz=240,slow=31 3.4nm,1.1s			LR		LR	12 16 06.9	
RAR	**Rarotonga** comp=Z,370nm,20.6s,baz=116,slow=29	**43.73**	**269**	LR		LR	12 15 23.9	
PMSA	**Palmer Station** comp=Z,174nm,18.6s,baz=298,slow=30	**46.37**	**154**	LR		LR	12 17 15.7	
JTS	**Las Juntas de** comp=Z,212nm,21.6s,baz=167,slow=29	**47.16**	**38**	LR		LR	12 17 21.0	
CPUP	**Villa Florida** 0.3nm,0.4s,baz=255,slow=5.2,SNR=3.8 0.3nm,0.4s	**48.07**	**100**	P		**P**	**12 02 57.2**	**+1.0**
TLIG	**Tlapa**	**48.29**	**17**	P		**P**	**12 02 59.0**	**+0.9**
TLIG	comp=Z,14nm,1.3s				IAmb	IAmb	12 03 10.8	
SIV	**San Ignacio** comp=Z,393nm,20.4s,baz=257,slow=31	**48.46**	**86**	LR		LR	12 19 37.2	
MTO3	**Montecristo**	**48.57**	**30**	P		**P**	**12 03 01.1**	**+0.8**
MTO3	comp=Z,6.7nm,1.0s				IAmb	IAmb	12 03 10.5	
PTLB	**Pontes e Lacer**	**50.37**	**86**			**P**	**12 03 13.4**	**-0.6**
PTLB	comp=Z,9.0nm,1.1s				IAmb	IAmb	12 03 20.3	
LPIG	**La Paz** comp=Z,318nm,20.1s,baz=192,slow=30	**53.06**	**2**	LR		LR	12 20 56.6	
SDV	**Santo Domingo** comp=Z,152nm,21.9s,baz=237,slow=31	**54.98**	**53**	LR		LR	12 23 07.4	
RAO	**Raoul Island** comp=Z,298nm,21.1s,baz=116,slow=30	**56.80**	**252**	LR		LR	12 22 14.9	
URZ	**Urewera** comp=Z,329nm,21.6s,baz=110,slow=29	**58.36**	**241**	LR		LR	12 22 41.3	
TXAR	**Lajitas Array** comp=Z,1.5nm,1.1s,baz=195,slow=9.1,SNR=5.7 comp=Z,1.5nm,1.1s	**58.78**	**8**	P		**P**	**12 04 14.1**	**-0.7**
BELA	**Belgrano 2**	**58.98**	**166**	P		**P**	**12 04 17.4**	**+1.8**
BELA	comp=Z,8.4nm,1.1s				IAmb	IAmb	12 04 22.2	
DRIO	**Del Rio**	**59.33**	**12**	P		**P**	**12 04 20.8**	**+2.2**
SAND	**Sanderson**	**59.61**	**10**			**P**	**12 04 22.7**	**+2.2**
SAND	comp=Z,10nm,1.0s				IAmb	IAmb	12 04 28.8	
HNDO	**Hondo**	**59.68**	**13**	P		**P**	**12 04 23.4**	**+2.4**
SBA	**Scott Base**	**59.80**	**194**			P	12 04 27.2	+6.0
SBA	comp=Z,12nm,1.4s				IAmb	IAmb	12 04 28.8	
ALPN	**Alpine**	**59.81**	**8**			**P**	**12 04 24.2**	**+2.2**
BDFB	**Brasilia** comp=Z,223nm,18.2s,baz=233,slow=33	**60.01**	**92**	LR		LR	12 27 31.6	
VHRN	**Van Horn**	**60.06**	**7**	P		**P**	**12 04 25.9**	**+2.2**
JCT	**Junction City**	**60.51**	**12**	P		**P**	**12 04 28.8**	**+2.1**
VNDA	**Vanda**	**60.86**	**194**	P		P	12 04 33.7	+5.3
VNDA	**Vanda** comp=Z,238nm,21.7s,baz=102,slow=30	**60.86**	**194**	LR		LR	12 24 53.4	
MNTX	**Cornudas Mount**	**60.92**	**6**			**P**	**12 04 32.3**	**+2.9**
QSPA	**South Pole Qui**	**60.94**	**180**	P		**P**	**12 04 30.7**	**+1.3**
QSPA	comp=Z,8.2nm,1.3s				IAmb	IAmb	12 04 56.2	
QSPA	**South Pole Qui** comp=Z,2.2nm,1.1s,baz=50,slow=2.1,SNR=5.3 comp=Z,2.2nm,1.1s	**60.94**	**180**	P		**P**	**12 04 27.4**	**-2.0**
TUC	**Tucson**	**61.22**	**1**	P		**P**	**12 04 33.9**	**+2.4**
435B	**Jarrell**	**61.24**	**14**	P		**P**	**12 04 33.1**	**+1.6**
BRDY	**Brady**	**61.44**	**13**	P		**P**	**12 04 34.5**	**+1.6**
BRDY	comp=Z,11nm,1.1s				IAmb	IAmb	12 04 40.7	
ODSA	**Odessa**	**61.67**	**9**	P		**P**	**12 04 36.2**	**+1.7**
ODSA	comp=Z,11nm,1.0s				IAmb	IAmb	12 04 42.2	
SGCY	**Sterling City**	**61.68**	**10**	P		**P**	**12 04 35.7**	**+1.1**
PFO	**Pinyon Flats O** comp=Z,160nm,18.7s,baz=208,slow=30	**62.65**	**356**	LR		LR	12 25 55.1	
PLPT	**Palo Pinto**	**63.06**	**13**	P		**P**	**12 04 44.9**	**+1.2**
APMT	**Aspermont**	**63.23**	**11**			**P**	**12 04 46.7**	**+1.8**
APMT	comp=Z,8.6nm,0.9s				IAmb	IAmb	12 04 52.3	
MSTX	**Muleshoe**	**63.47**	**9**	P		**P**	**12 04 48.1**	**+1.6**
ANMO	**Albuquerque** comp=Z,242nm,19.4s,baz=280,slow=31	**64.05**	**5**	LR		LR	12 27 41.2	
SJG	**San Juan** comp=Z,50nm,18.1s,baz=167,slow=34	**64.59**	**49**	LR		LR	12 30 50.7	
MIAR	**Mount Ida**	**65.78**	**17**	P		**P**	**12 05 03.0**	**+1.5**
MIAR	comp=Z,11nm,1.4s				IAmb	IAmb	12 05 05.4	
MDP	**Montagnes des** comp=Z,142nm,18.9s,baz=244,slow=33	**66.35**	**69**	LR		LR	12 31 07.2	
VNA3	**Neumayer Olymp** comp=Z,8.9nm,0.8s	**66.45**	**160**	⇓P		**P**	**12 05 04.9**	**-0.6**
TUL3	**Leonard**	**66.57**	**14**			**P**	**12 05 09.2**	**+2.6**
VNA1	**Neumayer--Stat** comp=Z,8.1nm,1.0s	**67.10**	**159**	⇓P		**P**	**12 05 09.8**	**+0.2**
PV12	**Saucer Basin,** comp=Z,7.1nm,1.0s	**67.27**	**3**		IAmb	IAmb	12 05 20.9	
PV04	**Paradox Valley** comp=Z,5.9nm,1.1s	**67.34**	**3**		IAmb	IAmb	12 05 17.5	
NVAR	**Mina Array Bea** comp=Z,0.5nm,0.7s,baz=172,slow=8.5,SNR=5.6 comp=Z,0.5nm,0.7s	**67.58**	**355**	P		**P**	**12 05 13.5**	**+0.3**
SNAA	**Sanae** comp=Z,94nm,0.9s	**68.27**	**161**	⇓P		**P**	**12 05 17.5**	**+0.4**
SNAA	**Sanae** comp=Z,8.5nm,1.1s	**68.27**	**161**			**P**	**12 05 19.7**	**+2.6**
SNAA	comp=Z,9.4nm,1.2s,baz=166,slow=4.3,SNR=5.8				IAmb	IAmb	12 05 22.3	
SNAA	**Sanae** comp=Z,63nm,20.5s,baz=133,slow=32 comp=Z,9.4nm,1.2s	**68.27**	**161**	P		**P**	**12 05 16.6**	**-0.4**
SNAA	comp=Z,8.7nm,1.1s			LR		LR	12 30 16.1	
SWET	**Sewanee**	**68.65**	**23**	P		**P**	**12 05 21.2**	**+1.4**
SWET	comp=Z,8.7nm,1.1s				IAmb	IAmb	12 05 24.1	
CPCT	**Cooper Cave**	**69.35**	**24**			**P**	**12 05 26.0**	**+1.9**
CPCT	comp=Z,12nm,1.4s				IAmb	IAmb	12 05 31.8	
TROLL	**Troll, Antarti** comp=Z,193nm,0.9s	**69.56**	**162**	⇓P		**P**	**12 05 26.0**	**+0.8**
V53A	**Saluda**	**70.16**	**25**			**P**	**12 05 30.1**	**+0.9**
V53A	comp=Z,7.7nm,1.1s				IAmb	IAmb	12 05 37.3	
YBH	**Yreka Blue Hor** comp=Z,21nm,20.0s,baz=152,slow=30	**71.31**	**352**	LR		LR	12 29 56.7	
PDAR	**Pinedale Array**	**71.68**	**2**			**P**	**12 05 41.0**	**+2.5**
PDAR	**Pinedale Array** comp=Z,0.2nm,0.4s,baz=132,slow=2.2,SNR=5.1	**71.68**	**2**	P		**P**	**12 05 37.3**	**-1.2**
PDAR	comp=Z,109nm,18.9s,baz=170,slow=32 comp=Z,0.2nm,0.4s			LR		LR	12 32 22.2	
HLID	**Hailey**	**72.48**	**358**	P		**P**	**12 05 46.2**	**+3.0**
HLID	comp=Z,9.8nm,1.4s				IAmb	IAmb	12 06 04.6	
DZM	**Mont Dzumac** comp=Z,118nm,25.9s	**72.53**	**254**	*e*S		**SKiKP**	**12 15 14.2**	**-5.1**
DZM	**Mont Dzumac** comp=Z,544nm,22.9s	**72.53**	**254**	*e*LR		LR	12 28 03.4	
RCBR	**Riachuelo** comp=Z,105nm,19.7s,baz=246,slow=34	**75.03**	**88**	LR		LR	12 36 15.8	
NEW	**Newport** comp=Z,223nm,18.9s,baz=178,slow=32	**77.28**	**356**	LR		LR	12 35 13.6	
BBB	**Bella Bella** comp=Z,84nm,20.1s,baz=202,slow=30	**82.30**	**350**	LR		LR	12 35 35.6	
MAW	**Mawson** comp=Z,183nm,18.4s,baz=178,slow=34	**83.38**	**178**	LR		LR	12 41 12.4	
HNR	**Honiara** comp=Z,201nm,22.0s,baz=46,slow=30	**83.80**	**263**	LR		LR	12 35 42.5	
STKA	**Stephens Creek** comp=Z,99nm,21.7s,baz=199,slow=30	**87.42**	**235**	LR		LR	12 38 36.0	
DLBC	**Dease Lake** comp=Z,11nm,20.4s,baz=133,slow=31	**88.64**	**351**	LR		LR	12 39 29.8	
YKA	**Yellowknife Ar** comp=Z,0.5nm,0.9s,baz=184,slow=4.5,SNR=4.9	**91.43**	**359**	P		**P**	**12 07 20.6**	**-1.5**
YKA	comp=Z,242nm,18.6s,baz=180,slow=33 comp=Z,0.5nm,0.9s			LR		LR	12 44 08.4	
H11N3	**WAKE ISLAND Hy** baz=121,slow=76,SNR=10	**92.05**	**291**	T		T	13 49 33.3	
H11N1	**WAKE ISLAND Hy** baz=121,slow=76,SNR=10	**92.07**	**291**	T		T	13 49 34.4	
H11N2	**WAKE ISLAND Hy** baz=121,slow=76,SNR=9.7	**92.07**	**291**	T		T	13 49 34.7	
SCHQ	**Schefferville** comp=Z,33nm,18.3s,baz=256,slow=34	**92.27**	**24**	LR		LR	12 46 56.5	
KDAK	**Kodiak Island** comp=Z,119nm,21.1s,baz=151,slow=29	**93.15**	**340**	LR		LR	12 39 41.5	
ILAR	**Eielson Array** comp=Z,73nm,20.9s,baz=234,slow=30	**97.58**	**346**	LR		LR	12 43 01.9	
ASAR	**Alice Springs** comp=Z,90nm,19.1s,baz=187,slow=32	**97.67**	**238**	LR		LR	12 46 15.6	
INK	**Inuvik** comp=Z,95nm,19.4s,baz=156,slow=32	**98.56**	**352**	LR		LR	12 46 23.2	
WRA	**Warramunga Arr** comp=Z,228nm,20.3s,baz=74,slow=32	**99.53**	**241**	LR		LR	12 47 01.5	
H01W1	**Cape Leeuwin H** baz=138,slow=75,SNR=7.9	**102.78**	**217**	T		T	14 03 07.5	
H01W2	**Cape Leeuwin H** baz=138,slow=75,SNR=10.1	**102.79**	**217**	T		T	14 03 08.1	
H01W3	**Cape Leeuwin H** baz=138,slow=75,SNR=8.4	**102.80**	**217**	T		T	14 03 15.6	
AKASG	**Malin Array Be** comp=Z,0.9nm,0.7s,baz=275,slow=4.0,SNR=5.1	**143.91**	**43**	PKP		**PKPab**	**12 13 49.4**	**+0.6**
SONM	**Songino Array** comp=Z,6.1nm,1.0s,baz=105,slow=2.1,SNR=15	**145.16**	**313**	PKPbc		**PKPbc**	**12 13 53.7**	**+0.1**
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.3s,baz=332,slow=0.1,SNR=6.6	**149.84**	**256**	PKPbc		**PKPbc**	**12 14 06.3**	**-1.1**
BRTR	**Keskin Array B** comp=Z,0.9nm,0.7s,baz=238,slow=7.1,SNR=5.2	**149.95**	**60**	PKPbc		**PKPbc**	**12 14 06.9**	**-0.3**
ZALV	**Zalesovo Beam** comp=Z,0.3nm,0.3s,baz=298,slow=3.1,SNR=3.5	**152.44**	**338**	PKPbc		**PKPbc**	**12 14 10.9**	**-1.4**
ZALV	comp=Z,1.2nm,0.7s,baz=64,slow=3.4,SNR=4.3			PKPab		**PKPab**	**12 14 22.2**	**-0.3**
KBZ	**Khabaz** comp=Z,1.5nm,0.7s,baz=159,slow=3.9,SNR=4.6	**155.28**	**47**	PKP		**PKPdf**	**12 14 08.9**	**-0.8**
KBZ	comp=Z,2.6nm,0.9s,baz=194,slow=2.6,SNR=4.8			PKPab		**PKPab**	**12 14 34.9**	**0.0**
BVAR	**Borovoye Array** comp=Z,1.0nm,0.7s,baz=348,slow=11,SNR=3.9	**156.17**	**356**	PKPab		**PKPab**	**12 14 36.3**	**-2.0**
KURBB	**Kurchatov Arra** comp=Z,0.7nm,0.3s,baz=321,slow=1.3,SNR=1.9	**157.22**	**343**	PKP		**PKPdf**	**12 14 10.1**	**-2.0**
KURBB	comp=Z,1.9nm,0.2s,baz=17,slow=3.7,SNR=4.0			PKPab		**PKPab**	**12 14 40.5**	**-2.4**
MKAR	**Makanchi Array** comp=Z,1.2nm,1.1s,baz=47,slow=4.1,SNR=4.3	**159.24**	**331**	PKP		**PKPdf**	**12 14 12.1**	**-2.7**
MKAR	comp=Z,0.5nm,0.5s,baz=179,slow=8.6,SNR=4.3			PKPab		**PKPab**	**12 14 49.1**	**-2.8**

*IDC **20** 11:56:17.9±0.6, 14°.07S×14°.48W, h0km, mb4.2/19, mbtmp4.2/19, MS3.6/26, Error ellipse: s-maj=23.8km s-min=14.3km az=114.0*
*NEIC **20** 11:56:19.2±1.1, 14°.2S±0°.1×14°.32W±0°.08, h10km±1km, mb4.7/34, Error ellipse: s-maj=18.6km s-min=11.9km az=341.0*

ISC 20 11:56:19.6±0.4,14°15S±0°.08×14°37W±0°.07,h14km,n83, σ1§01/63,mb4.5/30,MS3.7/26,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
H10N1	**ASCENSION HYDR** baz=180,slow=73,SNR=30	**6.27**	**359**	T		T	12 04 22.8	
H10N3	**ASCENSION HYDR** baz=180,slow=73,SNR=30	**6.27**	**359**	T		T	12 04 27.3	
H10N2	**ASCENSION HYDR** baz=180,slow=73,SNR=35	**6.29**	**359**	T		T	12 04 27.6	
SHEL	**Horse Pasture**	**8.52**	**103**	Pn		**Pn**	**11 58 21.7**	**-0.9**
DBIC	**Dimbokro**	**22.74**	**25**	P		**P**	**12 01 21.1**	**-0.3**
DBIC	comp=Z,38nm,1.4s				IAmb	IAmb	12 01 24.7	
DBIC	**Dimbokro** comp=Z,14nm,1.1s,baz=241,slow=9.3,SNR=5.2	**22.74**	**25**	P		**P**	**12 01 21.6**	**+0.2**
DBIC	comp=Z,194nm,19.2s,baz=176,slow=31 comp=Z,14nm,1.1s			LR		LR	12 08 04.6	
RCBR	**Riachuelo**	**22.75**	**289**	P		**P**	**12 01 21.0**	**-0.7**
RCBR	comp=Z,29nm,1.1s				IAmb	IAmb	12 01 22.2	
RCBR	**Riachuelo** comp=Z,61nm,21.9s,baz=97,slow=30	**22.75**	**289**	LR		LR	12 07 34.7	
TSUM	**Tsumeb** comp=Z,176nm,20.4s,baz=326,slow=32	**30.98**	**104**	LR		LR	12 12 38.8	
TORD	**Torodi Ar. Bea** comp=Z,10.0nm,1.1s	**31.44**	**31**	P		**P**	**12 02 40.3**	**-0.5**
TORD	comp=Z,10.0nm,1.1s				IAmb	IAmb	12 02 43.4	
TORD	**Torodi Ar. Bea** comp=Z,6.9nm,0.9s,baz=217,slow=9.0,SNR=22	**31.44**	**31**	P		**P**	**12 02 41.2**	**+0.4**
TORD	comp=Z,232nm,21.5s,baz=274,slow=33 comp=Z,6.9nm,0.9s			LR		LR	12 13 35.1	
BDFB	**Brasilia**	**32.53**	**263**	P		**P**	**12 02 50.1**	**-0.5**
BDFB	comp=Z,10.0nm,1.2s				IAmb	IAmb	12 03 06.8	
BDFB	**Brasilia** comp=Z,2.2nm,0.6s,baz=3.8,slow=13,SNR=3.4 comp=Z,2.2nm,0.6s	**32.53**	**263**	P		**P**	**12 02 50.9**	**+0.3**
GRTLG	**Ghanzi**	**34.58**	**107**	P		**P**	**12 03 07.8**	**-0.6**
GRTLG	comp=Z,28nm,1.4s				IAmb	IAmb	12 03 16.8	
LBTB	**Lobatse** comp=Z,64nm,18.1s,baz=271,slow=34	**39.04**	**112**	LR		LR	12 18 47.3	
BOSA	**Boshof** comp=Z,10nm,1.0s,baz=0.0,slow=3.0,SNR=3.7	**39.40**	**118**	P		**P**	**12 03 51.8**	**+2.5**
BOSA	comp=Z,75nm,18.6s,baz=244,slow=32 comp=Z,10nm,1.0s			LR		LR	12 17 30.5	
LSZ	**Lusaka**	**41.13**	**97**	P		**P**	**12 04 00.3**	**-3.5**
LSZ	**Lusaka** comp=Z,161nm,21.5s,baz=294,slow=32	**41.13**	**97**	LR		LR	12 18 32.4	
MATP	**Matopo** comp=Z,64nm,21.2s,baz=262,slow=32	**41.31**	**105**	LR		LR	12 18 19.2	
TAM	**Tamanrasset**	**41.56**	**28**	P		**P**	**12 04 06.3**	**-0.9**
CPUP	**Villa Florida** comp=Z,0.6nm,0.5s,baz=296,slow=10,SNR=4.5 comp=Z,0.6nm,0.5s	**41.91**	**246**	P		**P**	**12 04 10.2**	**+0.3**
MBAR	**Mbarara**	**46.59**	**77**	P		**P**	**12 04 47.3**	**-0.6**
MBAR	comp=Z,11nm,1.1s				IAmb	IAmb	12 04 53.6	
MDT	**Midelt** comp=Z,153nm,21.4s,baz=221,slow=34	**47.62**	**11**	LR		LR	12 22 58.4	
PVAQ	**Vaqueiros**	**51.66**	**7**	P		**P**	**12 05 26.2**	**+0.2**
LPAZ	**La Paz**	**51.80**	**260**	P		**P**	**12 05 27.1**	**-1.2**
LPAZ	**La Paz** comp=Z,1.4nm,0.8s,baz=3.6,slow=8.6,SNR=3.0 comp=Z,1.4nm,0.8s	**51.80**	**260**	P		**P**	**12 05 27.4**	**-0.8**
PBAR	**Barrancos**	**52.50**	**7**	*e*P		**P**	**12 05 34.0**	**+1.8**
GO03	**Copiapo**	**53.49**	**246**	P		**P**	**12 05 39.4**	**-0.6**
PMRV	**Marv??o**	**53.70**	**7**	*e*P		**P**	**12 05 42.6**	**+1.6**
PCBR	**Castelo Branco**	**54.09**	**7**	*e*P		**P**	**12 05 45.3**	**+1.4**
CO02	**Combarbal**	**54.38**	**242**	P		**P**	**12 05 45.4**	**-1.1**
ESDC	**Sonseca Array**	**54.42**	**10**			**P**	**12 05 45.9**	**-0.5**
ESDC	**Sonseca Array** comp=Z,2.1nm,0.9s,baz=184,slow=6.9,SNR=11	**54.42**	**10**	P		**P**	**12 05 46.2**	**-0.1**
ESDC	comp=Z,59nm,20.6s,baz=165,slow=34 comp=Z,2.1nm,0.9s			LR		LR	12 27 30.8	
ESBB	**Sonseca Array**	**54.42**	**10**	P		**P**	**12 05 45.7**	**-0.6**
KEST	**Kesra**	**54.45**	**24**	P		**P**	**12 05 46.1**	**-0.6**
KEST	comp=Z,6.3nm,0.9s				IAmb	IAmb	12 06 09.2	
KEST	**Kesra** comp=Z,4.3nm,0.9s,baz=211,slow=5.9,SNR=5.5	**54.45**	**24**	P		**P**	**12 05 47.9**	**+1.1**
KEST	comp=Z,130nm,19.4s,baz=228,slow=35 comp=Z,4.3nm,0.9s			LR		LR	12 27 54.3	
MVO	**Moncorvo**	**55.45**	**7**	*e*P		**P**	**12 05 55.2**	**+1.4**
POLO	**Lamas de Olo**	**55.58**	**6**	*e*P		**P**	**12 05 55.9**	**+1.1**
PBRG	**Braganca**	**56.12**	**7**	*e*P		**P**	**12 05 59.9**	**+1.3**
PGAV	**Gavieira, Arco**	**56.12**	**5**	*e*P		**P**	**12 06 00.4**	**+1.8**
CZSB	**Cruzeiro do Su**	**57.52**	**270**	P		**P**	**12 06 08.9**	**-0.2**
SNAA	**Sanae**	**57.91**	**176**	P		**P**	**12 06 10.8**	**-0.2**
SNAA	comp=Z,5.7nm,1.1s				IAmb	IAmb	12 06 14.5	
SNAA	**Sanae** comp=Z,3.2nm,1.0s,baz=307,slow=8.4,SNR=4.4 comp=Z,3.2nm,1.0s	**57.91**	**176**	P		**P**	**12 06 11.8**	**+0.9**
MG04	**Isla Riesco**	**59.22**	**216**	P		**P**	**12 06 19.8**	**-0.4**
OBIP	**Obispado Ponce**	**60.64**	**300**	P		**P**	**12 06 30.4**	**-0.1**
OSSC	**Osservatorio P**	**61.99**	**21**	P		**P**	**12 06 39.5**	**+0.3**
ATD	**Arta Tunnel** comp=Z,5.4nm,19.6s,baz=208,slow=34	**62.19**	**69**	LR		LR	12 31 41.4	
ROSC	**El Rosal** comp=Z,127nm,18.7s,baz=233,slow=36	**62.38**	**283**	LR		LR	12 33 27.1	
DAVOX	**Davos/Dischmat** comp=Z,105nm,21.2s,baz=262,slow=35	**64.45**	**18**	LR		LR	12 33 38.4	
BELA	**Belgrano 2**	**64.54**	**185**	P		**P**	**12 06 55.6**	**-0.1**
ECH	**Echery**	**64.98**	**16**	P		**P**	**12 06 59.3**	**+0.4**
ECH	comp=Z,8.5nm,1.4s				IAmb	IAmb	12 07 06.3	
COHC	**Cochancay**	**65.06**	**274**	P		**P**	**12 06 59.7**	**-0.5**
BFO	**Black Forest**	**65.40**	**16**	P		**P**	**12 07 01.9**	**+0.2**
BFO	comp=Z,5.4nm,0.9s				IAmb	IAmb	12 07 03.3	
ARSA	**Arzberg**	**66.73**	**22**	P		**P**	**12 07 10.8**	**+0.6**
ARSA	comp=Z,3.9nm,0.9s				IAmb	IAmb	12 07 11.3	
MMAI	**Mount Meron Ar** comp=Z,0.3nm,0.3s,baz=222,slow=1.9,SNR=2.0	**66.75**	**44**	P		**P**	**12 07 11.6**	**+0.8**
MMAI	comp=Z,36nm,18.1s,baz=254,slow=38 comp=Z,0.3nm,0.3s			LR		LR	12 38 29.0	
ASF	**Jabal al Asfar** comp=Z,50nm,19.3s,baz=271,slow=35	**67.29**	**46**	LR		LR	12 35 35.7	
GERES	**GERESS Array B** comp=Z,0.6nm,0.7s,baz=219,slow=6.2,SNR=4.9	**67.48**	**20**	P		**P**	**12 07 14.8**	**-0.3**
GERES	comp=Z,94nm,21.6s,baz=198,slow=35 comp=Z,0.6nm,0.7s			LR		LR	12 35 19.6	
VRAC	**Vranov** comp=Z,77nm,19.1s,baz=228,slow=36	**68.85**	**21**	LR		LR	12 37 39.0	
PSZ	**Piszkesteto**	**68.93**	**24**	P		**P**	**12 07 24.3**	**+0.1**
PSZ	comp=Z,9.7nm,1.4s				IAmb	IAmb	12 07 32.0	
MORC	**Moravsky Berou**	**69.58**	**21**	P		**P**	**12 07 28.3**	**+0.2**
MLR	**Muntele Rosu**	**69.66**	**29**	P		**P**	**12 07 28.5**	**-0.3**
MLR	comp=Z,6.5nm,0.9s				IAmb	IAmb	12 07 31.3	
MLR	**Muntele Rosu** comp=Z,63nm,21.7s,baz=224,slow=35	**69.66**	**29**	LR		LR	12 36 46.7	
BR131	**Keskin Array S**	**69.76**	**38**	P		**P**	**12 07 30.0**	**+0.4**
BRTR	**Keskin Array B**	**69.76**	**38**	P		**P**	**12 07 29.7**	**+0.1**
BRTR	**Keskin Array B** comp=Z,1.2nm,0.6s,baz=231,slow=6.1,SNR=6.0 comp=Z,1.2nm,0.6s	**69.76**	**38**	P		**P**	**12 07 31.1**	**+1.5**
EKA	**Eskdalemuir Ar** comp=Z,3.7nm,0.9s,baz=199,slow=4.3,SNR=4.4 comp=Z,3.7nm,0.9s	**69.86**	**7**	P		**P**	**12 07 30.0**	**+0.4**
OJC	**Ojcow**	**70.77**	**22**	P		**P**	**12 07 34.0**	**-1.3**
MAW	**Mawson** comp=Z,2.8nm,0.9s,baz=301,slow=4.6,SNR=4.4 comp=Z,2.8nm,0.9s	**72.15**	**157**	P		**P**	**12 07 43.9**	**+0.4**
JTS	**Las Juntas de** comp=Z,59nm,21.5s,baz=118,slow=35	**74.09**	**285**	LR		LR	12 39 31.3	
KIEV	**Kiev**	**74.96**	**27**	P		**P**	**12 07 58.9**	**-1.3**
KIEV	comp=Z,4.2nm,0.7s				IAmb	IAmb	12 08 00.4	
AKASG	**Malin Array Be** comp=Z,1.5nm,0.5s,baz=225,slow=6.4,SNR=11	**74.97**	**27**	P		**P**	**12 07 59.8**	**-0.4**
AKASG	comp=Z,44nm,22.0s,baz=235,slow=36 comp=Z,1.5nm,0.5s			LR		LR	12 40 45.4	
AKBB	**Malin Array Si**	**74.97**	**27**	P		**P**	**12 07 58.7**	**-1.5**
AKBB	comp=Z,4.7nm,0.7s				IAmb	IAmb	12 08 00.4	
QSPA	**South Pole Qui**	**76.01**	**180**	P		**P**	**12 08 07.5**	**+1.3**
QSPA	comp=Z,14nm,1.3s				IAmb	IAmb	12 08 15.3	
QSPA	**South Pole Qui** comp=Z,3.9nm,0.9s,baz=208,slow=4.6,SNR=13 comp=Z,3.9nm,0.9s	**76.01**	**180**	P		**P**	**12 08 07.7**	**+1.5**
GNI	**Garni** comp=Z,17nm,18.1s,baz=234,slow=38	**76.95**	**42**	LR		LR	12 44 21.7	
HFS	**Hagfors** comp=Z,46nm,18.3s,baz=215,slow=37	**77.40**	**14**	LR		LR	12 43 45.6	
NOA	**NORSAR Array B** comp=Z,0.6nm,0.7s,baz=203,slow=5.7,SNR=3.8	**77.67**	**12**	P		**P**	**12 08 15.9**	**+0.5**
NOA	comp=Z,20nm,22.0s,baz=195,slow=35 comp=Z,0.6nm,0.7s			LR		LR	12 41 00.5	
KBZ	**Khabaz** comp=Z,15nm,18.4s,baz=260,slow=37	**77.70**	**39**	LR		LR	12 44 20.6	
FINES	**FINESS Array B** comp=Z,1.3nm,0.6s,baz=209,slow=4.9,SNR=11 comp=Z,1.3nm,0.6s	**81.86**	**18**	P		**P**	**12 08 38.7**	**+0.7**
CMIG	**Matias Romero** comp=Z,19nm,18.3s,baz=126,slow=37	**85.31**	**289**	LR		LR	12 48 27.3	
ARCES	**ARCESS Array B** comp=Z,1.1nm,0.8s,baz=259,slow=1.8,SNR=3.1 comp=Z,1.1nm,0.8s	**88.03**	**13**	P		**P**	**12 09 09.8**	**+0.9**
SBA	**Scott Base**	**88.

mb3.1/4, mbtmp3.7/5, Error ellipse: s-maj=95.6km s-min=33.2km az=157.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.87**	**179**	P	Pn	12 04 37.8	+0.7
	2.3nm,0.3s,baz=360,slow=19,SNR=5.8						
DZM				S	S	12 06 37.3	-1.5
	3.2nm,0.4s,baz=319,slow=19,SNR=11						
WRA	**Warramunga Arr**	**31.86**	**250**	P	P	12 08 10.7	+0.3
	1.0nm,0.9s,baz=78,slow=8.8,SNR=5.2						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**33.15**	**244**	P	P	12 08 21.0	-0.6
	0.5nm,0.9s,baz=68,slow=9.2,SNR=4.7						
	0.5nm,0.9s						
ILAR	**Eielson Array**	**83.46**	**18**	P	P	12 14 07.4	-0.4
	0.3nm,0.6s,baz=238,slow=5.1,SNR=4.3						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**93.89**	**317**	P	P	12 14 58.4	+0.6
	0.4nm,0.6s,baz=93,slow=6.3,SNR=3.6						
	0.4nm,0.6s						

*IDC **20** 12:07:50.1±1.2,23°.04N×123°.92E,h0km,mb3.8/5, mbtmp3.9/7,ML3.3/2,MS3.0/1,Error ellipse: s-maj=36.6km s-min=23.2km az=85.0*

*JMA **20** 12:07:52.9±0.3,23°.N±1°×12°.4E±°,h50km,MV3.6/18,FAR S OFF ISHIGAKIJIMA*

ISC 20 12:07:52.1±2.1,23°.03N±0°.06×123°.98E±0°.05,h15km±12km, n29,σ1s15/38,mb3.7/5,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.04**	**351**	P	**Pg**	**12 08 11.8**	**-0.4**
HATJ				S	**Sb**	**12 08 24.8**	**-0.3**
JKRS	**Kuro-shima**	**1.21**	**1**	P	**Pn**	**12 08 14.8**	**+0.2**
JKRS				S	**Sb**	**12 08 30.1**	**+0.1**
IRIF	**Iriomote-Funau**	**1.32**	**350**	P	**Pn**	**12 08 16.0**	**0.0**
IRIF				*e*S	**Sb**	**12 08 32.9**	**-0.5**
JIJ	**Ishigaki jima**	**1.34**	**7**	P	**Pn**	**12 08 16.1**	**-0.1**
JISG	**Ishigakijimahi**	**1.58**	**11**	P	**Pn**	**12 08 19.4**	**-0.2**
JISG				*e*S	**Sn**	**12 08 38.5**	**-1.2**
YOJ	**Yonaguni jima**	**1.68**	**328**	P	**Pn**	**12 08 21.4**	**+0.5**
YOJ	**Yonaguni jima**	**1.68**	**328**	P	**Pn**	**12 08 21.1**	**+0.3**
JYNG	**Yonagunijimaku**	**1.71**	**327**	*e*P	**Pn**	**12 08 20.9**	**-0.3**
JYNG				*e*S	**Sn**	**12 08 41.3**	**-1.4**
JTJ	**Tarama**	**1.74**	**22**	*e*P	**Pn**	**12 08 22.0**	**+0.3**
JTJ				S	**Sn**	**12 08 43.4**	**-0.2**
JIRB	**Irabujima**	**2.10**	**31**	P	**Pn**	**12 08 26.8**	**+0.1**
JIRB				*e*S	**Sn**	**12 08 52.7**	**+0.2**
JMJ2	**Miyako jima3**	**2.11**	**36**	*e*P	**Pn**	**12 08 27.2**	**+0.4**
JMJ2				*e*S	**Sn**	**12 08 52.1**	**-0.6**
JMJ	**Miyako jima 2**	**2.15**	**34**	P	**Pn**	**12 08 28.0**	**+0.6**
JOGS	**Gusukube**	**2.17**	**37**	*e*S	**Sn**	**12 08 54.1**	**-0.1**
JIKM	**Ikemajima**	**2.22**	**31**	*e*P	**Pn**	**12 08 27.9**	**-0.4**
JIKM				*e*S	**Sn**	**12 08 55.4**	**-0.1**
NACB	**Ninganchiao**	**2.47**	**298**	P	**Pn**	**12 08 30.5**	**-1.2**
YULB	**Yu-li**	**2.49**	**279**	P	**Pn**	**12 08 30.8**	**-1.3**
TWGBT	**Beinan**	**2.68**	**266**	P	**Pn**	**12 08 33.5**	**-1.1**
SSLB	**Suanglung**	**2.88**	**286**	P	**Pn**	**12 08 36.8**	**-0.6**
YHNB	**Yeheng**	**2.89**	**305**	P	**Pn**	**12 08 37.9**	**+0.3**
TATO	**Taipei**	**2.99**	**311**	P	**Pn**	**12 08 40.6**	**+1.7**
TPUB	**Ta-pu**	**3.09**	**276**	P	**Pn**	**12 08 41.0**	**+0.7**
JOW	**Kunigami**	**5.44**	**45**	Pn	**Pn**	**12 09 11.3**	**-1.2**
	3.0nm,0.3s,baz=236,slow=11,SNR=12						
JOW				Sn	**Sn**	**12 10 10.3**	**-4.6**
	0.9nm,0.3s,baz=183,slow=18,SNR=1.2						
	20nm,0.6s						
MJAR	**Matsushiro Arr**	**18.25**	**39**	P	**P**	**12 12 07.1**	**+2.2**
	0.1nm,0.3s,baz=230,slow=9.7,SNR=31						
	4.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**23.84**	**264**	LR	LR	12 23 39.2	
	comp=Z,37nm,20.8s,baz=245,slow=40						
ZALV	**Zalesovo Beam**	**42.61**	**327**	P	**P**	**12 15 47.0**	**-0.5**
	0.7nm,0.3s,baz=104,slow=12,SNR=1.7						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**43.89**	**166**	P	**P**	**12 15 58.1**	**0.0**
	0.5nm,0.6s,baz=338,slow=6.0,SNR=2.2						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**44.64**	**320**	P	**P**	**12 16 05.2**	**+1.4**
	1.8nm,0.2s,baz=110,slow=7.7,SNR=1.6						
	1.8nm,0.2s						
ASAR	**Alice Springs**	**47.40**	**168**	P	**P**	**12 16 27.1**	**+1.2**
	0.3nm,0.5s,baz=348,slow=9.0,SNR=4.2						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**83.02**	**24**	P	**P**	**12 20 16.0**	**-0.5**
	0.4nm,0.8s,baz=321,slow=6.6,SNR=3.6						
	0.4nm,0.8s						

AUST 20 12:08:13.3±0.9,18°S±10°×12°0E±°,h10km,mb3.8/4, ML2.8/3,ML3.4/4,Error ellipse: s-maj=23.8km s-min=8.8km az=146.3,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**3.07**	**191**	P	Pn	12 09 02.1	+0.2
MBWA				S	Sn	12 09 36.2	-2.5
PSA00	**Pilbara Seismi**	**3.46**	**188**	P	Pn	12 09 07.6	+0.3
FITZ	**Fitzroy Crossi**	**5.04**	**90**	P	Pn	12 09 28.9	-0.1
	comp=Z,0.0nmcomp=Z,10µmcomp=Z,1.5nm,2.3s						
GIRL	**Giralia**	**7.28**	**231**	P	Pn	12 09 59.7	-0.1
	comp=Z,266µmcomp=Z,40nm,1.6s,comp=Z,0.2nm						
KNRA	**Kununurra**	**8.42**	**74**	P	Pn	12 10 15.5	+0.1
	comp=Z,5.6nm,2.2s,comp=Z,0.0nm						
CVQOZ	**Cooralya Stati**	**8.58**	**222**	P	Pn	12 10 22.0	+4.4
MEEK	**Meekatharra**	**8.62**	**190**	P	Pn	12 10 17.7	-0.5
	comp=Z,30nm,2.1s,comp=Z,0.2nm						
WRKA	**Warakurna**	**10.10**	**134**	P	Pn	12 10 38.3	-0.2

*IDC **20** 12:27:42.6±0.8,6°.86S×131°.38E,h0km,mb4.0/9, mbtmp4.1/13,ML4.4/4,MS3.6/2,Error ellipse: s-maj=30.8km s-min=17.6km az=85.0*

*NEIC **20** 12:27:49.0±1.2,6°.88S±0°.06×131°.2E±0°.1,h107km±10km, mb4.2/7,Error ellipse: s-maj=15.5km s-min=8.7km az=94.0*

*DJA **20** 12:27:51.7±0.2,7°.S±2°×13°1E±°,h104km±7km,M4.7/18, mB5.2/6,mb4.6/18,MLv4.8/18,Mw(mB)4.6/6*

ISC 20 12:27:50.6±0.5,6°.96S±0°.04×131°.22E±0°.05,h100km,n81, σ2s23/83,mb3.8/10,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.02**	**176**		**Pn**	**12 28 13.3**	**+2.0**
SAUI				Sn	**Sn**	**12 28 26.4**	**-0.5**
SAUI	**Saumlaki**	**1.02**	**176**	P	**Pn**	**12 28 13.0**	**+1.7**
SAUI	**Saumlaki**	**1.02**	**176**	S	**Sn**	**12 28 29.0**	**+2.2**
SAUI	**Saumlaki**	**1.02**	**176**	P	**Pn**	**12 28 13.3**	**+2.0**
BNDI	**Bandanaira**	**2.75**	**332**	P	**Pn**	**12 28 34.2**	**+1.1**
BNDI	**Bandanaira**	**2.75**	**332**	S	**Sn**	**12 29 07.7**	**+2.0**
BNDI	**Bandanaira**	**2.75**	**332**	P	**Pn**	**12 28 32.4**	**-0.7**
BNDI				S	**Sn**	**12 29 04.2**	**-1.5**
KMPI	**Kaimana, Papua**	**4.10**	**37**	P	**Pn**	**12 28 51.0**	**-0.2**
FAKI	**Fak Fak**	**4.14**	**14**		**Pn**	**12 28 50.1**	**-1.7**
FAKI				Sn	**Sn**	**12 29 34.5**	**-4.7**
FAKI	**Fak Fak**	**4.14**	**14**	P	**Pn**	**12 28 51.1**	**-0.7**
FAKI	**Fak Fak**	**4.14**	**14**	P	**Pn**	**12 28 50.7**	**-1.1**
MSAI	**Masohi**	**4.25**	**327**	P	**Pn**	**12 28 54.4**	**+1.1**
MSAI				S	**Sn**	**12 29 40.7**	**-1.2**
AAI	**Ambon**	**4.43**	**317**	P	**Pn**	**12 28 57.1**	**+1.4**
DRS	**Darwin Rock St**	**5.45**	**183**	P	**Pn**	**12 29 10.2**	**+0.8**
DRS	**Darwin Rock St**	**5.45**	**183**	S	**Sn**	**12 30 11.0**	**+0.2**
NLAI	**Namlea**	**5.52**	**312**	P	**Pn**	**12 29 14.4**	**+3.9**
	0.5nm2µm193nm,0.9s						
KDU	**Kakadu**	**5.82**	**168**	P	**Pn**	**12 29 14.9**	**+0.3**
MTN	**Manton Dam**	**5.85**	**181**		**Pn**	**12 29 13.3**	**-1.6**
MTN				Sn	**Sn**	**12 30 18.7**	**-1.9**
SWI	**Sorong**	**6.06**	**0**	P	**Pn**	**12 29 16.1**	**-1.6**
	1.1nm3µm86nm,0.6s						
RKPI	**Ransiki, Papua**	**6.16**	**29**	P	**Pn**	**12 29 19.9**	**+0.7**
SRPI	**Serui, Papua**	**7.11**	**45**	P	**Pn**	**12 29 32.2**	**+0.1**
SANI	**Sanana**	**7.14**	**313**	P	**Pn**	**12 29 35.6**	**+3.1**
SANI	**Sanana**	**7.14**	**313**	P	**Pn**	**12 29 35.0**	**+2.5**
	0.2nm51nm,0.8s						
LBMI	**Labuha**	**7.29**	**329**	P	**Pn**	**12 29 33.0**	**-1.6**
SOEI	**Soe**	**7.42**	**248**	Pn	**Pn**	**12 29 34.7**	**-1.7**
SOEI	**Soe**	**7.42**	**248**	P	**Pn**	**12 29 38.6**	**+2.2**
	73nm,0.9s						
BAKI	**Biak**	**7.52**	**41**	P	**Pn**	**12 29 39.2**	**+1.5**
	0.2nm51nm,0.6s						
BATI	**Baumata**	**8.14**	**246**	Pn	**Pn**	**12 29 46.5**	**+0.4**
	21nm,0.3s,baz=124,slow=5.5,SNR=8.5						
BATI				Sn	**Sn**	**12 31 13.8**	**-2.7**
	33nm,0.3s,baz=84,slow=18,SNR=7.5						
	54nm,0.4s						
BATI	**Baumata**	**8.14**	**246**	P	**Pn**	**12 29 47.4**	**+1.3**
	1µm65nm,0.7s						
SMPI	**Sarmi**	**8.95**	**57**	P	Pn	12 30 01.9	+4.8
	15nm,0.7s						
KNRA	**Kununurra**	**8.99**	**195**		**Pn**	**12 29 58.5**	**+0.8**
MMRI	**Maumere**	**9.05**	**259**	Pn	**Pn**	**12 29 56.0**	**-2.5**
MMRI	**Maumere**	**9.05**	**259**	P	**Pn**	**12 30 00.6**	**+2.1**
	36nm,0.7s						
EDFI	**Ende, Flores**	**9.61**	**259**	P	**Pn**	**12 30 08.0**	**+1.9**
	872nm13nm,0.7s						
TABU	**Tabubil**	**10.09**	**81**	P	**Pn**	**12 30 12.1**	**-0.5**
JAY	**Jayapura**	**10.43**	**65**	Pn	**Pn**	**12 30 17.3**	**0.0**
	0.7nm,0.3s,baz=203,slow=7.7,SNR=4.7						
JAY				Sn	**Sn**	**12 32 07.3**	**-5.0**
	1.3nm,0.3s,baz=294,slow=20,SNR=6.2						
JAY	**Jayapura**	**10.43**	**65**	P	**Pn**	**12 30 18.1**	**+0.8**
	8.9nm,0.9s						
WSI	**Waingapu**	**11.14**	**255**	P	**Pn**	**12 30 26.5**	**-0.4**
WBSI	**Waikabubak, Su**	**12.01**	**256**	P	**Pn**	**12 30 38.9**	**+0.4**
	43nm,0.7s						
FITZ	**Fitzroy Crossi**	**12.34**	**206**		**Pn**	**12 30 40.7**	**-2.1**
FITZ	**Fitzroy Crossi**	**12.34**	**206**	Pn	**Pn**	**12 30 40.9**	**-1.9**
	2.6nm,0.3s,baz=28,slow=13,SNR=118						
FITZ				Sn	Sn	12 32 48.7	-10
	7.4nm,0.3s,baz=253,slow=17,SNR=11						
	10nm,0.3s						
FITZ	**Fitzroy Crossi**	**12.34**	**206**	P	**Pn**	**12 30 44.2**	**+1.4**
WB0	**Warramunga Arr**	**13.10**	**167**		**Pn**	**12 30 50.4**	**-2.5**
TOLI2	**Tolitoli**	**13.14**	**307**	P	**Pn**	**12 30 55.0**	**+1.5**
WRAB	**Tennant Creek**	**13.25**	**167**		**Pn**	**12 30 52.9**	**-2.0**
WRA	**Warramunga Arr**	**13.26**	**167**		**Pn**	**12 30 51.7**	**-3.3**
WRA	**Warramunga Arr**	**13.26**	**167**	Pn	**Pn**	**12 30 52.2**	**-2.8**
	1.0nm,0.3s,baz=345,slow=13,SNR=50						
WRA				Sn	Sn	12 33 09.7	-11
	4.8nm,0.3s,baz=345,slow=23,SNR=9.5						
	2.3nm,0.6s						
WB2	**Warramunga Arr**	**13.26**	**167**	Pn	**Pn**	**12 30 52.5**	**-2.5**
WR8	**Warramunga Arr**	**13.31**	**166**		**Pn**	**12 30 54.5**	**-1.1**
WR0	**Warramunga Arr**	**13.32**	**166**	Pn	**Pn**	**12 30 54.5**	**-1.3**
MPSI	**Mapaga**	**13.42**	**302**	P	**Pn**	**12 30 59.6**	**+2.5**
PLAI	**Plampang**	**13.45**	**261**	P	**Pn**	**12 30 57.6**	**+0.1**
PLAI	**Plampang**	**13.45**	**261**	P	**Pn**	**12 30 57.7**	**+0.2**
	22nm,0.8s						
COEN	**Coen**	**13.65**	**122**	Pn	**Pn**	**12 30 59.9**	**-0.2**
COEN	**Coen**	**13.65**	**122**	P	**Pn**	**12 30 59.6**	**-0.6**
QIS	**Mount Isa**	**15.77**	**150**	P	**Pn**	**12 31 27.5**	**+0.3**
AS31	**Alice Springs**	**16.81**	**171**		**Pn**	**12 31 39.1**	**-0.9**
ASAR	**Alice Springs**	**16.81**	**171**		**P**	**12 31 40.9**	**+0.4**
ASAR	**Alice Springs**	**16.81**	**171**	Pn	**Pn**	**12 31 39.6**	**-0.4**
	0.7nm,0.3s,baz=353,slow=14,SNR=37						
ASAR				Sn	Sn	12 34 34.9	-12
	1.2nm,0.3s,baz=356,slow=28,SNR=11						
	1.7nm,0.5s						
AS01	**Alice Springs**	**16.82**	**171**	P	**P**	**12 31 41.1**	**+0.5**
MTSU	**Mount Surprise**	**16.92**	**132**	P	**P**	**12 31 43.0**	**+1.2**
MBWA	**Marble Bar**	**17.97**	**217**	P	**P**	**12 31 51.2**	**-2.1**
MBWA				IAmb	IAmb	12 32 02.2	
	comp=Z,27nm,1.4s						
PSA00	**Pilbara Seismi**	**18.22**	**216**	P	**P**	**12 31 53.1**	**-2.8**
PSA00				IAmb	IAmb	12 32 21.1	
	comp=Z,18nm,1.4s						
CTAO	**Charters Tower**	**19.57**	**133**	P	**P**	**12 32 08.8**	**-2.0**
CTAO				IAmb	IAmb	12 32 31.8	
	comp=Z,13nm,1.4s						
KKM	**Kota Kinabalu**	**19.77**	**310**	P	**P**	**12 32 09.0**	**-4.1**
KKM				IAmb	IAmb	12 32 32.4	
	comp=Z,14nm,1.1s						
FORT	**Forrest**	**23.88**	**187**	P	**P**	**12 32 52.5**	**-2.6**
FORT				IAmb	IAmb	12 33 04.3	
	comp=Z,14nm,1.1s						
BBOO	**Buckleboo**	**26.11**	**171**	P	**P**	**12 33 13.1**	**-2.1**
STKA	**Stephens Creek**	**26.62**	**160**	P	**P**	**12 33 23.4**	**+3.6**
	comp=Z,0.7nm,0.4s,baz=333,slow=18,SNR=2.4						
	comp=Z,0.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**40.64**	**309**	P	**P**	**12 35 24.4**	**+3.2**
	comp=Z,0.7nm,0.4s,baz=128,slow=8.4,SNR=7.1						
	comp=Z,0.7nm,0.4s						
MJAR	**Matsushiro Arr**	**43.77**	**8**	P	**P**	**12 35 49.4**	**+3.1**
	comp=Z,1.4nm,0.9s,baz=180,slow=9.0,SNR=5.2						
	comp=Z,1.4nm,0.8s						
KSAR	**Wyndham Arr**	**44.28**	**356**	P	**P**	**12 35 47.0**	**-3.4**
USRK	**Ussuriysk Ar.**	**50.92**	**1**	LR	LR	13 00 05.7	
	comp=Z,31nm,19.1s,baz=68,slow=38						
PETK	**Petropavlovsk-**	**63.91**	**17**	P	**P**	**12 38 16.6**	**+3.9**
	comp=Z,2.5nm,0.6s,baz=225,slow=7.2,SNR=7.2						
	comp=Z,2.5nm,0.6s						
MKAR	**Makanchi Array**	**68.86**	**326**	P	**P**	**12 38 41.2**	**-3.3**
MKAR	**Makanchi Array**	**68.86**	**326**	P	P	12 38 49.6	+5.1
	comp=Z,1.1nm,0.4s,baz=128,slow=7.9,SNR=17						
	comp=Z,1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**72.09**	**333**	P	**P**	**12 39 08.0**	**+4.1**
	comp=Z,0.6nm,0.6s,baz=116,slow=6.6,SNR=1.8						
	comp=Z,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**73.11**	**328**	P	**P**	**12 39 14.8**	**+4.8**
	comp=Z,0.5nm,0.3s,baz=131,slow=5.5,SNR=1.1						
	comp=Z,0.5nm,0.3s						
QSPA	**South Pole Qui**	**83.02**	**180**	P	P	12 40 11.2	+6.5
	comp=Z,1.1nm,1.0s,baz=356,slow=18,SNR=3.2						
	comp=Z,1.1nm,1.0s						
ABKAR	**Akbulak array**	**83.23**	**321**	P	**P**	**12 40 02.6**	**-3.3**
ARTI	**Arti**	**86.39**	**328**	LR	LR	13 22 59.0	
	comp=Z,50nm,19.7s,baz=9.0,slow=38						
ILAR	**Eielson Array**	**92.79**	**25**	P	**P**	**12 40 55.3**	**+3.8**
	comp=Z,0.2nm,0.6s,baz=251,slow=5.0,SNR=5.3						
	comp=Z,0.2nm,0.6s						

*LJU **20** 12:30:24.3,46°.25N×14°.83E,h9km,ML2.9*

*VIE **20** 12:30:24.2±0.1,46°.25N×14°.83E,h9km,mb2.6/18, ml3.0/18,Error ellipse: s-maj=0.9km s-min=0.8km az=62.0*

33 km SE of Eisenkappel

*BGR **20** 12:30:26.8±0.6,46°.34N×14°.89E,h5km,ML2.8/10,Error ellipse: s-maj=5.6km s-min=5.6km az=169.0*

*PRU **20** 12:30:26.0,46°.29N×14°.86E,h1km*

ISC 20 12:30:24.6±0.8,46°.27N±0°.01×14°.82E±0°.01,h11km±6km, n89,σ1s19/158,6C-8D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDS	**Vrh nad Dolski**	**0.19**	**206**	*i*Pg	**Pg**	**12 30 28.6**	**-0.1**
VNDS				*i* Sg	**Sg**	**12 30 31.0**	**-0.4**
VNDS				IAML		12 30 31.5	
	comp=Z,1µm,0.1s						
ZAVS	**Zavodnje**	**0.22**	**40**	*i* Pg	**Pb**	**12 30 29.6**	**-1.1**
ZAVS				*i* Sg	**Sg**	**12 30 33.0**	**+0.6**
ZAVS				IAML		12 30 33.7	
	comp=Z,2µm,0.1s						
PDKS	**Podkum**	**0.24**	**149**	*i*Pg	**Pg**	**12 30 29.5**	**-0.1**
PDKS				*i* Sg	**Sg**	**12 30 32.7**	**-0.4**
PDKS				IAML		12 30 33.1	
	comp=Z,958nm,0.2s						
MOZS	**Mozjanca**	**0.26**	**276**	*i*Pg	**Pg**	**12 30 30.4**	**+0.4**
MOZS				*i* Sg	**Sg**	**12 30 34.3**	**+0.6**
MOZS				IAML		12 30 35.3	
	comp=Z,401nm,0.1s						
LJU	**Ljubljana**	**0.30**	**222**	*i* Pg	**Pg**	**12 30 30.8**	**0.0**
LJU				*i* Sg	**Sg**	**12 30 34.5**	**-0.3**
LJU				IAML		12 30 35.4	
	comp=Z,416nm,0.1s						
OBKA	**Obir**	**0.30**	**322**	*i* Pg	**Pg**	**12 30 31.5**	**+0.6**
	comp=Z,183nm,0.1s,SNR=421						
OBKA				*i* Sg	**Sg**	**12 30 35.8**	**+0.8**
	comp=Z,262nm,0.1s						
OBKA	**Obir**	**0.30**	**322**	*e*Pg	**Pg**	**12 30 31.5**	**+0.6**
OBKA				*e*Sg	**Sb**	**12 30 36.7**	**-0.6**
PERS	**Pernice**	**0.42**	**29**	*i*Pg	**Pb**	**12 30 33.2**	**-0.9**
PERS				*i* Sg	**Sg**	**12 30 38.5**	**-0.1**
PERS				IAML		12 30 39.5	
	comp=Z,924nm,0.1s						
GBAS	**Gorenja Brezov**	**0.42**	**218**	*i*Pg	**Pg**	**12 30 32.8**	**-0.2**
GBAS				*i* Sg	**Sg**	**12 30 37.9**	**-0.7**
GBAS				IAML		12 30 38.5	
	comp=Z,508nm,0.1s						
CRNS	**Crni Vrh**	**0.43**	**244**	*i*Pg	**Pg**	**12 30 33.2**	**+0.1**
CRNS				*i* Sg	**Sg**	**12 30 39.1**	**+0.2**
CRNS				IAML		12 30 40.0	
	comp=Z,794nm,0.1s						
SOKA	**Soboth**	**0.43**	**20**	*i* Pg	**Pb**	**12 30 33.5**	**-0.9**
	comp=Z,0.1nm,0.0s,SNR=208						
SOKA				*e*Sg	**Sg**	**12 30 39.1**	**+0.1**
	comp=Z,131nm,0.2s						
VISS	**Visnje**	**0.47**	**178**	*i* Pg	**Pg**	**12 30 33.2**	**-0.5**
VISS				*i* Sg	**Sg**	**12 30 39.1**	**-0.8**
VISS				IAML		12 30 41.5	
	comp=Z,156nm,0.1s						
DOBS	**Dobrina**	**0.47**	**105**	*i*Pg	**Pg**	**12 30 33.5**	**-0.3**
DOBS				*i* Sg	**Sg**	**12 30 39.6**	**-0.3**
DOBS				IAML		12 30 42.5	
	comp=Z,195nm,0.1s						
LEGS	**Legarje**	**0.47**	**133**	*i*Pg	**Pg**	**12 30 33.7**	**-0.2**
LEGS				*i* Sg	**Sg**	**12 30 39.6**	**-0.4**
GROS	**Grobnik**	**0.51**	**68**	*i* Pg	**Pg**	**12 30 34.5**	**-0.2**
GROS				*i* Sg	**Sg**	**12 30 40.8**	**-0.6**
GROS				IAML		12 30 42.2	
	comp=Z,217nm,0.1s						
CESS	**Cesta pri Krsk**	**0.54**	**123**	*i* Sg	**Sg**	**12 30 41.1**	**-1.0**
CESS				IAML		12 30 42.2	
	comp=Z,378nm,0.2s						
GORS	**Gorjuse**	**0.57**	**275**	*i*Pg	**Pg**	**12 30 35.6**	**-0.2**
GORS				*i* Sg	**Sg**	**12 30 43.5**	**+0.1**
GORS				IAML		12 30 45.8	
	comp=Z,368nm,0.2s						
CEY	**Cerknica**	**0.60**	**208**	*i*Pg	**Pg**	**12 30 35.8**	**-0.4**
CEY				IAML		12 30 45.8	
	comp=Z,292nm,0.1s						
GOLS	**Golise**	**0.62**	**114**	*i* Pg	**Pg**	**12 30 36.5**	**-0.1**
GOLS				*i* Sg	**Sg**	**12 30 44.2**	**-0.5**
GOLS				IAML		12 30 47.2	
	comp=Z,172nm,0.1s						
CRES	**Cresnjevec Ost**	**0.63**	**135**	*i*Pg	**Pg**	**12 30 36.2**	**-0.6**
CRES				IAML		12 30 45.6	
	comp=Z,179nm,0.2s						
JAVS	**Javornik**	**0.65**	**235**	*i*Pg	**Pg**	**12 30 36.6**	**-0.6**
JAVS				*i* Sg	**Sg**	**12 30 46.1**	**+0.5**
GCIS	**Gornji Cirnik**	**0.69**	**125**	*i* Pg	**Pg**	**12 30 37.6**	**-0.4**
GCIS				*i* Sg	**Sg**	**12 30 46.1**	**-0.9**
GCIS				IAML		12 30 51.9	
	comp=Z,285nm,0.2s						
VOJS	**Vojsko**	**0.69**	**250**	*i* Pg	**Pg**	**12 30 37.5**	**-0.6**
VOJS				*i* Sg	**Sg**	**12 30 47.1**	**0.0**
VOJS				IAML		12 30 54.3	
	comp=Z,129nm,0.1s						
GBRS	**Gornja Briga**	**0.74**	**181**	*i*Pg	**Pg**	**12 30 38.4**	**-0.5**
GBRS				IAML		12 30 54.1	
	comp=Z,65nm,0.1s						
CADS	**Cadrg**	**0.75**	**267**	*i*Pg	**Pg**	**12 30 38.7**	**-0.5**
CADS				*i* Sg	**Sg**	**12 30 49.8**	**+0.7**
CADS				IAML		12 30 53.9	
	comp=Z,293nm,0.1s						
OZLJ	**Ozalj**	**0.79**	**145**	*i* Pg	**Pg**	**12 30 39.4**	**-0.6**
KNDS	**Knezji Dol**	**0.80**	**203**	*i* Pg	**Pg**	**12 30 39.2**	**-0.9**
KNDS				*i* Sg	**Sg**	**12 30 50.3**	**-0.3**
KNDS				IAML		12 30 52.2	
	comp=Z,269nm,0.2s						
BOJS	**Bojanci**	**0.82**	**158**	*i* Pg	**Pg**	**12 30 39.8**	**-0.7**
BOJS				*i* Sg	**Sb**	**12 30 51.7**	**-0.3**
BOJS				IAML		12 30 54.8	
	comp=Z,89nm,0.2s						
LOBO	**Lobor**	**0.87**	**97**	*e*Pg	**Pg**	**12 30 41.1**	**-0.4**
LOBO				Sg	**Sg**	**12 30 52.5**	**-0.4**
PTJ	**Puntijarka**	**0.88**	**114**	*i* Pg	**Pb**	**12 30 41.7**	**-0.2**
PTJ				Sg	**Sb**	**12 30 53.1**	**-0.6**
MYKA	**Terra Mystica**	**0.89**	**294**	*i* Pg	**Pg**	**12 30 41.5**	**-0.3**
	comp=Z,6.6nm,0.1s,SNR=67						
MYKA				*i* Sg	**Sb**	**12 30 54.5**	**+0.3**
	comp=Z,72nm,0.3s						
ROBS	**Robic**	**0.91**	**269**	*i* Pg	**Pg**	**12 30 41.2**	**-0.9**
ROBS				*i* Sg	**Sg**	**12 30 54.5**	**+0.5**
ROBS				IAML		12 30 59.0	
	comp=Z,173nm,0.2s						
SKDS	**Skadanscina**	**0.92**	**218**	*i* Pg	**Pg**	**12 30 41.1**	**-1.1**
SKDS				*i* Sg	**Sg**	**12 30 53.7**	**-0.5**
SKDS				IAML		12 30 55.1	
	comp=Z,220nm,0.1s						
ZAG	**Zagreb**	**0.93**	**118**	*i* Pg	**Pb**	**12 30 42.8**	**+0.1**
ZAG				Sg	**Sb**	**12 30 54.9**	**-0.1**
RIY	**Rijeka**	**0.97**	**194**	*i* Pg	**Pg**	**12 30 42.7**	**-0.7**
RIY				Sg	**Sg**	**12 30 55.1**	**-0.9**
KOGS	**Kog**	**1.01**	**79**	*i* Pg	**Pg**	**12 30 43.6**	**-0

WET	**Wettzell**	**3.16**	**336**	*e*Pn		**Pn**	**12 31 16.0**	**+1.6**
WET				*e*Sg		**Sg**	**12 32 06.7**	**+0.6**
RICI	**Ricice**	**3.22**	**149**	*i* Pn		**Pn**	**12 31 16.7**	**+1.5**
JAVC	**Velka Javorina**	**3.23**	**36**	*e*PN		**Pn**	**12 31 16.8**	**+1.5**
JAVC				*e*SN		**Sn**	**12 31 56.4**	**+2.6**
VRAC	**Vranov**	**3.27**	**21**	*e*PN		**Pn**	**12 31 17.0**	**+1.2**
VRAC				*e*SN		**Sn**	**12 31 57.8**	**+3.1**
MAKA	**Makarska**	**3.37**	**152**	*e*Pn		**Pn**	**12 31 18.8**	**+1.6**
VYHS	**Vyhne**	**3.52**	**49**	*e*PN		**Pn**	**12 31 21.4**	**+2.1**
VYHS				*e*SG		**Sg**	**12 32 23.7**	**+6.0**
DAVA	**Damuels**	**3.54**	**288**	*i* Pn		**Pn**	**12 31 21.7**	**+2.0**
	comp=Z,1.8nm,0.1s,SNR=5.7							
DAVA				*e*Sn		**Sn**	**12 32 03.7**	**+2.0**
	comp=Z,10.0nm,0.5s							
DAVA	**Damuels**	**3.54**	**288**	*e*Pn		**Pn**	**12 31 22.0**	**+2.3**
PRU	**Pruhonice**	**3.73**	**357**	*e*SG		**Sg**	**12 32 24.2**	**-0.1**
	comp=Z,8.6nm,0.5s							
LSTV	**Lastovo**	**3.80**	**156**	*i* Pn		**Pn**	**12 31 23.7**	**+0.6**
PRA	**Prague**	**3.81**	**356**	*e*SG		**Sg**	**12 32 26.7**	**-0.3**
	comp=Z,16nm,0.5s							
ROTZ	**Rotzenmuhle**	**3.92**	**334**	*e*Pn		**Pn**	**12 31 25.5**	**+0.8**
ROTZ				*e*Sg		**Sg**	**12 32 29.8**	**-0.5**
MORC	**Moravsky Berou**	**3.96**	**26**	*e*PN		**Pn**	**12 31 26.0**	**+0.7**
MORC				*e*SN		**Sn**	**12 32 13.1**	**+1.4**
MANZ	**Manzenberg**	**4.14**	**335**	*e*Pn		**Pn**	**12 31 28.7**	**+0.9**
DPC	**Dobruska-Polom**	**4.21**	**13**	*e*SG		**Sg**	**12 32 39.3**	**-0.3**
	comp=Z,6.9nm,0.9s							
BRG	**Berggiesshubel**	**4.64**	**353**	Pg		**Pg**	**12 31 53.8**	**+0.2**
BRG				Sg		**Sg**	**12 32 52.5**	**-1.2**
BRG				Amp			12 33 04.8	
	comp=Z,5.7nm,0.5s							
MOX	**Moxa**	**4.87**	**335**	*e*Pn		**Pn**	**12 31 38.7**	**+0.9**
MOX				*e*Sg		**Sg**	**12 32 59.7**	**-1.2**
BFO	**Black Forest**	**4.87**	**297**	*e*Pn		**Pn**	**12 31 38.9**	**+1.0**
CLL	**Collm**	**5.18**	**347**	*i* Pn		**Pn**	**12 31 43.0**	**+0.9**
CLL				*i* x		x	12 31 44.2	
CLL				*e*Pg		**Pg**	**12 32 03.0**	**-0.9**
CLL				*e*Sn		**Sn**	**12 32 41.0**	**-0.9**
CLL				*i* Sg		**Sg**	**12 33 07.8**	**-3.2**
	comp=Z,20nm,1.4s							

IDC ***20*** *12:34:20.5±1.2,34°.83S×179°.83W, h0km, mb3.9/4, mbtmp4.0/5, ML4.4/1, Error ellipse: s-maj=37.8km s-min=24.6km az=63.0*

WEL ***20*** *12:34:27.5±0.9,35°.5S±5°×18°.0E±°, h12km, M4.1/19, ML4.3/23, MLv4.1/19, Error ellipse: s-maj=10.1km s-min=6.2km az=92.1, confirmed*

ISC 20 12:34:24.8±1.0, 35°.21S±0°.07×179°.91W±0°.09, h10km, n77, σ1§**51**/83**, mb3.9/5, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.76**	**211**	P	**Pn**	**12 35 10.1**	**+1.0**
MXZ				S	**Sn**	**12 35 42.7**	**+0.4**
WMGZ	**Waiomatatini S**	**2.94**	**207**	P	**Pn**	**12 35 13.2**	**+1.7**
WMGZ				S	**Sn**	**12 35 47.2**	**+0.4**
PKGZ	**Pakihiroa**	**3.11**	**211**	P	**Pn**	**12 35 15.4**	**+1.5**
PKGZ				S	**Sn**	**12 35 52.2**	**+1.1**
HAZ	**Te Kaha**	**3.15**	**216**	P	**Pn**	**12 35 15.3**	**+0.8**
PUZ	**Puketiti**	**3.22**	**207**	P	**Pn**	**12 35 16.3**	**+0.9**
PUZ				S	**Sn**	**12 35 54.7**	**+1.0**
TWGZ	**Tauwhareparae**	**3.42**	**209**	P	**Pn**	**12 35 19.3**	**+1.1**
TWGZ				S	**Sn**	**12 36 01.1**	**+2.4**
CNGZ	**Carnagh Statio**	**3.60**	**204**	P	**Pn**	**12 35 21.6**	**+0.9**
TKGZ	**Te Karaka**	**3.69**	**209**	P	**Pn**	**12 35 23.4**	**+1.5**
TKGZ				S	**Sn**	**12 36 05.8**	**+0.3**
MWZ	**Matawai**	**3.74**	**213**	P	**Pn**	**12 35 23.2**	**+0.6**
MWZ				S	**Sn**	**12 36 06.8**	**+0.1**
KUZ	**Kuaotunu**	**3.86**	**245**	P	**Pn**	**12 35 24.5**	**+0.3**
KUZ				S	**Sn**	**12 36 08.4**	**-1.3**
URZ	**Urewera**	**3.88**	**217**	Pn	**Pn**	**12 35 25.1**	**+0.7**
	21nm,0.3s,baz=35,slow=4.4,SNR=54						
URZ				Sn	**Sn**	**12 36 06.6**	**-3.4**
	8.6nm,0.3s,baz=111,slow=23,SNR=7.2						
	35nm,0.3s						
URZ	**Urewera**	**3.88**	**217**	P	**Pn**	**12 35 25.0**	**+0.7**
URZ				S	**Sn**	**12 36 09.7**	**-0.2**
OPRZ	**Ohinepanea**	**3.88**	**226**	P	**Pn**	**12 35 25.6**	**+1.2**
OPRZ				S	**Sn**	**12 36 10.1**	**0.0**
MARZ	**Manawahe**	**3.91**	**224**	P	**Pn**	**12 35 26.0**	**+1.2**
GRZ	**Great Barrier**	**3.91**	**253**	P	**Pn**	**12 35 25.2**	**+0.3**
RIGZ	**Rimuhau**	**3.96**	**207**	P	**Pn**	**12 35 26.3**	**+0.7**
RIGZ				S	**Sn**	**12 36 12.1**	**0.0**
TGRZ	**Tauranga**	**3.98**	**230**	P	**Pn**	**12 35 26.8**	**+0.9**
PRGZ	**Paritu Road**	**4.11**	**205**	P	**Pn**	**12 35 27.7**	**+0.1**
PRGZ				S	**Sn**	**12 36 14.6**	**-1.2**
OMRZ	**Omania**	**4.16**	**225**	P	**Pn**	**12 35 30.0**	**+1.7**
KARZ	**Kaharoa**	**4.18**	**227**	P	**Pn**	**12 35 30.2**	**+1.6**
SNGZ	**Shannon Statio**	**4.19**	**211**	P	**Pn**	**12 35 29.7**	**+0.9**
MUGZ	**Murupara**	**4.21**	**218**	P	**Pn**	**12 35 30.0**	**+1.0**
RTZ	**Ruatahuna**	**4.22**	**215**	P	**Pn**	**12 35 30.5**	**+1.3**
RRRZ	**Republican Roa**	**4.25**	**222**	P	**Pn**	**12 35 30.5**	**+0.9**
KMRZ	**Kaimai**	**4.25**	**231**	P	**Pn**	**12 35 30.2**	**+0.5**
NGRZ	**Ngongotaha**	**4.27**	**226**	P	**Pn**	**12 35 32.2**	**+2.3**
KNZ	**Kokohu**	**4.27**	**206**	P	**Pn**	**12 35 28.9**	**-0.9**
MHGZ	**Mahia Peninsul**	**4.31**	**203**	P	**Pn**	**12 35 29.8**	**-0.5**
WIAZ	**Waiheke Island**	**4.32**	**247**	P	**Pn**	**12 35 31.5**	**+0.9**
RAHZ	**Arahi**	**4.41**	**212**	P	**Pn**	**12 35 32.6**	**+0.7**
MKAZ	**Moumakai**	**4.42**	**243**	P	**Pn**	**12 35 32.9**	**+1.1**
PRRZ	**Plateau Road**	**4.43**	**221**	P	**Pn**	**12 35 32.5**	**+0.5**
MTHZ	**Maungataniwha**	**4.47**	**215**	P	**Pn**	**12 35 33.9**	**+1.3**
TOZ	**Tahuroa Road**	**4.48**	**234**	P	**Pn**	**12 35 33.7**	**+1.1**
WHHZ	**Waihua**	**4.49**	**210**	P	**Pn**	**12 35 33.7**	**+0.9**
MBAZ	**Motutapu North**	**4.49**	**248**	P	**Pn**	**12 35 34.4**	**+1.5**
ALRZ	**Allen Road**	**4.50**	**221**	P	**Pn**	**12 35 33.8**	**+0.8**
ETAZ	**East Tamaki Re**	**4.53**	**246**	P	**Pn**	**12 35 35.2**	**+1.8**
MRHZ	**Matea Rd**	**4.66**	**218**	P	**Pn**	**12 35 35.4**	**+0.1**
NMHZ	**Naumai**	**4.69**	**213**	P	**Pn**	**12 35 36.4**	**+0.8**
RVAZ	**Riverhead Bore**	**4.74**	**249**	P	**Pn**	**12 35 38.1**	**+1.8**
KUTZ	**Kaahu Road**	**4.74**	**225**	P	**Pn**	**12 35 38.5**	**+2.2**
ARHZ	**Aropaoanui**	**4.74**	**210**	P	**Pn**	**12 35 36.2**	**-0.1**
ARHZ				S	**Sn**	**12 36 31.2**	**-0.1**
WCZ	**Waipu Caves**	**4.74**	**259**	P	**Pn**	**12 35 36.8**	**+0.5**
AWAZ	**Awhitu Peninsu**	**4.78**	**246**	P	**Pn**	**12 35 39.0**	**+2.1**
TLZ	**Tolley Road**	**4.80**	**228**	P	**Pn**	**12 35 38.5**	**+1.3**
BKZ	**Black Stump Fm**	**4.89**	**215**	P	**Pn**	**12 35 38.4**	**+0.1**
MCHZ	**McNeill Hill**	**5.02**	**212**	P	**Pn**	**12 35 40.0**	**-0.1**
RATZ	**Rangitukua**	**5.03**	**222**	P	**Pn**	**12 35 41.0**	**+0.7**
RITZ	**Rihia Road**	**5.06**	**221**	P	**Pn**	**12 35 41.3**	**+0.6**
KWHZ	**Kaweka Forest**	**5.12**	**214**	P	**Pn**	**12 35 41.1**	**-0.5**
KAHZ	**Kahuranaki**	**5.24**	**208**	P	**Pn**	**12 35 41.9**	**-1.3**
TMVZ	**Te Maari**	**5.24**	**221**	P	**Pn**	**12 35 43.5**	**+0.2**
NNVZ	**North Ngauruho**	**5.30**	**221**	P	**Pn**	**12 35 46.1**	**+1.9**
OUZ	**Omahuta**	**5.32**	**268**	P	**Pn**	**12 35 44.2**	**0.0**
MOVZ	**Moawhango**	**5.43**	**218**	P	**Pn**	**12 35 45.6**	**-0.3**
PNHZ	**Pukenui**	**5.62**	**212**	P	**Pn**	**12 35 46.7**	**-1.8**
PRHZ	**Porangahau**	**5.75**	**207**	P	**Pn**	**12 35 48.8**	**-1.3**
VRZ	**Vera Road**	**5.78**	**226**	P	**Pn**	**12 35 51.7**	**+1.1**
WAZ	**Wanganui**	**6.09**	**220**	P	**Pn**	**12 35 54.9**	**0.0**
BFZ	**Birch Farm**	**6.25**	**208**	P	Pn	12 35 53.1	-4.0
HNR	**Honiara**	**31.57**	**320**	P	P	12 40 42.2	-5.4
	50nm,0.6s,baz=180,slow=10,SNR=2.1						
ASAR	**Alice Springs**	**41.51**	**273**	P	**P**	**12 42 09.7**	**-2.6**
	1.3nm,0.5s,baz=116,slow=8.4,SNR=17						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**42.94**	**278**	P	**P**	**12 42 21.7**	**-2.3**
	1.8nm,0.5s,baz=120,slow=8.0,SNR=17						
	1.8nm,0.5s						
QSPA	**South Pole Qui**	**54.91**	**180**	P	**P**	**12 43 56.5**	**+1.0**
	0.4nm,0.5s,baz=41,slow=20,SNR=6.2						
	0.4nm,0.5s						
SNAA	**Sanae**	**73.40**	**179**	P	**P**	**12 45 55.2**	**-1.4**
	0.9nm,1.0s,baz=187,slow=17,SNR=2.4						
	0.9nm,1.0s						
H03S2	**Juan Fernandez**	**79.15**	**124**	T	T	14 14 45.1	
	baz=232						
H03S1	**Juan Fernandez**	**79.16**	**124**	T	T	14 14 41.1	
	baz=232						
H03S3	**Juan Fernandez**	**79.16**	**124**	T	T	14 14 33.5	
	baz=232						
H03N3	**Juan Fernandez**	**79.37**	**123**	T	T	14 14 45.2	
	baz=237,slow=72,SNR=10						
H03N2	**Juan Fernandez**	**79.37**	**123**	T	T	14 14 45.0	
	baz=237,slow=72,SNR=6.5						
H03N1	**Juan Fernandez**	**79.38**	**123**	T	T	14 14 48.5	
	baz=237,slow=72,SNR=10						
KURBB	**Kurchatov Arra**	**123.16**	**312**	PKP	**PKPdf**	**12 53 16.9**	**-4.2**
	0.4nm,0.7s,baz=83,slow=1.7,SNR=2.5						
FINES	**FINESS Array B**	**148.99**	**336**	PKPbc	**PKPdf**	**12 54 08.5**	**+0.4**
	0.7nm,0.5s,baz=50,slow=4.3,SNR=9.8						
BRTR	**Keskin Array B**	**153.09**	**290**	PKPbc	**PKPdf**	**12 54 20.1**	**+4.8**
	0.3nm,0.4s,baz=90,slow=1.6,SNR=1.9						
AKASG	**Malin Array Be**	**153.87**	**315**	PKPbc	**PKPdf**	**12 54 21.0**	**+5.1**
	0.3nm,0.3s,baz=48,slow=1.4,SNR=1.4						
TORD	**Torodi Ar. Bea**	**157.99**	**184**	PKPab	**PKPab**	**12 54 53.8**	**-1.6**
	0.6nm,0.3s,baz=154,slow=2.1,SNR=2.9						

NEIC ***20*** *12:51:08.9±0.7, 19°.68N±0°.03×154°.84W±0°.04, h49km±3km, Error ellipse: s-maj=6.2km s-min=4.0km az=98.0*

HVO 20 12:51:10.8±0.9, 19°.7N±0°.1×154°.84W±0°.07, h39km±8km, ML2.5/24**, ML2.6**/32(NEIC)**, Error ellipse: s-maj=18.8km s-min=9.7km az=175.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.29**	**212**		Pn	12 51 17.9	-1.2
JOKA					Sn	12 51 23.1	-2.3
JOKA				IAML		12 51 23.7	
	comp=N,570nm,0.9s						
NPOC	**North of Pu'u**	**0.38**	**222**		Pn	12 51 18.8	-1.0
NPOC					Sn	12 51 24.7	-1.8
JCUZ	**Jacuzzi**	**0.38**	**220**		Pn	12 51 18.9	-1.0
JCUZ					Sn	12 51 24.9	-1.6
STCH	**Steam Cracks**	**0.39**	**223**		Pn	12 51 19.0	-1.1
STCH					Sn	12 51 25.1	-1.7
STCH				IAML		12 51 25.7	
	comp=N,558nm,0.1s						
KNHH	**Kane Nui o Ham**	**0.43**	**226**		Pn	12 51 19.5	-1.0
RSD	**Rainshed**	**0.46**	**243**		Pn	12 51 27.0	+6.0
PUH	**Pauahi**	**0.46**	**229**		Pn	12 51 19.9	-1.2
PUH					Sn	12 51 26.4	-1.9
PUH				IAML		12 51 39.0	
	comp=N,276nm,2.1s						
HATHI	**Halema'uma'u T**	**0.47**	**237**		Pn	12 51 19.8	-1.3
HATHI					Sn	12 51 26.6	-1.8
SBLHI	**Steaming Bluff**	**0.47**	**238**		Pn	12 51 19.7	-1.5
SBLHI					Sn	12 51 26.5	-2.0
BYL	**Byron's Ledge**	**0.47**	**236**		Pn	12 51 19.8	-1.4
BYL					Sn	12 51 26.6	-1.9
BYL				IAML		12 51 26.8	
	comp=E,299nm,0.2s						
UWB	**Uwekahuna Bluf**	**0.48**	**239**		Pn	12 51 19.8	-1.5
UWB					Sn	12 51 26.7	-2.1
KKO	**Keanakako'i**	**0.49**	**235**		Pn	12 51 20.0	-1.4
KKO					Sn	12 51 26.7	-2.1
OBL	**Observatory Le**	**0.49**	**238**		Pn	12 51 20.0	-1.4
OBL					Sn	12 51 26.9	-2.0
RIM	**Rim**	**0.49**	**235**		Pn	12 51 20.1	-1.4
RIM					Sn	12 51 27.1	-1.9
UWE	**Uwekahuna**	**0.49**	**239**		Pn	12 51 20.1	-1.4
UWE					Sn	12 51 27.3	-1.7
WRMHI	**West Rim**	**0.51**	**238**		Pn	12 51 20.1	-1.6
WRMHI					Sn	12 51 27.3	-2.0
SDHHI	**Sand Hill**	**0.51**	**236**		Pn	12 51 20.3	-1.5
SDHHI					Sn	12 51 27.2	-2.2
MLH	**Mauna Loa**	**0.54**	**250**		Pn	12 51 20.9	-1.4
MLH				IAML		12 51 28.5	
	comp=E,297nm,0.2s						
MLH					Sn	12 51 28.6	-1.8
HLP	**Hilina Pali**	**0.58**	**229**		Pn	12 51 21.3	-1.4
HLP				IAML		12 51 31.2	
	comp=E,315nm,1.4s						
HMH	**Humu'ula Sheep**	**0.61**	**263**		Pn	12 51 21.9	-1.3
HMH				IAML		12 51 30.7	
	comp=N,337nm,0.1s						
HMH				IAML		12 51 32.8	
	comp=E,256nm,0.1s						
POHA	**Pohakuloa**	**0.65**	**277**		Pn	12 51 22.0	-1.8
POHA					Sn	12 51 30.3	-2.8
AIN	**Ainahou**	**0.66**	**242**		Pn	12 51 22.4	-1.4
AIN				IAML		12 51 31.4	
	comp=E,380nm,0.3s						
AIN				IAML		12 51 31.6	
	comp=N,353nm,0.2s						
HTC	**Hot Caves**	**0.68**	**230**		Pn	12 51 22.6	-1.4
MWH	**Mokuaweoweo**	**0.74**	**255**		Pn	12 51 23.3	-1.8
MWH				IAML		12 51 37.5	
	comp=N,298nm,2.2s						
ALEP	**Alea Permanent**	**0.77**	**260**		Pn	12 51 23.8	-1.7
ALEP					Sn	12 51 33.2	-2.7
KHU	**Kahuku**	**0.84**	**240**		Pn	12 51 24.5	-1.9
KHU					Sn	12 51 34.8	-3.0
CPH	**Captain Cook**	**1.03**	**260**		Pn	12 51 26.7	-2.0

IDC ***20*** *12:54:21.7±0.8, 67°.15N×20°.88E, h0km, mbtmp3.3/6, ML2.8/5, Error ellipse: s-maj=13.1km s-min=6.7km az=110.0*

BER ***20*** *12:54:21.6±2.1, 66°.93N×21°.03E, h0km, ML2.8, Suspected explosion*

UPP ***20*** *12:54:21.3±0.0, 67°.19N×20°.64E, h0km, ML3.1, Confirmed Induced event*

DNK ***20*** *12:54:21.6±0.4, 67°.18N×20°.65E, h0km, ML3.1(UPP), Suspected explosion*

HEL ***20*** *12:54:21.5, 67°.21N×20°.61E, h0km, ML2.3, ML3.1(UPP), Confirmed Induced event Hypocentre not reviewed by the ISC*

ISC 20 12:54:20.4±0.7, 67°.18N±0°.02×20°.66E±0°.02, h0km, n42, σ1§**12**/63**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**210**	P	**Pg**	**12 54 23.0**	**+1.2**
	baz=26						
DUNU				S	**Sg**	**12 54 24.1**	**+1.4**
DUNU	**Dundret**	**0.07**	**210**	P	**Pg**	**12 54 23.0**	**+1.2**
	baz=26						
DUNU				S	**Sg**	**12 54 24.1**	**+1.4**
DUNU	**Dundret**	**0.07**	**210**	*i* P		12 54 23.0	
DUNU				*i* S		12 54 24.1	
MASU	**Masugnsbyn**	**0.59**	**62**	P	**Pg**	**12 54 32.7**	**+1.0**
MASU				S	**Sg**	**12 54 40.5**	**+1.2**
MASU	**Masugnsbyn**	**0.59**	**62**	P	**Pg**	**12 54 32.7**	**+1.0**
MASU				S	**Sg**	**12 54 40.5**	**+1.2**
MASU	**Masugnsbyn**	**0.59**	**62**	*i* P		12 54 32.7	
MASU				*i* S		12 54 40.5	
RATU	**Laukkuluspa**	**0.76**	**328**	P	**Pg**	**12 54 35.7**	**+0.4**
RATU				S	**Sg**	**12 54 45.9**	**+1.0**
RATU	**Laukkuluspa**	**0.76**	**328**	P	**Pg**	**12 54 35.4**	**+0.4**
RATU				S	**Sg**	**12 54 45.9**	**+1.0**
RATU	**Laukkuluspa**	**0.76**	**328**	*i* P		12 54 35.4	
RATU				*i* S		12 54 45.9	
KUA	**Kurravaara**	**0.78**	**351**	P	**Pg**	**12 54 35.8**	**+0.3**
KUA				S	**Sg**	**12 54 46.6**	**+1.0**
KUA	**Kurravaara**	**0.78**	**351**	P	**Pg**	**12 54 35.8**	**+0.3**
KUA				S	**Sg**	**12 54 46.6**	**+1.0**
KUA	**Kurravaara**	**0.78**	**351**	*i* P		12 54 35.8	
KUA				*i* S		12 54 46.6	
SALU	**Saltoluokta**	**0.86**	**284**	P	**Pg**	**12 54 37.3**	**+0.5**
SALU				S	**Sg**	**12 54 48.9**	**+0.9**
SALU	**Saltoluokta**	**0.86**	**284**	P	**Pg**	**12 54 37.3**	**+0.5**
SALU				S	**Sg**	**12 54 48.9**	**+0.9**
SALU	**Saltoluokta**	**0.86**	**284**	*i* P		12 54 37.3	
SALU				*i* S		12 54 48.9	
ERTU	**Ertsjaerv**	**0.88**	**136**	P	**Pg**	**12 54 37.4**	**+0.3**
ERTU				S	**Sg**	**12 54 49.2**	**+0.8**
ERTU	**Ertsjaerv**	**0.88**	**136**	P	**Pg**	**12 54 37.4**	**+0.3**
ERTU				S	**Sg**	**12 54 49.2**	**+0.8**
ERTU	**Ertsjaerv**	**0.88**	**136**	*e*P		12 54 37.4	
ERTU				*e*S		12 54 49.0	
NIKU	**Nikkaluokta**	**0.93**	**318**	P	**Pg**	**12 54 38.5**	**+0.3**
NIKU	**Nikkaluokta**	**0.93**	**318**	P	**Pg**	**12 54 38.5**	**+0.3**
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P		12 54 38.5	
PAJU	**Pajala**	**0.97**	**98**	P	**Pg**	**12 54 39.4**	**+0.4**
PAJU	**Pajala**	**0.97**	**98**	P	**Pg**	**12 54 39.4**	**+0.4**
PAJU	**Pajala**	**0.97**	**98**	*e*P		12 54 39.4	
PAJU				*e*SB		12 54 53.0	
LANU	**Lannavaara**	**1.01**	**30**	P	**Pg**	**12 54 39.9**	**+0.2**
LANU	**Lannavaara**	**1.01**	**30**	P	**Pg**	**12 54 39.9**	**+0.2**
LANU	**Lannavaara**	**1.01**	**30**	*e*P		12 54 39.9	
LANU				*e*S		12 54 53.2	
HARU	**Harads**	**1.03**	**173**	P	**Pg**	**12 54 40.2**	**+0.1**
HARU				S	**Sg**	**12 54 54.5**	**+1.0**
HARU	**Harads**	**1.03**	**173**	P	**Pg**	**12 54 40.2**	**+0.1**
HARU				S	**Sg**	**12 54 54.5**	**+1.0**
HARU	**Harads**	**1.03**	**173**	*e*P		12 54 40.2	
HARU				*e*S		12 54 54.5	
KOVU	**Salmi**	**1.06**	**350**	P	**Pg**	**12 54 40.8**	**0.0**
KOVU	**Salmi**	**1.06**	**350**	P	**Pg**	**12 54 40.8**	**0.0**
KOVU	**Salmi**	**1.06**	**350**	*e*P		12 54 40.8	
KLF	**Kolari**	**1.29**	**86**	*e*P		12 54 45.0	
KLF				*e*SB		12 55 02.3	
KLF				MSG		12 55 06.9	
	comp=Z,19nm,0.1s						
HEF	**Hetta**	**1.68**	**41**	*e*P		12 54 51.5	
HEF				*e*SG		12 55 13.6	
HEF				MSG		12 55 17.1	
	comp=Z,34nm,0.2s						
KALU	**Kalix**	**1.71**	**140**	P	**Pn**	**12 54 52.3**	**+0.9**
KALU	**Kalix**	**1.71**	**140**	P	**Pn**	**12 54 52.3**	**+0.9**
KALU	**Kalix**	**1.71**	**140**	*e*P		12 54 52.3	
SJUU	**Sjulsmark**	**1.73**	**167**	P	**Pn**	**12 54 52.5**	**+0.9**
SJUU	**Sjulsmark**	**1.73**	**167**	P	**Pn**	**12 54 52.5**	**+0.9**
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P		12 54 52.5	
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P		12 54 54.7	
TOF	**Tornio**	**1.83**	**125**	*e*PN		12 54 54.5	
TOF				*e*SN		12 55 19.1	
KTK1	**Kautokeino**	**2.08**	**27**	*e*P	**Pb**	**12 54 58.3**	**-0.6**
KTK1				*e*S	**Sb**	**12 55 25.1**	**-0.1**
KTK1				IAML		12 55 27.9	
	comp=Z,137nm,0.4s						
KTK1	**Kautokeino**	**2.08**	**27**	*e*PB		12 54 58.4	
KTK1				*e*SB		12 55 24.7	
FAUS	**Fauske**	**2.10**	**278**	*e*P	**Pn**	**12 54 58.5**	**+1.8**
FAUS				*e*S	**Sb**	**12 55 26.4**	**+0.6**
FAUS				IAML		12 55 28.7	
	comp=Z,88nm,0.3s						
FAUS	**Fauske**	**2.10**	**278**	*e*P		12 54 58.5	
FAUS				*e*S		12 55 26.4	
FAUS				IAML		12 55 28.7	
	comp=Z,88nm,0.3s						
RNF	**Rovaniemi**	**2.19**	**103**	*e*PB		12 54 59.8	
RNF				*e*SG		12 55 29.2	
RNF				MSG		12 55 30.8	
	comp=Z,28nm,0.2s						
SGF	**Sodankyl**	**2.29**	**81**	*e*P		12 55 00.7	
SGF				*e*SB		12 55 31.1	
SGF				MSG		12 55 33.5	
	comp=Z,27nm,0.2s						
JETT	**Jettan, Norway**	**2.39**	**358**	*e*P	**Pb**	**12 55 03.5**	**-0.8**
JETT				*e*S	**Sg**	**12 55 35.8**	**-1.2**
JETT				IAML		12 55 36.9	
	comp=Z,115nm,0.3s						
JETT	**Jettan, Norway**	**2.39**	**358**	*e*PB		12 55 03.5	
JETT				*e*SG		12 55 35.8	
JETT				IAML		12 55 36.9	
	comp=Z,115nm,0.3s						
TRO	**Tromso**	**2.54**	**346**	*e*P		12 55 04.9	
TRO				*e*SG		12 55 39.8	
RANF	**Ranua**	**2.71**	**113**	*e*P		12 55 06.5	
RANF				*e*SG		12 55 44.3	
LOF	**Lofoten**	**2.88**	**293**	*e*P	**Pn**	**12 55 07.8**	**+0.3**
LOF	**Lofoten**	**2.88**	**293**	*e*P		12 55 07.8	
ARA0	**ARCESS Array S**	**2.97**	**35**	*e*P		12 55 10.4	
ARA0				*e*S		12 55 45.4	
ARCES	**ARCESS Array B**	**2.97**	**35**	Pn	**Pn**	**12 55 09.6**	**+0.9**
	comp=Z,1.9nm,0.3s,baz=214,slow=13,SNR=36						
ARCES				Sn	**Sn**	**12 55 46.2**	**+1.3**
	comp=Z,2.4nm,0.3s,baz=218,slow=22,SNR=11						
	comp=Z,7.0nm,0.4s						
OBF4	**Vikkela, Lumij**	**2.99**	**141**	*e*PB		12 55 13.8	
OBF4				MSG		12 56 01.6	
	comp=Z,7.5nm,0.2s						
KONS	**Konsvik**	**3.06**	**260**	*e*P	**Pn**	**12 55 11.2**	**+1.2**
KONS	**Konsvik**	**3.06**	**260**	*e*P		12 55 11.2	
LEIR	**Leirfjorden**	**3.19**	**254**	*e*P	**Pn**	**12 55 13.5**	**+1.8**
LEIR	**Leirfjorden**	**3.19**	**254**	*e*P		12 55 13.5	
UMAU	**Umeaa**	**3.31**	**180**	*e*P		12 55 14.9	
UMAU				*e*S		12 55 54.1	
KEF	**Keuruu**	**5.35**	**158**	*e*P	**Pn**	**12 55 43.3**	**+1.9**
RAF	**Rauma**	**6.21**	**175**	*e*P	**Pn**	**12 55 54.5**	**+1.4**
JOF	**Joensuu**	**6.21**	**129**	*e*P	**Pn**	**12 55 54.3**	**+1.1**
FINES	**FINESS Array B**	**6.22**	**155**	Pn	**Pn**	**12 55 54.8**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=344,slow=11,SNR=14						
FINES				Sn	**Sn**	**12 57 03.2**	**-1.9**
	comp=Z,1.0nm,0.3s,baz=342,slow=22,SNR=7.8						
FINES				Lg	Lg	12 57 34

PPT2				eLR	LR	13 24 14.6	
	comp=Z,204nm,26.0s						
PPT2				eLR	LR	13 24 19.7	
	comp=Z,217nm,24.2s						
PPT	**Papeete**	**29.50**	**72**	LR	LR	13 27 48.3	
	comp=Z,112nm,18.6s,baz=268,slow=34						
TOO	**Toolangi**	**30.36**	**246**	P	**P**	**13 17 31.7**	**+1.0**
TOO				IAmb	IAmb	13 17 36.9	
	comp=Z,11nm,1.4s						
CTAO	**Charters Tower**	**32.95**	**279**	P	**P**	**13 17 54.1**	**+0.6**
CTAO				IAmb	IAmb	13 18 02.1	
	comp=Z,10nm,0.9s						
STKA	**Stephens Creek**	**33.77**	**257**	P	P	13 18 05.7	+5.0
STKA	**Stephens Creek**	**33.77**	**257**	P	P	13 18 06.5	+5.8
	comp=Z,4.6nm,0.8s,baz=85,slow=12,SNR=4.4						
STKA				LR	LR	13 29 06.9	
	comp=Z,182nm,21.2s,baz=86,slow=32						
BBOO	**Buckleboo**	**38.29**	**254**	P	**P**	**13 18 39.8**	**+0.5**
TAOE	**Nuku Hiva Isla**	**41.91**	**68**	eLR	LR	13 30 06.7	
	comp=Z,138nm,25.5s						
ASAR	**Alice Springs**	**42.33**	**267**	P	**P**	**13 19 13.4**	**+0.5**
ASAR	**Alice Springs**	**42.33**	**267**	P	**P**	**13 19 11.3**	**-1.6**
	comp=Z,0.6nm,0.9s,baz=104,slow=7.8,SNR=6.4						
ASAR				PcP	**PcP**	**13 21 05.9**	**-0.6**
	comp=Z,0.5nm,1.0s,baz=123,slow=4.5,SNR=1.3						
ASAR				LR	LR	13 36 05.6	
	comp=Z,432nm,18.2s,baz=156,slow=35						
	comp=Z,0.6nm,0.9s						
WR8	**Warramunga Arr**	**43.14**	**272**	P	**P**	**13 19 18.3**	**-1.2**
WRA	**Warramunga Arr**	**43.28**	**272**	P	**P**	**13 19 19.9**	**-0.8**
WRA	**Warramunga Arr**	**43.28**	**272**	P	**P**	**13 19 19.9**	**-0.8**
	comp=Z,1.9nm,1.1s,baz=111,slow=7.9,SNR=4.8						
WRA				PcP	**PcP**	**13 21 08.3**	**-1.4**
	comp=Z,1.2nm,0.9s,baz=112,slow=3.3,SNR=2.9						
WRA				LR	LR	13 36 23.3	
	comp=Z,431nm,18.1s,baz=44,slow=35						
	comp=Z,1.9nm,1.1s						
WB0	**Warramunga Arr**	**43.30**	**273**	P	**P**	**13 19 20.1**	**-0.7**
WB0				IAmb	IAmb	13 19 40.7	
	comp=Z,19nm,1.3s						
FORT	**Forrest**	**45.36**	**255**	P	**P**	**13 19 35.0**	**-2.2**
JAY	**Jayapura**	**47.02**	**298**	LR	LR	13 38 34.3	
	comp=Z,99nm,19.3s,baz=162,slow=35						
SBA	**Scott Base**	**48.32**	**184**	P	**P**	**13 19 59.1**	**-0.6**
MTN	**Manton Dam**	**49.13**	**279**	P	**P**	**13 20 06.0**	**-0.8**
KNRA	**Kununurra**	**49.88**	**275**	P	**P**	**13 20 11.1**	**-1.4**
KNRA				IAmb	IAmb	13 20 44.9	
	comp=Z,11nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.56**	**270**	P	**P**	**13 20 25.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**51.56**	**270**	LR	LR	13 40 34.8	
	comp=Z,152nm,21.4s,baz=123,slow=34						
GUMO	**Guam**	**55.67**	**316**	LR	LR	13 42 58.9	
	comp=Z,94nm,18.7s,baz=118,slow=34						
BATI	**Baumata**	**56.81**	**278**	LR	LR	13 44 59.5	
	comp=Z,711nm,18.9s,baz=132,slow=36						
QSPA	**South Pole Qui**	**60.06**	**180**	P	**P**	**13 21 26.1**	**+0.6**
QSPA	**South Pole Qui**	**60.06**	**180**	P	**P**	**13 21 26.1**	**+0.6**
	comp=Z,13nm,0.8s,baz=35,slow=1.2,SNR=35						
QSPA				LR	LR	13 45 04.8	
	comp=Z,96nm,18.2s,baz=46,slow=34						
	comp=Z,13nm,0.8s						
KAPI	**Kappang**	**62.76**	**281**	LR	LR	13 47 05.9	
	comp=Z,96nm,21.2s,baz=88,slow=34						
DAV	**Davao City (W)**	**64.75**	**295**	LR	LR	13 50 03.2	
	comp=Z,51nm,19.6s,baz=148,slow=36						
BELA	**Belgrano 2**	**70.23**	**172**	P	**P**	**13 22 31.6**	**+0.3**
BELA				IAmb	IAmb	13 22 47.8	
	comp=Z,7.7nm,1.3s						
MAW	**Mawson**	**72.35**	**201**	LR	LR	13 53 44.9	
	comp=Z,120nm,18.1s,baz=105,slow=35						
PMSA	**Palmer Station**	**72.91**	**156**	LR	LR	13 52 07.2	
	comp=Z,125nm,18.9s,baz=230,slow=34						
MJAR	**Matsushiro Arr**	**77.50**	**326**	LR	LR	13 50 23.2	
	comp=Z,82nm,20.7s,baz=158,slow=30						
TROLL	**Troll, Antarti**	**78.21**	**180**	⇑P	**P**	**13 23 16.3**	**-1.8**
	comp=Z,357nm,0.9s						
SNAA	**Sanae**	**78.52**	**179**	⇑P	**P**	**13 23 16.3**	**-3.4**
	comp=Z,80nm,1.1s						
SNAA	**Sanae**	**78.52**	**179**	P	**P**	**13 23 19.7**	**0.0**
SNAA				IAmb	IAmb	13 23 36.1	
	comp=Z,9.2nm,1.1s						
SNAA	**Sanae**	**78.52**	**179**	P	**P**	**13 23 22.0**	**+2.4**
	comp=Z,4.2nm,1.0s,baz=199,slow=5.5,SNR=7.9						
SNAA				LR	LR	13 58 15.4	
	comp=Z,64nm,18.0s,baz=216,slow=36						
	comp=Z,4.2nm,1.0s						
VNA3	**Neumayer Olymp**	**78.70**	**176**	⇑P	**P**	**13 23 23.0**	**+2.4**
	comp=Z,10nm,0.8s						
JNU	**Nakatsue**	**78.77**	**319**	LR	LR	13 53 12.4	
	comp=Z,84nm,18.9s,baz=132,slow=32						
VNA1	**Neumayer--Stat**	**79.36**	**177**	⇑P	**P**	**13 23 25.9**	**+1.7**
	comp=Z,8.4nm,1.0s						
H03S2	**Juan Fernandez**	**81.33**	**124**	T	T	14 53 09.9	
	baz=238,slow=74,SNR=44						
H03S1	**Juan Fernandez**	**81.34**	**124**	T	T	14 53 14.4	
	baz=238,slow=74,SNR=47						
H03S3	**Juan Fernandez**	**81.34**	**124**	T	T	14 53 12.0	
	baz=238,slow=74,SNR=54						
H03N3	**Juan Fernandez**	**81.52**	**124**	T	T	14 53 23.5	
	baz=242,slow=72,SNR=38						
H03N2	**Juan Fernandez**	**81.52**	**124**	T	T	14 53 25.1	
	baz=242,slow=72,SNR=87						
H03N1	**Juan Fernandez**	**81.53**	**124**	T	T	14 53 19.4	
	baz=242,slow=72,SNR=118						
SHEM	**Shemya Is, Ala**	**82.56**	**356**	LR	LR	13 53 49.6	
	comp=Z,125nm,20.5s,baz=142,slow=31						
PLCA	**Paso Flores**	**83.33**	**133**	LR	LR	13 56 13.1	
	comp=Z,31nm,18.1s,baz=256,slow=32						
LPIG	**La Paz**	**85.04**	**59**	LR	LR	13 53 24.3	
	comp=Z,55nm,21.0s,baz=201,slow=30						
PETK	**Petropavlovsk-**	**85.28**	**346**	LR	LR	13 55 28.6	
	comp=Z,66nm,21.3s,baz=162,slow=31						
USRK	**Ussuriysk Ar.**	**86.43**	**327**	LR	LR	13 56 53.9	
	comp=Z,72nm,21.1s,baz=177,slow=32						
PFO	**Pinyon Flats O**	**88.42**	**58**	LR	LR	13 54 20.1	
	comp=Z,80nm,21.0s,baz=222,slow=30						
NVAR	**Mina Aray Bea**	**88.53**	**43**	P	**P**	**13 24 13.4**	**+1.8**
	comp=Z,0.2nm,0.7s,baz=243,slow=4.0,SNR=3.8						
	comp=Z,0.2nm,0.7s						
KDAK	**Kodiak Island**	**90.26**	**14**	LR	LR	13 57 35.3	
	comp=Z,68nm,22.0s,baz=196,slow=31						
CMAR	**Chiang Mai Arr**	**92.53**	**290**	LR	LR	14 07 52.4	
	comp=Z,17nm,19.4s,baz=140,slow=37						
MA2	**Magadan**	**92.75**	**345**	LR	LR	14 00 46.5	
	comp=Z,51nm,21.7s,baz=158,slow=32						
TXAR	**Lajitas Array**	**92.88**	**58**	P	**P**	**13 24 32.2**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=234,slow=12,SNR=5.6						
TXAR				LR	LR	14 01 43.6	
	comp=Z,20nm,18.1s,baz=246,slow=33						
	comp=Z,0.2nm,0.3s						
BBB	**Bella Bella**	**93.17**	**29**	LR	LR	14 01 34.6	
	comp=Z,66nm,18.6s,baz=212,slow=32						
ANMO	**Albuquerque**	**93.99**	**52**	LR	LR	14 04 15.4	
	comp=Z,59nm,18.4s,baz=356,slow=34						
NNA	**Nana**	**94.29**	**106**	LR	LR	13 56 38.2	
	comp=Z,62nm,21.7s,baz=193,slow=29						
NEW	**Newport**	**95.57**	**36**	LR	LR	14 00 03.3	
	comp=Z,65nm,21.4s,baz=222,slow=31						
PDAR	**Pinedale Array**	**96.44**	**44**	LR	LR	14 01 27.1	
	comp=Z,34nm,21.1s,baz=235,slow=31						
ILAR	**Eielson Array**	**97.77**	**13**	LR	LR	14 02 27.6	
	comp=Z,60nm,21.0s,baz=288,slow=31						
LPAZ	**La Paz**	**99.02**	**115**	LR	LR	13 59 15.7	
	comp=Z,31nm,21.3s,baz=227,slow=29						
FINES	**FINESS Array B**	**144.54**	**340**	PKP	**PKPab**	**13 30 53.3**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=42,slow=2.3,SNR=6.3						
NB2	**NORSAR Subarra**	**148.28**	**351**	PKP	**PKPab**	**13 31 08.6**	**+1.2**
	comp=Z,2.3nm,1.0s,baz=14,slow=4.3						
AKASG	**Malin Array Be**	**150.54**	**322**	PKPbc	**PKiKP**	**13 31 11.0**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=52,slow=3.8,SNR=7.7						
MMAI	**Mount Meron Ar**	**150.65**	**285**	PKPbc	**PKiKP**	**13 31 12.9**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=96,slow=5.8,SNR=1.7						
EKA	**Eskdalemuir Ar**	**154.55**	**6**	PKPbc	**PKiKP**	**13 31 19.6**	**+0.5**
	comp=Z,3.0nm,0.9s,baz=39,slow=2.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**163.17**	**182**	PKPab	**PKPab**	**13 32 11.3**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=180,slow=2.9,SNR=1.5						

*IDC **20** 13:11:45.8±4.9,24°.16N×109°.15W,h0km,mb3.5/1, mbtmp3.1/4,ML3.5/3,MS2.5/2,Error ellipse: s-maj=77.0km s-min=12.1km az=156.0*
*MEX **20** 13:11:56.5±0.5,24°.15N×109°.84W,h11km±11km,MD3.5*
ISC 20 13:11:48.0±1.3,24°.31N±0°.08×109°.43W±0°.10,h10km,n9, σ1°96/11,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLBS	**Sierra La Lagu**	**0.78**	**217**	*eP*	**Pn**	**13 12 05.3**	**+0.1**
SLBS				*eS*	**Sg**	**13 12 11.7**	**-1.6**
LPIG	**La Paz**	**0.83**	**256**	Pg	**Pn**	**13 12 06.1**	**+0.4**
	22nm,0.3s,baz=89,slow=4.1,SNR=23						
LPIG				Lg	Lg	13 12 20.4	
	68nm,0.3s,baz=180,slow=4.0,SNR=9.9						
LPIG	**La Paz**	**0.83**	**256**	*eP*	**Pb**	**13 12 04.3**	**-0.2**
LPIG				*eS*	**Sg**	**13 12 11.4**	**-3.4**
TSIG	**Topolobambo**	**1.33**	**15**	*eP*	**Pn**	**13 12 11.2**	**-1.4**
TSIG				*eS*	**Sg**	**13 12 30.1**	**-0.7**
TXAR	**Lajitas Array**	**7.18**	**45**	Pn	**Pn**	**13 13 31.5**	**-1.7**
	0.1nm,0.3s,baz=226,slow=12,SNR=1.7						
TXAR				Lg	Lg	13 15 28.0	
	0.2nm,0.3s,baz=226,slow=23,SNR=2.1						
TXAR				LR	LR	13 16 41.4	
	comp=Z,20nm,20.5s,baz=257,slow=42						
	0.1nm,0.5s						
CMIG	**Matias Romero**	**15.38**	**115**	LR	LR	13 20 27.4	
	comp=Z,43nm,20.7s,baz=317,slow=35						
NVAR	**Mina Array Bea**	**15.97**	**334**	Pn	**P**	**13 15 38.8**	**+2.2**
	baz=159,slow=11,SNR=7.1						
	0.7nm,0.7s						
PDAR	**Pinedale Array**	**18.41**	**360**	P	**P**	**13 16 05.8**	**+2.2**
	baz=187,slow=8.5,SNR=4.3						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**47.13**	**339**	P	**P**	**13 20 21.1**	**+1.0**
	0.6nm,0.9s,baz=132,slow=7.8,SNR=6.5						
	0.6nm,0.9s						

*GCG **20** 13:13:15.5±0.6,13°.06N×89°.60W,h44km±10km,MD3.3*
*SNET **20** 13:13:15.2±1.4,13°.08N×89°.52W,h47km,ML3.2*
*CATAC **20** 13:13:15.1±0.4,13°.N±2°×9°.0W±°,h28km±2km,M3.5/30, MLv3.5/30,Error ellipse: s-maj=4.7km s-min=2.3km az=23.0,confirmed*
ISC 20 13:13:16.1±1.5,13°.06N±0°.06×89°.50W±0°.04,h42km±16km, n95,σ0s52/110,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.46**	**22**	*eP*	**Pn**	**13 13 26.3**	**-0.2**
LALI				*eS*	**Sn**	**13 13 34.4**	**+0.8**
LALI	**Alcalda de L**	**0.46**	**22**	*eP*	**Pn**	**13 13 26.4**	**-0.1**
LALI				*i S*	**Sn**	**13 13 34.6**	**+0.9**
LALI	**Alcalda de L**	**0.46**	**22**	P	**Pn**	**13 13 25.9**	**-0.6**
JAYA	**Jayaque - finc**	**0.59**	**5**	*eP*	**Pn**	**13 13 27.8**	**-0.5**
JAYA				*eS*	**Sn**	**13 13 37.0**	**0.0**
JAYA	**Jayaque - finc**	**0.59**	**5**	*i* P	**Pn**	**13 13 27.8**	**-0.5**
JAYA				*i* S	**Sn**	**13 13 37.3**	**+0.3**
JAYA	**Jayaque - finc**	**0.59**	**5**	P	**Pn**	**13 13 27.8**	**-0.5**
PANCS	**Alcalda de**	**0.63**	**30**	P	**Pn**	**13 13 28.2**	**-0.6**
LOMA	**Loma Larga**	**0.66**	**29**	*eP*	**Pn**	**13 13 28.7**	**-0.5**
LOMA				*eS*	**Sn**	**13 13 39.2**	**+0.6**
LOMA	**Loma Larga**	**0.66**	**29**	P	**Pn**	**13 13 28.8**	**-0.5**
PMON	**Piamonte**	**0.67**	**16**	*eP*	**Pn**	**13 13 28.9**	**-0.5**
PMON				*eS*	**Sn**	**13 13 38.7**	**-0.1**
PMON	**Piamonte**	**0.67**	**16**	S	**Sn**	**13 13 39.6**	**+0.8**
PMON	**Piamonte**	**0.67**	**16**	P	**Pn**	**13 13 28.9**	**-0.5**
UEES	**Universidad Ev**	**0.70**	**21**	*eP*	**Pn**	**13 13 28.4**	**-1.3**
UEES				*eS*	**Sn**	**13 13 38.9**	**-0.5**
UEES	**Universidad Ev**	**0.70**	**21**	P	**Pn**	**13 13 29.3**	**-0.4**
UTEC	**Universidad Te**	**0.70**	**25**	P	**Pn**	**13 13 29.3**	**-0.4**
BOQS	**Boqueron**	**0.70**	**18**	*eP*	**Pn**	**13 13 29.5**	**-0.4**
BOQS				*eS*	**Sn**	**13 13 40.5**	**+0.8**
LFRS	**El Faro**	**0.70**	**37**	*eP*	**Pn**	**13 13 29.4**	**-0.3**
LFRS				*eS*	**Sn**	**13 13 39.0**	**-0.6**
PIC2	**El Picacho**	**0.72**	**19**	*eP*	**Pn**	**13 13 29.7**	**-0.4**
UDBS	**Universidad Do**	**0.73**	**27**	P	**Pn**	**13 13 29.9**	**-0.2**
UDBS	**Universidad Do**	**0.73**	**27**	S	**Sn**	**13 13 40.7**	**+0.6**
CEDA	**San Andres**	**0.74**	**8**	S	**Sn**	**13 13 41.1**	**+0.6**
CEDA	**San Andres**	**0.74**	**8**	P	**Pn**	**13 13 30.1**	**-0.2**
LFU	**La Fuente**	**0.78**	**29**	*eP*	**Pn**	**13 13 30.7**	**-0.1**
SBLS	**San Blas**	**0.78**	**351**	*eP*	**Pn**	**13 13 30.4**	**-0.6**
SBLS				*eS*	**Sn**	**13 13 42.2**	**+0.5**
LBRS	**Las Brisas**	**0.81**	**33**	*eP*	**Pn**	**13 13 30.9**	**-0.2**
SNJE	**San Jose**	**0.81**	**353**	*eP*	**Pn**	**13 13 30.8**	**-0.6**
COEG	**Centro de Oper**	**0.82**	**47**	*eP*	**Pn**	**13 13 30.8**	**-0.5**
COEG				*eS*	**Sn**	**13 13 41.6**	**-0.8**
COEG	**Centro de Oper**	**0.82**	**47**	S	**Sn**	**13 13 42.4**	**0.0**
RTR	**El Retiro**	**0.84**	**350**	*eP*	**Pn**	**13 13 30.9**	**-0.8**
TECO	**Alcaldia de Te**	**0.84**	**56**	*eP*	**Pn**	**13 13 31.2**	**-0.5**
TECO	**Alcaldia de Te**	**0.84**	**56**	S	**Sn**	**13 13 42.7**	**-0.2**
TECO	**Alcaldia de Te**	**0.84**	**56**	P	**Pn**	**13 13 31.1**	**-0.5**
PAVA	**Las Pavas**	**0.85**	**40**	*eP*	**Pn**	**13 13 31.4**	**-0.3**
PAVA				*eS*	**Sn**	**13 13 43.1**	**0.0**
PAVA	**Las Pavas**	**0.85**	**40**	S	**Sn**	**13 13 44.0**	**+0.9**
PAVA	**Las Pavas**	**0.85**	**40**	P	**Pn**	**13 13 31.6**	**-0.1**
NUBE	**Las Nubes**	**0.88**	**342**	*eP*	**Pn**	**13 13 31.2**	**-1.0**
NUBE	**Las Nubes**	**0.88**	**342**	*i* P	**Pn**	**13 13 31.4**	**-0.8**
NUBE				*i* S	**Sn**	**13 13 43.9**	**0.0**
NUBE	**Las Nubes**	**0.88**	**342**	P	**Pn**	**13 13 31.3**	**-1.0**
UESV	**Universidad de**	**0.90**	**50**	S	**Sn**	**13 13 44.1**	**-0.1**
UESV	**Universidad de**	**0.90**	**50**	P	**Pn**	**13 13 31.8**	**-0.6**
FAME	**Alcaldia de Sa**	**0.92**	**327**	P	**Pn**	**13 13 31.9**	**-0.8**
FAME	**Alcaldia de Sa**	**0.92**	**327**	S	**Sn**	**13 13 44.9**	**+0.1**
LOAL	**Lomas de Alarc**	**0.97**	**344**	*eP*	**Pn**	**13 13 32.0**	**0.0**
LOAL	**Lomas de Alarc**	**0.97**	**344**	P	**Pn**	**13 13 32.9**	**-0.5**
LOAL	**Lomas de Alarc**	**0.97**	**344**	S	**Sn**	**13 13 46.5**	**+0.5**
SCLA	**Alcaldia de Sa**	**0.98**	**50**	S	**Sn**	**13 13 46.6**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.98**	**50**	P	**Pn**	**13 13 33.1**	**-0.4**
SLOZ	**Alcaldia de Sa**	**1.00**	**344**	P	**Pn**	**13 13 33.5**	**-0.2**
SLOZ	**Alcaldia de Sa**	**1.00**	**344**	S	**Sn**	**13 13 47.1**	**+0.5**
TECA	**Tecapa**	**1.06**	**66**	*eP*	**Pn**	**13 13 33.9**	**-0.8**
PQSS	**Presa 15 de Se**	**1.07**	**58**	*eP*	**Pn**	**13 13 33.9**	**-0.7**
PQSS				*eS*	**Sn**	**13 13 47.5**	**-0.9**
PQSS	**Presa 15 de Se**	**1.07**	**58**	S	**Sn**	**13 13 48.3**	**-0.1**
PQSS	**Presa 15 de Se**	**1.07**	**58**	P	**Pn**	**13 13 34.0**	**-0.7**
PACA	**Pacayal**	**1.22**	**70**	*eP*	**Pn**	**13 13 36.9**	**+0.1**
PACA				*eS*	**Sn**	**13 13 51.8**	**-0.4**
PACA	**Pacayal**	**1.22**	**70**	P	**Pn**	**13 13 36.7**	**-0.1**
PACA	**Pacayal**	**1.22**	**70**	S	**Sn**	**13 13 52.6**	**+0.4**
LCY	**Lacayo**	**1.23**	**73**	*eP*	**Pn**	**13 13 36.6**	**-0.4**
RANC	**El Ranchito**	**1.24**	**72**	S	**Sn**	**13 13 53.0**	**+0.3**
RANC	**El Ranchito**	**1.24**	**72**	P	**Pn**	**13 13 36.8**	**-0.5**
BLLM	**Bellamira**	**1.29**	**73**	*eP*	**Pn**	**13 13 37.5**	**-0.2**
MTO3	**Montecristo**	**1.34**	**6**	*eP*	**Pn**	**13 13 38.2**	**-0.3**
MTO3	**Montecristo**	**1.34**	**6**	*i* P	**Pn**	**13 13 38.2**	**-0.3**
MTO3	**Montecristo**	**1.34**	**6**	S	**Sn**	**13 13 55.5**	**+0.3**
MTO3	**Montecristo**	**1.34**	**6**	P	**Pn**	**13 13 38.4**	**-0.2**
CNRM	**Centro Naciona**	**1.36**	**72**	P	**Pn**	**13 13 38.3**	**-0.3**
CNRM	**Centro Naciona**	**1.36**	**72**	S	**Sn**	**13 13 55.9**	**+0.5**
CAHU	**Cacacuatique**	**1.44**	**61**	*eP*	**Pn**	**13 13 39.4**	**-0.5**
ESQI	**Esquipulas**	**1.50**	**6**	*eP*	**Pn**	**13 13 41.2**	**+0.5**
ESQI	**Esquipulas**	**1.50**	**6**	S	**Sn**	**13 13 59.6**	**+0.5**
ESQI	**Esquipulas**	**1.50**	**6**	P	**Pn**	**13 13 40.5**	**-0.1**
FG8	**Yepocapa, Chim**	**1.57**	**319**	*eS*	Sn	13 14 09.4	+8.4
LCND	**La Caada**	**1.59**	**81**	*eP*	**Pn**	**13 13 41.3**	**-0.4**
LCND	**La Caada**	**1.59**	**81**	P	**Pn**	**13 13 41.4**	**-0.4**
CNCH	**Conchagua**	**1.64**	**82**	*eP*	**Pn**	**13 13 42.0**	**-0.5**
CNCH	**Conchagua**	**1.64**	**82**	S	**Sn**	**13 14 02.8**	**+0.3**
CNCH	**Conchagua**	**1.64**	**82**	P	**Pn**	**13 13 42.3**	**-0.3**
MARCA	**Marcala la Paz**	**1.79**	**52**	P	**Pn**	**13 13 44.5**	**-0.2**
MARCA	**Marcala la Paz**	**1.79**	**52**	S	**Sn**	**13 14 06.9**	**+0.6**
INTHN	**La Esperanza I**	**1.84**	**47**	P	**Pn**	**13 13 45.2**	**-0.3**
SARH	**Santa Rosa de**	**1.85**	**23**	*i* P	**Pn**	**13 13 45.8**	**+0.4**
SARH	**Santa Rosa de**	**1.85**	**23**	P	**Pn**	**13 13 45.2**	**-0.2**
SARH	**Santa Rosa de**	**1.85**	**23**	S	**Sn**	**13 14 08.2**	**+0.6**
POTN	**Potosi Cosigui**	**1.94**	**92**	P	**Pn**	**13 13 46.3**	**-0.3**
POTN				S	**Sn**	**13 14 10.5**	**+0.6**
CHOHN	**Orocuina**	**2.32**	**79**	P	**Pn**	**13 13 51.4**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.38**	**65**	P	**Pn**	**13 13 52.5**	**-0.3**
CRIN	**San Cristobal**	**2.42**	**98**	P	**Pn**	**13 13 53.1**	**-0.2**
CRIN	**San Cristobal**	**2.42**	**98**	S	**Sn**	**13 14 22.4**	**+0.8**
RTAL	**Retalhuleu**	**2.58**	**305**	P	**Pn**	**13 13 55.0**	**-0.4**
RTAL	**Retalhuleu**	**2.58**	**305**	S	**Sn**	**13 14 26.4**	**+0.8**
YUSH	**Yuscaran**	**2.73**	**71**	P	**Pn**	**13 13 57.0**	**-0.6**
YUSH	**Yuscaran**	**2.73**	**71**	S	**Sn**	**13 14 30.1**	**+0.6**
CNGN	**Cerro Negro**	**2.79**	**101**	S	**Sn**	**13 14 31.5**	**+0.7**
CNGN	**Cerro Negro**	**2.79**	**101**	P	**Pn**	**13 13 58.0**	**-0.3**
IZABA	**Izabal, Puerto**	**2.80**	**18**	P	**Pn**	**13 13 58.2**	**-0.2**
AESN	**El Sauce Leon**	**2.89**	**93**	P	**Pn**	**13 13 59.7**	**0.0**

IDC 20 13:16:29.1±3.0,30°.94S×178°.76W,h94km±35km,mb3.5/3, mbtmp3.8/3,Error ellipse: s-maj=39.8km s-min=29.1km az=43.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.83**	**24**	P	Pn	13 16 59.1	-0.1
	1μm,0.4s,baz=79,slow=21,SNR=10						
RAO				S	Sn	13 17 16.3	-5.8
	598nm,0.4s,baz=233,slow=20,SNR=5.6						
ASAR	**Alice Springs**	**42.43**	**268**	P	P	13 24 14.3	-0.5
	0.5nm,0.7s,baz=109,slow=7.8,SNR=6.9						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**43.47**	**273**	P	P	13 24 23.4	+0.2
	0.6nm,0.3s,baz=112,slow=8.0,SNR=21						
	0.6nm,0.3s						
QSPA	**South Pole Qui**	**59.17**	**180**	P	P	13 26 19.8	-0.1
	1.2nm,0.6s,baz=45,slow=7.1,SNR=15						
	1.2nm,0.6s						
FINES	**FINESS Array B**	**145.42**	**339**	PKPbc	PKPdf	13 35 54.7	-0.6
	0.4nm,0.3s,baz=50,slow=3.4,SNR=9.0						

*NEIC **20** 13:23:19.3±1.6,47°.60N±0°.03×122°.62W±0°.05, h27km±10km,Error ellipse: s-maj=5.2km s-min=3.2km az=127.0*
SEA 20 13:23:20.1±2.4,47°.59N±0°.03×122°.59W±0°.04,h24km±6km, Md1.7/20,ML2.1/19,Error ellipse: s-maj=4.7km s-min=4.0km az=178.0,Washington

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KITP	**Kitsap County**	**0.09**	**341**		Pb	13 23 24.5	+0.1
KITP					Sb	13 23 28.8	+1.3
ALKI	**Alki Wastewate**	**0.11**	**97**		Pb	13 23 24.9	+0.3
ALKI					Sb	13 23 29.3	+1.7
GMW	**Gold Mountain**	**0.14**	**253**		Pb	13 23 24.2	-0.8
GMW					Sb	13 23 27.6	-0.7
LAWT	**Lawton Element**	**0.15**	**63**		Sb	13 23 30.1	+1.8
KIMR	**Kitsap County**	**0.15**	**235**		Pb	13 23 24.5	-0.5
KIMR					Sb	13 23 28.2	0.0
GNW	**Green Mountain**	**0.16**	**261**		Pb	13 23 24.3	-0.8
GNW					Sb	13 23 27.9	-0.7
KINR	**Kitsap County**	**0.17**	**346**		Pb	13 23 25.0	-0.2
KINR					Sb	13 23 29.4	+0.8
VVHS	**Vashon High Sc**	**0.19**	**152**		Pb	13 23 25.0	-0.4
NOWS	**NOAA--Sand Poi**	**0.24**	**66**		Sb	13 23 32.5	+2.3
BRKS	**Brookside Elem**	**0.26**	**50**		Pb	13 23 26.4	0.0
BRKS					Sb	13 23 32.0	+1.3
C04A	**Brinnon**	**0.29**	**296**		Pb	13 23 26.0	-0.8
C04A					Sb	13 23 30.9	-0.5
B013	**Quilcene**	**0.31**	**316**		Pb	13 23 26.3	-0.9
B013					Sb	13 23 31.2	-0.8
B013	**Quilcene**	**0.31**	**316**		Pb	13 23 26.2	-0.9
HDW	**Hoodsport**	**0.32**	**281**		Pb	13 23 26.7	-0.7
HDW					Sb	13 23 32.0	-0.3
LEOT	**Leota Junior H**	**0.36**	**60**		Sb	13 23 34.6	+1.2
EVGW	**Everett Gatewa**	**0.39**	**48**		Pb	13 23 28.1	-0.3
EVGW					Sb	13 23 34.9	+0.7
D04E	**Lakebay**	**0.43**	**197**		Pb	13 23 28.9	-0.1
SWID	**South Whidbey**	**0.43**	**15**		Pb	13 23 28.7	-0.4
SWID					Sb	13 23

TWGBT **Beinan** 17.68 352 P **P** 13 33 54.2 -0.3
TWG Pinlang 17.68 352 P **P** 13 33 52.3 -2.3
TWG IAmb IAmb 13 33 55.4
comp=Z,32nm,1.2s
TPUB Ta-pu 18.22 351 P **P** 13 33 59.6 +0.2
TPUB Ta-pu 18.22 351 P **P** 13 34 00.4 +0.9
YULB Yu-li 18.22 353 **P** 13 33 58.1 -1.3
YULB IAmb IAmb 13 34 05.3
comp=Z,21nm,1.1s
YULB Yu-li 18.22 353 P **P** 13 33 58.3 -1.2
SSLB Suanglung 18.65 353 **P** 13 34 03.3 -0.1
SSLB Suanglung 18.65 353 P **P** 13 34 03.7 +0.3
NACB Ninganchiao 18.96 354 P **P** 13 34 06.0 -0.2
NACB Ninganchiao 18.96 354 P **P** 13 34 06.3 +0.1
MTN Manton Dam 19.44 157 P **P** 13 34 11.0 +0.4
MTN IAmb IAmb 13 34 17.9
comp=Z,7.6nm,0.9s
YHNB Yeheng 19.47 354 P **P** 13 34 11.4 +0.5
KNRA Kununurra 21.37 166 P **P** 13 34 27.1 -0.8
KNRA IAmb IAmb 13 34 44.7
comp=Z,7.8nm,1.1s
FITZ Fitzroy Crossi 23.24 175 P **P** 13 34 44.5 0.0
FITZ Fitzroy Crossi 23.24 175 P **P** 13 34 44.6 0.0
PSA00 Pilbara Seismi 26.85 188 P **P** 13 35 14.5 -1.8
PSA00 IAmb IAmb 13 35 34.8
comp=Z,22nm,1.4s
WB0 Warramunga Arr 27.00 157 P **P** 13 35 17.2 -0.5
WB0 IAmb IAmb 13 35 18.4
comp=Z,6.1nm,0.7s
NJ2 Nanjing 27.08 351 *eP* **P** 13 35 20.3 +2.1
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
WRAB Tennant Creek 27.14 157 P **P** 13 35 19.1 +0.2
WRAB IAmb IAmb 13 35 19.4
comp=Z,7.3nm,0.5s
WRA Warramunga Arr 27.14 157 P **P** 13 35 17.9 -1.0
WRA Warramunga Arr 27.14 157 P **P** 13 35 19.0 +0.1
comp=Z,5.0nm,0.5s,baz=336,slow=8.8,SNR=118
WRA PcP **PcP** 13 38 20.4 +1.2
comp=Z,0.8nm,0.5s,baz=322,slow=3.9,SNR=7.0
WRA S **S** 13 39 13.3 -3.5
comp=Z,0.9nm,0.8s,baz=331,slow=16,SNR=4.0
WRA ScP **ScP** 13 41 06.4 +2.9
comp=Z,0.7nm,0.5s,baz=342,slow=3.2,SNR=7.0
comp=Z,5.0nm,0.5s
WR8 Warramunga Arr 27.21 157 P **P** 13 35 19.5 -0.1
WR8 IAmb IAmb 13 35 23.3
comp=Z,11nm,1.4s
COEN Coen 27.22 135 P **P** 13 35 19.0 -0.8
COEN IAmb IAmb 13 35 50.7
comp=Z,18nm,1.2s
COEN Coen 27.22 135 P **P** 13 35 19.6 -0.1
CMAR Chiang Mai Arr 27.41 301 P **P** 13 35 20.9 -0.4
comp=Z,2.7nm,0.8s,baz=115,slow=9.0,SNR=16
comp=Z,2.7nm,0.8s
CHTO Chiang Mai 27.56 301 **P** 13 35 22.8 +0.1
CHTO IAmb IAmb 13 35 23.1
comp=Z,5.8nm,0.5s
PZH PanZhiHua 29.72 318 P **P** 13 35 42.8 +1.5
QIS Mount Isa 30.06 149 P **P** 13 35 45.3 +1.1
AS31 Alice Springs 30.41 161 P **P** 13 35 48.1 +0.9
AS31 IAmb IAmb 13 35 48.6
comp=Z,2.8nm,0.4s
ASAR Alice Springs 30.41 161 P **P** 13 35 45.8 -1.4
ASAR Alice Springs 30.41 161 P **P** 13 35 48.1 +0.9
comp=Z,4.6nm,0.3s,baz=342,slow=8.6,SNR=247
ASAR PcP **PcP** 13 38 28.6 +1.0
comp=Z,0.4nm,0.5s,baz=343,slow=2.2,SNR=4.8
ASAR S **S** 13 40 08.7 +1.4
comp=Z,1.7nm,0.8s,baz=332,slow=10,SNR=9.6
ASAR ScP **ScP** 13 41 16.4 +2.4
comp=Z,0.6nm,0.5s,baz=339,slow=3.4,SNR=7.2
comp=Z,4.6nm,0.3s
AS01 Alice Springs 30.43 161 P **P** 13 35 48.1 +0.8
XAN Xi'an 31.75 336 P **P** 13 35 58.3 -0.2
XAN S **S** 13 40 29.3 +1.8
XAN ScS ScS 13 44 40.4 -38
XAN pmax pmax
comp=Z,13nm,0.6s
XAN pmax pmax
comp=Z,240nm,4.3s
MEEK Meekatharra 32.01 188 P **P** 13 36 00.8 +0.1
MJAR Matsushiro Arr 33.97 21 P **P** 13 36 16.2 -0.9
comp=Z,1.6nm,0.8s,baz=192,slow=8.4,SNR=8.9
comp=Z,1.6nm,0.8s
MORW Morawa 34.83 192 P **P** 13 36 23.9 -0.4
MORW IAmb IAmb 13 36 54.1
comp=Z,24nm,1.2s
MORW Morawa 34.83 192 P **P** 13 36 24.7 +0.4
FORT Forrest 36.03 173 P **P** 13 36 35.4 +1.2
FORT IAmb IAmb 13 36 35.7
comp=Z,9.4nm,0.7s
SHL Shillong 36.47 307 **P** 13 36 37.8 -0.4
KLBR Kellerberrin 37.00 188 P **P** 13 36 42.4 +0.3
HHC Hu-ho-hao-te 37.09 345 *eP* **P** 13 36 46.3 +3.4
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,33nm,5.4s
XLT XiLinHaoTe 39.10 351 *eP* **P** 13 37 01.3 +2.2
XLT pP pP 13 38 41.8 +1.1
XLT PP **PP** 13 38 46.0 -1.4
XLT PcP **PcP** 13 38 54.1 +1.0
XLT sP sP 13 39 37.6 -11
XLT pmax pmax
comp=Z,6.0nm,0.8s
XLT pmax pmax
comp=Z,140nm,6.0s
BBOO Buckleboo 39.62 163 P **P** 13 37 04.4 +1.2
BBOO Buckleboo 39.62 163 P **P** 13 37 03.6 +0.3
GTA Gaotai 40.26 331 *eP* **P** 13 37 10.1 +1.7
GTA pmax pmax
comp=Z,8.0nm,0.5s
STKA Stephens Creek 40.68 156 P **P** 13 37 13.1 +1.5
STKA Stephens Creek 40.68 156 P **P** 13 37 13.3 +1.6
comp=Z,4.2nm,0.4s,baz=329,slow=9.3,SNR=17
comp=Z,4.2nm,0.4s
STKA Stephens Creek 40.68 156 P **P** 13 37 13.3 +1.6
HTT Hallett 41.08 160 P **P** 13 37 16.8 +1.9
CMSA Cobar Meteorol 42.19 151 P **P** 13 37 26.0 +2.4
JKA Kamikawa-asahi 42.22 20 P **P** 13 37 23.3 -0.3
JKA IAmb IAmb 13 37 50.1
comp=Z,14nm,1.4s
ARMA Armidale 44.46 145 P **P** 13 37 42.7 +1.4
SONM Songino Array 44.96 344 P **P** 13 37 45.5 +0.7
comp=Z,2.0nm,0.7s,baz=155,slow=9.4,SNR=7.7
comp=Z,2.0nm,0.7s
CAN Canberra 46.87 151 P **P** 13 38 01.2 +1.8
CAN IAmb IAmb 13 38 42.1
comp=Z,23nm,1.5s
CAN Canberra 46.87 151 P **P** 13 38 02.1 +2.7
WMQ Urumqi 49.74 326 *eP* **P** 13 38 23.3 +2.8
WMQ LR LR
comp=Z,77nm,22.3s
MKAR Makanchi Array 54.57 326 **P** 13 38 55.2 +0.3
MKAR Makanchi Array 54.57 326 P **P** 13 38 55.5 +0.5
comp=Z,3.2nm,0.3s,baz=122,slow=7.4,SNR=52
MKAR ScP **ScP** 13 42 52.0 +1.8
comp=Z,0.3nm,0.6s,baz=131,slow=4.0,SNR=2.6
comp=Z,3.2nm,0.3s
MAKZ Makanchi 54.75 326 **P** 13 38 56.5 +0.3
ZALV Zalesovo Beam 57.88 334 P **P** 13 39 16.9 -0.5
comp=Z,1.0nm,0.4s,baz=143,slow=3.3,SNR=4.6
comp=Z,1.0nm,0.4s
KURBB **Kurchatov Arra** 58.82 328 P **P** 13 39 23.9 +0.1
comp=Z,4.0nm,0.5s,baz=130,slow=6.3,SNR=28
comp=Z,4.0nm,0.5s
KURK Kurchatov 58.83 328 **P** 13 39 23.9 0.0
BVAR Borovoye Array 64.38 328 P **P** 13 40 00.1 +0.2
comp=Z,1.5nm,0.6s,baz=133,slow=8.5,SNR=11
comp=Z,1.5nm,0.6s
AB31 Akbulak array 69.03 321 **P** 13 40 28.2 -0.3
SKT Skwentna 83.05 28 **P** 13 41 42.5 -2.7
VNDA Vanda 85.28 172 P **P** 13 41 57.3 +1.5
comp=Z,0.9nm,0.6s,baz=324,slow=5.0,SNR=4.5
comp=Z,0.9nm,0.6s
BMRM Bremner River 86.39 29 pP 13 44 11.6 +1.5
ARCES ARCESS Array B 87.98 340 P **P** 13 42 08.2 -0.6
comp=Z,0.3nm,0.5s,baz=88,slow=8.2,SNR=1.2
comp=Z,0.3nm,0.5s
FINES FINESS Array B 89.05 332 P **P** 13 42 13.5 -0.2
comp=Z,0.7nm,0.9s,baz=29,slow=3.2,SNR=3.8
comp=Z,0.7nm,0.9s
PLCA Paso Flores 142.42 162 PKP **PKPdf** 13 48 48.1 +0.4
comp=Z,1.5nm,0.8s,baz=225,slow=2.9,SNR=1.9

*IDC **20** 13:34:20.8±0.4,9.˚68S×66.˚49E,h0km,mb4.4/29, mbtmp4.4/29,MS3.6/9,Error ellipse: s-maj=15.1km s-min=12.7km az=80.0*
*NEIC **20** 13:34:22.4±1.7,9.˚75S±0.˚06×66.˚4E±0.˚1,h10km±1km, mb4.8/37,Error ellipse: s-maj=22.8km s-min=8.8km az=103.0*
ISC 20 13:34:22.0±1.1,**9.˚69S**±0.˚09×**66.˚45E**±0.˚09,**h8**km±6km, **n176,**σ0**97**/162,**mb4.7**/81,**MS3.6**/11,**21C-9D,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H** SNR=44	**6.29**	**72**	T	T	13 42 27.9	
H08S3	**Diego Garcia H** SNR=46	**6.31**	**72**	T	T	13 42 23.8	
H08S2	**Diego Garcia H** SNR=49	**6.31**	**72**	T	T	13 42 21.7	
ABPO	**Ambohimpanom**	**20.78**	**241**	P	**P**	**13 39 02.1**	**-1.9**
ATD	**Arta Tunnel** comp=Z,4.5nm,18.0s,baz=162,slow=34	**31.55**	**311**	LR	LR	13 52 24.2	
PSI	**Prapat** comp=Z,190nm,18.5s,baz=157,slow=32	**34.65**	**71**	LR	LR	13 52 31.0	
LSZ	**Lusaka**	**37.73**	**258**		**P**	**13 41 39.3**	**+0.4**
LSZ	comp=Z,10nm,0.8s			IAmb	IAmb	13 41 47.1	
LSZ	**Lusaka** comp=Z,148nm,18.1s,baz=102,slow=33	**37.73**	**258**	LR	LR	13 55 07.0	
MATP	**Matopo** comp=Z,67nm,19.5s,baz=70,slow=34	**38.08**	**249**	LR	LR	13 55 46.3	
H04N2	**CROZET ISLANDS** baz=25,slow=75,SNR=7.0	**38.45**	**196**	T	T	14 22 57.3	
H04N1	**CROZET ISLANDS** baz=25,slow=75,SNR=7.0	**38.45**	**196**	T	T	14 22 43.5	
H04N3	**CROZET ISLANDS** baz=25,slow=75,SNR=5.0	**38.46**	**196**	T	T	14 22 42.2	
LBTB	**Lobatse** comp=Z,119nm,19.2s,baz=112,slow=33	**41.68**	**243**	LR	LR	13 57 27.9	
CM31	**Chiang Mai Arr**	**42.55**	**49**	P	**P**	**13 42 18.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**42.55**	**49**		**P**	**13 42 17.9**	**-0.8**
CMAR	**Chiang Mai Arr** comp=Z,6.1nm,0.7s,baz=232,slow=8.2,SNR=54	**42.55**	**49**	P	**P**	**13 42 19.7**	**+1.1**
CMAR				PcP	**PcP**	**13 44 11.0**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=221,slow=3.6,SNR=5.4 comp=Z,6.1nm,0.7s						
CHTO	**Chiang Mai**	**42.77**	**49**		**P**	**13 42 19.9**	**-0.5**
CHTO	comp=Z,11nm,0.8s			IAmb	IAmb	13 42 22.5	
SHL	**Shillong**	**42.91**	**35**		**P**	**13 42 22.9**	**+1.2**
BOSA	**Boshof** comp=Z,2.5nm,0.5s,baz=76,slow=9.0,SNR=11 comp=Z,2.5nm,0.5s	**42.95**	**238**	P	**P**	**13 42 22.5**	**+0.5**
GAR	**Garm**	**48.57**	**4**		**P**	**13 43 06.5**	**+0.3**
EIL	**Elat** comp=Z,27nm,18.9s,baz=249,slow=34	**49.51**	**323**	LR	LR	14 02 16.1	
BTK	**Batken**	**49.66**	**4**	P	**P**	**13 43 14.0**	**-0.5**
BTK	comp=Z,13nm,1.1s			IAmb	IAmb	13 43 16.0	
PZH	**PanZhiHua**	**49.69**	**43**	P	**P**	**13 43 17.3**	**+2.3**
KSH	**Kashi**	**49.75**	**10**	P	**P**	**13 43 12.6**	**-2.6**
KSH				sP	pwP	13 43 19.8	-1.4
KSH				pmax	pmax		
	comp=Z,27nm,1.0s						
H01W3	**Cape Leeuwin H** baz=288,slow=75,SNR=92	**50.14**	**128**	T	T	14 37 03.2	
H01W2	**Cape Leeuwin H** baz=288,slow=75,SNR=110	**50.15**	**128**	T	T	14 37 14.0	
H01W1	**Cape Leeuwin H** baz=288,slow=75,SNR=155	**50.16**	**128**	T	T	14 36 59.8	
ASF	**Jabal al Asfar** comp=Z,61nm,18.9s,baz=136,slow=33	**50.30**	**327**	LR	LR	14 02 07.6	
MMAI	**Mount Meron Ar** comp=Z,2.6nm,0.7s,baz=146,slow=10,SNR=2.7	**51.76**	**327**	P	**P**	**13 43 31.7**	**+1.3**
MMAI				LR	LR	14 02 18.6	
	comp=Z,31nm,19.5s,baz=169,slow=32 comp=Z,2.6nm,0.7s						
NWAO	**Narrogin (SRO)** comp=Z,48nm,18.1s,baz=316,slow=33	**52.07**	**124**	LR	LR	14 03 07.8	
TARG	**Taragay, Kyrgy**	**52.22**	**11**	P	**P**	**13 43 33.4**	**-0.7**
KDJ	**Kajisay**	**52.50**	**10**	P	**P**	**13 43 34.8**	**-1.1**
BOOM	**Boomskoye usch**	**52.65**	**9**	P	**P**	**13 43 35.5**	**-1.5**
KKAR	**Karatay Array**	**52.67**	**4**	P	**P**	**13 43 36.6**	**-0.4**
KAPI	**Kappang** comp=Z,66nm,21.5s,baz=300,slow=32	**53.02**	**89**	LR	LR	14 02 36.2	
GURO	**Guroymak-BITLI**	**53.12**	**336**	P	**P**	**13 43 41.1**	**+0.5**
GURO	comp=Z,11nm,0.9s			IAmb	IAmb	13 43 43.1	
GNI	**Garni** comp=Z,21nm,1.3s	**53.51**	**339**	P	**P**	**13 43 41.4**	**-2.0**
KIRS	**Kirsehir-Merke**	**57.22**	**330**	⇑P	**P**	**13 44 11.0**	**+0.9**
KBZ	**Khabaz** comp=Z,4.3nm,1.0s,baz=177,slow=8.4,SNR=5.5 comp=Z,4.3nm,1.0s	**57.32**	**340**	P	**P**	**13 44 10.6**	**+0.1**
LZH	**Lanzhou**	**57.56**	**36**	*eP*	**P**	**13 44 14.3**	**+1.6**
LZH				pP	pwP	13 44 19.9	+0.9
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
BRTR	**Keskin Array B** comp=Z,2.8nm,0.9s,baz=141,slow=10,SNR=9.2 comp=Z,2.8nm,0.9s	**57.82**	**330**	P	**P**	**13 44 13.8**	**-0.5**
GTA	**Gaotai**	**57.85**	**30**	*eP*	**P**	**13 44 14.9**	**+0.3**
GTA				PcP	**PcP**	**13 45 08.3**	**+1.2**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MAW	**Mawson** comp=Z,8.0nm,0.9s,baz=12,slow=11,SNR=18 comp=Z,8.0nm,0.9s	**57.89**	**182**	P	**P**	**13 44 13.8**	**-0.5**
MAKZ	**Makanchi**	**57.93**	**13**		**P**	**13 44 13.8**	**-1.0**
MAKZ	comp=Z,12nm,1.4s			IAmb	IAmb	13 44 15.3	
MKAR	**Makanchi Array**	**57.98**	**13**		**P**	**13 44 13.8**	**-1.4**
MKAR	**Makanchi Array** comp=Z,2.1nm,0.7s,baz=197,slow=6.7,SNR=15	**57.98**	**13**	P	**P**	**13 44 14.3**	**-1.0**
MKAR				PcP	**PcP**	**13 45 07.1**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=212,slow=5.1,SNR=6.0 comp=Z,2.1nm,0.7s						
AB31	**Akbulak array**	**58.97**	**355**		**P**	**13 44 21.2**	**-0.8**
AB31	comp=Z,9.7nm,1.1s			IAmb	IAmb	13 44 22.9	
ABKAR	**Akbulak array**	**58.97**	**355**		**P**	**13 44 21.2**	**-0.8**
XAN	**Xi'an**	**59.29**	**41**	⇑P	**P**	**13 44 24.1**	**-0.5**
XAN	comp=Z,21nm,0.9s			pmax	pmax		
KURBB	**Kurchatov Arra** comp=Z,4.5nm,0.9s,baz=206,slow=7.0,SNR=22	**60.98**	**9**	P	**P**	**13 44 35.6**	**-0.2**
KURBB				PcP	**PcP**	**13 45 18.6**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=205,slow=3.6,SNR=2.8 comp=Z,4.5nm,0.9s						
KURK	**Kurchatov**	**61.08**	**9**		**P**	**13 44 36.0**	**-0.5**
KURK	comp=Z,8.3nm,0.9s			IAmb	IAmb	13 44 37.4	
BVAR	**Borovoye Array** comp=Z,4.7nm,0.9s,baz=163,slow=6.0,SNR=18 comp=Z,4.7nm,0.9s	**62.56**	**3**	P	**P**	**13 44 45.4**	**-1.0**
BRVK	**Borovoye**	**62.59**	**3**		**P**	**13 44 45.9**	**-0.7**
BRVK	comp=Z,7.3nm,1.1s			IAmb	IAmb	13 44 47.5	
TIRR	**Tirgusor** comp=Z,9.4nm,1.1s	**63.94**	**331**	P	**P**	**13 44 54.8**	**-0.9**
ELND	**Elena**	**64.12**	**328**	⇓P	**P**	**13 44 57.8**	**+0.9**
CFR	**Carcaliu**	**64.60**	**331**	⇓P	**P**	**13 45 00.6**	**+0.6**
NJ2	**Nanjing**	**65.01**	**48**	*eP*	**P**	**13 45 04.0**	**+1.0**
NJ2	comp=Z,14nm,0.6s			pmax	pmax		
HNS	**HongShan**	**65.06**	**41**	⇑P	**P**	**13 45 04.0**	**+0.8**
HNS	comp=Z,13nm,1.3s			pmax	pmax		
FNA	**Florina**	**65.17**	**324**	P	**P**	**13 45 03.4**	**-0.6**
FNA	comp=Z,6.1nm,0.8s			IAmb	IAmb	13 45 04.5	
HHC	**Hu-ho-hao-te**	**65.24**	**36**	*eP*	**P**	**13 45 06.8**	**+2.3**
HHC	comp=Z,11nm,0.6s			pmax	pmax		
HHC	comp=Z,61nm,5.6s			pmax	pmax		
ZAA0	**Zalesovo Array**	**65.28**	**12**		**P**	**13 45 03.2**	**-1.1**
ZAA0	comp=Z,6.2nm,0.8s			IAmb	IAmb	13 45 04.6	
ZALV	**Zalesovo Beam**	**65.28**	**12**		**P**	**13 45 03.0**	**-1.3**
ZALV	**Zalesovo Beam** comp=Z,5.9nm,0.7s,baz=199,slow=6.2,SNR=19 comp=Z,5.9nm,0.7s	**65.28**	**12**	P	**P**	**13 45 03.5**	**-0.8**
BISRR	**Bisoca**	**65.56**	**330**	⇑P	**P**	**13 45 05.9**	**-0.5**
ASAR	**Alice Springs** comp=Z,5.3nm,0.7s,baz=269,slow=6.4,SNR=68	**65.58**	**112**	P	**P**	**13 45 06.6**	**-0.5**
	comp=Z,5.3nm,0.7s						
AS31	**Alice Springs**	**65.58**	**112**		**P**	**13 45 06.2**	**-0.9**
VRI	**Vrincioaia**	**65.78**	**331**	⇑P	**P**	**13 45 08.8**	**+1.0**
VRI	**Vrincioaia** comp=Z,1µmcomp=Z,25nm,0.8s	**65.78**	**331**	P	**P**	**13 45 08.1**	**+0.4**
PLOR5	**Plostina Array** comp=Z,25nm,0.9s	**65.80**	**331**	P	**P**	**13 45 08.2**	**+0.3**
PLOR	**Plostina**	**65.81**	**331**	⇑P	**P**	**13 45 09.0**	**+1.0**
MLR	**Muntele Rosu**	**65.89**	**330**	P	**P**	**13 45 08.8**	**+0.2**
MLR	comp=Z,7.5nm,1.0s			IAmb	IAmb	13 45 10.6	
MLR	**Muntele Rosu**	**65.89**	**330**	⇓P	**P**	**13 45 10.1**	**+1.5**
MLR	**Muntele Rosu** comp=Z,8.0nm,1.5s	**65.89**	**330**	P	**P**	**13 45 08.8**	**+0.2**
TIA	**Tai'an**	**65.99**	**43**	P	**P**	**13 45 09.8**	**+0.5**
TIA	comp=Z,13nm,1.2s			pmax	pmax		
COVR	**Voineasa-Covas**	**66.02**	**330**	⇑P	**P**	**13 45 10.4**	**+1.1**
WRA	**Warramunga Arr** comp=Z,7.9nm,0.9s,baz=271,slow=6.2,SNR=60 comp=Z,7.9nm,0.9s	**66.06**	**108**	P	**P**	**13 45 10.1**	**-0.1**
WRAB	**Tennant Creek**	**66.07**	**108**	P	**P**	**13 45 10.0**	**-0.2**
ARTI	**Arti**	**66.18**	**355**		**P**	**13 45 10.0**	**0.0**
TESR	**Tescani**	**66.29**	**331**	⇓P	**P**	**13 45 11.4**	**+0.4**
TESR	**Tescani** comp=Z,11nm,0.8s	**66.29**	**331**	P	**P**	**13 45 10.5**	**-0.5**
VOIR		**66.30**	**329**	⇓P	**P**	**13 45 11.0**	**-0.2**
VOIR	comp=Z,4.3nm,1.4s	**66.30**	**329**	P	**P**	**13 45 10.5**	**-0.7**
VOIR	comp=Z,4.3nm,1.4s			pP	**sP**	**13 45 13.1**	**+0.2**
OZUR		**66.40**	**330**	⇓P	**P**	**13 45 12.2**	**+0.4**
DOPR	**Dopca**	**66.51**	**330**	⇑P	**P**	**13 45 12.5**	**+0.1**
BOVS	**Bovan**	**66.83**	**326**	⇓P	**P**	**13 45 14.8**	**+0.3**
TIP	**Timpagrande**	**67.02**	**320**	⇑P	**P**	**13 45 17.1**	**+1.2**
TIP	**Timpagrande** comp=Z,4.8nm,1.2s	**67.02**	**320**	P	**P**	**13 45 14.4**	**-1.5**
CEL	**Celeste** comp=Z,9.1nm,0.8s	**67.05**	**319**	P	**P**	**13 45 14.6**	**-1.5**
SONM	**Songino Array**	**67.31**	**28**		**P**	**13 45 17.5**	**-0.2**
SONM	**Songino Array** comp=Z,11nm,0.9s,baz=223,slow=6.1,SNR=35 comp=Z,11nm,0.9s	**67.31**	**28**	P	**P**	**13 45 18.2**	**+0.5**
GZR	**Gura Zlata**	**67.43**	**328**	⇑P	**P**	**13 45 19.4**	**+1.1**
PDG	**Podgorica**	**67.44**	**324**	⇑P	**P**	**13 45 18.8**	**+0.4**
NDNU	**Novodnistrovsk**	**67.48**	**333**	P	**P**	**13 45 17.6**	**-0.9**
BJI	**Beijing**	**67.53**	**39**	P	**P**	**13 45 19.9**	**+0.9**
BJI	comp=Z,5.0nm,1.1s			pmax	pmax		
BJI	comp=Z,85nm,4.7s			pmax	pmax		
MDVR	**Moldovita**	**67.58**	**327**	⇑P	**P**	**13 45 19.7**	**+0.4**
KMPD	**K-Podol'skiy**	**67.87**	**333**	P	**P**	**13 45 19.5**	**-1.4**
MARR	**Marisel-Cluj**	**68.13**	**329**	⇑P	**P**	**13 45 20.3**	**+0.5**
AK07	**Malin Array Si**	**68.17**	**335**	P	**P**	**13 45 21.9**	**-0.9**
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,0.3s,baz=95,slow=4.1,SNR=1.9 comp=Z,0.9nm,0.3s	**68.17**	**288**	P	**P**	**13 45 23.5**	**-0.1**
AK09	**Malin Array Si**	**68.19**	**336**	P	**P**	**13 45 21.3**	**-1.6**
AK10	**Malin Array Si**	**68.19**	**335**	P	**P**	**13 45 21.3**	**-1.6**
BZS	**Buzias**	**68.19**	**328**	⇑P	**P**	**13 45 23.3**	**+0.3**
AK06	**Malin Array Si**	**68.20**	**335**	P	**P**	**13 45 21.4**	**-1.6**
AK08	**Malin Array Si**	**68.21**	**336**	P	**P**	**13 45 21.5**	**-1.6**
AK02	**Malin Array Si**	**68.25**	**335**	P	**P**	**13 45 21.7**	**-1.6**
AK12	**Malin Array Si**	**68.26**	**335**	P	**P**	**13 45 21.8**	**-1.6**
AK01	**Malin Array Si**	**68.27**	**336**	P	**P**	**13 45 21.9**	**-1.5**
AKASG	**Malin Array Be** comp=Z,2.0nm,0.7s,baz=135,slow=5.8,SNR=9.3 comp=Z,2.0nm,0.7s	**68.28**	**336**	P	**P**	**13 45 22.7**	**-0.8**
AKBB	**Malin Array Si**	**68.28**	**336**	P	**P**	**13 45 21.9**	**-1.6**
KIEV	**Kiev**	**68.28**	**336**	⇓P	**P**	**13 45 23.1**	**-0.4**
KIEV	**Kiev** comp=Z,34nm,1.3s	**68.28**	**336**	P	**P**	**13 45 21.9**	**-1.6**
LUBAR	**Lubar, Ukraine**	**68.30**	**334**	P	**P**	**13 45 21.5**	**-2.1**
AK18	**Malin Array Si**	**68.36**	**335**	P	**P**	**13 45 21.9**	**-2.1**
DRGR		**68.41**	**329**	⇓P	**P**	**13 45 25.2**	**+0.7**
SIRR	**Siria**	**68.60**	**328**	⇑P	**P**	**13 45 26.4**	**+0.7**
XLT	**XiLinHaoTe**	**69.75**	**36**	*eP*	**P**	**13 45 33.5**	**+0.6**
XLT				pP	pwP	13 45 43.0	+3.7
XLT				PcP	**PcP**	**13 45 58.8**	**+3.1**
XLT				PP	**PP**	**13 48 06.9**	**-0.5**
XLT	comp=Z,9.0nm,1.2s			pmax	pmax		
HOLU	**Holmets**	**69.76**	**330**	P	**P**	**13 45 30.1**	**-2.6**
MORH	**Mrgy, Hungar**	**70.16**	**327**	⇑P	**P**	**13 45 35.1**	**-0.2**
MORH	**Mrgy, Hungar**	**70.16**	**327**	P	**P**	**13 45 33.7**	**-1.5**
RONA	**Rosalia, Austr** comp=Z,5.3nm,1.1s	**72.34**	**327**	*i* P	**P**	**13 45 48.9**	**+0.4**
STKA	**Stephens Creek** comp=Z,3.9nm,0.8s,baz=315,slow=8.7,SNR=3.8 comp=Z,3.9nm,0.8s	**72.37**	**120**	P	**P**	**13 45 48.8**	**-0.3**
SOKA	**Soboth** comp=Z,1.9nm,0.9s	**72.42**	**326**	*eP*	**P**	**13 45 49.7**	**+0.6**
ARSA	**Arzberg** comp=Z,3.8nm,0.8s	**72.49**	**326**	*eP*	**P**	**13 45 50.0**	**+0.6**
OBKA	**Obir** comp=Z,3.3nm,1.3s	**72.59**	**325**	*i* P	**P**	**13 45 52.0**	**+1.9**
CONA	**Conrad Observa** comp=Z,6.3nm,1.0s	**72.71**	**327**	*eP*	**P**	**13 45 51.1**	**+0.3**
DBIC	**Dimbokro** comp=Z,10.0nm,1.0s,baz=105,slow=5.3,SNR=4.6 comp=Z,10.0nm,1.0s	**72.87**	**280**	P	**P**	**13 45 53.3**	**+1.0**
TROLL	**Troll, Antarti** comp=Z,88nm,0.8s	**72.92**	**197**	⇑P	**P**	**13 45 51.5**	**-0.2**
MYKA	**Terra Mystica** comp=Z,3.9nm,1.2s	**73.17**	**325**	*i* P	**P**	**13 45 54.6**	**+1.1**
MOA	**Molln** comp=Z,7.6nm,0.8s	**73.53**	**326**	*i* P	**P**	**13 45 55.9**	**+0.3**
BIOA	**Bad Ischl, Aus** comp=Z,3.7nm,0.8s	**73.78**	**326**	*i* P	**P**	**13 45 57.4**	**+0.3**
ABTA	**Abfaltersbach** comp=Z,4.9nm,0.7s	**73.88**	**325**	*i* P	**P**	**13 45 58.6**	**+0.9**
KSRS	**Korea Array** comp=Z,2.1nm,0.7s,baz=252,slow=6.5,SNR=9.1 comp=Z,2.1nm,0.7s	**74.13**	**47**	P	**P**	**13 45 58.6**	**-0.6**
LESA	**Schwarzleotal** comp=Z,5.6nm,0.8s	**74.17**	**325**	*i* P	**P**	**13 45 59.4**	**+0.1**
SNAA	**Sanae** comp=Z,50nm,0.8s	**74.40**	**198**	⇑P	**P**	**13 45 60.0**	**-0.4**
SNAA	**Sanae**	**74.40**	**198**		**P**	**13 45 59.7**	**-0.6**
SNAA	comp=Z,20nm,1.9s			IAmb	IAmb	13 47 48.0	
SNAA	**Sanae** comp=Z,7.2nm,0.9s,baz=78,slow=7.1,SNR=9.7 comp=Z,7.2nm,0.9s	**74.40**	**198**	P	**P**	**13 46 00.2**	**-0.2**
GERES	**GERESS Array B** comp=Z,0.7nm,0.8s,baz=126,slow=5.0,SNR=5.5 comp=Z,0.7nm,0.8s	**74.41**	**327**	P	**P**	**13 46 00.0**	**-0.8**
WTTA	**Wattenberg** comp=Z,9.0nm,0.8s	**74.66**	**325**	*i* P	**P**	**13 46 02.5**	**+0.1**
WATA	**Walderalm** comp=Z,7.3nm,1.0s	**74.74**	**325**	*i* P	**P**	**13 46 02.8**	**0.0**
SQTA	**Sankt Quirin** comp=Z,4.9nm,0.7s	**74.88**	**325**	*i* P	**P**	**13 46 03.7**	**+0.1**
MOTA	**Moosalm** comp=Z,10.0nm,1.2s	**75.01**	**325**	*i* P	**P**	**13 46 04.3**	**-0.1**
FETA	**Feichten** comp=Z,5.3nm,0.8s	**75.05**	**324**	*i* P	**P**	**13 46 04.7**	**0.0**
FUORN	**Ofenpass-Fuorn**	**75.11**	**324**		**P**	**13 46 04.3**	**-0.8**
RETA	**Reutte** comp=Z,7.3nm,1.1s	**75.28**	**325**	*i* P	**P**	**13 46 06.7**	**+0.9**
BRG	**Berggiesshubel**	**75.47**	**329**	*eP*	**P**	**13 46 07.8**	**+1.1**
BRG	comp=Z,3.2nm,0.8s			Amp		13 46 09.5	
DAVA	**Damuels** comp=Z,9.0nm,0.7s	**75.68**	**324**	*i* P	**P**	**13 46 08.7**	**+0.5**
VNA1	**Neumayer--Stat** comp=Z,2.1n

comp=Z,11nm,1.2s
QSPA South Pole Qui 80.36 180 P **P** **13 46 34.1 +0.2**
comp=Z,3.9nm,1.0s,baz=272,slow=1.8,SNR=9.3
comp=Z,3.9nm,1.0s
HFS Hagfors 81.15 336 P **P** **13 46 38.5 +0.5**
comp=Z,5.7nm,0.9s,baz=133,slow=6.1,SNR=9.1
comp=Z,5.7nm,0.9s
MJB9 Matsu-Tunnel 81.41 51 P **P** **13 46 39.9 0.0**
MJB9 IAmb IAmb 13 46 40.4
comp=Z,6.9nm,0.8s
MAJO Matsushiro 81.41 51 **P** **13 46 39.9 0.0**
MAJO IAmb IAmb 13 46 40.4
comp=Z,7.3nm,0.8s
MJAR Matsushiro Arr 81.41 51 **P** **13 46 40.1 +0.2**
MJAR IAmb IAmb 13 46 41.2
comp=Z,16nm,1.4s
MJAR Matsushiro Arr 81.41 51 P **P** **13 46 39.9 0.0**
comp=Z,9.8nm,0.9s,baz=246,slow=5.9,SNR=34
comp=Z,9.8nm,0.9s
ESDC Sonseca Array 81.45 313 P **P** **13 46 40.4 +0.3**
comp=Z,3.5nm,1.0s,baz=110,slow=5.5,SNR=17
comp=Z,3.5nm,1.0s
NOA NORSAR Array B 82.67 336 P **P** **13 46 46.9 +0.8**
comp=Z,1.1nm,1.0s,baz=117,slow=5.2,SNR=5.3
comp=Z,1.1nm,1.0s
ARCES ARCESS Array B 83.95 347 P **P** **13 46 52.5 +0.1**
comp=Z,3.5nm,0.9s,baz=142,slow=4.6,SNR=12
comp=Z,3.5nm,0.9s
YAK Yakutsk 86.45 25 **P** **13 47 04.7 -0.3**
EKA Eskdalemuir Ar 86.62 328 P **P** **13 47 05.7 -0.3**
comp=Z,1.9nm,0.8s,baz=122,slow=5.2,SNR=3.7
comp=Z,1.9nm,0.8s
URZ Urewera 99.83 132 LR LR 14 24 45.5
comp=Z,618nm,19.6s,baz=9.5,slow=30
ILAR Eielson Array 120.27 16 PKP **PKPdf** **13 53 12.6 -1.0**
comp=Z,0.7nm,0.7s,baz=291,slow=3.5,SNR=5.4
YKA Yellowknife Ar 127.29 1 PKP **PKPdf** **13 53 26.9 -0.1**
comp=Z,2.0nm,0.9s,baz=5.4,slow=2.6,SNR=9.0
LPAZ La Paz 128.17 240 PKP **PKPdf** **13 53 31.1 +0.2**
comp=Z,2.2nm,0.8s,baz=106,slow=4.5,SNR=7.3
PLID Pearl Lake 144.67 3 **PKPab** **13 53 58.0 -0.7**
RSSD Black Hills 144.72 348 PKPbc 13 53 59.2 +0.2
PDAR Pinedale Array 146.87 355 **PKPdf** **13 54 04.0 +0.1**
PDAR Pinedale Array 146.87 355 PKPbc **PKPdf** **13 54 04.1 +0.2**
comp=Z,5.7nm,0.6s,baz=9.7,slow=2.8,SNR=50
NVAR Mina Array Bea 151.07 8 PKPbc **PKiKP** **13 54 17.6 +0.4**
comp=Z,8.4nm,0.8s,baz=345,slow=3.5,SNR=44
TXAR Lajitas Array 158.38 336 PKPab **PKPab** **13 54 54.9 -0.2**
comp=Z,2.4nm,0.8s,baz=30,slow=4.6,SNR=17

*IDC **20** 14:08:14.0±2.3, 22˚.30N×143˚.41E, h115km±20km, mb3.7/16, mbtmp4.1/18, MS3.7/1, Error ellipse: s-maj=22.8km s-min=11.3km az=80.0*
*JMA **20** 14:08:21.4±0.3, 23˚N±1˚×14˚3E±˚, h186km±2km, IOTO ISLANDS REGION*
ISC 20 14:08:22.8±0.6, 22˚.60N±0˚.07×143˚.1E±0˚.2, h200km, n36, σ2^{2}15/36, mb3.7/15, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JHH2	**Haha-jima-NKT2**	**4.11**	**348**	P		**Pn**	**14 09 25.7**	**-0.1**
JHH2				S		**Sn**	**14 10 15.4**	**-0.2**
CBIJ	**Chichi jima**	**4.55**	**349**	P		**Pn**	**14 09 31.0**	**-0.5**
CBIJ				S		**Sn**	**14 10 25.5**	**-0.2**
JCJ	**Chichijima**	**4.55**	**349**	P		Pn	14 09 26.5	-5.1
	145nm,0.3s,baz=180,slow=0.0							
JCJ				S		**Sn**	**14 10 21.6**	**-4.1**
	baz=180,slow=0.0							
BSO1	**Boso 1**	**12.15**	**352**	*eP*		**Pn**	**14 11 10.7**	**+1.6**
BSO3	**Boso 3**	**12.37**	**350**	*eP*		**Pn**	**14 11 12.7**	**+0.7**
HMMJ	**Hamamatsu 2**	**13.09**	**340**	*eP*		**P**	**14 11 22.7**	**-1.8**
JOD2	**Odawara 2**	**13.10**	**345**	*eP*		**P**	**14 11 22.7**	**-1.9**
JHO	**Hitachi**	**14.13**	**352**	*eP*		**P**	**14 11 35.4**	**-0.7**
JHO				*eS*		**S**	**14 14 08.3**	**-3.3**
JAG	**Ashikaga**	**14.14**	**348**	*eP*		**Pn**	**14 11 34.5**	**+0.1**
JAG				*eS*		**S**	**14 14 08.4**	**-3.3**
MJAR	**Matsushiro Arr**	**14.53**	**344**	P		**Pn**	**14 11 37.8**	**-1.5**
	1.2nm,0.5s,baz=161,slow=11,SNR=11							
KSRS	**Korea Array**	**19.77**	**322**	P		**Pn**	**14 12 39.5**	**-2.2**
	1.3nm,0.9s,baz=146,slow=8.8,SNR=8.7							
	1.3nm,0.9s							
H11N1	**WAKE ISLAND Hy**	**22.34**	**93**	T		T	14 35 57.2	
	baz=283							
H11N2	**WAKE ISLAND Hy**	**22.34**	**93**	T		T	14 36 10.3	
	baz=283							
H11N3	**WAKE ISLAND Hy**	**22.35**	**93**	T		T	14 35 59.5	
	baz=283							
H11S3	**WAKE ISLAND Hy**	**22.42**	**96**	T		T	14 36 26.7	
	baz=283							
H11S1	**WAKE ISLAND Hy**	**22.43**	**96**	T		T	14 36 15.3	
	baz=283							
H11S2	**WAKE ISLAND Hy**	**22.44**	**96**	T		T	14 36 28.2	
	baz=283							
SONM	**Songino Array**	**38.62**	**320**	P		P	14 15 31.0	+4.3
	0.4nm,0.4s,baz=123,slow=7.6,SNR=2.2							
	0.4nm,0.4s							
WRA	**Warramunga Arr**	**43.15**	**192**	P		**P**	**14 16 01.3**	**-2.5**
	2.9nm,0.3s,baz=10,slow=7.9,SNR=181							
WRA				PcP		**PcP**	**14 17 50.6**	**+0.9**
	0.8nm,0.5s,baz=8.1,slow=3.4,SNR=6.7							
	2.9nm,0.3s							
ASAR	**Alice Springs**	**46.86**	**192**	P		**P**	**14 16 29.4**	**-3.7**
	1.4nm,0.6s,baz=12,slow=7.6,SNR=27							
ASAR				PcP		**PcP**	**14 18 03.8**	**+1.3**
	0.7nm,0.8s,baz=21,slow=3.6,SNR=3.1							
	1.4nm,0.6s							
MKAR	**Makanchi Array**	**54.05**	**312**	P		**P**	**14 17 30.0**	**+3.3**
	0.5nm,0.5s,baz=94,slow=8.5,SNR=6.7							
MKAR				PcP		**sP**	**14 18 31.4**	**-1.1**
	0.2nm,0.3s,baz=91,slow=2.3,SNR=5.2							
	0.5nm,0.5s							
STKA	**Stephens Creek**	**54.19**	**182**	P		**P**	**14 17 26.6**	**-1.1**
	2.5nm,0.4s,baz=355,slow=12,SNR=9.4							
	2.5nm,0.4s							
KURBB	**Kurchatov Array**	**56.84**	**317**	P		**P**	**14 17 48.4**	**+2.0**
	1.4nm,0.4s,baz=93,slow=7.5,SNR=9.6							
KURBB				LR		LR	14 43 25.3	
	comp=Z,57nm,19.4s,baz=178,slow=37							
	1.4nm,0.4s							
ILAR	**Eielson Array**	**61.26**	**27**	P		**P**	**14 18 17.7**	**+1.2**
	0.4nm,0.7s,baz=262,slow=5.9,SNR=2.6							
	0.4nm,0.7s							
BVAR	**Borovoye Array**	**61.96**	**319**	P		**P**	**14 18 25.0**	**+3.6**
	2.6nm,0.7s,baz=89,slow=8.1,SNR=12							
	2.6nm,0.7s							
URZ	**Urewera**	**68.43**	**152**	P		**P**	**14 19 00.6**	**-2.4**
	7.3nm,0.5s,baz=277,slow=17,SNR=6.6							
	7.3nm,0.5s							
YKA	**Yellowknife Ar**	**75.68**	**28**	P		**P**	**14 19 47.9**	**+2.1**
	0.6nm,0.7s,baz=298,slow=6.3,SNR=10							
	0.6nm,0.7s							
ARCES	**ARCESS Array B**	**78.05**	**341**	P		**P**	**14 20 02.1**	**+3.2**
	1.2nm,0.7s,baz=56,slow=6.8,SNR=6.7							
	1.2nm,0.7s							
KBZ	**Khabaz**	**81.71**	**314**	P		**P**	**14 20 22.4**	**+3.4**
	2.4nm,0.6s,baz=62,slow=16,SNR=5.6							
	2.4nm,0.6s							
FINES	**FINESS Array B**	**82.35**	**334**	P		**P**	**14 20 23.7**	**+1.8**
	0.4nm,0.3s,baz=56,slow=4.7,SNR=11							
	0.4nm,0.3s							
NVAR	**Mina Array Bea**	**82.62**	**52**	P		**P**	**14 20 23.8**	**-0.3**
	0.3nm,0.6s,baz=299,slow=4.7,SNR=2.7							
	0.3nm,0.6s							
HFS	**Hagfors**	**87.88**	**337**	P		**P**	**14 20 50.4**	**+1.0**
	0.4nm,0.3s,baz=67,slow=2.2,SNR=5.8							
	0.4nm,0.3s							
SNAA	**Sanae**	**127.22**	**193**	PKP		**PKiKP**	**14 27 02.8**	**-0.4**
	0.7nm,0.6s,baz=215,slow=1.6,SNR=5.8							
TORD	**Torodi Ar. Bea**	**128.13**	**309**	PKP		**PKiKP**	**14 27 07.8**	**+1.1**
	0.7nm,0.4s,baz=79,slow=2.2,SNR=1.5							
PLCA	**Paso Flores**	**146.38**	**130**	PKPbc		**PKiKP**	**14 27 40.8**	**-2.4**
	2.0nm,0.6s,baz=242,slow=3.9,SNR=11							
LPAZ	**La Paz**	**149.90**	**84**	PKPbc		**PKiKP**	**14 27 52.2**	**+0.4**
	1.2nm,0.4s,baz=288,slow=3.2,SNR=5.4							

*NEIC **20** 14:11:04.2±2.4, 20˚.44S±0˚.09×173˚.53W±0˚.07, h10km±1km, mb4.8/32, Error ellipse: s-maj=16.5km s-min=9.1km az=209.0*
*IDC **20** 14:11:06.9±0.5, 20˚.52S×174˚.07W, h0km, mb4.4/18, mbtmp4.4/19, ML4.6/1, MS4.3/38, Error ellipse: s-maj=21.1km s-min=15.5km az=120.0*
*NOU **20** 14:11:10.8, 20˚.33S×173˚.20W, h73km, mb4.9/26, Tonga Islands*
*GCMT **20** 14:11:12.2±0.3, 20˚.66S±0˚.03×173˚.35W±0˚.02, h23km±1km,*

MW5.0/80, Moment Tensor Solution. s29,c31; s80,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.00±.20; $M_{\theta\theta}$-0.66±.12; $M_{\phi\phi}$-2.34±.12; $M_{r\theta}$1.13±.20; $M_{r\phi}$-0.61±.06; $M_{\theta\phi}$1.68±.15; Best double couple: $M_0$3.42400×10^{16} NP1:ϕs192.00000°, δ28.00000°, λ77.00000°. NP2: ϕs27.00000°, δ63.00000°, λ97.00000°. Principal axes: T 3.6840, Plg71.0000°, Azm311.0000°; N -0.5190, Plg6.0000°, Azm204.0000°; P -3.1630, Plg18.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 20 14:11:08.7±0.3, 20˚.47S±0˚.07×173˚.70W±0˚.06, h21km, n214, σ2^{2}03/182, mb4.7/46, MS4.4/42, 14C-14D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
NIUE	**Niue**	**3.81**	**69**			Pn	14 12 01.5	-4.7
NIUE				Sn		Sn	14 12 41.9	-8.6
NIUE	**Niue**	**3.81**	**69**	P		Pn	14 12 01.4	-4.8
NIUE	**Niue**	**3.81**	**69**	S		Sn	14 12 39.6	-11
AFI	**Afiamalu**	**6.78**	**16**			**Pn**	**14 12 43.4**	**-3.6**
AFI	**Afiamalu**	**6.78**	**16**	P		**Pn**	**14 12 43.9**	**-3.1**
MSVF	**Nonsavu**	**8.26**	**288**	Pn		**Pn**	**14 13 09.6**	**+2.1**
MSVF	**Nonsavu**	**8.26**	**288**	P		Pn	14 13 13.9	+6.5
RAO	**Raoul Island**	**9.55**	**203**	LR		LR	14 17 20.3	
	comp=Z,2μm,18.2s,baz=56,slow=40							
RAR	**Rarotonga**	**13.04**	**96**	Pn		Pn	14 14 04.7	-8.2
RAR	**Rarotonga**	**13.04**	**96**	Pn		Pn	14 14 08.1	-4.7
	3.1nm,0.3s,baz=249,slow=9.9,SNR=12							
RAR				Sn		Sn	14 16 19.4	-18
	1.2nm,0.3s,baz=274,slow=19,SNR=1.5							
RAR				LR		LR	14 19 45.4	
	comp=Z,2μm,18.2s,baz=278,slow=39							
RAR	**Rarotonga**	**13.04**	**96**	P		Pn	14 14 05.6	-7.3
FUNA	**Funafuti**	**13.71**	**329**			**Pn**	**14 14 21.4**	**-0.6**
PINNC	**Pines Island,**	**17.67**	**260**	P		**P**	**14 15 16.6**	**+2.2**
YATNC	**Mamie plateau,**	**18.16**	**262**	P		**P**	**14 15 21.9**	**+2.0**
OUENC	**Ouen Island, N**	**18.22**	**260**	P		**P**	**14 15 23.1**	**+2.6**
DZM	**Mont Dzumac**	**18.57**	**262**			**Pn**	**14 15 24.7**	**-0.2**
DZM					IAmb	IAmb	14 15 46.0	
	comp=Z,59nm,1.1s							
DZM	**Mont Dzumac**	**18.57**	**262**	*eP*		**Pn**	**14 15 24.5**	**-0.4**
	comp=Z,140nm,1.2s							
DZM					*eS*	**Sn**	**14 18 51.9**	**-0.2**
	comp=Z,326nm,23.5s							
DZM					*eLR*	LR	14 19 47.3	
	comp=Z,769nm,20.2s							
DZM	**Mont Dzumac**	**18.57**	**262**	P		**Pn**	**14 15 25.8**	**+1.0**
	comp=Z,14nm,0.6s,baz=87,slow=17,SNR=12							
DZM	**Mont Dzumac**	**18.57**	**262**	P		**Pn**	**14 15 26.5**	**+1.6**
URZ	**Urewera**	**19.43**	**202**	P		**Pn**	**14 15 33.9**	**-1.1**
	comp=Z,1.7nm,0.3s,baz=10,slow=11,SNR=8.5							
	comp=Z,7.2nm,0.4s							
URZ	**Urewera**	**19.43**	**202**	P		**Pn**	**14 15 35.7**	**+0.7**
TOZ	**Tahuroa Road**	**19.59**	**206**			**Pn**	**14 15 36.6**	**-0.2**
KOUNC	**Kourtz, New Ca**	**20.62**	**266**	P		Pn	14 15 51.3	+2.2
LUES	**Luesalemba Tem**	**21.90**	**293**	P		**P**	**14 16 01.9**	**+1.3**
TBI	**Tubuai**	**22.66**	**102**	*eP*		**P**	**14 16 09.7**	**+0.9**
	comp=Z,933nm,29.0s							
TBI					*eS*	S	14 20 02.1	-14
	comp=Z,2μm,25.8s							
TBI					*eLR*	LR	14 21 21.5	
	comp=Z,3μm,21.8s							
TBI					*eLR*	LR	14 21 30.1	
	comp=Z,900nm,24.0s							
PPT2	**Papeete2**	**22.98**	**87**	*eP*		**P**	**14 16 08.7**	**-3.5**
	comp=Z,239nm,37.0s							
PPT2					*eS*	**S**	**14 20 16.7**	**-5.0**
	comp=Z,1μm,24.8s							
PPT2					*eLR*	LR	14 21 29.7	
	comp=Z,756nm,22.0s							
PPT2					*eLR*	LR	14 21 54.3	
	comp=Z,921nm,21.8s							
PPT	**Papeete**	**22.98**	**87**	LR		LR	14 23 46.2	
	comp=Z,1μm,18.0s,baz=262,slow=33							
QRZ	**Quartz Range**	**23.44**	**207**	P		**P**	**14 16 17.6**	**+1.1**
THZ	**Tophouse**	**24.07**	**205**	P		**P**	**14 16 16.4**	**-6.2**
THZ					IAmb	IAmb	14 16 39.4	
	comp=Z,19nm,0.9s							
KHZ	**Kahutara**	**24.38**	**203**	P		**P**	**14 16 25.4**	**0.0**
LTZ	**Lake Taylor**	**25.18**	**205**	P		**P**	**14 16 29.5**	**-3.2**
INZ	**Inchbonnie**	**25.47**	**206**	P		**P**	**14 16 31.8**	**-3.5**
TAOE	**Nuku Hiva Isla**	**34.37**	**75**	*eS*		**S**	**14 23 22.4**	**+0.8**
	comp=Z,88nm,24.9s							
TAOE					*eLR*	LR	14 26 48.8	
	comp=Z,544nm,21.0s							
CAN	**Canberra**	**35.90**	**238**	P		**P**	**14 18 05.6**	**-2.0**
CAN					IAmb	IAmb	14 18 12.2	
	comp=Z,10.0nm,0.8s							
CAN	**Canberra**	**35.90**	**238**	P		**P**	**14 18 07.5**	**-0.1**
CTAO	**Charters Tower**	**37.50**	**263**	P		**P**	**14 18 17.7**	**-3.7**
CTAO					IAmb	IAmb	14 18 28.1	
	comp=Z,15nm,1.1s							
CMSA	**Cobar Meteorol**	**37.93**	**245**	P		**P**	**14 18 23.5**	**-1.3**
MTSU	**Mount Surprise**	**39.62**	**266**	P		**P**	**14 18 38.2**	**-0.9**
STKA	**Stephens Creek**	**41.44**	**245**	P		**P**	**14 18 51.8**	**-2.3**
	comp=Z,9.9nm,1.0s,baz=88,slow=14,SNR=5.6							
STKA					LR	LR	14 33 59.5	
	comp=Z,167nm,18.7s,baz=60,slow=33							
	comp=Z,9.9nm,1.0s							
STKA	**Stephens Creek**	**41.44**	**245**	P		**P**	**14 18 53.5**	**-0.6**
COEN	**Coen**	**41.61**	**272**	P		**P**	**14 18 52.1**	**-3.5**
COEN					IAmb	IAmb	14 18 56.5	
	comp=Z,14nm,0.9s							
COEN	**Coen**	**41.61**	**272**	P		**P**	**14 18 55.6**	**0.0**
BBOO	**Buckleboo**	**46.17**	**244**	P		**P**	**14 19 30.8**	**-1.3**
JAY	**Jayapura**	**47.89**	**286**	LR		LR	14 38 46.6	
	comp=Z,280nm,18.8s,baz=119,slow=35							
GENI	**Genyem**	**48.34**	**285**	P		**P**	**14 19 49.1**	**-0.1**
AS01	**Alice Springs**	**48.40**	**256**	P		**P**	**14 19 48.6**	**-1.1**
AS31	**Alice Springs**	**48.44**	**256**			**P**	**14 19 47.3**	**-2.7**
ASAR	**Alice Springs**	**48.44**	**256**			P	14 19 42.9	-7.1
ASAR	**Alice Springs**	**48.44**	**256**	P		**P**	**14 19 47.9**	**-2.0**
	comp=Z,6.3nm,0.8s,baz=94,slow=7.7,SNR=40							
ASAR				PcP		**PcP**	**14 21 17.7**	**+1.5**
	comp=Z,2.5nm,0.8s,baz=98,slow=3.9,SNR=4.0							
ASAR				LR		LR	14 40 36.3	
	comp=Z,346nm,19.0s,baz=99,slow=37							
	comp=Z,6.3nm,0.8s							
WB0	**Warramunga Arr**	**48.57**	**261**			**P**	**14 19 47.0**	**-3.9**
WB0					IAmb	IAmb	14 19 56.0	
	comp=Z,11nm,0.9s							
WRAB	**Tennant Creek**	**48.58**	**261**	P		**P**	**14 19 48.8**	**-2.2**
WRAB					IAmb	IAmb	14 19 56.1	
	comp=Z,10nm,1.1s							
WRA	**Warramunga Arr**	**48.59**	**261**			**P**	**14 19 48.4**	**-2.7**
WRA	**Warramunga Arr**	**48.59**	**261**	P		**P**	**14 19 48.7**	**-2.5**
	comp=Z,3.0nm,0.7s,baz=100,slow=7.8,SNR=35							
WRA				PcP		**PcP**	**14 21 18.5**	**+1.8**
	comp=Z,2.7nm,0.8s,baz=99,slow=3.2,SNR=5.6							
	comp=Z,3.0nm,0.7s							
KDU	**Kakadu**	**51.98**	**270**	P		**P**	**14 20 16.7**	**-0.1**
MTN	**Manton Dam**	**53.19**	**269**	P		**P**	**14 20 23.5**	**-2.3**
KNRA	**Kununurra**	**54.68**	**265**			**P**	**14 20 33.0**	**-3.6**
KNRA					IAmb	IAmb	14 20 42.5	
	comp=Z,11nm,0.9s							
FITZ	**Fitzroy Crossi**	**57.02**	**261**			**P**	**14 20 51.3**	**-2.2**
FITZ	**Fitzroy Crossi**	**57.02**	**261**	LR		LR	14 45 35.5	
	comp=Z,691nm,18.1s,baz=95,slow=36							
FITZ	**Fitzroy Crossi**	**57.02**	**261**	P		**P**	**14 20 52.8**	**-0.6**
SBA	**Scott Base**	**58.20**	**185**			**P**	**14 21 03.4**	**+2.5**
VNDA	**Vanda**	**58.33**	**186**			**P**	**14 21 02.3**	**+0.5**
VNDA	**Vanda**	**58.33**	**186**	P		**P**	**14 21 04.4**	**+2.6**
	comp=Z,2.3nm,0.8s,baz=11,slow=7.4,SNR=10.0							
VNDA					LR	LR	14 43 47.1	
	comp=Z,175nm,18.1s,baz=14,slow=34							
SOEI	**Soe**	**60.53**	**270**			**P**	**14 21 14.8**	**-3.3**
KLBR	**Kellerberrin**	**61.71**	**244**	P		**P**	**14 21 25.9**	**+0.2**
NWAO	**Narrogin (SRO)**	**61.98**	**243**	LR		LR	14 46 07.0	
	comp=Z,199nm,19.3s,baz=76,slow=34							
JCJ	**Chichijima**	**63.73**	**316**	LR		LR	14 44 32.2	
	comp=Z,206nm,19.9s,baz=225,slow=32							
DAV	**Davao City (W)**	**65.63**	**288**	LR		LR	14 49 59.5	
	comp=Z,183nm,18.4s,baz=104,slow=36							
KAPI	**Kappang**	**66.30**	**274**	LR		LR	14 50 30.9	
	comp=Z,138nm,18.0s,baz=86,slow=36							
GIRL	**Giralia**	**66.43**	**254**	P		**P**	**14 21 53.0**	**-3.8**
TOLI2	**Tolitoli**	**67.56**	**280**			**P**	**14 22 02.4**	**-1.7**
TOLI2	**Tolitoli**	**67.56**	**280**	P		**P**	**14 22 04.0**	**-0.1**
QSPA	**South Pole Qui**	**69.60**	**180**	P		**P**	**14 22 18.5**	**+2.3**
	comp=Z,12nm,1.1s,baz=36,slow=2.2,SNR=22							
QSPA					LR	LR	14 50 24.1	
	comp=Z,264nm,19.0s,baz=40,slow=34							
	comp=Z,12nm,1.1s							
MJAR	**Matsushiro Arr**	**72.64**	**321**			**P**	**14 22 33.6**	**-1.3**
MJAR	**Matsushiro Arr**	**72.64**	**321**	P		**P**	**14 22 35.4**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=154,slow=6.2,SNR=18							
MJAR					LR	LR	14 52 31.8	
	comp=Z,98nm,18.1s,baz=141,slow=34							
	comp=Z,2.7nm,0.7s							
MAJO	**Matsushiro**	**72.65**	**321**			**P**	**14 22 35.4**	**+0.5**
MAJO					IAmb	IAmb	14 22 41.7	
	comp=Z,7.2nm,0.8s							
MJB9	**Matsu-Tunnel**	**72.65**	**321**	P		**P**	**14 22 35.9**	**+1.0**
MJB9					IAmb	IAmb	14 22 41.7	
	comp=Z,7.0nm,0.8s							
JOW	**Kunigami**	**73.29**	**308**	LR		LR	14 52 23.9	
	comp=Z,144nm,19.1s,baz=274,slow=34							
SHEM	**Shemya Is, Ala**	**73.66**	**352**	LR		LR	14 52 04.1	
	comp=Z,231nm,18.6s,baz=131,slow=33							
JNU	**Nakatsue**	**75.08**	**314**	LR		LR	14 52 36.9	
	comp=Z,125nm,18.2s,baz=138,slow=33							
ASAJ	**Asahikawa**	**75.69**	**329**	P		**P**	**14 22 54.5**	**+2.1**
	comp=Z,4.8nm,0.8s,baz=162,slow=9.6,SNR=4.8							
ASAJ					LR	LR	14 54 29.2	
	comp=Z,189nm,18.4s,baz=151,slow=34							
	comp=Z,4.8nm,0.8s							
LPIG	**La Paz**	**75.96**	**57**	LR		LR	14 50 16.6	
	comp=Z,412nm,18.6s,baz=208,slow=31							
PFO	**Pinyon Flats O**	**76.59**	**46**	P		P	14 22 52.9	-5.1
PFO	**Pinyon Flats O**	**76.59**	**46**	LR		LR	14 50 07.9	
	comp=Z,135nm,18.8s,baz=234,slow=30							
PMD	**Palm Desert**	**76.67**	**46**	P		P	14 22 53.5	-4.8
PETK	**Petropavlovsk-**	**77.35**	**343**	P		**P**	**14 23 03.7**	**+2.1**
	comp=Z,4.9nm,0.8s,baz=165,slow=6.7,SNR=6.2							
PETK					LR	LR	14 50 39.4	
	comp=Z,109nm,21.8s,baz=162,slow=31							
	comp=Z,4.9nm,0.8s							
YSS	**Yuzhno-Sakhali**	**77.74**	**331**	P		**P**	**14 23 01.4**	**-2.6**
NVAR	**Mina Array Bea**	**78.29**	**41**	P		**P**	**14 23 11.1**	**+3.6**
	comp=Z,1.7nm,0.8s,baz=253,slow=5.9,SNR=16							
	comp=Z,1.7nm,0.8s							
BELA	**Belgrano 2**	**79.05**	**172**	P		**P**	**14 23 08.0**	**-2.9**
BELA					IAmb	IAmb	14 23 33.1	
	comp=Z,8.6nm,1.1s							
KSRS	**Korea Array**	**79.59**	**316**	P		**P**	**14 23 14.9**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=126,slow=6.0,SNR=4.1							
	comp=Z,1.4nm,0.8s							
PMSA	**Palmer Station**	**79.69**	**156**	LR		LR	14 54 25.5	
	comp=Z,283nm,18.1s,baz=257,slow=33							
KDAK	**Kodiak Island**	**79.92**	**11**	LR		LR	14 52 59.3	
	comp=Z,196nm,20.7s,baz=202,slow=31							
P18K	**Big Mountain,**	**81.00**	**9**	P		**P**	**14 23 18.6**	**-2.9**
P18K					IAmb	IAmb	14 23 33.8	
	comp=Z,11nm,0.9s							
USRK	**Ussuriysk Ar.**	**81.26**	**324**	P		**P**	**14 23 23.1**	**0.0**
	comp=Z,1.9nm,0.7s,baz=139,slow=3.1,SNR=6.4							
USRK					LR	LR	14 55 25.0	
	comp=Z,296nm,19.8s,baz=139,slow=33							
	comp=Z,1.9nm,0.7s							
BBB	**Bella Bella**	**82.53**	**26**	LR		LR	14 56 14.0	
	comp=Z,102nm,18.2s,baz=212,slow=33							
MDJ	**Mudanjiang**	**82.86**	**323**	P		P	14 23 37.0	+5.4
MDJ					pmax	pmax		
	comp=Z,17nm,2.3s							
MAW	**Mawson**	**82.93**	**199**	P		**P**	**14 23 32.3**	**+0.7**
	comp=Z,3.8nm,0.8s,baz=125,slow=9.8,SNR=7.7							
	comp=Z,3.8nm,0.8s							
NJ2	**Nanjing**	**83.00**	**308**	*eP*		**P**	**14 23 32.3**	**-0.3**
NJ2					pmax	pmax		
	comp=Z,13nm,0.5s							
TXAR	**Lajitas Array**	**83.68**	**56**	P		**P**	**14 23 37.8**	**+1.6**
	comp=Z,2.2nm,0.9s,baz=244,slow=4.6,SNR=14							
TXAR					LR	LR	14 54 52.2	
	comp=Z,165nm,18.8s,baz=234,slow=31							
	comp=Z,2.2nm,0.9s							
ANMO	**Albuquerque**	**84.28**	**50**	LR		LR	14 55 41.6	
	comp=Z,242nm,18.4s,baz=340,slow=32							
BNX	**BinXian**	**84.77**	**323**	⇓P		**P**	**14 23 43.3**	**+2.0**
BNX					pmax	pmax		
	comp=Z,13nm,1.0s							
MA2	**Magadan**	**84.89**	**343**	LR		LR	15 00 57.5	
	comp=Z,112nm,18.2s,baz=152,slow=35							
NEW	**Newport**	**85.04**	**34**	LR		LR	14 57 11.0	
	comp=Z,806nm,18.6s,baz=219,slow=32							
CAST	**Castle Rocks**	**85.31**	**10**	IAmb		IAmb	14 23 48.4	
	comp=Z,3.2nm,0.

comp=Z,280nm,20.4s
INK Inuvik 93.23 14 P **P** 14 24 25.2 +4.2
comp=Z,0.6nm,0.3s,baz=223,slow=7.9,SNR=6.6
INK LR LR 15 03 56.1
comp=Z,113nm,18.3s,baz=233,slow=34
comp=Z,0.6nm,0.3s
CMAR Chiang Mai Arr 93.92 288 P **P** 14 24 27.4 +2.0
comp=Z,0.4nm,0.4s,baz=108,slow=4.7,SNR=6.2
CMAR LR LR 15 06 07.4
comp=Z,81nm,19.3s,baz=130,slow=35
comp=Z,0.4nm,0.4s
PZH PanZhiHua 94.28 297 P **P** 14 24 26.5 -0.5
YKA Yellowknife Ar 94.83 24 P **P** 14 24 31.9 +3.4
comp=Z,0.4nm,0.7s,baz=237,slow=5.5,SNR=4.2
YKA LR LR 15 01 02.7
comp=Z,73nm,20.6s,baz=233,slow=32
comp=Z,0.4nm,0.7s
LZH Lanzhou 95.98 306 *e*P P 14 24 28.5 -6.1
LZH pP PcP 14 24 34.4 -0.4
LZH pmax pmax
comp=Z,8.0nm,1.0s
SONM Songino Array 98.40 318 LR LR 15 10 53.4
comp=Z,88nm,18.5s,baz=116,slow=36
WMQ Urumqi 109.96 310 *e*PKP **PKiKP** 14 29 36.0 -2.7
WMQ LR LR
comp=Z,150nm,18.3s
KURBB Kurchatov Arra 116.76 317 PKP **PKiKP** 14 29 52.2 +0.9
comp=Z,0.6nm,0.9s,baz=102,slow=1.0,SNR=5.0
KURBB PP **PP** 14 30 58.4 -1.4
comp=Z,0.3nm,0.6s,baz=90,slow=6.8,SNR=4.8
BVAR Borovoye Array 121.64 320 PKP **PKiKP** 14 30 01.0 +0.2
comp=Z,0.6nm,0.4s,baz=95,slow=4.6,SNR=3.9
FINES FINESS Array B 136.79 346 PKP **PKiKP** 14 30 30.6 -0.3
comp=Z,1.1nm,0.8s,baz=29,slow=3.2,SNR=4.5
EKA Eskdalemuir Ar 144.47 9 PKP **PKPdf** 14 30 43.1 -0.1
comp=Z,4.1nm,0.9s,baz=348,slow=3.1,SNR=5.5
AKASG Malin Array Be 144.83 335 PKP **PKPdf** 14 30 43.7 -0.3
comp=Z,6.5nm,0.7s,baz=41,slow=4.6,SNR=25
AK04 Malin Array Si 144.84 335 PKP **PKPdf** 14 30 43.8 -0.1
KIEV Kiev 144.84 335 ⇓P **PKPdf** 14 30 44.2 +0.2
KIEV Kiev 144.84 335 PKP **PKPdf** 14 30 43.8 -0.2
AK08 Malin Array Si 144.87 334 PKP **PKPdf** 14 30 43.7 -0.3
AK11 Malin Array Si 144.87 335 PKP **PKPdf** 14 30 43.7 -0.3
AK02 Malin Array Si 144.87 334 PKP **PKPdf** 14 30 43.7 -0.3
AK09 Malin Array Si 144.87 334 PKP **PKPdf** 14 30 43.7 -0.3
AK15 Malin Array Si 144.87 335 PKP **PKPdf** 14 30 43.7 -0.3
AK18 Malin Array Si 144.88 335 PKP **PKPdf** 14 30 43.7 -0.3
AK20 Malin Array Si 144.88 335 PKP **PKPdf** 14 30 43.7 -0.3
AK10 Malin Array Si 144.90 334 PKP **PKPdf** 14 30 43.8 -0.3
AK19 Malin Array Si 144.90 335 PKP **PKPdf** 14 30 43.8 -0.3
AK05 Malin Array Si 144.90 334 PKP **PKPdf** 14 30 43.8 -0.3
AK16 Malin Array Si 144.90 335 PKP **PKPdf** 14 30 43.8 -0.3
RNPP9 Sopachiv 145.51 338 PKP **PKPab** 14 30 46.1 +0.7
RNPP8 Varash 145.59 338 PKP **PKPab** 14 30 46.1 +0.4
RNPP5 Staryi Chortor 145.66 338 PKP **PKPab** 14 30 46.3 +0.3
LUBAR Lubar, Ukraine 146.03 335 PKP **PKPab** 14 30 47.4 0.0
SORM Soroca 147.17 332 ⇓P **PKiKP** 14 30 52.0 -0.6
OJC Ojcow 148.44 343 *e*PKP **PKPbc** 14 30 53.8 +0.2
KSP Ksiaz 148.68 348 *e*PKP **PKPab** 14 30 56.7 -1.1
CLL Collm 148.78 352 *e*PKPdf **PKPdf** 14 30 50.0 -0.6
CLL *i* PKPbc **PKPbc** 14 30 53.0 -1.4
CLL *i* PKPab **pPKPdf** 14 30 56.0 -0.3
comp=Z,17nm,1.5s
CLL *i* pPKPab **PKPab** 14 30 58.6 +0.5
comp=Z,10.0nm,1.2s
CLL *i* x x 14 31 00.7
comp=Z,47nm,1.9s
CLL *e*PKPlp 14 31 21.0
CLL *e*SKPdf **SKPdf** 14 34 24.0 +0.7
CLL *e*pPKSdf 14 34 26.0
CLL AMS AMS 15 37 00.0
comp=N,100nm,21.8s
CLL AMS AMS 15 37 00.0
comp=E,100nm,21.0s
CLL AMS AMS 15 37 00.0
comp=Z,200nm,19.8s
BURAR Bucovina Array 148.88 335 ⇓P **PKiKP** 14 30 57.2 +0.9
NIE Niedzica 149.03 342 *e*PKP **PKiKP** 14 30 57.7 +1.2
BRG Berggiesshubel 149.06 351 *e*PKP **PKiKP** 14 30 55.6 -0.8
BRG Amp 14 31 01.3
comp=Z,7.7nm,1.2s
BRG Berggiesshubel 149.06 351 P **PKPab** 14 31 05.6 +6.3
BRG Amp 14 31 06.0
comp=Z,7.5nm,1.1s
ONER Baraj Valea Uz 149.40 332 ⇑P **PKPbc** 14 30 56.5 +0.3
MORC Moravsky Berou 149.41 346 *e*PKP **PKiKP** 14 30 58.0 +0.7
CFR Carcaliu 149.47 329 ⇑P **PKiKP** 14 30 57.7 +0.3
BMR Baia Mare 149.49 337 ⇑P **PKiKP** 14 30 58.1 +0.7
TPGR Topolog 149.56 328 ⇑P **PKiKP** 14 30 58.0 +0.3
VRI Vrincioaia 149.62 331 ⇑P **PKiKP** 14 30 57.7 -0.1
PLOR Plostina 149.66 331 ⇑P **PKiKP** 14 30 57.6 -0.3
BRTR Keskin Array B 149.73 315 PKPbc **PKiKP** 14 30 58.3 -0.1
comp=Z,1.4nm,0.8s,baz=111,slow=3.2,SNR=6.8
VRAC Vranov 150.07 346 *e*PKP **PKPbc** 14 30 57.6 -0.1
DOPR Dopca 150.13 333 ⇑P **PKiKP** 14 30 58.3 -0.6
JAVC Velka Javorina 150.24 345 *e*PKP **PKiKP** 14 31 00.8 +1.8
MLR Muntele Rosu 150.25 332 ⇑P **PKiKP** 14 30 58.9 -0.4
VYHS Vyhne 150.27 343 *e*PKP **PKiKP** 14 31 00.3 +1.3
KRUC Moravsky 150.34 347 *e*PKP **PKiKP** 14 30 59.5 +0.3
MARR Marisel-Cluj 150.47 336 ⇓P **PKPbc** 14 30 58.7 -0.2
DRGR 150.53 337 ⇑P **PKiKP** 14 30 60.0 +0.3
VOIR 150.69 332 ⇑P **PKPdf** 14 30 56.2 +2.2
MODS Modra-Piesok 150.79 345 *e*PKP **PKiKP** 14 31 00.7 +0.6
KHC Kasperske Hory 150.81 350 *e*PKPAB **PKiKP** 14 31 02.5 +2.3
ARR Arges 150.93 333 ⇓P **PKiKP** 14 31 02.4 +1.9
GERES GERESS Array B 151.07 350 PKPbc **PKiKP** 14 31 01.7 +0.9
comp=Z,2.3nm,0.9s,baz=19,slow=3.4,SNR=9.3
MMAI Mount Meron Ar 151.26 302 PKPbc **PKiKP** 14 31 01.0 -0.2
comp=Z,6.6nm,0.8s,baz=85,slow=3.5,SNR=6.5
SIRR Siria 151.35 337 ⇑P **PKiKP** 14 31 02.4 +1.1
CONA Conrad Observa 151.53 346 *e*PKP **PKiKP** 14 31 02.8 +1.0
comp=Z,3.8nm,1.2s
SURR Surduc 151.62 336 ⇑P **PKiKP** 14 31 02.9 +1.0
RONA Rosalia, Austr 151.65 346 *i* PKiKP **PKPab** 14 31 06.2 -3.9
comp=Z,6.5nm,1.4s
GZR Gura Zlata 151.67 335 ⇑P **PKiKP** 14 31 03.0 +0.9
BZS Buzias 151.92 337 ⇑P **PKiKP** 14 31 03.4 +0.9
MOA Molln 151.93 349 *i* PKP **PKiKP** 14 31 03.9 +1.4
comp=Z,6.4nm,1.7s
BIOA Bad Ischl, Aus 152.20 349 *i* PKP **PKPab** 14 31 15.1 +2.6
comp=Z,4.4nm,0.9s
HERR Herculane 152.24 335 ⇓P **PKiKP** 14 31 03.7 +0.5
ARSA Arzberg 152.25 346 *i* PKP **PKPab** 14 31 13.9 +1.2
comp=Z,3.7nm,1.0s
MORH Mrgy, Hungar 152.40 341 ⇓P **PKPbc** 14 31 00.8 -2.4
MDVR Moldovita 152.59 336 ⇑P **PKPbc** 14 31 02.0 -1.7
LESA Schwarzleotal 152.62 351 *e*PKiKP **PKiKP** 14 31 06.8 +2.8
comp=Z,4.6nm,1.3s
RETA Reutte 152.80 353 *e*PKP **PKPab** 14 31 14.0 -1.0
comp=Z,2.3nm,0.7s
WATA Walderalm 152.86 352 *e*PKiKP **PKiKP** 14 31 07.1 +2.5
comp=Z,5.5nm,0.6s
SOKA Soboth 152.90 347 *i* PKP **PKiKP** 14 31 05.4 +0.8
comp=Z,3.5nm,1.1s
MOTA Moosalm 152.91 353 *e*PKP **PKiKP** 14 31 06.6 +1.9
comp=Z,3.6nm,1.1s
WTTA Wattenberg 152.92 352 *i* PKiKP **PKiKP** 14 31 08.0 +3.2
comp=Z,6.0nm,0.9s
DAVA Damuels 153.09 355 *i* PKP **PKPab** 14 31 13.1 -3.2
comp=Z,8.8nm,1.7s
OBKA Obir 153.16 347 *e*PKP **PKiKP** 14 31 05.7 +0.6
comp=Z,3.4nm,1.2s
MYKA Terra Mystica 153.22 349 *e*PKP **PKPab** 14 31 13.1 -3.7
comp=Z,1.0nm,0.4s
FETA Feichten 153.27 353 *i* PKiKP **PKiKP** 14 31 09.9 +4.4
comp=Z,3.8nm,1.0s
ABTA Abfaltersbach 153.30 350 *i* PKP **PKiKP** 14 31 06.8 +1.3
comp=Z,4.5nm,1.3s
ESDC Sonseca Array 158.93 22 PKPab **PKPab** 14 31 44.8 +3.4
comp=Z,1.3nm,1.2s,baz=345,slow=2.7,SNR=4.7
TORD Torodi Ar. Bea 171.49 148 PKPab **PKPab** 14 32 39.0 +1.8
comp=Z,1.3nm,0.5s,baz=207,slow=4.8,SNR=2.1

*MOS **20** 14:34:46.9±1.1, 43.°06N×145.°30E, h107km, mb4.4/1, Error ellipse: s-maj=18.4km s-min=11.8km az=78.3*
*SKHL **20** 14:34:47.2±0.6, 43.°00N×145.°50E, h105km±4km, mb4.9/4, msha5.7/4*
*JMA **20** 14:34:49.0±0.2, 43.°2N±0.°5×145.°3E±0.°8, h96km±1km, MV3.1/35, NEMURO REGION*
*IDC **20** 14:34:50.0±3.0, 43.°12N×145.°15E, h114km±19km, mb3.3/7, mbtmp3.6/9, Error ellipse: s-maj=28.8km s-min=27.7km az=11.0*

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ISC 20 14:34:48.5±0.9, 43.°13N±0.°07×145.°32E±0.°04, h97km±6km, n38, σ0ᵗ74/52, mb3.6/7, 1C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.12**	**250**	*i* P	**Pn**	**14 35 02.8**	**+0.7**
JKHN				S	**Sn**	**14 35 13.0**	**+0.9**
AKK	**Akkeshi**	**0.37**	**253**	*e*P	**Pn**	**14 35 03.5**	**+0.5**
NMR	**Nemuro--Hokkai**	**0.39**	**51**	⇓*i* PN	**Pn**	**14 35 03.3**	**+0.2**
NMR				*i* S	**Sn**	**14 35 13.9**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.39**	**51**	*i* P	**Pn**	**14 35 03.3**	**+0.2**
NMR				*i* S	**Sn**	**14 35 14.0**	**-0.1**
NEM2	**Nemuro 2**	**0.39**	**52**	*i* P	**Pn**	**14 35 03.3**	**+0.2**
NEM2				S	**Sn**	**14 35 13.9**	**-0.2**
JAK	**Akkeshi**	**0.47**	**254**	*i* P	**Pn**	**14 35 04.3**	**+0.6**
JAK				S	**Sn**	**14 35 15.8**	**+0.7**
GLVR	**Golovnino**	**0.63**	**13**	⇓*i* PN	**Pn**	**14 35 05.2**	**+0.2**
GLVR				*i* S	**Sn**	**14 35 17.8**	**+0.5**
GLVR				pmax	pmax		
	comp=N,95nm,0.2s						
GLVR				pmax	pmax		
	comp=Z,1μm,0.2s						
GLVR				smax	smax		
	comp=N,5μm,0.2s						
GLVR				smax	smax		
	comp=E,7μm,0.3s						
GLVR	**Golovnino**	**0.63**	**13**	*i* P	**Pn**	**14 35 05.2**	**+0.2**
GLVR				AMB	AMB	14 35 05.6	
	comp=E,1μm,0.2s						
GLVR				*i* S	**Sn**	**14 35 17.6**	**+0.3**
GLVR				A	A	14 35 18.6	
	comp=E,5μm,0.3s						
GLVR				A	A	14 35 18.6	
	comp=E,7μm,0.3s						
JNK	**Nakash**	**0.64**	**317**	*i* P	**Pn**	**14 35 05.0**	**-0.1**
JNK				S	**Sn**	**14 35 17.0**	**-0.4**
JRA	**Rausu**	**0.82**	**350**	*i* P	**Pn**	**14 35 07.1**	**+0.3**
JRA				S	**Sn**	**14 35 20.8**	**+0.3**
RUSJ	**Misakicho**	**0.98**	**357**	⇓*i* PN	**Pn**	**14 35 08.7**	**+0.3**
RUSJ				*i* S	**Sn**	**14 35 25.1**	**+1.7**
YUK	**Yuzh-Kuril'sk**	**0.99**	**23**	*d* PN	**Pn**	**14 35 08.6**	**+0.1**
YUK				*i* S	**Sn**	**14 35 23.5**	**-0.1**
YUK				pmax	pmax		
	comp=Z,886nm,0.2s						
YUK				pmax	pmax		
	comp=N,110nm,0.1s						
YUK				pmax	pmax		
	comp=E,185nm,0.1s						
YUK				smax	smax		
	comp=E,881nm,0.4s						
YUK				smax	smax		
	comp=N,696nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.99**	**23**	*i* P	**Pn**	**14 35 08.2**	**-0.3**
YUK				AMB	AMB	14 35 09.1	
	comp=N,470nm,0.2s						
YUK				*i* S	**Sn**	**14 35 23.9**	**+0.3**
YUK				A	A	14 35 24.1	
	comp=N,900nm,0.4s						
YUK				A	A	14 35 24.1	
	comp=N,2μm,0.4s						
JOB	**Onbets**	**1.11**	**259**	*i* P	**Pn**	**14 35 10.7**	**+0.8**
JOB				S	**Sn**	**14 35 26.8**	**+0.8**
JAR	**Ashorobuto**	**1.15**	**279**	*i* P	**Pn**	**14 35 10.9**	**+0.6**
JAR				S	**Sn**	**14 35 26.9**	**+0.1**
SHO	**Shikotan**	**1.33**	**55**	*d* PN	**Pn**	**14 35 14.1**	**+1.6**
SHO				*i* S	**Sn**	**14 35 31.1**	**+0.6**
SHO				pmax	pmax		
	comp=N,10.0nm,0.2s						
SHO				pmax	pmax		
	comp=Z,37nm,0.2s						
SHO				pmax	pmax		
	comp=E,35nm,0.1s						
SHO				smax	smax		
	comp=N,928nm,0.2s						
SHO				smax	smax		
	comp=E,1μm,0.2s						
SHO	**Shikotan**	**1.33**	**55**	*i* P	**Pn**	**14 35 14.0**	**+1.6**
SHO				AMB	AMB	14 35 15.8	
	comp=E,40nm,0.2s						
SHO				*i* S	**Sn**	**14 35 30.5**	**0.0**
SHO				A	A	14 35 32.0	
	comp=E,800nm,0.3s						
SHO				A	A	14 35 32.0	
	comp=E,1μm,0.3s						
JTKR	**Abashiri--Toko**	**1.33**	**310**	*i* P	**Pn**	**14 35 13.0**	**+0.5**
JTKR				*e*S	**Sn**	**14 35 31.0**	**+0.5**
JKA	**Kamikawa-asahi**	**2.21**	**298**	*e*P	**Pn**	**14 35 25.0**	**+1.4**
ASAJ	**Asahikawa**	**2.21**	**298**	P	**Pn**	**14 35 25.0**	**+1.3**
	comp=E,32nm,0.4s,baz=120,slow=11,SNR=133						
ASAJ				S	**Sn**	**14 35 51.4**	**+0.8**
	comp=E,14nm,0.7s,baz=106,slow=19,SNR=11						
KUR	**Kuril'sk**	**2.79**	**40**	*e*PN	**Pn**	**14 35 32.1**	**+0.7**
KUR				*e*S	**Sn**	**14 36 05.1**	**+0.8**
KUR				pmax	pmax		
	comp=Z,33nm,0.5s						
KUR				pmax	pmax		
	comp=N,20nm,0.6s						
KUR				smax	smax		
	comp=N,83nm,0.2s						
KUR				smax	smax		
	comp=E,28nm,0.2s						
KUR	**Kuril'sk**	**2.79**	**40**	*e*P	**Pn**	**14 35 32.0**	**+0.7**
KUR				AMB	AMB	14 35 32.8	
	comp=E,50nm,0.3s						
KUR				*i* S	**Sn**	**14 36 05.1**	**+0.8**
KUR				A	A	14 36 06.6	
	comp=E,50nm,0.2s						
KUR				A	A	14 36 06.6	
	comp=E,30nm,0.2s						
MJAR	**Matsushiro Arr**	**8.55**	**222**	P	**Pn**	**14 36 49.1**	**-0.4**
	comp=E,0.3nm,0.4s,baz=29,slow=15,SNR=4.0						
SONM	**Songino Array**	**27.49**	**293**	P	**P**	**14 40 25.7**	**0.0**
	comp=E,0.7nm,0.6s,baz=87,slow=8.6,SNR=2.1						
	comp=E,0.7nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.55**	**135**	T	T	15 11 54.5	
	baz=328,slow=75,SNR=56						
H11N1	**WAKE ISLAND Hy**	**29.56**	**135**	T	T	15 11 54.6	
	baz=328,slow=75,SNR=37						
H11N3	**WAKE ISLAND Hy**	**29.57**	**135**	T	T	15 11 55.8	
	baz=328,slow=75,SNR=49						
H11S1	**WAKE ISLAND Hy**	**30.48**	**137**	T	T	15 13 09.2	
	baz=329,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**30.48**	**137**	T	T	15 13 01.6	
	baz=329,slow=76,SNR=37						
H11S2	**WAKE ISLAND Hy**	**30.49**	**137**	T	T	15 13 04.6	
	baz=329,slow=76,SNR=41						
ILAR	**Eielson Array**	**42.78**	**36**	P	**P**	**14 42 36.6**	**+0.5**
	comp=E,0.4nm,0.7s,baz=271,slow=8.1,SNR=5.4						
	comp=E,0.4nm,0.7s						
MKAR	**Makanchi Array**	**43.69**	**298**	P	**P**	**14 42 42.4**	**-1.3**
	comp=E,0.2nm,0.4s,baz=81,slow=9.4,SNR=3.2						
	comp=E,0.2nm,0.4s						
KURK	**Kurchatov**	**44.77**	**304**	P	**P**	**14 42 52.2**	**0.0**
KURK	**Kurchatov**	**44.77**	**304**	*e*P	**P**	**14 42 52.2**	**0.0**
KURBB	**Kurchatov Arra**	**44.86**	**304**	P	**P**	**14 42 52.2**	**-0.6**
	comp=E,0.4nm,0.4s,baz=70,slow=8.8,SNR=3.6						
	comp=E,0.4nm,0.4s						
BVAR	**Borovoye Array**	**48.87**	**309**	P	**P**	**14 43 22.8**	**-1.2**
	comp=E,0.3nm,0.3s,baz=68,slow=10,SNR=2.6						
	comp=E,0.3nm,0.3s						
FINES	**FINESS Array B**	**64.82**	**332**	P	**P**	**14 45 15.4**	**-1.1**
	comp=E,1.0nm,0.5s,baz=44,slow=6.5,SNR=13						
	comp=E,1.0nm,0.5s						
HFS	**Hagfors**	**69.74**	**336**	P	**P**	**14 45 46.7**	**-0.9**
	comp=E,0.6nm,0.6s,baz=29,slow=6.6,SNR=1.6						
	comp=E,0.6nm,0.6s						

*MEX **20** 14:40:49.7±1.0, 14.°22N×92.°66W, h16km±224km, MD3.7*
*GCG **20** 14:40:50.0±0.4, 14.°72N×92.°35W, h92km±21km, MD3.5*

ISC 20 14:40:44.2±2.7, 14.°0N±0.°1×92.°6W±0.°1, h30km±17km, n9, σ1ᵗ61/15, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.95**	**32**	*e*S	**Sn**	**14 41 14.6**	**+0.6**
PATR	**El Naranjo**	**1.12**	**18**	*e*P	**Pb**	**14 41 04.8**	**-0.3**
PATR				*e*S	**Sn**	**14 41 17.0**	**-1.5**
PAVE	**Pavencul**	**1.21**	**19**	*e*P	**Pb**	**14 41 06.2**	**-0.4**
PAVE				*e*S	**Sn**	**14 41 19.7**	**-1.1**
STG2	**El Palmar, Qui**	**1.24**	**71**	*e*P	**Pb**	**14 41 07.1**	**+0.1**
STG2				*i* S	**Sn**	**14 41 20.6**	**-0.8**
STG0	**El Palmar, Qui**	**1.27**	**72**	*i* P	**Pb**	**14 41 07.9**	**+0.3**
PCIG		**1.76**	**340**	*e*P	**Pn**	**14 41 13.2**	**+0.6**
PCIG				*e*S	**Sn**	**14 41 30.8**	**-3.2**
FG8	**Yepocapa, Chim**	**1.98**	**84**	*i* P	**Pn**	**14 41 15.3**	**-0.4**
CCIG	**Comitan**	**2.27**	**11**	*e*P	**Pb**	**14 41 23.2**	**-1.4**
CCIG				*e*S	**Sn**	**14 41 48.1**	**+1.3**
TGIG		**2.77**	**349**	*e*P	**Pn**	**14 41 29.6**	**+3.0**
TGIG				*e*S	**Sn**	**14 41 58.9**	**-0.1**

*NEIC **20** 15:16:29.2, 20.°28S×173.°07W, h12km, Moment Tensor Solution. Duration: 1ᵗ9 Moment tensor: Scale 10¹⁶Nm; Mrr6.13; Mθθ-0.86; Mφφ-5.27; Mrθ0.56; Mrφ-1.07; Mθφ-1.16; Fault plane solution: M0 5.99000×10¹⁶ NP1:φ±19.25000°, δ40.47000°, λ100.08000°. NP2:φ±186.09000°, δ50.28000°, λ81.50000°. Principal axes: T 6.3104, Plg82.0000°, Azm49.0000°; N -0.7091, Plg7.0000°, Azm192.0000°; P -5.6013, Plg5.0000°, Azm282.0000°;*
*NEIC **20** 15:16:29.2±2.0, 20.°3S±0.°1×173.°17W±0.°10, h10km±1km, mb5.3/50, Mww5.1/18 Error ellipse: s-maj=18.6km s-min=15.0km az=163.0*
*NEIC **20** 15:16:29.2, 20.°28S×173.°18W, h12km*
*BJI **20** 15:16:30.2, 20.°32S×173.°16W, h11km, mB5.7/17, mb5.2/33, Ms5.2/28, Ms7 4.9/30*
*MOS **20** 15:16:31.2±1.4, 20.°43S×173.°81W, h14km, mb5.4/28, MS5.1/7, Error ellipse: s-maj=11.7km s-min=10.2km az=111.4*
*NOU **20** 15:16:35.0, 20.°11S×173.°01W, h67km, mb5.1/42, Tonga Islands*
*GCMT **20** 15:16:36.2±0.1, 20.°53S±0.°01×173.°19W±0.°01, h12km, MW5.2/141, Moment Tensor Solution. s94,c137; s141,c248; Duration: 1ᵗ0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.67±.01; Mθθ-0.06±.01; Mφφ-0.61±.01; Mrθ0.31±.03; Mθφ-0.23±.01; Mrφ0.28±.02; Best double couple: M0 0.79900×10¹⁷ NP1:φ±186.00000°, δ33.00000°, λ67.00000°. NP2:φ±33.00000°, δ60.00000°, λ104.00000°. Principal axes: T 0.8100, Plg71.0000°, Azm336.0000°; N -0.0220, Plg12.0000°, Azm206.0000°; P -0.7880, Plg14.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **20** 15:16:38.5±2.0, 20.°36S×173.°83W, h53km±16km, mb4.4/23, mbtmp4.7/25, ML4.7/2, MS4.8/53 Error ellipse: s-maj=14.6km s-min=11.7km az=140.0*
*BGR **20** 15:16:44.7, 21.°98S×165.°21W, h33km*

ISC 20 15:16:31.3±0.6, 20.°40S±0.°05×173.°17W±0.°04, h17km±3km, n743, σ1ᵗ88/706, mb5.2/105, MS5.0/81, 51C-23D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.33**	**67**		**Pn**	**15 17 20.6**	**-2.0**
NIUE				Sn	**Sn**	**15 17 58.9**	**-2.9**
NIUE	**Niue**	**3.33**	**67**	P	**Pn**	**15 17 21.6**	**-1.0**
NIUE	**Niue**	**3.33**	**67**	P	**Pn**	**15 17 21.0**	**-1.6**
NIUE	**Niue**	**3.33**	**67**	S	**Sn**	**15 17 57.8**	**-4.0**
NIUE	**Niue**	**3.33**	**67**	P	**Pn**	**15 17 21.3**	**-1.3**
AFI	**Afiamalu**	**6.59**	**12**	Pn	**Pn**	**15 18 04.7**	**-2.9**
AFI	**Afiamalu**	**6.59**	**12**	P	**Pn**	**15 18 04.9**	**-2.7**
AFI	**Afiamalu**	**6.59**	**12**	P	**Pn**	**15 18 04.7**	**-2.9**
AFI	**Afiamalu**	**6.59**	**12**	P	**Pn**	**15 18 04.1**	**-3.5**
TAVE	**Taveuni**	**7.37**	**299**	P	**Pn**	**15 18 20.8**	**+2.6**
DGTI	**Dogotuki**	**7.87**	**300**	P	**Pn**	**15 18 26.9**	**+1.7**
MSVF	**Nonsavu**	**8.72**	**286**		**Pn**	**15 18 38.9**	**+2.1**
MSVF	**Nonsavu**	**8.72**	**286**	P	**Pn**	**15 18 39.2**	**+2.4**
MSVF	**Nonsavu**	**8.72**	**286**	P	**Pn**	**15 18 38.9**	**+2.1**
RAO	**Raoul Island**	**9.81**	**205**	S	Sn	15 20 33.0	-8.5
	607nm,0.5s,baz=101,slow=23,SNR=7.5						
RAR	**Rarotonga**	**12.55**	**96**		**Pn**	**15 19 28.5**	**-0.8**
RAR	**Rarotonga**	**12.55**	**96**	P	**Pn**	**15 19 28.0**	**-1.3**
	364nm,1.0s,baz=255,slow=7.8,SNR=36						
RAR				S	Sn	15 21 35.6	-13
	38nm,0.9s,baz=105,slow=20,SNR=1.8						
RAR				LR	LR	15 24 04.1	
	comp=Z,5μm,19.5s,baz=284,slow=34						
RAR	**Rarotonga**	**12.55**	**96**	P	**Pn**	**15 19 28.9**	**-0.4**
RAR	**Rarotonga**	**12.55**	**96**	P	**Pn**	**15 19 28.4**	**-0.9**
DVP	**Devils Point**	**17.82**	**275**	P	**P**	**15 20 40.7**	**+1.3**
PINNC	**Pines Island,**	**18.17**	**260**	P	**Pn**	**15 20 40.9**	**-2.1**
PINNC	**Pines Island,**	**18.17**	**260**	P	**P**	**15 20 44.1**	**+0.9**
YATNC	**Mamie plateau,**	**18.66**	**261**	P	**P**	**15 20 48.5**	**-0.1**
GRZ	**Great Barrier**	**18.67**	**210**	P	**Pn**	**15 20 50.3**	**+1.3**
OUENC	**Ouen Island, N**	**18.72**	**260**	P	**Pn**	**15 20 50.4**	**+0.7**
OUZ	**Omahuta**	**18.81**	**216**	P	**P**	**15 20 49.4**	**-0.7**
WMGZ	**Waiomatatini S**	**18.83**	**201**	P	**Pn**	**15 20 53.0**	**+2.1**
WCZ	**Waipu Caves**	**18.97**	**213**	P	**P**	**15 20 52.2**	**+0.4**
ONTNC	**Ouen Toro**	**19.07**	**261**	P	**P**	**15 20 47.3**	**-5.9**
DZM	**Mont Dzumac**	**19.08**	**261**		**P**	**15 20 49.4**	**-4.0**
DZM				lAmb	lAmb	15 20 55.2	
	comp=Z,541nm,2.0s						
DZM	**Mont Dzumac**	**19.08**	**261**	*e*P	**P**	**15 20 50.7**	**-2.6**
	comp=Z,335nm,1.6s						
DZM				*e*S	**Sn**	**15 24 17.4**	**-10**
	comp=Z,1μm,22.9s						
DZM				*e*LR	LR	15 25 16.6	
	comp=Z,6μm,22.9s						
DZM	**Mont Dzumac**	**19.08**	**261**	P	**P**	**15 20 50.7**	**-2.6**
	comp=Z,1.6nm,0.3s,baz=82,slow=18,SNR=17						
DZM				LR	LR	15 27 21.6	
	comp=Z,5μm,19.1s,baz=112,slow=35						
	comp=Z,27nm,0.8s						
DZM	**Mont Dzumac**	**19.08**	**261**	P	**Pn**	**15 20 54.3**	**+0.2**
PUZ	**Puketiti**	**19.11**	**201**	P	**Pn**	**15 20 56.8**	**+2.4**
WIAZ	**Waiheke Island**	**19.27**	**210**	P	**Pn**	**15 20 56.7**	**+0.6**
TWGZ	**Tauwhareparae**	**19.30**	**202**	P	**Pn**	**15 20 58.5**	**+1.8**
MBAZ	**Motutapu North**	**19.36**	**210**	P	**Pn**	**15 20 58.4**	**+1.2**
MKAZ	**Moumakai**	**19.51**	**209**	P	**Pn**	**15 20 59.7**	**+0.7**
MWZ	**Matawai**	**19.60**	**202**	P	**Pn**	**15 21 02.4**	**+2.1**
MWZ				S		15 24 23.0	-17
URZ	**Urewera**	**19.69**	**203**	P	**P**	**15 21 00.5**	**+0.8**
	comp=Z,3.1nm,0.3s,baz=356,slow=4.1,SNR=10						
URZ				S	S	15 24 20.9	-20
	comp=Z,12nm,0.7s,baz=28,slow=16,SNR=1.3						
	comp=Z,23nm,0.6s						
URZ	**Urewera**	**19.69**	**203**	P	**Pn**	**15 21 02.3**	**+1.1**
URZ	**Urewera**	**19.69**	**203**	P	**P**	**15 21 01.0**	**+1.3**
URZ				S	S	15 24 21.7	-20
TOZ	**Tahuroa Road**	**19.88**	**207**		**Pn**	**15 21 03.5**	**+0.1**
TOZ	**Tahuroa Road**	**19.88**	**207**	P	**Pn**	**15 21 05.2**	**+1.8**
RTZ	**Ruatahuna**	**20.05**	**203**		**P**	**15 21 01.0**	**-2.8**
SNGZ	**Shannon Statio**	**20.07**	**202**	P	Pn	15 21 06.8	+1.1
SNGZ				PcP	**PcP**	**15

TCW Tory Channel 23.33 204 P **P** 15 21 36.6 -2.1
TCW S **S** 15 25 45.5 -5.2
NNZ Nelson 23.69 206 P **P** 15 21 40.8 -1.5
QRZ Quartz Range 23.73 208 P **P** 15 21 47.6 +5.0
MRNZ Matariki Terra 24.10 207 P **P** 15 21 45.8 -0.4
THZ Tophouse 24.34 206 P **P** 15 21 49.5 +1.1
THZ S **S** 15 26 05.8 -1.3
KHZ Kahutara 24.65 204 P **P** 15 21 52.4 +1.3
KHZ Kahutara 24.65 204 P **P** 15 21 52.4 +1.3
KHZ S **S** 15 26 15.4 +3.7
LTZ Lake Taylor 25.45 206 P **P** 15 22 01.3 +2.8
INZ Inchbonnie 25.75 207 **P** 15 22 00.8 -0.3
INZ IAmb IAmb 15 22 09.8
comp=Z,66nm,0.7s
INZ Inchbonnie 25.75 207 P **P** 15 22 00.8 -0.3
INZ S **S** 15 26 36.6 +7.2
OXZ Oxford 26.00 205 **P** 15 22 03.6 +0.2
OXZ IAmb IAmb 15 22 13.7
comp=Z,66nm,1.0s
OXZ Oxford 26.00 205 P **P** 15 22 02.7 -0.7
WVZ Waitaha Valley 26.34 207 P **P** 15 22 10.0 +3.6
RPZ Rata Peaks 26.72 206 P **P** 15 22 11.9 +2.0
FOZ Fox Glacier 27.10 208 P **P** 15 22 15.0 +1.8
ALEG Aligegeo Malai 27.77 291 P **P** 15 22 18.5 -1.0
HNR Honiara 28.13 289 P **P** 15 22 19.0 -3.8
HNR Honiara 28.13 289 LR LR 15 32 38.7
comp=Z,2µm,19.4s,baz=160,slow=35
HNR Honiara 28.13 289 P **P** 15 22 19.0 -3.8
HNR pmax pmax
comp=Z,78nm,1.0s
TATA Tatamba Isabel 28.72 291 P **P** 15 22 27.9 -0.1
ARMA Armidale 33.21 245 P **P** 15 23 05.9 -1.7
comp=Z,18nm,2.5s
TAOE Nuku Hiva Isla 33.87 75 *e*P **P** 15 23 12.4 -1.2
comp=Z,94nm,23.5s
TAOE *e*S **S** 15 28 33.2 -4.4
TAOE comp=Z,304nm,24.1s
*e*LR LR 15 32 03.3
comp=Z,2µm,20.9s
CNB Canberra Magne 36.07 238 P **P** 15 23 31.1 -1.2
comp=Z,33nm,1.1s
CNB Canberra Magne 36.07 238 P **P** 15 23 31.6 -0.7
CAN Canberra 36.36 238 P **P** 15 23 33.4 -1.4
CAN IAmb IAmb 15 23 34.9
comp=Z,62nm,1.3s
CAN Canberra 36.36 238 P **P** 15 23 33.2 -1.6
comp=Z,53nm,1.2s
CAN Canberra 36.36 238 P **P** 15 23 33.7 -1.1
CAN Canberra 36.36 238 P **P** 15 23 33.4 -1.4
CAN pmax pmax
comp=Z,62nm,1.3s
YNG Young 36.61 240 P **P** 15 23 35.3 -1.6
comp=Z,17nm,2.2s
CTAO Charters Tower 38.00 263 P **P** 15 23 46.8 -2.1
CTAO Charters Tower 38.00 263 P **P** 15 23 46.8 -2.1
CTAO pmax pmax
comp=Z,14nm,0.7s
CMSA Cobar Meteorol 38.41 245 P **P** 15 23 49.4 -2.8
comp=Z,34nm,1.0s
CMSA Cobar Meteorol 38.41 245 P **P** 15 23 50.0 -2.1
PATS Pohnpei 38.97 311 P P 15 23 52.3 -4.6
PATS Pohnpei 38.97 311 P **P** 15 23 53.1 -3.8
QLP Quilpie 39.41 253 P **P** 15 23 58.0 -2.6
comp=Z,30nm,1.4s
TOO Toolangi 39.65 235 P **P** 15 24 00.1 -2.4
TOO Toolangi 39.65 235 P **P** 15 24 00.1 -2.4
TOO pmax pmax
comp=Z,6.0nm,0.9s
TAU Tasmania Unive 39.94 227 P **P** 15 24 02.8 -1.9
TAU IAmb IAmb 15 24 17.9
comp=Z,87nm,1.4s
TAU Tasmania Unive 39.94 227 P **P** 15 24 05.4 +0.7
TAU Tasmania Unive 39.94 227 P **P** 15 24 02.8 -1.9
TAU pmax pmax
comp=Z,87nm,1.5s
MTSU Mount Surprise 40.12 266 P **P** 15 24 03.7 -2.9
comp=Z,17nm,0.7s
MTSU Mount Surprise 40.12 266 P **P** 15 24 04.0 -2.6
STKA Stephens Creek 41.92 245 P **P** 15 24 19.4 -1.9
comp=Z,99nm,1.2s
STKA Stephens Creek 41.92 245 P **P** 15 24 18.9 -2.4
comp=Z,10nm,0.9s,baz=99,slow=11,SNR=7.5
STKA LR LR 15 40 07.7
comp=Z,2µm,18.9s,baz=79,slow=34
comp=Z,10nm,0.9s
STKA Stephens Creek 41.92 245 *i*P **P** 15 24 19.1 -2.2
COEN Coen 42.10 272 P **P** 15 24 19.8 -3.1
COEN IAmb IAmb 15 24 21.1
comp=Z,83nm,1.8s
COEN Coen 42.10 272 P **P** 15 24 20.0 -3.0
comp=Z,30nm,1.5s
COEN Coen 42.10 272 P **P** 15 24 21.2 -1.7
MANU Manus Island 42.61 290 P **P** 15 24 24.8 -2.3
MANU IAmb IAmb 15 24 26.7
comp=Z,58nm,1.0s
QIS Mount Isa 44.12 261 P **P** 15 24 35.8 -3.4
JAY Jayapura 48.35 285 LR LR 15 45 48.7
comp=Z,458nm,18.5s,baz=94,slow=37
JAY Jayapura 48.35 285 P **P** 15 25 10.8 -1.8
JAY Jayapura 48.35 285 P **P** 15 25 10.5 -2.1
GENI Genyem 48.80 285 P **P** 15 25 14.7 -1.3
comp=Z,327nm,1.3s
AS01 Alice Springs 48.90 256 P **P** 15 25 14.5 -2.3
AS31 Alice Springs 48.94 256 P **P** 15 25 15.2 -1.9
AS31 Alice Springs 48.94 256 P **P** 15 25 14.5 -2.6
comp=Z,6.7nm,1.1s
ASAR Alice Springs 48.94 256 P **P** 15 25 13.9 -3.3
ASAR Alice Springs 48.94 256 P **P** 15 25 14.3 -2.8
comp=Z,12nm,0.8s,baz=100,slow=7.8,SNR=94
ASAR PcP **PcP** 15 26 42.4 +1.1
comp=Z,6.1nm,0.9s,baz=101,slow=5.0,SNR=5.6
ASAR S S 15 32 11.9 -8.9
comp=Z,0.8nm,0.8s,baz=94,slow=16,SNR=4.4
ASAR LR LR 15 45 03.2
comp=Z,2µm,18.9s,baz=96,slow=35
comp=Z,12nm,0.8s
WR8 Warramunga Arr 48.94 261 P **P** 15 25 14.4 -2.7
WR8 IAmb IAmb 15 25 15.4
comp=Z,54nm,1.4s
WB0 Warramunga Arr 49.08 261 P **P** 15 25 15.2 -3.0
WRAB Tennant Creek 49.09 261 P **P** 15 25 15.3 -2.9
WRAB IAmb IAmb 15 25 16.4
comp=Z,62nm,1.6s
WRAB Tennant Creek 49.09 261 P P 15 25 13.8 -4.4
WRAB pmax pmax
comp=Z,48nm,1.6s
WRA Warramunga Arr 49.09 261 P **P** 15 25 14.7 -3.6
WRA Warramunga Arr 49.09 261 P **P** 15 25 15.1 -3.2
comp=Z,11nm,0.9s,baz=96,slow=6.1,SNR=50
WRA PcP **PcP** 15 26 43.0 +1.1
comp=Z,11nm,1.1s,baz=93,slow=3.6,SNR=5.7
WRA S S 15 32 14.3 -8.7
comp=Z,0.2nm,0.3s,baz=97,slow=12,SNR=6.3
WRA LR LR 15 45 03.3
comp=Z,688nm,19.4s,baz=44,slow=35
comp=Z,11nm,0.9s
SMPI Sarmi 50.37 285 P **P** 15 25 26.3 -1.7
comp=Z,3µmcomp=Z,160nm,0.9s
SMPI Sarmi 50.37 285 P **P** 15 25 26.0 -2.0
comp=Z,3µmcomp=Z,160nm,0.9s
KDU Kakadu 52.48 269 P **P** 15 25 40.7 -3.1
KDU Kakadu 52.48 269 P **P** 15 25 42.2 -1.6
SRPI Serui, Papua 52.67 284 P **P** 15 25 44.0 -1.2
comp=Z,56nm,1.2s
SRPI Serui, Papua 52.67 284 P **P** 15 25 44.4 -0.8
comp=Z,56nm,1.2s
BAKI Biak 53.07 284 P **P** 15 25 48.4 +0.2
BAKI Biak 53.07 284 P **P** 15 25 48.1 -0.1
GUMO Guam 53.32 306 P **P** 15 25 48.2 -1.7
comp=Z,16nm,0.5s,baz=192,slow=19,SNR=1.4
comp=Z,16nm,0.5s
FORT Forrest 53.49 246 P **P** 15 25 49.4 -1.6
comp=Z,22nm,1.4s
MTN Manton Dam 53.69 269 P **P** 15 25 49.7 -3.1
MTN IAmb IAmb 15 25 51.2
comp=Z,22nm,0.8s
MTN Manton Dam 53.69 269 P **P** 15 25 49.3 -3.5
MTN Manton Dam 53.69 269 P **P** 15 25 50.8 -2.0
WRKA Warakurna 53.84 253 P **P** 15 25 51.5 -2.4
comp=Z,13nm,1.8s
RKPI Ransiki, Papua 54.70 283 P **P** 15 25 58.7 -1.4
comp=Z,2µmcomp=Z,69nm,1.2s
RKPI Ransiki, Papua 54.70 283 P **P** 15 25 59.7 -0.4
comp=Z,2µmcomp=Z,69nm,1.2s
KNRA Kununurra 55.18 265 P **P** 15 26 01.3 -2.3
KNRA Kununurra 55.18 265 P **P** 15 26 01.2 -2.4
comp=Z,25nm,2.2s
FAKI Fak Fak 55.91 281 P **P** 15 26 07.4 -1.5
FITZ Fitzroy Crossi 57.52 261 P P 15 26 15.6 -4.7
FITZ Fitzroy Crossi 57.52 261 P **P** 15 26 18.2 -2.1
comp=Z,6.4nm,2.1s
FITZ Fitzroy Crossi 57.52 261 LR LR 15 50 19.5
comp=Z,765nm,18.9s,baz=96,slow=36
FITZ Fitzroy Crossi 57.52 261 P **P** 15 26 18.9 -1.4
SWI Sorong 57.62 282 P **P** 15 26 19.9 -1.1
comp=Z,2µmcomp=Z,196nm,1.0s
SWI Sorong 57.62 282 P **P** 15 26 19.6 -1.4
SBA Scott Base 58.31 185 P **P** 15 26 26.1 +1.2
SBA Scott Base 58.31 185 P **P** 15 26 26.1 +1.2
SBA pmax pmax
comp=Z,110nm,1.8s
VNDA Vanda 58.45 186 P **P** 15 26 25.2 -0.7
VNDA IAmb IAmb 15 26 35.6
comp=Z,58nm,1.9s
VNDA Vanda 58.45 186 P **P** 15 26 29.2 +3.3
comp=Z,4.6nm,0.9s,baz=21,slow=6.7,SNR=12
VNDA LR LR 15 46 34.7
comp=Z,417nm,20.2s,baz=18,slow=31
comp=Z,4.6nm,0.9s
VNDA Vanda 58.45 186 P **P** 15 26 25.2 -0.7
VNDA pmax pmax
comp=Z,58nm,1.9s
NLAI Namlea 60.56 278 P **P** 15 26 40.0 -1.4
comp=Z,42nm,1.1s
NLAI Namlea 60.56 278 P **P** 15 26 40.6 -0.8
comp=Z,1µmcomp=Z,42nm,1.1s
SOEI Soe 61.03 270 P **P** 15 26 43.7 -1.1
SOEI Soe 61.03 270 P **P** 15 26 44.9 +0.1
SOEI Soe 61.03 270 P **P** 15 26 44.3 -0.5
comp=Z,103nm,1.0s
BATI Baumata 61.46 269 LR LR 15 53 07.1
comp=Z,1µm,19.7s,baz=118,slow=36
TNTI Ternate 61.84 282 P **P** 15 26 49.3 -0.8
comp=Z,1µmcomp=Z,97nm,1.2s
TNTI Ternate 61.84 282 P **P** 15 26 48.9 -1.2
comp=Z,1µmcomp=Z,97nm,1.2s
PSA00 Pilbara Seismi 62.09 256 P **P** 15 26 49.6 -2.1
PSA00 IAmb IAmb 15 26 51.2
comp=Z,34nm,1.3s
PSA00 Pilbara Seismi 62.09 256 P **P** 15 26 49.9 -1.9
PSA00 IAmb IAmb 15 26 51.2
comp=Z,18nm,1.2s
PSA00 Pilbara Seismi 62.09 256 P **P** 15 26 48.3 -3.5
comp=Z,24nm,1.1s
PSA00 Pilbara Seismi 62.09 256 P **P** 15 26 50.0 -1.7
KLBR Kellerberrin 62.19 244 P **P** 15 26 51.8 -0.4
comp=Z,65nm,1.2s
KLBR Kellerberrin 62.19 244 P **P** 15 26 52.7 +0.4
MEEK Meekatharra 62.22 250 P **P** 15 26 51.5 -1.1
NWAO Narrogin (SRO) 62.45 243 LR LR 15 52 46.3
comp=Z,1µm,19.3s,baz=83,slow=35
BLDU Ballidu 63.22 245 P **P** 15 26 59.0 -0.1
MUN Mundaring 63.44 244 P **P** 15 26 57.5 -3.1
MUN Mundaring 63.44 244 P **P** 15 27 00.9 +0.3
EDFI Ende, Flores 63.76 270 P **P** 15 27 01.3 -1.7
EDFI Ende, Flores 63.76 270 P **P** 15 27 01.1 -1.9
comp=Z,622nmcomp=Z,29nm,1.4s
JCJ Chichima 64.03 316 LR LR 15 51 03.7
comp=Z,431nm,19.9s,baz=230,slow=32
MORW Morawa 64.04 247 P **P** 15 27 03.4 -1.2
MORW Morawa 64.04 247 P **P** 15 27 02.1 -2.5
comp=Z,34nm,1.7s
MORW Morawa 64.04 247 P **P** 15 27 04.9 +0.3
LUWI Luwuk 65.39 279 P **P** 15 27 13.9 +0.4
LUWI Luwuk 65.39 279 P **P** 15 27 13.1 -0.4
comp=Z,2µmcomp=Z,115nm,1.4s
CASY Casey 66.00 205 P **P** 15 27 17.1 +0.5
DAV Davao City (W) 66.08 288 LR LR 15 52 39.5
comp=Z,342nm,21.5s,baz=86,slow=33
MRSI Marisa 66.72 280 P **P** 15 27 20.8 -1.3
comp=Z,25nm,1.2s
KAPI Kappang 66.80 273 LR LR 15 57 25.5
comp=Z,205nm,18.1s,baz=109,slow=37
SPSI Sidrap Palu 67.14 274 P **P** 15 27 23.5 -1.3
comp=Z,9.3nm,0.4s
TOLI2 Tolitoli 68.03 280 P **P** 15 27 27.8 -2.7
TOLI2 Tolitoli 68.03 280 P **P** 15 27 29.7 -0.7
PCI Palu 68.16 277 P **P** 15 27 31.0 -0.3
comp=Z,2µmcomp=Z,92nm,1.2s
MPSI Mapaga 68.56 279 P **P** 15 27 32.4 -1.3
comp=Z,24nm,0.7s
QSPA South Pole Qui 69.67 180 P **P** 15 27 40.2 +0.3
QSPA South Pole Qui 69.67 180 P **P** 15 27 43.1 +3.2
comp=Z,7.8nm,0.8s,baz=40,slow=3.0,SNR=24
comp=Z,7.8nm,0.8s
KIWB Kanaga Island 72.03 357 P **P** 15 27 53.9 -0.1
KIWB IAmb IAmb 15 28 17.3
comp=Z,38nm,1.3s
MJAR Matsushiro Arr 72.91 321 P **P** 15 28 00.6 +0.9
MJAR IAmb IAmb 15 28 05.3
comp=Z,37nm,1.9s
MJAR Matsushiro Arr 72.91 321 P **P** 15 27 59.7 0.0
comp=Z,5.2nm,0.7s,baz=153,slow=5.7,SNR=37
MJAR LR LR 15 55 42.7
comp=Z,344nm,20.4s,baz=126,slow=32
comp=Z,5.2nm,0.7s
MJAR Matsushiro Arr 72.91 321 P **P** 15 28 00.6 +0.9
MJAR pmax pmax
comp=Z,37nm,1.9s
MAJO Matsushiro 72.91 321 P **P** 15 28 00.5 +0.8
MAJO Matsushiro 72.91 321 *i*P **P** 15 27 59.5 -0.2
MAJO pmax pmax
comp=Z,14nm,1.0s
NIKH Nikolski High 73.16 3 P **P** 15 28 00.6 -0.2
baz=184
TGY Tagaytay City 73.27 292 LR LR 15 56 47.5
comp=Z,640nm,20.9s,baz=110,slow=33
JOW Kunigami 73.64 307 LR LR 15 54 26.9
comp=Z,265nm,20.7s,baz=110,slow=31
SHEM Shemya Is, Ala 73.66 352 LR LR 15 55 03.3
comp=Z,1µm,21.5s,baz=114,slow=31
KKM Kota Kinabalu 74.14 283 P **P** 15 28 06.8 -0.7
UNV Unalaska Valle 74.16 4 P **P** 15 28 06.5 -0.1
baz=186
JNU Nakatsue 75.39 314 P **P** 15 28 14.2 -0.2
comp=Z,13nm,1.0s,baz=141,slow=6.5,SNR=3.6
JNU LR LR 15 57 31.8
comp=Z,260nm,20.0s,baz=116,slow=33
comp=Z,13nm,1.0s
FALS False Pass 75.41 6 P **P** 15 28 14.3 +0.4
baz=189
LPIG La Paz 75.50 57 LR LR 15 54 45.1
comp=Z,2µm,19.5s,baz=224,slow=30
SKR Severo-Kuril's 75.78 340 *e*P P 15 28 07.1 -8.9
SKR *e*S **S** **15 37 59.9 +2.8**
SKR pmax pmax
comp=Z,200nm,6.5s
SKR pmax pmax
comp=Z,57nm,1.1s
SKR MLR MLR
comp=Z,500nm,16.0s
CHNA Chernabura Isl 75.82 8 P **P** 15 28 16.5 +0.3
baz=193
JKA Kamikawa-asahi 75.89 329 P **P** 15 28 19.3 +2.4
JKA IAmb IAmb 15 28 35.2
comp=Z,27nm,1.2s
ASAJ Asahikawa 75.89 329 P **P** 15 28 18.2 +1.3
comp=Z,7.3nm,0.8s,baz=146,slow=4.7,SNR=8.2
ASAJ LR LR 15 56 38.0
comp=Z,393nm,20.8s,baz=152,slow=32
comp=Z,7.3nm,0.8s
ASAJ Asahikawa 75.89 329 P **P** 15 28 19.3 +2.4
ASAJ pmax pmax
comp=Z,27nm,1.2s
PFO Pinyon Flats O 76.19 46 LR LR 15 57 14.7
comp=Z,548nm,18.2s,baz=237,slow=32
SDPT Sand Point 76.22 7 P **P** 15 28 18.7 +0.3
baz=192
STKI Sintang 76.30 275 P **P** 15 28 21.6 +1.6
comp=Z,26nm,1.8s
S12K Black Hills 76.39 6 P **P** 15 28 19.8 +0.3
baz=191
SBUM Sibu 76.47 278 P **P** 15 28 18.6 -2.3
SBUM IAmb IAmb 15 28 23.2
comp=Z,38nm,1.4s
P08K Saint George I 76.76 2 P **P** 15 28 21.9 +0.4
baz=184
PET Petropavlovsk 77.10 343 *e*P **P** 15 28 24.7 +1.2
PET *e*S **S** **15 38 13.3 +1.8**
PET pmax pmax
comp=Z,25nm,1.4s
PET pmax pmax
comp=Z,100nm,9.3s
S14K Fog Glacier 77.25 8 P **P** 15 28 24.7 +0.3
baz=193
SPIA Saint Paul Isl 77.31 2 P **P** 15 28 25.1 +0.5
baz=183
PEA0B Petropavlovsk- 77.44 342 *i*P **P** 15 28 24.3 -1.1
PETK Petropavlovsk- 77.44 342 P P 15 28 27.1 +1.6
comp=Z,8.7nm,0.8s,baz=122,slow=7.2,SNR=8.9
PETK LR LR 15 58 41.4
comp=Z,240nm,20.6s,baz=179,slow=33
comp=Z,8.7nm,0.8s
YBH Yreka Blue Hor 77.46 36 LR LR 15 56 10.9
comp=Z,66nm,20.3s,baz=238,slow=30
LEM Lembang 77.57 267 LR LR 16 01 18.2
comp=Z,268nm,21.9s,baz=166,slow=35
GWY Greenwater Val 77.58 44 IAmb IAmb 15 28 33.4
comp=Z,72nm,1.9s
KSM Kuching 77.89 276 IAmb IAmb 15 28 30.3
comp=Z,28nm,1.0s
NVAR Mina Array Bea 77.91 41 P **P** 15 28 32.8 +4.1
comp=Z,7.0nm,0.8s,baz=225,slow=8.8,SNR=35
NVAR LR LR 15 58 38.1
comp=Z,910nm,18.5s,baz=216,slow=32
comp=Z,7.0nm,0.8s
YSS Yuzhno-Sakhali 77.92 331 IAmb IAmb 15 28 33.2
comp=Z,33nm,0.9s
YSS Yuzhno-Sakhali 77.92 331 *c i*P **P** **15 28 29.7 +1.4**
YSS pmax pmax
comp=Z,42nm,1.0s
R17L Mt. Peulik Vol 78.99 9 P **P** 15 28 33.9 -0.1
baz=196
OHAK Old Harbor 79.10 11 P **P** 15 28 34.9 +0.4
baz=199
R18K Karluk 79.23 10 P **P** 15 28 35.5 +0.3
baz=198
PMSA Palmer Station 79.55 156 LR LR 15 56 16.7
comp=Z,426nm,19.5s,baz=244,slow=30
TEY Ternei 79.56 326 *e*P P 15 28 31.2 -6.1
TEY *e* 15 38 44.4
Q17K Contact Creek 79.67 9 P **P** 15 28 37.7 -0.1
baz=196
KDAK Kodiak Island 79.76 11 LR LR 15 58 05.3
comp=Z,1µm,21.9s,baz=215,slow=31
KDAK Kodiak Island 79.76 11 *i*P **P** **15 28 37.9 -0.2**
KDAK pmax pmax
comp=Z,37nm,1.6s
KDAK Kodiak Island 79.76 11 P **P** 15 28 38.4 +0.3
baz=200
KSRS Korea Array 79.88 316 P **P** 15 28 39.4 +0.1
comp=Z,8.6nm,1.0s,baz=132,slow=6.0,SNR=11
comp=Z,8.6nm,1.0s
Q16K King Salmon 79.96 9 P **P** 15 28 39.8 +0.7
baz=196
O14K Tigyukauivet M 79.96 6 P **P** 15 28 39.8 +0.7
baz=191
O15K Ungalikthiuk R 80.04 7 P **P** 15 28 40.3 +0.7
baz=193
P16K Nushagak River 80.12 8 P **P** 15 28 40.9 +0.9
baz=194
Q18K Katmai Hardscr 80.17 10 P **P** 15 28 41.2 +0.7
baz=197
P17K Kvichak River 80.49 9 P **P** 15 28 42.8 +0.8
baz=196
Q20K Shuyak Island 80.57 11 P **P** 15 28 43.0 +0.5
baz=200
N14K Kuskokwak Cree 80.58 6 P **P** 15 28 43.0 +0.6
baz=191
O16K Kokwok River B 80.66 8 P **P** 15 28 43.6 +0.8
baz=194
Q19K Cape Douglas, 80.66 10 P **P** 15 28 43.3 +0.3
baz=198
M11K Mekoryuk 80.69 4 P **P** 15 28 43.3 +0.3
baz=187
P18K Big Mountain, 80.86 9 IAmb IAmb 15 29 00.2
comp=Z,29nm,1.1s
P18K Big Mountain, 80.86 9 P **P** 15 28 44.2 +0.2
baz=197
TYV Tymovskoe 80.89 333 *e*P **P** **15 28 45.6 +1.3**
TYV pmax pmax
comp=Z,13nm,1.0s
TYV pmax pmax
comp=Z,300nm,2.9s
M13K Dall Lake 80.92 5 P **P** 15 28 44.9 +0.7
baz=189
N15K Kwethluk River 80.98 7 P **P** 15 28 45.0 +0.4
baz=192
ELK Elko 81.19 41 LR LR 16 00 50.3
comp=Z,1µm,18.5s,baz=225,slow=32
O18K Koktuh Hills 81.30 9 P **P** 15 28 46.7 +0.3
baz=197
M14K Bethel 81.37 6 P **P** 15 28 47.4 +0.8
baz=191
P19K Oil Pt 81.42 10 P **P** 15 28 47.9 +0.9
baz=199
N16K Nishlik Lake 81.43 7 P **P** 15 28 47.5 +0.5
baz=194
M15K Kasigluk River 81.44 6 P **P** 15 28 48.0 +1.0
baz=192
USA0B Ussuriysk Arra 81.50 324 *i*P **P** 15 28 48.0 +0.2
USRK Ussuriysk Ar. 81.50 324 P **P** 15 28 48.9 +1.2
comp=Z,2.0nm,0.5s,baz=104,slow=2.4,SNR=9.7
USRK LR LR 16 01 20.4
comp=Z,1µm,19.4s,baz=133,slow=33
comp=Z,2.0nm,0.5s
MDSI Maura Dua 81.58 268 P **P** 15 28 47.7 -1.2
comp=Z,1µmcomp=Z,34nm,2.0s
N17K Nushagak Hills 81.68 8 P **P** 15 28 48.8 +0.5
baz=195
HOM Homer 81.69 11 P **P** 15 28 49.3 +0.9
baz=200
O19K Port Alsworth 81.76 9 P **P** 15 28 49.6 +0.9
baz=198
L14K Kuka Creek 81.89 5 P **P** 15 28 50.1 +0.7
baz=190
O20K Slope Mountain 81.92 10 P **P** 15 28 50.0 +0.3
baz=199
M16K Timber Creek 81.94 7 P **P** 15 28 50.3 +0.6
baz=193
N18K Kilae Creek 82.00 8 P **P** 15 28 50.7 +0.7
baz=196
BBB Bella Bella 82.25 26 LR LR 16 01 21.3
comp=Z,407nm,18.4s,baz=220,slow=32
L15K Ungalak Mounta 82.33 6 P **P** 15 28 52.9 +1.2
baz=191
N19K Bonanza Creek 82.33 9 P **P** 15 28 52.3 +0.5
baz=198
K13K Kusilvak Mount 82.33 4 P **P** 15 28 53.0 +1.3
baz=188
M17K Holitna River 82.49 8 P **P** 15 28 53.2 +0.6
baz=195
SEW Seward 82.51 12 P **P** 15 28 53.1 +0.5
baz=202
Q23K Middleton Isla 82.53 13 P **P** 15 28 53.2 +0.5
baz=205
L16K Owhat River 82.56 7 P **P** 15 28 53.6 +0.7
baz=193
M18K Stony River 82.79 8 P **P** 15 28 54.5 +0.4
baz=196
P23K Montague Islan 82.82 13 P **P** 15 28 54.3 0.0
baz=204
CAPN Captain Cook N 82.82 11 P **P** 15 28 54.7 +0.5
baz=201
CRAG Craig 82.87 22 P **P** 15 28 55.3 +0.6
baz=217
K15K Wolf Creek Mou 82.93 5 P **P** 15 28 55.8 +0.9
baz=191
Y22D IRIS PASSCAL I 83.09 50 P **P** 15 28 55.8 -0.7
baz=240
L17K Donlin 83.10 7 P **P** 15 28 56.3 +0.6
baz=194
MDJ Mudanjiang 83.11 323 P **P** 15 28 57.8 +1.6
MDJ S **S** 15 39 23.0 +7.8
MDJ pmax pmax
comp=Z,25nm,1.3s
MDJ pmax pmax
comp=Z,450nm,5.5s
MDJ LR LR
comp=Z,670nm,18.2s
MDJ LR LR
comp=Z,440nm,20.3s
MDJ LR LR
comp=Z,1µm,19.9s
MAW Mawson 83.15 199 P **P** 15 28 57.6 +1.5
comp=Z,4.7nm,0.9s,baz=136,slow=7.1,SNR=7.7
MAW LR LR 16 05 34.2
comp=Z,1µm,18.8s,baz=116,slow=35
comp=Z,4.7nm,0.9s

J14K	Nanvaranak Lak	83.22	4	P	P	15 28 57.1	+0.9
	baz=189							
TXAR	Lajitas Array	83.23	55	P	P	15 29 01.8	+4.5
	comp=Z,4.1nm,1.0s,baz=210,slow=7.2,SNR=27							
TXAR				LR	LR	15 59 29.7		
	comp=Z,463nm,19.7s,baz=224,slow=31							
	comp=Z,4.1nm,1.0s							
V35K	Ketchikan	83.29	22	P	P	15 28 57.1	+0.3	
	baz=219							
NJ2	Nanjing	83.36	308	eP	P	15 28 57.3	-0.4	
NJ2				pmax	pmax			
	comp=Z,18nm,0.6s							
RC01	Rabbit Creek A	83.37	11	P	P	15 28 57.8	+0.6	
	baz=202							
L18K	Granite Mounta	83.38	8	P	P	15 28 58.1	+0.9	
	baz=196							
M19K	Big River Lodg	83.38	9	P	P	15 28 57.9	+0.6	
	baz=198							
U33K	Whale Pass	83.39	21	P	P	15 28 57.8	+0.5	
	baz=217							
KAIM	Kayak Island	83.41	14	P	P	15 28 57.6	+0.3	
	baz=207							
PWL	Port Wells	83.42	12	P	P	15 28 58.1	+0.6	
	baz=203							
SIT	Sitka	83.42	20	P	P	15 28 57.8	+0.3	
	baz=215							
M20K	Styx River	83.55	9	P	P	15 28 58.5	+0.3	
	baz=199							
GRNR	Gornyy	83.57	330	⇑iP	P	15 29 00.5	+2.0	
GRNR				pmax	pmax			
	comp=Z,6.0nm,1.2s							
L19K	White Mountain	83.58	9	P	P	15 28 58.8	+0.5	
	baz=197							
K17K	Iditarod	83.67	7	P	P	15 28 59.1	+0.5	
	baz=194							
EYAK	Cordova Ski Ar	83.67	13	P	P	15 28 59.1	+0.4	
	baz=206							
GLI	Glacier Island	83.69	12	P	P	15 28 59.8	+1.0	
	baz=204							
ANMO	Albuquerque	83.85	49	LR	LR	15 59 59.9		
	comp=Z,641nm,19.4s,baz=338,slow=31							
S31K	Pelican	83.89	19	P	P	15 29 00.3	+0.4	
	baz=214							
WRAK	Wrangell Islan	83.89	21	P	P	15 29 00.5	+0.6	
	baz=216							
SKT	Skwentna	83.90	10	P	P	15 29 00.7	+0.8	
	baz=200							
KNK	Knik Glacier	83.91	12	P	P	15 29 00.2	+0.2	
	baz=203							
M22K	Willow	83.92	11	P	P	15 29 00.4	+0.5	
	baz=202							
PMR	Palmer	83.95	11	P	P	15 29 01.1	+1.0	
	baz=203							
J16K	Anvik River	83.99	6	P	P	15 29 01.1	+0.8	
	baz=192							
S32K	Killisnoo	84.00	20	P	P	15 29 01.3	+0.9	
	baz=216							
L20K	Farewell, AK	84.01	9	P	P	15 29 00.9	+0.5	
	baz=198							
MESA	MESA	84.21	15	P	P	15 29 02.0	+0.3	
	baz=209							
J17K	VABM Dome	84.25	6	P	P	15 29 02.5	+0.9	
	baz=193							
BMRM	Bremner River	84.30	14	P	P	15 29 02.7	+0.7	
	baz=207							
M23K	Glacier View	84.40	12	P	P	15 29 03.7	+1.3	
	baz=204							
PNL	Peninsula	84.42	16	P	P	15 29 03.9	+1.3	
	baz=212							
CRQE	Cirque	84.45	14	P	P	15 29 04.1	+1.3	
	baz=208							
KLU	Klutina	84.49	13	P	P	15 29 03.7	+0.7	
	baz=206							
SCM	Sheep Creek Mo	84.52	12	P	P	15 29 03.6	+0.5	
	baz=204							
PINM	Pinnacle	84.57	16	P	P	15 29 04.2	+0.8	
	baz=211							
I17K	Unalakleet	84.57	6	P	P	15 29 04.8	+1.6	
	baz=192							
J18K	Innoko River	84.58	7	P	P	15 29 04.5	+1.2	
	baz=196							
PPLA	Purkeypile	84.66	9	P	P	15 29 04.6	+0.8	
	baz=200							
R32K	Eaglecrest	84.67	19	P	P	15 29 04.2	+0.4	
	baz=216							
NEW	Newport	84.71	34	LR	LR	16 02 45.5		
	comp=Z,2µm,18.5s,baz=224,slow=32							
K20K	Telida	84.82	9	P	P	15 29 05.1	+0.6	
	baz=198							
P29M	Windy Craggy	84.84	17	P	P	15 29 05.1	+0.3	
	baz=213							
N25K	Chitina, Valde	84.87	13	P	P	15 29 05.3	+0.5	
	baz=207							
ANM	Nome	84.91	3	P	P	15 29 05.3	+0.5	
	baz=187							
MA2	Magadan	84.97	342	LR	LR	16 07 30.9		
	comp=Z,347nm,18.2s,baz=151,slow=36							
MA2	Magadan	84.97	342	iP	P	15 29 04.4	-0.9	
MA2				pmax	pmax			
	comp=Z,36nm,1.7s							
QIZ	Qiongzhong	84.98	292	P	P	15 29 04.9	-1.4	
QIZ				S	S	15 39 35.3	+0.2	
QIZ				SS	SS	15 45 08.4	-0.2	
QIZ				LR	LR			
	comp=Z,150nm,11.4s							
QIZ				LR	LR			
	comp=Z,160nm,11.6s							
QIZ				LR	LR			
	comp=Z,540nm,19.1s							
M24K	Tolsona, Glenn	84.99	12	P	P	15 29 06.2	+0.7	
	baz=205							
MCARA	McCarthy VSAT	85.02	14	P	P	15 29 06.2	+0.7	
	baz=208							
BNX	BinXian	85.02	323	⇓P	P	15 29 08.0	+2.1	
BNX				pP	PcP	15 29 11.3	+2.2	
BNX				sP	sP	15 29 12.6	+3.4	
BNX				S	S	15 39 43.1	+8.7	
BNX				sS	ScS	15 39 48.8	+3.8	
BNX				pmax	pmax			
	comp=Z,27nm,1.0s							
BNX				pmax	pmax			
	comp=Z,370nm,5.7s							
BNX				LR	LR			
	comp=Z,350nm,18.4s							
BNX				LR	LR			
	comp=Z,500nm,18.4s							
BNX				LR	LR			
	comp=Z,790nm,17.7s							
CTG	Chitna Glacier	85.05	15	P	P	15 29 06.6	+0.7	
	baz=210							
CN2	Changchun	85.05	320	P	P	15 29 07.8	+1.7	
CN2				S	S	15 39 35.8	+1.1	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
CN2				LR	LR			
	comp=Z,300nm,16.0s							
CN2				LR	LR			
	comp=Z,300nm,16.0s							
CN2				LR	LR			
	comp=Z,200nm,16.0s							
T35M	Bob Quinn	85.06	22	P	P	15 29 06.0	+0.1	
	baz=220							
PLBC	Pleasant Camp	85.08	18	P	P	15 29 05.9	0.0	
	baz=214							
O28M	Mount Upton	85.17	16	P	P	15 29 06.6	-0.1	
	baz=211							
CAST	Castle Rocks	85.17	9	IAmb	IAmb	15 29 21.7		
	comp=Z,31nm,1.9s							
CAST	Castle Rocks	85.17	9	P	P	15 29 06.4	+0.1	
	baz=200							
O29M	Mount Kennedy	85.18	16	P	P	15 29 07.3	+0.8	
	baz=212							
H16K	Elim	85.19	5	P	P	15 29 07.4	+1.1	
	baz=190							
J19K	Poorman	85.22	8	P	P	15 29 07.6	+1.1	
	baz=196							
CMIG	Matias Romero	85.36	70	LR	LR	16 01 39.4		
	comp=Z,872nm,18.1s,baz=210,slow=31							
SKAG	Skagway	85.39	18	P	P	15 29 08.4	+1.0	
	baz=215							
G15K	Niukluk	85.41	4	P	P	15 29 08.2	+0.8	
	baz=189							
HARP	HAARP	85.46	13	P	P	15 29 07.3	-0.5	
	baz=206							
P30M	Million Dollar	85.47	17	P	P	15 29 07.8	0.0	
	baz=214							
S34M	Telegraph Cree	85.48	21	P	P	15 29 08.2	+0.3	
	baz=219							
TRF	Thorofare Moun	85.48	10	P	P	15 29 09.4	+1.4	
	baz=201,SNR=11							
J20K	Nowinta River	85.59	8	IAmb	IAmb	15 29 26.5		
	comp=Z,28nm,1.2s							
J20K	Nowinta River	85.59	8	P	P	15 29 09.4	+1.1	
	baz=198							
H17K	Granite Mounta	85.67	6	P	P	15 29 09.9	+1.2	
	baz=192							
YUK8	Steele Glacier	85.71	15	P	P	15 29 10.1	+0.7	
	baz=211							
F14K	Arctic Creek	85.76	3	P	P	15 29 09.4	+0.2	
	baz=186							
YUK6	Outpost Mounta	85.78	16	P	P	15 29 10.1	+0.4	
	baz=212							
TNA	Tin City	85.78	2	P	P	15 29 10.0	+0.8	
	baz=185							
GCSA	Galena City Sc	85.80	7	P	P	15 29 08.8	-0.5	
	baz=195							
PDAR	Pinedale Array	85.84	41	P	P	15 29 14.0	+3.6	
	comp=Z,1.6nm,0.7s,baz=208,slow=2.9,SNR=15							
PDAR				LR	LR	16 03 49.8		
	comp=Z,382nm,18.4s,baz=248,slow=33							
	comp=Z,1.6nm,0.7s							
HYT	Haines Junctio	85.91	17	P	P	15 29 10.1	0.0	
	baz=213							
PAX	Paxson	85.92	12	P	P	15 29 10.8	+0.7	
	baz=206							
G16K	Koyuk River	85.92	5	P	P	15 29 09.2	-0.7	
	baz=190							
Q32M	Nakina River	85.93	20	P	P	15 29 10.4	+0.1	
	baz=218							
M26K	Nabesna, AK	85.93	14	P	P	15 29 10.2	+0.1	
	baz=208							
YUK3	Moose Creek	85.97	15	P	P	15 29 10.0	-0.6	
	baz=208,SNR=9.9							
MCK	McKinley	85.97	11	P	P	15 29 10.1	-0.1	
	baz=203,SNR=10.0							
BPAW	Bear Paw Mtn.	85.98	10	P	P	15 29 10.5	+0.2	
	baz=201							
P32M	Atlin	85.98	19	P	P	15 29 10.1	-0.3	
	baz=217							
PLCA	Paso Flores	86.01	132	P	P	15 29 15.3	+4.0	
	comp=Z,6.5nm,1.2s,baz=243,slow=6.8,SNR=3.4							
PLCA				LR	LR	16 01 57.1		
	comp=Z,768nm,18.4s,baz=240,slow=31							
	comp=Z,6.5nm,1.2s							
H18K	Honhosa River	86.04	6	P	P	15 29 10.0	-0.5	
	baz=194							
YUK4	Talbot Arm	86.05	16	P	P	15 29 11.7	+0.7	
	baz=212							
WHN	Wuhan	86.08	304	P	P	15 29 15.3	+3.8	
F15K	North Star Dit	86.08	4	P	P	15 29 10.6	-0.2	
	baz=188							
I20K	Naaglaedeneel	86.14	8	P	P	15 29 10.8	-0.1	
	baz=198							
M27K	Edge Creek, AK	86.14	14	P	P	15 29 11.3	0.0	
	baz=209							
G17K	Kiwalik Mounta	86.16	5	P	P	15 29 11.2	+0.1	
	baz=192							
O30N	Mendenhall	86.25	17	P	P	15 29 11.5	-0.3	
	baz=214							
DLBC	Dease Lake	86.26	21	LR	LR	16 01 45.2		
	comp=Z,6nm,20.8s,baz=206,slow=31							
DLBC	Dease Lake	86.26	21	P	P	15 29 11.5	-0.4	
	baz=220							
L26K	Log Cabin Wild	86.40	13	P	P	15 29 13.0	+0.6	
	baz=208							
BVCY	Beaver Creek	86.42	14	P	P	15 29 12.2	-0.3	
	baz=210,SNR=5.7							
WHY	Whitehorse	86.50	18	P	P	15 29 12.6	-0.5	
	baz=216							
N30M	Nishikikt Lake	86.55	16	P	P	15 29 12.5	-0.7	
	baz=214							
TIA	Tai'an	86.60	311	P	P	15 29 15.9	+1.9	
TIA				pmax	pmax			
	comp=Z,30nm,1.3s							
H19K	Roundabout Mou	86.61	7	P	P	15 29 14.1	+0.9	
	baz=196							
K24K	Donnelly Dome	86.61	12	P	P	15 29 14.5	+1.1	
	baz=206							
R33M	Jennings River	86.69	20	P	P	15 29 15.0	+1.0	
	baz=219							
G18K	Tagagawik	86.73	6	P	P	15 29 14.8	+0.8	
	baz=194							
RIDG	Independent Ri	86.73	12	P	P	15 29 15.1	+1.0	
	baz=206							
NEA2	Nenana	86.74	10	P	P	15 29 16.1	+2.0	
	baz=202,SNR=7.2							
P33M	Teslin, Yukon	86.75	19	P	P	15 29 15.0	+0.8	
	baz=217							
Q24A	Dixie	86.75	46	IAmb	IAmb	15 29 14.3		
	comp=Z,13nm,0.9s							
H20K	Anotleneega Mo	86.76	8	P	P	15 29 15.4	+1.4	
	baz=197							
L27K	Beaver Creek,	86.77	14	P	P	15 29 15.8	+1.6	
	baz=209							
MLY	Manley	86.89	9	P	P	15 29 16.0	+1.2	
	baz=201							
N31M	Braeburn, Yuko	86.93	17	P	P	15 29 16.2	+1.2	
	baz=215							
HDA	Harding Lake	86.94	11	P	P	15 29 16.3	+1.3	
	baz=204							
CCB	Clear Creek Bu	87.01	11	IAmb	IAmb	15 29 20.1		
	comp=Z,20nm,1.0s							
M29M	Somme Creek	87.03	15	P	P	15 29 16.0	+0.5	
	baz=212,SNR=5.9							
F17K	Baldwin Pennin	87.04	5	P	P	15 29 16.8	+1.5	
	baz=191							
SCRK	Sand Creek	87.12	12	P	P	15 29 17.1	+1.0	
	baz=207							
G19K	Purcell Mounta	87.13	6	P	P	15 29 17.3	+1.4	
	baz=195							
H21K	Melozitna Rive	87.18	8	P	P	15 29 17.3	+1.1	
	baz=199							
COLA	College	87.21	11	iP	P	15 29 18.5	+2.3	
COLA				pmax	pmax			
	comp=Z,34nm,1.1s							
COLA	College	87.21	11	P	P	15 29 17.8	+1.6	
	baz=204							
I23K	Minto, Yukon-K	87.21	10	P	P	15 29 17.8	+1.5	
	baz=202							
ILAR	Eielson Array	87.28	11	P	P	15 29 18.6	+2.0	
	comp=Z,2.8nm,0.8s,baz=219,slow=6.0,SNR=25							
ILAR				LR	LR	16 06 39.1		
	comp=Z,233nm,18.1s,baz=192,slow=34							
	comp=Z,2.8nm,0.8s							
SEY	Seymchan	87.38	345	iP	P	15 29 17.9	+0.8	
SEY				pmax	pmax			
	comp=Z,28nm,1.4s							
J25K	Salcha River,	87.42	12	P	P	15 29 19.2	+1.8	
	baz=206							
N32M	Quiet Lake	87.42	18	P	P	15 29 18.7	+1.3	
	baz=217							
POKR	Poker Plat Res	87.50	11	P	P	15 29 18.6	+0.9	
	baz=204							
K27K	Chicken	87.56	13	P	P	15 29 19.5	+1.5	
	baz=209							
M30M	Minto, Yukon	87.56	16	P	P	15 29 19.3	+1.2	
	baz=214							
H22K	Ishtalitna Cre	87.60	9	P	P	15 29 19.5	+1.3	
	baz=200							
E17K	Hotham Inlet	87.63	4	P	P	15 29 18.5	+0.3	
	baz=191							
HEH	HeiHe	87.67	326	eP	P	15 29 19.8	+1.0	
HEH				pmax	pmax			
	comp=Z,15nm,1.1s							
HEH				LR	LR			
	comp=Z,710nm,19.8s							
HEH				LR	LR			
	comp=Z,560nm,20.8s							
HEH				LR	LR			
	comp=Z,1µm,20.9s							
J26L	Joseph Creek	87.67	12	P	P	15 29 19.8	+1.2	
	baz=208							
L29M	L29M	87.67	15	P	P	15 29 19.3	+0.7	
	baz=213,SNR=10							
F19K	Shaleruckik Mo	87.73	6	P	P	15 29 19.9	+1.2	
	baz=194							
SYO	Syowa Base	87.77	191	⇑⇓ePcP	P	15 29 19.0	-0.1	
SYO	Syowa Base	87.77	191	⇓epP	pP	15 29 21.4	-0.2	
TROLL	Troll, Antarti	87.78	179	⇑P	P	15 29 22.2	+2.8	
	comp=Z,125nm,0.8s							
H23K	Yukon River	87.81	10	P	P	15 29 20.3	+1.1	
	baz=202							
VNA3	Neumayer Olymp	87.88	175	⇑P	P	15 29 21.4	+1.7	
	comp=Z,3.9nm,0.8s							
M31M	Drury Creek, Y	87.89	17	P	P	15 29 21.0	+1.3	
	baz=216							
G21K	Allakaket	87.91	8	P	P	15 29 20.7	+1.1	
	baz=198							
SNAA	Sanae	87.93	177	⇑P	P	15 29 19.8	-0.2	
	comp=Z,53nm,0.8s							
SNAA	Sanae	87.93	177	P	P	15 29 22.5	+2.5	
	comp=Z,2.4nm,0.9s,baz=220,slow=4.5,SNR=8.7							
SNAA				LR	LR	16 05 28.9		
	comp=Z,886nm,20.2s,baz=174,slow=33							
	comp=Z,2.4nm,0.9s							
SNAA	Sanae	87.93	177	iP	P	15 29 20.7	+0.7	
SNAA				pmax	pmax			
	comp=Z,26nm,1.9s							
WTLY	Watson Lake, Y	87.94	21	P	P	15 29 20.8	+0.9	
	baz=221							
E18K	Tukpahlearik C	88.06	5	P	P	15 29 21.5	+1.3	
	baz=192							
H24K	Nood Dome	88.09	10	P	P	15 29 21.0	+0.5	
	baz=204							
D17K	Noatak River	88.16	4	P	P	15 29 20.7	0.0	
	baz=189							
F20K	Avaraart Lake	88.16	7	P	P	15 29 21.2	+0.5	
	baz=196							
DAWY	Dawson	88.19	14	P	P	15 29 20.6	-0.4	
	baz=211,SNR=7.8							
PRP	Porcupine Dome	88.21	11	P	P	15 29 22.3	+1.1	
	baz=206							
TOAD	Toad River Com	88.24	23	P	P	15 29 22.4	+1.1	
	baz=224							
LIRD	Liard River Hi	88.34	22	P	P	15 29 22.9	+1.1	
	baz=223							
E19K	Redstone River	88.39	6	P	P	15 29 22.9	+1.0	
	baz=195							
K29M	Barlow Dome	88.44	15	P	P	15 29 23.2	+0.9	
	baz=213,SNR=12							
I26K	Coal Creek Min	88.47	12	P	P	15 29 23.4	+1.2	
	baz=208							
RDOG	Red Dog Mine	88.52	4	P	P	15 29 24.2	+1.7	
	baz=190							
G22K	Bettles	88.55	8	P	P	15 29 23.9	+1.2	
	baz=200							
G23K	Bananza Creek	88.57	9	P	P	15 29 23.9	+1.1	
	baz=202							
VNA1	Neumayer--Stat	88.58	175	⇑P	P	15 29 26.6	+3.6	
	comp=Z,10nm,1.9s							
F21K	Alatna River	88.58	8	P	P	15 29 23.9	+1.1	
	baz=198							
C16K	Lisburne Hills	88.60	3	P	P	15 29 23.5	+0.7	
	baz=187							
H25L	Birch Creek	88.83	11	P	P	15 29 24.8	+0.9	
	baz=206							
HNS	HongShan	88.87	311	⇓P	P	15 29 27.6	+2.8	
HNS				SKS	SKSac	15 39 56.1	+2.4	
HNS				S	ScS	15 40 20.5	+3.3	
HNS				LR	LR			
	comp=Z,280nm,20.7s							
HNS				LR	LR			
	comp=Z,400nm,21.6s							
HNS				LR	LR			
	comp=Z,520nm,20.7s							
C17K	DeLong Mountai	88.92	4	P	P	15 29 25.2	+0.9	
	baz=189							
G24K	Hadweenzic Riv	88.95	10	P	P	15 29 25.8	+1.3	
	baz=204							
PSI	Prapat	89.00	273	LR	LR	16 11 53.0		
	comp=Z,257nm,18.9s,baz=131,slow=38							
COLD	Coldfoot	89.02	9	P	P	15 29 25.7	+0.9	
	baz=202							
I27K	Kandik River	89.04	13	P	P	15 29 24.6	-0.4	
	baz=209							
BJI	Beijing	89.06	314	P	P	15 29 27.6	+2.0	
BJI				S	S	15 40 18.1	+4.6	
BJI				pmax	pmax			
	comp=Z,9.0nm,1.5s							
BJI				pmax	pmax			
	comp=Z,170nm,4.5s							
BJI				LR	LR			
	comp=Z,96nm,16.5s							
BJI				LR	LR			
	comp=Z,74nm,13.3s							
BJI				LR	LR			
	comp=Z,130nm,19.7s							
MMPY	Sheldon Lake,	89.11	18	P	P	15 29 25.6	+0.2	
	baz=219							
TGTN	Hyland Airport	89.18	20	P	P	15 29 24.8	-1.0	
	baz=221							
C18K	Utukok River	89.22	4	P	P	15 29 24.8	-1.0	
	baz=191							
G25K	Bearman Lake	89.24	10	P	P	15 29 25.0	-0.8	
	baz=205							
LYN	LuoYang	89.25	307	P	P	15 29 28.9	+2.2	
LYN				pP	sP	15 29 33.1	+3.1	
LYN				sP	pwP	15 29 36.0	-5.4	
LYN				S	S	15 40 15.6	-0.1	
LYN				sS	ScS	15 40 26.1	+5.6	
LYN				pmax	pmax			
	comp=Z,30nm,1.0s							
LYN				pmax	pmax			
	comp=Z,570nm,6.0s							
LYN				LR	LR			
	comp=Z,540nm,17.9s							
LYN				LR	LR			
	comp=Z,270nm,14.4s							
LYN				LR	LR			
	comp=Z,340nm,17.9s							
I28M	Miner Creek	89.25	13	P	P	15 29 25.3	-0.8	
	baz=211,SNR=6.9							
E20K	Nigu River	89.27	6	P	P	15 29 26.1	0.0	
	baz=196							
D19K	Kuna River	89.32	5	P	P	15 29 26.5	+0.3	
	baz=194							
J30M	Hart River	89.34	15	P	P	15 29 25.5	-1.1	
	baz=214							
BILL	Bilibino	89.47	352	P	P	15 29 26.1	-0.8	
BILL				pmax	pmax			
	comp=Z,25nm,1.8s							
I29M	Ogilvie Camp,	89.54	14	P	P	15 29 27.6	+0.3	
	baz=212,SNR=5.3							
KOTAN	Kotaneelee Air	89.58	22	P	P	15 29 26.9	-0.7	
	baz=225							
H27K	Steamboat Moun	89.60	12	P	P	15 29 28.6	+1.0	
	baz=210,SNR=8.9							
HKT	Hockley	89.64	58	iP	P	15 29 28.3	-0.2	
HKT				pmax	pmax			
	comp=Z,36nm,1.9s							
F24K	Squaw Lake	89.64	9	P	P	15 29 28.7	+0.9	
	baz=204							
D20K	Etivluk River	89.67	6	P	P	15 29 28.4	+0.5	
	baz=196							
E21K	Killik River	89.69	7	P	P	15 29 28.2	+0.3	
	baz=198							
C19K	Lookout Ridge	89.79	5	P	P	15 29 28.1	-0.3	
	baz=193							
ZEA	Zeya	89.81	329	eP	P	15 29 31.3	+2.5	
ZEA				pmax	pmax			
	comp=Z,200nm,3.1s							
ZEA				pmax	pmax			
	comp=N,10.0nm,1.9s							
ZEA				pmax	pmax			
	comp=Z,20nm,1.6s							
G26K	Porcupine Rive	89.81	11	P	P	15 29 29.5	+1.0	
	baz=207,SNR=5.2							
I30M	Mount Dempster	89.87	15	P	P	15 29 29.8	+0.8	
	baz=214,SNR=13							
E23K	Chandalar	89.88	9	P	P	15 29 30.0	+1.1	
	baz=202							
B18K	Kokolik River	89.89	4	P	P	15 29 28.1	-0.7	
	baz=191							
E24K	Your Creek	90.06	9	P	P	15 29 28.7	-1.1	
	baz=203							
F25K	Christian Rive	90.06	10	P	P	15 29 31.1	+1.3	
	baz=206							
G27K	Doyon Strip	90.08	12	P	P	15 29 30.3	+0.4	
	baz=209							
H29M	Whitestone	90.25	13	P	P	15 29 30.8	+0.2	
	baz=212,SNR=5.8							
D22K	Ayikyak River	90.26	7	P	P	15 29 31.6	+0.9	
	baz=199							
C21K	Knifeblade Rid	90.28	6	P	P	15 29 31.5	+0.7	
	baz=197							
F26K	Sheenjek River	90.41	11	P	P	15 29 32.0	+0.7	
	baz=207							
TOLK	Toolik Lake Re	90.43	8	P	P	15 29 32.4	+0.9	
	baz=202							
E25K	Arctic Village	90.56	10	P	P	15 29 32.1	+0.1	
	baz=206							
D23K	Nanushuk River	90.59	8	P	P	15 29 32.2	0.0	
	baz=201							
EPYK	Eagle Plains	90.74	14	P	P	15 29 33.6	+0.6	

baz=214
B21K Ikpikpuk River 90.75 6 P **P** **15 29 33.5 +0.7**
baz=197
A19K Wainwright 90.76 4 P **P** **15 29 32.8 -0.1**
baz=191
H31M Peel River 90.83 15 P **P** **15 29 34.1 +0.7**
baz=216
B20K Meade River 90.88 5 P **P** **15 29 33.4 0.0**
baz=195
XLT XiLinHaoTe 90.91 317 *e*P **P** **15 29 36.3 +2.0**
XLT pP sP 15 29 40.3 +2.7
XLT sP pwP 15 29 43.8 -5.2
XLT S **S** **15 40 34.8 +4.0**
XLT sS ScS 15 40 38.9 +4.8
XLT pmax pmax
comp=Z,11nm,1.2s
XLT pmax pmax
comp=Z,160nm,6.7s
XLT LR LR
comp=Z,22nm,17.9s
XLT LR LR
comp=Z,170nm,19.1s
XLT LR LR
comp=Z,250nm,16.2s
G29M Pine Creek 90.91 13 P **P** **15 29 34.3 +0.6**
baz=213
D24K Happy Valley 91.01 8 P **P** **15 29 34.9 +0.8**
baz=203
F28M Old Crow 91.13 12 P **P** **15 29 34.9 +0.2**
baz=211
E27K Coleen River 91.30 11 P **P** **15 29 35.7 +0.2**
baz=209
G30M tAoh Zraii Nji 91.36 14 P **P** **15 29 36.5 +0.7**
baz=214
C23K Itkillik River 91.41 8 P **P** **15 29 36.7 +0.7**
baz=201
D25K Kavik River 91.52 9 P **P** **15 29 36.7 +0.2**
baz=205
C24K Franklin Bluff 91.55 8 P **P** **15 29 37.3 +0.7**
baz=203
NNA Nana 91.70 103 LR LR 16 03 38.6
comp=Z,531nm,18.9s,baz=212,slow=30
XAN Xi'an 91.72 306 ⇓P **P** **15 29 40.1 +1.8**
XAN pP sP 15 29 45.3 +3.7
XAN S **S** **15 40 42.3 +3.8**
XAN pmax pmax
comp=Z,33nm,1.3s
XAN pmax pmax
comp=Z,240nm,3.6s
G31M Satah River 91.76 14 P **P** **15 29 38.0 +0.4**
baz=216
JTS Las Juntas de 91.88 80 LR LR 16 01 53.7
comp=Z,660nm,20.2s,baz=240,slow=29
WRGLY Wrigley 91.96 20 P **P** **15 29 39.6 +1.0**
baz=226
F30M Barrier River 91.98 13 P **P** **15 29 38.7 +0.1**
baz=215
ATAH Atahualpa 91.99 98 LR LR 16 02 16.3
comp=Z,632nm,20.6s,baz=256,slow=30
A22K Sinclair Lake 92.04 6 P **P** **15 29 38.3 -0.5**
baz=197
E28M Babbage River 92.05 12 P **P** **15 29 39.8 +0.9**
baz=211
E29M Blow River 92.19 12 P **P** **15 29 39.3 -0.3**
baz=213
C27K Jago River 92.21 10 P **P** **15 29 39.9 +0.2**
baz=208
C26K Camden Bay 92.28 9 P **P** **15 29 40.0 0.0**
baz=206
F31M Tsiigehtchic 92.30 14 P **P** **15 29 40.1 +0.1**
baz=217
D27M Malcolm River 92.34 11 P **P** **15 29 40.8 +0.5**
baz=210
HHC Hu-ho-hao-te 92.57 313 *e*P **P** **15 29 40.8 -1.3**
HHC S **S** **15 40 41.9 -4.1**
HHC sS sS 15 40 57.0 +6.8
HHC SS **SS** **15 46 54.1 -4.4**
HHC pmax pmax
comp=Z,140nm,4.4s
HHC LR LR
comp=Z,160nm,15.5s
HHC LR LR
comp=Z,170nm,16.1s
HHC LR LR
comp=Z,160nm,16.1s
D28M Stokes Point 92.82 12 P **P** **15 29 43.3 +0.9**
baz=212
INK Inuvik 93.05 14 LR LR 16 07 57.0
comp=Z,454nm,19.3s,baz=229,slow=33
INK Inuvik 93.05 14 P **P** **15 29 43.3 -0.1**
baz=217
KMI Kunming 93.37 295 P **P** **15 29 49.3 +3.0**
KMI pmax pmax
comp=Z,15nm,0.9s
KMI pmax pmax
comp=Z,320nm,6.2s
KMI LR LR
comp=Z,320nm,18.6s
KMI LR LR
comp=Z,630nm,18.7s
KMI LR LR
comp=Z,770nm,21.5s
YAK Yakutsk 93.77 337 LR LR 16 08 21.6
comp=Z,160nm,20.2s,baz=129,slow=33
YAK Yakutsk 93.77 337 *i* P **P** **15 29 47.1 +0.2**
YAK pmax pmax
comp=Z,29nm,3.0s
CMAR Chiang Mai Arr 94.37 288 P **P** **15 29 49.8 -1.0**
comp=Z,1.6nm,0.8s,baz=118,slow=2.7,SNR=22
CMAR LR LR 16 09 56.5
comp=Z,180nm,20.4s,baz=125,slow=34
comp=Z,1.6nm,0.8s
YKA Yellowknife Ar 94.57 23 P **P** **15 29 53.5 +2.9**
comp=Z,0.7nm,0.9s,baz=246,slow=4.5,SNR=5.1
YKA LR LR 16 07 12.0
comp=Z,255nm,20.2s,baz=249,slow=32
comp=Z,0.7nm,0.9s
PZH PanZhiHua 94.69 296 P **P** **15 29 52.1 -0.2**
LZH Lanzhou 96.34 306 *e*P **P** **15 29 58.4 -1.2**
LZH sP sP 15 30 05.8 +2.9
LZH S **S** **15 41 18.8 -0.5**
LZH pmax pmax
comp=Z,7.0nm,1.0s
LZH LR LR
comp=Z,190nm,18.9s
LZH LR LR
comp=Z,300nm,15.8s
LZH LR LR
comp=Z,350nm,17.9s
ULM Lac du Bonnet 97.66 39 *i* P Pdif 15 30 06.7 +1.7
A36M Sachs Harbour 97.69 13 P **P** **15 30 04.7 +0.1**
baz=225
LPAZ La Paz 97.88 111 P Pdif 15 30 11.8 +4.1
comp=Z,1.5nm,0.8s,baz=230,slow=7.9,SNR=4.9
LPAZ LR LR 16 05 52.3
comp=Z,620nm,19.9s,baz=260,slow=30
comp=Z,1.5nm,0.8s
ULN Ulaanbaatar 98.28 318 *i* P **P** **15 30 07.4 -0.7**
ULN pmax pmax
comp=Z,4.0nm,1.1s
SONM Songino Array 98.69 318 P **P** **15 30 09.2 -0.7**
comp=Z,0.4nm,0.3s,baz=132,slow=4.0,SNR=2.8
SONM PP **PP** **15 34 07.0 -4.3**
comp=Z,1.0nm,0.8s,baz=123,slow=7.1,SNR=5.2
SONM LR LR 16 12 39.5
comp=Z,225nm,19.7s,baz=85,slow=34
comp=Z,0.4nm,0.3s
TIXI Tiksi 99.85 344 LR LR 16 16 35.8
comp=Z,208nm,18.1s,baz=140,slow=36
WMQ Urumqi 110.30 310 *e*PKP **PKiKP** **15 35 00.3 -2.4**
WMQ LR LR
comp=Z,310nm,24.9s
WMQ LR LR
comp=Z,290nm,22.7s
MKAR Makanchi Array 114.43 313 PKiKP **PKiKP** **15 35 11.4 +1.0**
comp=Z,1.0nm,0.7s,baz=73,slow=0.7,SNR=7.9
MKAR PP **PP** **15 36 02.3 -4.7**
comp=Z,1.9nm,1.1s,baz=87,slow=8.9,SNR=4.9
KURK Kurchatov 116.99 317 PKiKP **PKiKP** **15 35 16.0 +0.9**
KURBB Kurchatov Arra 117.05 317 PKP **PKiKP** **15 35 16.0 +0.8**
comp=Z,1.0nm,0.6s,baz=90,slow=2.0,SNR=8.4
KURBB PP **PP** **15 36 22.0 -3.2**
comp=Z,2.1nm,1.0s,baz=96,slow=6.0,SNR=9.7
KURBB SKP 15 38 47.0
comp=Z,0.1nm,0.3s,baz=58,slow=8.2,SNR=4.0
BVAR Borovoye Array 121.90 320 PKP **PKiKP** **15 35 25.4 +0.7**
comp=Z,2.7nm,0.6s,baz=58,slow=2.7,SNR=8.8

SVE Sverdlovsk 126.44 327 *i* PKiKP **PKiKP** **15 35 35.6 +2.1**
SVE MLR MLR
comp=Z,741nm,20.0s
ARTI Arti 127.76 327 *i* PKiKP **PKPdf** **15 35 35.1 -0.5**
ARTI 15 37 37.5
ARTI 15 42 46.1
ARCES ARCESS Array B 129.56 352 PKP **PKPdf** **15 35 39.6 +0.8**
comp=Z,1.4nm,0.6s,baz=1.9,slow=1.8,SNR=12
KLMR Klimovskoe 133.52 339 *e*PKiKP **PKPdf** **15 35 44.7 -1.7**
KLMR *e* 15 38 12.3
KLMR pmax pmax
comp=Z,15nm,1.7s
BELG Belogornoye 135.16 325 PKiKP **PKPdf** **15 35 50.2 +0.5**
FINES FINESS Array B 136.84 347 PKP **PKPdf** **15 35 53.4 +0.8**
comp=Z,1.7nm,0.8s,baz=48,slow=4.1,SNR=5.2
OBN Obninsk 138.73 334 ⇑*i* PKiKP **PKPdf** **15 35 57.4 +1.2**
OBN *i* 15 36 03.3
OBN 15 38 58.0
OBN SS SS 15 56 57.0 -3.9
OBN pmax pmax
comp=Z,5.0nm,0.4s
AKT Akhty 139.59 311 *e*PKiKP **PKiKP** **15 36 03.3 +2.5**
AKT MLR MLR
comp=Z,316nm,16.0s
HFS Hagfors 140.01 355 PKhKP PKPpre 15 35 54.6
comp=Z,1.2nm,0.8s,baz=63,slow=6.8,SNR=4.6
HFS PKP pPKPdf 15 36 00.6 -0.3
comp=Z,1.9nm,0.8s,baz=48,slow=2.1,SNR=5.2
KIV Kislovodsk 142.07 317 *i* PKiKP **PKiKP** **15 36 04.9 -0.9**
KIV *e* 15 39 08.1
KIV *e*SS SS 15 57 43.0 +1.6
KIV pmax pmax
comp=Z,5.0nm,1.1s
MNK Minsk 142.38 340 *i* PKiKP **PKiKP** **15 36 06.3 +0.4**
MNK *i* 15 39 12.6
MNK *i* PPP PPP 15 42 16.5
MNK *i* 15 43 12.6
MNK pmax pmax
comp=Z,9.0nm,0.8s
SOC Sochi 144.14 318 *e*PKiKP **PKPab** **15 36 03.6 -0.4**
SOC *e* 15 39 18.5
SOC *e*PPP PPP 15 42 28.5
SOC *e*SS SS 15 58 08.1 +3.1
SOC *e*SSS SSS 16 03 29.2
SUW Suwalki 144.19 344 *e*PKP **PKPdf** **15 36 07.1 +1.1**
EKA Eskdalemuir Ar 144.31 10 PKP **PKPdf** **15 36 06.5 +0.3**
comp=Z,3.5nm,0.7s,baz=328,slow=2.8,SNR=8.7
PCED Cedros 144.42 51 *e*PKP **PKiKP** **15 36 09.6 -1.1**
PMAN Manadas 144.87 51 *e*PKP **PKPab** **15 36 03.5 -3.3**
ANN Anapa 144.90 321 *i* PKiKP **PKPdf** **15 36 08.3 +0.7**
ANN pmax pmax
comp=Z,45nm,0.9s
AKASG Malin Array Be 144.98 335 PKP **PKPdf** **15 36 07.9 +0.4**
comp=Z,12nm,0.6s,baz=36,slow=4.0,SNR=52
AKBB Malin Array Si 144.98 335 PKP **PKPab** **15 36 07.2 +0.4**
AK04 Malin Array Si 144.99 335 PKP **PKPab** **15 36 07.2 +0.4**
KIEV Kiev 144.99 335 ⇓P **PKPab** **15 36 06.9 0.0**
KIEV Kiev 144.99 335 ⇓PKiKP **PKPab** **15 36 06.9 0.0**
KIEV Kiev 144.99 335 PKP **PKPab** **15 36 07.2 +0.3**
AK01 Malin Array Si 144.99 335 PKP **PKPab** **15 36 07.2 +0.3**
AK21 Malin Array Si 144.99 335 PKP **PKPab** **15 36 07.2 +0.3**
AK22 Malin Array Si 144.99 335 PKP **PKPab** **15 36 07.2 +0.3**
AK08 Malin Array Si 145.02 335 PKP **PKPab** **15 36 07.3 +0.3**
AK11 Malin Array Si 145.02 335 PKP **PKPab** **15 36 07.3 +0.3**
AK02 Malin Array Si 145.02 335 PKP **PKPab** **15 36 07.3 +0.3**
AK09 Malin Array Si 145.02 335 PKP PKPbc 15 36 07.3 +0.3
AK18 Malin Array Si 145.03 335 PKP PKPbc 15 36 06.8 -0.2
AK20 Malin Array Si 145.03 335 PKP **PKPab** **15 36 07.7 +0.7**
AK10 Malin Array Si 145.05 335 PKP **PKPbc** **15 36 07.1 0.0**
PAGU Agualva, Azore 145.48 51 *e*PKP **PKiKP** **15 36 13.3 +0.5**
PSCM Serra do Cume 145.55 51 *e*PKP **PKiKP** **15 36 13.5 +0.5**
RNPP9 Sopachiv 145.63 339 PKP **PKPab** **15 36 10.7 +1.5**
RNPP8 Varash 145.71 339 PKP **PKPab** **15 36 10.4 +0.9**
RNPP5 Staryi Chortor 145.79 339 PKP **PKPab** **15 36 10.6 +0.8**
LUBAR Lubar, Ukraine 146.18 335 PKP **PKPbc** **15 36 11.3 +0.7**
GKP Gorka Klasztor 146.22 349 *e*PKP **PKiKP** **15 36 13.9 +0.1**
R9F13 Warsaw-Wawer 146.34 344 *e*PKPdf **PKiKP** **15 36 14.4 +0.3**
R9F13 *e*PKPab sPKPab 15 36 28.5 +13
SIM Simferopol' 146.72 324 *e*PKP2 **PKPab** **15 36 14.4 +0.8**
SIM 15 39 43.0
SIM pmax pmax
comp=Z,13nm,0.9s
SIM pmax pmax
comp=Z,20nm,0.9s
SIM pmax pmax
comp=Z,200nm,14.0s
BEL Belsk 146.78 344 *e*PKP **PKiKP** **15 36 15.2 +0.2**
PGRON Lagoa das Cont 147.18 51 *e*PKP **PKPdf** **15 36 08.3 -3.5**
SORM Soroca 147.34 333 ⇑P **PKPab** **15 36 15.9 0.0**
SORM Soroca 147.34 333 ⇑PKP2 **PKPab** **15 36 15.9 0.0**
PSMA Santa Maria 147.65 52 *e*PKP **PKPab** **15 36 18.6 +1.1**
PSMN Pico do Norte, 147.69 52 *e*PKP **PKiKP** **15 36 18.2 +0.8**
KWP Kalwaria Pacla 148.21 340 *e*PKP **PKPab** **15 36 19.8 +0.5**
OJC Ojcow 148.52 344 *e*PKP **PKiKP** **15 36 18.6 -0.1**
KSP Ksiaz 148.72 348 *e*PKP **PKPbc** **15 36 17.5 -0.1**
CLL Collm 148.78 353 *e*PKiKP **PKPdf** **15 36 16.0 +2.1**
CLL *i* 15 36 19.7
CLL *i* 15 36 24.2
CLL pmax pmax
comp=Z,69nm,1.5s
CLL MLR MLR
comp=Z,400nm,19.5s
CLL Collm 148.78 353 *e*PKPdf **PKPdf** **15 36 16.0 +2.1**
CLL *i* PKPbc **PKiKP** **15 36 19.7 +0.5**
comp=Z,69nm,1.5s
CLL *i* PKPab **pPKPab** **15 36 24.2 +0.3**
comp=Z,262nm,2.5s
CLL *i* x x 15 36 34.5
CLL *e*PKPlp 15 36 40.0
comp=Z,200nm,19.8s
CLL *e*PKSdf **PKSdf** **15 39 50.0 +1.3**
CLL AMS AMS 16 48 00.0
comp=Z,400nm,19.5s
CLL AMS AMS 16 52 00.0
comp=N,200nm,18.8s
CLL AMS AMS 16 52 00.0
comp=E,200nm,19.3s
CHVC Chvalec 149.00 349 *e*PKP **PKPab** **15 36 25.5 +3.0**
CHVC Chvalec 149.00 349 *e*PKP2 **PKPab** **15 36 25.5 +3.0**
OSTC Ostas 149.00 348 AMS AMS 16 44 00.0
comp=E,300nm,19.3s
BURAR Bucovina Array 149.03 336 ⇑P **PKiKP** **15 36 21.4 +1.4**
BURAR Bucovina Array 149.03 336 ⇑PKP2 **PKiKP** **15 36 21.4 +1.4**
BRG Berggiesshubel 149.08 351 *e*PKP **PKPbc** **15 36 17.2 -1.3**
BRG Amp 15 36 18.4
comp=Z,7.1nm,1.4s
BRG Berggiesshubel 149.08 351 P **PKiKP** **15 36 21.6 +1.8**
BRG Amp 15 36 24.9
comp=Z,100nm,1.8s
UPC Upice 149.09 349 AMS AMS 16 49 20.0
comp=Z,300nm,17.0s
NIE Niedzica 149.11 343 *e*PKP **PKPbc** **15 36 18.9 +0.1**
DPC Dobruska-Polom 149.18 348 *e*PKP **PKPab** **15 36 22.3 -0.9**
DPC *ep*PKP **sPKPab** **15 36 27.5 +1.0**
DPC AMS AMS 16 45 10.0
comp=Z,400nm,20.8s
DPC Dobruska-Polom 149.18 348 *e*PKP2 **PKPab** **15 36 22.3 -0.9**
DPC MLR MLR
comp=Z,400nm,20.8s
STEB Steborice 149.27 346 *e*PKP **PKPab** **15 36 23.8 +0.2**
OKC Ostrava-Krasne 149.28 346 AMS AMS 16 49 40.0
PVCC Panska Ves 149.32 350 AMS AMS 16 52 30.0
comp=Z,300nm,20.5s
TESR Tescani 149.33 333 ⇑P **PKiKP** **15 36 22.5 +2.0**
TLCR 149.33 329 ⇑P **PKiKP** **15 36 21.1 +0.6**
TLCR 149.33 329 ⇑PKP2 **PKiKP** **15 36 21.1 +0.6**
GHRR 149.34 331 ⇑P **PKPbc** **15 36 20.5 +1.2**
KRLC Kraliky 149.35 347 *e*PKP **PKPab** **15 36 24.1 +0.2**
KRLC AMS AMS 16 52 50.0
comp=Z,300nm,18.6s
KRLC Kraliky 149.35 347 *e*PKP2 **PKPab** **15 36 24.1 +0.2**
KRLC MLR MLR
comp=Z,300nm,18.6s
MORC Moravsky Berou 149.47 346 *e*PKP **PKPbc** **15 36 18.6 -1.0**
MORC Moravsky Berou 149.47 346 ⇑P **PKPab** **15 36 23.3 -1.2**
MORC Moravsky Berou 149.47 346 ⇑PKP2 **PKPab** **15 36 23.3 -1.2**
ONER Baraj Valea Uz 149.57 333 ⇑P **PKiKP** **15 36 21.8 +0.8**
UCC Uccle 149.60 3 *d*PcP **PKPbc** **15 36 20.6 +0.8**
BMR Baia Mare 149.62 337 ⇑P **PKiKP** **15 36 23.2 +2.2**
BMR Baia Mare 149.62 337 ⇑PKP2 **PKiKP** **15 36 23.2 +2.2**
BEBN Eben Emael 149.65 1 *d*PKP **PKiKP** **15 36 23.4 +2.5**
CFR Carcaliu 149.66 329 ⇑P **PKPbc** **15 36 20.0 -0.2**
CFR Carcaliu 149.66 329 ⇑PKP2 **PKPbc** **15 36 20.0 -0.2**

TPGR Topolog 149.76 329 ⇓P **PKiKP** **15 36 22.4 +1.0**
PRA Prague 149.78 350 AMS AMS 16 51 00.0
comp=Z,500nm,19.5s
MAUC Maruska 149.79 346 AMS AMS 16 53 00.0
comp=Z,700nm,18.6s
VRI Vrincioaia 149.79 332 ⇑P **PKiKP** **15 36 22.2 +0.7**
VRI Vrincioaia 149.79 332 ⇑PKP2 **PKiKP** **15 36 22.2 +0.7**
PLOR Plostina 149.84 332 ⇑P **PKPbc** **15 36 21.1 +0.4**
PLOR Plostina 149.84 332 ⇑PKP2 **PKPbc** **15 36 21.1 +0.4**
PRU Pruhonice 149.84 350 AMS AMS 16 50 40.0
comp=Z,600nm,19.7s
MEM Membach 149.85 1 *d*PKP **PKiKP** **15 36 23.3 +1.9**
BSTI Sart Tilman 149.86 2 *d*PKP **PKiKP** **15 36 24.1 +2.7**
BTNL Ternell 149.87 1 *d*PKP **PKiKP** **15 36 24.2 +2.7**
GOPC GO Pecny, Ondr 149.88 350 AMS AMS 16 51 40.0
comp=Z,400nm,18.1s
BCLA Clavier 150.02 2 *d*PKP **PKPab** **15 36 25.1 -1.5**
BRTR Keskin Array B 150.03 316 PKPbc **PKPbc** **15 36 22.5 +1.0**
comp=Z,3.4nm,0.7s,baz=60,slow=0.5,SNR=15
COVR Voineasa-Covas 150.04 332 ⇑P **PKPbc** **15 36 21.5 +0.3**
BGES Gesves 150.05 2 *d*PKP **PKiKP** **15 36 24.8 +2.9**
BHOU Houvegnez 150.10 1 *d*PKP **PKiKP** **15 36 24.8 +2.8**
BMRD Maredsous 150.12 3 *d*P **PKiKP** **15 36 24.2 +2.2**
VRAC Vranov 150.12 347 *e*PKP **PKPbc** **15 36 19.4 -1.8**
VRAC Vranov 150.12 347 ⇑P **PKiKP** **15 36 24.8 +2.8**
VRAC Vranov 150.12 347 ⇑PKiKP **PKiKP** **15 36 24.8 +2.8**
HARR Harsova 150.12 329 ⇓P **PKiKP** **15 36 23.6 +1.4**
HARR Harsova 150.12 329 ⇓PKP2 **PKiKP** **15 36 23.6 +1.4**
KIRS Kirsehir-Merke 150.15 315 ⇑P **PKPbc** **15 36 22.5 +0.8**
TLBR Topalu 150.17 329 ⇑P **PKiKP** **15 36 24.6 +2.3**
RCHB Rochefort 150.28 2 *d*PKP **PKiKP** **15 36 24.9 +2.6**
DOPR Dopca 150.29 333 ⇑P **PKiKP** **15 36 24.6 +2.1**
JAVC Velka Javorina 150.30 345 *e*PKP **PKPbc** **15 36 21.3 -0.4**
DOU Dourbes 150.31 3 *d*PKP **PKiKP** **15 36 25.4 +3.0**
NEHR Nehoiu 150.32 332 ⇑P **PKiKP** **15 36 23.3 +0.7**
TREC Trest 150.35 349 AMS AMS 16 53 00.0
comp=Z,400nm,19.0s
VYHS Vyhne 150.35 344 *e*PKiKP **PKiKP** **15 36 24.5 +1.9**
VYHS Vyhne 150.35 344 *e*PKP **PKiKP** **15 36 24.5 +1.9**
KRUC Moravsky 150.39 347 *e*PKP **PKPdf** **15 36 19.6 +3.0**
MLR Muntele Rosu 150.43 332 ⇓P **PKiKP** **15 36 25.1 +2.1**
MLR Muntele Rosu 150.43 332 ⇓PKiKP **PKiKP** **15 36 25.1 +2.1**
ZVC Zvikov 150.43 350 *e*PKP **PKiKP** **15 36 24.2 +1.5**
ZVC AMS AMS 16 49 00.0
comp=Z,500nm,18.8s
GRF Grafenberg Arr 150.56 354 *e*PKPbc PKPab 15 36 37.0 +8.1
baz=354,slow=1.5
PSZ Piszkesteto 150.58 342 ⇑P **PKiKP** **15 36 24.8 +1.7**
PSZ Piszkesteto 150.58 342 ⇑PKiKP **PKiKP** **15 36 24.8 +1.7**
MARR Marisel-Cluj 150.61 337 ⇑P **PKiKP** **15 36 24.3 +1.0**
DRGR 150.66 337 ⇑P **PKiKP** **15 36 24.1 +0.8**
DRGR 150.66 337 ⇑PKiKP **PKiKP** **15 36 24.1 +0.8**
WLF Walferdange 150.79 1 *d*PcP **PKiKP** **15 36 26.9 +3.4**
KHC Kasperske Hory 150.83 351 *e*PKP **PKiKP** **15 36 25.0 +1.4**
KHC Kasperske Hory 150.83 351 *e*PKiKP **PKiKP** **15 36 25.0 +1.4**
MODS Modra-Piesok 150.85 346 *e*PKiKP **PKiKP** **15 36 24.2 +0.6**
MODS Modra-Piesok 150.85 346 *e*PKP **PKiKP** **15 36 24.2 +0.6**
VOIR 150.86 333 ⇑P **PKiKP** **15 36 26.0 +2.2**
VOIR 150.86 333 ⇑PKiKP **PKiKP** **15 36 26.0 +2.2**
CKRC Cesky Krumlov 151.02 350 *e*PKP **PKiKP** **15 36 25.8 +1.9**
CKRC *ex* x 15 36 37.4
CKRC AMS AMS 16 42 20.0
comp=Z,300nm,19.2s
CKRC Cesky Krumlov 151.02 350 *e*PKiKP **PKiKP** **15 36 25.8 +1.9**
CKRC MLR MLR
comp=Z,300nm,19.2s
GERES GERESS Array B 151.09 351 PKPbc **PKiKP** **15 36 25.8 +1.6**
comp=Z,2.4nm,0.9s,baz=11,slow=1.0,SNR=15
ARR Arges 151.09 334 ⇑P **PKiKP** **15 36 25.8 +1.5**
LOT Lotru 151.38 335 ⇑P **PKPbc** **15 36 22.5 -1.9**
SIRR Siria 151.48 338 ⇑P **PKiKP** **15 36 25.6 +0.7**
CONA Conrad Observa 151.58 347 *i* PKP **PKPbc** **15 36 23.4 -1.4**
comp=Z,8.6nm,1.3s,SNR=7.4
MMAI Mount Meron Ar 151.65 302 PKPbc **PKPbc** **15 36 25.7 +0.3**
comp=Z,7.3nm,1.0s,baz=69,slow=7.9,SNR=4.6
MMAI PKPab **PKPab** **15 36 34.4 +0.3**
comp=Z,6.5nm,0.7s,baz=74,slow=6.2,SNR=7.8
RONA Rosalia, Austr 151.71 346 *i* PKiKP **PKPbc** **15 36 23.8 -1.2**
comp=Z,5.6nm,1.1s
SURR Surduc 151.75 337 ⇑P **PKiKP** **15 36 27.1 +1.6**
GZR Gura Zlata 151.81 336 ⇑P **PKiKP** **15 36 27.4 +1.7**
GZR Gura Zlata 151.81 336 ⇑PKiKP **PKiKP** **15 36 27.4 +1.7**
MOA Molln 151.96 349 *i* PKiKP **PKPbc** **15 36 24.3 -1.2**
comp=Z,5.7nm,1.3s
BZS Buzias 152.06 338 ⇑P **PKiKP** **15 36 28.1 +1.9**
BZS Buzias 152.06 338 ⇑PKiKP **PKiKP** **15 36 28.1 +1.9**
BIOA Bad Ischl, Aus 152.22 350 *i* PKiKP **PKPbc** **15 36 25.3 -0.9**
comp=Z,13nm,1.2s
ARSA Arzberg 152.30 347 *i* PKP **PKPbc** **15 36 24.5 -1.8**
comp=Z,5.5nm,1.0s
MORH Mrgy, Hungar 152.49 342 ⇑P **PKiKP** **15 36 28.8 +1.8**
LESA Schwarzleotal 152.63 351 *i* PKP **PKPbc** **15 36 25.7 -1.5**
comp=Z,11nm,1.6s
MDVR Moldovita 152.73 336 ⇑P **PKiKP** **15 36 29.2 +1.5**
RETA Reutte 152.79 354 *i* PKP **PKPbc** **15 36 26.0 -1.5**
comp=Z,11nm,1.2s
WATA Walderalm 152.85 353 *i* PKiKP **PKPbc** **15 36 28.1 +0.4**
comp=Z,6.7nm,1.3s
MOTA Moosalm 152.90 354 *i* PKiKP **PKPbc** **15 36 27.9 +0.1**
comp=Z,5.4nm,1.1s
WTTA Wattenberg 152.92 353 *e*PKiKP **PKPbc** **15 36 27.1 -0.8**
comp=Z,14nm,1.5s
SOKA Soboth 152.94 348 *i* PKP **PKPbc** **15 36 25.4 -2.5**
comp=Z,3.4nm,1.2s
SQTA Sankt Quirin 153.01 353 *i* PKiKP **PKPbc** **15 36 27.0 -1.0**
comp=Z,5.6nm,1.1s
DAVA Damuels 153.06 355 *e*PKiKP **PKPbc** **15 36 27.2 -1.0**
comp=Z,6.5nm,1.1s
OBKA Obir 153.20 348 *e*PKP **PKPbc** **15 36 26.8 -1.6**
comp=Z,3.7nm,1.2s
MYKA Terra Mystica 153.25 350 *i* PKiKP **PKPbc** **15 36 27.4 -1.2**
comp=Z,6.7nm,1.1s
FETA Feichten 153.26 354 *e*PKiKP **PKPbc** **15 36 27.3 -1.4**
comp=Z,11nm,1.9s
ABTA Abfaltersbach 153.31 351 *i* PKP **PKPbc** **15 36 25.8 -2.9**
comp=Z,7.8nm,0.8s,SNR=6.3
PGAV Gavieira, Arco 154.99 27 *etx* tx 15 36 51.1
PMOZ Porto Moniz, M 155.28 55 *ePP* **PP** **15 40 21.1 -4.7**
PCAB Cabril 155.31 27 *e*PKP **PKPdf** **15 36 28.4 +4.4**
PCAB *etx* tx 15 36 54.4
PMAR Madeira 155.53 55 *etx* tx 15 36 48.9
POLO Lamas de Olo 155.68 27 *etx* tx 15 36 54.4
PBRG Braganca 155.76 25 *e*PKP **PKPdf** **15 36 26.2 +1.5**
PBRG *etx* tx 15 36 55.5
PMPS Porto Santo 155.84 54 *e*PKP **PKPdf** **15 36 25.8 +0.9**
PMPS *etx* tx 15 36 55.2
PVIS Viseu 156.17 29 *etx* tx 15 36 56.1
MVO Moncorvo 156.18 27 *e*PKP **PKPdf** **15 36 23.3 -2.0**
MVO *etx* tx 15 36 56.3
PCAS Casmilo, Conde 156.42 30 *e*PKP **PKPdf** **15 36 26.2 +0.6**
PCAS *etx* tx 15 36 58.0
PSARD Sardoal 156.94 31 *e*PKP **PKPdf** **15 36 29.6 +3.4**
PSARD *etx* tx 15 36 59.5
PCBR Castelo Branco 157.07 29 *e*PKP **PKPdf** **15 36 27.7 +1.3**
PCBR *etx* tx 15 36 56.6
PARRA Arraiolos 157.10 33 *etx* tx 15 37 03.2
PACT Alcochete 157.24 33 *e*PKP **PKPdf** **15 36 30.2 +3.6**
PMTG Montargil 157.32 32 *e*PKP **PKPdf** **15 36 24.2 -2.5**
PMTG *etx* tx 15 37 01.2
PMRV Marv??o 157.44 30 *etx* tx 15 37 13.0
PESTR Estremoz 157.78 31 *e*PKP **PKPdf** **15 36 31.8 +4.4**
PESTR *etx* tx 15 37 04.0
EVO Evora 157.84 32 *e*PKP **PKPdf** **15 36 31.5 +4.2**
EVO *etx* tx 15 36 57.1
PTEO Sao Teotonio 158.21 35 *e*PKP **PKPdf** **15 36 31.9 +4.0**
PTEO *etx* tx 15 36 59.5
MESJ Messejana 158.26 34 *e*PKP **PKPdf** **15 36 34.1 +6.2**
MESJ *etx* tx 15 36 49.5
PBEJ Beja 158.30 33 *e*PKP **PKPdf** **15 36 31.6 +3.6**
MORF Marmelete 158.43 35 *etx* tx 15 37 03.5
PFVI Vila Bisbo 158.46 36 *e*PKP **PKPdf** **15 36 23.3 -4.8**
PCVE Castro Verde 158.51 34 *e*PKP **PKPdf** **15 36 30.0 +1.8**
PCVE *etx* tx 15 37 03.9
PBAR Barrancos 158.60 31 *e*PKP **PKPdf** **15 36 31.5 +3.2**
PBAR *etx* tx 15 37 17.0
ESDC Sonseca Array 158.67 23 PKP **PKPdf** **15 36 31.4 +3.0**
comp=Z,0.4nm,0.8s,baz=333,slow=1.4,SNR=4.2
ESDC PKPab **sPKPab** **15 37 06.7 -0.9**
comp=Z,0.3nm,0.7s,baz=337,slow=4.6,SNR=1.7
PBDV Barranco-do-Ve 158.86 34 *etx* tx 15 37 05.4
TORD Torodi Ar. Bea 171.27 145 PKP **PKPdf** **15 36 41.1 +1.3**
comp=Z,0.6nm,0.3s,baz=235,slow=0.7,SNR=3.5

*GCG **20** 15:20:56.5±0.7, 14°.93N×92°.34W, h75km±7km, MD3.3, ML3.3*

*MEX **20** 15:20:57.6±0.8, 14°.77N×92°.48W, h78km±18km, MD3.8*

ISC 20 15:20:56.6±3.4, 14°.8N±0'.2×92°.5W±0'.2, h72km±27km, n9, σ0s69/12, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.26**	**55**	*eP*	**Pn**	**15 21 08.1**	**+0.4**
THIG				*eS*	**Sn**	**15 21 16.3**	**+0.4**
SMCA	**Catarina**	**0.41**	**76**	*eP*	**Pn**	**15 21 08.3**	**-0.5**
SMCA				*eS*	**Sn**	**15 21 17.4**	**-0.4**
SMCA				IAML		15 21 18.6	
	comp=N,1μm,0.1s						
PATR	**El Naranjo**	**0.43**	**34**	*eP*	**Pn**	**15 21 08.9**	**-0.4**
PATR				*eS*	**Sn**	**15 21 18.7**	**+0.2**
PAVE	**Pavencul**	**0.52**	**34**	*eP*	**Pn**	**15 21 10.0**	**-0.1**
PAVE				*eS*	**Sn**	**15 21 20.9**	**+0.9**
STG2	**El Palmar, Qui**	**1.12**	**107**	*eP*	Pn	15 21 12.3	-4.5
STG2				*i* S	Sn	15 21 24.3	-7.6
STG0	**El Palmar, Qui**	**1.15**	**107**	*eP*	Pn	15 21 13.1	-4.2
STG0				IAML		15 21 27.8	
	comp=E,1μm,0.1s						
PCIG		**1.18**	**323**	*eP*	**Pn**	**15 21 17.5**	**+0.1**
PCIG				*eP*		15 21 17.9	
PCIG				*eS*	**Sn**	**15 21 31.7**	**-1.3**
PCIG				*eS*		15 21 33.4	
FG8	**Yepocapa, Chim**	**1.93**	**105**	*i* S	Sn	15 21 41.2	-10
CMIG	**Matias Romero**	**3.27**	**315**	*eP*	**Pn**	**15 21 46.1**	**+0.5**
CMIG				*eS*	**Sn**	**15 22 23.5**	**+0.1**

WEL 20 15:25:10.9±1.0, 32°S±17'×18°0W±4'.1, h418km±39km, mB4.2/7, ML4.6/9, MLv4.5/7, Mw(mB)3.2/7, Error ellipse: s-maj=56.1km s-min=15.6km az=107.9, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**6.31**	**192**	P	P	15 26 45.0	-2.1
WMGZ				S	S	15 28 05.8	-0.3
HAZ	**Te Kaha**	**6.38**	**197**	P	P	15 26 47.6	-0.3
HAZ				S	S	15 28 08.0	+0.5
PKGZ	**Pakihiroa**	**6.42**	**195**	P	P	15 26 49.3	+0.9
PKGZ				S	S	15 28 09.2	+0.9
PUZ	**Puketiti**	**6.58**	**193**	P	P	15 26 50.3	-0.3
PUZ				S	S	15 28 11.2	-0.4
TWGZ	**Tauwhareparae**	**6.74**	**194**	P	P	15 26 53.3	+1.0
TWGZ				S	S	15 28 17.3	+2.6
CNGZ	**Carnagh Statio**	**6.99**	**192**	P	P	15 26 57.3	+2.2
MWZ	**Matawai**	**6.99**	**197**	P	P	15 26 55.7	+0.6
MWZ				S	S	15 28 20.6	+0.8
TKGZ	**Te Karaka**	**7.02**	**195**	P	P	15 26 53.7	-1.6
TKGZ				S	S	15 28 19.7	-0.5
URZ	**Urewera**	**7.04**	**200**	P	P	15 26 52.3	-3.2
URZ				S	S	15 28 19.1	-1.5
RAGZ	**Rawiri**	**7.17**	**197**	P	P	15 26 57.2	+0.1
RAGZ				S	S	15 28 26.3	+2.7
RRRZ	**Republican Roa**	**7.29**	**203**	P	P	15 26 59.0	+0.7
RIGZ	**Rimuhau**	**7.29**	**195**	P	P	15 26 58.1	-0.3
RIGZ				S	S	15 28 26.8	+0.9
MUGZ	**Murupara**	**7.34**	**201**	P	P	15 26 58.4	-0.4
MUGZ				S	S	15 28 27.6	+0.9
SNGZ	**Shannon Statio**	**7.46**	**197**	P	P	15 27 00.1	-0.1
SNGZ				S	S	15 28 30.1	+0.8
PRGZ	**Paritu Road**	**7.48**	**193**	S	S	15 28 29.1	-0.5
KNZ	**Kokohu**	**7.62**	**194**	P	P	15 27 01.7	-0.1
KNZ				S	S	15 28 30.4	-1.9
MHGZ	**Mahia Peninsul**	**7.70**	**193**	P	P	15 27 03.1	+0.4
MHGZ				S	S	15 28 34.9	+0.9

IDC 20 15:25:21.8±1.5, 31°.37N×143°.87E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=46.4km s-min=29.1km az=80.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**49.00**	**307**	P	P	15 34 09.4	-0.7
	0.2nm,0.5s,baz=82,slow=9.6,SNR=4.8 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**51.20**	**312**	P	P	15 34 26.9	+0.2
	0.4nm,0.4s,baz=92,slow=7.6,SNR=10 0.4nm,0.4s						
WRA	**Warramunga Arr**	**51.83**	**191**	P	P	15 34 31.6	-0.1
	0.3nm,0.5s,baz=7.3,slow=7.6,SNR=8.4 0.3nm,0.5s						
ILAR	**Eielson Array**	**53.28**	**30**	P	P	15 34 41.7	-0.3
	0.4nm,0.8s,baz=270,slow=6.7,SNR=2.5 0.4nm,0.8s						
BVAR	**Borovoye Array**	**55.96**	**316**	P	P	15 35 02.1	+0.4
	0.8nm,0.4s,baz=86,slow=8.1,SNR=4.2 0.8nm,0.4s						

*IDC **20** 15:51:21.9±4.2, 20°.59S×177°.67W, h451km±43km, mb3.4/9, mbtmp4.3/10, Error ellipse: s-maj=25.8km s-min=13.5km az=80.0*

ISC 20 15:51:21.5±1.0, 20°.6S±0'.1×177°.6W±0'.2, h450km, n15, σ0s59/16, mb3.9/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.20**	**193**	P	**P**	**15 55 05.8**	**-0.2**
	11nm,0.7s,baz=277,slow=2.5,SNR=17 S						
URZ					**S**	**15 58 10.1**	**-0.1**
	6.0nm,0.8s,baz=180,slow=20,SNR=2.4						
STKA	**Stephens Creek**	**38.07**	**244**	P	**P**	**15 57 59.7**	**-0.5**
	2.7nm,0.9s,baz=290,slow=9.8,SNR=2.8 2.7nm,0.9s						
JAY	**Jayapura**	**44.40**	**288**	P	**P**	**15 58 51.5**	**+0.5**
	7.0nm,0.5s,baz=124,slow=4.9,SNR=24 7.0nm,0.5s						
ASAR	**Alice Springs**	**44.84**	**257**	P	**P**	**15 58 54.2**	**-0.1**
	2.6nm,0.5s,baz=94,slow=7.9,SNR=29						
ASAR				PcP	**PcP**	**16 00 27.9**	**+0.9**
	0.2nm,0.6s,baz=77,slow=2.8,SNR=1.6 2.6nm,0.5s						
WRA	**Warramunga Arr**	**44.94**	**262**	P	**P**	**15 58 54.4**	**-0.7**
	1.7nm,0.3s,baz=97,slow=7.4,SNR=34 1.7nm,0.3s						
FITZ	**Fitzroy Crossi**	**53.36**	**262**	P	**P**	**15 59 58.0**	**+0.1**
	0.8nm,0.4s,baz=89,slow=6.8,SNR=1.8 0.8nm,0.4s						
QSPA	**South Pole Qui**	**69.50**	**180**	P	**P**	**16 01 44.1**	**+0.7**
	2.3nm,0.6s,baz=53,slow=4.4,SNR=20 2.3nm,0.6s						
MJAR	**Matsushiro Arr**	**70.47**	**323**	P	**P**	**16 01 49.4**	**-0.1**
	1.6nm,0.5s,baz=154,slow=5.6,SNR=15 1.6nm,0.5s						
KSRS	**Korea Array**	**77.17**	**318**	P	**P**	**16 02 28.9**	**+1.2**
	1.2nm,0.7s,baz=123,slow=7.2,SNR=4.1 1.2nm,0.7s						
ILAR	**Eielson Array**	**88.31**	**13**	P	**P**	**16 03 23.1**	**-0.4**
	0.5nm,0.7s,baz=215,slow=4.7,SNR=4.9 0.5nm,0.7s						
ARCES	**ARCESS Array B**	**129.05**	**350**	PKP	**PKPdf**	**16 09 36.1**	**-0.5**
	1.3nm,1.0s,baz=7.6,slow=3.7,SNR=4.0						
AKASG	**Malin Array Be**	**143.25**	**331**	PKhKP	PKPpre	16 09 59.6	
	0.9nm,0.7s,baz=47,slow=4.0,SNR=4.5						
EKA	**Eskdalemuir Ar**	**145.04**	**6**	PKPbc	**PKPdf**	**16 10 06.0**	**-0.3**
	0.3nm,0.5s,baz=356,slow=2.2,SNR=3.6						
BRTR	**Keskin Array B**	**147.15**	**312**	PKPbc	**PKPbc**	**16 10 12.9**	**-0.6**
	0.4nm,0.6s,baz=45,slow=2.2,SNR=2.5						
MMAI	**Mount Meron Ar**	**148.15**	**300**	PKPbc	**PKPbc**	**16 10 16.0**	**-0.2**
	0.6nm,0.5s,baz=72,slow=4.7,SNR=1.3						

*MCSM **20** 15:56:56.8±0.4, 52°.N±4'×1°.6E±°, h10km±2km, mb4.2, mB5.4, MLv3.7, Mw(mB)4.9*

*IPEC **20** 15:56:57.4±0.2, 51°.52N×16°.13E, h1km, ML3.3/7, Error ellipse: s-maj=2.7km s-min=1.3km az=70.0*

*IDC **20** 15:56:57.7±0.5, 51°.50N×15°.94E, h0km, mb3.6/5, mbtmp3.5/13, ML3.2/8, MS3.6/1, Error ellipse: s-maj=9.3km s-min=5.5km az=103.0*

*BGR **20** 15:56:58.9±0.4, 51°.46N×16°.10E, h1km, ML3.4/14, Error ellipse: s-maj=5.6km s-min=2.2km az=19.0*

*PRU **20** 15:56:59.3, 51°.45N×16°.10E, h0km*

*VIE **20** 15:56:59.2±0.7, 51°.44N×15°.89E, h0km, mb3.0/19, ml3.3/16, ms3.5/2, Error ellipse: s-maj=5.4km s-min=5.1km az=137.0 87 km WNW of Wroclaw Suspected Mining induced.*

*DNK **20** 15:57:00.9±2.8, 51°.78N×15°.24E, h0km±132km, ML2.4*

*UPP **20** 15:57:04.1±3.3, 51°.94N×15°.66E, h0km, ML3.1*

ISC 20 15:56:56.5±0.5, 51°.58N±0'.02×16°.09E±0'.02, h0km, n139, σ1s23/221, mb3.5/5, 6C-6D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**170**	*eP*	**Pg**	**15 57 10.8**	**+0.1**
KSP				*eSg*	**Sg**	**15 57 19.6**	**-0.9**
KSP	**Ksiaz**	**0.75**	**170**	*eP*	**Pg**	**15 57 10.9**	**+0.1**
KSP				*eSg*	**Sg**	**15 57 18.8**	**-1.7**
KSP	**Ksiaz**	**0.75**	**170**	P	**Pg**	**15 57 10.9**	**+0.1**
CHVC	**Chvalec**	**0.99**	**181**	*e*PG	**Pg**	**15 57 15.7**	**+0.2**
CHVC				*eSG*	**Sg**	**15 57 27.5**	**-0.9**
OSTC	**Ostas**	**1.03**	**176**	*e*PG	**Pg**	**15 57 16.4**	**+0.2**
OSTC				*eSG*	**Sg**	**15 57 28.7**	**-0.8**
	comp=Z,210nm,0.3s						
UPC	**Upice**	**1.08**	**183**	*e*PG	**Pg**	**15 57 17.2**	**+0.1**
UPC				*eSG*	**Sg**	**15 57 30.0**	**-1.0**
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*PG	**Pg**	**15 57 19.9**	**-0.3**
DPC				*eSG*	**Sg**	**15 57 34.6**	**-1.7**
	comp=Z,215nm,0.4s						
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*Pg	**Pg**	**15 57 19.5**	**-0.7**
DPC				*eSg*	**Sg**	**15 57 34.5**	**-1.8**
DPC	**Dobruska-Polom**	**1.24**	**173**	P	**Pg**	**15 57 19.9**	**-0.3**
PIVO	**Bartosovice** baz=349	**1.43**	**168**	*e*Pg	**Pn**	**15 57 22.9**	**-0.7**
PIVO				*eSg*	**Sg**	**15 57 39.9**	**-2.3**
	280nm,0.4s,baz=349						
PVCC	**Panska Ves**	**1.43**	**223**	*e*PG	**Pg**	**15 57 23.8**	**0.0**
PVCC				*eSG*	**Sb**	**15 57 42.6**	**0.0**
	comp=Z,499nm,0.5s						
BRG	**Berggiesshubel**	**1.53**	**243**	*e*Pn	**Pn**	**15 57 24.9**	**0.0**
BRG				*eSn*	**Sn**	**15 57 46.1**	**+0.6**
BRG	**Berggiesshubel**	**1.53**	**243**	Pn	**Pn**	**15 57 24.7**	**-0.3**
BRG				Pg	**Pg**	**15 57 25.9**	**+0.3**
BRG				Sn	**Sg**	**15 57 44.7**	**-0.7**
BRG				Sg	**Sn**	**15 57 46.2**	**+0.7**
BRG				Amp		15 57 47.6	
	comp=Z,303nm,0.4s						
KRLC	**Kraliky**	**1.57**	**164**	*e*PG	**Pn**	**15 57 25.7**	**+0.1**
KRLC				*eSG*	**Sn**	**15 57 45.3**	**-1.4**
	comp=Z,382nm,0.8s						
RICC	**Richard**	**1.63**	**231**	*e*PG	**Pb**	**15 57 27.0**	**-0.4**
RICC				*eSG*	**Sg**	**15 57 48.8**	**0.0**
RUE	**Ruedersdorf**	**1.69**	**303**	*e*P	**Pb**	**15 57 27.8**	**-0.5**
RYBC	**Ceska Rybna** baz=1.4	**1.77**	**181**	*e*Pn	**Pn**	**15 57 28.1**	**-0.3**
RYBC				*eSg*	**Sn**	**15 57 51.0**	**-0.7**
	comp=Z,193nm,0.2s,baz=1.4						
GKP	**Gorka Klasztor**	**1.83**	**22**	*e*P	**Pg**	**15 57 32.1**	**+0.6**
PRA	**Prague**	**1.84**	**215**	*e*PN	**Pn**	**15 57 29.3**	**0.0**
PRA				*eSG*	**Sb**	**15 57 54.1**	**-0.5**
	comp=Z,274nm,1.0s						
PRU	**Pruhonice**	**1.87**	**212**	*e*PN	**Pn**	**15 57 29.5**	**-0.2**
PRU				*e*PG	**Pb**	**15 57 31.1**	**-0.4**
PRU				*eSG*	**Sb**	**15 57 54.9**	**-0.6**
	comp=Z,86nm,0.4s						
CLL	**Collm**	**1.95**	**263**	*e*Pn	**Pn**	**15 57 31.1**	**+0.3**
CLL				*eSg*	**Sg**	**15 58 00.3**	**+1.2**
CLL	**Collm**	**1.95**	**263**	P	**Pn**	**15 57 30.5**	**-0.3**
CLL	**Collm**	**1.95**	**263**	*i* Pn	**Pn**	**15 57 30.8**	**0.0**
CLL				*e*Pg	**Pg**	**15 57 34.0**	**+0.1**
CLL				*i* x	x	15 57 38.0	
CLL				*i* Sg	**Sg**	**15 57 59.8**	**+0.7**
	comp=Z,112nm,0.4s						
STEB	**Steborice**	**1.96**	**146**	*e*PG	**Pb**	**15 57 33.4**	**+0.3**
STEB				*eSG*	**Sb**	**15 57 57.6**	**-0.5**
	comp=Z,307nm,0.5s						
RAC	**Raciborz**	**2.01**	**138**	*e*PG	**Sg**	**15 57 34.4**	**-0.5**
RAC				*eSG*	**Sg**	**15 58 00.9**	**0.0**
MORC	**Moravsky Berou** baz=333	**2.03**	**152**	*e*Pn	**Pn**	**15 57 31.4**	**-0.5**
MORC				*eSg*	**Sb**	**15 57 59.0**	**-1.0**
	comp=Z,204nm,0.6s,baz=333						
MORC	**Moravsky Berou**	**2.03**	**152**	⇑P	**Pn**	**15 57 31.9**	**0.0**
MORC				⇑S	**Sn**	**15 57 58.8**	**+0.8**
MORC	**Moravsky Berou**	**2.03**	**152**	*e*Pn	**Pn**	**15 57 31.7**	**-0.3**
OKC	**Ostrava-Krasne**	**2.18**	**142**	*e*PG	**Pb**	**15 57 37.1**	**+0.3**
OKC				*eSG*	**Sb**	**15 58 04.1**	**-0.2**
VRAC	**Vranov**	**2.30**	**172**	Pn	**Pn**	**15 57 36.1**	**+0.5**
	comp=Z,6.1nm,0.3s,baz=335,slow=14,SNR=35						
VRAC				Sn	**Sn**	**15 58 03.7**	**-0.9**
	comp=Z,17nm,0.3s,baz=77,slow=22,SNR=7.8						
VRAC				Lg	Lg	15 58 09.0	
	comp=Z,13nm,0.3s,baz=63,slow=21,SNR=8.4 comp=Z,16nm,0.3s						
VRAC	**Vranov** baz=353	**2.30**	**172**	*e*Pn	**Pn**	**15 57 35.6**	**0.0**
VRAC				*eSg*	**Sb**	**15 58 07.2**	**-0.5**
	comp=Z,161nm,0.8s,baz=353						
VRAC	**Vranov**	**2.30**	**172**	⇑P	**Pn**	**15 57 35.9**	**+0.3**
VRAC				⇓S	**Sb**	**15 58 06.3**	**-1.4**
TREC	**Trest**	**2.32**	**190**	*eSG*	**Sb**	**15 58 08.6**	**+0.2**
ZVC	**Zvikov**	**2.46**	**210**	*eSG*	**Sb**	**15 58 13.9**	**+1.4**
KRUC	**Moravsky** baz=356	**2.53**	**175**	*e*Pn	**Pn**	**15 57 38.3**	**-0.5**
KRUC				*eSg*	**Sb**	**15 58 14.6**	**+0.2**
	comp=Z,159nm,0.9s,baz=356						
TANN	**Tannenbergstha**	**2.57**	**244**	*e*Pn	**Pn**	**15 57 40.2**	**+0.8**
TANN				*e*Pg	**Pg**	**15 57 46.8**	**+1.0**
WERD	**Werda**	**2.65**	**246**	*e*Pn	**Pn**	**15 57 41.1**	**+0.7**
WERD				*e*Pg	**Pg**	**15 57 47.9**	**+0.8**
OJC	**Ojcow**	**2.71**	**119**	*e*Pn	**Pn**	**15 57 40.1**	**-1.2**
OJC				*e*Pg	**Pg**	**15 57 48.7**	**+0.3**
OJC				*eSg*	**Sg**	**15 58 24.2**	**+0.6**
OJC	**Ojcow**	**2.71**	**119**	*e*Pn	**Pn**	**15 57 40.3**	**-1.0**
OJC				*e*Pg	**Pg**	**15 57 48.3**	**-0.1**
OJC				*eSg*	**Sg**	**15 58 24.2**	**+0.6**
JAVC	**Velka Javorina** baz=340	**2.91**	**159**	*e*Pn	**Pn**	**15 57 44.0**	**0.0**
JAVC				*eSg*	**Sb**	**15 58 26.6**	**+1.3**
	comp=Z,131nm,1.2s,baz=340						
KHC	**Kasperske Hory**	**2.93**	**214**	*e*PN	**Pn**	**15 57 43.5**	**-0.9**
KHC				*e*PG	**Pb**	**15 57 50.0**	**+0.4**
KHC				*eSG*	**Sb**	**15 58 28.0**	**+2.0**
MOX	**Moxa**	**2.97**	**253**	*e*Pn	**Pn**	**15 57 45.5**	**+0.6**
MOX				*e*Pg	**Pg**	**15 57 53.6**	**+0.2**
MOX				*eSg*	**Sg**	**15 58 32.6**	**+0.7**
MANZ	**Manzenberg**	**2.99**	**239**	*e*Pn	**Pn**	**15 57 45.9**	**+0.8**
CKRC	**Cesky Krumlov**	**2.99**	**203**	*e*PN	**Pn**	**15 57 45.9**	**+0.8**
CKRC				*e*PG	**Pb**	**15 57 51.2**	**+0.6**
CKRC				*eSG*	**Sb**	**15 58 29.5**	**+1.8**
	comp=Z,74nm,0.6s						
ROTZ	**Rotzenmuhle**	**3.07**	**235**	*e*Pn	**Pn**	**15 57 46.5**	**+0.4**
GEC2	**GERESS Array S**	**3.14**	**210**	*e*Pn	**Pn**	**15 57 48.0**	**+0.8**
GERES	**GERESS Array B**	**3.14**	**210**	Pn	**Pn**	**15 57 47.1**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=30,slow=13,SNR=84						
GERES				Pg	**Pb**	**15 57 52.5**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=29,slow=17,SNR=38						
GERES				Lg	Lg	15 58 32.9	
	comp=Z,0.8nm,0.3s,baz=32,slow=26,SNR=5.4 comp=Z,9.1nm,0.4s						
WET	**Wettzell**	**3.19**	**221**	*e*Pn	**Pn**	**15 57 48.4**	**+0.5**
LANS	**Liptovska Anna**	**3.25**	**137**	*e*PG	**Pg**	**15 57 58.5**	**-0.3**
LANS				*eSG*	**Sg**	**15 58 41.2**	**+0.2**
MODS	**Modra-Piesok**	**3.30**	**166**	*e*PN	**Pn**	**15 57 48.7**	**-0.7**
MODS				*e*PG	**Pb**	**15 57 57.3**	**+1.4**
MODS				*eSG*	**Sg**	**15 58 40.9**	**-1.5**
NIE	**Niedzica**	**3.45**	**127**	*e*Pg	**Pg**	**15 58 02.1**	**-0.5**
NIE				*eSg*	**Sg**	**15 58 46.8**	**-0.4**
NIE	**Niedzica**	**3.45**	**127**	P	**Pn**	**15 57 52.4**	**+0.9**
VYHS	**Vyhne**	**3.56**	**149**	*e*PN	**Pn**	**15 57 52.8**	**-0.2**
VYHS				*e*PG	**Pg**	**15 58 04.7**	**0.0**
VYHS				*eSG*	**Sg**	**15 58 48.9**	**-1.9**
CLZ	**Clausthal**	**3.57**	**276**	*e*Pn	**Pn**	**15 57 55.1**	**+2.0**
BSD	**Bornholm Skovb**	**3.61**	**349**	*e*P	**Pn**	**15 57 55.0**	**+1.4**
BSD	**Bornholm Skovb** baz=193,slow=14	**3.61**	**349**	*e*	**Pn**	**15 57 51.4**	**-2.1**
BSD				*i* P	Pb	15 57 54.8	-6.3
BSD				*i* S	**Sn**	**15 58 34.7**	**-2.2**
BSD				IAML		15 58 38.6	
	comp=Z,4.4nm,0.4s						
GRF	**Grafenberg Arr**	**3.63**	**241**	*e*Pn	**Pn**	**15 57 55.0**	**+1.1**
GRF				*eSg*	**Sg**	**15 58 51.4**	**-1.7**
CONA	**Conrad Observa**	**3.66**	**182**	*i* Pn	**Pn**	**15 57 54.8**	**+0.4**
	comp=Z,5.0nm,0.5s,SNR=11						
CONA				*eSn*	**Sn**	**15 58 38.1**	**-0.2**
	comp=Z,23nm,0.3s						
RONA	**Rosalia, Austr**	**3.89**	**178**	*i* Pn	**Pn**	**15 57 57.3**	**-0.1**
	comp=Z,6.1nm,0.7s						
RONA				*eSn*	**Sn**	**15 58 44.3**	**+0.5**
	comp=Z,37nm,0.4s						
MOA	**Molln**	**3.92**	**198**	*i* Pn	**Pn**	**15 57 58.0**	**+0.1**
	comp=Z,4.5nm,0.3s,SNR=12						
MOA				*i* Sn	**Sn**	**15 58 45.2**	**+0.6**
	comp=Z,26nm,0.3s						
STHS	**Stebnicka Huta**	**3.94**	**121**	*e*PN	**Pn**	**15 57 58.3**	**+0.1**
STHS				*e*PG	**Pg**	**15 58 12.8**	**+0.9**
STHS				*e*SG	**Sg**	**15 59 04.5**	**+1.6**
KECS	**Kecovo**	**4.20**	**136**	*e*PG	**Pg**	**15 58 18.8**	**+1.9**
KECS				*e*SG	**Sg**	**15 59 13.2**	**+1.9**
BIOA	**Bad Ischl, Aus** comp=Z,11nm,0.4s,SNR=12	**4.21**	**203**	*i* Pn	**Pn**	**15 58 02.3**	**+0.4**
BIOA				*i* Sn	**Sn**	**15 58 51.7**	**0.0**
	comp=Z,63nm,0.5s						
ARSA	**Arzberg**	**4.35**	**185**	*i* Pn	**Pn**	**15 58 04.8**	**+1.0**
	comp=Z,4.2nm,0.7s						
ARSA				*eSn*	**Sn**	**15 58 55.2**	**-0.1**
	comp=Z,63nm,0.7s						
LUNU	**Lund**	**4.35**	**340**	*i* P	**Pn**	**15 58 04.2**	**+0.4**
LUNU				*i*		15 58 53.2	
PSZ	**Piszkesteto**	**4.42**	**145**	⇑P	**Pn**	**15 58 05.5**	**+0.7**
PSZ	**Piszkesteto**	**4.42**	**145**	*e*P	**Pn**	**15 58 06.0**	**+1.2**
MPLH	**Magyarpolny**	**4.51**	**167**	P	**Pn**	**15 58 05.7**	**-0.4**
LESA	**Schwarzleotal** comp=Z,1.5nm,0.3s,SNR=9.3	**4.72**	**209**	*i* Pn	**Pn**	**15 58 09.4**	**+0.5**
LESA				*eSn*	**Sn**	**15 59 04.4**	**0.0**
	comp=Z,4.7nm,0.3s						
BLEU	**Blekinge**	**4.74**	**358**	P	**Pn**	**15 58 10.7**	**+1.7**
BLEU				S	**Sn**	**15 59 02.2**	**-2.4**
BLEU	**Blekinge**	**4.74**	**358**	P	**Pn**	**15 58 10.7**	**+1.7**
BLEU				*i* P	**Pn**	**15 58 10.7**	**+1.7**
BLEU				*i* S	**Sn**	**15 59 02.2**	**-2.4**
BLEU				S	**Sn**	**15 59 02.2**	**-2.4**
BLEU				IAML		15 59 08.2	
	comp=Z,1.9nm,0.4s						
KOLS	**Kolonicke sedl**	**4.77**	**121**	*e*PN	**Pn**	**15 58 10.4**	**+0.8**
KOLS				*e*PG	**Pg**	**15 58 29.5**	**+1.7**
KOLS				*eSG*	**Sg**	**15 59 29.9**	**+0.3**
BJUU	**Bjuv**	**4.85**	**339**	*i* P	**Pn**	**15 58 11.3**	**+0.7**
SOKA	**Soboth** comp=Z,2.6nm,0.5s,SNR=5.1	**4.96**	**188**	*i* Pn	**Pn**	**15 58 12.6**	**+0.4**
SOKA				*i* Sn	**Sn**	**15 59 10.5**	**+0.2**
	comp=Z,12nm,0.6s						
DEL	**Delary**	**5.07**	**346**	*i* P	**Pn**	**15 58 13.1**	**-0.5**
WATA	**Walderalm** comp=Z,5.1nm,0.5s,SNR=5.8	**5.17**	**216**	*i* Pn	**Pn**	**15 58 16.0**	**+0.9**
WATA				*i* Sn	**Sn**	**15 59 12.9**	**-2.7**
	comp=Z,8.6nm,0.6s						
OBKA	**Obir** comp=Z,0.9nm,0.4s	**5.18**	**192**	*e*Pn	**Pn**	**15 58 16.2**	**+1.0**
OBKA				*e*Sn	**Sn**	**15 59 15.5**	**-0.2**
	comp=Z,10nm,0.7s						
WTTA	**Wattenberg** comp=Z,2.4nm,0.4s,SNR=5.5	**5.21**	**216**	*e*Pn	**Pn**	**15 58 17.2**	**+1.5**
WTTA				*i* Sn	**Sn**	**15 59 15.0**	**-1.5**
	comp=Z,3.9nm,0.5s						
MYKA	**Terra Mystica** comp=Z,1.7nm,0.3s	**5.21**	**199**	*e*Pn	**Pn**	**15 58 17.2**	**+1.5**
MYKA				*i* Sn	**Sn**	**15 59 16.3**	**-0.1**
	comp=Z,4.6nm,0.5s						
MOTA	**Moosalm** comp=Z,1.4nm,0.2s,SNR=5.0	**5.34**	**219**	*i* Pn	**Pn**	**15 58 17.9**	**+0.3**
MOTA				*e*Sn	**Sn**	**15 59 17.4**	**-2.4**
	comp=Z,4.2nm,0.3s						
RETA	**Reutte** comp=Z,1.2nm,0.2s,SNR=5.3	**5.37**	**222**	*i* Pn	**Pn**	**15 58 17.7**	**-0.2**
RETA				*i* Sn	**Sn**	**15 59 20.2**	**-0.1**
	comp=Z,3.9nm,0.2s						
ABTA	**Abfaltersbach** comp=Z,8.4nm,0.5s	**5.38**	**207**	*i* Pn	**Pn**	**15 58 17.7**	**-0.3**
ABTA				*i* Sn	**Sn**	**15 59 20.5**	**-0.1**
	comp=Z,8.5nm,0.5s						
VXJU	**Vaexsjoe**	**5.39**	**353**	P	**Pn**	**15 58 19.9**	**+1.8**
VXJU	**Vaexsjoe**	**5.39**	**353**	P	**Pn**	**15 58 19.9**	**+1.8**
SQTA	**Sankt Quirin** comp=Z,6.8nm,0.3s,SNR=5.6	**5.40**	**218**	*i* Pn	**Pn**	**15 58 18.9**	**+0.5**
SQTA				*i* Sn	**Sn**	**15 59 21.1**	**-0.2**
	comp=Z,22nm,0.7s						
OSKU	**Oskarshamn**	**5.63**	**0**	P	**Pn**	**15 58 22.9**	**+1.6**
OSKU	**Oskarshamn**	**5.63**	**0**	P	**Pn**	**15 58 22.9**	**+1.6**
MORH	**Mrgy, Hungar**	**5.63**	**162**	⇑P	**Pn**	**15 58 22.4**	**+1.0**
MORH	**Mrgy, Hungar** comp=Z,0.0nmcomp=Z,3.3nm,1.3s	**5.63**	**162**	P	**Pn**	**15 58 21.4**	**+0.1**
GCIS	**Gornji Cirnik**	**5.73**	**183**	*i* Pn	**Pn**	**15 58 23.6**	**+0.9**
BYXU	**Byxelkrok**	**5.75**	**5**	P	**Pn**	**15 58 25.3**	**+2.4**
BYXU	**Byxelkrok**	**5.75**	**5**	P	**Pn**	**15 58 25.3**	**+2.4**
FETA	**Feichten** comp=Z,1.9nm,0.5s	**5.75**	**220**	*i* Pn	**Pn**	**15 58 23.6**	**+0.4**
FETA				*e*Sn	**Sn**	**15 59 27.8**	**-2.2**
	comp=Z,2.5nm,0.7s						
CRES	**Cresnjevec Ost**	**5.78**	**184**	*i* Pn	**Pn**	**15 58 24.2**	**+

comp=Z,0.6nm,0.5s
KURBB **Kurchatov Arra** 38.16 66 P P 16 04 18.3 +1.2
comp=Z,0.4nm,0.4s,baz=297,slow=8.2,SNR=1.3
comp=Z,0.4nm,0.4s
ZALV **Zalesovo Beam** 40.17 59 P P 16 04 36.4 +2.5
comp=Z,0.6nm,0.6s,baz=308,slow=7.3,SNR=3.5
comp=Z,0.6nm,0.6s
MKAR **Makanchi Array** 42.20 69 P P 16 04 52.5 +1.7
comp=Z,0.2nm,0.5s,baz=319,slow=6.4,SNR=2.9
comp=Z,0.2nm,0.5s
YKA **Yellowknife Ar** 59.79 336 P P 16 07 05.1 +2.4
comp=Z,0.6nm,0.6s,baz=28,slow=7.1,SNR=4.9
comp=Z,0.6nm,0.6s

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*NEIC **20** 15:57:53.0±1.2,38.°789N±0.°008×122.°79W±0.°01, h5km±1km, Error ellipse: s-maj=2.6km s-min=2.0km az=8.0*
NCEDC 20 15:57:53.3±0.6,38.791N±0.010×122.77W±0.01, h3km±2km, ML3.2/11, ML2.8/41(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=134.0, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.03**	**312**		Pg	15 57 54.2	0.0
GDXM				Sg	Sg	15 57 55.0	+0.3
GGPM	**Geyser Peak**	**0.06**	**246**		Pg	15 57 54.9	+0.3
GBGM	**Boggs Mountain**	**0.07**	**72**		Pg	15 57 55.2	+0.3
GAXM	**Alexander Vall**	**0.08**	**171**		Pg	15 57 55.0	+0.1
GAXM					Sg	15 57 56.6	+0.6
GSGM	**Seigler Mounta**	**0.09**	**32**		Pg	15 57 55.6	+0.5
GPMM	**Pine Mountain**	**0.15**	**292**		Pg	15 57 56.5	+0.3
GRTM	**Round Top Moun**	**0.17**	**28**		Pg	15 57 56.7	+0.1
GCVM	**Cloverdale**	**0.19**	**264**		Pg	15 57 57.5	+0.5
NMTM	**Middletown**	**0.25**	**87**		Pg	15 57 58.5	+0.3
MNRC	**McLaughlin Min**	**0.27**	**71**		Pg	15 57 59.2	+0.7
MNRC	**McLaughlin Min**	**0.27**	**71**	IAML		15 58 05.4	
	comp=E,3µm,0.7s						
MNRC				IAML		15 58 07.7	
	comp=N,3µm,0.7s						
HOPS	**Hopland Field**	**0.31**	**311**		Pg	15 57 60.0	+0.7
HOPS				IAML		15 58 07.6	
	comp=N,2µm,0.8s						
GHGM	**Hogback Ridge**	**0.34**	**353**		Pg	15 58 00.1	+0.2
GSNM	**Snow Mountain**	**0.36**	**295**		Pg	15 58 00.9	+0.6
GHCM	**House Creek**	**0.38**	**241**		Pg	15 58 01.3	+0.7
GALB	**Galbreath Wild**	**0.39**	**281**		Pg	15 58 01.2	+0.5
NTYM	**Taylor**	**0.41**	**168**		Pg	15 58 01.7	+0.6
OAKV	**Oakville Exper**	**0.46**	**142**		Pg	15 58 02.3	+0.3
CVS	**Carmenet Viney**	**0.51**	**151**		Pg	15 58 03.3	+0.3
CVS	**Carmenet Viney**	**0.51**	**151**	IAML		15 58 11.3	
	comp=E,1µm,0.5s						
CVS				IAML		15 58 14.6	
	comp=N,1µm,0.7s						
GGUM	**Gualala**	**0.57**	**277**		Pg	15 58 04.9	+0.6
QRDG	**Quail Ridge Na**	**0.58**	**122**		Pg	15 58 05.2	+0.8
GWRM	**Wonder Ranch**	**0.59**	**315**		Pg	15 58 04.4	+0.4
MCCM	**Marconi Confer**	**0.65**	**188**		Pg	15 58 06.4	+0.7
MCCM				IAML		15 58 16.4	
	comp=E,748nm,1.1s						
MCCM				IAML		15 58 21.5	
	comp=N,603nm,0.9s						
GHOM	**Hamilton Openi**	**0.65**	**293**		Pg	15 58 06.5	+0.8
GFC	**Funks Creek**	**0.65**	**35**		Pb	15 58 07.9	+0.6
NADM	**Allendale**	**0.71**	**118**		Pb	15 58 08.6	+0.4
RUSS	**Russell Ranch**	**0.75**	**109**		Pb	15 58 09.5	+0.6
NOLM	**Olema**	**0.75**	**181**		Pg	15 58 08.1	+0.5
GCK	**Clark Valley**	**0.80**	**19**		Pn	15 58 10.7	-0.7
DCMP	**DeCamp, Califo**	**0.81**	**327**		Pg	15 58 09.3	+0.5
DCMP	**DeCamp, Califo**	**0.81**	**327**	IAML		15 58 15.4	
	comp=N,90nm,1.0s						
NPRM	**Point Reyes**	**0.82**	**194**		Pg	15 58 09.4	+0.5
NLHM	**Lake Herman**	**0.83**	**144**		Pg	15 58 09.3	+0.2
KRKM	**Rackout Spring**	**0.83**	**338**		Pb	15 58 10.5	0.0
PINL	**Point Pinole R**	**0.84**	**158**		Pg	15 58 09.8	+0.4
OSUM	**Sutter Buttes**	**0.86**	**56**		Pg	15 58 09.6	-0.2
GTC	**Three Chop Rid**	**0.86**	**315**		Pg	15 58 10.3	+0.5
SUTB	**Sutter Butte**	**0.88**	**60**		Pg	15 58 09.5	-0.7
SUTB	**Sutter Butte**	**0.88**	**60**	IAML		15 58 24.5	
	comp=N,284nm,0.3s						
SUTB				IAML		15 58 26.6	
	comp=E,358nm,0.5s						
CPMM	**Point Molate**	**0.89**	**161**		Pg	15 58 09.9	-0.3
CPIM	**Pinole Ridge**	**0.91**	**151**		Pg	15 58 10.9	+0.2
JEPS	**Jepson Natural**	**0.91**	**125**		Pb	15 58 11.7	+0.1
MNDO	**Woodland Fire**	**0.92**	**305**		Pb	15 58 12.3	+0.5
CTAM	**Taylor**	**0.97**	**142**		Pb	15 58 12.5	-0.1
GVV	**Valley View**	**0.99**	**4**		Pb	15 58 13.3	+0.2
BRK	**Berkeley--Havi**	**1.00**	**156**		Pg	15 58 12.6	+0.1
VAK	**Adit at Lawren**	**1.00**	**156**		Pg	15 58 12.0	-0.4
BL67	**Building 67, L**	**1.00**	**156**		Pg	15 58 12.6	+0.1
BKS	**Berkeley--Byer**	**1.00**	**155**		Pg	15 58 11.8	-0.8
JPRM	**Presidio of Sa**	**1.02**	**167**		Pg	15 58 12.8	0.0
CYBM	**Yerba Buena Is**	**1.03**	**162**		Pg	15 58 12.4	-0.6
KCPM	**Cahto Peak**	**1.09**	**325**		Pn	15 58 15.3	-0.3
KCPM				IAML		15 58 40.1	
	comp=E,320nm,1.0s						
KCPM				IAML		15 58 42.0	
	comp=N,250nm,1.2s						
BDM	**Black Diamond**	**1.10**	**139**		Pg	15 58 13.2	-1.0
FARB	**Farallon Islan**	**1.11**	**190**		Pg	15 58 13.5	-1.0
FARB	**Farallon Islan**	**1.11**	**190**	IAML		15 58 33.1	
	comp=E,239nm,0.7s						
FARB				IAML		15 58 34.3	
	comp=N,129nm,0.6s						
OHCM	**Honcut**	**1.14**	**61**		Pg	15 58 13.4	-1.8
JSBM	**San Bruno Moun**	**1.15**	**165**		Pg	15 58 14.7	-0.5
KBNM	**Bluenose Ridge**	**1.15**	**344**		Pn	15 58 16.9	+0.6
KIPM	**Iron Peak**	**1.16**	**332**		Pn	15 58 16.8	+0.4
JMGM	**Milagra Ridge**	**1.18**	**168**		Pg	15 58 14.3	-1.5
CSLM	**San Leandro Hi**	**1.18**	**154**		Pg	15 58 14.6	-1.3
SFRE	**Sierra Foothil**	**1.22**	**67**		Pg	15 58 14.3	-2.4
SAC	**San Andreas**	**1.24**	**167**		Pg	15 58 15.4	-1.5
CMOB	**Morgan Territo**	**1.24**	**142**		Pg	15 58 15.7	-1.4
ORV	**Oroville**	**1.25**	**52**		Pg	15 58 15.7	-1.5
JCPM	**Coyote Point**	**1.25**	**163**		Pg	15 58 16.2	-1.1
JCHM	**Cahill Ridge**	**1.31**	**166**		Pg	15 58 16.6	-1.7
CNIC	**Niles Canyon**	**1.34**	**151**		Pn	15 58 16.9	-2.0
O02D	**Mt. Diablo Mer**	**1.38**	**359**		Pg	15 58 19.7	-0.1
KPK	**Kanaka Peak**	**1.39**	**55**		Pn	15 58 17.4	-2.2
AFDM	**Forest Hills D**	**1.41**	**83**		Pn	15 58 17.4	-2.5
JRSC	**Jasper Ridge**	**1.45**	**163**		Pn	15 58 18.4	-1.9
JSFB	**Stanford Teles**	**1.46**	**161**		Pb	15 58 20.8	-0.3
JFP	**Foothills Park**	**1.50**	**162**		Pn	15 58 19.6	-1.4
CSTL	**Corral Hollow**	**1.52**	**139**		Pn	15 58 20.0	-1.4
JBMM	**Black Mountain**	**1.55**	**161**		Pn	15 58 21.7	-0.1
CMLM	**Mount Lewis**	**1.58**	**146**		Pn	15 58 20.8	-1.5
BRIC	**Briceland Vine**	**1.58**	**327**		Pg	15 58 25.4	+1.8
WELL	**Weller Preserv**	**1.64**	**102**		Pn	15 58 21.4	-1.6
WELL	**Weller Preserv**	**1.64**	**102**	IAML		15 58 44.0	
	comp=N,58nm,0.3s						
WELL				IAML		15 58 47.0	
	comp=E,60nm,0.4s						
MHC	**Mount Hamilton**	**1.70**	**148**		Pn	15 58 22.2	-1.7
MTOS	**Mt Oso, Westle**	**1.71**	**138**		Pn	15 58 22.5	-1.5
MTOS	**Mt Oso, Westle**	**1.71**	**138**	IAML		15 58 50.6	
	comp=N,61nm,0.7s						
ARN	**Arnold Ranch**	**1.74**	**145**		Pn	15 58 22.8	-1.6
CCOB	**Coe Ranch Numb**	**1.76**	**150**		Pn	15 58 23.5	-1.1
HLPM	**Lions Peak**	**1.96**	**152**		Pn	15 58 25.4	-2.0
GHS	**Gilroy Hot Spr**	**1.99**	**148**		Pn	15 58 26.2	-1.6
CMB	**Columbia Colle**	**2.02**	**111**		Pn	15 58 26.8	-1.4
CMB				IAML		15 58 54.9	
	comp=N,69nm,0.7s						
HPCM	**Pacheco Lake**	**2.09**	**145**		Pn	15 58 27.5	-1.7
HFEM	**San Felipe**	**2.10**	**149**		Pn	15 58 27.7	-1.6
SLD	**San Luis Dam**	**2.11**	**144**		Pn	15 58 28.0	-1.4
BEKR	**Beckworth**	**2.16**	**59**		Pn	15 58 30.2	-0.1
BEKR				IAML		15 58 59.5	
	comp=E,45nm,0.6s						
SAO	**San Andreas Ge**	**2.28**	**152**		Pn	15 58 29.7	-2.0
WAKR	**Walker**	**2.63**	**95**		Pn	15 58 36.4	-0.3
WAKR				IAML		15 59 17.9	
	comp=N,48nm,0.8s						
BMSM	**Mercy Hot Spri**	**2.64**	**143**		Pn	15 58 35.5	-1.3
PAHR	**Pah Rah Range**	**2.78**	**70**		Pn	15 58 38.3	-0.5
PAHR				IAML		15 59 33.0	
	comp=E,20nm,0.9s						
PAHR				IAML		15 59 35.9	
	comp=N,23nm,1.2s						
PMPB	**Monarch Peak**	**3.01**	**148**		Pn	15 58 39.9	-2.0
RYN	**Ryan**	**3.33**	**91**		Pn	15 58 46.0	-0.3
RYN				IAML		15 59 42.4	
	comp=E,20nm,1.0s						
RYN				IAML		15 59 43.3	
	comp=N,18nm,0.9s						
NVAR	**Mina Array Bea**	**3.52**	**94**	Pn	Pn	15 58 48.9	-0.1

IDC 20 16:07:44.9±1.7, 0.°66N×126.°63E, h0km, mb4.0/4, mbtmp4.1/4, Error ellipse: s-maj=170.3km s-min=21.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.83**	**160**	P	P	16 12 38.9	-0.2
	3.2nm,0.8s,baz=339,slow=10,SNR=16						
	3.2nm,0.8s						
ASAR	**Alice Springs**	**25.20**	**164**	P	P	16 13 12.6	+0.1
	4.9nm,0.9s,baz=341,slow=11,SNR=31						
	4.9nm,0.9s						
MKAR	**Makanchi Array**	**60.02**	**326**	P	P	16 17 53.4	-0.1
	0.6nm,0.5s,baz=128,slow=6.2,SNR=8.8						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**64.26**	**328**	P	P	16 18 22.0	+0.1
	1.2nm,0.2s,baz=130,slow=6.1,SNR=2.4						
	1.2nm,0.2s						

IDC 20 16:42:37.7±1.8, 0.°87N×126.°62E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=181.2km s-min=21.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.03**	**160**	P	P	16 47 33.9	-0.2
	0.7nm,0.3s,baz=339,slow=11,SNR=9.9						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**25.40**	**164**	P	P	16 48 07.2	+0.1
	0.4nm,0.3s,baz=346,slow=12,SNR=17						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**59.84**	**326**	P	P	16 52 45.1	0.0
	0.5nm,0.5s,baz=125,slow=8.4,SNR=8.1						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**64.08**	**328**	P	P	16 53 13.4	-0.1
	0.5nm,0.6s,baz=131,slow=6.3,SNR=5.4						
	0.5nm,0.6s						

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*DNK **20** 17:03:39.6±1.2,51.°38N×16.°17E, h36km±39km, ML1.9*
*VIE **20** 17:03:41.2±1.4,51.°50N×16.°08E, h0km, mb2.1/2, ml2.6/2, Error ellipse: s-maj=8.6km s-min=6.7km az=22.0 79 km NW of Wroclaw Suspected Mining induced.*
*PRU **20** 17:03:43.9,51.°47N×16.°15E, h0km*
ISC 20 17:03:39.5±0.8, 51.°63N±0.°03×16.°15E±0.°03, h0km, n29, σ1°07/57, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.80**	**173**	*e*Pg	**Pg**	**17 03 55.4**	**+0.6**
KSP				*e*Sg	**Sg**	**17 04 04.9**	**-0.2**
CHVC	**Chvalec**	**1.05**	**183**	*e*PG	**Pb**	**17 04 00.3**	**-0.2**
CHVC				*e*SG	**Sg**	**17 04 13.2**	**0.0**
	comp=Z,29nm,0.5s						
OSTC	**Ostas**	**1.08**	**178**	*e*PG	**Pb**	**17 04 00.9**	**-0.2**
OSTC				*e*SG	**Sg**	**17 04 13.5**	**-0.7**
	comp=Z,27nm,0.6s						
UPC	**Upice**	**1.13**	**184**	*e*PG	**Pb**	**17 04 01.7**	**-0.2**
UPC				*e*SG	**Sg**	**17 04 15.2**	**-0.6**
	comp=Z,59nm,0.4s						
DPC	**Dobruska-Polom**	**1.29**	**175**	*e*PG	**Pg**	**17 04 04.3**	**+0.1**
DPC				*e*SG	**Sg**	**17 04 19.0**	**-1.9**
PVCC	**Panska Ves**	**1.49**	**223**	*e*PG	**Pb**	**17 04 08.6**	**+0.6**
PVCC				*e*SG	**Sn**	**17 04 28.0**	**+0.3**
	comp=Z,69nm,0.3s						
BRG	**Berggiesshubel**	**1.58**	**242**	Pg	**Pg**	**17 04 10.5**	**+0.7**
BRG				Sg	**Sg**	**17 04 31.1**	**+0.9**
BRG				Amp		17 04 33.6	
	comp=Z,36nm,0.4s						
KRLC	**Kraliky**	**1.61**	**165**	*e*PG	**Pn**	**17 04 09.2**	**-0.1**
KRLC				*e*SG	**Sn**	**17 04 30.5**	**-0.3**
	comp=Z,14nm,0.4s						
RICC	**Richard**	**1.69**	**231**	*e*SG	**Sg**	**17 04 34.2**	**+0.4**
	comp=Z,31nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.93**	**207**	*e*PN	**Pn**	**17 04 13.7**	**+0.1**
PRU	**Pruhonice**	**1.94**	**212**	*e*SG	**Sb**	**17 04 40.6**	**+0.2**
	comp=Z,16nm,0.6s						
STEB	**Steborice**	**1.99**	**148**	*e*PG	**Pb**	**17 04 16.9**	**+0.3**
STEB				*e*SG	**Sg**	**17 04 43.2**	**-0.2**
CLL	**Collm**	**1.99**	**262**	*i* Pn	**Pn**	**17 04 15.1**	**+0.7**
CLL				*e*Pg	**Pg**	**17 04 18.0**	**+0.3**
CLL				*i* x	x	17 04 22.4	
CLL				*e*Sg	**Sg**	**17 04 44.0**	**+0.5**
	comp=Z,13nm,0.4s						
MORC	**Moravsky Berou**	**2.06**	**154**	*e*PN	**Pn**	**17 04 15.5**	**+0.1**
MORC				*e*SG	**Sb**	**17 04 44.6**	**+0.6**
VRAC	**Vranov**	**2.35**	**173**	*e*PN	**Pn**	**17 04 19.8**	**+0.5**
VRAC				*e*SG	**Sb**	**17 04 52.5**	**+0.4**
ZVC	**Zvikov**	**2.53**	**210**	*e*SG	**Sg**	**17 05 00.2**	**-0.5**
KRUC	**Moravsky**	**2.58**	**176**	*e*PN	**Pn**	**17 04 23.1**	**+0.6**
KRUC				*e*SG	**Sb**	**17 04 59.2**	**+0.3**
OJC	**Ojcow**	**2.71**	**120**	*e*Pg	**Pg**	**17 04 31.7**	**+0.3**
OJC				*e*Sg	**Sg**	**17 05 06.8**	**+0.3**
JAVC	**Velka Javorina**	**2.94**	**160**	*e*PN	**Pn**	**17 04 28.4**	**+0.8**
JAVC				*e*SG	**Sb**	**17 05 11.7**	**+2.3**
KHC	**Kasperske Hory**	**3.00**	**214**	*e*PN	**Pn**	**17 04 28.5**	**+0.2**
KHC				*e*PG	**Pg**	**17 04 36.5**	**-0.4**
KHC				*e*SN	**Sn**	**17 05 03.5**	**-1.4**
KHC				*e*SG	**Sg**	**17 05 13.5**	**-2.3**
CKRC	**Cesky Krumlov**	**3.06**	**203**	*e*PN	**Pn**	**17 04 29.7**	**+0.6**
CKRC				*e*PG	**Pb**	**17 04 36.1**	**+1.4**
CKRC				*e*SG	**Sg**	**17 05 15.2**	**-2.4**
	comp=Z,11nm,0.8s						
MODS	**Modra-Piesok**	**3.34**	**167**	*e*PG	**Pb**	**17 04 40.2**	**+0.5**
MODS				*e*SG	**Sg**	**17 05 24.3**	**-2.6**
BSD	**Bornholm Skovb**	**3.56**	**349**	*i* P	**Pn**	**17 04 36.0**	**0.0**
BSD				*i* S	**Sn**	**17 05 18.0**	**-0.8**
BSD				IAML		17 05 41.5	
	comp=Z,1.0nm,0.2s						
VYHS	**Vyhne**	**3.59**	**150**	*e*PG	**Pb**	**17 04 45.6**	**+1.8**
VYHS				*e*SG	**Sg**	**17 05 33.8**	**-0.9**
CONA	**Conrad Observa**	**3.71**	**183**	*i* Pn	**Pn**	**17 04 38.0**	**-0.2**
	comp=Z,0.8nm,0.5s						
CONA				*e*Sg	**Sg**	**17 05 37.1**	**-1.7**
	comp=Z,1.0nm,0.2s						
MOA	**Molln**	**3.98**	**199**	*i* Pn	**Pn**	**17 04 42.1**	**+0.3**
	comp=Z,0.3nm,0.1s						
MOA				*i* Sg	**Sg**	**17 05 45.2**	**-2.1**
	comp=Z,3.0nm,0.3s						
LUNU	**Lund**	**4.32**	**339**	*i* P	**Pn**	**17 04 46.6**	**+0.2**
LUNU				*i* S	**Sn**	**17 05 35.3**	**-2.0**
BLEU	**Blekinge**	**4.68**	**358**	*i* P	**Pn**	**17 04 52.0**	**+0.6**
BLEU				*i* S	**Sn**	**17 05 44.4**	**-2.0**
BJUU	**Bjuv**	**4.82**	**339**	*i* S	**Sn**	**17 05 47.9**	**-1.8**

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*IDC **20** 17:08:10.0±1.3,37.°45N×29.°86E, h0km, mb3.3/3, mbtmp3.4/9, ML3.1/4, Error ellipse: s-maj=19.3km s-min=18.6km az=41.0*
*ISK **20** 17:08:10.9,37.°33N×29.°85E, h8km, ML3.2/36*
*AFAD **20** 17:08:11.0,37.°33N×29.°83E, h8km±2km, ML3.3*
*THE **20** 17:08:13.0,36.°N±30.°×2.°8E±5.°0, h15km±24km, MLh2.8/1*
*GII **20** 17:08:14.3±0.0,37.°138N±0.°003×29.°865E±0.°001, h10km, Mws3.1, confirmed*
ISC 20 17:08:11.7±0.9, 37.°32N±0.°02×29.°85E±0.°02, h12km±7km, n124, σ0.°89/158, mb3.0/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.24**	**249**	P	**Pg**	**17 08 16.8**	**0.0**
GOLH				S	**Sg**	**17 08 21.2**	**+0.9**
GOLH				*i* IAML		17 08 22.0	
	comp=N,4µm,0.2s						
GOLH				*i* IAML		17 08 22.0	
	comp=E,8µm,0.4s						
BRDR	**BURDUR-Merkez**	**0.41**	**25**	P	**Pg**	**17 08 19.4**	**-0.4**
BRDR				S	**Sb**	**17 08 26.4**	**-0.7**
INCE	**Denizli-Bozkur**	**0.44**	**331**	P	**Pg**	**17 08 20.1**	**-0.3**
INCE				S	**Sg**	**17 08 27.1**	**+0.7**
APMY	**Acipayam-Deniz**	**0.46**	**289**	Pg	**Pg**	**17 08 20.3**	**-0.4**
APMY				Sg	**Sb**	**17 08 27.7**	**-0.9**
CAEL	**Denizli, Camel**	**0.47**	**245**	P	**Pg**	**17 08 20.6**	**-0.3**
CAEL				S	**Sg**	**17 08 27.8**	**+0.7**
CAEL				*i* IAML		17 08 32.0	
	comp=N,3µm,0.5s						
CAEL				*i* IAML		17 08 32.0	
	comp=E,3µm,0.8s						
KORT	**Korkueli**	**0.52**	**129**	Pg	**Pg**	**17 08 21.4**	**-0.4**
KORT	**Korkueli**	**0.52**	**129**	P	**Pg**	**17 08 21.9**	**+0.1**
KORT				S	**Sb**	**17 08 31.1**	**+0.9**
KORT				*i* IAML		17 08 33.0	
	comp=N,2µm,0.4s						
KORT				*i* IAML		17 08 33.0	
	comp=E,2µm,0.5s						
KNIK	**Mula-Seydike**	**0.53**	**205**	P	**Pg**	**17 08 21.6**	**-0.3**
KNIK				S	**Sb**	**17 08 29.8**	**-0.7**
BUCA	**Burdur, Bucak-**	**0.57**	**89**	P	**Pg**	**17 08 22.3**	**-0.5**
BUCA				S	**Sb**	**17 08 31.2**	**-0.5**
BUCA				*i* IAML		17 08 33.0	
	comp=E,2µm,0.4s						
BUCA				*i* IAML		17 08 34.0	
	comp=N,1µm,0.5s						
ELL	**Elmali**	**0.58**	**175**	Pg	**Pg**	**17 08 22.1**	**-0.8**
CAME	**Cameli-Denizli**	**0.58**	**229**	Pg	**Pg**	**17 08 22.7**	**-0.3**
CAME				Sg	**Sb**	**17 08 31.3**	**-0.7**
BCK	**Bucak**	**0.61**	**77**	Pg	**Pg**	**17 08 22.8**	**-0.7**
BASM	**Basmaki-Afyon**	**0.62**	**15**	Pg	**Pg**	**17 08 23.1**	**-0.6**
DNZT	**Denizli-Tavas-**	**0.66**	**266**	P	**Pg**	**17 08 23.6**	**-0.8**
DNZT				S	**Sg**	**17 08 32.5**	**-0.7**
DNIZ	**Denizli-Tavas-**	**0.71**	**295**	P	**Pg**	**17 08 24.6**	**-0.8**
DNIZ				S	**Sg**	**17 08 35.2**	**+0.3**
DNIZ				*i* IAML		17 08 37.0	
	comp=N,1µm,0.2s						
DNIZ				*i* IAML		17 08 40.0	
	comp=E,2µm,0.6s						
ISP	**Isparta**	**0.73**	**47**	Pg	**Pg**	**17 08 25.2**	**-0.7**
ISP				Sg	**Sb**	**17 08 36.1**	**-0.4**
TAVA	**DENIZLI_Tavas**	**0.76**	**281**	P	**Pg**	**17 08 25.4**	**-0.9**
TAVA				S	**Sg**	**17 08 36.5**	**+0.3**
ANTB	**Antalya**	**0.77**	**123**	Pg	**Pb**	**17 08 26.6**	**-0.4**
SABU	**Mula-Dalaman**	**0.86**	**235**	P	**Pg**	**17 08 27.7**	**-0.6**
SABU				S	**Sg**	**17 08 38.4**	**-1.1**
KEMT	**Kemer-ANTALYA**	**0.92**	**141**	Pg	**Pb**	**17 08 29.3**	**-0.2**
FETY	**Fethiye**	**0.92**	**222**	Pg	**Pg**	**17 08 29.0**	**-0.4**
FETY	**Fethiye**	**0.92**	**222**	P	**Pg**	**17 08 28.0**	**-0.5**
FETY				S	**Sb**	**17 08 42.6**	**+0.8**
KZIL	**AFYON_Kizioren**	**0.96**	**14**	P	**Pg**	**17 08 29.2**	**-1.0**
KZIL				S	**Sb**	**17 08 43.5**	**+0.5**
BAGO	**Egridir - ISPA**	**1.00**	**48**	P	**Pg**	**17 08 29.8**	**-1.2**
BAGO				S	**Sg**	**17 08 43.9**	**-0.2**
IZZE	**Mula-Seydike**	**1.02**	**210**	P	**Pn**	**17 08 31.6**	**-0.2**
IZZE				*i* IAML		17 08 53.0	
	comp=E,595nm,0.4s						
IZZE				*i* IAML		17 08 58.0	
	comp=N,634nm,0.4s						
KHL	**Karahalli**	**1.03**	**346**	Pg	**Pg**	**17 08 31.2**	**-0.3**
PASA	**Karahalli, USA**	**1.06**	**345**	P	**Pg**	**17 08 31.1**	**-1.0**
PASA				S	**Sn**	**17 08 46.9**	**-0.4**
PASA				*i* IAML		17 08 50.0	
	comp=E,571nm,0.7s						
AKUM	**Antalya-Kumluc**	**1.08**	**158**	P	**Pn**	**17 08 32.7**	**+0.1**
AFYN	**Afyon-Dinar-K**	**1.08**	**29**	P	**Pg**	**17 08 31.9**	**-0.5**
AFYN				S	**Sn**	**17 08 47.3**	**-0.5**
DALY	**Dalyan (Mula)**	**1.08**	**242**	Pn	**Pb**	**17 08 31.9**	**-0.4**
DEMR	**Demre-Àntalya**	**1.09**	**178**	Pn	**Pg**	**17 08 32.4**	**-0.2**
AKAS	**Kas**	**1.11**	**190**	Pn	**Pb**	**17 08 32.7**	**-0.1**
AKAS	**Kas**	**1.11**	**190**	P	**Pn**	**17 08 34.0**	**+0.9**
AKAS				S	**Sn**	**17 08 51.2**	**+2.8**
AKAS				*i* IAML		17 09 02.0	
	comp=N,537nm,0.5s						
KSL	**Kastellorizon**	**1.19**	**190**	P	**Pb**	**17 08 32.7**	**-1.5**
MULA	**Mugla, Merkez-**	**1.22**	**267**	P	**Pn**	**17 08 34.5**	**-0.1**
MULA				S	**Sn**	**17 08 52.8**	**+1.7**
MULA				*i* IAML		17 08 56.0	
	comp=E,459nm,0.4s						
ESEN	**Aydn-Nazilli**	**1.28**	**292**	P	**Pn**	**17 08 35.3**	**-0.1**
ESEN				S	**Sb**	**17 08 52.0**	**-0.2**
SHUT	**Suhut-Afyon**	**1.35**	**24**	Pn	**Pb**	**17 08 36.6**	**-0.3**
BNAZ	**Uak-Banaz**	**1.35**	**1**	P	**Pn**	**17 08 36.5**	**0.0**
BNAZ				S	**Sg**	**17 08 56.6**	**+1.3**
BNAZ				*i* IAML		17 09 01.0	
	comp=E,774nm,0.7s						
BNAZ				*i* IAML		17 09 07.0	
	comp=N,825nm,0.8s						
NAZL	**Nazilli-Aydin**	**1.39**	**298**	Pn	**Pb**	**17 08 37.2**	**-0.4**
TURN	**Turunc**	**1.39**	**247**	Pn	**Pb**	**17 08 37.4**	**-0.2**
TURN	**Turunc**	**1.39**	**247**	P	**Pb**	**17 08 37.5**	**-0.2**
TURN				S	**Sb**	**17 08 55.7**	**+0.3**
SDAG	**Sultandagi-AFY**	**1.40**	**37**	Pn	**Pb**	**17 08 37.6**	**-0.2**
KIRA	**zmir-Kiraz**	**1.44**	**308**	P	**Pn**	**17 08 37.6**	**-0.1**
KIRA				S	**Sn**	**17 08 56.3**	**-0.3**
YVAC	**Isparta, Yalva**	**1.45**	**49**	P	**Pb**	**17 08 38.5**	**-0.2**
YVAC				S	**Sb**	**17 08 57.4**	**+0.1**
AFYO	**

HMDT	**Nahal Hemdat**	**6.88**	**136**	P	**Pn**	**17 09 53.6**	**+1.2**
AMAZ	**Amatzia**	**7.13**	**143**	S	**Sn**	**17 11 16.6**	**-0.3**
AMAZ	**Amatzia**	**7.13**	**143**	P	**Pn**	**17 09 57.0**	**+1.1**
DSI	**Dead Sea**	**7.33**	**140**	S	**Sn**	**17 11 21.4**	**-0.4**
DSI	**Dead Sea**	**7.33**	**140**	P	**Pn**	**17 09 59.6**	**+0.9**
YTIR	**Yattir**	**7.37**	**142**	S	**Sn**	**17 11 21.8**	**-1.0**
YTIR	**Yattir**	**7.37**	**142**	P	**Pn**	**17 10 00.6**	**+1.4**
MSBI	**Mazada**	**7.53**	**141**	S	**Sn**	**17 11 26.1**	**-0.5**
MSBI	**Mazada**	**7.53**	**141**	P	**Pn**	**17 10 02.6**	**+1.4**
ASF	**Jabal al Asfar**	**7.75**	**129**	Pn	**Pn**	**17 10 05.8**	**+1.4**
	1.2nm,0.3s,baz=316,slow=7.8,SNR=7.3						
ASF				Sn	**Sn**	**17 11 34.8**	**+2.6**
	0.5nm,0.3s,baz=120,slow=21,SNR=3.9						
	1.1nm,0.3s						
PRNI	**Paran**	**8.17**	**147**	S	**Sn**	**17 11 42.2**	**-0.1**
PRNI	**Paran**	**8.17**	**147**	P	**Pn**	**17 10 11.1**	**+1.1**
HRFI	**Mount Harif**	**8.46**	**148**	S	**Sn**	**17 11 49.0**	**-0.4**
HRFI	**Mount Harif**	**8.46**	**148**	P	**Pn**	**17 10 15.1**	**+1.0**
MBRI	**Mt Berech**	**8.62**	**149**	S	**Sn**	**17 11 52.8**	**-0.7**
MBRI	**Mt Berech**	**8.62**	**149**	P	**Pn**	**17 10 17.6**	**+1.3**
EIL	**Elat**	**8.74**	**149**	Pn	**Pn**	**17 10 18.7**	**+0.8**
	1.2nm,0.3s,baz=333,slow=14,SNR=16						
EIL				Sn	**Sn**	**17 11 55.2**	**-1.2**
	0.7nm,0.3s,baz=30,slow=17,SNR=4.6						
	6.6nm,0.6s						
EIL	**Elat**	**8.74**	**149**	S	**Sn**	**17 11 55.7**	**-0.7**
EIL	**Elat**	**8.74**	**149**	P	**Pn**	**17 10 19.0**	**+1.1**
GERES	**GERESS Array B**	**16.44**	**320**	Pn	**Pn**	**17 12 02.0**	**-0.2**
	baz=134,slow=9.9,SNR=1.6						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**24.26**	**356**	P	**P**	**17 13 27.5**	**-0.9**
	1.4nm,1.0s,baz=172,slow=13,SNR=1.6						
	1.4nm,1.0s						
KURBB	**Kurchatov Arra**	**36.81**	**53**	P	**P**	**17 15 19.5**	**+0.2**
	0.2nm,0.8s,baz=273,slow=8.4,SNR=4.6						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**39.42**	**59**	P	**P**	**17 15 40.3**	**-1.1**
	0.1nm,0.5s,baz=263,slow=10.0,SNR=1.5						
	0.1nm,0.5s						

*IDC **20** 17:25:55.6±1.4,0˚.54S×127˚.76E, h0km, mb3.5/5, mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=113.5km s-min=19.4km az=70.0*
*DJA **20** 17:26:00.2±0.3,1˚S±4˚×12˚8E±˚, h10km, M3.9/7, MLv3.9/7*
ISC 20 17:26:01.6±1.0,0˚.51S±0˚.09×127˚.7E±0˚.1, h41km, n10, σ1§19/11, mb3.6/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.32**	**344**	P	**Pn**	**17 26 23.8**	**+0.1**
MSAI	**Masohi**	**3.06**	**157**	P	**Pn**	**17 26 48.7**	**+1.1**
AAI	**Ambon**	**3.19**	**172**	P	**Pn**	**17 26 50.2**	**+0.9**
KMSI	**Cibinong**	**3.90**	**286**	P	**Pn**	**17 26 59.7**	**+0.7**
FITZ	**Fitzroy Crossi**	**17.60**	**187**	P	**Pn**	**17 30 02.3**	**-1.6**
	0.1nm,0.3s,baz=27,slow=11,SNR=2.8						
	3.0nm,0.9s						
WRA	**Warramunga Arr**	**20.37**	**162**	P	**P**	**17 30 32.9**	**-2.0**
	0.6nm,0.5s,baz=345,slow=13,SNR=10						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**23.79**	**166**	P	**P**	**17 31 10.0**	**-0.7**
	0.6nm,0.4s,baz=346,slow=12,SNR=35						
ASAR				PcP	**PcP**	**17 34 54.8**	**+1.1**
	0.3nm,0.8s,baz=348,slow=2.2,SNR=4.1						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**61.60**	**326**	P	**P**	**17 36 15.6**	**+0.6**
	0.3nm,0.4s,baz=112,slow=8.6,SNR=10						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**65.83**	**328**	P	**P**	**17 36 42.6**	**-0.2**
	0.4nm,0.7s,baz=124,slow=6.5,SNR=5.3						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**71.40**	**328**	P	**P**	**17 37 17.6**	**+0.1**
	0.3nm,0.7s,baz=137,slow=6.9,SNR=1.7						
	0.3nm,0.7s						

*IDC **20** 17:29:06.6±1.6,1˚.37N×100˚.08E, h126km±23km, mb3.1/3, mbtmp3.5/3, Error ellipse: s-maj=97.4km s-min=21.3km az=54.0*
*DJA **20** 17:29:08.6±0.6,1˚N±2˚×10˚0E±˚, h128km±6km, M3.2/9, MLv3.2/9*
ISC 20 17:29:06.8±0.9,1˚.19N±0˚.07×99˚.54E±0˚.09, h150km, n8, σ1§55/13, mb3.3/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.39**	**175**	P	**Pn**	**17 29 27.9**	**+0.2**
MNSI				S	**Sn**	**17 29 41.8**	**-1.8**
PSI	**Prapat**	**1.72**	**339**	P	**Pn**	**17 29 38.1**	**-0.8**
	3.1nm,0.3s,baz=137,slow=13,SNR=4.1						
PSI				S	**Sn**	**17 30 01.0**	**-2.5**
	6.0nm,0.5s,baz=84,slow=19,SNR=5.9						
PPI	**Padang Panjang**	**1.84**	**152**	P	**Pn**	**17 29 41.4**	**+1.2**
GSI	**Gunungsitoli**	**1.97**	**273**	P	**Pn**	**17 29 42.5**	**+0.9**
GSI				S	**Sn**	**17 30 07.7**	**-0.6**
SISI	**Saibi**	**2.54**	**190**	P	**Pn**	**17 29 47.3**	**-1.2**
SISI				S	**Sn**	**17 30 19.0**	**-1.6**
WRA	**Warramunga Arr**	**40.06**	**123**	P	**P**	**17 36 26.4**	**-1.3**
	0.4nm,0.4s,baz=300,slow=8.0,SNR=7.7						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**41.54**	**129**	P	**P**	**17 36 39.9**	**0.0**
	0.3nm,0.6s,baz=300,slow=7.4,SNR=5.8						
ASAR				PcP	**PcP**	**17 38 35.7**	**+1.1**
	0.2nm,0.7s,baz=302,slow=2.5,SNR=1.8						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**47.86**	**344**	P	**P**	**17 37 31.5**	**+2.0**
	0.2nm,0.3s,baz=157,slow=8.3,SNR=9.2						
	0.2nm,0.3s						

*NNC **20** 17:40:51.5±0.6,45˚.79N×81˚.14E, h0km±8km, mb4.2, mpv4.0, Error ellipse: s-maj=9.1km s-min=2.2km az=131.0*
*SOME **20** 17:40:53.3,45˚.85N×81˚.08E, h30km*
ISC 20 17:40:51.7±1.3,45˚.78N±0˚.03×81˚.22E±0˚.03, h5km±11km, n50, σ1§52/64, 10C-5D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKZ	**Makanchi**	**1.15**	**27**	⇓P	**Pn**	**17 41 14.0**	**-0.5**
	187nm,0.8s						
MAKZ				⇑S	**Sb**	**17 41 29.4**	**0.0**
	259nm,0.2s						
MK31	**Makanchi Array**	**1.25**	**36**	⇑P	**Pn**	**17 41 15.8**	**-0.1**
	86nm,0.2s,baz=207,slow=14,SNR=5594						
MK31				⇑S	**Sg**	**17 41 33.4**	**+1.3**
	120nm,0.2s,baz=208,slow=32,SNR=91						
KAPS	**Kapalarasan**	**1.40**	**250**	P	**Pn**	**17 41 17.6**	**-0.3**
	46nm,0.2s						
KAPS				S	**Sn**	**17 41 35.6**	**-1.3**
	1µm,0.3s						
KNOS	**Konyrlen**	**2.03**	**226**	P	**Pb**	**17 41 28.5**	**-0.7**
	78nm,0.3s						
KNOS				S	**Sb**	**17 41 53.9**	**-0.8**
	372nm,0.5s						
TDK	**Taldyqorghan**	**2.13**	**250**	Pg	**Pb**	**17 41 30.0**	**-0.9**
	314nm,0.6s						
TDK				Lg	Lg	17 41 56.3	
	406nm,0.5s						
TDK	**Taldyqorghan**	**2.13**	**250**	*eP*	**Pb**	**17 41 30.0**	**-0.9**
	314nm,0.6s						
TDK				*eS*	**Sb**	**17 41 56.3**	**-1.3**
	406nm,0.5s						
KTMS	**Ketmen**	**2.42**	**195**	Pg	**Pb**	**17 41 36.1**	**+0.3**
	28nm,0.5s						
KTMS				Lg	Lg	17 42 06.8	
	78nm,0.3s						
KTMS	**Ketmen**	**2.42**	**195**	*eP*	**Pb**	**17 41 36.1**	**+0.3**
	28nm,0.5s						
KTMS				*eS*	**Sb**	**17 42 06.8**	**+0.9**
	78nm,0.3s						
PDGK	**Podgornoye**	**2.75**	**207**	⇓Pn	**Pn**	**17 41 35.4**	**-1.1**
	3.2nm,0.4s						
PDGK				⇑Pg	**Pb**	**17 41 41.3**	**-0.1**
	52nm,0.7s						
PDGK				⇓Lg	Lg	17 42 14.7	
	191nm,0.6s						
ARXS	**Arharly**	**2.88**	**238**	Pg	**Pb**	**17 41 42.8**	**-0.8**
	32nm,0.4s						
ARXS				Lg	Lg	17 42 18.6	
	136nm,0.5s						
ZSN	**Zaisan**	**3.01**	**55**	Pg	**Pb**	**17 41 46.4**	**+0.5**
	34nm,0.2s						
ZSN				Lg	Lg	17 42 24.6	
	113nm,0.2s						
ZSN	**Zaisan**	**3.01**	**55**	*eP*	**Pb**	**17 41 46.4**	**+0.5**
	34nm,0.2s						
ZSN				*eS*	**Sb**	**17 42 24.6**	**+1.6**
	113nm,0.2s						
SATY	**Saty**	**3.39**	**218**	Pg	**Pb**	**17 41 52.4**	**+0.1**
	50nm,0.6s						
SATY				Lg	Lg	17 42 34.8	
	105nm,0.4s						
CHKK	**Chushkaly**	**3.58**	**239**	Pg	**Pb**	**17 41 55.1**	**-0.4**
	21nm,0.5s						
CHKK				Lg	Lg	17 42 39.5	
	89nm,0.3s						
CHKK	**Chushkaly**	**3.58**	**239**	*eP*	**Pb**	**17 41 55.1**	**-0.4**
	21nm,0.5s						
CHKK				*eS*	**Sb**	**17 42 39.5**	**+0.4**
	89nm,0.3s						
KTBS	**Karatobe**	**3.84**	**239**	Pg	**Pb**	**17 42 00.1**	**+0.2**
	20nm,0.5s						
KTBS				Lg	Lg	17 42 48.0	
	185nm,0.8s						
KOTS	**Kotyrbulak**	**3.89**	**231**	Pg	**Pb**	**17 42 01.4**	**+0.6**
	20nm,0.6s						
KOTS				Lg	Lg	17 42 50.4	
	188nm,0.6s						
KOTS	**Kotyrbulak**	**3.89**	**231**	*eP*	**Pb**	**17 42 01.4**	**+0.6**
	20nm,0.6s						
KOTS				*eS*	**Sb**	**17 42 50.5**	**+2.1**
	188nm,0.6s						
KUU	**Kurty**	**3.96**	**243**	Pg	**Pb**	**17 42 02.3**	**+0.4**
	14nm,0.3s						
KUU				Lg	Lg	17 42 51.9	
	151nm,0.6s						
KUU	**Kurty**	**3.96**	**243**	*eP*	**Pb**	**17 42 02.3**	**+0.4**
	14nm,0.3s						
KUU				*eS*	**Sb**	**17 42 51.9**	**+1.8**
	151nm,0.6s						
AAA	**Alma-Ata**	**4.01**	**232**	Pg	**Pb**	**17 42 03.9**	**+1.0**
	14nm,0.2s						
AAA				Lg	Lg	17 42 54.7	
	7.3nm,0.2s						
AAA	**Alma-Ata**	**4.01**	**232**	*eP*	**Pb**	**17 42 03.9**	**+1.0**
	14nm,0.2s						
AAA				*eS*	**Sb**	**17 42 54.7**	**+2.9**
	7.3nm,0.2s						
TNSS	**Tian-Shan**	**4.11**	**230**	Pg	**Pb**	**17 42 05.8**	**+1.0**
	7.7nm,0.5s						
TNSS				Lg	Lg	17 42 57.7	
	7.3nm,0.7s						
TNSS	**Tian-Shan**	**4.11**	**230**	*eP*	**Pb**	**17 42 05.8**	**+1.0**
	7.7nm,0.5s						
TNSS				*eS*	**Sb**	**17 42 57.7**	**+2.8**
	7.3nm,0.7s						
IZV	**Izvestkoviy**	**4.29**	**232**	Pg	**Pb**	**17 42 09.3**	**+1.5**
	20nm,0.6s						
IZV				Lg	Lg	17 43 04.2	
	54nm,0.7s						
IZV	**Izvestkoviy**	**4.29**	**232**	*eP*	**Pb**	**17 42 09.3**	**+1.5**
	20nm,0.6s						
IZV				*eS*	**Sb**	**17 43 04.2**	**+4.3**
	54nm,0.7s						
MTBS	**Maitube**	**4.34**	**234**	Pg	**Pb**	**17 42 09.8**	**+1.4**
	13nm,0.4s						
MTBS				Lg	Lg	17 43 04.5	
	85nm,0.5s						
MTBS	**Maitube**	**4.34**	**234**	*eP*	**Pb**	**17 42 09.8**	**+1.4**
	13nm,0.4s						
MTBS				*eS*	**Sb**	**17 43 04.5**	**+3.5**
	85nm,0.5s						
KRBS	**Karabastau**	**4.47**	**244**	Pg	**Pb**	**17 42 11.5**	**+0.8**
	9.0nm,0.6s						
KRBS				Lg	Lg	17 43 07.7	
	25nm,0.9s						
DGS	**Degeres**	**4.65**	**239**	Pg	**Pg**	**17 42 20.9**	**+0.1**
	18nm,0.4s						
DGS				Lg	Lg	17 43 24.0	
	94nm,0.6s						
KST	**Kastek**	**4.66**	**236**	Pg	**Pg**	**17 42 20.1**	**-0.8**
	20nm,0.7s						
KST				Lg	Lg	17 43 22.6	
	43nm,0.6s						
KST	**Kastek**	**4.66**	**236**	*eP*	**Pg**	**17 42 20.1**	**-0.8**
	20nm,0.7s						
KST				*eS*	**Sg**	**17 43 22.6**	**+1.4**
	43nm,0.6s						
SEM	**Semipalatinsk**	**4.68**	**352**	Pg	**Pg**	**17 42 20.7**	**-0.5**
	20nm,0.6s						
SEM				Lg	Lg	17 43 23.5	
	87nm,0.5s						
SEM	**Semipalatinsk**	**4.68**	**352**	*eP*	**Pg**	**17 42 20.7**	**-0.5**
	20nm,0.6s						
SEM				*eS*	**Sg**	**17 43 23.5**	**+1.7**
	87nm,0.5s						
WMQ	**Urumqi**	**5.00**	**111**	Pn	**Pn**	**17 42 06.3**	**-1.2**
WMQ				Sn	**Sn**	**17 43 02.8**	**-2.9**
WMQ				smax	smax		
	comp=N,36nm,1.3s						
WMQ				smax	smax		
	comp=E,52nm,0.9s						
BTLS	**Baital**	**5.11**	**264**	Pg	**Pb**	**17 42 22.8**	**+1.3**
	comp=E,8.4nm,0.2s						
BTLS				Lg	Lg	17 43 27.0	
	comp=E,30nm,0.7s						
BTLS	**Baital**	**5.11**	**264**	*eP*	**Pb**	**17 42 22.8**	**+1.3**
	comp=E,8.4nm,0.2s						
BTLS				*eS*	**Sb**	**17 43 27.0**	**+3.9**
	comp=E,30nm,0.7s						
KURBB	**Kurchatov Arra**	**5.17**	**341**	⇑Pn	**Pn**	**17 42 09.3**	**-0.3**
	comp=E,5.7nm,0.4s						
KURBB				⇓Lg	Lg	17 43 37.3	
	comp=E,181nm,0.6s						
KURK	**Kurchatov**	**5.24**	**342**	⇑Pn	**Pn**	**17 42 10.1**	**-0.4**
	comp=E,2.8nm,0.4s						
KURK				⇑Lg	Lg	17 43 37.1	
	comp=E,118nm,0.8s						
MRKS	**Merke**	**6.50**	**245**	Pg	Pg	17 42 52.6	-3.5
	comp=E,2.2nm,0.2s						
MRKS				Lg	Lg	17 44 18.1	
	comp=E,21nm,0.7s						
MRKS	**Merke**	**6.50**	**245**	*eP*	Pg	17 42 52.6	-3.5
	comp=E,2.2nm,0.2s						
MRKS				*eS*	**Sg**	**17 44 18.1**	**-2.1**
	comp=E,21nm,0.7s						
BRZS	**Berezniki**	**7.12**	**309**	Pg	Pg	17 43 03.4	-4.6
	comp=E,1.2nm,0.5s						
BRZS				Lg	Lg	17 44 37.0	
	comp=E,34nm,0.8s						
BRZS	**Berezniki**	**7.12**	**309**	*eP*	Pg	17 43 03.4	-4.6
	comp=E,1.2nm,0.5s						
BRZS				*eS*	**Sg**	**17 44 37.0**	**-3.1**
	comp=E,34nm,0.8s						
KK31	**Karatay Array**	**8.12**	**255**	⇓Pn	**Pn**	**17 42 49.2**	**-1.1**
	baz=65,slow=13,SNR=21						
KK31				Lg	Lg	17 45 07.3	
	comp=E,7.7nm,0.6s,baz=67,slow=28,SNR=4.4						
BRLS	**Borolday**	**8.61**	**255**	Pg	Pn	17 43 35.5	+39
	comp=E,1.3nm,0.1s						
BRLS				Lg	Lg	17 45 32.8	
	comp=E,7.5nm,1.0s						
BRLS	**Borolday**	**8.61**	**255**	*eP*	Pn	17 43 35.5	+39
	comp=E,1.3nm,0.1s						
BRLS				*eS*	Sg	17 45 32.8	+5.0
	comp=E,7.5nm,1.0s						
IUG	**Iuzhnay**	**8.85**	**250**	Pg	Pn	17 43 36.6	+36
	comp=E,5.4nm,0.3s						
IUG				Lg	Lg	17 45 34.3	
	comp=E,29nm,1.2s						
BVA0	**Borovoye Array**	**10.11**	**320**	⇑Pn	**Pn**	**17 43 17.3**	**-0.2**
	comp=E,1.3nm,0.5s,baz=134,slow=14,SNR=11						
BVA0				⇑Lg	Lg	17 46 14.9	
	comp=E,44nm,1.1s						
AB31	**Akbulak array**	**14.78**	**291**	⇑Pn	**Pn**	**17 44 21.0**	**-0.2**
	comp=E,1.5nm,0.7s,baz=264,slow=38,SNR=8.9						
XLT	**XiLinHaoTe**	**24.67**	**82**	*eP*	**P**	**17 46 15.3**	**+1.9**
XLT				pmax	pmax		
	comp=E,6.0nm,1.0s						

*NOU **20** 17:43:23.8, 17˚.57S×119˚.33E, h0km, mb4.6/10, Northwest of Australia*
*AUST **20** 17:43:32.7±0.4, 18˚S±4˚×12˚0E±˚, h10km, mb4.6/11, ML3.9/3, Error ellipse: s-maj=11.4km s-min=6.3km az=126.6*
*IDC **20** 17:43:34.0±3.0, 18˚.58S×120˚.52E, h0km, mb3.7/1, mbtmp4.2/6, ML3.9/5, Error ellipse: s-maj=36.6km s-min=27.4km az=152.0*
ISC 20 17:43:32.3±0.9, 18˚.42S±0˚.06×120˚.40E±0˚.06, h10km, n34, σ2§64/41, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSA00	**Pilbara Seismi**	**3.17**	**189**	P	**Pb**	**17 44 27.1**	**-1.7**
PSA00				S	**Sn**	**17 45 03.3**	**+3.0**
PSA00	**Pilbara Seismi**	**3.17**	**189**	P	**Pb**	**17 44 26.9**	**-1.9**
FITZ	**Fitzroy Crossi**	**4.99**	**87**	P	**Pn**	**17 44 50.4**	**+3.1**
FITZ	**Fitzroy Crossi**	**4.99**	**87**	S	**Sn**	**17 45 44.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**4.99**	**87**	Pn	**Pn**	**17 44 49.7**	**+2.4**
	4.6nm,0.3s,baz=268,slow=11,SNR=197						
FITZ				Sn	**Sn**	**17 45 44.8**	**-0.3**
	13nm,0.3s,baz=101,slow=20,SNR=6.0						
FITZ				Lg	Lg	17 46 08.8	
	16nm,0.3s,baz=148,slow=19,SNR=3.7						
	11nm,0.3s						
MEEK	**Meekatharra**	**8.34**	**191**	P	**Pn**	**17 45 37.0**	**+3.6**
MEEK	**Meekatharra**	**8.34**	**191**	S	**Sn**	**17 47 06.1**	**-1.6**
MEEK	**Meekatharra**	**8.34**	**191**	P	**Pn**	**17 45 36.8**	**+3.5**
CVQOZ	**Cooralya Stati**	**8.40**	**223**	P	**Pn**	**17 45 36.0**	**+1.9**
	comp=Z,320nm,1.6s,comp=Z,1.3nm						
CVQOZ				S	**Sn**	**17 47 02.1**	**-6.9**
KNRA	**Kununurra**	**8.45**	**72**	P	**Pn**	**17 45 37.2**	**+2.3**
	comp=Z,0.2nmcomp=Z,32nm,0.5s						
BATI	**Baunata**	**8.76**	**22**	Pn	**Pn**	**17 45 42.3**	**+3.1**
	comp=Z,1.5nm,0.3s,baz=207,slow=4.5,SNR=2.1						
BATI				Sn	**Sn**	**17 47 18.0**	**-0.1**
	comp=Z,3.9nm,0.3s,baz=120,slow=21,SNR=1.8						
	comp=Z,12nm,0.5s						
WRKA	**Warakurna**	**9.85**	**133**	P	**Pn**	**17 45 58.7**	**+4.6**
	comp=Z,7.5nm,0.6s,comp=Z,0.1nm						
PLAI	**Plampang**	**9.87**	**345**	P	**Pn**	**17 45 53.2**	**-1.2**
	comp=Z,0.1nmcomp=Z,35nm,1.1s						
MORW	**Morawa**	**11.32**	**200**	P	**Pn**	**17 46 14.6**	**+0.4**
	comp=Z,35nm,1.9s						
MORW	**Morawa**	**11.32**	**200**	P	**Pn**	**17 46 14.9**	**+0.7**
MTN	**Manton Dam**	**11.73**	**63**	P	**Pn**	**17 46 19.5**	**-0.4**
	comp=Z,63nm,0.4s						
MTN	**Manton Dam**	**11.73**	**63**	P	**Pn**	**17 46 20.3**	**+0.5**
DRS	**Darwin Rock St**	**11.74**	**61**	P	**Pn**	**17 46 21.2**	**+1.2**
	comp=Z,12nm,0.6s						
DRS	**Darwin Rock St**	**11.74**	**61**	P	**Pn**	**17 46 21.6**	**+1.6**
BLDU	**Ballidu**	**12.59**	**195**	P	**Pn**	**17 46 32.2**	**+0.7**
	comp=Z,35nm,1.4s						
BLDU	**Ballidu**	**12.59**	**195**	P	**Pn**	**17 46 32.8**	**+1.2**
KDU	**Kakadu**	**12.95**	**66**	P	**Pn**	**17 46 35.5**	**-1.0**
KDU	**Kakadu**	**12.95**	**66**	P	**Pn**	**17 46 36.3**	**-0.2**
WRA	**Warramunga Arr**	**13.26**	**99**	Pn	**Pn**	**17 46 41.8**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=278,slow=14,SNR=48						
WRA				Sn	**Sn**	**17 49 02.0**	**-6.3**
	comp=Z,3.2nm,0.3s,baz=282,slow=25,SNR=9.2						
WRA				Lg	Lg	17 50 30.6	
	baz=268,slow=29						
	comp=Z,2.4nm,0.4s						
KLBR	**Kellerberrin**	**13.33**	**190**	P	**Pn**	**17 46 42.7**	**+1.1**
	comp=Z,39nm,0.5s						
KLBR	**Kellerberrin**	**13.33**	**190**	P	**Pn**	**17 46 43.6**	**+2.0**
ASAR	**Alice Springs**	**13.64**	**115**	Pn	**Pn**	**17 46 47.0**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=292,slow=12,SNR=45						
ASAR				Sn	**Sn**	**17 49 13.9**	**-3.8**
	comp=Z,2.1nm,0.3s,baz=283,slow=23,SNR=9.9						
	comp=Z,1.6nm,0.4s						
MUN	**Mundaring**	**14.02**	**195**	P	**Pn**	**17 46 51.2**	**+0.2**
	comp=Z,37nm,1.6s						
MUN	**Mundaring**	**14.02**	**195**	P	**Pn**	**17 46 51.1**	**+0.1**
FORT	**Forrest**	**14.13**	**152**	P	**Pn**	**17 46 52.3**	**-0.2**
DNDOZ	**Balladonia**	**14.32**	**168**	P	**Pn**	**17 46 55.7**	**+0.5**
	comp=Z,173nm,1.6s						
NWAO	**Narrogin (SRO)**	**14.72**	**191**	Pn	**Pn**	**17 47 00.8**	**+0.1**
	comp=Z,5.7nm,0.3s,baz=14,slow=11,SNR=30						
	comp=Z,13nm,0.3s						
NWAO	**Narrogin (SRO)**	**14.72**	**191**	P	**Pn**	**17 47 00.6**	**0.0**
STKA	**Stephens Creek**	**23.34**	**129**	P	**P**	**17 48 42.8**	**+1.9**
	comp=Z,2.4nm,0.8s,baz=309,slow=13,SNR=3.9						
STKA				S	**S**	**17 53 00.3**	**+6.6**
	comp=Z,6.6nm,0.8s,baz=261,slow=19,SNR=3.1						
	comp=Z,2.4nm,0.8s						

*GCG **20** 17:51:19.5±1.6, 13˚.55N×89˚.15W, h123km±13km, MD3.4, ML3.5*
*SNET **20** 17:51:19.4±1.1, 13˚.33N×89˚.26W, h114km, ML2.9*
*CATAC **20** 17:51:20.5±0.4, 14˚N±3˚×8˚9W±˚, h109km±2km, M2.7/23, MLv2.7/23, Error ellipse: s-maj=6.5km s-min=3.6km az=13.2, confirmed*
ISC 20 17:51:23.0±1.7, 13˚.60N±0˚.06×89˚.11W±0˚.04, h102km±8km, n81, σ1§41/90, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.05**	**64**	*eP*	**Pn**	**17 51 36.2**	**-1.2**
LFRS				*eS*	**Sn**	**17 51 49.3**	**+1.2**
PANCS	**Alcalda de**	**0.07**	**277**	P	**Pn**	**17 51 35.8**	**-1.6**
PANCS	**Alcalda de**	**0.07**	**277**	S	**Sn**	**17 51 47.8**	**-0.2**
LOMA	**Loma Larga**	**0.08**	**303**	*eP*	**Pn**	**17 51 35.6**	**-1.8**
LOMA				*eS*	**Sn**	**17 51 49.9**	**+1.7**
LOMA	**Loma Larga**	**0.08**	**303**	S	**Sn**	**17 51 48.2**	**+0.1**
LOMA	**Loma Larga**	**0.08**	**303**	P	**Pn**	**17 51 36.7**	**-0.7**
UDBS	**Universidad Do**	**0.12**	**336**	P	**Pn**	**17 51 37.0**	**-0.5**
UDBS	**Universidad Do**	**0.12**	**336**	S	**Sn**	**17 51 49.0**	**+0.9**
UTEC	**Universidad Te**	**0.14**	**316**	P	**Pn**	**17 51 36.5**	**-0.9**
UTEC	**Universidad Te**	**0.14**	**316**	S	**Sn**	**17 51 48.9**	**+0.7**
LFU	**La Fuente**	**0.15**	**357**	*eP*	**Pn**	**17 51 36.8**	**-0.7**
UEES	**Universidad Ev**	**0.17**	**311**	P	**Pn**	**17 51 36.5**	**-1.0**
UEES	**Universidad Ev**	**0.17**	**311**	S	**Sn**	**17 51 49.1**	**+0.7**
PAVA	**Las Pavas**	**0.20**	**56**	*eP*	**Pn**	**17 51 36.9**	**-0.8**
PAVA	**Las Pavas**	**0.20**	**56**	*i* P	**Pn**	**17 51 37.1**	**-0.6**
PAVA				*eS*	**Sn**	**17 51 50.7**	**+2.1**
PAVA	**Las Pavas**	**0.20**	**56**	P	**Pn**	**17 51 37.1**	**-0.6**
COEG	**Centro de Oper**	**0.22**	**85**	*eP*	**Pn**	**17 51 36.8**	**-0.9**
COEG	**Centro de Oper**	**0.22**	**85**	P	**Pn**	**17 51 36.8

FAME	**Alcaldia de Sa**	**0.92**	**285**	P	**Pn**	**17 51 40.5**	**-2.3**
FAME	**Alcaldia de Sa**	**0.92**	**285**	S	**Sn**	**17 51 56.5**	**-1.1**
ESQI	**Esquipulas**	**0.98**	**346**	P	**Pn**	**17 51 41.7**	**-1.8**
ESQI	**Esquipulas**	**0.98**	**346**	S	**Sn**	**17 51 58.4**	**-0.5**
MARCA	**Marcala la Paz**	**1.18**	**62**	P	**Pn**	**17 51 44.8**	**-1.0**
MARCA	**Marcala la Paz**	**1.18**	**62**	S	**Sn**	**17 52 03.6**	**+0.8**
SARH	**Santa Rosa de**	**1.21**	**16**	P	**Pn**	**17 51 45.1**	**-1.0**
SARH	**Santa Rosa de**	**1.21**	**16**	S	**Sn**	**17 52 04.0**	**+0.5**
LCND	**La Caada**	**1.22**	**104**	*e*P	**Pn**	**17 51 44.9**	**-1.1**
CNCH	**Conchagua**	**1.28**	**105**	*e*P	**Pn**	**17 51 45.6**	**-1.3**
CNCH	**Conchagua**	**1.28**	**105**	S	**Sn**	**17 52 05.0**	**0.0**
CNCH	**Conchagua**	**1.28**	**105**	P	**Pn**	**17 51 45.9**	**-1.0**
TGUH	**Tegucigalpa,Un**	**1.84**	**76**	P	**Pn**	**17 51 52.8**	**-1.0**
TGUH				S	**Sn**	**17 52 17.4**	**+0.3**
CHOHN	**Orocuina**	**1.90**	**93**	S	**Sn**	**17 52 18.6**	**+0.1**
CHOHN	**Orocuina**	**1.90**	**93**	P	**Pn**	**17 51 53.1**	**-1.4**
STG0	**El Palmar, Qui**	**2.32**	**291**	*e*S	**Sn**	**17 52 33.4**	**+5.0**
STG0				IAML		17 52 37.1	
	comp=E,493nm,0.3s						
STG2	**El Palmar, Qui**	**2.35**	**291**	*e*S	**Sn**	**17 52 34.8**	**+5.7**

NEIC ***20*** *17:54:17.8±1.2,35˚951N±0˚008×117˚704W±0˚008, h4km±1km, Error ellipse: s-maj=1.2km s-min=0.9km az=190.0*

PAS 20 17:54:18.2±1.3,35˚951N±0˚008×117˚704W±0˚009, h3km±2km, ML3.4/99, ML3.2/160(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=216.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRC2	**Joshua Ridge**	**0.09**	**291**		Pg	17 54 21.9	+1.8
WCSM	**Coso Springs S**	**0.09**	**326**		Pg	17 54 20.2	+0.1
WCSM					Sg	17 54 21.7	+0.3
WVPM	**Volcano Peak E**	**0.09**	**269**		Pg	17 54 20.3	+0.2
WVPM					Sg	17 54 21.9	+0.5
TOW	**Tower One**	**0.15**	**199**		Pg	17 54 21.7	+0.5
CLC	**China Lake**	**0.16**	**147**		Pg	17 54 21.4	0.0
CLC				Sg	Sg	17 54 23.4	0.0
WRVM	**Rose V. Centra**	**0.16**	**291**		Pg	17 54 21.5	+0.1
WRVM					Sg	17 54 24.2	+0.6
WNMM	**Nine Mile Cany**	**0.20**	**237**		Pg	17 54 25.2	+3.2
MPMC	**Manual Prospec**	**0.20**	**58**		Pg	17 54 22.3	+0.1
MPMC				Sg	Sg	17 54 25.3	+0.3
MPMC				IAML		17 54 26.9	
	comp=N,8μm,0.8s						
MPMC				IAML		17 54 27.2	
	comp=E,5μm,0.4s						
MFS	**McCloud Flat S**	**0.21**	**324**		Pg	17 54 22.4	+0.1
MFS					Sg	17 54 25.6	+0.6
SRTC	**Snort**	**0.26**	**188**		Pg	17 54 23.8	+0.5
SRTC					Sg	17 54 28.5	+1.9
GPO	**China Lake**	**0.30**	**173**		Pg	17 54 24.2	+0.1
GPO					Sg	17 54 28.7	+0.7
WSHM	**Spangler Hills**	**0.39**	**154**		Pg	17 54 25.5	-0.2
WSHM				IAML		17 54 32.4	
	comp=E,3μm,0.4s						
WSHM	**Spangler Hills**	**0.39**	**154**		Sg	17 54 31.5	+0.7
LRMC	**Laurel Mtn Rad**	**0.47**	**178**		Pg	17 54 27.1	-0.1
LRMC				IAML		17 54 34.3	
	comp=N,2μm,0.3s						
LRMC				IAML		17 54 34.7	
	comp=E,3μm,0.5s						
LRMC	**Laurel Mtn Rad**	**0.47**	**178**		Sg	17 54 34.1	+0.7
WORM	**Onyx Ranch**	**0.51**	**240**		Pg	17 54 27.7	-0.2
WORM					Sg	17 54 34.6	+0.1
CCCA	**Chr Cany lake**	**0.51**	**147**		Pg	17 54 28.2	+0.3
CCCA	**Chr Cany lake**	**0.51**	**147**		Sg	17 54 36.0	+1.5
WBSM	**Bird Springs**	**0.54**	**221**		Pg	17 54 28.6	-0.1
WBSM					Sg	17 54 36.2	+0.5
CWC	**Cottonwood Cre**	**0.57**	**328**		Pg	17 54 29.2	-0.1
CWC				IAML		17 54 38.0	
	comp=E,1μm,0.2s						
CWC				IAML		17 54 38.3	
	comp=N,1μm,0.2s						
CWC	**Cottonwood Cre**	**0.57**	**328**		Sg	17 54 37.3	+0.6
WHFM	**Hanning Flat**	**0.58**	**244**		Pg	17 54 29.3	-0.1
WHFM					Sg	17 54 37.2	+0.2
CGO	**Cerro Gordo**	**0.60**	**352**		Pg	17 54 29.5	-0.4
CGO					Sg	17 54 37.5	-0.2
QSM	**Queen of Sheba**	**0.68**	**89**		Pg	17 54 31.1	-0.1
QSM				IAML		17 54 40.8	
	comp=N,926nm,0.7s						
QSM				IAML		17 54 43.6	
	comp=E,1μm,0.5s						
QSM	**Queen of Sheba**	**0.68**	**89**		Sg	17 54 40.2	+0.2
ISA	**Isabella, Lake**	**0.69**	**246**		Pg	17 54 31.3	-0.1
ISA	**Isabella, Lake**	**0.69**	**246**		Sg	17 54 40.6	+0.2
DTP	**Desert Tortois**	**0.69**	**190**		Pg	17 54 31.1	-0.4
DTP					Sg	17 54 40.9	+0.5
WASM	**Alta Sierra Ca**	**0.72**	**253**		Pg	17 54 32.0	-0.1
WASM					Sg	17 54 41.7	+0.2
CCAC	**Calif City Air**	**0.84**	**198**		Pg	17 54 33.9	-0.3
CCAC					Sg	17 54 45.4	+0.3
FURC	**Furnace Creek,**	**0.85**	**53**		Pg	17 54 34.8	+0.2
FURC					Sg	17 54 46.3	+0.6
GWY	**Greenwater Val**	**0.87**	**74**		Sg	17 54 46.7	+0.5
GWY	**Greenwater Val**	**0.87**	**74**	Pg	Pg	17 54 34.9	0.0
GWY				IAML		17 54 51.3	
	comp=N,1μm,0.5s						
GWY				IAML		17 54 51.4	
	comp=E,963nm,0.6s						
SPG2	**Springville 2**	**0.90**	**286**		Pg	17 54 34.7	-0.7
SPG2					Sg	17 54 46.4	-0.6
GSC	**Goldstone, Bar**	**0.98**	**131**		Pg	17 54 36.3	-0.6
GSC				IAML		17 54 56.6	
	comp=N,560nm,0.6s						
GSC	**Goldstone, Bar**	**0.98**	**131**		Sg	17 54 48.8	-0.8
GRAC	**Grapevine Rang**	**1.08**	**15**		Pg	17 54 38.4	-0.5
GRAC				IAML		17 55 01.2	
	comp=N,918nm,0.6s						
GRAC	**Grapevine Rang**	**1.08**	**15**		Sb	17 54 53.5	-0.5
TEJ	**El Tejon**	**1.08**	**228**		Pg	17 54 38.0	-0.9
HYS	**Haystack Butte**	**1.09**	**174**		Pg	17 54 38.4	-0.7
EDW2	**Edwards Air Fo**	**1.09**	**193**		Pg	17 54 38.1	-1.0
EDW2					Sg	17 54 52.5	-0.8
VES	**Vestal, Richgr**	**1.13**	**265**		Pg	17 54 39.4	-0.4
VES					Sg	17 54 54.6	+0.2
TPO	**Tropico Hills**	**1.15**	**202**		Pg	17 54 39.4	-0.9
TPO				IAML		17 55 01.5	
	comp=E,385nm,0.8s						
TPO				IAML		17 55 01.5	
	comp=N,583nm,1.0s						
SGV	**South Grapevin**	**1.16**	**28**		Pg	17 54 40.0	-0.5
SGV					Sg	17 54 56.1	+0.5
TIN	**Tinemaha, Big**	**1.18**	**339**		Pn	17 54 41.6	-0.1
WCT	**Wildcat Mounta**	**1.21**	**46**		Pg	17 54 40.9	-0.5
WCT				IAML		17 54 58.8	
	comp=E,436nm,0.5s						
WCT				IAML		17 54 59.6	
	comp=N,267nm,0.6s						
RRX	**Edison Barstow**	**1.22**	**151**		Pb	17 54 41.9	0.0
ARVC	**Arvin**	**1.23**	**228**		Pg	17 54 41.2	-0.6
TJR	**Tejon Ranch**	**1.25**	**223**		Pg	17 54 41.3	-0.9
TJR					Sg	17 54 57.7	-0.7
AMDNV	**Amargosa**	**1.26**	**66**		Pg	17 54 41.4	-0.8
AMDNV					Sg	17 54 58.0	-0.6
SBB	**Saddle Back Bu**	**1.26**	**185**		Pg	17 54 41.7	-0.7
LCH	**Last Change Ra**	**1.28**	**2**		Pg	17 54 41.7	-1.1
LCH					Sg	17 54 59.5	+0.1
BAKC	**Calstate**	**1.29**	**242**		Pg	17 54 42.7	-0.2
THC	**Tehachapi Micr**	**1.30**	**217**		Pg	17 54 41.9	-1.2
GMN	**Gold Mountain**	**1.39**	**15**		Pn	17 54 44.1	-0.7
GMN				IAML		17 55 06.8	
	comp=N,316nm,0.6s						
GMN				IAML		17 55 06.9	
	comp=E,254nm,0.5s						
GMN	**Gold Mountain**	**1.39**	**15**		Sb	17 55 03.3	-0.1
LEOC	**Leona Valley**	**1.41**	**201**		Pn	17 54 44.8	0.0
VOG	**Valley Oaks Go**	**1.41**	**286**		Pn	17 54 44.4	-0.4
DSP	**Deep Springs**	**1.43**	**352**		Pn	17 54 44.4	-0.7
DSP				IAML		17 55 05.8	
	comp=N,204nm,0.3s						
DSP				IAML		17 55 05.9	
	comp=E,328nm,0.3s						
DSP	**Deep Springs**	**1.43**	**352**		Sb	17 55 03.6	-0.5
BHPR	**Bishop**	**1.49**	**335**		Pn	17 54 46.0	0.0
HOLC	**Holcomb Ridge**	**1.49**	**184**		Pn	17 54 44.9	-1.1
JNH	**Juniper Hills**	**1.51**	**188**		Pn	17 54 45.3	-1.1
DSCC	**Desert Studies**	**1.53**	**121**		Pn	17 54 46.3	-0.2
TUQ	**Turquoise Moun**	**1.54**	**109**		Pn	17 54 45.3	-1.3
TPNV	**Topopah Spring**	**1.54**	**49**		Pn	17 54 46.0	-0.7
TPNV				IAML		17 55 10.7	
	comp=E,344nm,0.8s						
TPNV				IAML		17 55 11.7	
	comp=E,336nm,1.2s						
OSI	**Osito Audit: C**	**1.57**	**212**		Pn	17 54 46.5	-0.6
OSI				IAML		17 55 14.4	
	comp=E,242nm,0.8s						
OSI				IAML		17 55 15.4	
	comp=N,256nm,0.8s						
HEC	**Hector,Ludlow**	**1.58**	**135**		Sb	17 55 08.8	+0.2
CHFC	**Chilao Flat St**	**1.64**	**189**		Pb	17 54 49.1	0.0
BFSC	**Mount Baldy Ra**	**1.71**	**179**		Pn	17 54 48.2	-0.8
SSK	**Sunset Peak**	**1.74**	**180**		Pb	17 54 51.1	+0.3
MWC	**Mount Wilson**	**1.75**	**190**		Pn	17 54 49.1	-0.5
MWC				IAML		17 55 18.8	
	comp=N,212nm,0.5s						
MWC				IAML		17 55 19.9	
	comp=E,145nm,0.6s						
SS2	**San Sevaine**	**1.75**	**174**		Pg	17 54 51.5	-0.1
MZP	**Montezuma Peak**	**1.77**	**8**		Pn	17 54 49.5	-0.5
CRGC	**Crocker Grade**	**1.79**	**247**		Pb	17 54 51.2	-0.5
MTPC	**Mountain Pass**	**1.81**	**104**		Pn	17 54 49.1	-1.4
MTPC				IAML		17 55 17.3	
	comp=N,140nm,0.5s						
MTPC				IAML		17 55 18.9	
	comp=E,181nm,0.6s						
PASC	**Pasadena Art C**	**1.82**	**193**		Pn	17 54 49.5	-0.9
BLCC	**Black Canyon**	**1.88**	**205**		Pn	17 54 51.0	-0.3
KCC	**Kaiser Creek**	**1.89**	**317**		Pb	17 54 53.0	-0.4
BENR	**Benton**	**1.89**	**339**		Pb	17 54 53.7	+0.1
MLAC	**Mammoth, Mammo**	**1.91**	**332**		Pb	17 54 53.7	-0.1
CHNC	**Chino**	**1.95**	**179**		Sn	17 55 14.8	-2.3
MCSM	**Casa Diablo Ho**	**1.96**	**331**		Pb	17 54 54.7	0.0
SMMC	**Simmler**	**1.97**	**252**		Pb	17 54 54.3	-0.5
SHPR	**Sheep Range**	**2.13**	**74**		Pn	17 54 54.0	-0.9
BREC	**Barre Substati**	**2.15**	**186**		Pn	17 54 56.0	+1.0
TPH	**Tonopah**	**2.15**	**10**		Pn	17 54 54.2	-1.1
PKD	**Bear Valley Ra**	**2.30**	**271**		Pb	17 54 59.1	-1.3
S11A	**Rachel**	**2.31**	**42**		Pn	17 54 56.7	-0.5
S11A				IAML		17 55 37.1	
	comp=N,225nm,0.8s						
ELS	**Elsinore Mount**	**2.31**	**174**		Pn	17 54 56.4	-0.8
PSMM	**Smith Mountain**	**2.35**	**274**		Pb	17 54 59.6	-1.6
LHV	**Little Huntoon**	**2.38**	**345**		Pn	17 54 58.2	+0.1
LHV				IAML		17 55 38.0	
	comp=N,87nm,0.4s						
LHV				IAML		17 55 41.9	
	comp=E,103nm,1.4s						
NV11	**Mina Array Sit**	**2.50**	**352**		Pn	17 54 59.6	-0.4
NVAR	**Mina Array Bea**	**2.52**	**349**		Pn	17 54 59.9	-0.4
PMPB	**Monarch Peak**	**2.52**	**277**		Pn	17 54 59.6	-0.6
PMPB				IAML		17 55 41.5	
	comp=N,178nm,0.8s						
PMD	**Palm Desert**	**2.54**	**154**		Pn	17 54 59.1	-1.3
PMD				IAML		17 55 43.3	
	comp=E,70nm,0.6s						
PFO	**Pinyon Flats O**	**2.55**	**156**		Pn	17 54 59.0	-1.5
PFO				IAML		17 55 44.9	
	comp=E,86nm,1.4s						
PRN	**Pahroc Range**	**2.58**	**55**		Pn	17 55 00.6	-0.5
PRN				IAML		17 55 51.6	
	comp=E,131nm,0.8s						
PRN				IAML		17 55 53.4	
	comp=N,117nm,1.0s						
MYLM	**Yosemite Lake**	**2.61**	**304**		Pb	17 55 04.6	-1.0
RYN	**Ryan**	**2.75**	**347**		Pn	17 55 02.2	-1.2
BBGB	**Big Mountain B**	**2.77**	**284**		Pn	17 55 01.8	-1.8
NEE2	**Needles Airpor**	**2.78**	**114**		Pn	17 55 02.2	-1.5
NEE2				IAML		17 55 56.3	
	comp=E,157nm,0.6s						
NEE2				IAML		17 56 02.3	
	comp=N,144nm,0.7s						
BORC	**Borrego Spring**	**2.88**	**158**		Pn	17 55 03.4	-1.6
BORC				IAML		17 55 56.8	
	comp=N,59nm,0.8s						
BORC				IAML		17 55 59.3	
	comp=E,85nm,0.8s						
WAKR	**Walker**	**2.90**	**332**		Pn	17 55 04.7	-0.8
Q09A	**Carvers**	**2.91**	**8**		Pn	17 55 04.8	-0.7
R11B	**Troy Canyon, C**	**2.93**	**35**		Pn	17 55 05.2	-0.7
CMB	**Columbia Colle**	**2.99**	**315**		Pn	17 55 06.0	-0.6
CMB				IAML		17 55 57.3	
	comp=N,55nm,0.6s						
DPP	**Dos Picos Cty**	**3.01**	**168**		Pn	17 55 06.2	-0.6
DPP				IAML		17 55 53.5	
	comp=E,83nm,0.8s						
SAO	**San Andreas Ge**	**3.13**	**286**		Pn	17 55 07.4	-1.0
W13A	**Hualapai Mount**	**3.23**	**104**		Pn	17 55 08.6	-1.4
BLYC	**Blythe**	**3.41**	**129**		Pn	17 55 10.6	-1.8
BLYC				IAML		17 56 13.4	
	comp=N,46nm,0.6s						
BLYC				IAML		17 56 15.4	
	comp=E,38nm,0.8s						
YUH	**Yuha Desert**	**3.61**	**155**		Pn	17 55 14.4	-0.6
CBX	**Cerro Bola**	**3.73**	**166**		Pn	17 55 16.2	-0.6
GLA	**Glamis**	**3.74**	**140**		Pn	17 55 16.0	-0.9
GLA				IAML		17 56 19.0	
	comp=N,54nm,0.7s						
GLA				IAML		17 56 29.8	
	comp=E,62nm,0.9s						
LCMT	**Little Creek M**	**3.75**	**72**		Pn	17 55 16.2	-0.9
MPK	**Martis Peak**	**3.81**	**332**	Pn	Pn	17 55 16.4	-1.7
MPK				IAML		17 56 27.5	
	comp=N,59nm,1.0s						
MPK				IAML		17 56 40.9	
	comp=E,50nm,0.8s						
CCUT	**Cedar City**	**3.83**	**64**		Pn	17 55 17.3	-1.0
AFDM	**Forest Hills D**	**3.96**	**320**		Pn	17 55 18.9	-1.1
AFDM				IAML		17 56 24.9	
	comp=N,27nm,0.5s						
AFDM				IAML		17 56 27.5	
	comp=E,31nm,0.8s						
PAHR	**Pah Rah Range**	**3.98**	**341**		Pn	17 55 19.2	-1.1
PSUT	**Pine Spring**	**4.01**	**49**		Pn	17 55 18.6	-2.2
PSUT				IAML		17 56 32.2	
	comp=N,27nm,0.9s						
PSUT				IAML		17 56 37.7	
	comp=E,36nm,1.6s						
SPR3	**Spring Creek 3**	**4.06**	**40**	IAML		17 56 26.9	
SPR3	comp=N,25nm,0.6s			IAML		17 56 26.9	
	comp=E,25nm,0.7s						
KNB	**Kanab**	**4.08**	**73**	IAML		17 56 40.3	
KNB	comp=N,24nm,1.0s			IAML		17 56 50.8	
	comp=E,18nm,1.4s						
ESJX	**Sierra Juarez**	**4.20**	**159**		Pn	17 55 20.8	-2.4
ESJX				IAML		17 55 54.9	
	comp=N,42nm,0.1s						
Y14A	**Wickenburg**	**4.35**	**116**		Pn	17 55 22.8	-2.4
Y14A				IAML		17 56 43.2	
	comp=N,26nm,1.0s						
Y14A				IAML		17 56 47.3	
	comp=E,23nm,1.0s						
U15A	**North Rim**	**4.40**	**82**		Pn	17 55 24.1	-2.2
U15A				IAML		17 56 40.8	
	comp=E,24nm,1.0s						
U15A				IAML		17 56 45.9	
	comp=N,17nm,1.1s						
BEKR	**Beckworth**	**4.44**	**333**	IAML		17 56 55.8	
	comp=E,28nm,0.7s						
WUAZ	**Wupatki**	**5.17**	**93**		Pn	17 55 33.8	-2.8
WUAZ				IAML		17 57 03.6	
	comp=E,23nm,1.9s						
X16A	**Lo Mia Camp, P**	**5.35**	**105**	IAML		17 59 03.6	
	comp=N,14nm,0.1s						
X16A				IAML		17 59 04.2	
	comp=E,13nm,0.1s						
X18A	**Snowflake**	**6.50**	**100**		Pn	17 55 51.6	-3.4

IDC ***20*** *17:56:48.8±1.2,23˚38N×143˚01E, h0km, mb3.7/7, mbtmp3.6/9, ML2.7/1, Error ellipse: s-maj=47.5km s-min=21.8km az=89.0*

ISC 20 17:56:56.8±1.7, 23˚38N±0˚2×142˚9E±0˚3, h39km, n9, σ0s65/8, mb3.8/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.39**	**349**	Pn	**Pn**	**17 57 47.1**	**-0.1**
	23nm,0.6s						
JCJ				Sn	**Sn**	**17 58 26.9**	**+0.8**
MJAR	**Matsushiro Arr**	**13.37**	**343**	Pn	**Pn**	**18 00 03.0**	**-1.0**
	baz=163,slow=10,SNR=5.2						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.24**	**192**	P	P	18 04 56.3	-6.2
	0.4nm,0.7s,baz=7.1,slow=7.7,SNR=1.5						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**47.95**	**191**	P	P	18 05 26.5	-5.2
	0.4nm,0.8s,baz=14,slow=6.3,SNR=2.4						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**53.15**	**312**	P	**P**	**18 06 10.6**	**-0.2**
	0.2nm,0.5s,baz=87,slow=9.8,SNR=1.7						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**60.32**	**28**	P	**P**	**18 07 01.4**	**0.0**
	0.3nm,0.4s,baz=257,slow=3.9,SNR=8.1						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**60.97**	**319**	P	**P**	**18 07 06.6**	**+0.6**
	1.4nm,0.6s,baz=93,slow=7.3,SNR=8.5						
	1.4nm,0.6s						
ARCES	**ARCESS Array B**	**76.90**	**341**	P	**P**	**18 08 44.9**	**+0.2**
	0.8nm,0.7s,baz=51,slow=9.6,SNR=3.7						
	0.8nm,0.7s						
FINES	**FINESS Array B**	**81.23**	**334**	P	**P**	**18 09 08.4**	**0.0**
	1.3nm,1.0s,baz=62,slow=5.6,SNR=3.6						
	1.3nm,1.0s						

GEN ***20*** *18:00:47.7,45˚42N×6˚64E, h5km±2km, Ml1.2*
ROM ***20*** *18:00:47.5±0.3,45˚404N±0˚009×6˚61E±0˚02, h6km±2km, ML1.2/12, Error ellipse: s-maj=1.4km s-min=0.5km az=285.0*
LDG ***20*** *18:00:48.1±0.1,45˚42N×6˚61E, h2km, Md1.8/4, Ml1.8/7, Error ellipse: s-maj=1.1km s-min=0.9km az=95.0*

STR 20 18:00:48.3±0.3, 45˚N±2˚×±˚, h5km, MLv1.5/6, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPG	**La Plagne**	**0.13**	**49**	*e*Pg	Pg	18 00 51.1	+0.1
LPG				*e*Sg	Sg	18 00 52.8	-0.1
	38nm,0.2s						
LPL	**La Plagne**	**0.13**	**39**	*e*Pg	Pg	18 00 51.1	0.0
LPL				*e*Sg	Sg	18 00 52.6	-0.3
	34nm,0.2s						
RSL	**Roselend**	**0.27**	**2**	P	Pg	18 00 53.8	+0.1
RSL				S	Sg	18 00 57.0	-0.3
RSL	**Roselend**	**0.27**	**2**	Pg	Pg	18 00 53.7	0.0
RSL				Sg	Sg	18 00 57.2	-0.1
BNI	**Bardonecchia**	**0.36**	**173**	P	Pg	18 00 55.4	0.0
BNI				S	Sg	18 01 00.3	+0.2
BNI	**Bardonecchia**	**0.36**	**173**	P	Pg	18 00 55.2	-0.2
BNI				S	Sg	18 01 00.7	+0.5
BNI				AML	AML		
	comp=N,31μm,0.1s						
BNI				AML	AML		
	comp=E,34μm,0.5s						
MRGE	**Morge**	**0.47**	**41**	P	Pg	18 00 57.4	-0.1
MRGE				S	Sg	18 01 03.5	-0.1
MRGE	**Morge**	**0.47**	**41**	P	Pg	18 00 57.4	-0.1
MRGE				S	Sg	18 01 04.8	+1.2
MRGE				AML	AML		
	comp=N,31μm,0.4s						
MRGE				AML	AML		
	comp=N,31μm,1.6s						
MRGE				AML	AML		
	comp=E,21μm,0.4s						
RRL	**Rocca Remolon**	**0.51**	**166**	P	Pg	18 00 58.3	+0.2
RRL				S	Sg	18 01 05.7	+1.0
RRL	**Rocca Remolon**	**0.51**	**166**	P	Pg	18 00 58.3	+0.2
RRL				S	Sg	18 01 05.3	+0.6
RRL				AML	AML		
	comp=E,36μm,1.0s						
RRL				AML	AML		
	comp=N,40μm,0.3s						
RRL	**Rocca Remolon**	**0.51**	**166**	Pg	Pg	18 00 58.2	+0.2
RRL				Sg	Sg	18 01 05.4	+0.6
RSP	**Reno Superiore**	**0.53**	**120**	P	Pg	18 00 58.6	+0.1
RSP				S	Sg	18 01 05.5	+0.1
RSP	**Reno Superiore**	**0.53**	**120**	P	Pg	18 00 58.5	0.0
RSP				S	Sg	18 01 05.7	+0.3
RSP				AML	AML		
	comp=E,56μm,0.4s						
RSP				AML	AML		
	comp=N,34μm,0.7s						
RSP				AML	AML		
	comp=N,34μm,0.7s						
RSP				AML	AML		
	comp=E,56μm,1.6s						
RSP				AML	AML		
	comp=N,34μm,1.3s						
RSP	**Reno Superiore**	**0.53**	**120**	Pg	Pg	18 00 58.5	0.0
RSP				Sg	Sg	18 01 05.3	-0.1
REMY	**Saint-Rhmy-en**	**0.57**	**42**	P	Pg	18 00 59.5	+0.2
REMY	**Saint-Rhmy-en**	**0.57**	**42**	Pg	Pg	18 00 59.1	-0.2
REMY				Sg	Sg	18 01 07.1	+0.4
OGSM	**Saint Maurice**	**0.67**	**287**	Pg	Pg	18 01 01.2	0.0
OGSM				Sg	Sg	18 01 10.3	+0.4
OGMY	**Moye**	**0.69**	**313**	Pg	Pg	18 01 01.4	-0.1
OGMY				Sg	Sg	18 01 10.9	+0.4
MBDF	**Montbardon**	**0.70**	**171**	*e*Pg	Pg	18 01 02.1	+0.5
MBDF				*e*Sg	Sg	18 01 11.1	+0.4
	comp=N,5.6nm,0.2s						
CIRO	**Champorcher**	**0.70**	**74**	P	Pg	18 01 01.6	-0.1
CIRO				S	Sg	18 01 10.3	-0.5
CIRO	**Champorcher**	**0.70**	**74**	P	Pg	18 01 01.7	0.0
CIRO	**Champorcher**	**0.70**	**74**	Pg	Pg	18 01 01.5	-0.2
CIRO				Sg	Sg	18 01 10.5	-0.3
ORIF	**Oris-en-Rattie**	**0.72**	**227**	*e*Pg	Pg	18 01 01.5	-0.5
ORIF				*e*Sg	Sg	18 01 10.8	-0.6
	comp=N,8.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.72**	**227**	P	Pg	18 01 01.6	-0.4
ORIF				S	Sg	18 01 11.3	-0.1
ORIF				AML	AML		
	comp=E,13μm,1.6s						
ORIF				AML	AML		
	comp=N,14μm,1.0s						
ORIF				AML	AML		
	comp=E,13μm,0.4s						
ORIF	**Oris-en-Rattie**	**0.72**	**227**	Pg	Pg	18 01 01.6	-0.4
ORIF				Sg	Sg	18 01 11.1	-0.3
BHB	**Bricherasio**	**0.73**	**141**	P	Pg	18 01 02.6	+0.2
BHB	**Bricherasio**	**0.73**	**141**	P	Pg	18 01 02.5	+0.2
BHB	**Bricherasio**	**0.73**	**141**	Pg	Pg	18 01 02.5	+0.1
BHB		

AVF				*e*Sg	Sb	18 02 09.9	+0.8	
LOR	**Lormes**	**2.66**	**315**	*e*Pn	Pn	18 01 30.7	-1.1	
LOR	**Lormes**	**2.66**	**315**	*e*Pg	Pb	18 01 36.6	+0.2	
LOR				*e*Sg	Sb	18 02 10.8	+1.4	
	comp=E,0.5nm,0.2s							

*NEIC **20** 18:14:55.6±0.7,33°.312N±0°.008×116°.269W±0°.010, h10km±1km, Error ellipse: s-maj=2.8km s-min=1.3km az=191.0*

PAS 20 18:14:56.0±0.7,33°.311N±0°.008×116°.255W±0°.010, h12km±3km, ML3.1/237**, ML3.1**/54(NEIC)**, Error ellipse: s-maj=1.2km s-min=1.2km az=85.0, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLH	**Sleepy Hollow**	**0.12**	**180**		Pg	18 14 59.1	+0.1
SLH					Sg	18 15 01.7	+0.5
BORC	**Borrego Spring**	**0.14**	**252**		Pg	18 14 59.3	-0.1
BORC				Sg	Sg	18 15 01.6	-0.2
BORC				IAML		18 15 01.8	
	comp=N,4μm,0.2s						
BORC				IAML		18 15 01.9	
	comp=E,5μm,0.1s						
SALN	**Salton City**	**0.23**	**98**		Pg	18 15 00.8	+0.1
SALN				Sg	Sg	18 15 04.3	+0.3
XPFO	**Pinon Flat**	**0.34**	**331**		Pg	18 15 02.5	-0.5
XPFO					Sg	18 15 06.9	-0.6
FRD	**Ford Ranch, An**	**0.34**	**302**		Pg	18 15 02.8	-0.2
FRD					Sg	18 15 07.5	-0.1
FRD	**Ford Ranch, An**	**0.34**	**302**		Pg	18 15 02.8	-0.2
FRD					Sg	18 15 07.6	0.0
PFO	**Pinyon Flats O**	**0.34**	**330**		Pg	18 15 02.2	-0.8
PFO				Sg	Sg	18 15 06.7	-1.0
PFO				IAML		18 15 07.5	
	comp=E,1μm,0.6s						
PFO	**Pinyon Flats O**	**0.34**	**330**		Pg	18 15 02.5	-0.5
PFO					Sg	18 15 07.2	-0.4
MATG	**Mataguay Scout**	**0.35**	**251**		Pg	18 15 02.8	-0.1
MATG					Sg	18 15 07.8	+0.1
PMD	**Palm Desert**	**0.35**	**343**		Pg	18 15 02.2	-0.8
PMD				Sg	Sg	18 15 06.7	-1.0
PMD				IAML		18 15 07.4	
	comp=E,3μm,0.2s						
PMD				IAML		18 15 07.5	
	comp=N,1μm,0.1s						
JUEM	**Julian Eagle M**	**0.37**	**231**		Pg	18 15 03.3	-0.1
JUEM					Sg	18 15 08.5	+0.2
SNDA	**J Saunders Pla**	**0.38**	**309**		Pg	18 15 03.5	-0.1
SNDA					Sg	18 15 09.1	+0.2
BZNA	**Buzz No.'s Pla**	**0.39**	**298**		Pg	18 15 03.6	-0.1
BZNA					Sg	18 15 08.9	-0.1
CTCC	**Cactus City**	**0.41**	**33**		Pg	18 15 03.9	-0.2
CTCC					Sg	18 15 09.7	+0.1
ERRC	**Elmore Ranch**	**0.41**	**118**		Pg	18 15 04.6	+0.5
ERRC					Sb	18 15 11.4	0.0
5271	**Bombay Beach**	**0.44**	**84**		Pg	18 15 04.7	+0.1
MONP2	**Monument Peak**	**0.44**	**199**		Pg	18 15 04.5	-0.2
MONP2					Sg	18 15 10.6	-0.1
BOMB	**Bombay Beach**	**0.44**	**83**		Pg	18 15 04.8	+0.1
BOMB					Sg	18 15 11.4	+0.8
CRY	**Cary Ranch**	**0.48**	**302**		Pg	18 15 05.2	-0.2
CRY					Sg	18 15 11.6	-0.2
CTW	**Cottonwood Mou**	**0.48**	**41**		Pg	18 15 05.1	-0.4
CTW					Sg	18 15 11.9	-0.1
CRR	**Carrizo Plain**	**0.49**	**150**		Pg	18 15 05.3	-0.2
CRR					Sg	18 15 12.4	+0.5
GVDA	**Garner Valley**	**0.50**	**316**		Pg	18 15 05.3	-0.5
GVDA					Sg	18 15 11.9	-0.5
SUP	**Superstition M**	**0.51**	**134**		Pg	18 15 05.7	-0.2
PLM	**Palomar**	**0.51**	**275**		Pg	18 15 05.8	-0.2
PLM					Sg	18 15 12.9	+0.1
SWSC	**Sam W. Stewart**	**0.53**	**134**		Pg	18 15 06.0	-0.3
SWSC					Sg	18 15 13.4	+0.1
CLI2	**Calipatria 2**	**0.60**	**108**		Sg	18 15 13.0	-2.4
HAY	**Hayfield**	**0.62**	**50**		Pg	18 15 07.9	-0.1
HAY					Sg	18 15 16.7	+0.5
WEMD	**Westmorland, C**	**0.63**	**116**		Sb	18 15 18.3	+0.7
COK2	**Cook Ranch 2**	**0.64**	**136**		Pg	18 15 08.4	0.0
COK2					Sb	18 15 18.0	+0.1
EW2	**E Wide Canyon**	**0.64**	**349**		Pg	18 15 07.9	-0.5
EW2					Sg	18 15 16.7	-0.2
EML	**El Monte Cty P**	**0.65**	**230**		Pg	18 15 07.9	-0.7
EML					Sg	18 15 16.5	-0.7
DPP	**Dos Picos Cty**	**0.66**	**242**		Pg	18 15 08.0	-0.7
DPP				IAML		18 15 17.2	
	comp=E,1μm,0.1s						
DPP				IAML		18 15 19.0	
	comp=N,1μm,0.2s						
DPP	**Dos Picos Cty**	**0.66**	**242**		Sg	18 15 16.5	-0.8
IKP	**In-Ko-Pah, Jac**	**0.67**	**169**		Pg	18 15 08.5	-0.5
IKP					Sg	18 15 17.5	-0.3
POB	**Polly Butte**	**0.67**	**304**		Pg	18 15 08.4	-0.6
POB					Sg	18 15 17.0	-0.9
DEVC	**Devers**	**0.68**	**337**		Pg	18 15 08.3	-0.8
DEVC					Sg	18 15 17.9	-0.2
WESC	**Westside Schoo**	**0.70**	**141**		Sb	18 15 20.1	+0.3
IMPE	**Imperial**	**0.71**	**125**		Pb	18 15 10.7	+0.4
IMPE					Sb	18 15 21.1	+1.1
DGR	**Domenigoni Val**	**0.71**	**298**		Pg	18 15 09.1	-0.7
DGR					Sg	18 15 18.3	-0.9
YUH	**Yuha Desert**	**0.72**	**157**		Pg	18 15 08.8	-1.1
YUH				Sg	Sg	18 15 18.4	-0.9
YUH				IAML		18 15 19.9	
	comp=N,434nm,0.1s						
YUH				IAML		18 15 19.9	
	comp=E,673nm,0.2s						
BAR	**Barrett**	**0.72**	**209**		Pg	18 15 09.2	-0.7
BAR					Sg	18 15 18.5	-0.8
BAR	**Barrett**	**0.72**	**209**	IAML		18 15 19.3	
	comp=N,2μm,0.2s						
BACC	**Bachelor Mtn.**	**0.72**	**295**		Pg	18 15 09.2	-0.7
BACC					Sg	18 15 18.4	-1.0
RMX	**La Rumorosa**	**0.72**	**168**		Pg	18 15 10.2	+0.2
RMX					Sb	18 15 20.6	0.0
HMTC	**Hemet**	**0.74**	**303**		Pg	18 15 09.5	-0.9
HMTC					Sg	18 15 19.1	-0.9
BC3	**Big Chuckawall**	**0.75**	**63**		Pg	18 15 09.7	-0.9
BC3					Sg	18 15 19.5	-0.9
BLAC	**Blackrock camp**	**0.76**	**352**		Pg	18 15 10.0	-0.8
BLAC					Sg	18 15 20.3	-0.5
SGL	**Mount Signal**	**0.80**	**146**		Pg	18 15 09.8	-1.5
SGL					Sg	18 15 20.5	-1.3
TKX	**Tecate**	**0.80**	**202**		Pg	18 15 10.2	-1.2
TKX				IAML		18 15 21.4	
	comp=E,1μm,0.3s						
TKX				IAML		18 15 22.6	
	comp=N,1μm,0.2s						
TKX	**Tecate**	**0.80**	**202**		Sg	18 15 20.7	-1.1
SLVP	**Salvation Pass**	**0.80**	**95**		Pg	18 15 09.7	-1.7
TPC	**Twentynine Pal**	**0.81**	**12**		Pg	18 15 10.8	-0.9
SDRC	**San Diego Road**	**0.81**	**225**		Pg	18 15 10.7	-1.0
SDRC					Sg	18 15 21.1	-1.2
DUZA	**Dulzura**	**0.83**	**212**		Pg	18 15 11.0	-1.0
DUZA					Sg	18 15 21.9	-0.9
CPE	**Camp Elliot**	**0.83**	**240**		Pg	18 15 10.9	-1.0
CPE					Sg	18 15 21.6	-1.2
GORC	**Green Oak Ranc**	**0.83**	**259**		Pg	18 15 11.0	-1.1
GORC					Sg	18 15 21.8	-1.1
MTRP	**Mission Trails**	**0.83**	**234**		Pg	18 15 11.0	-1.0
MTRP					Sg	18 15 21.7	-1.2
MURC	**Murrieta**	**0.84**	**290**		Pg	18 15 11.2	-0.9
MURC					Sg	18 15 22.6	-0.5
DREC	**Desert Rsrch C**	**0.85**	**126**		Pb	18 15 13.1	+0.5
BBSC	**Beaumont Base**	**0.86**	**315**		Pg	18 15 11.6	-1.0
BBSC					Sg	18 15 23.5	-0.3
OLP	**Otay Lakes Par**	**0.90**	**219**		Pg	18 15 12.0	-1.4
OLP					Sg	18 15 23.7	-1.4
5053	**Calexico**	**0.91**	**135**		Sg	18 15 24.8	-0.4
SDMC	**San Diego Miss**	**0.91**	**235**		Pg	18 15 12.4	-1.1
SDMC					Sg	18 15 24.3	-1.1
PEC	**Perris**	**0.95**	**308**		Pg	18 15 13.2	-1.1
PEC					Sg	18 15 25.7	-1.1
ELS	**Elsinore Mount**	**1.03**	**289**		Pb	18 15 14.3	-1.6
TJX	**Tijuana**	**1.04**	**220**		Pb	18 15 14.9	-1.1
TJX				IAML		18 15 29.5	
	comp=E,874nm,0.6s						
COA	**Coachella**	**1.05**	**115**		Pb	18 15 14.2	-1.9
CBX	**Cerro Bola**	**1.05**	**199**		Pb	18 15 14.6	-1.6
SVD	**Seven Oaks Dam**	**1.06**	**319**		Pb	18 15 15.6	-0.7
BBRC	**Big Bear Solar**	**1.10**	**330**		Pb	18 15 16.4	-0.7
RVR	**Riverside**	**1.16**	**306**		Pb	18 15 17.0	-0.9
CPBX	**Cerro Prieto**	**1.20**	**138**		Pn	18 15 16.8	-1.7
GLA	**Glamis**	**1.23**	**102**		Pn	18 15 16.2	-2.8
GLA				IAML		18 15 45.0	
	comp=E,246nm,0.7s						
ESJX	**Sierra Juarez**	**1.33**	**169**		Pn	18 15 18.4	-2.1
ESJX				IAML		18 15 39.0	
	comp=E,263nm,0.2s						
ESJX				IAML		18 15 39.3	
	comp=N,166nm,0.1s						
CCX	**Cicese**	**1.48**	**194**		Pn	18 15 21.0	-1.4
CCX				IAML		18 15 42.0	
	comp=N,307nm,0.5s						
CCX				IAML		18 15 43.9	
	comp=E,252nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.49**	**309**		Pn	18 15 20.9	-1.8
BLYC	**Blythe**	**1.51**	**73**		Pn	18 15 20.4	-2.5
MWC	**Mount Wilson**	**1.76**	**302**		Pn	18 15 26.0	-0.5
MWC				IAML		18 15 51.1	
	comp=E,193nm,0.4s						
MWC				IAML		18 15 54.0	
	comp=N,160nm,0.7s						
PASC	**Pasadena Art C**	**1.82**	**299**		Pn	18 15 26.9	-0.3
VTX	**Valle De La Tr**	**1.96**	**168**		Pn	18 15 27.7	-1.4
NEE2	**Needles Airpor**	**1.99**	**43**		Pn	18 15 30.6	+1.1
GSC	**Goldstone, Bar**	**2.04**	**347**		Pn	18 15 31.1	+0.8
GSC				IAML		18 16 03.4	
	comp=N,82nm,0.7s						
GSC				IAML		18 16 05.3	
	comp=E,96nm,1.0s						
113A	**Mohawk Valley,**	**2.16**	**104**		Pn	18 15 31.2	-0.6
MTPC	**Mountain Pass**	**2.25**	**15**		Pn	18 15 34.4	+1.2
TPO	**Tropico Hills**	**2.26**	**314**		Pn	18 15 31.2	-2.1
OSI	**Osito Audit: C**	**2.43**	**303**		Pn	18 15 31.8	-3.8
OSI				IAML		18 16 19.5	
	comp=N,51nm,0.8s						
LRMC	**Laurel Mtn Rad**	**2.46**	**332**		Pn	18 15 33.7	-2.4
SFX	**San Felipe**	**2.56**	**152**	Pn	Pn	18 15 36.5	-0.8
W13A	**Hualapai Mount**	**2.65**	**47**		Pn	18 15 37.1	-1.7
QSM	**Queen of Sheba**	**2.69**	**349**		Pn	18 15 38.6	-0.6
CLC	**China Lake**	**2.73**	**336**		Pn	18 15 38.1	-1.6
Y14A	**Wickenburg**	**2.78**	**76**	Pn	Pn	18 15 38.8	-1.7
GWY	**Greenwater Val**	**2.89**	**353**		Pn	18 15 41.0	-1.0
MPMC	**Manual Prospec**	**2.92**	**340**		Pn	18 15 42.4	-0.1
214A	**Organ Pipe Nat**	**3.20**	**114**	Pn	Pn	18 15 45.2	-1.0
SHPR	**Sheep Range**	**3.31**	**15**		Pn	18 15 47.9	0.0
WCT	**Wildcat Mounta**	**3.49**	**355**		Pn	18 15 48.5	-1.7
TPNV	**Topopah Spring**	**3.63**	**0**		Pn	18 15 51.0	-1.1
TPNV				IAML		18 16 55.3	
	comp=N,18nm,0.5s						
GRAC	**Grapevine Rang**	**3.79**	**346**		Pn	18 15 51.9	-2.4
GRAC				IAML		18 17 07.9	
	comp=N,33nm,0.1s						
GMN	**Gold Mountain**	**4.06**	**349**		Pn	18 15 57.2	-1.1
X16A	**Lo Mia Camp, P**	**4.16**	**73**		Pn	18 15 57.9	-1.5
PRN	**Pahroc Range**	**4.20**	**13**		Pn	18 15 59.4	-0.6
DSP	**Deep Springs**	**4.29**	**341**		Pn	18 16 00.6	-0.4
S11A	**Rachel**	**4.34**	**5**		Pn	18 16 00.8	-1.1
LCMT	**Little Creek M**	**4.44**	**33**	Pn	Pn	18 16 02.8	-0.5
MZP	**Montezuma Peak**	**4.47**	**348**		Pn	18 16 03.4	-0.5
U15A	**North Rim**	**4.50**	**45**		Pn	18 16 03.2	-1.1
KNB	**Kanab**	**4.64**	**36**		Pn	18 16 03.9	-2.2
SZCU	**Shurtz Canyon**	**5.00**	**30**	Pn	Pn	18 16 14.4	-0.6
R11B	**Troy Canyon, C**	**5.06**	**6**		Pn	18 16 09.3	-2.5
X18A	**Snowflake**	**5.38**	**75**	Pn	Pn	18 16 15.6	-0.7
PSUT	**Pine Spring**	**5.56**	**20**	Pn	Pn	18 16 17.5	-1.3

*JMA **20** 18:18:00.1±0.2,24°.N±1°.×122°.5E±0°.6, h29km, MV2.5/11, NW OFF ISHIGAKIJIMA IS*

*TAP **20** 18:18:00.0,23°.95N×122°.51E, h26km, ML3.2, C*

ISC 20 18:17:59.8±0.9,23°.96N±0°.02×122°.51E±0°.02, h29km±8km, n135, s081/243, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.24**	**313**	P	**Pb**	**18 18 06.1**	**+0.1**
EOS4				S	**Sb**	**18 18 10.3**	**+0.1**
EOS3	**EOS3**	**0.37**	**332**	*i* P	**Pb**	**18 18 08.1**	**+0.1**
EOS3				S	**Sn**	**18 18 14.0**	**-1.2**
EOS2	**EOS2**	**0.52**	**331**	P	**Pn**	**18 18 10.8**	**-0.4**
EOS2				*i* S	**Sn**	**18 18 18.9**	**-0.1**
JYNG	**Yonagunijimaku**	**0.63**	**39**	*e*P	**Pb**	**18 18 11.8**	**-0.6**
JYNG				*e*S	**Sb**	**18 18 19.6**	**-1.4**
YOJ	**Yonaguni jima**	**0.68**	**42**	*e*P	**Pb**	**18 18 12.7**	**-0.5**
YOJ				*e*S	**Sb**	**18 18 20.8**	**-1.5**
YOJ	**Yonaguni jima**	**0.68**	**42**	P	**Pb**	**18 18 12.7**	**-0.5**
YOJ				*e*S	**Sb**	**18 18 21.5**	**-0.8**
EHP	**Heping Village**	**0.78**	**297**	*e*P	**Pb**	**18 18 14.8**	**-0.1**
EAHA	**Aohua**	**0.79**	**298**	*e*P	**Pn**	**18 18 15.2**	**+0.2**
EAHA				S	**Sn**	**18 18 25.7**	**-0.1**
EWUT	**Wuta**	**0.82**	**306**	*i* P	**Pb**	**18 18 15.2**	**-0.4**
EWUT				*e*S	**Sn**	**18 18 27.0**	**+0.4**
HWA	**Hwalien**	**0.82**	**271**	P	**Pn**	**18 18 15.1**	**+0.2**
HWA				S	**Sn**	**18 18 26.8**	**+0.2**
ETL	**Fush Village**	**0.83**	**284**	P	**Pn**	**18 18 16.0**	**+0.4**
ETL				*i* S	**Sn**	**18 18 27.1**	**+0.2**
TEYL	**Yanliau Villag**	**0.84**	**264**	P	**Pb**	**18 18 15.0**	**-0.8**
TEYL				*e*S	**Sn**	**18 18 28.3**	**+1.3**
ENA	**Nanau**	**0.84**	**304**	*e*P	**Pb**	**18 18 15.5**	**-0.4**
ENA				S	**Sb**	**18 18 26.4**	**-0.5**
TWD	**Chiawan**	**0.84**	**278**	P	**Pb**	**18 18 15.2**	**-0.6**
TWD				*e*S	**Sb**	**18 18 26.5**	**-0.3**
NACB	**Ninganchiao**	**0.86**	**285**	*e*P	**Pn**	**18 18 15.6**	**-0.3**
NACB				*e*S	**Sn**	**18 18 27.6**	**+0.1**
ESAO	**Su ao**	**0.86**	**316**	*e*P	**Pb**	**18 18 15.7**	**-0.6**
ESAO				S	**Sn**	**18 18 27.7**	**+0.1**
SHUL	**Shoufeng**	**0.88**	**259**	P	**Pn**	**18 18 16.0**	**-0.2**
SHUL				*e*S	**Sn**	**18 18 28.7**	**+0.7**
TWC	**Suao**	**0.88**	**317**	*i* P	**Pn**	**18 18 15.8**	**-0.5**
TWC				*e*S	**Sb**	**18 18 26.7**	**-1.3**
TEGC	**Jichi Village**	**0.92**	**255**	*e*P	**Pb**	**18 18 17.8**	**+0.6**
ETM	**Tongmen**	**0.93**	**271**	*e*P	**Pn**	**18 18 17.1**	**+0.3**
ETM				*e*S	**Sb**	**18 18 29.1**	**-0.2**
ETLH	**Xiulin Townshi**	**0.97**	**285**	*e*P	**Pn**	**18 18 17.4**	**-0.2**
ETLH				S	**Sb**	**18 18 30.3**	**-0.3**
NDS	**Dongshan**	**0.99**	**313**	*e*P	**Pn**	**18 18 17.4**	**-0.3**
NDS				*e*S	**Sb**	**18 18 30.0**	**-0.9**
ESL	**Shilin**	**0.99**	**262**	*e*P	**Pn**	**18 18 17.4**	**-0.4**
ESL				*e*S	**Sn**	**18 18 30.3**	**-0.5**
LXIB	**Xiulin Townshi**	**1.00**	**274**	P	**Pn**	**18 18 18.0**	**-0.1**
LXIB				S	**Sb**	**18 18 30.9**	**-0.7**
EGS		**1.03**	**329**	*e*P	**Pb**	**18 18 18.9**	**-0.1**
EGFH	**Guangfu**	**1.03**	**254**	P	**Pn**	**18 18 18.5**	**+0.2**
EGFH				*e*S	**Sn**	**18 18 32.1**	**+0.4**
WARBT	**Fenglin Townsh**	**1.05**	**257**	*e*P	**Pn**	**18 18 19.1**	**+0.5**
WARBT				*e*S	**Sn**	**18 18 32.6**	**+0.3**
ILA	**Ilan**	**1.06**	**319**	*e*P	**Pb**	**18 18 19.4**	**-0.1**
LATG	**Datong**	**1.06**	**303**	*e*P	**Pb**	**18 18 19.2**	**-0.5**
LATG				S	**Sn**	**18 18 32.7**	**0.0**
TWE	**Neicheng**	**1.08**	**315**	P	**Pb**	**18 18 19.5**	**-0.4**
TWE				*e*S	**Sb**	**18 18 34.1**	**+0.5**
NTC	**Toucheng**	**1.08**	**325**	*i* P	**Pb**	**18 18 19.5**	**-0.5**
ENTT	**Nioudou**	**1.09**	**309**	*e*P	**Pb**	**18 18 19.7**	**-0.5**
HGSD	**Ruisui**	**1.10**	**245**	*e*P	**Pn**	**18 18 19.1**	**-0.1**
HGSD				*e*S	**Sn**	**18 18 32.1**	**-1.2**
NNSB	**Datong**	**1.13**	**295**	*e*P	**Pn**	**18 18 20.2**	**+0.4**
NNSB				S	**Sb**	**18 18 34.9**	**-0.2**
NNS	**Nan Shan**	**1.14**	**295**	*e*P	**Pn**	**18 18 20.3**	**+0.4**
NNS				S	**Sn**	**18 18 34.5**	**-0.1**
TWB1	**Santiao Chiao**	**1.15**	**336**	*e*P	**Pb**	**18 18 21.7**	**+0.7**
TWB1				S	**Sb**	**18 18 35.0**	**-0.6**
WHF	**Hehuan Shan**	**1.15**	**280**	*e*P	**Pn**	**18 18 20.9**	**+0.5**
WHF				*e*S	**Sb**	**18 18 35.9**	**-0.2**
FUSB	**Fushanzhiwuyua**	**1.16**	**314**	*e*P	**Pb**	**18 18 21.0**	**-0.3**
FUSB				*e*S	**Sb**	**18 18 36.8**	**+0.9**
ECBN	**Changbin**	**1.16**	**237**	*e*P	**Pn**	**18 18 21.3**	**+0.2**
ECBN				*e*S	**Sn**	**18 18 34.6**	**-0.3**
EHYH	**Wanrong**	**1.16**	**247**	*e*P	**Pb**	**18 18 21.0**	**-0.2**
EHYH				S	**Sn**	**18 18 35.3**	**+0.3**
EHY	**Hungye**	**1.18**	**248**	P	**Pn**	**18 18 20.4**	**+0.2**
EHY				*e*S	**Sn**	**18 18 35.7**	**+0.4**
IRIF	**Iriomote-Funau**	**1.18**	**71**	*e*P	**Pn**	**18 18 21.1**	**+0.8**
TIPB	**Shuangxi**	**1.18**	**329**	*i* P	**Pb**	**18 18 21.4**	**-0.2**
TIPB				*e*S	**Sb**	**18 18 36.3**	**-0.3**
FUSS	**Fushou**	**1.19**	**284**	P	**Pb**	**18 18 21.4**	**-0.5**
FUSS				*e*S	**Sb**	**18 18 36.5**	**-0.6**
HATJ	**Hateruma jima**	**1.19**	**85**	*e*P	**Pn**	**18 18 21.6**	**+1.1**
OWD	**Renai**	**1.22**	**270**	*e*P	**Pn**	**18 18 21.4**	**+0.4**
OWD				*i* S	**Sn**	**18 18 36.5**	**-0.1**
NWLT	**Wulai**	**1.23**	**312**	P	**Pb**	**18 18 21.7**	**-0.7**
NWLT				*e*S	**Sb**	**18 18 38.9**	**+1.1**
YULB	**Yu-li**	**1.24**	**243**	*i* P	**Pn**	**18 18 21.6**	**+0.3**
YULB				S	**Sn**	**18 18 37.3**	**+0.2**
TWT	**Tachien**	**1.25**	**284**	P	**Pb**	**18 18 22.6**	**-0.3**
TWT				*e*S	**Sb**	**18 18 39.0**	**+0.3**
YHNB	**Yeheng**	**1.25**	**305**	*e*P	**Pb**	**18 18 22.2**	**-0.6**
YHNB				S	**Sn**	**18 18 37.4**	**+0.1**
TWF1	**Yuli**	**1.26**	**242**	P	**Pn**	**18 18 21.9**	**+0.4**
TWF1				*e*S	**Sn**	**18 18 37.9**	**+0.4**
TDCB	**Techi**	**1.27**	**284**	P	**Pn**	**18 18 22.1**	**+0.5**
TDCB				*e*S	**Sn**	**18 18 37.5**	**-0.2**
VWDT	**VWDT**	**1.27**	**261**	*e*P	**Pb**	**18 18 22.5**	**-0.5**
VWDT				S	**Sb**	**18 18 38.5**	**-0.5**
NSK	**Sanguang**	**1.27**	**305**	*e*P	**Pn**	**18 18 22.3**	**+0.7**
NSK				*e*S	**Sn**	**18 18 37.4**	**-0.3**
SXI1	**Grass Mountain**	**1.27**	**333**	*e*P	**Pn**	**18 18 21.9**	**+0.3**
SXI1				S	**Sb**	**18 18 38.3**	**-0.8**
WUSB	**Renai**	**1.27**	**272**	*e*P	**Pn**	**18 18 22.4**	**+0.7**
WUSB				*e*S	**Sb**	**18 18 38.9**	**-0.3**
CHKH	**Chenggong**	**1.27**	**233**	*e*P	**Pn**	**18 18 21.3**	**-0.3**
CHKH				*e*S	**Sn**	**18 18 36.5**	**-1.3**
NWF	**Wu-fen Shan**	**1.29**	**329**	*e*P	**Pb**	**18 18 22.6**	**-0.9**
NWF				S	**Sb**	**18 18 38.6**	**-1.1**
WFSB	**Wu-fen Shan**	**1.29**	**329**	*e*P	**Pb**	**18 18 23.0**	**-0.5**
TWA	**Mucha**	**1.32**	**321**	*e*P	**Pb**	**18 18 23.9**	**-0.1**
TWA				S	**Sb**	**18 18 40.3**	**-0.2**
NHDH	**Xindian Distri**	**1.34**	**318**	P	**Pn**	**18 18 22.4**	**-0.2**
NHDH				S	**Sn**	**18 18 39.7**	**+0.3**
FULB	**Fuli**	**1.35**	**236**	*e*P	**Pn**	**18 18 22.4**	**-0.2**
FULB				*e*S	**Sn**	**18 18 39.2**	**-0.3**
CHKT	**Chengkung**	**1.35**	**231**	P	**Pn**	**18 18 22.5**	**-0.2**
CHKT				*e*S	**Sn**	**18 18 38.1**	**-1.5**
TNOU	**National Taiwa**	**1.36**	**331**	P	**Pn**	**18 18 23.2**	**+0.4**
TNOU				S	**Sn**	**18 18 40.0**	**+0.1**
JKRS	**Kuro-shima**	**1.40**	**78**	*e*P	**Pb**	**18 18 25.0**	**-0.3**
JKRS				*e*S	**Sn**	**18 18 42.2**	**+1.4**
TAP	**Taipei**	**1.41**	**320**	P	**Pn**	**18 18 24.2**	**+0.8**
TAP				*e*S	**Sn**	**18 18 40.5**	**-0.6**
SSLB	**Suanglung**	**1.43**	**263**	*e*P	**Pb**	**18 18 26.7**	**+0.9**
SSLB				*e*S	**Sb**	**18 18 43.3**	**-0.4**
NFF	**Wufeng Townshi**	**1.43**	**298**	*e*P	**Pb**	**18 18 25.6**	**-0.3**
NFF				S	**Sn**	**18 18 41.9**	**+0.1**
EHD	**Haiduan**	**1.44**	**236**	*i* P	**Pn**	**18 18 24.1**	**+0.1**
EHD				*e*S	**Sn**	**18 18 41.3**	**-0.6**
YM01	**YM01**	**1.46**	**324**	P	**Pb**	**18 18 25.4**	**-0.9**
YM01				*e*S	**Sb**	**18 18 44.2**	**-0.3**
ECS	**Chishang**	**1.46**	**234**	*e*P	**Pn**	**18 18 25.1**	**+0.8**
ECS				*e*S	**Sn**	**18 18 43.8**	**+1.4**
KSHI	**Guanxi Townshi**	**1.46**	**304**	*e*P	**Pb**	**18 18 26.6**	**+0.3**
KSHI				S	**Sn**	**18 18 43.0**	**+0.6**
WHP	**Taichung City**	**1.46**	**283**	*e*P	**Pb**	**18 18 26.5**	**+0.1**
WHP				*e*S	**Sb**	**18 18 44.9**	**+0.3**
WCS	**Beigang Elemen**	**1.46**	**274**	*e*P	**Pb**	**18 18 27.7**	**+1.3**
WCS				*e*S	**Sb**	**18 18 45.1**	**+0.5**
SMLT	**Sun Moon Lake**	**1.47**	**267**	*e*P	**Pb**	**18 18 27.2**	**+0.6**
SMLT				*e*S	**Sn**	**18 18 43.6**	**+0.8**
EDH	**Donghe**	**1.48**	**229**	*e*P	**Pn**	**18 18 24.1**	**-0.3**
EDH				*e*S	**Sn**	**18 18 41.5**	**-1.3**
YM08	**YM08**	**1.48**	**326**	*e*P	**Pb**	**18 18 27.8**	**+1.0**
YM08				*e*S	**Sn**	**18 18 42.4**	**-0.5**
ZUZH	**Zhuzihu**	**1.48**	**324**	*e*P	**Pb**	**18 18 26.9**	**+0.1**
ZUZH				*e*S	**Sb**	**18 18 46.0**	**+0.8**
TWS1	**Kuangyinshan**	**1.51**	**319**	P	**Pb**	**18 18 26.5**	**-0.7**
ANP	**Anpu**	**1.52**	**324**	S	**Sn**	**18 18 44.2**	**+0.3**
LIOB	**Emei**	**1.52**	**297**	*e*P	**Pb**	**18 18 27.0**	**-0.4**
LIOB				S	**Sn**	**18 18 44.6**	**+0.7**
NSTT	**Nanjuang**	**1

IDC ***20*** *18:23:54.1±0.5,29˚.38S×111˚.81W,h0km,mb4.4/14, mbtmp4.3/14,MS4.6/44,Error ellipse: s-maj=22.9km s-min=15.4km az=88.0*

NEIC ***20*** *18:23:54.3±1.5,29˚.33S±0˚.09×111˚.4W±0˚.1,h10km±1km, mb5.1/172,Error ellipse: s-maj=21.2km s-min=13.3km az=298.0*

GCMT ***20*** *18:23:59.3±0.1,29˚.34S±0˚.01×111˚.82W±0˚.01,h12km, MW5.3/147,Moment Tensor Solution. s94,c146; s147,c272; Duration: 1!0 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.06±.01; Mθθ-0.84±.01; Mϕϕ0.90±.01; Mrθ-0.22±.04; Mrϕ-0.36±.01; Mθr-0.12±.03; Best double couple: M₀0.97700×10¹⁷ NP1:ϕs125.00000°,δ76.00000°, λ-172.00000°. NP2:ϕs33.00000°,δ83.00000°, λ-14.00000°. Principal axes: T 0.9790, Plg4.0000°, Azm79.0000°; N -0.0050, Plg75.0000°, Azm185.0000°; P -0.9740, Plg15.0000°, Azm348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 18:23:54.4±0.3, 29˚25S±0˚.07×111˚64W±0˚.06, h10km, n233, σ1!73/158, mb5.1/95, MS4.8/49, 4D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**2.85**	**44**		Pn	18 24 35.0	-4.9
VA02				Sn	**Sn**	**18 25 13.6**	**-0.7**
RPN	**Rapa Nui**	**2.94**	**44**		**Pn**	**18 24 38.2**	**-2.9**
RPN				Sn	**Sn**	**18 25 16.0**	**-0.4**
H03N2	**Juan Fernandez**	**28.18**	**107**	T	T	18 59 24.5	
	baz=274,slow=74,SNR=816						
H03N3	**Juan Fernandez**	**28.18**	**107**	T	T	18 59 25.8	
	baz=274,slow=74,SNR=820						
H03N1	**Juan Fernandez**	**28.19**	**107**	T	T	18 59 25.6	
	baz=274,slow=74,SNR=941						
TAOE	**Nuku Hiva Isla**	**33.57**	**301**	*e*P	**P**	**18 30 35.1**	**+0.2**
	206nm,26.8s						
TAOE				*e*SS	SS	18 38 22.3	0.0
	671nm,38.4s						
TAOE				*e*LR	LR	18 39 29.3	
	3μm,24.7s						
TBI	**Tubuai**	**34.31**	**271**	*e*P	P	18 30 47.9	+6.8
	399nm,27.2s						
TBI				*e*S	**S**	**18 36 06.5**	**-2.1**
	1μm,29.8s						
TBI				*e*SS	**SnSn**	**18 38 24.5**	**+6.7**
	6μm,27.0s						
TBI				*e*LR	LR	18 39 37.8	
	4μm,25.8s						
TBI				*e*LR	LR	18 39 47.3	
	16μm,25.2s						
BO04	**La Punta**	**35.09**	**108**	P	**P**	**18 30 46.6**	**-1.2**
MT16	**COHEN**	**35.20**	**107**	P	**P**	**18 30 46.3**	**-2.6**
MT03	**Universidad Ad**	**35.21**	**108**	P	**P**	**18 30 48.5**	**-0.5**
MT03				IAmb	IAmb	18 30 58.4	
	comp=Z,53nm,1.2s						
PLCA	**Paso Flores**	**35.26**	**120**	LR	LR	18 41 32.1	
	comp=Z,671nm,19.6s,baz=274,slow=30						
LMEL	**Las Melosas**	**35.44**	**108**	P	**P**	**18 30 49.6**	**-1.4**
LMEL				IAmb	IAmb	18 31 00.2	
	comp=Z,27nm,1.0s						
MT08	**Bocatoma Ro**	**35.62**	**108**		**P**	**18 30 50.7**	**-2.0**
MT08				IAmb	IAmb	18 31 11.4	
	comp=Z,27nm,1.2s						
LCO	**Las Campanas**	**35.63**	**100**	P	**P**	**18 30 52.0**	**-0.8**
AC06	**Mina Casimiro**	**36.27**	**97**	P	**P**	**18 30 55.8**	**-2.2**
PPT2	**Papeete2**	**36.54**	**280**	*e*P	**P**	**18 30 58.1**	**-2.4**
PPT2	**Papeete2**	**36.54**	**280**	*e*PP	PP	18 32 24.3	+0.6
	comp=Z,86nm,25.8s						
PPT2				*e*S	**S**	**18 36 44.5**	**+1.4**
	comp=Z,174nm,27.2s						
PPT2				*e*SS	**SnSn**	**18 39 11.2**	**-1.0**
	comp=Z,1μm,26.0s						
PPT2				*e*LR	LR	18 40 28.8	
	comp=Z,3μm,29.8s						
PPT2				*e*LR	LR	18 40 47.8	
	comp=Z,3μm,27.0s						
NNA	**Nana**	**36.63**	**69**	LR	LR	18 42 04.2	
	comp=Z,2μm,21.4s,baz=228,slow=30						
ZON	**Zonda**	**36.95**	**105**		**P**	**18 31 00.7**	**-3.2**
ZON				IAmb	IAmb	18 31 15.3	
	comp=Z,80nm,1.7s						
CFA	**Coronel Fontan**	**37.32**	**105**	LR	LR	18 42 37.5	
	comp=Z,1μm,20.8s,baz=282,slow=30						
ATAH	**Atahualpa**			LR	LR	18 43 08.6	
	comp=Z,1μm,18.2s,baz=233,slow=30						
PB11	**IPOC Station P**	**39.18**	**86**	P	**P**	**18 31 20.2**	**-2.7**
PB08	**IPOC Station P**	**39.47**	**87**		**P**	**18 31 21.7**	**-3.9**
GO01	**Chusmiza**	**39.61**	**86**	P	**P**	**18 31 23.9**	**-3.0**
PB16	**IPOC Station P**	**39.86**	**84**		P	18 31 24.8	-4.3
PB16				IAmb	IAmb	18 31 33.8	
	comp=Z,81nm,1.9s						
PB18	**Visviri**	**40.19**	**83**		P	18 31 26.3	-5.4
COHC	**Cochancay**	**40.70**	**55**	P	**P**	**18 31 31.8**	**-3.6**
LPAZ	**La Paz**	**41.91**	**82**		P	18 31 40.2	-5.8
LPAZ	**La Paz**	**41.91**	**82**	P	**P**	**18 31 48.9**	**+2.8**
	comp=Z,4.7nm,1.0s,baz=237,slow=7.6,SNR=13						
LPAZ				LR	LR	18 45 53.5	
	comp=Z,1μm,18.1s,baz=267,slow=31						
	comp=Z,4.7nm,1.0s						
LPAZ	**La Paz**	**41.91**	**82**	*e*P	**P**	**18 31 46.8**	**+0.7**
CZSB	**Cruzeiro do Su**	**42.38**	**67**	P	P	18 31 44.3	-4.9
CZSB				IAmb	IAmb	18 32 21.9	
	comp=Z,59nm,1.6s						
CZSB	**Cruzeiro do Su**	**42.38**	**67**	*e*P	**P**	**18 31 51.7**	**+2.5**
SLOR	**San Lorenzo -**	**42.45**	**54**	P	P	18 31 44.5	-5.7
OTAV	**Otavalo**	**43.17**	**53**	P	**P**	**18 31 53.0**	**-3.1**
OTAV	**Otavalo**	**43.17**	**53**	*e*P	P	18 32 01.1	+5.1
RAR	**Rarotonga**	**44.02**	**269**	LR	LR	18 45 02.5	
	comp=Z,1μm,20.2s,baz=113,slow=29						
FLOC	**Florencia**	**46.09**	**55**		**P**	**18 32 16.0**	**-3.0**
FLOC				IAmb	IAmb	18 32 52.0	
	comp=Z,41nm,1.5s						
PMSA	**Palmer Station**	**46.23**	**154**	LR	LR	18 47 04.0	
	comp=Z,840nm,18.2s,baz=297,slow=30						
SMAI	**San Martin Ant**	**46.83**	**159**	P	**P**	**18 32 21.4**	**-2.7**
SMAI				IAmb	IAmb	18 32 29.4	
	comp=Z,35nm,1.5s						
LCR2	**La Lucha 2**	**47.04**	**39**	P	**P**	**18 32 25.5**	**-1.0**
LCR2				IAmb	IAmb	18 32 44.1	
	comp=Z,40nm,1.8s						
CPUP	**Villa Florida**	**47.78**	**100**	P	**P**	**18 32 34.0**	**+2.0**
	comp=Z,1.1nm,0.9s,baz=277,slow=8.1,SNR=3.9						
CPUP				LR	LR	18 49 21.3	
	comp=Z,306nm,19.5s,baz=116,slow=32						
	comp=Z,1.1nm,0.9s						
BBSD	**Serra de San D**	**48.08**	**87**	*e*P	**P**	**18 32 36.9**	**+2.4**
SIV	**San Ignacio**	**48.17**	**86**	LR	LR	18 50 27.1	
	comp=Z,1μm,18.3s,baz=294,slow=33						
TLIG	**Tlapa**	**48.22**	**17**		**P**	**18 32 35.6**	**+0.1**
TLIG				IAmb	IAmb	18 32 45.1	
	comp=Z,22nm,1.0s						
MTO3	**Montecristo**	**48.44**	**29**		**P**	**18 32 36.9**	**-0.4**
MTO3				IAmb	IAmb	18 32 43.3	
	comp=Z,20nm,1.2s						
ESPZ	**Base Esperanza**	**48.56**	**151**	P	**P**	**18 32 36.7**	**-0.8**
CMIG	**Matias Romero**	**48.83**	**21**	LR	LR	18 48 28.9	
	comp=Z,128nm,18.1s,baz=183,slow=30						
MURT	**Porto Murtinho**	**49.01**	**94**	*e*P	**P**	**18 32 43.4**	**+1.8**
SJPY	**San Joaquin**	**49.23**	**99**	*e*P	**P**	**18 32 45.8**	**+2.6**
ROSC	**El Rosal**	**49.32**	**53**	P	**P**	**18 32 46.8**	**+2.4**
	comp=Z,5.5nm,0.3s,baz=232,slow=14,SNR=6.5						
ROSC				LR	LR	18 50 15.3	
	comp=Z,1μm,19.7s,baz=240,slow=32						
	comp=Z,5.5nm,0.3s						
PLTB	**Pedras Altas**	**49.55**	**108**	P	**P**	**18 32 43.1**	**-2.5**
PLTB				IAmb	IAmb	18 32 56.3	
	comp=Z,35nm,1.5s						
PLTB	**Pedras Altas**	**49.55**	**108**	*e*P	**P**	**18 32 46.9**	**+1.3**
CPSB	**Cacapava Do Su**	**50.01**	**107**	*e*P	**P**	**18 32 51.2**	**+2.1**
PTLB	**Pontes e Lacer**	**50.08**	**86**		**P**	**18 32 47.5**	**-2.3**
PTLB				IAmb	IAmb	18 32 53.4	
	comp=Z,43nm,1.6s						
PTLB	**Pontes e Lacer**	**50.08**	**86**	*e*P	**P**	**18 32 52.6**	**+2.8**
BDQN	**Bodoquena, MS**	**50.20**	**93**	*e*P	**P**	**18 32 52.8**	**+2.2**
VILB	**Vilhena**	**50.26**	**82**		**P**	**18 32 48.0**	**-3.2**
VILB	**Vilhena**	**50.26**	**82**	*e*P	**P**	**18 32 53.5**	**+2.3**
AMBA	**Amambai (Brazi**	**50.86**	**97**	*e*P	**P**	**18 32 58.3**	**+2.7**
AQDB	**Aquidauana**	**51.10**	**94**		**P**	**18 32 55.2**	**-2.2**
AQDB				IAmb	IAmb	18 33 05.3	
	comp=Z,18nm,0.9s						
AQDB	**Aquidauana**	**51.10**	**94**	*e*P	**P**	**18 32 60.0**	**+2.5**
PTGB	**Pitanga**	**52.80**	**100**	*e*P	**P**	**18 33 12.3**	**+2.1**
RPRD	**Ribas do Rio P**	**52.84**	**94**	*e*P	**P**	**18 33 13.6**	**+3.1**
SALV	**Santo Antonio**	**52.90**	**88**	*e*P	**P**	**18 33 13.2**	**+2.3**
TRCB	**Terra Rica**	**52.95**	**98**	*e*P	**P**	**18 33 14.5**	**+3.2**
LPIG	**La Paz**	**53.06**	**2**	LR	LR	18 50 34.1	
	comp=Z,929nm,20.3s,baz=194,slow=30						
PDRB	**Porto dos Gac**	**53.88**	**83**	*e*P	**P**	**18 33 20.3**	**+2.1**
LDASE	**Londrina, Braz**	**54.05**	**99**	*e*P	**P**	**18 33 21.4**	**+2.0**
PCMB	**Pacaembu**	**54.55**	**97**	*e*P	**P**	**18 33 25.6**	**+2.6**
SDV	**Santo Domingo**	**54.76**	**53**	LR	LR	18 54 13.3	
	comp=Z,736nm,18.4s,baz=222,slow=33						
CLDB	**Colider**	**55.03**	**83**	*e*P	**P**	**18 33 28.0**	**+1.4**
ARAG	**Araguaiana, MT**	**56.37**	**90**	*e*P	**P**	**18 33 38.4**	**+2.3**
RAO	**Raoul Island**	**57.08**	**252**	LR	LR	18 51 53.9	
	comp=Z,1μm,21.3s,baz=82,slow=30						
NPGB	**Novo Progresso**	**57.27**	**79**	*e*P	**P**	**18 33 43.6**	**+1.1**
HBVL	**Hebbronville**	**57.36**	**14**		**P**	**18 33 43.1**	**+0.3**
VAO	**Valinhos**	**57.77**	**100**	*e*P	**P**	**18 33 47.5**	**+1.4**
BOAV	**Boa Vista**	**58.13**	**66**		**P**	**18 33 46.4**	**-2.2**
BOAV				IAmb	IAmb	18 33 53.6	
	comp=Z,21nm,1.5s						
BOAV	**Boa Vista**	**58.13**	**66**	*e*P	**P**	**18 33 51.0**	**+2.4**
ITTB	**Itaituba**	**58.31**	**76**	*e*P	**P**	**18 33 51.3**	**+1.4**
833A	**Chaparral WMA,**	**58.44**	**13**		**P**	**18 33 49.9**	**-0.5**
833A				IAmb	IAmb	18 33 55.4	
	comp=Z,27nm,1.1s						
SNDB	**Serra Nova Dou**	**58.45**	**86**	*e*P	**P**	**18 33 53.4**	**+2.6**
URZ	**Urewera**	**58.61**	**241**	LR	LR	18 53 34.0	
	comp=Z,1μm,19.8s,baz=136,slow=30						
TXAR	**Lajitas Array**	**58.75**	**8**		**P**	**18 33 52.1**	**-0.6**
TXAR	**Lajitas Array**	**58.75**	**8**	P	**P**	**18 33 53.9**	**+1.2**
TXAR				LR	LR	18 54 28.7	
	comp=Z,2.4nm,1.0s,baz=187,slow=8.8,SNR=12						
	comp=Z,211nm,19.9s,baz=188,slow=31						
	comp=Z,2.4nm,1.0s						
TX31	**Lajitas Ar. Si**	**58.75**	**8**		**P**	**18 33 52.0**	**-0.7**
TX31				IAmb	IAmb	18 34 37.0	
	comp=Z,15nm,1.4s						
BELA	**Belgrano 2**	**58.89**	**166**		**P**	**18 33 52.0**	**-1.0**
BELA				IAmb	IAmb	18 33 57.3	
	comp=Z,37nm,1.5s						
DRIO	**Del Rio**	**59.29**	**11**		**P**	**18 33 55.6**	**-0.7**
DRIO				IAmb	IAmb	18 34 01.2	
	comp=Z,20nm,1.4s						
SAND	**Sanderson**	**59.57**	**10**	IAmb	IAmb	18 34 09.9	
	comp=Z,15nm,0.7s						
HNDO	**Hondo**	**59.63**	**12**	P	**P**	**18 33 57.5**	**-1.1**
BDFB	**Brasilia**	**59.72**	**92**	P	**P**	**18 34 01.8**	**+2.0**
	comp=Z,1.7nm,0.4s,baz=246,slow=12,SNR=3.5						
BDFB				LR	LR	18 56 49.0	
	comp=Z,505nm,21.7s,baz=237,slow=33						
	comp=Z,1.7nm,0.4s						
ALPN	**Alpine**	**59.78**	**8**		**P**	**18 33 59.2**	**-0.6**
ALPN				IAmb	IAmb	18 34 05.2	
	comp=Z,16nm,1.1s						
SBA	**Scott Base**	**59.86**	**194**	P	**P**	**18 33 59.1**	**-0.5**
SBA				IAmb	IAmb	18 34 50.7	
	comp=Z,22nm,1.6s						
PCRV	**Puerto La Cruz**	**59.91**	**56**	LR	LR	18 56 45.2	
	comp=Z,806nm,19.3s,slow=33						
VHRN	**Van Horn**	**60.04**	**7**		**P**	**18 34 01.7**	**+0.1**
319A	**Douglas**	**60.34**	**2**		**P**	**18 34 03.1**	**-0.4**
319A				IAmb	IAmb	18 34 12.7	
	comp=Z,17nm,1.0s						
OZNA	**Ozona**	**60.67**	**10**		**P**	**18 34 05.4**	**-0.4**
OZNA				IAmb	IAmb	18 34 11.0	
	comp=Z,14nm,1.2s						
HKT	**Hockley**	**60.77**	**16**		**P**	**18 34 05.8**	**-0.5**
HKT				IAmb	IAmb	18 34 16.5	
	comp=Z,31nm,1.3s						
MNHN	**Monahans**	**60.85**	**9**		**P**	**18 34 06.1**	**-0.9**
MNHN				IAmb	IAmb	18 34 12.4	
	comp=Z,32nm,1.6s						
VNDA	**Vanda**	**60.92**	**194**		**P**	**18 34 06.3**	**-0.6**
VNDA	**Vanda**	**60.92**	**194**	P	**P**	**18 34 07.5**	**+0.6**
	comp=Z,2.3nm,1.0s,baz=99,slow=6.7,SNR=7.2						
VNDA				LR	LR	18 55 53.6	
	comp=Z,750nm,18.6s,baz=90,slow=32						
	comp=Z,2.3nm,1.0s						
QSPA	**South Pole Qui**	**60.93**	**180**	P	**P**	**18 34 07.4**	**+0.1**
QSPA	**South Pole Qui**	**60.93**	**180**	P	**P**	**18 34 08.4**	**+1.0**
	comp=Z,7.0nm,1.2s,baz=119,slow=2.3,SNR=15						
QSPA				LR	LR	18 57 04.4	
	comp=Z,412nm,18.1s,baz=101,slow=33						
	comp=Z,7.0nm,1.2s						
TUC	**Tucson**	**61.23**	**1**		**P**	**18 34 09.8**	**+0.3**
BRDY	**Brady**	**61.39**	**12**		**P**	**18 34 10.5**	**-0.1**
BORC	**Borrego Spring**	**62.34**	**355**		**P**	**18 34 18.0**	**+1.0**
BORC				IAmb	IAmb	18 34 34.3	
	comp=Z,18nm,1.4s						
POST	**Post**	**62.72**	**10**	IAmb	IAmb	18 34 30.8	
	comp=Z,9.5nm,0.9s						
PLPT	**Palo Pinto**	**63.01**	**13**		**P**	**18 34 20.6**	**-0.8**
SMTB	**Santa Maria do**	**63.11**	**85**	*e*P	**P**	**18 34 24.9**	**+2.3**
APMT	**Aspermont**	**63.19**	**11**		**P**	**18 34 22.8**	**+0.2**
JANB	**Januaria**	**63.20**	**93**	*e*P	**P**	**18 34 25.9**	**+2.7**
MSTX	**Muleshoe**	**63.44**	**8**		**P**	**18 34 24.1**	**-0.3**
SDBA	**SAO DESIDERIO**	**63.83**	**90**	*e*P	**P**	**18 34 30.4**	**+2.9**
ANMO	**Albuquerque**	**64.04**	**5**		**P**	**18 34 27.8**	**-0.7**
ANMO	**Albuquerque**	**64.04**	**5**	LR	LR	18 57 37.5	
	comp=Z,607nm,18.5s,baz=282,slow=32						
SJG	**San Juan**	**64.38**	**49**	LR	LR	19 00 27.3	
	comp=Z,248nm,18.7s,baz=225,slow=34						
SJMB	**Sao Joao De Ma**	**64.40**	**98**	*e*P	**P**	**18 34 33.6**	**+2.5**
SMWD	**Samnorwood**	**64.91**	**10**		**P**	**18 34 33.6**	**-0.3**
SMWD				IAmb	IAmb	18 34 38.9	
	comp=Z,16nm,1.2s						
MPMC	**Manual Prospec**	**65.20**	**355**	IAmb	IAmb	18 34 51.7	
	comp=Z,21nm,1.4s						
U15A	**North Rim**	**65.33**	**359**		**P**	**18 34 36.0**	**-1.0**
SHPR	**Sheep Range**	**65.49**	**357**		**P**	**18 34 37.5**	**-0.4**
MIAR	**Mount Ida**	**65.71**	**16**	IAmb	IAmb	18 34 55.2	
	comp=Z,10nm,1.1s						
Z47A	**Carrollton**	**66.01**	**22**	IAmb	IAmb	18 34 52.4	
	comp=Z,12nm,0.7s						
MDP	**Montagnes des**	**66.08**	**69**	LR	LR	19 00 45.9	
	comp=Z,499nm,19.2s,baz=250,slow=33						
MVCO	**Mesa Verde**	**66.18**	**3**	IAmb	IAmb	18 34 51.1	
	comp=Z,23nm,1.2s						
VNA3	**Neumayer Olymp**	**66.33**	**160**	⇓P	**P**	**18 34 42.8**	**0.0**
	comp=Z,9.0nm,0.8s						
PRN	**Pahroc Range**	**66.39**	**357**	P	**P**	**18 34 44.8**	**+1.2**
PRN				IAmb	IAmb	18 35 23.6	
	comp=Z,13nm,1.4s						
CCUT	**Cedar City**	**66.47**	**359**		**P**	**18 34 44.7**	**+0.4**
S11A	**Rachel**	**66.66**	**356**	P	**P**	**18 34 46.0**	**+0.7**
S11A				IAmb	IAmb	18 35 04.0	
	comp=Z,14nm,1.0s						
SDCO	**Great Sand Dun**	**66.89**	**5**		**P**	**18 34 46.4**	**-0.6**
VNA1	**Neumayer--Stat**	**66.98**	**159**	⇓P	**P**	**18 34 47.3**	**+0.4**
	comp=Z,16nm,1.3s						
PV18	**Skin Mesa, Pa**	**67.20**	**2**	IAmb	IAmb	18 35 25.5	
	comp=Z,29nm,1.6s						
U38A	**Gravette**	**67.33**	**15**	IAmb	IAmb	18 34 54.0	
	comp=Z,15nm,1.2s						
T35A	**Sooner Cattle**	**67.33**	**13**	IAmb	IAmb	18 34 54.3	
	comp=Z,15nm,1.0s						
PV04	**Paradox Valley**	**67.34**	**2**	P	**P**	**18 34 49.4**	**-0.3**
PV04				IAmb	IAmb	18 37 13.3	
	comp=Z,14nm,0.8s						
NV11	**Mina Array Sit**	**67.61**	**354**		**P**	**18 34 51.7**	**+0.4**
NVAR	**Mina Array Bea**	**67.62**	**354**		**P**	**18 34 51.6**	**+0.1**
NVAR	**Mina Array Bea**	**67.62**	**354**	P	**P**	**18 34 53.2**	**+1.7**
	comp=Z,1.7nm,0.9s,baz=180,slow=8.7,SNR=12						
NVAR				LR	LR	18 58 35.2	
	comp=Z,815nm,18.4s,baz=168,slow=31						
	comp=Z,1.7nm,0.9s						
LCAR	**Lake Charles**	**67.78**	**18**	IAmb	IAmb	18 34 58.7	
	comp=Z,22nm,1.7s						
SRU	**San Rafael Swe**	**68.02**	**1**	IAmb	IAmb	18 35 00.9	
	comp=Z,10nm,1.1s						
SNAA	**Sanae**	**68.16**	**161**	⇓P	**P**	**18 34 54.4**	**0.0**
	comp=Z,183nm,1.0s						
SNAA	**Sanae**	**68.16**	**161**		**P**	**18 34 53.2**	**-1.2**
SNAA				IAmb	IAmb	18 35 01.8	
	comp=Z,18nm,1.1s						
SNAA	**Sanae**	**68.16**	**161**	P	**P**	**18 34 54.1**	**-0.2**
	comp=Z,7.0nm,1.1s,baz=224,slow=5.2,SNR=14						
SNAA				LR	LR	19 00 17.0	
	comp=Z,308nm,19.3s,baz=305,slow=32						
	comp=Z,7.0nm,1.1s						
MGMO	**Mountain Grove**	**68.51**	**17**	IAmb	IAmb	18 35 01.9	
	comp=Z,26nm,1.3s						
SWET	**Sewanee**	**68.55**	**22**	P	**P**	**18 34 56.4**	**-0.8**
SWET				IAmb	IAmb	18 35 07.9	
	comp=Z,10.0nm,0.9s						
V48A	**Smith Brothers**	**68.74**	**21**	IAmb	IAmb	18 35 08.8	
	comp=Z,9.4nm,0.9s						
W52A	**Murphy**	**69.14**	**24**	IAmb	IAmb	18 35 05.8	
	comp=Z,15nm,1.3s						
CPCT	**Cooper Cave**	**69.25**	**23**		**P**	**18 35 01.0**	**-0.4**
CPCT				IAmb	IAmb	18 35 06.2	
	comp=Z,18nm,1.4s						
BSUT	**Blindstream Ca**	**69.44**	**1**	IAmb	IAmb	18 35 41.0	
	comp=Z,15nm,1.3s						
TROLL	**Troll, Antarti**	**69.46**	**162**	⇓P	**P**	**18 35 03.1**	**+0.5**
	comp=Z,337nm,0.9s						
R40A	**Maddies Statio**	**69.59**	**16**	IAmb	IAmb	18 35 08.1	
	comp=Z,12nm,1.1s						
CCM	**Cathedral Cave**	**69.62**	**17**		**P**	**18 35 03.5**	**-0.2**
CCM				IAmb	IAmb	18 35 08.4	
	comp=Z,19nm,1.3s						
TKL	**Tuckaleechee C**	**69.70**	**24**	LR	LR	19 01 30.6	
	comp=Z,112nm,21.0s,baz=198,slow=32						
ELK	**Elko**	**69.72**	**357**	LR	LR	18 59 52.0	
	comp=Z,652nm,20.4s,baz=186,slow=31						
V53A	**Saluda**	**70.05**	**25**	IAmb	IAmb	18 35 11.6	
	comp=Z,27nm,1.4s						
P38A	**Dawn**	**70.57**	**15**	IAmb	IAmb	18 35 13.4	
	comp=Z,18nm,1.3s						
TZTN	**Tazewell**	**70.57**	**24**	IAmb	IAmb	18 35 14.7	
	comp=Z,24nm,1.3s						
YBH	**Yreka Blue Hor**	**71.37**	**351**	LR	LR	18 59 34.4	
	comp=Z,87nm,20.1s,baz=154,slow=30						
S51A	**Beattyville**	**71.54**	**23**	P	**P**	**18 35 14.5**	**-1.0**
S51A				IAmb	IAmb	18 35 19.4	
	comp=Z,14nm,1.2s						
R49A	**Shelbyville**	**71.61**	**22**	P	**P**	**18 35 14.9**	**-0.9**
R49A				IAmb	IAmb	18 35 19.9	
	comp=Z,23nm,1.3s						
PDAR	**Pinedale Array**	**71.69**	**2**		**P**	**18 35 16.4**	**-0.1**
PDAR	**Pinedale Array**	**71.69**	**2**	P	**P**	**18 35 17.9**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=188,slow=4.0,SNR=12						
PDAR				LR	LR	19 01 29.7	
	comp=Z,335nm,21.0s,baz=180,slow=31						
	comp=Z,0.7nm,0.6s						
K22A	**Casper**	**71.70**	**4**	IAmb	IAmb	18 35 23.8	
	comp=Z,28nm,1.2s						
FXWY	**Fox Creek**	**72.54**	**0**	P	**P**	**18 35 22.0**	**+0.4**
DZM	**Mont Dzumac**	**72.81**	**254**	*e*S	**S**	**18 44 46.0**	**-4.0**
	comp=Z,276nm,25.1s						
DZM	**Mont Dzumac**	**72.81**	**254**	*e*LR	LR	18 57 42.4	
	comp=Z,2μm,27.9s						
RSSD	**Black Hills**	**73.35**	**6**		**P**	**18 35 26.3**	**-0.1**
YHL	**Hebgen Lake**	**73.75**	**0**	IAmb	IAmb	18 36 05.3	
	comp=Z,37nm,1.9s						
P52A	**Corning**	**73.83**	**23**	IAmb	IAmb	18 35 37.6	
	comp=Z,29nm,1.1s						
BMO	**Blue Mountains**	**73.93**	**356**		**P**	**18 35 29.9**	**+0.3**
BOZ	**Bozeman (W)**	**74.49**	**0**		**P**	**18 35 33.7**	**+0.7**
O53A	**New Philadelph**	**74.70**	**24**	IAmb	IAmb	18 35 39.4	
	comp=Z,23nm,1.1s						
RCBR	**Riachuelo**	**74.74**	**88**	LR	LR	19 06 03.4	
	comp=Z,315nm,19.9s,baz=246,slow=34						
N53A	**Lisbon**	**75.33**	**24**	P	**P**	**18 35 38.1**	**+0.5**
N53A				IAmb	IAmb	18 35 46.3	
	comp=Z,28nm,1.1s						
LAO	**LASA Array**	**75.74**	**4**	IAmb	IAmb	18 35 46.7	
	comp=Z,16nm,1.2s						
F33A	**5 Mile Ranch,**	**76.03**	**11**	IAmb	IAmb	18 35 46.3	
	comp=Z,24nm,1.5s						
NEW	**Newport**	**77.32**	**356**		**P**	**18 35 49.2**	**+0.3**
NEW				IAmb	IAmb	18 35 54.3	
	comp=Z,20nm,1.5s						
NEW	**Newport**	**77.32**	**356**	LR	LR	19 04 41.8	
	comp=Z,762nm,18.9s,baz=178,slow=32						
DGMT	**Dagmar**	**77.66**	**5**	IAmb	IAmb	18 35 57.9	
	comp=Z,25nm,1.1s						
E38A	**The Farm, Brul**	**77.66**	**14**	IAmb	IAmb	18 35 55.6	
	comp=Z,14nm,1.1s						
L56A	**Greenwood**	**77.68**	**25**	IAmb	IAmb	18 36 02.2	
	comp=Z,14nm,0.9s						
BINY	**Binghamton**	**78.33**	**26**	P	**P**	**18 35 54.6**	**0.0**
AGMN	**Agassiz Nation**	**78.48**	**11**	IAmb	IAmb	18 36 08.2	
	comp=Z,27nm,1.5s						
EYMN	**Ely**	**78.95**	**14**	IAmb	IAmb	18 36 02.5	
	comp=Z,28nm,1.4s						
SADO	**Sadowa**	**79.41**	**23**	IAmb	IAmb	18 36 08.4	
	comp=Z,24nm,1.4s						
SADO	**Sadowa**	**79.41**	**23**	LR	LR	19 06 49.9	
	comp=Z,168nm,21.1s,baz=182,slow=32						
ULM	**Lac du Bonnet**	**80.38**	**10**	P	**P**	**18 36 06.4**	**+0.8**
ULM				IAmb	IAmb	18 36 09.3	
	comp=Z,40nm,1.8s						
LONY	**Lake Ozonia**	**80.92**	**26**	IAmb	IAmb

SONM	**Songino Array**	**145.39**	**313**			**PKPbc**	**18 43 31.3**	**-1.1**
SONM	**Songino Array**	**145.39**	**313**	PKPbc		**PKPbc**	**18 43 32.3**	**-0.1**
	comp=Z,7.1nm,0.9s,baz=83,slow=2.4,SNR=28							
KMI	**Kunming**	**149.21**	**271**	PKPbc		**PKPbc**	**18 43 42.1**	**-1.8**
KMI				LR	LR			
	comp=Z,180nm,20.0s							
CD2	**Chengdu**	**149.40**	**282**	PKPbc		**PKPdf**	**18 43 38.5**	**-1.1**
LZH	**Lanzhou**	**149.48**	**292**	*e*PKPbc		**PKiKP**	**18 43 45.5**	**+0.2**
LZH				sPKP			18 43 56.0	
LZH				LR	LR			
	comp=N,200nm,12.4s							
LZH				LR	LR			
	comp=E,200nm,19.6s							
LZH				LR	LR			
	comp=Z,330nm,16.8s							
BRTR	**Keskin Array B**	**149.70**	**61**			**PKPdf**	**18 43 38.0**	**-2.0**
BRTR	**Keskin Array B**	**149.70**	**61**	PKPbc		**PKiKP**	**18 43 45.9**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=257,slow=4.4,SNR=8.7							
CMAR	**Chiang Mai Arr**	**150.12**	**256**	PKPbc		**PKPbc**	**18 43 46.1**	**0.0**
	comp=Z,3.2nm,1.0s,baz=144,slow=0.7,SNR=11							
PZH	**PanZhiHua**	**150.42**	**273**	PKPbc		**PKPdf**	**18 43 40.8**	**-0.6**
GTA	**Gaotai**	**152.24**	**300**	*e*PKPbc		**PKPbc**	**18 43 50.6**	**0.0**
GTA				LR	LR			
	comp=N,170nm,14.9s							
GTA				LR	LR			
	comp=E,220nm,16.7s							
GTA				LR	LR			
	comp=Z,320nm,20.0s							
ZALV	**Zalesovo Beam**	**152.56**	**339**	PKP		**PKPdf**	**18 43 44.9**	**+1.3**
	comp=Z,1.9nm,0.9s,baz=27,slow=3.5,SNR=5.6							
KBZ	**Khabaz**	**155.07**	**48**	PKP		**PKPdf**	**18 43 48.9**	**+1.4**
	comp=Z,2.5nm,0.9s,baz=315,slow=1.4,SNR=4.1							
KBZ				PKPab		**sPKPab**	**18 44 15.5**	**+0.1**
	comp=Z,6.9nm,1.0s,baz=298,slow=4.8,SNR=5.2							
BVAR	**Borovoye Array**	**156.20**	**357**	PKP		**PKPdf**	**18 43 49.7**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=13,slow=3.3,SNR=5.1							
BVAR				PKPab		**sPKPab**	**18 44 20.0**	**+0.2**
	comp=Z,6.4nm,1.1s,baz=5.7,slow=1.5,SNR=8.5							
KURBB	**Kurchatov Arra**	**157.32**	**343**	PKP		**PKPdf**	**18 43 50.2**	**-0.1**
	comp=Z,0.6nm,0.2s,baz=343,slow=1.0,SNR=4.6							
KURBB				PKPab		**pPKPab**	**18 44 23.5**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=19,slow=3.9,SNR=9.3							
WMQ	**Urumqi**	**158.80**	**319**	*e*PKP		**PKPdf**	**18 43 52.1**	**-0.3**
WMQ				LR	LR			
	comp=Z,270nm,24.3s							
MKAR	**Makanchi Array**	**159.39**	**332**	PKP		**PKPdf**	**18 43 53.5**	**+0.5**
	comp=Z,0.6nm,1.1s,baz=43,slow=2.8,SNR=2.2							
MKAR				PKPab		**pPKPab**	**18 44 31.9**	**-1.1**
	comp=Z,1.7nm,1.1s,baz=55,slow=6.4,SNR=5.4							

*NEIC **20** 18:30:13.1±1.6, 7°.83N±0°.07×126°.44E±0°.08, h53km±4km, mb4.6/62, Error ellipse: s-maj=11.7km s-min=9.7km az=100.0*
*IDC **20** 18:30:14.1±1.7, 7°.93N×126°.76E, h68km±15km, mb3.9/17, mbtmp4.2/19, MS3.1/8, Error ellipse: s-maj=18.1km s-min=10.4km az=90.0*
ISC 20 18:30:14.2±0.4, 7°.83N±0°.05×126°.50E±0°.07, h68km, n104, σ1°.31/102, mb4.5/44, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.19**	**230**		**Pn**	**18 30 34.0**	**-1.0**
DAV	**Davao City (W)**	**1.19**	**230**	P	**Pn**	**18 30 37.5**	**+2.6**
	359nm,0.4s,baz=59,slow=2.9,SNR=48						
DAV				S	**Sn**	**18 30 56.7**	**+6.2**
	680nm,0.3s,baz=73,slow=3.5,SNR=16						
DAV	**Davao City (W)**	**1.19**	**230**	*i*P	**Pn**	**18 30 38.0**	**+3.1**
TNTI	**Ternate**	**7.07**	**173**	Pn	**Pn**	**18 31 52.9**	**-2.1**
TGY	**Tagaytay City**	**8.29**	**319**	LR	LR	18 36 32.2	
	comp=Z,84nm,19.3s,baz=146,slow=45						
MYLDM	**Lahad Datu**	**8.37**	**252**	Pn	**Pn**	**18 32 11.1**	**-1.8**
TOLI2	**Tolitoli**	**8.78**	**221**	Pn	**Pn**	**18 32 16.0**	**-2.4**
TOLI2				Sn	**Sn**	**18 33 52.6**	**-3.2**
FAKI	**Fak Fak**	**12.12**	**152**	Pn	**Pn**	**18 33 02.7**	**-1.4**
SBUM	**Sibu**	**15.19**	**250**		**P**	**18 33 47.0**	**-1.4**
YULB	**Yu-li**	**16.26**	**343**	Pn	**Pn**	**18 33 55.4**	**-2.9**
TPUB	**Ta-pu**	**16.38**	**341**	Pn	**Pn**	**18 33 58.1**	**-1.8**
TPUB				IAmb	IAmb	18 34 31.9	
	comp=Z,51nm,1.5s						
JAY	**Jayapura**	**17.51**	**125**	LR	LR	18 39 23.1	
	comp=Z,107nm,21.2s,baz=338,slow=32						
BATI	**Baumata**	**18.14**	**189**	P	**Pn**	**18 34 21.9**	**+0.4**
	comp=Z,10nm,0.5s,baz=23,slow=15,SNR=2.2						
JMZ	**Minamidaito 2**	**18.45**	**14**		**P**	**18 34 25.9**	**+1.5**
GUMO	**Guam**	**18.93**	**71**	LR	LR	18 39 33.1	
	comp=Z,53nm,21.4s,baz=256,slow=30						
JOW	**Kunigami**	**18.97**	**5**	P	**Pn**	**18 34 32.3**	**+0.8**
JOW				IAmb	IAmb	18 34 34.7	
	comp=Z,52nm,1.0s						
JOW	**Kunigami**	**18.97**	**5**	P	**P**	**18 34 30.4**	**+0.2**
	comp=Z,40nm,0.8s,baz=132,slow=14,SNR=6.4						
JOW				LR	LR	18 40 47.4	
	comp=Z,66nm,20.9s,baz=44,slow=34						
MTN	**Manton Dam**	**21.05**	**167**	P	**P**	**18 34 51.3**	**-1.5**
UBPT	**Khong Chiam**	**21.88**	**292**		**P**	**18 34 59.5**	**-2.1**
UBPT				IAmb	IAmb	18 35 05.9	
	comp=Z,19nm,1.0s						
KNRA	**Kununurra**	**23.46**	**175**		**P**	**18 35 18.5**	**+0.6**
KNRA				IAmb	IAmb	18 35 42.2	
	comp=Z,18nm,1.1s						
JNU	**Nakatsue**	**25.49**	**9**	LR	LR	18 44 39.7	
	comp=Z,36nm,21.1s,baz=122,slow=34						
FITZ	**Fitzroy Crossi**	**25.78**	**182**	P	**P**	**18 35 38.9**	**0.0**
COEN	**Coen**	**27.25**	**143**	P	**P**	**18 35 51.4**	**-0.8**
COEN				IAmb	IAmb	18 35 59.8	
	comp=Z,18nm,1.2s						
WB0	**Warramunga Arr**	**28.50**	**164**	P	**P**	**18 36 02.2**	**-1.1**
WRAB	**Tennant Creek**	**28.65**	**164**	P	**P**	**18 36 03.7**	**-0.9**
WRA	**Warramunga Arr**	**28.66**	**164**	P	**P**	**18 36 03.5**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=343,slow=9.7,SNR=13						
WRA				PcP	**PcP**	**18 39 14.9**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=342,slow=2.7,SNR=2.2						
WRA				ScP	**ScP**	**18 42 49.5**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=350,slow=3.0,SNR=1.6						
	comp=Z,0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**28.79**	**294**	P	**P**	**18 36 08.4**	**+2.5**
	comp=Z,1.7nm,1.1s,baz=122,slow=7.9,SNR=8.1						
CMAR				LR	LR	18 48 41.0	
	comp=Z,44nm,18.6s,baz=115,slow=38						
	comp=Z,1.7nm,1.1s						
INU	**Inuyama**	**29.04**	**18**	P	**P**	**18 36 07.6**	**-0.3**
MBWA	**Marble Bar**	**29.57**	**193**	P	**P**	**18 36 13.5**	**+0.8**
MBWA				IAmb	IAmb	18 36 35.7	
	comp=Z,16nm,1.1s						
PSA00	**Pilbara Seismi**	**29.94**	**192**	P	**P**	**18 36 15.1**	**-0.9**
PSA00	**Pilbara Seismi**	**29.94**	**192**	P	**P**	**18 36 15.3**	**-0.7**
PSA00				IAmb	IAmb	18 36 27.3	
	comp=Z,20nm,1.3s						
MJAR	**Matsushiro Arr**	**30.51**	**19**	P	**P**	**18 36 19.4**	**-1.5**
	comp=Z,2.1nm,0.9s,baz=195,slow=8.0,SNR=6.2						
MJAR				LR	LR	18 49 58.3	
	comp=Z,20nm,19.0s,baz=210,slow=39						
	comp=Z,2.1nm,0.9s						
MAJO	**Matsushiro**	**30.51**	**19**	P	**P**	**18 36 19.5**	**-1.4**
MJB9	**Matsu-Tunnel**	**30.51**	**19**	P	**P**	**18 36 19.4**	**-1.6**
AS31	**Alice Springs**	**32.13**	**167**	P	**P**	**18 36 34.9**	**-0.4**
ASAR	**Alice Springs**	**32.13**	**167**	P	**P**	**18 36 34.9**	**-0.5**
ASAR	**Alice Springs**	**32.13**	**167**	P	**P**	**18 36 35.3**	**0.0**
	comp=Z,0.6nm,0.3s,baz=340,slow=7.6,SNR=39						
ASAR				PcP	**PcP**	**18 39 23.9**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=343,slow=2.8,SNR=12						
ASAR				ScP	**ScP**	**18 43 01.0**	**-0.1**
	comp=Z,0.5nm,1.0s,baz=340,slow=3.5,SNR=2.1						
	comp=Z,0.6nm,0.3s						
JMM	**Marumori**	**32.58**	**21**	P	**P**	**18 36 39.2**	**+0.1**
JTM	**Tenmabayashi**	**35.29**	**19**	P	**P**	**18 37 03.0**	**+0.5**
USA0B	**Ussuriysk Arra**	**36.54**	**7**		**P**	**18 37 13.5**	**+0.3**
USRK	**Ussuriysk Ar.**	**36.54**	**7**		**P**	**18 37 13.1**	**-0.1**
USRK	**Ussuriysk Ar.**	**36.54**	**7**	P	**P**	**18 37 13.5**	**+0.3**
	comp=Z,12nm,0.8s,baz=192,slow=8.3,SNR=17						
	comp=Z,12nm,0.8s						
ERM	**Erimo**	**37.10**	**21**	P	**P**	**18 37 19.4**	**+1.4**
SHL	**Shillong**	**37.38**	**302**		**P**	**18 37 20.6**	**-0.3**
SHL				IAmb	IAmb	18 37 40.9	
	comp=Z,9.3nm,0.8s						
HNR	**Honiara**	**37.47**	**117**	P	**P**	**18 37 22.1**	**+0.6**
MORW	**Morawa**	**38.05**	**195**	P	**P**	**18 37 26.8**	**+0.6**
FORT	**Forrest**	**38.42**	**178**	P	**P**	**18 37 29.2**	**0.0**
FORT				IAmb	IAmb	18 38 05.1	
	comp=Z,12nm,0.9s						
ASAJ	**Asahikawa**	**38.78**	**19**	LR	LR	18 55 15.3	
	comp=Z,20nm,18.8s,baz=192,slow=39						
JKA	**Kamikawa-asahi**	**38.78**	**19**	P	**P**	**18 37 33.9**	**+1.8**
JKA				IAmb	IAmb	18 37 35.5	
	comp=Z,7.6nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**40.86**	**69**	T	T	19 21 31.7	
	baz=258,slow=75,SNR=32						
H11N2	**WAKE ISLAND Hy**	**40.87**	**69**	T	T	19 21 33.0	
	baz=258,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**40.88**	**69**	T	T	19 21 34.9	
	baz=258,slow=75,SNR=32						
BBOO	**Buckleboo**	**41.43**	**168**	P	**P**	**18 37 54.4**	**+0.2**
NWAO	**Narrogin (SRO)**	**41.48**	**192**	P	**P**	**18 37 56.1**	**+1.5**
STKA	**Stephens Creek**	**42.04**	**161**	P	**P**	**18 37 59.5**	**+0.3**
STKA	**Stephens Creek**	**42.04**	**161**	P	**P**	**18 37 59.4**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=320,slow=9.5,SNR=4.3						
	comp=Z,1.2nm,0.4s						
SONM	**Songino Array**	**43.37**	**340**	P	**P**	**18 38 09.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=148,slow=6.8,SNR=3.3						
	comp=Z,0.2nm,0.3s						
PEA0B	**Petropavlovsk-**	**51.76**	**23**	P	**P**	**18 39 16.6**	**+1.9**
PETK	**Petropavlovsk-**	**51.76**	**23**	P	**P**	**18 39 16.3**	**+1.5**
PETK	**Petropavlovsk-**	**51.76**	**23**	P	**P**	**18 39 12.0**	**-2.7**
	comp=Z,4.0nm,1.0s,baz=200,slow=6.0,SNR=9.7						
	comp=Z,4.0nm,1.0s						
MKAR	**Makanchi Array**	**54.10**	**324**		**P**	**18 39 32.1**	**0.0**
MKAR	**Makanchi Array**	**54.10**	**324**	P	**P**	**18 39 32.7**	**+0.6**
	comp=Z,2.9nm,0.5s,baz=120,slow=7.7,SNR=33						
	comp=Z,2.9nm,0.5s						
YAK	**Yakutsk**	**54.14**	**2**	P	**P**	**18 39 32.0**	**0.0**
MAKZ	**Makanchi**	**54.30**	**324**	P	**P**	**18 39 32.4**	**-1.1**
MAKZ				IAmb	IAmb	18 39 36.5	
	comp=Z,6.2nm,1.1s						
ZAA0	**Zalesovo Array**	**56.87**	**332**	P	**P**	**18 39 50.7**	**-1.1**
ZAA0				IAmb	IAmb	18 39 52.5	
	comp=Z,4.5nm,1.1s						
ZALV	**Zalesovo Beam**	**56.87**	**332**	P	**P**	**18 39 51.3**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=125,slow=7.6,SNR=13						
	comp=Z,1.8nm,0.3s						
KURK	**Kurchatov**	**58.20**	**326**		**P**	**18 40 01.2**	**0.0**
KURBB	**Kurchatov Arra**	**58.20**	**326**	P	**P**	**18 40 01.0**	**-0.3**
	comp=Z,1.9nm,0.4s,baz=123,slow=7.9,SNR=19						
	comp=Z,1.9nm,0.4s						
KKAR	**Karatay Array**	**60.13**	**316**	P	**P**	**18 40 14.1**	**-0.6**
AMKA	**Amchitka**	**61.26**	**35**	P	**P**	**18 40 22.4**	**+0.2**
KIWB	**Kanaga Island**	**63.47**	**35**	P	**P**	**18 40 37.3**	**+0.3**
TIXI	**Tiksi**	**63.77**	**1**	P	**P**	**18 40 39.1**	**+0.5**
TIXI				IAmb	IAmb	18 40 56.7	
	comp=Z,7.7nm,0.9s						
BVAR	**Borovoye Array**	**63.80**	**326**	P	**P**	**18 40 38.9**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=117,slow=6.3,SNR=6.8						
	comp=Z,1.0nm,0.5s						
ATKA	**Atka Island**	**65.30**	**36**	P	**P**	**18 40 48.6**	**-0.2**
ATKA				IAmb	IAmb	18 41 27.4	
	comp=Z,9.9nm,1.0s						
BKZ	**Black Stump Fm**	**65.79**	**139**	P	**P**	**18 40 52.7**	**+0.3**
AB31	**Akbulak array**	**68.87**	**320**	P	**P**	**18 41 11.4**	**-0.2**
ABKAR	**Akbulak array**	**68.87**	**320**	P	**P**	**18 41 11.3**	**-0.3**
CASY	**Casey**	**74.84**	**187**	P	**P**	**18 41 47.9**	**+1.0**
CASY				IAmb	IAmb	18 41 51.0	
	comp=Z,10nm,1.3s						
M16K	**Timber Creek**	**75.71**	**29**	P	**P**	**18 41 53.6**	**+1.4**
M16K				IAmb	IAmb	18 41 54.2	
	comp=Z,6.8nm,0.9s						
E18K	**Tukpahlearik C**	**76.27**	**22**	P	**P**	**18 41 56.3**	**+1.1**
K17K	**Iditarod**	**76.30**	**27**	P	**P**	**18 41 55.4**	**-0.1**
K17K				IAmb	IAmb	18 41 58.6	
	comp=Z,8.6nm,1.1s						
C18K	**Utukok River**	**76.34**	**21**	P	**P**	**18 41 56.8**	**+1.1**
C18K				IAmb	IAmb	18 41 57.8	
	comp=Z,14nm,1.1s						
D19K	**Kuna River**	**77.41**	**21**	P	**P**	**18 42 02.2**	**+0.5**
D19K				IAmb	IAmb	18 42 06.2	
	comp=Z,13nm,1.3s						
KDAK	**Kodiak Island**	**78.58**	**33**	P	**P**	**18 42 08.0**	**-0.3**
KDAK				IAmb	IAmb	18 42 10.3	
	comp=Z,14nm,1.2s						
RAYN	**Ar Rayn**	**78.69**	**292**		**P**	**18 42 08.9**	**-0.8**
RAYN				IAmb	IAmb	18 42 11.0	
	comp=Z,5.8nm,1.0s						
TRF	**Thorofare Moun**	**80.01**	**27**	P	**P**	**18 42 15.7**	**-0.5**
TRF				IAmb	IAmb	18 42 19.5	
	comp=Z,6.0nm,1.1s						
C23K	**Itkillik River**	**80.24**	**20**	P	**P**	**18 42 16.4**	**-0.7**
I23K	**Minto, Yukon-K**	**80.48**	**25**	P	**P**	**18 42 18.1**	**-0.4**
CCB	**Clear Creek Bu**	**81.13**	**26**	P	**P**	**18 42 22.2**	**+0.2**
ILAR	**Eielson Array**	**81.53**	**26**	P	**P**	**18 42 23.3**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=267,slow=4.4,SNR=5.9						
	comp=Z,0.9nm,0.8s						
K24K	**Donnelly Dome**	**82.02**	**27**	P	**P**	**18 42 26.8**	**0.0**
K24K				IAmb	IAmb	18 42 29.6	
	comp=Z,9.5nm,1.2s						
RIDG	**Independent Ri**	**82.44**	**27**		**P**	**18 42 29.8**	**+0.8**
RIDG				IAmb	IAmb	18 42 31.0	
	comp=Z,5.6nm,0.8s						
J26L	**Joseph Creek**	**82.96**	**26**		**P**	**18 42 32.0**	**+0.3**
I26K	**Coal Creek Min**	**83.09**	**25**	P	**P**	**18 42 31.9**	**-0.4**
I26K				IAmb	IAmb	18 42 34.7	
	comp=Z,4.2nm,0.9s						
K27K	**Chicken**	**83.64**	**26**	P	**P**	**18 42 36.4**	**+1.3**
K27K				IAmb	IAmb	18 42 38.4	
	comp=Z,8.2nm,1.2s						
I28M	**Miner Creek**	**84.42**	**25**		**P**	**18 42 40.7**	**+1.5**
I28M				IAmb	IAmb	18 42 42.0	
	comp=Z,9.2nm,0.9s						
H29M	**Whitestone**	**84.96**	**24**		**P**	**18 42 42.2**	**+0.5**
H29M				IAmb	IAmb	18 42 44.6	
	comp=Z,5.6nm,0.9s						
G29M	**Pine Creek**	**85.00**	**23**		**P**	**18 42 42.7**	**+0.7**
L29M	**L29M**	**85.50**	**27**		**P**	**18 42 46.0**	**+1.5**
L29M				IAmb	IAmb	18 42 48.2	
	comp=Z,4.8nm,1.0s						
ARCES	**ARCESS Array B**	**86.55**	**340**	P	**P**	**18 42 49.1**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=89,slow=5.6,SNR=7.2						
	comp=Z,1.6nm,0.9s						
VNDA	**Vanda**	**87.50**	**173**	P	**P**	**18 42 54.5**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=321,slow=6.0,SNR=9.5						
	comp=Z,0.6nm,0.3s						
FINES	**FINESS Array B**	**88.13**	**332**	P	**P**	**18 42 56.5**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=78,slow=4.0,SNR=25						
	comp=Z,1.1nm,0.5s						
HFS	**Hagfors**	**94.30**	**332**	P	**P**	**18 43 25.5**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=48,slow=6.4,SNR=4.7						
	comp=Z,0.9nm,0.7s						
TXAR	**Lajitas Array**	**119.22**	**50**	PKP	**PKiKP**	**18 48 57.2**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=196,slow=1.8,SNR=3.8						

*NEIC **20** 18:49:57.9±1.7, 35°.879N±0°.007×117°.71W±0°.01, h10km±4km, Error ellipse: s-maj=1.4km s-min=1.0km az=82.0*
PAS 20 18:49:58.5±2.0, 35°.874N±0°.008×117°.71W±0°.01, h8km±7km, ML3.7/144, ML3.4/170(NEIC), Error ellipse: s-maj=1.2km s-min=1.1km az=57.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOW	**Tower One**	**0.08**	**214**		Pg	18 50 01.1	+0.5
TOW					Sg	18 50 03.6	+1.5
CLC	**China Lake**	**0.11**	**122**		Pg	18 50 01.0	0.0
CLC				Sg	Sg	18 50 02.9	0.0
CLC				IAML		18 50 03.2	
	comp=N,27μm,0.6s						
CLC				IAML		18 50 03.3	
	comp=E,19μm,0.2s						
WVPM	**Volcano Peak E**	**0.12**	**311**		Pg	18 50 01.3	0.0
WVPM					Sg	18 50 03.3	+0.2
JRC2	**Joshua Ridge**	**0.14**	**323**		Pg	18 50 01.6	0.0
JRC2					Sg	18 50 03.8	+0.1
WCSM	**Coso Springs S**	**0.16**	**343**		Pg	18 50 01.8	-0.1
WCSM					Sg	18 50 04.2	-0.1
WNMM	**Nine Mile Cany**	**0.16**	**259**		Pg	18 50 01.9	+0.1
WNMM					Sg	18 50 04.6	+0.5
SRTC	**Snort**	**0.18**	**190**		Pg	18 50 02.7	+0.4
SRTC					Sg	18 50 06.2	+1.4
WRVM	**Rose V. Centra**	**0.20**	**313**		Pg	18 50 02.6	0.0
WRVM					Sg	18 50 05.4	0.0
GPO	**China Lake**	**0.23**	**170**		Pg	18 50 03.1	0.0
GPO					Sg	18 50 06.6	+0.4
MPMC	**Manual Prospec**	**0.26**	**44**		Pg	18 50 03.6	-0.1
MPMC				Sg	Sg	18 50 07.1	-0.1
MPMC				IAML		18 50 07.7	
	comp=N,9μm,0.5s						
MPMC				IAML		18 50 07.7	
	comp=E,13μm,0.3s						
MFS	**McCloud Flat S**	**0.27**	**334**		Pg	18 50 03.8	-0.1
MFS					Sg	18 50 07.7	+0.1
WSHM	**Spangler Hills**	**0.33**	**147**		Pg	18 50 04.7	-0.2
WSHM				Sg	Sg	18 50 09.1	-0.2
	comp=Z,7.6nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**40.86**	**69**	T	T	19 21 31.7	
	baz=258,slow=75,SNR=32						
H11N2	**WAKE ISLAND Hy**	**40.87**	**69**	T	T	19 21 33.0	
	baz=258,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**40.88**	**69**	T	T	19 21 34.9	
	baz=258,slow=75,SNR=32						
BBOO	**Buckleboo**	**41.43**	**168**	P	**P**	**18 37 54.4**	**+0.2**
NWAO	**Narrogin (SRO)**	**41.48**	**192**	P	**P**	**18 37 56.1**	**+1.5**
STKA	**Stephens Creek**	**42.04**	**161**	P	**P**	**18 37 59.5**	**+0.3**
STKA	**Stephens Creek**	**42.04**	**161**	P	**P**	**18 37 59.4**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=320,slow=9.5,SNR=4.3						
	comp=Z,1.2nm,0.4s						
SONM	**Songino Array**	**43.37**	**340**	P	**P**	**18 38 09.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=148,slow=6.8,SNR=3.3						
	comp=Z,0.2nm,0.3s						
PEA0B	**Petropavlovsk-**	**51.76**	**23**	P	**P**	**18 39 16.6**	**+1.9**
PETK	**Petropavlovsk-**	**51.76**	**23**	P	**P**	**18 39 16.3**	**+1.5**
PETK	**Petropavlovsk-**	**51.76**	**23**	P	**P**	**18 39 12.0**	**-2.7**
	comp=Z,4.0nm,1.0s,baz=200,slow=6.0,SNR=9.7						
	comp=Z,4.0nm,1.0s						
MKAR	**Makanchi Array**	**54.10**	**324**		**P**	**18 39 32.1**	**0.0**
MKAR	**Makanchi Array**	**54.10**	**324**	P	**P**	**18 39 32.7**	**+0.6**
	comp=Z,2.9nm,0.5s,baz=120,slow=7.7,SNR=33						
	comp=Z,2.9nm,0.5s						
YAK	**Yakutsk**	**54.14**	**2**	P	**P**	**18 39 32.0**	**0.0**
MAKZ	**Makanchi**	**54.30**	**324**	P	**P**	**18 39 32.4**	**-1.1**
MAKZ				IAmb	IAmb	18 39 36.5	
	comp=Z,6.2nm,1.1s						
ZAA0	**Zalesovo Array**	**56.87**	**332**	P	**P**	**18 39 50.7**	**-1.1**
ZAA0				IAmb	IAmb	18 39 52.5	
	comp=Z,4.5nm,1.1s						
ZALV	**Zalesovo Beam**	**56.87**	**332**	P	**P**	**18 39 51.3**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=125,slow=7.6,SNR=13						
	comp=Z,1.8nm,0.3s						
KURK	**Kurchatov**	**58.20**	**326**		**P**	**18 40 01.2**	**0.0**
KURBB	**Kurchatov Arra**	**58.20**	**326**	P	**P**	**18 40 01.0**	**-0.3**
	comp=Z,1.9nm,0.4s,baz=123,slow=7.9,SNR=19						
	comp=Z,1.9nm,0.4s						
KKAR	**Karatay Array**	**60.13**	**316**	P	**P**	**18 40 14.1**	**-0.6**
AMKA	**Amchitka**	**61.26**	**35**	P	**P**	**18 40 22.4**	**+0.2**
KIWB	**Kanaga Island**	**63.47**	**35**	P	**P**	**18 40 37.3**	**+0.3**
TIXI	**Tiksi**	**63.77**	**1**	P	**P**	**18 40 39.1**	**+0.5**
TIXI				IAmb	IAmb	18 40 56.7	
	comp=Z,7.7nm,0.9s						
BVAR	**Borovoye Array**	**63.80**	**326**	P	**P**	**18 40 38.9**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=117,slow=6.3,SNR=6.8						
	comp=Z,1.0nm,0.5s						
ATKA	**Atka Island**	**65.30**	**36**	P	**P**	**18 40 48.6**	**-0.2**
ATKA				IAmb	IAmb	18 41 27.4	
	comp=Z,9.9nm,1.0s						
BKZ	**Black Stump Fm**	**65.79**	**139**	P	**P**	**18 40 52.7**	**+0.3**
AB31	**Akbulak array**	**68.87**	**320**	P	**P**	**18 41 11.4**	**-0.2**
ABKAR	**Akbulak array**	**68.87**	**320**	P	**P**	**18 41 11.3**	**-0.3**
CASY	**Casey**	**74.84**	**187**	P	**P**	**18 41 47.9**	**+1.0**
CASY				IAmb	IAmb	18 41 51.0	
	comp=Z,10nm,1.3s						
M16K	**Timber Creek**	**75.71**	**29**	P	**P**	**18 41 53.6**	**+1.4**
M16K				IAmb	IAmb	18 41 54.2	
	comp=Z,6.8nm,0.9s						
E18K	**Tukpahlearik C**	**76.27**	**22**	P	**P**	**18 41 56.3**	**+1.1**
K17K	**Iditarod**	**76.30**	**27**	P	**P**	**18 41 55.4**	**-0.1**
K17K				IAmb	IAmb	18 41 58.6	
	comp=Z,8.6nm,1.1s						
C18K	**Utukok River**	**76.34**	**21**	P	**P**	**18 41 56.8**	**+1.1**
C18K				IAmb	IAmb	18 41 57.8	
	comp=Z,14nm,1.1s						
D19K	**Kuna River**	**77.41**	**21**	P	**P**	**18 42 02.2**	**+0.5**
D19K				IAmb	IAmb	18 42 06.2	
	comp=Z,13nm,1.3s						
KDAK	**Kodiak Island**	**78.58**	**33**	P	**P**	**18 42 08.0**	**-0.3**
KDAK				IAmb	IAmb

	comp=E,140nm,0.6s							
PFO	**Pinyon Flats O**	**2.48**	**155**			Pn	18 50 38.3	-1.0
PMPB	**Monarch Peak**	**2.53**	**279**			Pn	18 50 39.5	-0.4
PMPB					IAML		18 51 19.4	
	comp=E,292nm,0.8s							
FRD	**Ford Ranch, An**	**2.54**	**159**			Pn	18 50 39.6	-0.5
NV11	**Mina Array Sit**	**2.58**	**352**			Pn	18 50 39.8	-0.9
RAMR	**Ramage Ranch**	**2.58**	**266**			Pn	18 50 39.9	-0.7
NVAR	**Mina Array Bea**	**2.59**	**350**			Pn	18 50 39.9	-1.1
PRN	**Pahroc Range**	**2.63**	**54**			Pn	18 50 40.0	-1.4
PRN					IAML		18 51 35.2	
	comp=N,209nm,0.6s							
PRN					IAML		18 51 35.5	
	comp=E,240nm,0.6s							
NEE2	**Needles Airpor**	**2.76**	**113**			Pn	18 50 41.6	-1.4
NEE2					IAML		18 51 29.0	
	comp=E,202nm,0.6s							
BBGB	**Big Mountain B**	**2.78**	**286**			Pn	18 50 42.0	-1.5
MATG	**Mataguay Scout**	**2.81**	**162**			Pn	18 50 43.4	-0.4
BORC	**Borrego Spring**	**2.81**	**157**			Pn	18 50 42.4	-1.3
BORC					IAML		18 51 30.1	
	comp=N,124nm,0.8s							
BORC					IAML		18 51 32.9	
	comp=E,136nm,0.8s							
RYN	**Ryan**	**2.83**	**347**			Pn	18 50 42.7	-1.4
BSM	**San Miguel Isl**	**2.84**	**231**			Pb	18 50 48.1	-1.3
DPP	**Dos Picos Cty**	**2.94**	**167**			Pn	18 50 44.3	-1.2
DPP					IAML		18 51 30.6	
	comp=E,129nm,0.5s							
DPP					IAML		18 51 32.2	
	comp=N,71nm,0.5s							
SALN	**Salton City**	**2.95**	**151**			Pn	18 50 45.4	-0.2
WAKR	**Walker**	**2.97**	**333**			Pn	18 50 46.0	-0.1
Q09A	**Carvers**	**2.98**	**8**			Pn	18 50 45.4	-0.9
Q09A					IAML		18 51 37.9	
	comp=E,180nm,0.5s							
Q09A					IAML		18 51 42.3	
	comp=N,200nm,0.9s							
R11B	**Troy Canyon, C**	**3.00**	**34**			Pn	18 50 45.3	-1.2
R11B					IAML		18 51 35.1	
	comp=E,91nm,1.2s							
CMB	**Columbia Colle**	**3.04**	**316**			Pn	18 50 46.2	-0.7
CMB					IAML		18 51 38.0	
	comp=E,66nm,0.6s							
CMB					IAML		18 51 38.4	
	comp=N,73nm,1.0s							
SAO	**San Andreas Ge**	**3.15**	**287**			Pn	18 50 47.0	-1.4
W13A	**Hualapai Mount**	**3.21**	**103**			Pn	18 50 48.1	-1.4
BLYC	**Blythe**	**3.37**	**128**			Pn	18 50 50.2	-1.2
BLYC					IAML		18 51 50.6	
	comp=E,58nm,1.2s							
BLYC					IAML		18 51 56.4	
	comp=N,66nm,0.8s							
TKX	**Tecate**	**3.42**	**164**	Pn		Pn	18 50 51.4	-0.8
YUH	**Yuha Desert**	**3.57**	**155**			Pn	18 50 52.6	-1.2
CBX	**Cerro Bola**	**3.66**	**166**			Pn	18 50 54.8	-0.7
GLA	**Glamis**	**3.69**	**139**			Pn	18 50 54.7	-1.1
GLA					IAML		18 51 58.2	
	comp=N,98nm,0.6s							
LCMT	**Little Creek M**	**3.77**	**71**			Pn	18 50 56.4	-0.8
CCUT	**Cedar City**	**3.87**	**63**			Pn	18 50 56.7	-1.9
MPK	**Martis Peak**	**3.88**	**332**	Pn		Pn	18 50 58.7	0.0
MPK					IAML		18 52 17.7	
	comp=E,82nm,0.8s							
MPK					IAML		18 52 19.3	
	comp=N,92nm,0.9s							
AFDM	**Forest Hills D**	**4.02**	**321**			Pn	18 50 59.6	-0.8
AFDM					IAML		18 52 09.0	
	comp=E,61nm,0.7s							
AFDM					IAML		18 52 09.3	
	comp=N,39nm,1.1s							
PAHR	**Pah Rah Range**	**4.05**	**341**			Pn	18 50 59.8	-1.1
PSUT	**Pine Spring**	**4.06**	**48**			Pn	18 50 59.6	-1.5
PSUT					IAML		18 52 08.9	
	comp=E,48nm,1.5s							
PSUT					IAML		18 52 09.7	
	comp=N,50nm,1.2s							
CCX	**Cicese**	**4.09**	**167**	Pn		Pn	18 51 00.3	-1.0
CCX					IAML		18 53 41.8	
	comp=E,94nm,0.1s							
CCX					IAML		18 53 43.6	
	comp=N,84nm,0.1s							
SZCU	**Shurtz Canyon**	**4.09**	**64**			Pn	18 50 59.7	-1.8
KNB	**Kanab**	**4.10**	**72**			Pn	18 50 59.8	-1.8
SPR3	**Spring Creek 3**	**4.12**	**40**			Pn	18 51 00.1	-1.9
SPR3					IAML		18 52 09.1	
	comp=E,48nm,0.9s							
SPR3					IAML		18 52 15.7	
	comp=N,35nm,1.3s							
ESJX	**Sierra Juarez**	**4.13**	**159**		IAML		18 52 37.2	
	comp=E,72nm,0.1s							
ESJX					IAML		18 52 40.3	
	comp=N,34nm,0.1s							
Y14A	**Wickenburg**	**4.32**	**115**			Pn	18 51 03.8	-0.7
Y14A					IAML		18 52 17.2	
	comp=N,53nm,0.8s							
Y14A					IAML		18 52 18.4	
	comp=E,37nm,0.7s							
U15A	**North Rim**	**4.42**	**81**		IAML		18 52 29.4	
	comp=N,23nm,0.8s							
U15A					IAML		18 52 30.2	
	comp=E,29nm,1.1s							
BEKR	**Beckworth**	**4.50**	**333**		IAML		18 52 32.7	
	comp=E,38nm,0.7s							
WUAZ	**Wupatki**	**5.17**	**92**			Pn	18 51 13.7	-2.6
WUAZ					IAML		18 52 47.2	
	comp=E,30nm,1.2s							
WUAZ					IAML		18 52 51.7	
	comp=E,24nm,1.5s							
ELK	**Elko**	**5.24**	**21**		IAML		18 52 46.2	
	comp=E,12nm,0.5s							
X16A	**Lo Mia Camp, P**	**5.34**	**104**			Pn	18 51 17.7	-0.9
Q16A	**Castle Valley**	**6.03**	**58**			Pn	18 51 27.0	-1.2
X18A	**Snowflake**	**6.49**	**100**			Pn	18 51 32.3	-2.2
SRU	**San Rafael Swe**	**6.56**	**58**			Pn	18 51 34.3	-1.1
TUC	**Tucson**	**6.75**	**120**			Pn	18 51 36.1	-1.9
P18A	**Preston Nutter**	**7.00**	**55**			Pn	18 51 38.7	-2.9
PV18	**Skein Mesa, Pa**	**7.42**	**69**			Pn	18 51 45.4	-1.9
PV13	**Radium Mtn., P**	**7.47**	**70**			Pn	18 51 45.6	-2.4
PV01	**Paradox Valley**	**7.65**	**70**			Pn	18 51 49.8	-0.7

*SNET **20** 19:09:07.2±1.2, 12°.63N×88°.64W, h16km±11km, ML3.2*
*CATAC **20** 19:09:07.2±0.8, 13°.N±3°×8°.9W±°, h27km±8km, M3.4/18, MLv3.4/18, Error ellipse: s-maj=7.2km s-min=3.3km az=26.3, confirmed*
*GCG **20** 19:09:08.5±0.3, 12°.60N×88°.72W, h35km, MD3.8, ML2.5*
ISC 20 19:09:06.6±1.7, 12°.57N±0°.07×88°.62W±0°.04, h27km±14km, n51, σ0°.45/61, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECA	**Tecapa**	**0.93**	**7**	*eP*	**Pn**	**19 09 24.0**	**-0.1**
TECA				*eP*	**Pn**	19 09 24.0	-0.1
TECA				*eS*	**Sb**	**19 09 36.3**	**+0.1**
PACA	**Pacayal**	**0.94**	**18**	*eP*	**Pn**	**19 09 23.7**	**-0.5**
PACA				*eS*	**Sn**	**19 09 37.2**	**+0.3**
PACA				IAML		19 09 41.5	
	comp=Z,4μm,0.2s						
PACA	**Pacayal**	**0.94**	**18**	P	**Pn**	**19 09 24.3**	**+0.1**
TECO	**Alcaldia de Te**	**0.97**	**351**	*eP*	**Pn**	**19 09 23.5**	**-1.1**
TECO				IAML		19 09 39.5	
	comp=Z,222nm,0.1s						
TECO	**Alcaldia de Te**	**0.97**	**351**	P	**Pn**	**19 09 24.7**	**0.0**
TECO	**Alcaldia de Te**	**0.97**	**351**	S	**Sn**	**19 09 37.6**	**+0.1**
CNRM	**Centro Naciona**	**1.00**	**26**	P	**Pn**	**19 09 25.1**	**+0.1**
LCND	**La Caada**	**1.02**	**44**	*eP*	**Pn**	**19 09 24.6**	**-0.6**
LCND				IAML		19 09 41.8	
	comp=Z,372nm,0.2s						
LCND	**La Caada**	**1.02**	**44**	P	**Pn**	**19 09 24.9**	**-0.3**
CNCH	**Conchagua**	**1.04**	**47**	*eP*	**Pn**	**19 09 25.0**	**-0.6**
CNCH				*eS*	**Sn**	**19 09 39.5**	**+0.2**
CNCH	**Conchagua**	**1.04**	**47**	P	**Pn**	**19 09 25.2**	**-0.4**
CNCH	**Conchagua**	**1.04**	**47**	S	**Sb**	**19 09 40.0**	**+0.7**
PQSS	**Presa 15 de Se**	**1.05**	**3**	*eP*	**Pn**	**19 09 25.7**	**+0.1**
PQSS				*eS*	**Sn**	**19 09 38.9**	**-0.6**
PQSS				IAML		19 09 40.3	
	comp=Z,627nm,0.2s						
PQSS	**Presa 15 de Se**	**1.05**	**3**	S	**Sb**	**19 09 39.8**	**+0.3**
PQSS	**Presa 15 de Se**	**1.05**	**3**	P	**Pn**	**19 09 25.9**	**+0.3**
COEG	**Centro de Oper**	**1.07**	**346**	P	**Pn**	**19 09 26.2**	**+0.2**
COEG	**Centro de Oper**	**1.07**	**346**	S	**Sn**	**19 09 39.9**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.13**	**355**	*eP*	**Pn**	**19 09 27.2**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.13**	**355**	P	**Pn**	**19 09 27.4**	**+0.6**
SCLA	**Alcaldia de Sa**	**1.13**	**355**	S	**Sb**	**19 09 42.2**	**+0.3**
LFRS	**El Faro**	**1.13**	**338**	*eP*	**Pn**	**19 09 26.7**	**-0.2**
LFRS				*eS*	**Sn**	**19 09 41.6**	**0.0**
LALI	**Alcalda de L**	**1.14**	**323**	*eS*	**Sn**	**19 09 41.0**	**-0.6**
LALI				IAML		19 09 42.4	
	comp=N,120nm,0.3s						
LALI	**Alcalda de L**	**1.14**	**323**	P	**Pn**	**19 09 26.7**	**-0.1**
POTN	**Potosi Cosigui**	**1.17**	**68**	P	**Pn**	**19 09 27.5**	**+0.3**
POTN				S	**Sb**	**19 09 43.0**	**+0.1**
PAVA	**Las Pavas**	**1.18**	**345**	S	**Sb**	**19 09 43.5**	**+0.2**
PAVA	**Las Pavas**	**1.18**	**345**	P	**Pn**	**19 09 28.0**	**+0.5**
LOMA	**Loma Larga**	**1.19**	**333**	*eP*	**Pn**	**19 09 28.0**	**+0.2**
LOMA	**Loma Larga**	**1.19**	**333**	S	**Sb**	**19 09 43.9**	**0.0**
LOMA	**Loma Larga**	**1.19**	**333**	P	**Pn**	**19 09 28.5**	**+0.8**
CAHU	**Cacacuatique**	**1.26**	**18**	*eP*	**Pn**	**19 09 29.5**	**+0.8**
UEES	**Universidad Ev**	**1.29**	**332**	P	**Pn**	**19 09 29.4**	**+0.4**
PMON	**Piamonte**	**1.32**	**329**	*eP*	**Pn**	**19 09 29.5**	**0.0**
PMON	**Piamonte**	**1.32**	**329**	P	**Pn**	**19 09 29.9**	**+0.4**
PMON	**Piamonte**	**1.32**	**329**	S	**Sn**	**19 09 46.0**	**-0.3**
BOQS	**Boqueron**	**1.32**	**331**	*eP*	**Pb**	**19 09 30.9**	**-0.1**
JAYA	**Jayaque - finc**	**1.35**	**323**	*eP*	**Pn**	**19 09 29.6**	**-0.2**
JAYA				*eS*	**Sn**	**19 09 46.5**	**-0.5**
JAYA				IAML		19 09 47.2	
	comp=Z,750nm,0.2s						
JAYA	**Jayaque - finc**	**1.35**	**323**	*eP*	**Pn**	**19 09 29.8**	**-0.1**
JAYA				*eS*	**Sn**	**19 09 46.5**	**-0.5**
JAYA	**Jayaque - finc**	**1.35**	**323**	P	**Pn**	**19 09 29.7**	**-0.1**
CEDA	**San Andres**	**1.44**	**328**	P	**Pn**	**19 09 31.5**	**+0.4**
CRIN	**San Cristobal**	**1.54**	**85**	P	**Pn**	**19 09 33.1**	**+0.7**
CRIN	**San Cristobal**	**1.54**	**85**	S	**Sb**	**19 09 53.5**	**-0.2**
SBLS	**San Blas**	**1.59**	**322**	*eP*	**Pn**	**19 09 33.9**	**+0.6**
SNJE	**San Jose**	**1.61**	**323**	*eP*	**Pb**	**19 09 35.2**	**-0.6**
CHOHN	**Orocuina**	**1.69**	**57**	P	**Pn**	**19 09 34.9**	**+0.4**
NUBE	**Las Nubes**	**1.74**	**320**	*eP*	**Pn**	**19 09 35.5**	**+0.3**
NUBE	**Las Nubes**	**1.74**	**320**	*eP*	**Pn**	**19 09 35.7**	**+0.5**
NUBE				*i* S	**Sn**	**19 09 57.0**	**+0.3**
NUBE	**Las Nubes**	**1.74**	**320**	P	**Pn**	**19 09 35.9**	**+0.6**
FAME	**Alcaldia de Sa**	**1.85**	**313**	P	**Pn**	**19 09 37.7**	**+1.0**
CNGN	**Cerro Negro**	**1.88**	**92**	P	**Pn**	**19 09 37.4**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.98**	**41**	P	**Pn**	**19 09 39.3**	**+0.8**
COPN	**Copaltepe**	**2.02**	**101**	P	**Pn**	**19 09 38.8**	**-0.2**

*NEIC **20** 19:11:03.4±1.2, 52°.4N±0°.2×173°.94W±0°.04, h163km±13km, mb3.7/23, ML3.5/16, ML2.8(AEIC), Error ellipse: s-maj=32.9km s-min=2.3km az=176.0*
*AEIC **20** 19:11:04.3±6.0, 52°.4N±0°.2×174°.1W±0°.2, h150km±8km, Error ellipse: s-maj=35.1km s-min=9.6km az=162.0*
ISC 20 19:11:02.8±1.6, 52°.3N±0°.3×173°.9W±0°.1, h164km±13km, n50, σ0°89/55, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.21**	**241**		**Pn**	**19 11 25.1**	**+0.4**
ATKA					**Sn**	**19 11 41.1**	**-0.2**
ATKA				IAML		19 11 42.1	
	comp=N,317nm,0.4s						
GSIG	**Igitkin Island**	**1.29**	**257**		**Pn**	**19 11 31.6**	**+0.4**
GSIG					**Sn**	**19 11 52.4**	**-0.9**
GSTR	**Great Sitkin T**	**1.34**	**262**		**Pn**	**19 11 32.5**	**+0.7**
GSTR					**Sn**	**19 11 53.7**	**-0.5**
GSTR				IAML		19 11 59.5	
	comp=E,427nm,0.4s						
GSTR				IAML		19 12 04.3	
	comp=N,537nm,0.4s						
GSMY	**Great Sitkin M**	**1.35**	**260**		**Pn**	**19 11 32.3**	**+0.4**
GSMY					**Sn**	**19 11 54.7**	**+0.4**
GSTD	**Great Sitkin T**	**1.40**	**261**		**Pn**	**19 11 32.8**	**+0.4**
GSSP	**Great Sitkin S**	**1.42**	**262**		**Pn**	**19 11 33.0**	**+0.6**
GSCK	**Great Sitkin C**	**1.42**	**259**		**Pn**	**19 11 33.1**	**+0.6**
GSCK					**Sn**	**19 11 55.3**	**-0.2**
ETKA	**Kagalaska Isla**	**1.61**	**255**		**Pn**	**19 11 35.0**	**+0.6**
ADAG	**Mount Adagdak**	**1.69**	**260**		**Pn**	**19 11 36.1**	**+0.8**
ADK	**Adak**	**1.77**	**257**		**Pn**	**19 11 36.8**	**+0.7**
ADK				IAML		19 12 04.5	
	comp=N,261nm,0.3s						
ADK	**Adak**	**1.77**	**257**		**Sn**	**19 12 01.4**	**-0.4**
KIRH	**Kanaga Island**	**2.01**	**260**		**Pn**	**19 11 39.6**	**+0.9**
KIWB	**Kanaga Island**	**2.06**	**259**		**Pn**	**19 11 40.1**	**+0.8**
KIWB				IAML		19 12 10.8	
	comp=N,217nm,0.3s						
KIWB				IAML		19 12 10.9	
	comp=E,181nm,0.5s						
TAPA	**Tanaga Point A**	**2.46**	**260**		**Pn**	**19 11 44.9**	**+0.8**
TASE	**Tanaga Southea**	**2.59**	**261**		**Pn**	**19 11 46.6**	**+1.0**
GAKI	**Gareloi-Kavalg**	**3.13**	**258**		**Pn**	**19 11 53.0**	**+0.8**
NIKH	**Nikolski High**	**3.15**	**76**	Pn	**Pn**	**19 11 53.3**	**+0.9**
OKRE	**Okmok R'deer P**	**3.68**	**68**		**Pn**	**19 12 20.7**	**+2.2**
AMKA	**Amchitka**	**4.32**	**260**		**Pn**	**19 12 07.5**	**+0.2**
UNV	**Unalaska Valle**	**4.72**	**68**	Pn	**Pn**	**19 12 13.6**	**+1.0**
UNV				IAML		19 12 60.0	
	comp=N,15nm,2.9s						
LVA	**Lava Point**	**5.08**	**65**	Pn	**Pn**	**19 12 18.4**	**+1.1**
AKUT	**Akutan**	**5.22**	**66**	Pn	**Pn**	**19 12 20.2**	**+1.1**
AKUT				IAML		19 15 09.8	
	comp=E,32nm,3.0s						
SDPT	**Sand Point**	**8.51**	**64**	Pn	**Pn**	**19 13 01.9**	**-0.7**
CNBA	**Chernabura Isl**	**8.88**	**68**	Pn	**Pn**	**19 13 06.0**	**-1.6**
O18K	**Koktuh Hills**	**12.86**	**47**	Pn	**Pn**	**19 13 59.5**	**+0.1**
Q19K	**Cape Douglas,**	**13.20**	**52**	Pn	**Pn**	**19 14 04.5**	**+0.8**
CNPM	**China Poot**	**14.57**	**51**	Pn	**Pn**	**19 14 20.7**	**-0.2**
SEW	**Seward**	**15.61**	**50**	Pn	**Pn**	**19 14 32.2**	**-1.5**
SEW				IAmb	IAmb	19 14 40.1	
	comp=Z,6.0nm,1.1s						
CAST	**Castle Rocks**	**15.98**	**37**	P	**Pn**	**19 14 37.8**	**-0.5**
PWL	**Port Wells**	**16.39**	**48**	P	**P**	**19 14 41.6**	**-1.4**
PWL				IAmb	IAmb	19 14 44.6	
	comp=Z,4.0nm,1.0s						
SCM	**Sheep Creek Mo**	**17.19**	**46**	P	**P**	**19 14 52.5**	**+0.6**
SCM				IAmb	IAmb	19 15 01.2	
	comp=Z,5.5nm,1.1s						
FID	**Port Fidalgo**	**17.21**	**50**	P	**P**	**19 14 50.7**	**-1.4**
RND	**Reindeer**	**17.22**	**40**	P	**P**	**19 14 52.2**	**0.0**
RND				IAmb	IAmb	19 14 54.1	
	comp=Z,2.7nm,0.6s						
NEA2	**Nenana**	**17.74**	**36**	P	**P**	**19 14 58.0**	**+0.1**
NEA2				IAmb	IAmb	19 14 59.2	
	comp=Z,2.4nm,1.0s						
I23K	**Minto, Yukon-K**	**17.94**	**35**	P	**P**	**19 15 01.1**	**+1.2**
I23K				IAmb	IAmb	19 15 03.2	
	comp=Z,1.5nm,0.6s						
CCB	**Clear Creek Bu**	**18.23**	**37**	P	**P**	**19 15 03.0**	**-0.2**
N25K	**Chitina, Valde**	**18.34**	**48**	P	**P**	**19 15 05.7**	**+1.2**
N25K				IAmb	IAmb	19 15 08.5	
	comp=Z,2.4nm,1.0s						
GLB	**Gilahina Butte**	**18.65**	**49**	P	**P**	**19 15 09.7**	**+1.8**
GLB				IAmb	IAmb	19 15 10.9	
	comp=Z,3.5nm,1.2s						
RIDG	**Independent Ri**	**18.98**	**42**	P	**P**	**19 15 11.3**	**0.0**
J25K	**Salcha River,**	**19.14**	**39**	P	**P**	**19 15 12.3**	**-0.8**
J25K				IAmb	IAmb	19 15 14.5	
	comp=Z,2.6nm,0.5s						
DOT	**Dot Lake**	**19.26**	**42**	P	**P**	**19 15 14.1**	**-0.3**
SCRK	**Sand Creek**	**19.42**	**41**	P	**P**	**19 15 15.7**	**-0.5**
M27K	**Edge Creek, AK**	**19.79**	**47**	P	**P**	**19 15 21.9**	**+1.7**
J26L	**Joseph Creek**	**19.80**	**40**	P	**P**	**19 15 19.7**	**-0.5**
K27K	**Chicken**	**20.22**	**42**	P	**P**	**19 15 25.1**	**+0.4**
K27K				IAmb	IAmb	19 15 30.8	
	comp=Z,2.3nm,0.9s						
I26K	**Coal Creek Min**	**20.29**	**38**	P	**P**	**19 15 24.4**	**-1.0**
I26K				IAmb	IAmb	19 15 31.9	
	comp=Z,2.4nm,1.1s						
I28M	**Miner Creek**	**21.59**	**39**	P	**P**	**19 15 38.6**	**-0.7**
K29M	**Barlow Dome**	**22.09**	**44**	P	**P**	**19 15 44.0**	**-0.4**
K29M				IAmb	IAmb	19 15 46.3	
	comp=Z,3.2nm,0.9s						
J30M	**Hart River**	**22.77**	**43**	P	**P**	**19 15 50.8**	**-0.2**
I30M	**Mount Dempster**	**22.93**	**41**	P	**P**	**19 15 51.7**	**-0.6**
I30M				IAmb	IAmb	19 15 54.0	
	comp=Z,1.2nm,0.7s						

IDC 20 19:48:51.8±21.0, 20°.71S×179°.27W, h585km±205km, mb3.2/3, mbtmp4.2/3, Error ellipse: s-maj=151.7km s-min=112.2km az=106.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.63**	**244**	P	P	19 55 09.2	-0.8
	2.3nm,0.7s,baz=84,slow=9.2,SNR=2.2 2.3nm,0.7s						
ASAR	**Alice Springs**	**43.31**	**257**	P	P	19 56 03.5	0.0
	4.1nm,0.8s,baz=92,slow=8.0,SNR=70						
ASAR				PcP	PcP	19 57 38.5	-0.5
	0.5nm,0.7s,baz=99,slow=3.5,SNR=4.9 4.1nm,0.8s						
WRA	**Warramunga Arr**	**43.40**	**263**	P	P	19 56 04.2	+0.1
	1.2nm,0.3s,baz=96,slow=7.6,SNR=43 1.2nm,0.3s						
ARCES	**ARCESS Array B**	**128.91**	**349**	PKP	PKPdf	20 06 52.8	-0.3
	0.8nm,0.8s,baz=34,slow=2.7,SNR=4.1						
FINES	**FINESS Array B**	**135.63**	**343**	PKP	PKPdf	20 07 05.3	-0.6
	1.0nm,0.9s,baz=108,slow=4.5,SNR=4.4						
HFS	**Hagfors**	**139.55**	**350**	PKhKP	PKPpre	20 07 05.9	
	0.4nm,0.3s,baz=66,slow=3.6,SNR=8.7						
AKASG	**Malin Array Be**	**142.62**	**330**	PKhKP	PKPpre	20 07 15.8	
	1.2nm,0.5s,baz=45,slow=4.1,SNR=13						

*BJI **20** 20:43:39.6, 6°.35S×149°.80E, h60km, mB5.4/72, mb5.2/89, Ms5.2/93, Ms7 5.2/91*
*NEIC **20** 20:43:43.8, 6°.04S×149°.61E, h50km, Moment Tensor Solution. Duration: 3s2 Moment tensor: Scale 10^17^Nm; Mrr3.11; Mθθ-3.35; Mφφ0.24; Mrθ0.77; Mθφ-0.60; Mrφ0.65; Fault plane solution: M0 3.44000×10^17^ NP1: φs270.76000°, δ38.47000°, λ105.52000°. NP2: φs71.24000°, δ53.17000°, λ78.00000°. Principal axes: T 3.3156, Plg78.0000°, Azm297.0000°; N 0.2448, Plg10.0000°, Azm79.0000°; P -3.5604, Plg7.0000°, Azm170.0000°;*
*MOS **20** 20:43:43.7±1.2, 5°.99S×149°.40E, h60km, mb5.5/41, MS5.1/30 Error ellipse: s-maj=8.2km s-min=4.9km az=111.7*
*NEIC **20** 20:43:43.8, 6°.04S×149°.51E, h50km*
*IDC **20** 20:43:44.5±1.5, 6°.05S×149°.37E, h54km±11km, mb5.0/22, mbtmp5.3/24, MS4.8/53, Error ellipse: s-maj=13.1km s-min=8.6km az=112.0*
*NEIC **20** 20:43:44.3±2.2, 6°.00S±0°.06×149°.50E±0°.06, h49km±1km, mb5.3/149, Ms_20 5.2/850, Mww5.6/25, Error ellipse: s-maj=11.3km s-min=10.0km az=210.0*
*IPGP **20** 20:43:44.0, 6°.01S×149°.51E, h56km, Mw5.7, Fault plane solution: NP1:φs266.00000°, δ39.00000°, λ104.00000°. NP2:φs68.00000°, δ53.00000°, λ79.00000°.*
*GCMT **20** 20:43:47.3±0.1, 6°.16S±0°.01×149°.61E±0°.01, h60km, MW5.7/160, Moment Tensor Solution. s157,c299; s160,c317; Duration: 1s7 Moment tensor: Scale 10^17^ Nm; Mrr3.30±.04; Mθθ-4.10±.04; Mφφ0.80±.04; Mrθ1.01±.04; Mθφ-0.91±.04; Mrφ0.75±.04; Best double couple: M0 4.00500×10^17^ NP1:φs273.00000°, δ38.00000°, λ109.00000°. NP2:φs69.00000°, δ54.00000°, λ76.00000°. Principal axes: T 3.5800, Plg76.0000°, Azm294.0000°; N 0.8540, Plg12.0000°, Azm77.0000°; P -4.4290, Plg8.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **20** 20:43:47.2±2.7, 6°.S±6°×15°.0E±°, h35km±49km, M5.4/8, mb5.4/8, mB5.8/8, Mw(mB)5.4/8, MwMwp5.3/6, Mwp5.5/6*
ISC 20 20:43:44.5±0.3, 6°.06S±0°.03×149°.53E±0°.03, h58km±2km, h58km:pP-P, n1306, σ1°53/997, mb5.3/165, MS5.2/504, 23C-20D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I40PG	**Keravat**	**3.03**	**55**	P	**Pn**	**20 44 32.9**	**+2.8**
	baz=217,slow=19						
RABL	**Rabaul**	**3.21**	**55**		**Pn**	**20 44 32.5**	**-0.1**
MANU	**Manus Island**	**4.54**	**332**		**Pn**	**20 44 51.3**	**+0.6**
TABU	**Tabubil**	**8.31**	**275**	P	**Pn**	**20 45 43.7**	**+1.3**
JAY	**Jayapura**	**9.48**	**291**	P	**Pn**	**20 45 58.0**	**-0.5**
	13nm,0.8s,baz=161,slow=6.5,SNR=47						
JAY				S	**Sn**	**20 47 42.3**	**-1.4**
	38nm,0.9s,baz=343,slow=18,SNR=1.2						
JAY				LR	LR	20 50 26.2	
	comp=Z,6μm,18.7s,baz=83,slow=43						
JAY	**Jayapura**	**9.48**	**291**	P	**Pn**	**20 46 02.6**	**+4.1**
	3μm135nm,0.9s						
GENI	**Genyem**	**9.95**	**290**	P	**Pn**	**20 46 07.0**	**+2.1**
GENI	**Genyem**	**9.95**	**290**	P	**Pn**	**20 46 08.6**	**+3.7**
	13μm5μm209nm,1.2s						
COEN	**Coen**	**10.03**	**218**		**Pn**	**20 46 05.9**	**-0.1**
COEN	**Coen**	**10.03**	**218**	P	**Pn**	**20 46 07.1**	**+1.0**
	comp=Z,0.0nmcomp=Z,162nm,0.7s						
COEN	**Coen**	**10.03**	**218**	P	**Pn**	**20 46 08.0**	**+2.0**
TATA	**Tatamba Isabel**	**10.45**	**103**	P	**Pn**	**20 46 15.3**	**+3.6**
SAVO	**Savo Central**	**10.64**	**107**	P	**Pn**	**20 46 18.0**	**+3.7**
HNR	**Honiara**	**10.85**	**109**		**Pn**	**20 46 17.7**	**+0.6**
HNR	**Honiara**	**10.85**	**109**	P	**Pn**	**20 46 20.0**	**+2.9**
	comp=Z,234nm,0.8s,baz=186,slow=5.3,SNR=14						
HNR				S	**Sn**	**20 48 13.4**	**-3.7**
	comp=Z,40nm,0.4s,baz=91,slow=17,SNR=1.0						
HNR				LR	LR	20 48 57.6	
	comp=Z,2μm,21.4s,baz=286,slow=28						
HNR	**Honiara**	**10.85**	**109**	P	**Pn**	**20 46 21.5**	**+4.4**
ALEG	**Aligegeo Malai**	**11.

GC1S	**Gold Coast 1 S**	**22.30**	**171**	P	**P**	**20**	**48 39.5 +2.4**
KNRA	**Kununurra**	**22.50**	**243**	P	**P**	**20**	**48 39.5 -0.1**
KNRA	**Kununurra**	**22.50**	**243**	P	**P**	**20**	**48 39.4 -0.1**
	comp=Z,329nm,0.8s						
DZM	**Mont Dzumac**	**22.81**	**136**	P	**P**	**20**	**48 42.5 -0.3**
DZM				IAmb	IAmb	20	48 58.5
	comp=Z,98nm,0.7s						
DZM				IAMs_20	IAMs_20	20	56 23.0
	comp=Z,9µm,21.0s						
DZM	**Mont Dzumac**	**22.81**	**136**	*e*P	**P**	**20**	**48 42.0 -0.8**
	comp=Z,346nm,1.6s						
DZM				*e*S	**S**	**20**	**52 42.0 -5.9**
	comp=Z,8µm,26.1s						
DZM				*e*LR	LR	20	54 27.2
	comp=Z,20µm,25.1s						
DZM	**Mont Dzumac**	**22.81**	**136**	P	**P**	**20**	**48 44.8 +2.0**
ONTNC	**Ouen Toro**	**22.98**	**136**		**P**	**20**	**48 42.8 -1.5**
ONTNC				IAmb	IAmb	20	48 59.4
	comp=Z,77nm,0.8s						
ONTNC	**Ouen Toro**	**22.98**	**136**	P	**P**	**20**	**48 46.9 +2.6**
AS01	**Alice Springs**	**23.04**	**219**	P	**P**	**20**	**48 46.9 +1.8**
AS31	**Alice Springs**	**23.07**	**219**	P	**P**	**20**	**48 45.1 -0.2**
AS31				IAmb	IAmb	20	49 07.0
	comp=Z,60nm,0.8s						
AS31	**Alice Springs**	**23.07**	**219**	P	**P**	**20**	**48 47.1 +1.7**
	comp=Z,87nm,0.8s						
ASAR	**Alice Springs**	**23.07**	**219**		**P**	**20**	**48 45.4 0.0**
ASAR	**Alice Springs**	**23.07**	**219**	P	**P**	**20**	**48 45.5 +0.1**
	comp=Z,67nm,0.6s,baz=55,slow=8.2,SNR=124						
ASAR				PcP	**PcP**	**20**	**52 34.0 +1.1**
	comp=Z,23nm,0.7s,baz=68,slow=2.9,SNR=6.6						
ASAR				S	**S**	**20**	**52 53.6 +1.5**
	comp=Z,54nm,1.0s,baz=32,slow=21,SNR=9.7						
ASAR				LR	LR	20	58 38.6
	comp=Z,5µm,19.4s,baz=30,slow=39						
	comp=Z,67nm,0.6s						
TNTI	**Ternate**	**23.15**	**286**	P	**P**	**20**	**48 44.9 -1.3**
OUENC	**Ouen Island, N**	**23.32**	**136**	P	**P**	**20**	**48 50.3 +2.6**
INH	**Isangel**	**23.41**	**127**	P	**P**	**20**	**48 51.1 +2.5**
PINNC	**Pines Island,**	**23.86**	**135**	P	**P**	**20**	**48 53.9 +1.2**
PINNC				IAmb	IAmb	20	49 10.0
	comp=Z,147nm,1.1s						
PINNC	**Pines Island,**	**23.86**	**135**	P	**P**	**20**	**48 56.3 +3.6**
ARMA	**Armidale**	**24.31**	**176**	P	**P**	**20**	**48 57.6 +0.8**
ARMA				IAmb	IAmb	20	49 14.2
	comp=Z,128nm,0.8s						
ARMA	**Armidale**	**24.31**	**176**	P	**P**	**20**	**48 58.9 +2.1**
	comp=Z,216nm,0.8s						
ARMA	**Armidale**	**24.31**	**176**	P	**P**	**20**	**48 59.2 +2.4**
SOEI	**Soe**	**25.29**	**260**	P	**P**	**20**	**49 05.8 -0.1**
SOEI	**Soe**	**25.29**	**260**	P	**P**	**20**	**49 07.1 +1.2**
CMSA	**Cobar Meteorol**	**25.60**	**188**	P	**P**	**20**	**49 09.8 +1.4**
	comp=Z,116nm,1.0s						
CMSA	**Cobar Meteorol**	**25.60**	**188**	P	**P**	**20**	**49 10.3 +1.9**
BATI	**Baumata**	**25.93**	**259**	P	**P**	**20**	**49 11.8 +0.1**
	comp=Z,129nm,0.8s,baz=134,slow=1.6,SNR=31						
BATI				LR	LR	21	01 46.5
	comp=Z,5µm,21.3s,baz=106,slow=42						
	comp=Z,129nm,0.8s						
FITZ	**Fitzroy Crossi**	**26.20**	**241**	P	**P**	**20**	**49 13.8 -0.2**
FITZ				IAmb	IAmb	20	49 41.1
	comp=Z,68nm,0.7s						
FITZ	**Fitzroy Crossi**	**26.20**	**241**	P	**P**	**20**	**49 13.8 -0.2**
	comp=Z,97nm,0.8s						
FITZ	**Fitzroy Crossi**	**26.20**	**241**	P	**P**	**20**	**49 13.5 -0.5**
	comp=Z,218nm,0.8s,baz=84,slow=7.8,SNR=167						
FITZ				LR	LR	21	00 37.3
	comp=Z,3µm,19.4s,baz=68,slow=39						
	comp=Z,218nm,0.8s						
FITZ	**Fitzroy Crossi**	**26.20**	**241**	P	**P**	**20**	**49 15.5 +1.5**
STKA	**Stephens Creek**	**26.73**	**195**	P	**P**	**20**	**49 18.9 +0.2**
STKA	**Stephens Creek**	**26.73**	**195**	P	**P**	**20**	**49 22.1 +3.4**
	comp=Z,428nm,1.2s						
STKA	**Stephens Creek**	**26.73**	**195**	P	**P**	**20**	**49 19.1 +0.5**
	comp=Z,58nm,0.9s,baz=346,slow=9.1,SNR=35						
STKA				LR	LR	21	00 06.5
	comp=Z,4µm,21.3s,baz=12,slow=37						
	comp=Z,58nm,0.9s						
STKA	**Stephens Creek**	**26.73**	**195**	P	**P**	**20**	**49 21.2 +2.5**
STKA	**Stephens Creek**	**26.73**	**195**	P	**P**	**20**	**49 18.9 +0.2**
STKA				pmax	pmax		
	comp=Z,339nm,0.9s						
NTLH	**Newcastle Hard**	**26.77**	**176**	P	**P**	**20**	**49 21.4 +2.4**
LHI	**Lord Howe Isla**	**26.85**	**162**	P	**P**	**20**	**49 19.9 +0.2**
LHI				IAmb	IAmb	20	49 49.1
	comp=Z,80nm,1.1s						
MMRI	**Maumere**	**27.19**	**263**	P	**P**	**20**	**49 21.6 -1.4**
MMRI	**Maumere**	**27.19**	**263**	P	**P**	**20**	**49 23.8 +0.8**
DAV	**Davao City (W)**	**27.23**	**298**	LR	LR	21	00 34.8
	comp=Z,754nm,19.7s,baz=122,slow=37						
SYDH	**Sydney Hard Ro**	**27.58**	**178**	P	**P**	**20**	**49 28.7 +2.5**
WRKA	**Warakurna**	**27.75**	**225**	P	**P**	**20**	**49 29.3 +1.4**
	comp=Z,82nm,0.8s						
YNG	**Young**	**28.11**	**182**	P	**P**	**20**	**49 33.0 +1.9**
	comp=Z,48nm,0.7s						
HTT	**Hallett**	**28.96**	**199**	P	**P**	**20**	**49 39.1 +0.5**
HTT	**Hallett**	**28.96**	**199**	P	**P**	**20**	**49 40.4 +1.8**
WHYH	**Whyalla**	**29.05**	**201**	P	**P**	**20**	**49 41.5 +2.2**
CNB	**Canberra Magne**	**29.11**	**180**	P	**P**	**20**	**49 42.2 +2.3**
	comp=Z,82nm,0.9s						
CNB	**Canberra Magne**	**29.11**	**180**	P	**P**	**20**	**49 42.5 +2.6**
CAN	**Canberra**	**29.12**	**181**	P	**P**	**20**	**49 39.2 -0.8**
CAN				IAMs_20	IAMs_20	21	01 41.1
	comp=Z,6µm,18.0s						
CAN	**Canberra**	**29.12**	**181**	P	**P**	**20**	**49 42.3 +2.3**
	comp=Z,41nm,1.0s						
CAN	**Canberra**	**29.12**	**181**	P	**P**	**20**	**49 42.4 +2.4**
CAN	**Canberra**	**29.12**	**181**	P	**P**	**20**	**49 39.2 -0.8**
CAN				pmax	pmax		
	comp=Z,40nm,1.0s						
CAN				MLR	MLR		
	comp=Z,6µm,18.0s						
BBOO	**Buckleboo**	**29.42**	**204**	P	**P**	**20**	**49 42.8 +0.1**
BBOO				IAmb	IAmb	20	50 31.6
	comp=Z,47nm,1.0s						
BBOO	**Buckleboo**	**29.42**	**204**	P	**P**	**20**	**49 44.0 +1.3**
	comp=Z,52nm,0.8s						
FUNA	**Funafuti**	**29.52**	**97**	P	**P**	**20**	**49 44.9 +1.1**
FUNA	**Funafuti**	**29.52**	**97**	P	**P**	**20**	**49 46.7 +3.0**
TOLI2	**Tolitoli**	**29.58**	**283**	P	**P**	**20**	**49 40.6 -3.6**
TOLI2	**Tolitoli**	**29.58**	**283**	P	**P**	**20**	**49 45.6 +1.3**
KAPI	**Kappang**	**29.66**	**271**	LR	LR	21	04 42.3
	comp=Z,960nm,20.7s,baz=92,slow=43						
KAPI	**Kappang**	**29.66**	**271**	P	**P**	**20**	**49 45.7 +0.7**
MSVF	**Nonsavu**	**30.16**	**115**	P	**P**	**20**	**49 49.8 +0.3**
MSVF				IAmb	IAmb	20	50 10.2
	comp=Z,97nm,1.1s						
MSVF	**Nonsavu**	**30.16**	**115**	P	**P**	**20**	**49 52.1 +2.6**
MSVF	**Nonsavu**	**30.16**	**115**⇓	*e*P	**P**	**20**	**49 49.9 +0.4**
MSVF				pmax	pmax		
	comp=Z,76nm,1.0s						
DGTI	**Dogotuki**	**31.28**	**112**	P	**P**	**20**	**50 00.8 +1.5**
ARPS	**Mount Arapiles**	**31.36**	**192**	P	**P**	**20**	**50 01.5 +1.8**
	comp=Z,57nm,0.9s						
TOO	**Toolangi**	**31.58**	**186**	P	**P**	**20**	**50 02.2 +0.5**
TOO	**Toolangi**	**31.58**	**186**	P	**P**	**20**	**50 03.8 +2.1**
	comp=Z,24nm,1.0s						
TOO	**Toolangi**	**31.58**	**186**	P	**P**	**20**	**50 02.2 +0.5**
TOO				pmax	pmax		
	comp=Z,16nm,0.8s						
TOO				MLR	MLR		
	comp=Z,1µm,20.0s						
PLAI	**Plampang**	**31.60**	**263**	P	**P**	**20**	**50 03.2 +1.1**
TAVE	**Taveuni**	**31.72**	**112**	P	**P**	**20**	**50 06.9 +3.8**
BRAT	**Ballarat**	**31.75**	**188**	P	**P**	**20**	**50 06.1 +3.0**
FORT	**Forrest**	**31.80**	**217**	P	**P**	**20**	**50 03.1 -0.5**
FORT				IAmb	IAmb	20	50 20.3
	comp=Z,86nm,0.8s						
FORT	**Forrest**	**31.80**	**217**	P	**P**	**20**	**50 04.9 +1.3**
	comp=Z,124nm,0.9s						
GEXS	**Deakin Univers**	**32.34**	**188**	P	**P**	**20**	**50 11.1 +2.8**
MBWA	**Marble Bar**	**32.53**	**240**	P	**P**	**20**	**50 11.2 +1.0**
MBWA				pP	**pP**	**20**	**50 24.5 +0.1**
PSA00	**Pilbara Seismi**	**32.59**	**239**	P	**P**	**20**	**50 10.6 -0.2**
PSA00				IAmb	IAmb	20	50 13.7
	comp=Z,50nm,0.8s						
PSA00	**Pilbara Seismi**	**32.59**	**239**	P	**P**	**20**	**50 09.8 -1.0**
PSA00				IAmb	IAmb	20	50 13.7
	comp=Z,90nm,0.8s						
PSA00	**Pilbara Seismi**	**32.59**	**239**	P	**P**	**20**	**50 11.0 +0.2**
	comp=Z,140nm,0.8s						
PSA00	**Pilbara Seismi**	**32.59**	**239**	P	**P**	**20**	**50 12.4 +1.6**
FUTU	**Fugatoga**	**32.84**	**107**	P	**P**	**20**	**50 13.3 +0.4**
FUTU	**Fugatoga**	**32.84**	**107**	P	**P**	**20**	**50 15.9 +3.0**
MYLDM	**Lahad Datu**	**32.93**	**289**	P	**P**	**20**	**50 12.3 -1.5**
MYLDM				IAmb	IAmb	20	50 53.1
	comp=Z,38nm,1.0s						
JCJ	**Chichijima**	**33.72**	**348**		**P**	**20**	**50 18.4 -2.1**
JCJ	**Chichijima**	**33.72**	**348**	LR	LR	21	03 41.7
	comp=Z,637nm,19.5s,baz=315,slow=36						
JCJ	**Chichijima**	**33.72**	**348**	P	**P**	**20**	**50 21.7 +1.2**
TGY	**Tagaytay City**	**34.74**	**305**	P	**P**	**20**	**50 29.7 +0.2**
	comp=Z,129nm,0.3s,baz=150,slow=12,SNR=3.3						
TGY				LR	LR	21	02 35.6
	comp=Z,692nm,21.6s,baz=126,slow=33						
GLAD	**Gladstone**	**34.80**	**182**	P	**P**	**20**	**50 32.3 +2.7**
JAGI	**Jajag, Banyuwa**	**35.17**	**264**	P	**P**	**20**	**50 30.3 -2.9**
JAGI				IAmb	IAmb	20	50 36.4
	comp=Z,58nm,0.7s						
JAGI	**Jajag, Banyuwa**	**35.17**	**264**	P	**P**	**20**	**50 33.0 -0.2**
CORO	**Coronation Par**	**35.30**	**183**	P	**P**	**20**	**50 37.0 +3.1**
KKM	**Kota Kinabalu**	**35.37**	**289**	P	**P**	**20**	**50 32.2 -2.8**
MEEK	**Meekatharra**	**35.86**	**232**	P	**P**	**20**	**50 39.0 0.0**
	comp=Z,253nm,1.0s						
MEEK	**Meekatharra**	**35.86**	**232**	P	**P**	**20**	**50 40.8 +1.7**
MOO	**Moorlands**	**36.29**	**183**	P	**P**	**20**	**50 45.2 +2.8**
	comp=Z,136nm,0.9s						
MOO	**Moorlands**	**36.29**	**183**	P	**P**	**20**	**50 45.0 +2.6**
OUZ	**Omahuta**	**36.51**	**146**	P	**P**	**20**	**50 47.3 +2.9**
TAU	**Tasmania Unive**	**36.75**	**183**	P	**P**	**20**	**50 48.2 +1.9**
TAU	**Tasmania Unive**	**36.75**	**183**	P	**P**	**20**	**50 49.4 +3.1**
TAU	**Tasmania Unive**	**36.75**	**183**	P	**P**	**20**	**50 48.2 +1.9**
TAU				pmax	pmax		
	comp=Z,89nm,0.9s						
TAU				MLR	MLR		
	comp=Z,7µm,19.0s						
GIRL	**Giralia**	**37.81**	**241**	P	**P**	**20**	**50 56.6 +1.0**
SBUM	**Sibu**	**38.21**	**282**	P	**P**	**20**	**50 56.5 -2.6**
RAO	**Raoul Island**	**38.41**	**131**	LR	LR	21	04 39.1
	comp=Z,908nm,19.0s,baz=310,slow=33						
JOW	**Kunigami**	**38.65**	**329**	P	**P**	**20**	**51 02.1 -0.4**
JOW				IAMs_20	IAMs_20	21	03 31.7
	comp=Z,3µm,20.0s						
JOW	**Kunigami**	**38.65**	**329**	LR	LR	21	03 53.2
	comp=Z,3µm,20.3s,baz=128,slow=31						
JOW	**Kunigami**	**38.65**	**329**	P	**P**	**20**	**51 04.0 +1.5**
UGM	**Wanagama**	**38.75**	**265**	P	**P**	**20**	**51 02.5 -1.2**
KUZ	**Kuaotunu**	**38.80**	**146**	P	**P**	**20**	**51 06.3 +2.6**
KUZ	**Kuaotunu**	**38.80**	**146**	P	**P**	**20**	**51 06.1 +2.4**
AFI	**Afiamalu**	**38.85**	**105**	P	**P**	**20**	**51 04.2 -0.3**
AFI	**Afiamalu**	**38.85**	**105**	P	**P**	**20**	**51 06.1 +1.6**
AFI	**Afiamalu**	**38.85**	**105**	P	**P**	**20**	**51 04.2 -0.3**
AFI				pmax	pmax		
	comp=Z,348nm,1.8s						
MORW	**Morawa**	**39.03**	**230**	P	**P**	**20**	**51 06.5 +0.7**
MORW				IAmb	IAmb	20	51 21.9
	comp=Z,81nm,1.2s						
MORW	**Morawa**	**39.03**	**230**	P	**P**	**20**	**51 06.3 +0.4**
	comp=Z,64nm,1.3s						
MORW	**Morawa**	**39.03**	**230**	P	**P**	**20**	**51 07.3 +1.5**
KLBR	**Kellerberrin**	**39.09**	**225**	P	**P**	**20**	**51 06.3 +0.1**
	comp=Z,225nm,0.8s						
KLBR	**Kellerberrin**	**39.09**	**225**	P	**P**	**20**	**51 07.4 +1.1**
BLDU	**Ballidu**	**39.32**	**228**	P	**P**	**20**	**51 09.6 +1.4**
TOZ	**Tahuroa Road**	**39.39**	**147**	P	**P**	**20**	**51 09.0 +0.4**
TOZ				IAmb	IAmb	20	51 26.5
	comp=Z,64nm,1.2s						
YOJ	**Yonaguni jima**	**39.85**	**321**	P	**P**	**20**	**51 12.3 -0.3**
YOJ				IAMs_20	IAMs_20	21	04 17.8
	comp=Z,4µm,21.0s						
YOJ	**Yonaguni jima**	**39.85**	**321**	P	**P**	**20**	**51 12.3 -0.3**
YOJ				pmax	pmax		
	comp=Z,139nm,0.8s						
YOJ				MLR	MLR		
	comp=Z,4µm,21.0s						
TWGBT	**Beinan**	**39.98**	**317**	P	**P**	**20**	**51 15.0 +1.3**
TWG	**Pinlang**	**39.99**	**317**	P	**P**	**20**	**51 11.8 -1.9**
TWG				IAmb	IAmb	20	51 15.9
	comp=Z,34nm,0.5s						
JHJ2	**Mitsune**	**40.04**	**347**	P	**P**	**20**	**51 12.1 -1.9**
JHJ2	**Mitsune**	**40.04**	**347**	P	**P**	**20**	**51 13.8 -0.2**
NWAO	**Narrogin (SRO)**	**40.20**	**224**	P	**P**	**20**	**51 15.2 -0.3**
NWAO				IAmb	IAmb	20	51 17.9
	comp=Z,36nm,0.8s						
NWAO	**Narrogin (SRO)**	**40.20**	**224**	LR	LR	21	09 22.5
	comp=Z,3µm,18.1s,baz=47,slow=38						
NWAO	**Narrogin (SRO)**	**40.20**	**224**	P	**P**	**20**	**51 15.2 -0.3**
NWAO				pmax	pmax		
	comp=Z,36nm,0.8s						
YULB	**Yu-li**	**40.22**	**318**	P	**P**	**20**	**51 14.7 -1.0**
YULB				IAmb	IAmb	20	51 21.1
	comp=Z,38nm,0.6s						
YULB				IAMs_20	IAMs_20	21	04 33.5
	comp=Z,4µm,20.0s						
YULB	**Yu-li**	**40.22**	**318**	P	**P**	**20**	**51 15.7 0.0**
QRZ	**Quartz Range**	**40.27**	**153**	P	**P**	**20**	**51 18.6 +2.7**
MUN	**Mundaring**	**40.40**	**226**	P	**P**	**20**	**51 14.9 -2.3**
MUN	**Mundaring**	**40.40**	**226**	P	**P**	**20**	**51 19.2 +2.0**
NACB	**Ninganchiao**	**40.56**	**319**	P	**P**	**20**	**51 18.6 +0.1**
NACB				IAmb	IAmb	20	51 21.4
	comp=Z,61nm,0.8s						
NACB				IAMs_20	IAMs_20	21	04 14.5
	comp=Z,4µm,22.0s						
NACB	**Ninganchiao**	**40.56**	**319**	P	**P**	**20**	**51 19.6 +1.1**
TPUB	**Ta-pu**	**40.61**	**317**	IAMs_20	IAMs_20	21	04 28.8
	comp=Z,3µm,22.0s						
TPUB	**Ta-pu**	**40.61**	**317**	P	**P**	**20**	**51 19.5 +0.5**
URZ	**Urewera**	**40.66**	**146**	LR	LR	21	06 11.3
	comp=Z,4µm,20.8s,baz=304,slow=33						
URZ	**Urewera**	**40.66**	**146**	P	**P**	**20**	**51 20.8 +1.7**
HAZ	**Te Kaha**	**40.68**	**145**	P	**P**	**20**	**51 22.3 +2.9**
DSZ	**Denniston Nort**	**40.69**	**154**	P	**P**	**20**	**51 23.8 +4.5**
SSLB	**Suanglung**	**40.72**	**318**	IAMs_20	IAMs_20	21	04 17.7
	comp=Z,4µm,22.0s						
SSLB	**Suanglung**	**40.72**	**318**	P	**P**	**20**	**51 19.7 -0.2**
RTZ	**Ruatahuna**	**40.84**	**146**	P	**P**	**20**	**51 21.1 +0.3**
RTZ				IAmb	IAmb	20	51 38.8
	comp=Z,93nm,1.0s						
RTZ				IAMs_20	IAMs_20	21	05 56.6
	comp=Z,3µm,20.0s						
MWZ	**Matawai**	**40.94**	**146**	P	**P**	**20**	**51 24.2 +2.7**
BKZ	**Black Stump Fm**	**40.97**	**147**	P	**P**	**20**	**51 22.1 +0.4**
BKZ	**Black Stump Fm**	**40.97**	**147**	P	**P**	**20**	**51 24.7 +2.9**
NNZ	**Nelson**	**40.97**	**152**	P	**P**	**20**	**51 23.6 +1.9**
YHNB	**Yeheng**	**41.05**	**319**	IAMs_20	IAMs_20	21	04 42.4
	comp=Z,5µm,22.0s						
YHNB	**Yeheng**	**41.05**	**319**	P	**P**	**20**	**51 23.2 +0.6**
PUZ	**Puketiti**	**41.17**	**145**	P	**P**	**20**	**51 25.5 +2.1**
THZ	**Tophouse**	**41.19**	**153**	P	**P**	**20**	**51 24.0 +0.5**
THZ				IAmb	IAmb	20	51 44.3
	comp=Z,35nm,0.8s						
THZ	**Tophouse**	**41.19**	**153**	P	**P**	**20**	**51 25.3 +1.8**
TATO	**Taipei**	**41.19**	**320**	P	**P**	**20**	**51 23.0 -0.7**
TATO	**Taipei**	**41.19**	**320**	P	**P**	**20**	**51 24.6 +0.9**
TATO	**Taipei**	**41.19**	**320**	P	**P**	**20**	**51 23.9 +0.2**
INZ	**Inchbonnie**	**41.34**	**155**	P	**P**	**20**	**51 26.1 +1.4**
WVZ	**Waitaha Valley**	**41.34**	**156**	P	**P**	**20**	**51 26.1 +1.4**
TSZ	**Takapari Road**	**41.34**	**149**	P	**P**	**20**	**51 27.0 +2.2**
RKGY	**Rocky Gully**	**41.35**	**222**	P	**P**	**20**	**51 26.6 +1.7**
	comp=Z,69nm,0.8s						
KNZ	**Kokohu**	**41.51**	**146**	P	**P**	**20**	**51 27.6 +1.6**
MRZ	**Mangatainoka R**	**41.60**	**150**	P	**P**	**20**	**51 28.6 +1.8**
BBJI	**Bungbulang**	**41.60**	**266**	P	**P**	**20**	**51 26.5 -0.9**
LEM	**Lembang**	**41.65**	**267**	P	**P**	**20**	**51 27.4 -0.5**
	comp=Z,62nm,0.8s,baz=51,slow=7.9,SNR=13						
LEM				LR	LR	21	13 05.6
	comp=Z,849nm,20.5s,baz=78,slow=42						
	comp=Z,62nm,0.8s						
LTZ	**Lake Taylor**	**41.73**	**155**	P	**P**	**20**	**51 30.7 +2.8**
JSG	**Sagara**	**41.91**	**346**	P	**P**	**20**	**51 29.1 -0.3**
JSG	**Sagara**	**41.91**	**346**	P	**P**	**20**	**51 30.8 +1.4**
BFZ	**Birch Farm**	**41.95**	**149**	P	**P**	**20**	**51 30.7 +1.0**
BFZ				IAmb	IAmb	20	52 14.0
	comp=Z,132nm,1.5s						
BFZ	**Birch Farm**	**41.95**	**149**	P	**P**	**20**	**51 31.2 +1.5**
KHZ	**Kahutara**	**41.99**	**153**	P	**P**	**20**	**51 31.1 +1.1**
RPZ	**Rata Peaks**	**42.00**	**157**	LR	LR	21	06 09.1
	comp=Z,3µm,21.9s,baz=328,slow=32						
RPZ	**Rata Peaks**	**42.00**	**157**	P	**P**	**20**	**51 32.8 +2.6**
OXZ	**Oxford**	**42.08**	**155**	IAMs_20	IAMs_20	21	06 33.4
	comp=Z,3µm,20.0s						
OXZ	**Oxford**	**42.08**	**155**	P	**P**	**20**	**51 33.2 +2.5**
GVZ	**Greta Valley S**	**42.21**	**154**	P	**P**	**20**	**51 33.6 +1.8**
LBZ	**Lake Benmore**	**42.24**	**158**	P	**P**	**20**	**51 33.5 +1.4**
JMN	**Monobe**	**42.26**	**340**	P	**P**	**20**	**51 33.0 +0.7**
JMN				IAmb	IAmb	20	51 49.2
	comp=Z,74nm,0.8s						
JMN	**Monobe**	**42.26**	**340**	P	**P**	**20**	**51 33.9 +1.5**
MLZ	**Mavora Lakes**	**42.36**	**161**	P	**P**	**20**	**51 35.2 +2.2**
TMZ	**Timaru**	**42.55**	**157**	P	**P**	**20**	**51 35.7 +1.1**
MQZ	**McQueen's Vall**	**42.65**	**155**	P	**P**	**20**	**51 37.8 +2.5**
WHZ	**Wether Hill Ro**	**42.77**	**161**	P	**P**	**20**	**51 38.1 +1.8**
JNU	**Nakatsue**	**42.81**	**337**	P	**P**	**20**	**51 37.1 +0.3**
JNU	**Nakatsue**	**42.81**	**337**	LR	LR	21	06 33.2
	comp=Z,836nm,20.2s,baz=152,slow=32						
JNU	**Nakatsue**	**42.81**	**337**	P	**P**	**20**	**51 38.2 +1.4**
INU	**Inuyama**	**42.84**	**345**	P	**P**	**20**	**51 37.1 +0.1**
INU	**Inuyama**	**42.84**	**345**	P	**P**	**20**	**51 37.7 +0.7**
INU	**Inuyama**	**42.84**	**345**	P	**P**	**20**	**51 37.5 +0.5**
INU				pP	**pP**	**20**	**51 49.8 -2.2**
JGF	**Kuroka**	**43.00**	**345**	P	**P**	**20**	**51 38.6 +0.3**
JGF				IAmb	IAmb	20	51 41.8
	comp=Z,112nm,0.8s						
JGF	**Kuroka**	**43.00**	**345**	P	**P**	**20**	**51 39.0 +0.7**
QZH	**Quanzhou**	**43.09**	**317**	P	**P**	**20**	**51 39.4 +0.3**
QZH				sP	**sP**	**20**	**52 01.8 +0.9**
QZH				S	**S**	**20**	**58 00.1 -1.1**
QZH				sS	**sS**	**20**	**58 32.4 +5.8**
QZH				pmax	pmax		
	comp=Z,130nm,0.7s						
QZH				pmax	pmax		
	comp=Z,630nm,4.6s						
QZH				LR	LR		
	comp=Z,2µm,22.7s						
QZH				LR	LR		
	comp=Z,2µm,22.3s						
QZH				LR	LR		
	comp=Z,4µm,29.9s						
MJAR	**Matsushiro Arr**	**43.69**	**347**	P	**P**	**20**	**51 43.3 -0.5**
	comp=Z,51nm,0.8s,baz=168,slow=7.0,SNR=126						
MJAR				ScP	**ScP**	**20**	**57 17.6 +0.6**
	comp=Z,4.0nm,0.9s,baz=170,slow=4.7,SNR=7.1						
MJAR				LR	LR	21	08 10.8
	comp=Z,844nm,19.8s,baz=166,slow=34						
	comp=Z,51nm,0.8s						
MAJO	**Matsushiro**	**43.69**	**347**	P	**P**	**20**	**51 41.9 -2.0**
MAJO				IAmb	IAmb	20	51 49.7
	comp=Z,61nm,0.7s						
MAJO	**Matsushiro**	**43.69**	**347**	P	**P**	**20**	**51 44.1 +0.3**
MAJO	**Matsushiro**	**43.69**	**347***ce*	P	**P**	**20**	**51 43.8 -0.1**
MAJO				pmax	pmax		
	comp=Z,191nm,2.0s						
MAJO	**Matsushiro**	**43.69**	**347**	P	**P**	**20**	**51 43.7 -0.1**
JMM	**Marumori**	**44.46**	**350**	P	**P**	**20**	**51 49.8 -0.1**
JMM	**Marumori**	**44.46**	**350**	P	**P**	**20**	**51 51.0 +1.1**
JSD	**Sado**	**45.11**	**347**	P	**P**	**20**	**51 56.3 +1.2**
SSE	**Sheshan**	**45.82**	**325**	P	**P**	**20**	**52 00.9 0.0**
SSE				S	**S**	**20**	**58 42.5 +1.7**
SSE				pmax	pmax		
	comp=Z,21nm,0.9s						
SSE				pmax	pmax		
	comp=Z,360nm,3.6s						
SSE				LR	LR		
	comp=Z,950nm,22.6s						
SSE				LR	LR		
	comp=Z,1µm,22.5s						
QIZ	**Qiongzhong**	**46.37**	**303**	P	**P**	**20**	**52 04.4 -1.0**
QIZ				IAmb	IAmb	20	52 42.2
	comp=Z,71nm,1.6s						
QIZ	**Qiongzhong**	**46.37**	**303**	P	**P**	**20**	**52 05.0 -0.4**
QIZ				sP	**sP**	**20**	**52 25.9 -1.4**
QIZ				S	**S**	**20**	**58 52.0 +2.9**
QIZ				sS	**sS**	**20**	**59 13.4 -1.2**
QIZ				pmax	pmax		
	comp=Z,700nm,6.1s						
QIZ				LR	LR		
	comp=Z,630nm,17.9s						
QIZ				LR	LR		
	comp=Z,610nm,19.2s						
QIZ				LR	LR		
	comp=Z,3µm,27.5s						
TJN	**Taejon**	**47.06**	**335**⇑	*e*P	**P**	**20**	**52 13.0 +2.6**
TJN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
JTM	**Tenmabayashi**	**47.27**	**351**	P	**P**	**20**	**52 11.9 -0.1**
JTM	**Tenmabayashi**	**47.27**	**351**	P	**P**	**20**	**52 13.3 +1.3**
KSRS	**Korea Array**	**47.76**	**337**	P	**P**	**20**	**52 16.4 +0.6**
	comp=Z,26nm

VLA	**Vladivostok**	**51.51 344**	*de*	P	**P**	**20 52 45.3**	**+1.0**
VLA				pmax	pmax		
	comp=Z,51nm,0.9s						
DL2	**Dalian**	**51.68 332**		P	**P**	**20 52 43.6**	**-2.1**
DL2				pP	**pP**	**20 53 01.3**	**+0.2**
DL2				sP	**sP**	**20 53 06.4**	**-1.3**
DL2				S	**S**	**21 00 02.8**	**-0.1**
DL2				pmax	pmax		
	comp=Z,82nm,0.9s						
DL2				pmax	pmax		
	comp=Z,250nm,5.5s						
DL2				LR	LR		
	comp=Z,2μm,19.9s						
DL2				LR	LR		
	comp=Z,1μm,23.3s						
DL2				LR	LR		
	comp=Z,3μm,23.5s						
TIA	**Tai'an**	**51.88 327**		P	**P**	**20 52 47.8**	**+0.5**
TIA				pP	**pP**	**20 53 02.1**	**-0.6**
TIA				sP	**sP**	**20 53 08.4**	**-0.9**
TIA				S	**S**	**21 00 06.8**	**+0.9**
TIA				pmax	pmax		
	comp=Z,110nm,0.8s						
TIA				LR	LR		
	comp=Z,2μm,19.2s						
TIA				LR	LR		
	comp=Z,2μm,18.8s						
TIA				LR	LR		
	comp=Z,4μm,23.4s						
TEY	**Ternei**	**52.18 348**	⇓*e*	P	**P**	**20 52 46.7**	**-2.5**
TEY				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TEY				pmax	pmax		
	comp=N,100nm,3.7s						
TEY				pmax	pmax		
	comp=Z,100nm,3.9s						
SLVN	**Son La**	**52.38 303**		P	**P**	**20 52 50.3**	**-1.0**
SLVN	**Son La**	**52.38 303**		P	**P**	**20 52 51.5**	**+0.2**
GSI	**Gunungsitoli**	**52.39 276**		P	**P**	**20 52 49.3**	**-2.1**
GSI	**Gunungsitoli**	**52.39 276**		P	**P**	**20 52 52.7**	**+1.3**
USA0B	**Ussuriysk Arra**	**52.48 344**		P	**P**	**20 52 52.5**	**+1.0**
USA0B				IAmb	IAmb	20 53 09.3	
	comp=Z,53nm,0.9s						
USA0B	**Ussuriysk Arra**	**52.48 344**		P	**P**	**20 52 52.5**	**+1.0**
USA0B				pmax	pmax		
	comp=Z,53nm,0.9s						
USRK	**Ussuriysk Ar.**	**52.48 344**		P	**P**	**20 52 51.7**	**+0.2**
USRK	**Ussuriysk Ar.**	**52.48 344**		P	**P**	**20 52 51.0**	**-0.5**
	comp=Z,36nm,0.8s,baz=179,slow=6.9,SNR=55						
USRK				LR	LR	21 12 51.2	
	comp=Z,1μm,22.0s,baz=153,slow=33						
	comp=Z,36nm,0.8s						
USRK	**Ussuriysk Ar.**	**52.48 344**		P	**P**	**20 52 51.7**	**+0.2**
GYA	**Guiyang**	**52.64 310**	⇑	P	**P**	**20 52 55.4**	**+2.2**
GYA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ENH	**Enshi**	**52.70 316**		P	**P**	**20 52 53.1**	**-0.4**
ENH				IAmb	IAmb	20 53 17.8	
	comp=Z,47nm,1.2s						
ENH				IAMs_20	IAMs_20	21 12 26.0	
	comp=Z,2μm,21.0s						
ENH	**Enshi**	**52.70 316**		P	**P**	**20 52 54.7**	**+1.2**
YSS	**Yuzhno-Sakhali**	**53.13 354**		P	**P**	**20 52 55.5**	**-0.7**
YSS	**Yuzhno-Sakhali**	**53.13 354**		P	**P**	**20 52 57.7**	**+1.5**
YSS	**Yuzhno-Sakhali**	**53.13 354**	*j*	*e*P	**P**	**20 52 57.2**	**+1.0**
YSS				*e**PP	**pP**	**20 53 12.2**	**+0.5**
YSS				*e*S	**S**	**21 00 21.3**	**-1.1**
YSS				pmax	pmax		
	comp=Z,500nm,3.4s						
YSS				pmax	pmax		
	comp=N,300nm,3.8s						
YSS				pmax	pmax		
	comp=E,200nm,2.8s						
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				pmax	pmax		
	comp=E,40nm,0.8s						
YSS				smax	smax		
	comp=N,400nm,9.5s						
YSS				smax	smax		
	comp=E,200nm,6.8s						
YSS	**Yuzhno-Sakhali**	**53.13 354**		P	**P**	**20 52 56.7**	**+0.4**
YSS				pP	**pP**	**20 53 09.4**	**-2.3**
SNY	**Shenyang**	**53.23 336**	⇓	P	**P**	**20 52 58.0**	**+0.9**
SNY				pP	**pP**	**20 53 11.3**	**-1.2**
SNY				S	S	21 00 15.0	-9.0
SNY				pmax	pmax		
	comp=E,22nm,1.1s						
SNY				pmax	pmax		
	comp=E,300nm,4.7s						
SNY				LR	LR		
	comp=E,780nm,17.7s						
SNY				LR	LR		
	comp=E,540nm,15.9s						
SNY				LR	LR		
	comp=E,2μm,19.8s						
LYN	**LuoYang**	**53.43 322**		P	**P**	**20 52 57.6**	**-1.2**
LYN				pP	pP	20 53 13.6	-0.6
LYN				sP	sP	20 53 20.6	-0.2
LYN				S	**S**	**21 00 23.6**	**-3.5**
LYN				pmax	pmax		
	comp=E,43nm,0.5s						
LYN				pmax	pmax		
	comp=E,710nm,6.5s						
LYN				LR	LR		
	comp=E,4μm,22.7s						
LYN				LR	LR		
	comp=E,3μm,21.3s						
LYN				LR	LR		
	comp=E,6μm,24.0s						
MDJ	**Mudanjiang**	**53.55 342**		P	**P**	**20 52 59.5**	**+0.2**
MDJ				IAmb	IAmb	20 53 02.9	
	comp=Z,65nm,0.9s						
MDJ	**Mudanjiang**	**53.55 342**		P	**P**	**20 53 00.3**	**+0.9**
MDJ				S	**S**	**21 00 32.0**	**+3.8**
MDJ				pmax	pmax		
	comp=Z,47nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,800nm,9.0s						
MDJ				LR	LR		
	comp=Z,930nm,24.8s						
MDJ				LR	LR		
	comp=Z,760nm,24.7s						
MDJ				LR	LR		
	comp=Z,2μm,24.8s						
MDJ	**Mudanjiang**	**53.55 342**		P	**P**	**20 53 01.0**	**+1.6**
MDJ	**Mudanjiang**	**53.55 342**		P	**P**	**20 52 59.4**	**+0.1**
XMAS	**Kiritimati**	**53.55 83**		P	**P**	**20 52 59.0**	**-1.0**
XMAS				IAmb	IAmb	20 53 17.1	
	comp=Z,56nm,0.8s						
XMAS	**Kiritimati**	**53.55 83**		P	**P**	**20 53 02.6**	**+2.6**
HNS	**HongShan**	**54.08 326**	⇓	P	**P**	**20 53 04.3**	**+0.9**
HNS				pP	**pP**	**20 53 17.9**	**-1.0**
HNS				S	**S**	**21 00 40.0**	**+4.4**
HNS				SS	**SS**	**21 04 21.6**	**+3.5**
HNS				pmax	pmax		
	comp=Z,93nm,0.9s						
HNS				LR	LR		
	comp=Z,1μm,20.0s						
HNS				LR	LR		
	comp=Z,2μm,20.2s						
HNS				LR	LR		
	comp=Z,3μm,19.8s						
CN2	**Changchun**	**54.20 339**		P	**P**	**20 53 04.0**	**-0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,400nm,6.0s						
CN2				LR	LR		
	comp=Z,700nm,21.0s						
CN2				LR	LR		
	comp=Z,800nm,21.0s						
CN2				LR	LR		
	comp=Z,600nm,22.0s						
KMI	**Kunming**	**55.05 306**		P	**P**	**20 53 08.8**	**-2.2**
KMI				sP	sP	20 53 29.9	-3.2
KMI				S	**S**	**21 00 51.3**	**+1.7**
KMI				sS	sS	21 01 21.8	+6.6
KMI				pmax	pmax		
	comp=Z,12nm,0.7s						
KMI				pmax	pmax		
	comp=Z,270nm,7.6s						
KMI				LR	LR		
	comp=Z,460nm,19.1s						
KMI				LR	LR		
	comp=Z,420nm,22.5s						
KMI				LR	LR		
	comp=Z,380nm,21.1s						
BJT	**Baijiatuau**	**55.21 329**		P	**P**	**20 53 11.0**	**-0.5**
BJT				IAmb	IAmb	20 53 49.9	
	comp=Z,21nm,0.8s						
BJT	**Baijiatuau**	**55.21 329**		P	**P**	**20 53 12.5**	**+1.0**
BJT	**Baijiatuau**	**55.21 329**		P	**P**	**20 53 11.0**	**-0.5**
BJT				pmax	pmax		
	comp=Z,21nm,0.8s						
BJT				MLR	MLR		
	comp=Z,1μm,21.0s						
BJI	**Beijing**	**55.22 329**		P	**P**	**20 53 12.0**	**+0.4**
BJI				S	**S**	**21 00 57.4**	**+6.5**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,200nm,9.5s						
BJI				LR	LR		
	comp=Z,490nm,19.4s						
BJI				LR	LR		
	comp=Z,500nm,21.3s						
BJI				LR	LR		
	comp=Z,850nm,22.7s						
BNX	**BinXian**	**55.23 341**	⇑	P	**P**	**20 53 11.4**	**-0.2**
BNX				pP	**pP**	**20 53 27.3**	**+0.2**
BNX				sP	**sP**	**20 53 34.1**	**+0.3**
BNX				S	**S**	**21 00 54.1**	**+3.2**
BNX				sS	**sS**	**21 01 17.3**	**+1.0**
BNX				pmax	pmax		
	comp=Z,97nm,0.9s						
BNX				pmax	pmax		
	comp=Z,730nm,7.1s						
BNX				LR	LR		
	comp=Z,760nm,27.4s						
BNX				LR	LR		
	comp=Z,710nm,16.8s						
BNX				LR	LR		
	comp=Z,2μm,28.2s						
UGL	**Uglegorsk**	**55.30 354**	*e*	P		20 53 03.3	-8.7
UGL				pmax	pmax		
	comp=Z,200nm,0.9s						
UGL				pmax	pmax		
	comp=Z,900nm,3.5s						
XAN	**Xi'an**	**55.36 319**	⇑	P	**P**	**20 53 11.8**	**-1.0**
XAN				pP	pP	20 53 27.3	-1.1
XAN				S	**S**	**21 00 49.9**	**-3.2**
XAN				sS	sS	21 01 21.9	+3.7
XAN				SS	**SS**	**21 04 40.5**	**+1.9**
XAN				pmax	pmax		
	comp=Z,57nm,0.8s						
XAN				pmax	pmax		
	comp=Z,690nm,4.1s						
XAN				LR	LR		
	comp=Z,860nm,19.9s						
XAN				LR	LR		
	comp=Z,910nm,19.9s						
XAN				LR	LR		
	comp=Z,2μm,19.9s						
CM31	**Chiang Mai Arr**	**55.51 297**		P	**P**	**20 53 12.6**	**-1.5**
CMAR	**Chiang Mai Arr**	**55.51 297**		P	**P**	**20 53 12.3**	**-1.8**
CMAR	**Chiang Mai Arr**	**55.51 297**		P	**P**	**20 53 13.1**	**-1.0**
	comp=Z,4.3nm,0.7s,baz=124,slow=5.6,SNR=39						
CMAR				LR	LR	21 14 45.0	
	comp=Z,206nm,20.4s,baz=100,slow=34						
CMAR				PKPPKP	**P'P'df**	**21 23 15.2**	**-3.6**
	comp=Z,0.6nm,0.7s,baz=243,slow=5.9,SNR=6.1						
CMAR				PKP2bc		21 23 32.5	
	comp=Z,2.7nm,0.8s,baz=294,slow=4.2,SNR=12						
	comp=Z,4.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**55.51 297**	*ce*	P	**P**	**20 53 13.1**	**-1.0**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TIY	**Taiyuan**	**55.59 325**	*e*	P	**P**	**20 53 16.1**	**+1.7**
TIY				PP	**PP**	**20 55 15.4**	**-3.8**
TIY				S	**S**	**21 00 58.8**	**+2.7**
TIY				sS	**sS**	**21 01 23.9**	**+2.7**
TIY				pmax	pmax		
	comp=Z,40nm,0.7s						
TIY				pmax	pmax		
	comp=Z,300nm,6.6s						
TIY				LR	LR		
	comp=Z,1μm,21.0s						
TIY				LR	LR		
	comp=Z,1μm,23.7s						
TIY				LR	LR		
	comp=Z,2μm,25.5s						
CHTO	**Chiang Mai**	**55.64 298**		P	**P**	**20 53 12.9**	**-2.1**
CHTO	**Chiang Mai**	**55.64 298**		P	**P**	**20 53 13.9**	**-1.1**
CHTO	**Chiang Mai**	**55.64 298**		P	**P**	**20 53 12.9**	**-2.1**
CHTO				pmax	pmax		
	comp=Z,16nm,1.1s						
CHTO	**Chiang Mai**	**55.64 298**		P	**P**	**20 53 13.7**	**-1.3**
CHTO				pP	**pP**	**20 53 27.5**	**-3.0**
PZH	**PanZhiHua**	**56.49 307**		P	**P**	**20 53 25.3**	**+4.2**
PZH				S	**S**	**21 01 10.5**	**+2.0**
PZH				SS	**SS**	**21 05 02.0**	**+5.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,290nm,6.8s						
PZH				LR	LR		
	comp=Z,460nm,18.0s						
PZH				LR	LR		
	comp=Z,530nm,22.6s						
PZH				LR	LR		
	comp=Z,870nm,21.8s						
SKR	**Severo-Kuril's**	**56.80**	**5**	*e*P	**P**	**20 53 21.8**	**-0.9**
SKR				*e*		20 55 24.6	
SKR				*e*S	**S**	**21 01 18.4**	**+6.9**
SKR				pmax	pmax		
	comp=Z,129nm,0.8s						
SKR				pmax	pmax		
	comp=Z,200nm,4.0s						
SKR				MLR	MLR		
	comp=Z,500nm,16.0s						
TYV	**Tymovskoe**	**57.01 355**		*e*P	**P**	**20 53 25.6**	**+1.4**
TYV				*e*S	**S**	**21 01 17.3**	**+3.1**
TYV				pmax	pmax		
	comp=Z,800nm,3.3s						
TYV				pmax	pmax		
	comp=Z,81nm,0.8s						
TYV				smax	smax		
	comp=N,200nm,5.2s						
TYV				smax	smax		
	comp=E,500nm,5.2s						
CD2	**Chengdu**	**57.14 313**		P	**P**	**20 53 24.8**	**-0.8**
CD2				pP	pP	20 53 39.4	-1.8
CD2				PP	**PP**	**20 55 34.0**	**+0.8**
CD2				SS	**SS**	**21 05 10.9**	**+4.1**
CD2				pmax	pmax		
	comp=E,560nm,8.4s						
CD2				LR	LR		
	comp=E,1μm,21.6s						
CD2				LR	LR		
	comp=E,1μm,21.2s						
CD2				LR	LR		
	comp=E,2μm,25.7s						
GRNR	**Gornyy**	**57.73 350**	⇓	*i*P	**P**	**20 53 30.8**	**+1.5**
GRNR				pmax	pmax		
	comp=Z,30nm,1.0s						
GRNR				MLR	MLR		
	comp=E,140nm,17.0s						
XLT	**XiLinHaoTe**	**58.18 332**		*e*P	**P**	**20 53 31.9**	**-0.8**
XLT				pP	pP	20 53 46.3	-2.0
XLT				sP	sP	20 53 55.8	+0.9
XLT				PcP	**PcP**	**20 54 24.0**	**+0.4**
XLT				PP	**PP**	**20 55 42.1**	**-0.1**
XLT				S	**S**	**21 01 22.4**	**-7.7**
XLT				sS	sS	21 01 58.1	+2.5
XLT				ScS	**ScS**	**21 03 10.3**	**-7.0**
XLT				pmax	pmax		
	comp=E,33nm,1.2s						
XLT				pmax	pmax		
	comp=E,400nm,7.7s						
XLT				LR	LR		
	comp=E,1μm,22.1s						
XLT				LR	LR		
	comp=E,2μm,22.1s						
HHC	**Hu-ho-hao-te**	**58.24 327**	*e*	P	**P**	**20 53 35.0**	**+1.8**
HHC				pP	pP	20 53 48.6	-0.2
HHC				PP	**PP**	**20 55 45.9**	**+3.1**
HHC				S	**S**	**21 01 29.6**	**-1.4**
HHC				sS	sS	21 01 55.9	-0.3
HHC				SS	**SS**	**21 05 25.3**	**+1.4**
HHC				pmax	pmax		
	comp=E,15nm,0.6s						
HHC				pmax	pmax		
	comp=E,170nm,5.9s						
HHC				LR	LR		
	comp=E,990nm,20.0s						
HHC				LR	LR		
	comp=E,1μm,20.0s						
HHC				LR	LR		
	comp=E,2μm,20.7s						
TNCH	**TengChong**	**58.44 304**		P	**P**	**20 53 36.0**	**+1.0**
TNCH				pP	pP	20 53 52.4	+1.8
TNCH				S	**S**	**21 01 32.8**	**-1.5**
TNCH				pmax	pmax		
	comp=E,10.0nm,0.9s						
TNCH				pmax	pmax		
	comp=E,240nm,5.0s						
TNCH				LR	LR		
	comp=E,220nm,16.8s						
TNCH				LR	LR		
	comp=E,380nm,14.9s						
TNCH				LR	LR		
	comp=E,780nm,18.1s						
BTO	**Baotou**	**58.93 326**	*e*	P	**P**	**20 53 38.9**	**+0.9**
BTO				pP	**pP**	**20 53 54.4**	**+0.8**
BTO				S	**S**	**21 01 40.1**	**+0.1**
BTO				SS	**SS**	**21 05 33.4**	**-1.3**
BTO				pmax	pmax		
	comp=E,23nm,0.6s						
BTO				pmax	pmax		
	comp=E,380nm,4.0s						
BTO				LR	LR		
	comp=E,3μm,23.1s						
BTO				LR	LR		
	comp=E,3μm,21.4s						
BTO				LR	LR		
	comp=E,5μm,26.0s						
HEH	**HeiHe**	**59.27 344**	*e*	P	**P**	**20 53 40.8**	**+0.8**
HEH				pP	**pP**	**20 53 55.4**	**-0.3**
HEH				S	**S**	**21 01 51.4**	**+7.6**
HEH				SS	**SS**	**21 05 40.0**	**+0.5**
HEH				pmax	pmax		
	comp=E,61nm,0.9s						
HEH				pmax	pmax		
	comp=E,740nm,7.0s						
PEA0B	**Petropavlovsk-**	**59.35**	**6**	P	**P**	**20 53 40.8**	**+0.3**
PEA0B	**Petropavlovsk-**	**59.35**	**6**	P	**P**	**20 53 40.8**	**+0.3**
PEA0B				pmax	pmax		
	comp=Z,101nm,1.0s						
PETK	**Petropavlovsk-**	**59.35**	**6**	P	**P**	**20 53 40.0**	**-0.5**
	comp=Z,83nm,0.7s,baz=190,slow=7.2,SNR=75						
PETK				LR	LR	21 16 26.5	
	comp=Z,854nm,20.8s,baz=195,slow=33						
	comp=Z,83nm,0.7s						
PET	**Petropavlovsk**	**59.37**	**6**	P	**P**	**20 53 40.1**	**-0.5**
PET	**Petropavlovsk**	**59.37**	**6**	P	**P**	**20 53 41.7**	**+1.1**
PET	**Petropavlovsk**	**59.37**	**6**	*e*P	**P**	**20 53 40.1**	**-0.5**
PET				*e**PP	**pP**	**20 53 55.9**	**-0.4**
PET				*e*S	**S**	**21 01 46.2**	**+1.3**
PET				*e**SS	**sS**	**21 02 11.7**	**+1.0**
PET				*e*SS	**SS**	**21 05 44.8**	**+3.9**
PET				pmax	pmax		
	comp=Z,200nm,13.0s						
PET				pmax	pmax		
	comp=Z,149nm,0.8s						
PET	**Petropavlovsk**	**59.37**	**6**	P	**P**	**20 53 40.4**	**-0.2**
	comp=Z,1μmcomp=Z,139nm,0.8s						
PET	**Petropavlovsk**	**59.37**	**6**	P	**P**	**20 53 40.0**	**-0.6**
PET				pP	**pP**	**20 53 53.1**	**-3.1**
LZH	**Lanzhou**	**59.92 318**		P	**P**	**20 53 44.8**	**-0.2**
LZH				pP	sP	20 54 04.3	-3.0
LZH				sP	pP	20 54 11.8	+11
LZH				S	**S**	**21 01 52.5**	**-0.6**
LZH				sS	sS	21 02 19.9	+0.7
LZH				ScS	**ScS**	**21 03 30.0**	**-0.8**
LZH				SS	**SS**	**21 05 50.4**	**-0.2**
LZH				pmax	pmax		
	comp=Z,57nm,1.0s						
LZH				pmax	pmax		
	comp=Z,460nm,8.3s						
LZH				LR	LR		
	comp=Z,930nm,19.4s						
LZH				LR	LR		
	comp=Z,920nm,20.7s						
LZH				LR	LR		
	comp=Z,3μm,21.4s						
STCH	**Steam Cracks**	**60.05**	**64**	IAMs_20	IAMs_20	21 13 07.0	
	comp=Z,2μm,20.0s						
PPT2	**Papeete2**	**60.46 107**		*e*PKIKP	P	20 53 43.9	-5.0
	comp=Z,400nm,27.8s						
PPT2	**Papeete2**	**60.46 107**		*e*PP	**PP**	**20 56 02.6**	**-0.2**
	comp=Z,179nm,27.5s						
PPT2				*e*S	**S**	**21 01 52.0**	**-8.5**
	comp=Z,637nm,27.2s						
PPT2				*e*LQ	LQ	21 09 08.6	
	comp=Z,3μm,34.2s						
PPT2				*e*LR	LR	21 11 40.6	
	comp=Z,810nm,26.0s						
PPT2				*e*LR	LR	21 11 41.0	
	comp=Z,584nm,28.8s						
HIA	**Hailar**	**60.92 338**		P	**P**	**20 53 51.5**	**+0.1**
HIA	**Hailar**	**60.92 338**		P	**P**	**20 53 52.9**	**+1.5**
HIA	**Hailar**	**60.92 338**		P	**P**	**20 53 51.5**	**+0.1**
HIA				pmax	pmax		
	comp=Z,78nm,0.8s						
HIA				MLR	MLR		
	comp=Z,900nm,20.0s						
HIA	**Hailar**	**60.92 338**		P	**P**	**20 53 52.0**	**+0.6**
HIA				pP	**pP**	**20 54 05.8**	**-1.3**
TBI	**Tubuai**	**61.03 113**		*e*P	**P**	**20 53 52.0**	**-0.6**
	comp=Z,1μm,31.5s						
TBI	**Tubuai**	**61.03 113**		*e*PP	**PP**	**20 56 08.6**	**+1.0**
	comp=Z,729nm,32.8s						
TBI				*e*S	**S**	**21 02 04.4**	**-3.0**
	comp=Z,2μm,29.5s						
TBI				*e*SS	**SS**	**21 06 06.2**	**-1.7**
	comp=Z,3μm,36.8s						
TBI				*e*LQ	LQ	21 09 19.9	
	comp=Z,14μm,38.5s						
TBI				*e*LR	LR	21 11 55.1	
	comp=Z,17μm,36.2s						
TBI				*e*LR	LR	21 12 03.0	
	comp=Z,3μm,36.2s						
SHEM	**Shemya Is, Ala**	**62.18**	**17**	LR	LR	21 18 05.7	
	comp=Z,1μm,20.3s,baz=239,slow=33						
ZEA	**Zeya**	**62.47 345**		*e*P	**P**	**20 54 02.7**	**+1.1**
ZEA				*e*		20 54 17.1	
ZEA				*e*		21 02 38.7	
ZEA				pmax	pmax		
	comp=Z,500nm,2.8s						
ZEA				pmax	pmax		
	comp=E,20nm,0.7s						
ZEA				pmax	pmax		
	comp=N,60nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,120nm,0.9s						
AMKA	**Amchitka**	**62.66**	**21**	P	**P**	**20 54 02.3**	**-0.7**
BRDH	**Bariadhala**	**63.38 299**		LR	LR	21 18 52.6	
	comp=Z,308nm,21.7s,baz=117,slow=33						
SHL	**Shillong**	**64.18 302**		P	**P**	**20 54 12.2**	**-1.5**
SHL				IAmb	IAmb	20 55 29.4	
	comp=Z,23nm,1.0s						
SHL	**Shillong**	**64.18 302**		P	**P**	**20 54 12.3**	**-1.5**
SHL				pmax	pmax		
	comp=Z,23nm,1.0s						
GTA	**Gaotai**	**64.42 319**		*e*P	**P**	**20 54 14.5**	**-0.5**
GTA				PP	**PP**	**20 56 38.9**	**+1.5**
GTA				S	**S**	**21 02 48.5**	**-1.1**
GTA				sS	sS	21 03 17.0	+0.5
GTA				SS	**SS**	**21 07 03.0**	**+2.2**
GTA				pmax	pmax		
	comp=Z,400nm,11.3s						
GTA				LR	LR		
	comp=Z,400nm,22.2s						
GTA				LR	LR		
	comp=Z,500nm,21.4s						
GTA				LR	LR		
	comp=Z,980nm,21.4s						
ADK	**Adak**	**64.53**	**22**	P	**P**	**20 54 14.8**	**-0.5**
ADK				IAmb	IAmb	20 54 17.9	
	comp=Z,41nm,0.8s						
ADK	**Adak**	**64.53**	**22**	P	**P**	**20 54 15.4**	**+0.1**
ADK	**Adak**	**64.53**	**22**	P	**P**	**20 54 14.8**	**-0.5**
ADK				pmax	pmax		
	comp=Z,41nm,0.9s						
ADK				MLR	MLR		
	comp=Z,1μm,21.0s						

ADK Adak 64.53 22 P P 20 54 14.6 -0.7
ADK pP **pP** 20 54 28.4 -2.9
ULN Ulaanbaatar 65.40 330 P P 20 54 20.7 -0.6
ULN IAmb IAmb 20 54 40.2
comp=Z,30nm,1.2s
ULN Ulaanbaatar 65.40 330 *ce*P P 20 54 17.6 -3.7
ULN pmax pmax
comp=Z,13nm,2.5s
ULN Ulaanbaatar 65.40 330 P P 20 54 20.9 -0.3
MA2 Magadan 65.44 1 P P 20 54 20.7 -0.3
MA2 IAmb IAmb 20 54 24.7
comp=Z,37nm,0.9s
MA2 Magadan 65.44 1 LR LR 21 22 40.7
comp=Z,506nm,19.5s,baz=190,slow=36
MA2 Magadan 65.44 1 P P 20 54 22.1 +1.1
MA2 Magadan 65.44 1 *de*P P 20 54 21.5 +0.5
MA2 pmax pmax
comp=Z,41nm,0.9s
MA2 Magadan 65.44 1 P P 20 54 20.9 -0.1
comp=Z,57nm,0.9s
SONM Songino Array 65.71 330 P P 20 54 23.9 +0.7
SONM IAmb IAmb 20 54 42.6
comp=Z,25nm,1.0s
SONM Songino Array 65.71 330 P P 20 54 24.3 +1.0
comp=Z,21nm,0.8s,baz=148,slow=5.3,SNR=56
SONM LR LR 21 20 38.2
comp=Z,807nm,20.4s,baz=126,slow=34
SONM PKPPKP **P'P'df** 21 23 00.1 -0.3
comp=Z,0.6nm,0.7s,baz=318,slow=4.2,SNR=3.8
comp=Z,21nm,0.8s
SONM Songino Array 65.71 330 P P 20 54 23.9 +0.7
SONM pmax pmax
comp=Z,25nm,1.0s
ATKA Atka Island 65.75 24 P P 20 54 23.1 -0.1
ATKA IAmb IAmb 20 54 25.5
comp=Z,39nm,0.8s
ATKA IAMs_20 IAMs_20 21 17 02.5
comp=Z,1µm,22.0s
ATKA Atka Island 65.75 24 P P 20 54 23.8 +0.6
CASY Casey 65.88 196 P P 20 54 24.4 +0.6
CASY IAmb IAmb 20 54 40.0
comp=Z,40nm,1.0s
CASY Casey 65.88 196 P P 20 54 24.8 +0.9
CASY pP **pP** 20 54 38.1 -1.3
GOMU GeErMu 66.24 314 P P 20 54 28.5 +1.3
GOMU pmax pmax
comp=Z,6.0nm,0.7s
GOMU LR LR
comp=Z,590nm,17.6s
GOMU LR LR
comp=Z,970nm,17.7s
GOMU LR LR
comp=Z,2µm,17.3s
NIKH Nikolski High 68.53 26 P P 20 54 39.7 -1.1
baz=225
SEY Seymchan 68.83 1 *de*P P 20 54 43.1 +0.6
SEY pmax pmax
comp=Z,32nm,0.9s
ZAK Zakamensk 68.92 330 *e*P P 20 54 42.9 -0.6
ZAK *e* 20 54 58.3
ZAK pmax pmax
comp=Z,29nm,1.1s
ZAK pmax pmax
comp=Z,28nm,0.9s
YAK Yakutsk 69.61 350 P P 20 54 47.8 +0.5
YAK IAmb IAmb 20 54 50.2
comp=Z,31nm,0.9s
YAK Yakutsk 69.61 350 LR LR 21 24 27.5
comp=Z,331nm,21.9s,baz=155,slow=35
YAK Yakutsk 69.61 350 *c i*P P 20 54 46.3 -1.0
YAK *e**PP **pP** 20 55 00.3 -3.0
YAK *e* 20 55 07.1
YAK *e* 20 57 21.0
YAK *e*PPP PPP 20 58 59.4
YAK *e*S **S** 21 03 47.7 -3.2
YAK *e**SS **sS** 21 04 16.7 -1.1
YAK *e* 21 04 39.3
YAK *e*SS **SS** 21 08 17.7 -2.3
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,172nm,4.4s
YAK pmax pmax
comp=N,65nm,3.2s
YAK pmax pmax
comp=E,91nm,4.5s
YAK smax smax
comp=N,95nm,3.0s
YAK smax smax
comp=E,64nm,3.2s
YAK MLR MLR
comp=Z,566nm,23.0s
YAK MLR MLR
comp=N,268nm,22.0s
YAK MLR MLR
comp=E,354nm,27.0s
IRK Irkutsk 69.66 332 *e*P P 20 54 48.4 +0.6
IRK *e* 20 55 02.5
IRK pmax pmax
comp=Z,49nm,4.5s
TAOE Nuku Hiva Isla 69.69 97 *e*PKIKP P 20 54 43.2 -5.7
comp=Z,342nm,28.3s
TAOE *e*S S 21 03 36.1 -18
comp=Z,252nm,27.5s
TAOE *e*SS SS 21 07 59.4 -24
comp=Z,244nm,30.8s
TAOE *e*LQ LQ 21 13 01.4
comp=Z,6µm,33.6s
TAOE *e*LR LR 21 15 57.5
comp=Z,920nm,25.6s
PALK Pallekele 69.94 280 LR LR 21 27 52.7
comp=Z,159nm,21.3s,baz=110,slow=38
UNV Unalaska Valle 70.15 26 P P 20 54 49.8 -0.9
UNV IAmb IAmb 20 54 53.0
comp=Z,18nm,0.7s
UNV Unalaska Valle 70.15 26 P P 20 54 52.3 +1.6
UNV Unalaska Valle 70.15 26 P P 20 54 51.1 +0.4
baz=227
CCD Concordia, Ant 70.60 187 P P 20 54 55.4 +1.6
CCD pP **pP** 20 55 09.2 -0.4
P08K Saint George I 70.84 23 P P 20 54 55.6 +0.7
baz=224
SPIA Saint Paul Isl 71.00 22 P P 20 54 56.7 +0.8
baz=223
VNDA Vanda 71.71 177 P P 20 55 00.2 +0.3
VNDA IAmb IAmb 20 55 17.2
comp=Z,39nm,0.9s
VNDA Vanda 71.71 177 P P 20 54 59.9 -0.1
comp=Z,28nm,0.7s,baz=327,slow=6.6,SNR=132
VNDA LR LR 21 23 25.9
comp=Z,633nm,20.1s,baz=9.0,slow=33
comp=Z,28nm,0.7s
VNDA Vanda 71.71 177 P P 20 55 00.3 +0.3
VNDA pmax pmax
comp=Z,39nm,0.9s
VNDA Vanda 71.71 177 P P 20 55 00.6 +0.7
SBA Scott Base 72.32 176 P P 20 55 05.1 +1.6
SBA IAmb IAmb 20 55 21.5
comp=Z,141nm,1.9s
SBA Scott Base 72.32 176 P P 20 55 05.1 +1.6
SBA pmax pmax
comp=Z,141nm,1.9s
S12K Black Hills 73.31 26 IAMs_20 IAMs_20 21 21 56.7
comp=Z,1µm,22.0s
S12K Black Hills 73.31 26 P P 20 55 09.8 +0.1
baz=231
SDPT Sand Point 73.80 27 P P 20 55 12.5 0.0
baz=232
CHNA Chernabura Isl 73.89 28 P P 20 55 13.1 0.0
baz=233
WMQ Urumqi 74.50 319 *e*P P 20 55 14.0 -3.0
WMQ pmax pmax
comp=Z,21nm,1.1s
WMQ pmax pmax
comp=Z,250nm,4.3s
WMQ LR LR
comp=Z,500nm,24.2s
WMQ LR LR
comp=Z,510nm,21.9s
WMQ LR LR
comp=Z,600nm,20.9s
M11K Mekoryuk 74.77 21 P P 20 55 18.6 +0.4
baz=226
S14K Fog Glacier 74.78 27 P P 20 55 18.6 +0.1
baz=233
BILL Bilibino 74.87 6 P P 20 55 18.6 -0.1
BILL IAmb IAmb 20 55 23.4
comp=Z,34nm,1.1s
BILL IAMs_20 IAMs_20 21 23 32.2
comp=Z,1µm,22.0s
BILL Bilibino 74.87 6 *ce*P P 20 55 20.7 +2.1
BILL pmax pmax
comp=Z,30nm,1.0s
GAMB Gambell 75.49 17 P P 20 55 22.8 +0.6
baz=220
M13K Dall Lake 75.83 22 IAMs_20 IAMs_20 21 24 29.2
comp=Z,1µm,22.0s
M13K Dall Lake 75.83 22 P P 20 55 24.7 +0.5
baz=229
O14K Tigyukauivet M 75.89 24 P P 20 55 25.0 +0.4
O14K IAmb IAmb 20 55 26.6
comp=Z,26nm,0.8s
O14K Tigyukauivet M 75.89 24 P P 20 55 25.1 +0.6
baz=231
N14K Kuskokwak Cree 76.15 23 P P 20 55 26.9 +0.8
baz=230
CHIR Chirikof Islan 76.32 28 P P 20 55 26.6 -0.5
CHIR Chirikof Islan 76.32 28 P P 20 55 27.4 +0.3
baz=237
K13K Kusilvak Mount 76.39 20 P P 20 55 27.5 +0.2
baz=227
O15K Ungalikthiuk R 76.42 24 IAMs_20 IAMs_20 21 23 09.8
comp=Z,1µm,22.0s
O15K Ungalikthiuk R 76.42 24 P P 20 55 28.2 +0.5
baz=232
M14K Bethel 76.58 22 IAMs_20 IAMs_20 21 25 01.8
comp=Z,1µm,22.0s
M14K Bethel 76.58 22 P P 20 55 29.3 +0.8
baz=230
L14K Kuka Creek 76.69 22 P P 20 55 30.1 +1.1
baz=229
N15K Kwethluk River 76.93 23 P P 20 55 31.3 +0.8
baz=232
R17L Mt. Peulik Vol 76.99 27 P P 20 55 31.1 +0.2
baz=236,SNR=5.9
M15K Kasigluk River 77.02 23 P P 20 55 31.3 +0.3
baz=231
P16K Nushagak River 77.09 25 P P 20 55 31.9 +0.5
baz=234
J14K Nanvaranak Lak 77.32 20 IAMs_20 IAMs_20 21 24 02.3
comp=Z,1µm,22.0s
J14K Nanvaranak Lak 77.32 20 P P 20 55 33.4 +0.9
baz=228
L15K Ungalak Mounta 77.35 22 P P 20 55 32.8 0.0
baz=230
O16K Kokwok River B 77.38 24 P P 20 55 33.3 +0.3
baz=234,SNR=5.4
SII Sitkinak Islan 77.39 28 P P 20 55 33.8 +0.6
baz=238
Q16K King Salmon 77.45 26 P P 20 55 33.6 +0.2
baz=235
Q17K Contact Creek 77.55 26 P P 20 55 33.8 -0.3
baz=236,SNR=9.1
N16K Nishlik Lake 77.64 23 P P 20 55 35.0 +0.6
baz=233
K15K Wolf Creek Mou 77.73 21 IAMs_20 IAMs_20 21 24 03.2
comp=Z,982nm,21.0s
K15K Wolf Creek Mou 77.73 21 P P 20 55 36.0 +1.1
baz=230,SNR=6.1
ZSN Zaisan 77.78 321 *e*P P 20 55 35.1 -0.4
ZSN Zaisan 77.78 321 *e*P P 20 55 35.1 -0.4
R18K Karluk 77.81 27 P P 20 55 36.3 +0.9
baz=238
P17K Kvichak River 77.84 25 P P 20 55 36.1 +0.5
baz=235
M16K Timber Creek 77.89 23 P P 20 55 36.4 +0.5
M16K IAmb IAmb 20 55 38.1
comp=Z,22nm,0.8s
M16K IAMs_20 IAMs_20 21 25 19.6
comp=Z,1µm,22.0s
M16K Timber Creek 77.89 23 P P 20 55 36.7 +0.8
baz=233,SNR=6.2
O17K Koliganek Bris 77.90 25 P P 20 55 36.1 +0.3
baz=235
TNA Tin City 77.91 17 P P 20 55 36.8 +1.0
baz=223
ANM Nome 77.96 18 IAMs_20 IAMs_20 21 24 26.2
comp=Z,2µm,22.0s
ANM Nome 77.96 18 P P 20 55 37.4 +1.3
baz=226
L16K Owhat River 78.12 22 IAMs_20 IAMs_20 21 26 08.5
comp=Z,1µm,21.0s
L16K Owhat River 78.12 22 P P 20 55 37.1 +0.1
baz=232,SNR=6.4
Q18K Katmai Hardscr 78.15 26 P P 20 55 37.5 +0.1
baz=237,SNR=16
OHAK Old Harbor 78.16 28 P P 20 55 38.5 +1.1
OHAK Old Harbor 78.16 28 P P 20 55 38.0 +0.6
baz=239,SNR=9.5
N17K Nushagak Hills 78.30 24 P P 20 55 38.7 +0.6
N17K IAMs_20 IAMs_20 21 24 29.4
comp=Z,1µm,22.0s
N17K Nushagak Hills 78.30 24 P P 20 55 39.2 +1.1
baz=234,SNR=7.0
F14K Arctic Creek 78.31 17 P P 20 55 38.9 +0.8
baz=225
P18K Big Mountain, 78.47 25 IAMs_20 IAMs_20 21 25 43.9
comp=Z,952nm,21.0s
P18K Big Mountain, 78.47 25 P P 20 55 39.0 -0.1
baz=236
G15K Niukluk 78.68 18 P P 20 55 40.3 +0.2
baz=227
J16K Anvik River 78.69 21 IAMs_20 IAMs_20 21 24 33.6
comp=Z,1µm,22.0s
J16K Anvik River 78.69 21 P P 20 55 41.1 +0.9
baz=231
M17K Holitna River 78.71 23 P P 20 55 41.3 +1.0
M17K Holitna River 78.71 23 P P 20 55 41.0 +0.6
baz=234,SNR=6.0
O18K Koktuh Hills 78.73 25 IAMs_20 IAMs_20 21 26 12.9
comp=Z,1µm,21.0s
O18K Koktuh Hills 78.73 25 P P 20 55 40.4 -0.2
baz=236
TIXI Tiksi 78.74 353 P P 20 55 40.0 -0.3
TIXI Tiksi 78.74 353 LR LR 21 29 14.8
comp=Z,301nm,21.9s,baz=174,slow=35
TIXI Tiksi 78.74 353 *ce*P P 20 55 41.6 +1.3
TIXI pmax pmax
comp=Z,19nm,1.7s
KDAK Kodiak Island 78.78 28 P P 20 55 41.0 +0.2
KDAK Kodiak Island 78.78 28 LR LR 21 27 39.3
comp=Z,542nm,19.7s,baz=241,slow=33
KDAK Kodiak Island 78.78 28 *ce*P P 20 55 42.1 +1.3
KDAK pmax pmax
comp=Z,10.0nm,0.9s
KDAK Kodiak Island 78.78 28 P P 20 55 41.3 +0.5
baz=239
L17K Donlin 78.82 22 P P 20 55 42.1 +1.2
baz=233
Q19K Cape Douglas, 78.90 26 P P 20 55 41.3 -0.2
baz=238
N18K Kilae Creek 78.91 24 IAMs_20 IAMs_20 21 25 20.6
comp=Z,1µm,21.0s
N18K Kilae Creek 78.91 24 P P 20 55 42.3 +0.8
baz=236
F15K North Star Dit 78.98 18 P P 20 55 43.1 +1.4
baz=227
H16K Elim 79.01 19 P P 20 55 43.1 +1.1
baz=229
I17K Unalakleet 79.04 20 IAMs_20 IAMs_20 21 26 09.8
comp=Z,1µm,22.0s
I17K Unalakleet 79.04 20 P P 20 55 43.2 +1.1
baz=231
MK31 Makanchi Array 79.16 320 *de*P P 20 55 43.0 -0.2
MKAR Makanchi Array 79.16 320 P P 20 55 42.2 -1.0
MKAR Makanchi Array 79.16 320 P P 20 55 41.5 -1.7
comp=Z,2.7nm,0.6s,baz=104,slow=6.4,SNR=24
MKAR PKKPbc **PKKPbc** 21 14 35.1 -1.3
comp=Z,3.6nm,0.7s,baz=306,slow=2.1,SNR=29
MKAR PKPPKP **P'P'df** 21 22 36.2 -1.3
comp=Z,1.2nm,0.9s,baz=332,slow=1.8,SNR=5.8
MKAR LR LR 21 30 35.4
comp=Z,713nm,19.2s,baz=83,slow=36
comp=Z,2.7nm,0.6s
K17K Iditarod 79.17 22 P P 20 55 43.5 +0.7
baz=233,SNR=11
Q20K Shuyak Island 79.29 27 P P 20 55 44.0 +0.5
baz=239,SNR=6.7
O19K Port Alsworth 79.29 25 IAMs_20 IAMs_20 21 26 50.7
comp=Z,1µm,20.0s
J17K VABM Dome 79.30 21 IAMs_20 IAMs_20 21 24 40.7
comp=Z,1µm,22.0s
J17K VABM Dome 79.30 21 P P 20 55 44.4 +0.8
baz=232,SNR=7.7
MAKZ Makanchi 79.37 320 P P 20 55 43.0 -1.3
MAKZ IAmb IAmb 20 56 10.4
comp=Z,32nm,1.4s
MAKZ Makanchi 79.37 320 P P 20 55 43.0 -1.3
MAKZ pmax pmax
comp=Z,32nm,1.4s
M18K Stony River 79.40 23 P P 20 55 45.2 +1.1
baz=236,SNR=7.5
P19K Oil Pt 79.46 26 P P 20 55 44.4 -0.2
baz=238,SNR=8.0
G16K Koyuk River 79.47 18 IAMs_20 IAMs_20 21 25 33.1
comp=Z,1µm,22.0s
G16K Koyuk River 79.47 18 P P 20 55 45.2 +0.8
baz=229,SNR=5.8
L18K Granite Mounta 79.48 23 IAMs_20 IAMs_20 21 27 02.5
comp=Z,1µm,21.0s
L18K Granite Mounta 79.48 23 P P 20 55 45.2 +0.7
baz=235,SNR=10
N19K Bonanza Creek 79.56 24 P P 20 55 45.7 +0.5
baz=237
ILSW Iliamna Southw 79.68 25 IAMs_20 IAMs_20 21 24 20.9
comp=Z,1µm,22.0s
O20K Slope Mountain 79.95 26 P P 20 55 47.5 +0.3
baz=239
H17K Granite Mounta 79.97 20 P P 20 55 48.3 +1.2
baz=231
G17K Kiwalik Mounta 80.08 19 P P 20 55 48.7 +1.0
baz=230
HOM Homer 80.16 26 P P 20 55 48.7 +0.5
baz=240
L19K White Mountain 80.17 23 IAMs_20 IAMs_20 21 27 13.7
comp=Z,1µm,21.0s
L19K White Mountain 80.17 23 P P 20 55 49.1 +0.8
baz=236,SNR=9.0
J18K Innoko River 80.19 22 P P 20 55 49.0 +0.6
J18K Innoko River 80.19 22 P P 20 55 49.0 +0.6
baz=234,SNR=8.1
M19K Big River Lodg 80.19 23 IAMs_20 IAMs_20 21 25 17.5
comp=Z,1µm,22.0s
M19K Big River Lodg 80.19 23 P P 20 55 49.4 +1.0
baz=237
CNPM China Poot 80.27 26 P P 20 55 49.0 +0.1
ZAA0 Zalesovo Array 80.42 327 P P 20 55 48.0 -1.8
ZALV Zalesovo Beam 80.42 327 P P 20 55 47.5 -2.3
ZALV Zalesovo Beam 80.42 327 P P 20 55 48.8 -1.0
comp=Z,22nm,0.8s,baz=107,slow=5.0,SNR=39
ZALV PKKPbc **PKKPbc** 21 14 32.8 -1.1
comp=Z,4.2nm,0.6s,baz=321,slow=2.3,SNR=17
ZALV LR LR 21 31 46.2
comp=Z,724nm,19.7s,baz=116,slow=36
comp=Z,22nm,0.8s
ZALV Zalesovo Beam 80.42 327 *i* P P 20 55 48.7 -1.1
ZALV pmax pmax
comp=Z,21nm,0.8s
F17K Baldwin Pennin 80.50 18 P P 20 55 51.0 +1.0
baz=230
C16K Lisburne Hills 80.57 16 IAMs_20 IAMs_20 21 28 23.0
comp=Z,1µm,20.0s
C16K Lisburne Hills 80.57 16 P P 20 55 51.3 +1.0
baz=226
TARG Taragay, Kyrgy 80.57 314 P P 20 55 50.4 -1.0
TARG Taragay, Kyrgy 80.57 314 P P 20 55 50.4 -1.0
TARG pmax pmax
comp=Z,9.0nm,0.9s
H18K Honhosa River 80.62 20 IAMs_20 IAMs_20 21 27 18.5
comp=Z,1µm,21.0s
H18K Honhosa River 80.62 20 P P 20 55 51.2 +0.6
baz=233
M20K Styx River 80.69 24 P P 20 55 51.7 +0.5
baz=238,SNR=9.3
L20K Farewell, AK 80.71 23 P P 20 55 51.9 +0.7
baz=237,SNR=7.2
E17K Hotham Inlet 80.75 17 P P 20 55 52.3 +1.0
baz=229
D17K Noatak River 80.79 17 P P 20 55 52.2 +0.7
baz=228
GCSA Galena City Sc 80.88 20 P P 20 55 52.3 +0.3
baz=234
J19K Poorman 80.90 21 P P 20 55 52.7 +0.6
baz=235
CAPN Captain Cook N 80.93 25 IAMs_20 IAMs_20 21 27 19.0
comp=Z,1µm,22.0s
G18K Tagagawik 80.98 19 IAMs_20 IAMs_20 21 27 41.0
comp=Z,1µm,21.0s
G18K Tagagawik 80.98 19 P P 20 55 52.8 +0.2
baz=232,SNR=8.8
RDOG Red Dog Mine 81.08 16 P P 20 55 53.7 +0.6
baz=228
K20K Telida 81.11 22 P P 20 55 53.7 +0.3
baz=237,SNR=17
TDK Taldyqorghan 81.13 317 *eP* P 20 55 53.3 -0.5
TDK Taldyqorghan 81.13 317 *eP* P 20 55 53.4 -0.5
KDJ Kajisay 81.13 314 P P 20 55 53.5 -0.7
KDJ IAmb IAmb 20 55 58.9
comp=Z,21nm,0.9s
KDJ Kajisay 81.13 314 P P 20 55 53.5 -0.7
KDJ pmax pmax
comp=Z,21nm,0.9s
C17K DeLong Mountai 81.29 16 P P 20 55 54.7 +0.5
baz=228
KSH Kashi 81.30 311 P P 20 55 58.3 +3.3
KSH pmax pmax
comp=Z,7.0nm,1.2s
KSH pmax pmax
comp=Z,260nm,7.7s
KSH LR LR
comp=Z,540nm,24.7s
KSH LR LR
comp=Z,690nm,22.7s
KSH LR LR
comp=Z,800nm,23.4s
E18K Tukpahlearik C 81.33 17 P P 20 55 55.3 +1.0
baz=230
SEW Seward 81.34 26 P P 20 55 54.8 +0.3
baz=242,SNR=7.8
SKT Skwentna 81.38 24 P P 20 55 54.4 -0.5
baz=240
H19K Roundabout Mou 81.49 20 P P 20 55 55.7 +0.5
baz=234,SNR=9.1
J20K Nowinta River 81.54 22 P P 20 55 56.3 +0.8
baz=237,SNR=9.1
PPLA Purkeypile 81.59 23 IAMs_20 IAMs_20 21 28 19.4
comp=Z,951nm,21.0s
PPLA Purkeypile 81.59 23 P P 20 55 55.9 -0.1
baz=239
G19K Purcell Mounta 81.64 19 IAMs_20 IAMs_20 21 28 11.5
comp=Z,1µm,22.0s
G19K Purcell Mounta 81.64 19 P P 20 55 56.7 +0.7
baz=234,SNR=9.3
RC01 Rabbit Creek A 81.69 25 P P 20 55 55.5 -0.8
RC01 Rabbit Creek A 81.69 25 P P 20 55 55.6 -0.8
baz=241
SEM Semipalatinsk 81.69 323 *eP* P 20 55 56.4 -0.5
SEM Semipalatinsk 81.69 323 *eP* P 20 55 56.5 -0.5
CHKK Chushkaly 81.76 316 *eP* P 20 55 56.5 -0.7
CHKK Chushkaly 81.76 316 *eP* P 20 55 56.5 -0.7
I20K Naaghedeneel 81.76 21 IAMs_20 IAMs_20 21 27 12.7
comp=Z,1µm,22.0s
I20K Naaghedeneel 81.76 21 P P 20 55 57.1 +0.5
baz=236
NRN Naryn 81.79 313 P P 20 55 56.4 -1.4
NRN Naryn 81.79 313 P P 20 55 56.4 -1.4
NRN pmax pmax
comp=Z,5.0nm,0.9s
F19K Shaleruckik Mo 81.83 19 P P 20 55 56.9 -0.1
baz=233,SNR=8.9
M22K Willow 81.85 25 IAMs_20 IAMs_20 21 26 29.4
comp=Z,1µm,22.0s
CAST Castle Rocks 81.91 23 P P 20 55 56.5 -1.0
CAST IAmb IAmb 20 55 58.4
comp=Z,17nm,0.8s
CAST IAMs_20 IAMs_20 21 30 04.1
comp=Z,900nm,20.0s
CAST Castle Rocks 81.91 23 P P 20 55 57.0 -0.6
baz=239
C18K Utukok River 81.95 16 P P 20 55 58.0 +0.3
baz=230
H20K Anotleneega Mo 82.01 20 P P 20 55 58.6 +0.6
baz=236,SNR=5.3
NIL Nilore 82.02 305 P P 20 55 57.4 -1.4
NIL IAmb IAmb 20 56 30.0
comp=Z,30nm,0.8s
NIL Nilore 82.02 305 P P 20 55 57.4 -1.4

NIL pmax pmax
comp=Z,30nm,0.8s
NIL MLR MLR
comp=Z,500nm,20.0s
CHUM Lake Minchumin 82.06 22 P **P** 20 55 58.2 0.0
baz=238,SNR=5.1
BOOM Boomskoye usch 82.12 314 P **P** 20 55 58.1 -1.2
BOOM IAmb IAmb 20 56 03.9
comp=Z,13nm,0.6s
BOOM Boomskoye usch 82.12 314 P **P** 20 55 58.1 -1.2
BOOM pmax pmax
comp=Z,13nm,0.6s
PWL Port Wells 82.18 26 P **P** 20 55 57.9 -1.1
PWL IAmb IAmb 20 56 00.2
comp=Z,35nm,0.8s
PWL Port Wells 82.18 26 P **P** 20 55 58.5 -0.5
baz=243,SNR=24
PMR Palmer 82.19 25 P **P** 20 55 58.1 -0.9
PMR Palmer 82.19 25 P **P** 20 55 59.4 +0.4
PMR Palmer 82.19 25 P **P** 20 55 58.1 -0.9
PMR pmax pmax
comp=Z,12nm,0.8s
PMR MLR MLR
comp=Z,600nm,20.0s
PMR Palmer 82.19 25 P **P** 20 55 59.0 0.0
baz=242
P23K Montague Islan 82.20 27 P **P** 20 55 59.8 +0.7
baz=244
B18K Kokolik River 82.26 16 P **P** 20 55 59.3 +0.1
baz=229
E19K Redstone River 82.38 18 P **P** 20 56 00.1 +0.2
baz=234,SNR=13
KNK Knik Glacier 82.39 25 IAMs_20 IAMs_20 21 26 49.6
comp=Z,1µm,22.0s
KNK Knik Glacier 82.39 25 P **P** 20 56 00.0 -0.1
baz=242
KTH Kantishna Hill 82.42 23 P **P** 20 55 58.8 -1.5
KTH IAmb IAmb 20 56 00.6
comp=Z,15nm,0.8s
Q23K Middleton Isla 82.43 28 P **P** 20 56 00.7 +0.5
baz=244
F20K Avaraart Lake 82.61 19 IAMs_20 IAMs_20 21 26 56.1
comp=Z,1µm,22.0s
F20K Avaraart Lake 82.61 19 P **P** 20 56 01.3 +0.2
baz=235,SNR=5.6
TRF Thorofare Moun 82.62 23 P **P** 20 56 00.3 -1.1
baz=240,SNR=7.5
IMAR Indian Mountai 82.67 20 P **P** 20 56 00.6 -0.9
BPAW Bear Paw Mtn. 82.67 22 P **P** 20 56 00.7 -0.8
baz=240,SNR=7.8
C19K Lookout Ridge 82.69 16 P **P** 20 56 01.9 +0.3
baz=231
GLI Glacier Island 82.73 26 P **P** 20 56 01.4 -0.5
GLI IAmb IAmb 20 56 02.9
comp=Z,22nm,0.7s
GLI Glacier Island 82.73 26 P **P** 20 56 01.7 -0.2
baz=244,SNR=12
D19K Kuna River 82.74 17 P **P** 20 56 02.3 +0.5
baz=233
KURK Kurchatov 82.78 323 P **P** 20 56 01.4 -0.9
KURK IAmb IAmb 20 56 06.0
comp=Z,25nm,0.8s
KURK Kurchatov 82.78 323 IAMs_20 IAMs_20 21 32 04.8
comp=Z,1µm,21.0s
KURK Kurchatov 82.78 323 *ce*P **P** 20 55 59.8 -2.5
KURK pmax pmax
comp=Z,12nm,0.9s
KURBB Kurchatov Arra 82.80 323 P **P** 20 56 01.1 -1.3
comp=Z,13nm,0.8s,baz=114,slow=4.3,SNR=38
KURBB PKKPbc **PKKPbc** 21 14 27.3 -0.9
comp=Z,3.2nm,0.7s,baz=293,slow=2.9,SNR=31
KURBB PKPPKP **P'P'df** 21 22 29.2 -1.4
comp=Z,0.8nm,0.7s,baz=282,slow=3.0,SNR=7.3
KURBB LR LR 21 31 28.6
comp=Z,718nm,20.6s,baz=126,slow=35
comp=Z,13nm,0.8s
KURBB Kurchatov Arra 82.80 323 P **P** 20 55 59.5 -2.9
H21K Melozitna Rive 82.82 21 IAMs_20 IAMs_20 21 28 07.7
comp=Z,1µm,22.0s
H21K Melozitna Rive 82.82 21 P **P** 20 56 02.6 +0.4
baz=238,SNR=6.8
M23K Glacier View 82.87 25 P **P** 20 56 03.0 +0.4
baz=243
A19K Wainwright 83.00 15 P **P** 20 56 03.9 +0.9
baz=230
G21K Allakaket 83.04 20 IAMs_20 IAMs_20 21 28 54.6
comp=Z,1µm,22.0s
G21K Allakaket 83.04 20 P **P** 20 56 03.1 -0.3
baz=237
SCM Sheep Creek Mo 83.06 25 P **P** 20 56 03.1 -0.5
SCM Sheep Creek Mo 83.06 25 P **P** 20 56 03.1 -0.5
SCM pmax pmax
comp=Z,19nm,1.0s
SCM MLR MLR
comp=Z,800nm,22.0s
SCM Sheep Creek Mo 83.06 25 P **P** 20 56 03.8 +0.2
baz=243,SNR=7.9
MAW Mawson 83.16 203 P **P** 20 56 04.0 +0.1
comp=Z,15nm,0.6s,baz=102,slow=6.7,SNR=71
MAW LR LR 21 30 38.6
comp=Z,1µm,21.9s,baz=84,slow=34
comp=Z,15nm,0.6s
RND Reindeer 83.16 24 P **P** 20 56 02.3 -1.8
RND IAmb IAmb 20 56 04.9
comp=Z,30nm,0.7s
RND Reindeer 83.16 24 P **P** 20 56 02.3 -1.8
RND pmax pmax
comp=Z,30nm,0.7s
RND MLR MLR
comp=Z,1µm,20.0s
E20K Nigu River 83.17 18 P **P** 20 56 04.6 +0.6
baz=234
EYAK Cordova Ski Ar 83.19 27 P **P** 20 56 05.2 +1.0
baz=245
AAK Ala-Archa 83.19 314 P **P** 20 56 03.8 -1.1
AAK Ala-Archa 83.19 314 IAMs_20 IAMs_20 21 32 14.1
comp=Z,1µm,21.0s
AAK Ala-Archa 83.19 314 LR LR 21 32 36.0
comp=Z,1µm,21.8s,baz=91,slow=35
AAK Ala-Archa 83.19 314 ‖ *e*P **P** 20 56 04.9 0.0
AAK pmax pmax
comp=Z,6.0nm,0.7s
MLY Manley 83.24 22 P **P** 20 56 03.3 -1.2
MLY IAmb IAmb 20 56 05.7
comp=Z,18nm,0.7s
MLY Manley 83.24 22 P **P** 20 56 04.3 -0.2
baz=240,SNR=24
MCK McKinley 83.28 23 IAMs_20 IAMs_20 21 28 21.1
comp=Z,1µm,22.0s
MCK McKinley 83.28 23 P **P** 20 56 03.7 -1.0
baz=242,SNR=29
SGDS Sogindy 83.30 315 *e*P **P** 20 56 04.8 -0.5
D20K Etivluk River 83.31 17 P **P** 20 56 05.4 +0.6
baz=234
F21K Alatna River 83.44 19 IAMs_20 IAMs_20 21 30 08.9
comp=Z,904nm,20.0s
F21K Alatna River 83.44 19 P **P** 20 56 05.3 -0.1
baz=237
H22K Ishtalitna Cre 83.45 21 P **P** 20 56 05.8 +0.3
baz=239
KLU Klutina 83.51 26 P **P** 20 56 06.2 +0.2
baz=245,SNR=16
KAIM Kayak Island 83.53 28 P **P** 20 56 06.6 +0.6
baz=246
NEA2 Nenana 83.64 22 IAMs_20 IAMs_20 21 28 54.6
comp=Z,951nm,22.0s
NEA2 Nenana 83.64 22 P **P** 20 56 05.8 -0.7
baz=242,SNR=15
M24K Tolsona, Glenn 83.67 25 IAMs_20 IAMs_20 21 27 15.5
comp=Z,912nm,21.0s
M24K Tolsona, Glenn 83.67 25 P **P** 20 56 07.2 +0.4
baz=244,SNR=6.0
I23K Minto, Yukon-K 83.80 22 P **P** 20 56 06.9 -0.3
baz=241,SNR=5.8
BMRM Bremner River 83.87 27 P **P** 20 56 07.4 -0.4
BMRM Bremner River 83.87 27 P **P** 20 56 07.9 +0.1
baz=246,SNR=8.6
QSPA South Pole Qui 83.90 180 P **P** 20 56 08.2 +0.2
QSPA South Pole Qui 83.90 180 P **P** 20 56 08.4 +0.3
comp=Z,37nm,0.7s,baz=348,slow=1.1,SNR=124
QSPA LR LR 21 31 33.5
comp=Z,814nm,21.9s,baz=9.5,slow=34
comp=Z,37nm,0.7s
B20K Meade River 83.93 16 P **P** 20 56 08.6 +0.8
baz=233
G22K Bettles 83.93 20 P **P** 20 56 07.7 -0.2
baz=239
E21K Killik River 83.95 18 IAMs_20 IAMs_20 21 29 17.9
comp=Z,1µm,22.0s
E21K Killik River 83.95 18 P **P** 20 56 07.8 -0.2
baz=236
ARSB Arslanbob 83.96 313 P **P** 20 56 08.7 -0.2
ARSB IAmb IAmb 20 57 00.5
comp=Z,37nm,1.2s
ARSB Arslanbob 83.96 313 P **P** 20 56 08.7 -0.2
ARSB pmax pmax
comp=Z,37nm,1.2s
F22K John River 84.02 19 P **P** 20 56 08.9 +0.6
baz=238
H23K Yukon River 84.07 21 P **P** 20 56 08.7 +0.1
baz=241
BTLS Baital 84.11 316 *e*P **P** 20 56 08.9 -0.4
BTLS Baital 84.11 316 *e*P **P** 20 56 08.9 -0.4
C21K Knifeblade Rid 84.11 17 P **P** 20 56 09.9 +1.1
baz=236
N25K Chitina, Valde 84.14 26 P **P** 20 56 09.1 -0.1
baz=246,SNR=6.1
HARP HAARP 84.23 25 P **P** 20 56 09.8 +0.2
baz=245
COLA College 84.24 22 P **P** 20 56 08.2 -1.3
COLA College 84.24 22 *de*P **P** 20 56 07.7 -1.8
COLA pmax pmax
comp=Z,16nm,0.8s
COLA College 84.24 22 P **P** 20 56 09.4 -0.1
baz=243
G23K Bananza Creek 84.33 20 P **P** 20 56 10.2 +0.2
baz=240,SNR=14
PAX Paxson 84.34 25 P **P** 20 56 09.5 -0.7
baz=245,SNR=6.8
HDA Harding Lake 84.37 23 P **P** 20 56 09.4 -0.8
baz=243,SNR=7.5
B21K Ikpikpuk River 84.42 17 P **P** 20 56 09.9 -0.4
baz=236
DRK Karamyk 84.43 311 P **P** 20 56 11.3 -0.1
DRK Karamyk 84.43 311 P **P** 20 56 11.3 -0.1
DRK pmax pmax
comp=Z,18nm,1.1s
E22K Anaktuvuk Pass 84.46 19 IAMs_20 IAMs_20 21 28 08.5
comp=Z,1µm,22.0s
E22K Anaktuvuk Pass 84.46 19 P **P** 20 56 10.6 0.0
baz=239
CRQE Cirque 84.47 27 P **P** 20 56 10.8 -0.1
baz=247,SNR=6.4
POKR Poker Plat Res 84.51 22 IAMs_20 IAMs_20 21 30 14.5
comp=Z,843nm,20.0s
POKR Poker Plat Res 84.51 22 P **P** 20 56 11.0 +0.1
baz=243
COLD Coldfoot 84.53 20 P **P** 20 56 11.7 +0.8
baz=240
ILAR Eielson Array 84.56 23 P **P** 20 56 08.7 -2.4
ILAR Eielson Array 84.56 23 P **P** 20 56 08.2 -2.9
comp=Z,14nm,0.7s,baz=252,slow=4.9,SNR=86
ILAR PKKPbc **PKKPbc** 21 14 21.8 -3.0
comp=Z,0.7nm,0.7s,baz=16,slow=0.8,SNR=6.5
ILAR LR LR 21 33 30.3
comp=Z,390nm,19.1s,baz=245,slow=35
ILAR Eielson Array 84.56 23 P **P** 20 56 08.7 -2.4
K24K Donnelly Dome 84.57 24 P **P** 20 56 10.8 -0.5
baz=245
TGL Tana Glacier 84.58 27 P **P** 20 56 11.1 -0.4
TGL IAmb IAmb 20 58 17.9
comp=Z,19nm,0.4s
D22K Ayikyak River 84.59 18 IAMs_20 IAMs_20 21 30 12.3
comp=Z,1µm,21.0s
D22K Ayikyak River 84.59 18 P **P** 20 56 11.5 +0.2
baz=238
H24K Noodor Dome 84.67 22 P **P** 20 56 12.0 +0.2
baz=242,SNR=5.4
MCARA McCarthy VSAT 84.74 27 P **P** 20 56 12.5 +0.3
baz=247
A21K Barrow 84.86 15 P **P** 20 56 12.6 +0.1
baz=234
RIDG Independent Ri 84.92 24 P **P** 20 56 12.7 -0.3
baz=245,SNR=11
J25K Salcha River, 85.08 23 P **P** 20 56 13.7 -0.2
baz=245,SNR=68
E23K Chandalar 85.14 19 P **P** 20 56 14.4 +0.3
baz=241
M26K Nabesna, AK 85.15 26 P **P** 20 56 14.4 +0.1
baz=247
B22K Teshekpuk Lake 85.16 17 P **P** 20 56 14.3 +0.3
baz=237
G24K Hadweenzic Riv 85.22 21 IAMs_20 IAMs_20 21 29 52.1
comp=Z,1µm,21.0s
G24K Hadweenzic Riv 85.22 21 P **P** 20 56 14.6 +0.2
baz=243
BARN Barnard Glacie 85.23 27 P **P** 20 56 14.9 +0.1
BARN IAmb IAmb 20 56 16.6
comp=Z,12nm,0.7s
D23K Nanushuk River 85.25 18 IAMs_20 IAMs_20 21 30 20.8
comp=Z,1µm,22.0s
D23K Nanushuk River 85.25 18 P **P** 20 56 15.0 +0.5
baz=240
BTK Batken 85.29 311 P **P** 20 56 15.1 -0.4
BTK IAmb IAmb 20 56 44.0
comp=Z,19nm,1.4s
BTK Batken 85.29 311 P **P** 20 56 15.1 -0.4
BTK pmax pmax
comp=Z,19nm,1.4s
CTG Chitna Glacier 85.34 27 P **P** 20 56 15.4 +0.1
baz=249,SNR=8.6
SCRK Sand Creek 85.36 24 P **P** 20 56 15.1 -0.3
baz=246,SNR=13
PRP Porcupine Dome 85.41 22 P **P** 20 56 15.9 +0.3
baz=245
TOLK Toolik Lake Re 85.44 19 P **P** 20 56 15.8 +0.3
baz=241
F24K Squaw Lake 85.45 20 IAMs_20 IAMs_20 21 28 57.3
comp=Z,1µm,22.0s
F24K Squaw Lake 85.45 20 P **P** 20 56 16.1 +0.5
baz=242,SNR=15
GAR Garm 85.46 310 P **P** 20 56 15.7 -0.7
GAR IAmb IAmb 20 56 47.3
comp=Z,14nm,0.8s
DZA Taraz 85.51 314 *e*P **P** 20 56 15.7 -0.7
DZA pmax pmax
comp=Z,14nm,0.7s
DZA Taraz 85.51 314 *e*P **P** 20 56 15.8 -0.7
comp=Z,14nm,0.7s
E24K Your Creek 85.52 19 IAMs_20 IAMs_20 21 29 03.9
comp=Z,1µm,22.0s
E24K Your Creek 85.52 19 P **P** 20 56 16.2 +0.2
baz=242
PINM Pinnacle 85.53 28 P **P** 20 56 16.5 +0.3
baz=250
M27K Edge Creek, AK 85.61 26 P **P** 20 56 17.1 +0.5
baz=248,SNR=52
KBL Kabul 85.62 305 P **P** 20 56 15.8 -1.6
KBL Kabul 85.62 305 P **P** 20 56 15.8 -1.6
KBL pmax pmax
comp=Z,6.0nm,0.9s
J26L Joseph Creek 85.74 24 P **P** 20 56 17.2 0.0
baz=247,SNR=15
PNL Peninsula 85.80 29 P **P** 20 56 18.4 +0.9
PNL Peninsula 85.80 29 P **P** 20 56 17.7 +0.2
baz=251
O28M Mount Upton 85.80 28 P **P** 20 56 17.7 -0.1
baz=250,SNR=7.8
L27K Beaver Creek, 85.90 25 IAMs_20 IAMs_20 21 28 24.4
comp=Z,884nm,22.0s
L27K Beaver Creek, 85.90 25 P **P** 20 56 17.8 -0.1
baz=248,SNR=13
BCAR Beaver Creek A 85.92 25 P **P** 20 56 17.8 -0.3
D24K Happy Valley 85.92 18 IAMs_20 IAMs_20 21 31 15.6
comp=Z,1µm,21.0s
D24K Happy Valley 85.92 18 P **P** 20 56 17.7 -0.1
baz=241
YUK3 Moose Creek 86.03 27 P **P** 20 56 18.6 -0.2
baz=250,SNR=13
BVCY Beaver Creek 86.08 26 P **P** 20 56 19.2 +0.4
baz=249
KK31 Karatay Array 86.14 314 P **P** 20 56 18.5 -1.1
KK31 IAmb IAmb 20 56 23.3
comp=Z,19nm,1.1s
KK31 Karatay Array 86.14 314 P **P** 20 56 18.5 -1.1
KK31 pmax pmax
comp=Z,19nm,1.1s
KKAR Karatay Array 86.14 314 P **P** 20 56 18.0 -1.6
KKAR Karatay Array 86.14 314 P **P** 20 56 18.0 -1.6
K27K Chicken 86.16 24 P **P** 20 56 19.7 +0.6
baz=248
YUK8 Steele Glacier 86.17 27 P **P** 20 56 19.4 -0.2
baz=250,SNR=5.3
I26K Coal Creek Min 86.22 23 IAMs_20 IAMs_20 21 29 32.8
comp=Z,966nm,22.0s
I26K Coal Creek Min 86.22 23 P **P** 20 56 19.0 -0.4
baz=247
BRZS Berezniki 86.22 321 *e*P **P** 20 56 19.5 -0.3
BRZS Berezniki 86.22 321 *e*P **P** 20 56 19.5 -0.3
F25K Christian Rive 86.26 20 IAMs_20 IAMs_20 21 30 35.6
comp=Z,972nm,21.0s
F25K Christian Rive 86.26 20 P **P** 20 56 19.6 0.0
baz=244
O29M Mount Kennedy 86.39 28 P **P** 20 56 20.0 -0.5
baz=251
SIMJ Simiganj 86.39 309 P **P** 20 56 20.2 -0.9
E25K Arctic Village 86.51 20 IAMs_20 IAMs_20 21 31 04.3
comp=Z,1µm,22.0s
E25K Arctic Village 86.51 20 P **P** 20 56 21.1 +0.2
baz=244
BMAR Burnt Mountain 86.56 21 P **P** 20 56 20.9 -0.1
P29M Windy Craggy 86.58 29 P **P** 20 56 21.4 +0.1
baz=252
BRLS Boroldav 86.61 314 *e*P **P** 20 56 21.5 -0.4
BRLS Boroldav 86.61 314 *e*P **P** 20 56 21.6 -0.4
CHM Chimkent 86.64 313 *e*P **P** 20 56 21.5 -0.5
CHM Chimkent 86.64 313 *e*P **P** 20 56 21.5 -0.5
G26K Porcupine Rive 86.64 21 P **P** 20 56 22.1 +0.6
baz=246,SNR=12
YUK4 Talbot Arm 86.70 27 P **P** 20 56 22.6 +0.5
baz=251,SNR=23
YUK6 Outpost Mounta 86.70 28 P **P** 20 56 22.2 0.0
baz=251
D25K Kavik River 86.78 19 IAMs_20 IAMs_20 21 33 28.2
comp=Z,788nm,20.0s
D25K Kavik River 86.78 19 P **P** 20 56 22.2 +0.1
baz=244
F26K Sheenjek River 86.82 20 IAMs_20 IAMs_20 21 31 04.5
comp=Z,1µm,22.0s
F26K Sheenjek River 86.82 20 P **P** 20 56 23.0 +0.7
baz=246
S31K Pelican 86.83 31 IAMs_20 IAMs_20 21 26 25.6
comp=Z,865nm,22.0s
S31K Pelican 86.83 31 P **P** 20 56 22.9 +0.3
baz=254
I27K Kandik River 86.93 23 P **P** 20 56 22.2 -0.7
baz=248,SNR=16
SIT Sitka 87.05 32 IAMs_20 IAMs_20 21 26 52.4
comp=Z,1µm,22.0s
SIT Sitka 87.05 32 P **P** 20 56 24.0 +0.4
baz=254
HYT Haines Junctio 87.06 28 IAMs_20 IAMs_20 21 32 39.3
comp=Z,1µm,21.0s
HYT Haines Junctio 87.06 28 P **P** 20 56 23.8 0.0
baz=252,SNR=34
P30M Million Dollar 87.11 29 P **P** 20 56 24.0 +0.1
baz=253,SNR=12
M29M Somme Creek 87.14 26 P **P** 20 56 23.6 -0.5
baz=251,SNR=28
H27K Steamboat Moun 87.20 22 IAMs_20 IAMs_20 21 31 15.5
comp=Z,858nm,22.0s
H27K Steamboat Moun 87.20 22 P **P** 20 56 23.8 -0.4
baz=248,SNR=18
PLBC Pleasant Camp 87.20 29 P **P** 20 56 24.8 +0.5
baz=253,SNR=6.4
DAWY Dawson 87.27 25 IAMs_20 IAMs_20 21 29 06.7
comp=Z,1µm,22.0s
DAWY Dawson 87.27 25 P **P** 20 56 25.2 +0.5
baz=250,SNR=6.7
G27K Doyon Strip 87.36 22 IAMs_20 IAMs_20 21 34 29.9
comp=Z,809nm,21.0s
G27K Doyon Strip 87.36 22 P **P** 20 56 25.6 +0.6
baz=248,SNR=7.4
N30M Aishikik Lake 87.45 27 P **P** 20 56 25.7 +0.1
baz=253
L29M L29M 87.49 26 IAMs_20 IAMs_20 21 29 15.6
comp=Z,883nm,22.0s
L29M L29M 87.49 26 P **P** 20 56 25.4 -0.3
baz=252,SNR=34
C26K Camden Bay 87.50 18 P **P** 20 56 26.1 +0.6
baz=245
I28M Miner Creek 87.53 23 IAMs_20 IAMs_20 21 29 59.3
comp=Z,1µm,22.0s
I28M Miner Creek 87.53 23 P **P** 20 56 24.9 -0.9
baz=250,SNR=13
S32K Killisnoo 87.55 32 IAMs_20 IAMs_20 21 27 18.7
comp=Z,1µm,22.0s
S32K Killisnoo 87.55 32 P **P** 20 56 27.2 +1.2
baz=255,SNR=5.3
DIB Dawson Inlet, 87.67 36 P **P** 20 56 27.1 +0.5
DIB IAmb IAmb 20 56 28.9
comp=Z,16nm,0.8s
SKAG Skagway 87.71 30 P **P** 20 56 29.7 +3.0
SKAG Skagway 87.71 30 P **P** 20 56 27.1 +0.4
baz=254
O30N Mendenhall 87.71 28 P **P** 20 56 27.1 +0.3
baz=254,SNR=17
C27K Jago River 87.76 19 IAMs_20 IAMs_20 21 30 39.1
comp=Z,1µm,22.0s
C27K Jago River 87.76 19 P **P** 20 56 26.8 0.0
baz=246
R32K Eaglecrest 87.80 31 P **P** 20 56 27.7 +0.5
baz=255
CRAG Craig 87.83 34 IAMs_20 IAMs_20 21 27 02.3
comp=Z,1µm,22.0s
CRAG Craig 87.83 34 P **P** 20 56 27.3 -0.1
baz=256
E27K Coleen River 87.90 20 P **P** 20 56 28.0 +0.5
baz=248,SNR=6.7
M30M Minto, Yukon 87.91 26 P **P** 20 56 27.8 0.0
baz=253,SNR=9.5
MOBC Moresby Island 87.96 36 P **P** 20 56 28.5 +0.4
MOBC IAmb IAmb 20 56 30.9
comp=Z,13nm,0.8s
MOBC IAMs_20 IAMs_20 21 28 46.0
comp=Z,1µm,21.0s
K29M Barlow Dome 87.98 25 IAMs_20 IAMs_20 21 30 58.5
comp=Z,988nm,22.0s
K29M Barlow Dome 87.98 25 P **P** 20 56 27.8 -0.4
baz=252,SNR=27
U33K Whale Pass 87.99 33 P **P** 20 56 28.3 +0.2
baz=256
N31M Braeburn, Yuko 88.06 28 P **P** 20 56 28.2 -0.2
baz=254,SNR=9.9
I29M Ogilvie Camp, 88.14 24 IAMs_20 IAMs_20 21 32 32.6
comp=Z,882nm,20.0s
I29M Ogilvie Camp, 88.14 24 P **P** 20 56 28.9 +0.2
baz=251,SNR=11
HG4B Hotspring 88.23 37 P **P** 20 56 29.8 +0.4
HG4B IAmb IAmb 20 56 31.6
comp=Z,14nm,0.8s
HG4B IAMs_20 IAMs_20 21 30 11.0
comp=Z,969nm,20.0s
WHY Whitehorse 88.25 29 P **P** 20 56 29.4 -0.1
baz=254,SNR=16
F28M Old Crow 88.30 21 P **P** 20 56 30.2 +0.7
baz=250
BVAR Borovoye Array 88.31 324 P **P** 20 56 28.0 -1.8
comp=Z,18nm,0.8s,baz=103,slow=4.3,SNR=38
BVAR PKKPbc **PKKPbc** 21 14 13.7 -1.6
comp=Z,1.6nm,0.7s,baz=292,slow=4.1,SNR=12
BVAR PKPPKP **P'P'df** 21 22 20.4 -0.1
comp=Z,0.5nm,0.6s,baz=207,slow=1.0,SNR=4.4
BVAR LR LR 21 37 46.9
comp=Z,308nm,19.0s,baz=90,slow=37
comp=Z,18nm,0.8s
BRVK Borovoye 88.38 324 P **P** 20 56 28.6 -1.5
BRVK Borovoye 88.38 324 *ce*P **P** 20 56 29.4 -0.7
BRVK pmax pmax
comp=Z,10.0nm,1.0s
H29M Whitestone 88.39 23 IAMs_20 IAMs_20 21 30 03.2
comp=Z,1µm,22.0s
H29M Whitestone 88.39 23 P **P** 20 56 30.0 +0.1
baz=251
WRAK Wrangell Islan 88.48 33 P **P** 20 56 30.9 +0.4
baz=257
D27M Malcolm River 88.50 20 P **P** 20 56 30.5 +0.1
baz=249
P32M Atlin 88.53 30 P **P** 20 56 31.2 +0.5
baz=256,SNR=6.0
V35K Ketchikan 88.64 34 IAMs_20 IAMs_20 21 29 59.6
comp=Z,1µm,20.0s
V35K Ketchikan 88.64 34 P **P** 20 56 31.6 +0.4
baz=257
J30M Hart River 88.70 25 IAMs_20 IAMs_20 21 31 28.4
comp=Z,1µm,21.0s
J30M Hart River 88.70 25 P **P** 20 56 32.1 +0.6
baz=253,SNR=16
G29M Pine Creek 88.75 22 IAMs_20 IAMs_20 21 32 09.5
comp=Z,1µm,22.0s
G29M Pine Creek 88.75 22 P **P** 20 56 31.8 +0.2
baz=252

E28M	**Babbage River**	**88.76**	**20**	P		**P**		**20 56 32.0**	**+0.4**
	baz=250									
I30M	**Mount Dempster**	**88.87**	**24**	P		**P**		**20 56 32.5**	**+0.2**
	baz=253									
M31M	**Drury Creek, Y**	**88.88**	**27**	IAms_20	IAms_20			21 33 07.5		
	comp=Z,895nm,21.0s									
M31M	**Drury Creek, Y**	**88.88**	**27**	P		**P**		**20 56 32.7**	**+0.4**
	baz=255,SNR=6.2									
EPYK	**Eagle Plains**	**89.08**	**23**	IAms_20	IAms_20			21 30 23.2		
	comp=Z,827nm,22.0s									
EPYK	**Eagle Plains**	**89.08**	**23**	P		**P**		**20 56 33.3**	**+0.2**
	baz=253,SNR=5.9									
Q32M	**Nakina River**	**89.10**	**30**	P		**P**		**20 56 34.0**	**+0.4**
	baz=257									
P33M	**Teslin, Yukon**	**89.12**	**29**	P		**P**		**20 56 33.9**	**+0.3**
	baz=256									
RUBB	**Prince Rupert**	**89.20**	**35**	P		**P**		**20 56 34.1**	**+0.2**
RUBB				IAmb	IAmb			20 56 36.0		
	comp=Z,8.2nm,0.7s									
RUBB				IAms_20	IAms_20			21 31 49.6		
	comp=Z,1μm,19.0s									
N32M	**Quiet Lake**	**89.22**	**28**	P		**P**		**20 56 34.5**	**+0.5**
	baz=256									
E29M	**Blow River**	**89.26**	**21**	IAms_20	IAms_20			21 32 17.0		
	comp=Z,1μm,22.0s									
E29M	**Blow River**	**89.26**	**21**	P		**P**		**20 56 34.6**	**+0.7**
	baz=252									
D28M	**Stokes Point**	**89.28**	**20**	P		**P**		**20 56 34.0**	**+0.1**
	baz=251									
G30M	**tAoh Zraii Nji**	**89.44**	**22**	P		**P**		**20 56 34.5**	**-0.4**
	baz=253									
S34M	**Telegraph Cree**	**89.46**	**32**	IAms_20	IAms_20			21 28 05.0		
	comp=Z,1μm,22.0s									
S34M	**Telegraph Cree**	**89.46**	**32**	P		**P**		**20 56 35.7**	**+0.6**
	baz=258									
T35M	**Bob Quinn**	**89.73**	**33**	P		**P**		**20 56 36.7**	**+0.3**
	baz=259									
F30M	**Barrier River**	**89.79**	**22**	IAms_20	IAms_20			21 32 54.9		
	comp=Z,868nm,22.0s									
F30M	**Barrier River**	**89.79**	**22**	P		**P**		**20 56 36.6**	**+0.2**
	baz=254									
HOLB	**Holberg**	**89.80**	**39**	IAms_20	IAms_20			21 29 08.7		
	comp=Z,869nm,22.0s									
H31M	**Peel River**	**89.85**	**24**	IAms_20	IAms_20			21 32 55.7		
	comp=Z,1μm,21.0s									
H31M	**Peel River**	**89.85**	**24**	P		**P**		**20 56 36.9**	**+0.2**
	baz=255									
R33M	**Jennings River**	**89.85**	**30**	P		**P**		**20 56 37.6**	**+0.6**
	baz=258									
BBB	**Bella Bella**	**90.07**	**38**	IAms_20	IAms_20			21 30 47.8		
	comp=Z,952nm,21.0s									
DLBC	**Dease Lake**	**90.14**	**31**	LR	LR			21 35 42.4		
	comp=Z,58nm,18.0s,baz=248,slow=35									
DLBC	**Dease Lake**	**90.14**	**31**	P		**P**		**20 56 38.1**	**-0.2**
	baz=259									
G31M	**Satah River**	**90.17**	**23**	IAms_20	IAms_20			21 31 18.0		
	comp=Z,957nm,22.0s									
G31M	**Satah River**	**90.17**	**23**	P		**P**		**20 56 38.3**	**+0.2**
	baz=255									
MMPY	**Sheldon Lake,**	**90.40**	**27**	IAms_20	IAms_20			21 35 47.5		
	comp=Z,790nm,20.0s									
MMPY	**Sheldon Lake,**	**90.40**	**27**	P		**P**		**20 56 39.2**	**-0.2**
	baz=258									
F31M	**Tsiigehtchic**	**90.50**	**22**	IAms_20	IAms_20			21 31 51.8		
	comp=Z,895nm,22.0s									
F31M	**Tsiigehtchic**	**90.50**	**22**	P		**P**		**20 56 39.8**	**+0.2**
	baz=256									
INK	**Inuvik**	**90.80**	**21**	LR	LR			21 35 10.9		
	comp=Z,568nm,20.1s,baz=256,slow=34									
INK	**Inuvik**	**90.80**	**21**	P		**P**		**20 56 41.3**	**+0.3**
	baz=256									
WTLY	**Watson Lake, Y**	**91.07**	**30**	P		**P**		**20 56 43.0**	**+0.5**
	baz=260									
JCC	**Jacoby Creek,**	**91.23**	**49**	IAms_20	IAms_20			21 34 32.6		
	comp=Z,779nm,20.0s									
SYO	**Syowa Base**	**91.39**	**200** ⇑	*i*P		**P**		**20 56 44.0**	**+0.1**
SYO	**Syowa Base**	**91.39**	**200** ⇑	*e*PcP		**PcP**		**20 56 46.3**	**+1.5**
KRMB	**Red Mountain**	**91.40**	**49**	IAms_20	IAms_20			21 34 15.1		
	comp=Z,956nm,21.0s									
KSXB	**Camp Six Broad**	**91.46**	**48**	IAms_20	IAms_20			21 34 54.7		
	comp=Z,1μm,19.0s									
L02F	**Cave Junction**	**91.72**	**48**	IAms_20	IAms_20			21 30 08.5		
	comp=Z,1μm,22.0s									
HOPS	**Hopland Field**	**91.75**	**51**	IAms_20	IAms_20			21 30 05.6		
	comp=Z,1μm,20.0s									
MCCM	**Marconi Confer**	**91.81**	**52**	IAms_20	IAms_20			21 34 54.2		
	comp=Z,1μm,20.0s									
RADR	**Rader Ridge**	**92.05**	**44**	IAms_20	IAms_20			21 29 54.8		
	comp=Z,1μm,21.0s									
I03D	**Drain, OR**	**92.06**	**46**	IAms_20	IAms_20			21 29 47.4		
	comp=Z,1μm,22.0s									
O02D	**Mt. Diablo Mer**	**92.10**	**50**	P		**P**		**20 56 47.5**	**-0.3**
O02D				IAmb	IAmb			20 56 53.5		
	comp=Z,8.6nm,0.8s									
COR	**Corvallis**	**92.19**	**46**	IAms_20	IAms_20			21 29 25.7		
	comp=Z,1μm,21.0s									
E03A	**Lebam**	**92.23**	**44**	IAms_20	IAms_20			21 30 11.4		
	comp=Z,1μm,22.0s									
G03D	**McMinnville, O**	**92.29**	**45**	IAms_20	IAms_20			21 32 41.2		
	comp=Z,945nm,20.0s									
YBH	**Yreka Blue Hor**	**92.32**	**48**	P		**P**		**20 56 49.5**	**+0.6**
YBH				IAmb	IAmb			20 57 47.0		
	comp=Z,25nm,1.9s									
YBH				IAms_20	IAms_20			21 35 03.3		
	comp=Z,862nm,19.0s									
YBH	**Yreka Blue Hor**	**92.32**	**48**	LR	LR			21 30 57.8		
	comp=Z,55nm,21.7s,baz=270,slow=31									
YBH	**Yreka Blue Hor**	**92.32**	**48**	P		**P**		**20 56 49.5**	**+0.6**
YBH				pmax	pmax					
	comp=Z,25nm,1.9s									
YBH				MLR	MLR					
	comp=Z,900nm,19.0s									
BUCK	**Buck Mountain**	**92.38**	**46**	IAms_20	IAms_20			21 32 23.6		
	comp=Z,978nm,20.0s									
BBOR	**Butler Butte**	**92.46**	**47**	IAms_20	IAms_20			21 30 32.0		
	comp=Z,1μm,22.0s									
F04D	**Rainier, OR**	**92.56**	**44**	IAms_20	IAms_20			21 29 56.2		
	comp=Z,1μm,22.0s									
H04D	**Lebanon**	**92.59**	**46**	IAms_20	IAms_20			21 32 51.2		
	comp=Z,1μm,21.0s									
L04D	**Klamath Falls**	**92.67**	**48**	IAms_20	IAms_20			21 30 48.6		
	comp=Z,922nm,21.0s									
G04A	**Mulino**	**92.84**	**45**	IAms_20	IAms_20			21 29 44.8		
	comp=Z,863nm,22.0s									
J04A	**Umpqua Nationa**	**92.91**	**47**	IAms_20	IAms_20			21 30 45.9		
	comp=Z,997nm,22.0s									
H04A	**Detroit Lake**	**93.00**	**46**	IAms_20	IAms_20			21 31 05.0		
	comp=Z,842nm,21.0s									
ORV	**Oroville**	**93.02**	**51**	IAms_20	IAms_20			21 30 57.2		
	comp=Z,759nm,22.0s									
K04D	**Chiloquin, OR**	**93.11**	**48**	IAms_20	IAms_20			21 37 31.3		
	comp=Z,834nm,19.0s									
HATC	**Hat Creek Radi**	**93.17**	**49**	IAms_20	IAms_20			21 36 02.9		
	comp=Z,731nm,20.0s									
PMPB	**Monarch Peak**	**93.27**	**54**	IAms_20	IAms_20			21 32 59.1		
	comp=Z,775nm,20.0s									
D05A	**Enumclaw**	**93.37**	**43**	IAms_20	IAms_20			21 30 47.5		
	comp=Z,804nm,22.0s									
AFDM	**Forest Hills D**	**93.38**	**51**	IAms_20	IAms_20			21 31 17.7		
	comp=Z,832nm,22.0s									
HOOD	**Mount Hood Mea**	**93.43**	**45**	IAms_20	IAms_20			21 33 46.5		
	comp=Z,870nm,19.0s									
J05D	**Fort Rock, OR**	**93.55**	**47**	IAms_20	IAms_20			21 31 18.9		
	comp=Z,1μm,21.0s									
I05D	**Terrebonne, OR**	**93.57**	**46**	IAms_20	IAms_20			21 35 05.1		
	comp=Z,813nm,19.0s									
LLLB	**Lillooet**	**93.74**	**40**	P		**P**		**20 56 55.4**	**+0.2**
CMB	**Columbia Colle**	**93.76**	**52**	IAms_20	IAms_20			21 31 16.8		
	comp=Z,726nm,21.0s									
PINE	**Pine Mountain**	**93.81**	**47**	IAms_20	IAms_20			21 30 43.6		
	comp=Z,1μm,22.0s									
BEKR	**Beckworth**	**93.92**	**50**	IAms_20	IAms_20			21 32 28.1		
	comp=Z,989nm,20.0s									
WRGLY	**Wrigley**	**94.02**	**27**	IAms_20	IAms_20			21 36 42.2		
	comp=Z,739nm,21.0s									
G06A	**Carlson Farm,**	**94.14**	**45**	IAms_20	IAms_20			21 33 51.2		
	comp=Z,787nm,20.0s									
A36M	**Sachs Harbour**	**94.24**	**18**	IAms_20	IAms_20			21 37 06.4		
	comp=Z,997nm,22.0s									
A36M	**Sachs Harbour**	**94.24**	**18**	P		**P**		**20 56 56.2**	**-0.6**
	baz=264									
LTY	**Liberty**	**94.27**	**43**	IAms_20	IAms_20			21 31 27.4		
	comp=Z,758nm,22.0s									
AB31	**Akbulak array**	**94.28**	**319**	P		**P**		**20 56 55.2**	**-2.3**
AB31	**Akbulak array**	**94.28**	**319**	*i* P		**P**		**20 56 56.2**	**-1.4**
ABKAR	**Akbulak array**	**94.28**	**319**	P		**P**		**20 56 55.5**	**-2.0**
SVE	**Sverdlovsk**	**94.42**	**327**	*e*P		**P**		**20 56 57.0**	**-1.0**
WAKR	**Walker**	**94.54**	**52**	IAms_20	IAms_20			21 31 42.4		
	comp=Z,766nm,21.0s									
PAHR	**Pah Rah Range**	**94.66**	**51**	IAms_20	IAms_20			21 32 00.6		
	comp=Z,946nm,22.0s									
F07A	**Phinny Hill Vi**	**94.68**	**44**	IAms_20	IAms_20			21 35 14.5		
	comp=Z,688nm,19.0s									
E07A	**Sunnyside**	**94.78**	**44**	IAms_20	IAms_20			21 31 18.9		
	comp=Z,842nm,22.0s									
OSI	**Osito Audit: C**	**94.84**	**56**	IAms_20	IAms_20			21 30 59.7		
	comp=Z,875nm,22.0s									
HAWA	**Hanford**	**94.99**	**44**	IAms_20	IAms_20			21 31 26.6		
	comp=Z,824nm,22.0s									
ISA	**Isabella, Lake**	**95.11**	**55**	IAms_20	IAms_20			21 31 39.9		
	comp=Z,719nm,21.0s									
PASC	**Pasadena Art C**	**95.25**	**56**	IAms_20	IAms_20			21 30 59.7		
	comp=Z,940nm,22.0s									
LHV	**Little Huntoon**	**95.25**	**52**	IAms_20	IAms_20			21 32 19.3		
	comp=Z,711nm,21.0s									
RYN	**Ryan**	**95.26**	**52**	IAms_20	IAms_20			21 32 19.6		
	comp=Z,764nm,21.0s									
TPO	**Tropico Hills**	**95.26**	**56**	IAms_20	IAms_20			21 31 26.9		
	comp=Z,732nm,20.0s									
E08A	**Dider Farm, El**	**95.32**	**44**	IAms_20	IAms_20			21 31 47.3		
	comp=Z,880nm,21.0s									
G08A	**Pilot Rock**	**95.33**	**45**	IAms_20	IAms_20			21 34 55.5		
	comp=Z,832nm,20.0s									
MWC	**Mount Wilson**	**95.36**	**56**	IAms_20	IAms_20			21 31 04.6		
	comp=Z,1μm,22.0s									
YPT	**Yellepit**	**95.36**	**44**	IAms_20	IAms_20			21 31 02.5		
	comp=Z,824nm,22.0s									
WVOR	**Wild Horse Val**	**95.40**	**48**	IAms_20	IAms_20			21 32 48.8		
	comp=Z,847nm,21.0s									
NVAR	**Mina Array Bea**	**95.42**	**52**	P		**P**		**20 57 02.8**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=245,slow=6.3,SNR=6.4									
NVAR				LR	LR			21 32 49.2		
	comp=Z,673nm,21.4s,baz=270,slow=31									
	comp=Z,1.3nm,0.5s									
D08A	**Wollman Farm,**	**95.45**	**43**	IAms_20	IAms_20			21 32 02.6		
	comp=Z,818nm,22.0s									
CWC	**Cottonwood Cre**	**95.48**	**54**	IAms_20	IAms_20			21 34 10.5		
	comp=Z,711nm,20.0s									
J08A	**Circle Bar Ran**	**95.57**	**47**	IAms_20	IAms_20			21 32 45.2		
	comp=Z,1μm,22.0s									
AKTO	**Aktyubinsk**	**95.60**	**320**	LR	LR			21 39 22.0		
	comp=Z,1μm,21.9s,baz=63,slow=35									
DSP	**Deep Springs**	**95.62**	**53**	IAms_20	IAms_20			21 36 56.2		
	comp=Z,792nm,20.0s									
ARTI	**Arti**	**95.64**	**326**	P		**P**		**20 57 01.7**	**-1.9**
ARTI	**Arti**	**95.64**	**326**	LR	LR			21 39 50.0		
	comp=Z,1μm,21.9s,baz=94,slow=35									
ARTI	**Arti**	**95.64**	**326**	*d* P		**P**		**20 57 01.3**	**-2.3**
ARTI								21 00 53.1		
ARTI				S		**SKSac**		**21 07 31.8**	**-2.9**
ARTI				SP		**SP**		**21 09 39.6**	**+5.6**
ARTI				SS		**SS**		**21 14 51.4**	**+5.5**
ARTI				pmax	pmax					
	comp=Z,3.0nm,0.7s									
ARTI				MLR	MLR					
	comp=Z,2μm,22.0s									
BFSC	**Mount Baldy Ra**	**95.69**	**56**	IAms_20	IAms_20			21 31 37.4		
	comp=Z,1μm,22.0s									
ELS	**Elsinore Mount**	**95.85**	**57**	IAms_20	IAms_20			21 31 17.6		
	comp=Z,960nm,22.0s									
GRAC	**Grapevine Rang**	**96.08**	**54**	IAms_20	IAms_20			21 31 06.5		
	comp=Z,777nm,22.0s									
BELA	**Belgrano 2**	**96.15**	**179**	P		**P**		**20 57 06.2**	**+0.6**
BELA				IAmb	IAmb			20 57 07.8		
	comp=Z,14nm,0.8s									
DPP	**Dos Picos Cty**	**96.22**	**58**	IAms_20	IAms_20			21 31 40.4		
	comp=Z,848nm,21.0s									
Q09A	**Carvers**	**96.32**	**52**	IAms_20	IAms_20			21 30 04.5		
	comp=Z,735nm,22.0s									
GSC	**Goldstone, Bar**	**96.45**	**55**	IAms_20	IAms_20			21 31 39.4		
	comp=Z,861nm,22.0s									
BMO	**Blue Mountains**	**96.47**	**46**	IAms_20	IAms_20			21 35 42.0		
	comp=Z,668nm,20.0s									
PFO	**Pinyon Flats O**	**96.65**	**57**	IAms_20	IAms_20			21 31 29.0		
	comp=Z,1μm,22.0s									
PFO	**Pinyon Flats O**	**96.65**	**57**	LR	LR			21 33 17.8		
	comp=Z,835nm,20.8s,baz=252,slow=31									
NEW	**Newport**	**96.71**	**42**	LR	LR			21 35 38.9		
	comp=Z,306nm,20.0s,baz=280,slow=32									
PMD	**Palm Desert**	**96.72**	**57**	IAms_20	IAms_20			21 31 30.8		
	comp=Z,955nm,22.0s									
ESJX	**Sra Juarez**	**97.00**	**59**	IAms_20	IAms_20			21 35 21.4		
	comp=Z,890nm,20.0s									
SALN	**Salton City**	**97.03**	**57**	IAms_20	IAms_20			21 31 52.0		
	comp=Z,839nm,22.0s									
YUH	**Yuha Desert**	**97.06**	**58**	IAms_20	IAms_20			21 32 36.7		
	comp=Z,979nm,20.0s									
VTX	**Valle De La Tr**	**97.11**	**59**	IAms_20	IAms_20			21 33 08.4		
	comp=Z,732nm,20.0s									
S11A	**Rachel**	**97.40**	**53**	IAms_20	IAms_20			21 38 12.3		
	comp=Z,782nm,20.0s									
PLID	**Pearl Lake**	**97.41**	**45**	P		**P**		**20 57 11.5**	**-0.7**
PLID				IAms_20	IAms_20			21 35 34.7		
	comp=Z,784nm,20.0s									
MTPC	**Mountain Pass**	**97.48**	**55**	IAms_20	IAms_20			21 33 57.6		
	comp=Z,648nm,20.0s									
MFID	**Camas Ranch**	**97.50**	**47**	IAms_20	IAms_20			21 33 45.3		
	comp=Z,1μm,22.0s									
ELK	**Elko**	**97.88**	**50**	IAms_20	IAms_20			21 35 26.7		
	comp=Z,716nm,20.0s									
ELK	**Elko**	**97.88**	**50**	LR	LR			21 35 17.0		
	comp=Z,636nm,20.3s,baz=282,slow=32									
SFX	**San Felipe**	**97.90**	**60**	IAms_20	IAms_20			21 34 14.1		
	comp=Z,744nm,20.0s									
PRN	**Pahroc Range**	**97.95**	**53**	IAms_20	IAms_20			21 38 30.8		
	comp=Z,713nm,20.0s									
GLA	**Glamis**	**97.99**	**58**	IAms_20	IAms_20			21 34 27.5		
	comp=Z,789nm,20.0s									
YKA	**Yellowknife Ar**	**98.05**	**28**	P		**P**		**20 57 12.8**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=275,slow=4.7,SNR=3.8									
YKA				PKKPbc	PKKPbc			**21 13 46.7**	**-3.3**
	comp=Z,1.1nm,0.7s,baz=94,slow=2.4,SNR=6.3									
YKA				LR	LR			21 37 39.6		
	comp=Z,563nm,21.4s,baz=286,slow=33									
	comp=Z,0.5nm,0.7s									
YKA	**Yellowknife Ar**	**98.05**	**28**	*ce*P		Pdif		20 57 21.7	+7.3	
YKA				pmax	pmax					
	comp=Z,1.0nm,0.8s									
NEE2	**Needles Airpor**	**98.22**	**56**	IAms_20	IAms_20			21 33 06.4		
	comp=Z,796nm,22.0s									
BLYC	**Blythe**	**98.27**	**57**	IAms_20	IAms_20			21 32 18.7		
	comp=Z,828nm,22.0s									
SPR3	**Spring Creek 3**	**98.55**	**52**	IAms_20	IAms_20			21 34 25.5		
	comp=Z,1μm,22.0s									
MSO	**Missoula**	**98.85**	**44**	IAms_20	IAms_20			21 33 33.8		
	comp=Z,810nm,22.0s									
PSUT	**Pine Spring**	**98.91**	**52**	IAms_20	IAms_20			21 35 06.2		
	comp=Z,809nm,20.0s									
TROLL	**Troll, Antarti**	**99.17**	**190** ⇑	P		**Pdif**		**20 57 19.0**	**-0.5**
	comp=Z,616nm,0.7s									
CCUT	**Cedar City**	**99.29**	**53**	IAms_20	IAms_20			21 39 34.4		
	comp=Z,776nm,20.0s									
VOI	**Vohitsoka**	**99.48**	**247**	P		**Pdif**		**20 57 21.2**	**-0.8**
HVU	**Hansel Valley**	**99.74**	**49**	IAms_20	IAms_20			21 39 18.8		
	comp=Z,639nm,20.0s									
DLMT	**Dillon**	**99.81**	**45**	IAms_20	IAms_20			21 38 19.3		
	comp=Z,787nm,20.0s									
SNAA	**Sanae**	**100.32**	**189** ⇑	P		**Pdif**		**20 57 24.7**	**+0.2**
	comp=Z,67nm,0.7s									
SNAA				⇓PP		**PP**		**21 01 32.2**	**+1.6**
SNAA				⇓PKiKP		**PKiKP**		**21 01 50.3**	**-0.9**
SNAA	**Sanae**	**100.32**	**189**	P		**Pdif**		**20 57 23.9**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=161,slow=4.0,SNR=21									
BOZ	**Bozeman (W)**	**100.49**	**45**	IAms_20	IAms_20			21 38 57.1		
	comp=Z,602nm,20.0s									
MPU	**Maple Canyon**	**100.63**	**51**	IAms_20	IAms_20			21 40 20.6		
	comp=Z,664nm,21.0s									
HWUT	**Hardware Ranch**	**100.65**	**49**	IAms_20	IAms_20			21 39 56.9		
	comp=Z,584nm,19.0s									
YHB	**Horse Butte**	**100.83**	**46**	IAms_20	IAms_20			21 34 34.1		
	comp=Z,932nm,22.0s									
YHL	**Hebgen Lake**	**100.83**	**46**	IAms_20	IAms_20			21 39 03.3		
	comp=Z,740nm,20.0s									
WUAZ	**Wupatki**	**100.89**	**55**	IAms_20	IAms_20			21 34 43.9		
	comp=Z,804nm,22.0s									
AHID	**Auburn Hatcher**	**100.96**	**48**	IAms_20	IAms_20			21 36 30.1		
	comp=Z,824nm,20.0s									
TMUT	**Trail Mountain**	**100.97**	**51**	IAms_20	IAms_20			21 36 04.7		
	comp=Z,707nm,21.0s									
FXWY	**Fox Creek**	**100.99**	**47**	IAms_20	IAms_20			21 35 48.6		
	comp=Z,851nm,22.0s									
Q16A	**Castle Valley**	**101.01**	**52**	IAms_20	IAms_20			21 36 06.7		
	comp=Z,796nm,22.0s									
TPAW	**Teton Pass**	**101.05**	**47**	IAms_20	IAms_20			21 36 01.1		
	comp=Z,949nm,22.0s									
YNR	**Norris Junctio**	**101.19**	**46**	IAms_20	IAms_20			21 34 58.9		
	comp=Z,934nm,22.0s									
HSIG		**101.23**	**62**	IAms_20	IAms_20			21 38 21.5		
	comp=Z,679nm,20.0s									
LOHW	**Long Hollow**	**101.30**	**47**	IAms_20	IAms_20			21 35 58.7		
	comp=Z,974nm,22.0s									
HMU	**Henry Mountain**	**101.37**	**53**	IAms_20	IAms_20			21 41 03.3		
	comp=Z,714nm,19.0s									
TUC	**Tucson**	**101.39**	**58**	IAms_20	IAms_20			21 35 10.5		
	comp=Z,691nm,20.0s									
SRU	**San Rafael Swe**	**101.51**	**51**	IAms_20	IAms_20			21 36 21.9		
	comp=Z,694nm,22.0s									
YMP	**Mirror Lake Pl**	**101.56**	**46**	IAms_20	IAms_20			21 39 36.7		
	comp=Z,629nm,20.0s									
VNA3	**Neumayer Olymp**	**101.62**	**187** ⇑	P		**Pdif**		**20 57 29.6**	**-0.6**
	comp=Z,9.8nm,0.7s									
EGMT	**Eagleton**	**101.65**	**42**	IAms_20	IAms_20			21 35 58.5		
	comp=Z,651nm,22.0s									
P18A	**Preston Nutter**	**101.71**	**51**	IAms_20	IAms_20			21 36 07.2		
	comp=Z,751nm,21.0s									
VNA1	**Neumayer--Stat**	**102.00**	**187** ⇑	P		**Pdif**		**20 57 32.2**	**+0.3**
	comp=Z,3.0nm,0.8s									
BW06	**Boulder Array**	**102.10**	**48**	IAms_20	IAms_20			21 36 24.1		
	comp=Z,927nm,21.0s									
PDAR	**Pinedale Array**	**102.10**	**48**	P		**Pdif**		**20 57 32.1**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=259,slow=2.3,SNR=12									
PDAR				PKKPbc		**PKKPbc**		**21 13 37.6**	**-0.4**	
	comp=Z,0.9nm,0.7s,baz=107,slow=4.2,SNR=7.1									
RLMT	**Red Lodge**	**102.17**	**45**	IAms_20	IAms_20			21 38 56.8		
	comp=Z,749nm,21.0s									
AKT	**Akhty**	**102.83**	**311**	*e*P		**Pdif**		**20 57 38.1**	**+1.7**
AKT				*e*				21 01 52.7		
AKT				pmax	pmax					
	comp=Z,10.0nm,1.4s									
AKT				MLR	MLR					
	comp=Z,970nm,24.0s									
MAK	**Makhachkala**	**102.91**	**313**	*i* P		**Pdif**		**20 57 33.3**	**-3.2**
MAK				*i*				21 01 54.3		
MAK				*e*PPP	PPP			21 04 00.2		
MAK				*e*				21 08 08.5		
MAK				*e*PS	**PS**			**21 11 00.5**	**+0.1**	
MAK				*e*SS	SS			21 16 29.0	+0.8	
MAK				*e*SSS	SSS			21 20 21.9		
MAK				pmax	pmax					
	comp=Z,30nm,0.3s									
O20A	**White River Ci**	**103.23**	**50**	IAms_20	IAms_20			21 41 45.3		
	comp=Z,677nm,21.0s									
LAO	**LASA Array**	**104.16**	**43**	IAms_20	IAms_20			21 37 28.0		
	comp=Z,696nm,22.0s									
K22A	**Casper**	**104.34**	**48**	IAms_20	IAms_20			21 42 15.3		
	comp=Z,588nm,20.0s									
S22A	**4UR Ranch, Cre**	**104.47**	**53**	IAms_20	IAms_20			21 38 09.4		
	comp=Z,732nm,21.0s									
Y22D	**IRIS PASSCAL I**	**104.59**	**56**	IAms_20	IAms_20			21 36 46.0		
	comp=Z,733nm,22.0s									
LVZ	**Lovozero**	**104.80**	**339**	IAms_20	IAms_20			21 47 57.1		
	comp=Z,595nm,21.0s									
ANMO	**Albuquerque**	**104.93**	**56**

comp=Z,738nm,21.0s
MNK Minsk 112.93 327 *i* P **Pdif** **20 58 20.7 -0.1**
MNK *i* 21 03 04.1
MNK *i* PPP PPP 21 05 27.3
MNK *i* 21 09 19.6
MNK *i* PS **PS** **21 12 40.1 +0.4**
MNK *i* SS SS 21 18 39.1 -3.6
MNK *i* SSS SSS 21 22 55.9
MNK pmax pmax
comp=Z,12nm,0.6s
MNK MLR MLR
comp=N,1μm,21.0s
MNK MLR MLR
comp=Z,1μm,21.0s
MNK MLR MLR
comp=E,511nm,21.0s
SUMG Summit 113.38 3 IAMs_20 IAMs_20 21 45 53.2
comp=Z,803nm,22.0s
I37A Lemond, Waseca 113.53 44 IAMs_20 IAMs_20 21 47 25.0
comp=Z,608nm,20.0s
AKASG Malin Array Be 113.59 323 PKiKP **PKiKP** **21 02 16.1 -0.2**
comp=Z,0.6nm,0.6s,baz=64,slow=2.2,SNR=4.1
AKASG PKKPbc **PKKPbc** **21 13 00.2 -1.6**
comp=Z,2.0nm,0.7s,baz=265,slow=4.1,SNR=7.7
KIEV Kiev 113.60 323 IAMs_20 IAMs_20 21 52 17.6
comp=Z,718nm,22.0s
SPMN Marine on St. 113.61 43 IAMs_20 IAMs_20 21 46 20.2
comp=Z,655nm,20.0s
EYMN Ely 113.67 40 IAMs_20 IAMs_20 21 47 06.4
comp=Z,554nm,20.0s
BRTR Keskin Array B 113.69 311 PKKPbc PKKPbc 21 13 00.1 -1.2
comp=Z,0.3nm,0.6s,baz=248,slow=3.4,SNR=4.1
E38A The Farm, Brul 114.05 41 IAMs_20 IAMs_20 21 49 21.5
comp=Z,601nm,20.0s
237A Washetta, Mont 114.07 58 IAMs_20 IAMs_20 21 44 51.2
comp=Z,615nm,21.0s
N38A Joes South For 114.44 48 IAMs_20 IAMs_20 21 46 42.8
comp=Z,701nm,21.0s
P38A Dawn 114.49 49 IAMs_20 IAMs_20 21 43 19.3
comp=Z,647nm,21.0s
U38A Gravette 114.50 53 IAMs_20 IAMs_20 21 45 08.9
comp=Z,698nm,20.0s
Z38A Mt. Pleasant 114.57 56 IAMs_20 IAMs_20 21 45 05.2
comp=Z,556nm,20.0s
NATX Nacogdoches 115.07 58 IAMs_20 IAMs_20 21 45 40.8
comp=Z,501nm,20.0s
S39A Bolivar 115.08 51 IAMs_20 IAMs_20 21 47 08.1
comp=Z,640nm,20.0s
MILM Milestii Mici 115.13 319 *e*PP **PP** **21 03 18.0 -1.7**
MILM Milestii Mici 115.13 319 *e*PS PS 21 12 53.0 -7.2
G40A Rib Lake 115.36 42 IAMs_20 IAMs_20 21 53 44.3
comp=Z,584nm,18.0s
SCO Scoresbysund 115.43 357 IAMs_20 IAMs_20 21 48 11.3
comp=Z,596nm,22.0s
ILULI Ilulissat 115.48 8 IAMs_20 IAMs_20 21 48 31.1
comp=Z,764nm,22.0s
I40A Norwalk 115.49 44 IAMs_20 IAMs_20 21 49 36.0
comp=Z,650nm,20.0s
MIAR Mount Ida 115.50 55 IAMs_20 IAMs_20 21 45 04.7
comp=Z,736nm,21.0s
L40A Anamosa 115.58 46 IAMs_20 IAMs_20 21 46 04.7
comp=Z,668nm,22.0s
P40A Paris 115.63 49 IAMs_20 IAMs_20 21 44 24.4
comp=Z,764nm,22.0s
R40A Maddies Statio 115.76 50 IAMs_20 IAMs_20 21 46 08.9
comp=Z,699nm,20.0s
COWI Conover 115.80 41 IAMs_20 IAMs_20 21 49 34.7
comp=Z,568nm,21.0s
MGMO Mountain Grove 116.01 52 IAMs_20 IAMs_20 21 45 47.8
comp=Z,742nm,20.0s
JFWS Jewell Farm 116.03 45 IAMs_20 IAMs_20 21 45 59.5
comp=Z,550nm,21.0s
X40A Basin Creek Fa 116.11 55 IAMs_20 IAMs_20 21 45 30.9
comp=Z,696nm,21.0s
N41A Harden Midland 116.22 47 IAMs_20 IAMs_20 21 48 22.6
comp=Z,610nm,20.0s
BOSA Boshof 116.26 234 PKP **PKiKP** **21 02 22.5 +0.2**
comp=Z,4.1nm,0.7s,baz=113,slow=1.1,SNR=7.5
Z41A Richland Creek 116.37 56 IAMs_20 IAMs_20 21 48 05.9
comp=Z,518nm,22.0s
MATP Matopo 116.39 244 PKP **PKiKP** **21 02 23.1 +0.4**
comp=Z,3.7nm,0.7s,baz=89,slow=2.7,SNR=22
441A DeRidder 116.47 59 IAMs_20 IAMs_20 21 47 21.0
comp=Z,583nm,20.0s
F42A Maple Grove Fa 116.57 41 IAMs_20 IAMs_20 21 50 09.2
comp=Z,560nm,22.0s
I42A Draeger Farm, 116.66 44 IAMs_20 IAMs_20 21 45 18.0
comp=Z,755nm,22.0s
L42A Oliver, Polo 116.71 46 IAMs_20 IAMs_20 21 46 29.5
comp=Z,756nm,21.0s
NB2 NORSAR Subarra 116.95 339 PKPdf **PKPdf** **21 02 21.6 -0.9**
comp=Z,0.9nm,0.8s,baz=44,slow=1.9
NB2 PKKP **PKKPbc** **21 12 49.0 -1.6**
comp=Z,3.4nm,0.7s,baz=224,slow=3.7
NOA NORSAR Array B 116.95 339 PKP **PKiKP** **21 02 22.7 +0.1**
comp=Z,1.0nm,0.7s,baz=54,slow=1.7,SNR=6.3
NOA PP **PP** **21 03 32.5 +0.6**
comp=Z,1.2nm,0.9s,baz=38,slow=7.0,SNR=4.0
H43A Windswept, Lux 117.25 43 IAMs_20 IAMs_20 21 55 26.4
comp=Z,503nm,19.0s
HDIL Hopedale 117.40 47 IAMs_20 IAMs_20 21 49 47.9
comp=Z,572nm,19.0s
K43A Burlington 117.44 45 IAMs_20 IAMs_20 21 50 34.7
comp=Z,631nm,20.0s
P43A Skaggs, Pawnee 117.49 48 IAMs_20 IAMs_20 21 44 20.4
comp=Z,599nm,22.0s
MLR Muntele Rosu 117.49 319 IAMs_20 IAMs_20 21 54 33.3
comp=Z,699nm,22.0s
PBMO Poplar Bluff 117.53 52 IAMs_20 IAMs_20 21 47 06.1
comp=Z,711nm,20.0s
SFJD Kangerlussuaq 117.61 9 IAMs_20 IAMs_20 21 50 48.3
comp=Z,550nm,21.0s
143A Socs Landing, 117.63 56 IAMs_20 IAMs_20 21 46 40.3
comp=Z,555nm,20.0s
HBAR Harrisburg 117.64 53 IAMs_20 IAMs_20 21 44 11.0
comp=Z,491nm,21.0s
L44A Lake County Fo 117.90 45 IAMs_20 IAMs_20 21 51 39.0
comp=Z,484nm,20.0s
CGM3 Cape Girardeau 118.00 51 IAMs_20 IAMs_20 21 48 10.4
comp=Z,649nm,20.0s
GNAR Gosnell 118.05 52 IAMs_20 IAMs_20 21 45 44.8
comp=Z,620nm,22.0s
M44A Midewin, Midew 118.06 46 IAMs_20 IAMs_20 21 48 21.2
comp=Z,585nm,20.0s
HQIL Hanson Quary C 118.06 46 IAMs_20 IAMs_20 21 47 43.3
comp=Z,761nm,22.0s
LSZ Lusaka 118.15 249 **PKPdf** **21 02 25.9 -0.3**
LSZ Lusaka 118.15 249 PKP **PKiKP** **21 02 26.5 +0.3**
comp=Z,7.2nm,0.7s,baz=150,slow=2.0,SNR=18
KOLS Kolonicke sedl 118.42 323 *e*PKiKP **PKiKP** **21 02 27.7 +2.0**
KOLS Kolonicke sedl 118.42 323 *e*PKP **PKiKP** **21 02 27.7 +2.0**
LNXT Lenox 118.43 52 IAMs_20 IAMs_20 21 47 10.9
comp=Z,747nm,21.0s
I45A Fountain 118.44 43 IAMs_20 IAMs_20 21 45 48.8
comp=Z,784nm,22.0s
VBMS Vicksburg 118.46 57 IAMs_20 IAMs_20 21 52 37.3
comp=Z,616nm,21.0s
KDWAN Kaudwane 118.75 239 PKPdf **PKiKP** **21 02 27.7 +0.5**
OLIL Olney 118.80 49 IAMs_20 IAMs_20 21 56 10.3
comp=Z,473nm,20.0s
T45A Paducah 118.86 51 IAMs_20 IAMs_20 21 49 24.0
comp=Z,632nm,20.0s
SFIN Lafayette 119.05 47 IAMs_20 IAMs_20 21 52 11.6
comp=Z,466nm,19.0s
P46A Rosedale 119.21 48 IAMs_20 IAMs_20 21 55 55.8
comp=Z,540nm,20.0s
USIN University of 119.35 50 IAMs_20 IAMs_20 21 47 35.8
comp=Z,654nm,21.0s
346A Big Creek Wild 119.50 57 IAMs_20 IAMs_20 21 49 42.0
comp=Z,466nm,20.0s
146A Union 119.58 56 IAMs_20 IAMs_20 21 50 16.8
comp=Z,658nm,20.0s
HOPE Hope Point 119.66 176 PKPdf **PKiKP** **21 02 28.1 +0.1**
HOPE Hope Point 119.66 176 PKIKP **PKiKP** **21 02 28.1 +0.1**
J47A Sunmer 119.68 43 IAMs_20 IAMs_20 21 46 35.8
comp=Z,673nm,22.0s
BLO Bloomington 119.85 48 IAMs_20 IAMs_20 21 56 12.8
comp=Z,513nm,20.0s
Z47A Carrollton 120.26 55 IAMs_20 IAMs_20 21 55 18.8
comp=Z,504nm,20.0s
WCI Wyandotte Cave 120.31 49 IAMs_20 IAMs_20 21 51 33.1
comp=Z,685nm,20.0s
ANGG Ammassalik, Gr 120.34 3 IAMs_20 IAMs_20 21 51 59.2
comp=Z,501nm,22.0s
KUQ Kuujjuuaa 120.35 22 IAMs_20 IAMs_20 21 50 38.8
comp=Z,763nm,22.0s
OKC Ostrava-Krasne 120.38 326 AMS AMS 21 54 10.0
comp=Z,1μm,21.0s
O48B Farmland 120.50 46 IAMs_20 IAMs_20 21 53 07.8
comp=Z,467nm,19.0s
STEB Steborice 120.54 326 *e*PKPDF **PKiKP** **21 02 29.9 +0.1**
STEB *ex* x 21 02 45.4
P48A Milroy 120.56 47 IAMs_20 IAMs_20 21 56 28.7
comp=Z,465nm,18.0s
V48A Smith Brothers 120.62 52 IAMs_20 IAMs_20 21 48 38.7
comp=Z,578nm,20.0s
VYHS Vyhne 120.64 324 *e*PKIKP **PKiKP** **21 02 30.6 +0.5**
VYHS Vyhne 120.64 324 *e*PKP **PKiKP** **21 02 30.6 +0.5**
PLCA Paso Flores 120.66 145 **PKPdf** **21 02 29.8 -0.6**
PLCA Paso Flores 120.66 145 PKP **PKiKP** **21 02 30.9 +0.5**
comp=Z,14nm,0.7s,baz=234,slow=1.6,SNR=43
PLCA PKKPbc **PKKPbc** **21 12 35.4 -1.2**
comp=Z,0.9nm,0.6s,baz=103,slow=2.1,SNR=4.6
PLCA Paso Flores 120.66 145 PKIKP **PKiKP** **21 02 31.0 +0.5**
I49A Point Hope 120.75 42 IAMs_20 IAMs_20 21 49 31.9
comp=Z,607nm,21.0s
CLTN Cedars of Leba 120.90 51 **PKPdf** **21 02 30.3 -0.5**
CLTN IAMs_20 IAMs_20 21 49 28.2
comp=Z,476nm,20.0s
N49A Columbus Grove 120.96 45 IAMs_20 IAMs_20 21 54 30.0
comp=Z,613nm,19.0s
KRLC Kraliky 121.01 326 *e*PKPDF **PKiKP** **21 02 31.5 +0.7**
KRLC AMS AMS 21 54 20.0
comp=Z,1μm,22.8s
KRLC Kraliky 121.01 326 *e*PKIKP **PKiKP** **21 02 31.5 +0.7**
KRLC MLR MLR
comp=Z,1μm,22.8s
OSTC Ostas 121.06 327 *e*PKPDF **PKiKP** **21 02 31.6 +0.7**
OSTC AMS AMS 21 55 40.0
comp=Z,1μm,20.7s
OSTC Ostas 121.06 327 *e*PKIKP **PKiKP** **21 02 31.6 +0.7**
OSTC MLR MLR
comp=Z,1μm,20.7s
O49A Covington 121.11 46 IAMs_20 IAMs_20 21 53 27.0
comp=Z,698nm,20.0s
DPC Dobruska-Polom 121.12 327 AMS AMS 21 55 00.0
comp=Z,1μm,22.2s
CHVC Chvalec 121.13 327 AMS AMS 21 56 10.0
comp=Z,1μm,18.1s
LRAL Lakeview Retre 121.17 55 IAMs_20 IAMs_20 21 56 02.2
comp=Z,608nm,21.0s
UPC Upice 121.20 327 *e*PKPDF **PKiKP** **21 02 31.8 +0.7**
UPC *e*PP **PP** **21 03 58.7 -2.8**
UPC AMS AMS 21 56 00.0
comp=Z,1μm,21.4s
UPC Upice 121.20 327 *e*PKIKP **PKiKP** **21 02 31.8 +0.7**
UPC *e* 21 03 58.7
UPC MLR MLR
comp=Z,1μm,21.4s
LKGWB Lokgwabe 121.38 237 PKPdf **PKPdf** **21 02 30.8 -1.5**
Y49A Blount Mountai 121.44 54 IAMs_20 IAMs_20 21 55 08.9
comp=Z,622nm,20.0s
SWET Sewanee 121.46 52 IAMs_20 IAMs_20 21 49 13.1
comp=Z,640nm,21.0s
BRAL Brewton 121.57 57 IAMs_20 IAMs_20 21 54 12.7
comp=Z,488nm,20.0s
MTO3 Montecristo 121.59 77 IAMs_20 IAMs_20 21 45 14.4
comp=Z,612nm,21.0s
M50A Fremont 121.59 45 IAMs_20 IAMs_20 21 49 50.4
comp=Z,667nm,22.0s
R50A Paris 121.76 48 IAMs_20 IAMs_20 21 54 10.5
comp=Z,575nm,21.0s
T50A Nancy 121.78 50 **PKPdf** **21 02 32.2 -0.3**
T50A IAMs_20 IAMs_20 21 52 56.1
comp=Z,545nm,20.0s
FPAL Fort Paine 121.90 53 **PKPdf** **21 02 32.1 -0.8**
W50A Signal Mountai 121.95 52 IAMs_20 IAMs_20 21 48 17.1
comp=Z,674nm,21.0s
250A Grady 122.03 56 IAMs_20 IAMs_20 21 51 43.7
comp=Z,613nm,20.0s
ACSO Alum Creek Sta 122.06 46 IAMs_20 IAMs_20 21 54 43.2
comp=Z,607nm,20.0s
BRG Berggiesshubel 122.09 328 *e*PKP **PKiKP** **21 02 33.7 +0.8**
BRG Amp 21 02 34.6
comp=Z,2.8nm,0.8s
BRG pPKP **pPKPdf** **21 02 48.2 -1.7**
BRG Amp 21 02 51.0
comp=Z,3.7nm,0.9s
BRG Berggiesshubel 122.09 328 PP PP 21 03 55.0 -12
BRG Berggiesshubel 122.09 328 PS PS 21 11 41.0 -1.6
TREC Trest 122.14 326 *e*pPKP **pPKPdf** **21 02 48.1 -1.9**
TREC AMS AMS 21 55 30.0
comp=Z,1μm,21.6s
GOPC GO Pecny, Ondr 122.18 327 *e*PKPDF **PKiKP** **21 02 33.6 +0.5**
GOPC *e*PP **PP** **21 04 05.8 -2.4**
GOPC AMS AMS 21 55 50.0
comp=Z,1μm,23.2s
GOPC GO Pecny, Ondr 122.18 327 *e*PKIKP **PKiKP** **21 02 33.6 +0.5**
GOPC *e* 21 04 05.8
GOPC MLR MLR
comp=Z,1μm,23.2s
Q51A Peebles 122.23 47 IAMs_20 IAMs_20 21 49 51.8
comp=Z,575nm,21.0s
N51A Ashland 122.24 45 IAMs_20 IAMs_20 21 50 10.6
comp=Z,658nm,21.0s
PRU Pruhonice 122.28 327 *e*PKPDF **PKiKP** **21 02 33.5 +0.3**
PRU *e*SP SP 21 13 59.3 +2.9
PRU AMS AMS 21 56 10.0
comp=Z,900nm,21.2s
PRU Pruhonice 122.28 327 *e*PKIKP **PKiKP** **21 02 33.5 +0.3**
PRU *e*SP SP 21 13 59.3 +2.9
PRU MLR MLR
comp=Z,900nm,21.2s
PRA Prague 122.29 327 AMS AMS 21 56 40.0
comp=Z,800nm,21.2s
CLL Collm 122.33 329 *i* PKIKP **PKPdf** **21 02 32.9 -0.2**
CLL *i* 21 02 49.9
CLL *e* 21 09 27.0
CLL pmax pmax
comp=Z,3.0nm,0.7s
CLL MLR MLR
comp=Z,1μm,21.3s
GRTLG Ghanzi 122.46 240 PKPdf **PKPdf** **21 02 34.5 0.0**
X51A Calhoun 122.49 53 IAMs_20 IAMs_20 21 48 31.4
comp=Z,534nm,22.0s
RONA Rosalia, Austr 122.52 324 *e*PKiKP **PKPdf** **21 02 33.4 -0.2**
comp=Z,3.0nm,1.2s
CONA Conrad Observa 122.65 325 *e*PKiKP **PKPdf** **21 02 33.9 0.0**
comp=Z,1.5nm,0.7s
KOOLE Kule 122.69 238 PKPdf **PKiKP** **21 02 35.0 -0.1**
ZVC Zvikov 122.77 327 *e*PKPDF **PKiKP** **21 02 34.5 +0.3**
ZVC AMS AMS 21 56 30.0
comp=Z,900nm,21.6s
451A Vernon 122.79 57 IAMs_20 IAMs_20 21 55 11.0
comp=Z,522nm,20.0s
BI02 San Fabin de 122.88 141 PKPdf **PKiKP** **21 02 35.6 +0.7**
P52A Corning 122.89 46 IAMs_20 IAMs_20 21 55 08.1
comp=Z,538nm,20.0s
O52A Adamsville 122.92 46 IAMs_20 IAMs_20 21 49 19.4
comp=Z,594nm,22.0s
Q52A Bidwell 123.04 47 IAMs_20 IAMs_20 21 57 13.1
comp=Z,482nm,20.0s
CKRC Cesky Krumlov 123.05 326 *e*PKPDF **PKPdf** **21 02 34.6 0.0**
CKRC *ex* x 21 02 49.9
CKRC *e*PP **PP** **21 14 14.7 +0.6**
CKRC *e*SP SP 21 14 03.9 +0.5
CKRC AMS AMS 21 55 50.0
comp=Z,1μm,21.7s
CKRC Cesky Krumlov 123.05 326 *e*PKIKP **PKPdf** **21 02 34.6 0.0**
CKRC *e* 21 02 49.9
CKRC *e* 21 04 14.7
CKRC *e*SP SP 21 14 03.9 +0.5
CKRC MLR MLR
comp=Z,1μm,21.7s
152A Waverly Hall 123.12 55 IAMs_20 IAMs_20 21 55 53.5
comp=Z,525nm,20.0s
QNGWA Qangwa 123.18 242 PKPdf **PKPdf** **21 02 35.7 -0.1**
ARSA Arzberg 123.20 324 *i* PKP **PKPdf** **21 02 34.4 -0.5**
comp=Z,1.6nm,0.9s
352A Blakely 123.26 56 IAMs_20 IAMs_20 21 51 32.5
comp=Z,575nm,21.0s
KHC Kasperske Hory 123.28 327 *e*PKPDF **PKiKP** **21 02 35.5 +0.2**
KHC *e*pPKP **pPKPdf** **21 02 51.5 -0.7**
KHC Kasperske Hory 123.28 327 *e*PKIKP **PKiKP** **21 02 35.5 +0.2**
KHC *e* 21 02 51.5
O53A New Philadelph 123.31 45 IAMs_20 IAMs_20 21 53 54.1
comp=Z,656nm,21.0s
Y52A Lilburn 123.32 53 IAMs_20 IAMs_20 21 49 38.5
comp=Z,656nm,22.0s
GEC2 GERESS Array S 123.37 327 **PKiKP** **21 02 35.5 -0.1**
GERES GERESS Array B 123.37 327 **PKiKP** **21 02 35.7 +0.1**
GERES GERESS Array B 123.37 327 PKP **PKPdf** **21 02 35.0 -0.3**
comp=Z,2.9nm,0.6s,baz=50,slow=2.1,SNR=32
GERES PKKP **PKKPdf** **21 13 03.6 -1.1**
comp=Z,0.9nm,0.7s,baz=160,slow=4.3,SNR=6.7
GERES GERESS Array B 123.37 327 PKIKP **PKiKP** **21 02 35.7 +0.1**
MOA Molln 123.60 325 *e*PKiKP **PKPdf** **21 02 35.7 0.0**
comp=Z,1.2nm,0.6s
TGUH Tegucigalpa,Un 123.62 77 IAMs_20 IAMs_20 21 44 34.3
comp=Z,549nm,22.0s
SOKA Soboth 123.78 324 *e*PKiKP **PKPdf** **21 02 36.2 0.0**
comp=Z,1.3nm,0.7s
CRIN San Cristobal 123.88 79 IAMs_20 IAMs_20 21 43 23.0
comp=Z,589nm,20.0s
GOGA Godfrey 123.93 54 IAMs_20 IAMs_20 21 48 52.6
comp=Z,636nm,22.0s
MEDO Medina 123.95 41 IAMs_20 IAMs_20 21 47 48.5
comp=Z,637nm,20.0s
BIOA Bad Ischl, Aus 124.04 325 *e*PKiKP **PKPdf** **21 02 36.5 -0.1**
comp=Z,1.6nm,0.5s
Q54A Coxs Mills 124.07 46 IAMs_20 IAMs_20 21 55 56.3
comp=Z,562nm,21.0s
OBKA Obir 124.16 324 *i* PKP **PKPdf** **21 02 36.3 -0.6**
comp=Z,3.8nm,1.1s
S54A Dingess, Beckl 124.16 48 IAMs_20 IAMs_20 22 00 48.2
comp=Z,486nm,21.0s
WVNY West Valley, N 124.20 42 IAMs_20 IAMs_20 21 49 28.1
comp=Z,580nm,22.0s
J55A Hilton 124.32 41 IAMs_20 IAMs_20 21 55 16.2
comp=Z,622nm,20.0s
BO01 Tunca 124.42 139 PKPdf **PKPdf** **21 02 37.8 +0.1**
154A Montrose 124.44 54 IAMs_20 IAMs_20 21 51 40.5
comp=Z,581nm,20.0s
MT01 Popeta 124.64 139 **PKPdf** **21 02 38.2 0.0**
HODGE Hodges 124.64 52 IAMs_20 IAMs_20 21 48 44.3
comp=Z,723nm,22.0s
LESA Schwarzleotal 124.73 326 *i* PKiKP **PKPdf** **21 02 37.8 -0.2**
comp=Z,3.3nm,0.7s
V55A Taylorsville 124.92 50 IAMs_20 IAMs_20 21 52 43.4
comp=Z,591nm,21.0s
SABO M.te Sabotino 124.99 324 IAMs_20 IAMs_20 21 58 01.7
comp=Z,694nm,22.0s
BLA Blacksburg 125.03 48 IAMs_20 IAMs_20 21 55 25.1
comp=Z,615nm,19.0s
TRI Trieste 125.04 323 IAMs_20 IAMs_20 21 59 15.6
comp=Z,612nm,22.0s
WBO Williamsburg 125.07 38 IAMs_20 IAMs_20 21 52 06.5
comp=Z,676nm,22.0s
MT02 Curacav 125.08 138 PKPdf **PKiKP** **21 02 39.8 +0.5**
U56A King 125.37 49 IAMs_20 IAMs_20 21 52 34.3
comp=Z,678nm,22.0s
MT16 CCHEN 125.38 139 PKPdf **PKiKP** **21 02 40.0 -0.1**
WATA Walderalm 125.40 326 *i* PKiKP **PKPdf** **21 02 38.9 -0.4**
comp=Z,4.2nm,0.9s
WTTA Wattenberg 125.41 326 *i* PKP **PKPdf** **21 02 38.8 -0.6**
comp=Z,4.9nm,0.8s
K57A Scipio Center 125.42 41 IAMs_20 IAMs_20 21 50 38.2
comp=Z,706nm,22.0s
MOTA Moosalm 125.66 326 *i* PKiKP **PKPdf** **21 02 40.0 +0.1**
comp=Z,4.5nm,0.8s
SQTA Sankt Quirin 125.67 326 *i* PKiKP **PKiKP** **21 02 40.5 +0.2**
comp=Z,4.4nm,0.8s
LONY Lake Ozonia 125.69 38 IAMs_20 IAMs_20 21 54 36.9
comp=Z,622nm,20.0s
MT08 Bocatoma Ro 125.70 139 PKPdf **PKiKP** **21 02 41.3 +0.4**
RETA Reutte 125.76 327 *e*PKiKP **PKiKP** **21 02 41.1 +0.7**
comp=Z,0.9nm,0.5s
SGRT San Giovanni R 125.77 318 IAMs_20 IAMs_20 22 00 21.5
comp=Z,478nm,22.0s
VA03 San Esteban 125.77 138 PKPdf **PKiKP** **21 02 40.9 0.0**
656A Willston 125.79 58 IAMs_20 IAMs_20 21 58 58.6
comp=Z,467nm,19.0s
456A Hilliard 125.86 56 IAMs_20 IAMs_20 21 53 35.2
comp=Z,447nm,21.0s
S57A Dark Hollow, R 125.90 47 IAMs_20 IAMs_20 21 53 52.0
comp=Z,484nm,21.0s
T57A Hurt 125.98 48 IAMs_20 IAMs_20 21 56 22.1
comp=Z,634nm,20.0s
FETA Feichten 126.05 326 *i* PKiKP **PKiKP** **21 02 41.6 +0.6**
comp=Z,3.1nm,0.7s
MEM Membach 126.19 332 *d*PKiKP **PKiKP** **21 02 41.2 +0.3**
TIP Timpagrande 126.22 315 IAMs_20 IAMs_20 22 01 04.0
comp=Z,552nm,22.0s
EKA Eskdalemuir Ar 126.23 341 PKP **PKPdf** **21 02 40.7 +0.2**
comp=Z,1.8nm,0.6s,baz=37,slow=4.3,SNR=7.5
EKA SKPbc SKPbc 21 05 50.8
comp=Z,1.1nm,0.7s,baz=27,slow=4.3,SNR=3.9
EKA PKKPbc **PKKPbc** **21 12 14.7 -0.7**
comp=Z,0.8nm,0.7s,baz=224,slow=2.3,SNR=3.5
EKA Eskdalemuir Ar 126.23 341 PKIKP **PKPdf** **21 02 40.5 0.0**
257A Skidaway Islan 126.32 55 IAMs_20 IAMs_20 21 54 10.0
comp=Z,543nm,21.0s
DAVA Damuels 126.36 327 *i* PKiKP **PKiKP** **21 02 41.6 -0.1**
comp=Z,5.4nm,0.7s
CO02 Combarbal 126.41 136 **PKPdf** **21 02 41.9 +0.1**
TSUM Tsumeb 126.44 241 PKP **PKiKP** **21 02 43.4 +0.9**
comp=Z,9.7nm,0.8s,baz=91,slow=1.3,SNR=11
V58A Windy Hill, Pi 126.53 49 IAMs_20 IAMs_20 21 54 26.0
comp=Z,626nm,20.0s
NHSC New Hope 126.64 53 IAMs_20 IAMs_20 21 54 12.4
comp=Z,558nm,21.0s
DAVOX Davos/Dischmat 126.66 326 PKP **PKiKP** **21 02 43.1 +0.8**
comp=Z,3.5nm,0.6s,baz=324,slow=6.1,SNR=12
DAVOX PKKPbc **PKKPbc** **21 12 13.1 -0.7**
comp=Z,1.8nm,0.7s,baz=139,slow=2.7,SNR=6.0
CSU Charleston Sou 126.77 53 IAMs_20 IAMs_20 21 54 24.7
comp=Z,438nm,20.0s
HDC Heredia 126.78 82 IAMs_20 IAMs_20 21 48 11.5
comp=Z,572nm,20.0s
CO03 El Pedregal 126.84 136 PKPdf **PKiKP** **21 02 43.1 0.0**
CBN Corbin Frederi 126.86 46 IAMs_20 IAMs_20 21 56 11.2
comp=Z,677nm,21.0s
PAOL Paolisi 126.89 318 IAMs_20 IAMs_20 22 01 28.2
comp=Z,453nm,21.0s
ACCN Adirondack Com 126.89 39 IAMs_20 IAMs_20 21 47 58.0
comp=Z,420nm,20.0s
CAMP Campotosto 126.91 320 IAMs_20 IAMs_20 22 00 42.4
comp=Z,582nm,22.0s
NRCA Norcia 126.94 321 **PKPdf** **21 02 41.5 -0.9**
VT1 Waterbury 126.95 37 IAMs_20 IAMs_20 21 52 25.3
comp=Z,605nm,22.0s
DWPF Disney Wildern 127.05 59 IAMs_20 IAMs_20 21 57 26.0
comp=Z,472nm,22.0s
TRQA Tornquist 127.22 149 **PKPdf** **21 02 42.5 -0.5**
TRQA Tornquist 127.22 149 PKIKP **PKPdf** **21 02 42.5 -0.5**
CEL Celeste 127.23 314 IAMs_20 IAMs_20 22 02 05.6
comp=Z,502nm,22.0s
T59A Double "B" Far 127.24 47 IAMs_20 IAMs_20 21 57 20.4
comp=Z,547nm,20.0s
WUPA West Chester U 127.34 43 IAMs_20 IAMs_20 21 57 11.4
comp=Z,527nm,20.0s
ZCCA Zocca 127.44 323 PKPdf **PKiKP** **21 02 44.1 +0.4**
J61A Chester 127.60 38 IAMs_20 IAMs_20 21 57 16.7
comp=Z,631nm,20.0s
OSSC Osservatorio P 127.73 322 IAMs_20 IAMs_20 22 01 21.0
comp=Z,406nm,20.0s
LCO Las Campanas 127.91 134 PKPdf **PKiKP** **21 02 45.7 +0.2**
LCO Las Campanas 127.91 134 PKIKP **PKiKP** **21 02 45.7 +0.2**
LCO MLR MLR
comp=Z,400nm,20.0s
061Z Ochoppi 128.04 62 IAMs_20 IAMs_20 21 53 08.7
comp=Z,488nm,22.0s
K62A Royalston 128.17 39 IAMs_20 IAMs_20 21 57 34.7
comp=Z,558nm,20.0s
060A Indiantown 128.23 60 IAMs_20 IAMs_20 21 58 18.6
comp=Z,422nm,21.0s
SENIN Lac Senin/Sane 128.32 327 IAMs_20 IAMs_20 22 00 01.0
comp=Z,667nm,22.0s
V61A Roper 128.44 48 IAMs_20 IAMs_20 21 55 46.2
comp=Z,580nm,21.0s
HRV Adam Dziewonsk 128.67 38 IAMs_20 IAMs_20 21 58 07.0
comp=Z,554nm,20.0s
G65A Princeton 129.42 34 IAMs_20 IAMs_20 21 53 09.2
comp=Z,553nm,20.0s
AC01 Pan de Azucar 129.60 131 PKPdf **PKiKP** **21 02 48.6 +0.1**
GGN Saint George 129.87 33 IAMs_20 IAMs_20 22 03 11.9
comp=Z,571nm,20.0s
ATAH Atahualpa 130.42 105 PKP **PKiKP** **21 02 52.0 +1.0**
comp=Z,9.4nm,0.8s,baz=6.1,slow=1.1,SNR=6.6
ATAH SKPbc **SKPbc** **21 06 11.4 +2.6**
comp=Z,11nm,1.1s,baz=265,slow=1.6,SNR=12
CHIV Chivirico 133.32 68 IAMs_20 IAMs_20 22 05 45.3
comp=Z,361nm,18.0s
NMDO Nuevo Mundo 134.52 67 IAMs_20 IAMs_20 21 52 19.0
comp=Z,592nm,22.0s
CZSB Cruzeiro do Su 135.70 107 PKPdf **PKPdf** **21 02 59.1 -0.6**
ROSC El Rosal 136.34 89 PKhKP PKPpre 21 02 55.9
comp=Z,12nm,0.7s,baz=260,slow=6.1,SNR=4.8
LPAZ La Paz 136.62 121 PKhKP PKPpre 21 02 50.2
comp=Z,2.5nm,0.7s,baz=242,slow=2.7,SNR=13

SDDR	**Presa de Saban**	**138.25**	**68**	IAMs_20	IAMs_20	21 57 33.1			
	comp=Z,501nm,22.0s								
CPUP	**Villa Florida**	**138.58**	**142**	PKhKP	PKPpre	21 02 55.9			
	comp=Z,1.3nm,0.8s,baz=109,slow=1.6,SNR=9.1								
ESDC	**Sonseca Array**	**138.90**	**328**	SKPbc	**SKPbc**	**21 06 33.5**	**-1.6**		
	comp=Z,1.0nm,0.7s,baz=23,slow=3.5,SNR=5.0								
PGAV	**Gavieira, Arco**	**139.17**	**334**	*ex*	x	21 06 35.5			
PGAV				*eLR*	LR	21 53 06.5			
PGAV				*i* IAMs_20	IAMs_20	22 06 47.0			
	comp=Z,727nm,22.0s								
PAB	**San Pablo**	**139.20**	**329**	IAMs_20	IAMs_20	22 06 22.7			
	comp=Z,559nm,22.0s								
MVO	**Moncorvo**	**139.26**	**333**	*ex*	x	21 06 35.9			
MVO				*eLR*	LR	21 54 50.9			
MVO				*i* IAMs_20	IAMs_20	22 09 14.6			
	comp=Z,449nm,20.0s								
PCAB	**Cabril**	**139.27**	**334**	*ex*	x	21 06 35.4			
POLO	**Lamas de Olo**	**139.44**	**334**	*ex*	x	21 06 36.1			
PVRL	**Vila Real**	**139.48**	**333**	*ex*	x	21 06 36.3			
PVIS	**Viseu**	**140.01**	**333**	*ex*	x	21 06 37.9			
SDV	**Santo Domingo**	**140.09**	**83**	PKPdf	**PKPdf**	**21 03 07.5**	**-0.4**		
SDV	**Santo Domingo**	**140.09**	**83**	PKP	**PKPdf**	**21 03 06.0**	**-1.9**		
	comp=Z,40nm,0.7s,baz=243,slow=1.8,SNR=4.9								
SDV				SKPbc	**SKPbc**	**21 06 39.1**	**-0.2**		
	comp=Z,7.6nm,0.4s,baz=256,slow=3.7,SNR=4.9								
PCBR	**Castelo Branco**	**140.52**	**332**	*ex*	x	21 06 38.8			
COI	**Coimbra**	**140.66**	**333**	IAMs_20	IAMs_20	22 07 27.7			
	comp=Z,590nm,22.0s								
PMRV	**Marv??o**	**140.80**	**331**	*ex*	x	21 06 38.8			
PMRV				*eLR*	LR	21 52 09.7			
PMRV				*i* IAMs_20	IAMs_20	22 09 16.5			
	comp=Z,344nm,22.0s								
PSARD	**Sardoal**	**141.03**	**332**	*ex*	x	21 06 40.9			
PESTR	**Estremoz**	**141.34**	**331**	IAMs_20	IAMs_20	22 05 34.1			
	comp=Z,514nm,22.0s								
PMTG	**Montargil**	**141.48**	**332**	*ex*	x	21 06 41.2			
PBAR	**Barrancos**	**141.61**	**330**	*ex*	x	21 06 42.1			
PARRA	**Arraiolos**	**142.07**	**332**	*ex*	x	21 06 41.9			
CRPR	**Cabo Rojo, PR**	**142.34**	**68**	IAMs_20	IAMs_20	21 58 22.3			
	comp=Z,373nm,21.0s								
MESJ	**Messejana**	**142.45**	**331**	IAMs_20	IAMs_20	22 13 38.5			
	comp=Z,487nm,20.0s								
PVAQ	**Vaqueiros**	**142.54**	**330**	*eLR*	LR	21 53 09.2			
PVAQ				*i* IAMs_20	IAMs_20	22 09 39.5			
	comp=Z,674nm,22.0s								
SIV	**San Ignacio**	**142.61**	**126**	PKhKP	PKPpre	21 03 07.9			
	comp=Z,21nm,0.7s,baz=210,slow=3.2,SNR=48								
SIV				SKPbc	**SKPbc**	**21 06 44.9**	**-0.5**		
	comp=Z,4.5nm,0.8s,baz=222,slow=3.9,SNR=4.6								
SJG	**San Juan**	**143.19**	**68**	IAMs_20	IAMs_20	22 16 39.0			
	comp=Z,355nm,20.0s								
AQDB	**Aquidauana**	**143.80**	**137**		PKPbc	21 03 12.7	+0.8		
TRCB	**Terra Rica**	**144.04**	**144**		PKPbc	21 03 12.7	+0.2		
PTLB	**Pontes e Lacer**	**144.45**	**127**		PKPbc	21 03 14.3	+0.3		
VILB	**Vilhena**	**144.93**	**123**	PKPbc	PKPbc	21 03 15.7	+0.1		
PCRV	**Puerto La Cruz**	**145.94**	**81**	PKPbc	**PKPdf**	**21 03 17.6**	**-0.4**		
	comp=Z,20nm,0.7s,baz=27,slow=2.3,SNR=5.2								
SABA	**Saba**	**146.00**	**67**	IAMs_20	IAMs_20	22 00 55.1			
	comp=Z,494nm,21.0s								
SEUS	**St. Eustatius**	**146.27**	**67**	IAMs_20	IAMs_20	22 01 29.4			
	comp=Z,560nm,22.0s								
VAO	**Valinhos**	**146.91**	**151**	PKPbc	**PKPbc**	**21 03 20.7**	**-0.8**		
ANWB	**Willy Bob**	**147.31**	**67**	IAMs_20	IAMs_20	22 09 06.0			
	comp=Z,399nm,21.0s								
TORD	**Torodi Ar. Bea**	**147.54**	**285**		**PKPdf**	**21 03 19.8**	**-0.9**		
TORD	**Torodi Ar. Bea**	**147.54**	**285**	PKPbc	**PKPbc**	**21 03 22.2**	**-1.2**		
	comp=Z,19nm,0.7s,baz=48,slow=4.0,SNR=9.0								
GDHS	**Morne Mazeau,**	**147.71**	**69**	IAMs_20	IAMs_20	22 10 58.7			
	comp=Z,423nm,20.0s								
GDSD	**La Dsirade Is**	**148.35**	**69**	IAMs_20	IAMs_20	22 10 00.7			
	comp=Z,434nm,21.0s								
MACA	**Manacapuru-AM**	**148.47**	**106**	PKPbc	**PKPbc**	**21 03 25.4**	**-0.5**		
FDF	**Fort de France**	**148.65**	**72**		**PKPbc**	**21 03 25.7**	**-0.6**		
FDF				IAMs_20	IAMs_20	22 05 29.1			
	comp=Z,346nm,21.0s								
FDF	**Fort de France**	**148.65**	**72**	PKP2	**PKPbc**	**21 03 25.7**	**-0.6**		
FDF				MLR	MLR				
	comp=Z,300nm,21.0s								
BIM	**Bigot**	**148.77**	**72**		**PKPdf**	**21 03 24.0**	**+1.3**		
BIM				IAMs_20	IAMs_20	22 07 46.4			
	comp=Z,472nm,22.0s								
BOAV	**Boa Vista**	**149.81**	**96**		**PKPdf**	**21 03 22.9**	**-1.5**		
ACRG	**Accra**	**149.90**	**271**		**PKPbc**	**21 03 27.8**	**-1.7**		
PMOZ	**Porto Moniz, M**	**150.65**	**337**	*eLR*	LR	21 56 24.2			
PMOZ				*i* IAMs_20	IAMs_20	22 14 19.2			
	comp=Z,288nm,20.0s								
BDFB	**Brasilia**	**152.30**	**141**	PKP	**PKPdf**	**21 03 29.5**	**+1.2**		
	comp=Z,14nm,0.8s,baz=200,slow=3.5,SNR=17								
DBIC	**Dimbokro**	**154.54**	**273**	PKP	**PKPdf**	**21 03 30.0**	**-1.4**		
	comp=Z,5.2nm,0.8s,baz=205,slow=3.0,SNR=3.7								
DBIC	**Dimbokro**	**154.54**	**273**	PKIKP	**PKPdf**	**21 03 30.0**	**-1.4**		

*SKO **20** 21:04:30.7,41˚.91N×23˚.12E,h22km,ML1.7*
*SOF **20** 21:04:30.2,41˚.94N±0˚.01×23˚.16E±0˚.01,h16km±1km, MD2.5/7*
*BEO **20** 21:04:31.6±0.3,41˚.93N×23˚.09E,h0km,ML2.0/3*

ISC 20 21:04:30.7±0.8, 41˚.94N±0˚.02×23˚.14E±0˚.03, h16km±5km, n25, σ0°45/48, 5C-1D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.10**	**183**	Pg	**Pg**	**21 04 34.1**	**0.0**
KKB				Sg	**Sg**	**21 04 36.4**	**0.0**
KKB	**Krupnik**	**0.10**	**183**	⇓*i* Pg	**Pg**	**21 04 34.1**	**0.0**
KKB				*i* Sg	**Sg**	**21 04 36.4**	**0.0**
PLNA	**Plana**	**0.57**	**22**	⇑*i* Pg	**Pg**	**21 04 42.1**	**0.0**
PLNA				Sg	**Sg**	**21 04 50.1**	**+0.3**
MMB	**Musomishta**	**0.61**	**131**	⇑*i* Pg	**Pg**	**21 04 42.2**	**-0.5**
MMB				Sg	**Sg**	**21 04 50.3**	**-0.4**
MMB	**Musomishta**	**0.61**	**131**	⇑*i* Pg	**Pg**	**21 04 42.2**	**-0.5**
MMB				*i* Sg	**Sg**	**21 04 50.4**	**-0.3**
VTS	**Vitosha**	**0.68**	**6**	⇑*i* Pg	**Pg**	**21 04 43.6**	**-0.5**
VTS				Sg	**Sg**	**21 04 52.5**	**-0.7**
VTS	**Vitosha**	**0.68**	**6**	*e*Pg	**Pg**	**21 04 43.6**	**-0.5**
VTS				*e*Sg	**Sg**	**21 04 52.6**	**-0.7**
BOSS	**Bosilegrad**	**0.74**	**319**	*e*Pg	**Pg**	**21 04 44.5**	**-0.6**
BOSS				*e*Sg	**Sg**	**21 04 54.5**	**-0.4**
VAY	**Valandovo**	**0.75**	**215**	*i* Pg	**Pb**	**21 04 45.8**	**+0.3**
VAY				*i* Sg	**Sb**	**21 04 55.8**	**+0.3**
VAY				*e*Lg	Lg	21 04 57.0	
	comp=E,12nm,0.2s						
VAY				*e*Lg	Lg	21 04 57.5	
	comp=N,28nm,0.5s						
KNT	**Kendrikon**	**0.80**	**193**	*i* Pg	**Pb**	**21 04 45.9**	**-0.4**
KNT				*i* Sg	**Sb**	**21 04 56.9**	**0.0**
SRS	**Serrai**	**0.89**	**157**	⇑*i* Pg	**Pb**	**21 04 47.6**	**-0.3**
SRS				*i* Sg	**Sg**	**21 04 59.8**	**0.0**
SRS	**Serrai**	**0.89**	**157**	*e*Pg	**Pb**	**21 04 47.6**	**-0.3**
SRS				*e*Sg	**Sb**	**21 04 59.8**	**-0.2**
TRAN	**Tran**	**0.96**	**338**	P	**Pb**	**21 04 48.7**	**-0.4**
TRAN				S	**Sg**	**21 05 02.4**	**+0.4**
SOH	**Sokhos**	**1.13**	**172**	*i* Pg	**Pn**	**21 04 51.9**	**-0.2**
SOH				*i* Sg	**Sg**	**21 05 07.0**	**-0.3**
PLD	**Plovdiv**	**1.22**	**80**	S	**Sn**	**21 05 09.9**	**+0.6**
PLD	**Plovdiv**	**1.22**	**80**	*e*Pg	**Pg**	**21 04 54.3**	**+0.1**
PLD				*e*Sg	**Sn**	**21 05 09.9**	**+0.6**
RZN	**Rozhen**	**1.22**	**101**	P	**Pn**	**21 04 53.4**	**0.0**
RZN				S	**Sg**	**21 05 10.4**	**+0.1**
BARS	**Barje**	**1.31**	**312**	*i* Pg	**Pg**	**21 04 55.5**	**-0.5**
BARS				*i* Sg	**Sg**	**21 05 13.4**	**+0.3**
BARS	**Barje**	**1.31**	**312**	*e*Pg	**Pb**	**21 04 55.4**	**+0.4**
BARS				*e*Sg	**Sg**	**21 05 13.0**	**-0.1**
THE	**Thessaloniki**	**1.32**	**186**	*i* Pg	**Pg**	**21 04 56.2**	**+0.1**
THE				*i* Sg	**Sg**	**21 05 13.4**	**+0.2**
MPEP	**Malo Peshtene**	**1.48**	**17**	P	**Pg**	**21 04 58.9**	**-0.3**
MPEP				S	**Sg**	**21 05 18.2**	**-0.3**
KDZ	**Kurdzhali**	**1.68**	**100**	*e*P	**Pb**	**21 05 01.6**	**+0.3**
KDZ				S	**Sg**	**21 05 24.6**	**-0.2**
BLKB	**Belogradchik**	**1.71**	**349**	*e*Pg	**Pg**	**21 05 02.9**	**-0.7**
BLKB				*e*Sg	**Sb**	**21 05 24.5**	**+1.3**
SELS	**Selova**	**1.96**	**311**	*e*Pn	**Pb**	**21 05 07.0**	**+0.9**
SELS				*e*Pn	**Sn**	**21 05 29.6**	**-0.8**
ZAGS	**Zajecar**	**1.98**	**341**	*e*Pn	**Pb**	**21 05 06.6**	**+0.1**

*NEIC **20** 21:12:15.9±1.4,35˚.60N±0˚.01×117˚.40W±0˚.02,h9km±6km, Error ellipse: s-maj=2.7km s-min=1.8km az=105.0*

PAS 20 21:12:16.5±1.2, 35˚.601N±0˚.010×117˚.41W±0˚.02, h6km±2km, ML3.0/21, ML2.8/104(NEIC), Error ellipse: s-maj=2.1km s-min=1.4km az=88.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.07**	**269**		Pg	21 12 18.5	+0.1
CCCA	**Chr Cany lake**	**0.08**	**157**		Pg	21 12 19.0	+0.5
CCCA				Sg	Sg	21 12 20.8	+0.9
LRMC	**Laurel Mtn Rad**	**0.26**	**242**		Pg	21 12 21.5	-0.1
CLC	**China Lake**	**0.27**	**324**		Pg	21 12 21.6	-0.2
CLC				IAML		21 12 25.7	
	comp=N,3μm,0.3s						
CLC				IAML		21 12 26.2	
	comp=E,2μm,0.1s						
SRTC	**Snort**	**0.29**	**288**		Pg	21 12 22.6	+0.2
MPMC	**Manual Prospec**	**0.46**	**352**		Pg	21 12 25.1	-0.4
MPMC				IAML		21 12 31.9	
	comp=N,814nm,0.2s						
MPMC				IAML		21 12 34.0	
	comp=E,808nm,0.8s						
QSM	**Queen of Sheba**	**0.57**	**50**		Pg	21 12 27.3	-0.2
QSM					Sg	21 12 34.9	0.0
QSM				IAML		21 12 35.5	
	comp=N,1μm,0.2s						
QSM				IAML		21 12 38.5	
	comp=E,916nm,0.2s						
GSC	**Goldstone, Bar**	**0.57**	**121**	Pg	Pg	21 12 27.3	-0.3
GSC				IAML		21 12 35.3	
	comp=N,709nm,0.5s						
GSC				IAML		21 12 35.4	
	comp=E,830nm,0.5s						
GWY	**Greenwater Val**	**0.83**	**45**		Pg	21 12 32.1	-0.5
GWY					Sg	21 12 43.1	-0.4
GWY				IAML		21 12 46.1	
	comp=N,496nm,0.3s						
ISA	**Isabella, Lake**	**0.87**	**274**		Pg	21 12 32.5	-0.9
ISA				IAML		21 12 47.5	
	comp=E,271nm,0.5s						
ISA				IAML		21 12 48.3	
	comp=N,207nm,0.5s						
TPO	**Tropico Hills**	**0.99**	**223**		Pg	21 12 34.7	-0.7
TPO				IAML		21 12 55.9	
	comp=E,438nm,0.5s						
CWC	**Cottonwood Cre**	**1.00**	**327**		Pg	21 12 35.2	-0.6
CWC				IAML		21 12 52.5	
	comp=E,200nm,0.2s						
CWC				IAML		21 12 52.6	
	comp=N,271nm,0.2s						
TUQ	**Turquoise Moun**	**1.22**	**97**		Pg	21 12 38.6	-1.4
SPG2	**Springville 2**	**1.26**	**299**		Pg	21 12 39.4	-1.3
WCT	**Wildcat Mounta**	**1.35**	**28**		Pn	21 12 40.4	-1.5
WCT				IAML		21 13 01.3	
	comp=N,149nm,0.4s						
WCT				IAML		21 13 02.4	
	comp=E,109nm,0.4s						
BFSC	**Mount Baldy Ra**	**1.38**	**189**		Pn	21 12 40.9	-1.5
BFSC				IAML		21 13 01.9	
	comp=N,104nm,0.3s						
BFSC				IAML		21 13 02.5	
	comp=E,85nm,0.5s						
GRAC	**Grapevine Rang**	**1.39**	**1**		Pn	21 12 41.8	-0.8
GRAC				IAML		21 13 06.6	
	comp=N,141nm,0.7s						
GRAC				IAML		21 13 08.9	
	comp=E,151nm,0.7s						
MWC	**Mount Wilson**	**1.48**	**202**		Pn	21 12 42.9	-0.9
MWC				IAML		21 13 05.0	
	comp=N,168nm,0.4s						
MWC				IAML		21 13 08.3	
	comp=E,136nm,0.5s						
MTPC	**Mountain Pass**	**1.52**	**94**		Pn	21 12 42.5	-1.8
MTPC				IAML		21 13 05.8	
	comp=E,140nm,0.2s						
MTPC				IAML		21 13 05.0	
	comp=N,90nm,0.3s						
PASC	**Pasadena Art C**	**1.56**	**204**		Pn	21 12 44.4	-0.4
PASC				IAML		21 13 10.7	
	comp=E,83nm,0.5s						
PASC				IAML		21 13 11.5	
	comp=N,81nm,0.5s						
TPNV	**Topopah Spring**	**1.64**	**34**		Pn	21 12 44.8	-1.2
TPNV				IAML		21 13 11.4	
	comp=N,147nm,0.6s						
TPNV				IAML		21 13 11.9	
	comp=N,120nm,0.4s						
GMN	**Gold Mountain**	**1.70**	**4**		Pn	21 12 45.8	-1.2
DSP	**Deep Springs**	**1.82**	**346**		Pn	21 12 47.6	-0.8
ELS	**Elsinore Mount**	**1.95**	**181**		Pn	21 12 49.5	-0.7
ELS				IAML		21 13 20.3	
	comp=E,51nm,0.3s						
POB	**Polly Butte**	**1.95**	**168**		Pn	21 12 49.6	-0.7
SHPR	**Sheep Range**	**2.03**	**63**		Pn	21 12 50.8	-0.7
MZP	**Montezuma Peak**	**2.10**	**0**		Pn	21 12 51.6	-0.8
PMD	**Palm Desert**	**2.12**	**156**		Pn	21 12 51.2	-1.3
PMD				IAML		21 13 26.6	
	comp=E,46nm,0.5s						
PFO	**Pinyon Flats O**	**2.13**	**158**		Pn	21 12 51.5	-1.2
PFO				IAML		21 13 23.8	
	comp=E,35nm,0.5s						
TPH	**Tonopah**	**2.47**	**3**		Pn	21 12 56.6	-0.9
TPH				IAML		21 13 41.2	
	comp=E,71nm,0.8s						
PRN	**Pahroc Range**	**2.62**	**46**		Pn	21 12 59.6	+0.2
PRN				IAML		21 13 45.6	
	comp=N,72nm,0.8s						
PRN				IAML		21 13 51.2	
	comp=E,68nm,0.8s						
LHV	**Little Huntoon**	**2.79**	**342**		Pn	21 13 01.9	+0.3
LHV				IAML		21 13 52.1	
	comp=E,30nm,0.8s						
LHV				IAML		21 13 52.5	
	comp=N,22nm,1.6s						
NV11	**Mina Array Sit**	**2.89**	**348**		Pn	21 13 02.6	-0.6
NVAR	**Mina Array Bea**	**2.91**	**346**		Pn	21 13 02.6	-1.0
W13A	**Hualapai Mount**	**2.92**	**99**		Pn	21 13 02.3	-1.4
BLYC	**Blythe**	**3.01**	**127**		Pn	21 13 02.5	-2.2
BLYC				IAML		21 13 53.1	
	comp=N,33nm,0.5s						
BLYC				IAML		21 13 56.8	
	comp=E,21nm,0.5s						
BBGB	**Big Mountain B**	**3.10**	**289**	Pn	Pn	21 13 04.7	-1.4
BBGB				IAML		21 13 30.8	
	comp=E,47nm,4.7s						
BBGB				IAML		21 14 11.7	
	comp=N,47nm,1.2s						
R11B	**Troy Canyon, C**	**3.10**	**27**		Pn	21 13 05.0	-1.2
RYN	**Ryan**	**3.15**	**344**		Pn	21 13 06.2	-0.6
GLA	**Glamis**	**3.32**	**139**	Pn	Pn	21 13 06.9	-2.1
GLA				IAML		21 14 05.7	
	comp=N,44nm,0.6s						
CBX	**Cerro Bola**	**3.34**	**169**	Pn	Pn	21 13 07.2	-2.1
LCMT	**Little Creek M**	**3.64**	**66**		Pn	21 13 12.0	-1.5
CCUT	**Cedar City**	**3.79**	**58**		Pn	21 13 14.8	-0.9
KNB	**Kanab**	**3.96**	**68**		Pn	21 13 16.8	-1.1
KNB				IAML		21 14 25.1	
	comp=E,9.2nm,1.0s						
Y14A	**Wickenburg**	**3.98**	**113**		Pn	21 13 16.6	-1.6
Y14A				IAML		21 14 27.3	
	comp=N,16nm,0.5s						
Y14A				IAML		21 14 29.3	
	comp=E,9.8nm,0.7s						
U15A	**North Rim**	**4.23**	**77**		Pn	21 13 20.9	-0.8
U15A				IAML		21 14 27.7	
	comp=E,9.2nm,0.8s						
U15A				IAML		21 14 30.4	
	comp=N,8.6nm,1.6s						

*IDC **20** 21:16:44.2±1.1,2˚.79S×138˚.45E,h0km,mb3.5/5, mbtmp3.6/8,ML3.7/3,Error ellipse: s-maj=30.2km s-min=22.8km az=106.0*

ISC 20 21:16:51.6±0.9, 2˚.9S±0˚.1×138˚.5E±0˚.1, h62km, n8, σ2°03/9, mb3.4/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.25**	**79**	Pn	**Pn**	**21 17 24.0**	**-2.5**
	5.9nm,0.3s,baz=230,slow=8.4,SNR=18						
JAY				Sn	**Sn**	**21 17 56.3**	**+3.0**
	4.7nm,0.3s,baz=101,slow=17,SNR=5.9						
	19nm,0.5s						
WRA	**Warramunga Arr**	**17.38**	**193**	P	**Pn**	**21 20 49.5**	**-0.5**
	0.5nm,0.3s,baz=17,slow=12,SNR=24						
	0.7nm,0.3s						
FITZ	**Fitzroy Crossi**	**19.64**	**219**	P	**P**	**21 21 14.8**	**-0.5**
	0.1nm,0.3s,baz=37,slow=11,SNR=3.6						
	2.0nm,1.0s						
ASAR	**Alice Springs**	**21.08**	**192**	P	**P**	**21 21 32.5**	**+1.5**
	3.7nm,0.7s,baz=19,slow=10,SNR=34						
	3.7nm,0.7s						
MKAR	**Makanchi Array**	**69.83**	**323**	P	**P**	**21 27 55.2**	**-0.5**
	0.3nm,0.6s,baz=112,slow=7.0,SNR=3.9						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**73.78**	**325**	P	**P**	**21 28 20.4**	**+1.1**
	0.2nm,0.7s,baz=114,slow=6.2,SNR=1.5						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**79.37**	**325**	P	**P**	**21 28 52.8**	**+2.0**
	0.3nm,0.6s,baz=120,slow=9.0,SNR=3.6						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**86.13**	**24**	P	**P**	**21 29 24.7**	**-0.9**
	0.3nm,0.6s,baz=255,slow=2.7,SNR=4.1						
	0.3nm,0.6s						

*SDD **20** 21:32:47.0±1.3, 18˚.04N×68˚.70W,h0km±9km,MD2.7, ML2.2,MW2.3*
*NEIC **20** 21:32:49.6±2.1, 18˚.8N±0˚.1×68˚.64W±0˚.03,h10km±2km, ML2.4/20,Md2.7/10(RSPR),Error ellipse: s-maj=22.6km s-min=3.9km az=8.0*
*RSPR **20** 21:32:49.6, 19˚.14N×68˚.67W,h12km±3km,MD2.7/10*

ISC 20 21:32:45.4±1.5, 19˚.19N±0˚.07×68˚.59W±0˚.02, h10km±11km, n39, σ0°84/52, 13C-1D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIDR	**Miches**	**0.48**	**245**	⇑*e*P	**Pb**	**21 32 57.0**	**+1.1**
MIDR	**Miches**	**0.48**	**245**	*e*S	**Sb**	**21 33 04.1**	**+1.1**
HIDR	**Higuey Centro**	**0.60**	**191**	⇑*e*Pg	**Pg**	**21 32 56.9**	**-0.2**
HIDR				⇑*e*Sg	**Sg**	**21 33 04.2**	**-0.9**
HIDR				IAML		21 33 05.4	
	comp=N,214nm,0.1s						
DR12	**Loma Pena Alta**	**0.84**	**242**	Pg	**Pb**	**21 33 02.5**	**+0.3**
DR12					**Sb**	**21 33 13.3**	**-0.3**
HATOM	**Hato Mayor del**	**0.85**	**242**	*i* P	**Pn**	**21 33 03.9**	**+0.5**
HATOM				*i* S	**Sb**	**21 33 13.6**	**0.0**
HATOM				IAML		21 33 16.2	
	comp=N,20nm,0.3s						
SADR	**Isla Saona**	**1.00**	**190**	⇑*e*P	**Pg**	**21 33 04.4**	**-0.3**
SADR	**Isla Saona**	**1.00**	**190**	*e*S	**Sb**	**21 33 17.9**	**-0.3**
IDE	**Isla Desecheo**	**1.32**	**127**		**Pg**	**21 33 10.6**	**-0.3**
IDE					**Sb**	**21 33 27.2**	**-0.2**
IDE	**Isla Desecheo**	**1.32**	**127**	⇑*e*P	**Pg**	**21 33 10.6**	**-0.3**
IDE	**Isla Desecheo**	**1.32**	**127**	*e*S	**Sb**	**21 33 27.2**	**-0.2**
AGPR	**Aguadilla, PR**	**1.57**	**117**		**Pg**	**21 33 15.7**	**+0.1**
AGPR					**Sg**	**21 33 36.5**	**+0.4**
AGPR				IAML		21 33 42.2	
	comp=E,59nm,0.8s						
AGPR				IAML		21 33 43.2	
	comp=N,46nm,1.2s						
AGPR	**Aguadilla, PR**	**1.57**	**117**	⇑*e*P	**Pg**	**21 33 16.0**	**+0.4**
AGPR	**Aguadilla, PR**	**1.57**	**117**	*e*S	**Sg**	**21 33 36.9**	**+0.8**
AGPR	**Aguadilla, PR**	**1.57**	**117**	*e*Pg	**Pb**	**21 33 14.6**	**0.0**
AGPR				⇓*e*Sg	**Sg**	**21 33 36.6**	**+0.5**
AGPR				IAML		21 33 42.3	
	comp=N,70nm,1.1s						
PRSN	**Puerto Rico Se**	**1.68**	**125**	Pn	**Pg**	**21 33 16.8**	**-0.8**
PRSN				IAML		21 33 47.8	
	comp=E,127nm,0.2s						
LSP	**Las Mesas**	**1.75**	**125**		**Pn**	**21 33 16.1**	**+0.3**
LSP					**Sg**	**21 33 42.9**	**+1.3**
LSP	**Las Mesas**	**1.75**	**125**	⇑*e*P	**Pn**	**21 33 16.1**	**+0.3**
LSP	**Las Mesas**	**1.75**	**125**	*e*S	**Sg**	**21 33 42.9**	**+1.3**
CRPR	**Cabo Rojo, PR**	**1.83**	**130**		**Pb**	**21 33 18.9**	**-0.1**
CRPR					**Sn**	**21 33 38.3**	**-1.8**
CRPR	**Cabo Rojo, PR**	**1.83**	**130**	⇑*e*P	**Pb**	**21 33 19.2**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.83**	**130**	*e*S	**Sb**	**21 33 42.8**	**+0.9**
MLPR	**Magueyes Islan**	**1.90**	**129**	*e*S	**Sb**	**21 33 43.7**	**-0.3**
ABDR	**Alto Bandera**	**1.96**	**259**	*i* P	**Pb**	**21 33 20.9**	**-0.6**
ABDR				*e*Pg	**Pg**	**21 33 22.6**	**-0.5**
ABDR				*i* S	**Sn**	**21 33 44.4**	**+0.5**
ABDR				IAML		21 33 54.2	
	comp=N,28nm,0.6s						
UUPR	**Utuado, UPR, P**	**2.00**	**117**		**Pb**	**21 33 21.5**	**-0.4**
UUPR					**Sb**	**21 33 46.0**	**-0.9**
UUPR	**Utuado, UPR, P**	**2.00**	**117**	⇑*e*P	**Pb**	**21 33 22.1**	**+0.2**
UUPR	**Utuado, UPR, P**	**2.00**	**117**	*e*S	**Sb**	**21 33 47.0**	**+0.1**
EMPR	**Esperanza - Ma**	**2.08**	**110**		**Pb**	**21 33 22.6**	**-0.5**
EMPR	**Esperanza - Ma**	**2.08**	**110**	⇑*e*P	**Pb**	**21 33 23.1**	**-0.1**
OBIP	**Obispado Ponce**	**2.20**	**121**		**Pb**	**21 33 24.2**	**-1.1**
OBIP					**Sb**	**21 33 51.8**	**-0.8**
OBIP				IAML		21 33 55.3	
	comp=N,20nm,0.7s						
OBIP	**Obispado Ponce**	**2.20**	**121**	⇑*e*P	**Pb**	**21 33 24.4**	**-0.8**
OBIP	**Obispado Ponce**	**2.20**	**121**	*e*S	**Sb**	**21 33 52.1**	**-0.5**
CELP	**Cerrillos**	**2.20**	**120**		**Pb**	**21 33 24.7**	**-0.7**
CELP		

CCAC						Sg	21 45 03.8	+0.2
ISA	**Isabella, Lake**	**0.73**	**262**			Pg	21 44 54.5	-0.4
ISA					IAML		21 45 04.7	
	comp=N,574nm,0.4s							
ISA					IAML		21 45 08.8	
	comp=E,368nm,0.2s							
ISA	**Isabella, Lake**	**0.73**	**262**			Sg	21 45 03.6	-0.7
CWC	**Cottonwood Cre**	**0.78**	**329**			Pg	21 44 55.5	-0.3
WASM	**Alta Sierra Ca**	**0.79**	**268**			Pg	21 44 55.7	-0.3
WASM						Sg	21 45 06.0	-0.2
GSC	**Goldstone, Bar**	**0.79**	**126**			Sg	21 45 06.3	0.0
GSC	**Goldstone, Bar**	**0.79**	**126**		Pg	Pg	21 44 55.7	-0.3
CGO	**Cerro Gordo**	**0.80**	**348**			Pg	21 44 55.7	-0.6
CGO						Sg	21 45 07.2	+0.5
GWY	**Greenwater Val**	**0.85**	**61**			Pg	21 44 56.9	-0.4
GWY					IAML		21 45 13.7	
	comp=N,440nm,0.6s							
GWY					IAML		21 45 15.8	
	comp=E,335nm,0.4s							
HYS	**Haystack Butte**	**0.90**	**179**			Pg	21 44 57.5	-0.7
HYS						Sg	21 45 09.2	-0.7
FURC	**Furnace Creek,**	**0.91**	**40**			Pg	21 44 58.2	-0.1
FURC						Sg	21 45 09.8	-0.4
EDW2	**Edwards Air Fo**	**0.94**	**201**			Pg	21 44 58.3	-0.7
EDW2						Sg	21 45 10.7	-0.6
RRX	**Edison Barstow**	**1.01**	**151**			Pg	21 44 59.7	-0.6
RRX						Sb	21 45 14.2	-0.3
TPO	**Tropico Hills**	**1.03**	**211**			Pg	21 44 60.0	-0.7
TPO						Sg	21 45 13.9	-0.1
TPO					IAML		21 45 16.6	
	comp=E,660nm,0.6s							
TPO					IAML		21 45 16.9	
	comp=N,724nm,0.9s							
VES	**Vestal, Richgr**	**1.22**	**274**			Pg	21 45 03.6	-0.7
GRAC	**Grapevine Rang**	**1.24**	**8**			Pg	21 45 04.2	-0.5
GRAC					IAML		21 45 23.3	
	comp=N,373nm,0.3s							
WCT	**Wildcat Mounta**	**1.28**	**37**			Pg	21 45 04.4	-1.1
WCT					IAML		21 45 24.4	
	comp=E,144nm,0.6s							
WCT					IAML		21 45 25.0	
	comp=N,135nm,0.6s							
TUQ	**Turquoise Moun**	**1.40**	**103**			Pn	21 45 06.2	-0.9
OSI	**Osito Audit: C**	**1.48**	**219**			Pn	21 45 07.6	-0.6
OSI					IAML		21 45 31.9	
	comp=E,200nm,0.7s							
OSI					IAML		21 45 32.3	
	comp=N,239nm,0.5s							
GMN	**Gold Mountain**	**1.55**	**10**			Pn	21 45 08.6	-0.8
GMN					IAML		21 45 31.7	
	comp=N,114nm,0.5s							
GMN					IAML		21 45 33.6	
	comp=E,96nm,0.8s							
MWC	**Mount Wilson**	**1.59**	**194**			Pn	21 45 08.9	-0.9
TPNV	**Topopah Spring**	**1.60**	**42**			Pn	21 45 09.1	-0.9
TPNV					IAML		21 45 33.6	
	comp=E,107nm,0.6s							
TPNV					IAML		21 45 36.7	
	comp=E,136nm,0.8s							
DSP	**Deep Springs**	**1.63**	**349**			Pn	21 45 09.6	-0.6
DSP					IAML		21 45 33.8	
	comp=N,87nm,0.5s							
DSP					IAML		21 45 34.0	
	comp=E,114nm,0.5s							
PASC	**Pasadena Art C**	**1.67**	**197**			Pn	21 45 10.0	-0.8
PASC					IAML		21 45 35.7	
	comp=E,202nm,0.4s							
PASC					IAML		21 45 38.5	
	comp=N,191nm,0.4s							
MTPC	**Mountain Pass**	**1.68**	**99**			Pn	21 45 09.7	-1.4
MTPC					IAML		21 45 35.1	
	comp=N,221nm,0.6s							
MTPC					IAML		21 45 35.1	
	comp=E,179nm,0.3s							
MZP	**Montezuma Peak**	**1.94**	**5**			Pn	21 45 14.0	-0.8
SMMC	**Simmler**	**2.01**	**258**			Pn	21 45 14.2	-1.3
SHPR	**Sheep Range**	**2.10**	**69**			Pn	21 45 16.0	-0.9
ELS	**Elsinore Mount**	**2.12**	**176**			Pn	21 45 16.1	-1.0
ELS					IAML		21 45 50.5	
	comp=E,56nm,0.4s							
ELS					IAML		21 45 56.0	
	comp=N,69nm,0.6s							
TPH	**Tonopah**	**2.32**	**7**			Pn	21 45 19.3	-0.6
PMD	**Palm Desert**	**2.34**	**154**			Pn	21 45 18.7	-1.3
PFO	**Pinyon Flats O**	**2.34**	**156**			Pn	21 45 19.0	-1.2
S11A	**Rachel**	**2.39**	**38**			Pn	21 45 19.6	-1.2
S11A					IAML		21 46 01.8	
	comp=N,94nm,1.2s							
S11A					IAML		21 46 02.5	
	comp=E,144nm,0.8s							
LHV	**Little Huntoon**	**2.58**	**344**			Pn	21 45 22.9	-0.4
LHV					IAML		21 46 09.6	
	comp=E,37nm,0.9s							
PRN	**Pahroc Range**	**2.62**	**51**			Pn	21 45 23.3	-0.6
PRN					IAML		21 46 17.8	
	comp=N,66nm,0.7s							
PRN					IAML		21 46 18.2	
	comp=E,55nm,0.7s							
BORC	**Borrego Spring**	**2.67**	**158**			Pn	21 45 23.4	-1.2
BORC					IAML		21 46 08.8	
	comp=E,36nm,0.7s							
BORC					IAML		21 46 09.0	
	comp=N,31nm,0.8s							
NV11	**Mina Array Sit**	**2.70**	**351**			Pn	21 45 25.2	+0.1
NVAR	**Mina Array Bea**	**2.72**	**348**			Pn	21 45 25.3	-0.1
RYN	**Ryan**	**2.95**	**346**			Pn	21 45 28.6	+0.1
R11B	**Troy Canyon, C**	**3.03**	**31**			Pn	21 45 28.4	-1.3
W13A	**Hualapai Mount**	**3.10**	**101**			Pn	21 45 29.5	-1.1
W13A					IAML		21 46 22.9	
	comp=N,27nm,0.8s							
CBX	**Cerro Bola**	**3.53**	**167**			Pn	21 45 36.1	-0.4
CBX					IAML		21 46 33.3	
	comp=N,47nm,0.9s							
LCMT	**Little Creek M**	**3.72**	**69**			Pn	21 45 39.0	-0.1
CCUT	**Cedar City**	**3.83**	**61**			Pn	21 45 40.4	-0.3
ESJX	**Sierra Juarez**	**3.99**	**160**			Pn	21 45 42.3	-0.6
KNB	**Kanab**	**4.04**	**71**			Pn	21 45 43.3	-0.3
PSUT	**Pine Spring**	**4.06**	**46**			Pn	21 45 44.3	+0.4
PSUT					IAML		21 46 58.2	
	comp=E,10nm,0.7s							
Y14A	**Wickenburg**	**4.19**	**115**	Pn	Pn	Pn	21 45 46.0	+0.6
Y14A					IAML		21 46 55.7	
	comp=E,20nm,0.5s							
Y14A					IAML		21 46 58.8	
	comp=N,31nm,0.9s							
U15A	**North Rim**	**4.34**	**80**			Pn	21 45 48.1	+0.4
U15A					IAML		21 47 03.5	
	comp=N,9.8nm,0.8s							
U15A					IAML		21 47 04.7	
	comp=E,9.2nm,1.0s							

*IDC **20** 21:45:02.8±6.7, 32.°38S×179.°95E, h176km±51km, mb3.6/3, mbtmp4.0/4, Error ellipse: s-maj=56.9km s-min=22.1km az=47.0*

*WEL **20** 21:45:10.7±0.8, 33.°5±9.°×18.°0W±1.°8, h309km±13km, M4.3/10, mB4.8/2, MLv4.3/10, Mw(mB)4.0/2, Error ellipse: s-maj=25.9km s-min=6.3km az=113.6, confirmed*

ISC 20 21:45:10.8±1.3, 33.°31S±0.°09×179.°6W±0.°2, h300km, n32, σ1§08/47, mb3.7/4, 2D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.30**	**20**	P	**Pn**	**21 46 20.3**	**-0.1**
MXZ	**Matakaoa Point**	**4.57**	**201**	P	**Pn**	**21 46 22.8**	**-0.5**
MXZ				S	**S**	**21 47 21.4**	**0.0**
WMGZ	**Waiomatatini S**	**4.78**	**199**	P	**Pn**	**21 46 25.4**	**-0.2**
WMGZ				S	**S**	**21 47 24.6**	**-1.1**
HAZ	**Te Kaha**	**4.92**	**205**	P	**Pn**	**21 46 26.5**	**-0.7**
HAZ				S	**S**	**21 47 29.0**	**+0.3**
PKGZ	**Pakihiroa**	**4.92**	**202**	P	**Pn**	**21 46 26.6**	**-0.7**
PKGZ				S	**S**	**21 47 29.1**	**+0.3**
PUZ	**Puketiti**	**5.06**	**199**	P	**Pn**	**21 46 29.8**	**+0.9**
PUZ				S	**S**	**21 47 32.8**	**+1.1**
RUGZ	**Raukumara Rang**	**5.14**	**205**	P	**Pn**	**21 46 30.4**	**+0.4**
RUGZ				S	**S**	**21 47 33.5**	**-0.2**
TWGZ	**Tauwhareparae**	**5.24**	**201**	P	**Pn**	**21 46 31.7**	**+0.7**
TWGZ				S	**S**	**21 47 35.2**	**-0.3**
TKGZ	**Te Karaka**	**5.52**	**201**	P	**Pn**	**21 46 34.4**	**+0.1**
TKGZ				S	**S**	**21 47 43.0**	**+1.5**
MWZ	**Matawai**	**5.52**	**204**	P	**Pn**	**21 46 35.1**	**+0.7**
MWZ				S	**S**	**21 47 40.6**	**-1.1**
URZ	**Urewera**	**5.61**	**207**	P	**Pn**	**21 46 35.5**	**+0.2**
	2.3nm,0.3s,baz=359,slow=23,SNR=1.5						
URZ				S	**S**	**21 47 43.6**	**+0.2**
	9.2nm,0.4s,baz=352,slow=24,SNR=9.8						
URZ	**Urewera**	**5.61**	**207**	P	**Pn**	**21 46 35.2**	**-0.1**
URZ				S	**S**	**21 47 43.3**	**-0.1**
WCZ	**Waipu Caves**	**5.62**	**241**	P	**Pn**	**21 46 35.4**	**-0.2**
RAGZ	**Rawiri**	**5.71**	**204**	P	**Pn**	**21 46 36.4**	**-0.3**
RAGZ				S	**S**	**21 47 46.4**	**+0.7**
RIGZ	**Rimuhau**	**5.79**	**201**	P	**Pn**	**21 46 37.8**	**+0.3**
RIGZ				S	**S**	**21 47 48.5**	**+1.1**
PRGZ	**Paritu Road**	**5.96**	**199**	S	**S**	**21 47 50.8**	**-0.2**
RTZ	**Ruatahuna**	**5.97**	**207**	S	**S**	**21 47 51.8**	**+0.4**
SNGZ	**Shannon Statio**	**5.99**	**203**	P	**Pn**	**21 46 40.7**	**+0.7**
SNGZ				S	**S**	**21 47 53.3**	**+1.5**
KNZ	**Kokohu**	**6.11**	**200**	P	**Pn**	**21 46 40.5**	**-0.8**
BKZ	**Black Stump Fm**	**6.63**	**207**	P	**Pn**	**21 46 48.7**	**+1.0**
PXZ	**Pawanui**	**7.28**	**202**	P	**Pn**	**21 46 55.4**	**0.0**
PXZ				S	**S**	**21 48 20.6**	**+0.5**
VRZ	**Vera Road**	**7.37**	**216**	P	**Pn**	**21 46 55.9**	**-0.7**
WAZ	**Wanganui**	**7.76**	**212**	S	**S**	**21 48 34.3**	**+3.4**
BFZ	**Birch Farm**	**8.07**	**203**	P	**Pn**	**21 47 06.1**	**+1.0**
BFZ				S	**S**	**21 48 38.0**	**+0.2**
MRZ	**Mangatainoka R**	**8.28**	**206**	P	**Pn**	**21 47 06.6**	**-1.1**
MRZ				S	**S**	**21 48 39.7**	**-2.9**
HOWZ	**Holdsworth Sta**	**8.51**	**206**	P	**Pn**	**21 47 09.3**	**-1.3**
HOWZ				S	**S**	**21 48 44.6**	**-3.2**
ASAR	**Alice Springs**	**41.68**	**271**	P	**P**	**21 52 31.4**	**+0.5**
	1.1nm,0.7s,baz=106,slow=7.8,SNR=13						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**42.93**	**276**	P	**P**	**21 52 41.0**	**0.0**
	2.2nm,0.8s,baz=114,slow=8.0,SNR=14						
	2.2nm,0.8s						
QSPA	**South Pole Qui**	**56.81**	**180**	P	P	21 54 35.0	+11
	3.1nm,0.7s,baz=346,slow=0.6,SNR=25						
	3.1nm,0.7s						
TROLL	**Troll, Antarti**	**74.96**	**181**	⇓P	P	21 56 27.4	+8.4
	comp=2,27nm,0.3s						
VNA3	**Neumayer Olymp**	**75.50**	**177**	⇓P	P	21 56 30.3	+8.3
	comp=Z,4.3nm,0.6s						
FINES	**FINESS Array B**	**147.34**	**337**	PKPbc	**PKiKP**	**22 04 20.2**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=42,slow=4.4,SNR=11						

IDC 20 21:46:22.0±19.0, 0.°28S×136.°46E, h0km, mb3.6/2, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=324.4km s-min=155.3km az=153.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.65**	**186**	P	P	21 50 51.7	-0.8
	0.1nm,0.3s,baz=5.9,slow=10,SNR=2.4						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**23.38**	**186**	P	P	21 51 32.8	+0.2
	0.5nm,0.7s,baz=8.9,slow=10,SNR=5.1						
	0.5nm,0.7s						
STKA	**Stephens Creek**	**31.80**	**172**	P	P	21 52 48.6	+0.2
	0.9nm,0.3s,baz=333,slow=14,SNR=3.7						
	0.9nm,0.3s						

IDC 20 21:49:20.6±14.0, 1.°00N×89.°53E, h0km, mb3.6/3, mbtmp3.6/5, ML3.8/2, MS3.8/1, Error ellipse: s-maj=272.8km s-min=51.0km az=176.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.78**	**306**	Pn	Pn	21 51 56.7	+0.3
	0.3nm,0.3s,baz=125,slow=14,SNR=1.6						
	4.5nm,0.7s						
H08S2	**Diego Garcia H**	**19.03**	**243**	T	T	22 13 52.1	
	baz=61,slow=75,SNR=27						
H08S3	**Diego Garcia H**	**19.03**	**243**	T	T	22 13 58.9	
	baz=61,slow=75,SNR=40						
H08S1	**Diego Carcia H**	**19.05**	**243**	T	T	22 13 52.6	
	baz=61,slow=75,SNR=16						
CMAR	**Chiang Mai Arr**	**19.66**	**27**	P	P	21 53 51.0	-0.2
	0.2nm,0.3s,baz=210,slow=11,SNR=4.0						
	0.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**40.28**	**120**	LR	LR	22 12 00.5	
	comp=Z,125nm,21.1s,baz=330,slow=34						
H01W3	**Cape Leeuwin H**	**42.48**	**150**	T	T	22 43 05.2	
	baz=330						
H01W2	**Cape Leeuwin H**	**42.49**	**150**	T	T	22 43 04.6	
	baz=330						
H01W1	**Cape Leeuwin H**	**42.50**	**150**	T	T	22 42 51.6	
	baz=330						
MKAR	**Makanchi Array**	**46.05**	**353**	P	P	21 57 45.9	-0.2
	0.2nm,0.5s,baz=169,slow=8.2,SNR=2.5						
	0.2nm,0.5s						
SONM	**Songino Array**	**48.90**	**15**	P	P	21 58 08.7	+0.3
	1.4nm,0.5s,baz=196,slow=9.1,SNR=13						
	1.4nm,0.5s						
KURBB	**Kurchatov Arra**	**50.32**	**351**	P	P	21 58 18.3	-0.6
	0.1nm,0.3s,baz=176,slow=8.1,SNR=3.4						
	0.1nm,0.3s						
H04N2	**CROZET ISLANDS**	**57.50**	**210**	T	T	23 02 15.6	
	baz=46,slow=75,SNR=12						
H04N1	**CROZET ISLANDS**	**57.51**	**210**	T	T	23 02 23.6	
	baz=46,slow=75,SNR=7.2						
H04N3	**CROZET ISLANDS**	**57.52**	**210**	T	T	23 02 17.5	
	baz=46,slow=75,SNR=6.6						

*BER **20** 21:58:44.9±2.8, 78.°45N×6.°90E, h10km, mb(Pn)3.4, ML2.6(NAO), Confirmed Earthquake*

*KOLA **20** 21:58:45.7, 78.°36N×8.°08E, h0km, ML2.3, Error ellipse: s-maj=13.6km s-min=10.1km az=90.0, Greenland sea, Knipovich ridge, middle*

*NAO **20** 21:58:46.1±0.6, 78.°29N×7.°64E, h1km±6km, ML2.6*

*FCIAR **20** 21:58:48.0, 78.°22N×7.°77E, h10km, station ZFI2 has station magnitude of 3.50 station OMEGA has station magnitude of 3.40*

ISC 20 21:58:46.0±2.8, 78.°45N±0.°05×8.°0E±0.°1, h15km±10km, n22, σ1§10/42, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**0.92**	**57**	Pg	**Pn**	**21 59 05.1**	**+0.8**
KBS				Sg	**Sn**	**21 59 18.1**	**+0.9**
KBS	**Kingsbay**	**0.92**	**57**	P	**Pn**	**21 59 04.6**	**+0.3**
KBS				S	**Sn**	**21 59 17.3**	**+0.1**
KBS	**Kingsbay**	**0.92**	**57**	*e*P	**Pn**	**21 59 05.1**	**+0.8**
KBS				*e*S	**Sn**	**21 59 17.3**	**+0.1**
KBS				IAML		21 59 20.2	
	comp=Z,100nm,0.3s						
BRBB	**Barentsburg B**	**1.33**	**103**	Pb	**Pg**	**21 59 10.9**	**-0.5**
BRBB				Sb	**Sg**	**21 59 28.7**	**0.0**
BRBB	**Barentsburg B**	**1.33**	**103**	P	**Pb**	**21 59 10.8**	**+0.3**
BRBB				S	**Sn**	**21 59 28.2**	**+0.9**
BRBB	**Barentsburg B**	**1.33**	**103**	*e*P	**Pg**	**21 59 10.9**	**-0.5**
BRBB				*e*S	**Sb**	**21 59 27.9**	**+0.6**
BRBA	**Barentsburg A**	**1.34**	**104**	Pb	**Pb**	**21 59 10.9**	**+0.2**
BRBA				Sb	**Sg**	**21 59 28.9**	**-0.2**
BRBA	**Barentsburg A**	**1.34**	**104**	*e*P	**Pb**	**21 59 10.9**	**+0.2**
BRBA				*e*S	**Sg**	**21 59 29.1**	**0.0**
BRBA				IAML		21 59 32.8	
	comp=Z,52nm,0.1s						
SPA0	**Spitsbergen Ar**	**1.73**	**95**	Pn	**Pb**	**21 59 17.6**	**+0.1**
	baz=284,slow=10						
SPA0				Sn	**Sg**	**21 59 41.3**	**-0.4**
	baz=274,slow=16						
SPA0	**Spitsbergen Ar**	**1.73**	**95**	⇑*i*P	**Pb**	**21 59 17.8**	**+0.3**
SPA0				*i* S	**Sb**	**21 59 40.3**	**+1.3**
SPA0	**Spitsbergen Ar**	**1.73**	**95**	Pn	**Pb**	**21 59 17.6**	**+0.1**
	baz=284,slow=10						
SPA0				Sn	**Sg**	**21 59 41.3**	**-0.4**
	baz=274,slow=16						
SPA0				IAML		21 59 43.2	
	comp=Z,18nm,0.3s						
SPITS	**Spitsbergen Ar**	**1.73**	**95**	P	**Pb**	**21 59 17.6**	**+0.1**
SPITS				S	**Sb**	**21 59 39.5**	**+0.5**
HSPB	**Hornsund (broa**	**2.18**	**128**	Pn	**Pn**	**21 59 22.1**	**+0.5**
HSPB				Sn	**Sn**	**21 59 47.5**	**-0.7**
HSPB	**Hornsund (broa**	**2.18**	**128**	P	**Pn**	**21 59 21.8**	**+0.2**
HSPB				S	**Sn**	**21 59 47.3**	**-0.9**
HSPB	**Hornsund (broa**	**2.18**	**128**	*e*P	**Pn**	**21 59 21.4**	**-0.1**
HSPB				*e*S	**Sn**	**21 59 47.0**	**-1.2**
HSPB	**Hornsund (broa**	**2.18**	**128**	*e*P	**Pn**	**21 59 22.0**	**+0.5**
HSPB				*e*S	**Sn**	**21 59 47.6**	**-0.5**
HSPB				IAML		21 59 51.7	
	comp=Z,9.2nm,0.3s						
HOPEN	**Hopen**	**4.18**	**109**	Pn	**Pn**	**21 59 50.0**	**+1.0**
HOPEN				Sn	**Sn**	**22 00 37.0**	**-0.5**
HOPEN	**Hopen**	**4.18**	**109**	*e*P	**Pn**	**21 59 49.7**	**+0.7**
HOPEN				*e*S	**Sn**	**22 00 35.5**	**-2.0**
HOPEN	**Hopen**	**4.18**	**109**	*e*P	**Pn**	**21 59 50.2**	**+1.1**
HOPEN				*e*S	**Sn**	**22 00 37.0**	**-0.5**
HOPEN				IAML		22 00 38.8	
	comp=Z,13nm,0.2s						
NOR	**Nord**	**5.27**	**318**	*i* P	Pn	21 59 58.0	-6.0
ZFI2	**Zemlya Franca-**	**7.40**	**53**	*e*P	**Pn**	**22 00 34.2**	**+1.1**
ZFI2				*e*S	**Sn**	**22 01 53.0**	**-3.6**
	comp=Z,12nm,1.8s						
OMEGA	**Omega**	**7.41**	**53**	*e*P	**Pn**	**22 00 34.6**	**+1.3**
OMEGA				*e*S	**Sn**	**22 01 53.3**	**-3.6**
	comp=Z,10nm,1.8s						

IDC 20 22:13:43.4±2.2, 2.°77N×126.°88E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=214.9km s-min=23.1km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.73**	**162**	P	P	22 18 57.0	-0.4
	0.8nm,1.1s,baz=341,slow=9.9,SNR=2.5						
	0.8nm,1.1s						
ASAR	**Alice Springs**	**27.16**	**166**	P	P	22 19 28.4	-0.3
	0.6nm,0.9s,baz=344,slow=12,SNR=5.4						
	0.6nm,0.9s						
MKAR	**Makanchi Array**	**58.42**	**326**	P	P	22 23 42.3	+1.3
	0.3nm,0.5s,baz=113,slow=8.6,SNR=4.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**62.62**	**328**	P	P	22 24 08.6	-1.0
	0.2nm,0.5s,baz=128,slow=6.3,SNR=2.7						
	0.2nm,0.5s						

*WEL **20** 22:35:31.2±0.9, 32.°5±7.°×17.°7W±1.°4, h12km, M5.3/15, mB5.6/15, ML5.6/7, MLv5.9/12, Mw(mB)5.1/15, Error ellipse: s-maj=19.3km s-min=6.0km az=114.7, confirmed*

*NOU **20** 22:35:31.6, 31.°50S×177.°71W, h45km, mb5.4/86, Kermadec Islands Region*

*BJI **20** 22:35:32.0, 31.°20S×178.°20W, h40km, mB5.7/10, mb5.3/31, Ms5.0/7, Ms7 4.6/12*

*MOS **20** 22:35:33.2±0.9, 31.°00S×178.°42W, h48km, mb5.5/39, Error ellipse: s-maj=10.4km s-min=7.9km az=92.8*

*NEIC **20** 22:35:35.9, 31.°26S×177.°76W, h60km, Moment Tensor Solution. Duration: 1§9 Moment tensor: Scale 10^{16}Nm; M_{rr}8.04; $M_{\theta\theta}$-1.03; $M_{\phi\phi}$-7.01; $M_{r\theta}$-0.21; $M_{r\phi}$-3.23; $M_{\theta\phi}$3.81; Fault plane solution: $M_0$9.07000×10^{16} NP1: ϕ_s214.70000°, δ34.78000°, λ108.43000°. NP2: ϕ_s12.61000°, δ57.23000°, λ77.61000°. Principal axes: T 9.0392, Plg74.0000°, Azm248.0000°; N 0.0663, Plg10.0000°, Azm19.0000°; P -9.1055, Plg11.0000°, Azm112.0000°;*

*GCMT **20** 22:35:35.9±0.1, 31.°05S±0.°01×178.°12W±0.°01, h56km, MW5.3/129, Moment Tensor Solution. s106,c154; s129,c205; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}1.03±.02; $M_{\theta\theta}$-0.11±.02; $M_{\phi\phi}$-0.92±.02; $M_{r\theta}$-0.08±.01; $M_{r\phi}$-0.21±.02; $M_{\theta\phi}$0.64±.02; Best double couple: $M_0$1.18800×10^{17} NP1:ϕ_s203.00000°, δ30.00000°, λ107.00000°. NP2:ϕ_s3.00000°, δ61.00000°, λ80.00000°. Principal axes: T 1.2330, Plg72.0000°, Azm250.0000°; N -0.0930, Plg9.0000°, Azm8.0000°; P -1.1430, Plg16.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **20** 22:35:35.9, 31.°06S×178.°35W, h60km*

*IDC **20** 22:35:36.9±1.2, 30.°89S×178.°35W, h72km±9km, mb4.8/24, mbtmp5.1/25, MS4.3/40, Error ellipse: s-maj=10.7km s-min=9.7km az=97.0*

*NEIC **20** 22:35:36.7±1.6, 31.°03S±0.°04×178.°35W±0.°09, h63km±4km, mb5.4/123, Mww5.2/17, Error ellipse: s-maj=12.1km s-min=1.3km az=62.0*

ISC 20 22:35:33.2±0.2, 31.°17S±0.°04×178.°10W±0.°04, h46km, n771, σ1§78/808, mb5.4/141, MS4.6/55, 62C-44D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.92**	**5**	P	**Pn**	**22 36 02.9**	**-0.4**
RAO				Sn	**Sn**	**22 36 24.6**	**-1.6**
RAO	**Raoul Island**	**1.92**	**5**	P	**Pn**	**22 36 03.0**	**-0.3**
	4µm,0.2s,baz=92,slow=3.3,SNR=41						
RAO				S	**Sn**	**22 36 25.1**	**-1.1**
	15µm,0.3s,baz=58,slow=21,SNR=18						
RAO				LR	LR	22 36 50.8	
	comp=Z,10µm,19.0s,baz=218,slow=44						
RAO	**Raoul Island**	**1.92**	**5**	P	**Pn**	**22 36 03.3**	**0.0**
MXZ	**Matakaoa Point**	**7.04**	**204**	P	**Pn**	**22 37 11.3**	**-2.3**
MXZ	**Matakaoa Point**	**7.04**	**204**	P	**Pn**	**22 37 11.7**	**-1.8**
MXZ				S	**Sn**	**22 38 29.8**	**-2.5**
WMGZ	**Waiomatatini S**	**7.23**	**202**	P	**Pn**	**22 37 14.3**	**-2.0**
WMGZ				S	**Sn**	**22 38 34.3**	**-2.7**
PKGZ	**Pakihiroa**	**7.39**	**204**	P	**Pn**	**22 37 16.4**	**-2.0**
PKGZ				S	**Sn**	**22 38 38.0**	**-2.9**
HAZ	**Te Kaha**	**7.40**	**206**	P	**Pn**	**22 37 16.7**	**-1.9**
HAZ				S	**Sn**	**22 38 42.5**	**+1.4**
PUZ	**Puketiti**	**7.51**	**203**	P	**Pn**	**22 37 17.5**	**-2.6**
PUZ				S	**Sn**	**22 38 42.2**	**-1.8**
KUZ	**Kuaotunu**	**7.57**	**221**	P	**Pn**	**22 37 21.4**	**+0.5**
KUZ	**Kuaotunu**	**7.57**	**221**	P	**Pn**	**22 37 23.2**	**+2.3**
RUGZ	**Raukumara Rang**	**7.62**	**206**	P	**Pn**	**22 37 19.3**	**-2.5**
RUGZ				S	**Sn**	**22 38 47.0**	**+0.2**
TWGZ	**Tauwhareparae**	**7.70**	**204**	P	**Pn**	**22 37 20.8**	**-1.9**
TWGZ				S	**Sn**	**22 38 46.2**	**-2.5**
WHRZ	**Whale Island**	**7.81**	**210**	P	**Pn**	**22 37 24.8**	**+0.5**
WHRZ				S	**Sn**	**22 38 52.2**	**+0.8**
WCZ	**Waipu Caves**	**7.90**	**231**	P	Pn	22 37 31.1	+5.7
WIAZ	**Waiheke Island**	**7.94**	**223**	P	**Pn**	**22 37 28.1**	**+2.1**
TKGZ	**Te Karaka**	**7.98**	**204**	P	**Pn**	**22 37 23.9**	**-2.7**
TKGZ				S	**Sn**	**22 38 54.4**	**-1.0**
MWZ	**Matawai**	**8.00**	**206**	P	**Pn**	**22 37 23.6**	**-3.3

MSVF Nonsavu 13.82 344 P P 22 38 50.7 -3.2
MSVF Nonsavu 13.82 344⇑eP Pn 22 38 44.1 -2.5
TAVE Taveuni 14.49 353 P P 22 38 59.3 -1.9
DGTI Dogotuki 14.93 352 P P 22 39 05.1 -1.0
RPZ Rata Peaks 15.18 211 P Pn 22 39 01.2 -3.3
15nm,0.5s,baz=0.1,slow=2.8,SNR=5.9
RPZ S Sn 22 41 34.1 -17
28nm,0.4s,baz=48,slow=18,SNR=11
PINNC Pines Island, 15.45 300 Pn 22 39 07.4 -0.6
PINNC Pines Island, 15.45 300 P P 22 39 13.2 +1.4
OUENC Ouen Island, N 16.01 299 P P 22 39 19.5 +1.5
ONTNC Ouen Toro 16.37 299 Pn 22 39 20.8 +1.1
ONTNC Ouen Toro 16.37 299 P P 22 39 24.3 +2.3
ODZ Otahua Downs 16.42 209 P Pn 22 39 17.4 -2.9
DZM Mont Dzumac 16.51 300 P 22 39 23.2 -0.6
DZM Mont Dzumac 16.51 300 ePn P 22 39 23.7 0.0
488nm,1.4s
DZM eLR LR 22 43 08.9
10µm,25.7s
DZM Mont Dzumac 16.51 300 LR LR 22 44 28.3
comp=Z,5µm,19.6s,baz=134,slow=33
DZM Mont Dzumac 16.51 300 P P 22 39 25.3 +1.6
AFI Afiamalu 18.13 20 P P 22 39 39.7 -1.9
AFI Afiamalu 18.13 20 P Pn 22 39 43.0 +1.3
AFI Afiamalu 18.13 20 P P 22 39 39.7 -1.9
AFI pmax pmax
comp=Z,124nm,1.3s
KOUNC Koumac, New Ca 19.03 300 P Pn 22 39 55.4 +2.9
RAR Rarotonga 19.18 63 Pn 22 39 53.9 -0.3
RAR Rarotonga 19.18 63 P Pn 22 39 55.8 +1.6
comp=Z,32nm,0.5s,baz=166,slow=6.1,SNR=9.4
RAR S S 22 43 14.6 -13
comp=Z,37nm,0.9s,baz=74,slow=13,SNR=3.8
RAR LR LR 22 47 04.7
comp=Z,473nm,19.1s,baz=248,slow=36
RAR Rarotonga 19.18 63 P P 22 39 48.6 -4.4
RAR Rarotonga 19.18 63 P Pn 22 39 53.9 -0.3
RAR pmax pmax
comp=Z,77nm,1.0s
VLAKA Lakatoro 19.99 315 P Pn 22 40 06.3 +2.5
GC1S Gold Coast 1 S 24.82 270 P P 22 40 53.1 +2.0
ARMA Armidale 25.98 264 P P 22 41 01.5 -0.3
ARMA Armidale 25.98 264 P P 22 41 03.5 +1.7
comp=Z,35nm,0.9s
ARMA Armidale 25.98 264 P P 22 41 03.0 +1.2
RIV Riverview 26.02 256 P P 22 41 04.5 +2.6
RIV Riverview 26.02 256 P P 22 41 05.0 +3.1
MGCD Mangrove Creek 26.10 257 P P 22 41 04.4 +1.7
comp=Z,115nm,0.8s
MGCD Mangrove Creek 26.10 257 P P 22 41 03.4 +0.8
SYDH Sydney Hard Ro 26.37 256 P P 22 41 06.5 +1.4
TBI Tubuai 26.57 80 eS S 22 45 36.0 -2.4
comp=Z,3µm,31.8s
TBI eLQ LQ 22 46 40.4
comp=Z,3µm,23.2s
TBI eLR LR 22 47 45.6
comp=Z,17µm,27.8s
TBI eLR LR 22 47 49.1
comp=Z,3µm,26.8s
CNB Canberra Magne 27.46 253 P P 22 41 16.9 +2.0
CNB Canberra Magne 27.46 253 P P 22 41 16.7 +1.7
EIDS Eidsvold 27.70 274 P P 22 41 17.5 +0.4
EIDS IAmb IAmb 22 41 20.0
comp=Z,86nm,0.9s
EIDS Eidsvold 27.70 274 P P 22 41 17.9 +0.8
comp=Z,113nm,1.0s
EIDS Eidsvold 27.70 274 P P 22 41 18.7 +1.6
HURO Huro Makira 27.72 314 P P 22 41 20.6 +3.3
CAN Canberra 27.76 253 P P 22 41 18.4 +0.8
CAN Canberra 27.76 253 P P 22 41 19.3 +1.7
comp=Z,57nm,1.2s
CAN Canberra 27.76 253 P P 22 41 18.3 +0.8
CAN Canberra 27.76 253 P P 22 41 18.4 +0.8
CAN pmax pmax
comp=Z,45nm,1.0s
YNG Young 28.29 255 P P 22 41 24.3 +2.0
PPT2 Papeete2 29.18 69 eP P 22 41 30.5 +0.1
comp=Z,120nm,26.2s
PPT2 eS S 22 46 17.7 -2.1
comp=Z,530nm,27.5s
PPT2 eLQ LQ 22 47 39.0
comp=Z,857nm,24.8s
PPT2 eLR LR 22 48 55.0
comp=Z,3µm,27.0s
PPT2 eLR LR 22 49 01.7
comp=Z,2µm,29.0s
PPT Papeete 29.19 69 LR LR 22 50 14.1
comp=Z,687nm,21.6s,baz=234,slow=30
RMQ Roma 29.34 271 P P 22 41 33.9 +2.1
HNR Honiara 29.74 312 LR LR 22 51 40.7
comp=Z,849nm,20.4s,baz=153,slow=33
TAU Tasmania Unive 29.79 237 P P 22 41 35.7 +0.2
TAU IAmb IAmb 22 41 37.9
comp=Z,235nm,1.9s
TAU Tasmania Unive 29.79 237 P P 22 41 35.7 +0.2
TAU pmax pmax
comp=Z,235nm,1.9s
ALEG Aligegeo Malai 29.79 314 P P 22 41 38.6 +2.8
TOO Toolangi 30.59 248 P P 22 41 44.1 +1.3
TOO Toolangi 30.59 248 P P 22 41 44.0 +1.3
comp=Z,19nm,1.1s
TOO Toolangi 30.59 248 P P 22 41 44.1 +1.3
TOO pmax pmax
comp=Z,25nm,1.2s
CMSA Cobar Meteorol 30.84 260 P P 22 41 46.0 +1.1
comp=Z,123nm,1.0s
CMSA Cobar Meteorol 30.84 260 P P 22 41 47.0 +2.1
BRAT Ballarat 31.83 248 P P 22 41 55.6 +2.1
QLP Quilpie 33.19 268 P P 22 42 05.6 0.0
comp=Z,347nm,0.8s
QLP Quilpie 33.19 268 P P 22 42 07.0 +1.4
ARPS Mount Arapiles 33.52 249 P P 22 42 08.7 +0.4
comp=Z,21nm,1.1s
CTAO Charters Tower 33.85 280 P P 22 42 12.6 +1.2
CTAO sP sP 22 42 35.2 +7.1
STKA Stephens Creek 34.23 258 P P 22 42 15.2 +0.6
STKA Stephens Creek 34.23 258 P P 22 42 15.5 +0.9
comp=Z,662nm,1.1s
STKA Stephens Creek 34.23 258 P P 22 42 15.7 +1.1
comp=Z,46nm,0.3s,baz=102,slow=11,SNR=125
STKA LR LR 22 54 30.6
comp=Z,1µm,20.6s,baz=84,slow=33
comp=Z,46nm,0.3s
STKA Stephens Creek 34.23 258 P P 22 42 15.7 +1.1
STKA Stephens Creek 34.23 258⇑eP P 22 42 14.8 +0.2
HTT Hallett 36.21 255 P P 22 42 31.8 +0.1
comp=Z,35nm,0.8s
HTT Hallett 36.21 255 P P 22 42 32.6 +0.9
MTSU Mount Surprise 36.36 282 P P 22 42 33.6 +0.5
comp=Z,89nm,1.1s
MTSU Mount Surprise 36.36 282 P P 22 42 34.8 +1.7
PTPS Port Pirie 37.02 255 P P 22 42 39.7 +1.2
WHYH Whyalla 37.39 255 P P 22 42 42.2 +0.6
XMAS Kiritimati 38.43 35 P P 22 42 50.9 +0.4
XMAS IAmb IAmb 22 42 54.7
comp=Z,94nm,1.4s
XMAS Kiritimati 38.43 35 P P 22 42 50.1 -0.4
BBOO Buckleboo 38.69 255 P P 22 42 52.1 -0.4
BBOO Buckleboo 38.69 255 P P 22 42 52.5 -0.1
comp=Z,167nm,0.9s
BBOO Buckleboo 38.69 255 P P 22 42 53.3 +0.7
RABL Rabaul 38.77 308 P P 22 42 52.7 -0.7
QIS Mount Isa 39.29 275 P P 22 42 57.3 -0.5
comp=Z,76nm,1.1s
QIS Mount Isa 39.29 275 P P 22 42 57.8 0.0
COEN Coen 39.41 287 P P 22 42 58.6 -0.2
COEN Coen 39.41 287 P P 22 42 58.9 +0.1
comp=Z,140nm,1.0s
COEN Coen 39.41 287 P P 22 42 59.6 +0.8
TAOE Nuku Hiva Isla 41.69 66 eS S 22 49 24.1 -7.5
comp=Z,390nm,28.4s
TAOE eSS SS 22 52 39.3 +0.9
comp=Z,645nm,25.9s
TAOE eLR LR 22 54 38.3
comp=Z,2µm,27.3s
AS01 Alice Springs 42.95 268 P P 22 43 28.0 +0.1
AS31 Alice Springs 42.99 268 P P 22 43 27.6 -0.6
AS31 Alice Springs 42.99 268 P P 22 43 27.3 -0.9
comp=Z,97nm,0.9s
ASAR Alice Springs 42.99 268 P P 22 43 27.2 -1.0
ASAR Alice Springs 42.99 268 P P 22 43 27.8 -0.4
comp=Z,179nm,0.6s,baz=104,slow=7.5,SNR=1935
ASAR ScP ScP 22 49 01.7 -3.7
comp=Z,4.4nm,0.9s,baz=116,slow=3.5,SNR=4.1
ASAR S S 22 49 47.0 -3.6
comp=Z,2.2nm,0.8s,baz=104,slow=15,SNR=5.2
ASAR LR LR 23 00 15.7
comp=Z,1µm,20.9s,baz=111,slow=35
DRV Dumont d'Urvil 43.40 203 P P 22 43 31.5 +0.7
MANU Manus Island 43.62 305 P P 22 43 33.0 -0.3
PATS Pohnpei 44.02 325 P P 22 43 35.0 -1.4
PATS IAmb IAmb 22 43 44.1
comp=Z,107nm,1.3s
PATS Pohnpei 44.02 325 P P 22 43 34.5 -1.9
PATS Pohnpei 44.02 325 P P 22 43 35.4 -1.0
WRAB Tennant Creek 44.04 273 P P 22 43 36.0 -0.6
WRAB Tennant Creek 44.04 273ceP P 22 43 36.2 -0.5
WRAB pmax pmax
comp=Z,318nm,0.9s
WRA Warramunga Arr 44.05 273 P P 22 43 35.3 -1.4
WRA Warramunga Arr 44.05 273 P P 22 43 36.5 -0.2
comp=Z,318nm,0.8s,baz=112,slow=7.9,SNR=374
WRA S S 22 50 02.7 -3.4
comp=Z,9.7nm,1.0s,baz=112,slow=14,SNR=7.7
WRA PKiKP PKiKP 22 52 21.2 -1.4
comp=Z,0.5nm,0.8s,baz=93,slow=0.3,SNR=4.9
WRA LR LR 23 01 26.2
comp=Z,1µm,18.8s,baz=126,slow=35
WB0 Warramunga Arr 44.07 273 P P 22 43 36.3 -0.6
FORT Forrest 45.77 256 P P 22 43 49.0 -1.2
FORT IAmb IAmb 22 43 51.1
comp=Z,84nm,1.1s
FORT Forrest 45.77 256 P P 22 43 48.9 -1.4
comp=Z,76nm,0.9s
SBA Scott Base 47.27 184 P P 22 44 03.0 +1.7
SBA IAmb IAmb 22 44 11.1
comp=Z,83nm,1.4s
SBA Scott Base 47.27 184 P P 22 44 03.0 +1.7
SBA pmax pmax
comp=Z,83nm,1.4s
SBA Scott Base 47.27 184 P P 22 44 05.9 +4.5
WRKA Warakurna 47.30 263 P P 22 44 00.8 -1.6
comp=Z,91nm,1.1s
VNDA Vanda 47.33 186 P P 22 44 03.3 +1.5
VNDA IAmb IAmb 22 44 16.6
comp=Z,62nm,1.9s
VNDA Vanda 47.33 186 P P 22 44 04.9 +3.1
comp=Z,3.4nm,0.7s,baz=352,slow=7.9,SNR=18
VNDA ScP ScP 22 49 21.6 -0.7
comp=Z,0.8nm,0.8s,baz=21,slow=3.0,SNR=1.7
VNDA LR LR 23 00 13.9
comp=Z,205nm,21.8s,baz=50,slow=31
comp=Z,3.4nm,0.7s
VNDA Vanda 47.33 186 P P 22 44 03.3 +1.5
VNDA pmax pmax
comp=Z,62nm,2.0s
VNDA Vanda 47.33 186 P P 22 44 05.1 +3.3
JAY Jayapura 48.18 298 P P 22 44 07.7 -1.6
comp=Z,30nm,0.9s,baz=203,slow=1.6,SNR=13
comp=Z,30nm,0.9s
JAY Jayapura 48.18 298 P P 22 44 07.8 -1.5
comp=Z,550nmcomp=Z,37nm,1.0s
GENI Genyem 48.53 297 P P 22 44 11.8 -0.2
GENI Genyem 48.53 297 P P 22 44 11.2 -0.8
comp=Z,103nm,0.9s
KDU Kakadu 48.97 281 P P 22 44 13.5 -1.8
comp=Z,36nm,0.8s
KDU Kakadu 48.97 281 P P 22 44 15.8 +0.5
MTN Manton Dam 50.02 280 P P 22 44 21.9 -1.4
MTN IAmb IAmb 22 44 24.8
comp=Z,29nm,0.8s
MTN Manton Dam 50.02 280 P P 22 44 21.9 -1.4
comp=Z,49nm,1.2s
MTN Manton Dam 50.02 280 P P 22 44 22.5 -0.8
DRS Darwin Rock St 50.42 280 P P 22 44 28.1 +1.7
KNRA Kununurra 50.68 275 P P 22 44 27.6 -0.7
KNRA IAmb IAmb 22 44 29.5
comp=Z,46nm,0.8s
KNRA Kununurra 50.68 275 P P 22 44 27.9 -0.4
CCD Concordia, Ant 52.19 196 P P 22 44 40.6 +1.3
FITZ Fitzroy Crossi 52.28 271 P P 22 44 39.2 -1.0
FITZ Fitzroy Crossi 52.28 271 P P 22 44 39.6 -0.7
comp=Z,18nm,0.8s
FITZ Fitzroy Crossi 52.28 271 P P 22 44 39.5 -0.7
comp=Z,49nm,0.6s,baz=142,slow=6.7,SNR=140
FITZ LR LR 23 05 59.3
comp=Z,1µm,19.8s,baz=110,slow=35
comp=Z,49nm,0.6s
FITZ Fitzroy Crossi 52.28 271 P P 22 44 39.9 -0.3
KLBR Kellerberrin 54.02 252 P P 22 44 51.2 -1.8
comp=Z,127nm,1.1s
KLBR Kellerberrin 54.02 252 P P 22 44 51.2 -1.8
NWAO Narrogin (SRO) 54.05 250 LR LR 23 06 07.4
comp=Z,343nm,20.2s,baz=81,slow=34
CASY Casey 54.42 208 P P 22 44 55.0 -0.2
CASY Casey 54.42 208 P P 22 44 54.7 -0.6
FAKI Fak Fak 54.53 291 P P 22 44 55.2 -1.6
FAKI IAmb IAmb 22 44 56.9
comp=Z,65nm,1.0s
PUH Pauahi 54.85 27 P P 22 45 00.9 +1.9
KNHH Kane Nui o Ham 54.87 27 P P 22 45 00.1 +0.9
MEEK Meekatharra 54.93 258 P P 22 44 57.4 -2.2
MEEK Meekatharra 54.93 258 P P 22 44 58.2 -1.5
MHA Mahukona 55.33 26 P P 22 45 03.4 +1.1
MHA Mahukona 55.33 26 P P 22 45 03.4 +1.1
KIP Kipapa 55.73 23 P P 22 45 06.0 +0.8
KIP Kipapa 55.73 23 P P 22 45 06.9 +1.7
KIP Kipapa 55.73 23 P P 22 45 07.3 +2.1
KIP Kipapa 55.73 23⇓eP P 22 45 06.8 +1.6
KIP pmax pmax
comp=Z,189nm,1.3s
PSA00 Pilbara Seismi 55.80 264 P P 22 45 03.7 -2.1
MORW Morawa 56.23 254 P P 22 45 07.3 -1.6
MORW IAmb IAmb 22 45 08.3
comp=Z,65nm,1.2s
MORW Morawa 56.23 254 P P 22 45 05.2 -3.7
MORW Morawa 56.23 254 P P 22 45 07.7 -1.2
GUMO Guam 56.97 316 LR LR 23 05 48.7
comp=Z,484nm,22.0s,baz=116,slow=32
SOEI Soe 57.38 279 P P 22 45 16.4 -1.0
SOEI Soe 57.38 279 P P 22 45 18.6 +1.2
SOEI Soe 57.38 279 P P 22 45 16.7 -0.7
comp=Z,81nm,1.1s
BATI Baumata 57.67 278 P P 22 45 19.3 0.0
comp=Z,22nm,0.7s,baz=79,slow=13,SNR=2.4
comp=Z,22nm,0.7s
QSPA South Pole Qui 58.95 180 P P 22 45 30.7 +3.2
QSPA South Pole Qui 58.95 180 P P 22 45 31.0 +3.4
comp=Z,119nm,1.1s,baz=39,slow=1.4,SNR=94
QSPA LR LR 23 09 58.6
comp=Z,327nm,18.3s,baz=86,slow=35
comp=Z,119nm,1.1s
QSPA South Pole Qui 58.95 180 P P 22 45 31.2 +3.6
QSPA pP pwP 22 45 47.9 +3.2
MMRI Maumere 59.67 279 P P 22 45 31.7 -1.5
MMRI Maumere 59.67 279 P P 22 45 33.8 +0.6
MMRI Maumere 59.67 279 P P 22 45 30.8 -2.4
comp=Z,77nm,1.0s
EDFI Ende, Flores 60.08 278 P P 22 45 34.3 -1.8
KAPI Kappang 63.66 281 P P 22 45 58.6 -1.5
comp=Z,6.0nm,0.5s,baz=92,slow=5.2,SNR=3.7
comp=Z,6.0nm,0.5s
KAPI Kappang 63.66 281⇓eP P 22 46 00.0 -0.1
KAPI pmax pmax
comp=Z,30nm,1.4s
DAV Davao City (W) 65.87 295 LR LR 23 14 15.5
comp=Z,123nm,20.9s,baz=149,slow=35
TOLI2 Tolitoli 66.17 287 P P 22 46 14.6 -1.7
MPSI Mapaga 66.46 286 P P 22 46 16.4 -1.8
comp=Z,672nmcomp=Z,22nm,0.8s
JAGI Jajag, Banyuwa 66.64 274 P P 22 46 18.1 -1.4
JAGI IAmb IAmb 22 46 53.5
comp=Z,68nm,1.2s
GMJI Gumukmas 67.35 274 P P 22 46 23.2 -0.7
comp=Z,75nm,1.1s
SMAI San Martin Ant 68.75 158 P P 22 46 33.9 +2.1
BELA Belgrano 2 69.04 172 P P 22 46 34.5 +1.0
PCJI Pacitan 69.33 273 P P 22 46 35.6 -0.7
WOJI Wonogiri, Jawa 69.72 273 P P 22 46 38.3 -0.4
comp=Z,154nm,1.3s
MAW Mawson 71.56 201 P P 22 46 49.4 +0.4
comp=Z,13nm,1.1s
MAW Mawson 71.56 201 P P 22 46 49.9 +0.9
comp=Z,54nm,0.9s,baz=132,slow=8.0,SNR=60
MAW LR LR 23 17 05.5
comp=Z,368nm,19.9s,baz=136,slow=35
comp=Z,54nm,0.9s
BBJI Bungbulang 72.71 272 P P 22 46 55.8 -1.1
KKM Kota Kinabalu 72.72 288 P P 22 46 55.8 -1.1
STKI Sintang 73.34 280 P P 22 47 00.1 -0.4
comp=Z,7µmcomp=Z,53nm,1.1s
TGY Tagaytay City 73.80 298 P P 22 47 01.8 -1.4
comp=Z,148nm,0.4s,baz=190,slow=4.4,SNR=9.6
TGY LR LR 23 18 54.0
comp=Z,75nm,20.0s,baz=194,slow=35
DBJI Dramaga 73.94 272 P P 22 47 02.9 -1.2
SBUM Sibu 74.01 283 P P 22 47 03.4 -1.0
SBUM Sibu 74.01 283 P P 22 47 04.2 -0.2
ESPZ Base Esperanza 74.90 156 P P 22 47 10.5 +1.8
ESPZ IAmb IAmb 22 47 12.1
comp=Z,39nm,1.0s
KSM Kuching 75.08 281 P P 22 47 10.0 -0.6
MG02 Cerro Sombrero 76.08 144 P P 22 47 16.3 +0.6
SYO Syowa Base 76.35 193⇑iP P 22 47 18.0 +1.0
SYO Syowa Base 76.35 193⇓ePcP PcP 22 47 29.4 +0.8
SYO Syowa Base 76.35 193⇑esP sP 22 47 43.2 +9.4
KASI Kota Agung 76.39 272 P P 22 47 17.0 -1.1
comp=Z,35nm,1.1s
TROLL Troll, Antarti 77.11 180 ⇑P P 22 47 23.1 +1.7
comp=Z,4µm,0.7s
TROLL ⇑sP PcP 22 47 27.9 -4.2
JOW Kunigami 77.11 312 P P 22 47 22.5 +0.6
JOW IAmb IAmb 22 49 51.2
comp=Z,56nm,1.2s
JOW Kunigami 77.11 312 P P 22 47 19.4 -2.4
comp=Z,13nm,0.5s,baz=42,slow=10.0,SNR=4.3
JOW LR LR 23 15 57.0
comp=Z,270nm,21.2s,baz=125,slow=32
comp=Z,13nm,0.5s
MDSI Maura Dua 77.19 273 P P 22 47 19.7 -2.9
comp=Z,102nm,1.1s
SNAA Sanae 77.39 178 ⇑P P 22 47 24.4 +1.5
comp=Z,3µm,1.0s
SNAA ⇑sP PcP 22 47 29.7 -3.6
SNAA Sanae 77.39 178 P P 22 47 24.0 +1.0
SNAA Sanae 77.39 178 P P 22 47 24.4 +1.5
comp=Z,60nm,0.7s,baz=211,slow=5.9,SNR=45
SNAA LR LR 23 17 34.5
comp=Z,208nm,21.9s,baz=260,slow=32
comp=Z,60nm,0.7s
SNAA Sanae 77.39 178ceP P 22 47 24.4 +1.5
SNAA pmax pmax
comp=Z,66nm,1.8s
VNA3 Neumayer Olymp 77.55 176 ⇑P P 22 47 25.1 +1.4
comp=Z,286nm,0.7s
VNA3 ⇑sP PcP 22 47 30.8 -3.1
LHSI Lahat 78.09 273 P P 22 47 25.5 -2.1
comp=Z,46nm,1.1s
VNA1 Neumayer--Stat 78.21 177 ⇑P P 22 47 29.1 +1.8
comp=Z,178nm,0.9s
VNA1 ⇓sP PcP 22 47 34.7 -2.0
COYC Coyhaique 78.44 136 P P 22 47 30.5 +1.4
COYC IAmb IAmb 22 47 33.6
comp=Z,43nm,1.0s
INU Inuyama 78.47 324 P P 22 47 28.6 -0.6
INU Inuyama 78.47 324 P P 22 47 30.5 +1.3
JGF Kuroka 78.50 324 P P 22 47 28.2 -1.2
JGF Kuroka 78.50 324 P P 22 47 29.3 -0.1
MJAR Matsushiro Arr 78.82 325 P P 22 47 29.9 -1.3
MJAR Matsushiro Arr 78.82 325 P P 22 47 29.0 -2.2
comp=Z,8.4nm,0.8s,baz=157,slow=5.0,SNR=22
MJAR LR LR 23 17 39.2
comp=Z,118nm,19.9s,baz=132,slow=32
comp=Z,8.4nm,0.8s
MJAR Matsushiro Arr 78.82 325 P P 22 47 29.9 -1.3
MJAR pmax pmax
comp=Z,18nm,1.4s
MAJO Matsushiro 78.83 325 P P 22 47 30.6 -0.6
MAJO Matsushiro 78.83 325 P P 22 47 32.6 +1.4
MAJO Matsushiro 78.83 325⇑eP P 22 47 31.3 +0.1
MAJO pmax pmax
comp=Z,24nm,1.3s
NACB Ninganchiao 79.74 306 P P 22 47 34.6 -1.9
NACB IAmb IAmb 22 47 35.5
comp=Z,64nm,1.3s
NACB Ninganchiao 79.74 306 P P 22 47 37.4 +1.0
TPUB Ta-pu 79.85 305 P P 22 47 34.9 -2.2
LL02 Futaleuf 79.88 134 P P 22 47 38.5 +1.4
SSLB Suanglung 79.94 306 P P 22 47 35.1 -2.5
SSLB IAmb IAmb 22 47 36.4
comp=Z,52nm,1.4s
SSLB Suanglung 79.94 306 P P 22 47 36.1 -1.4
JSD Sado 79.99 326 P P 22 47 38.7 +1.3
JNU Nakatsue 80.07 319 P P 22 47 36.0 -2.0
comp=Z,21nm,0.8s,baz=26,slow=8.5,SNR=5.3
JNU LR LR 23 18 28.4
comp=Z,163nm,21.8s,baz=144,slow=32
comp=Z,21nm,0.8s
JNU Nakatsue 80.07 319 P P 22 47 40.6 +2.5
H03S2 Juan Fernandez 80.11 123 T T 00 16 41.9
baz=238,slow=74,SNR=171
H03S1 Juan Fernandez 80.12 123 T T 00 16 56.0
baz=238,slow=74,SNR=133
H03S3 Juan Fernandez 80.13 123 T T 00 16 41.9
baz=238,slow=74,SNR=164
H03N3 Juan Fernandez 80.31 123 T T 00 16 58.3
baz=241,slow=72,SNR=123
H03N2 Juan Fernandez 80.31 123 T T 00 16 53.5
baz=241,slow=72,SNR=106
H03N1 Juan Fernandez 80.33 123 T T 00 16 49.1
baz=241,slow=72,SNR=242
JTM Tenmabayashi 80.95 330 P P 22 47 41.9 -0.6
JTM IAmb IAmb 22 47 46.0
comp=Z,75nm,1.0s
PLCA Paso Flores 82.05 133 P P 22 47 50.3 +1.5
PLCA Paso Flores 82.05 133 P P 22 47 51.4 +2.7
comp=Z,17nm,1.0s,baz=218,slow=5.5,SNR=20
PLCA LR LR 23 15 35.7
comp=Z,274nm,20.2s,baz=256,slow=29
comp=Z,17nm,1.0s
PLCA Paso Flores 82.05 133 P P 22 47 50.3 +1.5
PLCA pmax pmax
comp=Z,27nm,1.1s
EFI East Falkland 82.19 147⇓eP P 22 47 51.3 +2.2
EFI pmax pmax
comp=Z,67nm,1.2s
AMKA Amchitka 82.22 358 P P 22 47 48.5 -0.4
DLV Lat 82.33 289 P P 22 47 49.1 -1.5
DLV Lat 82.33 289 P P 22 47 51.2 +0.6
BKNI Bangkinang 82.34 275 P P 22 47 48.5 -2.1
KIWB Kanaga Island 82.67 1 P P 22 47 50.9 -0.4
KIWB IAmb IAmb 22 47 56.5
comp=Z,65nm,0.9s
ADK Adak 82.70 1 P P 22 47 51.1 -0.3
ADK IAmb IAmb 22 47 56.5
comp=Z,47nm,0.8s
ADK Adak 82.70 1 P P 22 47 51.9 +0.5
ADK Adak 82.70 1 P P 22 47 51.1 -0.3
ADK pmax pmax
comp=Z,47nm,0.8s
JKA Kamikawa-asahi 83.08 333 P P 22 47 53.9 +0.3
ASAJ Asahikawa 83.08 333 P P 22 47 52.3 -1.3
comp=Z,16nm,0.8s,baz=223,slow=8.9,SNR=10
ASAJ LR LR 23 20 00.7
comp=Z,262nm,21.2s,baz=173,slow=32
comp=Z,16nm,0.8s
ASAJ Asahikawa 83.08 333 P P 22 47 53.9 +0.3
ASAJ pmax pmax
comp=Z,21nm,0.9s
ATKA Atka Island 83.08 2 P P 22 47 53.2 -0.2
ATKA IAmb IAmb 22 47 54.2
comp=Z,60nm,1.0s
ATKA Atka Island 83.08 2 P P 22 47 53.2 -0.2
SHEM Shemya Is, Ala 83.82 355 LR LR 23 20 32.0
comp=Z,359nm,19.9s,baz=152,slow=32
MNSI Mandailing Nat 83.83 275 P P 22 47 55.3 -3.0
comp=Z,32nm,0.9s
BI02 San Fabin de 83.88 129 P P 22 47 59.9 +1.6
BI02 IAmb IAmb 22 51 13.5
comp=Z,33nm,1.1s
NIKH Nikolski High 84.17 6 P P 22 47 59.1 +0.2
NIKH Nikolski High 84.17 6 P P 22 47 58.9 -0.1
TJN Taejon 84.42 319 P P 22 48 01.4 +0.8
TJN Taejon 84.42 319⇑eP P 22 48 02.2 +1.6
TJN pmax pmax
comp=Z,1.0nm,1.2s
IPM Ipoh 84.52 279 P P 22 48 00.1 -1.7
IPM IAmb IAmb 22 48 01.4
comp=Z,30nm,1.2s
IPM Ipoh 84.52 279 P P 22 48 00.6 -1.2
KSRS Korea Array 84.88 320 P P 22 48 01.4 -1.5
comp=Z,13nm,1.2s,baz=144,slow=5.7,SNR=10
KSRS LR LR 23 21 19.7
comp=Z,54µm,21.4s,baz=240,slow=32
comp=Z,13nm,1.2s
KSAR Wonju Array Be 84.89 320 P P 22 48 02.8 -0.2

KSAR Wonju Array Be 84.89 320 P P 22 48 02.8 -0.2
LPIG La Paz 85.01 58 LR LR 23 17 01.6
comp=Z,279nm,21.7s,baz=228,slow=29
QIZ Qiongzhong 85.25 295 P P 22 48 06.1 +0.9
QIZ S S **22 58 35.3 +3.0**
QIZ LR LR
comp=Z,140nm,9.4s
QIZ LR LR
comp=Z,150nm,12.6s
QIZ LR LR
comp=Z,410nm,20.1s
KULM Kulim 85.26 279 P P 22 48 04.1 -1.4
KULM IAmb IAmb 22 48 05.5
comp=Z,68nm,1.4s
KULM Kulim 85.26 279 P P 22 48 05.9 +0.4
BO02 Sierra Bellavi 85.27 128 P P 22 48 07.0 +1.7
BO02 IAmb IAmb 22 48 09.0
comp=Z,48nm,1.2s
RPSI Rantau Prapat 85.38 276 P P 22 48 03.8 -2.3
RPSI IAmb IAmb 22 48 05.0
comp=Z,49nm,1.4s
YSS Yuzhno-Sakhali 85.40 334 P P 22 48 05.3 0.0
YSS IAmb IAmb 22 48 09.8
comp=Z,29nm,0.8s
YSS Yuzhno-Sakhali 85.40 334 P P 22 48 06.2 +0.9
YSS Yuzhno-Sakhali 85.40 334 *αe*P P **22 48 05.8 +0.5**
YSS *e*S S **22 58 35.5 +2.9**
YSS *e*SS SS **23 04 12.3 +3.1**
YSS pmax pmax
comp=Z,40nm,0.9s
YSS pmax pmax
comp=Z,100nm,3.9s
YSS smax smax
comp=N,100nm,7.0s
YSS smax smax
comp=E,100nm,6.7s
PSI Prapat 85.43 276 P P 22 48 04.4 -2.1
PSI Prapat 85.43 276 P P 22 48 03.8 -2.7
PSI pmax pmax
comp=Z,49nm,1.4s
MT01 Popeta 85.47 127 P P 22 48 08.0 +1.7
MT01 IAmb IAmb 22 48 09.9
comp=Z,46nm,1.1s
MT09 Talagante 85.70 127 P P 22 48 09.3 +1.7
MT09 IAmb IAmb 22 49 00.1
comp=Z,89nm,1.8s
GSI Gunungsitoli 85.81 274 P P 22 48 07.6 -0.6
GSI Gunungsitoli 85.81 274 P P 22 48 08.9 +0.7
GSI Gunungsitoli 85.81 274 P P 22 48 08.0 -0.2
comp=Z,168nm,2.3s
SAO San Andreas Ge 85.90 42 P P 22 48 09.5 +1.4
SAO IAmb IAmb 22 48 11.8
comp=Z,36nm,1.4s
SAO San Andreas Ge 85.90 42 P P 22 48 09.5 +1.4
SAO pmax pmax
comp=Z,36nm,1.4s
ESJX Sierra Juarez 86.07 49 P P 22 48 11.5 +2.3
DPP Dos Picos Cty 86.08 48 P P 22 48 10.5 +1.4
DPP IAmb IAmb 22 48 12.7
comp=Z,44nm,1.4s
MT05 Renca 86.09 127 P P 22 48 11.7 +2.2
LMEL Las Melosas 86.20 127 P P 22 48 11.9 +1.8
LMEL IAmb IAmb 22 48 16.1
comp=Z,22nm,1.1s
PET Petropavlovsk 86.25 346 P P 22 48 10.6 +1.2
comp=Z,34nm,1.1s
PEA0B Petropavlovsk- 86.53 346 P P 22 48 10.6 -0.2
PEA0B IAmb IAmb 22 48 34.8
comp=Z,56nm,1.4s
PEA0B Petropavlovsk- 86.53 346 ‖*e*P P **22 48 11.0 +0.2**
PETK Petropavlovsk- 86.53 346 P P 22 48 10.8 0.0
PETK Petropavlovsk- 86.53 346 P P 22 48 10.1 -0.7
comp=Z,15nm,0.7s,baz=140,slow=7.4,SNR=13
comp=Z,15nm,0.7s
PETK Petropavlovsk- 86.53 346 P P 22 48 10.8 0.0
GDXM Geysers 86.57 40 P P 22 48 12.8 +1.4
GDXM IAmb IAmb 22 48 15.4
comp=Z,23nm,1.2s
UBPT Khong Chiam 86.61 290 P P 22 48 11.6 -0.5
UBPT Khong Chiam 86.61 290 P P 22 48 12.7 +0.7
NJ2 Nanjing 86.68 311 *e*P P **22 48 14.3 +2.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
PFO Pinyon Flats O 86.79 47 P P 22 48 14.3 +1.6
PFO Pinyon Flats O 86.79 47 LR LR 23 19 37.6
comp=Z,270nm,21.5s,baz=228,slow=30
PFO Pinyon Flats O 86.79 47 P P 22 48 14.3 +1.6
PFO pmax pmax
comp=Z,13nm,1.0s
KMPM Mount Pierce 87.00 38 P P 22 48 16.0 +2.5
CO02 Combarbal 87.16 125 P P 22 48 17.0 +2.2
CO02 IAmb IAmb 22 48 18.4
comp=Z,45nm,0.9s
AFDM Forest Hills D 87.68 41 P P 22 48 18.4 +1.6
AFDM IAmb IAmb 22 48 19.9
comp=Z,64nm,1.9s
USA0B Ussuriysk Arra 87.75 327 P P 22 48 16.9 +0.1
USA0B IAmb IAmb 22 48 20.4
comp=Z,19nm,0.9s
USA0B Ussuriysk Arra 87.75 327⇑ *e*P **P 22 48 16.6 -0.3**
USRK Ussuriysk Ar. 87.75 327 P P 22 48 16.9 0.0
comp=Z,19nm,1.0s,baz=131,slow=4.1,SNR=17
USRK LR LR 23 21 48.9
comp=Z,175nm,21.9s,baz=147,slow=32
comp=Z,19nm,1.0s
113A Mohawk Valley, 87.97 49 P P 22 48 20.6 +2.4
113A IAmb IAmb 22 48 22.4
comp=Z,57nm,1.7s
QSM Queen of Sheba 88.08 45 P P 22 48 20.7 +2.0
QSM IAmb IAmb 22 48 22.3
comp=Z,32nm,1.3s
ZON Zonda 88.58 126 P P 22 48 23.6 +2.1
ZON IAmb IAmb 22 48 25.5
comp=Z,62nm,1.7s
ZON Zonda 88.58 126 P P 22 48 23.6 +2.1
ZON pmax pmax
comp=Z,62nm,1.7s
YBH Yreka Blue Hor 88.69 38 LR LR 23 19 53.7
comp=Z,14nm,21.4s,baz=222,slow=30
TYV Tymovskoe 88.72 336 *e*P **P 22 48 21.7 +0.4**
TYV pmax pmax
comp=Z,21nm,1.2s
TYV pmax pmax
comp=Z,300nm,4.4s
NVAR Mina Array Bea 88.86 43 P P 22 48 24.0 +1.5
NVAR Mina Array Bea 88.86 43 P P 22 48 23.9 +1.3
comp=Z,9.2nm,0.8s,baz=222,slow=7.8,SNR=37
NVAR LR LR 23 22 48.3
comp=Z,291nm,19.2s,baz=199,slow=32
comp=Z,9.2nm,0.8s
NV11 Mina Array Sit 88.94 43 P P 22 48 24.5 +1.6
NV11 IAmb IAmb 22 48 26.2
comp=Z,30nm,1.4s
TPNV Topopah Spring 89.10 45 P P 22 48 25.3 +1.6
TPNV IAmb IAmb 22 48 27.6
comp=Z,50nm,1.6s
TPNV Topopah Spring 89.10 45 P P 22 48 25.3 +1.6
TPNV pmax pmax
comp=Z,50nm,1.7s
MDJ Mudanjiang 89.21 326 P P 22 48 23.9 +0.1
MDJ IAmb IAmb 22 48 27.8
comp=Z,34nm,1.4s
MDJ Mudanjiang 89.21 326 P P 22 48 24.1 +0.3
MDJ pmax pmax
comp=Z,13nm,1.2s
MDJ pmax pmax
comp=Z,390nm,4.3s
L04D Klamath Falls 89.24 38 P P 22 48 25.9 +1.7
TPH Tonopah 89.25 44 P P 22 48 26.4 +2.0
TPH Tonopah 89.25 44 P P 22 48 26.4 +2.0
TPH pmax pmax
comp=Z,323nm,1.6s
TUC Tucson 89.66 51 P P 22 48 28.6 +2.3
TUC IAmb IAmb 22 48 30.9
comp=Z,27nm,1.1s
TUC Tucson 89.66 51 P P 22 48 28.6 +2.3
TUC pmax pmax
comp=Z,27nm,1.2s
PLK4 Peulik 4 90.33 11 P P 22 48 30.1 +1.2
TLIG Tlapa 90.34 70 P P 22 48 31.4 +1.6
TLIG IAmb IAmb 22 48 35.5
comp=Z,35nm,1.5s
TIA Tai'an 90.43 313 P P 22 48 29.9 +0.2
TIA pmax pmax
comp=Z,34nm,1.1s

OHAK Old Harbor 90.51 13 P P 22 48 30.4 +1.0
OHAK IAmb IAmb 22 48 31.8
comp=Z,29nm,1.1s
OHAK Old Harbor 90.51 13 P P 22 48 30.3 +0.8
CN2 Changchun 90.70 323 P P 22 48 30.3 -0.5
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,22.0s
GRNR Gornyy 90.93 333⇑ *i*P **P 22 48 32.0 +0.3**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR MLR MLR
comp=E,170nm,18.0s
AC02 Maricunga 91.02 122 P P 22 48 35.7 +2.2
BNX BinXian 91.09 325 ⇓P P **22 48 30.4 -2.1**
BNX pmax pmax
comp=E,27nm,0.9s
KDAK Kodiak Island 91.17 13 P P 22 48 33.5 +0.9
KDAK IAmb IAmb 22 48 34.9
comp=Z,44nm,1.5s
KDAK Kodiak Island 91.17 13 LR LR 23 25 07.3
comp=Z,99nm,18.9s,baz=168,slow=33
KDAK Kodiak Island 91.17 13 ‖*e*P **P 22 48 33.9 +1.3**
KDAK pmax pmax
comp=Z,39nm,1.5s
WUAZ Wupatki 91.23 49 P P 22 48 35.7 +2.0
WUAZ IAmb IAmb 22 48 37.7
comp=Z,22nm,1.1s
WVOR Wild Horse Val 91.36 40 P P 22 48 35.7 +1.7
WVOR IAmb IAmb 22 48 38.1
comp=Z,24nm,1.3s
WVOR Wild Horse Val 91.36 40 P P 22 48 35.7 +1.7
WVOR pmax pmax
comp=Z,25nm,1.3s
KLR Kul'dur 91.65 330 P P 22 48 35.4 +0.3
baz=144,slow=2.9
ENH Enshi 91.96 304 P P 22 48 36.2 -0.8
ENH Enshi 91.96 304 P P 22 48 37.4 +0.4
J08A Circle Bar Ran 92.07 39 P P 22 48 39.1 +1.8
J08A IAmb IAmb 22 48 41.2
comp=Z,34nm,1.3s
ELK Elko 92.16 43 P P 22 48 39.1 +1.1
ELK Elko 92.16 43 LR LR 23 22 29.6
comp=Z,203nm,21.8s,baz=242,slow=30
ELK Elko 92.16 43 P P 22 48 39.1 +1.1
ELK pmax pmax
comp=Z,10.0nm,1.1s
LYN LuoYang 92.42 309 P P 22 48 40.1 +1.1
LYN pmax pmax
comp=Z,41nm,0.8s
HOLB Holberg 92.64 29 P P 22 48 41.2 +1.6
HNS HongShan 92.69 313 ⇓P P **22 48 41.8 +1.7**
HNS pmax pmax
comp=Z,16nm,1.1s
HNS LR LR
comp=Z,230nm,20.7s
HNS LR LR
comp=Z,370nm,20.6s
VHRN Van Horn 92.75 56 P P 22 48 42.5 +1.8
TXAR Lajitas Array 92.87 57 P P 22 48 42.7 +1.4
comp=Z,3.2nm,1.1s,baz=205,slow=5.5,SNR=15
TXAR LR LR 23 23 56.4
comp=Z,114nm,19.4s,baz=220,slow=31
comp=Z,3.2nm,1.1s
CMIG Matias Romero 93.07 72 LR LR 23 20 45.0
comp=Z,104nm,21.8s,baz=215,slow=29
NNA Nana 93.29 106 LR LR 23 21 06.5
comp=Z,334nm,21.5s,baz=220,slow=29
BRLK Bradley Lake 93.35 13 P P 22 48 43.5 +0.8
BJT Baijiatuan 93.40 315 P P 22 48 43.9 +0.5
BJT Baijiatuan 93.40 315 P P 22 48 43.9 +0.5
BJT pmax pmax
comp=Z,8.0nm,1.0s
MFID Camas Ranch 93.56 40 P P 22 48 45.8 +1.6
MFID IAmb IAmb 22 48 47.2
comp=Z,18nm,1.1s
HAWA Hanford 93.57 36 P P 22 48 45.9 +1.9
HAWA IAmb IAmb 22 48 47.1
comp=Z,17nm,1.1s
CM31 Chiang Mai Arr 93.57 289 P P 22 48 44.8 +0.1
CM31 IAmb IAmb 22 48 46.2
comp=Z,23nm,1.4s
CMAR Chiang Mai Arr 93.57 289 P P 22 48 45.0 +0.3
CMAR Chiang Mai Arr 93.57 289 P P 22 48 44.8 +0.1
comp=Z,5.8nm,0.9s,baz=142,slow=3.5,SNR=23
CMAR PP PP **22 52 29.9 -0.3**
comp=Z,2.3nm,0.3s,baz=131,slow=6.0,SNR=10
CMAR LR LR 23 31 36.9
comp=Z,91nm,22.0s,baz=185,slow=36
comp=Z,5.8nm,0.9s
CMAR Chiang Mai Arr 93.57 289 *i* P **P 22 48 45.5 +0.8**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
BMO Blue Mountains 93.69 38 P P 22 48 46.0 +1.2
BMO IAmb IAmb 22 48 47.6
comp=Z,26nm,1.8s
BMO Blue Mountains 93.69 38 P P 22 48 46.0 +1.2
BMO pmax pmax
comp=Z,26nm,1.8s
CHTO Chiang Mai 93.76 290 P P 22 48 45.9 +0.4
CHTO Chiang Mai 93.76 290 P P 22 48 45.8 +0.3
CHTO Chiang Mai 93.76 290 P P 22 48 45.9 +0.4
CHTO pmax pmax
comp=Z,10.0nm,1.0s
BBB Bella Bella 93.81 28 LR LR 23 23 40.4
comp=Z,128nm,21.7s,baz=188,slow=31
KMI Kunming 94.09 297 P P 22 48 48.5 +1.3
KMI pmax pmax
comp=Z,14nm,1.2s
KMI LR LR
comp=Z,210nm,19.3s
ANMO Albuquerque 94.12 51 P P 22 48 48.4 +1.3
ANMO Albuquerque 94.12 51⇑ *e*P **P 22 48 49.2 +2.1**
ANMO pmax pmax
comp=Z,4.0nm,1.0s
HLID Hailey 94.44 41 P P 22 48 49.9 +1.6
HLID IAmb IAmb 22 48 51.6
comp=Z,12nm,1.2s
XAN Xi'an 94.51 307 P P 22 48 48.4 -0.3
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN pmax pmax
comp=Z,260nm,5.3s
PLID Pearl Lake 94.55 39 P P 22 48 50.1 +1.3
PLID IAmb IAmb 22 48 51.5
comp=Z,18nm,1.1s
ATAH Atahualpa 94.58 101 LR LR 23 22 55.3
comp=Z,110nm,21.3s,baz=225,slow=30
PWL Port Wells 94.87 14 P P 22 48 50.0 +0.4
PWL IAmb IAmb 22 48 51.2
comp=Z,18nm,1.2s
GLI Glacier Island 95.15 15 P P 22 48 51.5 +0.6
GLI IAmb IAmb 22 48 52.5
comp=Z,29nm,1.3s
S22A 4UR Ranch, Cre 95.49 49 P P 22 48 54.9 +1.5
PZH PanZhiHua 95.58 297 P P 22 48 55.4 +1.5
PZH pmax pmax
comp=Z,6.0nm,1.2s
BMRM Bremner River 95.79 16 P P 22 48 54.5 +0.7
BMRM IAmb IAmb 22 48 55.8
comp=Z,14nm,1.2s
AHID Auburn Hatcher 95.84 43 P P 22 48 56.4 +1.6
AHID IAmb IAmb 22 48 57.9
comp=Z,11nm,1.1s
NEW Newport 96.04 36 LR LR 23 24 56.3
comp=Z,159nm,21.7s,baz=198,slow=31
GLB Gilahina Butte 96.39 16 P P 22 48 57.6 +1.1
GLB IAmb IAmb 22 48 58.6
comp=Z,17nm,1.4s
CD2 Chengdu 96.42 302 *e*P **P 22 48 58.0 +0.5**
SEY Seymchan 96.70 347 P P 22 48 56.5 -1.4
comp=Z,5.8nm,0.9s,baz=140,slow=6.5,SNR=7.9
comp=Z,5.8nm,0.9s
HHC Hu-ho-hao-te 96.70 314 *e*P **P 22 49 01.3 +2.7**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,45nm,4.6s
HHC LR LR
comp=Z,140nm,19.4s
HHC LR LR
comp=Z,190nm,19.8s
HHC LR LR
comp=Z,200nm,21.0s
PDAR Pinedale Array 96.75 44 P P 22 48 59.7 +0.8
PDAR Pinedale Array 96.75 44 P P 22 48 58.9 0.0
comp=Z,1.3nm,0.9s,baz=220,slow=3.9,SNR=9.7
PDAR PKKP **PKKPbc 23 05 41.8 -0.5**
comp=Z,0.8nm,0.6s,baz=85,slow=2.6,SNR=6.7
PDAR LR LR 23 25 09.1
comp=Z,110nm,21.3s,baz=202,slow=31
comp=Z,1.3nm,0.9s
ZEA Zeya 96.87 331 *e*P **P 22 48 57.6 -1.3**
RND Reindeer 97.08 13 P Pdif 22 49 00.4 +0.6
RND IAmb IAmb 22 49 01.2
comp=Z,15nm,1.3s
RND Reindeer 97.08 13 P Pdif 22 49 00.4 +0.6
RND pmax pmax
comp=Z,15nm,1.3s
BOZ Bozeman (W) 97.26 40 P Pdif 22 49 02.7 +1.6
BOZ Bozeman (W) 97.26 40 P Pdif 22 49 02.7 +1.6
BOZ pmax pmax
comp=Z,7.0nm,1.0s
DLBC Dease Lake 97.86 23 LR LR 23 25 23.1
comp=Z,18nm,21.5s,baz=204,slow=31
LPAZ La Paz 97.91 114 P Pdif 22 49 07.2 +1.9
comp=Z,1.8nm,0.7s,baz=166,slow=3.4,SNR=8.0
LPAZ LR LR 23 27 05.1
comp=Z,72nm,18.3s,baz=225,slow=31
comp=Z,1.8nm,0.7s
JTS Las Juntas de 97.91 83 LR LR 23 23 23.1
comp=Z,216nm,21.2s,baz=278,slow=29
BCAR Beaver Creek A 98.28 16 Pdif 22 49 05.7 +0.6
COLA College 98.60 13 ‖*e*P Pdif 22 49 06.6 +0.2
COLA pmax pmax
comp=Z,6.0nm,0.9s
ILAR Eielson Array 98.69 13 P P 22 49 06.6 -0.2
ILAR Eielson Array 98.69 13 P P 22 49 05.4 -1.4
comp=Z,1.6nm,1.0s,baz=218,slow=6.4,SNR=10
ILAR PP **PP 22 53 04.7 -4.1**
comp=Z,1.8nm,1.1s,baz=223,slow=7.6,SNR=5.8
ILAR PKiKP **PKiKP 22 53 38.0 +0.1**
comp=Z,0.7nm,0.6s,baz=284,slow=3.0,SNR=7.3
comp=Z,1.6nm,1.0s
LZH Lanzhou 99.11 307 *e*P **Pdif 22 49 13.5 +3.9**
LZH sP sP 22 49 26.9 -0.2
LZH pmax pmax
comp=Z,11nm,1.0s
LZH LR LR
comp=Z,220nm,21.6s
CPUP Villa Florida 99.58 129 LR LR 23 25 18.9
comp=Z,24nm,20.0s,baz=96,slow=30
SONM Songino Array 103.65 318 PP **PP 22 53 42.6 -4.2**
comp=Z,1.2nm,0.9s,baz=131,slow=4.4,SNR=4.0
WMQ Urumqi 113.63 308 *e*PKP **PKiKP 22 54 07.6 +1.3**
WMQ LR LR
comp=Z,120nm,24.0s
BOSA Boshof 116.52 203 PKP **PKiKP 22 54 12.9 +0.3**
comp=Z,7.6nm,0.8s,baz=185,slow=2.2,SNR=12
HUMP Col San Antoni 117.90 85 PKPdf **PKPdf 22 54 15.0 -0.2**
RES Resolute Bay 118.00 17 PKiKP PKiKP 22 54 13.9 +0.2
RES Resolute Bay 118.00 17 PKiKP **PKiKP 22 54 13.9 +0.2**
MK31 Makanchi Array 118.20 310 PKPdf **PKPdf 22 54 14.0 -0.9**
MK31 Makanchi Array 118.20 310 *i* PKiKP **PKPdf 22 54 13.6 -1.3**
MKAR Makanchi Array 118.20 310 PKPdf 22 54 14.0 -0.9
MKAR Makanchi Array 118.20 310 PKP **PKPdf 22 54 13.9 -1.0**
comp=Z,3.7nm,0.8s,baz=215,slow=1.9,SNR=20
ZAA0 Zalesovo Array 118.55 318 PKPdf 22 54 14.2 -1.1
ZALV Zalesovo Beam 118.55 318 PKP **PKPdf 22 54 14.2 -1.1**
comp=Z,1.3nm,0.4s,baz=127,slow=3.9,SNR=6.1
MAKGR Makgori 119.26 204 PKiKP PKiKP 22 54 18.3 +0.3
LBTB Lobatse 119.71 205 PKPdf **PKiKP 22 54 19.4 +0.6**
LBTB Lobatse 119.71 205 PKiKP **PKiKP 22 54 19.4 +0.6**
TARG Taragay, Kyrgy 119.85 303 PKPdf 22 54 18.2 -0.6
TARG Taragay, Kyrgy 119.85 303 PKiKP **PKPdf 22 54 18.2 -0.6**
KSH Kashi 120.56 300 PKP **PKiKP 22 54 20.3 +0.3**
NIL Nilore 120.84 293 PKPdf **PKPdf 22 54 19.8 -0.7**
NIL Nilore 120.84 293 PKiKP **PKPdf 22 54 19.8 -0.7**
NRN Naryn 121.07 302 PKPdf 22 54 20.4 -0.7
NRN Naryn 121.07 302 PKiKP **PKPdf 22 54 20.4 -0.7**
LPHEP Lephephe 121.12 206 PKPdf **PKiKP 22 54 22.3 +0.6**
MREMI Moremi 121.22 208 PKiKP 22 54 22.1 +0.3
BOOM Boomskoye usch 121.40 304 PKPdf 22 54 21.4 -0.1
BOOM Boomskoye usch 121.40 304 PKiKP **PKPdf 22 54 21.4 -0.1**
KURK Kurchatov 121.52 313 PKPdf 22 54 20.0 -1.2
KURK Kurchatov 121.52 313 *c i* PKiKP **PKPdf 22 54 20.4 -0.7**
KURK pmax pmax
comp=Z,27nm,1.7s
KURBB Kurchatov Arra 121.55 313 PKP **PKPdf 22 54 20.4 -0.9**
comp=Z,6.7nm,0.5s,baz=110,slow=1.9,SNR=25
KURBB Kurchatov Arra 121.55 313 PKiKP **PKPdf 22 54 20.6 -0.6**
ARSB Arslanbob 123.24 302 PKPdf 22 54 24.5 -0.5
ARSB Arslanbob 123.24 302 PKiKP **PKPdf 22 54 24.5 -0.5**
KBL Kabul 124.44 293 PKPdf 22 54 26.9 -0.7
KBL Kabul 124.44 293 PKiKP **PKPdf 22 54 26.9 -0.7**
TULEG Thule 124.54 16 *i* P **PKPdf 22 54 25.2 -1.1**
GRTLG Ghanzi 124.58 202 PKiKP 22 54 28.6 0.0
WIN Windhoek 124.62 197 PKPdf 22 54 28.4 0.0
WIN Windhoek 124.62 197 PKiKP **PKPdf 22 54 28.4 0.0**
GAR Garm 124.65 298 PKPdf 22 54 27.0 -0.7
KK31 Karatay Array 125.42 303 PKPdf 22 54 28.1 -0.8
KK31 Karatay Array 125.42 303 PKiKP **PKPdf 22 54 28.1 -0.8**
KKAR Karatay Array 125.42 303 PKPdf 22 54 28.0 -0.9
KKAR Karatay Array 125.42 303 PKiKP **PKPdf 22 54 28.0 -0.9**
SIMJ Simiganj 125.55 298 PKPdf 22 54 28.8 -0.7
QNGWA Qangwa 126.30 203 PKPdf 22 54 31.4 -0.1
BATG Bathurst New B 126.60 52 PKPdf 22 54 30.9 -0.1
SCHQ Schefferville 126.86 42 PKP **PKPdf 22 54 31.3 0.0**
comp=Z,15nm,0.9s,baz=315,slow=2.6,SNR=6.6
BVA0 Borovoye Array 126.89 315 PKiKP PKPdf 22 54 30.5 -0.9
BVAR Borovoye Array 126.89 315 PKP **PKPdf 22 54 31.1 -0.3**
comp=Z,6.4nm,0.4s,baz=96,slow=3.0,SNR=46
BRVK Borovoye 126.96 315 PKPdf 22 54 30.9 -0.6
BRVK Borovoye 126.96 315 *c i* PKiKP **PKPdf 22 54 31.2 -0.3**
BRVK pmax pmax
comp=Z,19nm,1.0s
LSZ Lusaka 127.37 213 PKiKP 22 54 34.3 +0.1
LSZ Lusaka 127.37 213 PKiKP **PKiKP 22 54 34.3 +0.1**
TSUM Tsumeb 127.70 199 PKiKP 22 54 35.0 +0.1
NEEM North Greenlan 127.98 13 *i* P **PKPdf 22 54 32.3 -0.9**
KBS Kingsbay 131.95 357 *c i* PKiKP **PKiKP 22 54 43.4 +2.0**
KBS pmax pmax
comp=Z,32nm,2.5s
KBS Kingsbay 131.95 357 *e*PKPdf **PKiKP 22 54 41.8 +0.4**
SVE Sverdlovsk 132.44 320 *e*PKiKP **PKPdf 22 54 41.7 -0.1**
SPA0 Spitsbergen Ar 132.46 356 *e*PKPdf **PKPdf 22 54 41.5 +0.2**
SPITS Spitsbergen Ar 132.46 356 PKP **PKPdf 22 54 41.8 +0.5**
comp=Z,9.2nm,0.5s,baz=80,slow=4.7,SNR=24
DAG Danmarks Havn 133.31 6 *i* P **PKPdf 22 54 40.4 -2.5**
AB31 Akbulak array 133.34 310 *i* PKiKP **PKPdf 22 54 43.1 -0.6**
SUMG Summit 133.46 16 *i* P **PKPdf 22 54 40.4 -3.5**
ARTI Arti 133.73 320 PKPdf 22 54 44.2 -0.1
ARTI Arti 133.73 320 *i* PKiKP **PKPdf 22 54 44.4 +0.2**
ARTI 22 57 11.1
ARTI SS SS 23 14 52.2 -5.1
ISOG Isortoq, Green 137.56 24 *i* P **PKPdf 22 54 51.7 +0.6**
ANGG Ammassalik, Gr 137.98 23 *i* P **PKPdf 22 54 52.4 +0.6**
VADS Vadso 138.08 346 *e*PKPdf **PKPdf 22 54 52.8 +0.9**
HAMF Hammerfest 138.67 349 *e*PKPdf **PKPdf 22 54 53.0 -0.1**
ARA0 ARCESS Array S 139.32 348 *e*PKPdf **PKPdf 22 54 47.1 -7.2**
ARCES ARCESS Array B 139.32 348 PKhKP PKPpre 22 54 47.3
comp=Z,5.7nm,0.7s,baz=31,slow=2.5,SNR=27
ARCES PKP **PKiKP 22 54 55.6 -0.9**
comp=Z,9.8nm,0.6s,baz=46,slow=2.0,SNR=15
ARCES SKPbc **SKPbc 22 58 21.7 -4.1**
comp=Z,2.9nm,0.8s,baz=270,slow=0.9,SNR=5.0
JETT Jettan, Norway 140.15 350 *e*PKPdf **PKPdf 22 54 50.1 -5.7**
KTK1 Kautokeino 140.18 348 *e*PKPdf **PKPdf 22 54 48.9 -7.0**
TRO Tromso 140.29 351 *e*PKPdf **PKPdf 22 54 50.8 -5.2**
KLMR Klimovskoe 141.39 331 *e*PKiKP **PKPdf 22 54 56.8 -1.4**
KLMR pmax pmax
comp=Z,20nm,1.0s
AKT Akhty 142.06 299 *e*PKiKP **PKPdf 22 54 57.6 -2.6**
AKT *e* 22 58 04.6
AKT pmax pmax
comp=Z,15nm,0.9s
MAK Makhachkala 142.18 301 *e*PKiKP **PKPdf 22 55 01.5 +1.3**
MAK *e* 22 58 07.7
MAK *e*SSS SSS 23 21 56.6
MAK pmax pmax
comp=Z,54nm,1.1s
STEI Steigen 142.37 352 *e*PKPdf **PKPdf 22 54 56.3 -3.5**
FAUS Fauske 142.89 351 *e*PKPdf **PKPdf 22 54 57.1 -3.6**
VAGH Vaagaholmen 143.75 352 *e*PKPdf PKPbc 22 54 59.6 -0.3
KONS Konsvik 143.99 352 *e*PKPdf PKPbc 22 55 01.6 +0.9

MOR8	Moi Rana	144.15 351	*e*PKPdf	PKPab	22 55 00.8	0.0	
STOK	Stokkvaagen	144.16 352	*e*PKPdf	PKPab	22 55 00.8	0.0	
GNI	Garni	144.34 297		PKPbc	22 55 02.7	-0.1	
GNI	Garni	144.34 297	PKIKP	PKPbc	22 55 02.7	-0.1	
LEIR	Leirfjorden	144.37 352	*e*PKPdf	PKPab	22 55 00.8	-0.7	
VRH	Novokhopyorsk	144.54 316	*e*PKIKP	PKPab	22 55 01.5	-1.1	
VRH			pmax	pmax			
	comp=Z,10.0nm,0.8s						
MOS	Moscow	144.91 325	*i* PKHKP	PKPpre	22 55 01.3		
MOS			pmax	pmax			
	comp=Z,61nm,0.8s						
OZAP	Van, Ozalp-Mer	144.93 294	⇑P	PKPdf	22 55 05.6	+0.1	
GOF	Gofitskoye	145.17 305	*ce*PKIKP	PKPbc	22 55 04.7	-0.4	
KBZ	Khabaz	145.46 303	PKPbc	PKPdf	22 55 04.3	-1.6	
	comp=Z,46nm,1.0s,baz=42,slow=1.4,SNR=23						
KIV	Kislovodsk	145.58 303		PKPdf	22 55 05.5	-0.8	
KIV	Kislovodsk	145.58 303	⇑P	PKPdf	22 55 05.7	-0.5	
KIV	Kislovodsk	145.58 303	*i* PKIKP	PKPdf	22 55 06.0	-0.3	
KIV			pmax	pmax			
	comp=Z,49nm,1.1s						
LPSR	Galich'ya Gora	145.64 319	*e*PKIKP	PKPdf	22 55 05.9	0.0	
LPSR			pmax	pmax			
	comp=Z,132nm,0.9s						
OBN	Obninsk	145.75 325		PKPdf	22 55 05.6	-0.4	
OBN	Obninsk	145.75 325	⇑P	PKPdf	22 55 05.7	-0.3	
OBN	Obninsk	145.75 325	*c i* PKIKP	PKPdf	22 55 05.6	-0.4	
OBN			*i*		22 55 15.9		
OBN			*i*		22 55 22.4		
OBN			*e*		23 02 11.1		
OBN			*e*PPS	PPS	23 11 09.5		
OBN			pmax	pmax			
	comp=Z,222nm,1.4s						
OBN			pmax	pmax			
	comp=Z,59nm,0.5s						
FIA1	FINESS Array S	145.83 339		PKPdf	22 55 05.8	-0.2	
FINES	FINESS Array B	145.83 339	PKPbc	PKPdf	22 55 05.8	-0.2	
	comp=Z,62nm,0.5s,baz=53,slow=3.4,SNR=616						
VORR	Voronezh	145.85 318	*e*PKIKP	PKPdf	22 55 06.5	+0.2	
VORR			pmax	pmax			
	comp=Z,119nm,0.8s						
NSS	Namsos	146.03 352	*e*PKPdf	PKPdf	22 55 06.5	+0.3	
VSR	Storozhevoye	146.04 317	*e*PKHKP	PKPpre	22 55 03.6		
VSR			pmax	pmax			
	comp=Z,70nm,0.8s						
VORD	Divnogorie	146.06 317	*e*PKHKP	PKPpre	22 55 04.0		
VORD			pmax	pmax			
	comp=Z,50nm,0.8s						
GURO	Guroymak-BITLI	146.46 294		PKPdf	22 55 07.9	-0.1	
HOMI	Horasan	146.52 297	⇓P	PKPbc	22 55 09.8	+0.1	
ERBR	Yeremizino-Bor	146.82 307	*i* PKP2	PKPbc	22 55 09.2	-0.9	
ERBR			pmax	pmax			
	comp=Z,87nm,1.0s						
MOL	Molde	148.37 355	*e*PKPbc	PKPbc	22 55 13.8	+0.1	
DOMB	Dombas	148.76 353	*e*PKPbc	PKPbc	22 55 14.6	-0.3	
AKN	Aaknes	148.80 355	*e*PKPbc	PKPbc	22 55 15.3	+0.5	
ANN	Anapa	149.12 306	*i* PKP2	PKPbc	22 55 15.5	-0.7	
ANN			pmax	pmax			
	comp=Z,97nm,0.9s						
ARPR	Arapgir-MALATY	149.33 295		PKPbc	22 55 16.6	-0.6	
FOO	Floro	149.49 357	*e*PKPbc	PKPbc	22 55 16.8	+0.3	
NB2	NORSAR Subarra	149.49 351	PKP	PKPbc	22 55 16.2	-0.5	
	comp=Z,69nm,1.0s,baz=15,slow=2.6						
NOA	NORSAR Array B	149.49 351	PKPbc	PKPbc	22 55 16.4	-0.2	
	comp=Z,50nm,1.0s,baz=14,slow=4.2,SNR=58						
NC602	NORSAR Array S	149.74 351	*e*PKPbc	PKPbc	22 55 16.8	-0.4	
HYA	Hoyanger	149.86 356	*e*PKPbc	PKPbc	22 55 17.5	0.0	
HFS	Hagfors	149.98 348	PKPbc	PKPbc	22 55 17.1	-0.7	
	comp=Z,47nm,0.8s,baz=76,slow=2.9,SNR=22						
SUE	Sulen	150.04 357	*e*PKPbc	PKPbc	22 55 18.3	+0.4	
SKAR	Skarslia	150.18 354	*e*PKPbc	PKPbc	22 55 18.4	+0.1	
MNK	Minsk	150.20 329	*i* PKP2	PKPbc	22 55 18.3	-0.2	
MNK			*i*		22 58 52.6		
MNK			*i* PPP	PPP	23 02 14.5		
MNK			*i* SS	SS	23 18 09.4	+1.7	
MNK			*i* SSS	SSS	23 23 50.4		
MNK			pmax	pmax			
	comp=Z,96nm,1.1s						
MNK			pmax	pmax			
	comp=E,25nm,1.2s						
MNK			pmax	pmax			
	comp=N,20nm,0.9s						
ASK	Askoy	150.60 357	*e*PKPbc	PKiKP	22 55 19.8	-0.1	
OSL	Oslo	150.62 351	*e*PKPbc	PKiKP	22 55 19.7	-0.3	
BER	Bergen	150.69 357	*e*PKPbc	PKiKP	22 55 19.9	-0.2	
KONO	Kongsberg	151.05 352		PKPbc	22 55 19.7	-0.7	
KONO	Kongsberg	151.05 352	*c i* PKIKP	PKiKP	22 55 20.7	-0.2	
KONO			pmax	pmax			
	comp=Z,97nm,1.3s						
KONO	Kongsberg	151.05 352	*e*PKPbc	PKPbc	22 55 20.3	-0.1	
ODD1	Odda	151.08 355	*e*PKPbc	PKiKP	22 55 21.0	0.0	
PABE	Paberze	151.10 334		PKPdf	22 55 14.7	0.0	
PABE			PKPbc	PKPbc	22 55 20.7	+0.1	
HWQ	Hawqa	151.27 285	*e*P	PKPbc	22 55 21.6	-0.3	
GHAJ	Ghor Haditha	151.28 279	PKPdf	PKPdf	22 55 15.8	0.0	
DIKM	Dikmen	151.35 301	⇓P	PKiKP	22 55 24.2	+2.1	
SIM	Simferopol'	151.35 308	*e*PKIKP	PKPbc	22 55 20.3	-1.3	
SIM			pmax	pmax			
	comp=Z,73nm,1.0s						
SIM			pmax	pmax			
	comp=Z,40nm,16.0s						
BHL	Bhannes	151.49 285	*e*P	PKPbc	22 55 22.3	0.0	
BLS5	Blasjo	151.58 355	*e*PKPbc	PKiKP	22 55 22.4	+0.4	
MMAI	Mount Meron Ar	151.62 283	PKPbc	PKiKP	22 55 23.1	0.0	
	comp=Z,31nm,0.6s,baz=82,slow=6.8,SNR=56						
AKASG	Malin Array Be	151.85 322	PKPbc	PKPbc	22 55 21.8	-0.7	
	comp=Z,7.9nm,1.2s,baz=50,slow=2.8,SNR=9.8						
AKBB	Malin Array Si	151.85 322		PKPdf	22 55 15.5	-0.6	
AKBB			PKPbc	PKPbc	22 55 21.8	-0.7	
AKBB	Malin Array Si	151.85 322	PKIKP	PKPdf	22 55 15.5	-0.6	
KMY	Karmoy	151.86 356	*e*PKPbc	PKiKP	22 55 22.6	0.0	
KIEV	Kiev	151.87 322		PKPdf	22 55 15.1	-0.9	
KIEV			PKPbc	PKPbc	22 55 21.5	-1.0	
KIEV	Kiev	151.87 322	⇑P	PKPbc	22 55 21.8	-0.7	
KIEV	Kiev	151.87 322	PKIKP	PKPdf	22 55 15.1	-0.9	
BZK	Bozkurt	152.21 302	⇓P	PKiKP	22 55 26.7	+2.9	
SUW	Suwalki	152.52 332	*e*PKP	PKPbc	22 55 23.9	0.0	
SUW	Suwalki	152.52 332		PKPdf	22 55 16.4	-0.5	
SUW			PKPbc	PKPbc	22 55 23.6	-0.3	
SUW	Suwalki	152.52 332	PKIKP	PKPdf	22 55 16.4	-0.5	
HOMB	Homborsund	152.52 352	*e*PKPbc	PKiKP	22 55 24.0	+0.1	
SNART	Snartemo	152.59 354	*e*PKPbc	PKiKP	22 55 24.2	+0.1	
ILGA	Ilgaz	152.60 300		PKPbc	22 55 24.2	-0.6	
KIRS	Kirsehir-Merke	152.75 296	⇑P	PKPbc	22 55 24.6	-0.5	
BR131	Keskin Array S	152.88 297		PKPdf	22 55 16.8	-1.4	
BR131			PKPbc	PKPbc	22 55 24.8	-0.6	
BR131	Keskin Array S	152.88 297	PKIKP	PKPbc	22 55 24.8	-0.6	
BRTR	Keskin Array B	152.88 297		PKPdf	22 55 16.8	-1.4	
BRTR			PKPbc	PKPbc	22 55 24.9	-0.5	
BRTR	Keskin Array B	152.88 297	PKPbc	PKPbc	22 55 23.8	-1.6	
	comp=Z,23nm,0.9s,baz=145,slow=4.7,SNR=29						
BRTR	Keskin Array B	152.88 297	PKIKP	PKPbc	22 55 24.9	-0.5	
CIDE	Kastamonu/Cide	152.99 302	⇑P	PKPbc	22 55 25.0	-0.3	
CSS	Mathiatis	153.45 287		PKPbc	22 55 25.6	-1.1	
ANTO	Ankara	153.50 298		PKPdf	22 55 18.2	-0.7	
ANTO	Ankara	153.50 298	⇑P	PKPbc	22 55 26.4	-0.3	
ANTO	Ankara	153.50 298	⇑PKIKP	PKPbc	22 55 26.4	-0.3	
PURM	Purcari	153.54 313	⇑P	PKPbc	22 55 25.8	-0.6	
SORM	Soroca	153.70 318	⇑P	PKPbc	22 55 26.2	-0.4	
SORM	Soroca	153.70 318	⇑PKIKP	PKPbc	22 55 26.2	-0.4	
MILM	Milestii Mici	154.02 315	⇑P	PKPbc	22 55 26.3	-1.1	
MILM	Milestii Mici	154.02 315	⇑PKIKP	PKPbc	22 55 26.3	-1.1	
TLCR		154.78 311	⇑P	PKPbc	22 55 28.9	-0.1	
TLCR		154.78 311	⇑PKIKP	PKPbc	22 55 28.9	-0.1	
DBIC	Dimbokro	154.82 164	PKP	PKPdf	22 55 23.4	+1.9	
	comp=Z,11nm,1.0s,baz=59,slow=2.2,SNR=4.2						
VLDR	Vladesti	154.96 313	⇑P	PKiKP	22 55 31.6	+2.1	
BEL	Belsk	155.11 331	*e*PKP	PKPdf	22 55 30.4	+10	
CFR	Carcaliu	155.22 312	⇑P	PKPdf	22 55 27.9	+6.9	
CFR	Carcaliu	155.22 312	⇑PKIKP	PKPdf	22 55 27.9	+6.9	
GKP	Gorka Klasztor	155.27 338	*e*PKP	PKPdf	22 55 22.0	+1.1	
COSR	Cosmesti PH	155.43 314	⇑P	PKPdf	22 55 27.4	+6.1	
PANC	Panciu	155.53 314	⇑P	PKPdf	22 55 29.2	+7.8	
EKA	Eskdalemuir Ar	155.58 7	PKP	PKPdf	22 55 22.3	+1.1	
	comp=Z,0.5nm,0.5s,baz=336,slow=1.8,SNR=4.3						
EKA			PKPab	PKPab	22 55 46.2	-1.1	
	comp=Z,15nm,1.1s,baz=343,slow=2.6,SNR=10						
BUR08	Bucovina Ar. S	155.75 319		PKPdf	22 55 21.4	-0.5	
BURAR	Bucovina Array	155.76 319		PKPdf	22 55 21.6	-0.2	
BURAR	Bucovina Array	155.76 319	⇓P	PKPdf	22 55 23.1	+1.2	
BURAR	Bucovina Array	155.76 319	⇓PKIKP	PKPdf	22 55 23.1	+1.2	
ONER	Baraj Valea Uz	155.76 316	⇓P	PKPdf	22 55 24.7	+2.9	
BISRR	Bisoca	155.95 314	⇑P	PKPdf	22 55 25.4	+3.2	
TURR	Turia	156.13 315	⇑P	PKPdf	22 55 24.3	+2.0	
MLR	Muntele Rosu	156.45 314		PKPdf	22 55 22.4	-0.5	
MLR	Muntele Rosu	156.45 314	⇑P	PKPdf	22 55 24.7	+1.8	
MLR	Muntele Rosu	156.45 314	⇑PKIKP	PKPdf	22 55 24.7	+1.8	
KOLS	Kolonicke sedl	156.50 325	*e*PKP2	PKPab	22 55 53.9	+2.3	
KOLS	Kolonicke sedl	156.50 325	*e*PKP	PKPab	22 55 53.9	+2.3	
STHS	Stebnicka Huta	156.67 327	*e*PKP2	PKPab	22 55 52.2	-0.1	
STHS	Stebnicka Huta	156.67 327	*e*PKP	PKPab	22 55 52.2	-0.1	
OJC	Ojcow	156.74 330	*e*PKP	PKPdf	22 55 22.5	-0.4	
OJC	Ojcow	156.74 330		PKPdf	22 55 22.2	-0.7	
OJC	Ojcow	156.74 330	PKIKP	PKPdf	22 55 22.2	-0.7	
TAVA	DENIZLI_Tavas	156.87 293	⇓P	PKPdf	22 55 29.0	+5.4	
NIE	Niedzica	157.10 328	*e*PKP	PKPdf	22 55 24.2	+0.7	
ARR	Arges	157.31 315	⇑P	PKPdf	22 55 28.3	+4.4	
KSP	Ksiaz	157.62 336	*e*PKP	PKPdf	22 55 23.9	-0.1	
ELND	Elena	157.63 308	⇑P	PKPdf	22 55 24.6	+0.3	
LANS	Liptovska Anna	157.67 329	*e*PKIKP	PKPdf	22 55 25.0	+0.8	
LANS	Liptovska Anna	157.67 329	*e*PKP	PKPdf	22 55 25.0	+0.8	
LANS			*e*		22 55 57.8		
OKC	Ostrava-Krasne	157.72 331	*e*PKPAB	PKPab	22 55 57.5	+0.8	
OKC	Ostrava-Krasne	157.72 331	*e*PKP2	PKPab	22 55 57.5	+0.8	
LOT	Lotru	157.79 316	⇑P	PKPdf	22 55 25.3	+0.8	
STEB	Steborice	157.79 332	*e*PKPAB	PKPab	22 55 57.2	+0.1	
OSTC	Ostas	157.88 335	AMS	AMS	00 06 10.0		
	comp=Z,200nm,23.2s						
OSTC			*e*PKPDF	PKPdf	22 55 24.7	+0.3	
CHVC	Chvalec	157.91 336	*e*PKPAB	PKPab	22 55 56.8	-0.8	
CHVC	Chvalec	157.91 336	*e*PKP2	PKPab	22 55 56.8	-0.8	
UPC	Upice	158.00 335	AMS	AMS	00 06 50.0		
	comp=Z,200nm,22.4s						
MORC	Moravsky Berou	158.01 332		PKPdf	22 55 24.4	-0.2	
MORC	Moravsky Berou	158.01 332	*e*PKP	PKPdf	22 55 24.7	+0.1	
MORC	Moravsky Berou	158.01 332	PKIKP	PKPdf	22 55 24.4	-0.2	
DPC	Dobruska-Polom	158.01 335	AMS	AMS	00 06 30.0		
	comp=Z,200nm,20.9s						
DPC			*e*PKPAB	PKPab	22 56 00.2	+2.1	
DPC	Dobruska-Polom	158.01 335	*e*PKP2	PKPab	22 56 00.2	+2.1	
DPC			MLR	MLR			
	comp=Z,200nm,20.9s						
KRLC	Kraliky	158.07 334	*e*PKPDF	PKPdf	22 55 25.0	+0.3	
KRLC			*e*PKPAB	PKPab	22 56 00.4	+2.1	
KRLC	Kraliky	158.07 334	*e*PKIKP	PKPdf	22 55 25.0	+0.3	
CLL	Collm	158.26 341	PKPdf	PKPdf	22 55 24.7	0.0	
CLL	Collm	158.26 341	*e*PKIKP	PKPdf	22 55 27.0	+2.2	
CLL			*i*		22 55 57.8		
CLL			pmax	pmax			
	comp=Z,17nm,1.0s						
PLVB	Pleven	158.27 310	⇑P	PKPdf	22 55 25.4	+0.4	
PSZ	Piszkesteto	158.35 326		PKPdf	22 55 24.2	-0.9	
PSZ	Piszkesteto	158.35 326	⇓P	PKPdf	22 55 24.2	-0.9	
PSZ	Piszkesteto	158.35 326	⇓PKIKP	PKPdf	22 55 24.2	-0.9	
EZN	Ezine	158.37 300	⇑P	PKPdf	22 55 28.8	+3.5	
EZN	Ezine	158.37 300	⇑PKIKP	PKPdf	22 55 28.8	+3.5	
BRG	Berggiesshubel	158.37 339	⇓*e*PKPf		22 55 23.9		
BRG			Amp		22 55 26.2		
	comp=Z,14nm,1.3s						
BRG			⇓pPKPf		22 55 36.7		
BRG			Amp		22 55 37.5		
	comp=Z,3.5nm,0.9s						
BRG			⇓sPKPf		22 55 41.3		
BRG			Amp		22 55 41.7		
	comp=Z,3.3nm,0.8s						
BRG			PKPab	PKPab	22 55 59.1	-0.4	
BRG			Amp		22 55 59.8		
	comp=Z,9.6nm,0.9s						
BRG	Berggiesshubel	158.37 339	PP	PP	22 59 39.0	-0.4	
GZR	Gura Zlata	158.40 317	⇓P	PKPdf	22 55 24.8	-0.5	
GZR	Gura Zlata	158.40 317	⇓PKIKP	PKPdf	22 55 24.8	-0.5	
VYHS	Vyhne	158.44 328	*e*PKIKP	PKPdf	22 55 25.1	0.0	
VYHS			*e*		22 55 59.8		
VYHS	Vyhne	158.44 328	*e*PKP	PKPdf	22 55 25.1	0.0	
VYHS			*e*		22 55 59.8		
SIRR	Siria	158.52 320	⇑P	PKPdf	22 55 25.4	+0.1	
JAVC	Velka Javorina	158.67 330	*e*PKP	PKPdf	22 55 26.4	+1.0	
JAVC			*e*		22 56 02.1		
VRAC	Vranov	158.76 333	*e*PKP	PKPdf	22 55 25.4	-0.1	
VRAC			*e*		22 56 01.4		
VRAC	Vranov	158.76 333	⇓P	PKPdf	22 55 26.1	+0.6	
VRAC	Vranov	158.76 333	⇓PKIKP	PKPdf	22 55 26.1	+0.6	
HERR	Herculane	158.90 316	⇑P	PKPdf	22 55 25.5	-0.3	
PRA	Prague	158.91 337	AMS	AMS	00 03 50.0		
	comp=Z,300nm,25.3s						
GOPC	GO Pecny, Ondr	158.92 336	AMS	AMS	00 03 00.0		
	comp=Z,300nm,21.7s						
BZS	Buzias	158.94 319	⇓P	PKPdf	22 55 24.8	-1.0	
BZS	Buzias	158.94 319	⇓PKIKP	PKPdf	22 55 24.8	-1.0	
PRU	Pruhonice	158.94 337	AMS	AMS	00 04 00.0		
	comp=Z,300nm,21.3s						
PRU			*e*PKPAB	PKPab	22 56 02.2	+0.2	
PRU	Pruhonice	158.94 337	*e*PKP2	PKPab	22 56 02.2	+0.2	
PRU			MLR	MLR			
	comp=Z,300nm,21.3s						
KRUC	Moravsky	159.03 333	*e*PKP	PKPdf	22 55 25.4	-0.4	
KRUC			*e*		22 56 01.6		
SRO	Srobarova	159.17 328	*e*PKP2	PKPab	22 56 03.9	+0.8	
SRO	Srobarova	159.17 328	*e*PKP	PKPab	22 56 03.9	+0.8	
MODS	Modra-Piesok	159.21 330	*e*PKIKP	PKPdf	22 55 24.5	-1.5	
MODS	Modra-Piesok	159.21 330	*e*PKP	PKPdf	22 55 24.5	-1.5	
MDVR	Moldovita	159.37 317	⇓P	PKPdf	22 55 28.1	+1.7	
ZVC	Zvikov	159.53 337	AMS	AMS	00 04 20.0		
	comp=Z,300nm,22.3s						
ZVC			*e*PKPDF	PKPdf	22 55 26.1	-0.2	
ZVC			*e*PKPAB	PKPab	22 56 03.8	-0.8	
BOVS	Bovan	160.00 314	⇓P	PKPdf	22 55 27.9	+0.8	
KHC	Kasperske Hory	160.00 337	*e*PKPDF	PKPdf	22 55 25.0	-1.9	
KHC			*e*PKPAB	PKPab	22 56 06.0	-0.7	
KHC	Kasperske Hory	160.00 337	*e*PKIKP	PKPdf	22 55 25.0	-1.9	
KHC			*e*		22 56 06.0		
CKRC	Cesky Krumlov	160.02 335	AMS	AMS	00 05 00.0		
	comp=Z,200nm,21.0s						
CKRC			*e*PKPDF	PKPdf	22 55 26.6	-0.3	
CKRC			*e*PKPAB	PKPab	22 56 08.9	+2.1	
CKRC	Cesky Krumlov	160.02 335	*e*PKIKP	PKPdf	22 55 26.6	-0.3	
CKRC			MLR	MLR			
	comp=Z,200nm,21.0s						
MORH	Mrgy, Hungar	160.15 324	⇑P	PKPdf	22 55 26.3	-0.8	
RONA	Rosalia, Austr	160.15 330	*i* PKP	PKPdf	22 55 26.7	-0.5	
	comp=Z,11nm,1.7s,SNR=7.0						
RONA			*i* PKP	PKPab	22 56 07.2	-0.2	
	comp=Z,9.6nm,1.0s						
CONA	Conrad Observa	160.15 331	*i* PKP	PKPdf	22 55 26.4	-0.8	
	comp=Z,5.4nm,1.1s						
CONA			*e*PKP	PKPab	22 56 07.2	-0.3	
	comp=Z,4.2nm,0.8s						
BEBN	Eben Emael	160.19 353	*d*PKP	PKPab	22 56 06.8	-0.5	
GEC2	GERESS Array S	160.21 336		PKPdf	22 55 26.6	-0.6	
GERES	GERESS Array B	160.21 336		PKPdf	22 55 26.4	-0.9	
GERES	GERESS Array B	160.21 336	PKP	PKPdf	22 55 26.9	-0.3	
	comp=Z,2.6nm,0.9s,baz=195,slow=2.6,SNR=9.2						
GERES			PKPab	PKPab	22 56 06.2	-1.5	
	comp=Z,1.9nm,0.6s,baz=21,slow=4.4,SNR=7.2						
GERES	GERESS Array B	160.21 336	PKIKP	PKPdf	22 55 26.4	-0.9	
GRF	Grafenberg Arr	160.21 342	*e*PKPbc	PKPab	22 56 07.4	-0.1	
	baz=30,slow=3.9						
UCC	Uccle	160.30 355	*d*PKP	PKPab	22 56 05.6	-2.2	
MEM	Membach	160.34 352	*d*PKP	PKPab	22 56 07.6	-0.4	
BHOU	Houvegnez	160.59 352	*d*PKP	PKPab	22 56 08.7	-0.5	
BCLA	Clavier	160.60 353	*d*PKP	PKPab	22 56 08.3	-0.8	
BGES	Gesves	160.65 354	*d*PKP	PKPab	22 56 08.6	-0.8	
BMRD	Maredsous	160.76 354	*d*PKPdf	PKPdf	22 55 27.9	+0.2	
BMRD			*d*PKP	PKPab	22 56 08.8	-1.1	
ARSA	Arzberg	160.83 331	*i* PKP	PKPdf	22 55 27.4	-0.5	
	comp=Z,5.0nm,1.5s						
ARSA			*e*PKP	PKPab	22 56 10.7	+0.3	
	comp=Z,5.9nm,1.5s						
MOA	Molln	160.84 334	*i* PKP	PKPdf	22 55 27.2	-0.7	
	comp=Z,8.9nm,1.8s						
MOA			*i* PKP	PKPab	22 56 10.4	0.0	
	comp=Z,7.2nm,1.1s						
RCHB	Rochefort	160.87 353	*d*PKPdf	PKPdf	22 55 26.7	-1.1	
RCHB			*d*PKP	PKPab	22 56 09.3	-1.0	
DOU	Dourbes	160.98 355	*d*PKP	PKPdf	22 55 28.2	+0.3	
BIOA	Bad Ischl, Aus	161.21 335	*i* PKP	PKPdf	22 55 27.7	-0.6	
	comp=Z,11nm,1.5s						
BIOA			*i* PKP	PKPab	22 56 11.7	-0.3	
	comp=Z,4.6nm,0.8s						
WLF	Walferdange	161.25 351	*d*PKPdf	PKPdf	22 55 28.4	+0.2	
WLF			*d*PKP	PKPab	22 56 11.8	-0.2	
PERS	Pernice	161.48 330	*e*PKPdf	PKPdf	22 55 27.5	-1.1	
PERS			*e*PKPab	PKPab	22 56 12.1	-1.2	
SOKA	Soboth	161.49 330	*i* PKP	PKPdf	22 55 28.1	-0.6	
	comp=Z,12nm,1.7s,SNR=8.7						
SOKA			*i* PKP	PKPab	22 56 12.3	-1.0	
	comp=Z,9.5nm,1.0s						
STU	Stuttgart	161.57 345	PKPdf	PKPdf	22 55 28.5	-0.1	
STU	Stuttgart	161.57 345	PKIKP	PKPdf	22 55 28.5	-0.1	
FNA	Florina	161.58 307		PKPdf	22 55 28.1	-0.9	
FNA	Florina	161.58 307	PKIKP	PKPdf	22 55 28.1	-0.9	
LESA	Schwarzleotal	161.78 336	*i* PKP	PKPdf	22 55 28.4	-0.5	
	comp=Z,15nm,1.4s,SNR=9.1						
LESA			*e*PKP	PKPab	22 56 14.4	-0.2	
	comp=Z,6.5nm,1.1s						
OBKA	Obir	161.82 331	*e*PKP	PKPdf	22 55 28.4	-0.6	
	comp=Z,2.4nm,1.3s						
OBKA			*i* PKP	PKPab	22 56 15.6	+0.8	
	comp=Z,6.1nm,1.1s						
BLY	Banja Luka	161.90 323	⇑P	PKPdf	22 55 28.3	-0.7	
CRES	Cresnjevec Ost	161.96 328	*e*PKPdf	PKPdf	22 55 28.4	-0.7	
TORD	Torodi Ar. Bea	162.06 179		PKPdf	22 55 29.4	-0.7	
TORD	Torodi Ar. Bea	162.06 179	PKP	PKPdf	22 55 30.2	+0.1	
	comp=Z,11nm,1.0s,baz=321,slow=1.9,SNR=6.9						
TORD			PKPab	PKPab	22 56 17.6	+1.2	
	comp=Z,24nm,0.9s,baz=153,slow=1.7,SNR=8.1						
MYKA	Terra Mystica	162.09 333	*i* PKP	PKPdf	22 55 28.2	-1.1	
	comp=Z,4.2nm,1.0s						
MYKA			*i* PKP	PKPab	22 56 14.8	-1.2	
	comp=Z,5.6nm,0.7s						
PDG	Podgorica	162.16 314		PKPdf	22 55 28.3	-1.1	
LJU	Ljubljana	162.20 330	*e*PKPdf	PKPdf	22 55 28.8	-0.6	
WATA	Walderalm	162.22 338	*i* PKP	PKPdf	22 55 29.0	-0.5	
	comp=Z,5.7nm,1.1s						
WATA			*i* PKP	PKPab	22 56 16.4	-0.2	
	comp=Z,2.7nm,0.6s						
WTTA	Wattenberg	162.27 338	*i* PKP	PKPdf	22 55 29.5	-0.1	
	comp=Z,12nm,1.4s,SNR=6.1						
WTTA			*i* PKP	PKPab	22 56 16.8	0.0	
	comp=Z,12nm,1.4s						
RETA	Reutte	162.34 340	*i* PKP	PKPdf	22 55 29.8	+0.2	
	comp=Z,5.7nm,1.9s						
RETA			*i* PKP	PKPab	22 56 16.8	-0.2	
	comp=Z,14nm,1.0s						
MOTA	Moosalm	162.37 339	*i* PKP	PKPdf	22 55 29.3	-0.4	
	comp=Z,9.5nm,1.2s,SNR=7.5						
MOTA			*i* PKP	PKPab	22 56 16.6	-0.6	
	comp=Z,8.8nm,1.0s						
CADS	Cadrg	162.38 332	*e*PKPdf	PKPdf	22 55 28.3	-1.3	
SQTA	Sankt Quirin	162.44 339	*i* PKP	PKPdf	22 55 30.0	+0.3	
	comp=Z,6.5nm,1.0s,SNR=6.0						
SQTA			*i* PKP	PKPab	22 56 16.6	-0.9	
	comp=Z,8.0nm,0.9s						
STAL	STALIGIAL	162.76 334		PKPdf	22 55 28.7	-1.3	
FETA	Feichten	162.77 339	*i* PKP	PKPdf	22 55 29.8	-0.3	
	comp=Z,7.9nm,1.2s,SNR=6.7						
FETA			*i* PKP	PKPab	22 56 18.0	-1.0	
	comp=Z,11nm,1.1s						
DAVA	Damuels	162.77 341	*i* PKP	PKPdf	22 55 29.8	-0.2	
	comp=Z,0.6nm,0.5s						
DAVA			*i* PKP	PKPab	22 56 17.7	-1.3	
	comp=Z,7.5nm,0.7s						
FUORN	Ofenpass-Fuorn	163.27 340		PKPdf	22 55 30.2	-0.5	
CTI	Castel Tesino	163.32 336		PKPdf	22 55 30.8

NEIC ***20*** *22:48:10.9±1.2,30.3°S×0.1°×111.8°W±0.2,h10km±2km, mb4.6/13,Error ellipse: s-maj=32.3km s-min=7.9km az=301.0*

IDC ***20*** *22:48:10.5±1.0,29.76°S×111.85°W,h0km,mb3.8/5, mbtmp3.8/5,MS4.3/13,Error ellipse: s-maj=76.0km s-min=29.0km az=84.0*

GCMT ***20*** *22:48:13.9±0.3,29.89°S±0.02°×111.94°W±0.02,h19km±1km, MW5.0/105,Moment Tensor Solution. s22,c26; s105,c141; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.25±.23; Mθθ-1.77±.15; Mϕϕ3.02±.17; Mrθ0.66±.34; Mθϕ-2.30±.11; Mrϕ0.77±.29; Best double couple: Mo3.56000×10¹⁶ NP1:ϕs296.00000°,δ68.00000°, λ-165.00000°. NP2:ϕs200.00000°,δ76.00000°, λ-23.00000°. Principal axes: T 3.9890, Plg5.0000°, Azm249.0000°; N -0.8580, Plg64.0000°, Azm349.0000°; P -3.1310, Plg26.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 22:48:11.3±0.9, 30.1°S±0.1°×111.8°W±0.2, h10km, n46, σ1§18/26, mb4.5/12, MS4.3/13, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**3.64**	**36**	Pn	**Pn**	**22 49 09.4**	**+1.7**
H03N2	**Juan Fernandez**	**28.05**	**105**	T	T	23 23 35.1	
	baz=272,slow=73,SNR=41						
H03N3	**Juan Fernandez**	**28.05**	**105**	T	T	23 23 35.2	
	baz=272,slow=73,SNR=42						
H03N1	**Juan Fernandez**	**28.07**	**105**	T	T	23 23 36.1	
	baz=272,slow=73,SNR=40						
TAOE	**Nuku Hiva Isla**	**33.92**	**303**	eLR	LR	23 03 27.6	
	174nm,24.5s						
TBI	**Tubuai**	**34.22**	**272**	eLR	LR	23 03 36.2	
	4μm,27.0s						
LMEL	**Las Melosas**	**35.28**	**107**	P	**P**	**22 55 03.9**	**-2.8**
PPT2	**Papeete2**	**36.59**	**281**	eLR	LR	23 04 40.2	
	754nm,27.0s						
PPT2				eLR	LR	23 04 45.5	
	533nm,29.5s						
NNA	**Nana**	**37.03**	**68**	LR	LR	23 06 54.6	
	comp=Z,764nm,18.2s,baz=226,slow=30						
AC02	**Maricunga**	**37.46**	**96**	P	**P**	**22 55 25.2**	**-0.5**
AC02				IAmb	IAmb	22 55 41.3	
	comp=Z,17nm,1.4s						
ATAH	**Atahualpa**	**38.75**	**61**	LR	LR	23 07 51.1	
	comp=Z,217nm,18.8s,baz=235,slow=30						
LPAZ	**La Paz**	**42.14**	**81**	LR	LR	23 09 53.2	
	comp=Z,287nm,18.7s,baz=237,slow=31						
CZSB	**Cruzeiro do Su**	**42.81**	**67**	P	**P**	**22 56 09.7**	**+0.1**
SLOR	**San Lorenzo -**	**43.03**	**53**	P	**P**	**22 56 11.8**	**-0.2**
RAR	**Rarotonga**	**43.91**	**270**	LR	LR	23 09 27.5	
	comp=Z,314nm,18.6s,baz=116,slow=29						
SIV	**San Ignacio**	**48.34**	**85**	LR	LR	23 14 45.1	
	comp=Z,233nm,18.0s,baz=286,slow=33						
SDV	**Santo Domingo**	**55.35**	**52**	LR	LR	23 17 35.6	
	comp=Z,256nm,21.7s,baz=236,slow=32						
TXAR	**Lajitas Array**	**59.59**	**8**	P	**P**	**22 58 14.2**	**-1.2**
	comp=Z,0.4nm,0.9s,baz=195,slow=5.3,SNR=4.9						
	comp=Z,0.4nm,0.9s						
VNDA	**Vanda**	**60.09**	**195**	LR	LR	23 19 16.4	
	comp=Z,230nm,18.2s,baz=110,slow=31						
ALPN	**Alpine**	**60.62**	**8**	P	**P**	**22 58 23.4**	**+0.8**
ALPN				IAmb	IAmb	22 58 28.7	
	comp=Z,3.2nm,0.9s						
319A	**Douglas**	**61.17**	**2**		**P**	**22 58 26.0**	**-0.2**
MNTX	**Cornudas Mount**	**61.74**	**6**	P	**P**	**22 58 28.9**	**-1.0**
X18A	**Snowflake**	**64.29**	**2**	P	**P**	**22 58 47.3**	**+0.2**
X18A				IAmb	IAmb	22 58 53.2	
	comp=Z,3.6nm,0.8s						
MDP	**Montagnes des**	**66.48**	**69**	LR	LR	23 25 23.0	
	comp=Z,242nm,18.1s,baz=263,slow=34						
MVCO	**Mesa Verde**	**67.01**	**3**		**P**	**22 59 04.8**	**+0.1**
MVCO				IAmb	IAmb	22 59 14.0	
	comp=Z,4.8nm,0.9s						
SNAA	**Sanae**	**67.41**	**161**	P	**P**	**22 59 08.9**	**+2.2**
	comp=Z,1.3nm,0.9s,baz=262,slow=7.1,SNR=3.6						
	comp=Z,1.3nm,0.9s						
NV11	**Mina Array Sit**	**68.42**	**355**		**P**	**22 59 14.0**	**+0.6**
NV11				IAmb	IAmb	22 59 23.6	
	comp=Z,6.0nm,1.1s						
NVAR	**Mina Array Bea**	**68.43**	**354**		**P**	**22 59 13.6**	**0.0**
NVAR	**Mina Array Bea**	**68.43**	**354**	P	**P**	**22 59 10.9**	**-2.6**
	comp=Z,1.8nm,0.9s,baz=177,slow=7.3,SNR=5.4						
	comp=Z,1.8nm,0.9s						
SRU	**San Rafael Swe**	**68.85**	**1**	P	**P**	**22 59 15.3**	**-0.8**
SRU				IAmb	IAmb	22 59 25.1	
	comp=Z,5.8nm,0.9s						
DZM	**Mont Dzumac**	**72.48**	**254**	eLR	LR	23 21 31.9	
	comp=Z,707nm,28.6s						
PDAR	**Pinedale Array**	**72.52**	**2**	P	**P**	**22 59 38.5**	**0.0**
PDAR	**Pinedale Array**	**72.52**	**2**	P	**P**	**22 59 37.5**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=206,slow=7.4,SNR=5.1						
	comp=Z,0.5nm,0.9s						
K22A	**Casper**	**72.54**	**4**		**P**	**22 59 39.2**	**+0.8**
K22A				IAmb	IAmb	22 59 44.5	
	comp=Z,6.4nm,0.9s						
HLID	**Hailey**	**73.33**	**358**		**P**	**22 59 42.7**	**-0.5**
NEW	**Newport**	**78.14**	**356**	P	**P**	**23 00 08.7**	**-1.7**
	comp=Z,2.3nm,1.0s,baz=174,slow=7.7,SNR=3.3						
	comp=Z,2.3nm,1.0s						
HNR	**Honiara**	**83.88**	**263**	LR	LR	23 29 57.3	
	comp=Z,99nm,21.5s,baz=142,slow=30						
STKA	**Stephens Creek**	**87.08**	**235**	LR	LR	23 31 20.4	
	comp=Z,144nm,21.9s,baz=195,slow=30						
SCHQ	**Schefferville**	**92.97**	**24**	LR	LR	23 41 49.7	
	comp=Z,126nm,19.7s,baz=272,slow=35						
ASAR	**Alice Springs**	**97.38**	**237**	LR	LR	23 38 09.9	
	comp=Z,126nm,21.0s,baz=138,slow=31						
WRA	**Warramunga Arr**	**99.28**	**241**	LR	LR	23 41 18.6	
	comp=Z,292nm,20.1s,baz=112,slow=32						
SONM	**Songino Array**	**145.87**	**312**	PKPbc	**PKPbc**	**23 07 50.8**	**0.0**
	comp=Z,1.5nm,0.9s,baz=106,slow=4.7,SNR=3.6						
CMAR	**Chiang Mai Arr**	**149.81**	**255**	PKPbc	**PKPbc**	**23 08 02.5**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=212,slow=2.0,SNR=4.3						
BRTR	**Keskin Array B**	**150.19**	**62**	PKPbc	**PKiKP**	**23 08 04.0**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=239,slow=1.7,SNR=7.1						
BVAR	**Borovoye Array**	**157.02**	**357**	PKPab	**PKPab**	**23 08 36.8**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=15,slow=1.6,SNR=5.9						
KURBB	**Kurchatov Arra**	**158.08**	**342**	PKPab	**PKPab**	**23 08 41.8**	**+0.2**
	comp=Z,0.9nm,0.2s,baz=21,slow=3.1,SNR=4.1						

IDC ***20*** *22:50:40.8±2.3,5.25°S×151.47°E,h116km±19km,mb4.0/11, mbtmp4.3/11,Error ellipse: s-maj=19.4km s-min=15.1km az=97.0*

NEIC ***20*** *22:50:40.4±1.1,5.18°S±0.08°×151.62°E±0.09,h111km±6km, mb4.5/25,Error ellipse: s-maj=13.6km s-min=11.3km az=122.0*

ISC 20 22:50:41.5±0.5, 5.14°S±0.07°×151.62°E±0.08, h129km, n47, σ1§38/51, mb4.2/23, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.09**	**30**		**Pn**	**22 51 03.0**	**-2.1**
RABL				Sn	**Sn**	**22 51 19.9**	**-3.2**
MANU	**Manus Island**	**5.24**	**306**	Pn	**Pn**	**22 51 57.9**	**+0.2**
COEN	**Coen**	**12.08**	**223**	Pn	**Pn**	**22 53 27.9**	**-1.6**
CTAO	**Charters Tower**	**15.75**	**199**		**P**	**22 54 17.6**	**+0.1**
FAKI	**Fak Fak**	**19.44**	**276**	P	**P**	**22 54 58.7**	**+0.6**
FAKI				IAmb	IAmb	22 55 04.3	
	comp=Z,38nm,1.0s						
EIDS	**Eidsvold**	**20.12**	**181**	P	**P**	**22 55 05.5**	**+0.2**
DZM	**Mont Dzumac**	**22.12**	**141**	P	**P**	**22 55 26.9**	**+0.1**
DZM				IAmb	IAmb	22 55 29.0	
	comp=Z,19nm,0.8s						
DZM	**Mont Dzumac**	**22.12**	**141**	P	**P**	**22 55 27.1**	**+0.3**
	comp=Z,16nm,0.7s,baz=266,slow=4.5,SNR=22						
	comp=Z,16nm,0.7s						
WB0	**Warramunga Arr**	**22.19**	**228**		**P**	**22 55 25.9**	**-1.6**
WB0				IAmb	IAmb	22 55 28.8	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**22.34**	**227**		**P**	**22 55 26.4**	**-2.6**
WRA	**Warramunga Arr**	**22.34**	**227**	P	**P**	**22 55 27.5**	**-1.5**
	comp=Z,19nm,0.7s,baz=50,slow=10,SNR=64						
WRA				S	**S**	**22 59 23.2**	**-2.3**
	comp=Z,2.3nm,0.9s,baz=46,slow=18,SNR=4.9						
WRA				ScP	**ScP**	**23 02 46.9**	**+1.4**
	comp=Z,3.0nm,0.9s,baz=50,slow=2.5,SNR=11						
	comp=Z,19nm,0.7s						
KNRA	**Kununurra**	**24.77**	**243**	P	**P**	**22 55 50.8**	**-0.6**
AS31	**Alice Springs**	**25.11**	**221**		**P**	**22 55 54.0**	**-0.5**
AS31				IAmb	IAmb	22 55 56.9	
	comp=Z,5.8nm,0.5s						
ASAR	**Alice Springs**	**25.11**	**221**	P	**P**	**22 55 53.9**	**-0.7**
ASAR	**Alice Springs**	**25.11**	**221**	P	**P**	**22 55 54.0**	**-0.5**
	comp=Z,12nm,0.6s,baz=57,slow=8.5,SNR=87						
ASAR				ScP	**ScP**	**23 02 56.6**	**+3.7**
	comp=Z,1.8nm,0.9s,baz=45,slow=4.0,SNR=8.7						
	comp=Z,12nm,0.6s						
ARMA	**Armidale**	**25.15**	**180**	P	**P**	**22 55 54.7**	**-0.1**
ARMA				IAmb	IAmb	22 55 57.9	
	comp=Z,28nm,1.4s						
SOEI	**Soe**	**27.49**	**259**	P	**P**	**22 56 15.6**	**-0.6**
SOEI				IAmb	IAmb	22 56 24.2	
	comp=Z,26nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.46**	**241**		**P**	**22 56 23.3**	**-1.2**
FITZ				IAmb	IAmb	22 56 24.7	
	comp=Z,3.1nm,0.5s						
MBWA	**Marble Bar**	**34.78**	**240**	P	**P**	**22 57 18.5**	**-1.3**
PSA00	**Pilbara Seismi**	**34.84**	**239**	P	**P**	**22 57 19.0**	**-1.4**
PSA00				IAmb	IAmb	22 57 20.4	
	comp=Z,21nm,1.1s						
JAGI	**Jajaq, Banyuwa**	**37.33**	**263**	P	**P**	**22 57 40.1**	**-1.6**
GIRL	**Giralia**	**40.07**	**241**	P	**P**	**22 58 04.2**	**-0.2**
RTZ	**Ruatahuna**	**40.50**	**149**	P	**P**	**22 58 08.9**	**+1.0**
NACB	**Ninganchiao**	**41.28**	**316**	P	**P**	**22 58 15.1**	**+0.8**
NACB				IAmb	IAmb	22 58 17.3	
	comp=Z,21nm,1.1s						
CMAR	**Chiang Mai Arr**	**56.96**	**296**	P	**P**	**23 00 15.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**56.96**	**296**	P	**P**	**23 00 15.4**	**+1.6**
	comp=Z,2.3nm,0.8s,baz=116,slow=5.6,SNR=13						
	comp=Z,2.3nm,0.8s						
SONM	**Songino Array**	**65.99**	**328**	P	**P**	**23 01 15.1**	**+1.0**
SONM	**Songino Array**	**65.99**	**328**	P	**P**	**23 01 15.5**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=140,slow=5.9,SNR=4.7						
	comp=Z,0.6nm,0.5s						
CASY	**Casey**	**67.35**	**197**	P	**P**	**23 01 22.7**	**+0.4**
CASY				IAmb	IAmb	23 01 23.4	
	comp=Z,3.5nm,1.1s						
UNV	**Unalaska Valle**	**68.42**	**25**	P	**P**	**23 01 30.0**	**+0.8**
VNDA	**Vanda**	**72.54**	**178**	P	**P**	**23 01 54.2**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=324,slow=5.9,SNR=7.6						
	comp=Z,0.7nm,0.8s						
CNPM	**China Poot**	**78.53**	**26**	P	**P**	**23 02 29.2**	**+0.9**
CNPM				IAmb	IAmb	23 02 45.5	
	comp=Z,8.1nm,1.0s						
MKAR	**Makanchi Array**	**79.81**	**319**	P	**P**	**23 02 35.0**	**-0.5**
	comp=Z,5.4nm,1.3s,baz=111,slow=5.6,SNR=5.8						
	comp=Z,5.4nm,1.3s						
MAKZ	**Makanchi**	**80.02**	**319**	P	**P**	**23 02 37.1**	**+0.5**
ZALV	**Zalesovo Beam**	**80.78**	**327**	P	**P**	**23 02 37.4**	**-3.1**
	comp=Z,0.6nm,0.5s,baz=93,slow=10,SNR=3.8						
E19K	**Redstone River**	**80.86**	**18**	P	**P**	**23 02 41.4**	**+0.6**
ILAR	**Eielson Array**	**82.92**	**22**	P	**P**	**23 02 49.1**	**-2.4**
	comp=Z,0.3nm,0.6s,baz=246,slow=5.4,SNR=4.6						
BOOM	**Boomskoye usch**	**82.97**	**314**	P	**P**	**23 02 53.0**	**+0.5**
BOOM				IAmb	IAmb	23 02 54.0	
	comp=Z,3.9nm,0.7s						
MAW	**Mawson**	**84.81**	**203**	P	**P**	**23 03 01.4**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=98,slow=3.7,SNR=7.3						
	comp=Z,1.3nm,0.5s						
QSPA	**South Pole Qui**	**84.82**	**180**	P	**P**	**23 03 02.0**	**+0.6**
QSPA				IAmb	IAmb	23 03 03.0	
	comp=Z,2.8nm,0.7s						
QSPA	**South Pole Qui**	**84.82**	**180**	P	**P**	**23 03 02.1**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=314,slow=1.5,SNR=20						
	comp=Z,2.4nm,0.6s						
BVAR	**Borovoye Array**	**88.81**	**323**	P	**P**	**23 03 19.7**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=109,slow=5.7,SNR=7.1						
	comp=Z,1.4nm,0.8s						
NVAR	**Mina Array Bea**	**93.22**	**52**	P	**P**	**23 03 42.6**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=260,slow=6.7,SNR=4.9						
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**123.72**	**328**	PKP	**PKPdf**	**23 09 25.1**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=57,slow=3.6,SNR=2.8						
EKA	**Eskdalemuir Ar**	**126.01**	**342**	PKP	**PKPdf**	**23 09 29.2**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=17,slow=3.0,SNR=3.9						
BOAV	**Boa Vista**	**147.82**	**94**	PKPbc	**PKPbc**	**23 10 13.2**	**+0.7**
TORD	**Torodi Ar. Bea**	**149.28**	**287**	PKPbc	**PKPbc**	**23 10 16.2**	**+0.1**

ISK ***20*** *22:53:31.9,38.48°N×26.89°E,h5km,ML1.6/11*

AFAD 20 22:53:31.5, 38.50°N×26.87°E, h7km±3km, ML1.3, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.18**	**131**	Pg	Pg	22 53 35.6	+0.5
BLCB				Sg	Sg	22 53 38.2	+0.7
FOCM	**Foa**	**0.24**	**332**	Pg	Pg	22 53 37.5	+1.3
URLA	**Izmir**	**0.26**	**237**	Pg	Pg	22 53 37.2	+0.6
URLA				Sg	Sb	22 53 41.7	-1.5
URLA	**Izmir**	**0.26**	**237**	P	Pg	22 53 37.3	+0.7
URLA				*i* IAML		22 53 47.0	
	comp=E,44nm,0.7s						
URLA				*i* IAML		22 53 49.0	
	comp=N,41nm,2.3s						
ZEYE	**Izmir, Urla-Ze**	**0.39**	**228**	P	Pb	22 53 40.2	-0.5
ZEYE				S	Sg	22 53 44.9	+0.6
ZEYE				*i* IAML		22 53 49.0	
	comp=N,31nm,0.2s						
ZEYE				*i* IAML		22 53 50.0	
	comp=E,25nm,0.2s						
GMLD	**Gumuldur**	**0.43**	**175**	Pg	Pb	22 53 41.2	-0.2
DGB	**zmir**	**0.45**	**179**	P	Pg	22 53 40.8	+0.6
DGB				*i* IAML		22 53 51.0	
	comp=N,22nm,1.0s						
IZMD	**zmir-Dikili-**	**0.48**	**5**	P	Pb	22 53 42.0	-0.4
IZMD				S	Sg	22 53 47.8	+0.6
ZEDA	**zmir-Bergama**	**0.49**	**19**	P	Pg	22 53 41.4	+0.4
ZEDA				S	Sg	22 53 47.4	0.0
CHOS	**Chios island**	**0.65**	**260**	Pg	Pb	22 53 45.4	+0.1
AKHS	**Akhisar**	**0.83**	**63**	P	Pg	22 53 47.5	+0.1
AKHS				S	Sg	22 53 55.7	-2.4
GCAM	**G?zelcaml?**	**0.85**	**160**	Pg	Pb	22 53 48.8	+0.2
GCAM	**G?zelcaml?**	**0.85**	**160**	P	Pg	22 53 46.7	-1.2
GCAM				S	Sg	22 53 59.0	+0.1
IZMR	**zmir-demi**	**0.93**	**113**	P	Pn	22 53 50.8	-0.1
IZMR				S	Sg	22 54 00.3	-1.0
IZMR				*i* IAML		22 54 12.0	
	comp=E,11nm,1.9s						
ODEM	**Odemis-Izmir**	**0.97**	**103**	Pg	Pb	22 53 50.7	0.0
AYDB	**Zeytinkoy-Aydi**	**0.98**	**124**	Pg	Pg	22 53 50.4	+0.2
GORD	**Gordes-Manisa**	**1.10**	**68**	Pn	Pb	22 53 53.0	+0.1
AYDN	**Tasoluk**	**1.16**	**136**	P	Pg	22 53 53.0	-0.7
AYDN				S	Sg	22 54 07.7	-1.0
AYDN				*i* IAML		22 54 09.0	
	comp=E,11nm,1.4s						
AYDN				*i* IAML		22 54 12.0	
	comp=N,11nm,0.9s						
KIRA	**zmir-Kiraz**	**1.24**	**104**	P	Pg	22 53 54.9	-0.4
KIRA				S	Sg	22 54 10.4	-1.0
NAZL	**Nazilli-Aydin**	**1.24**	**115**	Pn	Pg	22 53 55.9	+0.6
ESEN	**Aydn-Nazilli**	**1.36**	**121**	P	Pg	22 53 59.4	+1.8
ESEN				S	Sb	22 54 11.9	-2.9
ESEN				*i* IAML		22 54 38.0	
	comp=N,7.7nm,2.0s						
ESEN				*i* IAML		22 54 40.0	
	comp=E,6.0nm,2.1s						
EZN	**Ezine**	**1.39**	**342**	Pn	Pg	22 53 58.8	+0.7

IDC ***20*** *23:43:13.0±1.3,0.54°S×128.02°E,h0km,mb3.7/6, mbtmp3.7/6,Error ellipse: s-maj=132.5km s-min=19.8km az=69.0*

ISC 20 23:43:17.6±1.7, 0.4°S±0.5°×129°E±, h35km, n6, σ1§07/7, mb3.9/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.27**	**164**	P	**P**	**23 47 49.7**	**-0.7**
	0.4nm,0.6s,baz=341,slow=12,SNR=6.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**23.74**	**168**	P	**P**	**23 48 26.4**	**-0.5**
	0.9nm,0.5s,baz=342,slow=10,SNR=9.6						
ASAR				PcP	**PcP**	**23 52 12.2**	**+1.8**
	0.4nm,0.7s,baz=351,slow=2.3,SNR=4.6						
	0.9nm,0.5s						
SONM	**Songino Array**	**51.73**	**341**	P	**P**	**23 52 21.0**	**-0.6**
	0.3nm,0.5s,baz=164,slow=5.7,SNR=1.8						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**61.92**	**326**	P	**P**	**23 53 34.3**	**+0.4**
	1.1nm,0.7s,baz=117,slow=8.7,SNR=9.0						
	1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**66.13**	**328**	P	**P**	**23 54 01.1**	**-0.3**
	1.3nm,0.7s,baz=123,slow=6.0,SNR=12						
	1.3nm,0.7s						
BVAR	**Borovoye Array**	**71.71**	**327**	P	**P**	**23 54 36.1**	**+0.1**
	1.4nm,1.0s,baz=126,slow=7.5,SNR=5.0						
	1.4nm,1.0s						

SNET ***20*** *23:53:57.8±1.0, 12.94°N×88.75°W,h34km, ML3.6*
CATAC ***20*** *23:53:58.2±0.3, 13.3°N×8.9°W±, h36km±4km, M3.7/26, MLv3.7/26,Error ellipse: s-maj=6.4km s-min=2.4km az=25.4,confirmed*

ISC 20 23:53:58.2±1.5, 12.95N±0.06°×88.75W±0.03, h34km±2km, n71, σ0§44/82, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TECO	**Alcaldia de Te**	**0.59**	**357**	*e*P	**Pb**	**23 54 10.4**	**+0.1**
TECO				*e*S	**Sn**	**23 54 19.8**	**+1.2**
TECO	**Alcaldia de Te**	**0.59**	**357**	P	**Pb**	**23 54 10.3**	**+0.1**
TECA	**Tecapa**	**0.60**	**24**	*i* P	**Pb**	**23 54 10.7**	**+0.1**
TECA				*i* P	**Pb**	**23 54 10.7**	**+0.1**
TECA				*e*S	**Sn**	**23 54 20.1**	**+1.1**
LCY	**Lacayo**	**0.65**	**43**	*e*P	**Pb**	**23 54 11.4**	**0.0**
PACA	**Pacayal**	**0.66**	**38**	*e*P	**Pb**	**23 54 11.8**	**+0.2**
PACA	**Pacayal**	**0.66**	**38**	P	**Pb**	**23 54 11.7**	**+0.1**
VSM	**San Miguel**	**0.67**	**44**	*e*P	**Pb**	**23 54 11.7**	**0.0**
SNVI	**San Vicente**	**0.67**	**352**	*e*S	**Sb**	**23 54 21.9**	**+1.0**
COEG	**Centro de Oper**	**0.68**	**349**	*e*P	**Pb**	**23 54 11.6**	**-0.3**
COEG				*e*S	**Sb**	**23 54 21.7**	**+0.5**
COEG	**Centro de Oper**	**0.68**	**349**	P	**Pb**	**23 54 11.6**	**-0.3**
UESV	**Universidad de**	**0.69**	**357**	*e*P	**Pb**	**23 54 11.7**	**-0.2**
UESV	**Universidad de**	**0.69**	**357**	P	**Pb**	**23 54 11.7**	**-0.2**
PQSS	**Presa 15 de Se**	**0.70**	**15**	*e*P	**Pb**	**23 54 11.8**	**-0.3**
PQSS				*e*S	**Sb**	**23 54 22.7**	**+1.2**
PQSS	**Presa 15 de Se**	**0.70**	**15**	P	**Pb**	**23 54 12.1**	**0.0**
BLLM	**Bellamira**	**0.70**	**45**	*e*P	**Pb**	**23 54 11.8**	**-0.4**
LFRS	**El Faro**	**0.74**	**336**	*i* P	**Pn**	**23 54 12.3**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.75**	**1**	*i* P	**Pb**	**23 54 12.8**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.75**	**1**	P	**Pb**	**23 54 12.8**	**-0.2**
LALI	**Alcalda de L**	**0.78**	**314**	S	**Sb**	**23 54 24.1**	**+0.4**
LALI	**Alcalda de L**	**0.78**	**314**	P	**Pb**	**23 54 13.1**	**-0.3**
PANCS	**Alcalda de**	**0.79**	**328**	P	**Pn**	**23 54 13.0**	**+0.1**
PAVA	**Las Pavas**	**0.79**	**346**	*e*P	**Pb**	**23 54 13.2**	**-0.4**
PAVA				*e*S	**Sb**	**23 54 24.2**	**+0.2**
PAVA	**Las Pavas**	**0.79**	**346**	P	**Pb**	**23 54 13.3**	**-0.4**
LOMA	**Loma Larga**	**0.81**	**329**	*e*P	**Pn**	**23 54 13.2**	**0.0**
LOMA				*e*S	**Sb**	**23 54 24.8**	**+0.1**
LOMA	**Loma Larga**	**0.81**	**329**	P	**Pn**	**23 54 13.3**	**0.0**
LBRS	**Las Brisas**	**0.84**	**340**	*e*P	**Pb**	**23 54 14.2**	**-0.3**
UDBS	**Universidad Do**	**0.86**	**333**	S	**Sb**	**23 54 26.2**	**-0.2**
UDBS	**Universidad Do**	**0.86**	**333**	P	**Pn**	**23 54 14.0**	**0.0**
LFU	**La Fuente**	**0.87**	**336**	*e*P	**Pb**	**23 54 14.4**	**-0.6**
UEES	**Universidad Ev**	**0.90**	**328**	P	**Pn**	**23 54 14.5**	**-0.1**
UEES	**Universidad Ev**	**0.90**	**328**	S	**Sb**	**23 54 26.8**	**-0.5**
LCND	**La Caada**	**0.91**	**67**	*e*P	**Pn**	**23 54 14.4**	**-0.1**
LCND	**La Caada**	**0.91**	**67**	P	**Pn**	**23 54 14.5**	**-0.1**
BOQS	**Boqueron**	**0.94**	**327**	*e*P	**Pn**	**23 54 15.1**	**-0.1**
PMON	**Piamonte**	**0.94**	**324**	*e*P	**Pn**	**23 54 15.0**	**-0.1**
PMON	**Piamonte**	**0.94**	**324**	S	**Sn**	**23 54 27.7**	**+0.2**
PMON	**Piamonte**	**0.94**	**324**	P	**Pn**	**23 54 15.2**	**+0.1**
CNCH	**Conchagua**	**0.95**	**70**	*e*P	**Pn**	**23 54 15.0**	**-0.2**
CNCH				*e*P	**Pb**	**23 54 15.3**	**-1.0**
CNCH	**Conchagua**	**0.95**	**70**	P	**Pn**	**23 54 15.1**	**-0.1**
CNCH	**Conchagua**	**0.95**	**70**	S	**Sb**	**23 54 28.0**	**-0.6**
JAYA	**Jayaque - finc**	**0.98**	**316**	*e*P	**Pn**	**23 54 15.4**	**-0.4**
JAYA	**Jayaque - finc**	**0.98**	**316**	S	**Sn**	**23 54 28.8**	**+0.2**
JAYA	**Jayaque - finc**	**0.98**	**316**	P	**Pn**	**23 54 15.6**	**-0.2**
CEDA	**San Andres**	**1.06**	**324**	P	**Pn**	**23 54 16.3**	**-0.4**
CEDA	**San Andres**	**1.06**	**324**	S	**Sn**	**23 54 30.2**	**-0.1**
POTN	**Potosi Cosigui**	**1.21**	**87**	P	**Pn**	**23 54 18.6**	**-0.1**
POTN				S	**Sn**	**23 54 34.4**	**+0.4**
SBLS	**San Blas**	**1.23**	**316**	*e*P	**Pn**	**23 54 19.4**	**+0.1**
SBLS				*e*S	**Sn**	**23 54 35.4**	**+0.6**
NUBE	**Las Nubes**	**1.38**	**314**	*e*P	**Pn**	**23 54 21.0**	**-0.2**
NUBE	**Las Nubes**	**1.38**	**314**	P	**Pn**	**23 54 21.1**	**-0.1**
NUBE	**Las Nubes**	**1.38**	**314**	S	**Sn**	**23 54 38.5**	**+0.1**
SLOZ	**Alcaldia de Sa**	**1.47**	**317

	0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**27.76**	**339**	P		**P**	**00 32 57.4**	**-0.6**
	0.3nm,0.2s,baz=138,slow=9.9,SNR=1.4							
	0.3nm,0.2s							
ZALV	**Zalesovo Beam**	**29.26**	**349**	P		**P**	**00 33 11.6**	**+0.2**
	0.8nm,0.5s,baz=146,slow=10,SNR=2.2							
	0.8nm,0.5s							
BVAR	**Borovoye Array**	**32.68**	**334**	P		**P**	**00 33 42.8**	**+1.2**
	0.4nm,0.6s,baz=131,slow=7.9,SNR=2.6							
	0.4nm,0.6s							
BRTR	**Keskin Array B**	**51.74**	**302**	P		**P**	**00 36 16.4**	**-0.5**
	0.3nm,0.7s,baz=111,slow=9.7,SNR=2.1							
	0.3nm,0.7s							
FINES	**FINESS Array B**	**57.35**	**328**	P		**P**	**00 36 56.6**	**-0.5**
	1.2nm,1.1s,baz=84,slow=13,SNR=2.1							
	1.2nm,1.1s							
HFS	**Hagfors**	**63.40**	**327**	P		**P**	**00 37 37.6**	**-0.9**
	1.1nm,0.8s,baz=52,slow=9.3,SNR=1.9							
	1.1nm,0.8s							
GERES	**GERESS Array B**	**64.93**	**314**	P		**P**	**00 37 50.0**	**+1.1**
	0.5nm,0.8s,baz=84,slow=11,SNR=2.6							
	0.5nm,0.8s							

*CATAC **21** 00:27:45.0±0.5, 7°N±2°×7°3W±°, h169km±4km, M3.9/12, mb4.2/3, mB5.5/1, MLv3.7/12, Mw(mB)4.9/1, Error ellipse: s-maj=9.1km s-min=4.7km az=92.4, confirmed*
*RSNC **21** 00:27:48.4±0.0, 7°N±1°×7°3W±°, h148km±2km, M3.2, mb3.7, mB5.1, ML3.0, MLv3.7, Mw(mB)4.4*

ISC 21 00:27:46.5±1.3, 6°83N±0°03×73°10W±0°04, h157km±8km, n45, σ1°43/85, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**199**	P	**Pn**	**00 28 08.2**	**+0.2**
BARC				S	**Sn**	**00 28 23.5**	**-1.0**
PAMC	**Pamplona, Colo**	**0.64**	**38**	P	**Pn**	**00 28 10.9**	**+0.9**
PAMC				S	**Sn**	**00 28 28.1**	**+0.2**
BRJC	**Barrancabermej**	**0.66**	**283**	P	**Pn**	**00 28 09.8**	**+0.4**
BRJC				S	**Sn**	**00 28 26.9**	**0.0**
RUSC	**La Rusia**	**0.93**	**179**	P	**Pn**	**00 28 12.3**	**+0.4**
RUSC				S	**Sn**	**00 28 30.9**	**-0.5**
RUSC	**La Rusia**	**0.93**	**179**	P	**Pn**	**00 28 12.0**	**0.0**
RUSC				S	**Sn**	**00 28 30.3**	**-1.1**
TAMC	**Tame, Arauca**	**1.36**	**107**	P	**Pn**	**00 28 16.3**	**+1.1**
TAMC				S	**Sn**	**00 28 37.5**	**+0.3**
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	P	**Pn**	**00 28 15.0**	**-0.3**
PTBC				S	**Sn**	**00 28 36.2**	**-1.3**
OCAC	**Ocana**	**1.42**	**351**	P	**Pn**	**00 28 16.5**	**+0.6**
OCAC				S	**Sn**	**00 28 38.5**	**0.0**
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	P	**Pn**	**00 28 21.2**	**+0.7**
ZARC				S	**Sn**	**00 28 47.6**	**+0.9**
NORC	**Norcasia**	**2.16**	**234**	P	**Pn**	**00 28 24.5**	**+0.5**
NORC				S	**Sn**	**00 28 52.1**	**-0.8**
CHIC	**Chingaza**	**2.27**	**196**	P	**Pn**	**00 28 26.5**	**+0.8**
CHIC				S	**Sn**	**00 28 55.8**	**-0.1**
ROSC	**El Rosal**	**2.32**	**212**	P	**Pn**	**00 28 56.5**	**-0.3**
ROSC	**El Rosal**	**2.32**	**212**	P	**Pn**	**00 28 27.9**	**+1.7**
ROSC				S	**Sn**	**00 28 55.7**	**-1.1**
CVER	**Cruz Verde, Cu**	**2.49**	**203**	P	**Pn**	**00 28 29.7**	**+1.4**
CVER				S	**Sn**	**00 29 01.4**	**+0.8**
HELC	**Santa Helena**	**2.50**	**255**	P	**Pn**	**00 28 29.2**	**+1.0**
HELC				S	**Sn**	**00 29 00.4**	**0.0**
HELC	**Santa Helena**	**2.50**	**255**	P	**Pn**	**00 28 28.7**	**+0.5**
HELC				S	**Sn**	**00 28 59.8**	**-0.6**
GUY2C	**Guyana, Caldas**	**2.76**	**235**	P	**Pn**	**00 28 32.8**	**+1.2**
GUY2C				S	**Sn**	**00 29 05.3**	**-1.1**
VILC	**Villavicencio,**	**2.77**	**192**	P	**Pn**	**00 28 32.0**	**+0.6**
VILC				S	**Sn**	**00 29 05.8**	**-0.3**
CBOC	**Ciudad Bolivar**	**3.05**	**252**	P	**Pn**	**00 28 36.3**	**+1.4**
CBOC				S	**Sn**	**00 29 12.6**	**+0.2**
DBBC	**Dabeiba**	**3.09**	**274**	P	**Pn**	**00 28 36.1**	**+0.7**
DBBC				S	**Sn**	**00 29 12.3**	**-0.9**
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**00 28 37.6**	**+0.9**
SDV				S	**Sn**	**00 29 14.7**	**-0.8**
ARGC	**Ariguani, Magd**	**3.21**	**339**	P	**Pn**	**00 28 39.5**	**+2.6**
ARGC				S	**Sn**	**00 29 17.9**	**+1.9**
ANIL	**Santa Ana**	**3.26**	**225**	P	**Pn**	**00 28 40.2**	**+2.4**
ANIL				S	**Sn**	**00 29 17.7**	**+0.2**
PRAC	**Prado**	**3.57**	**210**	P	**Pn**	**00 28 42.3**	**+0.9**
PRAC				S	**Sn**	**00 29 24.9**	**+0.7**
PRAC	**Prado**	**3.57**	**210**	P	**Pn**	**00 28 42.1**	**+0.6**
PRAC				S	**Sn**	**00 29 23.6**	**-0.6**
ORTC	**Ortega, Tolima**	**3.60**	**216**	P	**Pn**	**00 28 42.8**	**+0.9**
ORTC				S	**Sn**	**00 29 24.9**	**0.0**
APAC	**Apartado, Choc**	**3.61**	**287**	P	**Pn**	**00 28 42.5**	**+0.6**
APAC				S	**Sn**	**00 29 24.5**	**-0.5**
SJCC	**San Jacinto, C**	**3.68**	**326**	P	**Pn**	**00 28 42.9**	**+0.1**
SJCC				S	**Sn**	**00 29 24.2**	**-2.4**
SJCC	**San Jacinto, C**	**3.68**	**326**	P	**Pn**	**00 28 42.4**	**-0.4**
SJCC				S	**Sn**	**00 29 23.8**	**-2.8**
PLMC	**San Jos del P**	**3.70**	**239**	P	**Pn**	**00 28 44.1**	**+1.0**
PLMC				S	**Sn**	**00 29 24.7**	**-2.4**
URMC	**La Uribe, Meta**	**3.78**	**200**	P	**Pn**	**00 28 45.3**	**+1.1**
URMC				S	**Sn**	**00 29 29.3**	**+0.2**
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	P	**Pn**	**00 28 48.9**	**-0.3**
CRJC				S	**Sn**	**00 29 35.2**	**-2.9**
GUVC	**San Jose del G**	**4.28**	**174**	P	**Pn**	**00 28 53.0**	**+2.3**
GUVC				S	**Sn**	**00 29 39.6**	**-1.1**
YOTC	**Yotoco, Valle**	**4.29**	**229**	P	**Pn**	**00 28 51.1**	**+0.2**
YOTC				S	**Sn**	**00 29 43.3**	**+2.2**
SMRC	**Santa Marta, M**	**4.45**	**346**	P	**Pn**	**00 28 53.1**	**+0.3**
SMRC				S	**Sn**	**00 29 43.0**	**-1.5**
MACC	**Macarena, Meta**	**4.71**	**189**	P	**Pn**	**00 28 55.1**	**-1.2**
MACC				S	**Sn**	**00 29 47.7**	**-3.1**
URI	**Uribia**	**4.96**	**13**	P	**Pn**	**00 28 59.2**	**-0.3**
URIC	**Uribia, Colomb**	**4.96**	**13**	P	**Pn**	**00 28 58.7**	**-0.8**
JAMC	**Jamundi, Valle**	**5.06**	**225**	P	**Pn**	**00 29 04.0**	**+3.0**
JAMC				S	**Sn**	**00 29 53.0**	**-6.2**
MALC	**Bahia Malaga**	**5.06**	**237**	P	**Pn**	**00 29 03.3**	**+2.5**
MALC				S	**Sn**	**00 29 59.7**	**+0.8**
GARC	**Garzon, Huila**	**5.19**	**207**	P	**Pn**	**00 29 02.7**	**-0.1**
GARC				S	**Sn**	**00 30 00.1**	**-2.4**
POPC	**Popayan, Colom**	**5.55**	**220**	P	**Pn**	**00 29 08.5**	**+0.9**
	8.1nm,0.6s						
POPC				S	**Sn**	**00 30 11.4**	**+0.3**
	8.1nm,0.6s						
FLOC	**Florencia**	**5.80**	**206**	P	**Pn**	**00 29 10.8**	**+0.2**
FLOC	**Florencia**	**5.80**	**206**	P	**Pn**	**00 29 10.9**	**+0.2**
	11nm,1.2s						
BBAC	**Balboa, Cauca**	**6.32**	**221**	P	**Pn**	**00 29 18.7**	**+1.0**
BBAC				S	**Sn**	**00 30 28.6**	**-0.6**

CATAC 21 00:36:52.9±1.1, 9°N±5°×8°5W±°, h1km, M3.1/5, MLv3.1/5, Error ellipse: s-maj=12.3km s-min=8.7km az=148.3, confirmed, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**Las Juntas de**	**1.09**	**337**	P	Pg	00 37 12.4	-1.4
JTS				S	Sg	00 37 26.0	-1.9
SOCE	**Pocosol**	**1.10**	**355**	P	Pg	00 37 14.1	+0.1
SOCE	**Pocosol**	**1.10**	**355**	S	Sg	00 37 28.8	+0.5
INDI	**Punta indio, G**	**1.13**	**301**	P	Pg	00 37 14.4	-0.2
INDI	**Punta indio, G**	**1.13**	**301**	S	Sb	00 37 30.7	+0.2
COVE	**Coope Vega, Sa**	**1.43**	**5**	P	Pn	00 37 19.2	-0.8
COVE	**Coope Vega, Sa**	**1.43**	**5**	S	Sn	00 37 39.8	+0.2

*WEL **21** 00:39:40.2±0.8, 37°S±4°×17°9E±°, h12km, M3.1/15, ML3.5/19, MLv3.1/15, Error ellipse: s-maj=8.0km s-min=5.3km az=110.9, confirmed*
*NOU **21** 00:39:43.2, 37°.20S×178°.60E, h20km, MLv3.2/8, Off E. Coast of N. Island, N.Z.*

ISC 21 00:39:39.4±2.6, 37°20S±0°07×179°0E±0°1, h24km±14km, n56, σ1°35/87, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.67**	**237**	P	**Pb**	**00 39 52.5**	**0.0**
MXZ	**Matakaoa Point**	**0.67**	**237**	P	**Pb**	**00 39 52.5**	**0.0**
MXZ				S	**Sb**	**00 40 00.6**	**-0.7**
WMGZ	**Waiomatatini S**	**0.78**	**217**	P	**Pn**	**00 39 56.1**	**+1.1**
WMGZ				S	**Sn**	**00 40 07.1**	**+1.2**
PKGZ	**Pakihiroa**	**1.00**	**228**	P	**Pn**	**00 39 59.0**	**+1.0**
PKGZ				S	**Sn**	**00 40 12.4**	**+1.1**
PUZ	**Puketiti**	**1.06**	**214**	P	**Pn**	**00 39 59.9**	**+1.1**
PUZ				S	**Sn**	**00 40 13.8**	**+0.9**
HAZ	**Te Kaha**	**1.13**	**240**	P	**Pb**	**00 40 01.5**	**+1.3**
HAZ				S	**Sn**	**00 40 16.0**	**+1.6**
TWGZ	**Tauwhareparae**	**1.27**	**220**	P	**Pb**	**00 40 03.3**	**+0.5**
TWGZ				S	**Sn**	**00 40 20.2**	**+2.0**
RUGZ	**Raukumara Rang**	**1.31**	**234**	P	**Pb**	**00 40 03.9**	**+0.4**
RUGZ				S	**Sb**	**00 40 21.1**	**+1.2**
CNGZ	**Carnagh Statio**	**1.43**	**206**	P	**Pb**	**00 40 05.8**	**+0.3**
CNGZ				S	**Sb**	**00 40 24.1**	**+0.9**
TKGZ	**Te Karaka**	**1.54**	**216**	P	**Pn**	**00 40 05.8**	**+0.3**
TKGZ				S	**Sb**	**00 40 25.5**	**-0.9**
MWZ	**Matawai**	**1.64**	**226**	P	**Pb**	**00 40 08.1**	**-0.8**
MWZ				S	**Sb**	**00 40 28.4**	**-0.7**
RIGZ	**Rimuhau**	**1.80**	**213**	P	**Pn**	**00 40 10.1**	**+1.0**
RIGZ				S	**Sn**	**00 40 30.6**	**-0.5**
RAGZ	**Rawiri**	**1.81**	**224**	P	**Pb**	**00 40 10.7**	**-1.3**
URZ	**Urewera**	**1.84**	**234**	P	**Pb**	**00 40 11.3**	**-1.2**
URZ	**Urewera**	**1.84**	**234**	P	**Pb**	**00 40 11.2**	**-1.2**
URZ				S	**Sn**	**00 40 32.3**	**+0.2**
PRGZ	**Paritu Road**	**1.94**	**207**	P	**Pn**	**00 40 10.5**	**-0.5**
EDRZ	**Edgecumbe**	**2.02**	**243**	S	**Sb**	**00 40 38.4**	**-1.9**
SNGZ	**Shannon Statio**	**2.06**	**219**	P	**Pn**	**00 40 13.6**	**+1.0**
SNGZ				S	**Sn**	**00 40 37.7**	**+0.2**
KNZ	**Kokohu**	**2.10**	**210**	P	**Pn**	**00 40 13.2**	**0.0**
KNZ				S	**Sn**	**00 40 39.2**	**+0.6**
MHGZ	**Mahia Peninsul**	**2.14**	**204**	P	**Pn**	**00 40 14.2**	**+0.5**
RTZ	**Ruatahuna**	**2.14**	**228**	P	**Pn**	**00 40 15.2**	**+1.5**
RTZ				S	**Sn**	**00 40 40.7**	**+1.1**
MUGZ	**Murupara**	**2.19**	**234**	P	**Pn**	**00 40 15.6**	**+1.3**
MUGZ				S	**Sn**	**00 40 39.5**	**-1.2**
TARZ	**Mount Tarawera**	**2.24**	**242**	P	**Pn**	**00 40 17.1**	**+2.0**
RAHZ	**Arahi**	**2.29**	**221**	P	**Pn**	**00 40 17.8**	**+2.0**
RAHZ				S	**Sn**	**00 40 43.3**	**0.0**
MTHZ	**Maungataniwha**	**2.38**	**225**	P	**Pn**	**00 40 18.4**	**+1.4**
MTHZ				S	**Sn**	**00 40 45.8**	**+0.3**
NMHZ	**Naumai**	**2.57**	**222**	P	**Pn**	**00 40 21.1**	**+1.4**
NMHZ				S	**Sn**	**00 40 51.6**	**+1.3**
ARHZ	**Aropaoanui**	**2.60**	**217**	P	**Pn**	**00 40 21.0**	**+1.0**
ARHZ				S	**Sn**	**00 40 50.9**	**0.0**
MRHZ	**Matea Rd**	**2.62**	**231**	P	**Pn**	**00 40 21.6**	**+1.3**
MRHZ				S	**Sn**	**00 40 51.2**	**-0.2**
KUZ	**Kuaotunu**	**2.68**	**279**	P	**Pn**	**00 40 21.1**	**+0.1**
KUZ	**Kuaotunu**	**2.68**	**279**	S	**Sn**	**00 40 49.8**	**-2.9**
BKZ	**Black Stump Fm**	**2.79**	**225**	P	**Pn**	**00 40 23.6**	**+0.9**
BKZ	**Black Stump Fm**	**2.79**	**225**	P	**Pn**	**00 40 23.8**	**+1.1**
BKZ				S	**Sn**	**00 40 54.5**	**-1.2**
MCHZ	**McNeill Hill**	**2.89**	**218**	P	**Pn**	**00 40 24.9**	**+0.9**
MCHZ				S	**Sn**	**00 40 56.4**	**-1.6**
KWHZ	**Kaweka Forest**	**3.02**	**222**	P	**Pn**	**00 40 26.0**	**+0.2**
KWHZ				S	**Sn**	**00 40 59.2**	**-2.0**
MKAZ	**Moumakai**	**3.08**	**271**	P	**Pn**	**00 40 27.1**	**+0.6**
KAHZ	**Kahuranaki**	**3.09**	**212**	P	**Pn**	**00 40 26.3**	**-0.4**
KAHZ				S	**Sn**	**00 41 01.1**	**-1.8**
WIAZ	**Waiheke Island**	**3.13**	**276**	P	**Pn**	**00 40 27.9**	**+0.6**
TMZ	**Te Maari**	**3.24**	**233**	P	**Pn**	**00 40 29.0**	**+0.1**
ETVZ	**East Tongariro**	**3.24**	**232**	P	**Pn**	**00 40 29.8**	**+0.9**
ETVZ				S	**Sn**	**00 41 05.2**	**-1.7**
KRVZ	**Karewarewa**	**3.26**	**234**	P	**Pn**	**00 40 30.2**	**+1.0**
KRVZ				S	**Sn**	**00 41 06.4**	**-1.0**
ETAZ	**East Tamaki Re**	**3.28**	**273**	P	**Pn**	**00 40 31.2**	**+1.9**
NNVZ	**North Ngauruho**	**3.30**	**233**	P	**Pn**	**00 40 31.1**	**+1.3**
NNVZ				S	**Sn**	**00 41 06.7**	**-1.7**
SNVZ	**South Ngauruho**	**3.32**	**232**	P	**Pn**	**00 40 30.7**	**+0.7**
SNVZ				S	**Sn**	**00 41 06.8**	**-1.9**
NGZ	**Ngauruhoe**	**3.34**	**233**	P	**Pn**	**00 40 31.1**	**+0.8**
ABAZ	**Army Bay**	**3.41**	**279**	P	**Pn**	**00 40 34.1**	**+3.1**
WHVZ	**Whangaehu Hut**	**3.41**	**231**	P	**Pn**	**00 40 31.9**	**+0.7**
WHVZ				S	**Sn**	**00 41 07.9**	**-3.2**
WNVZ	**Wahianoa**	**3.43**	**231**	P	**Pn**	**00 40 31.9**	**+0.3**
WNVZ				S	**Sn**	**00 41 08.6**	**-2.9**
PNHZ	**Pukenui**	**3.50**	**218**	P	**Pn**	**00 40 32.3**	**0.0**
AWAZ	**Awhitu Peninsu**	**3.50**	**271**	P	**Pn**	**00 40 34.8**	**+2.5**
HIZ	**Hauiti**	**3.54**	**247**	P	**Pn**	**00 40 35.1**	**+2.2**
RVAZ	**Riverhead Bore**	**3.58**	**276**	P	**Pn**	**00 40 36.7**	**+3.3**
TSZ	**Takapari Road**	**3.72**	**219**	P	**Pn**	**00 40 35.0**	**-0.5**
WCZ	**Waipu Caves**	**3.96**	**287**	P	**Pn**	**00 40 40.5**	**+1.8**
WAZ	**Wanganui**	**4.06**	**230**	P	**Pn**	**00 40 41.3**	**+1.2**
OUZ	**Omahuta**	**4.80**	**293**	P	**Pn**	**00 40 50.0**	**-0.3**
OUZ	**Omahuta**	**4.80**	**293**	P	**Pn**	**00 40 49.9**	**-0.3**

*UCR **21** 00:44:38.5±0.6, 8°.80N×83°.70W, h25km±1km, MW3.7, Fault plane solution: NP1:φs82.46000°, δ78.69000°, λ-33.34000°.*
*CATAC **21** 00:44:38.4±1.0, 9°N±7°×8°4W±°, h9km±4km, M3.6/6, MLv3.6/6, Error ellipse: s-maj=18.3km s-min=4.2km az=40.2, confirmed*
*UPA **21** 00:44:40.3±1.3, 8°.84N×83°.59W, h27km±7km, ML3.6, MW3.5*

ISC 21 00:44:38.3±1.0, 8°80N±0°04×83°69W±0°03, h30km±7km, n79, σ0°80/98, 6C-16D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PANP	**Palmar Norte**	**0.28**	**54**	eP	**Pb**	**00 40 45.2**	**-0.3**
PANP				eS	**Sb**	**00 40 50.5**	**+0.1**
OCHAL	**Ojochal**	**0.30**	**8**	P	**Pb**	**00 40 45.5**	**-0.4**
OCHAL				S	**Sb**	**00 40 50.6**	**-0.3**
EDPE	**Pejibaye, P**	**0.38**	**18**	eP	**Pb**	**00 40 46.5**	**-0.4**
EDPE				eS	**Sb**	**00 40 52.4**	**-0.4**
FIMO	**Fila Mora**	**0.38**	**60**	eP	**Pb**	**00 40 46.9**	**-0.1**
BURE	**Buenos Aires**	**0.51**	**43**	eP	**Pb**	**00 40 48.9**	**-0.1**
BURE				eS	**Sb**	**00 40 56.4**	**+0.2**
PIRO	**Carate, Puerto**	**0.52**	**138**	eP	**Pb**	**00 40 49.4**	**+0.3**
PIRO	**Carate, Puerto**	**0.52**	**138**	eP	**Pb**	**00 40 49.5**	**+0.3**
PIRO				eS	**Sn**	**00 40 58.6**	**+1.0**
EDAD	**Golfito**	**0.54**	**105**	eP	**Pb**	**00 40 48.6**	**-0.8**
EDAD				eS	**Sb**	**00 40 56.9**	**0.0**
EDP2	**Potrero Grande**	**0.55**	**67**	eP	**Pb**	**00 40 49.6**	**0.0**
FITO	**Golfito**	**0.55**	**108**	eP	**Pb**	**00 40 49.0**	**-0.7**
SAJE	**San Jernim**	**0.57**	**18**	eP	**Pb**	**00 40 49.5**	**-0.6**
DRK0	**Durika**	**0.64**	**43**	eP	**Pb**	**00 40 50.6**	**-0.5**
DRK0	**Durika**	**0.64**	**43**	eP	**Pb**	**00 40 50.6**	**-0.5**
DRK0				eS	**Sb**	**00 45 00.1**	**+0.2**
NELY	**Ciudad Neily**	**0.75**	**101**	eP	**Pb**	**00 40 52.6**	**-0.2**
LLNJ	**Naranjito**	**0.79**	**329**	eP	**Pb**	**00 40 52.9**	**-0.6**
RSRNO	**Rio Sereno**	**0.82**	**88**	eP	**Pn**	**00 40 54.5**	**+0.6**
CDITO	**Canoas**	**0.84**	**105**	P	**Pb**	**00 40 54.0**	**-0.3**
CDITO	**Canoas**	**0.84**	**105**	S	**Sn**	**00 45 06.7**	**+1.4**
MLIR3	**Monte Lirio, C**	**0.85**	**90**	eP	**Pn**	**00 40 55.0**	**+0.6**
MLIR3				AMP		00 44 55.4	
	comp=Z,3μm,0.1s						
MLIR3				eS	**Sb**	**00 45 03.5**	**-2.4**
ALCO	**Alturas Coton,**	**0.86**	**80**	eP	**Pb**	**00 40 54.0**	**-0.8**
PIEC	**Cerro El Cedra**	**0.86**	**342**	eP	**Pb**	**00 40 54.0**	**-1.0**
LPPC	**Paso Canoas**	**0.88**	**107**	eP	**Pb**	**00 40 54.6**	**-0.5**
PISJ	**San Jernim**	**0.94**	**333**	eP	**Pb**	**00 40 55.3**	**-0.8**
PAN1A	**Puntarenas Pro**	**0.97**	**325**	eP	**Pb**	**00 40 55.2**	**+0.3**
BRU2	**Volcan**	**0.98**	**90**	eP	**Pn**	**00 40 56.4**	**+0.1**
BRU2	**Volcan**	**0.98**	**90**	eP	**Pn**	**00 40 56.4**	**+0.1**
BRU2				eS	**Sb**	**00 45 08.6**	**-1.0**
BRU2	**Volcan**	**0.98**	**90**	P	**Pn**	**00 40 56.7**	**+0.5**
BRU2	**Volcan**	**0.98**	**90**	S	**Sn**	**00 45 10.6**	**+1.4**
LCR2	**La Lucha 2**	**0.99**	**342**	eP	**Pn**	**00 40 56.1**	**-0.3**
PTPM	**Petroterminale**	**0.99**	**126**	eP	**Pb**	**00 40 56.9**	**-0.1**
PTPM				eS	**Sb**	**00 45 09.6**	**-0.1**
PTPA	**Petro Terminal**	**1.00**	**126**	eP	**Pn**	**00 40 56.8**	**+0.5**
REPA	**Paraso**	**1.04**	**350**	eP	**Pn**	**00 40 57.2**	**+0.2**
CLLRA	**Cordillera,**	**1.06**	**93**	eP	**Pn**	**00 40 57.6**	**+0.3**
BC3P	**Paso Ancho**	**1.06**	**89**	eP	**Pn**	**00 40 57.3**	**-0.1**
BC3P				AMP		00 44 58.1	
	comp=Z,2μm,0.1s						
BC3P				eS	**Sb**	**00 45 11.1**	**-0.9**
PRISO	**Paraso**	**1.09**	**97**	eP	**Pn**	**00 40 58.0**	**+0.3**
VINA	**Juan Vinas**	**1.09**	**357**	eP	**Pn**	**00 40 58.2**	**+0.5**
ACOS	**Acosta**	**1.10**	**335**	eP	**Pn**	**00 40 58.2**	**+0.3**
CEUA	**Cerro Uatsi, L**	**1.10**	**42**	eP	**Pb**	**00 40 59.2**	**+0.4**
TURIB	**Turrialba**	**1.10**	**0**	eP	**Pn**	**00 40 58.2**	**+0.4**
PCAYA	**Pacayas**	**1.12**	**354**	eP	**Pn**	**00 40 58.9**	**+0.7**
VERB	**Verbena**	**1.14**	**360**	eP	**Pn**	**00 40 59.0**	**+0.6**
LAES	**El Progreso Va**	**1.15**	**33**	eP	**Pn**	**00 40 59.1**	**+0.7**
VTCV	**VTCV, Calle Va**	**1.18**	**358**	eP	**Pn**	**00 40 59.7**	**+0.7**
PTAR3	**Potrerillos Ar**	**1.18**	**95**	eP	**Pb**	**00 40 59.9**	**-0.3**
PTAR3				eS	**Sn**	**00 45 14.1**	**0.0**
VICA	**Volcano Irazu**	**1.19**	**353**	eP	**Pn**	**00 40 59.8**	**+0.4**
CVTV	**Tajo**	**1.20**	**357**	eP	**Pn**	**00 45 00.3**	**+0.8**
VTLA	**Turrialba Volc**	**1.20**	**356**	eP	**Pn**	**00 45 00.2**	**+0.7**
CVTQ	**Turrialba Volc**	**1.20**	**356**	eP	**Pn**	**00 45 00.2**	**+0.8**
BQTLY	**Boquete Panama**	**1.21**	**92**	eP	**Pn**	**00 40 59.7**	**+0.3**
VTR0	**Volcan Turrial**	**1.22**	**357**	eP	**Pn**	**00 45 00.4**	**+0.7**
RESJ	**San Isidro (Tu**	**1.23**	**2**	eP	**Pn**	**00 45 00.4**	**+0.9**
LNBQ3	**Los Naranjos,**	**1.23**	**90**	eP	**Pn**	**00 44 60.0**	**+0.3**
LNBQ3				AMP		00 45 01.2	
	comp=Z,1μm,0.1s						
LNBQ3				eS	**Sn**	**00 45 14.9**	**-0.4**
BQSF3	**Alto Boquete,**	**1.24**	**92**	eP	**Pn**	**00 45 00.3**	**+0.5**
BQSF3				eS	**Sn**	**00 45 15.0**	**-0.5**
CVIMO	**Finca Echandi**	**1.25**	**348**	eP	**Pn**	**00 45 00.7**	**+0.8**
HDC	**Heredia**	**1.27**	**341**	eP	**Pb**	**00 45 01.7**	**-0.1**
BELE	**Belen**	**1.27**	**337**	eP	**Pn**	**00 45 01.0**	**+0.8**
HEME	**Heredia, Merce**	**1.27**	**340**	eP	**Pn**	**00 45 01.3**	**+1.1**
DVD	**David**	**1.27**	**106**	eP	**Pn**	**00 45 01.1**	**+1.0**
DVD				eS	**Sn**	**00 45 15.8**	**-0.4**
LCOCO	**El Coco**	**1.29**	**6**	eP	**Pn**	**00 45 01.2**	**+0.9**
CSTBL	**De las Acacias**	**1.29**	**107**	eP	**Pn**	**00 45 01.1**	**+0.8**
IRES	**Siquirres**	**1.30**	**8**	eP	**Pn**	**00 45 01.7**	**+1.2**
RVLA	**Villa Bonita**	**1.31**	**4**	eP	**Pb**	**00 45 02.1**	**-0.2**
LOCO3	**Loma Colorada,**	**1.31**	**107**	eP	**Pn**	**00 45 01.3**	**+0.7**
LOCO3				eS	**Sn**	**00 45 16.5**	**-0.6**
PEDE3	**Pedregal, Chir**	**1.32**	**108**	eP	**Pb**	**00 45 01.8**	**-0.6**
PEDE3				eS	**Sn**	**00 45 15.7**	**-1.6**
ATEO	**Atenas**	**1.36**	**330**	eP	**Pn**	**00 45 02.4**	**+1.0**
PBNVO	**Pueblo Nuevo,**	**1.48**	**86**	eP	**Pn**	**00 45 03.3**	**+0.4**
SRA1	**San Ramn**	**1.50**	**329**	eP	**Pn**	**00 45 03.9**	**+0.6**
RBALA	**Bur**	**1.52**	**87**	eP	**Pn**	**00 45 03.9**	**+0.4**
CARI	**Cariari**	**1.56**	**358**	eP	**Pn**	**00 45 05.6**	**+1.6**
CBL1	**Cabuya**	**1.59**	**300**	eP	**Pn**	**00 45 04.1**	**-0.4**
TRT2	**Tortugero**	**1.75**	**358**	eP	**Pn**	**00 45 08.0**	**+1.3**
SOCE	**Pocosol**	**1.82**	**330**	eP	**Pn**	**00 45 09.8**	**+2.1**
SOCE	**Pocosol**	**1.82**	**330**	P	**Pb**	**00 45 10.1**	**-1.0**
SOCE	**Pocosol**	**1.82**	**330**	S	**Sb**	**00 45 34.0**	**+0.5**
KKNTU	**Kakint**	**1.86**	**88**	eP	**Pn**	**00 45 09.0**	**+0.8**
JTS	**Las Juntas de**	**1.94**	**320**	eP	**Pb**	**00 45 11.8**	**-1.3**
JTS				eS	**Sb**	**00 45 35.7**	**-1.2**
JTS	**Las Juntas de**	**1.94**	**320**	P	**Pn**	**00 45 11.6**	**+2.3**
JTS				S	**Sb**	**00 45 37.6**	**+0.7**
VARE2	**V. Arenal**	**1.94**	**329**	eP	**Pb**	**00 45 12.3**	**-0.9**
COVE	**Coope Vega, Sa**	**2.04**	**340**	P	**Pb**	**00 45 13.4**	**-1.3**

*IDC **21** 00:49:25.4±0.7, 12°.23N×144°.60E, h0km, mb4.1/16, mbtmp4.1/16, MS3.4/15, Error ellipse: s-maj=25.0km s-min=14.1km az=92.0*
*NEIC **21** 00:49:27.6±1.0, 12°.24N±0°.07×144°.7E±0°.1, h10km±1km, mb4.6/29, Error ellipse: s-maj=24.5km s-min=11.1km az=100.0*

ISC 21 00:49:26.2±0.5, 12°17N±0°07×144°8E±0°1, h10km, n67, σ0°81/54, mb4.5/31, MS3.4/15, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.41**	**4**	Pn	**Pg**	**00 49 53.1**	**-0.2**
	117nm

BRVK					IAmb	IAmb	01 01 00.0		
	comp=Z,2.6nm,0.8s								
SIMJ	**Simiganj**	**71.41**	**307**			**P**	**01 00 47.1**	**0.0**	
SIMJ					IAmb	IAmb	01 01 01.5		
	comp=Z,6.4nm,1.1s								
KBL	**Kabul**	**71.49**	**302**	P		**P**	**01 00 47.2**	**-0.6**	
KBL					IAmb	IAmb	01 00 50.2		
	comp=Z,7.4nm,1.1s								
M29M	**Somme Creek**	**73.17**	**28**	P		**P**	**01 00 58.5**	**+1.3**	
L29M	**L29M**	**73.40**	**28**	P		**P**	**01 00 59.1**	**+0.8**	
L29M					IAmb	IAmb	01 01 19.6		
	comp=Z,3.8nm,0.8s								
AB31	**Akbulak array**	**77.51**	**318**			**P**	**01 01 21.2**	**-1.0**	
AB31					IAmb	IAmb	01 01 35.1		
	comp=Z,3.9nm,1.1s								
ABKAR	**Akbulak array**	**77.51**	**318**			**P**	**01 01 21.4**	**-0.8**	
ARTI	**Arti**	**77.96**	**325**	LR		LR	01 37 43.6		
	comp=Z,37nm,18.3s,baz=176,slow=37								
BELG	**Belogornoye**	**84.77**	**322**	LR		LR	01 41 47.1		
	comp=Z,52nm,18.4s,baz=46,slow=37								
BMO	**Blue Mountains**	**87.06**	**45**			**P**	**01 02 12.5**	**0.0**	
BMO					IAmb	IAmb	01 02 41.2		
	comp=Z,3.1nm,1.1s								
NVAR	**Mina Array Bea**	**87.89**	**51**	P		**P**	**01 02 17.3**	**+0.5**	
NVAR	**Mina Array Bea**	**87.89**	**51**	P		**P**	**01 02 18.8**	**+2.1**	
	comp=Z,0.9nm,0.8s,baz=266,slow=6.8,SNR=6.6								
	comp=Z,0.9nm,0.8s								
ARCES	**ARCESS Array B**	**88.39**	**342**	P		**P**	**01 02 18.6**	**+0.4**	
	comp=Z,0.9nm,0.7s,baz=70,slow=7.9,SNR=6.5								
ARCES				LR		LR	01 45 14.2		
	comp=Z,20nm,18.9s,baz=87,slow=38								
	comp=Z,0.9nm,0.7s								
MFID	**Camas Ranch**	**88.46**	**46**			**P**	**01 02 20.3**	**+1.1**	
MFID					IAmb	IAmb	01 02 22.3		
	comp=Z,5.6nm,1.1s								
VNDA	**Vanda**	**90.07**	**176**	P		**P**	**01 02 25.0**	**-0.8**	
	comp=Z,0.4nm,0.6s,baz=268,slow=16,SNR=2.1								
	comp=Z,0.4nm,0.6s								
FINES	**FINESS Array B**	**92.39**	**335**	P		**P**	**01 02 35.8**	**-1.2**	
	comp=Z,1.2nm,0.7s,baz=76,slow=4.6,SNR=15								
	comp=Z,1.2nm,0.7s								
DBIC	**Dimbokro**	**144.46**	**300**	PKP		**PKPdf**	**01 09 03.9**	**-0.1**	
	comp=Z,7.0nm,0.8s,baz=49,slow=2.5,SNR=5.2								
LPAZ	**La Paz**	**147.88**	**101**	PKPbc		**PKPab**	**01 09 15.8**	**-0.1**	
	comp=Z,1.2nm,0.7s,baz=349,slow=4.8,SNR=5.1								

*AEIC **21** 00:59:49.3±2.0, 51°.09N±0°.04×178°.03W±0°.04, h14km±4km, Error ellipse: s-maj=6.6km s-min=3.3km az=192.0*

NEIC 21 00:59:48.4±1.4, 51°.02N±0°.08×178°.04W±0°.05, h20km±9km, mb3.7/21, ML3.5/8, ML2.8(AEIC)**, Error ellipse: s-maj=12.3km s-min=4.1km az=181.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GAKI	**Gareloi-Kavalg**	**0.72**	**318**			**Pb**	**01 00 02.1**	**-0.1**
GAKI						Sb	01 00 11.4	-0.3
TAPA	**Tanaga Point A**	**0.81**	**10**			**Pb**	**01 00 03.7**	**-0.1**
TAPA						Sb	01 00 14.0	-0.3
TASE	**Tanaga Southea**	**0.82**	**0**			**Pg**	**01 00 04.2**	**-0.2**
GAEA	**Gareloi East**	**0.88**	**330**			**Pb**	**01 00 05.2**	**+0.2**
GAEA						Sn	01 00 18.6	+0.7
KIMD	**Kanaga Island**	**0.90**	**34**			**Pb**	**01 00 05.2**	**0.0**
KIMD						Sb	01 00 16.6	-0.1
TANO	**Tanaga North**	**0.90**	**357**			**Pb**	**01 00 05.5**	**+0.3**
GASW	**Gareloi Southw**	**0.92**	**326**			**Pb**	**01 00 05.5**	**-0.1**
GASW						Sn	01 00 19.2	+0.5
GANO	**Gareloi North**	**0.93**	**329**			**Pb**	**01 00 05.7**	**-0.2**
KIWB	**Kanaga Island**	**1.00**	**33**			**Pb**	**01 00 07.0**	**-0.1**
KIWB				Sg		Sb	01 00 19.4	-0.4
KIWB				IAML			01 00 20.0	
	comp=N,917nm,0.6s							
KIWB				IAML			01 00 23.4	
	comp=E,970nm,0.7s							
KIKV	**Kanaga Island**	**1.02**	**32**			**Pb**	**01 00 07.1**	**-0.2**
KIKV						Sb	01 00 20.3	+0.1
KICM	**Kanaga Island**	**1.04**	**30**			**Pb**	**01 00 07.8**	**+0.1**
KIRH	**Kanaga Island**	**1.06**	**34**			**Pb**	**01 00 08.1**	**0.0**
ADK	**Adak**	**1.21**	**44**			**Pn**	**01 00 09.9**	**-0.2**
ADK	**Adak**	**1.21**	**44**			**Sb**	**01 00 25.7**	**-0.1**
ETKA	**Kagalaska Isla**	**1.33**	**50**			**Pn**	**01 00 11.8**	**+0.1**
GSCK	**Great Sitkin C**	**1.54**	**49**			**Sb**	**01 00 34.9**	**-0.3**
GSMY	**Great Sitkin M**	**1.61**	**50**			**Sb**	**01 00 37.3**	**+0.1**
GSIG	**Igitkin Island**	**1.64**	**53**			**Pn**	**01 00 16.4**	**+0.3**
GSIG						Sn	01 00 36.9	+0.3
GSTR	**Great Sitkin T**	**1.64**	**48**			**Pn**	**01 00 16.4**	**+0.3**
GSTR				Sn		Sb	01 00 37.8	-0.4
AMKA	**Amchitka**	**1.71**	**283**			**Pn**	**01 00 16.5**	**-0.5**
CEAP	**Semis' Anvil P**	**1.78**	**304**			**Pn**	**01 00 18.9**	**+0.8**
CETU	**Semis' Tuman**	**1.81**	**303**			**Pn**	**01 00 19.1**	**+0.7**
LSSE	**Little Sitkin**	**2.31**	**295**			**Pn**	**01 00 26.4**	**+1.1**
LSNW	**Little Sitkin**	**2.35**	**295**			**Pn**	**01 00 27.4**	**+1.6**
ATKA	**Atka Island**	**2.67**	**62**			**Pn**	**01 00 30.3**	**+0.1**
ATKA				IAML			01 01 09.5	
	comp=N,238nm,0.7s							
ATKA				IAML			01 01 09.8	
	comp=E,189nm,0.7s							
NIKH	**Nikolski High**	**6.00**	**67**	Pn		Pn	01 01 17.0	+1.1
UNV	**Unalaska Valle**	**7.60**	**64**	Pn		Pn	01 01 38.9	+1.1
CNBA	**Chernabura Isl**	**11.76**	**64**	Pn		Pn	01 02 33.6	-1.2
M16K	**Timber Creek**	**14.57**	**39**			P	01 03 17.0	-2.6
L16K	**Owhat River**	**14.78**	**36**	Pn		Pn	01 03 17.7	+1.6
M17K	**Holitna River**	**15.40**	**40**	Pn		Pn	01 03 25.9	+1.8
O18K	**Koktuh Hills**	**15.61**	**47**	Pn		Pn	01 03 28.6	+1.6
O18K				IAmb		IAmb	01 03 38.3	
	comp=Z,5.1nm,0.9s							
N18K	**Kilae Creek**	**15.68**	**43**			P	01 03 29.9	-1.9
N18K				IAmb		IAmb	01 03 36.4	
	comp=Z,5.1nm,1.1s							
L18K	**Granite Mounta**	**16.15**	**38**	Pn		Pn	01 03 33.4	-0.5
L18K				IAmb		IAmb	01 03 39.4	
	comp=Z,4.4nm,1.1s							
KDAK	**Kodiak Island**	**16.23**	**55**	Pn		Pn	01 03 31.8	-3.0
KDAK				IAmb		IAmb	01 03 39.5	
	comp=Z,10nm,1.3s							
N19K	**Bonanza Creek**	**16.35**	**44**			P	01 03 39.5	+0.1
N19K				IAmb		IAmb	01 03 58.8	
	comp=Z,8.3nm,1.4s							
SYI	**Shuyak Island**	**16.54**	**53**	Pn		Pn	01 03 38.0	-0.9
L19K	**White Mountain**	**16.85**	**40**			P	01 03 44.4	-0.4
L19K				IAmb		IAmb	01 03 50.7	
	comp=Z,6.9nm,1.2s							
K20K	**Telida**	**17.78**	**37**			Pn	01 03 54.7	+0.3
SKT	**Skwentna**	**18.14**	**43**			Pn	01 03 58.8	0.0
SKT				IAmb		IAmb	01 04 22.0	
	comp=Z,4.0nm,1.0s							
J20K	**Nowinta River**	**18.21**	**35**			P	01 03 59.8	0.0
E19K	**Redstone River**	**19.44**	**24**	P		P	01 04 13.5	+0.3
E19K				IAmb		IAmb	01 04 21.3	
	comp=Z,4.2nm,1.1s							
C18K	**Utukok River**	**19.47**	**19**	P		P	01 04 13.6	0.0
C18K				IAmb		IAmb	01 04 14.4	
	comp=Z,8.0nm,1.3s							
G21K	**Allakaket**	**19.85**	**29**	P		P	01 04 16.4	-1.3
RND	**Reindeer**	**19.86**	**40**	P		P	01 04 16.5	-1.4
RND				IAmb		IAmb	01 04 19.7	
	comp=Z,3.9nm,1.1s							
D19K	**Kuna River**	**20.01**	**22**	P		P	01 04 18.9	-0.6
F21K	**Alatna River**	**20.32**	**28**	P		P	01 04 23.0	+0.2
F21K				IAmb		IAmb	01 04 47.7	
	comp=Z,4.5nm,1.4s							
I23K	**Minto, Yukon-K**	**20.47**	**35**	P		P	01 04 23.6	-0.9
PAX	**Paxson**	**21.12**	**43**	P		P	01 04 30.5	-1.1
I28M	**Miner Creek**	**24.21**	**39**	P		P	01 05 01.4	-2.0
K29M	**Barlow Dome**	**24.80**	**43**	P		P	01 05 07.9	-0.8
PDAR	**Pinedale Array**	**45.96**	**72**	P		P	01 08 09.6	-0.4

*GCG **21** 01:05:04.7±2.4, 15°.41N×95°.14W, h36km±999km, MD4.7*
*MEX **21** 01:05:07.0±0.6, 15°.55N×95°.06W, h23km±20km, MD4.2*

ISC 21 01:05:01.8±1.5, 15°.48N±0°.04×95°.06W±0°.02, h17km±12km, n34, σ2§16/67, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HUIG	**Huatulco**	**1.05**	**286**		*eP*	**Pg**	**01 05 22.9**	**+0.7**
HUIG					*eS*	**Sb**	**01 05 35.1**	**0.0**
HUIG	**Huatulco**	**1.05**	**286**		*eP*	**Pg**	**01 05 22.9**	**+0.7**
HUIG					*eS*	**Sb**	**01 05 34.8**	**-0.4**
NILT	**Santiago Nilte**	**1.16**	**21**		*eP*	**Pn**	**01 05 23.5**	**+0.2**
NILT					*eS*	**Sb**	**01 05 36.2**	**-2.0**
CMIG	**Matias Romero**	**1.61**	**6**		*i* P	**Pn**	**01 05 30.8**	**+1.3**
CMIG					*eS*	**Sn**	**01 05 49.2**	**-0.7**
PCIG		**1.78**	**83**		*eP*	**Pb**	**01 05 33.8**	**-0.3**
PCIG					*eS*	**Sn**	**01 05 54.6**	**+0.5**
PEIG	**Puerto Escondi**	**2.08**	**285**		*eP*	**Pn**	**01 05 37.4**	**+1.5**
PEIG					*eS*	**Sn**	**01 05 59.5**	**-2.0**
OXLC	**Oaxaca**	**2.23**	**315**		*eP*	**Pg**	**01 05 44.1**	**-0.7**
OXLC					*eS*	**Sn**	**01 06 07.1**	**+1.6**
OXBJ	**Oaxaca**	**2.25**	**315**		*eS*	**Sn**	**01 06 06.5**	**+0.6**
VHO	**Vista Hermosa**	**2.26**	**315**		*eP*	**Pb**	**01 05 41.4**	**-1.0**
VHO					*eS*	**Sn**	**01 06 07.1**	**+0.9**
TGIG		**2.26**	**55**		*eP*	**Pn**	**01 05 40.9**	**+2.4**
TGIG					*eS*	**Sn**	**01 06 06.1**	**0.0**
TGIG		**2.26**	**55**		*eP*	**Pn**	**01 05 41.0**	**+2.5**
TGIG					*eS*	**Sn**	**01 06 08.7**	**+2.6**
NEUV	**Arroyo Zacate**	**2.33**	**342**		*eP*	**Pn**	**01 05 41.2**	**+1.8**
NEUV					*eS*	**Sn**	**01 06 07.0**	**-0.7**
TUIG	**Tuzandepetl**	**2.61**	**13**		*eP*	**Pn**	**01 05 45.7**	**+2.5**
TUIG					*eS*	**Sn**	**01 06 15.7**	**+1.1**
PATR	**El Naranjo**	**2.75**	**97**		*eP*	**Pn**	**01 05 48.2**	**+2.9**
PATR					*eS*	**Sn**	**01 06 18.8**	**+0.5**
THIG		**2.75**	**102**		*eP*	**Pb**	**01 05 48.9**	**-1.7**
THIG					*eS*	**Sn**	**01 06 20.0**	**+1.9**
YOIG	**Yosondua**	**2.76**	**300**		*eP*	**Pb**	**01 05 49.3**	**-1.6**
YOIG					*eS*	**Sn**	**01 06 18.4**	**-0.2**
PAVE	**Pavencul**	**2.79**	**95**		*eP*	**Pn**	**01 05 49.3**	**+3.3**
PAVE					*eS*	**Sn**	**01 06 21.0**	**+1.6**
CCIG	**Comitan**	**2.92**	**74**		*eP*	**Pn**	**01 05 51.3**	**+3.6**
CCIG					*eS*	**Sb**	**01 06 27.5**	**-1.6**
CCIG	**Comitan**	**2.92**	**74**		*eP*	**Pb**	**01 05 51.7**	**-1.9**
CCIG					*eS*	**Sb**	**01 06 29.2**	**+0.2**
PMUV	**Sontecomapan**	**3.05**	**359**		*eP*	**Pn**	**01 05 50.2**	**+0.9**
PMUV					*eS*	**Sn**	**01 06 29.4**	**+2.0**
PNIG	**Pinotepa**	**3.09**	**287**		*eP*	**Pn**	**01 05 52.2**	**+2.3**
PNIG					*eS*	**Sn**	**01 06 23.3**	**-3.2**
TXIG	**Tlaxiaco**	**3.15**	**304**		*eP*	**Pn**	**01 05 54.5**	**+3.6**
TXIG					*eS*	**Sn**	**01 06 28.7**	**+0.5**
TOIG	**Toxpalan**	**3.24**	**324**		*eP*	**Pb**	**01 05 57.2**	**-1.8**
TOIG					*eS*	**Sn**	**01 06 31.8**	**+1.6**
HLIG	**Huajuapan de L**	**3.52**	**312**		*eP*	**Pn**	**01 06 00.1**	**+4.2**
HLIG					*eS*	**Sn**	**01 06 37.3**	**-0.1**
TPIG	**Tehuac#an**	**3.66**	**323**		*eP*	**Pn**	**01 06 00.0**	**+2.1**
TPIG					*eS*	**Sn**	**01 06 43.1**	**+2.3**
STG0	**El Palmar, Qui**	**3.74**	**106**		*eP*	**Pn**	**01 05 57.9**	**-1.0**
STG0					*eS*	**Sn**	**01 06 37.6**	**-5.1**
MGIG	**Malinaltepec**	**3.85**	**297**		*eP*	**Pn**	**01 06 04.6**	**+4.1**
MGIG					*eS*	**Sn**	**01 06 45.0**	**-0.5**
TLIG	**Tlapa**	**3.95**	**302**		*eP*	**Pn**	**01 06 05.7**	**+3.8**
TLIG					*eS*	**Sn**	**01 06 46.4**	**-1.6**
CRIG	**Cruz Grande**	**4.11**	**288**		*eP*	**Pn**	**01 06 05.9**	**+2.0**
CRIG					*eS*	**Sn**	**01 06 47.4**	**-4.2**
POHV	**Veracruz**	**4.16**	**330**		*eP*	**Pn**	**01 06 06.5**	**+1.5**
POHV					*eS*	**Sn**	**01 06 55.4**	**+1.9**
JAUV	**Jalcomulco**	**4.21**	**337**		*eP*	**Pn**	**01 06 06.9**	**+1.6**
JAUV					*eS*	**Sn**	**01 06 51.7**	**-2.4**
LVIG	**Laguna Verde**	**4.42**	**343**		*eP*	**Pn**	**01 06 07.2**	**-0.9**
LVIG					*eS*	**Sn**	**01 06 55.1**	**-4.1**
SCIG	**Sabancuy**	**5.07**	**46**		*eP*	**Pn**	**01 06 19.2**	**+2.1**
SCIG					*eS*	**Sn**	**01 07 13.3**	**-1.9**
CXUV	**Coxquihui**	**5.26**	**333**		*eP*	**Pn**	**01 06 20.9**	**+1.3**
CXUV					*eS*	**Sn**	**01 07 21.9**	**+2.0**

*ASIES **21** 01:05:19.3, 24°.99N×122°.34E, h19km, ML3.8, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr=1.77; Mθθ=1.52; Mφφ=0.25; Mrθ=-1.94; Mθφ=0.72; Mφr=0.44; Fault plane solution: M0=2.68772×10¹⁴ NP1: φs=312.90000°, δ27.02000°, λ=-49.78000°. NP2:φs=89.39000°, δ69.70000°, λ=-108.23000°. Principal axes: T Plg22.6210°, Azm193.2530°; N Plg17.0590°, Azm95.9070°; P Plg61.0700°, Azm332.1840°;*
*JMA **21** 01:05:19.0±0.1, 25°.0N±0°.8×122°.4E±0°.4, h44km±3km, MV2.9/10, NW OFF ISHIGAKIJIMA IS*
*TAP **21** 01:05:19.3, 24°.99N×122°.34E, h19km, ML3.8, C*
*IDC **21** 01:05:20.7±5.0, 24°.12N×121°.55E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=383.1km s-min=24.7km az=60.0*

ISC 21 01:05:18.6±1.0, 25°.00N±0°.03×122°.40E±0°.03, h21km±3km, n92, σ0§64/143, mb3.3/4, 3C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.37**	**272**	⇓	*iP*	**Pb**	**01 05 26.3**	**-0.1**
TWB1					*i* S	**Sb**	**01 05 31.2**	**-0.5**
EGS		**0.45**	**250**		*eP*	**Pb**	**01 05 27.6**	**+0.2**
SXI1	**Grass Mountain**	**0.48**	**282**	⇑	*iP*	**Pb**	**01 05 28.8**	**+0.3**
SXI1					S	**Sb**	**01 05 35.2**	**+0.1**
TIPB	**Shuangxi**	**0.52**	**267**		*eP*	**Pb**	**01 05 29.3**	**+0.2**
TIPB					*eS*	**Sb**	**01 05 35.7**	**-0.5**
NWF	**Wu-fen Shan**	**0.56**	**278**		*eP*	**Pb**	**01 05 30.3**	**+0.4**
NWF					*eS*	**Sb**	**01 05 37.5**	**-0.1**
WFSB	**Wu-fen Shan**	**0.56**	**278**		*eP*	**Pb**	**01 05 30.3**	**+0.5**
WFSB					*eS*	**Sb**	**01 05 37.5**	**-0.1**
TNOU	**National Taiwa**	**0.58**	**285**	⇑	*iP*	**Pb**	**01 05 30.7**	**+0.4**
TNOU					S	**Sb**	**01 05 37.7**	**-0.5**
EOS2	**EOS2**	**0.59**	**195**		P	**Pn**	**01 05 31.2**	**-0.5**
EOS2					*eS*	**Sn**	**01 05 39.8**	**-0.9**
TWC	**Suao**	**0.63**	**232**		P	**Pb**	**01 05 30.4**	**-0.6**
TWC					S	**Sb**	**01 05 38.7**	**-0.7**
ILA	**Ilan**	**0.63**	**249**		*eP*	**Pn**	**01 05 31.7**	**-0.7**
ILA					*eS*	**Sn**	**01 05 40.8**	**-1.0**
ESAO	**Su ao**	**0.66**	**230**		*eP*	**Pb**	**01 05 31.0**	**-0.4**
ESAO					*eS*	**Sb**	**01 05 39.3**	**-0.8**
PCYT	**Pengchaiyu**	**0.69**	**335**		*eP*	**Pb**	**01 05 32.7**	**+0.6**
EOS3	**EOS3**	**0.71**	**186**		*eP*	**Pn**	**01 05 32.9**	**-0.4**
EOS3					*eS*	**Sn**	**01 05 43.2**	**-0.2**
NDS	**Dongshan**	**0.72**	**240**		*eP*	**Pb**	**01 05 31.8**	**-0.6**
NDS					*eS*	**Sb**	**01 05 41.6**	**-0.2**
TWE	**Neicheng**	**0.72**	**248**		*eP*	**Pb**	**01 05 32.3**	**-0.1**
TWA	**Mucha**	**0.74**	**269**		*eP*	**Pn**	**01 05 33.3**	**-0.5**
TWA					*eS*	**Sb**	**01 05 43.2**	**+0.7**
JYNG	**Yonagunijimaku**	**0.74**	**137**		P	**Pb**	**01 05 32.7**	**-0.1**
JYNG					*eS*	**Sb**	**01 05 43.1**	**+0.7**
YM08	**YM08**	**0.76**	**285**		*eP*	**Pb**	**01 05 33.4**	**+0.3**
YM08					*eS*	**Sb**	**01 05 43.2**	**+0.2**
YM01	**YM01**	**0.76**	**281**		*eP*	**Pn**	**01 05 33.9**	**-0.3**
YM01					*eS*	**Sn**	**01 05 44.2**	**-0.9**
FUSB	**Fushanzhiwuyua**	**0.77**	**252**		*eP*	**Pb**	**01 05 33.3**	**-0.1**
FUSB					*eS*	**Sb**	**01 05 43.7**	**+0.2**
TWY	**Chenhua**	**0.77**	**291**		*eP*	**Pb**	**01 05 34.9**	**-0.4**
TWY					*eS*	**Sn**	**01 05 44.8**	**-0.4**
YOJ	**Yonaguni jima**	**0.77**	**134**		P	**Pb**	**01 05 33.1**	**-0.2**
YOJ	**Yonaguni jima**	**0.77**	**134**		P	**Pb**	**01 05 33.2**	**-0.2**
YOJ					*eS*	**Sb**	**01 05 43.6**	**+0.2**
YOJ	**Yonaguni jima**	**0.77**	**134**	⇓	P	**Pb**	**01 05 33.1**	**-0.2**
EWUT	**Wuta**	**0.79**	**226**		*eP*	**Pb**	**01 05 33.4**	**-0.2**
EWUT					*eS*	**Sb**	**01 05 43.1**	**-0.7**
ZUZH	**Zhuzihu**	**0.79**	**282**		*eP*	**Pn**	**01 05 34.5**	**0.0**
ZUZH					*eS*	**Sb**	**01 05 44.5**	**+0.6**
NHDH	**Xindian Distri**	**0.79**	**268**		*eP*	**Pn**	**01 05 34.5**	**-0.1**
NHDH					*eS*	**Sn**	**01 05 44.6**	**-1.1**
TAP	**Taipei**	**0.81**	**273**		*eP*	**Pn**	**01 05 34.7**	**0.0**
TAP					*eS*	**Sn**	**01 05 45.3**	**-0.8**
ANP	**Anpu**	**0.82**	**283**		*eP*	**Pn**	**01 05 34.5**	**-0.4**
ANP					*eS*	**Sn**	**01 05 45.7**	**-0.7**
ENA	**Nanau**	**0.82**	**227**		*eP*	**Pb**	**01 05 34.1**	**-0.2**
ENA					*eS*	**Sb**	**01 05 44.9**	**+0.1**
TATO	**Taipei**	**0.82**	**269**		P	**Pn**	**01 05 34.8**	**-0.2**
TATO	**Taipei**	**0.82**	**269**		S	**Sn**	**01 05 45.9**	**-0.6**
ENTT	**Nioudou**	**0.83**	**245**		*eP*	**Pb**	**01 05 34.4**	**0.0**
ENTT					*eS*	**Sn**	**01 05 45.9**	**-0.9**
NWLT	**Wulai**	**0.84**	**255**		*eP*	**Pn**	**01 05 34.8**	**-0.4**
NWLT					*eS*	**Sb**	**01 05 44.9**	**-0.5**
NTST	**Danshui**	**0.88**	**281**		*eP*	**Pn**	**01 05 35.9**	**+0.2**
EOS4	**EOS4**	**0.88**	**185**		*eP*	**Pn**	**01 05 35.2**	**-0.1**
EOS4					*eS*	**Sn**	**01 05 48.0**	**+0.7**
TWS1	**Kuangyinshan**	**0.89**	**277**		*eP*	**Pn**	**01 05 36.5**	**+0.6**
TWS1					*eS*	**Sn**	**01 05 48.5**	**+0.3**
EAHA	**Aohua**	**0.89**	**222**		*eP*	**Pb**	**01 05 35.3**	**-0.2**
EAHA					*eS*	**Sb**	**01 05 46.8**	**-0.1**
LATG	**Datong**	**0.92**	**240**	⇑⇑	P	**Pn**	**01 05 36.2**	**-0.2**
LATG					*eS*	**Sb**	**01 05 48.0**	**+0.4**
YHNB	**Yeheng**	**0.98**	**251**		P	**Pb**	**01 05 37.0**	**0.0**
YHNB	**Yeheng**	**0.98**	**251**		P	**Pb**	**01 05 36.9**	**0.0**
NSK	**Sanguang**	**1.00**	**251**		*eP*	**Pb**	**01 05 37.0**	**-0.2**
NSK					*eS*	**Sb**	**01 05 50.0**	**+0.1**
NNSB	**Datong**	**1.08**	**239**		*eP*	**Pn**	**01 05 38.7**	**0.0**
NNSB					*eS*	**Sb**	**01 05 52.4**	**0.0**
NNS	**Nan Shan**	**1.08**	**239**		*eP*	**Pn**	**01 05 38.7**	**0.0**
NNS					*eS*	**Sn**	**01 05 52.6**	**-0.5**
ETL	**Fush Village**	**1.09**	**220**		*eP*	**Pb**	**01 05 38.9**	**0.0**
ETL					*eS*	**Sn**	**01 05 53.0**	**-0.2**
NACB	**Ninganchiao**	**1.10**	**222**		P	**Pn**	**01 05 38.6**	**-0.1**
NACB	**Ninganchiao**	**1.10**	**222**		*eP*	**Pn**	**01 05 38.4**	**-0.4**
NACB					*eS*	**Sb**	**01 05 52.5**	**-0.3**
KSHI	**Guanxi Townshi**	**1.13**	**259**		*eP*	**Pb**	**01 05 39.9**	**+0.4**
ETLH	**Xiulin Townshi**	**1.15**	**227**		*eP*	**Pb**	**01 05 39.9**	**+0.1**
ETLH					*eS*	**Sn**	**01 05 54.5**	**-0.1**
TWD	**Chiawan**	**1.17**	**219**		*eP*	**Pb**	**01 05 40.2**	**+0.1**
TWD					*eS*	**Sn**	**01 05 54.8**	**-0.2**
NFF	**Wufeng Townshi**	**1.22**	**253**		*eP*	**Pb**	**01 05 40.9**	**-0.1**
FUSS	**Fushou**	**1.29**	**235**		*eP*	**Pb**	**01 05 42.2**	**-0.1**
FUSS					*eS*	**Sb**	**01 05 58.9**	**+0.4**
SBCB	**Hsinchu**	**1.30**	**261**		*eP*	**Pb**	**01 05 42.0**	**-0.3**
LIOB	**Emei**	**1.30**	**255**		*eP*	**Pb**	**01 05 42.1**	**-0.3**
HSN	**Hsinchu**	**1.31**	**262**		*eP*	**Pn**	**01 05 41.5**	**-0.1**
ETM	**Tongmen**	**1.32**	**219**		*eP*	**Pb**	**01 05 42.5**	**-0.1**
NSTT	**Nanjuang**	**1.32**	**254**		*eP*	**Pb**	**01 05 42.2**	**-0.5**
LXIB	**Xiulin Townshi**	**1.32**	**223**		*eP*	**Pb**	**01 05 42.6**	**-0.2**
LXIB					*eS*	**Sb**	**01 06 00.0**	**+0.6**
TWT	**Tachien**	**1.33**	**237**		*eP*	**Pb**	**01 05 43.3**	**+0.2**
TWT					*eS*	**Sb**	**01 05 59.8**	**0.0**
WHF	**Hehuan Shan**	**1.33**	**231**		*eP*	**Pb**	**01 05 43.2**	**0.0**
WHF					S	**Sb**	**01 06 01.2**	**+1.2**
TDCB	**Techi**	**1.35**	**237**		*eP*	**Pb**	**01 05 43.4**	**+0.1**
TDCB					*eS*	**Sb**	**01 06 01.7**	**+1.5**
IRIF	**Iriomote-Funau**	**1.38**	**118**		*eP*	**Pn**	**01 05 41.8**	**-0.8**
SHUL	**Shoufeng**	**1.42**	**212**		*eP*	**Pb**	**01 05 44.4**	**-0.1**
WHP	**Taichung City**	**1.50**	**242**		*eP*	**Pb**	**01 05 46.0**	**+0.2**
OWD	**Renai**	**1.52**	**227**		*eP*	**Pb**	**01 05 46.3**	**0.0**
OWD					*eS*	**Sb**	**01 06 06.0**	**+0.9**
WUSB	**Renai**	**1.54**	**230**		*eP*	**Pb**	**01 05 46.4**	**-0.1**
WUSB					*eS*	**Sb**	**01 06 06.1**	**+0.5**
WARBT	**Fenglin Townsh**	**1.57**	**216**		*eP*	**Pn**	**01 05 45.4**	**+0.1**
WARBT					*eS*	**Sb**	**01 06 05.9**	**-0.6**
HATJ	**Hateruma jima**	**1.59**	**126**		*eP*	**Pn**	**01 05 45.4**	**-0.1**
VWDT	**VWDT**	**1.69**	**223**		*eP*	**Pb**	**01 05 48.4**	**-0.6**
VWDT					*eS*	**Sb**	**01 06 09.8**	**+0.1**
HGSD	**Ruisui**	**1.74**	**211**		*eP*	**Pn**	**01 05 48.2**	**+0.6**
SMLT	**Sun Moon Lake**	**1.76**	**231**		*eP*	**Pb**	**01 05 50.2**	**0.0**
SMLT					*eS*	**Sb**	**01 06 13.8**	**+1.9**
TYC	**Yuchr**	**1.78**	**232**		*eP*	**Pb**	**01 05 50.4**	**0.0**
EHYH	**Wan

SNR	**Schaffner Ranc**	**0.57**	**354**		**Pb**	**01 18 44.9**	**+0.7**
ESJX	**Sierra Juarez**	**0.57**	**240**		**Pb**	**01 18 45.2**	**+0.9**
SLRCX	**San Luis Rio C**	**0.58**	**73**⇑	*iP*	**Pn**	**01 18 44.9**	**-1.2**
YUH2	**Yuha Desert**	**0.59**	**307**⇑	*iP*	**Pb**	**01 18 44.9**	**+0.4**
YUH	**Yuha Desert**	**0.59**	**307**		**Pb**	**01 18 44.9**	**+0.3**
YUH				IAML		01 18 53.6	
	comp=E,943nm,0.5s						
YUH				IAML		01 18 54.4	
	comp=N,1µm,0.7s						
YUH	**Yuha Desert**	**0.59**	**307**		**Sb**	**01 18 53.3**	**+0.6**
COA	**Coachella**	**0.60**	**19**		**Pb**	**01 18 45.1**	**+0.3**
EDOMX	**El Doctor, EDO**	**0.62**	**122**⇑	*eP*	**Pn**	**01 18 46.0**	**-0.7**
IMPE	**Imperial**	**0.63**	**345**		**Pn**	**01 18 46.0**	**-0.9**
RMX	**La Rumorosa**	**0.68**	**297**		**Pg**	**01 18 45.6**	**-0.4**
RMX	**La Rumorosa**	**0.68**	**297**⇑	*iP*	**Pg**	**01 18 45.6**	**-0.4**
IKP	**In-Ko-Pah, Jac**	**0.72**	**300**		**Pb**	**01 18 47.4**	**+0.5**
IKP					**Sb**	**01 18 57.5**	**+0.9**
IKP	**In-Ko-Pah, Jac**	**0.72**	**300**⇑	*iP*	**Pb**	**01 18 47.4**	**+0.5**
SJX	**San Joaquin**	**0.73**	**224**⇑	*iP*	**Pg**	**01 18 45.3**	**-1.7**
SWSC	**Sam W. Stewart**	**0.75**	**331**	*eP*	**Pb**	**01 18 47.1**	**-0.1**
RUN	**Ruthven**	**0.75**	**26**		**Pb**	**01 18 46.9**	**-0.4**
WEMD	**Westmorland, C**	**0.77**	**346**⇓	*eP*	**Pb**	**01 18 47.6**	**+0.1**
ECBX	**El Chinero**	**0.86**	**162**⇑	*iP*	**Pn**	**01 18 50.2**	**+0.2**
GLA	**Glamis**	**0.88**	**31**		**Pb**	**01 18 48.9**	**-0.6**
GLA				IAML		01 19 03.5	
	comp=N,569nm,0.5s						
GLA				IAML		01 19 13.2	
	comp=E,645nm,0.5s						
GLA	**Glamis**	**0.88**	**31**⇓	*iP*	**Pb**	**01 18 48.9**	**-0.6**
VTX	**Valle De La Tr**	**0.97**	**202**		**Pn**	**01 18 51.7**	**+0.2**
VTX				IAML		01 19 06.9	
	comp=E,877nm,0.1s						
VTX				IAML		01 19 07.2	
	comp=N,559nm,0.1s						
VTX	**Valle De La Tr**	**0.97**	**202**⇓	*eP*	**Pn**	**01 18 51.6**	**+0.1**
MONP2	**Monument Peak**	**1.08**	**304**⇑	*eP*	**Pb**	**01 18 52.6**	**-0.3**
TKX	**Tecate**	**1.09**	**285**		**Pb**	**01 18 53.4**	**+0.4**
TKX				IAML		01 19 09.3	
	comp=E,856nm,0.2s						
TKX				IAML		01 19 10.2	
	comp=N,966nm,0.2s						
CBX	**Cerro Bola**	**1.10**	**271**		**Pb**	**01 18 53.7**	**+0.4**
CBX				IAML		01 19 09.1	
	comp=N,1µm,0.5s						
CBX				IAML		01 19 12.0	
	comp=E,1µm,0.5s						
SALN	**Salton City**	**1.12**	**332**		**Pb**	**01 18 52.6**	**-0.9**
SALN				IAML		01 19 21.6	
	comp=N,1µm,0.5s						
TJIG	**Tijuana**	**1.12**	**278**	*eP*	**Pb**	**01 18 53.6**	**0.0**
TJIG				*eS*	**Sb**	**01 19 08.3**	**+0.4**
BAR	**Barrett**	**1.17**	**290**	IAML		01 19 11.7	
	comp=E,840nm,0.2s						
BAR				IAML		01 19 12.0	
	comp=N,963nm,0.2s						
CCX	**Cicese**	**1.18**	**249**		**Pb**	**01 18 55.2**	**+0.6**
SPIG	**San Pedro Mart**	**1.25**	**184**	*eP*	**Pn**	**01 18 55.6**	**0.0**
SPIG				*eS*	**Sn**	**01 19 14.2**	**+2.1**
BORC	**Borrego Spring**	**1.32**	**318**		**Pn**	**01 18 55.6**	**-0.7**
BORC				IAML		01 19 16.6	
	comp=E,241nm,0.3s						
SFX	**San Felipe**	**1.32**	**161**		**Pg**	**01 18 57.6**	**-0.5**
SFX				IAML		01 19 17.3	
	comp=E,599nm,0.4s						
SFX				IAML		01 19 17.6	
	comp=N,587nm,0.3s						
113A	**Mohawk Valley,**	**1.43**	**70**		**Pn**	**01 18 57.5**	**-0.4**
TJX	**Tijuana**	**1.45**	**279**		**Pb**	**01 18 59.4**	**+0.2**
TJX				IAML		01 19 23.3	
	comp=N,736nm,0.6s						
TJX				IAML		01 19 32.3	
	comp=E,678nm,0.8s						
PMD	**Palm Desert**	**1.60**	**328**		**Pn**	**01 18 59.4**	**-0.8**
PFO	**Pinyon Flats O**	**1.61**	**325**		**Pn**	**01 18 59.7**	**-0.7**
BLYC	**Blythe**	**1.62**	**26**		**Pn**	**01 18 59.9**	**-0.5**
PIX	**Pinacate**	**1.77**	**114**		**Pb**	**01 19 03.0**	**-1.7**
214A	**Organ Pipe Nat**	**2.19**	**98**		**Pn**	**01 19 07.5**	**-0.9**
ELS	**Elsinore Mount**	**2.20**	**308**		**Pn**	**01 19 08.7**	**+0.2**
ELS				IAML		01 19 44.3	
	comp=N,80nm,0.3s						
ELS				IAML		01 19 47.5	
	comp=E,80nm,0.8s						
NEE2	**Needles Airpor**	**2.55**	**14**		**Pn**	**01 19 13.3**	**+0.1**
Y14A	**Wickenburg**	**2.57**	**50**		**Pn**	**01 19 14.3**	**+0.7**
X16A	**Lo Mia Camp, P**	**3.91**	**56**		**Pn**	**01 19 33.6**	**+1.5**
SHPR	**Sheep Range**	**4.21**	**2**		**Pn**	**01 19 36.5**	**+0.4**
WUAZ	**Wupatki**	**4.62**	**45**		**Pn**	**01 19 43.5**	**+1.6**
LCMT	**Little Creek M**	**5.02**	**20**		**Pn**	**01 19 48.5**	**+1.2**
KNB	**Kanab**	**5.16**	**23**		**Pn**	**01 19 51.1**	**+1.8**
CCUT	**Cedar City**	**5.50**	**17**		**Pn**	**01 19 56.1**	**+2.1**

HVO ***21*** *01:18:51.5±1.6, 19°N±90°×15°5W±4°4, h-1km±10km, ML3.0/17, ML2.7/12(NEIC), Error ellipse: s-maj=8533.6km s-min=29.7km az=158.0*

NEIC 21 01:18:51.3±1.4, 19°N±90°×15°5W±9°5, h5km±2km, Error ellipse: s-maj=9999.9km s-min=145.0km az=116.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	**Uwekahuna Bluf**	**0.00**	**80**		Pg	01 18 51.9	-0.5
UWB					Sg	01 18 52.3	-0.8
OBL	**Observatory Le**	**0.01**	**214**		Pg	01 18 51.5	-0.9
OBL					Sg	01 18 52.2	-0.9
SBLHI	**Steaming Bluff**	**0.01**	**77**		Pg	01 18 51.9	-0.5
SBLHI					Sg	01 18 53.5	+0.3
UWE	**Uwekahuna**	**0.01**	**256**		Pg	01 18 51.4	-1.1
UWE					Sg	01 18 52.1	-1.1
HATHI	**Halema'uma'u T**	**0.02**	**95**	IAML		01 18 51.6	
	comp=E,17µm,0.5s						
HATHI				IAML		01 18 52.4	
	comp=N,20µm,0.8s						
HATHI	**Halema'uma'u T**	**0.02**	**95**		Pg	01 18 52.5	0.0
HATHI					Sg	01 18 53.5	+0.3
BYL	**Byron's Ledge**	**0.02**	**125**		Pg	01 18 52.5	0.0
BYL					Sg	01 18 53.8	+0.5
WRMHI	**West Rim**	**0.03**	**228**		Pg	01 18 52.6	+0.1
WRMHI					Sg	01 18 53.3	-0.1
KKO	**Keanakako'i**	**0.03**	**155**		Pg	01 18 51.9	-0.6
KKO					Sg	01 18 53.5	+0.1
RIM	**Rim**	**0.03**	**171**		Pg	01 18 51.9	-0.7
RIM					Sg	01 18 53.0	-0.4
RSD	**Rainshed**	**0.04**	**2**		Pg	01 18 52.7	0.0
RSD					Sg	01 18 54.5	+0.9
SDHHI	**Sand Hill**	**0.04**	**202**		Pg	01 18 52.9	+0.3
SDHHI					Sg	01 18 53.7	+0.2
PUH	**Pauahi**	**0.08**	**130**		Pg	01 18 53.4	+0.3
PUH	**Pauahi**	**0.08**	**130**		Sg	01 18 55.7	+1.3
PUH	**Pauahi**	**0.08**	**130**	IAML		01 18 53.9	
	comp=E,3µm,0.8s						
PUH				IAML		01 18 54.3	
	comp=N,5µm,0.8s						
MLH	**Mauna Loa**	**0.12**	**304**	IAML		01 18 54.3	
	comp=N,3µm,0.6s						
MLH	**Mauna Loa**	**0.12**	**304**		Pg	01 18 55.4	+1.4
MLH					Sg	01 18 58.2	+2.5
STCH	**Steam Cracks**	**0.15**	**105**		Pg	01 18 56.0	+1.6
STCH	**Steam Cracks**	**0.15**	**105**		Sg	01 18 59.1	+2.7
STCH	**Steam Cracks**	**0.15**	**105**	IAML		01 18 58.0	
	comp=E,1µm,0.6s						
STCH				IAML		01 18 58.8	
	comp=N,2µm,0.7s						

NIED ***21*** *01:31:32.0,38°.35N×142°.25E, h31km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.60; Mθθ 1.14; Mϕϕ 0.46; Mrθ 0.81; Mϕr 0.74; Mθr-1.63; Fault plane solution: M₀2.21000×10¹⁴ NP1: ϕs259.00000°, δ45.00000°, λ-43.00000°. NP2:ϕs22.00000°, δ61.00000°, λ-127.00000°.*

JMA ***21*** *01:31:32.0±0.2, 38°.4N±0°.5×142°.3E±0°.8, h31km±1km, MV4.2/33, E OFF MIYAGI PREF*

JMA Felt I J1 at E OFF MIYAGI PREF .

IDC ***21*** *01:31:33.7±2.8, 38°.39N×142°.47E, h43km±22km, mb3.5/9, mbtmp3.6/11, ML2.9/2, Error ellipse: s-maj=28.0km s-min=12.6km az=110.0*

ISC 21 01:31:32.4±2.2, 38°.40N±0°.05×142°.23E±0°.09, h25km±13km, n26, σ1°18/30, mb3.7/9, 11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.60**	**262**	*iP*	**Pb**	**01 31 43.9**	**-0.4**
JIKH				*eS*	**Sb**	**01 31 52.3**	**-0.2**
JIO	**Ouri**	**0.69**	**275**	P	**Pn**	**01 31 45.7**	**-0.8**
JIO				*eS*	**Sb**	**01 31 55.1**	**+0.2**
JKMT	**Kesennumamotoy**	**0.72**	**305**⇓	*iP*	**Pn**	**01 31 46.5**	**-0.4**
JKMT				⇓*eS*	**Sb**	**01 31 56.2**	**+0.4**
OFUJ	**Ofunato**	**0.81**	**328**⇓	P	**Pn**	**01 31 47.7**	**-0.5**
OFUJ				⇓*eS*	**Sn**	**01 31 58.9**	**-0.5**
JMK	**Ichinoseki**	**0.96**	**306**⇓	P	**Pn**	**01 31 50.2**	**-0.1**
JMK				⇓*eS*	**Sn**	**01 32 03.4**	**+0.3**
JOU	**Okura**	**1.23**	**269**⇓	P	**Pn**	**01 31 54.0**	**+0.1**
JOU				⇓*eS*	**Sb**	**01 32 10.3**	**0.0**
JMM	**Marumori**	**1.25**	**245**	P	**Pn**	**01 31 52.8**	**-1.3**
JMM				*eS*	**Sn**	**01 32 08.2**	**-1.9**
JOM	**Ohasama**	**1.30**	**326**	⇓P	**Pn**	**01 31 55.3**	**+0.4**
JOM				⇓*eS*	**Sn**	**01 32 12.4**	**+1.0**
JYK	**Kaneyama**	**1.55**	**290**	⇓P	**Pn**	**01 31 58.8**	**+0.5**
MJAR	**Matsushiro Arr**	**3.69**	**241**	P	**Pn**	**01 32 29.8**	**+2.0**
	0.2nm,0.3s,baz=63,slow=11,SNR=15						
MJAR				S	**Sn**	**01 33 14.6**	**+4.1**
	5.9nm,0.8s,baz=87,slow=27,SNR=5.2 3.0nm,0.7s						
ASAJ	**Asahikawa**	**5.72**	**3**	P	**Pn**	**01 32 56.9**	**+1.2**
	0.7nm,0.3s,baz=56,slow=6.3,SNR=4.9						
ASAJ				S	**Sn**	**01 34 00.8**	**+0.2**
	3.3nm,0.6s,baz=34,slow=23,SNR=1.5 1.1nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.33**	**124**	T	T	02 07 39.6	
	baz=316,slow=76,SNR=139						
H11N1	**WAKE ISLAND Hy**	**28.34**	**124**	T	T	02 07 40.3	
	baz=316,slow=76,SNR=106						
H11N3	**WAKE ISLAND Hy**	**28.35**	**124**	T	T	02 07 41.0	
	baz=316,slow=76,SNR=120						
H11S1	**WAKE ISLAND Hy**	**29.10**	**126**	T	T	02 08 39.5	
	baz=318,slow=76,SNR=67						
H11S3	**WAKE ISLAND Hy**	**29.10**	**126**	T	T	02 08 38.8	
	baz=318,slow=76,SNR=49						
H11S2	**WAKE ISLAND Hy**	**29.11**	**126**	T	T	02 08 41.0	
	baz=318,slow=76,SNR=38						
ZALV	**Zalesovo Beam**	**41.49**	**311**	P	**P**	**01 39 17.8**	**+0.8**
	0.6nm,0.3s,baz=90,slow=8.8,SNR=2.5 0.6nm,0.3s						
MKAR	**Makanchi Array**	**43.96**	**301**	P	**P**	**01 39 37.7**	**+0.5**
	0.4nm,0.7s,baz=80,slow=8.6,SNR=5.5 0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**45.69**	**307**	P	**P**	**01 39 51.4**	**+0.5**
	1.2nm,0.4s,baz=82,slow=8.7,SNR=19 1.2nm,0.4s						
BVAR	**Borovoye Array**	**50.14**	**312**	P	**P**	**01 40 26.3**	**+0.9**
	0.2nm,0.3s,baz=73,slow=9.1,SNR=2.3 0.2nm,0.3s						
WRA	**Warramunga Arr**	**58.50**	**189**	P	**P**	**01 41 25.5**	**-0.9**
	0.3nm,0.3s,baz=6.4,slow=7.1,SNR=7.0 0.3nm,0.3s						
ASAR	**Alice Springs**	**62.23**	**189**	P	**P**	**01 41 51.6**	**-0.3**
	0.3nm,0.7s,baz=3.1,slow=6.8,SNR=4.1 0.3nm,0.7s						
FINES	**FINESS Array B**	**67.91**	**332**	P	**P**	**01 42 27.7**	**-0.7**
	0.9nm,0.7s,baz=51,slow=6.4,SNR=5.9 0.9nm,0.7s						
HFS	**Hagfors**	**73.11**	**336**	P	**P**	**01 42 58.7**	**-1.4**
	1.0nm,0.8s,baz=49,slow=5.6,SNR=4.6 1.0nm,0.8s						
AKASG	**Malin Array Be**	**73.61**	**322**	P	**P**	**01 43 03.1**	**-0.1**
	0.3nm,0.4s,baz=40,slow=7.2,SNR=4.1 0.3nm,0.4s						

CATAC ***21*** *01:49:25.4±0.4, 14°N±2°×9°1W±°, h24km±3km, M4.2/35, mb4.2/1, MLv4.2/35, Error ellipse: s-maj=5.0km s-min=2.0km az=26.7, confirmed*

SNET ***21*** *01:49:26.7±0.9, 13°.78N×90°.77W, h44km, ML3.9*

GCG ***21*** *01:49:26.2±1.2, 13°.82N×90°.77W, h62km±8km, MD4.1, ML4.2, MW3.6*

ISC 21 01:49:26.2±1.5, 13°.67N±0°.06×90°.77W±0°.04, h22km±14km, n96, σ1°42/115, 3C-7D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	**0.28**	**113**	*eP*	**Pn**	**01 49 36.0**	**+0.9**
FG16	**Alotenango, Sa**	**0.65**	**23**	*iP*	**Pn**	**01 49 40.5**	**+0.2**
FG16				*iS*	**Sn**	**01 49 51.9**	**+1.9**
FG16				IAML		01 49 52.9	
	comp=N,53µm,0.2s						
ESSG	**Sabana Grande**	**0.71**	**355**	*iP*	**Pb**	**01 49 39.0**	**-1.0**
ESSG				*iS*	**Sb**	**01 49 48.9**	**-0.5**
ESSG				IAML		01 49 51.5	
	comp=N,3µm,0.1s						
FAME	**Alcaldia de Sa**	**0.75**	**77**	P	**Pb**	**01 49 41.1**	**+0.5**
FAME	**Alcaldia de Sa**	**0.75**	**77**	S	**Sb**	**01 49 52.0**	**+1.5**
STG0	**El Palmar, Qui**	**0.93**	**323**⇓	*eP*	**Pn**	**01 49 47.0**	**+2.8**
STG0				*eS*	**Sn**	**01 50 02.9**	**+5.8**
STG0				IAML		01 50 06.6	
	comp=E,19µm,0.3s						
GCG4	**OSOP**	**0.94**	**14**⇓	*iP*	**Pn**	**01 49 42.9**	**-1.4**
GCG4				IAML		01 50 03.5	
	comp=N,4µm,0.7s						
STG2	**El Palmar, Qui**	**0.96**	**322**⇓	*iP*	**Pn**	**01 49 47.8**	**+3.2**
STG2				*eS*	**Sn**	**01 50 03.7**	**+6.0**
NUBE	**Las Nubes**	**0.99**	**77**	*eP*	**Pn**	**01 49 44.0**	**-0.9**
NUBE				*eS*	**Sb**	**01 49 57.4**	**0.0**
NUBE	**Las Nubes**	**0.99**	**77**	*eP*	**Pn**	**01 49 44.1**	**-0.9**
NUBE				⇓*iP*	**Pn**	**01 49 44.1**	**-0.9**
NUBE				*iS*	**Sb**	**01 49 57.8**	**+0.4**
NUBE	**Las Nubes**	**0.99**	**77**	P	**Pn**	**01 49 44.3**	**-0.6**
NUBE	**Las Nubes**	**0.99**	**77**	S	**Sb**	**01 49 58.0**	**+0.6**
LOAL	**Lomas de Alarc**	**1.01**	**71**	*eP*	**Pn**	**01 49 44.7**	**-0.5**
LOAL				*eS*	**Sb**	**01 49 58.5**	**+0.4**
LOAL				*eS*	**Sn**	**01 49 58.9**	**+0.1**
LOAL	**Lomas de Alarc**	**1.01**	**71**	P	**Pn**	**01 49 45.0**	**-0.2**
LOAL	**Lomas de Alarc**	**1.01**	**71**	S	**Sb**	**01 49 59.3**	**+1.3**
SLOZ	**Alcaldia de Sa**	**1.02**	**70**	*eP*	**Pn**	**01 49 44.8**	**-0.5**
SLOZ				*eS*	**Sb**	**01 49 59.2**	**+1.0**
SLOZ	**Alcaldia de Sa**	**1.02**	**70**	P	**Pn**	**01 49 44.9**	**-0.3**
RTR	**El Retiro**	**1.11**	**78**	*eP*	**Pn**	**01 49 46.4**	**-0.3**
SBLS	**San Blas**	**1.12**	**81**	*eP*	**Pn**	**01 49 46.3**	**-0.6**
SBLS				*eP*	**Pn**	**01 49 46.3**	**-0.6**
SNJE	**San Jose**	**1.15**	**80**	*eP*	**Pn**	**01 49 46.6**	**-0.5**
SNJE				*eP*	**Pn**	**01 49 46.7**	**-0.5**
SNJE				*eS*	**Sn**	**01 50 02.6**	**+0.2**
JUAM	**Asuncion Mita**	**1.22**	**57**⇑	*iP*	**Pn**	**01 49 47.0**	**-1.1**
JUAM				IAML		01 50 07.1	
	comp=N,3µm,0.3s						
UNIC	**Universidad Ca**	**1.22**	**75**	*eP*	**Pn**	**01 49 47.4**	**-0.7**
UNIC	**Universidad Ca**	**1.22**	**75**	P	**Pn**	**01 49 47.6**	**-0.5**
UNIC	**Universidad Ca**	**1.22**	**75**	S	**Sn**	**01 50 04.5**	**+0.4**
RTAL	**Retalhuleu**	**1.23**	**313**	*eP*	**Pn**	**01 49 46.3**	**-2.0**
RTAL	**Retalhuleu**	**1.23**	**313**	P	**Pn**	**01 49 46.5**	**-1.8**
RTAL	**Retalhuleu**	**1.23**	**313**	S	**Sn**	**01 50 01.7**	**-2.6**
JAYA	**Jayaque - finc**	**1.28**	**91**	*eP*	**Pn**	**01 49 48.1**	**-0.9**
JAYA	**Jayaque - finc**	**1.28**	**91**	⇑*iP*	**Pn**	**01 49 48.1**	**-0.9**
JAYA				*eS*	**Sn**	**01 50 04.8**	**-0.9**
JAYA	**Jayaque - finc**	**1.28**	**91**	P	**Pn**	**01 49 48.1**	**-0.9**
SOKI	**Kika Raxquin**	**1.30**	**332**	*iP*	**Pn**	**01 49 47.9**	**-1.5**
SOKI				IAML		01 50 07.5	
	comp=E,8µm,0.5s						
CEDA	**San Andres**	**1.34**	**84**	*eS*	**Sn**	**01 50 06.8**	**-0.2**
CEDA	**San Andres**	**1.34**	**84**	P	**Pn**	**01 49 49.3**	**-0.4**
CEDA	**San Andres**	**1.34**	**84**	S	**Sn**	**01 50 07.0**	**0.0**
PMON	**Piamonte**	**1.41**	**88**	*eP*	**Pn**	**01 49 50.3**	**-0.5**
PMON	**Piamonte**	**1.41**	**88**	P	**Pn**	**01 49 50.4**	**-0.4**
PMON	**Piamonte**	**1.41**	**88**	S	**Sn**	**01 50 09.2**	**+0.4**
LALI	**Alcalda de L**	**1.42**	**97**	⇑*iP*	**Pn**	**01 49 50.8**	**+0.1**
LALI				IAML		01 50 12.7	
	comp=E,348nm,0.3s						
LALI	**Alcalda de L**	**1.42**	**97**	P	**Pn**	**01 49 48.3**	**-2.4**
LALI	**Alcalda de L**	**1.42**	**97**	S	**Sn**	**01 50 07.8**	**-1.0**
BOQS	**Boqueron**	**1.45**	**87**	*eP*	**Pn**	**01 49 50.9**	**-0.4**
UEES	**Universidad Ev**	**1.49**	**88**	P	**Pn**	**01 49 52.2**	**+0.4**
UEES	**Universidad Ev**	**1.49**	**88**	S	**Sn**	**01 50 11.1**	**+0.5**
MTO3	**Montecristo**	**1.54**	**62**	*eP*	**Pn**	**01 49 51.3**	**-1.4**
MTO3	**Montecristo**	**1.54**	**62**	⇓*iP*	**Pn**	**01 49 51.3**	**-1.4**
MTO3	**Montecristo**	**1.54**	**62**	P	**Pn**	**01 49 51.3**	**-1.4**
MTO3	**Montecristo**	**1.54**	**62**	S	**Sb**	**01 50 14.4**	**+0.8**
PANCS	**Alcalda de**	**1.55**	**92**	P	**Pn**	**01 49 51.6**	**-1.0**
PANCS	**Alcalda de**	**1.55**	**92**	S	**Sn**	**01 50 11.3**	**-0.7**
LOMA	**Loma Larga**	**1.55**	**91**	*eP*	**Pn**	**01 49 52.2**	**-0.5**
LOMA	**Loma Larga**	**1.55**	**91**	P	**Pn**	**01 49 52.6**	**-0.2**
LOMA	**Loma Larga**	**1.55**	**91**	S	**Sn**	**01 50 12.5**	**+0.2**
UDBS	**Universidad Do**	**1.57**	**88**	P	**Pn**	**01 49 52.7**	**-0.2**
UDBS	**Universidad Do**	**1.57**	**88**	S	**Sn**	**01 50 13.1**	**+0.5**
LFU	**La Fuente**	**1.61**	**87**	*eP*	**Pn**	**01 49 52.8**	**-0.6**
ESQI	**Esquipulas**	**1.64**	**57**	*eP*	**Pn**	**01 49 52.7**	**-1.3**
ESQI	**Esquipulas**	**1.64**	**57**	P	**Pn**	**01 49 53.1**	**-0.9**
ESQI	**Esquipulas**	**1.64**	**57**	S	**Sb**	**01 50 17.5**	**+1.3**
LFRS	**El Faro**	**1.66**	**92**	*eP*	**Pn**	**01 49 53.9**	**-0.2**
PAVA	**Las Pavas**	**1.78**	**88**	*eP*	**Pn**	**01 49 55.3**	**-0.5**
PAVA	**Las Pavas**	**1.78**	**88**	P	**Pn**	**01 49 55.5**	**-0.3**
PAVA	**Las Pavas**	**1.78**	**88**	S	**Sb**	**01 50 20.1**	**-0.1**
HUEH	**Huehuetenango**	**1.78**	**337**	P	**Pn**	**01 49 55.2**	**-0.8**
HUEH	**Huehuetenango**	**1.78**	**337**	S	**Sb**	**01 50 19.2**	**-1.3**
COEG	**Centro de Oper**	**1.84**	**91**	*eP*	**Pn**	**01 49 56.2**	**-0.3**
COEG				*eS*	**Sn**	**01 50 19.6**	**+0.4**
COEG	**Centro de Oper**	**1.84**	**91**	P	**Pn**	**01 49 56.5**	**-0.1**
COEG	**Centro de Oper**	**1.84**	**91**	S	**Sn**	**01 50 20.2**	**+1.0**
THIG		**1.90**	**310**⇓	*iP*	**Pn**	**01 49 56.0**	**-1.3**
THIG				*i* S	**Sn**	**01 50 17.5**	**-3.2**
THIG				IAML		01 50 23.1	
	comp=E,2µm,0.3s						
UESV	**Universidad de**	**1.93**	**91**	P	**Pn**	**01 49 57.4**	**-0.4**
UESV	**Universidad de**	**1.93**	**91**	S	**Sn**	**01 50 22.7**	**+1.3**
TECO	**Alcaldia de Te**	**1.94**	**94**	P	**Pn**	**01 49 57.7**	**-0.2**
TECO	**Alcaldia de Te**	**1.94**	**94**	S	**Sn**	**01 50 22.6**	**+0.9**
SCLA	**Alcaldia de Sa**	**1.98**	**89**	*eP*	**Pn**	**01 49 58.1**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.98**	**89**	P	Pb	01 50 15.6	+14
SCLA	**Alcaldia de Sa**	**1.98**	**89**	S	**Sn**	**01 50 24.9**	**+2.1**
TECA	**Tecapa**	**2.21**	**94**	*eP*	**Pn**	**01 50 01.5**	**-0.3**
SARH	**Santa Rosa de**	**2.23**	**60**⇓	*iP*	**Pn**	**01 50 01.0**	**-1.0**
SARH	**Santa Rosa de**	**2.23**	**60**	P	**Pn**	**01 50 01.1**	**-0.9**
SARH	**Santa Rosa de**	**2.23**	**60**	S	**Sb**	**01 50 33.1**	**-0.1**
PACA	**Pacayal**	**2.39**	**95**	P	**Pn**	**01 50 06.2**	**+2.0**
LCND	**La Caada**	**2.82**	**97**	P	**Pn**	**01 50 10.3**	**+0.2**
CNCH	**Conchagua**	**2.88**	**98**	*eP*	**Pn**	**01 50 10.7**	**-0.3**
CNCH	**Conchagua**	**2.88**	**98**	P	**Pn**	**01 50 10.7**	**-0.3**
CCIG	**Comitan**	**2.91**	**333**	P	**Pn**	**01 50 11.4**	**-0.1**
TGUH	**Tegucigalpa,Un**	**3.42**	**83**	P	**Pn**	**01 50 18.8**	**+0.5**
CHOHN	**Orocuina**	**3.52**	**93**	P	**Pn**	**01 50 19.3**	**-0.4**
CHOHN	**Orocuina**	**3.52**	**93**	S	**Sn**	**01 51 02.9**	**+2.2**
YUSH	**Yuscaran**	**3.82**	**85**	P	**Pn**	**01 50 22.8**	**-1.2**
QUEN	**Al S del Volca**	**3.96**	**105**	P	**Pn**	**01 50 27.6**	**+1.7**
PLRN	**Geotermica Pol**	**4.04**	**105**	P	**Pn**	**01 50 25.5**	**-1.4**
PLRN				S	**Sn**	**01 51 09.0**	**-4.7**
PACN	**Al O del Volca**	**4.04**	**106**	P	**Pn**	**01 50 27.6**	**+0.6**
PACN				S	**Sn**	**01 51 12.0**	**-1.7**
ILCN	**San Idelfonso**	**4.11**	**105**	P	**Pn**	**01 50 27.5**	**-0.3**
CNGN	**Cerro Negro**	**4.13**	**106**	P	**Pn**	**01 50 29.2**	**+1.1**
CNGN	**Cerro Negro**	**4.13**	**106**	S	**Sn**	**01 51 17.2**	**+1.3**
OCON	**Estacion meteo**	**4.17**	**90**	P	**Pn**	**01 50 27.6**	**-1.1**
OCON				S	**Sn**	**01 51 18.3**	**+1.4**
MOMN	**Momotombo**	**4.31**	**106**	P	**Pn**	**01 50 31.0**	**+0.4**
MOMN				S	**Sn**	**01 51 21.0**	**+0.8**

IDC ***21*** *01:50:38.1±6.2, 22°.21N×107°.02W, h0km, mb3.2/2, mbtmp3.3/5, ML3.2/3, MS2.7/6, Error ellipse: s-maj=107.1km s-min=36.2km az=132.0*

MEX ***21*** *01:50:39.4±0.5, 22°.39N×107°.37W, h16km±19km, MD4.2*

ISC 21 01:50:40.6±1.2, 22°.35N±0°.06×107°.0W±0°.1, h10km, n13, σ1°38/12, Near coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAIG	**Mazatlaan**	**0.97**	**30**	*eP*	**Pg**	**01 50 57.4**	**-1.9**
MAIG				*i* S	**Sg**	**01 51 11.4**	**-0.5**
SSIG	**Sanalona**	**2.47**	**356**	*eP*	Pn	01 51 15.4	-5.4
ANIG	**Ahuacatlan**	**2.60**	**119**	*eP*	**Pn**	**01 51 23.6**	**+0.7**
ANIG				*eS*	**Sn**	**01 51 56.1**	**+1.5**
PDIG	**Papasquiaro**	**3.04**	**28**	*eP*	**Pn**	**01 51 29.3**	**+0.4

IZZE	**Mula-Seydike**	**1.01 209**	P	**Pb**	**01 57 38.1**	**0.0**
IZZE			S	**Sn**	**01 57 52.1**	**-1.1**
PASA	**Karahalli, USA**	**1.06 345**	P	**Pg**	**01 57 38.0**	**-0.7**
PASA			S	**Sn**	**01 57 53.9**	**-0.8**
DALY	**Dalyan (Mula)**	**1.07 242**	Pg	**Pb**	**01 57 38.8**	**-0.3**
AKUM	**Antalya-Kumluc**	**1.07 158**	P	**Pn**	**01 57 39.3**	**-0.3**
AKUM			S	**Sn**	**01 57 56.2**	**+1.5**
DEMR	**Demre-Antalya**	**1.08 177**	Pn	**Pn**	**01 57 39.5**	**-0.3**
AFYN	**Afyon-Dinar-K**	**1.09 29**	P	**Pg**	**01 57 38.1**	**-1.1**
AFYN			S	**Sg**	**01 57 52.4**	**-0.9**
AKAS	**Kas**	**1.10 190**	Pn	**Pn**	**01 57 40.2**	**0.0**
AKAS	**Kas**	**1.10 190**	P	**Pn**	**01 57 40.5**	**+0.3**
AKAS			S	**Sn**	**01 57 58.4**	**+2.7**
KSL	**Kastellorizon**	**1.19 190**	P	**Pn**	**01 57 41.1**	**0.0**
KSL			S	**Sg**	**01 57 55.8**	**-0.7**
KSL			AML	AML	01 58 04.7	
	2.2nm,0.6s					
KSL			AML	AML	01 58 06.9	
	1.4nm,0.6s					
MULA	**Mugla, Merkez-**	**1.21 267**	P	**Pb**	**01 57 41.3**	**-0.2**
MULA			S	**Sb**	**01 57 57.6**	**+0.2**
ESEN	**Aydn-Nazilli**	**1.28 292**	P	**Pn**	**01 57 41.9**	**-0.6**
ESEN			S	**Sb**	**01 57 56.9**	**-2.3**
SHUT	**Suhut-Afyon**	**1.35 24**	Pn	**Pb**	**01 57 43.7**	**-0.3**
BNAZ	**Uak-Banaz**	**1.36 1**	P	**Pb**	**01 57 43.7**	**-0.4**
NAZL	**Nazilli-Aydin**	**1.39 298**	Pn	**Pn**	**01 57 43.4**	**-0.6**
TURN	**Turunc**	**1.39 247**	Pn	**Pb**	**01 57 43.9**	**-0.5**
TURN	**Turunc**	**1.39 247**	P	**Pn**	**01 57 43.7**	**-0.2**
TURN			S	**Sb**	**01 58 01.3**	**-1.0**
SDAG	**Sultandagi-AFY**	**1.41 37**	Pn	**Pb**	**01 57 44.4**	**-0.5**
KIRA	**zmir-Kiraz**	**1.44 308**	P	**Pn**	**01 57 44.5**	**-0.3**
KIRA			S	**Sb**	**01 58 02.4**	**-1.5**
YVAC	**Isparta, Yalva**	**1.46 49**	P	**Pn**	**01 57 45.0**	**-0.1**
KULA	**Kula-Manisa**	**1.51 322**	Pn	**Pn**	**01 57 45.7**	**-0.1**
SEDI	**Konya, Seydise**	**1.53 85**	P	**Pb**	**01 57 46.9**	**-0.1**
SEDI			S	**Sn**	**01 58 06.1**	**-0.2**
USAK	**Uak-Merkez**	**1.54 335**	P	**Pn**	**01 57 46.0**	**-0.1**
USAK			S	**Sn**	**01 58 03.8**	**-2.5**
MANT	**Manisa**	**1.55 319**	P	**Pn**	**01 57 46.1**	**-0.2**
MANT			S	**Sn**	**01 58 05.6**	**-1.2**
AYDN	**Tasoluk**	**1.59 283**	P	**Pb**	**01 57 47.5**	**-0.6**
AYDN			S	**Sn**	**01 58 05.3**	**-2.4**
SEYD	**Seydisehir-KON**	**1.60 86**	Pn	**Pb**	**01 57 47.8**	**-0.3**
MLSB	**Milas**	**1.64 270**	Pn	**Pb**	**01 57 48.1**	**-0.8**
DOGA	**KONYA_Doganhis**	**1.65 61**	P	**Pb**	**01 57 48.8**	**-0.3**
DOGA			S	**Sg**	**01 58 11.4**	**0.0**
KURO	**Afyon-Bolvadin**	**1.66 31**	P	**Pn**	**01 57 48.7**	**0.0**
KURO			S	**Sn**	**01 58 08.3**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**1.67 293**	Pn	**Pn**	**01 57 47.9**	**-0.1**
ODEM	**Odemis-Izmir**	**1.69 305**	Pn	**Pn**	**01 57 48.4**	**+0.2**
IZMR	**zmir-demi**	**1.70 299**	P	**Pn**	**01 57 47.9**	**-0.4**
IZMR			S	**Sn**	**01 58 09.7**	**-0.6**
GEDZ	**Gediz**	**1.75 349**	Pn	**Pn**	**01 57 49.3**	**+0.2**
ARG	**Arkhangelos**	**1.76 232**	Pn	**Pb**	**01 57 49.8**	**-1.1**
ARG	**Arkhangelos**	**1.76 232**	P	**Pb**	**01 57 50.8**	**0.0**
ARG			AML	AML	01 58 18.1	
	1.4nm,0.8s					
ARG			AML	AML	01 58 20.7	
	1.5nm,0.7s					
SHAP	**Saphane-Kutahy**	**1.77 344**	Pn	**Pn**	**01 57 49.5**	**+0.2**
BLVD	**Bolvadin-AFYON**	**1.77 34**	Pn	**Pb**	**01 57 50.4**	**-0.8**
GDZ	**Gediz**	**1.79 351**	P	**Pn**	**01 57 49.8**	**+0.1**
UCKU	**Afyonkarahisar**	**1.82 43**	P	**Pn**	**01 57 50.6**	**+0.6**
BYAT	**Afyon-Bayat**	**1.86 29**	P	**Pb**	**01 57 52.6**	**+0.1**
SIMA	**Simav-Kutahya**	**1.89 339**	Pn	**Pn**	**01 57 51.1**	**+0.2**
DAT	**Datca**	**1.90 253**	Pn	**Pn**	**01 57 51.9**	**+0.7**
BDRM	**Kayabasi**	**1.93 263**	P	**Pn**	**01 57 51.5**	**+0.1**
DEMI	**Demirci**	**1.93 333**	P	**Pn**	**01 57 51.0**	**-0.6**
YAZI	**Mula-Dat§a-**	**2.01 252**	P	**Pn**	**01 57 52.8**	**+0.3**
BODT	**Bodrum**	**2.04 263**	Pn	**Pn**	**01 57 53.6**	**+0.7**
GORD	**Gordes-Manisa**	**2.06 321**	Pn	**Pn**	**01 57 53.7**	**+0.4**
DDIM	**Aydin, Didim**	**2.07 275**	P	**Pn**	**01 57 54.2**	**+0.8**
GCAM	**G?zelcaml?**	**2.10 281**	Pn	**Pn**	**01 57 54.5**	**+0.7**
GCAM	**G?zelcaml?**	**2.10 281**	P	**Pn**	**01 57 54.0**	**+0.1**
TVSB	**Tavsanli**	**2.15 352**	Pn	**Pn**	**01 57 54.9**	**+0.4**
AKHS	**Akhisar**	**2.23 315**	P	**Pn**	**01 57 55.2**	**-0.4**
BLCB	**Balcova**	**2.46 297**	Pn	**Pn**	**01 57 58.8**	**+0.1**
AKMS	**Akamas**	**3.06 138**	P	**Pn**	**01 58 08.4**	**+1.4**
AKMS			AML	AML	01 58 25.6	
	0.4nm,0.8s					
AKMS			AML	AML	01 59 10.9	
	0.3nm,1.0s					
ALFC	**Alefka**	**3.11 133**	P	**Pn**	**01 58 08.0**	**+0.4**
ALFC			S	**Sn**	**01 58 43.7**	**-1.3**
ALFC			AML	AML	01 58 49.7	
	0.2nm,0.6s					
ALFC			AML	AML	01 58 51.0	
	0.3nm,0.9s					
NATA	**Nata**	**3.37 138**	P	**Pn**	**01 58 12.6**	**+1.4**
NATA			S	**Sn**	**01 58 50.4**	**-0.9**
NATA			AML	AML	01 59 15.1	
	0.8nm,1.1s					
NATA			AML	AML	01 59 16.6	
	0.6nm,0.8s					
TROD	**Troodos**	**3.41 133**	P	**Pn**	**01 58 12.5**	**+0.5**
TROD			AML	AML	01 59 10.2	
	0.2nm,0.6s					
TROD			AML	AML	01 59 11.8	
	0.1nm,0.7s					
APE	**Apeiranthos**	**3.45 267**	S	**Sn**	**01 58 53.3**	**-0.1**
APE	**Apeiranthos**	**3.45 267**	P	**Pn**	**01 58 12.3**	**-0.1**
XYLS	**Xyliatos**	**3.47 131**	P	**Pn**	**01 58 12.4**	**-0.3**
XYLS			S	**Sn**	**01 58 52.9**	**-1.1**
XYLS			AML	AML	01 58 60.0	
	0.1nm,0.7s					
XYLS			AML	AML	01 59 04.3	
	0.1nm,0.7s					
APOL	**The Sanctuary**	**3.61 136**	P	**Pn**	**01 58 15.6**	**+1.1**
APOL			AML	AML	01 59 22.0	
	0.2nm,0.9s					
APOL			AML	AML	01 59 25.4	
	0.2nm,0.9s					
ATHAL	**Athalassa**	**3.61 126**	P	**Pn**	**01 58 15.9**	**+1.4**
ATHAL			AML	AML	01 59 09.0	
	0.3nm,1.0s					
ATHAL			AML	AML	01 59 18.3	
	0.5nm,1.2s					
CSS	**Mathiatis**	**3.68 129**	P	**Pn**	**01 58 18.5**	**+3.0**
CSS	**Mathiatis**	**3.68 129**	P	**Pn**	**01 58 16.8**	**+1.3**
CSS			AML	AML	01 59 11.4	
	0.1nm,0.6s					
CSS			AML	AML	01 59 14.7	
	0.1nm,0.8s					
BRTR	**Keskin Array B**	**3.83 50**	Pn	**Pn**	**01 58 18.6**	**+0.9**
	0.6nm,0.3s,baz=229,slow=16,SNR=18					
BRTR			Sn	**Sn**	**01 59 03.6**	**+0.7**
	0.5nm,0.3s,baz=227,slow=26,SNR=7.0					
	4.5nm,0.8s					
MVOU	**Mavrovouni**	**3.83 126**	P	**Pn**	**01 58 17.5**	**-0.1**
MVOU			S	**Sn**	**01 59 01.6**	**-1.3**
MVOU			AML	AML	01 59 15.2	
	0.1nm,1.0s					
MVOU			AML	AML	01 59 17.9	
	0.1nm,0.7s					
IDI	**Anoyia**	**4.48 245**	Pn	**Pn**	**01 58 29.1**	**+2.5**
	3.8nm,0.3s,baz=257,slow=21,SNR=30					
IDI			Sn	**Sn**	**01 59 18.8**	**-0.1**
	3.2nm,0.3s,baz=107,slow=13,SNR=3.7					
	12nm,0.4s					
HNTI	**Hanita**	**6.08 132**	S	**Sn**	**01 59 57.9**	**-0.4**
HNTI	**Hanita**	**6.08 132**	P	**Pn**	**01 58 48.1**	**-0.4**
MMC7	**Mount Meron ar**	**6.25 132**	P	**Pn**	**01 58 50.8**	**-0.1**
MMA0B	**Mount Meron ar**	**6.26 132**	S	**Sn**	**02 00 03.2**	**+0.3**
MMA0B	**Mount Meron ar**	**6.26 132**	P	**Pn**	**01 58 50.8**	**-0.2**
MMAI	**Mount Meron Ar**	**6.26 132**	Pn	**Pn**	**01 58 52.0**	**+1.0**
	10nm,0.3s,baz=313,slow=12,SNR=140					
MMAI			Sn	**Sn**	**02 00 02.5**	**-0.3**
	3.5nm,0.3s,baz=311,slow=24,SNR=7.8					
GEM	**Giv'at Ha'Em**	**6.29 129**	S	**Sn**	**02 00 02.9**	**-0.4**
GEM	**Giv'at Ha'Em**	**6.29 129**	P	**Pn**	**01 58 51.3**	**0.0**
NATI	**Neve Ativ**	**6.30 128**	S	**Sn**	**02 00 03.9**	**+0.3**
NATI	**Neve Ativ**	**6.30 128**	P	**Pn**	**01 58 51.3**	**-0.1**
OFRI	**`Ofer**	**6.31 136**	S	**Sn**	**02 00 02.7**	**-1.4**
OFRI	**`Ofer**	**6.31 136**	P	**Pn**	**01 58 51.1**	**-0.6**
SLTI	**Sal'it**	**6.63 138**	S	**Sn**	**02 00 11.7**	**-0.2**
SLTI	**Sal'it**	**6.63 138**	P	**Pn**	**01 58 56.1**	**0.0**
MMLI	**Mount Malkishu**	**6.69 135**	S	**Sn**	**02 00 13.2**	**-0.2**
MMLI	**Mount Malkishu**	**6.69 135**	P	**Pn**	**01 58 56.8**	**-0.1**
HMDT	**Nahal Hemdat**	**6.89 136**	S	**Sn**	**02 00 17.9**	**-0.2**
HMDT	**Nahal Hemdat**	**6.89 136**	P	**Pn**	**01 58 59.3**	**-0.2**
AMAZ	**Amatzia**	**7.13 143**	S	**Sn**	**02 00 24.2**	**-0.1**
AMAZ	**Amatzia**	**7.13 143**	P	**Pn**	**01 59 02.5**	**-0.5**
DSI	**Dead Sea**	**7.34 140**	S	**Sn**	**02 00 28.7**	**-0.6**
DSI	**Dead Sea**	**7.34 140**	P	**Pn**	**01 59 05.6**	**-0.2**
YTIR	**Yattir**	**7.37 142**	S	**Sn**	**02 00 29.7**	**-0.6**
YTIR	**Yattir**	**7.37 142**	P	**Pn**	**01 59 05.9**	**-0.4**
KZIT	**Kziot**	**7.43 148**	S	**Sn**	**02 00 30.9**	**-0.6**
KZIT	**Kziot**	**7.43 148**	P	**Pn**	**01 59 06.9**	**-0.2**
MSBI	**Mazada**	**7.53 141**	S	**Sn**	**02 00 33.7**	**-0.3**
MSBI	**Mazada**	**7.53 141**	P	**Pn**	**01 59 08.4**	**0.0**
GHAJ	**Ghor Haditha**	**7.65 140**	S	**Sn**	**02 00 36.4**	**-0.4**
GHAJ	**Ghor Haditha**	**7.65 140**	P	**Pn**	**01 59 09.9**	**-0.1**
ASF	**Jabal al Asfar**	**7.75 129**	Pn	**Pn**	**01 59 12.1**	**+0.5**
	1.1nm,0.3s,baz=353,slow=23,SNR=14					
ASF			Sn	**Sn**	**02 00 40.2**	**+0.6**
	baz=196,slow=18					
	1.8nm,0.3s					
PRNI	**Paran**	**8.17 147**	S	**Sn**	**02 00 49.7**	**-0.1**
PRNI	**Paran**	**8.17 147**	P	**Pn**	**01 59 16.6**	**-0.6**
MBRI	**Mt Berech**	**8.62 149**	S	**Sn**	**02 01 00.5**	**-0.4**
MBRI	**Mt Berech**	**8.62 149**	P	**Pn**	**01 59 22.9**	**-0.6**
MLR	**Muntele Rosu**	**8.67 342**	Pn	**Pn**	**01 59 27.6**	**+3.5**
	0.1nm,0.3s,baz=347,slow=18,SNR=2.3					
	0.7nm,0.5s					
EIL2	**Elat**	**8.74 149**	P	**Pn**	**01 59 24.4**	**-0.6**
EIL	**Elat**	**8.74 149**	Pn	**Pn**	**01 59 25.2**	**+0.2**
	1.0nm,0.3s,baz=331,slow=11,SNR=11					
EIL			Sn	**Sn**	**02 00 59.9**	**-4.0**
	0.9nm,0.3s,baz=38,slow=16,SNR=5.4					
	6.6nm,0.6s					
GNI	**Garni**	**11.98 72**	LR	LR	02 05 56.0	
	comp=Z,30nm,18.1s,baz=242,slow=44					
GERES	**GERESS Array B**	**16.44 320**	Pn	**P**	**02 01 13.8**	**+1.7**
	baz=129,slow=10,SNR=12					
	1.0nm,0.8s					
DAVOX	**Davos/Dischmat**	**17.54 309**	LR	LR	02 08 13.0	
	comp=Z,20nm,21.0s,baz=110,slow=37					
FINES	**FINESS Array B**	**24.26 356**	P	**P**	**02 02 35.3**	**-0.3**
	0.5nm,0.6s,baz=156,slow=10,SNR=1.9					
	0.5nm,0.6s					
ESDC	**Sonseca Array**	**26.47 286**	P	**P**	**02 02 55.9**	**0.0**
	0.5nm,1.0s,baz=84,slow=9.1,SNR=4.1					
	0.5nm,1.0s					
TORD	**Torodi Ar. Bea**	**34.79 234**	P	**P**	**02 04 10.2**	**+0.6**
	0.3nm,0.5s,baz=45,slow=9.2,SNR=4.1					
	0.3nm,0.5s					
KURBB	**Kurchatov Arra**	**36.81 53**	P	**P**	**02 04 26.4**	**-0.1**
	0.6nm,0.8s,baz=268,slow=8.3,SNR=6.5					
	0.6nm,0.8s					
MKAR	**Makanchi Array**	**39.43 59**	P	**P**	**02 04 48.8**	**+0.1**
	0.3nm,0.7s,baz=276,slow=8.6,SNR=4.7					
	0.3nm,0.7s					

NIED ***21*** *02:04:07.0, 37.°07N×127.°87E, h0km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.15; $M_{\theta\theta}$1.68; $M_{\phi\phi}$-2.83; $M_{r\theta}$-1.79; $M_{\theta\phi}$3.94; $M_{r\phi}$0.76; Fault plane solution: $M_0$4.95000×10^{14} NP1: ϕ_s195.00000°, δ65.00000°, λ174.00000°. NP2: ϕ_s287.00000°, δ85.00000°, λ25.00000°.*
JMA ***21*** *02:04:07.0±0.6, 37.°0N×12.°2×12.°8E±., h0km, MV4.6/16, S KOREAN PENINSULA REG*
IDC ***21*** *02:04:18.4±1.4, 36.°50N×128.°05E, h0km, mb3.6/2, mbtmp3.4/6, ML3.0/4, Error ellipse: s-maj=15.7km s-min=11.4km az=67.0*
KMA ***21*** *02:04:18.3±0.1, 36.°50N×128.°10E, h14km, Error ellipse: s-maj=0.6km s-min=0.5km az=112.0*

ISC 21 02:04:18.6±1.2, 36.°48N±0.°03×128.°09E±0.°03, h5km±10km, n26, σ1s04/28, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSMGY	**Mungyeong**	**0.17**	**352**	P	**Pg**	**02 04 22.4**	**+0.4**
	SNR=9483						
KSMGY				S	**Sg**	**02 04 24.8**	**+0.6**
KSBON	**Boeun**	**0.24**	**274**	P	**Pg**	**02 04 23.8**	**+0.6**
	SNR=6991						
DNBA	**Danbuk**	**0.29**	**109**	P	**Pg**	**02 04 24.5**	**+0.4**
	SNR=683						
DGLA	**Dongro**	**0.34**	**25**	P	**Pg**	**02 04 25.1**	**0.0**
	SNR=293						
KSCHJ	**Chungju**	**0.40**	**346**	P	**Pg**	**02 04 26.2**	**-0.1**
	SNR=3436						
DKSA	**Duksan**	**0.42**	**6**	P	**Pg**	**02 04 26.5**	**-0.2**
	SNR=1009						
ADOA	**Andong Acc Bor**	**0.50**	**80**	P	**Pg**	**02 04 28.1**	**-0.1**
	SNR=336						
KSCIG	**Chilgok**	**0.50**	**152**	P	**Pg**	**02 04 28.3**	**+0.1**
	SNR=2424						
YOJB	**Youngju**	**0.52**	**41**	P	**Pg**	**02 04 28.1**	**-0.3**
	SNR=893						
JNPA	**Jeungpyeong Ac**	**0.53**	**306**	P	**Pg**	**02 04 28.6**	**-0.1**
	SNR=447						
KSCEJ	**CHEONGJU**	**0.55**	**286**	P	**Pg**	**02 04 29.0**	**-0.1**
	SNR=31						
KSTEJ	**Daejeon**	**0.59**	**259**	P	**Pg**	**02 04 30.0**	**+0.1**
	SNR=344						
TJN	**Taejon**	**0.60**	**260**	P	**Pg**	**02 04 30.1**	**+0.1**
	SNR=614						
EMSB	**Eumseong**	**0.62**	**323**	P	**Pg**	**02 04 30.1**	**-0.3**
	SNR=660						
KSRS	**Korea Array**	**0.98**	**352**	Pg	**Pb**	**02 04 36.0**	**-2.0**
	166nm,0.3s,baz=173,slow=17,SNR=829						
KSRS				Lg	Lg	02 04 50.1	
	746nm,0.3s,baz=172,slow=26,SNR=26						
JTU	**Tsushima**	**2.23**	**151**	*eP*	**Pn**	**02 04 54.8**	**-1.4**
JTSM	**Tsushimamitsus**	**2.39**	**153**	*eP*	**Pn**	**02 04 57.2**	**-1.1**
JII	**Iki**	**3.00**	**153**	*eP*	**Pn**	**02 05 05.9**	**-0.9**
JII				*eS*	**Sb**	**02 05 49.5**	**+0.1**
JHGM	**Hagimishima**	**3.01**	**123**	*eP*	**Pn**	**02 05 04.1**	**-2.8**
JFU	**Fukue jima 2**	**3.86**	**172**	*eP*	**Pn**	**02 05 18.2**	**-0.4**
JNU	**Nakatsue**	**4.06**	**145**	Pn	**Pn**	**02 05 22.7**	**+1.3**
	1.4nm,0.3s,baz=274,slow=5.8,SNR=6.6						
JNU				Lg	Lg	02 06 27.4	
	6.2nm,0.3s,baz=104,slow=18,SNR=6.5						
	6.7nm,0.5s						
MJAR	**Matsushiro Arr**	**8.15**	**87**	Pn	**Pn**	**02 06 19.4**	**+1.9**
	baz=272,slow=15,SNR=3.4						
	0.6nm,0.4s						
USRK	**Ussuriysk Ar.**	**8.26**	**20**	Pn	**Pn**	**02 06 20.7**	**+1.7**
	0.1nm,0.3s,baz=170,slow=29,SNR=1.9						
USRK				Lg	Lg	02 08 41.1	
	0.2nm,0.3s,baz=232,slow=43,SNR=1.0						
	0.9nm,0.5s						
SONM	**Songino Array**	**19.61**	**312**	P	**Pn**	**02 08 49.0**	**-0.2**
	0.2nm,0.3s,baz=111,slow=11,SNR=2.5						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**42.95**	**311**	P	**P**	**02 12 19.3**	**+0.9**
	0.4nm,0.5s,baz=97,slow=7.4,SNR=2.6						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**63.99**	**328**	P	**P**	**02 14 52.2**	**-0.4**
	0.7nm,0.9s,baz=53,slow=6.7,SNR=5.6						
	0.7nm,0.9s						

WEL 21 02:20:22.8±1.3, 32.°S±13.°×18.°0E±2.°7, h368km±29km, M4.1/3, mB4.0/3, MLv4.2/3, Mw(mB)3.1/3, Error ellipse: s-maj=36.9km s-min=13.6km az=108.0, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.86**	**193**	S	S	02 23 05.8	+0.5
WMGZ	**Waiomatatini S**	**6.09**	**192**	P	Pn	02 21 56.1	+1.1
WMGZ				S	S	02 23 10.7	+0.6
HAZ	**Te Kaha**	**6.15**	**196**	P	Pn	02 21 53.2	-2.6
HAZ				S	S	02 23 12.2	+0.8
WCZ	**Waipu Caves**	**6.19**	**227**	P	Pn	02 21 56.3	+0.1
PKGZ	**Pakihiroa**	**6.19**	**194**	P	Pn	02 21 57.1	+0.8
PKGZ				S	S	02 23 12.2	-0.1
RUGZ	**Raukumara Rang**	**6.38**	**196**	P	Pn	02 21 58.8	+0.3
RUGZ				S	S	02 23 15.3	-1.0
URZ	**Urewera**	**6.80**	**199**	P	P	02 22 03.8	-0.5
URZ				S	S	02 23 25.8	+0.8
SNGZ	**Shannon Statio**	**7.24**	**196**	S	S	02 23 35.8	+1.5
MTHZ	**Maungataniwha**	**7.43**	**199**	P	P	02 22 12.0	+0.4
MTHZ				S	S	02 23 40.2	+1.8
KWHZ	**Kaweka Forest**	**8.08**	**200**	P	Pn	02 22 17.6	-0.4
KWHZ				S	S	02 23 53.4	+1.0
SNVZ	**South Ngauruho**	**8.12**	**204**	P	Pn	02 22 18.9	+0.3
KRHZ	**Kereru**	**8.30**	**200**	P	Pn	02 22 19.2	-1.4
KRHZ				S	S	02 23 57.6	+0.6
KAHZ	**Kahuranaki**	**8.31**	**197**	P	Pn	02 22 21.3	+0.6
PNHZ	**Pukenui**	**8.60**	**200**	P	Pn	02 22 22.8	-1.3
PNHZ				S	S	02 24 02.1	-1.4

NEIC ***21*** *02:23:33.3±0.9, 35.°922N×0.°009×117.°72W×0.°01, h5km×1km, Error ellipse: s-maj=2.3km s-min=2.0km az=61.0*

PAS 21 02:23:33.7±0.9, 35.°913N±0.°007×117.°73W±0.°01, h3km±4km, ML3.4/283, ML3.1/144(NEIC), Error ellipse: s-maj=1.8km s-min=1.0km az=93.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WVPM	**Volcano Peak E**	**0.08**	**299**			Pg 02 23 35.6	+0.2
WVPM						Sg 02 23 36.9	+0.5
TOW	**Tower One**	**0.11**	**193**			Pg 02 23 36.4	+0.6
TOW						Sg 02 23 38.9	+1.7
WCSM	**Coso Springs S**	**0.12**	**347**			Pg 02 23 36.1	+0.1
WCSM						Sg 02 23 37.9	+0.2
CLC	**China Lake**	**0.15**	**131**			Pg 02 23 36.7	+0.1
CLC				IAML		02 23 39.3	
	comp=N,6μm,0.3s						
WNMM	**Nine Mile Cany**	**0.15**	**243**			Pg 02 23 37.0	+0.3
WNMM						Sg 02 23 39.5	+0.8
WRVM	**Rose V. Centra**	**0.16**	**307**			Pg 02 23 37.0	+0.2
WRVM						Sg 02 23 39.2	+0.3
SRTC	**Snort**	**0.22**	**183**			Pg 02 23 38.5	+0.6
SRTC						Sg 02 23 42.7	+1.9
MFS	**McCloud Flat S**	**0.23**	**334**			Pg 02 23 38.3	+0.2
MFS						Sg 02 23 41.8	+0.7
MPMC	**Manual Prospec**	**0.25**	**54**			Pg 02 23 38.6	+0.2
MPMC				IAML		02 23 42.6	
	comp=N,4μm,0.6s						
MPMC				IAML		02 23 43.6	
	comp=E,3μm,0.6s						
GPO	**China Lake**	**0.27**	**167**			Pg 02 23 39.1	+0.2
GPO						Sg 02 23 43.3	+0.9
WSHM	**Spangler Hills**	**0.37**	**148**			Sg 02 23 46.0	+0.4
WSHM	**Spangler Hills**	**0.37**	**148**			Pg 02 23 40.8	0.0
WSHM				IAML		02 23 46.6	
	comp=E,4μm,0.2s						
WSHM				IAML		02 23 47.0	
	comp=E,5μm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.43**	**174**			Pg 02 23 42.0	0.0
LRMC				IAML		02 23 48.8	
	comp=N,2μm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.43**	**174**			Sg 02 23 48.2	+0.5
WORM	**Onyx Ranch**	**0.47**	**242**			Pg 02 23 42.5	-0.1
WORM						Sg 02 23 48.8	+0.1
CCCA	**Chr Cany lake**	**0.49**	**142**			Sg 02 23 50.9	+1.5
CCCA	**Chr Cany lake**	**0.49**	**142**			Pg 02 23 43.6	+0.5
CCCA				IAML		02 23 51.9	
	comp=N,8μm,0.6s						
CCCA				IAML		02 23 56.2	
	comp=E,7μm,0.5s						
WBSM	**Bird Springs**	**0.50**	**221**			Sg 02 23 50.0	+0.3
WHFM	**Hanning Flat**	**0.54**	**247**			Pg 02 23 44.1	-0.1
WHFM						Sg 02 23 51.5	+0.3
CWC	**Cottonwood Cre**	**0.60**	**332**			Sg 02 23 53.4	+0.5
CWC	**Cottonwood Cre**	**0.60**	**332**			Pg 02 23 45.3	+0.1
CWC				IAML		02 23 55.1	
	comp=N,448nm,0.2s						
CWC				IAML		02 23 57.1	
	comp=E,430nm,0.2s						
CGO	**Cerro Gordo**	**0.64**	**355**			Pg 02 23 45.6	-0.4
CGO						Sg 02 23 54.5	+0.3
DTP	**Desert Tortois**	**0.65**	**188**			Pg 02 23 45.9	-0.3
DTP						Sg 02 23 54.9	+0.3
ISA	**Isabella, Lake**	**0.65**	**248**			Sg 02 23 54.8	+0.2
ISA	**Isabella, Lake**	**0.65**	**248**			Pg 02 23 46.1	-0.1
ISA				IAML		02 23 55.3	
	comp=N,2μm,0.3s						
ISA				IAML		02 23 55.9	
	comp=E,2μm,0.3s						
WASM	**Alta Sierra Ca**	**0.69**	**256**			Pg 02 23 46.9	-0.1
WASM						Sg 02 23 56.3	+0.4
QSM	**Queen of Sheba**	**0.70**	**86**			Sg 02 23 56.9	+0.5
QSM	**Queen of Sheba**	**0.70**	**86**			Pg 02 23 47.0	-0.3
QSM				IAML		02 24 00.7	
	comp=N,852nm,0.5s						
QSM				IAML		02 24 01.0	
	comp=E,869nm,0.5s						
CCAC	**Calif City Air**	**0.79**	**197**			Pg 02 23 48.6	-0.3
CCAC						Sg 02 23 59.4	+0.2
SPG2	**Springville 2**	**0.88**	**289**			Pg 02 23 49.9	-0.7
SPG2						Sg 02 24 02.0	-0.1
FURC	**Furnace Creek,**	**0.90**	**52**			Pg 02 23 50.9	+0.1
FURC						Sb 02 24 03.5	-0.8
GWY	**Greenwater Val**	**0.91**	**72**			Sg 02 24 03.4	+0.5
GWY	**Greenwater Val**	**0.91**	**72**			Pg 02 23 51.0	-0.1
GWY				IAML		02 24 08.7	
	comp=E,594nm,0.4s						
GWY				IAML		02 24 09.8	
	comp=N,548nm,0.7s						
GSC	**Goldstone, Bar**	**0

comp=E,63nm,0.7s
NVAR Mina Array Bea 2.55 350 Pb 02 24 18.4 -1.9
MYLM Yosemite Lake 2.61 305 Pb 02 24 20.0 -1.2
PRN Pahroc Range 2.62 55 Pn 02 24 17.2 +0.1
PRN IAML 02 25 01.4
comp=N,76nm,0.7s
PRN IAML 02 25 09.8
comp=E,120nm,0.7s
BBGB Big Mountain B 2.75 285 Pn 02 24 21.1 +2.2
RYN Ryan 2.78 347 Pn 02 24 20.8 +1.4
PCCM Crazy Canyon 2.79 275 Pn 02 24 21.4 +2.1
BORC Borrego Spring 2.85 157 Pn 02 24 19.1 -1.0
BORC IAML 02 25 07.0
comp=N,66nm,0.5s
BORC IAML 02 25 07.6
comp=E,114nm,0.9s
R11B Troy Canyon, C 2.98 35 Pn 02 24 22.9 +0.9
R11B IAML 02 25 08.4
comp=E,38nm,0.7s
DPP Dos Picos Cty 2.98 167 Pn 02 24 21.1 -0.9
DPP Dos Picos Cty 2.98 167 IAML 02 25 08.0
comp=E,67nm,0.7s
CMB Columbia Colle 3.00 316 Pb 02 24 25.1 -2.8
CMB IAML 02 25 16.4
comp=N,35nm,0.8s
W13A Hualapai Mount 3.24 103 IAML 02 25 22.8
comp=N,32nm,0.6s
W13A IAML 02 25 23.1
comp=E,29nm,0.7s
BLYC Blythe 3.41 128 IAML 02 25 25.9
comp=E,43nm,1.0s
BLYC IAML 02 25 26.4
comp=N,42nm,0.8s
YUH Yuha Desert 3.59 155 IAML 02 25 33.9
comp=E,21nm,1.1s
GLA Glamis 3.73 139 IAML 02 25 40.1
comp=N,56nm,0.7s
AFDM Forest Hills D 3.98 321 IAML 02 25 41.2
comp=N,21nm,0.9s
AFDM IAML 02 25 46.7
comp=E,32nm,0.8s
PSUT Pine Spring 4.05 49 IAML 02 25 51.0
comp=N,19nm,1.5s
PSUT IAML 02 25 53.6
comp=E,25nm,1.3s
SPR3 Spring Creek 3 4.10 40 IAML 02 25 43.8
comp=E,21nm,0.8s
SPR3 IAML 02 25 45.0
comp=N,16nm,0.9s
KNB Kanab 4.11 73 IAML 02 25 53.5
comp=E,12nm,1.6s
Y14A Wickenburg 4.36 116 IAML 02 25 58.0
comp=E,18nm,0.5s
Y14A IAML 02 26 03.9
comp=N,35nm,0.8s
U15A North Rim 4.43 82 IAML 02 26 05.2
comp=E,14nm,1.1s
U15A IAML 02 26 06.3
comp=N,12nm,1.3s
BEKR Beckworth 4.46 333 IAML 02 26 04.8
comp=E,19nm,0.8s
BEKR IAML 02 26 11.3
comp=N,12nm,1.1s
WUAZ Wupatki 5.19 93 IAML 02 26 30.5
comp=N,16nm,0.8s
ELK Elko 5.21 21 IAML 02 26 21.1
comp=N,5.8nm,0.8s
X16A Lo Mia Camp, P 5.37 104 IAML 02 26 38.8
comp=N,8.0nm,1.2s
X16A IAML 02 26 44.5
comp=E,5.6nm,1.0s

*IDC **21** 02:38:00.9±1.2,9.43N×126.52E,h0km,mb3.7/5, mbtmp3.7/6,ML3.9/1,MS3.1/3,Error ellipse: s-maj=57.4km s-min=20.0km az=82.0*

ISC 21 02:38:06.7±1.3,9.4N±0.1×126.5E±0.3,h43km,n15, σ1$49/7,mb3.5/5,MS3.3/3,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.50**	**202**	Pn	**Pn**	**02 38 43.0**	**-1.9**
	24nm,0.3s,baz=50,slow=16,SNR=1.3						
DAV				Sn	**Sn**	**02 39 16.1**	**+2.0**
	61nm,0.3s,baz=220,slow=22,SNR=3.9						
	150nm,0.3s						
MJAR	**Matsushiro Arr**	**29.03**	**20**	LR	LR	02 55 11.2	
	comp=Z,15nm,20.7s,baz=186,slow=36						
WRA	**Warramunga Arr**	**30.16**	**165**	P	**P**	**02 44 13.0**	**+0.1**
	0.5nm,0.6s,baz=347,slow=9.6,SNR=5.4						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**33.65**	**168**	P	**P**	**02 44 43.8**	**+0.2**
	0.3nm,0.5s,baz=350,slow=7.0,SNR=6.0						
	0.3nm,0.5s						
H11S3	**WAKE ISLAND Hy 39.94**		**72**	T	T	03 28 35.0	
	baz=262,slow=74,SNR=16						
H11S1	**WAKE ISLAND Hy 39.95**		**72**	T	T	03 28 35.8	
	baz=262,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hy 39.95**		**72**	T	T	03 28 31.1	
	baz=262,slow=74,SNR=15						
H11N1	**WAKE ISLAND Hy 40.30**		**71**	T	T	03 29 10.2	
	baz=266,slow=75,SNR=8.2						
H11N2	**WAKE ISLAND Hy 40.31**		**71**	T	T	03 29 04.5	
	baz=266,slow=75,SNR=9.9						
H11N3	**WAKE ISLAND Hy 40.32**		**71**	T	T	03 29 11.8	
	baz=266,slow=75,SNR=11						
MKAR	**Makanchi Array**	**52.87**	**323**	P	**P**	**02 47 17.9**	**-0.4**
	0.3nm,0.6s,baz=125,slow=7.2,SNR=3.8						
	0.3nm,0.6s						
AAK	**Ala-Archa**	**56.12**	**316**	LR	LR	03 13 10.1	
	comp=Z,24nm,19.3s,baz=210,slow=38						
ASF	**Jabal al Asfar**	**84.75**	**302**	LR	LR	03 31 40.9	
	comp=Z,21nm,18.1s,baz=131,slow=38						
ARCES	**ARCESS Array B**	**85.09**	**340**	P	**P**	**02 50 38.5**	**+0.7**
	0.8nm,0.7s,baz=79,slow=6.3,SNR=5.4						
	0.8nm,0.7s						
FINES	**FINESS Array B**	**86.77**	**332**	P	**P**	**02 50 47.0**	**+0.8**
	1.0nm,1.0s,baz=81,slow=5.3,SNR=5.3						
	1.0nm,1.0s						

*NEIC **21** 02:41:16.5±1.6,35.66N±0.02×117.45W±0.02,h10km±2km, Error ellipse: s-maj=3.2km s-min=2.9km az=310.0*

PAS 21 02:41:17.3±1.0,35.67N±0.02×117.47W±0.02,h9km±6km, ML3.2/109,ML2.9/120(NEIC),Error ellipse: s-maj=2.4km s-min=2.3km az=201.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.08**	**196**		Pg	02 41 19.5	0.0
GPO	**China Lake**	**0.16**	**262**		Pg	02 41 20.9	+0.1
GPO					Sg	02 41 23.9	+0.8
CCCA	**Chr Cany lake**	**0.17**	**151**		Pg	02 41 21.2	+0.3
CCCA				IAML		02 41 24.7	
	comp=E,5μm,0.2s						
CLC	**China Lake**	**0.18**	**323**		Pg	02 41 21.0	-0.1
CLC				IAML		02 41 24.0	
	comp=N,4μm,0.3s						
SRTC	**Snort**	**0.23**	**275**		Pg	02 41 22.3	+0.3
SRTC					Sg	02 41 26.6	+1.4
LRMC	**Laurel Mtn Rad**	**0.26**	**222**		Pg	02 41 22.3	-0.3
TOW	**Tower One**	**0.28**	**299**		Pg	02 41 23.2	+0.3
TOW					Sg	02 41 28.0	+1.3
MPMC	**Manual Prospec**	**0.39**	**357**		Pg	02 41 24.6	-0.4
MPMC				IAML		02 41 31.0	
	comp=N,1μm,0.5s						
MPMC				IAML		02 41 32.0	
	comp=E,1μm,0.4s						
MPMC	**Manual Prospec**	**0.39**	**357**		Sg	02 41 30.1	0.0
WNMM	**Nine Mile Cany**	**0.40**	**296**		Sg	02 41 30.5	+0.2
WVPM	**Volcano Peak E**	**0.40**	**314**		Pg	02 41 24.9	-0.2
WVPM					Sg	02 41 30.7	+0.3
JRC2	**Joshua Ridge**	**0.42**	**318**		Pg	02 41 25.4	-0.1
JRC2					Sg	02 41 31.4	+0.4
WCSM	**Coso Springs S**	**0.43**	**325**		Pg	02 41 25.5	-0.2
WCSM					Sg	02 41 31.3	-0.1
WRVM	**Rose V. Centra**	**0.48**	**314**		Pg	02 41 26.4	-0.3
WRVM					Sg	02 41 33.0	-0.1
DTP	**Desert Tortois**	**0.51**	**218**		Pg	02 41 26.6	-0.6
DTP					Sg	02 41 33.6	-0.3
MFS	**McCloud Flat S**	**0.54**	**325**		Pg	02 41 27.6	-0.3
MFS					Sg	02 41 35.1	0.0
WBSM	**Bird Springs**	**0.56**	**256**		Sg	02 41 35.6	-0.1
QSM	**Queen of Sheba**	**0.57**	**59**		Pg	02 41 28.0	-0.3
QSM				IAML		02 41 37.3	
	comp=N,1μm,0.4s						
QSM	**Queen of Sheba**	**0.57**	**59**		Sg	02 41 35.1	-0.7
WORM	**Onyx Ranch**	**0.63**	**272**		Pg	02 41 29.0	-0.6
WORM					Sg	02 41 37.2	-0.7
GSC	**Goldstone, Bar**	**0.65**	**124**		Pg	02 41 29.6	-0.4
GSC				IAML		02 41 41.5	
	comp=N,435nm,0.5s						
GSC				IAML		02 41 41.7	
	comp=E,392nm,0.6s						
CCAC	**Calif City Air**	**0.69**	**221**		Pg	02 41 30.1	-0.5
CCAC					Sg	02 41 39.5	0.0
WHFM	**Hanning Flat**	**0.72**	**272**		Pg	02 41 30.6	-0.6
WHFM					Sg	02 41 39.9	-0.7
HYS	**Haystack Butte**	**0.81**	**186**		Pg	02 41 32.3	-0.7
HYS					Sg	02 41 43.1	-0.4
ISA	**Isabella, Lake**	**0.82**	**270**		Sg	02 41 43.5	-0.3
ISA	**Isabella, Lake**	**0.82**	**270**		Pg	02 41 32.4	-0.7
ISA				IAML		02 41 44.2	
	comp=E,340nm,0.4s						
ISA				IAML		02 41 44.7	
	comp=N,322nm,0.3s						
GWY	**Greenwater Val**	**0.83**	**51**		Pg	02 41 32.6	-0.6
GWY				IAML		02 41 46.6	
	comp=N,755nm,0.4s						
GWY	**Greenwater Val**	**0.83**	**51**		Sg	02 41 43.6	-0.4
RRX	**Edison Barstow**	**0.88**	**154**		Pg	02 41 34.5	+0.2
RRX					Sg	02 41 45.5	-0.3
WASM	**Alta Sierra Ca**	**0.89**	**275**		Pg	02 41 33.7	-0.8
WASM					Pn	02 41 45.2	+8.9
EDW2	**Edwards Air Fo**	**0.90**	**209**		Pg	02 41 33.7	-1.0
EDW2					Sg	02 41 45.6	-0.7
CWC	**Cottonwood Cre**	**0.91**	**327**		Sg	02 41 46.6	-0.2
CWC	**Cottonwood Cre**	**0.91**	**327**		Pg	02 41 34.9	0.0
CWC				IAML		02 41 48.6	
	comp=E,189nm,0.2s						
CGO	**Cerro Gordo**	**0.92**	**343**		Pg	02 41 34.4	-0.6
FURC	**Furnace Creek,**	**0.93**	**31**		Sg	02 41 47.5	+0.2
TPO	**Tropico Hills**	**1.01**	**218**		Pg	02 41 36.0	-0.7
DSCC	**Desert Studies**	**1.23**	**115**		Pn	02 41 38.8	-1.9
AMDNV	**Amargosa**	**1.24**	**51**		Pn	02 41 39.2	-1.6
WCT	**Wildcat Mounta**	**1.31**	**31**		Pn	02 41 40.7	-1.2
WCT				IAML		02 42 00.5	
	comp=E,257nm,0.4s						
WCT				IAML		02 42 02.3	
	comp=N,211nm,0.5s						
GRAC	**Grapevine Rang**	**1.32**	**3**		Pn	02 41 41.5	-0.6
GRAC				IAML		02 42 05.8	
	comp=N,318nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.44**	**186**	IAML		02 42 03.8	
	comp=E,182nm,0.5s						
BFSC				IAML		02 42 06.0	
	comp=N,162nm,0.7s						
MWC	**Mount Wilson**	**1.52**	**199**		Pn	02 41 44.1	-0.8
MWC				IAML		02 42 07.3	
	comp=E,240nm,0.5s						
MWC				IAML		02 42 07.7	
	comp=N,282nm,0.5s						
MTPC	**Mountain Pass**	**1.57**	**96**		Pn	02 41 44.0	-1.5
MTPC				IAML		02 42 07.4	
	comp=E,137nm,0.3s						
MTPC				IAML		02 42 09.9	
	comp=N,149nm,0.2s						
TPNV	**Topopah Spring**	**1.61**	**37**		Pn	02 41 45.2	-0.9
TPNV				IAML		02 42 10.8	
	comp=N,209nm,0.5s						
TPNV				IAML		02 42 10.8	
	comp=N,242nm,0.5s						
PASC	**Pasadena Art C**	**1.61**	**202**		Pn	02 41 45.2	-0.7
PASC				IAML		02 42 12.0	
	comp=N,90nm,0.5s						
PASC				IAML		02 42 14.4	
	comp=E,117nm,0.5s						
GMN	**Gold Mountain**	**1.63**	**6**		Pn	02 41 45.8	-0.7
DSP	**Deep Springs**	**1.74**	**347**		Pn	02 41 47.2	-0.5
DSP				IAML		02 42 13.5	
	comp=E,69nm,0.3s						
ELS	**Elsinore Mount**	**2.02**	**179**		Pn	02 41 50.8	-0.9
ELS				IAML		02 42 23.9	
	comp=E,62nm,0.6s						
SHPR	**Sheep Range**	**2.04**	**65**		Pn	02 41 51.3	-0.8
PMD	**Palm Desert**	**2.21**	**156**		Pn	02 41 52.8	-1.4
PFO	**Pinyon Flats O**	**2.22**	**158**		Pn	02 41 53.3	-1.1
TPH	**Tonopah**	**2.41**	**5**		Pn	02 41 56.8	-0.3
PRN	**Pahroc Range**	**2.60**	**48**		Pn	02 41 59.3	-0.5
PRN				IAML		02 42 45.2	
	comp=E,76nm,0.5s						
PRN				IAML		02 42 47.5	
	comp=N,68nm,0.6s						
LHV	**Little Huntoon**	**2.71**	**342**		Pn	02 42 01.2	+0.3
LHV				IAML		02 42 48.6	
	comp=E,30nm,0.8s						
NV11	**Mina Array Sit**	**2.81**	**349**		Pn	02 42 02.4	-0.2
NVAR	**Mina Array Bea**	**2.83**	**347**		Pn	02 42 02.7	-0.3
W13A	**Hualapai Mount**	**2.98**	**100**		Pn	02 42 03.7	-1.3
R11B	**Troy Canyon, C**	**3.07**	**29**	IAML		02 42 56.2	
	comp=E,20nm,0.5s						
KNB	**Kanab**	**3.98**	**69**	IAML		02 43 29.6	
	comp=E,10.0nm,1.1s						
KNB				IAML		02 43 35.6	
	comp=N,9.2nm,1.3s						
Y14A	**Wickenburg**	**4.06**	**114**	IAML		02 43 30.7	
	comp=N,14nm,0.7s						
Y14A				IAML		02 43 33.1	
	comp=E,13nm,0.7s						
PSUT	**Pine Spring**	**4.06**	**44**	IAML		02 43 30.4	
	comp=N,8.1nm,0.7s						
PSUT				IAML		02 43 32.6	
	comp=E,12nm,1.1s						
SPR3	**Spring Creek 3**	**4.16**	**36**	IAML		02 43 29.0	
	comp=E,12nm,1.2s						
SPR3				IAML		02 43 30.6	
	comp=N,10nm,0.6s						
U15A	**North Rim**	**4.26**	**78**	IAML		02 43 32.5	
	comp=N,15nm,1.3s						
U15A				IAML		02 43 39.3	
	comp=E,13nm,0.9s						
BEKR	**Beckworth**	**4.77**	**332**	IAML		02 43 58.6	
	comp=E,6.6nm,3.9s						
WUAZ	**Wupatki**	**4.97**	**90**	IAML		02 43 57.4	
	comp=E,12nm,0.7s						
WUAZ				IAML		02 43 58.1	
	comp=E,9.1nm,0.6s						
ELK	**Elko**	**5.36**	**18**	IAML		02 44 08.8	
	comp=E,3.2nm,0.4s						

*BGR **21** 02:50:20.3,21.34S×169.88E,h33km*
*IDC **21** 02:50:27.8±0.6,20.96S×169.92E,h88km±4km,mb4.2/17, mbtmp4.6/19,MS3.3/20,Error ellipse: s-maj=12.4km s-min=10.3km az=148.0*
*NEIC **21** 02:50:28.2±2.1,20.92S±0.10×170.0E±0.1,h85km±2km, mb4.9/94,Error ellipse: s-maj=15.6km s-min=12.4km az=139.0*
*NOU **21** 02:50:31.5,20.91S×169.66E,h92km,mb4.8/33,Vanuatu Islands*

ISC 21 02:50:28.6±0.5,20.97S±0.05×169.86E±0.06,h94km±3km, h94km:pP-P,n298,σ1$36/259,mb4.9/69,11C-25D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INH	**Isangel**	**1.52**	**339**	P	**Pn**	**02 50 56.6**	**+1.8**
PINNC	**Pines Island,**	**2.78**	**234**		**Pn**	**02 51 11.1**	**-0.1**
PINNC	**Pines Island,**	**2.78**	**234**	P	**Pn**	**02 51 11.4**	**+0.2**
YATNC	**Mamie plateau,**	**2.97**	**248**	P	**Pn**	**02 51 13.4**	**-0.4**
OUENC	**Ouen Island, N**	**3.16**	**242**	P	**Pn**	**02 51 17.4**	**+1.1**
DZM	**Mont Dzumac**	**3.37**	**250**	*e*Pn	**Pn**	**02 51 18.5**	**-0.7**
	2μm,0.7s						
DZM				*e*Sn	**Sn**	**02 51 57.1**	**-1.2**
DZM				*e*LR	LR	02 51 59.0	
	895nm,27.6s						
DZM	**Mont Dzumac**	**3.37**	**250**	P	**Pn**	**02 51 20.1**	**+0.8**
	1μm,0.5s,baz=112,slow=12,SNR=1858						
DZM				S	**Sn**	**02 51 58.4**	**+0.1**
	2μm,0.4s,baz=213,slow=22,SNR=20						
DZM				LR	LR	02 52 11.2	
	comp=Z,196nm,18.8s,baz=74,slow=30						
DZM	**Mont Dzumac**	**3.37**	**250**	P	**Pn**	**02 51 20.4**	**+1.2**
ONTNC	**Ouen Toro**	**3.44**	**247**		**Pn**	**02 51 21.1**	**+1.0**
ONTNC	**Ouen Toro**	**3.44**	**247**	P	**Pn**	**02 51 21.4**	**+1.3**
DVP	**Devils Point**	**3.59**	**334**	P	**Pn**	**02 51 23.5**	**+1.3**
KOUNC	**Koumac, New Ca**	**5.24**	**274**	P	**Pn**	**02 51 45.8**	**+1.3**
VLAKA	**Lakatoro**	**5.36**	**334**	P	**Pn**	**02 51 46.3**	**0.0**
MSVF	**Nonsavu**	**8.37**	**69**		**Pn**	**02 52 31.3**	**+4.0**
MSVF	**Nonsavu**	**8.37**	**69**	P	**Pn**	**02 52 31.7**	**+4.4**
NGOA	**Tingoa Renbel**	**13.27**	**313**	P	**Pn**	**02 53 34.0**	**+0.7**
OUZ	**Omahuta**	**14.57**	**168**	P	**P**	**02 53 54.4**	**+0.4**
OUZ	**Omahuta**	**14.57**	**168**	P	**Pn**	**02 53 51.7**	**+1.6**
HNR	**Honiara**	**14.93**	**319**	LR	LR	02 58 25.2	
	comp=Z,130nm,20.8s,baz=68,slow=32						
WCZ	**Waipu Caves**	**15.42**	**166**	P	**P**	**02 54 05.9**	**+2.5**
KUZ	**Kuaotunu**	**16.53**	**163**	P	**P**	**02 54 19.3**	**+3.7**
KUZ	**Kuaotunu**	**16.53**	**163**	P	**P**	**02 54 21.2**	**+5.5**
EIDS	**Eidsvold**	**17.81**	**252**		**Pn**	**02 54 32.8**	**+2.3**
EIDS	**Eidsvold**	**17.81**	**252**	P	**Pn**	**02 54 31.6**	**+1.1**
HIZ	**Hauiti**	**18.01**	**167**	P	**Pn**	**02 54 36.9**	**+4.2**
HAZ	**Te Kaha**	**18.08**	**159**	P	**Pn**	**02 54 35.3**	**+1.7**
URZ	**Urewera**	**18.33**	**162**	P	**Pn**	**02 54 36.6**	**0.0**
	18nm,1.0s,baz=329,slow=6.7,SNR=7.5						
URZ				S	Sn	02 58 13.4	+12
	5.1nm,0.8s,baz=269,slow=22,SNR=6.8						
URZ				LR	LR	03 00 14.3	
	comp=Z,87nm,18.7s,baz=343,slow=32						
URZ	**Urewera**	**18.33**	**162**	P	**Pn**	**02 54 38.9**	**+2.3**
URZ	**Urewera**	**18.33**	**162**	P	**Pn**	**02 54 37.8**	**+1.2**
PUZ	**Puketiti**	**18.52**	**159**	P	**Pn**	**02 54 39.5**	**+0.5**
MWZ	**Matawai**	**18.53**	**161**	P	**Pn**	**02 54 40.9**	**+1.9**
RTZ	**Ruatahuna**	**18.63**	**162**		**Pn**	**02 54 40.4**	**+0.2**
AFI	**Afiamalu**	**18.86**	**71**	P	**P**	**02 54 41.2**	**-0.4**
ARMA	**Armidale**	**18.91**	**236**		**Pn**	**02 54 45.6**	**+1.9**
ARMA	**Armidale**	**18.91**	**236**	P	**Pn**	**02 54 44.0**	**+0.3**
BKZ	**Black Stump Fm**	**19.01**	**164**	P	**Pn**	**02 54 48.4**	**+3.7**
BKZ	**Black Stump Fm**	**19.01**	**164**	P	**Pn**	**02 54 44.9**	**+0.2**
KWHZ	**Kaweka Forest**	**19.23**	**164**	P	**Pn**	**02 54 47.3**	**-0.1**
PNHZ	**Pukenui**	**19.64**	**165**	P	**Pn**	**02 54 51.2**	**-0.9**
KAHZ	**Kahuranaki**	**19.70**	**164**	P	**Pn**	**02 54 51.8**	**-1.0**
TSZ	**Takapari Road**	**19.73**	**166**	P	**Pn**	**02 54 53.5**	**+0.4**
PXZ	**Pawanui**	**19.92**	**164**	P	**P**	**02 54 53.2**	**+0.5**
QRZ	**Quartz Range**	**19.92**	**174**	P	**Pn**	**02 54 56.6**	**+1.3**
DVHZ	**Dannevirke**	**20.00**	**166**	P	**P**	**02 54 54.1**	**+0.3**
DUWZ	**D'Urville Isla**	**20.07**	**171**	P	Pn	02 54 57.0	0.0
MRZ	**Mangatainoka R**	**20.22**	**167**		**P**	**02 54 56.3**	**+0.2**
MRZ	**Mangatainoka R**	**20.22**	**167**	P	**P**	**02 54 56.5**	**+0.4**
OGWZ	**Otaki Gorge**	**20.29**	**168**	P	**P**	**02 54 57.6**	**+0.8**
HOWZ	**Holdsworth Sta**	**20.44**	**168**	P	**P**	**02 54 58.3**	**-0.1**
MSWZ	**Moikau Station**	**20.89**	**169**	P	**P**	**02 55 02.6**	**-0.6**
PAWZ	**Paruwai Farm**	**20.89**	**168**	P	**P**	**02 55 02.6**	**-0.7**
CNB	**Canberra Magne**	**22.98**	**227**	P	**P**	**02 55 27.6**	**+2.2**
CAN	**Canberra**	**23.23**	**228**	P	**P**	**02 55 29.5**	**+1.8**
CAN	**Canberra**	**23.23**	**228**	P	**P**	**02 55 29.5**	**+1.8**
CMSA	**Cobar Meteorol**	**24.05**	**239**	P	**P**	**02 55 36.6**	**+1.5**
QLP	**Quilpie**	**24.09**	**252**	P	**P**	**02 55 37.0**	**+1.5**
STKA	**Stephens Creek**	**27.47**	**241**	P	**P**	**02 56 07.4**	**+1.3**
STKA	**Stephens Creek**	**27.47**	**241**	P	**P**	**02 56 07.3**	**+1.3**
	2.5nm,0.5s,baz=91,slow=12,SNR=6.3						
STKA				pP	**pP**	**02 56 26.2**	**+0.2**
	3.2nm,0.7s,baz=79,slow=9.6,SNR=2.8						
STKA				PcP	**PcP**	**02 59 22.8**	**+0.4**
	4.9nm,0.6s,baz=56,slow=3.5,SNR=7.8						
STKA				LR	LR	03 06 03.0	
	comp=Z,143nm,18.5s,baz=43,slow=34						
	2.5nm,0.5s						
GEXS	**Deakin Univers**	**27.96**	**227**	P	**P**	**02 56 12.6**	**+2.3**
RAR	**Rarotonga**	**28.31**	**96**	LR	LR	03 06 58.5	
	comp=Z,52nm,19.1s,baz=276,slow=35						
HTT	**Hallett**	**30.07**	**239**	P	**P**	**02 56 30.9**	**+1.8**
BBOO	**Buckleboo**	**32.24**	**241**	P	**P**	**02 56 49.1**	**+0.9**
BBOO	**Buckleboo**	**32.24**	**241**	P	**P**	**02 56 50.0**	**+1.8**
WR8	**Warramunga Arr**	**33.11**	**265**	P	**P**	**02 56 56.2**	**+0.3**
WRA	**Warramunga Arr**	**33.26**	**265**	P	**P**	**02 56 56.9**	**-0.4**
WRA	**Warramunga Arr**	**33.26**	**265**	P	**P**	**02 56 56.8**	**-0.4**
	2.0nm,0.8s,baz=96,slow=8.6,SNR=20						
WRA				pP	**pP**	**02 57 16.6**	**-0.8**
	2.8nm,0.9s,baz=90,slow=8.5,SNR=5.6						
WRA				PcP	**PcP**	**02 59 36.5**	**-1.2**
	1.6nm,0.8s,baz=92,slow=2.4,SNR=4.6						
WRA				ScP	**ScP**	**03 03 14.1**	**+0.4**
	1.0nm,0.9s,baz=88,slow=3.3,SNR=4.9						
	2.0nm,0.8s						
AS01	**Alice Springs**	**33.28**	**259**	P	**P**	**02 56 58.1**	**+0.7**
AS31	**Alice Springs**	**33.32**	**259**		**P**	**02 56 58.3**	**+0.5**
ASAR	**Alice Springs**	**33.32**	**259**	P	**P**	**02 56 58.1**	**+0.3**
	6.1nm,0.5s,baz=93,slow=9.2,SNR=104						
ASAR				pP	**pP**	**02 57 17.8**	**-0.2**
	1.8nm,0.5s,baz=92,slow=8.6,SNR=3.7						
ASAR				PcP	**PcP**	**02 59 36.7**	**-1.1**
	1.7nm,0.7s,baz=96,slow=3.1,SNR=7.4						
ASAR				ScP	**ScP**	**03 03 14.2**	**+0.3**
	0.9nm,0.8s,baz=76,slow=3.4,SNR=5.8						
ASAR				LR	LR	03 09 59.3	
	comp=Z,56nm,19.9s,baz=118,slow=35						
	6.1nm,0.5s						
JAY	**Jayapura**	**33.81**	**299**	P	**P**	**02 57 02.6**	**+0.5**
	5.5nm,0.5s,baz=138,slow=6.4,SNR=8.5						
JAY				pP	**pP**	**02 57 22.8**	**0.0**
	7.8nm,0.9s,baz=192,slow=5.4,SNR=3.6						
JAY				LR	LR	03 11 06.7	
	comp=Z,69nm,18.3s,baz=264,slow=37						
	5.5nm,0.5s						
TBI	**Tubuai**	**37.66**	**101**	*e*LR	LR	03 07 28.8	
	498nm,31.2s						
MTN	**Manton Dam**	**37.85**	**276**	P	**P**	**02 57 36.8**	**+0.2**
MTN				IAmb	IAmb	02 57 37.7	
	comp=Z,11nm,0.7s						
PPT2	**Papeete2**	**38.36**	**92**	*e*SS	SS	03 06 13.1	-8.5
	comp=Z,35nm,22.8s						
PPT2				*e*LR	LR	03 08 12.3	
	comp=Z,117nm,30.2s						
KNRA	**Kununurra**	**39.29**	**271**		**P**	**02 57 48.9**	**+0.3**
KNRA				IAmb	IAmb	02 59 18.1	
	comp=Z,24nm,1.6s						
FITZ	**Fitzroy Crossi**	**41.68**	**266**		**P**	**02 58 09.3**	**+1.0**
FITZ	**Fitzroy Crossi**	**41.68**	**266**	P	**P**	**02 58 09.1**	**+0.8**
	comp=Z,6.6nm,0.7s,baz=152,slow=11,SNR=19						
FITZ				pP	**pP**	**02 58 29.1**	**-0.3**
	comp=Z,13nm,0.7s,baz=92,slow=7.8,SNR=9.3						
	comp=Z,6.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**41.68**	**266**	P	**P**	**02 58 09.5**	**+1.2**
GUMO	**Guam**	**42.22**	**322**	LR	LR	03 14 53.2	
	comp=Z,9.8nm,21.8s,baz=108,slow=35						
MBWA	**Marble Bar**	**46.62**	**260**	P	**P**	**02 58 48.1**	**+0.4**
MBWA				sP	**sP**	**02 59 18.1**	**-1.2**
MEEK	**Meekatharra**	**46.98**	**253**	P	**P**	**02 58 52.1**	**+1.6**
NWAO	**Narrogin (SRO)**	**47.97**	**244**	P	**P**	**02 58 57.3**	**-0.7**
	comp=Z,9.1nm,0.9s,baz=194,slow=1.9,SNR=1.1						
NWAO				LR	LR	03 18 00.6	
	comp=Z,126nm,20.3s,baz=44,slow=34						
	comp=Z,9.1nm,0.9s						
TAOE	**Nuku Hiva Isla**	**49.59**	**84**	*e*LR	LR	03 13 24.5	
	comp=Z,59nm,30.1s						
TOLI2	**Tolitoli**	**52.76**	**288**	P

QSPA pP **pP** **03 01 46.4 -1.0**
comp=Z,3.5nm,0.7s,baz=338,slow=5.1,SNR=2.8
comp=Z,9.8nm,0.7s
QSPA South Pole Qui 69.09 180 P **P** **03 01 24.2 -0.1**
JKA Kamikawa-asahi 69.42 339 P **P** **03 01 27.6 +1.2**
JKA IAmb IAmb 03 02 47.3
comp=Z,18nm,1.4s
ASAJ Asahikawa 69.42 339 LR LR 03 26 51.0
comp=Z,23nm,21.9s,baz=182,slow=31
NJ2 Nanjing 71.86 316 *e*P **P** **03 01 43.8 +2.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
KIWB Kanaga Island 73.40 8 P **P** **03 01 50.1 0.0**
KIWB IAmb IAmb 03 01 51.4
comp=Z,13nm,0.7s
SHEM Shemya Is, Ala 73.48 3 LR LR 03 32 37.7
comp=Z,11nm,19.2s,baz=171,slow=34
ADK Adak 73.49 9 P **P** **03 01 50.1 -0.6**
ADK IAmb IAmb 03 02 07.6
comp=Z,19nm,1.1s
USRK Ussuriysk Ar. 73.54 333 P **P** **03 01 51.3 +0.2**
comp=Z,1.7nm,0.5s,baz=162,slow=33,SNR=4.5
comp=Z,1.7nm,0.5s
ATKA Atka Island 74.18 10 P **P** **03 01 54.1 -0.6**
ATKA IAmb IAmb 03 01 55.4
comp=Z,21nm,1.0s
PETK Petropavlovsk- 74.52 352 P **P** **03 01 56.7 0.0**
comp=Z,3.0nm,0.8s,baz=136,slow=5.6,SNR=2.4
comp=Z,3.0nm,0.8s
NIKH Nikolski High 75.92 13 P **P** **03 02 04.2 -0.5**
MAW Mawson 77.06 202 P **P** **03 02 11.6 +0.5**
comp=Z,4.1nm,0.7s,baz=122,slow=8.2,SNR=16
MAW pP **pP** **03 02 35.0 +0.4**
comp=Z,3.9nm,0.8s,baz=109,slow=9.0,SNR=5.4
comp=Z,4.1nm,0.7s
LYN LuoYang 77.60 315 P **P** **03 02 15.8 +1.2**
LYN pmax pmax
comp=Z,20nm,0.9s
HNS HongShan 77.87 318 ⇓P **P** **03 02 18.1 +2.0**
HNS pmax pmax
comp=Z,8.0nm,1.0s
XAN Xi'an 79.71 312 ⇑P **P** **03 02 27.3 +1.0**
XAN pmax pmax
comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 79.75 294 P **P** **03 02 28.2 +1.4**
CMAR Chiang Mai Arr 79.75 294 P **P** **03 02 28.7 +1.9**
comp=Z,3.0nm,0.3s,baz=137,slow=4.1,SNR=19
CMAR pP **pP** **03 02 50.4 -0.2**
comp=Z,1.3nm,0.3s,baz=130,slow=4.5,SNR=1.7
comp=Z,3.0nm,0.3s
BELA Belgrano 2 80.33 175 P **P** **03 02 27.4 -1.5**
PZH PanZhiHua 81.13 303 P **P** **03 02 36.4 +2.2**
MA2 Magadan 81.77 350 LR LR 03 35 41.5
comp=Z,18nm,18.4s,baz=324,slow=33
HHC Hu-ho-hao-te 81.91 319 *e*P **P** **03 02 41.1 +3.2**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,100nm,3.8s
SMAI San Martin Ant 82.01 162 IAmb IAmb 03 02 39.4
comp=Z,49nm,1.9s
SYO Syowa Base 83.44 196 ⇓*e*P **P** **03 02 46.0 +0.7**
LZH Lanzhou 84.32 312 *e*P **P** **03 02 52.0 +1.5**
LZH pP pwP 03 03 20.6 +3.4
LZH pmax pmax
comp=Z,21nm,1.1s
KDAK Kodiak Island 84.47 19 LR LR 03 34 04.3
comp=Z,17nm,21.8s,baz=208,slow=31
P18K Big Mountain, 85.04 17 IAmb IAmb 03 02 55.8
comp=Z,11nm,0.9s
TROLL Troll, Antarti 86.86 184 ⇓P **P** **03 03 01.4 -1.1**
comp=Z,765nm,0.8s
O02D Mt. Diablo Mer 87.30 45 IAmb IAmb 03 03 07.3
comp=Z,15nm,1.1s
SNAA Sanae 87.46 182 ⇓P **P** **03 03 04.0 -1.4**
comp=Z,162nm,0.6s
SNAA Sanae 87.46 182 P **P** **03 03 03.9 -1.4**
SNAA IAmb IAmb 03 03 04.9
comp=Z,6.6nm,0.7s
SNAA Sanae 87.46 182 P **P** **03 03 04.1 -1.4**
comp=Z,5.9nm,0.7s,baz=205,slow=6.4,SNR=66
SNAA pP **pP** **03 03 29.7 +0.4**
comp=Z,2.3nm,0.8s,baz=184,slow=1.7,SNR=2.6
comp=Z,5.9nm,0.7s
VNA3 Neumayer Olymp 88.03 180 ⇓P **P** **03 03 06.4 -1.7**
comp=Z,16nm,0.6s
YBH Yreka Blue Hor 88.13 44 P **P** **03 03 09.6 +0.6**
comp=Z,0.1nm,0.4s,baz=267,slow=1.1,SNR=8.3
ESPZ Base Esperanza 88.28 161 P **P** **03 03 08.4 -0.9**
ESPZ IAmb IAmb 03 03 09.4
comp=Z,9.9nm,0.7s
ULN Ulaanbaatar 88.60 323 P **P** **03 03 11.1 0.0**
ULN IAmb IAmb 03 03 12.4
comp=Z,24nm,1.6s
VNA1 Neumayer--Stat 88.62 181 ⇓P **P** **03 03 09.5 -1.3**
comp=Z,6.3nm,0.6s
YAK Yakutsk 88.69 342 LR LR 03 42 04.5
comp=Z,14nm,18.4s,baz=358,slow=35
GTA Gaotai 88.73 313 *e*P **P** **03 03 13.3 +1.3**
GTA pP pwP 03 03 39.0 +0.2
GTA pmax pmax
comp=Z,10.0nm,0.8s
WAKR Walker 88.75 48 P **P** **03 03 12.9 +0.7**
WAKR IAmb IAmb 03 03 13.8
comp=Z,8.3nm,1.0s
SONM Songino Array 88.95 323 P **P** **03 03 12.6 -0.2**
SONM IAmb IAmb 03 03 14.1
comp=Z,8.1nm,1.2s
SONM Songino Array 88.95 323 P **P** **03 03 12.8 +0.1**
comp=Z,2.5nm,0.5s,baz=138,slow=5.4,SNR=16
comp=Z,2.5nm,0.5s
DSP Deep Springs 89.26 49 IAmb IAmb 03 03 15.9
comp=Z,12nm,1.1s
LHV Little Huntoon 89.28 48 IAmb IAmb 03 03 16.1
comp=Z,13nm,1.2s
PAHR Pah Rah Range 89.36 47 IAmb IAmb 03 03 16.2
comp=Z,12nm,1.2s
RYN Ryan 89.45 48 IAmb IAmb 03 03 16.6
comp=Z,7.8nm,1.0s
NVAR Mina Array Bea 89.51 48 P **P** **03 03 15.2 -0.6**
NVAR Mina Array Bea 89.51 48 P **P** **03 03 16.2 +0.5**
comp=Z,4.5nm,0.8s,baz=226,slow=8.2,SNR=30
comp=Z,4.5nm,0.8s
NV11 Mina Array Sit 89.61 48 P **P** **03 03 16.4 +0.2**
NV11 IAmb IAmb 03 03 17.3
comp=Z,7.6nm,0.9s
LPIG La Paz 89.64 64 LR LR 03 35 00.5
comp=Z,26nm,20.6s,baz=182,slow=30
K05A Summer Lake 89.80 44 IAmb IAmb 03 03 18.0
comp=Z,8.7nm,0.9s
TPNV Topopah Spring 90.30 50 IAmb IAmb 03 03 20.7
comp=Z,9.9nm,1.1s
I05D Terrebonne, OR 90.30 42 IAmb IAmb 03 03 20.4
comp=Z,7.1nm,0.9s
CTGM Chitina Glacie 90.59 22 IAmb IAmb 03 03 19.9
comp=Z,7.1nm,0.8s
V35K Ketchikan 90.75 29 IAmb IAmb 03 03 22.3
comp=Z,13nm,1.2s
SHPR Sheep Range 90.89 51 P **P** **03 03 22.6 +0.4**
P29M Windy Craggy 90.96 24 IAmb IAmb 03 03 22.3
comp=Z,9.9nm,0.9s
GNW Green Mountain 91.01 39 IAmb IAmb 03 03 23.5
comp=Z,7.9nm,0.9s
WVOR Wild Horse Val 91.13 45 IAmb IAmb 03 03 24.4
comp=Z,9.0nm,1.1s
PGC Sidney 91.20 38 IAmb IAmb 03 03 24.9
comp=Z,8.8nm,0.9s
M27K Edge Creek, AK 91.41 20 IAmb IAmb 03 03 24.2
comp=Z,7.1nm,1.2s
ILAR Eielson Array 91.70 17 P **P** **03 03 23.2 -1.8**
comp=Z,0.8nm,0.5s,baz=238,slow=5.1,SNR=27
ILAR LR LR 03 39 23.0
comp=Z,16nm,19.4s,baz=314,slow=32
comp=Z,0.8nm,0.5s
HYT Haines Junctio 91.85 23 IAmb IAmb 03 03 26.2
comp=Z,5.8nm,1.1s
G08A Pilot Rock 92.25 42 IAmb IAmb 03 03 29.1
comp=Z,6.1nm,0.9s
S34M Telegraph Cree 92.52 27 IAmb IAmb 03 03 30.4
comp=Z,5.8nm,1.1s
K27K Chicken 92.55 19 IAmb IAmb 03 03 30.3
comp=Z,4.5nm,1.1s
M29M Somme Creek 92.61 21 IAmb IAmb 03 03 29.6
comp=Z,4.2nm,0.8s
I26K Coal Creek Min 93.16 18 IAmb IAmb 03 03 32.2
comp=Z,5.1nm,1.1s
L29M L29M 93.17 21 IAmb IAmb 03 03 32.4
comp=Z,6.7nm,1.1s
M30M Minto, Yukon 93.27 22 IAmb IAmb 03 03 33.1
comp=Z,4.8nm,0.8s
N32M Quiet Lake 93.71 24 IAmb IAmb 03 03 34.9
comp=Z,4.1nm,0.9s
I29M Ogilvie Camp, 94.64 19 IAmb IAmb 03 03 39.0
comp=Z,5.9nm,1.2s
I30M Mount Dempster 95.16 20 IAmb IAmb 03 03 40.9
comp=Z,5.2nm,1.0s
G31M Satah River 96.91 19 IAmb IAmb 03 03 48.8
comp=Z,4.8nm,0.9s
TXAR Lajitas Array 97.08 61 LR LR 03 40 41.6
comp=Z,8.1nm,18.9s,baz=204,slow=31
WMQ Urumqi 98.82 313 *e*P Pdif 03 03 59.8 +1.7
MKAR Makanchi Array 103.38 315 Pdiff **Pdif** **03 04 18.6 +0.4**
comp=Z,1.2nm,0.5s,baz=91,slow=6.5,SNR=13
KURBB **Kurchatov Arra 106.75 319** Pdiff **Pdif** **03 04 32.8 -0.2**
comp=Z,0.2nm,0.5s,baz=91,slow=3.4,SNR=2.4
BOSA Boshof 120.02 216 PKP **PKPdf** **03 09 08.7 -0.4**
comp=Z,3.0nm,1.0s,baz=131,slow=3.2,SNR=8.7
SPITS Spitsbergen Ar 121.37 354 PKP **PKPdf** **03 09 08.8 -1.3**
comp=Z,10nm,0.9s,baz=59,slow=1.7,SNR=16
ARCES **ARCESS Array B 126.88 345** PKP **PKPdf** **03 09 19.6 -1.2**
comp=Z,3.3nm,0.5s,baz=65,slow=1.4,SNR=63
BDFB Brasilia 127.98 131 PKP **PKPdf** **03 09 23.4 -1.2**
comp=Z,1.4nm,0.5s,baz=220,slow=2.8,SNR=5.0
FINES **FINESS Array B 132.40 337** PKP **PKPdf** **03 09 30.5 -0.9**
comp=Z,0.8nm,0.5s,baz=52,slow=2.7,SNR=11
AKASG **Malin Array Be 137.23 324** PKP **PKPdf** **03 09 40.6 -0.2**
comp=Z,1.1nm,0.7s,baz=73,slow=1.6,SNR=5.0
NB2 NORSAR Subarra 137.26 345 PKPdf **PKPdf** **03 09 40.8 +0.2**
comp=Z,0.5nm,0.6s,baz=31,slow=1.9
NOA NORSAR Array B 137.26 345 PKP **PKPdf** **03 09 41.1 +0.5**
comp=Z,0.8nm,0.6s,baz=33,slow=2.0,SNR=10
HFS Hagfors 137.38 343 PKP **PKPdf** **03 09 39.8 -1.0**
comp=Z,1.0nm,0.6s,baz=45,slow=1.6,SNR=5.7
BRTR Keskin Array B 138.32 307 PKP **PKPdf** **03 09 43.5 +0.1**
comp=Z,0.7nm,0.7s,baz=98,slow=2.0,SNR=4.1
KOLS Kolonicke sedl 141.98 325 *e*PKP **PKPdf** **03 09 49.4 -0.1**
STHS Stebnicka Huta 142.23 326 *e*PKP **PKPdf** **03 09 47.1 -2.9**
MARR Marisel-Cluj 142.76 321 ⇑P **PKPdf** **03 09 43.8 -7.3**
DRGR 142.94 322 ⇑P **PKPdf** **03 09 45.7 -5.7**
LOT Lotru 143.01 319 ⇑P PKPab 03 09 47.7 +0.7
LANS Liptovska Anna 143.31 327 *e*PKP **PKPdf** **03 09 52.3 +0.4**
STEB Steborice 143.63 329 *e*PKP PKPab 03 09 49.5 +0.3
GZR Gura Zlata 143.64 320 ⇓P PKPab 03 09 49.0 -0.4
EZN Ezine 143.69 309 ⇑P PKPab 03 09 46.2 -3.5
SIRR Siria 143.83 322 ⇓P PKPbc 03 09 50.9 +0.1
SURR Surduc 143.84 321 ⇑P PKPab 03 09 50.4 +0.3
MORC Moravsky Berou 143.85 329 *e*PKP PKPab 03 09 50.1 0.0
CHVC Chvalec 143.97 331 *e*PKP PKPbc 03 09 50.9 -0.2
KRLC Kraliky 144.00 330 *e*PKP PKPab 03 09 50.6 -0.1
DPC Dobruska-Polom 144.02 331 *e*PKP **PKPab** **03 09 51.0 +0.3**
VYHS Vyhne 144.05 327 *e*PKP PKPbc 03 09 51.4 0.0
HERR Herculane 144.12 319 ⇑P PKPbc 03 09 51.7 0.0
BZS Buzias 144.21 321 ⇓P **PKPab** **03 09 51.4 -0.2**
KARP Karpathos 144.31 302 PKPdf PKPbc 03 09 52.8 +0.2
FLTG Flechtingen 144.59 337 *e*PKPbc **PKPab** **03 09 52.3 -0.4**
baz=38,slow=2.9
MDVR Moldovita 144.60 320 ⇑P **PKPab** **03 09 48.0 -5.1**
VRAC Vranov 144.62 329 *e*PKP **PKPab** **03 09 52.6 -0.4**
VRAC Vranov 144.62 329 ⇓P **PKPab** **03 09 49.4 -3.5**
PVCC Panska Ves 144.66 333 *e*PKP **PKPab** **03 09 52.8 -0.3**
BRG Berggiesshubel 144.67 333 *e*PKPbc **PKPab** **03 09 52.7 -0.3**
baz=38,slow=2.9
BRG Berggiesshubel 144.67 333 *e*PKP **PKPab** **03 09 52.5 -0.6**
BRG Amp 03 09 53.7
comp=Z,12nm,0.5s
CLL Collm 144.73 335 ⇓*i*PKPbc **PKPab** **03 09 52.8 -0.4**
CLL comp=Z,12nm,0.6s *i* x x 03 09 54.3
comp=Z,8.0nm,0.7s
CLL Collm 144.73 335 *e*PKPbc **PKPab** **03 09 52.8 -0.4**
baz=38,slow=2.9
KRUC Moravsky 144.88 329 *e*PKP **PKPab** **03 09 53.5 -0.4**
MODS Modra-Piesok 144.92 328 *e*PKP PKPbc 03 09 52.8 -1.3
PGBU Glenifferbraes 144.95 354 *e*P PKPbc 03 09 52.6 -1.3
GOPC GO Pecny, Ondr 145.02 332 *e*PKP **PKPbc** **03 09 54.2 -0.2**
PRU Pruhonice 145.07 332 *e*PKP **PKPbc** **03 09 53.3 -1.2**
TREC Trest 145.15 330 *e*PKP **PKPbc** **03 09 54.7 -0.1**
BOVS Bovan 145.19 318 ⇑P **PKPbc** **03 09 54.1 -1.0**
NEUB Neuenburg 145.28 336 *e*PKPbc **PKPbc** **03 09 54.6 -0.6**
baz=38,slow=2.9
EKA Eskdalemuir Ar 145.29 353 PKPbc **PKPbc** **03 09 53.8 -1.2**
comp=Z,14nm,0.6s,baz=0.7,slow=2.6,SNR=94
CLZ Clausthal 145.30 338 *e*PKPbc **PKPbc** **03 09 54.5 -0.7**
baz=38,slow=2.9
ESK Eskdalemuir 145.31 353 **PKPbc** **03 09 54.1 -0.9**
ESK Eskdalemuir 145.31 353 *e*P **PKPbc** **03 09 53.7 -1.4**
MORH Mrgy, Hungar 145.57 324 ⇓P **PKPdf** **03 09 54.6 -1.2**
NEWG New Galloway 145.62 354 *e*P **PKPdf** **03 09 54.2 -1.4**
EDMD Edmundbyers 145.63 352 *e*P **PKPdf** **03 09 54.3 -1.4**
TANN Tannenbergstha 145.63 334 *e*PKPbc **PKPdf** **03 09 55.9 -0.1**
baz=38,slow=2.9
GTTG Gottingen 145.68 338 *e*PKPbc **PKPdf** **03 09 55.8 -0.1**
baz=38,slow=2.9
VAY Valandovo 145.72 314 *i* P **PKPdf** **03 09 56.1 -0.2**
IBBN Ibbenburen 145.78 340 *e*PKPbc **PKPdf** **03 09 56.1 +0.1**
baz=38,slow=2.9
MOX Mox 145.79 335 *e*PKPbc **PKPbc** **03 09 56.5 -0.3**
baz=38,slow=2.9
RONA Rosalia, Austr 145.86 328 *i* PKP **PKPbc** **03 09 57.1 0.0**
comp=Z,6.7nm,0.6s,SNR=11
CONA Conrad Observa 145.92 328 *i* PKP **PKPbc** **03 09 57.5 +0.1**
comp=Z,8.1nm,0.6s,SNR=16
CKRC Cesky Krumlov 146.03 331 *e*PKP **PKPbc** **03 09 57.5 -0.1**
MANZ Manzenberg 146.11 334 *e*PKPbc **PKPbc** **03 09 57.5 -0.3**
baz=38,slow=2.9
KHC Kasperske Hory 146.13 332 *e*PKP **PKPbc** **03 09 57.5 -0.4**
IDI Anoyia 146.17 302 PKPbc **PKPdf** **03 09 57.9 +0.6**
ROTZ Rotzenmuhle 146.24 334 *e*PKPbc **PKPbc** **03 09 57.9 -0.2**
baz=38,slow=2.9
UBBA Unterbreizbach 146.27 337 *e*PKPbc **PKPbc** **03 09 57.7 -0.4**
baz=38,slow=2.9
GEC2 GERESS Array S 146.29 331 PKPbc **PKPbc** **03 09 58.3 -0.2**
GEC2 GERESS Array S 146.29 331 *e*PKPbc **PKPbc** **03 09 58.0 -0.4**
baz=38,slow=2.9
GERES **GERESS Array B 146.29 331** PKPbc **PKPbc** **03 09 57.9 -0.5**
comp=Z,6.9nm,0.5s,baz=26,slow=2.7,SNR=93
LIT Litochoron 146.31 312 *e*PKPbc **PKPdf** **03 09 57.6 +0.2**
WET Wettzell 146.43 332 *e*PKPbc **PKPbc** **03 09 58.6 -0.2**
baz=38,slow=2.9
IOMK Kirk Michael 146.50 354 *e*P **PKPdf** **03 09 56.4 -0.7**
GRF Grafenberg Arr 146.70 334 *e*PKPbc **PKPbc** **03 09 59.1 -0.4**
baz=38,slow=2.9
MOA Molln 146.74 330 *i* PKP **PKPbc** **03 09 59.1 -0.6**
comp=Z,2.9nm,0.5s,SNR=5.5
OHR Ohrid 147.01 314 *i* P **PKPbc** **03 10 00.3 -0.4**
BIOA Bad Ischl, Aus 147.15 330 *i* PKP **PKPbc** **03 09 59.9 -1.0**
comp=Z,2.4nm,0.5s
PDG Podgorica 147.35 318 ⇑P **PKPdf** **03 10 00.2 +1.2**
WLF1 Llynfaes 147.44 354 *e*P **PKPdf** **03 09 59.4 +0.7**
RJOB Jochberg 147.51 331 *e*PKPbc **PKPbc** **03 10 01.4 -0.5**
baz=38,slow=2.9
TIR Tirane 147.51 315 ⇓P **PKPbc** **03 10 01.7 -0.3**
OBKA Obir 147.54 327 *i* PKP **PKPbc** **03 10 00.9 -1.1**
comp=Z,2.6nm,0.7s
CWF Charnwood Fore 147.56 350 *e*P **PKPdf** **03 09 59.4 +0.4**
FOEL Foel Wylfa 147.69 352 *e*P **PKPbc** **03 10 01.1 -1.1**
BTNL Ternell 147.78 340 *d*PKP **PKPbc** **03 10 01.5 -1.0**
LLW Llanuwchllyn 147.79 353 *e*P **PKPbc** **03 10 01.0 -1.4**
LESA Schwarzleotal 147.79 330 *i* PKP **PKPbc** **03 10 01.7 -1.0**
comp=Z,9.8nm,0.5s,SNR=15
MEM MemBach 147.80 341 *d*Pdif 03 07 35.0
MEM *d*PKP **PKPbc** **03 10 01.9 -0.5**
ITM Ithomi 147.85 307 **PKPbc** **03 10 02.5 -0.6**
MYKA Terra Mystica 147.91 328 *i* PKP **PKPbc** **03 10 01.7 -1.3**
comp=Z,6.8nm,0.5s,SNR=6.3
BSTI Sart Tilman 147.96 341 *d*PKP **PKPbc** **03 10 02.4 -0.5**
UCC Uccle 148.12 342 *d*PKP **PKPbc** **03 10 02.6 -0.7**
BCLA Clavier 148.18 341 *d*PKP **PKiKP** **03 10 05.5 +0.3**
STU Stuttgart 148.24 335 *e*PKPbc **PKPbc** **03 10 03.6 -0.1**
baz=38,slow=2.9
BGES Gesves 148.28 341 *d*PKP **PKPbc** **03 10 03.3 -0.5**
WATA Walderalm 148.36 331 *i* PKP **PKPbc** **03 10 03.3 -1.0**
comp=Z,3.7nm,0.5s,SNR=7.5
ABTA Abfaltersbach 148.37 330 *i* PKP **PKPbc** **03 10 03.1 -1.1**
comp=Z,3.6nm,0.5s
SABO M.te Sabotino 148.38 328 **PKPbc** **03 10 03.4 -0.8**
WTTA Wattenberg 148.39 331 *i* PKP **PKPbc** **03 10 03.6 -0.8**
comp=Z,4.1nm,0.5s,SNR=5.0
RCHB Rochefort 148.44 341 *d*PKP **PKPbc** **03 10 03.6 -0.5**
BMRD Maredsous 148.45 342 *d*PKP **PKPbc** **03 10 03.7 -0.5**
MOTA Moosalm 148.56 332 *i* PKP **PKPbc** **03 10 03.9 -0.9**
comp=Z,6.1nm,0.6s,SNR=7.2
WLF Walferdange 148.58 340 *d*PKP **PKPbc** **03 10 04.6 +0.1**
WLF Walferdange 148.58 340 *e*PKPbc **PKPbc** **03 10 05.0 +0.5**
baz=38,slow=2.9
RETA Reutte 148.60 332 *i* PKP **PKPbc** **03 10 04.0 -0.8**
comp=Z,2.9nm,0.5s
SQTA Sankt Quirin 148.61 332 *i* PKP **PKPbc** **03 10 04.2 -0.7**
comp=Z,7.7nm,0.5s,SNR=9.5
DOU Dourbes 148.68 342 *d*PKP **PKPbc** **03 10 04.2 -0.6**
SWN1 Swindon 148.83 350 *e*P **PKPbc** **03 10 04.3 -0.8**
WOL Wolverton 148.92 349 *e*P **PKPbc** **03 10 04.1 -1.2**
BFO Black Forest 148.93 336 *e*PKPbc **PKPbc** **03 10 05.2 -0.4**
baz=38,slow=2.9
FETA Feichten 148.98 332 *i* PKP **PKPbc** **03 10 05.3 -0.5**
comp=Z,6.3nm,0.6s,SNR=7.0
DAVA Damuels 149.14 333 *i* PKP **PKPbc** **03 10 05.3 -0.9**
comp=Z,4.7nm,0.6s
FUORN **Ofenpass-Fuorn 149.49 332** **PKPbc** **03 10 07.3 +0.1**
SGRT San Giovanni R 149.90 319 **PKPbc** **03 10 07.6 -0.6**
MATE Matera 149.92 317 ⇑P **PKPbc** **03 10 07.8 -0.4**
TIP Timpagrande 150.66 314 ⇓P **PKPbc** **03 10 10.0 -0.1**
ESDC Sonseca Array 160.62 346 PKPab **PKPab** **03 10 59.0 -0.7**
ESDC Sonseca Array 160.62 346 PKPab **PKPab** **03 10 58.5 -1.2**
comp=Z,0.7nm,0.7s,baz=12,slow=4.3,SNR=13
DBIC Dimbokro 164.89 201 PKPab **PKPab** **03 11 19.5 +0.6**
DBIC Dimbokro 164.89 201 PKPab **PKPab** **03 11 18.4 -0.5**
comp=Z,2.2nm,0.5s,baz=172,slow=5.3,SNR=8.3
TORD Torodi Ar. Bea 166.28 237 PKPdf **PKPdf** **03 10 22.3 -1.4**
TORD Torodi Ar. Bea 166.28 237 PKP **PKPdf** **03 10 22.8 -0.9**
comp=Z,0.7nm,0.8s,baz=124,slow=1.0,SNR=3.3
TORD PKPab **PKPab** **03 11 24.7 -0.5**
comp=Z,0.4nm,0.6s,baz=104,slow=2.7,SNR=2.7

*IDC **21** 03:16:15.1±2.2,0°.47N×96°.99E,h0km,mb3.7/6,*
mbtmp3.7/7,ML4.6/1,Error ellipse: s-maj=87.6km
s-min=23.4km az=58.0
*DJA **21** 03:16:15.2±1.6,1°.N±5°×9°.7E±°,h18km±11km,M3.9/8,*
MLv3.9/8
ISC 21 03:16:18.4±1.1,**0°.63N**±0°.09×**97°.07E**±0°.09,**h23**km,**n20,**
σ1ᵎ**78**/12,**mb3.7/6,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.84**	**37**	P	**Pb**	**03 16 33.7**	**-0.6**
GSI				S	**Sb**	**03 16 46.0**	**+0.9**
SNSI	**Sinabang, Aceh**	**1.92**	**337**	P	**Pn**	**03 16 46.5**	**-3.2**
MNSI	**Mandailing Nat**	**2.51**	**86**	P	**Pn**	**03 16 55.7**	**-2.2**
PPI	**Padang Panjang**	**3.50**	**108**	P	**Pn**	**03 17 09.5**	**-1.9**
CMAR	**Chiang Mai Arr**	**17.81**	**6**	P	**Pn**	**03 20 25.5**	**+0.6**
	0.8nm,0.3s,baz=188,slow=12,SNR=5.4						
	1.4nm,0.4s						
H01W3	**Cape Leeuwin H**	**38.77**	**157**	T	T	04 04 50.0	
	baz=333,slow=76						
H01W2	**Cape Leeuwin H**	**38.78**	**157**	T	T	04 04 49.0	
	baz=333,slow=76						
H01W1	**Cape Leeuwin H**	**38.79**	**157**	T	T	04 04 51.3	
	baz=333,slow=76						
WRA	**Warramunga Arr**	**41.85**	**121**	P	**P**	**03 24 06.5**	**-0.5**
	0.5nm,0.8s,baz=298,slow=8.0,SNR=3.0						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**43.16**	**127**	P	**P**	**03 24 18.2**	**+0.4**
	0.4nm,1.0s,baz=298,slow=8.1,SNR=2.8						
	0.4nm,1.0s						
SONM	**Songino Array**	**47.71**	**8**	P	**P**	**03 24 54.7**	**+1.3**
	0.5nm,0.6s,baz=182,slow=7.2,SNR=3.8						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**47.76**	**346**	P	**P**	**03 24 55.8**	**+2.0**
	1.4nm,0.7s,baz=158,slow=8.0,SNR=10						
	1.4nm,0.7s						
ZALV	**Zalesovo Beam**	**54.09**	**351**	P	**P**	**03 25 42.8**	**+1.6**
	0.9nm,0.4s,baz=180,slow=7.2,SNR=3.7						
	0.9nm,0.4s						
H04N2	**CROZET ISLANDS**	**61.23**	**214**	T	T	04 33 22.2	
	baz=54,slow=75						
H04N1	**CROZET ISLANDS**	**61.25**	**214**	T	T	04 33 22.7	
	baz=54,slow=75						
H04N3	**CROZET ISLANDS**	**61.25**	**214**	T	T	04 33 18.6	
	baz=54,slow=75						
H04S1	**CROZET ISLANDS**	**61.57**	**214**	T	T	04 33 37.7	
	baz=53,slow=75						
H04S3	**CROZET ISLANDS**	**61.58**	**214**	T	T	04 33 44.1	
	baz=53,slow=75						
H04S2	**CROZET ISLANDS**	**61.59**	**214**	T	T	04 33 39.8	
	baz=53,slow=75						
FINES	**FINESS Array B**	**80.44**	**333**	P	**P**	**03 28 27.9**	**-0.2**
	0.6nm,0.8s,baz=118,slow=5.0,SNR=1.8						
	0.6nm,0.8s						

*SJA **21** 03:21:42.6±0.7,20°.76S×69°.24W,h120km±4km,ML3.4,*
MW3.6
*GUC **21** 03:21:44.3±0.7,20°.75S×69°.20W,h105km±3km,ML3.2*
ISC 21 03:21:43.2±1.5,**20°.78S**±0°.03×**69°.22W**±0°.07,**h119**km±9km,
n26,σ0ᵎ**82**/49,**9C-1D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.36**	**223**	⇑*e*P	**Pn**	**03 22 00.1**	**-0.3**
PB01				*e*S	**Sn**	**03 22 12.4**	**-0.9**
PB01	**IPOC Station P**	**0.36**	**223**	*e*P	**Pn**	**03 22 00.3**	**-0.1**
PB01				*e*S	**Sn**	**03 22 12.6**	**-0.9**
PB08	**IPOC Station P**	**0.64**	**6**	*e*P	**Pn**	**03 22 02.4**	**-0.1**
PB08				*e*S	**Sn**	**03 22 16.0**	**-1.0**
PB08				IAML		03 22 16.5	
	comp=E,2μm,0.2s						
HMBC	**Humberstone**	**0.80**	**308**	⇑*e*P	**Pn**	**03 22 03.5**	**0.0**
HMBC				*e*S	**Sn**	**03 22 18.2**	**-0.5**
HMBC				IAML		03 22 19.1	
	comp=N,1μm,0.1s						
PB02	**IPOC Station P**	**0.83**	**229**	⇑*e*P	**Pn**	**03 22 04.2**	**+0.5**
PB02				*e*S	**Sn**	**03 22 19.2**	**+0.1**
PB02				IAML		03 22 23.9	
	comp=E,1μm,0.4s						
PB02	**IPOC Station P**	**0.83**	**229**	*e*P	**Pn**	**03 22 04.2**	**+0.5**
PB02				*e*S	**Sn**	**03 22 19.8**	**+0.7**
PB02				IAML		03 22 20.8	
	comp=Z,1μm,0.2s						
PATCX	**Punta Patache**	**0.87**	**267**	⇑*e*P	**Pn**	**03 22 04.5**	**+0.5**
PATCX				*e*S	**Sn**	**03 22 20.1**	**+0.4**
PATCX				IAML		03 22 23.1	
	comp=N,467nm,0.1s						
PATCX	**Punta Patache**	**0.87**	**267**	*e*P	**Pn**	**03 22 03.9**	**-0.1**
PATCX				*e*S	Sn	03 22 04.7	-15
PATCX				IAML		03 22 05.8	
	comp=Z,319nm,0.1s						
TA01	**Diego Aracena**	**0.92**	**283**	⇑*e*P	**Pn**	**03 22 04.5**	**+0.1**
TA01				*e*S	**Sn**	**03 22 20.0**	**-0.4**
TA01	**Diego Aracena**	**0.92**	**283**	*e*P	**Pn**	**03 22 04.5**	**+0.1**
TA01				*e*P		03 22 04.7	
TA01				*e*S	**Sn**	**03 22 20.8**	**+0.3**
TA02	**Huaiquique**	**0.99**	**301**	⇓*e*P	**Pn**	**03 22 05.6**	**+0.5**
TA02				*e*S	**Sn**	**03 22 21.4**	**-0.2**
TA02	**Huaiquique**	**0.99**	**301**	*e*P	**Pn**	**03 22 04.7**	**-0.3**
TA02				IAML		03 22 22.7	
	comp=Z,810nm,0.1s						
PB09	**IPOC Station P**	**1.01**	**181**	⇑*e*P	**Pn**	**03 22 06.2**	**+0.7**
PB09				*e*S	**Sn**	**03 22 22.9**	**+0.5**
PB09				IAML		03 22 24.7	
	comp=N,756nm,0.5s						
PB09	**IPOC Station P**	**1.01**	**181**	*e*P	**Pn**	**03 22 05.8**	**+0.2**
PB09				*e*P		03 22 06.2	
PB09				*e*S	**Sn**	**03 22 23.4**	**+1.0**
PB09				IAML		03 22 24.0	
	comp=Z,871nm,0.4s						
PB11	**IPOC Station P**	**1.09**	**338**	⇑*e*P	**Pn**	**03 22 06.4**	**+0.1**
PB11				*e*S	**Sn**	**03 22 23.3**	**-0.4**
PB11				IAML		03 22 24.2	
	comp=N,1μm,0.3s						
PB11	**IPOC Station P**	**1.09**	**338**	*e*S	**Pn**	**03 22 06.2**	**-0.1**
PB11				*e*P	**Pn**	**03 22 06.2**	**-0.1**
PB11				IAML		03 22 06.6	

PB06	**IPOC Station P**	**1.94**	**190**	*e*P		**Pn**	**03 22 16.8**	**+0.6**
PB06				*e*S		**Sn**	**03 22 42.0**	**+0.8**
PB06				IAML			03 22 48.2	
	comp=Z,164nm,0.2s							
PB05	**IPOC Station P**	**2.26**	**204**	*e*P		**Pn**	**03 22 20.5**	**+0.5**
PB05				*e*S		**Sn**	**03 22 47.6**	**-0.6**
PB16	**IPOC Station P**	**2.45**	**354**	*e*P		**Pn**	**03 22 24.1**	**+1.2**
PB16				*e*S		**Sn**	**03 22 55.0**	**+1.9**
PB14	**IPOC Station P**	**3.98**	**196**	*e*P		**Pn**	**03 22 41.9**	**-0.9**
PB14				*e*S		**Sn**	**03 23 25.4**	**-3.6**
PB14				IAML			03 23 59.1	
	comp=Z,22nm,3.0s							
GO02	**Mina Guanaco**	**4.38**	**184**	*e*P		**Pn**	**03 22 48.7**	**+0.6**
GO02				*e*S		**Sn**	**03 23 38.5**	**+0.1**
LPAZ	**La Paz**	**4.58**	**13**	*e*P		**Pn**	**03 22 50.2**	**-1.0**

IDC 21 03:31:52.7±2.2, 2°.95S×130°.25E, h0km, mb3.5/3, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=132.0km s-min=15.4km az=74.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.72**	**196**	Pn	Pn	03 35 35.5	-0.1
	baz=348,slow=9.3,SNR=1.9 2.5nm,1.0s						
WRA	**Warramunga Arr**	**17.36**	**167**	P	Pn	03 35 56.9	+0.3
	0.2nm,0.3s,baz=350,slow=11,SNR=8.3						
WRA				S	Sn	03 39 13.1	+2.5
	0.3nm,0.7s,baz=8.2,slow=19,SNR=1.4 0.9nm,1.1s						
ASAR	**Alice Springs**	**20.90**	**171**	P	P	03 36 36.4	-0.5
	0.6nm,0.7s,baz=348,slow=9.7,SNR=11						
ASAR				S	S	03 40 31.6	+0.7
	0.4nm,0.9s,baz=350,slow=20,SNR=1.9 0.6nm,0.7s						
MKAR	**Makanchi Array**	**65.01**	**326**	P	P	03 42 33.6	-1.2
	0.3nm,0.5s,baz=133,slow=6.3,SNR=3.2 0.3nm,0.5s						
BVAR	**Borovoye Array**	**74.80**	**327**	P	P	03 43 36.3	+1.6
	0.4nm,0.4s,baz=120,slow=8.5,SNR=2.7 0.4nm,0.4s						

AFAD ***21*** *03:51:30.9, 36°.40N×28°.16E, h42km±4km, ML1.8*

ISK 21 03:51:27.7, 36°.30N×28°.13E, h71km, ML2.3/10, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.08**	**183**	Pg	Pn	03 51 38.5	+0.5
ARG				Sg	Sn	03 51 46.3	+0.8
TURN	**Turunc**	**0.48**	**11**	Pg	Pn	03 51 41.1	+0.7
TURN				Sg	Sn	03 51 50.7	+0.9
TURN	**Turunc**	**0.48**	**11**	P	Pn	03 51 41.0	+0.6
TURN				*i* IAML		03 51 50.0	
	comp=N,52nm,0.5s						
TURN				*i* IAML		03 51 51.0	
	comp=E,65nm,0.3s						
DAT	**Datca**	**0.62**	**314**	Pg	Pn	03 51 42.4	+0.5
DAT				Sg	Sn	03 51 53.1	+0.7
DAT	**Datca**	**0.62**	**314**	P	Pn	03 51 43.0	+1.0
DAT				S	Sn	03 51 52.0	-0.4
DAT				*i* IAML		03 51 53.0	
	comp=E,70nm,0.4s						
DAT				*i* IAML		03 51 55.0	
	comp=N,64nm,0.2s						
DALY	**Dalyan (Mula)**	**0.67**	**39**	Pg	Pn	03 51 42.9	+0.6
YAZI	**Mula-Dat§a-**	**0.67**	**305**	P	Pn	03 51 43.1	+0.8
YAZI				S	Sn	03 51 52.3	-0.7
SABU	**Mula-Dalaman**	**0.85**	**52**	P	Pn	03 51 44.6	+0.2
SABU				S	Sn	03 51 53.8	-3.1
BDRM	**Kayabasi**	**0.94**	**324**	P	Pn	03 51 45.9	+0.3
BDRM				S	Sn	03 51 58.2	-0.6
BDRM				*i* IAML		03 51 59.0	
	comp=E,25nm,0.3s						
MULA	**Mugla, Merkez-**	**0.97**	**9**	P	Pn	03 51 47.5	+1.6
MULA				S	Sn	03 52 00.4	+0.9
MULA				*i* IAML		03 52 02.0	
	comp=E,38nm,0.4s						
BODT	**Bodrum**	**1.01**	**319**	Pg	Pn	03 51 47.1	+0.7
BODT				Sg	Sn	03 52 01.3	+1.1
MLSB	**Milas**	**1.03**	**344**	Pg	Pn	03 51 47.4	+0.7
YKAV	**Yalikavak-Bodr**	**1.07**	**321**	Pg	Pn	03 51 47.9	+0.8
KARP	**Karpathos**	**1.09**	**227**	Pn	Pn	03 51 48.1	+0.7
CAME	**Cameli-Denizli**	**1.14**	**55**	Pn	Pn	03 51 48.8	+0.6
AKAS	**Kas**	**1.19**	**93**	Pn	Pn	03 51 49.5	+0.7
DNZT	**Denizli-Tavas-**	**1.21**	**36**	P	Pn	03 51 49.6	+0.6
TAVA	**DENIZLI_Tavas**	**1.32**	**28**	P	Pn	03 51 51.2	+0.8
TAVA				*i* IAML		03 52 29.0	
	comp=E,19nm,0.3s						
AYDN	**Tasoluk**	**1.38**	**352**	P	Pn	03 51 51.9	+0.8
AYDN				S	Sn	03 52 07.9	-0.8
AYDN				*i* IAML		03 52 11.0	
	comp=N,16nm,0.3s						
AYDN				*i* IAML		03 52 11.0	
	comp=E,20nm,0.2s						
ESEN	**Aydn-Nazilli**	**1.51**	**7**	P	Pn	03 51 54.5	+1.8
ESEN				S	Sn	03 52 10.1	-1.5
ESEN				*i* IAML		03 52 44.0	
	comp=N,12nm,1.0s						
ESEN				*i* IAML		03 52 44.0	
	comp=E,11nm,1.1s						
GCAM	**G?zelcaml?**	**1.57**	**333**	P	Pn	03 51 54.1	+0.5
GCAM				*i* IAML		03 52 11.0	
	comp=N,21nm,1.4s						
GCAM				*i* IAML		03 52 37.0	
	comp=E,21nm,1.6s						
IZMR	**zmir-demi**	**1.84**	**356**	P	Pn	03 51 57.8	+0.6

CATAC ***21*** *04:04:44.1±1.8, 8°.N±10°.×8°.3W±1°.1, h15km±10km, M3.1/3, MLv3.1/3, Error ellipse: s-maj=24.3km s-min=20.6km az=114.8, confirmed*
UPA ***21*** *04:04:46.5±0.7, 8°.39N×82°.85W, h18km±2km, ML3.5, MW3.3*

ISC 21 04:04:46.1±1.2, 8°.35N±0°.05×82°.85W±0°.04, h28km±9km, n15, σ0°60/29, 3C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.15**	**193**	⇑*e*P	**Pb**	**04 04 51.6**	**+0.1**
PTPM				*e*S	**Sb**	**04 04 54.9**	**-0.3**
PTPM				*e*S		04 04 56.0	
CDITO	**Canoas**	**0.23**	**353**	P	**Pb**	**04 04 52.0**	**-0.4**
DVD	**David**	**0.40**	**77**	*e*P	**Pb**	**04 04 55.0**	**+0.2**
DVD				*e*S	**Sb**	**04 05 01.4**	**+0.6**
PEDE3	**Pedregal, Chir**	**0.42**	**85**	*e*P	**Pb**	**04 04 55.4**	**+0.3**
PEDE3				*e*S	**Sb**	**04 05 02.0**	**+0.7**
LOCO3	**Loma Colorada,**	**0.43**	**82**	*e*P	**Pb**	**04 04 55.7**	**+0.4**
LOCO3				*e*S	**Sb**	**04 05 02.2**	**+0.7**
MLIR3	**Monte Lirio, C**	**0.44**	**3**	⇑*e*P	**Pb**	**04 04 56.0**	**+0.4**
MLIR3				*e*S	**Sb**	**04 05 01.6**	**-0.4**
BRU2	**Volcan**	**0.47**	**19**	*e*P	**Pb**	**04 04 56.2**	**+0.2**
BRU2				AMP		04 04 56.4	
	comp=Z,5µm,0.2s						
BRU2				*e*S	**Sb**	**04 05 03.5**	**+0.7**
BRU2	**Volcan**	**0.47**	**19**	P	**Pb**	**04 04 56.2**	**+0.2**
BRU2				S	**Sb**	**04 05 03.7**	**+0.9**
PTAR3	**Potrerillos Ar**	**0.49**	**45**	⇑*e*P	**Pb**	**04 04 56.6**	**+0.4**
PTAR3				*e*S	**Sb**	**04 05 03.1**	**-0.1**
BC3P	**Paso Ancho**	**0.52**	**27**	*e*P	**Pb**	**04 04 56.8**	**-0.1**
BC3P				AMP		04 04 57.1	
	comp=Z,8µm,0.1s						
BC3P				*e*S	**Sb**	**04 05 04.8**	**+0.6**
BQSF3	**Alto Boquete,**	**0.57**	**46**	*e*P	**Pb**	**04 04 57.7**	**+0.1**
BQSF3				AMP		04 04 57.8	
	comp=Z,1µm,0.1s						
BQSF3				*e*S	**Sb**	**04 05 05.6**	**+0.1**
LNBQ3	**Los Naranjos,**	**0.59**	**42**	⇓*e*P	**Pb**	**04 04 57.9**	**-0.2**
LNBQ3				*e*S	**Sb**	**04 05 06.0**	**-0.3**
PSOM3	**Paja de Sombre**	**0.62**	**57**	⇓*e*P	**Pb**	**04 04 58.3**	**-0.1**
PSOM3				*e*S	**Sb**	**04 05 07.2**	**+0.4**
DRK0	**Durika**	**0.99**	**337**	*e*P	**Pn**	**04 05 03.9**	**-0.5**
DRK0				*e*S	**Sn**	**04 05 16.8**	**-0.7**
OCHAL	**Ojochal**	**1.09**	**313**	P	**Pn**	**04 05 05.2**	**-0.2**
OCHAL				S	**Sb**	**04 05 22.1**	**+2.0**

IDC 21 04:17:25.1±1.3, 15°.63S×177°.29W, h0km, mb3.8/4, mbtmp3.8/4, MS3.4/14, Error ellipse: s-maj=50.8km s-min=32.9km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**23.05**	**283**	LR	LR	04 29 53.7	
	comp=Z,404nm,22.0s,baz=137,slow=32						
URZ	**Urewera**	**23.08**	**191**	LR	LR	04 30 48.7	
	comp=Z,112nm,19.5s,baz=65,slow=35						
PPT	**Papeete**	**26.62**	**98**	LR	LR	04 30 41.5	
	comp=Z,111nm,21.4s,baz=316,slow=30						
WRA	**Warramunga Arr**	**46.14**	**257**	P	P	04 25 51.3	-0.4
	0.5nm,0.9s,baz=93,slow=8.8,SNR=3.0 0.5nm,0.9s						
ASAR	**Alice Springs**	**46.47**	**252**	P	P	04 25 54.5	+0.1
	1.3nm,0.7s,baz=85,slow=8.4,SNR=13						
ASAR				LR	LR	04 45 00.2	
	comp=Z,75nm,18.3s,baz=104,slow=36 1.3nm,0.7s						
GUMO	**Guam**	**47.37**	**306**	LR	LR	04 42 26.5	
	comp=Z,14nm,21.8s,baz=116,slow=32						
MJAR	**Matsushiro Arr**	**66.75**	**322**	LR	LR	04 56 39.3	
	comp=Z,6.2nm,19.3s,baz=190,slow=35						
SHEM	**Shemya Is, Ala**	**68.48**	**354**	LR	LR	04 51 10.3	
	comp=Z,12nm,21.4s,baz=164,slow=30						
ASAJ	**Asahikawa**	**69.82**	**330**	LR	LR	04 52 10.7	
	comp=Z,38nm,21.6s,baz=176,slow=30						
QSPA	**South Pole Qui**	**74.41**	**180**	P	P	04 29 05.0	+0.1
	1.0nm,0.9s,baz=44,slow=2.3,SNR=4.1 1.0nm,0.9s						
PFO	**Pinyon Flats O**	**75.86**	**49**	LR	LR	04 56 28.8	
	comp=Z,25nm,18.1s,baz=210,slow=31						
KDAK	**Kodiak Island**	**75.95**	**13**	LR	LR	04 57 18.2	
	comp=Z,28nm,20.2s,baz=183,slow=32						
MA2	**Magadan**	**79.30**	**344**	LR	LR	05 00 20.3	
	comp=Z,15nm,20.1s,baz=307,slow=32						
ILAR	**Eielson Array**	**83.44**	**13**	P	P	04 29 54.0	-0.1
	0.5nm,0.6s,baz=208,slow=4.9,SNR=8.1						
ILAR				LR	LR	05 01 59.9	
	comp=Z,18nm,20.5s,baz=246,slow=32 0.5nm,0.6s						
YKA	**Yellowknife Ar**	**91.83**	**24**	LR	LR	05 03 40.6	
	comp=Z,35nm,20.5s,baz=20,slow=30						
TIXI	**Tiksi**	**94.24**	**345**	LR	LR	05 10 24.6	
	comp=Z,15nm,19.5s,baz=158,slow=34						
GERES	**GERESS Array B**	**145.67**	**347**	PKPbc	PKPdf	04 37 05.3	-0.4
	0.4nm,0.6s,baz=25,slow=2.7,SNR=5.4						

IDC ***21*** *04:21:18.4±1.5, 0°.71N×126°.69E, h0km, mb4.0/4, mbtmp3.9/5, ML3.3/1, Error ellipse: s-maj=118.1km s-min=19.0km az=69.0*
NEIC ***21*** *04:21:25.2±0.6, 0°.5N±0°.1×126°.46E±0°.07, h44km±10km, mb4.0/9, Error ellipse: s-maj=15.7km s-min=9.7km az=184.0*

ISC 21 04:21:24.8±0.8, 0°.5N±0°.1×126°.47E±0°.08, h47km, n20, σ0s74/20, mb4.0/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.94**	**74**		**Pn**	**04 21 41.8**	**+0.3**
TOLI2	**Tolitoli**	**5.71**	**276**		**Pn**	**04 22 47.3**	**+0.1**
FAKI	**Fak Fak**	**6.71**	**121**	Pn	**Pn**	**04 23 02.0**	**+1.2**
KNRA	**Kununurra**	**16.25**	**172**	Pn	**Pn**	**04 25 08.6**	**-1.3**
FITZ	**Fitzroy Crossi**	**18.52**	**182**	P	**P**	**04 25 37.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.52**	**182**	P	**P**	**04 25 37.2**	**-0.1**
	0.1nm,0.3s,baz=4.0,slow=9.3,SNR=1.4 1.3nm,0.7s						
WB0	**Warramunga Arr**	**21.60**	**159**	P	**P**	**04 26 11.4**	**+0.5**
WB0				IAmb	IAmb	04 26 17.6	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**21.75**	**160**	P	**P**	**04 26 12.2**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=340,slow=11,SNR=27 comp=Z,3.0nm,0.9s						
WR8	**Warramunga Arr**	**21.82**	**159**	P	**P**	**04 26 13.0**	**-0.2**
WR8				IAmb	IAmb	04 26 14.1	
	comp=Z,4.6nm,0.8s						
ASAR	**Alice Springs**	**25.10**	**164**	P	**P**	**04 26 43.7**	**-1.6**
ASAR	**Alice Springs**	**25.10**	**164**	P	**P**	**04 26 47.0**	**+1.7**
	comp=Z,2.0nm,0.4s,baz=346,slow=11,SNR=19 comp=Z,2.0nm,0.4s						
FORT	**Forrest**	**31.16**	**177**	P	**P**	**04 27 39.5**	**+0.2**
MK31	**Makanchi Array**	**60.05**	**326**	P	**P**	**04 31 27.0**	**0.0**
MK31				IAmb	IAmb	04 31 27.5	
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**60.05**	**326**	P	**P**	**04 31 26.6**	**-0.3**
MKAR	**Makanchi Array**	**60.05**	**326**	P	**P**	**04 31 26.9**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=122,slow=8.4,SNR=12 comp=Z,0.9nm,0.4s						
RAO	**Raoul Island**	**60.72**	**124**	P	**P**	**04 31 31.3**	**-0.6**
KURBB	**Kurchatov Arra**	**64.30**	**328**	P	**P**	**04 31 55.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=128,slow=5.9,SNR=12 comp=Z,0.7nm,0.6s						
KURK	**Kurchatov**	**64.31**	**328**	P	**P**	**04 31 55.6**	**+0.3**
KURK				IAmb	IAmb	04 31 59.0	
	comp=Z,1.9nm,0.6s						
AB31	**Akbulak array**	**74.47**	**321**	P	**P**	**04 32 58.1**	**-0.1**
AB31				IAmb	IAmb	04 33 05.0	
	comp=Z,1.7nm,1.1s						
ABKAR	**Akbulak array**	**74.47**	**321**	P	**P**	**04 32 58.4**	**+0.2**

MOS 21 04:36:43.2, 45°.32N×43°.03E, h21km, MPVA3.9, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOF	**Gofitskoye**	**0.26**	**178**	*i* Pg	Pb	04 36 48.8	-0.6
GOF				*e*Sg	Sb	04 36 53.9	+0.2
ALER	**Alexandrovskoy**	**0.56**	**188**	*i* Pg	Pb	04 36 54.4	0.0
ALER				*i* Sg	Sb	04 37 03.3	+1.3
NVNR	**Nevinnomyssk**	**1.03**	**227**	*e*Pg	Pb	04 37 02.2	-0.2
NVNR				*e*Sg	Sb	04 37 14.9	-0.5
PYA1	**Pyatigorsk**	**1.25**	**178**	*e*Pg	Pb	04 37 06.3	+0.1
PYA1				*e*Sg	Sb	04 37 23.0	+1.1
BEYR	**Belyy Ugol+**	**1.31**	**187**	*i* Pg	Pb	04 37 07.4	+0.2
BEYR				*i* Sg	Sb	04 37 24.9	+1.3
KIV0	**Kislovodsk Arr**	**1.38**	**190**	*e*Pg	Pn	04 37 07.5	+0.1
KIV0				*e*Sg	Sb	04 37 26.3	+0.7
KIV	**Kislovodsk**	**1.38**	**190**	*e*Pg	Pn	04 37 07.8	+0.4
KIV				*e*Sg	Sb	04 37 26.0	+0.3
KBTC	**Kuba-Taba**	**1.52**	**170**	*e*Pg	Pb	04 37 11.6	+0.8
KBTC				*e*Sg	Sb	04 37 33.0	+3.3
KBZ	**Khabaz**	**1.59**	**183**	*e*Pg	Pb	04 37 11.1	-0.7
KBZ				*e*Sg	Sb	04 37 32.6	+1.2
SHA1	**Shidzhatmaz**	**1.60**	**190**	*e*Pg	Pn	04 37 10.6	+0.1
SHA1				*e*Sg	Sb	04 37 32.7	+0.7
GRYR	**Gornoye**	**1.83**	**230**	*e*Pg	Pn	04 37 13.1	-0.3
GRYR				*i* Sg	Sb	04 37 38.5	+0.1
ERBR	**Yeremizino-Bor**	**1.83**	**283**	*e*Sg	Sb	04 37 38.0	-0.5
NCK	**Nalchik**	**1.87**	**167**	*e*Pg	Pn	04 37 13.2	-0.8
NCK				*e*Sg	Sb	04 37 41.4	+2.0
NEUR	**Neytrino**	**2.07**	**187**	*i* Pg	Pn	04 37 10.4	-6.4
NEUR				*i* Sg	Sn	04 37 35.4	-6.6
STDR	**Stavd-Durt**	**2.08**	**159**	*e*Pg	Pb	04 37 19.4	-0.9
STDR				*e*Sg	Sn	04 37 43.4	+1.2
GUZR	**Guzeripl'**	**2.46**	**239**	*e*Pn	Pn	04 37 22.6	+0.4
GUZR				*e*Sn	Sn	04 37 53.3	+1.7
RPOR	**Krasnaya Polya**	**2.55**	**232**	*e*Pn	Pn	04 37 24.9	+1.5
RPOR				*e*Sn	Sn	04 37 55.4	+1.5
LACR	**Lac**	**2.65**	**159**	*e*Pn	Pb	04 37 34.7	+4.7
LACR				*e*Sn	Sb	04 38 06.0	+3.9
GOYR	**Goytkh**	**2.81**	**249**	*e*Pn	Pn	04 37 28.3	+1.4
GOYR				*e*Sn	Sn	04 38 01.1	+0.9
VSLR	**Vesyoloye**	**2.84**	**230**	*e*Pn	Pb	04 37 32.5	-0.6
VSLR				*e*Sn	Sn	04 38 02.7	+1.9
MRNR	**Maryino**	**2.88**	**243**	*e*Pn	Pn	04 37 29.7	+1.7
MRNR				*e*Sn	Sn	04 38 03.0	+1.0

IDC 21 04:38:59.1±1.7, 0°.73N×126°.86E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=170.5km s-min=21.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.81**	**161**	P	P	04 43 53.1	+0.1
	0.9nm,0.8s,baz=340,slow=11,SNR=14 0.9nm,0.8s						
ASAR	**Alice Springs**	**25.20**	**165**	P	P	04 44 26.5	-0.1
	1.8nm,0.9s,baz=344,slow=11,SNR=9.0 1.8nm,0.9s						
MKAR	**Makanchi Array**	**60.09**	**326**	P	P	04 49 08.1	-0.1
	0.7nm,0.3s,baz=121,slow=7.6,SNR=11 0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**64.33**	**328**	P	P	04 49 36.6	+0.1
	0.3nm,0.3s,baz=126,slow=6.0,SNR=5.7 0.3nm,0.3s						

IDC ***21*** *04:42:25.1±1.3, 7°.01S×130°.69E, h0km, mb4.2/2, mbtmp4.7/6, ML4.9/4, Error ellipse: s-maj=40.5km s-min=24.1km az=71.0*
DJA ***21*** *04:42:34.9±0.2, 7°.S±2°.×13°.1E±°., h127km, 6km, M4.8/13, mb4.8/13, mB5.3/7, MLv4.9/13, Mw(mB)4.7/7*
NEIC ***21*** *04:42:35.3±1.5, 7°.09S±0°.08×130°.36E±0°.09, h71km±11km, mb4.5/7, Error ellipse: s-maj=13.2km s-min=10.9km az=110.0*

ISC 21 04:42:35.7±0.6, 7°.39S±0°.06×130°.42E±0°.06, h100km, n58, σ2s63/56, mb4.7/8, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.05**	**124**		**Pn**	**04 42 57.9**	**+1.1**
SAUI	**Saumlaki**	**1.05**	**124**	P	**Pn**	**04 42 58.2**	**+1.5**
SAUI	**Saumlaki**	**1.05**	**124**	P	**Pn**	**04 42 57.8**	**+1.1**
SAUI				S	**Sn**	**04 43 15.7**	**+3.2**
BNDI	**Bandanaira**	**2.89**	**350**	P	**Pn**	**04 43 17.8**	**-2.3**
MSAI	**Masohi**	**4.28**	**340**	P	**Pn**	**04 43 37.7**	**-1.0**
AAI	**Ambon**	**4.29**	**329**	P	**Pn**	**04 43 37.5**	**-1.4**
FAKI	**Fak Fak**	**4.79**	**22**		**Pn**	**04 43 41.2**	**-4.5**
FAKI	**Fak Fak**	**4.79**	**22**	P	**Pn**	**04 43 41.5**	**-4.2**
FAKI	**Fak Fak**	**4.79**	**22**	P	**Pn**	**04 43 41.2**	**-4.5**
KMPI	**Kaimana, Papua**	**4.94**	**42**	P	**Pn**	**04 43 43.9**	**-3.7**
DRS	**Darwin Rock St**	**5.04**	**175**	P	**Pn**	**04 43 50.3**	**+1.3**
NLAI	**Namlea**	**5.28**	**321**	P	**Pn**	**04 43 53.7**	**+1.4**
	0.6nm161nm,0.7s						
MTN	**Manton Dam**	**5.47**	**173**		**Pn**	**04 43 56.4**	**+1.6**
MTN	**Manton Dam**	**5.47**	**173**	P	**Pn**	**04 43 56.5**	**+1.6**
KDU	**Kakadu**	**5.64**	**159**	P	**Pn**	**04 43 57.5**	**+0.3**
SOEI	**Soe**	**6.53**	**248**		**Pn**	**04 44 10.2**	**+0.8**
SOEI	**Soe**	**6.53**	**248**	P	**Pn**	**04 44 11.2**	**+1.9**
SOEI	**Soe**	**6.53**	**248**	P	**Pn**	**04 44 10.7**	**+1.4**
	0.6nm2µm133nm,0.6s						
SWI	**Sorong**	**6.53**	**7**	P	Pn	04 44 02.4	-6.9
SANI	**Sanana**	**6.90**	**320**	P	**Pn**	**04 44 14.5**	**+0.2**
RKPI	**Ransiki, Papua**	**6.93**	**33**	P	**Pn**	**04 44 11.3**	**-3.5**
	6µm102nm,0.5s						
BATI	**Baumata**	**7.25**	**247**	Pn	**Pn**	**04 44 19.9**	**+0.9**
	50nm,0.3s,baz=90,slow=3.4,SNR=18						
BATI				Sn	**Sn**	**04 45 35.5**	**-4.3**
	11nm,0.3s,baz=114,slow=20,SNR=2.0 104nm,0.3s						
BATI	**Baumata**	**7.25**	**247**	P	**Pn**	**04 44 21.1**	**+2.1**
	0.6nm2µm153nm,0.7s						
BAKI	**Biak**	**8.36**	**43**	P	**Pn**	**04 44 32.0**	**-2.2**
	72nm,0.5s						
KNRA	**Kununurra**	**8.40**	**191**		**Pn**	**04 44 35.1**	**+0.5**
SMPI	**Sarmi**	**9.84**	**57**	P	**Pn**	**04 44 51.6**	**-2.8**
	42nm,0.8s						
WSI	**Waingapu**	**10.27**	**257**	P	**Pn**	**04 44 59.0**	**-1.1**
WBSI	**Waikabubak, Su**	**11.14**	**258**	P	**Pn**	**04 45 12.0**	**0.0**
JAY	**Jayapura**	**11.33**	**65**	P	**Pn**	**04 45 11.0**	**-3.5**
	3µm12nm,0.7s						
FITZ	**Fitzroy Crossi**	**11.62**	**203**		**Pn**	**04 45 16.7**	**-1.7**
FITZ	**Fitzroy Crossi**	**11.62**	**203**	Pn	**Pn**	**04 45 17.1**	**-1.3**
	3.7nm,0.3s,baz=37,slow=12,SNR=61						
FITZ				Sn	Sn	04 47 18.6	-7.7
	3.4nm,0.3s,baz=171,slow=18,SNR=5.2 7.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.62**	**203**	P	**Pn**	**04 45 20.1**	**+1.7**
PLAI	**Plampang**	**12.60**	**263**	P	**Pn**	**04 45 31.1**	**-0.4**
	36nm,0.6s						
WRA	**Warramunga Arr**	**13.05**	**163**		Pn	04 45 32.0	-5.3
WRA	**Warramunga Arr**	**13.05**	**163**	Pn	**Pn**	**04 45 34.8**	**-2.5**
	4.9nm,0.3s,baz=347,slow=13,SNR=85						
WRA				Sn	Sn	04 47 50.3	-11
	3.1nm,0.3s,baz=346,slow=22,SNR=6.8 19nm,0.5s						
WR8	**Warramunga Arr**	**13.11**	**163**		Pn	04 45 31.6	-6.5
COEN	**Coen**	**14.13**	**119**		**Pn**	**04 45 49.1**	**-2.2**
QIS	**Mount Isa**	**15.83**	**147**	P	**Pn**	**04 46 12.2**	**-0.8**
AS31	**Alice Springs**	**16.53**	**169**		**Pn**	**04 46 19.9**	**-1.8**
AS31				IAmb	IAmb	04 46 28.7	
	comp=Z,9.0nm,0.5s						
ASAR	**Alice Springs**	**16.53**	**169**	P	**Pn**	**04 46 20.9**	**-0.8**
ASAR	**Alice Springs**	**16.53**	**169**	Pn	**Pn**	**04 46 21.6**	**-0.1**
	comp=Z,3.4nm,0.3s,baz=342,slow=9.3,SNR=98						
ASAR				Sn	**Sn**	**04 49 16.2**	**-8.9**
	comp=Z,1.2nm,0.3s,baz=349,slow=25,SNR=7.4 comp=Z,9.3nm,0.5s						
AS01	**Alice Springs**	**16.54**	**169**	P	**Pn**	**04 46 22.0**	**+0.2**
PSA00	**Pilbara Seismi**	**17.41**	**215**	Pn	**Pn**	**04 46 33.7**	**+1.3**
PSA00				IAmb	IAmb	04 46 35.1	
	comp=Z,30nm,1.2s						
CTAO	**Charters Tower**	**19.87**	**131**	P	**Pn**	**04 47 02.4**	**+0.7**
QLP	**Quilpie**	**23.17**	**147**	P	**P**	**04 47 32.1**	**-1.7**
FORT	**Forrest**	**23.38**	**185**	P	**P**	**04 47 39.7**	**+4.1**
FORT				IAmb	IAmb	04 48 04.7	
	comp=Z,10nm,0.8s						
BBOO	**Buckleboo**	**25.83**	**169**	P	**P**	**04 48 01.2**	**+3.4**
BBOO				IAmb	IAmb	04 48 38.9	
	comp=Z,53nm,1.4s						
STKA	**Stephens Creek**	**26.50**	**158**	P	**P**	**04 48 07.7**	**+3.8**
STKA	**Stephens Creek**	**26.50**	**158**	P	**P**	**04 48 07.0**	**+3.1**
	comp=Z,2.7nm,0.4s,baz=341,slow=9.3,SNR=6.6 comp=Z,2.7nm,0.4s						
TOO	**Toolangi**	**33.02**

*UPA **21** 05:25:54.6±0.8,8°.39N×82°.82W,h39km±5km,ML2.7, MW2.9*
*CATAC **21** 05:25:54.4±1.6,8°N±11°×8°3W±°,h24km±6km,M2.4/3, MLv2.4/3,Error ellipse: s-maj=25.0km s-min=14.2km az=12.7,confirmed*
ISC 21 05:25:54.7±1.1,8°.40N±0°.04×82°.82W±0°.04,h32km±9km, n17,σ0.54/30,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDITO	**Canoas**	**0.18**	**344**	P		**Pn**	**05 26 01.1**	**-0.1**
CDITO	**Canoas**	**0.18**	**344**	S		**Sn**	**05 26 06.4**	**+1.0**
PTPM	**Petroterminale**	**0.20**	**196**	*eP*		**Pn**	**05 26 01.3**	**-0.2**
PTPM				*eS*		**Sn**	**05 26 07.1**	**+1.4**
DVD	**David**	**0.37**	**84**	*eP*		**Pb**	**05 26 03.5**	**+0.3**
DVD				*eS*		**Sn**	**05 26 10.3**	**+0.4**
MLIR3	**Monte Lirio, C**	**0.39**	**360**	*eP*		**Pn**	**05 26 04.2**	**-0.1**
MLIR3				*eS*		**Sn**	**05 26 10.5**	**-0.2**
PEDE3	**Pedregal, Chir**	**0.40**	**92**	*eP*		**Pb**	**05 26 03.7**	**+0.1**
PEDE3				*eS*		**Sn**	**05 26 10.6**	**+0.1**
LOCO3	**Loma Colorada,**	**0.40**	**88**	*eP*		**Pn**	**05 26 04.1**	**-0.1**
LOCO3				*eS*		**Sn**	**05 26 10.6**	**-0.1**
BRU2	**Volcan**	**0.41**	**18**	*eP*		**Pn**	**05 26 04.5**	**-0.2**
BRU2				AMP			05 26 05.3	
	comp=Z,376nm,0.1s							
BRU2				*eS*		**Sn**	**05 26 12.1**	**+0.8**
BRU2	**Volcan**	**0.41**	**18**	P		**Pn**	**05 26 04.4**	**-0.2**
PTAR3	**Potrerillos Ar**	**0.44**	**48**	*eP*		**Pb**	**05 26 04.6**	**+0.3**
PTAR3				*eS*		**Sb**	**05 26 11.3**	**+0.4**
BC3P	**Paso Ancho**	**0.47**	**27**	*eP*		**Pb**	**05 26 05.0**	**+0.2**
BC3P				AMP			05 26 05.3	
	comp=Z,520nm,0.1s							
BC3P				*eS*		**Sn**	**05 26 13.7**	**+1.1**
CHIR3	**Chiriqui UPA,**	**0.49**	**90**	*eP*		**Pb**	**05 26 04.1**	**-0.9**
CHIR3				*eS*		**Sb**	**05 26 11.7**	**-0.4**
BQSF3	**Alto Boquete,**	**0.52**	**48**	*eP*		**Pb**	**05 26 05.7**	**+0.1**
LNBQ3	**Los Naranjos,**	**0.54**	**44**	*eP*		**Pb**	**05 26 05.5**	**-0.5**
LNBQ3				*eS*		**Sn**	**05 26 14.8**	**+0.4**
PSOM3	**Paja de Sombre**	**0.57**	**60**	*eP*		**Pb**	**05 26 06.2**	**-0.1**
PSOM3				*eS*		**Sn**	**05 26 14.9**	**0.0**
DRK0	**Durika**	**0.96**	**334**	*eP*		**Pn**	**05 26 11.9**	**-0.2**
DRK0				*eS*		**Sn**	**05 26 24.9**	**+0.2**
OCHAL	**Ojochal**	**1.07**	**311**	P		**Pb**	**05 26 14.2**	**-0.5**
OCHAL				S		**Sb**	**05 26 28.0**	**-0.5**

*NEIC **21** 05:30:37.9±2.2,35°.665N±0°.007×117°.48W±0°.01, h5km±1km,Error ellipse: s-maj=1.9km s-min=1.3km az=97.0*
PAS 21 05:30:38.6±2.1,35°.646N±0°.006×117°.50W±0°.01, h5km±1km,ML3.4,ML3.2/122(NEIC),Error ellipse: s-maj=1.2km s-min=0.9km az=92.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.05**	**169**		Pg	05 30 39.9	0.0
WSHM				Sg	Sg	05 30 41.0	+0.1
WSHM					IAML	05 30 41.2	
	22μm,0.3s						
WSHM					IAML	05 30 41.4	
	21μm,0.1s						
GPO	**China Lake**	**0.13**	**272**		Pg	05 30 37.0	-4.2
GPO					Sg	05 30 43.7	+0.7
CCCA	**Chr Cany lake**	**0.17**	**137**		Pg	05 30 42.4	+0.5
CCCA					Sg	05 30 45.4	+1.3
CCCA					IAML	05 30 46.4	
	comp=E,12μm,0.3s						
CLC	**China Lake**	**0.19**	**336**		Pg	05 30 42.4	0.0
CLC					IAML	05 30 45.5	
	comp=E,8μm,0.5s						
CLC					IAML	05 30 46.0	
	comp=N,6μm,0.1s						
SRTC	**Snort**	**0.20**	**283**		Pg	05 30 38.6	-4.0
SRTC					Sg	05 30 46.9	+1.6
LRMC	**Laurel Mtn Rad**	**0.22**	**221**		Pg	05 30 42.9	0.0
TOW	**Tower One**	**0.27**	**308**		Pg	05 30 39.8	-4.0
TOW					Sg	05 30 49.0	+1.6
WNMM	**Nine Mile Cany**	**0.38**	**301**		Pg	05 30 46.1	+0.1
WVPM	**Volcano Peak E**	**0.40**	**320**		Pn	05 30 52.0	+0.8
MPMC	**Manual Prospec**	**0.41**	**2**	Pg	Pg	05 30 46.4	-0.2
MPMC					Sg	05 30 52.2	+0.1
JRC2	**Joshua Ridge**	**0.42**	**324**		Sg	05 30 52.8	+0.6
WCSM	**Coso Springs S**	**0.44**	**331**		Pg	05 30 46.9	-0.1
WCSM					Sg	05 30 53.1	+0.3
DTP	**Desert Tortois**	**0.47**	**217**		Pn	05 30 53.6	+1.5
WRVM	**Rose V. Centra**	**0.48**	**319**		Sg	05 30 54.4	+0.3
WBSM	**Bird Springs**	**0.53**	**258**		Sg	05 30 55.6	-0.2
MFS	**McCloud Flat S**	**0.55**	**329**		Pg	05 30 49.1	-0.1
MFS					Sg	05 30 56.5	+0.1
WORM	**Onyx Ranch**	**0.60**	**275**		Sg	05 30 57.8	-0.2
QSM	**Queen of Sheba**	**0.61**	**58**		Pg	05 30 50.1	-0.2
QSM					Sg	05 30 58.1	-0.1
QSM					IAML	05 30 58.9	
	comp=N,2μm,0.5s						
QSM					IAML	05 30 58.9	
	comp=E,2μm,0.4s						
CCAC	**Calif City Air**	**0.65**	**221**		Pg	05 30 50.8	-0.2
CCAC					Sg	05 30 59.9	+0.4
GSC	**Goldstone, Bar**	**0.67**	**121**		Sg	05 31 00.1	+0.1
GSC	**Goldstone, Bar**	**0.67**	**121**		Pg	05 30 51.3	-0.1
GSC					IAML	05 31 00.4	
	comp=N,2μm,0.4s						
GSC					IAML	05 31 00.7	
	comp=E,3μm,0.4s						
WHFM	**Hanning Flat**	**0.69**	**274**		Sg	05 31 00.6	-0.2
HYS	**Haystack Butte**	**0.78**	**184**		Pg	05 30 50.3	-3.3
HYS					Sg	05 31 03.4	-0.4
ISA	**Isabella, Lake**	**0.79**	**272**		Sg	05 31 03.9	-0.1
ISA	**Isabella, Lake**	**0.79**	**272**		Pg	05 30 53.4	-0.4
ISA					IAML	05 31 04.5	
	comp=E,614nm,0.5s						
ISA					IAML	05 31 05.0	
	comp=N,446nm,0.3s						
EDW2	**Edwards Air Fo**	**0.86**	**208**		Pg	05 30 51.3	-3.8
EDW2					Sg	05 31 05.5	-0.8
WASM	**Alta Sierra Ca**	**0.86**	**276**		Pg	05 30 54.6	-0.5
WASM					Sg	05 31 06.1	-0.3
GWY	**Greenwater Val**	**0.87**	**51**		Pg	05 30 54.9	-0.4
GWY					IAML	05 31 10.4	
	comp=E,1μm,0.3s						
GWY					IAML	05 31 13.5	
	comp=N,1μm,0.7s						
RRX	**Edison Barstow**	**0.87**	**152**		Pg	05 30 55.0	-0.4
RRX					Sg	05 31 06.6	-0.1
CWC	**Cottonwood Cre**	**0.92**	**330**		Pg	05 30 56.1	-0.2
CGO	**Cerro Gordo**	**0.94**	**345**		Pg	05 30 55.5	-1.1
TPO	**Tropico Hills**	**0.97**	**218**		Pg	05 30 56.9	-0.2
TPO					IAML	05 31 17.2	
	comp=E,1μm,0.7s						
FURC	**Furnace Creek,**	**0.97**	**32**		Sg	05 31 10.2	+0.4
SBB	**Saddle Back Bu**	**0.99**	**196**		Pg	05 30 56.7	-0.9
SBB					Sg	05 31 09.7	-0.7
SHOC	**Shoshone, Teco**	**1.03**	**75**		Sg	05 31 58.1	-0.3
TEJ	**El Tejon**	**1.05**	**247**		Pg	05 30 57.6	-1.2
VTV	**Victorville**	**1.09**	**172**		Pg	05 30 59.8	+0.2
ADO	**Adelanto Recei**	**1.09**	**177**		Pg	05 30 59.0	-0.5
ALPC	**Antelope**	**1.16**	**215**		Sg	05 31 16.1	+0.3
SPG2	**Springville 2**	**1.17**	**299**		Pg	05 31 00.2	-0.8
TJR	**Tejon Ranch**	**1.19**	**239**		Pg	05 31 00.1	-1.2
LRRC	**Littlerock Res**	**1.20**	**201**		Pg	05 31 01.4	-0.2
THC	**Tehachapi Micr**	**1.20**	**233**		Pg	05 31 00.9	-0.7
ARVC	**Arvin**	**1.20**	**245**		Pg	05 31 00.6	-1.0
ARVC					Sg	05 31 16.9	-0.3
LEOC	**Leona Valley**	**1.21**	**213**		Pg	05 31 01.7	0.0
LEOC					Sb	05 31 18.2	+0.3
HOLC	**Holcomb Ridge**	**1.22**	**193**		Pg	05 31 01.0	-1.0
HOLC					Sb	05 31 18.3	+0.1
DSCC	**Desert Studies**	**1.25**	**113**		Pg	05 31 00.9	-1.7
DSCC					Sg	05 31 17.9	-0.8
JNH	**Juniper Hills**	**1.25**	**197**		Pg	05 31 01.5	-1.1
JNH					Sb	05 31 19.2	0.0
HEC	**Hector,Ludlow**	**1.26**	**130**		Pg	05 31 01.5	-1.2
HEC					Sg	05 31 18.3	-0.7
AMDNV	**Amargosa**	**1.28**	**51**		Pg	05 30 58.4	-4.7
AMDNV					Pn	05 31 02.7	-0.4
AMDNV					Sg	05 31 19.6	0.0
VES	**Vestal, Richgr**	**1.30**	**279**		Pn	05 31 02.9	-0.6
VES					Sg	05 31 20.2	-0.2
TUQ	**Turquoise Moun**	**1.30**	**99**		Pg	05 31 02.2	-1.4
WCT	**Wildcat Mounta**	**1.35**	**32**		Pn	05 31 03.1	-1.1
WCT					IAML	05 31 24.3	
	comp=E,280nm,0.5s						
GRAC	**Grapevine Rang**	**1.35**	**5**		Pn	05 31 04.0	-0.2
GRAC					IAML	05 31 27.1	
	comp=N,381nm,0.8s						
GRAC					IAML	05 31 29.7	
	comp=E,466nm,0.6s						
CHFC	**Chilao Flat St**	**1.38**	**198**		Pn	05 31 03.5	-1.2
CHFC					Sn	05 31 23.3	-0.1
BFSC	**Mount Baldy Ra**	**1.41**	**185**		Pn	05 31 04.1	-1.0
SIL	**Silver Peak**	**1.41**	**157**		Pn	05 31 04.9	-0.2
OSI	**Osito Audit: C**	**1.44**	**225**		Pn	05 31 04.6	-0.8
OSI					IAML	05 31 28.2	
	comp=E,452nm,0.8s						
OSI					IAML	05 31 28.8	
	comp=N,404nm,0.8s						
SSK	**Sunset Peak**	**1.44**	**186**		Pn	05 31 04.6	-1.0
BBRC	**Big Bear Solar**	**1.46**	**161**		Pn	05 31 05.8	-0.1
MWC	**Mount Wilson**	**1.49**	**198**		Pn	05 31 05.4	-0.9
MWC					IAML	05 31 28.0	
	comp=E,290nm,0.6s						
MWC					IAML	05 31 32.1	
	comp=N,411nm,0.8s						
PSRC	**Puddingstone R**	**1.57**	**189**		Pn	05 31 06.7	-0.5
SVD	**Seven Oaks Dam**	**1.57**	**168**		Pb	05 31 07.8	-0.3
PASC	**Pasadena Art C**	**1.57**	**201**		Pn	05 31 06.5	-0.7
PASC					IAML	05 31 30.6	
	comp=N,147nm,0.6s						
PASC					IAML	05 31 33.1	
	comp=E,223nm,0.9s						
LCH	**Last Change Ra**	**1.59**	**356**		Pn	05 31 07.4	-0.2
MTPC	**Mountain Pass**	**1.60**	**95**		Pn	05 31 05.6	-2.1
MTPC					IAML	05 31 29.9	
	comp=N,282nm,0.3s						
MTPC					IAML	05 31 30.8	
	comp=E,241nm,0.4s						
GTM	**Goat Mountain**	**1.65**	**145**		Pb	05 31 09.4	0.0
TPNV	**Topopah Spring**	**1.65**	**38**		Pn	05 31 07.4	-1.0
TPNV					IAML	05 31 34.0	
	comp=E,268nm,0.7s						
TPNV					IAML	05 31 34.9	
	comp=E,233nm,0.6s						
GMN	**Gold Mountain**	**1.66**	**7**		Pb	05 31 09.6	-0.3
VOG	**Valley Oaks Go**	**1.67**	**294**		Pn	05 31 09.0	+0.6
BCW	**Bitter Crk WRg**	**1.71**	**246**		Pb	05 31 10.7	+0.1
GMRC	**Granite Mounta**	**1.74**	**119**		Pn	05 31 07.4	-2.2
DSP	**Deep Springs**	**1.76**	**348**		Pn	05 31 10.5	+0.8
PEC	**Perris**	**1.77**	**171**		Pn	05 31 09.4	-0.5
BLAC	**Blackrock camp**	**1.82**	**149**		Pn	05 31 09.8	-0.9
BHPR	**Bishop**	**1.83**	**335**		Pb	05 31 12.9	+0.1
CRGC	**Crocker Grade**	**1.86**	**258**		Pb	05 31 13.0	-0.1
TPC	**Twentynine Pal**	**1.95**	**142**		Pn	05 31 11.0	-1.4
HMTC	**Hemet**	**1.98**	**168**		Pn	05 31 11.5	-1.2
ELS	**Elsinore Mount**	**1.99**	**178**		Pn	05 31 12.5	-0.6
POB	**Polly Butte**	**2.01**	**166**		Pn	05 31 12.6	-0.7
DGR	**Domenigoni Val**	**2.03**	**168**		Pn	05 31 12.9	-0.7
MURC	**Murrieta**	**2.06**	**173**		Pn	05 31 13.1	-0.8
BACC	**Bachelor Mtn.**	**2.06**	**169**		Pn	05 31 13.3	-0.7
SHPR	**Sheep Range**	**2.08**	**65**		Pn	05 31 13.5	-0.9
CRY	**Cary Ranch**	**2.17**	**163**		Pn	05 31 14.8	-0.7
PMD	**Palm Desert**	**2.20**	**155**	Pn	Pn	05 31 14.3	-1.5
PMD					IAML	05 31 50.0	
	comp=N,72nm,0.6s						
PMD					IAML	05 31 50.2	
	comp=E,75nm,0.6s						
PFO	**Pinyon Flats O**	**2.20**	**157**		Pn	05 31 14.7	-1.3
SNDA	**J Saunders Pla**	**2.21**	**160**		Pn	05 31 15.3	-0.8
BZNA	**Buzz No.'s Pla**	**2.26**	**162**		Pb	05 31 20.2	+0.3
FRD	**Ford Ranch, An**	**2.27**	**161**		Pn	05 31 16.1	-0.8
FRD	**Ford Ranch, An**	**2.27**	**161**		Pn	05 31 16.0	-0.8
PLM	**Palomar**	**2.35**	**167**		Pn	05 31 17.3	-0.7
TPH	**Tonopah**	**2.44**	**5**		Pn	05 31 19.3	0.0
S11A	**Rachel**	**2.44**	**35**		Pn	05 31 19.0	-0.3
S11A					IAML	05 32 03.5	
	comp=E,136nm,0.6s						
S11A					IAML	05 32 03.6	
	comp=N,136nm,1.1s						
NEE2	**Needles Airpor**	**2.52**	**110**		Pn	05 31 18.1	-2.1
BORC	**Borrego Spring**	**2.54**	**159**		Pn	05 31 19.5	-0.9
BORC					IAML	05 32 02.0	
	comp=E,73nm,0.8s						
BORC					IAML	05 32 09.1	
	comp=N,51nm,0.7s						
MATG	**Mataguay Scout**	**2.54**	**164**		Pn	05 31 18.4	-2.2
PRN	**Pahroc Range**	**2.64**	**48**		Pn	05 31 21.7	-0.3
PRN					IAML	05 32 09.3	
	comp=N,101nm,0.5s						
PRN					IAML	05 32 19.4	
	comp=E,106nm,0.7s						
DPP	**Dos Picos Cty**	**2.68**	**170**		Pn	05 31 21.6	-0.9
DPP					IAML	05 32 03.4	
	comp=E,53nm,0.6s						
NV11	**Mina Array Sit**	**2.83**	**350**		Pn	05 31 24.8	+0.2
W13A	**Hualapai Mount**	**3.01**	**99**		Pn	05 31 25.9	-1.2
W13A					IAML	05 32 15.9	
	comp=N,41nm,0.4s						
BLYC	**Blythe**	**3.10**	**127**		Pn	05 31 27.0	-1.1
BLYC					IAML	05 32 18.3	
	comp=N,76nm,0.6s						
BLYC					IAML	05 32 18.7	
	comp=E,67nm,0.5s						
CBX	**Cerro Bola**	**3.40**	**168**		Pn	05 31 32.2	-0.2
CBX					IAML	05 32 30.0	
	comp=N,79nm,0.6s						
GLA	**Glamis**	**3.41**	**139**	Pn	Pn	05 31 30.3	-2.2
GLA					IAML	05 32 31.5	
	comp=N,87nm,0.7s						
GLA					IAML	05 32 34.1	
	comp=E,86nm,0.7s						
LCMT	**Little Creek M**	**3.70**	**67**		Pn	05 31 36.0	-0.6
CCUT	**Cedar City**	**3.84**	**59**		Pn	05 31 37.2	-1.4
ESJX	**Sierra Juarez**	**3.85**	**160**	Pn	Pn	05 31 38.2	-0.5
ESJX					IAML	05 32 41.4	
	comp=E,20nm,0.5s						
KNB	**Kanab**	**4.02**	**69**		Pn	05 31 41.2	+0.2
Y14A	**Wickenburg**	**4.08**	**113**		Pn	05 31 40.5	-1.2
Y14A					IAML	05 32 52.8	
	comp=E,34nm,0.3s						
Y14A					IAML	05 32 56.1	
	comp=N,48nm,0.7s						
PSUT	**Pine Spring**	**4.10**	**44**		Pn	05 31 41.8	-0.4
PSUT					IAML	05 32 52.9	
	comp=E,16nm,0.8s						
PSUT					IAML	05 33 10.7	
	comp=N,16nm,1.3s						
SPR3	**Spring Creek 3**	**4.20**	**36**	Pn	Pn	05 31 42.1	-1.4
SPR3					IAML	05 32 51.9	
	comp=N,12nm,1.1s						
SPR3					IAML	05 33 04.2	
	comp=E,14nm,1.2s						
U15A	**North Rim**	**4.29**	**78**	Pn	Pn	05 31 45.4	+0.5
U15A					IAML	05 33 01.8	
	comp=N,12nm,1.0s						
U15A					IAML	05 33 10.7	
	comp=E,14nm,1.3s						

*IDC **21** 05:36:06.8±0.8,30°.30N×139°.11E,h410km±11km, mb3.0/14,mbtmp3.9/18,Error ellipse: s-maj=24.5km s-min=9.6km az=72.0*
*JMA **21** 05:36:06.5±0.2,30°N±1°×13°9E±°,h462km,MV3.7/39, NEAR TORISHIMA IS*
ISC 21 05:36:08.4±0.6,30°.34N±0°.07×139°.4E±0°.1,h450km,n31, σ2s08/39,mb3.4/14,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.79**	**7**	P		**P**	**05 37 13.8**	**+0.1**
CBIJ	**Chichi jima**	**4.05**	**142**	P		**P**	**05 37 24.4**	**+0.3**
CBIJ				*eS*		**S**	**05 38 22.7**	**-2.9**
JCJ	**Chichijima**	**4.05**	**142**	P		**P**	**05 37 22.2**	**-1.9**
	34nm,0.2s							
JCJ				S		**S**	**05 38 20.7**	**-4.8**
JHH2	**Haha-jima-NKT2**	**4.43**	**146**	*eP*		**P**	**05 37 27.5**	**0.0**
JHH2				*eS*		**S**	**05 38 29.8**	**-1.9**
BSO1	**Boso 1**	**4.50**	**17**	P		**P**	**05 37 28.5**	**+1.2**
BSO3	**Boso 3**	**4.55**	**12**	P		**P**	**05 37 28.5**	**+0.5**
BSO3				*eS*		**S**	**05 38 32.3**	**-0.8**
BSO4	**Boso 4**	**4.71**	**9**	*eP*		**P**	**05 37 30.6**	**+0.9**
JKN2	**Miekihoku**	**4.71**	**327**	P		**P**	**05 37 29.0**	**-0.8**
JTNC	**Tanabenakahech**	**4.73**	**318**	P		**P**	**05 37 28.5**	**-1.6**
JYT	**Yasato**	**5.91**	**6**	P		**P**	**05 37 40.5**	**-1.1**
JYT				*eS*		**S**	**05 38 53.7**	**-4.2**
JAG	**Ashikaga**	**6.07**	**0**	P		**P**	**05 37 42.3**	**-0.9**
MJAR	**Matsushiro Arr**	**6.27**	**351**	P		**P**	**05 37 43.5**	**-1.8**
	3.4nm,0.4s,baz=184,slow=12,SNR=17							
MJAR				S		**S**	**05 39 00.1**	**-4.5**
	1.0nm,0.4s,baz=155,slow=11,SNR=4.1							
JHS	**Saijyo**	**7.05**	**313**	*eP*		**P**	**05 37 52.7**	**-0.8**
JFK	**Kawauchi**	**7.12**	**10**	*eS*		**S**	**05 39 18.4**	**-2.6**
JNU	**Nakatsue**	**7.77**	**293**	P		**P**	**05 37 58.0**	**-3.4**
	10nm,0.7s,baz=100,slow=5.1,SNR=5.4							
JSJ	**Shimokoshiki**	**8.42**	**282**	*eP*		**P**	**05 38 05.2**	**-3.0**
KSRS	**Korea Array**	**11.88**	**310**	P		**P**	**05 38 44.0**	**-1.9**
	2.4nm,0.5s,baz=125,slow=9.9,SNR=8.4							
CMAR	**Chiang Mai Arr**	**38.51**	**262**	P		**P**	**05 42 49.1**	**-1.7**
	0.5nm,0.3s,baz=67,slow=8.7,SNR=4.7							
	0.5nm,0.3s							
MKAR	**Makanchi Array**	**46.55**	**307**	P		**P**	**05 43 53.6**	**-0.4**
	0.2nm,0.4s,baz=97,slow=6.7,SNR=2.0							
MKAR				PcP		**PcP**	**05 45 20.5**	**+1.1**
	0.3nm,0.5s,baz=90,slow=6.1,SNR=2.6							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**49.04**	**313**	P		**P**	**05 44 12.5**	**-0.1**
	0.4nm,0.4s,baz=90,slow=7.3,SNR=3.4							
	0.4nm,0.4s							
FITZ	**Fitzroy Crossi**	**49.95**	**197**	P		**P**	**05 44 20.7**	**+1.1**
	2.7nm,1.1s,baz=350,slow=6.1,SNR=1.9							
	2.7nm,1.1s							
WRA	**Warramunga Arr**	**50.23**	**186**	P		**P**	**05 44 22.8**	**+1.1**
	0.6nm,0.5s,baz=360,slow=7.7,SNR=11							
WRA				PcP		**PcP**	**05 45 35.9**	**+2.8**
	0.3nm,0.6s,baz=2.0,slow=3.9,SNR=2.0							
	0.6nm,0.5s							
ASAR	**Alice Springs**	**53.95**	**186**	P		**P**	**05 44 50.0**	**+1.3**
	0.4nm,0.5s,baz=3.3,slow=6.5,SNR=8.2							
	0.4nm,0.5s							
BVAR	**Borovoye Array**	**54.02**	**316**	P		**P**	**05 44 49.5**	**+0.7**
	0.4nm,0.4s,baz=91,slow=9.2,SNR=2.2							
	0.4nm,0.4s							
ARCES	**ARCESS Array B**	**69.68**	**340**	P		**P**	**05 46 33.5**	**+2.4**
	0.9nm,0.6s,baz=69,slow=9.3,SNR=9.5							
	0.9nm,0.6s							
FINES	**FINESS Array B**	**73.96**	**333**	P		**P**	**05 46 58.0**	**+1.7**
	0.6nm,0.3s,baz=70,slow=4.8,SNR=21							
	0.6nm,0.3s							
KBZ	**Khabaz**	**74.03**	**311**	P		**P**	**05 46 58.5**	**+1.4**
	1.7nm,0.8s,baz=75,slow=8.2,SNR=3.6							
	1.7nm,0.8s							
AKASG	**Malin Array Be**	**78.57**	**322**	P		**P**	**05 47 23.1**	**+1.0**
	0.3nm,0.3s,baz=53,slow=5.3,SNR=2.7							
	0.3nm,0.3s							
HFS	**Hagfors**	**79.48**	**336**	P		**P**	**05 47 28.3**	**+1.6**
	0.8nm,0.5s,baz=77,slow=4.2,SNR=8.6							
	0.8nm,0.5s							
NOA	**NORSAR Array B**	**79.69**	**337**	P		**P**	**05 47 29.7**	**+1.8**
	0.2nm,0.5s,baz=50,slow=6.3,SNR=2.0							
	0.2nm,0.5s							
BRTR	**Keskin Array B**	**82.02**	**311**	P		**P**	**05 47 41.7**	**+1.1**
	0.8nm,0.6s,baz=74,slow=4.4,SNR=3.8							
	0.8nm,0.6s							

*IDC **21** 05:39:19.8±1.2,26°.42S×27°.63E,h0km,mb3.9/7, mbtmp4.0/11,ML3.5/3,Error ellipse: s-maj=23.4km s-min=15.2km az=123.0*
*PRE **21** 05:39:19.0±0.8,26°.45S×27°.50E,h2km,ML3.2*
ISC 21 05:39:19.9±0.7,26°.46S±0°.05×27°.46E±0°.06,h5km,n25, σ2s41/43,mb4.0/6,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**2.22**	**310**	Pn		**Pn**	**05 39 60.0**	**+2.5**
	106nm,0.3s,baz=125,slow=15,SNR=766							
LBTB				Pg		**Pb**	**05 40 01.7**	**+1.1**
	106nm,0.3s,baz=126,slow=18,SNR=215							
LBTB				Sn		**Sb**	**05 40 30.4**	**+2.0**
	194nm,0.3s,baz=27,slow=22,SNR=24							
	233nm,0.3s							
CRLN	**Carolina, Mapu**	**2.34**	**79**	*eP*		**Pn**	**05 39 58.8**	**-0.5**
CRLN				*eS*		**Sn**	**05 40 28.1**	**-0.5**
CRLN					IAML		05 40 32.4	
	comp=Z,76nm,0.3s							
BOSA	**Boshof**	**2.91**	**222**	Pn		**Pn**	**05 40 09.1**	**+2.1**
	comp=Z,17nm,0.3s,baz=43,slow=13,SNR=340							
BOSA				Pg		**Pg**	**05 40 16.3**	**+0.6**
	comp=Z,19nm,0.3s,baz=47,slow=15,SNR=37							
BOSA				Sn		**Sn**	**05 40 44.2**	**+1.9**
	comp=Z,12nm,0.3s,baz=6.2,slow=13,SNR=7.5							
BOSA				Lg	Lg		05 40 54.7	
	comp=Z,37nm,0.3s,baz=305,slow=20,SNR=9.3							
	comp=Z,49nm,0.3s							
BOSA	**Boshof**	**2.91**	**222**	*eP*		**Pn**	**05 40 07.9**	**+1.0**
BOSA				*eS*		**Sn**	**05 40 43.4**	**+1.0**
BOSA					IAML		05 40 54.3	
	comp=Z,84nm,0.2s							
ALKP	**Alkanpan, Nort**	**5.76**	**232**	*eP*		**Pn**	**05 40 47.5**	**+1.3**
ALKP				*eS*		**Sn**	**05 41 51.6**	**-1.3**
ALKP					IAML		05 42 27.1	
	comp=Z,64nm,0.4s							
BFON	**Badsfontein, M**	**6.26**	**211**	*eP*		**Pn**	**05 40 54.6**	**+1.5**
BFON				*eS*		**Sn**	**05 42 03.5**	**-1.7**
BFON					IAML		05 42 39.9	
	comp=Z,42nm,0.4s							
BRAK	**Brakfontein**	**6.64**	**216**	*eP*		**Pn**	**05 40 59.5**	**+1.3**

comp=Z,2.1nm,0.3s,baz=131,slow=10,SNR=9.0
TSUM Lg Lg 05 45 16.3
comp=Z,0.7nm,0.3s,baz=62,slow=14,SNR=3.6
comp=Z,6.0nm,0.5s
DBIC Dimbokro 45.47 312 P **P 05 47 41.1 +0.8**
comp=Z,1.0nm,0.3s,baz=161,slow=7.7,SNR=4.8
comp=Z,1.0nm,0.3s
TORD Torodi Ar. Bea 46.67 324 P **P 05 47 50.0 +0.2**
comp=Z,0.9nm,0.5s,baz=142,slow=6.6,SNR=3.5
comp=Z,0.9nm,0.5s
ESDC Sonseca Array 72.03 335 P **P 05 50 45.9 +1.0**
comp=Z,0.8nm,0.6s,baz=152,slow=6.0,SNR=13
comp=Z,0.8nm,0.6s
GERES GERESS Array B 75.97 351 P **P 05 51 08.5 +0.8**
comp=Z,0.4nm,0.8s,baz=160,slow=3.1,SNR=4.1
comp=Z,0.4nm,0.8s
AKASG Malin Array Be 76.84 1 P **P 05 51 12.7 +0.2**
comp=Z,0.5nm,0.5s,baz=181,slow=5.6,SNR=2.1
comp=Z,0.5nm,0.5s
FINES FINESS Array B 87.60 359 P **P 05 52 09.3 +0.7**
comp=Z,0.5nm,0.4s,baz=157,slow=5.5,SNR=10.0
comp=Z,0.5nm,0.4s
MKAR Makanchi Array 88.12 34 P **P 05 52 10.8 -0.7**
comp=Z,0.3nm,0.6s,baz=238,slow=7.6,SNR=2.8
comp=Z,0.3nm,0.6s
NVAR Mina Array Bea 148.92 301 PKPbc **PKiKP 05 59 10.9 +0.3**
comp=Z,0.5nm,0.6s,baz=51,slow=5.1,SNR=5.8

*LDG **21** 05:47:07.1±0.0,45°.76N×6°.27E,h2km,Md2.5/2,Ml2.6/28, Error ellipse: s-maj=0.6km s-min=0.5km az=75.0*
*GEN **21** 05:47:07,45°.76N×6°.32E,h7km±3km,Ml1.7*
STR 21 05:47:07.0±0.2,46°N±1°×°±°,h5km,MLv1.9/10,2D, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSL	**Roselend**	**0.26**	**105**	P	Pg	05 47 12.4	+0.4
RSL				S	Sg	05 47 16.1	+0.6
RSL	**Roselend**	**0.26**	**105**	Pg	Pg	05 47 12.4	+0.4
RSL				Sg	Sg	05 47 15.8	+0.4
OGMY	**Moye**	**0.30**	**295**	Pg	Pg	05 47 12.8	-0.1
OGMY				Sg	Sg	05 47 17.0	+0.3
LPL	**La Plagne**	**0.40**	**126**	*e*Pg	Pg	05 47 15.1	+0.3
LPL				*e*Sg	Sg	05 47 19.9	-0.2
	34nm,0.4s						
LPG	**La Plagne**	**0.42**	**127**	*e*Pg	Pg	05 47 15.8	+0.5
LPG				*e*Sg	Sg	05 47 21.1	+0.3
	22nm,0.3s						
OGSM	**Saint Maurice**	**0.43**	**250**	Pg	Pg	05 47 15.4	+0.1
OGSM				Sg	Sg	05 47 21.3	+0.4
OGSI	**Sixt**	**0.46**	**47**	Pg	Pg	05 47 15.8	-0.1
OGSI				Sg	Sg	05 47 21.8	-0.1
MRGE	**Morge**	**0.55**	**88**	P	Pg	05 47 18.0	+0.3
MRGE				S	Sg	05 47 25.2	+0.3
MRGE	**Morge**	**0.55**	**88**	||P	Pg	05 47 17.9	+0.2
MRGE				S	Sg	05 47 25.3	+0.4
MRGE				AML	AML		
	comp=N,77µm,0.3s						
MRGE				AML	AML		
	comp=E,56µm,0.5s						
MRGE				AML	AML		
	comp=E,37µm,0.1s						
OG35	**Corcelles**	**0.57**	**301**	P	Pg	05 47 16.3	-1.7
OG35				Pg	Pb	05 47 17.8	-1.7
OG35				Sg	Sg	05 47 25.3	-0.1
REMY	**Saint-Rhmy-en**	**0.62**	**82**	P	Pg	05 47 19.4	+0.3
REMY				S	Sg	05 47 27.9	+0.7
REMY	**Saint-Rhmy-en**	**0.62**	**82**	||P	Pg	05 47 19.4	+0.3
REMY				S	Sg	05 47 27.8	+0.6
REMY				AML	AML		
	comp=E,43µm,0.2s						
REMY				AML	AML		
	comp=N,63µm,0.1s						
REMY				AML	AML		
	comp=N,63µm,0.1s						
REMY				AML	AML		
	comp=N,63µm,0.1s						
REMY				AML	AML		
	comp=E,43µm,0.2s						
REMY				AML	AML		
	comp=N,63µm,1.9s						
REMY	**Saint-Rhmy-en**	**0.62**	**82**	Pg	Pg	05 47 19.3	+0.2
REMY				Sg	Sg	05 47 27.7	+0.5
AIGLE	**Aigle**	**0.76**	**39**	Pg	Pg	05 47 21.5	0.0
AIGLE				Sg	Sg	05 47 31.9	+0.5
BNI	**Bardonecchia**	**0.76**	**158**	P	Pg	05 47 21.9	+0.4
BNI				S	Sg	05 47 31.7	+0.3
BNI	**Bardonecchia**	**0.76**	**158**	P	Pg	05 47 21.5	-0.1
BNI				S	Sg	05 47 31.7	+0.3
BNI				AML	AML		
	comp=E,19µm,0.5s						
BNI				AML	AML		
	comp=N,27µm,0.3s						
BNI				AML	AML		
	comp=N,29µm,0.1s						
BNI				AML	AML		
	comp=E,15µm,0.3s						
BNI				AML	AML		
	comp=E,69µm,0.9s						
GIMEL	**St. Georges /**	**0.78**	**360**	P	Pg	05 47 22.6	+0.5
GIMEL				S	Sb	05 47 34.0	-0.1
GIMEL				AML	AML		
	comp=E,152µm,0.3s						
GIMEL				AML	AML		
	comp=N,87µm,0.2s						
GIMEL	**St. Georges /**	**0.78**	**360**	Pg	Pg	05 47 21.9	-0.1
GIMEL				Sg	Sg	05 47 32.7	+0.5
DIX	**Grande Dixence**	**0.86**	**67**	P	Pg	05 47 23.3	-0.2
DIX				S	Sg	05 47 34.5	-0.1
DIX	**Grande Dixence**	**0.86**	**67**	Pg	Pg	05 47 23.4	-0.1
DIX				Sg	Sg	05 47 34.4	-0.2
CABF	**La Chapelle**	**0.87**	**352**	*e*Pg	Pg	05 47 23.3	-0.4
CABF				*e*Sg	Sg	05 47 34.5	-0.4
	comp=N,32nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.88**	**198**	*e*Pg	Pg	05 47 23.6	-0.3
ORIF				*e*Sg	Sg	05 47 35.5	+0.2
	comp=N,14nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.88**	**198**	P	Pg	05 47 24.0	0.0
ORIF				S	Sg	05 47 35.6	+0.3
ORIF				AML	AML		
	comp=E,36µm,0.3s						
ORIF				AML	AML		
	comp=N,38µm,0.2s						
ORIF	**Oris-en-Rattie**	**0.88**	**198**	S	Sg	05 47 35.6	+0.2
ORIF	**Oris-en-Rattie**	**0.88**	**198**	Pg	Pg	05 47 23.8	-0.1
ORIF				Sg	Sg	05 47 35.1	-0.2
RRL	**Rocca Remolon**	**0.91**	**156**	P	Pg	05 47 24.7	+0.2
RRL				S	Sg	05 47 36.7	+0.4
RRL	**Rocca Remolon**	**0.91**	**156**	P	Pg	05 47 24.6	+0.1
RRL	**Rocca Remolon**	**0.91**	**156**	Pg	Pg	05 47 24.7	+0.2
RRL				Sg	Sg	05 47 36.9	+0.6
CIRO	**Champorcher**	**0.92**	**99**	P	Pg	05 47 24.4	-0.3
CIRO				S	Sg	05 47 36.5	-0.2
CIRO	**Champorcher**	**0.92**	**99**	P	Pg	05 47 24.4	-0.3
CIRO				S	Sg	05 47 36.3	-0.4
CIRO				AML	AML		
	comp=E,17µm,1.1s						
CIRO				AML	AML		
	comp=N,27µm,0.5s						
CIRO				AML	AML		
	comp=E,14µm,0.3s						
CIRO				AML	AML		
	comp=N,26µm,0.2s						
CIRO	**Champorcher**	**0.92**	**99**	Pg	Pg	05 47 24.4	-0.3
RSP	**Reno Superiore**	**0.93**	**131**	P	Pg	05 47 24.6	-0.1
RSP				S	Sg	05 47 36.4	-0.4
RSP	**Reno Superiore**	**0.93**	**131**	P	Pg	05 47 24.5	-0.2
RSP				AML	AML		
	comp=N,48µm,0.8s						
RSP				AML	AML		
	comp=N,38µm,0.3s						
RSP				AML	AML		
	comp=E,43µm,0.2s						
RSP				AML	AML		
	comp=E,49µm,0.3s						
RSP				AML	AML		
	comp=N,36µm,0.2s						
RSP	**Reno Superiore**	**0.93**	**131**	Pg	Pg	05 47 24.6	-0.2
RSP				Sg	Sg	05 47 36.7	-0.1
SENIN	**Lac Senin/Sane**	**0.94**	**49**	P	Pg	05 47 24.9	-0.1
SENIN				S	Sg	05 47 37.2	-0.1
RIVEL	**MONT RIVEL**	**1.03**	**347**	Pg	Pg	05 47 26.7	-0.2
RIVEL				Sg	Sg	05 47 40.7	+0.4
TRAV	**Traversella**	**1.06**	**103**	P	Pg	05 47 27.2	-0.2
TRAV	**Traversella**	**1.06**	**103**	P	Pg	05 47 27.0	-0.4
TRAV				AML	AML		
	comp=E,35µm,0.6s						
TRAV				AML	AML		
	comp=N,90µm,0.4s						
TRAV				AML	AML		
	comp=E,35µm,0.3s						
TRAV	**Traversella**	**1.06**	**103**	Pg	Pg	05 47 27.2	-0.2
TRAV				Sg	Sg	05 47 40.6	-0.6
MBDF	**Montbardon**	**1.09**	**161**	*e*Pn	Pg	05 47 27.8	-0.1
MBDF				*e*Sn	Sg	05 47 41.7	-0.2
	comp=E,16nm,0.6s						
BHB	**Bricherasio**	**1.15**	**142**	P	Pg	05 47 29.0	0.0
BHB	**Bricherasio**	**1.15**	**142**	P	Pg	05 47 29.0	-0.1
BHB				AML	AML		
	comp=N,38µm,0.5s						
BHB				AML	AML		
	comp=E,35µm,0.7s						
BHB	**Bricherasio**	**1.15**	**142**	Pg	Pg	05 47 29.0	0.0
BHB				Sg	Sb	05 47 44.7	+0.1
CREF	**Crivoux**	**1.23**	**168**	Pg	Pg	05 47 30.0	-0.6
CREF				Sg	Sg	05 47 46.8	+0.2
SSB	**Saint Sauveur**	**1.31**	**249**	P	Pn	05 47 30.5	-1.5
SSB				Pg	Pg	05 47 31.9	-0.2
OGAG	**Argentiere**	**1.31**	**172**	P	Pn	05 47 25.8	-6.3
OGAG				S	Sg	05 47 39.4	-10
OGAG	**Argentiere**	**1.31**	**172**	Pg	Pn	05 47 25.7	-6.4
OGAG				Sg	Sg	05 47 39.5	-10
PZZ	**Stroppo**	**1.38**	**154**	P	Pn	05 47 31.9	-1.2
VIVF	**Saint-Julien-l**	**1.44**	**232**	*e*Pn	Pn	05 47 32.7	-1.1
VIVF	**Saint-Julien-l**	**1.44**	**232**	*e*Pg	Pn	05 47 34.1	+0.2
VIVF				*e*Sn	Sb	05 47 51.0	-2.1
	comp=E,9.5nm,0.2s						
SMRF	**Simiane la Rot**	**1.85**	**196**	*e*Pg	Pb	05 47 41.5	+0.2
SMRF				*e*Sn	Sn	05 48 00.7	-2.4
	comp=E,1.9nm,0.3s						
SMF	**Signal de Mont**	**1.91**	**299**	*e*Pg	Pb	05 47 42.5	+0.1
SMF				*e*Sg	Sb	05 48 06.7	+0.2
	comp=E,29nm,0.2s						
SBF	**Sospel**	**2.06**	**156**	*e*Pg	Pb	05 47 45.5	+0.5
SBF				*e*Sg	Sg	05 48 12.2	-1.1
	comp=E,6.5nm,0.2s						
HINF	**Hinteralfeld**	**2.10**	**11**	*e*Pn	Pn	05 47 40.9	-2.0
HINF	**Hinteralfeld**	**2.10**	**11**	*e*Pg	Pb	05 47 46.1	+0.4
HINF				*e*Sn	Sn	05 48 06.1	-3.4
HINF				*e*Sg	Sb	05 48 12.8	+0.7
	comp=E,6.7nm,0.2s						
LOR	**Lormes**	**2.25**	**313**	*e*Pn	Pn	05 47 43.5	-1.5
LOR	**Lormes**	**2.25**	**313**	*e*Pg	Pb	05 47 48.9	+0.7
	baz=130						
LOR				*e*Sg	Sb	05 48 16.2	-0.2
	comp=E,11nm,0.3s						
HAU	**Haudompre**	**2.25**	**1**	*e*Pn	Pn	05 47 43.2	-1.8
HAU	**Haudompre**	**2.25**	**1**	*e*Pg	Pb	05 47 48.9	+0.7
HAU				*e*Sn	Sn	05 48 10.5	-2.7
HAU				*e*Sg	Sb	05 48 17.8	+1.4
	comp=E,12nm,0.2s						
AVF	**Avril sur Loir**	**2.27**	**298**	*e*Pn	Pn	05 47 43.5	-1.8
AVF	**Avril sur Loir**	**2.27**	**298**	*e*Pg	Pb	05 47 49.5	+0.9
AVF				*e*Sg	Sb	05 48 16.9	-0.1
	comp=E,24nm,0.5s						
SSF	**Saint Saulge**	**2.32**	**305**	*e*Pn	Pn	05 47 44.4	-1.5
SSF	**Saint Saulge**	**2.32**	**305**	*e*Pg	Pb	05 47 49.9	+0.6
SSF				*e*Sg	Sb	05 48 18.4	+0.2
	comp=E,6.2nm,0.3s						
LASF	**Ste Croix**	**2.40**	**226**	*e*Pn	Pn	05 47 45.8	-1.2
LASF	**Ste Croix**	**2.40**	**226**	*e*Pg	Pb	05 47 51.8	+1.1
LASF				*e*Sn	Sn	05 48 14.0	-2.8
LASF				*e*Sg	Sb	05 48 21.8	+1.2
	comp=E,2.1nm,0.2s						
LMR	**La Mourre**	**2.43**	**176**	*e*Pg	Pb	05 47 52.1	+1.0
LMR				*e*Sn	Sn	05 48 14.3	-3.1
LMR				*e*Sg	Sg	05 48 23.2	-1.7
	comp=E,2.2nm,0.2s						
BGF	**Bois d'Agland**	**2.51**	**290**	*e*Pn	Pn	05 47 47.4	-1.1
BGF	**Bois d'Agland**	**2.51**	**290**	*e*Pg	Pg	05 47 54.2	-1.0
BGF				*e*Sg	Sg	05 48 26.4	-1.3
	comp=E,14nm,0.3s						
SFTF	**Sexfontaines**	**2.59**	**341**	*e*Pg	Pb	05 47 55.3	+1.3
SFTF				*e*Sg	Sb	05 48 27.3	+1.1
	comp=E,4.9nm,0.3s						
CDF	**Champ du Feu**	**2.75**	**14**	*e*Pn	Pn	05 47 49.4	-2.4
CDF	**Champ du Feu**	**2.75**	**14**	*e*Pg	Pb	05 47 57.8	+1.1
CDF				*e*Sn	Sn	05 48 22.0	-3.4
CDF				*e*Sg	Sg	05 48 33.4	-1.8
	comp=E,4.1nm,0.3s						
PAGF	**Fort de Pagny**	**2.83**	**353**	*e*Pn	Pn	05 47 51.1	-1.8
PAGF				*e*Sn	Sn	05 48 23.4	-3.9
PAGF				*e*Sg	Sb	05 48 35.1	+2.2
MEZF	**Maizieres J'vi**	**2.87**	**344**	*e*Pg	Pb	05 48 00.1	+1.3
MEZF				*e*Sn	Sn	05 48 24.4	-4.0
MEZF				*e*Sg	Sg	05 48 36.9	-2.4
TCF	**Toulx Ste Croi**	**2.88**	**282**	*e*Pn	Pn	05 47 52.2	-1.4
TCF	**Toulx Ste Croi**	**2.88**	**282**	*e*Pg	Pg	05 48 00.8	-1.4
TCF				*e*Sn	Sn	05 48 25.1	-3.5
TCF				*e*Sg	Sb	05 48 36.0	+1.6
	comp=E,5.5nm,0.3s						
SAVF	**Savonnieres en**	**2.97**	**345**	*e*Sn	Sn	05 48 26.7	-4.0
SAVF				*e*Sg	Sb	05 48 39.6	+2.7
	comp=E,1.3nm,0.2s						
CAF	**Calviac**	**3.08**	**256**	*e*Pn	Pn	05 47 55.0	-1.4
CAF	**Calviac**	**3.08**	**256**	*e*Pg	Pb	05 48 04.0	+1.7
CAF				*e*Sn	Sn	05 48 30.3	-3.3
CAF				*e*Sg	Sb	05 48 42.4	+2.2
	comp=E,1.7nm,0.2s						
RJF	**Les Rejaudoux**	**3.37**	**264**	*e*Sg	Sb	05 48 51.0	+2.4
	comp=E,2.1nm,0.3s						
MFF	**Saint Martin d**	**4.54**	**283**	*e*Sn	Sn	05 49 04.7	-4.8
MFF				*e*Sg	Sg	05 49 28.9	-3.8
MPAG	**Monte Paganucc**	**5.09**	**112**	P	Pn	05 48 25.4	+1.4
MPAG	**Monte Paganucc**	**5.09**	**112**	P	Pn	05 48 25.4	+1.4

*IDC **21** 05:49:55.8±2.1,18°.55N×147°.35E,h0km,mb3.8/9, mbtmp3.8/11,ML3.6/2,MS2.9/2,Error ellipse: s-maj=76.7km s-min=17.8km az=89.0*
ISC 21 05:50:01.2±2.0,18°.56N±0°.10×147°.3E±0°.4,h35km,n19, σ0s56/12,mb4.0/9,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.46**	**205**	Pn	**Pn**	**05 51 19.8**	**-0.2**
	7.6nm,0.3s,baz=20,slow=1.5,SNR=5.4						
GUMO				Sn	**Sn**	**05 52 21.8**	**+0.2**
	4.1nm,0.3s,baz=184,slow=20,SNR=1.4						
	9.7nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**18.42**	**87**	T	T	06 13 15.4	
	baz=264,slow=79,SNR=25						
H11S1	**WAKE ISLAND Hy**	**18.43**	**87**	T	T	06 13 17.0	
	baz=264,slow=79,SNR=14						
H11S2	**WAKE ISLAND Hy**	**18.44**	**87**	T	T	06 13 15.3	
	baz=264,slow=79,SNR=17						
H11N1	**WAKE ISLAND Hy**	**18.58**	**83**	T	T	06 13 31.8	
	baz=268						
H11N2	**WAKE ISLAND Hy**	**18.59**	**83**	T	T	06 13 33.4	
	baz=268						
H11N3	**WAKE ISLAND Hy**	**18.60**	**83**	T	T	06 13 33.6	
	baz=268						
MJAR	**Matsushiro Arr**	**19.61**	**338**	P	**Pn**	**05 54 27.6**	**-0.4**
	baz=165,slow=9.3,SNR=7.1						
	1.9nm,0.8s						
KSRS	**Korea Array**	**25.32**	**322**	P	**P**	**05 55 24.3**	**-0.3**
	0.7nm,0.7s,baz=154,slow=9.1,SNR=2.4						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**40.31**	**199**	P	**P**	**05 57 34.8**	**-0.6**
	0.3nm,0.6s,baz=23,slow=7.7,SNR=6.8						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**43.95**	**198**	P	**P**	**05 58 05.3**	**+0.2**
	0.4nm,0.7s,baz=25,slow=10,SNR=4.7						
	0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**45.71**	**278**	LR	LR	06 17 49.4	
	comp=Z,6.2nm,18.3s,baz=215,slow=36						
ZALV	**Zalesovo Beam**	**59.03**	**322**	P	**P**	**05 59 57.4**	**-0.1**
	0.8nm,0.6s,baz=111,slow=7.9,SNR=1.9						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**59.63**	**314**	P	**P**	**06 00 01.9**	**+0.1**
	0.2nm,0.5s,baz=95,slow=12,SNR=1.5						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**62.41**	**318**	P	**P**	**06 00 20.7**	**+0.2**
	0.6nm,0.3s,baz=97,slow=7.6,SNR=1.4						
	0.6nm,0.3s						
BVAR	**Borovoye Array**	**67.52**	**320**	P	**P**	**06 00 55.0**	**+1.2**
	1.3nm,0.6s,baz=84,slow=9.3,SNR=5.8						
	1.3nm,0.6s						
BBB	**Bella Bella**	**72.30**	**40**	LR	LR	06 30 31.7	
	comp=Z,18nm,18.4s,baz=208,slow=34						
ARCES	**ARCESS Array B**	**83.07**	**342**	P	**P**	**06 02 22.4**	**-0.4**
	1.7nm,1.0s,baz=56,slow=5.6,SNR=4.7						
	1.7nm,1.0s						
FINES	**FINESS Array B**	**87.62**	**336**	P	**P**	**06 02 46.3**	**+0.7**
	0.7nm,0.5s,baz=65,slow=5.0,SNR=7.9						
	0.7nm,0.5s						

IDC 21 05:54:53.8±3.8,5°.08S×132°.74E,h0km,mb3.5/1, mbtmp3.3/3,ML3.4/2,MS2.2/1,Error ellipse: s-maj=198.2km s-min=17.8km az=80.0,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**8.34**	**73**	LR	LR	05 59 50.8	
	comp=Z,19nm,21.3s,baz=328,slow=36						
WRA	**Warramunga Arr**	**14.86**	**174**	Pn	Pn	05 58 26.7	+1.3
	0.1nm,0.3s,baz=355,slow=13,SNR=5.0						
WRA				Sn	Sn	06 01 11.1	+0.3
	0.1nm,0.3s,baz=343,slow=22,SNR=0.9						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**18.52**	**177**	P	Pn	05 59 13.6	+1.6
	0.2nm,0.3s,baz=3.2,slow=11,SNR=8.4						
ASAR				S	Sn	06 02 40.1	+0.5
	0.5nm,0.7s,baz=358,slow=27,SNR=2.9						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**68.17**	**325**	P	P	06 05 55.6	-0.4
	0.2nm,0.4s,baz=125,slow=9.5,SNR=2.5						
	0.2nm,0.4s						

*IDC **21** 05:55:26.4±9.0,20°.46S×174°.43W,h52km±78km,mb3.4/5, mbtmp3.8/7,ML3.8/2,MS3.3/2,Error ellipse: s-maj=41.9km s-min=32.6km az=153.0*
ISC 21 05:55:26.5±1.0,20°.5S±0°.2×174°.4W±0°.2,h56km,n13, σ0s58/13,mb3.8/6,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.92**	**262**	P	**P**	**05 59 32.4**	**+0.5**
	0.2nm,0.3s,baz=94,slow=15,SNR=2.2						
	2.9nm,0.6s						
URZ	**Urewera**	**19.14**	**201**	P	**Pn**	**05 59 46.6**	**+0.1**
	0.4nm,0.3s,baz=39,slow=13,SNR=1.7						
URZ				S	S	06 03 03.8	-15
	2.0nm,0.7s,baz=337,slow=15,SNR=1.6						
	1.3nm,0.3s						
PPT	**Papeete**	**23.64**	**87**	LR	LR	06 06 54.8	
	comp=Z,56nm,20.7s,baz=306,slow=29						
HNR	**Honiara**	**27.08**	**290**	LR	LR	06 10 16.0	
	comp=Z,80nm,19.3s,baz=145,slow=33						
JAY	**Jayapura**	**47.27**	**286**	P	**P**	**06 03 53.9**	**-0.8**
	10.0nm,0.6s,baz=80,slow=3.6,SNR=5.6						
ASAR	**Alice Springs**	**47.80**	**256**	P	**P**	**06 03 58.5**	**-0.2**
	0.9nm,0.6s,baz=100,slow=7.7,SNR=12						
ASAR				PcP	**PcP**	**06 05 27.1**	**+0.1**
	0.5nm,0.6s,baz=92,slow=4.0,SNR=2.9						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**47.94**	**261**	P	**P**	**06 03 59.1**	**-0.7**
	0.5nm,0.6s,baz=96,slow=7.4,SNR=6.6						
WRA				PcP	**PcP**	**06 05 28.0**	**+0.5**
	0.2nm,0.7s,baz=100,slow=2.8,SNR=1.3						
	0.5nm,0.6s						
MJAR	**Matsushiro Arr**	**72.28**	**322**	P	**P**	**06 06 47.1**	**+1.0**
	1.1nm,0.7s,baz=142,slow=5.9,SNR=4.6						
	1.1nm,0.7s						
NVAR	**Mina Array Bea**	**78.76**	**42**	P	**P**	**06 07 22.8**	**-0.7**
	0.3nm,0.6s,baz=219,slow=6.9,SNR=3.6						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**87.63**	**11**	P	**P**	**06 08 08.4**	**+0.1**
	0.2nm,0.6s,baz=206,slow=8.0,SNR=4.1						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**129.51**	**351**	PKP	**PKPdf**	**06 14 28.7**	**+0.4**
	0.6nm,0.7s,baz=66,slow=1.4,SNR=4.1						
AKASG	**Malin Array Be**	**144.59**	**334**	PKP	**PKPab**	**06 14 55.0**	**-0.2**
	0.7nm,0.6s,baz=48,slow=1.4,SNR=6.4						
GERES	**GERESS Array B**	**151.00**	**349**	PKPbc	**PKPbc**	**06 15 13.5**	**+0.3**
	0.3nm,0.7s,baz=11,slow=2.7,SNR=5.3						

*SJA **21** 06:06:54.4±0.9,24°.37S×67°.25W,h190km,ML3.5,MW3.5*
*IDC **21** 06:06:54.6±6.9,24°.23S×66°.84W,h152km±75km,mb3.5/2, mbtmp3.7/3,Error ellipse: s-maj=105.0km s-min=36.7km az=105.0*
ISC 21 06:06:55.5±0.9,24°.31S±0°.04×67°.26W±0°.04,h181km±7km, n26,σ1s40/42,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.84**	**85**	*e*P	Pn	06 07 10.9	-12
SALTA				*e*P	**Pn**	**06 07 22.0**	**-0.9**
SALTA				*e*S	**Sn**	**06 07 45.3**	**+1.5**
AF01	**San Pedro de A**	**1.59**	**328**	*e*P	**Pn**	**06 07 30.2**	**+1.4**
AF01				*e*S	**Sn**	**06 07 56.3**	**+1.7**
AF01				IAML		06 08 02.3	
	comp=Z,119nm,0.1s						
SLA	**San Lorenzo**	**1.65**	**105**	*e*P	**Pn**	**06 07 29.2**	**+0.1**
SLA				*e*S	**Sn**	**06 07 55.1**	**-0.1**
AZAP	**Zapla**	**2.00**	**88**	*e*P	**Pn**	**06 07 32.5**	**-0.4**
AZAP				*e*S	**Sn**	**06 08 02.2**	**+0.3**
AZAP				IAML		06 08 02.6	
	comp=Z,70nm,0.7s						
FSA	**Cafayete**	**2.14**	**148**	*e*P	**Pn**	**06 07 34.5**	**+0.1**
FSA				*e*S	**Sn**	**06 08 00.9**	**-3.7**
GO02	**Mina Guanaco**	**2.29**	**248**	*e*P	**Pn**	**06 07 36.8**	**+0.6**
GO02				*e*S	**Sn**	**06 08 08.2**	**+0.4**
PB06	**IPOC Station P**	**2.66**	**306**	*e*P	**Pn**	**06 07 40.8**	**+0.5**
PB06				*e*S	**Sn**	**06 08 14.2**	**-0.9**
PB06				IAML		06 08 18.4	
	comp=Z,221nm,0.3s						
PB14	**IPOC Station P**	**2.89**	**263**	*e*P	**Pn**	**06 07 43.3**	**+0.1**
PB14				*e*S	**Sn**	**06 08 19.6**	**-0.6**
PB14				IAML		06 08 20.5	
	comp=Z,107nm,0.2s						
ALOL	**LOMAS DE OLMED**	**3.03**	**81**	*e*P	**Pn**	**06 07 44.0**	**-0.6**
AC02	**Maricunga**	**3.03**	**214**	*e*P	**Pn**	**06 07 45.9**	**+0.8**
AC02				*e*S	**Sn**	**06 08 21.5**	**-2.3**
PB05	**IPOC Station P**	**3.07**	**298**	*e*P	**Pn**	**06 07 45.3**	**+0.2**
PB05				*e*S	**Sn**	**06 08 23.4**	**-0.4**
PB05				IAML		06 08 34.3	
	comp=Z,61nm,0.3s						
PB09	**IPOC Station P**	**3.10**	**323**	*e*P	**Pn**	**06 07 46.6**	**+0.9**
PB09			

comp=Z,0.5nm,0.3s,baz=259,slow=4.1,SNR=0.9
comp=Z,0.5nm,0.3s
MKAR Makanchi Array 146.91 40 PKPbc **PKPab 06 26 18.0 -0.3**
comp=Z,0.1nm,0.3s,baz=302,slow=3.8,SNR=3.7

IDC 21 06:13:52.3±1.8, 0°84N×126°77E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=170.7km s-min=22.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.95**	**161**	P	P	06 18 47.0	-0.8
	0.5nm,0.5s,baz=339,slow=11,SNR=8.8 0.5nm,0.5s						
ASAR	**Alice Springs**	**25.33**	**165**	P	P	06 19 21.6	+0.6
	0.3nm,0.4s,baz=343,slow=9.5,SNR=7.2 0.3nm,0.4s						
MKAR	**Makanchi Array**	**59.95**	**326**	P	P	06 23 59.8	-0.7
	0.3nm,0.4s,baz=124,slow=6.9,SNR=5.6 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**64.19**	**328**	P	P	06 24 29.6	+0.8
	0.3nm,0.5s,baz=123,slow=6.8,SNR=2.4 0.3nm,0.5s						

*IDC **21** 06:25:26.3±0.8, 21°13S×174°32W, h0km, mb4.0/10, mbtmp4.1/11, ML4.1/1, MS3.4/4, Error ellipse: s-maj=31.2km s-min=22.1km az=121.0*
ISC 21 06:25:26.8±0.6, 21°25±0.1S×173°8W±0.1, h10km, n22, σ1$93/19, mb4.3/10, MS3.4/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.09**	**93**	Pn	**Pn**	**06 28 30.8**	**-2.0**
	2.4nm,0.3s,baz=239,slow=12,SNR=6.8						
RAR				Sn	Sn	06 30 46.6	-12
	1.5nm,0.3s,baz=330,slow=16,SNR=2.1						
DZM	**Mont Dzumac**	**18.39**	**264**	P	**Pn**	**06 29 44.8**	**+2.6**
	7.8nm,0.9s,baz=126,slow=14,SNR=2.1						
URZ	**Urewera**	**18.73**	**203**	P	**P**	**06 29 45.5**	**-0.1**
	0.6nm,0.3s,baz=32,slow=1.7,SNR=7.8 6.4nm,0.7s						
PPT	**Papeete**	**23.13**	**85**	LR	LR	06 36 52.9	
	comp=Z,84nm,19.6s,baz=319,slow=29						
HNR	**Honiara**	**27.84**	**291**	LR	LR	06 40 30.7	
	comp=Z,49nm,21.9s,baz=122,slow=33						
ASAR	**Alice Springs**	**48.18**	**257**	P	**P**	**06 34 05.6**	**-2.3**
	3.3nm,0.9s,baz=93,slow=8.1,SNR=24 3.3nm,0.9s						
WRA	**Warramunga Arr**	**48.39**	**262**	P	**P**	**06 34 05.5**	**-4.0**
	2.7nm,0.9s,baz=97,slow=7.2,SNR=8.3						
WRA				PcP	**PcP**	**06 35 36.2**	**+0.2**
	0.3nm,0.5s,baz=96,slow=3.0,SNR=1.6 2.7nm,0.9s						
QSPA	**South Pole Qui**	**68.88**	**180**	P	**P**	**06 36 32.5**	**+0.9**
	2.1nm,1.0s,baz=42,slow=2.0,SNR=3.5 2.1nm,1.0s						
MJAR	**Matsushiro Arr**	**73.15**	**321**	P	**P**	**06 36 54.8**	**-2.9**
	0.6nm,0.8s,baz=131,slow=5.5,SNR=4.4 0.6nm,0.8s						
PETK	**Petropavlovsk-**	**78.02**	**343**	P	**P**	**06 37 25.6**	**+0.3**
	2.5nm,0.8s,baz=207,slow=7.2,SNR=2.0 2.5nm,0.8s						
NVAR	**Mina Array Bea**	**78.89**	**41**	P	**P**	**06 37 34.0**	**+3.3**
	0.5nm,0.7s,baz=214,slow=5.0,SNR=3.9 0.5nm,0.7s						
ANMO	**Albuquerque**	**84.82**	**50**	LR	LR	07 10 06.1	
	comp=Z,30nm,18.9s,baz=19,slow=32						
CMIG	**Matias Romero**	**86.18**	**70**	LR	LR	07 09 03.5	
	comp=Z,26nm,18.0s,baz=163,slow=30						
PDAR	**Pinedale Array**	**86.82**	**42**	P	**P**	**06 38 12.6**	**+0.8**
	0.1nm,0.4s,baz=240,slow=11,SNR=1.4 0.1nm,0.4s						
SNAA	**Sanae**	**87.17**	**177**	P	**P**	**06 38 14.0**	**+1.1**
	2.2nm,1.0s,baz=274,slow=16,SNR=3.9 2.2nm,1.0s						
ILAR	**Eielson Array**	**88.18**	**11**	P	**P**	**06 38 17.9**	**+0.4**
	0.7nm,1.0s,baz=220,slow=6.4,SNR=4.4 0.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**94.06**	**288**	P	**P**	**06 38 46.6**	**+0.6**
	0.9nm,0.4s,baz=112,slow=8.9,SNR=1.9 0.9nm,0.4s						
BVAR	**Borovoye Array**	**122.13**	**320**	PKP	**PKiKP**	**06 44 22.0**	**+0.2**
	0.5nm,0.4s,baz=127,slow=2.2,SNR=3.6						
FINES	**FINESS Array B**	**137.47**	**346**	PKP	**PKiKP**	**06 44 52.7**	**+0.4**
	0.5nm,0.7s,baz=57,slow=5.1,SNR=1.8						
AKASG	**Malin Array Be**	**145.44**	**334**	PKPbc	**PKPab**	**06 45 06.1**	**+1.0**
	1.2nm,0.6s,baz=41,slow=3.6,SNR=9.9						
BRTR	**Keskin Array B**	**150.17**	**314**	PKPbc	**PKPbc**	**06 45 17.2**	**-1.2**
	1.2nm,0.8s,baz=90,slow=1.4,SNR=5.3						
GERES	**GERESS Array B**	**151.77**	**349**	PKPbc	**PKiKP**	**06 45 23.8**	**+1.6**
	0.6nm,0.8s,baz=5.7,slow=2.7,SNR=4.8						

*IDC **21** 06:29:38.5±1.9, 25°33S×179°92W, h459km±17km, mb3.7/13, mbtmp4.5/15, Error ellipse: s-maj=19.0km s-min=13.3km az=72.0*
*NEIC **21** 06:29:41.4±1.9, 25°5S±0°1×179°9W±0°2, h487km±9km, mb4.4/27, Error ellipse: s-maj=22.3km s-min=16.6km az=85.0*
*NOU **21** 06:29:41.2, 25°42S×179°92W, h484km, mb4.7/15, South of Fiji Islands*
ISC 21 06:29:39.2±0.5, 25°46S±0°06×179°98W±0°09, h464km, n108, σ1$74/117, mb4.3/27, 4C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.91**	**346**		**P**	**06 31 35.8**	**+1.7**
MSVF	**Nonsavu**	**7.91**	**346**	P	**P**	**06 31 35.7**	**+1.7**
TAVE	**Taveuni**	**8.71**	**0**	P	**P**	**06 31 45.2**	**+2.6**
YSA	**Yasawairara**	**9.01**	**345**	P	**P**	**06 31 47.4**	**+1.6**
DGTI	**Dogotuki**	**9.12**	**358**	P	**P**	**06 31 49.2**	**+2.2**
OUZ	**Omahuta**	**11.19**	**208**	P	**P**	**06 32 13.1**	**+4.0**
FUTU	**Fugatoga**	**11.23**	**9**	P	**P**	**06 32 11.9**	**+2.1**
NIUE	**Niue**	**11.27**	**58**	P	P	06 32 18.9	+8.7
WCZ	**Waipu Caves**	**11.52**	**204**	P	**P**	**06 32 17.2**	**+4.5**
MKAZ	**Moumakai**	**12.32**	**198**	P	**P**	**06 32 24.6**	**+3.3**
RUGZ	**Raukumara Rang**	**12.62**	**189**	P	**P**	**06 32 26.3**	**+1.7**
RUGZ				S	**S**	**06 34 38.0**	**-3.1**
TWGZ	**Tauwhareparae**	**12.79**	**187**	P	**P**	**06 32 28.7**	**+2.3**
TOZ	**Tahuroa Road**	**12.82**	**196**	P	**P**	**06 32 29.5**	**+2.9**
TOZ	**Tahuroa Road**	**12.82**	**196**	P	**P**	**06 32 29.6**	**+2.9**
DZM	**Mont Dzumac**	**12.88**	**282**	P	**P**	**06 32 30.2**	**+2.6**
	5.0nm,0.7s,baz=102,slow=18,SNR=3.7						
URZ	**Urewera**	**12.99**	**190**	P	**P**	**06 32 27.7**	**-0.8**
	19nm,0.4s,baz=354,slow=2.8,SNR=28						
URZ				S	**S**	**06 34 46.0**	**-2.2**
	19nm,0.6s,baz=76,slow=21,SNR=14						
URZ	**Urewera**	**12.99**	**190**	P	**P**	**06 32 30.9**	**+2.4**
URZ	**Urewera**	**12.99**	**190**	P	**P**	**06 32 29.9**	**+1.4**
RAGZ	**Rawiri**	**13.18**	**189**	P	**P**	**06 32 32.4**	**+1.8**
RIGZ	**Rimuhau**	**13.34**	**188**	P	**P**	**06 32 33.4**	**+1.2**
PRGZ	**Paritu Road**	**13.54**	**187**	P	**P**	**06 32 37.6**	**+3.2**
MTHZ	**Maungataniwha**	**13.62**	**191**	P	**P**	**06 32 35.7**	**+0.5**
MTHZ				S	**S**	**06 35 00.4**	**-0.2**
RAHZ	**Arahi**	**13.64**	**190**	P	**P**	**06 32 36.5**	**+1.1**
RAHZ				S	**S**	**06 35 00.4**	**-0.6**
KNZ	**Kokohu**	**13.66**	**188**	P	**P**	**06 32 36.8**	**+1.2**
KNZ				S	**S**	**06 34 59.2**	**-2.1**
WHHZ	**Waihua**	**13.78**	**189**	S	**S**	**06 35 02.2**	**-1.4**
NMHZ	**Naumai**	**13.86**	**190**	P	**P**	**06 32 40.8**	**+2.9**
NMHZ				S	**S**	**06 35 05.2**	**-0.2**
BKZ	**Black Stump Fm**	**13.98**	**191**	P	**P**	**06 32 38.0**	**-1.1**
BKZ				S	**S**	**06 35 05.0**	**-2.6**
QRZ	**Quartz Range**	**16.54**	**200**	P	**P**	**06 33 07.9**	**+1.7**
QRZ	**Quartz Range**	**16.54**	**200**	P	**P**	**06 33 07.3**	**+1.1**
THZ	**Tophouse**	**17.29**	**198**	P	**P**	**06 33 13.3**	**-0.8**
MQZ	**McQueen's Vall**	**19.17**	**196**	P	**P**	**06 33 35.3**	**+3.3**
LHI	**Lord Howe Isla**	**19.37**	**247**	P	**P**	**06 33 37.5**	**+3.4**
RPZ	**Rata Peaks**	**19.62**	**200**	P	**P**	**06 33 35.6**	**-0.6**
	6.9nm,0.6s,baz=65,slow=21,SNR=1.7						
ARMA	**Armidale**	**25.53**	**252**	P	**P**	**06 34 32.2**	**+2.6**
ARMA				IAmb	IAmb	06 34 32.6	
	comp=Z,16nm,0.7s						
ARMA	**Armidale**	**25.53**	**252**	P	**P**	**06 34 31.8**	**+2.1**
EIDS	**Eidsvold**	**26.12**	**264**		**P**	**06 34 36.2**	**+1.3**
EIDS	**Eidsvold**	**26.12**	**264**	P	**P**	**06 34 36.4**	**+1.6**
CAN	**Canberra**	**28.41**	**242**	P	**P**	**06 34 56.5**	**+1.6**
CAN				IAmb	IAmb	06 35 23.2	
	comp=Z,33nm,1.4s						
CMSA	**Cobar Meteorol**	**30.69**	**251**	P	**P**	**06 35 16.0**	**+1.3**
CTAO	**Charters Tower**	**31.54**	**273**	P	**P**	**06 35 23.3**	**+1.0**
CTAO				IAmb	IAmb	06 35 24.1	
	comp=Z,17nm,1.0s						
TOO	**Toolangi**	**31.64**	**239**	P	**P**	**06 35 24.3**	**+1.4**
TOO				IAmb	IAmb	06 35 25.4	
	comp=Z,4.8nm,0.8s						
QLP	**Quilpie**	**32.12**	**260**	P	**P**	**06 35 28.4**	**+1.3**
MTSU	**Mount Surprise**	**33.87**	**275**	P	**P**	**06 35 43.2**	**+1.1**
STKA	**Stephens Creek**	**34.19**	**250**		**P**	**06 35 45.6**	**+0.9**
STKA	**Stephens Creek**	**34.19**	**250**	P	**P**	**06 35 45.2**	**+0.6**
	comp=Z,7.2nm,0.4s,baz=97,slow=11,SNR=28						
STKA				PcP	**PcP**	**06 38 07.8**	**-1.0**
	comp=Z,4.8nm,0.7s,baz=104,slow=3.8,SNR=4.8 comp=Z,7.2nm,0.4s						
COEN	**Coen**	**36.41**	**281**	P	**P**	**06 36 04.6**	**+1.2**
COEN				IAmb	IAmb	06 36 05.2	
	comp=Z,14nm,1.1s						
HTT	**Hallett**	**36.47**	**248**	P	**P**	**06 36 04.4**	**+0.6**
QIS	**Mount Isa**	**37.42**	**269**	P	**P**	**06 36 12.3**	**+0.5**
BBOO	**Buckleboo**	**38.87**	**249**	P	**P**	**06 36 23.0**	**-0.5**
AS01	**Alice Springs**	**41.78**	**262**	P	**P**	**06 36 47.2**	**+0.1**
AS31	**Alice Springs**	**41.82**	**262**		**P**	**06 36 47.4**	**0.0**
AS31				IAmb	IAmb	06 36 49.3	
	comp=Z,8.4nm,0.3s						
ASAR	**Alice Springs**	**41.82**	**262**		**P**	**06 36 47.1**	**-0.3**
ASAR	**Alice Springs**	**41.82**	**262**	P	**P**	**06 36 47.3**	**-0.1**
	comp=Z,5.6nm,0.4s,baz=90,slow=7.8,SNR=126						
ASAR				PcP	**PcP**	**06 38 32.6**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=112,slow=3.6,SNR=1.6						
ASAR				ScP	**ScP**	**06 41 36.9**	**-1.7**
	comp=Z,0.6nm,0.9s,baz=101,slow=4.8,SNR=2.2						
ASAR				S	**S**	**06 42 24.0**	**-6.8**
	comp=Z,0.7nm,0.9s,baz=108,slow=14,SNR=4.8 comp=Z,5.6nm,0.4s						
WR8	**Warramunga Arr**	**42.19**	**268**		**P**	**06 36 49.7**	**-0.6**
WR8				IAmb	IAmb	06 36 51.3	
	comp=Z,8.9nm,0.8s						
WRAB	**Tennant Creek**	**42.34**	**268**	P	**P**	**06 36 51.0**	**-0.4**
WRAB				IAmb	IAmb	06 36 51.6	
	comp=Z,7.4nm,0.8s						
WB0	**Warramunga Arr**	**42.34**	**268**		**P**	**06 36 51.0**	**-0.5**
WB0				IAmb	IAmb	06 36 52.5	
	comp=Z,14nm,0.6s						
WRA	**Warramunga Arr**	**42.34**	**268**		**P**	**06 36 51.2**	**-0.4**
WRA	**Warramunga Arr**	**42.34**	**268**	P	**P**	**06 36 50.9**	**-0.7**
	comp=Z,8.4nm,0.5s,baz=104,slow=7.9,SNR=79						
WRA				PcP	**PcP**	**06 38 34.6**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=95,slow=2.9,SNR=2.1						
WRA				S	**S**	**06 42 33.0**	**-5.3**
	comp=Z,2.2nm,0.9s,baz=102,slow=15,SNR=11 comp=Z,8.4nm,0.5s						
FORT	**Forrest**	**45.80**	**251**	P	**P**	**06 37 17.8**	**-0.6**
FORT				IAmb	IAmb	06 37 31.6	
	comp=Z,29nm,1.4s						
KNRA	**Kununurra**	**48.72**	**271**		**P**	**06 37 40.5**	**0.0**
FITZ	**Fitzroy Crossi**	**50.74**	**267**		**P**	**06 37 55.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**50.74**	**267**	P	**P**	**06 37 56.1**	**+0.6**
VNDA	**Vanda**	**52.83**	**185**	P	**P**	**06 38 11.6**	**+1.9**
VNDA	**Vanda**	**52.83**	**185**	P	**P**	**06 38 11.1**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=354,slow=8.6,SNR=6.6 comp=Z,0.8nm,0.5s						
PSA00	**Pilbara Seismi**	**54.91**	**261**	P	**P**	**06 38 24.7**	**-0.8**
MBWA	**Marble Bar**	**55.14**	**261**	P	**P**	**06 38 26.2**	**-0.8**
MBWA				IAmb	IAmb	06 38 27.6	
	comp=Z,20nm,1.2s						
MORW	**Morawa**	**56.37**	**251**	P	**P**	**06 38 34.9**	**-0.6**
MORW				IAmb	IAmb	06 38 55.7	
	comp=Z,46nm,1.4s						
CASY	**Casey**	**58.72**	**206**		**P**	**06 38 50.7**	**-0.2**
CASY				IAmb	IAmb	06 38 51.4	
	comp=Z,9.4nm,0.9s						
QSPA	**South Pole Qui**	**64.63**	**180**		**P**	**06 39 31.4**	**+1.5**
QSPA				IAmb	IAmb	06 39 32.8	
	comp=Z,17nm,1.5s						
QSPA	**South Pole Qui**	**64.63**	**180**	P	**P**	**06 39 31.3**	**+1.5**
	comp=Z,3.9nm,0.6s,baz=9,slow=0.7,SNR=27 comp=Z,3.9nm,0.6s						
LEM	**Lembang**	**71.22**	**271**	P	**P**	**06 40 11.0**	**-0.1**
	comp=Z,19nm,0.6s,baz=139,slow=20,SNR=2.3 comp=Z,19nm,0.6s						
JOW	**Kunigami**	**72.05**	**312**	P	**P**	**06 40 14.9**	**-0.6**
MJAR	**Matsushiro Arr**	**73.19**	**326**	P	**P**	**06 40 21.5**	**-0.4**
MJAR	**Matsushiro Ar**	**73.19**	**326**	P	**P**	**06 40 21.1**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=165,slow=5.4,SNR=6.2 comp=Z,1.8nm,0.8s						
BELA	**Bertrano 2**	**74.89**	**173**	P	**P**	**06 40 31.3**	**+0.4**
MAW	**Mawson**	**76.30**	**201**	P	**P**	**06 40 39.5**	**+0.6**
	comp=Z,3.9nm,0.5s,baz=137,slow=7.0,SNR=23 comp=Z,3.9nm,0.5s						
KSRS	**Korea Array**	**79.45**	**320**	P	**P**	**06 40 56.0**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=172,slow=6.9,SNR=3.1 comp=Z,1.1nm,0.8s						
PETK	**Petropavlovsk-**	**80.62**	**347**	P	**P**	**06 41 01.5**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=135,slow=7.3,SNR=2.2 comp=Z,2.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**82.08**	**327**	P	**P**	**06 41 10.0**	**0.0**
	comp=Z,1.1nm,0.5s,baz=189,slow=4.7,SNR=2.2 comp=Z,1.1nm,0.5s						
TROLL	**Troll, Antarti**	**82.78**	**181**	⇑P	**P**	**06 41 13.6**	**+0.2**
	comp=Z,446nm,0.4s						
SNAA	**Sanae**	**83.11**	**179**	⇑P	**P**	**06 41 13.4**	**-1.6**
	comp=Z,29nm,0.6s						
SNAA	**Sanae**	**83.11**	**179**	P	**P**	**06 41 14.8**	**-0.2**
SNAA				IAmb	IAmb	06 41 34.2	
	comp=Z,6.8nm,1.5s						
SNAA	**Sanae**	**83.11**	**179**	P	**P**	**06 41 14.2**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=213,slow=7.7,SNR=8.8 comp=Z,1.1nm,0.5s						
VNA3	**Neumayer Olymp**	**83.32**	**177**	⇑P	**P**	**06 41 15.8**	**-0.2**
	comp=Z,14nm,0.7s						
VNA1	**Neumayer--Stat**	**83.98**	**177**	⇑P	P	06 41 13.9	-5.3
	comp=Z,0.0nm,0.1s						
CMAR	**Chiang Mai Arr**	**90.08**	**290**	P	**P**	**06 41 50.5**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=145,slow=3.4,SNR=11 comp=Z,0.9nm,0.3s						
TXAR	**Lajitas Array**	**91.24**	**58**	P	**P**	**06 41 54.2**	**-0.2**
	baz=280,slow=7.7,SNR=1.3						
MKAR	**Makanchi Array**	**113.22**	**312**	PKiKP	**PKiKP**	**06 47 21.5**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=144,slow=1.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**116.38**	**316**	PKP	**PKPdf**	**06 47 27.4**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=102,slow=2.0,SNR=11						
BVAR	**Borovoye Array**	**121.61**	**318**	PKP	**PKPdf**	**06 47 37.6**	**-1.5**
	comp=Z,1.2nm,0.4s,baz=108,slow=3.7,SNR=6.2						
SPITS	**Spitsbergen Ar**	**126.67**	**356**	PKP	**PKPdf**	**06 47 47.1**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=90,slow=8.3,SNR=5.0						
ARCES	**ARCESS Array B**	**133.41**	**348**	PKhKP	PKPpre	06 47 52.5	
	comp=Z,0.4nm,0.6s,baz=86,slow=1.6,SNR=4.4						
ARCES				PKP	**PKPdf**	**06 48 00.3**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=71,slow=1.9,SNR=12						
ARCES				SKPbc	**SKPbc**	**06 50 44.5**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=42,slow=4.1,SNR=11						
FINES	**FINESS Array B**	**139.92**	**341**	PKhKP	PKPpre	06 48 04.9	
	comp=Z,0.7nm,0.5s,baz=37,slow=3.3,SNR=10						
FINES				PKP	**PKPdf**	**06 48 13.7**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=82,slow=1.4,SNR=6.3						
FINES				SKPbc	**SKPbc**	**06 51 03.9**	**-1.0**
	comp=Z,2.7nm,0.7s,baz=62,slow=4.5,SNR=11						
NC303	**NORSAR Array S**	**143.42**	**351**		PKPbc	06 48 17.5	-0.3
NB2	**NORSAR Subarra**	**143.62**	**351**	PKP	PKPab	06 48 17.5	-0.8
	comp=Z,1.6nm,0.6s,baz=16,slow=3.3						
NOA	**NORSAR Array B**	**143.62**	**351**	PKP	PKPab	06 48 17.5	-0.9
	comp=Z,1.8nm,0.8s,baz=12,slow=4.1,SNR=22						
HFS	**Hagfors**	**144.07**	**348**	PKP	PKPbc	06 48 18.7	-1.2
	comp=Z,5.8nm,0.5s,baz=39,slow=2.6,SNR=51						
AKASG	**Malin Array Be**	**146.28**	**326**	PKPbc	**PKPbc**	**06 48 25.4**	**-1.4**
	comp=Z,2.5nm,0.4s,baz=46,slow=4.1,SNR=19						
AKBB	**Malin Array Si**	**146.28**	**326**		**PKPbc**	**06 48 25.8**	**-1.0**
KIEV	**Kiev**	**146.29**	**326**		**PKPbc**	**06 48 25.6**	**-1.2**
MMAI	**Mount Meron Ar**	**148.33**	**292**	PKPbc	**PKiKP**	**06 48 33.3**	**-0.8**
	comp=Z,5.1nm,0.4s,baz=64,slow=3.8,SNR=11						
BRTR	**Keskin Array B**	**148.51**	**305**		**PKPbc**	**06 48 32.8**	**-0.4**
BRTR	**Keskin Array B**	**148.51**	**305**	PKPbc	**PKPbc**	**06 48 32.5**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=140,slow=3.2,SNR=9.0						
EKA	**Eskdalemuir Ar**	**150.07**	**4**	PKPbc	**PKPbc**	**06 48 35.0**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=352,slow=2.9,SNR=14						
BUR08	**Bucovina Ar. S**	**150.25**	**325**		**PKiKP**	**06 48 38.5**	**+0.8**
OJC	**Ojcow**	**150.94**	**333**		**PKiKP**	**06 48 38.4**	**-0.5**
GERES	**GERESS Array B**	**154.32**	**339**	PKPbc	**PKPbc**	**06 48 44.7**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=108,slow=3.2,SNR=2.1						
TORD	**Torodi Ar. Bea**	**167.65**	**188**	PKPab	**PKPab**	**06 50 00.5**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=200,slow=1.7,SNR=2.1						

IDC 21 06:39:36.6±2.1, 0°70S×127°55E, h0km, mb3.3/4, mbtmp3.4/4, Error ellipse: s-maj=197.9km s-min=24.1km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.24**	**161**	P	P	06 44 13.5	-0.2
	0.5nm,0.7s,baz=340,slow=9.8,SNR=2.6 0.5nm,0.7s						
ASAR	**Alice Springs**	**23.64**	**165**	P	P	06 44 50.0	+0.2
	1.4nm,0.9s,baz=345,slow=11,SNR=8.6 1.4nm,0.9s						
MKAR	**Makanchi Array**	**61.66**	**326**	P	P	06 49 57.5	+1.1
	0.2nm,0.4s,baz=128,slow=8.0,SNR=2.9 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**65.90**	**328**	P	P	06 50 23.3	-1.0
	0.3nm,0.6s,baz=130,slow=5.7,SNR=4.2 0.3nm,0.6s						

*GCG **21** 06:51:53.3±1.2, 16°24N×94°59W, h36km±999km, MD3.7, ML2.5*
*MEX **21** 06:51:54.9±1.3, 15°88N×94°48W, h68km±17km, MD3.8*
ISC 21 06:51:53.9±1.3, 15°89N±0°05×94°45W±0°03, h55km±21km, n19, σ1$44/37, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.69**	**347**	*eP*	**Pn**	**06 52 08.0**	**+0.2**
NILT				*eS*	**Sn**	**06 52 18.7**	**+0.8**
PCIG		**1.20**	**99**	*eP*	**Pn**	**06 52 14.7**	**+0.2**
PCIG				*eS*	**Sn**	**06 52 30.8**	**+0.9**
CMIG	**Matias Romero**	**1.26**	**341**	*eP*	**Pn**	**06 52 15.1**	**-0.2**
CMIG				*eS*	**Sn**	**06 52 31.3**	**0.0**
UXUV	**UXUV**	**1.45**	**12**	*eP*	**Pn**	**06 52 18.2**	**+0.4**
UXUV				*eS*	**Sn**	**06 52 36.2**	**+0.5**
TGIG		**1.55**	**55**	*eP*	**Pn**	**06 52 18.8**	**-0.5**
TGIG				*eS*	**Sn**	**06 52 36.8**	**-1.6**
TGIG		**1.55**	**55**	*i* P	**Pn**	**06 52 18.7**	**-0.6**
TGIG				*i* S	**Sn**	**06 52 36.8**	**-1.6**
TGIG				IAML		06 52 37.6	
	comp=E,62nm,0.1s						
HUIG	**Huatulco**	**1.60**	**266**	*eP*	**Pn**	**06 52 18.8**	**-1.0**
HUIG				*eS*	**Sn**	**06 52 38.0**	**-1.5**
HUIG	**Huatulco**	**1.60**	**266**	*i* P	**Pn**	**06 52 18.6**	**-1.2**
HUIG				*i* S	**Sn**	**06 52 37.0**	**-2.4**
HUIG				IAML		06 52 40.3	
	comp=N,69nm,0.2s						
NEUV	**Arroyo Zacate**	**2.22**	**325**	*eP*	**Pn**	**06 52 28.5**	**+0.1**
NEUV				*eS*	**Sn**	**06 52 55.1**	**+0.4**
CCIG	**Comitan**	**2.26**	**80**	*eP*	**Pn**	**06 52 29.3**	**+0.2**
CCIG				*eS*	**Sn**	**06 52 55.9**	**0.0**
CCIG	**Comitan**	**2.26**	**80**	*i* P	**Pn**	**06 52 30.2**	**+1.1**
PATR	**El Naranjo**	**2.27**	**110**	*eP*	**Pn**	**06 52 29.8**	**+0.5**
PATR				*eS*	**Sn**	**06 52 56.7**	**+0.4**
PAVE	**Pavencul**	**2.30**	**107**	*eP*	**Pn**	**06 52 30.9**	**+1.2**
PAVE				*eS*	**Sn**	**06 52 58.9**	**+1.9**
VHO	**Vista Hermosa**	**2.48**	**299**	*eP*	**Pn**	**06 52 33.0**	**+0.9**
VHO				*eS*	**Sn**	**06 53 02.8**	**+1.5**
PEIG	**Puerto Escondi**	**2.59**	**273**	*eP*	**Pn**	**06 52 32.4**	**-1.1**
PEIG				*eS*	**Sn**	**06 53 01.9**	**-1.9**
YOIG	**Yosondua**	**3.12**	**288**	*eP*	**Pn**	**06 52 42.4**	**+1.5**
YOIG				*eS*	**Sn**	**06 53 16.3**	**-0.8**
TOIG	**Toxpalan**	**3.32**	**312**	*eP*	**Pn**	**06 52 44.9**	**+1.4**
TOIG				*eS*	**Sn**	**06 53 23.2**	**+1.3**
TXIG	**Tlaxiaco**	**3.45**	**294**	*eP*	**Pn**	**06 52 47.1**	**+1.6**
TXIG				*eS*	**Sn**	**06 53 27.4**	**+2.0**
SCIG	**Sabancuy**	**4.37**	**45**	*eP*	**Pn**	**06 52 57.4**	**-0.4**
SCIG				*eS*	**Sn**	**06 53 42.7**	**-4.7**

*IDC **21** 06:52:15.0±1.2, 2°54S×138°25E, h0km, mb3.3/4, mbtmp3.3/6, ML3.2/2, Error ellipse: s-maj=28.2km s-min=25.0km az=38.0*
ISC 21 06:52:20.1±1.1, 2°7S±0°2×138°3E±0°1, h32km, n6, σ1$57/7, mb3.2/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.45**	**87**	Pn	**Pn**	**06 52 56.9**	**-1.0**
	3.4nm,0.3s,baz=226,slow=8.0,SNR=11						
JAY				Sn	**Sn**	**06 53 27.9**	**+1.1**
	1.8nm,0.3s,baz=336,slow=23,SNR=1.9 22nm,0.5s						
WRA	**Warramunga Arr**	**17.60**	**192**	P	**Pn**	**06 56 23.4**	**+0.3**
	0.1nm,0.3s,baz=19,slow=12,SNR

	147nm,0.8s								
JAY	**Jayapura**	**2.25**	**84**	P		**Pn**	**07 00 53.3**	**+0.7**
SRPI	**Serui, Papua**	**2.39**	**291**	P		**Pn**	**07 00 53.7**	**-0.6**
BAKI	**Biak**	**2.82**	**303**	P		**Pn**	**07 01 00.9**	**+0.5**
KMPI	**Kaimana, Papua**	**4.84**	**259**	P		**Pn**	**07 01 32.8**	**+4.6**
FAKI	**Fak Fak**	**6.21**	**268**	Pn		**Pn**	**07 01 48.0**	**+0.9**
FAKI	**Fak Fak**	**6.21**	**268**	P		**Pn**	**07 01 49.6**	**+2.5**
COEN	**Coen**	**12.07**	**158**			**Pn**	**07 03 07.7**	**+0.2**
MTN	**Manton Dam**	**12.38**	**215**			**Pn**	**07 03 11.6**	**-0.1**
SOEI	**Soe**	**15.73**	**243**			**Pn**	**07 03 58.1**	**+0.9**
KNRA	**Kununurra**	**16.02**	**216**			**Pn**	**07 04 00.3**	**-0.5**
KNRA					IAmb	IAmb	07 04 16.5		
	comp=Z,12nm,0.9s								
WB0	**Warramunga Arr**	**17.38**	**193**			**Pn**	**07 04 17.4**	**-0.7**
WB0					IAmb	IAmb	07 04 45.0		
	comp=Z,10nm,0.9s								
GUMO	**Guam**	**17.43**	**21**	LR		LR	07 09 43.0		
	comp=Z,64nm,19.1s,baz=178,slow=33								
WR8	**Warramunga Arr**	**17.54**	**192**	P		**Pn**	**07 04 19.6**	**-0.5**
WR8					IAmb	IAmb	07 04 31.6		
	comp=Z,11nm,0.8s								
WRAB	**Tennant Creek**	**17.55**	**193**	P		**P**	**07 04 20.7**	**-0.6**
WRAB					IAmb	IAmb	07 04 39.1		
	comp=Z,12nm,0.9s								
WRA	**Warramunga Arr**	**17.56**	**193**	P		**Pn**	**07 04 20.2**	**-0.2**
WRA	**Warramunga Arr**	**17.56**	**193**	P		**Pn**	**07 04 19.7**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=15,slow=12,SNR=22								
WRA					S	**Sn**	**07 07 38.9**	**+2.7**	
	comp=Z,1.8nm,0.8s,baz=2.2,slow=23,SNR=2.4								
WRA					LR	LR	07 11 04.5		
	comp=Z,161nm,21.6s,baz=4.5,slow=37								
	comp=Z,2.8nm,0.6s								
FITZ	**Fitzroy Crossi**	**19.77**	**219**	P		**Pn**	**07 04 46.6**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=47,slow=12,SNR=6.5								
FITZ					S	**S**	**07 08 20.1**	**-8.6**	
	comp=Z,4.3nm,0.8s,baz=30,slow=20,SNR=3.6								
	comp=Z,2.8nm,0.7s								
AS31	**Alice Springs**	**21.26**	**192**	P		**P**	**07 05 02.0**	**+0.1**
AS31					IAmb	IAmb	07 05 26.5		
	comp=Z,4.4nm,0.8s								
ASAR	**Alice Springs**	**21.26**	**192**	P		**P**	**07 05 02.4**	**+0.5**
ASAR	**Alice Springs**	**21.26**	**192**	P		**P**	**07 05 01.1**	**-0.8**
	comp=Z,3.1nm,0.8s,baz=21,slow=11,SNR=21								
ASAR					S	**S**	**07 08 52.5**	**-5.9**	
	comp=Z,2.1nm,1.0s,baz=17,slow=24,SNR=4.3								
	comp=Z,3.1nm,0.8s								
KSRS	**Korea Array**	**41.18**	**347**	P		**P**	**07 08 00.3**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=156,slow=9.3,SNR=2.7								
	comp=Z,1.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**44.24**	**300**	P		**P**	**07 08 25.6**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=110,slow=6.2,SNR=4.3								
	comp=Z,0.6nm,0.3s								
LYN	**LuoYang**	**44.42**	**329**	P		**P**	**07 08 28.6**	**+2.1**
LYN					pmax	pmax			
	comp=Z,20nm,0.9s								
USRK	**Ussuriysk Ar.**	**47.09**	**354**	LR		LR	07 24 28.4		
	comp=Z,27nm,21.8s,baz=209,slow=31								
RAO	**Raoul Island**	**49.07**	**127**	LR		LR	07 27 50.2		
	comp=Z,22nm,21.1s,baz=294,slow=34								
SONM	**Songino Array**	**57.65**	**335**	P		**P**	**07 10 07.2**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=160,slow=8.9,SNR=2.4								
	comp=Z,0.8nm,0.7s								
MKAR	**Makanchi Array**	**69.67**	**323**	P		**P**	**07 11 25.5**	**+0.3**
MKAR	**Makanchi Array**	**69.67**	**323**	P		**P**	**07 11 25.3**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=120,slow=6.4,SNR=15								
	comp=Z,2.4nm,0.8s								
MAKZ	**Makanchi**	**69.87**	**322**	P		**P**	**07 11 27.1**	**+0.7**
ZALV	**Zalesovo Beam**	**71.84**	**330**	P		**P**	**07 11 37.4**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=127,slow=9.5,SNR=3.7								
	comp=Z,0.6nm,0.5s								
KURBB	**Kurchatov Arra**	**73.62**	**325**	P		**P**	**07 11 47.5**	**-1.4**
	comp=Z,0.8nm,0.2s,baz=114,slow=4.9,SNR=4.3								
	comp=Z,0.8nm,0.2s								
ARSB	**Arslanbob**	**73.69**	**314**	P		**P**	**07 11 50.2**	**+0.5**
ARSB					IAmb	IAmb	07 11 56.3		
	comp=Z,5.5nm,1.0s								
VNDA	**Vanda**	**75.77**	**175**	P		**P**	**07 12 01.8**	**+0.9**
VNDA	**Vanda**	**75.77**	**175**	P		**P**	**07 12 02.0**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=327,slow=4.2,SNR=6.1								
	comp=Z,0.8nm,0.8s								
KKAR	**Karatay Array**	**75.98**	**316**	P		**P**	**07 12 03.1**	**+0.3**
BVAR	**Borovoye Array**	**79.20**	**325**	P		**P**	**07 12 19.7**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=124,slow=5.5,SNR=6.3								
	comp=Z,0.9nm,0.6s								
KDAK	**Kodiak Island**	**81.26**	**30**	LR		LR	07 44 42.3		
	comp=Z,35nm,20.0s,baz=246,slow=33								
ILAR	**Eielson Array**	**85.97**	**24**	P		**P**	**07 12 53.9**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=259,slow=4.4,SNR=10								
ILAR					LR	LR	07 45 32.1		
	comp=Z,18nm,21.2s,baz=256,slow=32								
	comp=Z,0.6nm,0.7s								
QSPA	**South Pole Qui**	**87.20**	**180**	P		**P**	**07 13 02.4**	**+0.6**
QSPA					IAmb	IAmb	07 13 13.0		
	comp=Z,2.1nm,1.1s								
QSPA	**South Pole Qui**	**87.20**	**180**	P		**P**	**07 13 02.5**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=326,slow=9.5,SNR=1.6								
	comp=Z,1.0nm,0.8s								
LPAZ	**La Paz**	**147.62**	**127**	PKPbc		**PKPbc**	**07 20 02.2**	**+0.4**	
	comp=Z,1.8nm,0.8s,baz=248,slow=4.6,SNR=7.6								

NAO ***21*** *07:05:26.2,44˙.65N×18˙.54E,h10km,mb3.8*
IDC ***21*** *07:05:28.6±0.5,44˙.65N×18˙.42E,h0km,mb4.2/16,*
mbtmp4.1/31,ML3.7/13,MS3.3/25,Error ellipse:
s-maj=10.6km s-min=7.5km az=40.0
MOS ***21*** *07:05:28.1±0.8,44˙.66N×18˙.43E,h10km,mb4.5/15,Error*
ellipse: s-maj=5.2km s-min=3.5km az=86.1
PDG ***21*** *07:05:28.0±0.5,44˙.67N×18˙.54E,h12km±1km,MD4.3/8,*
ML4.2/13,Error ellipse: s-maj=0.4km s-min=0.7km az=0.0
RHSSO ***21*** *07:05:29.2±0.4,44˙.66N×18˙.52E,h6km±2km,ML4.4/9*
BGR ***21*** *07:05:29.5±0.8,44˙.63N×18˙.73E,h10km,ML4.4/6,Error*
ellipse: s-maj=13.3km s-min=8.9km az=52.0
NEIC ***21*** *07:05:30.4±1.3,44˙.68N±0˙.05×18˙.44E±0˙.08,h10km±1km,*
mb4.2/24, Error ellipse: s-maj=9.5km s-min=8.6km
az=85.0
BEO ***21*** *07:05:30.0±0.3,44˙.75N×18˙.48E,h12km±2km,ML4.2/19*
PRU ***21*** *07:05:30.4,44˙.73N×18˙.51E,h1km,M4.2*
ISC 21 07:05:30.0±0.9,44˙.63N±0˙.02×18˙.46E±0˙.01,h12km±6km,
n464,σ1$36/582,mb4.3/27,MS3.3/17,64C-40D,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DOB	**Doboj**	**0.28**	**292**	Op *i*	*P*	**Pg**	**07 05 34.8**	**-0.9**
DOB					*eS*	**Sg**	**07 05 39.4**	**0.0**
TEKS	**Tekeris**	**0.77**	**96**	*e*	*P*	**Pg**	**07 05 44.1**	**-0.8**
TEKS					*eS*	**Sg**	**07 05 55.0**	**+0.1**
BLY	**Banja Luka**	**0.92**	**278**	↑ *i*	*P*	**Pg**	**07 05 46.8**	**-0.9**
BLY					*eS*	**Sg**	**07 05 59.4**	**-0.2**
BLY	**Banja Luka**	**0.92**	**278**	↑	P	**Pb**	**07 05 47.9**	**+0.1**
BLY					↑S	**Sg**	**07 05 59.7**	**+0.1**
BLY	**Banja Luka**	**0.92**	**278**	*e*	*Pg*	**Pb**	**07 05 47.9**	**+0.1**
BLY					*eS*	**Sb**	**07 06 00.1**	**+0.1**
BBLS	**Lazi&#263i**	**1.02**	**138**	*e*	*Pg*	**Pg**	**07 05 48.0**	**-1.7**
BBLS					*eS*	**Sg**	**07 06 00.3**	**-2.8**
FRGS	**Fruska Gora**	**1.09**	**61**	*e*	*Pg*	**Pb**	**07 05 49.9**	**-1.0**
FRGS					*eS*	**Sb**	**07 06 04.9**	**-0.3**
A051A	**Mrakovica**	**1.17**	**290**	↑ *i*	*Pg*	**Pb**	**07 05 51.3**	**-0.9**
A051A					*eS*	**Sg**	**07 06 07.7**	**0.0**
RUDO	**Rudo**	**1.21**	**147**	*e*	*Pg*	**Pn**	**07 05 50.1**	**-2.7**
RUDO					*eS*	**Sb**	**07 06 07.9**	**-0.5**
A050A	**Klekovaca**	**1.39**	**264**	*e*	*Pg*	**Pn**	**07 05 55.5**	**+0.2**
A050A					*eS*	**Sg**	**07 06 14.5**	**-0.1**
BEO	**Beograd**	**1.45**	**82**	*e*	*Pg*	**Pn**	**07 05 55.4**	**-0.6**
BEO					*eS*	**Sb**	**07 06 15.6**	**+0.4**
TRUS	**Trudelj**	**1.45**	**106**	*e*	*Pg*	**Pn**	**07 05 55.5**	**-0.6**
TRUS					*eS*	**Sg**	**07 06 16.2**	**-0.6**
PLE	**Pljevlja**	**1.47**	**152**	*e*	*Pg*	**Pn**	**07 05 56.1**	**-0.3**
PLE					*i Sg*	**Sb**	**07 06 16.1**	**+0.2**
UPM	**Unac-Piva**	**1.47**	**167**	*e*	*Pg*	**Pn**	**07 05 56.3**	**-0.2**
UPM					*i Sg*	**Sg**	**07 06 16.8**	**-0.4**
KLINJ	**Klinje**	**1.47**	**176**	*e*	*Pg*	**Pn**	**07 05 56.1**	**-0.3**
KLINJ					*eSg*	**Sg**	**07 06 16.5**	**-0.7**
AVAS	**Avala Beograd**	**1.47**	**87**	*e*	*Pg*	**Pn**	**07 05 55.6**	**-0.7**
AVAS					*eSg*	**Sg**	**07 06 17.6**	**+0.4**
RICI	**Ricice**	**1.49**	**220**	*i*	*Pn*	**Pb**	**07 05 58.0**	**+0.4**
RICI					*Sn*	**Sg**	**07 06 19.8**	**+2.0**
MOSL	**Moslavina**	**1.56**	**310**	*i*	*Pn*	**Pn**	**07 05 57.1**	**-0.5**
MOSL					*Sn*	**Sb**	**07 06 18.9**	**+0.5**
MORH	**Mrgy, Hungar**	**1.59**	**5**	↑ *i*	*Pn*	**Pn**	**07 05 56.8**	**-1.2**
MORH					*eSn*	**Sn**	**07 06 18.0**	**-0.4**
MORH	**Mrgy, Hungar**	**1.59**	**5**	↑	P	**Pn**	**07 05 56.9**	**-1.0**
MORH					↑S	**Sn**	**07 06 18.3**	**-0.1**

KIJV	**Kijevo**	**1.60**	**248**	*i*	*Pn*	**Pb**	**07 05 59.7**	**+0.2**
KIJV					*Sn*	**Sg**	**07 06 21.9**	**+0.3**
IVAS	**Ivanjica**	**1.61**	**130**	*e*	*Pg*	**Pn**	**07 05 57.3**	**-1.1**
IVAS					*eSg*	**Sb**	**07 06 20.6**	**+0.5**
MAKA	**Makarska**	**1.70**	**218**	*i*	*Pn*	**Pb**	**07 06 01.6**	**+0.4**
MAKA					*Sn*	**Sg**	**07 06 24.7**	**+0.1**
SUBS	**Subotica**	**1.70**	**29**	*e*	*Pn*	**Pb**	**07 06 01.0**	**-0.2**
SUBS					*eSg*	**Sg**	**07 06 25.8**	**+1.1**
BRY	**Bratogost**	**1.73**	**178**	*e*	*Pn*	**Pn**	**07 06 00.1**	**0.0**
BRY					*i Sn*	**Sb**	**07 06 23.1**	**-0.5**
GRUS	**Gruza**	**1.78**	**114**	*e*	*Pn*	**Pn**	**07 06 00.3**	**-0.4**
NKME	**Niksic**	**1.90**	**169**	*e*	*Pn*	**Pn**	**07 06 02.3**	**0.0**
NKME					*i Sn*	**Sn**	**07 06 26.9**	**+0.7**
TREB	**Trebinje**	**1.92**	**182**	↑ *i*	*Pn*	**Pn**	**07 06 02.8**	**+0.3**
TREB					*eSn*	**Sn**	**07 06 27.5**	**+1.0**
UDBI	**Udbina**	**1.93**	**268**	*i*	*Pn*	**Pn**	**07 06 03.6**	**+0.9**
UDBI					*Sn*	**Sb**	**07 06 28.8**	**-0.4**
KOME	**Kolasin**	**1.94**	**156**	*e*	*Pn*	**Pn**	**07 06 02.7**	**-0.2**
KOME					*i Sn*	**Sn**	**07 06 27.6**	**+0.4**
DBRK	**Dubrovnik**	**1.98**	**187**	*e*	*Pn*	**Pb**	**07 06 05.7**	**-0.2**
DBRK					*Sn*	**Sb**	**07 06 31.7**	**+1.2**
SVIS	**Svilajnac**	**2.01**	**100**	*e*	*Sn*	**Sn**	**07 06 28.2**	**-0.6**
VINV	**Vinovac**	**2.02**	**240**	*i*	*Pn*	**Pb**	**07 06 06.5**	**-0.2**
VINV					*Sn*	**Sb**	**07 06 31.5**	**-0.2**
PLIT	**Plitvice**	**2.04**	**278**	*i*	*Pn*	**Pn**	**07 06 04.6**	**+0.4**
BANR	**Banloc**	**2.04**	**68**	↑	P	**Pn**	**07 06 04.7**	**+0.5**
BANR					↑S	**Sn**	**07 06 30.0**	**+0.4**
GOCS	**Kraljevo Serbi**	**2.04**	**121**	*e*	*Pn*	**Pn**	**07 06 03.3**	**-1.0**
IVA	**Berane**	**2.04**	**149**	*e*	*Pn*	**Pn**	**07 06 04.0**	**-0.3**
IVA					*i Sn*	**Sn**	**07 06 29.9**	**+0.1**
KALN	**Kalnik**	**2.06**	**317**	*i*	*Pn*	**Pn**	**07 06 04.2**	**-0.3**
KALN					*Sn*	**Sn**	**07 06 31.4**	**+1.3**
VRSS	**Vrsac**	**2.10**	**75**	*e*	*Pg*	**Pb**	**07 06 08.3**	**+0.3**
VRSS					*eSg*	**Sg**	**07 06 35.9**	**-1.4**
CEME	**Cevo**	**2.11**	**171**	*e*	*Pn*	**Pn**	**07 06 05.4**	**+0.2**
CEME					*i Sn*	**Sn**	**07 06 32.2**	**+0.8**
ZAG	**Zagreb**	**2.12**	**305**	*e*	*Pn*	**Pn**	**07 06 05.7**	**+0.5**
MORI	**Morici**	**2.12**	**250**	*i*	*Pn*	**Pn**	**07 06 06.7**	**+1.4**
MORI					*Sn*	**Sb**	**07 06 34.4**	**-0.3**
PTJ	**Puntijarka**	**2.17**	**307**	*e*	*Pn*	**Pn**	**07 06 05.9**	**-0.2**
PTJ					*Sn*	**Sn**	**07 06 33.5**	**+0.6**
LSTV	**Lastovo**	**2.18**	**212**	*e*	*Pn*	**Pb**	**07 06 08.4**	**-1.1**
LSTV					*Sn*	**Sb**	**07 06 36.0**	**-0.4**
BEHE	**Becsehely**	**2.19**	**328**			**Pn**	**07 06 06.4**	**+0.3**
BEHE	**Becsehely**	**2.19**	**328**	↑ *i*	*Pn*	**Pn**	**07 06 06.5**	**+0.3**
BEHE					*eSn*	**Sn**	**07 06 33.3**	**+0.1**
HCY	**Herceg Novi**	**2.19**	**179**	*e*	*Pn*	**Pn**	**07 06 06.5**	**+0.3**
HCY					*i Sn*	**Sn**	**07 06 34.2**	**+1.0**
TIM	**Timisoara**	**2.24**	**60**	↓	P	**Pn**	**07 06 07.3**	**+0.3**
TIM					↑S	**Sn**	**07 06 35.3**	**+0.7**
TIM	**Timisoara**	**2.24**	**60**		P	**Pn**	**07 06 07.2**	**+0.3**
ZIRJ	**Zirje**	**2.25**	**245**	*i*	*Pn*	**Pn**	**07 06 08.7**	**+1.7**
ZIRJ					*Sn*	**Sb**	**07 06 37.6**	**-0.8**
LOBO	**Lobor**	**2.27**	**313**	*i*	*Pn*	**Pn**	**07 06 07.0**	**-0.3**
PDG	**Podgorica**	**2.28**	**165**			**Pn**	**07 06 08.2**	**+0.8**
PDG	**Podgorica**	**2.28**	**165**	↑	P	**Pn**	**07 06 08.0**	**+0.6**
PDG					↑S	**Sn**	**07 06 36.6**	**+1.2**
PDG	**Podgorica**	**2.28**	**165**	*e*	*Pn*	**Pn**	**07 06 07.5**	**+0.1**
PDG					*i Sn*	**Sn**	**07 06 36.0**	**+0.6**
PVY	**Plav**	**2.31**	**151**	*e*	*Pn*	**Pn**	**07 06 07.7**	**-0.3**
PVY					*i Sn*	**Sn**	**07 06 36.5**	**+0.1**
KUBS	**Kucevo**	**2.31**	**94**	*e*	*Pn*	**Pn**	**07 06 06.4**	**-1.5**
MDVR	**Moldovita**	**2.33**	**85**	↑	P	**Pn**	**07 06 07.7**	**-0.5**
MDVR					↑S	**Sn**	**07 06 37.6**	**+0.9**
OZLJ	**Ozalj**	**2.33**	**296**	*i*	*Pn*	**Pn**	**07 06 08.4**	**+0.2**
GCIS	**Gornji Cirnik**	**2.35**	**303**	*i*	*Pn*	**Pn**	**07 06 08.2**	**-0.2**
BUM	**Brajici-Budva**	**2.35**	**172**	*e*	*Pn*	**Pn**	**07 06 08.7**	**+0.2**
BUM					*i Sn*	**Sn**	**07 06 38.1**	**+0.7**
SELS	**Selova**	**2.38**	**125**	*e*	*Pn*	**Pn**	**07 06 08.4**	**-0.6**
SELS					*eSn*	**Sn**	**07 06 37.2**	**-1.0**
CRES	**Cresnjevec Ost**	**2.43**	**300**	*i*	*Pn*	**Pn**	**07 06 09.4**	**-0.2**
BZS	**Buzias**	**2.44**	**65**	↑	P	**Pn**	**07 06 08.4**	**-1.3**
BZS	**Buzias**	**2.44**	**65**		P	**Pn**	**07 06 08.4**	**-1.3**
VIRC	**Vir**	**2.46**	**263**	*i*	*Pn*	**Pn**	**07 06 11.4**	**+1.4**
VIRC					*Sn*	**Sn**	**07 06 41.8**	**+1.8**
DRME	**Dracevica, Mon**	**2.50**	**168**	*e*	*Pn*	**Pn**	**07 06 10.7**	**+0.2**
DRME					*i Sn*	**Sn**	**07 06 41.6**	**+0.6**
DUGI	**Dugi Otok**	**2.52**	**256**	*e*	*Pn*	**Pn**	**07 06 12.4**	**+1.6**
DUGI					*Sn*	**Sn**	**07 06 43.6**	**+2.1**
BOVS	**Bovan**	**2.54**	**112**	↑	P	**Pn**	**07 06 10.4**	**-0.7**
BOVS					↑S	**Sn**	**07 06 43.4**	**+1.5**
BOVS	**Bovan**	**2.54**	**112**	*e*	*Pn*	**Pn**	**07 06 10.3**	**-0.7**
BOVS					*eSn*	**Sn**	**07 06 43.0**	**+1.1**
BORS2	**Bor- Borsko je**	**2.61**	**101**	*e*	*Pn*	**Pn**	**07 06 10.2**	**-1.8**
BORS2					*eSn*	**Sn**	**07 06 43.2**	**-0.5**
RABC	**Rab**	**2.62**	**274**	*i*	*Pn*	**Pn**	**07 06 13.8**	**+1.6**
ULC	**Ulcinj**	**2.73**	**168**	*e*	*Pn*	**Pn**	**07 06 13.8**	**+0.1**
ULC					*i Sn*	**Sn**	**07 06 47.1**	**+0.5**
GBRS	**Gornja Briga**	**2.74**	**290**	*e*		**Pg**	**07 06 21.6**	**-0.8**
SIRR	**Siria**	**2.78**	**53**	↑	P	**Pn**	**07 06 13.2**	**-1.2**
SIRR					↑S	**Sn**	**07 06 49.5**	**+1.5**
SURR	**Surduc**	**2.82**	**65**	↑	P	**Pn**	**07 06 13.5**	**-1.4**
SURR					↑S	**Sn**	**07 06 50.3**	**+1.4**
HERR	**Herculane**	**2.83**	**84**	↑	P	**Pn**	**07 06 14.3**	**-0.8**
HERR					↑S	**Sn**	**07 06 50.8**	**+1.8**
ZAGS	**Zajecar**	**2.83**	**105**	*e*	*Pn*	**Pn**	**07 06 14.7**	**-0.4**
ZAGS					*eSn*	**Sn**	**07 06 47.1**	**-2.1**
DJES	**Djerdap**	**2.90**	**88**	↑	P	**Pn**	**07 06 15.4**	**-0.6**
DJES	**Djerdap**	**2.90**	**88**	*e*	*Pn*	**Pn**	**07 06 15.5**	**-0.5**
DJES					*eSn*	**Sn**	**07 06 50.4**	**-0.4**
RIY	**Rijeka**	**2.91**	**285**	*e*	*Pn*	**Pn**	**07 06 17.6**	**+1.5**
RMGR	**Halanga-Turnu**	**3.02**	**88**	↓	P	**Pn**	**07 06 18.1**	**+0.4**
BARS	**Barje**	**3.04**	**126**	*e*	*Pn*	**Pn**	**07 06 17.3**	**-0.6**
PERS	**Pernice**	**3.08**	**312**	*i*	*Pn*	**Pn**	**07 06 18.6**	**0.0**
LJU	**Ljubljana**	**3.11**	**298**	*i*	*Pn*	**Pn**	**07 06 19.2**	**+0.3**
LJU					*i*		07 06 28.2		
LJU					*eSn*	**Sn**	**07 06 54.6**	**-1.4**
LJU					IAML		07 07 22.5		
	comp=Z,1μm,1.4s								
GBAS	**Gorenja Brezov**	**3.12**	**296**	*i*	*Pn*	**Pn**	**07 06 19.2**	**+0.1**
GBAS					*i Sn*	**Sn**	**07 06 54.8**	**-1.4**
GZR	**Gura Zlata**	**3.15**	**75**	↓	P	**Pn**	**07 06 18.4**	**-1.2**
GZR	**Gura Zlata**	**3.15**	**75**		P	**Pn**	**07 06 18.4**	**-1.2**
SOKA	**Soboth**	**3.15**	**312**	*i*	*Pn*	**Pn**	**07 06 19.4**	**-0.2**
	comp=Z,81nm,0.2s,SNR=56								
SRO	**Srobarova**	**3.18**	**358**	*e*	*P*	**Pn**	**07 06 20.7**	**+0.8**
SRO					*e*		07 07 00.0		
SRO	**Srobarova**	**3.18**	**358**	*e*	*PN*	**Pn**	**07 06 20.7**	**+0.8**
SRO					*eSN*	**Sn**	**07 07 00.0**	**+2.2**
SRO					*eSG*	**Sg**	**07 07 15.4**	**+3.2**
BLKB	**Belogradchik**	**3.20**	**107**	↑	S	**Sn**	**07 06 59.1**	**+0.9**
SKDS	**Skadanscina**	**3.28**	**288**	*i*	*Pn*	**Pn**	**07 06 21.9**	**+0.7**
ARSA	**Arzberg**	**3.32**	**323**			**Pn**	**07 06 21.4**	**-0.5**
ARSA	**Arzberg**	**3.32**	**323**	*i*	*Pn*	**Pn**	**07 06 22.1**	**+0.3**
	comp=Z,618nm,0.4s,SNR=1193								
ARSA					*eSn*	**Sn**	**07 06 59.4**	**-1.9**	
	comp=Z,192nm,0.4s								
ARSA	**Arzberg**	**3.32**	**323**	*e*	*Pn*	**Pn**	**07 06 22.2**	**+0.3**
ARSA					*eSn*	**Sn**	**07 06 59.5**	**-1.9**
ARSA	**Arzberg**	**3.32**	**323**	*e*	*Pn*	**Pn**	**07 06 22.2**	**+0.3**
ARSA					*eSn*	**Sn**	**07 06 59.5**	**-1.9**
OBKA	**Obir**	**3.33**	**306**	*i*	*Pn*	**Pn**	**07 06 21.7**	**-0.2**
	comp=Z,16nm,0.1s,SNR=48								
OBKA	**Obir**	**3.33**	**306**	*e*	*Pn*	**Pn**	**07 06 22.0**	**+0.1**
OBKA	**Obir**	**3.33**	**306**	*e*	*Pn*	**Pn**	**07 06 22.0**	**+0.1**
BORR	**Bors**	**3.38**	**42**	↑	P	**Pn**	**07 06 22.5**	**-0.1**
BORR					↓S	**Sn**	**07 07 03.1**	**+0.5**
SRE	**Strehaia**	**3.39**	**88**	↑	P	**Pn**	**07 06 23.2**	**+0.4**
SRE	**Strehaia**	**3.39**	**88**		P	**Pn**	**07 06 23.1**	**+0.4**
RONA	**Rosalia, Austr**	**3.42**	**335**	*i*	*Pn*	**Pn**	**07 06 23.1**	**0.0**
	comp=Z,297nm,0.3s,SNR=356								
RONA					*eSn*	**Sn**	**07 07 02.8**	**-0.8**	
	comp=Z,178nm,0.4s								
PSZ	**Piszkesteto**	**3.43**	**16**			**Pn**	**07 06 22.3**	**-1.2**
PSZ	**Piszkesteto**	**3.43**	**16**	↑	P	**Pn**	**07 06 22.2**	**-1.2**
PSZ					↑S	**Sn**	**07 07 03.9**	**-0.2**
PSZ	**Piszkesteto**	**3.43**	**16**		P	**Pn**	**07 06 22.3**	**-1.2**
PSZ	**Piszkesteto**	**3.43**	**16**	*e*	*P*	**Pn**	**07 06 24.9**	**+1.5**
TIR	**Tirane**	**3.44**	**162**			**Pn**	**07 06 24.9**	**+1.4**
TIR	**Tirane**	**3.44**	**162**	↓	P	**Pn**	**07 06 24.2**	**+0.7**
TIR	**Tirane**	**3.44**	**162**		P	**Pn**	**07 06 24.1**	**+0.7**
SGRT	**San Giovanni R**	**3.50**	**216**			**Pn**	**07 06 25.7**	**+1.4**
TRAN	**Tran**	**3.53**	**119**	*e*	*P*	**Pn**	**07 06 25.1**	**+0.4**
BOSS	**Bosilegrad**	**3.62**	**125**	*e*	*Pn*	**Pn**	**07 06 25.1**	**-0.8**
BOSS					*eSn*	**Sn**	**07 07 07.6**	**-1.0**
DRGR		**3.68**	**53**	↑	P	**Pn**	**07 06 25.7**	**-1.1**
DRGR					↑S	**Sn**	**07 07 10.3**	**+0.2**
DRGR		**3.68**	**53**		P	**Pn**	**07 06 25.7**	**-1.1**
SABO	**M.te Sabotino**	**3.68**	**293**			**Pn**	**07 06 27.2**	**+0.4**
VALD	**Valchedram**	**3.70**	**103**	*e*	*P*	**Pn**	**07 06 27.0**	**0.0**

CONA	**Conrad Observa**	**3.76**	**332**	*i*	*Pn*	**Pn**	**07 06 27.7**	**-0.1**
	comp=Z,49nm,0.6s,SNR=218							
CONA					*eSn*	**Sn**	**07 07 11.6**	**-0.5**
	comp=Z,109nm,0.5s							
MODS	**Modra-Piesok**	**3.83**	**348**	*e*	*P*	**Pn**	**07 06 26.5**	**-2.3**
MODS					*e*		07 07 09.2	
MODS	**Modra-Piesok**	**3.83**	**348**	*e*	*PN*	**Pn**	**07 06 26.5**	**-2.3**
MODS					*e*		07 06 34.2	
MODS	**Modra-Piesok**	**3.83**	**348**	*e*	*SN*	**Sn**	**07 07 09.2**	**-4.6**
LOT	**Lotru**	**3.85**	**76**	↓	P	**Pn**	**07 06 29.4**	**+0.2**
MARR	**Marisel-Cluj**	**3.85**	**56**	↑	P	**Pn**	**07 06 28.5**	**-0.7**
VYHS	**Vyhne**	**3.87**	**4**	*e*	*P*	**Pn**	**07 06 28.9**	**-0.5**
VYHS					*e*		07 07 13.4	
VYHS	**Vyhne**	**3.87**	**4**	*e*	*PN*	**Pn**	**07 06 28.9**	**-0.5**
VYHS					*ePG*	**Pg**	**07 06 43.4**	**-0.7**
VYHS					*eSN*	**Sn**	**07 07 13.4**	**-1.4**
VYHS					*eSG*	**Sg**	**07 07 34.3**	**0.0**
OHR	**Ohrid**	**3.92**	**153**	*i*	*Pn*	**Pn**

RZN Rozhen 5.45 120 P **Pn** **07 06 51.2 0.0**
WATA Walderalm 5.50 302 *i* Pn **Pn** **07 06 53.4 +1.5**
comp=Z,22nm,0.3s,SNR=48
WATA *e*Sn **Sn** **07 07 56.0 +0.8**
comp=Z,36nm,0.4s
KRLC Kraliky 5.56 349 *e*PN **Pn** **07 06 53.1 +0.5**
KRLC Kraliky 5.56 349 *e*P **Pn** **07 06 53.1 +0.5**
BURAR Bucovina Array 5.56 55 **Pn** **07 06 54.7 +2.0**
BURAR Bucovina Array 5.56 55 ⇑P **Pn** **07 06 52.6 -0.1**
BURAR Bucovina Array 5.56 55 P **Pn** **07 06 52.6 -0.1**
BUR08 Bucovina Ar. S 5.57 55 **Pn** **07 06 53.8 +1.0**
TIP Timpagrande 5.59 194 **Pn** **07 06 53.2 +0.1**
TIP Timpagrande 5.59 194 ⇓P **Pn** **07 06 52.9 -0.2**
COVR Voineasa-Covas 5.60 75 ⇑P **Pn** **07 06 53.2 0.0**
KHC Kasperske Hory 5.61 325 *e*PN **Pn** **07 06 54.0 +0.8**
KHC *ex* x 07 07 04.0
KHC *ex* x 07 08 08.5
KHC Kasperske Hory 5.61 325 *e*P **Pn** **07 06 54.0 +0.8**
NEHR Nehoiu 5.61 79 ⇓P **Pn** **07 06 53.8 +0.5**
ZVC Zvikov 5.62 330 *e*PN **Pn** **07 06 53.7 +0.3**
ELND Elena 5.63 105 ⇑P **Pn** **07 06 53.6 0.0**
OJC Ojcow 5.66 9 **Pn** **07 06 54.1 +0.2**
OJC Ojcow 5.66 9 P **Pn** **07 06 54.2 +0.2**
SQTA Sankt Quirin 5.68 300 *i* Pn **Pn** **07 06 56.1 +1.8**
comp=Z,36nm,0.3s,SNR=56
ISR Istrita 5.77 82 ⇓P **Pn** **07 06 56.0 +0.5**
ISR Istrita 5.77 82 P **Pn** **07 06 55.9 +0.5**
MOTA Mooosalm 5.80 300 *i* Pn **Pn** **07 06 57.3 +1.3**
comp=Z,29nm,0.3s,SNR=56
MOTA *e*Sn **Sn** **07 08 04.9 +2.5**
comp=Z,125nm,0.7s
PRMA PARMA 5.81 274 **Pn** **07 06 55.7 -0.3**
GOPC GO Pecny, Ondr 5.84 336 *e*PN **Pn** **07 06 55.5 -1.0**
DPC Dobruska-Polom 5.90 347 *e*PN **Pn** **07 06 57.2 -0.1**
DPC *e*Sn **Sn** **07 08 02.4 -2.4**
DPC AMS AMS 07 09 40.0
comp=Z,600nm,8.5s
DPC Dobruska-Polom 5.90 347 *e*P **Pn** **07 06 57.2 -0.1**
DPC *e* 07 08 02.4
DPC MLR MLR
comp=Z,600nm,8.5s
FETA Feichten 5.91 297 *i* Pn **Pn** **07 06 59.5 +2.1**
comp=Z,32nm,0.4s,SNR=45
FETA *e*Sn **Sn** **07 08 07.2 +2.0**
comp=Z,27nm,0.8s
BISRR Bisoca 5.91 78 ⇑P **Pn** **07 06 57.6 +0.1**
WET Wettzell 5.92 322 *e*Pn **Pn** **07 06 57.9 +0.5**
WET Wettzell 5.92 322 *e*Pn **Pn** **07 06 57.9 +0.5**
VRI Vrincioaia 5.97 75 ⇑P **Pn** **07 06 58.4 +0.3**
VRI Vrincioaia 5.97 75 P **Pn** **07 06 58.4 +0.3**
PRU Pruhonice 5.98 335 *e*PN **Pn** **07 06 58.0 -0.3**
PRU AMS AMS 07 09 30.0
comp=Z,900nm,6.3s
PRU Pruhonice 5.98 335 *e*P **Pn** **07 06 58.0 -0.3**
PRU MLR MLR
comp=Z,900nm,6.3s
TESR Tescani 6.05 69 ⇓P **Pn** **07 06 59.4 +0.1**
RETA Reutte 6.07 301 *i* Pn **Pn** **07 07 00.1 +0.5**
comp=Z,7.3nm,0.2s,SNR=13
RETA *e*Sn **Sn** **07 08 11.3 +2.3**
comp=Z,29nm,0.4s
PRA Prague 6.09 335 *e*PN **Pn** **07 06 59.5 -0.3**
PRA AMS AMS 07 09 30.0
comp=Z,800nm,6.9s
FUR Furstenfeldbru 6.09 308 *e*Pn **Pn** **07 07 00.4 +0.5**
FUR *e*Sn **Sn** **07 08 07.0 -2.6**
FUR Furstenfeldbru 6.09 308 *e*Pn **Pn** **07 07 00.4 +0.5**
FUR *e*Sn **Sn** **07 08 07.0 -2.6**
UPC Upice 6.11 345 *e*PN **Pn** **07 06 59.7 -0.3**
OSTC Ostas 6.12 346 *e*PN **Pn** **07 07 00.4 +0.2**
OSTC Ostas 6.12 346 *e*P **Pn** **07 07 00.4 +0.2**
CHVC Chvalec 6.18 346 *e*PN **Pn** **07 07 00.7 -0.3**
CHVC Chvalec 6.18 346 *e*P **Pn** **07 07 00.7 -0.3**
RDO Rodhopi 6.26 121 **Pn** **07 07 01.9 -0.2**
OBER Oberstdorf 6.33 299 *e*Pn **Pn** **07 07 04.5 +1.3**
OBER Oberstdorf 6.33 299 *e*Pn **Pn** **07 07 04.5 +1.3**
DAVOX Davos/Dischmat 6.38 293 Pn **Pn** **07 07 05.5 +1.6**
comp=Z,12nm,0.3s,baz=83,slow=15,SNR=90
DAVOX Lg Lg 07 08 51.1
comp=Z,0.9nm,0.3s,baz=180,slow=20,SNR=4.1
comp=Z,43nm,0.3s
DAVA Damuels 6.54 297 *i* Pn **Pn** **07 07 07.5 +1.3**
comp=Z,9.2nm,0.2s,SNR=43
DAVA Damuels 6.54 297 *e*Pn **Pn** **07 07 07.6 +1.5**
DAVA Damuels 6.54 297 *e*Pn **Pn** **07 07 07.6 +1.5**
CEL Celeste 6.65 198 **Pn** **07 07 08.2 +0.5**
ROTZ Rotzenmuhle 6.67 323 *e*Pn **Pn** **07 07 07.9 +0.1**
ROTZ Rotzenmuhle 6.67 323 *e*Pn **Pn** **07 07 07.9 +0.1**
ALN Alexandroupoli 6.71 121 **Pn** **07 07 09.1 +0.7**
ALN Alexandroupoli 6.71 121 P **Pn** **07 07 09.1 +0.7**
NORI Noerdlinger Ri 6.76 310 *e*Pn **Pn** **07 07 09.0 -0.1**
NORI Noerdlinger Ri 6.76 310 *e*Pn **Pn** **07 07 09.0 -0.1**
PLONS Plons/SG 6.79 294 *e*Pn **Pn** **07 07 11.2 +1.7**
PLONS Plons/SG 6.79 294 *e*Pn **Pn** **07 07 11.2 +1.7**
MANZ Manzenberg 6.88 323 *e*Pn **Pn** **07 07 10.8 +0.1**
MANZ Manzenberg 6.88 323 *e*Pn **Pn** **07 07 10.8 +0.1**
CFR Carcaliu 6.89 82 ⇑P **Pn** **07 07 11.1 +0.2**
CFR Carcaliu 6.89 82 P **Pn** **07 07 11.0 +0.2**
BRG Berggiesshubel 6.95 336 Pn **Pn** **07 07 10.7 -0.8**
BRG r 07 07 26.3
BRG r 07 07 31.7
BRG Berggiesshubel 6.95 336 Sn **Sn** **07 08 29.7 -0.8**
BRG Berggiesshubel 6.95 336 S **Sb** **07 08 45.1 -8.2**
BRG Berggiesshubel 6.95 336 Sg **Sg** **07 09 17.8 +5.0**
BRG Amp 07 09 25.6
comp=Z,58nm,1.0s
GRF Grafenberg Arr 7.07 318 *e*Pn **Pn** **07 07 13.1 -0.1**
GRF Grafenberg Arr 7.07 318 *e*Pn **Pn** **07 07 13.1 -0.1**
GRFO Grafenberg 7.07 318 **Pn** **07 07 12.9 -0.3**
GRFO Grafenberg 7.07 318 P **Pn** **07 07 12.9 -0.3**
TPGR Topolog 7.10 85 ⇑P **Pn** **07 07 13.5 -0.2**
TIRR Tirgusor 7.12 88 **Pn** **07 07 15.0 +1.1**
TIRR Tirgusor 7.12 88 ⇑P **Pn** **07 07 13.8 0.0**
TIRR Tirgusor 7.12 88 P **Pn** **07 07 15.0 +1.1**
WILA Wila 7.21 296 *e*Pn **Pn** **07 07 16.3 +1.0**
WILA Wila 7.21 296 *e*Pn **Pn** **07 07 16.3 +1.0**
MOX Moxa 7.58 325 *e*Pn **Pn** **07 07 20.4 +0.1**
MOX Moxa 7.58 325 *e*Pn **Pn** **07 07 20.4 +0.1**
SLE Schleitheim 7.59 298 *e*Pn **Pn** **07 07 20.5 0.0**
SLE Schleitheim 7.59 298 *e*Pn **Pn** **07 07 20.5 0.0**
MILM Milestii Mici 7.59 69 ⇓*i*P **Pn** **07 07 22.0 +1.6**
MILM *e*S **Sn** **07 08 50.0 +3.7**
MILM *e*L L 07 10 00.0
MILM LgM 07 10 24.0
comp=Z,800nm,12.2s
MILM LRM MLR 07 10 37.0
comp=Z,400nm,8.5s
MILM Milestii Mici 7.59 69 *d i*P **Pn** **07 07 22.0 +1.6**
MILM *e*S **Sn** **07 08 50.0 +3.7**
MILM MLR MLR
comp=Z,400nm,8.5s
STU Stuttgart 7.59 306 *e*P **Pn** **07 07 20.1 -0.4**
CLL Collm 7.62 333 *e*P **Pn** **07 07 20.0 -0.7**
CLL Collm 7.62 333 *e*Pn **Pn** **07 07 20.0 -0.7**
CLL *ex* x 07 07 36.0
CLL *e*Pg **Pg** **07 07 54.0 -1.7**
CLL *e*Sn Sn 07 08 34.0 -13
CLL *ex* x 07 08 57.0
CLL *e*Sb **Sb** **07 09 11.0 -1.6**
CLL *e*Sg **Sg** **07 09 30.0 -4.2**
CLL AMS AMS 07 10 00.0
SULZ Cheisacher 7.75 296 *e*Pn **Pn** **07 07 23.1 +0.4**
SULZ Cheisacher 7.75 296 *e*Pn **Pn** **07 07 23.1 +0.4**
VAE Valguarnera 7.77 205 Pn **Pn** **07 07 25.0 +2.0**
comp=Z,3.3nm,0.5s,baz=38,slow=19,SNR=3.0
ITM Ithomi 7.89 159 **Pn** **07 07 24.0 -0.6**
BFO Black Forest 7.91 301 **Pn** **07 07 24.7 -0.1**
BFO Black Forest 7.91 301 P **Pn** **07 07 24.7 -0.1**
BFO Black Forest 7.91 301 *e*Pn **Pn** **07 07 24.4 -0.4**
BFO *e*Sn **Sn** **07 08 51.2 -3.0**
BFO Black Forest 7.91 301 *e*Pn **Pn** **07 07 24.4 -0.4**
BFO *e*Sn **Sn** **07 08 51.2 -3.0**
BALST Balsthal 7.97 294 *e*Pn **Pn** **07 07 26.2 +0.5**
BALST Balsthal 7.97 294 *e*Pn **Pn** **07 07 26.2 +0.5**
RAFF Raffo Rosso 8.02 204 Pn **Pn** **07 07 27.5 +1.1**
SENIN Lac Senin/Sane 8.03 286 **Pn** **07 07 25.8 -0.9**
BNI Bardonecchia 8.38 277 **Pn** **07 07 30.0 -1.4**
BNI Bardonecchia 8.38 277 P **Pn** **07 07 30.0 -1.4**
ECH Echery 8.59 299 **Pn** **07 07 33.5 -0.6**
ECH Echery 8.59 299 P **Pn** **07 07 33.5 -0.6**
TNS Taunus Mts 8.79 313 *e*Pn **Pn** **07 07 37.2 +0.3**
TNS *e*Sn **Sn** **07 09 10.7 -5.2**
TNS Taunus Mts 8.79 313 *e*Pn **Pn** **07 07 37.2 +0.3**
TNS *e*Sn **Sn** **07 09 10.7 -5.2**
AKASG Malin Array Be 9.46 46 Pn **Pn** **07 07 44.9 -1.1**
comp=Z,0.4nm,0.3s,baz=244,slow=12,SNR=4.4
AKASG Lg Lg 07 10 30.9
comp=Z,0.3nm,0.3s,baz=224,slow=29,SNR=4.4
AKASG LR LR 07 12 02.1
comp=Z,152nm,20.0s,baz=224,slow=42
AKBB Malin Array Si 9.46 46 ⇓*e*P **Pn** **07 07 47.2 +1.2**
WLF Walferdange 9.78 305 **Pn** **07 07 50.0 -0.3**
WLF Walferdange 9.78 305 P **Pn** **07 07 50.0 -0.3**
WLF Walferdange 9.78 305 *d*P **Pn** **07 07 51.7 +1.4**
WLF *d*S **Sn** **07 09 39.1 -0.9**
SUW Suwalki 9.88 16 **Pn** **07 07 54.2 +2.5**
SUW Suwalki 9.88 16 P **Pn** **07 07 54.2 +2.5**
SUW Suwalki 9.88 16 *e*P **Pn** **07 07 52.3 +0.6**
BHOU Houvegnez 10.18 309 *d*P **Pn** **07 07 57.0 +1.1**
BTNL Terneli 10.23 310 *d*P **Pn** **07 07 58.0 +1.4**
BTNL *d*S **Sn** **07 09 51.0 -0.2**
MEM Membach 10.31 310 *d*P **Pn** **07 07 58.8 +1.2**
MEM *d*S **Sn** **07 09 48.3 -4.7**
RCHB Rochefort 10.53 306 *d*P **Pn** **07 08 01.8 +1.2**
RCHB *d*S **Sn** **07 09 56.3 -2.1**
BSTI Sart Tilman 10.54 309 *d*P **Pn** **07 08 02.3 +1.5**
IDI Anoyia 10.55 150 Pn **Pn** **07 08 00.8 -0.3**
comp=Z,2.3nm,0.3s,baz=308,slow=6.7,SNR=6.0
IDI Sn **Sn** **07 09 51.1 -8.2**
comp=Z,0.2nm,0.3s,baz=303,slow=17,SNR=1.9
BCLA Clavier 10.61 308 *d*P **Pn** **07 08 03.2 +1.5**
BCLA *d*S **Sn** **07 09 57.7 -2.7**
BGES Gesves 10.71 307 *d*P **Pn** **07 08 04.6 +1.4**
BGES *d*S **Sn** **07 10 01.9 -1.1**
BSD Bornholm Skovb 10.74 349 *i* P **Pn** **07 08 03.9 +0.5**
BMRD Maredsous 10.86 306 *d*P **Pn** **07 08 06.7 +1.5**
DOU Dourbes 10.87 305 *d*P **Pn** **07 08 06.8 +1.5**
DOU *d*S **Sn** **07 10 02.4 -4.4**
KEST Kesra 11.29 221 Pn **Pn** **07 08 14.6 +3.4**
comp=Z,0.2nm,0.3s,baz=63,slow=4.3,SNR=2.1
KEST LR LR 07 12 29.0
comp=Z,182nm,20.0s,baz=282,slow=37
PABE Paberze 11.44 16 *e*P **Pn** **07 08 13.3 +0.2**
LUNU Lund 11.47 346 *i* P **Pn** **07 08 16.2 +2.7**
MNK Minsk 11.61 28 *i* P **Pn** **07 08 13.3 -2.0**
comp=E,21nm,0.9s
MNK *i* P **Pn** **07 08 13.3 -2.0**
comp=N,9.0nm,0.9s
MNK *i* P **Pn** **07 08 13.3 -2.0**
comp=Z,15nm,0.7s,baz=216
MNK *i* PP **PnPn** **07 08 21.1 -1.9**
MNK *i* PPP PPP 07 08 28.7
MNK *i* S **Sn** **07 10 22.4 -2.4**
MNK *i* SS **SnSn** **07 10 35.7 -0.9**
MNK *i* SSS SSS 07 10 48.7
MNK *i* LQ LQ 07 11 42.0
MNK *i* LR LR 07 12 25.9
MNK *i* LRM MLR 07 13 30.6
comp=Z,169nm,12.2s
MNK *i* LRM MLR 07 13 34.2
comp=E,123nm,12.3s
MNK *i* LRM MLR 07 13 36.6
comp=N,42nm,11.9s
MNK Minsk 11.61 28 *i* P **Pn** **07 08 13.3 -2.0**
MNK *i* S **Sn** **07 10 22.4 -2.4**
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK pmax pmax
comp=E,21nm,0.9s
MNK pmax pmax
comp=Z,15nm,0.7s
MNK MLR MLR
comp=Z,169nm,12.0s
MNK MLR MLR
comp=E,123nm,12.0s
MNK MLR MLR
comp=N,42nm,12.0s
CLF Chambon-Foret 11.70 293 **Pn** **07 08 16.7 0.0**
BLEU Blekinge 11.80 353 *i* P **Pn** **07 08 18.8 +0.7**
VSVD Vaisvydziai 11.88 15 *e*P **Pn** **07 08 19.1 0.0**
BJUU Bjuv 11.96 345 *i* P **Pn** **07 08 23.2 +3.0**
DEL Delary 12.20 348 *i* P **Pn** **07 08 24.8 +1.3**
BRTR Keskin Array B 12.28 108 Pn **Pn** **07 08 27.2 +2.5**
comp=N,0.1nm,0.3s,baz=308,slow=12,SNR=5.2
comp=N,0.8nm,0.6s
VSU Vasula 14.76 17 *de*P **Pn** **07 08 58.2 -0.1**
VSU Vasula 14.76 17 *e*P **Pn** **07 08 58.7 +0.4**
VSR Storozhevoye 15.34 57 *e*P **Pn** **07 09 05.1 -1.0**
VSR pmax pmax
comp=Z,6.0nm,0.9s
ARBE Arbavere 15.52 14 *e*P **P** **07 09 12.7 -0.1**
OBN Obninsk 15.64 41 Pn **Pn** **07 09 11.1 +1.0**
comp=Z,3.0nm,0.3s,baz=238,slow=9.5,SNR=3.3
OBN Obninsk 15.64 41 ⇓*e*P **Pn** **07 09 11.9 +1.8**
OBN pmax pmax
comp=Z,29nm,1.6s
OBN MLR MLR
comp=Z,132nm,17.0s
LPSR Galich'ya Gora 15.67 52 *e*P **Pn** **07 09 04.0 -6.5**
LPSR pmax pmax
comp=Z,7.0nm,0.9s
HFS Hagfors 15.79 351 Pn **Pn** **07 09 11.5 -0.5**
comp=Z,0.6nm,0.3s,baz=159,slow=13,SNR=21
HFS LR LR 07 15 36.5
comp=Z,91nm,19.0s,baz=175,slow=39
MOS Moscow 16.49 41 P **P** **07 09 24.4 +0.7**
RAF Rauma 16.54 6 *e*P **Pn** **07 09 21.4 -0.1**
NC602 NORSAR Array S 16.65 348 **Pn** **07 09 21.0 -2.0**
NAO01 NORSAR Array S 16.85 347 Pn **Pn** **07 09 25.0 -0.5**
NAO01 IAmb IAmb 07 09 30.5
comp=Z,25nm,1.5s
NB201 NORSAR Array S 16.99 348 P **Pn** **07 09 26.2 -1.0**
NC405 NORSAR Array S 16.99 349 **Pn** **07 09 26.4 -0.9**
NC405 IAmb IAmb 07 09 29.5
comp=Z,12nm,0.9s
NB2 NORSAR Subarra 16.99 348 P **Pn** **07 09 25.3 -2.0**
comp=Z,5.5nm,1.1s,baz=162,slow=11
NOA NORSAR Array B 16.99 348 Pn **Pn** **07 09 25.9 -1.4**
baz=166,slow=11,SNR=16
NOA LR LR 07 16 20.1
comp=Z,82nm,18.1s,baz=165,slow=38
comp=Z,0.6nm,0.5s
NBO00 NORSAR Array S 17.05 347 P **Pn** **07 09 26.1 -1.9**
NBO00 IAmb IAmb 07 10 01.8
comp=Z,27nm,1.5s
NC303 NORSAR Array S 17.14 348 P **Pn** **07 09 28.9 -0.3**
NC303 IAmb IAmb 07 09 31.3
comp=Z,24nm,1.5s
NC204 NORSAR Array S 17.28 347 P **Pn** **07 09 29.5 -1.5**
NC204 IAmb IAmb 07 09 34.0
comp=Z,15nm,1.4s
ESBB Sonseca Array 17.33 261 P **Pn** **07 09 31.0 -0.7**
ESDC Sonseca Array 17.33 261 P **P** **07 09 34.1 +1.0**
ESDC Sonseca Array 17.33 261 P **P** **07 09 33.4 +0.3**
comp=Z,0.1nm,0.3s,baz=66,slow=12,SNR=33
ESDC LR LR 07 14 58.7
comp=Z,27nm,20.7s,baz=72,slow=33
comp=Z,4.9nm,0.9s
KIV Kislovodsk 17.35 84 P **Pn** **07 09 31.9 -0.1**
KIV Kislovodsk 17.35 84 *e*P **P** **07 09 34.1 +0.8**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,24nm,14.0s
FINES FINESS Array B 17.43 12 P **Pn** **07 09 32.3 -0.4**
FINES FINESS Array B 17.43 12 P **Pn** **07 09 30.9 -1.8**
comp=Z,0.4nm,0.3s,baz=163,slow=14,SNR=9.9
FINES LR LR 07 16 13.8
comp=Z,86nm,21.3s,baz=200,slow=37
comp=Z,1.7nm,0.4s
FINES FINESS Array B 17.43 12 P **Pn** **07 09 32.3 -0.4**
FIA1 FINESS Array S 17.43 12 P **Pn** **07 09 32.2 -0.5**
FIA1 IAmb IAmb 07 09 47.6
comp=Z,21nm,0.8s
EKA Eskdalemuir Ar 17.47 315 P **P** **07 09 34.7 +0.2**
baz=114,slow=12
comp=Z,3.1nm,0.7s
EKA Eskdalemuir Ar 17.47 315 P **Pn** **07 09 33.5 +0.2**
EKA pmax pmax
comp=Z,14nm,1.3s
EKB Eskdalemuir 17.49 315 P **Pn** **07 09 33.3 -0.2**
EKB IAmb IAmb 07 09 54.3
comp=Z,15nm,1.0s
MMAI Mount Meron Ar 17.54 126 P **P** **07 09 36.6 +1.2**
comp=Z,0.8nm,0.3s,baz=330,slow=10.0,SNR=2.0
comp=Z,3.2nm,0.8s
KBZ Khabaz 17.54 84 P **Pn** **07 09 34.6 +0.4**
comp=Z,0.1nm,0.3s,baz=287,slow=7.2,SNR=3.0
comp=Z,1.1nm,0.5s
KBZ Khabaz 17.54 84 ⇓*e*P **P** **07 09 36.8 +1.5**
KBZ pmax pmax
comp=Z,5.0nm,1.4s
KEF Keuruu 17.96 10 *e*P **Pn** **07 09 38.9 -0.4**
MVO Moncorvo 18.97 268 *e*P **Pn** **07 09 52.9 +1.1**
MVO *i* IAmb IAmb 07 09 57.5
comp=Z,13nm,1.3s
POLO Lamas de Olo 19.45 270 *e*P **Pn** **07 09 58.5 +0.9**
PGAV Gavieira, Arco 19.61 272 *e*P **P** **07 09 57.5 -0.7**
PGAV *i* IAmb IAmb 07 10 15.6
comp=Z,28nm,1.9s
JOF Joensuu 19.76 18 *e*P **Pn** **07 10 00.3 -0.7**
EIL Elat 19.84 133 P **Pn** **07 10 01.7 -0.6**
comp=Z,0.6nm,0.3s,baz=333,slow=16,SNR=7.5
comp=Z,5.7nm,0.6s
PMRV Marv??o 19.86 264 *e*P **Pn** **07 10 01.8 -0.6**
PMRV *i* IAmb IAmb 07 10 08.7
comp=Z,15nm,2.0s
GNI Garni 19.89 94 P **Pn** **07 10 02.9 0.0**
comp=Z,12nm,0.7s,baz=336,slow=20,SNR=4.5
GNI Garni 19.89 94 ⇓*e*P **Pn** **07 10 03.3 +0.3**
GNI pmax pmax
comp=Z,13nm,0.8s
PBAR Barrancos 20.14 260 *e*P **P** **07 10 04.8 +0.8**
PESTR Estremoz 20.23 263 P **P** **07 10 05.0 +0.1**
PESTR IAmb IAmb 07 10 10.6
comp=Z,15nm,0.9s
PESTR Estremoz 20.23 263 *e*P Pn 07 10 06.1 -0.7
PSARD Sardoal 20.34 265 *e*P Pn 07 10 07.2 -0.9
KLMR Klimovskoe 20.50 30 *e*P **P** **07 10 06.1 -1.5**
KLMR pmax pmax
comp=Z,23nm,1.4s
EVO Evora 20.67 262 *e*P **P** **07 10 10.2 +0.6**
BELG Belogornoye 20.71 58 P **P** **07 10 10.7 +0.7**
comp=Z,13nm,0.5s,baz=211,slow=18,SNR=4.1
BELG LR LR 07 19 13.1
comp=Z,47nm,21.4s,baz=120,slow=40
comp=Z,13nm,0.5s
BELG Belogornoye 20.71 58 ⇓*e*P Pn 07 10 11.7 -0.7
BELG pmax pmax
comp=Z,6.0nm,1.3s
PVAQ Vaqueiros 20.97 259 P **P** **07 10 11.6 -1.3**
PVAQ Vaqueiros 20.97 259 *e*P **P** **07 10 13.1 +0.2**
PVAQ *i* IAmb IAmb 07 10 15.5
comp=Z,44nm,1.8s
PCVE Castro Verde 21.09 260 *e*P **P** **07 10 15.4 +1.2**
PBDV Barranco-do-Ve 21.20 259 *e*P **P** **07 10 16.1 +0.7**
PARRA Arraiolos 21.28 264 *e*P **P** **07 10 10.6 -5.6**
AKT Akhty 21.57 88 *e*P **P** **07 10 20.1 +0.7**
AKT pmax pmax
comp=Z,8.0nm,1.0s
KIRV Kirov 23.49 43 LR LR 07 20 32.4
comp=Z,81nm,18.1s,baz=238,slow=38
KIRV Kirov 23.49 43 ⇑*e*P **P** **07 10 39.7 +0.4**
LVZ Lovozero 24.83 15 P **P** **07 10 51.6 -0.3**
LVZ Lovozero 24.83 15 ⇑*e*P **P** **07 10 52.7 +0.9**
LVZ pmax pmax
comp=Z,46nm,2.4s
ARCES ARCESS Array B 25.23 6 P **P** **07 10 55.5 +0.2**
ARCES ARCESS Array B 25.23 6 P **P** **07 10 54.9 -0.4**
comp=Z,2.0nm,0.6s,baz=190,slow=6.2,SNR=19
ARCES LR LR 07 21 18.5
comp=Z,84nm,21.9s,baz=188,slow=38
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 25.23 6 P **P** **07 10 55.5 +0.2**
ARCES pmax pmax
comp=Z,14nm,1.4s
KEV Kevo 25.56 7 P **P** **07 10 58.5 +0.1**
KEV IAmb IAmb 07 11 01.3
comp=Z,11nm,1.1s
KEV Kevo 25.56 7 P **P** **07 10 58.5 +0.1**
KEV pmax pmax
comp=Z,11nm,1.1s
AKTO Aktyubinsk 27.09 63 LR LR 07 22 42.8
comp=Z,44nm,18.4s,baz=218,slow=38
ARTI Arti 27.57 50 LR LR 07 22 54.2
comp=Z,80nm,18.2s,baz=312,slow=38
ARTI Arti 27.57 50 *c i*P **P** **07 11 16.1 -0.6**
ARTI 07 11 58.9
ARTI S **S** **07 15 56.9 -0.7**
ARTI pmax pmax
comp=Z,7.0nm,1.2s
BORG Borgarnes 29.79 326 LR LR 07 23 09.9
comp=Z,31nm,20.5s,baz=165,slow=36
SPITS Spitsbergen Ar 33.67 359 P **P** **07 12 11.7 +1.4**
comp=Z,2.8nm,0.8s,baz=156,slow=9.0,SNR=1.7
comp=Z,2.8nm,0.8s
BRVK Borovoye 34.45 57 P **P** **07 12 17.5 +0.2**
BRVK IAmb IAmb 07 12 27.1
comp=Z,4.9nm,1.1s
BRVK Borovoye 34.45 57 ⇑*e*P **P** **07 12 18.5 +1.2**
BRVK pmax pmax
comp=Z,10.0nm,1.8s
TORD Torodi Ar. Bea 34.49 210 P **P** **07 12 18.1 +0.2**
comp=Z,1.7nm,0.5s,baz=17,slow=9.8,SNR=2.9
comp=Z,1.7nm,0.5s
BVAR Borovoye Array 34.52 57 LR LR 07 26 44.7
comp=Z,55nm,18.4s,baz=271,slow=37
KK31 Karatay Array 37.03 74 P **P** **07 12 39.7 +0.1**
KK31 Karatay Array 37.03 74 P **P** **07 12 39.7 +0.1**
KK31 pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 37.03 74 P **P** **07 12 39.8 +0.2**
KKAR Karatay Array 37.03 74 P **P** **07 12 39.8 +0.2**
ARSB Arslanbob 39.41 75 P **P** **07 12 59.8 +0.1**
ARSB IAmb IAmb 07 13 02.5
comp=Z,3.1nm,0.5s
ARSB Arslanbob 39.41 75 P **P** **07 12 59.8 +0.1**
ARSB pmax pmax
comp=Z,3.0nm,0.5s
KURK Kurchatov 39.98 59 P **P** **07 13 04.4 +0.2**
KURK Kurchatov 39.98 59 P **P** **07 13 04.4 +0.2**
KURK pmax pmax
comp=Z,2.0nm,1.1s
KSH Kashi 42.24 76 P **P** **07 13 22.9 -0.2**
KSH pmax pmax
comp=Z,4.0nm,1.2s
ZALV Zalesovo Beam 42.78 53 P **P** **07 13 27.9 +0.8**
comp=Z,0.6nm,0.5s,baz=288,slow=15,SNR=1.8
ZALV LR LR 07 32 13.7
comp=Z,72nm,19.7s,baz=264,slow=38
comp=Z,0.6nm,0.5s
DBIC Dimbokro 42.94 215 P **P** **07 13 28.2 -0.6**
DBIC Dimbokro 42.94 215 P **P** **07 13 28.5 -0.3**
comp=Z,5.0nm,0.7s,baz=67,slow=8.2,SNR=8.3
comp=Z,5.0nm,0.7s
DBIC Dimbokro 42.94 215 P **P** **07 13 28.2 -0.6**
DBIC pmax pmax
comp=Z,9.0nm,1.1s
MKAR Makanchi Array 43.52 64 P **P** **07 13 33.6 +0.3**
MKAR Makanchi Array 43.52 64 P **P** **07 13 32.7 -0.6**
comp=Z,0.4nm,0.6s,baz=302,slow=7.0,SNR=3.6
MKAR PcP **PcP** **07 15 20.9 -0.2**
comp=Z,1.2nm,0.7s,baz=292,slow=3.6,SNR=7.8
MKAR LR LR 07 32 56.6
comp=Z,42nm,19.0s,baz=304,slow=38
comp=Z,0.4nm,0.6s
MKAR Makanchi Array 43.52 64 *i* P **P** **07 13 34.5 +1.2**
DRLN Deer Lake 50.03 304 P **P** **07 14 24.0 -0.1**
TIXI Tiksi 54.18 21 LR LR 07 39 43.2
comp=Z,53nm,21.6s,baz=336,slow=38
SONM Songino Array 57.67 53 P **P** **07 15 20.6 +0.3**
comp=Z,0.7nm,0.7s,baz=282,slow=7.4,SNR=4.0
comp=Z,0.7nm,0.7s
YAK Yakutsk 60.29 30 LR LR 07 43 54.2
comp=Z,49nm,19.3s,baz=291,slow=38
HHC Hu-ho-hao-te 64.73 57 *e*P **P** **07 16 07.0 -1.2**
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,61nm,5.0s
SEY Seymchan 66.67 21 ⇓*e*P **P** **07 16 19.4 -0.7**
SEY pmax pmax
comp=Z,9.0nm,1.7s
YKA Yellowknife Ar 66.81 338 P **P** **07 16 21.2 +0.2**
comp=Z,2.7nm,0.8s,baz=30,slow=6.2,SNR=18
comp=Z,2.7nm,0.8s
PZH PanZhiHua 67.32 75 P **P** **07 16 26.4 +1.4**
MA2 Magadan 69.02 24 LR LR 07 50 57.6
comp=Z,24nm,18.1s,baz=24,slow=40
COLA College 70.31 354 ⇓*e*P **P** **07 16 44.3 +1.5**
COLA pmax pmax
comp=Z,5.0nm,1.6s
ILAR Eielson Array 70.33 353 P **P** **07 16 44.0 +1.0**

comp=Z,0.8nm,0.8s,baz=3.6,slow=5.9,SNR=14
comp=Z,0.8nm,0.8s
CMAR Chiang Mai Arr 70.59 83 P **P** **07 16 45.3 0.0**
comp=Z,2.6nm,0.3s,baz=305,slow=6.9,SNR=9.1
comp=Z,2.6nm,0.3s
CMAR Chiang Mai Arr 70.59 83 *ce*P **P** **07 16 45.5 +0.2**
CMAR pmax pmax
comp=Z,3.0nm,0.3s
BOSA Boshof 73.16 174 P **P** **07 16 59.9 -0.5**
comp=Z,1.8nm,0.6s,baz=4.1,slow=6.8,SNR=4.1
BOSA LR LR 07 54 29.3
comp=Z,44nm,18.1s,baz=12,slow=40
comp=Z,1.8nm,0.6s
USRK Ussuriysk Ar. 73.66 43 LR LR 07 52 53.5
comp=Z,38nm,19.4s,baz=195,slow=39
YSS Yuzhno-Sakhali 76.44 36‖ *e*P **P** **07 17 20.7 +1.4**
YSS pmax pmax
comp=Z,12nm,1.0s
NEW Newport 79.62 332 LR LR 07 53 07.8
comp=Z,19nm,19.4s,baz=261,slow=36
PDAR Pinedale Array 81.38 324 P **P** **07 17 47.5 +0.6**
comp=Z,2.4nm,0.7s,baz=49,slow=4.7,SNR=30
PDAR LR LR 07 56 11.8
comp=Z,16nm,19.1s,baz=1.0,slow=37
comp=Z,2.4nm,0.7s
MJAR Matsushiro Arr 82.55 45 P **P** **07 17 52.2 -0.6**
comp=Z,1.1nm,0.8s,baz=340,slow=4.2,SNR=4.4
comp=Z,1.1nm,0.8s
ANMO Albuquerque 86.36 318 LR LR 07 56 20.1
comp=Z,52nm,18.2s,baz=32,slow=35
NVAR Mina Array Bea 88.58 327 P **P** **07 18 23.3 +0.3**
comp=Z,0.6nm,0.8s,baz=31,slow=3.3,SNR=4.8
comp=Z,0.6nm,0.8s
TXAR Lajitas Array 89.44 312 P **P** **07 18 27.8 +0.7**
comp=Z,2.2nm,0.8s,baz=67,slow=3.9,SNR=28
comp=Z,2.2nm,0.8s
WRA Warramunga Arr 122.05 87 PKP **PKPdf** **07 24 23.3 -1.4**
comp=Z,1.0nm,0.9s,baz=318,slow=3.0,SNR=4.5
ASAR Alice Springs 124.11 91 PKP **PKPdf** **07 24 27.6 -0.9**
comp=Z,1.2nm,0.7s,baz=329,slow=1.2,SNR=9.6

*GCG **21** 07:08:06.2±0.8, 14.°16N×90.°72W, h96km±2km, MD3.9, ML3.5, MW3.3*
*CATAC **21** 07:08:07.2±0.5, 14°N±5°×9°1W±°, h74km±6km, M3.2/12, MLv3.2/12, Error ellipse: s-maj=12.5km s-min=3.5km az=20.8, confirmed*
*SNET **21** 07:08:08.3±2.7, 14.°01N×90.°69W, h76km, ML3.1*
ISC 21 07:08:06.7±1.6, 13°91N±0.°08×90.°80W±0.°04, h91km±10km, n53, σ0°93/63, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG8	**Yepocapa, Chim**	**0.42**	**33**	‖*i*P	**Pn**	**07 08 20.9**	**-0.2**
FG8				*i* S	**Sn**	**07 08 32.6**	**+0.8**
ESSJ	**San Jos, E**	**0.45**	**140**	*e*P	**Pn**	**07 08 19.5**	**-1.6**
ESSJ				*e*S	**Sn**	**07 08 31.4**	**-0.5**
FG16	**Alotenango, Sa**	**0.46**	**37**	*i* P	**Pn**	**07 08 21.2**	**-0.2**
FG16				*i* S	**Sn**	**07 08 32.9**	**+0.5**
FG16				IAML		07 08 36.3	
	comp=N,9μm,0.2s						
ESSG	**Sabana Grande**	**0.48**	**356**	*i* P	**Pn**	**07 08 20.1**	**-1.4**
ESSG				*i* S	**Sn**	**07 08 31.3**	**-1.2**
ESSG				IAML		07 08 31.5	
	comp=N,2μm,0.4s						
STG0	**El Palmar, Qui**	**0.74**	**314**	*e*P	**Pn**	**07 08 26.8**	**+2.9**
STG0				*e*S	Sn	07 08 42.6	+5.9
STG0				IAML		07 08 46.0	
	comp=E,3μm,0.2s						
FAME	**Alcaldia de Sa**	**0.76**	**95**	P	**Pn**	**07 08 23.3**	**-0.6**
STG2	**El Palmar, Qui**	**0.77**	**313**‖	*e*P	**Pn**	**07 08 27.8**	**+3.6**
STG2				*e*S	Sn	07 08 43.8	+6.6
NUBE	**Las Nubes**	**0.99**	**90**	*e*P	**Pn**	**07 08 26.0**	**-0.4**
NUBE				*e*S	**Sn**	**07 08 41.5**	**+0.2**
NUBE	**Las Nubes**	**0.99**	**90**	*i* P	**Pn**	**07 08 26.1**	**-0.4**
NUBE				*e*S	**Sn**	**07 08 41.7**	**+0.4**
NUBE	**Las Nubes**	**0.99**	**90**	P	**Pn**	**07 08 26.5**	**+0.1**
LOAL	**Lomas de Alarc**	**0.99**	**85**	*e*P	**Pn**	**07 08 26.3**	**-0.1**
LOAL	**Lomas de Alarc**	**0.99**	**85**	P	**Pn**	**07 08 26.6**	**+0.2**
LOAL	**Lomas de Alarc**	**0.99**	**85**	S	**Sn**	**07 08 42.8**	**+1.7**
SLOZ	**Alcaldia de Sa**	**0.99**	**83**	*e*P	**Pn**	**07 08 26.0**	**-0.4**
SLOZ	**Alcaldia de Sa**	**0.99**	**83**	P	**Pn**	**07 08 26.2**	**-0.1**
SLOZ	**Alcaldia de Sa**	**0.99**	**83**	S	**Sn**	**07 08 42.2**	**+1.0**
RTAL	**Retalhuleu**	**1.07**	**305**	*e*P	**Pn**	**07 08 26.2**	**-1.0**
RTAL				*e*S	**Sn**	**07 08 41.8**	**-0.9**
RTAL	**Retalhuleu**	**1.07**	**305**	P	**Pn**	**07 08 26.4**	**-0.8**
RTAL	**Retalhuleu**	**1.07**	**305**	S	**Sn**	**07 08 42.5**	**-0.2**
RTR	**El Retiro**	**1.12**	**90**	*e*P	**Pn**	**07 08 28.2**	**+0.2**
SBLS	**San Blas**	**1.14**	**93**	*e*P	**Pn**	**07 08 28.2**	**-0.1**
SBLS				*e*S	**Sn**	**07 08 47.1**	**+2.6**
UNIC	**Universidad Ca**	**1.21**	**86**	*e*P	**Pn**	**07 08 28.7**	**-0.3**
UNIC	**Universidad Ca**	**1.21**	**86**	P	**Pn**	**07 08 29.0**	**-0.1**
UNIC	**Universidad Ca**	**1.21**	**86**	S	**Sn**	**07 08 45.4**	**+0.5**
JAYA	**Jayaque - finc**	**1.33**	**101**	*e*P	**Pn**	**07 08 30.3**	**-0.3**
JAYA	**Jayaque - finc**	**1.33**	**101**	*i* P	**Pn**	**07 08 30.2**	**-0.3**
JAYA				*i* S	**Sn**	**07 08 49.0**	**+0.4**
JAYA	**Jayaque - finc**	**1.33**	**101**	P	**Pn**	**07 08 30.4**	**-0.2**
JAYA	**Jayaque - finc**	**1.33**	**101**	S	**Sn**	**07 08 47.8**	**-0.8**
PMON	**Piamonte**	**1.45**	**97**	*e*P	**Pn**	**07 08 31.9**	**-0.1**
PMON	**Piamonte**	**1.45**	**97**	P	**Pn**	**07 08 32.0**	**-0.1**
PMON	**Piamonte**	**1.45**	**97**	S	**Sn**	**07 08 51.6**	**+0.5**
MTO3	**Montecristo**	**1.48**	**70**	*i* P	**Pn**	**07 08 31.6**	**-0.8**
MTO3	**Montecristo**	**1.48**	**70**	*i* P	**Pn**	**07 08 31.6**	**-0.8**
MTO3	**Montecristo**	**1.48**	**70**	P	**Pn**	**07 08 31.8**	**-0.6**
MTO3	**Montecristo**	**1.48**	**70**	S	**Sn**	**07 08 52.0**	**+0.2**
BOQS	**Boqueron**	**1.48**	**96**	*e*P	**Pn**	**07 08 32.3**	**-0.2**
LALI	**Alcalda de L**	**1.49**	**106**	*i* P	**Pn**	**07 08 32.6**	**+0.2**
LALI				*i* S	**Sn**	**07 08 53.2**	**+1.3**
LALI				IAML		07 08 54.6	
	comp=N,65nm,0.3s						
ESQI	**Esquipulas**	**1.55**	**65**	*i* P	**Pn**	**07 08 32.6**	**-0.6**
ESQI	**Esquipulas**	**1.55**	**65**	P	**Pn**	**07 08 32.9**	**-0.4**
ESQI	**Esquipulas**	**1.55**	**65**	S	**Sn**	**07 08 52.4**	**-1.0**
SMCA	**Catarina**	**1.56**	**307**	*i* P	**Pn**	**07 08 32.4**	**-0.9**
SMCA				IAML		07 08 56.4	
	comp=E,151nm,0.2s						
THIG		**1.74**	**305**	*i* P	**Pn**	**07 08 35.4**	**-0.1**
THIG				IAML		07 09 00.2	
	comp=N,382nm,0.5s						
PAVA	**Las Pavas**	**1.82**	**96**	*e*P	**Pn**	**07 08 36.7**	**+0.1**
PAVA	**Las Pavas**	**1.82**	**96**	P	**Pn**	**07 08 37.1**	**+0.4**
PAVA	**Las Pavas**	**1.82**	**96**	S	**Sn**	**07 08 59.0**	**-0.4**
COEG	**Centro de Oper**	**1.88**	**98**	*e*P	**Pn**	**07 08 37.6**	**+0.1**
COEG	**Centro de Oper**	**1.88**	**98**	P	**Pn**	**07 08 37.5**	**+0.1**
COEG	**Centro de Oper**	**1.88**	**98**	S	**Sn**	**07 09 00.8**	**-0.1**
TECO	**Alcaldia de Te**	**1.99**	**100**	*e*P	**Pn**	**07 08 38.7**	**-0.1**
TECO	**Alcaldia de Te**	**1.99**	**100**	P	**Pn**	**07 08 39.2**	**+0.3**
TECO	**Alcaldia de Te**	**1.99**	**100**	S	**Sn**	**07 09 04.1**	**+0.7**
SCLA	**Alcaldia de Sa**	**2.02**	**96**	P	**Pn**	**07 08 39.3**	**+0.1**
SCLA	**Alcaldia de Sa**	**2.02**	**96**	S	**Sn**	**07 09 03.7**	**-0.3**

*IDC **21** 07:11:27.4±0.7, 6.°66N×72.°89W, h162km±10km, mb3.0/4, mbtmp3.7/7, MS2.9/1, Error ellipse: s-maj=29.8km s-min=7.6km az=135.0*
*CATAC **21** 07:11:27.8±0.5, 7°N±2°×7°3W±°, h156km±5km, M4.1/11, mb3.9/2, mB4.3/2, MLv4.2/11, Mw(mB)3.4/2, Error ellipse: s-maj=8.4km s-min=4.3km az=91.9, confirmed*
*RSNC **21** 07:11:29.1±0.0, 7°N±1°×7°3W±°, h150km±2km, M3.7, mb4.4, mB5.5, ML3.5, Mw(mB)5.0*
ISC 21 07:11:27.7±0.7, 6.°86N±0.°03×73.°09W±0.°04, h155km±5km, n67, σ1°46/112, mb3.3/4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**199**	P	**Pn**	**07 11 49.2**	**+0.1**
BARC				S	**Sn**	**07 12 04.5**	**-1.0**
PAMC	**Pamplona, Colo**	**0.62**	**39**	P	**Pn**	**07 11 52.0**	**+1.1**
PAMC				S	**Sn**	**07 12 09.2**	**+0.6**
BRJC	**Barrancabermej**	**0.66**	**280**	P	**Pn**	**07 11 50.9**	**+0.4**
BRJC				S	**Sn**	**07 12 07.8**	**-0.1**
RUSC	**La Rusia**	**0.96**	**179**	P	**Pn**	**07 11 53.2**	**-0.1**
RUSC				S	**Sn**	**07 12 11.8**	**-0.9**
RUSC	**La Rusia**	**0.96**	**179**	P	**Pn**	**07 11 53.1**	**-0.1**
RUSC				S	**Sn**	**07 12 11.3**	**-1.4**
TAMC	**Tame, Arauca**	**1.36**	**108**	P	**Pn**	**07 11 57.4**	**+1.1**
TAMC				S	**Sn**	**07 12 18.8**	**+0.6**
PTBC	**PUERTO BERRIO,**	**1.39**	**257**	P	**Pn**	**07 11 55.8**	**-0.8**
PTBC				S	**Sn**	**07 12 16.9**	**-1.8**
OCAC	**Ocana**	**1.39**	**351**	P	**Pn**	**07 11 57.3**	**+0.5**
OCAC				S	**Sn**	**07 12 19.7**	**+0.6**
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	P	**Pn**	**07 12 02.0**	**+0.4**
ZARC				S	**Sn**	**07 12 27.3**	**-0.3**
NORC	**Norcasia**	**2.18**	**234**	P	**Pn**	**07 12 05.2**	**-0.2**
NORC				S	**Sn**	**07 12 32.8**	**-1.6**
CHIC	**Chingaza**	**2.30**	**196**	P	**Pn**	**07 12 07.4**	**+0.3**
CHIC				S	**Sn**	**07 12 36.5**	**-1.0**
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**07 12 09.1**	**+1.5**
	285nm,0.4s,baz=339,slow=3.8,SNR=488						
ROSC				S	**Sn**	**07 12 37.8**	**-0.6**
	603nm,0.3s,baz=98,slow=16,SNR=12						
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**07 12 08.9**	**+1.3**
ROSC				S	**Sn**	**07 12 38.9**	**+0.5**
HELC	**Santa Helena**	**2.51**	**255**	P	**Pn**	**07 12 11.1**	**+1.6**
HELC				S	**Sn**	**07 12 41.8**	**0.0**
HELC	**Santa Helena**	**2.51**	**255**	P	**Pn**	**07 12 09.9**	**+0.4**
HELC				S	**Sn**	**07 12 42.2**	**+0.4**
CVER	**Cruz Verde, Cu**	**2.52**	**203**	P	**Pn**	**07 12 10.5**	**+0.7**
CVER				S	**Sn**	**07 12 42.2**	**0.0**
UREC	**San Jos de Ur**	**2.58**	**290**	P	**Pn**	**07 12 09.1**	**-0.9**
UREC				S	**Sn**	**07 12 40.3**	**-2.5**
GUY2C	**Guyana, Caldas**	**2.78**	**234**	P	**Pn**	**07 12 13.4**	**+0.4**
GUY2C				S	**Sn**	**07 12 49.1**	**+1.1**
VILC	**Villavicencio,**	**2.79**	**192**	P	**Pn**	**07 12 12.3**	**-0.5**
VILC				S	**Sn**	**07 12 47.1**	**-0.6**
RECRC	**Villamaria, Ca**	**2.93**	**230**	P	**Pn**	**07 12 18.0**	**+3.0**
RECRC				S	**Sn**	**07 12 54.8**	**+3.3**
CBOC	**Ciudad Bolivar**	**3.06**	**251**	P	**Pn**	**07 12 16.6**	**+0.3**
CBOC				S	**Sn**	**07 12 52.2**	**-1.6**
DBBC	**Dabeiba**	**3.10**	**273**	P	**Pn**	**07 12 16.7**	**+0.1**
DBBC				S	**Sn**	**07 12 53.2**	**-1.3**
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**07 12 18.6**	**+1.1**
	154nm,0.3s,baz=200,slow=2.0,SNR=50						
SDV				S	**Sn**	**07 12 56.2**	**0.0**
	77nm,0.4s,baz=252,slow=20,SNR=7.8						
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**07 12 18.6**	**+1.1**
SDV				S	**Sn**	**07 12 56.3**	**+0.1**
ARGC	**Ariguani, Magd**	**3.19**	**339**	P	**Pn**	**07 12 19.4**	**+1.7**
ARGC				S	**Sn**	**07 12 57.7**	**+1.1**
ANIL	**Santa Ana**	**3.29**	**224**	P	**Pn**	**07 12 19.5**	**+0.3**
ANIL				S	**Sn**	**07 12 59.5**	**+0.4**
PRAC	**Prado**	**3.60**	**210**	P	**Pn**	**07 12 22.5**	**-0.4**
PRAC				S	**Sn**	**07 13 07.7**	**+1.8**
PRAC	**Prado**	**3.60**	**210**	P	**Pn**	**07 12 22.2**	**-0.7**
PRAC				S	**Sn**	**07 13 05.4**	**-0.5**
APAC	**Apartado, Choc**	**3.61**	**287**	P	**Pn**	**07 12 23.3**	**+0.2**
APAC				S	**Sn**	**07 13 04.2**	**-1.9**
ORTC	**Ortega, Tolima**	**3.63**	**216**	P	**Pn**	**07 12 23.5**	**+0.1**
ORTC				S	**Sn**	**07 13 06.4**	**-0.2**
SJCC	**San Jacinto, C**	**3.66**	**326**	P	**Pn**	**07 12 23.4**	**-0.4**
SJCC				S	**Sn**	**07 13 05.2**	**-2.1**
SJCC	**San Jacinto, C**	**3.66**	**326**	P	**Pn**	**07 12 23.0**	**-0.8**
SJCC				S	**Sn**	**07 13 04.6**	**-2.7**
PLMC	**San Jos del P**	**3.72**	**239**	P	**Pn**	**07 12 24.7**	**+0.2**
PLMC				S	**Sn**	**07 13 07.3**	**-1.4**
LCBC	**Los crdobas,**	**3.81**	**302**	P	**Pn**	**07 12 25.9**	**+0.3**
URMC	**La Uribe, Meta**	**3.81**	**200**	P	**Pn**	**07 12 25.7**	**0.0**
URMC				S	**Sn**	**07 13 09.9**	**-0.9**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P	**Pn**	**07 12 29.6**	**-0.5**
CRJC				S	**Sn**	**07 13 16.4**	**-2.3**
GUVC	**San Jose del G**	**4.31**	**174**	P	**Pn**	**07 12 30.7**	**-1.5**
GUVC				S	**Sn**	**07 13 21.5**	**-0.9**
YOTC	**Yotoco, Valle**	**4.32**	**229**	P	**Pn**	**07 12 31.7**	**-0.7**
YOTC				S	**Sn**	**07 13 20.8**	**-1.9**
SMRC	**Santa Marta, M**	**4.42**	**345**	P	**Pn**	**07 12 34.7**	**+1.1**
SMRC				S	**Sn**	**07 13 22.3**	**-2.8**
PTAC	**Punta Ardita,**	**4.69**	**274**	P	**Pn**	**07 12 36.3**	**-0.8**
PTAC				S	**Sn**	**07 13 29.1**	**-2.2**
MACC	**Macarena, Meta**	**4.74**	**189**	P	**Pn**	**07 12 36.1**	**-1.7**
MACC				S	**Sn**	**07 13 27.8**	**-4.8**
BETC	**Betania**	**4.76**	**210**	P	**Pn**	**07 12 37.2**	**-1.0**
BETC				S	**Sn**	**07 13 30.6**	**-2.5**
URI	**Uribia**	**4.94**	**13**	P	**Pn**	**07 12 39.7**	**-0.7**
URIC	**Uribia, Colomb**	**4.94**	**13**	P	**Pn**	**07 12 39.8**	**-0.6**
URIC				S	**Sn**	**07 13 35.1**	**-2.1**
JAMC	**Jamundi, Valle**	**5.08**	**225**	P	**Pn**	**07 12 42.3**	**-0.2**
	2μm30nm,0.5s						
JAMC				S	**Sn**	**07 13 41.7**	**+0.8**
	2μm30nm,0.5s						
MALC	**Bahia Malaga**	**5.08**	**236**	P	**Pn**	**07 12 44.1**	**+1.8**
GARC	**Garzon, Huila**	**5.22**	**207**	P	**Pn**	**07 12 43.3**	**-1.1**
GARC				S	**Sn**	**07 13 39.8**	**-4.4**
FLOC	**Florencia**	**5.83**	**206**	P	**Pn**	**07 12 51.7**	**-0.6**
FLOC				S	**Sn**	**07 13 58.8**	**+0.4**
PCRV	**Puerto La Cruz**	**8.99**	**68**	P	**Pn**	**07 13 32.8**	**-1.6**
	6.4nm,0.6s,baz=319,slow=5.3,SNR=13						
PCRV				S	**Sn**	**07 15 12.1**	**-2.2**
	4.5nm,0.7s,baz=218,slow=18,SNR=3.0						
MTDJ	**Mount Denham**	**12.10**	**339**	*i* P	**P**	**07 14 18.4**	**-3.1**
MTDJ				IAmb	IAmb	07 14 19.5	
	comp=Z,52nm,1.6s						
JTS	**Las Juntas de**	**12.21**	**287**	LR	LR	07 19 40.1	
	2.0Z,54nm,20.8s,baz=115,slow=40						
GTBY	**Guantanamo Bay**	**13.14**	**352**	*i* P	**P**	**07 14 32.0**	**-0.9**
GTBY				IAmb	IAmb	07 14 57.5	
	comp=Z,60nm,1.2s						
MASC	**Masc**	**13.29**	**355**	*i* P	**P**	**07 14 32.8**	**-1.7**
MASC				IAmb	IAmb	07 14 44.1	
	comp=Z,33nm,1.3s						
RCC	**Rio Carpintero**	**13.30**	**349**	*i* P	**P**	**07 14 32.9**	**-1.8**
MARVS	**Santiago de Cu**	**13.35**	**348**	*i* P	**P**	**07 14 34.9**	**-0.3**
MARVS				IAmb	IAmb	07 14 37.1	
	comp=Z,11nm,1.8s						
QMBU	**Quimbuelo**	**13.37**	**353**	*i* P	**Pn**	**07 14 32.9**	**+1.4**
QMBU				IAmb	IAmb	07 14 34.1	
	comp=Z,28nm,1.8s						
CHIV	**Chivirico**	**13.44**	**346**	*i* P	**P**	**07 14 36.0**	**-0.2**
LMGC	**Las Mercedes**	**13.67**	**344**	*i* P	**P**	**07 14 38.8**	**0.0**
LMGC				IAmb	IAmb	07 14 41.3	
	comp=Z,9.4nm,1.3s						
PINC	**Pinares de May**	**13.80**	**349**	*i* P	**P**	**07 14 40.5**	**+0.3**
PINC				IAmb	IAmb	07 14 42.6	
	comp=Z,18nm,0.9s						
YAR	**Yar**	**13.80**	**347**	*i* P	**P**	**07 14 40.1**	**-0.2**
YAR				IAmb	IAmb	07 15 00.2	
	comp=Z,18nm,1.2s						
HLGC	**Holguin**	**14.24**	**349**	*i* P	**P**	**07 14 49.6**	**+4.4**
HLGC				IAmb	IAmb	07 14 50.7	
	comp=Z,15nm,0.8s						
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**07 18 19.1**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=120,slow=8.8,SNR=7.0						
	comp=Z,0.3nm,0.4s						
PDAR	**Pinedale Array**	**48.07**	**324**	P	**P**	**07 19 52.8**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=123,slow=11,SNR=4.3						
	comp=Z,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**07 21 39.5**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=138,slow=5.6,SNR=6.4						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**76.94**	**335**	P	**P**	**07 23 03.8**	**+1.1**
	comp=Z,0.1nm,0.6s,baz=89,slow=5.3,SNR=2.2						
	comp=Z,0.1nm,0.6s						
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPbc**	**07 30 57.4**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=111,slow=3.7,SNR=5.0						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**07 30 60.0**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=108,slow=2.3,SNR=1.5						

IDC 21 07:15:08.7±1.0, 0.°23N×126.°07E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=56.1km s-min=19.8km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.62**	**158**	P	P	07 20 00.2	-0.4
	0.9nm,0.4s,baz=336,slow=11,SNR=16						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**24.94**	**163**	P	P	07 20 34.1	+0.2
	1.5nm,0.5s,baz=351,slow=16,SNR=27						
	1.5nm,0.5s						
PETK	**Petropavlovsk-**	**58.90**	**22**	P	P	07 25 09.2	-0.2
	1.2nm,0.4s,baz=209,slow=13,SNR=8.2						
	1.2nm,0.4s						
MKAR	**Makanchi Array**	**60.07**	**327**	P	P	07 25 16.8	-0.9
	0.3nm,0.5s,baz=127,slow=7.7,SNR=4.4						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**64.34**	**329**	P	P	07 25 46.0	-0.2
	0.4nm,0.6s,baz=127,slow=6.0,SNR=6.0						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**69.90**	**328**	P	P	07 26 23.0	+1.5
	0.3nm,0.5s,baz=104,slow=6.1,SNR=1.9						
	0.3nm,0.5s						

*IDC **21** 07:15:54.2±0.9, 0.°27N×126.°16E, h0km, mb4.0/8, mbtmp4.0/9, ML3.6/1, Error ellipse: s-maj=60.4km*

s-min=16.9km az=72.0
ISC 21 07:15:59.3±1.0, 0.°2N±0.°1×126.°3E±0.°4, h35km, n9, σ0°98/9, mb4.1/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.22**	**182**	P	**P**	**07 20 08.9**	**-0.6**
	0.1nm,0.3s,baz=354,slow=18,SNR=2.0						
	2.1nm,0.8s						
WRA	**Warramunga Arr**	**21.55**	**159**	P	**P**	**07 20 45.9**	**+0.2**
	3.6nm,0.5s,baz=337,slow=11,SNR=27						
	3.6nm,0.5s						
ASAR	**Alice Springs**	**24.88**	**163**	P	**P**	**07 21 19.8**	**+0.8**
	5.8nm,0.6s,baz=351,slow=16,SNR=41						
	5.8nm,0.6s						
MJAR	**Matsushiro Arr**	**37.79**	**16**	P	**P**	**07 23 11.6**	**-0.7**
	1.1nm,0.8s,baz=193,slow=8.6,SNR=4.0						
	1.1nm,0.8s						
SONM	**Songino Array**	**50.47**	**343**	P	**P**	**07 24 54.7**	**+1.0**
	0.9nm,0.9s,baz=159,slow=4.3,SNR=1.4						
	0.9nm,0.9s						
MKAR	**Makanchi Array**	**60.18**	**327**	P	**P**	**07 26 03.0**	**-0.7**
	1.1nm,0.5s,baz=120,slow=8.5,SNR=9.5						
	1.1nm,0.5s						
ZALV	**Zalesovo Beam**	**63.49**	**334**	P	**P**	**07 26 27.0**	**+1.2**
	0.6nm,0.4s,baz=98,slow=8.9,SNR=2.3						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**64.44**	**328**	P	**P**	**07 26 31.2**	**-0.8**
	1.2nm,0.6s,baz=128,slow=5.9,SNR=11						
	1.2nm,0.6s						
BVAR	**Borovoye Array**	**70.00**	**328**	P	**P**	**07 27 06.5**	**-0.8**
	0.5nm,0.5s,baz=120,slow=8.8,SNR=4.8						
	0.5nm,0.5s						

*RHSSO **21** 07:17:40.6±0.4, 44.°67N×18.°54E, h5km±3km, ML2.5/8*
*BEO **21** 07:17:41.6±0.3, 44.°58N×18.°49E, h19km±3km, ML2.4/12*
ISC 21 07:17:40.5±1.0, 44.°60N±0.°02×18.°50E±0.°01, h11km±8km, n56, σ0°92/98, 16C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOB	**Doboj**	**0.31**	**296**‖	*i*Pg	**Pg**	**07 17 46.4**	**-0.4**
DOB				*e*Sg	**Sg**	**07 17 51.2**	**+0.2**
TEKS	**Tekeris**	**0.74**	**93**	*e*Pg	**Pb**	**07 17 55.4**	**0.0**
TEKS				*e*Sg	**Sb**	**07 18 06.3**	**+0.7**
BLY	**Banja Luka**	**0.95**	**280**‖	*i*Pg	**Pg**	**07 17 58.7**	**0.0**
BLY				*e*Sg	**Sg**	**07 18 11.2**	**+0.1**
BLY	**Banja Luka**	**0.95**	**280**	‖P	**Pn**	**07 17 59.6**	**-0.2**
BLY				‖S	**Sg**	**07 18 11.0**	**0.0**
BLY	**Banja Luka**	**0.95**	**280**	*e*Pg	**Pn**	**07 17 59.9**	**+0.1**
BLY				*e*Sg	**Sg**	**07 18 10.7**	**-0.4**
BBLS	**Lazi&#263i**	**0.98**	**138**	*e*Pg	**Pb**	**07 17 59.3**	**-0.2**
BBLS				*e*Sg	**Sn**	**07 18 13.5**	**-0.7**
FRGS	**Fruska Gora**	**1.09**	**59**	*e*Pg	**Pn**	**07 18 02.0**	**+0.2**
FRGS				*e*Sg	**Sn**	**07 18 16.0**	**-0.9**
RUDO	**Rudo**	**1.16**	**147**‖	*i*Pg	**Pb**	**07 18 01.7**	**-0.9**
RUDO				*e*Sg	**Sn**	**07 18 18.7**	**0.0**
A051A	**Mrakovica**	**1.21**	**291**	*e*Pg	**Pn**	**07 18 02.3**	**-1.1**
A051A				*e*Sg	**Sg**	**07 18 19.6**	**+0.3**
A050A	**Klekovaca**	**1.41**	**266**‖	*i*Pg	**Pg**	**07 18 07.3**	**-0.2**
A050A				*e*Sg	**Sg**	**07 18 26.0**	**+0.2**
TRUS	**Trudelj**	**1.42**	**105**	*e*Pg	**Pg**	**07 18 07.8**	**+0.1**
TRUS				*e*Sg	**Sg**	**07 18 26.4**	**+0.3**
KLINJ	**Klinje**	**1.43**	**177**	*e*Pg	**Pg**	**07 18 08.0**	**+0.1**
KLINJ				*e*Sg	**Sg**	**07 18 28.3**	**+1.9**
AVAS	**Avala Beograd**	**1.44**	**85**	*e*Pg	**Pg**	**07 18 09.9**	**+1.7**
AVAS				*e*Sg	**Sg**	**07 18 28.8**	**+1.9**
RICI	**Ricice**	**1.48**	**222**	*i* Pn	**Pg**	**07 18 08.6**	**-0.2**
RICI				Sg	**Sg**	**07 18 29.2**	**+1.2**
IVAS	**Ivanjica**	**1.57**	**130**	*e*Pg	**Pb**	**07 18 08.8**	**-0.8**
IVAS				*e*Sg	**Sg**	**07 18 30.6**	**-0.4**
MOSL	**Moslavina**	**1.60**	**310**	*e*Pn	**Pn**	**07 18 09.4**	**+0.7**
MOSL				Sn	**Sb**	**07 18 31.3**	**+1.0**
KIJV	**Kijevo**	**1.61**	**249**	*e*Pn	**Pb**	**07 18 10.7**	**+0.3**
KIJV			

comp=E,1µm,0.1s
LR03 Panguipulli 1.58 140 *e*P Pn 07 29 10.3 +1.0
LR03 eS Sn 07 29 29.3 +0.7
LR03 IAML 07 29 33.8
comp=N,2µm,0.3s
GO06 Curarrehue 2.05 125 *i* P Pn 07 29 16.8 +0.8
GO06 *i* S Sn 07 29 42.2 +1.6
LR05 Currie 2.21 145 *e*P Pn 07 29 19.2 +1.2
LR05 IAML 07 29 53.5
comp=E,597nm,0.5s

SJA ***21*** *07:29:17.6±0.7, 31°37'S×70°69'W, h108km±3km, ML4.2, MW4.1*
GUC ***21*** *07:29:18.4±0.8, 31°.40S×70°.67W, h96km±4km, ML4.2*
NEIC ***21*** *07:29:19.1±1.1, 31°.36S±0°.04×70°.74W±0°.05, h105km±5km, mb4.3/10, ML4.2(GUC), Error ellipse: s-maj=6.5km s-min=5.8km az=74.0*
IDC ***21*** *07:29:20.8±3.0, 31°.35S×70°.47W, h110km±23km, mb3.6/5, mbtmp4.0/8, Error ellipse: s-maj=30.1km s-min=19.2km az=90.0*
VAO ***21*** *07:29:20.8±3.0, 31°.20S×70°.52W, h104km, mb4.0*
ISC 21 07:29:18.9±0.6, 31°38S±0°.02×70°.72W±0°.03, h103km±4km, n128, σ1§17/176, mb4.2/8, 5C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.29**	**306**		**Pn**	**07 29 34.3**	**+0.3**
CO02				Sn	**Sn**	**07 29 45.6**	**+0.3**
CO02	**Combarbal**	**0.29**	**306**	⇑ *i*P	**Pn**	**07 29 34.2**	**+0.2**
CO02				*i* S	**Sn**	**07 29 45.0**	**-0.3**
CO02				IAML		07 29 46.1	
	comp=N,17µm,0.3s						
CO02	**Combarbal**	**0.29**	**306**	*e*P	**Pn**	**07 29 33.3**	**-0.7**
CO02				eS	**Sn**	**07 29 46.0**	**+0.7**
CO02				IAML		07 29 46.8	
	comp=Z,5µm,0.3s						
CO03	**El Pedregal**	**0.54**	**3**		**Pn**	**07 29 35.6**	**+0.1**
CO03				Sn	**Sn**	**07 29 47.9**	**+0.1**
CO03	**El Pedregal**	**0.54**	**3**	⇑ *i*P	**Pn**	**07 29 35.5**	**+0.1**
CO03				*i* S	**Sn**	**07 29 47.7**	**-0.1**
CO03				IAML		07 29 48.3	
	comp=E,30µm,0.2s						
CO03	**El Pedregal**	**0.54**	**3**	*e*P	**Pn**	**07 29 35.5**	**+0.1**
CO03				eS	**Sn**	**07 29 48.3**	**+0.5**
CO03				IAML		07 29 49.0	
	comp=Z,8µm,0.2s						
CO06	**Fray Jorge**	**1.05**	**312**		**Pn**	**07 29 40.9**	**+0.8**
CO06				Sn	**Sn**	**07 29 56.2**	**0.0**
CO06	**Fray Jorge**	**1.05**	**312**	⇑ *i*P	**Pn**	**07 29 40.9**	**+0.8**
CO06				*i* S	**Sn**	**07 29 57.2**	**+1.1**
CO06				IAML		07 30 03.4	
	comp=E,2µm,0.3s						
GO04	**Tololo Observa**	**1.20**	**357**		**Pn**	**07 29 42.2**	**+0.1**
GO04	**Tololo Observa**	**1.20**	**357**	⇑ *i*P	**Pn**	**07 29 42.1**	**0.0**
GO04				*i* S	**Sn**	**07 29 59.3**	**-0.3**
GO04				IAML		07 30 03.6	
	comp=N,21µm,0.5s						
GO04	**Tololo Observa**	**1.20**	**357**	*e*P	**Pn**	**07 29 42.0**	**0.0**
GO04				eS	**Sn**	**07 30 00.2**	**+0.7**
VA06	**Catapilco**	**1.28**	**202**		**Pn**	**07 29 43.0**	**+0.3**
VA06				Sn	**Sn**	**07 30 00.8**	**+0.2**
VA06	**Catapilco**	**1.28**	**202**	⇓ *i*P	**Pn**	**07 29 42.9**	**+0.3**
VA06				*e*S	**Sn**	**07 29 59.5**	**-1.2**
VA06				IAML		07 30 03.8	
	comp=N,5µm,0.5s						
RTLS	**Leoncito**	**1.29**	**109**	*e*P	**Pn**	**07 29 43.1**	**+0.1**
RTLS				eS	**Sn**	**07 30 02.2**	**+0.8**
RTLS				IAML		07 30 04.6	
	comp=Z,3µm,0.6s						
VA03	**San Esteban**	**1.39**	**174**		**Pn**	**07 29 44.5**	**+0.4**
VA03	**San Esteban**	**1.39**	**174**	⇓ *i*P	**Pn**	**07 29 44.4**	**+0.3**
VA03				*i* S	**Sn**	**07 30 03.2**	**0.0**
VA03				IAML		07 30 05.2	
	comp=E,10µm,0.1s						
VA03	**San Esteban**	**1.39**	**174**	*e*P	Pn	07 29 38.7	-5.4
VA03				*e*P		07 29 44.3	
VA03				eS	**Sn**	**07 30 04.2**	**+1.0**
VA03				IAML		07 30 05.7	
	comp=Z,3µm,0.5s						
CO01	**Juntas del Tor**	**1.50**	**21**		**Pn**	**07 29 46.0**	**+0.5**
CO01	**Juntas del Tor**	**1.50**	**21**	⇓ *i*P	**Pn**	**07 29 46.1**	**+0.5**
CO01				*i* S	**Sn**	**07 30 05.7**	**-0.1**
CO01				IAML		07 30 06.7	
	comp=N,4µm,0.3s						
CO01	**Juntas del Tor**	**1.50**	**21**	*e*P	**Pn**	**07 29 45.3**	**-0.3**
CO01				eS	**Sn**	**07 30 05.9**	**+0.2**
CO05	**La Serena**	**1.52**	**343**		**Pn**	**07 29 45.9**	**+0.3**
CO05	**La Serena**	**1.52**	**343**	⇑ *i*P	**Pn**	**07 29 45.8**	**+0.3**
CO05				*i* S	**Sn**	**07 30 05.8**	**0.0**
CO05				IAML		07 30 09.7	
	comp=N,5µm,0.3s						
ROCH	**El Roble**	**1.61**	**189**	⇓ *i*P	**Pn**	**07 29 46.6**	**-0.3**
ROCH				*i* S	**Sn**	**07 30 07.9**	**-0.2**
ROCH				IAML		07 30 15.3	
	comp=N,2µm,0.3s						
ACCO	**Cerro Coronel**	**1.63**	**61**	*e*P	**Pn**	**07 29 47.3**	**+0.1**
ACCO				eS	**Sn**	**07 30 09.2**	**+0.5**
ACCO				eS		07 30 10.0	
ZON	**Zonda**	**1.75**	**96**		**Pn**	**07 29 48.7**	**+0.1**
ZON	**Zonda**	**1.75**	**96**	*e*P	**Pn**	**07 29 47.9**	**-0.6**
ZON				eS	**Sn**	**07 30 10.2**	**-0.9**
PEL	**Peldehue**	**1.76**	**179**	*e*P	**Pn**	**07 29 48.5**	**-0.1**
PEL				IAML		07 30 12.8	
	comp=N,2µm,0.5s						
VA01	**Torpederas**	**1.82**	**205**		**Pn**	**07 29 49.0**	**-0.3**
VA01	**Torpederas**	**1.82**	**205**	*e*P	**Pn**	**07 29 49.2**	**-0.1**
VA01				eS	**Sn**	**07 30 13.3**	**+0.9**
VA01				IAML		07 30 20.5	
	comp=E,1µm,0.1s						
VA01	**Torpederas**	**1.82**	**205**	*e*P	**Pn**	**07 29 49.4**	**+0.1**
VA01				eS	**Sn**	**07 30 04.7**	**-7.7**
MT10	**Hacienda Santa**	**1.90**	**175**	*e*P	**Pn**	**07 29 50.6**	**+0.2**
MT10				*i* S	**Sn**	**07 30 14.7**	**+0.2**
MT10				IAML		07 30 18.2	
	comp=E,4µm,0.4s						
MT02	**Curacav**	**1.91**	**191**		**Pn**	**07 29 50.3**	**-0.2**
MT02	**Curacav**	**1.91**	**191**	⇓ *i*P	**Pn**	**07 29 50.3**	**-0.2**
MT02				*i* S	**Sn**	**07 30 14.1**	**-0.4**
MT02				IAML		07 30 15.4	
	comp=E,899nm,0.7s						
MT02	**Curacav**	**1.91**	**191**	*e*P	**Pn**	**07 29 50.2**	**-0.2**
MT02				*e*P		07 29 50.4	
MT02				eS	**Sn**	**07 30 14.7**	**+0.2**
MT02				IAML		07 30 17.1	
	comp=Z,786nm,1.0s						
RTLL	**Cerro Villicun**	**1.92**	**89**	*e*P	**Pn**	**07 29 50.2**	**-0.4**
RTLL				eS	**Sn**	**07 30 14.1**	**-0.8**
FCH	**Farellones**	**1.98**	**169**	*e*P	**Pn**	**07 29 52.4**	**+0.8**
FCH				*i* S	**Sn**	**07 30 17.6**	**+1.0**
FCH				IAML		07 30 19.1	
	comp=N,1µm,0.4s						
ASAL	**Salagasta**	**2.01**	**128**	*e*P	**Pn**	**07 29 52.5**	**+0.7**
ASAL				eS	**Sn**	**07 30 18.9**	**+2.0**
MT05	**Renca**	**2.01**	**180**		**Pn**	**07 29 51.8**	**0.0**
MT05	**Renca**	**2.01**	**180**	*e*P	**Pn**	**07 29 51.8**	**0.0**
MT05				*i* S	**Sn**	**07 30 17.3**	**+0.5**
MT05				IAML		07 30 19.2	
	comp=E,3µm,0.4s						
MT05	**Renca**	**2.01**	**180**	*e*P	**Pn**	**07 29 52.0**	**+0.2**
MT05				eS	**Sn**	**07 30 18.6**	**+1.8**
MT05				IAML		07 30 19.2	
	comp=Z,1µm,0.3s						
MT14	**Cerro Calµn**	**2.02**	**176**	*e*P	**Pn**	**07 29 52.1**	**+0.2**
MT14				*i* S	**Sn**	**07 30 17.7**	**+0.6**
MT14				IAML		07 30 20.5	
	comp=N,2µm,0.2s						
MT16	**CCHEN**	**2.05**	**175**		**Pn**	**07 29 52.6**	**+0.3**
MT16	**CCHEN**	**2.05**	**175**	*e*P	**Pn**	**07 29 52.6**	**+0.3**
MT16				*i* S	**Sn**	**07 30 18.2**	**+0.4**
MT04	**Ro Olivares**	**2.08**	**166**	*e*P	**Pn**	**07 29 54.0**	**+1.1**
MT04				*i* S	**Sn**	**07 30 20.6**	**+1.8**
MT04				IAML		07 30 23.3	
	comp=E,2µm,0.4s						
MT04	**Ro Olivares**	**2.08**	**166**	*e*P	**Pn**	**07 29 53.2**	**+0.4**
MT04				eS	**Sn**	**07 30 21.4**	**+2.6**
MT04				IAML		07 30 24.8	
	comp=Z,916nm,0.4s						
MT03	**Universidad Ad**	**2.12**	**175**		**Pn**	**07 29 53.6**	**+0.3**
MT03	**Universidad Ad**	**2.12**	**175**	*e*P	**Pn**	**07 29 53.4**	**+0.2**
MT03				*i* S	**Sn**	**07 30 20.3**	**+0.8**
MT03				IAML		07 30 23.9	
	comp=E,2µm,0.5s						
MT03	**Universidad Ad**	**2.12**	**175**	*e*P	**Pn**	**07 29 53.3**	**0.0**
MT03				eS	**Sn**	**07 30 20.7**	**+1.3**
MT03				IAML		07 30 23.9	
	comp=Z,1µm,0.6s						
CFA	**Coronel Fontan**	**2.13**	**97**	P	**Pn**	**07 29 53.0**	**-0.3**
	comp=Z,58nm,0.3s,baz=293,slow=9.3,SNR=531						
CFA				S	**Sn**	**07 30 17.6**	**-2.1**
	comp=E,588nm,0.4s,baz=197,slow=19,SNR=127						
CFA	**Coronel Fontan**	**2.13**	**97**	*e*P	**Pn**	**07 29 53.0**	**-0.3**
CFA				eS	**Sn**	**07 30 18.9**	**-0.8**
MT08	**Bocatoma Ro**	**2.15**	**164**		**Pn**	**07 29 55.1**	**+1.4**
MT08	**Bocatoma Ro**	**2.15**	**164**	*e*P	**Pn**	**07 29 55.0**	**+1.3**
MT08				eS	**Sn**	**07 30 21.4**	**+1.1**
MT08				IAML		07 30 27.4	
	comp=N,971nm,0.6s						
MT08	**Bocatoma Ro**	**2.15**	**164**	*e*P	**Pn**	**07 29 54.7**	**+1.0**
MT08				eS	**Sn**	**07 30 17.7**	**-2.6**
MT15	**Las Vizcachas**	**2.22**	**175**	*e*P	**Pn**	**07 29 54.5**	**0.0**
MT15				*i* S	**Sn**	**07 30 22.1**	**+0.3**
MT15				IAML		07 30 26.0	
	comp=N,2µm,0.2s						
LCO	**Las Campanas**	**2.36**	**0**		**Pn**	**07 29 56.6**	**0.0**
LCO	**Las Campanas**	**2.36**	**0**	*e*P	**Pn**	**07 29 56.4**	**-0.1**
LCO	**Las Campanas**	**2.36**	**0**	*e*P	**Pn**	**07 29 56.4**	**-0.1**
LCO				eS	**Sn**	**07 30 25.0**	**-0.3**
LCO				IAML		07 30 29.3	
	comp=Z,3µm,0.3s						
VA05	**Santo Domingo**	**2.40**	**198**		**Pn**	**07 29 56.1**	**-0.6**
VA05	**Santo Domingo**	**2.40**	**198**	*e*P	**Pn**	**07 29 56.0**	**-0.7**
MT09	**Talagante**	**2.40**	**185**		**Pn**	**07 29 56.5**	**-0.5**
MT09	**Talagante**	**2.40**	**185**	*e*P	**Pn**	**07 29 56.5**	**-0.5**
MT09				eS	**Sn**	**07 30 25.8**	**-0.3**
LMEL	**Las Melosas**	**2.50**	**170**		**Pn**	**07 29 59.2**	**+0.9**
LMEL	**Las Melosas**	**2.50**	**170**	*e*P	**Pn**	**07 29 58.9**	**+0.6**
LMEL				eS	**Sn**	**07 30 29.8**	**+1.3**
LMEL				IAML		07 30 31.8	
	comp=E,1µm,0.1s						
LMEL	**Las Melosas**	**2.50**	**170**	*e*P	**Pn**	**07 29 58.6**	**+0.3**
LMEL				eS	**Sn**	**07 30 31.6**	**+3.1**
MT01	**Popeta**	**2.52**	**190**	*e*P	**Pn**	**07 29 58.0**	**-0.3**
MT01				*i* S	**Sn**	**07 30 28.1**	**-0.5**
MT01	**Popeta**	**2.52**	**190**	*e*P	**Pn**	**07 29 54.3**	**-4.1**
MT01				eS	**Sn**	**07 30 28.3**	**-0.3**
MT01				eS		07 30 28.4	
MT01				IAML		07 30 29.0	
	comp=Z,581nm,0.1s						
BO04	**La Punta**	**2.61**	**178**	*i* P	**Pn**	**07 29 59.2**	**-0.3**
BO04	**La Punta**	**2.61**	**178**	*e*P	**Pn**	**07 29 59.2**	**-0.3**
AGUA	**GUANDACOL**	**2.69**	**46**	*e*P	**Pn**	**07 30 01.5**	**+0.7**
AGUA				eS	**Sn**	**07 30 35.0**	**+2.0**
AGUA				IAML		07 30 37.6	
	comp=Z,552nm,0.5s						
BO01	**Tunca**	**3.02**	**186**	*e*P	**Pn**	**07 30 04.4**	**-0.6**
ACAN	**Cantantal**	**3.14**	**107**	*e*P	**Pn**	**07 30 05.4**	**-1.2**
ACAN				IAML		07 30 43.7	
	comp=Z,2µm,0.5s						
AC04	**Llanos de Chal**	**3.18**	**354**		**Pn**	**07 30 07.5**	**+0.4**
AC04	**Llanos de Chal**	**3.18**	**354**	*e*P	**Pn**	**07 30 06.8**	**-0.4**
AC04				eS	Sn	07 30 29.2	-15
AC04				IAML		07 30 57.1	
	comp=Z,599nm,0.5s						
BO03	**Pichilemu**	**3.28**	**198**	*e*P	**Pn**	**07 30 07.1**	**-1.4**
BO02	**Sierra Bellavi**	**3.41**	**181**	*e*P	**Pn**	**07 30 10.0**	**-0.2**
BO02	**Sierra Bellavi**	**3.41**	**181**	*e*P	**Pn**	**07 30 09.4**	**-0.8**
BO02				eS	**Sn**	**07 30 49.8**	**-0.1**
BO02				IAML		07 30 51.3	
	comp=Z,552nm,0.1s						
GO03	**Copiapo**	**3.79**	**7**		**Pn**	**07 30 15.3**	**-0.2**
GO03	**Copiapo**	**3.79**	**7**	*e*P	**Pn**	**07 30 15.4**	**0.0**
GO03				eS	Sn	07 30 44.7	-15
AC06	**Mina Casimiro**	**4.02**	**5**		**Pn**	**07 30 18.1**	**-0.4**
MRA	**San Martin**	**4.38**	**105**	*e*P	**Pn**	**07 30 22.1**	**-1.2**
MRA				eS	**Sn**	**07 31 10.0**	**-3.4**
ML02	**Panimavida**	**4.41**	**187**	*e*P	**Pn**	**07 30 22.6**	**-1.1**
ML02				eS	**Sn**	**07 31 12.0**	**-2.0**
H03N1	**Juan Fernandez**	**7.22**	**251**	P	**Pn**	**07 31 03.5**	**+1.9**
	baz=116,slow=18,SNR=16						
H03N1				T	T	07 38 03.2	
	baz=79,slow=72,SNR=246						
H03N3	**Juan Fernandez**	**7.24**	**251**	P	**Pn**	**07 31 03.6**	**+1.8**
	baz=116,slow=18,SNR=24						
H03N3				T	T	07 37 57.8	
	baz=79,slow=72,SNR=164						
H03N2	**Juan Fernandez**	**7.24**	**251**	P	**Pn**	**07 31 03.7**	**+1.9**
	baz=116,slow=18,SNR=14						
H03N2				T	T	07 37 57.3	
	baz=79,slow=72,SNR=234						
TRQA	**Tornquist**	**9.80**	**135**		**Pn**	**07 31 34.6**	**-2.2**
CPUP	**Villa Florida**	**12.77**	**70**	P	**Pn**	**07 32 16.4**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=300,slow=6.8,SNR=1.7						
LPAZ	**La Paz**	**15.21**	**10**	P	**P**	**07 32 50.1**	**-1.3**
LPAZ	**La Paz**	**15.21**	**10**	P	**Pn**	**07 32 49.7**	**+1.0**
	comp=Z,3.9nm,0.5s,baz=186,slow=6.3,SNR=31						
LPAZ	**La Paz**	**15.21**	**10**	*e*P	**Pn**	**07 32 48.4**	**-0.4**
BBSD	**Serra de San D**	**16.85**	**35**	*e*P	**Pn**	**07 33 06.6**	**-2.0**
AQDB	**Aquidauana**	**17.31**	**55**	*e*P	**P**	**07 33 12.4**	**-1.7**
SIV	**San Ignacio**	**17.67**	**32**	P	**P**	**07 33 16.4**	**-1.6**
	comp=Z,8.9nm,0.7s,baz=210,slow=11,SNR=47						
PTGB	**Pitanga**	**17.75**	**73**	*e*P	**P**	**07 33 18.9**	**0.0**
PTLB	**Pontes e Lacer**	**19.07**	**36**	P	**P**	**07 33 33.3**	**+0.1**
PTLB	**Pontes e Lacer**	**19.07**	**36**	*e*P	**P**	**07 33 33.3**	**+0.1**
LDASE	**Londrina, Braz**	**19.12**	**70**	*e*P	**P**	**07 33 32.9**	**-1.0**
PCMB	**Pacaembu**	**19.92**	**65**	*e*P	**P**	**07 33 42.4**	**-0.2**
SALV	**Santo Antonio**	**20.62**	**45**	*e*P	**P**	**07 33 49.2**	**-0.9**
VILB	**Vilhena**	**20.74**	**30**	P	**P**	**07 33 50.8**	**-0.6**
VILB				IAmb	IAmb	07 33 56.4	
	comp=Z,14nm,0.8s						
VILB	**Vilhena**	**20.74**	**30**	*e*P	**P**	**07 33 50.9**	**-0.6**
ITRB	**Iturama**	**21.70**	**62**	*e*P	**P**	**07 34 01.7**	**0.0**
PDRB	**Porto dos Gac**	**23.54**	**36**	*e*P	**P**	**07 34 18.1**	**-1.9**
CLDB	**Colider**	**24.64**	**37**	*e*P	**P**	**07 34 29.3**	**-0.7**
BDFB	**Brasilia**	**25.98**	**58**	P	**P**	**07 34 41.2**	**-0.9**
	comp=Z,2.0nm,0.4s,baz=226,slow=9.3,SNR=8.7						
	comp=Z,2.0nm,0.4s						
SNDB	**Serra Nova Dou**	**26.35**	**47**	*e*P	**P**	**07 34 45.5**	**+0.1**
MACA	**Manacapuru-AM**	**29.62**	**21**	P	**P**	**07 35 14.6**	**+0.1**
MACA				IAmb	IAmb	07 35 51.5	
	comp=Z,5.7nm,1.0s						
SLOR	**San Lorenzo -**	**31.36**	**345**	P	**P**	**07 35 28.4**	**-2.0**
SLOR				IAmb	IAmb	07 35 53.4	
	comp=Z,2.2nm,0.5s						
SMAI	**San Martin Ant**	**36.85**	**178**	P	**P**	**07 36 17.0**	**+0.3**
SMAI				IAmb	IAmb	07 36 51.8	
	comp=Z,4.0nm,1.2s						
RUSC	**La Rusia**	**37.13**	**356**	P	**P**	**07 36 22.8**	**+2.6**
RUSC				IAmb	IAmb	07 36 23.5	
	comp=Z,5.6nm,0.8s						
TGUH	**Tegucigalpa,Un**	**47.89**	**338**	P	**P**	**07 37 46.9**	**0.0**
SNAA	**Sanae**	**53.60**	**159**	P	**P**	**07 38 30.3**	**+1.2**
SNAA				IAmb	IAmb	07 38 30.9	
	comp=Z,3.2nm,0.7s						
SNAA	**Sanae**	**53.60**	**159**	P	**P**	**07 38 29.8**	**+0.8**
	comp=Z,3.1nm,0.7s,baz=276,slow=10,SNR=17						
	comp=Z,3.1nm,0.7s						
QSPA	**South Pole Qui**	**58.85**	**180**	P	**P**	**07 39 07.4**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=210,slow=8.1,SNR=1.6						
	comp=Z,0.7nm,0.8s						
TXAR	**Lajitas Array**	**68.03**	**329**	P	**P**	**07 40 09.3**	**+2.0**
	comp=Z,0.1nm,0.4s,baz=165,slow=5.8,SNR=1.6						
	comp=Z,0.1nm,0.4s						
FW03	**Perrin-Whitt E**	**69.08**	**336**	P	**P**	**07 40 11.6**	**-2.0**
TORD	**Torodi Ar. Bea**	**82.27**	**70**	P	**P**	**07 41 28.6**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=224,slow=6.0,SNR=2.2						
	comp=Z,1.1nm,0.3s						
WRA	**Warramunga Arr**	**123.59**	**209**	PKP	**PKiKP**	**07 48 05.1**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=169,slow=1.7,SNR=6.2						
H11S2	**WAKE ISLAND Hyl**	**26.89**	**270**	T	T	10 07 33.3	
	baz=117,slow=75,SNR=4.8						
H11S1	**WAKE ISLAND Hyl**	**26.91**	**270**	T	T	10 07 31.9	
	baz=117,slow=75,SNR=6.1						
H11S3	**WAKE ISLAND Hyl**	**26.91**	**270**	T	T	10 07 38.8	
	baz=117,slow=75,SNR=7.0						
H11N3	**WAKE ISLAND Hyl**	**27.24**	**272**	T	T	10 08 05.6	
	baz=115,slow=74						
H11N1	**WAKE ISLAND Hyl**	**27.25**	**272**	T	T	10 08 02.4	
	baz=115						
H11N2	**WAKE ISLAND Hyl**	**27.26**	**272**	T	T	10 08 08.8	
	baz=115,slow=74						
BVAR	**Borovoye Array**	**144.59**	**41**	PKP	**PKPdf**	**07 48 43.7**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=292,slow=4.0,SNR=5.8						
KURBB	**Kurchatov Arra**	**150.19**	**41**	PKPbc	**PKPbc**	**07 48 57.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=260,slow=0.8,SNR=1.4						
KURBB				pPKPbc	**pPKPbc**	**07 49 25.9**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=306,slow=3.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**151.42**	**31**	PKP	**PKPdf**	**07 48 55.9**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=316,slow=4.0,SNR=1.4						
ZALV				PKPbc	**PKiKP**	**07 49 01.4**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=268,slow=4.5,SNR=5.2						
ZALV				pPKPbc	**pPKPbc**	**07 49 28.5**	**-0.9**
	comp=Z,2.2nm,0.6s,baz=310,slow=4.6,SNR=6.0						
MKAR	**Makanchi Array**	**154.18**	**46**	PKPab	**PKPab**	**07 49 21.1**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=328,slow=4.3,SNR=4.7						
MJAR	**Matsushiro Arr**	**155.51**	**290**	PKPab	**PKPab**	**07 49 27.4**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=125,slow=8.0,SNR=1.9						

IDC ***21*** *07:35:40.9±6.1, 14°.87S×170°.71E, h660km±53km, mb3.2/6, mbtmp4.2/7, Error ellipse: s-maj=76.1km s-min=28.9km az=39.0*
ISC 21 07:35:40.0±2.6, 14°.8S±0°.3×170°.8E±0°.3, h650km, n7, σ0§67/7, mb3.9/6, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.33**	**209**	P	**P**	**07 37 44.4**	**+0.2**
	2.7nm,0.6s,baz=23,slow=18,SNR=1.2						
STKA	**Stephens Creek**	**31.61**	**232**	P	**P**	**07 41 13.1**	**+0.2**
	1.8nm,0.3s,baz=40,slow=7.9,SNR=3.6						
	1.8nm,0.3s						
WRA	**Warramunga Arr**	**35.13**	**256**	P	**P**	**07 41 41.3**	**-1.2**
	1.3nm,0.5s,baz=86,slow=8.2,SNR=21						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**35.86**	**250**	P	**P**	**07 41 48.0**	**-0.4**
	3.5nm,0.6s,baz=81,slow=9.4,SNR=62						
	3.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**43.37**	**259**	P	**P**	**07 42 48.2**	**+0.2**
	2.2nm,0.6s,baz=97,slow=9.1,SNR=3.4						
	2.2nm,0.6s						
QSPA	**South Pole Qui**	**75.22**	**180**	P	**P**	**07 46 17.9**	**-0.3**
	0.8nm,0.5s,baz=8.0,slow=1.2,SNR=6.8						
	0.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**78.12**	**293**	P	**P**	**07 46 34.8**	**+0.2**
	2.2nm,0.3s,baz=91,slow=4.3,SNR=2.3						
	2.2nm,0.3s						

NEIC ***21*** *07:36:57.3±1.8, 35°.780N±0°.009×117°.60W±0°.01, h10km±1km, Error ellipse: s-maj=2.8km s-min=1.6km az=55.0*
PAS 21 07:36:57.7±2.0, 35°.779N±0°.009×117°.62W±0°.01, h8km±5km, ML3.0/113, ML2.8/96(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=55.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.04**	**24**		Pg	07 36 59.6	0.0
CLC				Sg	Sg	07 37 01.1	+0.3
TOW	**Tower One**	**0.12**	**284**		Pg	07 37 01.0	+0.5
TOW					Sg	07 37 04.1	+1.6
SRTC	**Snort**	**0.14**	**231**		Pg	07 37 01.2	+0.5
WSHM	**Spangler Hills**	**0.21**	**150**	Pg	Pg	07 37 01.9	-0.1
WSHM				Sg	Sg	07 37 05.1	+0.3
WVPM	**Volcano Peak E**	**0.23**	**317**		Pg	07 37 02.4	-0.1
WVPM					Sg	07 37 06.1	+0.3
WNMM	**Nine Mile Cany**	**0.24**	**285**		Pg	07 37 02.6	0.0
JRC2	**Joshua Ridge**	**0.26**	**323**		Pn	07 37 06.8	-1.1
MPMC	**Manual Prospec**	**0.30**	**21**		Pn	07 37 07.7	-0.8
MPMC	**Manual Prospec**	**0.30**	**21**	IAML		07 37 08.2	
	comp=E,1µm,0.5s						
MPMC				IAML		07 37 08.2	
	comp=N,2µm,0.5s						
LRMC	**Laurel Mtn Rad**	**0.30**	**190**		Pg	07 37 03.6	-0.2
CCCA	**Chr Cany lake**	**0.33**	**141**		Sg	07 37 09.6	+1.1
CCCA	**Chr Cany lake**	**0.33**	**141**		Pg	07 37 04.4	+0.2
CCCA				IAML		07 37 09.9	
	comp=N,3µm,0.2s						
CCCA				IAML		07 37 11.4	
	comp=E,4µm,0.7s						
MFS	**McCloud Flat S**	**0.39**	**330**		Pg	07 37 05.2	-0.3
WBSM	**Bird Springs**	**0.49**	**241**		Pg	07 37 07.0	-0.3
WBSM					Sg	07 37 13.7	0.0
WORM	**Onyx Ranch**	**0.52**	**261**		Pg	07 37 07.3	-0.5
DTP	**Desert Tortois**	**0.54**	**200**		Pg	07 37 07.8	-0.5
WHFM	**Hanning Flat**	**0.60**	**262**		Pg	07 37 08.9	-0.4
WHFM					Sg	07 37 16.8	-0.4
QSM	**Queen of Sheba**	**0.64**	**73**		Pg	07 37 09.9	-0.2
QSM					Sg	07 37 17.8	-0.5
QSM				IAML		07 37 19.9	
	comp=E,731nm,0.2s						
QSM				IAML		07 37 21.5	
	comp=N,858nm,0.7s						
CCAC	**Calif City Air**	**0

MWC				IAML		07 37 50.7		
	comp=N,205nm,0.3s							
MWC				IAML		07 37 50.9		
	comp=E,192nm,0.5s							
TPNV	**Topopah Spring**	**1.61**	**43**	Pn	Pn	07 37 25.9	-0.6	
TPNV				IAML		07 37 50.6		
	comp=E,102nm,0.4s							
TPNV				IAML		07 37 51.2		
	comp=E,81nm,0.6s							
DSP	**Deep Springs**	**1.61**	**350**	Pn	Pn	07 37 26.0	-0.5	
DSP				IAML		07 37 49.8		
	comp=N,63nm,0.6s							
DSP				IAML		07 37 50.0		
	comp=E,91nm,0.8s							
BBRC	**Big Bear Solar**	**1.62**	**159**		Pb	07 37 28.2	+0.2	
BHPR	**Bishop**	**1.67**	**335**		Pb	07 37 28.9	0.0	
PSRC	**Puddingstone R**	**1.69**	**185**		Pg	07 37 29.8	-0.4	
MTPC	**Mountain Pass**	**1.71**	**99**		Pn	07 37 26.3	-1.6	
MTPC				IAML		07 37 52.3		
	comp=E,84nm,0.3s							
MTPC				IAML		07 37 53.4		
	comp=N,67nm,0.2s							
DJJ	**Donna J Jenkin**	**1.81**	**203**		Pn	07 37 29.5	+0.4	
GTM	**Goat Mountain**	**1.81**	**145**		Pb	07 37 30.9	-0.2	
GMRC	**Granite Mounta**	**1.88**	**121**		Pn	07 37 28.0	-2.3	
MZP	**Montezuma Peak**	**1.93**	**6**		Pn	07 37 30.4	-0.6	
BLAC	**Blackrock camp**	**1.98**	**149**		Pn	07 37 30.6	-1.0	
BENR	**Benton**	**2.08**	**339**		Pb	07 37 36.3	+0.4	
MLAC	**Mammoth, Mammo**	**2.09**	**332**		Pb	07 37 36.4	+0.3	
TPC	**Twentynine Pal**	**2.11**	**142**		Pn	07 37 31.8	-1.5	
ELS	**Elsinore Mount**	**2.13**	**176**		Pn	07 37 33.0	-0.7	
ELS				IAML		07 38 07.3		
	comp=E,77nm,0.3s							
ELS				IAML		07 38 09.8		
	comp=N,44nm,0.6s							
MCSM	**Casa Diablo Ho**	**2.14**	**331**		Pb	07 37 37.2	+0.3	
POB	**Polly Butte**	**2.16**	**164**		Pn	07 37 33.4	-0.7	
TPH	**Tonopah**	**2.31**	**8**		Pn	07 37 35.8	-0.5	
PMD	**Palm Desert**	**2.36**	**154**		Pn	07 37 35.3	-1.4	
PFO	**Pinyon Flats O**	**2.36**	**156**		Pn	07 37 35.8	-1.1	
PFO				IAML		07 38 17.8		
	comp=N,27nm,0.7s							
S11A	**Rachel**	**2.39**	**38**		Pn	07 37 36.3	-1.0	
S11A				IAML		07 38 17.7		
	comp=N,57nm,0.8s							
S11A				IAML		07 38 29.9		
	comp=E,54nm,0.9s							
PSMM	**Smith Mountain**	**2.43**	**278**		Pb	07 37 40.7	-1.1	
LHV	**Little Huntoon**	**2.57**	**344**		Pn	07 37 40.1	+0.5	
LHV				IAML		07 38 24.3		
	comp=N,28nm,0.6s							
LHV				IAML		07 38 26.2		
	comp=E,23nm,0.5s							
NV11	**Mina Array Sit**	**2.68**	**351**		Pn	07 37 41.1	-0.2	
NVAR	**Mina Array Bea**	**2.70**	**348**		Pn	07 37 41.4	-0.3	
DPP	**Dos Picos Cty**	**2.83**	**168**		Pn	07 37 42.2	-1.1	
DPP				IAML		07 38 30.1		
	comp=E,26nm,0.5s							
PCCM	**Crazy Canyon**	**2.89**	**277**		Pn	07 37 45.7	+1.6	
RYN	**Ryan**	**2.94**	**346**	Pn	Pn	07 37 45.0	+0.2	
W13A	**Hualapai Mount**	**3.12**	**101**		Pn	07 37 45.8	-1.6	
SAO	**San Andreas Ge**	**3.25**	**289**	Pn	Pn	07 37 47.6	-1.3	
BLYC	**Blythe**	**3.25**	**128**	Pn	Pn	07 37 46.9	-2.1	
BLYC				IAML		07 38 40.9		
	comp=N,32nm,0.5s							
BLYC				IAML		07 38 41.2		
	comp=E,20nm,0.5s							
YUH	**Yuha Desert**	**3.42**	**155**	Pn	Pn	07 37 50.0	-1.4	
CBX	**Cerro Bola**	**3.55**	**167**	Pn	Pn	07 37 53.0	-0.2	
CBX				IAML		07 38 58.4		
	comp=N,41nm,1.0s							
GLA	**Glamis**	**3.57**	**139**	Pn	Pn	07 37 51.1	-2.3	
GLA				IAML		07 38 53.2		
	comp=N,25nm,0.6s							
GLA				IAML		07 38 53.6		
	comp=E,42nm,0.8s							
LCMT	**Little Creek M**	**3.74**	**69**	Pn	Pn	07 37 55.2	-0.6	
CCUT	**Cedar City**	**3.85**	**61**	Pn	Pn	07 37 57.0	-0.4	
ESJX	**Sierra Juarez**	**4.01**	**159**	Pn	Pn	07 37 59.0	-0.7	
ESJX				IAML		07 39 04.4		
	comp=E,12nm,1.3s							
ESJX				IAML		07 39 04.5		
	comp=N,16nm,2.4s							
KNB	**Kanab**	**4.06**	**71**	Pn	Pn	07 37 59.9	-0.4	

*SNET **21** 07:43:27.5±0.8, 13°.20N×89°.61W, h52km, ML2.8*
*CATAC **21** 07:43:27.3±0.6, 13°.N±3°×9°.0W±°, h30km±3km, M2.7/14, MLv2.7/14, Error ellipse: s-maj=8.0km s-min=4.4km az=26.0, confirmed*
*GCG **21** 07:43:28.0±0.6, 13°.28N×89°.56W, h58km±6km, MD3.5, ML2.1*

ISC 21 07:43:28.1±2.3, **13°.2N**±0°.1×**89°.60W**±0°.07, **h48km**±13km, **n61,** σ0**.46/67, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.40**	**42**	*eP*	**Pn**	**07 43 37.9**	**-0.2**
LALI	**Alcalda de L**	**0.40**	**42**	*eP*	**Pn**	**07 43 37.9**	**-0.2**
LALI				*eS*	**Sn**	**07 43 45.3**	**+0.1**
LALI				IAML		07 43 46.8	
	comp=E,116nm,0.2s						
LALI	**Alcalda de L**	**0.40**	**42**	P	**Pn**	**07 43 38.1**	**0.0**
JAYA	**Jayaque - finc**	**0.49**	**17**	*i* P	**Pn**	**07 43 38.9**	**-0.4**
JAYA				*eS*	**Sn**	**07 43 46.9**	**-0.3**
JAYA	**Jayaque - finc**	**0.49**	**17**	*eP*	**Pn**	**07 43 38.9**	**-0.4**
JAYA				*eS*	**Sn**	**07 43 47.1**	**-0.1**
JAYA	**Jayaque - finc**	**0.49**	**17**	P	**Pn**	**07 43 38.8**	**-0.4**
PMON	**Piamonte**	**0.59**	**28**	*i* P	**Pn**	**07 43 40.1**	**-0.3**
PMON	**Piamonte**	**0.59**	**28**	P	**Pn**	**07 43 40.2**	**-0.3**
PMON	**Piamonte**	**0.59**	**28**	S	**Sn**	**07 43 49.7**	**+0.3**
LOMA	**Loma Larga**	**0.61**	**42**	*eP*	**Pn**	**07 43 40.4**	**-0.4**
LOMA	**Loma Larga**	**0.61**	**42**	P	**Pn**	**07 43 40.2**	**-0.6**
LOMA	**Loma Larga**	**0.61**	**42**	S	**Sn**	**07 43 50.4**	**+0.5**
BOQS	**Boqueron**	**0.63**	**29**	*eP*	**Pn**	**07 43 40.6**	**-0.4**
UEES	**Universidad Ev**	**0.63**	**33**	*i* P	**Pn**	**07 43 40.6**	**-0.3**
UEES	**Universidad Ev**	**0.63**	**33**	P	**Pn**	**07 43 40.4**	**-0.6**
UEES	**Universidad Ev**	**0.63**	**33**	S	**Sn**	**07 43 50.7**	**+0.5**
CEDA	**San Andres**	**0.64**	**18**	*eP*	**Pn**	**07 43 40.9**	**-0.2**
PIC2	**El Picacho**	**0.65**	**31**	*eP*	**Pn**	**07 43 41.1**	**-0.2**
SBLS	**San Blas**	**0.65**	**358**	*eP*	**Pn**	**07 43 41.1**	**-0.3**
SBLS				*eP*		07 43 41.1	
LFRS	**El Faro**	**0.68**	**50**	*eP*	**Pn**	**07 43 41.2**	**-0.4**
SNJE	**San Jose**	**0.68**	**359**	*eP*	**Pn**	**07 43 41.5**	**-0.2**
UDBS	**Universidad Do**	**0.68**	**39**	P	**Pn**	**07 43 41.2**	**-0.3**
UDBS	**Universidad Do**	**0.68**	**39**	S	**Sn**	**07 43 51.9**	**+0.6**
RTR	**El Retiro**	**0.71**	**356**	*eP*	**Pn**	**07 43 42.1**	**0.0**
LFU	**La Fuente**	**0.73**	**40**	*eP*	**Pn**	**07 43 42.2**	**-0.1**
NUBE	**Las Nubes**	**0.73**	**346**	*i* P	**Pn**	**07 43 41.9**	**-0.4**
NUBE				*eS*	**Sn**	**07 43 52.8**	**+0.1**
NUBE	**Las Nubes**	**0.73**	**346**	*eP*	**Pn**	**07 43 42.0**	**-0.4**
NUBE				*i* S	**Sn**	**07 43 53.0**	**+0.3**
NUBE	**Las Nubes**	**0.73**	**346**	P	**Pn**	**07 43 41.9**	**-0.4**
LBRS	**Las Brisas**	**0.77**	**44**	*eP*	**Pn**	**07 43 42.7**	**-0.1**
FAME	**Alcaldia de Sa**	**0.77**	**328**	S	**Sn**	**07 43 53.7**	**+0.3**
UNIC	**Universidad Ca**	**0.79**	**3**	P	**Pn**	**07 43 42.8**	**-0.2**
UNIC	**Universidad Ca**	**0.79**	**3**	S	**Sn**	**07 43 54.7**	**+0.7**
COEG	**Centro de Oper**	**0.82**	**58**	*eP*	**Pn**	**07 43 43.0**	**-0.5**
COEG				*eS*	**Sn**	**07 43 54.6**	**0.0**
COEG	**Centro de Oper**	**0.82**	**58**	P	**Pn**	**07 43 42.9**	**-0.5**
COEG	**Centro de Oper**	**0.82**	**58**	S	**Sn**	**07 43 55.1**	**+0.5**
PAVA	**Las Pavas**	**0.83**	**51**	*eP*	**Pn**	**07 43 43.4**	**-0.2**
PAVA	**Las Pavas**	**0.83**	**51**	P	**Pn**	**07 43 43.7**	**+0.1**
PAVA	**Las Pavas**	**0.83**	**51**	S	**Sn**	**07 43 55.9**	**+1.1**
SLOZ	**Alcaldia de Sa**	**0.85**	**348**	*eP*	**Pn**	**07 43 43.7**	**-0.2**
SLOZ	**Alcaldia de Sa**	**0.85**	**348**	P	**Pn**	**07 43 43.9**	**0.0**
SLOZ	**Alcaldia de Sa**	**0.85**	**348**	S	**Sn**	**07 43 56.8**	**+1.3**
TECO	**Alcaldia de Te**	**0.87**	**66**	*eP*	**Pn**	**07 43 43.1**	**-0.9**
TECO	**Alcaldia de Te**	**0.87**	**66**	P	**Pn**	**07 43 43.2**	**-0.9**
TECO	**Alcaldia de Te**	**0.87**	**66**	S	**Sn**	**07 43 55.5**	**-0.2**
UESV	**Universidad de**	**0.91**	**60**	P	**Pn**	**07 43 44.1**	**-0.5**
UESV	**Universidad de**	**0.91**	**60**	S	**Sn**	**07 43 56.8**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.99**	**59**	P	**Pn**	**07 43 45.5**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.99**	**59**	S	**Sn**	**07 43 58.8**	**+0.2**
PQSS	**Presa 15 de Se**	**1.10**	**67**	*i* P	**Pn**	**07 43 46.6**	**-0.5**
PQSS	**Presa 15 de Se**	**1.10**	**67**	P	**Pn**	**07 43 46.6**	**-0.5**
PQSS	**Presa 15 de Se**	**1.10**	**67**	S	**Sn**	**07 44 01.8**	**+0.6**
MTO3	**Montecristo**	**1.23**	**11**	*eP*	**Pn**	**07 43 48.3**	**-0.7**
MTO3	**Montecristo**	**1.23**	**11**	*i* P	**Pn**	**07 43 48.4**	**-0.7**
MTO3	**Montecristo**	**1.23**	**11**	P	**Pn**	**07 43 48.5**	**-0.6**
MTO3	**Montecristo**	**1.23**	**11**	S	**Sn**	**07 44 04.4**	**-0.3**
PACA	**Pacayal**	**1.27**	**77**	*eP*	**Pn**	**07 43 50.1**	**+0.5**
ESQI	**Esquipulas**	**1.39**	**10**	*eP*	**Pn**	**07 43 50.7**	**-0.5**
ESQI	**Esquipulas**	**1.39**	**10**	P	**Pn**	**07 43 50.8**	**-0.3**
ESQI	**Esquipulas**	**1.39**	**10**	S	**Sn**	**07 44 08.8**	**+0.4**
LCND	**La Caada**	**1.67**	**86**	P	**Pn**	**07 43 54.7**	**-0.2**
LCND	**La Caada**	**1.67**	**86**	S	**Sn**	**07 44 15.4**	**+0.3**

*SDD **21** 07:56:55.8±0.4, 17°.54N×70°.45W, h37km±35km, MD3.3, ML2.7, MW3.0*
*OSPL **21** 07:56:55.0±2.0, 17°.64N×70°.44W, h8km±56km, ML2.1*

ISC 21 07:56:52.0±2.4, **17°.6N**±0°.1×**70°.42W**±0°.06, **h10km**±15km, **n10,** σ0**.71/19, 7C-3D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANI	**BANI**	**0.81**	**4**	*eP*	**Pn**	**07 57 10.4**	**+0.8**
BANI				*eSg*	**Sn**	**07 57 21.6**	**-0.1**
BANI				IAML		07 57 23.1	
	comp=N,217nm,0.2s						
LOVI	**El Cajuil, Ovi**	**0.93**	**284**	*i* P	**Pn**	**07 57 11.3**	**+0.2**
LOVI				IAML		07 57 21.0	
	comp=Z,86nm,1.3s						
LOVI				*eS*	**Sb**	**07 57 22.2**	**-0.4**
SDD	**Santo Domingo**	**1.00**	**29**	*eS*	**Sb**	**07 57 24.3**	**-0.1**
PODR	**Polo**	**1.01**	**305**	*eSg*	**Sb**	**07 57 12.6**	**+0.3**
PODR				*eSg*	**Sb**	**07 57 25.1**	**0.0**
PODR	**Polo**	**1.01**	**305**	*i* P	**Pn**	**07 57 12.4**	**+0.1**
PODR				*eS*	**Sb**	**07 57 24.0**	**-1.1**
LOBH	**Bahia de las A**	**1.20**	**284**	*i* P	**Pn**	**07 57 15.3**	**+0.5**
LOBH				*eS*	**Sb**	**07 57 29.6**	**-0.7**
LOBH				IAML		07 57 35.6	
	comp=Z,37nm,1.2s						
ABDR	**Alto Bandera**	**1.24**	**351**	*eSg*	**Pn**	**07 57 16.4**	**+0.7**
ABDR				*eSg*	**Sb**	**07 57 31.7**	**-0.2**
ABDR				IAML		07 57 34.4	
	comp=N,90nm,0.6s						
LODU1	**El Espartillar**	**1.27**	**308**	*i* P	**Pn**	**07 57 17.2**	**+1.5**
LODU1				*eS*	**Sn**	**07 57 33.1**	**+0.3**
LODU1				IAML		07 57 38.0	
	comp=Z,29nm,0.9s						
DR08	**Loma La Naviza**	**1.43**	**15**	*eSg*	**Pg**	**07 57 19.2**	**-0.2**
DR08				*eSg*	**Sb**	**07 57 36.0**	**-0.9**
DR08				IAML		07 57 38.0	
	comp=N,673nm,0.1s						
HATOM	**Hato Mayor del**	**1.55**	**39**	*eSg*	**Pb**	**07 57 20.9**	**0.0**
HATOM				*eSg*	**Sn**	**07 57 39.0**	**-0.8**
HATOM				IAML		07 57 40.0	
	comp=N,14nm,0.3s						

*IDC **21** 08:08:39.2±1.2, 83°.65N×113°.96E, h0km, mb3.3/6, mbtmp3.4/7, ML3.9/1, MS2.9/5, Error ellipse: s-maj=39.4km s-min=21.6km az=142.0*

ISC 21 08:08:40.7±1.0, **83°.5N**±0°.1×**113°.31E**±0°.10, **h10km, n14,** σ2**°.08/12, mb3.3/6, MS3.0/5, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVZ	**Severnaya Zeml**	**4.62**	**208**	*eP*	**Pn**	**08 09 47.9**	**-2.5**
SVZ				*eS*	Sn	08 10 35.0	-8.8
	19nm,0.3s						
ZFI2	**Zemlya Franca-**	**8.83**	**287**	P	**Pn**	**08 10 50.7**	**+2.7**
ZFI2				S	**Sn**	**08 12 25.2**	**-2.2**
OMEGA	**Omega**	**8.84**	**287**	P	**Pn**	**08 10 50.5**	**+2.3**
OMEGA				S	**Sn**	**08 12 24.9**	**-2.8**
SPITS	**Spitsbergen Ar**	**14.21**	**304**	Pn	**Pn**	**08 12 02.5**	**+1.0**
	baz=48,slow=2.1 1.1nm,0.6s						
ARCES	**ARCESS Array B**	**21.31**	**285**	P	**P**	**08 13 27.1**	**0.0**
	3.6nm,1.2s,baz=23,slow=12,SNR=1.9 3.6nm,1.2s						
RES	**Resolute Bay**	**21.36**	**20**	LR	LR	08 21 50.3	
	comp=Z,22nm,20.6s,baz=23,slow=37						
ILAR	**Eielson Array**	**27.20**	**68**	P	**P**	**08 14 23.5**	**-0.4**
	0.2nm,0.8s,baz=346,slow=10,SNR=2.4						
ILAR				LR	LR	08 25 18.0	
	comp=Z,18nm,19.4s,baz=303,slow=37 0.2nm,0.8s						
YKA	**Yellowknife Ar**	**32.35**	**40**	LR	LR	08 28 25.4	
	comp=Z,30nm,19.2s,baz=36,slow=37						
BVAR	**Borovoye Array**	**32.66**	**230**	P	**P**	**08 15 14.1**	**+1.8**
	0.3nm,0.6s,baz=17,slow=5.3,SNR=1.7 0.3nm,0.6s						
KDAK	**Kodiak Island**	**33.42**	**76**	LR	LR	08 31 39.1	
	comp=Z,30nm,18.2s,baz=260,slow=41						
KURBB	**Kurchatov Arra**	**34.40**	**220**	P	**P**	**08 15 27.6**	**+0.2**
	0.1nm,0.4s,baz=21,slow=7.3,SNR=4.8 0.1nm,0.4s						
MKAR	**Makanchi Array**	**37.95**	**215**	P	**P**	**08 15 59.2**	**+1.4**
	0.3nm,0.6s,baz=358,slow=6.6,SNR=5.1 0.3nm,0.6s						
PDAR	**Pinedale Array**	**52.33**	**39**	LR	LR	08 41 44.0	
	comp=Z,12nm,18.3s,baz=32,slow=38						
TXAR	**Lajitas Array**	**66.09**	**35**	P	**P**	**08 19 26.4**	**-1.1**
	0.2nm,0.6s,baz=14,slow=5.4,SNR=4.2 0.2nm,0.6s						

CATAC 21 08:14:55.6±0.4, **12°N**±4°×**8°6W**±°, **h92km**±3km, **M2.9/24, MLv2.9/24, Error ellipse: s-maj=9.1km s-min=4.4km az=33.1, confirmed, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.33**	**21**	P	Pn	08 15 08.7	-0.9
NADN	**Granada**	**0.39**	**79**	P	Pn	08 15 11.2	+1.4
NADN				S	Sn	08 15 22.9	+2.6
NANN	**Nandasmo**	**0.40**	**48**	P	Pn	08 15 12.2	+2.3
ABCN	**Banco Central**	**0.46**	**14**	P	Pn	08 15 10.8	+0.5
UNAN	**Cigeo UNAN**	**0.46**	**19**	P	Pn	08 15 11.3	+1.0
UNAN				S	Sn	08 15 23.5	+2.3
TISN	**Laguna Tiscapa**	**0.49**	**18**	P	Pn	08 15 10.6	+0.1
SAPS	**Ciudad Sandino**	**0.49**	**2**	P	Pn	08 15 11.2	+0.7
SAPS	**Ciudad Sandino**	**0.49**	**2**	S	Sn	08 15 23.8	+2.1
APQ2	**Apoyeque**	**0.53**	**10**	P	Pn	08 15 12.0	+1.2
COPN	**Copaltepe**	**0.53**	**342**	P	Pn	08 15 11.5	+0.7
WILN	**Americas 2**	**0.54**	**25**	P	Pn	08 15 11.7	+0.9
AMTN	**Mateare**	**0.56**	**359**	P	Pn	08 15 12.0	+0.9
ARIN	**Rivas**	**0.61**	**111**	S	Sn	08 15 25.9	+2.5
MOMN	**Momotombo**	**0.74**	**351**	P	Pn	08 15 13.1	+0.4
MOMN				S	Sn	08 15 27.2	+1.7
MOM2	**El Cardon**	**0.76**	**355**	P	Pn	08 15 13.1	+0.1
MOM2				S	Sn	08 15 28.6	+2.8
CNGA	**Al SSO del Vol**	**0.86**	**341**	P	Pn	08 15 14.4	+0.4
CNGN	**Cerro Negro**	**0.86**	**342**	P	Pn	08 15 14.9	+0.8
CNGN	**Cerro Negro**	**0.86**	**342**	S	Sn	08 15 29.2	+1.3
PACN	**Al O del Volca**	**0.90**	**336**	P	Pn	08 15 15.4	+1.0
PACN				S	Sn	08 15 32.3	+3.9
PLRN	**Geotermica Pol**	**0.97**	**339**	P	Pn	08 15 14.6	-0.5
PLRN				S	Sn	08 15 30.4	+0.7
POLN	**Al Sur del Vol**	**1.04**	**338**	P	Pn	08 15 16.0	0.0
POLN				S	Sn	08 15 34.5	+3.2
BOAB	**BOACO BROADBAN**	**.07**	**44**	P	Pn	08 15 16.5	+0.3
BOAB	**BOACO BROADBAN**	**.07**	**44**	S	Sn	08 15 32.7	+0.9
CRIN	**San Cristobal**	**1.19**	**329**	P	Pn	08 15 18.0	+0.2
ACON	**Acoyapa**	**1.26**	**76**	P	Pn	08 15 18.9	+0.5
ACON	**Acoyapa**	**1.26**	**76**	S	Sn	08 15 36.6	+0.9
MATN	**Matagalpa**	**1.34**	**21**	P	Pn	08 15 18.1	-1.5
RCVN	**Varillal2**	**1.91**	**7**	P	Pn	08 15 26.6	-0.3
CHOHN	**Orocuina**	**1.93**	**338**	P	Pn	08 15 27.1	0.0
OCON	**Estacion meteo**	**1.95**	**358**	P	Pn	08 15 27.2	-0.1
INDI	**Punta indio, G**	**2.01**	**153**	P	Pn	08 15 29.5	+1.5
CNCH	**Conchagua**	**2.11**	**319**	P	Pn	08 15 29.0	-0.4
LCND	**La Caada**	**2.17**	**319**	P	Pn	08 15 30.2	+0.1

AUST 21 08:23:40.1±1.2, **18°S**±12°×**12°0E**±°, **h10km, mb4.0/4, ML3.1/2, mL3.4/2, Error ellipse: s-maj=29.9km s-min=7.0km az=145.0, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSAC1	**Pilbara Seismi**	**3.18**	**192**	P	Pn	08 24 31.2	+0.9
PSAC1				S	Sn	08 25 08.1	-0.2
PSA00	**Pilbara Seismi**	**3.21**	**191**	P	Pn	08 24 31.7	+1.0
PSA00				S	Sn	08 25 08.3	-0.8
FITZ	**Fitzroy Crossi**	**4.89**	**87**	P	Pn	08 24 55.2	+1.4
FITZ	**Fitzroy Crossi**	**4.89**	**87**	S	Sn	08 25 50.4	-0.1
KNRA	**Kununurra**	**8.36**	**72**	P	Pn	08 25 41.0	-0.4
	comp=Z,0.0nmcomp=Z,11nm,2.1s						
KNRA				S	Sn	08 27 11.6	-4.2
MEEK	**Meekatharra**	**8.38**	**192**	P	Pn	08 25 41.5	-0.2
	comp=Z,0.1nmcomp=Z,30nm,2.4s						
MEEK	**Meekatharra**	**8.38**	**192**	S	Sn	08 27 10.1	-6.4
WRKA	**Warakurna**	**9.80**	**134**	P	Pn	08 26 01.9	+0.7
	comp=Z,0.0nmcomp=Z,4.0nm,1.5s						
WRKA				S	Sn	08 27 46.2	-5.2
MORW	**Morawa**	**11.37**	**200**	P	Pn	08 26 19.2	-3.5
BLDU	**Ballidu**	**12.64**	**195**	P	Pn	08 26 37.4	-2.6
	comp=Z,30nm,2.3s						
KLBR	**Kellerberrin**	**13.37**	**190**	P	Pn	08 26 46.9	-3.0
MUN	**Mundaring**	**14.06**	**195**	P	Pn	08 26 55.3	-4.2

*NAO **21** 08:24:21.3, 31°.85N×48°.97E, h33km, mb3.9*
*IDC **21** 08:24:26.4±0.6, 33°.04N×48°.85E, h0km, mb4.1/24, mbtmp4.1/33, ML3.7/8, MS3.4/20, Error ellipse: s-maj=14.0km s-min=11.0km az=0.0*
*MOS **21** 08:24:27.2±1.2, 32°.96N×48°.81E, h18km, mb4.5/24, Error ellipse: s-maj=6.9km s-min=4.8km az=108.8*
*ISN **21** 08:24:27.2±1.3, 33°.13N×48°.89E, h10km±32km, ML4.2*
*NEIC **21** 08:24:28.5±1.1, 33°.05N±0°.08×48°.85E±0°.05, h10km±1km, mb4.3/43, Error ellipse: s-maj=14.2km s-min=5.4km az=204.0*
*THR **21** 08:24:29.9±0.0, 33°.06N×48°.83E, h19km±3km, ML4.3*
*TEH **21** 08:24:29.8, 33°.14N×48°.81E, h7km±29km*
*OMAN **21** 08:24:34.6±0.8, 32°.72N×49°.38E, h10km, mb4.3/27, Error ellipse: s-maj=7.2km s-min=6.0km az=7.0*
*DSN **21** 08:24:38.7±1.6, 32°.78N×49°.84E, h15km, ML3.2/3, Error ellipse: s-maj=33.6km s-min=15.5km az=51.0*

ISC 21 08:24:28.1±0.3, **33°.03N**±0°.03×**48°.88E**±0°.03, **h10km, n330,** σ2**°.05/333, mb4.3/61, MS3.3/18, 30C-13D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTMR	**Gotvand**	**0.59**	**160**	*ePgA*		**08 24 42.3**	
GTMR				IAML		08 25 09.8	
	comp=Z,12µm,1.0s						
BDRS	**Dareh Seyedi**	**0.92**	**0**	Pg	**Pg**	**08 24 44.8**	**-1.1**
IDOB	**Doab**	**0.95**	**323**	Pg	**Pg**	**08 24 45.5**	**-1.0**
IKFM	**Kafar-mosalman**	**0.99**	**300**	Pg	**Pg**	**08 24 46.5**	**-0.6**
IKFM				Sg	**Sg**	**08 25 00.7**	**+0.6**
KHMZ	**Khomeyn**	**1.15**	**52**	*ePg*	**Pb**	**08 24 50.5**	**+0.3**
KHMZ				*eSg*	**Sg**	**08 25 06.8**	**+1.6**
KHMZ				IAML		08 25 18.9	
	comp=Z,4µm,1.0s						
IBZA	**Bozab**	**1.67**	**330**	Pg	**Pn**	**08 24 59.2**	**+1.6**
AHWZ	**Ahwaz**	**1.71**	**187**	Pn	**Pb**	**08 25 02.1**	**+2.6**
JHBN	**Jahan bin**	**1.71**	**117**	Pn	**Pb**	**08 25 01.8**	**+2.1**
IPIR	**Pirpir**	**1.73**	**101**	Pn	**Pb**	**08 25 02.2**	**+2.0**
ASAO	**Ashtian**	**1.79**	**32**	*ePnA*		08 25 01.1	
ASAO				IAML		08 25 35.5	
	comp=Z,4µm,1.0s						
HAGD	**Aghdareh**	**1.80**	**7**	Pg	**Pn**	**08 24 59.6**	**+0.1**
ZNGN	**Zangian**	**1.90**	**118**	Pn	**Pb**	**08 25 05.0**	**+1.9**
KCHF	**Cheshme Sefid,**	**1.97**	**310**	Pn	**Pn**	**08 25 03.4**	**+1.7**
SNQR	**Sonqor, Kerman**	**2.10**	**331**	Pn	**Pn**	**08 25 05.9**	**+2.3**
QAMS	**Qamsar**	**2.22**	**71**	Pn	**Pn**	**08 25 08.6**	**+3.3**
IKLH	**Kolahrood**	**2.29**	**82**	Pn	**Pb**	**08 25 10.0**	**+0.4**
IBRJ	**Brojen**	**2.31**	**118**	Pn	**Pn**	**08 25 10.2**	**+3.8**
ILBA	**Ilam Banvizeh**	**2.31**	**286**	Pn	**Pn**	**08 25 08.2**	**+1.9**
ILBA	**Ilam Banvizeh**	**2.31**	**286**	*ePnA*		08 25 08.3	
ILBA				IAML		08 25 55.1	
	comp=Z,2µm,1.0s						
IGHG	**Ghaleghazi**	**2.32**	**305**	Pn	**Pn**	**08 25 08.3**	**+1.7**
SNGE	**Sanandaj**	**2.42**	**329**	*ePnA*		08 25 10.3	
SNGE				IAML		08 25 48.3	
	comp=Z,1µm,1.0s						
HGHA	**Hamedan- Ghaye**	**2.45**	**360**	Pn	**Pn**	**08 25 10.8**	**+2.4**
IBDR	**Badra**	**2.47**	**273**	*ePn*	**Pn**	**08 25 10.0**	**+1.6**
IBDR				*eSn*	**Sn**	**08 25 42.0**	**+3.3**
GHVR	**GHOM**	**2.48**	**54**	*ePnA*		08 25 12.5	
GHVR				IAML		08 25 16.8	
	comp=Z,2µm,1.0s						
IQOM	**Qom**	**2.57**	**45**	Pn	**Pn**	**08 25 12.6**	**+2.6**
IDHR	**Dehrash**	**2.66**	**310**	Pn	**Pn**	**08 25 13.0**	**+1.9**
RAFI	**Al-Rafai**	**2.67**	**242**	*ePn*	**Pn**	**08

GNI Garni 7.84 336 *ce*P Pn 08 26 17.3 -5.1
GNI pmax pmax
comp=Z,7.0nm,0.6s
SBZV Sabzevar 7.94 63 Pn **Pn** **08 26 26.6 +2.9**
SBZV Sabzevar 7.94 63 *e*Pn **Pn** **08 26 27.9 +4.2**
SBZV IAML 08 28 11.7
comp=Z,31nm,1.0s
SEKA Sheki 8.27 351 P **Pn** **08 26 31.2 +3.0**
SMRA Abu-Samra 8.43 168 P **Pn** **08 26 33.5 +3.2**
SMRA S **Sn** **08 28 05.2 -0.3**
AKT Akhty 8.48 354 *e*P **Pn** **08 26 34.5 +3.4**
AKT pmax pmax
comp=Z,15nm,0.8s
AKT MLR MLR
comp=Z,180nm,11.0s
TRNA Turayna 8.51 165 P **Pn** **08 26 33.9 +2.4**
SNR=10.0
TRNA S **Sn** **08 28 06.5 -1.1**
BSRN Basiran 8.72 94 Pn **Pn** **08 26 37.6 +3.1**
BSRN Basiran 8.72 94 *e*Pn **Pn** **08 26 37.2 +2.7**
JRN Qarnain Island 8.78 156 P **Pn** **08 26 36.6 +1.5**
JRN S **Sn** **08 28 11.6 -2.5**
SLWR Sila 9.26 164 P **Pn** **08 26 44.1 +2.4**
SLWR S **Sn** **08 28 23.5 -2.5**
SHME Shamm 9.40 136 P **Pn** **08 26 43.7 +0.1**
SHME S **Sn** **08 28 25.1 -4.3**
SHME Shamm 9.40 136 P **Pn** **08 26 43.9 +0.3**
BANOM Banah 9.59 136 P **Pn** **08 26 47.2 +1.0**
BANOM S **Sn** **08 28 29.7 -4.4**
BANOM Banah 9.59 136 P **Pn** **08 26 47.0 +0.8**
RAYN Ar Rayn 9.93 198 **Pn** **08 26 51.7 +0.9**
RAYN Ar Rayn 9.93 198 P **Pn** **08 26 51.7 +0.9**
MASF Masafi 9.93 138 P **Pn** **08 26 51.7 +0.8**
SNR=9.4
MASF S **Sn** **08 28 38.5 -4.0**
MSFE Esma-Masafi 9.94 138 P **Pn** **08 26 51.4 +0.4**
NAZ Nazwa, Dubai 9.97 142 P **Pn** **08 26 52.1 +0.7**
SNR=6.0
NAZ Nazwa, Dubai 9.97 142 P **Pn** **08 26 52.8 +1.4**
MAK Makhachkala 9.97 354 *d* iP Pn 08 26 46.6 -4.8
MAK pmax pmax
comp=Z,307nm,1.6s
MAK MLR MLR
comp=Z,521nm,17.0s
AJN Ajban 9.99 146 P **Pn** **08 26 54.2 +2.5**
MDH Madha 10.07 138 P **Pn** **08 26 53.6 +0.8**
SNR=8.1
MDH S **Sn** **08 28 40.9 -4.8**
MDH Madha 10.07 138 P **Pn** **08 26 53.4 +0.7**
FAQ Al Faqa, Dubai 10.13 143 P **Pn** **08 26 55.4 +1.7**
ASF Jabal al Asfar 10.14 268 Pn **Pn** **08 26 53.3 -0.5**
comp=Z,2.1nm,0.3s,baz=128,slow=9.5,SNR=12
ASF Sn **Sn** **08 28 41.7 -6.0**
comp=Z,0.5nm,0.3s,baz=139,slow=20,SNR=1.4
ASF Lg Lg 08 29 47.8
comp=Z,0.3nm,0.3s,baz=83,slow=18,SNR=2.0
ASF LR LR 08 31 55.4
comp=Z,256nm,18.4s,baz=112,slow=44
comp=Z,6.4nm,0.4s
UOSS Minazif 10.29 140 **Pn** **08 26 56.4 +0.5**
UOSS Minazif 10.29 140 P **Pn** **08 26 56.6 +0.8**
UOSS Minazif 10.29 140 P **Pn** **08 26 55.1 -0.8**
HATD Hatta, Dubai 10.35 140 P **Pn** **08 26 57.7 +1.1**
ASHO Ashiyiah 10.43 141 P **Pn** **08 26 58.8 +1.1**
SNR=10
ASHO S **Sn** **08 28 50.3 -4.3**
ASHO Ashiyiah 10.43 141 P **Pn** **08 26 58.8 +1.1**
ASHO S **Sn** **08 28 49.1 -5.6**
ARPR Arapgir-MALATY 10.46 308 Pn **Pn** **08 26 58.5 +0.3**
JASK Jask - Hormozg 10.60 130 P **Pn** **08 27 00.4 +0.4**
JASK S **Sn** **08 28 52.7 -6.1**
ZHSF Zahedan 10.73 105 *e*Pn **Pn** **08 27 06.2 +4.2**
MZR Muzera 10.78 157 P **Pn** **08 27 04.8 +2.2**
MZR Muzera 10.78 157 P **Pn** **08 27 05.5 +2.9**
ALNE Al Ain 10.79 144 P **Pn** **08 27 03.3 +0.7**
ALNE S **Sn** **08 28 59.0 -4.4**
SOHO SOHO 11.12 141 P **Pn** **08 27 06.9 -0.3**
SOHO S **Sn** **08 29 06.8 -4.9**
SOHO SOHO 11.12 141 P **Pn** **08 27 06.3 -1.0**
MMAI Mount Meron Ar 11.31 274 Pn **Pn** **08 27 10.1 +0.3**
comp=Z,1.1nm,0.3s,baz=80,slow=10,SNR=1.8
MMAI Sn **Sn** **08 29 18.4 +2.0**
comp=Z,1.1nm,0.3s,baz=113,slow=22,SNR=1.5
MMAI Lg Lg 08 30 30.9
baz=160,slow=34
MMAI LR LR 08 32 42.0
comp=Z,251nm,18.2s,baz=85,slow=44
comp=Z,0.6nm,0.3s
NEUR Neytrino 11.31 336 *e*P **Pn** **08 27 07.8 -2.1**
GHAJ Ghor Haditha 11.41 265 Pn **Pn** **08 27 10.6 -0.5**
KBZ Khabaz 11.66 338 Pn **Pn** **08 27 17.6 +3.1**
comp=Z,0.1nm,0.3s,baz=234,slow=6.0,SNR=1.9
KBZ LR LR 08 32 06.9
comp=Z,162nm,19.5s,baz=152,slow=40
comp=Z,1.5nm,0.9s
KBZ Khabaz 11.66 338 *i* P **Pn** **08 27 12.4 -2.1**
ARQ Araqi 11.77 143 P **Pn** **08 27 16.2 +0.1**
KVAR Kislovodsk Arr 11.93 338 Pn **Pn** **08 27 22.5 +4.2**
baz=252,slow=19
comp=Z,2.8nm,0.4s
KIV Kislovodsk 11.93 338 *e*P **Pn** **08 27 15.7 -2.6**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,59nm,13.0s
HOQ Hoqain 11.98 140 P **Pn** **08 27 19.9 +0.8**
BNN Bunyan 12.05 303 Pn **Pn** **08 27 19.7 -0.3**
EIL Elat 12.36 258 Pn **Pn** **08 27 23.5 -0.7**
comp=Z,0.7nm,0.3s,baz=109,slow=6.4,SNR=4.6
EIL Lg Lg 08 31 01.9
baz=58,slow=16
EIL LR LR 08 33 16.4
comp=Z,204nm,19.5s,baz=66,slow=43
comp=Z,3.3nm,0.5s
BSY Bisya 12.61 142 P **Pn** **08 27 27.9 +0.3**
SOC Sochi 12.75 328 *e*P Pn 08 27 22.5 -6.8
SOC *e*SS **Sn** **08 29 57.6 +6.3**
SOC MLR MLR
comp=Z,104nm,15.0s
SMDO Samad 12.81 139 P **Pn** **08 27 30.2 -0.2**
SMDO S **Sn** **08 29 48.1 -5.0**
WSAR Wadi Sarin 13.00 136 Pn **Pn** **08 27 31.9 -1.0**
baz=329,slow=24,SNR=14
WSAR Sn Sn 08 29 50.4 -7.3
baz=287,slow=19,SNR=11
WSAR Wadi Sarin 13.00 136 P **Pn** **08 27 32.8 -0.1**
SNR=6.5
JMDO Jabal Madar 13.39 140 P **Pn** **08 27 38.2 -0.1**
WBK Wadi Bani Khal 13.68 137 P **Pn** **08 27 41.7 -0.5**
BR131 Keskin Array S 13.97 303 *i* P Pn 08 27 38.5 -7.7
BRTR Keskin Array B 13.97 303 Pn **Pn** **08 27 48.9 +2.8**
comp=Z,0.1nm,0.3s,baz=116,slow=11,SNR=5.3
comp=Z,0.3nm,0.4s
JLN Jalan Bani Buh 14.29 137 P **Pn** **08 27 50.0 -0.6**
MHTO MHTO 14.46 144 P **Pn** **08 27 51.8 -1.1**
DOK Doka 15.11 161 P **Pn** **08 28 01.7 +0.1**
DQM DQM 15.17 147 P **Pn** **08 28 01.2 -1.3**
WHFO Wadi Hawf 15.68 163 P **Pn** **08 28 08.1 -1.0**
SNR=19
ISP Isparta 15.70 293 Pn **Pn** **08 28 09.8 +0.3**
ISP IAmb IAmb 08 28 16.0
comp=Z,15nm,0.9s
ISP Isparta 15.70 293 P **Pn** **08 28 09.8 +0.3**
ISP pmax pmax
comp=Z,15nm,0.9s
ABTO Aybut 16.11 165 P **Pn** **08 28 14.5 -0.3**
RBK Rabkut 16.19 161 P **Pn** **08 28 15.7 -0.1**
DMTO DMTO 16.20 159 P **Pn** **08 28 15.1 -0.7**
KBL Kabul 16.84 79 Pn **Pn** **08 28 23.6 -0.5**
KBL Kabul 16.84 79 P **Pn** **08 28 23.6 -0.5**
KBL pmax pmax
comp=Z,7.0nm,1.0s
SIMJ Simiganj 17.25 65 **Pn** **08 28 28.2 -1.0**
AB31 Akbulak array 18.20 24 **Pn** **08 28 40.3 -0.4**
ABKAR Akbulak array 18.20 24 **Pn** **08 28 40.6 -0.1**
GAR Garm 18.32 65 P **Pn** **08 28 42.2 -0.3**
GAR IAmb IAmb 08 28 46.5
comp=Z,15nm,1.1s
AKTO Aktyubinsk 18.66 19 P **P** **08 28 46.3 +0.3**
comp=Z,0.4nm,0.3s,baz=211,slow=8.1,SNR=9.2
comp=Z,4.1nm,0.6s
BELG Belogornoye 19.38 358 P **P** **08 28 52.9 -0.9**
comp=Z,32nm,0.8s,baz=166,slow=4.2,SNR=5.1
TIRR Tirgusor 19.56 312 ⇑P **P** **08 28 57.4 +1.5**
TIRR Tirgusor 19.56 312 ⇑P **P** **08 28 57.4 +1.5**
KK31 Karatay Array 19.73 53 **P** **08 28 58.1 +0.2**
KK31 Karatay Array 19.73 53 P **P** **08 28 58.1 +0.2**
KK31 pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 19.73 53 **P** **08 28 58.9 +1.0**
KKAR Karatay Array 19.73 53 P **P** **08 28 58.9 +1.0**
TPGR Topolog 19.75 313 ⇓P **P** **08 28 59.8 +1.7**
ALN Alexandroupoli 19.82 300 **P** **08 28 59.1 +0.3**
ALN IAmb IAmb 08 29 01.0
comp=Z,22nm,0.7s
ALN Alexandroupoli 19.82 300 P **P** **08 28 59.1 +0.3**
ALN pmax pmax
comp=Z,22nm,0.7s
IDI Anoyia 19.97 283 P **P** **08 29 01.4 +0.9**
IDI Anoyia 19.97 283 P **P** **08 29 01.9 +1.4**
comp=Z,4.0nm,0.3s,baz=116,slow=7.0,SNR=25
comp=Z,9.8nm,0.3s
CFR Carcaliu 20.09 313 ⇑P **P** **08 29 00.3 -1.3**
CFR Carcaliu 20.09 313 ⇑P **P** **08 29 00.3 -1.3**
RDO Rodhopi 20.26 300 P **P** **08 29 03.4 -0.2**
RDO IAmb IAmb 08 29 11.1
comp=Z,11nm,0.9s
NIL Nilore 20.37 82 **P** **08 29 06.9 +2.0**
NIL IAmb IAmb 08 29 07.9
comp=Z,21nm,0.8s
NIL Nilore 20.37 82 P **P** **08 29 06.9 +2.0**
NIL pmax pmax
comp=Z,21nm,0.9s
ARSB Arslanbob 20.87 60 P **P** **08 29 11.4 +1.0**
ARSB Arslanbob 20.87 60 P **P** **08 29 11.4 +1.0**
ARSB pmax pmax
comp=Z,8.0nm,1.0s
VRI Vrincioaia 21.29 313 ⇓P **P** **08 29 15.3 +0.6**
VRI Vrincioaia 21.29 313 ⇓P **P** **08 29 15.3 +0.6**
PLOR Plostina 21.33 313 ⇑P **P** **08 29 16.5 +1.3**
PLOR Plostina 21.33 313 ⇑P **P** **08 29 16.5 +1.3**
MLR Muntele Rosu 21.59 312 **P** **08 29 17.5 -0.6**
MLR IAmb IAmb 08 29 23.9
comp=Z,9.0nm,0.7s
MLR Muntele Rosu 21.59 312 P **P** **08 29 19.5 +1.4**
comp=Z,9.2nm,0.7s,baz=130,slow=6.4,SNR=15
comp=Z,9.2nm,0.7s
MLR Muntele Rosu 21.59 312 ⇑P **P** **08 29 20.4 +2.3**
MLR Muntele Rosu 21.59 312 P **P** **08 29 17.5 -0.6**
MLR pmax pmax
comp=Z,9.0nm,0.7s
SORM Soroca 21.60 320 ⇑P **P** **08 29 17.5 -0.4**
SORM Soroca 21.60 320 ⇑P **P** **08 29 17.5 -0.4**
COVR Voineasa-Covas 21.60 313 ⇓P **P** **08 29 19.2 +1.1**
TESR Tescani 21.66 315 ⇑P **P** **08 29 18.7 0.0**
ONER Baraj Valea Uz 21.72 314 ⇓P **P** **08 29 20.2 +0.9**
ATD Arta Tunnel 22.10 196 LR LR 08 38 42.3
comp=Z,6.2nm,20.7s,baz=358,slow=39
VOIR 22.14 311 ⇑P **P** **08 29 24.9 +1.1**
VOIR 22.14 311 ⇑P **P** **08 29 24.9 +1.1**
AAK Ala-Archa 22.32 57 LR LR 08 39 35.9
comp=Z,180nm,18.7s,baz=258,slow=41
ITM Ithomi 22.40 288 **P** **08 29 25.8 -0.9**
KSH Kashi 22.74 66 P **P** **08 29 29.0 -1.4**
KSH pmax pmax
comp=Z,32nm,1.0s
AKASG Malin Array Be 22.81 327 P **P** **08 29 29.3 -1.7**
comp=Z,2.2nm,0.8s,baz=136,slow=9.2,SNR=19
comp=Z,2.2nm,0.8s
AKBB Malin Array Si 22.81 327 **P** **08 29 30.6 -0.3**
AKBB IAmb IAmb 08 29 47.4
comp=Z,9.0nm,1.1s
AKBB Malin Array Si 22.81 327 P **P** **08 29 25.9 -5.0**
AKBB pmax pmax
comp=Z,14nm,1.6s
KIEV Kiev 22.82 326 **P** **08 29 30.7 -0.2**
KIEV IAmb IAmb 08 29 47.4
comp=Z,8.8nm,1.1s
KIEV Kiev 22.82 326 ⇑P **P** **08 29 31.9 +1.0**
KIEV Kiev 22.82 326 P **P** **08 29 30.7 -0.2**
KIEV pmax pmax
comp=Z,9.0nm,1.2s
BURAR Bucovina Array 23.06 316 **P** **08 29 33.5 -0.2**
BURAR Bucovina Array 23.06 316 ⇑P **P** **08 29 33.9 +0.2**
BURAR Bucovina Array 23.06 316 ⇑P **P** **08 29 33.9 +0.2**
BUR08 Bucovina Ar. S 23.09 316 **P** **08 29 33.3 -0.7**
NRN Naryn 23.10 61 **P** **08 29 34.5 +0.1**
NRN Naryn 23.10 61 P **P** **08 29 34.5 +0.1**
NRN pmax pmax
comp=Z,19nm,0.7s
FNA Florina 23.25 297 P **P** **08 29 34.6 -1.0**
FNA Florina 23.25 297 P **P** **08 29 34.6 -1.0**
FNA pmax pmax
comp=Z,2.0nm,1.0s
GZR Gura Zlata 23.58 309 ⇑P **P** **08 29 39.6 +0.8**
GZR Gura Zlata 23.58 309 ⇑P **P** **08 29 39.6 +0.8**
BOVS Bovan 23.70 304 ⇑P **P** **08 29 40.0 0.0**
OBN Obninsk 23.71 342 *e*P **P** **08 29 39.2 -0.7**
OBN *e*PPP PPP 08 30 13.6
OBN *e* 08 33 19.6
OBN pmax pmax
comp=Z,10.0nm,0.4s
OBN MLR MLR
comp=Z,90nm,17.0s
MOS Moscow 24.02 344 *e*P **P** **08 29 38.5 -4.4**
MDVR Moldovita 24.06 307 ⇓P **P** **08 29 41.8 -1.6**
DRGR 24.19 312 ⇑P **P** **08 29 46.1 +1.4**
DRGR 24.19 312 ⇑P **P** **08 29 46.1 +1.4**
ARTI Arti 24.27 13 **P** **08 29 45.5 +0.3**
ARTI Arti 24.27 13 LR LR 08 42 12.8
comp=Z,77nm,19.4s,baz=350,slow=44
ARTI Arti 24.27 13 P **P** **08 29 46.3 +1.1**
ARTI 08 30 15.1
ARTI S **S** **08 34 08.3 +4.6**
ARTI SS **SnSn** **08 34 51.2 +5.1**
TARG Taragay, Kyrgy 24.48 61 **P** **08 29 48.3 +0.4**
TARG IAmb IAmb 08 29 53.1
comp=Z,10.0nm,0.9s
TARG Taragay, Kyrgy 24.48 61 P **P** **08 29 48.3 +0.4**
TARG pmax pmax
comp=Z,10.0nm,0.9s
SIRR Siria 24.64 310 ⇓P **P** **08 29 49.8 +1.1**
SVE Sverdlovsk 25.14 15 *e*P **P** **08 29 54.3 +1.2**
BRVK Borovoye 25.23 31 **P** **08 29 54.7 +0.7**
BRVK IAmb IAmb 08 29 57.0
comp=Z,11nm,1.2s
BRVK Borovoye 25.23 31 *ce*P **P** **08 29 54.9 +0.9**
BRVK pmax pmax
comp=Z,12nm,1.3s
BVAR Borovoye Array 25.25 31 P **P** **08 29 54.8 +0.6**
comp=Z,10nm,0.6s,baz=226,slow=7.9,SNR=54
BVAR LR LR 08 42 42.9
comp=Z,30nm,20.1s,baz=233,slow=43
comp=Z,10nm,0.6s
KOLS Kolonicke sedl 25.43 317 *e*P **P** **08 29 57.0 +1.2**
KOLS pmax pmax
comp=Z,15nm,1.0s
KOLS Kolonicke sedl 25.43 317 *e*P **P** **08 29 57.0 +1.2**
KIRV Kirov 25.56 1 ⇓*i*P **P** **08 29 57.6 +0.7**
MNK Minsk 26.09 332 *e*P **P** **08 29 58.3 -3.4**
comp=E,36nm,0.9s
MNK *e*P **P** **08 29 58.3 -3.4**
comp=N,18nm,1.1s,baz=137
MNK *i* PP **PnPn** **08 30 34.8 -5.0**
MNK *i* PPP PPP 08 30 42.7
MNK *i* S **S** **08 34 27.8 -5.0**
MNK *i* SS **SnSn** **08 35 25.2 -5.4**
MNK *i* SSS SSS 08 35 38.6
MNK *i* LQ LQ 08 38 12.4
MNK *i* LR LR 08 39 49.8
MNK *i* LRM MLR 08 41 25.2
comp=N,63nm,19.3s
MNK *i* LRM MLR 08 41 30.6
comp=E,51nm,19.6s
MNK *i* LRM MLR 08 41 30.6
comp=Z,61nm,17.6s
MNK Minsk 26.09 332 *e*P **P** **08 29 58.3 -3.4**
MNK *i* PPP PPP 08 30 42.7
MNK *i* S **S** **08 34 27.8 -5.0**
MNK *i* SSS SSS 08 35 38.5
MNK pmax pmax
comp=E,36nm,0.9s
MNK pmax pmax
comp=N,18nm,1.1s
MNK MLR MLR
comp=N,63nm,19.0s
MNK MLR MLR
comp=E,51nm,20.0s
MNK MLR MLR
comp=Z,61nm,18.0s
STHS Stebnicka Huta 26.25 317 *e*P **P** **08 30 01.4 -1.9**
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 26.25 317 *e*P **P** **08 30 01.4 -1.9**
PSZ Piszkesteto 26.40 313 **P** **08 30 05.1 +0.4**
PSZ IAmb IAmb 08 30 17.9
comp=Z,11nm,1.0s
PSZ Piszkesteto 26.40 313 P **P** **08 30 05.1 +0.4**
PSZ pmax pmax
comp=Z,11nm,1.0s
PSZ Piszkesteto 26.40 313 *e*P **P** **08 30 06.4 +1.7**
MORH Mrgy, Hungar 26.57 309 ⇓P **P** **08 30 07.0 +0.8**
TIP Timpagrande 26.57 293 P **P** **08 30 06.0 -0.4**
TIP IAmb IAmb 08 30 14.0
comp=Z,6.3nm,0.7s
TIP Timpagrande 26.57 293 ⇓P **P** **08 30 08.1 +1.7**
LANS Liptovska Anna 27.17 315 *e*P **P** **08 30 12.3 +0.7**
LANS Liptovska Anna 27.17 315 *e*P **P** **08 30 12.3 +0.7**
CUC Castrocucco 27.36 294 P **P** **08 30 13.8 +0.5**
CUC IAmb IAmb 08 30 30.7
comp=Z,4.0nm,0.8s
OJC Ojcow 27.45 317 **P** **08 30 13.8 -0.3**
OJC Ojcow 27.45 317 P **P** **08 30 13.8 -0.3**
SUW Suwalki 27.79 327 P **P** **08 30 16.5 -0.5**
SUW Suwalki 27.79 327 P **P** **08 30 16.5 -0.5**
KURBB Kurchatov Arra 27.97 42 P **P** **08 30 19.9 +1.2**
comp=Z,1.1nm,0.6s,baz=245,slow=9.3,SNR=7.1
comp=Z,1.1nm,0.6s
KURK Kurchatov 28.06 42 P **P** **08 30 19.2 -0.3**
KURK Kurchatov 28.06 42 *ce*P **P** **08 30 20.5 +1.0**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KLMR Klimovskoe 28.50 350 *e*P **P** **08 30 20.1 -3.2**
KLMR pmax pmax
comp=Z,11nm,1.1s
MORC Moravsky Berou 28.57 315 P **P** **08 30 23.6 -0.5**
MORC IAmb IAmb 08 30 25.0
comp=Z,5.0nm,1.2s
MORC Moravsky Berou 28.57 315 *e*P **P** **08 30 23.8 -0.3**
MORC Moravsky Berou 28.57 315 P **P** **08 30 23.6 -0.5**
MORC pmax pmax
comp=Z,5.0nm,1.2s
MK31 Makanchi Array 28.84 52 P **P** **08 30 26.2 -0.3**
MK31 Makanchi Array 28.84 52 ⇓*i*P **P** **08 30 28.2 +1.6**
MKAR Makanchi Array 28.84 52 **P** **08 30 27.1 +0.5**
MKAR Makanchi Array 28.84 52 P **P** **08 30 27.9 +1.3**
comp=Z,2.9nm,0.8s,baz=246,slow=8.4,SNR=24
MKAR LR LR 08 43 27.5
comp=Z,86nm,19.3s,baz=190,slow=40
comp=Z,2.9nm,0.8s
MKAR Makanchi Array 28.84 52 *ce*P **P** **08 30 28.2 +1.6**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
ARSA Arzberg 28.93 309 *e*P **P** **08 30 27.5 +0.2**
comp=Z,3.0nm,0.4s
VRAC Vranov 28.96 314 *e*P **P** **08 30 27.2 -0.3**
VRAC Vranov 28.96 314 LR LR 08 42 58.2
comp=Z,32nm,18.1s,baz=124,slow=38
KRUC Moravsky 28.98 313 *e*P **P** **08 30 27.2 -0.6**
VSU Vasula 29.48 336 *ce*P **P** **08 30 30.0 -2.0**
VSU pmax pmax
comp=Z,12nm,1.7s
BIOA Bad Ischl, Aus 30.29 309 *e*P **P** **08 30 39.7 +0.3**
comp=Z,1.3nm,0.4s
GERES GERES Array B 30.58 312 P **P** **08 30 41.3 -0.7**
comp=Z,0.3nm,0.4s,baz=114,slow=8.9,SNR=6.4
GERES PcP **PcP** **08 33 39.1 -1.4**
comp=Z,0.4nm,0.6s,baz=116,slow=3.1,SNR=4.5
GERES LR LR 08 44 53.7
comp=Z,41nm,21.1s,baz=140,slow=40
comp=Z,0.3nm,0.4s
ABTA Abfaltersbach 30.79 307 *e*P **P** **08 30 43.2 -0.7**
comp=Z,0.7nm,0.4s
LESA Schwarzleotal 30.84 309 *e*P **P** **08 30 43.6 -0.7**
comp=Z,1.3nm,0.4s
WTTA Wattenberg 31.49 308 *e*P **P** **08 30 49.6 -0.5**
comp=Z,3.2nm,0.4s
WATA Walderalm 31.55 308 *e*P **P** **08 30 49.8 -0.8**
comp=Z,2.0nm,0.4s
MEF Metsahovi 31.60 337 *e*P **P** **08 30 50.4 -0.3**
SQTA Sankt Quirin 31.77 308 *e*P **P** **08 30 51.7 -0.8**
comp=Z,6.7nm,0.4s
CLL Collm 31.83 316 *e*P **P** **08 30 55.0 +2.1**
CLL Collm 31.83 316 *e*Px Px 08 30 55.0
MOTA Moosalm 31.86 308 *i* P **P** **08 30 52.2 -1.2**
comp=Z,1.9nm,0.3s
JOF Joensuu 31.91 345 *e*P **P** **08 30 53.1 -0.3**
FINES FINESS Array B 32.02 339 P **P** **08 30 53.6 -0.7**
FINES FINESS Array B 32.02 339 P **P** **08 30 54.0 -0.3**
comp=Z,2.0nm,0.7s,baz=154,slow=9.4,SNR=13
comp=Z,2.0nm,0.7s
FINES FINESS Array B 32.02 339 *ce*P **P** **08 30 54.2 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FIA1 FINESS Array S 32.02 339 P **P** **08 30 54.1 -0.3**
FETA Feichten 32.04 307 *e*P **P** **08 30 54.4 -0.6**
comp=Z,2.5nm,0.4s
RETA Reutte 32.12 308 *e*P **P** **08 30 54.6 -0.9**
comp=Z,1.0nm,0.3s
FUORN Ofenpass-Fuorn 32.28 306 P **P** **08 30 56.1 -1.1**
FUORN IAmb IAmb 08 31 30.5
comp=Z,5.3nm,1.3s
DAVOX Davos/Dischmat 32.57 307 LR LR 08 45 14.5
comp=Z,44nm,19.7s,baz=82,slow=38
DAVA Damuels 32.66 307 *i* P **P** **08 30 59.7 -0.7**
comp=Z,6.8nm,0.4s
TUE Stuetta 32.87 306 P **P** **08 31 00.6 -1.7**
TUE IAmb IAmb 08 31 09.8
comp=Z,3.2nm,1.1s
ZAA0 Zalesovo Array 32.90 40 P **P** **08 31 01.4 -0.8**
ZAA0 IAmb IAmb 08 31 03.5
comp=Z,3.5nm,0.7s
ZALV Zalesovo Beam 32.90 40 P **P** **08 31 02.0 -0.3**
ZALV Zalesovo Beam 32.90 40 P **P** **08 31 02.5 +0.3**
comp=Z,4.0nm,0.7s,baz=263,slow=10.0,SNR=15
ZALV LR LR 08 46 33.6
comp=Z,36nm,18.3s,baz=272,slow=40
comp=Z,4.0nm,0.7s
KEF Keuruu 32.94 339 *e*P **P** **08 31 02.2 -0.2**
RAF Rauma 33.08 336 *e*P **P** **08 31 03.8 +0.2**
SENIN Lac Senin/Sane 34.25 305 P **P** **08 31 14.0 -0.4**
SENIN IAmb IAmb 08 31 30.6
comp=Z,2.2nm,0.8s
BNI Bardonecchia 34.53 303 **P** **08 31 16.3 -0.4**
BNI IAmb IAmb 08 31 30.5
comp=Z,6.9nm,0.8s
BNI Bardonecchia 34.53 303 P **P** **08 31 16.3 -0.4**
BNI pmax pmax
comp=Z,7.0nm,0.8s
HFS Hagfors 35.58 330 P **P** **08 31 24.9 -0.5**
comp=Z,3.7nm,0.3s,baz=127,slow=9.7,SNR=88
HFS LR LR 08 46 56.9
comp=Z,56nm,20.7s,baz=112,slow=38
comp=Z,3.7nm,0.3s
NC602 NORSAR Array S 36.80 330 P **P** **08 31 35.8 0.0**
NC405 NORSAR Array S 36.93 331 P **P** **08 31 36.6 -0.3**
NC405 IAmb IAmb 08 31 38.0
comp=Z,5.7nm,0.9s
NB2 NORSAR Subarra 37.10 330 P **P** **08 31 37.2 -1.2**
comp=Z,1.0nm,0.5s,baz=122,slow=8.6
NOA NORSAR Array B 37.10 330 P **P** **08 31 37.4 -1.0**
comp=Z,1.1nm,0.6s,baz=123,slow=8.4,SNR=13
NOA LR LR 08 47 55.1
comp=Z,53nm,20.2s,baz=120,slow=38
comp=Z,1.1nm,0.6s
ARCES ARCESS Array B 38.83 347 P **P** **08 31 52.5 -0.3**
ARCES IAmb IAmb 08 32 06.0
comp=Z,9.2nm,1.4s
ARCES ARCESS Array B 38.83 347 P **P** **08 31 52.1 -0.8**
comp=Z,0.6nm,0.5s,baz=153,slow=8.2,SNR=9.0
comp=Z,0.6nm,0.5s
ARCES ARCESS Array B 38.83 347 P **P** **08 31 52.5 -0.3**
ARCES pmax pmax
comp=Z,9.0nm,1.5s
EKA Eskdalemuir Ar 42.23 318 P **P** **08 32 20.1 -1.0**
comp=Z,0.5nm,0.3s,baz=101,slow=7.7,SNR=5.2
comp=Z,0.5nm,0.3s
ESDC Sonseca Array 42.56 295 P **P** **08 32 23.2 -0.9**
comp=Z,0.4nm,0.6s,baz=82,slow=8.5,SNR=5.9
comp=Z,0.4nm,0.6s
DSB Dublin 43.83 315 P **P** **08 32 33.7 -0.4**
SONM Songino Array 45.19 53 P **P** **08 32 45.3 +0.1**
comp=Z,0.7nm,0.8s,baz=296,slow=15,SNR=4.2
comp=Z,0.7nm,0.8s

ULN	**Ulaanbaatar**	**45.63**	**53**	*ce*P		**P**	**08 32 49.8**	**+1.1**
ULN				pmax		pmax			
	comp=Z,6.0nm,1.0s								
CMAR	**Chiang Mai Arr**	**46.96**	**95**	P		**P**	**08 32 59.5**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=298,slow=8.5,SNR=7.2								
	comp=Z,1.1nm,0.3s								
CMAR	**Chiang Mai Arr**	**46.96**	**95**	*ce*P		**P**	**08 33 00.7**	**+1.3**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
TORD	**Torodi Ar. Bea**	**47.25**	**257**	P		**P**	**08 33 02.4**	**+0.7**
	comp=Z,3.0nm,0.6s,baz=48,slow=10,SNR=5.8								
	comp=Z,3.0nm,0.6s								
SPB2	**Spitsbergen Ar**	**47.39**	**351**	P		**P**	**08 33 02.2**	**+0.2**
SPITS	**Spitsbergen Ar**	**47.40**	**351**	P		**P**	**08 33 02.3**	**+0.2**
	comp=Z,3.0nm,0.5s,baz=133,slow=10,SNR=18								
	comp=Z,3.0nm,0.5s								
XAN	**Xi'an**	**49.42**	**71**	⇓P		**P**	**08 33 19.0**	**+0.7**
XAN				pmax		pmax			
	comp=Z,10.0nm,1.1s								
DBIC	**Dimbokro**	**56.20**	**255**	P		**P**	**08 34 08.0**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=94,slow=7.4,SNR=3.4								
DBIC				LR		LR	09 01 20.4		
	comp=Z,76nm,18.4s,baz=121,slow=39								
	comp=Z,2.6nm,0.8s								
DBIC	**Dimbokro**	**56.20**	**255**	P		**P**	**08 34 08.0**	**-0.6**
IPM	**Ipoh**	**56.22**	**109**	P		**P**	**08 34 08.4**	**-0.4**
BBTS	**Babate**	**61.65**	**270**	LR		LR	09 06 31.6		
	comp=Z,47nm,18.9s,baz=240,slow=41								
LBTB	**Lobatse**	**61.84**	**204**	LR		LR	09 02 22.7		
	comp=Z,82nm,18.9s,baz=66,slow=37								
KSRS	**Korea Array**	**62.90**	**61**	P		**P**	**08 34 53.9**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=283,slow=6.9,SNR=6.4								
	comp=Z,1.2nm,0.6s								
BOSA	**Boshof**	**65.28**	**203**	P		**P**	**08 35 10.9**	**+0.7**
	comp=Z,3.2nm,0.7s,baz=12,slow=5.2,SNR=6.9								
	comp=Z,3.2nm,0.7s								
YSS	**Yuzhno-Sakhali**	**69.13**	**47**	*ce*P		**P**	**08 35 34.1**	**-0.3**
YSS				pmax		pmax			
	comp=Z,8.0nm,1.0s								
PETK	**Petropavlovsk-**	**74.37**	**36**	LR		LR	09 13 30.6		
	comp=Z,30nm,18.5s,baz=48,slow=40								
COLA	**College**	**81.54**	**7**	*i* P		**P**	**08 36 45.1**	**-0.4**
COLA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
ILAR	**Eielson Array**	**81.74**	**7**	P		**P**	**08 36 45.8**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=332,slow=4.2,SNR=11								
	comp=Z,1.0nm,0.8s								
YKA	**Yellowknife Ar**	**83.89**	**352**	P		**P**	**08 36 56.7**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=17,slow=5.4,SNR=10								
	comp=Z,0.6nm,0.7s								
YKA	**Yellowknife Ar**	**83.89**	**352**	*ce*P		**P**	**08 36 57.7**	**0.0**
FITZ	**Fitzroy Crossi**	**89.12**	**112**	LR		LR	09 19 43.4		
	comp=Z,42nm,20.1s,baz=297,slow=37								
WRA	**Warramunga Arr**	**96.97**	**109**	P		**P**	**08 37 59.0**	**-1.2**
	comp=Z,0.3nm,0.9s,baz=309,slow=4.6,SNR=4.8								
	comp=Z,0.3nm,0.9s								
ASAR	**Alice Springs**	**98.61**	**113**	P		**P**	**08 38 06.6**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=304,slow=6.5,SNR=4.2								
	comp=Z,0.3nm,0.7s								
QSPA	**South Pole Qui**	**122.86**	**180**	PKP		**PKPdf**	**08 43 23.3**	**-0.2**	
	comp=Z,1.9nm,1.0s,baz=243,slow=1.8,SNR=6.7								

*SNET **21** 08:43:57.3±14.0, 12.°65N×88.°11W, h215km, ML2.6*
*GCG **21** 08:44:10.1±1.7, 13.°12N×87.°99W, h154km±101km, MD3.7*
*CATAC **21** 08:44:10.9±0.4, 13.°N±3.°×8.°8W±.°, h37km±6km, M2.9/23, MLv2.9/23, Error ellipse: s-maj=6.6km s-min=2.1km az=26.9, confirmed*

ISC 21 08:44:08.1±1.3, **12.°57N**±0.°05×**87.°92W**±0.°03, **h9**km±10km, **n55**, σ1°**27**/63, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
POTN	**Potosi Cosigui**	**0.59**	**43**	P		**Pn**	**08 44 23.5**	**+0.8**
POTN				S		**Sb**	**08 44 33.6**	**+4.5**
CNCH	**Conchagua**	**0.70**	**7**	*e*P		**Pn**	**08 44 26.0**	**+1.6**
CNCH				*e*S		**Sn**	**08 44 36.8**	**+1.2**
CNCH	**Conchagua**	**0.70**	**7**	P		**Pn**	**08 44 25.7**	**+1.3**
LCND	**La Caada**	**0.73**	**2**	*e*P		**Pn**	**08 44 26.3**	**+1.6**
LCND	**La Caada**	**0.73**	**2**	P		**Pn**	**08 44 25.9**	**+1.2**
CRIN	**San Cristobal**	**0.86**	**81**	P		**Pn**	**08 44 26.8**	**+0.3**
PACA	**Pacayal**	**0.97**	**336**	*e*P		**Pn**	**08 44 32.3**	**+4.2**
PACA	**Pacayal**	**0.97**	**336**	P		**Pn**	**08 44 28.9**	**+0.8**
PACA	**Pacayal**	**0.97**	**336**	S		**Sn**	**08 44 42.5**	**+0.3**
POLN	**Al Sur del Vol**	**1.08**	**86**	P		**Pn**	**08 44 30.0**	**+0.4**
POLN				S		**Sn**	**08 44 44.8**	**+0.1**
PACN	**Al O del Volca**	**1.10**	**94**	P		**Pg**	**08 44 29.7**	**+0.3**
PACN				S		**Sn**	**08 44 45.5**	**+0.3**
PLRN	**Geotermica Pol**	**1.12**	**89**	P		**Pg**	**08 44 30.2**	**+0.4**
PLRN				S		**Sg**	**08 44 44.3**	**-0.1**
CHOHN	**Orocuina**	**1.17**	**39**	P		**Pb**	**08 44 30.0**	**-0.6**
CNGA	**Al SSO del Vol**	**1.19**	**94**	P		**Pg**	**08 44 30.7**	**-0.4**
CNGN	**Cerro Negro**	**1.20**	**93**	P		**Pg**	**08 44 31.7**	**+0.5**
CNGN	**Cerro Negro**	**1.20**	**93**	S		**Sg**	**08 44 46.9**	**+0.3**
PQSS	**Presa 15 de Se**	**1.22**	**329**	P		**Pn**	**08 44 33.1**	**+1.7**
PQSS	**Presa 15 de Se**	**1.22**	**329**	S		**Sn**	**08 44 48.4**	**+0.4**
TECO	**Alcaldia de Te**	**1.27**	**319**	S		**Sb**	**08 44 48.2**	**-0.7**
TECO	**Alcaldia de Te**	**1.27**	**319**	P		**Pb**	**08 44 32.3**	**-0.1**
COPN	**Copaltepe**	**1.35**	**107**	P		**Pn**	**08 44 32.8**	**-0.4**
MOMN	**Momotombo**	**1.36**	**97**	P		**Pn**	**08 44 33.3**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.37**	**325**	P		**Pg**	**08 44 34.8**	**+0.2**
COEG	**Centro de Oper**	**1.40**	**318**	S		**Sb**	**08 44 51.9**	**-0.7**
COEG	**Centro de Oper**	**1.40**	**318**	P		**Pb**	**08 44 34.4**	**-0.1**
PAVA	**Las Pavas**	**1.51**	**319**	*e*P		**Pg**	**08 44 38.3**	**+1.2**
PAVA	**Las Pavas**	**1.51**	**319**	P		**Pb**	**08 44 36.2**	**-0.2**
SAPS	**Ciudad Sandino**	**1.53**	**105**	P		**Pn**	**08 44 36.7**	**+1.0**
SAPS	**Ciudad Sandino**	**1.53**	**105**	S		**Sn**	**08 44 56.1**	**+0.3**
MARCA	**Marcala la Paz**	**1.58**	**356**	*i* P		**Pn**	**08 44 35.3**	**-1.2**
MARCA				*i* S		**Sg**	**08 44 57.4**	**-1.6**
MARCA	**Marcala la Paz**	**1.58**	**356**	P		**Pn**	**08 44 35.2**	**-1.3**
MARCA	**Marcala la Paz**	**1.58**	**356**	S		**Sg**	**08 44 59.0**	**0.0**
TGUH	**Tegucigalpa,Un**	**1.60**	**23**	P		**Pg**	**08 44 37.5**	**-1.5**
LOMA	**Loma Larga**	**1.62**	**311**	P		**Pn**	**08 44 37.3**	**+0.3**
LOMA	**Loma Larga**	**1.62**	**311**	S		**Sn**	**08 44 57.7**	**-0.4**
ALLN	**Telcor Managua**	**1.66**	**104**	P		**Pn**	**08 44 37.9**	**+0.4**
LCNB	**Cigeo UNAN**	**1.68**	**106**	S		**Sn**	**08 44 58.7**	**+1.6**
YUSH	**Yuscaran**	**1.73**	**37**	P		**Pb**	**08 44 39.7**	**-0.5**
PMON	**Piamonte**	**1.77**	**310**	P		**Pn**	**08 44 40.0**	**+0.9**
PMON	**Piamonte**	**1.77**	**310**	S		**Sn**	**08 45 00.9**	**-0.9**
JAYA	**Jayaque - finc**	**1.84**	**306**	*e*P		**Pn**	**08 44 40.5**	**+0.3**
JAYA	**Jayaque - finc**	**1.84**	**306**	*e*P		**Pn**	**08 44 40.4**	**+0.3**
JAYA	**Jayaque - finc**	**1.84**	**306**	S		**Sn**	**08 45 02.3**	**-1.3**
JAYA	**Jayaque - finc**	**1.84**	**306**	P		**Pn**	**08 44 40.4**	**+0.3**
NANN	**Nandasmo**	**1.87**	**110**	P		**Pn**	**08 44 41.5**	**+1.2**
NANN	**Nandasmo**	**1.87**	**110**	S		**Sn**	**08 45 03.6**	**-0.5**
RCVN	**Varillal2**	**1.96**	**59**	P		**Pb**	**08 44 43.5**	**-0.6**
RCVN	**Varillal2**	**1.96**	**59**	S		**Sb**	**08 45 07.0**	**-1.7**
RCPN	**Sur Rio San Ju**	**2.02**	**62**	P		**Pn**	**08 44 42.9**	**+0.4**
NADN	**Granada**	**2.02**	**114**	P		**Pn**	**08 44 44.9**	**+2.5**
NADN				S		**Sn**	**08 45 06.1**	**-1.7**
NUBE	**Las Nubes**	**2.24**	**306**	*i* P		**Pn**	**08 44 46.3**	**+0.6**
NUBE				*e*S		**Sn**	**08 45 12.0**	**-1.6**
NUBE	**Las Nubes**	**2.24**	**306**	S		**Sn**	**08 45 12.1**	**-1.4**
NUBE	**Las Nubes**	**2.24**	**306**	P		**Pn**	**08 44 46.0**	**+0.4**
FAME	**Alcaldia de Sa**	**2.40**	**302**	P		**Pn**	**08 44 48.8**	**+1.2**
FAME	**Alcaldia de Sa**	**2.40**	**302**	S		**Sn**	**08 45 16.1**	**-1.1**

IDC 21 08:47:31.6±50.0, **23.°09S×177.°75W, h0**km, **mb3.6**/3, **mbtmp3.6**/3, **Error ellipse: s-maj=921.8km s-min=166.3km az=87.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**36.94**	**247**	P		P	08 54 41.9	-0.7
	1.4nm,0.4s,baz=90,slow=7.1,SNR=3.6							
	1.4nm,0.4s							
ASAR	**Alice Springs**	**44.21**	**259**	P		P	08 55 42.6	-0.3
	0.2nm,0.4s,baz=98,slow=7.0,SNR=7.4							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**44.53**	**265**	P		P	08 55 45.9	+0.4
	0.2nm,0.3s,baz=101,slow=8.0,SNR=9.5							
	0.2nm,0.3s							

*NEIC **21** 08:48:17.9±1.0, 19.°33N±0.°01×155.°119W±0.°007, h4km±3km, Error ellipse: s-maj=1.9km s-min=0.8km az=164.0*

HVO 21 08:48:17.0±1.1, **19.°327N**±0.°009×**155.°129W**±0.°007, **h0**km±8km, **ML2.7**/40, **ML2.6**/36(NEIC), **Error ellipse: s-maj=1.3km s-min=1.0km az=165.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC

STCH	**Steam Cracks**	**0.06**	**4**			Pg	08 48 19.4	+1.2	
STCH						Sg	08 48 19.5	+0.6	
JCUZ	**Jacuzzi**	**0.06**	**25**			Pg	08 48 19.4	+1.2	
JCUZ						Sg	08 48 21.0	+1.9	
KNHH	**Kane Nui o Ham**	**0.06**	**324**			Pg	08 48 19.7	+1.4	
NPOC	**North of Pu'u**	**0.07**	**16**			Pg	08 48 19.5	+1.1	
NPOC						Sg	08 48 21.1	+1.9	
PUH	**Pauahi**	**0.09**	**300**			Pg	08 48 20.1	+1.3	
PUH						Sg	08 48 22.1	+2.1	
PUH					IAML		08 48 22.3		
	comp=N,2μm,0.1s								
PUH					IAML		08 48 22.3		
	comp=E,3μm,0.1s								
KKO	**Keanakako'i**	**0.15**	**299**			Pg	08 48 20.9	+1.1	
KKO						Sg	08 48 23.9	+2.1	
BYL	**Byron's Ledge**	**0.15**	**304**			Pg	08 48 20.9	+1.0	
BYL					IAML		08 48 23.8		
	comp=N,1μm,0.5s								
BYL					IAML		08 48 24.0		
	comp=E,2μm,0.2s								
RIM	**Rim**	**0.15**	**296**			Pg	08 48 21.0	+1.1	
RIM						Sg	08 48 24.1	+2.1	
HATHI	**Halema'uma'u T**	**0.16**	**307**			Pg	08 48 21.0	+0.9	
HATHI						Sg	08 48 23.3	+1.2	
HATHI					IAML		08 48 25.1		
	comp=E,960nm,0.4s								
JOKA	**Jonika Flow**	**0.16**	**48**			Pg	08 48 20.7	+0.6	
JOKA						Sg	08 48 23.4	+1.3	
SBLHI	**Steaming Bluff**	**0.16**	**307**			Pg	08 48 21.0	+0.9	
SDHHI	**Sand Hill**	**0.17**	**292**			Pg	08 48 21.2	+1.0	
SDHHI						Sg	08 48 24.3	+1.9	
UWB	**Uwekahuna Bluf**	**0.17**	**305**			Pg	08 48 21.1	+0.9	
UWB						Sg	08 48 24.2	+1.7	
HLP	**Hilina Pali**	**0.17**	**260**			Pg	08 48 21.6	+1.4	
HLP						Sg	08 48 24.3	+1.8	
HLP					IAML		08 48 25.1		
	comp=E,2μm,0.2s								
HLP					IAML		08 48 25.1		
	comp=N,2μm,0.2s								
OBL	**Observatory Le**	**0.17**	**302**			Pg	08 48 21.3	+1.0	
OBL						Sg	08 48 25.1	+2.6	
WRMHI	**West Rim**	**0.18**	**296**			Pg	08 48 21.3	+0.9	
WRMHI						Sg	08 48 24.9	+2.1	
UWE	**Uwekahuna**	**0.18**	**301**			Pg	08 48 21.6	+1.1	
RSD	**Rainshed**	**0.20**	**314**			Pg	08 48 25.1	+4.3	
HTC	**Hot Caves**	**0.27**	**251**			Pb	08 48 23.4	-1.3	
MLH	**Mauna Loa**	**0.29**	**304**			Pg	08 48 23.5	+0.9	
MLH					IAML		08 48 30.1		
	comp=E,591nm,0.2s								
MLH					IAML		08 48 33.0		
	comp=N,917nm,0.2s								
AIN	**Ainahou**	**0.31**	**278**			Pg	08 48 24.0	+1.0	
HMH	**Humu'ula Sheep**	**0.43**	**309**			Pg	08 48 26.0	+0.7	
HMH						Sb	08 48 33.1	-1.7	
KHU	**Kahuku**	**0.47**	**260**			Pg	08 48 26.2	+0.3	
KHU						Sb	08 48 33.8	-1.9	
MWH	**Mokuaweoweo**	**0.47**	**290**			Pg	08 48 26.6	+0.6	
ALEP	**Alea Permanent**	**0.53**	**294**			Pg	08 48 27.2	+0.1	
ALEP						Sg	08 48 35.6	+1.6	
POHA	**Pohakuloa**	**0.57**	**318**			Pg	08 48 28.0	0.0	
POHA	**Pohakuloa**	**0.57**	**318**		IAML		08 48 36.9		
	comp=N,431nm,0.4s								
POHA					IAML		08 48 41.2		
	comp=N,416nm,0.6s								

IDC 21 08:51:57.4±59.0, **17.°29S×179.°21W, h0**km, **mb3.7**/3, **mbtmp3.7**/3, **Error ellipse: s-maj=1082.0km s-min=177.9km az=78.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**38.27**	**240**	P		P	08 59 20.5	+0.8
	1.1nm,0.9s,baz=85,slow=12,SNR=1.1							
	1.1nm,0.9s							
WRA	**Warramunga Arr**	**44.00**	**259**	P		P	09 00 06.5	-0.5
	0.7nm,1.0s,baz=97,slow=7.8,SNR=2.0							
	0.7nm,1.0s							
ASAR	**Alice Springs**	**44.23**	**254**	P		P	09 00 08.4	-0.5
	0.7nm,0.4s,baz=89,slow=8.4,SNR=16							
	0.7nm,0.4s							

*UCR **21** 08:53:35.5±1.2, 8.°40N×82.°85W, h9km±3km, MW3.7*
*UPA **21** 08:53:35.8±0.7, 8.°42N×82.°80W, h21km±5km, ML3.6, MW3.6*

ISC 21 08:53:34.3±1.0, **8.°38N**±0.°03×**82.°88W**±0.°02, **h17**km±8km, **n102**, σ0°**91**/118, **8C-1D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PTPA	**Petro Terminal**	**0.18**	**176**	*e*P		**Pb**	**08 53 40.1**	**+0.9**
PTPA				*e*S		**Sb**	**08 53 44.3**	**+1.9**
NELY	**Ciudad Neily**	**0.28**	**347**	*e*P		**Pb**	**08 53 41.5**	**+0.6**
NELY				*e*S		**Sb**	**08 53 46.6**	**+1.3**
FITO	**Golfito**	**0.36**	**312**	*e*P		**Pb**	**08 53 42.1**	**-0.3**
FITO				*e*S		**Sb**	**08 53 47.5**	**-0.3**
EDAD	**Golfito**	**0.39**	**314**	*e*P		**Pb**	**08 53 42.7**	**-0.2**
PRISO	**Paraso**	**0.40**	**45**	*e*P		**Pb**	**08 53 43.6**	**+0.4**
MLIR3	**Monte Lirio, C**	**0.42**	**8**	⇑*i*P		**Pb**	**08 53 44.3**	**+1.0**
MLIR3				AMP			08 53 44.5	
	comp=Z,9μm,0.2s							
MLIR3				*e*S		**Sb**	**08 53 50.6**	**+1.1**
DVD	**David**	**0.43**	**82**	*e*P		**Pg**	**08 53 43.5**	**+0.4**
DVD				AMP			08 53 45.0	
	comp=Z,5μm,0.1s							
DVD				*e*S		**Sb**	**08 53 50.1**	**+0.4**
CSTBL	**De las Acacias**	**0.44**	**86**	*e*P		**Pg**	**08 53 43.6**	**+0.4**
RSRNO	**Rio Sereno**	**0.44**	**3**	⇑*e*P		**Pb**	**08 53 44.7**	**+1.0**
VITO	**San Vito**	**0.45**	**349**	*e*P		**Pb**	**08 53 44.7**	**+0.8**
CLLRA	**Cordillera,**	**0.45**	**36**	*e*P		**Pb**	**08 53 44.5**	**+0.5**
BRU2	**Volcan**	**0.45**	**24**	*e*P		**Pb**	**08 53 44.7**	**+0.6**
BRU2	**Volcan**	**0.45**	**24**	⇑*i*P		**Pb**	**08 53 44.6**	**+0.6**
BRU2				*e*S		**Sb**	**08 53 52.1**	**+1.5**
PEDE3	**Pedregal, Chir**	**0.45**	**89**	*e*P		**Pg**	**08 53 43.6**	**+0.1**
PEDE3				AMP			08 53 45.3	
	comp=Z,3μm,0.2s							
PEDE3				*e*S		**Sg**	**08 53 49.2**	**-0.5**
LOCO3	**Loma Colorada,**	**0.46**	**86**	*e*P		**Pg**	**08 53 44.0**	**+0.3**
LOCO3				*e*S		**Sg**	**08 53 50.6**	**+0.7**
SCLRA	**Santa Clara, W**	**0.46**	**12**	*e*P		**Pb**	**08 53 45.2**	**+1.0**
TBS2		**0.47**	**28**	*e*P		**Pn**	**08 53 45.7**	**-0.8**
LOMA3	**Las Lomas, Chi**	**0.49**	**84**	*e*P		**Pg**	**08 53 44.2**	**+0.1**
LOMA3				*e*S		**Sg**	**08 53 51.0**	**+0.2**
PTAR3	**Potrerillos Ar**	**0.49**	**51**	*e*P		**Pb**	**08 53 44.9**	**+0.2**
PTAR3				AMP			08 53 48.0	
	comp=Z,4μm,0.1s							
PTAR3				*e*S		**Sg**	**08 53 51.4**	**+0.5**
BC3P	**Paso Ancho**	**0.51**	**32**	⇑*i*P		**Pb**	**08 53 45.3**	**+0.2**
BC3P				AMP			08 53 45.4	
	comp=Z,21μm,0.1s							
BC3P				*e*S		**Sb**	**08 53 53.0**	**+0.7**
CHIR3	**Chiriqui UPA,**	**0.55**	**88**	*e*P		**Pg**	**08 53 45.2**	**-0.1**
CHIR3				*e*S		**Sg**	**08 53 52.4**	**-0.1**
BQTLY	**Boquete Panama**	**0.56**	**48**	*e*P		**Pb**	**08 53 46.0**	**+0.2**
ALCO	**Alturas Coton,**	**0.57**	**5**	*e*P		**Pb**	**08 53 46.2**	**+0.1**
BQSF3	**Alto Boquete,**	**0.57**	**51**	*e*P		**Pb**	**08 53 46.0**	**+0.2**
BQSF3				*e*S		**Sg**	**08 53 53.6**	**+0.1**
LNBQ3	**Los Naranjos,**	**0.60**	**47**	⇑*i*P		**Pg**	**08 53 46.2**	**-0.1**
LNBQ3				AMP			08 53 47.5	
	comp=Z,4μm,0.3s							
LNBQ3				*e*S		**Sg**	**08 53 53.9**	**-0.4**
PSOM3	**Paja de Sombre**	**0.63**	**61**	*e*P		**Pg**	**08 53 46.6**	**-0.2**
PSOM3				AMP			08 53 47.3	
	comp=Z,2μm,0.1s							
PSOM3				*e*S		**Sg**	**08 53 55.4**	**+0.1**
EDP2	**Potrero Grande**	**0.70**	**335**	⇑*e*P		**Pb**	**08 53 48.6**	**+0.5**
FIMO	**Fila Mora**	**0.77**	**323**	*e*P		**Pb**	**08 53 49.5**	**+0.2**
PBNVO	**Pueblo Nuevo,**	**0.85**	**53**	*e*P		**Pb**	**08 53 50.2**	**-0.5**
RBALA	**Bur**	**0.88**	**55**	*e*P		**Pb**	**08 53 50.8**	**-0.3**
BURE	**Buenos Aires**	**0.91**	**330**	*e*P		**Pg**	**08 53 51.9**	**-0.2**
DRK0	**Durika**	**0.95**	**338**	⇓*e*P		**Pb**	**08 53 52.3**	**-0.2**
DRK0	**Durika**	**0.95**	**338**	⇑*i*P		**Pb**	**08 53 52.3**	**-0.2**
DRK0				*e*S		**Sn**	**08 54 05.7**	**-0.8**
EDPE	**Pejibaye, P**	**1.03**	**319**	*e*P		**Pb**	**08 53 53.5**	**-0.4**
RMDIO	**Remedios, Chir**	**1.05**	**98**	*e*P		**Pb**	**08 53 53.4**	**-0.7**
SAJE	**San Jernim**	**1.15**	**327**	*e*P		**Pb**	**08 53 54.9**	**-0.9**
KKNTU	**Kakint[9]**	**1.16**	**67**	⇓*e*P		**Pn**	**08 53 54.7**	**-1.2**
CEUA	**Cerro Uatsi, L**	**1.24**	**357**	*e*P		**Pg**	**08 53 58.8**	**+0.6**
CVEJO	**Cerro Viej**	**1.30**	**95**	*e*P		**Pn**	**08 53 56.4**	**-1.3**
LAES	**El Progreso Va**	**1.39**	**353**	*e*P		**Pg**	**08 54 00.3**	**-0.8**

VERH	**Veragua Rainfo**	**1.57**	**349**	*e*P		**Pb**	**08 54 02.4**	**-0.6**	
PIEC	**Cerro El Cedra**	**1.63**	**319**	*e*P		**Pn**	**08 54 03.0**	**+0.4**	
RAZU	**San Marcos de**	**1.70**	**319**	*e*P		**Pb**	**08 54 05.6**	**+0.3**	
PITB	**Pirrs, San**	**1.70**	**319**	*e*P		**Pb**	**08 54 05.6**	**+0.2**	
TURIB	**Turrialba**	**1.71**	**332**	*e*P		**Pb**	**08 54 04.8**	**-0.7**	
VINA	**Juan Vinas**	**1.73**	**331**	*e*P		**Pb**	**08 54 05.1**	**-0.7**	
REPA	**Paraso**	**1.74**	**326**	*e*P		**Pb**	**08 54 05.2**	**-0.8**	
GMAL	**Guarumal, Vera**	**1.74**	**110**	*e*P		**Pn**	**08 54 02.6**	**-1.3**	
GMAL	**Guarumal, Vera**	**1.74**	**110**	*e*P		**Pn**	**08 54 02.2**	**-1.7**	
PISJ	**San Jernim**	**1.75**	**316**	*e*P		**Pg**	**08 54 07.1**	**-0.9**	
LCR2	**La Lucha 2**	**1.75**	**321**	*e*P		**Pn**	**08 54 04.4**	**+0.2**	
PCAYA	**Pacayas**	**1.78**	**329**	*e*P		**Pb**	**08 54 06.0**	**-0.7**	
PICV	**PH. Pirrs**	**1.80**	**314**	*e*P		**Pb**	**08 54 07.0**	**+0.1**	
TAGO	**Cartago**	**1.80**	**325**	*e*P		**Pb**	**08 54 07.3**	**+0.3**	
RESJ	**San Isidro (Tu**	**1.81**	**335**	*e*P		**Pb**	**08 54 06.2**	**-0.8**	
IRES	**Siquirres**	**1.81**	**340**	*e*P		**Pb**	**08 54 06.3**	**-0.8**	
PAR1A	**Puntarenas Pro**	**1.82**	**312**	*e*P		**Pg**	**08 54 08.4**	**-0.9**	
RAFA	**San Farael, Vo**	**1.82**	**330**	*e*P		**Pb**	**08 54 06.3**	**-1.1**	
LCOCO	**El Coco**	**1.82**	**339**	*e*P		**Pb**	**08 54 06.5**	**-0.8**	
RITA	**Parrita**	**1.83**	**309**	*e*P		**Pb**	**08 54 06.1**	**-1.3**	
CVTV	**Tajo**	**1.83**	**332**	*e*P		**Pb**	**08 54 06.9**	**-0.7**	
CVTQ	**Turrialba Volc**	**1.84**	**332**	*e*P		**Pb**	**08 54 07.6**	**-0.1**	
VTR0	**Volcan Turrial**	**1.85**	**332**	*e*P		**Pb**	**08 54 07.1**	**-0.8**	
RVLA	**Villa Bonita**	**1.86**	**338**	*e*P		**Pb**	**08 54 07.0**	**-0.9**	
VICA	**Volcano Irazu**	**1.86**	**329**	*e*P		**Pb**	**08 54 07.4**	**-0.8**	
TRIO	**Tres Rios**	**1.87**	**324**	*e*P		**Pg**	**08 54 10.5**	**+0.1**	
ACOS	**Acosta**	**1.90**	**318**	*e*P		**Pb**	**08 54 07.7**	**-0.9**	
AMPA	**Desamparados**	**1.91**	**322**	*e*P		**Pb**	**08 54 08.5**	**-0.3**	
CORON	**Coronado**	**1.93**	**325**	*e*P		**Pn**	**08 54 07.7**	**+1.1**	
ECI	**Escuela Centro**	**1.93**	**323**	*e*P		**Pb**	**08 54 07.9**	**-1.4**	
SJS3	**Mercedes San J**	**1.93**	**323**	*e*P		**Pb**	**08 54 08.2**	**-1.1**	
SJS	**Escuela Geolog**	**1.94**	**323**	*e*P		**Pb**	**08 54 06.5**	**-0.2**	
CVIMO	**Finca Echandi**	**1.94**	**327**	*e*P		**Pb**	**08 54 09.1**	**-0.4**	
SANTA	**Santa Ana**	**2.01**	**320**	*e*P		**Pb**	**08 54 09.9**	**-0.7**	
HDC	**Heredia**	**2.02**	**323**	*e*P		**Pb**	**08 54 10.2**	**-0.6**	
PILE	**Guapiles**	**2.04**	**334**	*e*P		**Pb**	**08 54 09.9**	**-1.0**	
BELE	**Belen**	**2.05**	**321**	*e*P		**Pb**	**08 54 12.0**	**+0.8**	
UELA	**Alajuela**	**2.09**	**321**	*e*P		**Pb**	**08 54 12.7**	**+0.7**	
VBV1	**V. Barva**	**2.

	53nm,0.3s							
VHRN	**Van Horn**	**1.52**	**256**	P	Pb	09 06 42.2	-0.3	
VHRN				S	Sg	09 07 02.8	+0.4	
SAND	**Sanderson**	**1.56**	**140**		Pb	09 06 42.9	-0.3	
SAND				IAML		09 07 08.7		
	58nm,0.9s							
SAND				IAML		09 07 09.1		
	52nm,0.8s							
SAND	**Sanderson**	**1.56**	**140**	P	Pb	09 06 43.1	-0.1	
SAND				S	Sg	09 07 05.2	+1.4	
TMB04	**Seminole**	**1.60**	**24**	P	Pn	09 06 43.2	+0.2	
TMB04				S	Sg	09 07 05.2	0.0	
TX31	**Lajitas Ar. Si**	**1.85**	**191**		Pb	09 06 47.6	-0.6	
TX31	**Lajitas Ar. Si**	**1.85**	**191**	P	Pb	09 06 47.7	-0.5	
TX31				Sg	Sg	09 07 14.2	+1.0	
TXAR	**Lajitas Array**	**1.85**	**191**		Pb	09 06 47.6	-0.6	
OZNA	**Ozona**	**1.86**	**97**		Pb	09 06 47.7	-0.6	
OZNA				IAML		09 07 14.4		
	39nm,0.3s							
OZNA				IAmb_Lg		09 07 16.9		
	comp=Z,13nm,1.0s							
OZNA				IAML		09 07 18.9		
	comp=Z,48nm,0.7s							
OZNA	**Ozona**	**1.86**	**97**	P	Pb	09 06 47.9	-0.3	
OZNA				S	Sb	09 07 12.5	+0.5	
MNTX	**Cornudas Mount**	**1.88**	**287**		Pb	09 06 47.9	-0.7	
MNTX	**Cornudas Mount**	**1.88**	**287**	P	Pb	09 06 48.1	-0.5	
MNTX				S	Sg	09 07 14.0	0.0	
TMB05	**Klondike**	**1.89**	**39**	P	Pb	09 06 48.2	-0.7	
CPRX	**Cap Rock**	**1.93**	**345**	Pn	Pb	09 06 48.8	-0.7	
SGCY	**Sterling City**	**1.98**	**67**		Pn	09 06 49.0	+0.9	
SGCY				IAML		09 07 19.7		
	comp=Z,58nm,0.5s							
SGCY				IAmb_Lg		09 07 21.0		
	comp=Z,22nm,0.7s							
SGCY				IAML		09 07 22.3		
	comp=Z,60nm,1.1s							
SGCY	**Sterling City**	**1.98**	**67**	P	Pb	09 06 49.8	-0.6	
SGCY				S	Sb	09 07 16.1	+0.6	
POST	**Post**	**2.42**	**38**		Pn	09 06 54.6	+0.4	
POST				IAML		09 07 34.7		
	comp=Z,50nm,0.5s							
MSTX	**Muleshoe**	**2.83**	**8**		Pn	09 06 59.1	-0.8	
MSTX				IAmb_Lg		09 07 41.9		
	comp=Z,10nm,0.9s							
DRIO	**Del Rio**	**2.88**	**126**	IAmb_Lg		09 07 52.1		
	comp=Z,13nm,0.7s							
JCT	**Junction City**	**3.06**	**102**		Pn	09 07 03.4	+0.4	
JCT				IAmb_Lg		09 07 54.2		
	comp=Z,14nm,0.9s							
JCT				IAML		09 08 00.3		
	comp=Z,30nm,0.6s							
DKNS	**Dickens**	**3.19**	**38**	IAmb_Lg		09 07 57.6		
	comp=Z,11nm,0.9s							
ABTX	**Abilene, Hawle**	**3.42**	**64**		Pn	09 07 07.5	-0.3	
ABTX				IAmb_Lg		09 08 02.5		
	comp=Z,14nm,0.9s							
ABTX				IAML		09 08 07.2		
	comp=Z,28nm,0.4s							
APMT	**Aspermont**	**3.43**	**50**		Pn	09 07 08.6	+0.5	
APMT				IAmb_Lg		09 08 09.5		
	comp=Z,11nm,1.0s							
BRDY	**Brady**	**3.66**	**87**		Pn	09 07 10.4	-0.9	
BRDY				IAmb_Lg		09 08 18.4		
	comp=Z,11nm,0.7s							
BRDY				IAML		09 08 18.9		
	comp=Z,15nm,0.9s							
BRDY				IAML		09 08 19.5		
	comp=Z,10nm,0.5s							
HNDO	**Hondo**	**3.82**	**114**		Pn	09 07 13.8	+0.4	
HNDO				IAML		09 08 22.9		
	comp=Z,12nm,1.0s							
HNDO				IAML		09 08 24.5		
	comp=Z,13nm,0.5s							
AMTX	**Amarillo**	**3.94**	**19**	IAmb_Lg		09 08 23.4		
	comp=Z,11nm,1.0s							
Y22D	**IRIS PASSCAL I**	**4.23**	**314**	IAmb_Lg		09 08 39.7		
	comp=Z,11nm,0.8s							
833A	**Chaparral WMA,**	**4.40**	**129**	IAmb_Lg		09 08 43.1		
	comp=Z,6.5nm,0.9s							
PLPT	**Palo Pinto**	**4.52**	**67**	Pn	Pn	09 07 23.1	+0.1	
PLPT				IAmb_Lg		09 08 44.7		
	comp=Z,6.3nm,0.8s							
SMWD	**Samnorwood**	**4.68**	**32**	IAmb_Lg		09 08 54.4		
	comp=Z,9.9nm,0.9s							
FW03	**Perrin-Whitt E**	**4.80**	**66**	IAmb_Lg		09 08 54.6		
	comp=Z,10.0nm,0.9s							
WTFS	**Witchita Falls**	**4.82**	**56**	Pn	Pn	09 07 27.7	+0.5	
FW14	**Alvarado**	**5.32**	**75**	IAmb_Lg		09 09 07.5		
	comp=Z,9.1nm,0.9s							
T25A	**Trinidad**	**6.04**	**351**	IAmb_Lg		09 09 38.4		
	comp=Z,6.2nm,1.1s							

NAO ***21*** *09:06:40.3,35.66N×22.52E,h10km,mb3.7*
PDG ***21*** *09:07:53.3±0.1,43.49N×19.00E,h11km±1km,MD4.1/13, ML4.0/13,Error ellipse: s-maj=0.3km s-min=0.3km az=0.0*
RHSSO ***21*** *09:07:53.5±0.3,43.47N×19.09E,h4km±2km,ML4.0/9*
BEO ***21*** *09:07:54.3±0.3,43.45N×19.08E,h9km±1km,ML4.0/21*
NEIC ***21*** *09:07:54.7±1.6,43.49N±0.05×19.11E±0.09,h10km±2km, mb4.2/10,ML4.2(VIE),Error ellipse: s-maj=10.8km s-min=7.6km az=78.0*
MCSM ***21*** *09:07:55.8±0.9,43.71N×19.15E,h0km,mb3.8/7, mbtmp3.6/20,ML3.3/12,MS3.1/14,Error ellipse: s-maj=14.1km s-min=8.7km az=25.0*
PRU ***21*** *09:07:56.7,43.66N×19.05E,h1km,M4.2*
ISC 21 09:07:53.7±1.0,43.50N±0.02×19.06E±0.02,h2km±7km, n280,σ1≒45/367,mb4.0/13,MS3.2/6,51C-33D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUDO	**Rudo**	**0.26**	**63**	⇑*i*Pg	**Pg**	**09 07 58.3**	**-0.3**
RUDO				*e*Sg	**Sg**	**09 08 02.1**	**+0.1**
RUDO	**Rudo**	**0.26**	**63**	*e*Pg	**Pg**	**09 07 58.4**	**-0.2**
RUDO				*e*Sg	**Sg**	**09 08 02.1**	**+0.1**
PLE	**Pljevlja**	**0.30**	**125**	⇑*i*Pg	**Pg**	**09 07 59.6**	**+0.2**
PLE				*i* Sg	**Sg**	**09 08 05.0**	**+1.7**
UPM	**Unac-Piva**	**0.32**	**200**	⇑*i*Pg	**Pg**	**09 07 59.4**	**-0.4**
UPM				*i* Sg	**Sg**	**09 08 03.8**	**-0.2**
BBLS	**Lazi&#263i**	**0.44**	**35**	*e*Pg	**Pg**	**09 08 02.7**	**+0.5**
BBLS				*e*Sg	**Sb**	**09 08 10.7**	**-0.8**
KLINJ	**Klinje**	**0.48**	**226**	⇓*i*Pg	**Pg**	**09 08 02.1**	**-0.8**
KLINJ				*e*Sg	**Sg**	**09 08 09.9**	**+0.8**
BRY	**Bratogost**	**0.71**	**212**	⇓*i*Pg	**Pg**	**09 08 06.0**	**-1.3**
BRY				*i* Sg	**Sg**	**09 08 16.6**	**+0.1**
SJES	**Sjenica**	**0.71**	**109**	*e*Pg	**Pg**	**09 08 07.0**	**-0.3**
SJES				*e*Sg	**Sg**	**09 08 16.5**	**0.0**
KOME	**Kolasin**	**0.73**	**153**	⇓*i*Pg	**Pg**	**09 08 07.1**	**-0.7**
KOME				*i* Sg	**Sb**	**09 08 19.0**	**-0.8**
NKME	**Niksic**	**0.74**	**186**	⇑*i*Pg	**Pg**	**09 08 06.9**	**-1.0**
NKME				*i* Sg	**Sg**	**09 08 18.3**	**+0.9**
IVAS	**Ivanjica**	**0.80**	**84**	*e*Pg	**Pg**	**09 08 08.5**	**-0.6**
IVAS				*e*Sg	**Sg**	**09 08 20.0**	**+0.6**
IVA	**Berane**	**0.88**	**136**	⇑*i*Pg	**Pg**	**09 08 10.0**	**-0.5**
IVA				*i* Sg	**Sb**	**09 08 24.3**	**+0.3**
TREB	**Trebinje**	**0.94**	**214**	*e*Pg	**Pg**	**09 08 09.8**	**-1.9**
TREB				*e*Sg	**Sg**	**09 08 23.3**	**-0.6**
CEME	**Cevo**	**0.96**	**186**	⇓*i*Pg	**Pg**	**09 08 10.2**	**-1.9**
CEME				*i* Sg	**Sb**	**09 08 25.9**	**-0.4**
DBRK	**Dubrovnik**	**1.07**	**219**	*i* Pg	**Pg**	**09 08 12.7**	**-1.4**
DBRK				Sg	**Sg**	**09 08 28.6**	**+0.6**
PDG	**Podgorica**	**1.08**	**172**		**Pg**	**09 08 13.0**	**-1.4**
PDG	**Podgorica**	**1.08**	**172**	⇓P	**Pg**	**09 08 14.4**	**0.0**
PDG				⇑S	**Sg**	**09 08 28.8**	**+0.4**
PDG	**Podgorica**	**1.08**	**172**	*e*Pg	**Pg**	**09 08 12.9**	**-1.5**
PDG				*e*Sg	**Sg**	**09 08 27.1**	**-1.3**
PDG	**Podgorica**	**1.08**	**172**	⇑*i*Pg	**Pg**	**09 08 12.9**	**-1.5**
PDG				*i* Sg	**Sb**	**09 08 30.2**	**+0.5**
TEKS	**Tekeris**	**1.10**	**18**	*e*Pg	**Pg**	**09 08 15.0**	**+0.2**
TEKS				*e*Sg	**Sn**	**09 08 32.3**	**+0.2**
PVY	**Plav**	**1.12**	**144**	⇑*i*Pg	**Pg**	**09 08 14.4**	**-0.8**
PVY				*i* Sg	**Sn**	**09 08 32.5**	**-0.2**
HCY	**Herceg Novi**	**1.13**	**202**	*i*Pg	**Pg**	**09 08 13.9**	**-1.5**
HCY				*i* Sg	**Sb**	**09 08 31.4**	**+0.2**
STON	**Ston**	**1.18**	**238**	Sg	**Sb**	**09 08 32.6**	**+0.1**
BUM	**Brajici-Budva**	**1.21**	**186**	⇓*i*Pg	**Pg**	**09 08 15.2**	**-1.6**
BUM				*i* Sg	**Sn**	**09 08 34.3**	**-0.4**
TRUS	**Trudelj**	**1.21**	**53**	*e*Pg	**Pg**	**09 08 16.9**	**-0.1**
TRUS				*e*Sg	**Sn**	**09 08 35.1**	**+0.3**
GRUS	**Gruza**	**1.26**	**72**	*e*Pg	**Pg**	**09 08 18.0**	**+0.1**
GRUS				*e*Sg	**Sn**	**09 08 35.7**	**-0.3**
DRME	**Dracevica, Mon**	**1.32**	**176**	⇓*i*Pg	**Pg**	**09 08 17.6**	**-1.4**
DRME				*i* Sg	**Sn**	**09 08 38.1**	**+0.7**
GOCS	**Kraljevo Serbi**	**1.32**	**87**	*e*Pg	**Pg**	**09 08 18.6**	**-0.5**
GOCS				*e*Sg	**Sg**	**09 08 35.8**	**-0.4**
RICI	**Ricice**	**1.40**	**270**	*e*Pg	**Pn**	**09 08 19.8**	**-0.6**
RICI				*e*Sg	**Sn**	**09 08 39.7**	**+0.3**
DOB	**Doboj**	**1.41**	**331**	⇑*i*Pg	**Pn**	**09 08 19.8**	**-0.7**
DOB				*e*Sg	**Sb**	**09 08 39.1**	**-0.1**
MAKA	**Makarska**	**1.50**	**262**	*i* Pg	**Pn**	**09 08 21.3**	**-0.4**
MAKA				Sg	**Sg**	**09 08 42.2**	**+0.3**
SELS	**Selova**	**1.53**	**100**	*e*Pn	**Pn**	**09 08 21.1**	**-0.1**
SELS				*e*Sn	**Sn**	**09 08 39.5**	**-3.2**
ULC	**Ulcinj**	**1.54**	**175**	⇓*i*Pg	**Pn**	**09 08 21.8**	**-0.5**
ULC				*i* Sg	**Sg**	**09 08 44.6**	**+1.3**
AVAS	**Avala Beograd**	**1.59**	**41**	*e*Pn	**Pn**	**09 08 22.2**	**-0.8**
BEO	**Beograd**	**1.66**	**37**	*e*Pn	**Pn**	**09 08 22.8**	**-1.0**
BEO				*e*Sn	**Sg**	**09 08 47.4**	**+0.4**
SVIS	**Svilajnac**	**1.74**	**63**	*e*Pn	**Pn**	**09 08 24.8**	**-0.1**
SVIS				*e*Sn	**Sn**	**09 08 48.1**	**+0.4**
FRGS	**Fruska Gora**	**1.74**	**18**	*e*Pn	**Pn**	**09 08 24.3**	**-0.8**
FRGS				*e*Sn	**Sb**	**09 08 48.8**	**0.0**
LSTV	**Lastovo**	**1.75**	**246**	*i* Pn	**Pn**	**09 08 24.6**	**-0.4**
LSTV				Sn	**Sb**	**09 08 49.1**	**+0.2**
BLY	**Banja Luka**	**1.84**	**313**	⇑*i*Pn	**Pn**	**09 08 26.6**	**+0.3**
BLY				*e*Sn	**Sn**	**09 08 50.8**	**+0.6**
BLY	**Banja Luka**	**1.84**	**313**	⇑P	**Pn**	**09 08 26.6**	**+0.3**
BLY				⇑S	**Sn**	**09 08 47.9**	**-2.2**
BLY	**Banja Luka**	**1.84**	**313**	*e*Pn	**Pn**	**09 08 26.6**	**+0.3**
BOVS	**Bovan**	**1.93**	**85**	⇑P	**Pn**	**09 08 27.5**	**-0.1**
BOVS				⇑S	**Sn**	**09 08 51.6**	**-0.9**
BOVS	**Bovan**	**1.93**	**85**	*e*Pn	**Pn**	**09 08 27.5**	**-0.1**
BOVS				*e*Sg	**Sg**	**09 08 56.1**	**+0.4**
KIJV	**Kijevo**	**1.99**	**286**	*e*Pn	**Pn**	**09 08 29.4**	**+1.0**
KIJV				Sn	**Sb**	**09 08 56.9**	**+1.1**
A050A	**Klekovaca**	**2.07**	**299**	⇑*i*Pn	**Pn**	**09 08 30.3**	**+0.7**
A050A				*e*Sn	**Sn**	**09 08 56.5**	**+0.5**
KUBS	**Kucevo**	**2.10**	**63**	*e*Pn	**Pn**	**09 08 28.3**	**-1.6**
KUBS				*e*Sn	**Sn**	**09 08 55.0**	**-1.7**
BARS	**Barje**	**2.13**	**108**	*e*Pn	**Pn**	**09 08 30.1**	**-0.3**
BARS				*e*Sn	**Sn**	**09 08 56.9**	**-0.6**
A051A	**Mrakovica**	**2.16**	**315**	⇑*i*Pn	**Pn**	**09 08 31.0**	**+0.2**
A051A				*e*Sn	**Sn**	**09 08 57.7**	**-0.6**
VINV	**Vinovac**	**2.18**	**273**	*i* Pn	**Pb**	**09 08 33.5**	**-0.5**
VINV				Sn	**Sb**	**09 09 00.3**	**-1.1**
BORS2	**Bor- Borsko je**	**2.22**	**74**	*e*Pn	**Pn**	**09 08 30.3**	**-1.4**
BORS2				*e*Sn	**Sn**	**09 08 57.9**	**-1.8**
VRSS	**Vrsac**	**2.30**	**44**	*e*Pn	**Pn**	**09 08 32.0**	**-0.7**
VRSS				*e*Sn	**Sn**	**09 09 00.7**	**-0.8**
MDVR	**Moldovita**	**2.30**	**55**	⇓P	**Pn**	**09 08 32.4**	**-0.4**
MDVR				⇑S	**Sn**	**09 09 00.7**	**-1.0**
ZAGS	**Zajecar**	**2.33**	**81**	*e*Pn	**Pn**	**09 08 33.1**	**+0.1**
ZAGS				*e*Sn	**Sn**	**09 09 01.1**	**-1.1**
SKO	**Skopje**	**2.33**	**130**	*i* Pn	**Pn**	**09 08 33.2**	**+0.1**
BANR	**Banloc**	**2.40**	**38**	⇓P	**Pn**	**09 08 34.1**	**0.0**
ZIRJ	**Zirje**	**2.48**	**275**	*i* Pn	**Pn**	**09 08 36.6**	**+1.4**
ZIRJ				Sn	**Sb**	**09 09 09.0**	**-1.2**
UDBI	**Udbina**	**2.59**	**294**	*i* Pn	**Pn**	**09 08 38.3**	**+1.6**
BLKB	**Belogradchik**	**2.63**	**86**	⇑S	**Sn**	**09 09 09.5**	**-0.4**
SUBS	**Subotica**	**2.64**	**9**	*e*Pn	**Pn**	**09 08 37.9**	**+0.5**
MOSL	**Moslavina**	**2.68**	**323**	*e*Pn	**Pn**	**09 08 39.0**	**+1.1**
BOSS	**Bosilegrad**	**2.71**	**111**	*e*Pn	**Pn**	**09 08 37.8**	**-0.5**
BOSS				*e*Sn	**Sn**	**09 09 10.0**	**-1.6**
TRAN	**Tran**	**2.71**	**103**	*e*P	**Pn**	**09 08 30.2**	**-8.2**
OHR	**Ohrid**	**2.72**	**151**	*i* Pn	**Pn**	**09 08 39.3**	**-0.8**
TIM	**Timisoara**	**2.72**	**34**	⇑P	**Pn**	**09 08 38.0**	**-0.4**
MORH	**Mrgy, Hungar**	**2.73**	**354**	⇓*i*Pn	**Pn**	**09 08 37.9**	**-0.6**
MORH				*e*Sn	**Sn**	**09 09 11.5**	**-0.7**
MORH	**Mrgy, Hungar**	**2.73**	**354**	⇓P	**Pn**	**09 08 38.2**	**-0.4**
MORH	**Mrgy, Hungar**	**2.73**	**354**	P	**Pn**	**09 08 38.0**	**-0.6**
MORH				S	**Sn**	**09 09 14.5**	**+2.3**
DJES	**Djerdap**	**2.75**	**64**	⇑P	**Pn**	**09 08 38.7**	**-0.3**
HERR	**Herculane**	**2.78**	**59**	⇓P	**Pn**	**09 08 39.2**	**-0.1**
BZS	**Buzias**	**2.80**	**40**	⇑P	**Pn**	**09 08 39.2**	**-0.3**
PLIT	**Plitvice**	**2.83**	**300**	*i* Pn	**Pn**	**09 08 40.5**	**+0.5**
RMGR	**Halanga-Turnu**	**2.87**	**65**	⇑P	**Pn**	**09 08 40.3**	**-0.1**
RMGR				⇑S	**Sn**	**09 09 15.3**	**-0.3**
PUNG	**Punghina**	**2.91**	**73**	⇓P	**Pn**	**09 08 41.3**	**+0.3**
PUNG				⇓S	**Sn**	**09 09 15.6**	**-1.0**
DUGI	**Dugi Otok**	**2.94**	**281**	*e*Pn	**Pn**	**09 08 43.2**	**+1.7**
DUGI				Sn	**Sn**	**09 09 19.7**	**+2.3**
VIRC	**Vir**	**3.00**	**287**	*e*Pn	**Pn**	**09 08 43.4**	**+1.2**
SGRT	**San Giovanni R**	**3.00**	**236**		**Pn**	**09 08 41.7**	**-0.7**
SURR	**Surduc**	**3.14**	**43**	⇓P	**Pn**	**09 08 43.4**	**-0.9**
SURR				⇑S	**Sn**	**09 09 21.8**	**-0.6**
VALD	**Valchedram**	**3.19**	**85**	*e*P	**Pn**	**09 08 45.2**	**+0.3**
VTS	**Vitosha**	**3.19**	**105**	P	**Pn**	**09 08 44.9**	**-0.1**
NVLJ	**Novalja**	**3.20**	**291**	*i* Pn	**Pn**	**09 08 46.3**	**+1.2**
SRE	**Strehaia**	**3.21**	**67**	⇓P	**Pn**	**09 08 44.5**	**-0.7**
FNA	**Florina**	**3.22**	**147**		**Pn**	**09 08 45.5**	**+0.2**
GZR	**Gura Zlata**	**3.27**	**53**	⇓P	**Pn**	**09 08 45.8**	**-0.2**
OZLJ	**Ozalj**	**3.32**	**311**	*i* Pn	**Pn**	**09 08 47.9**	**+1.1**
SIRR	**Siria**	**3.33**	**33**	⇓P	**Pn**	**09 08 46.0**	**-0.8**
SIRR				⇑S	**Sn**	**09 09 26.0**	**-1.0**
MATE	**Matera**	**3.34**	**212**	⇓P	**Pn**	**09 08 46.6**	**-0.4**
MATE				⇓S	**Sn**	**09 09 25.9**	**-1.5**
PLNA	**Plana**	**3.37**	**106**	*e*P	**Pb**	**09 08 55.6**	**+1.4**
BEHE	**Becsehely**	**3.38**	**332**		**Pn**	**09 08 47.8**	**+0.3**
BEHE	**Becsehely**	**3.38**	**332**	*e*Pn	**Pn**	**09 08 48.1**	**+0.6**
BEHE				*e*Sn	**Sn**	**09 09 27.6**	**-0.7**
VAV	**Valandovo**	**3.39**	**129**	*i* Pn	**Pn**	**09 08 47.9**	**+0.2**
GCIS	**Gornji Cirnik**	**3.40**	**315**	*e*Pn	**Pn**	**09 08 48.5**	**+0.6**
MPEP	**Malo Peshtene**	**3.42**	**91**	*e*P	**Pn**	**09 08 56.2**	**+1.2**
KKB	**Krupnik**	**3.43**	**118**	P	**Pn**	**09 08 48.4**	**+0.1**
SCTE	**Santa Cesarea**	**3.46**	**188**		**Pn**	**09 08 47.8**	**-0.8**
ACER	**Acerenza**	**3.57**	**222**		**Pn**	**09 08 50.0**	**-0.1**
DEV	**Deva**	**3.63**	**48**	⇑P	**Pn**	**09 08 51.4**	**+0.4**
RIY	**Rijeka**	**3.75**	**301**	*e*Pn	**Pn**	**09 08 54.3**	**+1.7**
MPLH	**Magyarpolny**	**3.82**	**344**	P	**Pn**	**09 08 53.9**	**+0.3**
MPLH				S	**Sn**	**09 09 41.0**	**+1.9**
KEK	**Kerkira**	**3.83**	**171**		**Pn**	**09 08 56.2**	**+2.5**
PGB	**Panagyurishte**	**3.88**	**103**	*e*P	**Pn**	**09 08 54.9**	**+0.4**
GROS	**Grobnik**	**3.89**	**321**	⇑*i*Pn	**Pn**	**09 08 54.5**	**-0.1**
GROS				*e*Sn	**Sn**	**09 09 37.7**	**-3.2**
LOT	**Lotru**	**3.89**	**58**	⇑P	**Pn**	**09 08 54.9**	**+0.1**
MMB	**Musomishta**	**3.98**	**118**	P	**Pn**	**09 08 55.8**	**0.0**
PLVB	**Pleven**	**4.05**	**90**	⇑P	**Pn**	**09 08 56.8**	**+0.1**
INTR	**Introdacqua**	**4.08**	**255**		**Pn**	**09 08 57.4**	**+0.2**
LJU	**Ljubljana**	**4.11**	**310**	*i* Pn	**Pn**	**09 08 58.3**	**+0.8**
PAOL	**Paolisi**	**4.15**	**235**		**Pn**	**09 08 58.9**	**+0.8**
DRGR		**4.18**	**37**	⇑P	**Pn**	**09 08 58.1**	**-0.6**
PERS	**Pernice**	**4.20**	**320**	⇑*i*Pn	**Pn**	**09 08 59.0**	**+0.2**
CAMP	**Campotosto**	**4.25**	**259**		**Pn**	**09 09 00.0**	**+0.4**
CUC	**Castrocucco**	**4.26**	**216**		**Pn**	**09 08 59.6**	**-0.1**
SOKA	**Soboth**	**4.27**	**319**	*i* Pn	**Pn**	**09 09 00.1**	**+0.3**
	16nm,0.3s,SNR=66						
SOKA				*e*Sn	**Sn**	**09 09 50.4**	**+0.2**
	59nm,0.4s						
MARR	**Marisel-Cluj**	**4.28**	**41**	⇓P	**Pn**	**09 08 59.6**	**-0.5**
JAVS	**Javornik**	**4.29**	**306**	*i* Pn	**Pn**	**09 09 00.9**	**+0.8**
TNR	**Turnu Rosu**	**4.30**	**58**	⇑P	**Pn**	**09 09 00.3**	**+0.1**
AQU	**L'Aquila**	**4.31**	**256**	*e*Pn	**Pn**	**09 09 00.2**	**-0.3**
AQU				*e*Sn	**Sn**	**09 08 48.9**	**-2.3**
AQU	**L'Aquila**	**4.31**	**256**	P	**Pn**	**09 09 02.1**	**+1.8**
AQU				S	**Sn**	**09 09 54.8**	**+3.6**
SRO	**Srobarova**	**4.34**	**353**	*e*PN	**Pn**	**09 09 01.3**	**+0.5**
SRO				*e*SN	**Sn**	**09 09 53.3**	**+1.3**
TRI	**Trieste**	**4.38**	**302**		**Pn**	**09 09 01.4**	**+0.2**
FDMO	**Fiordimonte**	**4.38**	**266**		**Pn**	**09 09 02.3**	**+0.9**
OBKA	**Obir**	**4.39**	**315**	*i* Pn	**Pn**	**09 09 02.1**	**+0.6**
	23nm,0.3s,SNR=47						
NRCA	**Norcia**	**4.40**	**263**		**Pn**	**09 09 02.5**	**+0.8**
PSZ	**Piszkesteto**	**4.46**	**7**		**Pn**	**09 09 01.6**	**-0.8**
PSZ	**Piszkesteto**	**4.46**	**7**	⇑P	**Pn**	**09 09 01.8**	**-0.6**
ARSA	**Arzberg**	**4.50**	**328**		**Pn**	**09 09 03.1**	**+0.1**
ARSA	**Arzberg**	**4.50**	**328**	*i* Pn	**Pn**	**09 09 03.1**	**+0.1**
	55nm,0.5s,SNR=89						
ARSA				*e*Sn	**Sn**	**09 09 53.6**	**-2.3**
	33nm,0.4s						
CJR	**Cluj-Napoca**	**4.54**	**43**	⇑P	**Pn**	**09 09 03.9**	**+0.3**
RZN	**Rozhen**	**4.57**	**111**	*e*P	**Pn**	**09 09 05.5**	**+1.5**
SABO	**M.te Sabotino**	**4.61**	**304**		**Pn**	**09 09 05.5**	**+1.0**
RONA	**Rosalia, Austr**	**4.62**	**336**	*i* Pn	**Pn**	**09 09 04.9**	**+0.2**
	2.4nm,0.3s,SNR=20						
RONA				*e*Sn	**Sn**	**09 09 56.6**	**-2.3**
	36nm,0.3s						
TIP	**Timpagrande**	**4.65**	**203**		**Pn**	**09 09 04.6**	**-0.5**
TIP	**Timpagrande**	**4.65**	**203**	⇓P	**Pn**	**09 09 05.1**	**0.0**
TIP				⇑S	**Sn**	**09 09 58.6**	**-1.1**
TIP	**Timpagrande**	**4.65**	**203**	P	**Pn**	**09 09 04.7**	**-0.4**
TIP				S	**Sn**	**09 10 00.4**	**+0.7**
VOIR		**4.71**	**64**	⇑P	**Pn**	**09 09 06.3**	**+0.4**
VOIR				⇑S	**Sn**	**09 10 00.9**	**-0.1**
VOIR		**4.71**	**64**	P	**Pn**	**09 09 05.4**	**-0.4**
VOIR				S	**Sn**	**09 09 59.2**	**-1.8**
CESX	**Cesi**	**4.83**	**262**		**Pn**	**09 09 09.2**	**+1.8**
MYKA	**Terra Mystica**	**4.95**	**311**	*e*Pn	**Pn**	**09 09 10.3**	**+1.2**
	12nm,0.4s,SNR=16						
CONA	**Conrad Observa**	**4.96**	**334**	*i* Pn	**Pn**	**09 09 09.7**	**+0.4**
	6.5nm,0.4s,SNR=19						
CONA				*e*Sn	**Sn**	**09 10 05.3**	**-2.0**
	38nm,0.5s						
VYHS	**Vyhne**	**5.00**	**358**	*e*PN	**Pn**	**09 09 09.4**	**-0.4**
VYHS				*e*SN	**Sn**	**09 10 03.0**	**-5.1**
ELND	**Elena**	**5.02**	**94**	⇑P	**Pn**	**09 09 09.4**	**-0.6**
MODS	**Modra-Piesok**	**5.03**	**346**	*e*PN	**Pn**	**09 09 07.7**	**-2.5**
MODS				*e*SN	**Sn**	**09 10 03.3**	**-5.6**
KECS	**Kecovo**	**5.08**	**11**	*e*PN	**Pn**	**09 09 10.6**	**-0.3**
KECS				*e*SN	**Sn**	**09 10 07.8**	**-2.4**
DOPR	**Dopca**	**5.14**	**59**	⇑P	**Pn**	**09 09 11.7**	**0.0**
ARCR	**ARCALIA**	**5.18**	**44**	⇑P	**Pn**	**09 09 12.0**	**-0.3**
STAL	**STALIGIAL**	**5.29**	**304**		**Pn**	**09 09 14.2**	**+0.4**
MLR	**Muntele Rosu**	**5.31**	**66**		**Pn**	**09 09 13.5**	**-0.7**
MLR	**Muntele Rosu**	**5.31**	**66**	Pn	**Pn**	**09 09 15.2**	**+0.9**
	2.1nm,0.3s,baz=354,slow=21,SNR=8.6						
MLR				Sn	**Sn**	**09 10 13.1**	**-3.0**
	2.8nm,0.3s,baz=134,slow=16,SNR=4.3						
MLR				LR	LR	09 11 54.3	
	comp=Z,402nm,18.3s,baz=262,slow=46						
	1.9nm,0.5s						
MLR	**Muntele Rosu**	**5.31**	**66**	⇑P	**Pn**	**09 09 14.5**	**+0.3**
RDO	**Rodhopi**	**5.35**	**114**	Pn	**Pn**	**09 09 13.3**	**-1.3**
JAVC	**Velka Javorina**	**5.44**	**350**	*e*PN	**Pn**	**09 09 15.7**	**-0.3**
MOA	**Molln**	**5.49**	**324**	*i* Pn	**Pn**	**09 09 17.5**	**+0.9**
	8.0nm,0.3s,SNR=15						
MOA				*e*Sn	**Sn**	**09 10 18.4**	**-1.9**
	61nm,0.5s						
HOLU	**Holmets**	**5.53**	**24**	P	**Pn**	**09 09 17.4**	**+0.3**
BRIU	**Brid**	**5.57**	**28**	P	**Pn**	**09 09 18.5**	**+0.9**
TEOL	**Teolo**	**5.61**	**292**		**Pn**	**

OSTC					AMS	AMS	09 12 30.0	
	comp=Z,200nm,12.3s							
CHVC	**Chvalec**	**7.38**	**345**	*e*PN	**Pn**	**Pn**	**09 09 42.3**	**-0.2**
DAVA	**Damuels**	**7.49**	**304**	*e*Pn	**Pn**	**Pn**	**09 09 44.6**	**+0.5**
	2.7nm,0.4s							
TUE	**Stuetta**	**7.50**	**297**		**Pn**	**Pn**	**09 09 45.5**	**+1.2**
TUE	**Stuetta**	**7.50**	**297**	P	**Pn**	**Pn**	**09 09 46.5**	**+2.2**
	0.4nm1μm110nm,0.7s							
BRG	**Berggiesshubel**	**8.15**	**337**	Pn	**Pn**	**Pn**	**09 09 49.3**	**-3.8**
GRA1	**Grafenberg Arr**	**8.21**	**322**		**Pn**	**Pn**	**09 09 54.5**	**+0.6**
GRFO	**Grafenberg**	**8.21**	**322**		**Pn**	**Pn**	**09 09 53.8**	**-0.1**
VSL	**Villasalto**	**8.29**	**244**	Pn	**Pn**	**Pn**	**09 09 55.5**	**+0.5**
STU	**Stuttgart**	**8.64**	**311**		**Pn**	**Pn**	**09 10 00.6**	**+0.9**
SENIN	**Lac Senin/Sane**	**8.82**	**293**		**Pn**	**Pn**	**09 10 02.9**	**+0.5**
CLL	**Collm**	**8.82**	**334**	*e*Pn	**Pn**	**Pn**	**09 10 04.0**	**+1.8**
CLL				*ex*	x	Pg	09 10 28.0	
CLL				*e*Pg	Pg	Pg	09 10 38.0	-4.5
CLL				*ex*	x	Pg	09 11 46.0	
CLL				*ex*	x	Pg	09 11 55.0	
CLL				*e*Sb	Sn	Pg	09 12 06.0	+24
CLL				*e*Sg	**Sg**	Pg	**09 12 32.0**	**-4.7**
CLL				AMS	AMS	Pg	09 13 00.0	
BFO	**Black Forest**	**8.90**	**307**		**Pn**	**Pn**	**09 10 03.5**	**+0.2**
BNI	**Bardonecchia**	**9.02**	**284**		**Pn**	**Pn**	**09 10 05.0**	**0.0**
IDI	**Anoyia**	**9.36**	**149**	Pn	**Pn**	**Pn**	**09 10 06.7**	**-3.0**
	0.3nm,0.3s,baz=330,slow=16,SNR=1.4							
IDI				Sn	**Sn**	**Sn**	**09 11 48.7**	**-6.9**
	1.7nm,0.3s,baz=306,slow=23,SNR=6.1							
ECH	**Echery**	**9.54**	**304**		**Pn**	**Pn**	**09 10 11.5**	**-0.7**
AK17	**Malin Array Si**	**9.90**	**40**	P	**Pn**	**Pn**	**09 10 16.0**	**-1.0**
AK19	**Malin Array Si**	**9.90**	**40**	P	**Pn**	**Pn**	**09 10 15.9**	**-1.1**
AK20	**Malin Array Si**	**9.92**	**40**	P	**Pn**	**Pn**	**09 10 16.9**	**-0.3**
AK18	**Malin Array Si**	**9.93**	**40**	P	**Pn**	**Pn**	**09 10 17.3**	**-0.1**
AK09	**Malin Array Si**	**9.96**	**41**	P	**Pn**	**Pn**	**09 10 17.3**	**-0.5**
AKASG	**Malin Array Be**	**9.99**	**40**	Pn	**Pn**	**Pn**	**09 10 15.6**	**-2.6**
	0.1nm,0.3s,baz=228,slow=11,SNR=1.2							
AKASG				LR	LR	LR	09 14 36.9	
	comp=Z,76nm,18.5s,baz=230,slow=41							
	0.1nm,0.3s							
SSB	**Saint Sauveur**	**10.54**	**285**	Pn	**Pn**	**Pn**	**09 10 25.4**	**-0.5**
KEST	**Kesra**	**10.78**	**227**	Pn	**Pn**	**Pn**	**09 10 33.4**	**+4.2**
	0.4nm,0.3s,baz=5.6,slow=22,SNR=3.7							
KEST				LR	LR	LR	09 15 07.3	
	comp=Z,80nm,19.8s,baz=292,slow=39							
	2.2nm,0.5s							
BTNL	**Ternell**	**11.30**	**313**	*d*P	**Pn**	**Pn**	**09 10 38.0**	**+1.8**
MEM	**Membach**	**11.38**	**313**	*d*P	**Pn**	**Pn**	**09 10 39.2**	**+2.0**
BRTR	**Keskin Array B**	**11.55**	**104**	Pn	**Pn**	**Pn**	**09 10 42.2**	**+2.4**
	0.1nm,0.3s,baz=274,slow=18,SNR=2.1							
	0.3nm,0.3s							
RCHB	**Rochefort**	**11.57**	**310**	*d*P	**Pn**	**Pn**	**09 10 42.0**	**+2.2**
BCLA	**Clavier**	**11.66**	**311**	*d*P	**Pn**	**Pn**	**09 10 43.0**	**+2.0**
BGES	**Gesves**	**11.76**	**311**	*d*P	**Pn**	**Pn**	**09 10 42.9**	**+0.5**
DOU	**Dourbes**	**11.89**	**309**	*d*P	**Pn**	**Pn**	**09 10 45.6**	**+1.4**
BMRD	**Maredsous**	**11.90**	**310**	*d*P	**Pn**	**Pn**	**09 10 46.5**	**+2.2**
BMRD				*d*PP	**PnPn**		**09 10 52.9**	**+1.0**
MMAI	**Mount Meron Ar**	**16.54**	**124**	LR	LR	LR	09 18 38.8	
	comp=Z,41nm,19.8s,baz=266,slow=39							
HFS	**Hagfors**	**16.97**	**351**	Pn	**Pn**	**Pn**	**09 11 49.6**	**-2.5**
	0.1nm,0.3s,baz=168,slow=15,SNR=2.3							
HFS				LR	LR	LR	09 18 37.8	
	comp=Z,37nm,18.2s,baz=172,slow=38							
	1.6nm,0.8s							
ESDC	**Sonseca Array**	**17.63**	**265**	P	**P**	**P**	**09 12 03.6**	**+2.1**
	0.1nm,0.3s,baz=79,slow=11,SNR=2.8							
	0.5nm,0.9s							
ASF	**Jabal al Asfar**	**18.03**	**123**	LR	LR	LR	09 19 38.9	
	comp=Z,32nm,20.5s,baz=245,slow=39							
NAO01	**NORSAR Array S**	**18.05**	**347**		**Pn**	**Pn**	**09 12 05.4**	**-0.2**
NC405	**NORSAR Array S**	**18.18**	**349**	P	**Pn**	**Pn**	**09 12 06.6**	**-0.5**
NB2	**NORSAR Subarra**	**18.18**	**348**	P	P	P	09 12 16.2	+8.7
	comp=Z,1.4nm,0.9s,baz=159,slow=9.3							
NOA	**NORSAR Array B**	**18.18**	**348**	P	**Pn**	**Pn**	**09 12 07.1**	**-0.1**
	baz=159,slow=10,SNR=1.0							
	comp=Z,0.4nm,0.9s							
FINES	**FINESS Array B**	**18.45**	**11**	P	**P**	**P**	**09 12 08.4**	**-2.0**
FINES	**FINESS Array B**	**18.45**	**11**	P	**P**	**P**	**09 12 08.1**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=185,slow=9.3,SNR=8.4							
	comp=Z,1.6nm,0.8s							
EKA	**Eskdalemuir Ar**	**18.59**	**317**	P	**P**	**P**	**09 12 11.4**	**-0.6**
	baz=121,slow=11							
	comp=Z,0.9nm,0.8s							
AKTO	**Aktyubinsk**	**27.23**	**62**	LR	LR	LR	09 25 47.6	
	comp=Z,30nm,18.7s,baz=199,slow=40							
BRVK	**Borovoye**	**34.72**	**56**	P		**P**	**09 14 44.9**	**0.0**
BRVK				IAmb	IAmb	IAmb	09 14 48.0	
	comp=Z,1.6nm,0.7s							
BVAR	**Borovoye Array**	**34.79**	**56**	P	**P**	**P**	**09 14 45.8**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=270,slow=8.9,SNR=4.7							
	comp=Z,0.7nm,0.7s							
AAK	**Ala-Archa**	**39.87**	**71**	LR	LR	LR	09 35 15.9	
	comp=Z,44nm,18.1s,baz=269,slow=41							
KURBB	**Kurchatov Arra**	**40.16**	**58**	P	P	**P**	**09 15 32.2**	**+1.1**
	comp=Z,0.7nm,0.2s,baz=285,slow=9.4,SNR=2.2							
	comp=Z,0.7nm,0.2s							
ZALV	**Zalesovo Beam**	**43.13**	**52**	P	**P**	**P**	**09 15 55.3**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=298,slow=3.1,SNR=3.7							
ZALV				LR	LR	LR	09 35 34.7	
	comp=Z,26nm,18.7s,baz=186,slow=39							
	comp=Z,0.7nm,0.3s							
MKAR	**Makanchi Array**	**43.65**	**63**	P	**P**	**P**	**09 15 60.0**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=274,slow=8.0,SNR=5.8							
MKAR				LR	LR	LR	09 37 04.4	
	comp=Z,31nm,18.9s,baz=262,slow=40							
	comp=Z,0.4nm,0.6s							
SONM	**Songino Array**	**58.02**	**53**	P	**P**	**P**	**09 17 48.5**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=283,slow=7.2,SNR=1.6							
	comp=Z,0.3nm,0.3s							
HHC	**Hu-ho-hao-te**	**64.99**	**57**	*e*P	**P**	**P**	**09 18 33.4**	**-1.8**
PZH	**PanZhiHua**	**67.20**	**75**	P	**P**	**P**	**09 18 49.5**	**-0.2**
D23K	**Nanushuk River**	**67.59**	**356**	P	**P**	**P**	**09 18 53.2**	**+1.9**
YKAW1	**Yellowknife Wh**	**68.00**	**339**	P	**P**	**P**	**09 18 55.1**	**+1.2**
YKAW1				IAmb	IAmb	IAmb	09 18 58.1	
	comp=Z,1.5nm,0.8s							
F28M	**Old Crow**	**68.07**	**351**	P	**P**	**P**	**09 18 56.7**	**+2.4**
F28M				IAmb	IAmb	IAmb	09 19 20.0	
	comp=Z,2.7nm,1.0s							
H29M	**Whitestone**	**69.23**	**350**	P	**P**	**P**	**09 19 01.8**	**+0.2**
E19K	**Redstone River**	**69.33**	**358**	P	**P**	**P**	**09 19 02.0**	**-0.2**
E19K				IAmb	IAmb	IAmb	09 19 18.6	
	comp=Z,2.7nm,0.9s							
F21K	**Alatna River**	**69.46**	**357**	P	**P**	**P**	**09 19 03.3**	**+0.3**
F21K				IAmb	IAmb	IAmb	09 19 27.5	
	comp=Z,1.9nm,1.0s							
MA2	**Magadan**	**69.88**	**24**	LR	LR	LR	09 53 59.5	
	comp=Z,14nm,18.1s,baz=330,slow=40							
I29M	**Ogilvie Camp,**	**70.05**	**350**	P	**P**	**P**	**09 19 07.1**	**+0.4**
I29M				IAmb	IAmb	IAmb	09 19 34.1	
	comp=Z,1.8nm,1.1s							
CMAR	**Chiang Mai Arr**	**70.30**	**83**	P	**P**	**P**	**09 19 08.5**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=316,slow=7.8,SNR=1.7							
	comp=Z,0.6nm,0.3s							
ILAR	**Eielson Array**	**71.50**	**354**	P	**P**	**P**	**09 19 16.7**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=359,slow=7.0,SNR=4.6							
	comp=Z,0.3nm,0.7s							
PETK	**Petropavlovsk-**	**77.41**	**24**	LR	LR	LR	09 58 39.8	
	comp=Z,24nm,18.3s,baz=35,slow=39							

NEIC 21 09:31:09.9±0.8, 37.04N±0.02×104.98W±0.01, h8km±8km, ML2.0/10, Error ellipse: s-maj=2.2km s-min=1.4km az=196.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.47**	**77**	Pg	Pg	09 31 19.4	+0.3
T25A				Sg	Sg	09 31 25.5	+0.2
T25A				IAML		09 31 26.0	
	comp=N,120nm,0.2s						
SDCO	**Great Sand Dun**	**0.82**	**330**	Pg	Pg	09 31 25.5	-0.2
SDCO				IAML		09 31 36.8	
	comp=N,65nm,0.1s						
SDCO				IAML		09 31 37.0	
	comp=N,68nm,0.1s						
S22A	**4UR Ranch, Cre**	**1.63**	**296**	Pg	Pb	09 31 40.2	-0.3
RTBA	**Rita Blanca**	**1.90**	**108**	Pn	Pn	09 31 43.7	+1.0
RTBA					Sb	09 32 09.7	+0.8
Q24A	**Divide**	**1.93**	**356**	Pn	Pn	09 31 44.4	+1.1
Q24A					Sb	09 32 09.3	-0.6
ANMO	**Albuquerque**	**2.40**	**210**	Pn	Pn	09 31 48.3	-1.4
ISCO	**Idaho Springs**	**2.80**	**350**	Pn	Pn	09 31 54.6	-0.8
MVCO	**Mesa Verde**	**2.81**	**275**		Pn	09 31 57.1	+1.6
PV01	**Paradox Valley**	**3.05**	**292**		Pn	09 32 00.3	+1.6
PV11	**David Mesa, Pa**	**3.33**	**293**		Pn	09 32 04.1	+1.6

*GUC **21** 09:35:18.5±0.7, 28.79S×69.95W, h110km±11km, ML3.5*
*SJA **21** 09:35:19.3±2.0, 28.77S×69.86W, h80km, ML3.5, MW3.6*
ISC 21 09:35:16.4±1.5, 28.73S±0.03×70.06W±0.05, h142km±11km, n27, σ1s13/51, 3C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.63**	**243**	*e*P	**Pn**	**09 35 38.0**	**+0.1**
LCO				*e*S	**Sn**	**09 35 53.0**	**-1.2**
AC04	**Llanos de Chal**	**1.03**	**300**	*e*P	**Pn**	**09 35 42.0**	**+1.2**
AC04				*e*S	**Sn**	**09 35 59.1**	**-0.2**
AC04	**Llanos de Chal**	**1.03**	**300**	*e*P	**Pn**	**09 35 41.2**	**+0.5**
AC04				*e*S	**Sn**	**09 35 59.7**	**+0.4**
AC04				IAML		09 36 01.2	
	comp=Z,604nm,0.2s						
GO03	**Copiapo**	**1.14**	**352**	*e*P	**Pn**	**09 35 42.3**	**+0.5**
GO03				*e*S	**Sn**	**09 36 00.3**	**-0.9**
GO03				IAML		09 36 01.3	
	comp=E,2μm,0.1s						
GO03	**Copiapo**	**1.14**	**352**	*e*P	**Pn**	**09 35 42.4**	**+0.5**
GO03				*e*S	**Sn**	**09 36 00.9**	**-0.3**
CO01	**Juntas del Tor**	**1.24**	**181**	*e*P	**Pn**	**09 35 43.2**	**+0.2**
CO01				IAML		09 36 03.3	
	comp=N,614nm,0.3s						
CO01	**Juntas del Tor**	**1.24**	**181**	*e*P	**Pn**	**09 35 43.4**	**+0.4**
CO01				*e*S	**Sn**	**09 36 02.7**	**-0.6**
CO01				IAML		09 36 03.1	
	comp=Z,247nm,0.5s						
AC06	**Mina Casimiro**	**1.39**	**349**	*e*P	**Pn**	**09 35 45.0**	**+0.7**
AC06				*e*S	**Sn**	**09 36 05.5**	**-0.1**
AC06				IAML		09 36 07.1	
	comp=N,692nm,0.2s						
AGUA	**GUANDACOL**	**1.57**	**119**	*e*P	**Pn**	**09 35 46.1**	**-0.1**
AGUA				*e*S	**Sn**	**09 36 07.8**	**-1.2**
AGUA				IAML		09 36 09.9	
	comp=Z,317nm,0.5s						
CO05	**La Serena**	**1.57**	**221**	*e*P	**Pn**	**09 35 46.5**	**+0.4**
CO05				*e*S	**Sn**	**09 36 08.4**	**-0.4**
CO05				IAML		09 36 10.4	
	comp=E,876nm,0.2s						
GO04	**Tololo Observa**	**1.57**	**204**	*e*P	**Pn**	**09 35 46.7**	**+0.3**
GO04				*e*S	**Sn**	**09 36 08.3**	**-1.1**
GO04	**Tololo Observa**	**1.57**	**204**	*e*P	**Pn**	**09 35 46.7**	**+0.3**
GO04				*e*S	**Sn**	**09 36 09.3**	**-0.1**
ACCO	**Cerro Coronel**	**2.04**	**155**	*e*P	**Pn**	**09 35 52.8**	**+0.9**
ACCO				*e*S	**Sn**	**09 36 19.4**	**+0.3**
AC02	**Maricunga**	**2.06**	**24**	*e*P	**Pn**	**09 35 53.6**	**+1.3**
AC02				*e*S	**Sn**	**09 36 20.0**	**+0.2**
AC02				IAML		09 36 20.6	
	comp=E,613nm,0.5s						
AC02	**Maricunga**	**2.06**	**24**	*e*P	**Pn**	**09 35 52.9**	**+0.6**
AC02				*e*S	**Sn**	**09 36 19.9**	**+0.1**
AC02				IAML		09 36 20.9	
	comp=Z,351nm,0.3s						
CO03	**El Pedregal**	**2.17**	**194**	*e*P	**Pn**	**09 35 53.6**	**+0.5**
CO03				*e*S	**Sn**	**09 36 21.2**	**-0.3**
CO03				IAML		09 36 21.9	
	comp=E,548nm,0.1s						
CO03	**El Pedregal**	**2.17**	**194**	*e*P	**Pn**	**09 35 53.9**	**+0.7**
CO03				*e*S	**Sn**	**09 36 21.8**	**+0.3**
CO03				IAML		09 36 24.7	
	comp=Z,306nm,0.3s						
CO02	**Combarbal**	**2.59**	**198**	*e*P	**Pn**	**09 35 58.7**	**+0.3**
AC01	**Pan de Azucar**	**2.62**	**349**	*e*P	**Pn**	**09 36 00.2**	**+1.5**
AC01				*e*S	**Sn**	**09 36 26.7**	**-4.5**
AC01				IAML		09 36 28.2	
	comp=Z,156nm,0.6s						
ZON	**Zonda**	**3.05**	**157**	*e*P	**Pn**	**09 36 05.0**	**+0.9**
ZON				*e*S	**Sn**	**09 36 40.3**	**-0.7**
RTLS	**Leoncito**	**3.13**	**168**	*e*P	**Pn**	**09 36 06.8**	**+1.5**
RTLS				*e*S	**Sn**	**09 36 43.4**	**+0.2**
RTLS				IAML		09 36 45.5	
	comp=Z,248nm,0.8s						
CFA	**Coronel Fontan**	**3.27**	**152**	*e*P	**Pn**	**09 36 07.6**	**+0.6**
CFA				*e*S	**Sn**	**09 36 44.0**	**-2.1**
PB14	**IPOC Station P**	**4.10**	**356**	*e*P	**Pn**	**09 36 18.4**	**+0.3**
PB14				*e*S	**Sn**	**09 37 05.0**	**-0.9**
PB14				IAML		09 37 27.2	
	comp=Z,49nm,0.3s						
ACAN	**Cantantal**	**4.31**	**146**	*e*P	**Pn**	**09 36 20.7**	**+0.1**
ACAN				IAML		09 37 29.1	
	comp=Z,74nm,0.8s						
FSA	**Cafayete**	**4.47**	**55**	*e*P	**Pn**	**09 36 23.7**	**+0.8**
FSA				*e*S	**Sn**	**09 37 13.8**	**-0.6**
MT04	**Ro Olivares**	**4.66**	**181**	*e*P	**Pn**	**09 36 26.4**	**+1.1**
MT04				*e*S	**Sn**	**09 37 15.8**	**-3.2**
MT04				IAML		09 37 26.9	
	comp=Z,30nm,0.3s						
LMEL	**Las Melosas**	**5.10**	**181**	*e*P	**Pn**	**09 36 32.5**	**+1.4**
LMEL				*e*S	**Sn**	**09 37 30.4**	**+1.0**

IDC 21 09:47:17.4±4.2, 28.53S×177.43W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=84.4km s-min=25.0km az=99.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.84**	**210**	Pn	Pn	09 47 36.7	+0.2
	390nm,0.3s,baz=86,slow=8.1,SNR=14						
RAO				Sn	Sn	09 47 50.0	+0.4
	909nm,0.3s,baz=65,slow=22,SNR=11						
ASAR	**Alice Springs**	**43.74**	**265**	P	P	09 55 24.0	-0.8
	0.2nm,0.3s,baz=97,slow=6.8,SNR=4.2						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**44.56**	**270**	P	P	09 55 31.7	+0.3
	0.6nm,0.5s,baz=110,slow=7.6,SNR=12						
	0.6nm,0.5s						
FINES	**FINESS Array B**	**143.55**	**341**	PKP	PKPdf	10 06 52.8	-0.7
	0.6nm,0.7s,baz=42,slow=2.3,SNR=5.6						

*SNET **21** 09:56:17.2±0.8, 12.09N×88.97W, h13km, ML3.3*
*CATAC **21** 09:56:17.4±0.7, 12.76N±5.5×8.9W±5.5, h35km±21km, M3.5/25, MLv3.5/25, Error ellipse: s-maj=11.6km s-min=3.7km az=33.6, confirmed*
*GCG **21** 09:56:18.6±0.7, 12.08N×89.29W, h83km±47km, MD4.2*
ISC 21 09:56:17.5±1.7, 11.95N±0.08×89.03W±0.06, h41km, n65, σ0s68/68, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.55**	**349**	*e*S	**Sn**	**09 57 01.3**	**-0.4**
TECO	**Alcaldia de Te**	**1.59**	**9**	*e*P	**Pn**	**09 56 42.6**	**-0.7**
TECO	**Alcaldia de Te**	**1.59**	**9**	P	**Pn**	**09 56 42.6**	**-0.7**
TECO	**Alcaldia de Te**	**1.59**	**9**	S	**Sn**	**09 57 02.6**	**-0.1**
TECA	**Tecapa**	**1.62**	**18**	*e*P	**Pn**	**09 56 43.1**	**-0.6**
RANC	**El Ranchito**	**1.64**	**26**	P	**Pn**	**09 56 43.1**	**-0.9**
VSM	**San Miguel**	**1.64**	**26**	*e*P	**Pn**	**09 56 44.1**	**-0.1**
PACA	**Pacayal**	**1.66**	**24**	*e*P	**Pn**	**09 56 44.2**	**-0.1**
PACA	**Pacayal**	**1.66**	**24**	P	**Pn**	**09 56 44.1**	**-0.1**
PACA	**Pacayal**	**1.66**	**24**	S	**Sn**	**09 57 04.9**	**+0.5**
PANCS	**Alcalda de**	**1.66**	**355**	P	**Pn**	**09 56 44.0**	**-0.2**
COEG	**Centro de Oper**	**1.66**	**5**	P	**Pn**	**09 56 43.9**	**-0.4**
COEG	**Centro de Oper**	**1.66**	**5**	S	**Sn**	**09 57 04.5**	**0.0**
LOMA	**Loma Larga**	**1.69**	**355**	*e*P	**Pn**	**09 56 44.6**	**-0.1**
LOMA	**Loma Larga**	**1.69**	**355**	P	**Pn**	**09 56 44.6**	**-0.1**
LOMA	**Loma Larga**	**1.69**	**355**	S	**Sn**	**09 57 04.5**	**-0.7**
UESV	**Universidad de**	**1.69**	**8**	*e*P	**Pn**	**09 56 44.0**	**-0.6**
UESV	**Universidad de**	**1.69**	**8**	P	**Pn**	**09 56 44.4**	**-0.2**
UESV	**Universidad de**	**1.69**	**8**	S	**Sn**	**09 57 05.1**	**0.0**
PQSS	**Presa 15 de Se**	**1.72**	**15**	*e*P	**Pn**	**09 56 44.8**	**-0.2**
PQSS	**Presa 15 de Se**	**1.72**	**15**	P	**Pn**	**09 56 45.0**	**0.0**
PQSS	**Presa 15 de Se**	**1.72**	**15**	S	**Sn**	**09 57 06.7**	**+0.9**
CNRM	**Centro Naciona**	**1.73**	**29**	P	**Pn**	**09 56 45.2**	**+0.1**
CNRM	**Centro Naciona**	**1.73**	**29**	S	**Sn**	**09 57 07.3**	**+1.4**
JAYA	**Jayaque - finc**	**1.74**	**346**	*e*P	**Pn**	**09 56 45.0**	**-0.5**
JAYA	**Jayaque - finc**	**1.74**	**346**	*e*P	**Pn**	**09 56 45.1**	**-0.4**
JAYA				*e*S	**Sn**	**09 57 06.4**	**-0.1**
JAYA	**Jayaque - finc**	**1.74**	**346**	P	**Pn**	**09 56 45.4**	**-0.1**
JAYA	**Jayaque - finc**	**1.74**	**346**	S	**Sn**	**09 57 05.5**	**-1.0**
LCND	**La Caada**	**1.75**	**39**	*e*P	**Pn**	**09 56 44.7**	**-0.6**
LCND	**La Caada**	**1.75**	**39**	P	**Pn**	**09 56 44.8**	**-0.6**
PAVA	**Las Pavas**	**1.75**	**3**	S	**Sn**	**09 57 07.0**	**+0.3**
CNCH	**Conchagua**	**1.76**	**41**	*e*P	**Pn**	**09 56 45.5**	**-0.1**
CNCH	**Conchagua**	**1.76**	**41**	P	**Pn**	**09 56 45.8**	**+0.2**
CNCH	**Conchagua**	**1.76**	**41**	S	**Sn**	**09 57 07.5**	**+0.7**
UDBS	**Universidad Do**	**1.76**	**356**	P	**Pn**	**09 56 45.6**	**0.0**
UDBS	**Universidad Do**	**1.76**	**356**	S	**Sn**	**09 57 06.6**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.76**	**9**	P	**Pn**	**09 56 45.4**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.76**	**9**	S	**Sn**	**09 57 08.0**	**+1.1**
PMON	**Piamonte**	**1.77**	**351**	*e*P	**Pn**	**09 56 46.6**	**+0.8**
PMON	**Piamonte**	**1.77**	**351**	P	**Pn**	**09 56 45.7**	**-0.2**
PMON	**Piamonte**	**1.77**	**351**	S	**Sn**	**09 57 07.2**	**0.0**
CEDA	**San Andres**	**1.87**	**349**	P	**Pn**	**09 56 47.2**	**0.0**
CEDA	**San Andres**	**1.87**	**349**	S	**Sn**	**09 57 09.8**	**+0.1**
SBLS	**San Blas**	**1.96**	**343**	*e*P	**Pn**	**09 56 48.8**	**+0.3**
NUBE	**Las Nubes**	**2.07**	**339**	*e*P	**Pn**	**09 56 49.7**	**-0.3**
NUBE				*e*S	**Sn**	**09 57 13.6**	**-1.1**
NUBE	**Las Nubes**	**2.07**	**339**	P	**Pn**	**09 56 49.7**	**-0.3**
UNIC	**Universidad Ca**	**2.08**	**346**	P	**Pn**	**09 56 50.5**	**+0.5**
UNIC	**Universidad Ca**	**2.08**	**346**	S	**Sn**	**09 57 15.2**	**+0.4**
FAME	**Alcaldia de Sa**	**2.11**	**333**	P	**Pn**	**09 56 50.2**	**-0.3**
PACN	**Al O del Volca**	**2.25**	**76**	P	**Pn**	**09 56 51.8**	**-0.5**
POLN	**Al Sur del Vol**	**2.27**	**72**	P	**Pn**	**09 56 51.8**	**-0.8**
POLN				S	**Sn**	**09 57 20.1**	**+0.7**
PLRN	**Geotermica Pol**	**2.29**	**74**	P	**Pn**	**09 56 51.3**	**-1.6**
CNGA	**Al SSO del Vol**	**2.33**	**76**	P	**Pn**	**09 56 51.5**	**-2.0**
CNGN	**Cerro Negro**	**2.34**	**76**	P	**Pn**	**09 56 53.8**	**+0.3**
COPN	**Copaltepe**	**2.39**	**84**	P	**Pn**	**09 56 53.8**	**-0.5**
MTO3	**Montecristo**	**2.45**	**352**	*e*P	**Pn**	**09 56 55.7**	**+0.4**
MTO3	**Montecristo**	**2.45**	**352**	P	**Pn**	**09 56 55.7**	**+0.4**
MTO3	**Montecristo**	**2.45**	**352**	S	**Sn**	**09 57 24.6**	**+0.4**
MOMN	**Momotombo**	**2.47**	**79**	P	**Pn**	**09 56 53.9**	**-1.5**
ESQI	**Esquipulas**	**2.61**	**353**	P	**Pn**	**09 56 58.2**	**+0.8**
TISN	**Laguna Tiscapa**	**2.70**	**86**	P	**Pn**	**09 56 56.7**	**-1.8**
RCPN	**Sur Rio San Ju**	**3.26**	**61**	P	**Pn**	**09 57 05.4**	**-0.9**
BOAB	**BOACO BROADBAN**	**3.32**	**81**	P	**Pn**	**09 57 07.4**	**+0.4**
INDI	**Punta indio, G**	**4.03**	**121**	P	**Pn**	**09 57 16.7**	**-0.1**
JTS	**Las Juntas de**	**4.33**	**112**	P	**Pn**	**09 57 22.0**	**+1.1**

IDC 21 09:56:49.9±1.8, 28.68N×105.88E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=471.5km s-min=22.1km az=55.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.82**	**321**	P	P	10 02 22.5	-0.2
	0.6nm,0.8s,baz=123,slow=10,SNR=4.5						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**30.09**	**324**	P	P	10 03 01.1	+0.2
	0.5nm,0.7s,baz=134,slow=9.0,SNR=6.2						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**55.61**	**147**	P	P	10 06 27.4	-0.2
	0.6nm,0.8s,baz=334,slow=8.5,SNR=6.5						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**58.63**	**150**	P	P	10 06 49.0	+0.1
	0.3nm,0.6s,baz=326,slow=6.7,SNR=6.9						
	0.3nm,0.6s						

*GCG **21** 09:58:43.2±0.7, 15.06N×92.03W, h92km±8km, MD3.1*
*MEX **21** 09:58:43.2±0.6, 14.90N×92.15W, h108km±5km, MD3.5*
ISC 21 09:58:39.8±2.9, 15.0N±0.2×91.9W±0.2, h116km±18km, n8, σ1s25/16, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.20**	**230**	*i* P	**Pn**	**09 58 56.4**	**+0.4**
SMCA				*i* S	**Sn**	**09 59 06.7**	**-1.4**
PAVE	**Pavencul**	**0.33**	**309**	*e*P	**P

FITZ				S		Sn	10 19 15.9	-2.4
	6.3nm,0.4s,baz=220,slow=20,SNR=9.7							
WRA	**Warramunga Arr**	**12.85**	**148**	P		**Pn**	**10 18 28.0**	**+0.6**
	0.9nm,0.6s,baz=318,slow=13,SNR=32							
WRA				S		Sn	10 20 50.9	+1.6
	1.7nm,0.4s,baz=323,slow=26,SNR=12							
ASAR	**Alice Springs**	**15.90**	**157**	P		**Pn**	**10 19 08.2**	**-0.1**
	1.2nm,0.8s,baz=324,slow=12,SNR=11							
ASAR				S		Sn	10 22 03.0	-0.5
	2.0nm,0.7s,baz=329,slow=23,SNR=8.9							
MKAR	**Makanchi Array**	**68.46**	**329**	P		**P**	**10 26 25.3**	**-0.3**
	0.5nm,0.5s,baz=126,slow=8.0,SNR=6.7							
	0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**72.83**	**330**	P		**P**	**10 26 51.4**	**-0.7**
	0.2nm,0.5s,baz=129,slow=4.7,SNR=1.8							
	0.2nm,0.5s							
BVAR	**Borovoye Array**	**78.33**	**329**	P		**P**	**10 27 23.2**	**-0.5**
	0.3nm,0.4s,baz=114,slow=7.1,SNR=1.9							
	0.3nm,0.4s							

AUST 21 10:19:17.0±0.6,18°S±6″×12°0E±°,h10km,mb4.4/8, ML3.3/3,ML4.0/3,Error ellipse: s-maj=15.1km s-min=6.5km az=142.9,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSAC1	**Pilbara Seismi**	**3.19**	**190**	P		Pn	10 20 08.7	+1.8
PSAC1				S		Sn	10 20 45.1	+0.4
PSA00	**Pilbara Seismi**	**3.19**	**189**	P		Pn	10 20 09.3	+2.0
PSA00				S		Sn	10 20 46.0	+0.5
FITZ	**Fitzroy Crossi**	**5.00**	**87**	P		Pn	10 20 32.3	+0.2
FITZ	**Fitzroy Crossi**	**5.00**	**87**	S		Sn	10 21 29.0	-1.0
GIRL	**Giralia**	**7.15**	**233**	P		Pn	10 21 01.7	0.0
	comp=Z,315µmcomp=Z,90nm,1.9s,comp=Z,0.2nm							
GIRL				S		Sn	10 22 17.2	-5.8
MEEK	**Meekatharra**	**8.36**	**191**	P		Pn	10 21 19.2	+0.9
MEEK	**Meekatharra**	**8.36**	**191**	S		Sn	10 22 48.2	-4.6
CVQOZ	**Cooralya Stati**	**8.41**	**223**	P		Pn	10 21 19.5	+0.6
	comp=Z,327nm,1.7s,comp=Z,1.0nm							
CVQOZ				S		Sn	10 22 45.9	-8.0
KNRA	**Kununurra**	**8.45**	**73**	P		Pn	10 21 19.6	0.0
KNRA				S		Sn	10 22 50.8	-4.3
WRKA	**Warakurna**	**9.88**	**133**	P		Pn	10 21 40.5	+1.4
	comp=Z,5.7nm,1.8s,comp=Z,0.0nm							
WRKA				S		Sn	10 23 25.4	-4.8
MORW	**Morawa**	**11.34**	**200**	P		Pn	10 21 57.7	-1.4
	comp=Z,29nm,2.1s							
BLDU	**Ballidu**	**12.61**	**195**	P		Pn	10 22 15.0	-1.5
	comp=Z,46nm,2.4s							
WRAB	**Tennant Creek**	**13.28**	**99**	P		Pn	10 22 24.6	-1.1
	comp=Z,10nm,2.7s							
KLBR	**Kellerberrin**	**13.35**	**190**	P		Pn	10 22 26.0	-0.5
	comp=Z,18nm,0.9s							
MUN	**Mundaring**	**14.04**	**195**	P		Pn	10 22 33.8	-2.1
FORT	**Forrest**	**14.15**	**152**	P		Pn	10 22 37.3	-0.3
	comp=Z,15nm,1.2s							

*IDC **21** 10:28:31.0±1.5,84°80N×103°71E,h0km,mb3.6/4, mbtmp3.6/4,MS3.2/5,Error ellipse: s-maj=97.6km s-min=23.3km az=125.0*

ISC 21 10:28:31.8±1.2,84°9N±0°2×101°26E±0°09,h10km,n11, σ2s32/7,mb3.5/4,MS3.2/5,North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZFI2	**Zemlya Franca-**	**7.45**	**267**	*eP*		**Pb**	**10 30 37.9**	**-3.0**
ZFI2				*eS*		**Sb**	**10 32 11.9**	**+2.4**
OMEGA	**Omega**	**7.46**	**267**	P		Pb	10 30 37.7	-3.4
OMEGA				S		**Sb**	**10 32 11.8**	**+1.9**
YAK	**Yakutsk**	**23.75**	**146**	LR		LR	10 42 12.3	
	comp=Z,30nm,18.9s,baz=297,slow=35							
ILAR	**Eielson Array**	**27.66**	**59**	P		**P**	**10 34 19.0**	**-0.2**
	1.0nm,1.1s,baz=344,slow=9.4,SNR=6.1							
	1.0nm,1.1s							
ARTI	**Arti**	**30.23**	**229**	LR		LR	10 48 28.8	
	comp=Z,51nm,18.9s,baz=337,slow=40							
KURBB	**Kurchatov Arra**	**34.91**	**205**	P		**P**	**10 35 24.4**	**+1.4**
	0.3nm,0.7s,baz=21,slow=7.4,SNR=4.8							
	0.3nm,0.7s							
MKAR	**Makanchi Array**	**38.60**	**201**	P		**P**	**10 35 53.9**	**-0.6**
	0.7nm,0.7s,baz=5.4,slow=7.0,SNR=3.5							
	0.7nm,0.7s							
NEW	**Newport**	**46.02**	**35**	LR		LR	10 57 01.9	
	comp=Z,29nm,19.0s,baz=26,slow=37							
ELK	**Elko**	**53.61**	**34**	LR		LR	11 01 50.4	
	comp=Z,28nm,18.4s,baz=28,slow=37							
PFO	**Pinyon Flats O**	**60.65**	**36**	LR		LR	11 05 55.2	
	comp=Z,26nm,18.3s,baz=205,slow=37							
TXAR	**Lajitas Array**	**65.48**	**24**	P		**P**	**10 39 15.6**	**+0.8**
	0.9nm,1.1s,baz=357,slow=5.4,SNR=5.7							
	0.9nm,1.1s							

IDC 21 10:35:17.2±1.7,0°68N×126°61E,h0km,mb3.7/4, mbtmp3.7/4,Error ellipse: s-maj=178.0km s-min=21.2km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.85**	**160**	P		P	10 40 11.1	-0.5
	1.1nm,0.7s,baz=339,slow=10,SNR=11							
	1.1nm,0.7s							
ASAR	**Alice Springs**	**25.22**	**164**	P		P	10 40 45.3	+0.4
	1.9nm,0.9s,baz=341,slow=9.9,SNR=12							
	1.9nm,0.9s							
MKAR	**Makanchi Array**	**59.99**	**326**	P		P	10 45 25.6	-0.1
	0.4nm,0.3s,baz=118,slow=7.9,SNR=5.7							
	0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**64.24**	**328**	P		P	10 45 54.0	0.0
	0.5nm,0.6s,baz=128,slow=5.9,SNR=7.9							
	0.5nm,0.6s							

GCG 21 10:37:21.1±0.9,13°40N×90°60W,h25km±10km,MD3.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NUBE	**Las Nubes**	**0.94**	**58**	*eP*		Pb	10 37 38.7	-0.1
NUBE				*eS*		Sn	10 37 51.8	+0.3
JAYA	**Jayaque - finc**	**1.14**	**77**	*eP*		Pn	10 37 41.2	-0.5
STG0	**El Palmar, Qui**	**1.25**	**325**	*eP*		Pb	10 37 48.0	+3.9
MTO3	**Montecristo**	**1.56**	**50**	*eP*		Pb	10 37 48.5	-0.9

*NEIC **21** 10:41:37.4±1.5,35°606N±0°009×117°47W±0°01, h10km±1km,Error ellipse: s-maj=2.9km s-min=1.8km az=295.0*

PAS 21 10:41:37.9±1.2,35°608N±0°010×117°476W±0°002, h8km±7km,ML3.2/125,ML2.9/116(NEIC),Error ellipse: s-maj=1.4km s-min=0.3km az=181.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.02**	**239**			Pg	10 41 39.4	-0.1
CCCA	**Chr Cany lake**	**0.12**	**132**			Pg	10 41 40.9	+0.2
GPO	**China Lake**	**0.16**	**285**			Pg	10 41 41.3	+0.1
GPO						Sg	10 41 44.5	+0.9
LRMC	**Laurel Mtn Rad**	**0.21**	**233**			Pg	10 41 42.1	-0.1
LRMC				IAML			10 41 45.6	
	comp=N,3µm,0.2s							
LRMC				IAML			10 41 45.8	
	comp=E,4µm,0.1s							
CLC	**China Lake**	**0.23**	**335**			Pg	10 41 42.4	-0.2
CLC				IAML			10 41 46.3	
	comp=E,2µm,0.5s							
CLC				IAML			10 41 49.9	
	comp=N,2µm,0.3s							
SRTC	**Snort**	**0.24**	**291**			Pg	10 41 42.9	+0.2
SRTC						Sg	10 41 47.2	+1.2
TOW	**Tower One**	**0.31**	**311**			Pg	10 41 44.2	+0.2
TOW						Sb	10 41 49.8	-1.1
WNMM	**Nine Mile Cany**	**0.42**	**304**			Pg	10 41 45.9	-0.1
WNMM						Sg	10 41 52.0	+0.4
WVPM	**Volcano Peak E**	**0.44**	**321**			Pg	10 41 46.2	-0.3
WVPM						Sg	10 41 52.6	+0.3
MPMC	**Manual Prospec**	**0.45**	**359**			Pg	10 41 46.2	-0.5
MPMC				IAML			10 41 54.7	
	comp=E,777nm,0.4s							
MPMC				IAML			10 41 54.7	
	comp=N,911nm,0.5s							
MPMC	**Manual Prospec**	**0.45**	**359**			Sg	10 41 52.6	0.0
DTP	**Desert Tortois**	**0.45**	**222**			Pg	10 41 46.2	-0.5
DTP						Sg	10 41 52.5	-0.2
JRC2	**Joshua Ridge**	**0.46**	**324**			Pg	10 41 46.6	-0.2
JRC2						Sg	10 41 53.1	+0.1
WCSM	**Coso Springs S**	**0.48**	**331**			Pg	10 41 46.9	-0.3
WCSM						Sg	10 41 53.6	0.0
WRVM	**Rose V. Centra**	**0.52**	**320**			Pg	10 41 47.6	-0.4
WRVM						Sg	10 41 54.8	-0.1
WBSM	**Bird Springs**	**0.55**	**263**			Pg	10 41 48.0	-0.4
WBSM						Sg	10 41 55.5	-0.2
MFS	**McCloud Flat S**	**0.59**	**329**			Pg	10 41 49.1	-0.3
MFS						Sg	10 41 57.4	+0.1
QSM	**Queen of Sheba**	**0.61**	**54**			Pg	10 41 49.4	-0.3
QSM				IAML			10 41 01.6	
	comp=N,866nm,0.2s							
QSM				IAML			10 42 02.9	
	comp=E,654nm,0.2s							
QSM	**Queen of Sheba**	**0.61**	**54**			Sg	10 41 57.8	+0.2
GSC	**Goldstone, Bar**	**0.63**	**119**			Pg	10 41 49.4	-0.6
GSC				IAML			10 41 58.5	
	comp=E,1µm,0.4s							
GSC				IAML			10 42 01.8	
	comp=N,1µm,0.3s							
GSC	**Goldstone, Bar**	**0.63**	**119**			Sg	10 41 58.0	-0.2
WORM	**Onyx Ranch**	**0.63**	**278**			Pg	10 41 49.5	-0.6
WORM						Sg	10 41 57.8	-0.6
CCAC	**Calif City Air**	**0.63**	**224**			Pg	10 41 49.8	-0.3
CCAC						Sg	10 41 58.5	+0.1
WHFM	**Hanning Flat**	**0.72**	**277**			Pg	10 41 51.1	-0.6
WHFM						Sg	10 42 00.5	-0.5
HYS	**Haystack Butte**	**0.75**	**186**			Pg	10 41 51.5	-0.7
HYS						Sg	10 42 01.6	-0.4
ISA	**Isabella, Lake**	**0.81**	**274**			Pg	10 41 52.8	-0.7
ISA				IAML			10 42 06.7	
	comp=N,643nm,0.3s							
ISA				IAML			10 42 07.0	
	comp=E,596nm,0.5s							
ISA	**Isabella, Lake**	**0.81**	**274**			Sg	10 42 03.5	-0.7
RRX	**Edison Barstow**	**0.83**	**152**			Pg	10 41 53.3	-0.5
EDW2	**Edwards Air Fo**	**0.84**	**210**			Pg	10 41 53.1	-0.9
EDW2						Sg	10 42 04.4	-0.5
GWY	**Greenwater Val**	**0.87**	**48**			Pg	10 41 54.2	-0.4
GWY				IAML			10 42 12.2	
	comp=N,264nm,0.3s							
GWY				IAML			10 42 12.7	
	comp=E,449nm,0.5s							
WASM	**Alta Sierra Ca**	**0.89**	**279**			Pg	10 41 54.2	-0.8
TPO	**Tropico Hills**	**0.95**	**220**			Pg	10 41 55.6	-0.6
SBB	**Saddle Back Bu**	**0.96**	**197**			Pg	10 41 55.4	-0.9
CWC	**Cottonwood Cre**	**0.96**	**330**			Pg	10 41 55.9	-0.5
CWC				IAML			10 42 12.1	
	comp=E,246nm,0.2s							
CWC				IAML			10 42 12.6	
	comp=N,236nm,0.2s							
CGO	**Cerro Gordo**	**0.98**	**344**			Pg	10 41 55.8	-0.9
VTV	**Victorville**	**1.05**	**173**			Pg	10 41 57.3	-0.8
VTV						Sb	10 42 12.5	+0.3
ADO	**Adelanto Recei**	**1.05**	**178**			Pb	10 41 58.4	0.0
TEJ	**El Tejon**	**1.06**	**250**			Pg	10 41 57.0	-1.3
LRRC	**Littlerock Res**	**1.17**	**203**			Pb	10 41 59.5	-0.8
LRRC						Sn	10 42 16.2	-0.3
HOLC	**Holcomb Ridge**	**1.19**	**195**			Pn	10 42 00.7	-0.1
HOLC						Sb	10 42 16.3	+0.2
LEOC	**Leona Valley**	**1.19**	**215**			Pb	10 41 59.5	-1.2
LEOC						Sn	10 42 16.7	-0.5
THC	**Tehachapi Micr**	**1.20**	**235**			Pg	10 42 00.5	-0.3
ARVC	**Arvin**	**1.21**	**247**			Pb	10 42 00.3	-0.6
CJV	**Casa Juvan**	**1.21**	**207**			Sn	10 42 17.3	-0.4
DSCC	**Desert Studies**	**1.21**	**112**			Pb	10 41 59.2	-1.8
HEC	**Hector,Ludlow**	**1.22**	**129**			Pb	10 41 59.6	-1.4
HEC						Sg	10 42 16.7	-0.3
JNH	**Juniper Hills**	**1.22**	**199**			Pb	10 42 00.2	-1.1
JNH						Sb	10 42 17.3	+0.1
TUQ	**Turquoise Moun**	**1.28**	**97**			Pn	10 42 00.5	-1.6
TUQ						Sb	10 42 18.2	-0.6
CHFC	**Chilao Flat St**	**1.35**	**200**			Pn	10 42 02.7	-0.4
CHFC						Sg	10 42 21.4	+0.1
SIL	**Silver Peak**	**1.36**	**157**			Pn	10 42 03.0	-0.3
WCT	**Wildcat Mounta**	**1.37**	**30**			Pn	10 42 02.3	-1.0
BFSC	**Mount Baldy Ra**	**1.37**	**186**			Pn	10 42 02.9	-0.6
BFSC				IAML			10 42 22.0	
	comp=E,313nm,0.6s							
BFSC				IAML			10 42 22.5	
	comp=N,364nm,0.4s							
GRAC	**Grapevine Rang**	**1.39**	**4**			Pn	10 42 03.0	-0.5
GRAC				IAML			10 42 30.0	
	comp=E,276nm,0.8s							
SSK	**Sunset Peak**	**1.41**	**187**			Pn	10 42 03.7	-0.2
SGV	**South Grapevin**	**1.42**	**15**			Pn	10 42 03.1	-0.9
BBRC	**Big Bear Solar**	**1.42**	**161**			Pn	10 42 04.0	-0.1
OSI	**Osito Audit: C**	**1.42**	**226**			Pn	10 42 03.2	-0.8
OSI				IAML			10 42 24.5	
	comp=N,168nm,0.5s							
OSI				IAML			10 42 30.4	
	comp=E,142nm,0.6s							
MWC	**Mount Wilson**	**1.46**	**199**			Pn	10 42 03.9	-0.7
MWC				IAML			10 42 26.4	
	comp=E,306nm,0.5s							
DECC	**Green Verdugo**	**1.52**	**208**			Pg	10 42 06.9	-0.2
SVD	**Seven Oaks Dam**	**1.53**	**168**			Pn	10 42 05.6	+0.1
PSRC	**Puddingstone R**	**1.54**	**190**			Pb	10 42 06.1	-0.4
PASC	**Pasadena Art C**	**1.55**	**202**			Pn	10 42 05.0	-0.6
PASC				IAML			10 42 28.8	
	comp=N,110nm,0.5s							
PASC				IAML			10 42 32.2	
	comp=E,114nm,0.6s							
MTPC	**Mountain Pass**	**1.57**	**94**			Sn	10 42 24.5	-2.3
MTPC	**Mountain Pass**	**1.57**	**94**			Pn	10 42 04.6	-1.6
MTPC				IAML			10 42 28.0	
	comp=E,158nm,0.3s							
MTPC				IAML			10 42 29.1	
	comp=N,154nm,0.2s							
GTM	**Goat Mountain**	**1.60**	**145**			Pn	10 42 07.0	+0.6
LCH	**Last Change Ra**	**1.63**	**355**			Pn	10 42 06.3	-0.6
TPNV	**Topopah Spring**	**1.67**	**36**			Pn	10 42 06.7	-0.7
BLCC	**Black Canyon**	**1.68**	**216**			Pn	10 42 07.0	-0.6
GMRC	**Granite Mounta**	**1.70**	**118**			Pn	10 42 05.7	-2.2
PEC	**Perris**	**1.73**	**171**			Pn	10 42 07.8	-0.5
BLAC	**Blackrock camp**	**1.78**	**149**			Pn	10 42 08.0	-0.9
DSP	**Deep Springs**	**1.80**	**347**			Pn	10 42 08.2	-0.4
BHPR	**Bishop**	**1.88**	**335**			Pb	10 42 12.8	+0.3
EW2	**E Wide Canyon**	**1.88**	**152**			Pn	10 42 09.3	-1.0
TPC	**Twentynine Pal**	**1.90**	**142**			Pn	10 42 09.2	-1.4
HMTC	**Hemet**	**1.93**	**168**			Pn	10 42 10.2	-0.8
ELS	**Elsinore Mount**	**1.96**	**179**			Pn	10 42 10.5	-0.8
ELS				IAML			10 42 41.0	
	comp=E,78nm,0.3s							
ELS				IAML			10 42 47.7	
	comp=N,75nm,0.5s							
POB	**Polly Butte**	**1.97**	**166**			Pn	10 42 10.8	-0.7
DGR	**Domenigoni Val**	**1.99**	**169**			Pn	10 42 11.2	-0.6
MURC	**Murrieta**	**2.02**	**173**			Pn	10 42 11.6	-0.5
BACC	**Bachelor Mtn.**	**2.02**	**170**			Pn	10 42 11.8	-0.4
SHPR	**Sheep Range**	**2.08**	**64**			Pn	10 42 12.3	-0.9
PMD	**Palm Desert**	**2.15**	**155**	Pn		Pn	10 42 12.5	-1.5
PMD				IAML			10 42 48.4	
	comp=E,52nm,0.4s							
PFO	**Pinyon Flats O**	**2.16**	**157**	Pn		Pn	10 42 12.9	-1.3
XPFO	**Pinon Flat**	**2.16**	**157**			Pb	10 42 17.8	+0.5
SNDA	**J Saunders Pla**	**2.17**	**161**			Pb	10 42 18.1	+0.6
BZNA	**Buzz No.'s Pla**	**2.21**	**162**			Pn	10 42 14.3	-0.6
FRD	**Ford Ranch, An**	**2.23**	**161**			Pn	10 42 14.4	-0.7
BENR	**Benton**	**2.28**	**338**			Pb	10 42 19.7	+0.3
TPH	**Tonopah**	**2.47**	**5**			Pn	10 42 17.9	-0.6
MATG	**Mataguay Scout**	**2.50**	**164**			Pb	10 42 23.5	+0.5
DPP	**Dos Picos Cty**	**2.64**	**170**	Pn		Pn	10 42 19.6	-1.1
DPP				IAML			10 43 01.1	
	comp=E,45nm,0.7s							
PRN	**Pahroc Range**	**2.65**	**47**			Pn	10 42 22.5	+1.5
PRN				IAML			10 43 11.7	
	comp=N,36nm,0.7s							
PRN				IAML			10 43 15.4	
	comp=E,39nm,0.6s							
LHV	**Little Huntoon**	**2.76**	**343**			Pn	10 42 22.4	0.0
LHV				IAML			10 43 14.8	
	comp=N,26nm,1.4s							
PMPB	**Monarch Peak**	**2.77**	**284**			Pn	10 42 22.0	-0.5
PMPB				IAML			10 43 09.1	
	comp=E,63nm,0.6s							
PMPB				IAML			10 43 09.5	
	comp=N,74nm,0.8s							
NV11	**Mina Array Sit**	**2.87**	**349**			Pn	10 42 23.4	-0.6
NVAR	**Mina Array Bea**	**2.89**	**347**			Pn	10 42 24.1	-0.2
W13A	**Hualapai Mount**	**2.98**	**99**			Pn	10 42 23.6	-2.0
W13A				IAML			10 43 16.5	
	comp=N,21nm,1.0s							
W13A				IAML			10 43 17.9	
	comp=E,20nm,0.7s							
BAR	**Barrett**	**3.00**	**167**	IAML			10 43 11.8	
	comp=N,51nm,0.3s							
BBGB	**Big Mountain B**	**3.04**	**290**			Pn	10 42 26.9	+0.6
R11B	**Troy Canyon, C**	**3.13**	**28**			Pn	10 42 26.5	-1.0
RYN	**Ryan**	**3.13**	**345**	Pn		Pn	10 42 26.4	-1.2
CBX	**Cerro Bola**	**3.35**	**168**	Pn		Pn	10 42 29.7	-1.0
GLA	**Glamis**	**3.36**	**139**	Pn		Pn	10 42 28.4	-2.2
GLA				IAML			10 43 29.9	
	comp=N,28nm,0.6s							
GLA				IAML			10 43 30.6	
	comp=E,40nm,0.6s							
SAO	**San Andreas Ge**	**3.41**	**291**	Pn		Pn	10 42 31.4	+0.1
ESJX	**Sierra Juarez**	**3.81**	**160**	Pn		Pn	10 42 35.8	-1.1
ESJX				IAML			10 43 41.0	
	comp=N,14nm,0.6s							
ESJX				IAML			10 43 41.8	
	comp=E,13nm,1.6s							
CCUT	**Cedar City**	**3.84**	**58**	Pn		Pn	10 42 38.6	+1.2
KNB	**Kanab**	**4.01**	**68**	Pn		Pn	10 42 40.2	+0.5
Y14A	**Wickenburg**	**4.04**	**113**			Pn	10 42 38.8	-1.2
Y14A				IAML			10 43 50.4	
	comp=N,24nm,0.7s							
Y14A				IAML			10 43 51.2	
	comp=E,16nm,0.3s							
113A	**Mohawk Valley,**	**4.18**	**132**	Pn		Pn	10 42 40.2	-1.6
U15A	**North Rim**	**4.28**	**77**	Pn		Pn	10 42 43.4	-0.2
U15A				IAML			10 44 03.9	
	comp=E,7.0nm,1.3s							
X16A	**Lo Mia Camp, P**	**5.09**	**102**	Pn		Pn	10 42 53.6	-1.0
X16A				IAML			10 44 24.5	
	comp=N,4.3nm,1.1s							
X16A				IAML			10 44 35.1	
	comp=E,4.0nm,2.2s							
X18A	**Snowflake**	**6.26**	**98**	Pn		Pn	10 43 09.5	-1.2

IDC 21 11:19:06.6±9.4,15°15S×178°33W,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=427.4km s-min=36.0km az=140.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.27**	**257**	P		P	11 27 26.0	-0.4
	0.2nm,0.5s,baz=93,slow=8.0,SNR=5.2							
	0.2nm,0.5s							
ASAR	**Alice Springs**	**45.67**	**252**	P		P	11 27 29.6	+0.1
	1.7nm,0.3s,baz=85,slow=8.6,SNR=86							
	1.7nm,0.3s							
ILAR	**Eielson Array**	**83.19**	**13**	P		P	11 31 34.4	0.0
	0.1nm,0.5s,baz=229,slow=5.8,SNR=5.7							
	0.1nm,0.5s							

IDC 21 11:26:16.6±1.9,32°25S×178°78W,h0km,mb3.8/3, mbtmp3.8/4,ML3.6/1,MS3.6/1,Error ellipse: s-maj=47.0km s-min=33.7km az=61.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**6.87**	**208**	P		Pn	11 27 57.3	-1.2
	1.1nm,0.3s,baz=267,slow=4.5,SNR=20							
URZ				S		Sn	11 29 09.6	-7.9
	1.6nm,0.3s,baz=195,slow=22,SNR=7.0							
	2.8nm,0.3s							
ASAR	**Alice Springs**	**42.38**	**269**	P		P	11 34 13.0	+0.1
	0.6nm,0.5s,baz=109,slow=7.2,SNR=18							
	0.6nm,0.5s							
WRA	**Warramunga Arr**	**43.54**	**275**	P		P	11 34 22.1	-0.2
	1.1nm,0.5s,baz=114,slow=8.1,SNR=16							
	1.1nm,0.5s							
JAY	**Jayapura**	**48.19**	**299**	LR		LR	11 51 49.8	
	comp=Z,72nm,21.1s,baz=44,slow=32							
QSPA	**South Pole Qui**	**57.86**	**180**	P		P	11 36 10.2	+0.2
	1.0nm,0.9s,baz=44,slow=1.8,SNR=5.5							
	1.0nm,0.9s							
H03S2	**Juan Fernandez**	**80.00**	**124**	T		T	13 06 52.6	
	baz=236,slow=74,SNR=4.4							
H03S1	**Juan Fernandez**	**80.01**	**124**	T		T	13 06 50.7	
	baz=236,slow=74,SNR=4.1							
H03S3	**Juan Fernandez**	**80.02**	**124**	T		T	13 06 52.3	
	baz=236,slow=74,SNR=4.4							
H03N3	**Juan Fernandez**	**80.20**	**123**	T		T	13 07 00.6	
	baz=241,slow=72,SNR=7.5							
H03N2	**Juan Fernandez**	**80.21**	**123**	T		T	13 06 59.0	
	baz=241,slow=72,SNR=8.1							
H03N1	**Juan Fernandez**	**80.22**	**123**	T		T	13 07 00.9	
	baz=241,slow=72,SNR=13							
FINES	**FINESS Array B**	**146.63**	**338**	PKPbc		PKPdf	11 45 58.3	+0.6
	0.5nm,0.4s,baz=51,slow=2.7,SNR=8.0							

*IDC **21** 11:40:30.2±2.2,21°20S×174°51W,h0km,mb3.8/4, mbtmp3.8/4,MS3.2/3,Error ellipse: s-maj=93.3km s-min=30.4km az=151.0*

ISC 21 11:40:34.1±2.1,21°2S±0°6×174°5W±0°3,h27km,n10, σ0s26/7,mb3.9/4,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAR	**Rarotonga**	**13.72**	**93**	LR		LR	11 50 09.5	
	comp=Z,31nm,18.1s,baz=215,slow=42							
PPT	**Papeete**	**23.77**	**85**	LR		LR	11 54 43.0	
	comp=Z,49nm,18.1s,baz=233,slow=36							
JAY	**Jayapura**	**47.40**	**287**	LR		LR	12 06 23.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.71**	**55**		**Pn**	**11 46 52.6**	**+0.5**
MANU	**Manus Island**	**4.59**	**338**		**Pn**	**11 47 05.9**	**+1.7**
COEN	**Coen**	**9.57**	**217**		**Pn**	**11 48 13.3**	**+0.8**
HNR	**Honiara**	**11.18**	**107**	LR	LR	11 52 16.5	
	comp=Z,140nm,20.6s,baz=248,slow=34						
MTN	**Manton Dam**	**18.86**	**249**		**P**	**11 50 13.6**	**+0.3**
EIDS	**Eidsvold**	**19.04**	**175**	P	**Pn**	**11 50 16.5**	**+0.2**
WB0	**Warramunga Arr**	**19.57**	**226**		**P**	**11 50 21.6**	**+0.6**
WB0				IAmb	IAmb	11 50 24.0	
	comp=Z,20nm,0.6s						
WRA	**Warramunga Arr**	**19.73**	**225**	P	**P**	**11 50 22.8**	**0.0**
WRA	**Warramunga Arr**	**19.73**	**225**	P	**P**	**11 50 22.6**	**-0.1**
	comp=Z,7.0nm,0.3s,baz=51,slow=11,SNR=121						
WRA				S	**S**	**11 53 57.4**	**-5.1**
	comp=Z,4.5nm,0.8s,baz=46,slow=23,SNR=10.0						
WRA				PcP	**PcP**	**11 54 39.5**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=42,slow=2.3,SNR=4.4						
WRA				LR	LR	11 57 47.6	
	comp=Z,118nm,18.8s,baz=336,slow=36						
	comp=Z,26nm,0.5s						
GUMO	**Guam**	**20.22**	**348**	P	**P**	**11 50 27.3**	**-0.8**
GUMO				IAmb	IAmb	11 50 50.5	
	comp=Z,80nm,1.2s						
GUMO	**Guam**	**20.22**	**348**	P	**P**	**11 50 26.6**	**-1.5**
	comp=Z,24nm,0.6s,baz=155,slow=13,SNR=4.6						
GUMO				LR	LR	11 58 08.1	
	comp=Z,48nm,19.7s,baz=170,slow=36						
	comp=Z,24nm,0.6s						
KNRA	**Kununurra**	**22.01**	**243**		**P**	**11 50 45.8**	**-1.5**
KNRA				IAmb	IAmb	11 50 51.3	
	comp=Z,17nm,0.6s						
AS31	**Alice Springs**	**22.61**	**219**		**P**	**11 50 54.1**	**+0.3**
ASAR	**Alice Springs**	**22.61**	**219**	P	**P**	**11 50 53.6**	**-0.2**
ASAR	**Alice Springs**	**22.61**	**219**	P	**P**	**11 50 54.6**	**+0.9**
	comp=Z,7.4nm,0.4s,baz=55,slow=8.9,SNR=148						
ASAR				PcP	**PcP**	**11 54 45.3**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=24,slow=1.9,SNR=4.2						
ASAR				S	**S**	**11 54 59.9**	**+1.8**
	comp=Z,4.9nm,0.9s,baz=30,slow=22,SNR=12						
	comp=Z,7.4nm,0.4s						
DZM	**Mont Dzumac**	**22.93**	**135**	P	**P**	**11 50 57.7**	**+0.6**
DZM				IAmb	IAmb	11 50 58.9	
	comp=Z,15nm,0.7s						
DZM	**Mont Dzumac**	**22.93**	**135**	*e*LR	LR	11 56 24.6	
	comp=Z,275nm,23.3s						
DZM	**Mont Dzumac**	**22.93**	**135**	P	**P**	**11 50 58.3**	**+1.2**
	comp=Z,12nm,0.5s,baz=326,slow=7.3,SNR=22						
	comp=Z,12nm,0.5s						
ARMA	**Armidale**	**24.09**	**175**		**P**	**11 51 09.2**	**+1.1**
ARMA				IAmb	IAmb	11 51 10.4	
	comp=Z,13nm,0.7s						
SOEI	**Soe**	**24.83**	**260**	P	**P**	**11 51 15.3**	**+0.3**
BATI	**Baumata**	**25.47**	**260**	P	**P**	**11 51 21.0**	**+0.3**
	comp=Z,22nm,0.5s,baz=90,slow=4.0,SNR=4.8						
	comp=Z,22nm,0.5s						
FITZ	**Fitzroy Crossi**	**25.71**	**241**	P	**P**	**11 51 22.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**25.71**	**241**	P	**P**	**11 51 22.6**	**-0.2**
	comp=Z,19nm,0.8s,baz=62,slow=11,SNR=17						
	comp=Z,19nm,0.8s						
STKA	**Stephens Creek**	**26.38**	**194**	P	**P**	**11 51 29.1**	**+0.4**
STKA	**Stephens Creek**	**26.38**	**194**	P	**P**	**11 51 29.1**	**+0.4**
	comp=Z,4.2nm,0.8s,baz=24,slow=12,SNR=6.7						
	comp=Z,4.2nm,0.8s						
MMRI	**Maumere**	**26.74**	**263**	P	**P**	**11 51 29.9**	**-2.3**
CAN	**Canberra**	**28.86**	**180**	P	**P**	**11 51 49.8**	**-1.2**
CAN				IAmb	IAmb	11 52 11.9	
	comp=Z,34nm,1.5s						
BBOO	**Buckleboo**	**29.02**	**203**	P	**P**	**11 51 52.4**	**+0.1**
TOO	**Toolangi**	**31.28**	**186**	P	**P**	**11 52 13.2**	**+0.9**
TOO				IAmb	IAmb	11 52 27.4	
	comp=Z,13nm,1.4s						
FORT	**Forrest**	**31.34**	**216**	P	**P**	**11 52 12.9**	**0.0**
FORT				IAmb	IAmb	11 52 35.4	
	comp=Z,12nm,0.9s						
TAU	**Tasmania Unive**	**36.48**	**182**	P	**P**	**11 52 58.7**	**+1.5**
MORW	**Morawa**	**38.55**	**230**	P	**P**	**11 53 14.1**	**-0.9**
JOW	**Kunigami**	**38.64**	**329**	LR	LR	12 05 29.2	
	comp=Z,87nm,20.9s,baz=107,slow=30						
URZ	**Urewera**	**40.68**	**145**	P	**P**	**11 53 32.7**	**0.0**
	comp=Z,2.7nm,0.5s,baz=312,slow=12,SNR=2.8						
URZ				LR	LR	12 08 33.7	
	comp=Z,65nm,18.5s,baz=309,slow=33						
	comp=Z,2.7nm,0.5s						
RTZ	**Ruatahuna**	**40.86**	**146**	P	**P**	**11 53 33.5**	**-0.7**
RTZ				IAmb	IAmb	11 54 15.4	
	comp=Z,19nm,1.3s						
MJAR	**Matsushiro Arr**	**43.84**	**347**	P	**P**	**11 53 55.4**	**-2.9**
	comp=Z,1.2nm,0.6s,baz=159,slow=6.7,SNR=6.3						
MJAR				LR	LR	12 12 06.4	
	comp=Z,38nm,18.6s,baz=188,slow=36						
	comp=Z,1.2nm,0.6s						
NJ2	**Nanjing**	**47.83**	**325**	*e*P	**P**	**11 54 32.8**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KSRS	**Korea Array**	**47.83**	**337**	P	**P**	**11 54 26.7**	**-3.0**
	comp=Z,0.9nm,0.4s,baz=155,slow=8.9,SNR=7.0						
	comp=Z,0.9nm,0.4s						
KSAR	**Wonju Array Be**	**47.83**	**337**	P	**P**	**11 54 31.1**	**+1.3**
KS19	**Wonju Array Si**	**47.89**	**337**	P	**P**	**11 54 30.0**	**-0.2**
ASAJ	**Asahikawa**	**50.55**	**354**	LR	LR	12 17 44.6	
	comp=Z,16nm,18.0s,baz=172,slow=38						
USRK	**Ussuriysk Ar.**	**52.60**	**345**	P	**P**	**11 55 06.0**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=172,slow=7.3,SNR=6.5						
	comp=Z,3.1nm,0.6s						
PZH	**PanZhiHua**	**56.30**	**308**	P	**P**	**11 55 34.8**	**+1.7**
HHC	**Hu-ho-hao-te**	**58.22**	**327**	*e*P	**P**	**11 55 48.5**	**+2.1**
HHC				pmax	pmax		
	comp=Z,18nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,5.4s						
PEA0B	**Petropavlovsk-**	**59.65**	**6**	P	**P**	**11 55 56.0**	**+0.2**
PETK	**Petropavlovsk-**	**59.65**	**6**	P	**P**	**11 55 55.1**	**-0.8**
	comp=Z,6.2nm,0.5s,baz=159,slow=6.3,SNR=11						
	comp=Z,6.2nm,0.5s						
LZH	**Lanzhou**	**59.83**	**318**	*e*P	**P**	**11 55 58.9**	**+1.2**
LZH				sP	sP	11 56 23.0	+4.8
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
PPT2	**Papeete2**	**60.80**	**107**	*e*LR	LR	12 14 02.7	
	comp=Z,35nm,24.0s						
PPT2				*e*LR	LR	12 14 05.3	
	comp=Z,125nm,26.0s						
CASY	**Casey**	**65.52**	**196**	P	**P**	**11 56 34.6**	**-0.2**
CASY				IAmb	IAmb	11 56 35.8	
	comp=Z,5.8nm,0.5s						
SONM	**Songino Array**	**65.71**	**330**	P	**P**	**11 56 36.4**	**-0.2**
SONM	**Songino Array**	**65.71**	**330**	P	**P**	**11 56 36.6**	**0.0**
	comp=Z,1.3nm,0.6s,baz=145,slow=5.2,SNR=8.1						
	comp=Z,1.3nm,0.6s						
ATKA	**Atka Island**	**66.15**	**24**	P	**P**	**11 56 38.7**	**-0.4**
TAOE	**Nuku Hiva Isla**	**70.08**	**97**	*e*LR	LR	12 18 22.5	
	comp=Z,34nm,25.2s						
UNV	**Unalaska Valle**	**70.56**	**26**	P	**P**	**11 57 05.5**	**-1.0**
UNV				IAmb	IAmb	11 57 08.8	
	comp=Z,15nm,1.1s						
VNDA	**Vanda**	**71.48**	**177**	P	**P**	**11 57 11.8**	**0.0**
VNDA	**Vanda**	**71.48**	**177**	P	**P**	**11 57 11.7**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=348,slow=7.7,SNR=23						
	comp=Z,2.0nm,0.6s						
SBA	**Scott Base**	**72.09**	**176**	P	**P**	**11 57 17.5**	**+2.0**
O14K	**Tigyukauivet M**	**76.29**	**24**	P	**P**	**11 57 39.8**	**-0.4**
O15K	**Ungalikthiuk R**	**76.83**	**24**	P	**P**	**11 57 43.4**	**+0.1**
O15K				IAmb	IAmb	11 58 16.9	
	comp=Z,12nm,1.1s						
L16K	**Owhat River**	**78.51**	**22**	P	**P**	**11 57 52.0**	**-0.5**
L16K				IAmb	IAmb	11 58 02.7	
	comp=Z,9.7nm,1.5s						
MKAR	**Makanchi Array**	**79.08**	**320**	P	**P**	**11 57 54.9**	**-1.2**
MKAR	**Makanchi Array**	**79.08**	**320**	P	**P**	**11 57 55.4**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=94,slow=9.0,SNR=10						
	comp=Z,0.5nm,0.3s						
J17K	**VABM Dome**	**79.69**	**21**	P	**P**	**11 57 59.6**	**+0.6**
J17K				IAmb	IAmb	11 58 00.4	
	comp=Z,5.1nm,0.8s						
ZALV	**Zalesovo Beam**	**80.40**	**327**	P	**P**	**11 58 01.3**	**-1.8**
	comp=Z,1.5nm,0.4s,baz=101,slow=3.9,SNR=7.0						
	comp=Z,1.5nm,0.4s						
CNPM	**China Poot**	**80.69**	**26**		**P**	**11 58 04.1**	**-0.4**
CNPM				IAmb	IAmb	11 58 05.5	
	comp=Z,24nm,1.4s						
K20K	**Telida**	**81.51**	**22**	P	**P**	**11 58 08.8**	**0.0**
CAST	**Castle Rocks**	**82.30**	**23**	P	**P**	**11 58 11.7**	**-1.3**
CAST				IAmb	IAmb	11 58 13.3	
	comp=Z,5.7nm,1.1s						
PWL	**Port Wells**	**82.60**	**26**	P	**P**	**11 58 13.5**	**-1.0**
PWL				IAmb	IAmb	11 58 14.7	
	comp=Z,5.5nm,0.7s						
KURBB	**Kurchatov Arra**	**82.75**	**323**	P	**P**	**11 58 14.5**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=100,slow=7.3,SNR=5.1						
	comp=Z,0.3nm,0.4s						
MAW	**Mawson**	**82.76**	**203**	P	**P**	**11 58 15.1**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=107,slow=8.2,SNR=7.3						
MAW				LR	LR	12 32 32.1	
	comp=Z,45nm,19.6s,baz=71,slow=34						
	comp=Z,1.4nm,0.6s						
TRF	**Thorofare Moun**	**83.02**	**23**	P	**P**	**11 58 14.6**	**-2.3**
RND	**Reindeer**	**83.56**	**24**		**P**	**11 58 17.9**	**-1.6**
RND				IAmb	IAmb	11 58 18.9	
	comp=Z,5.8nm,0.7s						
MLY	**Manley**	**83.63**	**22**		**P**	**11 58 19.2**	**-0.6**
MLY				IAmb	IAmb	11 58 20.0	
	comp=Z,3.6nm,0.7s						
QSPA	**South Pole Qui**	**83.65**	**180**	P	**P**	**11 58 20.3**	**+0.2**
	comp=Z,6.1nm,0.6s,baz=0.9,slow=5.8,SNR=36						
	comp=Z,6.1nm,0.6s						
ILAR	**Eielson Array**	**84.96**	**23**	P	**P**	**11 58 24.8**	**-1.7**
	comp=Z,2.4nm,0.7s,baz=249,slow=5.0,SNR=24						
	comp=Z,2.4nm,0.7s						
M27K	**Edge Creek, AK**	**86.03**	**26**	P	**P**	**11 58 30.9**	**-1.2**
HYT	**Haines Junctio**	**87.48**	**28**		**P**	**11 58 38.7**	**-0.5**
HYT				IAmb	IAmb	11 58 40.4	
	comp=Z,3.4nm,0.7s						
DAWY	**Dawson**	**87.68**	**25**	P	**P**	**11 58 39.4**	**-0.6**
DAWY				IAmb	IAmb	11 58 40.9	
	comp=Z,2.2nm,0.7s						
BVAR	**Borovoye Array**	**88.26**	**324**	P	**P**	**11 58 41.0**	**-1.9**
	comp=Z,0.9nm,0.6s,baz=103,slow=10,SNR=3.6						
	comp=Z,0.9nm,0.6s						
PFO	**Pinyon Flats O**	**97.14**	**57**	LR	LR	12 34 47.6	
	comp=Z,26nm,21.7s,baz=206,slow=30						
TORD	**Torodi Ar. Bea**	**147.20**	**284**	PKPbc	**PKPdf**	**12 05 32.8**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=88,slow=2.9,SNR=18						
BDFB	**Brasilia**	**152.37**	**142**	PKPbc	**PKPbc**	**12 05 47.6**	**-1.0**
	comp=Z,7.1nm,0.4s,baz=241,slow=1.5,SNR=14						

IDC ***21*** *11:52:21.7±0.8, 1°.31S×120°.40E, h0km, mb3.9/8, mbtmp4.0/9, ML3.9/1, MS3.5/6, Error ellipse: s-maj=53.5km s-min=14.8km az=68.0*

DJA ***21*** *11:52:24.0±0.2, 1°.S±2°×12°.0E±°, h10km, M4.5/15, mb4.7/2, ML v4.5/15*

ISC 21 11:52:23.7±0.8, 1°.39S±0°.04×120°.04E±0°.06, h10km, n27, σ1s51/25, mb4.1/8, MS3.5/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.52**	**337**	P	**Pg**	**11 52 34.9**	**+1.0**
TTSI	**Tana Toraja**	**1.66**	**188**	P	**Pn**	**11 52 51.7**	**-1.1**
APSI	**Ampana**	**1.68**	**74**	P	**Pn**	**11 52 53.0**	**-0.1**
MPSI	**Mapaga**	**1.72**	**355**	P	**Pn**	**11 52 53.8**	**+0.1**
SPSI	**Sidrap Palu**	**2.57**	**186**	P	**Pn**	**11 53 06.7**	**+1.3**
MRSI	**Marisa**	**2.66**	**46**	P	**Pn**	**11 53 07.6**	**+1.0**
LUWI	**Luwuk**	**2.75**	**83**	P	**Pn**	**11 53 11.3**	**+3.4**
SMKI	**Samarinda**	**2.98**	**288**	P	**Pn**	**11 53 09.8**	**-1.3**
BNSI	**Bone**	**2.99**	**179**	P	**Pn**	**11 53 11.7**	**+0.5**
BKB	**Balikpapan**	**3.15**	**272**	P	**Pn**	**11 53 15.6**	**+2.3**
KAPI	**Kappang**	**3.61**	**185**	Pn	**Pn**	**11 53 20.8**	**+1.1**
	8.5nm,0.3s,baz=349,slow=7.7,SNR=15						
KAPI				Sn	**Sn**	**11 54 05.9**	**+3.4**
	4.5nm,0.3s,baz=324,slow=21,SNR=6.3						
KAPI				LR	LR	11 54 40.5	
	comp=Z,278nm,18.6s,baz=2.5,slow=37						
	19nm,0.3s						
BKSI	**Bulukumba**	**3.91**	**179**	P	**Pn**	**11 53 24.1**	**+0.3**
KMSI	**Cibinong**	**4.40**	**64**	P	**Pn**	**11 53 30.9**	**+0.4**
BSSI	**Bau Bau, Buton**	**4.74**	**175**	P	**Pn**	**11 53 35.9**	**+0.6**
NLAI	**Namlea**	**7.29**	**105**	P	**Pn**	**11 54 09.3**	**-1.0**
	0.2nm45nm,0.6s						
BATI	**Baumata**	**9.47**	**158**	LR	LR	11 59 15.6	
	comp=Z,249nm,18.1s,baz=287,slow=44						
WRA	**Warramunga Arr**	**23.14**	**144**	P	**P**	**11 57 28.4**	**-2.0**
	5.8nm,0.9s,baz=322,slow=11,SNR=5.3						
	5.8nm,0.9s						
ASAR	**Alice Springs**	**25.90**	**150**	P	**P**	**11 57 54.7**	**-1.4**
	1.5nm,0.7s,baz=327,slow=8.3,SNR=12						
ASAR				PcP	**PcP**	**12 01 23.4**	**-1.7**
	0.3nm,0.6s,baz=338,slow=2.9,SNR=4.4						
	1.5nm,0.7s						
NWAO	**Narrogin (SRO)**	**31.48**	**185**	LR	LR	12 10 39.4	
	comp=Z,99nm,18.6s,baz=309,slow=35						
STKA	**Stephens Creek**	**36.52**	**148**	P	**P**	**11 59 28.4**	**-1.1**
	4.5nm,0.9s,baz=313,slow=12,SNR=4.5						
STKA				LR	LR	12 15 09.0	
	comp=Z,65nm,19.3s,baz=228,slow=38						
	4.5nm,0.9s						
PALK	**Pallekele**	**40.18**	**283**	LR	LR	12 17 11.6	
	comp=Z,35nm,19.5s,baz=135,slow=37						
SONM	**Songino Array**	**50.45**	**348**	P	**P**	**12 01 21.2**	**-0.5**
	0.5nm,0.6s,baz=158,slow=4.9,SNR=4.5						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**58.29**	**330**	P	**P**	**12 02 19.6**	**+0.9**
	1.5nm,0.8s,baz=131,slow=8.3,SNR=12						
	1.5nm,0.8s						
ZALV	**Zalesovo Beam**	**62.40**	**337**	P	**P**	**12 02 46.0**	**-0.6**
	0.7nm,0.5s,baz=116,slow=3.4,SNR=4.2						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**62.72**	**332**	P	**P**	**12 02 49.2**	**+0.3**
	0.9nm,0.7s,baz=134,slow=6.2,SNR=5.7						
	0.9nm,0.7s						
BVAR	**Borovoye Array**	**68.17**	**330**	P	**P**	**12 03 24.9**	**+0.7**
	1.3nm,0.8s,baz=123,slow=10,SNR=5.2						
	1.3nm,0.8s						
SNAA	**Sanae**	**98.56**	**196**	LR	LR	12 48 16.6	
	comp=Z,35nm,18.9s,baz=278,slow=34						

NEIC ***21*** *11:56:11.0±1.6, 35°.662N±0°.010×117°.50W±0°.01, h11km±4km, Error ellipse: s-maj=1.5km s-min=1.4km az=112.0*

PAS 21 11:56:11.5±1.6, 35°.656N±0°.009×117°.51W±0°.01, h10km±5km, ML3.1/259, ML2.9/116(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=222.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.06**	**163**		**Pg**	**11 56 13.5**	**-0.2**
GPO	**China Lake**	**0.12**	**267**		**Pg**	**11 56 14.5**	**0.0**
GPO					Sg	11 56 17.2	+0.7
CLC	**China Lake**	**0.17**	**337**		**Pg**	**11 56 15.2**	**-0.1**
CLC				IAML		11 56 18.2	
	comp=N,5μm,0.1s						
CCCA	**Chr Cany lake**	**0.18**	**137**		Pg	11 56 15.7	+0.3
SRTC	**Snort**	**0.20**	**281**		Pg	11 56 16.0	+0.3
SRTC					Sg	11 56 19.8	+1.3
LRMC	**Laurel Mtn Rad**	**0.22**	**218**		Pg	11 56 15.8	-0.4
TOW	**Tower One**	**0.26**	**307**		Pg	11 56 17.0	+0.2
TOW					Sb	11 56 21.6	-1.1
WNMM	**Nine Mile Cany**	**0.37**	**300**		Pg	11 56 18.6	-0.2
WNMM					Sg	11 56 24.5	+0.8
WVPM	**Volcano Peak E**	**0.38**	**320**		Pg	11 56 18.8	-0.3
WVPM					Sg	11 56 24.2	-0.1
MPMC	**Manual Prospec**	**0.40**	**3**		Pg	11 56 19.1	-0.4
MPMC					Sg	11 56 25.0	+0.1
MPMC	**Manual Prospec**	**0.40**	**3**	IAML		11 56 26.4	
	comp=E,937nm,0.4s						
MPMC				IAML		11 56 26.6	
	comp=N,812nm,0.5s						
JRC2	**Joshua Ridge**	**0.41**	**324**		Pg	11 56 19.3	-0.2
JRC2					Sg	11 56 25.1	+0.2
WCSM	**Coso Springs S**	**0.42**	**331**		Pg	11 56 19.5	-0.4
WCSM					Sg	11 56 25.3	-0.1
WRVM	**Rose V. Centra**	**0.47**	**319**		Pg	11 56 20.2	-0.4
WRVM					Sg	11 56 26.5	-0.3
DTP	**Desert Tortois**	**0.47**	**215**		Pg	11 56 20.2	-0.6
DTP					Sg	11 56 26.6	-0.4
WBSM	**Bird Springs**	**0.52**	**257**		Pg	11 56 21.4	-0.4
WBSM					Sg	11 56 28.4	-0.2
MFS	**McCloud Flat S**	**0.54**	**329**		Pg	11 56 21.6	-0.4
MFS					Sg	11 56 29.1	0.0
WORM	**Onyx Ranch**	**0.59**	**274**		Pg	11 56 22.5	-0.6
WORM					Sg	11 56 30.3	-0.6
QSM	**Queen of Sheba**	**0.61**	**59**		Sg	11 56 31.0	-0.3
QSM	**Queen of Sheba**	**0.61**	**59**		Pg	11 56 22.8	-0.5
QSM				IAML		11 56 34.5	
	comp=N,2μm,0.6s						
QSM				IAML		11 56 34.7	
	comp=E,1μm,0.4s						
CCAC	**Calif City Air**	**0.65**	**219**		Pg	11 56 23.5	-0.5
CCAC					Sg	11 56 32.4	-0.2
GSC	**Goldstone, Bar**	**0.68**	**121**		Pg	11 56 23.7	-0.9
GSC				IAML		11 56 33.5	
	comp=E,855nm,0.5s						
GSC				IAML		11 56 36.1	
	comp=N,1μm,0.3s						
GSC	**Goldstone, Bar**	**0.68**	**121**		Sg	11 56 33.3	-0.2
WHFM	**Hanning Flat**	**0.68**	**274**		Pg	11 56 24.1	-0.6
WHFM					Sg	11 56 33.0	-0.6
ISA	**Isabella, Lake**	**0.78**	**271**		Pg	11 56 25.8	-0.8
ISA				IAML		11 56 40.2	
	comp=E,279nm,0.2s						
ISA	**Isabella, Lake**	**0.78**	**271**		Sg	11 56 36.2	-0.6
HYS	**Haystack Butte**	**0.79**	**183**		Pg	11 56 25.9	-0.8
HYS					Sg	11 56 36.6	-0.6
WASM	**Alta Sierra Ca**	**0.85**	**276**		Pg	11 56 27.3	-0.7
WASM					Sg	11 56 38.9	-0.2
GWY	**Greenwater Val**	**0.87**	**52**		Pg	11 56 27.3	-0.9
EDW2	**Edwards Air Fo**	**0.87**	**207**		Pg	11 56 27.2	-1.0
EDW2					Sg	11 56 38.7	-0.8
RRX	**Edison Barstow**	**0.89**	**151**		Pg	11 56 28.0	-0.6
RRX					Sg	11 56 39.6	-0.5
CWC	**Cottonwood Cre**	**0.91**	**330**		Pg	11 56 28.9	-0.1
CWC				IAML		11 56 42.2	
	comp=E,233nm,0.1s						
CWC				IAML		11 56 44.0	
	comp=N,243nm,0.2s						
CWC	**Cottonwood Cre**	**0.91**	**330**		Sg	11 56 40.7	-0.2
CGO	**Cerro Gordo**	**0.92**	**345**		Pg	11 56 28.4	-0.9
CGO					Sg	11 56 41.4	0.0
FURC	**Furnace Creek,**	**0.96**	**33**		Pg	11 56 29.8	-0.3
TPO	**Tropico Hills**	**0.97**	**217**		Pg	11 56 29.4	-0.8
TPO				IAML		11 56 49.1	
	comp=N,588nm,0.8s						
TPO				IAML		11 56 49.5	
	comp=E,585nm,0.8s						
TPO	**Tropico Hills**	**0.97**	**217**		Sg	11 56 42.5	-0.3
SBB	**Saddle Back Bu**	**1.00**	**195**		Pg	11 56 29.7	-1.1
SBB					Sg	11 56 42.8	-0.9
SHOC	**Shoshone, Teco**	**1.04**	**76**		Pg	11 56 30.9	-0.6
SHOC					Sg	11 56 44.9	0.0
TEJ	**El Tejon**	**1.05**	**246**		Pg	11 56 30.2	-1.5
VTV	**Victorville**	**1.10**	**172**		Pg	11 56 31.8	-0.9
ADO	**Adelanto Recei**	**1.10**	**177**		Pg	11 56 31.7	-1.0
ADO					Sn	11 56 48.1	-0.4
SPG2	**Springville 2**	**1.15**	**298**		Pb	11 56 32.5	-1.1
SPG2					Sb	11 56 47.3	-1.3
TJR	**Tejon Ranch**	**1.19**	**238**		Pb	11 56 33.1	-0.9
ARVC	**Arvin**	**1.20**	**244**		Pb	11 56 33.8	-0.5
ARVC					Sb	11 56 49.5	-0.3
THC	**Tehachapi Micr**	**1.20**	**232**		Pb	11 56 33.5	-1.0
LRRC	**Littlerock Res**	**1.20**	**201**		Pb	11 56 33.2	-1.1
LEOC	**Leona Valley**	**1.21**	**213**		Pb	11 56 33.4	-1.1
HOLC	**Holcomb Ridge**	**1.23**	**193**		Pn	11 56 33.4	-1.4
CJV	**Casa Juvan**	**1.24**	**205**		Pg	11 56 35.4	+0.1
CJV					Sg	11 56 51.2	-0.1
JNH	**Juniper Hills**	**1.26**	**197**		Pn	11 56 34.1	-1.2
JNH					Sn	11 56 52.4	+0.1
DSCC	**Desert Studies**	**1.26**	**114**		Pn	11 56 33.2	-2.0
DSCC					Sb	11 56 51.6	0.0
HEC	**Hector,Ludlow**	**1.27**	**130**		Pn	11 56 34.9	-0.5
AMDNV	**Amargosa**	**1.28**	**51**		Pn	11 56 33.8	-1.5
AMDNV					Sb	11 56 52.3	+0.2
VES	**Vestal, Richgr**	**1.29**	**279**		Pn	11 56 35.5	-0.1
VES					Sb	11 56 52.3	-0.2
TUQ	**Turquoise Moun**	**1.31**	**99**		Pn	11 56 34.8	-1.3
TUQ					Sb	11 56 53.3	-0.1
GRAC	**Grapevine Rang**	**1.34**	**5**		Pn	11 56 35.7	-0.7
GRAC				IAML		11 57 00.1	
	comp=E,223nm,0.5s						
GRAC				IAML		11 57 01.1	
	comp=N,216nm,0.9s						
WCT	**Wildcat Mounta**	**1.34**	**32**		Pn	11 56 35.0	-1.4
WCT				IAML		11 56 55.8	
	comp=E,169nm,0.5s						
WCT				IAML		11 56 57.0	
	comp=N,150nm,0.5s						
WCT	**Wildcat Mounta**	**1.34**	**32**		Sg	11 56 54.7	0.0
SGV	**South Grapevin**	**1.38**	**16**		Pn	11 56 35.9	-1.0
SGV					Sn	11 56 55.4	+0.1
CHFC	**Chilao Flat St**	**1.39**	**198**		Pn	11 56 37.3	+0.2
CHFC					Sg	11 56 56.0	-0.1
SIL	**Silver Peak**	**1.42**	**156**		Pn	11 56 37.7	+0.1
OSI	**Osito Audit: C**	**1.44**	**224**		Pn	11 56 37.4	-0.3
OSI				IAML		11 57 00.4	
	comp=N,212nm,0.6s						
OSI				IAML		11 57 02.1

	comp=N,62nm,0.8s						
NV11	**Mina Array Sit**	**2.82**	**350**		Pn	11 56 56.3	-0.5
NVAR	**Mina Array Bea**	**2.84**	**347**		Pn	11 56 56.7	-0.4
BBGB	**Big Mountain B**	**3.00**	**289**		Pn	11 56 58.8	-0.4
BBGB				IAML		11 57 54.8	
	comp=N,65nm,0.9s						
W13A	**Hualapai Mount**	**3.02**	**100**		Pn	11 56 58.1	-1.4
RYN	**Ryan**	**3.07**	**345**		Pn	11 57 00.1	-0.2
R11B	**Troy Canyon, C**	**3.10**	**29**		Pn	11 56 58.9	-1.7
BLYC	**Blythe**	**3.11**	**127**		Pn	11 56 59.6	-1.0
BLYC				IAML		11 57 50.0	
	comp=N,47nm,0.5s						
BLYC				IAML		11 57 50.3	
	comp=E,41nm,0.5s						
Q09A	**Carvers**	**3.18**	**5**	Pn	Pn	11 57 00.9	-0.9
Q09A				IAML		11 58 01.6	
	comp=N,50nm,1.0s						
Q09A				IAML		11 58 10.9	
	comp=E,43nm,0.8s						
YUH	**Yuha Desert**	**3.28**	**156**		Pn	11 57 01.1	-1.8
SAO	**San Andreas Ge**	**3.37**	**290**		Pn	11 57 03.4	-0.8
CBX	**Cerro Bola**	**3.41**	**168**		Pn	11 57 04.5	-0.3
CBX				IAML		11 57 59.8	
	comp=N,43nm,1.1s						
CCUT	**Cedar City**	**3.84**	**59**		Pn	11 57 11.1	+0.3
Y14A	**Wickenburg**	**4.09**	**113**		Pn	11 57 15.2	+1.1
Y14A				IAML		11 58 25.7	
	comp=N,20nm,0.3s						
Y14A				IAML		11 58 27.3	
	comp=E,20nm,0.7s						
U15A	**North Rim**	**4.30**	**78**		Pn	11 57 16.7	-0.6
U15A				IAML		11 58 26.2	
	comp=E,12nm,1.0s						
U15A				IAML		11 58 27.8	
	comp=N,11nm,1.1s						
214A	**Organ Pipe Nat**	**5.38**	**132**	Pn	Pn	11 57 33.1	+1.3
214A				IAML		11 58 36.6	
	comp=N,4.6nm,3.7s						
214A				IAML		11 59 21.5	
	comp=E,5.0nm,2.5s						

TAP ***21*** *12:01:43.9,24.˝73N×122.˝29E,h79km,ML3.1,C*
JMA ***21*** *12:01:44.0±0.2,25.˝N±1.˝×122.˝3E±0.˝4,h74km±2km,*
MV2.0/14,TAIWAN REGION

ISC 21 12:01:44.8±1.3,24˚67N±0.˝03×122˚32E±0.˝02,h71km±7km,
n89,σ0s78/147,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.26**	**198**	*eP*	**Pn**	**12 01 56.2**	**+0.5**
EOS2				S	**Sn**	**12 02 05.6**	**+2.0**
EOS3	**EOS3**	**0.38**	**180**	P	**Pn**	**12 01 57.0**	**+0.5**
EOS3				*eS*	**Sn**	**12 02 07.1**	**+2.1**
TWC	**Suao**	**0.43**	**262**	*eP*	**Pn**	**12 01 56.6**	**-0.4**
TWC				*eS*	**Sn**	**12 02 05.8**	**-0.2**
ESAO	**Su ao**	**0.44**	**258**	*eP*	**Pn**	**12 01 57.0**	**-0.1**
ESAO				*eS*	**Sn**	**12 02 06.0**	**-0.2**
TWB1	**Santiao Chiao**	**0.45**	**319**	P	**Pn**	**12 01 56.8**	**-0.4**
TWB1				S	**Sn**	**12 02 05.8**	**-0.6**
EWUT	**Wuta**	**0.54**	**246**	*eS*	**Sn**	**12 02 08.5**	**+0.7**
TIPB	**Shuangxi**	**0.54**	**304**	*eP*	**Pn**	**12 01 57.7**	**-0.4**
TIPB				S	**Sn**	**12 02 07.5**	**-0.4**
EOS4	**EOS4**	**0.55**	**180**	*eS*	**Sn**	**12 02 08.0**	**+0.8**
NDS	**Dongshan**	**0.55**	**267**	*eP*	**Pn**	**12 01 57.2**	**-1.0**
NDS				*eS*	**Sn**	**12 02 07.1**	**-1.0**
SXI1	**Grass Mountain**	**0.58**	**317**	P	**Pn**	**12 01 58.1**	**-0.5**
SXI1				*eS*	**Sn**	**12 02 08.7**	**-0.1**
TWE	**Neicheng**	**0.59**	**275**	*eP*	**Pn**	**12 01 58.5**	**-0.2**
TWE				*eS*	**Sn**	**12 02 08.9**	**+0.1**
JYNG	**Yonagunijimaku**	**0.61**	**111**	*eP*	**Pn**	**12 01 58.3**	**-0.5**
JYNG				*eS*	**Sn**	**12 02 09.2**	**+0.1**
EAHA	**Aohua**	**0.63**	**238**	P	**Pn**	**12 01 58.9**	**-0.1**
EAHA				*eS*	**Sn**	**12 02 10.0**	**+0.6**
NWF	**Wu-fen Shan**	**0.63**	**310**	*eP*	**Pn**	**12 01 58.8**	**-0.3**
WFSB	**Wu-fen Shan**	**0.63**	**310**	*eP*	**Pn**	**12 01 58.8**	**-0.2**
YOJ	**Yonaguni jima**	**0.66**	**108**	*eP*	**Pn**	**12 01 58.8**	**-0.5**
YOJ				*eS*	**Sn**	**12 02 09.8**	**-0.3**
YOJ	**Yonaguni jima**	**0.66**	**108**	P	**Pn**	**12 01 58.9**	**-0.5**
YOJ				*eS*	**Sn**	**12 02 09.6**	**-0.5**
FUSB	**Fushanzhiwuyua**	**0.67**	**278**	P	**Pn**	**12 01 59.4**	**-0.1**
FUSB				S	**Sn**	**12 02 10.1**	**-0.3**
ENTT	**Nioudou**	**0.69**	**268**	*eP*	**Pn**	**12 01 59.9**	**+0.3**
ENTT				*eS*	**Sn**	**12 02 11.7**	**+1.1**
TNOU	**National Taiwa**	**0.69**	**314**	*eP*	**Pn**	**12 01 59.1**	**-0.6**
TNOU				*eS*	**Sn**	**12 02 10.3**	**-0.3**
LATG	**Datong**	**0.73**	**260**	*i* P	**Pn**	**12 02 00.4**	**+0.1**
LATG				S	**Sn**	**12 02 12.8**	**+1.1**
TWA	**Mucha**	**0.74**	**295**	P	**Pn**	**12 01 59.9**	**-0.3**
TWA				S	**Sn**	**12 02 11.0**	**-0.6**
NWLT	**Wulai**	**0.75**	**278**	P	**Pn**	**12 02 00.2**	**-0.1**
NWLT				S	**Sn**	**12 02 11.1**	**-0.8**
NHDH	**Xindian Distri**	**0.78**	**292**	*eP*	**Pn**	**12 02 00.5**	**-0.2**
NHDH				*eS*	**Sn**	**12 02 12.3**	**-0.1**
TATO	**Taipei**	**0.81**	**292**	P	**Pn**	**12 02 00.9**	**-0.2**
TATO	**Taipei**	**0.81**	**292**	S	**Sn**	**12 02 12.6**	**-0.5**
NACB	**Ninganchiao**	**0.82**	**233**	P	**Pn**	**12 02 01.0**	**-0.2**
NACB	**Ninganchiao**	**0.82**	**233**	*eP*	**Pn**	**12 02 00.6**	**-0.6**
NACB				*eS*	**Sn**	**12 02 13.4**	**0.0**
YM01	**YM01**	**0.83**	**305**	P	**Pn**	**12 02 00.8**	**-0.5**
YM01				S	**Sn**	**12 02 13.1**	**-0.4**
YHNB	**Yeheng**	**0.86**	**270**	P	**Pn**	**12 02 01.9**	**+0.2**
YHNB	**Yeheng**	**0.86**	**270**	P	**Pn**	**12 02 01.9**	**+0.2**
YHNB				S	**Sn**	**12 02 14.5**	**+0.3**
ZUZH	**Zhuzihu**	**0.86**	**305**	P	**Pn**	**12 02 01.0**	**-0.7**
ZUZH				S	**Sn**	**12 02 13.5**	**-0.6**
NSK	**Sanguang**	**0.87**	**271**	*eP*	**Pn**	**12 02 02.1**	**+0.2**
NSK				S	**Sn**	**12 02 14.7**	**+0.2**
TWD	**Chiawan**	**0.88**	**229**	*eS*	**Sn**	**12 02 14.6**	**+0.1**
NNSB	**Datong**	**0.89**	**255**	*eP*	**Pn**	**12 02 01.9**	**-0.2**
NNSB				*eS*	**Sn**	**12 02 14.9**	**+0.1**
ANP	**Anpu**	**0.89**	**306**	*eP*	**Pn**	**12 02 01.4**	**-0.6**
ETLH	**Xiulin Townshi**	**0.89**	**239**	*eP*	**Pn**	**12 02 01.6**	**-0.4**
ETLH				*eS*	**Sn**	**12 02 14.8**	**-0.1**
TWY	**Chenhua**	**0.89**	**313**	*eP*	**Pn**	**12 02 01.6**	**-0.4**
TWY				*eS*	**Sn**	**12 02 14.7**	**0.0**
NNS	**Nan Shan**	**0.89**	**255**	*eP*	**Pn**	**12 02 01.9**	**-0.2**
NNS				*eS*	**Sn**	**12 02 15.0**	**0.0**
TWS1	**Kuangyinshan**	**0.93**	**298**	P	**Pn**	**12 02 02.2**	**-0.2**
TWS1				*eS*	**Sn**	**12 02 15.8**	**+0.3**
NTST	**Danshui**	**0.93**	**302**	*eP*	**Pn**	**12 02 02.2**	**-0.3**
NTST				*eS*	**Sn**	**12 02 15.5**	**-0.1**
PCYT	**Pengchaiyu**	**0.98**	**347**	P	**Pn**	**12 02 02.9**	**-0.2**
ETM	**Tongmen**	**1.03**	**227**	*eP*	**Pn**	**12 02 03.0**	**-0.7**
ETM				*eS*	**Sn**	**12 02 17.1**	**-0.7**
TEYL	**Yanliau Villag**	**1.03**	**220**	*eP*	**Pn**	**12 02 03.0**	**-0.8**
TEYL				*eS*	**Sn**	**12 02 17.4**	**-0.5**
KSHI	**Guanxi Townshi**	**1.04**	**276**	*eP*	**Pn**	**12 02 04.4**	**+0.5**
KSHI				*eS*	**Sn**	**12 02 19.2**	**+1.1**
LXIB	**Xiulin Townshi**	**1.05**	**232**	P	**Pn**	**12 02 03.2**	**-0.9**
LXIB				S	**Sn**	**12 02 18.5**	**+0.1**
FUSS	**Fushou**	**1.06**	**247**	*eP*	**Pn**	**12 02 04.0**	**-0.4**
FUSS				*eS*	**Sn**	**12 02 19.6**	**+0.6**
NFF	**Wufeng Townshi**	**1.09**	**268**	*eP*	**Pn**	**12 02 04.6**	**+0.1**
NFF				S	**Sn**	**12 02 19.7**	**+0.3**
WHF	**Hehuan Shan**	**1.09**	**242**	*eP*	**Pn**	**12 02 04.3**	**-0.7**
WHF				*eS*	**Sn**	**12 02 19.5**	**-0.4**
SHUL	**Shoufeng**	**1.12**	**218**	*eP*	**Pn**	**12 02 04.2**	**-0.6**
SHUL				*eS*	**Sn**	**12 02 19.5**	**-0.2**
TDCB	**Techi**	**1.14**	**249**	*eP*	**Pn**	**12 02 05.6**	**+0.4**
TDCB				*eS*	**Sn**	**12 02 20.5**	**0.0**
ESL	**Shilin**	**1.17**	**224**	*eP*	**Pn**	**12 02 04.4**	**-1.2**
ESL				*eS*	**Sn**	**12 02 19.7**	**-1.3**
LIOB	**Emei**	**1.19**	**269**	*eP*	**Pn**	**12 02 06.0**	**+0.3**
LIOB				*eS*	**Sn**	**12 02 21.7**	**+0.3**
TEGC	**Jichi Village**	**1.19**	**217**	*eP*	**Pn**	**12 02 04.7**	**-1.1**
TEGC				*eS*	**Sn**	**12 02 21.5**	**+0.1**
NSTT	**Nanjuang**	**1.20**	**268**	*eP*	**Pn**	**12 02 06.4**	**+0.5**
NSTT				*eS*	**Sn**	**12 02 21.7**	**+0.1**
OWD	**Renai**	**1.26**	**236**	*eP*	**Pn**	**12 02 06.3**	**-0.5**
OWD				*eS*	**Sn**	**12 02 22.6**	**-0.7**
WARBT	**Fenglin Townsh**	**1.27**	**222**	*eP*	**Pn**	**12 02 05.3**	**-1.5**
WARBT				*eS*	**Sn**	**12 02 21.6**	**-1.8**
WUSB	**Renai**	**1.29**	**239**	P	**Pn**	**12 02 07.2**	**0.0**
WUSB				*eS*	**Sn**	**12 02 23.4**	**-0.4**
WHP	**Taichung City**	**1.31**	**253**	*eP*	**Pn**	**12 02 08.2**	**+0.8**
WHP				*eS*	**Sn**	**12 02 25.1**	**+0.8**
IRIF	**Iriomote-Funau**	**1.33**	**104**	*eP*	**Pn**	**12 02 07.1**	**-0.4**
IRIF				*eS*	**Sn**	**12 02 24.3**	**-0.3**
NMLH	**Miaoli**	**1.40**	**265**	*eS*	**Sn**	**12 02 26.0**	**-0.2**
VWDT	**VWDT**	**1.41**	**230**	P	**Pn**	**12 02 08.1**	**-0.5**
WCS	**Beigang Elemen**	**1.42**	**245**	*eP*	**Pn**	**12 02 09.4**	**+0.6**
WCS				*eS*	**Sn**	**12 02 28.0**	**+1.2**
HGSD	**Ruisui**	**1.43**	**215**	*eP*	**Pn**	**12 02 07.9**	**-1.0**
HGSD				*eS*	**Sn**	**12 02 26.6**	**-0.3**
TWQ1	**Liyutan**	**1.44**	**258**	*eS*	**Sn**	**12 02 27.9**	**+0.5**
EHY	**Hungye**	**1.47**	**218**	*eP*	**Pn**	**12 02 08.0**	**-1.5**
HATJ	**Hateruma jima**	**1.49**	**114**	*eP*	**Pn**	**12 02 09.7**	**+0.1**
SMLT	**Sun Moon Lake**	**1.51**	**239**	P	**Pn**	**12 02 11.0**	**+0.9**
SMLT				*eS*	**Sn**	**12 02 29.8**	**+0.7**
SSLB	**Suanglung**	**1.52**	**235**	P	**Pn**	**12 02 10.4**	**+0.3**
SSLB	**Suanglung**	**1.52**	**235**	S	**Sn**	**12 02 31.8**	**+2.5**
TYC	**Yuchr**	**1.54**	**241**	*eP*	**Pn**	**12 02 11.0**	**+0.7**
YULB	**Yu-li**	**1.58**	**217**	P	**Pn**	**12 02 09.5**	**-1.3**
YULB	**Yu-li**	**1.58**	**217**	*eP*	**Pn**	**12 02 09.4**	**-1.5**
JKRS	**Kuro-shima**	**1.60**	**105**	*eP*	**Pn**	**12 02 11.4**	**+0.3**
JKRS				*eS*	**Sn**	**12 02 32.2**	**+1.2**
TWF1	**Yuli**	**1.61**	**216**	*eP*	**Pn**	**12 02 09.7**	**-1.6**
WHYT	**Xinyi Township**	**1.65**	**234**	*eP*	**Pn**	**12 02 12.6**	**+0.7**
WHYT				*eS*	**Sn**	**12 02 33.4**	**+1.1**
JIJ	**Ishigaki jima**	**1.69**	**100**	*eP*	**Pn**	**12 02 12.2**	**-0.1**
JIJ				*eS*	**Sn**	**12 02 33.0**	**-0.1**
CHKH	**Chenggong**	**1.69**	**210**	*eP*	**Pn**	**12 02 11.9**	**-0.5**
FULB	**Fuli**	**1.74**	**213**	*eP*	**Pn**	**12 02 12.3**	**-0.7**
ALS	**Alishan**	**1.80**	**231**	*eP*	**Pn**	**12 02 14.7**	**+0.6**
ALS				*eS*	**Sn**	**12 02 38.0**	**+1.8**
JISG	**Ishigakijimahi**	**1.81**	**92**	*eP*	**Pn**	**12 02 13.6**	**-0.3**
JISG				*eS*	**Sn**	**12 02 37.1**	**+0.9**
EHD	**Haiduan**	**1.82**	**214**	*eP*	**Pn**	**12 02 12.5**	**-1.6**
CHN5	**Tsauling**	**1.84**	**235**	*eP*	**Pn**	**12 02 15.2**	**+0.8**
ELDTW	**Lidau**	**1.89**	**219**	*eP*	**Pn**	**12 02 14.2**	**-1.0**
EDH	**Donghe**	**1.93**	**209**	*eP*	**Pn**	**12 02 14.1**	**-1.4**
EDH				*eS*	**Sn**	**12 02 36.6**	**-2.2**
TPUB	**Ta-pu**	**2.06**	**229**	P	**Pn**	**12 02 18.8**	**+1.5**
TPUB	**Ta-pu**	**2.06**	**229**	*eP*	**Pn**	**12 02 18.2**	**+0.9**
WTP	**Ta-pu**	**2.11**	**228**	*eP*	**Pn**	**12 02 19.0**	**+1.1**
JTJ	**Tarama**	**2.17**	**90**	*eS*	**Sn**	**12 02 45.6**	**+1.0**

IDC 21 12:21:39.8±3.9,4˚96S×150˚37E,h0km,mb3.1/2,
mbtmp3.1/2,Error ellipse: s-maj=149.0km
s-min=50.2km az=114.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.57**	**225**	P	P	12 26 32.0	+0.8
	0.4nm,0.5s,baz=49,slow=10,SNR=5.4						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**24.45**	**219**	P	P	12 27 00.1	-0.5
	0.3nm,0.5s,baz=57,slow=9.0,SNR=16						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**148.04**	**287**	PKPbc	PKPbc	12 41 27.8	-0.7
	0.9nm,0.7s,baz=69,slow=2.3,SNR=5.1						

MOS ***21*** *12:23:28.0±1.0,26.˝20N×100.˝66E,h12km,mb4.9/41,*
MS4.4/11,Error ellipse: s-maj=8.2km s-min=4.8km
az=118.5
BJI ***21*** *12:23:28.7,26.˝15N×100.˝55E,h10km,mB4.9/25,mb4.5/62,*
ML5.0/15,Ms4.9/70,Ms7 4.6/66
IDC ***21*** *12:23:28.1±0.6,26.˝18N×100.˝66E,h0km,mb4.3/24,*
mbtmp4.3/25,ML4.1/1,MS4.1/62,Error ellipse:
s-maj=17.4km s-min=12.1km az=57.0
NEIC ***21*** *12:23:29.9±1.9,26.˝26N±0.˝07×100.˝73E±0.˝08,h10km±1km,*
mb4.8/58,Error ellipse: s-maj=11.9km s-min=11.0km
az=125.0
GCMT ***21*** *12:23:30.9±0.2,26.˝11N±0.˝01×100.˝77E±0.˝01,h22km±1km,*
MW5.0/111,Moment Tensor Solution. s34,c38;
s111,c154; Duration: 0 Moment tensor: Scale 10¹⁶Nm;
Mrr-0.48±.14; Mθθ-2.60±.10; Mϕϕ3.07±.12; Mrθ-0.76±.19;
Mθϕ-1.89±.09; Mϕr0.06±.17; Best double couple:
M₀3.50400×10¹⁶ NP1:φ₁27.00000°,δ77.00000°,
λ-7.00000°. NP2:φ₂119.00000°,δ83.00000°,
λ-167.00000°. Principal axes: T 3.6620, Plg4.0000°,
Azm253.0000°; N -0.3230, Plg76.0000°, Azm147.0000°;
P -3.3470, Plg14.0000°, Azm344.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function
BKK ***21*** *12:23:38.0±6.9,26˚N±57˚×10˚0E±1˚2,h10km,M4.9/9,*
mb4.6/9,mB5.0/8,Mjma5.0/9,ML5.3/5,MLv5.4/7,
Mw(mB)4.4/8,MwMwp3.3/2,Mwp4.0/2

ISC 21 12:23:30.5±0.5,26˚23N±0.˝03×100˚65E±0.˝03,h13km±2km,
h13km:pP-P,n329,σ1s90/300,mb4.7/92,MS4.2/87,10C-7D,
Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PZH	**PanZhiHua**	**1.02**	**74**	Pg	**Pb**	**12 23 48.3**	**-1.7**
PZH				Sg	**Sn**	**12 24 02.9**	**-1.9**
PZH				smax	smax		
	comp=N,18μm,0.9s						
PZH				smax	smax		
	comp=E,10μm,0.9s						
KMI	**Kunming**	**2.18**	**120**	⇑Pn	**Pb**	**12 24 08.8**	**-1.2**
KMI				Pg	**Pg**	**12 24 10.5**	**-1.9**
KMI				Sg	**Sg**	**12 24 37.3**	**-3.4**
KMI				smax	smax		
	comp=N,13μm,1.1s						
KMI				smax	smax		
	comp=E,9μm,1.5s						
KMI				LR	LR		
	comp=N,81μm,8.6s						
KMI				LR	LR		
	comp=E,44μm,7.4s						
KMI				LR	LR		
	comp=Z,20μm,6.5s						
TNCH	**TengChong**	**2.27**	**239**	Pn	**Pn**	**12 24 07.3**	**-0.5**
TNCH				Pg	**Pb**	**12 24 10.1**	**-1.3**
TNCH				Sg	**Sb**	**12 24 39.8**	**+0.4**
TNCH				smax	smax		
	comp=N,46μm,1.0s						
TNCH				smax	smax		
	comp=E,45μm,1.0s						
GYA	**Guiyang**	**5.40**	**86**	⇑Pn	**Pn**	**12 24 54.3**	**+3.4**
CD2	**Chengdu**	**5.41**	**30**	Pn	**Pn**	**12 24 53.4**	**+2.5**
CD2				Sn	**Sn**	**12 25 52.3**	**-0.7**
CD2				Sg	**Sg**	**12 26 22.0**	**-2.1**
CD2				smax	smax		
	comp=N,3μm,1.2s						
CD2				smax	smax		
	comp=E,3μm,1.3s						
CD2				LR	LR		
	comp=E,10μm,7.3s						
CD2				LR	LR		
	comp=Z,25μm,7.6s						
SLVN	**Son La**	**5.71**	**148**		**Pn**	**12 24 55.3**	**+0.2**
KOHI	**KOHIMA**	**5.91**	**267**	*eP*	Pn	12 24 38.7	-19
KOHI				*eS*	Sn	12 25 43.5	-22
KOHI				IAML		12 27 03.9	
	comp=N,858nm,1.9s						
KOHI				IAML		12 27 12.1	
	comp=E,986nm,1.3s						
ZIRO	**ZIRO**	**6.21**	**284**	*eP*	Pn	12 24 42.7	-19
ZIRO				*eS*	Sn	12 25 50.5	-23
ZIRO				IAML		12 26 55.5	
	comp=N,565nm,1.7s						
ZIRO				IAML		12 26 57.1	
	comp=E,694nm,1.2s						
ITAN	**ITANAGAR**	**6.27**	**280**	*eP*	Pn	12 24 43.4	-19
ITAN				*eS*	Sn	12 25 51.8	-22
ITAN				IAML		12 26 38.6	
	comp=E,846nm,2.0s						
ITAN				IAML		12 26 41.0	
	comp=N,837nm,0.9s						
CMAI	**Chiengmai2**	**6.44**	**194**	P	**Pn**	**12 25 04.9**	**-0.3**
TEZP	**TEZPUR**	**7.05**	**275**	*eP*	Pn	12 24 54.0	-19
TEZP				*eS*	Sn	12 26 10.2	-23
TEZP				IAML		12 27 51.9	
	comp=E,431nm,2.4s						
TEZP				IAML		12 27 53.1	
	comp=N,439nm,2.4s						
CHTO	**Chiang Mai**	**7.54**	**192**		**Pn**	**12 25 19.6**	**-0.7**
CHTO	**Chiang Mai**	**7.54**	**192**	P	**Pn**	**12 25 24.4**	**+4.1**
CHTO	**Chiang Mai**	**7.54**	**192**	P	**Pn**	**12 25 19.6**	**-0.7**
AZL	**Aizawl**	**7.64**	**253**	*eP*	Pn	12 25 02.0	-20
AZL				*eS*	Sn	12 26 24.1	-24
AZL				IAML		12 27 49.1	
	comp=E,942nm,1.5s						
AZL				IAML		12 27 59.8	
	comp=N,848nm,1.9s						
CM31	**Chiang Mai Arr**	**7.89**	**192**		**Pn**	**12 25 26.3**	**+1.2**
CMAR	**Chiang Mai Arr**	**7.89**	**192**		**Pn**	**12 25 25.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**7.89**	**192**	Pn	**Pn**	**12 25 23.9**	**-1.2**
	comp=N,0.8nm,0.3s,baz=5.8,slow=12,SNR=12						
CMAR				Pg	Pg	12 25 56.8	-4.9
	comp=N,0.9nm,0.3s,baz=0.8,slow=15,SNR=11						
CMAR				Lg	Lg	12 27 34.8	
	comp=N,6.0nm,0.3s,baz=7.0,slow=28,SNR=9.7						
	comp=N,1.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**7.89**	**192**	*i* P	**Pn**	**12 25 25.2**	**+0.1**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CM09	**Chiang Mai Arr**	**7.90**	**192**	P	**Pn**	**12 25 26.5**	**+1.4**
	comp=Z,2.1nmcomp=Z,3.4nmcomp=Z,41nmcomp=Z,1μm						
	comp=Z,14nm,0.7s						
CM02	**Chiang Mai Arr**	**7.92**	**192**	P	**Pn**	**12 25 25.5**	**+0.2**
	comp=Z,2.1nmcomp=Z,2μmcomp=Z,14nm,0.9s						
SHL	**Shillong**	**7.92**	**267**		**Pn**	**12 25 24.7**	**-0.9**
SHL	**Shillong**	**7.92**	**267**	P	**Pn**	**12 25 24.7**	**-0.9**
UTTA	**Uttaradit**	**8.44**	**181**	P	**Pn**	**12 25 33.1**	**+0.5**
	comp=Z,0.4nmcomp=Z,2.6nmcomp=Z,853nmcomp=Z,18nm,1.1s						
ENH	**Enshi**	**8.77**	**61**		**Pn**	**12 25 37.1**	**+0.1**
GULI	**GuiLin**	**8.81**	**94**	Pn	Pn	12 25 29.9	-7.7
GULI				Sn	Sn	12 26 51.1	-26
GULI				pmax	pmax		
	comp=Z,170nm,1.2s						
GULI				smax	smax		
	comp=N,300nm,1.6s						
GULI				smax	smax		
	comp=E,130nm,1.4s						
GULI				LR	LR		
	comp=N,12μm,10.2s						
GULI				LR	LR		
	comp=E,1μm,13.9s						
GULI				LR	LR		
	comp=Z,5μm,7.6s						
BRDH	**Bariadhala**	**8.94**	**249**	LR	LR	12 30 18.9	
	comp=Z,791nm,18.6s,baz=75,slow=46						
LSA	**Lhasa**	**9.09**	**295**	P	Pn	12 25 36.9	-4.9
LSA				S	**Sn**	**12 27 19.6**	**-4.6**
LSA				LR	LR		
	comp=N,3μm,12.9s						
LSA				LR	LR		
	comp=Z,2μm,12.2s						
PANO	**Nakornpanom**	**9.76**	**157**	P	**Pn**	**12 25 52.7**	**+2.1**
LZH	**Lanzhou**	**10.20**	**15**	*eP*	**Pn**	**12 25 59.5**	**+2.7**
LZH				sP		12 26 09.1	
LZH				S	**Sn**	**12 27 56.8**	**+5.7**
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
LZH				LR	LR		
	comp=Z,4μm,13.1s						
LZH				LR	LR		
	comp=Z,8μm,10.7s						
XAN	**Xi'an**	**10.57**	**41**	⇓P	**Pn**	**12 26 00.4**	**-1.4**
XAN				pP		12 26 04.8	
XAN				S	**Sn**	**12 27 59.3**	**-0.8**
XAN				pmax	pmax		
	comp=Z,13nm,1.2s						
XAN				LR	LR		
	comp=Z,7μm,13.1s						
XAN				LR	LR		
	comp=Z,1μm,11.0s						
CNSH	**ChangSha**	**11.10**	**77**	P	**Pn**	**12 26 08.5**	**-0.5**
CNSH				S	**Sn**	**12 28 11.3**	**-1.8**
CNSH				LR	LR		
	comp=Z,2μm,7.2s						
CNSH				LR	LR		
	comp=Z,1μm,7.9s						
QIZ	**Qiongzhong**	**11.10**	**128**		**Pn**	**12 26 07.3**	**-1.7**
QIZ	**Qiongzhong**	**11.10**	**128**	P	**Pn**	**12 26 08.3**	**-0.8**
QIZ				S	**Sn**	**12 28 13.3**	**+0.1**
QIZ				pmax	pmax		
	comp=Z,18nm,1.7s						
QIZ				pmax	pmax		
	comp=Z,360nm,5.9s						
QIZ				LR	LR		
	comp=Z,8μm,12.4s						
QIZ				LR	LR		
	comp=Z,7μm,11.2s						
QIZ				LR	LR		
	comp=Z,12μm,10.8s						
GOMU	**GeErMu**	**11.12**	**335**	P	**Pn**	**12 26 09.8**	**+0.2**
GOMU				pP		12 26 15.6	
GOMU				sP		12 26 23.4	
GOMU				pmax	pmax		
	comp=Z,17nm,1.4s						
GOMU				LR	LR		
	comp=Z,2μm,12.7s						
GOMU				LR	LR		
	comp=Z,3μm,10.8s						
GOMU				LR	LR		
	comp=Z,1μm,11.4s						
UBPT	**Khong Chiam**	**11.79**	**157**		**Pn**	**12 26 18.9**	**+0.5**
UBPT	**Khong Chiam**	**11.79**	**157**	P	**Pn**	**12 26 21.5**	**+3.1**
WHN	**Wuhan**	**12.80**	**67**	⇑P	**Pn**	**12 26 34.3**	**+2.1**
WHN				LR	LR		
	comp=Z,5μm,9.2s						
WHN				LR	LR		
	comp=Z,6μm,6.5s						
WHN				LR	LR		
	comp=Z,3μm,9.2s						
LYN	**LuoYang**	**13.14**	**48**	⇓P	**Pn**	**12 26 35.3**	**-1.5**
LYN				PP	**P**	**12 26 46.0**	**-1.0**
LYN				S	**Sn**	**12 29 01.4**	**-1.4**
LYN				pmax	pmax		
	comp=Z,65nm,0.6s						
LYN				pmax	pmax		
	comp=Z,150nm,4.5s						
LYN				LR	LR		
	comp=Z,4μm,11.5s						
LYN				LR

HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,130nm,4.4s
TIA Tai'an 17.23 51 P **Pn 12 27 29.3 -1.6**
TIA S **Sn 12 30 40.4 -2.0**
TIA pmax pmax
comp=Z,15nm,1.3s
TIA pmax pmax
comp=Z,430nm,4.0s
TIA LR LR
comp=Z,3μm,15.8s
TIA LR LR
comp=Z,3μm,16.2s
TIA LR LR
comp=Z,2μm,12.8s
PTH Pithoragarh 18.36 285 *e*P P 12 27 26.0 -19
PTH *e*S Sn 12 30 53.5 -17
TPUB Ta-pu 18.38 95 P **P 12 27 44.2 -0.9**
TPUB IAmb IAmb 12 27 53.5
comp=Z,149nm,1.7s
TPUB Ta-pu 18.38 95 P **P 12 27 47.8 +2.6**
SSLB Suanglung 18.56 93 P **P 12 27 44.2 -3.0**
SSE Sheshan 18.66 70 P **Pn 12 27 51.5 +3.0**
SSE S **S 12 31 21.5 +1.0**
SSE pmax pmax
comp=Z,15nm,1.1s
SSE LR LR
comp=Z,810nm,6.7s
SSE LR LR
comp=Z,450nm,6.8s
BJT Baijiatuan 18.88 39 P **Pn 12 27 56.8 +5.6**
TWGBT Beinan 18.89 96 P **Pn 12 27 54.8 +3.4**
BJI Beijing 18.90 39 P **Pn 12 27 54.0 +2.6**
BJI S **Sn 12 31 18.6 -4.2**
BJI pmax pmax
comp=Z,15nm,1.3s
BJI pmax pmax
comp=Z,170nm,4.1s
BJI LR LR
comp=Z,2μm,12.6s
BJI LR LR
comp=Z,580nm,16.6s
YULB Yu-li 18.95 94 P **P 12 27 50.0 -1.5**
YULB Yu-li 18.95 94 P **Pn 12 27 54.5 +2.3**
WMQ Urumqi 20.47 332 *e*P Pn 12 28 09.8 -0.3
WMQ LR LR
comp=Z,1μm,10.5s
WMQ LR LR
comp=Z,1μm,12.3s
WMQ LR LR
comp=Z,560nm,20.1s
KULM Kulim 20.82 180 P **P 12 28 12.3 +0.5**
KULM Kulim 20.82 180 P Pn 12 28 15.8 +1.5
SMLA Simla 21.16 289 *e*P P 12 27 54.7 -21
SMLA IAmb IAmb 12 28 22.5
comp=Z,49nm,1.1s
SMLA *e*S S 12 31 53.5 -17
XLT XiLinHaoTe 21.62 31 *e*P **P 12 28 20.5 +0.1**
XLT pP sP 12 28 30.3 +3.4
XLT PP **PnPn 12 28 44.5 +3.4**
XLT S **S 12 32 15.1 -4.6**
XLT pmax pmax
comp=Z,12nm,1.0s
XLT LR LR
comp=Z,2μm,13.3s
XLT LR LR
comp=Z,1μm,11.5s
IPM Ipoh 21.63 179 **P 12 28 20.5 -0.1**
IPM Ipoh 21.63 179 P **P 12 28 22.9 +2.3**
DL2 Dalian 21.67 49 P **P 12 28 26.8 +5.9**
DL2 pmax pmax
comp=Z,23nm,1.4s
DL2 LR LR
comp=Z,1μm,9.6s
DL2 LR LR
comp=Z,1μm,12.8s
SONM Songino Array 22.04 10 P **P 12 28 24.7 -0.2**
comp=Z,18nm,1.0s,baz=198,slow=10,SNR=30
SONM LR LR 12 37 34.0
comp=Z,1μm,20.0s,baz=191,slow=38
comp=Z,18nm,1.0s
DHRM DHARAMSHALA 22.06 292 *e*P P 12 28 05.9 -19
DHRM IAmb IAmb 12 28 33.5
comp=Z,14nm,0.8s
DHRM *e*S S 12 32 11.2 -17
ULN Ulaanbaatar 22.18 11 P **P 12 28 24.3 -2.1**
ULN Ulaanbaatar 22.18 11 *ce*P **P 12 28 24.9 -1.5**
ULN pmax pmax
comp=Z,28nm,1.0s
TGY Tagaytay City 22.50 118 LR LR 12 36 55.7
comp=Z,618nm,18.1s,baz=24,slow=36
PSI Prapat 23.35 184 LR LR 12 38 47.8
comp=Z,505nm,18.7s,baz=333,slow=39
PSI Prapat 23.35 184 P **P 12 28 42.5 +3.6**
PSI Prapat 23.35 184 P **P 12 28 40.0 +1.1**
PSI pmax pmax
comp=Z,68nm,1.3s
RPSI Rantau Prapat 23.46 184 P **P 12 28 40.0 +0.2**
TARG Taragay, Kyrgy 24.35 315 **P 12 28 48.7 +0.1**
TARG IAmb IAmb 12 28 59.4
comp=Z,23nm,0.9s
TARG Taragay, Kyrgy 24.35 315 P **P 12 28 48.7 +0.1**
TARG pmax pmax
comp=Z,23nm,0.9s
PRZ Przheval'sk 24.39 317 P **P 12 28 48.4 -0.4**
PRZ Przheval'sk 24.39 317 P **P 12 28 48.4 -0.4**
PRZ pmax pmax
comp=Z,58nm,1.3s
SNY Shenyang 24.45 45 ⇓P **P 12 28 50.9 +1.9**
SNY S **S 12 33 10.9 +2.2**
SNY pmax pmax
comp=Z,11nm,0.7s
SNY pmax pmax
comp=Z,160nm,4.2s
SNY LR LR
comp=Z,2μm,17.5s
SNY LR LR
comp=Z,1μm,20.4s
SNY LR LR
comp=Z,660nm,15.6s
KSH Kashi 24.51 309 P **P 12 28 52.4 +2.6**
KSH pmax pmax
comp=Z,23nm,1.4s
KSH LR LR
comp=Z,1μm,15.1s
KSH LR LR
comp=Z,2μm,14.1s
INCN Inchon 24.68 57 P **P 12 28 56.5 +5.3**
JOW Kunigami 24.71 82 **P 12 28 49.8 -1.7**
JOW Kunigami 24.71 82 LR LR 12 39 25.8
comp=Z,870nm,20.3s,baz=268,slow=39
SATY Saty 24.72 318 *e*P **P 12 28 51.6 0.0**
SATY pmax pmax
comp=Z,23nm,1.3s
SATY Saty 24.72 318 *e*P **P 12 28 51.6 0.0**
comp=Z,23nm,1.3s
NIL Nilore 24.82 294 P **P 12 28 50.7 -1.8**
NIL Nilore 24.82 294 P **P 12 28 50.7 -1.8**
NIL pmax pmax
comp=Z,38nm,0.8s
KDJ Kajisay 24.96 315 P **P 12 28 51.8 -2.1**
KDJ Kajisay 24.96 315 P **P 12 28 51.8 -2.1**
KDJ pmax pmax
comp=Z,84nm,1.6s
KKM Kota Kinabalu 24.97 141 P **P 12 28 53.2 -0.9**
KKM Kota Kinabalu 24.97 141 P **P 12 28 58.5 +4.4**
MK31 Makanchi Array 25.16 329 *i* P **P 12 28 55.9 +0.4**
MKAR Makanchi Array 25.16 329 P **P 12 28 54.8 -0.6**
MKAR Makanchi Array 25.16 329 P **P 12 28 55.9 +0.4**
comp=Z,29nm,0.9s,baz=133,slow=10,SNR=127
MKAR LR LR 12 39 08.8
comp=Z,450nm,18.9s,baz=146,slow=37
comp=Z,29nm,0.9s
MKAR Makanchi Array 25.16 329 *i* P **P 12 28 56.0 +0.5**
MKAR pmax pmax
comp=Z,17nm,0.7s
MAKZ Makanchi 25.32 329 **P 12 28 56.9 0.0**
MAKZ IAmb IAmb 12 28 58.9
comp=Z,17nm,1.1s
MAKZ Makanchi 25.32 329 P **P 12 28 56.9 0.0**
MAKZ pmax pmax
comp=Z,17nm,1.1s
TNSS Tian-Shan 25.59 317 *e*P **P 12 28 59.6 -0.2**
TNSS Tian-Shan 25.59 317 *e*P **P 12 28 59.6 -0.2**

KSRS Korea Array 25.64 57 P **P 12 28 58.3 -1.5**
comp=Z,1.6nm,0.5s,baz=246,slow=9.1,SNR=7.6
comp=Z,1.6nm,0.5s
AAA Alma-Ata 25.70 317 *e*P **P 12 29 00.5 0.0**
AAA pmax pmax
comp=Z,21nm,1.1s
AAA Alma-Ata 25.70 317 *e*P **P 12 29 00.5 0.0**
comp=Z,21nm,1.1s
TDK Taldyqorghan 25.90 322 *e*P **P 12 29 02.3 +0.2**
TDK pmax pmax
comp=Z,24nm,1.2s
TDK Taldygorghan 25.90 322 *e*P **P 12 29 02.4 +0.3**
comp=Z,24nm,1.2s
SBUM Sibu 26.12 153 **P 12 29 05.2 +0.8**
SBUM IAmb IAmb 12 29 09.0
comp=Z,18nm,1.1s
SBUM Sibu 26.12 153 P **P 12 29 09.0 +4.6**
KUU Kurty 26.43 318 *e*P **P 12 29 07.1 +0.1**
KUU pmax pmax
comp=Z,22nm,1.2s
KUU Kurty 26.43 318 *e*P **P 12 29 07.1 +0.1**
comp=Z,22nm,1.2s
CN2 Changchun 26.67 43 *e*P **P 12 29 10.1 +0.9**
CN2 *ep*P sP 12 29 18.0 +2.6
CN2 *e*S **S 12 33 40.6 -3.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,70nm,5.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,700nm,13.0s
PALK Pallekele 26.76 229 LR LR 12 40 54.6
comp=Z,408nm,20.5s,baz=48,slow=39
AAK Ala-Archa 26.93 314 **P 12 29 12.6 +0.9**
AAK IAmb IAmb 12 29 29.9
comp=Z,35nm,1.4s
AAK Ala-Archa 26.93 314 LR LR 12 41 07.1
comp=Z,642nm,18.3s,baz=90,slow=39
AAK Ala-Archa 26.93 314 *ce*P **P 12 29 14.0 +2.3**
AAK pmax pmax
comp=Z,21nm,1.3s
MYLDM Lahad Datu 27.00 138 P **P 12 29 13.1 +0.7**
MYLDM IAmb IAmb 12 29 24.1
comp=Z,30nm,1.2s
MYLDM Lahad Datu 27.00 138 P **P 12 29 17.2 +4.8**
JNU Nakatsue 27.08 68 LR LR 12 40 03.5
comp=Z,400nm,18.9s,baz=259,slow=37
SGDS Sogindy 27.25 316 *e*P **P 12 29 14.5 +0.1**
ARSB Arslanbob 27.34 310 P **P 12 29 14.6 -0.8**
ARSB Arslanbob 27.34 310 P **P 12 29 14.6 -0.8**
ARSB pmax pmax
comp=Z,12nm,1.0s
BTK Batken 28.38 307 P **P 12 29 24.7 0.0**
BTK Batken 28.38 307 P **P 12 29 24.7 0.0**
GAR Garm 28.41 304 P **P 12 29 25.6 +0.6**
KBL Kabul 28.41 295 P **P 12 29 24.8 -0.3**
KBL IAmb IAmb 12 29 39.9
comp=Z,10nm,0.7s
KBL Kabul 28.41 295 P **P 12 29 24.8 -0.3**
KBL pmax pmax
comp=Z,10.0nm,0.7s
BTLS Baital 28.43 318 *e*P **P 12 29 24.9 0.0**
BTLS Baital 28.43 318 *e*P **P 12 29 24.1 -0.8**
BNX BinXian 28.90 41 ⇓P **P 12 29 31.0 +2.0**
BNX pmax pmax
comp=Z,8.0nm,0.9s
DZA Taraz 29.12 312 *e*P **P 12 29 31.0 0.0**
DZA pmax pmax
comp=Z,9.0nm,1.1s
DZA Taraz 29.12 312 *e*P **P 12 29 31.1 0.0**
comp=Z,8.6nm,1.1s
SIMJ Simiganj 29.29 303 P **P 12 29 32.0 -0.8**
KURBB Kurchatov Arra 29.67 331 P **P 12 29 36.0 +0.1**
comp=Z,12nm,0.7s,baz=141,slow=9.1,SNR=94
KURBB LR LR 12 42 47.6
comp=Z,584nm,20.8s,baz=146,slow=39
comp=Z,12nm,0.7s
IUG Iuzhnay 29.69 310 *e*P **P 12 29 36.6 +0.4**
IUG Iuzhnay 29.69 310 *e*P **P 12 29 36.7 +0.4**
KURK Kurchatov 29.70 331 P **P 12 29 36.0 0.0**
KURK Kurchatov 29.70 331 *ce*P **P 12 29 37.0 +0.9**
KURK pmax pmax
comp=Z,32nm,0.8s
KK31 Karatay Array 29.75 312 P **P 12 29 35.8 -0.9**
KK31 IAmb IAmb 12 29 43.0
comp=Z,25nm,1.9s
KK31 Karatay Array 29.75 312 P **P 12 29 35.8 -0.9**
KK31 pmax pmax
comp=Z,25nm,2.0s
KKAR Karatay Array 29.75 312 P **P 12 29 36.5 -0.2**
KKAR Karatay Array 29.75 312 P **P 12 29 36.5 -0.2**
ZAA0 Zalesovo Array 30.08 341 P **P 12 29 38.4 -1.0**
ZAA0 IAmb IAmb 12 29 40.6
comp=Z,12nm,1.1s
ZALV Zalesovo Beam 30.08 341 P **P 12 29 39.5 +0.2**
comp=Z,5.1nm,0.7s,baz=145,slow=11,SNR=19
ZALV LR LR 12 42 21.6
comp=Z,265nm,21.7s,baz=162,slow=38
comp=Z,5.1nm,0.7s
ZALV Zalesovo Beam 30.08 341 *i* P **P 12 29 39.9 +0.5**
ZALV pmax pmax
comp=Z,5.0nm,0.7s
BRLS Boroldoy 30.17 312 *e*P **P 12 29 40.7 +0.3**
BRLS Boroldoy 30.17 312 *e*P **P 12 29 40.7 +0.3**
DAV Davao City (W) 30.44 124 LR LR 12 43 32.6
comp=Z,456nm,19.1s,baz=300,slow=40
USRK Ussuriysk Ar. 31.00 47 P **P 12 29 45.6 -2.0**
USRK Ussuriysk Ar. 31.00 47 P **P 12 29 46.5 -1.2**
comp=Z,4.1nm,0.8s,baz=259,slow=8.4,SNR=5.5
USRK LR LR 12 43 37.6
comp=Z,410nm,18.2s,baz=246,slow=39
comp=Z,4.1nm,0.8s
HEH HeiHe 31.59 33 *e*P **P 12 29 51.8 -0.9**
HEH pmax pmax
comp=Z,6.0nm,1.4s
BLSI Bandar Lampung 31.72 171 P P 12 30 05.4 +11
BRZS Berezniki 32.03 325 *e*P **P 12 29 56.8 +0.2**
BRZS Berezniki 32.03 325 *e*P **P 12 29 56.9 +0.2**
BOD Bodaibo 32.97 13 *e*P **P 12 30 03.9 -0.8**
BOD pmax pmax
comp=Z,13nm,1.1s
MJB9 Matsu-Tunnel 33.48 63 P **P 12 30 09.4 -0.2**
MAJO Matsushiro 33.48 63 P **P 12 30 09.6 0.0**
MAJO IAmb IAmb 12 30 20.4
comp=Z,27nm,1.8s
MAJO Matsushiro 33.48 63 P **P 12 30 13.0 +3.4**
MAJO Matsushiro 33.48 63 *i* P **P 12 30 10.7 +1.1**
MAJO pmax pmax
comp=Z,5.0nm,0.8s
MJAR Matsushiro Arr 33.49 63 P **P 12 30 10.2 +0.5**
comp=Z,3.3nm,0.8s,baz=265,slow=9.9,SNR=14
MJAR LR LR 12 45 21.2
comp=Z,307nm,18.2s,baz=260,slow=39
comp=Z,3.3nm,0.8s
LEM Lembang 33.55 167 LR LR 12 46 03.1
comp=Z,476nm,18.1s,baz=309,slow=40
JSD Sado 33.74 60 P P 12 30 16.1 +4.3
BVAR Borovoye Array 35.02 328 P **P 12 30 23.6 +1.0**
comp=Z,8.3nm,0.8s,baz=121,slow=11,SNR=42
BVAR PcP **PcP 12 32 56.1 +1.6**
comp=Z,1.0nm,0.7s,baz=123,slow=5.3,SNR=2.2
BVAR LR LR 12 45 58.5
comp=Z,355nm,19.0s,baz=120,slow=38
comp=Z,8.3nm,0.8s
BRVK Borovoye 35.09 328 P **P 12 30 24.1 +0.8**
BRVK IAmb IAmb 12 30 25.2
comp=Z,14nm,0.9s
BRVK Borovoye 35.09 328 *ce*P **P 12 30 24.3 +1.0**
BRVK pmax pmax
comp=Z,18nm,0.9s
JMM Marumori 35.70 61 **P 12 30 27.3 -1.3**
KAPI Kappang 36.16 146 LR LR 12 47 59.0
comp=Z,271nm,18.4s,baz=316,slow=41
GRNR Gornyy 36.65 38 ⇓*i* P **P 12 30 35.3 -1.4**
GRNR pmax pmax
comp=N,10.0nm,0.5s
GRNR pmax pmax
comp=Z,10.0nm,0.5s
ASAJ Asahikawa 38.18 51 LR LR 12 45 45.9
comp=Z,183nm,20.7s,baz=248,slow=35
ASAJ Asahikawa 38.18 51 P **P 12 30 47.7 -2.0**
ASAJ pmax pmax
comp=Z,26nm,0.8s
JKA Kamikawa-asahi 38.18 51 P **P 12 30 47.7 -2.0**

AB31 Akbulak array 38.91 317 **P 12 30 55.7 0.0**
ABKAR Akbulak array 38.91 317 **P 12 30 56.0 +0.2**
YSS Yuzhno-Sakhali 39.04 47 P P 12 31 01.8 +4.9
YSS Yuzhno-Sakhali 39.04 47 *e*P **P 12 30 56.1 -0.8**
YSS *e*S **S 12 36 52.1 -3.5**
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS MLR MLR
comp=Z,600nm,12.0s
YSS MLR MLR
comp=N,300nm,14.0s
YSS MLR MLR
comp=E,500nm,12.0s
AKTO Aktyubinsk 40.49 318 LR LR 12 49 09.9
comp=E,571nm,19.3s,baz=60,slow=38
YAK Yakutsk 40.72 21 LR LR 12 47 32.7
comp=E,215nm,19.0s,baz=218,slow=35
YAK Yakutsk 40.72 21 *e*P **P 12 31 09.9 -0.7**
YAK *e* 12 32 41.0
YAK *e* 12 33 12.4
YAK *e*S **S 12 37 20.3 -0.1**
YAK *e*SS **SS 12 40 21.3 +0.4**
YAK *e*SSS SSS 12 40 48.8
YAK pmax pmax
comp=Z,12nm,0.7s
YAK pmax pmax
comp=N,5.0nm,1.7s
YAK pmax pmax
comp=E,8.0nm,1.9s
YAK pmax pmax
comp=Z,69nm,4.9s
YAK pmax pmax
comp=N,82nm,8.9s
YAK pmax pmax
comp=E,73nm,5.8s
YAK smax smax
comp=N,61nm,3.3s
YAK smax smax
comp=E,64nm,4.6s
YAK MLR MLR
comp=Z,844nm,20.0s
YAK MLR MLR
comp=N,435nm,21.0s
YAK MLR MLR
comp=E,409nm,21.0s
SVE Sverdlovsk 41.81 328 *e*P **P 12 31 20.8 +1.1**
SVE pmax pmax
comp=Z,17nm,1.0s
ARTI Arti 42.70 327 **P 12 31 26.2 -0.7**
ARTI IAmb IAmb 12 31 34.6
comp=Z,10nm,0.6s
ARTI Arti 42.70 327 LR LR 12 50 52.6
comp=Z,331nm,18.3s,baz=114,slow=38
ARTI Arti 42.70 327 *d i*P **P 12 31 27.2 +0.3**
ARTI 12 33 05.7
ARTI 12 33 20.0
ARTI S **S 12 37 51.1 +1.2**
ARTI SS **SS 12 40 55.1 -5.1**
ARTI pmax pmax
comp=Z,21nm,1.9s
GUMO Guam 43.23 98 LR LR 12 48 17.0
comp=Z,168nm,20.2s,baz=304,slow=34
AKT Akhty 45.82 303 *e*P **P 12 31 51.1 -1.2**
AKT *e* 12 33 35.7
AKT pmax pmax
comp=Z,17nm,1.0s
AKT MLR MLR
comp=Z,209nm,14.0s
MAK Makhachkala 46.06 305 *e*P P 12 31 48.3 -5.7
MAK *e* 12 33 36.6
MAK *e*S S 12 38 30.4 -8.7
MAK *e*SS **SS 12 41 59.4 -4.6**
MAK pmax pmax
comp=Z,162nm,1.0s
MAK MLR MLR
comp=Z,542nm,14.0s
BELG Belogornoye 47.28 318 LR LR 12 54 14.6
comp=Z,219nm,18.2s,baz=105,slow=39
MA2 Magadan 47.82 32 P **P 12 32 07.5 0.0**
comp=Z,3.4nm,0.7s,baz=184,slow=13,SNR=2.8
MA2 LR LR 12 55 36.7
comp=Z,166nm,18.1s,baz=242,slow=40
comp=Z,3.4nm,0.7s
KIRV Kirov 48.01 327 LR LR 12 53 58.7
comp=Z,284nm,19.0s,baz=115,slow=38
KIRV Kirov 48.01 327 *i* P **P 12 32 09.2 +0.2**
GNI Garni 48.07 301 LR LR 12 53 48.5
comp=Z,122nm,19.2s,baz=94,slow=38
GNI Garni 48.07 301 *i* P **P 12 32 11.9 +1.9**
GNI pmax pmax
comp=Z,14nm,1.1s
GNI Garni 48.07 301 P **P 12 32 11.1 +1.1**
JAY Jayapura 48.11 120 LR LR 12 50 59.3
comp=Z,115nm,21.9s,baz=314,slow=34
KBZ Khabaz 49.44 306 LR LR 12 55 30.0
comp=Z,317nm,20.5s,baz=96,slow=39
KIV Kislovodsk 49.60 306 *e*P **P 12 32 21.6 0.0**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,127nm,17.0s
SEY Seymchan 49.81 28 *i* P **P 12 32 23.9 +1.2**
PETK Petropavlovsk- 49.82 41 P **P 12 32 23.9 +0.9**
comp=Z,3.1nm,0.9s,baz=224,slow=6.9,SNR=2.6
PETK LR LR 12 53 17.9
comp=Z,295nm,19.5s,baz=264,slow=36
comp=Z,3.1nm,0.9s
FITZ Fitzroy Crossi 50.31 149 LR LR 12 55 50.5
comp=Z,162nm,18.5s,baz=312,slow=39
SOC Sochi 51.75 306 *e*P **P 12 32 36.1 -1.6**
SOC *e* 12 34 29.0
SOC *e*PPP PPP 12 35 33.9
SOC *e*S **S 12 39 58.5 -0.8**
SOC *e*SS **SS 12 43 38.0 +2.4**
SOC *e*SSS SSS 12 45 13.3
SOC MLR MLR
comp=Z,195nm,18.0s
VSR Storozhevoye 52.31 316 *e*P **P 12 32 38.9 -2.8**
VSR pmax pmax
comp=Z,6.0nm,1.1s
LPSR Galich'ya Gora 52.56 317 *e*P P 12 32 38.1 -5.5
LPSR pmax pmax
comp=Z,10.0nm,0.9s
ANN Anapa 53.36 308 *e*P **P 12 32 48.7 -0.9**
ANN *e**PP **pP 12 32 52.0 -2.3**
ANN *e* 12 34 50.0
ANN *e*S **S 12 40 22.0 +0.8**
ANN pmax pmax
comp=Z,34nm,1.0s
ANN MLR MLR
comp=Z,628nm,20.0s
ANN MLR MLR
comp=N,366nm,19.0s
ANN MLR MLR
comp=Z,503nm,18.0s
KLMR Klimovskoe 53.45 328 *e*P **P 12 32 47.3 -2.7**
KLMR *e* 12 34 47.6
KLMR SS **SKiKP 12 44 03.4 -2.4**
KLMR pmax pmax
comp=Z,39nm,1.3s
KLMR MLR MLR
comp=Z,384nm,14.0s
MOS Moscow 53.64 321 *e*P **P 12 32 51.2 -0.2**
MOS *e* 12 33 55.7
OBN Obninsk 54.17 320 *e*P **P 12 32 55.9 +0.5**
OBN *e* 12 33 58.2
OBN *e* 12 34 57.1
OBN *e*PPP PPP 12 36 06.4
OBN pmax pmax
comp=Z,11nm,1.0s
OBN MLR MLR
comp=Z,357nm,21.0s
ASF Jabal al Asfar 55.27 292 LR LR 12 59 38.4
comp=Z,147nm,18.1s,baz=101,slow=39
WB0 Warramunga Arr 56.24 141 P **P 12 33 10.0 -0.7**
WB0 IAmb IAmb 12 33 17.2
comp=Z,8.5nm,0.7s
MMAI Mount Meron Ar 56.34 294 LR LR 13 01 12.0
comp=Z,204nm,18.4s,baz=77,slow=40
WRA Warramunga Arr 56.35 141 P **P 12 33 09.6 -2.0**
WRA Warramunga Arr 56.35 141 P **P 12 33 10.9 -0.7**
comp=Z,5.0nm,0.8s,baz=331,slow=7.7,SNR=36
comp=Z,5.0nm,0.8s
WRA Warramunga Arr 56.35 141 *i* P **P 12 33 11.1 -0.4**
WRA pmax pmax
comp=Z,5.0nm,0.6s

WR8	**Warramunga Arr**	**56.45**	**141**	P	**P**	**12 33 11.2**	**-1.1**
WR8				IAmb	IAmb	12 33 18.5	
	comp=Z,10nm,0.8s						
BRTR	**Keskin Array B**	**56.61**	**302**	P	**P**	**12 33 13.7**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=111,slow=7.9,SNR=3.0						
	comp=Z,0.6nm,0.5s						
BR105	**Keskin Array S**	**56.63**	**302**	P	**P**	**12 33 13.7**	**+0.2**
	comp=Z,2.2nm,1.2s						
BILL	**Bilibino**	**56.86**	**24**	*i* P	**P**	**12 33 16.2**	**+1.7**
EIL	**Elat**	**57.44**	**290**	LR	LR	13 02 24.5	
	comp=Z,210nm,18.7s,baz=66,slow=41						
JOF	**Joensuu**	**57.60**	**330**	*e*P	**P**	**12 33 20.0**	**+0.2**
AK09	**Malin Array Si**	**58.56**	**315**	P	**P**	**12 33 26.0**	**-0.7**
AK08	**Malin Array Si**	**58.58**	**315**	P	**P**	**12 33 26.1**	**-0.8**
AK10	**Malin Array Si**	**58.58**	**315**	P	**P**	**12 33 26.2**	**-0.7**
AKASG	**Malin Array Be**	**58.59**	**315**	P	**P**	**12 33 25.6**	**-1.3**
	comp=Z,3.7nm,0.7s,baz=76,slow=6.7,SNR=12						
AKASG				LR	LR	13 03 08.1	
	comp=Z,180nm,18.8s,baz=94,slow=41						
	comp=Z,3.7nm,0.7s						
AKASG	**Malin Array Be**	**58.59**	**315**	*i* P	**P**	**12 33 26.2**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKBB	**Malin Array Si**	**58.59**	**315**	P	**P**	**12 33 25.5**	**-1.5**
AKBB				IAmb	IAmb	12 33 26.8	
	comp=Z,7.3nm,0.8s						
AKBB	**Malin Array Si**	**58.59**	**315**	*i* P	**P**	**12 33 26.3**	**-0.7**
AKBB				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AKBB	**Malin Array Si**	**58.59**	**315**	P	**P**	**12 33 26.2**	**-0.7**
AK01	**Malin Array Si**	**58.60**	**315**	P	**P**	**12 33 26.2**	**-0.8**
KIEV	**Kiev**	**58.60**	**315**	P	**P**	**12 33 25.7**	**-1.3**
KIEV				IAmb	IAmb	12 33 26.9	
	comp=Z,6.9nm,0.8s						
KIEV	**Kiev**	**58.60**	**315**	P	**P**	**12 33 25.7**	**-1.3**
KIEV				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KIEV	**Kiev**	**58.60**	**315**	P	**P**	**12 33 26.2**	**-0.8**
	comp=Z,37nm,0.8s						
AK04	**Malin Array Si**	**58.63**	**315**	P	**P**	**12 33 26.5**	**-0.7**
AK12	**Malin Array Si**	**58.64**	**315**	P	**P**	**12 33 26.5**	**-0.8**
AK16	**Malin Array Si**	**58.67**	**315**	P	**P**	**12 33 26.7**	**-0.8**
AK14	**Malin Array Si**	**58.67**	**315**	P	**P**	**12 33 26.8**	**-0.7**
AK22	**Malin Array Si**	**58.68**	**315**	P	**P**	**12 33 26.7**	**-0.9**
AK18	**Malin Array Si**	**58.69**	**315**	P	**P**	**12 33 26.7**	**-0.9**
AK20	**Malin Array Si**	**58.72**	**315**	P	**P**	**12 33 27.0**	**-0.9**
ASAR	**Alice Springs**	**59.12**	**144**	P	**P**	**12 33 30.8**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=327,slow=6.9,SNR=22						
	comp=Z,2.9nm,0.8s						
MNK	**Minsk**	**59.19**	**320**	*i* P	**P**	**12 33 29.3**	**-1.7**
MNK				*i*		12 35 41.4	
MNK				*i* PPP	PPP	12 37 01.8	
MNK				*i* S	**S**	**12 41 37.5**	**-0.8**
MNK				*i* SS	**SS**	**12 45 34.1**	**+1.9**
MNK				pmax	pmax		
	comp=E,19nm,0.9s						
MNK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,13nm,1.0s						
MNK				MLR	MLR		
	comp=N,262nm,18.0s						
MNK				MLR	MLR		
	comp=Z,313nm,18.0s						
MNK				MLR	MLR		
	comp=E,267nm,17.0s						
VSU	**Vasula**	**59.69**	**324**	*ce*P	**P**	**12 33 33.9**	**-0.5**
VSU				pmax	pmax		
	comp=Z,26nm,1.3s						
SHEM	**Shemya Is, Ala**	**59.70**	**42**	LR	LR	13 00 09.4	
	comp=Z,137nm,19.7s,baz=296,slow=37						
FIA1	**FINESS Array S**	**59.98**	**328**	P	**P**	**12 33 35.4**	**-1.0**
FINES	**FINESS Array B**	**59.98**	**328**	P	**P**	**12 33 35.2**	**-1.2**
FINES	**FINESS Array B**	**59.98**	**328**	P	**P**	**12 33 36.0**	**-0.4**
	comp=Z,6.0nm,0.7s,baz=102,slow=8.6,SNR=30						
	comp=Z,6.0nm,0.7s						
FINES	**FINESS Array B**	**59.98**	**328**	*i* P	**P**	**12 33 36.5**	**+0.1**
FINES				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ARBE	**Arbavere**	**60.05**	**325**	*e*P	**P**	**12 33 37.2**	**+0.3**
ARCES	**ARCESS Array B**	**60.50**	**337**	P	**P**	**12 33 39.4**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=85,slow=7.7,SNR=13						
ARCES				LR	LR	13 01 57.0	
	comp=Z,375nm,18.6s,baz=98,slow=38						
	comp=Z,0.7nm,0.4s						
HORU	**Horodok**	**60.53**	**314**	P	**P**	**12 33 39.8**	**-0.6**
KEF	**Keuruu**	**60.55**	**329**	*e*P	**P**	**12 33 39.9**	**-0.4**
PLOR5	**Plostina Array**	**60.82**	**310**	P	**P**	**12 33 42.9**	**+0.4**
	comp=Z,15nm,0.9s						
MEF	**Metsahovi**	**60.83**	**326**	*e*P	**P**	**12 33 42.3**	**+0.1**
NWAO	**Narrogin (SRO)**	**60.91**	**164**	LR	LR	13 01 33.3	
	comp=Z,179nm,20.4s,baz=305,slow=38						
MLR	**Muntele Rosu**	**61.38**	**309**	P	**P**	**12 33 45.6**	**-0.8**
MLR				IAmb	IAmb	12 34 14.4	
	comp=Z,8.0nm,1.0s						
MLR	**Muntele Rosu**	**61.38**	**309**	LR	LR	13 05 41.3	
	comp=Z,299nm,19.9s,baz=63,slow=41						
MLR	**Muntele Rosu**	**61.38**	**309**	P	**P**	**12 33 45.6**	**-0.8**
MLR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BUR08	**Bucovina Ar. S**	**61.55**	**312**	P	**P**	**12 33 46.5**	**-1.0**
BUR08				IAmb	IAmb	12 35 01.0	
	comp=Z,12nm,1.8s						
RAF	**Rauma**	**62.08**	**327**	*e*P	**P**	**12 33 50.9**	**+0.3**
SPITS	**Spitsbergen Ar**	**63.35**	**347**	LR	LR	13 06 10.3	
	comp=Z,250nm,19.6s,baz=96,slow=40						
NIE	**Niedzica**	**64.46**	**314**	P	**P**	**12 34 07.2**	**+0.5**
	comp=Z,2.7nm,1.3s						
VYHS	**Vyhne**	**65.59**	**314**	*e*P	**P**	**12 34 12.7**	**-1.4**
VYHS	**Vyhne**	**65.59**	**314**	*e*P	**P**	**12 34 12.7**	**-1.4**
MORC	**Moravsky Berou**	**66.14**	**315**	*e*P	**P**	**12 34 17.1**	**-0.5**
HFS	**Hagfors**	**66.15**	**327**	P	**P**	**12 34 16.8**	**-0.6**
	comp=Z,4.5nm,0.7s,baz=88,slow=4.9,SNR=12						
	comp=Z,4.5nm,0.7s						
MORH	**Mrgy, Hungar**	**66.23**	**311**	P	**P**	**12 34 18.5**	**+0.3**
DPC	**Dobruska-Polom**	**66.77**	**316**	*e*P	**P**	**12 34 21.7**	**0.0**
DPC				*ep*P	**sP**	**12 34 27.8**	**-0.4**
DPC				AMS	AMS	13 05 00.0	
	comp=Z,200nm,17.3s						
DPC	**Dobruska-Polom**	**66.77**	**316**	*e*P	**P**	**12 34 21.7**	**0.0**
DPC				*e*		12 34 27.8	
DPC				MLR	MLR		
	comp=Z,200nm,17.3s						
OSTC	**Ostas**	**66.79**	**316**	AMS	AMS	13 04 50.0	
	comp=Z,200nm,20.1s						
VRAC	**Vranov**	**66.85**	**315**	*e*P	**P**	**12 34 19.4**	**-2.7**
VRAC	**Vranov**	**66.85**	**315**	LR	LR	13 08 34.0	
	comp=Z,158nm,18.9s,baz=73,slow=40						
CHVC	**Chvalec**	**66.88**	**316**	AMS	AMS	13 03 40.0	
	comp=Z,200nm,16.7s						
NC405	**NORSAR Array S**	**66.90**	**328**	P	**P**	**12 34 20.8**	**-1.4**
UPC	**Upice**	**66.93**	**316**	AMS	AMS	13 03 40.0	
	comp=Z,200nm,17.8s						
KRUC	**Moravsky**	**67.03**	**315**	*e*P	**P**	**12 34 19.6**	**-3.7**
NB2	**NORSAR Subarra**	**67.15**	**328**	P	**P**	**12 34 22.7**	**-1.2**
	comp=Z,4.6nm,0.9s,baz=78,slow=6.5						
NOA	**NORSAR Array B**	**67.15**	**328**	P	**P**	**12 34 22.9**	**-0.9**
	comp=Z,3.5nm,0.9s,baz=77,slow=6.4,SNR=7.6						
NOA				LR	LR	13 06 15.3	
	comp=Z,281nm,18.0s,baz=50,slow=38						
	comp=Z,3.5nm,0.9s						
NOA	**NORSAR Array B**	**67.15**	**328**	P	**P**	**12 34 23.0**	**-0.9**
TREC	**Trest**	**67.55**	**315**	AMS	AMS	13 08 20.0	
	comp=Z,200nm,13.4s						
HNR	**Honiara**	**67.61**	**113**	LR	LR	13 03 14.6	
	comp=Z,67nm,19.2s,baz=256,slow=35						
PVCC	**Panska Ves**	**67.82**	**317**	AMS	AMS	13 05 10.0	
	comp=Z,200nm,18.2s						
GOPC	**GO Pecny, Ondr**	**67.84**	**316**	AMS	AMS	13 05 50.0	
	comp=Z,200nm,13.8s						
PRU	**Pruhonice**	**67.97**	**316**	AMS	AMS	13 05 40.0	
	comp=Z,200nm,16.2s						
PRA	**Prague**	**68.02**	**316**	AMS	AMS	13 05 50.0	
	comp=Z,300nm,16.6s						
ZVC	**Zvikov**	**68.33**	**315**	AMS	AMS	13 10 40.0	
	comp=Z,200nm,15.0s						
OPO	**Ambohidratompo**	**68.40**	**235**	LR	LR	13 02 07.1	
	comp=Z,89nm,20.4s,baz=218,slow=34						
CKRC	**Cesky Krumlov**	**68.42**	**315**	*e*P	**P**	**12 34 33.1**	**+1.0**
CKRC				*ep*P	**sP**	**12 34 38.5**	**-0.1**
CKRC				AMS	AMS	13 09 00.0	
	comp=Z,200nm,17.7s						
CKRC	**Cesky Krumlov**	**68.42**	**315**	*e*P	**P**	**12 34 33.1**	**+1.0**
CKRC				*e*		12 34 38.5	
CKRC				MLR	MLR		
	comp=Z,200nm,17.7s						
GERES	**GERESS Array B**	**68.80**	**315**	P	**P**	**12 34 34.1**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=74,slow=5.7,SNR=7.3						
GERES				LR	LR	13 06 40.5	
	comp=Z,186nm,19.5s,baz=81,slow=38						
	comp=Z,0.5nm,0.5s						
STKA	**Stephens Creek**	**69.74**	**144**	P	**P**	**12 34 39.9**	**-0.5**
	comp=Z,2.9nm,0.7s,baz=320,slow=10,SNR=5.1						
STKA				LR	LR	13 08 15.6	
	comp=Z,147nm,18.6s,baz=296,slow=39						
	comp=Z,2.9nm,0.7s						
JMIC	**Jan Mayen**	**71.42**	**341**	LR	LR	13 09 35.1	
	comp=Z,65nm,21.8s,baz=248,slow=39						
D22K	**Ayikyak River**	**71.56**	**21**	P	**P**	**12 34 50.7**	**-0.3**
FUORN	**Ofenpass-Fuorn**	**71.68**	**313**	P	**P**	**12 34 51.7**	**-0.7**
VAE	**Valguarnera**	**71.75**	**303**	LR	LR	13 09 47.8	
	comp=Z,66nm,20.0s,baz=160,slow=39						
DAVOX	**Davos/Dischmat**	**71.88**	**314**	LR	LR	13 11 38.9	
	comp=Z,248nm,19.5s,baz=77,slow=40						
F21K	**Alatna River**	**71.99**	**23**	P	**P**	**12 34 52.7**	**-0.9**
F21K				IAmb	IAmb	12 35 29.5	
	comp=Z,7.7nm,0.9s						
MBAR	**Mbarara**	**72.31**	**260**	*ce*P	**P**	**12 34 58.4**	**+1.8**
MBAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
E24K	**Your Creek**	**73.31**	**21**	P	**P**	**12 34 59.5**	**-2.0**
E24K				IAmb	IAmb	12 35 15.8	
	comp=Z,7.2nm,0.9s						
MLY	**Manley**	**73.96**	**25**	P	**P**	**12 35 04.1**	**-1.2**
MLY				IAmb	IAmb	12 35 12.4	
	comp=Z,6.6nm,1.0s						
C27K	**Jago River**	**74.00**	**19**	P	**P**	**12 35 04.2**	**-1.2**
C27K				IAmb	IAmb	12 35 27.1	
	comp=Z,14nm,1.1s						
CAST	**Castle Rocks**	**74.18**	**27**	P	**P**	**12 35 06.3**	**-0.3**
BPAW	**Bear Paw Mtn.**	**74.30**	**26**	P	**P**	**12 35 06.0**	**-1.3**
BPAW				IAmb	IAmb	12 35 21.5	
	comp=Z,7.5nm,0.8s						
M20K	**Styx River**	**74.44**	**28**	P	**P**	**12 35 07.0**	**-1.2**
M20K				IAmb	IAmb	12 35 22.5	
	comp=Z,7.8nm,0.9s						
H24K	**Noodor Dome**	**74.62**	**23**	P	**P**	**12 35 09.4**	**+0.3**
NEA2	**Nenana**	**74.80**	**25**	P	**P**	**12 35 08.9**	**-1.3**
NEA2				IAmb	IAmb	12 35 24.3	
	comp=Z,6.0nm,0.9s						
SKT	**Skwentna**	**75.07**	**28**	P	**P**	**12 35 10.0**	**-1.8**
SKT				IAmb	IAmb	12 35 25.4	
	comp=Z,6.5nm,0.8s						
NEEM	**North Greenlan**	**75.18**	**354**	*i* P	**P**	**12 35 12.3**	**-0.2**
CCB	**Clear Creek Bu**	**75.24**	**24**	P	**P**	**12 35 12.2**	**-0.6**
G26K	**Porcupine Rive**	**75.44**	**22**	P	**P**	**12 35 13.5**	**-0.3**
ILAR	**Eielson Array**	**75.52**	**24**	P	**P**	**12 35 15.5**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=305,slow=5.5,SNR=6.0						
ILAR				LR	LR	13 10 37.2	
	comp=Z,303nm,18.2s,baz=293,slow=37						
	comp=Z,0.7nm,0.8s						
KEST	**Kesra**	**76.18**	**303**	LR	LR	13 15 11.9	
	comp=Z,96nm,20.6s,baz=289,slow=41						
EKA	**Eskdalemuir Ar**	**76.22**	**325**	P	**P**	**12 35 20.0**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=64,slow=6.4,SNR=2.2						
	comp=Z,1.1nm,0.7s						
PMR	**Palmer**	**76.26**	**28**	P	**P**	**12 35 17.2**	**-1.3**
PMR				IAmb	IAmb	12 35 32.1	
	comp=Z,7.6nm,0.9s						
PMR	**Palmer**	**76.26**	**28**	P	**P**	**12 35 17.2**	**-1.3**
PMR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KDAK	**Kodiak Island**	**76.56**	**32**	LR	LR	13 10 15.7	
	comp=Z,260nm,18.3s,baz=325,slow=37						
SUMG	**Summit**	**77.61**	**348**	*i* P	**P**	**12 35 22.6**	**-3.9**
KLU	**Klutina**	**77.62**	**27**	P	**P**	**12 35 24.5**	**-1.9**
KLU				IAmb	IAmb	12 35 40.7	
	comp=Z,11nm,1.0s						
INK	**Inuvik**	**77.73**	**18**	LR	LR	13 14 21.3	
	comp=Z,198nm,18.1s,baz=55,slow=39						
BCAR	**Beaver Creek A**	**78.34**	**24**	P	**P**	**12 35 29.6**	**-0.7**
BMRM	**Bremner River**	**78.44**	**27**	P	**P**	**12 35 28.9**	**-2.1**
BORG	**Borgarnes**	**78.87**	**338**	LR	LR	13 13 12.2	
	comp=Z,84nm,18.2s,baz=55,slow=38						
DZM	**Mont Dzumac**	**79.78**	**121**	*e*LR	LR	13 00 18.8	
	comp=Z,140nm,27.8s						
LSZ	**Lusaka**	**81.60**	**248**	LR	LR	13 11 52.9	
	comp=Z,71nm,18.2s,baz=72,slow=36						
SKAG	**Skagway**	**83.03**	**25**	P	**P**	**12 35 54.9**	**-0.5**
SKAG				IAmb	IAmb	12 36 18.1	
	comp=Z,6.3nm,0.9s						
ESDC	**Sonseca Array**	**84.00**	**311**	P	**P**	**12 36 02.8**	**+1.9**
	comp=Z,0.7nm,0.7s,baz=62,slow=5.1,SNR=4.2						
ESDC				LR	LR	13 18 01.8	
	comp=Z,97nm,18.7s,baz=50,slow=39						
	comp=Z,0.7nm,0.7s						
DLBC	**Dease Lake**	**85.73**	**24**	LR	LR	13 17 30.1	
	comp=Z,15nm,18.5s,baz=330,slow=38						
YKA	**Yellowknife Ar**	**87.20**	**16**	P	**P**	**12 36 15.1**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=318,slow=5.8,SNR=2.7						
YKA				LR	LR	13 20 11.4	
	comp=Z,92nm,18.7s,baz=325,slow=39						
	comp=Z,0.6nm,0.8s						
MDT	**Midelt**	**87.82**	**306**	LR	LR	13 20 57.6	
	comp=Z,44nm,20.9s,baz=46,slow=39						
BOSA	**Boshof**	**90.59**	**238**	LR	LR	13 13 40.7	
	comp=Z,83nm,21.7s,baz=36,slow=33						
TSUM	**Tsumeb**	**92.36**	**250**	LR	LR	13 17 12.6	
	comp=Z,104nm,20.7s,baz=110,slow=35						
MAW	**Mawson**	**97.70**	**194**	LR	LR	13 18 03.6	
	comp=Z,54nm,18.2s,baz=12,slow=34						
NEW	**Newport**	**98.47**	**24**	LR	LR	13 24 29.0	
	comp=Z,99nm,18.3s,baz=329,slow=37						
PPT2	**Papeete2**	**114.95**	**98**	*e*LR	LR	13 16 42.0	
	comp=Z,66nm,25.5s						
TBI	**Tubuai**	**117.00**	**104**	*e*LR	LR	13 17 39.8	
	comp=Z,687nm,35.8s						
TAOE	**Nuku Hiva Isla**	**120.02**	**85**	*e*LR	LR	13 19 01.5	
	comp=Z,69nm,24.0s						
TXAR	**Lajitas Array**	**120.03**	**25**	PKP	**PKPdf**	**12 42 19.8**	**-1.8**
	comp=Z,0.2nm,0.6s,baz=340,slow=3.2,SNR=4.6						

WEL 21 12:28:29.5±0.9, 35°S±5°×17°9E±°, h12km, M3.9/18, ML4.1/20, MLv3.9/18, Error ellipse: s-maj=11.2km s-min=5.9km az=81.4, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.73**	**189**	P	Pn	12 29 14.9	+1.6
MXZ				S	Sb	12 29 49.6	-2.2
WMGZ	**Waiomatatini S**	**2.97**	**187**	P	Pn	12 29 18.2	+1.7
HAZ	**Te Kaha**	**3.02**	**196**	P	Pn	12 29 18.5	+1.4
HAZ				S	Sb	12 29 57.0	-3.0
PKGZ	**Pakihiroa**	**3.06**	**191**	P	Pn	12 29 19.1	+1.3
KUZ	**Kuaotunu**	**3.16**	**233**	P	Pn	12 29 20.7	+1.6
RUGZ	**Raukumara Rang**	**3.24**	**197**	P	Pn	12 29 20.9	+0.5
PUZ	**Puketiti**	**3.24**	**188**	P	Pn	12 29 20.6	+0.3
PUZ				S	Sn	12 30 00.5	+1.7
TWGZ	**Tauwhareparae**	**3.38**	**192**	P	Pn	12 29 22.9	+0.7
TWGZ				S	Sn	12 30 04.8	+2.4
WIAZ	**Waiheke Island**	**3.58**	**236**	P	Pn	12 29 25.8	+1.0
MWZ	**Matawai**	**3.63**	**197**	P	Pn	12 29 25.7	+0.2
MWZ				S	Sn	12 30 10.5	+2.2
CNGZ	**Carnagh Statio**	**3.65**	**188**	P	Pn	12 29 25.8	-0.1
TKGZ	**Te Karaka**	**3.66**	**192**	P	Pn	12 29 25.4	-0.6
TKGZ				S	Sn	12 30 11.8	+2.7
URZ	**Urewera**	**3.67**	**202**	P	Pn	12 29 25.8	-0.3
URZ				S	Sn	12 30 11.6	+2.3
MBAZ	**Motutapu North**	**3.73**	**238**	P	Pn	12 29 28.2	+1.3
MKAZ	**Moumakai**	**3.73**	**232**	P	Pn	12 29 29.3	+2.3
RAGZ	**Rawiri**	**3.81**	**197**	P	Pn	12 29 27.7	-0.3
RAGZ				S	Sn	12 30 14.9	+2.1
WCZ	**Waipu Caves**	**3.83**	**252**	P	Pn	12 29 28.4	+0.1
RIGZ	**Rimuhau**	**3.94**	**192**	P	Pn	12 29 28.0	-1.8
RIGZ				S	Sn	12 30 15.1	-0.8
MUGZ	**Murupara**	**3.98**	**204**	P	Pn	12 29 30.0	-0.3
MUGZ				S	Sn	12 30 17.9	+0.9
RTZ	**Ruatahuna**	**4.04**	**201**	P	Pn	12 29 29.8	-1.4
SNGZ	**Shannon Statio**	**4.10**	**197**	P	Pn	12 29 30.7	-1.3
SNGZ				S	Sn	12 30 20.1	+0.2
PRGZ	**Paritu Road**	**4.13**	**190**	P	Pn	12 29 30.5	-2.0
PRGZ				S	Sn	12 30 19.5	-1.2
KNZ	**Kokohu**	**4.26**	**192**	P	Pn	12 29 32.0	-2.2
OUZ	**Omahuta**	**4.32**	**264**	P	Pn	12 29 34.5	-0.6
MHGZ	**Mahia Peninsul**	**4.35**	**190**	P	Pn	12 29 33.5	-2.0
MHGZ				S	Sn	12 30 25.2	-0.9
TLZ	**Tolley Road**	**4.37**	**217**	P	Pn	12 29 37.2	+1.5
BKZ	**Black Stump Fm**	**4.69**	**203**	P	Pn	12 29 38.2	-2.1
BKZ				S	Sn	12 30 31.3	-3.3
NGZ	**Ngauruhoe**	**5.03**	**210**	P	Pn	12 29 42.6	-2.3
WAZ	**Wanganui**	**5.77**	**211**	P	Pn	12 29 52.0	-3.0
WAZ				S	Sn	12 30 59.9	-1.3

AUST 21 12:29:06.7±2.6, 18°S±10°×12°0E±°, h10km±20km, mb4.1/4, ML3.0/3, ML3.5/3, Error ellipse: s-maj=23.3km s-min=10.1km az=152.9, Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSAC1	**Pilbara Seismi**	**3.58**	**187**	P	Pn	12 30 00.8	-1.6
PSAC1				S	Sn	12 30 38.3	-6.5
PSA00	**Pilbara Seismi**	**3.62**	**187**	P	Pn	12 30 02.5	-0.3
PSA00				S	Sn	12 30 39.2	-6.4
FITZ	**Fitzroy Crossi**	**5.07**	**92**	P	Pn	12 30 26.9	+4.1
FITZ	**Fitzroy Crossi**	**5.07**	**92**	S	Sn	12 31 22.5	+1.0
GIRL	**Giralia**	**7.36**	**230**	P	Pn	12 30 54.9	+0.6
	comp=Z,338µmcomp=Z,67nm,2.0s,comp=Z,0.2nm						
GIRL				S	Sn	12 32 09.0	-8.9
KNRA	**Kununurra**	**8.41**	**76**	P	Pn	12 31 08.0	-0.6
	comp=Z,9.6nm,1.7s,comp=Z,0.1nm						
KNRA				S	Sn	12 32 44.8	+1.2
CVQOZ	**Cooralya Stati**	**8.68**	**221**	P	Pn	12 31 12.7	+0.3
	comp=Z,306nm,1.6s,comp=Z,0.9nm						
CVQOZ				S	Sn	12 32 38.7	-12
MEEK	**Meekatharra**	**8.78**	**190**	P	Pn	12 31 12.3	-1.4
MEEK	**Meekatharra**	**8.78**	**190**	S	Sn	12 32 40.6	-12
WRKA	**Warakurna**	**10.23**	**135**	P	Pn	12 31 35.1	+1.4
	comp=Z,0.0nmcomp=Z,6.8nm,1.7s						
WRKA				S	Sn	12 33 18.8	-10

*KRSC **21** 12:33:54.7±1.4, 48°.30N×154°.66E, h159km±32km, Ml5.3*
*SKHL **21** 12:33:57.9±0.6, 48°.70N×153°.90E, h144km±6km, mb5.7/10, msha6.4/5*
*MOS **21** 12:33:57.3±1.0, 48°.82N×153°.59E, h160km, mb4.7/42, Error ellipse: s-maj=6.7km s-min=3.2km az=72.4*
*NEIC **21** 12:33:57.8±1.5, 48°.83N±0°.09×153°.6E±0°.1, h144km±7km, mb4.8/78, Error ellipse: s-maj=15.6km s-min=9.3km az=142.0*
*IDC **21** 12:34:00.0±0.5, 48°.84N×153°.61E, h169km±4km, mb4.4/30, mbtmp4.8/38, MS3.2/1, Error ellipse: s-maj=8.0km s-min=7.0km az=134.0*
*JMA **21** 12:34:01.4±0.9, 47°N±6°×15°4E±°, h2km, MV4.4/15, FAR FIELD*
*BGR **21** 12:34:09.1.53°.24N×154°.39E, h33km, mb4.5*
ISC 21 12:33:57.9±0.3, 48.76N±0°.04×153°.68E±0°.04, h152km±2km, h152km:pP-P,n752,σ1926/825, mb4.7/148, 36C-30D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.49**	**39**	*i*PN	**Pn**	**12 34 39.6**	**+0.8**
SKR				*i* S	**Sn**	**12 35 10.5**	**-0.1**
SKR				pmax	pmax		
	comp=Z,2µm,3.3s						
SKR				pmax	pmax		
	comp=Z,751nm,0.7s						
SKR				smax	smax		
	comp=N,6µm,0.5s						
SKR				smax	smax		
	comp=E,2µm,0.3s						
SKR				MLR	MLR		
	comp=Z,2µm,13.0s						
SKR	**Severo-Kuril's**	**2.49**	**39**	*e*P	**Pn**	**12 34 39.7**	**+0.8**
SKR				*e*S	**Sn**	**12 35 10.6**	**0.0**
SKR	**Severo-Kuril's**	**2.49**	**39**	*e*P	**Pn**	**12 34 39.0**	**+0.1**
SKR				AMB	AMB	12 34 40.3	
	comp=Z,450nm,0.5s						
SKR				*i* S	**Sn**	**12 35 09.4**	**-1.2**
SKR				A	A	12 35 14.9	
	comp=Z,4µm,0.4s						
SKR				A	A	12 35 14.9	
	comp=Z,3µm,0.4s						
PAU	**Pauzhetka**	**3.38**	**36**	PN	**Pn**	**12 34 50.3**	**+0.3**
PAU				S	**Sn**	**12 35 30.1**	**-0.4**
PAU	**Pauzhetka**	**3.38**	**36**	*i* P	**Pn**	**12 34 50.3**	**+0.3**
PAU				*e*S	**Sn**	**12 35 30.1**	**-0.4**
PAU	**Pauzhetka**	**3.38**	**36**	*e*P	**Pn**	**12 34 50.3**	**+0.3**
PAU				AMB	AMB	12 34 51.2	
	comp=Z,2µm,0.4s						
PAU				*e*S	**Sn**	**12 35 30.1**	**-0.4**
PAU				A	A	12 35 34.1	
	comp=Z,7µm,0.4s						
PAU				A	A	12 35 34.1	
	comp=Z,6µm,0.4s						
MIPR	**Malaya Ipel'ka**	**4.03**	**28**	PN	**Pn**	**12 34 59.2**	**+0.8**
MIPR	**Malaya Ipel'ka**	**4.03**	**28**	*e*P	**Pn**	**12 34 59.3**	**+0.8**
ASAK	**Asacha**	**4.51**	**35**	PN	**Pn**	**12 35 05.1**	**+0.2**
ASAK	**Asacha**	**4.51**	**35**	*e*P	**Pn**	**12 35 05.1**	**+0.2**
MTVR	**Mutnovka**	**4.70**	**36**	PN	**Pn**	**12 35 07.6**	**+0.2**
MTVR				S	**Sn**

AVH	**Avacha**	**5.52**	**33**	*e*P		**Pn**	**12 35 19.0**	**+0.8**
SMAR	**Somma**	**5.55**	**34**	PN		**Pn**	**12 35 19.3**	**+0.7**
SMAR	**Somma**	**5.55**	**34**	*e*P		**Pn**	**12 35 19.3**	**+0.7**
KRER	**Koryakskii**	**5.56**	**33**	PN		**Pn**	**12 35 19.5**	**+0.7**
KRER	**Koryakskii**	**5.56**	**33**	*e*P		**Pn**	**12 35 19.6**	**+0.7**
KRX	**Arik**	**5.57**	**32**	PN		**Pn**	**12 35 19.6**	**+0.8**
KRX	**Arik**	**5.57**	**32**	*e*P		**Pn**	**12 35 19.7**	**+0.8**
SDLR	**Sedlovina**	**5.59**	**34**	PN		**Pn**	**12 35 19.2**	**+0.1**
SDLR	**Sedlovina**	**5.59**	**34**	*e*P		**Pn**	**12 35 19.3**	**+0.1**
GNL	**Ganaly**	**5.62**	**27**	PN		**Pn**	**12 35 20.1**	**+0.7**
GNL	**Ganaly**	**5.62**	**27**	*e*P		**Pn**	**12 35 20.2**	**+0.7**
NLC	**Nalytchevo**	**5.68**	**37**	PN		**Pn**	**12 35 18.7**	**-1.5**
NLC	**Nalytchevo**	**5.68**	**37**	*e*P		**Pn**	**12 35 18.7**	**-1.5**
SPN	**Mys Shipunski**	**5.91**	**40**	PN		**Pn**	**12 35 21.6**	**-1.6**
SPN	**Mys Shipunski**	**5.91**	**40**	*e*P		**Pn**	**12 35 21.7**	**-1.6**
KII	**Karymskiy**	**6.40**	**32**	PN		**Pn**	**12 35 30.3**	**+0.5**
KII	**Karymskiy**	**6.40**	**32**	*e*P		**Pn**	**12 35 30.3**	**+0.5**
SHO	**Shikotan**	**6.81**	**227**	PN		**Pn**	**12 35 35.2**	**-0.1**
SHO	**Shikotan**	**6.81**	**227**	*e*P		**Pn**	**12 35 35.3**	**-0.1**
SHO	**Shikotan**	**6.81**	**227**	*i* P		**Pn**	**12 35 35.4**	**+0.1**
SHO				AMB	AMB		12 35 37.0	
	comp=N,200nm,0.5s							
SHO				*e*S		**Sn**	**12 36 48.6**	**-3.1**
SHO				A	A		12 36 51.6	
	comp=N,220nm,0.5s							
SHO				A	A		12 36 51.6	
	comp=N,260nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**7.18**	**232**	*e*PN		**Pn**	**12 35 40.2**	**0.0**
YUK				*e*S		**Sn**	**12 36 58.6**	**-1.9**
YUK				pmax	pmax			
	comp=Z,572nm,0.4s							
YUK				pmax	pmax			
	comp=N,319nm,0.5s							
YUK				pmax	pmax			
	comp=E,181nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**7.18**	**232**	*e*P		**Pn**	**12 35 40.7**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**7.18**	**232**	*e*P		**Pn**	**12 35 40.5**	**+0.3**
YUK				AMB	AMB		12 35 46.1	
	comp=E,570nm,0.4s							
YUK				*e*S		**Sn**	**12 36 58.6**	**-1.9**
TYV	**Tymovskoe**	**7.43**	**291**	*e*PN		**Pn**	**12 35 47.2**	**+3.6**
TYV				pmax	pmax			
	comp=Z,60nm,1.1s							
TYV				pmax	pmax			
	comp=Z,200nm,2.6s							
TYV	**Tymovskoe**	**7.43**	**291**	*e*P		**Pn**	**12 35 46.0**	**+2.4**
TYV				*e*S		**Sn**	**12 37 07.4**	**+0.8**
RUSJ	**Misakicho**	**7.46**	**234**	*e*PN		**Pn**	**12 35 44.9**	**+1.0**
RUSJ				S		**Sn**	**12 37 06.0**	**-1.2**
GLVR	**Golovnino**	**7.56**	**231**	*e*PN		**Pn**	**12 35 44.7**	**-0.6**
GLVR				*e*S		**Sn**	**12 37 06.5**	**-3.2**
GLVR				pmax	pmax			
	comp=Z,139nm,0.1s							
GLVR	**Golovnino**	**7.56**	**231**	*e*P		**Pn**	**12 35 44.7**	**-0.6**
GLVR				AMB	AMB		12 35 47.7	
	comp=Z,140nm,0.3s							
GLVR				*e*S		**Sn**	**12 37 06.5**	**-3.2**
YSS	**Yuzhno-Sakhali**	**7.57**	**260**			**Pn**	**12 35 46.1**	**+0.7**
YSS	**Yuzhno-Sakhali**	**7.57**	**260**	*e*PN		Pn	12 35 50.7	+5.3
YSS				pmax	pmax			
	comp=Z,40nm,0.8s							
YSS	**Yuzhno-Sakhali**	**7.57**	**260**	*e*P		**Pn**	**12 35 46.9**	**+1.5**
YSS				*e*S		**Sn**	**12 37 11.3**	**+1.5**
JRA	**Rausu**	**7.63**	**234**	*e*P		**Pn**	**12 35 46.9**	**+0.6**
UGL	**Uglegorsk**	**7.66**	**277**	PN		Pn	12 35 56.9	+10
UGL				S		**Sn**	**12 37 05.6**	**-6.4**
UGL				pmax	pmax			
	comp=Z,210nm,0.6s							
UGL				smax	smax			
	comp=E,400nm,4.2s							
UGL				smax	smax			
	comp=N,400nm,3.1s							
UGL	**Uglegorsk**	**7.66**	**277**	*e*P		**Pn**	**12 35 49.6**	**+3.0**
UGL				AMB	AMB		12 36 04.5	
	comp=N,210nm,0.6s							
MKZ	**Mys Kozlova**	**7.66**	**38**	PN		**Pn**	**12 35 43.8**	**-2.7**
MKZ	**Mys Kozlova**	**7.66**	**38**	*e*P		**Pn**	**12 35 43.8**	**-2.7**
TUMD	**Tumrok D**	**7.67**	**30**	PN		**Pn**	**12 35 47.3**	**+0.7**
TUMD				S		**Sn**	**12 37 09.4**	**-2.7**
TUMD	**Tumrok D**	**7.67**	**30**	*e*P		**Pn**	**12 35 47.4**	**+0.7**
TUMD				*e*S		**Sn**	**12 37 09.5**	**-2.7**
NEM2	**Nemuro 2**	**7.72**	**229**	*e*P		**Pn**	**12 35 44.8**	**-2.6**
NEM2				*e*S		**Sn**	**12 37 06.4**	**-7.0**
NMR	**Nemuro--Hokkai**	**7.72**	**229**	*e*PN		**Pn**	**12 35 44.8**	**-2.6**
NMR	**Nemuro--Hokkai**	**7.72**	**229**	*e*P		**Pn**	**12 35 45.2**	**-2.2**
ESO	**Esso**	**7.80**	**21**	PN		**Pn**	**12 35 49.3**	**+0.8**
ESO	**Esso**	**7.80**	**21**	*e*P		**Pn**	**12 35 49.3**	**+0.8**
KMNR	**Kamenistaya**	**8.07**	**27**	PN		**Pn**	**12 35 54.0**	**+1.8**
KMNR	**Kamenistaya**	**8.07**	**27**	*e*P		**Pn**	**12 35 54.0**	**+1.8**
JNK	**Nakash**	**8.09**	**234**	*e*P		**Pn**	**12 35 52.6**	**+0.3**
JNK				*e*S		**Sn**	**12 37 21.7**	**-0.8**
KOZ	**Kozyrevsk**	**8.23**	**25**	PN		**Pn**	**12 35 54.5**	**+0.4**
KOZ	**Kozyrevsk**	**8.23**	**25**	*e*P		**Pn**	**12 35 54.6**	**+0.4**
KPT	**Kopyto**	**8.25**	**27**	PN		**Pn**	**12 35 55.4**	**+0.9**
KPT	**Kopyto**	**8.25**	**27**	*e*P		**Pn**	**12 35 55.4**	**+0.9**
OKH	**Okha**	**8.28**	**309**	*de*PN		**Pn**	**12 35 53.6**	**-1.2**
OKH				*e*S		**Sn**	**12 37 28.9**	**+2.1**
OKH				pmax	pmax			
	comp=Z,100nm,11.9s							
OKH				smax	smax			
	comp=N,200nm,15.5s							
OKH				MLR	MLR			
	comp=E,100nm,15.0s							
OKH				MLR	MLR			
	comp=N,200nm,14.0s							
OKH				MLR	MLR			
	comp=Z,100nm,14.0s							
OKH	**Okha**	**8.28**	**309**	*e*P		**Pn**	**12 35 56.8**	**+2.0**
JTKR	**Abashiri--Toko**	**8.28**	**238**	*e*P		**Pn**	**12 35 56.2**	**+1.3**
BZGR	**Bezymyannyi-Gr**	**8.37**	**28**	PN		**Pn**	**12 35 57.8**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**8.37**	**28**	*e*P		**Pn**	**12 35 57.9**	**+1.7**
SRDR	**Sredinnyy**	**8.41**	**24**	PN		**Pn**	**12 35 58.8**	**+2.2**
SRDR	**Sredinnyy**	**8.41**	**24**	*e*P		**Pn**	**12 35 58.9**	**+2.2**
JAK	**Akkeshi**	**8.51**	**231**	*e*P		**Pn**	**12 35 55.7**	**-2.2**
JAK				*e*S		**Sn**	**12 37 25.5**	**-7.0**
JAR	**Ashorobuto**	**8.79**	**235**	*e*P		**Pn**	**12 36 02.0**	**+0.2**
JAR				S		**Sn**	**12 37 36.9**	**-2.5**
JKA	**Kamikawa-asahi**	**8.95**	**243**			**Pn**	**12 36 02.8**	**-1.0**
JKA	**Kamikawa-asahi**	**8.95**	**243**	*e*P		**Pn**	**12 36 06.1**	**+2.3**
ASAJ	**Asahikawa**	**8.95**	**243**	P		**Pn**	**12 36 06.0**	**+2.2**
	comp=Z,25nm,0.6s,baz=64,slow=12,SNR=46							
JKK2	**Kamakawa 2**	**9.00**	**241**	*e*P		**Pn**	**12 36 06.6**	**+2.0**
JOB	**Onbets**	**9.03**	**233**	*e*P		**Pn**	**12 36 03.4**	**-1.4**
JOB				*e*S		**Sn**	**12 37 38.5**	**-6.4**
JRBN	**Rebuntou**	**9.23**	**254**	*e*P		**Pn**	**12 36 11.4**	**+3.9**
NKL	**Nikolayevsk**	**9.30**	**303**	*e*P		**Pn**	**12 36 10.9**	**+2.5**
NKL				AMB	AMB		12 36 13.4	
	comp=Z,60nm,0.7s							
KBTR	**Krutoberegovo**	**9.30**	**33**	PN		**Pn**	**12 36 06.0**	**-2.4**
KBTR	**Krutoberegovo**	**9.30**	**33**	*e*P		**Pn**	**12 36 06.0**	**-2.4**
JCH	**Churui**	**9.48**	**233**	*e*P		**Pn**	**12 36 08.4**	**-2.4**
JCH				*e*S		Sn	12 37 47.0	-8.8
BKI	**Bering**	**9.95**	**45**	PN		**Pn**	**12 36 14.6**	**-2.3**
BKI	**Bering**	**9.95**	**45**	*e*P		**Pn**	**12 36 14.7**	**-2.3**
ERM	**Erimo**	**10.01**	**232**			**Pn**	**12 36 16.7**	**-1.1**
ERM	**Erimo**	**10.01**	**232**	P		**Pn**	**12 36 16.9**	**-0.9**
ERM	**Erimo**	**10.01**	**232**	*de*PN		**Pn**	**12 36 16.4**	**-1.4**
JNBK	**Urakawa-nobuka**	**10.03**	**234**	*e*P		**Pn**	**12 36 16.1**	**-2.1**
JNBK				*e*S		**Sn**	**12 38 01.3**	**-7.9**
MA2	**Magadan**	**10.97**	**352**			**Pn**	**12 36 29.8**	**-0.6**
MA2	**Magadan**	**10.97**	**352**	P		**Pn**	**12 36 30.5**	**+0.1**
	comp=Z,23nm,0.7s,baz=168,slow=9.5,SNR=24							
MA2				LR	LR		12 40 58.8	
	comp=Z,125nm,20.1s,baz=158,slow=38							
MA2	**Magadan**	**10.97**	**352**	P		**Pn**	**12 36 30.9**	**+0.6**
MA2	**Magadan**	**10.97**	**352**	*c i* PN		**Pn**	**12 36 30.4**	**+0.1**
MA2				pmax	pmax			
	comp=Z,47nm,1.3s							
GRNR	**Gornyy**	**11.34**	**287**	⇑*i* PN		**Pn**	**12 36 38.5**	**+3.2**
GRNR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
JTM	**Tenmabayashi**	**11.98**	**233**	Pn		**Pn**	**12 36 39.6**	**-4.2**
JTM	**Tenmabayashi**	**11.98**	**233**	P		**Pn**	**12 36 40.8**	**-2.9**
JANG	**Nango**	**12.05**	**230**	*e*P		**Pn**	**12 36 40.8**	**-3.9**
JANG				*e*S		Sn	12 38 44.2	-14
JTH	**Tanohata**	**12.21**	**228**	*e*S		Sn	12 38 47.5	-14
TEY	**Ternei**	**12.26**	**259**	*e*PN		**Pn**	**12 36 49.9**	**+2.7**
TEY				*e*			12 39 04.3	
SHEM	**Shemya Is, Ala**	**13.52**	**65**	P		**P**	**12 37 05.3**	**-1.9**
	comp=Z,50nm,0.9s,baz=278,slow=14,SNR=5.0							
SMY	**Shemya**	**13.52**	**65**	Pn		**Pn**	**12 37 03.5**	**+0.3**
SMY	**Shemya**	**13.52**	**65**	P		**Pn**	**12 37 03.6**	**+0.3**
SEY	**Seymchan**	**14.22**	**358**	P		**Pn**	**12 37 12.5**	**+0.4**
	comp=Z,13nm,0.4s,baz=169,slow=9.8,SNR=41							
SEY	**Seymchan**	**14.22**	**358**	*c i* P		**Pn**	**12 37 12.3**	**+0.1**
SEY	**Seymchan**	**14.22**	**358**	*e*P		**Pn**	**12 37 12.3**	**+0.1**
JMM	**Marumori**	**14.35**	**225**	Pn		**Pn**	**12 37 12.0**	**-2.0**
JMM	**Marumori**	**14.35**	**225**	P		**Pn**	**12 37 13.4**	**-0.6**
JSD	**Sado**	**15.47**	**232**	P		**Pn**	**12 37 28.9**	**+1.0**
USA0B	**Ussuriysk Arra**	**15.61**	**261**			**Pn**	**12 37 28.8**	**-0.7**
USA0B	**Ussuriysk Arra**	**15.61**	**261**	⇓*e*P		**P**	**12 37 30.6**	**+0.2**
USRK	**Ussuriysk Ar.**	**15.61**	**261**	Pn		**Pn**	**12 37 28.4**	**-1.1**
USRK	**Ussuriysk Ar.**	**15.61**	**261**	P		**Pn**	**12 37 28.9**	**-0.6**
	comp=Z,12nm,0.9s,baz=84,slow=11,SNR=9.5							
USRK	**Ussuriysk Ar.**	**15.61**	**261**	P		**Pn**	**12 37 28.4**	**-1.1**
MJB9	**Matsu-Tunnel**	**16.65**	**229**			**P**	**12 37 42.4**	**+0.4**
MAJO	**Matsushiro**	**16.65**	**229**	P		**P**	**12 37 41.9**	**-0.2**
MAJO	**Matsushiro**	**16.65**	**229**	P		**P**	**12 37 42.3**	**+0.2**
MAJO	**Matsushiro**	**16.65**	**229**	*c i* P		**P**	**12 37 42.2**	**+0.2**
MAJO				pmax	pmax			
	comp=Z,39nm,0.8s							
MJAR	**Matsushiro Arr**	**16.65**	**229**	P		**P**	**12 37 40.1**	**-2.0**
MJAR	**Matsushiro Arr**	**16.65**	**229**	P		**P**	**12 37 42.1**	**0.0**
	comp=Z,5.5nm,0.7s,baz=28,slow=12,SNR=24							
MJAR				S		**S**	**12 40 48.1**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=35,slow=22,SNR=4.1							
MDJ	**Mudanjiang**	**17.01**	**265**	P		**P**	**12 37 46.6**	**+0.6**
MDJ				pmax	pmax			
	comp=Z,30nm,2.4s							
HEH	**HeiHe**	**17.10**	**285**	*e*P		**Pn**	**12 37 48.0**	**+0.5**
HEH				sP		**sP**	**12 38 26.1**	**-5.4**
HEH				S		**S**	**12 40 54.8**	**-2.3**
HEH				PcP		**PcP**	**12 42 30.3**	**+7.6**
HEH				pmax	pmax			
	comp=Z,21nm,0.8s							
HEH				pmax	pmax			
	comp=Z,97nm,4.6s							
JGF	**Kuroka**	**17.82**	**228**			**P**	**12 37 54.3**	**-0.6**
JGF	**Kuroka**	**17.82**	**228**	P		**Pn**	**12 37 56.1**	**-0.2**
BNX	**BinXian**	**18.06**	**270**	⇓P		**Pn**	**12 37 58.9**	**-0.1**
BNX				pmax	pmax			
	comp=Z,7.0nm,1.3s							
INU	**Inuyama**	**18.18**	**229**			**P**	**12 37 59.4**	**+0.5**
INU	**Inuyama**	**18.18**	**229**	P		**Pn**	**12 38 00.2**	**-0.4**
JHJ2	**Mitsune**	**18.77**	**219**	P		**P**	**12 38 05.6**	**+0.4**
JHJ2	**Mitsune**	**18.77**	**219**	P		**Pn**	**12 38 07.1**	**-0.3**
KIWB	**Kanaga Island**	**18.83**	**70**	P		**P**	**12 38 04.6**	**-1.1**
YAK	**Yakutsk**	**18.88**	**324**			**P**	**12 38 05.7**	**-0.3**
YAK	**Yakutsk**	**18.88**	**324**	P		**P**	**12 38 06.1**	**0.0**
	comp=Z,84nm,0.6s,baz=116,slow=4.1,SNR=21							
YAK				S		**S**	**12 41 30.7**	**-1.6**
	comp=Z,14nm,0.4s,baz=152,slow=22,SNR=7.3							
YAK	**Yakutsk**	**18.88**	**324**	*e*P		**P**	**12 38 05.8**	**-0.3**
YAK				*e*S		**S**	**12 41 31.8**	**-0.5**
YAK				pmax	pmax			
	comp=Z,33nm,0.6s							
YAK				pmax	pmax			
	comp=N,8.0nm,1.2s							
YAK				pmax	pmax			
	comp=E,14nm,0.8s							
YAK				smax	smax			
	comp=E,190nm,2.8s							
YAK				smax	smax			
	comp=N,158nm,1.9s							
YAK	**Yakutsk**	**18.88**	**324**	*e*P		**P**	**12 38 05.8**	**-0.3**
GSTR	**Great Sitkin T**	**19.50**	**69**	P		**P**	**12 38 11.9**	**-1.1**
BILL	**Bilibino**	**20.34**	**14**			**P**	**12 38 21.2**	**-0.6**
BILL	**Bilibino**	**20.34**	**14**	*d i* P		**P**	**12 38 21.5**	**-0.4**
BILL				pmax	pmax			
	comp=Z,38nm,0.6s							
BILL	**Bilibino**	**20.34**	**14**	*e*P		**P**	**12 38 21.5**	**-0.4**
ATKA	**Atka Island**	**20.64**	**68**	P		**P**	**12 38 24.6**	**-0.6**
ATKA	**Atka Island**	**20.64**	**68**	P		**P**	**12 38 25.8**	**+0.7**
KSRS	**Korea Array**	**21.83**	**248**	P		**P**	**12 38 39.0**	**+1.1**
	comp=Z,19nm,1.0s,baz=48,slow=10,SNR=32							
KSRS				PcP		**PcP**	**12 42 31.6**	**+0.3**
	comp=Z,3.6nm,0.8s,baz=41,slow=1.4,SNR=10							
	comp=Z,19nm,1.0s							
KS19	**Wonju Array Si**	**21.83**	**249**	P		**P**	**12 38 38.0**	**0.0**
KS19				lAmb	lAmb		12 38 40.6	
	comp=Z,55nm,1.5s							
KSAR	**Wonju Array Be**	**21.86**	**248**	P		**P**	**12 38 38.6**	**+0.3**
KSAR	**Wonju Array Be**	**21.86**	**248**	P		**P**	**12 38 38.6**	**+0.3**
TJN	**Taejon**	**22.86**	**247**	P		**P**	**12 38 47.8**	**-0.2**
TJN	**Taejon**	**22.86**	**247**	P		**P**	**12 38 47.8**	**-0.2**
TJN				pmax	pmax			
	comp=Z,425nm,1.8s							
JTU	**Tsushima**	**22.93**	**241**	P		**P**	**12 38 50.0**	**+1.4**
JNU	**Nakatsue**	**23.12**	**236**	P		**P**	**12 38 50.6**	**+0.1**
JNU	**Nakatsue**	**23.12**	**236**	P		**P**	**12 38 51.4**	**+1.0**
	comp=Z,21nm,0.8s,baz=30,slow=7.3,SNR=12							
	comp=Z,21nm,0.8s							
JNU	**Nakatsue**	**23.12**	**236**	P		**P**	**12 38 51.8**	**+1.3**
BOD	**Bodaibo**	**25.05**	**306**	*e*P		**P**	**12 39 05.9**	**-1.8**
BOD				pmax	pmax			
	comp=Z,47nm,0.7s							
TIK	**Tiksi**	**25.64**	**342**	*e*P		**P**	**12 39 12.4**	**-0.4**
TIXI	**Tiksi**	**25.66**	**342**	P		**P**	**12 39 11.7**	**-1.2**
TIXI				lAmb	lAmb		12 39 12.9	
	comp=Z,33nm,0.9s							
TIXI	**Tiksi**	**25.66**	**342**	*d i* P		**P**	**12 39 12.4**	**-0.5**
TIXI				pmax	pmax			
	comp=Z,39nm,0.9s							
F14K	**Arctic Creek**	**26.76**	**37**	P		**P**	**12 39 22.9**	**0.0**
	baz=251							
J14K	**Nanvaranak Lak**	**27.23**	**43**	P		**P**	**12 39 27.2**	**+0.1**
	baz=259							
L14K	**Kuka Creek**	**27.41**	**46**	P		**P**	**12 39 29.7**	**+1.0**
G15K	**Niukluk**	**27.53**	**38**	P		**P**	**12 39 28.8**	**-1.0**
	baz=255							
N14K	**Kuskokwak Cree**	**27.76**	**49**	P		**P**	**12 39 32.0**	**+0.1**
	baz=267							
L15K	**Ungalak Mounta**	**28.02**	**46**	P		**P**	**12 39 32.5**	**-1.7**
	baz=264							
K15K	**Wolf Creek Mou**	**28.08**	**44**	P		**P**	**12 39 34.7**	**0.0**
K15K				lAmb	lAmb		12 40 11.4	
	comp=Z,10nm,0.9s							
C16K	**Lisburne Hills**	**28.13**	**31**	P		**P**	**12 39 36.0**	**+0.9**
C16K	**Lisburne Hills**	**28.13**	**31**	P		**P**	**12 39 33.4**	**-1.7**
	baz=247							
M15K	**Kasigluk River**	**28.31**	**48**	P		**P**	**12 39 35.1**	**-1.7**
	baz=266							
G16K	**Koyuk River**	**28.32**	**38**	P		**P**	**12 39 34.9**	**-1.9**
	baz=256							
SDPT	**Sand Point**	**28.51**	**59**	P		**P**	**12 39 38.3**	**-0.3**
	baz=276							
N15K	**Kwethluk River**	**28.57**	**49**	P		**P**	**12 39 40.1**	**+0.9**
N15K				lAmb	lAmb		12 39 43.6	
	comp=Z,30nm,1.5s							
N15K	**Kwethluk River**	**28.57**	**49**	P		**P**	**12 39 38.3**	**-0.8**
	baz=268							
J16K	**Anvik River**	**28.64**	**42**	P		**P**	**12 39 38.9**	**-0.8**
	baz=261							
O15K	**Ungalikthiuk R**	**28.68**	**51**	P		**P**	**12 39 41.0**	**+0.8**
O15K				lAmb	lAmb		12 39 42.5	
	comp=Z,12nm,0.8s							
O15K	**Ungalikthiuk R**	**28.68**	**51**	P		**P**	**12 39 39.9**	**-0.2**
	baz=270							
D17K	**Noatak River**	**28.72**	**33**	P		**P**	**12 39 40.3**	**0.0**
	baz=251							
S14K	**Fog Glacier**	**28.94**	**57**	P		**P**	**12 39 42.3**	**-0.3**
	baz=275							
C17K	**DeLong Mountai**	**28.95**	**31**	P		**P**	**12 39 41.6**	**-0.8**
	baz=249							
L16K	**Owhat River**	**28.98**	**46**	P		**P**	**12 39 42.7**	**0.0**
L16K				lAmb	lAmb		12 39 46.6	
	comp=Z,30nm,2.0s							
L16K	**Owhat River**	**28.98**	**46**	P		**P**	**12 39 42.6**	**0.0**
	baz=265							
E17K	**Hotham Inlet**	**28.99**	**34**	P		**P**	**12 39 42.2**	**-0.5**
	baz=253							
F17K	**Baldwin Pennin**	**29.03**	**36**	P		**P**	**12 39 44.3**	**+1.2**
F17K				lAmb	lAmb		12 39 57.6	
	comp=Z,28nm,1.0s							
F17K	**Baldwin Pennin**	**29.03**	**36**	P		**P**	**12 39 42.8**	**-0.2**
	baz=255							
G17K	**Kiwalik Mounta**	**29.04**	**38**	P		**P**	**12 39 43.2**	**0.0**
	baz=257							
CHNA	**Chernabura Isl**	**29.08**	**60**	P		**P**	**12 39 43.9**	**+0.2**
	baz=278							
CNBA	**Chernabura Isl**	**29.08**	**60**	P		**P**	**12 39 41.7**	**-2.0**
CNBA				lAmb	lAmb		12 40 42.8	
	comp=Z,41nm,1.4s							
M16K	**Timber Creek**	**29.18**	**47**	P		**P**	**12 39 45.1**	**+0.7**
	baz=267							
H17K	**Granite Mounta**	**29.23**	**39**	P		**P**	**12 39 46.2**	**+1.3**
H17K				lAmb	lAmb		12 40 01.9	
	comp=Z,8.9nm,0.8s							
N16K	**Nishlik Lake**	**29.25**	**48**	P		**P**	**12 39 45.6**	**+0.5**
	baz=268							
J17K	**VABM Dome**	**29.34**	**42**	P		**P**	**12 39 46.1**	**+0.2**
	baz=263							
JOW	**Kunigami**	**29.46**	**231**	P		**P**	**12 39 48.5**	**+1.2**
E18K	**Tukpahlearik C**	**29.54**	**34**	P		**P**	**12 39 48.0**	**+0.4**
	baz=254							
L17K	**Donlin**	**29.57**	**45**	P		**P**	**12 39 48.1**	**+0.2**
	baz=266							
O16K	**Kokwok River B**	**29.57**	**50**	P		**P**	**12 39 47.6**	**-0.3**
	baz=270							
CHGN	**Chignik**	**29.57**	**57**	P		**P**	**12 39 48.4**	**+0.5**
	baz=276							
K17K	**Iditarod**	**29.61**	**44**	P		**P**	**12 39 49.0**	**+0.7**
	baz=265							
F18K	**Selawik**	**29.69**	**36**	P		**P**	**12 39 49.1**	**+0.2**
	baz=257							
C18K	**Utukok River**	**29.70**	**32**	P		**P**	**12 39 50.2**	**+1.2**
C18K				lAmb	lAmb		12 39 56.8	
	comp=Z,9.7nm,0.9s							
C18K	**Utukok River**	**29.70**	**32**	P		**P**	**12 39 47.9**	**-1.1**
	baz=251							
B18K	**Kokolik River**	**29.73**	**30**	P		**P**	**12 39 48.8**	**-0.5**
	baz=250							
H18K	**Honhosa River**	**29.91**	**39**	P		**P**	**12 39 50.8**	**-0.1**
	baz=260							
M17K	**Holitna River**	**29.93**	**47**	P		**P**	**12 39 52.2**	**+1.1**
M17K				lAmb	lAmb		12 39 57.0	
	comp=Z,46nm,1.9s							
M17K	**Holitna River**	**29.93**	**47**	P		**P**	**12 39 51.6**	**+0.5**
	baz=268							
G18K	**Tagagawik**	**29.93**	**37**	P		**P**	**12 39 51.1**	**0.0**
	baz=259,SNR=6.2							
N17K	**Nushagak Hills**	**30.03**	**48**	P		**P**	**12 39 52.4**	**+0.4**
	baz=270							
O17K	**Koliganek Bris**	**30.08**	**50**	P		**P**	**12 39 53.4**	**+1.0**
	baz=271							
L18K	**Granite Mounta**	**30.32**	**45**	P		**P**	**12 39 53.7**	**-0.8**
L18K	**Granite Mounta**	**30.32**	**45**	P		**P**	**12 39 55.3**	**+0.8**
	baz=267							
HNS	**HongShan**	**30.33**	**263**	⇑P		**P**	**12 39 56.0**	**+1.2**
HNS				pmax	pmax			
	comp=Z,10.0nm,0.7s							
C19K	**Lookout Ridge**	**30.39**	**31**	P		**P**	**12 39 56.2**	**+1.0**
	baz=252							
J18K	**Innoko River**	**30.40**	**43**	P		**P**	**12 39 56.4**	**+1.2**
	baz=265							
F19K	**Shaleruckik Mo**	**30.47**	**36**	P		**P**	**12 39 55.0**	**-0.8**
	baz=258							
PLK4	**Peulik 4**	**30.57**	**54**	P		**P**	**12 39 56.9**	**+0.1**
PLK4				lAmb	lAmb		12 40 10.9	
	comp=Z,24nm,1.1s							
HHC	**Hu-ho-hao-te**	**30.58**	**271**	*e*P		**P**	**12 39 58.4**	**+1.2**
HHC				pmax	pmax			
	comp=Z,20nm,0.7s							
HHC				pmax	pmax			
	comp=Z,270nm,4.6s							
G19K	**Purcell Mounta**	**30.61**	**37**	P		**P**	**12 39 57.9**	**+0.9**
ULN	**Ulaanbaatar**	**30.65**	**286**	*de*P		**P**	**12 39 57.8**	**0.0**
ULN				pmax	pmax			
	comp=Z,16nm,3.0s							
ULN	**Ulaanbaatar**	**30.65**	**286**	*e*P		**P**	**12 39 57.8**	**0.0**
N18K	**Kilae Creek**	**30.67**	**48**	P		**P**	**12 39 56.7**	**-1.0**
	baz=270,SNR=5.3							
M18K	**Stony River**	**30.71**	**46**	P		**P**	**12 39 57.5**	**-0.5**
	baz=269							
D19K	**Kuna River**	**30.73**	**33**	P		**P**	**12 39 57.5**	**-0.7**
	baz=255							
H19K	**Roundabout Mou**	**30.77**	**39**	P		**P**	**12 39 57.6**	**-0.8**
	baz=262,SNR=16							
**Q17

CAST **Castle Rocks** 32.48 43 P P 12 40 14.2 +0.8
CAST **Castle Rocks** 32.48 43 P P 12 40 13.3 -0.2
baz=269
Q20K **Shuyak Island** 32.56 52 P P 12 40 13.7 -0.5
baz=277
KDAK **Kodiak Island** 32.57 53 P P 12 40 13.6 -0.6
KDAK IAmb IAmb 12 40 14.7
comp=Z,17nm,0.8s
KDAK **Kodiak Island** 32.57 53*d* iP P 12 40 13.7 -0.6
KDAK pmax pmax
comp=Z,23nm,0.8s
KDAK **Kodiak Island** 32.57 53 P P 12 40 13.8 -0.4
baz=278
KDAK **Kodiak Island** 32.57 53 P P 12 40 13.9 -0.3
STLK **Strandline Lak** 32.62 46 P P 12 40 16.1 +1.3
STLK IAmb IAmb 12 40 17.1
comp=Z,8.4nm,0.7s
SKT **Skwentna** 32.75 46 P P 12 40 15.9 +0.1
baz=272
D22K **Ayikyak River** 32.76 33 P P 12 40 16.2 +0.4
baz=260,SNR=8.1
B22K **Teshekpuk Lake** 32.80 30 P P 12 40 15.9 -0.1
baz=257
H22K **Ishtalitna Cre** 32.89 38 P P 12 40 17.7 +0.7
baz=266,SNR=11
G22K **Bettles** 32.93 36 P P 12 40 17.3 0.0
baz=264
E22K **Anaktuvuk Pass** 32.96 34 P P 12 40 18.0 +0.4
E22K IAmb IAmb 12 40 26.8
comp=Z,8.9nm,0.5s
E22K **Anaktuvuk Pass** 32.96 34 P P 12 40 17.7 +0.1
baz=262,SNR=8.1
BPAW **Bear Paw Mtn.** 32.98 42 P P 12 40 16.8 -1.0
BPAW **Bear Paw Mtn.** 32.98 42 P P 12 40 18.6 +0.8
baz=269
CNPM **China Poot** 33.06 50 P P 12 40 18.3 -0.3
CNPM IAmb IAmb 12 40 20.5
comp=Z,24nm,0.8s
MLY **Manley** 33.11 40 P P 12 40 19.1 +0.1
baz=268
BRLK **Bradley Lake** 33.21 50 P P 12 40 20.1 +0.2
BRLK IAmb IAmb 12 40 20.6
comp=Z,11nm,0.6s
TRF **Thorofare Moun** 33.29 43 P P 12 40 20.8 +0.2
baz=271,SNR=6.3
COLD **Coldfoot** 33.47 36 P P 12 40 22.4 +0.4
baz=265,SNR=6.9
D23K **Nanushuk River** 33.48 33 P P 12 40 22.5 +0.4
baz=262
G23K **Bananza Creek** 33.49 37 P P 12 40 22.9 +0.6
baz=266,SNR=7.6
H23K **Yukon River** 33.64 38 P P 12 40 23.8 +0.3
baz=268,SNR=18
C23K **Itkillik River** 33.64 31 P P 12 40 23.8 +0.4
baz=261,SNR=7.9
RC01 **Rabbit Creek A** 33.66 47 P P 12 40 24.9 +1.2
baz=275
I23K **Minto, Yukon-K** 33.70 40 P P 12 40 24.3 +0.4
baz=269,SNR=9.3
O22K **Cooper Landing** 33.72 48 P P 12 40 23.8 -0.4
baz=276,SNR=5.4
E23K **Chandalar** 33.77 34 P P 12 40 25.1 +0.5
baz=264,SNR=13
NEA2 **Nenana** 33.82 41 P P 12 40 25.7 +0.7
baz=270,SNR=16
TOLK **Toolik Lake Re** 33.84 33 P P 12 40 26.3 +1.0
baz=264,SNR=8.5
MCK **McKinley** 33.89 42 P P 12 40 26.0 +0.3
baz=272
SEW **Seward** 33.89 49 P P 12 40 26.0 +0.3
baz=277,SNR=6.4
PMR **Palmer** 33.91 46 P P 12 40 26.3 +0.5
baz=275
YOJ **Yonaguni jima** 34.17 236 P P 12 40 29.9 +1.5
D24K **Happy Valley** 34.17 33 P P 12 40 28.5 +0.4
D24K IAmb IAmb 12 40 31.8
comp=Z,16nm,0.7s
D24K **Happy Valley** 34.17 33 P P 12 40 28.8 +0.8
baz=264,SNR=8.8
E24K **Your Creek** 34.19 34 P P 12 40 29.0 +0.8
E24K IAmb IAmb 12 40 33.0
comp=Z,18nm,0.6s
E24K **Your Creek** 34.19 34 P P 12 40 28.4 +0.2
baz=266,SNR=25
WRH **Wood River Hil** 34.24 41 P P 12 40 29.7 +1.0
WRH IAmb IAmb 12 40 33.8
comp=Z,34nm,1.4s
KNK **Knik Glacier** 34.24 46 P P 12 40 29.5 +0.7
baz=276
C24K **Franklin Bluff** 34.28 32 P P 12 40 29.8 +0.8
baz=263
H24K **Noodor Dome** 34.33 38 P P 12 40 29.8 +0.3
baz=270,SNR=13
COLA **College** 34.34 40 P P 12 40 31.2 +1.8
COLA **College** 34.34 40*d* iP P 12 40 30.5 +1.1
COLA pmax pmax
comp=Z,17nm,0.8s
COLA **College** 34.34 40 P P 12 40 30.2 +0.8
baz=271
COLA **College** 34.34 40 P P 12 40 29.1 -0.4
COLA pP pP 12 41 00.6 -1.4
COLA sP sP 12 41 16.9 -2.5
PWL **Port Wells** 34.36 47 P P 12 40 29.7 -0.1
baz=276,SNR=5.3
F24K **Squaw Lake** 34.38 35 P P 12 40 30.3 +0.4
baz=267,SNR=12
G24K **Hadweenzic Riv** 34.51 37 P P 12 40 31.6 +0.7
baz=269,SNR=12
M23K **Glacier View** 34.56 46 P P 12 40 31.4 0.0
baz=276
HDA **Harding Lake** 34.74 41 P P 12 40 33.3 +0.4
HDA IAmb IAmb 12 40 35.8
comp=Z,7.8nm,0.6s
HDA **Harding Lake** 34.74 41 P P 12 40 32.9 -0.1
baz=272,SNR=10.0
SCM **Sheep Creek Mo** 34.74 46 P P 12 40 33.1 -0.1
baz=276
ILAR **Eielson Array** 34.75 40 P P 12 40 33.5 +0.5
comp=Z,4.0nm,0.6s,baz=262,slow=5.5,SNR=39
ILAR PcP PcP 12 43 01.7 -1.2
comp=Z,0.9nm,0.7s,baz=260,slow=3.6,SNR=3.6
comp=Z,4.0nm,0.6s
P23K **Montague Islan** 34.93 49 P P 12 40 35.0 +0.4
baz=278
GLI **Glacier Island** 34.96 47 P P 12 40 34.5 -0.3
baz=277
G25K **Bearman Lake** 35.05 37 P P 12 40 36.4 +0.8
baz=270
D25K **Kavik River** 35.06 32 P P 12 40 35.7 0.0
baz=266,SNR=28
H25L **Birch Creek** 35.17 38 P P 12 40 37.1 +0.5
baz=271,SNR=9.4
F25K **Christian Rive** 35.24 35 P P 12 40 38.5 +1.2
baz=269
M24K **Tolsona, Glenn** 35.26 45 P P 12 40 37.7 +0.2
baz=276
K24K **Donnelly Dome** 35.28 42 P P 12 40 37.7 0.0
baz=274,SNR=7.5
E25K **Arctic Village** 35.28 34 P P 12 40 38.4 +0.7
baz=268
PRP **Porcupine Dome** 35.30 39 P P 12 40 38.5 +0.5
baz=272
J25K **Salcha River,** 35.41 41 P P 12 40 39.0 +0.2
baz=274
KLU **Klutina** 35.45 46 P P 12 40 39.6 +0.4
baz=277
PAX **Paxson** 35.49 43 P P 12 40 40.3 +0.7
baz=276
C26K **Camden Bay** 35.61 31 P P 12 40 41.2 +0.9
baz=266
EYAK **Cordova Ski Ar** 35.66 48 P P 12 40 41.8 +0.9
baz=279
HARP **HAARP** 35.70 44 P P 12 40 41.9 +0.7
baz=277
RIDG **Independent Ri** 35.70 42 P P 12 40 42.6 +1.3
baz=275
F26K **Sheenjek River** 35.82 35 P P 12 40 43.5 +1.3
baz=270
G26K **Porcupine Rive** 35.97 37 P P 12 40 43.7 +0.3
baz=272,SNR=10
C27K **Jago River** 36.01 32 P P 12 40 44.4 +0.6
baz=268,SNR=16
N25K **Chitina, Valde** 36.06 46 P P 12 40 44.8 +0.4
baz=278,SNR=6.8
SCRK **Sand Creek** 36.06 42 P P 12 40 44.9 +0.5
baz=276,SNR=11
BMRM **Bremner River** 36.15 47 P P 12 40 45.7 +0.6
baz=279,SNR=6.4
J26L **Joseph Creek** 36.20 41 P P 12 40 46.4 +0.9
baz=275
I26K **Coal Creek Min** 36.30 39 P P 12 40 47.3 +1.0
baz=274
TPUB **Ta-pu** 36.41 238 P P 12 40 48.0 +0.4
KAIM **Kayak Island** 36.42 48 P P 12 40 48.1 +0.8
baz=281,SNR=5.0
L26K **Log Cabin Wild** 36.45 43 P P 12 40 48.4 +0.8
baz=277
M26K **Nabesna, AK** 36.69 44 P P 12 40 50.8 +1.1
baz=278,SNR=12
E27K **Coleen River** 36.77 34 P P 12 40 51.3 +1.0
baz=272
G27K **Doyon Strip** 36.81 37 P P 12 40 50.9 +0.2
baz=274,SNR=9.4
MCARA **McCarthy VSAT** 36.84 46 P P 12 40 51.6 +0.7
baz=280
K27K **Chicken** 36.89 41 P P 12 40 51.4 +0.1
baz=277
H27K **Steamboat Moun** 36.91 38 P P 12 40 52.1 +0.7
baz=275,SNR=13
CRQE **Cirque** 36.92 47 P P 12 40 52.5 +0.8
baz=281,SNR=8.3
I27K **Kandik River** 36.92 39 P P 12 40 52.0 +0.4
baz=275
D27M **Malcolm River** 36.98 33 P P 12 40 53.4 +1.3
D27M IAmb IAmb 12 40 56.8
comp=Z,9.7nm,0.6s
D27M **Malcolm River** 36.98 33 P P 12 40 52.9 +0.8
baz=271,SNR=9.1
L27K **Beaver Creek,** 37.13 43 P P 12 40 54.4 +1.0
L27K IAmb IAmb 12 40 56.2
comp=Z,9.9nm,0.8s
L27K **Beaver Creek,** 37.13 43 P P 12 40 53.9 +0.5
baz=279,SNR=19
M27K **Edge Creek, AK** 37.22 44 P P 12 40 54.4 +0.2
baz=279
F28M **Old Crow** 37.45 35 P P 12 40 57.9 +1.9
F28M **Old Crow** 37.45 35 P P 12 40 56.4 +0.4
baz=274
E28M **Babbage River** 37.52 34 P P 12 40 56.8 +0.3
baz=273
MESA **MESA** 37.59 48 P P 12 40 58.0 +0.6
baz=282
I28M **Miner Creek** 37.63 39 P P 12 40 58.9 +1.2
I28M **Miner Creek** 37.63 39 P P 12 40 57.9 +0.3
baz=277,SNR=9.4
BVCY **Beaver Creek** 37.67 44 P P 12 40 58.8 +0.8
baz=280,SNR=19
CTG **Chitna Glacier** 37.72 46 P P 12 40 59.7 +1.2
baz=282,SNR=8.0
D28M **Stokes Point** 37.77 32 P P 12 40 58.4 -0.1
baz=273
LOGN **Logan Glacier** 37.91 46 P P 12 41 01.2 +1.1
LOGN IAmb IAmb 12 41 07.2
comp=Z,9.2nm,0.8s
DAWY **Dawson** 38.06 41 P P 12 41 02.2 +1.1
baz=279
E29M **Blow River** 38.13 34 P P 12 41 01.1 -0.6
baz=275
H29M **Whitestone** 38.18 37 P P 12 41 01.9 -0.2
baz=277
G29M **Pine Creek** 38.23 36 P P 12 41 03.0 +0.4
baz=277,SNR=9.2
LZH **Lanzhou** 38.24 270 *e*P P 12 41 03.8 +0.6
LZH pP pP 12 41 34.5 -0.7
LZH sP sP 12 41 53.8 +1.7
LZH pmax pmax
comp=Z,11nm,1.0s
O28M **Mount Upton** 38.31 46 P P 12 41 03.3 -0.2
baz=283,SNR=9.5
I29M **Ogilvie Camp,** 38.32 39 P P 12 41 03.5 +0.2
baz=278
PINM **Pinnacle** 38.43 47 P P 12 41 04.1 -0.2
baz=284,SNR=5.8
M29M **Somme Creek** 38.76 43 P P 12 41 07.7 +0.6
baz=282,SNR=12
L29M **L29M** 38.78 42 P P 12 41 07.9 +0.7
baz=281,SNR=15
EPYK **Eagle Plains** 38.82 37 P P 12 41 07.1 -0.4
baz=279
K29M **Barlow Dome** 38.91 41 P P 12 41 08.4 +0.1
baz=281
YUK4 **Talbot Arm** 38.92 45 P P 12 41 08.7 +0.2
baz=283
G30M **tAoh Zraii Nji** 38.93 36 P P 12 41 09.3 +0.9
baz=278
PNL **Peninsula** 38.95 48 P P 12 41 09.8 +1.2
PNL **Peninsula** 38.95 48 P P 12 41 08.8 +0.2
baz=285
F30M **Barrier River** 39.01 35 P P 12 41 09.5 +0.5
baz=278
GTA **Gaotai** 39.07 277 *e*P P 12 41 10.9 +0.9
GTA pP pP 12 41 14.9 -27
GTA pmax pmax
comp=Z,6.0nm,0.9s
YUK6 **Outpost Mounta** 39.14 46 P P 12 41 10.6 +0.1
baz=284
I30M **Mount Dempster** 39.14 39 P P 12 41 10.9 +0.6
baz=280,SNR=14
J30M **Hart River** 39.28 40 P P 12 41 12.3 +0.9
baz=281
M30M **Minto, Yukon** 39.49 43 P P 12 41 13.6 +0.5
baz=283
HYT **Haines Junctio** 39.58 46 P P 12 41 14.5 +0.6
baz=285,SNR=9.0
N30M **Aishikik Lake** 39.62 45 P P 12 41 14.7 +0.5
baz=284
MAYO **Mayo, Yukon** 39.67 41 P P 12 41 14.9 +0.4
baz=283
G31M **Satah River** 39.70 36 P P 12 41 14.8 +0.2
baz=280
INK **Inuvik** 39.76 34 P P 12 41 16.1 +1.0
baz=279
P29M **Windy Craggy** 39.78 48 P P 12 41 16.5 +1.1
baz=286,SNR=5.7
F31M **Tsiigehtchic** 39.81 35 P P 12 41 16.5 +0.9
baz=280
H31M **Peel River** 39.87 38 P P 12 41 17.3 +1.2
baz=281
P30M **Million Dollar** 40.02 47 P P 12 41 18.1 +0.6
baz=286
N31M **Braeburn, Yuko** 40.22 44 P P 12 41 19.9 +0.8
baz=285,SNR=11
O30N **Mendenhall** 40.26 46 P P 12 41 19.6 +0.1
baz=286,SNR=16
PLBC **Pleasant Camp** 40.50 48 P P 12 41 21.7 +0.4
baz=287,SNR=12
M31M **Drury Creek, Y** 40.67 43 P P 12 41 23.3 +0.5
baz=285,SNR=12
WHY **Whitehorse** 40.87 46 P P 12 41 24.5 0.0
baz=287,SNR=8.1
SKAG **Skagway** 41.00 47 P P 12 41 25.5 +0.1
baz=288
CD2 **Chengdu** 41.46 263 P P 12 41 29.3 -0.3
CD2 pmax pmax
comp=Z,30nm,0.8s
N32M **Quiet Lake** 41.56 44 P P 12 41 29.5 -0.6
baz=287
P32M **Atlin** 41.74 47 P P 12 41 31.8 +0.2
baz=289
ZAA0 **Zalesovo Array** 41.77 304 P P 12 41 30.9 -0.9
ZALV **Zalesovo Beam** 41.77 304 P P 12 41 30.7 -1.1
comp=Z,5.8nm,0.5s,baz=61,slow=7.0,SNR=30
ZALV PcP PcP 12 43 25.1 +0.1
comp=Z,4.0nm,0.6s,baz=46,slow=4.3,SNR=9.1
comp=Z,5.8nm,0.5s
R32K **Eaglecrest** 41.78 49 P P 12 41 31.7 -0.1
baz=290,SNR=8.6
SIT **Sitka** 41.78 51 P P 12 41 31.4 -0.4
baz=290
JIS **Juneau Island** 41.84 49 P P 12 41 34.7 +2.4
A36M **Sachs Harbour** 41.88 27 P P 12 41 32.3 -0.1
baz=282
MMPY **Sheldon Lake,** 41.95 42 P 12 41 34.5 +1.2
MMPY **Sheldon Lake,** 41.95 42 P P 12 41 33.7 +0.4
baz=287
P33M **Teslin, Yukon** 41.98 46 P P 12 41 34.3 +0.8
baz=289,SNR=12
S32K **Killisnoo** 42.02 50 P P 12 41 34.3 +0.6
baz=290
Q32M **Nakina River** 42.65 47 P P 12 41 40.5 +1.3
baz=290
R33M **Jennings River** 43.13 46 P P 12 41 42.9 0.0
baz=291,SNR=14
U33K **Whale Pass** 43.26 51 P P 12 41 45.0 +1.2
baz=293
CRAG **Craig** 43.51 52 P P 12 41 46.7 +0.9
baz=293
WRAK **Wrangell Islan** 43.54 51 P P 12 41 46.8 +0.8
baz=293
S34M **Telegraph Cree** 43.59 48 P P 12 41 47.5 +1.1
baz=292
TGTN **Hyland Airport** 43.64 43 P P 12 41 47.7 +0.9
baz=290
DLBC **Dease Lake** 43.93 47 P P 12 41 49.6 +0.3
baz=292,SNR=7.9
T35M **Bob Quinn** 44.39 49 P P 12 41 54.5 +1.7
baz=294,SNR=11
WMQ **Urumqi** 44.58 290 *e*P P 12 41 56.3 +1.7
WMQ LR LR
comp=Z,150nm,24.1s
WRGLY **Wrigley** 45.11 39 P P 12 41 59.1 +0.7
baz=292
PZH **PanZhiHua** 45.70 260 P P 12 42 04.3 +0.6
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
KMI **Kunming** 46.01 258 P P 12 42 06.9 +0.7
KMI pmax pmax
comp=Z,15nm,0.5s
TOAD **Toad River Com** 46.07 45 P P 12 42 06.7 +0.7
baz=295,SNR=8.6
MK31 **Makanchi Array** 46.38 296 *c iP* P 12 42 08.3 -0.3
MKAR **Makanchi Array** 46.38 296 P P 12 42 08.1 -0.5
MKAR **Makanchi Array** 46.38 296 P P 12 42 08.4 -0.2
comp=Z,12nm,0.6s,baz=66,slow=8.1,SNR=125
MKAR pP pwP 12 42 47.6 +3.0
comp=Z,11nm,0.8s,baz=63,slow=8.3,SNR=7.5
MKAR PcP PcP 12 43 40.9 -0.1
comp=Z,1.6nm,0.5s,baz=64,slow=3.8,SNR=6.1
MKAR S S 12 48 42.4 -1.9
comp=Z,0.2nm,0.6s,baz=68,slow=19,SNR=2.0
comp=Z,12nm,0.6s
MKAR **Makanchi Array** 46.38 296 *i* P P 12 42 08.3 -0.3
MKAR pmax pmax
comp=Z,12nm,0.6s
MAKZ **Makanchi** 46.56 296 P 12 42 09.5 -0.5
MAKZ IAmb IAmb 12 42 11.2
comp=Z,38nm,1.6s
MAKZ **Makanchi** 46.56 296 P P 12 42 09.5 -0.5
MAKZ pmax pmax
comp=Z,38nm,1.7s
MAKZ **Makanchi** 46.56 296 P P 12 42 09.2 -0.8
KURK **Kurchatov** 46.59 302 P 12 42 09.0 -1.1
KURK **Kurchatov** 46.59 302 *c iP* P 12 42 09.5 -0.6
KURK pmax pmax
comp=Z,28nm,0.7s
KURK **Kurchatov** 46.59 302 *e*P P 12 42 09.5 -0.6
KURK **Kurchatov** 46.59 302 P P 12 42 09.7 -0.4
KURK pP pP 12 42 44.5 +0.9
KURBB **Kurchatov Arra** 46.68 302 P P 12 42 10.3 -0.5
comp=Z,23nm,0.8s,baz=66,slow=8.3,SNR=116
KURBB pP pwP 12 42 49.4 +2.4
comp=Z,15nm,0.8s,baz=65,slow=7.8,SNR=6.5
KURBB PcP PcP 12 43 41.8 -0.1
comp=Z,2.9nm,0.7s,baz=68,slow=3.1,SNR=5.3
KURBB ScP ScP 12 47 20.0 -0.9
comp=Z,0.8nm,0.8s,baz=56,slow=3.3,SNR=2.3
comp=Z,23nm,0.8s
ALE **Alert** 47.70 6 P P 12 42 17.4 -1.0
ALE pP pP 12 42 51.9 +0.1
RES **Resolute Bay** 48.81 19 P P 12 42 27.1 +0.2
RES **Resolute Bay** 48.81 19 P P 12 42 27.1 +0.2
RES pmax pmax
comp=Z,42nm,1.1s
TNCH **TengChong** 48.82 262 *e*P P 12 42 28.9 +1.0
TNCH pmax pmax
comp=Z,26nm,1.1s
YKA **Yellowknife Ar** 49.09 38 P P 12 42 30.1 +1.0
comp=Z,4.5nm,0.8s,baz=303,slow=7.9,SNR=23
YKA PcP PcP 12 43 50.8 +0.4
comp=Z,0.3nm,0.3s,baz=262,slow=7.1,SNR=6.5
comp=Z,4.5nm,0.8s
YKA **Yellowknife Ar** 49.09 38 *c e*P P 12 42 30.3 +1.1
YKA pmax pmax
comp=Z,5.0nm,0.8s
YKAW1 **Yellowknife Wh** 49.15 38 P P 12 42 30.3 +0.7
YKAW1 IAmb IAmb 12 42 31.8
comp=Z,5.9nm,0.8s
TDK **Taldyqorghan** 49.63 296 *e*P P 12 42 33.4 -0.2
TDK pmax pmax
comp=Z,15nm,0.5s
TDK **Taldyqorghan** 49.63 296 *e*P P 12 42 33.4 -0.2
comp=Z,15nm,0.5s
POHA **Pohakuloa** 49.77 107 P P 12 42 36.3 +1.2
NOR **Nord** 49.78 358 *i* P P 12 42 33.7 -0.5
BVAR **Borovoye Array** 49.89 308 P P 12 42 35.0 -0.4
comp=Z,13nm,0.5s,baz=55,slow=7.8,SNR=74
BVAR pP pwP 12 43 14.7 +2.6
comp=Z,8.6nm,0.5s,baz=55,slow=8.1,SNR=5.4
BVAR PcP PcP 12 43 53.3 -0.2
comp=Z,4.6nm,0.5s,baz=60,slow=2.9,SNR=6.5
comp=Z,13nm,0.5s
BRVK **Borovoye** 49.93 308 P P 12 42 34.6 -1.0
BRVK IAmb IAmb 12 42 36.4
comp=Z,17nm,0.7s
BRVK **Borovoye** 49.93 308 *c* iP P 12 42 34.9 -0.8
BRVK pmax pmax
comp=Z,20nm,0.8s
BRVK **Borovoye** 49.93 308 *e*P P 12 42 34.9 -0.8
BRVK **Borovoye** 49.93 308 P P 12 42 34.9 -0.8
BRVK pP pP 12 43 08.1 -1.4
BRZS **Berezniki** 50.25 304 *e*P P 12 42 37.8 -0.4
BRZS **Berezniki** 50.25 304 *e*P P 12 42 37.8 -0.4
KBS **Kingsbay** 50.57 351 *e*P P 12 42 39.6 -0.5
KBS **Kingsbay** 50.57 351 *i* P P 12 42 37.1 -3.0
SATY **Saty** 50.70 294 *e*P P 12 42 41.4 -0.4
SATY **Saty** 50.70 294 *e*P P 12 42 41.5 -0.4
SPA0 **Spitsbergen Ar** 50.70 350 *e*P P 12 42 40.3 -0.8
SPITS **Spitsbergen Ar** 50.70 350 P P 12 42 40.2 -1.0
comp=Z,7.2nm,0.5s,baz=56,slow=11,SNR=34
SPITS PcP PcP 12 43 56.1 0.0
comp=Z,5.1nm,0.7s,baz=58,slow=3.6,SNR=2.4
comp=Z,7.2nm,0.5s
SPB2 **Spitsbergen Ar** 50.70 350 P P 12 42 40.6 -0.6
CHKK **Chushkaly** 51.11 295 *e*P P 12 42 44.5 -0.2
CHKK **Chushkaly** 51.11 295 *e*P P 12 42 44.6 -0.2
AAA **Alma-Ata** 51.52 295 *e*P P 12 42 47.5 -0.3
AAA pmax pmax
comp=Z,7.0nm,0.4s
AAA **Alma-Ata** 51.52 295 *e*P P 12 42 47.5 -0.3
comp=Z,6.9nm,0.4s
CLRS **Cowichan Lake** 51.53 57 P P 12 42 48.8 +1.1
TNSS **Tian-Shan** 51.59 294 *e*P P 12 42 48.2 -0.6
TNSS **Tian-Shan** 51.59 294 *e*P P 12 42 48.3 -0.6
TULEG **Thule** 52.08 12 *i* P P 12 42 50.6 -0.7
TULEG IAmb IAmb 12 42 52.3
comp=Z,12nm,0.9s
BTLS **Baital** 52.18 298 *e*P P 12 42 52.2 -0.3
BTLS **Baital** 52.18 298 *e*P P 12 42 52.3 -0.3
SGDS **Sogindy** 52.74 296 *e*P P 12 42 56.6 -0.2
SHL **Shillong** 52.82 267 P P 12 42 57.8 0.0
SHL **Shillong** 52.82 267 P P 12 42 57.8 0.0
SHL pmax pmax
comp=Z,15nm,0.6s
CHTO **Chiang Mai** 52.97 256 P P 12 42 59.4 +0.7
CHTO **Chiang Mai** 52.97 256 P P 12 43 00.4 +1.7
CHTO **Chiang Mai** 52.97 256 P P 12 42 59.4 +0.7
CHTO pmax pmax
comp=Z,36nm,1.0s
CHTO **Chiang Mai** 52.97 256 P P 12 42 59.5 +0.8
NEEM **North Greenlan** 53.12 7 *i* P P 12 42 58.1 -1.3
NEEM IAmb IAmb 12 43 00.6
comp=Z,11nm,0.7s
CMAR **Chiang Mai Arr** 53.23 255 P P 12 43 02.1 +1.5
comp=Z,18nm,0.8s,baz=32,slow=7.3,SNR=86
CMAR PcP PcP 12 44 07.2 +0.8
comp=Z,5.4nm,0.7s,baz=20,slow=2.7,SNR=11
comp=Z,18nm,0.8s
CMAR **Chiang Mai Arr** 53.23 255 *i* P P 12 43 02.4 +1.8
CMAR pmax pmax
comp=Z,19nm,0.8s
AAK **Ala-Archa** 53.30 295 *e*P P 12 43 01.6 +0.6
AAK pmax pmax
comp=Z,5.0nm,0.9s
AAK **Ala-Archa** 53.30 295 *e*P P 12 43 01.6 +0.6
POIN **Pond Inlet** 53.66 17 P P 12 43 03.7 +0.7
ARTI **Arti** 53.90 317 *c iP* P 12 43 04.1 -0.9
ARTI *PP pP 12 43 41.2 +1.8
ARTI 12 44 06.2

ARTI S **S** **12 50 26.7 -1.4**
ARTI SS **SKiKP** **12 54 04.3 +3.3**
ARTI pmax pmax
comp=Z,20nm,1.4s
ARTI Arti 53.90 317 P **P** **12 43 03.8 -1.2**
KSH Kashi 54.26 291 P **P** **12 43 11.8 +3.8**
KSH pmax pmax
comp=Z,6.0nm,0.7s
DAG Danmarks Havn 54.65 358 *i* P **P** **12 43 09.0 -1.1**
DAG IAmb IAmb 12 43 10.8
comp=Z,5.5nm,0.7s
FAKI Fak Fak 54.74 207 P **P** **12 43 11.9 +0.3**
VADS Vadso 54.76 340 *eP* **P** **12 43 09.6 -1.4**
BLKN Baker Lake 54.92 30 P **P** **12 43 12.9 +0.8**
BLKN IAmb IAmb 12 43 17.9
comp=Z,16nm,0.8s
DZA Taraz 55.02 297 *eP* **P** **12 43 13.2 -0.1**
DZA Taraz 55.02 297 *eP* **P** **12 43 13.3 -0.1**
LVZ Lovozero 55.07 336 *i* P **P** **12 43 12.9 -0.4**
LVZ pmax pmax
comp=Z,25nm,1.7s
KULLO Kullorsuaq 55.21 10 *i* P **P** **12 43 12.2 -1.9**
KULLO IAmb IAmb 12 43 14.4
comp=Z,24nm,0.9s
KK31 Karatay Array 55.38 298 P **P** **12 43 15.6 -0.3**
KK31 Karatay Array 55.38 298 P **P** **12 43 15.6 -0.3**
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 55.38 298 P **P** **12 43 15.5 -0.4**
KKAR Karatay Array 55.38 298 P **P** **12 43 15.5 -0.4**
BRLS Borolday 55.82 298 *eP* **P** **12 43 20.5 +1.5**
BRLS Borolday 55.82 298 *eP* **P** **12 43 20.6 +1.5**
SANI Sanana 56.02 214 P **P** **12 43 20.2 -0.5**
ARA0 ARCESS Array S 56.08 341 *eP* **P** **12 43 19.3 -1.2**
ARCES ARCESS Array B 56.08 341 P **P** **12 43 19.2 -1.3**
comp=Z,1.2nm,0.4s,baz=34,slow=7.5,SNR=34
comp=Z,1.2nm,0.4s
IUG luzhnay 56.24 297 *eP* **P** **12 43 21.8 -0.3**
IUG pmax pmax
comp=Z,5.0nm,0.5s
IUG luzhnay 56.24 297 *eP* **P** **12 43 21.9 -0.3**
comp=Z,4.9nm,0.5s
KIRV Kirov 56.41 322 *d i* P **P** **12 43 22.3 -0.5**
KTK1 Kautokeino 56.99 341 *eP* **P** **12 43 25.7 -1.2**
JETT Jettan, Norway 57.14 342 *eP* **P** **12 43 26.4 -1.6**
TRO Tromso 57.37 343 *eP* **P** **12 43 27.7 -1.8**
AB31 Akbulak array 57.44 309 P **P** **12 43 29.8 -0.5**
AB31 IAmb IAmb 12 43 30.5
comp=Z,7.6nm,0.6s
ABKAR Akbulak array 57.44 309 P **P** **12 43 29.9 -0.4**
ALEG Aligegeo Malai 57.60 172 P **P** **12 43 31.9 +0.2**
BMO Blue Mountains 57.65 57 P **P** **12 43 33.1 +1.1**
BMO IAmb IAmb 12 43 34.4
comp=Z,8.6nm,0.8s
BMO Blue Mountains 57.65 57 P **P** **12 43 33.1 +1.1**
BMO pmax pmax
comp=Z,9.0nm,0.9s
GAR Garm 58.02 294 P **P** **12 43 34.6 -0.1**
KLMR Klimovskoe 58.59 328 *eP* **P** **12 43 36.3 -1.8**
KLMR *e**PP **pP** **12 44 12.2 -0.8**
KLMR pmax pmax
comp=Z,14nm,1.5s
SUMG Summit 58.66 4 P **P** **12 43 38.8 -0.2**
SUMG Summit 58.66 4 P **P** **12 43 38.8 -0.2**
SUMG pmax pmax
comp=Z,13nm,0.5s
SUMG Summit 58.66 4 *i* P **P** **12 43 38.0 -1.0**
SUMG IAmb IAmb 12 43 41.4
comp=Z,13nm,0.5s
BPMT Black Pine Rid 58.76 54 P **P** **12 43 40.5 +0.6**
FFC Flin Flon 58.96 41 P **P** **12 43 41.8 +1.0**
FFC IAmb IAmb 12 43 42.9
comp=Z,11nm,0.7s
FFC Flin Flon 58.96 41 P **P** **12 43 41.8 +1.0**
FFC pmax pmax
comp=Z,11nm,0.7s
SIMJ Simiganj 59.03 295 P **P** **12 43 41.7 0.0**
SIMJ pP **pP** **12 44 18.1 +1.7**
STEI Steigen 59.53 343 *eP* **P** **12 43 42.9 -1.6**
LOF Lofoten 59.67 344 *eP* **P** **12 43 43.0 -2.5**
FAUS Fauske 59.99 343 *eP* **P** **12 43 46.3 -1.3**
ILULI Ilulissat 60.93 10 *i* P **P** **12 43 52.7 -1.3**
ILULI IAmb IAmb 12 43 54.4
comp=Z,21nm,0.9s
NVAR Mina Array Bea 61.18 64 P **P** **12 43 57.6 +1.1**
comp=Z,11nm,0.7s,baz=297,slow=7.4,SNR=111
NVAR pP **PcP** **12 44 35.4 -2.3**
comp=Z,2.2nm,0.7s,baz=304,slow=3.4,SNR=3.4
comp=Z,11nm,0.7s
KONS Konsvik 61.19 343 *eP* **P** **12 43 54.5 -1.2**
MOR8 Moi Rana 61.22 342 *eP* **P** **12 43 53.6 -2.4**
BELG Belogornoye 61.29 318 *d i* P **P** **12 43 55.3 -1.3**
BELG pmax pmax
comp=Z,3.0nm,0.8s
STOK Stokkvaagen 61.35 343 *eP* **P** **12 43 55.8 -1.1**
LEIR Leirfjorden 61.53 343 *eP* **P** **12 43 56.9 -1.1**
KULM Kulim 62.29 244 P **P** **12 44 04.8 +0.9**
KULM Kulim 62.29 244 P **P** **12 44 05.6 +1.7**
FINES FINESS Array B 62.38 335 P **P** **12 44 03.1 -0.7**
comp=Z,6.0nm,0.3s,baz=28,slow=7.1,SNR=135
FINES pP **PcP** **12 44 42.1 +0.2**
comp=Z,9.0nm,0.8s,baz=39,slow=7.3,SNR=6.4
comp=Z,6.0nm,0.3s
FINES FINESS Array B 62.38 335 *i* P **P** **12 44 03.0 -0.8**
FINES pmax pmax
comp=Z,6.0nm,0.3s
SPR3 Spring Creek 3 63.13 61 P **P** **12 44 11.0 +1.4**
NSS Namsos 63.16 343 *eP* **P** **12 44 08.0 -0.9**
PDAR Pinedale Array 63.27 55 P **P** **12 44 11.2 +0.9**
comp=Z,16nm,0.8s,baz=302,slow=1.4,SNR=147
comp=Z,16nm,0.8s
SOEG Soedalen 63.30 2 *i* P **P** **12 44 08.9 -0.9**
SOEG IAmb IAmb 12 44 12.7
comp=Z,5.8nm,0.7s
HEL Helsinki 63.74 334 P **P** **12 44 09.7 -3.0**
HEL pmax pmax
comp=Z,13nm,0.7s
OBN Obninsk 63.87 325 ⇓ *eP* **P** **12 44 12.7 -1.0**
OBN *e* 12 44 48.1
OBN *e**PP **pP** **12 44 50.5 +1.3**
OBN *e**SP **sP** **12 45 07.0 +1.6**
OBN *e* 12 46 35.7
OBN *e*PPP PPP 12 48 08.5
OBN pmax pmax
comp=Z,7.0nm,0.4s
OBN Obninsk 63.87 325 *eP* **P** **12 44 12.7 -1.0**
BFSC Mount Baldy Ra 64.36 67 P **P** **12 44 17.9 +0.4**
BFSC IAmb IAmb 12 44 18.9
comp=Z,16nm,1.3s
RSSD Black Hills 65.24 51 P **P** **12 44 23.7 +0.6**
RSSD Black Hills 65.24 51 P **P** **12 44 23.7 +0.6**
RSSD pmax pmax
comp=Z,24nm,1.0s
RSSD Black Hills 65.24 51 P **P** **12 44 23.6 +0.6**
RSSD PcP **PcP** **12 44 54.7 +0.4**
PSI Prapat 65.30 244 P **P** **12 44 24.8 +1.1**
ISOG Isortoq, Green 65.61 6 *i* P **P** **12 44 23.9 -0.9**
ISOG IAmb IAmb 12 44 25.0
comp=Z,19nm,0.6s
ANGG Ammassalik, Gr 65.62 5 *i* P **P** **12 44 22.7 -2.2**
ANGG IAmb IAmb 12 44 27.1
comp=Z,14nm,1.0s
NUUK Nuuk 65.65 12 *i* P **P** **12 44 24.3 -0.8**
NUUK IAmb IAmb 12 44 27.1
comp=Z,27nm,0.9s
MOL Molde 65.79 344 *eP* **P** **12 44 26.5 +0.5**
DOMB Dombas 65.98 343 *eP* **P** **12 44 26.5 -0.8**
AKN Aaknes 66.25 344 *eP* **P** **12 44 28.9 -0.1**
NB2 NORSAR Subarra 66.44 341 P **P** **12 44 29.6 -0.7**
comp=Z,2.6nm,0.4s,baz=29,slow=6.5
NOA NORSAR Array B 66.44 341 P **P** **12 44 29.8 -0.5**
comp=Z,3.3nm,0.5s,baz=27,slow=6.5,SNR=41
comp=Z,3.3nm,0.5s
NC602 NORSAR Array S 66.65 341 *eP* **P** **12 44 31.1 -0.4**
HFS Hagfors 66.70 339 P **P** **12 44 31.1 -0.7**
comp=Z,9.0nm,0.5s,baz=45,slow=3.1,SNR=65
comp=Z,9.0nm,0.5s
GSI Gunungsitoli 67.30 244 P **P** **12 44 38.0 +1.7**
HYA Hoyanger 67.34 344 *eP* **P** **12 44 35.6 -0.2**
SKAR Skarsfja 67.38 342 *eP* **P** **12 44 36.4 +0.3**
MNK Minsk 67.46 329 *i* P **P** **12 44 35.3 -1.4**
MNK *i* *PP **pP** **12 45 11.8 -0.7**
MNK *i* 12 47 05.3
MNK *i* PPP PPP 12 48 46.9

MNK *i* S **S** **12 53 20.1 -0.1**
MNK *i* *SS **sS** **12 54 23.1 +0.5**
MNK *i* SS **SS** **12 57 44.2 +2.0**
MNK pmax pmax
comp=N,10.0nm,0.6s
MNK pmax pmax
comp=E,13nm,0.7s
MNK pmax pmax
comp=Z,11nm,0.6s
MNK MLR MLR
MNK MLR MLR
comp=N,58nm,16.0s
MNK MLR MLR
comp=E,50nm,17.0s
SUE Sulen 67.70 344 *eP* **P** **12 44 39.8 +1.7**
X18A Snowflake 68.75 62 P **P** **12 44 46.4 +1.0**
X18A IAmb IAmb 12 44 47.7
comp=Z,20nm,1.3s
IVI Ivigtut 68.98 11 *i* P **P** **12 44 45.6 -0.4**
IVI IAmb IAmb 12 44 47.8
comp=Z,53nm,0.6s
IVI Ivigtut 68.98 11 P **P** **12 44 47.5 +1.5**
AKT Akhty 69.01 309 *eP* **P** **12 44 45.4 -1.4**
AKT *e* 12 45 08.4
AKT *e**SP **sP** **12 45 38.3 -0.6**
AKT *e*PPP PPP 12 49 02.6
AKT pmax pmax
comp=Z,8.0nm,0.6s
NRS Narsarsuaq 69.36 10 *i* P **P** **12 44 48.6 +0.2**
NRS IAmb IAmb 12 44 50.1
comp=Z,20nm,0.9s
KIV Kislovodsk 69.67 314 *eP* **P** **12 44 52.0 +1.2**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 69.74 314 P **P** **12 44 51.0 -0.1**
comp=Z,3.5nm,0.6s,baz=40,slow=5.7,SNR=7.8
KBZ pP **pwP** **12 45 32.0 +1.8**
comp=Z,5.0nm,0.7s,baz=23,slow=6.1,SNR=4.7
comp=Z,3.5nm,0.6s
KBZ Khabaz 69.74 314 *ce* P **P** **12 44 51.3 +0.3**
KBZ pmax pmax
comp=Z,9.0nm,1.2s
KBZ Khabaz 69.74 314 *eP* **P** **12 44 51.3 +0.3**
TUC Tucson 69.83 64 P **P** **12 44 52.6 +0.7**
AKASG Malin Array Be 70.09 326 P **P** **12 44 52.2 -0.8**
comp=Z,2.4nm,0.4s,baz=35,slow=6.3,SNR=14
comp=Z,2.4nm,0.4s
AKASG Malin Array Be 70.09 326 *ce* P **P** **12 44 52.2 -0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKBB Malin Array Si 70.09 326 ⇓ *eP* **P** **12 44 52.0 -1.0**
AKBB pmax pmax
comp=Z,8.0nm,1.5s
WB0 Warramunga Arr 70.36 199 P **P** **12 44 54.6 -0.4**
ANMO Albuquerque 70.46 59 *d i* P **P** **12 44 56.7 +0.8**
ANMO pmax pmax
comp=Z,16nm,1.3s
ANMO Albuquerque 70.46 59 P **P** **12 44 56.8 +1.0**
WRAB Tennant Creek 70.53 199 P **P** **12 44 55.6 -0.4**
WRAB IAmb IAmb 12 44 57.5
comp=Z,22nm,0.9s
WRAB Tennant Creek 70.53 199 ⇓ *i* P **P** **12 44 55.5 -0.4**
WRAB pmax pmax
comp=Z,26nm,0.9s
WRA Warramunga Arr 70.54 199 P **P** **12 44 55.5 -0.6**
comp=Z,17nm,0.9s,baz=18,slow=6.2,SNR=49
WRA PcP **PcP** **12 45 16.5 +0.2**
comp=Z,4.1nm,0.6s,baz=16,slow=4.8,SNR=11
comp=Z,17nm,0.9s
WRA Warramunga Arr 70.54 199 *i* P **P** **12 44 55.9 -0.2**
WRA pmax pmax
comp=Z,17nm,0.9s
FITZ Fitzroy Crossi 71.10 208 P **P** **12 44 59.5 +0.1**
FITZ IAmb IAmb 12 45 00.9
comp=Z,5.8nm,0.7s
FITZ Fitzroy Crossi 71.10 208 P **P** **12 44 59.7 +0.3**
comp=Z,27nm,0.6s,baz=13,slow=5.9,SNR=63
comp=Z,27nm,0.6s
SCHQ Schefferville 71.31 23 P **P** **12 45 00.9 +0.5**
SCHQ IAmb IAmb 12 45 05.2
comp=Z,12nm,0.9s
SCHQ Schefferville 71.31 23 P **P** **12 45 00.7 +0.3**
comp=Z,6.0nm,0.4s,baz=350,slow=5.7,SNR=13
comp=Z,6.0nm,0.4s
DZM Mont Dzumac 71.43 168 P **P** **12 45 03.1 +1.6**
DZM Mont Dzumac 71.43 168 P **P** **12 45 02.2 +0.8**
ANN Anapa 71.44 318 *eP* **P** **12 44 59.6 -1.7**
ANN *e**PP **pP** **12 45 35.3 -2.0**
ANN *e* 12 47 40.1
ANN *e*S **S** **12 54 06.0 -1.1**
ANN pmax pmax
comp=Z,48nm,1.0s
YATNC Mamie plateau, 71.48 167 P **P** **12 45 03.4 +1.7**
STHS Stebnicka Huta 73.96 330 *eP* **P** **12 45 16.4 +0.2**
STHS pmax pmax
comp=Z,6.0nm,1.0s
STHS Stebnicka Huta 73.96 330 *eP* **P** **12 45 16.4 +0.2**
KOLS Kolonicke sedl 74.03 329 *eP* **P** **12 45 17.9 +1.3**
KOLS Kolonicke sedl 74.03 329 *eP* **P** **12 45 17.9 +1.3**
BURAR Bucovina Array 74.12 327 P **P** **12 45 16.5 -0.7**
BURAR Bucovina Array 74.12 327 ⇑ P **P** **12 45 17.5 +0.2**
BURAR Bucovina Array 74.12 327 P **P** **12 45 17.4 +0.2**
ASAR Alice Springs 74.24 199 P **P** **12 45 18.2 +0.3**
ASAR Alice Springs 74.24 199 P **P** **12 45 18.6 +0.6**
comp=Z,10nm,0.6s,baz=8.5,slow=5.4,SNR=205
comp=Z,10nm,0.6s
ASAR Alice Springs 74.24 199 P **P** **12 45 18.2 +0.3**
EKA Eskdalemuir Ar 74.47 347 *eP* **P** **12 45 19.2 +0.3**
comp=Z,5.8nm,0.4s,baz=17,slow=4.9,SNR=37
comp=Z,5.8nm,0.4s
TESR Tescani 74.51 325 ⇑ P **P** **12 45 19.3 -0.1**
CHVC Chvalec 74.57 334 *eP* **P** **12 45 19.8 +0.2**
CHVC Chvalec 74.57 334 *eP* **P** **12 45 19.8 +0.2**
STEB Steborice 74.62 332 *eP* **P** **12 45 20.3 +0.3**
DPC Dobruska-Polom 74.70 333 *eP* **P** **12 45 20.9 +0.5**
DPC Dobruska-Polom 74.70 333 *eP* **P** **12 45 20.9 +0.5**
LANS Liptovska Anna 74.78 331 *eP* **P** **12 45 22.2 +1.3**
LANS pmax pmax
comp=Z,7.0nm,0.9s
LANS Liptovska Anna 74.78 331 *eP* **P** **12 45 22.2 +1.3**
CLL Collm 74.79 336 *i* P **P** **12 45 20.3 -0.5**
CLL *i* 12 46 01.9
CLL pmax pmax
comp=Z,7.0nm,0.6s
CLL Collm 74.79 336 *i* P **P** **12 45 20.3 -0.5**
comp=Z,7.0nm,0.6s
CLL *i* x x 12 46 01.9
CLL *e*PP **PP** **12 48 06.0 -3.4**
CLL AMS AMS 13 05 00.0
comp=Z,300nm,18.9s
CLL Collm 74.79 336 *eP* **P** **12 45 20.6 -0.3**
comp=Z,4.2nm,0.7s,baz=22,slow=6.0
MORC Moravsky Berou 74.83 332 *eP* **P** **12 45 21.4 +0.2**
MORC Moravsky Berou 74.83 332 ⇓ P **P** **12 45 21.8 +0.5**
MORC Moravsky Berou 74.83 332 P **P** **12 45 21.7 +0.5**
BRG Berggiesshubel 74.92 335 *eP* **P** **12 45 21.7 +0.1**
BRG Amp 12 45 23.3
comp=Z,2.0nm,0.5s
BRG pP **pwP** **12 46 03.1 +1.7**
BRG Amp 12 46 03.8
comp=Z,3.1nm,1.0s
CFR Carcaliu 75.05 323 ⇑ P **P** **12 45 22.8 +0.3**
CFR Carcaliu 75.05 323 P **P** **12 45 22.7 +0.3**
TPGR Topolog 75.20 323 ⇑ P **P** **12 45 24.0 +0.6**
COVR Voineasa-Covas 75.24 325 ⇑ P **P** **12 45 24.1 +0.5**
CJR Cluj-Napoca 75.47 327 ⇑ P **P** **12 45 24.6 -0.4**
CJR Cluj-Napoca 75.47 327 P **P** **12 45 24.5 -0.4**
HARR Harsova 75.53 323 ⇓ P **P** **12 45 26.2 +0.9**
HARR Harsova 75.53 323 P **P** **12 45 26.1 +0.9**
VRAC Vranov 75.54 333 *eP* **P** **12 45 25.9 +0.7**
VRAC Vranov 75.54 333 ⇑ P **P** **12 45 25.0 -0.2**
VRAC Vranov 75.54 333 P **P** **12 45 25.0 -0.2**
VYHS Vyhne 75.55 331 *eP* **P** **12 45 25.6 +0.3**
VYHS pmax pmax
comp=Z,2.0nm,0.9s
VYHS Vyhne 75.55 331 *eP* **P** **12 45 25.6 +0.3**
JAVC Velka Javorina 75.60 332 *eP* **P** **12 45 26.4 +0.7**
MLR Muntele Rosu 75.64 325 ⇑ P **P** **12 45 26.5 +0.5**
MLR Muntele Rosu 75.64 325 P **P** **12 45 26.5 +0.5**
DRGR 75.72 328 ⇑ P **P** **12 45 26.4 0.0**
DRGR 75.72 328 P **P** **12 45 26.3 0.0**
MOX Moxa 75.76 336 *eP* **P** **12 45 26.6 +0.1**
comp=Z,2.3nm,0.6s,baz=22,slow=6.0

KRUC Moravsky 75.82 333 *eP* **P** **12 45 26.9 +0.1**
VOIR 76.02 325 ⇑ P **P** **12 45 28.6 +0.5**
VOIR 76.02 325 P **P** **12 45 28.6 +0.5**
ICOR Ion Corvin 76.06 323 ⇑ P **P** **12 45 28.8 +0.5**
KASTN Kahler Asten 76.07 338 *eP* **P** **12 45 27.6 -0.6**
comp=Z,3.7nm,0.9s,baz=22,slow=6.0
TXAR Lajitas Array 76.18 61 P **P** **12 45 30.0 +0.7**
comp=Z,17nm,0.5s,baz=298,slow=4.6,SNR=254
TXAR pP **pP** **12 46 08.8 +2.3**
comp=Z,2.5nm,0.6s,baz=296,slow=3.9,SNR=2.4
comp=Z,17nm,0.5s
MANZ Manzenberg 76.23 336 *eP* **P** **12 45 29.8 +0.6**
comp=Z,0.6nm,0.9s,baz=22,slow=6.0
ROTZ Rotzenmuhle 76.40 335 *eP* **P** **12 45 30.9 +0.8**
comp=Z,0.4nm,0.7s,baz=22,slow=6.0
KHC Kasperske Hory 76.59 334 *eP* **P** **12 45 31.0 -0.2**
KHC *ex* x 12 45 37.0
KHC Kasperske Hory 76.59 334 *eP* **P** **12 45 31.0 -0.2**
KHC *e* 12 45 37.0
CKRC Cesky Krumlov 76.66 334 *eP* **P** **12 45 28.5 -3.1**
CKRC Cesky Krumlov 76.66 334 *eP* **P** **12 45 28.5 -3.1**
GRF Grafenberg Arr 76.74 336 *eP* **P** **12 45 32.9 +0.9**
comp=Z,7.3nm,0.7s,baz=22,slow=6.0
WET Wettzell 76.78 335 *eP* **P** **12 45 33.1 +0.8**
comp=Z,2.3nm,0.8s,baz=22,slow=6.0
GEC2 GERESS Array S 76.81 334 *eP* **P** **12 45 33.1 +0.6**
comp=Z,2.1nm,0.6s,baz=22,slow=6.0
GERES GERESS Array B 76.81 334 P **P** **12 45 32.3 -0.3**
comp=Z,1.8nm,0.5s,baz=36,slow=6.2,SNR=22
GERES pP **pwP** **12 46 12.3 -0.2**
comp=Z,0.8nm,0.5s,baz=32,slow=6.3,SNR=2.3
comp=Z,1.8nm,0.5s
GZR Gura Zlata 76.89 327 ⇑ P **P** **12 45 32.9 -0.1**
GZR Gura Zlata 76.89 327 P **P** **12 45 32.9 -0.1**
TNS Taunus Mts 76.97 338 *eP* **P** **12 45 33.4 0.0**
comp=Z,5.1nm,0.7s,baz=22,slow=6.0
CONA Conrad Observa 76.99 332 *eP* **P** **12 45 34.6 +1.1**
comp=Z,1.6nm,0.6s
RONA Rosalia, Austr 77.06 332 *eP* **P** **12 45 33.8 0.0**
comp=Z,4.9nm,0.7s
BEBN Eben Emael 77.09 340 *dP* **P** **12 45 35.1 +1.2**
BR131 Keskin Array S 77.18 317 *de* P **P** **12 45 35.2 +0.4**
BRTR Keskin Array B 77.18 317 P **P** **12 45 35.4 +0.5**
comp=Z,2.3nm,0.5s,baz=44,slow=2.4,SNR=14
comp=Z,2.3nm,0.5s
BTNL Ternell 77.19 339 *dP* **P** **12 45 35.2 +0.8**
comp=Z,8.2nm,0.7s
MEM Membach 77.19 340 *dP* **P** **12 45 35.3 +0.8**
comp=Z,11nm,0.8s
BSTI Sart Tilman 77.32 340 *dP* **P** **12 45 35.8 +0.7**
BHOU Houvegnez 77.43 339 *dP* **P** **12 45 36.7 +0.8**
comp=Z,8.0nm,0.6s
BCLA Clavier 77.53 340 *dP* **P** **12 45 37.4 +1.0**
MOA Molln 77.54 333 *eP* **P** **12 45 37.1 +0.6**
comp=Z,1.3nm,0.6s
BGES Gesves 77.61 340 *dP* **P** **12 45 37.6 +0.8**
comp=Z,7.0nm,0.8s
ARSA Arzberg 77.70 332 *eP* **P** **12 45 36.5 -0.9**
comp=Z,0.6nm,0.4s
BMRD Maredsous 77.76 340 *dP* **P** **12 45 38.4 +0.8**
comp=Z,12nm,0.9s
RCHB Rochefort 77.80 340 *dP* **P** **12 45 38.2 +0.4**
comp=Z,6.0nm,0.8s
MDVR Moldovita 77.80 327 ⇑ P **P** **12 45 37.4 -0.6**
BIOA Bad Ischl, Aus 77.87 334 *eP* **P** **12 45 39.4 +1.0**
comp=Z,8.7nm,0.8s,SNR=5.0
DOU Dourbes 78.00 340 *dP* **P** **12 45 39.4 +0.5**
RJOB Jochberg 78.07 334 *eP* **P** **12 45 40.8 +1.3**
comp=Z,2.5nm,0.6s,baz=22,slow=6.0
FUR Furstenfeldbru 78.11 335 *eP* **P** **12 45 40.5 +0.9**
comp=Z,10nm,0.7s,baz=22,slow=6.0
SOKA Soboth 78.36 332 *eP* **P** **12 45 41.1 0.0**
comp=Z,3.0nm,0.6s
LESA Schwarzleotal 78.39 334 *eP* **P** **12 45 42.2 +1.0**
comp=Z,7.6nm,0.5s,SNR=6.1
BFO Black Forest 78.75 337 *eP* **P** **12 45 43.7 +0.5**
comp=Z,3.0nm,0.7s,baz=22,slow=6.0
WATA Walderalm 78.78 335 *eP* **P** **12 45 44.5 +0.9**
comp=Z,4.3nm,0.5s,SNR=4.5
BOVS Bovan 78.80 327 ⇓ P **P** **12 45 43.0 -0.4**
WTTA Wattenberg 78.83 335 *eP* **P** **12 45 44.9 +1.1**
comp=Z,4.3nm,0.4s,SNR=17
RETA Reutte 78.87 335 *eP* **P** **12 45 45.2 +1.3**
comp=Z,4.3nm,0.6s,SNR=5.6
MOTA Moosalm 78.91 335 *eP* **P** **12 45 45.2 +1.0**
comp=Z,4.7nm,0.6s,SNR=6.3
SQTA Sankt Quirin 78.99 335 *eP* **P** **12 45 45.7 +1.0**
comp=Z,4.5nm,0.7s
ABTA Abfaltersbach 79.05 334 *eP* **P** **12 45 45.5 +0.6**
comp=Z,6.5nm,0.6s
DAVA Damuels 79.30 336 *eP* **P** **12 45 47.2 +0.9**
comp=Z,3.9nm,0.6s
FETA Feichten 79.31 335 *i* P **P** **12 45 47.5 +1.1**
comp=Z,1.7nm,0.5s
STKA Stephens Creek 81.00 190 P **P** **12 45 55.5 +0.3**
comp=Z,4.1nm,0.7s,baz=11,slow=5.8,SNR=7.4
comp=Z,4.1nm,0.7s
STKA Stephens Creek 81.00 190 ⇓ *eP* **P** **12 45 54.9 -0.3**
TAVA DENIZLI_Tavas 81.14 319 ⇑ P **P** **12 45 55.7 -0.7**
MMAI Mount Meron Ar 81.76 312 P **P** **12 46 00.7 +1.1**
comp=Z,8.2nm,0.5s,baz=26,slow=4.8,SNR=13
comp=Z,8.2nm,0.5s
MATE Matera 83.19 328 ⇑ P **P** **12 46 06.5 -0.3**
TIP Timpagrande 84.48 328 ⇑ P **P** **12 46 13.8 +0.3**
ESDC Sonseca Array 89.74 343 P **P** **12 46 38.4 -0.4**
comp=Z,2.7nm,0.9s,baz=0.9,slow=4.3,SNR=14
comp=Z,2.7nm,0.9s
KEST Kesra 90.08 332 P **P** **12 46 40.6 +0.2**
comp=Z,6.5nm,0.7s,baz=45,slow=2.9,SNR=8.6
comp=Z,6.5nm,0.7s
TORD Torodi Ar. Bea 113.55 330 PKiKP **PKiKP** **12 52 17.4 -0.8**
comp=Z,0.5nm,0.4s,baz=15,slow=2.2,SNR=11
TORD PKKPbc **PKKPbc** **13 02 59.5 -0.7**
comp=Z,0.5nm,0.6s,baz=198,slow=2.1,SNR=5.6
DBIC Dimbokro 121.68 335 PKP **PKPdf** **12 52 32.8 -1.0**
comp=Z,4.6nm,0.8s,baz=43,slow=2.8,SNR=4.0
VNDA Vanda 126.11 178 PKP **PKPdf** **12 52 39.8 -0.5**
comp=Z,1.5nm,0.5s,baz=358,slow=4.8,SNR=9.8
LPAZ La Paz 133.05 61 PKP **PKPdf** **12 52 55.8 -0.3**
comp=Z,1.3nm,0.9s,baz=333,slow=4.5,SNR=5.0
MAW Mawson 134.12 212 PKP **PKPdf** **12 52 55.6 -0.1**
comp=Z,4.2nm,0.3s,baz=32,slow=15,SNR=76
BOSA Boshof 135.95 278 PKP **PKPdf** **12 53 00.1 -0.5**
comp=Z,1.4nm,0.5s,baz=43,slow=3.1,SNR=5.5
H03N2 Juan Fernandez 138.35 88 T T 15 26 55.6
baz=310,slow=77,SNR=18
H03N1 Juan Fernandez 138.36 88 T T 15 26 51.9
baz=310,slow=77,SNR=21
H03N3 Juan Fernandez 138.37 88 T T 15 26 52.6
baz=310,slow=77,SNR=20
QSPA South Pole Qui 138.50 180 PKhKP PKPpre 12 52 53.2
comp=Z,1.4nm,0.6s,baz=309,slow=1.3,SNR=10
QSPA PKP **PKPdf** **12 53 04.1 +0.1**
comp=Z,6.0nm,0.7s,baz=2.8,slow=2.3,SNR=12
BDFB Brasilia 142.49 36 PKhKP PKPpre 12 53 08.3
comp=Z,2.2nm,0.6s,baz=320,slow=1.7,SNR=3.5
CPUP Villa Florida 147.11 58 PKPbc **PKPbc** **12 53 21.9 -0.8**
comp=Z,1.9nm,0.5s,baz=336,slow=4.4,SNR=10
PLCA Paso Flores 147.96 92 PKPbc **PKPbc** **12 53 24.6 -0.1**
comp=Z,13nm,1.0s,baz=294,slow=4.0,SNR=24
TROLL Troll, Antarti 153.22 199 ⇑ P **PKPbc** **12 53 36.1 -0.1**
comp=Z,464nm,0.5s
SNAA Sanae 154.59 197 ⇑ P **PKPbc** **12 53 37.4 -1.7**
comp=Z,98nm,0.6s
SNAA Sanae 154.59 197 PKPbc **PKPbc** **12 53 37.7 -1.4**
comp=Z,3.6nm,0.6s,baz=180,slow=4.0,SNR=16
SNAA PKPab **PKPab** **12 53 53.8 -0.7**
comp=Z,3.6nm,0.7s,baz=158,slow=3.4,SNR=9.6
VNA3 Neumayer Olymp 156.14 193 ⇑ P **PKPab** **12 54 00.6 -0.6**
comp=Z,14nm,0.7s
VNA1 Neumayer--Stat 156.43 195 ⇑ P **PKPab** **12 54 02.2 -0.2**
comp=Z,10nm,0.6s

*MOS **21** 12:38:27.0± 1.1, 44.˚62N× 150.˚23E, h55km, mb4.5/6, Error ellipse: s-maj=9.1km s-min=8.0km az=54.2*
*JMA **21** 12:38:29.9± 0.6, 45.˚N± 3.˚× 15.˚E± .˚, h30km, MV4.3/16, SE OFF ETOROFU*
*SKHL **21** 12:38:29.5± 0.4, 44.˚60N× 150.˚10E, h73km± 7km, mb5.1/4*
*IDC **21** 12:38:32.1± 3.4, 44.˚98N× 150.˚17E, h69km± 25km, mb3.7/7, mbtmp4.0/9, Error ellipse: s-maj=55.4km s-min=18.8km az=164.0*
*NEIC **21** 12:38:32.7± 1.6, 44.˚99N± 0.˚09× 149.˚9E± 0.˚1, h64km± 9km, mb4.5/13, Error ellipse: s-maj=13.7km s-min=10.9km az=206.0*

ISC 21 12:38:25.7±0.7, 44°37'N±0'06×150°11E±0'04, h34km, n96, σ2°47/102, mb4.4/19, 2C-9D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KUR	**Kuril'sk**	**1.81**	**299**	*d*	*i*	P	N	**12 38 55.7**	**+1.3**
KUR					*i*	S	N	**12 39 16.2**	**0.0**
KUR						pmax	pmax		
	comp=Z,745nm,0.4s								
KUR						pmax	pmax		
	comp=N,218nm,0.2s								
KUR						pmax	pmax		
	comp=E,159nm,0.3s								
KUR						smax	smax		
	comp=N,420nm,0.2s								
KUR						smax	smax		
	comp=E,768nm,0.2s								
KUR	**Kuril'sk**	**1.81**	**299**	*i*	P		**Pn**	**12 38 56.5**	**+2.1**
KUR						AMB	AMB	12 38 57.2	
	comp=E,750nm,0.4s								
KUR					*e*	S	**Sn**	**12 39 17.1**	**+0.9**
KUR						A	A	12 39 19.6	
	comp=E,420nm,0.4s								
KUR						A	A	12 39 19.6	
	comp=E,770nm,0.4s								
SHO	**Shikotan**	**2.41**	**259**	*c*	*i*	P	**Pb**	**12 39 07.9**	**-0.4**
SHO					*i*	S	**Sn**	**12 39 33.8**	**+2.8**
SHO						pmax	pmax		
	comp=Z,35nm,0.4s								
SHO						pmax	pmax		
	comp=N,16nm,0.2s								
SHO						pmax	pmax		
	comp=E,16nm,0.2s								
SHO						smax	smax		
	comp=N,557nm,0.3s								
SHO						smax	smax		
	comp=E,319nm,0.2s								
SHO	**Shikotan**	**2.41**	**259**	*i*	P		**Pb**	**12 39 07.4**	**-0.9**
SHO						AMB	AMB	12 39 13.2	
	comp=E,40nm,0.4s								
SHO					*i*	S	**Sn**	**12 39 34.0**	**+3.0**
SHO						A	A	12 39 38.4	
	comp=E,560nm,0.2s								
SHO						A	A	12 39 38.4	
	comp=E,320nm,0.2s								
YUK	**Yuzh-Kuril'sk**	**3.07**	**265**	*e*	P	N	**Pn**	**12 39 15.5**	**+3.8**
YUK					*e*	S	**Sn**	**12 39 48.0**	**+0.8**
YUK						pmax	pmax		
	comp=E,35nm,0.3s								
YUK						pmax	pmax		
	comp=Z,143nm,0.3s								
YUK						pmax	pmax		
	comp=N,32nm,0.1s								
YUK						smax	smax		
	comp=N,360nm,0.3s								
YUK						smax	smax		
	comp=E,618nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**3.07**	**265**	*e*	P		**Pn**	**12 39 15.6**	**+3.8**
YUK						AMB	AMB	12 39 17.1	
	comp=E,140nm,0.3s								
YUK					*e*	S	**Sn**	**12 39 49.2**	**+2.0**
YUK						A	A	12 39 53.1	
	comp=E,360nm,0.4s								
YUK						A	A	12 39 53.1	
	comp=E,620nm,0.4s								
NEM2	**Nemuro 2**	**3.31**	**254**	*e*	P		**Pn**	**12 39 18.3**	**+3.3**
NEM2					*e*	S	**Sn**	**12 39 54.3**	**+1.1**
NMR	**Nemuro--Hokkai**	**3.32**	**254**	⇓	*i*	PN	**Pn**	**12 39 18.2**	**+3.1**
NMR	**Nemuro--Hokkai**	**3.32**	**254**	*i*	P		**Pn**	**12 39 18.2**	**+3.1**
NMR					*e*	S	**Sn**	**12 39 54.4**	**+1.0**
GLVR	**Golovnino**	**3.37**	**261**	*e*	PN		**Pn**	**12 39 20.0**	**+4.2**
GLVR					*e*	S	**Sn**	**12 39 56.5**	**+2.0**
GLVR						pmax	pmax		
	comp=Z,153nm,0.1s								
GLVR						smax	smax		
	comp=N,312nm,0.2s								
GLVR						smax	smax		
	comp=E,821nm,0.2s								
GLVR	**Golovnino**	**3.37**	**261**	*e*	P		**Pn**	**12 39 20.0**	**+4.2**
GLVR						AMB	AMB	12 39 20.2	
	comp=E,150nm,0.2s								
GLVR					*e*	S	**Sn**	**12 39 56.5**	**+2.0**
GLVR						A	A	12 40 04.8	
	comp=E,310nm,0.2s								
GLVR						A	A	12 40 04.8	
	comp=E,820nm,0.2s								
RUSJ	**Misakicho**	**3.50**	**267**	*e*	PN		Pn	12 39 22.7	+5.1
RUSJ					*e*	S	**Sn**	**12 39 59.3**	**+1.4**
JRA	**Rausu**	**3.61**	**265**	*e*	P		**Pn**	**12 39 23.7**	**+4.5**
JRA					*e*	S	**Sn**	**12 40 04.0**	**+3.4**
JNK	**Nakash**	**3.97**	**260**	*e*	P		**Pn**	**12 39 28.1**	**+4.0**
JNK					*e*	S	**Sn**	**12 40 10.9**	**+1.6**
AKK	**Akkeshi**	**4.05**	**252**	*e*	P		**Pn**	**12 39 28.4**	**+3.2**
JAK	**Akkeshi**	**4.16**	**253**	*e*	P		**Pn**	**12 39 29.9**	**+3.2**
JAK					*e*	S	**Sn**	**12 40 14.4**	**+0.4**
JTKR	**Abashiri--Toko**	**4.48**	**267**	*e*	P		**Pn**	**12 39 35.6**	**+4.5**
JTKR					*e*	S	**Sn**	**12 40 27.4**	**+5.5**
JAR	**Ashorobuto**	**4.71**	**259**	*e*	P		**Pn**	**12 39 38.8**	**+4.6**
JAR					*e*	S	**Sn**	**12 40 30.4**	**+2.7**
JOB	**Onbets**	**4.78**	**254**	*e*	P		**Pn**	**12 39 39.2**	**+4.0**
JOB					*e*	S	**Sn**	**12 40 30.6**	**+1.2**
JCH	**Churui**	**5.21**	**253**	*e*	P		**Pn**	**12 39 45.2**	**+4.1**
JCH					*e*	S	**Sn**	**12 40 38.8**	**-1.1**
JKK2	**Kamakawa 2**	**5.32**	**267**	*e*	P		Pn	12 39 47.6	+5.0
JKK2					*e*	S	**Sb**	**12 40 54.5**	**-6.7**
JKA	**Kamikawa-asahi**	**5.40**	**270**			Pn	**Pn**	**12 39 48.1**	**+4.4**
JKA	**Kamikawa-asahi**	**5.40**	**270**	*e*	P		Pn	12 39 49.2	+5.5
ASAJ	**Asahikawa**	**5.40**	**270**		P		Pn	12 39 49.2	+5.4
	comp=E,14nm,0.6s,baz=77,slow=14,SNR=9.5								
ASAJ						S	Sn	12 40 55.0	+10
	comp=E,6.7nm,0.7s,baz=31,slow=28,SNR=1.7								
ERM	**Erimo**	**5.60**	**248**			Pn	Pn	12 39 52.5	+6.0
ERM	**Erimo**	**5.60**	**248**			Pn	Pn	12 39 52.5	+6.0
YSS	**Yuzhno-Sakhali**	**5.76**	**299**				**Pn**	**12 39 51.6**	**+2.9**
YSS	**Yuzhno-Sakhali**	**5.76**	**299**	*e*	PN		**Pn**	**12 39 52.0**	**+3.3**
YSS						pmax	pmax		
	comp=Z,20nm,0.4s								
YSS	**Yuzhno-Sakhali**	**5.76**	**299**	*e*	P		**Pn**	**12 39 51.5**	**+2.8**
YSS					*e*	S	**Sn**	**12 40 53.2**	**-0.4**
JRBN	**Rebuntou**	**6.51**	**282**	*e*	P		**Pn**	**12 40 03.5**	**+4.6**
JANG	**Nango**	**7.51**	**241**	*e*	S		**Sn**	**12 41 33.6**	**-3.0**
SKR	**Severo-Kuril's**	**7.51**	**31**	⇓	*e*	PN	**Pn**	**12 40 13.4**	**+0.8**
SKR	**Severo-Kuril's**	**7.51**	**31**	*e*	P		**Pn**	**12 40 13.5**	**+0.8**
SKR						AMB	AMB	12 40 15.2	
	comp=Z,40nm,0.4s								
JTH	**Tanohata**	**7.55**	**237**	*e*	S		**Sn**	**12 41 33.8**	**-3.9**
JTM	**Tenmabayashi**	**7.57**	**245**			Pn	Pn	12 40 24.4	+11
TYV	**Tymovskoe**	**8.21**	**325**	*e*	P		**Pn**	**12 40 25.0**	**+2.7**
TEY	**Ternei**	**9.64**	**279**	*e*	PN		Pn	12 40 48.3	+6.4
TEY	**Ternei**	**9.64**	**279**	*e*	P		Pn	12 40 48.3	+6.4
PEA0B	**Petropavlovsk-**	**10.07**	**27**			Pn	**Pn**	**12 40 48.0**	**+0.2**
PEA0B	**Petropavlovsk-**	**10.07**	**27**	⇓	*e*	PN	**Pn**	**12 40 48.2**	**+0.4**
PETK	**Petropavlovsk-**	**10.07**	**27**		P		**Pn**	**12 40 46.1**	**-1.7**
	comp=Z,2.4nm,0.5s,baz=196,slow=10,SNR=6.7								
OKH	**Okha**	**10.32**	**335**	*d*	*e*	PN	**Pn**	**12 40 54.5**	**+3.4**
OKH	**Okha**	**10.32**	**335**		*e*	P	**Pn**	**12 40 54.5**	**+3.4**
PET	**Petropavlovsk**	**10.33**	**30**	⇑	*e*	PN	**Pn**	**12 40 51.7**	**+0.4**
PET	**Petropavlovsk**	**10.33**	**30**		*e*	P	**Pn**	**12 40 52.0**	**+0.7**
KSAR	**Wonju Array Be**	**18.14**	**255**		P		**P**	**12 42 31.3**	**-3.5**
KSAR	**Wonju Array Be**	**18.14**	**255**		P		**P**	**12 42 31.3**	**-3.5**
YAK	**Yakutsk**	**21.34**	**333**	⇓	*e*	P	**P**	**12 43 07.7**	**-1.8**
YAK						pmax	pmax		
	comp=Z,11nm,0.4s								
BILL	**Bilibino**	**25.20**	**14**	*d*	*i*	P	**P**	**12 43 45.1**	**-2.6**
BILL						pmax	pmax		
	comp=Z,9.0nm,1.4s								
BILL	**Bilibino**	**25.20**	**14**	*e*	P		**P**	**12 43 45.1**	**-2.6**
H11N2	**WAKE ISLAND Hy**	**28.28**	**145**		T		T	13 15 17.7	
	baz=334								
H11N1	**WAKE ISLAND Hy**	**28.29**	**145**		T		T	13 15 19.5	
	baz=334								
H11N3	**WAKE ISLAND Hy**	**28.30**	**145**		T		T	13 14 56.5	
	baz=334								
TIK	**Tiksi**	**29.21**	**346**	*e*	P		**P**	**12 44 24.1**	**+0.5**
TIXI	**Tiksi**	**29.22**	**346**	⇓	*e*	P	**P**	**12 44 24.1**	**+0.4**
TIXI						pmax	pmax		
	comp=Z,19nm,1.0s								
H11S1	**WAKE ISLAND Hy**	**29.30**	**146**		T		T	13 16 34.6	
	baz=348								
H11S3	**WAKE ISLAND Hy**	**29.30**	**146**		T		T	13 16 21.0	
	baz=348								
H11S2	**WAKE ISLAND Hy**	**29.32**	**146**		T		T	13 16 26.1	
	baz=348								
SONM	**Songino Array**	**30.20**	**292**		P		**P**	**12 44 34.2**	**+1.4**
SONM	**Songino Array**	**30.20**	**292**		P		**P**	**12 44 34.3**	**+1.4**
SONM						pmax	pmax		
	comp=Z,2.0nm,1.4s								
C18K	**Utukok River**	**34.73**	**29**		P		**P**	**12 45 11.9**	**-0.3**
C18K						IAmb	IAmb	12 45 37.4	
	comp=E,15nm,1.4s								
M17K	**Holitna River**	**34.80**	**42**		P		**P**	**12 45 13.2**	**+0.5**
M17K						IAmb	IAmb	12 45 45.3	
	comp=Z,15nm,1.4s								
G18K	**Tagagawik**	**34.94**	**34**		P		**P**	**12 45 14.0**	**+0.1**
G18K						IAmb	IAmb	12 45 44.0	
	comp=Z,5.7nm,1.1s								
C19K	**Lookout Ridge**	**35.43**	**28**		P		**P**	**12 45 18.1**	**0.0**
E19K	**Redstone River**	**35.84**	**32**		P		**P**	**12 45 22.3**	**+0.7**
E19K						IAmb	IAmb	12 45 24.1	
	comp=Z,6.6nm,1.1s								
D20K	**Etivluk River**	**36.36**	**30**		P		**P**	**12 45 25.8**	**-0.3**
D20K						IAmb	IAmb	12 45 27.4	
	comp=Z,9.5nm,0.8s								
B20K	**Meade River**	**36.51**	**27**		P		**P**	**12 45 26.6**	**-0.6**
CAST	**Castle Rocks**	**37.41**	**39**		P		**P**	**12 45 36.1**	**+1.0**
CAST						IAmb	IAmb	12 45 37.1	
	comp=Z,2.0nm,0.7s								
E22K	**Anaktuvuk Pass**	**37.98**	**31**		P		**P**	**12 45 40.5**	**+0.7**
ILAR	**Eielson Array**	**39.72**	**37**		P		**P**	**12 45 53.7**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=262,slow=8.8,SNR=4.9								
	comp=Z,0.4nm,0.6s								
ILAR	**Eielson Array**	**39.72**	**37**	*e*	P		**P**	**12 45 54.2**	**-0.2**
MKAR	**Makanchi Array**	**46.18**	**298**		P		**P**	**12 46 47.4**	**+0.5**
MKAR	**Makanchi Array**	**46.18**	**298**		P		**P**	**12 46 47.4**	**+0.5**
MKAR	**Makanchi Array**	**46.18**	**298**	*e*	P		**P**	**12 46 47.4**	**+0.5**
UBPT	**Khong Chiam**	**47.54**	**247**		P		P	12 47 05.1	+7.2
KKAR	**Karatay Array**	**55.29**	**299**		P		**P**	**12 47 55.2**	**-0.4**
KKAR	**Karatay Array**	**55.29**	**299**		P		**P**	**12 47 55.2**	**-0.4**
AB31	**Akbulak array**	**58.32**	**310**		P		**P**	**12 48 16.9**	**0.0**
AB31						IAmb	IAmb	12 48 17.8	
	comp=Z,4.5nm,1.2s								
ABKAR	**Akbulak array**	**58.32**	**310**		P		**P**	**12 48 16.9**	**0.0**
OBN	**Obninsk**	**66.06**	**325**	*e*	P		**P**	**12 49 09.2**	**+0.6**
OBN					*e*	*PP	**pwP**	**12 49 25.1**	**0.0**
OBN					*e*	*SP	**PcP**	**12 49 32.2**	**-6.7**
OBN					*e*			12 49 40.2	
OBN					*e*			12 51 34.8	
OBN					*e*	PPP	PPP	12 53 07.3	
OBN						pmax	pmax		
	comp=Z,3.0nm,0.9s								
OBN	**Obninsk**	**66.06**	**325**	*e*	P		**P**	**12 49 09.2**	**+0.6**
NB2	**NORSAR Subarra**	**69.77**	**340**		P		**P**	**12 49 31.2**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**69.77**	**340**		P		**P**	**12 49 31.1**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=29,slow=6.6,SNR=7.7								
	comp=Z,0.9nm,0.7s								
NOA	**NORSAR Array B**	**69.77**	**340**	*e*	P		**P**	**12 49 31.3**	**-0.8**
NOA						pmax	pmax		
	comp=Z,1.0nm,0.5s								
HFS	**Hagfors**	**69.92**	**338**		P		**P**	**12 49 31.8**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=32,slow=4.6,SNR=7.7								
	comp=Z,1.4nm,0.5s								
KIV	**Kislovodsk**	**70.92**	**313**	*e*	P		**P**	**12 49 40.3**	**+1.0**
KIV						pmax	pmax		
	comp=Z,5.0nm,1.0s								
KIV	**Kislovodsk**	**70.92**	**313**	*e*	P		**P**	**12 49 40.3**	**+1.0**
KBZ	**Khabaz**	**70.96**	**313**		P		**P**	**12 49 39.9**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=30,slow=5.5,SNR=4.7								
	comp=Z,2.3nm,0.8s								
KBZ	**Khabaz**	**70.96**	**313**	⇓	*i*	P	**P**	**12 49 40.6**	**+1.1**
KBZ						pmax	pmax		
	comp=Z,4.0nm,0.9s								
KBZ	**Khabaz**	**70.96**	**313**	*e*	P		**P**	**12 49 40.6**	**+1.1**
AKASG	**Malin Array Be**	**72.32**	**325**		P		**P**	**12 49 46.8**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=37,slow=6.1,SNR=7.0								
	comp=Z,0.9nm,0.5s								
BUR08	**Bucovina Ar. S**	**76.36**	**325**		P		**P**	**12 50 11.2**	**0.0**
BURAR	**Bucovina Array**	**76.37**	**325**		P		**P**	**12 50 10.4**	**-0.9**
GERES	**GERESS Array B**	**79.63**	**332**		P		**P**	**12 50 29.0**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=44,slow=5.9,SNR=4.6								
	comp=Z,0.4nm,0.4s								
GERES	**GERESS Array B**	**79.63**	**332**	*e*	P		**P**	**12 50 30.3**	**+0.9**
TXAR	**Lajitas Array**	**80.52**	**58**		P		**P**	**12 50 35.1**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=300,slow=4.3,SNR=12								
	comp=Z,0.7nm,0.4s								

*NEIC **21** 13:33:13.6±1.8, 37°.98N±0'.01×114°.49W±0'.02, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.6km az=53.0*

REN 21 13:33:14.3±1.9, 37°.98N±0'.01×114°.49W±0'.02, h3km±6km, ML2.9/1, ML2.9/142(NEIC), Error ellipse: s-maj=2.4km s-min=1.4km az=219.0, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PRN	**Pahroc Range**	**0.72**	**218**			Pg		13 33 26.6	-1.6
PRN						IAML		13 33 39.2	
	comp=E,413nm,0.3s								
PRN						IAML		13 33 44.3	
	comp=N,516nm,0.3s								
PSUT	**Pine Spring**	**0.75**	**42**		Pg	Pg		13 33 28.6	0.0
ICU	**Indian Springs**	**0.94**	**151**			Pg		13 33 32.2	-0.1
R11B	**Troy Canyon, C**	**0.94**	**294**			Pg		13 33 32.2	-0.2
R11B						IAML		13 33 48.9	
	comp=E,311nm,0.2s								
R11B						IAML		13 33 48.9	
	comp=N,224nm,0.3s								
CCUT	**Cedar City**	**0.99**	**115**			Pg		13 33 33.0	-0.3
CCUT						IAML		13 33 50.6	
	comp=N,256nm,0.5s								
CCUT						IAML		13 33 50.8	
	comp=E,455nm,0.4s								
SPR3	**Spring Creek 3**	**1.03**	**7**			Pg		13 33 32.2	-1.8
SPR3						IAML		13 33 44.9	
	comp=E,147nm,0.3s								
SPR3						IAML		13 33 48.5	
	comp=N,158nm,0.5s								
S11A	**Rachel**	**1.05**	**252**			Pg		13 33 34.1	-0.4
S11A						IAML		13 33 51.7	
	comp=E,357nm,0.5s								
S11A						IAML		13 33 53.7	
	comp=N,312nm,0.4s								
Q12A	**Willow Creek R**	**1.09**	**346**			Pg		13 33 35.5	+0.2
SZCU	**Shurtz Canyon**	**1.17**	**109**			Pg		13 33 36.5	-0.2
SZCU						IAML		13 33 55.0	
	comp=N,160nm,0.2s								
SZCU						IAML		13 33 56.9	
	comp=E,231nm,0.2s								
LCMT	**Little Creek M**	**1.38**	**134**				Pn	13 33 39.1	-1.4
SHPR	**Sheep Range**	**1.56**	**200**		Pg		Pn	13 33 42.8	-0.3
CPY	**CP-1**	**1.63**	**231**				Pn	13 33 43.2	-0.7
MCY	**Mercury**	**1.76**	**222**				Pn	13 33 45.2	-0.6
NSP	**Numbskull Pass**	**1.86**	**228**				Pn	13 33 46.6	-0.5
SDH	**Striped Hills**	**1.99**	**229**				Pn	13 33 48.5	-0.3
AMDNV	**Amargosa**	**2.09**	**224**				Pn	13 33 50.2	0.0
TPH	**Tonopah**	**2.16**	**273**				Pn	13 33 49.7	-1.7
SGV	**South Grapevin**	**2.26**	**245**				Pn	13 33 52.3	-0.4
GMN	**Gold Mountain**	**2.30**	**254**				Pn	13 33 53.3	-0.1
GMN	**Gold Mountain**	**2.30**	**254**		IAML			13 34 29.9	
	comp=N,51nm,0.6s								
MZP	**Montezuma Peak**	**2.31**	**264**		IAML			13 34 29.8	
	comp=E,40nm,0.3s								
GRAC	**Grapevine Rang**	**2.49**	**248**		IAML			13 34 37.2	
	comp=E,68nm,0.6s								
GRAC					IAML			13 34 40.6	
	comp=N,59nm,0.3s								
MTPC	**Mountain Pass**	**2.63**	**199**		IAML			13 34 38.4	
	comp=E,24nm,0.5s								
MTPC					IAML			13 34 39.1	
	comp=N,24nm,0.4s								
DSP	**Deep Springs**	**2.83**	**259**				Pn	13 34 00.4	+0.1
DSP	**Deep Springs**	**2.83**	**259**		IAML			13 34 44.9	
	comp=N,22nm,1.2s								
DSP					IAML			13 34 46.6	
	comp=E,22nm,0.8s								
TMUT	**Trail Mountain**	**2.89**	**62**		IAML			13 34 48.9	
	comp=E,24nm,0.5s								
NV11	**Mina Array Sit**	**2.92**	**280**		IAML			13 34 48.4	
	comp=E,31nm,0.5s								
NV11					IAML			13 34 49.7	
	comp=N,28nm,0.4s								
HMU	**Henry Mountain**	**2.96**	**90**		IAML			13 34 56.3	
	comp=E,62nm,0.8s								
HMU					IAML			13 35 00.0	
	comp=N,53nm,0.7s								
NV08	**Mina Array Sit**	**3.05**	**279**				Pn	13 34 03.7	+0.1
MPMC	**Manual Prospec**	**3.07**	**232**		IAML			13 35 54.7	
	comp=N,58nm,0.4s								
MPMC					IAML			13 35 57.7	
	comp=E,52nm,0.6s								
RYN	**Ryan**	**3.24**	**283**		IAML			13 35 00.5	
	comp=E,41nm,0.3s								
CWC	**Cottonwood Cre**	**3.25**	**243**		IAML			13 34 36.7	
	comp=E,24nm,0.0s								
CWC					IAML			13 34 51.1	
	comp=N,25nm,0.1s								
GSC	**Goldstone, Bar**	**3.26**	**216**		IAML			13 34 59.5	
	comp=E,16nm,0.6s								
SRU	**San Rafael Swe**	**3.31**	**69**		IAML			13 35 01.9	
	comp=N,14nm,0.4s								
SRU					IAML			13 35 02.8	
	comp=E,14nm,0.5s								
WUAZ	**Wupatki**	**3.50**	**134**		IAML			13 35 10.2	
	comp=E,20nm,0.5s								
WUAZ					IAML			13 35 10.3	
	comp=E,23nm,0.4s								
PAHR	**Pah Rah Range**	**4.20**	**296**		IAML			13 35 27.7	
	comp=N,7.5nm,0.9s								
PAHR					IAML			13 35 33.2	
	comp=E,8.5nm,1.1s								
Y14A	**Wickenburg**	**4.21**	**163**		IAML			13 35 35.8	
	comp=E,8.1nm,1.1s								
Y14A					IAML			13 35 37.2	
	comp=N,8.2nm,0.8s								
PV05	**Paradox Valley**	**4.25**	**87**		IAML			13 35 30.6	
	comp=E,24nm,0.7s								
PV05					IAML			13 35 37.8	
	comp=N,24nm,0.6s								
PV10	**Paradox Valley**	**4.31**	**83**		IAML			13 35 30.1	
	comp=N,26nm,1.0s								
PV10					IAML			13 35 34.9	
	comp=E,22nm,0.7s								
PV19	**Morning Glory**	**4.35**	**84**		IAML			13 35 36.8	
	comp=E,19nm,0.5s								
PV17	**East Wray Mesa**	**4.37**	**84**		IAML			13 35 33.8	
	comp=E,16nm,0.6s								
PV17					IAML			13 35 38.4	
	comp=N,22nm,0.6s								
PV16	**Nyswonger Mesa**	**4.41**	**84**		IAML			13 35 44.6	
	comp=N,18nm,1.1s								
PV18	**Skein Mesa, Pa**	**4.41**	**85**		IAML			13 35 32.9	
	comp=E,17nm,0.7s								
PV18					IAML			13 35 34.4	
	comp=N,17nm,0.7s								
PV04	**Paradox Valley**	**4.42**	**83**		IAML			13 35 35.8	
	comp=N,15nm,1.6s								
PV04					IAML			13 35 43.9	
	comp=E,16nm,0.8s								
PV03	**Paradox Valley**	**4.46**	**85**		IAML			13 35 34.4	
	comp=E,12nm,0.9s								
PV03					IAML			13 35 42.4	
	comp=N,12nm,0.8s								
PV13	**Radium Mtn., P**	**4.48**	**86**		IAML			13 35 36.8	
	comp=E,16nm,0.5s								
PV13					IAML			13 35 41.3	
	comp=N,16nm,0.6s								
PV01	**Paradox Valley**	**4.67**	**86**		IAML			13 35 40.1	
	comp=N,11nm,0.8s								
PV01					IAML			13 36 03.4	
	comp=E,20nm,1.9s								
W18A	**Petrified Fore**	**4.77**	**125**		IAML			13 35 48.8	
	comp=N,8.6nm,0.7s								
W18A					IAML			13 35 49.9	
	comp=E,6.5nm,1.1s								
MVCO	**Mesa Verde**	**4.82**	**97**		IAML			13 35 48.7	
	comp=E,12nm,0.7s								
MVCO					IAML			13 35 49.5	
	comp=E,14nm,0.9s								
X18A	**Snowflake**	**5.03**	**132**		IAML			13 35 57.3	
	comp=N,5.3nm,1.0s								
X18A					IAML			13 35 57.9	
	comp=E,5.7nm,0.9s								

*IDC **21** 13:34:54.4±3.2, 34°.05S×178°.88W, h0km, mb3.5/2, mbtmp3.6/3, ML3.9/1, Error ellipse: s-maj=73.9km s-min=36.5km az=119.0*

*WEL **21** 13:34:58.8±0.9, 34°.5S±8°×17°.9W±1°.0, h10km, M3.9/12, mB4.6/5, ML4.2/16, MLv3.9/12, Mw(mB)3.8/5, Error ellipse: s-maj=15.6km s-min=6.8km az=124.8, confirmed*

ISC 21 13:34:56.7±1.7, 34°.14S±0'.10×178°.4W±0'.1, h35km, n26, σ1°29/45, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MXZ	**Matakaoa Point**	**4.34**	**217**			P	**Pn**	**13 36 00.3**	**+0.2**
MXZ						S	**Sn**	**13 36 50.1**	**+0.7**
PKGZ	**Pakihiroa**	**4.69**	**216**			P	**Pn**	**13 36 05.0**	**+0.1**
PKGZ						S	**Sn**	**13 36 58.3**	**+0.3**
HAZ	**Te Kaha**	**4.75**	**220**			P	**Pn**	**13 36 06.8**	**+1.0**
HAZ						S	**Sn**	**13 37 01.9**	**+2.3**
PUZ	**Puketiti**	**4.76**	**214**			P	**Pn**	**13 36 04.6**	**-1.4**
PUZ						S	**Sn**	**13 36 59.1**	**-0.9**
RUGZ	**Raukumara Rang**	**4.96**	**219**			P	**Pn**	**13 36 09.0**	**+0.1**
RUGZ						S	**Sn**	**13 37 05.6**	**+0.5**
TWGZ	**Tauwhareparae**	**4.98**	**215**			P	**Pn**	**13 36 10.4**	**+1.5**
TWGZ						S	**Sn**	**13 37 05.7**	**+0.4**
CNGZ	**Carnagh Statio**	**5.13**	**211**			P	**Pn**	**13 36 12.6**	**+1.7**
TKGZ	**Te Karaka**	**5.25**	**214**			P	**Pn**	**13 36 13.7**	**+1.1**
TKGZ						S	**Sn**	**13 37 11.9**	**0.0**
MWZ	**Matawai**

0.6nm,0.3s
H04N2 CROZET ISLANDS 61.06 217 T T 15 01 59.2
baz=58
H04N1 CROZET ISLANDS 61.08 217 T T 15 02 24.1
baz=58
H04N3 CROZET ISLANDS 61.08 217 T T 15 01 56.9
baz=58
TXAR Lajitas Array 144.39 39 PKP **PKPab 14 05 20.4 -0.8**
0.1nm,0.5s,baz=292,slow=1.1,SNR=4.7

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*IDC **21** 13:47:22.5±1.5, 18°.02N×145°.61E, h310km±13km, mb3.9/25, mbtmp4.5/29, Error ellipse: s-maj=14.1km s-min=9.9km az=86.0*
*NEIC **21** 13:47:22.9±0.9, 17°.95N±0°.09×145°.5E±0°.1, h307km±9km, mb4.6/270, Error ellipse: s-maj=18.5km s-min=12.3km az=98.0*

ISC 21 13:47:21.8±0.4, 17°.98N±0°.05×145°.52E±0°.08, h300km, n492, σ1°07/393, mb4.5/163, 2C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.41**	**188**		**Pn**	**13 48 33.0**	**+0.4**
GUMO	**Guam**	**4.41**	**188**	P	**Pn**	**13 48 32.9**	**+0.3**
	77nm,0.3s,baz=313,slow=1.0,SNR=32						
GUMO				S	**S**	**13 49 29.0**	**-0.4**
	108nm,0.3s,baz=146,slow=22,SNR=6.0						
GUMO	**Guam**	**4.41**	**188**	P	**Pn**	**13 48 33.4**	**+0.8**
GUMO	**Guam**	**4.41**	**188**	S	**S**	**13 49 29.2**	**-0.2**
JCJ	**Chichijima**	**9.59**	**342**		**Pn**	**13 49 35.8**	**+1.0**
JCJ	**Chichijima**	**9.59**	**342**	P	**Pn**	**13 49 33.5**	**-1.3**
	31nm,0.3s						
JCJ	**Chichijima**	**9.59**	**342**	P	**P**	**13 49 37.8**	**-1.0**
JHJ2	**Mitsune**	**15.92**	**342**	P	**P**	**13 50 49.5**	**+0.6**
JHJ2	**Mitsune**	**15.92**	**342**	P	**P**	**13 50 50.0**	**+1.1**
JOW	**Kunigami**	**18.20**	**302**	P	**P**	**13 51 15.4**	**+1.7**
JOW	**Kunigami**	**18.20**	**302**	P	**P**	**13 51 15.2**	**+1.6**
	11nm,0.3s,baz=117,slow=17,SNR=22						
JOW				S	**S**	**13 54 23.0**	**-3.2**
	14nm,1.0s,baz=114,slow=18,SNR=1.9						
JOW	**Kunigami**	**18.20**	**302**	P	**P**	**13 51 15.6**	**+1.9**
JOW	**Kunigami**	**18.20**	**302**	S	**S**	**13 54 28.6**	**+2.4**
INU	**Inuyama**	**18.88**	**338**	P	**P**	**13 51 22.4**	**+1.6**
JGF	**Kuroka**	**18.99**	**339**		**P**	**13 51 22.1**	**0.0**
JGF				IAmb	IAmb	13 51 27.2	
	comp=Z,15nm,0.5s						
JGF	**Kuroka**	**18.99**	**339**	P	**P**	**13 51 23.6**	**+1.6**
MJAR	**Matsushiro Arr**	**19.59**	**342**	P	**P**	**13 51 26.3**	**-2.1**
	comp=Z,5.2nm,0.4s,baz=165,slow=10.0,SNR=50						
MJAR				S	**S**	**13 54 47.0**	**-5.6**
	comp=Z,3.7nm,1.3s,baz=247,slow=19,SNR=4.3						
MAJO	**Matsushiro**	**19.59**	**342**		**P**	**13 51 27.1**	**-1.2**
MAJO				IAmb	IAmb	13 51 29.6	
	comp=Z,15nm,0.5s						
MAJO	**Matsushiro**	**19.59**	**342**	P	**P**	**13 51 28.7**	**+0.3**
MJB9	**Matsu-Tunnel**	**19.59**	**342**		**P**	**13 51 27.9**	**-0.5**
MJB9				IAmb	IAmb	13 51 30.6	
	comp=Z,15nm,0.4s						
JNU	**Nakatsue**	**20.01**	**322**	P	**P**	**13 51 34.3**	**+1.4**
	comp=Z,6.3nm,0.4s,baz=81,slow=5.4,SNR=7.5						
	comp=Z,6.3nm,0.4s						
JNU	**Nakatsue**	**20.01**	**322**	P	**P**	**13 51 35.1**	**+2.2**
JMM	**Marumori**	**20.25**	**349**		**P**	**13 51 35.7**	**+0.6**
JMM	**Marumori**	**20.25**	**349**	P	**P**	**13 51 35.7**	**+0.6**
JSD	**Sado**	**20.98**	**344**	P	**P**	**13 51 42.1**	**-0.2**
JTU	**Tsushima**	**21.88**	**322**	P	**P**	**13 51 52.6**	**+2.0**
YOJ	**Yonaguni jima**	**21.94**	**291**	P	**P**	**13 51 51.4**	**+0.1**
YOJ	**Yonaguni jima**	**21.94**	**291**	P	**P**	**13 51 52.3**	**+1.0**
JTM	**Tenmabayashi**	**23.05**	**351**	P	**P**	**13 52 02.0**	**+0.8**
JTM	**Tenmabayashi**	**23.05**	**351**	P	**P**	**13 52 02.6**	**+1.4**
NACB	**Ninganchiao**	**23.14**	**290**	P	**P**	**13 52 03.0**	**+0.7**
YULB	**Yu-li**	**23.28**	**287**	P	**P**	**13 52 03.5**	**0.0**
YULB	**Yu-li**	**23.28**	**287**	P	**P**	**13 52 04.7**	**+1.1**
YHNB	**Yeheng**	**23.44**	**291**	P	**P**	**13 52 05.9**	**+0.9**
SSLB	**Suanglung**	**23.65**	**288**		**P**	**13 52 07.1**	**+0.1**
SSLB				IAmb	IAmb	13 52 10.3	
	comp=Z,16nm,0.7s						
SSLB	**Suanglung**	**23.65**	**288**	P	**P**	**13 52 08.3**	**+1.3**
ERM	**Erimo**	**24.05**	**356**	P	**P**	**13 52 11.6**	**+1.4**
KSRS	**Korea Array**	**24.80**	**325**	P	**P**	**13 52 16.8**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=148,slow=8.5,SNR=21						
	comp=Z,3.0nm,0.6s						
KSAR	**Wonju Array Be**	**24.82**	**325**	P	**P**	**13 52 15.9**	**-1.3**
KS19	**Wonju Array Si**	**24.87**	**325**	P	**P**	**13 52 16.6**	**-1.1**
KS19				IAmb	IAmb	13 52 21.6	
	comp=Z,32nm,1.4s						
JKA	**Kamikawa-asahi**	**26.18**	**355**	P	**P**	**13 52 30.7**	**+1.4**
ASAJ	**Asahikawa**	**26.18**	**355**	P	**P**	**13 52 29.6**	**+0.3**
	comp=Z,7.0nm,0.4s,baz=178,slow=3.3,SNR=23						
	comp=Z,7.0nm,0.4s						
NJ2	**Nanjing**	**27.84**	**305**	*e*P	**P**	**13 52 44.8**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
USA0B	**Ussuriysk Arra**	**28.52**	**339**	P	**P**	**13 52 50.4**	**+0.4**
USA0B				IAmb	IAmb	13 53 34.9	
	comp=Z,22nm,1.4s						
USRK	**Ussuriysk Ar.**	**28.52**	**339**	P	**P**	**13 52 50.2**	**+0.2**
USRK	**Ussuriysk Ar.**	**28.52**	**339**	P	**P**	**13 52 50.7**	**+0.6**
	comp=Z,5.1nm,0.6s,baz=141,slow=9.6,SNR=9.7						
	comp=Z,5.1nm,0.6s						
BNX	**BinXian**	**31.52**	**335**	⇓P	**P**	**13 53 17.6**	**+1.3**
BNX				pmax	pmax		
	comp=Z,13nm,0.7s						
HNS	**HongShan**	**33.23**	**312**	⇑P	**P**	**13 53 33.3**	**+2.1**
HNS				pmax	pmax		
	comp=Z,20nm,1.0s						
LYN	**LuoYang**	**33.73**	**306**	P	**P**	**13 53 38.4**	**+2.8**
LYN				pmax	pmax		
	comp=Z,34nm,0.8s						
ENH	**Enshi**	**34.94**	**297**	P	**P**	**13 53 47.2**	**+1.1**
HEH	**HeiHe**	**35.32**	**340**	*e*P	**P**	**13 53 48.6**	**-0.3**
HEH				pmax	pmax		
	comp=Z,15nm,1.0s						
XLT	**XiLinHaoTe**	**35.79**	**323**	*e*P	**P**	**13 53 53.9**	**+0.7**
XLT				pmax	pmax		
	comp=Z,16nm,0.8s						
SBUM	**Sibu**	**36.12**	**249**	P	**P**	**13 53 56.2**	**0.0**
PETK	**Petropavlovsk-**	**36.33**	**12**	P	**P**	**13 53 58.2**	**+0.7**
PETK	**Petropavlovsk-**	**36.33**	**12**	P	**P**	**13 53 57.4**	**-0.1**
	comp=Z,3.6nm,0.8s,baz=206,slow=9.6,SNR=3.4						
	comp=Z,3.6nm,0.8s						
XAN	**Xi'an**	**36.35**	**303**	⇑P	**P**	**13 53 59.6**	**+1.7**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**36.99**	**315**	*e*P	**P**	**13 54 03.6**	**+0.3**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,69nm,5.4s						
WB0	**Warramunga Arr**	**39.07**	**197**	P	**P**	**13 54 20.6**	**0.0**
WRA	**Warramunga Arr**	**39.25**	**197**	P	**P**	**13 54 22.1**	**0.0**
	comp=Z,1.9nm,0.6s,baz=9.4,slow=8.4,SNR=12						
WRA				ScP	**ScP**	**13 59 39.3**	**-4.7**
	comp=Z,0.6nm,0.9s,baz=14,slow=3.9,SNR=2.8						
	comp=Z,1.9nm,0.6s						
LZH	**Lanzhou**	**40.91**	**305**	*e*P	**P**	**13 54 39.1**	**+3.3**
LZH				pP	pwP	13 55 39.8	-0.6
LZH				pmax	pmax		
	comp=Z,26nm,1.3s						
SHEM	**Shemya Is, Ala**	**41.25**	**26**	P	**P**	**13 54 38.1**	**+0.1**
MA2	**Magadan**	**41.72**	**4**	P	**P**	**13 54 42.3**	**+0.6**
AS31	**Alice Springs**	**42.91**	**196**	P	**P**	**13 54 51.1**	**-0.6**
ASAR	**Alice Springs**	**42.91**	**196**	P	**P**	**13 54 51.1**	**-0.6**
ASAR	**Alice Springs**	**42.91**	**196**	P	**P**	**13 54 52.4**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=13,slow=6.0,SNR=6.7						
ASAR				PcP	**PcP**	**13 56 36.0**	**-0.5**
	comp=Z,0.6nm,0.9s,baz=15,slow=3.8,SNR=2.6						
ULN	**Ulaanbaatar**	**43.23**	**322**	P	**P**	**13 54 54.3**	**+0.1**
SONM	**Songino Array**	**43.60**	**322**	P	**P**	**13 54 57.3**	**+0.2**
SONM	**Songino Array**	**43.60**	**322**	P	**P**	**13 54 57.6**	**+0.5**
	comp=Z,13nm,0.7s,baz=134,slow=8.1,SNR=46						
SONM				PcP	**PcP**	**13 56 38.2**	**-0.5**
	comp=Z,2.7nm,0.9s,baz=142,slow=4.9,SNR=4.4						
	comp=Z,13nm,0.7s						
CMAR	**Chiang Mai Arr**	**44.15**	**278**	P	**P**	**13 55 02.7**	**+1.0**
	comp=Z,3.4nm,0.8s,baz=73,slow=6.7,SNR=19						
CMAR				PcP	**PcP**	**13 56 41.2**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=84,slow=2.1,SNR=5.0						
	comp=Z,3.4nm,0.8s						
ADK	**Adak**	**45.02**	**32**	P	**P**	**13 55 08.6**	**+0.6**
ADK				IAmb	IAmb	13 55 12.3	
	comp=Z,57nm,1.4s						
ADK	**Adak**	**45.02**	**32**	P	**P**	**13 55 09.4**	**+1.4**
YAK	**Yakutsk**	**45.40**	**350**	P	**P**	**13 55 10.3**	**-0.4**
KULM	**Kulim**	**45.59**	**260**	P	**P**	**13 55 13.6**	**+0.6**
ATKA	**Atka Island**	**46.48**	**33**	P	**P**	**13 55 19.8**	**+0.5**
ATKA				IAmb	IAmb	13 55 21.4	
	comp=Z,35nm,1.1s						
ATKA	**Atka Island**	**46.48**	**33**	P	**P**	**13 55 20.6**	**+1.3**
NIKH	**Nikolski High**	**49.70**	**35**	P	**P**	**13 55 44.6**	**+0.9**
NIKH	**Nikolski High**	**49.70**	**35**	P	**P**	**13 55 44.8**	**+1.0**
NIKH	**Nikolski High**	**49.70**	**35**	P	**P**	**13 55 44.6**	**+0.9**
	baz=243						
SHL	**Shillong**	**50.11**	**289**	P	**P**	**13 55 47.4**	**-0.1**
SPIA	**Saint Paul Isl**	**51.05**	**29**	P	**P**	**13 55 55.0**	**+1.3**
UNV	**Unalaska Valle**	**51.34**	**34**	P	**P**	**13 55 56.3**	**+0.4**
UNV				IAmb	IAmb	13 55 57.7	
	comp=Z,13nm,0.5s						
UNV	**Unalaska Valle**	**51.34**	**34**	P	**P**	**13 55 56.3**	**+0.4**
	baz=245						
LVA	**Lava Point**	**51.73**	**34**	P	**P**	**13 55 59.4**	**+0.5**
BILL	**Bilibino**	**51.76**	**10**	P	**P**	**13 55 59.6**	**+0.8**
BILL				IAmb	IAmb	13 56 00.2	
	comp=Z,26nm,1.2s						
S12K	**Black Hills**	**54.45**	**33**	P	**P**	**13 56 18.5**	**0.0**
	baz=248						
M11K	**Mekoryuk**	**54.49**	**27**	P	**P**	**13 56 19.2**	**+0.5**
	baz=241						
SDPT	**Sand Point**	**55.16**	**34**	P	**P**	**13 56 24.2**	**+0.7**
SDPT	**Sand Point**	**55.16**	**34**	P	**P**	**13 56 24.3**	**+0.7**
SDPT	**Sand Point**	**55.16**	**34**	P	**P**	**13 56 23.8**	**+0.2**
	baz=250						
CNBA	**Chernabura Isl**	**55.46**	**35**	P	**P**	**13 56 26.2**	**+0.5**
CNBA				IAmb	IAmb	13 56 59.1	
	comp=Z,32nm,1.2s						
CHNA	**Chernabura Isl**	**55.47**	**35**	P	**P**	**13 56 25.7**	**0.0**
CHNA	**Chernabura Isl**	**55.47**	**35**	P	**P**	**13 56 26.3**	**+0.6**
	baz=251						
M13K	**Dall Lake**	**55.76**	**28**	P	**P**	**13 56 29.5**	**+1.8**
	baz=244						
K13K	**Kusilvak Mount**	**55.90**	**26**	P	**P**	**13 56 30.3**	**+1.6**
K13K				IAmb	IAmb	13 56 31.1	
	comp=Z,21nm,0.6s						
K13K	**Kusilvak Mount**	**55.90**	**26**	P	**P**	**13 56 30.2**	**+1.6**
	baz=241,SNR=6.1						
S14K	**Fog Glacier**	**55.97**	**33**	P	**P**	**13 56 30.1**	**+0.7**
	baz=250						
O14K	**Tigyikauivet M**	**56.22**	**30**	P	**P**	**13 56 31.8**	**+0.8**
	baz=246						
N14K	**Kuskokwak Cree**	**56.30**	**29**	P	**P**	**13 56 32.7**	**+1.2**
N14K				IAmb	IAmb	13 56 33.5	
	comp=Z,26nm,0.8s						
N14K	**Kuskokwak Cree**	**56.30**	**29**	P	**P**	**13 56 32.4**	**+0.9**
	baz=246						
L14K	**Kuka Creek**	**56.46**	**27**	P	**P**	**13 56 34.0**	**+1.4**
	baz=244						
M14K	**Bethel**	**56.52**	**28**	P	**P**	**13 56 34.3**	**+1.3**
M14K				IAmb	IAmb	13 56 35.4	
	comp=Z,19nm,0.8s						
M14K	**Bethel**	**56.52**	**28**	P	**P**	**13 56 34.4**	**+1.3**
	baz=245						
TNA	**Tin City**	**56.55**	**21**	P	**P**	**13 56 33.8**	**+0.6**
	baz=236						
CHGN	**Chignik**	**56.58**	**34**	P	**P**	**13 56 34.2**	**+0.7**
	baz=251						
J14K	**Nanvaranak Lak**	**56.74**	**25**	P	**P**	**13 56 35.7**	**+1.2**
	baz=242						
O15K	**Ungalikthiuk R**	**56.88**	**30**	P	**P**	**13 56 36.5**	**+0.9**
O15K				IAmb	IAmb	13 56 37.2	
	comp=Z,18nm,0.6s						
O15K	**Ungalikthiuk R**	**56.88**	**30**	P	**P**	**13 56 36.7**	**+1.1**
	baz=248						
ANM	**Nome**	**56.92**	**23**	P	**P**	**13 56 37.0**	**+1.1**
	baz=239						
F14K	**Arctic Creek**	**57.06**	**22**	P	**P**	**13 56 37.9**	**+1.1**
	baz=238						
M15K	**Kasigluk River**	**57.07**	**28**	P	**P**	**13 56 37.8**	**+0.9**
	baz=246						
L15K	**Ungalak Mounta**	**57.12**	**27**	P	**P**	**13 56 38.0**	**+0.7**
	baz=245						
N15K	**Kwethluk River**	**57.13**	**29**	P	**P**	**13 56 38.4**	**+1.0**
N15K				IAmb	IAmb	13 56 39.5	
	comp=Z,23nm,0.8s						
N15K	**Kwethluk River**	**57.13**	**29**	P	**P**	**13 56 38.6**	**+1.2**
	baz=247,SNR=9.6						
K15K	**Wolf Creek Mou**	**57.37**	**26**	P	**P**	**13 56 40.3**	**+1.3**
	baz=244						
G15K	**Niukluk**	**57.64**	**23**	P	**P**	**13 56 42.3**	**+1.5**
	baz=240						
P16K	**Nushagak River**	**57.70**	**31**	P	**P**	**13 56 42.8**	**+1.5**
	baz=250						
F15K	**North Star Dit**	**57.77**	**22**	P	**P**	**13 56 42.8**	**+1.0**
	baz=239						
O16K	**Kokwok River B**	**57.85**	**30**	P	**P**	**13 56 43.1**	**+0.8**
O16K				IAmb	IAmb	13 56 44.2	
	comp=Z,11nm,0.8s						
O16K	**Kokwok River B**	**57.85**	**30**	P	**P**	**13 56 43.4**	**+1.1**
	baz=249						
N16K	**Nishlik Lake**	**57.85**	**29**	P	**P**	**13 56 43.8**	**+1.4**
	baz=248,SNR=6.0						
CHIR	**Chirikof Islan**	**57.92**	**35**	P	**P**	**13 56 43.4**	**+0.5**
CHIR	**Chirikof Islan**	**57.92**	**35**	P	**P**	**13 56 44.0**	**+1.1**
	baz=254						
M16K	**Timber Creek**	**57.97**	**28**	P	**P**	**13 56 44.1**	**+0.9**
M16K	**Timber Creek**	**57.97**	**28**	P	**P**	**13 56 44.2**	**+0.9**
	baz=248						
L16K	**Owhat River**	**58.01**	**27**	P	**P**	**13 56 44.2**	**+0.8**
	baz=247						
R17L	**Mt. Peulik Vol**	**58.06**	**33**	P	**P**	**13 56 43.7**	**-0.1**
	baz=252						
H16K	**Elim**	**58.14**	**24**	P	**P**	**13 56 44.8**	**+0.5**
	baz=242						
J16K	**Anvik River**	**58.18**	**25**	P	**P**	**13 56 45.8**	**+1.2**
	baz=245						
O17K	**Koliganek Bris**	**58.39**	**30**	P	**P**	**13 56 47.1**	**+1.0**
	baz=250,SNR=10						
I17K	**Unalakleet**	**58.40**	**25**	P	**P**	**13 56 47.7**	**+1.6**
	baz=244						
G16K	**Koyuk River**	**58.45**	**23**	P	**P**	**13 56 46.7**	**+0.3**
G16K				IAmb	IAmb	13 57 22.3	
	comp=Z,17nm,1.2s						
ZAA0	**Zalesovo Array**	**58.48**	**323**	P	**P**	**13 56 47.0**	**+0.2**
ZALV	**Zalesovo Beam**	**58.48**	**323**	P	**P**	**13 56 47.2**	**+0.4**
	comp=Z,7.9nm,0.5s,baz=111,slow=7.7,SNR=26						
ZALV				PcP	**PcP**	**13 57 32.5**	**-1.3**
	comp=Z,2.6nm,0.7s,baz=116,slow=3.4,SNR=5.0						
	comp=Z,7.9nm,0.5s						
Q17K	**Contact Creek**	**58.50**	**32**	P	**P**	**13 56 47.4**	**+0.4**
	baz=252						
N17K	**Nushagak Hills**	**58.60**	**29**	P	**P**	**13 56 48.1**	**+0.6**
N17K				IAmb	IAmb	13 56 49.9	
	comp=Z,12nm,0.7s						
N17K	**Nushagak Hills**	**58.60**	**29**	P	**P**	**13 56 49.0**	**+1.5**
	baz=250,SNR=7.9						
L17K	**Donlin**	**58.69**	**27**	P	**P**	**13 56 49.5**	**+1.4**
	baz=248						
ACHA	**Angle Creek He**	**58.76**	**32**	P	**P**	**13 56 48.7**	**-0.1**
M17K	**Holitna River**	**58.80**	**28**	P	**P**	**13 56 50.2**	**+1.4**
	baz=249,SNR=6.1						
MKAR	**Makanchi Array**	**58.84**	**314**	P	**P**	**13 56 49.4**	**0.0**
MKAR	**Makanchi Array**	**58.84**	**314**	P	**P**	**13 56 49.6**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=91,slow=7.5,SNR=12						
MKAR				PcP	**PcP**	**13 57 34.6**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=92,slow=5.1,SNR=6.9						
	comp=Z,1.6nm,0.5s						
J17K	**VABM Dome**	**58.85**	**26**	P	**P**	**13 56 50.6**	**+1.4**
	baz=246						
SII	**Sitkinak Islan**	**58.90**	**34**	P	**P**	**13 56 50.2**	**+0.6**
SII	**Sitkinak Islan**	**58.90**	**34**	P	**P**	**13 56 50.7**	**+1.1**
	baz=255						
C16K	**Lisburne Hills**	**58.90**	**19**	P	**P**	**13 56 50.1**	**+0.7**
C16K	**Lisburne Hills**	**58.90**	**19**	P	**P**	**13 56 50.3**	**+0.9**
	baz=237						
K17K	**Iditarod**	**58.91**	**27**	P	**P**	**13 56 51.1**	**+1.5**
	baz=247,SNR=6.1						
R18K	**Karluk**	**59.03**	**33**	P	**P**	**13 56 51.3**	**+0.9**
	baz=254						
Q18K	**Katmai Hardscr**	**59.05**	**32**	P	**P**	**13 56 50.4**	**-0.4**
	baz=253						
G17K	**Kiwalik Mounta**	**59.13**	**23**	P	**P**	**13 56 52.0**	**+0.9**
	baz=244						
H17K	**Granite Mounta**	**59.16**	**24**	P	**P**	**13 56 52.0**	**+0.6**
H17K				IAmb	IAmb	13 56 53.3	
	comp=Z,17nm,0.8s						
H17K	**Granite Mounta**	**59.16**	**24**	P	**P**	**13 56 52.5**	**+1.2**
	baz=245,SNR=7.0						
P18K	**Big Mountain,**	**59.17**	**31**	P	**P**	**13 56 52.3**	**+0.9**
	baz=252						
N18K	**Kilae Creek**	**59.26**	**29**	P	**P**	**13 56 53.4**	**+1.4**
	baz=251,SNR=5.2						
O18K	**Koktuh Hills**	**59.32**	**30**	P	**P**	**13 56 53.2**	**+0.8**
O18K				IAmb	IAmb	13 56 54.5	
	comp=Z,19nm,0.7s						
O18K	**Koktuh Hills**	**59.32**	**30**	P	**P**	**13 56 53.6**	**+1.2**
	baz=252						
D17K	**Noatak River**	**59.33**	**20**	P	**P**	**13 56 53.4**	**+1.1**
	baz=240						
F17K	**Baldwin Pennin**	**59.34**	**22**	P	**P**	**13 56 53.4**	**+1.0**
	baz=242						
L18K	**Granite Mounta**	**59.42**	**27**	P	**P**	**13 56 54.2**	**+1.1**
L18K	**Granite Mounta**	**59.42**	**27**	P	**P**	**13 56 54.5**	**+1.4**
	baz=249,SNR=6.7						
E17K	**Hotham Inlet**	**59.45**	**21**	P	**P**	**13 56 54.3**	**+1.1**
	baz=242						
OHAK	**Old Harbor**	**59.54**	**34**	P	**P**	**13 56 55.3**	**+1.3**
OHAK	**Old Harbor**	**59.54**	**34**	P	**P**	**13 56 55.0**	**+1.0**
	baz=255						
M18K	**Stony River**	**59.56**	**28**	P	**P**	**13 56 55.3**	**+1.3**
	baz=250,SNR=6.3						
RDOG	**Red Dog Mine**	**59.56**	**20**	P	**P**	**13 56 55.4**	**+1.5**
	baz=240						
C17K	**DeLong Mountai**	**59.69**	**19**	P	**P**	**13 56 55.8**	**+0.9**
	baz=239						
Q19K	**Cape Douglas,**	**59.81**	**32**	P	**P**	**13 56 56.0**	**+0.2**
	baz=254						
O19K	**Port Alsworth**	**59.85**	**30**	IAmb	IAmb	13 56 57.8	
	comp=Z,17nm,0.6s						
O19K	**Port Alsworth**	**59.85**	**30**	P	**P**	**13 56 57.0**	**+1.1**
	baz=253						
H18K	**Honhosa River**	**59.85**	**24**	P	**P**	**13 56 56.6**	**+0.6**
	baz=246						
J18K	**Innoko River**	**59.86**	**26**	P	**P**	**13 56 56.9**	**+0.8**
	baz=249						
N19K	**Bonanza Creek**	**59.96**	**29**	IAmb	IAmb	13 56 59.0	
	comp=Z,17nm,0.8s						
N19K	**Bonanza Creek**	**59.96**	**29**	P	**P**	**13 56 58.0**	**+1.2**
	baz=252,SNR=13						
F18K	**Selawik**	**59.99**	**22**	P	**P**	**13 56 57.4**	**+0.6**
	baz=244						
E18K	**Tukpahlearik C**	**60.02**	**21**	P	**P**	**13 56 58.3**	**+1.2**
	baz=243						
G18K	**Tagagawik**	**60.05**	**23**	IAmb	IAmb	13 56 58.9	
	comp=Z,15nm,0.9s						
G18K	**Tagagawik**	**60.05**	**23**	P	**P**	**13 56 57.9**	**+0.6**
	baz=245,SNR=6.8						
KDAK	**Kodiak Island**	**60.05**	**33**	P	**P**	**13 56 58.1**	**+0.7**
KDAK	**Kodiak Island**	**60.05**	**33**	P	**P**	**13 56 58.0**	**+0.6**
	baz=256						
P19K	**Oil Pt**	**60.22**	**31**	P	**P**	**13 56 58.8**	**+0.3**
	baz=254						
L19K	**White Mountain**	**60.22**	**28**	P	**P**	**13 56 59.5**	**+0.9**
	baz=251,SNR=6.5						
M19K	**Big River Lodg**	**60.34**	**28**	P	**P**	**13 57 00.3**	**+1.0**
	baz=252						
Q20K	**Shuyak Island**	**60.36**	**32**	P	**P**	**13 56 60.0**	**+0.5**
	baz=255						
C18K	**Utukok River**	**60.41**	**20**	IAmb	IAmb	13 57 00.7	
	comp=Z,13nm,0.6s						
C18K	**Utukok River**	**60.41**	**20**	P	**P**	**13 57 00.3**	**+0.5**
	baz=241						
J19K	**Poorman**	**60.51**	**26**	IAmb	IAmb	13 57 02.2	
	comp=Z,12nm,0.8s						
J19K	**Poorman**	**60.51**	**26**	P	**P**	**13 57 01.2**	**+0.8**
	baz=249,SNR=11						
B18K	**Kokolik River**	**60.57**	**19**	P	**P**	**13 57 01.9**	**+1.2**
	baz=240						
O20K	**Slope Mountain**	**60.63**	**30**	P	**P**	**13 57 01.2**	**-0.2**
	baz=254						
G19K	**Purcell Mounta**	**60.74**	**23**	IAmb	IAmb	13 57 03.6	
	comp=Z,22nm,0.8s						
G19K	**Purcell Mounta**	**60.74**	**23**	P	**P**	**13 57 02.8**	**+0.9**
	baz=247,SNR=13						
H19K	**Roundabout Mou**	**60.74**	**24**	IAmb	IAmb	13 57 03.9	
	comp=Z,15nm,0.8s						
H19K	**Roundabout Mou**	**60.74**	**24**	P	**P**	**13 57 02.9**	**+1.0**
	baz=248,SNR=10						
L20K	**Farewell, AK**	**60.75**	**28**	P	**P**	**13 57 03.1**	**+1.0**
	baz=252,SNR=5.0						
F19K	**Shaleruckik Mo**	**60.76**	**22**	P	**P**	**13 57 03.0**	**+0.9**
	baz=246						
M20K	**Styx River**	**60.90**	**28**	IAmb	IAmb	13 57 05.4	
	comp=Z,8.0nm,0.7s						
M20K	**Styx River**	**60.90**	**28**	P	**P**	**13 57 04.5**	**+1.3**
	baz=253,SNR=9.5						
K20K	**Telida**	**60.94**	**27**	P	**P**	**13 57 04.5**	**+1.2**
	baz=251						
HOM	**Homer**	**61.00**	**31**	P	**P**	**13 57 04.9**	**+1.1**
	baz=256						
C19K	**Lookout Ridge**	**61.14**	**20**	P	**P**	**13 57 05.9**	**+1.3**
	baz=243						
J20K	**Nowinta River**	**61.18**	**26**	IAmb	IAmb	13 57 06.8	
	comp=Z,12nm,0.6s						
J20K	**Nowinta River**	**61.18**	**26**	P	**P**	**13 57 06.3**	**+1.4**
	baz=251,SNR=18						
A19K	**Wainwright**	**61.20**	**18**	P	**P**	**13 57 05.5**	**+0.6**
	baz=241						
E19K	**Redstone River**	**61.21**	**22**	P	**P**	**13 57 06.0**	**+0.9**
	baz=246						
I20K	**Naaghedeneel**	**61.25**	**25**	P	**P**	**13 57 06.8**	**+1.5**
	baz=250,SNR=5.1						
H20K	**Anotleneega Mo**	**61.34**	**24**	P	**P**	**13 57 07.1**	**+1.2**
	baz=249,SNR=10						
D19K

comp=Z,14nm,0.7s
H22K Ishtalitna Cre 62.84 24 P P 13 57 16.7 +0.9
baz=253,SNR=6.1
MLY Manley 62.84 25 P P 13 57 16.7 +0.8
MLY Manley 62.84 25 P P 13 57 16.6 +0.7
baz=254,SNR=16
PWL Port Wells 62.88 30 P P 13 57 16.5 +0.3
baz=258,SNR=22
KNK Knik Glacier 62.94 30 P P 13 57 16.9 +0.3
baz=258,SNR=6.6
B21K Ikpikpuk River 62.96 20 P P 13 57 17.4 +0.9
baz=248
G22K Bettles 63.10 23 P P 13 57 17.9 +0.4
baz=252
KSH Kashi 63.15 306 P P 13 57 21.5 +3.0
KSH pmax pmax
comp=Z,5.0nm,0.7s
P23K Montague Islan 63.16 31 IAmb IAmb 13 57 19.9
comp=Z,16nm,0.8s
P23K Montague Islan 63.16 31 P P 13 57 18.8 +0.8
baz=259,SNR=5.8
RND Reindeer 63.21 27 IAmb IAmb 13 57 19.5
comp=Z,11nm,1.1s
MCK McKinley 63.26 27 P P 13 57 18.1 -0.6
baz=256
D22K Ayikyak River 63.33 21 P P 13 57 20.2 +1.2
baz=250,SNR=13
M23K Glacier View 63.36 29 P P 13 57 19.4 +0.1
baz=258,SNR=6.0
E22K Anaktuvuk Pass 63.38 22 IAmb IAmb 13 57 21.3
comp=Z,11nm,0.8s
E22K Anaktuvuk Pass 63.38 22 P P 13 57 20.3 +0.9
baz=251,SNR=10.0
NEA2 Nenana 63.41 26 P P 13 57 19.8 +0.2
baz=255,SNR=8.3
I23K Minto, Yukon-K 63.43 25 IAmb IAmb 13 57 21.5
comp=Z,12nm,0.7s
I23K Minto, Yukon-K 63.43 25 P P 13 57 20.1 +0.4
baz=255,SNR=18
GLI Glacier Island 63.48 30 IAmb IAmb 13 57 21.3
comp=Z,14nm,0.9s
GLI Glacier Island 63.48 30 P P 13 57 20.3 +0.2
baz=259,SNR=6.2
H23K Yukon River 63.54 25 IAmb IAmb 13 57 22.3
comp=Z,10nm,0.8s
H23K Yukon River 63.54 25 P P 13 57 21.2 +0.8
baz=254,SNR=11
SCM Sheep Creek Mo 63.55 29 P P 13 57 21.2 +0.5
baz=258,SNR=13
Q23K Middleton Isla 63.59 32 P P 13 57 21.9 +1.1
baz=260
G23K Bananza Creek 63.60 24 IAmb IAmb 13 57 22.8
comp=Z,7.6nm,0.8s
G23K Bananza Creek 63.60 24 P P 13 57 21.8 +0.9
baz=254,SNR=18.0
B22K Teshekpuk Lake 63.61 19 P P 13 57 21.4 +0.6
baz=248
HIN Hinchinbrook I 63.67 31 IAmb IAmb 13 57 23.0
comp=Z,12nm,0.7s
COLD Coldfoot 63.68 23 IAmb IAmb 13 57 23.3
comp=Z,8.5nm,0.8s
COLD Coldfoot 63.68 23 P P 13 57 22.2 +0.9
baz=253,SNR=7.2
WRH Wood River Hil 63.79 26 IAmb IAmb 13 57 22.5
comp=Z,8.9nm,0.6s
CCB Clear Creek Bu 63.95 26 IAmb IAmb 13 57 23.6
comp=Z,4.6nm,0.4s
COLA College 63.99 26 P P 13 57 23.0 -0.3
COLA IAmb IAmb 13 57 26.0
comp=Z,6.5nm,0.7s
COLA College 63.99 26 P P 13 57 23.3 0.0
D23K Nanushuk River 64.04 21 IAmb IAmb 13 57 25.9
comp=Z,8.8nm,0.8s
D23K Nanushuk River 64.04 21 P P 13 57 25.0 +1.4
baz=252
EYAK Cordova Ski Ar 64.07 31 P P 13 57 24.9 +1.0
EYAK Cordova Ski Ar 64.07 31 P P 13 57 24.7 +0.8
baz=260,SNR=12
E23K Chandalar 64.14 22 P P 13 57 25.7 +1.3
baz=253,SNR=18
M24K Tolsona, Glenn 64.14 29 P P 13 57 25.1 +0.7
baz=259
KLU Klutina 64.15 30 IAmb IAmb 13 57 26.1
comp=Z,11nm,0.7s
KLU Klutina 64.15 30 P P 13 57 25.1 +0.5
baz=260,SNR=13
DIV Divide 64.16 30 IAmb IAmb 13 57 26.3
comp=Z,26nm,1.4s
H24K Noodor Dome 64.21 25 IAmb IAmb 13 57 25.9
comp=Z,4.7nm,0.6s
H24K Noodor Dome 64.21 25 P P 13 57 25.5 +0.7
baz=256,SNR=11
HDA Harding Lake 64.26 26 IAmb IAmb 13 57 25.1
comp=Z,7.1nm,0.6s
HDA Harding Lake 64.26 26 P P 13 57 24.2 -0.9
baz=258,SNR=11
TOLK Toolik Lake Re 64.32 22 IAmb IAmb 13 57 27.1
comp=Z,9.0nm,0.7s
TOLK Toolik Lake Re 64.32 22 P P 13 57 26.6 +1.0
baz=253,SNR=7.2
C23K Itkillik River 64.34 20 P P 13 57 26.5 +1.1
baz=251,SNR=7.0
IL31 64.36 26 IAmb IAmb 13 57 25.6
comp=Z,16nm,1.1s
ILAR Eielson Array 64.36 26 P P 13 57 24.8 -1.0
comp=Z,6.1nm,0.4s,baz=249,slow=6.0,SNR=165
comp=Z,6.1nm,0.4s
E24K Your Creek 64.55 22 IAmb IAmb 13 57 28.9
comp=Z,8.1nm,0.7s
E24K Your Creek 64.55 22 P P 13 57 28.0 +1.0
baz=254,SNR=11
RAGM Ragged Mountai 64.57 31 IAmb IAmb 13 57 29.1
comp=Z,9.3nm,1.0s
G24K Hadweenzic Riv 64.58 24 IAmb IAmb 13 57 28.5
comp=Z,6.1nm,0.7s
G24K Hadweenzic Riv 64.58 24 P P 13 57 27.9 +0.8
baz=256,SNR=5.2
PAX Paxson 64.62 28 P P 13 57 27.8 +0.2
baz=260,SNR=28
F24K Squaw Lake 64.62 23 IAmb IAmb 13 57 29.6
comp=Z,6.9nm,0.8s
F24K Squaw Lake 64.62 23 P P 13 57 28.5 +1.1
baz=255,SNR=7.1
KAIM Kayak Island 64.63 32 P P 13 57 28.7 +1.2
baz=262,SNR=6.5
K24K Donnelly Dome 64.64 27 P P 13 57 27.7 +0.1
baz=259,SNR=9.2
HARP HAARP 64.66 29 P P 13 57 28.4 +0.6
baz=260,SNR=8.5
BMRM Bremner River 64.69 30 P P 13 57 28.7 +0.7
baz=261,SNR=13
D24K Happy Valley 64.73 21 P P 13 57 29.1 +1.1
baz=254,SNR=11
HMT Hamilton 64.77 31 IAmb IAmb 13 57 30.2
comp=Z,9.4nm,0.8s
N25K Chitina, Valde 64.79 30 IAmb IAmb 13 57 30.0
comp=Z,7.3nm,0.6s
N25K Chitina, Valde 64.79 30 P P 13 57 29.4 +0.7
baz=261,SNR=11
C24K Franklin Bluff 64.94 21 P P 13 57 30.1 +0.8
baz=253
J25K Salcha River, 64.97 26 IAmb IAmb 13 57 30.1
comp=Z,7.7nm,0.5s
J25K Salcha River, 64.97 26 P P 13 57 29.2 -0.6
baz=259,SNR=16
RIDG Independent Ri 65.03 27 P P 13 57 30.4 +0.2
baz=260,SNR=15
G25K Bearman Lake 65.12 24 P P 13 57 31.5 +0.9
baz=257
H25L Birch Creek 65.12 25 P P 13 57 31.3 +0.7
baz=258,SNR=9.9
GLB Gilahina Butte 65.14 30 IAmb IAmb 13 57 33.1
comp=Z,9.6nm,0.9s
VRDI Verde Repeater 65.28 30 IAmb IAmb 13 57 33.3
comp=Z,8.6nm,0.8s
ARSB Arslanbob 65.36 308 IAmb IAmb 13 57 33.8
comp=Z,8.0nm,0.5s
CRQE Cirque 65.39 31 P P 13 57 33.3 +0.7
baz=263,SNR=7.6
SCRK Sand Creek 65.45 27 IAmb IAmb 13 57 33.8
comp=Z,16nm,1.2s
SCRK Sand Creek 65.45 27 P P 13 57 33.0 +0.1
baz=260,SNR=15
F25K Christian Rive 65.48 23 IAmb IAmb 13 57 35.1
comp=Z,11nm,0.9s
F25K Christian Rive 65.48 23 P P 13 57 34.3 +1.3
baz=257,SNR=13
MCARA McCarthy VSAT 65.51 30 P P 13 57 34.0 +0.9
baz=263
L26K Log Cabin Wild 65.58 28 IAmb IAmb 13 57 35.1
comp=Z,7.3nm,0.5s
L26K Log Cabin Wild 65.58 28 P P 13 57 34.3 +0.6
baz=262,SNR=15
D25K Kavik River 65.62 21 IAmb IAmb 13 57 35.5
comp=Z,12nm,0.8s
D25K Kavik River 65.62 21 P P 13 57 34.7 +0.9
baz=256,SNR=11
E25K Arctic Village 65.62 23 IAmb IAmb 13 57 36.0
comp=Z,13nm,1.2s
E25K Arctic Village 65.62 23 P P 13 57 35.1 +1.3
baz=257,SNR=5.4
M26K Nabesna, AK 65.66 29 P P 13 57 35.0 +0.9
baz=262
J26L Joseph Creek 65.72 27 P P 13 57 34.5 0.0
baz=261,SNR=22
NIL Nilore 65.73 299 P P 13 57 34.9 -0.3
NIL IAmb IAmb 13 57 36.9
comp=Z,13nm,0.8s
MESA MESA 65.89 31 P P 13 57 36.9 +1.0
baz=264
I26K Coal Creek Min 66.02 26 P P 13 57 35.4 -1.0
baz=261
G26K Porcupine Rive 66.06 24 IAmb IAmb 13 57 38.5
comp=Z,7.6nm,0.8s
G26K Porcupine Rive 66.06 24 P P 13 57 37.8 +1.3
baz=259,SNR=8.8
F26K Sheenjek River 66.06 23 IAmb IAmb 13 57 38.8
comp=Z,11nm,0.7s
F26K Sheenjek River 66.06 23 P P 13 57 37.9 +1.3
baz=259,SNR=13
M27K Edge Creek, AK 66.17 29 P P 13 57 38.2 +0.7
baz=263,SNR=7.6
C26K Camden Bay 66.26 21 P P 13 57 39.3 +1.6
baz=257
CTG Chitna Glacier 66.27 31 P P 13 57 39.1 +0.9
baz=264,SNR=5.2
L27K Beaver Creek, 66.28 28 IAmb IAmb 13 57 39.0
comp=Z,4.8nm,0.6s
L27K Beaver Creek, 66.28 28 P P 13 57 38.6 +0.5
baz=263,SNR=12
K27K Chicken 66.29 27 P P 13 57 38.9 +0.8
baz=262
BCAR Beaver Creek A 66.30 28 P P 13 57 38.4 +0.3
LOGN Logan Glacier 66.42 31 IAmb IAmb 13 57 40.9
comp=Z,11nm,0.8s
C27K Jago River 66.60 21 P P 13 57 40.9 +1.0
baz=258
BVCY Beaver Creek 66.64 29 P P 13 57 41.1 +0.7
baz=264,SNR=6.4
I27K Kandik River 66.70 26 P P 13 57 40.6 -0.1
baz=262
PINM Pinnacle 66.73 32 P P 13 57 41.7 +0.7
baz=266
YUK3 Moose Creek 66.77 30 P P 13 57 42.0 +0.6
baz=265
O28M Mount Upton 66.81 31 P P 13 57 42.7 +1.0
baz=265,SNR=5.9
H27K Steamboat Moun 66.83 25 IAmb IAmb 13 57 43.2
comp=Z,12nm,0.7s
H27K Steamboat Moun 66.83 25 P P 13 57 42.5 +1.0
baz=262,SNR=15
G27K Don Strip 66.86 24 P P 13 57 42.5 +0.8
baz=262
BVAR Borovoye Array 66.92 321 P P 13 57 42.2 -0.1
comp=Z,12nm,0.7s,baz=91,slow=7.8,SNR=44
comp=Z,12nm,0.7s
BRVK Borovoye 66.99 321 P P 13 57 42.7 0.0
BRVK IAmb IAmb 13 57 43.8
comp=Z,5.5nm,0.6s
YUK8 Steele Glacier 67.06 30 P P 13 57 44.6 +1.3
baz=265,SNR=9.6
E27K Coleen River 67.09 23 P P 13 57 43.9 +0.8
baz=261
KK31 Karatay Array 67.10 310 IAmb IAmb 13 57 44.3
comp=Z,5.9nm,0.6s
KKAR Karatay Array 67.10 310 P P 13 57 43.4 -0.2
PNL Peninsula 67.13 32 P P 13 57 44.3 +0.8
PNL Peninsula 67.13 32 P P 13 57 44.3 +0.8
baz=267
I28M Miner Creek 67.38 26 IAmb IAmb 13 57 46.2
comp=Z,6.5nm,0.7s
I28M Miner Creek 67.38 26 P P 13 57 45.4 +0.4
baz=264,SNR=8.2
DAWY Dawson 67.47 27 P P 13 57 46.1 +0.6
baz=265,SNR=9.1
D27M Malcolm River 67.49 22 IAmb IAmb 13 57 47.6
comp=Z,7.1nm,0.8s
D27M Malcolm River 67.49 22 P P 13 57 46.8 +1.3
baz=261
O29M Mount Kennedy 67.58 31 P P 13 57 47.6 +1.3
baz=267,SNR=8.8
YUK4 Talbot Arm 67.60 30 P P 13 57 48.1 +1.5
baz=267,SNR=15
F28M Old Crow 67.66 24 IAmb IAmb 13 57 48.4
comp=Z,9.2nm,0.9s
F28M Old Crow 67.66 24 P P 13 57 47.3 +0.7
baz=263,SNR=8.3
YUK6 Outpost Mounta 67.72 31 P P 13 57 48.5 +1.2
baz=267,SNR=5.8
M29M Somme Creek 67.76 29 IAmb IAmb 13 57 49.5
comp=Z,11nm,0.8s
M29M Somme Creek 67.76 29 P P 13 57 48.7 +1.3
baz=266,SNR=21
E28M Babbage River 67.91 22 IAmb IAmb 13 57 50.3
comp=Z,10.0nm,1.2s
E28M Babbage River 67.91 22 P P 13 57 49.3 +1.1
baz=263
L29M L29M 67.96 28 P P 13 57 49.8 +1.3
baz=266,SNR=21
P29M Windy Craggy 67.97 32 P P 13 57 50.2 +1.5
baz=268,SNR=9.6
H29M Whitestone 68.10 25 IAmb IAmb 13 57 50.7
comp=Z,5.5nm,0.6s
H29M Whitestone 68.10 25 P P 13 57 50.0 +0.7
baz=265,SNR=5.4
HYT Haines Junctio 68.13 31 P P 13 57 51.3 +1.5
baz=268,SNR=18
K29M Barlow Dome 68.28 28 IAmb IAmb 13 57 52.5
comp=Z,7.8nm,0.8s
K29M Barlow Dome 68.28 28 P P 13 57 51.7 +1.1
baz=266,SNR=12
G29M Pine Creek 68.30 24 IAmb IAmb 13 57 53.1
comp=Z,14nm,1.1s
G29M Pine Creek 68.30 24 P P 13 57 51.6 +1.0
baz=265
N30M Aishikik Lake 68.36 30 IAmb IAmb 13 57 53.1
comp=Z,11nm,0.7s
N30M Aishikik Lake 68.36 30 P P 13 57 52.3 +1.2
baz=268,SNR=26
P30M Million Dollar 68.38 32 P P 13 57 52.7 +1.4
baz=268
E29M Blow River 68.49 23 IAmb IAmb 13 57 57.4
comp=Z,4.3nm,0.6s
E29M Blow River 68.49 23 P P 13 57 52.3 +0.6
baz=264
M30M Minto, Yukon 68.54 29 P P 13 57 53.2 +1.0
baz=268,SNR=8.6
SIMJ Simiganj 68.61 305 P P 13 57 52.9 -0.4
PLBC Pleasant Camp 68.66 32 P P 13 57 54.0 +1.1
baz=269,SNR=17
S31K Pelican 68.72 34 P P 13 57 54.0 +0.8
baz=270
EPYK Eagle Plains 68.77 25 IAmb IAmb 13 57 54.7
comp=Z,7.4nm,0.7s
EPYK Eagle Plains 68.77 25 P P 13 57 54.1 +0.6
baz=266
O30N Mendenhall 68.82 31 P P 13 57 54.7 +0.8
baz=269,SNR=5.0
J30M Hart River 68.83 27 IAmb IAmb 13 57 55.2
comp=Z,4.9nm,0.5s
J30M Hart River 68.83 27 P P 13 57 54.7 +0.7
baz=267,SNR=8.6
I30M Mount Dempster 68.85 26 P P 13 57 54.3 +0.2
baz=267,SNR=5.5
R31K City Hall, Gus 68.98 34 P P 13 57 55.8 +1.0
baz=270
N31M Braeburn, Yuko 68.98 30 IAmb IAmb 13 57 57.0
comp=Z,14nm,1.1s
N31M Braeburn, Yuko 68.98 30 P P 13 57 56.1 +1.2
baz=269,SNR=9.2
MAYO Mayo, Yukon 68.99 28 P P 13 57 55.9 +1.1
baz=268
G30M tAoh Zraii Nji 69.01 24 IAmb IAmb 13 57 56.2
comp=Z,16nm,1.3s
G30M tAoh Zraii Nji 69.01 24 P P 13 57 55.1 +0.1
baz=266,SNR=5.1
SKAG Skagway 69.19 32 IAmb IAmb 13 57 58.1
comp=Z,8.9nm,1.0s
SKAG Skagway 69.19 32 P P 13 57 57.2 +1.1
baz=270,SNR=7.2
F30M Barrier River 69.22 24 P P 13 57 56.9 +0.7
baz=267,SNR=7.9
SIT Sitka 69.22 35 P P 13 57 57.1 +0.8
baz=271
WHY Whitehorse 69.42 31 IAmb IAmb 13 57 59.6
comp=Z,12nm,0.8s
WHY Whitehorse 69.42 31 P P 13 57 58.6 +0.9
baz=270,SNR=5.7
S32K Killisnoo 69.62 35 P P 13 57 59.6 +0.8
baz=272
R32K Eaglecrest 69.63 34 IAmb IAmb 13 58 00.8
comp=Z,6.4nm,0.7s
R32K Eaglecrest 69.63 34 P P 13 57 59.9 +1.0
baz=271,SNR=8.8
M31M Drury Creek, Y 69.65 30 P P 13 57 59.5 +0.6
baz=270,SNR=9.7
H31M Peel River 69.72 26 IAmb IAmb 13 58 00.7
comp=Z,9.4nm,0.6s
H31M Peel River 69.72 26 P P 13 58 00.2 +0.9
baz=269
G31M Satah River 69.78 24 P P 13 57 59.8 +0.3
baz=268,SNR=6.9
P32M Atlin 70.01 32 P P 13 58 02.0 +0.8
baz=272
INK Inuvik 70.10 23 P P 13 58 01.5 0.0
baz=268
N32M Quiet Lake 70.29 31 P P 13 58 03.5 +0.7
baz=272
P33M Teslin, Yukon 70.45 32 P P 13 58 04.4 +0.6
baz=272,SNR=5.6
U33K Whale Pass 70.48 36 P P 13 58 05.1 +1.1
baz=273
CRAG Craig 70.51 37 P P 13 58 03.6 -0.6
baz=274
Q32M Nakina River 70.78 33 P P 13 58 07.0 +1.0
baz=273
WRAK Wrangell Islan 70.89 36 P P 13 58 07.5 +1.1
baz=274
DIB Dawson Inlet, 71.05 39 IAmb IAmb 13 58 08.6
comp=Z,8.3nm,0.7s
R33M Jennings River 71.42 32 P P 13 58 10.8 +1.1
baz=274,SNR=6.6
S34M Telegraph Cree 71.44 34 IAmb IAmb 13 58 11.9
comp=Z,8.2nm,0.7s
S34M Telegraph Cree 71.44 34 P P 13 58 11.0 +1.3
baz=274,SNR=10
DLBC Dease Lake 71.98 33 P P 13 58 14.2 +1.2
baz=275,SNR=14
T35M Bob Quinn 72.00 35 IAmb IAmb 13 58 15.2
comp=Z,8.6nm,0.9s
T35M Bob Quinn 72.00 35 P P 13 58 14.3 +1.2
baz=275,SNR=8.9
WTLY Watson Lake, Y 72.46 32 IAmb IAmb 13 58 17.7
comp=Z,13nm,1.0s
WTLY Watson Lake, Y 72.46 32 P P 13 58 16.8 +1.0
baz=276
TGTN Hyland Airport 72.58 30 P P 13 58 17.4 +0.9
baz=276,SNR=5.2
ARTI Arti 73.66 325 P P 13 58 21.9 -0.8
AB31 Akbulak array 73.75 317 IAmb IAmb 13 58 23.6
comp=Z,5.6nm,0.7s
ABKAR Akbulak array 73.75 317 P P 13 58 22.4 -1.0
TOAD Toad River Com 74.42 33 P P 13 58 28.1 +0.9
baz=279
KOTAN Kotaneelee Air 74.81 31 P P 13 58 30.1 +0.8
baz=280
PGC Sidney 77.39 43 IAmb IAmb 13 58 45.7
comp=Z,7.4nm,0.8s
NLWA Neilton Lookou 77.40 44 IAmb IAmb 13 58 46.4
comp=Z,11nm,0.9s
GNW Green Mountain 78.05 44 IAmb IAmb 13 58 49.8
comp=Z,12nm,1.0s
EUNU Eureka 78.46 8 IAmb IAmb 13 58 50.9
comp=Z,4.8nm,0.6s
YKA Yellowknife Ar 78.70 28 P P 13 58 50.3 -0.6
comp=Z,1.1nm,0.5s,baz=292,slow=5.9,SNR=18
comp=Z,1.1nm,0.5s
BBOR Butler Butte 79.28 48 IAmb IAmb 13 58 56.3
comp=Z,5.4nm,0.8s
YBH Yreka Blue Hor 79.55 50 IAmb IAmb 13 58 58.0
comp=Z,7.6nm,0.8s
SPITS Spitsbergen Ar 79.85 351 P P 13 58 56.8 0.0
comp=Z,0.8nm,0.4s,baz=55,slow=5.5,SNR=1.1
comp=Z,0.8nm,0.4s
B08A Colville Reser 80.12 42 IAmb IAmb 13 58 59.6
comp=Z,5.1nm,0.6s
K05A Summer Lake 80.59 48 IAmb IAmb 13 59 03.5
comp=Z,11nm,0.8s
MPK Martis Peak 82.17 51 IAmb IAmb 13 59 11.7
comp=Z,13nm,1.0s
CMB Columbia Colle 82.27 53 IAmb IAmb 13 59 11.6
comp=Z,7.0nm,0.8s
WAKR Walker 82.84 52 IAmb IAmb 13 59 15.1
comp=Z,4.6nm,0.7s
ARCES ARCESS Array B 83.13 342 P P 13 59 13.2 -0.8
comp=Z,5.6nm,0.7s,baz=76,slow=7.8,SNR=31
comp=Z,5.6nm,0.7s
RYN Ryan 83.49 52 IAmb IAmb 13 59 18.2
comp=Z,6.5nm,0.8s
NVAR Mina Array Bea 83.72 52 P P 13 59 18.4 +0.5
NVAR Mina Array Bea 83.72 52 P P 13 59 18.3 +0.4
comp=Z,8.1nm,0.7s,baz=266,slow=6.0,SNR=47
comp=Z,8.1nm,0.7s
NV11 Mina Array Sit 83.83 52 IAmb IAmb 13 59 19.8
comp=Z,8.8nm,0.7s
MFID Camas Ranch 83.93 46 IAmb IAmb 13 59 20.1
comp=Z,7.5nm,0.8s
DSP Deep Springs 84.29 53 P P 13 59 20.8 +0.3
GMN Gold Mountain 84.85 53 IAmb IAmb 13 59 25.3
comp=Z,4.8nm,0.7s
TPNV Topopah Spring 85.73 53 IAmb IAmb 13 59 29.1
comp=Z,5.5nm,0.7s
R11B Troy Canyon, C 85.77 51 IAmb IAmb 13 59 29.5
comp=Z,9.6nm,1.5s
S11A Rachel 85.88 52 IAmb IAmb 13 59 30.1
comp=Z,7.9nm,1.0s
KBZ Khabaz 86.53 315 P P 13 59 30.1 -1.3
comp=Z,6.6nm,0.9s,baz=84,slow=2.8,SNR=10
comp=Z,6.6nm,0.9s
PSUT Pine Spring 86.98 51 IAmb IAmb 13 59 35.1
comp=Z,6.3nm,0.8s
FINES FINESS Array B 87.47 335 P P 13 59 33.2 -2.2
FINES FINESS Array B 87.47 335 P P 13 59 33.4 -2.1
comp=Z,3.2nm,0.4s,baz=63,slow=4.2,SNR=78
comp=Z,3.2nm,0.4s
KNB Kanab 88.28 52 IAmb IAmb 13 59 42.0
comp=Z,6.0nm,0.9s
PDAR Pinedale Array 88.45 45 P P 13 59 40.1 -0.7
comp=Z,0.3nm,0.4s,baz=93,slow=0.9,SNR=5.7
comp=Z,0.3nm,0.4s
SRU San Rafael Swe 89.19 49 IAmb IAmb 13 59 45.1
comp=Z,5.0nm,0.7s
Y14A Wickenburg 89.25 55 IAmb IAmb 13 59 46.4
comp=Z,3.6nm,0.7s
PV21 Cone Mtn., Par 90.52 49 IAmb IAmb 13 59 51.5
comp=Z,4.3nm,0.6s
PV04 Paradox Valley 90.64 49 IAmb IAmb 13 59 52.1
comp=Z,6.4nm,1.0s
PV16 Nyswonger Mesa 90.66 49 IAmb IAmb 13 59 52.0
comp=Z,5.6nm,0.8s
PV12 Saucer Basin, 90.74 49 P P 13 59 51.2 -0.4
PV12 IAmb IAmb 13 59 52.5
comp=Z,9.7nm,1.0s
PV13 Radium Mtn., P 90.79 49 P P 13 59 51.0 -0.8
PV13 IAmb IAmb 13 59 52.5
comp=Z,4.1nm,0.7s
AKASG Malin Array Be 91.80 325 P P 13 59 56.4 +0.6
comp=Z,0.3nm,0.4s,baz=61,slow=5.2,SNR=1.9
comp=Z,0.3nm,0.4s
HFS Hagfors 92.99 338 P P 13 59 58.7 -2.4
comp=Z,3.0nm,0.7s,baz=83,slow=4.6,SNR=21
comp=Z,3.0nm,0.7s
NB2 NORSAR Subarra 93.19 340 P P 14 00 00.4 -1.7
comp=Z,0.5nm,0.5s,baz=45,slow=4.6
NOA NORSAR Array B 93.19 340 P P 14 00 00.2 -1.9
comp=Z,0.5nm,0.5s,baz=46,slow=4.5,SNR=6.3
comp=Z,0.5nm,0.5s
BR131 Keskin Array S 94.49 314 IAmb IAmb 14 00 07.9
comp=Z,4.1nm,0.8s
BRTR Keskin Array B 94.49 314 P P 14 00 06.6 -2.1
BRTR Keskin Array B 94.49 314 P P 14 00 06.8 -1.9
comp=Z,2.9nm,0.9s,baz=97,slow=2.4,SNR=11
comp=Z,2.9nm,0.9s
TXAR Lajitas Array 98.38 56 P Pdif 14 00 26.2 -0.2
comp=Z,0.1nm,0.4s,baz=319,slow=6.5,SNR=3.7

comp=Z,0.1nm,0.4s
LPAZ La Paz 147.82 92 PKPbc PKPbc 14 06 33.1 0.0
LPAZ La Paz 147.82 92 PKPbc PKPbc 14 06 33.0 -0.2
comp=Z,2.9nm,0.5s,baz=272,slow=5.9,SNR=4.4

MOS ***21*** *14:01:41.5±0.8, 42˚.25N×144˚.14E, h62km, mb4.7/27, Error ellipse: s-maj=7.8km s-min=5.8km az=85.9*
NEIC ***21*** *14:01:42.0±2.6, 42˚.26N±0˚.07×144˚.37E±0˚.04, h35km±2km, mb4.7/246, Error ellipse: s-maj=12.2km s-min=3.0km az=157.0*
IDC ***21*** *14:01:41.7±1.4, 42˚.34N×144˚.15E, h44km±11km, mb4.0/26, mbtmp4.3/33, ML3.8/5, MS3.2/22, Error ellipse: s-maj=11.4km s-min=10.1km az=91.0*
NIED ***21*** *14:01:42.2, 42˚.29N×144˚.18E, h70km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.81; Mθθ0.67; Mϕϕ-2.48; Mrθ1.36; Mθϕ-1.99; Mϕr-2.39; Fault plane solution: Mo4.05000×10¹⁵ NP1:φs60.00000°, δ43.00000°, λ153.00000°. NP2:φs170.00000°, δ72.00000°, λ51.00000°.*
BJI ***21*** *14:01:42.7, 42˚.31N×143˚.97E, h50km, mB4.9/9, mb4.6/50, Ms4.1/1*
JMA ***21*** *14:01:42.2±0.1, 42˚.3N±0˚.3×144˚.2E±0˚.4, h70km±1km, MD4.4/40, MW4.4/40, SE OFF TOKACHI*
JMA Felt II J1 at SE OFF TOKACHI .
SKHL ***21*** *14:01:43.0±0.1, 42˚.30N×144˚.20E, h74km±4km, mb5.8/4*
ISC 21 14:01:42.9±0.6, 42˚.31N±0˚.04×144˚.23E±0˚.03, h55km±4km, n555, σ1§19/461, mb4.6/170, MS3.2/18, 13C-19D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.66**	**334**	⇓	*i*	P	**Pn**	**14 01 57.0**	**+0.7**
JOB				⇓		S	**Sn**	**14 02 07.9**	**+1.7**
JOB	**Onbets**	**0.66**	**334**	A		A	A	14 01 57.0	
comp=N,14nm,0.3s,comp=E,32nm,2.6s									
JTHR	**Tokachihiroo**	**0.69**	**269**	⇓		P	**Pn**	**14 01 56.9**	**+0.2**
JTHR				⇓		S	**Sn**	**14 02 06.8**	**0.0**
JTHR	**Tokachihiroo**	**0.69**	**269**	A		A	A	14 01 56.9	
comp=N,52nm,0.6s,comp=E,44nm,0.7s									
JCH	**Churui**	**0.71**	**296**	⇓	*i*	P	**Pn**	**14 01 57.3**	**+0.3**
JCH				⇓		S	**Sn**	**14 02 07.7**	**+0.5**
JCH	**Churui**	**0.71**	**296**	A		A	A	14 01 57.3	
comp=N,27nm,0.5s,comp=E,24nm,0.7s									
JAK	**Akkeshi**	**0.77**	**27**	*i*	P		**Pn**	**14 01 58.2**	**+0.4**
JAK					S		**Sn**	**14 02 09.8**	**+1.2**
JAK	**Akkeshi**	**0.77**	**27**	A		A	A	14 01 58.2	
comp=N,14nm,1.1s,comp=E,16nm,0.3s									
AKK	**Akkeshi**	**0.84**	**33**	*e*	P		**Pn**	**14 01 59.6**	**+0.9**
ERM	**Erimo**	**0.85**	**250**				**Pn**	**14 01 59.7**	**+1.0**
ERM					Sn		**Sn**	**14 02 10.7**	**+0.4**
ERM	**Erimo**	**0.85**	**250**	*i*	PN		**Pn**	**14 01 59.8**	**+1.1**
JEM	**Erimo**	**0.85**	**250**		P		**Pn**	**14 01 58.5**	**-0.2**
JEM	**Erimo**	**0.85**	**250**	A		A	A	14 01 58.5	
comp=N,17nm,1.5s,comp=E,17nm,2.4s									
JKHN	**Kushirohamanak**	**1.03**	**41**	P			**Pn**	**14 02 01.9**	**+0.7**
JKHN				S			**Sn**	**14 02 16.3**	**+1.5**
JKHN	**Kushirohamanak**	**1.03**	**41**	A		A	A	14 02 01.9	
comp=N,26nm,2.0s,comp=E,19nm,2.4s									
JAR	**Ashorobuto**	**1.04**	**341**	⇓	*i*	P	**Pn**	**14 02 01.5**	**+0.2**
JAR				⇓		S	**Sn**	**14 02 15.5**	**+0.5**
JAR	**Ashorobuto**	**1.04**	**341**	A		A	A	14 02 01.5	
comp=N,17nm,0.3s,comp=E,22nm,0.4s									
JNBK	**Urakawa-nobuka**	**1.09**	**269**	⇓	*i*	P	**Pn**	**14 02 01.6**	**-0.4**
JNBK	**Urakawa-nobuka**	**1.09**	**269**	A		A	A	14 02 01.6	
comp=N,22nm,0.5s,comp=E,23nm,0.4s									
JSHD	**Hidakashinhida**	**1.31**	**275**	A		A	A	14 02 04.5	
comp=N,12nm,1.6s,comp=E,11nm,1.2s									
JNK	**Nakash**	**1.32**	**16**	*i*	P		**Pn**	**14 02 05.1**	**0.0**
JNK					S		**Sn**	**14 02 22.0**	**+0.2**
JNK	**Nakash**	**1.32**	**16**	A		A	A	14 02 05.1	
comp=N,12nm,0.9s,comp=E,12nm,0.9s									
JBT2	**Biratori 2**	**1.45**	**289**	⇓	*i*	P	**Pn**	**14 02 06.0**	**-0.8**
JFR	**Furan**	**1.47**	**306**	⇓	*i*	P	**Pn**	**14 02 06.5**	**-0.6**
JFR				⇓		S	**Sn**	**14 02 25.3**	**-0.1**
JFR	**Furan**	**1.47**	**306**	A		A	A	14 02 06.5	
comp=N,6.0nm,0.9s,comp=E,6.0nm,1.1s									
NMR	**Nemuro--Hokkai**	**1.53**	**46**	⇑	*i*	PN	**Pn**	**14 02 07.7**	**-0.2**
NMR					*e*	S	**Sn**	**14 02 25.8**	**-0.9**
NMR	**Nemuro--Hokkai**	**1.53**	**46**	*e*		P	**Pn**	**14 02 07.7**	**-0.2**
NMR					*e*	S	**Sn**	**14 02 26.1**	**-0.6**
NEM2	**Nemuro 2**	**1.54**	**46**	*i*		P	**Pn**	**14 02 07.7**	**-0.2**
NEM2						S	**Sn**	**14 02 25.9**	**-0.8**
JNSB	**Nemuroshibetsu**	**1.57**	**21**	A		A	A	14 02 08.9	
comp=N,20nm,1.4s,comp=E,15nm,1.3s									
JTKR	**Abashiri--Toko**	**1.68**	**352**	⇓	*i*	P	**Pn**	**14 02 10.8**	**+1.0**
JTKR				⇓		S	**Sn**	**14 02 32.0**	**+1.8**
JTKR	**Abashiri--Toko**	**1.68**	**352**	A		A	A	14 02 10.8	
comp=N,5.0nm,0.4s,comp=E,9.0nm,2.0s									
GLVR	**Golovnino**	**1.71**	**33**	*e*	PN		**Pn**	**14 02 10.8**	**+0.4**
GLVR					*e*	S	**Sn**	**14 02 31.9**	**+0.8**
GLVR					pmax	pmax			
comp=Z,3μm,0.3s									
GLVR					pmax	pmax			
comp=E,568nm,0.2s									
GLVR					pmax	pmax			
comp=N,285nm,0.1s									
GLVR					smax	smax			
comp=N,16μm,0.2s									
GLVR					smax	smax			
comp=E,10μm,0.2s									
GLVR	**Golovnino**	**1.71**	**33**	*e*	P		**Pn**	**14 02 10.9**	**+0.5**
GLVR					AMB	AMB		14 02 11.7	
comp=E,3μm,0.3s									
GLVR					*e*	S	**Sn**	**14 02 31.9**	**+0.8**
GLVR					A	A		14 02 33.4	
comp=E,16μm,0.2s									
GLVR					A	A		14 02 33.4	
comp=E,10μm,0.2s									
JIAM	**Iburiatsuma**	**1.73**	**281**	⇓	*i*	P	**Pn**	**14 02 12.9**	**+2.3**
JIAM	**Iburiatsuma**	**1.73**	**281**	A		A	A	14 02 12.9	
comp=N,16nm,0.9s,comp=E,16nm,0.9s									
JRA	**Rausu**	**1.75**	**22**	*i*		P	**Pn**	**14 02 11.5**	**+0.6**
JRA						S	**Sn**	**14 02 32.8**	**+0.7**
JRA	**Rausu**	**1.75**	**22**	A		A	A	14 02 11.5	
comp=N,8.0nm,1.8s,comp=E,8.0nm,0.7s									
JMP	**Maruseppu**	**1.81**	**340**	⇓	*i*	P	**Pn**	**14 02 12.1**	**+0.4**
JMP	**Maruseppu**	**1.81**	**340**	A		A	A	14 02 12.1	
comp=N,13nm,0.8s,comp=E,9.0nm,1.6s									
JAB	**Ashibetsu**	**1.89**	**310**	⇓	*i*	P	**Pn**	**14 02 13.8**	**+0.9**
JKK2	**Kamakawa 2**	**1.90**	**326**	⇓	*i*	P	**Pn**	**14 02 13.5**	**+0.6**
RUSJ	**Misakicho**	**1.94**	**22**	⇑	*i*	PN	**Pn**	**14 02 14.6**	**+1.1**
RUSJ					*e*	S	**Sn**	**14 02 39.1**	**+2.4**
YUK	**Yuzh-Kuril'sk**	**2.10**	**34**	*c*	*i*	PN	**Pn**	**14 02 16.3**	**+0.7**
YUK					*i*	S	**Sn**	**14 02 40.5**	**0.0**
YUK					pmax	pmax			
comp=N,344nm,0.2s									
YUK					pmax	pmax			
comp=Z,3μm,0.2s									
YUK					pmax	pmax			
comp=E,689nm,0.1s									
YUK					smax	smax			
comp=N,8μm,0.5s									
YUK					smax	smax			
comp=E,10μm,0.4s									
YUK	**Yuzh-Kuril'sk**	**2.10**	**34**	*i*	P		**Pn**	**14 02 16.3**	**+0.7**
YUK					AMB	AMB		14 02 16.9	
comp=E,3μm,0.2s									
YUK				*i*	S		**Sn**	**14 02 41.2**	**+0.7**
YUK					A	A		14 02 42.4	
comp=E,8μm,0.5s									
YUK					A	A		14 02 42.4	
comp=E,10μm,0.5s									
JKA	**Kamikawa-asahi**	**2.16**	**327**				**Pn**	**14 02 17.3**	**+0.8**
ASAJ	**Asahikawa**	**2.16**	**327**	P			**Pn**	**14 02 16.4**	**0.0**
comp=E,54nm,0.3s,baz=194,slow=9.6,SNR=477									
ASAJ					S		**Sn**	**14 02 39.9**	**-2.2**
comp=E,302nm,0.4s,baz=177,slow=28,SNR=6.2									
comp=E,227nm,0.6s									
JAHD	**Aomorihigashid**	**2.40**	**245**	A		A	A	14 02 19.5	
comp=N,32nm,1.2s,comp=E,30nm,0.5s									
JKB	**Kayabe**	**2.41**	**261**	A		A	A	14 02 19.7	
comp=N,8.0nm,1.1s,comp=E,7.0nm,0.7s									
SHO	**Shikotan**	**2.46**	**50**	*c*	*i*	PN	**Pn**	**14 02 22.4**	**+1.8**
SHO					*e*	S	**Sn**	**14 02 49.0**	**-0.5**
SHO					pmax	pmax			
comp=N,21nm,0.1s									
SHO					pmax	pmax			
comp=E,65nm,0.1s									
SHO					pmax	pmax			
comp=Z,432nm,0.1s									
SHO					smax	smax			
comp=N,4μm,0.4s									
SHO					smax	smax			
comp=E,3μm,0.4s									
SHO	**Shikotan**	**2.46**	**50**	*e*	P		**Pn**	**14 02 22.2**	**+1.6**
SHO					AMB	AMB		14 02 23.3	
comp=E,430nm,0.1s									
SHO				*e*	S		**Sn**	**14 02 49.0**	**-0.5**
SHO				A		A		14 02 52.0	
comp=E,4μm,0.4s									
SHO				A		A		14 02 52.0	
comp=E,3μm,0.4s									
JARK	**Aomorirokkasho**	**2.51**	**240**	A		A	A	14 02 21.0	
comp=N,9.0nm,0.5s,comp=E,12nm,0.4s									
JTM	**Tenmabayashi**	**2.82**	**238**				**Pn**	**14 02 25.2**	**-0.2**
JSI2	**Shiura 2**	**3.12**	**248**	A		A	A	14 02 29.5	
comp=N,6.0nm,0.9s,comp=E,5.0nm,0.7s									
KUR	**Kuril'sk**	**3.94**	**41**	*c*	*i*	PN	**Pn**	**14 02 41.6**	**+0.9**
KUR					*i*	S	**Sn**	**14 03 26.0**	**+0.4**
KUR					pmax	pmax			
comp=Z,365nm,0.3s									
KUR					pmax	pmax			
comp=E,133nm,0.1s									
KUR					pmax	pmax			
comp=N,96nm,0.3s									
KUR					smax	smax			
comp=N,1μm,0.5s									
KUR					smax	smax			
comp=E,463nm,0.2s									
KUR	**Kuril'sk**	**3.94**	**41**	*i*		P	**Pn**	**14 02 41.6**	**+0.9**
KUR						AMB	AMB	14 02 43.1	
comp=E,370nm,0.3s									
KUR					*i*	S	**Sn**	**14 03 26.0**	**+0.4**
KUR					A		A	14 03 29.8	
comp=E,1μm,0.3s									
KUR					A		A	14 03 29.8	
comp=E,460nm,0.3s									
YSS	**Yuzhno-Sakhali**	**4.76**	**348**				**Pn**	**14 02 53.0**	**+1.0**
YSS	**Yuzhno-Sakhali**	**4.76**	**348**	*e*	PN		**Pn**	**14 02 52.5**	**+0.5**
YSS					*e*	S	**Sn**	**14 03 45.6**	**-0.2**
YSS					pmax	pmax			
comp=Z,100nm,3.3s									
YSS					pmax	pmax			
comp=Z,50nm,0.4s									
YSS					smax	smax			
comp=N,200nm,2.6s									
YSS					smax	smax			
comp=N,70nm,0.6s									
YSS					smax	smax			
comp=E,100nm,0.5s									
YSS	**Yuzhno-Sakhali**	**4.76**	**348**	*e*	P		**Pn**	**14 02 52.5**	**+0.5**
YSS					AMB	AMB		14 02 54.5	
comp=E,100nm,3.3s									
YSS					AMB	AMB		14 02 54.8	
comp=E,500nm,0.4s									
YSS				*e*	S		**Sn**	**14 03 45.6**	**-0.2**
YSS				A		A		14 03 47.7	
comp=E,200nm,2.6s									
YSS				A		A		14 03 48.5	
comp=E,700nm,0.6s									
YSS				A		A		14 03 48.5	
comp=E,1μm,0.6s									
JMM	**Marumori**	**5.16**	**212**				**Pn**	**14 02 55.3**	**-2.3**
MAJO	**Matsushiro**	**7.41**	**221**				**Pn**	**14 03 27.3**	**-1.1**
MAJO	**Matsushiro**	**7.41**	**221**	PN			**Pn**	**14 03 27.3**	**-1.1**
MJAR	**Matsushiro Arr**	**7.41**	**221**	P			**Pn**	**14 03 27.7**	**-0.7**
comp=E,0.7nm,0.3s,baz=31,slow=13,SNR=143									
MJAR					S		**Sn**	**14 04 49.7**	**-1.3**
comp=E,2.6nm,0.4s,baz=216,slow=20,SNR=1.1									
MJAR					LR		LR	14 07 03.3	
comp=E,160nm,19.1s,baz=48,slow=44									
comp=E,28nm,0.7s									
MJB9	**Matsu-Tunnel**	**7.41**	**221**				**Pn**	**14 03 28.0**	**-0.3**
JGF	**Kuroka**	**8.57**	**221**				**Pn**	**14 03 43.7**	**-0.6**
TYV	**Tymovskoe**	**8.62**	**353**	*e*	PN		**Pn**	**14 03 48.2**	**+3.3**
TYV					*e*	S	**Sn**	**14 05 26.3**	**+5.7**
TYV					pmax	pmax			
comp=Z,12nm,0.9s									
TYV					pmax	pmax			
comp=E,100nm,4.3s									
TYV					smax	smax			
comp=N,13nm,1.1s									
TYV					smax	smax			
comp=E,9.0nm,1.1s									
TYV					smax	smax			
comp=E,300nm,5.0s									
TYV	**Tymovskoe**	**8.62**	**353**	*e*	P		**Pn**	**14 03 47.4**	**+2.5**
TYV					AMB	AMB		14 03 49.0	
comp=E,10.0nm,0.9s									
TYV					AMB	AMB		14 03 50.9	
comp=E,100nm,4.3s									
TYV				*e*	S		**Sn**	**14 05 21.1**	**+0.5**
TYV				A		A		14 05 29.4	
comp=E,10.0nm,1.1s									
TYV				A		A		14 05 29.4	
comp=E,10.0nm,1.1s									
TYV				A		A		14 05 32.5	
comp=E,300nm,5.0s									
INU	**Inuyama**	**8.94**	**221**	Pn			**Pn**	**14 03 48.8**	**-0.5**
USA0B	**Ussuriysk Arra**	**9.13**	**286**	*i*	PN		**Pn**	**14 03 52.2**	**+0.4**
USRK	**Ussuriysk Ar.**	**9.13**	**286**	P			**Pn**	**14 03 50.0**	**-1.8**
comp=E,1.8nm,0.3s,baz=105,slow=14,SNR=23									
USRK					LR		LR	14 07 40.8	
comp=E,109nm,19.7s,baz=140,slow=40									
comp=E,8.2nm,0.5s									
JHJ2	**Mitsune**	**9.82**	**202**	Pn			**Pn**	**14 03 59.0**	**-2.4**
PSTR	**Posyet**	**9.92**	**276**	*i*	PN		**Pn**	**14 04 01.9**	**-0.8**
PSTR	**Posyet**	**9.92**	**276**	*e*	P		**Pn**	**14 04 02.1**	**-0.6**
MDJ	**Mudanjiang**	**10.88**	**287**				**Pn**	**14 04 16.9**	**+1.1**
MDJ	**Mudanjiang**	**10.88**	**287**	P			**Pn**	**14 04 18.4**	**+2.5**
MDJ					pmax	pmax			
comp=E,23nm,1.2s									
BNX	**BinXian**	**12.58**	**292**	⇓		P	**Pn**	**14 04 40.0**	**+1.0**
BNX					pmax	pmax			
comp=E,32nm,1.0s									
KSRS	**Korea Array**	**13.42**	**254**	P			**Pn**	**14 04 49.9**	**-0.6**
comp=E,0.1nm,0.3s,baz=71,slow=12,SNR=5.9									
KSRS					S		**Sn**	**14 07 16.9**	**-1.1**
comp=E,2.4nm,0.4s,baz=67,slow=24,SNR=12									
comp=E,2.7nm,0.9s									
KSAR	**Wonju Array Be**	**13.46**	**254**	Pn			**Pn**	**14 04 51.2**	**+0.2**
KSAR	**Wonju Array Be**	**13.46**	**254**	PN			**Pn**	**14 04 51.2**	**+0.2**
CN2	**Changchun**	**13.81**	**283**	*e*	P		**Pn**	**14 04 54.9**	**-0.9**
CN2					pmax	pmax			
comp=E,10.0nm,0.6s									
JNU	**Nakatsue**	**13.98**	**233**	LR			LR	14 10 19.9	
comp=E,116nm,21.1s,baz=346,slow=37									
HEH	**HeiHe**	**14.06**	**310**	*e*	P		**Pn**	**14 04 58.6**	**-0.4**
HEH					pmax	pmax			
comp=E,11nm,0.6s									
PETK	**Petropavlovsk-**	**14.08**	**35**	P			**Pn**	**14 04 56.7**	**-2.6**
comp=E,1.2nm,0.3s,baz=182,slow=6.8,SNR=25									
PETK					LR		LR	14 10 15.8	
comp=E,85nm,21.1s,baz=243,slow=36									
comp=E,6.3nm,0.7s									
PET	**Petropavlovsk**	**14.44**	**37**	*e*	P		**P**	**14 05 11.2**	**+1.8**
PET				*e*	S		**Sn**	**14 07 44.6**	**+2.1**
PET					pmax	pmax			
comp=Z,100nm,12.1s									
PET					MLR	MLR			
comp=Z,100nm,15.0s									
PET					MLR	MLR			
comp=Z,200nm,15.0s									
JCJ	**Chichijima**	**15.27**	**187**	P			**Pn**	**14 05 13.7**	**-1.3**
comp=Z,12nm,0.3s									
ZEA	**Zeya**	**16.07**	**321**	*e*	P		**Pn**	**14 05 23.0**	**-1.9**
DL2	**Dalian**	**17.48**	**266**	P			**Pn**	**14 05 41.6**	**-1.1**
DL2					pmax	pmax			
comp=Z,37nm,0.9s									
MA2	**Magadan**	**17.76**	**11**				**P**	**14 05 44.9**	**-1.2**
MA2	**Magadan**	**17.76**	**11**	P			**P**	**14 05 44.4**	**-1.7**
comp=Z,17nm,0.7s,baz=200,slow=10.0,SNR=21									
MA2					S		**Sn**	**14 08 59.0**	**-3.8**
comp=Z,2.0nm,0.3s,baz=201,slow=23,SNR=4.7									
MA2					LR		LR	14 12 31.8	
comp=Z,51nm,18.1s,baz=198,slow=37									
MA2	**Magadan**	**17.76**	**11**	*c*	*e*	P	**P**	**14 05 43.6**	**-2.5**
MA2					pmax	pmax			
comp=Z,25nm,0.8s									
JOW	**Kunigami**	**20.22**	**225**	LR			LR	14 14 54.0	
comp=Z,49nm,18.4s,baz=125,slow=39									
XLT	**XiLinHaoTe**	**20.57**	**284**	*e*	P		**P**	**14 06 16.0**	**-1.1**
XLT					pmax	pmax			
comp=Z,17nm,1.0s									
XLT					pmax	pmax			
comp=Z,120nm,5.2s									
SEY	**Seymchan**	**21.21**	**10**	P			**P**	**14 06 21.6**	**-2.0**
comp=Z,21nm,1.0s,baz=191,slow=7.8,SNR=23									
comp=Z,21nm,1.0s									
SEY	**Seymchan**	**21.21**	**10**	*e*	P		**P**	**14 06 20.5**	**-3.1**
SEY					pmax	pmax			
comp=Z,37nm,1.5s									
BJT	**Baijiatuau**	**21.21**	**273**				**P**	**14 06 22.6**	**-1.3**
BJT	**Baijiatuau**	**21.21**	**273**	P			**P**	**14 06 22.6**	**-1.3**
BJT					pmax	pmax			
comp=Z,8.0nm,0.7s									
YAK	**Yakutsk**	**21.57**	**341**	P			**P**	**14 06 23.9**	**-3.6**
YAK					IAmb	IAmb		14 06 28.1	
comp=Z,19nm,0.8s									
YAK	**Yakutsk**	**21.57**	**341**	P			**P**	**14 06 24.0**	**-3.4**
comp=Z,15nm,0.3s,baz=115,slow=4.5,SNR=16									
YAK					S		**S**	**14 10 16.7**	**-6.5**
comp=Z,9.3nm,0.7s,baz=44,slow=23,SNR=18									
YAK					LR		LR	14 14 53.1	
comp=Z,43nm,18.4s,baz=151,slow=37									
YAK	**Yakutsk**	**21.57**	**341**	*e*	P		**P**	**14 06 23.3**	**-4.2**
YAK				*e*	*PP		**pP**	**14 06 41.8**	**+1.9**
YAK				*e*	S		**S**	**14 10 15.5**	**-7.8**
YAK				*e*				14 17 39.5	
YAK					pmax	pmax			
comp=Z,12nm,0.7s									
YAK					pmax	pmax			
comp=N,7.0nm,1.5s									
YAK					pmax	pmax			
comp=E,1.0nm,0.9s									
YAK					smax	smax			
comp=N,143nm,1.8s									
YAK					smax	smax			
comp=E,85nm,2.0s									
NJ2	**Nanjing**	**22.58**	**251**	*e*	P		**P**	**14 06 40.8**	**+2.2**
NJ2					pmax	pmax			
comp=E,11nm,0.5s									
HNS	**HongShan**	**23.12**	**268**	⇑		P	**P**	**14 06 44.9**	**+0.8**
HNS					pmax	pmax			
comp=E,18nm,0.7s									
HHC	**Hu-ho-hao-te**	**24.40**	**278**	*e*	P		**P**	**14 06 57.3**	**+1.2**
HHC					pmax	pmax			
comp=E,15nm,0.6s									
HHC					pmax	pmax			
comp=E,100nm,4.8s									
AMKA	**Amchitka**	**25.44**	**57**	P			**P**	**14 07 06.1**	**+0.9**
LYN	**LuoYang**	**25.95**	**263**	P			**P**	**14 07 12.8**	**+2.8**
LYN					pmax	pmax			
comp=E,24nm,0.8s									
ULN	**Ulaanbaatar**	**26.64**	**295**				**P**	**14 07 16.4**	**0.0**
ULN	**Ulaanbaatar**	**26.64**	**295**	*c*	*e*	P	**P**	**14 07 16.9**	**+0.5**
ULN					pmax	pmax			
comp=Z,4.0nm,0.5s									
ULN	**Ulaanbaatar**	**26.64**	**295**	*e*	P		**P**	**14 07 16.9**	**+0.5**
SONM	**Songino Array**	**27.09**	**295**				**P**	**14 07 20.7**	**+0.4**
SONM	**Songino Array**	**27.09**	**295**	P			**P**	**14 07 19.3**	**-1.0**
comp=Z,7.6nm,0.6s,baz=83,slow=8.5,SNR=37									
SONM					LR		LR	14 18 31.5	
comp=Z,67nm,19.9s,baz=115,slow=37									
comp=Z,7.6nm,0.6s									
SONM	**Songino Array**	**27.09**	**295**	P			**P**	**14 07 20.7**	**+0.4**
SONM					pmax	pmax			
comp=Z,7.0nm,0.8s									
BILL	**Bilibino**	**28.36**	**17**	*c*	*e*	P	**P**	**14 07 29.2**	**-2.1**
BILL					pmax	pmax			
comp=Z,7.0nm,1.0s									
GSTR	**Great Sitkin T**	**28.38**	**56**	P			**P**	**14 07 32.3**	**+0.7**
GUMO	**Guam**	**28.62**	**179**	LR			LR	14 18 35.8	
comp=Z,14nm,19.6s,baz=353,slow=35									
XAN	**Xi'an**	**28.79**	**265**	⇑		P	**P**	**14 07 36.1**	**+0.5**
XAN					pmax	pmax			
comp=Z,9.0nm,0.9s									
H11N2	**WAKE ISLAND Hy**	**29.56**	**133**	T			T	14 39 07.4	
baz=326,slow=75,SNR=201									
H11N1	**WAKE ISLAND Hy**	**29.57**	**133**	T			T	14 39 09.5	
baz=326,slow=75,SNR=254									
H11N3	**WAKE ISLAND Hy**	**29.58**	**133**	T			T	14 39 08.7	
baz=326,slow=75,SNR=253									
TIXI	**Tiksi**	**30.38**	**350**	LR			LR	14 20 19.6	
comp=Z,43nm,19.9s,baz=172,slow=37									
H11S1	**WAKE ISLAND Hy**	**30.46**	**134**	T			T	14 40 19.3	
baz=328,slow=76,SNR=283									
H11S3	**WAKE ISLAND Hy**	**30.46**	**134**	T			T	14 40 14.1	
baz=328,slow=76,SNR=263									
H11S2	**WAKE ISLAND Hy**	**30.47**	**134**	T			T	14 40 18.9	
baz=328,slow=76,SNR=201									
LZH	**Lanzhou**	**31.68**	**272**	*e*	P		**P**	**14 08 02.4**	**+1.2**
LZH					pP		pP	14 08 12.6	-2.4
LZH					pmax	pmax			
comp=Z,21nm,0.8s									
GTA	**Gaotai**	**33.43**	**280**	P			**P**	**14 08 17.1**	**+0.7**
GTA					pmax	pmax			
comp=Z,5.0nm,0.9s									
K13K	**Kusilvak Mount**	**35.79**	**39**	P			**P**	**14 08 38.0**	**+1.7**
K13K	**Kusilvak Mount**	**35.79**	**39**	P			**P**	**14 08 35.9**	**-0.5**
baz=261									
M13K	**Dall Lake**	**36.22**	**42**	P			**P**	**14 08 39.6**	**-0.4**
baz=264									
J14K	**Nanvaranak Lak**	**36.43**	**38**	P			**P**	**14 08 42.4**	**+0.6**
baz=261									
L14K	**Kuka Creek**	**36.65**	**40**	P			**P**	**14 08 44.2**	**+0.5**
baz=263									
G15K	**Niukluk**	**36.65**	**34**	P			**P**	**14 08 44.8**	**+1.1**
baz=257									
S12K	**Black Hills**	**36.74**	**50**	P			**P**	**14 08 44.1**	**-0.5**
baz=272									
M14K	**Bethel**	**36.94**	**41**				**P**	**14 08 47.5**	**+1.4**
M14K	

E18K **Tukpahlearik C** 38.53 31 P P 14 08 59.5 -0.1
baz=268
baz=258
J17K **VABM Dome** 38.54 37 P P 14 08 59.2 -0.4
baz=264
B18K **Kokolik River** 38.58 27 P P 14 08 59.3 -0.6
baz=254
C18K **Utukok River** 38.60 29 P P 14 08 59.9 -0.2
baz=255
F18K **Selawik** 38.74 32 P P 14 09 01.4 +0.1
baz=260
CHGN **Chignik** 38.76 49 P P 14 09 01.2 -0.3
baz=274
L17K **Donlin** 38.79 39 P P 14 09 01.8 0.0
baz=266
O16K **Kokwok River B** 38.82 43 P P 14 09 01.5 -0.5
baz=270
K17K **Iditarod** 38.83 38 P P 14 09 02.0 -0.1
baz=266
G18K **Tagagawik** 39.02 33 P P 14 09 03.5 -0.2
baz=261
H18K **Honhosa River** 39.04 34 P P 14 09 04.3 +0.4
baz=263
M17K **Holitna River** 39.17 40 P 14 09 06.4 +1.4
M17K IAmb IAmb 14 09 07.0
comp=Z,7.3nm,0.7s
M17K **Holitna River** 39.17 40 P P 14 09 05.0 +0.1
baz=268
C19K **Lookout Ridge** 39.28 28 P P 14 09 06.8 +1.0
baz=257
N17K **Nushagak Hills** 39.28 42 P P 14 09 05.8 -0.1
baz=269
O17K **Koliganek Bris** 39.32 43 P P 14 09 06.2 0.0
baz=270
F19K **Shaleruckik Mo** 39.52 32 P P 14 09 08.1 +0.3
baz=261
L18K **Granite Mounta** 39.55 39 P 14 09 09.7 +1.5
L18K **Granite Mounta** 39.55 39 P P 14 09 09.0 +0.9
baz=268
J18K **Innoko River** 39.60 37 P P 14 09 09.4 +0.9
baz=266
D19K **Kuna River** 39.67 29 P P 14 09 09.6 +0.5
baz=259
P17K **Kvichak River** 39.67 44 P P 14 09 09.6 +0.5
baz=272
G19K **Purcell Mounta** 39.69 33 P P 14 09 08.9 -0.3
baz=263
R17L **Mt. Peulik Vol** 39.79 46 P P 14 09 09.5 -0.7
baz=274
E19K **Redstone River** 39.82 31 P P 14 09 10.6 +0.3
baz=261
H19K **Roundabout Mou** 39.88 34 P 14 09 12.2 +1.4
H19K **Roundabout Mou** 39.88 34 P P 14 09 11.2 +0.4
baz=264,SNR=19
N18K **Kilae Creek** 39.92 42 IAmb IAmb 14 09 14.0
comp=Z,19nm,1.4s
N18K **Kilae Creek** 39.92 42 P P 14 09 12.0 +0.8
baz=270
M18K **Stony River** 39.95 40 P P 14 09 12.3 +0.9
baz=269
Q17K **Contact Creek** 40.00 45 P P 14 09 12.3 +0.2
baz=273
J19K **Poorman** 40.12 36 P P 14 09 13.3 +0.5
baz=267
ZALV **Zalesovo Beam** 40.17 308 P P 14 09 13.0 -0.4
comp=Z,3.5nm,0.4s,baz=79,slow=7.9,SNR=18
ZALV PcP PcP 14 11 16.6 0.0
comp=Z,1.7nm,0.5s,baz=90,slow=3.0,SNR=3.6
ZALV LR LR 14 25 51.5
comp=Z,26nm,18.2s,baz=72,slow=36
comp=Z,3.5nm,0.4s
D20K **Etivluk River** 40.25 29 P P 14 09 13.9 0.0
baz=260
O18K **Koktuh Hills** 40.27 43 P P 14 09 14.5 +0.3
baz=272
P18K **Big Mountain,** 40.28 44 P P 14 09 14.3 0.0
baz=272
B20K **Meade River** 40.30 27 P P 14 09 14.3 +0.1
baz=258
E20K **Nigu River** 40.33 30 P P 14 09 14.6 0.0
baz=261
F20K **Avaraaart Lake** 40.34 32 P P 14 09 15.2 +0.6
baz=263
CHIR **Chirikof Islan** 40.36 49 P P 14 09 14.9 +0.1
baz=276
L19K **White Mountain** 40.41 39 P P 14 09 15.3 0.0
baz=270
Q18K **Katmai Hardscr** 40.44 45 P P 14 09 15.1 -0.6
baz=274
H20K **Anotleneega Mo** 40.53 34 P P 14 09 16.3 +0.1
baz=266,SNR=11
N19K **Bonanza Creek** 40.60 41 P P 14 09 16.6 -0.3
baz=271
M19K **Big River Lodg** 40.63 40 P P 14 09 17.2 +0.1
baz=270
WMQ **Urumqi** 40.64 292 *e*P P 14 09 21.6 +4.2
I20K **Naaghedeneel** 40.66 35 P P 14 09 17.5 +0.3
baz=267
J20K **Nowinta River** 40.77 36 P P 14 09 18.7 +0.5
baz=268,SNR=6.6
K20K **Telida** 40.79 37 P P 14 09 18.8 +0.4
baz=269
R18K **Karluk** 40.82 46 P P 14 09 18.8 +0.2
baz=275
L20K **Farewell, AK** 40.87 39 P P 14 09 19.4 +0.4
baz=270
C21K **Knifeblade Rid** 40.98 29 P P 14 09 20.2 +0.3
baz=261
B21K **Ikpikpuk River** 41.10 28 P P 14 09 21.3 +0.5
baz=261
Q19K **Cape Douglas,** 41.13 44 P P 14 09 20.9 -0.3
baz=274
G21K **Allakaket** 41.17 33 P P 14 09 21.3 -0.1
baz=266
E21K **Killik River** 41.17 30 P P 14 09 21.9 +0.4
baz=263
M20K **Styx River** 41.23 40 P P 14 09 21.8 -0.3
baz=271
F21K **Alatna River** 41.23 32 P P 14 09 22.0 0.0
baz=265
P19K **Oil Pt** 41.28 43 P P 14 09 22.2 -0.3
baz=274
H21K **Melozitna Rive** 41.40 34 P P 14 09 23.4 0.0
baz=267,SNR=9.6
RED **Redoubt Volcan** 41.47 42 IAmb IAmb 14 09 25.8
comp=Z,13nm,0.9s
OHAK **Old Harbor** 41.48 47 P P 14 09 24.2 +0.1
baz=276
O20K **Slope Mountain** 41.56 42 P P 14 09 25.1 +0.3
baz=274
CHUM **Lake Minchumin** 41.57 37 P P 14 09 24.7 -0.1
baz=270
B22K **Teshekpuk Lake** 41.62 27 P P 14 09 25.3 +0.3
baz=261
PPLA **Purkeypile** 41.64 38 IAmb IAmb 14 09 31.0
comp=Z,15nm,1.2s
PPLA **Purkeypile** 41.64 38 P P 14 09 25.5 0.0
baz=271
CAST **Castle Rocks** 41.68 37 IAmb IAmb 14 09 31.1
comp=Z,11nm,1.0s
CAST **Castle Rocks** 41.68 37 P P 14 09 25.4 -0.3
baz=270,SNR=13
D22K **Ayikyak River** 41.69 29 P P 14 09 25.9 +0.2
baz=264
F22K **John River** 41.76 31 P P 14 09 26.4 +0.1
baz=266
KDAK **Kodiak Island** 41.80 46 P 14 09 26.9 +0.3
KDAK IAmb IAmb 14 09 27.6
comp=Z,17nm,0.9s
KDAK **Kodiak Island** 41.80 46 LR LR 14 27 34.5
comp=Z,32nm,21.4s,baz=243,slow=37
KDAK **Kodiak Island** 41.80 46 *i* P P 14 09 26.0 -0.6
KDAK pmax pmax
comp=Z,18nm,0.9s
KDAK **Kodiak Island** 41.80 46 P P 14 09 26.2 -0.4
baz=276
Q20K **Shuyak Island** 41.80 45 P P 14 09 26.4 -0.3
baz=276
E22K **Anaktuvuk Pass** 41.94 30 IAmb IAmb 14 09 29.8
comp=Z,8.0nm,0.7s
E22K **Anaktuvuk Pass** 41.94 30 P P 14 09 27.9 +0.1
baz=266,SNR=7.9
SKT **Skwentna** 41.98 39 P P 14 09 27.9 -0.2
baz=273
G22K **Bettles** 41.99 32 P P 14 09 28.1 0.0
baz=267
H22K **Ishtalitna Cre** 42.00 34 P P 14 09 28.4 +0.1
baz=268,SNR=7.4

KTH **Kantishna Hill** 42.20 37 IAmb IAmb 14 09 35.4
comp=Z,16nm,1.0s
MLY **Manley** 42.26 35 P P 14 09 30.5 +0.1
baz=270
CNPM **China Poot** 42.31 43 IAmb IAmb 14 09 33.3
comp=Z,9.0nm,0.8s
D23K **Nanushuk River** 42.42 29 P P 14 09 31.8 +0.2
baz=266
BRLK **Bradley Lake** 42.46 43 IAmb IAmb 14 09 34.8
comp=Z,8.7nm,0.8s
TRF **Thorofare Moun** 42.49 37 P P 14 09 31.9 -0.5
baz=272
COLD **Coldfoot** 42.51 32 P P 14 09 32.6 +0.2
baz=268
C23K **Itkillik River** 42.52 28 P P 14 09 33.6 +1.2
C23K **Itkillik River** 42.52 28 P P 14 09 32.6 +0.2
baz=265
G23K **Bananza Creek** 42.56 32 P P 14 09 32.9 0.0
baz=269,SNR=6.6
H23K **Yukon River** 42.75 34 IAmb IAmb 14 09 36.7
comp=Z,11nm,0.7s
H23K **Yukon River** 42.75 34 P P 14 09 34.4 0.0
baz=270,SNR=19
E23K **Chandalar** 42.76 30 P 14 09 35.3 +0.8
E23K IAmb IAmb 14 09 38.3
comp=Z,15nm,1.4s
E23K **Chandalar** 42.76 30 P P 14 09 34.2 -0.3
baz=268,SNR=6.1
TOLK **Toolik Lake Re** 42.80 30 P P 14 09 34.4 -0.4
baz=267
I23K **Minto, Yukon-K** 42.84 35 P P 14 09 34.5 -0.5
baz=271,SNR=7.2
RC01 **Rabbit Creek A** 42.90 41 P P 14 09 35.0 -0.6
baz=275
O22K **Cooper Landing** 42.97 42 P P 14 09 36.0 -0.1
baz=276
NEA2 **Nenana** 42.98 36 P P 14 09 36.5 +0.3
baz=272,SNR=15
MCK **McKinley** 43.08 37 IAmb IAmb 14 09 42.1
comp=Z,8.3nm,0.8s
MCK **McKinley** 43.08 37 P P 14 09 36.8 -0.2
baz=273
D24K **Happy Valley** 43.10 29 P P 14 09 37.4 +0.3
baz=267,SNR=12
SEW **Seward** 43.14 42 P P 14 09 37.2 -0.4
baz=276
PMR **Palmer** 43.14 40 P P 14 09 37.0 -0.5
baz=275
C24K **Franklin Bluff** 43.17 28 P P 14 09 37.3 -0.3
baz=267
E24K **Your Creek** 43.19 30 IAmb IAmb 14 09 41.6
comp=Z,9.0nm,1.0s
E24K **Your Creek** 43.19 30 P P 14 09 37.8 -0.1
baz=269,SNR=5.5
GHO **Glory Hole Cre** 43.23 40 IAmb IAmb 14 09 43.1
comp=Z,11nm,1.0s
MK31 **Makanchi Array** 43.36 298 *i* P P 14 09 39.5 0.0
MKAR **Makanchi Array** 43.36 298 P P 14 09 39.0 -0.5
comp=Z,3.4nm,0.5s,baz=84,slow=11,SNR=37
MKAR PcP PcP 14 11 27.7 +0.4
comp=Z,0.6nm,0.6s,baz=48,slow=2.1,SNR=1.7
comp=Z,3.4nm,0.5s
MKAR **Makanchi Array** 43.36 298 *i* P P 14 09 39.5 0.0
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR **Makanchi Array** 43.36 298 *e*P P 14 09 39.5 0.0
F24K **Squaw Lake** 43.41 31 P P 14 09 39.3 -0.4
baz=270
H24K **Noodor Dome** 43.44 34 P 14 09 41.0 +1.1
H24K IAmb IAmb 14 09 42.2
comp=Z,7.7nm,0.8s
H24K **Noodor Dome** 43.44 34 P P 14 09 40.1 +0.2
baz=272,SNR=10
KNK **Knik Glacier** 43.48 40 P P 14 09 40.5 +0.2
baz=276
COLA **College** 43.49 35 *i* P P 14 09 40.7 +0.4
COLA pmax pmax
comp=Z,13nm,0.8s
COLA **College** 43.49 35 P P 14 09 40.9 +0.7
baz=273
MAKZ **Makanchi** 43.56 298 P 14 09 40.8 -0.4
MAKZ IAmb IAmb 14 09 47.0
comp=Z,11nm,0.9s
MAKZ **Makanchi** 43.56 298 P P 14 09 40.8 -0.4
MAKZ pmax pmax
comp=Z,11nm,0.9s
G24K **Hadweenzic Riv** 43.58 32 P P 14 09 41.6 +0.6
baz=271
PWL **Port Wells** 43.60 41 IAmb IAmb 14 09 42.9
comp=Z,8.8nm,1.0s
PWL **Port Wells** 43.60 41 P P 14 09 41.5 +0.2
baz=276,SNR=5.4
HDA **Harding Lake** 43.91 36 IAmb IAmb 14 09 47.3
comp=Z,6.9nm,0.4s
HDA **Harding Lake** 43.91 36 P P 14 09 44.0 +0.3
baz=274,SNR=7.9
IL31 43.91 35 IAmb IAmb 14 09 48.2
comp=Z,6.7nm,0.8s
ILAR **Eielson Array** 43.91 35 P 14 09 44.6 +0.9
ILAR **Eielson Array** 43.91 35 P P 14 09 43.9 +0.2
comp=Z,7.2nm,1.0s,baz=271,slow=6.3,SNR=31
ILAR PcP PcP 14 11 28.0 -0.8
comp=Z,0.4nm,0.7s,baz=294,slow=2.9,SNR=1.8
comp=Z,7.2nm,1.0s
SCM **Sheep Creek Mo** 43.97 39 IAmb IAmb 14 10 10.9
comp=Z,16nm,1.4s
SCM **Sheep Creek Mo** 43.97 39 P P 14 09 43.9 -0.5
baz=276
D25K **Kavik River** 43.98 29 IAmb IAmb 14 09 46.4
comp=Z,9.2nm,0.5s
D25K **Kavik River** 43.98 29 P P 14 09 44.1 -0.1
baz=269,SNR=8.5
G25K **Bearman Lake** 44.12 32 P P 14 09 45.3 0.0
baz=272
P23K **Montague Islan** 44.17 42 P P 14 09 45.6 -0.3
baz=278
GLI **Glacier Island** 44.20 41 P P 14 09 45.8 -0.3
baz=278
H25L **Birch Creek** 44.26 33 P P 14 09 46.5 +0.1
baz=273,SNR=9.6
F25K **Christian Rive** 44.27 31 P P 14 09 47.1 +0.5
baz=272
E25K **Arctic Village** 44.28 30 P P 14 09 47.4 +0.7
baz=271
PRP **Porcupine Dome** 44.43 34 IAmb IAmb 14 09 50.0
comp=Z,12nm,0.7s
PRP **Porcupine Dome** 44.43 34 P P 14 09 47.7 -0.3
baz=274
K24K **Donnelly Dome** 44.47 37 IAmb IAmb 14 09 52.9
comp=Z,12nm,0.8s
K24K **Donnelly Dome** 44.47 37 P P 14 09 48.1 -0.1
baz=276,SNR=5.7
C26K **Camden Bay** 44.49 28 P P 14 09 48.4 +0.2
baz=270
KURK **Kurchatov** 44.56 304 P 14 09 48.8 -0.3
KURK IAmb IAmb 14 09 51.0
comp=Z,7.7nm,0.8s
KURK **Kurchatov** 44.56 304 *ce*P P 14 09 49.2 +0.1
KURK pmax pmax
comp=Z,12nm,1.1s
KURK **Kurchatov** 44.56 304 *e*P P 14 09 49.2 +0.1
J25K **Salcha River,** 44.57 35 P P 14 09 48.4 -0.7
baz=275
KURBB **Kurchatov Arra** 44.65 304 P P 14 09 49.4 -0.3
comp=Z,4.6nm,0.4s,baz=73,slow=9.0,SNR=32
KURBB PcP PcP 14 11 30.5 -1.0
comp=Z,0.8nm,0.7s,baz=76,slow=3.9,SNR=1.9
KURBB S S 14 16 22.4 +0.6
comp=Z,0.2nm,0.3s,baz=77,slow=17,SNR=4.6
comp=Z,4.6nm,0.4s
KLU **Klutina** 44.68 40 IAmb IAmb 14 09 55.8
comp=Z,7.4nm,1.0s
KLU **Klutina** 44.68 40 P P 14 09 49.6 -0.4
baz=278,SNR=5.9
PAX **Paxson** 44.70 38 P P 14 09 49.8 -0.3
baz=277
DIV **Divide** 44.81 40 IAmb IAmb 14 09 53.0
comp=Z,11nm,1.1s
F26K **Sheenjek River** 44.84 31 P P 14 09 52.3 +1.2
F26K IAmb IAmb 14 09 54.8
comp=Z,6.8nm,0.8s
F26K **Sheenjek River** 44.84 31 P P 14 09 50.9 -0.2
baz=273,SNR=8.6
RIDG **Independent Ri** 44.89 37 IAmb IAmb 14 09 56.8
comp=Z,5.6nm,0.7s
RIDG **Independent Ri** 44.89 37 P P 14 09 51.4 -0.1
baz=276,SNR=5.5
EYAK **Cordova Ski Ar** 44.91 41 IAmb IAmb 14 09 53.7

comp=Z,8.1nm,1.0s
EYAK **Cordova Ski Ar** 44.91 41 P P 14 09 51.8 +0.2
baz=279
C27K **Jago River** 44.91 28 P P 14 09 52.2 +0.6
baz=272,SNR=7.4
HARP **HAARP** 44.92 38 P P 14 09 51.5 -0.3
baz=278
G26K **Porcupine Rive** 45.03 32 IAmb IAmb 14 09 56.5
comp=Z,6.3nm,0.6s
G26K **Porcupine Rive** 45.03 32 P P 14 09 53.2 +0.6
baz=274,SNR=9.4
CMAR **Chiang Mai Arr** 45.05 252 P P 14 09 52.8 -0.6
comp=Z,0.4nm,0.3s,baz=56,slow=5.4,SNR=4.8
CMAR LR LR 14 29 09.7
comp=Z,46nm,18.4s,baz=265,slow=37
comp=Z,0.4nm,0.3s
CMAR **Chiang Mai Arr** 45.05 252 *i* P P 14 09 56.2 +2.8
SCRK **Sand Creek** 45.24 36 IAmb IAmb 14 09 58.6
comp=Z,7.9nm,0.7s
SCRK **Sand Creek** 45.24 36 P P 14 09 54.0 -0.5
baz=277,SNR=17
N25K **Chitina, Valde** 45.29 40 P P 14 09 54.5 -0.4
baz=279
J26L **Joseph Creek** 45.36 35 P P 14 09 55.4 +0.1
baz=277
BMRM **Bremner River** 45.39 40 IAmb IAmb 14 10 01.4
comp=Z,8.1nm,0.9s
BMRM **Bremner River** 45.39 40 P P 14 09 55.8 +0.2
baz=279
I26K **Coal Creek Min** 45.44 34 P P 14 09 55.7 -0.1
baz=276
L26K **Log Cabin Wild** 45.65 37 IAmb IAmb 14 09 60.0
comp=Z,9.0nm,0.8s
L26K **Log Cabin Wild** 45.65 37 P P 14 09 57.9 +0.3
baz=278,SNR=10
KAIM **Kayak Island** 45.67 42 P P 14 09 57.6 -0.1
baz=281
E27K **Coleen River** 45.76 30 P P 14 09 58.7 +0.3
baz=275
G27K **Doyon Strip** 45.88 32 P P 14 09 59.9 +0.5
baz=276
VRDI **Verde Repeater** 45.90 40 IAmb IAmb 14 10 01.9
comp=Z,9.4nm,1.3s
D27M **Malcolm River** 45.90 29 P P 14 09 59.4 -0.1
baz=274
M26K **Nabesna, AK** 45.91 38 IAmb IAmb 14 10 06.2
comp=Z,14nm,1.1s
M26K **Nabesna, AK** 45.91 38 P P 14 09 59.4 -0.3
baz=279,SNR=13
H27K **Steamboat Moun** 45.99 33 IAmb IAmb 14 10 02.9
comp=Z,4.4nm,0.7s
H27K **Steamboat Moun** 45.99 33 P P 14 10 00.6 +0.3
baz=277,SNR=6.4
I27K **Kandik River** 46.04 34 P P 14 10 00.5 -0.1
baz=277
K27K **Chicken** 46.07 36 P P 14 10 02.0 +1.2
baz=278
MCARA **McCarthy VSAT** 46.07 40 P P 14 10 01.9 +1.0
baz=280
CRQE **Cirque** 46.16 41 P P 14 10 02.4 +0.7
baz=281,SNR=7.2
L27K **Beaver Creek,** 46.33 37 IAmb IAmb 14 10 05.4
comp=Z,10nm,0.8s
L27K **Beaver Creek,** 46.33 37 P P 14 10 03.8 +0.9
baz=280,SNR=19
BCAR **Beaver Creek A** 46.35 37 P 14 10 04.5 +1.4
M27K **Edge Creek, AK** 46.43 38 IAmb IAmb 14 10 06.3
comp=Z,8.5nm,0.8s
M27K **Edge Creek, AK** 46.43 38 P P 14 10 04.8 +0.9
baz=280,SNR=16
F28M **Old Crow** 46.47 31 IAmb IAmb 14 10 07.7
comp=Z,3.9nm,0.7s
F28M **Old Crow** 46.47 31 P P 14 10 04.9 +0.9
baz=277,SNR=5.3
E28M **Babbage River** 46.48 29 P P 14 10 05.2 +1.2
baz=276
D28M **Stokes Point** 46.68 28 P P 14 10 06.1 +0.6
baz=276
I28M **Miner Creek** 46.75 34 IAmb IAmb 14 10 10.3
comp=Z,8.9nm,0.9s
I28M **Miner Creek** 46.75 34 P P 14 10 06.7 +0.4
baz=279,SNR=13
GRNC **Granite Creek** 46.81 40 IAmb IAmb 14 10 09.0
comp=Z,12nm,0.9s
BVCY **Beaver Creek** 46.89 38 P P 14 10 07.8 +0.5
baz=281
CTG **Chitna Glacier** 46.96 40 P P 14 10 08.4 +0.4
baz=282
CTGM **Chitina Glacie** 46.96 40 IAmb IAmb 14 10 14.0
comp=Z,14nm,1.2s
E29M **Blow River** 47.10 30 P 14 10 09.7 +0.8
E29M IAmb IAmb 14 10 12.4
comp=Z,3.9nm,0.7s
E29M **Blow River** 47.10 30 P P 14 10 09.6 +0.8
baz=278
YUK3 **Moose Creek** 47.20 39 P P 14 10 10.0 0.0
baz=282
DAWY **Dawson** 47.22 36 P P 14 10 10.2 +0.3
baz=281
H29M **Whitestone** 47.26 33 IAmb IAmb 14 10 14.5
comp=Z,4.7nm,0.7s
H29M **Whitestone** 47.26 33 P P 14 10 10.5 +0.3
baz=280
G29M **Pine Creek** 47.28 32 IAmb IAmb 14 10 13.0
comp=Z,13nm,1.1s
G29M **Pine Creek** 47.28 32 P P 14 10 10.7 +0.4
baz=279
I29M **Ogilvie Camp,** 47.44 34 P P 14 10 11.9 +0.4
baz=280,SNR=9.0
O28M **Mount Upton** 47.55 40 P P 14 10 12.4 -0.3
baz=283
PINM **Pinnacle** 47.68 41 P P 14 10 13.7 +0.2
baz=284
EPYK **Eagle Plains** 47.89 32 P P 14 10 15.6 +0.5
baz=281,SNR=8.8
G30M **tAoh Zraii Nji** 47.97 31 P P 14 10 14.6 -1.1
baz=281
L29M **L29M** 47.97 37 P P 14 10 16.0 +0.3
baz=283,SNR=17
M29M **Somme Creek** 47.97 38 P P 14 10 16.2 +0.4
baz=283
F30M **Barrier River** 48.02 30 P 14 10 17.7 +1.7
F30M **Barrier River** 48.02 30 P P 14 10 15.6 -0.3
baz=280,SNR=5.2
K29M **Barlow Dome** 48.08 36 IAmb IAmb 14 10 19.0
comp=Z,6.9nm,0.8s
K29M **Barlow Dome** 48.08 36 P P 14 10 16.1 -0.5
baz=282,SNR=8.1
YUK4 **Talbot Arm** 48.14 39 P P 14 10 17.7 +0.4
baz=284
I30M **Mount Dempster** 48.26 34 P 14 10 19.3 +1.2
I30M **Mount Dempster** 48.26 34 P P 14 10 18.6 +0.6
baz=282,SNR=16
YUK6 **Outpost Mounta** 48.38 40 P P 14 10 19.3 +0.2
baz=284
J30M **Hart River** 48.42 35 P P 14 10 18.9 -0.3
baz=283
O29M **Mount Kennedy** 48.44 40 P P 14 10 18.7 -0.7
baz=285
M30M **Minto, Yukon** 48.69 37 IAmb IAmb 14 10 24.1
comp=Z,5.6nm,0.9s
M30M **Minto, Yukon** 48.69 37 P P 14 10 21.2 -0.1
baz=284,SNR=9.7
INK **Inuvik** 48.72 29 IAmb IAmb 14 10 22.6
comp=Z,18nm,1.4s
INK **Inuvik** 48.72 29 LR LR 14 31 58.2
comp=Z,30nm,19.6s,baz=116,slow=37
INK **Inuvik** 48.72 29 P P 14 10 21.6 +0.3
baz=282
G31M **Satah River** 48.73 31 P P 14 10 21.8 +0.4
baz=282
BVAR **Borovoye Array** 48.76 310 P P 14 10 21.3 -0.6
comp=Z,7.5nm,0.4s,baz=77,slow=8.2,SNR=32
comp=Z,7.5nm,0.4s
BRVK **Borovoye** 48.81 310 P 14 10 22.4 +0.1
BRVK IAmb IAmb 14 10 24.5
comp=Z,8.1nm,0.9s
BRVK **Borovoye** 48.81 310 *ce*P P 14 10 22.3 +0.1
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK **Borovoye** 48.81 310 *e*P P 14 10 22.3 +0.1
HYT **Haines Junctio** 48.81 40 P P 14 10 23.0 +0.7
baz=285,SNR=44
F31M **Tsiigehtchic** 48.82 31 P P 14 10 21.8 -0.3
baz=282
N30M **Aishikik Lake** 48.84 39 P P 14 10 22.1 -0.4
baz=285
H31M **Peel River** 48.96 33 P P 14 10 22.8 -0.4

baz=283,SNR=11
P29M Windy Craggy 49.02 41 P 14 10 25.7 +1.9
P29M Windy Craggy 49.02 41 P P 14 10 24.0 +0.2
baz=286,SNR=16
P30M Million Dollar 49.26 40 P P 14 10 26.1 +0.4
baz=286
N31M Braeburn, Yuko 49.44 38 P P 14 10 27.9 +0.9
baz=286,SNR=9.1
O30N Mendenhall 49.49 39 IAmb IAmb 14 10 30.0
comp=Z,7.1nm,1.1s
O30N Mendenhall 49.49 39 P P 14 10 28.1 +0.6
baz=286,SNR=5.9
PLBC Pleasant Camp 49.74 41 P P 14 10 30.2 +0.9
baz=287,SNR=7.2
M31M Drury Creek, Y 49.87 37 IAmb IAmb 14 10 32.7
comp=Z,7.8nm,1.0s
M31M Drury Creek, Y 49.87 37 P P 14 10 31.2 +0.9
baz=286,SNR=9.3
WHY Whitehorse 50.10 39 P P 14 10 32.7 +0.7
baz=287,SNR=6.2
SKAG Skagway 50.25 41 IAmb IAmb 14 10 36.0
comp=Z,8.5nm,1.2s
SKAG Skagway 50.25 41 P P 14 10 33.5 +0.5
baz=288
S31K Pelican 50.27 43 P P 14 10 33.1 -0.1
baz=288
N32M Quiet Lake 50.78 38 P P 14 10 38.1 +0.9
baz=288
P32M Atlin 50.98 40 P P 14 10 39.0 +0.3
baz=289
R32K Eaglecrest 51.03 42 P P 14 10 40.7 +1.7
R32K IAmb IAmb 14 10 41.7
comp=Z,8.3nm,0.8s
R32K Eaglecrest 51.03 42 P P 14 10 39.6 +0.6
baz=289,SNR=8.2
SIT Sitka 51.03 44 P P 14 10 40.2 +1.2
baz=290
P33M Teslin, Yukon 51.21 39 IAmb IAmb 14 10 43.7
comp=Z,11nm,1.0s
P33M Teslin, Yukon 51.21 39 P P 14 10 40.4 0.0
baz=289,SNR=15
S32K Killisnoo 51.27 43 P P 14 10 41.1 +0.3
baz=290
Q32M Nakina River 51.90 41 P P 14 10 46.0 +0.3
baz=290
R33M Jennings River 52.37 40 IAmb IAmb 14 10 52.3
comp=Z,7.0nm,1.2s
R33M Jennings River 52.37 40 P P 14 10 49.8 +0.6
baz=291,SNR=6.8
KKAR Karatay Array 52.48 298 P 14 10 50.0 -0.1
KKAR Karatay Array 52.48 298 P P 14 10 50.0 -0.1
U33K Whale Pass 52.50 44 P P 14 10 50.5 +0.5
baz=292
SVE Sverdlovsk 52.72 317 *eP* **P 14 10 52.3 +0.8**
CRAG Craig 52.75 45 P P 14 10 52.4 +0.6
baz=292
TGTN Hyland Airport 52.83 37 P P 14 10 53.9 +1.5
baz=291
WTLY Watson Lake, Y 53.12 39 P P 14 10 55.2 +0.7
baz=292
DLBC Dease Lake 53.18 41 P P 14 10 55.8 +0.8
baz=292
V35K Ketchikan 53.59 45 P P 14 10 58.7 +0.7
baz=293
T35M Bob Quinn 53.64 43 IAmb IAmb 14 11 02.1
comp=Z,12nm,1.1s
T35M Bob Quinn 53.64 43 P P 14 10 58.8 +0.5
baz=293
ARTI Arti 54.03 317 P 14 11 01.0 -0.2
ARTI Arti 54.03 317 *c i* P **P 14 11 02.0 +0.8**
ARTI 14 12 00.8
ARTI 14 13 01.7
ARTI S **S 14 18 39.9 +6.9**
ARTI SS **SS 14 22 18.4 +4.0**
ARTI pmax pmax
comp=Z,5.0nm,0.5s
EUNU Eureka 54.64 9 IAmb IAmb 14 11 07.2
comp=Z,6.2nm,0.7s
LIRD Liard River Hi 54.66 39 P P 14 11 06.9 +1.1
baz=294,SNR=5.3
TOAD Toad River Com 55.30 39 P P 14 11 10.8 +0.4
baz=295
SPITS Spitsbergen Ar 55.78 349 P P 14 11 12.6 -1.0
comp=Z,5.5nm,0.8s,baz=96,slow=3.4,SNR=2.1
comp=Z,5.5nm,0.8s
AB31 Akbulak array 56.28 308 IAmb IAmb 14 11 21.8
comp=Z,4.9nm,0.9s
ABKAR Akbulak array 56.28 308 P 14 11 17.5 0.0
BBB Bella Bella 56.83 47 LR LR 14 36 18.6
comp=Z,12nm,18.8s,baz=194,slow=36
KIRV Kirov 57.40 322 *i* P **P 14 11 26.1 +0.8**
YKA Yellowknife Ar 58.18 32 P P 14 11 31.1 +0.4
comp=Z,2.1nm,0.8s,baz=306,slow=7.1,SNR=11
comp=Z,2.1nm,0.8s
ARCES ARCESS Array B 59.84 339 P P 14 11 41.5 -0.6
comp=Z,0.9nm,0.6s,baz=39,slow=7.8,SNR=11
ARCES LR LR 14 39 51.1
comp=Z,35nm,18.7s,baz=102,slow=38
comp=Z,0.9nm,0.6s
NEEM North Greenlan 60.14 4 *i* P **P 14 11 43.5 -0.9**
NEEM IAmb IAmb 14 11 47.2
comp=Z,7.4nm,0.6s
KLMR Klimovskoe 60.49 327 *e*P **P 14 11 43.9 -2.7**
KLMR *e**PP **pP 14 11 58.8 -2.7**
KLMR pmax pmax
comp=Z,9.0nm,1.7s
DAG Danmarks Havn 60.70 356 *i* P **P 14 11 48.1 +0.2**
DAG IAmb IAmb 14 11 49.9
comp=Z,6.5nm,0.9s
LLLB Lillooet 61.00 47 IAmb IAmb 14 11 52.5
comp=Z,5.7nm,1.1s
BELG Belogornoye 61.46 316 *i* P **P 14 11 53.6 +0.3**
BELG pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 62.61 190 P P 14 12 01.2 -0.1
comp=Z,0.5nm,0.7s,baz=7.0,slow=6.8,SNR=2.3
comp=Z,0.5nm,0.7s
B08A Colville Reser 63.63 48 P 14 12 08.2 +0.2
H04A Detroit Lake 64.09 52 IAmb IAmb 14 12 13.2
comp=Z,6.5nm,0.8s
MXC Moxie City 64.11 50 IAmb IAmb 14 12 13.5
comp=Z,7.5nm,0.9s
C09A Chrisman Ranch 64.53 48 IAmb IAmb 14 12 15.7
comp=Z,7.2nm,1.0s
I05D Terrebonne, OR 64.79 52 IAmb IAmb 14 12 17.8
comp=Z,6.0nm,0.7s
NEW Newport 64.89 47 LR LR 14 43 47.0
comp=Z,19nm,18.1s,baz=303,slow=39
FINES FINESS Array B 65.16 332 P 14 12 16.9 -0.8
FINES FINESS Array B 65.16 332 P P 14 12 17.1 -0.5
comp=Z,5.4nm,0.5s,baz=48,slow=7.3,SNR=56
FINES LR LR 14 43 03.3
comp=Z,37nm,19.1s,baz=40,slow=38
comp=Z,5.4nm,0.5s
OBN Obninsk 65.19 323 *eP* **P 14 12 18.3 +0.4**
OBN *e**SP **pP 14 12 37.9 +5.0**
OBN *e* 14 12 51.1
OBN *e* 14 14 40.8
OBN *e*PPP PPP 14 16 14.8
OBN pmax pmax
comp=Z,6.0nm,1.0s
PINE Pine Mountain 65.34 53 P 14 12 20.6 +1.2
SUMG Summit 65.40 1 P 14 12 19.7 +0.1
SUMG Summit 65.40 1 P **P 14 12 19.7 +0.1**
SUMG pmax pmax
comp=Z,17nm,0.6s
SUMG Summit 65.40 1 *i* P **P 14 12 19.0 -0.6**
SUMG IAmb IAmb 14 12 22.7
comp=Z,16nm,0.6s
J05D Fort Rock, OR 65.46 53 IAmb IAmb 14 12 22.9
comp=Z,4.9nm,0.8s
ASAR Alice Springs 66.33 190 P P 14 12 25.0 -0.6
comp=Z,0.4nm,0.6s,baz=6.5,slow=5.3,SNR=6.6
comp=Z,0.4nm,0.6s
UMMG Uummannaq 66.70 6 *i* P **P 14 12 29.2 +1.8**
UMMG IAmb IAmb 14 12 31.9
comp=Z,14nm,1.4s
BMO Blue Mountains 66.81 50 P 14 12 29.4 +0.7
BMO Blue Mountains 66.81 50 P **P 14 12 29.4 +0.7**
BMO pmax pmax
comp=Z,3.0nm,0.9s
DZM Mont Dzumac 67.27 158 *e*LR LR 14 32 47.6
comp=Z,53nm,21.6s
PLID Pearl Lake 67.41 49 IAmb IAmb 14 12 34.9
comp=Z,3.1nm,0.7s
BEKR Beckworth 68.02 56 IAmb IAmb 14 12 38.4
comp=Z,7.4nm,0.9s

FFC Flin Flon 68.12 35 P P 14 12 37.0 +0.4
FFC Flin Flon 68.12 35 P P 14 12 37.1 +0.4
FFC pmax pmax
comp=Z,11nm,0.8s
PAHR Pah Rah Range 68.71 55 IAmb IAmb 14 12 42.9
comp=Z,5.8nm,0.9s
EGMT Eagleton 68.92 44 IAmb IAmb 14 12 43.5
comp=Z,14nm,1.2s
KIV Kislovodsk 69.10 311 *e*P **P 14 12 41.1 -2.0**
KIV pmax pmax
comp=Z,5.0nm,0.9s
DLMT Dillon 69.12 47 IAmb IAmb 14 12 45.2
comp=Z,6.8nm,0.7s
KBZ Khabaz 69.12 310 *i* P **P 14 12 44.3 +1.2**
KBZ pmax pmax
comp=Z,1.0nm,0.6s
KBZ Khabaz 69.12 310 *e*P **P 14 12 44.3 +1.2**
MNK Minsk 69.34 326 *i* P **P 14 12 43.7 -0.5**
MNK *i* *PP **pP 14 12 57.1 -2.2**
MNK *i* 14 15 19.3
MNK *i* PPP PPP 14 16 57.6
MNK *i* S **S 14 21 47.2 +0.7**
MNK *i* SS **SS 14 26 16.7 +3.5**
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK MLR MLR
comp=Z,24nm,16.0s
MNK MLR MLR
comp=E,106nm,21.0s
MNK MLR MLR
comp=N,108nm,21.0s
RYN Ryan 69.90 56 IAmb IAmb 14 12 50.4
comp=Z,4.6nm,0.9s
NOA NORSAR Array B 70.15 338 P P 14 12 48.5 -0.6
comp=Z,1.9nm,0.6s,baz=35,slow=6.1,SNR=20
NOA LR LR 14 48 01.9
comp=Z,11nm,18.4s,baz=235,slow=40
comp=Z,1.9nm,0.6s
LHV Little Huntoon 70.15 56 IAmb IAmb 14 12 52.4
comp=Z,10nm,0.9s
NVAR Mina Array Bea 70.16 56 P 14 12 50.7 +0.8
NVAR Mina Array Bea 70.16 56 P **P 14 12 50.4 +0.5**
comp=Z,3.8nm,0.7s,baz=309,slow=7.0,SNR=24
comp=Z,3.8nm,0.7s
HFS Hagfors 70.16 336 P P 14 12 48.8 -0.4
comp=Z,3.7nm,0.4s,baz=54,slow=6.6,SNR=34
HFS LR LR 14 47 11.8
comp=Z,32nm,18.6s,baz=41,slow=39
comp=Z,3.7nm,0.4s
YHB Horse Butte 70.27 47 IAmb IAmb 14 12 52.5
comp=Z,6.9nm,0.8s
DSP Deep Springs 71.03 57 IAmb IAmb 14 12 57.6
comp=Z,7.6nm,1.1s
FXWY Fox Creek 71.09 48 IAmb IAmb 14 12 58.1
comp=Z,4.4nm,1.0s
TPAW Teton Pass 71.23 48 IAmb IAmb 14 13 03.0
comp=Z,5.0nm,1.1s
AKASG Malin Array Be 71.44 323 P P 14 12 56.8 -0.3
comp=Z,1.9nm,0.6s,baz=42,slow=6.1,SNR=13
comp=Z,1.9nm,0.6s
AKASG Malin Array Be 71.44 323 *i* P **P 14 12 57.5 +0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 71.44 323 *i* P **P 14 12 56.7 -0.4**
AKBB pmax pmax
comp=Z,3.0nm,0.7s
KIEV Kiev 71.45 323 P 14 12 57.0 -0.2
KIEV Kiev 71.45 323 P **P 14 12 57.0 -0.2**
KIEV pmax pmax
comp=Z,3.0nm,0.8s
R11B Troy Canyon, C 71.87 55 IAmb IAmb 14 13 02.3
comp=Z,6.3nm,1.3s
TPNV Topopah Spring 72.36 56 IAmb IAmb 14 13 05.2
comp=Z,7.5nm,0.7s
BW06 Boulder Array 72.47 48 IAmb IAmb 14 13 04.8
comp=Z,2.8nm,0.5s
PDAR Pinedale Array 72.47 48 P P 14 13 04.0 +0.3
comp=Z,1.8nm,0.5s,baz=275,slow=0.5,SNR=20
comp=Z,1.8nm,0.5s
GWY Greenwater Val 72.59 57 IAmb IAmb 14 13 06.4
comp=Z,6.8nm,0.7s
LCMT Little Creek M 74.15 54 IAmb IAmb 14 13 16.1
comp=Z,5.3nm,1.0s
SRU San Rafael Swe 74.36 51 IAmb IAmb 14 13 16.6
comp=Z,4.1nm,0.8s
PFO Pinyon Flats O 74.38 59 LR LR 14 38 35.2
comp=Z,21nm,21.9s,baz=300,slow=30
KNB Kanab 74.40 54 IAmb IAmb 14 13 17.8
comp=Z,5.9nm,1.1s
U15A North Rim 75.11 54 IAmb IAmb 14 13 21.9
comp=Z,5.8nm,0.8s
BUR08 Buovina Ar. S 75.48 322 P P 14 13 20.8 -0.2
PV21 Cone Mtn., Par 75.62 51 IAmb IAmb 14 13 24.1
comp=Z,6.8nm,0.6s
PV14 Lion Creek, Pa 75.72 51 IAmb IAmb 14 13 24.6
comp=Z,6.6nm,0.6s
PV22 Blue Mesa, Par 75.75 51 IAmb IAmb 14 13 25.7
comp=Z,4.1nm,0.8s
PV04 Paradox Valley 75.78 51 IAmb IAmb 14 13 25.1
comp=Z,4.5nm,0.7s
PV20 West Nyswonger 75.78 51 IAmb IAmb 14 13 24.5
comp=Z,5.7nm,0.8s
PV16 Nyswonger Mesa 75.83 51 IAmb IAmb 14 13 25.3
comp=Z,4.4nm,0.7s
PV11 David Mesa, Pa 75.86 51 IAmb IAmb 14 13 25.5
comp=Z,7.4nm,0.6s
PV18 Skein Mesa, Pa 75.88 51 IAmb IAmb 14 13 25.0
comp=Z,8.2nm,0.7s
PV05 Paradox Valley 75.88 51 IAmb IAmb 14 13 25.3
comp=Z,6.2nm,0.6s
PV12 Sauer Basin, 75.89 51 IAmb IAmb 14 13 28.2
comp=Z,5.5nm,0.8s
PV03 Paradox Valley 75.91 51 IAmb IAmb 14 13 25.6
comp=Z,5.6nm,0.6s
PV13 Radium Mtn., P 75.99 51 IAmb IAmb 14 13 26.3
comp=Z,5.6nm,0.7s
PV02 Paradox Valley 76.00 51 IAmb IAmb 14 13 26.5
comp=Z,14nm,1.5s
WUAZ Wupatki 76.27 54 IAmb IAmb 14 13 28.3
comp=Z,4.9nm,0.8s
Y14A Winkelkurg 76.33 57 IAmb IAmb 14 13 28.1
comp=Z,4.8nm,1.0s
BRTR Keskin Array B 76.95 312 P P 14 13 29.3 -0.3
comp=Z,0.2nm,0.3s,baz=135,slow=40,SNR=2.4
comp=Z,0.2nm,0.3s
X16A Lo Mia Camp, P 76.97 55 IAmb IAmb 14 13 32.4
comp=Z,6.0nm,0.7s
CLL Collm 77.57 331 *eP* **P 14 13 32.0 -0.6**
CLL *e**PP **pP 14 13 50.0 +2.1**
CLL Collm 77.57 331 *e*Px Px 14 13 32.0
CLL *es*P pP 14 13 50.0 +2.1
ECSD EROS Data Cent 78.46 40 IAmb IAmb 14 13 38.3
comp=Z,4.7nm,0.8s
EKA Eskdalemuir Ar 78.85 342 P P 14 13 39.5 -0.1
comp=Z,0.5nm,0.4s,baz=17,slow=6.1,SNR=5.0
comp=Z,0.5nm,0.4s
T25A Trinidad 79.21 49 IAmb IAmb 14 13 44.0
comp=Z,5.7nm,1.0s
GERES GERESS Array B 79.33 329 P P 14 13 42.6 +0.1
comp=Z,0.3nm,0.4s,baz=38,slow=6.8,SNR=5.2
comp=Z,0.3nm,0.4s
SCHQ Schefferville 79.67 18 P P 14 13 44.1 0.0
comp=Z,6.6nm,0.8s,baz=229,slow=15,SNR=5.9
comp=Z,6.6nm,0.8s
MMAI Mount Meron Ar 80.64 306 P P 14 13 49.9 +0.1
comp=Z,0.8nm,0.3s,baz=204,slow=1.8,SNR=1.9
comp=Z,0.8nm,0.3s
P38A Dawn 83.09 41 IAmb IAmb 14 14 03.6
comp=Z,7.7nm,0.8s
DKNS Dickens 83.68 50 IAmb IAmb 14 14 08.8
comp=Z,4.7nm,0.8s
WMOK Wichita Mounta 84.08 48 IAmb IAmb 14 14 09.3
comp=Z,3.3nm,0.9s
MNHN Monahans 84.32 52 IAmb IAmb 14 14 10.7
comp=Z,4.0nm,0.6s
U38A Gravette 85.12 44 IAmb IAmb 14 14 13.9
comp=Z,6.3nm,1.2s
PPT2 Papeete2 85.18 119 *e*LR LR 14 41 08.0
PPT2 *e*LR LR 14 41 10.0
comp=Z,36nm,23.5s
TX31 Lajitas Ar. Si 85.23 54 IAmb IAmb 14 14 15.5
comp=Z,4.3nm,0.8s
TXAR Lajitas Array 85.23 54 P P 14 14 14.1 +0.4

TXAR Lajitas Array 85.23 54 P P 14 14 14.8 +1.1
comp=Z,3.8nm,0.7s,baz=298,slow=3.5,SNR=56
comp=Z,3.8nm,0.7s
TXAR Lajitas Array 85.23 54 P P 14 14 14.1 +0.4
TRQ Mont Tremblant 85.34 26 P 14 14 13.5 -0.4
CCM Cathedral Cave 85.42 41 P P 14 14 14.1 -0.3
CCM Cathedral Cave 85.42 41 P P 14 14 14.1 -0.3
CCM pmax pmax
comp=Z,7.0nm,0.8s
TAOE Nuku Hiva Isla 85.45 106 *e*LR LR 14 41 03.6
comp=Z,34nm,23.5s
BRDY Brady 86.53 50 IAmb IAmb 14 14 21.5
comp=Z,3.7nm,0.8s
MIAR Mount Ida 87.00 44 IAmb IAmb 14 14 23.2
comp=Z,4.8nm,0.8s
U49A Red Boiling Sp 89.24 38 IAmb IAmb 14 14 34.0
comp=Z,4.3nm,0.9s
TKL Tuckaleechee C 90.86 37 LR LR 14 56 12.9
comp=Z,25nm,21.1s,baz=309,slow=36
ESDC Sonseca Array 93.44 336 P P 14 14 51.6 -0.8
comp=Z,0.1nm,0.5s,baz=26,slow=4.8,SNR=1.5
comp=Z,0.1nm,0.5s
QSPA South Pole Qui 132.05 180 PKP PKPdf 14 20 48.8 -0.2
comp=Z,0.4nm,0.5s,baz=340,slow=2.6,SNR=7.0
H03N1 Juan Fernandez 145.13 90 T T 17 04 35.4
SNR=3.4
BDFB Brasilia 151.41 25 PKPbc PKiKP 14 21 31.1 -0.3
comp=Z,0.8nm,0.3s,baz=243,slow=2.3,SNR=4.2

IDC 21 14:02:15.9±3.6, 22°.27S × 176°.99W, h0 km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=188.7km s-min=49.7km az=152.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.05**	**258**	P	P	14 10 33.9	0.0
	0.8nm,0.8s,baz=98,slow=8.2,SNR=12						
ASAR				PcP	PcP	14 12 13.1	-1.9
	0.4nm,0.9s,baz=108,slow=3.8,SNR=4.7						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**45.31**	**264**	P	P	14 10 35.9	0.0
	1.8nm,0.6s,baz=97,slow=8.1,SNR=27						
	1.8nm,0.6s						
HFS	**Hagfors**	**141.42**	**351**	PKhKP	PKPpre	14 21 42.6	
	1.2nm,0.9s,baz=35,slow=5.3,SNR=1.5						
AKASG	**Malin Array Be**	**145.00**	**331**	PKPbc	PKPbc	14 21 53.3	-1.0
	0.9nm,0.4s,baz=43,slow=3.3,SNR=7.6						
MMAI	**Mount Meron Ar**	**149.48**	**298**	PKPbc	PKiKP	14 22 08.6	-0.2
	2.2nm,0.6s,baz=81,slow=4.8,SNR=3.6						

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*IDC **21** 14:18:45.9±2.4, 6°.67S × 130°.31E, h0 km, mb3.3/1, mbtmp3.5/4, ML3.5/3, MS3.2/1, Error ellipse: s-maj=87.9km s-min=30.4km az=78.0*
ISC 21 14:18:53.9±1.1, 7°.06S±0°.07 × 130°.5E±0°.1, h78 km, n10, σ2.9 s 41/9, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.46**	**23**	P	**Pn**	**14 19 58.1**	**-1.1**
DRS	**Darwin Rock St**	**5.36**	**176**	P	Pn	14 20 20.5	+9.2
MTN	**Manton Dam**	**5.79**	**174**	P	Pn	14 20 24.2	+7.0
KDU	**Kakadu**	**5.93**	**161**	P	Pn	14 20 25.2	+6.1
SOEI	**Soe**	**6.72**	**246**	P	**Pn**	**14 20 31.4**	**+1.3**
	44nm,0.7s						
FITZ	**Fitzroy Crossi**	**11.95**	**203**	Pn	**Pn**	**14 21 43.1**	**+1.8**
	0.4nm,0.3s,baz=34,slow=12,SNR=16						
FITZ				Sn	**Sn**	**14 23 49.8**	**-3.2**
	0.1nm,0.3s,baz=90,slow=14,SNR=1.7						
	0.9nm,0.2s						
WRA	**Warramunga Arr**	**13.34**	**164**	Pn	**Pn**	**14 22 01.5**	**+1.4**
	0.2nm,0.3s,baz=345,slow=14,SNR=7.1						
WRA				Sn	**Sn**	**14 24 25.9**	**-0.9**
	0.2nm,0.3s,baz=341,slow=24,SNR=5.2						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**16.84**	**169**	P	**Pn**	**14 22 47.8**	**+3.0**
	0.1nm,0.3s,baz=345,slow=8.7,SNR=9.9						
ASAR				S	**Sn**	**14 25 48.9**	**-2.6**
	1.3nm,1.1s,baz=352,slow=29,SNR=4.1						
	0.5nm,0.8s						
ASAJ	**Asahikawa**	**52.09**	**11**	LR	LR	14 51 33.3	
	comp=Z,20nm,18.1s,baz=172,slow=38						
MKAR	**Makanchi Array**	**68.54**	**327**	P	**P**	**14 29 47.7**	**-0.5**
	0.1nm,0.4s,baz=136,slow=6.3,SNR=1.8						
	0.1nm,0.4s						

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*NNC **21** 14:48:29.1±1.6, 42°.01N × 79°.37E, h0 km, mb2.8, mpv2.9, Error ellipse: s-maj=11.1km s-min=5.6km az=163.0*
*SOME **21** 14:48:30.0, 42°.10N × 79°.35E, h10 km*
*KRNET **21** 14:48:33.3±0.1, 41°.93N × 79°.03E, mb2.5*
ISC 21 14:48:29.5±2.8, 41°.93N±0°.08 × 79°.34E±0°.06, h13 km±16 km, n16, σ0.9 s 90/29, 12C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**0.89**	**309**	⇑*eP*	**Pn**	**14 48 47.8**	**-0.1**
PRZ				⇑*eS*	**Sg**	**14 48 58.2**	**-0.1**
SATY	**Saty**	**1.32**	**329**	P	**Pn**	**14 48 53.3**	**-0.5**
	2.5nm,0.1s						
SATY				S	**Sb**	**14 49 10.2**	**-0.9**
	28nm,0.1s						
PDGK	**Podgornoye**	**1.40**	**5**	⇓P	**Pn**	**14 48 53.3**	**-1.6**
	0.6nm,0.2s						
PDGK				⇑S	**Sn**	**14 49 13.1**	**-0.3**
	25nm,0.7s						
KDJ	**Kajisay**	**1.62**	**278**	⇑*eP*	**Pb**	**14 48 59.3**	**0.0**
KDJ				⇑*eS*	**Sn**	**14 49 18.9**	**+0.1**
KTMS	**Ketmen**	**1.69**	**26**	P	**Pn**	**14 48 58.6**	**-0.3**
	1.2nm,0.1s						
KTMS				S	**Sn**	**14 49 20.5**	**0.0**
	5.5nm,0.2s						
KTMS	**Ketmen**	**1.69**	**26**	*eP*	**Pn**	**14 48 58.6**	**-0.3**
	1.2nm,0.1s						
KTMS				*eS*	**Sn**	**14 49 19.3**	**-1.2**
	6.8nm,0.2s						
TNSS	**Tian-Shan**	**2.08**	**303**	Pg	**Pb**	**14 49 07.5**	**+0.1**
	0.6nm,0.1s						
TNSS				Lg	Lg	14 49 34.5	
	2.1nm,0.2s						
TNSS	**Tian-Shan**	**2.08**	**303**	*eP*	**Pb**	**14 49 07.5**	**+0.1**
	0.6nm,0.1s						
TNSS				*eS*	**Sb**	**14 49 34.5**	**+1.1**
	2.1nm,0.2s						
IZV	**Izvestkoviy**	**2.30**	**300**	Pg	**Pb**	**14 49 10.8**	**-0.1**
	3.6nm,0.2s						
IZV				Lg	Lg	14 49 40.3	
	9.1nm,0.3s						
IZV	**Izvestkoviy**	**2.30**	**300**	*eP*	**Pb**	**14 49 10.8**	**-0.1**
	3.6nm,0.2s						
IZV				*eS*	**Sb**	**14 49 40.3**	**+1.0**
	9.1nm,0.3s						
MTBS	**Maitube**	**2.46**	**300**	Pg	**Pb**	**14 49 14.0**	**+0.4**
	1.5nm,0.1s						
MTBS				Lg	Lg	14 49 45.6	
	8.0nm,0.2s						
MTBS	**Maitube**	**2.46**	**300**	*eP*	**Pb**	**14 49 14.0**	**+0.4**
	1.5nm,0.1s						
MTBS				*eS*	**Sb**	**14 49 45.6**	**+1.7**
	8.0nm,0.2s						
NRN	**Naryn**	**2.55**	**260**	⇑*eP*	**Pb**	**14 49 15.5**	**+0.2**
NRN				⇑*eS*	**Sb**	**14 49 46.2**	**-0.4**
BOOM	**Boomskoye usch**	**2.58**	**284**	⇑*eP*	**Pb**	**14 49 15.5**	**-0.3**
BOOM				⇑*eS*	**Sb**	**14 49 46.2**	**-1.3**
MAKZ	**Makanchi**	**5.23**	**20**	⇓Pn	**Pn**	**14 49 49.2**	**+1.8**
	2.0nm,1.3s						
MAKZ				⇑Sn	**Sn**	**14 50 46.5**	**-1.1**
	0.2nm,0.5s						
MK31	**Makanchi Array**	**5.30**	**23**	⇑Pn	**Pn**	**14 49 48.6**	**+0.2**
	0.5nm,0.7s,baz=207,slow=14,SNR=4.2						
MK31				⇑Sn	**Sn**	**14 50 51.0**	**+1.6**
	2.6nm,1.1s,baz=202,slow=29,SNR=4.2						

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*IDC **21** 14:51:56.4±0.8, 26°.25N × 100°.88E, h0 km, mb3.6/11, mbtmp3.6/12, ML3.7/1, MS3.0/3, Error ellipse: s-maj=25.5km s-min=15.2km az=74.0*
*BKK **21** 14:52:43.3±2.8, 24°N±17° × 10°1E±1°2, h9 km, M3.9/12, mB4.0/7, mb4.2/5, Mjma3.8/12, ML4.3/7, MLv4.2/12, Mw(mB)3.1/7*
ISC 21 14:51:57.6±0.7, 26°.13N±0°.06 × 100°.8E±0°.2, h10 km, n21, σ2.9 s 00/23, mb3.5/11, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAI	**Chiengmai2**	**6.37**	**195**	Pg	**Pg**	**14 53 59.3**	**-0.4**
CHTO	**Chiang Mai**	**7.47**	**193**	P	**Pb**	**14 54 12.1**	**+4.6**
CHTO				Pg	**Pg**	**14 54 19.6**	**-1.2**
CHTO				Sg	**Sg**	**14 55 52.6**	**-5.0**
CMAR	**Chiang Mai Arr**	**7.82**	**193**	Pn	**Pn**	**14 53 53.0**	**+1.5**
	0.3nm,0.3s,baz=2.2,slow=13,SNR=4.8						
CMAR				Pg	Pg	14 54 22.9	-4.5
	0.8nm,0.3s,baz=1.3,slow=17,SNR=42						
CMAR				Lg	Lg	14 56 07.7	
	0.9nm,0.3s,baz=39,slow=30,SNR=6.4						
CMAR				LR	LR	14 57 03.3	
	comp=Z,52nm,19.7s,baz=185,slow=39						
	0.4nm,0.4s						
CM09	**Chiang Mai Arr**	**7.83**	**193**	Pg	**Pg**	**14 54 26.3**	**-1.2**
	0.2nm0.2nm138nm20nm,0.8s						
CM15	**Chiang Mai Arr**	**7.83**	**193**	Pg	**Pg**	**14 54 25.6**	**-2.0**
	0.1nm0.2nm164nm20nm,0.8s						
CM02	**Chiang Mai Arr**	**7.84**	**193**	Pg	**Pg**	**14 54 26.3**	**-1.5**
CM01	**Chiang Mai Arr**	**7.85**	**193**	Pg	**Pg**	**14 54 26.8**	**-1.2**
CM13	**Chiang Mai Arr**	**7.86**	**193**	Pg	**Pg**	**14 54 26.0**	**-2.2**
	0.1nm0.2nm16nm,0.8s						
CM04	**Chiang Mai Arr**	**7.87**	**193**	Pg	**Pg**	**14 54 26.8**	**-1.5**
	0.3nm0.3nm159nm20nm,0.9s						
CM05	**Chiang Mai Arr**	**7.88**	**193**	Pg	**Pg**	**14 54 26.9**	**-1.5**
	0.1nm0.2nm152nm20nm,0.8s						
SONM	**Songino Array**	**22.11**	**10**	P	**P**	**14 56 51.3**	**-1.9**
	0.4nm,0.5s,baz=183,slow=5.8,SNR=1.6						
SONM				LR	LR	15 06 10.0	
	comp=Z,59nm,18.1s,baz=157,slow=39						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**25.30**	**329**	P	**P**	**14 57 23.9**	**-0.5**
	1.7nm,0.8s,baz=131,slow=10,SNR=11						
	1.7nm,0.8s						
KSRS	**Korea Array**	**25.60**	**57**	P	**P**	**14 57 25.0**	**-2.1**
	0.7nm,0.8s,baz=236,slow=11,SNR=1.0						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**29.81**	**331**	P	**P**	**14 58 04.2**	**-0.4**
	0.5nm,0.3s,baz=141,slow=8.9,SNR=4.9						
	0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**30.21**	**341**	P	**P**	**14 58 08.4**	**+0.4**
	0.3nm,0.4s,baz=130,slow=14,SNR=1.8						
	0.3nm,0.4s						
MJAR	**Matsushiro Arr**	**33.43**	**63**	P	**P**	**14 58 36.8**	**+0.1**
	0.3nm,0.5s,baz=191,slow=12,SNR=1.7						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**35.16**	**328**	P	**P**	**14 58 51.0**	**-0.5**
	1.0nm,0.8s,baz=132,slow=11,SNR=3.7						
BVAR				LR	LR	15 13 46.1	
	comp=Z,30nm,19.1s,baz=229,slow=37						
	1.0nm,0.8s						
WRA	**Warramunga Arr**	**56.21**	**141**	P	**P**	**15 01 38.1**	**0.0**
	1.1nm,0.8s,baz=331,slow=7.8,SNR=5.4						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**58.98**	**144**	P	**P**	**15 01 58.6**	**+1.1**
	0.2nm,0.5s,baz=327,slow=7.0,SNR=5.1						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**60.12**	**328**	P	**P**	**15 02 05.1**	**+0.1**
	0.9nm,0.8s,baz=53,slow=5.4,SNR=2.3						
	0.9nm,0.8s						
NOA	**NORSAR Array B**	**67.29**	**328**	P	**P**	**15 02 52.8**	**+0.5**
	0.2nm,0.6s,baz=72,slow=9.6,SNR=1.7						
	0.2nm,0.6s						

*IDC **21** 14:53:05.5±1.1,37.°94N×20.°56E,h0^{km},mb3.8/10, mbtmp3.7/19,ML3.2/7,MS3.1/13,Error ellipse: s-maj=20.9km s-min=13.9km az=13.0*

*ATH **21** 14:53:07.5,37.°66N×20.°30E,h8^{km}±3^{km},ML4.0/7,Manual Solution by A.Moschou First location: 2019/07/21 19:46:38, This location: 2020/10/22 11:41:49 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

*THE **21** 14:53:08.5,38.°N±1.°×2.°0E±.°,h0^{km}±1^{km},M3.7/21, MLh3.7/21*

*NEIC **21** 14:53:08.0±0.8,37.°68N±0.°04×20.°36E±0.°07,h10^{km}±1^{km}, mb4.6/11,Error ellipse: s-maj=8.9km s-min=6.6km az=260.0*

*MED_RC **21** 14:53:08.0±0.4,37.°59N×20.°09E,h13^{km}±1^{km},MW4.3/22, Moment Tensor Solution.Mantle waves: s22,c24; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}1.99±.25; $M_{\theta\theta}$-1.16±.17; $M_{\phi\phi}$-0.84±.16; $M_{r\theta}$1.57±.33; $M_{\theta\phi}$0.48±.14; $M_{\phi r}$-1.98±.32; Best double couple: M_o3.07000×10^{15} NP1:ϕ_s303.00000°,δ18.00000°, λ75.00000°. NP2:ϕ_s138.00000°,δ73.00000°,λ95.00000°. Principal axes: T 3.3300, Plg62.0000°, Azm56.0000°; N -0.5400, Plg4.0000°, Azm317.0000°; P -2.8000, Plg28.0000°, Azm225.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

*NAO **21** 14:53:24.5,39.°26N×19.°94E,h10^{km},mb4.3*

ISC 21 14:53:06.7±0.9,37.°63N±0.°03×20.°28E±0.°03,h14^{km}±5^{km}, n129,σ1^{s}75/148,mb4.1/17,MS3.1/10,12C-5D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORTH	**Orthonies,Zaky**	**0.40**	**56**	P	**Pg**	**14 53 14.8**	**+0.1**
KRI1	**kERI**	**0.43**	**86**	P	**Pg**	**14 53 15.7**	**+0.4**
LTHK	**Lithakia**	**0.45**	**80**	P	**Pg**	**14 53 15.7**	**+0.1**
LTHK	**Lithakia**	**0.45**	**80**	P	**Pg**	**14 53 15.9**	**+0.2**
LTHK				S	**Sg**	**14 53 21.6**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.54**	**27**	P	**Pg**	**14 53 17.6**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.54**	**27**	P	**Pg**	**14 53 17.5**	**+0.2**
PSDA				S	**Sg**	**14 53 24.1**	**-0.4**
ARG2	**Argostoli**	**0.57**	**17**	P	**Pg**	**14 53 18.5**	**+0.5**
LXR1	**Lixouri, Cepha**	**0.58**	**13**	P	**Pb**	**14 53 19.1**	**+0.4**
LXR1				S	**Sb**	**14 53 27.2**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.59**	**41**	P	**Pg**	**14 53 18.4**	**0.0**
RTZL				S	**Sg**	**14 53 26.2**	**0.0**
VLS	**Valsamata**	**0.60**	**24**	P	**Pg**	**14 53 18.5**	**0.0**
VLS				S	**Sg**	**14 53 26.3**	**-0.1**
VLS	**Valsamata**	**0.60**	**24**	P	**Pg**	**14 53 18.5**	**0.0**
VLS				S	**Sg**	**14 53 26.4**	**-0.1**
DMLN	**Damoulianata-K**	**0.61**	**7**	S	**Sb**	**14 53 28.0**	**+0.2**
DMLN	**Damoulianata-K**	**0.61**	**7**	P	**Pg**	**14 53 19.4**	**+0.7**
DMLN				S	**Sg**	**14 53 26.7**	**-0.2**
FSK	**Fiskardo**	**0.86**	**15**	P	**Pg**	**14 53 23.2**	**-0.1**
FSK				S	**Sb**	**14 53 35.5**	**+0.8**
EVGI	**Lefkada island**	**1.03**	**17**	P	**Pg**	**14 53 26.3**	**-0.3**
EVGI				S	**Sb**	**14 53 41.0**	**+1.2**
EVGI	**Lefkada island**	**1.03**	**17**	P	**Pg**	**14 53 26.6**	**-0.1**
EVGI				S	**Sb**	**14 53 40.6**	**+0.8**
AXS	**Araxos**	**1.04**	**57**	P	**Pg**	**14 53 26.5**	**-0.3**
AXS				S	**Sn**	**14 53 42.0**	**+0.8**
NYDR	**Nydri-Lefkada**	**1.13**	**17**	P	**Pg**	**14 53 28.5**	**0.0**
NYDR				S	**Sn**	**14 53 46.5**	**+3.0**
NYDR	**Nydri-Lefkada**	**1.13**	**17**	P	**Pb**	**14 53 28.9**	**+0.9**
NYDR				S	**Sg**	**14 53 42.9**	**-0.4**
LKD2	**Lefkada island**	**1.20**	**14**	P	**Pn**	**14 53 31.0**	**+1.9**
LKD2				S	**Sn**	**14 53 47.6**	**+2.4**
LKD2	**Lefkada island**	**1.20**	**14**	P	**Pg**	**14 53 29.7**	**-0.1**
LKD2				S	**Sg**	**14 53 44.6**	**-0.7**
TSLK	**Tsoukalades, L**	**1.23**	**14**	P	**Pn**	**14 53 31.0**	**+1.5**
TSLK				S	**Sb**	**14 53 46.5**	**+1.0**
ITM	**Ithomi**	**1.39**	**108**		**Pn**	**14 53 33.0**	**+1.3**
ITM	**Ithomi**	**1.39**	**108**	P	**Pb**	**14 53 33.5**	**+1.1**
PVO	**Paravola**	**1.39**	**45**	P	**Pn**	**14 53 32.9**	**+1.2**
AMPL	**Ampelaki**	**1.49**	**30**	P	**Pn**	**14 53 34.2**	**+1.1**
AMPL				S	**Sg**	**14 53 56.0**	**+1.4**
EFP	**Efpalio**	**1.51**	**58**	P	**Pb**	**14 53 35.2**	**+0.6**
KLV	**Kalavryta, Ach**	**1.54**	**74**	P	**Pb**	**14 53 35.7**	**+0.6**
SERG	**Sergoula**	**1.61**	**60**	P	**Pb**	**14 53 36.7**	**+0.4**
KALE	**Kalithea**	**1.66**	**62**	P	**Pb**	**14 53 37.5**	**+0.4**
GUR	**Goura**	**1.67**	**79**	P	**Pb**	**14 53 37.9**	**+0.7**
KEK	**Kerkira**	**2.11**	**350**		**Pn**	**14 53 43.1**	**+1.4**
SCTE	**Santa Cesarea**	**2.82**	**330**		**Pn**	**14 53 53.0**	**+1.6**
TIP	**Timpagrande**	**3.17**	**300**	Pn	**Pn**	**14 53 58.5**	**+2.3**
TIP	**Timpagrande**	**3.17**	**300**	⇑P	**Pn**	**14 53 58.8**	**+2.6**
TIP				⇑S	**Sn**	**14 54 33.6**	**-0.2**
FNA	**Florina**	**3.26**	**15**		**Pn**	**14 53 58.3**	**+0.8**
OHR	**Ohrid**	**3.50**	**6**	*i* Pn	**Pn**	**14 54 04.6**	**+3.8**
CEL	**Celeste**	**3.52**	**282**	Pn	**Pn**	**14 54 03.3**	**+2.3**
TIR	**Tirane**	**3.73**	**355**	Pn	**Pn**	**14 54 04.8**	**+0.9**
CUC	**Castrocucco**	**4.21**	**305**	Pn	**Pn**	**14 54 12.6**	**+2.1**
IDI	**Anoyia**	**4.39**	**121**	Pn	**Pn**	**14 54 14.6**	**+1.5**
	9.7nm,1.0s,baz=248,slow=5.6,SNR=8.3						
IDI				Sn	**Sn**	**14 55 04.7**	**+0.6**
	3.8nm,0.3s,baz=161,slow=15,SNR=6.9						
ACER	**Acerenza**	**4.61**	**314**		**Pn**	**14 54 19.1**	**+3.0**
VAE	**Valguarnera**	**4.66**	**270**	Pn	Pn	14 54 22.3	+5.5
	3.5nm,0.4s,baz=45,slow=8.5,SNR=4.5						
VAE				Pg	**Pg**	**14 54 34.7**	**-1.3**
	2.2nm,0.3s,baz=48,slow=11,SNR=4.5						
VAE				Sn	**Sn**	**14 55 15.0**	**+4.3**
	4.6nm,0.3s,baz=244,slow=21,SNR=4.7						
RAFF	**Raffo Rosso**	**4.72**	**267**	Pn	**Pn**	**14 54 19.5**	**+2.0**
MMB	**Musomishta**	**4.74**	**33**	P	**Pn**	**14 54 19.9**	**+2.0**
KKB	**Krupnik**	**4.75**	**27**	*e*P	**Pn**	**14 54 20.1**	**+2.2**
PDG	**Podgorica**	**4.86**	**351**	⇑P	**Pn**	**14 54 21.5**	**+2.1**
PDG				⇓S	**Sn**	**14 55 15.0**	**-0.4**
WDD	**Wied Dalam**	**4.95**	**251**		**Pn**	**14 54 23.3**	**+2.6**
RZN	**Rozhen**	**5.32**	**39**	P	**Pn**	**14 54 27.3**	**+1.4**
SGRT	**San Giovanni R**	**5.40**	**321**		**Pn**	**14 54 29.1**	**+2.2**
PLNA	**Plana**	**5.41**	**26**	*e*P	**Pn**	**14 54 28.8**	**+1.7**
VTS	**Vitosha**	**5.47**	**24**	*e*P	**Pn**	**14 54 29.5**	**+1.5**
PAOL	**Paolisi**	**5.58**	**309**		**Pn**	**14 54 32.1**	**+2.8**
KDZ	**Kurdzhali**	**5.59**	**43**	P	**Pn**	**14 54 30.5**	**+1.1**
BOVS	**Bovan**	**6.10**	**10**	⇑P	**Pn**	**14 54 38.4**	**+2.0**
BOVS				⇑S	**Sn**	**14 55 46.2**	**+0.3**
MPEP	**Malo Peshtene**	**6.30**	**24**	*e*P	**Pn**	**14 54 41.4**	**+2.2**
VALD	**Valchedram**	**6.51**	**21**	*e*P	**Pn**	**14 54 38.5**	**-3.6**
MDVR	**Moldovita**	**7.23**	**8**	⇓P	**Pn**	**14 54 54.3**	**+2.3**
BLY	**Banja Luka**	**7.48**	**343**	⇓P	**Pn**	**14 54 57.2**	**+1.8**
BLY				⇓S	**Sn**	**14 56 20.0**	**0.0**
NRCA	**Norcia**	**7.55**	**316**	Pn	**Pn**	**14 54 59.1**	**+2.7**
FDMO	**Fiordimonte**	**7.70**	**317**		**Pn**	**14 55 01.0**	**+2.6**
GZR	**Gura Zlata**	**7.98**	**13**	⇑P	**Pn**	**14 55 04.4**	**+2.2**
BZS	**Buzias**	**8.04**	**7**	⇑P	**Pn**	**14 55 05.7**	**+2.6**
VOIR		**8.58**	**23**	⇑P	**Pn**	**14 55 13.3**	**+2.7**
MORH	**Mrgy, Hungar**	**8.66**	**352**	⇑P	**Pn**	**14 55 13.0**	**+1.4**
MLR	**Muntele Rosu**	**8.93**	**27**	Pn	**Pn**	**14 55 12.4**	**-2.9**
	0.4nm,0.3s,baz=292,slow=15,SNR=6.9						
MLR				LR	LR	14 58 33.4	
	comp=Z,75nm,21.9s,baz=206,slow=38						
	0.7nm,0.3s						
MLR	**Muntele Rosu**	**8.93**	**27**	⇑P	**Pn**	**14 55 18.7**	**+3.4**
GCIS	**Gornji Cirnik**	**8.93**	**339**	*i* Pn	**Pn**	**14 55 16.7**	**+1.4**
KEST	**Kesra**	**8.98**	**261**	Pn	Pn	14 55 21.4	+5.4
	0.5nm,0.3s,baz=278,slow=7.8,SNR=4.0						
KEST				Sn	**Sn**	**14 56 55.9**	**-1.2**
	0.2nm,0.3s,baz=8.3,slow=20,SNR=1.2						
KEST				LR	LR	14 59 27.9	
	comp=Z,102nm,20.8s,baz=238,slow=41						
	2.1nm,0.5s						
SKDS	**Skadanscina**	**9.19**	**331**	*e*Pn	**Pn**	**14 55 19.8**	**+0.9**
BISRR	**Bisoca**	**9.26**	**29**	⇑P	**Pn**	**14 55 22.8**	**+2.9**
PDKS	**Podkum**	**9.30**	**337**	*i* Pn	**Pn**	**14 55 22.0**	**+1.7**
PLOR	**Plostina**	**9.49**	**28**	⇑P	**Pn**	**14 55 24.7**	**+1.7**
VRI	**Vrincioaia**	**9.53**	**28**	⇓P	**Pn**	**14 55 26.7**	**+3.2**
VOJS	**Vojsko**	**9.65**	**332**	*i* Pn	**Pn**	**14 55 27.3**	**+2.1**
SABO	**M.te Sabotino**	**9.71**	**331**	Pn	**Pn**	**14 55 26.8**	**+0.8**
OBKA	**Obir**	**9.84**	**336**	*e*Pn	**Pn**	**14 55 30.4**	**+2.6**
	0.7nm,0.2s						
OBKA				*e*Sn	**Sn**	**14 57 16.1**	**-1.9**
	13nm,0.6s						
ARSA	**Arzberg**	**10.23**	**341**	*e*Pn	**Pn**	**14 55 34.3**	**+1.2**
	0.8nm,0.4s						
BRTR	**Keskin Array B**	**10.66**	**75**	Pn	**Pn**	**14 55 39.8**	**+0.8**
	baz=48,slow=2.1,SNR=1.4						
BRTR				LR	LR	15 00 37.6	
	comp=Z,221nm,18.5s,baz=298,slow=44						
	0.2nm,0.4s						
ABTA	**Abfaltersbach**	**10.77**	**330**	*e*Pn	**Pn**	**14 55 43.4**	**+2.8**
	1.1nm,0.5s						
ABTA				*e*Sn	**Sn**	**14 57 38.2**	**-2.8**
	12nm,0.7s						
VYHS	**Vyhne**	**10.91**	**355**	*e*PN	Pn	14 55 50.6	+8.2
VYHS				*e*SN	**Sn**	**14 57 41.9**	**-2.3**
MOA	**Molln**	**11.12**	**339**	*e*Pn	**Pn**	**14 55 46.9**	**+1.6**
	1.7nm,0.4s						
LESA	**Schwarzleotal**	**11.27**	**333**	*e*Pn	**Pn**	**14 55 49.9**	**+2.5**
	2.2nm,0.5s						
LESA				Sn	**Sn**	**14 57 52.0**	**-1.2**
	4.4nm,0.5s						
WTTA	**Wattenberg**	**11.54**	**329**	*e*Pn	**Pn**	**14 55 52.2**	**+1.0**
	1.0nm,0.5s						
WTTA				*e*Sn	**Sn**	**14 57 57.5**	**-2.4**
	4.7nm,0.6s						
WATA	**Walderalm**	**11.62**	**329**	*e*Pn	**Pn**	**14 55 53.3**	**+1.0**
	0.8nm,0.2s						
WATA				*e*Sn	**Sn**	**14 57 59.6**	**-2.3**
	3.4nm,0.5s						
DAVOX	**Davos/Dischmat**	**11.95**	**323**	Pn	**Pn**	**14 55 57.1**	**+0.3**
	0.1nm,0.3s,baz=136,slow=21,SNR=2.4						
DAVOX				Sn	**Sn**	**14 58 05.9**	**-4.0**
	0.6nm,0.3s,baz=142,slow=15,SNR=4.3						
	0.8nm,0.4s						
VRAC	**Vranov**	**11.97**	**348**	LR	LR	15 00 46.1	
	comp=Z,33nm,21.2s,baz=180,slow=39						
CKRC	**Cesky Krumlov**	**11.99**	**341**	*e*PN	**Pn**	**14 55 58.4**	**+1.2**
GERES	**GERESS Array B**	**12.18**	**339**	Pn	**Pn**	**14 55 59.5**	**-0.4**
	baz=163,slow=14,SNR=6.5						
GERES				Sn	Sn	14 58 07.6	-8.0
	0.1nm,0.3s,baz=156,slow=24,SNR=4.9						
	0.4nm,0.4s						
KHC	**Kasperske Hory**	**12.48**	**339**	*e*PN	**Pn**	**14 56 04.0**	**+0.2**
AKASG	**Malin Array Be**	**14.54**	**23**	Pn	**Pn**	**14 56 29.7**	**-2.3**
	0.9nm,0.3s,baz=215,slow=12,SNR=4.8						
AKASG				LR	LR	15 02 14.9	
	comp=Z,53nm,20.0s,baz=204,slow=39						
CLL	**Collm**	**14.62**	**342**	*e*sPP		14 56 48.0	
CLL				AMS	AMS	15 03 00.0	
	comp=Z,100nm,18.5s						
NACGM	**Naroch**	**17.84**	**12**	*e*P	**Pn**	**14 57 13.6**	**-0.7**
	comp=Z,9.0nm,0.9s,baz=197						
KBZ	**Khabaz**	**18.18**	**63**	P	**Pn**	**14 57 15.0**	**-3.6**
	baz=253,slow=11,SNR=1.8						
	comp=Z,1.3nm,0.7s						
ESDC	**Sonseca Array**	**19.03**	**284**	P	**Pn**	**14 57 30.6**	**+1.5**
	baz=77,slow=12,SNR=8.1						
	comp=Z,1.0nm,0.9s						
MDT	**Midelt**	**20.86**	**264**	LR	LR	15 06 09.0	
	comp=Z,41nm,20.2s,baz=53,slow=37						
HFS	**Hagfors**	**22.91**	**352**	P	**P**	**14 58 07.1**	**-2.8**
	comp=Z,0.8nm,0.4s,baz=163,slow=11,SNR=15						
	comp=Z,0.8nm,0.4s						
EKA	**Eskdalemuir Ar**	**23.77**	**326**	P	**P**	**14 58 17.2**	**-1.4**
	comp=Z,4.3nm,0.9s,baz=127,slow=11,SNR=5.3						
	comp=Z,4.3nm,0.9s						
NC602	**NORSAR Array S**	**23.78**	**349**	P	**P**	**14 58 20.1**	**+1.5**
FINES	**FINESS Array B**	**24.11**	**7**	P	**P**	**14 58 20.5**	**-1.2**
	comp=Z,1.7nm,0.4s,baz=173,slow=9.9,SNR=28						
	comp=Z,1.7nm,0.4s						
FIA1	**FINESS Array S**	**24.11**	**7**	P	**P**	**14 58 22.4**	**+0.6**
NB201	**NORSAR Array S**	**24.11**	**349**	P	**P**	**14 58 23.4**	**+1.6**
NB201				IAmb	IAmb	14 58 23.6	
	comp=Z,23nm,1.4s						
NB2	**NORSAR Subarra**	**24.12**	**349**	P	**P**	**14 58 22.9**	**+1.0**
	comp=Z,23nm,1.7s,baz=162,slow=10						
NOA	**NORSAR Array B**	**24.12**	**349**	P	**P**	**14 58 21.3**	**-0.6**
	comp=Z,2.4nm,1.1s,baz=162,slow=13,SNR=4.9						
NOA				LR	LR	15 07 54.3	
	comp=Z,15nm,19.8s,baz=200,slow=37						
	comp=Z,2.4nm,1.1s						
BELG	**Belogornoye**	**24.13**	**44**	LR	LR	15 09 12.1	
	comp=Z,30nm,19.5s,baz=182,slow=41						
NC303	**NORSAR Array S**	**24.27**	**350**	P	**P**	**14 58 25.1**	**+1.8**
NC303				IAmb	IAmb	14 58 36.9	
	comp=Z,16nm,1.1s						
AKTO	**Aktyubinsk**	**29.67**	**52**	LR	LR	15 12 59.2	
	comp=Z,35nm,19.1s,baz=58,slow=41						
ABKAR	**Akbulak array**	**30.71**	**55**	P	**P**	**14 59 21.7**	**+0.7**
ARTI	**Arti**	**31.49**	**41**	LR	LR	15 13 57.0	
	comp=Z,35nm,21.0s,baz=196,slow=40						
ARCES	**ARCESS Array B**	**32.09**	**3**	P	**P**	**14 59 29.6**	**-3.3**
	comp=Z,0.4nm,0.3s,baz=190,slow=11,SNR=14						
	comp=Z,0.4nm,0.3s						
KEV	**Kevo**	**32.39**	**4**	P	**P**	**14 59 36.7**	**+1.1**
KEV				IAmb	IAmb	14 59 52.2	
	comp=Z,7.7nm,1.1s						
DBIC	**Dimbokro**	**38.36**	**223**	LR	LR	15 16 56.7	
	comp=Z,43nm,18.6s,baz=136,slow=37						
KURBB	**Kurchatov Arra**	**42.71**	**53**	P	**P**	**15 01 00.5**	**-2.7**
	comp=Z,0.6nm,0.3s,baz=281,slow=9.1,SNR=6.2						
	comp=Z,0.6nm,0.3s						
SUMG	**Summit**	**45.26**	**339**	P	**P**	**15 01 24.8**	**+1.1**
MKAR	**Makanchi Array**	**45.76**	**58**	P	**P**	**15 01 27.4**	**-0.2**
MKAR	**Makanchi Array**	**45.76**	**58**	P	**P**	**15 01 25.8**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=273,slow=7.9,SNR=5.8						
MKAR				LR	LR	15 24 42.2	
	comp=Z,25nm,18.1s,baz=207,slow=42						
	comp=Z,0.2nm,0.3s						
ZAA0	**Zalesovo Array**	**46.20**	**48**	P	**P**	**15 01 30.4**	**-0.5**
ZAA0				IAmb	IAmb	15 01 44.1	
	comp=Z,3.5nm,0.5s						
ZALV	**Zalesovo Beam**	**46.20**	**48**	P	**P**	**15 01 28.9**	**-2.0**
	comp=Z,1.7nm,0.4s,baz=278,slow=8.7,SNR=8.8						
	comp=Z,1.7nm,0.4s						
WMQ	**Urumqi**	**50.20**	**60**	*e*P	**P**	**15 02 05.3**	**+3.2**
WMQ				LR	LR		
	comp=Z,87nm,21.5s						
SONM	**Songino Array**	**60.96**	**50**	P	**P**	**15 03 18.6**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=56,slow=5.9,SNR=2.6						
	comp=Z,0.6nm,0.5s						
F64A	**Sherman**	**63.37**	**309**	P	**P**	**15 03 36.9**	**+1.4**
F64A				IAmb	IAmb	15 04 06.8	
	comp=Z,7.2nm,1.2s						
LZH	**Lanzhou**	**64.62**	**63**	*e*P	P	15 03 40.8	-3.3
G62A	**West of Eustis**	**65.03**	**309**	P	**P**	**15 03 47.8**	**+1.4**
HHC	**Hu-ho-hao-te**	**67.51**	**55**	*e*P	**P**	**15 04 01.6**	**-0.9**
HHC				pmax	pmax		
	comp=Z,27nm,0.5s						
HHC				pmax	pmax		
	comp=Z,90nm,5.1s						
PZH	**PanZhiHua**	**67.95**	**73**	P	**P**	**15 04 06.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**70.16**	**82**	P	**P**	**15 04 17.8**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=306,slow=8.6,SNR=4.5						
	comp=Z,0.3nm,0.4s						
NJ2	**Nanjing**	**77.26**	**59**	*e*P	**P**	**15 05 00.5**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CPUP	**Villa Florida**	**96.62**	**242**	LR	LR	15 51 13.3	
	comp=Z,22nm,18.0s,baz=15,slow=36						
LPAZ	**La Paz**	**98.53**	**256**	LR	LR	15 54 39.6	
	comp=Z,67nm,18.2s,baz=94,slow=37						

IDC 21 14:57:56.6±2.7,29.°86N×140.°84E,h59^{km}±27^{km},mb3.0/3, mbtmp3.2/5,ML2.3/1,Error ellipse: s-maj=52.1km s-min=16.6km az=78.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.99**	**156**	P	Pn	14 58 41.0	-0.6
	10nm,0.3s,baz=0.0,slow=0.0						
JCJ				S	Sn	14 59 16.8	+0.5
	baz=0.0,slow=0.0						
MJAR	**Matsushiro Arr**	**7.02**	**342**	P	Pn	14 59 36.7	-0.1
	baz=164,slow=14,SNR=5.3						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**49.90**	**188**	P	P	15 06 44.2	-0.2
	0.3nm,0.6s,baz=6.7,slow=7.4,SNR=1.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**53.63**	**188**	P	P	15 07 12.1	0.0
	0.4nm,0.9s,baz=3.1,slow=5.5,SNR=4.2						
	0.4nm,0.9s						
ILAR	**Eielson Array**	**55.88**	**30**	P	P	15 07 27.9	-0.1
	0.1nm,0.6s,baz=274,slow=8.3,SNR=1.9						
	0.1nm,0.6s						

*JMA **21** 15:10:33.0±0.6,24.°N±2.°×14.°3E±.°,h0^{km},MV4.7/9,IOTO ISLANDS REGION*

*IDC **21** 15:10:47.4±2.1,24.°43N×142.°02E,h75^{km}±18^{km},mb3.7/16, mbtmp3.9/20,MS2.9/8,Error ellipse: s-maj=22.2km s-min=13.9km az=93.0*

*NEIC **21** 15:10:48.6±1.6,24.°45N±0.°09×141.°95E±0.°07,h84^{km}±7^{km}, mb4.4/28,Error ellipse: s-maj=15.0km s-min=5.1km az=143.0*

ISC 21 15:10:42.4±0.6,24.°27N±0.°06×142.°1E±0.°1,h35^{km},n72, σ1^{s}35/65,mb4.3/30,MS3.1/4,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.35**	**1**	*e*P	**Pn**	**15 11 16.4**	**-2.2**
JHH2				*e*S	**Sn**	**15 11 48.1**	**+1.9**
CBIJ	**Chichi jima**	**2.81**	**1**	*e*S	**Sn**	**15 11 58.0**	**+0.4**
JCJ	**Chichijima**	**2.81**

BVAR	**Borovoye Array**	**60.10**	**319**	P	**P**	**15 20 45.3**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=90,slow=8.0,SNR=15						
	comp=Z,2.3nm,0.6s						
BRVK	**Borovoye**	**60.16**	**319**	P	**P**	**15 20 45.4**	**-1.0**
BRVK				IAmb	IAmb	15 20 46.4	
	comp=Z,2.1nm,0.8s						
IL31		**60.21**	**28**	P	**P**	**15 20 46.0**	**-0.6**
IL31				IAmb	IAmb	15 20 47.7	
	comp=Z,2.2nm,0.8s						
ILAR	**Eielson Array**	**60.21**	**28**	P	**P**	**15 20 46.4**	**-0.2**
ILAR	**Eielson Array**	**60.21**	**28**	P	**P**	**15 20 46.8**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=259,slow=5.8,SNR=20						
	comp=Z,2.1nm,0.9s						
KKAR	**Karatay Array**	**60.72**	**307**	P	**P**	**15 20 50.0**	**-0.5**
J25K	**Salcha River,**	**60.85**	**28**	P	**P**	**15 20 51.5**	**+0.4**
RIDG	**Independent Ri**	**61.01**	**29**	P	**P**	**15 20 52.6**	**+0.5**
RIDG				IAmb	IAmb	15 21 33.5	
	comp=Z,3.0nm,1.0s						
DOT	**Dot Lake**	**61.36**	**29**	P	**P**	**15 20 55.3**	**+0.8**
DOT				IAmb	IAmb	15 21 05.9	
	comp=Z,6.8nm,1.5s						
SCRK	**Sand Creek**	**61.41**	**29**		**P**	**15 20 55.6**	**+0.6**
SCRK				IAmb	IAmb	15 20 56.3	
	comp=Z,2.8nm,0.6s						
J26L	**Joseph Creek**	**61.62**	**28**		**P**	**15 20 56.4**	**0.0**
J26L				IAmb	IAmb	15 20 57.9	
	comp=Z,2.7nm,0.8s						
G31M	**Satah River**	**65.43**	**26**	P	**P**	**15 21 21.9**	**+0.6**
G31M				IAmb	IAmb	15 21 53.4	
	comp=Z,9.1nm,1.2s						
AB31	**Akbulak array**	**67.04**	**315**		**P**	**15 21 30.8**	**-1.1**
ABKAR	**Akbulak array**	**67.04**	**315**	P	**P**	**15 21 30.8**	**-1.1**
THZ	**Tophouse**	**71.62**	**156**	P	**P**	**15 22 00.9**	**+0.7**
YKA	**Yellowknife Ar**	**74.64**	**28**	P	**P**	**15 22 18.7**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=290,slow=9.7,SNR=5.4						
	comp=Z,0.9nm,0.7s						
ARCES	**ARCESS Array B**	**76.18**	**341**	P	**P**	**15 22 25.6**	**-1.0**
ARCES	**ARCESS Array B**	**76.18**	**341**	P	**P**	**15 22 26.6**	**0.0**
	comp=Z,1.4nm,0.6s,baz=64,slow=8.2,SNR=6.6						
	comp=Z,1.4nm,0.6s						
KBZ	**Khabaz**	**79.89**	**313**	P	**P**	**15 22 46.9**	**-0.8**
	comp=Z,3.2nm,0.7s,baz=88,slow=2.0,SNR=5.2						
	comp=Z,3.2nm,0.7s						
FINES	**FINESS Array B**	**80.45**	**334**	P	**P**	**15 22 49.3**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=66,slow=4.7,SNR=15						
	comp=Z,0.7nm,0.4s						
NVAR	**Mina Array Bea**	**82.31**	**51**	P	**P**	**15 23 00.5**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=311,slow=5.2,SNR=1.9						
	comp=Z,0.3nm,0.6s						
LYMT	**Lyon Mountain**	**82.53**	**42**	P	**P**	**15 23 00.5**	**-1.4**
AKASG	**Malin Array Be**	**84.86**	**324**	P	**P**	**15 23 11.2**	**-2.2**
	comp=Z,0.9nm,0.7s,baz=0.0,slow=1.0,SNR=4.3						
	comp=Z,0.9nm,0.7s						
NC405	**NORSAR Array S**	**85.98**	**338**	P	**P**	**15 23 16.6**	**-2.2**
NC405				IAmb	IAmb	15 23 55.9	
	comp=Z,9.7nm,1.3s						
HFS	**Hagfors**	**85.99**	**337**	P	**P**	**15 23 18.1**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=96,slow=3.0,SNR=9.0						
	comp=Z,0.7nm,0.4s						
NB201	**NORSAR Array S**	**86.17**	**338**	P	**P**	**15 23 17.9**	**-2.0**
NOA	**NORSAR Array B**	**86.20**	**338**	P	**P**	**15 23 18.5**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=56,slow=6.1,SNR=2.9						
	comp=Z,0.5nm,0.6s						

GEN ***21*** *15:40:09.7,44.39N×6.91E,h6km±1km, MI2.5*
LDG ***21*** *15:40:10.5±0.1,44.39N×6.92E,h5km,Md2.6/1,MI2.8/33, Error ellipse: s-maj=1.1km s-min=0.8km az=57.0*
ROM ***21*** *15:40:10.3±0.2,44.403N±0.006×6.94E±0.01,h10km, ML2.4/52,Error ellipse: s-maj=1.2km s-min=0.3km az=66.0*

STR 21 15:40:10.5±0.2,44°N±1°×°±°,h5km,MLv2.8/14**,9C-5D, LOCSAT earthModelID alpes_taup-2.11 preliminary, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAUF	**Jausiers**	**0.13**	**289**	Pg	Pg	15 40 13.0	-0.3
JAUF				Sg	Sg	15 40 14.8	-0.2
PZZ	**Stroppo**	**0.18**	**50**	P	Pg	15 40 14.5	+0.3
PZZ				S	Sg	15 40 17.5	+0.8
PZZ	**Stroppo**	**0.18**	**50**	⇑P	Pg	15 40 14.5	+0.3
PZZ				S	Sg	15 40 17.2	+0.6
PZZ				AML	AML		
	comp=N,9965μm,0.4s						
PZZ				AML	AML		
	comp=E,10895μm,0.5s						
PZZ				AML	AML		
	comp=E,10622μm,0.3s						
PZZ				AML	AML		
	comp=N,9948μm,0.4s						
PZZ	**Stroppo**	**0.18**	**50**	Pg	Pg	15 40 14.6	+0.4
PZZ				Sg	Sg	15 40 17.3	+0.7
ISO	**Isola**	**0.23**	**156**	P	Pg	15 40 15.3	+0.4
ISO				S	Sg	15 40 18.1	+0.2
ISO	**Isola**	**0.23**	**156**	Pg	Pg	15 40 14.7	-0.2
ISO				Sg	Sg	15 40 17.6	-0.3
CREF	**Crivoux**	**0.27**	**307**	Pg	Pg	15 40 15.5	-0.3
CREF				Sg	Sg	15 40 19.7	+0.4
OGAG	**Argentiere**	**0.28**	**284**	P	Pb	15 40 19.7	+1.6
OGAG				S	Sb	15 40 26.6	+3.5
OGAG	**Argentiere**	**0.28**	**284**	Pg	Pb	15 40 19.7	+1.6
OGAG				Sg	Sb	15 40 26.6	+3.5
ENAUX	**Enaux**	**0.30**	**200**	Pg	Pg	15 40 16.2	-0.1
ENAUX				Sg	Sg	15 40 20.2	0.0
STV	**Sant Anna di V**	**0.32**	**116**	Pg	Pg	15 40 16.8	0.0
STV				Sg	Sg	15 40 21.3	+0.2
MBDF	**Montbardon**	**0.35**	**343**	*e*Pg	Pg	15 40 17.1	-0.3
MBDF				*e*Sg	Sg	15 40 22.3	+0.1
	comp=N,284nm,0.2s						
ENR	**Entracque**	**0.39**	**114**	P	Pg	15 40 18.0	-0.1
ENR	**Entracque**	**0.39**	**114**	⇑P	Pg	15 40 18.0	-0.1
ENR				AML	AML		
	comp=E,1063μm,0.2s						
ENR				AML	AML		
	comp=N,970μm,0.4s						
ENR				AML	AML		
	comp=N,769μm,0.2s						
ENR	**Entracque**	**0.39**	**114**	Pg	Pg	15 40 18.0	-0.1
SPIF	**crte de Spivo**	**0.40**	**146**	Pg	Pg	15 40 18.2	-0.1
SPIF				Sg	Sg	15 40 23.4	-0.2
BHB	**Bricherasio**	**0.52**	**28**	P	Pg	15 40 20.2	-0.2
BHB				S	Sg	15 40 28.0	+0.9
BHB	**Bricherasio**	**0.52**	**28**	⇓P	Pg	15 40 20.2	-0.2
BHB				S	Sg	15 40 26.9	-0.2
BHB				AML	AML		
	comp=E,1025μm,1.1s						
BHB				AML	AML		
	comp=N,1260μm,1.4s						
BHB				AML	AML		
	comp=E,1025μm,0.9s						
BHB				AML	AML		
	comp=E,981μm,0.3s						
BHB				AML	AML		
	comp=N,1048μm,0.4s						
BHB	**Bricherasio**	**0.52**	**28**	Pg	Pg	15 40 20.3	-0.2
BHB				Sg	Sg	15 40 27.8	+0.6
MVIF	**Mont Vial**	**0.52**	**161**	P	Pg	15 40 20.8	+0.3
MVIF				S	Sg	15 40 28.6	+1.3
MVIF	**Mont Vial**	**0.52**	**161**	Pg	Pg	15 40 20.4	-0.1
MVIF				Sg	Sg	15 40 27.8	+0.5
OGDI	**Digne**	**0.53**	**238**	P	Pb	15 40 22.3	+0.1
OGDI				S	Sb	15 40 30.3	+0.1
OGDI	**Digne**	**0.53**	**238**	Pg	Pb	15 40 22.3	0.0
OGDI				Sg	Sb	15 40 29.7	-0.5
SALSA	**La sagne**	**0.53**	**198**	Pg	Pg	15 40 20.9	+0.1
SALSA				Sg	Sg	15 40 28.5	+0.7
TURF	**col de Turini**	**0.54**	**140**	P	Pg	15 40 21.2	+0.4
TURF				S	Sg	15 40 28.5	+0.7
TURF	**col de Turini**	**0.54**	**140**	Pg	Pg	15 40 20.8	0.0
TURF				Sg	Sg	15 40 27.8	0.0
RRL	**Rocca Remolon**	**0.54**	**350**	P	Pg	15 40 20.8	-0.2
RRL				S	Sg	15 40 28.8	+0.8
RRL	**Rocca Remolon**	**0.54**	**350**	⇓P	Pg	15 40 20.7	-0.2
RRL				S	Sg	15 40 28.8	+0.8
RRL				AML	AML		
	comp=E,462μm,0.2s						
RRL				AML	AML		
	comp=N,596μm,0.9s						
RRL				AML	AML		
	comp=E,462μm,1.8s						
RRL				AML	AML		
	comp=N,513μm,0.2s						
RRL				AML	AML		
	comp=E,462μm,0.2s						
RRL	**Rocca Remolon**	**0.54**	**350**	Pg	Pg	15 40 20.9	0.0
RRL				Sg	Sg	15 40 29.2	+1.1
PIAF	**les Granges de**	**0.57**	**118**	Pg	Pg	15 40 21.2	-0.2
PIAF				Sg	Sg	15 40 29.4	+0.5
SAOF	**Saorge**	**0.61**	**131**	P	Pg	15 40 22.6	+0.4
SAOF				S	Sg	15 40 31.1	+1.0
SAOF	**Saorge**	**0.61**	**131**	⇑P	Pg	15 40 22.1	-0.1
SAOF				S	Sg	15 40 30.2	+0.1
SAOF				AML	AML		
	comp=E,610μm,0.3s						
SAOF				AML	AML		
	comp=N,762μm,0.3s						
SAOF	**Saorge**	**0.61**	**131**	Pg	Pg	15 40 22.1	-0.1
SAOF				Sg	Sg	15 40 30.1	0.0
CALF	**Calern**	**0.64**	**180**	Pg	Pg	15 40 22.6	-0.1
CALF				Sg	Sg	15 40 31.6	+0.6
SBF	**Sospel**	**0.64**	**145**	*e*Pg	Pg	15 40 22.6	-0.3
SBF				*e*Sg	Sg	15 40 31.0	-0.2
	comp=N,154nm,0.2s						
ESCA	**l'Escarene**	**0.65**	**149**	P	Pg	15 40 23.4	+0.5
ESCA				S	Sg	15 40 32.0	+0.7
ESCA	**l'Escarene**	**0.65**	**149**	Pg	Pg	15 40 22.9	0.0
ESCA				Sg	Sg	15 40 31.5	+0.2
GBOS	**Grotte di Boss**	**0.68**	**102**	P	Pg	15 40 23.1	-0.4
GBOS				S	Sg	15 40 32.6	+0.3
GBOS	**Grotte di Boss**	**0.68**	**102**	⇑P	Pg	15 40 23.2	-0.3
GBOS				AML	AML		
	comp=E,356μm,0.3s						
GBOS				AML	AML		
	comp=N,366μm,1.2s						
GBOS	**Grotte di Boss**	**0.68**	**102**	Pg	Pg	15 40 23.2	-0.3
GBOS				Sg	Sg	15 40 32.8	+0.6
BNI	**Bardonecchia**	**0.69**	**346**	P	Pg	15 40 23.7	0.0
BNI				S	Sg	15 40 33.3	+0.6
BNI	**Bardonecchia**	**0.69**	**346**	P	Pg	15 40 23.7	0.0
BNI				S	Sg	15 40 32.8	+0.2
BNI				AML	AML		
	comp=E,207μm,1.3s						
BNI				AML	AML		
	comp=N,138μm,0.7s						
BNI				AML	AML		
	comp=E,207μm,0.7s						
BNI				AML	AML		
	comp=N,146μm,0.7s						
BNI				AML	AML		
	comp=E,188μm,0.8s						
BNI				AML	AML		
	comp=E,149μm,0.5s						
BNI				AML	AML		
	comp=N,123μm,0.4s						
BNI				AML	AML		
	comp=N,130μm,0.4s						
TRIGF	**Trigance**	**0.74**	**210**	Pg	Pg	15 40 24.5	-0.3
TRIGF				Sg	Sg	15 40 34.8	+0.5
MON	**Monaco**	**0.75**	**151**	P	Pb	15 40 25.7	-0.3
MON				S	Sg	15 40 35.1	+0.5
MON	**Monaco**	**0.75**	**151**	Pg	Pg	15 40 25.2	+0.3
MON				Sg	Sg	15 40 35.1	+0.4
BURY	**Giardini Botan**	**0.76**	**143**	P	Pg	15 40 25.0	-0.1
BURY				S	Sg	15 40 35.4	+0.5
BURY	**Giardini Botan**	**0.76**	**143**	⇓P	Pg	15 40 25.0	-0.1
BURY				S	Sg	15 40 35.2	+0.3
BURY	**Giardini Botan**	**0.76**	**143**	Pg	Pg	15 40 24.9	-0.2
BURY				Sg	Sg	15 40 35.5	+0.6
RSP	**Reno Superiore**	**0.80**	**18**	P	Pg	15 40 25.6	-0.3
RSP				S	Sg	15 40 36.8	+0.5
RSP	**Reno Superiore**	**0.80**	**18**	⇓P	Pg	15 40 25.6	-0.3
RSP				S	Sg	15 40 36.6	+0.4
RSP				AML	AML		
	comp=E,408μm,1.4s						
RSP				AML	AML		
	comp=N,522μm,0.4s						
RSP				AML	AML		
	comp=E,420μm,0.8s						
RSP				AML	AML		
	comp=E,408μm,1.4s						
RSP				AML	AML		
	comp=N,522μm,0.4s						
RSP				AML	AML		
	comp=N,557μm,0.4s						
RSP				AML	AML		
	comp=E,408μm,0.6s						
RSP				AML	AML		
	comp=E,342μm,0.2s						
RSP				AML	AML		
	comp=E,373μm,0.2s						
RSP	**Reno Superiore**	**0.80**	**18**	Pg	Pg	15 40 25.5	-0.3
RSP				Sg	Sg	15 40 36.7	+0.5
IMI	**Imperia**	**0.85**	**124**	P	Pg	15 40 26.4	-0.3
IMI				S	Sg	15 40 37.1	-0.6
IMI	**Imperia**	**0.85**	**124**	⇑P	Pg	15 40 26.4	-0.4
IMI				S	Sg	15 40 38.5	+0.7
IMI				AML	AML		
	comp=N,568μm,1.5s						
IMI				AML	AML		
	comp=E,574μm,0.4s						
IMI				AML	AML		
	comp=E,574μm,1.6s						
IMI				AML	AML		
	comp=N,568μm,0.5s						
IMI				AML	AML		
	comp=N,548μm,0.2s						
IMI				AML	AML		
	comp=E,492μm,0.2s						
RORO	**Rocca Rossa**	**0.87**	**108**	⇓P	Pg	15 40 26.6	-0.5
RORO				AML	AML		
	comp=N,242μm,0.5s						
RORO				AML	AML		
	comp=E,248μm,0.1s						
RORO				AML	AML		
	comp=N,229μm,0.2s						
RORO	**Rocca Rossa**	**0.87**	**108**	Pg	Pg	15 40 26.7	-0.4
RORO				Sg	Sg	15 40 38.9	+0.5
ORIF	**Oris-en-Rattie**	**0.91**	**306**	*e*Pg	Pg	15 40 27.3	-0.7
ORIF				*e*Sg	Sg	15 40 40.0	+0.1
	comp=N,64nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.91**	**306**	Pg	Pg	15 40 27.3	-0.8
ORIF				Sg	Sg	15 40 39.9	+0.1
CANO	**Canova, Maglio**	**0.96**	**100**	⇑P	Pg	15 40 28.5	-0.5
CANO				S	Sg	15 40 40.9	-0.5
CANO				AML	AML		
	comp=E,555μm,0.7s						
CANO				AML	AML		
	comp=E,555μm,1.3s						
CANO				AML	AML		
	comp=N,462μm,0.3s						
CANO				AML	AML		
	comp=E,492μm,0.5s						
CANO	**Canova, Maglio**	**0.96**	**100**	Pg	Pg	15 40 28.5	-0.5
CANO				Sg	Sg	15 40 41.7	+0.3
MONC	**Moncucco Torin**	**0.99**	**46**	P	Pg	15 40 29.2	-0.3
MONC				AML	AML		
	comp=E,552μm,0.4s						
MONC				AML	AML		
	comp=N,632μm,0.7s						
MONC				AML	AML		
	comp=N,548μm,0.4s						
QLNO	**Quiliano**	**1.02**	**93**	⇑P	Pg	15 40 29.5	-0.6
QLNO				AML	AML		
	comp=E,159μm,1.2s						
QLNO				AML	AML		
	comp=N,112μm,1.4s						
QLNO				AML	AML		
	comp=N,112μm,0.6s						
QLNO				AML	AML		
	comp=E,159μm,0.8s						
QLNO				AML	AML		
	comp=E,150μm,0.3s						
QLNO				AML	AML		
	comp=N,111μm,0.3s						
BSTF	**la Bastide-des**	**1.05**	**241**	Pg	Pn	15 40 31.9	0.0
BSTF				Sg	Sb	15 40 45.7	+0.5
SMRF	**Simiane la Rot**	**1.05**	**247**	*e*Pg	Pb	15 40 31.3	+0.1
SMRF				*e*Sg	Sg	15 40 43.7	-0.6
	comp=N,302nm,0.3s						
LMR	**La Mourre**	**1.09**	**196**	*e*Pg	Pg	15 40 30.3	-1.2
LMR	**La Mourre**	**1.09**	**196**	*e*P	Pg	15 40 31.2	-0.3
LMR				*e*Sg	Sg	15 40 44.4	-1.3
	comp=N,92nm,0.2s						
LPG	**La Plagne**	**1.12**	**354**	*e*Pg	Pg	15 40 31.3	-0.6
LPG				*e*Sg	Sb	15 40 47.0	-0.4
	comp=N,72nm,0.3s						
ROTM	**Rocchetta Tana**	**1.12**	**65**	AML	AML		
	comp=E,772μm,0.4s						
ROTM				AML	AML		
	comp=N,1162μm,0.4s						
ROTM	**Rocchetta Tana**	**1.12**	**65**	Pg	Pg	15 40 32.1	+0.1
ROTM				Sg	Sg	15 40 46.9	+0.3
RUSF	**Rustrel**	**1.13**	**247**	Pg	Pn	15 40 32.8	-0.1
RUSF				Sg	Sg	15 40 46.9	+0.2
ARTF	**Artigues**	**1.14**	**226**	Pg	Pg	15 40 32.0	-0.3
ARTF				Sg	Sb	15 40 47.6	-0.1
LPL	**La Plagne**	**1.14**	**353**	*e*Pg	Pg	15 40 31.6	-0.7
LPL				*e*Sg	Sn	15 40 48.8	-0.6
	comp=N,61nm,0.3s						
PCP	**Piancastagn**	**1.17**	**82**	⇑P	Pg	15 40 32.2	-0.8
PCP				S	Sg	15 40 47.6	-0.6
PCP				AML	AML		
	comp=N,366μm,0.3s						
PCP				AML	AML		
	comp=E,182μm,0.3s						
PCP	**Piancastagn**	**1.17**	**82**	Pg	Pg	15 40 32.4	-0.6
PCP				Sg	Sb	15 40 48.6	-0.3
LEPF	**PUYLOUBIER**	**1.23**	**226**	Pg	Pg	15 40 33.9	-0.3
LEPF				Sg	Sn	15 40 51.2	-0.2
TRAV	**Traversella**	**1.27**	**27**	P	Pg	15 40 32.6	-2.2
TRAV				AML	AML		
	comp=N,93μm,0.3s						
TRAV				AML	AML		
	comp=N,93μm,1.7s						
TRAV				AML	AML		
	comp=E,140μm,0.3s						
TRAV				AML	AML		
	comp=N,93μm,0.3s						
CIRO	**Champorcher**	**1.30**	**21**	⇑P	Pg	15 40 33.2	-2.2
CIRO				S	Sg	15 40 50.3	-1.9
CIRO				AML	AML		
	comp=E,102μm,1.1s						
CIRO				AML	AML		
	comp=N,81μm,0.4s						
CIRO				AML	AML		
	comp=E,102μm,0.9s						
CIRO				AML	AML		
	comp=E,90μm,0.2s						
RSL	**Roselend**	**1.32**	**351**	Pg	Pn	15 40 35.5	-0.2
RSL				Sg	Sb	15 40 53.2	+0.1
MRGE	**Morge**	**1.39**	**4**	AML	AML		
	comp=N,192μm,0.6s						
MRGE				AML	AML		
	comp=E,111μm,0.7s						
MRGE				AML	AML		
	comp=N,192μm,1.4s						
REMY	**Saint-Rhmy-en**	**1.46**	**6**	AML	AML		
	comp=N,211μm,0.7s						
REMY				AML	AML		
	comp=E,130μm,0.7s						
REMY	**Saint-Rhmy-en**	**1.46**	**6**	Pn	Pn	15 40 37.5	-0.3
REMY				Sn	Sb	15 40 56.9	-0.3
OGSM	**Saint Maurice**	**1.50**	**325**	Pn	Pn	15 40 38.5	+0.4
OGSM				Sn	Sn	15 40 57.9	-0.2
SATI	**Passo dei Sala**	**1.63**	**24**	AML	AML		
	comp=N,48μm,0.5s						
SATI				AML	AML		
	comp=E,52μm,0.3s						
VIVF	**Saint-Julien-l**	**1.67**	**287**	*e*Pg	Pn	15 40 39.7	-0.8
VIVF				*e*Sg	Sn	15 41 00.1	-2.2
	comp=E,31nm,0.3s						
GORR	**Gorreto**	**1.71**	**82**	Pn	Pn	15 40 40.9	-0.1
DIX	**Grande Dixence**	**1.73**	**11**	Pn	Pn	15 40 41.2	-0.3
MMK	**Mattmark**	**1.82**	**24**	AML	AML		
	comp=N,13μm,0.5s						
MMK				AML	AML		
	comp=E,12μm,0.4s						
MMK				AML	AML		
	comp=E,12μm,1.6s						
MMK				AML	AML		
	comp=E,12μm,0.4s						
OG35	**Corcelles**	**1.91**	**331**	Pn	Pn	15 40 43.6	-0.2
OG35				Sn	Sn	15 41 07.7	-0.5
SSB	**Saint Sauveur**	**1.91**	**299**	Pn	Pn	15 40 43.6	-0.2
SSB				Sn	Sn	15 41 07.6	-0.7
EMBD	**Embd, Matterta**	**1.94**	**19**	Pn	Pn	15 40 44.3	+0.1
EMBD				Sn	Sn	15 41 07.8	-1.2
MUGIO	**Muggio**	**2.15**	**44**	AML	AML		
	comp=E,28μm,0.4s						
MUGIO				AML	AML		
	comp=N,35μm,0.5s						
MUGIO				AML	AML		
	comp=E,29μm,0.6s						
TRBF	**Trabuc cave**	**2.15**	**263**	Pn	Pn	15 40 46.6	-0.3
LASF	**Ste Croix**	**2.22**	**263**	*e*Pn	Pn	15 40 47.4	-0.7
LASF	**Ste Croix**	**2.22**	**263**	*e*Pg	Pb	15 40 51.8	+0.6
LASF				*e*Sn	Sn	15 41 13.4	-2.5
	comp=E,12nm,0.3s						
CABF	**La Chapelle**	**2.30**	**346**	*e*P	Pn	15 40 50.3	+1.1
CABF	**La Chapelle**	**2.30**	**346**	*e*Pg	Pg	15 40 53.9	-0.7
CABF				*e*Sg	Sg	15 41 23.3	-1.0
	comp=E,5.4nm,0.3s						
PGF	**Pioggiola**	**2.38**	**140**	*e*Pn	Pn	15 40 49.2	-1.1
PGF				*e*Sn	Sn	15 41 15.5	-4.4
	comp=E,45nm,0.3s						
COLF	**Collangettes**	**2.55**	**297**	Pn	Pn	15 40 52.3	-0.3
LAJAS	**L'Hospitalet-d**	**2.69**	**262**	Pn	Pn	15 40 54.4	-0.2
SMF	**Signal de Mont**	**3.13**	**317**	*e*P	Pn	15 41 01.2	+0.7
SMF	**Signal de Mont**	**3.13**	**317**	*e*Pg	Pb	15 41 07.4	+0.8
SMF				*e*Sg	Sg	15 41 48.1	-2.8
	comp=E,5.5nm,0.2s						
HINF	**Hinteralfeld**	**3.43**	**359**	*e*P	Pn	15 41 04.9	+0.3
HINF				*e*Sn	Sn	15 41 42.5	-3.2
	comp=E,2.3nm,0.3s						
HINF				*e*Sg	Sg	15 41 57.2	-3.4
AVF	**Avril sur Loir**	**3.47**	**315**	*e*P	Pn	15 41 06.4	+1.3
AVF	**Avril sur Loir**	**3.47**	**315**	*e*Pg	Pg	15 41 14.7	-2.3
AVF				*e*Sg	Sb	15 41 58.3	+3.4
	comp=E,3.4nm,0.3s						
CAF	**Calviac**	**3.51**	**281**	*e*P	Pn	15 41 06.0	+0.3
CAF				*e*Sn	Sn	15 41 43.1	-4.5
CAF				*e*Sg	Sg	15 42 00.8	-2.3
	comp=E,1.5nm,0.2s						
MTLF	**Montolieu**	**3.56**	**255**	*e*P	Pn	15 41 06.2	-0.2
MTLF	**Montolieu**	**3.56**	**255**	*e*Pg	Pg	15 41 16.7	-2.0
MTLF				*e*Sn	Sn	15 41 45.1	-3.7
	comp=E,8.2nm,0.4s						
MTLF				*e*Sg	Sg	15 42 01.9	-2.9
	comp=E,9.7nm,0.6s						
DAVA	**Damuels**	**3.56**	**34**	*e*Pn	Pn	15 41 08.1	+1.6
	comp=E,0.2nm,0.2s						
DAVA				*e*Sn	Sn	15 41 50.2	+1.1
	comp=E,4.2nm,0.3s						
SSF	**Saint Saulge**	**3.59**	**319**	*e*P	Pn	15 41 07.6	+0.8
SSF	**Saint Saulge**	**3.59**	**319**	*e*Pg	Pg	15 41 17.4	-1.8
SSF				*e*Sn	Sn	15 41 44.8	-4.7
SSF				*e*Sg	Sg	15 42 02.9	-2.8
	comp=E,4.2nm,0.3s						
LOR	**Lormes**	**3.59**	**324**	*e*P	Pn	15 41 07.2	+0.4
LOR	**Lormes**	**3.59**	**324**	*e*Pg	Pb	15 41 16.5	+2.1
LOR				*e*Sn	Sn	15 41 44.9	-4.7
LOR				*e*Sg	Sg	15 42 02.1	-3.6
	comp=E,6.6nm,0.5s						
BGF	**Bois d'Agland**	**3.59**	**309**	*e*P	Pn	15 41 07.4	+0.5
BGF	**Bois d'Agland**	**3.59**	**309**	*e*Pg	Pg	15 41 17.2	-2.2
BGF				*e*Sn	Sn	15 41 45.4	-4.3
BGF				*e*Sg	Sg	15 42 03.6	-2.3
	comp=E,15nm,0.3s						
HAU	**Haudompre**	**3.64**	**354**	*e*P	Pn	15 41 08.6	+1.1
HAU				*e*Sn	Sn	15 41 47.9	-2.9
	comp=E,2.9nm,0.2s						
HAU				*e*Sg	Sg	15 42 04.8	-2.6
TCF	**Toulx Ste Croi**	**3.83**	**301**	*e*P	Pn	15 41 10.2	+0.1
TCF				*e*Sn	Sn	15 41 50.6	-4.8
TCF				*e*Sg	Sg	15 42 10.6

EPF				*e*Sg	Sg	15 42 45.6	-4.1
	comp=E,1.7nm,0.3s						
ETSF	**Etsaut**	**5.63**	**257**	*e*P	Pn	15 41 36.9	+2.0
ETSF				*e*Sn	Sn	15 42 34.3	-5.6
	comp=E,2.8nm,0.4s						
BAIF	**Baives**	**5.97**	**343**	*e*P	Pn	15 41 41.0	+1.6
SJPF	**Ste Jean**	**6.04**	**261**	*e*Pn	Pn	15 41 38.5	-1.9
SJPF				*e*Sn	Sn	15 42 43.3	-6.6
	comp=E,0.2nm,0.1s						
LDF	**La Druitiere**	**6.43**	**313**	*e*P	Pn	15 41 46.8	+1.0
LDF				*e*Sn	Sn	15 42 52.2	-7.3
	comp=E,0.2nm,0.1s						
GRR	**Gorron**	**6.70**	**309**	*e*P	Pn	15 41 51.1	+1.6

*NEIC **21** 15:49:10.4±1.6,56°02N±0°10×149°2W±0°1, h20km±11km, ML3.6/62, ML3.3(AEIC), Error ellipse: s-maj=15.8km s-min=9.6km az=146.0*
*AEIC **21** 15:49:15.2±1.4,56°08N±0°09×149°3W±0°1, h12km±8km, Error ellipse: s-maj=14.9km s-min=9.3km az=143.0*

ISC 21 15:49:09.0±1.6,**56°07N**±0°09×**149°25W**±0°06,**h10**km,**n80,** σ1§**40**/75,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.51**	**315**		**Sn**	**15 50 18.4**	**-2.0**
KDAK	**Kodiak Island**	**2.51**	**315**		**Pn**	**15 49 50.7**	**+0.9**
OHAK	**Old Harbor**	**2.51**	**299**		**Sn**	**15 50 18.8**	**-1.7**
OHAK	**Old Harbor**	**2.51**	**299**		**Pn**	**15 49 50.8**	**+0.9**
OHAK	**Old Harbor**	**2.51**	**299**	P	**Pn**	**15 49 50.7**	**+0.9**
OHAK	**Old Harbor**	**2.51**	**299**	S	**Sn**	15 50 19.3	-1.2
SII	**Sitkinak Islan**	**2.79**	**282**		**Sn**	**15 50 26.0**	**-1.5**
SII	**Sitkinak Islan**	**2.79**	**282**	Pn	**Pn**	**15 49 53.4**	**-0.3**
SII				IAML		15 50 29.5	
	comp=N,308nm,0.7s						
SII	**Sitkinak Islan**	**2.79**	**282**	P	**Pn**	**15 49 55.0**	**+1.2**
SII	**Sitkinak Islan**	**2.79**	**282**	S	**Sn**	**15 50 26.3**	**-1.2**
SYI	**Shuyak Island**	**3.06**	**328**		**Sn**	**15 50 34.0**	**-0.1**
SYI	**Shuyak Island**	**3.06**	**328**		**Pn**	**15 49 58.6**	**+1.2**
R18K	**Karluk**	**3.23**	**300**		**Pn**	**15 51 01.3**	**+1.6**
R18K					**Sn**	**15 50 37.0**	**-1.2**
R18K	**Karluk**	**3.23**	**300**	IAML		15 50 46.8	
	comp=N,200nm,0.5s						
R18K				IAML		15 50 49.3	
	comp=E,165nm,0.4s						
CHIR	**Chirikof Islan**	**3.59**	**269**		**Pn**	**15 50 05.8**	**+1.1**
CHIR					**Sn**	**15 50 44.8**	**-2.3**
CHIR	**Chirikof Islan**	**3.59**	**269**	IAML		15 50 45.6	
	comp=E,171nm,0.7s						
CHIR				IAML		15 50 45.8	
	comp=N,134nm,0.5s						
CHIR	**Chirikof Islan**	**3.59**	**269**	P	**Pn**	**15 50 05.8**	**+1.1**
CHIR	**Chirikof Islan**	**3.59**	**269**	S	**Sn**	**15 50 45.2**	**-2.0**
CNPM	**China Poot**	**3.63**	**344**		**Pn**	**15 50 05.9**	**+0.7**
CNPM				IAML		15 50 54.2	
	comp=E,55nm,0.6s						
Q23K	**Middleton Isla**	**3.71**	**24**	Pn	**Pn**	**15 50 06.8**	**+0.5**
Q19K	**Cape Douglas,**	**3.72**	**322**		**Pn**	**15 50 08.4**	**+1.9**
BRLK	**Bradley Lake**	**3.81**	**347**		**Pn**	**15 50 07.6**	**-0.1**
BRLK				IAML		15 50 56.5	
	comp=N,70nm,0.6s						
BRLK				IAML		15 50 56.8	
	comp=E,90nm,0.7s						
HOM	**Homer**	**3.82**	**341**		**Pn**	**15 50 09.6**	**+1.8**
ACHA	**Angle Creek He**	**3.95**	**305**		**Pn**	**15 50 09.6**	**0.0**
ANCK	**Angle Creek**	**4.02**	**305**		**Pn**	**15 50 12.4**	**+1.8**
SEW	**Seward**	**4.05**	**359**		**Pn**	**15 50 11.1**	**+0.1**
P23K	**Montague Islan**	**4.06**	**13**		**Pn**	**15 50 11.7**	**+0.5**
P23K				IAML		15 50 57.7	
	comp=E,57nm,0.9s						
P23K				IAML		15 51 00.5	
	comp=N,57nm,0.9s						
P23K	**Montague Islan**	**4.06**	**13**		**Sn**	**15 50 55.8**	**-2.9**
P19K	**Oil Pt**	**4.18**	**331**		**Pn**	**15 50 14.3**	**+1.6**
P19K	**Oil Pt**	**4.18**	**331**	IAML		15 51 11.8	
	comp=E,96nm,0.7s						
PLK3	**Peulik 3**	**4.18**	**296**		**Pn**	**15 50 14.9**	**+2.1**
CNTC	**Contact Creek**	**4.23**	**304**		**Pn**	**15 50 15.5**	**+1.9**
O22K	**Cooper Landing**	**4.43**	**357**		**Pn**	**15 50 17.6**	**+1.4**
IVE	**Iliamna Volcan**	**4.44**	**335**		**Pn**	**15 50 17.4**	**+1.0**
ILSW	**Iliamna Southw**	**4.44**	**334**		**Pn**	**15 50 17.4**	**+1.0**
ILSW				IAML		15 51 16.4	
	comp=E,68nm,0.7s						
ILSW				IAML		15 51 26.6	
	comp=N,39nm,0.9s						
HIN	**Hinchinbrook I**	**4.58**	**17**		**Pn**	**15 50 19.1**	**+0.9**
HIN				IAML		15 51 10.8	
	comp=N,77nm,0.7s						
HIN				IAML		15 51 16.5	
	comp=E,59nm,0.7s						
P18K	**Big Mountain,**	**4.62**	**319**		**Pn**	**15 50 19.5**	**+0.6**
KAIM	**Kayak Island**	**4.64**	**32**		**Pn**	**15 50 19.9**	**+0.8**
KAIM				IAML		15 51 24.0	
	comp=E,52nm,0.8s						
KAIM				IAML		15 51 27.5	
	comp=N,72nm,1.2s						
RDT	**Redoubt**	**4.81**	**341**		**Pn**	**15 50 21.9**	**+0.3**
PWL	**Port Wells**	**4.83**	**5**		**Pn**	**15 50 22.7**	**+1.0**
PWL				IAML		15 51 24.7	
	comp=N,37nm,0.7s						
PWL				IAML		15 51 25.1	
	comp=E,42nm,0.7s						
EYAK	**Cordova Ski Ar**	**4.86**	**21**		**Pn**	**15 50 22.8**	**+0.8**
EYAK				IAML		15 51 16.2	
	comp=E,28nm,1.2s						
EYAK				IAML		15 51 25.9	
	comp=N,41nm,0.6s						
EYAK	**Cordova Ski Ar**	**4.86**	**21**	P	**Pn**	**15 50 23.4**	**+1.4**
FID	**Port Fidalgo**	**4.92**	**16**		**Pn**	**15 50 23.0**	**+0.1**
FID				IAML		15 51 24.8	
	comp=E,33nm,0.6s						
FID				IAML		15 51 25.5	
	comp=N,25nm,0.5s						
O19K	**Port Alsworth**	**4.93**	**329**		**Pn**	**15 50 24.0**	**+0.9**
O18K	**Koktuh Hills**	**4.95**	**323**	IAML		15 51 27.5	
	comp=N,35nm,0.8s						
O18K				IAML		15 51 31.1	
	comp=E,19nm,0.8s						
SUCK	**Suckling Hills**	**4.95**	**34**		**Pn**	**15 50 24.1**	**+0.7**
SUCK				IAML		15 51 29.0	
	comp=E,36nm,0.8s						
SUCK				IAML		15 51 32.0	
	comp=N,58nm,0.9s						
GLI	**Glacier Island**	**4.96**	**12**	IAML		15 51 30.9	
	comp=E,32nm,0.7s						
GLI				IAML		15 51 36.6	
	comp=N,24nm,1.0s						
RC01	**Rabbit Creek A**	**5.04**	**357**		**Pn**	**15 50 25.6**	**+1.0**
RC01	**Rabbit Creek A**	**5.04**	**357**	IAML		15 51 30.8	
	comp=N,28nm,0.7s						
RC01				IAML		15 51 34.0	
	comp=E,32nm,0.8s						
GOAT	**Goat Mountain**	**5.11**	**26**		**Pn**	**15 50 27.3**	**+1.6**
BERG	**Berg Lake**	**5.23**	**32**		**Pn**	**15 50 28.0**	**+0.8**
BERG	**Berg Lake**	**5.23**	**32**	IAML		15 51 39.8	
	comp=N,51nm,0.8s						
GRIN	**Grindle Hills**	**5.26**	**34**		**Pn**	**15 50 28.6**	**+1.0**
P16K	**Nushagak River**	**5.56**	**306**		**Pn**	**15 50 33.9**	**+2.1**
GHO	**Glory Hole Cre**	**5.72**	**2**		**Pn**	**15 50 35.8**	**+1.7**
YAH	**Yahtse**	**5.85**	**40**		**Pn**	**15 50 37.0**	**+1.1**
SCM	**Sheep Creek Mo**	**5.87**	**9**		**Pn**	**15 50 37.4**	**+1.4**
CHX	**Chaix Hills**	**5.88**	**44**		**Pn**	**15 50 37.6**	**+1.3**
RKAV	**Rock Avalanche**	**5.95**	**41**		**Pn**	**15 50 38.4**	**+1.1**
CHNA	**Chernabura Isl**	**6.01**	**262**	P	**Pn**	**15 50 39.5**	**+1.6**
SKT	**Skwentna**	**6.04**	**350**		**Pn**	**15 50 38.7**	**+0.3**
SAMH	**Samovar Hills**	**6.06**	**44**		**Pn**	**15 50 39.7**	**+1.0**
PTPK	**Patty Peak**	**6.23**	**32**		**Pn**	**15 50 42.3**	**+1.1**
MCARA	**McCarthy VSAT**	**6.24**	**29**		**Pn**	**15 50 43.5**	**+2.5**
PNL	**Peninsula**	**6.37**	**51**	P	**Pn**	**15 50 44.7**	**+1.8**
CTGM	**Chitina Glacie**	**6.42**	**37**		**Pn**	**15 50 44.6**	**+0.9**
N16K	**Nishlik Lake**	**6.69**	**315**		**Pn**	**15 50 49.0**	**+1.9**
O28M	**Mount Upton**	**6.70**	**42**		**Pn**	**15 50 49.1**	**+1.6**
O29M	**Mount Kennedy**	**7.06**	**49**		**Pn**	**15 50 54.0**	**+1.6**
N15K	**Kwethluk River**	**7.06**	**310**		**Pn**	**15 50 54.1**	**+1.8**
YUK2	**White River**	**7.19**	**34**		**Pn**	**15 50 55.5**	**+1.3**
M27K	**Edge Creek, AK**	**7.35**	**28**		**Pn**	**15 50 58.8**	**+2.4**
S31K	**Pelican**	**7.36**	**70**		**Pn**	**15 50 56.1**	**-0.2**
CAST	**Castle Rocks**	**7.51**	**350**		**Pn**	**15 51 01.1**	**+2.6**
M15K	**Kasigluk River**	**7.59**	**312**		**Pn**	**15 51 01.4**	**+1.8**
SIT	**Sitka**	**7.76**	**77**	P	**Pn**	**15 51 00.8**	**-1.0**
BPAW	**Bear Paw Mtn.**	**8.10**	**355**		**Pn**	**15 51 07.6**	**+1.0**
L29M	**L29M**	**9.02**	**34**		**Pn**	**15 51 20.6**	**+1.4**
CRAG	**Craig**	**9.11**	**87**	P	**Pn**	**15 51 20.3**	**-0.1**
H21K	**Melozitna Rive**	**9.77**	**351**		**Pn**	**15 51 30.3**	**+0.8**

NEIC 21 16:04:21.4±0.6,**37°033N**±0°007×**105°01W**±0°02, **h5**km±2km,**ML1.5**/10,**Error ellipse: s-maj=3.1km s-min=2.4km az=296.0,Colorado**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.49**	**77**		**Pg**	16 04 31.4	+0.5
T25A				Sg	Sg	16 04 37.5	+0.4
T25A				IAML		16 04 37.8	
	comp=E,40nm,0.3s						
T25A				IAML		16 04 38.0	
	comp=N,38nm,0.2s						
SDCO	**Great Sand Dun**	**0.81**	**331**	Pg	Pg	16 04 37.0	-0.1
SDCO				IAML		16 04 49.0	
	comp=N,13nm,0.1s						
SDCO				IAML		16 04 50.2	
	comp=N,9.9nm,0.1s						
S22A	**4UR Ranch, Cre**	**1.62**	**297**		Pn	16 04 50.9	0.0
RTBA	**Rita Blanca**	**1.92**	**107**		Pn	16 04 55.8	+0.9

*IDC **21** 16:08:10.5±0.7,0°29N×126°23E, h0km, mb3.9/14, mbtmp3.9/15, ML3.5/1, Error ellipse: s-maj=34.7km s-min=14.1km az=73.0*
*NEIC **21** 16:08:17.1±1.5,0°30N±0°07×126°46E±0°07, h41km±6km, mb4.2/12, Error ellipse: s-maj=11.5km s-min=8.6km az=222.0*
*DJA **21** 16:08:17.6±1.8,0°N±3°×12°6E±°, h32km±29km, M3.9/12, mb4.0/1, MLv3.9/12*

ISC 21 16:08:17.0±0.5,**0°26N**±0°05×**126°42E**±0°06,**h47**km,**n42,** σ0§**94**/45,**mb4.1**/18,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.08**	**62**		**Pn**	**16 08 34.9**	**-0.8**
TNTI	**Ternate**	**1.08**	**62**	P	**Pn**	**16 08 35.4**	**-0.3**
TNTI				S	**Sn**	**16 08 39.4**	**+1.8**
SANI	**Sanana**	**2.33**	**191**	P	**Pn**	**16 08 51.9**	**-1.0**
SANI				S	**Sn**	**16 09 20.9**	**+0.5**
KMSI	**Cibinong**	**2.46**	**277**	P	**Pn**	**16 08 54.8**	**+0.2**
SGSI	**Sangihe**	**3.52**	**345**	P	**Pn**	**16 09 10.5**	**+1.3**
NLAI	**Namlea**	**3.54**	**169**	P	**Pn**	**16 09 09.2**	**-0.3**
LUWI	**Luwuk**	**3.87**	**250**	P	**Pn**	**16 09 16.3**	**+2.3**
APSI	**Ampana**	**4.91**	**256**	P	**Pn**	**16 09 29.9**	**+1.6**
TOLI2	**Tolitoli**	**5.70**	**279**	Pn	**Pn**	**16 09 39.0**	**-0.2**
FAKI	**Fak Fak**	**6.63**	**118**	Pn	**Pn**	**16 09 50.7**	**-1.2**
MYLDM	**Lahad Datu**	**9.30**	**302**		**Pn**	**16 10 30.4**	**+1.8**
MTN	**Manton Dam**	**13.83**	**160**	Pn	**Pn**	**16 11 30.7**	**+0.1**
KNRA	**Kununurra**	**16.00**	**172**	Pn	**Pn**	**16 11 58.7**	**-0.3**
KNRA				IAmb	IAmb	16 12 07.8	
	comp=E,22nm,1.4s						
KSM	**Kuching**	**16.15**	**274**		**Pn**	**16 12 01.3**	**+0.3**
KSM				IAmb	IAmb	16 12 03.6	
	comp=E,12nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.26**	**182**	P	**P**	**16 12 26.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**18.26**	**182**	P	**P**	**16 12 26.3**	**-0.5**
	comp=E,0.1nm,0.3s,baz=40,slow=6.2,SNR=6.8 comp=E,3.4nm,0.8s						
WB0	**Warramunga Arr**	**21.38**	**159**	P	**P**	**16 13 00.8**	**0.0**
WB0				IAmb	IAmb	16 13 14.9	
	comp=E,10nm,0.8s						
WRAB	**Tennant Creek**	**21.52**	**159**	P	**P**	**16 13 01.8**	**-0.5**
WRAB				IAmb	IAmb	16 13 25.8	
	comp=E,14nm,1.2s						
WRA	**Warramunga Arr**	**21.52**	**159**	P	**P**	**16 13 02.9**	**+0.6**
	comp=E,5.1nm,0.7s,baz=334,slow=11,SNR=32 comp=Z,5.1nm,0.7s						
WR8	**Warramunga Arr**	**21.59**	**159**	P	**P**	**16 13 02.5**	**-0.5**
YULB	**Yu-li**	**23.53**	**348**	P	**P**	**16 13 22.5**	**-0.6**
YULB				IAmb	IAmb	16 13 42.8	
	comp=E,24nm,1.4s						
AS31	**Alice Springs**	**24.87**	**163**	P	**P**	**16 13 35.7**	**+0.3**
ASAR	**Alice Springs**	**24.87**	**163**	P	**P**	**16 13 36.0**	**+0.5**
	comp=E,10.0nm,0.8s,baz=345,slow=8.7,SNR=73						
ASAR				PcP	**PcP**	**16 17 10.5**	**-0.2**
	comp=Z,0.9nm,1.1s,baz=336,slow=2.2,SNR=2.9 comp=Z,10.0nm,0.8s						
FORT	**Forrest**	**30.91**	**177**	P	**P**	**16 14 30.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**32.48**	**305**	P	**P**	**16 14 41.5**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=112,slow=6.6,SNR=2.0 comp=Z,0.2nm,0.3s						
BBOO	**Buckleboo**	**34.13**	**165**	P	**P**	**16 14 59.1**	**+1.6**
STKA	**Stephens Creek**	**35.04**	**157**	P	**P**	**16 15 05.9**	**+0.4**
STKA	**Stephens Creek**	**35.04**	**157**	P	**P**	**16 15 05.0**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=11,slow=14,SNR=5.1 comp=Z,2.9nm,0.9s						
KSAR	**Wonju Array Be**	**37.02**	**2**	P	**P**	**16 15 23.0**	**+0.7**
MJAR	**Matsushiro Arr**	**37.72**	**16**	P	**P**	**16 15 28.0**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=182,slow=8.7,SNR=6.5 comp=Z,0.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**44.03**	**6**	P	**P**	**16 16 19.1**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=211,slow=5.9,SNR=1.9 comp=Z,1.6nm,0.8s						
SONM	**Songino Array**	**50.48**	**343**	P	**P**	**16 17 10.1**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=160,slow=8.6,SNR=5.3 comp=Z,0.8nm,0.7s						
PETK	**Petropavlovsk-**	**58.75**	**21**	P	**P**	**16 18 11.1**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=205,slow=6.6,SNR=4.9 comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**60.24**	**327**	P	**P**	**16 18 19.9**	**-0.6**
MKAR	**Makanchi Array**	**60.24**	**327**	P	**P**	**16 18 19.6**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=123,slow=7.3,SNR=15 comp=Z,2.1nm,0.8s						
MAKZ	**Makanchi**	**60.42**	**326**	P	**P**	**16 18 21.4**	**-0.4**
MAKZ				IAmb	IAmb	16 18 24.6	
	comp=Z,3.5nm,1.1s						
ZALV	**Zalesovo Beam**	**63.54**	**334**	P	**P**	**16 18 41.7**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=311,slow=9.3,SNR=2.8 comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**64.50**	**328**	P	**P**	**16 18 47.9**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=127,slow=6.0,SNR=16 comp=Z,1.3nm,0.7s						
BVAR	**Borovoye Array**	**70.06**	**328**	P	**P**	**16 19 23.5**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=134,slow=6.4,SNR=3.7 comp=Z,0.3nm,0.4s						
ABKAR	**Akbulak array**	**74.64**	**321**	P	**P**	**16 19 50.6**	**-0.8**
KBZ	**Khabaz**	**85.13**	**314**	P	**P**	**16 20 48.8**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=130,slow=0.3,SNR=3.7 comp=Z,2.3nm,0.9s						
ILAR	**Eielson Array**	**88.35**	**25**	P	**P**	**16 21 04.3**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=238,slow=5.0,SNR=1.3 comp=Z,0.2nm,0.6s						

*IDC **21** 16:10:38.9±6.9, 17°61S×178°40W, h558km±73km, mb2.9/7, mbtmp3.8/7, Error ellipse: s-maj=56.4km s-min=30.5km az=139.0*
*NEIC **21** 16:10:41.5±0.5, 17°6S±0°2×178°4W±0°2, h597km±8km, mb4.1/16, Error ellipse: s-maj=29.6km s-min=23.9km az=153.0*

ISC 21 16:10:42.1±0.9,**17°6S**±0°2×**178°5W**±0°2,**h600**km,**n28,** σ0§**54**/30,**mb3.9**/15,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.27**	**267**	P	**P**	**16 12 02.8**	**-0.2**
STKA	**Stephens Creek**	**38.68**	**241**	P	**P**	**16 17 16.8**	**+0.7**
	1.5nm,0.8s,baz=89,slow=11,SNR=4.5 1.5nm,0.8s						
BBOO	**Buckleboo**	**43.46**	**241**	P	**P**	**16 17 54.0**	**+0.3**
WR8	**Warramunga Arr**	**44.43**	**259**	P	**P**	**16 18 01.4**	**0.0**
WR8				IAmb	IAmb	16 18 04.7	
	comp=Z,4.4nm,1.1s						
WB0	**Warramunga Arr**	**44.55**	**260**	P	**P**	**16 18 02.2**	**-0.2**
WB0				IAmb	IAmb	16 18 38.4	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**44.58**	**259**	P	**P**	**16 18 02.5**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=94,slow=6.9,SNR=12						
WRA				PcP	**PcP**	**16 19 32.5**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=92,slow=3.3,SNR=1.2 comp=Z,0.6nm,0.4s						
AS31	**Alice Springs**	**44.77**	**254**	P	**P**	**16 18 04.2**	**+0.2**
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**16 18 03.8**	**-0.2**
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**16 18 04.2**	**+0.1**
	comp=Z,4.5nm,0.5s,baz=87,slow=8.4,SNR=118						
ASAR				PcP	**PcP**	**16 19 33.2**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=104,slow=3.9,SNR=6.3 comp=Z,4.5nm,0.5s						
MTN	**Manton Dam**	**48.70**	**268**	P	**P**	**16 18 33.5**	**-0.1**
FORT	**Forrest**	**50.04**	**244**	P	**P**	**16 18 43.1**	**-0.1**
KNRA	**Kununurra**	**50.42**	**264**	P	**P**	**16 18 46.2**	**0.0**
KNRA				IAmb	IAmb	16 19 15.2	
	comp=Z,9.6nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.98**	**260**	P	**P**	**16 19 05.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**52.98**	**260**	P	**P**	**16 19 05.0**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=110,slow=6.1,SNR=4.7 comp=Z,1.6nm,0.9s						
TNTI	**Ternate**	**56.30**	**283**	P	**P**	**16 19 26.8**	**-0.9**
TNTI				IAmb	IAmb	16 19 34.4	
	comp=Z,17nm,1.0s						
PSA00	**Pilbara Seismi**	**57.88**	**255**	P	**P**	**16 19 37.4**	**-1.0**
PSA00				IAmb	IAmb	16 20 13.7	
	comp=Z,26nm,1.5s						
MJAR	**Matsushiro Arr**	**67.61**	**323**	P	**P**	**16 20 41.4**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=145,slow=4.5,SNR=2.0 comp=Z,0.2nm,0.3s						
QSPA	**South Pole Qui**	**72.44**	**180**	P	**P**	**16 21 08.5**	**-0.1**
QSPA				IAmb	IAmb	16 21 36.6	
	comp=Z,5.6nm,1.4s						
L18K	**Granite Mounta**	**81.43**	**10**	P	**P**	**16 21 57.8**	**+0.7**
L18K				IAmb	IAmb	16 22 29.0	
	comp=Z,4.7nm,1.2s						
CAST	**Castle Rocks**	**83.36**	**12**	P	**P**	**16 22 06.1**	**-0.7**
TRF	**Thorofare Moun**	**83.75**	**12**	P	**P**	**16 22 08.1**	**-0.9**
TRF				IAmb	IAmb	16 22 27.0	
	comp=Z,6.1nm,1.4s						
Q32M	**Nakina River**	**85.15**	**22**	P	**P**	**16 22 15.6**	**-0.3**
ILAR	**Eielson Array**	**85.63**	**13**	P	**P**	**16 22 17.0**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=216,slow=5.3,SNR=4.7 comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**85.93**	**58**	P	**P**	**16 22 20.5**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=207,slow=4.4,SNR=4.2 comp=Z,0.3nm,0.6s						
D22K	**Ayikyak River**	**88.24**	**9**	P	**P**	**16 22 30.2**	**+0.2**
BRTR	**Keskin Array B**	**144.50**	**315**	PKP	**PKPab**	**16 29 12.6**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=64,slow=3.4,SNR=2.4						
MMAI	**Mount Meron Ar**	**145.90**	**303**	PKPbc	**PKPab**	**16 29 17.5**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=116,slow=3.4,SNR=2.1						
GERES	**GERESS Array B**	**147.30**	**345**	PKPbc	**PKPbc**	**16 29 19.6**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=24,slow=3.5,SNR=6.9						

*IDC **21** 16:25:01.9±4.0,6°68S×142°93E, h0km, mb3.8/3, mbtmp3.6/6, ML3.1/3, Error ellipse: s-maj=140.6km s-min=29.4km az=94.0*
*NEIC **21** 16:25:01.1±1.9,6°91S±0°09×143°2E±0°2, h10km±6km, mb4.1/5, Error ellipse: s-maj=25.6km s-min=10.0km az=72.0*

ISC 21 16:25:04.8±1.0,**6°83S**±0°07×**143°0E**±0°1,**h35**km,**n15,** σ2§**02**/17,**mb4.1**/5,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.84**	**332**	Pn	**Pn**	**16 26 15.8**	**+0.5**
	0.6nm,0.3s,baz=139,slow=20,SNR=4.4						
JAY				Sn	**Sn**	**16 27 06.2**	**-4.0**
	0.1nm,0.3s,baz=305,slow=2.4,SNR=1.8 3.7nm,0.5s						
COEN	**Coen**	**7.09**	**178**	Pn	**Pn**	**16 26 43.8**	**-2.4**
MTN	**Manton Dam**	**13.11**	**242**	Pn	**Pn**	**16 28 08.2**	**-0.4**
WR8	**Warramunga Arr**	**15.43**	**211**	P	**Pn**	**16 28 42.1**	**+2.2**
WR8				IAmb	IAmb	16 29 23.0	
	comp=Z,7.8nm,1.4s						
WRA	**Warramunga Arr**	**15.50**	**212**	Pn	**Pn**	**16 28 41.7**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=33,slow=13,SNR=3.4						
WRA				Sn	**Sn**	**16 31 32.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=51,slow=17,SNR=1.1 comp=Z,0.6nm,0.8s						
KNRA	**Kununurra**	**16.47**	**237**	Pn	**Pn**	**16 28 54.0**	**+0.7**
ASAR	**Alice Springs**	**18.88**	**207**		**P**	**16 29 22.1**	**-0.2**
ASAR	**Alice Springs**	**18.88**	**207**	P	**Pn**	**16 29 26.3**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=28,slow=12,SNR=7.3 comp=Z,0.6nm,0.8s						
VNDA	**Vanda**	**71.36**	**176**	P	**P**	**16 36 17.9**	**-2.8**
VNDA				IAmb	IAmb	16 36 19.7	
	comp=Z,1.6nm,0.7s						
MKAR	**Makanchi Array**	**75.62**	**322**	P	**P**	**16 36 47.3**	**+1.0**
MKAR	**Makanchi Array**	**75.62**	**322**	P	**P**	**16 36 47.8**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=109,slow=6.6,SNR=6.1 comp=Z,0.6nm,0.7s						
MAKZ	**Makanchi**	**75.82**	**322**	P	**P**	**16 36 47.9**	**+0.4**
MAKZ				IAmb	IAmb	16 37 08.6	
	comp=Z,2.3nm,1.1s						
KURBB	**Kurchatov Arra**	**79.52**	**324**	P	**P**	**16 37 09.3**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=99,slow=5.7,SNR=3.6 comp=Z,0.4nm,0.7s						
J20K	**Nowinta River**	**84.72**	**23**	P	**P**	**16 37 36.2**	**+1.3**
BVAR	**Borovoye Array**	**85.10**	**325**	P	**P**	**16 37 39.0**	**+1.9**
	comp=Z,1.1nm,0.7s,baz=114,slow=7.0,SNR=8.2 comp=Z,1.1nm,0.7s						

*MOS **21** 16:59:54.1±1.0,37°29N×72°01E, h210km, mb3.9/7, Error ellipse: s-maj=12.6km s-min=5.9km az=90.4*
*IDC **21** 16:59:55.4±3.8,37°36N×71°87E, h197km±34km, mb3.5/9, mbtmp4.2/14, Error ellipse: s-maj=39.7km s-min=29.0km az=137.0*
*NEIC **21** 16:59:55.1±1.0,37°34N±0°07×71°94E±0

CHMS	**Chumysh**	**6.15**	**19**	P		**Pn**	17 01 23.5	**+0.8**
	SNR=12							
KDJ	**Kajisay**	**6.32**	**37**	Pn		**Pn**	17 01 25.2	**+0.2**
KDJ	**Kajisay**	**6.32**	**37**	PN		**Pn**	17 01 25.2	**+0.2**
TKM2	**Tokmak 2**	**6.33**	**24**	P		**Pn**	17 01 25.6	**+0.5**
	SNR=24							
USP	**Ospenovka**	**6.34**	**16**	P		**Pn**	17 01 25.9	**+0.7**
	SNR=19							
BHK	**Bhakra**	**6.81**	**147**	*e*P		**Pn**	17 01 33.2	**+1.9**
SMLA	**Simla**	**7.39**	**143**	*e*P		**Pn**	17 01 37.5	**-1.3**
SMLA				*e*S		**Sn**	17 02 56.2	**-6.4**
KLP	**Kalpa**	**7.63**	**136**	*e*P		**Pn**	17 01 42.5	**+0.2**
KLP				*e*S		**Sn**	17 03 03.3	**-5.4**
KLP				IAML			17 03 08.1	
	comp=N,101nm,0.6s							
KLP				IAML			17 03 08.7	
	comp=E,134nm,0.8s							
KUDL	**Kundal**	**9.77**	**156**	*e*P		**Pn**	17 02 11.1	**+1.3**
KUDL				*e*S		**Sn**	17 03 52.9	**-6.2**
KUDL				IAML			17 03 56.6	
	comp=E,127nm,0.8s							
KUDL				IAML			17 03 58.8	
	comp=N,119nm,0.7s							
PTH	**Pithoragarh**	**10.24**	**136**	*e*P		**Pn**	17 02 16.7	**+0.7**
PTH				*e*S		**Sn**	17 04 02.3	**-8.2**
PTH				IAML			17 04 08.8	
	comp=N,115nm,0.6s							
PTH				IAML			17 04 09.7	
	comp=E,112nm,0.1s							
LGTI	**Lohaghat**	**10.33**	**136**	*e*P		**Pn**	17 02 17.9	**+0.9**
LGTI				*e*S		**Sn**	17 04 04.5	**-7.9**
MKAR	**Makanchi Array**	**12.24**	**35**	Pn		**Pn**	17 02 42.0	**+0.7**
MKAR	**Makanchi Array**	**12.24**	**35**	P		**Pn**	17 02 43.4	**+2.1**
	comp=E,0.3nm,0.5s,baz=220,slow=11,SNR=3.1							
MKAR	**Makanchi Array**	**12.24**	**35**	P		**Pn**	17 02 42.0	**+0.7**
WMQ	**Urumqi**	**13.61**	**56**	*e*P		**P**	17 03 00.9	**-0.1**
KURBB	**Kurchatov Arra**	**14.20**	**17**	P		**P**	17 03 08.0	**+0.7**
	comp=E,0.6nm,0.5s,baz=204,slow=11,SNR=9.6							
KURK	**Kurchatov**	**14.31**	**17**	Pn		**Pn**	17 03 06.9	**-0.1**
KURK	**Kurchatov**	**14.31**	**17**	*i*P		**P**	17 03 09.6	**+1.1**
AB31	**Akbulak array**	**14.91**	**328**			**Pn**	17 03 13.3	**-1.1**
ABKAR	**Akbulak array**	**14.91**	**328**	Pn		**Pn**	17 03 13.1	**-1.3**
BVAR	**Borovoye Array**	**15.87**	**356**	P		**Pn**	17 03 26.3	**+0.3**
	comp=E,2.0nm,0.4s,baz=170,slow=10,SNR=18							
BVAR				S		**S**	17 06 16.9	**-4.8**
	comp=E,0.9nm,0.7s,baz=168,slow=28,SNR=4.1							
BRVK	**Borovoye**	**15.91**	**356**	P		**P**	17 03 26.3	**+0.2**
BRVK	**Borovoye**	**15.91**	**356**	P		**P**	17 03 26.3	**+0.2**
BRVK				pmax		pmax		
	comp=Z,2.0nm,1.1s							
AKTO	**Aktyubinsk**	**16.62**	**327**	P		**Pn**	17 03 35.1	**+0.1**
	comp=Z,15nm,0.4s,baz=132,slow=9.4,SNR=33							
AKTO				S		**S**	17 06 32.1	**-5.3**
	comp=E,2.8nm,0.6s,baz=139,slow=20,SNR=6.7							
ZAA0	**Zalesovo Array**	**18.94**	**24**			**P**	17 04 00.1	**+0.9**
ZAA0				IAmb		IAmb	17 04 00.8	
	comp=Z,4.6nm,0.5s							
ZALV	**Zalesovo Beam**	**18.94**	**24**	P		**P**	17 04 00.2	**+1.1**
	comp=E,5.1nm,0.4s,baz=215,slow=10,SNR=29							
ZALV	**Zalesovo Beam**	**18.94**	**24**	*e*P		**P**	17 04 00.3	**+1.1**
ZALV				pmax		pmax		
	comp=Z,2.0nm,0.3s							
ARTI	**Arti**	**21.28**	**339**	P		**P**	17 04 24.7	**+0.6**
	comp=Z,1.8nm,0.5s,baz=145,slow=9.1,SNR=4.2							
	comp=Z,1.8nm,0.5s							
ARTI	**Arti**	**21.28**	**339**	*c i*P		**P**	17 04 24.2	**+0.1**
ARTI				S		**S**	17 08 09.5	**+1.7**
ARTI				pmax		pmax		
	comp=Z,5.0nm,1.4s							
BELG	**Belogornoye**	**22.89**	**319**	P		**P**	17 04 39.2	**-0.3**
	comp=E,6.4nm,0.6s,baz=118,slow=17,SNR=2.6							
	comp=E,6.4nm,0.6s							
KBZ	**Khabaz**	**23.04**	**296**	*e*P		**P**	17 04 40.7	**-0.3**
KBZ				pmax		pmax		
	comp=Z,7.0nm,2.2s							
LZH	**Lanzhou**	**25.48**	**83**	*e*P		**P**	17 05 05.8	**+2.3**
LZH				pmax		pmax		
	comp=Z,18nm,1.3s							
PZH	**PanZhiHua**	**27.29**	**104**	P		**P**	17 05 23.6	**+4.0**
OBN	**Obninsk**	**29.96**	**318**	*e*P		**P**	17 05 46.3	**+3.5**
OBN				*e**PP		**pP**	17 06 24.1	**-0.4**
OBN				pmax		pmax		
	comp=Z,3.0nm,0.9s							
BRTR	**Keskin Array B**	**30.03**	**287**	P		**P**	17 05 45.8	**+2.0**
	comp=Z,0.8nm,0.5s,baz=92,slow=7.2,SNR=5.1							
	comp=Z,0.8nm,0.5s							
BRTR	**Keskin Array B**	**30.03**	**287**	*e*P		**P**	17 05 45.7	**+1.9**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**30.74**	**71**	*e*P		**P**	17 05 51.4	**+1.4**
HHC				pmax		pmax		
	comp=Z,13nm,0.7s							
HHC				pmax		pmax		
	comp=Z,94nm,5.4s							
TIRR	**Tirgusor**	**33.48**	**296**	P		**P**	17 06 13.2	**-0.4**
TIRR	**Tirgusor**	**33.48**	**296**	P		**P**	17 06 13.2	**-0.4**
TIRR				pmax		pmax		
	comp=Z,8.0nm,1.1s							
UBPT	**Khong Chiam**	**36.79**	**117**	P		**P**	17 06 43.9	**+1.7**
UBPT				IAmb		IAmb	17 07 04.6	
	comp=Z,12nm,1.4s							
LVZ	**Lovozero**	**37.12**	**338**	P		**P**	17 06 44.8	**+0.3**
LVZ				IAmb		IAmb	17 07 25.4	
	comp=Z,15nm,1.3s							
LVZ	**Lovozero**	**37.12**	**338**	P		**P**	17 06 44.8	**+0.3**
LVZ				pmax		pmax		
	comp=Z,15nm,1.3s							
FIA1	**FINESS Array S**	**37.38**	**325**	P		**P**	17 06 47.2	**+0.6**
FINES	**FINESS Array B**	**37.38**	**325**	P		**P**	17 06 47.3	**+0.7**
FINES	**FINESS Array B**	**37.38**	**325**	P		**P**	17 06 47.1	**+0.5**
	comp=Z,0.7nm,0.4s,baz=103,slow=8.0,SNR=9.9							
	comp=Z,0.7nm,0.4s							
FINES	**FINESS Array B**	**37.38**	**325**	*e*P		**P**	17 06 47.5	**+0.9**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ARCES	**ARCESS Array B**	**40.82**	**337**	P		**P**	17 07 16.0	**+0.9**
	comp=Z,1.1nm,0.4s,baz=114,slow=8.3,SNR=21							
	comp=Z,1.1nm,0.4s							
ARCES	**ARCESS Array B**	**40.82**	**337**	*e*P		**P**	17 07 16.2	**+1.1**
ARCES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
GSI	**Gunungsitoli**	**42.78**	**141**	P		**P**	17 07 33.9	**+2.3**
HFS	**Hagfors**	**43.04**	**321**	P		**P**	17 07 33.4	**+0.4**
	comp=Z,3.8nm,0.5s,baz=94,slow=9.3,SNR=32							
	comp=Z,3.8nm,0.5s							
NC602	**NORSAR Array S**	**44.15**	**322**	P		**P**	17 07 42.0	**0.0**
NC602				IAmb		IAmb	17 08 24.1	
	comp=Z,22nm,1.5s							
NB201	**NORSAR Array S**	**44.29**	**323**	P		**P**	17 07 43.5	**+0.4**
NB201				IAmb		IAmb	17 07 45.4	
	comp=Z,16nm,1.3s							
NB2	**NORSAR Subarra**	**44.33**	**323**	P		**P**	17 07 43.7	**+0.3**
	comp=Z,0.8nm,0.5s,baz=93,slow=7.9							
NB2	**NORSAR Subarra**	**44.33**	**323**	P		**P**	17 07 43.9	**+0.5**
NOA	**NORSAR Array B**	**44.33**	**323**	P		**P**	17 07 43.7	**+0.3**
	comp=Z,1.6nm,0.7s,baz=94,slow=7.8,SNR=8.4							
	comp=Z,1.6nm,0.7s							
NOA	**NORSAR Array B**	**44.33**	**323**	*e*P		**P**	17 07 43.8	**+0.3**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
NBO00	**NORSAR Array S**	**44.54**	**323**	P		**P**	17 07 45.3	**+0.2**
NBO00				IAmb		IAmb	17 07 49.8	
	comp=Z,21nm,1.4s							
NC204	**NORSAR Array S**	**44.56**	**323**	P		**P**	17 07 45.2	**0.0**
KONO	**Kongsberg**	**45.07**	**321**	P		**P**	17 07 49.6	**+0.4**
KONO				IAmb		IAmb	17 08 17.7	
	comp=Z,15nm,1.2s							
KONO	**Kongsberg**	**45.07**	**321**	P		**P**	17 07 49.6	**+0.4**
KONO				pmax		pmax		
	comp=Z,15nm,1.2s							
ERM	**Erimo**	**53.55**	**61**	P		**P**	17 08 55.3	**+1.7**
ERM	**Erimo**	**53.55**	**61**	P		**P**	17 08 55.3	**+1.7**
ERM				pmax		pmax		
	comp=Z,24nm,1.3s							
SCO	**Scoresbysund**	**56.75**	**336**	P		**P**	17 09 16.6	**+0.7**
SCO	**Scoresbysund**	**56.75**	**336**	P		**P**	17 09 16.7	**+0.7**
SCO				pmax		pmax		
	comp=Z,14nm,1.0s							
ESDC	**Sonseca Array**	**57.87**	**298**	P		**P**	17 09 24.0	**-0.4**
	comp=Z,0.5nm,0.7s,baz=66,slow=6.4,SNR=4.1							
	comp=Z,0.5nm,0.7s							
PEA0B	**Petropavlovsk-**	**58.88**	**45**	P		**P**	17 09 31.1	**0.0**
PEA0B	**Petropavlovsk-**	**58.88**	**45**	P		**P**	17 09 31.1	**0.0**
PEA0B				pmax		pmax		
	comp=Z,21nm,1.1s							
PETK	**Petropavlovsk-**	**58.88**	**45**	P		**P**	17 09 30.8	**-0.4**
PETK	**Petropavlovsk-**	**58.88**	**45**	P		**P**	17 09 30.8	**-0.4**
TORD	**Torodi Ar. Bea**	**66.57**	**269**	P		**P**	17 10 22.4	**0.0**
	comp=Z,1.3nm,0.3s,baz=39,slow=5.8,SNR=1.7							
	comp=Z,1.3nm,0.3s							
J17K	**VABM Dome**	**71.83**	**22**	P		**P**	17 10 55.4	**+1.5**
J17K				IAmb		IAmb	17 11 38.1	
	comp=Z,15nm,1.4s							

*NEIC **21** 17:09:21.7±1.6,35.°67N±0.°01×117.°51W±0.°02,h10km±1km, Error ellipse: s-maj=3.1km s-min=2.7km az=314.0*
PAS 21 17:09:22.4±1.2,35.°70N±0.°02×117.°54W±0.°01,h10km±5km, ML3.0/162,ML2.8/82(NEIC),Error ellipse: s-maj=2.8km s-min=1.6km az=160.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.11**	**157**				Pg	17 09 25.0	-0.1
WSHM							Sg	17 09 27.1	0.0
WSHM	**Spangler Hills**	**0.11**	**157**	IAML				17 09 28.8	
	4μm,0.1s								
WSHM				IAML				17 09 29.2	
	3μm,0.1s								
GPO	**China Lake**	**0.11**	**243**				Pg	17 09 25.2	0.0
GPO							Sg	17 09 27.7	+0.5
CLC	**China Lake**	**0.12**	**339**				Pg	17 09 25.3	-0.1
SRTC	**Snort**	**0.17**	**268**				Pg	17 09 26.4	+0.3
SRTC							Sg	17 09 29.8	+1.2
TOW	**Tower One**	**0.21**	**302**				Pg	17 09 27.1	+0.3
TOW							Sg	17 09 31.1	+1.3
CCCA	**Chr Cany lake**	**0.23**	**140**				Pg	17 09 27.4	+0.3
LRMC	**Laurel Mtn Rad**	**0.25**	**207**				Pg	17 09 27.3	-0.2
LRMC				IAML				17 09 32.0	
	comp=E,4μm,0.3s								
WNMM	**Nine Mile Cany**	**0.33**	**296**				Sg	17 09 33.5	+0.2
WVPM	**Volcano Peak E**	**0.34**	**318**				Pg	17 09 28.9	-0.3
WVPM							Sg	17 09 33.5	-0.2
MPMC	**Manual Prospec**	**0.36**	**7**				Pg	17 09 29.3	-0.3
MPMC				IAML				17 09 36.9	
	comp=E,641nm,0.8s								
MPMC	**Manual Prospec**	**0.36**	**7**				Sg	17 09 34.5	0.0
WCSM	**Coso Springs S**	**0.37**	**331**				Pg	17 09 29.6	-0.3
WCSM							Sg	17 09 34.9	0.0
WRVM	**Rose V. Centra**	**0.42**	**318**				Pg	17 09 30.3	-0.4
WRVM							Sg	17 09 36.2	0.0
MFS	**McCloud Flat S**	**0.49**	**329**				Pg	17 09 31.6	-0.4
MFS							Sg	17 09 38.5	+0.1
DTP	**Desert Tortois**	**0.50**	**210**				Pg	17 09 31.5	-0.5
WBSM	**Bird Springs**	**0.51**	**252**				Sg	17 09 38.9	-0.3
WORM	**Onyx Ranch**	**0.57**	**270**				Sg	17 09 32.9	-0.6
WORM							Pg	17 09 40.3	-0.7
QSM	**Queen of Sheba**	**0.61**	**64**				Pg	17 09 33.8	-0.5
QSM							Sg	17 09 42.0	-0.3
QSM	**Queen of Sheba**	**0.61**	**64**	IAML				17 09 42.2	
	comp=E,659nm,0.5s								
QSM				IAML				17 09 43.0	
	comp=N,689nm,0.2s								
WHFM	**Hanning Flat**	**0.66**	**270**				Pg	17 09 34.5	-0.6
WHFM							Sg	17 09 43.2	-0.6
CCAC	**Calif City Air**	**0.67**	**215**				Pg	17 09 34.8	-0.5
CCAC							Sg	17 09 44.0	-0.1
GSC	**Goldstone, Bar**	**0.72**	**123**	Pg			Pg	17 09 35.7	-0.6
GSC				IAML				17 09 45.9	
	comp=N,502nm,0.3s								
GSC				IAML				17 09 46.1	
	comp=E,651nm,0.5s								
GSC	**Goldstone, Bar**	**0.72**	**123**				Sg	17 09 45.5	-0.3
ISA	**Isabella, Lake**	**0.76**	**268**				Pg	17 09 36.3	-0.7
ISA				IAML				17 09 47.9	
	comp=N,456nm,0.2s								
ISA				IAML				17 09 48.3	
	comp=E,501nm,0.2s								
ISA	**Isabella, Lake**	**0.76**	**268**				Sg	17 09 45.9	-1.0
WASM	**Alta Sierra Ca**	**0.83**	**273**				Pg	17 09 37.6	-0.7
WASM							Sg	17 09 48.7	-0.5
HYS	**Haystack Butte**	**0.83**	**181**				Pg	17 09 37.6	-0.9
CWC	**Cottonwood Cre**	**0.86**	**330**				Pg	17 09 38.7	-0.3
CWC							Sg	17 09 50.1	-0.1
CWC	**Cottonwood Cre**	**0.86**	**330**	IAML				17 09 52.5	
	comp=E,165nm,0.2s								
CWC				IAML				17 09 53.7	
	comp=N,186nm,0.2s								
GWY	**Greenwater Val**	**0.86**	**55**				Pg	17 09 38.2	-0.8
GWY				IAML				17 09 51.3	
	comp=N,473nm,0.5s								
GWY				IAML				17 09 55.3	
	comp=E,574nm,0.4s								
CGO	**Cerro Gordo**	**0.88**	**346**				Pg	17 09 38.5	-0.8
CGO							Pn	17 09 50.2	+9.1
EDW2	**Edwards Air Fo**	**0.90**	**204**				Pg	17 09 38.6	-1.1
EDW2							Sg	17 09 50.5	-0.8
RRX	**Edison Barstow**	**0.94**	**151**				Pg	17 09 39.8	-0.6
FURC	**Furnace Creek,**	**0.94**	**35**				Pg	17 09 40.2	-0.4
FURC							Sb	17 09 53.1	-0.3
TPO	**Tropico Hills**	**0.99**	**215**				Pg	17 09 40.5	-0.9
TPO	**Tropico Hills**	**0.99**	**215**	IAML				17 10 00.8	
	comp=E,315nm,0.8s								
TPO				IAML				17 10 01.8	
	comp=N,394nm,0.5s								
SBB	**Saddle Back Bu**	**1.03**	**193**				Sg	17 09 55.1	-0.6
TEJ	**El Tejon**	**1.05**	**244**				Pg	17 09 41.2	-1.3
TEJ							Sg	17 09 54.8	-1.3
SHOC	**Shoshone, Teco**	**1.05**	**79**				Pg	17 09 41.3	-1.3
SHOC							Sg	17 09 56.2	0.0
SPG2	**Springville 2**	**1.11**	**297**				Sg	17 09 56.8	-1.4
AMDNV	**Amargosa**	**1.27**	**53**				Pn	17 09 44.7	-1.5
GRAC	**Grapevine Rang**	**1.30**	**6**				Pn	17 09 46.0	-0.7
GRAC				IAML				17 10 11.3	
	comp=N,122nm,0.7s								
GRAC				IAML				17 10 11.0	
	comp=E,134nm,0.7s								
WCT	**Wildcat Mounta**	**1.32**	**34**				Pn	17 09 45.8	-1.1
WCT				IAML				17 10 06.1	
	comp=E,122nm,0.4s								
BFSC	**Mount Baldy Ra**	**1.46**	**184**	IAML				17 10 09.6	
	comp=N,108nm,0.2s								
BFSC				IAML				17 10 09.6	
	comp=E,108nm,0.2s								
MWC	**Mount Wilson**	**1.53**	**196**				Pn	17 09 49.2	-0.8
MWC				IAML				17 10 15.1	
	comp=E,125nm,0.6s								
MWC				IAML				17 10 15.9	
	comp=N,148nm,0.5s								
PASC	**Pasadena Art C**	**1.61**	**199**	IAML				17 10 16.5	
	comp=E,59nm,0.5s								
GMN	**Gold Mountain**	**1.61**	**8**				Pn	17 09 50.7	-0.5
VOG	**Valley Oaks Go**	**1.61**	**293**				Pb	17 09 51.8	-0.5
TPNV	**Topopah Spring**	**1.63**	**40**				Pn	17 09 50.4	-0.9
TPNV				IAML				17 10 16.6	
	comp=E,118nm,0.5s								
TPNV				IAML				17 10 16.7	
	comp=E,132nm,0.5s								
MTPC	**Mountain Pass**	**1.64**	**97**	Pn		Pn		17 09 49.7	-1.7
MTPC				IAML				17 10 14.3	
	comp=E,97nm,0.4s								
MTPC				IAML				17 10 14.6	
	comp=N,140nm,0.3s								
DSP	**Deep Springs**	**1.70**	**348**				Pn	17 09 51.8	-0.4
ELS	**Elsinore Mount**	**2.05**	**177**				Pn	17 09 56.1	-0.8
ELS				IAML				17 10 29.3	
	comp=E,50nm,0.3s								
ELS				IAML				17 10 33.8	
	comp=N,35nm,0.6s								
DANC	**Danby, Needles**	**2.06**	**120**				Pn	17 09 55.3	-1.9
DGR	**Domenigoni Val**	**2.09**	**168**				Pn	17 09 57.0	-0.5
SHPR	**Sheep Range**	**2.09**	**67**				Pn	17 09 56.9	-0.7
PMD	**Palm Desert**	**2.26**	**155**				Pn	17 09 58.4	-1.4
PMD				IAML				17 10 38.5	
	comp=E,29nm,0.8s								
PFO	**Pinyon Flats O**	**2.27**	**156**				Pn	17 09 58.9	-1.1
TPH	**Tonopah**	**2.39**	**6**	Pg		Pb		17 10 06.8	+1.3
TPH				IAML				17 10 43.7	
	comp=E,59nm,0.8s								
TPH				IAML				17 10 48.9	
	comp=N,64nm,0.7s								
NEE2	**Needles Airpor**	**2.57**	**110**				Pn	17 10 02.2	-1.8
NEE2	**Needles Airpor**	**2.57**	**110**	IAML				17 10 47.0	
	comp=N,83nm,0.5s								
NEE2				IAML				17 10 47.2	
	comp=E,49nm,0.4s								
LHV	**Little Huntoon**	**2.66**	**343**				Pg	17 10 13.2	-0.2
RYN	**Ryan**	**3.03**	**345**				Pg	17 10 19.6	-0.8
W13A	**Hualapai Mount**	**3.05**	**100**				Pn	17 10 09.6	-1.2
R11B	**Troy Canyon, C**	**3.07**	**30**				Pg	17 10 20.5	-0.8

*IDC **21** 17:25:12.8±0.4,12.°39N×144.°10E,h0km,mb5.1/36, mbtmp5.0/38,ML3.4/1,MS5.3/1,Error ellipse: s-maj=13.4km s-min=9.6km az=84.0*
*MOS **21** 17:25:12.8±1.0, 12.°32N×144.°24E,h12km,mb5.5/52, MS5.4/23,Error ellipse: s-maj=9.6km s-min=5.0km az=113.9*
*NEIC **21** 17:25:14.8, 12.°34N×144.°33E,h4km*
*BJI **21** 17:25:14.5, 12.°30N×144.°57E,h30km,mB5.5/73,mb5.2/82, Ms5.5/90,Ms7 5.4/89*
*ISC-PP **21** 17:25:15, 12.°35N×144.°40E,h24km,Mwppsm6.1,Moment Tensor Solution. s46 Moment tensor: Scale 10¹⁸Nm; Mrr0.58±.14; Mθθ-0.27±.21; Mϕϕ-0.27±.20; Mrθ 0.10±.12; Mθϕ 0.45±.22; Mϕr-0.23±.18; Fault plane solution: M₀1.58000×10¹⁸ NP1:ϕs237.30000°, δ28.30000°, λ117.80000°. NP2:ϕs26.40000°, δ65.20000°, λ75.90000°.*
*NEIC **21** 17:25:15.5, 12.°35N×144.°38E, h20km*
*NEIC **21** 17:25:15.5, 12.°15N×144.°17E, h20km,Moment Tensor Solution. Duration: 3s2 Moment tensor: Scale 10¹⁷Nm; Mrr1.83; Mθθ-1.17; Mϕϕ-0.66; Mrθ-0.17; Mθϕ-1.13; Mϕr 0.37; Fault plane solution: M₀2.01000×10¹⁷ NP1: ϕs244.29000°, δ45.11000°, λ108.89000°. NP2: ϕs38.42000°, δ47.91000°, λ72.00000°. Principal axes: T 1.9228, Plg77.0000°, Azm237.0000°; N 0.1556, Plg13.0000°, Azm51.0000°; P -2.0784, Plg1.0000°, Azm141.0000°;*
*NEIC **21** 17:25:15.0±2.4, 12.°35N±0.°06×144.°4E±0.°1, h10km±1km, mb5.4/465,Ms_20 5.4/621,Mwb5.4/48,Mww5.5/27 Error ellipse: s-maj=18.1km s-min=9.7km az=102.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.04; Mθθ-0.93; Mϕϕ-0.12; Mrθ 0.29; Mθϕ-1.07; Mϕr 0.49; Fault plane solution: M₀1.56000×10¹⁷ NP1:ϕs36.98000°, δ58.68000°, λ65.52000°. NP2:ϕs258.20000°, δ38.97000°, λ124.26000°. Principal axes: T 1.2318, Plg67.0000°, Azm260.0000°; N 0.5266, Plg21.0000°, Azm50.0000°; P -1.7583, Plg10.0000°, Azm144.0000°;*
*IPGP **21** 17:25:16.0, 12.°20N×144.°49E,h9km,Mw5.6, Fault plane solution: NP1:ϕs261.00000°, δ15.00000°, λ120.00000°. NP2:ϕs50.00000°, δ77.00000°, λ82.00000°.*
*GCMT **21** 17:25:18.8±0.1, 12.°15N±0.°01×144.°25E±0.°01, h13km, MW5.5/134,Moment Tensor Solution. s129,c246; s134,c281; Duration: 1s3 Moment tensor: Scale 10¹⁷ Nm; Mrr1.57±.03; Mθθ-1.17±.03; Mϕϕ-0.40±.03; Mrθ 0.41±.06; Mϕϕ-1.09±.02; Mϕr 0.47±.06; Best double couple: M₀1.86500×10¹⁷ NP1:ϕs241.00000°, δ36.00000°, λ100.00000°. NP2:ϕs49.00000°, δ55.00000°, λ83.00000°. Principal axes: T 1.6860, Plg79.0000°, Azm291.0000°; N 0.3520, Plg6.0000°, Azm53.0000°; P -2.0440, Plg10.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **21** 17:25:20.8±0.6, 12.°N±4.°×14.°5E±1.°9, h60km±21km, M5.2/14,mB5.7/14,mb5.0/14,MLv5.3/1,Mw(mB)5.2/14, MwMwp5.3/11,Mwp5.5/11*
ISC 21 17:25:16.5±0.2,12.°32N±0.°03×144.°45E±0.°04,h24km, h24km:pP-P,n1150,σ1986/886,mb5.4/347,MS5.4/352, 34C-15D,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.33**	**18**				**Pb**	**17 25 41.1**	**+0.3**
GUMO						Sn	**Sb**	**17 26 01.5**	**+4.1**
GUMO	**Guam**	**1.33**	**18**	Pn			**Pb**	**17 25 41.4**	**+0.7**
	1μm,0.3s,baz=190,slow=10,SNR=354								
GUMO						Sn	**Sb**	**17 26 01.2**	**+3.9**
	5μm,0.3s,baz=188,slow=7.1,SNR=15								
MANU	**Manus Island**	**14.56**	**168**				**Pn**	**17 28 41.9**	**+0.8**
JCJ	**Chichijima**	**14.86**	**352**	Pn			**Pn**	**17 28 44.8**	**-0.3**
	14nm,0.4s,baz=180,slow=0.0								
JAY	**Jayapura**	**15.20**	**194**	Pn			**Pn**	**17 28 46.9**	**-2.9**
	0.2nm,0.3s,baz=17,slow=14,SNR=3.9								
JAY				LR			LR	17 34 10.5	
	comp=Z,11μm,18.5s,baz=12,slow=35								
	8.8nm,0.9s								
SMPI	**Sarmi**	**15.31**	**202**	P			**P**	**17 28 53.7**	**-2.1**
GENI	**Genyem**	**15.41**	**196**	P			**P**	**17 28 58.4**	**+1.5**
GENI	**Genyem**	**15.41**	**196**	P			**Pn**	**17 28 54.3**	**+1.8**
	6μm6μm178nm,1.1s								
SRPI	**Serui, Papua**	**16.28**	**211**	P			**P**	**17 29 11.7**	**+5.1**
	36nm,0.9s								
WAMI	**Wamena**	**17.08**	**200**	P			**P**	**17 29 19.1**	**+3.7**
RKPI	**Ransiki, Papua**	**17.11**	**217**	P			**P**	**17 29 17.8**	**+2.0**
	49nm,1.0s								
RABL	**Rabaul**	**18.11**	**154**				**P**	**17 29 27.1**	**+0.3**
SWI	**Sorong**	**18.52**	**226**	P			**Pn**	**17 29 33.8**	**+2.2**
DAV	**Davao City (W)**	**19.31**	**256**	P			**P**	**17 29 40.1**	**0.0**
	114nm,0.7s,baz=37,slow=5.1,SNR=4.7								
DAV	**Davao City (W)**	**19.31**	**256**	*i*P			**Pn**	**17 29 41.0**	**-

	comp=Z,9μm,20.0s						
TPUB	**Ta-pu**	**25.13 299**	P	**P**	**17 30 41.9**	**+2.1**	
JMM	**Marumori**	**25.65 353**	P	**P**	**17 30 41.0**	**-3.4**	
JMM	**Marumori**	**25.65 353**	P	**P**	**17 30 47.2**	**+2.8**	
TOLI2	**Tolitoli**	**25.97 246**		**P**	**17 30 47.6**	**0.0**	
TOLI2	**Tolitoli**	**25.97 246**	P	**P**	**17 30 49.9**	**+2.4**	
COEN	**Coen**	**26.14 183**	P	**P**	**17 30 45.7**	**-3.2**	
COEN	**Coen**	**26.14 183**	P	**P**	**17 30 47.2**	**-1.8**	
COEN	**Coen**	**26.14 183**	P	**P**	**17 30 51.8**	**+2.9**	
JSD	**Sado**	**26.20 349**	P	**P**	**17 30 51.4**	**+2.0**	
MYLDM	**Lahad Datu**	**26.59 257**	P	**P**	**17 30 54.5**	**+1.3**	
MYLDM	**Lahad Datu**	**26.59 257**	P	**P**	**17 30 56.5**	**+3.4**	
QZH	**Quanzhou**	**27.47 301**	P	**P**	**17 30 59.5**	**-1.4**	
QZH			PP	**PnPn**	**17 31 44.5**	**-1.5**	
QZH			S	**S**	**17 35 44.3**	**+3.9**	
QZH			pmax	pmax			
	comp=Z,800nm,7.5s						
QZH			LR	LR			
	comp=Z,6μm,16.1s						
QZH			LR	LR			
	comp=Z,7μm,16.5s						
QZH			LR	LR			
	comp=Z,10μm,17.9s						
KDU	**Kakadu**	**27.54 206**	P	**P**	**17 31 03.7**	**+2.1**	
	comp=Z,31nm,1.1s						
KDU	**Kakadu**	**27.54 206**	P	**P**	**17 31 02.7**	**+1.1**	
MTN	**Manton Dam**	**28.27 208**	P	**P**	**17 31 06.8**	**-1.4**	
MTN	**Manton Dam**	**28.27 208**	P	**P**	**17 31 08.6**	**+0.4**	
	comp=Z,38nm,1.0s						
SSE	**Sheshan**	**28.46 315**	P	**P**	**17 31 07.8**	**-1.9**	
SSE			S	**S**	**17 35 53.8**	**-2.1**	
SSE			pmax	pmax			
	comp=Z,15nm,0.8s						
SSE			pmax	pmax			
	comp=Z,280nm,5.3s						
SSE			LR	LR			
	comp=Z,550nm,12.9s						
SSE			LR	LR			
	comp=Z,1μm,17.5s						
TJN	**Taejon**	**28.47 330**	P	**P**	**17 31 10.8**	**+1.1**	
KKM	**Kota Kinabalu**	**28.54 260**	P	**P**	**17 31 10.5**	**-0.2**	
KKM	**Kota Kinabalu**	**28.54 260**	P	**P**	**17 31 12.8**	**+2.0**	
KSRS	**Korea Array**	**29.08 332**	P	**P**	**17 31 14.0**	**-1.1**	
	comp=Z,15nm,0.8s,baz=142,slow=9.7,SNR=43						
KSRS			PcP	**PcP**	**17 34 24.5**	**+1.5**	
	comp=Z,8.0nm,0.9s,baz=141,slow=2.0,SNR=20						
KSRS			ScP	**ScP**	**17 38 06.2**	**+3.0**	
	comp=Z,9.1nm,1.2s,baz=158,slow=3.3,SNR=11						
	comp=Z,15nm,0.8s						
KSAR	**Wonju Array Be**	**29.09 332**	P	**P**	**17 31 14.9**	**-0.3**	
KSAR			PcP	**PcP**	**17 34 25.3**	**+2.3**	
KSAR	**Wonju Array Be**	**29.09 332**	P	**P**	**17 31 14.9**	**-0.3**	
ERM	**Erimo**	**29.61 358**	IAMs_20	IAMs_20	17 45 04.9		
	comp=Z,5μm,18.0s						
INCN	**Inchon**	**29.70 331**	P	**P**	**17 31 20.3**	**-0.5**	
INCN			S	**S**	**17 36 17.3**	**+1.9**	
MTSU	**Mount Surprise**	**30.26 180**	P	**P**	**17 31 26.5**	**+0.7**	
	comp=Z,7.6nm,1.0s						
MTSU	**Mount Surprise**	**30.26 180**	P	**P**	**17 31 28.4**	**+2.6**	
NJ2	**Nanjing**	**30.64 314**	*e*P	**P**	**17 31 29.6**	**+0.6**	
NJ2			PP	**PnPn**	**17 32 27.5**	**-1.4**	
NJ2			S	**S**	**17 36 34.4**	**+4.3**	
NJ2			pmax	pmax			
	comp=Z,7.0nm,0.5s						
NJ2			pmax	pmax			
	comp=Z,450nm,6.7s						
NJ2			LR	LR			
	comp=Z,2μm,19.5s						
NJ2			LR	LR			
	comp=Z,2μm,17.8s						
NJ2			LR	LR			
	comp=Z,3μm,18.5s						
GZH	**Guangzhou**	**31.44 294**	P	**P**	**17 31 37.6**	**+1.4**	
GZH			PP	**PnPn**	**17 32 35.4**	**-4.0**	
GZH			S	**S**	**17 36 43.5**	**+0.7**	
GZH			LR	LR			
	comp=Z,2μm,16.4s						
GZH			LR	LR			
	comp=Z,5μm,18.4s						
GZH			LR	LR			
	comp=Z,8μm,18.2s						
JKA	**Kamikawa-asahi**	**31.73 357**	P	**P**	**17 31 39.5**	**+1.1**	
ASAJ	**Asahikawa**	**31.73 357**	P	**P**	**17 31 39.3**	**+0.8**	
	comp=Z,6.3nm,0.7s,baz=180,slow=8.3,SNR=5.5						
	comp=Z,6.3nm,0.7s						
ASAJ	**Asahikawa**	**31.73 357**	P	**P**	**17 31 39.5**	**+1.0**	
ASAJ			pmax	pmax			
	comp=Z,13nm,0.8s						
KNRA	**Kununurra**	**31.85 210**	P	**P**	**17 31 40.3**	**+0.5**	
KNRA	**Kununurra**	**31.85 210**	P	**P**	**17 31 40.3**	**+0.5**	
	comp=Z,34nm,1.0s						
CTAO	**Charters Tower**	**32.25 177**	P	**P**	**17 31 42.9**	**-0.4**	
CTAO			IAmb	IAmb	17 31 47.3		
	comp=Z,110nm,2.0s						
CTAO	**Charters Tower**	**32.25 177**	P	**P**	**17 31 42.9**	**-0.4**	
CTAO			pmax	pmax			
	comp=Z,110nm,2.0s						
CTAO			MLR	MLR			
	comp=Z,2μm,18.0s						
QIS	**Mount Isa**	**33.01 188**	P	**P**	**17 31 50.6**	**+0.6**	
	comp=Z,39nm,1.1s						
WHN	**Wuhan**	**33.21 308**	⇑P	**P**	**17 31 53.0**	**+1.3**	
WHN			S	**S**	**17 37 11.4**	**+1.1**	
WHN			pmax	pmax			
	comp=Z,110nm,0.8s						
WHN			LR	LR			
	comp=Z,22μm,27.1s						
WHN			LR	LR			
	comp=Z,9μm,14.3s						
WHN			LR	LR			
	comp=Z,18μm,18.8s						
TEY	**Ternei**	**33.29 350**	*e*P	**P**	**17 31 49.3**	**-2.8**	
TEY			*e*		17 37 11.9		
DL2	**Dalian**	**33.34 327**	P	**P**	**17 31 53.5**	**+0.8**	
DL2			PcP	**PcP**	**17 34 36.3**	**+2.0**	
DL2			S	**S**	**17 37 18.5**	**+6.4**	
DL2			pmax	pmax			
	comp=Z,77nm,1.1s						
DL2			pmax	pmax			
	comp=Z,570nm,7.3s						
DL2			LR	LR			
	comp=Z,5μm,17.7s						
DL2			LR	LR			
	comp=Z,3μm,18.6s						
DL2			LR	LR			
	comp=Z,6μm,17.8s						
CNSH	**ChangSha**	**33.38 303**	P	**P**	**17 31 52.8**	**-0.4**	
CNSH			pmax	pmax			
	comp=Z,530nm,7.5s						
CNSH			LR	LR			
	comp=Z,2μm,15.9s						
CNSH			LR	LR			
	comp=Z,3μm,18.3s						
CNSH			LR	LR			
	comp=Z,4μm,18.9s						
WB0	**Warramunga Arr**	**33.38 197**	P	**P**	**17 31 52.5**	**-0.7**	
WB0			IAmb	IAmb	17 31 56.6		
	comp=Z,49nm,1.4s						
SBUM	**Sibu**	**33.39 256**	P	**P**	**17 31 53.7**	**+0.3**	
SBUM			IAmb	IAmb	17 31 56.1		
	comp=Z,37nm,1.0s						
SBUM	**Sibu**	**33.39 256**	P	**P**	**17 31 55.8**	**+2.4**	
USRK	**Ussuriysk Ar.**	**33.53 344**	P	P	17 31 47.8	-6.4	
	comp=Z,7.3nm,0.8s,baz=151,slow=9.9,SNR=6.9						
WR8	**Warramunga Arr**	**33.53 197**	P	**P**	**17 31 53.4**	**-1.1**	
WR8			IAmb	IAmb	17 31 58.1		
	comp=Z,87nm,1.6s						
WRAB	**Tennant Creek**	**33.55 197**	P	**P**	**17 31 52.2**	**-2.5**	
WRAB			IAmb	IAmb	17 31 58.2		
	comp=Z,46nm,1.2s						
WRAB	**Tennant Creek**	**33.55 197**	⇓*e*P	**P**	**17 31 53.5**	**-1.2**	
WRAB			pmax	pmax			
	comp=Z,46nm,1.3s						
WRA	**Warramunga Arr**	**33.57 197**	P	**P**	**17 31 54.3**	**-0.5**	
WRA	**Warramunga Arr**	**33.57 197**	P	**P**	**17 31 54.0**	**-0.8**	
	comp=Z,25nm,1.0s,baz=18,slow=8.7,SNR=45						
	comp=Z,25nm,1.0s						
WRA	**Warramunga Arr**	**33.57 197**	*i* P	**P**	**17 31 54.0**	**-0.8**	
WRA			pmax	pmax			
	comp=Z,23nm,1.0s						
QIZ	**Qiongzhong**	**33.94 286**	P	**P**	**17 31 56.0**	**-2.2**	
QIZ			IAmb	IAmb	17 32 33.6		
	comp=Z,109nm,2.0s						
QIZ	**Qiongzhong**	**33.94 286**	P	**P**	**17 31 58.3**	**+0.2**	
QIZ			sP	**pwP**	**17 32 14.5**	**+4.1**	
QIZ			PP	**PnPn**	**17 33 08.1**	**-3.3**	
QIZ			S	**S**	**17 37 21.8**	**0.0**	
QIZ			SS	**SnSn**	**17 39 26.0**	**-2.8**	
QIZ			pmax	pmax			
	comp=Z,42nm,1.1s						
QIZ			pmax	pmax			
	comp=Z,890nm,13.3s						
QIZ			LR	LR			
	comp=Z,1μm,13.7s						
QIZ			LR	LR			
	comp=Z,3μm,16.5s						
QIZ			LR	LR			
	comp=Z,9μm,17.2s						
TIA	**Tai'an**	**34.22 319**	P	**P**	**17 32 00.8**	**+0.4**	
TIA			S	**S**	**17 37 26.3**	**+0.4**	
TIA			pmax	pmax			
	comp=Z,650nm,6.4s						
TIA			LR	LR			
	comp=Z,4μm,14.7s						
TIA			LR	LR			
	comp=Z,5μm,17.7s						
TIA			LR	LR			
	comp=Z,9μm,18.6s						
YSS	**Yuzhno-Sakhali**	**34.55 358**	P	**P**	**17 32 04.6**	**+1.5**	
YSS	**Yuzhno-Sakhali**	**34.55 358**	*e*P	**P**	**17 32 02.9**	**-0.2**	
YSS			*e*		17 33 16.0		
YSS			*e*S	**S**	**17 37 28.1**	**-2.5**	
YSS			*e*SS	**SS**	**17 39 48.0**	**-13**	
YSS			pmax	pmax			
	comp=Z,10.0nm,0.6s						
YSS			pmax	pmax			
	comp=Z,200nm,5.7s						
SNY	**Shenyang**	**34.58 332**	⇑P	**P**	**17 32 01.4**	**-2.0**	
SNY			S	S	17 37 21.3	-10	
SNY			pmax	pmax			
	comp=Z,350nm,5.7s						
SNY			LR	LR			
	comp=Z,3μm,16.6s						
SNY			LR	LR			
	comp=Z,2μm,16.6s						
SNY			LR	LR			
	comp=Z,4μm,18.0s						
MDJ	**Mudanjiang**	**34.62 341**	IAMs_20	IAMs_20	17 44 31.9		
	comp=Z,4μm,19.0s						
MDJ	**Mudanjiang**	**34.62 341**	P	**P**	**17 32 06.6**	**+2.9**	
MDJ			PP	**PP**	**17 33 24.3**	**+1.9**	
MDJ			S	**S**	**17 37 39.1**	**+7.4**	
MDJ			pmax	pmax			
	comp=Z,15nm,1.3s						
MDJ			pmax	pmax			
	comp=Z,560nm,8.9s						
MDJ			LR	LR			
	comp=Z,4μm,16.5s						
MDJ			LR	LR			
	comp=Z,1μm,18.6s						
MDJ			LR	LR			
	comp=Z,5μm,17.2s						
GULI	**GuiLin**	**34.63 297**	P	P	17 31 56.6	-7.5	
GULI			sP	pwP	17 32 20.8	+4.2	
GULI			S	**S**	**17 37 28.1**	**-4.4**	
GULI			pmax	pmax			
	comp=Z,28nm,1.0s						
GULI			LR	LR			
	comp=N,3μm,18.6s						
GULI			LR	LR			
	comp=E,3μm,17.7s						
GULI			LR	LR			
	comp=Z,6μm,18.4s						
CN2	**Changchun**	**35.39 336**	*e*P	**P**	**17 32 10.3**	**0.0**	
CN2			*e*sP	sP	17 32 19.3	+1.0	
CN2			*e*S	**S**	**17 37 43.8**	**+0.2**	
CN2			pmax	pmax			
	comp=Z,10.0nm,0.7s						
CN2			pmax	pmax			
	comp=Z,300nm,4.0s						
CN2			LR	LR			
	comp=Z,3μm,16.0s						
CN2			LR	LR			
	comp=Z,2μm,16.0s						
CN2			LR	LR			
	comp=Z,2μm,17.0s						
FITZ	**Fitzroy Crossi**	**35.47 212**	P	**P**	**17 32 11.1**	**-0.2**	
FITZ	**Fitzroy Crossi**	**35.47 212**	P	**P**	**17 32 11.4**	**+0.1**	
	comp=Z,5.6nm,1.3s						
FITZ	**Fitzroy Crossi**	**35.47 212**	P	**P**	**17 32 12.6**	**+1.3**	
KSM	**Kuching**	**35.51 255**	P	**P**	**17 32 12.9**	**+1.1**	
BNX	**BinXian**	**36.33 340**	⇓P	**P**	**17 32 18.1**	**-0.3**	
BNX			pP	**sP**	**17 32 26.6**	**+0.3**	
BNX			PP	**PP**	**17 33 44.4**	**+3.2**	
BNX			S	**S**	**17 38 00.0**	**+2.1**	
BNX			sS	**sS**	**17 38 13.6**	**+5.2**	
BNX			pmax	pmax			
	comp=Z,33nm,1.0s						
BNX			pmax	pmax			
	comp=Z,1μm,6.0s						
BNX			LR	LR			
	comp=Z,2μm,17.4s						
BNX			LR	LR			
	comp=Z,2μm,15.2s						
BNX			LR	LR			
	comp=Z,2μm,15.2s						
HNS	**HongShan**	**36.49 318**	⇑P	**P**	**17 32 19.8**	**-0.1**	
HNS			PP	**PnPn**	**17 33 39.4**	**-3.4**	
HNS			PcP	**PcP**	**17 34 46.3**	**+2.8**	
HNS			S	**S**	**17 38 03.8**	**+3.2**	
HNS			pmax	pmax			
	comp=Z,99nm,1.1s						
HNS			LR	LR			
	comp=Z,5μm,17.9s						
HNS			LR	LR			
	comp=Z,6μm,18.3s						
HNS			LR	LR			
	comp=Z,7μm,18.6s						
LYN	**LuoYang**	**36.50 313**	⇑P	**P**	**17 32 19.8**	**-0.2**	
LYN			PP	**PnPn**	**17 33 39.4**	**-3.6**	
LYN			S	**S**	**17 37 53.3**	**-7.6**	
LYN			sS	sS	17 38 17.8	+7.1	
LYN			pmax	pmax			
	comp=Z,160nm,0.9s						
LYN			pmax	pmax			
	comp=Z,1μm,6.7s						
LYN			LR	LR			
	comp=Z,2μm,16.8s						
LYN			LR	LR			
	comp=Z,4μm,17.2s						
LYN			LR	LR			
	comp=Z,6μm,19.2s						
UGL	**Uglegorsk**	**36.70 357**	*e*P	P	17 32 28.1	+6.6	
UGL			*e*		17 33 46.4		
UGL			*e*S	**S**	**17 38 05.5**	**+2.0**	
UGL			MLR	MLR			
	comp=E,2μm,12.0s						
ENH	**Enshi**	**36.95 304**	IAmb	IAmb	17 32 26.1		
	comp=Z,72nm,1.0s						
ENH			IAMs_20	IAMs_20	17 47 47.2		
	comp=Z,6μm,19.0s						
ENH	**Enshi**	**36.95 304**	P	**P**	**17 32 25.0**	**+1.1**	
BJT	**Baijiatuan**	**37.18 323**	P	**P**	**17 32 27.1**	**+1.3**	
BJI	**Beijing**	**37.19 323**	P	**P**	**17 32 25.8**	**0.0**	
BJI			PP	**PP**	**17 33 54.8**	**+4.0**	
BJI			S	**S**	**17 38 11.9**	**+0.6**	
BJI			pmax	pmax			
	comp=Z,19nm,1.0s						
BJI			pmax	pmax			
	comp=Z,250nm,6.5s						
BJI			LR	LR			
	comp=Z,2μm,18.0s						
BJI			LR	LR			
	comp=Z,1μm,19.8s						
BJI			LR	LR			
	comp=Z,1μm,18.6s						
AS01	**Alice Springs**	**37.21 196**	P	**P**	**17 32 28.1**	**+2.0**	
AS31	**Alice Springs**	**37.22 196**	P	**P**	**17 32 25.6**	**-0.6**	
AS31	**Alice Springs**	**37.22 196**	P	**P**	**17 32 25.7**	**-0.5**	
	comp=Z,8.2nm,0.7s						
ASAR	**Alice Springs**	**37.22 196**	P	**P**	**17 32 25.4**	**-0.8**	
ASAR	**Alice Springs**	**37.22 196**	P	**P**	**17 32 25.8**	**-0.5**	
	comp=Z,18nm,0.9s,baz=23,slow=11,SNR=109						
	comp=Z,18nm,0.9s						
EIDS	**Eidsvold**	**38.01 170**	P	**P**	**17 32 31.5**	**-1.3**	
EIDS	**Eidsvold**	**38.01 170**	P	**P**	**17 32 32.4**	**-0.5**	
	comp=Z,27nm,1.6s						
EIDS	**Eidsvold**	**38.01 170**	P	**P**	**17 32 35.8**	**+2.9**	
GYA	**Guiyang**	**38.16 297**	⇓P	**P**	**17 32 35.9**	**+1.5**	
GYA			S	**S**	**17 38 32.8**	**+6.2**	
GYA			pmax	pmax			
	comp=Z,31nm,0.9s						
GYA			pmax	pmax			
	comp=Z,890nm,7.6s						
GYA			LR	LR			
	comp=Z,2μm,18.4s						
GYA			LR	LR			
	comp=Z,4μm,18.2s						
GYA			LR	LR			
	comp=Z,7μm,18.4s						
TIY	**Taiyuan**	**38.16 317**	P	**P**	**17 32 35.3**	**+1.1**	
TIY			PP	**PP**	**17 34 02.3**	**+0.7**	
TIY			S	S	17 38 17.0	-9.2	
TIY			sS	**sS**	**17 38 39.3**	**+2.1**	
TIY			SS	**SnSn**	**17 41 02.0**	**-8.8**	
TIY			pmax	pmax			
	comp=Z,46nm,0.9s						
TIY			pmax	pmax			
	comp=Z,700nm,6.5s						
TIY			LR	LR			
	comp=Z,3μm,17.5s						
TIY			LR	LR			
	comp=Z,3μm,18.6s						
TIY			LR	LR			
	comp=Z,3μm,16.3s						
TYV	**Tymovskoe**	**38.47 358**	*e*P	**P**	**17 32 36.1**	**-0.3**	
TYV			*e*S	**S**	**17 38 28.4**	**-1.9**	
TYV			pmax	pmax			
	comp=Z,300nm,4.6s						
TYV			pmax	pmax			
	comp=Z,16nm,1.0s						
TYV			smax	smax			
	comp=N,600nm,4.9s						
TYV			smax	smax			
	comp=E,400nm,4.9s						
QLP	**Quilpie**	**38.67 180**	P	**P**	**17 32 37.0**	**-1.4**	
QLP	**Quilpie**	**38.67 180**	P	**P**	**17 32 39.6**	**+1.2**	
XAN	**Xi'an**	**38.87 310**	⇑P	**P**	**17 32 39.3**	**-0.9**	
XAN			PP	**PP**	**17 34 10.3**	**+0.9**	
XAN			PcP	**PcP**	**17 34 52.9**	**+1.9**	
XAN			S	**S**	**17 38 33.9**	**-3.1**	
XAN			sS	sS	17 38 52.6	+5.6	
XAN			pmax	pmax			
	comp=E,37nm,1.1s						
XAN			pmax	pmax			
	comp=E,910nm,7.8s						
XAN			LR	LR			
	comp=E,4μm,17.9s						
XAN			LR	LR			
	comp=E,5μm,17.2s						
XAN			LR	LR			
	comp=E,6μm,17.9s						
GRNR	**Gornyy**	**38.90 352**	⇓*i*P	**P**	**17 32 41.0**	**+0.9**	
GRNR			pmax	pmax			
	comp=Z,8.0nm,0.7s						
SKR	**Severo-Kuril's**	**39.43 12**	*e*P	**P**	**17 32 40.7**	**-3.8**	
SKR			pmax	pmax			
	comp=Z,400nm,9.2s						
SLVN	**Son La**	**39.73 289**	P	**P**	**17 32 47.8**	**+0.3**	
SLVN			IAMs_20	IAMs_20	17 49 51.2		
	comp=Z,5μm,18.0s						
SLVN	**Son La**	**39.73 289**	P	**P**	**17 32 49.3**	**+1.8**	
XLT	**XiLinHaoTe**	**39.82 328**	*e*P	**P**	**17 32 46.8**	**-1.2**	
XLT			pP	pP	17 32 54.4	+0.8	
XLT			S	**S**	**17 38 46.5**	**-4.6**	
XLT			pmax	pmax			
	comp=Z,44nm,1.0s						
XLT			pmax	pmax			
	comp=Z,570nm,6.4s						
XLT			LR	LR			
	comp=Z,4μm,19.2s						
XLT			LR	LR			
	comp=Z,6μm,19.0s						
HEH	**HeiHe**	**40.33 343**	*e*P	**P**	**17 32 51.5**	**-0.5**	
HEH			sP	**pwP**	**17 33 07.8**	**+5.5**	
HEH			PcP	**PcP**	**17 34 56.0**	**+0.9**	
HEH			S	**S**	**17 38 58.5**	**+0.2**	
HEH			sS	**sS**	**17 39 16.4**	**+7.4**	
HEH			SS	**SS**	**17 41 55.4**	**-2.0**	
HEH			pmax	pmax			
	comp=Z,32nm,1.0s						
HEH			pmax	pmax			
	comp=Z,500nm,7.8s						
HEH			LR	LR			
	comp=Z,3μm,20.7s						
HEH			LR	LR			
	comp=Z,1μm,18.0s						
HEH			LR	LR			
	comp=Z,4μm,17.3s						
WRKA	**Warakurna**	**40.33 203**	P	**P**	**17 32 51.7**	**-0.7**	
	comp=Z,19nm,1.1s						
DZM	**Mont Dzumac**	**40.42 148**	*e*P	**P**	**17 32 52.5**	**-0.6**	
	comp=Z,160nm,22.5s						
DZM	**Mont Dzumac**	**40.42 148**	*e*PP	PP	17 34 18.9	-7.6	
	comp=Z,178nm,24.3s						
DZM			*e*S	**S**	**17 38 51.8**	**-8.6**	
	comp=Z,1μm,28.8s						
DZM			*e*SS	**SS**	**17 42 02.6**	**+2.4**	
	comp=Z,1μm,28.4s						
DZM			*e*LR	LR	17 43 54.9		
	comp=Z,4μm,31.0s						
HHC	**Hu-ho-hao-te**	**40.48 321**	*e*P	**P**	**17 32 53.4**	**-0.1**	
HHC			pP	sP	17 33 03.5	+2.0	
HHC			PP	**PP**	**17 34 33.3**	**+6.4**	
HHC			S	**S**	**17 39 01.8**	**+0.8**	
HHC			sS	sS	17 39 19.6	+7.7	
HHC			SS	**SS**	**17 41 57.3**	**-3.6**	
HHC			ScS	**ScS**	**17 42 49.3**	**-9.0**	
HHC			pmax	pmax			
	comp=Z,17nm,0.7s						
HHC			pmax	pmax			
	comp=Z,490nm,5.1s						
HHC			LR	LR			
	comp=Z,5μm,16.0s						
HHC			LR	LR			
	comp=Z,5μm,16.8s						
HHC			LR	LR			
	comp=Z,8μm,16.8s						
ONTNC	**Ouen Toro**	**40.62 148**	P	**P**	**17 32 53.5**	**-1.2**	
BTO	**Baotou**	**41.31 319**	*e*P	**P**	**17 33 01.3**	**+0.9**	
BTO			pP	**pwP**	**17 33 11.4**	**-1.7**	
BTO			sP	**sP**	**17 33 13.8**	**+5.4**	
BTO			S	**S**	**17 39 13.1**	**-0.3**	
BTO			pmax	pmax			
	comp=Z,68nm,0.9s						
BTO			pmax	pmax			
	comp=Z,740nm,4.9s						
BTO			LR	LR			
	comp=Z,6μm,14.9s						
BTO			LR	LR			
	comp=Z,6μm,20.4s						
BTO			LR	LR			
	comp=Z,10μm,15.5s						
KMI	**Kunming**	**41.34 294**	⇑P	**P**	**17 33 01.3**	**+0.3**	
KMI			PcS	**PcS**	**17 38 45.9**	**-4.9**	
KMI			S	**S**	**17 39 19.8**	**+5.3**	
KMI			SS	**SS**	**17 42 08.8**	**-10**	
KMI			pmax	pmax			
	comp=Z,20nm,1.0s						
KMI			pmax	pmax			
	comp=Z,690nm,7.9s						
KMI			LR	LR			
	comp=Z,1μm,20.7s						
KMI			LR	LR			
	comp=Z,2μm,21.5s						
KMI			LR	LR			
	comp=Z,4μm,11.3s						
PSA00	**Pilbara Seismi**	**41.45 216**	P	**P**	**17 33 01.9**	**+0.3**	
PSA00	**Pilbara Seismi**	**41.45 216**	P	**P**	**17 33 01.3**	**-0.2**	
PSA00			IAmb	IAmb	17 33 03.6		
	comp=Z,31nm,1.1s						
PSA00	**Pilbara Seismi**	**41.45 216**	P	**P**	**17 33 00.7**	**-0.9**	
	comp=Z,55nm,1.1s						
PSA00	**Pilbara Seismi**	**41.45 216**	P	**P**	**17 33 03.0**	**+1.5**	
CD2	**Chengdu**	**41.82 303**	P	**P**	**17 33 04.0**	**-0.6**	
CD2			pP	pwP	17 33 16.9	-0.3	
CD2			sP	sP	17 33 22.8	+10	
CD2			S	**S**	**17 39 19.0**	**-2.2**	
CD2			ScS	**ScS**	**17 43 04.1**	**-2.5**	
CD2			pmax	pmax			
	comp=Z,120nm,1.0s						
CD2			pmax	pmax			
	comp=Z,1μm,5.5s						
CD2			LR	LR			
	comp=Z,3μm,16.2s						

CD2 LR LR
comp=Z,5µm,17.4s
CD2 LR LR
comp=Z,4µm,18.2s
PETK Petropavlovsk- 42.05 12 P **P** **17 33 06.5 +0.4**
comp=Z,2.9nm,0.9s,baz=200,slow=7.1,SNR=4.2
PETK PcP **PcP** **17 35 01.6 +0.9**
comp=Z,5.6nm,0.8s,baz=224,slow=6.0,SNR=5.2
comp=Z,2.9nm,0.9s
HIA Hailar 42.12 336 IAMs_20 IAMs_20 17 50 30.5
comp=Z,3µm,18.0s
HIA Hailar 42.12 336 P **P** **17 33 09.3 +2.5**
PET Petropavlovsk 42.17 13 *e*P **P** **17 33 06.6 -0.4**
PET *e*S **S** **17 39 25.2 -0.3**
PET pmax pmax
comp=Z,200nm,15.5s
PET MLR MLR
comp=Z,1µm,16.0s
PET MLR MLR
comp=Z,1µm,15.0s
PZH PanZhiHua 42.47 296 P **P** **17 33 10.9 +0.8**
PZH S **S** **17 39 32.1 +1.0**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,220nm,4.8s
PZH LR LR
comp=Z,2µm,17.3s
PZH LR LR
comp=Z,2µm,17.9s
PZH LR LR
comp=Z,2µm,19.0s
ARMA Armidale 43.05 171 P **P** **17 33 15.5 +0.9**
ARMA Armidale 43.05 171 P **P** **17 33 15.1 +0.6**
comp=Z,27nm,1.3s
ARMA Armidale 43.05 171 P **P** **17 33 16.5 +1.9**
LZH Lanzhou 43.51 310 *e*P **P** **17 33 18.9 +0.5**
LZH pP pwP 17 33 30.6 -0.4
LZH sP sP 17 33 35.8 +9.3
LZH PP **PcP** **17 35 06.5 +0.3**
LZH S **S** **17 39 44.4 -1.7**
LZH pmax pmax
comp=Z,79nm,1.1s
LZH pmax pmax
comp=Z,870nm,6.2s
LZH LR LR
comp=Z,2µm,18.2s
LZH LR LR
comp=Z,3µm,18.9s
LZH LR LR
comp=Z,5µm,17.9s
IPM Ipoh 43.60 264 P **P** **17 33 21.0 +1.7**
CMSA Cobar Meteorol 43.62 178 P **P** **17 33 18.8 -0.2**
comp=Z,25nm,1.1s
CMSA Cobar Meteorol 43.62 178 P **P** **17 33 21.8 +2.8**
KULM Kulim 43.79 265 P **P** **17 33 20.6 -0.2**
KULM Kulim 43.79 265 P **P** **17 33 23.1 +2.3**
STKA Stephens Creek 44.03 183 P **P** **17 33 23.1 -1.0**
comp=Z,7.2nm,0.9s,baz=352,slow=8.3,SNR=5.6
comp=Z,7.2nm,0.9s
STKA Stephens Creek 44.03 183 P **P** **17 33 24.3 +2.0**
CM31 Chiang Mai Arr 44.21 284 P **P** **17 33 24.1 0.0**
SNR=9.0
CM31 P **P** **17 33 24.1 0.0**
SNR=9.0
CMAR Chiang Mai Arr 44.21 284 P **P** **17 33 23.6 -0.5**
CMAR Chiang Mai Arr 44.21 284 P **P** **17 33 23.1 -0.9**
comp=Z,11nm,0.6s,baz=89,slow=7.9,SNR=64
CMAR PcP **PcP** **17 35 09.7 +1.0**
comp=Z,5.0nm,0.7s,baz=94,slow=3.4,SNR=7.5
comp=Z,11nm,0.6s
CMAR Chiang Mai Arr 44.21 284 *i* P **P** **17 33 24.7 +0.6**
CMAR pmax pmax
comp=Z,12nm,0.5s
CHTO Chiang Mai 44.21 284 P **P** **17 33 23.8 -0.4**
CHTO P **P** **17 33 23.8 -0.4**
CHTO S **S** **17 39 58.1 +1.5**
CHTO S **S** **17 39 58.1 +1.5**
CHTO Chiang Mai 44.21 284 P **P** **17 33 26.0 +1.9**
MSVF Nonsavu 44.63 131 P **P** **17 33 30.2 +2.7**
MSVF Nonsavu 44.63 131⇓ *e*P **P** **17 33 28.8 +1.3**
MSVF pmax pmax
comp=Z,47nm,1.1s
JOHN Johnston Islan 44.70 79 IAMs_20 IAMs_20 17 54 40.6
comp=Z,3µm,19.0s
TNCH TengChong 45.10 293 P **P** **17 33 31.3 -0.1**
TNCH sP pwP 17 33 47.8 +4.1
TNCH ScP **ScP** **17 38 56.9 -6.2**
TNCH S **S** **17 40 07.0 -2.6**
TNCH pmax pmax
comp=Z,73nm,1.1s
TNCH pmax pmax
comp=Z,720nm,4.5s
TNCH LR LR
comp=Z,2µm,14.6s
TNCH LR LR
comp=Z,3µm,17.2s
TNCH LR LR
comp=Z,5µm,16.9s
BBOO Buckleboo 45.58 190 P **P** **17 33 35.1 +0.4**
BBOO IAmb IAmb 17 33 37.4
comp=Z,62nm,1.1s
BBOO Buckleboo 45.58 190 P **P** **17 33 36.8 +2.1**
FORT Forrest 45.65 200 P **P** **17 33 36.2 +0.9**
comp=Z,19nm,0.9s
PSI Prapat 46.04 262 P **P** **17 33 39.8 +1.0**
PSI Prapat 46.04 262 P **P** **17 33 38.7 -0.1**
PSI pmax pmax
comp=Z,44nm,1.0s
RPSI Rantau Prapat 46.06 262 P **P** **17 33 38.7 -0.2**
RPSI IAmb IAmb 17 33 41.1
comp=Z,44nm,1.0s
SHEM Shemya Is, Ala 46.78 24 P **P** **17 33 43.9 0.0**
comp=Z,40nm,0.7s,baz=266,slow=19,SNR=4.5
comp=Z,40nm,0.7s
ULN Ulaanbaatar 47.20 326 P **P** **17 33 47.3 -0.2**
ULN IAmb IAmb 17 33 49.7
comp=Z,24nm,0.8s
ULN Ulaanbaatar 47.20 326 IAMs_20 IAMs_20 17 53 42.5
comp=Z,5µm,19.0s
ULN Ulaanbaatar 47.20 326 P **P** **17 33 46.8 -0.7**
ULN P **P** **17 33 46.8 -0.7**
ULN S **S** **17 40 41.9 +2.9**
ULN S **S** **17 40 41.9 +2.9**
ULN Ulaanbaatar 47.20 326 *c i* P **P** **17 33 47.1 -0.4**
ULN pmax pmax
comp=Z,33nm,1.0s
MA2 Magadan 47.41 4 P **P** **17 33 48.7 0.0**
MA2 IAmb IAmb 17 33 50.7
comp=Z,29nm,0.9s
MA2 Magadan 47.41 4 P **P** **17 33 48.6 -0.1**
comp=Z,21nm,0.8s,baz=175,slow=8.4,SNR=16
comp=Z,21nm,0.8s
MA2 Magadan 47.41 4 P **P** **17 33 50.3 +1.6**
MA2 Magadan 47.41 4 *de*P **P** **17 33 49.4 +0.7**
MA2 pmax pmax
comp=Z,34nm,1.3s
LHMI Lhok Sumawe 47.41 266 P **P** **17 33 52.0 +2.6**
SONM Songino Array 47.54 326 P **P** **17 33 49.8 -0.3**
SONM IAmb IAmb 17 33 51.9
comp=Z,36nm,1.4s
SONM Songino Array 47.54 326 P **P** **17 33 50.0 -0.1**
comp=Z,7.5nm,0.6s,baz=134,slow=6.2,SNR=42
SONM PcP **PcP** **17 35 20.7 +0.8**
comp=Z,11nm,0.9s,baz=125,slow=3.2,SNR=6.5
SONM ScP **ScP** **17 39 14.0 +1.2**
comp=Z,1.4nm,0.9s,baz=131,slow=4.0,SNR=4.1
SONM S **S** **17 40 41.8 -2.0**
comp=Z,0.3nm,0.3s,baz=133,slow=12,SNR=1.9
comp=Z,7.5nm,0.6s
GSI Gunungsitoli 47.72 260 P **P** **17 33 51.1 -0.7**
GSI Gunungsitoli 47.72 260 P **P** **17 33 54.8 +2.9**
MORW Morawa 49.45 213 P **P** **17 34 06.4 +1.5**
ADK Adak 50.36 30 P **P** **17 34 13.7 +2.2**
GOMU GeErMu 50.46 307 P **P** **17 34 14.8 +1.8**
GOMU pP sP 17 34 20.3 -0.9
GOMU sP pwP 17 34 25.8 +0.3
GOMU PcP **PcP** **17 35 34.0 +2.9**
GOMU PP **PP** **17 36 09.0 +0.2**
GOMU S **S** **17 41 20.3 -5.5**
GOMU sS sS 17 41 40.3 +4.1
GOMU pmax pmax
comp=Z,21nm,0.8s
GOMU LR LR
comp=Z,2µm,18.3s
GOMU LR LR
comp=Z,3µm,18.7s
GOMU LR LR
comp=Z,3µm,19.6s
YAK Yakutsk 50.77 351 P **P** **17 34 14.9 +0.5**
YAK IAmb IAmb 17 34 17.3
comp=Z,38nm,0.7s
YAK Yakutsk 50.77 351 IAMs_20 IAMs_20 17 55 11.4
comp=Z,5µm,19.0s
YAK Yakutsk 50.77 351 P **P** **17 34 14.6 +0.2**
comp=Z,34nm,0.6s,baz=155,slow=0.4,SNR=18
YAK S **S** **17 41 27.6 -0.8**
comp=Z,1.3nm,0.5s,baz=180,slow=20,SNR=0.8
comp=Z,34nm,0.6s
YAK Yakutsk 50.77 351 *e*P **P** **17 34 12.6 -1.8**
YAK *e**PP **sP** **17 34 22.5 +0.2**
YAK *e* 17 35 29.3
YAK *e* 17 36 08.5
YAK *e*PPP PPP 17 37 06.5
YAK *e*S **S** **17 41 26.3 -2.1**
YAK *e**SS **sS** **17 41 42.3 +2.7**
YAK *e* 17 44 00.3
YAK *e*SS **SS** **17 45 02.9 -0.2**
YAK *e*SSS SSS 17 46 33.3
YAK pmax pmax
comp=Z,25nm,0.7s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,341nm,9.2s
YAK pmax pmax
comp=N,214nm,7.5s
YAK pmax pmax
comp=E,124nm,6.3s
YAK smax smax
comp=E,274nm,8.0s
YAK smax smax
comp=N,222nm,9.7s
YAK MLR MLR
comp=N,3µm,23.0s
YAK MLR MLR
comp=E,1µm,18.0s
SEY Seymchan 50.86 5 P **P** **17 34 14.1 -0.9**
comp=E,16nm,0.9s,baz=195,slow=10,SNR=29
comp=E,16nm,0.9s
SEY Seymchan 50.86 5 *c i* P **P** **17 34 14.2 -0.9**
SEY pmax pmax
comp=Z,32nm,1.0s
SHL Shillong 51.13 293 P **P** **17 34 16.6 -1.4**
SHL IAmb IAmb 17 34 18.8
comp=Z,50nm,1.1s
SHL Shillong 51.13 293 P **P** **17 34 16.8 -1.2**
SNR=11
SHL Shillong 51.13 293 P **P** **17 34 16.6 -1.4**
SHL pmax pmax
comp=Z,51nm,1.1s
LSA Lhasa 52.22 298 P **P** **17 34 26.0 -0.4**
LSA S **S** **17 41 46.3 -4.1**
LSA LR LR
comp=Z,270nm,16.9s
LSA LR LR
comp=Z,520nm,19.4s
MOY Mondy 52.58 327 *e*P **P** **17 34 28.1 -0.2**
MOY pmax pmax
comp=Z,39nm,2.3s
NIKH Nikolski High 54.96 33 P **P** **17 34 46.7 +1.2**
NIKH Nikolski High 54.96 33 P **P** **17 34 44.7 -0.8**
baz=240
KIP Kipapa 55.55 72⇓ *e*P **P** **17 34 52.4 +2.1**
KIP pmax pmax
comp=Z,93nm,1.7s
SPIA Saint Paul Isl 56.49 28 P **P** **17 34 55.8 -0.5**
baz=236
P08K Saint George I 56.49 28 P **P** **17 34 55.0 -1.4**
baz=237
UNV Unalaska Valle 56.61 32 P **P** **17 34 57.1 -0.2**
baz=242
AKUT Akutan 57.13 32 P **P** **17 35 03.2 +2.2**
BILL Bilibino 57.48 10 P **P** **17 35 03.1 -0.2**
BILL IAmb IAmb 17 35 05.2
comp=Z,40nm,1.0s
BILL Bilibino 57.48 10 *c i* P **P** **17 35 02.2 -1.0**
BILL pmax pmax
comp=Z,40nm,1.3s
WMQ Urumqi 57.72 314 ⇓P **P** **17 35 06.9 +1.4**
WMQ S **S** **17 43 04.4 +1.4**
WMQ pmax pmax
comp=Z,52nm,1.5s
WMQ pmax pmax
comp=Z,490nm,4.7s
WMQ LR LR
comp=Z,3µm,21.3s
WMQ LR LR
comp=Z,2µm,19.7s
WMQ LR LR
comp=Z,2µm,22.9s
POHA Pohakuloa 57.91 74 IAMs_20 IAMs_20 17 55 27.7
comp=Z,2µm,20.0s
XMAS Kiritimati 58.43 95 IAMs_20 IAMs_20 18 04 53.1
comp=Z,4µm,21.0s
FALS False Pass 58.68 32 P **P** **17 35 13.5 +1.6**
RTZ Ruatahuna 59.09 151 IAMs_20 IAMs_20 17 59 04.6
comp=Z,2µm,20.0s
BKZ Black Stump Fm 59.29 151 P **P** **17 35 15.8 -0.6**
DSZ Denniston Nort 59.41 156 IAMs_20 IAMs_20 18 05 45.8
comp=Z,2µm,20.0s
S12K Black Hills 59.74 32 IAMs_20 IAMs_20 17 58 57.5
comp=Z,2µm,21.0s
S12K Black Hills 59.74 32 P **P** **17 35 18.1 -1.2**
baz=245
GAMB Gambell 59.80 21 P **P** **17 35 18.6 -0.8**
baz=232
M11K Mekoryuk 59.99 26 IAMs_20 IAMs_20 17 58 15.6
comp=Z,2µm,21.0s
M11K Mekoryuk 59.99 26 P **P** **17 35 20.5 -0.3**
baz=239
TIXI Tiksi 60.05 354⇑ *e*P **P** **17 35 20.7 -0.4**
TIXI pmax pmax
comp=Z,9.0nm,0.9s
MRZ Mangatainoka R 60.08 153 IAMs_20 IAMs_20 18 06 12.8
comp=Z,3µm,22.0s
SDPT Sand Point 60.43 33 P **P** **17 35 23.4 -0.5**
SDPT Sand Point 60.43 33 P **P** **17 35 25.7 +1.8**
SDPT Sand Point 60.43 33 P **P** **17 35 22.0 -1.9**
baz=247
ZSN Zaisan 60.56 318 *c i* P **P** **17 35 24.8 -0.2**
ZSN *e*S **S** **17 43 38.4 -1.2**
ZSN Zaisan 60.56 318⇑ *i* P **P** **17 35 24.8 -0.2**
ZSN *e*S **S** **17 43 38.5 -1.2**
CNBA Chernabura Isl 60.70 33 P **P** **17 35 27.4 +1.6**
CNBA IAmb IAmb 17 35 43.7
comp=Z,28nm,1.2s
CHNA Chernabura Isl 60.70 33 P **P** **17 35 24.6 -1.2**
baz=248
M13K Dall Lake 61.23 27 IAMs_20 IAMs_20 17 59 05.5
comp=Z,2µm,22.0s
M13K Dall Lake 61.23 27 P **P** **17 35 27.9 -1.4**
baz=242
S14K Fog Glacier 61.27 32 P **P** **17 35 28.8 -1.0**
baz=247
K13K Kusilvak Mount 61.43 25 P **P** **17 35 29.6 -1.0**
baz=240
O14K Tigyukauivet M 61.65 28 P **P** **17 35 31.2 -0.9**
baz=244
N14K Kuskokwak Cree 61.75 28 IAMs_20 IAMs_20 17 59 42.2
comp=Z,2µm,21.0s
N14K Kuskokwak Cree 61.75 28 P **P** **17 35 31.7 -1.1**
baz=244
CHGN Chignik 61.86 32 P **P** **17 35 32.6 -1.0**
baz=248
L14K Kuka Creek 61.96 26 P **P** **17 35 34.8 +0.6**
L14K IAmb IAmb 17 35 37.0
comp=Z,42nm,1.1s
L14K Kuka Creek 61.96 26 P **P** **17 35 33.1 -1.0**
baz=242,SNR=9.2
M14K Bethel 62.00 27 IAMs_20 IAMs_20 17 59 40.7
comp=Z,2µm,22.0s
M14K Bethel 62.00 27 P **P** **17 35 33.0 -1.5**
baz=243,SNR=6.3
MK31 Makanchi Array 62.12 317 *de*P **P** **17 35 36.0 +0.4**
MKAR Makanchi Array 62.12 317 P **P** **17 35 34.8 -0.8**
MKAR Makanchi Array 62.12 317 P **P** **17 35 35.1 -0.5**
comp=Z,18nm,0.7s,baz=96,slow=5.9,SNR=80
MKAR ScP **ScP** **17 40 19.0 +2.6**
comp=Z,0.6nm,0.8s,baz=98,slow=4.4,SNR=1.8
comp=Z,18nm,0.7s
MKAR Makanchi Array 62.12 317 *i* P **P** **17 35 35.5 -0.1**
MKAR pmax pmax
comp=Z,18nm,0.7s
J14K Nanvaranak Lak 62.28 24 P **P** **17 35 36.0 -0.3**
baz=240
O15K Ungalikthiuk R 62.28 29 P **P** **17 35 36.4 -0.1**
O15K IAmb IAmb 17 35 39.2
comp=Z,51nm,1.4s
O15K Ungalikthiuk R 62.28 29 P **P** **17 35 36.0 -0.5**
baz=246
MAKZ Makanchi 62.33 317 IAMs_20 IAMs_20 18 03 51.2
comp=Z,2µm,18.0s
ZAA0 Zalesovo Array 62.42 325 IAmb IAmb 17 36 18.0
comp=Z,18nm,0.8s
ZALV Zalesovo Beam 62.42 325 P **P** **17 35 35.6 -1.8**
ZALV Zalesovo Beam 62.42 325 P **P** **17 35 36.3 -1.1**
comp=Z,6.5nm,0.5s,baz=105,slow=5.6,SNR=27
ZALV PcP **PcP** **17 36 15.7 -1.0**
comp=Z,30nm,0.9s,baz=129,slow=4.6,SNR=12
comp=Z,6.5nm,0.5s
ANM Nome 62.52 22 P **P** **17 35 36.9 -1.0**
baz=238
M15K Kasigluk River 62.53 27 P **P** **17 35 38.2 +0.1**
baz=244
N15K Kwethluk River 62.58 28 P **P** **17 35 38.7 +0.3**
N15K IAMs_20 IAMs_20 18 07 58.0
comp=Z,2µm,19.0s
N15K Kwethluk River 62.58 28 P **P** **17 35 37.9 -0.5**
baz=245,SNR=8.8
L15K Ungalak Mounta 62.62 26 P **P** **17 35 37.1 -1.6**
baz=243
F14K Arctic Creek 62.67 21 P **P** **17 35 38.7 -0.3**
baz=236
K15K Wolf Creek Mou 62.89 25 P **P** **17 35 40.0 -0.4**
baz=243,SNR=6.1
PALK Pallekele 62.90 272 P **P** **17 35 42.6 +1.2**
PALK P **P** **17 35 42.6 +1.2**
P16K Nushagak River 63.10 29 P **P** **17 35 40.8 -1.0**
baz=248
CHIR Chirikof Islan 63.17 33 IAMs_20 IAMs_20 18 06 23.2
comp=Z,2µm,21.0s
G15K Niukluk 63.23 22 P **P** **17 35 42.2 -0.5**
baz=239
O16K Kolwok River B 63.26 29 P **P** **17 35 43.1 +0.2**
baz=247
N16K Nishlik Lake 63.30 28 P **P** **17 35 43.6 +0.4**
baz=246
F15K North Star Dit 63.39 21 IAmb IAmb 17 35 48.2
comp=Z,33nm,1.1s
F15K North Star Dit 63.39 21 P **P** **17 35 44.2 +0.6**
baz=238
R17L Mt. Peulik Vol 63.39 31 P **P** **17 35 43.3 -0.6**
baz=250
PLK4 Peulik 4 63.39 31 IAMs_20 IAMs_20 18 01 00.8
comp=Z,3µm,22.0s
M16K Timber Creek 63.44 27 IAMs_20 IAMs_20 18 01 08.8
comp=Z,2µm,21.0s
M16K Timber Creek 63.44 27 P **P** **17 35 44.0 -0.1**
baz=246,SNR=6.3
PDGK Podgornoye 63.46 312 P **P** **17 35 43.8 -1.0**
L16K Owhat River 63.50 26 IAMs_20 IAMs_20 18 00 27.4
comp=Z,2µm,21.0s
L16K Owhat River 63.50 26 P **P** **17 35 44.6 +0.1**
baz=245,SNR=6.5
HYB Hyderabad 63.63 283 *e*P **P** **17 35 45.7 -0.5**
H16K Elim 63.72 23 P **P** **17 35 44.3 -1.6**
baz=241
J16K Anvik River 63.72 24 IAmb IAmb 17 35 49.0
comp=Z,33nm,1.2s
J16K IAMs_20 IAMs_20 18 02 04.1
comp=Z,2µm,20.0s
J16K Anvik River 63.72 24 P **P** **17 35 45.9 0.0**
baz=243,SNR=5.3
O17K Koliganek Bris 63.80 29 P **P** **17 35 46.3 -0.1**
baz=248,SNR=10
Q17K Contact Creek 63.84 31 P **P** **17 35 45.7 -1.3**
baz=250
P17K Kvichak River 63.90 29 P **P** **17 35 45.9 -1.2**
baz=249
I17K Unalakleet 63.96 24 P **P** **17 35 46.4 -1.0**
baz=243
N17K Nushagak Hills 64.04 28 IAmb IAmb 17 35 51.4
comp=Z,40nm,1.4s
N17K Nushagak Hills 64.04 28 P **P** **17 35 47.0 -1.0**
baz=248,SNR=9.3
G16K Koyuk River 64.05 22 P **P** **17 35 47.3 -0.7**
baz=240
SII Sitkinak Islan 64.17 33 IAMs_20 IAMs_20 18 06 57.4
comp=Z,2µm,21.0s
SII Sitkinak Islan 64.17 33 P **P** **17 35 50.8 +1.8**
SII Sitkinak Islan 64.17 33 P **P** **17 35 47.5 -1.5**
baz=252
L17K Donlin 64.18 26 P **P** **17 35 49.1 +0.1**
baz=246,SNR=9.9
SATY Saty 64.21 312 *c i* P **P** **17 35 49.2 -0.5**
SATY pmax pmax
comp=Z,27nm,1.2s
SATY Saty 64.21 312⇑ *i* P **P** **17 35 49.3 -0.5**
comp=Z,27nm,1.2s
M17K Holitna River 64.27 27 IAmb IAmb 17 35 52.3
comp=Z,30nm,1.1s
M17K IAMs_20 IAMs_20 18 01 11.7
comp=Z,2µm,21.0s
M17K Holitna River 64.27 27 P **P** **17 35 48.4 -1.2**
baz=247,SNR=8.5
R18K Karluk 64.34 32 P **P** **17 35 47.2 -2.8**
baz=252
J17K VABM Dome 64.39 25 IAmb IAmb 17 35 53.5
comp=Z,44nm,1.2s
J17K IAMs_20 IAMs_20 18 02 25.8
comp=Z,2µm,21.0s
J17K VABM Dome 64.39 25 P **P** **17 35 49.4 -0.9**
baz=244,SNR=5.9
Q18K Katmai Hardscr 64.41 30 P **P** **17 35 49.1 -1.6**
baz=251
K17K Iditarod 64.42 25 P **P** **17 35 50.1 -0.4**
baz=246,SNR=15
TDK Taldyqorghan 64.47 314 *e*P **P** **17 35 51.0 -0.2**
TDK pmax pmax
comp=Z,30nm,0.8s
TDK Taldyqorghan 64.47 314 *e*P **P** **17 35 51.0 -0.2**
comp=Z,30nm,0.8s
TARG Taragay, Kyrgy 64.50 310 IAmb IAmb 17 35 54.2
comp=Z,35nm,1.4s
P18K Big Mountain, 64.55 29 P **P** **17 35 50.0 -1.5**
baz=250
N18K Kilae Creek 64.69 28 P **P** **17 35 51.0 -1.4**
baz=249,SNR=8.7
O18K Koktuh Hills 64.72 29 IAmb IAmb 17 35 54.8
comp=Z,5nm,1.4s
O18K Koktuh Hills 64.72 29 P **P** **17 35 51.3 -1.3**
baz=250,SNR=7.1
G17K Kiwalik Mounta 64.72 22 P **P** **17 35 50.7 -1.7**
baz=242
H17K Granite Mounta 64.74 23 IAmb IAmb 17 35 55.4
comp=Z,20nm,1.1s
H17K IAMs_20 IAMs_20 18 02 12.0
comp=Z,2µm,20.0s
H17K Granite Mounta 64.74 23 P **P** **17 35 52.9 +0.3**
baz=243,SNR=6.3
OHAK Old Harbor 64.83 32 IAmb IAmb 17 36 18.7
comp=Z,34nm,1.2s
OHAK Old Harbor 64.83 32 P **P** **17 35 55.3 +2.0**
OHAK Old Harbor 64.83 32 P **P** **17 35 52.2 -1.1**
baz=253
L18K Granite Mounta 64.91 26 IAmb IAmb 17 35 57.1
comp=Z,40nm,1.2s
L18K IAMs_20 IAMs_20 18 01 31.7
comp=Z,2µm,22.0s
L18K Granite Mounta 64.91 26 P **P** **17 35 53.4 -0.3**
baz=247,SNR=18
F17K Baldwin Pennin 64.96 21 P **P** **17 35 53.3 -0.6**
baz=241
D17K Noatak River 64.97 20 P **P** **17 35 53.9 -0.1**
baz=239
M18K Stony River 65.02 27 P **P** **17 35 54.6 +0.2**
baz=248,SNR=14
E17K Hotham Inlet 65.07 20 P **P** **17 35 54.1 -0.6**
baz=240
Q19K Cape Douglas, 65.17 30 IAMs_20 IAMs_20 18 09 26.9
comp=Z,3µm,22.0s
Q19K Cape Douglas, 65.17 30 P **P** **17 35 53.9 -1.7**
baz=252
RDOG Red Dog Mine 65.21 19 IAmb IAmb 17 35 59.4
comp=Z,30nm,1.0s
RDOG Red Dog Mine 65.21 19 P **P** **17 35 55.6 0.0**

baz=239
O19K Port Alsworth 65.26 29 P P 17 35 55.8 -0.2
baz=250
TNSS Tian-Shan 65.27 312 eP P 17 35 56.2 -0.7
TNSS Tian-Shan 65.27 312 eP P 17 35 56.3 -0.7
KURK Kurchatov 65.29 320 P P 17 35 56.0 -0.4
KURK Kurchatov 65.29 320 P P 17 35 55.7 -0.7
KURK P P 17 35 55.7 -0.7
KURK Kurchatov 65.29 320 P P 17 35 56.0 -0.4
KURK pmax pmax
comp=Z,208nm,1.4s
KURK MLR MLR
comp=Z,4µm,18.0s
AAA Alma-Ata 65.31 312 eP P 17 35 56.5 -0.3
AAA Alma-Ata 65.31 312 eP P 17 35 56.6 -0.3
KURBB Kurchatov Arra 65.33 320 P P 17 35 55.4 -1.2
comp=Z,35nm,0.7s,baz=104,slow=7.0,SNR=137
KURBB S S 17 44 37.1 -2.0
comp=Z,0.4nm,0.9s,baz=102,slow=12,SNR=6.6
comp=Z,35nm,0.7s
CHKK Chushkaly 65.33 313 eP P 17 35 56.3 -0.5
CHKK Chushkaly 65.33 313 eP P 17 35 56.4 -0.5
C17K DeLong Mountai 65.34 19 P P 17 35 57.3 +0.9
baz=238
KDAK Kodiak Island 65.36 32 P P 17 35 56.2 -0.5
KDAK IAmb IAmb 17 36 18.7
comp=Z,22nm,0.9s
KDAK Kodiak Island 65.36 32 c iP P 17 35 57.3 +0.6
KDAK pmax pmax
comp=Z,42nm,1.5s
KDAK Kodiak Island 65.36 32 P P 17 35 57.0 +0.3
baz=253
J18K Innoko River 65.39 25 IAmb IAmb 17 35 58.7
comp=Z,33nm,1.6s
J18K Innoko River 65.39 25 P P 17 35 56.8 0.0
baz=247
N19K Bonanza Creek 65.39 28 IAmb IAmb 17 35 59.6
comp=Z,20nm,1.0s
N19K Bonanza Creek 65.39 28 P P 17 35 58.0 +1.1
baz=250,SNR=11
H18K Honhosa River 65.43 23 IAmb IAmb 17 35 59.4
comp=Z,36nm,1.2s
H18K IAMs_20 IAMs_20 18 04 41.1
comp=Z,2µm,19.0s
H18K Honhosa River 65.43 23 P P 17 35 56.8 -0.3
baz=244,SNR=7.8
F18K Selawik 65.60 21 P P 17 35 57.6 -0.5
baz=243
P19K Oil Pt 65.60 30 P P 17 35 58.2 -0.1
baz=252
G18K Tagagawik 65.64 22 IAmb IAmb 17 36 01.4
comp=Z,33nm,1.2s
G18K Tagagawik 65.64 22 P P 17 35 56.9 -1.5
baz=244,SNR=11
E18K Tukpahlearik C 65.65 20 IAmb IAmb 17 36 02.5
comp=Z,32nm,1.1s
E18K Tukpahlearik C 65.65 20 P P 17 35 58.1 -0.3
baz=241,SNR=9.6
KSH Kashi 65.69 308 P P 17 36 01.9 +2.5
KSH S S 17 44 51.8 +7.5
KSH pmax pmax
comp=Z,34nm,0.9s
KSH pmax pmax
comp=Z,630nm,6.3s
KSH LR LR
comp=Z,1µm,18.2s
KSH LR LR
comp=Z,2µm,18.2s
KSH LR LR
comp=Z,2µm,20.6s
Q20K Shuyak Island 65.70 31 P P 17 35 57.7 -1.1
baz=253
L19K White Mountain 65.70 27 IAmb IAmb 17 36 01.9
comp=Z,39nm,1.2s
L19K IAMs_20 IAMs_20 18 02 06.5
comp=Z,2µm,22.0s
L19K White Mountain 65.70 27 P P 17 35 57.8 -1.1
baz=249,SNR=19
SYI Shuyak Island 65.70 31 IAMs_20 IAMs_20 18 02 24.8
comp=Z,2µm,22.0s
ULHL Ulahol 65.71 311 P P 17 36 01.4 +1.8
SNR=8.7
ILSW Iliamna Southw 65.75 29 IAmb IAmb 17 36 17.3
comp=Z,32nm,1.4s
KUU Kurty 65.80 313 eP P 17 35 59.7 -0.2
KUU Kurty 65.80 313 eP P 17 35 59.8 -0.2
M19K Big River Lodg 65.80 27 IAmb IAmb 17 36 02.8
comp=Z,29nm,1.3s
M19K IAMs_20 IAMs_20 18 02 00.4
comp=Z,2µm,21.0s
M19K Big River Lodg 65.80 27 P P 17 35 59.0 -0.5
baz=250,SNR=14
NRN Naryn 65.81 310 IAmb IAmb 17 36 02.8
comp=Z,36nm,1.0s
GCSA Galena City Sc 65.83 24 P P 17 35 57.6 -2.0
baz=246
BOOM Boomskoye usch 65.95 311 IAmb IAmb 17 36 03.6
comp=Z,39nm,1.1s
O20K Slope Mountain 66.02 29 P P 17 35 59.1 -1.9
baz=252
J19K Poorman 66.04 25 IAmb IAmb 17 36 03.9
comp=Z,34nm,1.2s
J19K Poorman 66.04 25 P P 17 36 00.5 -0.5
baz=248,SNR=13
RED Redoubt Volcan 66.06 29 IAmb IAmb 17 36 02.9
comp=Z,39nm,1.4s
C18K Utukok River 66.06 19 P P 17 35 59.1 -2.1
baz=240
L20K Farewell, AK 66.23 27 P P 17 36 02.8 +0.5
baz=250,SNR=13
B18K Kokolik River 66.23 18 P P 17 36 01.8 -0.3
baz=239
TKM2 Tokmak 2 66.25 312 P P 17 36 03.2 +0.2
SNR=37
H19K Roundabout Mou 66.31 23 IAmb IAmb 17 36 05.7
comp=Z,30nm,1.1s
H19K IAMs_20 IAMs_20 18 04 39.6
comp=Z,2µm,19.0s
H19K Roundabout Mou 66.31 23 P P 17 36 02.6 -0.1
baz=246,SNR=12
G19K Purcell Mounta 66.33 22 IAmb IAmb 17 36 06.0
comp=Z,35nm,1.1s
G19K IAMs_20 IAMs_20 18 09 55.9
comp=Z,2µm,22.0s
G19K Purcell Mounta 66.33 22 P P 17 36 02.1 -0.7
baz=245,SNR=15
M20K Styx River 66.36 27 IAmb IAmb 17 36 08.2
comp=Z,37nm,1.2s
M20K IAMs_20 IAMs_20 18 02 39.0
comp=Z,2µm,21.0s
M20K Styx River 66.36 27 P P 17 36 02.3 -0.9
baz=251
F19K Shaleruckik Mo 66.37 21 P P 17 36 01.7 -1.4
baz=244
K20K Telida 66.45 26 IAmb IAmb 17 36 07.1
comp=Z,36nm,1.2s
K20K IAMs_20 IAMs_20 18 09 57.3
comp=Z,2µm,21.0s
K20K Telida 66.45 26 P P 17 36 03.7 0.0
baz=249
KBK Karagaybulak 66.70 311 P P 17 36 07.7 +1.8
SNR=7.1
J20K Nowinta River 66.71 25 IAMs_20 IAMs_20 18 03 57.1
comp=Z,2µm,20.0s
J20K Nowinta River 66.71 25 P P 17 36 05.4 +0.1
baz=249,SNR=32
BRLK Bradley Lake 66.77 30 IAmb IAmb 17 36 07.0
comp=Z,20nm,0.9s
C19K Lookout Ridge 66.79 19 P P 17 36 05.4 -0.4
baz=242,SNR=13
I20K Naaghedeneel 66.80 24 IAMs_20 IAMs_20 18 05 27.5
comp=Z,2µm,20.0s
I20K Naaghedeneel 66.80 24 P P 17 36 04.8 -1.0
baz=248
E19K Redstone River 66.83 21 IAmb IAmb 17 36 12.0
comp=Z,30nm,0.9s
E19K Redstone River 66.83 21 P P 17 36 05.9 -0.1
baz=245
CHMS Chumysh 66.87 312 P P 17 36 08.3 +1.5
SNR=21
A19K Wainwright 66.88 18 P P 17 36 06.7 +0.5
baz=240
H20K Anotleneega Mo 66.90 23 P P 17 36 06.0 -0.5
baz=248,SNR=15
CAPN Captain Cook N 66.92 29 P P 17 36 05.0 -1.6
baz=253
D19K Kuna River 66.98 20 IAmb IAmb 17 36 10.7
comp=Z,32nm,1.1s
D19K IAMs_20 IAMs_20 18 04 33.1
comp=Z,2µm,20.0s
D19K Kuna River 66.98 20 P P 17 36 06.7 -0.3
baz=243
UCH Uchtor 66.98 311 P P 17 36 10.4 +2.4
SNR=13
SGDS Sogindy 67.00 312 eP P 17 36 07.3 -0.3
AAK Ala-Archa 67.03 311 P P 17 36 09.3 +1.3
SNR=8.4
AAK Ala-Archa 67.03 311 P P 17 36 07.8 -0.2
AAK IAmb IAmb 17 36 10.2
comp=Z,24nm,0.9s
AAK Ala-Archa 67.03 311 IAMs_20 IAMs_20 18 10 25.6
comp=Z,2µm,19.0s
AAK Ala-Archa 67.03 311 P P 17 36 09.0 +1.1
AAK P P 17 36 09.0 +1.1
AAK Ala-Archa 67.03 311 c iP P 17 36 07.9 -0.1
AAK pmax pmax
comp=Z,32nm,1.0s
USP Ospenovka 67.08 312 P P 17 36 09.2 +1.2
SNR=40
PPLA Purkeypile 67.10 26 IAmb IAmb 17 36 21.8
comp=Z,48nm,1.3s
PPLA IAMs_20 IAMs_20 18 03 12.6
comp=Z,2µm,22.0s
PPLA Purkeypile 67.10 26 P P 17 36 06.7 -1.3
baz=251,SNR=8.6
SKT Skwentna 67.11 27 IAmb IAmb 17 36 09.7
comp=Z,33nm,1.2s
SKT IAMs_20 IAMs_20 18 02 51.9
comp=Z,2µm,22.0s
SKT Skwentna 67.11 27 P P 17 36 06.8 -1.1
baz=252,SNR=20
F20K Avaraart Lake 67.19 22 IAmb IAmb 17 36 11.4
comp=Z,27nm,1.2s
F20K IAMs_20 IAMs_20 18 10 59.7
comp=Z,2µm,21.0s
F20K Avaraart Lake 67.19 22 P P 17 36 07.6 -0.7
baz=246,SNR=14
CAST Castle Rocks 67.31 26 IAmb IAmb 17 36 11.9
comp=Z,33nm,1.0s
CAST IAMs_20 IAMs_20 18 10 23.2
comp=Z,2µm,21.0s
CAST Castle Rocks 67.31 26 P P 17 36 08.1 -1.1
baz=251,SNR=31
CHUM Lake Minchumin 67.37 25 P P 17 36 09.5 +0.1
baz=251,SNR=7.9
IMAR Indian Mountai 67.52 23 P P 17 36 10.6 +0.2
O22K Cooper Landing 67.52 29 P P 17 36 08.8 -1.6
baz=255
E20K Nigu River 67.53 20 P P 17 36 10.0 -0.5
baz=245
BTLS Baital 67.55 314 c i P P 17 36 10.6 -0.4
BTLS eS S 17 45 04.9 -1.4
BTLS pmax pmax
comp=Z,25nm,1.1s
BTLS Baital 67.55 314 i i P P 17 36 10.6 -0.4
comp=Z,25nm,1.1s
BTLS eS S 17 45 04.9 -1.4
SEW Seward 67.56 30 IAMs_20 IAMs_20 18 03 27.9
comp=Z,2µm,22.0s
SEW Seward 67.56 30 P P 17 36 10.1 -0.6
baz=255,SNR=12
EKS2 Erkin-Say 67.56 311 P P 17 36 13.0 +1.8
SNR=28
D20K Etivluk River 67.58 20 IAMs_20 IAMs_20 18 04 51.8
comp=Z,2µm,20.0s
D20K Etivluk River 67.58 20 P P 17 36 10.6 -0.1
baz=245
RC01 Rabbit Creek A 67.68 29 P P 17 36 11.8 +0.3
baz=254,SNR=29
M22K Willow 67.68 28 P P 17 36 10.9 -0.5
baz=254
NIL Nilore 67.69 301 P P 17 36 11.5 -0.6
NIL Nilore 67.69 301 IAMs_20 IAMs_20 17 55 18.0
comp=Z,2µm,21.0s
NIL Nilore 67.69 301 P P 17 36 12.3 +0.1
NIL P P 17 36 12.3 +0.1
NIL Nilore 67.69 301 P P 17 36 11.5 -0.6
NIL pmax pmax
comp=Z,172nm,0.8s
NIL MLR MLR
comp=Z,2µm,21.0s
H21K Melozitna Rive 67.77 23 IAmb IAmb 17 36 15.6
comp=Z,28nm,1.1s
H21K IAMs_20 IAMs_20 18 04 39.0
comp=Z,2µm,20.0s
H21K Melozitna Rive 67.77 23 P P 17 36 11.2 -0.8
baz=250,SNR=26
CUT Chulitna 67.80 27 IAmb IAmb 17 36 49.5
comp=Z,32nm,0.9s
CUT IAMs_20 IAMs_20 18 03 25.2
comp=Z,2µm,21.0s
CUT Chulitna 67.80 27 P P 17 36 10.0 -2.2
baz=253
G21K Allakaket 67.80 22 IAMs_20 IAMs_20 18 06 05.9
comp=Z,2µm,20.0s
G21K Allakaket 67.80 22 P P 17 36 12.0 -0.2
baz=249
B20K Meade River 67.96 18 P P 17 36 12.5 -0.6
baz=244,SNR=13
BPAW Bear Paw Mtn. 67.99 25 IAmb IAmb 17 36 16.1
comp=Z,40nm,1.2s
BPAW IAMs_20 IAMs_20 18 10 57.0
comp=Z,2µm,21.0s
BPAW Bear Paw Mtn. 67.99 25 P P 17 36 12.6 -0.8
baz=252,SNR=32
F21K Alatna River 68.07 22 IAMs_20 IAMs_20 18 11 26.9
comp=Z,2µm,21.0s
F21K Alatna River 68.07 22 P P 17 36 13.7 -0.2
baz=248,SNR=15
TRF Thorofare Moun 68.09 26 IAmb IAmb 17 36 16.2
comp=Z,28nm,1.1s
TRF Thorofare Moun 68.09 26 P P 17 36 12.1 -2.1
baz=253,SNR=19
PMR Palmer 68.09 28 IAmb IAmb 17 36 15.4
comp=Z,27nm,1.1s
PMR Palmer 68.09 28 P P 17 36 14.9 +0.8
PMR Palmer 68.09 28 P P 17 36 12.9 -1.1
baz=255,SNR=12
GHO Glory Hole Cre 68.24 28 IAmb IAmb 17 36 17.2
comp=Z,35nm,1.2s
GHO IAMs_20 IAMs_20 18 11 54.7
comp=Z,2µm,20.0s
PWL Port Wells 68.28 29 P P 17 36 15.6 +0.3
baz=256,SNR=32
E21K Killik River 68.36 20 P P 17 36 15.1 -0.6
baz=248
KNK Knik Glacier 68.36 28 P P 17 36 15.7 -0.1
baz=256,SNR=11
C21K Knifeblade Rid 68.36 20 P P 17 36 14.7 -1.0
baz=246,SNR=13
MLY Manley 68.38 24 IAmb IAmb 17 36 19.1
comp=Z,34nm,1.0s
MLY IAMs_20 IAMs_20 18 06 27.2
comp=Z,2µm,20.0s
MLY Manley 68.38 24 P P 17 36 14.8 -1.1
baz=252,SNR=34
H22K Ishtalitna Cre 68.40 23 P P 17 36 15.5 -0.5
baz=251,SNR=13
P23K Montague Islan 68.53 30 IAMs_20 IAMs_20 18 05 09.6
comp=Z,2µm,20.0s
P23K Montague Islan 68.53 30 P P 17 36 16.2 -0.6
baz=257,SNR=14
B21K Ikpikpuk River 68.60 19 IAmb IAmb 17 36 20.9
comp=Z,23nm,0.9s
B21K Ikpikpuk River 68.60 19 P P 17 36 16.8 -0.4
baz=246,SNR=8.6
F22K John River 68.64 22 P P 17 36 17.3 -0.2
baz=250,SNR=6.2
RND Reindeer 68.70 26 IAMs_20 IAMs_20 18 03 50.8
comp=Z,2µm,22.0s
MCK McKinley 68.75 26 IAmb IAmb 17 36 20.1
comp=Z,39nm,1.4s
MCK IAMs_20 IAMs_20 18 03 53.2
comp=Z,2µm,22.0s
MCK McKinley 68.75 26 P P 17 36 16.8 -1.4
baz=254,SNR=11
M23K Glacier View 68.79 28 P P 17 36 17.3 -1.2
baz=256,SNR=8.3
GLI Glacier Island 68.88 29 P P 17 36 19.1 +0.1
baz=257,SNR=9.1
Q23K Middleton Isla 68.93 31 IAMs_20 IAMs_20 18 04 16.4
comp=Z,2µm,21.0s
Q23K Middleton Isla 68.93 31 P P 17 36 18.7 -0.6
baz=258
NEA2 Nenana 68.93 25 P P 17 36 17.9 -1.4
baz=254
BRZS Berezniki 68.95 319 eP P 17 36 19.7 +0.1
BRZS Berezniki 68.95 319 eP P 17 36 19.8 +0.1
D22K Ayikyak River 68.96 20 IAmb IAmb 17 36 22.7
comp=Z,32nm,0.9s
D22K Ayikyak River 68.96 20 P P 17 36 18.7 -0.7
baz=249,SNR=17
I23K Minto, Yukon-K 68.97 24 IAMs_20 IAMs_20 18 06 53.9
comp=Z,2µm,19.0s
I23K Minto, Yukon-K 68.97 24 P P 17 36 19.3 -0.2
baz=253,SNR=36
SCM Sheep Creek Mo 68.98 28 P P 17 36 19.6 -0.2
baz=256,SNR=42
E22K Anaktuvuk Pass 68.99 21 IAmb IAmb 17 36 22.8
comp=Z,40nm,1.1s
E22K Anaktuvuk Pass 68.99 21 P P 17 36 19.5 -0.2
baz=250
A22K Sinclair Lake 69.05 18 P P 17 36 19.9 0.0
baz=246
HIN Hinchinbrook I 69.06 30 IAMs_20 IAMs_20 18 04 45.5
comp=Z,2µm,21.0s
H23K Yukon River 69.10 24 IAmb IAmb 17 36 23.4
comp=Z,33nm,1.1s
H23K IAMs_20 IAMs_20 18 05 00.2
comp=Z,2µm,20.0s
H23K Yukon River 69.10 24 P P 17 36 20.3 0.0
baz=253,SNR=20
FID Port Fidalgo 69.14 29 IAmb IAmb 17 36 42.5
comp=Z,36nm,1.0s
FID IAMs_20 IAMs_20 18 04 26.1
comp=Z,2µm,21.0s
G23K Bananza Creek 69.18 23 IAmb IAmb 17 36 24.1
comp=Z,29nm,1.1s
G23K IAMs_20 IAMs_20 18 11 35.3
comp=Z,2µm,21.0s
G23K Bananza Creek 69.18 23 P P 17 36 20.6 -0.3
baz=252,SNR=30
B22K Teshekpuk Lake 69.27 19 P P 17 36 22.0 +0.8
baz=247
COLD Coldfoot 69.27 22 IAmb IAmb 17 36 25.1
comp=Z,35nm,0.9s
COLD Coldfoot 69.27 22 P P 17 36 21.7 +0.3
baz=252,SNR=36
WRH Wood River Hil 69.31 25 IAmb IAmb 17 36 23.3
comp=Z,33nm,1.1s
DZA Taraz 69.37 311 eP P 17 36 22.0 -0.5
DZA pmax pmax
comp=Z,18nm,0.8s
DZA Taraz 69.37 311 eP P 17 36 22.0 -0.5
comp=Z,18nm,0.8s
EYAK Cordova Ski Ar 69.45 30 IAmb IAmb 17 36 25.6
comp=Z,36nm,1.3s
EYAK IAMs_20 IAMs_20 18 04 14.0
comp=Z,2µm,21.0s
EYAK Cordova Ski Ar 69.45 30 P P 17 36 24.3 +1.8
EYAK Cordova Ski Ar 69.45 30 P P 17 36 21.6 -0.9
baz=258,SNR=15
CCB Clear Creek Bu 69.47 25 IAmb IAmb 17 36 24.2
comp=Z,31nm,1.2s
COLA College 69.51 25 IAMs_20 IAMs_20 18 07 02.2
comp=Z,2µm,20.0s
COLA College 69.51 25 P P 17 36 24.6 +1.8
COLA College 69.51 25 c iP P 17 36 21.8 -1.0
COLA pmax pmax
comp=Z,21nm,1.1s
COLA College 69.51 25 P P 17 36 20.1 -2.8
baz=255
DIV Divide 69.56 29 IAmb IAmb 17 36 26.4
comp=Z,39nm,1.1s
DIV IAMs_20 IAMs_20 18 04 54.7
comp=Z,2µm,22.0s
KLU Klutina 69.56 29 IAmb IAmb 17 36 26.4
comp=Z,37nm,1.2s
KLU Klutina 69.56 29 P P 17 36 22.9 -0.5
baz=258,SNR=23
M24K Tolsona, Glenn 69.58 28 P P 17 36 23.9 +0.5
baz=257,SNR=10.0
D23K Nanushuk River 69.67 20 P P 17 36 24.4 +0.7
baz=251,SNR=24
E23K Chandalar 69.75 21 P P 17 36 24.1 -0.3
baz=252,SNR=66
H24K Noodor Dome 69.76 24 IAmb IAmb 17 36 27.5
comp=Z,46nm,1.1s
H24K IAMs_20 IAMs_20 18 05 29.7
comp=Z,2µm,20.0s
H24K Noodor Dome 69.76 24 P P 17 36 23.8 -0.6
baz=254,SNR=36
HDA Harding Lake 69.77 26 P P 17 36 23.1 -1.4
baz=256,SNR=12
IL31 69.89 25 IAmb IAmb 17 36 26.4
comp=Z,28nm,1.0s
ILAR Eielson Array 69.89 25 P P 17 36 23.2 -1.9
ILAR Eielson Array 69.89 25 P P 17 36 24.0 -1.2
comp=Z,19nm,1.0s,baz=257,slow=5.5,SNR=79
comp=Z,19nm,1.0s
ILAR Eielson Array 69.89 25 P P 17 36 24.0 -1.2
RAGM Ragged Mountai 69.94 30 IAmb IAmb 17 36 28.9
comp=Z,44nm,1.3s
RAGM IAMs_20 IAMs_20 18 11 38.9
comp=Z,2µm,22.0s
TOLK Toolik Lake Re 69.94 21 IAmb IAmb 17 36 28.8
comp=Z,27nm,0.9s
TOLK IAMs_20 IAMs_20 18 12 42.3
comp=Z,2µm,19.0s
TOLK Toolik Lake Re 69.94 21 P P 17 36 25.5 0.0
baz=252,SNR=15
KK31 Karatay Array 69.98 311 i P P 17 36 25.8 -0.4
KKAR Karatay Array 69.98 311 P P 17 36 25.4 -0.8
KKAR Karatay Array 69.98 311 P P 17 36 25.4 -0.8
C23K Itkillik River 69.98 20 IAMs_20 IAMs_20 18 10 58.2
comp=Z,2µm,19.0s
C23K Itkillik River 69.98 20 P P 17 36 26.1 +0.4
baz=250,SNR=15
KAIM Kayak Island 69.98 30 IAMs_20 IAMs_20 18 12 19.1
comp=Z,2µm,20.0s
KAIM Kayak Island 69.98 30 P P 17 36 26.6 +0.7
baz=260,SNR=9.3
PAX Paxson 70.08 27 IAmb IAmb 17 36 29.1
comp=Z,28nm,1.1s
PAX Paxson 70.08 27 P P 17 36 25.8 -0.8
baz=258,SNR=38
BMRM Bremner River 70.08 29 IAMs_20 IAMs_20 18 05 18.7
comp=Z,2µm,21.0s
BMRM Bremner River 70.08 29 P P 17 36 26.1 -0.5
baz=259,SNR=28
HARP HAARP 70.11 28 P P 17 36 28.4 +1.8
baz=258,SNR=9.6
K24K Donnelly Dome 70.13 26 IAmb IAmb 17 36 29.5
comp=Z,37nm,0.9s
K24K IAMs_20 IAMs_20 18 04 35.7
comp=Z,3µm,22.0s
K24K Donnelly Dome 70.13 26 P P 17 36 25.8 -0.9
baz=257
HMT Hamilton 70.14 30 IAmb IAmb 17 36 30.0
comp=Z,33nm,1.2s
HMT IAMs_20 IAMs_20 18 12 37.1
comp=Z,2µm,20.0s
G24K Hadweenzic Riv 70.15 23 IAmb IAmb 17 36 29.9
comp=Z,23nm,1.0s
G24K IAMs_20 IAMs_20 18 12 15.9
comp=Z,2µm,21.0s
G24K Hadweenzic Riv 70.15 23 P P 17 36 26.2 -0.5
baz=254,SNR=13
E24K Your Creek 70.16 22 IAmb IAmb 17 36 30.0
comp=Z,20nm,0.9s
E24K Your Creek 70.16 22 P P 17 36 27.7 +0.8
baz=253,SNR=20
N25K Chitina, Valde 70.21 29 IAmb IAmb 17 36 29.9
comp=Z,36nm,1.3s
N25K IAMs_20 IAMs_20 18 06 13.9
comp=Z,2µm,21.0s
N25K Chitina, Valde 70.21 29 P P 17 36 27.4 +0.1
baz=259,SNR=15
F24K Squaw Lake 70.22 22 IAmb IAmb 17 36 30.6
comp=Z,32nm,1.1s
F24K Squaw Lake 70.22 22 P P 17 36 27.3 +0.1
baz=254,SNR=18
IUG Iuzhnay 70.31 310 eP P 17 36 28.0 -0.3
IUG pmax pmax
comp=Z,31nm,1.0s
IUG Iuzhnay 70.31 310 eP P 17 36 28.1 -0.3
comp=Z,31nm,1.0s
SUCK Suckling Hills 70.33 30 IAmb IAmb 17 36 31.8
comp=Z,51nm,1.4s
SUCK IAMs_20 IAMs_20 18 12 41.2
comp=Z,3µm,22.0s
D24K Happy Valley 70.36 20 P P 17 36 28.7 +0.7
baz=252,SNR=33
BERG Berg Lake 70.42 30 IAMs_20 IAMs_20 18 12 44.6

	comp=Z,2µm,20.0s								
BRLS	**Boroldav**	**70.47**	**311**	*c i*	P		**P**	**17 36 29.6**	**+0.4**
BRLS	**Boroldav**	**70.47**	**311**	⇑ *i*	P		**P**	**17 36 29.6**	**+0.4**
J25K	**Salcha River,**	**70.48**	**25**		IAmb		IAmb	17 36 29.8	
	comp=Z,33nm,1.4s								
J25K	**Salcha River,**	**70.48**	**25**		P		**P**	**17 36 27.5**	**-1.4**
	baz=257,SNR=23								
RIDG	**Independent Ri**	**70.52**	**26**		IAMs_20		IAMs_20	18 05 10.0	
	comp=Z,3µm,22.0s								
RIDG	**Independent Ri**	**70.52**	**26**		P		**P**	**17 36 28.6**	**-0.5**
	baz=258,SNR=24								
GLB	**Gilahina Butte**	**70.55**	**29**		IAMs_20		IAMs_20	18 13 07.9	
	comp=Z,2µm,22.0s								
C24K	**Franklin Bluff**	**70.57**	**20**		P		**P**	**17 36 29.9**	**+0.7**
	baz=252								
BGLC	**Bering Glacier**	**70.58**	**30**		P		**P**	**17 36 29.8**	**+0.4**
	baz=261								
PRP	**Porcupine Dome**	**70.62**	**25**		IAMs_20		IAMs_20	18 06 26.6	
	comp=Z,2µm,20.0s								
PRP	**Porcupine Dome**	**70.62**	**25**		P		**P**	**17 36 29.6**	**-0.3**
	baz=257								
CHM	**Chimkent**	**70.63**	**311**		*e*P		**P**	**17 36 30.0**	**-0.2**
CHM					pmax		pmax		
	comp=Z,20nm,0.9s								
CHM	**Chimkent**	**70.63**	**311**		*e*P		**P**	**17 36 30.0**	**-0.2**
	comp=Z,20nm,0.9s								
BVA0	**Borovoye Array**	**70.67**	**322**		P		**P**	**17 36 29.5**	**-0.7**
BVAR	**Borovoye Array**	**70.67**	**322**		P		**P**	**17 36 28.9**	**-1.3**
	comp=Z,33nm,0.6s,baz=100,slow=7.3,SNR=108								
BVAR					S		**S**	**17 45 40.6**	**-2.4**
	comp=Z,0.6nm,0.6s,baz=97,slow=13,SNR=1.3								
	comp=Z,33nm,0.6s								
H25L	**Birch Creek**	**70.68**	**24**		P		**P**	**17 36 30.0**	**0.0**
	baz=256,SNR=30								
VRDI	**Verde Repeater**	**70.68**	**29**		IAmb		IAmb	17 36 33.1	
	comp=Z,26nm,1.0s								
G25K	**Bearman Lake**	**70.69**	**23**		P		**P**	**17 36 30.7**	**+0.6**
	baz=256								
BRVK	**Borovoye**	**70.73**	**322**		P		**P**	**17 36 29.6**	**-1.0**
BRVK	**Borovoye**	**70.73**	**322**		P		**P**	**17 36 29.9**	**-0.7**
BRVK					P		**P**	**17 36 29.9**	**-0.7**
BRVK	**Borovoye**	**70.73**	**322**	*c i*	P		**P**	**17 36 29.7**	**-0.9**
BRVK					pmax		pmax		
	comp=Z,104nm,1.2s								
CRQM	**Cirque**	**70.75**	**30**		IAMs_20		IAMs_20	18 05 19.0	
	comp=Z,2µm,22.0s								
CRQE	**Cirque**	**70.78**	**30**		P		**P**	**17 36 31.4**	**+0.5**
	baz=261,SNR=16								
DOT	**Dot Lake**	**70.84**	**27**		IAmb		IAmb	17 36 33.9	
	comp=Z,28nm,0.9s								
DOT					IAMs_20		IAMs_20	18 05 09.5	
	comp=Z,2µm,22.0s								
WAX	**Waxell Ridge**	**70.84**	**30**		IAmb		IAmb	17 36 34.5	
	comp=Z,31nm,1.0s								
WAX					IAMs_20		IAMs_20	18 12 58.8	
	comp=Z,3µm,21.0s								
TGL	**Tana Glacier**	**70.90**	**30**		IAmb		IAmb	17 36 34.7	
	comp=Z,43nm,1.2s								
TGL					IAMs_20		IAMs_20	18 05 46.4	
	comp=Z,2µm,22.0s								
MCARA	**McCarthy VSAT**	**70.91**	**29**		IAmb		IAmb	17 36 35.0	
	comp=Z,36nm,1.0s								
MCARA	**McCarthy VSAT**	**70.91**	**29**		P		**P**	**17 36 31.8**	**+0.2**
	baz=260,SNR=8.5								
SCRK	**Sand Creek**	**70.94**	**26**		IAmb		IAmb	17 36 34.2	
	comp=Z,26nm,1.1s								
SCRK					IAMs_20		IAMs_20	18 05 34.1	
	comp=Z,2µm,22.0s								
SCRK	**Sand Creek**	**70.94**	**26**		P		**P**	**17 36 31.5**	**-0.3**
	baz=259,SNR=26								
FYU	**Fort Yukon**	**70.98**	**23**		IAMs_20		IAMs_20	18 12 29.9	
	comp=Z,2µm,22.0s								
L26K	**Log Cabin Wild**	**71.04**	**27**		IAmb		IAmb	17 36 35.2	
	comp=Z,22nm,1.0s								
L26K	**Log Cabin Wild**	**71.04**	**27**		P		**P**	**17 36 32.6**	**+0.3**
	baz=260,SNR=24								
F25K	**Christian Rive**	**71.07**	**22**		IAmb		IAmb	17 36 36.0	
	comp=Z,25nm,0.9s								
F25K	**Christian Rive**	**71.07**	**22**		P		**P**	**17 36 33.0**	**+0.6**
	baz=256,SNR=32								
SIMJ	**Simiganj**	**71.08**	**307**		P		**P**	**17 36 32.4**	**-0.7**
M26K	**Nabesna, AK**	**71.09**	**28**		IAMs_20		IAMs_20	18 04 15.3	
	comp=Z,2µm,22.0s								
M26K	**Nabesna, AK**	**71.09**	**28**		P		**P**	**17 36 32.3**	**-0.4**
	baz=260,SNR=8.0								
ISLE	**Juniper Island**	**71.12**	**30**		IAmb		IAmb	17 36 35.3	
	comp=Z,48nm,1.3s								
ISLE					IAMs_20		IAMs_20	18 13 08.0	
	comp=Z,2µm,22.0s								
KBL	**Kabul**	**71.16**	**302**		P		**P**	**17 36 32.9**	**-0.9**
KBL	**Kabul**	**71.16**	**302**		P		**P**	**17 36 33.3**	**-0.5**
	SNR=33								
KBL					P		**P**	**17 36 33.3**	**-0.5**
	SNR=33								
KBL	**Kabul**	**71.16**	**302**		P		**P**	**17 36 32.9**	**-0.9**
KBL					pmax		pmax		
	comp=Z,102nm,1.2s								
E25K	**Arctic Village**	**71.22**	**22**		IAmb		IAmb	17 36 43.0	
	comp=Z,26nm,1.0s								
E25K	**Arctic Village**	**71.22**	**22**		P		**P**	**17 36 33.3**	**-0.1**
	baz=256,SNR=18								
J26L	**Joseph Creek**	**71.22**	**26**		IAmb		IAmb	17 36 43.5	
	comp=Z,48nm,1.4s								
J26L					IAMs_20		IAMs_20	18 13 14.5	
	comp=Z,1µm,21.0s								
J26L	**Joseph Creek**	**71.22**	**26**		P		**P**	**17 36 33.4**	**-0.1**
	baz=259,SNR=42								
D25K	**Kavik River**	**71.24**	**21**		IAmb		IAmb	17 36 36.5	
	comp=Z,36nm,0.9s								
D25K	**Kavik River**	**71.24**	**21**		P		**P**	**17 36 33.7**	**+0.3**
	baz=255,SNR=30								
MESA	**MESA**	**71.25**	**30**		IAmb		IAmb	17 36 37.3	
	comp=Z,37nm,0.9s								
MESA					IAMs_20		IAMs_20	18 06 14.5	
	comp=Z,2µm,22.0s								
MESA	**MESA**	**71.25**	**30**		P		**P**	**17 36 34.2**	**+0.4**
	baz=262,SNR=8.2								
YAH	**Yahtse**	**71.38**	**30**		IAmb		IAmb	17 36 37.5	
	comp=Z,37nm,1.1s								
YAH					IAMs_20		IAMs_20	18 13 36.8	
	comp=Z,2µm,22.0s								
GRNC	**Granite Creek**	**71.42**	**30**		IAmb		IAmb	17 36 38.0	
	comp=Z,30nm,0.9s								
GRNC					IAMs_20		IAMs_20	18 12 26.1	
	comp=Z,2µm,22.0s								
BMAR	**Burnt Mountain**	**71.43**	**23**		P		**P**	**17 36 35.3**	**+0.7**
BARN	**Barnard Glacie**	**71.51**	**30**		IAmb		IAmb	17 37 01.2	
	comp=Z,37nm,1.3s								
BARN					IAMs_20		IAMs_20	18 13 36.5	
	comp=Z,2µm,22.0s								
I26K	**Coal Creek Min**	**71.55**	**25**		IAMs_20		IAMs_20	18 06 46.1	
	comp=Z,1µm,20.0s								
I26K	**Coal Creek Min**	**71.55**	**25**		P		**P**	**17 36 34.3**	**-1.0**
	baz=259								
PPT2	**Papeete2**	**71.59**	**113**		*e*PKIKP		**P**	**17 36 36.1**	**-0.3**
PPT2	comp=Z,168nm,23.2s				*e*S		**S**	**17 45 49.8**	**-5.0**
PPT2	comp=Z,763nm,25.2s				*e*SS		**SS**	**17 50 27.1**	**-3.5**
PPT2	comp=Z,384nm,25.5s				*e*LQ		LQ	17 54 41.5	
PPT2	comp=Z,540nm,27.0s				*e*LR		LR	17 58 07.5	
PPT2	comp=Z,2µm,32.2s				*e*LR		LR	17 58 23.2	
	comp=Z,1µm,22.2s								
M27K	**Edge Creek, AK**	**71.60**	**28**		IAmb		IAmb	17 36 38.9	
	comp=Z,25nm,1.1s								
M27K					IAMs_20		IAMs_20	18 05 37.7	
	comp=Z,2µm,22.0s								
M27K	**Edge Creek, AK**	**71.60**	**28**		P		**P**	**17 36 36.2**	**+0.3**
	baz=261,SNR=26								
G26K	**Porcupine Rive**	**71.62**	**23**		IAmb		IAmb	17 36 39.2	
	comp=Z,27nm,0.9s								
G26K					IAMs_20		IAMs_20	18 12 60.0	
	comp=Z,2µm,21.0s								
G26K	**Porcupine Rive**	**71.62**	**23**		P		**P**	**17 36 36.9**	**+1.2**
	baz=258,SNR=18								
F26K	**Sheenjek River**	**71.65**	**22**		IAmb		IAmb	17 36 39.5	
	comp=Z,35nm,0.9s								
F26K	**Sheenjek River**	**71.65**	**22**		P		**P**	**17 36 36.8**	**+0.9**
	baz=257,SNR=42								
CTG	**Chitna Glacier**	**71.66**	**30**		P		**P**	**17 36 37.0**	**+0.8**
	baz=262,SNR=19								
CTGM	**Chitina Glacie**	**71.66**	**30**		IAMs_20		IAMs_20	18 06 09.2	
	comp=Z,2µm,22.0s								
TABL	**Table Mountain**	**71.68**	**30**		IAMs_20		IAMs_20	18 13 36.0	
	comp=Z,2µm,21.0s								
L27K	**Beaver Creek,**	**71.73**	**27**		IAMs_20		IAMs_20	18 13 40.1	
	comp=Z,2µm,21.0s								
L27K	**Beaver Creek,**	**71.73**	**27**		P		**P**	**17 36 37.1**	**+0.6**
	baz=261,SNR=24								
BCAR	**Beaver Creek A**	**71.75**	**27**		P		**P**	**17 36 37.2**	**+0.5**
K27K	**Chicken**	**71.78**	**26**		IAMs_20		IAMs_20	18 05 37.3	
	comp=Z,2µm,22.0s								
K27K	**Chicken**	**71.78**	**26**		P		**P**	**17 36 37.3**	**+0.6**
	baz=260								
LOGN	**Logan Glacier**	**71.80**	**30**		IAmb		IAmb	17 36 40.4	
	comp=Z,31nm,0.9s								
C26K	**Camden Bay**	**71.89**	**20**		P		**P**	**17 36 38.3**	**+1.1**
	baz=256								
PCA	**Pinnacle**	**72.08**	**31**		IAmb		IAmb	17 36 41.9	
	comp=Z,28nm,0.9s								
BVCY	**Beaver Creek**	**72.08**	**28**		P		**P**	**17 36 39.4**	**+0.8**
	baz=262,SNR=6.3								
PINM	**Pinnacle**	**72.08**	**31**		P		**P**	**17 36 39.2**	**+0.5**
	baz=263,SNR=6.8								
YUK3	**Moose Creek**	**72.18**	**29**		P		**P**	**17 36 39.8**	**+0.4**
	baz=263,SNR=31								
O28M	**Mount Upton**	**72.19**	**30**		IAmb		IAmb	17 36 43.0	
	comp=Z,32nm,0.9s								
O28M	**Mount Upton**	**72.19**	**30**		P		**P**	**17 36 40.3**	**+0.8**
	baz=263,SNR=19								
C27K	**Jago River**	**72.23**	**20**		IAmb		IAmb	17 36 42.6	
	comp=Z,30nm,0.8s								
C27K					IAMs_20		IAMs_20	18 14 16.8	
	comp=Z,1µm,20.0s								
C27K	**Jago River**	**72.23**	**20**		P		**P**	**17 36 40.0**	**+0.7**
	baz=257,SNR=10								
I27K	**Kandik River**	**72.23**	**25**		P		**P**	**17 36 39.1**	**-0.4**
	baz=260,SNR=8.0								
H27K	**Steamboat Moun**	**72.38**	**24**		IAMs_20		IAMs_20	18 08 51.9	
	comp=Z,2µm,20.0s								
H27K	**Steamboat Moun**	**72.38**	**24**		P		**P**	**17 36 40.8**	**+0.5**
	baz=263,SNR=47								
G27K	**Doyon Strip**	**72.42**	**24**		IAMs_20		IAMs_20	18 07 02.1	
	comp=Z,2µm,21.0s								
G27K	**Doyon Strip**	**72.42**	**24**		P		**P**	**17 36 41.3**	**+0.7**
	baz=260,SNR=9.4								
YUK8	**Steele Glacier**	**72.45**	**29**		P		**P**	**17 36 41.9**	**+0.8**
	baz=263,SNR=13								
PNL	**Peninsula**	**72.46**	**31**		P		**P**	**17 36 44.1**	**+3.2**
PNL	**Peninsula**	**72.46**	**31**		P		**P**	**17 36 40.9**	**0.0**
	baz=264,SNR=6.7								
E27K	**Coleen River**	**72.69**	**22**		P		**P**	**17 36 43.0**	**+0.9**
	baz=260,SNR=12								
I28M	**Miner Creek**	**72.90**	**25**		P		**P**	**17 36 44.1**	**+0.6**
	baz=262,SNR=23								
O29M	**Mount Kennedy**	**72.93**	**30**		IAmb		IAmb	17 36 47.2	
	comp=Z,33nm,1.1s								
O29M	**Mount Kennedy**	**72.93**	**30**		P		**P**	**17 36 45.1**	**+1.3**
	baz=265,SNR=15								
DAWY	**Dawson**	**72.95**	**27**		IAmb		IAmb	17 36 47.0	
	comp=Z,34nm,1.1s								
DAWY	**Dawson**	**72.95**	**27**		P		**P**	**17 36 44.7**	**+0.9**
	baz=263,SNR=26								
YUK4	**Talbot Arm**	**73.00**	**29**		P		**P**	**17 36 46.2**	**+1.9**
	baz=264,SNR=6.8								
YUK6	**Outpost Mounta**	**73.10**	**30**		P		**P**	**17 36 45.9**	**+1.0**
	baz=265,SNR=6.1								
D27M	**Malcolm River**	**73.11**	**21**		IAmb		IAmb	17 36 47.5	
	comp=Z,36nm,1.1s								
D27M	**Malcolm River**	**73.11**	**21**		P		**P**	**17 36 45.5**	**+0.9**
	baz=260,SNR=9.0								
M29M	**Somme Creek**	**73.19**	**28**		IAmb		IAmb	17 36 48.9	
	comp=Z,29nm,1.0s								
M29M					IAMs_20		IAMs_20	18 13 24.7	
	comp=Z,2µm,22.0s								
M29M	**Somme Creek**	**73.19**	**28**		P		**P**	**17 36 46.1**	**+0.8**
	baz=264,SNR=45								
F28M	**Old Crow**	**73.24**	**23**		IAmb		IAmb	17 36 48.7	
	comp=Z,26nm,0.8s								
F28M					IAMs_20		IAMs_20	18 13 49.6	
	comp=Z,2µm,20.0s								
F28M	**Old Crow**	**73.24**	**23**		P		**P**	**17 36 45.9**	**+0.5**
	baz=261,SNR=20								
P29M	**Windy Craggy**	**73.30**	**31**		IAmb		IAmb	17 36 49.2	
	comp=Z,32nm,1.1s								
P29M	**Windy Craggy**	**73.30**	**31**		P		**P**	**17 36 46.9**	**+1.0**
	baz=266,SNR=15								
L29M	**L29M**	**73.41**	**28**		IAmb		IAmb	17 36 50.3	
	comp=Z,50nm,1.0s								
L29M					IAMs_20		IAMs_20	18 15 19.4	
	comp=Z,2µm,22.0s								
L29M	**L29M**	**73.41**	**28**		P		**P**	**17 36 47.7**	**+1.2**
	baz=264,SNR=46								
HYT	**Haines Junctio**	**73.50**	**30**		IAmb		IAmb	17 36 51.0	
	comp=Z,36nm,0.9s								
HYT	**Haines Junctio**	**73.50**	**30**		P		**P**	**17 36 47.9**	**+0.8**
	baz=266,SNR=38								
E28M	**Babbage River**	**73.51**	**22**		IAmb		IAmb	17 36 50.0	
	comp=Z,56nm,1.2s								
E28M					IAMs_20		IAMs_20	18 15 26.7	
	comp=Z,1µm,20.0s								
E28M	**Babbage River**	**73.51**	**22**		P		**P**	**17 36 47.5**	**+0.6**
	baz=261,SNR=21								
I29M	**Ogilvie Camp,**	**73.57**	**25**		IAmb		IAmb	17 36 50.3	
	comp=Z,32nm,1.1s								
I29M	**Ogilvie Camp,**	**73.57**	**25**		P		**P**	**17 36 47.7**	**+0.3**
	baz=264,SNR=22								
H29M	**Whitestone**	**73.64**	**24**		IAmb		IAmb	17 37 17.6	
	comp=Z,40nm,1.2s								
H29M					IAMs_20		IAMs_20	18 08 43.3	
	comp=Z,2µm,20.0s								
H29M	**Whitestone**	**73.64**	**24**		P		**P**	**17 36 48.4**	**+0.7**
	baz=263,SNR=9.2								
TBI	**Tubuai**	**73.71**	**119**		*e*P		**P**	**17 36 52.4**	**+3.5**
	comp=Z,456nm,24.0s								
TBI					*e*S		**SKiKP**	**17 46 12.8**	**-4.7**
TBI	comp=Z,4µm,29.5s				*e*SS		**SS**	**17 51 02.0**	**-0.8**
TBI	comp=Z,1µm,31.5s				*e*LQ		LQ	17 56 04.1	
TBI	comp=Z,4µm,37.0s				*e*LR		LR	17 59 09.0	
TBI	comp=Z,9µm,33.2s				*e*LR		LR	17 59 13.6	
	comp=Z,2µm,32.5s								
P30M	**Million Dollar**	**73.72**	**31**		P		**P**	**17 36 49.2**	**+0.8**
	baz=266								
K29M	**Barlow Dome**	**73.75**	**27**		IAmb		IAmb	17 36 52.1	
	comp=Z,41nm,0.9s								
K29M					IAMs_20		IAMs_20	18 07 10.4	
	comp=Z,2µm,22.0s								
K29M	**Barlow Dome**	**73.75**	**27**		P		**P**	**17 36 50.1**	**+1.5**
	baz=265,SNR=53								
N30M	**Aishikik Lake**	**73.75**	**29**		IAMs_20		IAMs_20	18 15 19.7	
	comp=Z,2µm,21.0s								
N30M	**Aishikik Lake**	**73.75**	**29**		P		**P**	**17 36 49.1**	**+0.5**
	baz=266,SNR=27								
G29M	**Pine Creek**	**73.86**	**24**		IAMs_20		IAMs_20	18 09 36.0	
	comp=Z,2µm,20.0s								
G29M	**Pine Creek**	**73.86**	**24**		P		**P**	**17 36 49.7**	**+0.7**
	baz=263,SNR=24								
D28M	**Stokes Point**	**73.90**	**21**		P		**P**	**17 36 48.2**	**-0.9**
	baz=266								
M30M	**Minto, Yukon**	**73.97**	**28**		IAMs_20		IAMs_20	18 14 30.4	
	comp=Z,2µm,21.0s								
M30M	**Minto, Yukon**	**73.97**	**28**		P		**P**	**17 36 50.3**	**+0.5**
	baz=266,SNR=31								
PLBC	**Pleasant Camp**	**73.99**	**31**		P		**P**	**17 36 51.2**	**+1.3**
	baz=267,SNR=24								
S31K	**Pelican**	**73.99**	**33**		IAMs_20		IAMs_20	18 15 00.1	
	comp=Z,1µm,20.0s								
S31K	**Pelican**	**73.99**	**33**		P		**P**	**17 36 51.1**	**+1.2**
	baz=268								
E29M	**Blow River**	**74.08**	**22**		P		**P**	**17 36 50.8**	**+0.6**
	baz=263,SNR=12								
O30N	**Mendenhall**	**74.19**	**30**		P		**P**	**17 36 52.0**	**+0.8**
	baz=267,SNR=9.0								
EPYK	**Eagle Plains**	**74.32**	**24**		IAmb		IAmb	17 36 54.2	
	comp=Z,58nm,1.2s								
EPYK					IAMs_20		IAMs_20	18 08 52.3	
	comp=Z,2µm,20.0s								
EPYK	**Eagle Plains**	**74.32**	**24**		P		**P**	**17 36 52.2**	**+0.5**
	baz=265,SNR=9.6								
J30M	**Hart River**	**74.33**	**26**		IAMs_20		IAMs_20	18 06 55.7	
	comp=Z,2µm,22.0s								
J30M	**Hart River**	**74.33**	**26**		P		**P**	**17 36 52.8**	**+0.8**
	baz=266,SNR=24								
I30M	**Mount Dempster**	**74.36**	**25**		IAMs_20		IAMs_20	18 08 46.5	
	comp=Z,1µm,20.0s								
I30M	**Mount Dempster**	**74.36**	**25**		P		**P**	**17 36 52.6**	**+0.5**
	baz=265,SNR=17								
N31M	**Braeburn, Yuko**	**74.38**	**29**		IAmb		IAmb	17 36 56.0	
	comp=Z,33nm,1.0s								
N31M					IAMs_20		IAMs_20	18 15 27.3	
	comp=Z,2µm,21.0s								
N31M	**Braeburn, Yuko**	**74.38**	**29**		P		**P**	**17 36 53.4**	**+1.2**
	baz=267,SNR=25								
SIT	**Sitka**	**74.45**	**34**		P		**P**	**17 36 53.2**	**+0.7**
	baz=269								
SKAG	**Skagway**	**74.52**	**31**		P		**P**	**17 36 55.8**	**+2.9**
SKAG	**Skagway**	**74.52**	**31**		P		**P**	**17 36 54.0**	**+1.1**
	baz=268,SNR=8.7								
G30M	**tAoh Zraii Nji**	**74.57**	**24**		IAmb		IAmb	17 36 56.0	
	comp=Z,50nm,1.0s								
G30M					IAMs_20		IAMs_20	18 15 16.9	
	comp=Z,2µm,21.0s								
G30M	**tAoh Zraii Nji**	**74.57**	**24**		P		**P**	**17 36 53.3**	**+0.1**
	baz=265,SNR=18								
WHY	**Whitehorse**	**74.78**	**30**		P		**P**	**17 36 55.7**	**+1.1**
	baz=268,SNR=26								
F30M	**Barrier River**	**74.79**	**23**		IAMs_20		IAMs_20	18 16 16.7	
	comp=Z,2µm,22.0s								
F30M	**Barrier River**	**74.79**	**23**		P		**P**	**17 36 55.1**	**+0.7**
	baz=265,SNR=15								
S32K	**Killisnoo**	**74.86**	**34**		IAMs_20		IAMs_20	18 13 21.3	
	comp=Z,2µm,21.0s								
S32K	**Killisnoo**	**74.86**	**34**		P		**P**	**17 36 55.6**	**+0.7**
	baz=269,SNR=9.5								
R32K	**Eaglecrest**	**74.90**	**33**		P		**P**	**17 36 56.6**	**+1.3**
	baz=269,SNR=5.6								
JIS	**Juneau Island**	**74.98**	**33**		P		**P**	**17 36 57.6**	**+2.0**
M31M	**Drury Creek, Y**	**75.07**	**29**		IAMs_20		IAMs_20	18 08 33.5	
	comp=Z,1µm,22.0s								
M31M	**Drury Creek, Y**	**75.07**	**29**		P		**P**	**17 36 57.4**	**+1.2**
	baz=268,SNR=22								
H31M	**Peel River**	**75.25**	**25**		IAmb		IAmb	17 37 00.2	
	comp=Z,43nm,1.0s								
H31M	**Peel River**	**75.25**	**25**		P		**P**	**17 36 57.4**	**+0.3**
	baz=267,SNR=14								
G31M	**Satah River**	**75.33**	**24**		IAMs_20		IAMs_20	18 15 28.0	
	comp=Z,2µm,21.0s								
G31M	**Satah River**	**75.33**	**24**		P		**P**	**17 36 57.7**	**+0.2**
	baz=267,SNR=22								
P32M	**Atlin**	**75.34**	**31**		P		**P**	**17 36 59.1**	**+1.3**
	baz=269,SNR=12								
F31M	**Tsiigehtchic**	**75.57**	**23**		IAmb		IAmb	17 37 00.7	
	comp=Z,31nm,1.1s								
F31M					IAMs_20		IAMs_20	18 07 18.1	
	comp=Z,1µm,22.0s								
F31M	**Tsiigehtchic**	**75.57**	**23**		P		**P**	**17 36 58.3**	**-0.5**
	baz=267,SNR=7.2								
U33K	**Whale Pass**	**75.66**	**35**		IAmb		IAmb	17 37 03.0	
	comp=Z,34nm,1.2s								
U33K					IAMs_20		IAMs_20	18 15 48.5	
	comp=Z,2µm,20.0s								
U33K	**Whale Pass**	**75.66**	**35**		P		**P**	**17 37 01.1**	**+1.5**
	baz=271								
CRAG	**Craig**	**75.67**	**36**		IAmb		IAmb	17 37 03.1	
	comp=Z,51nm,1.4s								
CRAG	**Craig**	**75.67**	**36**		P		**P**	**17 37 02.0**	**+2.4**
CRAG	**Craig**	**75.67**	**36**		P		**P**	**17 37 01.1**	**+1.5**
	baz=271,SNR=5.7								
N32M	**Quiet Lake**	**75.67**	**30**		IAmb		IAmb	17 37 03.2	
	comp=Z,40nm,0.8s								
N32M	**Quiet Lake**	**75.67**	**30**		P		**P**	**17 37 00.5**	**+0.8**
	baz=269								
INK	**Inuvik**	**75.69**	**22**		IAmb		IAmb	17 37 02.0	
	comp=Z,32nm,0.9s								
INK	**Inuvik**	**75.69**	**22**		P		**P**	**17 36 59.4**	**-0.1**
	baz=267,SNR=9.9								
P33M	**Teslin, Yukon**	**75.80**	**31**		P		**P**	**17 37 01.3**	**+0.9**
	baz=270,SNR=21								
Q32M	**Nakina River**	**76.08**	**32**		P		**P**	**17 37 04.0**	**+1.8**
	baz=271,SNR=12								
WRAK	**Wrangell Islan**	**76.09**	**35**		IAMs_20		IAMs_20	18 16 02.8	
	comp=Z,2µm,20.0s								
WRAK	**Wrangell Islan**	**76.09**	**35**		P		**P**	**17 37 03.1**	**+1.1**
	baz=271,SNR=7.3								
DIB	**Dawson Inlet,**	**76.10**	**38**		IAmb		IAmb	17 37 07.9	
	comp=Z,39nm,1.0s								
SVE	**Sverdlovsk**	**76.41**	**326**		*e*P		**P**	**17 37 04.0**	**+0.1**
SVE					*e*S		**S**	**17 46 53.2**	**+5.5**
SVE	comp=Z,70nm,1.1s				pmax		pmax		
SVE	comp=Z,3µm,18.0s				MLR		MLR		
V35K	**Ketchikan**	**76.53**	**36**		P		**P**	**17 37 06.1**	**+1.6**
	baz=272								
MMPY	**Sheldon Lake,**	**76.53**	**28**		IAmb		IAmb	17 37 07.7	
	comp=Z,42nm,1.4s								
MMPY	**Sheldon Lake,**	**76.53**	**28**		P		**P**	**17 37 05.7**	**+1.1**
	baz=271,SNR=17								
S34M	**Telegraph Cree**	**76.71**	**33**		IAmb		IAmb	17 37 09.1	
	comp=Z,27nm,1.0s								
S34M					IAMs_20		IAM

comp=Z,37nm,1.6s
MHTO MHTO 82.44 290 P **P** 17 37 37.2 -0.3
SNR=7.5
MHTO P **P** 17 37 37.2 -0.3
SNR=7.5
HOQ Hoqain 82.58 292 P **P** 17 37 38.2 0.0
SNR=7.7
HOQ P **P** 17 37 38.2 0.0
SNR=7.7
BSY Bisya 82.83 292 P **P** 17 37 40.2 +0.7
BSY P **P** 17 37 40.2 +0.7
LLLB Lillooet 82.91 40 IAmb IAmb 17 37 48.2
comp=Z,40nm,1.2s
DQM DQM 83.03 289 P **P** 17 37 41.6 +1.1
DQM P **P** 17 37 41.6 +1.1
COR Corvallis 83.06 46 P **P** 17 37 41.4 +1.2
COR Corvallis 83.06 46 P **P** 17 37 41.4 +1.2
COR pmax pmax
comp=Z,46nm,1.1s
COR MLR MLR
comp=Z,3µm,20.0s
SOHO SOHO 83.18 293 P **P** 17 37 41.4 +0.1
SOHO P **P** 17 37 41.4 +0.1
MDH Madha 83.19 294 P **P** 17 37 41.1 -0.1
MASF Masafi 83.30 294 P **P** 17 37 42.0 +0.1
MASF P **P** 17 37 42.0 +0.1
UOSS Minazif 83.33 294 P **P** 17 37 42.2 +0.2
ARQ Araqi 83.34 292 P **P** 17 37 42.4 +0.3
SNR=5.9
ARQ P **P** 17 37 42.4 +0.3
SNR=5.9
HATD Hatta, Dubai 83.42 294 P **P** 17 37 42.6 +0.1
HATD P **P** 17 37 42.6 +0.1
ASHO Ashiyiah 83.51 294 P **P** 17 37 44.2 +1.2
ASHO P **P** 17 37 44.2 +1.2
BBOR Butler Butte 83.82 48 IAmb IAmb 17 37 48.5
comp=Z,26nm,1.1s
ALNE Al Ain 83.90 293 P **P** 17 37 45.5 +0.5
ALNE P **P** 17 37 45.5 +0.5
YBH Yreka Blue Hor 84.01 49 P **P** 17 37 47.1 +1.8
comp=Z,2.5nm,1.0s,baz=276,slow=2.0,SNR=44
comp=Z,2.5nm,1.0s
YKAW3 Yellowknife Wh 84.15 27 IAmb IAmb 17 37 47.8
comp=Z,26nm,0.9s
YKA Yellowknife Ar 84.17 27 P **P** 17 37 45.6 +0.1
YKA Yellowknife Ar 84.17 27 P **P** 17 37 46.1 +0.6
comp=Z,11nm,0.9s,baz=291,slow=5.9,SNR=35
comp=Z,11nm,0.9s
YKA Yellowknife Ar 84.17 27 *i* P **P** 17 37 47.5 +2.0
YKA pmax pmax
comp=Z,12nm,0.9s
ASUD Al Ashush, Dub 84.17 294 P **P** 17 37 47.2 +0.9
ASUD P **P** 17 37 47.2 +0.9
YKAW1 Yellowknife Wh 84.23 27 IAmb IAmb 17 37 48.3
comp=Z,22nm,0.9s
HOPS Hopland Field 84.27 51 IAMs_20 IAMs_20 18 22 58.9
comp=Z,1µm,19.0s
LTY Liberty 84.34 43 IAmb IAmb 17 37 53.3
comp=Z,20nm,0.9s
BELG Belogornoye 84.47 322 *c i* P **P** 17 37 45.1 -2.1
BELG pmax pmax
comp=Z,43nm,1.2s
I05D Terrebonne, OR 84.48 46 IAmb IAmb 17 37 51.7
comp=Z,26nm,1.1s
FARB Farallon Islan 84.57 53 IAMs_20 IAMs_20 18 21 55.1
comp=Z,2µm,20.0s
MCCM Marconi Confer 84.58 52 IAMs_20 IAMs_20 18 22 05.2
comp=Z,1µm,19.0s
MXC Moxie City 84.74 44 IAmb IAmb 17 37 52.8
comp=Z,17nm,1.0s
MNRC McLaughlin Min 84.77 52 IAMs_20 IAMs_20 18 23 14.2
comp=Z,2µm,18.0s
G06A Carlson Farm, 84.79 45 IAmb IAmb 17 37 52.4
comp=Z,20nm,1.1s
CVS Carmenet Viney 84.87 52 IAMs_20 IAMs_20 18 20 42.7
comp=Z,1µm,20.0s
TULE Intermountain 84.88 48 IAMs_20 IAMs_20 18 20 56.7
comp=Z,1µm,20.0s
O03E Paynes Creek 84.97 50 IAMs_20 IAMs_20 18 22 05.3
comp=Z,1µm,19.0s
E07A Sunnyside 85.04 44 IAmb IAmb 17 37 54.4
comp=Z,26nm,1.0s
HATC Hat Creek Radi 85.12 49 IAMs_20 IAMs_20 18 21 22.2
comp=Z,2µm,20.0s
WAH2 Wahluke Slope 85.19 43 IAmb IAmb 17 37 55.0
comp=Z,35nm,1.0s
SPITS Spitsbergen Ar 85.23 351 P **P** 17 37 48.6 -2.0
comp=Z,14nm,0.9s,baz=52,slow=7.5,SNR=7.3
comp=Z,14nm,0.9s
SPITS Spitsbergen Ar 85.23 351 P **P** 17 37 51.4 +0.7
SPITS pmax pmax
comp=Z,57nm,1.3s
HAWA Hanford 85.29 44 IAmb IAmb 17 37 55.1
comp=Z,30nm,1.1s
HAWA IAMs_20 IAMs_20 18 22 30.2
comp=Z,1µm,20.0s
ORV Oroville 85.35 51 IAmb IAmb 17 37 55.8
comp=Z,24nm,1.1s
KBS Kingsbay 85.39 352 IAMs_20 IAMs_20 18 21 09.5
comp=Z,1µm,20.0s
D08A Wollman Farm, 85.55 43 IAmb IAmb 17 37 56.2
comp=Z,37nm,1.2s
YPT Yellepit 85.76 44 IAmb IAmb 17 37 57.5
comp=Z,42nm,1.3s
NOR Nord 85.78 357 *i* P **P** 17 37 50.9 -2.4
NOR IAmb IAmb 17 37 55.4
comp=Z,25nm,1.3s
C09A Chrisman Ranch 85.81 42 IAmb IAmb 17 37 57.9
comp=Z,36nm,0.9s
AFDM Forest Hills D 85.88 51 IAmb IAmb 17 38 09.3
comp=Z,19nm,0.8s
MTOS Mt Oso, Westle 85.91 53 IAMs_20 IAMs_20 18 22 16.5
comp=Z,2µm,22.0s
LVZ Lovozero 85.93 339 P **P** 17 37 52.9 -1.4
LVZ IAMs_20 IAMs_20 18 20 48.5
comp=Z,1µm,20.0s
LVZ Lovozero 85.93 339 *de* P **P** 17 37 53.9 -0.4
LVZ pmax pmax
comp=Z,22nm,1.2s
SAO San Andreas Ge 85.98 53 IAMs_20 IAMs_20 18 22 35.4
comp=Z,2µm,19.0s
SCZ Santa Cruz 86.05 54 IAMs_20 IAMs_20 18 22 18.2
comp=Z,2µm,18.0s
BEKR Beckworth 86.14 50 IAmb IAmb 17 37 60.0
comp=Z,28nm,0.9s
MZR Muzera 86.15 293 P **P** 17 37 56.6 +0.3
SNR=7.5
MZR P **P** 17 37 56.6 +0.3
SNR=7.5
LNOR Lincton Mounta 86.26 44 IAmb IAmb 17 38 05.2
comp=Z,29nm,1.3s
HULI Fort Hunter Li 86.30 54 IAMs_20 IAMs_20 18 21 49.0
comp=Z,1µm,20.0s
JRN Qarnain Island 86.32 295 P **P** 17 37 58.1 +1.1
JRN P **P** 17 37 58.1 +1.1
DOK Doka 86.44 288 P **P** 17 37 58.1 +0.4
DOK P **P** 17 37 58.1 +0.4
NEW Newport 86.45 41 IAMs_20 IAMs_20 18 21 13.5
comp=Z,2µm,18.0s
NEW Newport 86.45 41 P **P** 17 37 58.5 +1.2
comp=Z,52nm,0.8s,baz=274,slow=4.5,SNR=67
comp=Z,52nm,0.8s
KLMR Klimovskoe 86.47 332 *e* P **P** 17 37 54.7 -2.3
KLMR pmax pmax
comp=Z,32nm,0.9s
GHWR Ruwais 86.50 294 P **P** 17 37 58.5 +0.5
GHWR P **P** 17 37 58.5 +0.5
APA Apatity 86.50 339 *e* P **P** 17 37 54.4 -2.7
APA *e* SS **SKSac** 17 48 14.9 -7.0
APA *e* SS **SS** 17 54 07.2 -4.3
APA MLR MLR
comp=Z,1µm,23.9s
CMB Columbia Colle 86.53 52 IAmb IAmb 17 38 01.9
comp=Z,19nm,0.9s
RBK Rabkut 86.59 287 P **P** 17 37 59.0 +0.4
RBK P **P** 17 37 59.0 +0.4
PMPB Monarch Peak 86.61 54 IAmb IAmb 17 38 13.9
comp=Z,29nm,1.0s
RAMR Ramage Ranch 86.68 54 IAMs_20 IAMs_20 18 18 32.9
comp=Z,2µm,20.0s
MAK Makhachkala 86.72 313 *e* P **P** 17 37 56.1 -2.5
MAK *e* 17 41 16.4
MAK *e* PPP PPP 17 43 11.1
MAK *e* 17 48 19.5
MAK *e* SS SS 17 54 16.2 +0.1
MAK pmax pmax
comp=Z,153nm,1.0s
J08A Circle Bar Ran 86.72 46 IAmb IAmb 17 38 03.4
comp=Z,38nm,1.0s
WVOR Wild Horse Val 86.83 47 IAmb IAmb 17 38 03.5
comp=Z,26nm,1.1s
AKT Akhty 86.91 312 *e* P **P** 17 37 57.2 -2.6
AKT *e* 17 41 19.7
AKT *e* S **SKSac** 17 48 20.5 -5.2
AKT pmax pmax
comp=Z,57nm,1.0s
AKT MLR MLR
comp=Z,2µm,20.0s
PAHR Pah Rah Range 86.91 50 IAmb IAmb 17 38 04.6
comp=Z,41nm,1.3s
WHFO Wadi Hawf 86.92 288 P **P** 17 38 00.1 -0.1
WAKR Walker 87.15 51 IAmb IAmb 17 38 06.5
comp=Z,19nm,1.0s
BMO Blue Mountains 87.17 45 IAMs_20 IAMs_20 18 23 05.1
comp=Z,2µm,20.0s
ABTO Aybut 87.47 287 P **P** 17 38 02.5 -0.3
ABTO P **P** 17 38 02.5 -0.3
SLWR Sila 87.53 294 P **P** 17 38 04.6 +1.6
SLWR P **P** 17 38 04.6 +1.6
SHMA Al-Shehemyia 87.80 296 P **P** 17 38 06.5 +2.3
RYN Ryan 87.82 51 IAmb IAmb 17 38 08.7
comp=Z,24nm,1.0s
TRNA Turayna 87.82 295 P **P** 17 38 05.4 +1.0
LHV Little Huntoon 87.92 51 IAmb IAmb 17 38 09.4
comp=Z,28nm,1.1s
PLID Pearl Lake 88.01 44 IAMs_20 IAMs_20 18 23 12.2
comp=Z,1µm,20.0s
NVAR Mina Array Bea 88.03 51 P **P** 17 38 06.9 +1.5
comp=Z,18nm,0.8s,baz=288,slow=5.3,SNR=68
comp=Z,18nm,0.8s
NV11 Mina Array Sit 88.14 51 IAmb IAmb 17 38 10.2
comp=Z,27nm,1.0s
SAKB Bahrain 88.15 296 P **P** 17 38 06.4 +0.5
ARA0 ARCESS Array S 88.16 342 *eP* **P** 17 38 04.7 -0.4
ARCES ARCESS Array B 88.16 342 P **P** 17 38 04.3 -0.8
ARCES IAmb IAmb 17 38 08.7
comp=Z,19nm,1.1s
ARCES ARCESS Array B 88.16 342 P **P** 17 38 03.3 -1.7
comp=Z,5.9nm,0.7s,baz=59,slow=4.5,SNR=52
ARCES PKiKP **PKiKP** 17 43 05.7 -0.9
comp=Z,1.1nm,0.7s,baz=64,slow=2.1,SNR=4.6
comp=Z,5.9nm,0.7s
SMRA Abu-Samra 88.16 295 P **P** 17 38 06.5 +0.5
VRH Novokhopyorsk 88.32 322 *eP* **P** 17 38 04.4 -1.8
VRH pmax pmax
comp=Z,47nm,0.8s
VRH MLR MLR
comp=Z,3µm,19.0s
DSP Deep Springs 88.55 52 IAmb IAmb 17 38 12.3
comp=Z,22nm,1.0s
MSO Missoula 88.91 42 IAMs_20 IAMs_20 18 23 40.7
comp=Z,1µm,20.0s
GMN Gold Mountain 89.11 52 IAmb IAmb 17 38 14.8
comp=Z,18nm,0.9s
KTK1 Kautokeino 89.12 342 *eP* **P** 17 38 07.8 -1.9
MOS Moscow 89.15 327 *eP* **P** 17 38 09.0 -1.0
MOS pmax pmax
comp=Z,88nm,1.0s
MOS MLR MLR
comp=Z,2µm,18.0s
MOS MLR MLR
comp=E,2µm,17.0s
TULEG Thule 89.16 7 *i* P **P** 17 38 10.2 +0.6
TULEG IAmb IAmb 17 38 11.6
comp=Z,47nm,1.0s
PASC Pasadena Art C 89.16 55 IAmb IAmb 17 38 14.5
comp=Z,22nm,1.1s
PASC IAMs_20 IAMs_20 18 23 11.9
comp=Z,2µm,19.0s
CLC China Lake 89.22 54 IAmb IAmb 17 38 15.2
comp=Z,25nm,1.0s
LRMC Laurel Mtn Rad 89.24 54 IAmb IAmb 17 38 15.4
comp=Z,24nm,0.9s
MWC Mount Wilson 89.25 55 IAmb IAmb 17 38 15.3
comp=Z,39nm,1.3s
NCK Nalchik 89.34 314⇑ *eP* **P** 17 38 11.4 +0.2
NCK pmax pmax
comp=Z,23nm,1.0s
GNI Garni 89.44 311⇓ *eP* **P** 17 38 12.3 +0.4
GNI pmax pmax
comp=Z,33nm,1.5s
LPSR Galich'ya Gora 89.51 324 *eP* **P** 17 38 10.4 -1.3
LPSR pmax pmax
comp=Z,76nm,0.9s
LPSR MLR MLR
comp=Z,2µm,18.0s
HLID Hailey 89.52 46 IAmb IAmb 17 38 16.4
comp=Z,23nm,0.9s
HLID IAMs_20 IAMs_20 18 24 29.3
comp=Z,2µm,19.0s
JETT Jettan, Norway 89.64 343 *eP* **P** 17 38 11.0 -1.1
VORR Voronezh 89.66 323 *eP* **P** 17 38 09.5 -3.0
VORR pmax pmax
comp=Z,40nm,0.9s
ELK Elko 89.72 48 P **P** 17 38 15.5 +2.1
comp=Z,32nm,0.9s,baz=284,slow=5.9,SNR=91
comp=Z,32nm,0.9s
WCT Wildcat Mounta 89.73 52 IAmb IAmb 17 38 17.6
comp=Z,33nm,1.0s
QSM Queen of Sheba 89.76 53 IAmb IAmb 17 38 17.6
comp=Z,28nm,0.9s
KBZ Khabaz 89.76 315 P **P** 17 38 13.0 -0.1
comp=Z,17nm,0.9s,baz=74,slow=4.3,SNR=8.4
comp=Z,17nm,0.9s
KBZ Khabaz 89.76 315 *d i* P **P** 17 38 12.7 -0.4
KBZ pmax pmax
comp=Z,25nm,0.9s
VSR Storozhevoye 89.84 323 *eP* **P** 17 38 09.5 -3.8
VSR pmax pmax
comp=Z,20nm,0.8s
KIV Kislovodsk 89.84 315 P **P** 17 38 12.5 -1.2
KIV IAMs_20 IAMs_20 18 23 19.1
comp=Z,1µm,19.0s
KIV Kislovodsk 89.84 315 *eP* **P** 17 38 12.6 -1.0
KIV *e* 17 41 44.0
KIV *e* 17 48 39.8
KIV *e* SS SS 17 54 58.7 -3.0
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,1µm,20.0s
VORD Divnogorie 89.85 322 *eP* **P** 17 38 11.1 -2.2
VORD pmax pmax
comp=Z,20nm,0.8s
GWY Greenwater Val 89.86 53 IAmb IAmb 17 38 18.2
comp=Z,25nm,1.0s
OBN Obninsk 89.94 327 P **P** 17 38 12.7 -0.9
OBN IAMs_20 IAMs_20 18 22 37.9
comp=Z,2µm,18.0s
OBN Obninsk 89.94 327 *de* P **P** 17 38 12.9 -0.7
OBN *e* PP **sP** 17 38 22.9 +1.0
OBN *e* 17 41 46.2
OBN *e* PPP PPP 17 43 43.6
OBN *e* S **SKSac** 17 48 40.5 -2.4
OBN *e* SS **SS** 17 55 01.2 -0.9
OBN *e* SSS SSS 17 58 37.5
OBN pmax pmax
comp=Z,145nm,1.7s
OBN MLR MLR
comp=Z,1µm,18.0s
NEEM North Greenlan 89.95 3 *i* P **P** 17 38 12.9 -0.8
NEEM IAmb IAmb 17 38 15.4
comp=Z,64nm,1.4s
GSC Goldstone, Bar 89.98 54 IAmb IAmb 17 38 18.8
comp=Z,30nm,0.9s
TPNV Topopah Spring 89.98 52 IAmb IAmb 17 38 18.9
comp=Z,31nm,0.9s
TPNV IAMs_20 IAMs_20 18 25 07.2
comp=Z,2µm,19.0s
TRO Tromso 90.01 343 *eP* **P** 17 38 12.7 -1.0
VNDA Vanda 90.23 176 P **P** 17 38 13.9 -0.6
comp=Z,0.7nm,0.7s,baz=320,slow=5.6,SNR=3.9
DLMT Dillon 90.24 43 IAmb IAmb 17 38 19.4
comp=Z,23nm,1.2s
DLMT IAMs_20 IAMs_20 18 25 35.0
comp=Z,2µm,20.0s
CPE Camp Elliot 90.36 56 IAMs_20 IAMs_20 18 20 21.5
comp=Z,2µm,20.0s
DAG Danmarks Havn 90.52 356 *i* P **P** 17 38 15.0 -1.0
DAG IAmb IAmb 17 38 16.9
comp=Z,16nm,0.8s
PFO Pinyon Flats O 90.69 55 P **P** 17 38 18.9 +1.1
PFO Pinyon Flats O 90.69 55 IAMs_20 IAMs_20 18 24 05.5
comp=Z,2µm,20.0s
PFO Pinyon Flats O 90.69 55 P **P** 17 38 19.3 +1.5
comp=Z,11nm,1.0s,baz=278,slow=5.5,SNR=12
comp=Z,11nm,1.0s
PFO Pinyon Flats O 90.69 55 *ce* P **P** 17 38 19.6 +1.7
PFO pmax pmax
comp=Z,26nm,1.0s
PMD Palm Desert 90.75 55 IAmb IAmb 17 38 22.0
comp=Z,16nm,1.1s
PRN Pahroc Range 90.78 52 IAmb IAmb 17 38 22.9
comp=Z,19nm,1.0s
ERBR Yeremizino-Bor 90.80 317 *eP* **P** 17 38 16.3 -1.6
ERBR *e* *PP **sP** 17 38 25.7 -0.5
ERBR *e* S **SKSac** 17 48 44.9 -3.5
ERBR pmax pmax
comp=Z,96nm,0.8s
ERBR MLR MLR
comp=N,3µm,20.0s
ERBR MLR MLR
comp=Z,3µm,19.0s
ERBR MLR MLR
comp=E,3µm,19.0s
BOZ Bozeman (W) 90.81 43 IAmb IAmb 17 38 34.8
comp=Z,42nm,1.7s
BOZ IAMs_20 IAMs_20 18 26 49.1
comp=Z,1µm,20.0s
SPR3 Spring Creek 3 90.88 50 IAmb IAmb 17 38 23.4
comp=Z,27nm,1.1s
MTPC Mountain Pass 90.92 53 IAmb IAmb 17 38 23.3
comp=Z,22nm,1.0s
SHPR Sheep Range 90.94 52 IAmb IAmb 17 38 23.8
comp=Z,14nm,1.0s
BLKN Baker Lake 91.10 22 IAmb IAmb 17 38 20.8
comp=Z,23nm,1.0s
PUL Pulkovo 91.10 332⇑ *eP* **P** 17 38 19.2 +0.2
PUL pmax pmax
comp=Z,58nm,0.6s
GEVA Gevas 91.20 310 IAmb IAmb 17 38 20.8
comp=Z,16nm,1.0s
HVU Hansel Valley 91.20 47 IAmb IAmb 17 38 24.4
comp=Z,18nm,1.0s
EGMT Eagleton 91.23 40 IAmb IAmb 17 38 24.0
comp=Z,12nm,0.9s
EGMT IAMs_20 IAMs_20 18 22 21.0
comp=Z,1µm,22.0s
BGU Big Grassy Mou 91.28 48 IAmb IAmb 17 38 46.4
comp=Z,34nm,1.9s
PSUT Pine Spring 91.37 50 IAmb IAmb 17 38 25.1
comp=Z,19nm,0.9s
DUG Dugway, Tooele 91.65 48 IAMs_20 IAMs_20 18 25 24.4
comp=Z,1µm,20.0s
VSLR Vesyoloye 91.83 315 *ce* P **P** 17 38 22.5 -0.3
VSLR pmax pmax
comp=Z,62nm,1.1s
FXWY Fox Creek 91.84 45 IAMs_20 IAMs_20 18 25 06.7
comp=Z,2µm,21.0s
TPAW Teton Pass 91.94 45 IAMs_20 IAMs_20 18 25 10.2
comp=Z,2µm,20.0s
SOC Sochi 92.00 315 *eP* P 17 38 18.1 -5.4
SOC *e* PPP PPP 17 43 57.7
SOC *e* S **SKSac** 17 48 49.2 -6.1
SOC *e* SS **SS** 17 55 27.6 -5.1
SOC *e* SSS SSS 17 59 09.6
CCUT Cedar City 92.03 51 IAmb IAmb 17 38 28.8
comp=Z,12nm,0.9s
AHID Auburn Hatcher 92.08 46 IAmb IAmb 17 38 28.1
comp=Z,16nm,0.8s
SNOW Snow King Moun 92.09 45 IAMs_20 IAMs_20 18 25 25.2
comp=Z,2µm,21.0s
HWUT Hardware Ranch 92.12 47 IAmb IAmb 17 38 28.1
comp=Z,16nm,0.9s
HWUT IAMs_20 IAMs_20 18 26 42.1
comp=Z,2µm,19.0s
STEI Steigen 92.13 343 *eP* **P** 17 38 23.0 -0.6
FINES FINESS Array B 92.14 335 P **P** 17 38 22.1 -1.6
FINES FINESS Array B 92.14 335 P **P** 17 38 22.0 -1.8
comp=Z,21nm,0.7s,baz=65,slow=5.0,SNR=152
comp=Z,21nm,0.7s
FINES FINESS Array B 92.14 335 P **P** 17 38 22.1 -1.6
LOHW Long Hollow 92.14 45 IAMs_20 IAMs_20 18 25 36.6
comp=Z,2µm,21.0s
BLYC Blythe 92.21 55 IAmb IAmb 17 38 38.0
comp=Z,21nm,1.1s
LCMT Little Creek M 92.28 52 IAmb IAmb 17 38 29.7
comp=Z,12nm,1.0s
W13A Hualapai Mount 92.33 53 IAmb IAmb 17 38 30.0
comp=Z,18nm,1.0s
LOF Lofoten 92.48 344 *eP* **P** 17 38 22.6 -2.6
FAUS Fauske 92.48 343 *eP* **P** 17 38 24.6 -0.6
JLU Jordanelle 92.52 48 IAmb IAmb 17 38 29.6
comp=Z,15nm,1.1s
RLMT Red Lodge 92.54 43 IAmb IAmb 17 38 30.9
comp=Z,22nm,1.1s
RLMT IAMs_20 IAMs_20 18 27 34.9
comp=Z,956nm,19.0s
KOPT Kop Dagi 92.59 312 IAmb IAmb 17 38 28.5
comp=Z,25nm,1.1s
113A Mohawk Valley, 93.09 56 P **P** 17 38 29.1 +0.3
113A IAmb IAmb 17 39 02.9
comp=Z,23nm,1.5s
FFC Flin Flon 93.10 32 IAMs_20 IAMs_20 18 28 49.5
comp=Z,1µm,20.0s
ANN Anapa 93.14 317 *eP* **P** 17 38 25.1 -3.6
ANN *e* S **SKSac** 17 48 55.8 -5.8
ANN pmax pmax
comp=Z,71nm,1.0s
BW06 Boulder Array 93.15 45 IAMs_20 IAMs_20 18 26 00.2
comp=Z,2µm,20.0s
PDAR Pinedale Array 93.15 45 P **P** 17 38 29.4 +0.2
PDAR Pinedale Array 93.15 45 P **P** 17 38 29.6 +0.4
comp=Z,1.4nm,0.7s,baz=289,slow=5.3,SNR=16
comp=Z,1.4nm,0.7s
RAYN Ar Rayn 93.17 295 P **P** 17 38 28.8 -0.6
RAYN Ar Rayn 93.17 295 P **P** 17 38 28.8 -0.6
RAYN pmax pmax
comp=Z,7.0nm,0.9s
RAYN MLR MLR
comp=Z,1µm,22.0s
U15A North Rim 93.18 52 IAmb IAmb 17 38 34.1
comp=Z,14nm,0.9s
Q16A Castle Valley 93.25 49 IAmb IAmb 17 38 33.4
comp=Z,12nm,1.1s
VSU Vasula 93.36 332 *c i* P **P** 17 38 26.8 -2.6
VSU pmax pmax
comp=Z,43nm,0.9s
Y14A Wickenburg 93.37 54 IAmb IAmb 17 38 35.0
comp=Z,19nm,0.9s
SRU San Rafael Swe 93.67 49 IAmb IAmb 17 38 35.5
comp=Z,10nm,0.8s
LAO LASA Array 93.95 41 IAMs_20 IAMs_20 18 23 33.0
comp=Z,1µm,21.0s
UPNV Upernavik 94.02 6 *i* P **P** 17 38 31.9 -0.3
UPNV IAmb IAmb 17 38 32.9
comp=Z,65nm,1.5s
WUAZ Wupatki 94.17 52 IAmb IAmb 17 38 39.1
comp=Z,19nm,0.9s
WUAZ IAMs_20 IAMs_20 18 23 29.1
comp=Z,2µm,21.0s
DGMT Dagmar 94.51 38 IAmb IAmb 17 38 37.9
comp=Z,15nm,0.9s
DGMT IAMs_20 IAMs_20 18 27 15.5
comp=Z,2µm,20.0s
MNK Minsk 94.75 328 *i* P **P** 17 38 34.3 -1.6
MNK *i* 17 42 21.2
MNK *i* PPP PPP 17 44 23.7
MNK *i* S **SKSac** 17 49 06.8 -3.1
MNK *i* SS **SS** 17 56 10.5 -0.6
MNK *i* SSS SSS 17 59 53.7
MNK pmax pmax
comp=E,14nm,0.9s
MNK pmax pmax
comp=Z,36nm,0.9s
MNK pmax pmax
comp=N,11nm,0.9s
MNK MLR MLR
comp=E,1µm,18.0s
PV21 Cone Mtn., Par 94.99 49 IAmb IAmb 17 38 41.3
comp=Z,11nm,0.9s
PV17 East Wray Mesa 95.10 49 IAmb IAmb 17 38 41.6
comp=Z,16nm,0.9s
PV04 Paradox Valley 95.10 49 IAmb IAmb 17 38 41.8
comp=Z,16nm,1.0s
PV16 Nyswonger Mesa 95.12 49 IAmb IAmb 17 38 41.7
comp=Z,14nm,0.9s
PV03 Paradox Valley 95.19 49 IAmb IAmb 17 38 42.4
comp=Z,12nm,0.9s

PV13	Radium Mtn., P	95.24	49	IAmb	IAmb	17 38 42.6		
	comp=Z,116nm,0.9s							
SIM	Simferopol'	95.27	318	*e*P	P	17 38 38.6	0.0	
SIM				*e*		17 42 28.0		
SIM				*e*PS	PS	17 51 13.0	+0.1	
SIM				pmax	pmax			
	comp=Z,118nm,0.8s							
SIM				pmax	pmax			
	comp=Z,100nm,11.5s							
SUMG	Summit	95.28	1	IAmb	IAmb	17 38 41.5		
	comp=Z,15nm,1.2s							
SUMG				IAMs_20	IAMs_20	18 27 40.6		
	comp=Z,951nm,21.0s							
SUMG	Summit	95.28	1	*i* P	P	17 38 38.0	-0.5	
SUMG				IAmb	IAmb	17 38 41.1		
	comp=Z,12nm,1.1s							
PV01	Paradox Valley	95.44	49	IAmb	IAmb	17 38 43.5		
	comp=Z,9.3nm,0.8s							
HAYD	Hayden	95.55	47	IAMs_20	IAMs_20	18 28 15.7		
	comp=Z,1µm,20.0s							
TUC	Tucson	95.64	55	IAMs_20	IAMs_20	18 26 46.3		
	comp=Z,2µm,19.0s							
AKASG	Malin Array Be	95.81	325	P	P	17 38 36.5	-4.3	
AKASG	Malin Array Be	95.81	325	P	P	17 38 38.7	-2.2	
	comp=Z,3.0nm,0.7s,baz=58,slow=5.3,SNR=18							
	comp=Z,3.0nm,0.7s							
AKASG	Malin Array Be	95.81	325	*i* P	P	17 38 39.7	-1.2	
AKASG				pmax	pmax			
	comp=Z,4.0nm,0.8s							
AKBB	Malin Array Si	95.81	325	*ce*P	P	17 38 39.1	-1.8	
AKBB				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KIEV	Kiev	95.82	325	P	P	17 38 38.8	-2.1	
KIEV	Kiev	95.82	325	IAMs_20	IAMs_20	18 24 37.4		
	comp=Z,2µm,21.0s							
KIEV	Kiev	95.82	325	P	P	17 38 38.8	-2.1	
KIEV				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KIEV				MLR	MLR			
	comp=Z,2µm,21.0s							
RSSD	Black Hills	96.38	42	IAMs_20	IAMs_20	18 30 06.4		
	comp=Z,966nm,19.0s							
ISCO	Idaho Springs	96.98	47	IAMs_20	IAMs_20	18 28 43.0		
	comp=Z,2µm,20.0s							
E28A	Huff	97.47	39	IAMs_20	IAMs_20	18 28 26.8		
	comp=Z,2µm,20.0s							
BR131	Keskin Array S	97.63	313	*de*P	P	17 38 48.5	-1.1	
BRTR	Keskin Array B	97.63	313	P	P	17 38 47.3	-2.3	
BRTR	Keskin Array B	97.63	313	P	P	17 38 48.3	-1.3	
	comp=Z,3.1nm,0.8s,baz=70,slow=3.4,SNR=17							
	comp=Z,3.1nm,0.8s							
BRTR	Keskin Array B	97.63	313	*i* P	P	17 38 49.0	-0.6	
BRTR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
HFS	Hagfors	97.81	338	P	P	17 38 47.3	-2.4	
	comp=Z,4.6nm,0.7s,baz=79,slow=7.5,SNR=28							
	comp=Z,4.6nm,0.7s							
SDCO	Great Sand Dun	97.84	49	IAMs_20	IAMs_20	18 26 39.8		
	comp=Z,2µm,21.0s							
ILULI	Ilulissat	97.94	6	IAMs_20	IAMs_20	18 27 24.1		
	comp=Z,824nm,20.0s							
NB2	NORSAR Subarra	98.08	339	P	P	17 38 49.3	-1.7	
	comp=Z,3.4nm,0.8s,baz=50,slow=4.6							
NOA	NORSAR Array B	98.08	339	P	P	17 38 49.1	-1.9	
	comp=Z,1.8nm,0.7s,baz=50,slow=4.8,SNR=8.3							
	comp=Z,1.8nm,0.7s							
MAW	Mawson	98.10	203	P	Pdif	17 38 51.6	+0.8	
	comp=Z,2.2nm,1.0s,baz=73,slow=11,SNR=4.8							
	comp=Z,2.2nm,1.0s							
ANMO	Albuquerque	98.15	52	P	P	17 38 51.6	-0.5	
ANMO	Albuquerque	98.15	52	P	Pdif	17 38 54.0	+1.9	
	comp=Z,2.2nm,0.7s,baz=252,slow=3.2,SNR=7.2							
	comp=Z,2.2nm,0.7s							
ANMO	Albuquerque	98.15	52	*c i* P	Pdif	17 38 53.5	+1.4	
ANMO				pmax	pmax			
	comp=Z,11nm,3.3s							
MMAI	Mount Meron Ar	98.80	307	P	P	17 38 54.5	-0.4	
	comp=Z,4.8nm,0.8s,baz=76,slow=7.6,SNR=3.2							
	comp=Z,4.8nm,0.8s							
SLBS	Sierra La Lagu	99.00	63	IAMs_20	IAMs_20	18 26 42.2		
	comp=Z,1µm,20.0s							
OGNE	Ogallala	99.04	45	IAMs_20	IAMs_20	18 30 51.0		
	comp=Z,2µm,20.0s							
TIRR	Tirgusor	99.16	319	IAMs_20	IAMs_20	18 33 04.4		
	comp=Z,2µm,21.0s							
EPT	El Paso	99.24	55	IAMs_20	IAMs_20	18 27 29.6		
	comp=Z,1µm,20.0s							
SUSD	Miller	99.53	40	IAMs_20	IAMs_20	18 29 38.4		
	comp=Z,1µm,20.0s							
BURAR	Bucovina Array	99.60	323	P	Pdif	17 38 57.7	-0.5	
KONO	Kongsberg	99.64	339	IAMs_20	IAMs_20	18 28 47.8		
	comp=Z,2µm,21.0s							
K30B	Basset	99.91	42	IAMs_20	IAMs_20	18 30 12.8		
	comp=Z,861nm,20.0s							
MNTX	Cornudas Mount	100.16	54	IAMs_20	IAMs_20	18 29 55.0		
	comp=Z,959nm,20.0s							
MLR	Muntele Rosu	100.22	321	IAMs_20	IAMs_20	18 27 20.2		
	comp=Z,2µm,22.0s							
OJC	Ojcow	101.22	327	*e*P	Pdif	17 39 05.2	0.0	
ECSD	EROS Data Cent	101.35	40	IAMs_20	IAMs_20	18 30 15.6		
	comp=Z,1µm,20.0s							
NIE	Niedzica	101.40	327	*e*P	Pdif	17 39 07.1	+1.0	
BGNE	Belgrade	101.46	43	IAMs_20	IAMs_20	18 31 29.9		
	comp=Z,951nm,20.0s							
CBKS	Cedar Bluff	101.55	46	IAMs_20	IAMs_20	18 31 41.6		
	comp=Z,2µm,20.0s							
RGN	Rugen	101.67	333	IAMs_20	IAMs_20	18 29 11.7		
	comp=Z,2µm,21.0s							
OKC	Ostrava-Krasne	102.30	328	AMS	AMS	18 28 30.0		
	comp=Z,3µm,17.5s							
L34A	Svendsen Farm,	102.36	42	IAMs_20	IAMs_20	18 33 16.6		
	comp=Z,792nm,19.0s							
TXAR	Lajitas Array	102.40	56	P	Pdif	17 39 13.0	+2.0	
	comp=Z,0.6nm,0.8s,baz=317,slow=6.1,SNR=4.6							
TXAR				PKiKP	PKiKP	17 43 31.4	-1.3	
	comp=Z,0.3nm,0.8s,baz=321,slow=5.4,SNR=2.6							
R32A	Long Quarter,	102.44	46	IAMs_20	IAMs_20	18 32 10.2		
	comp=Z,2µm,20.0s							
STEB	Steborice	102.44	328	*e*PDIFF	Pdif	17 39 10.6	0.0	
MORC	Moravsky Berou	102.65	328	*e*PDIFF	Pdif	17 39 10.4	-1.2	
VYHS	Vyhne	102.72	326	*i* P	Pdif	17 39 12.8	+0.9	
VYHS	Vyhne	102.72	326	*e*PDIFF	Pdif	17 39 12.8	+0.9	
OSTC	Ostas	102.86	329	*e*PP	PP	17 43 27.5	+1.5	
OSTC				*e*SKS	SKSac	17 49 52.4	+1.5	
OSTC				AMS	AMS	18 30 30.0		
	comp=Z,2µm,16.5s							
KRLC	Kraliky	102.87	328	AMS	AMS	18 28 50.0		
	comp=Z,1µm,19.0s							
CHVC	Chvalec	102.92	329	AMS	AMS	18 30 30.0		
	comp=Z,2µm,17.4s							
DPC	Dobruska-Polom	102.93	329	*e*PDIFF	Pdif	17 39 12.9	0.0	
DPC				*e*PP	PP	17 43 29.8	+3.3	
DPC				*e*SKS	SKSac	17 49 54.2	+2.9	
DPC				AMS	AMS	18 30 50.0		
	comp=Z,2µm,16.9s							
DPC	Dobruska-Polom	102.93	329	*e*P	Pdif	17 39 12.9	0.0	
DPC				*e*		17 43 29.8		
DPC				*e*		17 49 54.2		
DPC				MLR	MLR			
	comp=Z,2µm,16.9s							
UPC	Upice	102.99	329	*e*PP	PP	17 43 29.1	+2.2	
UPC				AMS	AMS	18 30 30.0		
	comp=Z,3µm,16.8s							
JAVC	Velka Javorina	103.14	327	*e*PDIFF	Pdif	17 39 14.6	+0.8	
I37A	Lemond, Waseca	103.21	39	IAMs_20	IAMs_20	18 31 52.6		
	comp=Z,2µm,20.0s							
OK038	West end E0370	103.28	48	IAMs_20	IAMs_20	18 29 53.9		
	comp=Z,2µm,21.0s							
N35A	Tabor	103.38	43	IAMs_20	IAMs_20	18 31 40.8		
	comp=Z,1µm,20.0s							
VRAC	Vranov	103.43	328	*e*PDIFF	Pdif	17 39 14.2	-0.9	
MODS	Modra-Piesok	103.63	327	*i* P	Pdif	17 39 15.1	-0.9	
MODS	Modra-Piesok	103.63	327	*e*PDIFF	Pdif	17 39 15.1	-0.9	
KRUC	Moravsky	103.68	328	*e*PDIFF	Pdif	17 39 15.9	-0.3	
PVCC	Panska Ves	103.69	330	AMS	AMS	18 30 50.0		
	comp=Z,2µm,17.6s							
BRG	Berggiesshubel	103.78	330	⇓*e*Pif		17 39 15.0		
BRG				Amp		17 39 18.2		
	comp=Z,1.8nm,0.9s							
BRG	Berggiesshubel	103.78	330	PP	PKiKP	17 43 37.0	+2.6	
BRG				⇓*e*Pif		17 49 34.9		
BRG				Amp		17 49 36.7		
	comp=Z,2.2nm,0.8s							
BRG	Berggiesshubel	103.78	330	SP	SP	17 52 47.0	+6.7	
RICC	Richard	103.92	330	AMS	AMS	18 31 10.0		
	comp=Z,2µm,18.0s							
CLL	Collm	103.95	331	*i* P	Pdif	17 39 17.1	-0.2	
CLL				*e*		17 49 49.0		
CLL				pmax	pmax			
	comp=Z,6.0nm,1.4s							
CLL				MLR	MLR			
	comp=Z,2µm,19.6s							
GOPC	GO Pecny, Ondr	103.98	329	AMS	AMS	18 31 20.0		
	comp=Z,2µm,16.7s							
TREC	Trest	104.01	328	AMS	AMS	18 29 20.0		
	comp=Z,2µm,18.0s							
WMOK	Wichita Mounta	104.02	49	IAMs_20	IAMs_20	18 33 34.6		
	comp=Z,1µm,20.0s							
PRU	Pruhonice	104.05	329	*e*PP	PP	17 43 35.0	+0.2	
PRU				*e*SKS	SKSac	17 49 56.6	+0.2	
PRU				AMS	AMS	18 31 20.0		
	comp=Z,2µm,17.0s							
PRA	Prague	104.05	329	AMS	AMS	18 31 10.0		
	comp=Z,2µm,16.6s							
ZVC	Zvikov	104.58	329	AMS	AMS	18 31 50.0		
	comp=Z,2µm,17.8s							
OK052	Battle Ridge R	104.90	47	IAMs_20	IAMs_20	18 30 41.6		
	comp=Z,2µm,22.0s							
CKRC	Cesky Krumlov	104.91	328	*e*PDIFF	Pdif	17 39 22.1	+0.4	
CKRC				*e*PP	PP	17 43 42.7	+1.4	
CKRC				*e*SKS	SKSac	17 50 01.3	+0.8	
CKRC				AMS	AMS	18 29 50.0		
	comp=Z,2µm,18.9s							
CKRC	Cesky Krumlov	104.91	328	*i* P	Pdif	17 39 22.1	+0.4	
CKRC				*e*		17 43 42.7		
CKRC				*e*		17 50 01.3		
CKRC				MLR	MLR			
	comp=Z,2µm,18.9s							
JCT	Junction City	105.04	54	IAMs_20	IAMs_20	18 31 21.2		
	comp=Z,908nm,20.0s							
GERES	GERESS Array B	105.20	329	Pdiff	Pdif	17 39 22.9	-0.2	
	comp=Z,0.9nm,0.8s,baz=52,slow=3.8,SNR=7.2							
GERES				PKiKP	PKiKP	17 43 38.3	+1.1	
	comp=Z,0.9nm,0.7s,baz=85,slow=1.1,SNR=6.3							
P38A	Dawn	105.40	43	IAMs_20	IAMs_20	18 33 03.2		
	comp=Z,999nm,21.0s							
L40A	Anamosa	105.60	40	IAMs_20	IAMs_20	18 30 02.1		
	comp=Z,2µm,22.0s							
JFWS	Jewell Farm	105.73	39	IAMs_20	IAMs_20	18 32 17.4		
	comp=Z,2µm,21.0s							
Z35A	Perchaven, San	105.78	50	IAMs_20	IAMs_20	18 36 04.2		
	comp=Z,1µm,19.0s							
GRA1	Grafenberg Arr	105.87	331	IAMs_20	IAMs_20	18 31 55.1		
	comp=Z,1µm,19.0s							
GRFO	Grafenberg	105.87	331	IAMs_20	IAMs_20	18 31 55.1		
	comp=Z,2µm,19.0s							
IVI	Ivigtut	106.04	6	IAMs_20	IAMs_20	18 30 35.2		
	comp=Z,1µm,20.0s							
TIR	Tirane	106.15	320	IAMs_20	IAMs_20	18 32 29.3		
	comp=Z,1µm,21.0s							
WHTX	Lake Whitney,	106.22	51	IAMs_20	IAMs_20	18 32 43.0		
	comp=Z,1µm,20.0s							
NRS	Narsarsuaq	106.35	5	IAMs_20	IAMs_20	18 31 10.4		
	comp=Z,1µm,21.0s							
P40A	Paris	106.43	42	IAMs_20	IAMs_20	18 33 45.4		
	comp=Z,915nm,20.0s							
KIBK	Kibwezi	106.52	271	IAMs_20	IAMs_20	18 34 02.8		
	comp=Z,754nm,20.0s							
N41A	Harden Midland	106.57	41	IAMs_20	IAMs_20	18 33 26.9		
	comp=Z,1µm,20.0s							
L42A	Oliver, Polo	106.60	39	IAMs_20	IAMs_20	18 33 57.4		
	comp=Z,1µm,21.0s							
R40A	Maddies Statio	106.93	43	IAMs_20	IAMs_20	18 35 09.8		
	comp=Z,1µm,20.0s							
KMBO	Nsa Mbogo	107.04	273	IAMs_20	IAMs_20	18 32 05.3		
	comp=Z,934nm,20.0s							
EKA	Eskdalemuir Ar	107.31	341	PKiKP	PKiKP	17 43 40.0	-0.8	
	comp=Z,1.0nm,0.6s,baz=21,slow=3.3,SNR=2.0							
ESK	Eskdalemuir	107.34	341	IAMs_20	IAMs_20	18 34 49.4		
	comp=Z,959nm,19.0s							
HDIL	Hopedale	107.64	40	IAMs_20	IAMs_20	18 38 54.2		
	comp=Z,1µm,21.0s							
M44A	Midewin, Midew	107.95	39	IAMs_20	IAMs_20	18 34 49.1		
	comp=Z,1µm,21.0s							
P43A	Skaggs, Pawnee	108.01	41	IAMs_20	IAMs_20	18 31 32.0		
	comp=Z,947nm,21.0s							
HKT	Hockley	108.37	53	IAMs_20	IAMs_20	18 36 11.9		
	comp=Z,1µm,20.0s							
NATX	Nacogdoches	108.44	50	IAMs_20	IAMs_20	18 35 42.8		
	comp=Z,1µm,20.0s							
SFIN	Lafayette	109.12	39	IAMs_20	IAMs_20	18 35 47.1		
	comp=Z,2µm,21.0s							
CUC	Cotrocucco	109.45	320	IAMs_20	IAMs_20	18 38 50.6		
	comp=Z,1µm,20.0s							
P46A	Rosedale	109.49	40	IAMs_20	IAMs_20	18 38 33.2		
	comp=Z,1µm,20.0s							
UNM	Universidad Na	109.89	64	IAMs_20	IAMs_20	18 30 41.9		
	comp=Z,1µm,20.0s							
441A	DeRidder	110.03	51	IAMs_20	IAMs_20	18 37 16.8		
	comp=Z,1µm,20.0s							
T45A	Paducah	110.04	43	IAMs_20	IAMs_20	18 36 45.0		
	comp=Z,1µm,19.0s							
CEL	Celeste	110.41	319	IAMs_20	IAMs_20	18 35 41.1		
	comp=Z,1µm,22.0s							
P48A	Milroy	110.70	39	IAMs_20	IAMs_20	18 36 34.9		
	comp=Z,1µm,20.0s							
OXF	Oxford	110.88	46	IAMs_20	IAMs_20	18 37 48.7		
	comp=Z,1µm,20.0s							
T47A	Sharon Grove	111.07	42	IAMs_20	IAMs_20	18 37 41.3		
	comp=Z,1µm,20.0s							
R49A	Shelbyville	111.56	40	IAMs_20	IAMs_20	18 39 46.8		
	comp=Z,1µm,20.0s							
V48A	Smith Brothers	111.97	43	IAMs_20	IAMs_20	18 39 29.2		
	comp=Z,1µm,19.0s							
SSB	Saint Sauveur	112.19	331	IAMs_20	IAMs_20	18 36 51.3		
	comp=Z,1µm,19.0s							
X48A	Hartselle	112.55	44	IAMs_20	IAMs_20	18 39 09.6		
	comp=Z,1µm,20.0s							
S51A	Beattyville	112.94	40	IAMs_20	IAMs_20	18 37 34.4		
	comp=Z,999nm,20.0s							
LONY	Lake Ozonia	113.19	29	IAMs_20	IAMs_20	18 35 35.5		
	comp=Z,1µm,21.0s							
MBAR	Mbarara	113.28	275	IAMs_20	IAMs_20	18 39 07.8		
	comp=Z,914nm,20.0s							
W50A	Signal Mountai	113.29	43	IAMs_20	IAMs_20	18 31 15.1		
	comp=Z,904nm,20.0s							
TZTN	Tazewell	113.64	41	IAMs_20	IAMs_20	18 35 08.0		
	comp=Z,1µm,20.0s							
VSL	Villasalto	113.64	323	IAMs_20	IAMs_20	18 36 18.3		
	comp=Z,1µm,19.0s							
X51A	Calhoun	113.96	43	IAMs_20	IAMs_20	18 38 28.9		
	comp=Z,862nm,20.0s							
J59A	Piesco	114.08	30	IAMs_20	IAMs_20	18 33 45.3		
	comp=Z,1µm,21.0s							
W52A	Murphy	114.27	42	IAMs_20	IAMs_20	18 41 59.9		
	comp=Z,1µm,20.0s							
G62A	West of Eustis	114.58	26	IAMs_20	IAMs_20	18 40 16.0		
	comp=Z,1µm,21.0s							
V53A	Saluda	114.64	41	IAMs_20	IAMs_20	18 34 45.7		
	comp=Z,1µm,21.0s							
Y52A	Lilburn	114.91	43	IAMs_20	IAMs_20	18 39 08.0		
	comp=Z,1µm,20.0s							
HNH	Hanover	114.97	29	IAMs_20	IAMs_20	18 37 42.4		
	comp=Z,1µm,22.0s							
F64A	Sherman	114.99	25	IAMs_20	IAMs_20	18 41 26.5		
	comp=Z,1µm,21.0s							
TRY	Troy	115.04	30	IAMs_20	IAMs_20	18 43 02.6		
	comp=Z,1µm,20.0s							
PKME	Peaks-Kenny Pk	115.08	26	IAMs_20	IAMs_20	18 43 00.1		
	comp=Z,874nm,22.0s							
J61A	Chester	115.11	29	IAMs_20	IAMs_20	18 37 48.4		
	comp=Z,1µm,22.0s							
I63A	Otisfield	115.48	27	IAMs_20	IAMs_20	18 41 11.9		
	comp=Z,1µm,20.0s							
V55A	Taylorsville	115.55	40	IAMs_20	IAMs_20	18 37 05.4		
	comp=Z,1µm,22.0s							
GOGA	Godfrey	115.58	43	IAMs_20	IAMs_20	18 39 46.7		
	comp=Z,1µm,21.0s							
L61B	Northampton	115.73	30	IAMs_20	IAMs_20	18 37 12.9		
	comp=Z,1µm,21.0s							
K62A	Royalston	115.78	29	IAMs_20	IAMs_20	18 37 02.2		
	comp=Z,1µm,22.0s							
G65A	Princeton	115.85	25	IAMs_20	IAMs_20	18 43 51.3		
	comp=Z,1µm,21.0s							
KMSC	Kings Mountain	115.92	41	IAMs_20	IAMs_20	18 36 28.4		
	comp=Z,1µm,20.0s							
HRV	Adam Dziewonsk	116.23	29	IAMs_20	IAMs_20	18 41 05.8		
	comp=Z,1µm,20.0s							
WSPT	Westport, CT	116.37	31	IAMs_20	IAMs_20	18 43 24.0		
	comp=Z,1µm,20.0s							
BCX	Boston College	116.54	29	IAMs_20	IAMs_20	18 40 58.2		
	comp=Z,1µm,21.0s							
TIGA	Tifton	116.65	45	IAMs_20	IAMs_20	18 41 50.3		
	comp=Z,1µm,20.0s							
M63A	Gales Ferry	116.83	30	IAMs_20	IAMs_20	18 43 45.0		
	comp=Z,1µm,20.0s							
Y58A	Scranton	117.77	41	IAMs_20	IAMs_20	18 39 30.3		
	comp=Z,1µm,21.0s							
NHSC	New Hope	117.94	42	IAMs_20	IAMs_20	18 41 14.0		
	comp=Z,901nm,20.0s							
656A	Willston	118.59	47	IAMs_20	IAMs_20	18 43 43.0		
	comp=Z,1µm,20.0s							
Y60A	Bolivia	118.62	40	IAMs_20	IAMs_20	18 40 06.7		
	comp=Z,1µm,20.0s							
TEIG	Tepich	118.88	59	IAMs_20	IAMs_20	18 35 52.4		
	comp=Z,968nm,22.0s							
ESDC	Sonseca Array	120.51	332	PKP	PKPdf	17 44 06.3	-0.2	
	comp=Z,1.8nm,0.8s,baz=36,slow=2.3,SNR=12							
ESDC				PP	PP	17 45 31.8	-0.7	
	comp=Z,0.9nm,0.9s,baz=55,slow=7.6,SNR=4.6							
MVO	Moncorvo	120.62	335	*e*PKPdf	PKiKP	17 44 07.9	+1.1	
CART	Cartagena	120.71	328	IAMs_20	IAMs_20	18 40 27.9		
	comp=Z,1µm,19.0s							
POLO	Lamas de Olo	120.75	336	*e*PKPdf	PKiKP	17 44 08.1	+0.9	
PAB	San Pablo	120.79	332	IAMs_20	IAMs_20	18 43 06.8		
	comp=Z,1µm,19.0s							
PVIS	Viseu	121.35	336	*e*PKPdf	PKiKP	17 44 09.2	+0.9	
PCBR	Castelo Branco	121.92	335	*e*PKPdf	PKiKP	17 44 10.5	+1.2	
COI	Coimbra	121.99	336	IAMs_20	IAMs_20	18 48 27.2		
	comp=Z,1µm,20.0s							
COI	Coimbra	121.99	336	*e*PKPdf	PKiKP	17 44 10.1	+0.7	
PCAS	Casmilo, Conde	122.15	336	*e*PKPdf	PKiKP	17 44 11.8	+2.0	
PMRV	Marv??o	122.22	334	*e*PKPdf	PKiKP	17 44 12.4	+2.5	
PSARD	Sardoal	122.40	335	*e*PKPdf	PKiKP	17 44 12.8	+2.4	
TGUH	Tegucigalpa,Un	122.44	65	IAMs_20	IAMs_20	18 39 13.3		
	comp=Z,1µm,20.0s							
PESTR	Estremoz	122.78	334	*e*PKPdf	PKiKP	17 44 12.3	+1.2	
PMTG	Montargil	122.88	335	*e*PKPdf	PKiKP	17 44 13.1	+1.9	
PBAR	Barrancos	123.12	333	*e*PKPdf	PKiKP	17 44 14.2	+2.5	
EVO	Evora	123.24	334	*e*PKPdf	PKiKP	17 44 14.4	+2.4	
PARRA	Arraiolos	123.43	335	*e*PKPdf	PKiKP	17 44 13.8	+1.4	
PBEJ	Beja	123.60	334	*e*PKPdf	PKiKP	17 44 15.1	+2.4	
MESJ	Messejana	123.91	334	*e*PKPdf	PKiKP	17 44 16.0	+2.7	
PCVE	Castro Verde	124.00	334	*e*PKPdf	PKiKP	17 44 16.2	+2.7	
TAM	Tamanrasset	126.74	311	IAMs_20	IAMs_20	18 51 11.3		
	comp=Z,534nm,20.0s							
HDC	Heredia	126.91	67	IAMs_20	IAMs_20	18 45 51.2		
	comp=Z,782nm,19.0s							
GTBY	Guantanamo Bay	129.57	51	IAMs_20	IAMs_20	18 50 43.6		
	comp=Z,651nm,19.0s							
BCIP	Isla Barro Col	131.09	66	IAMs_20	IAMs_20	18 38 15.9		
	comp=Z,914nm,21.0s							
GRTK	Grand Turk	131.52	46	IAMs_20	IAMs_20	18 51 23.3		
	comp=Z,985nm,19.0s							
TORD	Torodi Ar. Bea	135.23	303	PKP	PKPdf	17 44 34.4	-0.7	
	comp=Z,3.4nm,0.7s,baz=36,slow=2.6,SNR=3.7							
TORD				PP	PP	17 47 08.7	-1.8	
	comp=Z,1.3nm,0.3s,baz=64,slow=3.4,SNR=3.7							
PLCA	Paso Flores	138.26	139	PKP	PKPdf	17 44 39.6	-0.5	
	comp=Z,3.3nm,0.9s,baz=228,slow=7.1,SNR=4.4							
SDV	Santo Domingo	139.27	60	PKP	PKPdf	17 44 42.8	-0.1	
	comp=Z,5.8nm,0.3s,baz=315,slow=5.7,SNR=4.1							
SEUS	St. Eustatius	139.86	43	IAMs_20	IAMs_20	18 55 44.8		
	comp=Z,1µm,22.0s							
CZSB	Cruzeiro do Su	143.16	86		PKPdf	17 44 49.0	-0.6	
DBIC	Dimbokro	144.12	300		PKPdf	17 44 50.7	-0.6	
DBIC	Dimbokro	144.12	300	PKP	PKPbc	17 44 49.3	0.0	
	comp=Z,54nm,0.8s,baz=39,slow=3.5,SNR=49							
LPAZ	La Paz	148.21	101	PKPbc	PKPbc	17 45 02.1	-0.1	
	comp=Z,14nm,0.9s,baz=298,slow=1.0,SNR=26							
SIV	San Ignacio	154.99	101	PKP	PKPdf	17 45 09.8	+1.3	
	comp=Z,2.0nm,1.0s,baz=283,slow=6.1,SNR=3.8							
CPUP	Villa Florida	155.22	127	PKPab	PKPab	17 45 33.7	+0.4	
	comp=Z,1.5nm,0.9s,baz=242,slow=0.8,SNR=5.0							
MDP	Montagnes des	155.75	45	PKP	PKPdf	17 45 09.9	+0.3	
	comp=Z,4.1nm,0.8s,baz=306,slow=4.5,SNR=2.0							

IDC ***21*** *17:31:56.2±1.2,4°.91S×151°.60E,h0km,mb4.1/8, mbtmp4.1/8,Error ellipse: s-maj=48.6km s-min=22.2km az=114.0*

**

Fault plane solution: M_o2.59000×10^{17} NP1:ϕ_s32.60000°, δ52.56000°, λ,49.39000°. NP2:ϕ_s267.27000°, δ52.93000°, λ130.37000°. Principal axes: T 2.8127, Plg59.0000°, Azm240.0000°; N -0.5276, Plg31.0000°, Azm60.0000°; P -2.2851, Plg0.0000°, Azm330.0000°;

*NEIC **21** 17:35:33.7, 12.26N×144.26E, h16km*

*NEIC **21** 17:35:33.8±2.1, 12.26N±0.06×144.3E±0.1, h9km±1km, mb5.5/512, Ms_20 5.5/412, Mww5.5/24, Error ellipse: s-maj=17.7km s-min=9.4km az=290.0*

*GCMT **21** 17:35:39.7±0.1, 12.16N±0.01×144.28E±0.01, h17km, MW5.6/143, Moment Tensor Solution. s101,c163; s143,c283; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}2.29±.06; $M_{\theta\theta}$-2.00±.04; $M_{\phi\phi}$-0.29±.04; $M_{r\theta}$0.67±.10; $M_{\theta\phi}$-1.40±.03; $M_{\phi r}$1.16±.12; Best double couple: M_o2.89000×10^{17} NP1:ϕ_s258.00000°, δ35.00000°, λ118.00000°. NP2:ϕ_s45.00000°, δ59.00000°, λ72.00000°. Principal axes: T 2.7380, Plg70.0000°, Azm275.0000°; N 0.3000, Plg16.0000°, Azm55.0000°; P -3.0410, Plg12.0000°, Azm148.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **21** 17:35:39.3±0.4, 12.2N±2.2×14.5E±, h51km±5km, M5.7/71, mB6.1/35, mb5.5/71, MLv5.6/1, Mw(mB)5.7/35, MwMwp6.0/2, Mwp6.0/2*

ISC 21 17:35:36.1±0.4, 12.29N±0.03×144.42E±0.04, h28km±2km, h28km:pP-P, n1326, s1351/1212, mb5.5/384, MS5.5/292, 30C-2D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
GUMO	**Guam**	**1.36**	**19**	Pn		**Pn**	**17 35 59.8**	**+0.6**
GUMO				Sn		**Sb**	**17 36 21.2**	**+3.1**
GUMO	**Guam**	**1.36**	**19**			**Pb**	**17 36 00.5**	**-0.5**
GUMO	**Guam**	**1.36**	**19**	Pn		**Pb**	**17 36 00.7**	**-0.3**
	752nm,0.3s,baz=201,slow=12,SNR=111							
GUMO				Sn		**Sb**	**17 36 20.6**	**+2.5**
	5μm,0.3s,baz=150,slow=14,SNR=8.4							
GUMO	**Guam**	**1.36**	**19**	P		**Pb**	**17 36 01.1**	**+0.1**
GUMO	**Guam**	**1.36**	**19**	S		**Sb**	**17 36 21.1**	**+3.0**
MANU	**Manus Island**	**14.54**	**168**			**Pn**	**17 38 55.8**	**-4.3**
JCJ	**Chichijima**	**14.88**	**352**	Pn		**Pn**	**17 39 05.8**	**+1.2**
	baz=180,slow=0.0							
JCJ				LR		LR	17 42 53.7	
	comp=Z,3μm,21.0s,baz=314,slow=30							
JCJ	**Chichijima**	**14.88**	**352**	P		**P**	**17 39 08.4**	**-1.6**
JAY	**Jayapura**	**15.16**	**194**	Pn		**Pn**	**17 39 08.7**	**+0.2**
	0.4nm,0.3s,baz=357,slow=18,SNR=14							
JAY				LR		LR	17 44 20.6	
	comp=Z,10μm,18.5s,baz=12,slow=35							
	34nm,1.0s							
JAY	**Jayapura**	**15.16**	**194**	P		**Pn**	**17 39 09.6**	**+1.1**
SMPI	**Sarmi**	**15.28**	**202**	P		**Pn**	**17 39 10.9**	**+1.0**
	193nm,1.8s							
GENI	**Genyem**	**15.38**	**196**	P		**Pn**	**17 39 11.8**	**+0.5**
GENI	**Genyem**	**15.38**	**196**	P		**Pn**	**17 39 11.7**	**+0.5**
	12μm679nm,1.8s							
BAKI	**Biak**	**15.73**	**212**	P		**Pn**	**17 39 17.0**	**+1.1**
	8μm136nm,1.2s							
SRPI	**Serui, Papua**	**16.24**	**211**	P		**P**	**17 39 25.5**	**+0.2**
WAMI	**Wamena**	**17.04**	**200**	P		**P**	**17 39 35.5**	**+1.4**
	6μm422nm,0.8s							
RKPI	**Ransiki, Papua**	**17.07**	**217**	P		**Pn**	**17 39 32.6**	**-0.3**
	267nm,1.9s							
RABL	**Rabaul**	**18.09**	**154**			**Pn**	**17 39 41.5**	**-4.1**
JMZ	**Minamidaito 2**	**18.33**	**319**	P		**Pn**	**17 39 51.3**	**+3.0**
SWI	**Sorong**	**18.48**	**226**	P		**Pn**	**17 39 52.8**	**+2.6**
DAV	**Davao City (W)**	**19.28**	**256**			**Pn**	**17 40 01.2**	**+1.3**
DAV	**Davao City (W)**	**19.28**	**256**	P		**Pn**	**17 39 59.3**	**-0.6**
	118nm,0.4s,baz=84,slow=2.1,SNR=12							
DAV				LR		LR	17 49 15.7	
	comp=Z,2μm,18.7s,baz=88,slow=44							
DAV	**Davao City (W)**	**19.28**	**256**	P		**Pn**	**17 39 59.3**	**-0.6**
DAV				S		**S**	**17 43 44.3**	**+8.7**
DAV	**Davao City (W)**	**19.28**	**256**	P		**Pn**	**17 40 01.3**	**+1.4**
FAKI	**Fak Fak**	**19.35**	**219**	P		**P**	**17 39 59.4**	**-0.2**
FAKI	**Fak Fak**	**19.35**	**219**	P		**Pn**	**17 40 01.9**	**+1.1**
	7μm133nm,1.3s							
TNTI	**Ternate**	**20.42**	**237**	P		**P**	**17 40 11.6**	**+0.4**
TNTI	**Ternate**	**20.42**	**237**	P		**P**	**17 40 11.8**	**+0.6**
	149nm,1.5s							
SGSI	**Sangihe**	**20.55**	**247**	P		Pn	17 40 16.3	+1.3
	5μm265nm,0.7s							
JOW	**Kunigami**	**20.96**	**316**			**P**	**17 40 17.7**	**+0.7**
JOW				IAmb		IAmb	17 40 24.1	
	comp=Z,196nm,1.0s							
JOW	**Kunigami**	**20.96**	**316**	P		**P**	**17 40 16.9**	**-0.1**
	comp=Z,49nm,0.7s,baz=132,slow=13,SNR=16							
JOW				S		**S**	**17 44 07.1**	**-2.1**
	comp=Z,3.5nm,0.5s,baz=73,slow=20,SNR=0.8							
JOW				LR		LR	17 46 54.7	
	comp=Z,7μm,20.4s,baz=126,slow=33							
JOW	**Kunigami**	**20.96**	**316**	P		Pn	17 40 18.2	-1.4
JHJ2	**Mitsune**	**21.15**	**349**	P		**P**	**17 40 22.7**	**+3.7**
MSAI	**Masohi**	**21.87**	**226**	P		**P**	**17 40 29.3**	**+2.5**
	comp=Z,6μmcomp=Z,293nm,1.3s							
H11S3	**WAKE ISLAND Hy**	**22.33**	**71**	T		T	18 04 36.5	
	baz=261,slow=74							
H11S1	**WAKE ISLAND Hy**	**22.34**	**71**	T		T	18 03 53.1	
	baz=261							
H11S2	**WAKE ISLAND Hy**	**22.34**	**71**	T		T	18 04 10.4	
	baz=261,slow=74							
AAI	**Ambon**	**22.63**	**226**	P		**P**	**17 40 34.5**	**-0.5**
	comp=Z,333nm,0.9s							
H11N1	**WAKE ISLAND Hy**	**22.81**	**68**	T		T	18 04 22.0	
	baz=255,slow=75,SNR=20							
H11N2	**WAKE ISLAND Hy**	**22.82**	**68**	T		T	18 04 33.5	
	baz=255,slow=75,SNR=20							
H11N3	**WAKE ISLAND Hy**	**22.83**	**68**	T		T	18 04 23.0	
	baz=255,slow=75,SNR=17							
TGY	**Tagaytay City**	**22.93**	**277**	P		**P**	**17 40 37.2**	**-1.0**
	comp=Z,401nm,1.0s,baz=52,slow=19,SNR=15							
TGY				LR		LR	17 49 53.0	
	comp=Z,7μm,19.2s,baz=92,slow=38							
JSG	**Sagara**	**23.00**	**347**	IAMs_20		IAMs_20	17 49 01.4	
	comp=Z,21μm,18.0s							
NLAI	**Namlea**	**23.11**	**229**	P		P	17 41 03.7	+24
SANI	**Sanana**	**23.20**	**233**	P		**P**	**17 40 41.2**	**+0.3**
SANI	**Sanana**	**23.20**	**233**	P		**P**	**17 40 43.0**	**+2.1**
KMSI	**Cibinong**	**23.38**	**242**	P		P	17 40 55.5	+13
JMN	**Monobe**	**23.41**	**337**			**P**	**17 40 42.9**	**0.0**
JMN				IAmb		IAmb	17 41 04.3	
	comp=Z,222nm,1.4s							
JMN				IAMs_20		IAMs_20	17 48 20.7	
	comp=Z,19μm,18.0s							
JMN	**Monobe**	**23.41**	**337**	P		**P**	**17 40 43.9**	**+1.0**
YOJ	**Yonaguni jima**	**23.61**	**304**	IAMs_20		IAMs_20	17 49 53.6	
	comp=Z,12μm,18.0s							
INU	**Inuyama**	**23.92**	**345**			**P**	**17 40 46.9**	**-0.7**
INU	**Inuyama**	**23.92**	**345**	P		**P**	**17 40 50.3**	**+2.7**
JGF	**Kuroka**	**24.07**	**346**			**P**	**17 40 45.4**	**-3.8**
JGF				IAmb		IAmb	17 41 07.7	
	comp=Z,319nm,1.9s							
JGF	**Kuroka**	**24.07**	**346**	P		**P**	**17 40 51.0**	**+1.8**
JNU	**Nakatsue**	**24.16**	**331**			**P**	**17 40 49.4**	**-0.6**
JNU	**Nakatsue**	**24.16**	**331**	LR		LR	17 48 49.0	
	comp=Z,3μm,18.4s,baz=191,slow=33							
JNU	**Nakatsue**	**24.16**	**331**	P		**P**	**17 40 50.7**	**+0.7**
TWGBT	**Beinan**	**24.56**	**298**	P		**P**	**17 40 53.9**	**+0.2**
TWG	**Pinlang**	**24.56**	**298**	P		**P**	**17 40 52.8**	**-0.9**
TWG				IAmb		IAmb	17 41 17.8	
	comp=Z,178nm,1.5s							
TWG				IAMs_20		IAMs_20	17 50 29.0	
	comp=Z,11μm,18.0s							
YULB	**Yu-li**	**24.59**	**300**	P		**P**	**17 40 52.8**	**-1.1**
YULB	**Yu-li**	**24.59**	**300**	P		**P**	**17 40 53.7**	**-0.2**
NACB	**Ninganchiao**	**24.65**	**302**	P		**P**	**17 40 53.2**	**-1.3**
NACB	**Ninganchiao**	**24.65**	**302**	P		**P**	**17 40 52.9**	**-1.6**
MJAR	**Matsushiro Arr**	**24.79**	**348**	P		**P**	**17 40 55.5**	**-0.2**
MJAR	**Matsushiro Arr**	**24.79**	**348**	P		**P**	**17 40 53.8**	**-1.8**
	comp=Z,4.9nm,0.5s,baz=171,slow=9.7,SNR=31							
MJAR				S		**S**	**17 45 17.6**	**+1.2**
	comp=Z,3.3nm,1.0s,baz=178,slow=33,SNR=2.7							
MJAR				ScP		**ScP**	**17 48 10.2**	**+1.3**
	comp=Z,16nm,1.1s,baz=164,slow=4.2,SNR=14							
MJAR				LR		LR	17 49 55.6	
	comp=Z,13μm,18.2s,baz=162,slow=35							
	comp=Z,4.9nm,0.5s							
MAJO	**Matsushiro**	**24.79**	**348**			**P**	**17 40 53.7**	**-1.9**
MAJO				IAmb		IAmb	17 41 17.3	
	comp=Z,198nm,1.6s							
MAJO	**Matsushiro**	**24.79**	**348**	IAMs_20		IAMs_20	17 50 09.9	
	comp=Z,15μm,18.0s							
MAJO	**Matsushiro**	**24.79**	**348**	P		**P**	**17 40 54.3**	**-1.4**
MAJO	**Matsushiro**	**24.79**	**348**	*i* P		**P**	**17 40 53.8**	**-1.9**
MJB9	**Matsu-Tunnel**	**24.79**	**348**	P		**P**	**17 40 55.1**	**-0.6**
MJB9				IAmb		IAmb	17 41 18.2	
	comp=Z,202nm,1.6s							
SSLB	**Suanglung**	**25.03**	**300**	P		**P**	**17 40 57.5**	**-0.5**
SSLB				IAmb		IAmb	17 41 13.1	
	comp=Z,149nm,0.9s							
SSLB	**Suanglung**	**25.03**	**300**	P		**P**	**17 40 58.0**	**0.0**
YHNB	**Yeheng**	**25.04**	**303**	IAMs_20		IAMs_20	17 51 06.9	
	comp=Z,15μm,19.0s							
YHNB	**Yeheng**	**25.04**	**303**	P		**P**	**17 40 57.5**	**-0.6**
TATO	**Taipei**	**25.08**	**303**	IAMs_20		IAMs_20	17 51 00.1	
	comp=Z,18μm,18.0s							
TPUB	**Ta-pu**	**25.12**	**299**	P		**P**	**17 40 58.5**	**-0.3**
TPUB				IAmb		IAmb	17 41 02.9	
	comp=Z,141nm,1.2s							
TPUB				IAMs_20		IAMs_20	17 49 24.9	
	comp=Z,14μm,19.0s							
TPUB	**Ta-pu**	**25.12**	**299**	P		**P**	**17 40 57.7**	**-1.1**
MRSI	**Marisa**	**25.20**	**244**	P		**P**	**17 41 01.1**	**+1.6**
LUWI	**Luwuk**	**25.25**	**240**	P		**P**	**17 40 58.8**	**-1.2**
JMM	**Marumori**	**25.68**	**353**			**P**	**17 41 01.7**	**-2.0**
JMM				IAmb		IAmb	17 41 28.7	
	comp=Z,173nm,1.3s							
JMM	**Marumori**	**25.68**	**353**	P		**P**	**17 41 06.8**	**+3.2**
TOLI2	**Tolitoli**	**25.93**	**246**			**P**	**17 41 05.9**	**-0.4**
TOLI2				IAmb		IAmb	17 41 20.0	
	comp=Z,98nm,1.0s							
TOLI2	**Tolitoli**	**25.93**	**246**	P		**P**	**17 41 07.1**	**+0.9**
JTU	**Tsushima**	**26.01**	**331**	P		**P**	**17 41 10.1**	**+3.4**
COEN	**Coen**	**26.11**	**183**	P		**P**	**17 41 06.5**	**-1.2**
COEN				IAmb		IAmb	17 41 09.2	
	comp=Z,88nm,0.9s							
COEN	**Coen**	**26.11**	**183**	P		**P**	**17 41 07.1**	**-0.6**
	comp=Z,98nm,1.2s							
COEN	**Coen**	**26.11**	**183**	P		**P**	**17 41 07.8**	**+0.1**
APSI	**Ampana**	**26.14**	**241**	P		**P**	**17 41 11.7**	**+3.7**
	comp=Z,3μmcomp=Z,283nm,1.1s							
JSD	**Sado**	**26.23**	**349**	P		**P**	**17 41 08.6**	**0.0**
HNR	**Honiara**	**26.53**	**144**	LR		LR	17 52 36.3	
	comp=Z,3μm,18.3s,baz=326,slow=38							
MYLDM	**Lahad Datu**	**26.56**	**257**	P		**P**	**17 41 12.9**	**+1.0**
MYLDM	**Lahad Datu**	**26.56**	**257**	P		**P**	**17 41 13.5**	**+1.6**
MPSI	**Mapaga**	**27.07**	**246**	P		**P**	**17 41 16.0**	**-0.5**
	comp=Z,52nm,1.1s							
KDU	**Kakadu**	**27.50**	**206**	P		**P**	**17 41 18.6**	**-1.6**
	comp=Z,58nm,0.9s							
KDU	**Kakadu**	**27.50**	**206**	P		**P**	**17 41 19.1**	**-1.2**
PCI	**Palu**	**27.70**	**243**	P		**P**	**17 41 25.9**	**+3.7**
DRS	**Darwin Rock St**	**27.98**	**209**	P		**P**	**17 41 24.2**	**-0.4**
BBSI	**Bau Bau**	**28.00**	**232**	P		**P**	**17 41 27.7**	**+2.9**
	comp=Z,99nm,1.2s							
MTN	**Manton Dam**	**28.23**	**208**	P		**P**	**17 41 25.6**	**-1.2**
MTN				IAmb		IAmb	17 41 27.6	
	comp=Z,87nm,1.0s							
MTN	**Manton Dam**	**28.23**	**208**	P		**P**	**17 41 25.3**	**-1.5**
	comp=Z,99nm,1.0s							
MTN	**Manton Dam**	**28.23**	**208**	P		**P**	**17 41 25.8**	**-1.0**
SSE	**Sheshan**	**28.46**	**315**	P		**P**	**17 41 29.8**	**+1.0**
SSE				pmax		pmax		
	comp=Z,22nm,1.2s							
SSE				pmax		pmax		
	comp=Z,1μm,11.6s							
TJN	**Taejon**	**28.48**	**330**	P		**P**	**17 41 29.1**	**+0.2**
TJN	**Taejon**	**28.48**	**330**	*i* P		**P**	**17 41 28.4**	**-0.5**
KKM	**Kota Kinabalu**	**28.51**	**260**	P		**P**	**17 41 28.0**	**-1.5**
KKM	**Kota Kinabalu**	**28.51**	**260**	P		**P**	**17 41 30.6**	**+1.1**
TTSI	**Tana Toraja**	**28.80**	**240**	P		**P**	**17 41 35.7**	**+3.7**
KSRS	**Korea Array**	**29.09**	**332**	P		**P**	**17 41 33.2**	**-1.1**
	comp=Z,12nm,0.7s,baz=144,slow=8.4,SNR=39							
KSRS				PcP		**PcP**	**17 44 42.8**	**+0.9**
	comp=Z,8.0nm,1.0s,baz=161,slow=3.0,SNR=6.5							
KSRS				ScP		**ScP**	**17 48 24.6**	**+2.9**
	comp=Z,29nm,1.1s,baz=152,slow=4.7,SNR=36							
KSRS				LR		LR	17 52 28.4	
	comp=Z,2803μm,18.0s,baz=145,slow=35							
	comp=Z,12nm,0.7s							
KSAR	**Wonju Array Be**	**29.10**	**332**	P		**P**	**17 41 35.1**	**+0.8**
KSAR	**Wonju Array Be**	**29.10**	**332**	P		**P**	**17 41 35.1**	**+0.8**
BNSI	**Bone**	**29.31**	**237**	P		**P**	**17 41 35.4**	**-1.1**
	comp=Z,61nm,1.2s							
SPSI	**Sidrap Palu**	**29.34**	**238**	P		**P**	**17 41 40.1**	**+3.3**
	comp=Z,40nm,1.3s							
ERM	**Erimo**	**29.64**	**358**	*i* P		**P**	**17 41 35.6**	**-3.4**
SOEI	**Soe**	**29.67**	**223**	P		**P**	**17 41 39.4**	**-0.4**
SOEI	**Soe**	**29.67**	**223**	P		**P**	**17 41 38.7**	**-1.1**
	comp=Z,3μmcomp=Z,137nm,1.4s							
KAPI	**Kappang**	**29.95**	**236**	P		**P**	**17 41 39.5**	**-2.6**
	comp=Z,5.3nm,0.4s,baz=40,slow=7.9,SNR=4.9							
KAPI				LR		LR	17 54 37.0	
	comp=Z,898nm,18.2s,baz=50,slow=39							
	comp=Z,5.3nm,0.4s							
MTSU	**Mount Surprise**	**30.23**	**180**	P		**P**	**17 41 44.6**	**+0.1**
	comp=Z,23nm,0.9s							
MTSU	**Mount Surprise**	**30.23**	**180**	P		**P**	**17 41 45.1**	**+0.5**
BATI	**Baumata**	**30.41**	**224**	P		**P**	**17 41 43.9**	**-2.3**
	comp=Z,20nm,0.7s,baz=346,slow=15,SNR=3.5							
BATI				LR		LR	17 53 14.4	
	comp=Z,2μm,21.5s,baz=32,slow=35							
	comp=Z,20nm,0.7s							
NJ2	**Nanjing**	**30.64**	**314**	*e*P		**P**	**17 41 48.9**	**+0.8**
NJ2				PP		**PnPn**	**17 42 47.4**	**-0.7**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
NJ2				LR		LR		
	comp=Z,4μm,15.2s							
NJ2				LR		LR		
	comp=Z,3μm,19.4s							
NJ2				LR		LR		
	comp=Z,5μm,18.0s							
GZH	**Guangzhou**	**31.43**	**294**	P		**P**	**17 41 54.6**	**-0.5**
GZH				S		**S**	**17 47 00.3**	**-1.0**
GZH				LR		LR		
	comp=Z,4μm,17.8s							
GZH				LR		LR		
	comp=Z,5μm,19.2s							
ASAJ	**Asahikawa**	**31.75**	**358**	LR		LR	17 58 25.4	
	comp=Z,2μm,18.0s,baz=186,slow=43							
KNRA	**Kununurra**	**31.81**	**210**	P		**P**	**17 41 57.5**	**-1.0**
KNRA				IAmb		IAmb	17 41 59.9	
	comp=Z,89nm,1.1s							
KUR	**Kuril'sk**	**32.96**	**4**	P		**P**	**17 42 08.6**	**+0.3**
KUR				S		**S**	**17 47 23.1**	**-1.6**
KUR				*e*SSS		SSS	17 49 43.5	
KUR				MLR		MLR		
	comp=Z,2μm,15.0s							
WHN	**Wuhan**	**33.21**	**308**	⇓P		**P**	**17 42 11.0**	**+0.3**
WHN				S		**S**	**17 47 31.3**	**+2.4**
WHN				pmax		pmax		
	comp=Z,200nm,1.2s							
WHN				LR		LR		
	comp=Z,13μm,18.1s							
WHN				LR		LR		
	comp=Z,19μm,18.0s							
WHN				LR		LR		
	comp=Z,25μm,18.6s							
WB0	**Warramunga Arr**	**33.35**	**197**	IAmb		IAmb	17 42 13.1	
	comp=Z,74nm,1.0s							
DL2	**Dalian**	**33.35**	**327**	P		**P**	**17 42 12.0**	**+0.2**
DL2				pmax		pmax		
	comp=Z,62nm,1.3s							
DL2				LR		LR		
	comp=Z,7μm,17.2s							
DL2				LR		LR		
	comp=Z,6μm,17.7s							
DL2				LR		LR		
	comp=Z,10μm,18.0s							
SBUM	**Sibu**	**33.35**	**256**	P		**P**	**17 42 12.5**	**+0.4**
CNSH	**ChangSha**	**33.37**	**303**	P		**P**	**17 42 12.9**	**+0.8**
CNSH				pmax		pmax		
	comp=Z,28nm,1.6s							
WR8	**Warramunga Arr**	**33.50**	**197**	IAmb		IAmb	17 42 15.3	
	comp=Z,71nm,1.0s							
WRAB	**Tennant Creek**	**33.52**	**197**	P		**P**	**17 42 12.1**	**-1.3**
WRAB				IAmb		IAmb	17 42 14.7	
	comp=Z,88nm,1.0s							
WRAB	**Tennant Creek**	**33.52**	**197**	*i* P		**P**	**17 42 12.4**	**-1.0**
WRAB				pmax		pmax		
	comp=Z,102nm,1.0s							
WRA	**Warramunga Arr**	**33.53**	**197**	P		**P**	**17 42 12.4**	**-1.2**
WRA	**Warramunga Arr**	**33.53**	**197**	P		**P**	**17 42 12.7**	**-0.8**
	comp=Z,48nm,0.9s,baz=18,slow=8.9,SNR=100							
WRA				PcP		**PcP**	**17 44 54.6**	**+0.6**
	comp=Z,7.5nm,0.9s,baz=29,slow=3.3,SNR=4.4							
WRA				S		S	17 47 23.2	-11
	comp=Z,1.1nm,1.1s,baz=15,slow=8.2,SNR=1.2							
WRA				ScP		**ScP**	**17 48 38.0**	**+1.2**
	comp=Z,3.1nm,1.0s,baz=17,slow=2.9,SNR=5.6							
WRA				LR		LR	17 56 10.9	
	comp=Z,3μm,18.9s,baz=3.0,slow=37							
	comp=Z,48nm,0.9s							
WRA	**Warramunga Arr**	**33.53**	**197**	*i* P		**P**	**17 42 12.6**	**-0.9**
WRA				pmax		pmax		
	comp=Z,46nm,0.9s							
WB1	**Warramunga Ar.**	**33.54**	**197**	P		**P**	**17 42 13.4**	**-0.3**
USRK	**Ussuriysk Ar.**	**33.55**	**344**	P		**P**	**17 42 12.8**	**-0.6**
USRK				ScP		**ScP**	**17 48 39.0**	**+2.6**
	comp=Z,5.7nm,0.6s,baz=144,slow=8.2,SNR=12							
USRK				LR		LR	17 54 47.9	
	comp=Z,8.3nm,1.1s,baz=217,slow=4.5,SNR=6.8							
	comp=Z,4μm,19.5s,baz=151,slow=35							
	comp=Z,5.7nm,0.6s							
QIZ	**Qiongzhong**	**33.92**	**286**	IAmb		IAmb	17 42 21.8	
	comp=Z,86nm,1.3s							
QIZ	**Qiongzhong**	**33.92**	**286**	P		**P**	**17 42 17.0**	**0.0**
QIZ				pP		**sP**	**17 42 28.5**	**+2.5**
QIZ				S		**S**	**17 47 39.5**	**-0.7**
QIZ				pmax		pmax		
	comp=Z,89nm,1.1s							
QIZ				LR		LR		
	comp=Z,3μm,14.9s							
QIZ				LR		LR		
	comp=Z,4μm,17.9s							
QIZ				LR		LR		
	comp=Z,14μm,17.9s							
QIZ	**Qiongzhong**	**33.92**	**286**	P		**P**	**17 42 17.6**	**+0.6**
TIA	**Tai'an**	**34.23**	**319**	P		**P**	**17 42 19.1**	**-0.4**
TIA				pmax		pmax		
	comp=Z,20nm,1.5s							
TIA				LR		LR		
	comp=Z,5μm,17.7s							
TIA				LR		LR		
	comp=Z,7μm,18.6s							
TIA				LR		LR		
	comp=Z,12μm,17.2s							
YSS	**Yuzhno-Sakhali**	**34.58**	**358**	P		**P**	**17 42 21.7**	**-0.7**
YSS	**Yuzhno-Sakhali**	**34.58**	**358**	P		**P**	**17 42 23.0**	**+0.6**
YSS	**Yuzhno-Sakhali**	**34.58**	**358**	*e*P		**P**	**17 42 23.0**	**+0.6**
YSS				*e**PP		**sP**	**17 42 32.2**	**+0.1**
YSS				*e*			17 44 57.7	
YSS				*e*S		**S**	**17 47 48.3**	**-1.4**
YSS				pmax		pmax		
	comp=Z,10.0nm,0.6s							
GULI	**GuiLin**	**34.62**	**297**	P		P	17 42 15.0	-8.1
GULI				pmax		pmax		
	comp=Z,49nm,1.0s							
STKI	**Sintang**	**34.87**	**252**	P		**P**	**17 42 26.7**	**+1.4**
	comp=Z,50nm,1.0s							
DLV	**Lat**	**35.12**	**273**	IAmb		IAmb	17 42 29.6	
	comp=Z,107nm,1.7s							
DLV	**Lat**	**35.12**	**273**	P		**P**	**17 42 29.1**	**+1.4**
CN2	**Changchun**	**35.40**	**336**	*e*P		**P**	**17 42 31.3**	**+1.8**
CN2				*es*P		sP	17 42 39.0	-0.2
CN2				*e*S		**S**	**17 48 04.9**	**+2.4**
CN2				pmax		pmax		
	comp=Z,20nm,0.7s							
CN2				pmax		pmax		
	comp=Z,800nm,4.0s							
CN2				LR		LR		
	comp=Z,6μm,14.0s							
CN2				LR		LR		
	comp=Z,4μm,14.0s							
CN2				LR		LR		
	comp=Z,5μm,15.0s							
FITZ	**Fitzroy Crossi**	**35.43**	**212**	P		**P**	**17 42 29.4**	**-0.6**
	comp=Z,29nm,1.1s,baz=31,slow=12,SNR=17							
FITZ				PcP		**PcP**	**17 44 59.9**	**+0.4**
	comp=Z,13nm,1.0s,baz=27,slow=2.3,SNR=2.4							
FITZ				LR		LR	17 57 52.5	
	comp=Z,2μm,18.2s,baz=32,slow=38							
	comp=Z,29nm,1.1s							
KSM	**Kuching**	**35.48**	**255**	P		**P**	**17 42 30.0**	**-0.5**
BNX	**BinXian**	**36.34**	**340**	⇓P		**P**	**17 42 37.3**	**-0.2**
BNX				pmax		pmax		
	comp=Z,38nm,1.6s							
HNS	**HongShan**	**36.49**	**318**	⇑P		**P**	**17 42 38.5**	**-0.4**
HNS				pmax		pmax		
	comp=Z,100nm,1.4s							
HNS				LR		LR		
	comp=Z,7μm,18.4s							
HNS				LR		LR		
	comp=Z,8μm,17.7s							
HNS				LR		LR		
	comp=Z,11μm,18.2s							
LYN	**LuoYang**	**36.50**	**313**	⇑P		**P**	**17 42 38.9**	**-0.1**
LYN				pmax		pmax		
	comp=Z,90nm,0.9s							
LYN				pmax		pmax		
	comp=Z,2μm,10.7s							
LYN				LR		LR		
	comp=Z,3μm,16.8s							
LYN				LR		LR		
	comp=Z,4μm,19.6s							
LYN				LR		LR		
	comp=Z,9μm,18.2s							
GD1S	**Gladstone Soft**	**36.51**	**170**	P		**P**	**17 42 39.5**	**+0.4**
ENH	**Enshi**	**36.94**	**304**	IAMs_20		IAMs_20	17 57 48.5	
	comp=Z,8μm,19.0s	

	comp=Z,3µm,15.1s								
XAN				LR	LR				
	comp=Z,7µm,15.8s								
XAN				LR	LR				
	comp=Z,9µm,18.6s								
GRNR	**Gornyy**	**38.93**	**352**	⇑*i*P	**P**	**17**	**42**	**59.5**	**+0.2**
GRNR				pmax	pmax				
	comp=Z,5.0nm,0.7s								
TPI	**Tanjungpandan**	**39.47**	**250**	P	**P**	**17**	**43**	**04.8**	**+0.5**
	comp=Z,2µmcomp=Z,147nm,1.2s								
SLVN	**Son La**	**39.72**	**289**	P	**P**	**17**	**43**	**06.5**	**+0.1**
SLVN				IAMs_20	IAMs_20	17	56	54.1	
	comp=Z,7µm,21.0s								
SLVN	**Son La**	**39.72**	**289**	P	**P**	**17**	**43**	**07.2**	**+0.8**
XLT	**XiLinHaoTe**	**39.83**	**328**	*e*P	**P**	**17**	**43**	**05.9**	**-1.2**
XLT				ScP	**ScP**	**17**	**49**	**01.0**	**+1.1**
XLT				pmax	pmax				
	comp=Z,27nm,1.3s								
XLT				LR	LR				
	comp=Z,7µm,18.5s								
XLT				LR	LR				
	comp=Z,9µm,18.2s								
WRKA	**Warakurna**	**40.29**	**203**	P	**P**	**17**	**43**	**10.3**	**-0.7**
	comp=Z,47nm,1.3s								
HEH	**HeiHe**	**40.35**	**343**	*e*P	**P**	**17**	**43**	**09.3**	**-1.9**
HEH				pmax	pmax				
	comp=Z,41nm,1.0s								
HEH				LR	LR				
	comp=Z,3µm,17.7s								
HEH				LR	LR				
	comp=Z,4µm,16.5s								
HEH				LR	LR				
	comp=Z,7µm,17.2s								
DZM	**Mont Dzumac**	**40.41**	**148**	*e*P	**P**	**17**	**43**	**08.3**	**-3.8**
	comp=Z,94nm,1.0s								
DZM	**Mont Dzumac**	**40.41**	**148**	*e*LR	LR	17	54	17.0	
	comp=Z,7µm,32.2s								
HHC	**Hu-ho-hao-te**	**40.48**	**321**	*e*P	**P**	**17**	**43**	**12.8**	**+0.2**
HHC				pmax	pmax				
	comp=Z,17nm,0.8s								
HHC				pmax	pmax				
	comp=Z,870nm,5.2s								
TPRI	**Tanjung Pinang**	**41.13**	**257**	P	**P**	**17**	**43**	**19.5**	**+1.3**
	comp=Z,2µmcomp=Z,38nm,1.1s								
LEM	**Lembang**	**41.22**	**245**	P	**P**	**17**	**43**	**17.6**	**-1.5**
	comp=Z,10nm,0.3s,baz=45,slow=19,SNR=5.4								
	comp=Z,10nm,0.3s								
BTO	**Baotou**	**41.31**	**319**	*e*P	**P**	**17**	**43**	**20.1**	**+0.7**
BTO				pP	**pP**	**17**	**43**	**24.9**	**-1.4**
BTO				sP	**sP**	**17**	**43**	**27.3**	**-1.9**
BTO				S	**S**	**17**	**49**	**32.1**	**0.0**
BTO				pmax	pmax				
	comp=Z,60nm,0.8s								
BTO				pmax	pmax				
	comp=Z,1µm,5.0s								
BTO				LR	LR				
	comp=Z,6µm,18.2s								
BTO				LR	LR				
	comp=Z,6µm,16.5s								
BTO				LR	LR				
	comp=Z,11µm,15.8s								
KMI	**Kunming**	**41.32**	**294**	⇑P	**P**	**17**	**43**	**18.9**	**-1.0**
KMI				pP	pwP	17	43	31.9	-1.2
KMI				pmax	pmax				
	comp=Z,43nm,1.4s								
KMI				pmax	pmax				
	comp=Z,860nm,7.7s								
KMI				LR	LR				
	comp=Z,1µm,16.9s								
KMI				LR	LR				
	comp=Z,3µm,17.2s								
KMI				LR	LR				
	comp=Z,4µm,17.6s								
PSA00	**Pilbara Seismi**	**41.41**	**216**	P	**P**	**17**	**43**	**19.9**	**-0.3**
PSA00	**Pilbara Seismi**	**41.41**	**216**	P	**P**	**17**	**43**	**18.5**	**-1.8**
	comp=Z,93nm,1.1s								
PSA00	**Pilbara Seismi**	**41.41**	**216**	P	**P**	**17**	**43**	**20.2**	**0.0**
CD2	**Chengdu**	**41.81**	**303**	P	**P**	**17**	**43**	**23.6**	**0.0**
CD2				pmax	pmax				
	comp=Z,130nm,1.0s								
PEA0B	**Petropavlovsk-**	**42.08**	**12**	*i*P	**P**	**17**	**43**	**25.8**	**+0.4**
PETK	**Petropavlovsk-**	**42.08**	**12**	P	**P**	**17**	**43**	**25.1**	**-0.3**
PETK	**Petropavlovsk-**	**42.08**	**12**	P	**P**	**17**	**43**	**26.1**	**+0.8**
	comp=Z,10.0nm,1.1s,baz=223,slow=7.5,SNR=5.3								
PETK				PcP	**PcP**	**17**	**45**	**20.2**	**+0.4**
	comp=Z,10nm,1.0s,baz=192,slow=6.1,SNR=6.3								
PETK				LR	LR	17	58	58.2	
	comp=Z,3µm,21.8s,baz=190,slow=33								
	comp=Z,10.0nm,1.1s								
HIA	**Hailar**	**42.14**	**336**	P	**P**	**17**	**43**	**24.3**	**-1.6**
HIA	**Hailar**	**42.14**	**336**	P	**P**	**17**	**43**	**26.4**	**+0.5**
HIA	**Hailar**	**42.14**	**336**	P	**P**	**17**	**43**	**24.3**	**-1.6**
HIA				pmax	pmax				
	comp=Z,70nm,1.6s								
PZH	**PanZhiHua**	**42.46**	**296**	P	**P**	**17**	**43**	**29.6**	**+0.6**
PZH				S	**S**	**17**	**49**	**50.3**	**+0.8**
PZH				pmax	pmax				
	comp=Z,20nm,1.1s								
PZH				pmax	pmax				
	comp=Z,210nm,5.3s								
PZH				LR	LR				
	comp=Z,2µm,20.6s								
PZH				LR	LR				
	comp=Z,2µm,22.7s								
PZH				LR	LR				
	comp=Z,2µm,21.0s								
CGJI	**Cibinong**	**42.84**	**246**	P	P	17	43	44.9	+13
KLI	**Kotabumi**	**42.86**	**249**	P	P	17	43	37.5	+5.2
	comp=Z,185nm,1.1s								
ARMA	**Armidale**	**43.02**	**171**		**P**	**17**	**43**	**32.2**	**-1.2**
ARMA				IAmb	IAmb	17	43	35.2	
	comp=Z,96nm,1.1s								
ARMA	**Armidale**	**43.02**	**171**	P	**P**	**17**	**43**	**32.8**	**-0.6**
	comp=Z,82nm,1.2s								
ARMA	**Armidale**	**43.02**	**171**	P	**P**	**17**	**43**	**33.3**	**-0.1**
MDSI	**Maura Dua**	**43.33**	**250**	P	**P**	**17**	**43**	**35.6**	**-0.5**
LZH	**Lanzhou**	**43.50**	**310**	⇑P	**P**	**17**	**43**	**38.0**	**+0.6**
LZH				ScP	**ScP**	**17**	**49**	**18.0**	**+3.2**
LZH				pmax	pmax				
	comp=Z,110nm,1.2s								
LZH				pmax	pmax				
	comp=Z,2µm,8.9s								
IPM	**Ipoh**	**43.57**	**264**	P	**P**	**17**	**43**	**35.9**	**-2.2**
IPM				IAmb	IAmb	17	43	43.1	
	comp=Z,178nm,1.5s								
IPM	**Ipoh**	**43.57**	**264**	P	**P**	**17**	**43**	**38.9**	**+0.8**
CMSA	**Cobar Meteorol**	**43.59**	**178**	P	**P**	**17**	**43**	**36.0**	**-1.9**
	comp=Z,73nm,1.1s								
CMSA	**Cobar Meteorol**	**43.59**	**178**	P	**P**	**17**	**43**	**37.3**	**-0.5**
LWLI	**Liwa**	**43.65**	**249**	P	P	17	43	44.7	+5.9
LHSI	**Lahat**	**43.68**	**251**	P	**P**	**17**	**43**	**39.2**	**+0.3**
	comp=Z,202nm,1.4s								
KULM	**Kulim**	**43.76**	**265**	P	P	**17**	**43**	**40.9**	**+1.3**
STKA	**Stephens Creek**	**44.00**	**183**		**P**	**17**	**43**	**40.5**	**-0.6**
STKA	**Stephens Creek**	**44.00**	**183**	P	**P**	**17**	**43**	**39.8**	**-1.3**
	comp=Z,259nm,1.1s								
STKA	**Stephens Creek**	**44.00**	**183**	P	**P**	**17**	**43**	**40.0**	**-1.1**
	comp=Z,46nm,1.0s,baz=1.1,slow=8.9,SNR=24								
STKA				S	**S**	**17**	**50**	**15.3**	**+3.9**
	comp=Z,1.3nm,0.7s,baz=53,slow=20,SNR=1.4								
STKA				LR	LR	18	03	16.5	
	comp=Z,2µm,18.0s,baz=356,slow=38								
	comp=Z,46nm,1.0s								
STKA	**Stephens Creek**	**44.00**	**183**	P	**P**	**17**	**43**	**40.4**	**-0.7**
STKA	**Stephens Creek**	**44.00**	**183**	*i*P	**P**	**17**	**43**	**40.4**	**-0.7**
CM31	**Chiang Mai Arr**	**44.19**	**284**	P	**P**	**17**	**43**	**43.4**	**+0.4**
CM31				IAmb	IAmb	17	43	49.8	
	comp=Z,71nm,1.1s								
CM31	**Chiang Mai Arr**	**44.19**	**284**	P	**P**	**17**	**43**	**44.6**	**+1.7**
	SNR=19								
CM31				P	**P**	**17**	**43**	**44.6**	**+1.7**
	SNR=19								
CMAR	**Chiang Mai Arr**	**44.19**	**284**	P	**P**	**17**	**43**	**42.6**	**-0.4**
	comp=Z,14nm,0.5s,baz=89,slow=8.1,SNR=51								
CMAR				ScP	**ScP**	**17**	**49**	**21.5**	**+3.8**
	comp=Z,1.0nm,0.8s,baz=108,slow=4.6,SNR=1.9								
CMAR				LR	LR	18	02	39.8	
	comp=Z,3µm,18.5s,baz=95,slow=37								
CMAR	**Chiang Mai Arr**	**44.19**	**284**	*i*P	**P**	**17**	**43**	**44.0**	**+1.1**
CMAR				pmax	pmax				
	comp=Z,14nm,0.5s								
CHTO	**Chiang Mai**	**44.19**	**284**	P	**P**	**17**	**43**	**41.9**	**-1.1**
CHTO	**Chiang Mai**	**44.19**	**284**	P	**P**	**17**	**43**	**43.4**	**+0.4**
CHTO				P	**P**	**17**	**43**	**43.4**	**+0.4**
CHTO	**Chiang Mai**	**44.19**	**284**	P	**P**	**17**	**43**	**43.2**	**+0.2**
CHTO	**Chiang Mai**	**44.19**	**284**	P	**P**	**17**	**43**	**41.9**	**-1.1**
CHTO				pmax	pmax				
	comp=Z,53nm,1.7s								
CHTO				MLR	MLR				
	comp=Z,4µm,21.0s								
MNAI	**Manna**	**44.41**	**251**	P	**P**	**17**	**43**	**43.0**	**-1.8**
MNAI	**Manna**	**44.41**	**251**	P	**P**	**17**	**43**	**46.0**	**+1.3**
MNAI	**Manna**	**44.41**	**251**	P	P	17	43	51.3	+6.6
KSI	**Kapahiang**	**44.48**	**252**	P	**P**	**17**	**43**	**46.2**	**+0.8**
MSVF	**Nonsavu**	**44.64**	**131**	P	**P**	**17**	**43**	**47.2**	**+0.7**
MSVF				IAmb	IAmb	17	43	49.8	
	comp=Z,77nm,1.1s								
MSVF	**Nonsavu**	**44.64**	**131**	P	**P**	**17**	**43**	**47.8**	**+1.3**
MSVF	**Nonsavu**	**44.64**	**131**	*i*P	**P**	**17**	**43**	**47.6**	**+1.1**
MSVF				pmax	pmax				
	comp=Z,93nm,1.1s								
TNCH	**TengChong**	**45.09**	**293**	P	**P**	**17**	**43**	**50.0**	**-0.3**
TNCH				ScP	**ScP**	**17**	**49**	**22.4**	**+0.8**
TNCH				S	**S**	**17**	**50**	**25.5**	**-2.6**
TNCH				pmax	pmax				
	comp=Z,140nm,1.5s								
TNCH				pmax	pmax				
	comp=Z,1µm,3.5s								
TNCH				LR	LR				
	comp=Z,2µm,15.7s								
TNCH				LR	LR				
	comp=Z,3µm,18.1s								
TNCH				LR	LR				
	comp=Z,6µm,17.0s								
PPI	**Padang Panjang**	**45.48**	**257**	P	**P**	**17**	**43**	**52.8**	**-0.5**
	comp=Z,3µmcomp=Z,64nm,1.0s								
WHYH	**Whyalla**	**45.54**	**188**	P	**P**	**17**	**43**	**53.4**	**+0.1**
BBOO	**Buckleboo**	**45.55**	**190**	P	**P**	**17**	**43**	**52.9**	**-0.6**
BBOO	**Buckleboo**	**45.55**	**190**	P	**P**	**17**	**43**	**51.9**	**-1.6**
	comp=Z,184nm,1.0s								
BBOO	**Buckleboo**	**45.55**	**190**	P	**P**	**17**	**43**	**53.0**	**-0.5**
FORT	**Forrest**	**45.62**	**200**		**P**	**17**	**43**	**53.2**	**-0.8**
FORT				IAmb	IAmb	17	43	56.2	
	comp=Z,66nm,1.1s								
FORT	**Forrest**	**45.62**	**200**	P	**P**	**17**	**43**	**54.5**	**+0.5**
	comp=Z,58nm,1.3s								
HTT	**Hallett**	**45.76**	**186**	P	**P**	**17**	**43**	**53.4**	**-1.8**
	comp=Z,16nm,1.2s								
HTT	**Hallett**	**45.76**	**186**	P	**P**	**17**	**43**	**54.8**	**-0.4**
MNSI	**Mandailing Nat**	**45.90**	**259**	P	**P**	**17**	**43**	**57.9**	**+1.3**
	comp=Z,51nm,1.1s								
PSI	**Prapat**	**46.01**	**262**	LR	LR	18	07	02.1	
	comp=Z,901nm,18.4s,baz=83,slow=41								
PSI	**Prapat**	**46.01**	**262**	P	**P**	**17**	**43**	**59.0**	**+1.4**
PSI	**Prapat**	**46.01**	**262**	P	**P**	**17**	**43**	**57.5**	**-0.1**
PSI				pmax	pmax				
	comp=Z,93nm,1.1s								
RPSI	**Rantau Prapat**	**46.03**	**262**	P	**P**	**17**	**43**	**57.5**	**-0.2**
RPSI				IAmb	IAmb	17	44	03.2	
	comp=Z,93nm,1.1s								
SYDH	**Sydney Hard Ro**	**46.19**	**173**	P	**P**	**17**	**43**	**59.5**	**+1.0**
TSI	**Tuntungan**	**46.19**	**263**	P	**P**	**17**	**44**	**01.7**	**+2.8**
	comp=Z,171nm,1.1s								
YNG	**Young**	**46.48**	**175**	P	**P**	**17**	**44**	**00.3**	**-0.5**
	comp=Z,37nm,1.1s								
SISI	**Saibi**	**46.99**	**256**	P	**P**	**17**	**44**	**07.2**	**+2.0**
	comp=Z,204nm,1.3s								
ULN	**Ulaanbaatar**	**47.20**	**326**	P	**P**	**17**	**44**	**06.1**	**-0.4**
ULN	**Ulaanbaatar**	**47.20**	**326**	P	**P**	**17**	**44**	**03.9**	**-2.6**
ULN				P	**P**	**17**	**44**	**03.9**	**-2.6**
ULN	**Ulaanbaatar**	**47.20**	**326**	*ce*P	**P**	**17**	**44**	**06.4**	**-0.1**
ULN				pmax	pmax				
	comp=Z,48nm,1.3s								
GHSS	**Government Hou**	**47.27**	**187**	P	**P**	**17**	**44**	**08.2**	**+1.3**
LHMI	**Lhok Sumawe**	**47.38**	**266**	P	**P**	**17**	**44**	**07.0**	**-1.3**
LHMI	**Lhok Sumawe**	**47.38**	**266**	P	**P**	**17**	**44**	**11.1**	**+2.9**
LHMI	**Lhok Sumawe**	**47.38**	**266**	P	**P**	**17**	**44**	**10.3**	**+2.1**
MA2	**Magadan**	**47.44**	**4**	P	**P**	**17**	**44**	**07.6**	**-0.4**
MA2	**Magadan**	**47.44**	**4**	LR	LR	18	04	56.2	
	comp=Z,1µm,18.3s,baz=180,slow=37								
MA2	**Magadan**	**47.44**	**4**	P	**P**	**17**	**44**	**08.4**	**+0.4**
MA2	**Magadan**	**47.44**	**4**	*ce*P	**P**	**17**	**44**	**08.1**	**+0.1**
MA2				pmax	pmax				
	comp=Z,75nm,2.5s								
SONM	**Songino Array**	**47.55**	**326**	P	**P**	**17**	**44**	**08.7**	**-0.5**
SONM	**Songino Array**	**47.55**	**326**	P	**P**	**17**	**44**	**08.5**	**-0.7**
	comp=Z,12nm,0.6s,baz=138,slow=5.8,SNR=40								
SONM				PcP	**PcP**	**17**	**45**	**37.3**	**-1.6**
	comp=Z,18nm,1.1s,baz=146,slow=3.4,SNR=4.1								
SONM				ScP	**ScP**	**17**	**49**	**32.0**	**+0.7**
	comp=Z,12nm,1.2s,baz=124,slow=4.7,SNR=9.0								
SONM				S	**S**	**17**	**51**	**03.3**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=154,slow=14,SNR=1.6								
SONM				LR	LR	18	04	52.4	
	comp=Z,9µm,18.4s,baz=132,slow=37								
	comp=Z,12nm,0.6s								
CAN	**Canberra**	**47.55**	**175**	IAmb	IAmb	17	44	11.1	
	comp=Z,48nm,1.0s								
CAN	**Canberra**	**47.55**	**175**	P	**P**	**17**	**44**	**08.7**	**-0.5**
	comp=Z,52nm,1.1s								
CAN	**Canberra**	**47.55**	**175**	P	**P**	**17**	**44**	**09.6**	**+0.4**
CNB	**Canberra Magne**	**47.57**	**175**	P	**P**	**17**	**44**	**09.9**	**+0.5**
GSI	**Gunungsitoli**	**47.69**	**260**	P	**P**	**17**	**44**	**10.2**	**-0.4**
GSI	**Gunungsitoli**	**47.69**	**260**	P	**P**	**17**	**44**	**10.5**	**-0.1**
GSI	**Gunungsitoli**	**47.69**	**260**	P	**P**	**17**	**44**	**10.7**	**+0.1**
	comp=Z,129nm,1.2s								
GTA	**Gaotai**	**47.72**	**313**	P	**P**	**17**	**44**	**11.3**	**+0.7**
GTA				pP	sP	17	44	20.3	-0.3
GTA				pmax	pmax				
	comp=Z,47nm,1.4s								
GTA				LR	LR				
	comp=Z,3µm,17.1s								
GTA				LR	LR				
	comp=Z,6µm,19.9s								
GTA				LR	LR				
	comp=Z,6µm,18.7s								
AMKA	**Amchitka**	**48.14**	**29**	P	**P**	**17**	**44**	**13.4**	**-0.1**
MORW	**Morawa**	**49.41**	**213**	P	**P**	**17**	**44**	**22.7**	**-0.9**
MORW	**Morawa**	**49.41**	**213**	P	**P**	**17**	**44**	**23.3**	**-0.3**
BRAT	**Ballarat**	**49.58**	**181**	P	**P**	**17**	**44**	**25.7**	**+1.1**
TOO	**Toolangi**	**49.60**	**179**	P	**P**	**17**	**44**	**24.4**	**-0.6**
TOO	**Toolangi**	**49.60**	**179**	P	**P**	**17**	**44**	**24.4**	**-0.6**
TOO				pmax	pmax				
	comp=Z,25nm,1.0s								
BLDU	**Ballidu**	**50.30**	**211**	P	**P**	**17**	**44**	**30.1**	**-0.2**
GOMU	**GeErMu**	**50.45**	**307**	P	**P**	**17**	**44**	**32.3**	**+0.3**
GOMU				pP	sP	17	44	41.3	-0.7
GOMU				sP	pwP	17	44	43.6	-2.0
GOMU				pmax	pmax				
	comp=Z,22nm,1.0s								
GOMU				LR	LR				
	comp=Z,2µm,16.7s								
GOMU				LR	LR				
	comp=Z,1µm,18.3s								
GOMU				LR	LR				
	comp=Z,2µm,18.2s								
KLBR	**Kellerberrin**	**50.57**	**210**	P	**P**	**17**	**44**	**32.0**	**-0.4**
YAK	**Yakutsk**	**50.79**	**351**	P	**P**	**17**	**44**	**33.3**	**-0.3**
YAK				IAmb	IAmb	17	44	59.8	
	comp=Z,59nm,0.8s								
YAK	**Yakutsk**	**50.79**	**351**	P	**P**	**17**	**44**	**32.9**	**-0.6**
	comp=Z,45nm,0.7s,baz=160,slow=1.0,SNR=22								
YAK				ScP	**ScP**	**17**	**49**	**46.0**	**+1.4**
	comp=Z,10nm,0.9s,baz=155,slow=1.4,SNR=5.0								
YAK				S	**S**	**17**	**51**	**45.0**	**-2.4**
	comp=Z,2.3nm,0.3s,baz=135,slow=4.3,SNR=5.5								
YAK				LR	LR	18	05	48.5	
	comp=Z,7µm,18.9s,baz=160,slow=36								
	comp=Z,45nm,0.7s								
YAK	**Yakutsk**	**50.79**	**351**	*e*P	**P**	**17**	**44**	**32.2**	**-1.4**
YAK				*e*		17	45	48.3	
YAK				*e*		17	46	25.7	
YAK				*e*PPP	PPP	17	47	24.9	
YAK				*e*S	**S**	**17**	**51**	**46.0**	**-1.4**
YAK				*e**SS	**sS**	**17**	**52**	**00.0**	**+0.5**
YAK				*e*		17	54	20.2	
YAK				*e*SS	**SS**	**17**	**55**	**22.2**	**+0.1**
YAK				*e*SSS	SSS	17	56	53.5	
YAK				pmax	pmax				
	comp=Z,23nm,0.8s								
YAK				pmax	pmax				
	comp=N,6.0nm,0.9s								
YAK				pmax	pmax				
	comp=E,2.0nm,1.1s								
YAK				pmax	pmax				
	comp=Z,699nm,11.9s								
YAK				pmax	pmax				
	comp=N,735nm,14.9s								
YAK				smax	smax				
	comp=N,404nm,8.6s								
YAK				smax	smax				
	comp=E,135nm,6.8s								
YAK				MLR	MLR				
	comp=Z,6µm,16.0s								
YAK				MLR	MLR				
	comp=N,4µm,19.0s								
YAK				MLR	MLR				
	comp=E,861nm,14.0s								
SEY	**Seymchan**	**50.89**	**5**	*i*P	**P**	**17**	**44**	**35.0**	**+0.7**
SEY				pmax	pmax				
	comp=Z,34nm,1.6s								
SHL	**Shillong**	**51.12**	**293**	P	**P**	**17**	**44**	**35.9**	**-1.0**
SHL				IAmb	IAmb	17	44	46.4	
	comp=Z,64nm,0.9s								
SHL	**Shillong**	**51.12**	**293**	P	**P**	**17**	**44**	**36.1**	**-0.8**
	SNR=22								
SHL	**Shillong**	**51.12**	**293**	P	**P**	**17**	**44**	**35.9**	**-1.0**
SHL				pmax	pmax				
	comp=Z,64nm,0.9s								
BRDH	**Bariadhala**	**51.16**	**289**	LR	LR	18	07	58.4	
	comp=Z,2µm,18.1s,baz=113,slow=38								
LSA	**Lhasa**	**52.21**	**298**	P	**P**	**17**	**44**	**43.4**	**-1.9**
LSA				S	**S**	**17**	**52**	**00.8**	**-8.1**
LSA				pmax	pmax				
	comp=Z,27nm,0.8s								
LSA				LR	LR				
	comp=Z,810nm,20.5s								
LSA				LR	LR				
	comp=Z,2µm,18.3s								
MOY	**Mondy**	**52.59**	**327**	*e*P	**P**	**17**	**44**	**46.9**	**-0.5**
MOY				pmax	pmax				
	comp=Z,52nm,2.4s								
GLAD	**Gladstone**	**53.11**	**177**	P	**P**	**17**	**44**	**52.4**	**+1.4**
NIKH	**Nikolski High**	**55.00**	**33**	P	**P**	**17**	**45**	**04.4**	**-0.4**
	baz=240								
NIKH				S	**S**	**17**	**52**	**46.1**	**+1.0**
	baz=240								
RAO	**Raoul Island**	**55.02**	**139**	LR	LR	18	07	06.0	
	comp=Z,2µm,18.4s,baz=288,slow=34								
SPIA	**Saint Paul Isl**	**56.53**	**28**	P	**P**	**17**	**45**	**15.8**	**+0.1**
	baz=236								
P08K	**Saint George I**	**56.53**	**28**	P	**P**	**17**	**45**	**15.9**	**+0.2**
	baz=237								
UNV	**Unalaska Valle**	**56.65**	**32**	P	**P**	**17**	**45**	**16.4**	**-0.2**
UNV				IAmb	IAmb	17	45	22.5	
	comp=Z,47nm,1.2s								
UNV				IAMs_20	IAMs_20	18	07	27.6	
	comp=Z,3µm,21.0s								
UNV	**Unalaska Valle**	**56.65**	**32**	P	**P**	**17**	**45**	**16.8**	**+0.2**
UNV	**Unalaska Valle**	**56.65**	**32**	P	**P**	**17**	**45**	**16.6**	**0.0**
	baz=242								
UNV				S	**S**	**17**	**53**	**07.8**	**+0.8**
	baz=242								
LVA	**Lava Point**	**57.05**	**32**	P	**P**	**17**	**45**	**20.1**	**+0.7**
LVA				IAmb	IAmb	17	45	38.2	
	comp=Z,65nm,1.0s								
LVA				IAMs_20	IAMs_20	18	07	38.9	
	comp=Z,3µm,21.0s								
AKUT	**Akutan**	**57.17**	**32**	P	**P**	**17**	**45**	**23.3**	**+3.0**
BILL	**Bilibino**	**57.51**	**10**	*ce*P	**P**	**17**	**45**	**23.0**	**+0.5**
BILL				pmax	pmax				
	comp=Z,84nm,2.5s								
HUH	**Hualalai**	**57.67**	**74**	IAMs_20	IAMs_20	18	05	44.1	
	comp=Z,4µm,20.0s								
WMQ	**Urumqi**	**57.72**	**314**	⇑P	**P**	**17**	**45**	**25.6**	**+1.1**
WMQ				pP	sP	17	45	34.6	0.0
WMQ				pmax	pmax				
	comp=Z,95nm,1.7s								
WMQ				pmax	pmax				
	comp=Z,940nm,7.1s								
WMQ				LR	LR				
	comp=Z,3µm,16.7s								
WMQ				LR	LR				
	comp=Z,2µm,20.5s								
WMQ				LR	LR				
	comp=Z,2µm,20.5s								
POHA	**Pohakuloa**	**57.95**	**74**	IAMs_20	IAMs_20	18	05	26.6	
	comp=Z,3µm,20.0s								
FALS	**False Pass**	**58.72**	**32**	P	**P**	**17**	**45**	**30.6**	**-0.6**
FALS	**False Pass**	**58.72**	**32**	P	**P**	**17**	**45**	**31.5**	**+0.4**
FALS	**False Pass**	**58.72**	**32**	P	**P**	**17**	**45**	**31.0**	**-0.1**
	baz=244								
RTZ	**Ruatahuna**	**59.08**	**151**	IAmb	IAmb	17	45	42.4	
	comp=Z,64nm,1.0s								
BKZ	**Black Stump Fm**	**59.28**	**151**	P	**P**	**17**	**45**	**35.3**	**0.0**
BKZ				IAmb	IAmb	17	45	39.5	
	comp=Z,99nm,1.6s								
BKZ	**Black Stump Fm**	**59.28**	**151**	P	**P**	**17**	**45**	**35.9**	**+0.6**
S12K	**Black Hills**	**59.78**	**32**	IAmb	IAmb	17	46	36.7	
	comp=Z,58nm,1.1s								
S12K				IAMs_20	IAMs_20	18	09	15.3	
	comp=Z,4µm,20.0s								
S12K	**Black Hills**	**59.78**	**32**	P	**P**	**17**	**45**	**38.3**	**-0.3**
	baz=245								
S12K				S	**S**	**17**	**53**	**48.2**	**+0.3**
	baz=245								
GAMB	**Gambell**	**59.84**	**21**	P	**P**	**17**	**45**	**39.1**	**+0.4**
	baz=232								
GAMB				S	**S**	**17**	**53**	**46.4**	**-1.9**
	baz=232								
TCW	**Tory Channel**	**59.95**	**154**	P	**P**	**17**	**45**	**40.6**	**+0.8**
TUWZ	**Tuamarina**	**59.99**	**155**	P	**P**	**17**	**45**	**40.4**	**+0.4**
M11K	**Mekoryuk**	**60.03**	**26**	P	**P**	**17**	**45**	**39.6**	**-0.4**
	baz=239								
MRZ	**Mangatainoka R**	**60.06**	**153**	P	**P**	**17**	**45**	**40.3**	**-0.3**
MRZ				IAmb	IAmb

	comp=Z,37nm,1.0s								
L14K	**Kuka Creek**	**62.00**	**26**	P		**P**	**17 45 54.0**	**+0.6**	
	baz=242,SNR=8.3								
L14K				S		**S**	**17 54 11.4**	**-4.5**	
	baz=242								
M14K	**Bethel**	**62.04**	**27**	IAmb		IAmb	17 46 01.3		
	comp=Z,58nm,1.2s								
M14K	**Bethel**	**62.04**	**27**	P		**P**	**17 45 54.2**	**+0.6**	
	baz=243								
M14K				S		**S**	**17 54 12.6**	**-3.7**	
	baz=243								
MK31	**Makanchi Array**	**62.12**	**317**	*e*P		**P**	**17 45 54.3**	**-0.3**	
MKAR	**Makanchi Array**	**62.12**	**317**	P		**P**	**17 45 53.9**	**-0.7**	
MKAR	**Makanchi Array**	**62.12**	**317**	P		**P**	**17 45 54.1**	**-0.5**	
	comp=Z,14nm,0.7s,baz=96,slow=5.9,SNR=98								
MKAR				S		**S**	**17 54 16.8**	**-1.3**	
	comp=Z,3.6nm,1.1s,baz=96,slow=15,SNR=7.8								
MKAR				PKP2bc			18 15 12.4		
	comp=Z,0.6nm,0.8s,baz=267,slow=2.9,SNR=4.8								
	comp=Z,14nm,0.7s								
MKAR	**Makanchi Array**	**62.12**	**317**	*i* P		**P**	**17 45 54.4**	**-0.2**	
MKAR				pmax		pmax			
	comp=Z,14nm,0.7s								
TNA	**Tin City**	**62.21**	**20**	P		**P**	**17 45 54.8**	**0.0**	
	baz=235								
J14K	**Nanvaranak Lak**	**62.32**	**24**	P		**P**	**17 45 56.0**	**+0.4**	
	baz=240								
J14K				S		**S**	**17 54 20.2**	**+0.3**	
	baz=240								
O15K	**Ungalikthiuk R**	**62.32**	**29**	P		**P**	**17 45 56.3**	**+0.6**	
	baz=246								
O15K				S		**S**	**17 54 15.6**	**-4.6**	
	baz=246								
MAKZ	**Makanchi**	**62.34**	**317**	P		**P**	**17 45 56.2**	**+0.1**	
MAKZ	**Makanchi**	**62.34**	**317**	P		**P**	**17 45 56.2**	**+0.1**	
MAKZ				pmax		pmax			
	comp=Z,167nm,1.6s								
ZALV	**Zalesovo Beam**	**62.42**	**325**	P		**P**	**17 45 55.0**	**-1.4**	
ZALV	**Zalesovo Beam**	**62.42**	**325**	P		**P**	**17 45 55.2**	**-1.3**	
	comp=Z,12nm,0.6s,baz=108,slow=6.1,SNR=33								
ZALV				PcP		**PcP**	**17 46 35.8**	**+0.1**	
	comp=Z,9.2nm,0.5s,baz=108,slow=4.7,SNR=3.5								
ZALV				S		**S**	**17 54 20.9**	**-0.6**	
	comp=Z,1.1nm,0.8s,baz=108,slow=9.3,SNR=3.8								
ZALV				LR		LR	18 13 06.3		
	comp=Z,3μm,18.5s,baz=106,slow=36								
ZALV				PKPPKP		**P'P'df**	**18 15 03.1**	**-1.4**	
	comp=Z,3.2nm,1.1s,baz=270,slow=2.9,SNR=5.4								
ZALV				PKP2ab			18 15 18.4		
	comp=Z,2.3nm,1.0s,baz=279,slow=2.8,SNR=4.8								
	comp=Z,12nm,0.6s								
ANM	**Nome**	**62.56**	**22**	P		**P**	**17 45 57.3**	**+0.2**	
	baz=238								
M15K	**Kasigluk River**	**62.57**	**27**	P		**P**	**17 45 57.1**	**-0.2**	
	baz=244								
M15K				S		**S**	**17 54 20.8**	**-2.4**	
	baz=244								
N15K	**Kwethluk River**	**62.61**	**28**	P		**P**	**17 45 58.0**	**+0.4**	
	baz=245								
N15K				S		**S**	**17 54 20.1**	**-3.7**	
	baz=245								
L15K	**Ungalak Mounta**	**62.66**	**26**	P		**P**	**17 45 58.1**	**+0.2**	
	baz=243								
L15K				S		**S**	**17 54 19.9**	**-4.4**	
	baz=243								
F14K	**Arctic Creek**	**62.71**	**21**	P		**P**	**17 45 58.6**	**+0.4**	
	baz=236								
PALK	**Pallekele**	**62.87**	**272**	LR		LR	18 12 51.6		
	comp=Z,1μm,19.8s,baz=83,slow=36								
PALK	**Pallekele**	**62.87**	**272**	P		**P**	**17 46 00.7**	**+0.5**	
PALK				P		**P**	**17 46 01.2**	**+1.0**	
K15K	**Wolf Creek Mou**	**62.93**	**25**	P		**P**	**17 45 60.0**	**+0.3**	
	baz=243								
P16K	**Nushagak River**	**63.13**	**29**	P		**P**	**17 46 01.5**	**+0.4**	
	baz=248								
CHIR	**Chirikof Islan**	**63.21**	**33**	P		**P**	**17 46 01.4**	**-0.3**	
	baz=251								
G15K	**Niukluk**	**63.27**	**22**	P		**P**	**17 46 01.7**	**-0.2**	
	baz=239								
G15K				S		**S**	**17 54 31.6**	**-0.2**	
	baz=239								
O16K	**Kokwok River B**	**63.30**	**29**	P		**P**	**17 46 02.5**	**+0.3**	
	baz=247								
O16K				S		**S**	**17 54 29.2**	**-3.1**	
	baz=247								
N16K	**Nishlik Lake**	**63.34**	**28**	P		**P**	**17 46 02.9**	**+0.5**	
	baz=246								
N16K				S		**S**	**17 54 30.0**	**-2.9**	
	baz=246								
F15K	**North Star Dit**	**63.43**	**21**	P		**P**	**17 46 02.9**	**0.0**	
	baz=238								
F15K				S		**S**	**17 54 32.1**	**-1.6**	
	baz=238								
R17L	**Mt. Peulik Vol**	**63.43**	**31**	P		**P**	**17 46 02.6**	**-0.5**	
	baz=250								
R17L				S		**S**	**17 54 31.1**	**-3.0**	
	baz=250								
PDGK	**Podgornoye**	**63.46**	**312**	P		**P**	**17 46 03.1**	**-0.7**	
M16K	**Timber Creek**	**63.48**	**27**	P		**P**	**17 46 04.1**	**+0.7**	
M16K				IAmb		IAmb	17 46 10.7		
	comp=Z,38nm,1.2s								
M16K	**Timber Creek**	**63.48**	**27**	P		**P**	**17 46 03.7**	**+0.3**	
	baz=246								
M16K				S		**S**	**17 54 32.4**	**-2.1**	
	baz=246								
L16K	**Owhat River**	**63.54**	**26**	P		**P**	**17 46 03.7**	**0.0**	
	baz=245								
L16K				S		**S**	**17 54 33.9**	**-1.4**	
	baz=245								
HYB	**Hyderabad**	**63.61**	**283**	*e*P		**P**	**17 46 04.5**	**-0.5**	
H16K	**Elim**	**63.76**	**23**	P		**P**	**17 46 04.9**	**-0.2**	
	baz=241								
H16K				S		**S**	**17 54 33.3**	**-4.6**	
	baz=241								
J16K	**Anvik River**	**63.76**	**24**	P		**P**	**17 46 05.5**	**+0.3**	
	baz=243								
J16K				S		**S**	**17 54 35.3**	**-2.6**	
	baz=243								
O17K	**Koliganek Bris**	**63.84**	**29**	P		**P**	**17 46 06.2**	**+0.5**	
	baz=248								
O17K				S		**S**	**17 54 36.9**	**-2.2**	
	baz=248								
Q17K	**Contact Creek**	**63.88**	**31**	P		**P**	**17 46 05.6**	**-0.6**	
	baz=250								
P17K	**Kvichak River**	**63.94**	**29**	P		**P**	**17 46 06.3**	**-0.1**	
	baz=249								
I17K	**Unalakleet**	**64.00**	**24**	P		**P**	**17 46 06.8**	**+0.1**	
	baz=243								
N17K	**Nushagak Hills**	**64.08**	**28**	IAmb		IAmb	17 46 15.2		
	comp=Z,59nm,1.4s								
N17K	**Nushagak Hills**	**64.08**	**28**	P		**P**	**17 46 07.9**	**+0.6**	
	baz=248,SNR=14								
N17K				S		**S**	**17 54 42.0**	**0.0**	
	baz=248								
G16K	**Koyuk River**	**64.09**	**22**	P		**P**	**17 46 07.1**	**-0.1**	
	baz=240								
SII	**Sitkinak Islan**	**64.20**	**33**	P		**P**	**17 46 07.8**	**-0.4**	
SII	**Sitkinak Islan**	**64.20**	**33**	P		**P**	**17 46 09.9**	**+1.7**	
SII	**Sitkinak Islan**	**64.20**	**33**	P		**P**	**17 46 09.1**	**+0.9**	
	baz=252								
SATY	**Saty**	**64.21**	**312**	*e*P		**P**	**17 46 08.0**	**-0.7**	
SATY				*e*S		**S**	**17 54 43.5**	**-1.0**	
SATY				pmax		pmax			
	comp=Z,63nm,1.6s								
SATY	**Saty**	**64.21**	**312**	*e*P		**P**	**17 46 08.1**	**-0.7**	
	comp=Z,63nm,1.6s								
SATY				*e*S		**S**	**17 54 43.5**	**-1.0**	
L17K	**Donlin**	**64.22**	**26**	P		**P**	**17 46 08.6**	**+0.3**	
	baz=246,SNR=13								
L17K				S		**S**	**17 54 43.0**	**-0.8**	
	baz=246								
M17K	**Holitna River**	**64.31**	**27**	P		**P**	**17 46 09.4**	**+0.7**	
	baz=247								
M17K				S		**S**	**17 54 44.5**	**-0.3**	
	baz=247								
R18K	**Karluk**	**64.38**	**32**	P		**P**	**17 46 09.1**	**-0.2**	
	baz=252								
R18K				S		**S**	**17 54 43.9**	**-1.8**	
	baz=252								
J17K	**VABM Dome**	**64.43**	**25**	IAmb		IAmb	17 46 17.9		
	comp=Z,43nm,1.1s								
J17K	**VABM Dome**	**64.43**	**25**	P		**P**	**17 46 09.9**	**+0.4**	
	baz=245								
J17K				S		**S**	**17 54 45.8**	**-0.4**	
	baz=245								
Q18K	**Katmai Hardscr**	**64.45**	**30**	P		**P**	**17 46 10.6**	**+0.7**	
	baz=251								
K17K	**Iditarod**	**64.46**	**25**	P		**P**	**17 46 10.5**	**+0.8**	
	baz=246,SNR=17								
K17K				S		**S**	**17 54 46.6**	**-0.1**	
	baz=246								
TDK	**Taldyqorghan**	**64.47**	**314**	*e*P		**P**	**17 46 09.8**	**-0.4**	
TDK				*e*S		**S**	**17 54 46.7**	**-0.8**	
TDK	**Taldyqorghan**	**64.47**	**314**	*e*P		**P**	**17 46 09.8**	**-0.4**	
TDK				*e*S		**S**	**17 54 46.8**	**-0.8**	
TARG	**Taragay, Kyrgy**	**64.49**	**310**	IAmb		IAmb	17 46 13.2		
	comp=Z,68nm,1.6s								
P18K	**Big Mountain,**	**64.59**	**29**	P		**P**	**17 46 10.5**	**-0.2**	
	baz=250								
C16K	**Lisburne Hills**	**64.59**	**18**	P		**P**	**17 46 11.4**	**+0.8**	
	baz=236								
N18K	**Kilae Creek**	**64.73**	**28**	IAmb		IAmb	17 46 26.2		
	comp=Z,39nm,1.4s								
N18K	**Kilae Creek**	**64.73**	**28**	P		**P**	**17 46 12.4**	**+0.8**	
	baz=249,SNR=8.1								
N18K				S		**S**	**17 54 49.9**	**-0.3**	
	baz=249								
O18K	**Koktuh Hills**	**64.76**	**29**	P		**P**	**17 46 12.6**	**+0.8**	
O18K	**Koktuh Hills**	**64.76**	**29**	P		**P**	**17 46 11.9**	**+0.1**	
	baz=250								
O18K				S		**S**	**17 54 50.5**	**0.0**	
	baz=250								
G17K	**Kiwalik Mounta**	**64.76**	**22**	P		**P**	**17 46 11.9**	**+0.2**	
	baz=242								
G17K				S		**S**	**17 54 50.6**	**+0.3**	
	baz=242								
H17K	**Granite Mounta**	**64.78**	**23**	P		**P**	**17 46 12.3**	**+0.5**	
	baz=243								
H17K				S		**S**	**17 54 51.7**	**+1.2**	
	baz=243								
OHAK	**Old Harbor**	**64.87**	**32**	IAMs_20		IAMs_20	18 12 09.9		
	comp=Z,2μm,20.0s								
OHAK	**Old Harbor**	**64.87**	**32**	P		**P**	**17 46 13.2**	**+0.6**	
OHAK	**Old Harbor**	**64.87**	**32**	P		**P**	**17 46 13.1**	**+0.6**	
	baz=253								
OHAK				S		**S**	**17 54 54.3**	**+2.5**	
	baz=253								
L18K	**Granite Mounta**	**64.95**	**26**	IAmb		IAmb	17 46 20.9		
	comp=Z,53nm,1.3s								
L18K	**Granite Mounta**	**64.95**	**26**	P		**P**	**17 46 13.7**	**+0.8**	
	baz=247,SNR=13								
L18K				S		**S**	**17 54 54.4**	**+1.6**	
	baz=247								
F17K	**Baldwin Pennin**	**65.00**	**21**	P		**P**	**17 46 13.6**	**+0.5**	
	baz=241								
F17K				S		**S**	**17 54 55.7**	**+2.6**	
	baz=241								
D17K	**Noatak River**	**65.00**	**20**	P		**P**	**17 46 13.4**	**+0.2**	
	baz=239								
D17K				S		**S**	**17 54 53.2**	**0.0**	
	baz=239								
M18K	**Stony River**	**65.06**	**27**	P		**P**	**17 46 14.4**	**+0.7**	
	baz=249,SNR=15								
M18K				S		**S**	**17 54 55.6**	**+1.5**	
	baz=249								
E17K	**Hotham Inlet**	**65.11**	**20**	P		**P**	**17 46 14.2**	**+0.3**	
	baz=240								
Q19K	**Cape Douglas,**	**65.21**	**30**	P		**P**	**17 46 12.9**	**-1.8**	
Q19K	**Cape Douglas,**	**65.21**	**30**	P		**P**	**17 46 14.2**	**-0.6**	
	baz=252								
RDOG	**Red Dog Mine**	**65.25**	**19**	P		**P**	**17 46 14.9**	**+0.1**	
	baz=239								
TNSS	**Tian-Shan**	**65.27**	**312**	*e*P		**P**	**17 46 14.9**	**-1.0**	
TNSS	**Tian-Shan**	**65.27**	**312**	*e*P		**P**	**17 46 14.9**	**-1.0**	
O19K	**Port Alsworth**	**65.29**	**29**	S		**S**	**17 54 59.6**	**+2.7**	
	baz=251								
KURK	**Kurchatov**	**65.30**	**320**	P		**P**	**17 46 14.9**	**-0.5**	
KURK	**Kurchatov**	**65.30**	**320**	P		**P**	**17 46 14.8**	**-0.6**	
KURK				P		**P**	**17 46 14.8**	**-0.6**	
KURK	**Kurchatov**	**65.30**	**320**	*ce*P		**P**	**17 46 14.3**	**-1.1**	
KURK				pmax		pmax			
	comp=Z,217nm,1.6s								
AAA	**Alma-Ata**	**65.31**	**312**	*e*P		**P**	**17 46 15.2**	**-0.6**	
AAA	**Alma-Ata**	**65.31**	**312**	*e*P		**P**	**17 46 15.3**	**-0.6**	
KURBB	**Kurchatov Arra**	**65.33**	**320**	P		**P**	**17 46 14.8**	**-0.8**	
	comp=Z,24nm,0.5s,baz=105,slow=6.7,SNR=119								
KURBB				S		S	17 54 48.5	-9.3	
	comp=Z,1.2nm,1.0s,baz=99,slow=14,SNR=4.2								
KURBB				PKPPKP		**P'P'df**	**18 14 57.4**	**-2.3**	
	comp=Z,5.3nm,1.1s,baz=275,slow=3.5,SNR=16								
KURBB				LR		LR	18 15 54.7		
	comp=Z,6μm,18.0s,baz=124,slow=37								
	comp=Z,24nm,0.5s								
C17K	**DeLong Mountai**	**65.38**	**19**	P		**P**	**17 46 16.2**	**+0.5**	
	baz=238								
KDAK	**Kodiak Island**	**65.40**	**32**	*i* P		**P**	**17 46 15.7**	**-0.2**	
KDAK				pmax		pmax			
	comp=Z,12nm,0.8s								
KDAK	**Kodiak Island**	**65.40**	**32**	P		**P**	**17 46 16.5**	**+0.6**	
	baz=253								
KDAK				S		**S**	**17 54 59.8**	**+1.4**	
	baz=253								
J18K	**Innoko River**	**65.42**	**25**	P		**P**	**17 46 15.9**	**-0.1**	
	baz=247								
N19K	**Bonanza Creek**	**65.43**	**28**	P		**P**	**17 46 16.7**	**+0.5**	
	baz=250,SNR=17								
N19K				S		**S**	**17 54 58.4**	**-0.4**	
	baz=250								
H18K	**Honhosa River**	**65.46**	**23**	IAmb		IAmb	17 46 20.5		
	comp=Z,33nm,1.2s								
H18K	**Honhosa River**	**65.46**	**23**	P		**P**	**17 46 16.1**	**-0.2**	
	baz=245								
F18K	**Selawik**	**65.64**	**21**	P		**P**	**17 46 17.6**	**+0.3**	
	baz=243								
P19K	**Oil Pt**	**65.64**	**30**	P		**P**	**17 46 17.4**	**-0.2**	
P19K	**Oil Pt**	**65.64**	**30**	P		**P**	**17 46 17.3**	**-0.2**	
	baz=252								
P19K				S		**S**	**17 54 59.3**	**-2.0**	
	baz=252								
G18K	**Tagagawik**	**65.68**	**22**	IAmb		IAmb	17 46 25.2		
	comp=Z,31nm,1.0s								
G18K	**Tagagawik**	**65.68**	**22**	P		**P**	**17 46 17.5**	**-0.1**	
	baz=244,SNR=14								
G18K				S		**S**	**17 55 00.6**	**-1.0**	
	baz=244								
KSH	**Kashi**	**65.68**	**308**	P		**P**	**17 46 20.4**	**+2.1**	
KSH				S		**S**	**17 55 05.8**	**+3.0**	
KSH				SS		**SS**	**17 59 26.8**	**+10**	
KSH				pmax		pmax			
	comp=Z,40nm,1.5s								
KSH				pmax		pmax			
	comp=Z,770nm,6.8s								
KSH				LR		LR			
	comp=Z,2μm,20.3s								
KSH				LR		LR			
	comp=Z,2μm,19.6s								
KSH				LR		LR			
	comp=Z,2μm,19.9s								
E18K	**Tukpahlearik C**	**65.69**	**20**	P		**P**	**17 46 17.9**	**+0.2**	
	baz=241								
E18K				S		**S**	**17 54 58.1**	**-3.5**	
	baz=241								
ULHL	**Ulahol**	**65.70**	**311**	P		**P**	**17 46 19.4**	**+0.8**	
	SNR=10								
L19K	**White Mountain**	**65.73**	**27**	IAmb		IAmb	17 46 26.3		
	comp=Z,41nm,1.1s								
L19K	**White Mountain**	**65.73**	**27**	P		**P**	**17 46 18.5**	**+0.4**	
	baz=249,SNR=33								
L19K				S		**S**	**17 55 03.0**	**+0.6**	
	baz=249								
Q20K	**Shuyak Island**	**65.73**	**31**	P		**P**	**17 46 18.0**	**-0.1**	
	baz=253								
Q20K				S		**S**	**17 55 00.9**	**-1.5**	
	baz=253								
ILSW	**Iliamna Southw**	**65.78**	**29**	IAmb		IAmb	17 46 24.8		
	comp=Z,45nm,1.5s								
KUU	**Kurty**	**65.80**	**313**	*e*P		**P**	**17 46 18.5**	**-0.4**	
KUU				pmax		pmax			
	comp=Z,51nm,1.2s								
KUU	**Kurty**	**65.80**	**313**	*e*P		**P**	**17 46 18.5**	**-0.4**	
	comp=Z,51nm,1.2s								
NRN	**Naryn**	**65.81**	**310**	IAmb		IAmb	17 46 23.5		
	comp=Z,56nm,1.3s								
NRN				IAMs_20		IAMs_20	18 17 26.8		
	comp=Z,4μm,19.0s								
M19K	**Big River Lodg**	**65.84**	**27**	P		**P**	**17 46 19.6**	**+0.9**	
	baz=250,SNR=12								
GCSA	**Galena City Sc**	**65.87**	**24**	P		**P**	**17 46 18.8**	**-0.1**	
	baz=246								
BOOM	**Boomskoye usch**	**65.95**	**311**	IAMs_20		IAMs_20	18 19 26.9		
	comp=Z,3μm,18.0s								
O20K	**Slope Mountain**	**66.06**	**29**	P		**P**	**17 46 20.1**	**-0.2**	
	baz=252								
O20K				S		**S**	**17 55 04.6**	**-2.0**	
	baz=252								
J19K	**Poorman**	**66.08**	**25**	IAmb		IAmb	17 46 27.6		
	comp=Z,43nm,1.3s								
J19K	**Poorman**	**66.08**	**25**	P		**P**	**17 46 20.8**	**+0.5**	
	baz=248,SNR=13								
J19K				S		**S**	**17 55 07.8**	**+1.3**	
	baz=248								
C18K	**Utukok River**	**66.10**	**19**	P		**P**	**17 46 20.5**	**+0.1**	
	baz=240								
C18K				S		**S**	**17 55 07.4**	**+0.7**	
	baz=240								
RED	**Redoubt Volcan**	**66.10**	**29**	IAmb		IAmb	17 46 27.4		
	comp=Z,33nm,1.2s								
TKM2	**Tokmak 2**	**66.24**	**312**	P		**P**	**17 46 22.5**	**+0.5**	
	SNR=30								
L20K	**Farewell, AK**	**66.27**	**27**	P		**P**	**17 46 22.1**	**+0.6**	
	baz=250								
L20K				S		**S**	**17 55 10.0**	**+1.1**	
	baz=250								
B18K	**Kokolik River**	**66.27**	**18**	P		**P**	**17 46 22.0**	**+0.7**	
	baz=239								
B18K				S		**S**	**17 55 07.1**	**-1.5**	
	baz=239								
H19K	**Roundabout Mou**	**66.35**	**23**	IAmb		IAmb	17 46 29.4		
	comp=Z,52nm,1.4s								
H19K	**Roundabout Mou**	**66.35**	**23**	P		**P**	**17 46 22.4**	**+0.5**	
	baz=246,SNR=15								
H19K				S		**S**	**17 55 09.0**	**-0.7**	
	baz=246								
G19K	**Purcell Mounta**	**66.36**	**22**	IAmb		IAmb	17 46 29.8		
	comp=Z,31nm,0.9s								
G19K	**Purcell Mounta**	**66.36**	**22**	P		**P**	**17 46 22.2**	**+0.2**	
	baz=245,SNR=18								
G19K				S		**S**	**17 55 09.6**	**-0.3**	
	baz=245								
M20K	**Styx River**	**66.40**	**27**	IAmb		IAmb	17 46 31.9		
	comp=Z,61nm,1.2s								
M20K	**Styx River**	**66.40**	**27**	P		**P**	**17 46 23.3**	**+0.8**	
	baz=251								
M20K				S		**S**	**17 55 09.8**	**-0.9**	
	baz=251								
F19K	**Shaleruckik Mo**	**66.41**	**21**	IAmb		IAmb	17 47 04.7		
	comp=Z,48nm,1.8s								
F19K	**Shaleruckik Mo**	**66.41**	**21**	P		**P**	**17 46 22.1**	**-0.2**	
	baz=244								
F19K				S		**S**	**17 55 10.1**	**-0.2**	
	baz=244								
HOM	**Homer**	**66.41**	**30**	P		**P**	**17 46 22.2**	**-0.2**	
	baz=253								
HOM				S		**S**	**17 55 10.3**	**-0.3**	
	baz=253								
K20K	**Telida**	**66.49**	**26**	IAmb		IAmb	17 46 30.8		
	comp=Z,35nm,1.1s								
K20K	**Telida**	**66.49**	**26**	P		**P**	**17 46 23.7**	**+0.8**	
	baz=250								
K20K				S		**S**	**17 55 11.7**	**+0.1**	
	baz=250								
CNPM	**China Poot**	**66.57**	**30**	P		**P**	**17 46 23.1**	**-0.4**	
KBK	**Karagaybulak**	**66.70**	**311**	P		**P**	**17 46 25.7**	**+0.8**	
	SNR=10								
J20K	**Nowinta River**	**66.75**	**25**	P		**P**	**17 46 25.3**	**+0.8**	
	baz=249,SNR=25								
J20K				S		**S**	**17 55 14.1**	**-0.5**	
	baz=249								
BRLK	**Bradley Lake**	**66.81**	**30**	IAmb		IAmb	17 46 43.4		
	comp=Z,43nm,1.2s								
C19K	**Lookout Ridge**	**66.83**	**19**	P		**P**	**17 46 25.6**	**+0.6**	
	baz=242								
C19K				S		**S**	**17 55 13.9**	**-1.7**	
	baz=242								
I20K	**Naaghedeneel**	**66.84**	**24**	IAmb		IAmb	17 47 01.5		
	comp=Z,53nm,1.0s								
I20K	**Naaghedeneel**	**66.84**	**24**	P		**P**	**17 46 25.6**	**+0.6**	
	baz=248								
E19K	**Redstone River**	**66.87**	**21**	IAmb		IAmb	17 47 10.3		
	comp=Z,26nm,0.9s								
E19K	**Redstone River**	**66.87**	**21**	P		**P**	**17 46 25.6**	**+0.3**	
	baz=245								
E19K				S		**S**	**17 55 14.1**	**-1.9**	
	baz=245								
CHMS	**Chumysh**	**66.87**	**312**	P		**P**	**17 46 26.0**	**+0.2**	
	SNR=19								
A19K	**Wainwright**	**66.91**	**18**	P		**P**	**17 46 26.3**	**+0.9**	
	baz=240								
H20K	**Anotleneega Mo**	**66.94**	**23**	P		**P**	**17 46 26.5**	**+0.7**	
	baz=248,SNR=16								
H20K				S		**S**	**17 55 16.4**	**-0.5**	
	baz=248								
FRU1	**Bishkek**	**66.94**	**311**	IAMs_20		IAMs_20	18 18 00.2		
	comp=Z,4μm,18.0s								
CAPN	**Captain Cook N**	**66.96**	**29**	P		**P**	**17 46 26.6**	**+0.7**	
	baz=253								
UCH	**Uchtor**	**66.98**	**311**	P		**P**	**17 46 28.5**	**+1.4**	
	SNR=11								
SGDS	**Sogindy**	**66.99**	**312**	⇑*i* P		**P**	**17 46 25.9**	**-0.7**	
D19K	**Kuna River**	**67.02**	**20**	IAmb		IAmb	17 46 33.4		
	comp=Z,43nm,1.1s								
D19K	**Kuna River**	**67.02**	**20**	P		**P**	**17 46 26.6**	**+0.3**	
	baz=244								
D19K				S		**S**	**17 55 15.1**	**-2.8**	
	baz=244								
AAK	**Ala-Archa**	**67.03**	**311**	P		**P**	**17 46 27.5**	**+0.6**	
	SNR=8.2								
AAK	**Ala-Archa**	**67.03**	**311**	P		**P**	**17 46 26.4**	**-0.6**	
AAK	**Ala-Archa**	**67.03**	**311**	IAMs_20		IAMs_20	18 20 28.4		
	comp=Z,3μm,18.0s								
AAK	**Ala-Archa**	**67.03**	**311**	LR		LR	18 18 30.4		
	comp=Z,2μm,18.2s,baz=100,slow=39								
AAK	**Ala-Archa**	**67.03**	**311**	P		**P**	**17 46 27.6**	**+0.6**	
AAK				P		**P**	**17 46 27.6**	**+0.6**	
AAK	**Ala-Archa**	**67.03**	**311**	*ce*P		**P**	**17 46 27.5**	**+0.6**	
AAK				pmax		pmax			
	comp=Z,34nm,1.1s								
AAK	**Ala-Archa**	**67.03**	**311**	*i* P		**P**	**17 46 27.0**	**0.0**	
	SNR=7.4								
USP	**Ospenovka**	**67.07**	**312**	P		**P**	**17 46 27.3**	**+0.2**	
	SNR=21								
PPLA	**Purkeypile**	**67.14**	**26**	IAmb		IAmb	17 46 44.2		
	comp=Z,53nm,1.2s								
PPLA	**Purkeypile**	**67.14**	**26**	P		**P**	**17 46 27.5**	**+0.3**	
	baz=252,SNR=11								
PPLA				S		**S**	**17 55 17.4**	**-2.3**	
	baz=252								
SKT	**Skwentna**	**67.15**	**27**	P		**P**	**17 46 26.8**	**-0.4**	
	baz=252,SNR=9.8								
SKT				S		**S**	**17 55 17.9**	**-1.6**	
	baz=252	

	baz=254								
M22K	**Willow**	**67.72**	**28**	P	**P**	**17 46 30.3**	**-0.4**		
	baz=254								
H21K	**Melozitna Rive**	**67.80**	**23**	P	**P**	**17 46 31.7**	**+0.4**		
	baz=250,SNR=24								
CUT	**Chulitna**	**67.84**	**27**	P	**P**	**17 46 30.8**	**-0.6**		
	baz=254								
G21K	**Aliakaket**	**67.84**	**22**	P	**P**	**17 46 31.6**	**+0.2**		
	baz=249								
G21K				S	**S**	**17 55 27.9**	**+0.2**		
	baz=249								
KTH	**Kantishna Hill**	**67.89**	**26**	IAmb	IAmb	17 46 39.2			
	comp=Z,53nm,1.1s								
B20K	**Meade River**	**68.00**	**18**	P	**P**	**17 46 33.1**	**+0.8**		
B20K	**Meade River**	**68.00**	**18**	P	**P**	**17 46 32.5**	**+0.2**		
	baz=244								
BPAW	**Bear Paw Mtn.**	**68.03**	**25**	IAmb	IAmb	17 46 46.0			
	comp=Z,44nm,1.2s								
BPAW	**Bear Paw Mtn.**	**68.03**	**25**	P	**P**	**17 46 32.9**	**+0.3**		
	baz=252,SNR=28								
BPAW				S	**S**	**17 55 28.0**	**-2.1**		
	baz=252								
F21K	**Alatna River**	**68.11**	**22**	P	**P**	**17 46 33.3**	**+0.2**		
	baz=249,SNR=7.6								
F21K				S	**S**	**17 55 30.1**	**-0.8**		
	baz=249								
TRF	**Thorofare Moun**	**68.13**	**26**	IAmb	IAmb	17 46 51.8			
	comp=Z,41nm,1.2s								
TRF	**Thorofare Moun**	**68.13**	**26**	P	**P**	**17 46 32.8**	**-0.7**		
	baz=253,SNR=12								
TRF				S	**S**	**17 55 31.0**	**-0.6**		
	baz=253								
PMR	**Palmer**	**68.13**	**28**	P	**P**	**17 46 33.5**	**+0.2**		
PMR	**Palmer**	**68.13**	**28**	P	**P**	**17 46 33.1**	**-0.2**		
	baz=255								
PMR				S	**S**	**17 55 29.1**	**-2.1**		
	baz=255								
OHH	**Osh**	**68.18**	**309**	P	**P**	**17 46 34.8**	**+0.6**		
GHO	**Glory Hole Cre**	**68.27**	**28**	IAMs_20	IAMs_20	18 13 15.5			
	comp=Z,2µm,21.0s								
PWL	**Port Wells**	**68.32**	**29**	P	**P**	**17 46 34.6**	**+0.1**		
	baz=256,SNR=16								
PWL				S	**S**	**17 55 32.4**	**-1.2**		
	baz=256								
E21K	**Killik River**	**68.39**	**20**	P	**P**	**17 46 35.2**	**+0.3**		
	baz=248								
E21K				S	**S**	**17 55 32.9**	**-1.4**		
	baz=248								
KNK	**Knik Glacier**	**68.40**	**28**	P	**P**	**17 46 35.1**	**0.0**		
	baz=256								
KNK				S	**S**	**17 55 33.2**	**-1.4**		
	baz=256								
C21K	**Knifeblade Rid**	**68.40**	**20**	P	**P**	**17 46 35.6**	**+0.7**		
	baz=247								
C21K				S	**S**	**17 55 31.4**	**-2.9**		
	baz=247								
MLY	**Manley**	**68.42**	**24**	IAmb	IAmb	17 46 39.6			
	comp=Z,33nm,1.0s								
MLY	**Manley**	**68.42**	**24**	P	**P**	**17 46 35.6**	**+0.4**		
	baz=252,SNR=38								
MLY				S	**S**	**17 55 33.3**	**-1.4**		
	baz=252								
H22K	**Ishtalitna Cre**	**68.44**	**23**	P	**P**	**17 46 35.9**	**+0.7**		
	baz=251,SNR=12								
H22K				S	**S**	**17 55 34.5**	**-0.4**		
	baz=251								
P23K	**Montague Islan**	**68.57**	**30**	P	**P**	**17 46 36.7**	**+0.6**		
	baz=257								
P23K				S	**S**	**17 55 36.1**	**-0.5**		
	baz=257								
B21K	**Ikpikpuk River**	**68.64**	**19**	IAmb	IAmb	17 47 10.7			
	comp=Z,34nm,1.1s								
B21K	**Ikpikpuk River**	**68.64**	**19**	P	**P**	**17 46 36.9**	**+0.6**		
	baz=247								
B21K				S	**S**	**17 55 35.8**	**-1.3**		
	baz=247								
F22K	**John River**	**68.68**	**22**	P	**P**	**17 46 37.3**	**+0.6**		
	baz=250,SNR=5.4								
F22K				S	**S**	**17 55 37.1**	**-0.6**		
	baz=250								
G22K	**Bettles**	**68.73**	**22**	P	**P**	**17 46 37.0**	**+0.1**		
	baz=251								
G22K				S	**S**	**17 55 37.1**	**-1.1**		
	baz=251								
RND	**Reindeer**	**68.74**	**26**	IAmb	IAmb	17 46 43.5			
	comp=Z,32nm,1.2s								
MCK	**McKinley**	**68.79**	**26**	P	**P**	**17 46 36.9**	**-0.5**		
	baz=254								
MCK				S	**S**	**17 55 36.9**	**-2.2**		
	baz=254								
M23K	**Glacier View**	**68.83**	**28**	P	**P**	**17 46 37.8**	**0.0**		
	baz=256								
M23K				S	**S**	**17 55 38.5**	**-1.2**		
	baz=256								
GLI	**Glacier Island**	**68.91**	**29**	P	**P**	**17 46 38.4**	**+0.2**		
	baz=257								
GLI				S	**S**	**17 55 39.5**	**-1.1**		
	baz=257								
BRZS	**Berezniki**	**68.95**	**319**	*e*P	**P**	**17 46 38.2**	**-0.5**		
BRZS				*e*S	**S**	**17 55 40.6**	**-0.8**		
BRZS	**Berezniki**	**68.95**	**319**	*e*P	**P**	**17 46 38.3**	**-0.5**		
BRZS				*e*S	**S**	**17 55 40.7**	**-0.8**		
Q23K	**Middleton Isla**	**68.97**	**31**	P	**P**	**17 46 39.5**	**+1.0**		
	baz=258								
Q23K				S	**S**	**17 55 42.0**	**+0.8**		
	baz=258								
Q23K				S	**S**	**17 55 42.0**	**+0.8**		
	baz=258								
NEA2	**Nenana**	**68.97**	**25**	P	**P**	**17 46 38.4**	**-0.1**		
	baz=254								
NEA2				S	**S**	**17 55 40.2**	**-1.0**		
	baz=254								
D22K	**Ayikyak River**	**68.99**	**20**	P	**P**	**17 46 39.8**	**+1.2**		
D22K				IAmb	IAmb	17 46 59.9			
	comp=Z,45nm,1.0s								
D22K	**Ayikyak River**	**68.99**	**20**	P	**P**	**17 46 39.6**	**+1.0**		
	baz=249,SNR=13								
D22K				S	**S**	**17 55 40.6**	**-0.8**		
	baz=249								
I23K	**Minto, Yukon-K**	**69.01**	**24**	IAmb	IAmb	17 46 53.8			
	comp=Z,67nm,1.4s								
I23K	**Minto, Yukon-K**	**69.01**	**24**	P	**P**	**17 46 39.2**	**+0.5**		
	baz=253,SNR=33								
I23K				S	**S**	**17 55 41.2**	**-0.4**		
	baz=253								
SCM	**Sheep Creek Mo**	**69.02**	**28**	P	**P**	**17 46 39.2**	**+0.2**		
	baz=256,SNR=19								
SCM				S	**S**	**17 55 40.7**	**-1.3**		
	baz=256								
E22K	**Anaktuvuk Pass**	**69.03**	**21**	IAmb	IAmb	17 46 46.5			
	comp=Z,62nm,1.2s								
E22K	**Anaktuvuk Pass**	**69.03**	**21**	P	**P**	**17 46 39.6**	**+0.7**		
	baz=250								
E22K				S	**S**	**17 55 41.1**	**-0.8**		
	baz=250								
A22K	**Sinclair Lake**	**69.09**	**18**	P	**P**	**17 46 40.0**	**+0.9**		
	baz=246								
HIN	**Hinchinbrook I**	**69.09**	**30**	IAmb	IAmb	17 46 47.0			
	comp=Z,66nm,1.4s								
H23K	**Yukon River**	**69.14**	**24**	IAmb	IAmb	17 47 12.6			
	comp=Z,35nm,1.1s								
H23K	**Yukon River**	**69.14**	**24**	P	**P**	**17 46 40.2**	**+0.6**		
	baz=253,SNR=15								
H23K				S	**S**	**17 55 43.6**	**+0.4**		
	baz=253								
G23K	**Bananza Creek**	**69.22**	**23**	P	**P**	**17 46 40.7**	**+0.6**		
	baz=252,SNR=28								
G23K				S	**S**	**17 55 43.8**	**-0.3**		
	baz=252								
B22K	**Teshekpuk Lake**	**69.30**	**19**	P	**P**	**17 46 40.7**	**+0.3**		
	baz=248								
B22K				S	**S**	**17 55 44.6**	**-0.2**		
	baz=248								
COLD	**Coldfoot**	**69.31**	**22**	IAmb	IAmb	17 46 49.8			
	comp=Z,40nm,1.0s								
COLD	**Coldfoot**	**69.31**	**22**	P	**P**	**17 46 41.3**	**+0.7**		
	baz=252,SNR=33								
WRH	**Wood River Hil**	**69.35**	**25**	IAmb	IAmb	17 46 53.9			
	comp=Z,37nm,1.0s								
DZA	**Taraz**	**69.37**	**311**	*e*P	**P**	**17 46 40.9**	**-0.5**		
DZA	**Taraz**	**69.37**	**311**	*e*P	**P**	**17 46 40.9**	**-0.5**		
EYAK	**Cordova Ski Ar**	**69.49**	**30**	IAmb	IAmb	17 46 49.4			
	comp=Z,65nm,1.4s								
EYAK	**Cordova Ski Ar**	**69.49**	**30**	P	**P**	**17 46 42.6**	**+0.8**		
EYAK	**Cordova Ski Ar**	**69.49**	**30**	P	**P**	**17 46 42.4**	**+0.6**		
	baz=258								
EYAK				S	**S**	**17 55 46.5**	**-0.9**		
	baz=258								
CCB	**Clear Creek Bu**	**69.51**	**25**	IAmb	IAmb	17 46 48.0			
	comp=Z,36nm,1.2s								
COLA	**College**	**69.55**	**25**	P	**P**	**17 46 44.3**	**+2.2**		
COLA	**College**	**69.55**	**25**	*i* P	**P**	**17 46 40.7**	**-1.4**		
COLA				pmax	pmax				
	comp=Z,27nm,1.3s								
DIV	**Divide**	**69.60**	**29**	IAmb	IAmb	17 46 50.2			
	comp=Z,58nm,1.2s								
KLU	**Klutina**	**69.60**	**29**	IAmb	IAmb	17 46 51.7			
	comp=Z,60nm,1.2s								
KLU	**Klutina**	**69.60**	**29**	P	**P**	**17 46 43.0**	**+0.4**		
	baz=258,SNR=19								
KLU				S	**S**	**17 55 48.5**	**-0.4**		
	baz=258								
M24K	**Tolsona, Glenn**	**69.62**	**28**	P	**P**	**17 46 43.4**	**+0.7**		
	baz=257								
M24K				S	**S**	**17 55 47.0**	**-2.0**		
	baz=257								
BTK	**Batken**	**69.67**	**308**	IAmb	IAmb	17 46 55.4			
	comp=Z,37nm,0.9s								
D23K	**Nanushuk River**	**69.70**	**20**	P	**P**	**17 46 44.1**	**+1.1**		
	baz=251,SNR=17								
D23K				S	**S**	**17 55 50.5**	**+0.8**		
	baz=251								
E23K	**Chandalar**	**69.78**	**21**	P	**P**	**17 46 44.5**	**+0.9**		
	baz=252,SNR=72								
E23K				S	**S**	**17 55 50.7**	**-0.1**		
	baz=252								
H24K	**Noodor Dome**	**69.80**	**24**	P	**P**	**17 46 44.0**	**+0.4**		
	baz=254,SNR=31								
H24K				S	**S**	**17 55 50.8**	**-0.2**		
	baz=254								
HDA	**Harding Lake**	**69.81**	**26**	P	**P**	**17 46 42.7**	**-1.0**		
	baz=256,SNR=18								
HDA				S	**S**	**17 55 49.0**	**-2.1**		
	baz=256								
ILAR	**Eielson Array**	**69.92**	**25**	P	**P**	**17 46 43.1**	**-1.3**		
	comp=Z,13nm,0.9s,baz=258,slow=5.5,SNR=63								
ILAR				S	**S**	**17 55 46.9**	**-5.5**		
	comp=Z,0.2nm,0.6s,baz=261,slow=3.6,SNR=2.1								
	comp=Z,13nm,0.9s								
KK31	**Karatay Array**	**69.98**	**311**	IAmb	IAmb	17 46 46.6			
	comp=Z,70nm,1.2s								
KK31	**Karatay Array**	**69.98**	**311**	*i* P	**P**	**17 46 45.0**	**-0.2**		
KKAR	**Karatay Array**	**69.98**	**311**	P	**P**	**17 46 44.3**	**-0.9**		
KKAR	**Karatay Array**	**69.98**	**311**	P	**P**	**17 46 44.3**	**-0.9**		
TOLK	**Toolik Lake Re**	**69.98**	**21**	IAmb	IAmb	17 46 52.6			
	comp=Z,49nm,1.1s								
TOLK	**Toolik Lake Re**	**69.98**	**21**	P	**P**	**17 46 45.3**	**+0.6**		
	baz=252,SNR=16								
TOLK				S	**S**	**17 55 54.6**	**+1.5**		
	baz=252								
RAGM	**Ragged Mountai**	**69.98**	**30**	IAmb	IAmb	17 46 52.6			
	comp=Z,68nm,1.3s								
C23K	**Itkillik River**	**70.02**	**20**	IAMs_20	IAMs_20	18 17 11.9			
	comp=Z,3µm,19.0s								
C23K	**Itkillik River**	**70.02**	**20**	P	**P**	**17 46 45.5**	**+0.7**		
	baz=250,SNR=20								
C23K				S	**S**	**17 55 51.6**	**-1.7**		
	baz=250								
KAIM	**Kayak Island**	**70.02**	**30**	P	**P**	**17 46 45.9**	**+0.8**		
	baz=260,SNR=10.0								
KAIM				S	**S**	**17 55 52.1**	**-1.6**		
	baz=260								
PAX	**Paxson**	**70.12**	**27**	IAmb	IAmb	17 46 52.9			
	comp=Z,43nm,1.2s								
PAX	**Paxson**	**70.12**	**27**	P	**P**	**17 46 46.2**	**+0.4**		
	baz=258,SNR=25								
PAX				S	**S**	**17 55 53.6**	**-1.4**		
	baz=258								
BMRM	**Bremner River**	**70.12**	**29**	IAmb	IAmb	17 46 55.1			
	comp=Z,64nm,1.2s								
BMRM	**Bremner River**	**70.12**	**29**	P	**P**	**17 46 46.4**	**+0.6**		
	baz=259,SNR=21								
BMRM				S	**S**	**17 55 53.5**	**-1.4**		
	baz=259								
HARP	**HAARP**	**70.14**	**28**	P	**P**	**17 46 46.4**	**+0.6**		
	baz=258,SNR=10								
HARP				S	**S**	**17 55 54.5**	**-0.6**		
	baz=258								
K24K	**Donnelly Dome**	**70.17**	**26**	IAmb	IAmb	17 46 51.3			
	comp=Z,54nm,1.1s								
K24K	**Donnelly Dome**	**70.17**	**26**	P	**P**	**17 46 46.1**	**+0.1**		
	baz=257								
K24K				S	**S**	**17 55 54.9**	**-0.5**		
	baz=257								
HMT	**Hamilton**	**70.17**	**30**	IAmb	IAmb	17 46 53.7			
	comp=Z,85nm,1.4s								
G24K	**Hadweenzic Riv**	**70.18**	**23**	P	**P**	**17 46 46.5**	**+0.6**		
	baz=255,SNR=8.0								
G24K				S	**S**	**17 55 55.0**	**-0.4**		
	baz=255								
E24K	**Your Creek**	**70.19**	**22**	P	**P**	**17 46 46.8**	**+0.8**		
	baz=253,SNR=17								
E24K				S	**S**	**17 55 55.1**	**-0.5**		
	baz=253								
N25K	**Chitina, Valde**	**70.25**	**29**	IAmb	IAmb	17 46 53.5			
	comp=Z,76nm,1.5s								
N25K	**Chitina, Valde**	**70.25**	**29**	P	**P**	**17 46 47.2**	**+0.7**		
	baz=259,SNR=24								
N25K				S	**S**	**17 55 55.9**	**-0.6**		
	baz=259								
F24K	**Squaw Lake**	**70.25**	**22**	P	**P**	**17 46 47.5**	**+1.1**		
	baz=254,SNR=27								
F24K				S	**S**	**17 55 57.3**	**+1.0**		
	baz=254								
IUG	**Iuzhnay**	**70.31**	**310**	*e*P	**P**	**17 46 46.7**	**-0.6**		
IUG				pmax	pmax				
	comp=Z,52nm,1.4s								
IUG	**Iuzhnay**	**70.31**	**310**	*e*P	**P**	**17 46 46.8**	**-0.6**		
	comp=Z,52nm,1.4s								
D24K	**Happy Valley**	**70.40**	**20**	P	**P**	**17 46 48.3**	**+1.1**		
	baz=252,SNR=21								
D24K				S	**S**	**17 55 57.1**	**-0.7**		
	baz=252								
BRLS	**Boroldoy**	**70.47**	**311**	*c i* P	**P**	**17 46 48.3**	**+0.1**		
BRLS	**Boroldoy**	**70.47**	**311**	*i* P	**P**	**17 46 48.3**	**+0.1**		
J25K	**Salcha River,**	**70.52**	**25**	P	**P**	**17 46 47.7**	**-0.5**		
	baz=257,SNR=16								
J25K				S	**S**	**17 55 55.2**	**-4.4**		
	baz=257								
RIDG	**Independent Ri**	**70.56**	**26**	IAmb	IAmb	17 47 01.6			
	comp=Z,52nm,1.1s								
RIDG	**Independent Ri**	**70.56**	**26**	P	**P**	**17 46 48.6**	**+0.2**		
	baz=258,SNR=16								
RIDG				S	**S**	**17 55 56.7**	**-3.3**		
	baz=258								
GLB	**Gilahina Butte**	**70.59**	**29**	IAmb	IAmb	17 46 56.7			
	comp=Z,76nm,1.2s								
C24K	**Franklin Bluff**	**70.61**	**20**	P	**P**	**17 46 49.1**	**+0.7**		
	baz=252								
C24K				S	**S**	**17 55 58.4**	**-1.8**		
	baz=252								
BGLC	**Bering Glacier**	**70.62**	**30**	P	**P**	**17 46 49.9**	**+1.3**		
	baz=261								
CHM	**Chimkent**	**70.63**	**311**	*e*P	**P**	**17 46 48.8**	**-0.4**		
CHM				pmax	pmax				
	comp=Z,35nm,0.8s								
CHM	**Chimkent**	**70.63**	**311**	*e*P	**P**	**17 46 48.8**	**-0.4**		
	comp=Z,35nm,0.8s								
PRP	**Porcupine Dome**	**70.66**	**25**	P	**P**	**17 46 49.3**	**+0.2**		
	baz=257								
PRP				S	**S**	**17 56 00.8**	**-0.5**		
	baz=257								
BVA0	**Borovoye Array**	**70.67**	**322**	*i* P	**P**	**17 46 48.4**	**-0.8**		
BVAR	**Borovoye Array**	**70.67**	**322**	P	**P**	**17 46 48.6**	**-0.6**		
	comp=Z,24nm,0.5s,baz=99,slow=7.4,SNR=84								
BVAR				S	**S**	**17 55 59.2**	**-2.4**		
	comp=Z,0.8nm,0.5s,baz=104,slow=12,SNR=3.1								
BVAR				LR	LR	18 19 08.4			
	comp=Z,8µm,18.6s,baz=96,slow=37								
	comp=Z,24nm,0.5s								
H25L	**Birch Creek**	**70.72**	**24**	P	**P**	**17 46 49.9**	**+0.7**		
	baz=256,SNR=12								
H25L				S	**S**	**17 56 01.4**	**-0.2**		
	baz=256								
VRDI	**Verde Repeater**	**70.72**	**29**	IAmb	IAmb	17 46 56.2			
	comp=Z,39nm,1.2s								
G25K	**Bearman Lake**	**70.73**	**23**	P	**P**	**17 46 50.0**	**+0.7**		
	baz=256								
G25K				S	**S**	**17 56 02.8**	**+1.1**		
	baz=256								
BRVK	**Borovoye**	**70.74**	**322**	P	**P**	**17 46 49.3**	**-0.3**		
BRVK	**Borovoye**	**70.74**	**322**	P	**P**	**17 46 49.4**	**-0.2**		
BRVK				P	**P**	**17 46 49.4**	**-0.2**		
BRVK	**Borovoye**	**70.74**	**322**	*ce*P	**P**	**17 46 48.7**	**-0.9**		
BRVK				pmax	pmax				
	comp=Z,112nm,1.3s								
CRQE	**Cirque**	**70.81**	**30**	P	**P**	**17 46 50.6**	**+0.6**		
	baz=261,SNR=21								
DOT	**Dot Lake**	**70.88**	**27**	IAmb	IAmb	17 46 57.8			
	comp=Z,33nm,0.9s								
WAX	**Waxell Ridge**	**70.88**	**30**	IAmb	IAmb	17 47 23.1			
	comp=Z,48nm,1.1s								
TGL	**Tana Glacier**	**70.94**	**30**	IAmb	IAmb	17 46 58.4			
	comp=Z,68nm,1.2s								
MCARA	**McCarthy VSAT**	**70.95**	**29**	IAmb	IAmb	17 47 21.2			
	comp=Z,58nm,1.0s								
MCARA	**McCarthy VSAT**	**70.95**	**29**	P	**P**	**17 46 51.3**	**+0.6**		
	baz=260,SNR=8.8								
SCRK	**Sand Creek**	**70.98**	**26**	IAmb	IAmb	17 46 57.9			
	comp=Z,37nm,1.1s								
SCRK	**Sand Creek**	**70.98**	**26**	P	**P**	**17 46 51.2**	**+0.1**		
	baz=259,SNR=21								
SCRK				S	**S**	**17 56 02.4**	**-2.6**		
	baz=259								
SIMJ	**Simiganj**	**71.08**	**307**	P	**P**	**17 46 51.8**	**-0.3**		
SIMJ				IAMs_20	IAMs_20	18 22 40.5			
	comp=Z,2µm,18.0s								
L26K	**Log Cabin Wild**	**71.08**	**27**	P	**P**	**17 46 52.0**	**+0.4**		
	baz=260,SNR=15								
L26K				S	**S**	**17 56 04.7**	**-1.4**		
	baz=260								
F25K	**Christian Rive**	**71.10**	**22**	P	**P**	**17 46 52.8**	**+1.2**		
	baz=256,SNR=22								
F25K				S	**S**	**17 56 05.1**	**-1.2**		
	baz=256								
M26K	**Nabesna, AK**	**71.13**	**28**	P	**P**	**17 46 52.2**	**+0.3**		
	baz=260								
M26K				S	**S**	**17 56 05.5**	**-1.2**		
	baz=260								
KBL	**Kabul**	**71.15**	**302**	P	**P**	**17 46 52.5**	**-0.3**		
KBL	**Kabul**	**71.15**	**302**	P	**P**	**17 46 52.3**	**-0.4**		
	SNR=20								
KBL				P	**P**	**17 46 52.3**	**-0.4**		
	SNR=20								
KBL	**Kabul**	**71.15**	**302**	P	**P**	**17 46 52.5**	**-0.3**		
KBL				pmax	pmax				
	comp=Z,75nm,1.2s								
ISLE	**Juniper Island**	**71.16**	**30**	IAmb	IAmb	17 46 59.8			
	comp=Z,62nm,1.1s								
E25K	**Arctic Village**	**71.26**	**22**	IAmb	IAmb	17 47 00.6			
	comp=Z,42nm,1.1s								
E25K	**Arctic Village**	**71.26**	**22**	P	**P**	**17 46 53.7**	**+1.2**		
	baz=256,SNR=17								
E25K				S	**S**	**17 56 07.8**	**-0.1**		
	baz=256								
J26L	**Joseph Creek**	**71.26**	**26**	IAmb	IAmb	17 47 07.2			
	comp=Z,52nm,1.2s								
J26L	**Joseph Creek**	**71.26**	**26**	P	**P**	**17 46 52.7**	**0.0**		
	baz=259,SNR=28								
J26L				S	**S**	**17 56 04.2**	**-4.1**		
	baz=259								
D25K	**Kavik River**	**71.28**	**21**	IAmb	IAmb	17 47 00.3			
	comp=Z,40nm,0.9s								
D25K	**Kavik River**	**71.28**	**21**	P	**P**	**17 46 53.4**	**+0.8**		
	baz=255,SNR=28								
D25K				S	**S**	**17 56 06.1**	**-2.1**		
	baz=255								
MESA	**MESA**	**71.29**	**30**	P	**P**	**17 46 54.4**	**+1.3**		
	baz=262,SNR=7.0								
MESA				S	**S**	**17 56 08.0**	**-0.9**		
	baz=262								
YAH	**Yahtse**	**71.41**	**30**	IAmb	IAmb	17 47 01.1			
	comp=Z,79nm,1.4s								
GRNC	**Granite Creek**	**71.46**	**30**	IAmb	IAmb	17 47 27.1			
	comp=Z,37nm,1.0s								
BMAR	**Burnt Mountain**	**71.46**	**23**	P	**P**	**17 46 54.5**	**+0.7**		
I26K	**Coal Creek Min**	**71.59**	**25**	P	**P**	**17 46 53.7**	**-0.8**		
	baz=259								
I26K				S	**S**	**17 56 09.3**	**-2.5**		
	baz=259								
PPT	**Papeete**	**71.60**	**113**	LR	LR	18 13 57.3			
	comp=Z,1µm,18.4s,baz=272,slow=32								
PPT2	**Papeete2**	**71.60**	**113**	*e*LR	LR	18 08 30.2			
	comp=Z,2µm,30.5s								
PPT2				*e*LR	LR	18 08 43.8			
	comp=Z,3µm,28.8s								
M27K	**Edge Creek, AK**	**71.64**	**28**	IAmb	IAmb	17 47 02.7			
	comp=Z,50nm,1.2s								
M27K	**Edge Creek, AK**	**71.64**	**28**	P	**P**	**17 46 56.0**	**+0.9**		
	baz=261,SNR=19								
M27K				S	**S**	**17 56 12.0**	**-0.8**		
	baz=261								
G26K	**Porcupine Rive**	**71.66**	**23**	IAmb	IAmb	17 47 02.3			
	comp=Z,65nm,1.2s								
G26K				IAMs_20	IAMs_20	18 14 27.7			
	comp=Z,2µm,21.0s								
G26K	**Porcupine Rive**	**71.66**	**23**	P	**P**	**17 46 56.2**	**+1.3**		
	baz=258,SNR=23								
G26K				S	**S**	**17 56 12.6**	**+0.1**		
	baz=258								
F26K	**Sheenjek River**	**71.69**	**22**	IAmb	IAmb	17 46 59.9			
	comp=Z,33nm,0.9s								
F26K	**Sheenjek River**	**71.69**	**22**	P	**P**	**17 46 56.2**	**+1.1**		
	baz=257,SNR=45								
F26K				S	**S**	**17 56 14.4**	**+1.5**		
	baz=257								
CTG	**Chitna Glacier**	**71.69**	**30**	P	**P**	**17 46 56.6**	**+1.1**		
	baz=262,SNR=19								
CTG				S	**S**	**17 56 13.1**	**-0.3**		
	baz=262								
CTGM	**Chitina Glacie**	**71.70**	**30**	IAmb	IAmb	17 47 03.3			
	comp=Z,55nm,1.0s								
TABL	**Table Mountain**	**71.72**	**30**	IAmb	IAmb	17 47 03.4			
	comp=Z,67nm,1.0s								
L27K	**Beaver Creek,**	**71.77**	**27**	P	**P**	**17 46 56.5**	**+0.8**		
	baz=261,SNR=26								
L27K				S	**S**	**17 56 13.0**	**-1.0**		
	baz=261								
BCAR	**Beaver Creek A**	**71.79**	**27**	P	**P**	**17 46 55.7**	**-0.2**		
K27K	**Chicken**	**71.82**	**26**	P	**P**	**17 46 57.2**	**+1.3**		
	baz=260								
K27K				S	**S**	**17 56 13.8**	**-0.6**		
	baz=260								
LOGN	**Logan Glacier**	**71.84**	**30**	IAmb	IAmb	17 47 03.5			
	comp=Z,85nm,1.2s								
C26K	**Camden Bay**	**71.93**	**20**	P	**P**	**17 46 58.0**	**+1.6**		
	baz=256								
C26K				S	**S**	**17 56 15.3**	**-0.2**		
	baz=256								
BVCY	**Beaver Creek**	**72.12**	**28**	P	**P**	**17 46 58.6**	**+0.8**		
	baz=262,SNR=9.2								
PINM	**Pinnacle**	**72.12**	**31**	P	**P**	**17 46

E27K S **S** **17 56 24.2 -0.6**
baz=260
I28M **Miner Creek** **72.94** **25** P **P** **17 47 03.5 +0.8**
baz=262,SNR=23
I28M S **S** **17 56 26.0 -1.4**
baz=262
O29M **Mount Kennedy** **72.97** **30** IAmb IAmb 17 47 10.9
comp=Z,56nm,1.1s
O29M **Mount Kennedy** **72.97** **30** P **P** **17 47 04.5 +1.4**
baz=265,SNR=15
O29M S **S** **17 56 28.8 +0.8**
baz=265
DAWY **Dawson** **72.99** **27** IAmb IAmb 17 47 10.8
comp=Z,50nm,1.2s
DAWY **Dawson** **72.99** **27** P **P** **17 47 04.0 +1.0**
baz=263,SNR=19
DAWY S **S** **17 56 27.4 -0.6**
baz=263
YUK4 **Talbot Arm** **73.04** **29** P **P** **17 47 05.2 +1.7**
baz=265,SNR=14
YUK6 **Outpost Mounta** **73.14** **30** P **P** **17 47 05.5 +1.3**
baz=265,SNR=5.8
YUK6 S **S** **17 56 29.5 -0.6**
baz=265
D27M **Malcolm River** **73.14** **21** IAmb IAmb 17 47 11.9
comp=Z,49nm,1.2s
D27M **Malcolm River** **73.14** **21** P **P** **17 47 04.8 +1.0**
baz=260,SNR=10
D27M S **S** **17 56 28.3 -1.3**
baz=260
M29M **Somme Creek** **73.23** **28** IAmb IAmb 17 47 12.7
comp=Z,42nm,1.2s
M29M **Somme Creek** **73.23** **28** P **P** **17 47 05.8 +1.3**
baz=264,SNR=39
M29M S **S** **17 56 31.7 +0.8**
baz=264
F28M **Old Crow** **73.28** **23** IAmb IAmb 17 47 11.7
comp=Z,102nm,1.6s
F28M **Old Crow** **73.28** **23** P **P** **17 47 05.6 +1.0**
baz=262,SNR=22
F28M S **S** **17 56 31.4 +0.4**
baz=262
P29M **Windy Craggy** **73.34** **31** IAmb IAmb 17 47 13.4
comp=Z,42nm,1.1s
P29M **Windy Craggy** **73.34** **31** P **P** **17 47 06.8 +1.7**
baz=266,SNR=22
P29M S **S** **17 56 33.1 +1.1**
baz=266
L29M **L29M** **73.45** **28** IAmb IAmb 17 47 14.0
comp=Z,56nm,1.1s
L29M **L29M** **73.45** **28** P **P** **17 47 07.1 +1.4**
baz=264,SNR=47
L29M S **SKiKP** **17 56 34.3 -0.4**
baz=264
HYT **Haines Junctio** **73.54** **30** IAmb IAmb 17 47 14.7
comp=Z,55nm,1.1s
HYT **Haines Junctio** **73.54** **30** P **P** **17 47 07.9 +1.5**
baz=266,SNR=37
HYT S **S** **17 56 34.8 +0.3**
baz=266
E28M **Babbage River** **73.55** **22** P **P** **17 47 07.7 +1.5**
baz=262,SNR=14
E28M S **S** **17 56 33.3 -0.8**
baz=262
I29M **Ogilvie Camp,** **73.61** **25** IAmb IAmb 17 47 13.4
comp=Z,46nm,1.1s
I29M **Ogilvie Camp,** **73.61** **25** P **P** **17 47 07.1 +0.6**
baz=264,SNR=21
H29M **Whitestone** **73.68** **24** IAmb IAmb 17 47 38.2
comp=Z,43nm,1.0s
H29M **Whitestone** **73.68** **24** P **P** **17 47 07.9 +1.0**
baz=263,SNR=10.0
H29M S **S** **17 56 35.9 +0.3**
baz=263
TBI **Tubuai** **73.72** **119** *e*LR LR 18 09 30.3
comp=Z,12μm,31.2s
TBI *e*LR LR 18 09 32.4
comp=Z,2μm,30.0s
P30M **Million Dollar** **73.76** **31** P **P** **17 47 09.2 +1.6**
baz=266
P30M S **S** **17 56 37.2 +0.3**
baz=266
K29M **Barlow Dome** **73.79** **27** IAmb IAmb 17 47 15.8
comp=Z,65nm,1.2s
K29M **Barlow Dome** **73.79** **27** P **P** **17 47 09.0 +1.2**
baz=265,SNR=46
K29M S **S** **17 56 37.3 +0.2**
baz=265
N30M **Aishikik Lake** **73.79** **29** P **P** **17 47 09.1 +1.3**
baz=266,SNR=20
N30M S **S** **17 56 38.1 +1.0**
baz=266
G29M **Pine Creek** **73.90** **24** IAmb IAmb 17 47 16.4
comp=Z,51nm,1.1s
G29M **Pine Creek** **73.90** **24** P **P** **17 47 09.2 +1.0**
baz=263,SNR=13
G29M S **S** **17 56 38.2 +0.1**
baz=263
D28M **Stokes Point** **73.94** **21** P **P** **17 47 09.2 +0.9**
baz=262
D28M S **S** **17 56 37.4 -0.9**
baz=262
M30M **Minto, Yukon** **74.01** **28** P **P** **17 47 10.2 +1.1**
baz=266
M30M S **S** **17 56 39.7 +0.1**
baz=266
S31K **Pelican** **74.03** **33** P **P** **17 47 10.6 +1.5**
baz=268,SNR=10
S31K S **S** **17 56 40.5 +0.9**
baz=268
PLBC **Pleasant Camp** **74.03** **31** P **P** **17 47 10.5 +1.4**
baz=267,SNR=25
PLBC S **S** **17 56 40.8 +1.1**
baz=267
E29M **Blow River** **74.12** **22** IAMs_20 IAMs_20 18 16 07.5
comp=Z,2μm,22.0s
E29M **Blow River** **74.12** **22** P **P** **17 47 10.3 +0.8**
baz=263,SNR=10
E29M S **S** **17 56 39.0 -1.5**
baz=263
O30N **Mendenhall** **74.23** **30** P **P** **17 47 11.5 +1.2**
baz=267,SNR=8.3
O30N S **S** **17 56 42.8 +0.7**
baz=267
R31K **City Hall, Gus** **74.30** **33** P **P** **17 47 12.2 +1.5**
baz=268
EPYK **Eagle Plains** **74.36** **24** IAmb IAmb 17 47 18.6
comp=Z,73nm,1.2s
EPYK **Eagle Plains** **74.36** **24** P **P** **17 47 11.7 +0.8**
baz=265,SNR=14
EPYK S **S** **17 56 42.7 -0.6**
baz=265
J30M **Hart River** **74.37** **26** IAmb IAmb 17 47 26.8
comp=Z,56nm,1.2s
J30M **Hart River** **74.37** **26** P **P** **17 47 12.3 +1.1**
baz=266,SNR=18
J30M S **S** **17 56 41.5 -2.2**
baz=266
I30M **Mount Dempster** **74.40** **25** P **P** **17 47 12.3 +1.0**
baz=265,SNR=12
I30M S **S** **17 56 43.0 -1.0**
baz=265
N31M **Braeburn, Yuko** **74.42** **29** IAmb IAmb 17 47 19.7
comp=Z,54nm,1.1s
N31M **Braeburn, Yuko** **74.42** **29** P **P** **17 47 12.9 +1.5**
baz=267,SNR=23
N31M S **S** **17 56 44.7 +0.5**
baz=267
SIT **Sitka** **74.48** **34** P **P** **17 47 14.2 +2.4**
SIT **Sitka** **74.48** **34** P **P** **17 47 13.2 +1.4**
baz=269,SNR=5.1
SIT S **S** **17 56 46.1 +1.2**
baz=269
MAYO **Mayo, Yukon** **74.49** **27** P **P** **17 47 12.5 +0.8**
baz=266
MAYO S **S** **17 56 44.8 0.0**
baz=266
SKAG **Skagway** **74.55** **31** P **P** **17 47 14.4 +2.3**
SKAG **Skagway** **74.55** **31** P **P** **17 47 13.5 +1.4**
baz=268,SNR=7.1
SKAG S **S** **17 56 47.0 +1.5**
baz=268
G30M **tAoh Zraii Nji** **74.61** **24** IAmb IAmb 17 47 16.9
comp=Z,37nm,0.8s
G30M **tAoh Zraii Nji** **74.61** **24** P **P** **17 47 12.9 +0.5**
baz=265,SNR=14
G30M S **S** **17 56 45.0 -1.1**
baz=265

WHY **Whitehorse** **74.82** **30** P **P** **17 47 15.3 +1.4**
baz=268,SNR=23
WHY S **S** **17 56 49.4 +0.5**
baz=268
F30M **Barrier River** **74.83** **23** P **P** **17 47 14.5 +0.9**
baz=265,SNR=13
F30M S **S** **17 56 47.6 -0.9**
baz=265
S32K **Killisnoo** **74.90** **34** P **P** **17 47 15.4 +1.2**
baz=269,SNR=13
R32K **Eaglecrest** **74.94** **33** IAmb IAmb 17 47 22.1
comp=Z,68nm,1.5s
R32K **Eaglecrest** **74.94** **33** P **P** **17 47 15.7 +1.2**
baz=269,SNR=8.5
JIS **Juneau Island** **75.02** **33** P **P** **17 47 16.9 +2.1**
M31M **Drury Creek, Y** **75.11** **29** P **P** **17 47 16.1 +0.7**
baz=268,SNR=20
M31M S **S** **17 56 52.1 +0.3**
baz=268
H31M **Peel River** **75.28** **25** IAmb IAmb 17 47 23.9
comp=Z,45nm,1.1s
H31M **Peel River** **75.28** **25** P **P** **17 47 17.1 +0.8**
baz=267,SNR=12
H31M S **S** **17 56 52.8 -0.8**
baz=267
G31M **Satah River** **75.37** **24** P **P** **17 47 17.6 +0.9**
baz=267,SNR=22
G31M S **S** **17 56 53.3 -1.1**
baz=267
P32M **Atlin** **75.38** **31** IAmb IAmb 17 47 25.2
comp=Z,44nm,1.2s
P32M **Atlin** **75.38** **31** P **P** **17 47 18.2 +1.2**
baz=269,SNR=19
P32M S **S** **17 56 56.8 +1.8**
baz=269
F31M **Tsiigehtchic** **75.60** **23** P **P** **17 47 18.0 0.0**
baz=267
F31M S **S** **17 56 56.2 -0.7**
baz=267
U33K **Whale Pass** **75.70** **35** IAmb IAmb 17 47 34.2
comp=Z,37nm,1.0s
U33K IAMs_20 IAMs_20 18 15 49.4
comp=Z,2μm,20.0s
U33K **Whale Pass** **75.70** **35** P **P** **17 47 20.0 +1.3**
baz=271,SNR=8.5
U33K S **S** **17 56 59.9 +1.5**
baz=271
CRAG **Craig** **75.71** **36** P **P** **17 47 21.6 +2.8**
CRAG **Craig** **75.71** **36** P **P** **17 47 20.5 +1.6**
baz=271
CRAG S **S** **17 57 00.5 +2.0**
baz=271
N32M **Quiet Lake** **75.71** **30** IAmb IAmb 17 47 37.4
comp=Z,44nm,0.8s
N32M **Quiet Lake** **75.71** **30** P **P** **17 47 20.1 +1.2**
baz=270
N32M S **S** **17 56 58.9 +0.4**
baz=270
INK **Inuvik** **75.73** **22** IAmb IAmb 17 47 25.7
comp=Z,50nm,1.1s
INK **Inuvik** **75.73** **22** P **P** **17 47 18.9 +0.2**
baz=267,SNR=13
INK S **S** **17 56 55.9 -2.4**
baz=267
T33K **Petersburg** **75.78** **34** P **P** **17 47 20.7 +1.5**
baz=271
P33M **Teslin, Yukon** **75.84** **31** P **P** **17 47 20.8 +1.2**
baz=270,SNR=24
P33M S **S** **17 57 01.0 +0.9**
baz=270
Q32M **Nakina River** **76.12** **32** IAmb IAmb 17 47 35.8
comp=Z,98nm,1.8s
Q32M **Nakina River** **76.12** **32** P **P** **17 47 23.1 +1.6**
baz=271,SNR=16
Q32M S **S** **17 57 05.8 +2.3**
baz=271
WRAK **Wrangell Islan** **76.13** **35** IAmb IAmb 17 47 29.7
comp=Z,51nm,1.0s
WRAK **Wrangell Islan** **76.13** **35** P **P** **17 47 22.6 +1.4**
baz=271,SNR=11
WRAK S **S** **17 57 01.0 -2.1**
baz=271
DIB **Dawson Inlet,** **76.14** **38** IAmb IAmb 17 47 29.8
comp=Z,59nm,1.0s
SVE **Sverdlovsk** **76.42** **326** *e*P **P** **17 47 23.1 +0.2**
SVE *e*S **S** **17 57 07.4 +1.1**
SVE pmax pmax
comp=Z,59nm,1.2s
SVE MLR MLR
comp=Z,4μm,17.0s
MMPY **Sheldon Lake,** **76.57** **28** IAmb IAmb 17 47 31.4
comp=Z,76nm,1.5s
MMPY **Sheldon Lake,** **76.57** **28** P **P** **17 47 25.2 +1.5**
baz=271,SNR=19
MMPY S **S** **17 57 07.8 -0.2**
baz=271
V35K **Ketchikan** **76.57** **36** IAMs_20 IAMs_20 18 14 03.5
comp=Z,2μm,21.0s
V35K **Ketchikan** **76.57** **36** P **P** **17 47 25.2 +1.5**
baz=272
V35K S **S** **17 57 09.1 +1.1**
baz=272
S34M **Telegraph Cree** **76.75** **33** IAmb IAmb 17 47 32.7
comp=Z,41nm,1.0s
S34M **Telegraph Cree** **76.75** **33** P **P** **17 47 26.4 +1.7**
baz=272,SNR=39
S34M S **S** **17 57 12.7 +2.8**
baz=272
R33M **Jennings River** **76.78** **32** P **P** **17 47 26.8 +1.7**
baz=272,SNR=39
R33M S **S** **17 57 13.4 +2.9**
baz=272
HG4B **Hotspring** **76.96** **39** IAmb IAmb 17 47 34.4
comp=Z,59nm,1.2s
AB31 **Akbulak array** **77.21** **318** *i* P **P** **17 47 26.3 -1.2**
ABKAR **Akbulak array** **77.21** **318** P **P** **17 47 26.5 -1.0**
T35M **Bob Quinn** **77.26** **34** IAmb IAmb 17 47 35.7
comp=Z,62nm,1.2s
T35M **Bob Quinn** **77.26** **34** P **P** **17 47 29.3 +1.6**
baz=273,SNR=30
T35M S **S** **17 57 19.3 +3.6**
baz=273
DLBC **Dease Lake** **77.31** **33** P **P** **17 47 29.7 +1.7**
comp=Z,1.2nm,0.8s,baz=270,slow=3.8,SNR=25
DLBC **Dease Lake** **77.31** **33** P **P** **17 47 29.5 +1.5**
baz=273,SNR=25
DLBC S **S** **17 57 18.5 +2.3**
baz=273
RUBB **Prince Rupert** **77.41** **37** IAmb IAmb 17 47 42.5
comp=Z,76nm,1.6s
U35K **Hyder** **77.44** **35** P **P** **17 47 29.7 +1.0**
baz=273
U35K S **S** **17 57 20.0 +2.5**
baz=273
ARTI **Arti** **77.68** **325** P **P** **17 47 28.7 -1.3**
ARTI IAMs_20 IAMs_20 18 26 54.6
comp=Z,2μm,18.0s
ARTI **Arti** **77.68** **325** S **S** **17 57 15.9 -4.2**
comp=Z,1.2nm,0.4s,baz=156,slow=20,SNR=12
ARTI LR LR 18 24 30.9
comp=Z,2μm,18.1s,baz=92,slow=38
ARTI **Arti** **77.68** **325** *c* P **P** **17 47 29.5 -0.5**
ARTI S **S** **17 57 17.4 -2.7**
ARTI pmax pmax
comp=Z,36nm,0.9s
ARTI MLR MLR
comp=Z,3μm,17.0s
TAOE **Nuku Hiva Isla** **77.84** **102** *e*LR LR 18 11 29.3
comp=Z,1μm,28.1s
WTLY **Watson Lake, Y** **77.85** **31** P **P** **17 47 31.9 +1.0**
baz=273,SNR=16
WTLY S **S** **17 57 22.5 +0.6**
baz=273
TGTN **Hyland Airport** **78.02** **29** P **P** **17 47 33.4 +1.5**
baz=274,SNR=14
TGTN S **S** **17 57 24.0 +0.3**
baz=274
AKTO **Aktyubinsk** **78.36** **319** S **S** **17 57 24.3 -3.3**
comp=Z,3.3nm,1.1s,baz=50,slow=7.9,SNR=16
AKTO LR LR 18 21 52.1
comp=Z,2μm,21.2s,baz=73,slow=36
AKTO **Aktyubinsk** **78.36** **319** P **P** **17 47 32.9 -1.0**
A36M **Sachs Harbour** **78.51** **19** P **P** **17 47 34.7 +0.4**
baz=274
NGCH **Negor - Chabah** **78.84** **294** P **P** **17 47 38.5 +1.5**
BBB **Bella Bella** **78.86** **39** P **P** **17 47 38.3 +1.7**
comp=Z,15nm,0.8s,baz=280,slow=6.0,SNR=11
comp=Z,15nm,0.8s

HOLB **Holberg** **79.00** **40** IAmb IAmb 17 47 46.4
comp=Z,98nm,1.2s
LIRD **Liard River Hi** **79.27** **31** P **P** **17 47 39.5 +0.8**
baz=276
LIRD S **S** **17 57 36.1 -0.9**
baz=276
TOAD **Toad River Com** **79.77** **32** P **P** **17 47 42.2 +0.7**
baz=277
TOAD S **S** **17 57 42.0 -0.5**
baz=277
WRGLY **Wrigley** **80.09** **27** P **P** **17 47 44.2 +1.2**
baz=278
WRGLY S **S** **17 57 45.8 +0.3**
baz=278
KOTAN **Kotaneelee Air** **80.21** **31** P **P** **17 47 45.0 +1.2**
baz=278,SNR=16
KOTAN S **S** **17 57 46.7 -0.2**
baz=278
JLN **Jalan Bani Buh** **80.90** **291** P **P** **17 47 48.2 -0.1**
SNR=5.3
JLN P **P** **17 47 48.2 -0.1**
SNR=5.3
OZB **Mount Ozzard** **80.91** **42** IAmb IAmb 17 47 56.1
comp=Z,50nm,1.0s
OZB IAMs_20 IAMs_20 18 17 58.7
comp=Z,2μm,21.0s
WSAR **Wadi Sarin** **81.43** **292** P **P** **17 47 50.7 -0.4**
JASK **Jask - Hormozg** **81.68** **295** P **P** **17 47 53.9 +1.6**
BIDO **Bidbid** **81.84** **292** P **P** **17 47 54.0 +0.7**
SNR=8.0
BIDO P **P** **17 47 54.0 +0.7**
SNR=8.0
SMDO **Samad** **81.99** **292** P **P** **17 47 54.4 +0.3**
SMDO P **P** **17 47 54.4 +0.3**
JMDO **Jabal Madar** **82.06** **291** P **P** **17 47 55.2 +0.7**
JMDO P **P** **17 47 55.2 +0.7**
KIRV **Kirov** **82.21** **328** S **S** **17 58 03.3 -4.4**
comp=Z,3.2nm,0.6s,baz=72,slow=3.2,SNR=15
KIRV LR LR 18 27 23.0
comp=Z,3μm,18.0s,baz=80,slow=38
KIRV **Kirov** **82.21** **328** *i* P **P** **17 47 54.1 -0.3**
NLWA **Neilton Lookou** **82.22** **43** IAmb IAmb 17 48 03.6
comp=Z,60nm,1.2s
CASY **Casey** **82.25** **193** P **P** **17 47 54.7 +0.3**
PGC **Sidney** **82.29** **42** IAmb IAmb 17 48 13.9
comp=Z,41nm,1.1s
MHTO **MHTO** **82.42** **290** P **P** **17 47 56.2 -0.1**
SNR=11
MHTO P **P** **17 47 56.2 -0.1**
SNR=11
HOQ **Hoqain** **82.57** **292** P **P** **17 47 57.5 +0.4**
SNR=12
HOQ P **P** **17 47 57.5 +0.4**
SNR=12
BSY **Bisya** **82.81** **292** P **P** **17 48 00.2 +1.8**
BSY P **P** **17 48 00.2 +1.8**
GNW **Green Mountain** **82.89** **43** IAmb IAmb 17 48 06.9
comp=Z,48nm,1.0s
LLLB **Lilloet** **82.95** **40** IAmb IAmb 17 48 07.3
comp=Z,38nm,1.1s
DQM **DQM** **83.01** **289** P **P** **17 48 01.4 +2.0**
DQM P **P** **17 48 01.4 +2.0**
G03D **McMinnville, O** **83.01** **45** IAmb IAmb 17 48 07.3
comp=Z,47nm,0.9s
SOHO **SOHO** **83.17** **293** P **P** **17 47 60.0 -0.2**
SOHO P **P** **17 47 60.0 -0.2**
SOHO **SOHO** **83.17** **293** *i* P **P** **17 47 59.9 -0.2**
SNR=17
MDH **Madha** **83.17** **294** P **P** **17 48 02.2 +2.0**
MDH P **P** **17 48 02.2 +2.0**
MDH **Madha** **83.17** **294** P **P** **17 48 00.3 +0.1**
SHME **Shamm** **83.18** **295** P **P** **17 48 01.6 +1.4**
SHME P **P** **17 48 01.6 +1.4**
SHME **Shamm** **83.18** **295** *i* P **P** **17 48 00.7 +0.5**
SNR=6.2
KSXB **Camp Six Broad** **83.18** **49** IAmb IAmb 17 48 08.8
comp=Z,42nm,1.0s
KRMB **Red Mountain** **83.21** **49** IAmb IAmb 17 48 08.5
comp=Z,26nm,1.0s
I03D **Drain, OR** **83.22** **47** P **P** **17 48 02.2 +2.1**
I03D IAmb IAmb 17 48 08.6
comp=Z,50nm,1.1s
MASF **Masafi** **83.28** **294** P **P** **17 48 01.5 +0.7**
SNR=7.3
MASF P **P** **17 48 01.5 +0.7**
SNR=7.3
MSFE **Esma-Masafi** **83.28** **294** *i* P **P** **17 48 01.2 +0.4**
SNR=11
UOSS **Minazif** **83.32** **294** P **P** **17 48 00.8 -0.2**
UOSS P **P** **17 48 00.8 -0.2**
UOSS **Minazif** **83.32** **294** P **P** **17 48 00.4 -0.6**
ARQ **Araqi** **83.32** **292** P **P** **17 48 01.5 +0.5**
SNR=8.0
ARQ P **P** **17 48 01.5 +0.5**
SNR=8.0
HATD **Hatta, Dubai** **83.41** **294** P **P** **17 48 02.4 +1.0**
HATD P **P** **17 48 02.4 +1.0**
HATD **Hatta, Dubai** **83.41** **294** *i* P **P** **17 48 01.3 -0.1**
SNR=8.0
ASHO **Ashiyiah** **83.50** **294** P **P** **17 48 04.0 +2.1**
ASHO P **P** **17 48 04.0 +2.1**
ASHO P **P** **17 48 04.5 +2.6**
ASHO P **P** **17 48 04.5 +2.6**
ASHO **Ashiyiah** **83.50** **294** *i* P **P** **17 48 01.5 -0.4**
SNR=11
H04D **Lebanon** **83.51** **46** IAmb IAmb 17 48 10.1
comp=Z,49nm,1.0s
NAZ **Nazwa, Dubai** **83.80** **294** P **P** **17 48 03.3 -0.1**
BBOR **Butler Butte** **83.86** **48** IAmb IAmb 17 48 11.8
comp=Z,25nm,1.0s
H04A **Detroit Lake** **83.86** **46** IAmb IAmb 17 48 11.2
comp=Z,54nm,1.3s
ALNE **Al Ain** **83.89** **293** P **P** **17 48 04.8 +0.9**
SNR=10
ALNE P **P** **17 48 04.8 +0.9**
SNR=10
ALNE **Al Ain** **83.89** **293** *i* P **P** **17 48 03.5 -0.4**
SNR=6.1
FAQ **Al Faqa, Dubai** **83.90** **294** P **P** **17 48 03.3 -0.6**
YBH **Yreka Blue Hor** **84.05** **49** IAmb IAmb 17 48 13.1
comp=Z,37nm,0.8s
YBH **Yreka Blue Hor** **84.05** **49** P **P** **17 48 06.4 +1.9**
comp=Z,2.1nm,0.9s,baz=282,slow=1.9,SNR=42
comp=Z,2.1nm,0.9s
HOOD **Mount Hood Mea** **84.11** **45** IAmb IAmb 17 48 21.9
comp=Z,43nm,1.0s
ASUD **Al Ashush, Dub** **84.16** **294** P **P** **17 48 07.1 +1.9**
ASUD P **P** **17 48 07.1 +1.9**
ASUD **Al Ashush, Dub** **84.16** **294** P **P** **17 48 05.5 +0.3**
YKAW3 **Yellowknife Wh** **84.19** **27** IAmb IAmb 17 48 11.6
comp=Z,39nm,1.1s
YKA **Yellowknife Ar** **84.21** **27** P **P** **17 48 05.2 +0.5**
comp=Z,18nm,1.0s,baz=290,slow=5.7,SNR=26
YKA S **SKSac** **17 58 24.5 -1.6**
comp=Z,0.2nm,0.5s,baz=304,slow=4.8,SNR=1.2
comp=Z,18nm,1.0s
YKA **Yellowknife Ar** **84.21** **27** *i* P **P** **17 48 05.4 +0.7**
YKA pmax pmax
comp=Z,21nm,1.0s
L04D **Klamath Falls** **84.26** **48** IAmb IAmb 17 48 13.3
comp=Z,41nm,0.9s
YKAW1 **Yellowknife Wh** **84.27** **27** IAmb IAmb 17 48 12.7
comp=Z,72nm,1.2s
O02D **Mt. Diablo Mer** **84.30** **50** IAmb IAmb 17 48 26.4
comp=Z,58nm,1.2s
LTY **Liberty** **84.39** **43** IAmb IAmb 17 48 13.8
comp=Z,29nm,0.9s
BELG **Belogornoye** **84.48** **322** S **SKSac** **17 58 22.1 -6.1**
comp=Z,2.7nm,0.5s,baz=72,slow=20,SNR=11
BELG LR LR 18 27 21.7
comp=Z,4μm,19.1s,baz=71,slow=37
BELG **Belogornoye** **84.48** **322** *i* P **P** **17 48 04.0 -2.2**
BELG pmax pmax
comp=Z,55nm,1.5s
AJN **Ajban** **84.48** **294** P **P** **17 48 06.5 -0.3**
GDXM **Geysers** **84.56** **52** IAmb IAmb 17 48 27.6
comp=Z,64nm,1.4s
HOPEN **Hopen** **84.67** **348** *e*P **P** **17 48 06.1 -0.7**
UMZA **Um Al Zommool** **84.67** **292** P **P** **17 48 09.1 +1.3**
UMZA P **P** **17 48 09.1 +1.3**
MXC **Moxie City** **84.78** **44** IAmb IAmb 17 48 15.5
comp=Z,25nm,1.0s
G06A **Carlson Farm,** **84.83** **45** IAmb IAmb 17 49 08.1
comp=Z,59nm,1.6s
B08A **Colville Reser** **85.03** **42** IAmb IAmb 17 48 17.1
comp=Z,46nm,1.1s

E07A	**Sunnyside**	**85.08**	**44**	IAmb	IAmb	17 48 18.8			
	comp=Z,21nm,0.8s								
K05A	**Summer Lake**	**85.18**	**47**	IAmb	IAmb	17 48 18.3			
	comp=Z,50nm,1.0s								
WAH2	**Wahluke Slope**	**85.23**	**43**	IAmb	IAmb	17 48 34.4			
	comp=Z,31nm,1.0s								
SPA0	**Spitsbergen Ar**	**85.26**	**351**	*e*P	**P**	**17 48 08.7**	**-1.1**		
SPITS	**Spitsbergen Ar**	**85.26**	**351**	P	**P**	**17 48 10.1**	**+0.4**		
	comp=Z,4.2nm,0.6s,baz=60,slow=8.5,SNR=9.9								
SPITS				S	**SKSac**	**17 58 32.5**	**+0.1**		
	comp=Z,2.7nm,0.8s,baz=56,slow=0.5,SNR=1.0								
SPITS				LR	LR	18 27 37.4			
	comp=Z,2µm,18.7s,baz=46,slow=37								
	comp=Z,4.2nm,0.6s								
ORV	**Oroville**	**85.39**	**51**	IAmb	IAmb	17 48 35.3			
	comp=Z,39nm,1.2s								
KBS	**Kingsbay**	**85.42**	**352**	IAMs_20	IAMs_20	18 27 06.1			
	comp=Z,2µm,19.0s								
KBS	**Kingsbay**	**85.42**	**352**	*e*P	**P**	**17 48 12.0**	**+1.5**		
D08A	**Wollman Farm,**	**85.59**	**43**	IAmb	IAmb	17 48 20.2			
	comp=Z,60nm,1.4s								
YPT	**Yellepit**	**85.80**	**44**	IAmb	IAmb	17 48 36.7			
	comp=Z,57nm,1.5s								
NOR	**Nord**	**85.80**	**357**	*i* P	**P**	**17 48 12.2**	**-0.2**		
NOR				IAmb	IAmb	17 48 17.0			
	comp=Z,91nm,2.1s								
DMTO	**DMTO**	**85.84**	**287**	P	**P**	**17 48 14.7**	**+0.9**		
C09A	**Chrisman Ranch**	**85.85**	**42**	IAmb	IAmb	17 48 21.1			
	comp=Z,37nm,1.0s								
RES	**Resolute Bay**	**85.91**	**13**	IAmb	IAmb	17 48 17.7			
	comp=Z,49nm,0.9s								
RES	**Resolute Bay**	**85.91**	**13**	LR	LR	18 25 21.3			
	comp=Z,563nm,21.9s,baz=314,slow=35								
AFDM	**Forest Hills D**	**85.92**	**51**	IAmb	IAmb	17 49 09.6			
	comp=Z,39nm,1.3s								
LVZ	**Lovozero**	**85.95**	**339**	IAMs_20	IAMs_20	18 30 49.4			
	comp=Z,1µm,19.0s								
SAO	**San Andreas Ge**	**86.02**	**53**	IAmb	IAmb	17 48 34.5			
	comp=Z,33nm,1.1s								
SCZ	**Santa Cruz**	**86.09**	**54**	IAMs_20	IAMs_20	18 32 22.5			
	comp=Z,2µm,18.0s								
MZR	**Muzera**	**86.14**	**293**	P	**P**	**17 48 15.6**	**+0.4**		
	SNR=14								
MZR				P	**P**	**17 48 15.6**	**+0.4**		
	SNR=14								
MZR	**Muzera**	**86.14**	**293**	*i* P	**P**	**17 48 15.6**	**+0.4**		
	SNR=20								
HSPB	**Hornsund (broa**	**86.15**	**350**	*e*P	**P**	**17 48 14.7**	**+0.5**		
JRN	**Qarnain Island**	**86.31**	**295**	P	**P**	**17 48 17.0**	**+1.0**		
JRN				P	**P**	**17 48 17.0**	**+1.0**		
BBGB	**Big Mountain B**	**86.38**	**54**	IAmb	IAmb	17 48 36.2			
	comp=Z,50nm,1.0s								
BBGB				IAMs_20	IAMs_20	18 32 30.5			
	comp=Z,2µm,18.0s								
DOK	**Doka**	**86.42**	**288**	P	**P**	**17 48 16.2**	**-0.5**		
DOK				P	**P**	**17 48 16.2**	**-0.5**		
KLMR	**Klimovskoe**	**86.48**	**332**	*e*P	**P**	**17 48 13.6**	**-2.5**		
KLMR				*e*		17 51 35.1			
KLMR				S	**SKSac**	**17 58 36.6**	**-3.9**		
KLMR				pmax	pmax				
	comp=Z,44nm,1.4s								
KLMR				MLR	MLR				
	comp=Z,4µm,17.0s								
GHWR	**Ruwais**	**86.48**	**294**	P	**P**	**17 48 17.2**	**+0.3**		
GHWR				P	**P**	**17 48 17.2**	**+0.3**		
NEW	**Newport**	**86.49**	**41**	P	**P**	**17 48 18.0**	**+1.6**		
	comp=Z,45nm,0.9s,baz=285,slow=4.9,SNR=34								
	comp=Z,45nm,0.9s								
APA	**Apatity**	**86.52**	**339**	*e*P	P	17 48 05.7	-10		
APA				*e*S	**SKSac**	**17 58 38.7**	**-1.8**		
APA				*e*SS	**SS**	**18 04 31.6**	**+1.2**		
APA				MLR	MLR				
	comp=Z,2µm,20.2s								
RBK	**Rabkut**	**86.58**	**287**	P	**P**	**17 48 17.7**	**+0.2**		
RBK				P	**P**	**17 48 17.7**	**+0.2**		
PMPB	**Monarch Peak**	**86.64**	**54**	IAmb	IAmb	17 48 31.1			
	comp=Z,55nm,1.1s								
PMPB				IAMs_20	IAMs_20	18 33 53.6			
	comp=Z,2µm,18.0s								
MAK	**Makhachkala**	**86.72**	**313**	*e*P	**P**	**17 48 14.2**	**-3.4**		
MAK				*e*		17 58 37.7			
MAK				*e*SS	SS	18 04 34.5	-0.2		
MAK				pmax	pmax				
	comp=Z,206nm,1.4s								
VADS	**Vadso**	**86.73**	**342**	*e*P	**P**	**17 48 15.8**	**-1.3**		
LKRN	**Lenkeran, Azer**	**86.76**	**309**	P	**P**	**17 48 19.9**	**+2.0**		
J08A	**Circle Bar Ran**	**86.76**	**46**	IAmb	IAmb	17 48 23.5			
	comp=Z,34nm,1.1s								
WVOR	**Wild Horse Val**	**86.86**	**47**	IAmb	IAmb	17 48 26.2			
	comp=Z,24nm,0.9s								
WHFO	**Wadi Hawf**	**86.90**	**288**	P	**P**	**17 48 19.3**	**+0.3**		
WHFO				P	**P**	**17 48 19.3**	**+0.3**		
AKT	**Akhty**	**86.91**	**312**	*i* P	**P**	**17 48 18.3**	**-0.4**		
PAHR	**Pah Rah Range**	**86.95**	**50**	IAmb	IAmb	17 48 27.3			
	comp=Z,34nm,1.2s								
BMO	**Blue Mountains**	**87.22**	**45**	IAmb	IAmb	17 48 25.3			
	comp=Z,41nm,1.0s								
SEKA	**Sheki**	**87.36**	**311**	P	**P**	**17 48 22.2**	**+1.3**		
ABTO	**Aybut**	**87.45**	**287**	P	**P**	**17 48 22.1**	**+0.3**		
ABTO				P	**P**	**17 48 22.1**	**+0.3**		
SLWR	**Sila**	**87.52**	**294**	P	**P**	**17 48 22.7**	**+0.8**		
SLWR				P	**P**	**17 48 22.7**	**+0.8**		
MNGR	**Mingechevir, A**	**87.55**	**311**	P	**P**	**17 48 23.1**	**+1.4**		
KEV	**Kevo**	**87.61**	**342**	P	**P**	**17 48 20.6**	**-0.8**		
KEV				IAmb	IAmb	17 48 25.6			
	comp=Z,61nm,1.6s								
KEV				IAMs_20	IAMs_20	18 24 51.5			
	comp=Z,2µm,22.0s								
KEV	**Kevo**	**87.61**	**342**	P	**P**	**17 48 20.6**	**-0.8**		
KEV				pmax	pmax				
	comp=Z,61nm,1.6s								
KEV				MLR	MLR				
	comp=Z,2µm,22.0s								
SHMA	**Al-Shehemyia**	**87.78**	**296**	P	**P**	**17 48 24.5**	**+1.4**		
TRNA	**Turayna**	**87.81**	**295**	P	**P**	**17 48 25.3**	**+2.0**		
RYN	**Ryan**	**87.86**	**51**	IAmb	IAmb	17 48 32.0			
	comp=Z,28nm,1.0s								
LHV	**Little Huntoon**	**87.96**	**51**	IAmb	IAmb	17 48 49.1			
	comp=Z,50nm,1.4s								
PLID	**Pearl Lake**	**88.05**	**44**	IAmb	IAmb	17 48 31.7			
	comp=Z,37nm,1.0s								
NVAR	**Mina Array Bea**	**88.07**	**51**	P	**P**	**17 48 25.3**	**+0.8**		
NVAR	**Mina Array Bea**	**88.07**	**51**	P	**P**	**17 48 26.2**	**+1.7**		
	comp=Z,16nm,0.8s,baz=285,slow=6.0,SNR=53								
NVAR				S	**SKSac**	**17 59 00.0**	**+8.3**		
	comp=Z,0.2nm,0.5s,baz=244,slow=2.7,SNR=1.3								
	comp=Z,16nm,0.8s								
HAMF	**Hammerfest**	**88.12**	**343**	*e*P	**P**	**17 48 23.2**	**-0.6**		
SAKB	**Bahrain**	**88.13**	**296**	P	**P**	**17 48 26.3**	**+1.5**		
GANJ	**Ganja**	**88.14**	**311**	P	**P**	**17 48 25.9**	**+1.3**		
SMRA	**Abu-Samra**	**88.15**	**295**	P	**P**	**17 48 27.0**	**+2.1**		
	SNR=7.5								
ARA0	**ARCESS Array S**	**88.18**	**342**	*e*P	**P**	**17 48 23.8**	**-0.4**		
ARCES	**ARCESS Array B**	**88.18**	**342**	P	**P**	**17 48 21.1**	**-3.0**		
ARCES				IAmb	IAmb	17 48 28.5			
	comp=Z,49nm,1.4s								
ARCES	**ARCESS Array B**	**88.18**	**342**	P	**P**	**17 48 22.9**	**-1.3**		
	comp=Z,3.3nm,0.5s,baz=60,slow=5.5,SNR=53								
ARCES				PKiKP	**PKiKP**	**17 53 25.8**	**+0.1**		
	comp=Z,1.6nm,0.9s,baz=96,slow=3.7,SNR=5.3								
ARCES				S	**SKSac**	**17 58 50.9**	**+0.3**		
	comp=Z,2.0nm,0.9s,baz=22,slow=17,SNR=2.2								
ARCES				LR	LR	18 31 20.1			
	comp=Z,1µm,19.1s,baz=68,slow=38								
	comp=Z,3.3nm,0.5s								
NV11	**Mina Array Sit**	**88.18**	**51**	IAmb	IAmb	17 48 33.5			
	comp=Z,34nm,1.0s								
VRH	**Novokhopyorsk**	**88.33**	**322**	*e*P	**P**	**17 48 21.2**	**-3.9**		
VRH				pmax	pmax				
	comp=Z,20nm,1.0s								
DSP	**Deep Springs**	**88.59**	**52**	IAmb	IAmb	17 48 35.7			
	comp=Z,31nm,1.1s								
NAX	**Nakhchivan**	**89.13**	**310**	P	**P**	**17 48 30.9**	**+1.5**		
KTK1	**Kautokeino**	**89.14**	**342**	*e*P	**P**	**17 48 28.4**	**-0.3**		
GMN	**Gold Mountain**	**89.15**	**52**	IAmb	IAmb	17 48 38.1			
	comp=Z,23nm,0.9s								
MOS	**Moscow**	**89.16**	**327**	*e*P	**P**	**17 48 27.0**	**-2.0**		
MOS				*e*		17 52 00.1			
MOS				*e*S	**SKSac**	**17 58 54.8**	**-2.1**		
MOS				pmax	pmax				
	comp=Z,97nm,1.3s								
MOS				MLR	MLR				
	comp=Z,3µm,17.0s								
MOS				MLR	MLR				
	comp=E,3µm,18.0s								
TULEG	**Thule**	**89.19**	**7**	*i* P	**P**	**17 48 28.0**	**-0.8**		
TULEG				IAmb	IAmb	17 48 32.4			
	comp=Z,51nm,1.2s								
CLC	**China Lake**	**89.26**	**54**	IAmb	IAmb	17 48 38.4			
	comp=Z,32nm,1.0s								
LRMC	**Laurel Mtn Rad**	**89.28**	**54**	IAmb	IAmb	17 48 38.2			
	comp=Z,28nm,0.9s								
GOF	**Gofitskoye**	**89.28**	**316**	*ce*P	**P**	**17 48 28.1**	**-1.7**		
MPMC	**Manual Prospec**	**89.29**	**53**	IAmb	IAmb	17 48 38.8			
	comp=Z,34nm,0.9s								
GNI	**Garni**	**89.43**	**311**	S	**SKSac**	**17 59 07.6**	**+8.0**		
	comp=Z,5.3nm,0.7s,baz=3.6,slow=19,SNR=1.5								
GNI	**Garni**	**89.43**	**311**	*i* P	**P**	**17 48 30.0**	**-0.9**		
GNI				pmax	pmax				
	comp=Z,42nm,1.3s								
GNI	**Garni**	**89.43**	**311**	P	**P**	**17 48 28.6**	**-2.2**		
CCCA	**Chr Cany lake**	**89.52**	**54**	IAmb	IAmb	17 48 39.4			
	comp=Z,43nm,1.0s								
LPSR	**Galich'ya Gora**	**89.52**	**324**	*e*P	**P**	**17 48 28.6**	**-2.1**		
LPSR				pmax	pmax				
	comp=Z,54nm,1.0s								
LPSR				MLR	MLR				
	comp=Z,2µm,19.0s								
HLID	**Hailey**	**89.56**	**45**	IAmb	IAmb	17 48 39.7			
	comp=Z,25nm,0.9s								
JETT	**Jettan, Norway**	**89.66**	**343**	*e*P	**P**	**17 48 31.4**	**+0.2**		
VORR	**Voronezh**	**89.67**	**323**	*e*P	**P**	**17 48 28.5**	**-3.0**		
VORR				pmax	pmax				
	comp=Z,30nm,1.0s								
ELK	**Elko**	**89.76**	**48**	IAmb	IAmb	17 48 40.9			
	comp=Z,32nm,0.9s								
ELK	**Elko**	**89.76**	**48**	P	**P**	**17 48 34.5**	**+2.0**		
	comp=Z,27nm,0.9s,baz=299,slow=4.5,SNR=41								
	comp=Z,27nm,0.9s								
KBZ	**Khabaz**	**89.76**	**315**	P	**P**	**17 48 31.4**	**-0.6**		
	comp=Z,5.8nm,0.7s,baz=79,slow=3.5,SNR=11								
KBZ				S	**SKSac**	**17 59 03.0**	**+2.1**		
	comp=Z,0.8nm,0.5s,baz=51,slow=12,SNR=1.5								
KBZ				LR	LR	18 32 34.3			
	comp=Z,2µm,19.2s,baz=66,slow=38								
	comp=Z,5.8nm,0.7s								
KBZ	**Khabaz**	**89.76**	**315**	*i* P	**P**	**17 48 31.3**	**-0.8**		
KBZ				pmax	pmax				
	comp=Z,22nm,1.1s								
WCT	**Wildcat Mounta**	**89.77**	**52**	IAmb	IAmb	17 48 41.0			
	comp=Z,37nm,1.0s								
QSM	**Queen of Sheba**	**89.80**	**53**	IAmb	IAmb	17 48 41.0			
	comp=Z,55nm,1.4s								
KVAR	**Kislovodsk Arr**	**89.84**	**315**	S	**SKSac**	**17 59 02.3**	**+0.7**		
	comp=Z,1.1nm,0.4s,baz=108,slow=20,SNR=1.4								
KVAR				LR	LR	18 32 30.2			
	comp=Z,2µm,18.6s,baz=266,slow=38								
KIV	**Kislovodsk**	**89.84**	**315**	P	**P**	**17 48 29.9**	**-2.7**		
KIV				IAmb	IAmb	17 48 54.2			
	comp=Z,17nm,0.6s								
KIV				IAMs_20	IAMs_20	18 32 30.2			
	comp=Z,2µm,18.0s								
KIV	**Kislovodsk**	**89.84**	**315**	*e*P	**P**	**17 48 31.3**	**-1.3**		
KIV				*e*		17 58 58.6			
KIV				*e*SS	SS	18 05 19.2	-1.2		
KIV				pmax	pmax				
	comp=Z,15nm,1.1s								
KIV				MLR	MLR				
	comp=Z,2µm,20.0s								
KIV	**Kislovodsk**	**89.84**	**315**	*i* P	**P**	**17 48 29.8**	**-2.8**		
	SNR=5.5								
VSR	**Storozhevoye**	**89.85**	**323**	*e*P	**P**	**17 48 28.5**	**-3.8**		
VSR				pmax	pmax				
	comp=Z,20nm,1.2s								
VORD	**Divnogorie**	**89.85**	**322**	*e*P	**P**	**17 48 30.2**	**-2.1**		
VORD				pmax	pmax				
	comp=Z,10.0nm,0.8s								
GWY	**Greenwater Val**	**89.90**	**53**	IAmb	IAmb	17 48 41.5			
	comp=Z,37nm,0.9s								
ELS	**Elsinore Mount**	**89.94**	**56**	IAmb	IAmb	17 48 43.3			
	comp=Z,43nm,1.4s								
OBN	**Obninsk**	**89.94**	**327**	P	**P**	**17 48 31.1**	**-1.5**		
OBN	**Obninsk**	**89.94**	**327**	S	**SKSac**	**17 58 56.9**	**-4.6**		
	comp=Z,6.7nm,0.4s,baz=113,slow=7.7,SNR=1.2								
OBN				LR	LR	18 31 21.7			
	comp=Z,1µm,18.4s,baz=21,slow=37								
OBN	**Obninsk**	**89.94**	**327**	*ce*P	**P**	**17 48 31.4**	**-1.2**		
OBN				*e*		17 52 05.2			
OBN				*e*PPP	PPP	17 54 02.4			
OBN				*e*S	**SKSac**	**17 58 59.9**	**-1.6**		
OBN				*e*SS	**SS**	**18 05 22.5**	**+1.6**		
OBN				*e*SSS	SSS	18 08 59.0			
OBN				pmax	pmax				
	comp=Z,89nm,1.2s								
NEEM	**North Greenlan**	**89.98**	**3**	*i* P	**P**	**17 48 31.3**	**-1.6**		
NEEM				IAmb	IAmb	17 48 34.5			
	comp=Z,79nm,1.6s								
GSC	**Goldstone, Bar**	**90.02**	**54**	IAmb	IAmb	17 48 42.1			
	comp=Z,50nm,1.1s								
TRO	**Tromso**	**90.03**	**343**	*e*P	**P**	**17 48 32.3**	**-0.4**		
R11B	**Troy Canyon, C**	**90.16**	**51**	IAmb	IAmb	17 48 43.9			
	comp=Z,37nm,1.4s								
VNDA	**Vanda**	**90.20**	**176**	P	**P**	**17 48 33.8**	**+0.5**		
	comp=Z,3.0nm,1.1s,baz=330,slow=8.2,SNR=7.3								
	comp=Z,3.0nm,1.1s								
DLMT	**Dillon**	**90.28**	**43**	IAmb	IAmb	17 48 54.2			
	comp=Z,38nm,1.3s								
DAG	**Danmarks Havn**	**90.55**	**356**	*i* P	**P**	**17 48 33.0**	**-2.1**		
DAG				IAmb	IAmb	17 48 37.1			
	comp=Z,12nm,0.9s								
PFO	**Pinyon Flats O**	**90.73**	**55**	P	**P**	**17 48 36.7**	**-0.3**		
PFO				IAmb	IAmb	17 48 47.1			
	comp=Z,44nm,1.6s								
PFO	**Pinyon Flats O**	**90.73**	**55**	P	**P**	**17 48 38.2**	**+1.2**		
	comp=Z,12nm,1.0s,baz=307,slow=18,SNR=12								
	comp=Z,12nm,1.0s								
PFO	**Pinyon Flats O**	**90.73**	**55**	*i* P	**P**	**17 48 37.9**	**+0.9**		
PFO				pmax	pmax				
	comp=Z,42nm,1.2s								
PMD	**Palm Desert**	**90.79**	**55**	IAmb	IAmb	17 48 47.9			
	comp=Z,36nm,1.2s								
ERBR	**Yeremizino-Bor**	**90.80**	**317**	*e*P	**P**	**17 48 34.9**	**-2.0**		
ERBR				*e**PP	**pP**	**17 48 43.5**	**-1.1**		
ERBR				*e*S	**SKSac**	**17 59 03.6**	**-3.3**		
ERBR				pmax	pmax				
	comp=Z,130nm,1.4s								
ERBR				MLR	MLR				
	comp=E,5µm,21.0s								
ERBR				MLR	MLR				
	comp=N,4µm,20.0s								
ERBR				MLR	MLR				
	comp=Z,3µm,19.0s								
POIN	**Pond Inlet**	**90.81**	**12**	IAmb	IAmb	17 48 43.3			
	comp=Z,46nm,1.1s								
PRN	**Pahroc Range**	**90.82**	**52**	IAMs_20	IAMs_20	18 30 39.0			
	comp=Z,1µm,19.0s								
SBA	**Scott Base**	**90.87**	**175**	P	**P**	**17 48 37.6**	**+1.2**		
SBA				IAmb	IAmb	17 48 40.4			
	comp=Z,36nm,1.6s								
SBA	**Scott Base**	**90.87**	**175**	P	**P**	**17 48 37.6**	**+1.2**		
SBA				pmax	pmax				
	comp=Z,36nm,1.6s								
SPR3	**Spring Creek 3**	**90.92**	**50**	IAmb	IAmb	17 48 46.2			
	comp=Z,21nm,1.0s								
MTPC	**Mountain Pass**	**90.96**	**53**	IAmb	IAmb	17 48 53.3			
	comp=Z,29nm,1.2s								
SHPR	**Shep Range**	**90.98**	**52**	IAmb	IAmb	17 48 46.6			
	comp=Z,20nm,1.0s								
BLKN	**Baker Lake**	**91.14**	**22**	IAmb	IAmb	17 48 44.5			
	comp=Z,41nm,1.2s								
GEVA	**Gevas**	**91.20**	**310**	IAmb	IAmb	17 48 40.6			
	comp=Z,40nm,1.4s								
HVU	**Hansel Valley**	**91.24**	**47**	IAmb	IAmb	17 48 49.6			
	comp=Z,28nm,1.1s								
EGMT	**Eagleton**	**91.27**	**40**	IAmb	IAmb	17 48 47.4			
	comp=Z,26nm,1.1s								
PSUT	**Pine Spring**	**91.41**	**50**	IAmb	IAmb	17 48 50.2			
	comp=Z,28nm,1.0s								
YHB	**Horse Butte**	**91.41**	**44**	IAmb	IAmb	17 48 54.8			
	comp=Z,40nm,1.0s								
YHB				IAMs_20	IAMs_20	18 25 45.9			
	comp=Z,2µm,20.0s								
ESJX	**Sierra Juarez**	**91.57**	**57**	IAmb	IAmb	17 48 49.8			
	comp=Z,31nm,1.3s								
YFT	**Old Faithful**	**91.75**	**44**	IAMs_20	IAMs_20	18 16 18.9			
	comp=Z,2µm,20.0s								
GURO	**Guroymak-BITLI**	**91.90**	**310**	IAMs_20	IAMs_20	18 35 35.6			
	comp=Z,1µm,19.0s								
SOC	**Sochi**	**92.00**	**315**	*e*P	**P**	**17 48 40.9**	**-1.6**		
SOC				*e*		17 52 18.4			
SOC				*e*PPP	PPP	17 54 18.0			
SOC				*e*S	**SKSac**	**17 59 13.0**	**-0.8**		
SOC				*e*SS	**SS**	**18 05 50.4**	**-0.9**		
SOC				*e*SSS	SSS	18 09 25.8			
SOC				pmax	pmax				
	comp=Z,18nm,0.8s								
AHID	**Auburn Hatcher**	**92.11**	**46**	IAmb	IAmb	17 48 51.4			
	comp=Z,24nm,0.9s								
FINES	**FINESS Array B**	**92.15**	**335**	P	**P**	**17 48 41.0**	**-1.8**		
FINES	**FINESS Array B**	**92.15**	**335**	P	**P**	**17 48 41.1**	**-1.7**		
	comp=Z,11nm,0.5s,baz=59,slow=4.6,SNR=150								
FINES				PP	**PP**	**17 52 21.1**	**-1.4**		
	comp=Z,1.6nm,0.9s,baz=68,slow=6.5,SNR=2.4								
FINES				S	**SKSac**	**17 59 12.1**	**-1.8**		
	comp=Z,0.8nm,0.9s,baz=13,slow=19,SNR=1.7								
FINES				LR	LR	18 30 48.8			
	comp=Z,2µm,21.9s,baz=54,slow=36								
	comp=Z,11nm,0.5s								
STEI	**Steigen**	**92.15**	**343**	*e*P	**P**	**17 48 40.0**	**-2.7**		
BLYC	**Blythe**	**92.25**	**55**	IAmb	IAmb	17 48 52.0			
	comp=Z,22nm,0.9s								
W13A	**Hualapai Mount**	**92.37**	**53**	IAmb	IAmb	17 48 52.9			
	comp=Z,21nm,1.0s								
ILON	**Igloolik, Nuna**	**92.40**	**15**	IAmb	IAmb	17 48 50.4			
	comp=Z,37nm,1.1s								
FAUS	**Fauske**	**92.50**	**343**	*e*P	**P**	**17 48 40.8**	**-3.4**		
LOF	**Lofoten**	**92.50**	**344**	*e*P	**P**	**17 48 42.9**	**-1.3**		
RLMT	**Red Lodge**	**92.58**	**43**	IAmb	IAmb	17 48 54.1			
	comp=Z,28nm,0.9s								
KOPT	**Kop Dagi**	**92.59**	**312**	IAmb	IAmb	17 48 49.4			
	comp=Z,19nm,1.0s								
KNB	**Kanab**	**92.64**	**51**	IAmb	IAmb	17 48 54.8			
	comp=Z,31nm,1.0s								
113A	**Mohawk Valley,**	**93.14**	**56**	P	**P**	**17 48 47.7**	**-0.3**		
113A				IAmb	IAmb	17 48 56.4			
	comp=Z,19nm,1.2s								
ANN	**Anapa**	**93.14**	**317**	*e*P	**P**	**17 48 44.2**	**-3.5**		
ANN				*e*		17 52 32.5			
ANN				*e*S	**SKSac**	**17 59 15.0**	**-5.1**		
ANN				pmax	pmax				
	comp=Z,23nm,0.7s								
RAYN	**Ar Rayn**	**93.16**	**295**	P	**P**	**17 48 47.3**	**-1.1**		
RAYN	**Ar Rayn**	**93.16**	**295**	P	**P**	**17 48 47.3**	**-1.1**		
RAYN				pmax	pmax				
	comp=Z,12nm,1.1s								
RAYN				MLR	MLR				
	comp=Z,900nm,20.0s								
RAYN	**Ar Rayn**	**93.16**	**295**	*i* P	**P**	**17 48 46.9**	**-1.5**		
	SNR=8.1								
PDAR	**Pinedale Array**	**93.19**	**45**	P	**P**	**17 48 47.5**	**-0.8**		
PDAR	**Pinedale Array**	**93.19**	**45**	P	**P**	**17 48 49.0**	**+0.7**		
	comp=Z,2.7nm,0.8s,baz=288,slow=5.3,SNR=17								
PDAR				S	**SKSac**	**17 59 24.0**	**+2.9**		
	comp=Z,0.1nm,0.5s,baz=332,slow=4.1,SNR=1.5								
	comp=Z,2.7nm,0.8s								
VSU	**Vasula**	**93.37**	**332**	*ce*P	**P**	**17 48 47.1**	**-1.4**		
VSU				pmax	pmax				
	comp=Z,40nm,1.3s								
Y14A	**Wickenburg**	**93.41**	**54**	IAmb	IAmb	17 48 57.8			
	comp=Z,26nm,1.0s								
VAGH	**Vaagaholmen**	**93.52**	**343**	*e*P	**P**	**17 48 46.5**	**-2.5**		
MOR8	**Moi Rana**	**93.55**	**342**	*e*P	**P**	**17 48 45.6**	**-3.6**		
PIX	**Pinacate**	**93.73**	**57**	IAMs_20	IAMs_20	18 24 41.5			
	comp=Z,2µm,21.0s								
STOK	**Stokkvaagen**	**93.87**	**342**	*e*P	**P**	**17 48 48.9**	**-1.7**		
LEIR	**Leirfjorden**	**93.99**	**342**	*e*P	**P**	**17 48 50.0**	**-1.2**		
UPNV	**Upernavik**	**94.05**	**6**	*i* P	**P**	**17 48 52.1**	**+0.7**		
UPNV				IAmb	IAmb	17 48 55.8			
	comp=Z,17nm,0.9s								
WUAZ	**Wupatki**	**94.21**	**52**	IAmb	IAmb	17 49 03.7			
	comp=Z,33nm,1.0s								
DGMT	**Dagmar**	**94.55**	**38**	IAmb	IAmb	17 49 01.1			
	comp=Z,16nm,0.9s								
MNK	**Minsk**	**94.76**	**328**	*i* P	**P**	**17 48 53.1**	**-1.8**		
MNK				*i*		17 52 41.8			
MNK				*i* PPP	PPP	17 54 44.6			
MNK				*i* S	**SKSac**	**17 59 25.7**	**-2.8**		
MNK				*i* SS	**SS**	**18 06 30.5**	**+0.6**		
MNK				*i* SSS	SSS	18 10 13.3			
MNK				pmax	pmax				
	comp=N,12nm,1.0s								
MNK				pmax	pmax				
	comp=Z,24nm,0.9s								
MNK				pmax	pmax				
	comp=E,9.0nm,0.8s								
MNK				MLR	MLR	

comp=Z,1µm,19.3s,baz=47,slow=38
comp=Z,2.3nm,0.5s
MAW Mawson 98.06 203 P Pdif 17 49 09.5 0.0
comp=Z,4.8nm,1.0s,baz=68,slow=11,SNR=9.4
MAW PP **PP 17 53 08.5 -0.3**
comp=Z,2.1nm,0.9s,baz=72,slow=13,SNR=3.8
MAW LR LR 18 31 36.4
comp=Z,814nm,18.3s,baz=76,slow=34
comp=Z,4.8nm,1.0s
NB2 NORSAR Subarra 98.10 339 P **P 17 49 08.6 -1.4**
comp=Z,1.2nm,0.6s,baz=50,slow=4.4
NOA NORSAR Array B 98.10 339 P **P 17 49 08.1 -2.0**
comp=Z,1.1nm,0.7s,baz=49,slow=4.7,SNR=6.2
NOA S **SKSac 17 59 47.1 +1.2**
comp=Z,0.4nm,0.8s,baz=54,slow=6.0,SNR=1.6
NOA LR LR 18 36 05.4
comp=Z,964nm,19.5s,baz=45,slow=37
comp=Z,1.1nm,0.7s
Y22D IRIS PASSCAL I 98.14 53 P **P 17 49 10.6 -0.4**
baz=291
ANMO Albuquerque 98.19 52 P **P 17 49 11.2 0.0**
ANMO Albuquerque 98.19 52 IAMs_20 IAMs_20 18 26 00.1
comp=Z,2µm,20.0s
ANMO Albuquerque 98.19 52 P Pdif 17 49 12.3 +1.0
comp=Z,2.3nm,0.8s,baz=315,slow=6.3,SNR=8.6
ANMO LR LR 18 29 57.5
comp=Z,1µm,19.4s,baz=30,slow=33
comp=Z,2.3nm,0.8s
ANMO Albuquerque 98.19 52 *i* P **P 17 49 11.1 -0.1**
ANMO pmax pmax
comp=Z,5.0nm,1.0s
LPIG La Paz 98.59 63 P Pdif 17 49 13.9 +0.9
comp=Z,19nm,0.3s,baz=257,slow=19,SNR=2.1
LPIG LR LR 18 25 50.9
comp=Z,1µm,20.4s,baz=264,slow=30
ATD Arta Tunnel 98.64 284 LR LR 18 31 05.1
comp=Z,15nm,21.4s,baz=54,slow=34
MMAI Mount Meron Ar 98.79 307 P **P 17 49 12.8 -1.1**
comp=Z,5.4nm,0.8s,baz=46,slow=6.2,SNR=4.5
MMAI S **SKSac 17 59 54.6 +4.1**
comp=Z,0.2nm,0.2s,baz=56,slow=23,SNR=1.4
MMAI LR LR 18 37 59.2
comp=Z,770nm,20.4s,baz=44,slow=38
comp=Z,5.4nm,0.8s
OGNE Ogallala 99.08 45 IAMs_20 IAMs_20 18 30 49.8
comp=Z,2µm,20.0s
TIRR Tirgusor 99.17 319 IAMs_20 IAMs_20 18 33 14.8
comp=Z,2µm,20.0s
BURAR Bucovina Array 99.61 323 P **Pdif 17 49 16.5 -0.7**
CSS Mathiatis 99.68 309 IAMs_20 IAMs_20 18 38 47.7
comp=Z,1µm,20.0s
EPLO Experimental L 100.04 34 IAMs_20 IAMs_20 18 32 12.1
comp=Z,2µm,20.0s
MLR Muntele Rosu 100.22 321 LR LR 18 36 53.8
comp=Z,2µm,19.6s,baz=58,slow=37
EIL Elat 100.33 303 LR LR 18 39 28.5
comp=Z,675nm,19.4s,baz=69,slow=38
OJC Ojcow 101.22 327 *e*P **Pdif 17 49 23.7 -0.5**
MSTX Muleshoe 101.38 51 IAMs_20 IAMs_20 18 32 02.5
comp=Z,2µm,19.0s
NIE Niedzica 101.41 327 *e*P **Pdif 17 49 24.9 -0.2**
RGN Rugen 101.68 333 IAMs_20 IAMs_20 18 37 37.1
comp=Z,2µm,19.0s
MANT Manisa 101.74 314 IAMs_20 IAMs_20 18 40 20.0
comp=Z,2µm,20.0s
QSPA South Pole Qui 102.14 180 IAMs_20 IAMs_20 18 29 05.6
comp=Z,1µm,21.0s
QSPA South Pole Qui 102.14 180 P **Pdif 17 49 28.7 +0.8**
comp=Z,2.3nm,1.0s,baz=326,slow=2.5,SNR=4.1
QSPA PKKPbc **PKKPbc 18 05 34.2 -0.2**
comp=Z,2.3nm,1.0s,baz=162,slow=1.4,SNR=3.8
EYMN Ely 102.22 35 IAMs_20 IAMs_20 18 33 39.9
comp=Z,1µm,20.0s
ANGG Ammassalik, Gr 102.31 1 IAMs_20 IAMs_20 18 39 23.6
comp=Z,1µm,20.0s
OKC Ostrava-Krasne 102.31 328 AMS AMS 18 38 30.0
comp=Z,4µm,18.3s
TXAR Lajitas Array 102.44 56 PP **PP 17 53 44.0 +1.2**
TXAR PKKPbc **PKKPbc 18 05 31.4 -0.1**
comp=Z,0.4nm,0.7s,baz=284,slow=2.3,SNR=3.5
comp=Z,0.5nm,0.8s,baz=104,slow=2.5,SNR=4.0
MORC Moravsky Berou 102.66 328 *e*PDIFF **Pdif 17 49 29.9 -0.7**
VYHS Vyhne 102.73 326 *i* P **Pdif 17 49 31.4 +0.5**
VYHS Vyhne 102.73 326 *e*PDIFF **Pdif 17 49 31.3 +0.4**
MAUC Maruska 102.76 327 *e*SKS 17 59 59.2
OSTC Ostas 102.87 329 AMS AMS 18 40 40.0
comp=Z,3µm,16.6s
KRLC Kraliky 102.88 328 *e*SKS **SKSac 18 00 07.5 -2.1**
KRLC AMS AMS 18 39 00.0
comp=Z,2µm,17.6s
CHVC Chvalec 102.93 329 AMS AMS 18 40 50.0
comp=Z,4µm,17.3s
DPC Dobruska-Polom 102.94 329 AMS AMS 18 41 20.0
comp=Z,3µm,16.7s
UPC Upice 103.00 329 AMS AMS 18 40 50.0
comp=Z,4µm,16.9s
ELIS Ellis County 103.02 48 IAMs_20 IAMs_20 18 40 39.6
comp=Z,2µm,18.0s
JAVC Velka Javorina 103.14 327 *e*PDIFF **Pdif 17 49 33.1 +0.3**
VRAC Vranov 103.44 328 *e*PDIFF **Pdif 17 49 33.5 -0.6**
MODS Modra-Piesok 103.64 327 *i* P **Pdif 17 49 33.9 -1.1**
MODS Modra-Piesok 103.64 327 *e*PDIFF **Pdif 17 49 33.9 -1.1**
KRUC Moravsky 103.69 328 *e*PDIFF **Pdif 17 49 34.3 -0.9**
PVCC Panska Ves 103.70 330 AMS AMS 18 41 00.0
comp=Z,4µm,17.0s
BRG Berggiesshubel 103.79 330 SP SP 18 03 00.0 +1.0
RICC Richard 103.93 330 AMS AMS 18 41 30.0
comp=Z,4µm,17.3s
CLL Collm 103.96 331 *i* P **Pdif 17 49 35.0 -1.3**
CLL *e* 18 00 20.0
CLL pmax pmax
comp=Z,7.0nm,1.3s
CLL MLR MLR
comp=Z,3µm,18.2s
CLL Collm 103.96 331 *i* Pdif **Pdif 17 49 35.0 -1.3**
comp=Z,7.0nm,1.3s
CLL *i* x x 17 49 43.9
CLL *e*SKSac **SKSac 18 00 20.0 +5.6**
CLL *e*PS **PS 18 03 02.0 -2.8**
CLL *e*PPS PPS 18 03 49.0
CLL *e*SS SKKPbc 18 08 54.0 -13
CLL AMS AMS 18 41 00.0
comp=Z,3µm,18.2s
GOPC GO Pecny, Ondr 103.99 329 AMS AMS 18 41 30.0
comp=Z,3µm,16.9s
TREC Trest 104.02 328 AMS AMS 18 39 40.0
comp=Z,4µm,17.8s
PRU Pruhonice 104.06 329 *e*SKS **SKSac 18 00 11.4 -3.6**
PRU AMS AMS 18 41 30.0
comp=Z,3µm,16.9s
PRA Prague 104.06 329 AMS AMS 18 41 30.0
comp=Z,4µm,16.9s
ABTX Abilene, Hawle 104.32 52 IAMs_20 IAMs_20 18 33 36.4
comp=Z,2µm,20.0s
ZVC Zvikov 104.59 329 AMS AMS 18 42 00.0
comp=Z,3µm,16.8s
COWI Conover 104.60 35 IAMs_20 IAMs_20 18 34 53.0
comp=Z,2µm,20.0s
FNO Franklin 104.85 48 IAMs_20 IAMs_20 18 41 14.0
comp=Z,1µm,19.0s
KUQ Kuujjuuaa 104.88 17 IAMs_20 IAMs_20 18 39 54.1
comp=Z,1µm,20.0s
CKRC Cesky Krumlov 104.92 328 AMS AMS 18 40 10.0
comp=Z,3µm,18.2s
OK052 Battle Ridge R 104.94 47 IAMs_20 IAMs_20 18 30 58.4
comp=Z,1µm,20.0s
BEHE Becsehely 105.06 325 IAMs_20 IAMs_20 18 42 26.5
comp=Z,1µm,18.0s
GERES GERESS Array B 105.21 329 Pdiff **Pdif 17 49 41.4 -0.6**
comp=Z,0.3nm,0.5s,baz=77,slow=4.9,SNR=3.8
GERES PKiKP **PKiKP 17 53 56.3 +0.1**
comp=Z,0.6nm,0.7s,baz=58,slow=3.7,SNR=2.9
GERES PKKPbc **PKKPbc 18 05 22.9 -1.0**
comp=Z,0.9nm,0.9s,baz=248,slow=5.2,SNR=5.3
F42A Maple Grove Fa 105.37 35 IAMs_20 IAMs_20 18 35 26.2
comp=Z,2µm,20.0s
LOOK Love County 105.58 49 IAMs_20 IAMs_20 18 32 32.5
comp=Z,1µm,19.0s
FW07 Weatherford 105.70 51 IAMs_20 IAMs_20 18 34 13.8
comp=Z,2µm,20.0s
FW06 Azle 105.75 50 IAMs_20 IAMs_20 18 34 32.2
comp=Z,1µm,19.0s
Z35A Perchaven, San 105.82 50 IAMs_20 IAMs_20 18 36 12.0
comp=Z,1µm,19.0s
IVI Ivigtut 106.07 6 IAMs_20 IAMs_20 18 39 51.5
comp=Z,1µm,20.0s
WHTX Lake Whitney, 106.26 51 IAMs_20 IAMs_20 18 33 58.8
comp=Z,1µm,20.0s
FW14 Alvarado 106.28 51 IAMs_20 IAMs_20 18 34 47.3
comp=Z,1µm,20.0s
NRS Narsarsuaq 106.38 5 IAMs_20 IAMs_20 18 39 11.6
comp=Z,1µm,20.0s
U38A Gravette 106.45 46 IAMs_20 IAMs_20 18 36 09.2
comp=Z,2µm,20.0s
P40A Paris 106.47 42 IAMs_20 IAMs_20 18 43 19.2
comp=Z,1µm,19.0s
S39A Bolivar 106.56 44 IAMs_20 IAMs_20 18 35 24.8
comp=Z,1µm,20.0s
N41A Harden Midland 106.61 41 IAMs_20 IAMs_20 18 33 27.8
comp=Z,1µm,20.0s
SYO Syowa Base 106.70 201⇑ *e*Pdiff **Pdif 17 49 48.8 +0.9**
KEK Kerkira 107.08 318 IAMs_20 IAMs_20 18 41 53.3
comp=Z,1µm,19.0s
EKA Eskdalemuir Ar 107.33 341 Pdiff **Pdif 17 49 49.7 -1.5**
comp=Z,1.5nm,0.8s,baz=37,slow=2.7,SNR=2.1
ESK Eskdalemuir 107.36 341 IAMs_20 IAMs_20 18 45 25.3
comp=Z,2µm,19.0s
STU Stuttgart 107.48 331 IAMs_20 IAMs_20 18 42 35.6
comp=Z,2µm,20.0s
Z38A Mt. Pleasant 107.54 49 IAMs_20 IAMs_20 18 35 17.4
comp=Z,2µm,19.0s
MGMO Mountain Grove 107.56 44 IAMs_20 IAMs_20 18 36 06.4
comp=Z,2µm,20.0s
HDIL Hopedale 107.68 40 IAMs_20 IAMs_20 18 39 04.1
comp=Z,1µm,20.0s
CCM Cathedral Cave 107.78 43 IAMs_20 IAMs_20 18 35 24.1
comp=Z,1µm,20.0s
GLMI Grayling 107.90 34 IAMs_20 IAMs_20 18 37 53.2
comp=Z,2µm,20.0s
MIAR Mount Ida 107.95 47 IAMs_20 IAMs_20 18 35 42.1
comp=Z,2µm,20.0s
MOIG Morelia 108.03 64 IAMs_20 IAMs_20 18 27 08.5
comp=Z,2µm,21.0s
SLM Saint Louis 108.14 42 IAMs_20 IAMs_20 18 34 36.4
comp=Z,1µm,20.0s
FCAR Ozark Folk Cen 108.31 46 IAMs_20 IAMs_20 18 36 19.3
comp=Z,2µm,20.0s
FVM French Village 108.37 43 IAMs_20 IAMs_20 18 35 33.5
comp=Z,1µm,20.0s
HKT Hockley 108.41 53 IAMs_20 IAMs_20 18 45 40.7
comp=Z,1µm,18.0s
DAVOX Davos/Dischmat 108.51 329 PKKPbc PKKPbc 18 05 14.3 +0.6
comp=Z,0.7nm,0.2s,baz=225,slow=5.7,SNR=3.6
Q44A Meyer Farm, Va 108.79 41 IAMs_20 IAMs_20 18 39 41.5
comp=Z,1µm,19.0s
PBMO Poplar Bluff 109.01 44 IAMs_20 IAMs_20 18 37 09.7
comp=Z,1µm,19.0s
CGM3 Cape Girardeau 109.25 43 IAMs_20 IAMs_20 18 36 18.9
comp=Z,1µm,20.0s
S44A Carbondale 109.30 43 IAMs_20 IAMs_20 18 36 55.2
comp=Z,1µm,20.0s
SIUC Southern Illin 109.31 43 IAMs_20 IAMs_20 18 36 55.6
comp=Z,1µm,20.0s
TIP Timpagrande 109.33 319 IAMs_20 IAMs_20 18 34 51.9
comp=Z,2µm,20.0s
I49A Point Hope 109.46 34 IAMs_20 IAMs_20 18 37 25.3
comp=Z,2µm,19.0s
CUC Castrocucco 109.46 320 IAMs_20 IAMs_20 18 43 44.1
comp=Z,2µm,20.0s
OLIL Olney 109.47 41 IAMs_20 IAMs_20 18 37 37.6
comp=Z,1µm,20.0s
PARMO Parma 109.53 44 IAMs_20 IAMs_20 18 37 25.5
comp=Z,1µm,20.0s
PAOL Paolisi 109.61 322 IAMs_20 IAMs_20 18 47 24.9
comp=Z,2µm,19.0s
HICK Hickman 109.95 44 IAMs_20 IAMs_20 18 37 39.5
comp=Z,1µm,20.0s
OSSC Osservatorio P 109.96 326 IAMs_20 IAMs_20 18 43 27.2
comp=Z,2µm,20.0s
AAM Ann Arbor 110.04 36 IAMs_20 IAMs_20 18 36 55.9
comp=Z,3µm,20.0s
DSB Dublin 110.10 342 IAMs_20 IAMs_20 18 42 56.9
comp=Z,1µm,20.0s
USIN University of 110.19 42 IAMs_20 IAMs_20 18 35 51.7
comp=Z,1µm,21.0s
MET Memphis--Engin 110.23 45 IAMs_20 IAMs_20 18 37 28.2
comp=Z,2µm,20.0s
K50A Casco 110.32 35 IAMs_20 IAMs_20 18 38 28.3
comp=Z,2µm,19.0s
CEL Celeste 110.42 319 IAMs_20 IAMs_20 18 44 23.5
comp=Z,2µm,20.0s
TLIG Tlapa 111.11 66 IAMs_20 IAMs_20 18 32 45.6
comp=Z,1µm,20.0s
T47A Sharon Grove 111.11 42 IAMs_20 IAMs_20 18 37 40.2
comp=Z,1µm,20.0s
WVT Waverly 111.12 43 IAMs_20 IAMs_20 18 38 53.4
comp=Z,2µm,19.0s
Y45A Yeager Farm, C 111.17 46 IAMs_20 IAMs_20 18 34 37.2
comp=Z,1µm,20.0s
VBMS Vicksburg 111.33 48 IAMs_20 IAMs_20 18 38 18.6
comp=Z,3µm,19.0s
PLAL Pickwick Lake 111.59 44 IAMs_20 IAMs_20 18 38 10.0
comp=Z,2µm,20.0s
M52A Chesterland 111.84 35 IAMs_20 IAMs_20 18 39 24.5
comp=Z,2µm,20.0s
V48A Smith Brothers 112.01 43 IAMs_20 IAMs_20 18 39 28.1
comp=Z,1µm,20.0s
TRQ Mont Tremblant 112.05 28 IAMs_20 IAMs_20 18 37 07.1
comp=Z,2µm,22.0s
LDAQ Lac Daran 112.15 25 IAMs_20 IAMs_20 18 38 33.4
comp=Z,1µm,21.0s
ERPA Erie 112.22 34 IAMs_20 IAMs_20 18 39 21.3
comp=Z,1µm,19.0s
U49A Red Boiling Sp 112.26 42 IAMs_20 IAMs_20 18 38 05.4
comp=Z,910nm,20.0s
ICQ Pointe Anglin 112.43 22 IAMs_20 IAMs_20 18 41 02.3
comp=Z,2µm,20.0s
346A Big Creek Wild 112.53 48 IAMs_20 IAMs_20 18 39 14.3
comp=Z,2µm,20.0s
Z47A Carrollton 112.57 46 IAMs_20 IAMs_20 18 35 30.1
comp=Z,2µm,20.0s
T50A Nancy 112.57 41 IAMs_20 IAMs_20 18 37 36.5
comp=Z,1µm,21.0s
X48A Hartselle 112.59 44 IAMs_20 IAMs_20 18 39 10.5
comp=Z,1µm,20.0s
J55A Hilton 112.59 32 IAMs_20 IAMs_20 18 40 40.0
comp=Z,2µm,22.0s
N53A Lisbon 112.62 36 IAMs_20 IAMs_20 18 39 48.1
comp=Z,3µm,19.0s
LMQ La Malbaie 112.86 25 IAMs_20 IAMs_20 18 42 37.1
comp=Z,2µm,20.0s
SWET Sewanee 112.91 43 IAMs_20 IAMs_20 18 41 00.8
comp=Z,1µm,20.0s
MNTQ Montreal, Queb 113.02 28 IAMs_20 IAMs_20 18 36 32.7
comp=Z,2µm,21.0s
W50A Signal Mountai 113.33 43 IAMs_20 IAMs_20 18 48 19.9
comp=Z,1µm,19.0s
Y49A Blount Mountai 113.36 45 IAMs_20 IAMs_20 18 39 14.8
comp=Z,1µm,20.0s
LRAL Lakeview Retre 113.41 46 IAMs_20 IAMs_20 18 36 06.6
comp=Z,1µm,20.0s
J57A Williamstown 113.42 31 IAMs_20 IAMs_20 18 41 42.7
comp=Z,3µm,21.0s
L56A Greenwood 113.52 33 IAMs_20 IAMs_20 18 40 27.6
comp=Z,2µm,21.0s
FRNY Flat Rock 113.54 29 IAMs_20 IAMs_20 18 46 29.5
comp=Z,2µm,19.0s
K57A Scipio Center 113.64 32 IAMs_20 IAMs_20 18 41 43.8
comp=Z,2µm,21.0s
VSL Villasalto 113.65 323 IAMs_20 IAMs_20 18 45 41.0
comp=Z,2µm,20.0s
CPCT Cooper Cave 113.71 42 IAMs_20 IAMs_20 18 41 43.8
comp=Z,2µm,20.0s
D62A Allapoint, All 113.75 24 IAMs_20 IAMs_20 18 40 29.7
comp=Z,2µm,21.0s
E62A Clayton Lake 113.93 25 IAMs_20 IAMs_20 18 43 09.5
comp=Z,2µm,20.0s
J59A Piesco 114.12 30 IAMs_20 IAMs_20 18 44 22.6
comp=Z,2µm,19.0s
BINY Binghamton 114.30 32 IAMs_20 IAMs_20 18 42 03.1
comp=Z,3µm,21.0s
VT1 Waterbury 114.31 28 IAMs_20 IAMs_20 18 41 30.1
comp=Z,2µm,22.0s
W52A Murphy 114.31 42 IAMs_20 IAMs_20 18 42 00.8
comp=Z,1µm,20.0s
M57A Sunshine Farm, 114.31 33 IAMs_20 IAMs_20 18 41 26.6
comp=Z,2µm,21.0s
250A Grady 114.51 46 IAMs_20 IAMs_20 18 40 58.5
comp=Z,2µm,19.0s
V53A Saluda 114.69 41 IAMs_20 IAMs_20 18 34 46.6
comp=Z,1µm,21.0s
BATG Bathurst New B 114.75 22 IAMs_20 IAMs_20 18 45 11.8
comp=Z,2µm,20.0s
LBNH Lisbon 114.76 28 IAMs_20 IAMs_20 18 41 53.8
comp=Z,2µm,22.0s
L59A Walton 114.79 31 IAMs_20 IAMs_20 18 43 09.0
comp=Z,2µm,20.0s
H62A Milan 114.85 27 IAMs_20 IAMs_20 18 41 03.0
comp=Z,2µm,20.0s
KSPA Keystone Colle 114.87 32 IAMs_20 IAMs_20 18 41 37.3
comp=Z,2µm,21.0s
N58A Sunbury 114.88 33 IAMs_20 IAMs_20 18 41 22.7
comp=Z,3µm,21.0s
Y52A Lilburn 114.95 43 IAMs_20 IAMs_20 18 37 13.8
comp=Z,1µm,20.0s
HNH Hanover 115.00 29 IAMs_20 IAMs_20 18 41 38.3
comp=Z,1µm,22.0s
BG3 Lake Jocassee 115.02 42 IAMs_20 IAMs_20 18 41 42.5
comp=Z,1µm,19.0s
F64A Sherman 115.03 25 IAMs_20 IAMs_20 18 44 13.3
comp=Z,1µm,20.0s
TRY Troy 115.08 30 IAMs_20 IAMs_20 18 44 51.5
comp=Z,1µm,19.0s
PKME Peaks-Kenny Pk 115.12 26 IAMs_20 IAMs_20 18 42 58.9
comp=Z,893nm,22.0s
J61A Chester 115.15 29 IAMs_20 IAMs_20 18 43 26.2
comp=Z,1µm,20.0s
152A Waverly Hall 115.20 45 IAMs_20 IAMs_20 18 40 31.6
comp=Z,1µm,20.0s
I62A Tamworth 115.31 28 IAMs_20 IAMs_20 18 42 20.4
comp=Z,2µm,20.0s
I63A Otisfield 115.52 27 IAMs_20 IAMs_20 18 41 21.7
comp=Z,1µm,20.0s
WVL Waterville 115.52 26 IAMs_20 IAMs_20 18 42 59.6
comp=Z,883nm,20.0s
GOGA Godfrey 115.62 43 IAMs_20 IAMs_20 18 39 57.5
comp=Z,1µm,20.0s
451A Vernon 115.63 47 IAMs_20 IAMs_20 18 40 55.4
comp=Z,2µm,21.0s
352A Blakely 115.73 46 IAMs_20 IAMs_20 18 41 19.1
comp=Z,2µm,19.0s
DRLN Deer Lake 115.74 16 IAMs_20 IAMs_20 18 45 12.2
comp=Z,1µm,20.0s
L61B Northampton 115.77 30 IAMs_20 IAMs_20 18 45 31.7
comp=Z,1µm,19.0s
CEST Esterni de Car 115.78 331 IAMs_20 IAMs_20 18 47 25.3
comp=Z,2µm,20.0s
SDMD Soldier's Deli 115.82 35 IAMs_20 IAMs_20 18 41 20.6
comp=Z,2µm,21.0s
PAULI Pauline 115.85 41 IAMs_20 IAMs_20 18 39 29.5
comp=Z,1µm,21.0s
G65A Princeton 115.89 25 IAMs_20 IAMs_20 18 44 49.1
comp=Z,1µm,19.0s
TROLL Troll, Antarti 116.10 192 ⇑P **PKPdf 17 54 16.5 +0.3**
comp=Z,268nm,0.9s
R58B Mineral 116.22 36 IAMs_20 IAMs_20 18 40 28.6
comp=Z,3µm,20.0s
HRV Adam Dziewonsk 116.26 29 IAMs_20 IAMs_20 18 38 29.7
comp=Z,1µm,22.0s
EMMW East Machias 116.33 25 IAMs_20 IAMs_20 18 44 31.9
comp=Z,969nm,20.0s
154A Montrose 116.33 44 IAMs_20 IAMs_20 18 41 16.6
comp=Z,1µm,19.0s
CPNY Central Park 116.37 32 IAMs_20 IAMs_20 18 52 00.8
comp=Z,2µm,19.0s
WSPT Westport, CT 116.41 31 IAMs_20 IAMs_20 18 45 35.7
comp=Z,2µm,19.0s
WES Weston 116.47 29 IAMs_20 IAMs_20 18 38 25.1
comp=Z,1µm,22.0s
UCCT U. Connecticut 116.49 30 IAMs_20 IAMs_20 18 37 34.7
comp=Z,1µm,21.0s
N62A Caumsett State 116.52 31 IAMs_20 IAMs_20 18 43 27.7
comp=Z,2µm,20.0s
TIGA Tifton 116.69 45 IAMs_20 IAMs_20 18 41 49.2
comp=Z,1µm,20.0s
553A Crawfordville 116.81 47 IAMs_20 IAMs_20 18 38 29.6
comp=Z,2µm,21.0s
M63A Gales Ferry 116.87 30 IAMs_20 IAMs_20 18 43 45.9
comp=Z,1µm,20.0s
L64A Middleborough 117.04 29 IAMs_20 IAMs_20 18 43 02.3
comp=Z,2µm,22.0s
Y57A Sumter 117.27 41 IAMs_20 IAMs_20 18 40 31.0
comp=Z,1µm,20.0s
R61A Willards 117.41 35 IAMs_20 IAMs_20 18 42 40.7
comp=Z,3µm,20.0s
M65A Busby, Falmout 117.42 29 IAMs_20 IAMs_20 18 43 12.4
comp=Z,2µm,21.0s
SNAA Sanae 117.43 191 ⇑P **PKKPbc 18 04 43.1 -1.1**
comp=Z,41nm,0.9s
SNAA Sanae 117.43 191 ⇑P **PKiKP 17 54 19.1 +0.5**
comp=Z,55nm,0.7s
SNAA Sanae 117.43 191 IAMs_20 IAMs_20 18 41 02.5
comp=Z,1µm,19.0s
SNAA Sanae 117.43 191 PKP **PKPdf 17 54 17.5 -1.1**
comp=Z,1.1nm,0.6s,baz=139,slow=5.0,SNR=3.1
SNAA PKKPbc **PKKPab 18 04 45.3 +0.7**
comp=Z,2.5nm,1.0s,baz=298,slow=2.7,SNR=3.3
S61A Accomac 117.68 35 IAMs_20 IAMs_20 18 43 32.0
comp=Z,2µm,20.0s
HAL Halifax 117.90 22 IAMs_20 IAMs_20 18 42 36.2
comp=Z,1µm,22.0s
257A Skidaway Islan 118.12 43 IAMs_20 IAMs_20 18 42 04.9
comp=Z,1µm,20.0s
456A Hilliard 118.19 45 IAMs_20 IAMs_20 18 43 23.1
comp=Z,2µm,19.0s
656A Willston 118.63 47 IAMs_20 IAMs_20 18 46 32.8
comp=Z,1µm,20.0s
VNA3 Neumayer Olymp 118.98 189 ⇑P **PKPdf 17 54 16.8 -4.7**
comp=Z,5.8nm,0.8s
VNA1 Neumayer--Stat 119.26 190 ⇑P **PKPdf 17 54 18.2 -3.8**
comp=Z,5.6nm,1.1s
DWPF Disney Wildern 120.15 47 IAMs_20 IAMs_20 18 43 54.1
comp=Z,2µm,20.0s
PGAV Gavieira, Arco 120.45 337 *e*PKPdf **PKiKP 17 54 29.1 +3.7**
ESDC Sonseca Array 120.52 332 PKP **PKPdf 17 54 25.1 -0.4**
comp=Z,2.3nm,1.0s,baz=36,slow=1.9,SNR=8.0
ESDC PKKPbc **PKKPbc 18 04 33.0 +0.7**
comp=Z,1.6nm,1.0s,baz=246,slow=4.6,SNR=6.3
MVO Moncorvo 120.63 335 *e*PKPdf **PKiKP 17 54 27.4 +1.6**
CART Cartagena 120.72 328 IAMs_20 IAMs_20 18 50 35.9
comp=Z,1µm,20.0s
POLO Lamas de Olo 120.77 336 *e*PKPdf **PKiKP 17 54 28.8 +2.7**
PAB San Pablo 120.80 332 IAMs_20 IAMs_20 18 53 00.1
comp=Z,1µm,18.0s
BOSA Boshof 121.30 244 PKP **PKPdf 17 54 26.3 -1.1**
comp=Z,7.8nm,1.2s,baz=140,slow=1.9,SNR=3.8
PVIS Viseu 121.36 336 *e*PKPdf **PKPdf 17 54 27.1 -0.1**
060A Indiantown 121.55 47 IAMs_20 IAMs_20 18 44 46.1
comp=Z,2µm,20.0s
061Z Ochoppi 121.83 49 IAMs_20 IAMs_20 18 44 49.8
comp=Z,1µm,20.0s
PCBR Castelo Branco 121.93 335 *e*PKPdf **PKiKP 17 54 29.6 +1.3**
PCAS Casmilo, Conde 122.17 336 *e*PKPdf **PKiKP 17 54 29.1 +0.3**
PMRV Marv??o 122.24 334 *e*PKPdf **PKiKP 17 54 30.5 +1.5**
PSARD Sardoal 122.42 335 *e*PKPdf **PKiKP 17 54 32.9 +3.6**
PESTR Estremoz 122.79 334 IAMs_20 IAMs_20 18 43 01.7
comp=Z,1µm,20.0s
PMTG Montargil 122.89 335 *e*PKPdf **PKiKP 17 54 30.7 +0.5**
PBAR Barrancos 123.13 333 *e*PKPdf **PKiKP 17 54 32.2 +1.5**
PARRA Arraiolos 123.44 335 *e*PKPdf **PKPdf 17 54 30.9 -0.2**
HERN Volcan Telica 123.46 66 IAMs_20 IAMs_20 18 48 44.9
comp=Z,534nm,20.0s
PBEJ Beja 123.61 334 *e*PKPdf **PKiKP 17 54 33.9 +2.2**
MESJ Messejana 123.92 334 IAMs_20 IAMs_20 18 54 35.6
comp=Z,1µm,18.0s
PMSA Palmer Station 124.00 166 *e*P **PKiKP 17 54 32.9 +1.3**
PCVE Castro Verde 124.02 334 *e*PKPdf **PKiKP 17 54 36.1 +3.6**
MORF Marmelete 124.56 334 IAMs_20 IAMs_20 18 50 43.4
comp=Z,2µm,21.0s
BBSR BB Station 127.58 31 IAMs_20 IAMs_20 18 48 48.6
comp=Z,1µm,20.0s
BRU2 Volcan 128.71 68 IAMs_20 IAMs_20 18 42 16.4
comp=Z,776nm,20.0s
NMDO Nuevo Mundo 129.34 50 IAMs_20 IAMs_20 18 55 35.9
comp=Z,954nm,19.0s
GTBY Guantanamo Bay 129.62 51 IAMs_20 IAMs_20 18 50 44.3
comp=Z,684nm,20.0s
PMPST Porto Santo, M 131.29 338 *e*SKPdf **SKPdf 17 58 15.6 -4.1**
GRTK Grand Turk 131.56 46 IAMs_20 IAMs_20 18 51 33.2
comp=Z,986nm,19.0s
PMAR Madeira 131.82 339 *e*SKPdf **SKPdf 17 58 17.7 -3.3**
PMOZ Porto Moniz, M 131.83 339 *e*SKPdf **SKPdf 17 58 18.3 -2.5**
SDDR Presa de Saban 133.05 49 IAMs_20 IAMs_20 18 43 51.1
comp=Z,1µm,21.0s
TORD Torodi Ar. Bea 135.22 303 PKhKP PKPpre 17 54 38.9
comp=Z,1.0nm,0.3s,baz=52,slow=3.0,SNR=1.5
TORD PKP **PKPdf 17 54 52.9 -1.1**
comp=Z,6.2nm,0.9s,baz=39,slow=3.1,SNR=4.5
TORD SKPbc **SKPbc 17 58 24.4 +1.3**
comp=Z,2.1nm,0.6s,baz=43,slow=2.0,SNR=4.1
AGPR Aguadilla, PR 136.40 46 IAMs_20 IAMs_20 18 54 32.3
comp=Z,827nm,21.0s

PRSN	**Puerto Rico Se**	**136.54**	**46**	IAMs_20	IAMs_20	18 54 14.2		
	comp=Z,1µm,22.0s							
OBIP	**Obispado Ponce**	**137.04**	**46**	IAMs_20	IAMs_20	18 54 49.3		
	comp=Z,740nm,21.0s							
SJG	**San Juan**	**137.31**	**46**	IAMs_20	IAMs_20	18 50 35.5		
	comp=Z,934nm,21.0s							
PDPR	**Patillas Dam,**	**137.46**	**45**	IAMs_20	IAMs_20	18 55 40.4		
	comp=Z,813nm,21.0s							
PLCA	**Paso Flores**	**138.25**	**139**	PKP	**PKPdf**	**17 54 58.8**	**-0.3**	
	comp=Z,9.9nm,1.0s,baz=205,slow=3.2,SNR=7.9							
ACRG	**Accra**	**140.58**	**295**	IAMs_20	IAMs_20	19 08 22.6		
	comp=Z,637nm,19.0s							
GDHS	**Morne Mazeau,**	**141.58**	**43**	IAMs_20	IAMs_20	18 54 19.9		
	comp=Z,1µm,20.0s							
ABD	**La Joyeuse, An**	**141.62**	**42**	IAMs_20	IAMs_20	18 54 29.2		
	comp=Z,1µm,21.0s							
CBE	**Ff, Capester**	**141.83**	**43**	IAMs_20	IAMs_20	18 54 40.9		
	comp=Z,1µm,21.0s							
GDSD	**La Dsirade Is**	**142.02**	**42**	IAMs_20	IAMs_20	18 54 51.6		
	comp=Z,2µm,21.0s							
SVN	**Savane Anatole**	**143.00**	**44**	IAMs_20	IAMs_20	18 55 08.1		
	comp=Z,966nm,21.0s							
FDF	**Fort de France**	**143.09**	**44**	IAMs_20	IAMs_20	18 57 33.5		
	comp=Z,1µm,20.0s							
CZSB	**Cruzeiro do Su**	**143.19**	**87**		PKPbc	17 55 06.3	+0.8	
BIM	**Bigot**	**143.30**	**44**	IAMs_20	IAMs_20	18 55 29.0		
	comp=Z,1µm,22.0s							
LCO	**Las Campanas**	**143.35**	**122**		**PKPdf**	**17 55 08.0**	**-0.9**	
LCO	**Las Campanas**	**143.35**	**122**	PKIKP	**PKPdf**	**17 55 08.0**	**-0.9**	
PCRV	**Puerto La Cruz**	**143.51**	**54**	PKP	**PKPdf**	**17 55 08.4**	**-0.9**	
	comp=Z,11nm,1.0s,baz=346,slow=4.2,SNR=3.3							
DBIC	**Dimbokro**	**144.11**	**300**		PKPbc	17 55 08.6	+0.4	
DBIC	**Dimbokro**	**144.11**	**300**	PKP	PKPbc	17 55 08.3	+0.1	
	comp=Z,45nn,0.9s,baz=80,slow=4.1,SNR=26							
AC06	**Mina Casimiro**	**144.17**	**120**		**PKPdf**	**17 55 10.1**	**+0.1**	
GO03	**Copiapo**	**144.19**	**120**		**PKPdf**	**17 55 10.4**	**+0.3**	
GRGR	**Grenville**	**144.53**	**48**	IAMs_20	IAMs_20	18 58 52.1		
	comp=Z,1µm,21.0s							
TBTG	**Tabatinga, AM**	**145.12**	**80**	*eP*	**PKPbc**	**17 55 11.0**	**-0.5**	
TRQA	**Tornquist**	**145.18**	**142**		**PKPdf**	**17 55 13.0**	**+1.6**	
TRQA	**Tornquist**	**145.18**	**142**	PKIKP	**PKPdf**	**17 55 13.0**	**+1.6**	
PB11	**IPOC Station P**	**146.47**	**107**		**PKPab**	**17 55 17.0**	**+0.4**	
LPAZ	**La Paz**	**148.23**	**101**	PKPbc	**PKPbc**	**17 55 19.7**	**-1.5**	
	comp=Z,12nm,0.8s,baz=258,slow=0.8,SNR=25							
LPAZ	**La Paz**	**148.23**	**101**	*eP*	**PKPdf**	**17 55 18.1**	**+0.2**	
TEFE	**Tefe**	**149.96**	**76**	*eP*	**PKPdf**	**17 55 19.8**	**-0.2**	
BOAV	**Boa Vista**	**151.25**	**61**	*eP*	**PKPdf**	**17 55 22.3**	**+0.2**	
CPUP	**Villa Florida**	**155.23**	**127**	PKP	**PKPdf**	**17 55 27.9**	**+0.5**	
	comp=Z,0.5nn,0.7s,baz=204,slow=18,SNR=2.9							
CPUP				PKPab	**PKPab**	**17 55 53.6**	**+1.3**	
	comp=Z,5.9nm,0.9s,baz=262,slow=4.9,SNR=12							
CPUP	**Villa Florida**	**155.23**	**127**	*eP*	**PKPdf**	**17 55 28.6**	**+1.2**	
PTLB	**Pontes e Lacer**	**156.92**	**101**	*eP*	**PKPdf**	**17 55 30.7**	**+0.8**	
BDFB	**Brasilia**	**167.48**	**107**	PKP	**PKPdf**	**17 55 41.2**	**+0.5**	
	comp=Z,6.9nm,0.9s,baz=214,slow=3.6,SNR=4.3							
BDFB				PKPab	**PKPab**	**17 56 48.2**	**+1.9**	
	comp=Z,13nm,1.2s,baz=270,slow=3.0,SNR=2.4							

*IDC **21** 17:49:53.4±1.2, 12°.26N×144°.29E, h0km, mb3.8/10, mbtmp3.8/10, Error ellipse: s-maj=37.2km s-min=15.8km az=102.0*
ISC 21 17:49:58.2±1.3, 12°2N±0°.1×144°4E±0°2, h35km, n17, σ0s92/13, mb3.8/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.45**	**19**	Pn		**Pn**		**17 50 21.5**	**-0.4**
	154nm,0.3s,baz=200,slow=8.1,SNR=62								
GUMO				Sn		**Sn**		**17 50 40.8**	**+1.0**
	301nm,0.3s,baz=233,slow=20,SNR=33								
H11S3	**WAKE ISLAND Hy**	**22.39**	**71**	T		T		18 18 03.8	
	baz=263								
H11S1	**WAKE ISLAND Hy**	**22.41**	**71**	T		T		18 18 07.5	
	baz=263,SNR=4.1								
H11S2	**WAKE ISLAND Hy**	**22.41**	**71**	T		T		18 18 18.1	
	baz=263								
H11N1	**WAKE ISLAND Hy**	**22.88**	**68**	T		T		18 18 36.8	
	baz=255,slow=75,SNR=5.8								
H11N2	**WAKE ISLAND Hy**	**22.89**	**68**	T		T		18 18 39.3	
	baz=255,slow=75,SNR=7.2								
H11N3	**WAKE ISLAND Hy**	**22.90**	**68**	T		T		18 18 39.3	
	baz=255,slow=75,SNR=4.3								
MJAR	**Matsushiro Arr**	**24.85**	**348**	P		**P**		**17 55 18.7**	**+1.2**
	0.3nm,0.5s,baz=178,slow=13,SNR=5.4								
	0.3nm,0.5s								
WRA	**Warramunga Arr**	**33.45**	**197**	P		**P**		**17 56 34.6**	**+0.5**
	0.6nm,0.7s,baz=19,slow=9.0,SNR=9.1								
	0.6nm,0.7s								
ASAR	**Alice Springs**	**37.10**	**196**	P		**P**		**17 57 06.1**	**+0.6**
	0.6nm,0.7s,baz=19,slow=10,SNR=15								
	0.6nm,0.7s								
CMAR	**Chiang Mai Arr**	**44.16**	**284**	P		**P**		**17 58 04.7**	**+0.7**
	0.5nm,0.3s,baz=93,slow=8.3,SNR=2.2								
	0.5nm,0.3s								
SONM	**Songino Array**	**47.58**	**326**	P		**P**		**17 58 30.3**	**-0.3**
	0.5nm,0.5s,baz=150,slow=6.0,SNR=4.6								
	0.5nm,0.5s								
MKAR	**Makanchi Array**	**62.14**	**317**	P		**P**		**18 00 15.7**	**-0.3**
	0.4nm,0.5s,baz=98,slow=8.9,SNR=9.8								
	0.4nm,0.5s								
ZALV	**Zalesovo Beam**	**62.46**	**325**	P		**P**		**18 00 18.9**	**+1.0**
	0.3nm,0.3s,baz=142,slow=7.3,SNR=1.5								
ZALV				PcP		**PcP**		**18 00 56.3**	**-0.7**
	0.6nm,0.5s,baz=104,slow=1.8,SNR=2.5								
	0.3nm,0.3s								
KURBB	**Kurchatov Arra**	**65.36**	**320**	P		**P**		**18 00 36.4**	**-0.6**
	1.0nm,0.4s,baz=105,slow=6.8,SNR=7.0								
	1.0nm,0.4s								
BVAR	**Borovoye Array**	**70.70**	**322**	P		**P**		**18 01 09.9**	**-0.7**
	1.0nm,0.4s,baz=101,slow=7.6,SNR=6.3								
	1.0nm,0.4s								
FINES	**FINESS Array B**	**92.19**	**335**	P		**P**		**18 03 02.7**	**-1.4**
	1.2nm,0.7s,baz=63,slow=5.2,SNR=12								
	1.2nm,0.7s								

*IDC **21** 17:54:30.2±1.1, 12°.30N×144°.03E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=38.6km s-min=17.9km az=109.0*
ISC 21 17:54:33.8±1.2, 12°3N±0°.2×144°2E±0°.2, h27km, n7, σ0s86/8, mb3.7/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.48**	**28**	Pn		**Pn**		**17 54 59.0**	**+0.3**
	71nm,0.3s,baz=196,slow=10,SNR=19								
GUMO				Sn		**Sb**		**17 55 19.0**	**-0.3**
	74nm,0.3s,baz=233,slow=20,SNR=17								
WRA	**Warramunga Arr**	**33.44**	**197**	P		**P**		**18 01 09.4**	**-1.2**
	0.6nm,0.8s,baz=17,slow=8.9,SNR=3.2								
	0.6nm,0.8s								
ASAR	**Alice Springs**	**37.10**	**196**	P		**P**		**18 01 43.3**	**+1.1**
	0.4nm,0.7s,baz=19,slow=8.8,SNR=11								
	0.4nm,0.7s								
MKAR	**Makanchi Array**	**61.95**	**317**	P		**P**		**18 04 52.1**	**+0.7**
	0.2nm,0.5s,baz=102,slow=7.3,SNR=3.8								
	0.2nm,0.5s								
KURBB	**Kurchatov Arra**	**65.18**	**320**	P		**P**		**18 05 12.8**	**+0.2**
	0.5nm,0.7s,baz=104,slow=6.3,SNR=6.5								
	0.5nm,0.7s								
BVAR	**Borovoye Array**	**70.52**	**322**	P		**P**		**18 05 45.6**	**-0.6**
	0.4nm,0.3s,baz=98,slow=9.0,SNR=4.4								
	0.4nm,0.3s								
FINES	**FINESS Array B**	**92.05**	**335**	P		**P**		**18 07 40.2**	**-0.1**
	1.0nm,0.8s,baz=66,slow=5.0,SNR=4.9								
	1.0nm,0.8s								

*IDC **21** 18:11:55.4±1.7, 35°.38N×141°.43E, h0km, mb3.5/4, mbtmp3.4/6, ML2.9/2, Error ellipse: s-maj=48.0km s-min=21.3km az=63.0*
*JMA **21** 18:11:59.0±0.1, 35°.3N±0°.3×141°.2E±0°.8, h36km±1km, MV3.2/32, E OFF BOSO PENINSULA*
ISC 21 18:11:59.5±1.1, 35°39N±0°.04×141°13E±0°.06, h33km, n28, σ2s34/21, mb3.7/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.61**	**295**	P		**Pn**		**18 12 12.6**	**+0.8**
JSMT				*eS*		**Sn**		**18 12 22.2**	**+1.7**
BSO2	**Boso 2**	**0.71**	**206**	X				18 12 23.6	
KTR	**Katsuura**	**0.71**	**250**	P		**Pb**		**18 12 13.2**	**-0.3**
KTR				S		**Sn**		**18 12 22.7**	**-0.3**
BSO1	**Boso 1**	**0.74**	**190**	P		**Pb**		**18 12 12.2**	**-1.5**
BSO1				X				18 12 20.8	
BSO4	**Boso 4**	**0.76**	**239**	P		**Pb**		**18 12 13.8**	**-0.4**
BSO4				*eX*				18 12 24.8	
BSO3	**Boso 3**	**0.78**	**221**	P		**Pb**		**18 12 13.6**	**-0.8**
BSO3				X				18 12 25.3	
JKUC	**kamogawauchiur**	**0.80**	**254**	*i* P		**Pb**		**18 12 14.4**	**-0.5**
JKUC				*eS*		**Sb**		**18 12 24.9**	**-0.5**
JYT	**Yasato**	**1.13**	**318**	P		**Pb**		**18 12 20.0**	**-0.5**
JMM	**Marumori**	**2.49**	**354**	P		**Pb**		**18 12 40.7**	**-2.8**
JHJ2	**Mitsune**	**2.52**	**206**	P		**Pb**		**18 12 40.3**	**-3.7**
MJAR	**Matsushiro Arr**	**2.64**	**297**	Pn		**Pb**		**18 12 41.8**	**-4.2**
	0.6nm,0.3s,baz=133,slow=15,SNR=33								
MJAR				Sn		**Sb**		**18 13 19.0**	**+1.0**
	0.3nm,0.3s,baz=177,slow=26,SNR=4.3								
	1.8nm,0.3s								
MAJO	**Matsushiro**	**2.64**	**297**	P		**Pb**		**18 12 43.7**	**-2.3**
JGF	**Kuroka**	**3.09**	**275**	P		**Pb**		**18 12 49.6**	**-4.1**
INU	**Inuyama**	**3.36**	**270**	P		**Pb**		**18 12 53.9**	**-4.5**
ASAJ	**Asahikawa**	**8.79**	**7**	Pn		**Pn**		**18 14 04.0**	**-0.1**
	0.3nm,0.3s,baz=209,slow=19,SNR=1.3								
	1.2nm,0.4s								
H11N2	**WAKE ISLAND Hy**	**27.54**	**118**	T		T		18 46 45.3	
	baz=310,slow=75,SNR=38								
H11N1	**WAKE ISLAND Hy**	**27.55**	**118**	T		T		18 46 48.4	
	baz=310,slow=75,SNR=39								
H11N3	**WAKE ISLAND Hy**	**27.56**	**118**	T		T		18 46 45.2	
	baz=310,slow=75,SNR=40								
H11S1	**WAKE ISLAND Hy**	**28.20**	**120**	T		T		18 47 32.6	
	baz=312,slow=75,SNR=175								
H11S3	**WAKE ISLAND Hy**	**28.20**	**120**	T		T		18 47 16.6	
	baz=312,slow=75,SNR=125								
H11S2	**WAKE ISLAND Hy**	**28.21**	**120**	T		T		18 47 18.6	
	baz=312,slow=75,SNR=146								
MKAR	**Makanchi Array**	**44.82**	**303**	P		**P**		**18 20 12.3**	**+2.1**
	0.1nm,0.4s,baz=75,slow=9.1,SNR=1.8								
	0.1nm,0.4s								
KURBB	**Kurchatov Arra**	**46.85**	**309**	P		**P**		**18 20 28.0**	**+1.9**
	0.4nm,0.5s,baz=85,slow=8.3,SNR=4.0								
	0.4nm,0.5s								
WRA	**Warramunga Arr**	**55.40**	**188**	P		**P**		**18 21 30.9**	**+0.3**
	0.6nm,0.6s,baz=6.4,slow=7.4,SNR=13								
	0.6nm,0.6s								
ASAR	**Alice Springs**	**59.13**	**188**	P		P		18 21 59.1	+2.2
	0.5nm,0.9s,baz=4.4,slow=6.6,SNR=5.2								
	0.5nm,0.9s								
H03N2	**Juan Fernandez**	**147.04**	**98**	T		T		21 16 04.4	
	baz=289,slow=76,SNR=3.8								
H03N3	**Juan Fernandez**	**147.06**	**98**	T		T		21 16 00.8	
	baz=289,slow=76,SNR=6.4								
H03N1	**Juan Fernandez**	**147.06**	**98**	T		T		21 16 02.9	
	baz=289,slow=76,SNR=5.3								

*ISK **21** 18:12:24.7, 36°.14N×36°.05E, h11km, ML3.1/33*
*AFAD **21** 18:12:25.1, 36°.28N×36°.01E, h12km±1km, MW3.2*
*GII **21** 18:12:26.7±0.0, 36°.18N×35°.02E, h5km, Mws3.0, confirmed*
*NIC **21** 18:12:26.8, 36°.32N×35°.87E, h23km±2km, Ml2.6/10*
*GRAL **21** 18:12:27.4±0.7, 36°.15N×36°.12E, h0km±12km, MD3.4*
ISC 21 18:12:25.6±1.0, 36°21N±0°.02×36°01E±0°.02, h9km±8km, n89, σ0s97/114, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASUZ	**Hatay-Arsuz**	**0.20**	**296**	P		**Pg**		**18 12 29.6**	**-0.2**
ASUZ				S		**Sg**		**18 12 32.4**	**-0.1**
TAHT	**Tahtakopru-Hat**	**0.22**	**40**	Pg		**Pg**		**18 12 30.2**	**0.0**
TAHT				Sg		**Sg**		**18 12 34.8**	**+1.6**
RHAN	**Hatay/Reyhanl**	**0.48**	**83**	P		**Pg**		**18 12 34.5**	**-0.5**
RHAN				S		**Sg**		**18 12 42.1**	**+0.7**
HASA	**Hatay-Hassa-Ha**	**0.67**	**35**	P		**Pg**		**18 12 38.4**	**-0.1**
HASA				S		**Sg**		**18 12 46.0**	**-1.3**
CEYT	**Ceyhan**	**0.83**	**345**	Pg		**Pg**		**18 12 42.5**	**+0.9**
CEYT				Sg		**Sb**		**18 12 55.9**	**+2.3**
KUZU	**Kuzuini**	**1.03**	**56**	P		**Pg**		**18 12 44.3**	**-1.1**
KUZU				S		**Sg**		**18 12 57.5**	**-1.3**
KAMA	**Osmaniye**	**1.11**	**28**	P		**Pb**		**18 12 47.1**	**-0.1**
KAMA				S		**Sb**		**18 13 00.2**	**-1.7**
KARA	**Karaisali**	**1.30**	**324**	Pn		**Pn**		**18 12 49.3**	**-0.8**
GAZ	**Gaziantep**	**1.37**	**45**	Pn		**Pn**		**18 12 51.2**	**+0.2**
GAZ				Sn		**Sb**		**18 13 09.4**	**+0.3**
GAZ	**Gaziantep**	**1.37**	**45**	P		**Pn**		**18 12 51.0**	**0.0**
GAZ				S		**Sb**		**18 13 09.0**	**-0.1**
GAZ				AML		AML		18 13 10.9	
	0.7nm,0.3s								
GAZ				AML		AML		18 13 11.0	
	1.1nm,0.4s								
MERS	**Mersin**	**1.37**	**299**	Pn		**Pn**		**18 12 51.2**	**+0.2**
MERS				Sn		**Sn**		**18 13 10.5**	**+1.2**
ANDN	**Andirin**	**1.40**	**11**	P		**Pn**		**18 12 51.6**	**+0.1**
ANDN				S		**Sn**		**18 13 08.9**	**-1.3**
KMRS	**Kahramanmaras**	**1.48**	**29**	Pn		**Pn**		**18 12 52.6**	**0.0**
KHMN	**Narli-Kahraman**	**1.50**	**38**	Pn		**Pn**		**18 12 52.8**	**0.0**
KIZK	**Mersin**	**1.53**	**281**	Pn		**Pn**		**18 12 53.4**	**+0.2**
NZIP	**Nizip/Gaziante**	**1.58**	**58**	P		**Pn**		**18 12 54.7**	**+0.7**
NZIP				S		**Sn**		**18 13 12.7**	**-1.9**
EREN	**Erenkoy**	**1.64**	**246**	Pn		**Pn**		**18 12 54.3**	**-0.4**
BEIL	**Beino**	**1.67**	**175**	*eP*		**Pn**		**18 12 55.5**	**+0.4**
BEIL				*eS*		**Sn**		**18 13 16.4**	**-0.3**
CMRD	**Camardi-Nigde**	**1.67**	**331**	Pn		**Pn**		**18 12 55.7**	**+0.5**
SLFK	**Silifke-Mersin**	**1.68**	**277**	Pn		**Pn**		**18 12 55.4**	**+0.2**
SILI	**Silifke-Mersin**	**1.69**	**276**	Pn		**Pn**		**18 12 55.6**	**+0.2**
GZT	**Gaziantep**	**1.70**	**47**	P		**Pn**		**18 12 56.3**	**+0.7**
GZT				S		**Sn**		**18 13 17.0**	**-0.5**
KARG	**Kargicak-Mersi**	**1.86**	**271**	Pn		**Pn**		**18 12 57.8**	**+0.1**
KEBE	**Keben-Mersin**	**1.87**	**278**	Pn		**Pn**		**18 12 58.1**	**+0.2**
IKL	**Isikli**	**1.88**	**272**	Pn		**Pn**		**18 12 58.2**	**+0.2**
TISA	**Tisan-Mersin**	**1.89**	**269**	Pn		**Pn**		**18 12 58.2**	**+0.1**
YESI	**Yesilovacik-Me**	**1.91**	**270**	Pn		**Pn**		**18 12 58.6**	**+0.2**
HWQ	**Hawqa**	**1.92**	**182**	*eP*		**Pn**		**18 12 58.8**	**+0.1**
KERG	**Konya-Eregli**	**1.94**	**309**	P		**Pn**		**18 13 00.6**	**+1.7**
KERG				S		**Sn**		**18 13 25.5**	**+2.0**
FKH	**Fakeheh**	**1.98**	**170**	*eP*		**Pn**		**18 13 00.1**	**+0.6**
TEPK	**Tepekoy-MERSIN**	**1.99**	**271**	Pn		**Pn**		**18 12 59.8**	**+0.2**
GULN	**MERSIN_Gulnar**	**1.99**	**270**	P		**Pn**		**18 12 59.4**	**-0.1**
GULN				S		**Sn**		**18 13 23.9**	**-0.8**
AKK1	**Akkuyu-Mersin**	**2.00**	**269**	Pn		**Pn**		**18 12 59.8**	**+0.2**
PARAL	**Paralimni**	**2.01**	**234**	P		**Pn**		**18 12 59.7**	**-0.1**
PARAL				S		**Sn**		**18 13 24.8**	**-0.3**
PARAL				AML		AML		18 13 35.7	
	0.2nm,0.9s								
PARAL				AML		AML		18 13 43.2	
	0.2nm,0.8s								
NIDE	**Nigde/Merkez-G**	**2.04**	**332**	P		**Pn**		**18 13 00.9**	**+0.5**
NIDE				S		**Sn**		**18 13 28.6**	**+2.4**
OREN	**Orenkoy-Mersin**	**2.06**	**271**	Pn		**Pn**		**18 13 00.7**	**+0.2**
TEVE	**Tevekalti-Mers**	**2.08**	**277**	Pn		**Pn**		**18 13 01.1**	**+0.2**
YORU	**Yoruktepe-Mers**	**2.11**	**269**	Pn		**Pn**		**18 13 01.6**	**+0.5**
LFK	**Lefkose**	**2.22**	**248**	Pn		**Pn**		**18 12 02.1**	**-0.1**
SARI	**SarDiz-Kayseri**	**2.22**	**8**	Pn		**Pn**		**18 13 03.4**	**+0.5**
BERE	**Bereket-Mersin**	**2.25**	**274**	Pn		**Pn**		**18 13 03.6**	**+0.3**
MVOU	**Mavrovouni**	**2.27**	**239**	P		**Pn**		**18 13 02.6**	**-0.8**
MVOU				S		**Sn**		**18 13 30.4**	**-1.1**
MVOU				AML		AML		18 13 45.2	
	0.1nm,0.4s								
MVOU				AML		AML		18 13 45.8	
	0.1nm,0.5s								
BHL	**Bhannes**	**2.31**	**187**	*eP*		**Pn**		**18 13 04.8**	**+0.8**
TEKE	**Tekeli-Mersin**	**2.34**	**269**	Pn		**Pn**		**18 13 04.7**	**+0.3**
ZAHL	**Zahle**	**2.34**	**183**	*eP*		**Pn**		**18 13 05.3**	**+0.8**
YESY	**Yesilyurt**	**2.40**	**312**	Pn		**Pn**		**18 13 06.2**	**+0.9**
KRMN	**Karaman**	**2.41**	**294**	Pn		**Pn**		**18 13 05.9**	**+0.5**
BOZY	**Bozyazi-Mersin**	**2.46**	**269**	Pn		**Pn**		**18 13 06.3**	**+0.4**
CSS	**Mathiatis**	**2.51**	**241**	P		**Pn**		**18 12 58.8**	**-7.9**
CSS	**Mathiatis**	**2.51**	**241**	P		**Pn**		**18 13 05.5**	**-1.2**
CSS				S		**Sn**		**18 13 36.6**	**-0.9**
CSS				AML		AML		18 13 53.8	
	0.1nm,0.4s								
CSS				AML		AML		18 13 57.4	
	0.1nm,0.9s								
DQRL	**Deir Qamar**	**2.52**	**188**	*eP*		**Pn**		**18 13 07.9**	**+1.0**
ERMK	**Ermenek**	**2.54**	**281**	P		**Pb**		**18 13 10.3**	**-1.2**
ERMK				S		**Sb**		**18 13 43.6**	**+0.7**
GULA	**Gulagac**	**2.56**	**327**	Pn		**Pn**		**18 13 08.2**	**+0.7**
URFA	**Urfa**	**2.57**	**61**	Pn		**Pn**		**18 13 07.9**	**+0.3**
DARE	**Darende-Malaty**	**2.64**	**26**	Pn		**Pn**		**18 13 09.1**	**+0.6**
ASGA	**Asgata**	**2.66**	**239**	P		**Pn**		**18 13 08.8**	**+0.1**
ASGA				AML		AML		18 13 54.7	
	0.1nm,0.6s								
ASGA				AML		AML		18 14 01.0	
	0.1nm,0.6s								
QRWL	**Qaraoun**	**2.67**	**186**	*eP*		**Pn**		**18 13 09.8**	**+0.9**
XYLS	**Xyliatos**	**2.69**	**245**	P		**Pn**		**18 13 07.9**	**-1.3**
XYLS				S		**Sn**		**18 13 40.6**	**-1.3**
XYLS				AML		AML		18 13 51.8	
	0.1nm,0.5s								
XYLS				AML		AML		18 13 53.0	
	0.1nm,0.5s								
RCY	**Rachaya**	**2.71**	**183**	*eP*		**Pn**		**18 13 10.7**	**+1.2**
RCY				*eS*		**Sn**		**18 13 42.1**	**-0.4**
TROD	**Troodos**	**2.85**	**245**	P		**Pn**		**18 13 10.9**	**-0.7**
TROD				S		**Sn**		**18 13 44.5**	**-1.7**
TROD				AML		AML		18 14 04.1	
	0.1nm,0.9s								
TROD				AML		AML		18 14 04.4	
	0.1nm,1.0s								
SHBL	**Chebaa**	**2.86**	**184**	*eP*		**Pn**		**18 13 12.7**	**+1.1**
HDMB	**Hadim**	**2.94**	**286**	Pn		**Pn**		**18 13 13.5**	**+0.8**
NATI	**Neve Ativ**	**2.94**	**184**	S		**Sn**		**18 13 50.9**	**+2.8**
NATI	**Neve Ativ**	**2.94**	**184**	P		**Pn**		**18 13 14.2**	**+1.6**
ALFC	**Alefka**	**2.97**	**250**	P		**Pn**		**18 13 11.4**	**-1.6**
ALFC				S		**Sn**		**18 13 46.8**	**-1.9**
ALFC				AML		AML		18 13 53.4	
	0.1nm,0.4s								
ALFC				AML		AML		18 13 57.0	
	0.2nm,0.6s								
GEM	**Giv'at Ha'Em**	**3.00**	**186**	S		**Sn**		**18 13 51.6**	**+2.0**
GEM	**Giv'at Ha'Em**	**3.00**	**186**	P		**Pn**		**18 13 14.0**	**+0.6**
MMC7	**Mount Meron ar**	**3.22**	**189**	P		**Pn**		**18 13 16.8**	**+0.4**
AKMS	**Akamas**	**3.22**	**249**	P		**Pn**		**18 13 16.0**	**-0.4**
AKMS				AML		AML		18 14 06.5	
	0.2nm,0.8s								
AKMS				AML		AML		18 14 10.2	
	0.1nm,0.5s								
MMA0B	**Mount Meron ar**	**3.22**	**189**	S		**Sn**		**18 13 55.9**	**+0.9**
MMA0B	**Mount Meron ar**	**3.22**	**189**	P		**Pn**		**18 13 17.6**	**+1.0**
BLGI	**Bet Lehem HaGe**	**3.53**	**191**	S		**Sn**		**18 14 02.2**	**-0.3**
BLGI	**Bet Lehem HaGe**	**3.53**	**191**	P		**Pn**		**18 13 20.9**	**+0.2**
OFRI	**`Ofer**	**3.67**	**194**	S		**Sn**		**18 14 05.1**	**-1.1**
OFRI	**`Ofer**	**3.67**	**194**	P		**Pn**		**18 13 22.4**	**-0.4**
MMLI	**Mount Malkishu**	**3.79**	**188**	S		**Sn**		**18 14 09.9**	**+0.9**
MMLI	**Mount Malkishu**	**3.79**	**188**	P		**Pn**		**18 13 25.5**	**+1.2**
MMLI	**Mount Malkishu**	**3.79**	**188**	P		**Pn**		**18 13 25.4**	**+1.2**
MMLI				S		**Sn**		**18 14 11.5**	**+2.5**
MMLI				AML		AML		18 14 32.6	
MMLI				AML		AML		18 14 34.1	
	0.1nm,0.6s								
HMDT	**Nahal Hemdat**	**3.96**	**186**	S		**Sn**		**18 14 14.7**	**+1.5**
HMDT	**Nahal Hemdat**	**3.96**	**186**	P		**Pn**		**18 13 27.8**	**+1.1**
SLTI	**Sal'it**	**4.04**	**192**	S		**Sn**		**18 14 14.5**	**-0.6**
SLTI	**Sal'it**	**4.04**	**192**	P		**Pn**		**18 13 28.0**	**+0.3**
DSI	**Dead Sea**	**4.65**	**187**	S		**Sn**		**18 14 30.5**	**+0.3**
DSI	**Dead Sea**	**4.65**	**187**	P		**Pn**		**18 13 37.0**	**+0.8**
YTIR	**Yattir**	**4.89**	**189**	S		**Sn**		**18 14 36.4**	**+0.2**
YTIR	**Yattir**	**4.89**	**189**	P		**Pn

BUM					*e*Sg		**Sn**	**18 46 51.0**	**+1.5**
TRUS	**Trudelj**	**1.22**	**52**	*e*Pg			**Pb**	**18 46 33.2**	**-0.1**
TRUS				*e*Sg			**Sn**	**18 46 50.7**	**+0.6**
GRUS	**Gruza**	**1.26**	**71**	*e*Pg			**Pg**	**18 46 34.4**	**+0.3**
GRUS				*e*Sg			**Sn**	**18 46 52.0**	**+0.9**
DRME	**Dracevica, Mon**	**1.30**	**176**	⇑*i*Pg			**Pn**	**18 46 34.1**	**-0.4**
DRME				*i* Sg			**Sg**	**18 46 53.9**	**+2.2**
GOCS	**Kraljevo Serbi**	**1.32**	**86**	*e*Pg			**Pb**	**18 46 34.9**	**-0.1**
GOCS				*e*Sg			**Sg**	**18 46 53.5**	**+1.3**
RICI	**Ricice**	**1.41**	**271**	*e*Pg			**Pn**	**18 46 35.5**	**-0.4**
RICI				Sg			**Sg**	**18 46 56.3**	**+1.1**
DOB	**Doboj**	**1.43**	**331**	*e*Pg			**Pn**	**18 46 36.0**	**-0.2**
DOB				*e*Sg			**Sb**	**18 46 55.6**	**+0.4**
MAKA	**Makarska**	**1.50**	**263**	*e*Pn			**Pn**	**18 46 36.8**	**-0.4**
MAKA				Sg			**Sb**	**18 46 58.0**	**+0.7**
ULC	**Ulcinj**	**1.53**	**175**	*e*Pg			**Pb**	**18 46 38.3**	**-0.2**
ULC				*e*Sg			**Sg**	**18 47 01.6**	**+2.7**
AVAS	**Avala Beograd**	**1.60**	**40**	*e*Pn			**Pn**	**18 46 38.6**	**0.0**
FRGS	**Fruska Gora**	**1.75**	**17**	*e*Pn			**Pn**	**18 46 40.8**	**0.0**
BLY	**Banja Luka**	**1.85**	**314**	*e*Pn			**Pn**	**18 46 42.4**	**+0.3**
BLY				*e*Sn			**Sb**	**18 47 06.9**	**-0.6**
BLY	**Banja Luka**	**1.85**	**314**	⇑P			**Pn**	**18 46 41.5**	**-0.6**
BLY	**Banja Luka**	**1.85**	**314**	*e*Pn			**Pb**	**18 46 43.4**	**-0.7**
BLY				*e*Sn			**Sb**	**18 47 07.3**	**-0.2**
BOVS	**Bovan**	**1.92**	**85**	⇑P			**Pn**	**18 46 43.5**	**+0.5**
BOVS				⇑S			**Sb**	**18 47 09.3**	**-0.2**
KIJV	**Kijevo**	**2.00**	**286**	*i* Pn			**Pb**	**18 46 46.3**	**-0.3**
KIJV				Sn			**Sg**	**18 47 15.3**	**+1.3**
A050A	**Klekovaca**	**2.08**	**299**	*e*Pn			**Pn**	**18 46 45.8**	**+0.5**
A050A				*e*Sn			**Sn**	**18 47 11.3**	**-0.2**
KUBS	**Kucevo**	**2.10**	**63**	*e*Pn			**Pn**	**18 46 44.9**	**-0.6**
BARS	**Barje**	**2.12**	**107**	*e*Pn			**Pn**	**18 46 46.8**	**+1.1**
A051A	**Mrakovica**	**2.18**	**315**	*e*Pn			**Pn**	**18 46 48.6**	**+0.2**
A051A				*e*Sn			**Sn**	**18 47 14.3**	**+0.5**
VINV	**Vinovac**	**2.19**	**274**	*e*Pn			**Pb**	**18 46 49.5**	**-0.3**
VINV				Sn			**Sb**	**18 47 18.5**	**+1.4**
BORS2	**Bor- Borsko je**	**2.22**	**73**	*e*Pn			**Pn**	**18 46 46.4**	**-0.7**
BORS2				*e*Sn			**Sn**	**18 47 15.2**	**+0.4**
MDVR	**Moldovita**	**2.30**	**55**	⇑P			**Pn**	**18 46 47.7**	**-0.7**
MDVR				⇓S			**Sn**	**18 47 17.6**	**+0.7**
MDVR	**Moldovita**	**2.30**	**55**	*e*Pn			**Pn**	**18 46 48.9**	**+0.6**
VRSS	**Vrsac**	**2.30**	**44**	*e*Pn			**Pn**	**18 46 48.4**	**+0.1**
VRSS				*e*Sn			**Sn**	**18 47 17.0**	**+0.1**
ZAGS	**Zajecar**	**2.32**	**81**	*e*Pn			**Pb**	**18 46 50.6**	**-1.4**
ZAGS				*e*Sn			**Sn**	**18 47 16.9**	**-0.4**
MORI	**Morici**	**2.47**	**280**	*e*Pn			**Pb**	**18 46 52.8**	**-1.7**
MORI				Sn			**Sb**	**18 47 24.6**	**-0.5**
ZIRJ	**Zirje**	**2.49**	**275**	*i* Pn			**Pn**	**18 46 53.1**	**+2.3**
ZIRJ				Sn			**Sb**	**18 47 24.9**	**-0.9**
UDBI	**Udbina**	**2.60**	**295**	*e*Pn			**Pb**	**18 46 55.7**	**-1.2**
MORH	**Mrgy, Hungar**	**2.75**	**354**	*e*Pn			**Pn**	**18 46 54.0**	**-0.3**
MORH				*e*Sn			**Sn**	**18 47 27.4**	**-0.3**
MORH	**Mrgy, Hungar**	**2.75**	**354**	⇓P			**Sn**	**18 46 54.6**	**+0.3**
MORH				⇑S			**Sn**	**18 47 27.5**	**-0.3**
HERR	**Herculane**	**2.78**	**59**	⇑P			**Pn**	**18 46 54.6**	**-0.2**
BZS	**Buzias**	**2.80**	**40**	⇑P			**Pn**	**18 46 55.3**	**+0.2**
BZS	**Buzias**	**2.80**	**40**	*e*Pn			**Pn**	**18 46 55.1**	**0.0**
DUGI	**Dugi Otok**	**2.95**	**281**	*e*Pn			**Pn**	**18 46 59.4**	**+2.2**
DUGI				Sn			**Sn**	**18 47 36.1**	**+3.4**
SURR	**Surduc**	**3.15**	**43**	⇑P			**Pn**	**18 46 59.7**	**-0.1**
VTS	**Vitosha**	**3.18**	**104**	*e*Pn			**Pn**	**18 47 01.7**	**+1.3**
GZR	**Gura Zlata**	**3.27**	**53**	⇓P			**Pn**	**18 47 02.1**	**+0.5**
GZR				⇑S			**Sn**	**18 47 42.4**	**+1.6**
GZR	**Gura Zlata**	**3.27**	**53**	*e*Pn			**Pn**	**18 47 02.0**	**+0.4**
GZR				*e*Sn			**Sn**	**18 47 40.6**	**-0.2**
MATE	**Matera**	**3.33**	**213**	⇑P			**Pn**	**18 47 02.0**	**-0.4**
MATE				⇓S			**Sn**	**18 47 42.6**	**+0.4**
SIRR	**Siria**	**3.34**	**33**	⇑P			**Pn**	**18 47 01.5**	**-1.0**
SIRR				⇑S			**Sn**	**18 47 42.4**	**0.0**
SIRR	**Siria**	**3.34**	**33**	*e*Pn			**Pn**	**18 47 02.3**	**-0.2**
SIRR				*e*Sn			**Sn**	**18 47 41.5**	**-0.9**
BOJS	**Bojanci**	**3.40**	**308**	*e*Pn			**Pn**	**18 47 05.1**	**+1.9**
BEHE	**Becsehely**	**3.40**	**332**	*e*Pn			**Pn**	**18 47 03.8**	**+0.5**
BEHE				*e*Sn			**Sn**	**18 47 43.0**	**-0.8**
DRGR		**4.19**	**37**	⇑P			**Pn**	**18 47 13.6**	**-0.7**
SOKA	**Soboth**	**4.28**	**320**	*e*Pn			**Pn**	**18 47 16.5**	**+1.0**
	1.3nm,0.3s,SNR=7.2								
SOKA				*e*Sn			**Sn**	**18 48 04.2**	**-1.6**
	1.3nm,0.3s								
MARR	**Marisel-Cluj**	**4.29**	**41**	⇑P			**Pn**	**18 47 16.1**	**+0.4**
MARR				⇑S			**Sn**	**18 48 07.0**	**+1.1**
OBKA	**Obir**	**4.41**	**315**	Pn			**Pn**	**18 47 18.9**	**+1.7**
	0.7nm,0.2s,SNR=6.5								
ARSA	**Arzberg**	**4.52**	**328**	*e*Pn			**Pn**	**18 47 19.6**	**+0.9**
	1.6nm,0.4s,SNR=8.1								
ARSA				*e*Sn			**Sn**	**18 48 09.4**	**-2.0**
	1.3nm,0.4s								
ARSA	**Arzberg**	**4.52**	**328**	*e*Pn			**Pn**	**18 47 19.9**	**+1.2**
ARSA				*e*Sn			**Sn**	**18 48 09.2**	**-2.3**
RONA	**Rosalia, Austr**	**4.64**	**336**	*e*Sn			**Sn**	**18 48 13.1**	**-1.5**
	1.2nm,0.4s								
CONA	**Conrad Observa**	**4.98**	**334**	*e*Pn			**Pn**	**18 47 26.6**	**+1.5**
	0.3nm,0.3s								
CONA				*e*Sn			**Sn**	**18 48 21.9**	**-1.0**
	1.3nm,0.4s								
VYHS	**Vyhne**	**5.01**	**358**	*e*PN			**Pn**	**18 47 29.7**	**+4.2**
VYHS				*e*SN			**Sn**	**18 48 24.9**	**+1.3**
MOA	**Molln**	**5.51**	**324**	*i* Pn			**Pn**	**18 47 33.5**	**+1.2**
	0.6nm,0.2s,SNR=4.4								
MOA				*e*Sn			**Sn**	**18 48 34.7**	**-1.2**
	2.5nm,0.6s								
MOA	**Molln**	**5.51**	**324**	*e*Pn			**Pn**	**18 47 34.4**	**+2.1**
MOA				*e*Sn			**Sn**	**18 48 35.1**	**-0.8**
LESA	**Schwarzleotal**	**5.97**	**313**	*e*Pn			**Pn**	**18 47 40.5**	**+1.7**
	0.5nm,0.2s								
CKRC	**Cesky Krumlov**	**6.28**	**330**	*e*SN			**Sn**	**18 48 51.2**	**-3.5**
WTTA	**Wattenberg**	**6.45**	**308**	*i* Pn			**Pn**	**18 47 46.8**	**+1.3**
	0.4nm,0.2s								

*IDC **21** 18:51:58.3±0.6,23˚.40S×175˚.60W,h0km,mb4.2/16, mbtmp4.1/17,ML4.0/1,MS3.9/7,Error ellipse: s-maj=23.4km s-min=18.9km az=114.0*

ISC 21 18:52:03.0±0.5,23˚.5S±0˚.1×175˚.5W±0˚.1,h30km,n52, σ1§17/47,mb4.1/17,MS4.1/5,5C,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.72**	**84**	Pn	Pn	18 55 17.7	-11
	6.5nm,0.3s,baz=255,slow=9.8,SNR=10						
RAR				Sn	Sn	18 57 46.6	-25
	1.4nm,0.3s,baz=294,slow=20,SNR=1.4						
RAR				LR	LR	19 00 11.0	
	comp=Z,281nm,19.6s,baz=259,slow=33						
URZ	**Urewera**	**16.05**	**201**	Pn	**Pn**	**18 55 47.0**	**+0.5**
	0.5nm,0.3s,baz=29,slow=19,SNR=1.4						
URZ				Sn	Sn	18 58 28.3	-15
	0.4nm,0.3s,baz=0.0,slow=20,SNR=1.6						
URZ				LR	LR	19 00 32.1	
	comp=Z,198nm,20.9s,baz=332,slow=32 2.9nm,0.6s						
DZM	**Mont Dzumac**	**16.72**	**271**	Pn	**P**	**18 55 59.8**	**+2.6**
	0.4nm,0.3s,baz=90,slow=17,SNR=7.0						
PPT	**Papeete**	**24.95**	**81**	LR	LR	19 06 08.7	
	comp=Z,213nm,18.4s,baz=237,slow=34						
STKA	**Stephens Creek**	**38.72**	**248**	P	**P**	**18 59 24.2**	**-0.3**
	1.9nm,0.8s,baz=75,slow=12,SNR=1.7						
	1.9nm,0.8s						
ASAR	**Alice Springs**	**46.18**	**259**	P	**P**	**19 00 24.2**	**-1.1**
	3.5nm,0.9s,baz=95,slow=8.0,SNR=28						
ASAR				PcP	**PcP**	**19 01 59.5**	**-1.5**
	0.5nm,0.9s,baz=96,slow=3.6,SNR=1.5 3.5nm,0.9s						
WRA	**Warramunga Arr**	**46.56**	**264**	P	**P**	**19 00 26.3**	**-2.1**
	4.1nm,0.8s,baz=101,slow=7.7,SNR=35						
WRA				PcP	**PcP**	**19 02 02.2**	**-0.1**
	0.9nm,0.9s,baz=94,slow=3.4,SNR=2.4						
WRA				LR	LR	19 19 47.6	
	comp=Z,229nm,18.4s,baz=28,slow=36 4.1nm,0.8s						
QSPA	**South Pole Qui**	**66.62**	**180**	P	**P**	**19 02 51.8**	**+1.3**
	1.5nm,0.7s,baz=34,slow=7.1,SNR=9.0 1.5nm,0.7s						
TGY	**Tagaytay City**	**72.50**	**294**	LR	LR	19 33 56.6	
	comp=Z,50nm,19.1s,baz=56,slow=35						
MJAR	**Matsushiro Arr**	**73.96**	**323**	P	**P**	**19 03 33.6**	**-2.0**
	1.0nm,0.8s,baz=132,slow=5.9,SNR=4.6 1.0nm,0.8s						
ASAJ	**Asahikawa**	**77.43**	**330**	LR	LR	19 33 56.0	
	comp=Z,86nm,18.6s,baz=308,slow=33						
LPIG	**La Paz**	**78.96**	**58**	LR	LR	19 33 36.7	
	comp=Z,174nm,18.5s,baz=42,slow=32						
MAW	**Mawson**	**79.57**	**199**	P	**P**	**19 04 06.7**	**-0.1**
	2.3nm,1.1s,baz=90,slow=20,SNR=2.7						
PETK	**Petropavlovsk-**	**79.73**	**344**	P	**P**	**19 04 07.3**	**-0.3**
	4.2nm,0.8s,baz=153,slow=5.2,SNR=5.6 4.2nm,0.8s						
KSRS	**Korea Array**	**80.63**	**318**	P	**P**	**19 04 13.1**	**+0.3**
	0.7nm,0.7s,baz=145,slow=6.6,SNR=2.5 0.7nm,0.7s						
NVAR	**Mina Array Bea**	**81.62**	**42**	P	**P**	**19 04 17.9**	**-0.5**
	0.2nm,0.3s,baz=258,slow=4.7,SNR=2.0 0.2nm,0.3s						
H03S2	**Juan Fernandez**	**82.42**	**123**	T	T	20 36 27.8	
	baz=245						
H03S1	**Juan Fernandez**	**82.43**	**123**	T	T	20 36 07.0	
	baz=245						
H03S3	**Juan Fernandez**	**82.43**	**123**	T	T	20 36 10.2	
	baz=245						
H03N2	**Juan Fernandez**	**82.57**	**123**	T	T	20 36 11.3	
	baz=238						
H03N3	**Juan Fernandez**	**82.57**	**123**	T	T	20 36 07.1	
	baz=238						
H03N1	**Juan Fernandez**	**82.58**	**123**	T	T	20 36 08.3	
	baz=238						
USRK	**Ussuriysk Ar.**	**82.71**	**325**	P	**P**	**19 04 22.8**	**-0.9**
	8.0nm,0.8s,baz=131,slow=4.0,SNR=7.7 8.0nm,0.8s						
TROLL	**Troll, Antarti**	**84.78**	**179**	⇑P	**P**	**19 04 34.2**	**0.0**
	comp=Z,132nm,0.6s						
SNAA	**Sanae**	**84.99**	**178**	⇑P	**P**	**19 04 34.7**	**-0.4**
	comp=Z,23nm,0.7s						
SNAA	**Sanae**	**84.99**	**178**	P	**P**	**19 04 34.1**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=156,slow=20,SNR=2.8 comp=Z,1.0nm,0.8s						
VNA3	**Neumayer Olymp**	**85.04**	**175**	⇑P	**P**	**19 04 34.7**	**-0.6**
	comp=Z,5.0nm,0.6s						
VNA1	**Neumayer--Stat**	**85.72**	**176**	⇑P	**P**	**19 04 37.9**	**-0.8**
	comp=Z,2.0nm,0.6s						
TXAR	**Lajitas Array**	**86.72**	**56**	P	**P**	**19 04 45.3**	**+0.9**
	comp=Z,0.8nm,1.1s,baz=236,slow=4.5,SNR=4.8 comp=Z,0.8nm,1.1s						
PDAR	**Pinedale Array**	**89.55**	**42**	P	**P**	**19 04 57.9**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=267,slow=5.6,SNR=2.0 comp=Z,0.2nm,0.7s						
ILAR	**Eielson Array**	**90.69**	**12**	P	**P**	**19 05 02.0**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=213,slow=4.5,SNR=2.8 comp=Z,0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.27**	**289**	P	**P**	**19 05 16.8**	**+1.5**
	comp=Z,6.5nm,0.8s,baz=112,slow=4.8,SNR=40 comp=Z,6.5nm,0.8s						
SONM	**Songino Array**	**99.50**	**318**	P	**Pdif**	**19 05 42.6**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=102,slow=5.0,SNR=2.0 comp=Z,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**117.78**	**316**	PKP	**PKPdf**	**19 10 44.0**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=125,slow=2.0,SNR=2.3						
BVAR	**Borovoye Array**	**122.83**	**319**	PKP	**PKiKP**	**19 10 55.9**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=101,slow=3.1,SNR=2.9						
ARCES	**ARCESS Array B**	**132.23**	**350**	PKP	**PKPdf**	**19 11 13.5**	**+0.3**
	comp=Z,1.7nm,1.0s,baz=64,slow=2.5,SNR=1.6						
FINES	**FINESS Array B**	**139.25**	**344**	PKP	**PKiKP**	**19 11 27.9**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=66,slow=3.5,SNR=4.6						
AKASG	**Malin Array Be**	**146.72**	**331**	PKPbc	**PKPbc**	**19 11 41.0**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=44,slow=4.3,SNR=7.1						
BRTR	**Keskin Array B**	**150.53**	**310**	PKPbc	**PKPbc**	**19 11 51.7**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=116,slow=3.4,SNR=7.5						
BRTR				PKPab	**sPKPdf**	**19 11 58.2**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=79,slow=3.1,SNR=9.0						
MMAI	**Mount Meron Ar**	**151.25**	**296**	PKPbc	**PKiKP**	**19 11 54.5**	**0.0**
	comp=Z,2.5nm,0.8s,baz=105,slow=3.3,SNR=1.8						
MMAI				PKPab	**pPKPbc**	**19 12 02.6**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=92,slow=4.3,SNR=5.2						
CLL	**Collm**	**151.43**	**349**	*i* PKPbc	**PKiKP**	**19 11 54.0**	**-0.1**
	comp=Z,9.0nm,1.1s						
CLL				⇑*i*(PKPab)	**sPKPbc**	**19 12 06.6**	**+1.4**
	comp=Z,8.0nm,0.9s						
OSTC	**Ostas**	**151.45**	**344**	*e*P	**PKiKP**	**19 11 55.1**	**+0.9**
STEB	**Steborice**	**151.60**	**342**	*e*P	**PKiKP**	**19 11 55.1**	**+0.6**
STEB				*ex*	x	19 12 06.8	
DPC	**Dobruska-Polom**	**151.62**	**344**	*e*P	**PKiKP**	**19 11 55.0**	**+0.4**
DPC				*ex*	x	19 12 07.7	
BRG	**Berggiesshubel**	**151.67**	**347**	P	**PKPab**	**19 12 07.5**	**+4.5**
BRG				Amp		19 12 08.2	
	comp=Z,5.0nm,0.7s						
KRLC	**Kraliky**	**151.75**	**343**	*e*P	**PKiKP**	**19 11 55.2**	**+0.3**
KRLC				*ex*	x	19 12 07.4	
MORC	**Moravsky Berou**	**151.81**	**342**	*e*PKP	**PKiKP**	**19 11 55.4**	**+0.4**
PVCC	**Panska Ves**	**151.86**	**346**	*e*P	**PKiKP**	**19 11 56.1**	**+1.0**
MAUC	**Maruska**	**152.10**	**341**	*e*P	**PKiKP**	**19 11 56.6**	**+1.0**
KRUC	**Moravsky**	**152.78**	**343**	*e*PKP	**PKPbc**	**19 11 56.5**	**-0.3**
GERES	**GERESS Array B**	**153.64**	**346**	PKPbc	**PKiKP**	**19 11 59.4**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=0.0,slow=2.0,SNR=5.9						
GERES				PKPab	**PKPab**	**19 12 11.4**	**0.0**
	comp=Z,0.7nm,0.7s,baz=25,slow=2.7,SNR=6.1						
TORD	**Torodi Ar. Bea**	**169.40**	**165**	PKPab	**PKPab**	**19 13 19.8**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=176,slow=4.2,SNR=1.5						

*GCG **21** 19:02:05.9±1.9,15˚.31N×93˚.25W,h47km±67km,MD4.2, ML3.9*
*MEX **21** 19:02:06.7±0.6,15˚.23N×93˚.30W,h74km±5km,MD4.2*
*CATAC **21** 19:02:06.3±0.4,15˚N±3˚×9˚3W±˚,h63km±5km,M3.9/12, MLv3.9/12,Error ellipse: s-maj=7.8km s-min=3.0km az=47.0,confirmed*

ISC 21 19:02:03.8±1.2,15˚.23N±0˚.04×93˚.31W±0˚.03,h86km±10km, n47,σ2§49/76,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.48**	**10**	*e*P	**Pn**	**19 02 18.5**	**+0.5**
PCIG				*e*S	**Sn**	**19 02 27.5**	**-1.0**
PATR	**El Naranjo**	**1.04**	**96**	*e*P	**Pn**	**19 02 24.5**	**+0.5**
PATR				*e*S	**Sn**	**19 02 38.3**	**-0.8**
THIG		**1.06**	**108**	*e*P	**Pn**	**19 02 24.6**	**+0.7**
THIG				*e*S	**Sn**	**19 02 38.6**	**-0.4**
THIG		**1.06**	**108**	*e*P	**Pn**	**19 02 24.6**	**+0.7**
THIG				*e*S	**Sn**	**19 02 38.1**	**-0.9**
THIG				IAML		19 02 40.1	
	comp=E,4μm,0.6s						
PAVE	**Pavencul**	**1.09**	**92**	*e*P	**Pn**	**19 02 24.9**	**+0.4**
PAVE				*e*S	**Sn**	**19 02 40.0**	**-0.1**
SMCA	**Catarina**	**1.25**	**107**	*e*P	**Pn**	**19 02 26.8**	**+0.5**
SMCA				*e*S	**Sn**	**19 02 42.2**	**-0.9**
SMCA				IAML		19 02 43.2	
	comp=N,2μm,0.2s						
CCIG	**Comitan**	**1.53**	**47**	*e*P	**Pn**	**19 02 31.6**	**+1.6**
CCIG				*e*S	**Sn**	**19 02 50.0**	**+0.2**
CCIG	**Comitan**	**1.53**	**47**	*e*P	**Pn**	**19 02 31.4**	**+1.3**
CCIG				*e*S	**Sn**	**19 02 49.1**	**-0.7**
CCIG				IAML		19 02 57.7	
	comp=N,900nm,0.4s						
CCIG	**Comitan**	**1.53**	**47**	P	**Pn**	**19 02 31.3**	**+1.3**
TGIG		**1.55**	**7**	*e*P	**Pn**	**19 02 31.0**	**+0.9**
TGIG				*e*S	**Sn**	**19 02 47.8**	**-2.1**
TGIG		**1.55**	**7**	*e*P	**Pn**	**19 02 30.9**	**+0.9**
TGIG				*e*S	**Sn**	**19 02 47.8**	**-2.1**
TGIG				IAML		19 03 02.0	
	comp=E,990nm,0.3s						
RTAL	**Retalhuleu**	**1.71**	**114**	*e*P	**Pn**	**19 02 33.4**	**+1.3**
RTAL				*e*S	**Sn**	**19 02 51.6**	**-2.0**
RTAL	**Retalhuleu**	**1.71**	**114**	P	**Pn**	**19 02 33.7**	**+1.6**
RTAL	**Retalhuleu**	**1.71**	**114**	S	**Sn**	**19 02 54.2**	**+0.6**
HUEH	**Huehuetenango**	**1.74**	**87**	*e*S	**Sn**	**19 02 56.3**	**+1.6**
HUEH	**Huehuetenango**	**1.74**	**87**	S	**Sn**	**19 02 56.5**	**+1.8**
NILT	**Santiago Nilte**	**1.83**	**317**	*e*P	**Pn**	**19 02 36.0**	**+2.4**
NILT				*e*S	**Sn**	**19 02 57.4**	**+1.1**
STG2	**El Palmar, Qui**	**2.03**	**113**	*e*P	Pn	19 02 33.1	-3.4
STG2				*e*S	**Sn**	**19 02 53.6**	**-7.7**
STG0	**El Palmar, Qui**	**2.06**	**113**	*e*P	**Pn**	**19 02 33.9**	**-3.0**
STG0				*e*S	**Sn**	**19 02 54.7**	**-7.4**
STG0				IAML		19 02 57.5	
	comp=N,2μm,0.2s						
UXUV	**UXUV**	**2.22**	**339**	*e*P	**Pn**	**19 02 41.4**	**+2.5**
UXUV				*e*S	**Sn**	**19 02 59.9**	**-5.8**
CMIG	**Matias Romero**	**2.39**	**321**	*e*P	**Pn**	**19 02 42.7**	**+1.6**
CMIG				*e*S	**Sn**	**19 03 04.5**	**-5.1**
HUIG	**Huatulco**	**2.75**	**282**	*e*P	**Pn**	**19 02 47.1**	**+1.2**
HUIG				*e*S	**Sn**	**19 03 16.3**	**-2.1**
HUIG	**Huatulco**	**2.75**	**282**	*e*P	**Pn**	**19 02 47.4**	**+1.4**
TUIG	**Tuzandepetl**	**2.98**	**339**	*e*P	**Pn**	**19 02 51.0**	**+1.9**
TUIG				*e*S	**Sn**	**19 03 22.8**	**-1.1**
TUIG	**Tuzandepetl**	**2.98**	**339**	P	**Pn**	**19 02 50.7**	**+1.6**
TUIG	**Tuzandepetl**	**2.98**	**339**	S	**Sn**	**19 03 24.0**	**+0.1**
NEUV	**Arroyo Zacate**	**3.44**	**316**	*e*P	**Pn**	**19 02 57.0**	**+1.8**
NEUV				*e*S	**Sn**	**19 03 32.7**	**-2.2**
FAME	**Alcaldia de Sa**	**3.47**	**113**	P	**Pn**	**19 02 57.5**	**+1.8**
FAME	**Alcaldia de Sa**	**3.47**	**113**	S	**Sn**	**19 03 36.4**	**+0.6**
NUBE	**Las Nubes**	**3.66**	**111**	*e*P	**Pn**	**19 03 01.0**	**+2.6**
NUBE				*e*S	**Sn**	**19 03 43.1**	**+2.5**
NUBE	**Las Nubes**	**3.66**	**111**	P	**Pn**	**19 03 01.4**	**+3.0**
NUBE	**Las Nubes**	**3.66**	**111**	S	**Sn**	**19 03 42.9**	**+2.3**
PETF	**Flores**	**3.71**	**63**	*e*P	**Pn**	**19 03 00.7**	**+1.8**
PETF				*e*S	**Sn**	**19 03 38.5**	**-3.0**
PETF	**Flores**	**3.71**	**63**	*e*P	**Pn**	**19 03 00.7**	**+1.8**
PETF				*e*S	**Sn**	**19 03 40.5**	**-0.9**
PETF	**Flores**	**3.71**	**63**	P	**Pn**	**19 03 00.5**	**+1.7**
VHO	**Vista Hermosa**	**3.77**	**300**	*e*P	**Pn**	**19 02 59.9**	**0.0**
VHO				*e*S	**Sn**	**19 03 40.8**	**-2.4**
PEIG	**Puerto Escondi**	**3.78**	**282**	*e*P	**Pn**	**19 03 00.8**	**+0.9**
PEIG				*e*S	**Sn**	**19 03 37.8**	**-5.4**
JAVA	**Jayaque - finc**	**4.05**	**112**	S	**Sn**	**19 03 51.8**	**+1.6**
PMON	**Piamonte**	**4.15**	**111**	S	**Sn**	**19 03 53.9**	**+1.4**
SCIG	**Sabancuy**	**4.23**	**28**	*e*P	**Pn**	**19 03 06.9**	**+1.0**
SCIG				*e*S	**Sn**	**19 03 49.0**	**-5.2**
SCIG	**Sabancuy**	**4.23**	**28**	P	**Pn**	**19 03 06.8**	**+0.8**
SCIG	**Sabancuy**	**4.23**	**28**	S	**Sn**	**19 03 52.6**	**-1.6**
YOIG	**Yosondua**	**4.38**	**292**	*e*P	**Pn**	**19 03 12.4**	**+4.1**
YOIG				*e*S	**Sn**	**19 03 57.3**	**-1.0**
TOIG	**Toxpalan**	**4.59**	**309**	*e*P	**Pn**	**19 03 14.9**	**+3.9**
TOIG				*e*S	**Sn**	**19 04 01.3**	**-1.9**
TXIG	**Tlaxiaco**	**4.73**	**296**	*e*P	**Pn**	**19 03 17.1**	**+4.0**
TXIG				*e*S	**Sn**	**19 04 08.7**	**+1.8**
JAUV	**Jalcomulco**	**5.30**	**321**	*e*P	**Pn**	**19 03 20.9**	**+0.4**
JAUV				*e*S	**Sn**	**19 04 17.9**	**-2.4**
CXUV	**Coxquihui**	**6.39**	**321**	*e*P	**Pn**	**19 03 36.1**	**+0.7**
CXUV				*i* S	**Sn**	**19 04 45.3**	**-1.6**

*NEIC **21** 19:18:43.5±2.6,8˚.30S±0˚.09×119˚.89E±0˚.09,h177km±8km, mb4.4/19,Error ellipse: s-maj=14.8km s-min=9.9km az=45.0*
*DJA **21** 19:18:44.2±0.3,8˚S±3˚×12˚0E±˚,h167km±5km,M4.3/18, mb4.2/7,MLv4.3/18*
*IDC **21** 19:18:46.1±1.3,7˚.71S×120˚.77E,h211km±11km,mb3.6/7, mbtmp4.2/10,MS3.6/1,Error ellipse: s-maj=42.9km s-min=7.5km az=55.0*

ISC 21 19:18:43.1±0.6,8˚.31S±0˚.04×119˚.98E±0˚.05,h176km±6km, n89,σ1§76/97,mb4.2/15,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.39**	**167**	P	**Pn**	**19 19 14.5**	**+0.9**
WSI				S	**Sn**	**19 19 37.6**	**+0.2**
WBSI	**Waikabubak, Su**	**1.45**	**204**	P	**Pn**	**19 19 14.9**	**+0.7**
WBSI				S	**Sn**	**19 19 38.1**	**-0.3**
BASI	**Baing, Sumba**	**1.99**	**163**	P	**Pn**	**19 19 20.7**	**+1.0**

PZH	**PanZhiHua**	**38.87**	**333**	P	**P**	**19 25 54.1**	**+2.4**
LZH	**Lanzhou**	**46.70**	**342**	*e*P	P	19 27 01.6	+7.1
LZH				sP	sP	19 27 51.8	+0.4
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC	**Hu-ho-hao-te**	**49.52**	**352**	*e*P	**P**	**19 27 19.8**	**+3.8**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,86nm,5.8s						
SONM	**Songino Array**	**57.18**	**349**	P	**P**	**19 28 08.3**	**-3.4**
	comp=Z,0.4nm,0.4s,baz=170,slow=8.6,SNR=3.5						
	comp=Z,0.4nm,0.4s						
WMQ	**Urumqi**	**59.57**	**333**	*e*P	**P**	**19 28 32.1**	**+3.8**
WMQ				LR	LR		
	comp=Z,110nm,19.3s						
MKAR	**Makanchi Array**	**64.29**	**332**	P	**P**	**19 28 57.9**	**-1.8**
	comp=Z,2.1nm,0.7s,baz=143,slow=7.5,SNR=24						
	comp=Z,2.1nm,0.7s						
ZALV	**Zalesovo Beam**	**68.75**	**339**	P	**P**	**19 29 25.1**	**-2.7**
ZALV	**Zalesovo Beam**	**68.75**	**339**	P	**P**	**19 29 25.2**	**-2.5**
	comp=Z,2.5nm,0.5s,baz=137,slow=4.1,SNR=11						
	comp=Z,2.5nm,0.5s						
KURBB	**Kurchatov Arra**	**68.79**	**333**	P	**P**	**19 29 25.8**	**-2.2**
	comp=Z,0.7nm,0.5s,baz=146,slow=6.0,SNR=8.7						
	comp=Z,0.7nm,0.5s						
VNDA	**Vanda**	**72.52**	**171**	P	**P**	**19 29 51.1**	**+0.9**
VNDA	**Vanda**	**72.52**	**171**	P	**P**	**19 29 52.1**	**+1.9**
	comp=Z,0.9nm,0.5s,baz=302,slow=7.7,SNR=5.9						
	comp=Z,0.9nm,0.5s						
SBA	**Scott Base**	**73.51**	**171**	P	**P**	**19 29 57.8**	**+1.8**
ABKAR	**Akbulak array**	**77.56**	**324**	P	**P**	**19 30 17.1**	**-2.5**
QSPA	**South Pole Qui**	**81.68**	**180**	P	**P**	**19 30 42.5**	**+0.9**
QSPA	**South Pole Qui**	**81.68**	**180**	P	**P**	**19 30 42.7**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=80,slow=3.0,SNR=6.2						
	comp=Z,0.9nm,0.6s						
SNAA	**Sanae**	**91.92**	**195**	P	**P**	**19 31 31.5**	**+0.2**
SNAA				IAmb	IAmb	19 31 33.2	
	comp=Z,1.6nm,0.8s						

*IDC **21** 19:23:29.0±0.8, 12°.24N×144°.31E, h0km, mb4.1/14, mbtmp4.1/14, MS3.3/1, Error ellipse: s-maj=25.2km s-min=15.2km az=102.0*
*NEIC **21** 19:23:30.7±1.8, 12°.23N±0°.04×144°.2E±0°.1, h10km±1km, mb4.6/13, Error ellipse: s-maj=25.0km s-min=4.8km az=78.0*
ISC 21 19:23:32.9±0.6, 12°.16N±0°.07×144°.3E±0°.1, h29km, n40, σ0s85/34, mb4.4/21, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.52**	**21**		**Pn**	**19 23 58.4**	**+0.2**
GUMO	**Guam**	**1.52**	**21**	Pn	**Pn**	**19 23 58.6**	**+0.4**
	182nm,0.3s,baz=173,slow=11,SNR=69						
GUMO				Sn	**Sn**	**19 24 17.1**	**0.0**
	357nm,0.3s,baz=15,slow=22,SNR=11						
JOW	**Kunigami**	**20.97**	**316**	LR	LR	19 36 17.7	
	comp=Z,80nm,19.4s,baz=330,slow=37						
H11S3	**WAKE ISLAND Hy**	**22.48**	**71**	T	T	19 51 54.1	
	baz=261,slow=71,SNR=5.4						
H11S1	**WAKE ISLAND Hy**	**22.49**	**71**	T	T	19 51 46.7	
	baz=261,slow=71,SNR=4.5						
H11S2	**WAKE ISLAND Hy**	**22.50**	**71**	T	T	19 51 58.0	
	baz=261,slow=71,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**22.97**	**68**	T	T	19 52 18.8	
	baz=255,slow=75,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**22.98**	**68**	T	T	19 52 19.1	
	baz=255,slow=75,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**22.98**	**68**	T	T	19 52 23.7	
	baz=255,slow=75,SNR=4.2						
JSG	**Sagara**	**23.09**	**347**	P	**P**	**19 28 34.3**	**-2.0**
MJAR	**Matsushiro Arr**	**24.89**	**348**	P	**P**	**19 28 53.0**	**-0.2**
	1.3nm,0.8s,baz=170,slow=9.4,SNR=4.9						
	1.3nm,0.8s						
KSRS	**Korea Array**	**29.15**	**333**	P	**P**	**19 29 32.6**	**+1.1**
	0.6nm,0.6s,baz=141,slow=8.9,SNR=2.1						
	0.6nm,0.6s						
WRAB	**Tennant Creek**	**33.36**	**197**	P	**P**	**19 30 09.0**	**+0.2**
WRAB				IAmb	IAmb	19 30 23.8	
	comp=Z,5.8nm,0.8s						
WRA	**Warramunga Arr**	**33.38**	**197**	P	**P**	**19 30 09.7**	**+0.8**
WRA	**Warramunga Arr**	**33.38**	**197**	P	**P**	**19 30 09.6**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=22,slow=9.7,SNR=10						
	comp=Z,3.1nm,0.7s						
AS31	**Alice Springs**	**37.03**	**196**		**P**	**19 30 41.1**	**+0.7**
ASAR	**Alice Springs**	**37.03**	**196**	P	**P**	**19 30 40.7**	**+0.2**
ASAR	**Alice Springs**	**37.03**	**196**	P	**P**	**19 30 42.0**	**+1.6**
	comp=Z,3.0nm,0.6s,baz=19,slow=11,SNR=22						
	comp=Z,3.0nm,0.6s						
EIDS	**Eidsvold**	**37.89**	**170**	P	**P**	**19 30 46.8**	**-0.8**
EIDS				IAmb	IAmb	19 31 29.2	
	comp=Z,15nm,1.4s						
STKA	**Stephens Creek**	**43.87**	**183**	P	**P**	**19 31 36.7**	**-0.1**
STKA				IAmb	IAmb	19 31 38.0	
	comp=Z,40nm,1.1s						
CMAR	**Chiang Mai Arr**	**44.10**	**284**	P	**P**	**19 31 40.5**	**+1.6**
	comp=Z,0.6nm,0.4s,baz=74,slow=6.5,SNR=5.3						
	comp=Z,0.6nm,0.4s						
BBOO	**Buckleboo**	**45.41**	**190**	P	**P**	**19 31 48.7**	**-0.4**
SONM	**Songino Array**	**47.58**	**326**	P	**P**	**19 32 05.5**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=147,slow=7.0,SNR=3.8						
	comp=Z,0.4nm,0.5s						
MORW	**Morawa**	**49.25**	**213**	P	**P**	**19 32 18.1**	**-1.0**
TOO	**Toolangi**	**49.48**	**179**	P	**P**	**19 32 20.9**	**+0.2**
TOO				IAmb	IAmb	19 32 23.8	
	comp=Z,6.7nm,1.1s						
MKAR	**Makanchi Array**	**62.13**	**317**	P	**P**	**19 33 51.6**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=91,slow=8.7,SNR=12						
	comp=Z,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**62.46**	**325**	P	**P**	**19 33 54.0**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=93,slow=5.0,SNR=3.8						
	comp=Z,0.3nm,0.3s						
KURK	**Kurchatov**	**65.31**	**320**		**P**	**19 34 10.5**	**-1.8**
KURK				IAmb	IAmb	19 34 21.5	
	comp=Z,3.6nm,0.9s						
KURBB	**Kurchatov Arra**	**65.35**	**320**	P	**P**	**19 34 12.5**	**0.0**
	comp=Z,2.1nm,0.2s,baz=103,slow=6.5,SNR=17						
	comp=Z,2.1nm,0.2s						
KKAR	**Karatay Array**	**69.97**	**312**	P	**P**	**19 34 41.7**	**-0.1**
ILAR	**Eielson Array**	**70.09**	**25**	P	**P**	**19 34 41.1**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=258,slow=3.8,SNR=7.6						
	comp=Z,0.8nm,0.8s						
BVAR	**Borovoye Array**	**70.70**	**322**	P	**P**	**19 34 46.3**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=104,slow=7.0,SNR=12						
	comp=Z,1.5nm,0.4s						
F26K	**Sheenjek River**	**71.84**	**22**	P	**P**	**19 34 53.0**	**+0.2**
F26K				IAmb	IAmb	19 34 54.2	
	comp=Z,5.6nm,1.3s						
L29M	**L29M**	**73.61**	**28**		**P**	**19 35 03.8**	**+0.4**
L29M				IAmb	IAmb	19 35 05.7	
	comp=Z,3.0nm,0.8s						
AB31	**Akbulak array**	**77.22**	**318**		**P**	**19 35 23.7**	**-0.6**
ABKAR	**Akbulak array**	**77.22**	**318**	P	**P**	**19 35 24.3**	**0.0**
NVAR	**Mina Array Bea**	**88.24**	**51**	P	**P**	**19 36 23.2**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=261,slow=6.0,SNR=6.4						
	comp=Z,1.6nm,0.7s						
ARCES	**ARCESS Array B**	**88.26**	**342**	P	**P**	**19 36 21.4**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=44,slow=5.3,SNR=1.8						
	comp=Z,1.3nm,0.8s						
FINES	**FINESS Array B**	**92.21**	**335**	P	**P**	**19 36 38.5**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=75,slow=4.2,SNR=15						
	comp=Z,1.1nm,0.5s						
LPAZ	**La Paz**	**148.32**	**101**	PKPbc	**PKPbc**	**19 43 18.7**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=212,slow=5.4,SNR=4.2						

*ISK **21** 19:32:17.1, 38°.71N×43°.61E, h24km, ML2.4/9*
*AFAD **21** 19:32:21.0, 38°.70N×43°.32E, h7km±6km, ML2.6*
ISC 21 19:32:20.9±1.0, 38°.73N±0°.03×43°.35E±0°.03, h13km±7km, n16, σ1s83/25, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.14**	**168**	Pg	**Pg**	**19 32 23.9**	**-0.6**
VANB				Sg	**Sg**	**19 32 28.7**	**+1.7**
TVAN	**Van**	**0.21**	**168**	P	**Pg**	**19 32 24.1**	**-1.4**
TVAN				S	**Sg**	**19 32 29.0**	**+0.2**
TVAN				*i* IAML		19 32 30.0	
	comp=N,2μm,0.3s						
TVAN				*i* IAML		19 32 31.0	
	comp=E,2μm,0.2s						
ERCV	**ERCIS-VAN**	**0.29**	**358**	Pg	**Pg**	**19 32 26.3**	**-0.7**
ERCV				Sg	**Sg**	**19 32 31.7**	**+0.7**
VMUR	**Van-Muradiye**	**0.31**	**34**	P	**Pg**	**19 32 27.5**	**+0.2**
VMUR				*i* IAML		19 32 33.0	
	comp=E,902nm,0.4s						
VMUR				S	**Sg**	**19 32 33.4**	**+1.7**
VMUR				*i* IAML		19 32 34.0	
	comp=N,1μm,0.4s						
GEVA	**Gevas**	**0.48**	**209**	P	**Pg**	**19 32 29.4**	**-0.9**
GEVA				S	**Sb**	**19 32 37.2**	**-1.1**
ADCV	**BITLIS_Adilcev**	**0.50**	**279**	P	**Pg**	**19 32 30.4**	**-0.3**
ADCV				S	**Sb**	**19 32 38.6**	**-0.2**
AKDM	**Akdamar-Van**	**0.50**	**216**	Pg	**Pg**	**19 32 29.9**	**-0.8**
AKDM				Sg	**Sb**	**19 32 39.6**	**+0.7**
OZAP	**Van, Ozalp-Mer**	**0.51**	**98**	P	**Pg**	**19 32 31.2**	**+0.3**
OZAP				S	**Sb**	**19 32 40.4**	**+1.1**
CLDR	**Caldiran**	**0.60**	**47**	Pg	Pg	19 32 27.2	-5.5
CLDR				Sg	**Sg**	**19 32 35.6**	**-5.2**
MLAZ	**Malazgirt-MUS**	**0.75**	**303**	Pg	**Pg**	**19 32 35.0**	**-0.4**
MLAZ				Sg	**Sb**	**19 32 47.5**	**+1.4**
AGRB	**Hanur-Agry**	**0.89**	**342**	Pg	**Pg**	**19 32 36.8**	**-1.3**
PERV	**Siirt/Pervari-**	**1.01**	**219**	P	**Pn**	**19 32 41.0**	**+0.1**
PERV				S	**Sn**	**19 32 59.3**	**+4.2**
PERV				*i* IAML		19 33 01.0	
	comp=E,105nm,0.5s						
PERV				*i* IAML		19 33 02.0	
	comp=N,134nm,0.4s						
GURO	**Guroymak-BITLI**	**1.05**	**261**	Pn	**Pg**	**19 32 39.6**	**-1.5**
HAKT	**HAKKARI**	**1.21**	**166**	P	**Pg**	**19 32 42.1**	**-2.0**
CUKT	**Cukurca**	**1.50**	**172**	Pn	Pn	19 32 42.8	-4.8
SVAN	**Silvan-Diyarba**	**1.79**	**252**	Pn	**Pn**	**19 32 49.9**	**-1.6**

*IDC **21** 19:45:07.0±1.3, 29°.47S×179°.14W, h313km±13km, mb3.1/3, mbtmp3.8/4, Error ellipse: s-maj=26.3km s-min=23.2km az=146.0*
ISC 21 19:45:05.6±0.8, 29°.83S±0°.09×179°.0W±0°.2, h300km, n29, σ1s80/42, mb3.3/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.10**	**59**	P	**Pn**	**19 45 49.6**	**+3.1**
	500nm,0.2s,baz=89,slow=9.9,SNR=7.0						
RAO				S	**S**	**19 46 14.2**	**-4.9**
	210nm,0.2s,baz=276,slow=23,SNR=1.3						
RAO	**Raoul Island**	**1.10**	**59**	P	**Pn**	**19 45 49.1**	**+2.5**
MXZ	**Matakaoa Point**	**8.04**	**196**	P	Pn	19 47 03.9	+4.4
MXZ				S	**S**	**19 48 31.8**	**-0.1**
OUZ	**Omahuta**	**8.25**	**227**	P	**Pn**	**19 47 03.9**	**+1.7**
WMGZ	**Waiomatatini S**	**8.26**	**194**	P	Pn	19 47 07.3	+5.1
WMGZ				S	**S**	**19 48 37.0**	**+0.1**
HAZ	**Te Kaha**	**8.35**	**198**	P	Pn	19 47 08.0	+4.7
HAZ				S	**S**	**19 48 37.4**	**-1.5**
PKGZ	**Pakihiroa**	**8.38**	**196**	P	Pn	19 47 09.2	+5.4
PKGZ				S	**S**	**19 48 39.4**	**-0.2**
PUZ	**Puketiti**	**8.53**	**195**	P	**P**	**19 47 10.8**	**-0.1**
PUZ				S	**S**	**19 48 42.5**	**-0.7**
RUGZ	**Raukumara Rang**	**8.57**	**198**	P	**P**	**19 47 09.7**	**-1.8**
RUGZ				S	**S**	**19 48 41.9**	**-2.3**
MWZ	**Matawai**	**8.96**	**198**	P	**P**	**19 47 15.5**	**-0.2**
MWZ				S	**S**	**19 48 51.0**	**-1.9**
URZ	**Urewera**	**9.01**	**200**	P	**P**	**19 47 14.5**	**-1.7**
	2.9nm,0.3s,baz=262,slow=4.9,SNR=19						
URZ				S	**S**	**19 48 54.0**	**+0.1**
	13nm,0.4s,baz=84,slow=21,SNR=13						
URZ	**Urewera**	**9.01**	**200**	P	**P**	**19 47 14.2**	**-1.9**
URZ				S	**S**	**19 48 53.9**	**+0.1**
RAGZ	**Rawiri**	**9.14**	**198**	P	**P**	**19 47 16.5**	**-1.3**
RAGZ				S	**S**	**19 48 56.1**	**-1.0**
RTZ	**Ruatahuna**	**9.38**	**200**	P	**P**	**19 47 18.6**	**-1.7**
RTZ				S	**S**	**19 49 01.1**	**-1.2**
KNZ	**Kokohu**	**9.57**	**196**	P	**P**	**19 47 21.8**	**-0.7**
KNZ				S	**S**	**19 49 05.1**	**-3.3**
TLZ	**Tolley Road**	**9.61**	**207**	P	**P**	**19 47 25.5**	**+2.5**
MRHZ	**Matea Rd**	**9.75**	**202**	P	**P**	**19 47 23.4**	**-1.1**
MRHZ				S	**S**	**19 49 09.5**	**-1.3**
NMHZ	**Naumai**	**9.87**	**199**	P	**P**	**19 47 25.4**	**-0.5**
NMHZ				S	**S**	**19 49 13.1**	**-0.5**
BKZ	**Black Stump Fm**	**10.03**	**201**	P	**P**	**19 47 25.6**	**-2.0**
BKZ				S	**S**	**19 49 14.9**	**-2.2**
KAHZ	**Kahuranaki**	**10.51**	**198**	P	**P**	**19 47 33.0**	**+0.2**
KAHZ				S	**S**	**19 49 27.7**	**-0.1**
VRZ	**Vera Road**	**10.61**	**207**	P	**P**	**19 47 35.4**	**+1.4**
ASAR	**Alice Springs**	**42.28**	**267**	P	**P**	**19 52 29.7**	**-0.9**
	0.4nm,0.9s,baz=99,slow=7.2,SNR=7.9						
	0.4nm,0.9s						
WRA	**Warramunga Arr**	**43.22**	**272**	P	**P**	**19 52 37.5**	**-0.5**
	1.5nm,0.4s,baz=110,slow=7.7,SNR=41						
	1.5nm,0.4s						
QSPA	**South Pole Qui**	**60.28**	**180**	P	**P**	**19 54 46.1**	**+3.3**
	0.7nm,0.7s,baz=321,slow=3.1,SNR=5.3						
	0.7nm,0.7s						
BVAR	**Borovoye Array**	**125.39**	**316**	PKP	**PKPdf**	**20 03 29.2**	**-1.3**
	0.4nm,0.4s,baz=117,slow=2.3,SNR=3.8						
FINES	**FINESS Array B**	**144.31**	**340**	PKP	**PKPab**	**20 04 02.6**	**-1.7**
	2.9nm,0.4s,baz=54,slow=3.9,SNR=71						
NB2	**NORSAR Subarra**	**148.05**	**351**	PKP	**PKPbc**	**20 04 13.9**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=14,slow=2.8						
NOA	**NORSAR Array B**	**148.05**	**351**	PKPbc	**PKPbc**	**20 04 13.9**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=17,slow=4.2,SNR=5.3						
HFS	**Hagfors**	**148.51**	**348**	PKPbc	**PKPbc**	**20 04 14.6**	**-1.8**
	comp=Z,1.7nm,0.7s,baz=76,slow=2.7,SNR=13						

*BGR **21** 20:07:24.2, 24°.37S×178°.95W, h33km*
*NOU **21** 20:08:24.0, 23°.53S×179°.31W, h538km, mb4.4/16, South of Fiji Islands*
*NEIC **21** 20:08:25.2±2.5, 23°.5S±0°.1×179°.8W±0°.1, h546km±6km, mb4.6/47, Error ellipse: s-maj=17.5km s-min=15.4km az=118.0*
*IDC **21** 20:08:27.4±1.4, 23°.47S×179°.99E, h562km±15km, mb3.8/16, mbtmp4.6/16, Error ellipse: s-maj=11.6km s-min=10.2km az=116.0*
ISC 21 20:08:24.0±0.3, 23°.56S±0°.05×179°.96W±0°.06, h532km, n289, σ1s48/315, mb4.6/49, 44C-25D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.96**	**163**	P	**P**	**20 10 02.5**	**+1.2**
MSVF	**Nonsavu**	**6.08**	**342**		**P**	**20 10 04.6**	**+1.8**
MSVF	**Nonsavu**	**6.08**	**342**	P	**P**	**20 10 04.5**	**+1.7**
YSA	**Yasawairara**	**7.20**	**341**	P	**P**	**20 10 15.7**	**+2.3**
FUTU	**Fugatoga**	**9.36**	**11**	P	**P**	**20 10 36.5**	**+1.2**
NIUE	**Niue**	**10.36**	**66**		**P**	**20 10 44.0**	**-1.5**
NIUE	**Niue**	**10.36**	**66**	P	P	20 10 53.1	+7.6
NIUE				S	**S**	**20 12 45.3**	**+3.5**
PINNC	**Pines Island,**	**11.63**	**272**		**P**	**20 11 03.0**	**+4.2**
PINNC	**Pines Island,**	**11.63**	**272**	P	P	20 11 04.1	+5.4
OUENC	**Ouen Island, N**	**12.21**	**273**	P	P	20 11 12.3	+7.5
YATNC	**Mamie plateau,**	**12.22**	**274**	P	P	20 11 10.4	+5.5
DZM	**Mont Dzumac**	**12.63**	**274**		**P**	**20 11 11.6**	**+2.3**
DZM	**Mont Dzumac**	**12.63**	**274**	*e*P	**P**	**20 11 12.2**	**+2.9**
	43nm,0.8s						
DZM				*e*S	**S**	**20 13 20.2**	**-5.1**
	420nm,26.2s						
DZM	**Mont Dzumac**	**12.63**	**274**	P	P	20 11 15.1	+5.8
OUZ	**Omahuta**	**12.91**	**204**	P	**P**	**20 11 15.7**	**+3.9**
OUZ	**Omahuta**	**12.91**	**204**	P	**P**	**20 11 14.8**	**+3.0**
WCZ	**Waipu Caves**	**13.29**	**201**	P	**P**	**20 11 18.0**	**+2.2**
KUZ	**Kuaotunu**	**13.66**	**195**	P	**P**	**20 11 21.8**	**+2.1**
KUZ	**Kuaotunu**	**13.66**	**195**	P	**P**	**20 11 21.7**	**+2.0**
WIAZ	**Waiheke Island**	**13.86**	**197**	P	**P**	**20 11 24.1**	**+2.4**
MBAZ	**Motutapu North**	**13.90**	**197**	P	**P**	**20 11 25.9**	**+3.8**
MXZ	**Matakaoa Point**	**14.04**	**186**	P	**P**	**20 11 26.2**	**+2.6**
MKAZ	**Moumakai**	**14.14**	**196**	P	**P**	**20 11 26.3**	**+1.7**
AWAZ	**Awhitu Peninsu**	**14.24**	**198**	P	**P**	**20 11 27.9**	**+2.2**
WMGZ	**Waiomatatini S**	**14.29**	**185**	P	**P**	**20 11 28.4**	**+2.3**
HAZ	**Te Kaha**	**14.29**	**187**	P	**P**	**20 11 25.9**	**-0.2**
HAZ				S	**S**	**20 13 54.6**	**-1.7**
RUGZ	**Raukumara Rang**	**14.51**	**187**	P	**P**	**20 11 29.2**	**+0.6**
RUGZ				S	**S**	**20 13 57.3**	**-3.5**
PUZ	**Puketiti**	**14.55**	**186**	P	**P**	**20 11 31.5**	**+2.6**
TOZ	**Tahuroa Road**	**14.66**	**194**	P	**P**	**20 11 31.4**	**+1.4**
TWGZ	**Tauwhareparae**	**14.68**	**186**	P	**P**	**20 11 33.1**	**+2.7**
URZ	**Urewera**	**14.87**	**189**	P	**P**	**20 11 29.8**	**-2.4**
	15nm,0.7s,baz=248,slow=4.4,SNR=17						
URZ				S	**S**	**20 14 02.4**	**-5.0**
	5.6nm,0.5s,baz=71,slow=20,SNR=7.3						
URZ	**Urewera**	**14.87**	**189**	P	**P**	**20 11 31.5**	**-0.7**
MWZ	**Matawai**	**14.89**	**188**	P	**P**	**20 11 30.9**	**-1.6**
MWZ				S	**S**	**20 14 05.0**	**-2.8**
RAGZ	**Rawiri**	**15.06**	**188**	P	**P**	**20 11 32.0**	**-2.4**
TLZ	**Tolley Road**	**15.22**	**194**	P	**P**	**20 11 37.5**	**+1.5**
RTZ	**Ruatahuna**	**15.24**	**189**	P	**P**	**20 11 35.3**	**-0.9**
RTZ				IAmb	IAmb	20 11 38.6	
	comp=Z,14nm,0.9s						
SNGZ	**Shannon Statio**	**15.35**	**188**	P	**P**	**20 11 38.4**	**+1.1**
NMHZ	**Naumai**	**15.74**	**189**	P	**P**	**20 11 41.8**	**+0.5**
BKZ	**Black Stump Fm**	**15.85**	**190**		**P**	**20 11 40.2**	**-2.2**
BKZ	**Black Stump Fm**	**15.85**	**190**	P	**P**	**20 11 40.4**	**-2.0**
TMVZ	**Te Maari**	**15.95**	**192**	P	**P**	**20 11 41.6**	**-1.8**
TWVZ	**Taurewa**	**15.96**	**193**	P	**P**	**20 11 43.9**	**+0.3**
ETVZ	**East Tongariro**	**15.96**	**192**	P	**P**	**20 11 42.3**	**-1.4**
KWHZ	**Kaweka Forest**	**16.12**	**190**	P	**P**	**20 11 46.1**	**+1.0**
VRZ	**Vera Road**	**16.16**	**195**	P	**P**	**20 11 47.5**	**+2.0**
NEZ	**North Egmont**	**16.46**	**196**	P	**P**	**20 11 51.9**	**+3.5**
PXZ	**Pawanui**	**16.64**	**189**	P	**P**	**20 11 49.5**	**-0.5**
TSZ	**Takapari Road**	**16.81**	**191**	P	**P**	**20 11 50.6**	**-1.1**
MRZ	**Mangatainoka R**	**17.46**	**191**	P	**P**	**20 11 55.9**	**-1.8**
TCW	**Tory Channel**	**18.26**	**194**		**P**	**20 12 06.7**	**+1.7**
SNZO	**South Karori**	**18.26**	**193**	P	**P**	**20 12 07.1**	**+2.2**
QRZ	**Quartz Range**	**18.34**	**198**	P	**P**	**20 12 07.9**	**+2.2**
QRZ	**Quartz Range**	**18.34**	**198**	P	**P**	**20 12 06.9**	**+1.2**
NNZ	**Nelson**	**18.48**	**196**	P	**P**	**20 12 07.3**	**+0.4**
TUWZ	**Tuamarina**	**18.54**	**195**		**P**	**20 12 08.9**	**+1.5**
THZ	**Tophouse**	**19.11**	**196**	P	**P**	**20 12 15.0**	**+2.3**
THZ	**Tophouse**	**19.11**	**196**	P	**P**	**20 12 13.7**	**+0.9**
THZ				S	**S**	**20 15 16.7**	**-2.1**
KHZ	**Kahutara**	**19.57**	**194**	P	**P**	**20 12 17.9**	**+1.0**
GVZ	**Greta Valley S**	**20.21**	**195**	P	**P**	**20 12 24.0**	**+1.3**
GVZ	**Greta Valley S**	**20.21**	**195**	P	**P**	**20 12 21.8**	**-0.9**
LTZ	**Lake Taylor**	**20.23**	**197**		**P**	**20 12 23.8**	**+0.9**
LTZ	**Lake Taylor**	**20.23**	**197**	P	**P**	**20 12 22.5**	**-0.4**
OXZ	**Oxford**	**20.80**	**197**	P	**P**	**20 12 27.4**	**-0.6**
OXZ	**Oxford**	**20.80**	**197**	P	**P**	**20 12 28.2**	**+0.2**
WVZ	**Waitaha Valley**	**20.94**	**199**	P	**P**	**20 12 29.4**	**+0.2**
MQZ	**McQueen's Vall**	**21.00**	**195**	P	**P**	**20 12 30.4**	**+0.6**
RPZ	**Rata Peaks**	**21.43**	**198**	P	**P**	**20 12 35.8**	**+2.1**
	comp=Z,12nm,0.5s,baz=360,slow=8.5,SNR=9.0						
	comp=Z,12nm,0.5s						
RPZ	**Rata Peaks**	**21.43**	**198**	P	**P**	**20 12 34.8**	**+1.1**
FOZ	**Fox Glacier**	**21.64**	**200**	P	**P**	**20 12 35.3**	**-0.2**
TMZ	**Timaru**	**22.06**	**197**	P	**P**	**20 12 39.6**	**+0.2**
JCZ	**Jackson Bay**	**22.46**	**202**	P	**P**	**20 12 44.5**	**+1.4**
JCZ	**Jackson Bay**	**22.46**	**202**	P	**P**	**20 12 44.1**	**+1.0**
ODZ	**Otahua Downs**	**22.77**	**197**	P	**P**	**20 12 47.4**	**+1.7**
WHZ	**Wether Hill Ro**	**24.35**	**201**		**P**	**20 13 01.3**	**+1.6**
ARMA	**Armidale**	**26.18**	**249**		**P**	**20 13 17.5**	**+1.2**
ARMA				IAmb	IAmb	20 13 21.0	
	comp=Z,15nm,1.0s						
EIDS	**Eidsvold**	**26.40**	**260**	P	**P**	**20 13 20.6**	**+2.4**
TBI	**Tubuai**	**27.95**	**96**	*e*sS	sS	20 20 18.9	-2.5
	comp=Z,562nm,33.0s						
PPT2	**Papeete2**	**29.02**	**84**	*e*sS	sS	20 20 26.9	-12
	comp=Z,218nm,28.2s						
PPT2				*e*sS	sS	20 20 38.9	-0.2
	comp=Z,214nm,26.0s						
CAN	**Canberra**	**29.35**	**239**	P	**P**	**20 13 46.0**	**+2.1**
CAN				IAmb	IAmb	20 13 47.6	
	comp=Z,27nm,1.1s						
TOO	**Toolangi**	**32.67**	**237**	P	**P**	**20 14 12.9**	**+0.6**
STKA	**Stephens Creek**	**34.89**	**248**	P	**P**	**20 14 31.7**	**+0.7**
STKA	**Stephens Creek**	**34.89**	**248**	P	**P**	**20 14 32.8**	**+1.8**
	comp=Z,11nm,0.8s,baz=97,slow=9.8,SNR=24						
STKA				PcP	**PcP**	**20 16 50.0**	**+1.1**
	comp=Z,4.3nm,0.8s,baz=58,slow=4.6,SNR=4.0						
	comp=Z,11nm,0.8s						
BBOO	**Buckleboo**	**39.62**	**247**	P	**P**	**20 15 09.5**	**-0.2**
BBOO				IAmb	IAmb	20 15 11.3	
	comp=Z,23nm,0.9s						
AS31	**Alice Springs**	**42.13**	**260**		**P**	**20 15 31.0**	**+1.1**
ASAR	**Alice Springs**	**42.13**	**260**		**P**

comp=Z,14nm,0.8s
SNAA Sanae 85.01 179 ⇑P **P** **20 20 02.0 -0.9**
comp=Z,55nm,0.5s
SNAA Sanae 85.01 179 **P** **20 20 02.4 -0.5**
SNAA Sanae 85.01 179 P **P** **20 20 02.1 -0.9**
comp=Z,2.4nm,0.6s,baz=188,slow=5.9,SNR=22
comp=Z,2.4nm,0.6s
VNA3 Neumayer Olymp 85.22 177 ⇑P **P** **20 20 03.4 -0.4**
comp=Z,5.8nm,0.6s
O18K Koktuh Hills 85.55 12 IAmb IAmb 20 20 05.6
comp=Z,13nm,0.8s
VNA1 Neumayer--Stat 85.87 177 ⇑P **P** **20 20 06.5 -0.4**
comp=Z,10nm,1.1s
CNPM China Poot 86.08 14 P **P** **20 20 06.7 -1.4**
CNPM IAmb IAmb 20 20 08.6
comp=Z,11nm,0.9s
HEH HeiHe 86.97 329 *e*P **P** **20 20 12.6 +0.2**
HEH pmax pmax
comp=Z,10.0nm,1.1s
L19K White Mountain 87.77 11 IAmb IAmb 20 20 16.7
comp=Z,7.1nm,0.8s
RC01 Rabbit Creek A 87.82 14 IAmb IAmb 20 20 16.5
comp=Z,11nm,1.0s
GLI Glacier Island 88.25 15 IAmb IAmb 20 20 18.4
comp=Z,10nm,0.8s
XAN Xi'an 88.56 308 ⇓P **P** **20 20 21.8 +1.5**
XAN pmax pmax
comp=Z,18nm,0.9s
BMRM Bremner River 88.96 16 IAmb IAmb 20 20 22.1
comp=Z,5.5nm,0.8s
SCM Sheep Creek Mo 89.03 15 IAmb IAmb 20 20 22.3
comp=Z,8.1nm,0.8s
CAST Castle Rocks 89.42 12 P **P** **20 20 21.4 -2.2**
CAST IAmb IAmb 20 20 23.1
comp=Z,5.9nm,0.8s
CMAR Chiang Mai Arr 89.44 290 P **P** **20 20 26.8 +2.2**
comp=Z,6.5nm,0.9s,baz=132,slow=3.2,SNR=33
comp=Z,6.5nm,0.9s
HHC Hu-ho-hao-te 90.20 315 *e*P **P** **20 20 29.0 +1.2**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,75nm,4.5s
TXAR Lajitas Array 90.22 58 P **P** **20 20 29.0 +0.8**
comp=Z,0.5nm,0.6s,baz=217,slow=5.8,SNR=7.9
comp=Z,0.5nm,0.6s
PZH PanZhiHua 90.55 299 P **P** **20 20 29.8 0.0**
CCB Clear Creek Bu 91.38 13 P **P** **20 20 31.3 -1.2**
ILAR Eielson Array 91.69 14 P **P** **20 20 32.7 -1.3**
comp=Z,0.7nm,0.8s,baz=219,slow=5.2,SNR=7.3
comp=Z,0.7nm,0.8s
PDAR Pinedale Array 92.42 44 P **P** **20 20 37.1 -1.0**
comp=Z,0.3nm,0.6s,baz=199,slow=4.1,SNR=3.6
comp=Z,0.3nm,0.6s
LZH Lanzhou 93.19 308 *e*P **P** **20 20 43.6 +1.8**
LZH pP pwP 20 22 45.5 +2.0
LZH pmax pmax
comp=Z,12nm,0.8s
WMQ Urumqi 107.54 311 Pdif **Pdif** **20 21 46.3 +0.7**
WMQ LR LR
comp=Z,110nm,23.9s
ZALV Zalesovo Beam 111.71 321 PKiKP **PKiKP** **20 25 56.5 -1.3**
comp=Z,1.0nm,0.6s,baz=236,slow=1.6,SNR=5.7
MKAR Makanchi Array 111.95 313 PKiKP **PKiKP**
comp=Z,1.2nm,0.6s,baz=88,slow=0.5,SNR=16 **20 25 57.5 -1.1**
KURBB Kurchatov Arra 115.02 316 PKP **PKPdf** **20 26 03.3 -1.0**
comp=Z,1.8nm,0.7s,baz=101,slow=1.9,SNR=24
KK31 Karatay Array 119.69 307 **PKPdf** **20 26 12.8 -0.8**
BVAR Borovoye Array 120.21 319 PKP **PKPdf**
comp=Z,3.0nm,0.6s,baz=52,slow=0.7,SNR=21 **20 26 13.3 -0.9**
SPITS Spitsbergen Ar 124.78 356 PKP **PKPdf** **20 26 21.5 -0.9**
comp=Z,6.7nm,0.7s,baz=180,slow=4.3,SNR=3.9
ARTI Arti 126.73 324 PKP **PKPdf**
comp=Z,4.7nm,0.5s,baz=110,slow=1.3,SNR=8.9 **20 26 26.5 -0.1**
AKTO Aktyubinsk 128.03 316 PKP **PKPdf**
comp=Z,3.1nm,0.6s,baz=96,slow=2.4,SNR=10 **20 26 28.9 -0.5**
ARCES ARCESS Array B 131.56 348 **PKPdf** **20 26 34.7 -0.8**
ARCES ARCESS Array B 131.56 348 PKP **PKPdf**
comp=Z,4.2nm,0.8s,baz=22,slow=1.0,SNR=15 **20 26 34.3 -1.1**
FINES FINESS Array B 138.13 342 PKhKP PKPpre 20 26 35.9
comp=Z,1.0nm,0.6s,baz=83,slow=6.0,SNR=7.4
FINES PKP **PKPdf** **20 26 48.2 +0.4**
comp=Z,1.5nm,0.6s,baz=95,slow=4.1,SNR=8.9
FINES SKPbc **SKPbc** **20 29 30.9 -1.2**
comp=Z,1.8nm,0.8s,baz=93,slow=3.8,SNR=7.7
NB2 NORSAR Subarra 141.75 351 PKP PKPpre 20 26 49.6
comp=Z,3.2nm,0.6s,baz=21,slow=3.6
NOA NORSAR Array B 141.75 351 PKhKP PKPpre 20 26 49.5
comp=Z,2.8nm,0.7s,baz=16,slow=4.7,SNR=16
NOA SKPbc **SKPbc** **20 29 40.3 -1.4**
comp=Z,0.9nm,0.8s,baz=14,slow=4.1,SNR=3.7
HFS Hagfors 142.22 349 PKhKP PKPpre 20 26 50.8
comp=Z,9.6nm,0.5s,baz=66,slow=3.6,SNR=93
MNK Minsk 142.76 333 *i* PKP **PKPdf** **20 26 52.4 -4.0**
comp=E,14nm,1.0s
MNK *i* PKP **PKPdf** **20 26 52.4 -4.0**
comp=N,7.0nm,1.0s
MNK *i* PKP **PKPdf** **20 26 52.4 -4.0**
comp=Z,24nm,0.9s,baz=45
MNK *i* PKiKP **PKiKP** **20 26 56.1 -3.6**
MNK *i* pPKP **pPKPdf** **20 29 00.1 -0.6**
MNK *i* PP **PP** **20 30 08.9 -2.9**
MNK *i* SKS **SKSdf** **20 33 10.1 -5.4**
MNK *i* PPP PPP 20 33 24.4
MNK *i* SKKS **SKKSdf** **20 42 27.1 -7.8**
MNK *i* SS **SS** **20 48 04.0 -2.3**
MNK *i* SSS SSS 20 53 34.9
MNK *i* LRM MLR 21 31 07.4
comp=Z,22nm,17.4s
MNK *i* LRM MLR 21 32 47.1
comp=N,134nm,20.0s
NACGM Naroch 142.91 334 *e*PKP **PKPdf** **20 26 54.3 -2.4**
comp=Z,6.0nm,0.7s,baz=43
KONO Kongsberg 143.31 352 PKPab 20 26 54.9 -0.4
AKASG Malin Array Be 144.70 328 PKP **PKPdf** **20 26 59.3 -0.6**
comp=Z,14nm,0.7s,baz=44,slow=4.1,SNR=84
KIEV Kiev 144.72 328 **PKPdf** **20 26 59.7 -0.2**
KIEV Kiev 144.72 328 ⇓P **PKPdf** **20 26 59.5 -0.4**
SUW Suwalki 144.97 336 *e*PKP PKPbc 20 27 00.7 -0.3
BNN Bunyan 146.04 305 **PKPbc** **20 27 05.3 +0.6**
SORM Soroca 146.75 325 ⇓P **PKPbc** **20 27 05.7 -0.4**
MILM Milestii Mici 147.22 322 ⇑P **PKPbc** **20 27 06.7 -0.7**
BRTR Keskin Array B 147.40 308 **PKPbc** **20 27 08.2 -0.2**
BRTR Keskin Array B 147.40 308 PKP **PKPdf** **20 27 04.5 -0.5**
comp=Z,4.3nm,0.7s,baz=142,slow=4.0,SNR=22
BRTR PKPbc **PKPbc** **20 27 07.9 -0.5**
comp=Z,4.4nm,0.7s,baz=154,slow=4.8,SNR=18
BEL Belsk 147.58 336 *e*PKP **PKPbc** **20 27 08.5 +0.3**
GKP Gorka Klasztor 147.59 341 *e*PKP **PKPbc** **20 27 08.2 0.0**
MMAI Mount Meron Ar 147.59 295 PKPbc **PKPbc** **20 27 09.7 +0.7**
comp=Z,25nm,0.7s,baz=70,slow=4.8,SNR=36
VASR Vaslui 147.95 323 ⇓P **PKiKP** **20 27 10.1 -0.6**
EKA Eskdalemuir Ar 148.17 3 PKPbc **PKPbc** **20 27 08.9 -0.7**
comp=Z,2.0nm,0.4s,baz=347,slow=2.7,SNR=15
TLCR 148.19 320 ⇓P **PKPbc** **20 27 10.3 +0.3**
PRAR RASCA 148.35 325 ⇓P **PKPbc** **20 27 10.7 +0.4**
SCTR Scanteiesti 148.40 321 ⇑P **PKPbc** **20 27 11.1 +0.6**
KWP Kalwaria Pacla 148.49 331 *e*PKP **PKPdf** **20 27 07.5 +1.2**
GHRR 148.50 322 ⇑P **PKiKP** **20 27 11.8 -0.1**
CFR Carcaliu 148.59 320 ⇓P **PKPbc** **20 27 11.0 +0.1**
TESR Tescani 148.65 324 ⇓P **PKPbc** **20 27 11.0 -0.1**
BSEG Bad Segeberg 148.69 348 *e*PKPbc **PKPbc** **20 27 11.0 +0.1**
baz=21,slow=2.2
BURAR Bucovina Array 148.71 326 ⇓P **PKiKP** **20 27 12.0 -0.4**
PANC Panciu 148.76 322 ⇑P **PKPbc** **20 27 11.9 +0.5**
ONER Baraj Valea Uz 148.90 323 ⇑P **PKiKP** **20 27 12.6 -0.1**
SAHE Sakarya_HENDEK 148.96 311 ⇓P **PKPbc** **20 27 12.3 +0.2**
VRI Vrincioaia 149.00 322 ⇓P **PKPbc** **20 27 12.3 +0.3**
PLOR Plostina 149.05 323 ⇓P **PKPbc** **20 27 12.2 0.0**
KOLS Kolonicke sedl 149.19 331 *e*PKP **PKPbc** **20 27 11.8 -0.6**
BISRR Bisoca 149.20 322 ⇑P **PKiKP** **20 27 13.1 -0.3**
OJC Ojcow 149.24 335 *e*PKP **PKPbc** **20 27 12.3 -0.2**
RUE Ruedersdorf 149.27 343 *e*PKPbc **PKPbc** **20 27 12.4 0.0**
baz=21,slow=2.2
STHS Stebnicka Huta 149.28 332 *e*PKP **PKPbc** **20 27 12.5 -0.1**
COVR Voineasa-Covas 149.31 323 ⇑P **PKPbc** **20 27 12.5 -0.3**
OZUR 149.38 324 ⇑P **PKiKP** **20 27 13.4 -0.4**
ARCR ARCALIA 149.50 326 ⇑P **PKPbc** **20 27 12.9 -0.3**
MLR Muntele Rosu 149.67 323 ⇑P **PKPbc** **20 27 13.6 -0.2**
NIE Niedzica 149.67 333 *e*PKP **PKiKP** **20 27 14.3 0.0**
DOPR Dopca 149.68 324 ⇑P **PKiKP** **20 27 14.3 0.0**
KSP Ksiaz 149.98 339 *e*PKP **PKPbc** **20 27 14.4 +0.2**
FLTG Flechtingen 150.02 346 *e*PKPbc **PKPbc** **20 27 14.2 +0.1**
baz=21,slow=2.2
NRDL Niedersach Rie 150.10 348 *e*PKPbc **PKPbc** **20 27 14.0 -0.2**
baz=21,slow=2.2
CBBR Cluj-Babes-Bol 150.12 327 ⇓P **PKPbc** **20 27 14.7 +0.1**
CJR Cluj-Napoca 150.13 326 ⇑P **PKiKP** **20 27 15.2 -0.1**
MESR Meseneni 150.15 328 ⇓P **PKPbc** **20 27 14.9 +0.2**
OKC Ostrava-Krasne 150.18 336 ⇑*e*PKP **PKiKP** **20 27 15.0 -0.2**
VOIR 150.19 323 ⇑P **PKPbc** **20 27 14.8 -0.1**
LANS Liptovska Anna 150.22 334 *e*PKP **PKiKP** **20 27 16.0 +0.6**
STEB Steborice 150.24 337 ⇑*e*PKP **PKPbc** **20 27 14.9 +0.1**
STEB *e*PKPAB **PKPab** **20 27 24.1 +0.8**
OSTC Ostas 150.25 339 ⇑*e*PKP **PKiKP** **20 27 15.2 -0.2**
CHVC Chvalec 150.28 339 ⇑*e*PKP **PKPbc** **20 27 15.0 +0.1**
ASSE Asse, Remlinge 150.33 347 *e*PKPbc **PKPbc** **20 27 14.8 0.0**
baz=21,slow=2.2
UPC Upice 150.36 339 ⇑*e*PKP **PKPbc** **20 27 15.2 +0.1**
DPC Dobruska-Polom 150.39 339 ⇑*e*PKP **PKiKP** **20 27 15.5 -0.2**
MARR Marisel-Cluj 150.40 327 ⇑P **PKPbc** **20 27 15.4 0.0**
MORC Moravsky Berou 150.45 337 *e*PKP **PKPbc** **20 27 15.2 -0.1**
MORC Moravsky Berou 150.45 337 ⇓P **PKPbc** **20 27 15.3 -0.1**
ARR Arges 150.47 323 ⇑P **PKiKP** **20 27 16.8 +0.7**
KRLC Kraliky 150.47 338 ⇑*e*PKP **PKPbc** **20 27 15.5 +0.1**
KRLC *e*PKPAB **PKPab** **20 27 25.3 +1.0**
DRGR 150.52 327 ⇑P **PKPbc** **20 27 15.8 +0.1**
CLL Collm 150.54 343 *e*PKPdf **PKPdf** **20 27 09.0 -0.4**
CLL ⇓*i* PKPbc **PKPbc** **20 27 15.2 -0.2**
comp=Z,32nm,0.8s
CLL *i* PKPab **PKPab** **20 27 24.2 -0.3**
comp=Z,9.0nm,0.9s
CLL *i* x x 20 27 35.8
CLL *i* pPKPab **pPKPab** **20 29 25.6 +2.8**
comp=Z,11nm,1.2s
CLL Collm 150.54 343 *e*PKPbc **PKPbc** **20 27 15.3 -0.2**
baz=21,slow=2.2
CLZ Clausthal 150.66 347 *e*PKPbc **PKPbc** **20 27 15.9 +0.2**
baz=21,slow=2.2
BRG Berggiesshubel 150.67 342 *e*PKPbc **PKPbc** **20 27 15.8 0.0**
baz=21,slow=2.2
BRG Berggiesshubel 150.67 342 *e*PKP **PKPdf** **20 27 09.5 -0.2**
BRG Amp 20 27 10.7
comp=Z,4.3nm,1.2s
BRG Berggiesshubel 150.67 342 P **PKPbc** **20 27 15.8 0.0**
BRG Amp 20 27 16.7
comp=Z,17nm,0.8s
BRG Berggiesshubel 150.67 342 P **PKPab** **20 27 25.3 +0.3**
BRG Amp 20 27 26.7
comp=Z,4.7nm,0.7s
BRG pPKP **pPKPab** **20 29 26.4 +3.1**
BRG Amp 20 29 28.1
comp=Z,7.9nm,1.1s
MAUC Maruska 150.69 336 ⇑*e*PKP **PKiKP** **20 27 16.4 +0.1**
IBBN Ibbenburen 150.69 350 *e*PKPbc **PKPbc** **20 27 15.7 0.0**
baz=21,slow=2.2
PVCC Panska Ves 150.79 341 ⇑*e*PKP **PKiKP** **20 27 16.6 +0.1**
NEUB Neuenburg 150.94 345 *e*PKPbc **PKPbc** **20 27 16.3 0.0**
baz=21,slow=2.2
VYHS Vyhne 151.00 334 *e*PKP **PKPbc** **20 27 16.7 +0.1**
PSZ Piszkesteto 151.00 332 ⇑P **PKPbc** **20 27 16.6 -0.1**
GTTG Gottingen 151.03 347 *e*PKPbc **PKPbc** **20 27 16.3 -0.2**
baz=21,slow=2.2
DEV Deva 151.05 326 ⇓P **PKPbc** **20 27 16.8 0.0**
BAND Balkesir-Ban 151.06 312 ⇑P **PKPbc** **20 27 16.6 -0.4**
JAVC Velka Javorina 151.16 336 *e*PKP **PKiKP** **20 27 18.0 +0.6**
VRAC Vranov 151.18 337 *e*PKP **PKPbc** **20 27 17.0 0.0**
VRAC Vranov 151.18 337 ⇑P **PKiKP** **20 27 17.3 -0.1**
PRU Pruhonice 151.28 340 ⇑*e*PKP **PKPbc** **20 27 17.1 -0.1**
SIRR Siria 151.41 328 ⇓P **PKPbc** **20 27 17.5 -0.2**
GZR Gura Zlata 151.44 325 ⇑P **PKPbc** **20 27 17.5 -0.3**
KRUC Moravsky 151.46 337 *e*PKP **PKPbc** **20 27 17.1 -0.5**
TANN Tannenbergstha 151.49 343 *e*PKPbc **PKPbc** **20 27 17.6 -0.1**
baz=21,slow=2.2
MOX Moxa 151.50 344 *e*PKPbc **PKPbc** **20 27 17.5 -0.2**
baz=21,slow=2.2
SURR Surduc 151.53 326 ⇑P **PKPbc** **20 27 17.6 -0.3**
KASTN Kahler Asten 151.65 349 *e*PKPbc **PKPbc** **20 27 17.9 -0.1**
baz=21,slow=2.2
TAVA DENIZLI_Tavas 151.66 306 ⇑P **PKPbc** **20 27 18.3 -0.3**
MODS Modra-Piesok 151.71 335 *e*PKP **PKPbc** **20 27 16.8 -1.4**
ZVC Zvikov 151.87 340 ⇑*e*PKP **PKiKP** **20 27 18.7 0.0**
BZS Buzias 151.88 327 ⇓P **PKPbc** **20 27 17.8 -0.8**
HERR Herculane 151.97 325 ⇑P **PKPbc** **20 27 18.6 -0.3**
MANZ Manzenberg 151.98 343 *e*PKPbc **PKPbc** **20 27 18.8 0.0**
baz=21,slow=2.2
ROTZ Rotzenmuhle 152.15 343 *e*PKPbc **PKiKP** **20 27 19.3 0.0**
baz=21,slow=2.2
KHC Kasperske Hory 152.33 341 ⇑*e*PKP **PKPbc** **20 27 19.0 -0.6**
KHC *e*PKPAB **PKPab** **20 27 32.0 -0.2**
CKRC Cesky Krumlov 152.38 339 *e*PKPDF **PKPdf** **20 27 12.8 +0.5**
CKRC ⇑*e*PKP **PKPbc** **20 27 19.4 -0.3**
MDVR Moldovita 152.41 325 ⇑P **PKPbc** **20 27 19.7 -0.2**
EZN Ezine 152.51 312 ⇑P **PKPbc** **20 27 19.0 -1.2**
WET Wettzell 152.53 342 *e*PKPbc **PKPbc** **20 27 20.1 +0.1**
baz=21,slow=2.2
GEC2 GERESS Array S 152.55 340 *e*PKPbc **PKPbc** **20 27 19.8 -0.3**
baz=21,slow=2.2
GERES GERESS Array B 152.55 340 PKP **PKPdf** **20 27 11.0 -1.7**
comp=Z,0.4nm,0.8s,baz=141,slow=4.6,SNR=4.5
GERES PKPbc **PKPbc** **20 27 19.9 -0.3**
comp=Z,2.0nm,0.8s,baz=48,slow=2.0,SNR=16
GERES PKPab **PKPab** **20 27 32.4 -0.8**
comp=Z,0.9nm,0.6s,baz=22,slow=4.3,SNR=5.4
TNS Taunus Mts 152.58 348 *e*PKPbc **PKPbc** **20 27 20.2 +0.1**
baz=21,slow=2.2
MEM Membach 152.60 352 *d*PKP **PKPbc** **20 27 19.4 -0.6**
BTNL Ternell 152.60 352 *d*PKP **PKPbc** **20 27 19.4 -0.8**
CONA Conrad Observa 152.61 337 *e*PKiKP **PKPbc** **20 27 20.0 -0.3**
comp=Z,6.0nm,1.0s
CONA *e*PKP **PKPab** **20 27 33.7 +0.2**
comp=Z,6.9nm,0.7s
RONA Rosalia, Austr 152.64 336 *e*PKiKP **PKPbc** **20 27 20.1 -0.2**
comp=Z,3.9nm,0.6s
RONA *e*PKP **PKPab** **20 27 33.9 +0.3**
comp=Z,6.8nm,0.7s
BSTI Sart Tilman 152.68 352 *d*PKP **PKPbc** **20 27 19.6 -0.6**
MORH Mrgy, Hungar 152.86 331 ⇑P **PKPbc** **20 27 20.6 -0.2**
BMRD Maredsous 153.05 353 *d*PKP **PKPbc** **20 27 20.8 -0.2**
RCHB Rochefort 153.14 353 *d*PKPdf **PKPdf** **20 27 12.6 -0.7**
BOVS Bovan 153.19 324 ⇓P **PKPbc** **20 27 21.0 -0.6**
ARSA Arzberg 153.30 336 *e*PKP **PKPab** **20 27 36.7 +0.3**
comp=Z,2.3nm,0.6s
BIOA Bad Ischl, Aus 153.58 339 *e*PKP **PKPab** **20 27 38.1 +0.5**
comp=Z,8.7nm,1.2s
SOKA Soboth 153.96 336 *e*PKP **PKPab** **20 27 39.3 0.0**
comp=Z,4.8nm,0.9s,SNR=4.4
LESA Schwarzleotal 154.12 340 *e*PKP **PKPab** **20 27 40.1 +0.1**
comp=Z,4.1nm,1.0s
OBKA Obir 154.28 337 *e*PKP **PKPab** **20 27 40.3 -0.4**
comp=Z,4.5nm,0.8s
BFO Black Forest 154.41 347 **PKPab** **20 27 41.1 0.0**
WATA Walderalm 154.54 342 *e*PKP **PKPdf** **20 27 14.3 -1.2**
comp=Z,5.4nm,1.6s
WATA *i* PKP **PKPab** **20 27 41.9 +0.1**
comp=Z,2.5nm,0.6s
WTTA Wattenberg 154.58 341 *e*PKP **PKPdf** **20 27 14.6 -1.1**
comp=Z,3.6nm,1.1s
WTTA *e*PKP **PKPab** **20 27 42.3 +0.2**
comp=Z,5.1nm,0.6s,SNR=4.8
RETA Reutte 154.63 343 *e*PKP **PKPab** **20 27 42.0 -0.1**
comp=Z,5.0nm,0.7s
MOTA Moxalm 154.66 342 *e*PKP **PKPdf** **20 27 14.8 -1.0**
comp=Z,2.6nm,0.9s
MOTA *i* PKP **PKPab** **20 27 42.2 -0.2**
comp=Z,5.1nm,0.8s
SQTA Sankt Quirin 154.75 342 *e*PKP **PKPdf** **20 27 14.8 -1.0**
comp=Z,3.0nm,1.0s
SQTA *i* PKP **PKPab** **20 27 42.8 +0.1**
comp=Z,7.2nm,1.0s
ABTA Abfaltersbach 154.78 340 *e*PKP **PKPab** **20 27 42.3 -0.4**
comp=Z,2.0nm,0.7s
DAVA Damuels 155.04 344 *e*PKP **PKPab** **20 27 43.9 -0.1**
comp=Z,8.1nm,0.8s
FETA Feichten 155.06 342 *e*PKP **PKPdf** **20 27 15.5 -0.9**
comp=Z,3.8nm,1.1s
FETA *i* PKP **PKPab** **20 27 44.1 0.0**
comp=Z,2.4nm,0.8s
ESDC Sonseca Array 163.57 11 PKPab **PKPab** **20 28 20.2 -1.0**
comp=Z,1.5nm,1.0s,baz=320,slow=4.0,SNR=6.9
KEST Kesra 165.43 328 PKPab **PKPab** **20 28 30.0 +0.4**
comp=Z,4.8nm,0.8s,baz=273,slow=0.8,SNR=5.2
TORD Torodi Ar. Bea 169.53 189 PKP **PKPdf** **20 27 29.6 -1.5**
comp=Z,2.7nm,0.7s,baz=29,slow=3.4,SNR=4.3
TORD PKPab **PKPab** **20 28 47.7 -0.3**
comp=Z,0.7nm,0.4s,baz=179,slow=3.8,SNR=3.9

*IDC **21** 20:19:06.6±21.0, 37.79N×20.51E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=406.5km s-min=52.5km az=39.0*
*ATH **21** 20:19:07.8, 37.65N×20.29E, h8km±2km, ML3.3/16, Manual Solution by A.Papageorgiou First location: 2019/07/22 02:21:17, This location: 2020/07/13 18:33:37 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **21** 20:19:08.5, 38.N±1.1×2.0E±., h0km±1km, M3.1/20, MLh3.1/20*

ISC 21 20:19:08.5±1.6, 37.70N±0.04×20.37E±0.06, h16km±9km, n49, σ0.971/78, mb3.6/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORTH	**Orthonies,Zaky**	**0.30**	**60**	P	**Pb**	**20 19 15.0**	**-0.6**
ORTH				S	**Sb**	**20 19 19.8**	**-0.4**
ORTH	**Orthonies,Zaky**	**0.30**	**60**	P	**Pb**	**20 19 15.0**	**-0.6**
ORTH				S	**Sb**	**20 19 20.0**	**-0.3**
KRI1	**kERI**	**0.36**	**96**	P	**Pb**	**20 19 15.9**	**-0.6**
KRI1				S	**Sb**	**20 19 21.4**	**-0.5**
LTHK	**Lithakia**	**0.37**	**88**	P	**Pb**	**20 19 16.0**	**-0.7**
LTHK				S	**Sb**	**20 19 21.6**	**-0.7**
LTHK	**Lithakia**	**0.37**	**88**	P	**Pb**	**20 19 16.3**	**-0.4**
LTHK				S	**Sb**	**20 19 21.9**	**-0.3**
KYPS	**Kipseli, Zakin**	**0.38**	**72**	P	**Pb**	**20 19 16.8**	**-0.1**
KYPS				S	**Sb**	**20 19 22.7**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.45**	**22**	P	**Pb**	**20 19 17.7**	**-0.3**
PSDA				S	**Sb**	**20 19 24.8**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.45**	**22**	P	**Pb**	**20 19 17.7**	**-0.3**
PSDA				S	**Sb**	**20 19 24.9**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.49**	**40**	P	**Pb**	**20 19 18.5**	**-0.3**
RTZL				S	**Sb**	**20 19 26.5**	**+0.8**
VLS	**Valsamata**	**0.51**	**20**	P	**Pb**	**20 19 18.8**	**-0.3**
VLS	**Valsamata**	**0.51**	**20**	P	**Pb**	**20 19 18.7**	**-0.4**
VLS				S	**Sb**	**20 19 26.5**	**+0.2**
DMLN	**Damoulianata-K**	**0.54**	**0**	P	**Pb**	**20 19 19.3**	**-0.3**
DMLN	**Damoulianata-K**	**0.54**	**0**	P	**Pb**	**20 19 19.6**	**0.0**
DMLN				S	**Sb**	**20 19 27.6**	**+0.4**
CLEM	**Kyllini,Ilia,G**	**0.64**	**72**	P	**Pb**	**20 19 20.9**	**-0.3**
CLEM				S	**Sb**	**20 19 31.2**	**+1.3**
FSK	**Fiskardo**	**0.77**	**11**	P	**Pb**	**20 19 23.4**	**-0.1**
FSK				S	**Sn**	**20 19 36.5**	**+0.5**
FSK	**Fiskardo**	**0.77**	**11**	P	**Pb**	**20 19 23.5**	**-0.1**
FSK				S	**Sn**	**20 19 35.4**	**-0.6**
YRMI	**Loutra Irminis**	**0.87**	**62**	P	**Pb**	**20 19 25.4**	**+0.1**
YRMI				S	**Sn**	**20 19 38.1**	**-0.4**
AXS	**Araxos**	**0.94**	**58**	P	**Pb**	**20 19 26.0**	**-0.4**
AXS	**Araxos**	**0.94**	**58**	P	**Pb**	**20 19 26.4**	**0.0**
AXS				S	**Sn**	**20 19 40.2**	**+0.2**
RLS	**Riolos of Patr**	**0.94**	**67**	P	**Pb**	**20 19 26.3**	**-0.1**
RLS				S	**Sn**	**20 19 41.5**	**+1.4**
RLS	**Riolos of Patr**	**0.94**	**67**	P	**Pb**	**20 19 26.3**	**-0.1**
RLS				S	**Sn**	**20 19 39.9**	**-0.2**
EVGI	**Lefkada island**	**0.95**	**14**	P	**Pb**	**20 19 26.4**	**-0.2**
EVGI				S	**Sn**	**20 19 41.2**	**+0.9**
EVGI	**Lefkada island**	**0.95**	**14**	P	**Pb**	**20 19 26.7**	**+0.1**
EVGI				S	**Sn**	**20 19 40.6**	**+0.3**
ZARO	**Zacharo**	**1.04**	**101**	P	**Pn**	**20 19 28.8**	**+0.4**
ZARO				S	**Sn**	**20 19 42.9**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.05**	**14**	P	**Pn**	**20 19 28.3**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.05**	**14**	P	**Pb**	**20 19 28.0**	**-0.2**
NYDR				S	**Sn**	**20 19 43.5**	**+0.8**
AMT	**Artemida-Makis**	**1.08**	**98**	P	**Pb**	**20 19 28.7**	**-0.1**
AMT				S	**Sn**	**20 19 43.8**	**+0.2**
LKD2	**Lefkada island**	**1.11**	**12**	P	**Pn**	**20 19 29.8**	**+0.4**
LKD2	**Lefkada island**	**1.11**	**12**	P	**Pn**	**20 19 29.6**	**+0.1**
LKD2				S	**Sn**	**20 19 45.6**	**+1.1**
TSLK	**Tsoukalades, L**	**1.15**	**11**	P	**Pn**	**20 19 30.5**	**+0.5**
TSLK	**Tsoukalades, L**	**1.15**	**11**	P	**Pn**	**20 19 30.4**	**+0.5**
TSLK				S	**Sn**	**20 19 46.2**	**+1.0**
PVO	**Paravola**	**1.29**	**45**	P	**Pg**	**20 19 33.0**	**-0.5**
PVO	**Paravola**	**1.29**	**45**	P	**Pg**	**20 19 33.0**	**-0.5**
PVO				S	**Sn**	**20 19 51.0**	**+2.1**
PYL2	**Kinigos**	**1.34**	**126**	P	**Pn**	**20 19 33.1**	**+0.5**
PYL2				S	**Sb**	**20 19 50.6**	**+0.4**
ITM	**Ithomi**	**1.34**	**112**	P	**Pb**	**20 19 33.4**	**0.0**
ITM				S	**Sg**	**20 19 55.2**	**+3.3**
ITM	**Ithomi**	**1.34**	**112**	P	**Pb**	**20 19 33.5**	**+0.2**
ITM				S	**Sg**	**20 19 51.5**	**-0.5**
EFP	**Efpalio**	**1.41**	**59**	P	**Pg**	**20 19 34.8**	**-0.9**
EFP	**Efpalio**	**1.41**	**59**	P	**Pg**	**20 19 34.7**	**-1.1**
KLV	**Kalavryta, Ach**	**1.45**	**76**	P	**Pg**	**20 19 36.5**	**+0.1**
KLV	**Kalavryta, Ach**	**1.45**	**76**	P	**Pg**	**20 19 35.6**	**-0.9**
SERG	**Sergoula**	**1.51**	**61**	P	**Pg**	**20 19 36.4**	**-1.2**
SERG	**Sergoula**	**1.51**	**61**	P	**Pb**	**20 19 36.1**	**-0.1**
KALE	**Kalithea**	**1.56**	**63**	P	**Pg**	**20 19 37.3**	**-1.2**
GUR	**Goura**	**1.58**	**81**	P	**Pg**	**20 19 38.5**	**-0.4**
GUR	**Goura**	**1.58**	**81**	P	**Pb**	**20 19 37.4**	**-0.1**
FINES	**FINESS Array B**	**24.04**	**7**	P	**P**	**20 24 21.9**	**-0.5**
	0.7nm,0.5s,baz=190,slow=9.6,SNR=14 0.7nm,0.5s						
ARCES	**ARCESS Array B**	**32.02**	**3**	P	**P**	**20 25 33.5**	**-0.3**
	0.5nm,0.5s,baz=188,slow=8.3,SNR=4.3 0.5nm,0.5s						
MKAR	**Makanchi Array**	**45.66**	**58**	P	**P**	**20 27 27.4**	**-0.9**
	0.2nm,0.5s,baz=276,slow=6.8,SNR=4.7 0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**46.10**	**48**	P	**P**	**20 27 31.2**	**-0.4**
	1.2nm,0.5s,baz=261,slow=7.1,SNR=5.6 1.2nm,0.5s						

*IDC **21** 20:24:30.9±0.8, 4.47S×102.49E, h0km, mb4.2/19, mbtmp4.2/19, Error ellipse: s-maj=30.5km s-min=13.8km az=51.0*
*NEIC **21** 20:24:39.9±1.4, 4.3S±0.2×102.7E±0.1, h65km±8km, mb4.5/20, Error ellipse: s-maj=25.3km s-min=17.0km az=223.0*
*DJA **21** 20:24:40.2±0.3, 4.S±2.×10.3E±., h35km±5km, M4.4/19, mB5.3/1, mb4.5/7, MLv4.4/19, Mw(mB)4.7/1*

ISC 21 20:24:38.7±0.5, 4.49S±0.06×102.58E±0.06, h56km, n80, σ1.952/78, mb4.5/32, 1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.39**	**71**	P	**Pn**	**20 24 50.1**	**+0.9**
MNAI	**Manna**	**0.39**	**71**	P	**Pn**	**20 24 50.3**	**+1.1**
MNAI				S	**Sn**	**20 24 58.3**	**+1.5**
KSI	**Kapahiang**	**0.83**	**1**	P	**Pn**	**20 24 55.7**	**+1.3**
KSI				S	**Sn**	**20 25 07.7**	**+1.8**
LHSI	**Lahat**	**1.14**	**55**	P	**Pn**	**20 24 59.9**	**+1.4**
LWLI	**Liwa**	**1.56**	**110**	P	**Pn**

H01W2	**Cape Leeuwin H**	**32.10**	**162**	T	T	21 05 00.7		
	baz=339,slow=76,SNR=10							
H01W1	**Cape Leeuwin H**	**32.10**	**162**	T	T	21 05 03.0		
	baz=339,slow=76,SNR=12							
WB0	**Warramunga Arr**	**34.51**	**119**	P	**P**	**20 31 21.5**	**-0.3**	
WB0				IAmb	IAmb	20 31 52.8		
	comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**34.53**	**119**	P	**P**	**20 31 21.3**	**-0.7**	
WRA	**Warramunga Arr**	**34.53**	**119**	P	**P**	**20 31 21.9**	**-0.1**	
	comp=Z,1.0nm,0.4s,baz=303,slow=8.9,SNR=31							
WRA				PcP	**PcP**	**20 33 55.9**	**-0.2**	
	comp=Z,0.4nm,0.5s,baz=294,slow=1.9,SNR=2.6							
	comp=Z,1.0nm,0.4s							
WR8	**Warramunga Arr**	**34.67**	**119**	P	**P**	**20 31 20.9**	**-2.3**	
WR8				IAmb	IAmb	20 31 25.2		
	comp=Z,4.8nm,0.9s							
AS31	**Alice Springs**	**35.72**	**125**	P	**P**	**20 31 32.3**	**+0.1**	
ASAR	**Alice Springs**	**35.72**	**125**	P	**P**	**20 31 32.5**	**+0.2**	
ASAR	**Alice Springs**	**35.72**	**125**	P	**P**	**20 31 32.7**	**+0.5**	
	comp=Z,1.0nm,0.4s,baz=299,slow=7.9,SNR=21							
ASAR				PcP	**PcP**	**20 33 59.9**	**+0.3**	
	comp=Z,0.6nm,0.5s,baz=304,slow=2.5,SNR=5.8							
	comp=Z,1.0nm,0.4s							
XAN	**Xi'an**	**38.78**	**8**	⇓P	**P**	**20 31 57.4**	**-0.6**	
XAN				pmax	pmax			
	comp=Z,12nm,0.8s							
NJ2	**Nanjing**	**39.50**	**22**	*e*P	**P**	**20 32 05.3**	**+1.4**	
NJ2				pmax	pmax			
	comp=Z,8.0nm,0.5s							
LZH	**Lanzhou**	**40.38**	**2**	*e*P	**P**	**20 32 14.3**	**+2.9**	
LZH				sP	sP	20 32 39.9	+7.6	
LZH				pmax	pmax			
	comp=Z,8.0nm,1.1s							
BBOO	**Buckleboo**	**42.08**	**136**	P	**P**	**20 32 24.2**	**-1.1**	
STKA	**Stephens Creek**	**45.58**	**131**	P	**P**	**20 32 53.7**	**+0.3**	
STKA	**Stephens Creek**	**45.58**	**131**	P	**P**	**20 32 54.0**	**+0.6**	
	comp=Z,4.3nm,0.5s,baz=304,slow=7.1,SNR=18							
	comp=Z,4.3nm,0.5s							
HHC	**Hu-ho-hao-te**	**45.86**	**9**	*e*P	**P**	**20 32 57.4**	**+1.9**	
HHC				pmax	pmax			
	comp=Z,10.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,98nm,5.4s							
KSRS	**Korea Array**	**47.93**	**27**	P	**P**	**20 33 11.3**	**-0.3**	
	comp=Z,0.6nm,0.6s,baz=211,slow=5.7,SNR=2.7							
	comp=Z,0.6nm,0.6s							
WMQ	**Urumqi**	**49.92**	**346**	*e*P	**P**	**20 33 27.5**	**+0.6**	
WMQ				pmax	pmax			
	comp=Z,25nm,0.7s							
KSH	**Kashi**	**50.19**	**333**	P	**P**	**20 33 27.9**	**-1.1**	
KSH				pmax	pmax			
	comp=Z,5.0nm,0.7s							
SONM	**Songino Array**	**52.21**	**3**		**P**	**20 33 43.3**	**-0.7**	
SONM				IAmb	IAmb	20 33 45.7		
	comp=Z,7.8nm,1.2s							
SONM	**Songino Array**	**52.21**	**3**	P	**P**	**20 33 44.4**	**+0.4**	
	comp=Z,4.6nm,0.6s,baz=186,slow=9.3,SNR=23							
SONM				PcP	**PcP**	**20 34 54.7**	**-0.3**	
	comp=Z,0.8nm,0.4s,baz=180,slow=4.4,SNR=4.6							
	comp=Z,4.6nm,0.6s							
MJAR	**Matsushiro Arr**	**52.66**	**36**	P	**P**	**20 33 45.7**	**-1.8**	
	comp=Z,1.4nm,0.7s,baz=216,slow=7.5,SNR=6.5							
	comp=Z,1.4nm,0.7s							
ARSB	**Arslanbob**	**53.00**	**332**	P	**P**	**20 33 48.8**	**-1.2**	
ARSB				IAmb	IAmb	20 33 51.4		
	comp=Z,7.3nm,1.0s							
MKAR	**Makanchi Array**	**54.12**	**343**		**P**	**20 33 57.0**	**-1.0**	
MKAR	**Makanchi Array**	**54.12**	**343**	P	**P**	**20 33 57.4**	**-0.6**	
	comp=Z,3.3nm,0.5s,baz=152,slow=8.8,SNR=60							
	comp=Z,3.3nm,0.5s							
MAKZ	**Makanchi**	**54.23**	**343**	P	**P**	**20 33 57.7**	**-1.0**	
MAKZ				IAmb	IAmb	20 34 24.0		
	comp=Z,3.1nm,1.3s							
USA0B	**Ussuriysk Arra**	**55.20**	**25**	P	**P**	**20 34 03.8**	**-2.0**	
USRK	**Ussuriysk Ar.**	**55.20**	**25**	P	**P**	**20 34 05.3**	**-0.5**	
	comp=Z,4.0nm,0.6s,baz=212,slow=3.6,SNR=8.6							
	comp=Z,4.0nm,0.6s							
KKAR	**Karatay Array**	**55.54**	**332**	P	**P**	**20 34 06.9**	**-1.4**	
KURBB	**Kurchatov Arra**	**58.67**	**342**	P	**P**	**20 34 29.6**	**-0.6**	
	comp=Z,3.0nm,0.6s,baz=160,slow=6.5,SNR=19							
	comp=Z,3.0nm,0.6s							
KURK	**Kurchatov**	**58.72**	**342**		**P**	**20 34 29.3**	**-1.3**	
KURK				IAmb	IAmb	20 34 30.7		
	comp=Z,4.8nm,0.8s							
ZAA0	**Zalesovo Array**	**60.10**	**348**	P	**P**	**20 34 38.8**	**-1.2**	
ZALV	**Zalesovo Beam**	**60.10**	**348**	P	**P**	**20 34 38.8**	**-1.1**	
ZALV	**Zalesovo Beam**	**60.10**	**348**	P	**P**	**20 34 39.0**	**-0.9**	
	comp=Z,8.4nm,0.4s,baz=159,slow=6.3,SNR=47							
	comp=Z,8.4nm,0.4s							
H04S1	**CROZET ISLANDS**	**60.64**	**218**	T	T	21 40 08.2		
	baz=60,slow=75,SNR=13							
H04S3	**CROZET ISLANDS**	**60.66**	**218**	T	T	21 40 12.1		
	baz=60,slow=75,SNR=40							
H04S2	**CROZET ISLANDS**	**60.66**	**218**	T	T	21 40 11.2		
	baz=60,slow=75,SNR=19							
BVAR	**Borovoye Array**	**63.40**	**339**	P	**P**	**20 35 01.3**	**-1.0**	
	comp=Z,1.8nm,0.4s,baz=139,slow=8.9,SNR=23							
	comp=Z,1.8nm,0.4s							
BRVK	**Borovoye**	**63.47**	**339**		**P**	**20 35 00.5**	**-2.1**	
BRVK				IAmb	IAmb	20 35 02.3		
	comp=Z,2.3nm,0.7s							
ABKAR	**Akbulak array**	**65.05**	**331**	P	**P**	**20 35 12.1**	**-1.0**	
KBZ	**Khabaz**	**71.86**	**319**	P	**P**	**20 35 55.4**	**-0.3**	
	comp=Z,1.9nm,0.7s,baz=130,slow=4.3,SNR=3.9							
	comp=Z,1.9nm,0.7s							
MMAI	**Mount Meron Ar**	**73.58**	**306**	P	**P**	**20 36 07.2**	**+0.9**	
	comp=Z,0.6nm,0.4s,baz=108,slow=9.3,SNR=2.0							
	comp=Z,0.6nm,0.4s							
BRTR	**Keskin Array B**	**76.89**	**312**	P	**P**	**20 36 24.9**	**-0.4**	
	comp=Z,1.0nm,0.7s,baz=126,slow=7.4,SNR=6.5							
	comp=Z,1.0nm,0.7s							
AKASG	**Malin Array Be**	**83.02**	**322**	P	**P**	**20 36 57.0**	**-0.9**	
	comp=Z,0.4nm,0.5s,baz=93,slow=4.8,SNR=5.0							
	comp=Z,0.4nm,0.5s							
KOLS	**Kolonicke sedl**	**87.00**	**319**	*e*P	**P**	**20 37 20.3**	**+2.3**	
FINES	**FINESS Array B**	**87.50**	**332**	P	**P**	**20 37 19.8**	**-0.2**	
	comp=Z,0.9nm,0.4s,baz=104,slow=3.8,SNR=24							
	comp=Z,0.9nm,0.4s							
ARCES	**ARCESS Array B**	**89.67**	**340**	P	**P**	**20 37 30.6**	**+0.4**	
	comp=Z,0.3nm,0.3s,baz=102,slow=5.2,SNR=9.0							
	comp=Z,0.3nm,0.3s							
HFS	**Hagfors**	**93.30**	**330**	P	**P**	**20 37 47.5**	**+0.3**	
	comp=Z,0.8nm,0.5s,baz=114,slow=7.3,SNR=4.4							
	comp=Z,0.8nm,0.5s							
TXAR	**Lajitas Array**	**144.95**	**42**	PKPbc	**PKPdf**	**20 44 09.9**	**-0.5**	
	comp=Z,1.4nm,0.5s,baz=261,slow=1.3,SNR=32							

*NEIC **21** 20:43:21.4±0.9, 43˚.61S±0˚.04×172˚.59E±0˚.03, h21km±10km, ML3.4/26, Error ellipse: s-maj=5.7km s-min=2.8km az=158.0*

*NOU **21** 20:43:21.8, 43˚.53S×172˚.67E, h15km, MLv3.9/9, South Island, New Zealand*

*WEL **21** 20:43:22.3±0.4, 44˚S±3˚×17˚3E±˚, h5km, M3.9/43, ML4.3/8, MLv3.9/43, Error ellipse: s-maj=3.5km s-min=2.5km az=22.9, confirmed*

*WEL **21** 20:43:22.1, 43˚.56S×172˚.62E, h6km, ML3.9, Mw3.7, Moment Tensor Solution. s4 Moment tensor: Scale 10^{14} Nm; Mrr0.73; Mθθ3.28; Mφφ-4.01; Mrθ0.94; Mrφ-0.82; Mθφ0.19; Fault plane solution: Mo3.89000×10^{14} NP1: φs50.00000˚, δ80.00000˚, λ165.00000˚. NP2: φs143.00000˚, δ75.00000˚, λ10.00000˚. Principal axes: T 3.6620, Plg18.0000˚, Azm6.0000˚; N 0.4570, Plg72.0000˚, Azm197.0000˚; P -4.1190, Plg3.0000˚, Azm97.0000˚; Stations used: GVZ LTZ RPZ INZ STRIKE-SLIP FAULTING*

ISC 21 20:43:21.8±0.8, 43˚.55S±0˚.02×172˚.63E±0˚.02, h14km±6km, n116, σ0˚.79/130, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBS	**Redcliffs Bore**	**0.08**	**95**	P	**Pg**	**20 43 24.5**	**-0.1**
RCBS				S	**Sg**	**20 43 26.2**	**-0.4**
DHSS	**Diamond Harbou**	**0.11**	**137**	P	**Pg**	**20 43 25.2**	**+0.2**
DHSS				S	**Sg**	**20 43 27.3**	**+0.1**
MQZ	**McQueen's Vall**	**0.16**	**173**	Pg	**Pg**	**20 43 25.9**	**+0.2**
MQZ				Sg	**Sg**	**20 43 28.5**	**+0.2**
MQZ	**McQueen's Vall**	**0.16**	**173**	P	**Pg**	**20 43 25.9**	**+0.2**
MQZ				S	**Sg**	**20 43 28.5**	**+0.2**
DSLC	**Dunsandel Scho**	**0.33**	**249**	P	**Pb**	**20 43 29.2**	**-0.3**
DSLC				S	**Sb**	**20 43 34.1**	**-0.7**
AKSS	**Akaroa School**	**0.36**	**137**	P	**Pb**	**20 43 29.7**	**-0.3**
AKSS				S	**Sg**	**20 43 34.3**	**+0.4**
OKCZ	**Okains Bay**	**0.36**	**119**	P	**Pb**	**20 43 30.0**	**0.0**
OKCZ				S	**Sb**	**20 43 35.4**	**-0.2**
SMHS	**Summerhill**	**0.36**	**324**	P	**Pb**	**20 43 29.5**	**-0.4**
SMHS				S	**Sb**	**20 43 35.2**	**-0.3**
AMCZ	**Amberley**	**0.38**	**3**		**Pb**	**20 43 30.1**	**-0.2**
AMCZ				Sg	**Sb**	**20 43 36.2**	**+0.2**
AMCZ	**Amberley**	**0.38**	**3**	P	**Pb**	**20 43 30.2**	**-0.1**
AKCZ	**Akaroa Harbour**	**0.38**	**147**	P	**Pb**	**20 43 30.3**	**-0.1**
RACZ	**Rakaia**	**0.40**	**243**	P	**Pb**	**20 43 30.4**	**-0.2**
RACZ				S	**Sb**	**20 43 35.7**	**-0.9**
OXZ	**Oxford**	**0.48**	**298**	Pg	**Pg**	**20 43 31.3**	**-0.1**
OXZ				Sg	**Sg**	**20 43 38.4**	**+0.5**
OXZ	**Oxford**	**0.48**	**298**	P	**Pg**	**20 43 31.5**	**+0.1**
GVZ	**Greta Valley S**	**0.66**	**27**		**Pb**	**20 43 35.5**	**+0.4**
GVZ				Sg	**Sb**	**20 43 45.2**	**+1.1**
GVZ	**Greta Valley S**	**0.66**	**27**	P	**Pb**	**20 43 35.6**	**+0.5**
WACZ	**Wakanui South**	**0.69**	**235**	P	**Pb**	**20 43 36.2**	**+0.5**
WACZ				S	**Sb**	**20 43 46.1**	**+1.0**
MHCZ	**Mount Hutt**	**0.77**	**271**	P	**Pb**	**20 43 37.1**	**+0.1**
LTZ	**Lake Taylor**	**0.81**	**341**		**Pb**	**20 43 37.8**	**0.0**
LTZ				Sg	**Sb**	**20 43 48.9**	**+0.3**
LTZ	**Lake Taylor**	**0.81**	**341**	P	**Pb**	**20 43 38.0**	**+0.2**
ARCZ	**Arundel**	**1.12**	**249**	P	**Pb**	**20 43 42.6**	**-0.4**
RPZ	**Rata Peaks**	**1.15**	**261**		**Pn**	**20 43 43.1**	**-0.6**
RPZ	**Rata Peaks**	**1.15**	**261**	P	**Pn**	**20 43 43.0**	**-0.6**
RPZ	**Rata Peaks**	**1.15**	**261**	S	**Sg**	**20 43 59.8**	**+0.7**
RPZ	**Rata Peaks**	**1.15**	**261**	P	**Pn**	**20 43 43.2**	**-0.4**
INZ	**Inchbonnie**	**1.20**	**313**		**Pg**	**20 43 44.6**	**-0.2**
INZ				IAML		20 44 05.8	
	comp=N,1μm,1.0s						
INZ	**Inchbonnie**	**1.20**	**313**	P	**Pg**	**20 43 44.9**	**0.0**
KHZ	**Kahutara**	**1.32**	**31**		**Pn**	**20 43 45.2**	**-0.7**
KHZ				IAML		20 44 07.1	
	comp=E,350nm,0.5s						
KHZ				IAML		20 44 12.6	
	comp=N,634nm,0.7s						
KHZ	**Kahutara**	**1.32**	**31**	P	**Pn**	**20 43 45.3**	**-0.5**
TMZ	**Timaru**	**1.44**	**234**	P	**Pn**	**20 43 47.2**	**-0.3**
WVZ	**Waitaha Valley**	**1.46**	**288**	P	**Pb**	**20 43 48.4**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**1.69**	**277**	P	**Pn**	**20 43 51.6**	**+0.6**
THZ	**Tophouse**	**1.80**	**7**	Pn	**Pn**	**20 43 51.7**	**-0.8**
THZ	**Tophouse**	**1.80**	**7**	P	**Pn**	**20 43 52.0**	**-0.5**
DSZ	**Denniston Nort**	**1.90**	**341**	Pn	**Pn**	**20 43 53.7**	**-0.3**
DSZ	**Denniston Nort**	**1.90**	**341**	P	**Pn**	**20 43 53.8**	**-0.1**
LBZ	**Lake Benmore**	**1.95**	**244**	Pn	**Pn**	**20 43 54.6**	**+0.1**
LBZ	**Lake Benmore**	**1.95**	**244**	P	**Pn**	**20 43 54.5**	**0.0**
FOZ	**Fox Glacier**	**2.04**	**270**	Pn	**Pn**	**20 43 57.0**	**+1.2**
FOZ	**Fox Glacier**	**2.04**	**270**	P	**Pb**	**20 43 57.2**	**-1.6**
BSWZ	**Blackbirch Sta**	**2.05**	**27**	Pn	**Pn**	**20 43 55.2**	**-0.8**
BSWZ				IAML		20 44 08.8	
	comp=E,177nm,0.7s						
BSWZ				IAML		20 44 38.6	
	comp=N,225nm,0.7s						
BSWZ	**Blackbirch Sta**	**2.05**	**27**	P	**Pn**	**20 43 55.8**	**-0.2**
ODZ	**Otahua Downs**	**2.06**	**223**	Pn	**Pn**	**20 43 56.9**	**+0.8**
ODZ	**Otahua Downs**	**2.06**	**223**	P	**Pn**	**20 43 55.9**	**-0.2**
ODZ	**Otahua Downs**	**2.06**	**223**	P	**Pn**	**20 43 55.9**	**-0.2**
CMWZ	**Cape Campbell**	**2.15**	**34**	Pn	**Pn**	**20 43 58.1**	**+0.9**
CMWZ				IAML		20 44 45.3	
	comp=E,322nm,1.6s						
CMWZ				IAML		20 44 50.0	
	comp=N,339nm,4.5s						
CMWZ	**Cape Campbell**	**2.15**	**34**	P	**Pn**	**20 43 58.7**	**+1.4**
MRNZ	**Matariki Terra**	**2.15**	**3**	Pn	**Pn**	**20 43 57.6**	**+0.2**
MRNZ	**Matariki Terra**	**2.15**	**3**	P	**Pn**	**20 43 57.8**	**+0.5**
TUWZ	**Tuamarina**	**2.33**	**25**	Pn	**Pn**	**20 43 59.2**	**-0.6**
TUWZ	**Tuamarina**	**2.33**	**25**	P	**Pn**	**20 43 59.5**	**-0.3**
NNZ	**Nelson**	**2.40**	**14**	Pn	**Pn**	**20 44 00.6**	**-0.1**
NNZ	**Nelson**	**2.40**	**14**	P	**Pn**	**20 44 00.9**	**+0.2**
TKNZ	**Takaka Hill**	**2.53**	**6**	Pn	**Pn**	**20 44 02.8**	**+0.3**
TKNZ	**Takaka Hill**	**2.53**	**6**	P	**Pn**	**20 44 03.5**	**+0.9**
TCW	**Tory Channel**	**2.64**	**28**	Pn	**Pn**	**20 44 03.5**	**-0.5**
TCW	**Tory Channel**	**2.64**	**28**	P	**Pn**	**20 44 03.6**	**-0.5**
BHW	**Baring Head**	**2.71**	**39**	Pn	**Pn**	**20 44 03.6**	**-1.4**
BHW	**Baring Head**	**2.71**	**39**	P	**Pn**	**20 44 03.6**	**-1.4**
SNZO	**South Karori**	**2.72**	**35**	Pn	**Pn**	**20 44 03.9**	**-1.2**
SNZO				IAML		20 45 12.6	
	comp=N,90nm,1.3s						
SNZO	**South Karori**	**2.72**	**35**	P	**Pn**	**20 44 03.9**	**-1.2**
QRZ	**Quartz Range**	**2.73**	**358**	Pn	**Pn**	**20 44 04.6**	**-0.6**
QRZ				IAML		20 44 58.7	
	comp=N,101nm,1.1s						
QRZ				IAML		20 45 06.6	
	comp=E,133nm,1.2s						
QRZ	**Quartz Range**	**2.73**	**358**	P	**Pn**	**20 44 04.8**	**-0.4**
QRZ	**Quartz Range**	**2.73**	**358**	P	**Pn**	**20 44 04.8**	**-0.4**
HHSZ	**Highcliff Hill**	**2.75**	**211**	P	**Pn**	**20 44 07.2**	**+1.7**
PLWZ	**Palliser**	**2.77**	**45**	Pn	**Pn**	**20 44 04.9**	**-1.1**
PLWZ				IAML		20 45 14.1	
	comp=N,103nm,3.3s						
PLWZ	**Palliser**	**2.77**	**45**	P	**Pn**	**20 44 04.8**	**-1.1**
JCZ	**Jackson Bay**	**2.83**	**258**	P	**Pn**	**20 44 06.9**	**+0.2**
JCZ	**Jackson Bay**	**2.83**	**258**	P	**Pn**	**20 44 06.9**	**+0.2**
MSWZ	**Moikau Station**	**2.88**	**43**	Pn	**Pn**	**20 44 05.5**	**-1.8**
MSWZ	**Moikau Station**	**2.88**	**43**	P	**Pn**	**20 44 05.9**	**-1.5**
WKZ	**Wanaka**	**2.89**	**243**	Pn	**Pn**	**20 44 07.3**	**-0.2**
WKZ	**Wanaka**	**2.89**	**243**	P	**Pn**	**20 44 07.6**	**0.0**
DUWZ	**D'Urville Isla**	**2.91**	**20**	P	**Pn**	**20 44 07.8**	**0.0**
EAZ	**Earnscleugh**	**2.91**	**234**	P	**Pn**	**20 44 07.4**	**-0.4**
PAWZ	**Paruwai Farm**	**3.00**	**45**	P	**Pn**	**20 44 07.6**	**-1.4**
TRWZ	**Traveller**	**3.12**	**48**	P	**Pn**	**20 44 09.0**	**-0.9**
KIW	**Kapiti Island**	**3.18**	**33**	P	**Pn**	**20 44 10.7**	**-0.7**
MTW	**Mount Morrison**	**3.20**	**43**	P	**Pn**	**20 44 12.0**	**+0.2**
TUZ	**Tuapeka**	**3.21**	**221**	P	**Pn**	**20 44 12.5**	**+0.6**
HOWZ	**Holdsworth Sta**	**3.41**	**40**	P	**Pn**	**20 44 14.1**	**-0.5**
MSZ	**Milford Sound**	**3.57**	**250**	P	**Pn**	**20 44 15.7**	**-1.0**
MRZ	**Mangatainoka R**	**3.63**	**38**	Pn	**Pn**	**20 44 16.9**	**-0.7**
MRZ	**Mangatainoka R**	**3.63**	**38**	P	**Pn**	**20 44 16.1**	**-1.5**
TIWZ	**Tintock**	**3.68**	**42**	P	**Pn**	**20 44 18.9**	**+0.5**
MLZ	**Mavora Lakes**	**3.70**	**239**	Pn	**Pn**	**20 44 18.5**	**-0.2**
MLZ	**Mavora Lakes**	**3.70**	**239**	P	**Pn**	**20 44 18.3**	**-0.4**
SYZ	**Scrubby Hill**	**3.88**	**218**	P	**Pn**	**20 44 21.9**	**+0.9**
SYZ	**Scrubby Hill**	**3.88**	**218**	P	**Pn**	**20 44 21.7**	**+0.7**
PRWZ	**Pori Road**	**3.89**	**41**	P	**Pn**	**20 44 23.6**	**+2.4**
BFZ	**Birch Farm**	**3.93**	**44**	Pn	**Pn**	**20 44 21.1**	**-0.7**
BFZ				IAML		20 44 58.0	
	comp=E,59nm,4.2s						
BFZ				IAML		20 45 16.8	
	comp=N,64nm,4.2s						
BFZ	**Birch Farm**	**3.93**	**44**	P	**Pn**	**20 44 21.1**	**-0.7**
BFZ	**Birch Farm**	**3.93**	**44**	P	**Pn**	**20 44 20.3**	**-1.5**
WHZ	**Wether Hill Ro**	**4.07**	**233**	Pn	**Pn**	**20 44 23.9**	**+0.1**
WHZ	**Wether Hill Ro**	**4.07**	**233**	P	**Pn**	**20 44 22.9**	**-0.9**
DVHZ	**Dannevirke**	**4.19**	**40**	P	**Pn**	**20 44 23.8**	**-1.5**
TSZ	**Takapari Road**	**4.29**	**37**	P	**Pn**	**20 44 25.0**	**-1.7**
DCZ	**Deep Cove**	**4.36**	**242**	Pn	**Pn**	**20 44 27.0**	**-0.6**
PREZ	**Palmer Road**	**4.36**	**16**	P	**Pn**	**20 44 29.0**	**+1.2**
NEZ	**North Egmont**	**4.42**	**15**	P	**Pn**	**20 44 29.5**	**+1.0**
PKE	**Pukeiti**	**4.47**	**14**	P	**Pn**	**20 44 30.3**	**+1.1**
PNHZ	**Pukenui**	**4.51**	**38**	P	**Pn**	**20 44 28.5**	**-1.3**
APZ	**The Paps**	**4.64**	**223**	P	**Pn**	**20 44 31.7**	**+0.2**
VRZ	**Vera Road**	**4.71**	**21**	P	**Pn**	**20 44 33.4**	**+1.0**
PKVZ	**Peka Peka**	**4.72**	**27**	P	**Pn**	**20 44 33.6**	**+0.9**
WNVZ	**Wahianoa**	**4.78**	**29**	P	**Pn**	**20 44 34.2**	**+0.7**
WHVZ	**Whangaehu Hut**	**4.81**	**29**	P	**Pn**	**20 44 34.8**	**+0.7**
SNVZ	**South Ngauruho**	**4.92**	**28**	P	**Pn**	**20 44 36.1**	**+0.6**
WTVZ	**West Tongariro**	**4.96**	**28**	P	**Pn**	**20 44 35.2**	**-0.9**
KRVZ	**Karewarewa**	**5.00**	**28**	P	**Pn**	**20 44 37.3**	**+0.8**
BKZ	**Black Stump Fm**	**5.26**	**35**	Pn	**Pn**	**20 44 38.7**	**-1.4**
BKZ				IAML		20 46 39.4	
	comp=N,32nm,3.3s						
HIZ	**Hauiti**	**5.31**	**19**	Pn	**Pn**	**20 44 40.3**	**-0.4**
HIZ	**Hauiti**	**5.31**	**19**	P	**Pn**	**20 44 40.5**	**-0.2**
TLZ	**Tolley Road**	**5.66**	**24**	P	**Pn**	**20 44 46.1**	**+0.5**
MWZ	**Matawai**	**6.40**	**37**	P	**Pn**	**20 44 54.0**	**-1.7**
RUGZ	**Raukumara Rang**	**6.77**	**36**	P	**Pn**	**20 44 60.0**	**-0.9**

*JMA **21** 20:57:57.2±0.1, 24˚N±1˚×122˚.6E±0˚.4, h19km±1km, MV2.1/11, NW OFF ISHIGAKIJIMA IS*

*TAP **21** 20:57:57.8, 24˚.48N×122˚.49E, h17km, ML2.7, D*

ISC 21 20:57:56.9±0.9, 24˚.49N±0˚.03×122˚.57E±0˚.02, h17km±8km, n53, σ0˚.35/66, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS3	**EOS3**	**0.31**	**229**	*i* P	**Pb**	**20 58 04.0**	**+0.1**
EOS2	**EOS2**	**0.32**	**257**	P	**Pb**	**20 58 04.0**	**-0.1**
EOS2				*e*S	**Sb**	**20 58 09.6**	**+0.7**
JYNG	**Yonagunijimaku**	**0.34**	**96**	P	**Pg**	**20 58 04.2**	**+0.1**
JYNG				S	**Sg**	**20 58 09.0**	**0.0**
YOJ	**Yonaguni jima**	**0.40**	**94**	P	**Pg**	**20 58 05.2**	**+0.1**
EOS4	**EOS4**	**0.43**	**212**	*i* P	**Pb**	**20 58 06.4**	**+0.5**
ESAO	**Su ao**	**0.67**	**278**	*e*P	**Pb**	**20 58 09.5**	**-0.6**
TWC	**Suao**	**0.67**	**280**	*e*P	**Pb**	**20 58 09.0**	**-1.1**
EGS		**0.68**	**301**	*e*P	**Pb**	**20 58 10.0**	**-0.3**
TWB1	**Santiao Chiao**	**0.74**	**314**	*e*P	**Pb**	**20 58 11.5**	**+0.1**
ENA	**Nanau**	**0.76**	**266**	P	**Pb**	**20 58 11.3**	**-0.3**
ENA				*e*S	**Sb**	**20 58 20.9**	**-0.8**
EAHA	**Aohua**	**0.78**	**258**	*e*P	**Pb**	**20 58 11.8**	**-0.1**
EAHA				*e*S	**Sg**	**20 58 22.6**	**+0.2**
NDS	**Dongshan**	**0.79**	**281**	*e*P	**Pb**	**20 58 11.5**	**-0.7**
NDS				*e*S	**Sb**	**20 58 22.0**	**-0.7**
TIPB	**Shuangxi**	**0.83**	**305**	P	**Pb**	**20 58 12.7**	**-0.2**
TIPB				*e*S	**Sg**	**20 58 24.7**	**+0.5**
TWE	**Neicheng**	**0.86**	**286**	*i* P	**Pb**	**20 58 12.7**	**-0.6**
SXI1	**Grass Mountain**	**0.88**	**314**	P	**Pg**	**20 58 14.2**	**+0.2**
SXI1				*e*S	**Sg**	**20 58 25.9**	**+0.4**
ENTT	**Nioudou**	**0.93**	**280**	*e*P	**Pb**	**20 58 14.6**	**+0.1**
ENTT				*e*S	**Sg**	**20 58 26.8**	**-0.5**
FUSB	**Fushanzhiwuyua**	**0.94**	**287**	P	**Pb**	**20 58 14.7**	**0.0**
FUSB				S	**Sb**	**20 58 26.9**	**0.0**
NACB	**Ninganchiao**	**0.95**	**251**	P	**Pb**	**20 58 14.7**	**-0.1**
LATG	**Datong**	**0.95**	**273**	*i* P	**Pb**	**20 58 14.8**	**-0.3**
TWD	**Chiawan**	**0.98**	**246**	*e*P	**Pn**	**20 58 16.2**	**+0.3**
TNOU	**National Taiwa**	**0.98**	**312**	*e*P	**Pb**	**20 58 15.7**	**+0.3**
NWLT	**Wulai**	**1.02**	**287**	*e*P	**Pb**	**20 58 16.1**	**+0.1**
NWLT				*i* S	**Sb**	**20 58 29.3**	**+0.2**
TWA	**Mucha**	**1.02**	**299**	*e*P	**Pb**	**20 58 16.5**	**+0.3**
ETLH	**Xiulin Townshi**	**1.03**	**254**	*e*P	**Pb**	**20 58 16.4**	**+0.1**
IRIF	**Iriomote-Funau**	**1.07**	**98**	P	**Pb**	**20 58 16.4**	**-0.4**
NNSB	**Datong**	**1.09**	**267**	*e*P	**Pb**	**20 58 17.1**	**-0.2**
NNS	**Nan Shan**	**1.09**	**268**	*e*P	**Pb**	**20 58 17.3**	**-0.1**
YHNB	**Yeheng**	**1.10**	**280**	*e*P	**Pn**	**20 58 17.7**	**+0.1**
ETM	**Tongmen**	**1.11**	**242**	*e*P	**Pg**	**20 58 18.2**	**-0.3**
NSK	**Sanguang**	**1.12**	**280**	P	**Pn**	**20 58 18.0**	**+0.2**
NSK				*i* S	**Sb**	**20 58 32.1**	**-0.1**
YM01	**YM01**	**1.12**	**306**	*e*P	**Pb**	**20 58 17.6**	**-0.3**
YM08	**YM08**	**1.13**	**308**	*e*P	**Pg**	**20 58 19.2**	**+0.3**
ZUZH	**Zhuzihu**	**1.15**	**306**	*e*P	**Pg**	**20 58 19.3**	**+0.1**
LXIB	**Xiulin Townshi**	**1.16**	**246**	*e*P	**Pg**	**20 58 19.2**	**-0.1**
SHUL	**Shoufeng**	**1.16**	**233**	*e*P	**Pg**	**20 58 19.2**	**-0.1**
TWY	**Chenhua**	**1.18**	**312**	*e*P	**Pb**	**20 58 19.1**	**+0.3**
T

comp=Z,1.0nm,1.1s
BDFB Brasilia 59.86 91 LR LR 21 31 51.3
comp=Z,156nm,20.1s,baz=259,slow=33
SAND Sanderson 60.14 10 P **P** **21 09 10.5 +1.0**
SAND IAmb IAmb 21 09 15.2
comp=Z,5.9nm,1.0s
VNDA Vanda 60.34 194 P **P** **21 09 11.4 +1.1**
comp=Z,1.6nm,1.0s,baz=115,slow=3.9,SNR=4.8
VNDA LR LR 21 30 42.3
comp=Z,198nm,19.0s,baz=94,slow=32
comp=Z,1.6nm,1.0s
PCRV Puerto La Cruz 60.35 56 LR LR 21 31 41.6
comp=Z,299nm,21.6s,slow=32
ALPN Alpine 60.35 8 **P** **21 09 12.0 +0.9**
ALPN IAmb IAmb 21 09 14.4
comp=Z,7.4nm,1.2s
QSPA South Pole Qui 60.38 180 P **P** **21 09 11.4 +0.4**
comp=Z,2.6nm,1.0s,baz=96,slow=4.0,SNR=4.0
QSPA LR LR 21 31 55.1
comp=Z,110nm,18.0s,baz=97,slow=33
comp=Z,2.6nm,1.0s
VHRN Van Horn 60.61 7 P **P** **21 09 12.1 -0.8**
RPZ Rata Peaks 61.25 234 LR LR 21 30 45.2
comp=Z,334nm,20.7s,baz=142,slow=31
MNTX Cornudas Mount 61.47 6 P **P** **21 09 17.5 -1.0**
BRDY Brady 61.97 12 **P** **21 09 20.9 -1.0**
BRDY IAmb IAmb 21 09 36.1
comp=Z,9.8nm,1.3s
PFO Pinyon Flats O 63.23 356 LR LR 21 30 57.0
comp=Z,144nm,18.9s,baz=185,slow=30
APMT Aspermont 63.76 11 **P** **21 09 34.8 +1.0**
MSTX Muleshoe 64.01 8 **P** **21 09 34.4 -1.1**
MSTX IAmb IAmb 21 09 38.0
comp=Z,11nm,1.1s
ANMO Albuquerque 64.60 5 LR LR 21 33 01.6
comp=Z,189nm,18.4s,baz=285,slow=32
SJG San Juan 64.86 49 LR LR 21 35 23.4
comp=Z,94nm,20.0s,baz=194,slow=34
VNA3 Neumayer Olymp 65.87 160 ⇑P **P** **21 09 46.7 -0.5**
comp=Z,5.2nm,0.8s
SHPR Sheep Range 66.04 357 **P** **21 09 50.1 +1.4**
MDP Montagnes des 66.43 69 LR LR 21 36 12.5
comp=Z,413nm,18.2s,baz=254,slow=34
RTBA Rita Blanca 66.44 8 P **P** **21 09 53.0 +1.7**
VNA1 Neumayer--Stat 66.53 159 ⇑P **P** **21 09 51.8 +0.4**
comp=Z,4.9nm,0.9s
SNAA Sanae 67.69 161 ⇑P **P** **21 09 58.1 -0.7**
comp=Z,66nm,1.1s
SNAA Sanae 67.69 161 P **P** **21 09 58.2 -0.7**
SNAA IAmb IAmb 21 10 02.9
comp=Z,7.5nm,1.2s
SNAA Sanae 67.69 161 P **P** **21 09 58.1 -0.7**
comp=Z,2.8nm,1.0s,baz=236,slow=3.9,SNR=7.3
SNAA LR LR 21 34 47.8
comp=Z,84nm,21.5s,baz=267,slow=32
comp=Z,2.8nm,1.0s
NVAR Mina Array Bea 68.15 355 P **P** **21 10 01.9 -0.3**
NVAR Mina Array Bea 68.15 355 P **P** **21 10 03.5 +1.3**
comp=Z,2.7nm,1.0s,baz=184,slow=8.7,SNR=13
comp=Z,2.7nm,1.0s
TROLL Troll, Antarti 68.98 162 ⇑P **P** **21 10 06.9 -0.1**
comp=Z,190nm,1.0s
BSUT Blindstream Ca 69.99 1 IAmb IAmb 21 10 31.4
comp=Z,5.3nm,1.0s
ELK Elko 70.27 357 LR LR 21 34 56.2
comp=Z,203nm,21.4s,baz=195,slow=31
TKL Tuckaleechee C 70.27 24 LR LR 21 36 26.8
comp=Z,88nm,21.7s,baz=214,slow=32
YBH Yreka Blue Hor 71.89 351 LR LR 21 34 58.4
comp=Z,23nm,19.8s,baz=166,slow=30
PDAR Pinedale Array 72.24 2 P **P** **21 10 23.8 -3.4**
PDAR Pinedale Array 72.24 2 P **P** **21 10 27.1 -0.1**
comp=Z,1.3nm,1.0s,baz=194,slow=3.1,SNR=8.7
PDAR LR LR 21 36 32.9
comp=Z,78nm,20.9s,baz=173,slow=31
comp=Z,1.3nm,1.0s
DZM Mont Dzumac 72.50 254 *e*P **P** **21 10 26.7 -2.5**
comp=Z,58nm,21.4s
DZM *e*S **S** **21 19 52.6 -1.3**
comp=Z,127nm,24.8s
DZM *e*SS **SS** **21 24 38.1 +5.7**
comp=Z,86nm,27.5s
DZM *e*LQ LQ 21 29 32.3
comp=Z,697nm,27.5s
DZM *e*LR LR 21 32 30.9
comp=Z,737nm,25.4s
DZM Mont Dzumac 72.50 254 LR LR 21 34 20.0
comp=Z,366nm,22.0s,baz=176,slow=29
HLID Hailey 73.05 358 P **P** **21 10 32.4 +0.5**
HLID IAmb IAmb 21 10 35.3
comp=Z,7.0nm,1.2s
J05D Fort Rock, OR 73.24 353 IAmb IAmb 21 10 36.6
comp=Z,12nm,1.5s
YHL Hebgen Lake 74.30 0 IAmb IAmb 21 10 45.9
comp=Z,6.2nm,1.1s
G08A Pilot Rock 75.02 355 IAmb IAmb 21 10 46.4
comp=Z,9.4nm,1.4s
NEW Newport 77.86 356 P **P** **21 11 00.7 +1.4**
comp=Z,4.1nm,1.1s,baz=164,slow=5.6,SNR=6.3
NEW LR LR 21 40 15.6
comp=Z,286nm,18.2s,baz=162,slow=32
comp=Z,4.1nm,1.1s
SADO Sadowa 79.98 23 LR LR 21 42 38.4
comp=Z,65nm,20.1s,baz=118,slow=33
MAW Mawson 82.81 178 P **P** **21 11 26.6 +0.9**
comp=Z,1.2nm,0.8s,baz=180,slow=3.3,SNR=2.8
comp=Z,1.2nm,0.8s
BBB Bella Bella 82.88 350 LR LR 21 39 38.7
comp=Z,80nm,21.8s,baz=159,slow=29
DLBC Dease Lake 89.22 351 LR LR 21 44 43.2
comp=Z,7.9nm,21.5s,baz=164,slow=31
YKA Yellowknife Ar 92.00 359 LR LR 21 49 11.2
comp=Z,232nm,18.2s,baz=176,slow=33
SCHQ Schefferville 92.74 24 LR LR 21 52 24.6
comp=Z,63nm,18.4s,baz=207,slow=34
KDAK Kodiak Island 93.72 339 LR LR 21 45 42.9
comp=Z,126nm,19.5s,baz=158,slow=30
ASAR Alice Springs 97.48 237 LR LR 21 50 17.0
comp=Z,185nm,21.0s,baz=180,slow=32
ILAR Eielson Array 98.16 346 LR LR 21 49 29.9
comp=Z,78nm,18.1s,baz=127,slow=31
INK Inuvik 99.14 352 LR LR 21 50 01.5
comp=Z,127nm,21.6s,baz=122,slow=31
FRB Frobisher Bay 99.30 18 LR LR 21 55 02.6
comp=Z,62nm,19.8s,baz=257,slow=34
WRA Warramunga Arr 99.37 241 LR LR 21 51 06.5
comp=Z,316nm,20.7s,baz=44,slow=32
H01W1 Cape Leeuwin H 102.41 217 T T 23 07 27.9
baz=138,slow=75,SNR=2.3
H01W2 Cape Leeuwin H 102.42 217 T T 23 07 31.6
baz=138,slow=75,SNR=5.2
H01W3 Cape Leeuwin H 102.43 217 T T 23 07 32.2
baz=138,slow=75,SNR=3.5
SONM Songino Array 145.64 312 PKPbc **PKPab** **21 18 41.6 +0.7**
comp=Z,0.6nm,0.6s,baz=14,slow=6.6,SNR=3.9
CMAR Chiang Mai Arr 149.83 255 PKPbc **PKPbc** **21 18 53.0 +0.3**
comp=Z,2.1nm,1.0s,baz=158,slow=1.2,SNR=6.3
BRTR Keskin Array B 150.11 61 PKPbc **PKiKP** **21 18 54.2 +0.4**
comp=Z,0.9nm,0.9s,baz=227,slow=3.6,SNR=5.5
PZH PanZhiHua 150.28 272 PKPbc **PKPdf** **21 18 48.4 -0.2**

*IDC **21** 21:07:06.6±0.6,27.82S×64.48E,h0km,mb4.1/14, mbtmp4.1/14,MS3.7/3,Error ellipse: s-maj=25.1km s-min=17.2km az=83.0*
*NEIC **21** 21:07:08.7±1.5,27.9S±0.1×64.4E±0.1,h10km±1km, mb4.6/19,Error ellipse: s-maj=21.1km s-min=17.7km az=215.0*
ISC 21 21:07:08.1±0.5,27.9S±0.1×64.5E±0.1,h10km,n48, σ0.8s80/36,mb4.3/22,MS3.8/3,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**20.84**	**205**	T	T	21 33 09.6	
	baz=33,slow=74,SNR=1948						
H04N1	**CROZET ISLANDS**	**20.84**	**205**	T	T	21 33 07.0	
	baz=33,slow=74,SNR=1961						
H04N3	**CROZET ISLANDS**	**20.86**	**205**	T	T	21 33 09.9	
	baz=33,slow=74,SNR=2154						
H08S1	**Diego Carcia H**	**21.48**	**22**	T	T	21 34 18.4	
	baz=201,slow=75,SNR=5.7						
H08S2	**Diego Garcia H**	**21.49**	**22**	T	T	21 34 14.9	
	baz=201,slow=75,SNR=6.9						
H08S3	**Diego Garcia H**	**21.50**	**22**	T	T	21 34 19.9	
	baz=201,slow=75,SNR=4.3						
BOSA	**Boshof**	**34.47**	**259**	LR	LR	21 25 46.0	
	comp=Z,57nm,18.2s,baz=93,slow=32						
SUR	**Sutherland**	**37.85**	**252**	P	**P**	**21 14 24.6 -0.9**	
SUR				IAmb	IAmb	21 15 07.5	
	comp=Z,26nm,1.4s						
MAW	**Mawson**	**39.77**	**181**	P	**P**	**21 14 42.2 +1.4**	
	comp=Z,2.1nm,0.8s,baz=330,slow=9.0,SNR=6.1						
	comp=Z,2.1nm,0.8s						
H01W2	**Cape Leeuwin H**	**42.61**	**112**	T	T	22 00 48.9	
	baz=265,slow=75,SNR=6.8						
H01W3	**Cape Leeuwin H**	**42.61**	**112**	T	T	22 00 43.6	
	baz=265,slow=75,SNR=6.1						
H01W1	**Cape Leeuwin H**	**42.62**	**112**	T	T	22 00 44.7	
	baz=265,slow=75,SNR=7.1						
TSUM	**Tsumeb**	**43.64**	**271**	P	**P**	**21 15 12.9 -0.4**	
GIRL	**Giralia**	**45.05**	**95**	P	**P**	**21 15 21.4 -3.0**	
FITZ	**Fitzroy Crossi**	**56.64**	**94**	P	**P**	**21 16 52.6 +0.8**	
SNAA	**Sanae**	**56.70**	**200**	P	**P**	**21 16 51.7 +0.2**	
SNAA	**Sanae**	**56.70**	**200**	P	**P**	**21 16 51.9 +0.3**	
	comp=Z,0.8nm,0.7s,baz=86,slow=8.4,SNR=3.8						
	comp=Z,0.8nm,0.7s						
CM31	**Chiang Mai Arr**	**56.86**	**40**	P	**P**	**21 16 53.6 +0.3**	
CM31				IAmb	IAmb	21 17 03.7	
	comp=Z,6.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**56.86**	**40**	P	**P**	**21 16 54.0 +0.7**	
CMAR	**Chiang Mai Arr**	**56.86**	**40**	P	**P**	**21 16 53.6 +0.3**	
	comp=Z,1.8nm,0.7s,baz=235,slow=7.5,SNR=15						
	comp=Z,1.8nm,0.7s						
SHL	**Shillong**	**59.31**	**29**	P	**P**	**21 17 11.2 +0.8**	
ASAR	**Alice Springs**	**61.90**	**103**	P	**P**	**21 17 27.6 -0.7**	
	comp=Z,0.5nm,0.7s,baz=252,slow=6.3,SNR=9.2						
	comp=Z,0.5nm,0.7s						
QSPA	**South Pole Qui**	**62.28**	**180**	P	**P**	**21 17 30.5 +0.3**	
QSPA				IAmb	IAmb	21 17 48.7	
	comp=Z,5.5nm,1.1s						
QSPA	**South Pole Qui**	**62.28**	**180**	P	**P**	**21 17 30.3 +0.1**	
	comp=Z,2.3nm,0.9s,baz=253,slow=1.7,SNR=5.1						
	comp=Z,2.3nm,0.9s						
WRA	**Warramunga Arr**	**63.61**	**100**	P	**P**	**21 17 39.9 +0.2**	
	comp=Z,0.8nm,0.8s,baz=248,slow=5.9,SNR=4.8						
	comp=Z,0.8nm,0.8s						
WB0	**Warramunga Arr**	**63.72**	**99**	P	**P**	**21 17 40.2 -0.2**	
WB0				IAmb	IAmb	21 17 41.5	
	comp=Z,12nm,1.4s						
WR8	**Warramunga Arr**	**63.74**	**100**	P	**P**	**21 17 41.2 +0.6**	
WR8				IAmb	IAmb	21 18 03.6	
	comp=Z,11nm,1.5s						
VNDA	**Vanda**	**64.59**	**166**	P	**P**	**21 17 45.5 +0.3**	
VNDA				IAmb	IAmb	21 18 06.6	
	comp=Z,4.6nm,1.4s						
MMAI	**Mount Meron Ar**	**66.55**	**334**	P	**P**	**21 17 58.9 +0.4**	
	comp=Z,1.4nm,0.6s,baz=148,slow=13,SNR=4.4						
	comp=Z,1.4nm,0.6s						
TGY	**Tagaytay City**	**68.77**	**60**	LR	LR	21 46 58.5	
	comp=Z,53nm,19.3s,baz=32,slow=35						
AAK	**Ala-Archa**	**70.75**	**8**	P	**P**	**21 18 24.4 -0.2**	
AAK				IAmb	IAmb	21 19 03.5	
	comp=Z,2.4nm,0.7s						
BRTR	**Keskin Array B**	**73.13**	**336**	P	**P**	**21 18 38.9 0.0**	
BRTR	**Keskin Array B**	**73.13**	**336**	P	**P**	**21 18 38.3 -0.6**	
	comp=Z,1.5nm,0.8s,baz=156,slow=7.7,SNR=9.7						
	comp=Z,1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.19**	**295**	P	**P**	**21 18 38.4 -1.2**	
	comp=Z,0.8nm,0.3s,baz=131,slow=3.1,SNR=1.9						
	comp=Z,0.8nm,0.3s						
GTA	**Gaotai**	**74.60**	**28**	*e*P	**P**	**21 18 48.5 +1.0**	
GTA				sP	pwP	21 18 56.6 +1.1	
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MKAR	**Makanchi Array**	**76.03**	**13**	P	**P**	**21 18 55.1 -0.3**	
MKAR	**Makanchi Array**	**76.03**	**13**	P	**P**	**21 18 55.4 0.0**	
	comp=Z,1.4nm,0.8s,baz=193,slow=4.9,SNR=13						
	comp=Z,1.4nm,0.8s						
KURBB	**Kurchatov Arra**	**79.12**	**9**	P	**P**	**21 19 12.5 0.0**	
	comp=Z,1.5nm,0.7s,baz=203,slow=6.2,SNR=8.8						
	comp=Z,1.5nm,0.7s						
KURK	**Kurchatov**	**79.23**	**9**	P	**P**	**21 19 13.6 +0.4**	
BVAR	**Borovoye Array**	**80.71**	**4**	P	**P**	**21 19 20.9 -0.2**	
	comp=Z,2.1nm,0.7s,baz=162,slow=7.8,SNR=17						
	comp=Z,2.1nm,0.7s						
BRVK	**Borovoye**	**80.74**	**4**	P	**P**	**21 19 21.1 -0.1**	
BRVK				IAmb	IAmb	21 19 28.9	
	comp=Z,4.2nm,1.2s						
ZAA0	**Zalesovo Array**	**83.36**	**12**	P	**P**	**21 19 35.7 +0.8**	
ZAA0				IAmb	IAmb	21 19 35.8	
	comp=Z,2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**83.36**	**12**	P	**P**	**21 19 35.1 +0.2**	
	comp=Z,2.6nm,0.7s,baz=198,slow=4.4,SNR=9.1						
	comp=Z,2.6nm,0.7s						
QRZ	**Quartz Range**	**84.57**	**134**	P	**P**	**21 19 41.9 +0.1**	
GUMO	**Guam**	**87.98**	**74**	LR	LR	21 57 12.8	
	comp=Z,77nm,18.2s,baz=130,slow=34						
GRFO	**Grafenberg**	**90.55**	**329**	P	**P**	**21 20 11.1 +0.9**	
ESDC	**Sonseca Array**	**92.56**	**314**	P	**P**	**21 20 19.9 +0.1**	
	comp=Z,0.8nm,0.8s,baz=93,slow=4.5,SNR=6.7						
	comp=Z,0.8nm,0.8s						
YKA	**Yellowknife A**	**145.37**	**359**	PKPbc	**PKPbc**	**21 26 44.4 -1.0**	
	comp=Z,1.7nm,0.8s,baz=348,slow=4.5,SNR=6.8						

*IDC **21** 21:13:17.7±0.6,26.95N×127.86E,h0km,mb3.9/17, mbtmp3.9/17,Error ellipse: s-maj=23.7km s-min=10.5km az=35.0*
*NIED **21** 21:13:20.5,26.80N×127.73E,h16km,MW4.0,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr-1.26; Mθθ0.69; Mφφ0.57; Mrθ-0.10; Mθφ-0.33; Mφr-0.12; Fault plane solution: M₀1.12000×10¹⁵ NP1: φs125.00000°,δ45.00000°,λ-98.00000°. NP2: φs316.00000°,δ45.00000°,λ-82.00000°.*
*JMA **21** 21:13:20.5±0.1,26.8N±0.4×127.7E±0.4,h16km±3km, MD4.0/23,MV4.1/23,NEAR OKINAWAJIMA ISLAND*
JMA Felt II J1 at NEAR OKINAWAJIMA ISLAND .
*NEIC **21** 21:13:24.0±1.8,26.66N±0.07×127.87E±0.07,h35km±2km, mb4.5/25,Error ellipse: s-maj=13.6km s-min=8.7km az=145.0*
ISC 21 21:13:20.8±0.9,26.78N±0.03×127.76E±0.03,h17km±6km, n94,σ1s07/98,mb4.3/31,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.31**	**36**	P		**P**	**Pg**	**21 13 27.0**	**-0.4**
JIH				*e*S		**S**	**Sg**	**21 13 31.7**	**-0.3**
JIH	**Iheya**	**0.31**	**36**	A		A		21 13 27.0	
	comp=N,29nm,3.3s,comp=E,34nm,0.4s								
JNTH	**Nagotoyohara**	**0.35**	**138**	*i* P		**P**	**Pg**	**21 13 28.2**	**+0.1**
JNTH				*e*S		**S**	**Sg**	**21 13 33.5**	**+0.4**
JNTH	**Nagotoyohara**	**0.35**	**138**	A		A		21 13 28.2	
	comp=N,11nm,2.6s,comp=E,12nm,2.6s								
JOW	**Kunigami**	**0.46**	**84**			**Pg**		**21 13 30.2**	**0.0**
JOW				Sg		**Sg**		**21 13 36.5**	**+0.1**
JOW	**Kunigami**	**0.46**	**84**	Pn		**Pg**		**21 13 30.1**	**0.0**
	comp=E,1µm,0.3s,baz=149,slow=28,SNR=1314								
JOW				Sn		**Sg**		**21 13 35.7**	**-0.7**
	comp=E,4µm,0.3s,baz=113,slow=25,SNR=43								
JOW	**Kunigami**	**0.46**	**84**	*i* P		**Pg**		**21 13 30.1**	**-0.1**
JOW				S		**Sg**		**21 13 36.1**	**-0.4**
JAGN	**Aguni-jima**	**0.50**	**248**	P		**Pg**		**21 13 30.1**	**-0.6**
JAGN				*e*S		**Sg**		**21 13 37.2**	**-0.3**
JAGN	**Aguni-jima**	**0.50**	**248**	A		A		21 13 30.1	
	comp=N,28nm,1.1s,comp=E,47nm,0.7s								
JJT3	**Tamagusuku3**	**0.64**	**178**	*i* P		**Pb**		**21 13 33.6**	**+0.2**
JJT3				*e*S		**Sb**		**21 13 43.4**	**+1.3**
JJT3	**Tamagusuku3**	**0.64**	**178**	A		A		21 13 33.6	
	comp=N,56nm,3.5s,comp=E,64nm,3.6s								
JYRO	**Yoronjima**	**0.66**	**68**	*i* P		**Pg**		**21 13 33.5**	**-0.3**
JYRO				*e*S		**Sg**		**21 13 42.5**	**-0.2**
JYRO	**Yoronjima**	**0.66**	**68**	A		A		21 13 33.5	
	comp=N,9.0nm,4.4s,comp=E,8.0nm,0.9s								
JOKE	**Okinoerabujima**	**0.93**	**51**	*e*P		**Pb**		**21 13 37.7**	**-0.7**
JOKE				*e*S		**Sg**		**21 13 51.1**	**+0.2**
JOKE	**Okinoerabujima**	**0.93**	**51**	A		A		21 13 37.7	
	comp=N,7.0nm,1.1s,comp=E,5.0nm,1.0s								
JKE	**Kume jima 2**	**0.98**	**243**	P		**Pb**		**21 13 38.1**	**-1.3**
JKE				S		**Sb**		**21 13 51.2**	**-0.9**
JKE	**Kume jima 2**	**0.98**	**243**	A		A		21 13 38.1	
	comp=N,7.0nm,4.7s,comp=E,5.0nm,4.9s								
JTK	**Tokunoshima**	**1.46**	**46**	*i* P		**Pn**		**21 13 46.3**	**-0.1**
JTK				*e*S		**Sn**		**21 14 04.2**	**-0.9**
JAMN	**Amaminishikomi**	**1.92**	**41**	*i* P		**Pn**		**21 13 52.8**	**0.0**
JAMN				S		**Sn**		**21 14 16.1**	**-0.5**
JAM	**Amami Oshima**	**2.31**	**45**	*e*P		**Pn**		**21 13 58.5**	**+0.5**
JAM				*e*S		**Sn**		**21 14 26.8**	**+0.8**
JZK	**Kikaishima**	**2.49**	**52**	*e*P		**Pb**		**21 14 03.2**	**-1.8**
JTAJ	**Takarajima**	**2.69**	**28**	*e*P		**Pn**		**21 14 03.8**	**+0.5**
JTAJ				*e*S		**Sn**		**21 14 35.8**	**+0.4**
JMZ	**Minamidaito 2**	**3.25**	**106**	Pn		**Pn**		**21 14 10.7**	**-0.4**
JMZ	**Minamidaito 2**	**3.25**	**106**	*e*P		**Pn**		**21 14 10.6**	**-0.4**
JMZ				*e*S		**Sn**		**21 14 48.2**	**-1.2**
JKDJ	**Kitadaitoujima**	**3.28**	**104**	*e*P		**Pn**		**21 14 10.8**	**-0.6**
JKDJ				*e*S		**Sn**		**21 14 48.6**	**-1.4**
JNN	**Nakanoshima**	**3.57**	**31**	*e*S		**Sn**		**21 14 57.0**	**-0.4**
JYAK	**Yakushimahirau**	**4.21**	**34**	*e*P		**Pn**		**21 14 25.1**	**+0.9**
JYAK				*e*S		**Sn**		**21 15 11.3**	**-1.7**
JKC	**Kuchinoerabu**	**4.25**	**30**	*e*P		**Pn**		**21 14 26.1**	**+1.4**
YOJ	**Yonaguni jima**	**4.87**	**243**	Pn		**Pn**		**21 14 34.6**	**+1.4**
NACB	**Ninganchiao**	**6.15**	**246**	Pn		**Pn**		**21 14 51.0**	**+0.1**
YULB	**Yu-li**	**6.76**	**241**	Pn		**Pn**		**21 14 59.0**	**-0.3**
JNU	**Nakatsue**	**6.87**	**22**	Pn		**Pn**		**21 15 02.5**	**+1.7**
JNU	**Nakatsue**	**6.87**	**22**	Pn		**Pn**		**21 15 02.7**	**+1.9**
	comp=E,2.7nm,0.3s,baz=191,slow=6.1,SNR=7.4								
TPUB	**Ta-pu**	**7.33**	**243**	Pn		**Pn**		**21 15 07.5**	**+0.3**
NJ2	**Nanjing**	**9.37**	**306**	*e*P		**Pn**		**21 15 36.3**	**+1.2**
NJ2				pmax		pmax			
	comp=Z,6.0nm,0.5s								
NJ2				LR		LR			
	comp=N,290nm,9.0s								
NJ2				LR		LR			
	comp=E,340nm,12.8s								
NJ2				LR		LR			
	comp=Z,310nm,9.9s								
KSRS	**Korea Array**	**10.64**	**1**	Pn		**Pn**		**21 15 54.7**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=180,slow=14,SNR=8.2								
LYN	**LuoYang**	**15.26**	**304**	P		**P**		**21 17 02.6**	**+2.4**
LYN				pmax		pmax			
	comp=Z,39nm,0.8s								
LYN				LR		LR			
	comp=N,220nm,11.5s								
LYN				LR		LR			
	comp=E,150nm,8.6s								
LYN				LR		LR			
	comp=Z,240nm,9.1s								
HHC	**Hu-ho-hao-te**	**19.39**	**320**	*e*P		**Pn**		**21 17 48.5**	**+1.3**
LZH	**Lanzhou**	**22.37**	**300**	*e*P		**P**		**21 18 17.3**	**-1.0**
LZH				pP		pP		21 18 23.5	+0.6
PZH	**PanZhiHua**	**23.25**	**275**	P		**P**		**21 18 28.3**	**+0.7**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
PZH				pmax		pmax			
	comp=Z,100nm,4.7s								
SONM	**Songino Array**	**26.86**	**327**	P		**P**		**21 18 60.0**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=126,slow=7.3,SNR=5.8								
	comp=Z,2.2nm,0.8s								
WMQ	**Urumqi**	**36.44**	**308**	*e*P		**P**		**21 20 27.4**	**+2.6**
WMQ				LR		LR			
	comp=Z,64nm,24.2s								
H11N1	**WAKE ISLAND Hy**	**36.53**	**93**	T		T		21 58 43.8	
	baz=291,slow=74,SNR=2.7								
H11N2	**WAKE ISLAND Hy**	**36.53**	**93**	T		T		21 58 43.1	
	baz=291,slow=74,SNR=5.2								
H11N3	**WAKE ISLAND Hy**	**36.54**	**93**	T		T		21 58 44.5	
	baz=291,slow=74,SNR=4.5								
H11S3	**WAKE ISLAND Hy**	**36.75**	**95**	T		T		21 58 59.1	
	baz=290								
H11S1	**WAKE ISLAND Hy**	**36.76**	**95**	T		T		21 59 00.1	
	baz=290								
H11S2	**WAKE ISLAND Hy**	**36.77**	**95**	T		T		21 59 01.5	
	baz=290								
MKAR	**Makanchi Array**	**40.85**	**312**	P		**P**		**21 21 00.9**	**-0.8**
MKAR	**Makanchi Array**	**40.85**	**312**	P		**P**		**21 21 00.8**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=102,slow=9.9,SNR=14								
	comp=Z,1.3nm,0.7s								
ZALV	**Zalesovo Beam**	**41.55**	**323**	P		**P**		**21 21 06.9**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=122,slow=7.2,SNR=2.4								
	comp=Z,0.8nm,0.6s								
KURK	**Kurchatov**	**44.13**	**316**	P		**P**		**21 21 27.6**	**-0.7**
KURBB	**Kurchatov Arra**	**44.16**	**316**	P		**P**		**21 21 27.3**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=102,slow=8.8,SNR=10								
	comp=Z,1.2nm,0.6s								
FITZ	**Fitzroy Crossi**	**44.66**	**183**	P		**P**		**21 21 33.9**	**+1.2**
TIXI	**Tiksi**	**44.91**	**0**	P		**P**		**21 21 35.2**	**+1.0**
TIXI				IAmb		IAmb		21 21 35.8	
	comp=Z,5.9nm,0.9s								
WB0	**Warramunga Arr**	**46.72**	**171**	P		**P**		**21 21 49.6**	**+0.6**
WRA	**Warramunga Arr**	**46.88**	**172**	P		**P**		**21 21 51.4**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=353,slow=8.4,SNR=13								
	comp=Z,1.4nm,0.6s								
WR8	**Warramunga Arr**	**46.92**	**171**	P		**P**		**21 21 50.1**	**-0.5**
WR8				IAmb		IAmb		21 21 58.3	
	comp=Z,9.7nm,1.4s								
BVAR	**Borovoye Array**	**49.58**	**318**	P		**P**		**21 22 09.3**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=101,slow=8.0,SNR=4.1								
	comp=Z,1.1nm,0.8s								
ASAR	**Alice Springs**	**50.50**	**173**	P		**P**		**21 22 16.9**	**-1.3**
ASAR	**Alice Springs**	**50.50**	**173**	P		**P**		**21 22 19.4**	**+1.2**
	comp=Z,1.2nm,0.8s,baz=360,slow=11,SNR=20								
	comp=Z,1.2nm,0.8s								
N15K	**Kwethluk River**	**58.32**	**34**	P		**P**		**21 23 15.8**	**+1.2**
J17K	**VABM Dome**	**58.88**	**30**	P		**P**		**21 23 19.9**	**+1.5**
J17K				IAmb		IAmb		21 23 26.7	
	comp=Z,4.6nm,0.9s								
G18K	**Tagagawik**	**59.18**	**27**	P		**P**		**21 23 21.5**	**+1.0**
G18K				IAmb		IAmb		21 23 29.1	
	comp=Z,3.8nm,1.1s								
E19K	**Redstone River**	**59.82**	**26**	P		**P**		**21 23 26.4**	**+1.4**
D22K	**Ayikyak River**	**61.55**	**24**	P		**P**		**21 23 37.9**	**+1.3**
D22K				IAmb		IAmb		21 23 54.9	
	comp=Z,6.1nm,1.2s								
E22K	**Anaktuvuk Pass**	**61.88**	**25**	P		**P**		**21 23 39.5**	**+0.5**
E22K				IAmb		IAmb		21 23 42.9	
	comp=Z,4.9nm,1.2s								
KDAK	**Kodiak Island**	**62.33**	**37**	P		**P**		**21 23 42.8**	**+0.8**
RND	**Reindeer**	**63.48**	**30**	P		**P**		**21 23 50.6**	**+0.9**
ILAR	**Eielson Array**	**64.15**	**28**	P		**P**		**21 23 53.8**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=303,slow=8.7,SNR=7.5								
	comp=Z,0.6nm,0.8s								
DOT	**Dot Lake**	**65.56**	**29**	P		**P**		**21 24 04.2**	**+0.9**
DOT				IAmb		IAmb		21 24 04.7	
	comp=Z,2.9nm,0.8s								
J26L	**Joseph Creek**	**65.61**	**28**	P		**P**		**21

EKA	**Eskdalemuir Ar**	**88.09**	**334**	P		**P**		**21 26 09.3**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=28,slow=5.6,SNR=1.8								
	comp=Z,1.1nm,0.7s								
PDAR	**Pinedale Array**	**93.00**	**38**	P		**P**		**21 26 33.4**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=313,slow=7.3,SNR=2.5								
	comp=Z,0.2nm,0.6s								

*IDC **21** 21:15:51.3±0.7,26°.89N×127°.84E,h0km,mb3.8/15, mbtmp3.8/15,MS3.4/12,Error ellipse: s-maj=23.3km s-min=11.2km az=29.0*
*JMA **21** 21:15:54.2±0.1,26°.8N±0°.4×127°.7E±0°.4,h17km±2km, MD4.2/20,MV3.9/20,NEAR OKINAWAJIMA ISLAND*
JMA Felt II J1 at NEAR OKINAWAJIMA ISLAND .
*NIED **21** 21:15:54.2,26°.81N×127°.74E,h17km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-2.31; Mθθ1.24; Mφφ 1.07; Mrθ-1.12; Mθφ-0.88; Mφr-0.78; Fault plane solution: M₀2.48000×10¹⁵ NP1: φs331.00000°,δ44.00000°,λ-57.00000°. NP2: φs109.00000°,δ54.00000°,λ-118.00000°.*
*NEIC **21** 21:15:54.6±1.4,26°.81N±0°.03×127°.73E±0°.04,h7km±5km, mb4.4/23 Error ellipse: s-maj=5.1km s-min=3.3km az=116.0*

ISC 21 21:15:54.8±0.9,**26°.80N**±0°.03×**127°.75E**±0°.03,**h14**km±6km, **n100**,σ1ˢ52/86,**mb4.0**/30,**MS3.2**/9,**1C**,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIH	**Iheya**	**0.30**	**39**	*i* P		**Pg**	**21 16 00.7**	**-0.5**
JIH				*e*S		**Sg**	**21 16 05.5**	**0.0**
JIH	**Iheya**	**0.30**	**39**	A		A	21 16 00.7	
	comp=N,55nm,2.7s,comp=E,31nm,4.1s							
JNTH	**Nagotoyohara**	**0.37**	**139**	*i* P		**Pg**	**21 16 01.9**	**-0.4**
JNTH				S		**Sg**	**21 16 07.3**	**-0.1**
JNTH	**Nagotoyohara**	**0.37**	**139**	A		A	21 16 01.9	
	comp=N,10.0nm,1.4s,comp=E,26nm,3.7s							
JOW	**Kunigami**	**0.47**	**86**	Pg		**Pg**	**21 16 03.7**	**-0.5**
JOW				Sg		**Sg**	**21 16 09.9**	**-0.6**
JOW	**Kunigami**	**0.47**	**86**	Pn		**Pg**	**21 16 03.7**	**-0.5**
	comp=E,552nm,0.3s,baz=116,slow=26,SNR=29							
JOW				Sn		**Sg**	**21 16 09.4**	**-1.1**
	comp=E,3μm,0.3s,baz=107,slow=24,SNR=30							
JOW	**Kunigami**	**0.47**	**86**	*i* P		**Pg**	**21 16 03.7**	**-0.5**
JOW	**Kunigami**	**0.47**	**86**	A		A	21 16 03.7	
	comp=N,26nm,3.5s,comp=E,34nm,3.7s							
JAGN	**Aguni-jima**	**0.50**	**246**	*i* P		**Pg**	**21 16 04.0**	**-0.8**
JAGN				S		**Sg**	**21 16 11.2**	**-0.2**
JAGN	**Aguni-jima**	**0.50**	**246**	A		A	21 16 04.0	
	comp=N,44nm,1.0s,comp=E,56nm,1.0s							
JJT3	**Tamagusuku3**	**0.65**	**177**	*i* P		**Pg**	**21 16 07.4**	**-0.2**
JJT3				*e*S		**Sb**	**21 16 16.8**	**-0.1**
JJT3	**Tamagusuku3**	**0.65**	**177**	A		A	21 16 07.4	
	comp=N,89nm,5.4s,comp=E,130nm,3.6s							
JYRO	**Yoronjima**	**0.66**	**70**	*i* P		**Pg**	**21 16 07.3**	**-0.6**
JYRO	**Yoronjima**	**0.66**	**70**	A		A	21 16 07.3	
	comp=N,18nm,4.5s,comp=E,13nm,4.2s							
JOKE	**Okinoerabujima**	**0.92**	**52**	*i* P		**Pg**	**21 16 11.5**	**-1.2**
JOKE	**Okinoerabujima**	**0.92**	**52**	A		A	21 16 11.5	
	comp=N,7.0nm,1.5s,comp=E,9.0nm,5.9s							
JKE	**Kume jima 2**	**0.98**	**242**	*i* P		**Pg**	**21 16 11.8**	**-2.1**
JKE				*e*S		**Sg**	**21 16 24.9**	**-1.9**
JKE	**Kume jima 2**	**0.98**	**242**	A		A	21 16 11.8	
	comp=N,14nm,4.3s,comp=E,6.0nm,5.6s							
JTK	**Tokunoshima**	**1.45**	**47**	*e*P		**Pn**	**21 16 19.9**	**-0.7**
JTK				*e*S		**Sn**	**21 16 38.0**	**-1.5**
JAMN	**Amaminishikomi**	**1.92**	**41**	*e*P		**Pn**	**21 16 26.4**	**-0.6**
JAM	**Amami Oshima**	**2.30**	**45**	*e*P		**Pn**	**21 16 32.3**	**0.0**
JAM				*e*S		**Sn**	**21 17 00.4**	**0.0**
JTAJ	**Takarajima**	**2.67**	**28**	*e*P		**Pn**	**21 16 37.7**	**+0.2**
JTAJ				*e*S		**Sn**	**21 17 09.5**	**-0.2**
JMZ	**Minamidaito 2**	**3.27**	**107**	Pn		**Pn**	**21 16 47.1**	**+1.5**
JMZ	**Minamidaito 2**	**3.27**	**107**	*e*P		**Pn**	**21 16 44.6**	**-1.0**
JKDJ	**Kitadaitoujima**	**3.29**	**104**	*e*P		**Pn**	**21 16 46.0**	**+0.1**
JYAK	**Yakushimahirau**	**4.20**	**35**	*e*P		**Pn**	**21 16 59.0**	**+0.5**
JYAK				*e*S		**Sn**	**21 17 45.0**	**-2.3**
NACB	**Ninganchiao**	**6.15**	**246**	Pn		**Pn**	**21 17 25.8**	**+0.6**
YULB	**Yu-li**	**6.76**	**241**	Pn		**Pn**	**21 17 34.9**	**+1.2**
SSLB	**Suanglung**	**6.84**	**246**	Pn		**Pn**	**21 17 35.3**	**+0.5**
JNU	**Nakatsue**	**6.86**	**23**	Pn		**Pn**	**21 17 35.4**	**+0.4**
JNU	**Nakatsue**	**6.86**	**23**	Pn		**Pn**	**21 17 37.4**	**+2.3**
	comp=E,0.8nm,0.3s,baz=183,slow=9.5,SNR=4.8							
JNU				LR		LR	21 20 14.2	
	comp=E,207nm,21.5s,baz=188,slow=39							
KSRS	**Korea Array**	**10.63**	**1**	Pn		**Pn**	**21 18 29.6**	**+2.9**
	comp=E,0.1nm,0.3s,baz=192,slow=12,SNR=6.4							
MJAR	**Matsushiro Arr**	**13.17**	**40**	LR		LR	21 24 14.6	
	comp=E,88nm,20.5s,baz=223,slow=39							
LYN	**LuoYang**	**15.24**	**304**	P		**P**	**21 19 36.9**	**+2.4**
LYN				pmax		pmax		
	comp=Z,41nm,0.9s							
LYN				LR		LR		
	comp=N,120nm,7.2s							
LYN				LR		LR		
	comp=E,320nm,11.5s							
LYN				LR		LR		
	comp=Z,350nm,11.9s							
BJT	**Baijiatuao**	**16.33**	**327**	Pn		**Pn**	**21 19 44.1**	**+0.4**
USRK	**Ussuriysk Ar.**	**17.70**	**10**	LR		LR	21 26 11.5	
	comp=Z,88nm,20.4s,baz=193,slow=35							
XAN	**Xi'an**	**17.76**	**299**	⇑P		**P**	**21 20 02.8**	**+0.3**
XAN				pP		sP	21 20 06.1	-2.1
XAN				sP		pP	21 20 10.1	+3.8
XAN				pmax		pmax		
	comp=Z,7.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**19.38**	**320**	*e*P		**Pn**	**21 20 23.3**	**+1.8**
HHC				pmax		pmax		
	comp=Z,13nm,0.5s							
HHC				pmax		pmax		
	comp=Z,110nm,4.7s							
XLT	**XiLinHaoTe**	**19.50**	**334**	*e*P		**Pn**	**21 20 25.3**	**+2.4**
XLT				pP		sP	21 20 28.9	+1.6
XLT				pmax		pmax		
	comp=Z,8.0nm,0.8s							
XLT				LR		LR		
	comp=N,13nm,16.7s							
XLT				LR		LR		
	comp=E,160nm,10.3s							
XLT				LR		LR		
	comp=Z,70nm,16.3s							
DAV	**Davao City (W)**	**19.73**	**186**	LR		LR	21 29 48.4	
	comp=Z,79nm,18.1s,baz=351,slow=42							
ASAJ	**Asahikawa**	**21.03**	**31**	LR		LR	21 29 15.8	
	comp=Z,82nm,19.8s,baz=194,slow=38							
LZH	**Lanzhou**	**22.35**	**300**	*e*P		**P**	**21 20 54.4**	**+1.8**
LZH				pP		sP	21 20 59.5	+1.1
PZH	**PanZhiHua**	**23.24**	**275**	P		**P**	**21 21 08.1**	**+6.2**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.8s							
PZH				pmax		pmax		
	comp=Z,90nm,4.3s							
GTA	**Gaotai**	**26.45**	**305**	*e*P		**P**	**21 21 30.5**	**-1.0**
GTA				pP		sP	21 21 34.3	-3.3
GTA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ULN	**Ulaanbaatar**	**26.55**	**328**			**P**	**21 21 32.1**	**-0.3**
ULN				IAmb		IAmb	21 21 36.7	
	comp=Z,4.8nm,1.2s							
SONM	**Songino Array**	**26.84**	**327**	P		**P**	**21 21 35.2**	**+0.2**
SONM	**Songino Array**	**26.84**	**327**	P		**P**	**21 21 34.6**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=134,slow=11,SNR=3.9							
	comp=Z,1.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**27.81**	**259**	LR		LR	21 32 18.9	
	comp=Z,60nm,19.6s,baz=195,slow=35							
PETK	**Petropavlovsk-**	**34.44**	**32**	LR		LR	21 36 38.7	
	comp=Z,50nm,20.2s,baz=249,slow=36							
YAK	**Yakutsk**	**35.25**	**2**	LR		LR	21 37 36.5	
	comp=Z,28nm,18.6s,baz=180,slow=37							
MA2	**Magadan**	**36.42**	**20**	LR		LR	21 39 40.4	
	comp=Z,23nm,19.1s,baz=211,slow=39							
WMQ	**Urumqi**	**36.43**	**308**	*e*P		**P**	**21 23 02.4**	**+3.3**
WMQ				LR		LR		
	comp=Z,120nm,24.3s							
H11N2	**WAKE ISLAND Hy**	**36.53**	**93**	T		T	22 01 15.6	
	baz=290,SNR=4.6							
H11N1	**WAKE ISLAND Hy**	**36.54**	**93**	T		T	22 01 15.7	
	baz=290,SNR=3.4							
H11N3	**WAKE ISLAND Hy**	**36.55**	**93**	T		T	22 01 17.8	
	baz=290,SNR=6.2							
H11S3	**WAKE ISLAND Hy**	**36.76**	**95**	T		T	22 01 31.9	
	baz=290							
H11S1	**WAKE ISLAND Hy**	**36.76**	**95**	T		T	22 01 33.6	
	baz=290							
H11S2	**WAKE ISLAND Hy**	**36.77**	**95**	T		T	22 01 32.2	
	baz=290							
MK31	**Makanchi Array**	**40.84**	**312**	P		**P**	**21 23 35.2**	**-0.8**
MKAR	**Makanchi Array**	**40.84**	**312**	P		**P**	**21 23 34.8**	**-1.3**
MKAR	**Makanchi Array**	**40.84**	**312**	P		**P**	**21 23 33.5**	**-2.6**
	comp=Z,0.9nm,0.7s,baz=105,slow=10.0,SNR=6.7							
	comp=Z,0.9nm,0.7s							
ZALV	**Zalesovo Beam**	**41.54**	**323**	P		**P**	**21 23 39.1**	**-2.6**
	comp=Z,0.6nm,0.5s,baz=116,slow=13,SNR=1.4							
	comp=Z,0.6nm,0.5s							
KNRA	**Kununurra**	**42.23**	**179**			**P**	**21 23 46.4**	**-1.2**
KNRA				IAmb		IAmb	21 23 48.4	
	comp=Z,10nm,1.3s							
KURBB	**Kurchatov Arra**	**44.15**	**316**	P		**P**	**21 24 00.9**	**-1.9**
	comp=Z,1.2nm,0.9s,baz=104,slow=8.6,SNR=6.8							
	comp=Z,1.2nm,0.9s							
FITZ	**Fitzroy Crossi**	**44.67**	**183**	P		**P**	**21 24 07.4**	**+0.1**
FITZ				IAmb		IAmb	21 24 10.0	
	comp=Z,3.6nm,1.5s							
TIXI	**Tiksi**	**44.90**	**0**	LR		LR	21 43 00.1	
	comp=Z,59nm,20.4s,baz=202,slow=36							
WB0	**Warramunga Arr**	**46.73**	**171**	P		**P**	**21 24 22.4**	**-1.2**
WB0				IAmb		IAmb	21 24 29.1	
	comp=Z,4.2nm,1.2s							
WRA	**Warramunga Arr**	**46.90**	**172**	P		**P**	**21 24 24.6**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=353,slow=8.7,SNR=7.3							
	comp=Z,1.0nm,0.6s							
WB2	**Warramunga Arr**	**46.90**	**171**	P		**P**	**21 24 24.7**	**-0.2**
WB2				IAmb		IAmb	21 24 32.4	
	comp=Z,3.8nm,1.0s							
WR8	**Warramunga Arr**	**46.93**	**171**	P		**P**	**21 24 24.8**	**-0.4**
WR0	**Warramunga Arr**	**46.94**	**171**	P		**P**	**21 24 25.7**	**+0.4**
BVAR	**Borovoye Array**	**49.57**	**318**	P		**P**	**21 24 44.2**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=76,slow=6.3,SNR=4.8							
	comp=Z,0.8nm,0.7s							
ASAR	**Alice Springs**	**50.52**	**173**	P		**P**	**21 24 54.0**	**+1.2**
ASAR	**Alice Springs**	**50.52**	**173**	P		**P**	**21 24 52.5**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=353,slow=9.8,SNR=10							
	comp=Z,0.8nm,0.6s							
J17K	**VABM Dome**	**58.87**	**30**	P		**P**	**21 25 54.0**	**+1.1**
J20K	**Nowinta River**	**61.06**	**29**	P		**P**	**21 26 10.2**	**+2.3**
D22K	**Ayikyak River**	**61.54**	**24**	P		**P**	**21 26 11.4**	**+0.3**
D22K				IAmb		IAmb	21 26 17.3	
	comp=Z,3.0nm,0.9s							
E22K	**Anaktuvuk Pass**	**61.87**	**25**	P		**P**	**21 26 14.0**	**+0.6**
E22K				IAmb		IAmb	21 26 20.2	
	comp=Z,4.4nm,1.1s							
KDAK	**Kodiak Island**	**62.32**	**37**	P		**P**	**21 26 16.8**	**+0.3**
E24K	**Your Creek**	**63.12**	**25**	P		**P**	**21 26 22.8**	**+1.1**
E24K				IAmb		IAmb	21 26 26.5	
	comp=Z,2.2nm,0.8s							
ILAR	**Eielson Array**	**64.14**	**28**	P		**P**	**21 26 31.2**	**+2.8**
ILAR	**Eielson Array**	**64.14**	**28**	P		**P**	**21 26 27.3**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=295,slow=9.3,SNR=7.0							
	comp=Z,0.4nm,0.7s							
C27K	**Jago River**	**64.66**	**23**	P		**P**	**21 26 35.1**	**+3.4**
DOT	**Dot Lake**	**65.55**	**29**	P		**P**	**21 26 39.6**	**+1.9**
DOT				IAmb		IAmb	21 26 46.4	
	comp=Z,3.4nm,0.9s							
J26L	**Joseph Creek**	**65.60**	**28**	P		**P**	**21 26 38.0**	**-0.1**
I28M	**Miner Creek**	**66.90**	**27**	P		**P**	**21 26 46.8**	**+0.4**
I28M				IAmb		IAmb	21 26 53.1	
	comp=Z,4.8nm,1.0s							
M29M	**Somme Creek**	**68.31**	**30**	P		**P**	**21 26 57.2**	**+1.8**
M29M				IAmb		IAmb	21 27 04.8	
	comp=Z,4.0nm,1.2s							
I30M	**Mount Dempster**	**68.40**	**27**	P		**P**	**21 26 56.7**	**+0.8**
I30M				IAmb		IAmb	21 27 03.3	
	comp=Z,4.8nm,1.1s							
MMPY	**Sheldon Lake,**	**71.41**	**29**	P		**P**	**21 27 15.3**	**+1.0**
MMPY				IAmb		IAmb	21 27 18.5	
	comp=Z,1.7nm,0.8s							
FINES	**FINESS Array B**	**72.16**	**330**	P		**P**	**21 27 17.7**	**-1.1**
FINES	**FINESS Array B**	**72.16**	**330**	P		**P**	**21 27 17.9**	**-0.9**
	comp=Z,1.2nm,0.9s,baz=67,slow=6.4,SNR=3.5							
	comp=Z,1.2nm,0.9s							
AKASG	**Malin Array Be**	**74.82**	**319**	P		**P**	**21 27 32.5**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=67,slow=5.1,SNR=1.7							
	comp=Z,0.3nm,0.4s							
BRTR	**Keskin Array B**	**76.35**	**308**	P		**P**	**21 27 41.5**	**-2.3**
	comp=Z,0.6nm,0.7s,baz=83,slow=4.5,SNR=4.2							
	comp=Z,0.6nm,0.7s							
HFS	**Hagfors**	**78.12**	**332**	P		**P**	**21 27 52.1**	**-1.1**
	comp=Z,4.5nm,1.1s,baz=99,slow=3.6,SNR=3.0							
	comp=Z,4.5nm,1.1s							
YKA	**Yellowknife Ar**	**78.19**	**25**	P		**P**	**21 27 53.0**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=300,slow=6.4,SNR=3.7							
	comp=Z,1.1nm,0.7s							
NB2	**NORSAR Suabarra**	**78.62**	**334**	P		**P**	**21 27 56.2**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=42,slow=4.6							
NOA	**NORSAR Array B**	**78.62**	**334**	P		**P**	**21 27 54.8**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=53,slow=5.3,SNR=4.3							
	comp=Z,0.4nm,0.6s							
GERES	**GERESS Array B**	**84.49**	**323**	P		**P**	**21 28 25.4**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=29,slow=3.0,SNR=5.1							
	comp=Z,0.2nm,0.3s							
DAVOX	**Davos/Dischmat**	**87.79**	**323**	LR		LR	22 13 54.5	
	comp=Z,75nm,18.5s,baz=262,slow=40							
VAE	**Valguarnera**	**90.57**	**313**	LR		LR	22 14 21.2	
	comp=Z,144nm,18.9s,baz=306,slow=39							

IDC 21 21:18:07.4±6.4,**5°.15N**×**122°.83E**,**h0**km,**mb3.8**/4, **mbtmp3.9**/5,**ML4.3**/1,**MS3.6**/4,**Error ellipse: s-maj=160.3km s-min=33.6km az=165.0**,**Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**3.33**	**55**	Pn		Pn	21 19 01.5	+0.7
	33nm,0.3s,baz=8.6,slow=3.0,SNR=3.9							
DAV				Sn		Sn	21 19 41.1	-0.1
	40nm,0.3s,baz=264,slow=22,SNR=6.1							
DAV				LR		LR	21 19 48.5	
	comp=Z,195nm,20.0s,baz=240,slow=30							
	123nm,0.4s							
MKAR	**Makanchi Array**	**54.21**	**327**	P		P	21 27 34.8	-0.2
	0.2nm,0.5s,baz=131,slow=7.8,SNR=5.3							
	0.2nm,0.5s							
BVAR	**Borovoye Array**	**64.04**	**328**	P		P	21 28 43.3	+0.4
	0.3nm,0.5s,baz=103,slow=6.2,SNR=2.8							
	0.3nm,0.5s							
ARCES	**ARCESS Array B**	**87.78**	**340**	P		P	21 30 57.1	-1.0
	1.5nm,0.9s,baz=78,slow=5.2,SNR=4.0							
ARCES				LR		LR	22 14 39.9	
	comp=Z,42nm,18.7s,baz=314,slow=39							
	1.5nm,0.9s							
FINES	**FINESS Array B**	**88.75**	**331**	P		P	21 31 03.2	+0.4
	1.9nm,1.1s,baz=90,slow=3.8,SNR=4.2							
	1.9nm,1.1s							
MLR	**Muntele Rosu**	**91.19**	**316**	LR		LR	22 18 57.8	
	comp=Z,40nm,18.8s,baz=251,slow=40							
IDI	**Anoyia**	**93.52**	**306**	LR		LR	22 19 44.9	
	comp=Z,53nm,21.7s,baz=270,slow=40							

*GCG **21** 21:29:06.3±1.5,15°.33N×91°.33W,h6km±7km,MD4.0, ML3.9*
*CATAC **21** 21:29:07.1±0.2,15°N±1°×9°1W±°,h1km,M3.6/12, MLv3.6/12,Error ellipse: s-maj=3.1km s-min=2.2km az=15.5,confirmed*

ISC 21 21:29:07.1±0.9,**15°.29N**±0°.03×**91°.35W**±0°.02,**h12**km±6km, **n39**,σ1ˢ96/47,**Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HUEH	**Huehuetenango**	**0.15**	**280**	*e*P		**Pg**	**21 29 10.8**	**0.0**
HUEH				*e*S		**Sg**	**21 29 14.0**	**+0.5**
HUEH	**Huehuetenango**	**0.15**	**280**	P		**Pg**	**21 29 10.9**	**0.0**
HUEH				S		**Sg**	**21 29 14.3**	**+0.8**
QUIS	**Sacapulas**	**0.25**	**90**	*e*P		**Pg**	**21 29 11.3**	**-1.0**
QUIS				*e*S		**Sg**	**21 29 14.7**	**-1.1**
QUIS				IAML			21 29 15.4	
	comp=E,51μm,0.2s							
SOKI	**Kika Raxquin**	**0.47**	**187**	*e*P		**Pg**	**21 29 16.9**	**+0.4**
SMCA	**Catarina**	**0.83**	**238**	*e*P		**Pg**	**21 29 23.1**	**0.0**
SMCA				*e*S		**Sg**	**21 29 34.5**	**+0.6**
RTAL	**Retalhuleu**	**0.83**	**204**	S		**Sb**	**21 29 36.5**	**+1.7**
RTAL	**Retalhuleu**	**0.83**	**204**	P		**Pg**	**21 29 24.0**	**+0.8**
STG2	**El Palmar, Qui**	**0.85**	**182**	*e*P		**Pg**	**21 29 19.3**	**-4.2**
STG2				*e*S		**Sg**	**21 29 28.9**	**-5.9**
STG0	**El Palmar, Qui**	**0.86**	**180**	*e*P		**Pg**	**21 29 19.2**	**-4.5**
STG0				*e*S		**Sg**	**21 29 28.9**	**-6.2**
THIG		**0.97**	**247**	*i* P		**Pb**	**21 29 26.2**	**+0.5**
THIG				*i* S		**Sb**	**21 29 39.5**	**+1.0**
ESSG	**Sabana Grande**	**1.03**	**151**	*e*P		**Pg**	**21 29 26.3**	**-0.7**
GCG4	**OSOP**	**1.05**	**132**	*e*S		**Sg**	**21 29 40.6**	**-0.5**
CCIG	**Comitan**	**1.24**	**322**	*i* P		**Pg**	**21 29 28.4**	**-2.7**
CCIG				*i* S		**Sg**	**21 29 44.4**	**-2.8**
CCIG				IAML			21 29 49.0	
	comp=N,1μm,0.5s							
CCIG	**Comitan**	**1.24**	**322**	S		**Sg**	**21 29 45.2**	**-2.0**
CCIG	**Comitan**	**1.24**	**322**	P		**Pg**	**21 29 28.3**	**-2.7**
FG16	**Alotenango, Sa**	**1.30**	**141**	*e*P		Pg	21 29 25.0	-7.1
FG16				IAML			21 29 46.1	
	comp=N,4μm,0.3s							
JUAM	**Asuncion Mita**	**1.85**	**121**	*e*P		**Pn**	**21 29 39.6**	**+0.9**
FAME	**Alcaldia de Sa**	**1.93**	**138**	P		**Pn**	**21 29 41.0**	**+1.2**
FAME	**Alcaldia de Sa**	**1.93**	**138**	S		**Sg**	**21 30 09.3**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.97**	**130**	P		**Pn**	**21 29 41.6**	**+1.3**
SLOZ	**Alcaldia de Sa**	**1.97**	**130**	S		**Sg**	**21 30 10.4**	**0.0**
LOAL	**Lomas de Alarc**	**1.99**	**130**	S		**Sg**	**21 30 10.8**	**-0.2**
NUBE	**Las Nubes**	**2.05**	**132**	*e*P		**Pn**	**21 29 43.1**	**+1.5**
NUBE				*e*S		**Sb**	**21 30 10.7**	**+0.8**
NUBE	**Las Nubes**	**2.05**	**132**	P		**Pn**	**21 29 42.2**	**+0.6**
NUBE	**Las Nubes**	**2.05**	**132**	S		**Sb**	**21 30 12.7**	**+2.8**
ESQI	**Esquipulas**	**2.07**	**110**	P		**Pn**	**21 29 41.3**	**-0.5**
ESQI	**Esquipulas**	**2.07**	**110**	S		**Sb**	**21 30 12.1**	**+1.7**
MTO3	**Montecristo**	**2.12**	**115**	*e*P		**Pn**	**21 29 43.2**	**+0.7**
MTO3	**Montecristo**	**2.12**	**115**	P		**Pn**	**21 29 43.4**	**+0.9**
MTO3	**Montecristo**	**2.12**	**115**	S		**Sb**	**21 30 12.5**	**+0.7**
PETF	**Flores**	**2.15**	**41**	*e*P		**Pn**	**21 29 44.1**	**+1.3**
PETF				IAML			21 30 16.0	
	comp=N,927nm,0.6s							
PETF	**Flores**	**2.15**	**41**	P		**Pn**	**21 29 43.9**	**+1.1**
PETF	**Flores**	**2.15**	**41**	S		**Sn**	**21 30 10.9**	**+1.4**
TGIG		**2.26**	**311**	*e*P		**Pn**	**21 29 44.0**	**-0.4**
TGIG				*e*S		**Sn**	**21 30 12.8**	**+0.7**
PMON	**Piamonte**	**2.52**	**128**	P		**Pb**	**21 29 52.5**	**+0.2**
SARH	**Santa Rosa de**	**2.55**	**101**	*e*S		**Sb**	**21 30 24.5**	**+0.3**
SARH	**Santa Rosa de**	**2.55**	**101**	P		**Pn**	**21 29 51.1**	**+2.7**
PACA	**Pacayal**	**3.44**	**121**	P		**Pn**	**21 29 58.8**	**-1.9**
PACA	**Pacayal**	**3.44**	**121**	S		**Sg**	**21 30 56.3**	**-1.6**

*IDC **21** 21:37:13.0±0.6,26°.98N×127°.96E,h0km,mb3.9/15, mbtmp3.8/16,ML3.6/1,MS3.2/3,Error ellipse: s-maj=23.2km s-min=7.8km az=37.0*
*JMA **21** 21:37:15.7±0.1,26°.8N±0°.4×127°.7E±0°.3,h16km±3km, MD4.0/20,MV3.8/20,NEAR OKINAWAJIMA ISLAND*
JMA Felt I J1 at NEAR OKINAWAJIMA ISLAND .
*NIED **21** 21:37:15.7,26°.80N×127°.74E,h16km,MW4.1,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr-1.05; Mθθ0.63; Mφφ0.42; Mrθ-0.69; Mθφ-0.51; Mφr-0.77; Fault plane solution: M₀1.36000×10¹⁵ NP1: φs335.00000°,δ50.00000°,λ-48.00000°. NP2: φs100.00000°,δ55.00000°,λ-129.00000°.*
*NEIC **21** 21:37:18.0±1.7,27°.0N±0°.1×128°.06E±0°.08,h30km±6km, mb4.5/23 Error ellipse: s-maj=17.3km s-min=10.7km az=189.0*

ISC 21 21:37:15.9±0.5,**26°.85N**±0°.04×**127°.79E**±0°.03,**h21**km±2km, **n73**,σ1ˢ57/74,**mb4.1**/28,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JIH	**Iheya**	**0.24**	**40**	P		**Pb**	**21 37 22.1**	**0.0**
JIH				*e*S		**Sb**	**21 37 26.8**	**+0.5**
JIH	**Iheya**	**0.24**	**40**	A		A	21 37 22.1	
	comp=N,37nm,2.6s,comp=E,15nm,1.0s							
JNTH	**Nagotoyohara**	**0.39**	**148**	P		**Pb**	**21 37 23.3**	**-0.7**
JNTH	**Nagotoyohara**	**0.39**	**148**	A		A	21 37 23.3	
	comp=N,9.0nm,4.7s,comp=E,14nm,3.7s							
JOW	**Kunigami**	**0.43**	**92**	Pg		**Pb**	**21 37 24.7**	**-0.1**
JOW				Sg		**Sb**	**21 37 31.2**	**+0.4**
JOW	**Kunigami**	**0.43**	**92**	Pn		**Pn**	**21 37 25.1**	**-1.9**
	comp=E,546nm,0.3s,baz=110,slow=25,SNR=1432							
JOW				Sn		**Sn**	**21 37 31.6**	**-2.6**
	comp=E,1μm,0.3s,baz=109,slow=22,SNR=32							
JOW	**Kunigami**	**0.43**	**92**	P		**Pn**	**21 37 25.1**	**-1.9**
**J

comp=Z,3.8nm,0.9s
F24K Squaw Lake 63.34 25 P P 21 47 42.2 -1.0
F24K IAmb IAmb 21 48 05.1
comp=Z,4.2nm,1.1s
RND Reindeer 63.41 30 P P 21 47 43.2 -0.5
ILAR Eielson Array 64.08 28 P P 21 47 47.0 -1.1
comp=Z,0.5nm,0.8s,baz=300,slow=8.2,SNR=6.1
comp=Z,0.5nm,0.8s
F25K Christian Rive 64.19 25 P P 21 47 49.2 +0.4
F25K IAmb IAmb 21 47 53.1
comp=Z,5.1nm,1.2s
PAX Paxson 64.99 30 P P 21 47 54.5 +0.4
PAX IAmb IAmb 21 48 01.4
comp=Z,1.6nm,0.7s
SCRK Sand Creek 65.46 29 P P 21 47 56.7 -0.6
SCRK IAmb IAmb 21 48 01.4
comp=Z,4.3nm,1.1s
DOT Dot Lake 65.49 29 P P 21 47 56.7 -0.6
DOT IAmb IAmb 21 47 59.9
comp=Z,2.7nm,0.8s
J26L Joseph Creek 65.54 28 P P 21 47 56.8 -0.9
J26L IAmb IAmb 21 48 04.9
comp=Z,3.5nm,0.8s
M26K Nabesna, AK 66.22 31 P P 21 48 02.4 +0.4
L29M L29M 68.21 29 P P 21 48 13.0 -1.7
L29M IAmb IAmb 21 48 21.3
comp=Z,3.4nm,0.8s
FINES FINESS Array B 72.14 330 P P 21 48 39.2 +0.6
comp=Z,0.5nm,0.5s,baz=104,slow=8.0,SNR=6.4
comp=Z,0.5nm,0.5s
AKASG Malin Array Be 74.81 319 P P 21 48 54.6 0.0
comp=Z,0.6nm,0.5s,baz=66,slow=6.0,SNR=2.3
comp=Z,0.6nm,0.5s
BRTR Keskin Array B 76.35 308 P P 21 49 04.0 +0.2
comp=Z,0.7nm,0.7s,baz=104,slow=5.2,SNR=4.6
comp=Z,0.7nm,0.7s
HFS Hagfors 78.09 332 P P 21 49 13.3 +0.3
comp=Z,1.9nm,1.0s,baz=66,slow=3.5,SNR=4.9
comp=Z,1.9nm,1.0s
YKA Yellowknife Ar 78.13 25 P P 21 49 14.3 +1.1
comp=Z,1.1nm,0.7s,baz=305,slow=6.6,SNR=3.5
comp=Z,1.1nm,0.7s
NB2 NORSAR Subarra 78.59 334 P P 21 49 16.5 +0.7
comp=Z,1.1nm,0.7s,baz=53,slow=5.9
NOA NORSAR Array B 78.59 334 P P 21 49 15.9 +0.1
comp=Z,0.7nm,0.7s,baz=52,slow=5.7,SNR=4.5
comp=Z,0.7nm,0.7s
GERES GERESS Array B 84.47 323 P P 21 49 48.0 +0.7
comp=Z,0.5nm,0.7s,baz=72,slow=5.7,SNR=5.5
comp=Z,0.5nm,0.7s

*IDC **21** 21:45:11.5±0.9,20°.79N×120°.87E,h0km,mb3.7/8, mbtmp3.8/9,ML3.8/1,MS3.6/5,Error ellipse: s-maj=29.7km s-min=17.4km az=69.0*
*NEIC **21** 21:45:13.1±1.4,20°.99N±0°.07×120°.69E±0°.10,h10km±1km, mb4.7/18,Error ellipse: s-maj=15.7km s-min=12.1km az=108.0*
ISC 21 21:45:13.0±0.8,**20°.93N**±0°.08×**120°.75E**±0°.08,**h10**km,**n43,** σ1§**19**/40,**mb4.5**/17,**MS3.6**/5,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**1.90**	**9**		**Pn**	**21 45 44.0**	**-1.6**
TPUB	**Ta-pu**	**2.36**	**357**		**Pn**	**21 45 51.1**	**-0.8**
TPUB				Sn	**Sn**	**21 46 18.9**	**-2.1**
YULB	**Yu-li**	**2.50**	**12**		**Pn**	**21 45 53.7**	**-0.1**
SSLB	**Suanglung**	**2.85**	**4**		**Pn**	**21 45 58.6**	**0.0**
NACB	**Ninganchiao**	**3.32**	**13**		**Pn**	**21 46 04.0**	**-1.1**
YHNB	**Yeheng**	**3.77**	**9**		**Pn**	**21 46 12.2**	**+0.9**
YOJ	**Yonaguni jima**	**4.09**	**30**	Pn	**Pn**	**21 46 15.5**	**-0.1**
KNMB	**Chin-men Tao**	**4.14**	**329**	Pn	**Pn**	**21 46 14.9**	**-1.4**
HKPS	**Hong Kong Po S**	**6.29**	**283**	Pn	**Pn**	**21 46 45.0**	**-1.0**
KSRS	**Korea Array**	**17.60**	**19**	P	**P**	**21 49 19.1**	**-0.4**
	0.4nm,0.3s,baz=201,slow=11,SNR=5.3 1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**20.68**	**267**	P	**P**	**21 49 55.4**	**+2.0**
	2.2nm,0.9s,baz=75,slow=9.0,SNR=8.4						
CMAR				LR	LR	21 59 03.9	
	comp=Z,125nm,18.3s,baz=55,slow=40 2.2nm,0.9s						
MJAR	**Matsushiro Arr**	**21.77**	**41**	P	**P**	**21 50 05.7**	**+0.8**
	0.5nm,0.4s,baz=263,slow=13,SNR=4.9 0.5nm,0.4s						
SONM	**Songino Array**	**29.24**	**340**	P	**P**	**21 51 18.6**	**+3.4**
	0.7nm,0.6s,baz=172,slow=11,SNR=3.0 0.7nm,0.6s						
MKAR	**Makanchi Array**	**40.45**	**319**	P	**P**	**21 52 52.2**	**+0.5**
MKAR	**Makanchi Array**	**40.45**	**319**	P	**P**	**21 52 52.8**	**+1.1**
	0.7nm,0.6s,baz=113,slow=9.7,SNR=7.7 0.7nm,0.6s						
MAKZ	**Makanchi**	**40.65**	**319**	P	**P**	**21 52 52.6**	**-0.8**
WB0	**Warramunga Arr**	**42.59**	**161**	P	**P**	**21 53 07.9**	**-1.6**
WRA	**Warramunga Arr**	**42.74**	**161**	P	**P**	**21 53 09.4**	**-1.3**
	1.0nm,0.6s,baz=343,slow=9.1,SNR=20 1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**42.79**	**329**	P	**P**	**21 53 10.8**	**+0.1**
	1.6nm,0.8s,baz=127,slow=9.3,SNR=4.8 1.6nm,0.8s						
PETK	**Petropavlovsk-**	**42.80**	**32**	LR	LR	22 13 20.7	
	comp=Z,36nm,18.3s,baz=205,slow=39						
WR8	**Warramunga Arr**	**42.80**	**161**	P	**P**	**21 53 09.8**	**-1.4**
KURBB	**Kurchatov Arra**	**44.38**	**322**	P	**P**	**21 53 24.5**	**+0.9**
	2.3nm,0.7s,baz=120,slow=7.5,SNR=12 2.3nm,0.7s						
ASAR	**Alice Springs**	**46.14**	**163**	P	**P**	**21 53 38.2**	**+0.3**
ASAR	**Alice Springs**	**46.14**	**163**	P	**P**	**21 53 36.2**	**-1.7**
	0.6nm,0.5s,baz=348,slow=7.1,SNR=11 0.6nm,0.5s						
KKAR	**Karatay Array**	**47.18**	**310**	P	**P**	**21 53 45.1**	**-0.8**
BBOO	**Buckleboo**	**55.41**	**164**	P	**P**	**21 54 48.0**	**+0.4**
BELG	**Belogornoye**	**63.45**	**319**	LR	LR	22 26 50.4	
	comp=Z,45nm,19.4s,baz=277,slow=39						
L14K	**Kuka Creek**	**65.43**	**31**	P	**P**	**21 55 55.6**	**-0.2**
M14K	**Bethel**	**65.77**	**32**	P	**P**	**21 55 57.2**	**-0.8**
M14K				IAmb	IAmb	21 56 11.2	
	comp=Z,14nm,1.4s						
N14K	**Kuskokwak Cree**	**65.91**	**33**	P	**P**	**21 55 57.8**	**-1.1**
K15K	**Wolf Creek Mou**	**65.99**	**30**	P	**P**	**21 55 58.9**	**-0.6**
N15K	**Kwethluk River**	**66.70**	**32**	P	**P**	**21 56 03.5**	**-0.5**
N15K				IAmb	IAmb	21 56 04.1	
	comp=Z,4.2nm,0.8s						
J17K	**VABM Dome**	**67.11**	**29**	P	**P**	**21 56 07.3**	**+0.7**
J17K				IAmb	IAmb	21 56 18.6	
	comp=Z,9.3nm,1.4s						
M16K	**Timber Creek**	**67.23**	**31**	P	**P**	**21 56 04.9**	**-2.5**
M16K				IAmb	IAmb	21 56 08.9	
	comp=Z,9.6nm,1.2s						
O18K	**Koktuh Hills**	**69.17**	**32**	P	**P**	**21 56 19.2**	**-0.4**
O18K				IAmb	IAmb	21 56 36.8	
	comp=Z,7.8nm,1.3s						
J20K	**Nowinta River**	**69.25**	**28**	P	**P**	**21 56 19.6**	**-0.4**
J20K				IAmb	IAmb	21 56 31.1	
	comp=Z,6.0nm,1.4s						
D22K	**Ayikyak River**	**69.43**	**23**	P	**P**	**21 56 21.4**	**+0.3**
D22K				IAmb	IAmb	21 56 32.2	
	comp=Z,8.7nm,1.4s						
H21K	**Melozitna Rive**	**69.68**	**26**	P	**P**	**21 56 22.4**	**-0.3**
E22K	**Anaktuvuk Pass**	**69.82**	**23**	P	**P**	**21 56 23.0**	**-0.5**
E22K				IAmb	IAmb	21 56 35.3	
	comp=Z,5.6nm,1.4s						
D23K	**Nanushuk River**	**70.15**	**23**	P	**P**	**21 56 25.4**	**0.0**
D23K				IAmb	IAmb	21 56 44.9	
	comp=Z,9.2nm,1.4s						
CAST	**Castle Rocks**	**70.25**	**29**	P	**P**	**21 56 25.0**	**-1.2**
CAST				IAmb	IAmb	21 56 33.9	
	comp=Z,2.7nm,1.3s						
BRTR	**Keskin Array B**	**74.79**	**307**	LR	LR	22 33 04.9	
	comp=Z,69nm,22.0s,baz=282,slow=38						
PPT	**Papeete**	**95.82**	**106**	LR	LR	22 34 45.0	
	comp=Z,22nm,19.8s,baz=354,slow=31						

*IDC **21** 21:56:10.2±2.9,17°.96S×178°.47W,h578km±33km, mb3.7/16,mbtmp4.6/17,Error ellipse: s-maj=16.7km s-min=13.7km az=81.0*
*NEIC **21** 21:56:11.5±1.4,17°.9S±0°.1×178°.5W±0°.1,h587km±7km, mb4.3/113,Error ellipse: s-maj=22.1km s-min=15.7km az=155.0*
*NOU **21** 21:56:17.1,18°.56S×178°.90W,h536km,mb4.4/10,Fiji Islands Region*
ISC 21 21:56:10.2±0.4,**17°.93S**±0°.09×**178°.44W**±0°.07,**h579**km, **n258,** σ0§**89**/249,**mb4.3**/91,**29C-13D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**1.85**	**311**	P	**P**	**21 57 25.0**	**+3.0**
MSVF	**Nonsavu**	**3.35**	**273**		**P**	**21 57 32.1**	**+2.3**
MSVF	**Nonsavu**	**3.35**	**273**	P	**P**	**21 57 32.3**	**+2.5**
FUTU	**Fugatoga**	**3.61**	**5**	P	**P**	**21 57 32.8**	**+1.2**
NIUE	**Niue**	**8.16**	**99**	P	**P**	**21 58 11.6**	**+1.3**
DVP	**Devils Point**	**12.74**	**269**	P	**P**	**21 58 58.8**	**+2.4**
PINNC	**Pines Island,**	**14.04**	**248**	P	**P**	**21 59 09.4**	**-0.2**
YATNC	**Mamie plateau,**	**14.39**	**251**	P	**P**	**21 59 13.9**	**+0.8**
OUENC	**Ouen Island, N**	**14.52**	**250**	P	**P**	**21 59 15.1**	**+0.7**
DZM	**Mont Dzumac**	**14.79**	**251**	P	**P**	**21 59 17.2**	**+0.1**
	14nm,0.6s,baz=77,slow=19,SNR=16						
DZM	**Mont Dzumac**	**14.79**	**251**	P	**P**	**21 59 17.7**	**+0.6**
ONTNC	**Ouen Toro**	**14.84**	**250**	P	**P**	**21 59 18.0**	**+0.5**
KOUNC	**Koumac, New Ca**	**16.52**	**258**	P	**P**	**21 59 36.6**	**+3.3**
OUZ	**Omahuta**	**18.62**	**201**	P	**P**	**21 59 54.9**	**+2.6**
URZ	**Urewera**	**20.63**	**190**	P	**P**	**22 00 08.5**	**-1.8**
	8.7nm,0.7s,baz=13,slow=6.6,SNR=5.2						
URZ				S	S	22 03 12.8	-12
	8.6nm,0.9s,baz=114,slow=8.2,SNR=3.1 8.7nm,0.7s						
EIDS	**Eidsvold**	**29.23**	**250**		**P**	**22 01 26.2**	**-0.3**
ARMA	**Armidale**	**29.91**	**240**		**P**	**22 01 32.9**	**+0.5**
COEN	**Coen**	**37.08**	**270**		**P**	**22 02 33.3**	**+0.7**
TOO	**Toolangi**	**37.13**	**231**		**P**	**22 02 33.2**	**+0.4**
STKA	**Stephens Creek**	**38.59**	**241**		**P**	**22 02 45.2**	**+0.5**
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**22 02 45.0**	**+0.2**
	27nm,0.6s,baz=92,slow=10,SNR=47 27nm,0.6s						
JAY	**Jayapura**	**42.88**	**286**	P	**P**	**22 03 19.2**	**+0.2**
	68nm,0.8s						
GENI	**Genyem**	**43.34**	**286**	P	**P**	**22 03 23.8**	**+1.3**
	120nm,1.1s						
BBOO	**Buckleboo**	**43.37**	**241**		**P**	**22 03 22.4**	**-0.2**
WR8	**Warramunga Arr**	**44.45**	**260**		**P**	**22 03 29.8**	**-1.2**
WB0	**Warramunga Arr**	**44.57**	**260**		**P**	**22 03 30.9**	**-1.0**
WRAB	**Tennant Creek**	**44.59**	**260**	P	**P**	**22 03 31.1**	**-1.1**
WRA	**Warramunga Arr**	**44.60**	**260**		**P**	**22 03 30.9**	**-1.2**
WRA				PcP	**PcP**	**22 05 01.4**	**-1.0**
WRA	**Warramunga Arr**	**44.60**	**260**	P	**P**	**22 03 31.1**	**-1.1**
	21nm,0.5s,baz=94,slow=7.1,SNR=122						
WRA				PcP	**PcP**	**22 05 01.9**	**-0.4**
	5.5nm,0.6s,baz=91,slow=3.3,SNR=11 21nm,0.5s						
AS31	**Alice Springs**	**44.76**	**254**		**P**	**22 03 33.0**	**-0.4**
ASAR	**Alice Springs**	**44.76**	**254**		**P**	**22 03 32.5**	**-0.8**
ASAR	**Alice Springs**	**44.76**	**254**	P	**P**	**22 03 33.0**	**-0.3**
	146nm,0.5s,baz=88,slow=8.5,SNR=2050						
ASAR				PcP	**PcP**	**22 05 02.4**	**-0.6**
	5.2nm,0.6s,baz=98,slow=3.8,SNR=4.9						
BAKI	**Biak**	**47.62**	**285**	P	**P**	**22 03 54.8**	**-0.3**
	91nm,0.7s						
MTN	**Manton Dam**	**48.77**	**268**		**P**	**22 04 02.9**	**-0.7**
RKPI	**Ransiki, Papua**	**49.27**	**284**	P	**P**	**22 04 05.8**	**-1.6**
	29nm,0.6s						
KNRA	**Kununurra**	**50.46**	**264**		**P**	**22 04 15.3**	**-0.6**
SWI	**Sorong**	**52.22**	**283**	P	**P**	**22 04 28.5**	**-0.2**
	139nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.99**	**261**		**P**	**22 04 33.9**	**-0.3**
NLAI	**Namlea**	**55.27**	**279**	P	**P**	**22 04 50.0**	**-0.2**
	1μm83nm,0.6s						
SOEI	**Soe**	**56.04**	**270**	P	**P**	**22 04 55.2**	**-0.5**
SOEI	**Soe**	**56.04**	**270**	P	**P**	**22 04 56.7**	**+1.0**
	80nm,0.7s						
TNTI	**Ternate**	**56.44**	**283**	P	**P**	**22 04 58.7**	**+0.5**
	42nm,0.8s						
BATI	**Baumata**	**56.50**	**269**	P	**P**	**22 04 58.3**	**-0.4**
	39nm,0.8s						
SANI	**Sanana**	**56.72**	**280**	P	**P**	**22 05 00.2**	**0.0**
	50nm,0.8s						
MMRI	**Maumere**	**58.27**	**271**	P	**P**	**22 05 07.9**	**-2.8**
VNDA	**Vanda**	**60.42**	**185**	P	**P**	**22 05 24.6**	**+0.7**
	0.6nm,0.5s,baz=7.1,slow=7.2,SNR=3.0 0.6nm,0.5s						
BNSI	**Bone**	**61.51**	**275**	P	**P**	**22 05 31.5**	**-0.7**
	28nm,1.1s						
PLAI	**Plampang**	**62.46**	**269**	P	**P**	**22 05 38.1**	**-0.3**
	71nm,0.7s						
TOLI2	**Tolitoli**	**62.69**	**281**	P	**P**	**22 05 39.5**	**-0.3**
TOLI2				IAmb	IAmb	22 05 40.1	
	comp=Z,10nm,0.8s						
PCI	**Palu**	**62.89**	**278**	P	**P**	**22 05 43.1**	**+2.0**
	comp=Z,56nm,1.0s						
MPSI	**Mapaga**	**63.25**	**280**	P	**P**	**22 05 42.9**	**-0.5**
	comp=Z,503nmcomp=Z,34nm,0.9s						
JAGI	**Jajag, Banyuwa**	**66.01**	**269**	P	**P**	**22 05 59.2**	**-1.6**
JAGI	**Jajag, Banyuwa**	**66.01**	**269**	P	**P**	**22 05 58.4**	**-2.4**
	comp=Z,77nm,0.7s						
MYLDM	**Lahad Datu**	**66.29**	**284**		**P**	**22 06 03.1**	**+0.6**
MJAR	**Matsushiro Arr**	**67.90**	**323**	P	**P**	**22 06 11.5**	**-0.4**
	comp=Z,4.3nm,0.6s,baz=154,slow=6.2,SNR=18 comp=Z,4.3nm,0.6s						
PCJI	**Pacitan**	**68.92**	**268**	P	**P**	**22 06 16.7**	**-1.8**
WOJI	**Wonogiri, Jawa**	**69.25**	**268**	P	**P**	**22 06 18.6**	**-2.0**
	comp=Z,96nm,1.6s						
UGM	**Wangaama**	**69.62**	**268**	P	**P**	**22 06 23.4**	**+0.6**
QSPA	**South Pole Qui**	**72.13**	**180**		**P**	**22 06 37.2**	**+0.6**
QSPA	**South Pole Qui**	**72.13**	**180**	P	**P**	**22 06 37.2**	**+0.6**
	comp=Z,5.3nm,0.8s,baz=345,slow=0.8,SNR=26 comp=Z,5.3nm,0.8s						
UNV	**Unalaska Valle**	**72.21**	**7**	P	**P**	**22 06 35.5**	**-1.5**
UNV				IAmb	IAmb	22 06 36.1	
	comp=Z,6.1nm,0.6s						
SSLB	**Suanglung**	**72.22**	**303**	P	**P**	**22 06 36.4**	**-1.4**
TPUB	**Ta-pu**	**72.24**	**302**	P	**P**	**22 06 36.6**	**-1.3**
KSM	**Kuching**	**72.66**	**277**		**P**	**22 06 40.7**	**+0.2**
LEM	**Lembang**	**72.69**	**268**	P	**P**	**22 06 39.3**	**-1.6**
CGJI	**Cibinong**	**74.58**	**268**	P	**P**	**22 06 49.9**	**-1.5**
KSRS	**Korea Array**	**74.69**	**318**	P	**P**	**22 06 52.1**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=124,slow=6.0,SNR=6.1 comp=Z,1.5nm,0.6s						
SAO	**San Andreas Ge**	**76.46**	**44**	P	**P**	**22 07 01.9**	**+0.7**
SAO				IAmb	IAmb	22 07 03.2	
	comp=Z,11nm,0.8s						
USRK	**Ussuriysk Ar.**	**76.61**	**326**	P	**P**	**22 07 03.3**	**+1.4**
	comp=Z,1.7nm,0.6s,baz=116,slow=3.5,SNR=6.6 comp=Z,1.7nm,0.6s						
PLK4	**Peulik 4**	**77.49**	**12**		**P**	**22 07 06.1**	**-0.3**
PLK4				IAmb	IAmb	22 07 06.9	
	comp=Z,15nm,0.8s						
DPP	**Dos Picos Cty**	**77.53**	**49**	P	**P**	**22 07 08.1**	**+0.9**
DPP				IAmb	IAmb	22 07 08.7	
	comp=Z,11nm,0.8s						
TPO	**Tropico Hills**	**77.60**	**47**	P	**P**	**22 07 08.3**	**+0.7**
TPO				IAmb	IAmb	22 07 09.4	
	comp=Z,13nm,1.0s						
ISA	**Isabella, Lake**	**77.85**	**46**	P	**P**	**22 07 09.4**	**+0.4**
ISA				IAmb	IAmb	22 07 10.8	
	comp=Z,10nm,0.9s						
CMB	**Columbia Colle**	**77.87**	**43**		**P**	**22 07 09.7**	**+0.6**
YUH	**Yuha Desert**	**78.09**	**50**		**P**	**22 07 11.1**	**+0.9**
CLC	**China Lake**	**78.53**	**46**	P	**P**	**22 07 13.2**	**+0.5**
YBH	**Yreka Blue Hor**	**78.56**	**39**		**P**	**22 07 13.2**	**+0.5**
WAKR	**Walker**	**78.75**	**43**		**P**	**22 07 14.4**	**+0.5**
WAKR				IAmb	IAmb	22 07 15.8	
	comp=Z,8.7nm,0.8s						
BEKR	**Beckworth**	**78.92**	**42**		**P**	**22 07 15.4**	**+0.6**
BEKR				IAmb	IAmb	22 07 15.8	
	comp=Z,6.9nm,0.6s						
L04D	**Klamath Falls**	**79.09**	**39**	P	**P**	**22 07 16.2**	**+0.7**
L04D				IAmb	IAmb	22 07 17.0	
	comp=Z,12nm,0.8s						
DSP	**Deep Springs**	**79.11**	**45**		**P**	**22 07 16.4**	**+0.9**
LHV	**Little Huntoon**	**79.23**	**44**	P	**P**	**22 07 15.8**	**-0.3**
LHV				IAmb	IAmb	22 07 18.3	
	comp=Z,9.7nm,0.9s						
P18K	**Big Mountain,**	**79.34**	**12**		**P**	**22 07 15.5**	**-0.8**
P18K				IAmb	IAmb	22 07 16.3	
	comp=Z,13nm,0.8s						
GWY	**Greenwater Val**	**79.37**	**46**		**P**	**22 07 17.6**	**+0.4**
RYN	**Ryan**	**79.42**	**44**	P	**P**	**22 07 17.9**	**+0.6**
PAHR	**Pah Rah Range**	**79.46**	**42**		**P**	**22 07 18.1**	**+0.6**
PAHR				IAmb	IAmb	22 07 19.2	
	comp=Z,12nm,1.3s						
NVAR	**Mina Array Bea**	**79.46**	**44**		**P**	**22 07 18.0**	**+0.3**
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**22 07 18.4**	**+0.7**
	comp=Z,5.5nm,0.8s,baz=225,slow=8.8,SNR=19 comp=Z,5.5nm,0.8s						
M14K	**Bethel**	**79.52**	**8**	P	**P**	**22 07 17.8**	**+0.7**
M14K				IAmb	IAmb	22 07 18.8	
	comp=Z,8.7nm,0.9s						
NV11	**Mina Array Sit**	**79.56**	**44**	P	**P**	**22 07 18.5**	**+0.4**
WCT	**Wildcat Mounta**	**79.72**	**46**	P	**P**	**22 07 19.5**	**+0.7**
O18K	**Koktuh Hills**	**79.78**	**12**	P	**P**	**22 07 18.1**	**-0.5**
O18K				IAmb	IAmb	22 07 18.9	
	comp=Z,16nm,0.8s						
J04A	**Umpqua Nationa**	**79.81**	**38**	P	**P**	**22 07 19.6**	**+0.3**
TPH	**Tonopah**	**79.98**	**45**	P	**P**	**22 07 20.7**	**+0.3**
TPNV	**Topopah Spring**	**80.05**	**46**	P	**P**	**22 07 20.7**	**-0.1**
M16K	**Timber Creek**	**80.22**	**9**	P	**P**	**22 07 21.4**	**+0.7**
M16K				IAmb	IAmb	22 07 22.6	
	comp=Z,9.6nm,1.0s						
K05A	**Summer Lake**	**80.23**	**39**		**P**	**22 07 20.6**	**-0.9**
K05A				IAmb	IAmb	22 07 23.4	
	comp=Z,17nm,1.0s						
ILSW	**Iliamna Southw**	**80.31**	**13**	P	**P**	**22 07 20.3**	**-1.2**
ILSW				IAmb	IAmb	22 07 21.3	
	comp=Z,11nm,0.7s						
J05D	**Fort Rock, OR**	**80.35**	**39**	P	**P**	**22 07 22.5**	**+0.4**
SHPR	**Sheep Range**	**80.58**	**47**		**P**	**22 07 23.8**	**+0.4**
W13A	**Hualapai Mount**	**80.78**	**49**	P	**P**	**22 07 25.1**	**+0.5**
RED	**Redoubt Volcan**	**80.78**	**13**	P	**P**	**22 07 22.7**	**-1.2**
RED				IAmb	IAmb	22 07 26.1	
	comp=Z,6.3nm,0.9s						
M17K	**Holitna River**	**80.82**	**10**	P	**P**	**22 07 24.7**	**+0.8**
M17K				IAmb	IAmb	22 07 25.7	
	comp=Z,11nm,0.8s						
PINE	**Pine Mountain**	**80.82**	**38**		**P**	**22 07 24.8**	**+0.2**
PINE				IAmb	IAmb	22 07 26.6	
	comp=Z,12nm,0.9s						
I05D	**Terrebonne, OR**	**80.91**	**38**	P	**P**	**22 07 24.8**	**0.0**
I05D				IAmb	IAmb	22 07 27.0	
	comp=Z,18nm,1.4s						
PRN	**Pahroc Range**	**81.11**	**46**	P	**P**	**22 07 26.3**	**+0.1**
PRN				IAmb	IAmb	22 07 28.2	
	comp=Z,9.5nm,0.9s						
R11B	**Troy Canyon, C**	**81.23**	**45**		**P**	**22 07 26.6**	**-0.2**
WVOR	**Wild Horse Val**	**81.44**	**40**	P	**P**	**22 07 27.8**	**+0.1**
WVOR				IAmb	IAmb	22 07 29.4	
	comp=Z,14nm,1.1s						
L18K	**Granite Mounta**	**81.72**	**10**	P	**P**	**22 07 28.9**	**+0.5**
L18K				IAmb	IAmb	22 07 29.4	
	comp=Z,5.2nm,0.7s						
G06A	**Carlson Farm,**	**81.84**	**37**	P	**P**	**22 07 29.8**	**+0.3**
STLK	**Strandline Lak**	**81.96**	**13**	P	**P**	**22 07 28.6**	**-1.2**
J08A	**Circle Bar Ran**	**82.05**	**40**		**P**	**22 07 30.8**	**0.0**
J08A				IAmb	IAmb	22 07 32.4	
	comp=Z,12nm,1.1s						
X16A	**Lo Mia Camp, P**	**82.22**	**50**		**P**	**22 07 32.2**	**+0.3**
X16A				IAmb	IAmb	22 07 34.2	
	comp=Z,7.2nm,1.0s						
CCUT	**Cedar City**	**82.34**	**47**	P	**P**	**22 07 33.5**	**+1.0**
IPM	**Ipoh**	**82.39**	**277**	P	**P**	**22 07 32.3**	**-0.7**
319A	**Douglas**	**82.46**	**54**	P	**P**	**22 07 33.8**	**+0.6**
319A				IAmb	IAmb	22 07 35.7	
	comp=Z,11nm,0.9s						
KNB	**Kanab**	**82.46**	**47**	P	**P**	**22 07 33.7**	**+0.7**
KNB				IAmb	IAmb	22 07 35.1	
	comp=Z,6.2nm,0.9s						
PSUT	**Pine Spring**	**82.49**	**46**	P	**P**	**22 07 33.1**	**-0.1**
PSUT				IAmb	IAmb	22 07 34.7	
	comp=Z,5.5nm,0.7s						
U15A	**North Rim**	**82.55**	**48**	P	**P**	**22 07 34.8**	**+1.1**
U15A				IAmb	IAmb	22 07 35.8	
	comp=Z,11nm,0.8s						
SZCU	**Shurtz Canyon**	**82.56**	**47**	P	**P**	**22 07 32.8**	**-0.8**
PMR	**Palmer**	**82.63**	**14**		**P**	**22 07 32.0**	**-1.0**
PMR				IAmb	IAmb	22 07 32.7	
	comp=Z,4.6nm,0.6s						
ELK	**Elko**	**82.69**	**43**		**P**	**22 07 33.4**	**-0.8**
WUAZ	**Wupatki**	**82.78**	**49**	P	**P**	**22 07 35.3**	**+0.6**
WUAZ				IAmb	IAmb	22 07 37.3	
	comp=Z,8.7nm,1.1s						
GHO	**Glory Hole Cre**	**82.83**	**14**	P	**P**	**22 07 33.3**	**-0.9**
G08A	**Pilot Rock**	**82.84**	**38**		**P**	**22 07 34.7**	**0.0**
G08A				IAmb	IAmb	22 07 36.1	
	comp=Z,5.2nm,0.7s						
DIV	**Divide**	**83.02**	**15**	P	**P**	**22 07 34.1**	**-1.1**
DIV				IAmb	IAmb	22 07 35.4	
	comp=Z,6.7nm,0.8s						
HAWA	**Hanford**	**83.14**	**37**	P	**P**	**22 07 35.6**	**-0.3**
HAWA				IAmb	IAmb	22 07 37.5	
	comp=Z,8.5nm,0.8s						
K20K	**Telida**	**83.23**	**11**		**P**	**22 07 35.8**	**-0.3**
K20K				IAmb	IAmb	22 07 36.6	
	comp=Z,6.6nm,0.8s						
SCM	**Sheep Creek Mo**	**83.25**	**14**	P	**P**	**22 07 35.8**	**-0.6**
CAST	**Castle Rocks**	**83.65**	**12**	P	**P**	**22 07 36.6**	**-1.5**
CAST				IAmb	IAmb	22 07 37.7	
	comp=Z,7.4nm,0.7s						
VRDI	**Verde Repeater**	**83.70**	**16**	P	**P**	**22 07 38.1**	**-0.6**
MFID	**Camas Ranch**	**83.71**	**41**		**P**	**22 07 39.0**	**0.0**
N25K	**Chitina, Valde**	**83.73**	**16**	P	**P**	**22 07 38.4**	**-0.3**
N25K				IAmb	IAmb	22 07 39.2	
	comp=Z,8.4nm,0.8s						
LYN	**LuoYang**	**83.81**	**309**	P	**P**	**22 07 40.6**	**+1.0**
LYN				pmax	pmax		
	comp=Z,27nm,0.9s						
RPSI	**Rantau Prapat**	**83.82**	**275**		**P**	**22 07 38.8**	**-1.3**
MAW	**Mawson**	**83.83**	**200**	P	**P**	**22 07 39.0**	**-0.1**
	comp=Z,3.6nm,0.7s,baz=141,slow=5.2,SNR=18 comp=Z,3.6nm,0.7s						
D08A	**Wollman Farm,**	**83.86**	**36**		**P**	**22 07 40.0**	**+0.5**
D08A				IAmb	IAmb	22 07 41.0	
	comp=Z

MMPY					IAmb	IAmb	22 08 02.1		
	comp=Z,4.7nm,0.9s								
DRIO	**Del Rio**	**88.53**	**59**			**P**	**22 08 02.8**	**+0.6**	
OZNA	**Ozona**	**88.67**	**57**			**P**	**22 08 03.6**	**+0.8**	
CMAR	**Chiang Mai Arr**	**88.86**	**290**	P		**P**	**22 08 05.2**	**+1.2**	
	comp=Z,4.4nm,1.0s,baz=111,slow=2.7,SNR=14								
	comp=Z,4.4nm,1.0s								
PZH	**PanZhiHua**	**89.14**	**298**	P		**P**	**22 08 06.5**	**+1.3**	
TROLL	**Troll, Antarti**	**90.29**	**180**	⇑P		**P**	**22 08 09.0**	**-0.7**	
	comp=Z,211nm,0.6s								
SNAA	**Sanae**	**90.58**	**179**	⇑P		**P**	**22 08 10.1**	**-1.0**	
	comp=Z,35nm,0.5s								
SNAA	**Sanae**	**90.58**	**179**	P		**P**	**22 08 10.0**	**-1.0**	
SNAA					IAmb	IAmb	22 08 10.8		
	comp=Z,5.5nm,1.4s								
SNAA	**Sanae**	**90.58**	**179**	P		**P**	**22 08 10.2**	**-0.8**	
	comp=Z,1.3nm,0.6s,baz=204,slow=8.7,SNR=16								
	comp=Z,1.3nm,0.6s								
VNA3	**Neumayer Olymp**	**90.72**	**176**	⇑P		**P**	**22 08 11.1**	**-0.5**	
	comp=Z,6.6nm,0.6s								
LZH	**Lanzhou**	**90.88**	**308**	*e*P		**P**	**22 08 14.5**	**+1.4**	
LZH					pmax	pmax			
	comp=Z,13nm,1.0s								
VNA1	**Neumayer--Stat**	**91.39**	**177**	⇑P		**P**	**22 08 14.7**	**0.0**	
	comp=Z,7.3nm,0.9s								
SONM	**Songino Array**	**93.54**	**319**	P		**P**	**22 08 24.0**	**-1.1**	
	comp=Z,0.7nm,0.6s,baz=107,slow=4.8,SNR=2.0								
	comp=Z,0.7nm,0.6s								
MKAR	**Makanchi Array**	**109.12**	**314**	PKiKP		**PKiKP**	**22 13 33.2**	**-1.6**	
	comp=Z,0.7nm,0.5s,baz=112,slow=0.7,SNR=15								
KURBB	**Kurchatov Arra**	**111.87**	**318**	PKiKP		**PKiKP**	**22 13 38.3**	**-1.5**	
	comp=Z,0.8nm,0.6s,baz=96,slow=1.6,SNR=7.7								
BVAR	**Borovoye Array**	**116.84**	**321**	PKP		**PKPdf**	**22 13 48.0**	**-1.3**	
	comp=Z,2.2nm,0.4s,baz=121,slow=2.1,SNR=16								
ARCES	**ARCESS Array B**	**126.33**	**350**	PKP		**PKPdf**	**22 14 05.9**	**-1.2**	
	comp=Z,0.4nm,0.5s,baz=45,slow=0.7,SNR=4.0								
FINES	**FINESS Array B**	**133.20**	**344**	PKhKP	PKPpre		22 14 15.7		
	comp=Z,0.3nm,0.3s,baz=115,slow=2.2,SNR=7.7								
HFS	**Hagfors**	**136.94**	**351**	PKhKP	PKPpre		22 14 17.4		
	comp=Z,5.8nm,1.1s,baz=49,slow=3.0,SNR=11								
AKASG	**Malin Array Be**	**140.56**	**332**	PKhKP	PKPpre		22 14 24.6		
	comp=Z,0.4nm,0.3s,baz=46,slow=4.1,SNR=4.3								
SORM	**Soroca**	**142.79**	**330**	⇑P		**PKPdf**	**22 14 35.2**	**-3.0**	
GAZ	**Gaziantep**	**143.32**	**309**			PKPbc	22 14 38.4	+0.2	
MILM	**Milestii Mici**	**143.41**	**328**	⇓P		PKPab	22 14 35.9	-2.0	
BNN	**Bunyan**	**143.64**	**312**			PKPab	22 14 39.0	-0.2	
LODK	**Lodwar**	**143.89**	**250**			PKPbc	22 14 39.6	-1.0	
VASR	**Vaslui**	**144.11**	**329**	⇓P		PKPbc	22 14 40.4	+0.1	
VLDR	**Vladesti**	**144.51**	**327**	⇑P		**PKPab**	**22 14 42.0**	**-0.1**	
TLCR		**144.57**	**326**	⇓P		PKPbc	22 14 42.0	+0.3	
BUR08	**Bucovina Ar. S**	**144.60**	**332**			**PKPdf**	**22 14 41.6**	**0.0**	
BURAR	**Bucovina Array**	**144.62**	**332**	⇑P		**PKPab**	**22 14 42.6**	**0.0**	
GHRR		**144.70**	**328**	⇑P		**PKPab**	**22 14 43.0**	**+0.2**	
TESR	**Tescani**	**144.76**	**330**	⇓P		**PKPdf**	**22 14 42.0**	**+0.3**	
BR131	**Keskin Array S**	**144.77**	**315**			**PKPdf**	**22 14 41.8**	**-0.3**	
BRTR	**Keskin Array B**	**144.77**	**315**	PKP		**PKPdf**	**22 14 42.0**	**-0.2**	
	comp=Z,2.7nm,0.4s,baz=104,slow=2.9,SNR=24								
STHS	**Stebnicka Huta**	**144.79**	**338**	*e*PKP		**PKPdf**	**22 14 42.0**	**+0.2**	
KOLS	**Kolonicke sedl**	**144.81**	**336**	*e*PKP		PKPbc	22 14 42.5	+0.1	
KIRS	**Kirsehir-Merke**	**144.86**	**314**	⇑P		PKPbc	22 14 42.8	-0.2	
CFR	**Carcaliu**	**144.93**	**327**	⇑P		PKPbc	22 14 42.7	-0.1	
TPGR	**Topolog**	**145.00**	**326**	⇓P		**PKPdf**	**22 14 41.1**	**-1.2**	
ONER	**Baraj Valea Uz**	**145.01**	**330**	⇑P		**PKPab**	**22 14 43.8**	**-0.3**	
ODBI	**Odobesti**	**145.09**	**328**	⇑P		**PKPbc**	**22 14 43.7**	**+0.4**	
KSP	**Ksiaz**	**145.12**	**344**	*e*P		**PKPbc**	**22 14 43.4**	**+0.2**	
NIE	**Niedzica**	**145.13**	**338**	*e*P		**PKPbc**	**22 14 43.6**	**+0.2**	
VRI	**Vrincioaia**	**145.18**	**329**	⇑P		**PKPbc**	**22 14 43.4**	**-0.1**	
PLOR	**Plostina**	**145.23**	**329**	⇓P		**PKPbc**	**22 14 43.8**	**+0.1**	
HARR	**Harsova**	**145.37**	**326**	⇑P		**PKPbc**	**22 14 44.2**	**+0.1**	
OSTC	**Ostas**	**145.40**	**343**	*e*PKP		**PKPbc**	**22 14 44.8**	**+0.7**	
ARCR	**ARCALIA**	**145.40**	**332**	⇑P		**PKPbc**	**22 14 44.7**	**+0.5**	
CLL	**Collm**	**145.47**	**347**	*i* PKPbc		**PKPbc**	**22 14 43.8**	**-0.4**	
	comp=Z,5.0nm,0.8s								
STEB	**Steborice**	**145.51**	**341**	*e*PKP		**PKPbc**	**22 14 44.3**	**-0.1**	
DPC	**Dobruska-Polom**	**145.56**	**343**	*e*PKP		**PKPbc**	**22 14 44.7**	**+0.1**	
LANS	**Liptovska Anna**	**145.65**	**339**	*e*PKP		**PKPbc**	**22 14 45.7**	**+0.9**	
BRG	**Berggiesshubel**	**145.68**	**346**	*e*PKP		**PKPbc**	**22 14 44.9**	**+0.1**	
BRG					Amp		22 14 45.2		
	comp=Z,2.4nm,0.8s								
KRLC	**Kraliky**	**145.68**	**343**	*e*PKP		**PKPbc**	**22 14 44.7**	**-0.2**	
MORC	**Moravsky Berou**	**145.72**	**342**	*e*PKP		**PKPbc**	**22 14 44.8**	**-0.2**	
MORC	**Moravsky Berou**	**145.72**	**342**	⇓P		**PKPbc**	**22 14 45.5**	**+0.4**	
DOPR	**Dopca**	**145.76**	**330**	⇑P		**PKPbc**	**22 14 45.8**	**+0.5**	
ISR	**Istrita**	**145.79**	**328**	⇓P		**PKPbc**	**22 14 45.9**	**+0.5**	
MLR	**Muntele Rosu**	**145.83**	**329**			**PKPdf**	**22 14 43.8**	**0.0**	
MLR	**Muntele Rosu**	**145.83**	**329**	⇓P		**PKPbc**	**22 14 45.8**	**+0.2**	
MAUC	**Maruska**	**145.99**	**341**	*e*PKP		**PKPbc**	**22 14 46.0**	**+0.2**	
CJR	**Cluj-Napoca**	**146.02**	**332**	⇑P		**PKPbc**	**22 14 46.3**	**+0.3**	
MMAI	**Mount Meron Ar**	**146.13**	**303**	PKPbc		**PKPbc**	**22 14 46.9**	**+0.1**	
	comp=Z,5.3nm,0.5s,baz=68,slow=4.9,SNR=18								
MARR	**Marisel-Cluj**	**146.26**	**333**	⇑P		**PKPbc**	**22 14 46.7**	**0.0**	
VOIR		**146.31**	**330**	⇑P		**PKPbc**	**22 14 47.2**	**+0.4**	
DRUR		**146.34**	**333**	⇑P		**PKPbc**	**22 14 46.9**	**0.0**	
PRU	**Pruhonice**	**146.35**	**345**	*e*PKP		**PKPbc**	**22 14 46.7**	**0.0**	
VRAC	**Vranov**	**146.42**	**342**	*e*PKP		**PKiKP**	**22 14 48.5**	**-0.6**	
VRAC	**Vranov**	**146.42**	**342**	⇑P		**PKPdf**	**22 14 43.5**	**-0.9**	
JAVC	**Velka Javorina**	**146.49**	**341**	*e*PKP		**PKPbc**	**22 14 48.0**	**+0.8**	
ARR	**Arges**	**146.56**	**330**	⇑P		**PKPbc**	**22 14 48.5**	**+1.0**	
KRUC	**Moravsky**	**146.70**	**342**	*e*PKP		**PKPbc**	**22 14 47.6**	**-0.1**	
SIRR	**Siria**	**147.20**	**334**	⇓P		**PKPbc**	**22 14 49.0**	**-0.1**	
KHC	**Kasperske Hory**	**147.38**	**345**	*e*PKP		**PKPbc**	**22 14 49.5**	**-0.1**	
GZR	**Gura Zlata**	**147.40**	**332**	⇓P		**PKPbc**	**22 14 49.2**	**-0.6**	
SURR	**Surduc**	**147.41**	**333**	⇑P		**PKPbc**	**22 14 49.4**	**-0.3**	
CKRC	**Cesky Krumlov**	**147.49**	**344**	*e*PKP		**PKPbc**	**22 14 49.7**	**-0.1**	
GERES	**GERESS Array B**	**147.62**	**345**	PKPbc		**PKPbc**	**22 14 50.0**	**-0.3**	
	comp=Z,1.8nm,0.4s,baz=24,slow=3.2,SNR=26								
BZS	**Buzias**	**147.74**	**333**	⇑P		**PKPbc**	**22 14 50.3**	**-0.2**	
CONA	**Conrad Observa**	**147.87**	**342**	*i* PKP		**PKPbc**	**22 14 50.9**	**0.0**	
	comp=Z,1.9nm,0.6s								
RONA	**Rosalia, Austr**	**147.94**	**341**	*i* PKP		**PKPbc**	**22 14 51.0**	**0.0**	
	comp=Z,2.6nm,0.9s								
HERR	**Herculane**	**147.96**	**332**	⇑P		**PKPbc**	**22 14 50.8**	**-0.3**	
MDVR	**Moldovita**	**148.35**	**332**	⇓P		**PKPbc**	**22 14 51.4**	**-0.7**	
MORH	**Mrgy, Hungar**	**148.44**	**337**	⇑P		**PKPbc**	**22 14 51.9**	**-0.3**	
RDO	**Rodhopi**	**149.03**	**323**			**PKPbc**	**22 14 53.2**	**-0.6**	
TAVA	**DENIZLI_Tavas**	**149.11**	**315**	⇓P		**PKPbc**	**22 14 54.1**	**-0.1**	
WATA	**Walderalm**	**149.53**	**347**	*i* PKP		**PKPbc**	**22 14 54.4**	**-0.7**	
	comp=Z,2.3nm,0.7s								
WTTA	**Wattenberg**	**149.59**	**346**	*e*PKP		**PKPbc**	**22 14 54.7**	**-0.5**	
	comp=Z,5.3nm,0.6s								
MOTA	**Moosalm**	**149.63**	**347**	*i* PKP		**PKPbc**	**22 14 54.8**	**-0.5**	
	comp=Z,2.6nm,1.0s								
MYKA	**Terra Mystica**	**149.68**	**343**	*e*PKP		**PKPbc**	**22 14 54.4**	**-1.0**	
	comp=Z,2.1nm,0.5s								
SQTA	**Sankt Quirin**	**149.72**	**347**	*e*PKP		**PKPbc**	**22 14 55.0**	**-0.5**	
	comp=Z,3.1nm,0.6s								
ABTA	**Abfaltersbach**	**149.87**	**345**	*i* PKP		**PKPbc**	**22 14 54.8**	**-0.9**	
	comp=Z,5.0nm,0.7s								
FETA	**Feichten**	**150.01**	**347**	*i* PKP		**PKPbc**	**22 14 56.0**	**-0.2**	
	comp=Z,2.5nm,0.7s								
BLY	**Banja Luka**	**150.22**	**337**	⇑P		**PKPbc**	**22 14 56.5**	**0.0**	
FUORN	**Ofenpass-Fuorn**	**150.49**	**348**	PKPbc		**PKPbc**	**22 14 57.3**	**-0.1**	
PDG	**Podgorica**	**151.30**	**332**	⇑P		**PKPbc**	**22 14 58.5**	**-0.6**	

*IDC **21** 21:56:39.1±2.2,25.°60N×141.°32E,h0km,mb3.9/8, mbtmp3.9/8,MS3.8/2,Error ellipse: s-maj=50.6km s-min=24.2km az=159.0*
*JMA **21** 21:56:40.8±0.2,25.°5N±0.°3×14.°1E±.°,h40km,MV3.9/4, IOTO ISLANDS REGION*
*NEIC **21** 21:56:44.3±1.3,25.°77N±0.°08×141.°28E±0.°03,h10km±2km, mb4.4/24,Error ellipse: s-maj=13.9km s-min=4.1km az=194.0*

ISC 21 21:56:45.3±1.4,25.°7N±0.°2×141.°1E±0.°1,h35km,n48, σ1°31/25,mb4.3/20,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.34**	**45**	P	**Pn**	**21 57 06.5**	**-1.0**
JHH2				S	**Sn**	**21 57 25.4**	**+1.4**
JCJ	**Chichijima**	**1.70**	**34**		**Pn**	**21 57 11.1**	**-1.3**
JCJ				Sn	**Sn**	**21 57 32.7**	**-0.3**
JCJ	**Chichijima**	**1.70**	**34**	Pn	**Pn**	**21 57 09.6**	**-2.9**
JCJ				Sn	**Sn**	**21 57 32.3**	**-0.7**
CBIJ	**Chichi jima**	**1.70**	**34**	P	**Pn**	**21 57 11.8**	**-0.6**
CBIJ				S	**Sn**	**21 57 34.9**	**+1.9**
KSRS	**Korea Array**	**16.23**	**319**	Pn	P	22 00 37.4	+4.0
	0.2nm,0.3s,baz=134,slow=11,SNR=28						
KSAR	**Wonju Array Be**	**16.24**	**319**	Pn	**P**	**22 00 33.6**	**+0.1**
KS19	**Wonju Array Si**	**16.29**	**319**	P	**P**	**22 00 35.3**	**+1.2**
H11N2	**WAKE ISLAND Hy**	**24.49**	**99**	T	T	22 27 09.6	
	baz=288,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy**	**24.49**	**99**	T	T	22 27 17.0	
	baz=288,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**24.50**	**99**	T	T	22 27 18.0	
	baz=288,slow=75,SNR=23						
H11S3	**WAKE ISLAND Hy**	**24.72**	**102**	T	T	22 27 31.5	
	baz=291,slow=75,SNR=101						
H11S1	**WAKE ISLAND Hy**	**24.73**	**102**	T	T	22 27 31.9	
	baz=291,slow=75,SNR=82						
H11S2	**WAKE ISLAND Hy**	**24.74**	**102**	T	T	22 27 31.5	
	baz=291,slow=75,SNR=93						
ULN	**Ulaanbaatar**	**34.71**	**319**	P	P	22 03 34.2	+2.2
ULN					IAmb	IAmb	22 03 36.2		
	comp=Z,5.6nm,1.1s								
SONM	**Songino Array**	**35.09**	**318**	P	P	22 03 37.1	+1.8
SONM	**Songino Array**	**35.09**	**318**	P	P	22 03 36.8	+1.6
	comp=Z,1.4nm,0.8s,baz=112,slow=6.7,SNR=4.0								
	comp=Z,1.4nm,0.8s								
ATKA	**Atka Island**	**42.73**	**40**	P	**P**	**22 04 39.3**	**+0.4**	
MKAR	**Makanchi Array**	**50.64**	**311**	P	P	22 05 42.4	+1.3	
MKAR	**Makanchi Array**	**50.64**	**311**	P	**P**	**22 05 41.5**	**+0.5**	
	comp=Z,1.0nm,1.0s,baz=95,slow=9.9,SNR=5.4								
	comp=Z,1.0nm,1.0s								
KURK	**Kurchatov**	**53.30**	**315**	P	P	22 06 03.0	+2.3	
KURBB	**Kurchatov Arra**	**53.35**	**315**	P	**P**	**22 06 01.6**	**+0.6**	
	comp=Z,1.4nm,0.9s,baz=94,slow=7.8,SNR=13								
	comp=Z,1.4nm,0.9s								
STKA	**Stephens Creek**	**57.24**	**180**	LR	LR	22 31 20.8			
	comp=Z,114nm,18.7s,baz=229,slow=36								
BVAR	**Borovoye Array**	**58.44**	**318**	P	**P**	**22 06 37.7**	**+0.2**	
	comp=Z,0.9nm,0.6s,baz=79,slow=9.2,SNR=4.8								
	comp=Z,0.9nm,0.6s								
NEA2	**Nenana**	**58.45**	**28**	P	P	22 06 39.5	+2.1	
D23K	**Nanushuk River**	**58.47**	**23**	P	P	22 06 39.5	+2.1	
D23K					IAmb	IAmb	22 06 56.6		
	comp=Z,5.4nm,1.3s								
ILAR	**Eielson Array**	**59.40**	**28**	P	**P**	**22 06 43.9**	**-0.1**	
	comp=Z,1.6nm,1.0s,baz=265,slow=6.6,SNR=10								
	comp=Z,1.6nm,1.0s								
SCRK	**Sand Creek**	**60.62**	**29**		**P**	**22 06 53.8**	**+1.3**	
SCRK					IAmb	IAmb	22 06 54.4		
	comp=Z,2.7nm,0.9s								
F26K	**Sheenjek River**	**60.72**	**25**	P	P	22 06 54.8	+1.8	
F26K					IAmb	IAmb	22 06 59.9		
	comp=Z,3.6nm,1.2s								
J26L	**Joseph Creek**	**60.81**	**29**	P	**P**	**22 06 55.1**	**+1.3**	
J26L					IAmb	IAmb	22 06 55.5		
	comp=Z,3.0nm,0.9s								
SIMJ	**Simiganj**	**60.97**	**302**	P	P	22 06 57.6	+2.2	
SIMJ					IAmb	IAmb	22 06 58.7		
	comp=Z,3.8nm,0.9s								
H27K	**Steamboat Moun**	**61.69**	**27**	P	P	22 07 01.8	+2.2	
H27K					IAmb	IAmb	22 07 02.9		
	comp=Z,5.9nm,1.5s								
E27K	**Coleen River**	**61.70**	**24**	P	P	22 07 01.6	+2.0	
E27K					IAmb	IAmb	22 07 07.6		
	comp=Z,6.0nm,1.4s								
D27M	**Malcolm River**	**61.96**	**23**	P	P	22 07 03.1	+1.7	
F28M	**Old Crow**	**62.35**	**25**	P	P	22 07 06.2	+2.3	
F28M					IAmb	IAmb	22 07 16.4		
	comp=Z,2.4nm,0.9s								
I28M	**Miner Creek**	**62.36**	**28**	P	P	22 07 06.0	+1.8	
M29M	**Somme Creek**	**63.16**	**31**	P	P	22 07 11.6	+2.0	
M29M					IAmb	IAmb	22 07 12.7		
	comp=Z,3.3nm,1.1s								
I30M	**Mount Dempster**	**63.86**	**28**	P	**P**	**22 07 15.7**	**+1.6**	
I30M					IAmb	IAmb	22 07 16.0		
	comp=Z,3.1nm,1.1s								
F30M	**Barrier River**	**63.91**	**25**	P	**P**	**22 07 15.7**	**+1.4**	
M30M	**Minto, Yukon**	**63.92**	**31**	P	P	22 07 16.9	+2.4	
J30M	**Hart River**	**63.94**	**28**	P	P	22 07 16.4	+1.7	
J30M					IAmb	IAmb	22 07 34.9		
	comp=Z,2.9nm,1.2s								
G31M	**Satah River**	**64.56**	**26**	P	**P**	**22 07 19.6**	**+1.2**	
H31M	**Peel River**	**64.65**	**27**	P	P	22 07 21.2	+2.0	
U33K	**Whale Pass**	**66.77**	**37**	P	**P**	**22 07 34.4**	**+1.5**	
YKA	**Yellowknife Ar**	**73.83**	**28**	P	**P**	**22 08 15.0**	**-1.0**	
	comp=Z,1.0nm,0.7s,baz=299,slow=7.3,SNR=2.9								
	comp=Z,1.0nm,0.7s								
FINES	**FINESS Array B**	**78.78**	**334**	P	**P**	**22 08 42.2**	**-1.9**	
FINES	**FINESS Array B**	**78.78**	**334**	P	**P**	**22 08 43.0**	**-1.2**	
	comp=Z,0.8nm,0.5s,baz=79,slow=4.1,SNR=11								
	comp=Z,0.8nm,0.5s								
PDAR	**Pinedale Array**	**85.88**	**44**	P	**P**	**22 09 21.1**	**-0.9**	
	comp=Z,0.6nm,0.8s,baz=310,slow=9.2,SNR=4.1								
	comp=Z,0.6nm,0.8s								
MMAI	**Mount Meron Ar**	**88.37**	**306**	LR	LR	22 54 38.0			
	comp=Z,31nm,18.5s,baz=136,slow=39								

IDC 21 22:03:02.0±1.6,20.°94N×121.°13E,h0km,mb3.6/5, mbtmp3.7/5,MS3.3/3,Error ellipse: s-maj=63.3km s-min=22.1km az=58.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**14.91**	**34**	LR	LR	22 12 42.2	
	comp=Z,90nm,18.2s,baz=214,slow=39						
CMAR	**Chiang Mai Arr**	**21.03**	**267**	P	P	22 07 47.5	-0.1
	0.6nm,0.3s,baz=72,slow=9.7,SNR=4.3						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**40.68**	**319**	P	P	22 10 44.9	+0.7
	0.4nm,0.6s,baz=118,slow=8.3,SNR=4.7						
	0.4nm,0.6s						
YAK	**Yakutsk**	**41.49**	**6**	LR	LR	22 28 06.9	
	comp=Z,43nm,19.5s,baz=231,slow=36						
WRA	**Warramunga Arr**	**42.63**	**161**	P	P	22 11 00.2	-0.1
	1.0nm,0.7s,baz=343,slow=9.1,SNR=4.9						
	1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**44.59**	**322**	P	P	22 11 15.1	-0.8
	1.2nm,0.7s,baz=125,slow=7.4,SNR=12						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**46.05**	**164**	P	P	22 11 27.6	-0.1
	1.2nm,1.1s,baz=344,slow=8.7,SNR=4.4						
	1.2nm,1.1s						
SHEM	**Shemya Is, Ala**	**51.36**	**38**	LR	LR	22 33 37.5	
	comp=Z,35nm,21.9s,baz=186,slow=36						

*IDC **21** 22:12:42.9±4.6,20.°39S×169.°57E,h69km±37km, mb4.2/9, mbtmp4.5/10,ML4.6/1,MS3.4/5,Error ellipse: s-maj=29.7km s-min=25.8km az=70.0*
*NEIC **21** 22:12:48.0±1.9,20.°5S±0.°1×169.°38E±0.°09,h97km±7km, mb4.8/24,Error ellipse: s-maj=15.4km s-min=11.3km az=150.0*
*NOU **21** 22:12:48.7,20.°28S×169.°09E,h74km,mb5.1/23,Vanuatu Islands*

ISC 21 22:12:47.8±0.5,20.°41S±0.°05×169.°35E±0.°07,h100km, n101,σ1°66/98,mb4.7/28,4C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INH	**Isangel**	**0.86**	**355**	P	**Pn**	**22 13 03.4**	**-3.4**
PINNC	**Pines Island,**	**2.82**	**219**		**Pn**	**22 13 29.5**	**-1.7**
PINNC				Sn	**Sn**	**22 14 02.4**	**-2.2**
PINNC	**Pines Island,**	**2.82**	**219**	P	**Pn**	**22 13 29.6**	**-1.5**
PINNC	**Pines Island,**	**2.82**	**219**	S	**Sn**	**22 14 02.3**	**-2.2**
OUENC	**Ouen Island, N**	**3.08**	**229**	P	**Pn**	**22 13 33.8**	**-0.8**
OUENC	**Ouen Island, N**	**3.08**	**229**	S	**Sn**	**22 14 10.1**	**-0.5**
DZM	**Mont Dzumac**	**3.18**	**238**		**Pn**	**22 13 34.9**	**-1.1**
DZM				Sn	**Sn**	**22 14 10.6**	**-2.6**
DZM	**Mont Dzumac**	**3.18**	**238**	*e*Pn	**Pn**	**22 13 33.7**	**-2.3**
	402nm,0.7s						
DZM				*e*Sn	**Sn**	**22 14 10.1**	**-3.1**
	2µm,1.1s						
DZM	**Mont Dzumac**	**3.18**	**238**	P	**Pn**	**22 13 34.8**	**-1.1**
	66nm,0.3s,baz=103,slow=11,SNR=817						
DZM				S	**Sn**	**22 14 11.8**	**-1.4**
	1µm,0.4s,baz=124,slow=22,SNR=22						
	169nm,0.3s						
DZM	**Mont Dzumac**	**3.18**	**238**	P	**Pn**	**22 13 34.9**	**-1.1**
DZM	**Mont Dzumac**	**3.18**	**238**	S	**Sn**	**22 14 10.3**	**-2.9**
ONTNC	**Ouen Toro**	**3.30**	**234**		**Pn**	**22 13 37.0**	**-0.5**
ONTNC				Sn	**Sn**	**22 14 15.4**	**-0.4**
ONTNC	**Ouen Toro**	**3.30**	**234**	P	**Pn**	**22 13 37.2**	**-0.3**
ONTNC	**Ouen Toro**	**3.30**	**234**	S	**Sn**	**22 14 15.1**	**-0.8**
VLAKA	**Lakatoro**	**4.65**	**337**	P	**Pn**	**22 13 54.0**	**-1.9**
VLAKA	**Lakatoro**	**4.65**	**337**	S	**Sn**	**22 14 45.4**	**-3.3**
MSVF	**Nonsavu**	**8.65**	**74**		**Pn**	**22 14 50.1**	**-0.1**
MSVF	**Nonsavu**	**8.65**	**74**	P	Pn	22 14 55.4	+5.2
DGTI	**Dogotuki**	**10.67**	**69**	P	**Pn**	**22 15 21.8**	**+4.1**
HNR	**Honiara**	**14.19**	**319**	Pn	**Pn**	**22 16 05.8**	**+1.5**
HNR	**Honiara**	**14.19**	**319**	LR	LR	22 20 56.0	
	comp=Z,59nm,18.2s,baz=166,slow=34						
EIDS	**Eidsvold**	**17.54**	**250**		**Pn**	**22 16 45.8**	**-0.2**
ARMA	**Armidale**	**18.83**	**235**		**Pn**	**22 17 00.1**	**-1.5**
ARMA	**Armidale**	**18.83**	**235**	P	**Pn**	**22 17 02.8**	**+1.2**

MSWZ	**Moikau Station**	**21.53**	**168**		P	**P**	**22 17 28.9**	**+0.1**	
CAN	**Canberra**	**23.27**	**226**		P	**P**	**22 17 46.9**	**+0.2**	
MTSU	**Mount Surprise**	**23.73**	**271**		P	**P**	**22 17 52.7**	**+1.7**	
QLP	**Quilpie**	**23.82**	**250**		P	**P**	**22 17 52.9**	**+1.2**	
CMSA	**Cobar Meteorol**	**23.93**	**238**		P	**P**	**22 17 54.1**	**+1.4**	
COEN	**Coen**	**25.80**	**280**			**P**	**22 18 10.5**	**+0.8**	
COEN					IAmb	IAmb	22 18 12.1		
	comp=Z,36nm,1.4s								
COEN	**Coen**	**25.80**	**280**		P	**P**	**22 18 11.7**	**+2.0**	
TOO	**Toolangi**	**26.86**	**225**		P	**P**	**22 18 19.9**	**+0.7**	
STKA	**Stephens Creek**	**27.33**	**240**		P	**P**	**22 18 24.5**	**+1.1**	
STKA					IAmb	IAmb	22 18 28.2		
	comp=Z,103nm,1.5s								
STKA	**Stephens Creek**	**27.33**	**240**		P	**P**	**22 18 23.2**	**-0.1**	
	comp=Z,4.4nm,0.8s,baz=48,slow=10,SNR=5.0								
	comp=Z,4.4nm,0.8s								
RAR	**Rarotonga**	**28.85**	**97**	LR		LR	22 28 41.1		
	comp=Z,16nm,20.4s,baz=312,slow=33								
BBOO	**Buckleboo**	**32.09**	**240**		P	**P**	**22 19 06.2**	**+0.7**	
WR8	**Warramunga Arr**	**32.68**	**265**			**P**	**22 19 10.2**	**-0.5**	
WR8					IAmb	IAmb	22 19 36.0		
	comp=Z,25nm,1.5s								
WB0	**Warramunga Arr**	**32.80**	**265**		P	**P**	**22 19 11.0**	**-0.8**	
WB0					IAmb	IAmb	22 19 11.9		
	comp=Z,11nm,0.9s								
WRAB	**Tennant Creek**	**32.82**	**265**		P	**P**	**22 19 11.6**	**-0.4**	
WRAB					IAmb	IAmb	22 19 44.9		
	comp=Z,17nm,1.4s								
WRA	**Warramunga Arr**	**32.83**	**265**		P	**P**	**22 19 10.9**	**-1.2**	
WRA	**Warramunga Arr**	**32.83**	**265**		P	**P**	**22 19 11.3**	**-0.8**	
	comp=Z,4.9nm,0.6s,baz=97,slow=8.5,SNR=58								
	comp=Z,4.9nm,0.6s								
AS01	**Alice Springs**	**32.92**	**258**		P	**P**	**22 19 13.2**	**+0.3**	
AS31	**Alice Springs**	**32.96**	**258**		P	**P**	**22 19 12.1**	**-1

IDC ***21*** *22:23:37.8±1.5,41°.62N×75°.91E,h0km,mb3.7/3, mbtmp3.7/9,ML3.3/6,Error ellipse: s-maj=17.7km s-min=12.1km az=6.0*

KRNET ***21*** *22:23:40.3±0.1,41°.92N×76°.17E,h17km,mb4.2*

SOME ***21*** *22:23:40.6,41°.93N×76°.17E,h10km*

NNC ***21*** *22:23:41.4±0.7,41°.96N×76°.16E,h0km,mb4.5,mpv4.3, Error ellipse: s-maj=4.9km s-min=2.3km az=159.0*

MOS ***21*** *22:23:41.7±0.8,41°.94N×76°.13E,h16km,mb4.1/3,Error ellipse: s-maj=6.8km s-min=5.4km az=81.9*

KNET ***21*** *22:23:42.3±0.5,42°.02N×76°.07E,h8km±3km,ml3.7,Error ellipse: s-maj=3.7km s-min=2.6km az=143.0*

ISC 21 22:23:40.7±1.1,41°.93N±0°.02×76°.16E±0°.02,h1km±8km, n113,σ1§27/179,mb3.6/4,52C-35D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.32**	**11**	⇓P	**Pg**	**22 23 47.2**	**+0.2**
	1μm,0.1s,SNR=4792						
ULHL				⇓S	**Sg**	**22 23 51.2**	**0.0**
	20μm,0.2s						
ULHL	**Ulahol**	**0.32**	**11**	⇑*i*P	**Pg**	**22 23 47.1**	**+0.2**
ULHL				⇑*i*S	**Sg**	**22 23 51.5**	**+0.3**
ULHL	**Ulahol**	**0.32**	**11**	*i* PG	**Pg**	**22 23 47.1**	**+0.2**
NRN	**Naryn**	**0.51**	**193**	⇑*i*P	**Pg**	**22 23 50.5**	**+0.1**
NRN				⇑*i*S	**Sg**	**22 23 57.5**	**+0.5**
NRN	**Naryn**	**0.51**	**193**	*i* PG	**Pg**	**22 23 50.5**	**+0.1**
NRN				*i* S	**Sg**	**22 23 57.5**	**+0.5**
BOOM	**Boomskoye usch**	**0.58**	**344**	⇑*i*P	**Pg**	**22 23 51.9**	**0.0**
BOOM				⇑*i*S	**Sg**	**22 24 00.2**	**+0.7**
BOOM	**Boomskoye usch**	**0.58**	**344**	*i* PG	**Pg**	**22 23 51.9**	**0.0**
BOOM				*i* S	**Sg**	**22 24 00.2**	**+0.7**
KDJ	**Kajisay**	**0.79**	**75**	§*e*P	**Pg**	**22 23 55.1**	**-0.7**
KDJ				§*e*S	**Sg**	**22 24 05.6**	**-0.5**
TKM2	**Tokmak 2**	**1.08**	**338**	⇑P	**Pg**	**22 24 01.1**	**-0.2**
	252nm,0.1s,SNR=1478						
TKM2				⇓S	**Sg**	**22 24 15.8**	**+0.5**
	2μm,0.1s						
TKM2	**Tokmak 2**	**1.08**	**338**	⇑*i*P	**Pg**	**22 24 00.6**	**-0.7**
TKM2				⇑*i*S	**Sg**	**22 24 15.4**	**+0.1**
TKM2	**Tokmak 2**	**1.08**	**338**	*e*PG	**Pg**	**22 24 00.6**	**-0.7**
KST	**Kastek**	**1.12**	**353**	P	**Pg**	**22 24 02.1**	**-0.2**
	331nm,0.3s						
KST				S	**Sg**	**22 24 17.4**	**+0.6**
	1μm,0.3s						
KST	**Kastek**	**1.12**	**353**	*e*P	**Pg**	**22 24 02.1**	**-0.2**
	331nm,0.3s						
KST				*e*S	**Sg**	**22 24 17.4**	**+0.6**
	2μm,0.3s						
KBK	**Karagaybulak**	**1.16**	**309**	⇑P	**Pg**	**22 24 02.7**	**-0.1**
	689nm,0.2s,SNR=196						
KBK				⇓S	**Sg**	**22 24 18.8**	**+1.0**
	2μm,0.2s						
KBK	**Karagaybulak**	**1.16**	**309**	⇑*i*P	**Pg**	**22 24 02.2**	**-0.7**
KBK				⇑*i*S	**Sg**	**22 24 18.0**	**+0.2**
KBK	**Karagaybulak**	**1.16**	**309**	*e*PG	**Pg**	**22 24 02.2**	**-0.7**
IZV	**Izvestkoviy**	**1.16**	**17**	P	**Pg**	**22 24 02.5**	**-0.5**
	278nm,0.2s						
IZV				S	**Sg**	**22 24 18.1**	**+0.1**
	579nm,0.2s						
IZV	**Izvestkoviy**	**1.16**	**17**	*e*P	**Pg**	**22 24 02.5**	**-0.5**
	172nm,0.2s						
IZV				*e*S	**Sg**	**22 24 18.1**	**+0.1**
	1μm,0.2s						
TNSS	**Tian-Shan**	**1.25**	**28**	P	**Pg**	**22 24 03.9**	**-0.9**
	49nm,0.2s						
TNSS				S	**Sg**	**22 24 20.3**	**-0.8**
	75nm,0.3s						
TNSS	**Tian-Shan**	**1.25**	**28**	*e*P	**Pg**	**22 24 03.9**	**-0.9**
	96nm,0.3s						
TNSS				*e*S	**Sg**	**22 24 20.3**	**-0.8**
	140nm,0.2s						
UCH	**Uchtor**	**1.26**	**284**	⇓P	**Pg**	**22 24 04.5**	**-0.3**
	75nm,0.2s,SNR=63						
UCH				⇓S	**Sg**	**22 24 21.8**	**+0.6**
	224nm,0.2s						
UCH	**Uchtor**	**1.26**	**284**	⇑*i*P	**Pg**	**22 24 03.9**	**-1.0**
UCH				⇑*i*S	**Sg**	**22 24 21.1**	**-0.1**
UCH	**Uchtor**	**1.26**	**284**	*e*PG	**Pg**	**22 24 03.9**	**-1.0**
KASK	**Kaskelen**	**1.34**	**15**	⇓P	**Pn**	**22 24 05.9**	**-0.6**
	235nm,0.6s						
KASK				⇓S	**Sn**	**22 24 24.5**	**-0.6**
	969nm,0.6s						
AAA	**Alma-Ata**	**1.40**	**23**	P	**Pn**	**22 24 07.1**	**-0.3**
	377nm,0.2s						
AAA				S	**Sn**	**22 24 26.0**	**-0.5**
	215nm,0.2s						
AAA	**Alma-Ata**	**1.40**	**23**	*e*PG	**Pn**	**22 24 07.0**	**-0.4**
AAA	**Alma-Ata**	**1.40**	**23**	*e*P	**Pn**	**22 24 07.1**	**-0.3**
	392nm,0.2s						
AAA				*e*S	**Sn**	**22 24 26.0**	**-0.5**
	215nm,0.2s						
KNDC	**Almaty**	**1.42**	**25**	⇑P	**Pn**	**22 24 07.3**	**-0.4**
	476nm,0.4s						
KNDC				⇓S	**Sb**	**22 24 26.1**	**-0.6**
	606nm,0.3s						
KNDC	**Almaty**	**1.42**	**25**	PG	**Pn**	**22 24 07.3**	**-0.4**
KNDC				S	**Sb**	**22 24 26.1**	**-0.6**
AAK	**Ala-Archa**	**1.42**	**300**	P	**Pn**	**22 24 07.5**	**-0.3**
	202nm,0.2s,SNR=78						
AAK				⇓S	**Sb**	**22 24 26.6**	**-0.2**
	872nm,0.3s						
AAK	**Ala-Archa**	**1.42**	**300**	⇑P	**Pn**	**22 24 07.4**	**-0.4**
	627nm,0.4s						
AAK				⇓S	**Sb**	**22 24 26.5**	**-0.3**
	7μm,0.7s						
AAK	**Ala-Archa**	**1.42**	**300**	Pn	**Pn**	**22 24 07.6**	**-0.3**
	76nm,0.3s,baz=110,slow=4.4,SNR=153						
AAK				Lg	Lg	22 24 26.5	
	132nm,0.3s,baz=309,slow=20,SNR=74						
AAK	**Ala-Archa**	**1.42**	**300**	⇓*i*P	**Pn**	**22 24 06.7**	**-1.1**
AAK				⇓*i*S	**Sb**	**22 24 26.2**	**-0.6**
FRU1	**Bishkek**	**1.43**	**308**	⇑*i*P	**Pn**	**22 24 07.3**	**-0.6**
FRU1				⇑*i*S	**Sb**	**22 24 26.8**	**-0.3**
FRU1	**Bishkek**	**1.43**	**308**	*i* PG	**Pn**	**22 24 07.3**	**-0.6**
FRU1				*i* S	**Sb**	**22 24 26.8**	**-0.3**
CHMS	**Chumysh**	**1.49**	**316**	P	**Pn**	**22 24 08.8**	**+0.1**
	135nm,0.1s,SNR=323						
CHMS				⇑S	**Sn**	**22 24 28.7**	**-0.1**
	604nm,0.2s						
CHMS	**Chumysh**	**1.49**	**316**	§*e*P	**Pn**	**22 24 07.8**	**-0.9**
CHMS				§*e*S	**Sn**	**22 24 27.9**	**-0.9**
CHMS	**Chumysh**	**1.49**	**316**	*e*PG	**Pn**	**22 24 07.8**	**-0.9**
PRZ	**Przheval'sk**	**1.76**	**71**	⇑*i*P	**Pn**	**22 24 12.7**	**+0.3**
PRZ				⇑*i*S	**Sb**	**22 24 36.3**	**-0.1**
PRZ	**Przheval'sk**	**1.76**	**71**	*i* PN	**Pn**	**22 24 12.7**	**+0.3**
PRZ				*i* S	**Sb**	**22 24 36.3**	**-0.1**
USP	**Ospenovka**	**1.81**	**318**	⇑P	**Pb**	**22 24 14.3**	**-0.4**
	351nm,0.2s,SNR=1735						
USP				⇓S	**Sb**	**22 24 38.5**	**+0.5**
	675nm,0.3s						
USP	**Ospenovka**	**1.81**	**318**	⇓*i*P	**Pn**	**22 24 13.6**	**+0.5**
USP				⇓*i*S	**Sb**	**22 24 37.9**	**0.0**
USP	**Ospenovka**	**1.81**	**318**	*i* PN	**Pn**	**22 24 13.6**	**+0.5**
USP				*i* S	**Sb**	**22 24 37.9**	**0.0**
SGDS	**Sogindy**	**1.89**	**324**	Pg	**Pb**	**22 24 15.8**	**-0.3**
	167nm,0.2s						
SGDS				Lg	Lg	22 24 41.2	
	362nm,0.3s						
EKS2	**Erkin-Say**	**1.91**	**293**	⇑P	**Pb**	**22 24 16.5**	**+0.1**
	252nm,0.2s,SNR=399						
EKS2				⇓S	**Sb**	**22 24 42.0**	**+1.1**
	606nm,0.3s						
EKS2	**Erkin-Say**	**1.91**	**293**	⇓*i*P	**Pn**	**22 24 15.1**	**+0.6**
EKS2				⇓*i*S	**Sb**	**22 24 40.4**	**-0.4**
EKS2	**Erkin-Say**	**1.91**	**293**	*e*PN	**Pn**	**22 24 15.1**	**+0.6**
KUU	**Kurty**	**1.97**	**4**	P	**Pb**	**22 24 17.1**	**-0.3**
	144nm,0.4s						
KUU				S	**Sb**	**22 24 42.8**	**+0.4**
	881nm,0.3s						
KUU	**Kurty**	**1.97**	**4**	*e*P	**Pb**	**22 24 17.1**	**-0.3**
	144nm,0.4s						
KUU				*e*S	**Sb**	**22 24 42.8**	**+0.4**
	881nm,0.3s						
SATY	**Saty**	**2.01**	**55**	Pg	**Pb**	**22 24 17.4**	**-0.8**
	70nm,0.3s						
SATY				Lg	Lg	22 24 43.5	
	671nm,0.3s						
CHKK	**Chushkaly**	**2.02**	**17**	Pg	**Pb**	**22 24 17.9**	**-0.3**
	542nm,0.7s						
CHKK				Lg	Lg	22 24 44.5	
	2μm,0.4s						
CHKK	**Chushkaly**	**2.02**	**17**	*e*P	**Pb**	**22 24 17.9**	**-0.3**
	542nm,0.7s						
CHKK				*e*S	**Sg**	**22 24 44.5**	**-1.1**
	2μm,0.4s						
SALK	**Salom-Alik**	**2.04**	**240**	⇓*i*P	**Pn**	**22 24 16.9**	**+0.5**
SALK				⇓*i*S	**Sn**	**22 24 43.6**	**+1.0**
SALK	**Salom-Alik**	**2.04**	**240**	*i* PN	**Pn**	**22 24 16.9**	**+0.5**
SALK				*i* S	**Sn**	**22 24 43.6**	**+1.0**
MRKS	**Merke**	**2.32**	**292**	Pg	**Pb**	**22 24 23.7**	**+0.3**
	68nm,0.2s						
MRKS				Lg	Lg	22 24 54.8	
	423nm,0.5s						
MRKS	**Merke**	**2.32**	**292**	*e*P	**Pb**	**22 24 23.7**	**+0.3**
	68nm,0.2s						
MRKS				*e*S	**Sg**	**22 24 54.8**	**-0.5**
	423nm,0.5s						
KSH	**Kashi**	**2.41**	**183**	Pn	Pg	22 24 33.3	+6.4
KSH				Sn	Sg	22 25 11.6	+13
KSH				smax	smax		
	comp=N,600nm,0.7s						
KSH				smax	smax		
	comp=E,610nm,0.7s						
ARSB	**Arslanbob**	**2.46**	**257**	⇑*i*P	**Pn**	**22 24 22.4**	**+0.4**
ARSB				⇑*i*S	**Sn**	**22 24 53.2**	**+0.5**
ARSB	**Arslanbob**	**2.46**	**257**	*i* PN	**Pn**	**22 24 22.4**	**+0.4**
ARSB				*i* S	**Sn**	**22 24 53.2**	**+0.5**
MNAS	**Manas**	**2.77**	**283**	§*i*P	**Pn**	**22 24 27.0**	**+0.7**
MNAS				§*i*S	**Sn**	**22 25 01.0**	**+0.5**
MNAS	**Manas**	**2.77**	**283**	*e*PN	**Pn**	**22 24 27.0**	**+0.7**
SFK	**Sufi-Kurgan**	**2.77**	**227**	⇑*i*P	**Pn**	**22 24 26.9**	**+0.4**
SFK				⇑*i*S	**Sn**	**22 25 01.0**	**+0.3**
SFK	**Sufi-Kurgan**	**2.77**	**227**	*i* PN	**Pn**	**22 24 26.9**	**+0.4**
SFK				*i* S	**Sn**	**22 25 01.0**	**+0.3**
PDGK	**Podgornoye**	**2.83**	**59**	⇓Pn	**Pn**	**22 24 28.5**	**+1.3**
	comp=E,99nm,0.7s						
PDGK				⇑Lg	Lg	22 25 08.9	
	comp=E,388nm,0.6s						
PDGK	**Podgornoye**	**2.83**	**59**	PN	**Pn**	**22 24 28.4**	**+1.3**
PDGK						22 25 08.9	
OHH	**Osh**	**2.90**	**242**	⇑*i*P	**Pn**	**22 24 28.7**	**+0.6**
OHH				⇑*i*S	**Sn**	**22 25 03.9**	**+0.2**
OHH	**Osh**	**2.90**	**242**	*i* PN	**Pn**	**22 24 28.7**	**+0.6**
OHH				*i* S	**Sn**	**22 25 03.9**	**+0.2**
ARK	**Arkit**	**3.13**	**269**	§*e*P	**Pn**	**22 24 32.0**	**+0.7**
ARK				§*i*S	**Sn**	**22 25 09.7**	**+0.3**
ARK	**Arkit**	**3.13**	**269**	*e*PN	**Pn**	**22 24 32.0**	**+0.7**
ARK				*i* S	**Sn**	**22 25 09.7**	**+0.3**
KTMS	**Ketmen**	**3.44**	**62**	Pg	**Pb**	**22 24 41.4**	**-1.2**
	comp=E,14nm,0.3s						
KTMS				Lg	Lg	22 25 24.8	
	comp=E,74nm,0.6s						
KTMS	**Ketmen**	**3.44**	**62**	*e*P	**Pb**	**22 24 41.9**	**-0.6**
	comp=E,5.3nm,0.3s						
KTMS				*e*S	**Sb**	**22 25 25.5**	**+0.5**
	comp=E,107nm,0.4s						
BTLS	**Baital**	**3.47**	**334**	Pg	**Pb**	**22 24 43.9**	**+0.9**
	comp=E,90nm,0.7s						
BTLS				Lg	Lg	22 25 29.0	
	comp=E,58nm,0.4s						
BTLS	**Baital**	**3.47**	**334**	*e*P	**Pb**	**22 24 43.9**	**+0.9**
	comp=E,90nm,0.7s						
BTLS				*e*S	**Sb**	**22 25 29.1**	**+3.5**
	comp=E,58nm,0.4s						
TRKS	**Terek-Say**	**3.78**	**266**	⇓*i*P	**Pn**	**22 24 40.8**	**+0.6**
TRKS				⇓*i*S	**Sn**	**22 25 24.7**	**-0.6**
TRKS	**Terek-Say**	**3.78**	**266**	*i* PN	**Pn**	**22 24 40.8**	**+0.6**
TRKS				*i* S	**Sn**	**22 25 24.7**	**-0.6**
KAPS	**Kapalarasan**	**4.08**	**34**	Pg	**Pb**	**22 24 53.6**	**+0.2**
	comp=E,46nm,0.4s						
KAPS				Lg	Lg	22 25 45.4	
	comp=E,148nm,0.3s						
DRK	**Karamyk**	**4.12**	**235**	⇑*i*P	**Pn**	**22 24 45.7**	**+0.7**
DRK				⇑*i*S	**Sn**	**22 25 33.3**	**-0.6**
DRK	**Karamyk**	**4.12**	**235**	*i* PN	**Pn**	**22 24 45.7**	**+0.7**
DRK				*i* S	**Sn**	**22 25 33.3**	**-0.6**
KK31	**Karatay Array**	**4.33**	**288**	Pn	**Pn**	**22 24 50.9**	**+3.2**
	comp=E,0.7nm,0.3s,baz=105,slow=14,SNR=322						
KK31				⇑Pg	**Pb**	**22 25 00.1**	**+2.4**
	comp=E,19nm,0.4s,baz=106,slow=14,SNR=146						
KK31				⇓Lg	Lg	22 25 56.2	
	comp=E,61nm,0.5s,baz=125,slow=23,SNR=11						
KK31	**Karatay Array**	**4.33**	**288**	PN	**Pn**	**22 24 50.9**	**+3.2**
KK31						22 25 00.1	
KK31						22 25 55.9	
BTK	**Batken**	**4.45**	**247**	⇑*i*P	**Pn**	**22 24 50.2**	**+0.8**
BTK				⇑*i*S	**Sn**	**22 25 41.2**	**-0.7**
BTK	**Batken**	**4.45**	**247**	*i* PN	**Pn**	**22 24 50.2**	**+0.8**
BTK				*i* S	**Sn**	**22 25 41.2**	**-0.7**
IUG	**Iuzhnay**	**4.57**	**275**	Pg	**Pb**	**22 25 04.9**	**+3.2**
	comp=E,73nm,0.7s						
IUG				Lg	Lg	22 26 04.8	
	comp=E,319nm,0.7s						
BRLS	**Boroldaу**	**4.80**	**285**	Pg	**Pg**	**22 25 10.4**	**-2.3**
	comp=E,4.4nm,0.3s						
BRLS				Lg	Lg	22 26 14.8	
	comp=E,53nm,0.5s						
BRLS	**Boroldaу**	**4.80**	**285**	*e*P	**Pg**	**22 25 10.4**	**-2.3**
	comp=E,4.4nm,0.3s						
BRLS				*e*S	**Sg**	**22 26 14.8**	**-0.1**
	comp=E,53nm,0.5s						
GAR	**Garm**	**5.33**	**239**	⇓*i*P	**Pn**	**22 25 02.2**	**+0.7**
GAR				⇓*i*S	**Sn**	**22 26 02.0**	**-1.5**
MAKZ	**Makanchi**	**6.42**	**39**	⇑Pn	**Pn**	**22 25 17.8**	**+1.4**
MAKZ				⇓Pg	**Pb**	**22 25 36.9**	**+3.7**
	comp=E,5.4nm,0.5s						
MAKZ				⇑Lg	Lg	22 27 05.1	
	comp=E,31nm,1.1s						
MAKZ	**Makanchi**	**6.42**	**39**	PN	**Pn**	**22 25 17.7**	**+1.4**
MAKZ						22 25 36.8	
MAKZ						22 26 55.8	
MK31	**Makanchi Array**	**6.55**	**40**	⇑Pn	**Pn**	**22 25 21.4**	**+3.2**
	comp=E,4.5nm,0.6s,baz=214,slow=14,SNR=41						
MK31				⇑Pg	Pg	22 25 41.1	-5.1
	comp=E,5.7nm,0.5s,baz=231,slow=13,SNR=5.4						
MK31				⇑Lg	Lg	22 27 08.5	
	comp=E,29nm,0.8s,baz=220,slow=28,SNR=5.4						
MK31	**Makanchi Array**	**6.55**	**40**	*ce*PN	**Pn**	**22 25 20.9**	**+2.7**
MKAR	**Makanchi Array**	**6.55**	**40**	Pn	**Pn**	**22 25 21.6**	**+3.4**
	comp=E,0.8nm,0.3s,baz=222,slow=15,SNR=26						
MKAR				Lg	Lg	22 27 04.6	
	comp=E,2.7nm,0.3s,baz=220,slow=29,SNR=6.9						
	comp=E,1.3nm,0.4s						
MKAR	**Makanchi Array**	**6.55**	**40**	*e*PN	**Pn**	**22 25 20.9**	**+2.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURBB	**Kurchatov Arra**	**8.85**	**10**	⇓Pn	**Pn**	**22 25 50.5**	**+0.8**
	comp=Z,2.0nm,0.5s						
KURBB				⇑Lg	Lg	22 28 19.4	
	comp=Z,109nm,0.8s						
KURBB	**Kurchatov Arra**	**8.85**	**10**	Pn	**Pn**	**22 25 50.1**	**+0.4**
	comp=E,0.1nm,0.3s,baz=190,slow=12,SNR=12						
KURBB				Sn	**Sn**	**22 27 32.8**	**+2.9**
	comp=E,0.2nm,0.3s,baz=207,slow=31,SNR=5.0						
KURBB				Lg	Lg	22 28 13.6	
	comp=E,0.4nm,0.3s,baz=293,slow=33,SNR=4.4						
	comp=Z,0.3nm,0.3s						
KURK	**Kurchatov**	**8.95**	**10**	⇑Pn	**Pn**	**22 25 51.5**	**+0.5**
	comp=Z,2.7nm,0.5s						
KURK				⇑Lg	Lg	22 28 24.2	
	comp=Z,46nm,0.7s						
KURK	**Kurchatov**	**8.95**	**10**	P	**Pn**	**22 25 50.1**	**-0.9**
KURK						22 27 32.8	
BVA0	**Borovoye Array**	**11.76**	**343**	⇑Pn	**Pn**	**22 26 31.4**	**+1.9**
	comp=E,1.8nm,0.5s,baz=144,slow=14,SNR=5.7						
BVA0				⇑Lg	Lg	22 29 53.1	
	comp=Z,19nm,0.8s,baz=136,slow=28,SNR=6.0						
BVA0	**Borovoye Array**	**11.76**	**343**	P	**Pn**	**22 26 31.4**	**+1.9**
BVAR	**Borovoye Array**	**11.76**	**343**	Pn	**Pn**	**22 26 26.6**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=159,slow=12,SNR=5.3						
BVAR				Sn	**Sn**	**22 28 40.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=147,slow=24,SNR=2.2						
BVAR				Lg	Lg	22 29 45.8	
	comp=Z,0.2nm,0.3s,baz=163,slow=21,SNR=4.7						
	comp=Z,1.5nm,0.6s						
BRVK	**Borovoye**	**11.82**	**342**	⇓Pn	**Pn**	**22 26 31.9**	**+1.6**
	comp=Z,2.6nm,0.8s						
BRVK				⇓Lg	Lg	22 29 57.3	
	comp=Z,32nm,1.1s						
BRVK	**Borovoye**	**11.82**	**342**	⇓*e*P	**Pn**	**22 26 31.3**	**+1.1**
ZALV	**Zalesovo Beam**	**13.34**	**23**	Pn	**Pn**	**22 26 51.1**	**0.0**
	comp=Z,0.8nm,0.3s,baz=216,slow=14,SNR=9.4						
ZALV				Lg	Lg	22 30 37.1	
	baz=192,slow=26						
	comp=Z,1.4nm,0.3s						
ZALV	**Zalesovo Beam**	**13.34**	**23**	*e*P	**Pn**	**22 26 52.3**	**+1.3**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**15.14**	**310**	Pn	**Pn**	**22 27 09.2**	**-6.4**
	comp=Z,0.3nm,0.3s,baz=124,slow=11,SNR=10						
	comp=Z,0.6nm,0.3s						
GTA	**Gaotai**	**18.11**	**90**	*e*P	**P**	**22 27 53.6**	**-0.4**
GTA				sP	sP	22 28 01.3	+5.3
GTA				pmax	pmax		
	comp=E,6.0nm,0.7s						
ARTI	**Arti**	**18.48**	**328**	P	**P**	**22 27 55.2**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=119,slow=13,SNR=1.9						
ARTI				Lg	Lg	22 33 16.4	
	comp=Z,0.1nm,0.3s,baz=327,slow=20,SNR=4.7						
	comp=Z,0.9nm,0.5s						
SONM	**Songino Array**	**22.14**	**64**	P	**P**	**22 28 40.2**	**+2.4**
	comp=Z,1.4nm,0.5s,baz=264,slow=10.0,SNR=4.3						
	comp=Z,1.4nm,0.5s						
ULN	**Ulaanbaatar**	**22.58**	**64**	⇓*e*P	**P**	**22 28 46.7**	**+4.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,2.1s						
OBN	**Obninsk**	**28.92**	**311**	*e*P	**P**	**22 29 40.3**	**-0.7**
OBN				*e*		22 30 33.1	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CLL	**Collm**	**43.13**	**305**	*i* P	**P**	**22 31 42.8**	**+0.4**
ILAR	**Eielson Array**	**68.42**	**18**	P	**P**	**22 34 42.5**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=330,slow=7.6,SNR=6.0						
	comp=Z,0.3nm,0.8s						
ILAR	**Eielson Array**	**68.42**	**18**	*e*P	**P**	**22 34 47.4**	**+3.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**69.81**	**270**	P	**P**	**22 34 50.8**	**-2.2**
	comp=Z,0.9nm,0.4s,baz=39,slow=5.9,SNR=3.8						
	comp=Z,0.9nm,0.4s						

IDC ***21*** *22:32:46.9±1.8,6°.82S×129°.36E,h0km,mb3.8/2, mbtmp3.7/5,ML3.8/3,Error ellipse: s-maj=76.7km s-min=26.3km az=71.0,Banda Sea*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.79**	**198**	Pn	Pn	22 35 35.6	-0.8
	0.3nm,0.3s,baz=13,slow=8.4,SNR=16						
FITZ				Sn	Sn	22 37 30.6	-18
	0.6nm,0.3s,baz=308,slow=23,SNR=8.1						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**13.92**	**160**	Pn	Pn	22 36 05.0	-0.6
	0.6nm,0.3s,baz=343,slow=13,SNR=18						
WRA				Sn	Sn	22 38 27.9	-13
	1.4nm,0.3s,baz=332,slow=24,SNR=12						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**17.32**	**166**	P	P	22 36 52.0	+0.3
	0.4nm,0.3s,baz=343,slow=11,SNR=17						
ASAR				S	Sn	22 39 52.5	-11
	0.6nm,0.4s,baz=355,slow=24,SNR=6.2						
	1.5nm,0.4s						
STKA	**Stephens Creek**	**27.43**	**157**	P	P	22 38 34.2	-0.3
	2.1nm,0.6s,baz=335,slow=8.9,SNR=3.4						
	2.1nm,0.6s						
MKAR	**Makanchi Array**	**67.72**	**327**	P	P	22 43 46.4	+0.1
	0.2nm,0.4s,baz=113,slow=7.9,SNR=4.2						
	0.2nm,0.4s						

IDC ***21*** *22:34:55.6±0.6,27°.84S×64°.27E,h0km,mb4.1/13, mbtmp4.1/13,MS3.8/2,Error ellipse: s-maj=27.6km s-min=17.5km az=92.0*

NEIC ***21*** *22:34:57.5±1.9,27°.75S±0°.1×64°.0E±0°.2,h10km±1km, mb4.6/20,Error ellipse: s-maj=26.8km s-min=20.1km az=262.0*

ISC 21 22:34:57.1±0.5,27°.71S±0°.10×64°.1E±0°.1,h10km,n48, σ0§99/37,mb4.4/20,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABPO	**Ambohimpanom**	**17.70**	**296**		**Pn**	**22 39 02.8**	**-1.3**
H04N2	**CROZET ISLANDS**	**20.82**	**205**		T	23 01 01.0	
	baz=33,slow=75,SNR=1846						
H04N1	**CROZET ISLANDS**	**20.82**	**205**		T	23 01 19.4	
	baz=33,slow=75,SNR=1595						
H04N3	**CROZET ISLANDS**	**20.84**	**205**		T	23 01 18.2	
	baz=33,slow=75,SNR=1781						
H08S1	**Diego Garcia H**	**21.49**	**23**		T	23 02 16.5	
	baz=201,slow=75,SNR=4.6						
H08S2	**Diego Garcia H**	**21.50**	**23**		T	23 02 08.8	
	baz=201,slow=75,SNR=4.8						
H08S3	**Diego Garcia H**	**21.51**	**23**		T	23 02 12.6	
	baz=201,slow=75,SNR=4.0						
MSEY	**Mahe Island**	**24.33**	**339**	P	**P**	**22 40 14.3**	**-0.9**
PALK	**Pallekele**	**38.32**	**27**	LR	LR	22 53 54.8	
	comp=Z,94nm,18.5s,baz=120,slow=30						
MAW	**Mawson**	**39.92**	**181**	P	**P**	**22 42 30.1**	**-0.9**
	1.7nm,0.8s,baz=309,slow=9.1,SNR=4.5						
	1.7nm,0.8s						
H01W2	**Cape Leeuwin H**	**43.01**	**112**		T	23 28 32.8	
	baz=265,slow=74,SNR=13						
H01W3	**Cape Leeuwin H**	**43.01**	**112**		T

comp=Z,3.5nm,1.4s
AKBB Malin Array Si 83.93 339 P **P** **22 47 25.6 -1.4**
AKBB IAmb IAmb 22 47 36.6
comp=Z,4.0nm,1.4s
ESDC Sonseca Array 92.19 314 P **P** **22 48 08.3 +1.2**
ESDC Sonseca Array 92.19 314 P **P** **22 48 09.2 +2.2**
comp=Z,0.9nm,0.8s,baz=104,slow=4.1,SNR=7.7
comp=Z,0.9nm,0.8s
ILAR Eielson Array 138.06 19 PKP **PKPdf** **22 54 21.4 -0.1**
comp=Z,0.1nm,0.4s,baz=344,slow=2.9,SNR=2.3
YKA Yellowknife Ar 145.21 359 PKPbc **PKPdf** **22 54 34.4 +0.1**
comp=Z,1.8nm,0.8s,baz=349,slow=4.0,SNR=6.2

JMA 21 22:45:33.7±0.1, 33°0.0′N±0.3′×131°1.1′E±0.2′, h10km, MV0.4/12, NE KUMAMOTO PREF, Kyushu

*BJI **21** 22:46:38.9, 29°.96N×143°.24E, h30km, mB4.8/6, mb4.5/42, Ms4.2/4, Ms7 4.0/4*
*IDC **21** 22:46:38.5±0.5, 30°.12N×142°.94E, h0km, mb4.4/23, mbtmp4.4/27, ML3.6/3, MS3.3/14, Error ellipse: s-maj=17.0km s-min=12.9km az=74.0*
*JMA **21** 22:46:39.3±0.3, 30°.2N±0°.8×14°.3E±°, h47km, MV4.8/32, NEAR TORISHIMA IS*
*NIED **21** 22:46:39.3, 30°.18N×142°.98E, h47km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=1.58; $M_{\theta\theta}$=0.02; $M_{\phi\phi}$=1.59; $M_{r\theta}$=-0.03; $M_{\theta\phi}$=-0.90; $M_{\phi r}$=0.51; Fault plane solution: $M_0$1.86000×10^{15} NP1: ϕ_s327.00000°, δ38.00000°, λ-103.00000°. NP2: ϕ_s164.00000°, δ53.00000°, λ-80.00000°.*
*MOS **21** 22:46:39.4±1.0, 30°.20N×142°.96E, h17km, mb4.8/41 Error ellipse: s-maj=10.9km s-min=5.2km az=110.8*
*NEIC **21** 22:46:40.9±0.9, 30°.07N±0°.07×142°.9E±0°.1, h10km±1km, mb4.8/167, Error ellipse: s-maj=17.9km s-min=11.0km az=82.0*

ISC 21 22:46:43.1±0.4, 30°.15N±0°.04×142°.94E±0°.06, h30km, n508, σ1§27/469, mb4.7/137, MS3.5/15, 9C-18D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
CBIJ	**Chichi jima**	**3.11**	**192**	*eP*		**Pn**	**22 47 27.5**	**-2.6**
CBIJ				*eS*		**Sn**	**22 48 01.7**	**-4.7**
JCJ	**Chichijima**	**3.11**	**192**			**Pn**	**22 47 27.0**	**-3.2**
JCJ	**Chichijima**	**3.11**	**192**	Pn		**Pn**	**22 47 26.7**	**-3.5**
	116nm,0.5s							
JCJ	**Chichijima**	**3.11**	**192**	P		**Pn**	**22 47 28.7**	**-1.4**
JAOM	**Aogashimamukai**	**3.56**	**311**	*eP*		**Pn**	**22 47 34.3**	**-2.1**
JHH2	**Haha-jima-NKT2**	**3.57**	**191**	*eP*		**Pn**	**22 47 35.1**	**-1.3**
JHCJ	**Hachijojimakas**	**3.96**	**318**	*eS*		**Sn**	**22 48 21.9**	**-5.2**
JHJ2	**Mitsune**	**3.98**	**319**	Pn		**Pn**	**22 47 39.5**	**-2.5**
JHJ2	**Mitsune**	**3.98**	**319**	Pn		**Pn**	**22 47 39.9**	**-2.1**
JHJ2	**Mitsune**	**3.98**	**319**	*eP*		**Pn**	**22 47 37.4**	**-4.6**
JHJ2				*eS*		**Sn**	**22 48 20.8**	**-6.8**
JMKN	**Mikurajimanish**	**4.69**	**324**	*eS*		**Sn**	**22 48 40.7**	**-4.5**
BSO1	**Boso 1**	**4.79**	**340**	P		**Pn**	**22 47 50.2**	**-2.5**
BSO1				*eS*		**Sn**	**22 48 43.9**	**-2.9**
BSO3	**Boso 3**	**5.07**	**337**	*eP*		**Pn**	**22 47 54.4**	**-2.4**
BSO3				*eS*		**Sn**	**22 48 51.9**	**-2.3**
BSO4	**Boso 4**	**5.30**	**336**	*eP*		**Pn**	**22 47 58.2**	**-1.9**
BSO4				*eS*		**Sn**	**22 48 57.2**	**-3.0**
JNY	**Yasuok**	**6.73**	**322**	P		**Pn**	**22 48 21.2**	**+1.4**
JAG	**Ashikaga**	**6.91**	**336**	P		**Pn**	**22 48 20.1**	**-2.1**
JAG				*eS*		**Sn**	**22 49 34.5**	**-5.2**
JGF	**Kuroka**	**7.18**	**321**			**Pn**	**22 48 27.4**	**+1.3**
JGF	**Kuroka**	**7.18**	**321**	P		**Pn**	**22 48 25.0**	**-1.1**
INU	**Inuyama**	**7.19**	**318**			**Pn**	**22 48 26.8**	**+0.6**
MJAR	**Matsushiro Arr**	**7.50**	**329**	Pn		**Pn**	**22 48 28.8**	**-1.6**
MJAR	**Matsushiro Arr**	**7.50**	**329**	Pn		**Pn**	**22 48 29.0**	**-1.5**
	1.3nm,0.3s,baz=156,slow=11,SNR=94							
MJAR					Sn	**Sn**	**22 49 50.2**	**-4.3**
	0.9nm,0.3s,baz=154,slow=18,SNR=9.5							
	18nm,0.6s							
MJAR	**Matsushiro Arr**	**7.50**	**329**	P		**Pn**	**22 48 29.0**	**-1.5**
MAJO	**Matsushiro**	**7.50**	**329**	Pn		**Pn**	**22 48 29.7**	**-0.7**
MAJO	**Matsushiro**	**7.50**	**329**	P		**Pn**	**22 48 29.5**	**-1.0**
MAJO	**Matsushiro**	**7.50**	**329**	*de*	P	**Pn**	**22 48 29.3**	**-1.2**
MJB9	**Matsu-Tunnel**	**7.51**	**329**			**Pn**	**22 48 30.7**	**+0.2**
JMM	**Marumori**	**7.90**	**348**			**Pn**	**22 48 33.8**	**-2.1**
JMM	**Marumori**	**7.90**	**348**	P		**Pn**	**22 48 33.2**	**-2.7**
JMK	**Ichinoseki**	**8.89**	**351**	*eP*		**Pn**	**22 48 46.4**	**-3.1**
JMK				*eS*		Sn	22 50 19.3	-9.3
JTM	**Tenmabayashi**	**10.72**	**352**	P		**Pn**	**22 49 12.5**	**-2.0**
ERM	**Erimo**	**11.84**	**1**	P		**Pn**	**22 49 27.1**	**-2.7**
ERM	**Erimo**	**11.84**	**1**	⇓ *eP*		**Pn**	**22 49 28.4**	**-1.4**
JOW	**Kunigami**	**13.31**	**259**	Pn		**Pn**	**22 49 51.7**	**+1.6**
JOW	**Kunigami**	**13.31**	**259**	LR		LR	22 55 12.5	
	comp=Z,128nm,18.3s,baz=96,slow=39							
JKA	**Kamikawa-asahi**	**13.94**	**359**			**Pn**	**22 49 56.5**	**-2.1**
ASAJ	**Asahikawa**	**13.95**	**359**	Pn		**Pn**	**22 49 55.1**	**-3.5**
	1.8nm,0.3s,baz=199,slow=18,SNR=5.4							
ASAJ					LR	LR	22 57 36.4	
	comp=Z,75nm,19.9s,baz=175,slow=47							
ASAJ	**Asahikawa**	**13.95**	**359**	P		**Pn**	**22 49 56.5**	**-2.0**
KSRS	**Korea Array**	**14.44**	**304**	Pn		**Pn**	**22 50 05.0**	**-0.3**
	0.3nm,0.3s,baz=116,slow=12,SNR=12							
	3.6nm,0.7s							
USA0B	**Ussuriysk Arra**	**16.49**	**331**	Pn		**Pn**	**22 50 29.7**	**-2.5**
USA0B	**Ussuriysk Arra**	**16.49**	**331**	P		**Pn**	**22 50 29.7**	**-2.5**
USA0B					pmax	pmax		
	comp=Z,45nm,1.7s							
USRK	**Ussuriysk Ar.**	**16.49**	**331**	Pn		**Pn**	**22 50 30.1**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=145,slow=12,SNR=7.4							
	comp=Z,4.4nm,0.7s							
GUMO	**Guam**	**16.58**	**173**	LR		LR	22 54 50.7	
	comp=Z,24nm,21.5s,baz=77,slow=30							
YSS	**Yuzhno-Sakhali**	**16.78**	**360**	*eP*		**Pn**	**22 50 35.5**	**-0.2**
YSS				*eS*		**Sn**	**22 53 39.5**	**-1.6**
YSS					pmax	pmax		
	comp=Z,20nm,1.0s							
YSS					MLR	MLR		
	comp=Z,200nm,14.0s							
YSS					MLR	MLR		
	comp=N,100nm,15.0s							
MDJ	**Mudanjiang**	**17.88**	**328**	P		**P**	**22 50 52.1**	**+2.2**
MDJ					pmax	pmax		
	comp=N,21nm,0.6s							
BNX	**BinXian**	**19.75**	**326**	⇓ P		**P**	**22 51 10.6**	**+0.2**
BNX					pmax	pmax		
	comp=N,18nm,1.0s							
NACB	**Ninganchiao**	**19.89**	**258**	P		**P**	**22 51 10.8**	**-1.3**
YHNB	**Yeheng**	**19.89**	**259**	P		**P**	**22 51 12.1**	**-0.1**
YHNB					IAmb	IAmb	22 51 14.3	
	comp=Z,34nm,1.0s							
YULB	**Yu-li**	**20.44**	**256**			**P**	**22 51 17.2**	**-0.9**
YULB					IAmb	IAmb	22 51 26.4	
	comp=Z,19nm,0.6s							
SSLB	**Suanglung**	**20.58**	**257**			**P**	**22 51 19.6**	**0.0**
SSLB					IAmb	IAmb	22 51 34.1	
	comp=Z,44nm,1.3s							
NJ2	**Nanjing**	**20.70**	**281**	*eP*		Pn	22 51 23.1	-0.2
NJ2					pmax	pmax		
	comp=Z,12nm,0.5s							
GRNR	**Gornyy**	**21.17**	**348**	⇑ *iP*		**P**	**22 51 26.8**	**+1.0**
GRNR					pmax	pmax		
	comp=Z,4.0nm,0.9s							
HEH	**HeiHe**	**23.23**	**334**	*eP*		**P**	**22 51 48.0**	**+0.4**
HEH					pmax	pmax		
	comp=Z,7.0nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**24.03**	**110**	T		T	23 17 00.0	
	baz=299							
H11N1	**WAKE ISLAND Hy**	**24.03**	**110**	T		T	23 17 02.0	
	baz=299							
H11N3	**WAKE ISLAND Hy**	**24.04**	**110**	T		T	23 16 59.8	
	baz=299							
H11S3	**WAKE ISLAND Hy**	**24.50**	**113**	T		T	23 17 29.1	
	baz=304,slow=74,SNR=5.5							
H11S1	**WAKE ISLAND Hy**	**24.50**	**113**	T		T	23 17 31.0	
	baz=304,slow=74,SNR=4.7							
H11S2	**WAKE ISLAND Hy**	**24.52**	**113**	T		T	23 17 27.6	
	baz=304,slow=74,SNR=4.3							
PEA0B	**Petropavlovsk-**	**25.36**	**21**	⇑ *eP*		**P**	**22 52 06.8**	**-0.5**
PETK	**Petropavlovsk-**	**25.36**	**21**	LR		LR	23 03 09.1	
	comp=Z,61nm,20.1s,baz=222,slow=39							
PET	**Petropavlovsk**	**25.59**	**22**	*eP*		**P**	**22 52 04.7**	**-4.7**
PET				*eS*		**S**	**22 56 32.2**	**-3.0**
PET					MLR	MLR		
	comp=Z,100nm,18.0s							
PET					MLR	MLR		
	comp=Z,100nm,14.0s							

HHC Hu-ho-hao-te 27.55 301 *eP* **P** **22 52 29.6 +2.2**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,120nm,4.4s
DAV Davao City (W) 28.16 219 LR LR 23 02 58.7
comp=Z,44nm,20.2s,baz=359,slow=35
XAN Xi'an 29.00 287 ⇑ P **P** **22 52 40.0 -0.3**
XAN pmax pmax
comp=Z,7.0nm,1.2s
SHEM Shemya Is, Ala 32.06 36 LR LR 23 05 20.6
comp=Z,42nm,18.5s,baz=308,slow=35
ULN Ulaanbaatar 32.65 313 P **P** **22 53 13.7 +1.2**
ULN IAmb IAmb 22 53 28.2
comp=Z,20nm,1.4s
ULN Ulaanbaatar 32.65 313 ⇓ *eP* **P** **22 53 14.8 +2.3**
ULN pmax pmax
comp=Z,10.0nm,1.1s
YAK Yakutsk 33.05 349 *eP* **P** **22 53 14.2 -1.4**
YAK pmax pmax
comp=Z,7.0nm,0.6s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.1s
SONM Songino Array 33.06 313 P **P** **22 53 17.7 +1.7**
SONM Songino Array 33.06 313 P **P** **22 53 16.3 +0.3**
comp=E,3.9nm,0.7s,baz=116,slow=6.8,SNR=10
comp=E,3.9nm,0.7s
SONM Songino Array 33.06 313 P **P** **22 53 17.7 +1.7**
SONM pmax pmax
comp=Z,4.0nm,1.0s
LZH Lanzhou 33.11 291 *eP* **P** **22 53 17.4 +0.7**
LZH sP pwP 22 53 31.4 -1.6
LZH pmax pmax
comp=Z,14nm,1.2s
LZH LR LR
comp=Z,180nm,10.7s
LZH LR LR
comp=Z,170nm,13.4s
LZH LR LR
comp=Z,170nm,14.8s
SEY Seymchan 33.36 8 ⇓ *eP* **P** **22 53 18.9 +0.7**
SEY pmax pmax
comp=Z,7.0nm,0.8s
ZAK Zakamensk 35.82 316 *eP* **P** **22 53 40.5 +0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
PZH PanZhiHua 36.31 275 P **P** **22 53 45.3 +1.0**
PZH pmax pmax
comp=Z,9.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.7s
GTA Gaotai 36.32 297 *eP* **P** **22 53 46.5 +2.2**
GTA pP pP 22 53 51.1 +0.3
GTA pmax pmax
comp=Z,4.0nm,0.9s
MOY Mondy 37.61 317 *eP* **P** **22 53 57.2 +2.1**
BILL Bilibino 40.34 13 ⇑ *eP* **P** **22 54 18.1 +0.5**
BILL pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 41.37 265 **P** **22 54 26.1 -0.5**
CHTO IAmb IAmb 22 54 29.1
comp=Z,22nm,1.6s
CHTO Chiang Mai 41.37 265 P **P** **22 54 26.2 -0.5**
CHTO pmax pmax
comp=Z,22nm,1.6s
CMAR Chiang Mai Arr 41.52 264 P **P** **22 54 27.1 -0.8**
comp=Z,0.9nm,0.3s,baz=59,slow=8.0,SNR=5.7
CMAR LR LR 23 13 43.7
comp=Z,54nm,18.1s,baz=90,slow=39
comp=Z,0.9nm,0.3s
CMAR Chiang Mai Arr 41.52 264 *i* P **P** **22 54 27.7 -0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
TIXI Tiksi 42.26 353 ⇓ *eP* **P** **22 54 32.8 -0.4**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
HNR Honiara 42.62 155 LR LR 23 13 17.2
comp=Z,46nm,18.1s,baz=316,slow=38
AKUT Akutan 43.71 42 P **P** **22 54 45.9 +0.7**
MTN Manton Dam 44.23 197 **P** **22 54 48.6 -1.1**
MTN IAmb IAmb 22 54 57.6
comp=Z,8.0nm,0.8s
WMQ Urumqi 45.39 303 *eP* **P** **22 55 01.8 +2.9**
S12K Black Hills 46.12 40 P **P** **22 55 05.3 +0.9**
baz=260
K13K Kusilvak Mount 46.35 31 P **P** **22 55 06.3 +0.2**
baz=252
TNA Tin City 46.35 26 P **P** **22 55 06.0 -0.1**
baz=245
M13K Dall Lake 46.51 33 P **P** **22 55 08.1 +0.8**
baz=254
F14K Arctic Creek 46.92 26 P **P** **22 55 10.8 +0.2**
baz=247
SDPT Sand Point 46.95 41 P **P** **22 55 10.8 0.0**
baz=262
ANM Nome 46.95 28 P **P** **22 55 10.9 +0.2**
baz=248
L14K Kuka Creek 47.08 32 P **P** **22 55 13.1 +1.4**
baz=254
J14K Nanvaranak Lak 47.10 30 P **P** **22 55 12.1 +0.2**
baz=252
N14K Kuskokwak Cree 47.19 34 P **P** **22 55 14.3 +1.7**
N14K Kuskokwak Cree 47.19 34 P **P** **22 55 12.4 -0.2**
baz=256
O14K Tigyukauivet M 47.24 35 P **P** **22 55 14.6 +1.4**
O14K Tigyukauivet M 47.24 35 P **P** **22 55 13.5 +0.4**
baz=257
M14K Bethel 47.26 33 P **P** **22 55 14.5 +1.3**
M14K IAmb IAmb 22 55 15.5
comp=Z,9.3nm,0.8s
M14K PcP **PcP** **22 56 45.2 +1.2**
M14K Bethel 47.26 33 P **P** **22 55 14.5 +1.3**
baz=255
CNBA Chernabura Isl 47.38 42 P **P** **22 55 13.9 -0.4**
CHNA Chernabura Isl 47.38 42 P **P** **22 55 14.4 +0.1**
baz=263
G15K Niukluk 47.64 27 P **P** **22 55 16.6 +0.5**
baz=249
F15K North Star Dit 47.66 26 P **P** **22 55 17.0 +0.7**
baz=248
ZAA0 Zalesovo Array 47.66 317 **P** **22 55 17.6 +1.2**
ZAA0 IAmb IAmb 22 56 48.4
comp=Z,4.7nm,0.8s
ZALV Zalesovo Beam 47.66 317 P **P** **22 55 16.5 0.0**
comp=Z,3.8nm,0.9s,baz=104,slow=6.3,SNR=9.5
ZALV PcP **PcP** **22 56 45.8 +0.2**
comp=Z,2.9nm,0.5s,baz=110,slow=3.4,SNR=7.8
comp=Z,3.8nm,0.9s
L15K Ungalak Mounta 47.72 32 P **P** **22 55 17.9 +1.1**
baz=255
M15K Kasigluk River 47.85 34 P **P** **22 55 17.7 -0.1**
baz=256
K15K Wolf Creek Mou 47.86 31 P **P** **22 55 19.2 +1.3**
K15K Wolf Creek Mou 47.86 31 P **P** **22 55 17.3 -0.6**
baz=254
O15K Ungalikthiuk R 47.95 36 P **P** **22 55 18.9 +0.2**
O15K Ungalikthiuk R 47.95 36 P **P** **22 55 18.1 -0.5**
baz=259
N15K Kwethluk River 48.02 34 P **P** **22 55 20.5 +1.4**
N15K Kwethluk River 48.02 34 P **P** **22 55 19.4 +0.2**
baz=258
H16K Elim 48.25 28 P **P** **22 55 21.0 +0.1**
baz=252
C16K Lisburne Hills 48.42 23 P **P** **22 55 22.7 +0.6**
baz=245
G16K Koyuk River 48.44 27 P **P** **22 55 22.1 -0.2**
baz=251
J16K Anvik River 48.54 30 P **P** **22 55 23.2 +0.1**
baz=254
L16K Owhat River 48.66 32 P **P** **22 55 24.6 +0.6**
baz=257
I17K Unalakleet 48.67 29 P **P** **22 55 24.7 +0.6**
baz=254
N16K Nishlik Lake 48.73 34 P **P** **22 55 25.0 +0.3**
baz=259,SNR=8.5
M16K Timber Creek 48.75 33 P **P** **22 55 25.1 +0.4**
baz=258
P16K Nunagak River 48.86 36 P **P** **22 55 25.6 0.0**
baz=261
O16K Kokwok River B 48.90 35 **P** **22 55 27.1 +1.1**
O16K IAmb IAmb 22 55 27.8
comp=Z,6.3nm,0.8s
O16K Kokwok River B 48.90 35 P **P** **22 55 25.9 0.0**
baz=260
D17K Noatak River 48.98 24 P **P** **22 55 26.9 +0.5**
baz=248
MK31 Makanchi Array 49.09 308 *d i* P **P** **22 55 28.2 +0.5**
MKAR Makanchi Array 49.09 308 P **P** **22 55 28.4 +0.7**
comp=Z,4.9nm,0.7s,baz=91,slow=9.0,SNR=24
MKAR PcP **PcP** **22 56 51.4 +0.4**
comp=Z,0.8nm,0.5s,baz=71,slow=7.7,SNR=4.7
comp=Z,4.9nm,0.7s
MKAR Makanchi Array 49.09 308 *i* P **P** **22 55 28.3 +0.6**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
G17K Kiwalik Mounta 49.15 27 P **P** **22 55 27.9 +0.1**
baz=252
RDOG Red Dog Mine 49.17 24 P **P** **22 55 28.1 +0.1**
baz=248
E17K Hotham Inlet 49.21 25 P **P** **22 55 28.2 0.0**
baz=250
F17K Baldwin Pennin 49.22 26 P **P** **22 55 28.4 +0.2**
baz=251
J17K VABM Dome 49.23 30 P **P** **22 55 29.2 +0.7**
baz=256
C17K DeLong Mountai 49.24 23 P **P** **22 55 30.1 +1.7**
baz=247
H17K Granite Mounta 49.29 28 P **P** **22 55 29.1 +0.3**
baz=254
L17K Donlin 49.29 32 P **P** **22 55 28.4 -0.5**
baz=258
K17K Iditarod 49.42 31 P **P** **22 55 31.5 +1.7**
K17K IAmb IAmb 22 55 32.3
comp=Z,10nm,0.9s
K17K Iditarod 49.42 31 P **P** **22 55 29.9 0.0**
baz=257
O17K Koliganek Bris 49.43 35 P **P** **22 55 29.9 0.0**
baz=261,SNR=6.0
N17K Nushagak Hills 49.51 34 **P** **22 55 31.4 +0.9**
N17K IAmb IAmb 22 55 33.0
comp=Z,11nm,0.8s
N17K Nushagak Hills 49.51 34 P **P** **22 55 30.6 0.0**
baz=260,SNR=7.0
R17L Mt. Peulik Vol 49.51 38 P **P** **22 55 31.2 +0.6**
baz=263
M17K Holitna River 49.55 33 **P** **22 55 32.3 +1.4**
M17K Holitna River 49.55 33 P **P** **22 55 31.2 +0.3**
baz=259,SNR=8.5
P17K Kvichak River 49.67 36 P **P** **22 55 32.3 +0.5**
baz=262,SNR=7.6
CHIR Chirikof Islan 49.74 41 P **P** **22 55 32.9 +0.6**
baz=265
E18K Tukpahlearik C 49.78 25 P **P** **22 55 33.0 +0.5**
baz=251
Q17K Contact Creek 49.84 37 P **P** **22 55 32.9 -0.4**
baz=263
F18K Selawik 49.87 26 P **P** **22 55 34.2 +1.0**
baz=253
H18K Honhosa River 49.98 28 P **P** **22 55 34.1 0.0**
baz=255
C18K Utukok River 49.98 23 P **P** **22 55 34.0 -0.1**
baz=249
B18K Kokolik River 50.04 22 P **P** **22 55 34.6 +0.2**
baz=248
L18K Granite Mounta 50.05 32 **P** **22 55 36.2 +1.6**
L18K Granite Mounta 50.05 32 P **P** **22 55 34.7 0.0**
baz=259
G18K Tagagawik 50.06 27 **P** **22 55 35.9 +1.2**
G18K IAmb IAmb 22 55 36.5
comp=Z,9.3nm,0.9s
G18K Tagagawik 50.06 27 P **P** **22 55 35.4 +0.7**
baz=254
ACHA Angle Creek He 50.13 37 P **P** **22 55 35.8 +0.4**
N18K Kilae Creek 50.16 34 P **P** **22 55 36.7 +1.1**
N18K IAmb IAmb 22 55 37.9
comp=Z,7.0nm,0.8s
N18K Kilae Creek 50.16 34 P **P** **22 55 36.2 +0.6**
baz=261,SNR=5.0
WB0 Warramunga Arr 50.30 190 **P** **22 55 36.6 -0.4**
P18K Big Mountain, 50.31 36 **P** **22 55 37.8 +1.1**
P18K Big Mountain, 50.31 36 P **P** **22 55 37.0 +0.2**
baz=263,SNR=6.1
M18K Stony River 50.33 33 P **P** **22 55 37.2 +0.5**
baz=260,SNR=5.2
Q18K Katmai Hardscr 50.34 37 P **P** **22 55 36.9 -0.2**
baz=264,SNR=5.4
O18K Koktuh Hills 50.38 35 **P** **22 55 38.4 +1.1**
O18K Koktuh Hills 50.38 35 P **P** **22 55 38.2 +0.9**
baz=262,SNR=6.4
WR8 Warramunga Arr 50.47 190 P **P** **22 55 37.8 -0.5**
WR8 IAmb IAmb 22 55 55.1
comp=Z,7.0nm,0.7s
WRA Warramunga Arr 50.49 191 **P** **22 55 37.5 -0.9**
WRA Warramunga Arr 50.49 191 P **P** **22 55 37.7 -0.7**
comp=Z,3.9nm,0.7s,baz=8.5,slow=7.9,SNR=26
comp=Z,3.9nm,0.7s
R18K Karluk 50.53 38 P **P** **22 55 38.1 -0.2**
baz=265
A19K Wainwright 50.59 21 P **P** **22 55 38.8 +0.2**
baz=248
SII Sitkinak Islan 50.60 40 P **P** **22 55 38.4 -0.5**
baz=266
F19K Shaleruckik Mo 50.66 26 P **P** **22 55 40.1 +1.0**
baz=254
C19K Lookout Ridge 50.69 23 P **P** **22 55 40.5 +1.1**
baz=251
G19K Purcell Mounta 50.74 27 P **P** **22 55 40.2 +0.4**
baz=256
H19K Roundabout Mou 50.85 28 **P** **22 55 42.1 +1.4**
H19K IAmb IAmb 22 55 42.6
comp=Z,11nm,1.1s
H19K Roundabout Mou 50.85 28 P **P** **22 55 40.9 +0.3**
baz=257
J19K Poorman 50.87 30 P **P** **22 55 41.5 +0.7**
J19K Poorman 50.87 30 P **P** **22 55 41.2 +0.3**
baz=259
N19K Bonanza Creek 50.87 34 P **P** **22 55 42.2 +1.3**
N19K IAmb IAmb 22 55 43.0
comp=Z,7.7nm,0.9s
N19K Bonanza Creek 50.87 34 P **P** **22 55 41.5 +0.5**
baz=262,SNR=5.3
O19K Port Alsworth 50.87 35 P **P** **22 55 41.5 +0.6**
L19K White Mountain 50.89 32 P **P** **22 55 42.3 +1.2**
L19K White Mountain 50.89 32 P **P** **22 55 41.0 -0.1**
baz=261
D19K Kuna River 51.00 24 P **P** **22 55 42.4 +0.6**
baz=253
E19K Redstone River 51.03 25 **P** **22 55 42.8 +0.8**
E19K IAmb IAmb 22 55 44.0
comp=Z,12nm,0.8s
E19K Redstone River 51.03 25 P **P** **22 55 42.2 +0.2**
baz=254,SNR=6.6
M19K Big River Lodg 51.06 33 P **P** **22 55 43.8 +1.5**
baz=262
Q19K Cape Douglas, 51.08 37 P **P** **22 55 43.4 +0.9**
baz=265
OHAK Old Harbor 51.13 39 P **P** **22 55 43.4 +0.6**
baz=266
P19K Oil Pt 51.35 36 P **P** **22 55 45.1 +0.5**
baz=264
KURK Kurchatov 51.36 313 **P** **22 55 45.2 +0.5**
KURK IAmb IAmb 22 55 49.4
comp=Z,9.7nm,1.1s
KURK Kurchatov 51.36 313 ⇑ *eP* **P** **22 55 45.1 +0.4**
KURK pmax pmax
comp=Z,9.0nm,0.9s
L20K Farewell, AK 51.39 32 P **P** **22 55 45.0 +0.3**
baz=262
KURBB Kurchatov Arra 51.42 313 P **P** **22 55 45.4 +0.3**
comp=Z,3.5nm,0.6s,baz=89,slow=7.7,SNR=16
comp=Z,3.5nm,0.6s
K20K Telida 51.44 31 **P** **22 55 46.5 +1.3**
K20K IAmb IAmb 22 55 47.4
comp=Z,11nm,0.9s
K20K Telida 51.44 31 P **P** **22 55 45.9 +0.8**
baz=261,SNR=7.8
H20K Anotleneega Mo 51.48 28 P **P** **22 55 45.6 +0.2**
baz=258
F20K Avaraart Lake 51.49 26 **P** **22 55 46.3 +0.9**
F20K Avaraart Lake 51.49 26 P **P** **22 55 46.4 +1.0**
baz=256,SNR=5.5
J20K Nowinta River 51.54 30 **P** **22 55 46.8 +1.0**
J20K Nowinta River 51.54 30 P **P** **22 55 45.7 -0.2**
baz=260,SNR=9.1
KDAK Kodiak Island 51.55 38 **P** **22 55 46.3 +0.4**
KDAK Kodiak Island 51.55 38 LR LR 23 16 01.2
comp=Z,52nm,21.1s,baz=251,slow=34
KDAK Kodiak Island 51.55 38 ⇓ *eP* **P** **22 55 46.2 +0.2**
KDAK pmax pmax
comp=Z,24nm,1.0s
KDAK Kodiak Island 51.55 38 P **P** **22 55 46.0 0.0**
baz=266

D20K	**Etivluk River**	**51.59**	**24**			**P**		**P**	**22 55 47.1**	**+0.8**
D20K	**Etivluk River**	**51.59**	**24**	P		**P**		**P**	**22 55 45.9**	**-0.3**
	baz=254,SNR=6.2									
E20K	**Nigu River**	**51.62**	**25**	P		**P**		**P**	**22 55 46.3**	**-0.2**
	baz=255,SNR=5.6									
M20K	**Styx River**	**51.65**	**33**	P		**P**		**P**	**22 55 47.2**	**+0.3**
	baz=263									
RED	**Redoubt Volcan**	**51.66**	**35**	P		**P**		**P**	**22 55 47.8**	**+0.8**
Q20K	**Shuyak Island**	**51.70**	**37**	P		**P**		**P**	**22 55 47.2**	**+0.1**
	baz=266									
O20K	**Slope Mountain**	**51.70**	**35**	P		**P**		**P**	**22 55 46.7**	**-0.5**
	baz=265									
B20K	**Meade River**	**51.78**	**22**	P		**P**		**P**	**22 55 47.9**	**+0.3**
	baz=252									
PPLA	**Purkeypile**	**52.22**	**32**	P		**P**		**P**	**22 55 51.4**	**+0.3**
	baz=263									
STLK	**Strandline Lak**	**52.22**	**33**	P		**P**		**P**	**22 55 51.9**	**+0.8**
G21K	**Allakaket**	**52.23**	**27**			**P**		**P**	**22 55 52.1**	**+1.1**
G21K					IAmb	IAmb		IAmb	22 55 53.0	
	comp=Z,8.6nm,0.8s									
G21K	**Allakaket**	**52.23**	**27**	P		**P**		**P**	**22 55 51.2**	**+0.2**
	baz=259,SNR=6.3									
CAST	**Castle Rocks**	**52.33**	**31**	P		**P**		**P**	**22 55 52.9**	**+1.1**
CAST					IAmb	IAmb		IAmb	22 55 53.9	
	comp=Z,8.0nm,0.9s									
CAST	**Castle Rocks**	**52.33**	**31**	P		**P**		**P**	**22 55 52.4**	**+0.6**
	baz=262,SNR=8.2									
C21K	**Knifeblade Rid**	**52.35**	**24**	P		**P**		**P**	**22 55 52.4**	**+0.6**
	baz=256,SNR=5.0									
H21K	**Melozitna Rive**	**52.36**	**28**	P		**P**		**P**	**22 55 53.2**	**+1.2**
H21K					IAmb	IAmb		IAmb	22 55 54.2	
	comp=Z,10nm,1.1s									
H21K	**Melozitna Rive**	**52.36**	**28**	P		**P**		**P**	**22 55 52.8**	**+0.8**
	baz=260,SNR=9.4									
F21K	**Alatna River**	**52.38**	**26**			**P**		**P**	**22 55 53.2**	**+1.0**
F21K	**Alatna River**	**52.38**	**26**	P		**P**		**P**	**22 55 53.3**	**+1.2**
	baz=258									
SKT	**Skwentna**	**52.41**	**33**			**P**		**P**	**22 55 53.0**	**+0.6**
SKT	**Skwentna**	**52.41**	**33**	P		**P**		**P**	**22 55 53.0**	**+0.6**
	baz=264,SNR=6.5									
E21K	**Killik River**	**52.47**	**25**	P		**P**		**P**	**22 55 53.1**	**+0.3**
	baz=257									
CAPN	**Captain Cook N**	**52.49**	**34**	P		**P**		**P**	**22 55 53.4**	**+0.5**
	baz=265									
B21K	**Ikpikpuk River**	**52.52**	**23**	P		**P**		**P**	**22 55 53.4**	**+0.3**
	baz=255,SNR=5.5									
BPAW	**Bear Paw Mtn.**	**52.90**	**30**	P		**P**		**P**	**22 55 56.9**	**+0.9**
	baz=263									
F22K	**John River**	**52.94**	**26**	P		**P**		**P**	**22 55 56.4**	**+0.2**
	baz=259									
H22K	**Ishtalitna Cre**	**52.98**	**28**	P		**P**		**P**	**22 55 57.2**	**+0.6**
	baz=261,SNR=6.0									
D22K	**Ayikyak River**	**53.02**	**24**	P		**P**		**P**	**22 55 58.1**	**+1.3**
D22K					IAmb	IAmb		IAmb	22 55 59.0	
	comp=Z,13nm,0.8s									
D22K	**Ayikyak River**	**53.02**	**24**	P		**P**		**P**	**22 55 57.7**	**+0.9**
	baz=258,SNR=8.0									
M22K	**Willow**	**53.06**	**33**	P		**P**		**P**	**22 55 57.9**	**+0.8**
	baz=266									
G22K	**Bettles**	**53.09**	**27**	P		**P**		**P**	**22 55 58.5**	**+1.2**
	baz=260									
B22K	**Teshekpuk Lake**	**53.10**	**22**	P		**P**		**P**	**22 55 57.1**	**-0.2**
	baz=256									
MLY	**Manley**	**53.12**	**29**			**P**		**P**	**22 55 59.0**	**+1.4**
MLY	**Manley**	**53.12**	**29**	P		**P**		**P**	**22 55 57.5**	**-0.1**
	baz=263,SNR=7.4									
TRF	**Thorofare Moun**	**53.13**	**31**	P		**P**		**P**	**22 55 58.6**	**+0.7**
TRF	**Thorofare Moun**	**53.13**	**31**	P		**P**		**P**	**22 55 57.1**	**-0.8**
	baz=264									
E22K	**Anaktuvuk Pass**	**53.19**	**25**	P		**P**		**P**	**22 55 59.1**	**+1.0**
E22K					IAmb	IAmb		IAmb	22 56 00.2	
	comp=Z,12nm,0.9s									
E22K	**Anaktuvuk Pass**	**53.19**	**25**	P		**P**		**P**	**22 55 58.6**	**+0.5**
	baz=259,SNR=10									
RC01	**Rabbit Creek A**	**53.20**	**34**	P		**P**		**P**	**22 55 57.7**	**-0.5**
	baz=266									
SEW	**Seward**	**53.29**	**35**	P		**P**		**P**	**22 55 58.9**	**+0.1**
	baz=267									
PMR	**Palmer**	**53.52**	**33**		IAmb	IAmb		IAmb	22 56 01.2	
	comp=Z,9.4nm,0.8s									
PMR						**P**		**P**	**22 56 01.3**	**+0.8**
PMR	**Palmer**	**53.52**	**33**	P		**P**		**P**	**22 56 01.0**	**+0.4**
	baz=267,SNR=6.2									
GHO	**Glory Hole Cre**	**53.63**	**33**	P		**P**		**P**	**22 56 02.0**	**+0.6**
GHO					IAmb	IAmb		IAmb	22 56 04.0	
	comp=Z,9.8nm,1.1s									
G23K	**Bananza Creek**	**53.64**	**27**			**P**		**P**	**22 56 02.7**	**+1.3**
G23K	**Bananza Creek**	**53.64**	**27**	P		**P**		**P**	**22 56 02.0**	**+0.6**
	baz=262,SNR=17									
COLD	**Coldfoot**	**53.64**	**26**	P		**P**		**P**	**22 56 02.5**	**+1.2**
	baz=262									
I23K	**Minto, Yukon-K**	**53.72**	**29**	P		**P**		**P**	**22 56 02.8**	**+0.9**
I23K					IAmb	IAmb		IAmb	22 56 04.5	
	comp=Z,12nm,1.5s									
I23K	**Minto, Yukon-K**	**53.72**	**29**	P		**P**		**P**	**22 56 02.2**	**+0.3**
	baz=264									
H23K	**Yukon River**	**53.72**	**28**			**P**		**P**	**22 56 03.0**	**+1.0**
H23K	**Yukon River**	**53.72**	**28**	P		**P**		**P**	**22 56 02.2**	**+0.3**
	baz=263,SNR=5.2									
D23K	**Nanushuk River**	**53.75**	**24**			**P**		**P**	**22 56 03.5**	**+1.4**
D23K					IAmb	IAmb		IAmb	22 56 04.6	
	comp=Z,13nm,0.9s									
D23K	**Nanushuk River**	**53.75**	**24**	P		**P**		**P**	**22 56 02.7**	**+0.5**
	baz=260,SNR=5.9									
MCK	**McKinley**	**53.76**	**31**			**P**		**P**	**22 56 02.8**	**+0.5**
MCK					IAmb	IAmb		IAmb	22 56 04.1	
	comp=Z,12nm,1.2s									
MCK	**McKinley**	**53.76**	**31**	P		**P**		**P**	**22 56 02.8**	**+0.5**
MCK					pmax	pmax		pmax		
	comp=Z,12nm,1.2s									
MCK	**McKinley**	**53.76**	**31**	P		**P**		**P**	**22 56 01.9**	**-0.5**
	baz=265									
RND	**Reindeer**	**53.77**	**31**			**P**		**P**	**22 56 02.4**	**-0.1**
RND					IAmb	IAmb		IAmb	22 56 03.2	
	comp=Z,7.7nm,1.0s									
RND	**Reindeer**	**53.77**	**31**	P		**P**		**P**	**22 56 02.4**	**-0.1**
RND					pmax	pmax		pmax		
	comp=Z,8.0nm,1.0s									
NEA2	**Nenana**	**53.78**	**30**	P		**P**		**P**	**22 56 03.2**	**+0.8**
NEA2					IAmb	IAmb		IAmb	22 56 04.1	
	comp=Z,12nm,1.0s									
NEA2	**Nenana**	**53.78**	**30**	P		**P**		**P**	**22 56 02.5**	**+0.1**
	baz=264,SNR=11									
KNK	**Knik Glacier**	**53.83**	**34**	P		**P**		**P**	**22 56 03.3**	**+0.4**
KNK					IAmb	IAmb		IAmb	22 56 03.9	
	comp=Z,9.3nm,0.7s									
KNK	**Knik Glacier**	**53.83**	**34**	P		**P**		**P**	**22 56 03.4**	**+0.5**
	baz=267									
PWL	**Port Wells**	**53.87**	**34**	P		**P**		**P**	**22 56 03.2**	**0.0**
PWL	**Port Wells**	**53.87**	**34**	P		**P**		**P**	**22 56 03.0**	**-0.2**
	baz=268,SNR=7.5									
C23K	**Itkillik River**	**53.93**	**23**			**P**		**P**	**22 56 04.7**	**+1.3**
C23K	**Itkillik River**	**53.93**	**23**	P		**P**		**P**	**22 56 03.6**	**+0.2**
	baz=259,SNR=6.2									
E23K	**Chandalar**	**53.99**	**25**			**P**		**P**	**22 56 05.1**	**+1.1**
E23K					IAmb	IAmb		IAmb	22 56 06.4	
	comp=Z,8.8nm,0.9s									
E23K	**Chandalar**	**53.99**	**25**	P		**P**		**P**	**22 56 04.7**	**+0.7**
	baz=261,SNR=6.9									
TOLK	**Toolik Lake Re**	**54.09**	**25**			**P**		**P**	**22 56 05.8**	**+1.1**
TOLK					IAmb	IAmb		IAmb	22 56 06.8	
	comp=Z,12nm,1.1s									
TOLK	**Toolik Lake Re**	**54.09**	**25**	P		**P**		**P**	**22 56 05.0**	**+0.3**
	baz=261,SNR=5.8									
M23K	**Glacier View**	**54.20**	**33**	P		**P**		**P**	**22 56 06.1**	**+0.5**
	baz=268									
ASAR	**Alice Springs**	**54.21**	**190**	P		**P**		**P**	**22 56 05.5**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=12,slow=4.9,SNR=12									
ASAR				PcP		**PcP**			**22 57 11.7**	**+1.5**
	comp=Z,1.1nm,0.8s,baz=2.9,slow=3.7,SNR=2.4									
	comp=Z,1.9nm,0.8s									
NRN	**Naryn**	**54.23**	**301**			**P**		**P**	**22 56 06.9**	**+0.4**
NRN	**Naryn**	**54.23**	**301**	P		**P**		**P**	**22 56 06.9**	**+0.4**
NRN					pmax	pmax		pmax		
	comp=Z,6.0nm,0.8s									
P23K	**Montague Islan**	**54.31**	**35**			**P**		**P**	**22 56 07.5**	**+1.2**
P23K	**Montague Islan**	**54.31**	**35**	P		**P**		**P**	**22 56 06.0**	**-0.3**
	baz=269									
SCM	**Sheep Creek Mo**	**54.39**	**33**	P		**P**		**P**	**22 56 07.7**	**+0.7**
SCM	**Sheep Creek Mo**	**54.39**	**33**	P		**P**		**P**	**22 56 07.7**	**+0.7**
SCM					pmax	pmax		pmax		
	comp=Z,17nm,0.7s									
SCM	**Sheep Creek Mo**	**54.39**	**33**	P		**P**		**P**	**22 56 07.7**	**+0.7**
	baz=268,SNR=14									
H24K	**Noodor Dome**	**54.40**	**28**			**P**		**P**	**22 56 08.0**	**+1.0**
H24K	**Noodor Dome**	**54.40**	**28**	P		**P**		**P**	**22 56 07.0**	**0.0**
	baz=265									
E24K	**Your Creek**	**54.41**	**25**	P		**P**		**P**	**22 56 07.1**	**+0.1**
	baz=262,SNR=6.4									
D24K	**Happy Valley**	**54.44**	**24**			**P**		**P**	**22 56 08.2**	**+1.0**
D24K	**Happy Valley**	**54.44**	**24**	P		**P**		**P**	**22 56 07.7**	**+0.5**
	baz=261,SNR=9.9									
GLI	**Glacier Island**	**54.48**	**34**	P		**P**		**P**	**22 56 06.2**	**-1.4**
	baz=269									
C24K	**Franklin Bluff**	**54.57**	**23**	P		**P**		**P**	**22 56 07.9**	**-0.1**
	baz=261									
F24K	**Squaw Lake**	**54.57**	**26**			**P**		**P**	**22 56 09.7**	**+1.6**
F24K					IAmb	IAmb		IAmb	22 56 10.4	
	comp=Z,7.5nm,0.7s									
F24K	**Squaw Lake**	**54.57**	**26**	P		**P**		**P**	**22 56 07.7**	**-0.4**
	baz=264,SNR=8.1									
KSH	**Kashi**	**54.63**	**299**			P		**P**	**22 56 13.6**	**+4.4**
KSH						pP		pwP	22 56 24.1	-1.8
KSH						pmax		pmax		
	comp=Z,24nm,0.7s									
G24K	**Hadweenzic Riv**	**54.64**	**27**		IAmb	IAmb		IAmb	22 56 11.2	
	comp=Z,7.0nm,0.8s									
G24K	**Hadweenzic Riv**	**54.64**	**27**	P		**P**		**P**	**22 56 09.6**	**+0.9**
	baz=264									
HDA	**Harding Lake**	**54.68**	**30**		IAmb	IAmb		IAmb	22 56 09.4	
	comp=Z,6.6nm,0.9s									
HDA	**Harding Lake**	**54.68**	**30**	P		**P**		**P**	**22 56 08.4**	**-0.6**
	baz=267									
ILAR	**Eielson Array**	**54.73**	**30**			**P**		**P**	**22 56 09.2**	**-0.2**
ILAR	**Eielson Array**	**54.73**	**30**	P		**P**		**P**	**22 56 08.9**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=259,slow=6.1,SNR=40									
	comp=Z,3.4nm,0.8s									
KLU	**Klutina**	**55.05**	**34**		IAmb	IAmb		IAmb	22 56 13.3	
	comp=Z,8.4nm,0.6s									
KLU	**Klutina**	**55.05**	**34**	P		**P**		**P**	**22 56 12.7**	**+0.8**
	baz=270,SNR=9.0									
AAK	**Ala-Archa**	**55.10**	**303**	⇑	*e*	P		**P**	**22 56 11.6**	**-1.0**
AAK						pmax		pmax		
	comp=Z,4.0nm,0.8s									
EYAK	**Cordova Ski Ar**	**55.14**	**35**		IAmb	IAmb		IAmb	22 56 14.0	
	comp=Z,6.1nm,0.8s									
EYAK	**Cordova Ski Ar**	**55.14**	**35**	P		**P**		**P**	**22 56 12.5**	**+0.2**
	baz=270									
K24K	**Donnelly Dome**	**55.17**	**31**	P		**P**		**P**	**22 56 12.2**	**-0.4**
	baz=268									
G25K	**Bearman Lake**	**55.19**	**27**	P		**P**		**P**	**22 56 13.2**	**+0.6**
	baz=266									
H25L	**Birch Creek**	**55.27**	**28**	P		**P**		**P**	**22 56 13.0**	**-0.2**
	baz=266									
PAX	**Paxson**	**55.28**	**32**		IAmb	IAmb		IAmb	22 56 14.9	
	comp=Z,13nm,1.5s									
PAX	**Paxson**	**55.28**	**32**	P		**P**		**P**	**22 56 12.7**	**-0.8**
	baz=269									
D25K	**Kavik River**	**55.33**	**24**	P		**P**		**P**	**22 56 13.2**	**-0.4**
	baz=264,SNR=7.5									
J25K	**Salcha River,**	**55.38**	**30**	P		**P**		**P**	**22 56 13.5**	**-0.6**
	baz=268									
HARP	**HAARP**	**55.42**	**33**	P		**P**		**P**	**22 56 13.9**	**-0.5**
	baz=270									
F25K	**Christian Rive**	**55.43**	**26**		IAmb	IAmb		IAmb	22 56 17.3	
	comp=Z,9.1nm,0.8s									
F25K	**Christian Rive**	**55.43**	**26**	P		**P**		**P**	**22 56 14.6**	**+0.2**
	baz=266,SNR=12									
E25K	**Arctic Village**	**55.50**	**26**	P		**P**		**P**	**22 56 15.5**	**+0.6**
	baz=265,SNR=11									
RIDG	**Independent Ri**	**55.58**	**31**	P		**P**		**P**	**22 56 15.3**	**-0.2**
	baz=269									
N25K	**Chitina, Valde**	**55.69**	**33**	P		**P**		**P**	**22 56 16.1**	**-0.3**
	baz=271									
BMRM	**Bremner River**	**55.70**	**34**	P		**P**		**P**	**22 56 15.8**	**-0.6**
	baz=271,SNR=5.4									
KAIM	**Kayak Island**	**55.81**	**36**	P		**P**		**P**	**22 56 17.0**	**-0.2**
	baz=272									
SCRK	**Sand Creek**	**55.96**	**31**		IAmb	IAmb		IAmb	22 56 19.4	
	comp=Z,3.7nm,0.6s									
SCRK	**Sand Creek**	**55.96**	**31**	P		**P**		**P**	**22 56 18.1**	**-0.3**
	baz=270,SNR=7.9									
F26K	**Sheenjek River**	**56.01**	**26**	P		**P**		**P**	**22 56 20.0**	**+1.4**
F26K						IAmb		IAmb	22 56 21.4	
	comp=Z,11nm,0.8s									
F26K	**Sheenjek River**	**56.01**	**26**	P		**P**		**P**	**22 56 19.3**	**+0.7**
	baz=267,SNR=13									
G26K	**Porcupine Rive**	**56.12**	**27**		IAmb	IAmb		IAmb	22 56 21.9	
	comp=Z,7.7nm,0.9s									
G26K	**Porcupine Rive**	**56.12**	**27**	P		**P**		**P**	**22 56 19.7**	**+0.4**
	baz=268									
J26L	**Joseph Creek**	**56.15**	**30**	P		**P**		**P**	**22 56 19.4**	**-0.3**
	baz=270,SNR=6.0									
VRDI	**Verde Repeater**	**56.25**	**34**		IAmb	IAmb		IAmb	22 56 22.1	
	comp=Z,14nm,1.4s									
L26K	**Log Cabin Wild**	**56.25**	**32**	P		**P**		**P**	**22 56 20.6**	**+0.3**
	baz=271									
BVAR	**Borovoye Array**	**56.28**	**316**			P		**P**	**22 56 21.1**	**+0.5**
	comp=Z,3.8nm,0.7s,baz=94,slow=8.7,SNR=16									
	comp=Z,3.8nm,0.7s									
C27K	**Jago River**	**56.29**	**24**	P		**P**		**P**	**22 56 20.1**	**-0.4**
	baz=266,SNR=9.8									
I26K	**Coal Creek Min**	**56.33**	**29**	P		**P**		**P**	**22 56 21.4**	**+0.6**
	baz=269									
BRVK	**Borovoye**	**56.34**	**316**	⇑	*i*	P		**P**	**22 56 21.6**	**+0.5**
BRVK						pmax		pmax		
	comp=Z,7.0nm,1.1s									
M26K	**Nabesna, AK**	**56.43**	**33**	P		**P**		**P**	**22 56 22.2**	**+0.6**
	baz=272									
CRQE	**Cirque**	**56.44**	**34**	P		**P**		**P**	**22 56 22.4**	**+0.5**
	baz=272,SNR=14									
MCARA	**McCarthy VSAT**	**56.45**	**34**	P		**P**		**P**	**22 56 21.9**	**+0.1**
	baz=272									
K27K	**Chicken**	**56.80**	**31**	P		**P**		**P**	**22 56 24.2**	**0.0**
	baz=271									
L27K	**Beaver Creek,**	**56.95**	**32**	P		**P**		**P**	**22 56 25.5**	**+0.3**
	baz=272,SNR=6.4									
M27K	**Edge Creek, AK**	**56.95**	**33**	P		**P**		**P**	**22 56 25.4**	**-0.1**
	baz=272									
G27K	**Doyon Strip**	**56.95**	**27**	P		**P**		**P**	**22 56 25.3**	**0.0**
	baz=270									
BCAR	**Beaver Creek A**	**56.97**	**32**			**P**		**P**	**22 56 26.1**	**+0.7**
I27K	**Kandik River**	**56.98**	**29**	P		**P**		**P**	**22 56 25.4**	**-0.1**
	baz=271									
E27K	**Coleen River**	**56.99**	**26**		IAmb	IAmb		IAmb	22 56 28.0	
	comp=Z,8.7nm,0.9s									
E27K	**Coleen River**	**56.99**	**26**	P		**P**		**P**	**22 56 26.4**	**+0.9**
	baz=269,SNR=6.2									
H27K	**Steamboat Moun**	**57.01**	**28**		IAmb	IAmb		IAmb	22 56 28.2	
	comp=Z,12nm,0.9s									
H27K	**Steamboat Moun**	**57.01**	**28**	P		**P**		**P**	**22 56 26.7**	**+1.0**
	baz=270,SNR=15									
GRNC	**Granite Creek**	**57.10**	**34**		IAmb	IAmb		IAmb	22 56 27.9	
	comp=Z,9.0nm,0.8s									
D27M	**Malcolm River**	**57.24**	**24**		IAmb	IAmb		IAmb	22 56 29.8	
	comp=Z,12nm,1.0s									
D27M	**Malcolm River**	**57.24**	**24**	P		**P**		**P**	**22 56 28.3**	**+1.0**
	baz=269,SNR=5.2									
CTG	**Chitna Glacier**	**57.29**	**34**	P		**P**		**P**	**22 56 28.3**	**+0.4**
	baz=274									
BVCY	**Beaver Creek**	**57.42**	**32**	P		**P**		**P**	**22 56 28.9**	**+0.2**
	baz=273									
F28M	**Old Crow**	**57.64**	**26**		IAmb	IAmb		IAmb	22 56 32.6	
	comp=Z,9.6nm,1.0s									
F28M	**Old Crow**	**57.64**	**26**	P		**P**		**P**	**22 56 30.5**	**+0.3**
	baz=271,SNR=7.0									
YUK3	**Moose Creek**	**57.65**	**33**	P		**P**		**P**	**22 56 30.3**	**-0.2**
	baz=274									
I28M	**Miner Creek**	**57.68**	**29**		IAmb	IAmb		IAmb	22 56 32.3	
	comp=Z,5.5nm,0.8s									
I28M	**Miner Creek**	**57.68**	**29**	P		**P**		**P**	**22 56 30.7**	**+0.2**
	baz=272,SNR=5.5									
E28M	**Babbage River**	**57.76**	**25**	P		**P**		**P**	**22 56 31.4**	**+0.5**
	baz=271,SNR=10.0									
O28M	**Mount Upton**	**57.86**	**34**	P		**P**		**P**	**22 56 32.0**	**-0.1**
	baz=275									
KKAR	**Karatay Array**	**57.87**	**304**					**P**	**22 56 32.8**	**+0.7**
KKAR	**Karatay Array**	**57.87**	**304**	P		**P**		**P**	**22 56 32.8**	**+0.7**
PINM	**Pinnacle**	**57.89**	**35**	P		**P**		**P**	**22 56 32.7**	**+0.7**
	baz=275									
DAWY	**Dawson**	**57.98**	**30**	P		**P**		**P**	**22 56 33.5**	**+0.9**
DAWY						IAmb		IAmb	22 56 34.5	
	comp=Z,9.5nm,1.0s									
DAWY	**Dawson**	**57.98**	**30**	P		**P**		**P**	**22 56 32.5**	**-0.1**
	baz=274,SNR=5.3									
NIL	**Nilore**	**58.23**	**293**					**P**	**22 56 36.4**	**+1.5**
NIL	**Nilore**	**58.23**	**293**	P		**P**		**P**	**22 56 36.4**	**+1.5**
NIL						pmax		pmax		
	comp=Z,16nm,0.7s									
H29M	**Whitestone**	**58.29**	**28**	P		**P**		**P**	**22 56 34.6**	**0.0**
	baz=273									
PNL	**Peninsula**	**58.37**	**36**	P		**P**		**P**	**22 56 35.1**	**-0.2**
	baz=276									
E29M	**Blow River**	**58.37**	**25**		IAmb	IAmb		IAmb	22 56 37.6	
	comp=Z,8.0nm,0.9s									
E29M	**Blow River**	**58.37**	**25**	P		**P**		**P**	**22 56 35.5**	**+0.4**
	baz=272,SNR=5.6									
G29M	**Pine Creek**	**58.39**	**27**		IAmb	IAmb		IAmb	22 56 38.0	
	comp=Z,11nm,0.9s									
G29M	**Pine Creek**	**58.39**	**27**	P		**P**		**P**	**22 56 35.8**	**+0.5**
	baz=273									
M29M	**Somme Creek**	**58.53**	**32**	P		**P**		**P**	**22 56 36.8**	**+0.3**
	baz=275,SNR=7.9									
YUK4	**Talbot Arm**	**58.55**	**34**	P		**P**		**P**	**22 56 37.4**	**+0.6**
	baz=276									
L29M	**L29M**	**58.62**	**32**	P		**P**		**P**	**22 56 37.8**	**+0.7**
	baz=275,SNR=11									
O29M	**Mount Kennedy**	**58.70**	**35**	P		**P**		**P**	**22 56 38.0**	**+0.2**
	baz=277,SNR=5.2									
YUK6	**Outpost Mounta**	**58.73**	**34**	P		**P**		**P**	**22 56 38.4**	**+0.3**
	baz=276									
K29M	**Barlow Dome**	**58.83**	**31**		IAmb	IAmb		IAmb	22 56 40.9	
	comp=Z,11nm,0.9s									
K29M	**Barlow Dome**	**58.83**	**31**	P		**P**		**P**	**22 56 39.0**	**+0.5**
	baz=275,SNR=10.0									
EPYK	**Eagle Plains**	**58.94**	**28**	P		**P**		**P**	**22 56 39.2**	**-0.1**
	baz=275,SNR=6.5									
G30M	**tAoh Zraii Nji**	**59.09**	**27**	P		**P**		**P**	**22 56 40.3**	**+0.1**
	baz=275									
HYT	**Haines Junctio**	**59.17**	**34**		IAmb	IAmb		IAmb	22 56 43.9	
	comp=Z,4.2nm,0.8s									
HYT	**Haines Junctio**	**59.17**	**34**	P		**P**		**P**	**22 56 41.4**	**+0.4**
	baz=277,SNR=6.8									
I30M	**Mount Dempster**	**59.19**	**29**	P		**P**		**P**	**22 56 41.0**	**0.0**
	baz=276,SNR=5.8									
P29M	**Windy Craggy**	**59.21**	**36**		IAmb	IAmb		IAmb	22 56 43.1	
	comp=Z,7.7nm,0.7s									
P29M	**Windy Craggy**	**59.21**	**36**	P		**P**		**P**	**22 56 41.5**	**+0.3**
	baz=278,SNR=6.3									
F30M	**Barrier River**	**59.21**	**26**	P		**P**		**P**	**22 56 41.2**	**+0.2**
	baz=275									
J30M	**Hart River**	**59.27**	**30**		IAmb	IAmb		IAmb	22 56 43.8	
	comp=Z,6.2nm,1.1s									
J30M	**Hart River**	**59.27**	**30**	P		**P**		**P**	**22 56 42.3**	**+0.6**
	baz=276									
N30M	**Aishikik Lake**	**59.29**	**33**	P		**P**		**P**	**22 56 41.7**	**0.0**
	baz=277									
M30M	**Minto, Yukon**	**59.29**	**32**	P		**P**		**P**	**22 56 41.7**	**0.0**
	baz=277									
P30M	**Million Dollar**	**59.53**	**35**	P		**P**		**P**	**22 56 43.7**	**+0.3**
	baz=278									
G31M	**Satah River**	**59.86**	**27**					**P**	**22 56 46.3**	**+0.8**
G31M					IAmb	IAmb		IAmb	22 56 46.9	
	comp=Z,10.0nm,0.9s									
G31M	**Satah River**	**59.86**	**27**	P		**P**		**P**	**22 56 45.1**	**-0.3**
	baz=276									
O30N	**Mendenhall**	**59.86**	**34**	P		**P**		**P**	**22 56 45.5**	**-0.2**
	baz=278									
N31M	**Braeburn, Yuko**	**59.91**	**33**	P		**P**		**P**	**22 56 46.3**	**+0.3**
	baz=278,SNR=5.2									
PLBC	**Pleasant Camp**	**59.92**	**36**	P		**P**		**P**	**22 56 46.1**	**0.0**
	baz=279,SNR=8.7									
H31M	**Peel River**	**59.96**	**28**	P		**P**		**P**	**22 56 46.3**	**+0.1**
	baz=277									
INK	**Inuvik**	**59.99**	**25**	P		**P

OBN				*e*PPP	PPP	23 02 45.4	
OBN				pmax	pmax		
	comp=Z,17nm,1.9s						
FINES	**FINES Array B**	**75.51**	**334**	P	**P**	**22 58 24.7**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=62,slow=5.2,SNR=22						
	comp=Z,3.1nm,0.7s						
J08A	**Circle Bar Ran**	**75.67**	**48**	IAmb	IAmb	22 58 27.6	
	comp=Z,8.6nm,0.9s						
BEKR	**Beckworth**	**76.04**	**52**	IAmb	IAmb	22 58 29.3	
	comp=Z,8.3nm,0.8s						
KBZ	**Khabaz**	**76.42**	**313**	P	**P**	**22 58 30.9**	**+1.1**
	comp=Z,5.5nm,0.8s,baz=98,slow=5.5,SNR=8.3						
	comp=Z,5.5nm,0.8s						
KBZ	**Khabaz**	**76.42**	**313**	*de*P	**P**	**22 58 30.8**	**+1.1**
KBZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KIV	**Kislovodsk**	**76.45**	**313**	*e*P	**P**	**22 58 31.7**	**+1.7**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PAHR	**Pah Rah Range**	**76.78**	**52**	IAmb	IAmb	22 58 33.6	
	comp=Z,6.1nm,1.0s						
CMB	**Columbia Colle**	**76.87**	**54**	IAmb	IAmb	22 58 34.0	
	comp=Z,6.3nm,0.8s						
GNI	**Garni**	**76.92**	**309**	*e*P	**P**	**22 58 34.0**	**+1.1**
GNI				pmax	pmax		
	comp=Z,16nm,1.5s						
VSU	**Vasula**	**77.05**	**331**	*e*P	**P**	**22 58 33.0**	**0.0**
VSU				pmax	pmax		
	comp=Z,12nm,0.9s						
MFID	**Camas Ranch**	**77.33**	**47**	IAmb	IAmb	22 58 36.9	
	comp=Z,6.1nm,0.9s						
SUMG	**Summit**	**77.55**	**0**	IAmb	IAmb	22 58 38.3	
	comp=Z,8.5nm,0.7s						
NVAR	**Mina Array Bea**	**78.13**	**52**		**P**	**22 58 40.0**	**+0.3**
NVAR	**Mina Array Bea**	**78.13**	**52**	P	**P**	**22 58 40.6**	**+0.9**
	comp=Z,4.5nm,0.7s,baz=288,slow=6.0,SNR=24						
	comp=Z,4.5nm,0.7s						
FFC	**Flin Flon**	**78.81**	**32**		**P**	**22 58 43.4**	**+0.5**
FFC				IAmb	IAmb	22 58 44.3	
	comp=Z,11nm,0.9s						
FFC	**Flin Flon**	**78.81**	**32**	P	**P**	**22 58 43.4**	**+0.5**
FFC				pmax	pmax		
	comp=Z,11nm,0.9s						
MNK	**Minsk**	**78.93**	**327**	*i* P	**P**	**22 58 43.1**	**-0.4**
MNK				*i*		23 01 42.2	
MNK				*i* PPP	PPP	23 03 31.0	
MNK				*i* S	**S**	**23 08 42.5**	**+2.6**
MNK				*i* SS	**SS**	**23 13 48.5**	**+4.1**
MNK				*i* SSS	SSS	23 17 13.6	
MNK				pmax	pmax		
	comp=E,7.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MNK				pmax	pmax		
	comp=N,10.0nm,0.9s						
MNK				MLR	MLR		
	comp=E,25nm,18.0s						
ANN	**Anapa**	**79.28**	**316**	*e*P	**P**	**22 58 41.5**	**-4.1**
ANN				*e*PP	pP	22 58 44.8	-8.0
ANN				*e*S	**S**	**23 08 39.5**	**-4.3**
ANN				*e*SS	**SS**	**23 13 53.8**	**+3.8**
ANN				pmax	pmax		
	comp=Z,27nm,0.9s						
PABE	**Paberze**	**80.08**	**330**		**P**	**22 58 50.5**	**+0.8**
GWY	**Greenwater Val**	**80.37**	**54**		**P**	**22 58 52.4**	**+0.4**
GWY				IAmb	IAmb	22 58 53.3	
	comp=Z,11nm,1.2s						
AKASG	**Malin Array Be**	**80.55**	**324**	P	**P**	**22 58 52.5**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=50,slow=5.4,SNR=8.3						
	comp=Z,1.2nm,0.5s						
AKBB	**Malin Array Si**	**80.55**	**324**	*d* P	**P**	**22 58 51.5**	**-0.9**
AKBB				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KIEV	**Kiev**	**80.56**	**324**		**P**	**22 58 52.2**	**-0.3**
KIEV	**Kiev**	**80.56**	**324**	P	**P**	**22 58 52.2**	**-0.3**
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HFS	**Hagfors**	**80.89**	**337**	P	**P**	**22 58 54.2**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=62,slow=3.5,SNR=20						
	comp=Z,2.9nm,0.7s						
HWUT	**Hardware Ranch**	**80.97**	**47**	IAmb	IAmb	22 58 57.0	
	comp=Z,6.7nm,1.0s						
NB2	**NORSAR Subarra**	**81.03**	**338**	P	**P**	**22 58 54.8**	**0.0**
	comp=Z,4.0nm,0.8s,baz=40,slow=5.6						
NB2	**NORSAR Subarra**	**81.03**	**338**	P	**P**	**22 58 57.4**	**+2.6**
NOA	**NORSAR Array B**	**81.03**	**338**	P	**P**	**22 58 54.9**	**0.0**
	comp=Z,3.6nm,0.8s,baz=39,slow=5.2,SNR=18						
	comp=Z,3.6nm,0.8s						
SHPR	**Sheep Range**	**81.25**	**53**		**P**	**22 58 56.9**	**+0.2**
PDAR	**Pinedale Array**	**81.59**	**45**	P	**P**	**22 58 58.5**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=289,slow=2.2,SNR=10						
	comp=Z,0.9nm,0.7s						
PFO	**Pinyon Flats O**	**81.82**	**56**		**P**	**22 58 59.9**	**+0.3**
PFO				IAmb	IAmb	22 59 00.9	
	comp=Z,8.7nm,1.0s						
PFO	**Pinyon Flats O**	**81.82**	**56**	LR	LR	23 29 26.4	
	comp=Z,37nm,19.9s,baz=288,slow=31						
PFO	**Pinyon Flats O**	**81.82**	**56**	P	**P**	**22 58 59.9**	**+0.3**
PFO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
Q16A	**Castle Valley**	**82.67**	**49**	IAmb	IAmb	22 59 06.0	
	comp=Z,10nm,1.4s						
FRB	**Frobisher Bay**	**83.16**	**14**	LR	LR	23 38 32.7	
	comp=Z,29nm,19.2s,baz=68,slow=37						
TAOE	**Nuku Hiva Isla**	**83.26**	**104**	*e*LR	LR	23 25 12.6	
	comp=Z,108nm,24.1s						
O20A	**White River Ci**	**83.88**	**47**	IAmb	IAmb	22 59 11.7	
	comp=Z,8.4nm,1.3s						
BR131	**Keskin Array S**	**84.41**	**313**	IAmb	IAmb	22 59 34.0	
	comp=Z,5.5nm,0.9s						
BR131	**Keskin Array S**	**84.41**	**313**	*de*P	**P**	**22 59 13.2**	**+0.2**
BRTR	**Keskin Array B**	**84.42**	**313**	P	**P**	**22 59 13.8**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=112,slow=3.7,SNR=22						
	comp=Z,3.4nm,0.7s						
BUR08	**Bucovina Ar. S**	**84.52**	**323**	IAmb	IAmb	22 59 16.8	
	comp=Z,12nm,1.6s						
RAYN	**Ar Rayn**	**84.52**	**294**		**P**	**22 59 14.3**	**+0.6**
RAYN	**Ar Rayn**	**84.52**	**294**	P	**P**	**22 59 14.3**	**+0.6**
RAYN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
EPLO	**Experimental L**	**85.95**	**33**	IAmb	IAmb	22 59 21.2	
	comp=Z,7.3nm,0.7s						
VYHS	**Vyhne**	**87.13**	**327**	*e*P	**P**	**22 59 26.8**	**+0.7**
VYHS	**Vyhne**	**87.13**	**327**	*e*P	**P**	**22 59 26.8**	**+0.7**
CLL	**Collm**	**87.71**	**331**	*i* P	**P**	**22 59 28.6**	**-0.2**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CLL	**Collm**	**87.71**	**331**	*i* P	**P**	**22 59 28.6**	**-0.2**
	comp=Z,4.0nm,0.9s						
CLL				AMS	AMS	23 15 00.0	
	comp=Z,100nm,19.6s						
ANMO	**Albuquerque**	**88.02**	**50**	LR	LR	23 34 53.0	
	comp=Z,56nm,19.2s,baz=65,slow=33						
ANMO	**Albuquerque**	**88.02**	**50**	*e*P	**P**	**22 59 28.9**	**-2.0**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.4s						
GERES	**GERESS Array B**	**89.24**	**329**	P	**P**	**22 59 36.0**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=34,slow=5.0,SNR=4.0						
	comp=Z,0.3nm,0.5s						
SCHQ	**Schefferville**	**91.57**	**17**	LR	LR	23 45 57.8	
	comp=Z,13nm,19.2s,baz=301,slow=39						
BFO	**Black Forest**	**91.93**	**332**		**P**	**22 59 49.2**	**+0.5**
BFO				IAmb	IAmb	22 59 52.7	
	comp=Z,3.9nm,0.8s						
BFO	**Black Forest**	**91.93**	**332**	P	**P**	**22 59 49.2**	**+0.5**
BFO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**92.44**	**330**	IAmb	IAmb	22 59 52.3	
	comp=Z,3.6nm,0.8s						
TXAR	**Lajitas Array**	**93.25**	**53**		**P**	**22 59 55.7**	**+0.4**
TXAR	**Lajitas Array**	**93.25**	**53**	P	**P**	**22 59 56.4**	**+1.1**
	comp=Z,3.7nm,0.9s,baz=298,slow=3.0,SNR=36						
	comp=Z,3.7nm,0.9s						
TXAR	**Lajitas Array**	**93.25**	**53**	P	**P**	**22 59 55.7**	**+0.4**
BRDY	**Brady**	**95.20**	**49**	IAmb	IAmb	23 00 05.4	
	comp=Z,3.8nm,1.0s						
QSPA	**South Pole Qui**	**119.91**	**180**	PKP	**PKiKP**	**23 05 29.7**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=280,slow=1.8,SNR=9.5						
TORD	**Torodi Ar. Bea**	**123.03**	**313**	PKP	**PKPdf**	**23 05 36.4**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=24,slow=1.5,SNR=2.9						
LPAZ	**La Paz**	**148.41**	**71**	PKPbc	**PKPbc**	**23 06 28.7**	**+0.7**
	comp=Z,4.9nm,0.8s,baz=334,slow=3.4,SNR=20						
PLCA	**Paso Flores**	**150.90**	**120**	PKPbc	**PKiKP**	**23 06 33.6**	**+0.2**
	comp=Z,5.3nm,0.8s,baz=195,slow=3.6,SNR=11						

*IDC **21** 23:00:14.2±1.0, 76.45N×7.24E, h0km, mb3.4/6, mbtmp3.6/12, ML3.0/4, MS3.2/13, Error ellipse: s-maj=18.8km s-min=14.3km az=72.0*
*BER **21** 23:00:14.3±4.3, 76.63N×7.33E, h10km, mb(Pn)4.1, Confirmed Earthquake*
*KOLA **21** 23:00:16.2, 76.73N×8.94E, h0km, ML2.6, Error ellipse: s-maj=21.8km s-min=19.8km az=20.0, Greenland sea,Knipovich ridge, middle*
*NAO **21** 23:00:16.3±1.1, 76.71N×7.73E, h20km±12km, ML3.9*
*DNK **21** 23:00:17.2±5.0, 76.64N×7.55E, h36km±44km, ML2.3*
*FCIAR **21** 23:00:19.0, 76.43N×9.02E, h10km, station SPA0 has station magnitude of 3.88*

ISC 21 23:00:14.2±0.7, 76.55N±0.04×7.73E±0.05, h10km, n94, σ2s85/111, mb3.4/6, MS3.2/8, 1D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**1.85**	**72**	Pn	**Pn**	**23 00 45.8**	**-0.1**
HSPB				Sn	**Sn**	**23 01 06.3**	**-3.0**
HSPB	**Hornsund (broa**	**1.85**	**72**	P	**Pn**	**23 00 45.8**	**-0.1**
HSPB				S	**Sn**	**23 01 04.3**	**-5.0**
HSPB	**Hornsund (broa**	**1.85**	**72**	*e*P	**Pn**	**23 00 45.6**	**-0.3**
HSPB				*i* S	**Sn**	**23 01 05.2**	**-4.1**
HSPB	**Hornsund (broa**	**1.85**	**72**	*e*P	**Pn**	**23 00 45.8**	**-0.1**
HSPB				*e*S	**Sn**	**23 01 06.0**	**-3.2**
HSPB				IAML		23 01 09.4	
	comp=Z,60nm,0.4s						
BRBA	**Barentsburg A**	**2.09**	**40**	Pn	**Pn**	**23 00 48.2**	**-0.9**
BRBA	**Barentsburg A**	**2.09**	**40**	*e*P	**Pn**	**23 00 48.4**	**-0.7**
BRBA				IAML		23 01 11.5	
	comp=Z,29nm,0.6s						
BRBB	**Barentsburg B**	**2.11**	**40**	Pn	**Pn**	**23 00 48.9**	**-0.6**
BRBB	**Barentsburg B**	**2.11**	**40**	P	**Pn**	**23 00 49.1**	**-0.3**
BRBB				S	**Sn**	**23 01 13.8**	**-1.9**
BRBB	**Barentsburg B**	**2.11**	**40**	*e*P	**Pn**	**23 00 48.5**	**-0.9**
SPA0	**Spitsbergen Ar**	**2.51**	**45**	Pn	**Pn**	**23 00 55.7**	**+0.8**
	baz=274,slow=16						
SPA0				Sn	**Sn**	**23 01 24.0**	**-1.5**
	baz=236,slow=22						
SPA0	**Spitsbergen Ar**	**2.51**	**45**	*i* P	**Pn**	**23 00 55.5**	**+0.6**
SPA0				*i* S	**Sn**	**23 01 23.4**	**-2.0**
SPA0	**Spitsbergen Ar**	**2.51**	**45**	Pn	**Pn**	**23 00 55.7**	**+0.8**
	baz=274,slow=16						
SPA0				Sn	**Sn**	**23 01 24.0**	**-1.5**
	baz=236,slow=22						
SPA0				IAML		23 01 27.5	
	comp=Z,50nm,0.6s						
SPITS	**Spitsbergen Ar**	**2.51**	**45**	Pn	**Pn**	**23 00 55.5**	**+0.6**
	comp=Z,83nm,0.4s,baz=218,slow=15,SNR=658						
SPITS				Sn	**Sn**	**23 01 24.7**	**-0.8**
	baz=222,slow=21						
SPITS	**Spitsbergen Ar**	**2.51**	**45**	P	**Pn**	**23 00 54.9**	**0.0**
SPITS				S	**Sn**	**23 01 22.6**	**-2.9**
KBS	**Kingsbay**	**2.55**	**19**	Pn	**Pn**	**23 00 54.7**	**-0.8**
KBS				Sn	**Sn**	**23 01 21.6**	**-4.9**
KBS	**Kingsbay**	**2.55**	**19**	P	**Pn**	**23 00 54.2**	**-1.3**
KBS				S	**Sn**	**23 01 21.6**	**-4.9**
KBS	**Kingsbay**	**2.55**	**19**	*e*P	**Pn**	**23 00 54.2**	**-1.3**
KBS				*e*S	**Sn**	**23 01 21.7**	**-4.9**
KBS				IAML		23 01 29.4	
	comp=Z,27nm,0.5s						
KBS	**Kingsbay**	**2.55**	**19**	*i* P	**Pn**	**23 00 54.5**	**-1.0**
KBS				*i* S	**Sn**	**23 01 20.9**	**-5.7**
BJO1	**Bjornoya**	**3.49**	**120**	*e*P	**Pn**	**23 01 09.3**	**+0.9**
BJO1				*e*S	**Sn**	**23 01 45.9**	**-3.9**
BJO1	**Bjornoya**	**3.49**	**120**	*e*P	**Pn**	**23 01 09.2**	**+0.8**
BJO1				IAML		23 01 52.0	
	comp=Z,16nm,0.4s						
HOPEN	**Hopen**	**4.04**	**82**	Pn	**Pn**	**23 01 16.4**	**+0.5**
HOPEN				Sn	**Sn**	**23 02 01.0**	**-2.1**
HOPEN	**Hopen**	**4.04**	**82**	*e*P	**Pn**	**23 01 16.8**	**+0.9**
HOPEN				*e*S	**Sn**	**23 01 59.5**	**-3.6**
HOPEN	**Hopen**	**4.04**	**82**	*e*P	**Pn**	**23 01 16.8**	**+0.9**
HOPEN				*e*S	**Sn**	**23 02 00.9**	**-2.2**
DAG	**Danmarks Havn**	**6.08**	**285**	*e*P	**Pn**	**23 01 40.7**	**-3.2**
DAG				*e*S	Sn	23 02 41.2	-12
DAG	**Danmarks Havn**	**6.08**	**285**	*i* P	**Pn**	**23 01 40.5**	**-3.4**
DAG				*e*S	Sn	23 02 42.9	-10
DAG				IAML		23 02 45.3	
	comp=Z,33nm,0.9s						
NOR	**Nord**	**6.79**	**329**	Pn	**Pn**	**23 01 50.3**	**-3.3**
NOR	**Nord**	**6.79**	**329**	*e*P	**Pn**	**23 01 50.4**	**-3.3**
NOR	**Nord**	**6.79**	**329**	*i* P	**Pn**	**23 01 49.7**	**-3.9**
NOR				IAML		23 03 06.8	
	comp=Z,6.1nm,0.7s						
JMIC	**Jan Mayen**	**7.17**	**227**	Pn	**Pn**	**23 01 57.2**	**-1.7**
	comp=Z,24nm,0.5s,baz=36,slow=3.7,SNR=10						
JMIC				Sn	**Sn**	**23 03 12.1**	**-8.1**
	comp=Z,3.0nm,0.3s,baz=216,slow=20,SNR=7.1						
DBG	**Daneborg**	**7.34**	**266**	Pn	**Pn**	**23 02 00.3**	**-0.9**
DBG				Sn	Sn	23 03 11.8	-13
DBG	**Daneborg**	**7.34**	**266**	*e*P	**Pn**	**23 02 00.2**	**-1.0**
DBG				*e*S	Sn	23 03 12.5	-12
DBG	**Daneborg**	**7.34**	**266**	*i* P	**Pn**	**23 01 59.2**	**-2.0**
DBG				*i* S	Sn	23 03 12.1	-12
DBG				IAML		23 03 18.6	
	comp=Z,8.6nm,0.7s						
HAMF	**Hammerfest**	**7.42**	**135**	Pn	**Pn**	**23 02 02.1**	**-0.2**
HAMF				Sn	**Sn**	**23 03 20.5**	**-5.8**
HAMF	**Hammerfest**	**7.42**	**135**	Pn	**Pn**	**23 02 02.1**	**-0.2**
HAMF				Sn	**Sn**	**23 03 20.5**	**-5.8**
TRO	**Tromso**	**7.66**	**149**	Pn	**Pn**	**23 02 05.7**	**+0.1**
TRO	**Tromso**	**7.66**	**149**	Pn	**Pn**	**23 02 05.7**	**+0.1**
JETT	**Jettan, Norway**	**7.92**	**146**	Pn	**Pn**	**23 02 09.2**	**+0.1**
JETT	**Jettan, Norway**	**7.92**	**146**	Pn	**Pn**	**23 02 09.2**	**+0.1**
KIF	**Kilpisjarvi**	**8.48**	**146**	Pn	**Pn**	**23 02 17.7**	**+0.8**
KIF				Sn	**Sn**	**23 03 47.8**	**-4.7**
KIF	**Kilpisjarvi**	**8.48**	**146**	Pn	**Pn**	**23 02 17.7**	**+0.8**
KIF				Sn	**Sn**	**23 03 47.8**	**-4.7**
ARA0	**ARCESS Array S**	**8.70**	**135**	Pn	**Pn**	**23 02 19.3**	**-0.5**
	baz=345,slow=14						
ARA0				Sn	Sn	23 03 51.8	-6.0
	baz=326,slow=22						
ARA0	**ARCESS Array S**	**8.70**	**135**	Pn	**Pn**	**23 02 19.3**	**-0.5**
	baz=345,slow=14						
ARA0				Sn	Sn	23 03 51.8	-6.0
	baz=326,slow=22						
ARCES	**ARCESS Array B**	**8.70**	**135**	Pn	**Pn**	**23 02 19.0**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=330,slow=11,SNR=40						
ARCES				Sn	Sn	23 03 51.5	-6.3
	comp=Z,0.6nm,0.3s,baz=331,slow=18,SNR=10						
ARCES				LR	LR	23 05 46.7	
	comp=Z,111nm,19.8s,baz=350,slow=38						
	comp=Z,2.5nm,0.5s						
ARCES	**ARCESS Array B**	**8.70**	**135**	P	**Pn**	**23 02 21.1**	**+1.3**
ARCES				S	Sn	23 03 51.5	-6.3
ZFI2	**Zemlya Franca-**	**8.72**	**43**	*e*P	**Pn**	**23 02 20.6**	**+0.5**
ZFI2				*e*S	**Sn**	**23 03 51.0**	**-7.3**
OMEGA	**Omega**	**8.73**	**43**	*e*P	**Pn**	**23 02 20.6**	**+0.3**
OMEGA				S	**Sn**	**23 03 51.5**	**-7.1**
KEV	**Kevo**	**8.76**	**131**	Pn	**Pn**	**23 02 21.2**	**+0.5**
KEV				Sn	**Sn**	**23 03 53.4**	**-5.9**
KEV	**Kevo**	**8.76**	**131**	Pn	**Pn**	**23 02 21.2**	**+0.5**
KEV				Sn	**Sn**	**23 03 53.4**	**-5.9**
VADS	**Vadso**	**8.88**	**125**	Pn	**Pn**	**23 02 23.0**	**+0.7**
VADS				Sn	Sn	23 03 55.2	-7.1
VADS	**Vadso**	**8.88**	**125**	P	**Pn**	**23 02 23.2**	**+0.9**
VADS				S	Sn	23 03 56.0	-6.2
VADS	**Vadso**	**8.88**	**125**	Pn	**Pn**	**23 02 23.0**	**+0.7**
VADS				Sn	Sn	23 03 55.2	-7.1
STEI	**Steigen**	**8.95**	**161**	Pn	**Pn**	**23 02 26.4**	**+3.2**
STEI	**Steigen**	**8.95**	**161**	Pn	**Pn**	**23 02 26.4**	**+3.2**
HEF	**Hetta**	**9.43**	**142**	Pn	**Pn**	**23 02 31.8**	**+2.0**
HEF				Sn	**Sn**	**23 04 10.9**	**-4.8**
HEF	**Hetta**	**9.43**	**142**	Pn	**Pn**	**23 02 31.8**	**+2.0**
HEF				Sn	**Sn**	**23 04 10.9**	**-4.8**
VAGH	**Vaagaholmen**	**10.02**	**167**	Pn	**Pn**	**23 02 39.4**	**+1.6**
VAGH	**Vaagaholmen**	**10.02**	**167**	Pn	**Pn**	**23 02 39.4**	**+1.6**
KONS	**Konsvik**	**10.24**	**168**	Pn	**Pn**	**23 02 43.3**	**+2.4**
KONS	**Konsvik**	**10.24**	**168**	Pn	**Pn**	**23 02 43.3**	**+2.4**
SCO	**Scoresbysund**	**10.26**	**249**	*i* P	**Pn**	**23 02 36.7**	**-4.4**
SCO				*i* S	Sn	23 04 20.2	-16
STOK	**Stokkvaagen**	**10.40**	**168**	Pn	**Pn**	**23 02 45.4**	**+2.4**
STOK	**Stokkvaagen**	**10.40**	**168**	Pn	**Pn**	**23 02 45.4**	**+2.4**
LEIR	**Leirfjorden**	**10.62**	**168**	Pn	**Pn**	**23 02 48.7**	**+2.6**
LEIR	**Leirfjorden**	**10.62**	**168**	Pn	**Pn**	**23 02 48.7**	**+2.6**
MOR8	**Moi Rana**	**10.64**	**165**	Pn	**Pn**	**23 02 49.0**	**+2.6**
MOR8	**Moi Rana**	**10.64**	**165**	Pn	**Pn**	**23 02 49.0**	**+2.6**
TERR	**Teriberka**	**10.79**	**119**	P	**Pn**	**23 02 47.4**	**-1.0**
TERR				S	Sn	23 04 39.9	-8.9
APA0	**Apatity Array**	**11.72**	**126**	Pn	**Pn**	**23 03 01.2**	**0.0**
	baz=353,slow=10						
APA0				Sn	Sn	23 05 00.6	-11
	baz=325,slow=18						
APA0	**Apatity Array**	**11.72**	**126**	S	Sn	23 05 02.6	-9.2
APA0	**Apatity Array**	**11.72**	**126**	Pn	**Pn**	**23 03 01.2**	**0.0**
	baz=353,slow=10						
APA0				Sn	Sn	23 05 00.6	-11
	baz=325,slow=18						
KVDA	**Kovda**	**12.51**	**129**	S	Sn	23 05 22.1	-9.0
SUMG	**Summit**	**12.61**	**275**	*i* P	**Pn**	**23 03 10.3**	**-3.4**
SUMG				*i* S	Sn	23 05 19.1	-15
SUMG				IAML		23 05 30.4	
	comp=Z,3.2nm,0.6s						
NEEM	**North Greenlan**	**12.79**	**302**	*i* P	Pn	23 03 09.5	-6.4
BORG	**Borgarnes**	**14.98**	**234**	LR	LR	23 07 52.4	
	comp=Z,56nm,20.2s,baz=347,slow=31						
NOA	**NORSAR Array B**	**15.63**	**174**	Pn	**Pn**	**23 03 55.2**	**+1.0**
	baz=354,slow=13,SNR=3.3						
NOA				LR	LR	23 09 15.3	
	comp=Z,58nm,19.7s,baz=0.0,slow=35						
	comp=Z,0.7nm,0.7s						
FIA0	**FINESS Array S**	**16.38**	**148**	P	**Pn**	**23 04 04.5**	**+0.7**
	baz=343,slow=14						
FIA0	**FINESS Array S**	**16.38**	**148**	P	**Pn**	**23 04 04.5**	**+0.7**
	baz=343,slow=14						
FINES	**FINESS Array B**	**16.38**	**148**	Pn	**Pn**	**23 04 03.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=344,slow=10.0,SNR=16						
FINES				LR	LR	23 10 16.7	
	comp=Z,109nm,20.8s,baz=355,slow=37						
	comp=Z,2.4nm,0.8s						
HFS	**Hagfors**	**16.62**	**170**	Pn	**Pn**	**23 04 07.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=9.9,slow=12,SNR=5.5						
HFS				LR	LR	23 09 47.9	
	comp=Z,62nm,20.5s,baz=358,slow=35						
	comp=Z,1.8nm,0.8s						
LSH	**Leshukonskoye**	**16.68**	**114**	*e*P	**Pn**	**23 04 07.3**	**-0.2**
RES	**Resolute Bay**	**22.53**	**317**	LR	LR	23 13 45.7	
	comp=Z,98nm,19.5s,baz=121,slow=36						
AKASG	**Malin Array Be**	**27.27**	**149**	LR	LR	23 16 47.8	
	comp=Z,78nm,21.8s,baz=343,slow=36						
VRAC	**Vranov**	**27.57**	**167**	LR	LR	23 15 54.7	
	comp=Z,38nm,20.8s,baz=338,slow=34						
DAVOX	**Davos/Dischmat**	**29.89**	**177**	LR	LR	23 17 23.1	
	comp=Z,27nm,21.1s,baz=7.0,slow=34						
AKTO	**Aktyubinsk**	**32.53**	**114**	LR	LR	23 20 49.2	
	comp=Z,85nm,19.5s,baz=261,slow=38						
BVAR	**Borovoye Array**	**32.89**	**99**	P	**P**	**23 06 50.3**	**+2.5**
	comp=Z,0.5nm,0.5s,baz=327,slow=6.9,SNR=3.7						
	comp=Z,0.5nm,0.5s						
YKA	**Yellowknife Ar**	**36.59**	**319**	LR	LR	23 22 49.9	
	comp=Z,41nm,18.4s,baz=272,slow=37						
KURBB	**Kurchatov Arra**	**37.01**	**92**	P	**P**	**23 07 26.6**	**+3.2**
	comp=Z,0.3nm,0.5s,baz=334,slow=7.8,SNR=4.9						
	comp=Z,0.3nm,0.5s						
ILAR	**Eielson Array**	**38.02**	**343**	P	**P**	**23 07 34.7**	**+2.9**
	comp=Z,0.3nm,0.8s,baz=4.8,slow=7.8,SNR=6.2						
	comp=Z,0.3nm,0.8s						
BRTR	**Keskin Array B**	**38.62**	**147**	P	**P**	**23 07 40.4**	**+3.1**
	comp=Z,0.8nm,0.8s,baz=2.5,slow=8.7,SNR=4.1						
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**41.48**	**91**	P	**P**	**23 08 04.8**	**+4.0**
	comp=Z,0.6nm,0.8s,baz=11,slow=6.8,SNR=5.2						
	comp=Z,0.6nm,0.8s						
MMAI	**Mount Meron Ar**	**45.46**	**147**	LR	LR	23 27 50.4	
	comp=Z,21nm,19.4s,baz=358,slow=36						
NEW	**Newport**	**50.66**	**315**	LR	LR	23 30 01.7	
	comp=Z,35nm,18.4s,baz=342,slow=35						
TXAR	**Lajitas Array**	**66.47**	**298**	P	**P**	**23 11 04.0**	**+0.5**
	comp=Z,0.3nm,0.9s,baz=58,slow=4.1,SNR=5.3						
	comp=Z,0.3nm,0.9s						

*LDG **21** 23:02:00.7±0.1, 42.52N×5.37E, h5km, Ml2.5/23, Error ellipse: s-maj=2.8km s-min=1.7km az=157.0*
*STR **21** 23:02:00.8±0.7, 43°N±5′×±°, h19km, MLv2.4/11, LOCSAT earthModelID alpes_taup-2.11 preliminary*
*MDD **21** 23:02:02.2±0.7, 42.38N×5.31E, h30km±7km, mb_Lg2.3/19, Error ellipse: s-maj=4.0km s-min=1.8km az=158.0*

ISC 21 23:01:58.8±1.3, 42.43N±0.03×5.33E±0.02, h18km±9km, n60, σ1s81/101, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEPF	**PUYLOUBIER**	**1.12**	**14**	Pn	**Pg**	**23 02

LPL	**La Plagne**	**3.25**	**18**	*e*Pg	**Pg**	**23 02 59.8**	**-1.2**
LPL				*e*Sn	**Sn**	**23 03 26.5**	**-0.8**
LPL				*e*Sg	**Sg**	**23 03 39.3**	**-3.8**
	1.6nm,0.3s						
ETOS	**Mallorca**	**3.27**	**216**	P	**Pn**	**23 02 50.3**	**+1.1**
ETOS				S	**Sn**	**23 03 25.1**	**-2.5**
ETOS				*i* IVmb_Lg		23 03 29.2	
EPOB	**Poblet**	**3.35**	**253**	P	**Pn**	**23 02 50.0**	**-0.4**
EPOB				S	**Sn**	**23 03 27.5**	**-2.3**
EPOB				*i* IVmb_Lg		23 03 36.5	
CAF	**Calviac**	**3.44**	**318**	*e*Pn	**Pn**	**23 02 52.9**	**+1.4**
CAF				*e*Sn	**Sn**	**23 03 29.5**	**-2.3**
	2.9nm,0.3s						
MONQ	**Montcuq**	**3.58**	**304**	Pn	**Pn**	**23 02 54.7**	**+1.2**
CRAS	**Crastes**	**3.61**	**292**	Pn	**Pn**	**23 02 55.6**	**+1.8**
EPF	**Esparros**	**3.73**	**281**	*e*Pn	**Pn**	**23 02 56.6**	**+1.2**
EPF				*e*Sn	**Sn**	**23 03 38.8**	**-0.1**
	0.9nm,0.2s						
DGI	**Dorgali Grotta**	**3.85**	**122**	P	**Pn**	**23 02 57.9**	**+0.8**
DGI				S	**Sn**	**23 03 39.2**	**-2.7**
LABF	**Labassere**	**3.92**	**281**	Pn	**Pn**	**23 03 00.2**	**+2.1**
RJF	**Les Rejaudoux**	**3.98**	**317**	*e*Pn	**Pn**	**23 02 59.4**	**+0.5**
RJF				*e*Sn	**Sn**	**23 03 43.6**	**-1.6**
	2.0nm,0.3s						
RJF				*e*Sg	**Sg**	**23 04 04.3**	**-2.3**
	1.5nm,0.2s						
LFF	**La Frestale**	**4.17**	**309**	*e*Pn	**Pn**	**23 03 02.4**	**+0.9**
LFF				*e*Sn	**Sn**	**23 03 47.4**	**-2.3**
	1.5nm,0.2s						
SMF	**Signal de Mont**	**4.35**	**346**	*e*Pn	**Pn**	**23 03 04.7**	**+0.8**
SMF				*e*Sn	**Sn**	**23 03 50.5**	**-3.6**
	1.4nm,0.4s						
ETSF	**Etsaut**	**4.37**	**278**	*e*Pg	**Pb**	**23 03 18.9**	**+3.9**
TCF	**Toulx Ste Croi**	**4.46**	**331**	*e*P	**Pn**	**23 03 07.6**	**+2.1**
TCF				*e*Sn	**Sn**	**23 03 54.7**	**-2.2**
	0.1nm,0.2s						
BGF	**Bois d'Agland**	**4.49**	**338**	*e*P	**Pn**	**23 03 08.7**	**+2.8**
AVF	**Avril sur Loir**	**4.58**	**343**	*e*P	**Pn**	**23 03 10.2**	**+3.0**
AVF				*e*Sn	**Sn**	**23 03 56.0**	**-3.9**
	0.3nm,0.2s						
SJPF	**Ste Jean**	**4.87**	**280**	*e*P	Pn	23 03 16.2	+5.0
SJPF				*e*Sn	**Sn**	**23 04 06.1**	**-1.1**
	2.2nm,0.4s						
LOR	**Lormes**	**4.95**	**348**	*e*P	**Pn**	**23 03 15.5**	**+3.3**

IDC 21 23:23:49.5±2.0, 0.46N×126.08E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=178.7km s-min=26.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.83**	**159**	P	P	23 28 41.9	-1.8
	1.0nm,0.6s,baz=337,slow=11,SNR=6.6 1.0nm,0.6s						
ASAR	**Alice Springs**	**25.16**	**163**	P	P	23 29 17.9	+1.2
	1.3nm,0.8s,baz=351,slow=14,SNR=10 1.3nm,0.8s						
MKAR	**Makanchi Array**	**59.88**	**327**	P	P	23 33 57.0	-0.2
	0.2nm,0.4s,baz=125,slow=5.6,SNR=4.6 0.2nm,0.4s						

*IDC **22** 00:02:30.0±3.6, 37.°65N×72.°32E, h160km±27km, mb3.3/13, mbtmp3.9/18, Error ellipse: s-maj=29.8km s-min=17.4km az=174.0*
*NNC **22** 00:02:30.8±11.0, 37.°65N×71.°46E, h102km±262km, mb3.7, mpv4.2, Error ellipse: s-maj=95.9km s-min=72.0km az=6.0*
ISC 22 00:02:30.5±1.0, 37.°70N±0.°09×72.°01E±0.°09, h150km, n29, σ2§05/34, mb3.5/12, 1C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	**Erkin-Say**	**5.14**	**15**	P	**Pn**	**00 03 47.8**	**+2.0**
	SNR=21						
AAK	**Ala-Archa**	**5.29**	**20**	P	**Pn**	**00 03 49.8**	**+2.0**
	SNR=21						
AAK	**Ala-Archa**	**5.29**	**20**	⇓P	**Pn**	**00 03 49.9**	**+2.0**
	4.9nm,0.4s						
AAK				⇓S	**Sn**	**00 04 50.9**	**+2.7**
	24nm,0.5s						
AAK	**Ala-Archa**	**5.29**	**20**	P	**Pn**	**00 03 49.7**	**+2.0**
	24nm,0.4s,baz=192,slow=6.9,SNR=30						
AAK				S	**Sn**	**00 04 50.9**	**+2.7**
	45nm,0.4s,baz=148,slow=22,SNR=6.7						
KK31	**Karatay Array**	**5.52**	**349**	⇓P	**Pn**	**00 03 51.3**	**+0.5**
	33nm,0.3s,baz=180,slow=14,SNR=289						
KK31				⇑S	**Sn**	**00 04 54.2**	**+0.7**
	56nm,0.4s,baz=176,slow=22,SNR=18						
ULHL	**Ulahol**	**5.59**	**34**	P	**Pn**	**00 03 52.8**	**+1.0**
	SNR=17						
CHMS	**Chumysh**	**5.70**	**21**	P	**Pn**	**00 03 54.8**	**+1.6**
	SNR=21						
USP	**Ospenovka**	**5.88**	**18**	P	**Pn**	**00 03 56.8**	**+1.3**
	SNR=15						
TKM2	**Tokmak 2**	**5.90**	**27**	P	**Pn**	**00 03 56.3**	**+0.4**
	SNR=14						
MKAR	**Makanchi Array**	**11.85**	**37**	P	**Pn**	**00 05 14.6**	**-0.2**
	0.7nm,0.5s,baz=217,slow=13,SNR=9.9						
KURBB	**Kurchatov Arra**	**13.74**	**18**	P	**Pn**	**00 05 38.2**	**-0.6**
	1.0nm,0.5s,baz=206,slow=11,SNR=11						
BVAR	**Borovoye Array**	**15.37**	**356**	P	**P**	**00 06 00.2**	**-0.4**
	0.5nm,0.4s,baz=167,slow=11,SNR=12						
BVAR				S	**Sn**	**00 08 46.0**	**-4.1**
	1.1nm,0.5s,baz=170,slow=20,SNR=4.5						
AKTO	**Aktyubinsk**	**16.19**	**326**	⇓P	**P**	**00 06 10.7**	**+1.0**
	7.9nm,0.8s						
AKTO				⇓S	**S**	**00 09 04.1**	**-5.1**
	5.7nm,0.8s						
AKTO	**Aktyubinsk**	**16.19**	**326**	P	**P**	**00 06 09.9**	**+0.2**
	6.3nm,0.3s,baz=146,slow=4.8,SNR=20						
AKTO				S	**S**	**00 09 04.8**	**-4.3**
	9.4nm,0.7s,baz=47,slow=19,SNR=8.1						
ZALV	**Zalesovo Beam**	**18.50**	**24**	P	**P**	**00 06 34.5**	**-0.3**
	1.5nm,0.3s,baz=215,slow=11,SNR=8.9						
ARTI	**Arti**	**20.80**	**338**	P	Pn	00 07 01.7	-2.4
	1.1nm,0.3s,baz=192,slow=3.7,SNR=4.5 1.1nm,0.3s						
GNI	**Garni**	**21.33**	**285**	P	**P**	**00 07 07.9**	**+2.2**
	7.6nm,0.8s,baz=212,slow=10,SNR=4.1 7.6nm,0.8s						
KBZ	**Khabaz**	**22.80**	**295**	P	**P**	**00 07 21.9**	**+1.7**
	0.7nm,0.4s,baz=228,slow=6.6,SNR=1.3 0.7nm,0.4s						
BRTR	**Keskin Array B**	**29.86**	**286**	P	**P**	**00 08 24.7**	**+0.9**
	0.3nm,0.4s,baz=93,slow=7.1,SNR=4.4 0.3nm,0.4s						
AKASG	**Malin Array Be**	**32.84**	**307**	P	**P**	**00 08 51.5**	**+1.8**
	0.2nm,0.4s,baz=108,slow=9.1,SNR=4.3 0.2nm,0.4s						
FINES	**FINESS Array B**	**36.96**	**325**	P	**P**	**00 09 26.6**	**+1.9**
	0.7nm,0.7s,baz=102,slow=7.2,SNR=6.2 0.7nm,0.7s						
ARCES	**ARCESS Array B**	**40.36**	**337**	P	**P**	**00 09 54.4**	**+1.4**
	1.1nm,0.5s,baz=113,slow=8.3,SNR=12 1.1nm,0.5s						
HFS	**Hagfors**	**42.63**	**321**	P	**P**	**00 10 12.9**	**+1.2**
	1.5nm,0.6s,baz=92,slow=13,SNR=9.9 1.5nm,0.6s						
NB2	**NORSAR Subarra**	**43.92**	**322**	P	**P**	**00 10 22.9**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=92,slow=8.6						
NOA	**NORSAR Array B**	**43.92**	**322**	P	**P**	**00 10 22.6**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=94,slow=8.0,SNR=4.5 comp=Z,0.6nm,0.7s						
ESDC	**Sonseca Array**	**57.62**	**298**	P	**P**	**00 12 04.3**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=59,slow=6.3,SNR=4.9 comp=Z,0.5nm,0.8s						
ILAR	**Eielson Array**	**73.41**	**16**	P	**P**	**00 13 45.1**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=306,slow=4.8,SNR=5.8 comp=Z,0.5nm,0.7s						
YKA	**Yellowknife Ar**	**80.01**	**3**	P	**P**	**00 14 21.2**	**-1.5**
	comp=Z,1.7nm,0.8s,baz=350,slow=6.0,SNR=5.3 comp=Z,1.7nm,0.8s						
WRA	**Warramunga Arr**	**81.95**	**123**	P	**P**	**00 14 30.5**	**-3.1**
	comp=Z,1.0nm,0.7s,baz=314,slow=5.8,SNR=2.9 comp=Z,1.0nm,0.7s						

*IDC **22** 00:07:35.9±0.9, 4.°45S×152.°91E, h0km, mb4.0/9, mbtmp4.0/9, Error ellipse: s-maj=33.4km s-min=22.0km az=89.0*
*NEIC **22** 00:07:38.1±0.9, 4.°1S±0.°2×153.°01E±0.°08, h22km±8km, mb4.4/11, Error ellipse: s-maj=28.8km s-min=11.5km az=172.0*
ISC 22 00:07:43.5±0.8, 4.°4S±0.°1×152.°8E±0.°1, h55km, n29, σ1§41/24, mb4.2/14, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.65**	**291**		**Pn**	**00 07 54.1**	**-2.8**
RABL				Sn	**Sn**	**00 08 06.5**	**-0.1**
DZM	**Mont Dzumac**	**21.98**	**144**	P	**P**	**00 12 30.4**	**-2.8**
DZM				IAmb	IAmb	00 12 47.2	
	comp=Z,24nm,1.4s						
DZM	**Mont Dzumac**	**21.98**	**144**	P	**P**	**00 12 30.4**	**-2.8**
	comp=Z,4.2nm,0.7s,baz=308,slow=17,SNR=1.4 comp=Z,4.2nm,0.7s						
PINNC	**Pines Island,**	**22.99**	**143**	P	**P**	**00 12 43.3**	**-0.4**
WB0	**Warramunga Arr**	**23.52**	**228**	P	**P**	**00 12 50.1**	**+1.2**
WB0				IAmb	IAmb	00 13 32.2	
	comp=Z,16nm,1.4s						
WR8	**Warramunga Arr**	**23.56**	**228**	P	**P**	**00 12 50.1**	**+0.8**
WR8				IAmb	IAmb	00 12 56.2	
	comp=Z,6.3nm,0.8s						
WRA	**Warramunga Arr**	**23.67**	**228**	P	**P**	**00 12 50.5**	**+0.2**
WRA	**Warramunga Arr**	**23.67**	**228**	P	**P**	**00 12 50.2**	**-0.1**
	comp=Z,5.2nm,0.6s,baz=52,slow=9.6,SNR=44 comp=Z,5.2nm,0.6s						
ARMA	**Armidale**	**25.88**	**182**	P	**P**	**00 13 10.6**	**+0.2**
ARMA				IAmb	IAmb	00 13 29.0	
	comp=Z,14nm,1.3s						
KNRA	**Kununurra**	**26.11**	**243**	P	**P**	**00 13 14.8**	**+2.3**
KNRA				IAmb	IAmb	00 13 15.8	
	comp=Z,18nm,1.2s						
AS31	**Alice Springs**	**26.40**	**222**	P	**P**	**00 13 16.6**	**+1.5**
ASAR	**Alice Springs**	**26.40**	**222**	P	**P**	**00 13 17.0**	**+1.8**
ASAR	**Alice Springs**	**26.40**	**222**	P	**P**	**00 13 15.5**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=55,slow=8.9,SNR=14 comp=Z,1.2nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**26.59**	**31**	T	T	00 40 32.0	
	baz=210,slow=74,SNR=90						
H11S2	**WAKE ISLAND Hy**	**26.59**	**31**	T	T	00 40 37.8	
	baz=210,slow=74,SNR=89						
H11S1	**WAKE ISLAND Hy**	**26.61**	**31**	T	T	00 40 37.2	
	baz=210,slow=74,SNR=44						
H11N1	**WAKE ISLAND Hy**	**27.72**	**30**	T	T	00 42 12.4	
	baz=210,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**27.73**	**30**	T	T	00 42 10.2	
	baz=210,SNR=33						
H11N2	**WAKE ISLAND Hy**	**27.74**	**30**	T	T	00 42 08.0	
	baz=210,slow=76,SNR=41						
FITZ	**Fitzroy Crossi**	**29.81**	**241**	P	**P**	**00 13 45.9**	**+0.4**
FITZ				IAmb	IAmb	00 14 08.2	
	comp=Z,2.5nm,1.4s						
SONM	**Songino Array**	**66.00**	**328**	P	**P**	**00 18 26.2**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=160,slow=4.6,SNR=3.6 comp=Z,0.4nm,0.5s						
VNDA	**Vanda**	**73.20**	**178**	P	**P**	**00 19 08.7**	**+0.6**
VNDA				IAmb	IAmb	00 19 09.5	
	comp=Z,4.2nm,0.8s						
VNDA	**Vanda**	**73.20**	**178**	P	**P**	**00 19 08.6**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=325,slow=6.5,SNR=14 comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**80.03**	**319**	P	**P**	**00 19 47.6**	**+0.4**
	comp=Z,0.4nm,0.9s,baz=84,slow=7.4,SNR=1.9 comp=Z,0.4nm,0.9s						
ILAR	**Eielson Array**	**81.83**	**22**	P	**P**	**00 19 56.7**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=241,slow=6.9,SNR=4.3 comp=Z,0.3nm,0.5s						
QSPA	**South Pole Qui**	**85.53**	**180**	P	**P**	**00 20 15.9**	**+0.4**
QSPA	**South Pole Qui**	**85.53**	**180**	P	**P**	**00 20 15.8**	**+0.3**
	comp=Z,4.7nm,0.9s,baz=336,slow=2.0,SNR=13 comp=Z,4.7nm,0.9s						
MAW	**Mawson**	**85.90**	**203**	P	**P**	**00 20 17.4**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=119,slow=9.3,SNR=4.3 comp=Z,1.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.16**	**289**	PKPbc	**PKPbc**	**00 27 28.2**	**-1.1**
	comp=Z,2.4nm,0.5s,baz=50,slow=2.9,SNR=5.5						

*IDC **22** 00:24:54.3±1.0, 29.°97N×139.°17E, h420km±19km, mb3.0/9, mbtmp3.8/11, Error ellipse: s-maj=44.8km s-min=18.4km az=68.0*
*JMA **22** 00:24:56.5±0.6, 30.°N±3.°×13.°9E±.°, h463km, MV3.7/27, NEAR TORISHIMA IS*
ISC 22 00:24:55.4±0.9, 30.°02N±0.°08×139.°5E±0.°1, h450km, n21, σ1§63/27, mb3.3/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.09**	**5**	*e*P	**P**	**00 26 04.7**	**+1.6**
JHJ2				*e*S	**S**	**00 26 57.9**	**-0.2**
JCJ	**Chichijima**	**3.76**	**140**	P	**P**	**00 26 07.1**	**-1.5**
	24nm,0.5s,baz=180,slow=0.0						
JCJ				S	**S**	**00 27 05.2**	**-2.9**
	baz=180,slow=0.0						
BSO1	**Boso 1**	**4.79**	**15**	P	**P**	**00 26 18.6**	**+1.6**
BSO1				*e*S	**S**	**00 27 24.0**	**+0.2**
BSO3	**Boso 3**	**4.84**	**10**	P	**P**	**00 26 18.8**	**+0.9**
BSO3				*e*S	**S**	**00 27 22.5**	**-2.7**
JIE	**Ise**	**4.95**	**332**	P	**P**	**00 26 20.0**	**+0.8**
JKN2	**Miekihoku**	**5.01**	**328**	P	**P**	**00 26 19.8**	**+0.1**
JTNC	**Tanabenakahech**	**5.01**	**320**	P	**P**	**00 26 19.2**	**-0.6**
JOD2	**Odawara 2**	**5.24**	**356**	P	**P**	**00 26 22.4**	**+0.5**
JNY	**Yasuok**	**5.49**	**346**	P	**P**	**00 26 25.2**	**+0.7**
JAG	**Ashikaga**	**6.38**	**360**	P	**P**	**00 26 33.1**	**-0.5**
JAG				*e*S	**S**	**00 27 49.8**	**-4.0**
MJAR	**Matsushiro Arr**	**6.59**	**351**	P	**P**	**00 26 35.1**	**-0.6**
	2.8nm,0.3s,baz=199,slow=6.8,SNR=6.7						
JHO	**Hitachi**	**6.63**	**8**	P	**P**	**00 26 37.3**	**+1.2**
JHO				S	**S**	**00 27 55.5**	**-3.1**
ZALV	**Zalesovo Beam**	**45.73**	**318**	P	**P**	**00 32 34.1**	**-0.5**
	0.4nm,0.3s,baz=95,slow=11,SNR=1.8 0.4nm,0.3s						
MKAR	**Makanchi Array**	**46.80**	**308**	P	**P**	**00 32 41.9**	**-1.0**
	0.2nm,0.3s,baz=84,slow=11,SNR=5.2 0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**49.30**	**313**	P	**P**	**00 33 01.5**	**-0.1**
	0.4nm,0.3s,baz=92,slow=7.1,SNR=10 0.4nm,0.3s						
WRA	**Warramunga Arr**	**49.92**	**186**	P	**P**	**00 33 07.7**	**+1.1**
	0.2nm,0.3s,baz=3.9,slow=7.5,SNR=1.7 0.2nm,0.3s						
BVAR	**Borovoye Array**	**54.29**	**316**	P	**P**	**00 33 38.2**	**+0.4**
	1.4nm,0.4s,baz=90,slow=8.3,SNR=12 1.4nm,0.4s						
ARCES	**ARCESS Array B**	**70.00**	**340**	P	**P**	**00 35 21.1**	**+1.0**
	1.0nm,0.6s,baz=51,slow=9.6,SNR=7.5 1.0nm,0.6s						
FINES	**FINESS Array B**	**74.27**	**333**	P	**P**	**00 35 46.6**	**+1.4**
	0.5nm,0.4s,baz=66,slow=4.1,SNR=10 0.5nm,0.4s						
HFS	**Hagfors**	**79.79**	**336**	P	**P**	**00 36 16.7**	**+1.2**
	0.7nm,0.4s,baz=70,slow=4.9,SNR=10 0.7nm,0.4s						
NOA	**NORSAR Array B**	**80.01**	**337**	P	**P**	**00 36 18.2**	**+1.6**
	0.3nm,0.5s,baz=37,slow=5.3,SNR=3.9 0.3nm,0.5s						

*IDC **22** 00:37:57.7±2.2, 22.°31S×68.°04W, h97km±22km, mb3.6/2, mbtmp4.0/6, Error ellipse: s-maj=39.5km s-min=16.1km az=109.0*
*SJA **22** 00:37:57.8±0.8, 22.°13S×68.°70W, h133km±4km, ML4.0, MW3.9*
*GUC **22** 00:37:59.2±0.7, 22.°11S×68.°69W, h130km±4km, ML4.0*
ISC 22 00:37:57.8±0.8, 22.°18S±0.°03×68.°70W±0.°06, h138km±7km, n43, σ1§36/73, 6C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.63**	**307**	⇑*i*P	**Pn**	**00 38 19.1**	**+0.3**
PB09				*i* S	**Sn**	**00 38 33.0**	**-1.7**
PB09				IAML		00 38 34.8	
	comp=N,2μm,0.3s						
PB09	**IPOC Station P**	**0.63**	**307**	*e*P	**Pn**	**00 38 19.1**	**+0.3**
PB09				*e*S	**Sn**	**00 38 34.3**	**-0.4**
PB09				IAML		00 38 34.8	
	comp=Z,3μm,0.6s						
AF01	**San Pedro de A**	**0.91**	**148**	⇑*i*P	**Pn**	**00 38 21.2**	**+0.3**
AF01	**San Pedro de A**	**0.91**	**148**	*e*P	**Pn**	**00 38 21.5**	**+0.5**
AF01				*e*S	Sn	00 38 30.0	-8.6
AF01				IAML		00 38 56.0	
	comp=Z,3μm,0.7s						
PB06	**IPOC Station P**	**0.96**	**237**	⇑*i*P	**Pn**	**00 38 22.2**	**+0.9**
PB06				*i* S	**Sn**	**00 38 39.5**	**+0.4**
PB06				IAML		00 38 40.5	
	comp=N,6μm,0.1s						
PB06	**IPOC Station P**	**0.96**	**237**	*e*P	**Pn**	**00 38 22.1**	**+0.8**
PB06				*e*S	**Sn**	**00 38 40.0**	**+0.9**
PB06				IAML		00 38 41.1	
	comp=Z,2μm,0.4s						
PB03	**IPOC Station P**	**0.98**	**277**	⇑*i*P	**Pn**	**00 38 22.1**	**+0.7**
PB03				*i* S	**Sn**	**00 38 39.2**	**-0.2**
PB03				IAML		00 38 40.9	
	comp=E,4μm,0.2s						
PB03	**IPOC Station P**	**0.98**	**277**	*e*P	**Pn**	**00 38 21.9**	**+0.5**
PB03				*e*S	**Sn**	**00 38 39.9**	**+0.5**
PB03				IAML		00 38 40.9	
	comp=Z,4μm,0.2s						
PB01	**IPOC Station P**	**1.35**	**327**	*i* P	**Pn**	**00 38 25.0**	**0.0**
PB01				*i* S	**Sn**	**00 38 44.1**	**-1.5**
PB01				IAML		00 38 45.9	
	comp=N,2μm,0.2s						
PB01	**IPOC Station P**	**1.35**	**327**	*e*P	**Pn**	**00 38 24.9**	**0.0**
PB01				*e*S	**Sn**	**00 38 45.5**	**-0.2**
PB01				IAML		00 38 46.6	
	comp=Z,2μm,0.2s						
PB02	**IPOC Station P**	**1.40**	**307**	⇑*i*P	**Pn**	**00 38 25.9**	**+0.4**
PB02				*i* S	**Sn**	**00 38 45.5**	**-1.2**
PB02				IAML		00 38 49.7	
	comp=E,2μm,0.2s						
PB02	**IPOC Station P**	**1.40**	**307**	*e*P	**Pn**	**00 38 25.5**	**0.0**
PB02				*e*S	**Sn**	**00 38 46.5**	**-0.2**
PB02				IAML		00 38 47.2	
	comp=Z,3μm,0.3s						
PB05	**IPOC Station P**	**1.54**	**244**	⇑*i*P	**Pn**	**00 38 28.2**	**+1.1**
PB05				*i* S	**Sn**	**00 38 49.8**	**+0.4**
PB05				IAML		00 38 53.7	
	comp=N,2μm,0.3s						
PB05	**IPOC Station P**	**1.54**	**244**	*e*P	**Pn**	**00 38 28.2**	**+1.1**
PB05				*e*S	**Sn**	**00 38 50.5**	**+1.1**
PB05				IAML		00 38 53.3	
	comp=Z,831nm,0.3s						
PB08	**IPOC Station P**	**2.07**	**348**	⇓*i*P	**Pn**	**00 38 34.0**	**+0.5**
PB08				*i* S	**Sn**	**00 39 00.8**	**0.0**
PB08				IAML		00 39 03.0	
	comp=E,860nm,0.3s						
PB08	**IPOC Station P**	**2.07**	**348**	*e*P	**Pn**	**00 38 34.0**	**+0.5**
PB08				*e*S	**Sn**	**00 39 01.9**	**+1.1**
PB08				IAML		00 39 02.5	
	comp=Z,392nm,0.5s						
TA01	**Diego Aracena**	**2.12**	**319**	*i* P	**Pn**	**00 38 33.3**	**-0.3**
TA01				*i* S	**Sn**	**00 38 59.7**	**-1.4**
TA01				IAML		00 39 03.1	
	comp=E,911nm,0.5s						
TA01	**Diego Aracena**	**2.12**	**319**	*e*P	**Pn**	**00 38 34.3**	**+0.7**
TA01				*e*S	**Sn**	**00 39 00.3**	**-0.8**
TA01				IAML		00 39 03.0	
	comp=Z,315nm,0.4s						
PB10	**IPOC Station P**	**2.16**	**232**	*i* P	**Pn**	**00 38 35.5**	**+1.3**
PB10				*i* S	**Sn**	**00 39 01.4**	**-0.7**
PB10				IAML		00 39 03.9	
	comp=E,478nm,0.2s						
PB10	**IPOC Station P**	**2.16**	**232**	*e*P	**Pn**	**00 38 36.1**	**+1.9**
PB10				*e*S	**Sn**	**00 39 01.9**	**-0.3**
PB10				IAML		00 39 04.7	
	comp=Z,307nm,0.2s						
HMBC	**Humberstone**	**2.19**	**329**	*i* P	**Pn**	**00 38 34.1**	**-0.6**
HMBC				*i* S	**Sn**	**00 39 01.4**	**-1.5**
HMBC				IAML		00 39 05.3	
	comp=E,1μm,0.2s						
HMBC	**Humberstone**	**2.19**	**329**	*e*P	**Pn**	**00 38 33.9**	**-0.7**
HMBC				*e*S	**Sn**	**00 39 01.7**	**-1.3**
HMBC				IAML		00 39 08.1	
	comp=Z,817nm,0.3s						
TA02	**Huaiquique**	**2.32**	**325**	*e*P	**Pn**	**00 38 38.9**	**+2.8**
TA02				*e*S	**Sn**	**00 39 05.9**	**+0.3**
TA02				IAML		00 39 14.0	
	comp=Z,626nm,0.1s						
GO01	**Chusmiza**	**2.54**	**349**	⇓*i*P	**Pn**	**00 38 39.6**	**+0.2**
GO01				*i* S	**Sn**	**00 39 10.7**	**-0.5**
GO01	**Chusmiza**	**2.54**	**349**	*e*P	**Pn**	**00 38 39.9**	**+0.5**
GO01				*e*S	**Sn**	**00 39 12.1**	**+0.8**
PB11	**IPOC Station P**	**2.57**	**340**	*i* P	**Pn**	**00 38 38.8**	**-0.5**
PB11				*i* S	**Sn**	**00 39 09.5**	**-1.9**
PB11				IAML		00 39 11.9	
	comp=N,811nm,0.5s						
PB11	**IPOC Station P**	**2.57**	**340**	*e*P	**Pn**	**00 38 38.9**	**-0.5**
PB11				*e*S	**Sn**	**00 39 10.3**	**-1.0**
PB11				IAML		00 39 12.0	
	comp=Z,337nm,0.7s						
PB14	**IPOC Station P**	**2.89**	**212**	*i* P	**Pn**	**00 38 44.9**	**+1.3**
PB14	**IPOC Station P**	**2.89**	**212**	*e*P	**Pn**	**00 38 45.0**	**+1.3**
PB14				*e*S	**Sn**	**00 39 16.3**	**-2.7**
PB14				IAML		00 39 19.8	
	comp=Z,300nm,0.4s						
YJA	**Yavi**	**2.96**	**91**	*e*P	**Pn**	**00 38 46.4**	**+1.9**
GO02	**Mina Guanaco**	**3.08**	**195**	⇓*i*P	**Pn**	**00 38 47.2**	**+1.3**
GO02	**Mina Guanaco**	**3.08**	**195**	*e*P	**Pn**	**00 38 47.2**	**+1.3**
GO02				*e*S	**Sn**	**00 39 25.2**	**+2.0**
PB16	**IPOC Station P**	**3.90**	**349**	*e*P	**Pn**	**00 38 57.4**	**+0.4**
PB16				*e*S	**Sn**	**00 39 42.5**	**-0.3**
PB16	**IPOC Station P**	**3.90**	**349**	*e*P	**Pn**	**00 38 57.6**	**+0.7**
PB16				*e*S	Sn	00 39 28.1	-15
AC01	**Pan de Azucar**	**4.31**	**203**	*i* P	**Pn**	**00 39 01.7**	**-0.1**
AC01	**Pan de Azucar**	**4.31**	**203**	*e*P	**Pn**	**00 39 01.8**	**-0.1**
AC01				*e*S	**Sn**	**00 39 50.9**	**-0.8**
AC01				IAML		00 39 51.4	
	comp=Z,94nm,0.2s						
LPAZ	**La Paz**	**5.89**	**5**	P	**Pn**	**00 39 24.8**	**+1.4**
	comp=Z,12nm,0.4s,baz=178,slow=6.2,SNR=116						
CFA	**Coronel Fontan**	**9.40**	**178**	P	**Pn**	**00 40 08.4**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=18,slow=16,SNR=23						
CFA				S	**Sn**	**00 41 48.0**	**-5.9**
	comp=Z,1.0nm,0.3s,baz=210,slow=15,SNR=4.3						
SIV	**San Ignacio**	**9.48**	**51**	P	**Pn**	**

TPB01	**Permian Basin**	0.72	238	P		Pg	00 39 04.6	-0.5
TPB12	**Southwest of T**	0.76	261	P		Pg	00 39 05.6	-0.4
TMB02	**Rankin**	0.90	98	P		Pg	00 39 08.6	0.0
TMB02				S		Sb	00 39 21.1	-0.3
ODSA	**Odessa**	0.91	30			Pg	00 39 08.4	-0.4
ODSA						Sb	00 39 21.4	-0.3
ODSA	**Odessa**	0.91	30	P		Pg	00 39 08.6	-0.2
ODSA				S		Sb	00 39 21.4	-0.3
ALPN	**Alpine**	1.07	207			Pg	00 39 11.2	-0.7
ALPN						Sg	00 39 25.6	-0.1
ALPN	**Alpine**	1.07	207	P		Pg	00 39 11.1	-0.7
ALPN				S		Sg	00 39 25.6	-0.1
TPB09	**Culberson Coun**	1.14	293	P		Pg	00 39 12.6	-0.5
HTMS	**Hat Mesa**	1.23	338			Pg	00 39 14.6	-0.4
CLN7	**Carlsbad 7**	1.25	330			Pg	00 39 15.1	-0.1
CLN7	**Carlsbad 7**	1.25	330	P		Pn	00 39 15.7	+0.5
TMB06	**Greenwood**	1.27	59	P		Pg	00 39 15.1	-0.5
TMB06				S		Sn	00 39 32.7	+0.1
SAND	**Sanderson**	1.60	149			Pb	00 39 21.1	0.0
SAND	**Sanderson**	1.60	149	P		Pb	00 39 20.8	-0.3
TMB05	**Klondike**	1.66	38	P		Pn	00 39 21.5	+0.7
TMB05				S		Sg	00 39 44.5	-0.1
OZNA	**Ozona**	1.72	103			Pb	00 39 23.1	-0.1
OZNA	**Ozona**	1.72	103	P		Pb	00 39 23.2	-0.1
VHRN	**Van Horn**	1.72	252			Pn	00 39 22.2	+0.4
VHRN	**Van Horn**	1.72	252	P		Pn	00 39 22.6	+0.8
SGCY	**Sterling City**	1.76	70			Pb	00 39 23.5	-0.4
SGCY						Sg	00 39 48.0	-0.1
SGCY	**Sterling City**	1.76	70	P		Pb	00 39 23.7	-0.3
SGCY				S		Sg	00 39 48.0	-0.1
CPRX	**Cap Rock**	1.82	339			Pn	00 39 24.3	+1.1
MNTX	**Cornudas Mount**	2.00	281			Pn	00 39 26.7	+1.2
MNTX	comp=Z,23nm,1.1s			IAmb_Lg			00 39 59.6	
MNTX	**Cornudas Mount**	2.00	281	P		Pb	00 39 27.3	-0.7
TX31	**Lajitas Ar. Si**	2.05	195			Pn	00 39 27.5	+1.2
TX31	**Lajitas Ar. Si**	2.05	195	P		Pb	00 39 27.9	-1.1
TXAR	**Lajitas Array**	2.05	195			Pn	00 39 27.1	+0.8
POST	**Post**	2.19	37			Pn	00 39 27.7	-0.4
POST	comp=Z,35nm,0.8s			IAmb_Lg			00 40 03.3	
SN05	**Snyder 5**	2.42	50			Pn	00 39 31.7	+0.5
SN07	**Snyder 07**	2.55	46			Pn	00 39 33.7	+0.6
MSTX	**Muleshoe**	2.65	6			Pn	00 39 34.9	+0.5
MSTX	comp=Z,20nm,0.8s			IAmb_Lg			00 40 15.8	
DRIO	**Del Rio**	2.85	131	IAmb_Lg			00 40 24.8	
	comp=Z,16nm,0.8s							
JCT	**Junction City**	2.94	106			Pn	00 39 39.2	+0.8
JCT	comp=Z,27nm,0.8s			IAmb_Lg			00 40 28.1	
DKNS	**Dickens**	2.96	37			Pn	00 39 39.0	+0.3
ABTX	**Abilene, Hawle**	3.19	65			Pg	00 39 51.4	-1.1
APMT	**Aspermont**	3.20	51			Pn	00 39 43.2	+1.3
APMT	comp=Z,20nm,0.8s			IAmb_Lg			00 40 38.1	
BRDY	**Brady**	3.49	90	IAmb_Lg			00 40 49.2	
	comp=Z,15nm,0.7s							
AMTX	**Amarillo**	3.73	18	IAmb_Lg			00 40 54.6	
	comp=Z,16nm,0.8s							
HNDO	**Hondo**	3.74	118	IAmb_Lg			00 40 51.6	
	comp=Z,13nm,0.9s							
PLPT	**Palo Pinto**	4.30	69	IAmb_Lg			00 41 13.2	
	comp=Z,16nm,1.0s							
833A	**Chaparral WMA,**	4.38	132	IAmb_Lg			00 41 19.2	
	comp=Z,8.3nm,0.7s							
SMWD	**Samnorwood**	4.45	32	IAmb_Lg			00 41 21.5	
	comp=Z,12nm,0.8s							
FW07	**Weatherford**	4.70	72	IAmb_Lg			00 41 22.2	
	comp=Z,18nm,1.1s							
WMOK	**Wichita Mounta**	4.96	46	IAmb_Lg			00 41 28.8	
	comp=Z,7.1nm,0.7s							
FW06	**Azle**	4.96	69	IAmb_Lg			00 41 39.3	
	comp=Z,15nm,0.9s							
RTBA	**Rita Blanca**	5.10	3	IAmb_Lg			00 41 43.0	
	comp=Z,6.9nm,0.8s							
FW14	**Alvarado**	5.12	76	IAmb_Lg			00 41 42.6	
	comp=Z,14nm,0.7s							
Z35A	**Perchaven, San**	5.32	66	IAmb_Lg			00 41 55.3	
	comp=Z,12nm,0.8s							
T25A	**Trinidad**	5.90	350	IAmb_Lg			00 42 04.7	
	comp=Z,11nm,0.9s							
OK038	**West end E0370**	6.27	34	IAmb_Lg			00 42 22.0	
	comp=Z,8.9nm,0.7s							
KSCO	**Kaye Shedlock'**	7.67	3	IAmb_Lg			00 42 50.6	
	comp=Z,4.2nm,0.8s							

*UCR **22** 00:41:12.3±0.8, 8°.33N×82°.96W, h8km±3km, MW4.2, Fault plane solution: NP1:φ≈31.99000°, δ31.05000°, λ-24.46000°.*
*UPA **22** 00:41:12.1±0.7, 8°.30N×82°.96W, h19km±3km, MW4.2, Fault plane solution: NP1:φ≈100.00000°, δ36.00000°, λ78.00000°.*
*CATAC **22** 00:41:12.5±0.5, 8°.N±4°×8°.3W±°, h1km, M4.2/12, mb4.5/1, mB4.5/1, MLv4.1/12, Mw(mB)3.6/1, Error ellipse: s-maj=8.7km s-min=4.3km az=11.8, confirmed*
ISC 22 00:41:12.9±0.9, 8°.32N±0°.03×82°.96W±0°.02, h17km±6km, n77, σ1°38/98, 4C-41D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	0.14	144	iP	Pg	00 41 16.2	-0.7
PTPM				eS	Sg	00 41 20.2	+0.6
PTPA	**Petro Terminal**	0.15	142	eP	Pg	00 41 16.2	-0.9
PTPA				eS	Sg	00 41 20.1	+0.3
CDTC	**Canoas**	0.27	19	P	Pg	00 41 18.2	-0.8
NELY	**Ciudad Neily**	0.33	3	eP	Pg	00 41 19.2	-0.8
FITO	**Golfito**	0.36	328	eP	Pg	00 41 18.9	-1.6
FITO				eS	Sg	00 41 24.1	-1.4
EDAD	**Golfito**	0.39	329	eP	Pg	00 41 19.4	-1.6
MLIR3	**Monte Lirio, C**	0.49	16	iP	Pg	00 41 22.7	-0.2
MLIR3				eS	Sb	00 41 30.6	+0.4
VITO	**San Vito**	0.50	359	eP	Pg	00 41 22.5	-0.5
RSRNO	**Rio Sereno**	0.51	11	eP	Pg	00 41 22.9	-0.3
DVD	**David**	0.52	77	iP	Pg	00 41 22.5	-0.8
DVD				eS	Sb	00 41 30.7	-0.1
CSTBL	**De las Acacias**	0.52	80	eP	Pg	00 41 22.5	-0.9
PEDE3	**Pedregal, Chir**	0.54	83	iP	Pg	00 41 22.7	-1.0
PEDE3				eS	Sg	00 41 30.4	-0.5
SCLRA	**Santa Clara, W**	0.54	19	eP	Pg	00 41 23.4	-0.4
BRU2	**Volcan**	0.55	29	eP	Pg	00 41 23.3	-0.6
BRU2	**Volcan**	0.55	29	iP	Pg	00 41 23.4	-0.6
BRU2				eS	Sb	00 41 32.8	+1.0
BRU2	**Volcan**	0.55	29	P	Pg	00 41 23.3	-0.6
BRU2				S	Sg	00 41 29.8	-1.4
LOCO3	**Loma Colorada,**	0.55	80	eP	Pg	00 41 23.0	-0.8
LOCO3				eS	Sg	00 41 30.8	-0.4
CLLRA	**Cordillera,**	0.55	39	eP	Pg	00 41 23.4	-0.5
TBS2		0.56	32	eP	Pb	00 41 24.6	+0.1
LOMA3	**Las Lomas, Chi**	0.58	79	eP	Pg	00 41 23.4	-1.0
LOMA3				eS	Sg	00 41 31.9	-0.2
PTAR3	**Potrerillos Ar**	0.59	51	iP	Pg	00 41 24.1	-0.7
PTAR3				eS	Sg	00 41 32.6	-0.1
BC3P	**Paso Ancho**	0.61	35	iP	Pg	00 41 24.2	-0.8
BC3P				eS	Sb	00 41 33.7	+0.1
CHIR3	**Chiriqui UPA,**	0.63	83	iP	Pg	00 41 24.2	-1.2
CHIR3				eS	Sg	00 41 33.3	-0.5
ALCO	**Alturas Coton,**	0.64	11	eP	Pg	00 41 24.5	-1.2
BQTLY	**Boquete Panama**	0.66	48	eP	Pg	00 41 24.9	-1.1
BQSF3	**Alto Boquete,**	0.67	51	iP	Pg	00 41 25.1	-1.2
BQSF3				eS	Sg	00 41 34.2	-1.0
LNBQ3	**Los Naranjos,**	0.70	47	eP	Pg	00 41 25.3	-1.4
LNBQ3				eS	Sg	00 41 35.9	-0.1
EDP2	**Potrero Grande**	0.73	343	eP	Pg	00 41 26.1	-1.1
PSOM3	**Paja de Sombre**	0.73	60	iP	Pg	00 41 25.8	-1.5
PSOM3				eS	Sg	00 41 36.7	-0.3
FIMO	**Fila Mora**	0.77	330	eP	Pg	00 41 26.5	-1.6
PANP	**Palmar Norte**	0.81	322	eP	Pg	00 41 26.6	-2.1
BURE	**Buenos Aires**	0.93	336	eP	Pg	00 41 29.1	-1.9
PBNVO	**Pueblo Nuevo,**	0.95	53	eP	Pg	00 41 29.2	-2.2
RBALA	**Bur**	0.98	55	eP	Pg	00 41 30.0	-1.9
DRK0	**Durika**	0.98	343	eP	Pg	00 41 29.9	-2.1
DRK0	**Durika**	0.98	343	iP	Pg	00 41 30.0	-2.1
DRK0				eS	Sg	00 41 43.6	-1.4
OCHAL	**Ojochal**	1.03	319	P	Pg	00 41 30.1	-2.8
OCHAL				S	Sb	00 41 47.0	+1.4
EDPE	**Pejibaye, P**	1.03	324	eP	Pg	00 41 30.4	-2.5
RMDIO	**Remedios, Chir**	1.12	94	eP	Pg	00 41 32.3	-2.4
SAJE	**San Jernim**	1.16	332	eP	Pg	00 41 32.4	-3.0
KKNTU	**Kakint²**	1.25	65	eP	Pn	00 41 33.8	-1.9
CEUA	**Cerro Uatsi, L**	1.30	1	eP	Pn	00 41 36.9	+0.5
RGM0	**Gandoca**	1.31	15	eP	Pn	00 41 37.1	+0.6
CVEJO	**Cerro Viej**	1.37	92	eP	Pn	00 41 35.7	-1.6
LAES	**El Progreso Va**	1.44	357	eP	Pn	00 41 38.1	-0.1
VERH	**Veragua Rainfo**	1.62	352	eP	Pn	00 41 40.4	-0.4
PIEC	**Cerro El Cedra**	1.63	323	eP	Pn	00 41 40.8	-0.3
VINA	**Juan Vinas**	1.75	334	eP	Pn	00 41 42.8	+0.2
LCR2	**La Lucha 2**	1.75	324	eP	Pn	00 41 42.5	-0.3
GMAL	**Guarumal, Vera**	1.80	108	eP	Pn	00 41 42.3	-0.9
PCAYA	**Pacayas**	1.80	332	eP	Pn	00 41 43.8	+0.4
PAR1A	**Puntarenas Pro**	1.80	315	eP	Pn	00 41 43.6	+0.3
VTCV	**VTCV, Calle Va**	1.82	336	eP	Pn	00 41 43.5	-0.2
CVTV	**Tajo**	1.85	335	eP	Pn	00 41 44.4	+0.2
LCOCO	**El Coco**	1.85	342	eP	Pn	00 41 44.4	+0.4
CVTQ	**Turrialba Volc**	1.86	335	eP	Pn	00 41 44.6	+0.3
VTLA	**Turrialba Volc**	1.86	334	eP	Pn	00 41 44.6	+0.2
VTR0	**Volcan Turrial**	1.86	335	eP	Pn	00 41 44.4	-0.1
BELE	**Belen**	2.05	324	eP	Pn	00 41 47.2	+0.5
TRT2	**Tortugero**	2.35	341	eP	Pn	00 41 51.3	+0.4
SOCE	**Pocosol**	2.62	322	P	Pn	00 41 56.4	+1.8
SOCE	**Pocosol**	2.62	322	S	Sb	00 42 34.3	+2.7
AZU	**Azuero**	2.71	101	eP	Pn	00 41 56.7	+1.0
AZU	**Azuero**	2.71	101	iP	Pn	00 41 57.1	+1.3
AZU				eS	Sb	00 42 34.9	+0.8
JTS	**Las Juntas de**	2.78	315	eP	Pn	00 41 56.8	+0.1
JTS	**Las Juntas de**	2.78	315	eP	Pn	00 41 55.8	-1.0
JTS	**Las Juntas de**	2.78	315	P	Pn	00 41 56.9	+0.2
JTS				S	Sn	00 42 32.3	+2.4
COVE	**Coope Vega, Sa**	2.78	329	P	Pn	00 41 58.4	+1.7
COVE	**Coope Vega, Sa**	2.78	329	S	Sg	00 42 40.6	-1.7
INDI	**Punta indio, G**	2.94	302	P	Pn	00 41 58.8	-0.1
INDI	**Punta indio, G**	2.94	302	S	Sn	00 42 32.1	-1.9
ELVJ	**El Viejo (Barb**	3.15	313	eP	Pn	00 42 03.9	+2.0
BCIP	**Isla Barro Col**	3.20	74	eP	Pn	00 42 04.8	+2.3
BCIP				eS	Sb	00 42 45.6	-2.6
ACON	**Acoyapa**	4.23	329	P	Pn	00 42 18.0	+1.3
ACON	**Acoyapa**	4.23	329	S	Sn	00 43 10.4	+4.7
BOAB	**BOACO BROADBAN**	4.89	327	P	Pn	00 42 27.6	+1.8
COPN	**Copaltepe**	5.25	317	P	Pn	00 42 32.3	+1.7

*BER **22** 00:41:19.7±3.1, 76°.62N×7°.22E, h10km, mb(Pn)3.7, Confirmed Earthquake*
*NAO **22** 00:41:21.5±0.9, 76°.70N×7°.61E, h17km±9km, ML3.0*
*DNK **22** 00:41:21.7±4.9, 76°.53N×7°.71E, h36km±58km, ML1.6*
*KOLA **22** 00:41:23.7, 76°.93N×9°.05E, h0km, ML2.2, Error ellipse: s-maj=22.1km s-min=10.7km az=40.0, Greenland sea*
*FCIAR **22** 00:41:24.0, 76°.51N×8°.68E, h10km, station SPA0 has station magnitude of 3.01*
ISC 22 00:41:16.3±0.7, 76.74N±0°.04×7°.83E±0°.03, h10km, n61, σ2°67/83, 1D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	1.78	78	Pn	Pg	00 41 51.2	+0.9
HSPB				Sn	Sb	00 42 11.4	+0.2
HSPB	**Hornsund (broa**	1.78	78	P	Pg	00 41 51.2	+0.9
HSPB				S	Sn	00 42 10.1	+0.5
HSPB	**Hornsund (broa**	1.78	78	eP	Pg	00 41 51.2	+0.9
HSPB				eS	Sb	00 42 11.1	0.0
HSPB	**Hornsund (broa**	1.78	78	eP	Pg	00 41 51.1	+0.9
HSPB				eS	Sb	00 42 11.6	+0.4
HSPB	comp=Z,28nm,0.5s			IAML		00 42 12.5	
BRBA	**Barentsburg A**	1.93	43	Pn	Pg	00 41 53.7	+0.6
BRBA	**Barentsburg A**	1.93	43	eP	Pg	00 41 53.8	+0.6
BRBA	comp=Z,11nm,0.4s			IAML		00 42 19.2	
BRBB	**Barentsburg B**	1.95	43	eP	Pg	00 41 54.1	+0.5
SPA0	**Spitsbergen Ar**	2.36	48	Pn	Pg	00 42 01.1	-0.2
SPA0	baz=227,slow=16			Sn	Sg	00 42 29.4	-2.4
SPA0	baz=226,slow=18 **Spitsbergen Ar**	2.36	48	iP	Pg	00 42 00.9	-0.4
SPA0				iS	Sb	00 42 29.1	+1.3
SPA0	**Spitsbergen Ar**	2.36	48	Pn	Pg	00 42 01.1	-0.2
SPA0	baz=227,slow=16			Sn	Sg	00 42 29.4	-2.4
SPA0	baz=226,slow=18			IAML		00 42 31.0	
SPITS	**Spitsbergen Ar**	2.36	48	P	Pb	00 41 59.6	+0.9
SPITS	comp=Z,15nm,1.1s			S	Sb	00 42 27.5	-0.3
KBS	**Kingsbay**	2.36	20	Pn	Pb	00 41 59.6	+0.8
KBS				Sn	Sb	00 42 27.1	-0.9
KBS	**Kingsbay**	2.36	20	P	Pb	00 41 59.7	+0.8
KBS				S	Sb	00 42 26.8	-1.2
KBS	**Kingsbay**	2.36	20	eP	Pb	00 41 59.4	+0.6
KBS				eS	Sb	00 42 26.6	-1.4
KBS	comp=Z,8.6nm,1.0s			IAML		00 42 32.4	
KBS	**Kingsbay**	2.36	20	iP	Pb	00 41 58.9	+0.1
KBS				iS	Sb	00 42 26.6	-1.4
BJO1	**Bjornoya**	3.58	123	eP	Pn	00 42 14.1	+2.4
BJO1				eS	Sn	00 42 51.1	-2.8
BJO1	**Bjornoya**	3.58	123	eP	Pn	00 42 14.0	+2.4
HOPEN	**Hopen**	3.99	85	Pn	Pn	00 42 22.4	+5.0
HOPEN				Sn	Sn	00 43 06.5	+2.5
HOPEN	**Hopen**	3.99	85	eP	Pn	00 42 22.3	+5.0
HOPEN				eS	Sn	00 43 05.8	+1.7
HOPEN	**Hopen**	3.99	85	eP	Pn	00 42 22.3	+5.0
HOPEN				eS	Sn	00 43 06.4	+2.3
HOPEN	comp=Z,19nm,0.2s			IAML		00 43 08.8	
DAG	**Danmarks Havn**	6.05	283	iP	Pn	00 42 45.3	-0.3
DAG				iS	Sn	00 43 47.4	-7.4
DAG	comp=Z,5.1nm,0.3s			IAML		00 43 52.1	
NOR	**Nord**	6.64	328	Pn	Pn	00 42 56.1	+2.5
NOR				Sn	Sn	00 44 07.1	-2.0
NOR	**Nord**	6.64	328	Pn	Pn	00 42 56.1	+2.5
NOR				Sn	Sn	00 44 07.1	-2.0
NOR	**Nord**	6.64	328	iP	Pn	00 42 56.0	+2.5
NOR				iS	Sn	00 44 08.7	-0.4
NOR	comp=Z,0.9nm,0.5s			IAML		00 44 10.0	
DBG	**Daneborg**	7.38	265	Pn	Pn	00 43 06.2	+2.3
DBG				Sn	Sn	00 44 17.9	-10
DBG	**Daneborg**	7.38	265	Pn	Pn	00 43 06.2	+2.3
DBG				Sn	Sn	00 44 17.9	-10
DBG	**Daneborg**	7.38	265	iP	Pn	00 43 05.2	+1.4
DBG				iS	Sn	00 44 17.7	-10
DBG	comp=Z,1.9nm,0.4s			IAML		00 44 24.1	
JETT	**Jettan, Norway**	8.06	147	Pn	Pn	00 43 14.0	+0.7
JETT	**Jettan, Norway**	8.06	147	Pn	Pn	00 43 14.0	+0.7
ZFI2	**Zemlya Franca-**	8.57	44	eP	Pn	00 43 25.3	+5.2
ZFI2				eS	Sn	00 44 54.7	-1.8
OMEGA	**Omega**	8.58	44	P	Pn	00 43 25.7	+5.5
KIF	**Kilpisjarvi**	8.63	147	Pn	Pn	00 43 22.6	+1.6
KIF	**Kilpisjarvi**	8.63	147	Pn	Pn	00 43 22.6	+1.6
ARA0	**ARCESS Array S**	8.82	136	Pn	Pn	00 43 25.1	+1.5
ARA0	baz=334,slow=12			Sn	Sn	00 44 56.5	-6.3
ARA0	baz=332,slow=22 **ARCESS Array S**	8.82	136	Pn	Pn	00 43 25.1	+1.5
ARA0	baz=334,slow=12			Sn	Sn	00 44 56.5	-6.3
ARCES	baz=332,slow=22 **ARCESS Array B**	8.82	136	P	Pn	00 43 25.6	+2.1
ARCES				S	Sn	00 44 57.6	-5.2
LOF	**Lofoten**	8.82	166	Pn	Pn	00 43 26.4	+2.8
LOF	**Lofoten**	8.82	166	Pn	Pn	00 43 26.4	+2.8
KEV	**Kevo**	8.87	132	Pn	Pn	00 43 27.4	+3.2
KEV				Sn	Sn	00 44 59.4	-4.6
KEV	**Kevo**	8.87	132	Pn	Pn	00 43 27.4	+3.2
KEV				Sn	Sn	00 44 59.4	-4.6
VADS	**Vadso**	8.98	126	P	Pn	00 43 28.8	+3.1
VADS				S	Sn	00 45 01.4	-5.2
STEI	**Steigen**	9.13	162	Pn	Pn	00 43 30.3	+2.6
STEI	**Steigen**	9.13	162	Pn	Pn	00 43 30.3	+2.6
HEF	**Hetta**	9.57	143	Pn	Pn	00 43 36.0	+2.2
HEF	**Hetta**	9.57	143	Pn	Pn	00 43 36.0	+2.2
FAUS	**Fauske**	9.67	163	P	Pn	00 43 41.4	+6.2
VAGH	**Vaagaholmen**	10.20	168	Pn	Pn	00 43 45.0	+2.6
VAGH	**Vaagaholmen**	10.20	168	Pn	Pn	00 43 45.0	+2.6
STOK	**Stokkvaagen**	10.58	169	Pn	Pn	00 43 50.7	+3.1
STOK	**Stokkvaagen**	10.58	169	Pn	Pn	00 43 50.7	+3.1
LEIR	**Leirfjorden**	10.81	168	Pn	Pn	00 43 53.9	+3.1
LEIR	**Leirfjorden**	10.81	168	Pn	Pn	00 43 53.9	+3.1
TERR	**Teriberka**	10.86	120	P	Pn	00 43 52.4	+0.9
TERR				S	Sn	00 45 46.9	-5.9
APA0	**Apatity Array** baz=336,slow=11	11.82	127	Pn	Pn	00 44 06.9	+2.4
APA0	**Apatity Array**	11.82	127	S	Sn	00 46 09.6	-6.7
APA0	**Apatity Array** baz=336,slow=11	11.82	127	Pn	Pn	00 44 06.9	+2.4
SUMG	**Summit**	12.62	275	iP	Pn	00 44 16.0	+0.2
NEEM	**North Greenlan**	12.71	302	iP	Pn	00 44 16.5	-0.4
NEEM				iS	Sn	00 46 25.6	-13
FIA0	**FINESS Array S** baz=344,slow=12	16.54	148	P	Pn	00 45 09.4	+1.6
FIA0	**FINESS Array S** baz=344,slow=12	16.54	148	P	Pn	00 45 09.4	+1.6
LSH	**Leshukonskoye** comp=Z,16nm,1.7s	16.74	114	P	P	00 45 13.3	+0.7

*IDC **22** 00:47:50.1±4.0, 11°.10N×62°.35W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=140.3km s-min=30.9km az=11.0*
*TRN **22** 00:48:03.7, 10°.99N×62°.33W, h108km, MD3.8, North of the Paria peninsula.*
*FUNV **22** 00:48:04.8, 10°.83N×62°.21W, h108km, MW3.4*
ISC 22 00:48:03.1±0.8, 11°.02N±0°.04×62°.36W±0°.04, h110km±8km, n33, σ1°26/50, mb3.8/3, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	0.85	112	eP	Pn	00 48 23.3	+0.6
DMDM				eS	Sn	00 48 36.6	-0.9
PSMG	**Mucurapo Girls**	0.88	113	eP	Pn	00 48 23.4	+0.4
PSMG				eS	Sn	00 48 37.0	-1.0
PSKH	**Kent House, Po**	0.88	112	eP	Pn	00 48 23.7	+0.7
PSKH				eS	Sn	00 48 37.1	-1.0
PSQC	**Port of Spain**	0.89	113	eP	Pn	00 48 23.6	+0.5
PSGH	**Port of Spain**	0.90	113	eP	Pn	00 48 23.8	+0.6
TRN	**Trinidad (W)**	1.00	111	iP	Pn	00 48 24.7	+0.5
TRN				eS	Sn	00 48 39.1	-1.1
TPP	**Pointe-a-Pierr**	1.13	128	eP	Pn	00 48 27.8	+2.2
GRFF	**Grenada Fort F**	1.19	30	eP	Pn	00 48 26.7	+0.4
GRFF				eS	Sn	00 48 44.2	+0.3
GRGR	**Grenville**	1.30	32	eP	Pn	00 48 28.5	+0.9
GRGR				eS	Sn	00 48 46.7	+0.5
GRW	**Mount Saint Ca**	1.32	31	eP	Pn	00 48 27.5	-0.4
GRW				eS	Sn	00 48 46.7	0.0
TBH	**Brigand Hill**	1.37	113	eP	Pn	00 48 30.0	+1.6
TBH				eS	Sn	00 48 46.2	-1.3
GRSS	**Sisters**	1.47	30	eP	Pn	00 48 30.4	+1.0
GRSS				eS	Sn	00 48 50.2	+0.7
TPR	**Prospect**	1.56	84	eP	Pn	00 48 32.1	+1.6
PCRV	**Puerto La Cruz**	2.39	250	eP	Pn	00 48 43.0	+1.8
PCRV				eS	Sn	00 49 10.7	+0.4
PCRV	**Puerto La Cruz**	2.39	250	eP	Pn	00 48 42.9	+1.8
PCRV				eS	Sn	00 49 10.1	-0.2
SVB	**Belmont**	2.49	26	eP	Pn	00 48 42.9	+0.5
SVB				eS	Sn	00 49 11.8	-0.7
SLBI	**Saint Lucia, B**	3.28	24	eP	Pn	00 48 53.2	+0.4
SLBI				eS	Sn	00 49 29.6	-1.5
BBGH	**Gun Hill**	3.46	52	eP	Pn	00 48 55.0	-0.2
BBGH				eS	Sn	00 49 34.0	-1.4
BIM	**Bigot**	3.70	20	eP	Pn	00 48 59.3	+0.9
BIM				eS	Sn	00 49 40.5	-0.8
DSLB	**Salisbury**	4.49	12	eP	Pn	00 49 10.2	+1.2
TBG	**Guadaloupe-3**	4.86	8	eP	Pn	00 49 14.4	+0.4
ATGZ	**Broadband at L**	5.09	7	eP	Pn	00 49 18.7	+1.6
BENV	**Beln**	5.26	259	eP	Pn	00 49 20.6	+1.1
BENV				eS	Sn	00 50 18.1	-0.9
CACV	**CAICARA DEL OR**	5.37	231	eP	Pn	00 49 15.3	-5.6
CACV				eS	Sn	00 50 08.8	-13
DSDZ	**La Diserade, G**	5.41	13	eP	Pn	00 49 21.5	0.0
MLYT	**Lee's Yard**	5.67	2	eP	Pn	00 49 26.6	+1.5
MBFL	**Flemmings, Mon**	5.70	1	eP	Pn	00 49 26.6	+1.2
BAUV	**El Baul**

BMRM				IAML			01 08 44.1		
	comp=N,4.7nm,1.4s								
BMRM				IAML			01 09 22.1		
	comp=E,4.8nm,0.8s								
WAX	**Waxell Ridge**	**5.34**	**37**	Pn	Pn		01 06 25.7	0.0	
P16K	**Nushagak River**	**5.39**	**304**	Pn	Pn		01 06 28.1	+1.8	
KLU	**Klutina**	**5.46**	**17**	Pn	Pn		01 06 27.0	-0.3	
MESA	**MESA**	**5.46**	**42**	Pn	Pn		01 06 28.9	+1.3	
N18K	**Kilae Creek**	**5.56**	**324**	Pn	Pn		01 06 28.3	-0.4	
YAH	**Yahtse**	**5.67**	**41**	Pn	Pn		01 06 30.3	0.0	
O16K	**Kokwok River B**	**5.71**	**309**	Pn	Pn		01 06 32.4	+1.7	
VRDI	**Verde Repeater**	**5.77**	**29**	Pn	Pn		01 06 31.4	-0.3	
N25K	**Chitina, Valde**	**5.82**	**23**	Pn	Pn		01 06 29.6	-2.7	
GLB	**Gilahina Butte**	**5.86**	**27**	Pn	Pn		01 06 33.7	+0.9	
TABL	**Table Mountain**	**5.94**	**43**	Pn	Pn		01 06 33.8	-0.3	
M24K	**Tolsona, Glenn**	**6.01**	**14**	Pn	Pn		01 06 37.0	+2.2	
CNBA	**Chernabura Isl**	**6.03**	**260**	Pn	Pn		01 06 34.5	-0.6	
PCA	**Pinnacle**	**6.08**	**48**	Pn	Pn		01 06 36.1	+0.2	
BARN	**Barnard Glacie**	**6.18**	**37**	Pn	Pn		01 06 37.1	-0.3	
CTGM	**Chitina Glacie**	**6.23**	**39**	Pn	Pn		01 06 37.2	-0.8	
BCPM	**Bancas Point**	**6.27**	**51**	Pn	Pn		01 06 38.1	-0.3	
O15K	**Ungalikthiuk R**	**6.32**	**301**	Pn	Pn		01 06 40.0	+1.0	
O28M	**Mount Upton**	**6.51**	**43**	Pn	Pn		01 06 41.6	-0.4	
M17K	**Holitna River**	**6.60**	**324**	Pn	Pn		01 06 44.6	+1.6	

GCG ***22*** *01:08:54.7±3.9, 15°.69N×91°.00W, h1km±8km, MD4.2, ML4.6*
SNET ***22*** *01:08:55.2±1.5, 15°.74N×91°.14W, h13km±248km, ML4.3*
BGR ***22*** *01:08:56.0, 15°.16N×91°.52W, h33km, mb4.7*
NEIC ***22*** *01:08:56.2±1.4, 15°.70N±0°.05×91°.05W±0°.05, h10km±1km, mb4.5/175, Error ellipse: s-maj=9.3km s-min=7.6km az=158.0*
CATAC ***22*** *01:08:57.8±0.3, 16°N±2°×9°1W±°, h1km, M4.5/19, MLv4.5/19, Error ellipse: s-maj=4.8km s-min=3.8km az=26.0, confirmed*
IDC ***22*** *01:09:00.2±2.7, 15°.68N×91°.09W, h52km±28km, mb3.8/13, mbtmp4.1/16, ML3.4/3, MS3.4/22, Error ellipse: s-maj=21.6km s-min=11.5km az=58.0*

ISC 22 01:08:55.2±1.1, 15°.71N±0°.03×91°.01W±0°.02, h8km±7km, n219, σ1s10/180, mb4.5/76, MS3.6/18, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
QUIS	**Sacapulas**	**0.42**	**191**	*i* P		**Pg**	**01 09 02.9**	**-0.5**
QUIS				*i* S		**Sg**	**01 09 09.1**	**+0.1**
QUIS				IAML			01 09 09.8	
	comp=N,89μm,0.4s							
HUEH	**Huehuetenango**	**0.61**	**231**			**Pg**	**01 09 06.6**	**-0.4**
HUEH				Sg		**Sg**	**01 09 14.9**	**-0.1**
HUEH	**Huehuetenango**	**0.61**	**231**	*e*P		**Pg**	**01 09 06.6**	**-0.4**
HUEH				*e*S		**Sg**	**01 09 14.5**	**-0.5**
HUEH	**Huehuetenango**	**0.61**	**231**	*i* P		**Pg**	**01 09 06.8**	**-0.3**
HUEH				*i* S		**Sg**	**01 09 15.0**	**-0.1**
HUEH				IAML			01 09 30.0	
	comp=E,33μm,1.0s							
HUEH	**Huehuetenango**	**0.61**	**231**	P		**Pg**	**01 09 06.7**	**-0.4**
HUEH				S		**Sg**	**01 09 15.2**	**+0.1**
AVCB	**Coban**	**0.63**	**112**	*i* P		**Pg**	**01 09 05.6**	**-1.8**
AVCB				*i* S		**Sg**	**01 09 14.6**	**-1.1**
AVCB				IAML			01 09 24.2	
	comp=E,76μm,0.6s							
SOKI	**Kika Raxquin**	**0.96**	**203**	*e*P		**Pg**	**01 09 13.1**	**-0.5**
SOKI				IAML			01 09 46.1	
	comp=N,16μm,1.0s							
GCG4	**OSOP**	**1.21**	**157**	*i* P		**Pg**	**01 09 18.2**	**-0.1**
GCG4				*i* S		**Sb**	**01 09 34.6**	**+0.4**
CCIG	**Comitan**	**1.22**	**298**	Pn		**Pn**	**01 09 18.6**	**-0.2**
CCIG	**Comitan**	**1.22**	**298**	*i* P		**Pn**	**01 09 18.6**	**-0.2**
CCIG				*i* S		**Sn**	**01 09 38.4**	**+2.8**
CCIG				IAML			01 09 44.7	
	comp=N,3μm,0.7s							
CCIG	**Comitan**	**1.22**	**298**	P		**Pn**	**01 09 19.3**	**+0.5**
STG2	**El Palmar, Qui**	**1.31**	**196**	*e*P		**Pn**	**01 09 16.0**	**-3.9**
STG0	**El Palmar, Qui**	**1.31**	**194**	*e*P		**Pn**	**01 09 15.9**	**-4.1**
ESSG	**Sabana Grande**	**1.33**	**172**	*i* P		**Pn**	**01 09 20.3**	**+0.2**
ESSG				IAML			01 09 46.7	
	comp=E,5μm,1.0s							
SMCA	**Catarina**	**1.33**	**231**	*i* P		**Pb**	**01 09 20.4**	**0.0**
RTAL	**Retalhuleu**	**1.35**	**209**	Pn		**Pn**	**01 09 20.3**	**0.0**
RTAL	**Retalhuleu**	**1.35**	**209**	P		**Pg**	**01 09 21.1**	**0.0**
THIG		**1.45**	**237**	*i* P		**Pg**	**01 09 23.9**	**+1.0**
THIG				IAML			01 09 52.6	
	comp=E,6μm,1.6s							
FG16	**Alotenango, Sa**	**1.50**	**161**	*i* P		**Pn**	**01 09 18.5**	**-4.2**
PETF	**Flores**	**1.63**	**42**	Pn		**Pn**	**01 09 24.1**	**-0.1**
PETF	**Flores**	**1.63**	**42**	*e*P		**Pn**	**01 09 23.6**	**-0.6**
PETF				*i* S		**Sb**	**01 09 47.1**	**+0.8**
PETF				IAML			01 09 49.4	
	comp=N,17μm,0.6s							
PETF	**Flores**	**1.63**	**42**	P		**Pn**	**01 09 24.5**	**+0.2**
ESQI	**Esquipulas**	**1.98**	**125**	Pn		**Pn**	**01 09 29.1**	**+0.1**
ESQI	**Esquipulas**	**1.98**	**125**	*e*P		**Pn**	**01 09 29.6**	**+0.6**
ESQI				*e*S		**Sb**	**01 09 56.5**	**+0.2**
ESQI	**Esquipulas**	**1.98**	**125**	P		**Pn**	**01 09 29.6**	**+0.6**
SLOZ	**Alcaldia de Sa**	**2.05**	**144**	*e*P		**Pn**	**01 09 31.1**	**+1.1**
SLOZ	**Alcaldia de Sa**	**2.05**	**144**	P		**Pb**	**01 09 32.5**	**-0.2**
MTO3	**Montecristo**	**2.06**	**129**	Pn		**Pn**	**01 09 30.7**	**+0.4**
MTO3	**Montecristo**	**2.06**	**129**	*e*P		**Pn**	**01 09 30.7**	**+0.4**
MTO3	**Montecristo**	**2.06**	**129**	*e*P		**Pn**	**01 09 30.7**	**+0.4**
MTO3				*i* S		**Sb**	**01 09 59.8**	**+1.0**
MTO3	**Montecristo**	**2.06**	**129**	P		**Pn**	**01 09 30.8**	**+0.5**
LOAL	**Lomas de Alarc**	**2.07**	**145**	P		**Pb**	**01 09 33.3**	**+0.1**
FAME	**Alcaldia de Sa**	**2.09**	**152**	P		**Pn**	**01 09 32.2**	**+1.6**
NUBE	**Las Nubes**	**2.15**	**146**	*e*P		**Pn**	**01 09 31.9**	**+0.3**
NUBE				*e*S		**Sn**	**01 09 59.8**	**+1.3**
NUBE	**Las Nubes**	**2.15**	**146**	*i* P		**Pn**	**01 09 33.1**	**+1.5**
NUBE				*i* S		**Sn**	**01 10 00.0**	**+1.5**
NUBE	**Las Nubes**	**2.15**	**146**	P		**Pn**	**01 09 33.0**	**+1.5**
RTR	**El Retiro**	**2.23**	**144**	*e*P		**Pn**	**01 09 34.3**	**+1.6**
SNJE	**San Jose**	**2.28**	**143**	*e*P		**Pn**	**01 09 34.6**	**+1.3**
SBLS	**San Blas**	**2.29**	**144**	*e*P		**Pn**	**01 09 35.0**	**+1.5**
IZABA	**Izabal, Puerto**	**2.34**	**89**	P		**Pb**	**01 09 38.8**	**+1.1**
SARH	**Santa Rosa de**	**2.36**	**113**	*e*P		**Pn**	**01 09 34.3**	**-0.1**
SARH				*i* S		**Sg**	**01 10 11.1**	**-0.1**
CEDA	**San Andres**	**2.46**	**140**	*e*P		**Pn**	**01 09 35.2**	**-0.4**
CEDA				IAML			01 10 18.6	
	comp=Z,1μm,0.6s							
JAYA	**Jayaque - finc**	**2.54**	**143**	P		**Pn**	**01 09 37.4**	**+0.5**
PMON	**Piamonte**	**2.57**	**140**	P		**Pb**	**01 09 42.4**	**+0.7**
LOMA	**Loma Larga**	**2.72**	**139**	P		**Pg**	**01 09 46.3**	**-0.9**
PAVA	**Las Pavas**	**2.82**	**134**	P		**Pb**	**01 09 47.9**	**+2.0**
COEG	**Centro de Oper**	**2.92**	**135**	P		**Pb**	**01 09 48.2**	**+0.5**
SCIG	**Sabancuy**	**3.25**	**357**	*i* P		**Pn**	**01 09 46.2**	**-0.3**
SCIG				*i* S		**Sn**	**01 10 25.1**	**-0.2**
MARCA	**Marcala la Paz**	**3.26**	**118**	*e*P		**Pb**	**01 09 53.2**	**-0.3**
PACA	**Pacayal**	**3.42**	**130**	P		**Pg**	**01 10 02.2**	**+1.3**
CMIG	**Matias Romero**	**3.96**	**291**	P		**Pn**	**01 09 56.9**	**+0.6**
	comp=Z,10nm,0.3s,baz=116,slow=10.0,SNR=9.6							
CMIG				S		**Sn**	**01 10 43.7**	**+0.7**
	comp=Z,66nm,0.5s,baz=277,slow=20,SNR=8.2							
CMIG				LR		LR	01 11 46.1	
	comp=Z,180nm,19.2s,baz=109,slow=42 comp=Z,13nm,0.4s							
TGUH	**Tegucigalpa,Un**	**3.97**	**114**	Pn		**Pn**	**01 09 59.4**	**+2.8**
CRIN	**San Cristobal**	**4.87**	**127**	Pn		**Pn**	**01 10 10.8**	**+1.9**
HERN	**Volcan Telica**	**5.09**	**127**	Pn		**Pn**	**01 10 16.7**	**+4.8**
TEIG	**Tepich**	**5.20**	**30**	Pn		**Pn**	**01 10 13.7**	**+0.4**
CNGN	**Cerro Negro**	**5.26**	**127**	Pn		**Pn**	**01 10 18.8**	**+4.6**
BOAB	**BOACO BROADBAN**	**6.11**	**121**	Pn		**Pn**	**01 10 27.1**	**+1.2**
SIUN	**Universidad Ur**	**6.35**	**107**	Pn		**Pn**	**01 10 29.6**	**+0.4**
ACON	**Acoyapa**	**6.78**	**123**	Pn		**Pn**	**01 10 36.9**	**+1.9**
TLIG	**Tlapa**	**7.47**	**285**	Pn		**Pn**	**01 10 44.9**	**+0.2**
JTS	**Las Juntas de**	**7.99**	**132**	LR		LR	01 13 26.5	
	comp=Z,59nm,20.5s,baz=299,slow=33							
LCR2	**La Lucha 2**	**9.05**	**130**	Pn		**Pn**	**01 11 08.2**	**+1.8**
MTDJ	**Mount Denham**	**13.14**	**77**	Pn		**Pn**	**01 12 03.5**	**+1.2**
833A	**Chaparral WMA,**	**14.76**	**330**	Pn		**Pn**	**01 12 25.3**	**+1.0**
553A	**Crawfordville**	**15.63**	**22**	Pn		**Pn**	**01 12 35.9**	**0.0**
553A				IAmb		IAmb	01 12 38.7	
	comp=Z,63nm,1.0s							
346A	**Big Creek Wild**	**15.68**	**5**	Pn		**Pn**	**01 12 37.5**	**+1.1**
HNDO	**Hondo**	**15.72**	**332**	Pn		**Pn**	**01 12 37.3**	**+0.2**
HNDO				IAmb		IAmb	01 12 53.0	
	comp=Z,42nm,1.3s							
DRIO	**Del Rio**	**16.27**	**329**	Pn		**Pn**	**01 12 44.5**	**+0.3**
146A	**Union**	**16.95**	**6**			**P**	**01 12 54.3**	**-0.4**
146A				IAmb		IAmb	01 12 57.7	
	comp=Z,33nm,1.1s							
TIGA	**Tifton**	**17.07**	**22**	Pn		**Pn**	**01 12 54.6**	**+0.4**
TIGA				IAmb		IAmb	01 12 59.8	
	comp=Z,47nm,1.3s							
BRDY	**Brady**	**17.14**	**336**	Pn		**Pn**	**01 12 54.9**	**-0.3**
FW14	**Alvarado**	**17.54**	**342**			**P**	**01 13 01.4**	**0.0**
FW14				IAmb		IAmb	01 13 14.8	
	comp=Z,18nm,0.6s							
TXAR	**Lajitas Array**	**17.88**	**321**			**P**	**01 13 05.2**	**0.0**
TXAR	**Lajitas Array**	**17.88**	**321**	P		**P**	**01 13 05.7**	**+0.5**
	baz=147,slow=10,SNR=27							
TXAR				S		**Sn**	**01 16 23.6**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=156,slow=12,SNR=1.2							
TXAR				LR		LR	01 21 14.7	
	comp=Z,30nm,18.5s,baz=209,slow=41 comp=Z,4.4nm,1.0s							
TX31	**Lajitas Ar. Si**	**17.89**	**321**			**P**	**01 13 05.6**	**+0.3**
WLAR	**White Oak Lake**	**18.00**	**354**			**Pn**	**01 13 06.1**	**+0.2**
WLAR				IAmb		IAmb	01 13 10.2	
	comp=Z,42nm,1.0s							
PLPT	**Palo Pinto**	**18.27**	**340**			**P**	**01 13 09.5**	**+0.1**
FW03	**Perrin-Whitt E**	**18.40**	**341**			**Pn**	**01 13 10.5**	**-0.3**
OXF	**Oxford**	**18.78**	**4**	P		**P**	**01 13 14.1**	**-0.9**
OXF				IAmb		IAmb	01 13 20.7	
	comp=Z,34nm,1.1s							
MIAR	**Mount Ida**	**18.90**	**353**	P		**P**	**01 13 15.7**	**-0.5**
GOGA	**Godfrey**	**18.90**	**20**	P		**P**	**01 13 15.4**	**-0.9**
UALR	**University of**	**19.03**	**357**	P		**Pn**	**01 13 18.1**	**-0.3**
UALR				IAmb		IAmb	01 13 22.0	
	comp=Z,32nm,1.2s							
Y52A	**Lilburn**	**19.14**	**18**	P		**Pn**	**01 13 20.0**	**+0.2**
WTFS	**Witchita Falls**	**19.20**	**341**	P		**Pn**	**01 13 20.2**	**-0.3**
FPAL	**Fort Paine**	**19.37**	**14**	P		**Pn**	**01 13 22.3**	**-0.3**
PLAL	**Pickwick Lake**	**19.38**	**7**	P		**P**	**01 13 21.5**	**0.0**
SN07	**Snyder 07**	**19.49**	**334**	P		**P**	**01 13 22.8**	**+0.1**
ROSC	**El Rosal**	**19.64**	**122**	P		**Pn**	**01 13 25.9**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=324,slow=14,SNR=6.1 comp=Z,4.4nm,0.5s							
OTAV	**Otavalo**	**19.75**	**140**	P		**P**	**01 13 26.2**	**0.0**
HBAR	**Harrisburg**	**19.77**	**1**	P		**P**	**01 13 26.1**	**+0.3**
SWET	**Sewanee**	**19.96**	**12**	P		**P**	**01 13 27.9**	**+0.1**
LPIG	**La Paz**	**19.96**	**298**	LR		LR	01 21 16.9	
	comp=Z,115nm,18.5s,baz=170,slow=37							
DKNS	**Dickens**	**20.00**	**335**	P		**P**	**01 13 28.0**	**-0.4**
RUSC	**La Rusia**	**20.11**	**117**	P		**P**	**01 13 31.2**	**+1.0**
FCAR	**Ozark Folk Cen**	**20.13**	**357**	P		**P**	**01 13 30.1**	**+0.5**
WMOK	**Wichita Mounta**	**20.20**	**341**	P		**P**	**01 13 30.3**	**-0.2**
LCAR	**Lake Charles**	**20.28**	**360**	P		**P**	**01 13 32.1**	**+0.8**
LCAR				IAmb		IAmb	01 13 33.8	
	comp=Z,24nm,1.1s							
OKCSW	**OKLAHOMA CITY**	**20.45**	**345**	P		**P**	**01 13 33.9**	**+0.8**
OKCSW				IAmb		IAmb	01 13 34.7	
	comp=Z,46nm,1.2s							
WVT	**Waverly**	**20.54**	**7**	P		**P**	**01 13 33.9**	**-0.3**
TUL3	**Leonard**	**20.57**	**349**	P		**P**	**01 13 34.3**	**-0.2**
TUL3				IAmb		IAmb	01 13 51.9	
	comp=Z,29nm,1.2s							
OK029	**Liberty Lake**	**20.82**	**345**	IAmb		IAmb	01 13 38.8	
	comp=Z,34nm,1.1s							
OK052	**Battle Ridge R**	**20.86**	**347**	IAmb		IAmb	01 13 39.0	
	comp=Z,36nm,1.5s							
U38A	**Gravette**	**20.87**	**352**	P		**P**	**01 13 37.4**	**-0.3**
TKL	**Tuckaleechee C**	**20.90**	**17**	P		**P**	**01 13 37.9**	**-0.2**
	comp=Z,7.4nm,1.1s,baz=189,slow=12,SNR=6.1							
TKL				S		**S**	**01 17 29.6**	**-1.6**
	comp=Z,2.4nm,0.7s,baz=151,slow=4.0,SNR=5.3							
TKL				LR		LR	01 22 52.5	
	comp=Z,179nm,18.1s,baz=200,slow=40 comp=Z,7.4nm,1.1s							
PBMO	**Poplar Bluff**	**21.00**	**1**	P		**P**	**01 13 39.4**	**+0.4**
SMWD	**Samnorwood**	**21.02**	**338**	IAmb		IAmb	01 14 03.0	
	comp=Z,32nm,1.5s							
SDV	**Santo Domingo**	**21.02**	**106**	P		**P**	**01 13 40.7**	**+0.9**
SDV				IAmb		IAmb	01 13 44.7	
	comp=Z,44nm,1.4s							
SDV	**Santo Domingo**	**21.02**	**106**	P		**P**	**01 13 40.5**	**+0.8**
	comp=Z,15nm,0.5s,baz=308,slow=12,SNR=5.9 comp=Z,15nm,0.5s							
MSTX	**Muleshoe**	**21.05**	**332**	IAmb		IAmb	01 13 47.0	
	comp=Z,27nm,1.3s							
U49A	**Red Boiling Sp**	**21.24**	**12**	P		**P**	**01 13 42.3**	**+0.6**
OK051	**E0350 and S346**	**21.36**	**347**	IAmb		IAmb	01 13 47.7	
	comp=Z,36nm,1.2s							
AMTX	**Amarillo**	**21.36**	**335**	IAmb		IAmb	01 13 48.7	
	comp=Z,26nm,1.1s							
MGMO	**Mountain Grove**	**21.39**	**357**	IAmb		IAmb	01 13 46.4	
	comp=Z,11nm,1.1s							
T47A	**Sharon Grove**	**21.48**	**9**	IAmb		IAmb	01 13 53.5	
	comp=Z,20nm,1.0s							
ELIS	**Ellis County**	**21.62**	**341**	IAmb		IAmb	01 13 52.2	
	comp=Z,34nm,1.4s							
CROK	**Carrier**	**21.62**	**345**	P		**P**	**01 13 45.3**	**-0.6**
CROK				IAmb		IAmb	01 13 50.8	
	comp=Z,33nm,1.3s							
T35A	**Sooner Cattle**	**21.68**	**348**	P		**P**	**01 13 45.8**	**-0.7**
T35A				IAmb		IAmb	01 13 47.7	
	comp=Z,23nm,1.3s							
TZTN	**Tazewell**	**21.79**	**16**	IAmb		IAmb	01 13 54.8	
	comp=Z,18nm,1.1s							
V55A	**Taylorsville**	**21.89**	**22**	P		**P**	**01 13 49.1**	**+0.3**
V55A				IAmb		IAmb	01 13 55.5	
	comp=Z,43nm,1.5s							
CCM	**Cathedral Cave**	**22.26**	**360**	P		**P**	**01 13 52.0**	**-0.7**
CCM				IAmb		IAmb	01 13 55.9	
	comp=Z,35nm,1.2s							
U54A	**Nelsons Funny**	**22.29**	**20**	IAmb		IAmb	01 13 57.2	
	comp=Z,45nm,1.3s							
R40A	**Maddies Statio**	**22.52**	**357**	IAmb		IAmb	01 14 02.3	
	comp=Z,20nm,0.9s							
V58A	**Windy Hill, Pi**	**22.66**	**26**	P		**P**	**01 13 57.5**	**+0.6**
V58A				IAmb		IAmb	01 13 60.0	
	comp=Z,30nm,1.2s							
S51A	**Beattyville**	**22.81**	**15**	IAmb		IAmb	01 14 18.0	
	comp=Z,12nm,0.9s							
WCI	**Wyandotte Cave**	**22.82**	**10**	P		**P**	**01 13 57.9**	**-0.7**
SLM	**Saint Louis**	**22.85**	**2**	P		**P**	**01 13 58.9**	**-0.1**
SLM				IAmb		IAmb	01 14 01.8	
	comp=Z,29nm,1.1s							
R49A	**Shelbyville**	**23.08**	**12**	IAmb		IAmb	01 14 05.1	
	comp=Z,14nm,1.3s							
BNM	**Barren Site**	**23.14**	**325**	P		**P**	**01 14 02.5**	**+0.3**
RTBA	**Rita Blanca**	**23.14**	**335**	IAmb		IAmb	01 14 03.2	
	comp=Z,13nm,1.1s							
R50A	**Paris**	**23.25**	**13**	P		**P**	**01 14 04.0**	**+0.9**
BAUV	**El Baul**	**23.41**	**104**	P		**P**	**01 14 04.5**	**-0.4**
S54A	**Dingess, Beckl**	**23.62**	**19**	IAmb		IAmb	01 14 10.5	
	comp=Z,13nm,0.8s							
ANMO	**Albuquerque**	**23.65**	**327**	P		**P**	**01 14 08.3**	**+1.0**
ANMO	**Albuquerque**	**23.65**	**327**	LR		LR	01 24 22.6	
	comp=Z,48nm,18.1s,baz=200,slow=39							
P38A	**Dawn**	**23.93**	**355**	IAmb		IAmb	01 14 10.3	
	comp=Z,16nm,1.1s							
T59A	**Double "B" Far**	**24.32**	**27**	IAmb		IAmb	01 14 15.2	
	comp=Z,17nm,1.0s							
TUC	**Tucson**	**24.41**	**316**	P		**P**	**01 14 14.5**	**+0.1**
S57A	**Dark Hollow, R**	**24.42**	**24**	IAmb		IAmb	01 14 17.6	
	comp=Z,20nm,1.4s							
R55A	**Marlinton**	**24.45**	**21**	IAmb		IAmb	01 14 17.7	
	comp=Z,30nm,1.3s							
R58B	**Mineral**	**25.02**	**25**	IAmb		IAmb	01 14 21.9	
	comp=Z,18nm,1.3s							
P52A	**Corning**	**25.07**	**16**	P		**P**	**01 14 20.7**	**+0.5**
P52A				IAmb		IAmb	01 14 24.1	
	comp=Z,23nm,1.2s							
S22A	**4UR Ranch, Cre**	**26.03**	**331**	P		**P**	**01 14 29.8**	**+0.5**
S22A				IAmb		IAmb	01 14 32.1	
	comp=Z,8.8nm,1.1s							
MVCO	**Mesa Verde**	**26.44**	**327**	IAmb		IAmb	01 14 35.8	
	comp=Z,11nm,1.1s							
WUAZ	**Wupatki**	**26.85**	**321**	P		**P**	**01 14 36.7**	**+0.1**
PV02	**Paradox Valley**	**27.32**	**328**	IAmb		IAmb	01 14 44.1	
	comp=Z,16nm,1.4s							
PV13	**Radium Mtn., P**	**27.33**	**328**	IAmb		IAmb	01 14 43.9	
	comp=Z,12nm,1.3s							
PV05	**Paradox Valley**	**27.41**	**328**	IAmb		IAmb	01 14 44.2	
	comp=Z,12nm,1.2s							
PV03	**Paradox Valley**	**27.41**	**328**	IAmb		IAmb	01 14 44.5	
	comp=Z,9.2nm,1.2s							
PV18	**Skein Mesa, Pa**	**27.44**	**328**	IAmb		IAmb	01 14 44.6	
	comp=Z,14nm,1.1s							
PV12	**Saucer Basin,**	**27.44**	**329**	IAmb		IAmb	01 14 44.9	
	comp=Z,18nm,1.1s							
PV07	**Paradox Valley**	**27.46**	**329**	P		**P**	**01 14 41.5**	**-0.5**
PV07				IAmb		IAmb	01 14 45.0	
	comp=Z,10nm,1.3s							
PV16	**Nyswonger Mesa**	**27.49**	**328**	IAmb		IAmb	01 14 45.1	
	comp=Z,11nm,1.2s							
PV19	**Morning Glory**	**27.53**	**328**	IAmb		IAmb	01 14 44.7	
	comp=Z,14nm,1.2s							
PV04	**Paradox Valley**	**27.55**	**329**	IAmb		IAmb	01 14 45.1	
	comp=Z,10nm,1.1s							
PV22	**Blue Mesa, Par**	**27.60**	**329**	IAmb		IAmb	01 14 46.1	
	comp=Z,13nm,1.3s							
PV10	**Paradox Valley**	**27.61**	**328**	IAmb		IAmb	01 14 44.8	
	comp=Z,9.2nm,1.0s							
PV23	**Carpenter Ridg**	**27.65**	**328**	IAmb		IAmb	01 14 45.8	
	comp=Z,9.4nm,0.9s							
O20A	**White River Ci**	**28.60**	**332**	IAmb		IAmb	01 14 54.4	
	comp=Z,6.7nm,1.0s							
PFO	**Pinyon Flats O**	**29.07**	**312**	LR		LR	01 28 19.6	
	comp=Z,46nm,18.3s,baz=120,slow=40							
SADO	**Sadowa**	**30.66**	**17**	LR		LR	01 28 33.7	
	comp=Z,120nm,18.4s,baz=192,slow=38							
PDAR	**Pinedale Array**	**31.30**	**333**	P		**P**	**01 15 14.3**	**-1.9**
	comp=Z,1.7nm,1.1s,baz=137,slow=7.4,SNR=4.6 comp=Z,1.7nm,1.1s							
HWUT	**Hardware Ranch**	**31.32**	**330**	P		**P**	**01 15 16.3**	**+0.1**
HWUT				IAmb		IAmb	01 15 23.2	
	comp=Z,8.0nm,1.4s							
TPH	**Tonopah**	**32.09**	**319**	P		**P**	**01 15 23.6**	**+0.4**
LOHW	**Long Hollow**	**32.44**	**333**	IAmb		IAmb	01 15 28.3	
	comp=Z,7.3nm,1.2s							
TPAW	**Teton Pass**	**32.49**	**332**	IAmb		IAmb	01 15 29.1	
	comp=Z,14nm,1.3s							
NVAR	**Mina Array Bea**	**32.99**	**319**	P		**P**	**01 15 31.1**	**+0.1**
NVAR	**Mina Array Bea**	**32.99**	**319**	P		**P**	**01 15 30.5**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=134,slow=8.3,SNR=12 comp=Z,1.0nm,0.8s							
BOZ	**Bozeman (W)**	**34.47**	**334**	P		**P**	**01 15 43.8**	**+0.1**
J08A	**Circle Bar Ran**	**36.16**	**325**	P		**P**	**01 15 59.2**	**+1.0**
J08A				IAmb		IAmb	01 16 01.0	
	comp=Z,13nm,1.4s							
D62A	**Allapoint, All**	**36.21**	**26**	IAmb		IAmb	01 16 00.0	
	comp=Z,19nm,1.5s							
NEW	**Newport**	**38.92**	**332**	LR		LR	01 33 36.8	
	comp=Z,26nm,20.9s,baz=124,slow=38							
LPAZ	**La Paz**	**38.99**	**144**	P		**P**	**01 16 21.7**	**-1.4**
	comp=Z,1.1nm,1.0s,baz=323,slow=14,SNR=3.7							
LPAZ				LR		LR	01 31 40.8	
	comp=Z,70nm,18.7s,baz=105,slow=35 comp=Z,1.1nm,1.0s							
HOOD	**Mount Hood Mea**	**39.17**	**325**	P		**P**	**01 16 24.3**	**+0.5**
HOOD				IAmb		IAmb	01 16 36.9	
	comp=Z,8.8nm,1.0s							
SCHQ	**Schefferville**	**43.30**	**20**	LR		LR	01 35 38.7	
	comp=Z,125nm,19.9s,baz=244,slow=37							
YKA	**Yellowknife Ar**	**49.60**	**346**	P		**P**	**01 17 44.9**	**-1.9**
	comp=Z,2.7nm,0.9s,baz=150,slow=7.3,SNR=8.8 comp=Z,2.7nm,0.9s							
FRB	**Frobisher Bay**	**50.45**	**13**	LR		LR	01 40 15.0	
	comp=Z,98nm,19.1s,baz=174,slow=37							
WTLY	**Watson Lake, Y**	**52.12**	**337**	P		**P**	**01 18 06.0**	**+0.2**
R33M	**Jennings River**	**52.49**	**336**	P		**P**	**01 18 09.2**	**+0.5**
R33M				IAmb		IAmb	01 18 10.8	
	comp=Z,6.3nm,1.2s		

λ-130.00000°.
JMA ***22*** *01:39:13.9±0.0,32.4N±0.1×130.5E±0.1,h11km±1km, MD4.0/20,MV4.1/20,AMAKUSA REGION*
JMA Felt III J1 at AMAKUSA REGION .

ISC 22 01:39:13.4±1.0,**32.37N**±0.03×**130.53E**±0.04,**h14**km±7km, **n33**,σ1°**02**/26,**mb3.6**/10,**Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZO	**Okuchi**	**0.23**	**165**	P	**Pb**	**01 39 20.1**	**+0.7**
JZO				S	**Sb**	**01 39 24.3**	**+0.9**
JZO	**Okuchi**	**0.23**	**165**	A	A	01 39 20.1	
	comp=N,51nm,0.3s,comp=E,38nm,0.3s						
JIU3	**Izumi3**	**0.30**	**53**	*i* P	**Pg**	**01 39 19.7**	**0.0**
JIU3				*e*S	**Sg**	**01 39 24.1**	**+0.1**
JIU3	**Izumi3**	**0.30**	**53**	A	A	01 39 19.7	
	comp=N,20nm,0.6s,comp=E,28nm,0.3s						
JHD	**Hondo**	**0.35**	**287**	P	**Pg**	**01 39 20.1**	**-0.4**
JHD				S	**Sg**	**01 39 24.8**	**-0.5**
JHD	**Hondo**	**0.35**	**287**	A	A	01 39 20.1	
	comp=N,29nm,0.8s,comp=E,34nm,0.5s						
JTA	**Tamana**	**0.60**	**0**	P	**Pg**	**01 39 24.3**	**-0.9**
JTA				S	**Sg**	**01 39 31.9**	**-1.2**
JTZ	**Takazaki**	**0.66**	**134**	*i* P	**Pn**	**01 39 28.3**	**0.0**
JTZ				S	**Sn**	**01 39 37.9**	**-0.6**
JNU	**Nakatsue**	**0.81**	**21**	Pg	**Pb**	**01 39 28.5**	**-0.7**
	comp=E,255nm,0.3s,baz=214,slow=5.0,SNR=1022						
JNU				Lg	Lg	01 39 38.5	
	comp=E,2μm,0.3s,baz=307,slow=22,SNR=57						
JNU	**Nakatsue**	**0.81**	**21**	A	A	01 39 28.5	
	comp=N,5.0nm,2.7s,comp=E,7.0nm,1.1s						
JKIT	**Kitakata**	**0.82**	**71**	A	A	01 39 29.7	
	comp=N,20nm,0.3s,comp=E,6.0nm,0.3s						
JTSN	**Tsuno**	**0.83**	**98**	A	A	01 39 30.4	
	comp=N,12nm,0.6s,comp=E,5.0nm,0.8s						
JHHC	**Hyugahichiya**	**0.94**	**85**	A	A	01 39 32.1	
	comp=N,6.0nm,0.9s,comp=E,8.0nm,0.7s						
JSJ	**Shimokoshiki**	**0.97**	**225**	*i* P	**Pb**	**01 39 31.7**	**-0.3**
JSJ				S	**Sg**	**01 39 45.0**	**+0.1**
JNKG	**Nichinankitago**	**1.00**	**134**	A	A	01 39 33.9	
	comp=N,10.0nm,1.6s,comp=E,6.0nm,1.8s						
JNAR	**Kushima--Naru**	**1.05**	**143**	A	A	01 39 34.6	
	comp=N,6.0nm,2.3s,comp=E,4.0nm,0.8s						
JFI	**Itaya**	**1.07**	**354**	A	A	01 39 32.7	
	comp=N,14nm,0.3s,comp=E,13nm,0.3s						
JSKE	**Saikikamae**	**1.24**	**69**	A	A	01 39 36.8	
	comp=N,5.0nm,0.4s,comp=E,4.0nm,6.0s						
JUS	**Usuki**	**1.24**	**56**	A	A	01 39 36.7	
	comp=N,4.0nm,2.8s,comp=E,4.0nm,0.7s						
JKI	**Kunimi**	**1.54**	**34**	A	A	01 39 40.9	
	comp=N,3.0nm,1.9s,comp=E,2.0nm,0.9s						
KSRS	**Korea Array**	**5.51**	**338**	Pn	**Pn**	**01 40 35.8**	**+0.8**
	comp=E,0.5nm,0.3s,baz=176,slow=15,SNR=5.5						
KSRS				Pg	**Pb**	**01 40 51.8**	**+2.5**
	comp=E,1.1nm,0.3s,baz=155,slow=17,SNR=6.9						
KSRS				Lg	Lg	01 42 03.6	
	comp=E,2.2nm,0.3s,baz=157,slow=31,SNR=7.0 comp=E,0.8nm,0.3s						
MJAR	**Matsushiro Arr**	**7.59**	**55**	Pn	**Pn**	**01 41 04.8**	**+1.2**
	comp=E,0.4nm,0.3s,baz=240,slow=14,SNR=5.6						
MJAR				Lg	Lg	01 43 19.9	
	comp=E,0.1nm,0.3s,baz=246,slow=25,SNR=4.7						
MJAR				LR	LR	01 44 15.3	
	comp=E,62nm,19.1s,baz=211,slow=40 comp=E,3.5nm,0.3s						
ASAJ	**Asahikawa**	**15.06**	**35**	LR	LR	01 48 32.0	
	comp=E,28nm,19.2s,baz=10.0,slow=37						
SONM	**Songino Array**	**23.93**	**317**	P	**P**	**01 44 27.7**	**+0.6**
	comp=E,0.4nm,0.4s,baz=141,slow=9.3,SNR=2.5 comp=E,0.4nm,0.4s						
MKAR	**Makanchi Array**	**39.25**	**306**	P	**P**	**01 46 42.3**	**+0.9**
	comp=E,0.2nm,0.6s,baz=90,slow=13,SNR=2.4 comp=E,0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**42.05**	**311**	P	**P**	**01 47 05.4**	**+1.0**
	comp=E,0.3nm,0.3s,baz=96,slow=8.5,SNR=1.5 comp=E,0.3nm,0.3s						
BVAR	**Borovoye Array**	**47.23**	**314**	P	**P**	**01 47 46.3**	**+0.6**
	comp=E,0.8nm,0.5s,baz=99,slow=9.2,SNR=5.9 comp=E,0.8nm,0.5s						
WRA	**Warramunga Arr**	**52.14**	**175**	P	**P**	**01 48 23.4**	**+0.1**
	comp=E,0.8nm,0.9s,baz=354,slow=7.9,SNR=4.9 comp=E,0.8nm,0.9s						
ASAR	**Alice Springs**	**55.81**	**176**	P	**P**	**01 48 50.0**	**-0.1**
	comp=E,0.9nm,0.8s,baz=10,slow=7.6,SNR=5.3 comp=E,0.9nm,0.8s						
FINES	**FINESS Array B**	**68.55**	**330**	P	**P**	**01 50 14.8**	**-0.3**
	comp=E,1.3nm,0.6s,baz=73,slow=5.3,SNR=9.6 comp=E,1.3nm,0.6s						
HFS	**Hagfors**	**74.33**	**332**	P	**P**	**01 50 48.7**	**-1.4**
	comp=E,1.2nm,0.8s,baz=27,slow=9.7,SNR=4.0 comp=E,1.2nm,0.8s						
NOA	**NORSAR Array B**	**74.71**	**334**	P	**P**	**01 50 50.8**	**-1.5**
	comp=E,0.4nm,0.8s,baz=44,slow=4.6,SNR=1.8 comp=E,0.4nm,0.8s						
BRTR	**Keskin Array B**	**74.88**	**308**	P	**P**	**01 50 52.2**	**-1.7**
	comp=E,0.5nm,0.9s,baz=109,slow=4.3,SNR=5.6 comp=E,0.5nm,0.9s						

IDC 22 01:46:10.5±4.4,**3.51S**×**101.21E**,**h0**km,**mb3.7**/5, **mbtmp3.7**/5,**Error ellipse: s-maj=189.3km s-min=24.1km az=55.0**,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**28.87**	**261**	T	T	02 22 10.0	
	baz=84,slow=75,SNR=6.4						
H08S3	**Diego Garcia H**	**28.88**	**261**	T	T	02 22 13.3	
	baz=84,slow=75,SNR=7.0						
H08S1	**Diego Garcia H**	**28.89**	**261**	T	T	02 22 15.0	
	baz=84,slow=75,SNR=5.3						
WRA	**Warramunga Arr**	**36.19**	**119**	P	P	01 53 14.8	-0.5
	0.5nm,0.9s,baz=298,slow=7.8,SNR=4.5 0.5nm,0.9s						
ASAR	**Alice Springs**	**37.39**	**125**	P	P	01 53 25.2	-0.3
	0.2nm,0.6s,baz=301,slow=8.2,SNR=1.2 0.2nm,0.6s						
SONM	**Songino Array**	**51.34**	**4**	P	P	01 55 16.5	-0.3
	0.6nm,0.5s,baz=182,slow=11,SNR=4.8 0.6nm,0.5s						
MKAR	**Makanchi Array**	**52.81**	**344**	P	P	01 55 26.6	-1.0
	0.3nm,0.4s,baz=148,slow=8.9,SNR=5.4 0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**58.87**	**349**	P	P	01 56 11.5	+0.5
	0.8nm,0.3s,baz=164,slow=5.8,SNR=3.2 0.8nm,0.3s						
H04N2	**CROZET ISLANDS**	**60.32**	**217**	T	T	03 01 17.4	
	baz=60,slow=75,SNR=18						
H04N1	**CROZET ISLANDS**	**60.33**	**217**	T	T	03 01 17.4	
	baz=60,slow=75,SNR=14						
H04N3	**CROZET ISLANDS**	**60.34**	**217**	T	T	03 01 17.4	
	baz=60,slow=75,SNR=19						
H04S1	**CROZET ISLANDS**	**60.59**	**217**	T	T	03 01 38.6	
	baz=59,slow=76,SNR=11						
H04S3	**CROZET ISLANDS**	**60.60**	**217**	T	T	03 01 38.2	
	baz=59,slow=76,SNR=22						
H04S2	**CROZET ISLANDS**	**60.61**	**217**	T	T	03 01 39.5	
	baz=59,slow=76,SNR=11						
TXAR	**Lajitas Array**	**145.12**	**40**	PKPbc	PKPdf	02 05 50.9	0.0
	0.2nm,0.6s,baz=203,slow=1.2,SNR=3.7						

GCG ***22*** *02:11:30.8±2.4,15.14N×93.02W,h76km±17km,MD3.9, ML4.0,MW3.2*
CATAC ***22*** *02:11:31.0±0.7,15.4N×93.3W±,h79km±5km,M4.1/11, mb4.6/1,MLv3.8/11,Error ellipse: s-maj=12.7km s-min=6.2km az=53.5,confirmed*
MEX ***22*** *02:11:32.0±1.1,15.11N×92.91W,h97km±9km,MD4.1*

ISC 22 02:11:29.4±1.3,**15.13N**±0.04×**92.92W**±0.03,**h104**km±8km, **n39**,σ2°**53**/59,**Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.64**	**333**	*e*P	**Pn**	**02 11 47.5**	**+0.7**
PCIG				*e*S	**Sn**	**02 12 00.1**	**+0.3**
PATR	**El Naranjo**	**0.66**	**91**	*e*P	**Pn**	**02 11 47.2**	**0.0**
PATR				*e*S	**Sn**	**02 11 59.1**	**-1.4**
THIG		**0.67**	**109**	*e*P	**Pn**	**02 11 47.7**	**+0.7**
THIG				*e*S	**Sn**	**02 11 59.7**	**-0.5**
THIG		**0.67**	**109**	*i* P	**Pn**	**02 11 47.6**	**+0.7**
THIG				*i* S	**Sn**	**02 12 00.2**	**+0.1**
THIG				IAML		02 12 02.0	
	comp=E,3μm,0.2s						
PAVE	**Pavencul**	**0.72**	**85**	*e*P	**Pn**	**02 11 47.9**	**+0.2**
PAVE				*e*S	**Sn**	**02 12 00.3**	**-1.1**
SMCA	**Catarina**	**0.86**	**108**	*i* P	**Pn**	**02 11 49.1**	**+0.3**
SMCA				*i* S	**Sn**	**02 12 02.9**	**-0.4**
SMCA				IAML		02 12 04.4	
	comp=N,2μm,0.3s						
RTAL	**Retalhuleu**	**1.33**	**117**	*e*P	**Pn**	**02 11 55.6**	**+1.6**
RTAL				*e*S	**Sn**	**02 12 13.3**	**+0.9**
RTAL	**Retalhuleu**	**1.33**	**117**	P	**Pn**	**02 11 55.5**	**+1.6**
CCIG	**Comitan**	**1.37**	**33**	*e*P	**Pn**	**02 11 56.4**	**+1.8**
CCIG				*e*S	**Sn**	**02 12 14.4**	**+0.8**
CCIG	**Comitan**	**1.37**	**33**	*i* P	**Pn**	**02 11 56.4**	**+1.8**
CCIG				*i* S	**Sn**	**02 12 15.9**	**+2.3**
CCIG				IAML		02 12 17.3	
	comp=N,462nm,0.3s						
CCIG	**Comitan**	**1.37**	**33**	P	**Pn**	**02 11 56.2**	**+1.6**
HUEH	**Huehuetenango**	**1.38**	**82**	*e*P	**Pn**	**02 11 54.8**	**0.0**
HUEH				*e*S	**Sn**	**02 12 14.1**	**+0.2**
STG2	**El Palmar, Qui**	**1.64**	**115**	*i* P	Pn	02 11 55.0	-2.8
STG2				*i* S	**Sn**	**02 12 13.6**	**-5.8**
TGIG		**1.65**	**353**	*e*P	**Pn**	**02 11 58.7**	**+0.8**
TGIG				*e*S	**Sn**	**02 12 18.3**	**-1.2**
TGIG		**1.65**	**353**	*i* P	**Pn**	**02 11 58.7**	**+0.8**
TGIG				*i* S	**Sn**	**02 12 18.3**	**-1.2**
STG0	**El Palmar, Qui**	**1.68**	**114**	*i* P	**Pn**	**02 11 56.2**	**-2.1**
STG0				*i* S	**Sn**	**02 12 15.1**	**-5.1**
STG0				IAML		02 12 17.8	
	comp=E,3μm,0.2s						
ESSG	**Sabana Grande**	**2.15**	**110**	*i* P	**Pn**	**02 12 07.1**	**+2.9**
UXUV	**UXUV**	**2.48**	**332**	*e*P	**Pn**	**02 12 10.4**	**+2.0**
UXUV				*e*S	**Sn**	**02 12 33.4**	**-4.8**
FG16	**Alotenango, Sa**	**2.48**	**110**	*i* P	Pn	02 12 06.8	-1.9
FG16				*i* S	**Sn**	**02 12 34.1**	**-4.6**
FG16				IAML		02 12 37.7	
	comp=E,2μm,0.2s						
CMIG	**Matias Romero**	**2.71**	**316**	*e*P	**Pn**	**02 12 13.4**	**+1.9**
CMIG				*e*S	**Sn**	**02 12 42.5**	**-1.4**
FAME	**Alcaldia de Sa**	**3.09**	**114**	P	**Pn**	**02 12 19.1**	**+2.6**
HUIG	**Huatulco**	**3.14**	**282**	*e*P	**Pn**	**02 12 18.5**	**+1.3**
HUIG				*e*S	**Sn**	**02 12 50.5**	**-3.6**
HUIG	**Huatulco**	**3.14**	**282**	*i* P	**Pn**	**02 12 19.2**	**+2.0**
HUIG				*i* S	**Sn**	**02 12 50.8**	**-3.3**
NUBE	**Las Nubes**	**3.27**	**111**	*i* P	**Pn**	**02 12 22.8**	**+3.6**
NUBE	**Las Nubes**	**3.27**	**111**	P	**Pn**	**02 12 22.1**	**+2.9**
PETF	**Flores**	**3.43**	**58**	*e*P	**Pn**	**02 12 23.0**	**+2.0**
PETF				*e*S	Sn	02 12 51.1	-10
PETF	**Flores**	**3.43**	**58**	*i* P	**Pn**	**02 12 22.5**	**+1.4**
PETF	**Flores**	**3.43**	**58**	P	**Pn**	**02 12 22.4**	**+1.4**
MTO3	**Montecristo**	**3.52**	**101**	*i* P	**Pn**	**02 12 24.4**	**+2.0**
MTO3	**Montecristo**	**3.52**	**101**	P	**Pn**	**02 12 24.9**	**+2.4**
JAYA	**Jayaque - finc**	**3.67**	**113**	P	**Pn**	**02 12 28.6**	**+4.2**
PMON	**Piamonte**	**3.77**	**112**	P	**Pn**	**02 12 29.4**	**+3.7**
SCIG	**Sabancuy**	**4.16**	**23**	*e*P	**Pn**	**02 12 31.7**	**+0.8**
SCIG				*e*S	**Sn**	**02 13 12.8**	**-5.7**
SCIG	**Sabancuy**	**4.16**	**23**	P	**Pn**	**02 12 32.1**	**+1.3**
YOIG	**Yosondua**	**4.77**	**292**	*e*P	**Pn**	**02 12 42.7**	**+3.3**
YOIG				*e*S	**Sn**	**02 13 30.6**	**-3.1**
TOIG	**Toxpalan**	**4.95**	**307**	*e*P	**Pn**	**02 12 43.5**	**+1.8**
TOIG				*e*S	**Sn**	**02 13 39.7**	**+1.9**
TXIG	**Tlaxiaco**	**5.12**	**295**	*e*P	**Pn**	**02 12 47.0**	**+2.9**
TXIG				*e*S	Sn	02 13 25.9	-16
CNCH	**Conchagua**	**5.26**	**110**	P	Pn	02 12 52.1	+6.2
JAUV	**Jalcomulco**	**5.62**	**319**	*e*P	**Pn**	**02 12 50.1**	**-0.5**
JAUV				*i* S	**Sn**	**02 13 49.9**	**-4.0**

NEIC ***22*** *02:20:03.5±1.2,36.073N±0.009×98.635W±0.009, h6km±3km,Error ellipse: s-maj=1.5km s-min=0.6km az=214.0*

NEIC 22 02:20:03.6±1.3,**36.072N**±0.009×**98.65W**±0.01,**h7**km±3km, **mb_Lg2.3**/40,**ML2.7**/33,**ML2.8**/51,**Error ellipse: s-maj=1.5km s-min=1.3km az=118.0**,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.41**	**350**	Pg	Pg	02 20 11.9	+0.3
OK038				Sg	Sg	02 20 17.9	+0.9
OK038				IAML		02 20 18.3	
	2μm,0.3s						
OK038				IAML		02 20 18.3	
	2μm,0.2s						
CSTR	**Hydro, Custer**	**0.43**	**184**	Pg	Pg	02 20 12.0	+0.2
CSTR				Sg	Sg	02 20 18.4	+0.9
ELIS	**Ellis County**	**0.62**	**270**	Pg	Pg	02 20 15.6	0.0
ELIS				IAML		02 20 33.1	
	comp=N,229nm,0.2s						
CROK	**Carrier**	**0.69**	**51**	Pg	Pg	02 20 16.5	-0.4
CROK				Sg	Sg	02 20 26.0	+0.1
CROK				IAML		02 20 26.6	
	comp=E,740nm,0.3s						
BCOK	**Bluff Creek, N**	**0.94**	**116**		Pg	02 20 21.0	-0.6
BCOK					Sg	02 20 33.8	-0.1
GC02	**Grant County #**	**1.01**	**39**	Pg	Pg	02 20 22.2	-0.7
GC02				Sg	Sg	02 20 35.8	-0.2
OK029	**Liberty Lake**	**1.01**	**105**	Pg	Pg	02 20 21.9	-1.0
OK029				Sg	Sg	02 20 35.7	-0.4
OK029				IAML		02 20 36.1	
	comp=E,268nm,0.3s						
OK029				IAML		02 20 37.5	
	comp=E,107nm,0.1s						
KAN14	**Manchester OK**	**1.04**	**32**	Pg	Pg	02 20 22.9	-0.7
KAN14				Sg	Sg	02 20 36.9	-0.3
OK004	**Okla Sci Mus**	**1.10**	**119**		Pg	02 20 24.1	-0.6
OK004					Sg	02 20 38.8	-0.3
KAN10	**Anthony SW Sta**	**1.14**	**23**		Pg	02 20 24.8	-0.6
OKCSW	**OKLAHOMA CITY**	**1.19**	**124**	Pg	Pg	02 20 25.2	-1.2
OKCSW				Sg	Sg	02 20 41.1	-0.7
OKCSW				IAML		02 20 45.7	
	comp=E,200nm,0.2s						
OKCSW				IAML		02 20 45.8	
	comp=N,203nm,0.4s						
KAN17	**Caldwell West**	**1.20**	**36**	Pg	Pg	02 20 25.7	-1.0
KAN17				Sg	Sg	02 20 41.5	-0.8
KAN08	**Anthony NE Sta**	**1.28**	**25**	Pg	Pn	02 20 26.6	-1.3
KAN08				IAML		02 20 48.3	
	comp=N,192nm,1.1s						
KAN08				IAML		02 20 49.6	
	comp=E,177nm,1.6s						
KAN01	**Argonia South**	**1.30**	**33**	Pg	Pn	02 20 27.6	-0.6
KAN01					Sb	02 20 44.9	-0.4
KAN01				IAML		02 20 47.9	
	comp=N,239nm,0.2s						
FNO	**Franklin**	**1.30**	**128**	Pg	Pn	02 20 27.3	-1.0
FNO					Sb	02 20 45.0	-0.4
FNO				IAML		02 20 46.2	
	comp=E,232nm,0.2s						
KAN12	**Harper NE Stat**	**1.33**	**23**	Pg	Pn	02 20 28.1	-0.6
KAN12					Sb	02 20 45.9	-0.3
WMOK	**Wichita Mounta**	**1.33**	**185**		Pn	02 20 27.6	-1.2
WMOK	**Wichita Mounta**	**1.33**	**185**		Sb	02 20 45.2	-1.1
BLOK	**Blackwell**	**1.35**	**59**	Pg	Pn	02 20 28.1	-0.8
BLOK					Sb	02 20 46.4	-0.3
KAN09	**Caldwell North**	**1.35**	**38**	Pg	Pn	02 20 28.2	-0.7
KAN09					Sb	02 20 46.3	-0.4
OK052	**Battle Ridge R**	**1.50**	**92**		Pn	02 20 30.5	-0.5
OK051	**E0350 and S346**	**1.53**	**73**		Pn	02 20 31.1	-0.3
QUOK	**Quay**	**1.58**	**86**		Pn	02 20 31.7	-0.3
X34A	**Smith Ranch, M**	**1.61**	**155**		Pn	02 20 32.9	+0.4
SMWD	**Samnorwood**	**1.62**	**234**		Pn	02 20 32.8	+0.2
DEOK	**Depew**	**1.76**	**97**	Pn	Pn	02 20 34.5	0.0
T35A	**Sooner Cattle**	**1.92**	**63**	Pn	Pn	02 20 37.2	+0.4
WTFS	**Witchita Falls**	**2.31**	**176**	Pn	Pn	02 20 43.4	+1.3
TUL3	**Leonard**	**2.32**	**93**	Pn	Pn	02 20 41.8	-0.5
TUL3				IAmb_Lg		02 21 22.6	
	comp=Z,16nm,1.0s						
R32A	**Long Quarter,**	**2.35**	**359**	Pn	Pn	02 20 43.5	+0.8
R32A				IAmb_Lg		02 21 18.1	
	comp=Z,10.0nm,0.7s						
LOOK	**Love County**	**2.40**	**149**	Pn	Pn	02 20 43.7	+0.4
LOOK				IAmb_Lg		02 21 23.1	
	comp=Z,12nm,0.9s						
AMTX	**Amarillo**	**2.74**	**245**	Pn	Pn	02 20 48.3	+0.1
CBKS	**Cedar Bluff**	**2.87**	**343**	IAmb_Lg		02 21 39.4	
	comp=Z,12nm,0.9s						
RLO	**Rose Lookout**	**2.94**	**87**	Pn	Pn	02 20 50.2	-0.6
Z35A	**Perchaven, San**	**2.97**	**157**	IAmb_Lg		02 21 39.8	
	comp=Z,8.7nm,0.8s						
APMT	**Aspermont**	**3.00**	**204**	Pn	Pn	02 20 52.4	+0.8
DKNS	**Dickens**	**3.04**	**219**	Pn	Pn	02 20 53.4	+1.2
FW03	**Perrin-Whitt E**	**3.06**	**171**	Pn	Pn	02 20 53.4	+0.9
PLPT	**Palo Pinto**	**3.26**	**175**	Pn	Pn	02 20 56.1	+0.9
RTBA	**Rita Blanca**	**3.32**	**278**	Pn	Pn	02 20 56.5	+0.3
RTBA				IAmb_Lg		02 21 56.7	
	comp=Z,7.3nm,0.8s						
KSU1	**Kansas State U**	**3.43**	**28**	Pn	Pn	02 20 57.9	+0.3
U38A	**Gravette**	**3.47**	**83**	Pn	Pn	02 20 58.4	+0.3
U38A				IAmb_Lg		02 22 01.5	
	comp=Z,7.3nm,0.9s						
ABTX	**Abilene, Hawle**	**3.54**	**194**	Pn	Pn	02 21 00.0	+1.0
POST	**Post**	**3.81**	**219**	Pn	Pn	02 21 04.1	+1.3
POST				IAmb_Lg		02 22 12.0	
	comp=Z,9.0nm,0.8s						
Z38A	**Mt. Pleasant**	**4.12**	**132**	IAmb_Lg		02 22 20.6	
	comp=Z,8.8nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.31**	**314**	IAmb_Lg		02 22 30.4	
	comp=Z,7.0nm,0.7s						
MIAR	**Mount Ida**	**4.42**	**109**	Pn	Pn	02 21 10.8	-0.4
MIAR				IAmb_Lg		02 22 33.5	
	comp=Z,5.9nm,0.8s						
SGCY	**Sterling City**	**4.63**	**207**	IAmb_Lg		02 22 38.2	
	comp=Z,7.4nm,0.8s						
T25A	**Trinidad**	**4.75**	**285**	Pn	Pn	02 21 17.1	+1.1
T25A				IAmb_Lg		02 22 41.5	
	comp=Z,5.7nm,0.8s						
X40A	**Basin Creek Fa**	**5.01**	**107**	IAmb_Lg		02 22 50.9	
	comp=Z,4.9nm,0.9s						
WLAR	**White Oak Lake**	**5.14**	**116**	IAmb_Lg		02 22 51.3	
	comp=Z,6.2nm,0.7s						
FCAR	**Ozark Folk Cen**	**5.30**	**90**	IAmb_Lg		02 22 56.0	
	comp=Z,4.6nm,1.0s						
P38A	**Dawn**	**5.38**	**47**	IAmb_Lg		02 23 05.5	
	comp=Z,5.0nm,0.9s						
JCT	**Junction City**	**5.66**	**190**	Pn	Pn	02 21 29.4	+1.2
JCT				IAmb_Lg		02 23 14.3	
	comp=Z,5.5nm,1.0s						
ISCO	**Idaho Springs**	**6.64**	**306**	Pn	Pn	02 21 40.3	-1.6
PBMO	**Poplar Bluff**	**6.67**	**82**	IAmb_Lg		02 23 36.3	
	comp=Z,4.6nm,0.7s						

IDC ***22*** *02:33:15.2±1.1,0.10N×126.11E,h0km,mb4.0/8, mbtmp4.0/8,Error ellipse: s-maj=120.5km s-min=16.6km az=67.0*
DJA ***22*** *02:33:17.9±0.3,0.7N±5.5×12.6E±,h10km,M4.0/11,mB4.8/2, mb4.2/5,MLv3.9/11,Mw(mB)4.1/2*
NEIC ***22*** *02:33:18.8±1.5,0.2N±0.1×126.13E±0.06,h24km±9km, mb4.1/10,Error ellipse: s-maj=16.8km s-min=7.0km az=161.0*

ISC 22 02:33:20.8±0.7,**0.18N**±0.07×**126.23E**±0.06,**h44**km,**n30**, σ1°**22**/30,**mb4.1**/13,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.28**	**62**		**Pn**	**02 33 42.2**	**-0.1**
TNTI	**Ternate**	**1.28**	**62**	P	**Pn**	**02 33 41.1**	**-1.2**
SANI	**Sanana**	**2.22**	**186**	P	**Pn**	**02 33 54.3**	**-0.9**
KMSI	**Cibinong**	**2.28**	**280**	P	**Pn**	**02 33 55.2**	**-0.8**
MRSI	**Marisa**	**4.30**	**274**	P	**Pn**	**02 34 22.5**	**-1.3**
APSI	**Ampana**	**4.71**	**257**	P	**Pn**	**02 34 29.1**	**-0.3**
TOLI2	**Tolitoli**	**5.53**	**280**	Pn	**Pn**	**02 34 38.1**	**-2.5**
MPSI	**Mapaga**	**6.33**	**271**	P	**Pn**	**02 34 51.2**	**-0.5**
	0.1nm10nm,0.7s						
BNSI	**Bone**	**7.62**	**233**	P	**Pn**	**02 35 09.4**	**0.0**
	31nm,1.3s						
SPSI	**Sidrap Palu**	**7.66**	**237**	P	**Pn**	**02 35 10.4**	**+0.6**
KNRA	**Kununurra**	**15.95**	**171**	Pn	**Pn**	**02 37 00.8**	**-1.5**
KNRA				IAmb	IAmb	02 37 38.2	
	comp=Z,12nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.17**	**182**	P	**P**	**02 37 29.5**	**-0.3**
WB0	**Warramunga Arr**	**21.37**	**158**	P	**P**	**02 38 04.2**	**-0.6**
WB0				IAmb	IAmb	02 38 07.8	
	comp=Z,13nm,1.2s						
WRAB	**Tennant Creek**	**21.51**	**159**	P	**P**	**02 38 09.0**	**+2.8**
WRAB				IAmb	IAmb	02 38 10.7	
	comp=Z,8.3nm,0.9s						
WRA	**Warramunga Arr**	**21.52**	**159**	P	**P**	**02 38 04.3**	**-1.9**
WRA	**Warramunga Arr**	**21.52**	**159**	P	**P**	**02 38 05.3**	**-1.0**
	comp=Z,2.8nm,0.5s,baz=337,slow=11,SNR=36 comp=Z,2.8nm,0.5s						
WR8	**Warramunga Arr**	**21.59**	**158**	P	**P**	**02 38 06.5**	**-0.5**
WR8				IAmb	IAmb	02 38 35.0	
	comp=Z,13nm,1.4s						
AS31	**Alice Springs**	**24.84**	**163**		**P**	**02 38 41.2**	**+1.9**
AS31				IAmb	IAmb	02 38 55.5	
	comp=Z,2.1nm,0.7s						
ASAR	**Alice Springs**	**24.84**	**163**	P	**P**	**02 38 40.9**	**+1.6**
ASAR	**Alice Springs**	**24.84**	**163**	P	**P**	**02 38 39.5**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=345,slow=12,SNR=16 comp=Z,1.6nm,0.6s						
STKA	**Stephens Creek**	**35.04**	**157**	P	**P**	**02 40 09.9**	**+0.3**
STKA	**Stephens Creek**	**35.04**	**157**	P	**P**	**02 40 09.3**	**-0.2**
	comp=Z,4.5nm,0.7s,baz=315,slow=13,SNR=3.8 comp=Z,4.5nm,0.7s						
ARMA	**Armidale**	**38.85**	**144**	P	**P**	**02 40 40.5**	**-1.5**
ARMA				IAmb	IAmb	02 41 19.0	
	comp=Z,8.9nm,1.1s						
SONM	**Songino Array**	**50.50**	**343**	P	**P**	**02 42 16.1**	**+1.4**

baz=262,slow=0.0
RAMN Sn Sn 02 50 15.7 -0.6
26nm,0.7s,baz=262,slow=0.0
RAMN Sn Sn 02 50 19.3 +3.0
10.0nm,0.3s,baz=262,slow=0.0
GUN Gumba 6.17 273 Pn Pn 02 49 21.9 +2.0
baz=272,slow=0.0
GUN Gumba 6.17 273 Pn Pn 02 49 22.4 +2.5
baz=272,slow=0.0
GUN Sn Sn 02 50 29.1 -1.2
37nm,0.4s,baz=272,slow=0.0
GUN Sn Sn 02 50 30.4 +0.1
37nm,0.4s,baz=272,slow=0.0
PKI Pulchoki 6.59 270 Pn Pn 02 49 27.9 +2.1
baz=269,slow=0.0
PKI Sn Sn 02 50 38.9 -1.9
18nm,0.5s,baz=269,slow=0.0
PKI Sn Sn 02 50 40.4 -0.4
13nm,0.4s,baz=269,slow=0.0
PKIN Phulchoki 6.61 270 Pn Pn 02 49 27.7 +1.9
baz=270,slow=0.0
PKIN Phulchoki 6.61 270 Pn Pn 02 49 27.8 +1.9
baz=270,slow=0.0
PKIN Sn Sn 02 50 38.8 -2.1
21nm,0.4s,baz=270,slow=0.0
PKIN Sn Sn 02 50 40.6 -0.3
21nm,0.4s,baz=270,slow=0.0
DMN Daman 6.86 271 Pn Pn 02 49 30.8 +1.4
baz=270,slow=0.0
DMN Daman 6.86 271 Pn Pn 02 49 31.8 +2.4
baz=270,slow=0.0
DMN Sn Sn 02 50 45.8 -1.4
17nm,0.4s,baz=270,slow=0.0
DMN Sn Sn 02 50 47.3 +0.1
17nm,0.4s,baz=270,slow=0.0
DANN Dangsing 8.05 276 Pn Pn 02 49 46.7 +1.0
baz=276,slow=0.0
DANN Dangsing 8.05 276 Pn Pn 02 49 47.2 +1.5
baz=276,slow=0.0
DANN Sn Sn 02 51 12.9 -3.6
23nm,0.4s,baz=276,slow=0.0
DANN Sn Sn 02 51 13.5 -3.0
23nm,0.4s,baz=276,slow=0.0
PYUN Piuthan 8.72 275 Pn Pn 02 49 55.7 +0.8
baz=274,slow=0.0
PYUN Piuthan 8.72 275 Pn Pn 02 49 55.9 +1.0
baz=274,slow=0.0
PYUN Sn Sn 02 51 29.4 -3.6
56nm,0.7s,baz=274,slow=0.0
PYUN Sn Sn 02 51 30.1 -2.9
39nm,0.6s,baz=274,slow=0.0
CMAR Chiang Mai Arr 10.81 147 Pn Pn 02 50 21.8 -1.6
1.3nm,0.3s,baz=341,slow=28,SNR=4.6
1.8nm,0.3s
MKAR Makanchi Array 20.75 339 P P 02 52 29.2 +0.1
0.7nm,0.6s,baz=149,slow=14,SNR=9.0
0.7nm,0.6s
SONM Songino Array 22.68 24 P P 02 52 51.4 +1.5
0.4nm,0.4s,baz=206,slow=13,SNR=3.2
0.4nm,0.4s
KURBB Kurchatov Arra 25.31 338 P P 02 53 14.7 -0.2
0.8nm,0.3s,baz=150,slow=9.7,SNR=5.2
0.8nm,0.3s
HFS Hagfors 61.03 326 P P 02 58 01.1 -0.6
0.5nm,0.5s,baz=96,slow=8.4,SNR=6.5
0.5nm,0.5s
WRA Warramunga Arr 62.13 135 P P 02 58 09.3 -0.3
0.6nm,0.7s,baz=317,slow=7.9,SNR=7.7
0.6nm,0.7s
ASAR Alice Springs 64.66 138 P P 02 58 26.8 +0.4
0.7nm,0.6s,baz=323,slow=6.9,SNR=12
0.7nm,0.6s

IDC 22 03:06:17.8±2.1, 0.°97N×126.°16E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=182.2km s-min=26.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.28**	**159**	P	P	03 11 15.8	-1.0
	0.6nm,0.6s,baz=337,slow=11,SNR=7.1						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**25.62**	**163**	P	P	03 11 50.0	+0.8
	0.2nm,0.3s,baz=347,slow=13,SNR=7.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**59.50**	**326**	P	P	03 16 22.8	-0.1
	0.2nm,0.3s,baz=118,slow=7.7,SNR=5.1						
	0.2nm,0.3s						

*IDC **22** 03:21:25.9±1.8, 55.°33N×164.°40E, h0km, mb3.4/2, mbtmp3.3/3, ML2.3/1, MS2.6/1, Error ellipse: s-maj=154.1km s-min=26.2km az=150.0*
*KRSC **22** 03:21:27.2±0.9, 54.°85N×164.°71E, h40km±19km, Ml3.7*
ISC 22 03:21:28.2±0.9, 55.°05N±0.°07×164.°63E±0.°04, h27km, n33, σ2s03/34, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.79**	**78**	*eP*	**Pn**	**03 21 42.9**	**-0.6**
BKI				eS	**Sn**	03 21 53.5	-0.9
KBTR	**Krutoberegovo**	**1.55**	**319**	*eP*	**Pb**	03 21 55.3	-0.8
KBG	**Krutoberegovo**	**1.62**	**319**	eS	**Sb**	03 22 18.7	+1.3
MKZ	**Mys Kozlova**	**1.75**	**255**	*eP*	**Pb**	03 21 57.2	-2.4
MKZ				eS	**Sn**	03 22 17.4	-0.7
SMKR	**Semkarok**	**2.35**	**312**	*eP*	**Pb**	03 22 08.6	-1.3
BZGR	**Bezymyannyi-Gr**	**2.41**	**293**	*eP*	**Pb**	03 22 10.0	-0.9
BZGR				eS	**Sb**	03 22 39.3	-0.8
TUMD	**Tumrok D**	**2.43**	**275**	*eP*	**Pb**	03 22 08.1	-3.1
BZWR	**Bezymyannyi-We**	**2.52**	**293**	*eP*	**Pb**	03 22 11.3	-1.5
KLY	**Klyuchi**	**2.58**	**301**	eS	**Sb**	03 22 41.6	-3.4
KIRR	**Kirishev**	**2.60**	**292**	*eP*	**Pb**	03 22 11.5	-2.6
KMNR	**Kamenistaya**	**2.60**	**287**	*eP*	**Pb**	03 22 12.2	-1.9
KPT	**Kopyto**	**2.67**	**292**	*eP*	**Pb**	03 22 13.1	-2.2
KOZ	**Kozyrevsk**	**2.88**	**292**	eS	**Sb**	03 22 52.1	-1.6
SRDR	**Sredinnyy**	**3.06**	**296**	*eP*	**Pb**	03 22 19.3	-2.6
SPN	**Mys Shipunski**	**3.35**	**236**	*eP*	**Pn**	03 22 18.9	+0.2
SPN				eS	**Sn**	03 22 55.0	-2.4
SDLR	**Sedlovina**	**3.82**	**245**	*eP*	**Pn**	03 22 27.1	+1.9
SMAR	**Somma**	**3.87**	**245**	*eP*	**Pn**	03 22 27.6	+1.6
KRER	**Koryakskii**	**3.87**	**245**	*eP*	**Pn**	03 22 27.9	+1.8
UGLR	**Uglovaya**	**3.88**	**244**	*eP*	**Pn**	03 22 27.8	+1.6
AVH	**Avacha**	**3.90**	**245**	*eP*	**Pn**	03 22 28.9	+2.6
KRX	**Arik**	**3.90**	**247**	*eP*	**Pn**	03 22 28.6	+2.2
KOK	**Koryaka**	**3.94**	**246**	*eP*	**Pn**	03 22 28.9	+2.0
GNL	**Ganaly**	**4.14**	**254**	*eP*	**Pn**	03 22 32.8	+3.1
RUS	**Russkaya**	**4.48**	**237**	*eP*	**Pn**	03 22 35.2	+1.0
PETK	**Petropavlovsk-**	**4.52**	**247**	Pn	**Pn**	03 22 36.2	+1.3
	0.8nm,0.3s,baz=69,slow=13,SNR=2.8						
PETK				Sn	**Sn**	**03 23 28.3**	**+1.8**
	0.8nm,0.3s,baz=72,slow=41,SNR=4.7						
	1.4nm,0.4s						
MTVR	**Mutnovka**	**4.61**	**239**	*eP*	**Pn**	03 22 37.3	+1.1
ASAK	**Asacha**	**4.81**	**239**	*eP*	**Pn**	03 22 42.3	+3.5
MA2	**Magadan**	**8.76**	**307**	LR	LR	03 27 11.2	
	comp=Z,37nm,18.7s,baz=60,slow=41						
ILAR	**Eielson Array**	**25.52**	**48**	P	**P**	**03 26 54.9**	**+0.8**
	0.8nm,0.7s,baz=254,slow=8.7,SNR=12						
	0.8nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**35.31**	**176**	T	T	04 06 44.7	
	baz=359,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**35.32**	**176**	T	T	04 06 48.5	
	baz=359,slow=76,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**35.32**	**176**	T	T	04 06 49.1	
	baz=359,slow=76,SNR=12						
TXAR	**Lajitas Array**	**67.44**	**71**	P	**P**	**03 32 23.6**	**+2.2**
	0.2nm,0.5s,baz=317,slow=6.7,SNR=4.6						
	0.2nm,0.5s						

*CATAC **22** 03:36:56.3±1.5, 8.°N±11.°×8.°3W±.°, h11km±6km, M3.7/10, MLv3.7/10, Error ellipse: s-maj=23.4km s-min=6.6km az=16.4, confirmed*
*UCR **22** 03:36:57.3±1.8, 8.°41N×82.°86W, h19km±5km, MW3.9*
*UPA **22** 03:36:57.5±1.0, 8.°46N×82.°85W, h27km±2km, MW4.3, Fault plane solution: NP1:φs91.00000°, δ75.00000°, λ-104.00000°.*
ISC 22 03:36:57.4±0.9, 8.°42N±0.°03×82.°86W±0.°02, h33km±4km, n129, σ1s40/158, 11C-10D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDITO	**Canoas**	**0.16**	**354**	P	**Pb**	**03 37 02.5**	**-1.0**
CDITO	**Canoas**	**0.16**	**354**	S	**Sb**	**03 37 07.7**	**-0.1**
PTPM	**Petroterminale**	**0.21**	**186**	*eP*	**Pb**	**03 37 03.3**	**-0.8**
PTPM				eS	**Sb**	03 37 09.3	+0.7
PTPA	**Petro Terminal**	**0.22**	**184**	*eP*	**Pb**	03 37 03.3	-0.8
PTPA				eS	**Sb**	03 37 09.5	+0.9
NELY	**Ciudad Neily**	**0.25**	**339**	*eP*	**Pb**	03 37 03.6	-0.8
NELY				eS	**Sb**	03 37 09.6	+0.4
FITO	**Golfito**	**0.36**	**305**	*eP*	**Pb**	03 37 03.9	-2.0
FITO				eS	**Sb**	03 37 09.9	-1.8
MLIR3	**Monte Lirio, C**	**0.38**	**5**	*eP*	**Pb**	03 37 06.1	-0.2
MLIR3				eS	**Sb**	03 37 11.8	-0.5
RSRNO	**Rio Sereno**	**0.40**	**359**	*eP*	**Pb**	03 37 06.5	-0.1
RSRNO	**Rio Sereno**	**0.40**	**359**	*iP*	**Pb**	03 37 06.4	-0.1
DVD	**David**	**0.40**	**87**	*eP*	**Pb**	03 37 05.9	-0.6
DVD				eS	**Sb**	03 37 12.3	-0.5
CLLRA	**Cordillera,**	**0.40**	**36**	*eP*	**Pb**	03 37 06.5	-0.2
CLLRA	**Cordillera,**	**0.40**	**36**	*iP*	**Pb**	03 37 06.3	-0.4
BRU2	**Volcan**	**0.41**	**24**	*eP*	**Pb**	03 37 06.4	-0.3
BRU2				eS	**Sn**	03 37 14.1	+0.4
BRU2	**Volcan**	**0.41**	**24**	*eP*	**Pb**	03 37 06.4	-0.3
BRU2				eS	**Sb**	03 37 12.3	-0.8
BRU2	**Volcan**	**0.41**	**24**	P	**Pb**	03 37 06.2	-0.5
CSTBL	**De las Acacias**	**0.41**	**91**	*eP*	**Pb**	03 37 06.0	-0.6
CSTBL	**De las Acacias**	**0.41**	**91**	*iP*	**Pb**	03 37 06.0	-0.6
VITO	**San Vito**	**0.41**	**344**	*eP*	**Pb**	03 37 06.4	-0.4
VITO				eS	**Sn**	03 37 14.4	+0.6
SCLRA	**Santa Clara, W**	**0.42**	**10**	*eP*	**Pb**	03 37 06.7	-0.2
SCLRA	**Santa Clara, W**	**0.42**	**10**	*iP*	**Pb**	03 37 06.7	-0.2
TBS2		**0.42**	**28**	*eP*	**Pb**	03 37 07.5	+0.5
PEDE3	**Pedregal, Chir**	**0.43**	**94**	*iP*	**Pb**	03 37 06.2	-0.7
PEDE3				eS	**Sb**	03 37 12.5	-0.9
LOCO3	**Loma Colorada,**	**0.43**	**91**	*eP*	**Pb**	03 37 06.4	-0.6
LOCO3				eS	**Sb**	03 37 13.5	0.0
PTAR3	**Potrerillos Ar**	**0.45**	**52**	*eP*	**Pb**	03 37 07.0	-0.3
PTAR3				eS	**Sb**	03 37 13.7	-0.4
BC3P	**Paso Ancho**	**0.47**	**32**	*eP*	**Pb**	03 37 07.0	-0.6
BC3P				eS	**Sb**	03 37 14.0	-0.6
BQTLY	**Boquete Panama**	**0.52**	**49**	*eP*	**Pb**	03 37 07.8	-0.5
BQTLY	**Boquete Panama**	**0.52**	**49**	*iP*	**Pb**	03 37 07.7	-0.7
CHIR3	**Chiriqui UPA,**	**0.52**	**92**	*eP*	**Pb**	03 37 07.5	-0.8
CHIR3				eS	**Sb**	03 37 15.5	-0.3
BQSF3	**Alto Boquete,**	**0.53**	**52**	*eP*	**Pb**	03 37 07.7	-0.8
BQSF3				eS	**Sb**	03 37 15.5	-0.7
ALCO	**Alturas Coton,**	**0.53**	**2**	*eP*	**Pb**	03 37 07.6	-1.0
LNBQ3	**Los Naranjos,**	**0.55**	**48**	*eP*	**Pb**	03 37 08.0	-0.9
LNBQ3				eS	**Sb**	03 37 16.5	-0.4
PSOM3	**Paja de Sombre**	**0.59**	**63**	*eP*	**Pb**	03 37 08.6	-0.9
PSOM3				eS	**Sb**	03 37 17.4	-0.3
EDP2	**Potrero Grande**	**0.67**	**332**	*eP*	**Pb**	03 37 09.8	-1.1
FIMO	**Fila Mora**	**0.75**	**319**	*eP*	**Pb**	03 37 10.8	-1.4
PANP	**Palmar Norte**	**0.80**	**312**	*eP*	**Pb**	03 37 11.2	-1.7
PBNVO	**Pueblo Nuevo,**	**0.81**	**54**	*eP*	**Pb**	03 37 11.8	-1.3
RBALA	**Bur**	**0.83**	**57**	*eP*	**Pb**	03 37 12.3	-1.1
RBALA	**Bur**	**0.83**	**57**	*iP*	**Pb**	03 37 12.3	-1.1
BURE	**Buenos Aires**	**0.89**	**328**	*eP*	**Pb**	03 37 12.7	-1.7
DRK0	**Durika**	**0.92**	**335**	*eP*	**Pb**	03 37 13.2	-1.9
DRK0	**Durika**	**0.92**	**335**	*iP*	**Pb**	03 37 13.0	-2.1
DRK0				eS	**Sb**	03 37 25.3	-1.9
EDPE	**Pejibaye, P**	**1.02**	**316**	*eP*	**Pb**	03 37 14.7	-1.9
RMDIO	**Remedios, Chir**	**1.03**	**100**	*eP*	**Pb**	03 37 15.3	-1.5
KKNTU	**Kakint²**	**1.12**	**68**	*eP*	**Pn**	03 37 16.2	-0.6
KKNTU	**Kakint²**	**1.12**	**68**	*iP*	**Pn**	03 37 16.2	-0.6
SAJE	**San Jernim**	**1.13**	**325**	*eP*	**Pn**	03 37 16.0	-1.0
RGM0	**Gandoca**	**1.19**	**12**	*eP*	**Pn**	03 37 16.7	-1.1
RGM0				eS	**Sn**	03 37 36.6	+3.7
CEUA	**Cerro Uatsi, L**	**1.20**	**356**	*eP*	**Pb**	03 37 19.9	+0.2
LAES	**El Progreso Va**	**1.35**	**352**	*eP*	**Pn**	03 37 20.6	+0.6
PIEC	**Cerro El Cedra**	**1.62**	**318**	*eP*	**Pn**	03 37 23.4	-0.5
SVQ2	**Quepos**	**1.64**	**308**	*eP*	**Pn**	03 37 24.2	+0.2
RAZU	**San Marcos de**	**1.69**	**317**	*eP*	**Pn**	03 37 26.4	+1.6
PITB	**Pirrs, San**	**1.69**	**317**	*eP*	**Pn**	03 37 25.9	+1.1
VINA	**Juan Vinas**	**1.71**	**329**	*eP*	**Pn**	03 37 25.6	+0.5
GMAL	**Guarumal, Vera**	**1.73**	**112**	*eP*	**Pn**	03 37 25.5	+0.2
GMAL	**Guarumal, Vera**	**1.73**	**112**	*eP*	**Pn**	03 37 24.8	-0.5
GMAL				eS	**Sn**	03 37 47.1	+0.9
LCR2	**La Lucha 2**	**1.74**	**319**	*eP*	**Pn**	03 37 24.9	-0.6
PISJ	**San Jernim**	**1.74**	**314**	*eP*	**Pn**	03 37 26.0	+0.6
PCAYA	**Pacayas**	**1.76**	**328**	*eP*	**Pn**	03 37 27.0	+1.1
VTCV	**VTCV, Calle Va**	**1.78**	**331**	*eP*	**Pn**	03 37 26.8	+0.7
IRES	**Siquirres**	**1.79**	**339**	*eP*	**Pn**	03 37 27.1	+1.1
LCOCO	**El Coco**	**1.79**	**337**	*eP*	**Pn**	03 37 27.3	+1.2
RAFA	**San Farael, Vo**	**1.80**	**328**	*eP*	**Pn**	03 37 26.8	+0.3
CVTV	**Tajo**	**1.81**	**331**	*eP*	**Pn**	03 37 27.1	+0.5
PAR1A	**Puntarenas Pro**	**1.81**	**310**	*eP*	**Pn**	03 37 27.0	+0.7
CVTQ	**Turrialba Volc**	**1.82**	**330**	*eP*	**Pn**	03 37 27.2	+0.5
VTLA	**Turrialba Volc**	**1.82**	**330**	*eP*	**Pn**	03 37 27.5	+0.7
VTR0	**Volcan Turrial**	**1.82**	**331**	*eP*	**Pn**	03 37 27.6	+0.7
RVLA	**Villa Bonita**	**1.83**	**337**	*eP*	**Pn**	03 37 27.7	+1.2
VICA	**Volcano Irazu**	**1.84**	**328**	*eP*	**Pn**	03 37 27.3	+0.3
ACOS	**Acosta**	**1.88**	**317**	*eP*	**Pn**	03 37 28.3	+0.9
STIA3	**Santiago, Vera**	**1.89**	**99**	*eP*	**Pn**	03 37 28.3	+0.9
CORON	**Coronado**	**1.92**	**324**	*eP*	**Pn**	03 37 28.5	+0.5
LUJA	**Lujan**	**1.92**	**321**	*eP*	**Pn**	03 37 28.1	+0.1
CVIMO	**Finca Echandi**	**1.92**	**326**	*eP*	**Pn**	03 37 30.5	+2.4
SANTA	**Santa Ana**	**2.00**	**319**	*eP*	**Pn**	03 37 30.4	+1.5
MARI3	**Mariato, Verag**	**2.00**	**112**	*eP*	**Pn**	03 37 30.4	+1.4
MARI3				eS	**Sn**	03 37 53.6	+0.7
HDC	**Heredia**	**2.00**	**322**	*eP*	**Pn**	03 37 30.8	+1.7
PILE	**Guapiles**	**2.01**	**333**	*eP*	**Pn**	03 37 30.4	+1.3
PURI	**Puriscal**	**2.02**	**315**	*eP*	**Pn**	03 37 30.4	+1.0
BELE	**Belen**	**2.03**	**320**	*eP*	**Pn**	03 37 30.9	+1.4
VBV1	**V. Barva**	**2.08**	**324**	*eP*	**Pn**	03 37 33.0	+2.6
CARI	**Cariari**	**2.12**	**336**	*eP*	**Pn**	03 37 31.7	+1.1
ATEO	**Atenas**	**2.16**	**316**	*eP*	**Pn**	03 37 32.6	+1.4
GREC	**Grecia**	**2.18**	**319**	*eP*	**Pn**	03 37 35.8	-0.5
CRIS3	**El Cristo, Coc**	**2.22**	**94**	*eP*	**Pn**	03 37 32.3	+0.3
CRIS3				eS	**Sn**	03 37 58.8	+0.5
CACAO	**El Cacao, Vera**	**2.25**	**118**	*eP*	**Pn**	03 37 32.9	+0.6
CACAO				eS	**Sn**	03 37 59.3	+0.4
TRT2	**Tortugero**	**2.30**	**338**	*eP*	**Pn**	03 37 34.1	+1.1
RAMO	**San Ramon**	**2.30**	**316**	*eP*	**Pn**	03 37 33.3	+0.2
SRA1	**San Ramn**	**2.31**	**316**	*eP*	**Pn**	03 37 34.9	+1.7
ZARE	**Zarcero**	**2.32**	**319**	*eP*	**Pn**	03 37 35.4	+1.9
VPL1	**V. Platanar**	**2.36**	**321**	*eP*	**Pn**	03 37 35.5	+1.5
SOCE	**Pocosol**	**2.62**	**318**	*eP*	**Pn**	03 37 39.3	+1.9
SOCE	**Pocosol**	**2.62**	**318**	P	**Pn**	03 37 38.9	+1.5
AZU	**Azuero**	**2.63**	**103**	*eP*	**Pn**	03 37 39.8	+2.2
AZU				eS	**Sn**	03 38 08.9	+0.5
FORC	**Fortuna**	**2.71**	**319**	*eP*	**Pn**	03 37 41.1	+2.4
VACR	**Volcan Arenal**	**2.72**	**319**	*eP*	**Pn**	03 37 41.4	+2.6
CACO	**Castillo**	**2.73**	**317**	*eP*	**Pn**	03 37 41.3	+2.3
VARE2	**V. Arenal**	**2.74**	**318**	*eP*	**Pn**	03 37 41.4	+2.2
CEDE	**Laguna Cedeo**	**2.75**	**319**	*eP*	**Pn**	03 37 42.6	+3.3
COVE	**Coope Vega, Sa**	**2.75**	**326**	P	**Pn**	03 37 40.7	+1.5
JUNT	**Juntas**	**2.78**	**312**	*eP*	**Pn**	03 37 39.7	+0.1
JTS	**Las Juntas de**	**2.78**	**312**	*eP*	**Pn**	03 37 40.4	+0.7
JTS	**Las Juntas de**	**2.78**	**312**	*eP*	**Pn**	03 37 39.9	+0.1
JTS				eS	**Sn**	03 38 12.2	0.0
TABAC	**Tabacon**	**2.80**	**318**	*eP*	**Pn**	03 37 42.6	+2.7
ACHO3	**Achotines, Los**	**2.84**	**110**	*eP*	**Pn**	03 37 41.0	+0.5
QUEB	**Quebradon, Cot**	**2.98**	**318**	*eP*	**Pn**	03 37 44.8	+2.4
INDI	**Punta indio, G**	**2.98**	**299**	P	**Pn**	03 37 42.0	-0.4
INVE	**Universidad In**	**2.99**	**313**	*eP*	**Pn**	03 37 45.7	+3.2
ZANG	**Zanguenga, Cho**	**3.00**	**80**	*eP*	**Pn**	03 37 44.4	+1.6
ZANG				eS	**Sn**	03 38 15.7	-2.0
BCIP	**Isla Barro Col**	**3.08**	**76**	*eP*	**Pn**	03 37 46.5	+2.8
BCIP	**Isla Barro Col**	**3.08**	**76**	*eP*	**Pn**	03 37 43.6	-0.1
BCIP	**Isla Barro Col**	**3.08**	**76**	P	**Pn**	03 37 46.2	+2.5
MOJZ	**Rio Naranjo**	**3.14**	**316**	*eP*	**Pn**	03 37 47.6	+3.0
ELVJ	**El Viejo (Barb**	**3.16**	**310**	*eP*	**Pn**	03 37 47.2	+2.3
JUD3	**Juan Diaz 3**	**3.17**	**303**	*eP*	**Pn**	03 37 45.6	+0.6
CUI	**Cuipilapa**	**3.18**	**315**	*eP*	**Pn**	03 37 47.3	+2.0
GAMB1	**Gamboa**	**3.19**	**77**	*eP*	**Pn**	03 37 45.9	+0.6
GAMB1				eS	**Sn**	03 38 18.1	-4.1
FRIJ	**El Hiral**	**3.20**	**75**	*eP*	**Pn**	03 37 46.1	+0.8
FRIJ				eS	**Sn**	03 38 22.9	+0.5
COLC	**Colonia**	**3.22**	**314**	*eP*	**Pn**	03 37 48.4	+2.7
HORNC	**Hornillas**	**3.23**	**315**	*eP*	**Pn**	03 37 48.0	+2.1
MESS	**Mesas**	**3.26**	**315**	*eP*	**Pn**	03 37 48.4	+2.0
UPA	**Univ. de Panam**	**3.33**	**80**	*eP*	**Pn**	03 37 47.9	+0.7
UPA				eS	**Sn**	03 38 25.2	-0.5
VRLE	**La Escondida,**	**3.42**	**314**	*eP*	**Pn**	03 37 50.8	+2.3
ALIBA	**Liberia Airpor**	**3.42**	**309**	*eP*	**Pn**	03 37 50.6	+2.1
LAPC	**Finca la Perla**	**3.45**	**313**	*eP*	**Pn**	03 37 51.0	+2.1
BUAI	**Buenos Aires**	**3.45**	**315**	*eP*	**Pn**	03 37 51.1	+2.1
MORN	**Al O del Volca**	**4.15**	**319**	P	**Pn**	03 38 01.7	+3.2
ACON	**Acoyapa**	**4.20**	**327**	P	**Pn**	03 38 00.2	+1.0

*IDC **22** 03:41:13.8±3.8, 2.°57S×130.°90E, h0km, mb3.9/3, mbtmp3.9/4, ML3.9/1, MS3.7/1, Error ellipse: s-maj=293.6km s-min=24.6km az=72.0*
*DJA **22** 03:41:21.2±1.1, 3.°S±4.°×13.°0E±.°, h22km±12km, M3.9/10, mb4.0/1, MLv3.8/10*
ISC 22 03:41:18.9±0.9, 2.°89S±0.°07×130.°00E±0.°08, h25km, n12, σ0s66/12, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.16**	**247**	P	**Pn**	**03 41 38.7**	**-0.8**
MSAI				S	**Sn**	03 41 55.2	+0.6
BNDI	**Bandanaira**	**1.63**	**183**	P	**Pb**	03 41 48.2	-0.1
AAI	**Ambon**	**1.96**	**246**	P	**Pn**	03 41 51.3	+0.6
FAKI	**Fak Fak**	**2.25**	**91**	P	**Pb**	03 41 59.3	+0.4
SWI	**Sorong**	**2.38**	**32**	P	**Pb**	03 42 00.9	-0.1
NLAI	**Namlea**	**2.91**	**263**	P	**Pn**	03 42 04.1	+0.4
SANI	**Sanana**	**4.09**	**282**	P	**Pn**	03 42 19.2	-0.7
FITZ	**Fitzroy Crossi**	**15.71**	**195**	LR	LR	03 52 23.4	
	comp=Z,237nm,18.1s,baz=280,slow=41						
WRA	**Warramunga Arr**	**17.47**	**166**	P	**Pn**	**03 45 19.9**	**-1.1**
	0.4nm,0.3s,baz=348,slow=11,SNR=16						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**21.00**	**170**	P	**P**	**03 46 00.9**	**+0.2**
	10nm,0.7s,baz=352,slow=10,SNR=80						
	10nm,0.7s						
MKAR	**Makanchi Array**	**64.82**	**326**	P	**P**	**03 51 56.0**	**+0.2**
	0.2nm,0.4s,baz=107,slow=7.5,SNR=3.2						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**69.04**	**328**	P	**P**	**03 52 22.9**	**+0.5**
	0.7nm,0.5s,baz=130,slow=6.0,SNR=10						
	0.7nm,0.5s						

*IDC **22** 03:53:52.7±1.2, 27.°41N×92.°44E, h0km, mb3.5/8, mbtmp3.5/8, Error ellipse: s-maj=43.9km s-min=24.9km az=48.0*
ISC 22 03:53:56.2±1.2, 27.°5N±0.°2×92.°29E±0.°08, h18km, n17, σ1s48/23, mb3.8/7, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAMN	**Ramite**	**5.10**	**265**	Pn	**Pn**	**03 55 14.3**	**+2.3**
	baz=255,slow=0.0						
GUN	**Gumba**	**5.70**	**275**	Pn	**Pn**	**03 55 19.9**	**-0.4**
	baz=266,slow=0.0						
PKI	**Pulchoki**	**6.11**	**272**	Pn	**Pn**	**03 55 26.5**	**+0.6**
	baz=263,slow=0.0						
PKI				Sn	**Sn**	**03 56 37.1**	**+1.5**
	baz=263,slow=0.0						
KKN	**Kakani**	**6.22**	**274**	Pn	**Pn**	**03 55 27.3**	**-0.1**
	baz=265,slow=0.0						
KKN				Sn	**Sn**	**03 56 38.4**	**+0.2**
	59nm,0.4s,baz=265,slow=0.0						
DMN	**Daman**	**6.38**	**272**	Pn	**Pn**	**03 55 29.8**	**+0.3**
	baz=264,slow=0.0						
DMN				Sn	**Sn**	**03 56 42.7**	**+0.6**
	45nm,0.5s,baz=264,slow=0.0						
GKN	**Gorkha**	**6.80**	**276**	Sn	**Sn**	**03 56 51.2**	**-1.1**
	44nm,0.2s,baz=268,slow=0.0						
DANN	**Dangsing**	**7.59**	**278**	Pn	**Pn**	**03 55 45.4**	**-0.8**
	baz=271,slow=0.0						
DANN				Sn	**Sn**	**03 57 08.6**	**-3.4**
	34nm,0.3s,baz=271,slow=0.0						
KOLN	**Koldanda**	**7.71**	**274**	Pn	**Pn**	**03 55 47.4**	**-0.4**
	baz=267,slow=0.0						
KOLN				Sn	**Sn**	**03 57 14.6**	**-0.2**
	31nm,0.3s,baz=267,slow=0.0						
PYUN	**Piuthan**	**8.26**	**276**	Pn	**Pn**	**03 55 54.2**	**-1.1**
	baz=269,slow=0.0						
PYUN				Sn	**Sn**	**03 57 25.3**	**-2.9**
	52nm,0.5s,baz=269,slow=0.0						
MKAR	**Makanchi Array**	**20.79**	**340**	P	**P**	**03 58 35.5**	**-0.8**
	0.3nm,0.4s,baz=142,slow=12,SNR=6.4						
	0.3nm,0.4s						
SONM	**Songino Array**	**23.07**	**25**	P	**P**	**

PMON	**Piamonte**	**0.83**	**286**	P		**Pn**	**04 05 45.5**	**-0.3**
JAYA	**Jayaque - finc**	**0.94**	**280**	*i* P		**Pg**	**04 05 46.8**	**+0.4**
JAYA				*i* S		**Sg**	**04 05 59.4**	**+0.7**
JAYA	**Jayaque - finc**	**0.94**	**280**	P		**Pg**	**04 05 46.7**	**+0.4**
MTO3	**Montecristo**	**1.24**	**317**	*i* P		**Pb**	**04 05 51.6**	**-0.1**
MTO3	**Montecristo**	**1.24**	**317**	P		**Pb**	**04 05 51.4**	**-0.2**
SARH	**Santa Rosa de**	**1.31**	**349**	*i* P		**Pg**	**04 05 53.2**	**-0.2**
SARH				*i* S		**Sg**	**04 06 11.1**	**+0.6**
NUBE	**Las Nubes**	**1.31**	**289**	*i* P		**Pb**	**04 05 53.2**	**+0.3**
NUBE				*i* S		**Sg**	**04 06 11.3**	**+0.6**

IDC ***22*** *04:05:59.8±1.1,20.˚70N×121.˚07E,h0km,mb4.4/19, mbtmp4.4/21,ML4.2/2,MS4.5/3,Error ellipse: s-maj=24.6km s-min=20.4km az=156.0*

NEIC ***22*** *04:06:03.9±2.4,20.˚93N±0.˚06×120.˚86E±0.˚08,h10km±1km, mb4.9/130,Error ellipse: s-maj=12.3km s-min=10.0km az=106.0*

JMA ***22*** *04:06:03.0±0.4,21˚N±1˚×12˚1E±˚,h0km,MV4.9/14, TAIWAN REGION*

NIED ***22*** *04:06:03.0,21.˚15N×120.˚74E,h0km,MW4.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.94; $M_{\theta\theta}$=0.64; $M_{\phi\phi}$=0.29; $M_{r\theta}$=1.85; $M_{\theta\phi}$=-0.10; $M_{\phi r}$=-1.43; Fault plane solution: M_0=2.46000×10^{16} NP1: ϕ_s=106.00000°,δ=10.00000°,λ=-110.00000°. NP2: ϕ_s=307.00000°,δ=81.00000°,λ=-87.00000°.*

BJI ***22*** *04:06:04.1,20.˚96N×120.˚73E,h28km,mB4.7/26,mb4.5/62, ML4.5/3,Ms4.6/71,Ms7 4.5/67*

TAP ***22*** *04:06:05.2,21.˚00N×120.˚74E,h72km,ML4.8,D*

ISC 22 04:06:05.6±0.7,20.˚87N±0.˚04×120.˚79E±0.˚03,h30km±4km, n604,σ1$74/722,mb4.7/92,MS4.5/12,6C-3D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**1.03**	**6**	⇑P	**Pn**	**04 06 23.6**	**-0.4**
TSEB				*eS*	**Sn**	**04 06 37.5**	**+0.1**
HEN	**Hengchun**	**1.13**	**357**	⇓P	**Pn**	**04 06 24.0**	**-0.5**
HEN				*eS*	**Sn**	**04 06 39.5**	**-0.4**
SMST	**Manzhou Townsh**	**1.14**	**2**	P	**Pn**	**04 06 25.1**	**-0.5**
SMST				S	**Sn**	**04 06 39.2**	**-1.1**
SLIU	**Shizi**	**1.34**	**0**	P	**Pn**	**04 06 27.3**	**-1.0**
SLIU				*eS*	**Sb**	**04 06 46.0**	**-0.9**
LYUB	**Lan-yu**	**1.34**	**33**	*eP*	**Pn**	**04 06 26.7**	**-1.7**
LYUB				*eS*	**Sn**	**04 06 42.6**	**-2.6**
LAY	**Lan-yu**	**1.36**	**31**	*eP*	**Pn**	**04 06 26.8**	**-1.8**
LAY				*eS*	**Sn**	**04 06 43.9**	**-1.7**
TAWH	**Dawu Township**	**1.46**	**3**	*i* P	**Pn**	**04 06 29.3**	**-0.7**
TAWH				*eS*	**Sn**	**04 06 46.7**	**-1.4**
TAW	**Tawu**	**1.48**	**4**	P	**Pn**	**04 06 29.4**	**-0.8**
TAW				S	**Sn**	**04 06 47.2**	**-1.4**
SCZT	**Fangliau**	**1.50**	**354**	P	**Pn**	**04 06 29.5**	**-1.0**
SCZT				*eS*	**Sn**	**04 06 47.9**	**-1.2**
EAST	**Anshuo**	**1.50**	**2**	*eP*	**Pn**	**04 06 30.1**	**-0.5**
EAST				*eS*	**Sn**	**04 06 47.3**	**-1.9**
TWP	**Hsiaoliuchiu**	**1.52**	**345**	*eP*	**Pn**	**04 06 30.7**	**-0.1**
TWP				*eS*	**Sn**	**04 06 49.9**	**+0.3**
WLCH	**Liuqiu**	**1.52**	**345**	P	**Pn**	**04 06 30.1**	**-0.7**
WLCH				*eS*	**Sb**	**04 06 50.5**	**-1.6**
ECL	**Taimali**	**1.72**	**5**	*eP*	**Pn**	**04 06 33.2**	**-0.4**
ECL				*eS*	**Sn**	**04 06 52.1**	**-2.5**
MASBT	**Mashibuluo**	**1.74**	**355**	*eP*	**Pn**	**04 06 32.6**	**-1.2**
MASBT				S	**Sn**	**04 06 53.5**	**-1.4**
KAU	**Kaohsiung**	**1.75**	**345**	P	**Pn**	**04 06 33.1**	**-0.7**
KAU				*eS*	**Sn**	**04 06 54.1**	**-1.1**
TSMG	**Majia**	**1.83**	**356**	P	**Pn**	**04 06 34.0**	**-1.0**
TSMG				*i* S	**Sn**	**04 06 55.7**	**-1.6**
SGLT	**Jiouru**	**1.86**	**351**	P	**Pn**	**04 06 34.8**	**-0.8**
SSD	**Sandimen**	**1.87**	**355**	*eP*	**Pn**	**04 06 34.3**	**-1.3**
SSD				*eS*	**Sn**	**04 06 55.8**	**-2.4**
LDUT	**Ludao**	**1.90**	**19**	*eP*	**Pn**	**04 06 34.9**	**-1.1**
LDUT				*eS*	**Sn**	**04 06 56.4**	**-2.6**
TTN	**Taitung**	**1.90**	**10**	*eP*	**Pn**	**04 06 35.8**	**-0.2**
TTN				*eS*	**Sn**	**04 06 56.4**	**-2.6**
SNJT	**Kaohsiung City**	**1.92**	**347**	P	**Pn**	**04 06 35.8**	**-0.5**
SNJT				*eS*	**Sn**	**04 06 58.3**	**-1.1**
TWGBT	**Beinan**	**1.95**	**8**	*eP*	**Pn**	**04 06 35.9**	**-0.9**
TWGBT				*i* S	**Sn**	**04 06 58.9**	**-1.5**
TWG	**Pinlang**	**1.96**	**8**		**Pn**	**04 06 34.9**	**-1.9**
TWG	**Pinlang**	**1.96**	**8**	*eP*	**Pn**	**04 06 35.7**	**-1.1**
TWG				*eS*	**Sn**	**04 06 58.1**	**-2.2**
TWM1	**Shoushan**	**1.97**	**350**	P	**Pn**	**04 06 36.5**	**-0.5**
TWM1				*eS*	**Sn**	**04 06 59.7**	**-1.0**
SCST	**Cishan**	**2.02**	**352**	P	**Pn**	**04 06 36.7**	**-1.0**
SCST				*i* S	**Sn**	**04 07 00.1**	**-1.9**
LONT	**Longtian**	**2.05**	**9**	*eP*	**Pn**	**04 06 36.8**	**-1.3**
LONT				*eS*	**Sn**	**04 07 00.8**	**-1.9**
EDH	**Donghe**	**2.14**	**13**	*eP*	**Pn**	**04 06 37.7**	**-1.7**
EDH				*eS*	**Sn**	**04 07 02.5**	**-2.5**
SHHT	**Tainan City**	**2.18**	**349**	*eP*	**Pn**	**04 06 41.5**	**+1.6**
SHHT				S	**Sn**	**04 07 04.3**	**-1.5**
TAI	**Tainan**	**2.18**	**345**	P	**Pn**	**04 06 39.2**	**-0.7**
TAI				S	**Sn**	**04 07 04.2**	**-1.8**
SGST	**Jiashian**	**2.21**	**355**	P	**Pn**	**04 06 39.0**	**-1.3**
SGST				*eS*	**Sn**	**04 07 04.4**	**-2.2**
TAI1	**Yung-k'ang**	**2.22**	**346**	P	**Pn**	**04 06 39.9**	**-0.5**
TAI1				S	**Sn**	**04 07 04.7**	**-2.1**
CHN3	**Shinhua**	**2.23**	**350**	P	**Pn**	**04 06 39.9**	**-0.6**
CHN3				S	**Sn**	**04 07 04.5**	**-2.5**
ECS	**Chishang**	**2.25**	**10**	*eP*	**Pn**	**04 06 39.0**	**-1.8**
ECS				*eS*	**Sn**	**04 07 04.0**	**-3.6**
CHKT	**Chengkung**	**2.28**	**13**	*eP*	**Pn**	**04 06 39.9**	**-1.3**
CHKT				*eS*	**Sn**	**04 07 05.9**	**-2.4**
STYT	**Tauyuan**	**2.28**	**359**	*eP*	**Pn**	**04 06 40.4**	**-0.9**
STYT				*eS*	**Sn**	**04 07 05.6**	**-2.8**
STYH	**Taoyuan**	**2.29**	**360**	*i* P	**Pn**	**04 06 40.7**	**-0.6**
STYH				*eS*	**Sn**	**04 07 07.1**	**-1.4**
EHD	**Haiduan**	**2.30**	**10**	*eP*	**Pn**	**04 06 39.4**	**-2.1**
EHD				*eS*	**Sn**	**04 07 06.1**	**-2.7**
SSHA	**Shanhua**	**2.30**	**348**	P	**Pn**	**04 06 41.3**	**-0.2**
SSHA				*eS*	**Sn**	**04 07 06.7**	**-2.2**
CHN1	**Nanshi**	**2.31**	**354**	*eP*	**Pn**	**04 06 41.2**	**-0.5**
CHN1				*eS*	**Sn**	**04 07 07.0**	**-2.2**
ELDTW	**Lidau**	**2.31**	**5**	*eP*	**Pn**	**04 06 40.7**	**-1.2**
ELDTW				*eS*	**Sn**	**04 07 06.5**	**-2.9**
SNST	**Tainan City**	**2.35**	**353**	P	**Pn**	**04 06 41.8**	**-0.4**
SNST				S	**Sn**	**04 07 08.4**	**-1.7**
TSCK	**Chigu Township**	**2.36**	**344**	P	**Pn**	**04 06 42.0**	**-0.3**
TSCK				*eS*	**Sn**	**04 07 06.7**	**-3.5**
SCLT	**Jiali**	**2.36**	**346**	P	**Pn**	**04 06 41.5**	**-0.8**
SCLT				*eS*	**Sn**	**04 07 07.8**	**-2.4**
FULB	**Fuli**	**2.36**	**11**	*eP*	**Pn**	**04 06 41.3**	**-1.1**
FULB				*eS*	**Sn**	**04 07 07.4**	**-3.0**
WTP	**Ta-pu**	**2.37**	**356**	*eP*	**Pn**	**04 06 41.9**	**-0.6**
WTP				*i* S	**Sn**	**04 07 09.0**	**-1.6**
CHKH	**Chenggong**	**2.38**	**14**	*eP*	**Pn**	**04 06 41.5**	**-1.1**
CHKH				*eS*	**Sn**	**04 07 08.1**	**-2.6**
TPUB	**Ta-pu**	**2.42**	**356**	Pn	**Pn**	**04 06 41.7**	**-1.6**
TPUB	**Ta-pu**	**2.42**	**356**	*eP*	**Pn**	**04 06 42.1**	**-1.1**
TPUB				S	**Sn**	**04 07 09.3**	**-2.6**
ECBN	**Changbin**	**2.51**	**14**	*eP*	**Pn**	**04 06 42.7**	**-1.7**
ECBN				*eS*	**Sn**	**04 07 14.1**	**+0.2**
EYUL	**Yuli**	**2.51**	**11**	S	**Sn**	**04 07 12.2**	**-1.9**
TWF1	**Yuli**	**2.51**	**11**	*eP*	**Pn**	**04 06 44.0**	**-0.4**
TWF1				S	**Sn**	**04 07 11.8**	**-2.3**
CHN8	**Yiju**	**2.52**	**348**	P	**Pn**	**04 06 43.8**	**-0.8**
CHN8				*eS*	**Sn**	**04 07 12.4**	**-1.8**
ICHU	**Yijhu**	**2.52**	**349**	*eP*	**Pn**	**04 06 43.7**	**-0.9**
ICHU				*eS*	**Sn**	**04 07 12.9**	**-1.4**
YULB	**Yu-li**	**2.55**	**10**	Pn	**Pn**	**04 06 42.2**	**-2.8**
YULB	**Yu-li**	**2.55**	**10**	*eP*	**Pn**	**04 06 44.4**	**-0.6**
YULB				*eS*	**Sn**	**04 07 11.2**	**-3.8**
WCKO	**Fanlu**	**2.56**	**356**	P	**Pn**	**04 06 44.0**	**-1.1**
WCKO				*eS*	**Sn**	**04 07 13.4**	**-1.9**
WDGT	**Dungji**	**2.60**	**336**	P	**Pn**	**04 06 43.8**	**-1.8**
WDGT				*eS*	**Sn**	**04 07 11.6**	**-4.6**
YUS	**Yu-Shan**	**2.61**	**3**	P	**Pn**	**04 06 45.4**	**-0.8**
YUS				*eS*	**Sn**	**04 07 13.2**	**-3.9**
ALS	**Alishan**	**2.62**	**0**	*eP*	**Pn**	**04 06 46.4**	**+0.1**
ALS				*i* S	**Sn**	**04 07 15.6**	**-1.7**
CHY	**Chiayi**	**2.63**	**353**	*eP*	**Pn**	**04 06 45.7**	**-0.4**
CHY				*eS*	**Sn**	**04 07 14.5**	**-2.6**
VCHM	**Qimei**	**2.65**	**332**	*eP*	**Pn**	**04 06 44.1**	**-2.2**
VCHM				*eS*	**Sn**	**04 07 13.2**	**-4.1**
EHYH	**Wanrong**	**2.66**	**11**	P	**Pn**	**04 06 46.3**	**-0.2**
EHYH				S	**Sn**	**04 07 15.5**	**-2.2**
CHN2	**Minshiung**	**2.66**	**354**	P	**Pn**	**04 06 45.6**	**-1.0**
CHN2				*eS*	**Sn**	**04 07 15.8**	**-2.0**
EHY	**Hungye**	**2.67**	**11**	P	**Pn**	**04 06 45.4**	**-1.2**
EHY				S	**Sn**	**04 07 15.2**	**-2.7**
HGSD	**Ruisui**	**2.67**	**13**	*eP*	**Pn**	**04 06 45.9**	**-0.7**
HGSD				S	**Sn**	**04 07 15.3**	**-2.7**
WSL	**Shuilin Townsh**	**2.69**	**349**	P	**Pn**	**04 06 45.6**	**-1.3**
WSL				*eS*	**Sn**	**04 07 14.8**	**-3.6**
CHN5	**Tsauling**	**2.71**	**358**	*eP*	**Pn**	**04 06 46.1**	**-1.2**
CHN5				*eS*	**Sn**	**04 07 17.5**	**-1.7**
WSF	**Szhu**	**2.80**	**349**	P	**Pn**	**04 06 47.5**	**-0.9**
WSF				*eS*	**Sn**	**04 07 18.1**	**-3.2**
WGK	**Gukeng**	**2.81**	**356**	P	**Pn**	**04 06 47.3**	**-1.2**
WGK				*eS*	**Sn**	**04 07 20.0**	**-1.4**
WHYT	**Xinyi Township**	**2.81**	**1**	*i* P	**Pn**	**04 06 48.0**	**-0.6**
WHYT				S	**Sn**	**04 07 19.6**	**-1.9**
WDLH	**Douliu**	**2.81**	**355**	*eP*	**Pn**	**04 06 47.3**	**-1.3**
WDLH				*eS*	**Sn**	**04 07 18.0**	**-3.5**
WTK	**Tuku**	**2.83**	**352**	*eP*	**Pn**	**04 06 47.9**	**-0.9**
WTK				*i* S	**Sn**	**04 07 18.9**	**-2.9**
WDL	**Douliou City**	**2.84**	**355**	P	**Pn**	**04 06 48.7**	**-0.2**
WDL				*eS*	**Sn**	**04 07 16.9**	**-5.2**
EGFH	**Guangfu**	**2.84**	**12**	*eP*	**Pn**	**04 06 50.4**	**+1.3**
PHUB	**P'eng-hu**	**2.86**	**337**	*eP*	**Pn**	**04 06 47.2**	**-2.1**
PHUB				*eS*	**Sn**	**04 07 18.2**	**-4.5**
WARBT	**Fenglin Townsh**	**2.88**	**11**	*eP*	**Pn**	**04 06 49.2**	**-0.4**
WARBT				S	**Sn**	**04 07 20.3**	**-3.0**
VWDT	**VWDT**	**2.89**	**6**	*eP*	**Pn**	**04 06 49.7**	**+0.2**
VWDT				*eS*	**Sn**	**04 07 23.1**	**-0.1**
SSLB	**Suanglung**	**2.91**	**3**	Pn	**Pn**	**04 06 48.7**	**-1.2**
SSLB	**Suanglung**	**2.91**	**3**	P	**Pn**	**04 06 50.2**	**+0.3**
SSLB				*eS*	**Sn**	**04 07 21.8**	**-2.1**
TEGC	**Jichi Village**	**2.91**	**14**	P	**Pn**	**04 06 48.8**	**-1.1**
TEGC				*eS*	**Sn**	**04 07 23.1**	**-0.6**
PNG	**Penghu**	**2.92**	**337**	P	**Pn**	**04 06 48.2**	**-1.8**
PNG				*eS*	**Sn**	**04 07 18.5**	**-5.5**
WJS	**Zhushan**	**2.94**	**359**	P	**Pn**	**04 06 49.5**	**-0.8**
WJS				*eS*	**Sn**	**04 07 24.0**	**-0.6**
ESL	**Shilin**	**2.99**	**11**	P	**Pn**	**04 06 50.7**	**-0.3**
ESL				S	**Sn**	**04 07 23.5**	**-2.3**
SHUL	**Shoufeng**	**2.99**	**14**	*eP*	**Pn**	**04 06 50.7**	**-0.3**
SHUL				*eS*	**Sn**	**04 07 21.9**	**-3.9**
WNT	**Mingjian**	**2.99**	**358**	P	**Pn**	**04 06 49.8**	**-1.2**
WNT				S	**Sn**	**04 07 23.7**	**-2.3**
SMLT	**Sun Moon Lake**	**3.00**	**2**	*eP*	**Pn**	**04 06 50.6**	**-0.6**
SMLT				*eS*	**Sn**	**04 07 24.4**	**-1.9**
TYC	**Yuchr**	**3.02**	**1**	P	**Pn**	**04 06 51.4**	**0.0**
TYC				*eS*	**Sn**	**04 07 25.9**	**-0.7**
RLNB	**Erlin**	**3.03**	**352**	P	**Pn**	**04 06 50.2**	**-1.4**
RLNB				S	**Sn**	**04 07 23.9**	**-3.0**
TEYL	**Yanliau Villag**	**3.07**	**14**	P	**Pn**	**04 06 51.4**	**-0.7**
TEYL				S	**Sn**	**04 07 24.1**	**-0.5**
OWD	**Renai**	**3.09**	**7**	*eP*	**Pn**	**04 06 52.3**	**-0.2**
OWD				*eS*	**Sn**	**04 07 24.9**	**-3.6**
WUSB	**Renai**	**3.12**	**5**	*eP*	**Pn**	**04 06 53.1**	**+0.2**
WUSB				S	**Sn**	**04 07 27.7**	**-1.5**
WPL	**Puli Township**	**3.13**	**3**	*eP*	**Pn**	**04 06 53.5**	**+0.6**
WPL				S	**Sn**	**04 07 27.4**	**-1.9**
ETM	**Tongmen**	**3.15**	**12**	*eP*	**Pn**	**04 06 54.6**	**+1.4**
ETM				*eS*	**Sn**	**04 07 28.6**	**-1.1**
DPDB	**Guoxing**	**3.15**	**2**	P	**Pn**	**04 06 52.5**	**-0.8**
DPDB				S	**Sn**	**04 07 26.9**	**-3.0**
WWF	**Wufeng**	**3.16**	**358**	P	**Pn**	**04 06 52.8**	**-0.5**
WWF				*eS*	**Sn**	**04 07 28.5**	**-1.5**
WCS	**Beigang Elemen**	**3.17**	**2**	*eP*	**Pn**	**04 06 52.9**	**-0.6**
WCS				*eS*	**Sn**	**04 07 28.0**	**-2.3**
LXIB	**Xiulin Townshi**	**3.19**	**10**	*eP*	**Pn**	**04 06 52.7**	**-1.1**
LXIB				*eS*	**Sn**	**04 07 27.4**	**-3.5**
WCH1	**Changhua City**	**3.19**	**356**	P	**Pn**	**04 06 52.7**	**-1.1**
WCH1				*eS*	**Sn**	**04 07 29.4**	**-1.5**
WCHH	**Zhanghua**	**3.20**	**356**	*eP*	**Pn**	**04 06 54.2**	**+0.4**
WCHH				*eS*	**Sn**	**04 07 29.9**	**-1.1**
TCU	**Taichung**	**3.26**	**358**	P	**Pn**	**04 06 53.4**	**-1.4**
TCU				S	**Sn**	**04 07 29.4**	**-3.2**
WHF	**Hehuan Shan**	**3.29**	**8**	*eP*	**Pn**	**04 06 55.9**	**+0.4**
NACB	**Ninganchiao**	**3.37**	**13**	Pn	**Pn**	**04 06 54.6**	**-1.7**
NACB	**Ninganchiao**	**3.37**	**13**	*eP*	**Pn**	**04 06 56.1**	**-0.1**
NACB				*eS*	**Sn**	**04 07 30.9**	**-4.3**
ETLH	**Xiulin Townshi**	**3.38**	**11**	*eP*	**Pn**	**04 06 55.6**	**-0.9**
TDCB	**Techi**	**3.38**	**6**	*eP*	**Pn**	**04 06 56.9**	**+0.3**
TDCB				*eS*	**Sn**	**04 07 31.1**	**-4.6**
TWT	**Tachien**	**3.38**	**6**	*eP*	**Pn**	**04 06 57.4**	**+0.8**
TWT				S	**Sn**	**04 07 32.4**	**-3.5**
FUSS	**Fushou**	**3.38**	**7**	*eP*	**Pn**	**04 06 57.5**	**+0.8**
FUSS				*eS*	**Sn**	**04 07 30.4**	**-5.6**
WHP	**Taichung City**	**3.39**	**2**	*eP*	**Pn**	**04 06 56.2**	**-0.5**
TWQ1	**Liyutan**	**3.46**	**360**	*eP*	**Pn**	**04 06 57.7**	**+0.2**
TWQ1				*eS*	**Sn**	**04 07 37.2**	**-0.3**
EOS4	**EOS4**	**3.53**	**23**	P	**Pn**	**04 06 58.7**	**+0.6**
EOS4				S	**Sn**	**04 07 37.9**	**-0.7**
NSY	**Sanyi**	**3.53**	**360**	*eP*	**Pn**	**04 06 59.4**	**+1.0**
NSY				*eS*	**Sn**	**04 07 38.4**	**-0.8**
EAHA	**Aohua**	**3.55**	**14**	*eP*	**Pn**	**04 06 59.6**	**+0.9**
EAHA				*eS*	**Sn**	**04 07 38.8**	**-0.9**
NNSB	**Datong**	**3.58**	**9**	*eP*	**Pn**	**04 06 59.8**	**+0.5**
NNSB				*eS*	**Sn**	**04 07 39.5**	**-1.2**
NNSH	**Datong**	**3.58**	**9**	P	**Pn**	**04 06 59.0**	**-0.2**
NNSH				S	**Sn**	**04 07 38.4**	**-2.2**
NNS	**Nan Shan**	**3.59**	**8**	*eP*	**Pn**	**04 07 00.8**	**+1.4**
ENA	**Nanau**	**3.65**	**14**	P	**Pn**	**04 07 00.5**	**+0.4**
ENA				*eS*	**Sn**	**04 07 41.2**	**-0.8**
EWUT	**Wuta**	**3.67**	**14**	P	**Pn**	**04 07 00.6**	**+0.3**
EWUT				*eS*	**Sn**	**04 07 37.0**	**-5.7**
EOS3	**EOS3**	**3.68**	**22**	P	**Pn**	**04 07 01.2**	**+0.8**
EOS3				*eS*	**Sn**	**04 07 41.1**	**-1.6**
LATG	**Datong**	**3.71**	**10**	*eP*	**Pn**	**04 07 00.8**	**-0.2**
LATG				S	**Sn**	**04 07 40.2**	**-3.6**
NSTT	**Nanjuang**	**3.75**	**3**	*eP*	**Pn**	**04 07 03.3**	**+1.9**
NSTT				S	**Sn**	**04 07 41.8**	**-2.8**
NFF	**Wufeng Townshi**	**3.75**	**5**	*eP*	**Pn**	**04 07 02.2**	**+0.6**
NFF				*eS*	**Sn**	**04 07 40.4**	**-4.5**
LIOB	**Emei**	**3.76**	**3**	*eP*	**Pn**	**04 07 01.8**	**+0.2**
EOS2	**EOS2**	**3.77**	**20**	P	**Pn**	**04 07 02.4**	**+0.8**
EOS2				*eS*	**Sn**	**04 07 41.1**	**-3.9**
VDOS	**Pratas Island**	**3.80**	**268**	P	**Pn**	**04 07 02.4**	**+0.2**
VDOS				*eS*	**Sn**	**04 07 42.0**	**-4.0**
ENTT	**Nioudou**	**3.82**	**11**	*eP*	**Pn**	**04 07 04.2**	**+1.8**
ENTT				*eS*	**Sn**	**04 07 45.7**	**-0.6**
YHNB	**Yeheng**	**3.82**	**8**	*eP*	**Pn**	**04 07 03.3**	**+0.8**
NSK	**Sanguang**	**3.82**	**8**	*eP*	**Pn**	**04 07 03.3**	**+0.8**
NDS	**Dongshan**	**3.84**	**13**	*eP*	**Pn**	**04 06 59.6**	**-3.1**
NDS				*eS*	**Sn**	**04 07 41.5**	**-5.4**
TWC	**Suao**	**3.84**	**14**	*eP*	**Pn**	**04 07 03.8**	**+1.1**
TWC				*eS*	**Sn**	**04 07 45.1**	**-1.8**
KSHI	**Guanxi Townshi**	**3.90**	**5**	*eP*	**Pn**	**04 07 04.0**	**+0.4**
KSHI				S	**Sn**	**04 07 45.7**	**-2.7**
TWE	**Neicheng**	**3.92**	**12**	*eP*	**Pn**	**04 07 05.8**	**+2.0**
TWE				*eS*	**Sn**	**04 07 46.5**	**-2.1**
FUSB	**Fushanzhiwuyua**	**3.94**	**11**	*eP*	**Pn**	**04 07 05.2**	**+1.1**
NWLT	**Wulai**	**3.94**	**9**	*eP*	**Pn**	**04 07 05.6**	**+1.5**
ILA	**Ilan**	**3.97**	**13**	*eP*	**Pn**	**04 07 02.0**	**-2.5**
ILA				*eS*	**Sn**	**04 07 44.9**	**-5.2**
JYNG	**Yonagunijimaku**	**4.08**	**29**	*eP*	**Pn**	**04 07 05.3**	**-0.7**
JYNG				*eS*	**Sn**	**04 07 51.8**	**-0.9**
YOJ	**Yonaguni jima**	**4.12**	**29**	Pn	**Pn**	**04 07 05.7**	**-0.9**
YOJ	**Yonaguni jima**	**4.12**	**29**	*eP*	**Pn**	**04 07 06.0**	**-0.5**
YOJ				*eS*	**Sn**	**04 07 53.2**	**-0.4**
YOJ	**Yonaguni jima**	**4.12**	**29**	*eP*	**Pn**	**04 07 05.4**	**-1.1**
YOJ				*eS*	**Sn**	**04 07 50.6**	**-3.1**
NHDH	**Xindian Distri**	**4.13**	**9**	*eS*	**Sn**	**04 07 49.3**	**-4.6**
TATO	**Taipei**	**4.13**	**9**	Pn	**Pn**	**04 07 06.3**	**-0.4**
ZPLA	**Ao Xicun**	**4.14**	**318**	*eP*	**Pn**	**04 07 04.7**	**-2.2**
KNM	**Kinmen**	**4.15**	**329**	P	**Pn**	**04 07 06.0**	**-0.9**
KNM				*i* S	**Sn**	**04 07 50.7**	**-3.6**
TIPB	**Shuangxi**	**4.19**	**13**	*eP*	**Pn**	**04 07 08.4**	**+0.9**
DSXP	**Dongshan**	**4.21**	**313**	*eP*	**Pn**	**04 07 06.1**	**-1.6**
DSXP				*i* S	**Sn**	**04 07 51.5**	**-4.3**
KNMB	**Chin-men Tao**	**4.21**	**329**	Pn	**Pn**	**04 07 05.2**	**-2.5**
KNMB	**Chin-men Tao**	**4.21**	**329**	*eP*	**Pn**	**04 07 06.2**	**-1.5**
KNMB				S	**Sn**	**04 07 50.6**	**-5.3**
HATJ	**Hateruma jima**	**4.22**	**41**	*eP*	**Pn**	**04 07 07.7**	**-0.2**
HATJ				*eS*	**Sn**	**04 07 55.4**	**-0.8**
TWB1	**Santiao Chiao**	**4.26**	**15**	*eP*	**Pn**	**04 07 09.9**	**+1.4**
TWB1				*eS*	**Sn**	**04 07 56.3**	**-0.9**
WFSB	**Wu-fen Shan**	**4.28**	**12**	*eP*	**Pn**	**04 07 10.4**	**+1.7**
VWUC	**VWUC**	**4.28**	**343**	*eP*	**Pn**	**04 07 07.7**	**-1.1**
VWUC				*eS*	**Sn**	**04 07 52.4**	**-5.4**
YM01	**YM01**	**4.31**	**9**	P	**Pn**	**04 07 09.0**	**-0.3**
YM01				S	**Sn**	**04 07 54.7**	**-3.9**
ZUZH	**Zhuzihu**	**4.33**	**9**	P	**Pn**	**04 07 09.0**	**-0.5**
ZUZH				*eS*	**Sn**	**04 07 52.8**	**-6.1**
YM08	**YM08**	**4.36**	**10**	*eP*	**Pn**	**04 07 10.6**	**+0.7**
YM08				*eS*	**Sn**	**04 07 53.3**	**-6.4**
IRIF	**Iriomote-Funau**	**4.39**	**38**	P	**Pn**	**04 07 10.2**	**0.0**
IRIF				*eS*	**Sn**	**04 07 59.4**	**-0.9**
PTMZ	**Houxiangcun**	**4.42**	**340**	*i* P	**Pn**	**04 07 09.8**	**-0.9**
PTMZ				*eS*	**Sn**	**04 07 55.7**	**-5.5**
JKRS	**Kuro-shima**	**4.48**	**41**	P	**Pn**	**04 07 11.8**	**+0.4**
JKRS				*eS*	**Sn**	**04 08 01.6**	**-1.0**
QZH	**Quanzhou**	**4.53**	**334**	Pn	**Pn**	**04 07 10.0**	**-2.2**
QZH				Sn	**Sn**	**04 07 58.8**	**-5.1**
QZH	comp=N,4μm,16.8s			LR	LR		
QZH	comp=E,3μm,15.0s			LR	LR		
QZH	comp=Z,4μm,15.1s			LR	LR		
JIJ	**Ishigaki jima**	**4.65**	**41**	P	**Pn**	**04 07 13.7**	**-0.2**
JIJ				S	**Sn**	**04 08 04.7**	**-2.2**
AXDP	**Jialang**	**4.78**	**328**	*eP*	**Pn**	**04 07 14.1**	**-1.5**
AXDP				*eS*	**Sn**	**04 08 04.7**	**-5.3**
JISG	**Ishigakijimahi**	**4.92**	**41**	P	**Pn**	**04 07 17.3**	**-0.3**
JISG				*eS*	**Sn**	**04 08 11.3**	**-2.2**
JTJ	**Tarama**	**5.20**	**43**	P	**Pn**	**04 07 21.8**	**+0.3**
JTJ				S	**Sn**	**04 08 18.3**	**-2.2**
MATB	**Ma-tsu**	**5.31**	**352**	*i* P	**Pn**	**04 07 21.3**	**-1.7**
MATB				S	**Sn**	**04 08 17.2**	**-6.0**
MSUT	**Lienchiang**	**5.33**	**352**	P	**Pn**	**04 07 21.9**	**-1.3**
MSUT				S	**Sn**	**04 08 18.1**	**-5.5**
MHZQ	**Yeshan**	**5.45**	**343**	*eP*	**Pn**	**04 07 25.2**	**+0.4**
MHZQ				S	**Sn**	**04 08 22.0**	**-4.5**
JMJ	**Miyako jima 2**	**5.71**	**46**	P	**Pn**	**04 07 27.6**	**-0.9**
JMJ				S	**Sn**	**04 08 29.6**	**-3.4**
XPSS	**Dashiqiu**	**6.05**	**355**	P	**Pn**	**04 07 31.7**	**-1.5**
XPSS				S	**Sn**	**04 08 35.1**	**-6.3**
SXFK	**Yanhouchang**	**6.21**	**333**	P	**Pn**	**04 07 33.6**	**-1.7**
SXFK				*eS*	**Sn**	**04 08 39.6**	**-5.8**
HKPS	**Hong Kong Po S**	**6.35**	**284**	Pn	**Pn**	**04 07 36.8**	**-0.4**
HKPS	**Hong Kong Po S**	**6.35**	**284**	P	**

DL2 LR LR
comp=Z,2µm,15.2s
CD2 Chengdu 18.28 307 P P 04 10 18.3 +1.3
CD2 S S **04 13 42.8 -1.8**
CD2 sS sS 04 13 52.5 -4.2
CD2 SS **SnSn 04 14 02.3 +8.1**
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 pmax pmax
comp=Z,460nm,10.0s
CD2 LR LR
comp=Z,2µm,16.1s
CD2 LR LR
comp=Z,2µm,13.5s
CD2 LR LR
comp=Z,4µm,15.7s
TIY Taiyuan 18.28 338 P P 04 10 19.8 +2.7
TIY pmax pmax
comp=Z,12nm,0.6s
TIY pmax pmax
comp=Z,220nm,5.6s
TIY LR LR
comp=Z,870nm,12.4s
TIY LR LR
comp=Z,1µm,15.1s
TIY LR LR
comp=Z,1µm,16.7s
PZH PanZhiHua 18.32 291 P Pn 04 10 19.3 +1.6
PZH S Sn **04 13 41.0 -0.5**
PZH pmax pmax
comp=Z,170nm,5.7s
PZH LR LR
comp=Z,680nm,19.8s
PZH LR LR
comp=Z,1µm,16.5s
PZH LR LR
comp=Z,1µm,15.1s
BJT Baijiatuau 19.49 349 P Pn 04 10 31.5 0.0
BJT lAmb lAmb 04 10 42.8
comp=Z,86nm,1.2s
BJI Beijing 19.51 349 P Pn 04 10 31.8 0.0
BJI sP **sP 04 10 41.8 0.0**
BJI S Sn **04 14 10.5 +0.6**
BJI pmax pmax
comp=Z,32nm,1.1s
BJI pmax pmax
comp=Z,130nm,3.5s
BJI LR LR
comp=Z,290nm,13.5s
BJI LR LR
comp=Z,470nm,17.3s
BJI LR LR
comp=Z,430nm,13.6s
TOLI2 Tolitoli 19.64 180 P Pn 04 10 33.5 -0.1
SBUM Sibu 20.13 206 P Pn 04 10 38.7 -0.6
SBUM lAmb lAmb 04 10 40.4
comp=Z,83nm,1.1s
INU Inuyama 20.28 41 P P 04 10 36.8 -2.1
INU lAmb lAmb 04 10 44.0
comp=Z,40nm,0.7s
CHTO Chiang Mai 20.65 268 P Pn 04 10 45.1 -0.3
CHTO lAmb lAmb 04 10 46.6
comp=Z,39nm,1.1s
CM31 Chiang Mai Arr 20.71 267 P Pn 04 10 46.4 +0.2
CMAR Chiang Mai Arr 20.71 267 P Pn 04 10 46.1 -0.1
CMAR Chiang Mai Arr 20.71 267 P Pn 04 10 45.6 -0.6
comp=Z,14nm,0.8s,baz=72,slow=9.2,SNR=64
CMAR LR LR 04 19 46.1
comp=Z,2µm,18.3s,baz=95,slow=39
comp=Z,14nm,0.8s
TNCH TengChong 20.92 286 P Pn 04 10 48.5 -0.2
TNCH S **S 04 14 35.5 -2.4**
TNCH pmax pmax
comp=Z,69nm,1.3s
TNCH pmax pmax
comp=Z,380nm,3.7s
TNCH LR LR
comp=Z,1µm,15.2s
TNCH LR LR
comp=Z,1µm,15.2s
TNCH LR LR
comp=Z,2µm,15.9s
LZH Lanzhou 21.20 319 *eP* **P 04 10 51.4 +2.4**
LZH sP sP 04 11 00.4 +0.1
LZH pmax pmax
comp=Z,44nm,1.2s
LZH pmax pmax
comp=Z,200nm,4.0s
LZH LR LR
comp=Z,850nm,16.1s
LZH LR LR
comp=Z,1µm,15.5s
LZH LR LR
comp=Z,1µm,15.1s
HHC Hu-ho-hao-te 21.41 341 *eP* **P 04 10 53.1 +2.0**
HHC sP sP 04 10 59.6 -2.8
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,100nm,3.8s
HHC LR LR
comp=Z,1µm,13.0s
HHC LR LR
comp=Z,550nm,14.5s
HHC LR LR
comp=Z,1µm,13.8s
BTO Baotou 21.71 337 *eP* **P 04 10 57.3 +3.0**
BTO pP **pP 04 11 01.1 -0.9**
BTO PP **PnPn 04 11 16.4 +0.7**
BTO pmax pmax
comp=Z,12nm,0.5s
BTO pmax pmax
comp=Z,83nm,4.0s
BTO LR LR
comp=Z,2µm,13.6s
BTO LR LR
comp=Z,2µm,17.9s
BTO LR LR
comp=Z,2µm,14.5s
MJAR Matsushiro Arr 21.79 41 P P 04 10 55.5 +0.4
MJAR Matsushiro Arr 21.79 41 P P 04 10 54.3 -0.8
comp=Z,17nm,1.0s,baz=228,slow=8.2,SNR=5.4
comp=Z,17nm,1.0s
KSM Kuching 21.83 209 P P 04 10 56.6 +0.9
KSM lAmb lAmb 04 10 59.5
comp=Z,32nm,0.9s
CN2 Changchun 23.19 9 *eP* **P 04 11 10.3 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
XLT XiLinHaoTe 23.30 351 *eP* **P 04 11 11.3 +0.3**
XLT sP sP 04 11 19.4 -3.3
XLT S **S 04 15 19.1 -2.5**
XLT sS pS 04 15 26.4 -3.9
XLT pmax pmax
comp=Z,37nm,1.3s
XLT pmax pmax
comp=Z,160nm,4.6s
XLT LR LR
comp=Z,800nm,17.9s
XLT LR LR
comp=Z,780nm,18.3s
GUMO Guam 24.09 104 P P 04 11 17.4 -1.4
MDJ Mudanjiang 24.78 15 P P 04 11 25.3 +0.6
MDJ lAmb lAmb 04 11 27.0
comp=Z,20nm,0.9s
MDJ Mudanjiang 24.78 15 P P 04 11 24.9 +0.2
MDJ pmax pmax
comp=Z,28nm,1.2s
USRK Ussuriysk Ar. 25.05 19 P P 04 11 26.1 -1.1
comp=Z,2.7nm,0.6s,baz=209,slow=9.1,SNR=5.0
comp=Z,2.7nm,0.6s
IPM Ipoh 25.19 232 P P 04 11 29.1 +0.3
BNX BinXian 25.39 11 ||P **P 04 11 30.1 -0.2**
BNX pmax pmax
comp=Z,12nm,2.0s
GTA Gaotai 25.79 320 P P 04 11 35.8 +1.7
GTA sP sP 04 11 42.8 -3.1
GTA pmax pmax
comp=Z,7.0nm,1.3s
GTA LR LR
comp=Z,720nm,16.7s
GTA LR LR
comp=Z,670nm,18.7s
GTA LR LR
comp=Z,720nm,16.3s

SHL Shillong 26.95 286 P P 04 11 45.4 +0.6
SHL lAmb lAmb 04 11 59.8
comp=Z,20nm,1.0s
GOMU GeErMu 27.34 310 P P 04 11 49.3 +0.8
GOMU S **S 04 16 28.6 +1.8**
GOMU pmax pmax
comp=Z,10.0nm,0.7s
GOMU LR LR
comp=Z,680nm,16.4s
GOMU LR LR
comp=Z,980nm,16.2s
GOMU LR LR
comp=Z,1µm,16.0s
RPSI Rantau Prapat 27.94 233 P P 04 11 54.2 +0.7
RPSI lAmb lAmb 04 11 55.2
comp=Z,26nm,1.0s
HIA Hailar 28.34 359 P P 04 11 54.1 -2.8
HIA lAmb lAmb 04 12 00.0
comp=Z,14nm,0.9s
ULN Ulaanbaatar 29.13 341 P P 04 12 04.3 +0.3
SONM Songino Array 29.31 340 P P 04 12 06.0 +0.5
SONM Songino Array 29.31 340 P P 04 12 05.9 +0.3
comp=Z,4.0nm,0.9s,baz=160,slow=9.4,SNR=10
comp=Z,4.0nm,0.9s
HEH HeiHe 29.79 9 *eP* **P 04 12 12.4 +2.8**
HEH pmax pmax
comp=Z,7.0nm,1.1s
HEH LR LR
comp=Z,650nm,16.9s
HEH LR LR
comp=Z,590nm,17.0s
HEH LR LR
comp=Z,1µm,17.3s
WMQ Urumqi 35.76 317 *eP* **P 04 13 03.9 +1.9**
WMQ pmax pmax
comp=Z,32nm,0.7s
WMQ LR LR
comp=Z,540nm,14.3s
WMQ LR LR
comp=Z,570nm,14.3s
WMQ LR LR
comp=Z,190nm,15.3s
ZSN Zaisan 39.28 321 *eP* **P 04 13 32.6 +0.9**
MKAR Makanchi Array 40.52 319 P P 04 13 43.2 +1.2
MKAR Makanchi Array 40.52 319 P P 04 13 43.8 +1.8
comp=Z,11nm,0.9s,baz=113,slow=9.5,SNR=50
comp=Z,11nm,0.9s
MAKZ Makanchi 40.72 319 P P 04 13 44.8 +1.1
MAKZ lAmb lAmb 04 13 46.3
comp=Z,17nm,1.1s
SATY Saty 41.65 312 *eP* **P 04 13 52.3 +0.8**
TARG Taragay, Kyrgy 41.68 310 P P 04 13 54.2 +2.1
TDK Taldyqorghan 42.30 315 *eP* **P 04 13 57.7 +1.1**
comp=Z,17nm,1.0s
KSH Kashi 42.47 306 P P 04 14 03.3 +5.0
KSH sP sP 04 14 10.8 +0.5
KSH pmax pmax
comp=Z,10.0nm,1.1s
KSH LR LR
comp=Z,740nm,20.3s
KSH LR LR
comp=Z,520nm,15.8s
KSH LR LR
comp=Z,620nm,16.5s
TNSS Tian-Shan 42.66 311 *eP* **P 04 14 00.9 +0.8**
WRA Warramunga Arr 42.68 161 P P 04 13 56.5 -3.4
comp=Z,25nm,0.9s,baz=344,slow=8.2,SNR=3.5
WRA S **S 04 20 18.0 -3.5**
comp=Z,3.5nm,0.9s,baz=342,slow=14,SNR=5.0
comp=Z,25nm,0.9s
AAA Alma-Ata 42.73 312 *eP* **P 04 14 01.3 +1.1**
ZAA0 Zalesovo Array 42.86 329 P P 04 14 00.9 -0.1
ZAA0 lAmb lAmb 04 14 03.2
comp=Z,20nm,1.1s
ZALV Zalesovo Beam 42.86 329 P P 04 14 01.9 +0.9
comp=Z,13nm,0.8s,baz=113,slow=6.9,SNR=42
comp=Z,13nm,0.8s
NRN Naryn 42.90 309 P P 04 14 04.4 +2.5
NRN lAmb lAmb 04 14 05.6
comp=Z,27nm,0.9s
H11N1 WAKE ISLAND Hy 43.14 83 T T 05 00 10.1
baz=283,slow=74,SNR=8.4
H11N2 WAKE ISLAND Hy 43.14 83 T T 05 00 12.8
baz=283,slow=74,SNR=9.4
H11N3 WAKE ISLAND Hy 43.16 83 T T 05 00 12.8
baz=283,slow=74,SNR=7.3
BOOM Boomskoye usch 43.22 310 P P 04 14 05.8 +1.4
KUU Kurty 43.34 312 *eP* **P 04 14 06.2 +1.2**
comp=Z,12nm,1.1s
SEM Semipalatinsk 43.37 323 *eP* **P 04 14 06.2 +0.7**
comp=Z,17nm,1.0s
NIL Nilore 43.78 297 P P 04 14 09.6 +0.7
AAK Ala-Archa 44.29 310 P P 04 14 14.8 +1.9
SGDS Sogindy 44.40 311 *eP* **P 04 14 14.8 +1.1**
KURK Kurchatov 44.44 322 P P 04 14 14.3 +0.5
KURBB Kurchatov Arra 44.45 322 P P 04 14 15.0 +1.2
comp=Z,23nm,0.8s,baz=123,slow=7.4,SNR=110
comp=Z,23nm,0.8s
ARSB Arslanbob 45.09 308 P P 04 14 21.2 +1.9
ARSB lAmb lAmb 04 14 22.7
comp=Z,22nm,1.2s
BTLS Baital 45.24 313 *eP* **P 04 14 21.4 +1.1**
DRK Karamyk 45.64 305 P P 04 14 25.6 +1.8
BTK Batken 46.48 306 P P 04 14 32.1 +1.9
DZA Taraz 46.61 310 *eP* **P 04 14 32.2 +1.1**
comp=Z,14nm,1.1s
GAR Garm 46.71 304 P P 04 14 33.4 +1.3
KK31 Karatay Array 47.25 310 P P 04 14 37.2 +1.1
KBL Kabul 47.32 298 P P 04 14 39.1 +2.1
IUG Iuzhnay 47.41 309 *eP* **P 04 14 38.7 +1.2**
comp=Z,13nm,1.2s
BRZS Berezniki 47.66 319 *eP* **P 04 14 40.3 +1.1**
SIMJ Simiganj 47.68 304 P P 04 14 40.7 +1.1
SIMJ lAmb lAmb 04 14 52.2
comp=Z,16nm,1.4s
BRLS Boroldaу 47.72 310 *eP* **P 04 14 41.4 +1.6**
comp=Z,8.5nm,1.5s
CHM Chimkent 47.76 309 *eP* **P 04 14 41.1 +1.1**
BVAR Borovoye Array 50.03 323 P P 04 14 58.3 +1.0
comp=Z,3.6nm,0.6s,baz=112,slow=11,SNR=20
BVAR PcP **PcP 04 16 17.2 +0.3**
comp=Z,2.4nm,0.8s,baz=116,slow=3.4,SNR=5.0
comp=Z,3.6nm,0.6s
BRVK Borovoye 50.11 323 P P 04 14 58.7 +0.8
BRVK lAmb lAmb 04 15 00.4
comp=Z,9.9nm,0.8s
ARTI Arti 57.64 324 P P 04 15 53.2 +0.3
ARTI lAmb lAmb 04 15 54.2
comp=Z,8.9nm,0.7s
SPIA Saint Paul Isl 61.32 35 P P 04 16 18.6 +0.4
baz=264
GAMB Gambell 61.56 28 P P 04 16 20.5 +0.8
baz=259
P08K Saint George I 61.65 36 P P 04 16 20.4 -0.1
baz=265
NIKH Nikolski High 61.82 40 P P 04 16 21.6 -0.1
baz=268
UNV Unalaska Valle 63.25 39 P P 04 16 31.1 -0.1
baz=269
TNA Tin City 63.45 26 P P 04 16 32.7 +0.4
baz=262
M11K Mekoryuk 63.69 32 P P 04 16 34.5 +0.5
baz=266
F14K Arctic Creek 64.10 26 P P 04 16 36.3 -0.3
baz=264
ANM Nome 64.41 27 P P 04 16 38.6 -0.1
baz=265
K13K Kusilvak Mount 64.54 30 P P 04 16 40.0 +0.4
baz=267
C16K Lisburne Hills 64.82 23 P P 04 16 41.7 +0.4
baz=263
F15K North Star Dit 64.82 26 P P 04 16 41.5 +0.1
baz=265
G15K Niukluk 65.02 27 P P 04 16 43.2 +0.6
baz=266
J14K Nanvaranak Lak 65.09 29 P P 04 16 43.1 0.0
baz=267
M13K Dall Lake 65.11 32 P P 04 16 43.8 +0.5
baz=269
L14K Kuka Creek 65.46 31 P P 04 16 46.3 +0.8
baz=269,SNR=8.2
D17K Noatak River 65.61 24 P P 04 16 46.1 -0.3
baz=266
C17K DeLong Mountai 65.64 23 P P 04 16 47.1 +0.5
baz=265
RDOG Red Dog Mine 65.70 24 P P 04 16 47.6 +0.6
baz=266

G16K Koyuk River 65.75 27 P P 04 16 47.6 +0.2
baz=267
H16K Elim 65.77 27 P P 04 16 47.8 +0.3
baz=268
M14K Bethel 65.80 32 P P 04 16 47.8 +0.1
baz=270
S12K Black Hills 65.81 37 P P 04 16 48.6 +0.6
baz=272
N14K Kuskokwak Cree 65.94 33 P P 04 16 48.8 +0.2
baz=270
K15K Wolf Creek Mou 66.02 30 P P 04 16 49.6 +0.4
baz=269
L15K Ungalak Mounta 66.03 31 P P 04 16 49.1 -0.2
baz=270
E17K Hotham Inlet 66.05 25 P P 04 16 49.3 0.0
baz=267
O14K Tigyukauivet M 66.16 33 P P 04 16 49.8 -0.3
baz=271
B18K Kokolik River 66.20 22 P P 04 16 50.4 +0.2
baz=266
C18K Utukok River 66.38 23 P P 04 16 51.6 +0.2
baz=267
I17K Unalakleet 66.42 28 P P 04 16 52.4 +0.8
I17K Unalakleet 66.42 28 P P 04 16 51.9 +0.2
baz=269
M15K Kasigluk River 66.42 32 P P 04 16 51.5 -0.3
baz=271
J16K Anvik River 66.45 29 P P 04 16 52.1 +0.2
baz=270
G17K Kiwalik Mounta 66.47 26 P P 04 16 51.8 -0.1
baz=269
A19K Wainwright 66.52 21 P P 04 16 52.4 +0.2
baz=266
E18K Tukpahlearik C 66.54 24 P P 04 16 52.6 +0.1
baz=268
SDPT Sand Point 66.73 38 P P 04 16 54.1 +0.3
baz=273
N15K Kwethluk River 66.73 32 P P 04 16 54.0 +0.2
baz=272,SNR=8.1
H17K Granite Mounta 66.77 27 P P 04 16 54.2 +0.3
baz=270
F18K Selawik 66.89 25 P P 04 16 55.1 +0.5
baz=269
O15K Ungalikthiuk R 66.90 33 P P 04 16 55.1 +0.2
baz=272
C19K Lookout Ridge 66.98 23 P P 04 16 55.9 +0.6
baz=268
L16K Owhat River 66.99 31 P **P 04 16 55.2 -0.2**
L16K lAmb lAmb 04 16 56.9
comp=Z,7.7nm,0.8s
L16K Owhat River 66.99 31 P P 04 16 55.6 +0.2
baz=271,SNR=6.7
J17K VABM Dome 67.14 29 P P 04 16 57.1 +0.7
baz=271,SNR=9.2
S14K Fog Glacier 67.19 37 P P 04 16 57.2 +0.3
baz=274
M16K Timber Creek 67.26 31 P P 04 16 57.0 -0.1
baz=272
CHNA Chernabura Isl 67.27 38 P P 04 16 57.1 -0.1
baz=274
KBZ Khabaz 67.28 310 P P 04 16 58.6 +1.1
comp=Z,6.3nm,1.0s,baz=122,slow=4.4,SNR=7.6
comp=Z,6.3nm,1.0s
G18K Tagagawik 67.30 26 P P 04 16 57.8 +0.5
baz=270
N16K Nishlik Lake 67.38 32 P P 04 16 58.0 +0.1
baz=272
KIV Kislovodsk 67.41 310 P P 04 16 59.1 +0.7
H18K Honhosa River 67.42 27 P P 04 16 58.6 +0.5
baz=271
D19K Kuna River 67.50 23 P P 04 16 59.3 +0.8
D19K Kuna River 67.50 23 P P 04 16 58.5 0.0
baz=270,SNR=7.9
K17K Iditarod 67.51 30 P P 04 16 59.3 +0.6
baz=272
L17K Donlin 67.54 30 P P 04 16 59.9 +1.1
baz=272,SNR=7.0
F19K Shaleruckik Mo 67.64 25 P **P 04 16 59.5 +0.1**
F19K lAmb lAmb 04 17 01.6
comp=Z,12nm,1.3s
F19K Shaleruckik Mo 67.64 25 P P 04 16 59.5 +0.1
baz=271
O16K Kokwok River B 67.76 33 P P 04 17 00.7 +0.4
baz=274
CHGN Chignik 67.82 36 P P 04 17 00.9 +0.2
baz=275
E19K Redstone River 67.84 24 lAmb lAmb 04 17 02.4
comp=Z,8.4nm,0.9s
E19K Redstone River 67.84 24 P P 04 17 01.4 +0.7
baz=271
B20K Meade River 67.85 22 P P 04 17 00.8 +0.2
baz=270
P16K Nushagak River 67.85 33 P P 04 17 00.8 -0.1
baz=274
G19K Purcell Mounta 67.93 26 lAmb lAmb 04 17 02.8
comp=Z,9.8nm,1.1s
G19K Purcell Mounta 67.93 26 P P 04 17 01.6 +0.3
baz=272
M17K Holitna River 67.98 31 P P 04 17 02.1 +0.5
baz=273
A21K Barrow 68.03 20 P P 04 17 01.9 +0.2
baz=270
D20K Etivluk River 68.05 23 P P 04 17 02.3 +0.3
baz=271
GCSA Galena City Sc 68.07 27 P P 04 17 02.2 +0.1
baz=272
N17K Nushagak Hills 68.16 32 P P 04 17 02.8 0.0
baz=274,SNR=6.5
J18K Innoko River 68.20 29 P P 04 17 02.9 -0.1
baz=273
H19K Roundabout Mou 68.22 26 P P 04 17 03.9 +0.9
baz=272,SNR=11
E20K Nigu River 68.22 23 P P 04 17 03.0 -0.1
baz=272,SNR=11
O17K Koliganek Bris 68.26 33 P P 04 17 03.0 -0.4
baz=274,SNR=5.0
L18K Granite Mounta 68.29 30 P P 04 17 04.0 +0.5
baz=274
F20K Avaraart Lake 68.44 25 P P 04 17 04.5 +0.1
baz=273
A22K Sinclair Lake 68.56 20 P P 04 17 05.8 +0.7
baz=272
Q16K King Salmon 68.57 34 P P 04 17 05.5 +0.1
baz=275
P17K Kvichak River 68.64 33 P P 04 17 05.7 -0.1
baz=275,SNR=7.0
J19K Poorman 68.66 28 P P 04 17 06.2 +0.4
baz=274
C21K Knifeblade Rid 68.70 22 P P 04 17 06.3 +0.2
baz=273
B21K Ikpikpuk River 68.74 22 P P 04 17 06.7 +0.5
baz=273
M18K Stony River 68.75 31 P P 04 17 06.4 -0.1
baz=275,SNR=7.4
N18K Kilae Creek 68.78 32 P P 04 17 06.8 +0.1
baz=275
R17L Mt. Peulik Vol 68.83 35 P P 04 17 06.6 -0.4
baz=276
H20K Anoteneega Mo 68.87 26 P P 04 17 07.2 0.0
baz=274,SNR=5.6
RAYN Ar Rayn 68.99 288 P P 04 17 09.2 +0.5
Q17K Contact Creek 69.01 34 P P 04 17 07.1 -1.2
baz=276,SNR=6.6
E21K Killik River 69.03 23 P P 04 17 07.9 -0.3
baz=274
I20K Naaghedeneel 69.09 27 P P 04 17 08.5 0.0
baz=275
B22K Teshekpuk Lake 69.11 21 P P 04 17 09.0 +0.5
baz=273
L19K White Mountain 69.15 30 P P 04 17 09.2 +0.2
baz=275,SNR=14
O18K Koktuh Hills 69.20 32 P P 04 17 09.5 +0.2
O18K Koktuh Hills 69.20 32 P P 04 17 09.3 0.0
baz=276,SNR=8.0
P18K Big Mountain, 69.24 33 P P 04 17 09.5 -0.1
baz=276,SNR=7.6
J20K Nowinta River 69.29 28 P P 04 17 10.0 +0.3
baz=275,SNR=7.9
F21K Alatna River 69.31 25 P P 04 17 10.0 +0.2
baz=274
ACHA Angle Creek He 69.31 34 lAmb lAmb 04 17 10.0
comp=Z,7.4nm,1.1s
G21K Allakaket 69.35 25 lAmb lAmb 04 17 23.2
comp=Z,12nm,1.1s
G21K Allakaket 69.35 25 P P 04 17 10.3 +0.2
baz=275
M19K Big River Lodg 69.39 30 P P 04 17 10.9 +0.4
baz=276

K20K	Telida baz=276,SNR=6.5	69.40	29	P		P	04 17 10.5	0.0
CHIR	Chirikof Islan baz=277	69.43	37	P		P	04 17 10.8	+0.1
Q18K	Katmai Hardscr baz=276	69.43	34	P		P	04 17 10.9	+0.1
N19K	Bonanza Creek baz=276,SNR=5.3	69.46	31	P		P	04 17 11.2	+0.2
D22K	Ayikyak River baz=275,SNR=6.1	69.47	23	P		P	04 17 11.4	+0.5
L20K	Farewell, AK baz=276	69.57	30	P		P	04 17 11.9	+0.3
O19K	Port Alsworth	69.61	32	P		P	04 17 12.1	+0.4
O19K	Port Alsworth baz=276	69.61	32	P		P	04 17 11.8	0.0
H21K	Melozitna Rive baz=276,SNR=12	69.72	26	P		P	04 17 12.8	+0.4
F22K	John River baz=276	69.78	24	P		P	04 17 13.3	+0.5
E22K	Anaktuvuk Pass baz=276,SNR=6.5	69.86	23	P		P	04 17 13.4	+0.1
M20K	Styx River baz=277	69.99	30	P		P	04 17 14.9	+0.7
Q19K	Cape Douglas, baz=278	70.10	33	P		P	04 17 15.1	+0.2
G22K	Bettles baz=276	70.10	25	P		P	04 17 14.8	+0.1
I21K	Tanana baz=277	70.11	27	P		P	04 17 15.8	+1.0
C23K	Itkillik River comp=Z,18nm,1.4s	70.11	22	IAmb		IAmb	04 17 16.0	
C23K	Itkillik River baz=276	70.11	22	P		P	04 17 15.3	+0.6
CHUM	Lake Minchumin baz=277	70.12	28	P		P	04 17 15.2	+0.3
SII	Sitkinak Islan baz=278	70.13	36	P		P	04 17 14.8	-0.3
D23K	Nanushuk River baz=276	70.19	23	P		P	04 17 15.8	+0.6
P19K	Oil Pt	70.22	33	P		P	04 17 14.3	-1.3
P19K	comp=Z,14nm,1.1s			IAmb		IAmb	04 17 27.2	
P19K	Oil Pt baz=278	70.22	33	P		P	04 17 15.6	+0.1
H22K	Ishtalitna Cre baz=277,SNR=12	70.28	26	P		P	04 17 16.4	+0.6
CAST	Castle Rocks comp=Z,12nm,1.0s	70.28	29	IAmb		IAmb	04 17 17.5	
CAST	Castle Rocks baz=277,SNR=14	70.28	29	P		P	04 17 16.2	+0.3
PPLA	Purkeypile comp=Z,9.1nm,1.0s	70.30	29	IAmb		IAmb	04 17 33.7	
PPLA	Purkeypile baz=277	70.30	29	P		P	04 17 16.4	+0.2
O20K	Slope Mountain baz=278	70.46	32	P		P	04 17 16.2	-0.9
OHAK	Old Harbor comp=Z,13nm,1.1s	70.52	35	IAmb		IAmb	04 17 18.0	
OHAK	Old Harbor baz=278	70.52	35	P		P	04 17 16.4	-1.0
COLD	Coldfoot baz=278	70.58	24	P		P	04 17 17.9	+0.3
TOLK	Toolik Lake Re baz=278	70.62	23	P		P	04 17 18.0	0.0
MLY	Manley comp=Z,9.4nm,1.1s	70.65	27	IAmb		IAmb	04 17 20.0	
MLY	Manley baz=278,SNR=8.2	70.65	27	P		P	04 17 18.5	+0.3
BPAW	Bear Paw Mtn. baz=278,SNR=13	70.67	28	P		P	04 17 18.6	+0.3
E23K	Chandalar comp=Z,9.6nm,1.1s	70.69	23	IAmb		IAmb	04 17 20.3	
E23K	Chandalar baz=278,SNR=8.3	70.69	23	P		P	04 17 19.5	+1.1
G23K	Bananza Creek comp=Z,8.2nm,1.1s	70.71	25	IAmb		IAmb	04 17 31.8	
G23K	Bananza Creek baz=278,SNR=7.5	70.71	25	P		P	04 17 18.8	+0.2
SKT	Skwentna comp=Z,8.0nm,1.1s	70.72	30	IAmb		IAmb	04 17 19.2	
SKT	Skwentna baz=278,SNR=5.8	70.72	30	P		P	04 17 18.3	-0.3
C24K	Franklin Bluff baz=278	70.79	22	P		P	04 17 19.0	+0.2
Q20K	Shuyak Island baz=279	70.79	34	P		P	04 17 18.6	-0.5
KDAK	Kodiak Island	70.82	34	P		P	04 17 18.2	-1.0
KDAK	Kodiak Island baz=279	70.82	34	P		P	04 17 18.6	-0.6
D24K	Happy Valley baz=278	70.82	22	P		P	04 17 19.4	+0.3
HOM	Homer baz=279	71.01	32	P		P	04 17 20.1	-0.2
H23K	Yukon River comp=Z,8.4nm,0.8s	71.03	26	IAmb		IAmb	04 17 22.7	
H23K	Yukon River baz=279,SNR=11	71.03	26	P		P	04 17 21.0	+0.6
TRF	Thorofare Moun baz=279	71.07	28	P		P	04 17 20.6	-0.3
E24K	Your Creek baz=279	71.10	23	P		P	04 17 21.7	+0.8
I23K	Minto, Yukon-K comp=Z,7.8nm,1.1s	71.21	27	IAmb		IAmb	04 17 37.2	
I23K	Minto, Yukon-K baz=279	71.21	27	P		P	04 17 22.0	+0.5
CUT	Chulitna baz=279	71.25	29	P		P	04 17 21.6	-0.2
BRLK	Bradley Lake comp=Z,10nm,1.1s	71.38	32	IAmb		IAmb	04 17 24.5	
F24K	Squaw Lake comp=Z,6.9nm,0.8s	71.42	24	IAmb		IAmb	04 17 24.6	
F24K	Squaw Lake baz=280,SNR=5.6	71.42	24	P		P	04 17 22.8	0.0
M22K	Willow baz=280	71.42	30	P		P	04 17 22.7	-0.1
NEA2	Nenana comp=Z,6.7nm,0.9s	71.42	27	IAmb		IAmb	04 17 24.1	
NEA2	Nenana baz=279,SNR=8.0	71.42	27	P		P	04 17 22.5	-0.3
MCK	McKinley comp=Z,14nm,1.2s	71.63	28	IAmb		IAmb	04 17 25.6	
MCK	McKinley baz=280,SNR=5.8	71.63	28	P		P	04 17 23.5	-0.6
D25K	Kavik River baz=280	71.66	22	P		P	04 17 24.0	-0.2
H24K	Noodor Dome baz=280	71.71	26	P		P	04 17 24.2	-0.4
RC01	Rabbit Creek A baz=280	71.71	31	P		P	04 17 23.7	-0.9
G24K	Hadweenzic Riv	71.72	25	P		P	04 17 25.0	+0.5
G24K	comp=Z,6.7nm,0.9s			IAmb		IAmb	04 17 26.5	
G24K	Hadweenzic Riv baz=280,SNR=5.7	71.72	25	P		P	04 17 25.1	+0.5
RND	Reindeer comp=Z,11nm,0.9s	71.72	28	IAmb		IAmb	04 17 25.2	
WRH	Wood River Hil comp=Z,20nm,1.7s	71.86	27	IAmb		IAmb	04 17 27.4	
PMR	Palmer comp=Z,7.9nm,1.1s	71.91	30	IAmb		IAmb	04 17 26.2	
PMR	Palmer baz=280	71.91	30	P		P	04 17 25.1	-0.6
SEW	Seward baz=281	72.03	32	P		P	04 17 25.8	-0.7
C26K	Camden Bay baz=281	72.05	21	P		P	04 17 25.9	-0.5
E25K	Arctic Village baz=281	72.17	23	P		P	04 17 27.2	-0.1
G25K	Bearman Lake baz=281	72.24	25	P		P	04 17 28.2	+0.6
F25K	Christian Rive baz=282,SNR=8.1	72.25	24	P		P	04 17 28.1	+0.3
KNK	Knik Glacier baz=281	72.26	30	P		P	04 17 28.0	+0.1
ILAR	Eielson Array comp=Z,0.8nm,0.7s,baz=293,slow=7.4,SNR=9.2 comp=Z,0.8nm,0.7s	72.31	27	P		P	04 17 27.0	-1.2
HDA	Harding Lake baz=281	72.36	27	P		P	04 17 28.6	+0.1
PWL	Port Wells baz=281	72.43	31	P		P	04 17 29.3	+0.4
H25L	Birch Creek baz=282	72.45	25	P		P	04 17 28.4	-0.5
ARCES	ARCESS Array B comp=Z,1.6nm,1.0s,baz=65,slow=6.8,SNR=4.5 comp=Z,1.6nm,1.0s	72.47	338	P		P	04 17 28.8	-0.2
C27K	Jago River baz=283	72.52	21	P		P	04 17 29.6	+0.3
M23K	Glacier View baz=282	72.53	30	P		P	04 17 30.1	+0.5
SPITS	Spitsbergen Ar comp=Z,8.3nm,0.9s,baz=111,slow=11,SNR=2.5 comp=Z,8.3nm,0.9s	72.63	348	P		P	04 17 29.8	0.0
SCM	Sheep Creek Mo baz=282,SNR=8.6	72.71	30	P		P	04 17 30.2	-0.5
PRP	Porcupine Dome baz=282	72.73	26	P		P	04 17 30.5	-0.3
F26K	Sheenjek River comp=Z,9.3nm,1.3s	72.79	23	IAmb		IAmb	04 17 44.5	
F26K	Sheenjek River baz=283,SNR=6.5	72.79	23	P		P	04 17 31.1	+0.1
J25K	Salcha River, baz=283	72.98	27	P		P	04 17 31.4	-0.9
K24K	Donnelly Dome comp=Z,13nm,1.1s	72.99	28	IAmb		IAmb	04 17 44.8	
K24K	Donnelly Dome baz=283,SNR=5.6	72.99	28	P		P	04 17 31.8	-0.4
GLI	Glacier Island baz=282	73.02	31	P		P	04 17 31.9	-0.5
P23K	Montague Islan baz=282	73.06	32	P		P	04 17 32.3	-0.4
G26K	Porcupine Rive baz=283	73.09	24	P		P	04 17 33.0	+0.3
M24K	Tolsona, Glenn baz=283	73.18	29	P		P	04 17 33.2	-0.2
PAX	Paxson	73.31	28	P		P	04 17 33.4	-0.8
PAX	Paxson baz=283	73.31	28	P		P	04 17 33.5	-0.7
RIDG	Independent Ri comp=Z,9.7nm,1.2s	73.41	28	IAmb		IAmb	04 17 35.4	
RIDG	Independent Ri baz=283	73.41	28	P		P	04 17 34.3	-0.4
KLU	Klutina comp=Z,25nm,1.7s	73.44	30	IAmb		IAmb	04 19 26.8	
KLU	Klutina baz=283	73.44	30	P		P	04 17 34.7	-0.2
D27M	Malcolm River baz=285	73.55	22	P		P	04 17 35.6	+0.1
HARP	HAARP baz=284	73.58	29	P		P	04 17 35.7	0.0
DIV	Divide comp=Z,16nm,1.2s	73.59	30	IAmb		IAmb	04 17 37.8	
E27K	Colen River baz=285	73.61	23	P		P	04 17 35.9	+0.1
Q23K	Middleton Isla baz=283	73.70	32	P		P	04 17 35.3	-1.1
SCRK	Sand Creek comp=Z,15nm,1.9s	73.72	27	IAmb		IAmb	04 17 53.1	
SCRK	Sand Creek baz=284	73.72	27	P		P	04 17 36.0	-0.6
EYAK	Cordova Ski Ar baz=284	73.74	31	P		P	04 17 36.4	-0.2
I26K	Coal Creek Min baz=284,SNR=7.1	73.74	26	P		P	04 17 36.1	-0.4
J26L	Joseph Creek baz=284	73.77	27	P		P	04 17 36.1	-0.8
G27K	Doyon Strip baz=285	73.94	24	P		P	04 17 37.9	+0.1
N25K	Chitina, Valde baz=284	74.03	30	P		P	04 17 37.7	-0.7
FINES	FINESS Array B comp=Z,1.7nm,0.8s,baz=56,slow=4.9,SNR=7.8 comp=Z,1.7nm,0.8s	74.12	330	P		P	04 17 39.0	+0.1
H27K	Steamboat Moun baz=286	74.15	25	P		P	04 17 39.6	+0.5
BMRM	Bremner River baz=284	74.18	30	P		P	04 17 39.0	-0.3
E28M	Babbage River comp=Z,24nm,1.9s	74.23	22	IAmb		IAmb	04 18 09.1	
E28M	Babbage River baz=287	74.23	22	P		P	04 17 39.4	+0.1
L26K	Log Cabin Wild baz=285	74.23	28	P		P	04 17 39.9	+0.3
I27K	Kandik River baz=286	74.28	25	P		P	04 17 40.1	+0.3
RAGM	Ragged Mountai comp=Z,15nm,1.2s	74.29	31	IAmb		IAmb	04 17 42.1	
F28M	Old Crow baz=287,SNR=5.8	74.39	23	P		P	04 17 40.7	+0.4
GLB	Gilahina Butte comp=Z,12nm,1.3s	74.43	30	IAmb		IAmb	04 17 42.9	
K27K	Chicken baz=286	74.52	27	P		P	04 17 41.5	+0.4
KAIM	Kayak Island baz=285	74.53	31	P		P	04 17 40.6	-0.7
M26K	Nabesna, AK baz=285	74.56	29	P		P	04 17 40.7	-0.8
MCARA	McCarthy VSAT baz=286	74.81	30	P		P	04 17 42.5	-0.4
BRTR	Keskin Array B	74.85	307	P		P	04 17 44.5	+0.8
BRTR	Keskin Array B comp=Z,1.3nm,0.9s,baz=112,slow=5.6,SNR=7.0 comp=Z,1.3nm,0.9s	74.85	307	P		P	04 17 43.6	-0.1
E29M	Blow River baz=288	74.87	22	P		P	04 17 43.0	0.0
L27K	Beaver Creek, baz=286	74.89	28	P		P	04 17 44.3	+1.0
BCAR	Beaver Creek A	74.91	28	P		P	04 17 44.1	+0.6
CRQM	Cirque comp=Z,7.7nm,0.8s	74.93	30	IAmb		IAmb	04 18 11.3	
CRQE	Cirque baz=286	74.95	30	P		P	04 17 44.0	+0.1
I28M	Miner Creek baz=287	75.00	25	P		P	04 17 44.4	+0.3
BGLC	Bering Glacier baz=286	75.03	31	P		P	04 17 44.5	+0.4
M27K	Edge Creek, AK baz=286	75.07	29	P		P	04 17 44.2	-0.3
AKASG	Malin Array Be comp=Z,2.2nm,0.8s,baz=65,slow=5.0,SNR=8.4 comp=Z,2.2nm,0.8s	75.10	319	P		P	04 17 44.7	-0.1
KIEV	Kiev	75.11	319	P		P	04 17 44.9	+0.1
G29M	Pine Creek comp=Z,8.7nm,1.1s	75.29	24	IAmb		IAmb	04 17 47.1	
G29M	Pine Creek baz=288	75.29	24	P		P	04 17 45.7	+0.1
H29M	Whitestone baz=288	75.38	24	P		P	04 17 46.1	0.0
BVCY	Beaver Creek baz=287	75.51	28	P		P	04 17 47.2	+0.3
DAWY	Dawson	75.64	27	P		P	04 17 48.0	+0.3
DAWY	Dawson baz=288	75.64	27	P		P	04 17 47.5	-0.2
I29M	Ogilvie Camp, baz=289	75.67	25	P		P	04 17 47.9	+0.1
CTG	Chitna Glacier baz=287	75.72	30	P		P	04 17 48.5	+0.2
F30M	Barrier River comp=Z,9.6nm,1.0s	75.88	23	IAmb		IAmb	04 18 05.1	
F30M	Barrier River baz=290	75.88	23	P		P	04 17 49.1	+0.2
YUK3	Moose Creek baz=288	75.88	29	P		P	04 17 49.5	+0.3
G30M	tAoh Zraii Nji	75.94	23	P		P	04 17 48.7	-0.6
G30M	comp=Z,9.5nm,1.1s			IAmb		IAmb	04 17 50.9	
G30M	tAoh Zraii Nji baz=290	75.94	23	P		P	04 17 48.9	-0.4
EPYK	Eagle Plains comp=Z,14nm,1.4s	75.96	24	IAmb		IAmb	04 18 01.1	
EPYK	Eagle Plains baz=290	75.96	24	P		P	04 17 48.8	-0.6
J29N	Klondike Camp baz=289	76.00	26	P		P	04 17 50.3	+0.5
O28M	Mount Upton baz=288	76.31	30	P		P	04 17 52.5	+0.6
INK	Inuvik	76.42	22	P		P	04 17 51.1	-0.8
INK	comp=Z,18nm,1.6s			IAmb		IAmb	04 18 04.4	
INK	Inuvik baz=292	76.42	22	P		P	04 17 52.5	+0.6
L29M	L29M baz=289	76.48	27	P		P	04 17 53.0	+0.5
I30M	Mount Dempster baz=290	76.48	25	P		P	04 17 52.3	-0.3
PINM	Pinnacle baz=288	76.49	31	P		P	04 17 52.8	+0.2
K29M	Barlow Dome baz=290	76.49	27	P		P	04 17 52.9	+0.3
M29M	Somme Creek baz=289	76.56	28	P		P	04 17 53.4	+0.4
F31M	Tsiigehtchic baz=292	76.67	22	P		P	04 17 53.3	0.0
G31M	Satah River baz=292	76.67	23	P		P	04 17 53.6	+0.2
J30M	Hart River	76.73	26	P		P	04 17 54.4	+0.4
PNL	Peninsula baz=289	77.04	31	P		P	04 17 56.1	+0.5
H31M	Peel River baz=292	77.06	24	P		P	04 17 56.4	+0.7
YUK6	Outpost Mounta baz=290	77.10	29	P		P	04 17 57.0	+0.8
O29M	Mount Kennedy baz=290	77.22	30	P		P	04 17 57.0	+0.2
M30M	Minto, Yukon comp=Z,8.3nm,1.2s	77.24	28	IAmb		IAmb	04 17 58.8	
M30M	Minto, Yukon baz=291	77.24	28	P		P	04 17 57.1	+0.4
MAYO	Mayo, Yukon baz=291	77.26	26	P		P	04 17 57.7	+0.9
N30M	Aishikik Lake baz=291	77.50	29	P		P	04 17 59.2	+0.9
HYT	Haines Junctio comp=Z,11nm,1.3s	77.54	29	IAmb		IAmb	04 18 16.1	
HYT	Haines Junctio baz=290	77.54	29	P		P	04 17 59.1	+0.6
P29M	Windy Craggy baz=290	77.84	31	P		P	04 18 00.6	+0.5
P30M	Million Dollar baz=291	78.04	30	P		P	04 18 02.4	+1.1
N31M	Braeburn, Yuko baz=292	78.08	28	P		P	04 18 02.6	+1.2
O30N	Mendenhall baz=292	78.20	29	P		P	04 18 03.0	+0.8
M31M	Drury Creek, Y baz=293	78.42	28	P		P	04 18 03.8	+0.5
BURAR	Bucovina Array	78.50	317	P		P	04 18 03.6	-0.5
BUR08	Bucovina Ar. S comp=Z,23nm,2.0s	78.50	317	IAmb		IAmb	04 18 07.3	
PLBC	Pleasant Camp baz=292	78.56	31	P		P	04 18 04.6	+0.5
WHY	Whitehorse comp=Z,20nm,1.3s	78.80	29	IAmb		IAmb	04 18 22.9	
WHY	Whitehorse baz=293,SNR=5.0	78.80	29	P		P	04 18 06.0	+0.5
SKAG	Skagway baz=292	79.05	30	P		P	04 18 07.8	+1.1
S31K	Pelican baz=292	79.18	32	P		P	04 18 07.9	+0.4
N32M	Quiet Lake baz=294	79.41	28	P		P	04 18 09.5	+0.7
MMPY	Sheldon Lake, baz=295	79.58	27	P		P	04 18 10.6	+0.9
P32M	Atlin baz=294	79.75	30	P		P	04 18 11.0	+0.3
R32K	Eaglecrest baz=293	79.90	31	P		P	04 18 12.2	+0.8
P33M	Teslin, Yukon baz=294	79.91	29	P		P	04 18 12.4	+0.8
SIT	Sitka baz=293	79.98	33	P		P	04 18 12.8	+1.0
HFS	Hagfors comp=Z,1.3nm,0.8s,baz=101,slow=7.7,SNR=10 comp=Z,1.3nm,0.8s	80.27	331	P		P	04 18 13.9	+0.6
Q32M	Nakina River baz=295	80.69	30	P		P	04 18 16.8	+0.9
NIE	Niedzica	80.97	319	*e*P		P	04 18 16.9	-0.4
NB2	NORSAR Subarra comp=Z,0.3nm,0.4s,baz=56,slow=6.2	80.97	332	P		P	04 18 24.5	+7.3
NOA	NORSAR Array B comp=Z,0.7nm,0.8s,baz=74,slow=5.9,SNR=4.8 comp=Z,0.7nm,0.8s	80.97	332	P		P	04 18 18.2	+1.0
OJC	Ojcow	80.97	320	*e*P		P	04 18 18.6	+1.2
OJC	Ojcow	80.97	320	P		P	04 18 18.1	+0.7
R33M	Jennings River baz=296	81.11	29	P		P	04 18 19.1	+1.0
TGTN	Hyland Airport baz=298	81.33	27	P		P	04 18 20.2	+1.1
U33K	Whale Pass baz=295	81.47	33	P		P	04 18 20.8	+1.0
S34M	Telegraph Cree baz=296	81.68	31	P		P	04 18 21.5	+0.6
WRAK	Wrangell Islan baz=295	81.73	33	P		P	04 18 21.5	+0.3
CRAG	Craig baz=295	81.74	34	P		P	04 18 21.8	+0.5
WTLY	Watson Lake, Y baz=298	81.76	28	P		P	04 18 22.4	+1.0
DLBC	Dease Lake baz=297	81.97	30	P		P	04 18 22.9	+0.4
VYHS	Vyhne	82.21	319	*e*P		P	04 18 25.6	+1.7
MORC	Moravsky Berou	82.49	320	*e*P		P	04 18 26.5	+1.1
JAVC	Velka Javorina	82.78	320	*e*P		P	04 18 29.5	+2.5
KSP	Ksiaz	82.79	322	*e*P		P	04 18 28.1	+1.2
VRAC	Vranov	83.24	320	*e*P		P	04 18 30.6	+1.3
TOAD	Toad River Com baz=301	83.97	29	P		P	04 18 33.6	+0.7
BRG	Berggiesshubel	84.13	322	*e*P		P	04 18 34.9	+1.1
BRG	comp=Z,3.0nm,1.0s			Amp			04 18 35.9	
CLL	Collm comp=Z,9.0nm,1.4s	84.47	323	*i* P		P	04 18 36.3	+0.8
CLL	comp=Z,11nm,1.4s			*i* x		x	04 18 55.4	
CLL				*e*SKSac		SKSac	04 28 57.0	-0.2
CLL				*e*S		ScS	04 29 10.0	-1.5
CLL	comp=Z,200nm,18.4s			AMS		AMS	05 03 00.0	
GERES	GERESS Array B	85.16	321	P		P	04 18 39.9	+0.7
GERES	GERESS Array B comp=Z,1.3nm,0.7s,baz=64,slow=3.1,SNR=16 comp=Z,1.3nm,0.7s	85.16	321	P		P	04 18 39.2	0.0
FDMO	Fiordimonte	88.15	316	P		P	04 18 55.4	+1.6
LLLB	Lillooet	90.03	34	P		P	04 19 04.2	+1.7
TROLL	Troll, Antarti comp=Z,176nm,0.8s	118.31	198	⇑P		PKiKP	04 24 50.4	+0.9
VNA1	Neumayer--Stat comp=Z,4.2nm,0.9s	122.03	198	⇑P		PKiKP	04 24 57.1	+0.5
VNA3	Neumayer Olymp comp=Z,3.6nm,0.8s	122.11	197	⇑P		PKPdf	04 24 54.6	-2.0
SOCE	Pocosol	140.14	41	PKPdf		PKPdf	04 25 31.9	-0.5
RUSC	La Rusia	150.12	29	PKPbc		PKPbc	04 25 54.1	-1.0

BJI ***22*** *04:08:11.3,3.˚90S×131.˚48E,h28km,mB5.3/13,mb4.7/56, Ms4.7/29,Ms7 4.6/31*

IDC ***22*** *04:08:12.6±0.5,3.˚36S×131.˚03E,h0km,mb4.7/18, mbtmp4.7/21,ML4.5/3,MS4.3/27,Error ellipse: s-maj=21.7km s-min=11.8km az=81.0*

MOS ***22*** *04:08:13.2±1.1,3.˚36S×131.˚01E,h12km,mb5.2/38,Error ellipse: s-maj=11.1km s-min=6.0km az=115.2*

DJA ***22*** *04:08:15.3±0.4,3.˚S±2.˚×13.˚1E±.˚,h12km±3km,M5.1/58, mb5.3/58,mB5.6/21,MLv5.2/17,Mw(mB)5.1/21, MwMwp4.9/6,Mwp5.2/6*

GCMT ***22*** *04:08:17.2±0.2,3.˚32S±0.˚01×130.˚90E±0.˚01,h15km, MW5.2/112,Moment Tensor Solution. s80,c103; s112,c185; Duration: 0 Moment tensor: Scale 1016Nm; Mrr0.45±.12; Mθθ-4.39±.09; Mφφ3.94±.11; Mrθ-5.23±.32; Mθφ2.84±.09; Mφr2.89±.34; Best double couple: M07.26100×1016 NP1:φs54.00000°,δ43.00000°, λ-2.00000°. NP2:φs145.00000°,δ89.00000°, λ-133.00000°. Principal axes: T 5.5720, Plg30.0000°, Azm269.0000°; N 3.3740, Plg43.0000°, Azm146.0000°; P -8.9500, Plg32.0000°, Azm20.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***22*** *04:08:17.2±1.7,3.˚39S±0.˚06×131.˚02E±0.˚05,h26km±4km, mb5.1/131 Error ellipse: s-maj=9.2km s-min=7.3km az=156.0*

ISC 22 04:08:17.1±0.3,**3.˚50S**±0.˚04×**131.˚04E**±0.˚04,**h30**km,**n362,** σ1.9**63**/323,**mb5.0**/132,**MS4.4**/45,**14C-15D,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.34	64	P	Pn	04 08 39.7	-0.1
FAKI				Sn	Sb	04 08 56.6	-1.7
FAKI	Fak Fak	1.34	64	P	Pb	04 08 40.0	-1.6
FAKI	Fak Fak	1.34	64	P	Pn	04 08 39.6	-0.1
BNDI	Bandanaira	1.52	228	P	Pn	04 08 43.7	+1.5
BNDI	Bandanaira	1.52	228	P	Pn	04 08 43.9	+1.7
MSAI	Masohi	2.11	274	P	Pn	04 08 50.4	0.0
SWI	Sorong	2.63	5	P	Pn	04 08 54.2	-3.3
KMPI	Kaimana, Papua	2.67	93	P	Pn	04 08 58.9	+0.9
AAI	Ambon	2.84	266	P	Pn	04 09 00.7	+0.2
RKPI	Ransiki, Papua	3.71	58	P	Pn	04 09 11.8	-0.5
NLAI	Namlea	3.94	274	P	Pn	04 09 15.5	0.0
SAUI	Saumlaki	4.46	177	Pn	Pn	04 09 24.6	+1.9

SAUI	Saumlaki	4.46	177	P		Pn	04 09 25.4	+2.7	
SANI	Sanana	5.25	286	P		Pn	04 09 31.3	-2.3	
SANI	Sanana	5.25	286	P		Pn	04 09 31.2	-2.3	
	1.7nm4µm269nm,0.7s								
SRPI	Serui, Papua	5.44	73	P		Pn	04 09 35.8	-0.4	
	5.4nm4µm7µm264nm,0.5s								
BAKI	Biak	5.56	66	P		Pn	04 09 38.7	+0.9	
TNTI	Ternate	5.61	319	Pn		Pn	04 09 37.1	-1.4	
TNTI	Ternate	5.61	319	P		Pn	04 09 36.5	-2.0	
SMPI	Sarmi	7.81	79	P		Pn	04 10 10.6	+1.9	
	0.5nm129nm,0.9s								
DRS	Darwin Rock St	8.87	181	P		Pn	04 10 23.7	+0.4	
DRS	Darwin Rock St	8.87	181	S		Sn	04 12 02.1	-0.3	
SGSI	Sangihe	9.02	322	P		Pn	04 10 23.8	-1.5	
	263nm,0.8s								
SOEI	Soe	9.15	227	Pn		Pn	04 10 29.9	+2.5	
GENI	Genyem	9.16	85	P		Pn	04 10 28.4	+1.1	
	3µm239nm,1.2s								
KDU	Kakadu	9.24	171	P		Pn	04 10 27.4	-0.9	
	comp=Z,172nm,0.5s								
KDU	Kakadu	9.24	171	P		Pn	04 10 28.1	-0.2	
MTN	Manton Dam	9.28	179	Pn		Pn	04 10 29.0	0.0	
MTN	Manton Dam	9.28	179	P		Pn	04 10 28.5	-0.5	
	comp=Z,369nm,0.5s								
MTN	Manton Dam	9.28	179	P		Pn	04 10 29.2	+0.2	
JAY	Jayapura	9.70	84	Pn		Pn	04 10 35.1	+0.3	
	comp=Z,1.8nm,0.3s,baz=262,slow=7.2,SNR=7.5								
	comp=Z,34nm,0.8s								
JAY	Jayapura	9.70	84	P		Pn	04 10 35.6	+0.8	
APSI	Ampana	9.73	285	P		Pn	04 10 34.0	-1.1	
	comp=Z,3µmcomp=Z,282nm,0.9s								
BATI	Baumata	9.90	227	Pn		Pn	04 10 38.7	+1.3	
	comp=Z,19nm,0.3s,baz=101,slow=2.0,SNR=30								
	comp=Z,220nm,0.8s								
BATI	Baumata	9.90	227	P		Pn	04 10 39.6	+2.2	
	comp=Z,6µmcomp=Z,337nm,1.1s								
MRSI	Marisa	9.91	293	P		Pn	04 10 37.1	-0.5	
	comp=Z,2µmcomp=Z,112nm,1.1s								
MMRI	Maumere	10.13	239	Pn		Pn	04 10 40.5	0.0	
MMRI	Maumere	10.13	239	P		Pn	04 10 40.6	0.0	
	comp=Z,4µmcomp=Z,5µmcomp=Z,154nm,1.0s								
BSSI	Bau Bau, Buton	10.83	256	P		Pn	04 10 53.3	+3.1	
	comp=Z,4µmcomp=Z,194nm,0.9s								
BNSI	Bone	10.94	265	P		Pn	04 10 54.6	+2.9	
	comp=Z,1µmcomp=Z,120nm,1.0s								
BKSI	Bulukumba	11.03	260	P		Pn	04 10 55.6	+2.6	
	comp=Z,2µmcomp=Z,163nm,1.0s								
TTSI	Tana Toraja	11.21	272	P		Pn	04 10 56.7	+1.3	
	comp=Z,44nm,0.8s								
TOLI2	Tolitoli	11.23	294	Pn		Pn	04 10 55.3	-0.4	
TOLI2	Tolitoli	11.23	294	P		Pn	04 10 56.7	+1.0	
SPSI	Sidrap Palu	11.26	267	P		Pn	04 10 57.5	+1.5	
	comp=Z,2µmcomp=Z,75nm,0.8s								
KAPI	Kappang	11.36	262	Pn		Pn	04 10 58.2	+0.8	
KAPI	Kappang	11.36	262	Pn		Pn	04 10 56.6	-0.8	
	comp=Z,1.6nm,0.3s,baz=120,slow=8.1,SNR=6.9								
	comp=Z,17nm,0.8s								
KAPI	Kappang	11.36	262	P		Pn	04 10 58.2	+0.8	
PCI	Palu	11.49	283	P		Pn	04 10 57.4	-1.8	
	comp=Z,5µmcomp=Z,212nm,1.0s								
WSI	Waingapu	12.30	240	P		Pn	04 11 12.6	+2.3	
KNRA	Kununurra	12.30	190	Pn		Pn	04 11 08.0	-2.4	
KNRA	Kununurra	12.30	190	P		Pn	04 11 07.2	-3.1	
WBSI	Waikabubak, Su	13.08	242	P		Pn	04 11 22.8	+1.8	
	comp=Z,93nm,1.0s								
PLAI	Plampang	14.20	248	P		Pn	04 11 37.0	+0.7	
PLAI	Plampang	14.20	248	P		Pn	04 11 36.7	+0.4	
	comp=Z,205nm,1.1s								
TWSI	Taliwang, Sumb	15.00	249	P		Pn	04 11 48.4	+1.2	
	comp=Z,122nm,0.8s								
MYLDM	Lahad Datu	15.21	304	Pn		Pn	04 11 47.8	-2.1	
MYLDM	Lahad Datu	15.21	304	P		Pn	04 11 50.3	+0.4	
FITZ	Fitzroy Crossi	15.44	200	Pn		Pn	04 11 51.9	-1.0	
FITZ	Fitzroy Crossi	15.44	200	Pn		Pn	04 11 48.9	-4.0	
	comp=Z,2.6nm,0.3s,baz=31,slow=8.9,SNR=53								
FITZ				Sn		Sn	04 14 35.0	-8.1	
	comp=Z,1.4nm,0.3s,baz=90,slow=13,SNR=2.4								
FITZ				LR		LR	04 19 07.1		
	comp=Z,3µm,19.6s,baz=19,slow=42								
COEN	Coen	15.86	132	Pn		Pn	04 11 56.7	-1.6	
COEN				IAmb		IAmb	04 12 04.3		
	comp=Z,56nm,0.5s								
COEN	Coen	15.86	132	P		Pn	04 11 56.7	-1.6	
	comp=Z,87nm,0.6s								
SRBI	Singaraja	16.39	253	P		Pn	04 12 04.7	-0.4	
	comp=Z,107nm,0.9s								
WB0	Warramunga Arr	16.50	169	Pn		Pn	04 12 01.8	-4.6	
WRAB	Tennant Creek	16.65	169	Pn		Pn	04 12 03.9	-4.5	
WRAB	Tennant Creek	16.65	169	P		Pn	04 12 03.9	-4.5	
WRAB				pmax		pmax			
	comp=Z,49nm,0.9s								
WRA	Warramunga Arr	16.66	169	Pn		Pn	04 12 03.8	-4.7	
WRA	Warramunga Arr	16.66	169	Pn		Pn	04 12 03.5	-5.0	
	comp=Z,1.7nm,0.3s,baz=347,slow=13,SNR=46								
WRA				Sn		Sn	04 15 04.6	-8.0	
	comp=Z,3.0nm,0.3s,baz=356,slow=22,SNR=5.4								
WRA	Warramunga Arr	16.66	169	P		Pn	04 12 03.8	-4.7	
WRA				pmax		pmax			
	comp=Z,3.0nm,1.1s								
WR8	Warramunga Arr	16.70	169	Pn		Pn	04 12 04.0	-5.0	
ABJI	Asem Bagus	17.25	255	P		P	04 12 18.1	+0.8	
	comp=Z,136nm,0.9s								
KMMI	Kalianget	17.36	258	P		P	04 12 19.6	+1.2	
	comp=Z,120nm,0.7s								
JAGI	Jajag, Banyuwa	17.50	253	Pn		Pn	04 12 17.5	-1.5	
JAGI	Jajag, Banyuwa	17.50	253	P		Pn	04 12 18.0	-1.1	
JAGI	Jajag, Banyuwa	17.50	253	P		Pn	04 12 17.2	-1.9	
	comp=Z,74nm,0.8s								
KKM	Kota Kinabalu	17.58	303			P	04 12 19.7	-1.3	
KKM				IAmb		IAmb	04 12 24.8		
	comp=Z,247nm,1.8s								
GRJI	Gresik	18.79	259	P		Pn	04 12 34.9	+0.1	
	comp=Z,282nm,0.9s								
QIS	Mount Isa	18.90	154	P		P	04 12 34.3	-1.0	
	comp=Z,126nm,0.8s								
QIS	Mount Isa	18.90	154	P		P	04 12 34.9	-0.5	
TBJI	Tambak Boyo	19.39	259	P		Pn	04 12 41.5	-0.6	
	comp=Z,384nm,1.1s								
MTSU	Mount Surprise	19.51	139	P		Pn	04 12 44.0	+0.5	
MTSU	Mount Surprise	19.51	139	P		Pn	04 12 44.8	+1.3	
	comp=Z,70nm,0.6s								
SBUM	Sibu	19.72	287	P		Pn	04 12 45.0	-0.9	
SBUM	Sibu	19.72	287	P		Pn	04 12 45.7	-0.3	
NGJI	Ngawi	19.86	258	P		Pn	04 12 48.6	+0.9	
	comp=Z,144nm,1.2s								
STKI	Sintang	19.87	280	P		Pn	04 12 47.0	-0.8	
	comp=Z,118nm,0.7s								
TGY	Tagaytay City	20.16	330	LR		LR	04 22 51.8		
	comp=Z,885nm,19.3s,baz=133,slow=44								
AS31	Alice Springs	20.24	172	P		P	04 12 51.2	+1.2	
AS31				IAmb		IAmb	04 13 03.9		
	comp=Z,50nm,0.6s								
ASAR	Alice Springs	20.24	172			P	04 12 50.3	+0.3	
ASAR	Alice Springs	20.24	172	P		P	04 12 51.4	+1.4	
	comp=Z,86nm,0.6s,baz=350,slow=10,SNR=513								
ASAR				S		S	04 16 31.4	-4.3	
	comp=Z,4.1nm,0.6s,baz=348,slow=29,SNR=4.4								
	comp=Z,86nm,0.6s								
AS01	Alice Springs	20.24	172	P		P	04 12 51.2	+1.1	
PCJI	Pacitan	20.30	256	P		P	04 12 51.4	+0.7	
	comp=Z,105nm,0.9s								
MBWA	Marble Bar	20.71	211	P		P	04 12 54.2	-1.0	
MBWA				IAmb		IAmb	04 12 56.1		
	comp=Z,42nm,0.8s								
SMRI	Semarang	20.81	259	P		P	04 12 54.6	-1.7	
SMRI				IAmb		IAmb	04 12 56.6		
	comp=Z,78nm,0.8s								
SMRI	Semarang	20.81	259	P		P	04 12 55.6	-0.7	
	comp=Z,124nm,0.8s								
PSA00	Pilbara Seismi	21.00	210	P		P	04 12 57.2	-1.0	
PSA00				IAmb		IAmb	04 12 58.9		
	comp=Z,74nm,0.7s								
PSA00	Pilbara Seismi	21.00	210	P		P	04 12 55.2	-3.0	
PSA00	Pilbara Seismi	21.00	210	P		P	04 12 57.0	-1.2	
RABL	Rabaul	21.09	93	P		P	04 13 02.1	+2.8	
KSM	Kuching	21.30	283	P		P	04 13 00.8	-0.8	
WRKA	Warakurna	21.57	187	P		P	04 13 03.5	-0.9	
	comp=Z,110nm,0.7s								
TV1H	Townsville Har	21.96	137	P		P	04 13 09.5	+0.9	
TPI	Tanjungpandan	23.36	271	P		P	04 13 24.0	+0.7	
BBJI	Bungbulang	23.61	259	P		P	04 13 23.6	-2.2	
PPBI	Pangkal Pinang	24.91	272	P		P	04 13 39.2	+1.5	
MEEK	Meekatharra	25.90	206	P		P	04 13 47.4	+0.8	
	comp=Z,36nm,1.4s								
MDSI	Maura Dua	26.81	267	P		P	04 13 54.7	-0.3	
TPRI	Tanjung Pinang	26.86	279	P		P	04 13 58.4	+3.0	

	comp=Z,100nm,0.7s								
FORT	Forrest	27.28	186	P		P	04 13 59.5	+0.5	
FORT				IAmb		IAmb	04 14 08.8		
	comp=Z,44nm,0.8s								
LHSI	Lahat	27.46	268	P		P	04 14 02.3	+1.5	
	comp=Z,59nm,0.9s								
MORW	Morawa	29.15	208	P		P	04 14 15.2	-0.5	
MORW	Morawa	29.15	208	P		P	04 14 15.3	-0.4	
	comp=Z,29nm,1.5s								
BBOO	Buckleboo	29.53	171	P		P	04 14 19.6	+0.6	
BBOO	Buckleboo	29.53	171	P		P	04 14 20.2	+1.1	
	comp=Z,49nm,1.1s								
STKA	Stephens Creek	29.92	162	P		P	04 14 23.8	+1.3	
STKA	Stephens Creek	29.92	162	P		P	04 14 23.5	+1.0	
	comp=Z,18nm,0.6s,baz=336,slow=9.0,SNR=29								
	comp=Z,18nm,0.6s								
STKA	Stephens Creek	29.92	162	P		P	04 14 23.7	+1.2	
	comp=Z,8.6nm,1.3s								
STKA	Stephens Creek	29.92	162	P		P	04 14 23.8	+1.3	
STKA				pmax		pmax			
	comp=Z,145nm,1.1s								
BLDU	Ballidu	30.18	205	P		P	04 14 25.6	+0.8	
	comp=Z,50nm,2.3s								
JOW	Kunigami	30.27	355	LR		LR	04 27 41.9		
	comp=Z,330nm,19.2s,baz=150,slow=39								
QIZ	Qiongzhong	30.60	318	P		P	04 14 29.4	+0.8	
QIZ				S		S	04 19 31.8	+2.7	
QIZ				LR		LR			
	comp=Z,180nm,14.9s								
QIZ				LR		LR			
	comp=Z,260nm,13.3s								
QIZ				LR		LR			
	comp=Z,570nm,18.6s								
KLBR	Kellerberrin	30.61	203	P		P	04 14 28.0	-0.6	
	comp=Z,96nm,0.7s								
HTT	Hallett	30.67	167	P		P	04 14 30.9	+1.7	
PPI	Padang Panjang	30.77	275	P		P	04 14 29.9	-0.3	
IPM	Ipoh	31.02	285	P		P	04 14 32.4	0.0	
IPM				IAmb		IAmb	04 14 53.6		
	comp=Z,33nm,0.8s								
CMSA	Cobar Meteorol	31.11	155	P		P	04 14 34.9	+1.9	
MUN	Mundaring	31.57	205	P		P	04 14 37.8	+0.7	
	comp=Z,35nm,1.6s								
KULM	Kulim	31.59	286	P		P	04 14 37.1	-0.4	
KULM				IAmb		IAmb	04 14 51.0		
	comp=Z,14nm,0.7s								
RPSI	Rantau Prapat	32.68	280	IAmb		IAmb	04 14 58.9		
	comp=Z,26nm,0.9s								
PSI	Prapat	32.70	281	LR		LR	04 31 55.1		
	comp=Z,968nm,18.1s,baz=145,slow=44								
ARMA	Armidale	33.10	146	P		P	04 14 52.4	+1.7	
ARMA				IAmb		IAmb	04 14 54.6		
	comp=Z,19nm,0.8s								
ARMA	Armidale	33.10	146	P		P	04 14 53.3	+2.7	
	comp=Z,31nm,0.8s								
GSI	Gunungsitoli	33.79	278	P		P	04 14 55.7	-1.0	
	comp=Z,55nm,0.9s								
CAN	Canberra	35.77	154	P		P	04 15 15.9	+2.3	
CAN	Canberra	35.77	154	P		P	04 15 16.1	+2.5	
CAN	Canberra	35.77	154	P		P	04 15 15.9	+2.3	
CAN				pmax		pmax			
	comp=Z,64nm,0.9s								
TOO	Toolangi	36.40	160	P		P	04 15 21.4	+2.4	
TOO	Toolangi	36.40	160	P		P	04 15 21.4	+2.4	
TOO				pmax		pmax			
	comp=Z,12nm,0.9s								
JNU	Nakatsue	36.42	360	LR		LR	04 32 02.0		
	comp=Z,602nm,18.4s,baz=172,slow=39								
NJ2	Nanjing	37.21	343	*e*P		P	04 15 27.9	+2.1	
NJ2				pmax		pmax			
	comp=Z,9.0nm,0.5s								
NJ2				LR		LR			
	comp=Z,460nm,24.6s								
NJ2				LR		LR			
	comp=Z,500nm,23.5s								
NJ2				LR		LR			
	comp=Z,600nm,23.7s								
WHN	Wuhan	37.42	336	⇑P		P	04 15 29.8	+2.2	
WHN				pmax		pmax			
	comp=Z,52nm,0.8s								
WHN				LR		LR			
	comp=Z,3µm,28.5s								
GYA	Guiyang	37.99	323	⇓P		P	04 15 34.9	+2.2	
GYA				pmax		pmax			
	comp=Z,16nm,0.9s								
CM31	Chiang Mai Arr	38.41	306	P		P	04 15 36.0	-0.3	
CM31				IAmb		IAmb	04 15 54.5		
	comp=Z,39nm,1.1s								
CMAR	Chiang Mai Arr	38.41	306	P		P	04 15 35.9	-0.3	
CMAR	Chiang Mai Arr	38.41	306	P		P	04 15 36.4	+0.1	
	comp=Z,4.6nm,0.7s,baz=135,slow=6.9,SNR=18								
	comp=Z,4.6nm,0.7s								
CHTO	Chiang Mai	38.60	306	P		P	04 15 36.5	-1.3	
CHTO				IAmb		IAmb	04 15 55.8		
	comp=Z,42nm,1.1s								
CHTO	Chiang Mai	38.60	306	P		P	04 15 36.5	-1.3	
CHTO				pmax		pmax			
	comp=Z,43nm,1.1s								
DZM	Mont Dzumac	38.98	121	P		P	04 15 40.7	-0.4	
DZM				IAmb		IAmb	04 15 45.4		
	comp=Z,48nm,1.5s								
DZM	Mont Dzumac	38.98	121	*e*P		P	04 15 42.2	+1.1	
	comp=Z,59nm,1.4s								
DZM				*e*S		S	04 21 36.6	-1.8	
	comp=Z,173nm,39.0s								
DZM				*e*SS		SS	04 24 28.1	-2.9	
	comp=Z,542nm,27.4s								
DZM				*e*LR		LR	04 26 19.8		
	comp=Z,2µm,25.8s								
KMI	Kunming	39.55	318	P		P	04 15 48.3	+2.4	
KMI				sP		sP	04 16 01.9	+3.6	
KMI				pmax		pmax			
	comp=Z,16nm,1.2s								
KMI				LR		LR			
	comp=Z,270nm,17.2s								
KMI				LR		LR			
	comp=Z,340nm,14.3s								
KMI				LR		LR			
	comp=Z,540nm,22.9s								
TJN	Taejon	39.82	355	⇓*e*P		P	04 15 47.2	-0.5	
MJAR	Matsushiro Arr	40.40	9	P		P	04 15 50.5	-2.0	
	comp=Z,2.8nm,0.5s,baz=190,slow=8.5,SNR=7.5								
	comp=Z,2.8nm,0.5s								
MAJO	Matsushiro	40.40	9	P		P	04 15 49.7	-2.8	
MAJO	Matsushiro	40.40	9	⇓*e*P		P	04 15 51.5	-1.0	
MAJO				pmax		pmax			
	comp=Z,31nm,2.5s								
MJB9	Matsu-Tunnel	40.40	9	P		P	04 15 50.2	-2.4	
KSAR	Wonju Array Be	40.84	356	P		P	04 15 54.3	-1.8	
KSAR	Wonju Array Be	40.84	356	P		P	04 15 54.3	-1.8	
KSRS	Korea Array	40.85	356	P		P	04 15 54.2	-1.9	
	comp=Z,2.9nm,0.6s,baz=177,slow=9.3,SNR=11								
	comp=Z,2.9nm,0.6s								
KS19	Wonju Array Si	40.90	356	P		P	04 15 55.8	-0.9	
KS19				IAmb		IAmb	04 16 59.3		
	comp=Z,80nm,1.9s								
PZH	PanZhiHua	41.14	318	P		P	04 16 01.5	+2.5	
PZH				pmax		pmax			
	comp=Z,10.0nm,1.0s								
TIA	Tai'an	41.59	343	P		P	04 16 03.0	+0.6	
TIA				pmax		pmax			
	comp=Z,7.0nm,0.7s								
XAN	Xi'an	42.77	333	⇑P		P	04 16 12.4	+0.3	
XAN				pmax		pmax			
	comp=Z,24nm,1.5s								
XAN				LR		LR			
	comp=Z,590nm,23.8s								
XAN				LR		LR			
	comp=Z,630nm,23.7s								
XAN				LR		LR			
	comp=Z,740nm,22.1s								
CD2	Chengdu	42.99	325	P		P	04 16 16.3	+2.4	
CD2				sP		sP	04 16 28.6	+2.3	
CD2				pmax		pmax			
	comp=Z,20nm,1.3s								
DL2	Dalian	43.08	349	P		P	04 16 14.4	0.0	
DL2				S		S	04 22 40.6	+2.0	
DL2				pmax		pmax			
	comp=Z,35nm,1.0s								
DL2				pmax		pmax			
	comp=Z,2µm,12.0s								
DL2				LR		LR			
	comp=Z,430nm,20.5s								
DL2				LR		LR			
	comp=Z,940nm,19.1s								
DL2				LR		LR			

	comp=Z,830nm,20.4s								
HNS	HongShan	43.44	341	⇑P		P	04 16 18.5	+1.2	
HNS				S		S	04 22 44.8	+1.0	
HNS				pmax		pmax			
	comp=Z,10.0nm,1.4s								
HNS				LR		LR			
	comp=Z,340nm,24.3s								
HNS				LR		LR			
	comp=Z,510nm,21.6s								
HNS				LR		LR			
	comp=Z,470nm,20.7s								
BJT	Baijiatuau	45.41	344	P		P	04 16 31.7	-1.4	
BJT				IAmb		IAmb	04 17 11.5		
	comp=Z,17nm,1.0s								
BJT	Baijiatuau	45.41	344	P		P	04 16 31.7	-1.4	
BJT				pmax		pmax			
	comp=Z,17nm,1.0s								
LZH	Lanzhou	46.88	330	*e*P		P	04 16 45.8	+0.9	
LZH				pP		sP	04 16 54.3	-3.1	
LZH				sP		pP	04 16 59.8	+6.0	
LZH				LR		LR			
	comp=Z,560nm,20.3s								
LZH				LR		LR			
	comp=Z,530nm,20.4s								
LZH				LR		LR			
	comp=Z,840nm,21.2s								
CN2	Changchun	47.36	354	*e*P		P	04 16 50.6	+2.3	
CN2				pmax		pmax			
	comp=Z,10.0nm,0.7s								
USA0B	Ussuriysk Arra	47.49	1	P		P	04 16 48.0	-1.3	
USA0B	Ussuriysk Arra	47.49	1	P		P	04 16 48.0	-1.3	
USA0B				pmax		pmax			
	comp=Z,81nm,1.9s								
USRK	Ussuriysk Ar.	47.49	1	P		P	04 16 48.7	-0.6	
USRK	Ussuriysk Ar.	47.49	1	P		P	04 16 48.2	-1.2	
	comp=Z,2.9nm,0.6s,baz=180,slow=7.9,SNR=8.3								
	comp=Z,2.9nm,0.6s								
HHC	Hu-ho-hao-te	47.60	340	*e*P		P	04 16 50.8	+0.4	
HHC				pmax		pmax			
	comp=Z,12nm,0.6s								
HHC				pmax		pmax			
	comp=Z,72nm,4.1s								
HHC				LR		LR			
	comp=Z,250nm,20.6s								
HHC				LR		LR			
	comp=Z,420nm,20.6s								
HHC				LR		LR			
	comp=Z,700nm,21.4s								
SHL	Shillong	47.70	310	P		P	04 16 49.1	-2.4	
SHL				IAmb		IAmb	04 17 07.0		
	comp=Z,25nm,1.0s								
SHL	Shillong	47.70	310	P		P	04 16 49.1	-2.4	
SHL				pmax		pmax			
	comp=Z,25nm,1.0s								
BTO	Baotou	47.93	338	*e*P		P	04 16 56.6	+3.7	
BTO				pP		pP	04 17 01.1	-0.8	
BTO				sP		sP	04 17 04.4	-1.0	
BTO				PP		PP	04 18 48.9	+3.7	
BTO				pmax		pmax			
	comp=Z,19nm,0.5s								
BTO				pmax		pmax			
	comp=Z,550nm,5.8s								
BTO				LR		LR			
	comp=Z,470nm,10.4s								
BTO				LR		LR			
	comp=Z,940nm,16.6s								
BTO				LR		LR			
	comp=Z,770nm,21.0s								
ASAJ	Asahikawa	48.53	11	LR		LR	04 37 02.1		
	comp=Z,295nm,21.5s,baz=215,slow=36								
XLT	XiLinHaoTe	49.07	346	*e*P		P	04 17 01.9	+0.3	
XLT				sP		sP	04 17 14.3	+0.3	
XLT				S		S	04 24 01.3	-3.3	
XLT				pmax		pmax			
	comp=Z,14nm,1.4s								
XLT				pmax		pmax			
	comp=Z,250nm,6.4s								
XLT				LR		LR			
	comp=Z,480nm,21.7s								
XLT				LR		LR			
	comp=Z,560nm,19.6s								
BNX	BinXian	49.13	357	⇑P		P	04 17 02.8	+0.8	
BNX				PcP		PcP	04 18 25.6	+0.5	
BNX				pmax		pmax			
	comp=Z,7.0nm,1.3s								
BNX				pmax		pmax			
	comp=Z,130nm,3.5s								
BNX				LR		LR			
	comp=Z,460nm,20.6s								
BNX				LR		LR			
	comp=Z,330nm,20.6s								
BNX				LR		LR			
	comp=Z,560nm,19.5s								
YSS	Yuzhno-Sakhali	51.29	10	⇓*e*P		P	04 17 20.0	+1.7	
YSS				pmax		pmax			
	comp=Z,23nm,1.5s								
PALK	Pallekele	51.36	282	LR		LR	04 41 10.2		
	comp=Z,476nm,19.9s,baz=103,slow=38								
DCZ	Deep Cove	52.37	148	P		P	04 17 27.7	+1.3	
DCZ				IAmb		IAmb	04 18 58.8		
	comp=Z,40nm,1.4s								
MLZ	Mavora Lakes	52.81	148	P		P	04 17 31.5	+1.7	
HEH	HeiHe	53.63	357	*e*P		P	04 17 35.1	-0.5	
HEH				pmax		pmax			
	comp=Z,29nm,1.4s								
HEH				LR		LR			
	comp=Z,290nm,22.0s								
HEH				LR		LR			
	comp=Z,290nm,21.3s								
HEH				LR		LR			
	comp=Z,630nm,21.5s								
TUWZ	Tuamarina	53.86	141	P		P	04 17 37.7	+0.2	
URZ	Urewera	54.37	136	LR		LR	04 42 13.7		
	comp=Z,242nm,20.0s,baz=310,slow=38								
BKZ	Black Stump Fm	54.37	137	P		P	04 17 42.1	+0.8	
RAO	Raoul Island	54.70	124	LR		LR	04 41 50.9		
	comp=Z,244nm,18.4s,baz=154,slow=37								
TYV	Tymovskoe	55.06	9	*e*P		P	04 17 51.3	+5.3	
TYV				pmax		pmax			
	com

YAK *e* 04 21 18.2
YAK *e*PPP PPP 04 22 50.5
YAK *e*S **S** **04 27 38.1 -0.1**
YAK *e* 04 28 50.2
YAK *e*SS **SS** **04 31 51.3 -0.5**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=Z,10.0nm,0.5s
YAK pmax pmax
comp=N,29nm,2.0s
YAK pmax pmax
comp=E,19nm,2.1s
YAK smax smax
comp=N,57nm,2.5s
YAK smax smax
comp=E,55nm,2.5s
MK31 Makanchi Array 65.91 326 ⇑Pg P **04 18 46.2 -14**
comp=E,0.3nm,0.3s,baz=164,slow=17,SNR=39
MK31 ⇑Lg Lg 04 19 20.2
comp=E,6.2nm,0.6s,baz=164,slow=22,SNR=4.3
MK31 Makanchi Array 65.91 326⇑*e*P **P** **04 19 00.2 -0.1**
MKAR Makanchi Array 65.91 326 P **P** **04 18 59.5 -0.8**
MKAR Makanchi Array 65.91 326 P **P** **04 19 00.6 +0.4**
comp=E,3.0nm,0.6s,baz=117,slow=8.7,SNR=17
MKAR LR LR 04 50 37.2
comp=E,148nm,21.5s,baz=112,slow=39
comp=E,3.0nm,0.6s
MAKZ Makanchi 66.10 325 P **P** **04 19 01.0 -0.4**
MAKZ Makanchi 66.10 325 ⇓Pg P 04 18 47.1 -14
comp=E,1.1nm,0.6s
MAKZ ⇑Lg Lg 04 19 21.3
comp=E,2.0nm,0.6s
MAKZ Makanchi 66.10 325 P **P** **04 19 01.0 -0.4**
MAKZ pmax pmax
comp=Z,34nm,1.4s
KSH Kashi 66.19 316 P **P** **04 19 04.6 +2.3**
KSH sP sP 04 19 14.3 -0.8
KSH pmax pmax
comp=Z,6.0nm,1.3s
SATY Saty 66.25 320 *e*P **P** **04 19 03.5 +0.9**
SATY pmax pmax
comp=Z,9.0nm,0.9s
SATY Saty 66.25 320 *e*P **P** **04 19 03.5 +0.9**
comp=Z,8.7nm,0.9s
KDJ Kajisay 66.59 319 P **P** **04 19 05.6 +0.7**
KDJ IAmb IAmb 04 19 23.9
comp=Z,13nm,1.0s
KDJ Kajisay 66.59 319 P **P** **04 19 05.6 +0.7**
KDJ pmax pmax
comp=Z,13nm,1.0s
SHEM Shemya Is, Ala 66.71 27 LR LR 04 45 32.2
comp=Z,124nm,19.7s,baz=226,slow=34
TNSS Tian-Shan 67.17 320 *e*P **P** **04 19 09.3 +0.5**
TNSS Tian-Shan 67.17 320 *e*P **P** **04 19 09.3 +0.5**
TDK Taldyqorghan 67.23 322 *e*P **P** **04 19 09.8 +1.1**
TDK pmax pmax
comp=Z,12nm,1.0s
TDK Taldyqorghan 67.23 322 *e*P **P** **04 19 09.8 +1.1**
comp=Z,12nm,1.0s
AAA Alma-Ata 67.28 320 *e*P **P** **04 19 10.0 +1.0**
AAA Alma-Ata 67.28 320 *e*P **P** **04 19 10.1 +1.0**
BOOM Boomskoye usch 67.57 319 P **P** **04 19 11.8 +0.7**
BOOM IAmb IAmb 04 19 33.1
comp=Z,11nm,1.0s
BOOM Boomskoye usch 67.57 319 P **P** **04 19 11.8 +0.7**
BOOM pmax pmax
comp=Z,11nm,1.0s
KUU Kurty 67.97 320 *e*P **P** **04 19 14.3 +0.9**
KUU pmax pmax
comp=Z,13nm,1.2s
KUU Kurty 67.97 320 *e*P **P** **04 19 14.4 +0.9**
comp=Z,13nm,1.2s
SEY Seymchan 68.20 10*d i*P **P** **04 19 16.5 +2.1**
SEY pmax pmax
comp=Z,27nm,1.2s
AAK Ala-Archa 68.59 319 P **P** **04 19 18.1 +0.6**
AAK IAmb IAmb 04 19 26.5
comp=Z,28nm,1.6s
AAK Ala-Archa 68.59 319 LR LR 04 53 51.7
comp=Z,177nm,19.1s,baz=100,slow=40
AAK Ala-Archa 68.59 319⇓*e*P **P** **04 19 19.4 +1.9**
AAK pmax pmax
comp=Z,16nm,1.6s
ZAA0 Zalesovo Array 68.94 333 P **P** **04 19 18.5 -0.7**
ZAA0 IAmb IAmb 04 19 22.5
comp=Z,27nm,1.4s
ZALV Zalesovo Beam 68.94 333 P **P** **04 19 18.1 -1.1**
ZALV Zalesovo Beam 68.94 333 P **P** **04 19 18.4 -0.8**
comp=Z,3.4nm,0.8s,baz=88,slow=4.9,SNR=14
ZALV LR LR 04 52 00.1
comp=Z,105nm,19.4s,baz=138,slow=38
comp=Z,3.4nm,0.8s
ZALV Zalesovo Beam 68.94 333 *i* P **P** **04 19 19.1 -0.1**
ZALV pmax pmax
comp=Z,8.0nm,1.0s
ARSB Arslanbob 69.03 317 P **P** **04 19 19.6 -0.7**
ARSB IAmb IAmb 04 19 32.6
comp=Z,24nm,1.1s
ARSB Arslanbob 69.03 317 P **P** **04 19 19.6 -0.7**
ARSB pmax pmax
comp=Z,24nm,1.1s
RAR Rarotonga 69.34 111 LR LR 04 49 11.6
comp=Z,75nm,21.4s,baz=260,slow=35
KBL Kabul 69.35 309 P **P** **04 19 23.1 +0.7**
KBL IAmb IAmb 04 19 40.1
comp=Z,21nm,1.2s
KBL Kabul 69.35 309 P **P** **04 19 23.2 +0.7**
KBL pmax pmax
comp=Z,21nm,1.3s
BTLS Baital 69.96 321 *e*P **P** **04 19 26.8 +1.1**
BTLS Baital 69.96 321 *e*P **P** **04 19 26.8 +1.1**
GAR Garm 69.98 314 P **P** **04 19 25.1 -1.0**
KURBB Kurchatov Arra 70.11 327 P **P** **04 19 25.9 -0.6**
comp=Z,7.5nm,1.0s,baz=128,slow=5.7,SNR=30
comp=Z,7.5nm,1.0s
KURK Kurchatov 70.11 328 P **P** **04 19 26.0 -0.5**
KURK Kurchatov 70.11 328*d i*P **P** **04 19 26.8 +0.3**
KURK pmax pmax
comp=Z,25nm,1.3s
DZA Taraz 70.80 318 *e*P **P** **04 19 31.9 +1.0**
DZA pmax pmax
comp=Z,7.0nm,0.6s
DZA Taraz 70.80 318 *e*P **P** **04 19 32.0 +1.0**
comp=Z,7.4nm,0.6s
SIMJ Simiganj 70.81 313 P **P** **04 19 30.6 -0.7**
IUG Iuzhnay 71.38 317 *e*P **P** **04 19 35.5 +0.9**
IUG pmax pmax
comp=Z,7.0nm,0.7s
IUG Iuzhnay 71.38 317 *e*P **P** **04 19 35.5 +0.9**
comp=Z,6.7nm,0.7s
KK31 Karatay Array 71.44 318 P **P** **04 19 34.3 -0.5**
KK31 IAmb IAmb 04 19 38.4
comp=Z,22nm,1.4s
KK31 Karatay Array 71.44 318 P **P** **04 19 34.3 -0.5**
KK31 pmax pmax
comp=Z,22nm,1.5s
KKAR Karatay Array 71.44 318 P **P** **04 19 34.1 -0.7**
KKAR Karatay Array 71.44 318 P **P** **04 19 34.1 -0.7**
CHM Chimkent 71.74 317 *e*P **P** **04 19 37.5 +0.9**
CHM Chimkent 71.74 317 *e*P **P** **04 19 37.6 +0.9**
BRZS Berezniki 73.04 325 *e*P **P** **04 19 45.3 +1.1**
BRZS Berezniki 73.04 325 *e*P **P** **04 19 45.3 +1.1**
TIXI Tiksi 75.03 359 LR LR 04 52 26.8
comp=Z,353nm,21.8s,baz=188,slow=36
TIXI Tiksi 75.03 359⇓*e*P **P** **04 19 57.3 +2.0**
TIXI pmax pmax
comp=Z,21nm,1.0s
BVAR Borovoye Array 75.69 327 P **P** **04 19 58.6 -0.9**
comp=Z,6.8nm,0.9s,baz=122,slow=7.2,SNR=20
comp=Z,6.8nm,0.9s
BRVK Borovoye 75.76 327 P **P** **04 19 59.1 -0.9**
BRVK IAmb IAmb 04 20 03.5
comp=Z,19nm,1.1s
BRVK Borovoye 75.76 327*d i*P **P** **04 20 00.4 +0.5**
BRVK pmax pmax
comp=Z,21nm,1.2s
VNDA Vanda 75.78 173 P **P** **04 19 59.8 +0.2**
VNDA Vanda 75.78 173 P **P** **04 20 00.2 +0.6**
comp=Z,5.2nm,0.8s,baz=313,slow=6.1,SNR=19
VNDA LR LR 04 52 43.5
comp=Z,285nm,20.3s,baz=348,slow=35
comp=Z,5.2nm,0.8s
VNDA Vanda 75.78 173 P **P** **04 19 59.8 +0.2**
VNDA pmax pmax
comp=Z,6.0nm,0.9s
SBA Scott Base 76.65 173 P **P** **04 20 06.5 +1.9**
SBA Scott Base 76.65 173 P **P** **04 20 06.5 +1.9**
SBA pmax pmax
comp=Z,10.0nm,1.1s
UNV Unalaska Valle 77.02 33 P **P** **04 20 07.8 +0.8**
UNV IAmb IAmb 04 20 18.3
comp=Z,34nm,1.4s
AKUT Akutan 77.53 33 P **P** **04 20 10.2 +0.3**
MAW Mawson 78.56 201 P **P** **04 20 16.0 +0.6**
comp=Z,6.5nm,0.6s,baz=83,slow=5.6,SNR=28
MAW LR LR 04 52 21.2
comp=Z,247nm,20.4s,baz=63,slow=34
comp=Z,6.5nm,0.6s
PPT2 Papeete2 78.84 107 *e*S **S** **04 30 13.1 -1.6**
comp=Z,402nm,27.2s
PPT2 *e*SS **SS** **04 35 23.5 +3.5**
comp=Z,278nm,26.5s
PPT2 *e*LQ LQ 04 41 23.2
comp=Z,472nm,31.8s
PPT2 *e*LR LR 04 44 47.2
comp=Z,789nm,36.0s
TBI Tubuai 78.98 113 *e*S **S** **04 30 08.0 -7.9**
comp=Z,586nm,26.0s
TBI *e*SS **SS** **04 35 26.5 +4.6**
comp=Z,494nm,25.8s
TBI *e*LQ LQ 04 41 34.4
comp=Z,2μm,33.2s
TBI *e*LR LR 04 44 49.0
comp=Z,924nm,33.8s
TBI *e*LR LR 04 45 00.6
comp=Z,3μm,32.0s
S12K Black Hills 80.12 32 P **P** **04 20 23.9 -0.2**
S12K IAmb IAmb 04 22 11.1
comp=Z,28nm,1.3s
CNBA Chernabura Isl 81.14 33 IAmb IAmb 04 20 44.5
comp=Z,33nm,1.3s
AKTO Aktyubinsk 81.97 322 LR LR 05 02 24.8
comp=Z,111nm,18.3s,baz=67,slow=40
M14K Bethel 82.03 27 IAmb IAmb 04 20 37.8
comp=Z,13nm,1.0s
CHGN Chignik 82.25 32 P **P** **04 20 35.5 +0.2**
CHGN IAmb IAmb 04 22 04.3
comp=Z,50nm,1.9s
N15K Kwethluk River 82.68 28 IAmb IAmb 04 20 44.2
comp=Z,14nm,1.2s
ARTI Arti 83.39 328 P **P** **04 20 41.4 +0.1**
ARTI Arti 83.39 328*c i*P **P** **04 20 42.1 +0.8**
ARTI 04 23 51.2
ARTI S **SKSac** **04 31 03.5 +2.0**
ARTI SS **SS** **04 36 26.9 +0.6**
ARTI pmax pmax
comp=Z,16nm,1.4s
M16K Timber Creek 83.50 27 IAmb IAmb 04 20 45.5
comp=Z,10nm,0.7s
PLK4 Peulik 4 83.72 31 P **P** **04 20 42.2 -0.9**
PLK4 IAmb IAmb 04 20 49.0
comp=Z,22nm,1.2s
N17K Nushagak Hills 84.17 28 IAmb IAmb 04 20 49.2
comp=Z,32nm,2.0s
N18K Kilae Creek 84.82 28 IAmb IAmb 04 20 54.4
comp=Z,18nm,1.4s
L18K Granite Mounta 84.91 27 IAmb IAmb 04 20 53.0
comp=Z,13nm,1.0s
KDAK Kodiak Island 85.72 31 P **P** **04 20 53.6 +0.6**
KDAK Kodiak Island 85.72 31 LR LR 04 58 50.8
comp=Z,126nm,18.0s,baz=243,slow=36
KDAK Kodiak Island 85.72 31 P **P** **04 20 53.6 +0.6**
KDAK pmax pmax
comp=Z,75nm,2.0s
L19K White Mountain 85.72 27 IAmb IAmb 04 20 56.9
comp=Z,13nm,0.9s
M19K Big River Lodg 85.86 27 IAmb IAmb 04 21 02.2
comp=Z,15nm,1.1s
J19K Poorman 85.89 25 IAmb IAmb 04 20 57.5
comp=Z,26nm,1.7s
G19K Purcell Mounta 85.94 23 IAmb IAmb 04 20 58.5
comp=Z,20nm,1.6s
QSPA South Pole Qui 86.45 180 P **P** **04 20 57.5 +0.8**
QSPA South Pole Qui 86.45 180 P **P** **04 20 57.0 +0.3**
comp=Z,5.3nm,0.8s,baz=292,slow=1.4,SNR=21
QSPA LR LR 05 00 19.5
comp=Z,412nm,20.3s,baz=3.5,slow=36
comp=Z,5.3nm,0.8s
J20K Nowinta River 86.56 25 IAmb IAmb 04 21 01.8
comp=Z,29nm,1.6s
CNPM China Poot 86.79 30 P **P** **04 20 58.4 +0.1**
CNPM IAmb IAmb 04 21 02.0
comp=Z,20nm,1.3s
SKT Skwentna 87.19 27 IAmb IAmb 04 21 02.1
comp=Z,8.2nm,0.9s
SYO Syowa Base 87.28 201⇑*e*P **P** **04 21 01.6 +1.1**
SYO Syowa Base 87.28 201⇑*e*pP pP 04 21 09.4 -0.5
AKT Akhty 87.29 312 *e*P **P** **04 21 00.5 -0.8**
AKT *e*S **SKSac** **04 31 28.1 +1.0**
AKT pmax pmax
comp=Z,14nm,1.1s
AKT MLR MLR
comp=Z,270nm,19.0s
RAYN Ar Rayn 87.29 294 P **P** **04 21 00.8 -0.8**
RAYN Ar Rayn 87.29 294 P **P** **04 21 00.9 -0.8**
RAYN pmax pmax
comp=Z,17nm,0.9s
MAK Makhachkala 87.63 313*d i*P **P** **04 20 58.4 -4.3**
MAK *e* 04 31 23.4
MAK *e*SSS SSS 04 40 56.2
MAK pmax pmax
comp=Z,244nm,1.2s
RC01 Rabbit Creek A 87.84 29 P **P** **04 21 03.6 +0.2**
RC01 IAmb IAmb 04 21 05.9
comp=Z,11nm,0.9s
MLY Manley 88.19 25 IAmb IAmb 04 21 42.3
comp=Z,6.1nm,1.0s
PMR Palmer 88.22 28 IAmb IAmb 04 21 07.7
comp=Z,6.1nm,0.9s
TAOE Nuku Hiva Isla 88.30 99 *e*LR LR 04 49 09.4
comp=Z,379nm,24.9s
GHO Glory Hole Cre 88.35 28 P **P** **04 21 06.0 +0.1**
GHO IAmb IAmb 04 21 09.6
comp=Z,6.0nm,0.7s
RND Reindeer 88.68 26 IAmb IAmb 04 21 08.7
comp=Z,6.9nm,0.6s
BELG Belogornoye 88.73 322⇑*e*P **P** **04 21 09.4 +1.7**
BELG pmax pmax
comp=Z,3.0nm,1.0s
I23K Minto, Yukon-K 88.79 25 IAmb IAmb 04 21 15.0
comp=Z,15nm,1.4s
ATD Arta Tunnel 88.92 282 LR LR 04 59 47.5
comp=Z,9.4nm,20.2s,baz=200,slow=35
D23K Nanushuk River 89.05 21 IAmb IAmb 04 21 26.2
comp=Z,14nm,1.4s
SCM Sheep Creek Mo 89.11 28 IAmb IAmb 04 21 46.8
comp=Z,11nm,1.0s
CCB Clear Creek Bu 89.35 25 IAmb IAmb 04 21 15.1
comp=Z,14nm,1.4s
ILAR Eielson Array 89.76 25 P **P** **04 21 11.2 -1.1**
comp=Z,1.2nm,0.6s,baz=251,slow=4.5,SNR=16
comp=Z,1.2nm,0.6s
G24K Hadweenzic Riv 89.82 23 IAmb IAmb 04 21 17.6
comp=Z,16nm,1.6s
RIDG Independent Ri 90.50 26 IAmb IAmb 04 21 18.1
comp=Z,28nm,1.9s
BMAR Burnt Mountain 91.05 23 P **P** **04 21 18.7 +0.4**
F26K Sheenjek River 91.24 22 IAmb IAmb 04 24 47.0
comp=Z,12nm,1.6s
G26K Porcupine Rive 91.30 23 IAmb IAmb 04 21 24.4
comp=Z,13nm,1.4s
K27K Chicken 91.75 26 IAmb IAmb 04 21 26.8
comp=Z,11nm,1.1s
L27K Beaver Creek, 91.79 27 IAmb IAmb 04 21 25.0
comp=Z,4.8nm,0.9s
BCAR Beaver Creek A 91.81 27 P **P** **04 21 21.4 -0.6**
H27K Steamboat Moun 92.14 24 IAmb IAmb 04 21 27.8
comp=Z,13nm,1.4s
E28M Babbage River 93.03 22 IAmb IAmb 04 21 29.6
comp=Z,9.0nm,1.4s
L29M L29M 93.48 27 IAmb IAmb 04 21 35.8
comp=Z,7.6nm,1.1s
K29M Barlow Dome 93.76 26 IAmb IAmb 04 21 34.4
comp=Z,12nm,1.4s
KLMR Klimovskoe 93.78 331 *e*P **P** **04 21 29.4 -1.6**
KLMR pmax pmax
comp=Z,16nm,1.8s
J30M Hart River 94.27 26 IAmb IAmb 04 21 38.0
comp=Z,6.5nm,1.1s
INK Inuvik 95.25 22 P **P** **04 21 37.3 -0.3**
INK IAmb IAmb 04 21 39.0
comp=Z,6.2nm,1.1s
INK Inuvik 95.25 22 P **P** **04 21 37.3 -0.3**
INK pmax pmax
comp=Z,6.0nm,1.1s
ASF Jabal al Asfar 95.35 302 LR LR 05 11 04.0
comp=Z,82nm,19.5s,baz=130,slow=40
OBN Obninsk 95.41 325⇓*e*P **P** **04 21 37.3 -1.3**
OBN *e*PPP PPP 04 27 29.2
OBN *i* S **SKSac** **04 32 11.0 -1.4**
OBN pmax pmax
comp=Z,6.0nm,1.1s
OBN MLR MLR
comp=Z,270nm,24.0s
MMAI Mount Meron Ar 96.62 303 LR LR 05 13 24.3
comp=Z,69nm,18.5s,baz=106,slow=40
EIL Elat 97.01 299 LR LR 05 13 43.6
comp=Z,113nm,18.5s,baz=67,slow=41
DLBC Dease Lake 97.65 32 LR LR 05 01 15.1
comp=Z,10nm,21.5s,baz=244,slow=33
TROLL Troll, Antarti 97.79 194 ⇑P Pdif 04 21 50.7 +1.3
comp=Z,233nm,0.8s
SPITS Spitsbergen Ar 98.35 349 LR LR 05 08 35.5
comp=Z,140nm,21.8s,baz=58,slow=37
ARCES ARCESS Array B 98.67 340 P **P** **04 21 52.2 -0.9**
comp=Z,1.2nm,0.6s,baz=77,slow=4.8,SNR=8.6
comp=Z,1.2nm,0.6s
SNAA Sanae 99.28 193 ⇑P **Pdif** **04 21 57.7 +1.8**
comp=Z,41nm,0.7s
SNAA Sanae 99.28 193 P **Pdif** **04 21 56.2 +0.2**
comp=Z,2.4nm,0.9s,baz=162,slow=2.9,SNR=9.5
SNAA LR LR 05 08 55.3
comp=Z,280nm,18.7s,baz=84,slow=37
comp=Z,2.4nm,0.9s
SNAA Sanae 99.28 193⇓*e*P **Pdif** **04 21 58.5 +2.6**
SNAA pmax pmax
comp=Z,8.0nm,1.5s
MNK Minsk 100.47 325 *i* P **Pdif** **04 21 59.2 -2.2**
MNK *i* 04 26 05.8
MNK *i* PPP PPP 04 28 16.1
MNK *i* S **SKSac** **04 32 38.1 -0.1**
MNK *i* PS **PS** **04 35 07.1 -2.0**
MNK *i* SS **SS** **04 40 32.9 +1.2**
MNK *i* SSS SSS 04 44 23.4
MNK pmax pmax
comp=E,13nm,0.8s
MNK pmax pmax
comp=N,12nm,0.8s
MNK pmax pmax
comp=Z,12nm,0.6s
MNK MLR MLR
comp=E,155nm,23.0s
MNK MLR MLR
comp=N,184nm,24.0s
MNK MLR MLR
comp=Z,192nm,21.0s
BOSA Boshof 102.11 240 P **Pdif** **04 22 09.4 -0.1**
comp=Z,2.1nm,0.9s,baz=98,slow=3.6,SNR=8.3
PDAR Pinedale Array 113.70 44 PKKPbc PKKPbc 04 37 35.4 -2.2
comp=Z,0.5nm,0.7s,baz=112,slow=5.2,SNR=5.4
ANMO Albuquerque 118.37 52*i*PKIKP **PKiKP** **04 27 03.7 +1.2**
TXAR Lajitas Array 122.22 57 PKKPbc PKKPbc 04 37 06.4 -0.1
comp=Z,0.5nm,0.8s,baz=110,slow=1.7,SNR=6.8
PLCA Paso Flores 131.75 158 PKP **PKiKP** **04 27 29.7 +0.9**
comp=Z,1.3nm,0.6s,baz=346,slow=5.2,SNR=5.4
TRQA Tornquist 136.92 165 PKPdif **PKiKP** **04 27 38.9 -0.4**
TRQA Tornquist 136.92 165 PKIKP **PKiKP** **04 27 38.9 -0.4**
AC02 Maricunga 144.09 148 PKPdif **PKPdf** **04 27 50.8 -0.5**
PLTB Pedras Altas 144.65 173 PKPdif **PKPdf** **04 27 51.6 0.0**
PB03 IPOC Station P 147.47 142 PKPbc **PKPbc** **04 27 59.0 -0.3**
PB01 IPOC Station P 148.38 141 **PKiKP** **04 28 03.2 -0.1**
CPUP Villa Florida 149.26 165 PKPbc **PKPbc** **04 28 02.7 -0.9**
CPUP Villa Florida 149.26 165 PKPbc **PKiKP** **04 28 05.0 +0.1**
comp=Z,1.6nm,0.8s,baz=73,slow=2.8,SNR=9.7
CPUP Villa Florida 149.26 165 PKIKP **PKPbc** **04 28 02.7 -0.9**
LPAZ La Paz 152.69 137 PKP **PKPdf** **04 28 07.6 +2.0**
comp=Z,1.0nm,0.9s,baz=232,slow=1.4,SNR=3.7
LPAZ PKPbc **PKiKP** **04 28 13.7 +0.7**
comp=Z,6.1nm,0.7s,baz=98,slow=0.9,SNR=31

NIED ***22*** *04:08:38.0, 35.77N×141.06E, h27km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr1.35; Mθθ-0.80; Mφφ-0.55; Mrθ2.45; Mθφ0.17; Mφr-0.67; Fault plane solution: M02.77000×1014 NP1: φs294.00000°, δ12.00000°, λ98.00000°. NP2: φs106.00000°, δ78.00000°, λ88.00000°.*

JMA 22 04:08:38.0±0.2, 35.8N±0.5×14.1E±, h27km±1km, MV3.5/34, 4D, NEAR CHOSHI CITY, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIHU	**Itakohorinouch**	**0.47**	**295**	*i* P	Pb	04 08 48.3	+0.5
JIHU				*e*S	Sn	04 08 55.9	-0.5
JSMT	**Sammumatsuo**	**0.51**	**256**	P	Pb	04 08 48.7	+0.3
JSMT				S	Sb	04 08 55.5	0.0
JHYU	**Hitachinakayam**	**0.69**	**327**	⇓P	Pb	04 08 51.3	-0.1
JHYU				⇓*e*S	Sb	04 09 01.1	+0.6
JYT	**Yasato**	**0.84**	**304**	P	Pb	04 08 52.9	-1.0
JYT				S	Sb	04 09 03.9	-0.9
JHO	**Hitachi**	**0.93**	**335**	⇓P	Pn	04 08 54.5	-0.7
JHO				⇓*e*S	Sb	04 09 06.6	-0.8
BSO4	**Boso 4**	**0.97**	**217**	*e*P	Pn	04 08 55.8	+0.1
BSO3	**Boso 3**	**1.06**	**205**	P	Pn	04 08 56.4	-0.4
BSO1	**Boso 1**	**1.11**	**183**	P	Pn	04 08 56.6	-0.7
BSO1				S	Sn	04 09 11.3	-0.2

IDC 22 04:15:49.6±2.3, 3.42S×130.31E, h0km, mb3.7/2, mbtmp3.9/4, ML3.6/2, Error ellipse: s-maj=91.2km s-min=29.6km az=74.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.29**	**197**	Pn	Pn	04 19 28.1	+1.2
	0.2nm,0.3s,baz=38,slow=15,SNR=1.3						
	3.8nm,0.5s						
WRA	**Warramunga Arr**	**16.89**	**167**	Pn	Pn	04 19 45.6	-1.9
	0.2nm,0.3s,baz=347,slow=10,SNR=1.7						
WRA				Sn	Sn	04 22 39.2	-17
	0.1nm,0.3s,baz=355,slow=25,SNR=1.8						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**20.43**	**171**	P	P	04 20 29.1	+0.4
	3.0nm,0.6s,baz=354,slow=8.0,SNR=11						
	3.0nm,0.6s						
MKAR	**Makanchi Array**	**65.44**	**326**	P	P	04 26 34.3	0.0
	0.6nm,0.9s,baz=134,slow=6.2,SNR=1.7						
	0.6nm,0.9s						

IDC ***22*** *04:18:41.4±0.6, 21.94S×173.99W, h0km, mb4.0/13, mbtmp4.0/14, ML3.8/1, MS3.4/2, Error ellipse: s-maj=24.0km s-min=20.1km az=159.0*
NEIC ***22*** *04:18:42.7±2.2, 22.1S±0.1×173.7W±0.1, h10km±1km, mb4.1/9, Error ellipse: s-maj=22.9km s-min=15.4km az=116.0*

ISC 22 04:18:47.8±0.5, 21.9S±0.1×173.78W±0.08, h46km, n34, σ1s47/32, mb4.0/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.58**	**53**	Pn	Pn	04 19 50.8	-3.8
AFI	**Afiamalu**	**8.18**	**14**	Pn	**Pn**	**04 20 43.0**	**-1.0**
MSVF	**Nonsavu**	**8.73**	**297**	Pn	**Pn**	**04 20 52.2**	**+0.5**
RAR	**Rarotonga**	**13.06**	**90**	Pn	**Pn**	**04 21 48.3**	**-2.5**
RAR	**Rarotonga**	**13.06**	**90**	Pn	**Pn**	**04 21 49.7**	**-1.0**
	5.3nm,0.3s,baz=263,slow=8.1,SNR=18						
RAR				Sn	Sn	04 24 04.2	-10
	1.8nm,0.3s,baz=199,slow=20,SNR=1.5						
RAR				LR	LR	04 26 40.9	
	comp=Z,154nm,18.4s,baz=278,slow=36						
	23nm,0.4s						
DZM	**Mont Dzumac**	**18.34**	**266**	P	**Pn**	**04 22 58.8**	**-0.2**
DZM				IAmb	IAmb	04 23 20.7	
	comp=Z,20nm,1.1s						
DZM	**Mont Dzumac**	**18.34**	**266**	P	**Pn**	**04 22 58.8**	**-0.2**
	comp=Z,9.6nm,1.0s,baz=77,slow=18,SNR=3.0						
PPT	**Papeete**	**23.18**	**84**	LR	LR	04 32 12.7	
	comp=Z,91nm,18.3s,baz=248,slow=35						
CTAO	**Charters Tower**	**37.28**	**265**	P	**P**	**04 25 57.0**	**+1.3**
AS31	**Alice Springs**	**48.04**	**257**	P	**P**	**04 27 21.8**	**-1.1**

AS31					IAmb	IAmb	04 28 02.0		
	comp=Z,1.9nm,1.1s								
ASAR	**Alice Springs**	**48.04**	**257**	P		**P**	**04 27 21.6**	**-1.4**	
ASAR	**Alice Springs**	**48.04**	**257**	P		**P**	**04 27 21.1**	**-1.8**	
	comp=Z,4.5nm,0.9s,baz=90,slow=7.9,SNR=20								
	comp=Z,4.5nm,0.9s								
WR8	**Warramunga Arr**	**48.16**	**262**	P		**P**	**04 27 21.6**	**-2.3**	
WB0	**Warramunga Arr**	**48.30**	**263**	P		**P**	**04 27 23.0**	**-1.9**	
WRA	**Warramunga Arr**	**48.31**	**262**	P		**P**	**04 27 23.1**	**-1.9**	
WRA	**Warramunga Arr**	**48.31**	**262**	P		**P**	**04 27 22.8**	**-2.3**	
	comp=Z,5.0nm,0.9s,baz=98,slow=7.7,SNR=16								
	comp=Z,5.0nm,0.9s								
FORT	**Forrest**	**52.37**	**247**	P		**P**	**04 27 53.2**	**-2.4**	
KNRA	**Kununurra**	**54.49**	**266**	P		**P**	**04 28 10.9**	**-0.4**	
FITZ	**Fitzroy Crossi**	**56.74**	**262**	P		**P**	**04 28 26.8**	**-0.6**	
FITZ					IAmb	IAmb	04 28 27.8		
	comp=Z,2.6nm,1.4s								
FITZ	**Fitzroy Crossi**	**56.74**	**262**	P		**P**	**04 28 25.9**	**-1.5**	
	comp=Z,1.4nm,0.6s,baz=177,slow=11,SNR=5.1								
	comp=Z,1.4nm,0.6s								
QSPA	**South Pole Qui**	**68.18**	**180**	P		**P**	**04 29 44.8**	**+1.6**	
	comp=Z,0.5nm,0.7s,baz=136,slow=0.9,SNR=3.0								
	comp=Z,0.5nm,0.7s								
MJAR	**Matsushiro Arr**	**73.71**	**321**	P		**P**	**04 30 17.0**	**0.0**	
	comp=Z,2.0nm,0.6s,baz=158,slow=6.1,SNR=5.4								
	comp=Z,2.0nm,0.6s								
PETK	**Petropavlovsk-**	**78.69**	**343**	P		**P**	**04 30 46.6**	**+1.7**	
PETK	**Petropavlovsk-**	**78.69**	**343**	P		**P**	**04 30 46.1**	**+1.2**	
	comp=Z,2.6nm,0.7s,baz=128,slow=9.6,SNR=3.6								
	comp=Z,2.6nm,0.7s								
NVAR	**Mina Array Bea**	**79.41**	**41**	P		**P**	**04 30 49.6**	**+0.2**	
	comp=Z,0.1nm,0.3s,baz=234,slow=9.5,SNR=4.6								
	comp=Z,0.1nm,0.3s								
KSRS	**Korea Array**	**80.57**	**317**	P		**P**	**04 30 56.0**	**+0.6**	
	comp=Z,1.7nm,1.0s,baz=136,slow=7.5,SNR=4.9								
	comp=Z,1.7nm,1.0s								
MAW	**Mawson**	**81.55**	**199**	P		**P**	**04 30 59.0**	**-1.3**	
	comp=Z,1.4nm,1.1s,baz=117,slow=4.5,SNR=2.1								
	comp=Z,1.4nm,1.1s								
TXAR	**Lajitas Array**	**84.55**	**56**	P		**P**	**04 31 18.5**	**+2.0**	
	comp=Z,0.1nm,0.7s,baz=256,slow=3.7,SNR=3.4								
	comp=Z,0.1nm,0.7s								
PLCA	**Paso Flores**	**85.44**	**132**	P		**P**	**04 31 21.7**	**+0.8**	
	comp=Z,3.1nm,1.0s,baz=231,slow=6.7,SNR=3.3								
	comp=Z,3.1nm,1.0s								
SNAA	**Sanae**	**86.47**	**177**	P		**P**	**04 31 26.7**	**+1.3**	
	comp=Z,0.7nm,0.8s,baz=221,slow=9.0,SNR=3.6								
	comp=Z,0.7nm,0.8s								
PDAR	**Pinedale Array**	**87.34**	**42**	P		**P**	**04 31 31.4**	**+1.2**	
	comp=Z,0.4nm,0.7s,baz=321,slow=2.1,SNR=4.1								
	comp=Z,0.4nm,0.7s								
AKASG	**Malin Array Be**	**146.08**	**334**	PKPbc		**PKPab**	**04 38 22.9**	**-0.3**	
	comp=Z,1.5nm,0.6s,baz=43,slow=2.8,SNR=8.7								
BRTR	**Keskin Array B**	**150.67**	**314**	PKPbc		**PKPbc**	**04 38 33.5**	**-1.8**	
	comp=Z,1.1nm,0.9s,baz=147,slow=2.5,SNR=4.8								
GERES	**GERESS Array B**	**152.46**	**349**	PKPbc		**PKPbc**	**04 38 38.6**	**-0.4**	
	comp=Z,0.6nm,0.8s,baz=62,slow=3.2,SNR=4.8								

*IDC **22** 04:44:20.4±1.1,20°.88N×121°.02E,h0km,mb3.8/7, mbtmp3.8/8,ML3.6/1,MS3.5/1,Error ellipse: s-maj=40.9km s-min=18.1km az=66.0*

*NEIC **22** 04:44:22.7±1.6,20°.95N±0°.10×121°.0E±0°.1,h10km±2km, mb4.5/8,Error ellipse: s-maj=18.7km s-min=16.3km az=257.0*

*TAP **22** 04:44:24.9,21°.03N×120°.78E,h70km,ML3.7,D*

ISC 22 04:44:23.0±1.8,20°.96N±0°.06×120°.83E±0°.05,h13km±11km, n114,σ1ᵠ49/194,mb4.1/10,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TSEB	**Hengchuen, Pin**	**0.93**	**4**	*e*P		**Pn**	**04 44 43.0**	**+1.3**
TSEB				S		**Sn**	**04 44 55.1**	**+0.1**
TWKBT	**Hengchun**	**0.97**	**359**	*i*P		**Pn**	**04 44 42.8**	**+0.5**
TWKBT				*i*S		**Sb**	**04 44 55.8**	**+1.4**
HEN	**Hengchun**	**1.04**	**355**	*i*P		**Pn**	**04 44 44.2**	**+0.9**
HEN				*e*S		**Sn**	**04 44 58.4**	**+0.7**
SMST	**Manzhou Townsh**	**1.05**	**0**	*i*P		**Pn**	**04 44 43.7**	**+0.3**
SMST				*e*S		**Sb**	**04 44 57.7**	**+1.0**
LYUB	**Lan-yu**	**1.25**	**34**	*i*P		**Pn**	**04 44 45.4**	**-0.7**
LYUB				*i*S		**Sn**	**04 45 01.6**	**-1.1**
SLIU	**Shizi**	**1.25**	**359**	*i*P		**Pn**	**04 44 46.2**	**+0.1**
SLIU				*e*S		**Sb**	**04 45 02.9**	**+0.5**
LAY	**Lan-yu**	**1.26**	**32**	P		**Pg**	**04 44 46.8**	**-0.5**
LAY				*i*S		**Sn**	**04 45 02.1**	**-1.0**
TAWH	**Dawu Township**	**1.37**	**2**	*i*P		**Pn**	**04 44 48.2**	**+0.4**
TAWH				S		**Sb**	**04 45 04.8**	**-1.1**
EAST	**Anshuo**	**1.41**	**1**	*i*P		**Pn**	**04 44 48.4**	**0.0**
EAST				S		**Sn**	**04 45 05.5**	**-1.4**
SCZT	**Fangliau**	**1.42**	**352**	*i*P		**Pn**	**04 44 48.6**	**+0.2**
SCZT				*e*S		**Sn**	**04 45 06.5**	**-0.4**
TWP	**Hsiaoliuchiu**	**1.44**	**342**	*e*P		**Pn**	**04 44 49.7**	**+0.9**
TWP				*i*S		**Sn**	**04 45 07.5**	**-0.1**
ECL	**Taimali**	**1.63**	**4**	*i*P		**Pn**	**04 44 51.3**	**0.0**
ECL				S		**Sn**	**04 45 10.5**	**-1.6**
MASBT	**Mashibuluo**	**1.65**	**354**	*i*P		**Pn**	**04 44 51.4**	**-0.3**
TSMG	**Majia**	**1.74**	**354**	P		**Pn**	**04 44 52.6**	**-0.3**
TSMG				*e*S		**Sn**	**04 44 13.0**	**-2.0**
SSD	**Sandimen**	**1.78**	**354**	*i*P		**Pn**	**04 44 53.2**	**-0.3**
SSD				S		**Sn**	**04 44 15.2**	**-0.8**
LDUT	**Ludao**	**1.80**	**19**	*i*P		**Pb**	**04 44 55.8**	**0.0**
LDUT				*i*S		**Sn**	**04 45 15.4**	**-1.0**
TTN	**Taitung**	**1.81**	**9**	*e*P		**Sn**	**04 44 56.2**	**+0.3**
TTN				S		**Sn**	**04 45 15.8**	**-0.7**
TWGBT	**Beinan**	**1.86**	**7**	P		**Pg**	**04 45 00.1**	**+1.4**
TWGBT	**Beinan**	**1.86**	**7**	*i*P		**Pn**	**04 44 54.3**	**-0.2**
TWGBT				*e*S		**Sn**	**04 45 16.1**	**-1.8**
TWG	**Pinlang**	**1.86**	**7**	Pn		**Pn**	**04 44 53.4**	**-1.2**
TWG	**Pinlang**	**1.86**	**7**	*i*P		**Pn**	**04 44 55.1**	**+0.6**
TWG				*e*S		**Sn**	**04 45 16.4**	**-1.5**
TWM1	**Shoushan**	**1.89**	**348**	*e*P		**Pn**	**04 44 56.7**	**+1.7**
TWM1				*e*S		**Sn**	**04 45 18.8**	**+0.2**
SCST	**Cishan**	**1.94**	**351**	P		**Pn**	**04 44 57.2**	**+1.7**
SCST				*e*S		**Sn**	**04 45 19.8**	**-0.1**
LONT	**Longtian**	**1.95**	**8**	*i*P		**Pn**	**04 44 56.5**	**+0.6**
LONT				S		**Sn**	**04 45 18.5**	**-1.7**
EDH	**Donghe**	**2.05**	**12**	*i*P		**Pn**	**04 44 56.5**	**-0.6**
EDH				*i*S		**Sn**	**04 45 21.0**	**-1.5**
SGST	**Jiashian**	**2.12**	**354**	P		**Pn**	**04 44 59.0**	**+0.9**
SGST				*i*S		**Sn**	**04 45 22.6**	**-1.7**
ECS	**Chishang**	**2.15**	**10**	P		**Pn**	**04 44 59.8**	**+1.2**
ECS				*e*S		**Sn**	**04 45 24.6**	**-0.5**
CHKT	**Chengkung**	**2.18**	**13**	P		**Pn**	**04 45 00.2**	**+1.3**
CHKT				*i*S		**Sn**	**04 45 25.2**	**-0.6**
STYH	**Taoyuan**	**2.20**	**359**	*i*P		**Pn**	**04 44 59.3**	**+0.2**
STYH				*e*S		**Sn**	**04 45 26.0**	**-0.2**
EHD	**Haiduan**	**2.20**	**9**	*i*P		**Pn**	**04 44 58.4**	**-0.9**
EHD				*e*S		**Sn**	**04 45 24.1**	**-2.2**
ELDTW	**Lidau**	**2.22**	**4**	*i*P		**Pn**	**04 45 01.2**	**+1.6**
ELDTW				*e*S		**Sn**	**04 45 27.4**	**+0.4**
CHN1	**Nanshi**	**2.23**	**353**	*i*P		**Pn**	**04 45 01.5**	**+1.9**
CHN1				S		**Sn**	**04 45 26.8**	**-0.2**
FULB	**Fuli**	**2.27**	**11**	*i*P		**Pn**	**04 44 59.5**	**-0.7**
FULB				S		**Sn**	**04 45 27.6**	**-0.4**
SNST	**Tainan City**	**2.27**	**352**	*i*P		**Pn**	**04 45 01.3**	**+1.2**
SNST				*i*S		**Sn**	**04 45 26.8**	**-1.2**
CHKH	**Chenggong**	**2.28**	**13**	P		**Pn**	**04 45 01.0**	**+0.8**
CHKH				*i*S		**Sn**	**04 45 26.3**	**-1.9**
TSCK	**Chigu Township**	**2.28**	**342**	P		**Pn**	**04 45 01.8**	**+1.5**
TSCK				S		**Sn**	**04 45 25.9**	**-2.4**
WTP	**Ta-pu**	**2.28**	**355**	*i*P		**Pn**	**04 45 00.2**	**-0.1**
WTP				*i*S		**Sn**	**04 45 28.0**	**-0.4**
TPUB	**Ta-pu**	**2.33**	**355**	Pn		**Pn**	**04 45 00.2**	**-0.9**
TPUB	**Ta-pu**	**2.33**	**355**	P		**Pg**	**04 45 07.2**	**-0.6**
TPUB	**Ta-pu**	**2.33**	**355**	*i*P		**Pn**	**04 45 01.1**	**+0.1**
TPUB				*e*S		**Sn**	**04 45 29.0**	**-0.7**
ECBN	**Changbin**	**2.41**	**14**	*e*P		**Pn**	**04 45 03.7**	**+1.6**
ECBN				*e*S		**Sn**	**04 45 30.3**	**-1.2**
TWF1	**Yuli**	**2.42**	**10**	*i*P		**Pn**	**04 45 03.4**	**+1.2**
TWF1				S		**Sn**	**04 45 29.6**	**-2.0**
YULB	**Yu-li**	**2.46**	**10**	Pn		**Pn**	**04 44 02.5**	**-0.3**
YULB	**Yu-li**	**2.46**	**10**	P		**Pg**	**04 45 09.1**	**-1.0**
YULB	**Yu-li**	**2.46**	**10**	*i*P		**Pn**	**04 45 02.0**	**-0.8**
YULB				*e*S		**Sn**	**04 45 30.7**	**-1.9**
WCKO	**Fanlu**	**2.47**	**355**	*e*P		**Pn**	**04 45 03.6**	**+0.7**
WCKO				S		**Sn**	**04 45 32.1**	**-1.0**
WDGT	**Dungji**	**2.53**	**335**	*i*P		**Pn**	**04 45 04.6**	**+0.8**
WDGT				*i*S		**Sn**	**04 45 30.9**	**-3.5**
ALS	**Alishan**	**2.54**	**359**	*i*P		**Pn**	**04 45 03.7**	**-0.4**
ALS				*i*S		**Sn**	**04 45 36.0**	**+1.0**
CHY	**Chiayi**	**2.55**	**352**	P		**Pn**	**04 45 05.7**	**+1.7**
CHY				*e*S		**Sn**	**04 45 33.1**	**-1.8**
EHYH	**Wanrong**	**2.56**	**11**	*i*P		**Pn**	**04 45 05.7**	**+1.5**
EHYH				S		**Sn**	**04 45 32.3**	**-2.9**
EHY	**Hungye**	**2.57**	**10**	*i*P		**Pn**	**04 45 04.3**	**0.0**
EHY				*e*S		**Sn**	**04 45 33.6**	**-1.8**
HGSD	**Ruisui**	**2.58**	**12**	*i*P		**Pn**	**04 45 04.0**	**-0.4**
HGSD				*e*S		**Sn**	**04 45 35.5**	**0.0**
VCHM	**Qimei**	**2.59**	**330**	P		**Pn**	**04 45 02.6**	**-1.9**
VCHM				*i*S		**Sn**	**04 45 31.8**	**-4.0**
WSL	**Shuilin Townsh**	**2.61**	**348**	P		**Pn**	**04 45 06.3**	**+1.5**
WSL				*e*S		**Sn**	**04 45 33.9**	**-2.5**
WHYT	**Xinyi Township**	**2.72**	**0**	*i*P		**Pn**	**04 45 05.4**	**-1.0**
WHYT				*i*S		**Sn**	**04 45 38.0**	**-1.1**
WDLH	**Douliu**	**2.73**	**354**	*e*P		**Pn**	**04 45 06.1**	**-0.4**
WDLH				*i*S		**Sn**	**04 45 37.5**	**-1.7**
EGFH	**Guangfu**	**2.75**	**11**	*e*P		**Pn**	**04 45 07.2**	**+0.5**
EGFH				*e*S		**Sn**	**04 45 37.5**	**-2.3**
WARBT	**Fenglin Townsh**	**2.79**	**10**	*i*P		**Pn**	**04 45 08.1**	**+0.8**
WARBT				*e*S		**Sn**	**04 45 36.9**	**-3.9**
VWDT	**VWDT**	**2.79**	**6**	*i*P		**Pn**	**04 45 07.6**	**+0.3**
VWDT				*e*S		**Sn**	**04 45 40.7**	**-0.2**
PHUB	**P'eng-hu**	**2.79**	**336**	*e*P		**Pn**	**04 45 06.0**	**-1.3**
PHUB				*i*S		**Sn**	**04 45 36.8**	**-4.1**
SSLB	**Suanglung**	**2.81**	**2**	Pn		**Pn**	**04 45 07.0**	**-0.7**
SSLB	**Suanglung**	**2.81**	**2**	P		**Pb**	**04 45 13.5**	**+0.4**
SSLB	**Suanglung**	**2.81**	**2**	*i*P		**Pn**	**04 45 08.8**	**+1.2**
SSLB				*e*S		**Sn**	**04 45 41.4**	**-0.1**
PNG	**Penghu**	**2.85**	**336**	*i*P		**Pn**	**04 45 07.1**	**-1.0**
PNG				S		**Sn**	**04 45 38.5**	**-3.8**
SMLT	**Sun Moon Lake**	**2.91**	**1**	*i*P		**Pn**	**04 45 09.4**	**+0.4**
SMLT				*i*S		**Sn**	**04 45 43.5**	**-0.4**
TYC	**Yuchr**	**2.93**	**0**	*i*P		**Pn**	**04 45 09.9**	**+0.7**
TYC				*i*S		**Sn**	**04 45 44.2**	**+0.1**
OWD	**Renai**	**2.99**	**6**	*i*P		**Pn**	**04 45 11.0**	**+0.8**
OWD				S		**Sn**	**04 45 43.9**	**-2.1**
WUSB	**Renai**	**3.02**	**5**	*i*P		**Pn**	**04 45 11.9**	**+1.3**
WUSB				S		**Sn**	**04 45 45.8**	**-1.0**
ETM	**Tongmen**	**3.05**	**11**	P		**Pn**	**04 45 11.6**	**+0.7**
ETM				*e*S		**Sn**	**04 45 43.6**	**-3.6**
DPDB	**Guoxing**	**3.06**	**2**	P		**Pb**	**04 45 15.5**	**-1.7**
DPDB				S		**Sn**	**04 45 46.1**	**-1.4**
WCS	**Beigang Elemen**	**3.08**	**1**	*i*P		**Pn**	**04 45 11.6**	**+0.3**
WCS				*i*S		**Sn**	**04 45 46.6**	**-1.4**
LXIB	**Xiulin Townshi**	**3.09**	**10**	*i*P		**Pn**	**04 45 12.7**	**+1.1**
LXIB				S		**Sn**	**04 45 47.1**	**-1.3**
WHF	**Hehuan Shan**	**3.19**	**7**	*i*P		**Pn**	**04 45 13.5**	**+0.3**
WHF				*e*S		**Sn**	**04 45 49.1**	**-2.3**
NACB	**Ninganchiao**	**3.27**	**12**	Pn		**Pn**	**04 45 13.4**	**-0.5**
NACB	**Ninganchiao**	**3.27**	**12**	*i*P		**Pn**	**04 45 14.3**	**+0.4**
NACB				*e*S		**Sn**	**04 45 50.0**	**-2.7**
ETLH	**Xiulin Townshi**	**3.28**	**10**	*i*P		**Pn**	**04 45 14.1**	**0.0**
ETLH				*e*S		**Sn**	**04 45 51.3**	**-1.9**
WHP	**Taichung City**	**3.30**	**2**	*i*P		**Pn**	**04 45 14.6**	**+0.2**
WHP				S		**Sn**	**04 45 52.5**	**-1.1**
EOS4	**EOS4**	**3.43**	**23**	*i*P		**Pn**	**04 45 17.9**	**+2.1**
EOS4				*i*S		**Sn**	**04 45 54.7**	**-1.4**
NNSB	**Datong**	**3.49**	**8**	*i*P		**Pn**	**04 45 18.8**	**+1.8**
NNSB				*e*S		**Sn**	**04 45 55.8**	**-2.4**
NNS	**Nan Shan**	**3.50**	**8**	*e*P		**Pn**	**04 45 19.4**	**+2.3**
NNS				S		**Sn**	**04 45 57.5**	**-0.9**
ENA	**Nanau**	**3.55**	**13**	P		**Pn**	**04 45 19.1**	**+1.3**
ENA				*e*S		**Sn**	**04 45 56.4**	**-3.1**
EOS3	**EOS3**	**3.58**	**22**	P		**Pn**	**04 45 20.5**	**+2.5**
EOS3				S		**Sn**	**04 45 58.2**	**-1.9**
LATG	**Datong**	**3.61**	**10**	*i*P		**Pn**	**04 45 20.2**	**+1.5**
LATG				*e*S		**Sn**	**04 45 59.4**	**-1.9**
NFF	**Wufeng Townshi**	**3.66**	**4**	P		**Pn**	**04 45 19.3**	**-0.1**
NFF				*e*S		**Sn**	**04 46 02.2**	**-0.2**
EOS2	**EOS2**	**3.67**	**20**	*e*P		**Sn**	**04 45 21.3**	**+2.0**
EOS2				*e*S		**Sn**	**04 46 00.5**	**-2.0**
YHNB	**Yeheng**	**3.72**	**8**	Pn		**Pn**	**04 45 20.3**	**+0.1**
YHNB	**Yeheng**	**3.72**	**8**	P		**Pb**	**04 45 25.6**	**-3.0**
YHNB	**Yeheng**	**3.72**	**8**	*i*P		**Pn**	**04 45 21.8**	**+1.6**
YHNB				*e*S		**Sn**	**04 46 00.8**	**-3.2**
NSK	**Sanguang**	**3.73**	**7**	P		**Pn**	**04 45 20.9**	**+0.6**
NSK				*e*S		**Sn**	**04 46 01.2**	**-2.8**
FUSB	**Fushanzhiwuyua**	**3.84**	**10**	P		**Pn**	**04 45 24.0**	**+2.1**
FUSB				*e*S		**Sn**	**04 46 04.5**	**-2.4**
NWLT	**Wulai**	**3.85**	**9**	*i*P		**Pn**	**04 45 24.2**	**+2.3**
NWLT				S		**Sn**	**04 46 04.9**	**-2.0**
YOJ	**Yonaguni jima**	**4.02**	**30**	Pn		**Pn**	**04 45 24.1**	**-0.1**
TIPB	**Shuangxi**	**4.09**	**13**	P		**Pn**	**04 45 27.6**	**+2.3**
TIPB				*e*S		**Sn**	**04 46 10.3**	**-2.7**
KNMB	**Chin-men Tao**	**4.15**	**328**	Pn		**Pn**	**04 45 27.7**	**+1.6**
KSRS	**Korea Array**	**17.55**	**19**	P		**P**	**04 48 27.6**	**-0.7**
	0.2nm,0.3s,baz=190,slow=14,SNR=4.1							
	1.2nm,0.8s							
CMAR	**Chiang Mai Arr**	**20.76**	**267**	P		**P**	**04 49 05.5**	**+1.8**
	1.5nm,0.6s,baz=72,slow=9.5,SNR=9.5							
CMAR					LR	LR	04 57 46.6	
	comp=Z,113nm,18.5s,baz=155,slow=38							
	1.5nm,0.6s							
SONM	**Songino Array**	**29.23**	**340**	P		**P**	**04 50 26.3**	**+1.7**
	0.4nm,0.4s,baz=152,slow=6.4,SNR=1.9							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	**40.48**	**319**	P		**P**	**04 52 01.8**	**+0.4**
MKAR	**Makanchi Array**	**40.48**	**319**	P		**P**	**04 52 02.5**	**+1.1**
	0.8nm,0.7s,baz=112,slow=9.6,SNR=8.3							
	0.8nm,0.7s							
WB0	**Warramunga Arr**	**42.60**	**161**	P		**P**	**04 52 17.1**	**-1.8**
WB0					IAmb	IAmb	04 52 31.8	
	comp=Z,11nm,1.2s							
WRA	**Warramunga Arr**	**42.75**	**161**	P		**P**	**04 52 18.0**	**-2.2**
	comp=Z,1.0nm,0.5s,baz=343,slow=9.1,SNR=9.7							
	comp=Z,1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**42.80**	**329**	P		**P**	**04 52 20.6**	**+0.4**
ZALV	**Zalesovo Beam**	**42.80**	**329**	P		**P**	**04 52 19.5**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=108,slow=4.8,SNR=4.8							
	comp=Z,1.0nm,0.5s							
WR8	**Warramunga Arr**	**42.81**	**161**	P		**P**	**04 52 19.1**	**-1.6**
WR8					IAmb	IAmb	04 52 25.7	
	comp=Z,11nm,1.3s							
KURBB	**Kurchatov Arra**	**44.40**	**322**	P		**P**	**04 52 33.5**	**+0.3**
	comp=Z,3.1nm,0.8s,baz=124,slow=7.4,SNR=18							
	comp=Z,3.1nm,0.8s							
ASAR	**Alice Springs**	**46.15**	**163**	P		**P**	**04 52 46.4**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=341,slow=6.7,SNR=6.9							
	comp=Z,0.8nm,0.6s							
ABKAR	**Akbulak array**	**55.49**	**316**	P		**P**	**04 53 58.9**	**+1.4**
N15K	**Kwethluk River**	**66.63**	**32**	P		**P**	**04 55 13.5**	**+0.5**
B22K	**Teshekpuk Lake**	**69.01**	**21**	P		**P**	**04 55 27.2**	**-0.6**
J20K	**Nowinta River**	**69.19**	**28**	P		**P**	**04 55 29.7**	**+0.7**
J20K					IAmb	IAmb	04 56 04.2	
	comp=Z,4.9nm,1.4s							
D22K	**Ayikyak River**	**69.37**	**23**	P		**P**	**04 55 30.6**	**+0.5**
D22K					IAmb	IAmb	04 55 56.7	
	comp=Z,6.3nm,1.2s							
E24K	**Your Creek**	**71.00**	**23**	P		**P**	**04 55 39.6**	**-0.5**
D25K	**Kavik River**	**71.56**	**22**	P		**P**	**04 55 43.7**	**+0.2**
BMAR	**Burnt Mountain**	**72.59**	**24**	P		**P**	**04 55 50.6**	**+0.9**

*DJA **22** 04:52:34.1±4.0,13°.N±7°.×14°.5E±°,h11km±25km,M4.8/12, mb4.9/12,mB5.3/5,Mw(mB)4.7/5*

*NEIC **22** 04:52:35.6±1.7,12°.29N±0°.06×144°.3E±0°.1,h10km±1km, mb4.9/173,Error ellipse: s-maj=18.5km s-min=9.8km az=108.0*

*IDC **22** 04:52:39.7±1.7,12°.32N×144°.24E,h45km±15km,mb4.2/20, mbtmp4.5/21,ML3.9/1,MS4.5/51,Error ellipse: s-maj=16.0km s-min=11.3km az=100.0*

*GCMT **22** 04:52:40.6±0.2,12°.17N±0°.01×144°.26E±0°.02,h15km, MW5.0/105,Moment Tensor Solution. s55,c74; s105,c163; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.00±.14; Mθθ-2.50±.09; Mφφ-0.50±.09; Mrθ1.56±.19; Mrφ-2.08±.07; Mθφ1.60±.22; Best double couple: M₀4.08400×10¹⁶ NP1:ϕs250.00000°,δ30.00000°, λ108.00000°. NP2:ϕs49.00000°,δ62.00000°,λ80.00000°. Principal axes: T 3.7210, Plg71.0000°, Azm296.0000°; N 0.7250, Plg9.0000°, Azm54.0000°; P -4.4460, Plg16.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 04:52:38.0±0.3,12°.27N±0°.04×144°.40E±0°.05,h30km,n251, σ1ᵠ61/180,mb4.8/124,MS4.6/72,3C-1D,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**1.39**	**19**	Pn		**Pb**	**04 53 01.7**	**-1.5**
GUMO				Sn		**Sb**	**04 53 19.9**	**-0.7**
GUMO	**Guam**	**1.39**	**19**	P		**Pb**	**04 53 02.5**	**-0.8**
	1μm,0.3s,baz=181,slow=8.5,SNR=90							
GUMO					S	**Sb**	**04 53 20.2**	**-0.4**
	5μm,0.4s,baz=308,slow=22,SNR=38							
JAY	**Jayapura**	**15.14**	**194**	P		**Pn**	**04 56 10.2**	**+0.2**
	0.5nm,0.3s,baz=335,slow=10,SNR=6.6							
	9.1nm,0.9s							
JAY	**Jayapura**	**15.14**	**194**	P		**Pn**	**04 56 12.2**	**+2.2**
GENI	**Genyem**	**15.36**	**196**	P		**P**	**04 56 15.4**	**-1.7**
	169nm,1.7s							
BAKI	**Biak**	**15.71**	**212**	P		P	04 56 42.1	+21
RABL	**Rabaul**	**18.09**	**154**			**Pn**	**04 56 48.2**	**+1.0**
DAV	**Davao City (W)**	**19.25**	**256**	LR		LR	05 05 12.6	
	comp=Z,564nm,19.4s,baz=112,slow=39							
JOW	**Kunigami**	**20.95**	**316**			Pn	04 57 18.3	-3.0
JOW					IAmb	IAmb	04 57 32.8	
	comp=Z,34nm,0.7s							
JOW	**Kunigami**	**20.95**	**316**	P		**P**	**04 57 17.6**	**-1.0**
	comp=Z,7.6nm,0.5s,baz=128,slow=9.8,SNR=5.8							
JOW					LR	LR	05 04 51.0	
	comp=Z,1μm,18.6s,baz=131,slow=35							
	comp=Z,7.6nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**22.35**	**71**	T		T	05 20 45.8	
	baz=251,slow=74,SNR=7.8							
H11S1	**WAKE ISLAND Hy**	**22.36**	**71**	T		T	05 20 48.5	
	baz=251,slow=74,SNR=8.1							
H11S2	**WAKE ISLAND Hy**	**22.37**	**71**	T		T	05 20 47.4	
	baz=251,SNR=8.0							
H11N1	**WAKE ISLAND Hy**	**22.84**	**68**	T		T	05 21 23.1	
	baz=255,slow=75,SNR=24							
H11N2	**WAKE ISLAND Hy**	**22.84**	**68**	T		T	05 21 21.6	
	baz=255,slow=75,SNR=18							
H11N3	**WAKE ISLAND Hy**	**22.85**	**68**	T		T	05 21 22.6	
	baz=255,slow=75,SNR=17							
TGY	**Tagaytay City**	**22.91**	**277**	LR		LR	05 06 54.3	
	comp=Z,2μm,18.7s,baz=47,slow=38							
INU	**Inuyama**	**23.93**	**345**	P		**P**	**04 57 48.9**	**-0.5**
JNU	**Nakatsue**	**24.16**	**331**	P		**P**	**04 57 50.9**	**-0.8**
JNU	**Nakatsue**	**24.16**	**331**	P		**P**	**04 57 50.6**	**-1.1**
	comp=Z,9.0nm,0.5s,baz=141,slow=8.0,SNR=7.8							
JNU					LR	LR	05 06 25.1	
	comp=Z,671nm,18.4s,baz=182,slow=34							
	comp=Z,9.0nm,0.5s							
MJAR	**Matsushiro Arr**	**24.80**	**348**	P		**P**	**04 57 54.8**	**-2.6**
	comp=Z,2.2nm,0.6s,baz=165,slow=9.7,SNR=8.0							
MJAR					LR	LR	05 06 47.6	
	comp=Z,2μm,18.2s,baz=164,slow=34							
	comp=Z,2.2nm,0.6s							
MAJO	**Mat

HNS LR LR
comp=Z,2µm,18.6s
ENH Enshi 36.93 305 P **P** **04 59 43.5 -1.0**
ENH IAmb IAmb 04 59 54.3
comp=Z,11nm,0.6s
AS31 Alice Springs 37.16 196 P **P** **04 59 45.1 -1.4**
ASAR Alice Springs 37.17 196 P **P** **04 59 45.8 -0.7**
ASAR Alice Springs 37.17 196 P **P** **04 59 46.6 +0.2**
comp=Z,9.8nm,0.9s,baz=20,slow=7.5,SNR=38
ASAR LR LR 05 15 28.2
comp=Z,325nm,19.4s,baz=3.5,slow=37
comp=Z,9.8nm,0.9s
BJT Baijiatuau 37.19 323 P **P** **04 59 45.8 -0.8**
TIY Taiyuan 38.16 317 P P 04 59 59.1 +4.2
TIY S **S** **05 05 53.0 +6.6**
TIY pmax pmax
comp=Z,17nm,0.5s
TIY pmax pmax
comp=Z,140nm,7.2s
TIY LR LR
comp=Z,350nm,16.8s
TIY LR LR
comp=Z,480nm,17.5s
TIY LR LR
comp=Z,630nm,18.0s
XAN Xi'an 38.86 310 ⇑P **P** **05 00 01.4 +0.6**
XAN LR LR
comp=Z,690nm,21.3s
XAN LR LR
comp=Z,1µm,20.6s
XAN LR LR
comp=Z,2µm,19.2s
XLT XiLinHaoTe 39.83 328 *e*P **P** **05 00 08.0 -0.8**
XLT PP **PnPn** **05 01 42.3 -1.6**
XLT S **S** **05 06 15.6 +4.2**
XLT pmax pmax
comp=Z,6.0nm,0.8s
XLT pmax pmax
comp=Z,83nm,4.2s
XLT LR LR
comp=Z,1µm,18.7s
XLT LR LR
comp=Z,2µm,17.9s
HEH HeiHe 40.36 343 *e*P **P** **05 00 15.3 +2.4**
HEH pmax pmax
comp=Z,6.0nm,1.2s
HEH LR LR
comp=Z,620nm,17.5s
HEH LR LR
comp=Z,690nm,15.1s
HEH LR LR
comp=Z,1µm,17.3s
DZM Mont Dzumac 40.41 148 *e*S **S** **05 06 26.0 +5.6**
comp=Z,200nm,27.9s
DZM *e*LR LR 05 11 20.3
comp=Z,1µm,31.8s
KMI Kunming 41.31 294 P **P** **05 00 22.8 +1.4**
KMI pmax pmax
comp=Z,13nm,1.5s
KMI LR LR
comp=Z,330nm,18.3s
KMI LR LR
comp=Z,620nm,17.5s
KMI LR LR
comp=Z,810nm,17.6s
BTO Baotou 41.31 319 *e*P **P** **05 00 21.8 +0.7**
BTO PP **PnPn** **05 02 00.1 -1.3**
BTO S **S** **05 06 37.3 +3.7**
BTO SS **SS** **05 09 34.5 -3.3**
BTO pmax pmax
comp=Z,11nm,0.5s
BTO pmax pmax
comp=Z,70nm,3.8s
BTO LR LR
comp=Z,1µm,16.8s
BTO LR LR
comp=Z,1µm,16.1s
BTO LR LR
comp=Z,2µm,17.1s
CD2 Chengdu 41.80 303 P **P** **05 00 25.1 -0.1**
CD2 S **S** **05 06 43.1 +2.0**
CD2 SS **SS** **05 09 44.8 -3.0**
CD2 pmax pmax
comp=Z,40nm,1.6s
CD2 pmax pmax
comp=Z,330nm,13.5s
CD2 LR LR
comp=Z,920nm,15.3s
CD2 LR LR
comp=Z,830nm,16.0s
CD2 LR LR
comp=Z,820nm,20.6s
PETK Petropavlovsk- 42.10 12 LR LR 05 16 56.7
comp=Z,398nm,19.7s,baz=190,slow=35
HIA Hailar 42.14 336 P **P** **05 00 25.2 -2.4**
PZH PanZhiHua 42.45 296 P **P** **05 00 30.5 -0.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
ARMA Armidale 43.01 171 P **P** **05 00 35.0 0.0**
ARMA IAmb IAmb 05 00 37.0
comp=Z,37nm,1.4s
LZH Lanzhou 43.50 310 *e*P **P** **05 00 37.6 -1.4**
LZH S **S** **05 07 11.8 +5.7**
LZH pmax pmax
comp=Z,13nm,1.0s
LZH pmax pmax
comp=Z,260nm,7.2s
LZH LR LR
comp=Z,580nm,18.2s
LZH LR LR
comp=Z,800nm,16.5s
LZH LR LR
comp=Z,1µm,18.2s
KULM Kulim 43.74 265 P **P** **05 00 39.5 -1.6**
KULM IAmb IAmb 05 00 53.3
comp=Z,25nm,1.1s
STKA Stephens Creek 43.98 183 P **P** **05 00 42.2 -0.5**
comp=Z,7.1nm,1.0s,baz=322,slow=12,SNR=4.5
comp=Z,7.1nm,1.0s
CM31 Chiang Mai Arr 44.17 284 P **P** **05 00 43.5 -1.0**
CM31 IAmb IAmb 05 01 28.5
comp=Z,12nm,0.4s
CMAR Chiang Mai Arr 44.17 284 P **P** **05 00 43.5 -1.0**
CMAR Chiang Mai Arr 44.17 284 P **P** **05 00 43.8 -0.7**
comp=Z,2.8nm,0.4s,baz=90,slow=5.5,SNR=8.9
CMAR LR LR 05 19 22.9
comp=Z,689nm,19.0s,baz=95,slow=36
comp=Z,2.8nm,0.4s
TNCH TengChong 45.08 293 *e*P **P** **05 00 52.1 +0.3**
TNCH S **S** **05 07 29.9 +0.5**
TNCH SS **ScS** **05 10 47.3 -0.2**
TNCH pmax pmax
comp=Z,39nm,0.6s
TNCH pmax pmax
comp=Z,240nm,4.7s
TNCH LR LR
comp=Z,1µm,18.3s
TNCH LR LR
comp=Z,1µm,14.9s
TNCH LR LR
comp=Z,1µm,15.8s
BBOO Buckleboo 45.53 190 P **P** **05 00 54.7 -0.3**
RPSI Rantau Prapat 46.01 262 P **P** **05 00 59.0 -0.2**
RPSI IAmb IAmb 05 01 10.5
comp=Z,21nm,1.3s
ULN Ulaanbaatar 47.20 326 P **P** **05 01 07.7 -0.6**
ULN IAmb IAmb 05 01 15.4
comp=Z,7.5nm,1.1s
SONM Songino Array 47.55 326 P **P** **05 01 10.9 +0.1**
SONM IAmb IAmb 05 01 17.4
comp=Z,11nm,1.4s
SONM Songino Array 47.55 326 P **P** **05 01 10.9 +0.1**
comp=Z,2.8nm,0.6s,baz=146,slow=8.1,SNR=16
SONM LR LR 05 21 44.3
comp=Z,2µm,18.4s,baz=134,slow=37
comp=Z,2.8nm,0.6s
GTA Gaotai 47.71 313 *e*P **P** **05 01 12.8 +0.5**
GTA pmax pmax
comp=Z,7.0nm,1.5s
GTA LR LR
comp=Z,510nm,19.5s
GTA LR LR
comp=Z,990nm,19.5s
GTA LR LR
comp=Z,1µm,17.9s
MORW Morawa 49.39 213 P **P** **05 01 24.1 -1.0**
TOO Toolangi 49.59 179 P **P** **05 01 27.6 +1.1**
TOO IAmb IAmb 05 01 29.5
comp=Z,15nm,1.2s
GOMU GeErMu 50.45 307 P **P** **05 01 32.8 -0.8**
GOMU S **S** **05 08 46.8 +1.0**
GOMU pmax pmax
comp=Z,5.0nm,0.6s
GOMU LR LR
comp=Z,290nm,16.0s
GOMU LR LR
comp=Z,540nm,17.5s
GOMU LR LR
comp=Z,680nm,17.9s
YAK Yakutsk 50.80 351 LR LR 05 22 40.0
comp=Z,1µm,18.7s,baz=162,slow=36
SHL Shillong 51.10 293 P **P** **05 01 37.2 -1.3**
SHL IAmb IAmb 05 01 48.0
comp=Z,14nm,0.9s
BRDH Bariadhala 51.15 289 LR LR 05 24 32.4
comp=Z,479nm,18.2s,baz=138,slow=38
UNV Unalaska Valle 56.67 32 P **P** **05 02 18.6 +0.1**
UNV IAmb IAmb 05 02 33.7
comp=Z,20nm,1.2s
LVA Lava Point 57.07 32 P **P** **05 02 21.1 -0.2**
WMQ Urumqi 57.72 314 *e*P **P** **05 02 27.9 +1.8**
WMQ PcP **PcP** **05 03 20.8 +2.0**
WMQ PP **PP** **05 04 39.8 +5.6**
WMQ S **S** **05 10 21.9 -1.2**
WMQ pmax pmax
comp=Z,14nm,1.1s
WMQ LR LR
comp=Z,690nm,16.1s
WMQ LR LR
comp=Z,620nm,18.1s
WMQ LR LR
comp=Z,440nm,22.5s
URZ Urewera 58.86 150 LR LR 05 27 39.6
comp=Z,238nm,18.2s,baz=328,slow=36
BKZ Black Stump Fm 59.28 151 **P** **05 02 38.2 +1.3**
TIXI Tiksi 60.09 354 LR LR 05 33 06.0
comp=Z,182nm,18.5s,baz=176,slow=40
SDPT Sand Point 60.49 33 P **P** **05 02 44.0 -1.0**
ZSN Zaisan 60.56 318 *e*P **P** **05 02 44.5 -1.3**
CNBA Chernabura Isl 60.76 33 P **P** **05 02 46.6 -0.2**
DCZ Deep Cove 61.04 162 P **P** **05 02 48.2 -0.5**
MKAR Makanchi Array 62.12 317 P **P** **05 02 56.4 +0.1**
MKAR Makanchi Array 62.12 317 P **P** **05 02 55.6 -0.6**
comp=Z,2.6nm,0.5s,baz=90,slow=8.8,SNR=36
MKAR LR LR 05 31 15.9
comp=Z,379nm,18.4s,baz=92,slow=37
comp=Z,2.6nm,0.5s
ZAA0 Zalesovo Array 62.42 325 P **P** **05 02 56.8 -1.4**
ZALV Zalesovo Beam 62.42 325 P **P** **05 02 56.8 -1.3**
ZALV Zalesovo Beam 62.42 325 P **P** **05 02 57.4 -0.7**
comp=Z,2.5nm,0.6s,baz=100,slow=5.8,SNR=11
ZALV LR LR 05 30 17.3
comp=Z,552nm,19.2s,baz=110,slow=36
comp=Z,2.5nm,0.6s
PALK Pallekele 62.85 272 LR LR 05 29 52.8
comp=Z,302nm,19.8s,baz=83,slow=36
L16K Owhat River 63.56 26 P **P** **05 03 05.4 -0.1**
L16K IAmb IAmb 05 04 27.9
comp=Z,8.4nm,1.3s
RAR Rarotonga 64.13 121 LR LR 05 27 25.7
comp=Z,200nm,20.7s,baz=286,slow=32
SATY Saty 64.20 312 *e*P **P** **05 03 08.9 -1.4**
comp=Z,12nm,1.4s
TDK Taldyqorghan 64.47 314 *e*P **P** **05 03 10.8 -1.1**
O18K Koktuh Hills 64.78 29 P **P** **05 03 13.2 -0.4**
KURK Kurchatov 65.29 320 P **P** **05 03 16.6 -0.5**
KURBB Kurchatov Arra 65.33 320 P **P** **05 03 16.7 -0.6**
comp=Z,6.3nm,0.6s,baz=104,slow=6.7,SNR=57
KURBB LR LR 05 32 47.1
comp=Z,1µm,18.4s,baz=158,slow=37
comp=Z,6.3nm,0.6s
KDAK Kodiak Island 65.42 32 P **P** **05 03 18.9 +1.1**
KDAK Kodiak Island 65.42 32 LR LR 05 27 52.3
comp=Z,191nm,21.9s,baz=245,slow=32
P19K Oil Pt 65.66 30 P **P** **05 03 19.4 0.0**
P19K IAmb IAmb 05 03 36.2
comp=Z,8.8nm,0.9s
KSH Kashi 65.68 308 P **P** **05 03 21.5 +1.5**
KSH pmax pmax
comp=Z,8.0nm,1.3s
KSH LR LR
comp=Z,420nm,20.6s
KSH LR LR
comp=Z,460nm,22.0s
KSH LR LR
comp=Z,410nm,20.6s
SYI Shuyak Island 65.76 31 P **P** **05 03 19.4 -0.5**
KUU Kurty 65.80 313 *e*P **P** **05 03 19.4 -1.1**
comp=Z,9.5nm,1.2s
BOOM Boomskoye usch 65.95 311 IAmb IAmb 05 03 33.5
comp=Z,7.0nm,1.1s
CNPM China Poot 66.59 30 P **P** **05 03 24.7 -0.6**
CNPM IAmb IAmb 05 04 24.1
comp=Z,11nm,1.1s
J20K Nowinta River 66.77 25 IAmb IAmb 05 03 28.3
comp=Z,12nm,1.4s
E19K Redstone River 66.89 21 P **P** **05 03 27.5 +0.5**
E19K IAmb IAmb 05 03 50.6
comp=Z,5.7nm,0.9s
SGDS Sogindy 66.99 312 *e*P **P** **05 03 27.1 -1.1**
AAK Ala-Archa 67.02 311 LR LR 05 35 32.2
comp=Z,519nm,18.4s,baz=106,slow=38
CAST Castle Rocks 67.37 26 P **P** **05 03 30.3 +0.1**
BTLS Baital 67.55 314 *e*P **P** **05 03 30.5 -1.1**
comp=Z,8.0nm,1.2s
NIL Nilore 67.67 301 P **P** **05 03 31.9 -0.7**
RC01 Rabbit Creek A 67.74 29 P **P** **05 03 32.2 -0.4**
RC01 IAmb IAmb 05 03 43.4
comp=Z,8.2nm,1.1s
KTH Kantishna Hill 67.91 26 IAmb IAmb 05 04 12.0
comp=Z,11nm,1.1s
BPAW Bear Paw Mtn. 68.05 25 IAmb IAmb 05 04 18.1
comp=Z,7.3nm,1.2s
PWL Port Wells 68.34 29 P **P** **05 03 36.0 -0.4**
PWL IAmb IAmb 05 04 14.9
comp=Z,13nm,1.0s
MLY Manley 68.44 24 IAmb IAmb 05 03 50.0
comp=Z,6.6nm,1.1s
RND Reindeer 68.76 26 P **P** **05 03 39.0 0.0**
RND IAmb IAmb 05 03 51.1
comp=Z,10nm,1.3s
BRZS Berezniki 68.95 319 *e*P **P** **05 03 39.4 -1.0**
SCM Sheep Creek Mo 69.05 28 P **P** **05 03 40.6 -0.2**
E22K Anaktuvuk Pass 69.05 21 IAmb IAmb 05 03 53.4
comp=Z,12nm,1.3s
G23K Bananza Creek 69.24 23 IAmb IAmb 05 04 22.2
comp=Z,26nm,2.0s
COLD Coldfoot 69.33 22 IAmb IAmb 05 03 55.9
comp=Z,6.6nm,1.0s
DZA Taraz 69.36 311 *e*P **P** **05 03 42.0 -1.1**
CCB Clear Creek Bu 69.53 25 IAmb IAmb 05 03 49.2
comp=Z,18nm,1.8s
KLU Klutina 69.62 29 P **P** **05 03 44.7 +0.3**
KLU IAmb IAmb 05 04 24.4
comp=Z,11nm,1.3s
D23K Nanushuk River 69.72 20 P **P** **05 03 46.1 +1.3**
D23K IAmb IAmb 05 04 08.6
comp=Z,13nm,1.1s
E23K Chandalar 69.80 21 IAmb IAmb 05 03 52.1
comp=Z,14nm,1.1s
H24K Noodor Dome 69.82 24 IAmb IAmb 05 04 55.3
comp=Z,16nm,1.5s
HDA Harding Lake 69.83 26 P **P** **05 03 46.9 +1.4**
IL31 69.94 25 IAmb IAmb 05 03 51.4
comp=Z,9.1nm,1.4s
ILAR Eielson Array 69.94 25 P **P** **05 03 45.1 -1.1**
ILAR Eielson Array 69.94 25 P **P** **05 03 44.8 -1.4**
comp=Z,0.9nm,0.5s,baz=251,slow=5.9,SNR=12
ILAR LR LR 05 34 16.2
comp=Z,280nm,19.6s,baz=258,slow=36
comp=Z,0.9nm,0.5s
KK31 Karatay Array 69.97 312 P **P** **05 03 45.7 -1.1**
KKAR Karatay Array 69.97 312 P **P** **05 03 45.4 -1.4**
TOLK Toolik Lake Re 70.00 21 P **P** **05 03 47.5 +0.9**
TOLK IAmb IAmb 05 04 32.8
comp=Z,15nm,1.3s
GAR Garm 70.05 307 P **P** **05 03 46.9 -0.6**
KAIM Kayak Island 70.05 30 P **P** **05 03 47.2 +0.3**
K24K Donnelly Dome 70.19 26 P **P** **05 03 48.5 +0.8**
K24K IAmb IAmb 05 04 29.0
comp=Z,14nm,1.2s
IUG Iuzhnay 70.30 310 *e*P **P** **05 03 47.8 -1.2**
BRLS Boroldaу 70.46 311 *e*P **P** **05 03 49.4 -0.4**
J25K Salcha River, 70.54 25 IAmb IAmb 05 05 00.7
comp=Z,12nm,1.6s
GLB Gilahina Butte 70.61 29 IAmb IAmb 05 03 58.1
comp=Z,9.0nm,1.1s
CHM Chimkent 70.62 311 *e*P **P** **05 03 49.6 -1.2**
C24K Franklin Bluff 70.63 20 IAmb IAmb 05 04 28.1
comp=Z,16nm,1.2s
BVAR Borovoye Array 70.67 322 P **P** **05 03 49.5 -1.3**
comp=Z,7.1nm,0.5s,baz=101,slow=8.4,SNR=38
BVAR LR LR 05 36 09.6
comp=Z,1µm,18.6s,baz=95,slow=37
comp=Z,7.1nm,0.5s
BRVK Borovoye 70.74 322 P **P** **05 03 50.9 -0.3**
BRVK IAmb IAmb 05 03 52.4
comp=Z,9.3nm,0.8s
CRQM Cirque 70.81 30 P **P** **05 03 52.3 +0.4**
CRQM IAmb IAmb 05 03 57.3
comp=Z,14nm,1.2s
DOT Dot Lake 70.90 27 P **P** **05 03 52.2 +0.1**
SCRK Sand Creek 71.00 26 P **P** **05 03 53.9 +1.1**
SIMJ Simiganj 71.07 307 P **P** **05 03 52.3 -1.4**
SIMJ IAmb IAmb 05 04 07.4
comp=Z,12nm,0.9s
F25K Christian Rive 71.12 22 P **P** **05 03 54.8 +1.3**
KBL Kabul 71.14 302 P **P** **05 03 52.0 -2.3**
KBL IAmb IAmb 05 04 08.4
comp=Z,14nm,1.1s
E25K Arctic Village 71.28 22 IAmb IAmb 05 04 18.0
comp=Z,25nm,1.8s
GRNC Granite Creek 71.48 30 P **P** **05 03 55.8 -0.1**
GRNC IAmb IAmb 05 04 26.2
comp=Z,7.7nm,0.7s
BMAR Burnt Mountain 71.48 23 P **P** **05 03 56.0 +0.4**
PPT Papeete 71.61 113 LR LR 05 30 58.5
comp=Z,287nm,18.3s,baz=290,slow=32
PPT2 Papeete2 71.62 113 *e*S **S** **05 13 10.7 -4.5**
comp=Z,128nm,25.5s
PPT2 Papeete2 71.62 113 *e*LR LR 05 25 31.3
comp=Z,407nm,30.8s
PPT2 *e*LR LR 05 25 45.6
comp=Z,630nm,28.8s
G26K Porcupine Rive 71.68 23 IAmb IAmb 05 04 04.2
comp=Z,14nm,1.4s
F26K Sheenjek River 71.71 22 IAmb IAmb 05 04 04.4
comp=Z,26nm,1.8s
BCAR Beaver Creek A 71.81 27 P **P** **05 03 57.2 -0.5**
O28M Mount Upton 72.25 30 IAmb IAmb 05 04 08.8
comp=Z,7.0nm,0.8s
C27K Jago River 72.29 20 IAmb IAmb 05 04 46.0
comp=Z,14nm,1.4s
H27K Steamboat Moun 72.43 24 IAmb IAmb 05 04 06.9
comp=Z,10nm,1.1s
M29M Somme Creek 73.25 28 IAmb IAmb 05 04 17.4
comp=Z,12nm,1.6s
HYT Haines Junctio 73.57 30 P **P** **05 04 08.6 +0.4**
E28M Babbage River 73.57 22 IAmb IAmb 05 04 25.1
comp=Z,16nm,1.6s
H29M Whitestone 73.70 24 IAmb IAmb 05 04 17.2
comp=Z,8.2nm,1.1s
TBI Tubuai 73.73 119 *e*S **S** **05 13 40.9 +1.9**
comp=Z,1µm,31.2s
TBI *e*SS **SS** **05 18 21.9 -1.4**
comp=Z,2µm,40.2s
TBI *e*LR LR 05 26 32.5
comp=Z,2µm,31.8s
TBI *e*LR LR 05 26 45.0
comp=Z,1µm,31.0s
M30M Minto, Yukon 74.03 28 P **P** **05 04 11.1 +0.3**
E29M Blow River 74.14 22 IAmb IAmb 05 04 44.2
comp=Z,20nm,1.9s
WHY Whitehorse 74.84 30 IAmb IAmb 05 04 49.5
comp=Z,10.0nm,1.0s
G31M Satah River 75.39 24 IAmb IAmb 05 04 36.8
comp=Z,13nm,1.0s
INK Inuvik 75.75 22 P **P** **05 04 20.2 -0.3**
INK IAmb IAmb 05 04 33.4
comp=Z,22nm,1.6s
WRAK Wrangell Islan 76.15 35 P **P** **05 04 23.4 +0.4**
WRAK IAmb IAmb 05 04 36.7
comp=Z,7.2nm,0.8s
MMPY Sheldon Lake, 76.59 28 IAmb IAmb 05 04 42.8
comp=Z,17nm,1.8s
ABKAR Akbulak array 77.21 318 P **P** **05 04 27.9 -1.3**
DLBC Dease Lake 77.33 33 LR LR 05 34 28.4
comp=Z,12nm,21.6s,baz=233,slow=32
ARTI Arti 77.68 325 P **P** **05 04 29.9 -1.8**
ARTI IAmb IAmb 05 04 54.2
comp=Z,6.7nm,0.8s
ARTI Arti 77.68 325 LR LR 05 40 56.4
comp=Z,310nm,18.1s,baz=69,slow=37
TAOE Nuku Hiva Isla 77.86 102 *e*S **S** **05 14 25.8 +0.6**
comp=Z,81nm,25.3s
TAOE Nuku Hiva Isla 77.86 102 *e*LR LR 05 28 28.9
comp=Z,273nm,28.4s
WTLY Watson Lake, Y 77.87 31 P **P** **05 04 33.8 +1.0**
WTLY IAmb IAmb 05 04 46.7
comp=Z,8.1nm,0.7s
AKTO Aktyubinsk 78.36 319 LR LR 05 42 16.7
comp=Z,255nm,18.5s,baz=45,slow=38
KIRV Kirov 82.22 328 LR LR 05 44 23.9
comp=Z,522nm,18.1s,baz=78,slow=38
H04A Detroit Lake 83.89 46 IAmb IAmb 05 05 30.5
comp=Z,11nm,1.2s
YBH Yreka Blue Hor 84.08 49 IAmb IAmb 05 05 15.1
comp=Z,6.5nm,0.8s
YKA Yellowknife Ar 84.23 27 P **P** **05 05 06.5 0.0**
comp=Z,1.4nm,0.6s,baz=298,slow=11,SNR=7.8
YKA LR LR 05 44 05.1
comp=Z,232nm,19.0s,baz=304,slow=37
comp=Z,1.4nm,0.6s
BELG Belogornoye 84.48 322 LR LR 05 44 32.8
comp=Z,818nm,19.2s,baz=128,slow=37
J05D Fort Rock, OR 84.84 47 IAmb IAmb 05 05 18.8
comp=Z,7.9nm,0.8s
B08A Colville Reser 85.05 42 IAmb IAmb 05 05 36.4
comp=Z,6.5nm,0.9s
SPITS Spitsbergen Ar 85.27 351 LR LR 05 44 29.2
comp=Z,360nm,19.3s,baz=54,slow=36
RES Resolute Bay 85.93 13 LR LR 05 44 27.2
comp=Z,110nm,20.5s,baz=290,slow=36
G08A Pilot Rock 86.00 45 P **P** **05 05 17.2 +1.3**
NEW Newport 86.51 41 IAmb IAmb 05 05 26.9
comp=Z,7.4nm,0.8s
J08A Circle Bar Ran 86.79 46 IAmb IAmb 05 05 30.6
comp=Z,9.6nm,1.2s
WVOR Wild Horse Val 86.89 47 IAmb IAmb 05 05 46.0
comp=Z,13nm,1.4s
BMO Blue Mountains 87.24 45 IAmb IAmb 05 05 31.9
comp=Z,7.7nm,0.8s
PLID Pearl Lake 88.07 44 IAmb IAmb 05 05 35.4
comp=Z,6.7nm,0.8s
NVAR Mina Array Bea 88.09 51 P **P** **05 05 27.5 +1.1**
comp=Z,2.2nm,0.7s,baz=267,slow=4.9,SNR=15
comp=Z,2.2nm,0.7s
ARCES ARCESS Array B 88.19 342 P **P** **05 05 25.1 -0.7**
comp=Z,1.0nm,0.5s,baz=65,slow=7.2,SNR=16
ARCES LR LR 05 48 21.0
comp=Z,289nm,19.2s,baz=78,slow=38
comp=Z,1.0nm,0.5s
NV11 Mina Array Sit 88.21 51 IAmb IAmb 05 05 52.9
comp=Z,9.0nm,1.3s
GNI Garni 89.43 311 LR LR 05 49 45.8
comp=Z,186nm,19.5s,baz=64,slow=38
HLID Hailey 89.59 45 P **P** **05 05 33.7 +0.5**
HLID IAmb IAmb 05 05 43.6
comp=Z,5.8nm,1.0s
KBZ Khabaz 89.76 315 LR LR 05 49 35.3
comp=Z,385nm,19.5s,baz=62,slow=38
ELK Elko 89.78 48 IAmb IAmb 05 05 43.4
comp=Z,6.4nm,0.8s
WCT Wildcat Mounta 89.80 52 IAmb IAmb 05 05 41.5
comp=Z,20nm,1.7s
KVAR Kislovodsk Arr 89.83 315 LR LR 05 49 31.8
comp=Z,302nm,19.0s,baz=265,slow=38
GWY Greenwater Val 89.92 53 IAmb IAmb 05 05 42.0
comp=Z,5.2nm,0.9s
OBN Obninsk 89.95 327 LR LR 05 47 54.1
comp=Z,402nm,19.6s,baz=79,slow=37
TPNV Topopah Spring 90.05 52 IAmb IAmb 05 05 59.2
comp=Z,5.9nm,0.8s
R11B Troy Canyon, C 90.18 51 IAmb IAmb 05 05 40.6
comp=Z,12nm,1.8s
PFO Pinyon Flats O 90.76 55 LR LR 05 40 59.1
comp=Z,193nm,20.3s,baz=286,slow=32
SHPR Sheep Range 91.01 52 P **P** **05 05 39.7 -0.2**
PSUT Pine Spring 91.43 50 IAmb IAmb 05 05 57.7
comp=Z,4.0nm,0.9s

FINES FINESS Array B 92.15 335 P **P** **05 05 43.0 -1.4**
comp=Z,3.4nm,0.5s,baz=68,slow=4.8,SNR=35
FINES LR LR 05 50 52.3
comp=Z,324nm,18.7s,baz=49,slow=38
comp=Z,3.4nm,0.5s
HWUT Hardware Ranch 92.18 47 IAmb IAmb 05 05 53.8
comp=Z,3.8nm,0.9s
RLMT Red Lodge 92.60 43 P **P** **05 05 48.6 +1.4**
PDAR Pinedale Array 93.21 45 P **P** **05 05 49.6 -0.5**
comp=Z,0.3nm,0.6s,baz=241,slow=2.7,SNR=5.0
comp=Z,0.3nm,0.6s
SRU San Rafael Swe 93.73 49 IAmb IAmb 05 05 58.4
comp=Z,5.7nm,1.3s
JMIC Jan Mayen 94.91 351 LR LR 05 50 06.8
comp=Z,48nm,18.8s,baz=37,slow=36
PV04 Paradox Valley 95.17 49 P **P** **05 06 00.7 +1.6**
PV04 IAmb IAmb 05 06 07.5
comp=Z,4.2nm,0.9s
PV18 Skein Mesa, Pa 95.21 49 P **P** **05 05 59.5 +0.2**
PV02 Paradox Valley 95.35 49 P **P** **05 06 00.7 +0.7**
PV02 IAmb IAmb 05 06 08.2
comp=Z,5.5nm,0.9s
AKASG Malin Array Be 95.82 325 LR LR 05 51 51.1
comp=Z,341nm,18.3s,baz=55,slow=37
BRTR Keskin Array B 97.63 313 LR LR 05 56 23.2
comp=Z,136nm,18.2s,baz=62,slow=39
HFS Hagfors 97.83 337 P **P** **05 06 09.2 -1.2**
comp=Z,1.4nm,0.6s,baz=110,slow=3.5,SNR=6.4
HFS LR LR 05 53 19.0
comp=Z,163nm,20.8s,baz=46,slow=37
comp=Z,1.4nm,0.6s
ASF Jabal al Asfar 97.89 305 LR LR 05 58 09.1
comp=Z,96nm,18.0s,baz=81,slow=40
MAW Mawson 98.04 203 LR LR 05 49 39.5
comp=Z,195nm,18.1s,baz=80,slow=35
NOA NORSAR Array B 98.11 339 LR LR 05 51 44.0
comp=Z,217nm,21.9s,baz=45,slow=36
ANMO Albuquerque 98.21 52 LR LR 05 52 29.4
comp=Z,216nm,18.1s,baz=44,slow=36
LPIG La Paz 98.62 63 LR LR 05 43 43.9
comp=Z,186nm,19.9s,baz=285,slow=31
MMAI Mount Meron Ar 98.79 306 LR LR 05 56 07.3
comp=Z,127nm,19.9s,baz=26,slow=39
DBIC Dimbokro 144.10 300 PKPdf PKPbc 05 12 10.0 +0.2
DBIC Dimbokro 144.10 300 PKP PKPbc 05 12 10.2 +0.3
comp=Z,6.4nm,0.7s,baz=94,slow=4.3,SNR=12
CFA Coronel Fontan 144.34 128 PKP PKPbc 05 12 11.0 +0.8
comp=Z,4.2nm,1.1s,baz=205,slow=4.9,SNR=6.2
TBTG Tabatinga, AM 145.14 80 **PKPdf** **05 12 13.5 -0.2**
LPAZ La Paz 148.25 101 PKPbc **PKiKP** **05 12 23.8 -0.8**
comp=Z,2.7nm,0.7s,baz=214,slow=5.5,SNR=7.7
SIV San Ignacio 155.03 102 PKPab **PKPab** **05 12 54.1 +0.5**
comp=Z,1.1nm,0.8s,baz=262,slow=3.7,SNR=3.2
CPUP Villa Florida 155.24 128 PKPab **PKPab** **05 12 54.2 +0.2**
comp=Z,1.0nm,0.9s,baz=194,slow=6.0,SNR=2.8

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*IDC **22** 04:56:09.0±1.0, 44.2°S×81.0°W, h0km, mb3.8/9, mbtmp3.8/11, ML3.6/2, MS3.6/3, Error ellipse: s-maj=31.6km s-min=20.3km az=106.0*
*NEIC **22** 04:56:11.3±2.5, 44.80°S±0.08°×80.78°W±0.2, h10km±1km, mb4.4/6, Error ellipse: s-maj=23.3km s-min=13.9km az=272.0*
ISC 22 04:56:14.4±0.9, 44.84°S±0.08°×80.8°W±0.1, h35km, n40, σ1°32/36, mb4.0/11, 2C, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AY03	**Cochrane**	**6.21**	**116**	Pn	**Pn**	**04 57 44.7**	**+1.2**
COYC	**Coyhaique**	**6.22**	**100**	Pn	**Pn**	**04 57 45.3**	**+1.7**
LL05	**Los Muermos**	**6.38**	**60**	Pn	**Pn**	**04 57 43.7**	**-2.1**
LL01	**San Ignacio de**	**6.58**	**71**	Pn	**Pn**	**04 57 47.7**	**-0.9**
LR05	**Currie**	**7.97**	**58**	Pn	**Pn**	**04 58 05.8**	**-1.9**
LR03	**Panguipulli**	**8.16**	**53**	Pn	**Pn**	**04 58 09.3**	**-1.0**
GO09	**Cerro Castillo**	**8.58**	**142**	Pn	**Pn**	**04 58 16.2**	**+0.2**
PLCA	**Paso Flores**	**8.59**	**65**	Pn	**Pn**	**04 58 16.3**	**0.0**
PLCA	**Paso Flores**	**8.59**	**65**	Pn	**Pn**	**04 58 16.4**	**+0.1**
	0.3nm,0.3s,baz=239,slow=9.8,SNR=14						
PLCA				LR	LR	05 01 19.2	
	comp=Z,228nm,20.2s,baz=235,slow=36						
	5.8nm,0.9s						
MG05	**Puerto Natales**	**8.80**	**144**	Pn	**Pn**	**04 58 18.5**	**-0.5**
H03S1	**Juan Fernandez**	**11.08**	**8**	T	T	05 10 29.0	
	baz=187,slow=73,SNR=92						
H03S2	**Juan Fernandez**	**11.10**	**8**	T	T	05 10 26.0	
	baz=187,slow=73,SNR=101						
H03S3	**Juan Fernandez**	**11.10**	**8**	T	T	05 10 25.9	
	baz=187,slow=73,SNR=85						
MG03	**Isla Dawson**	**11.25**	**147**	Pn	**Pn**	**04 58 51.7**	**-0.8**
ML02	**Panimavida**	**11.56**	**42**	Pn	**Pn**	**04 58 57.1**	**+0.3**
BO01	**Tunca**	**12.84**	**39**	Pn	**Pn**	**04 59 13.1**	**-1.3**
MT01	**Popeta**	**13.22**	**37**	Pn	**Pn**	**04 59 17.4**	**-2.2**
MT09	**Talagante**	**13.40**	**38**	Pn	**Pn**	**04 59 19.9**	**-2.3**
MT02	**Curacav**	**13.78**	**36**	Pn	**Pn**	**04 59 24.4**	**-2.9**
VA03	**San Esteban**	**14.46**	**37**	Pn	**Pn**	**04 59 34.4**	**-2.2**
CO02	**Combarbal**	**15.64**	**33**	Pn	**Pn**	**04 59 50.8**	**-1.5**
CO03	**El Pedregal**	**16.09**	**33**	Pn	**Pn**	**04 59 57.3**	**-0.6**
CO03				IAmb	IAmb	05 00 29.7	
	comp=Z,33nm,1.4s						
CFA	**Coronel Fontan**	**16.48**	**41**	Pn	**P**	**05 00 03.6**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=277,slow=20,SNR=2.9						
	comp=Z,2.2nm,1.0s						
CPUP	**Villa Florida**	**26.42**	**54**	P	**P**	**05 01 48.6**	**+0.9**
CPUP	**Villa Florida**	**26.42**	**54**	P	**P**	**05 01 48.5**	**+0.8**
	comp=Z,1.7nm,1.0s,baz=90,slow=8.8,SNR=4.8						
CPUP				LR	LR	05 12 32.8	
	comp=Z,56nm,19.6s,baz=53,slow=37						
	comp=Z,1.7nm,1.0s						
LPAZ	**La Paz**	**30.41**	**25**	P	**P**	**05 02 25.0**	**+1.0**
	comp=Z,1.6nm,1.0s,baz=160,slow=18,SNR=4.4						
	comp=Z,1.6nm,1.0s						
SIV	**San Ignacio**	**33.24**	**36**	P	**P**	**05 02 48.3**	**+0.1**
	comp=Z,2.6nm,1.2s,baz=246,slow=6.6,SNR=4.4						
	comp=Z,2.6nm,1.2s						
BDFB	**Brasilia**	**40.15**	**54**	P	**P**	**05 03 48.9**	**+1.7**
	comp=Z,2.4nm,0.8s,baz=280,slow=12,SNR=3.0						
	comp=Z,2.4nm,0.8s						
VNA3	**Neumayer Olymp**	**42.32**	**153**	⇑P	**P**	**05 04 04.3**	**-0.1**
	comp=Z,5.6nm,0.8s						
SNAA	**Sanae**	**44.48**	**154**	⇑P	**P**	**05 04 21.8**	**+0.1**
	comp=Z,87nm,0.9s						
SNAA	**Sanae**	**44.48**	**154**	P	**P**	**05 04 22.4**	**+0.6**
SNAA				IAmb	IAmb	05 04 29.9	
	comp=Z,6.2nm,1.0s						
SNAA	**Sanae**	**44.48**	**154**	P	**P**	**05 04 21.3**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=296,slow=8.8,SNR=5.3						
	comp=Z,1.2nm,0.8s						
QSPA	**South Pole Qui**	**45.40**	**180**	P	**P**	**05 04 28.0**	**-1.3**
QSPA				IAmb	IAmb	05 04 37.6	
	comp=Z,7.6nm,1.2s						
QSPA	**South Pole Qui**	**45.40**	**180**	P	**P**	**05 04 28.3**	**-1.0**
	comp=Z,1.8nm,1.0s,baz=142,slow=4.6,SNR=8.2						
	comp=Z,1.8nm,1.0s						
ROSC	**El Rosal**	**49.80**	**8**	LR	LR	05 23 30.9	
	comp=Z,186nm,21.0s,baz=218,slow=33						
TXAR	**Lajitas Array**	**76.71**	**340**	P	**P**	**05 08 03.2**	**+1.4**
TXAR	**Lajitas Array**	**76.71**	**340**	P	**P**	**05 08 01.6**	**-0.3**
	comp=Z,0.6nm,1.0s,baz=152,slow=4.8,SNR=3.8						
	comp=Z,0.6nm,1.0s						
WMOK	**Wichita Mounta**	**80.87**	**345**	P	**P**	**05 08 25.2**	**+0.7**
WMOK				IAmb	IAmb	05 08 34.7	
	comp=Z,2.9nm,1.1s						
NVAR	**Mina Array Bea**	**89.52**	**331**	P	**P**	**05 09 07.9**	**0.0**
	comp=Z,0.3nm,0.7s,baz=110,slow=8.7,SNR=4.2						
	comp=Z,0.3nm,0.7s						
PDAR	**Pinedale Array**	**90.92**	**339**	P	**P**	**05 09 15.6**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=168,slow=3.6,SNR=2.5						
	comp=Z,0.2nm,0.6s						

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*IDC **22** 05:13:04.3±4.9, 44.92°S×80.81W, h0km, mb3.6/5, mbtmp3.6/7, ML3.6/2, Error ellipse: s-maj=125.2km s-min=34.2km az=169.0*
ISC 22 05:13:09.0±3.6, 45.1°S±0.6°×80.6°W±0.2, h35km, n10, σ0°90/7, mb3.6/5, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**8.53**	**63**	Pn	**Pn**	**05 15 09.8**	**-0.3**
	0.3nm,0.3s,baz=238,slow=10,SNR=20						
	2.5nm,0.7s						
H03S1	**Juan Fernandez**	**11.26**	**7**	T	T	05 27 20.1	
	baz=186,slow=73,SNR=39						
H03S2	**Juan Fernandez**	**11.27**	**7**	T	T	05 27 18.8	
	baz=186,slow=73,SNR=48						
H03S3	**Juan Fernandez**	**11.28**	**7**	T	T	05 27 18.1	
	baz=186,slow=73,SNR=29						
CFA	**Coronel Fontan**	**16.52**	**40**	Pn	**Pn**	**05 16 58.0**	**-0.1**
	0.1nm,0.3s,baz=228,slow=15,SNR=2.9						
	1.9nm,1.1s						
CPUP	**Villa Florida**	**26.40**	**53**	P	**P**	**05 18 43.2**	**+1.0**
	0.3nm,0.4s,baz=242,slow=7.3,SNR=3.0						
	0.3nm,0.4s						
LPAZ	**La Paz**	**30.53**	**24**	P	**P**	**05 19 20.3**	**+0.6**
	1.1nm,0.9s,baz=205,slow=9.9,SNR=4.9						
	1.1nm,0.9s						
SIV	**San Ignacio**	**33.30**	**36**	P	**P**	**05 19 42.7**	**-0.7**
	0.6nm,0.7s,baz=214,slow=6.3,SNR=4.7						
	0.6nm,0.7s						
TXAR	**Lajitas Array**	**76.96**	**339**	P	**P**	**05 24 56.9**	**-0.9**
	0.4nm,1.0s,baz=171,slow=8.9,SNR=5.4						
	0.4nm,1.0s						
NVAR	**Mina Array Bea**	**89.78**	**331**	P	**P**	**05 26 04.3**	**+0.6**
	0.1nm,0.3s,baz=193,slow=4.6,SNR=4.1						
	0.1nm,0.3s						

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*IDC **22** 05:20:14.6±3.6, 54.22°N×87.27°E, h0km, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=33.5km s-min=21.3km az=46.0*
ASRS 22 05:20:14.0±1.1, 54.19°N×87.09°E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.36**	**261**	I	I	05 29 10.0	
	baz=79,slow=318,SNR=2.1						
ZALV	**Zalesovo Beam**	**1.36**	**261**	Pg	Pb	05 20 40.6	+0.2
	0.7nm,0.3s,baz=81,slow=18,SNR=8.9						
ZALV				Lg	Lg	05 21 01.8	
	0.8nm,0.3s,baz=80,slow=28,SNR=5.4						
KURBB	**Kurchatov Arra**	**6.34**	**239**	Pn	Pn	05 21 51.0	+2.4
	baz=54,slow=13,SNR=1.8						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**8.01**	**204**	Pn	Pn	05 22 14.8	+3.2
	baz=26,slow=13,SNR=1.5						
	0.1nm,0.3s						

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*ASRS **22** 05:24:46.0±0.5, 54.59°N×86.64°E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 22 05:24:47.2±3.2, 54.67°N×86.74°E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=26.1km s-min=17.3km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**238**	I	I	05 32 40.0	
	baz=59,slow=312,SNR=2.9						
ZALV	**Zalesovo Beam**	**1.34**	**238**	Pg	Pg	05 25 11.2	-1.6
	0.7nm,0.3s,baz=59,slow=17,SNR=13						
ZALV				Lg	Lg	05 25 28.7	
	1.9nm,0.3s,baz=57,slow=27,SNR=10						
KURBB	**Kurchatov Arra**	**6.43**	**234**	Pn	Pn	05 26 23.7	+0.6
	baz=51,slow=14,SNR=5.5						
KURBB				Lg	Lg	05 28 15.7	
	baz=47,slow=30,SNR=4.0						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.38**	**201**	Pn	Pn	05 26 51.2	+1.4
	baz=20,slow=12,SNR=1.7						
MKAR				Sn	Sn	05 28 25.0	-0.1
	baz=24,slow=26,SNR=2.9						
MKAR				Lg	Lg	05 29 15.6	
	baz=20,slow=26,SNR=2.7						
	0.1nm,0.3s						

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*IDC **22** 05:35:17.0±3.4, 53.48°N×87.51°E, h0km, mbtmp2.6/2, ML2.6/2, Error ellipse: s-maj=33.1km s-min=16.7km az=57.0*
ASRS 22 05:35:13.0±1.1, 53.42°N×87.44°E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.65**	**290**	I	I	05 45 40.0	
	baz=108,slow=320,SNR=4.6						
ZALV	**Zalesovo Beam**	**1.65**	**290**	Pg	Pg	05 35 45.8	+1.2
	1.4nm,0.3s,baz=105,slow=16,SNR=8.5						
ZALV				Lg	Lg	05 36 10.6	
	1.4nm,0.3s,baz=105,slow=25,SNR=6.3						
KURBB	**Kurchatov Arra**	**6.17**	**247**	Pn	Pn	05 36 51.0	+5.7
	0.1nm,0.3s,baz=62,slow=14,SNR=4.7						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.41**	**209**	Pn	Pn	05 37 08.5	+6.1
	0.2nm,0.3s,baz=27,slow=19,SNR=4.0						
	0.1nm,0.3s						

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*IDC **22** 05:40:48.7±2.2, 41.45°N×142.03°E, h69km±17km, mb3.5/10, mbtmp3.7/13, Error ellipse: s-maj=27.3km s-min=15.4km az=114.0*
*NEIC **22** 05:40:49.0±1.3, 41.47°N±0.08°×141.99°E±0.10, h63km±8km, mb4.4/24, Error ellipse: s-maj=14.7km s-min=4.9km az=137.0*
*JMA **22** 05:40:48.3±0.1, 41.5°N±0.3°×142.0°E±0.5, h62km±1km, MV3.5/39, E OFF AOMORI PREF*
JMA Felt I J1 at E OFF AOMORI PREF .
ISC 22 05:40:48.4±0.8, 41.47°N±0.03°×141.99°E±0.04, h63km±7km, n60, σ0°71/73, mb4.1/22, 8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAHD	**Aomorihigashid**	**0.53**	**248**	*i* P	**Pn**	**05 41 01.2**	**+0.4**
JAHD				S	**Sn**	**05 41 10.6**	**+0.6**
JARK	**Aomorirokkasho**	**0.65**	**226**	⇓P	**Pn**	**05 41 02.2**	**0.0**
JARK				⇓S	**Sn**	**05 41 12.3**	**-0.1**
JOT	**Ohata**	**0.71**	**264**	⇓*i*P	**Pn**	**05 41 03.0**	**0.0**
JOT				⇓S	**Sn**	**05 41 13.9**	**+0.3**
JKB	**Kayabe**	**0.83**	**301**	⇓*i*P	**Pn**	**05 41 04.1**	**-0.3**
JTM	**Tenmabayashi**	**0.97**	**226**		**Pn**	**05 41 06.7**	**+0.5**
JTM				Sn	**Sn**	**05 41 19.8**	**+0.5**
JTM	**Tenmabayashi**	**0.97**	**226**	⇓*i*P	**Pn**	**05 41 06.6**	**+0.4**
JTM				⇓S	**Sn**	**05 41 19.6**	**+0.3**
JNBK	**Urakawa-nobuka**	**0.99**	**35**	P	**Pn**	**05 41 06.0**	**-0.5**
ERM	**Erimo**	**1.03**	**58**		**Pn**	**05 41 07.0**	**0.0**
ERM				Sn	**Sn**	**05 41 20.8**	**+0.1**
JEM	**Erimo**	**1.03**	**58**	*i* P	**Pn**	**05 41 06.8**	**-0.1**
JEM				*e*S	**Sn**	**05 41 20.5**	**-0.3**
JANG	**Nango**	**1.15**	**198**	*i* P	**Pn**	**05 41 08.4**	**-0.1**
JANG				S	**Sn**	**05 41 22.8**	**-0.7**
JSR	**Shiriuchi**	**1.18**	**274**	*i* P	**Pn**	**05 41 09.1**	**+0.2**
JSR				S	**Sn**	**05 41 24.6**	**+0.5**
JNB	**Noboribetsu**	**1.23**	**325**	*i* P	**Pn**	**05 41 09.0**	**-0.6**
JNB				S	**Sn**	**05 41 24.1**	**-1.2**
JBT2	**Biratori 2**	**1.34**	**12**	P	**Pn**	**05 41 11.3**	**+0.3**
JYM2	**Yakumo 2**	**1.37**	**299**	⇓*i*P	**Pn**	**05 41 12.0**	**+0.5**
JEW	**Eniwo**	**1.43**	**344**	P	**Pn**	**05 41 12.5**	**+0.3**
JEW				*e*S	**Sn**	**05 41 30.3**	**+0.2**
JOMM	**Oshimamatsumae**	**1.49**	**273**	P	**Pn**	**05 41 13.0**	**+0.1**
JCH	**Churui**	**1.54**	**41**	P	**Pn**	**05 41 14.5**	**+0.8**
JAH	**Hinai**	**1.64**	**219**	P	**Pn**	**05 41 16.0**	**+1.0**
JAH				*e*S	**Sn**	**05 41 36.1**	**+1.0**
ASAJ	**Asahikawa**	**2.69**	**9**	P	**Pn**	**05 41 30.0**	**+0.7**
	17nm,0.3s,baz=208,slow=9.4,SNR=11						
ASAJ				S	**Sn**	**05 42 01.9**	**+1.2**
	21nm,0.5s,baz=32,slow=28,SNR=5.5						
JKA	**Kamikawa-asahi**	**2.69**	**9**		**Pn**	**05 41 30.2**	**+0.9**
JMM	**Marumori**	**3.71**	**195**		**Pn**	**05 41 44.2**	**+0.9**
MJAR	**Matsushiro Arr**	**5.73**	**212**	P	**Pn**	**05 42 11.6**	**+0.7**
	0.9nm,0.3s,baz=21,slow=15,SNR=1.7						
USRK	**Ussuriysk Ar.**	**7.84**	**294**	P	**Pn**	**05 42 40.5**	**+0.7**
	2.7nm,0.6s,baz=89,slow=14,SNR=4.5						
SONM	**Songino Array**	**25.94**	**296**	P	**P**	**05 46 15.8**	**+0.9**
	0.6nm,0.5s,baz=90,slow=5.8,SNR=2.9						
	0.6nm,0.5s						
G18K	**Tagagawik**	**40.64**	**33**	P	**P**	**05 48 22.4**	**+0.4**
G18K				IAmb	IAmb	05 49 02.4	
	comp=Z,8.7nm,1.3s						
B20K	**Meade River**	**41.81**	**27**	P	**P**	**05 48 31.7**	**+0.3**
MKAR	**Makanchi Array**	**42.28**	**298**	P	**P**	**05 48 35.7**	**+0.1**
MKAR	**Makanchi Array**	**42.28**	**298**	P	**P**	**05 48 34.8**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=83,slow=11,SNR=4.3						
	comp=Z,0.5nm,0.5s						
J20K	**Nowinta River**	**42.44**	**36**	P	**P**	**05 48 36.5**	**-0.1**
J20K				IAmb	IAmb	05 48 56.8	
	comp=Z,4.7nm,1.4s						
IMAR	**Indian Mountai**	**42.66**	**33**	P	**P**	**05 48 38.8**	**+0.5**
D22K	**Ayikyak River**	**43.24**	**29**	P	**P**	**05 48 43.9**	**+0.8**
D22K				IAmb	IAmb	05 49 10.8	
	comp=Z,12nm,1.4s						
E22K	**Anaktuvuk Pass**	**43.51**	**30**	P	**P**	**05 48 46.1**	**+0.7**
E22K				IAmb	IAmb	05 49 17.4	
	comp=Z,4.1nm,1.3s						
KURK	**Kurchatov**	**43.66**	**305**	P	**P**	**05 48 46.1**	**-0.6**
KURBB	**Kurchatov Arra**	**43.74**	**304**	P	**P**	**05 48 46.1**	**-1.2**
	comp=Z,1.4nm,0.5s,baz=78,slow=8.8,SNR=5.0						
	comp=Z,1.4nm,0.5s						
E24K	**Your Creek**	**44.76**	**30**	P	**P**	**05 48 56.0**	**+0.7**
F24K	**Squaw Lake**	**44.99**	**31**	P	**P**	**05 48 56.9**	**-0.2**
ILAR	**Eielson Array**	**45.56**	**35**	P	**P**	**05 49 01.4**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=285,slow=9.8,SNR=7.1						
	comp=Z,0.5nm,0.8s						
SCRK	**Sand Creek**	**46.90**	**36**	P	**P**	**05 49 12.9**	**+0.6**
K27K	**Chicken**	**47.73**	**35**	P	**P**	**05 49 19.1**	**+0.6**
BVAR	**Borovoye Array**	**48.01**	**310**	P	**P**	**05 49 21.5**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=83,slow=8.6,SNR=3.4						
	comp=Z,0.9nm,0.4s						
I28M	**Miner Creek**	**48.38**	**33**	P	**P**	**05 49 24.9**	**+1.2**
I28M				IAmb	IAmb	05 49 26.7	
	comp=Z,2.2nm,1.1s						
I30M	**Mount Dempster**	**49.89**	**33**	P	**P**	**05 49 37.0**	**+1.8**
I30M				IAmb	IAmb	05 49 59.0	
	comp=Z,2.8nm,1.1s						
INK	**Inuvik**	**50.27**	**29**	P	**P**	**05 49 39.0**	**+1.1**
INK				IAmb	IAmb	05 50 03.7	
	comp=Z,3.6nm,1.1s						
G31M	**Satah River**	**50.32**	**31**	P	**P**	**05 49 39.4**	**+1.2**
G31M				IAmb	IAmb	05 50 15.3	
	comp=Z,9.9nm,1.4s						
H31M	**Peel River**	**50.57**	**32**	P	**P**	**05 49 42.0**	**+1.8**
H31M				IAmb	IAmb	05 49 43.0	
	comp=Z,3.5nm,1.0s						
U33K	**Whale Pass**	**54.27**	**43**	P	**P**	**05 50 08.2**	**+0.5**
COEN	**Coen**	**55.15**	**179**	P	**P**	**05 50 13.9**	**-0.6**
COEN				IAmb	IAmb	05 50 15.9	
	comp=Z,8.8nm,1.2s						
EUNU	**Eureka**	**55.74**	**9**	P	**P**	**05 50 18.6**	**+0.5**
WB0	**Warramunga Arr**	**61.33**	**188**	P	**P**	**05 50 57.1**	**-0.4**
WR8	**Warramunga Arr**	**61.50**	**188**	P	**P**	**05 50 58.2**	**-0.4**
WR8				IAmb	IAmb	05 51 38.7	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**61.51**	**188**	P	**P**	**05 50 57.5**	**-1.2**
WRA	**Warramunga Arr**	**61.51**	**188**	P	**P**	**05 50 57.7**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=7.4,slow=7.3,SNR=1.4						
	comp=Z,0.2nm,0.5s						
PALK	**Pallekele**	**63.82**	**256**	P	**P**	**05 51 13.6**	**-0.8**
FIA1	**FINESS Array S**	**65.12**	**332**	P	**P**	**05 51 22.3**	**+0.1**
FINES	**FINESS Array B**	**65.12**	**332**	P	**P**	**05 51 22.3**	**+0.2**
FINES	**FINESS Array B**	**65.12**	**332**	P	**P**	**05 51 22.1**	**0.0**
	comp=Z,0.7nm,0.5s,baz=57,slow=7.0,SNR=7.1						
	comp=Z,0.7nm,0.5s						
NC405	**NORSAR Array S**	**70.08**	**337**	P	**P**	**05 51 52.6**	**-0.8**
NC405				IAmb	IAmb	05 52 09.7	
	comp=Z,13nm,1.3s						
HFS	**Hagfors**	**70.24**	**335**	P	**P**	**05 51 54.0**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=57,slow=5.5,SNR=5.6						
	comp=Z,1.4nm,0.8s						
NOA	**NORSAR Array B**	**70.28**	**337**	P	**P**	**05 51 54.3**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=29,slow=8.9,SNR=1.4						
	comp=Z,0.8nm,0.8s						
AKASG	**Malin Array Be**	**71.08**	**322**	P	**P**	**05 51 59.5**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=44,slow=6.7,SNR=5.5						
	comp=Z,0.5nm,0.3s						

ASRS 22 05:47:16.0±0.8, 54.09°N×87.19°E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

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*IDC **22** 05:47:38.9±3.5, 54.20°N×87.49°E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=29.9km s-min=20.1km az=41.0*
ASRS 22 05:47:38.0±1.5, 54.23°N×86.47°E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**255**	I	I	05 56 30.0	
	baz=81,slow=320,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.01**	**254**	Pg	Pn	05 48 07.3	+7.9
	2.9nm,0.3s,baz=80,slow=16,SNR=20						
ZALV				Lg	Lg	05 48 29.7	
	0.9nm,0.3s,baz=79,slow=30,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.05**	**237**	Pn	Pb	05 49 16.9	-7.3
	baz=56,slow=13,SNR=4.5						
KURBB				Lg	Lg	05 51 08.1	
	baz=55,slow=29,SNR=4.6						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**7.91**	**201**	Pn	Pn	05 49 39.3	+5.1
	0.1nm,0.3s,baz=18,slow=12,SNR=1.5						
	0.1nm,0.3s						

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*ASRS **22** 05:54:39.0±1.1, 54.27°N×86.85°E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 22 05:54:42.6±3.3, 54.29°N×86.73°E, h0km, mbtmp3.0/2, ML2.4/2, Error ellipse: s-maj=27.5km s-min=16.3km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.17**	**254**	I	I	06 02 50.0	
	baz=75,slow=317,SNR=3.7						
ZALV	**Zalesovo Beam**	**1.17**	**254**	Pg	Pg	05 55 03.3	-1.8
	2.2nm,0.3s,baz=71,slow=17,SNR=12						
ZALV				Lg	Lg	05 55 21.6	
	2.5nm,0.3s,baz=73,slow=26,SNR=6.4						
KURBB	**Kurchatov Arra**	**6.21**	**237**	Pn	Pn	05 56 16.2	+0.8

comp=Z,85nm,18.9s,baz=304,slow=31
1.0nm,0.9s
NOA NORSAR Array B 24.47 53 LR LR 06 36 57.5
comp=Z,17nm,18.6s,baz=60,slow=34
GERES GERESS Array B 28.66 79 LR LR 06 39 13.9
comp=Z,62nm,19.1s,baz=288,slow=34
MLR Muntele Rosu 37.58 77 LR LR 06 44 27.5
comp=Z,32nm,20.7s,baz=116,slow=34
TKL Tuckaleechee C 40.00 266 LR LR 06 45 20.1
comp=Z,51nm,18.8s,baz=94,slow=33
BRTR Keskin Array B 45.56 79 P **P** **06 31 29.5 -0.6**
0.3nm,0.4s,baz=340,slow=11,SNR=3.6
0.3nm,0.4s
PDAR Pinedale Array 50.73 292 P **P** **06 32 09.2 -0.9**
0.4nm,0.8s,baz=84,slow=6.6,SNR=4.5
0.4nm,0.8s
ANMO Albuquerque 54.16 282 LR LR 06 55 01.8
comp=Z,50nm,19.3s,baz=151,slow=35
TXAR Lajitas Array 56.44 275 P **P** **06 32 53.2 +1.2**
0.1nm,0.5s,baz=62,slow=12,SNR=3.5
0.1nm,0.5s
WRA Warramunga Arr 145.46 23 PKPbc **PKPbc** **06 42 48.2 -0.1**
1.3nm,1.0s,baz=345,slow=3.0,SNR=5.2
ASAR Alice Springs 148.91 26 PKPbc **PKPbc** **06 42 57.8 -0.2**
0.5nm,0.5s,baz=340,slow=2.4,SNR=11

*ASRS **22** 06:24:56.0±0.8,54°.29N×86°.92E,h0km,M2.8,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 06:24:58.0±3.2,54°.29N×86°.98E,h0km,mbtmp3.0/2, ML2.7/2,Error ellipse: s-maj=28.8km s-min=18.2km az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**256**	I		I	06 33 15.9	
	baz=75,slow=319,SNR=13							
ZALV	**Zalesovo Beam**	**1.32**	**256**	Pg		Pg	06 25 22.1	-1.2
	2.3nm,0.3s,baz=71,slow=16,SNR=28							
ZALV				Lg		Lg	06 25 40.5	
	1.8nm,0.3s,baz=77,slow=28,SNR=9.4							
KURBB	**Kurchatov Arra**	**6.34**	**238**	Pn		Pn	06 26 33.5	+0.9
	0.2nm,0.3s,baz=55,slow=15,SNR=4.3							
	1.1nm,0.3s							
MKAR	**Makanchi Array**	**8.07**	**204**	Pn		Pn	06 26 57.6	+1.1
	0.1nm,0.3s,baz=26,slow=14,SNR=4.4							
MKAR				Lg		Lg	06 29 14.8	
	0.1nm,0.3s,baz=15,slow=34,SNR=6.3							
	0.1nm,0.3s							

BUC 22 06:25:23.5±0.1,46°.04N×22°.86E,h4km±1km,ml1.4/11, 37C-8D,Error ellipse: s-maj=1.2km s-min=1.0km az=90.0,Romania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DEV	**Deva**	**0.16**	**170**	↑P		Pg	06 25 26.5	-0.1
DEV				↑S		Sg	06 25 29.4	+0.7
DEV	**Deva**	**0.16**	**170**	↑P		Pg	06 25 26.5	-0.1
DEV				↑S		Sg	06 25 29.4	+0.7
SURR	**Surduc**	**0.59**	**241**	↑P		Pg	06 25 34.2	-0.6
SURR				↑S		Sg	06 25 42.5	+0.1
SURR	**Surduc**	**0.59**	**241**	↑P		Pg	06 25 34.2	-0.6
SURR				↑S		Sg	06 25 42.5	+0.1
GZR	**Gura Zlata**	**0.65**	**185**	↓P		Pg	06 25 35.8	-0.2
GZR				↑S		Sg	06 25 45.1	+0.8
GZR	**Gura Zlata**	**0.65**	**185**	↓P		Pg	06 25 35.8	-0.2
GZR				↑S		Sg	06 25 45.1	+0.8
MARR	**Marisel-Cluj**	**0.66**	**15**	↑P		Pg	06 25 36.0	-0.2
MARR				↓S		Sg	06 25 45.4	+0.6
MARR	**Marisel-Cluj**	**0.66**	**15**	↑P		Pg	06 25 36.0	-0.2
MARR				↓S		Sg	06 25 45.4	+0.6
DRGR		**0.76**	**352**	↑P		Pg	06 25 38.2	+0.2
DRGR				↑S		Sg	06 25 48.8	+0.9
DRGR		**0.76**	**352**	↑P		Pg	06 25 38.2	+0.2
DRGR				↑S		Sg	06 25 48.8	+0.9
SIRR	**Siria**	**0.87**	**286**	↑P		Pg	06 25 40.3	+0.2
SIRR				↑S		Sb	06 25 52.5	-0.6
SIRR	**Siria**	**0.87**	**286**	↑P		Pg	06 25 40.3	+0.2
SIRR				↑S		Sb	06 25 52.5	-0.6
LOT	**Lotru**	**0.87**	**133**	↑P		Pg	06 25 40.6	+0.5
LOT				↑S		Sb	06 25 52.7	-0.5
LOT	**Lotru**	**0.87**	**133**	↑P		Pg	06 25 40.6	+0.5
LOT				↑S		Sb	06 25 52.7	-0.5
BZS	**Buzias**	**0.97**	**245**	↓P		Pg	06 25 42.3	+0.3
BZS				↑S		Sg	06 25 55.1	+0.5
BZS	**Buzias**	**0.97**	**245**	↓P		Pg	06 25 42.3	+0.3
BZS				↑S		Sg	06 25 55.1	+0.5
HERR	**Herculane**	**1.20**	**195**	↑P		Pg	06 25 46.4	-0.2
HERR				↑S		Sb	06 26 02.8	+0.1
HERR	**Herculane**	**1.20**	**195**	↑P		Pg	06 25 46.4	-0.2
HERR				↑S		Sb	06 26 02.8	+0.1
MDVR	**Moldovita**	**1.50**	**213**	↑P		Pb	06 25 51.6	-0.3
MDVR				↑S		Sg	06 26 12.4	+0.8
MDVR	**Moldovita**	**1.50**	**213**	↑P		Pb	06 25 51.6	-0.3
MDVR				↑S		Sg	06 26 12.4	+0.8
VOIR		**1.65**	**111**	↓P		Pn	06 25 53.3	0.0
VOIR				↑S		Sb	06 26 15.6	0.0
VOIR		**1.65**	**111**	↓P		Pn	06 25 53.3	0.0
VOIR		**1.65**	**111**	↓P		Pn	06 25 53.3	0.0
VOIR				↑S		Sb	06 26 15.6	0.0

ROM 22 06:38:54.6±0.1,43°.345N±0°.003×12°.617E±0°.004, h9km,ML0.9/15,1D,Error ellipse: s-maj=0.3km s-min=0.2km az=211.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATSC	**Scheggia e Pas**	**0.09**	**33**	P		Pg	06 38 56.8	-0.4
ATSC				S		Sg	06 38 59.7	+0.8
FOSV	**Fossato di Vic**	**0.12**	**116**	P		Pg	06 38 57.8	+0.4
FOSV				S		Sg	06 38 59.5	+0.2
ATBU	**Serra di Buran**	**0.14**	**339**	P		Pg	06 38 58.5	+0.7
ATBU				S		Sg	06 39 01.2	+1.2
ATLO	**AVT- Montelove**	**0.16**	**259**	P		Pg	06 38 58.6	+0.6
ATLO				S		Sg	06 39 01.3	+0.9
ATVO	**AVT- Monte Val**	**0.16**	**284**	P		Pg	06 38 58.6	+0.6
ATVO				S		Sg	06 39 01.2	+0.8
ATVO				AML		AML		
	comp=E,134μm,0.1s							
ATVO				AML		AML		
	comp=N,126μm,0.4s							
TB03	**Pietralunga**	**0.16**	**290**	P		Pg	06 38 58.6	+0.6
TB03				S		Sg	06 39 01.5	+1.0
ATPC	**Poggio Castell**	**0.18**	**319**	P		Pg	06 38 59.1	+0.6
ATPC				S		Sg	06 39 02.0	+1.0
ATPI	**Pietralunga -**	**0.19**	**304**	P		Pg	06 38 59.4	+0.8
ATPI				S		Sg	06 39 02.6	+1.3
ATPI				AML		AML		
	comp=E,39μm,0.3s							
ATPI				AML		AML		
	comp=E,39μm,0.3s							
ATPI				AML		AML		
	comp=N,35μm,0.4s							
PIEI	**Pieia**	**0.20**	**343**	P		Pg	06 38 59.5	+0.7
PIEI				S		Sg	06 39 02.7	+1.0
PIEI				AML		AML		
	comp=E,59μm,0.9s							
PIEI				AML		AML		
	comp=N,39μm,0.4s							
PIEI				AML		AML		
	comp=E,54μm,0.1s							
PIEI				AML		AML		
	comp=N,35μm,0.1s							
ATVA	**AVT- Monte Val**	**0.25**	**255**	P		Pg	06 39 00.4	+0.7
SNTG	**Esanatoglia**	**0.25**	**111**	P		Pb	06 39 00.8	-0.6
SNTG				S		Sb	06 39 05.0	-0.9
SNTG				AML		AML		
	comp=E,45μm,0.3s							
SNTG				AML		AML		
	comp=N,40μm,1.0s							
SNTG				AML		AML		
	comp=N,39μm,0.2s							
ARVD	**Arcevia**	**0.28**	**57**	P		Pg	06 39 01.1	+0.8
ARVD				S		Sb	06 39 05.8	-0.9
ARVD				AML		AML		
	comp=E,29μm,1.3s							
ARVD				AML		AML		
	comp=N,22μm,0.9s							
ARVD				AML		AML		
	comp=E,22μm,0.2s							
ARVD				AML		AML		
	comp=N,19μm,0.1s							
MPAG	**Monte Paganucc**	**0.30**	**20**	P		Pg	06 39 01.3	+0.6
MPAG				S		Sb	06 39 06.4	-1.1
MPAG				AML		AML		
	comp=E,18μm,0.2s							
MPAG				AML		AML		
	comp=N,20μm,0.2s							
ASSB	**Assisi San Ben**	**0.30**	**174**	P		Pg	06 39 01.5	+0.8
ASSB				S		Sb	06 39 06.6	-0.8
ASSB				AML		AML		
	comp=E,41μm,1.1s							
ASSB				AML		AML		
	comp=N,64μm,0.3s							
ASSB				AML		AML		
	comp=E,32μm,0.1s							
EL6	**Elcito**	**0.35**	**92**	↓P		Pb	06 39 02.5	-0.7
FDMO	**Fiordimonte**	**0.46**	**132**	P		Pb	06 39 04.6	-0.4
GAVE	**Gavelli**	**0.68**	**163**	AML		AML		
GAVE	comp=N,20μm,1.8s							
	comp=E,43μm,1.2s			AML		AML		
GAVE				AML		AML		
	comp=N,20μm,0.2s							

BUC 22 06:40:54.8±0.1,45°.81N×27°.39E,h20km±1km,ml1.8/20, 42C-42D,Error ellipse: s-maj=1.3km s-min=0.8km az=25.0,Romania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
COSR	**Cosmesti PH**	**0.07**	**307**	↑P		Pb	06 40 58.1	-0.4
COSR				↓S		Sb	06 41 01.7	+0.5
COSR	**Cosmesti PH**	**0.07**	**307**	↑P		Pb	06 40 58.1	-0.4
COSR				↓S		Sb	06 41 01.7	+0.5
PANC	**Panciu**	**0.18**	**289**	↓S		Sb	06 41 03.5	-0.7
PANC	**Panciu**	**0.18**	**289**	↓S		Sb	06 41 03.5	-0.7
ODBI	**Odobesti**	**0.24**	**258**	↑P		Pb	06 41 00.6	-0.1
ODBI				↓S		Sb	06 41 05.4	+0.6
ODBI	**Odobesti**	**0.24**	**258**	↑P		Pb	06 41 00.6	-0.1
ODBI				↓S		Sb	06 41 05.4	+0.6
GHRR		**0.25**	**3**	↑P		Pb	06 41 00.6	-0.3
GHRR				↓S		Sb	06 41 05.3	+0.4
GHRR		**0.25**	**3**	↑P		Pb	06 41 00.6	-0.3
GHRR				↓S		Sb	06 41 05.3	+0.4
TUDR		**0.29**	**138**	↑P		Pb	06 41 01.5	+0.2
TUDR				↓S		Sb	06 41 06.4	+0.6
TUDR		**0.29**	**138**	↑P		Pb	06 41 01.5	+0.2
TUDR				↓S		Sb	06 41 06.4	+0.6
IZVR	**Izvoarele**	**0.38**	**136**	↑P		Pb	06 41 02.3	-0.3
IZVR				↓S		Sb	06 41 08.6	+0.7
IZVR	**Izvoarele**	**0.38**	**136**	↑P		Pb	06 41 02.3	-0.3
IZVR				↓S		Sb	06 41 08.6	+0.7
NEGRR	**Negrea**	**0.44**	**129**	↓P		Pb	06 41 03.3	-0.4
NEGRR				↓S		Sb	06 41 09.9	+0.1
NEGRR	**Negrea**	**0.44**	**129**	↓P		Pb	06 41 03.3	-0.4
NEGRR				↓S		Sb	06 41 09.9	+0.1
SCHLR	**Schela**	**0.46**	**138**	↑P		Pb	06 41 03.7	-0.4
SCHLR				↓S		Sb	06 41 11.1	+0.6
SCHLR	**Schela**	**0.46**	**138**	↑P		Pb	06 41 03.7	-0.4
SCHLR				↓S		Sb	06 41 11.1	+0.6
VRI	**Vrincioaia**	**0.47**	**277**	↑P		Pb	06 41 03.7	-0.5
VRI				↓S		Sb	06 41 10.8	0.0
VRI	**Vrincioaia**	**0.47**	**277**	↑P		Pb	06 41 03.7	-0.5
VRI				↓S		Sb	06 41 10.8	0.0
BIR	**Birlad**	**0.48**	**20**	↑P		Pb	06 41 04.2	-0.4
BIR	**Birlad**	**0.48**	**20**	↑P		Pb	06 41 04.2	-0.4
VLDR	**Vladesti**	**0.48**	**86**	↓P		Pb	06 41 04.6	+0.1
VLDR				↓S		Sb	06 41 12.1	+1.0
VLDR	**Vladesti**	**0.48**	**86**	↓P		Pb	06 41 04.6	+0.1
VLDR				↓S		Sb	06 41 12.1	+1.0
PLOR	**Plostina**	**0.52**	**275**	↓P		Pb	06 41 04.8	-0.4
PLOR				↓S		Sb	06 41 12.6	+0.2
PLOR	**Plostina**	**0.52**	**275**	↓P		Pb	06 41 04.8	-0.4
PLOR				↓S		Sb	06 41 12.6	+0.2
BISRR	**Bisoca**	**0.55**	**241**	↓P		Pb	06 41 06.2	+0.4
BISRR				↓S		Sn	06 41 14.6	-1.4
BISRR	**Bisoca**	**0.55**	**241**	↓P		Pb	06 41 06.2	+0.4
BISRR				↓S		Sn	06 41 14.6	-1.4
CFR	**Carcaliu**	**0.82**	**140**	↓S		Sb	06 41 21.1	+0.1
CFR	**Carcaliu**	**0.82**	**140**	↓S		Sb	06 41 21.1	+0.1
COVR	**Voineasa-Covas**	**0.83**	**273**	↑P		Pb	06 41 10.6	+0.1
COVR				↑S		Sn	06 41 22.4	-0.6
COVR	**Voineasa-Covas**	**0.83**	**273**	↑P		Pb	06 41 10.6	+0.1
COVR				↑S		Sn	06 41 22.4	-0.6
ONER	**Baraj Valea Uz**	**0.87**	**307**	↓P		Pn	06 41 11.6	-0.2
ONER				↓S		Sb	06 41 22.7	+0.3
ONER	**Baraj Valea Uz**	**0.87**	**307**	↓P		Pn	06 41 11.6	-0.2
ONER				↓S		Sb	06 41 22.7	+0.3
TESR	**Tescani**	**0.87**	**324**	↑P		Pb	06 41 10.7	-0.5
TESR				↑S		Sb	06 41 22.7	+0.4
TESR	**Tescani**	**0.87**	**324**	↑P		Pb	06 41 10.7	-0.5
TESR				↑S		Sb	06 41 22.7	+0.4
ISR	**Istrita**	**0.92**	**221**	↓P		Pn	06 41 12.4	-0.2
ISR	**Istrita**	**0.92**	**221**	↓P		Pn	06 41 12.4	-0.2
MLR	**Muntele Rosu**	**1.06**	**253**	↓P		Pn	06 41 15.1	+0.5
MLR				↑S		Sn	06 41 28.8	-0.1
MLR	**Muntele Rosu**	**1.06**	**253**	↓P		Pn	06 41 15.1	+0.5
MLR				↑S		Sn	06 41 28.8	-0.1
TLCR		**1.18**	**122**	↓P		Pb	06 41 16.4	0.0
TLCR				↓S		Sn	06 41 31.9	+0.4
TLCR		**1.18**	**122**	↓P		Pb	06 41 16.4	0.0
TLCR				↓S		Sn	06 41 31.9	+0.4
TPGR	**Topolog**	**1.20**	**142**	↑P		Pn	06 41 16.3	-0.1
TPGR				↑S		Sn	06 41 32.5	+0.4
TPGR	**Topolog**	**1.20**	**142**	↑P		Pn	06 41 16.3	-0.1
TPGR				↑S		Sn	06 41 32.5	+0.4
MILM	**Milestii Mici**	**1.48**	**41**	↓P		Pb	06 41 21.0	-0.5
MILM				↓S		Sb	06 41 40.1	+0.2
MILM	**Milestii Mici**	**1.48**	**41**	↓P		Pb	06 41 21.0	-0.5
MILM				↓S		Sb	06 41 40.1	+0.2
TIRR	**Tirgusor**	**1.54**	**152**	↓P		Pn	06 41 21.5	+0.6
TIRR				↓S		Sb	06 41 41.2	-0.2
TIRR	**Tirgusor**	**1.54**	**152**	↓P		Pn	06 41 21.5	+0.6
TIRR				↓S		Sb	06 41 41.2	-0.2

*IDC **22** 06:49:32.1±1.0,55°.96N×34°.53W,h0km,mb3.7/7, mbtmp3.7/8,ML3.8/1,MS3.3/21,Error ellipse: s-maj=27.9km s-min=24.1km az=49.0*

ISC 22 06:49:33.4±1.0,55°.9N±0°.1×34°.6W±0°.2,h10km,n26, σ0s77/9,mb3.8/7,MS3.3/17,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BORG	**Borgarnes**	**11.02**	**31**	Pn		**Pn**	**06 52 11.3**	**+0.5**
	0.7nm,0.3s,baz=257,slow=6.4,SNR=7.7							
BORG				LR		LR	06 55 10.1	
	comp=Z,44nm,19.4s,baz=282,slow=31							
	7.9nm,0.9s							
SFJD	**Kangerlussuaq**	**13.46**	**332**	LR		LR	06 57 02.7	
	comp=Z,171nm,19.3s,baz=155,slow=34							
SCHQ	**Schefferville**	**18.27**	**280**	LR		LR	06 59 26.1	
	comp=Z,81nm,18.7s,baz=115,slow=32							
FRB	**Frobisher Bay**	**18.59**	**309**	LR		LR	06 59 35.2	
	comp=Z,93nm,19.8s,baz=86,slow=32							
NOA	**NORSAR Array B**	**24.09**	**59**	LR		LR	07 03 41.0	
	comp=Z,16nm,19.0s,baz=240,slow=35							
ESDC	**Sonseca Array**	**25.91**	**116**	P		**P**	**06 55 06.5**	**+1.1**
	1.0nm,1.0s,baz=312,slow=8.7,SNR=6.5							
ESDC				LR		LR	07 03 04.6	
	comp=Z,51nm,21.3s,baz=306,slow=31							
	1.0nm,1.0s							
DAVOX	**Davos/Dischmat**	**28.78**	**90**	LR		LR	07 06 53.6	
	comp=Z,93nm,18.0s,baz=271,slow=36							
RES	**Resolute Bay**	**29.46**	**332**	LR		LR	07 05 40.9	
	comp=Z,34nm,19.6s,baz=347,slow=33							
SADO	**Sadowa**	**30.02**	**267**	LR		LR	07 06 51.5	
	comp=Z,62nm,19.0s,baz=106,slow=35							
MDT	**Midelt**	**31.07**	**125**	LR		LR	07 07 23.9	
	comp=Z,63nm,18.3s,baz=222,slow=34							
VRAC	**Vranov**	**31.15**	**80**	LR		LR	07 07 39.4	
	comp=Z,36nm,18.4s,baz=274,slow=35							
TKL	**Tuckaleechee C**	**38.80**	**260**	LR		LR	07 12 14.9	
	comp=Z,55nm,18.5s,baz=60,slow=35							
YKA	**Yellowknife Ar**	**39.00**	**313**	LR		LR	07 12 01.7	
	comp=Z,40nm,18.5s,baz=182,slow=35							
INK	**Inuvik**	**42.73**	**327**	LR		LR	07 14 13.0	
	comp=Z,42nm,19.1s,baz=64,slow=35							
DLBC	**Dease Lake**	**47.57**	**315**	LR		LR	07 17 45.6	
	comp=Z,5.2nm,19.1s,baz=0.0,slow=36							
PDAR	**Pinedale Array**	**48.20**	**287**	P		**P**	**06 58 14.3**	**+0.3**
	0.2nm,0.6s,baz=77,slow=9.3,SNR=3.8							
PDAR				LR		LR	07 17 23.2	
	comp=Z,47nm,18.8s,baz=34,slow=35							
	0.2nm,0.6s							
NEW	**Newport**	**48.42**	**298**	LR		LR	07 17 37.9	
	comp=Z,82nm,18.5s,baz=42,slow=35							
ILAR	**Eielson Array**	**49.09**	**328**	P		**P**	**06 58 20.2**	**0.0**
	0.3nm,0.8s,baz=45,slow=4.9,SNR=4.4							
ILAR				LR		LR	07 18 03.0	
	comp=Z,65nm,19.7s,baz=42,slow=35							
	0.3nm,0.8s							
BBB	**Bella Bella**	**50.97**	**308**	LR		LR	07 19 30.1	
	comp=Z,44nm,18.8s,baz=61,slow=35							
DBIC	**Dimbokro**	**54.47**	**143**	P		**P**	**06 59 00.7**	**-0.3**
	3.7nm,0.7s,baz=324,slow=12,SNR=4.3							
	3.7nm,0.7s							
TXAR	**Lajitas Array**	**54.67**	**271**	LR		LR	07 23 27.1	
	comp=Z,17nm,18.2s,baz=2.0,slow=37							
BVAR	**Borovoye Array**	**55.21**	**45**	P		**P**	**06 59 04.8**	**-1.1**
	0.5nm,0.5s,baz=316,slow=6.2,SNR=4.0							
	0.5nm,0.5s							
KDAK	**Kodiak Island**	**56.22**	**325**	LR		LR	07 22 52.7	
	comp=Z,45nm,19.9s,baz=107,slow=36							
KURBB	**Kurchatov Arra**	**60.26**	**42**	P		**P**	**06 59 40.6**	**-0.8**
	0.5nm,0.6s,baz=324,slow=7.2,SNR=6.0							
	0.5nm,0.6s							
MKAR	**Makanchi Array**	**64.82**	**43**	P		**P**	**07 00 12.1**	**+0.1**
	1.0nm,0.6s,baz=323,slow=6.2,SNR=12							
	1.0nm,0.6s							
QSPA	**South Pole Qui**	**145.79**	**180**	PKPbc		**PKPab**	**07 09 11.4**	**-0.2**
	3.8nm,1.1s,baz=189,slow=3.9,SNR=5.7							

*ASRS **22** 07:05:01.0±0.7,54°.32N×86°.90E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 07:05:02.6±3.1,54°.33N×86°.94E,h0km,mbtmp2.9/2, ML2.6/2,Error ellipse: s-maj=28.2km s-min=16.9km az=58.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**254**	I		I	07 13 22.1	
	baz=74,slow=320,SNR=8.0							
ZALV	**Zalesovo Beam**	**1.31**	**254**	Pg		Pg	07 05 26.5	-1.1
	2.2nm,0.3s,baz=76,slow=18,SNR=19							
ZALV				Lg		Lg	07 05 44.6	
	3.1nm,0.3s,baz=72,slow=31,SNR=9.2							
KURBB	**Kurchatov Arra**	**6.34**	**238**	Pn		Pn	07 06 37.4	+0.2
	0.1nm,0.3s,baz=54,slow=14,SNR=9.7							
	0.9nm,0.5s							
MKAR	**Makanchi Array**	**8.10**	**203**	Pn		Pn	07 07 03.1	+1.7
	0.2nm,0.3s,baz=26,slow=13,SNR=5.9							
MKAR				Lg		Lg	07 09 21.4	
	baz=25,slow=29,SNR=6.7							
	0.2nm,0.3s							

*ASRS **22** 07:19:51.0±0.9,54°.38N×86°.71E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 07:19:52.6±3.7,54°.40N×86°.80E,h0km,mbtmp2.6/2, ML2.3/2,Error ellipse: s-maj=31.7km s-min=19.5km az=50.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**250**	I		I	07 27 37.8	
	baz=68,slow=316,SNR=2.3							
ZALV	**Zalesovo Beam**	**1.25**	**250**	Pg		Pg	07 20 14.7	-1.8
	0.7nm,0.3s,baz=68,slow=16,SNR=5.0							
ZALV				Lg		Lg	07 20 33.4	
	1.2nm,0.3s,baz=71,slow=26,SNR=6.3							
KURBB	**Kurchatov Arra**	**6.31**	**237**	Pn		Pn	07 21 27.8	+1.1
	baz=54,slow=13,SNR=1.5							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**8.13**	**202**	Pn		Pn	07 21 53.2	+1.4
	0.1nm,0.3s,baz=25,slow=15,SNR=2.3							
	0.1nm,0.3s							

*ASRS **22** 07:35:02.0±0.8,54°.29N×86°.89E,h0km,M2.8,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 07:35:04.1±3.1,54°.28N×86°.89E,h0km,mbtmp3.0/2, ML2.7/2,Error ellipse: s-maj=28.0km s-min=16.4km az=58.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**256**	I		I	07 43 18.2	
	baz=74,slow=318,SNR=4.2							
ZALV	**Zalesovo Beam**	**1.27**	**256**	Pg		Pg	07 35 26.8	-1.5
	3.9nm,0.3s,baz=75,slow=18,SNR=27							
ZALV				Lg		Lg	07 35 45.1	
	3.0nm,0.3s,baz=77,slow=32,SNR=9.1							
KURBB	**Kurchatov Arra**	**6.29**	**238**	Pn		Pn	07 36 38.6	+0.7
	0.1nm,0.3s,baz=54,slow=13,SNR=6.1							
	0.5nm,0.3s							
MKAR	**Makanchi Array**	**8.04**	**203**	Pn		Pn	07 37 03.7	+1.6
	0.2nm,0.3s,baz=25,slow=14,SNR=5.8							
MKAR				Lg		Lg	07 39 19.4	
	0.1nm,0.3s,baz=25,slow=31,SNR=5.6							
	0.2nm,0.3s							

*IDC **22** 07:41:29.9±0.9,35°.19S×107°.54W,h0km,mb4.2/7, mbtmp4.2/7,MS3.8/21,Error ellipse: s-maj=31.7km s-min=24.0km az=63.0*

*NEIC **22** 07:41:31.9±1.2,35°.25S±0°.06×107°.3W±0°.2,h10km±1km, mb4.6/43,Error ellipse: s-maj=27.4km s-min=8.5km az=256.0*

ISC 22 07:41:31.9±0.7,35°.18S±0°.09×107°.3W±0°.1,h10km,n78, σ0s85/59,mb4.5/28,MS3.9/21,4C,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VA02	**Isla de Pascua**	**8.21**	**346**	Pn		**Pn**	**07 43 31.4**	**+0.3**
RPN	**Rapa Nui**	**8.22**	**347**	Pn		**Pn**	**07 43 31.5**	**+0.2**
PLCA	**Paso Flores**	**29.32**	**112**	P		**P**	**07 47 34.5**	**-0.3**
PLCA				IAmb		IAmb	07 47 39.0	
	comp=Z,15nm,1.3s							
PLCA	**Paso Flores**	**29.32**	**112**	P		**P**	**07 47 35.5**	**+0.7**
	comp=Z,3.2nm,0.

BELA					IAmb	IAmb	07 50 59.1		
	comp=Z,8.3nm,1.4s								
TGUH	**Tegucigalpa,Un**	**52.51**	**25**	P	**P**	**07 50 46.2**	**+0.8**		
TGUH				IAmb	IAmb	07 50 47.0			
	comp=Z,14nm,1.1s								
TLIG	**Tlapa**	**53.10**	**10**	P	**P**	**07 50 49.7**	**-0.1**		
TLIG				IAmb	IAmb	07 51 00.8			
	comp=Z,14nm,1.5s								
QSPA	**South Pole Qui**	**55.02**	**180**	P	**P**	**07 51 02.8**	**-0.6**		
QSPA				IAmb	IAmb	07 51 19.1			
	comp=Z,6.6nm,1.4s								
QSPA	**South Pole Qui**	**55.02**	**180**	LR	LR	08 11 40.7			
	comp=Z,84nm,18.7s,baz=348,slow=33								
SDV	**Santo Domingo**	**55.84**	**45**	LR	LR	08 10 53.8			
	comp=Z,98nm,20.5s,baz=244,slow=32								
BAUV	**El Baul**	**57.43**	**48**	P	**P**	**07 51 20.6**	**-0.4**		
URZ	**Urewera**	**59.08**	**243**	LR	LR	08 11 05.2			
	comp=Z,154nm,19.8s,baz=94,slow=30								
VNA3	**Neumayer Olymp**	**59.49**	**158**	⇑P	**P**	**07 51 36.1**	**+1.5**		
	comp=Z,6.7nm,0.8s								
VNA1	**Neumayer--Stat**	**60.13**	**158**	⇑P	**P**	**07 51 40.7**	**+1.7**		
	comp=Z,3.3nm,0.9s								
PCRV	**Puerto La Cruz**	**60.48**	**50**	LR	LR	08 14 35.1			
	comp=Z,105nm,21.1s,slow=33								
SNAA	**Sanae**	**61.34**	**160**	⇑P	**P**	**07 51 48.3**	**+0.9**		
	comp=Z,61nm,1.0s								
SNAA	**Sanae**	**61.34**	**160**	P	**P**	**07 51 48.2**	**+0.9**		
	comp=Z,2.3nm,0.8s,baz=276,slow=5.6,SNR=5.7								
SNAA				LR	LR	08 13 54.2			
	comp=Z,71nm,20.7s,baz=88,slow=32								
	comp=Z,2.3nm,0.8s								
TROLL	**Troll, Antarti**	**62.68**	**161**	⇑P	**P**	**07 51 58.4**	**+1.9**		
	comp=Z,138nm,0.8s								
TXAR	**Lajitas Array**	**64.26**	**3**	P	**P**	**07 52 08.1**	**+0.8**		
TXAR	**Lajitas Array**	**64.26**	**3**	P	**P**	**07 52 06.2**	**-1.1**		
	comp=Z,0.3nm,0.7s,baz=194,slow=7.7,SNR=5.2								
TXAR				LR	LR	08 14 26.0			
	comp=Z,24nm,18.6s,baz=360,slow=31								
	comp=Z,0.3nm,0.7s								
TX31	**Lajitas Ar. Si**	**64.26**	**3**	P	**P**	**07 52 06.7**	**-0.6**		
MDP	**Montagnes des**	**65.06**	**64**	LR	LR	08 17 41.9			
	comp=Z,221nm,18.0s,baz=237,slow=33								
OBIP	**Obispado Ponce**	**65.50**	**43**	P	**P**	**07 52 15.5**	**0.0**		
PDPR	**Patillas Dam,**	**65.81**	**43**	P	**P**	**07 52 16.6**	**-0.9**		
SJG	**San Juan**	**65.81**	**43**	LR	LR	08 18 55.2			
	comp=Z,39nm,18.2s,baz=179,slow=34								
319A	**Douglas**	**66.23**	**358**	P	**P**	**07 52 20.1**	**0.0**		
319A				IAmb	IAmb	07 52 28.0			
	comp=Z,6.9nm,1.0s								
MNHN	**Monahans**	**66.31**	**4**	P	**P**	**07 52 21.3**	**+0.9**		
MNHN				IAmb	IAmb	07 52 27.8			
	comp=Z,3.7nm,1.0s								
MNTX	**Cornudas Mount**	**66.55**	**2**	P	**P**	**07 52 22.3**	**+0.3**		
APMT	**Aspermont**	**68.48**	**6**	P	**P**	**07 52 34.6**	**+0.4**		
APMT				IAmb	IAmb	07 52 54.3			
	comp=Z,11nm,1.5s								
WLAR	**White Oak Lake**	**69.78**	**13**	P	**P**	**07 52 41.9**	**-0.3**		
WLAR				IAmb	IAmb	07 52 49.9			
	comp=Z,6.1nm,0.8s								
TPNV	**Topopah Spring**	**72.25**	**352**	P	**P**	**07 52 57.5**	**+0.1**		
TPNV				IAmb	IAmb	07 53 15.7			
	comp=Z,3.1nm,0.9s								
U38A	**Gravette**	**72.26**	**11**	P	**P**	**07 52 57.0**	**-0.2**		
U38A				IAmb	IAmb	07 53 04.2			
	comp=Z,3.9nm,0.9s								
CCUT	**Cedar City**	**72.59**	**355**	P	**P**	**07 52 59.7**	**+0.3**		
CCUT				IAmb	IAmb	07 53 07.3			
	comp=Z,3.5nm,1.0s								
DSP	**Deep Springs**	**72.87**	**351**	P	**P**	**07 53 01.4**	**+0.6**		
TKL	**Tuckaleechee C**	**73.81**	**20**	LR	LR	08 22 36.0			
	comp=Z,42nm,18.2s,baz=170,slow=33								
NV11	**Mina Array Sit**	**73.94**	**351**	P	**P**	**07 53 07.0**	**-0.3**		
NV11				IAmb	IAmb	07 53 15.6			
	comp=Z,6.2nm,1.2s								
NVAR	**Mina Array Bea**	**73.95**	**351**	P	**P**	**07 53 07.9**	**+0.4**		
NVAR	**Mina Array Bea**	**73.95**	**351**	P	**P**	**07 53 07.8**	**+0.3**		
	comp=Z,1.7nm,0.8s,baz=189,slow=7.5,SNR=9.1								
	comp=Z,1.7nm,0.8s								
SRU	**San Rafael Swe**	**73.99**	**357**	P	**P**	**07 53 07.8**	**+0.2**		
SRU				IAmb	IAmb	07 53 14.4			
	comp=Z,4.4nm,0.8s								
TMUT	**Trail Mountain**	**74.20**	**357**	P	**P**	**07 53 09.0**	**0.0**		
TMUT				IAmb	IAmb	07 53 16.2			
	comp=Z,3.4nm,0.9s								
BSUT	**Blindstream Ca**	**75.42**	**357**	P	**P**	**07 53 16.9**	**+0.8**		
BSUT				IAmb	IAmb	07 53 23.4			
	comp=Z,5.3nm,0.8s								
BW06	**Boulder Array**	**77.61**	**358**	P	**P**	**07 53 28.8**	**+0.5**		
BW06				IAmb	IAmb	07 53 35.0			
	comp=Z,3.0nm,0.8s								
PD31	**Pinedale Array**	**77.61**	**358**	P	**P**	**07 53 28.6**	**+0.3**		
PD31				IAmb	IAmb	07 53 35.0			
	comp=Z,2.8nm,0.8s								
PDAR	**Pinedale Array**	**77.61**	**358**	P	**P**	**07 53 27.9**	**-0.3**		
PDAR	**Pinedale Array**	**77.61**	**358**	P	**P**	**07 53 28.1**	**-0.1**		
	comp=Z,2.2nm,0.8s,baz=156,slow=5.5,SNR=9.7								
	comp=Z,2.2nm,0.8s								
WVOR	**Wild Horse Val**	**77.94**	**351**	P	**P**	**07 53 29.8**	**-0.2**		
WVOR				IAmb	IAmb	07 53 47.4			
	comp=Z,5.3nm,1.4s								
TPAW	**Teton Pass**	**78.37**	**357**	P	**P**	**07 53 32.0**	**-0.5**		
TPAW				IAmb	IAmb	07 53 39.7			
	comp=Z,2.7nm,0.8s								
SADO	**Sadowa**	**83.57**	**20**	LR	LR	08 27 39.3			
	comp=Z,26nm,19.4s,baz=199,slow=33								
HNR	**Honiara**	**86.90**	**261**	LR	LR	08 27 17.2			
	comp=Z,49nm,18.8s,baz=242,slow=32								
SCHQ	**Schefferville**	**96.15**	**22**	LR	LR	08 34 24.9			
	comp=Z,34nm,18.4s,baz=187,slow=33								
H01W1	**Cape Leeuwin H**	**100.27**	**214**	T	T	09 47 42.4			
	baz=144,slow=75,SNR=16								
H01W2	**Cape Leeuwin H**	**100.28**	**214**	T	T	09 47 39.2			
	baz=144,slow=75,SNR=12								
H01W3	**Cape Leeuwin H**	**100.29**	**214**	T	T	09 47 43.3			
	baz=144,slow=75,SNR=15								
AKASG	**Malin Array Be**	**145.13**	**50**	PKPbc	**PKPbc**	**08 01 07.5**	**-1.1**		
	comp=Z,2.5nm,0.7s,baz=279,slow=3.7,SNR=4.8								
BRTR	**Keskin Array B**	**148.80**	**70**	PKPbc	**PKPbc**	**08 01 18.8**	**-0.9**		
	comp=Z,1.2nm,0.8s,baz=193,slow=2.2,SNR=4.6								
CMAR	**Chiang Mai Arr**	**151.41**	**241**	PKPbc	**PKPbc**	**08 01 25.2**	**-1.2**		
	comp=Z,0.9nm,0.3s,baz=188,slow=1.7,SNR=5.7								
SONM	**Songino Array**	**152.04**	**307**	PKPbc	**PKPbc**	**08 01 26.3**	**-0.8**		
	comp=Z,1.2nm,0.7s,baz=130,slow=1.7,SNR=7.0								

JMA 22 07:43:08.5±0.3,30.1N±0.6×14.3E±.,h47km,MV4.1/25,
NEAR TORISHIMA IS,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.83**	**322**	*e*S	Sn	07 44 50.8	+2.2
BSO1	**Boso 1**	**4.74**	**343**	*e*P	Pn	07 44 19.4	+2.5
BSO1				*e*S	Sn	07 45 11.5	+1.2
BSO3	**Boso 3**	**5.00**	**340**	*e*S	Sn	07 45 19.9	+2.7
BSO4	**Boso 4**	**5.23**	**339**	*e*S	Sn	07 45 25.3	+2.2
JHO	**Hitachi**	**6.70**	**346**	S	Sn	07 45 58.3	-1.2
JAG	**Ashikaga**	**6.83**	**338**	*e*S	Sn	07 46 04.0	+1.4
JFK	**Kawauchi**	**7.38**	**349**	*e*S	Sn	07 46 11.2	-4.9

*MOS **22** 07:51:49.5±1.0,25.13N×141.19E,h159km,mb4.5/17,*
Error ellipse: s-maj=12.8km s-min=7.2km az=100.1
*IDC **22** 07:51:51.0±0.8,25.10N×141.11E,h157km±7km,mb3.9/21,*
mbtmp4.3/23,Error ellipse: s-maj=14.5km s-min=10.2km
az=84.0
*NEIC **22** 07:51:50.7±1.6,25.10N±0.08×141.1E±0.1,h145km±7km,*
mb4.5/118,Error ellipse: s-maj=19.5km s-min=12.3km
az=91.0
*JMA **22** 07:51:51.1±0.2,25.3N±0.5×14.1E±.,h123km,IOTO*
ISLANDS REGION
ISC 22 07:51:49.6±0.6,25.15N±0.05×141.12E±0.07,h141km±4km,
h141km:pP-P,n400,σ1§14/391,mb4.5/97,5C-2D,Volcano
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.76**	**33**	P	**Pn**	**07 52 22.6**	**+1.3**
JHH2				S	**Sn**	**07 52 47.1**	**+1.4**
JHH2	**Haha-jima-NKT2**	**1.76**	**33**	A	A	07 52 22.6	
	comp=N,14nm,0.4s,comp=E,17nm,0.5s						
JHJ2	**Mitsune**	**8.01**	**352**	Pn	**Pn**	**07 53 44.7**	**+1.6**
JHJ2				Sn	**Sn**	**07 55 13.3**	**+1.0**
BSO3	**Boso 3**	**9.63**	**357**	P	**Pn**	**07 54 04.4**	**-0.1**
BSO3				*e*S	**Sn**	**07 55 46.4**	**-4.5**
BSO4	**Boso 4**	**9.83**	**356**	P	**Pn**	**07 54 07.5**	**+0.3**
BSO4				S	**Sn**	**07 55 50.8**	**-5.1**
JGF	**Kuroka**	**10.91**	**344**	Pn	**Pn**	**07 54 22.4**	**+0.6**
JAG	**Ashikaga**	**11.33**	**353**	*e*P	**Pn**	**07 54 24.7**	**-2.6**
JAG				S	**Sn**	**07 56 26.3**	**-6.0**
JHO	**Hitachi**	**11.43**	**358**	*e*P	**Pn**	**07 54 26.6**	**-2.0**
JHO				*e*S	Sn	07 56 25.5	-9.3
MJAR	**Matsushiro Arr**	**11.62**	**348**	P	**Pn**	**07 54 30.8**	**-0.3**
	comp=E,1.1nm,0.3s,baz=161,slow=11,SNR=4.2						
MAJO	**Matsushiro**	**11.62**	**348**	Pn	**Pn**	**07 54 32.0**	**+0.8**
MAJO	**Matsushiro**	**11.62**	**348**	*i* P	**Pn**	**07 54 32.4**	**+1.2**
MJB9	**Matsu-Tunnel**	**11.63**	**348**	Pn	**Pn**	**07 54 32.2**	**+0.9**
JMM	**Marumori**	**12.68**	**359**		**Pn**	**07 54 43.2**	**-1.6**
KSRS	**Korea Array**	**16.64**	**321**	P	**Pn**	**07 55 36.0**	**+1.6**
	comp=E,2.9nm,0.7s,baz=138,slow=12,SNR=16						
NACB	**Ninganchiao**	**17.77**	**271**	P	**P**	**07 55 43.5**	**-3.5**
NACB				IAmb	IAmb	07 55 52.3	
	comp=Z,49nm,1.4s						
ASAJ	**Asahikawa**	**18.96**	**3**	P	**P**	**07 55 59.4**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
JKA	**Kamikawa-asahi**	**18.96**	**3**	P	**P**	**07 55 59.4**	**-0.4**
NJ2	**Nanjing**	**20.70**	**294**	*e*P	**P**	**07 56 20.0**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BNX	**BinXian**	**23.32**	**335**	⇓P	**P**	**07 56 46.0**	**+1.1**
BNX				pmax	pmax		
	comp=Z,3.0nm,0.3s						
HEH	**HeiHe**	**27.21**	**341**	*e*P	**P**	**07 57 20.0**	**0.0**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XLT	**XiLinHaoTe**	**27.67**	**319**	*e*P	**P**	**07 57 28.4**	**+4.1**
XLT				PP	**PP**	**07 58 29.5**	**+0.1**
XLT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
XLT				pmax	pmax		
	comp=Z,100nm,6.8s						
XLT				LR	LR		
	comp=N,17nm,22.1s						
XLT				LR	LR		
	comp=E,200nm,17.9s						
PEA0B	**Petropavlovsk-**	**30.58**	**20**	P	**P**	**07 57 50.8**	**+1.0**
PEA0B	**Petropavlovsk-**	**30.58**	**20**	P	**P**	**07 57 50.8**	**+1.0**
PEA0B				pmax	pmax		
	comp=Z,28nm,1.4s						
PETK	**Petropavlovsk-**	**30.58**	**20**	P	**P**	**07 57 51.6**	**+1.7**
PETK	**Petropavlovsk-**	**30.58**	**20**	P	**P**	**07 57 51.4**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=218,slow=4.6,SNR=7.8						
	comp=Z,0.5nm,0.4s						
LZH	**Lanzhou**	**33.69**	**298**	*e*P	**P**	**07 58 15.8**	**-1.6**
LZH				pP	pwP	07 58 50.8	-0.3
LZH				pmax	pmax		
	comp=Z,13nm,0.9s						
LZH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MA2	**Magadan**	**35.06**	**9**	P	**P**	**07 58 30.1**	**+1.5**
MA2	**Magadan**	**35.06**	**9**	P	**P**	**07 58 30.1**	**+1.5**
MA2				pmax	pmax		
	comp=Z,23nm,1.1s						
PZH	**PanZhiHua**	**35.37**	**281**	P	**P**	**07 58 34.0**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
COEN	**Coen**	**38.92**	**177**	P	**P**	**07 59 01.7**	**0.0**
COEN				IAmb	IAmb	07 59 01.8	
	comp=Z,19nm,1.4s						
MTN	**Manton Dam**	**39.00**	**196**	P	**P**	**07 59 01.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**39.60**	**269**	P	**P**	**07 59 08.4**	**+1.0**
	comp=Z,1.9nm,0.5s,baz=65,slow=8.2,SNR=8.3						
	comp=Z,1.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**39.60**	**269**	*ce*P	**P**	**07 59 10.1**	**+2.7**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SHL	**Shillong**	**44.28**	**282**		**P**	**07 59 47.7**	**+2.1**
SHL	**Shillong**	**44.28**	**282**	P	**P**	**07 59 47.7**	**+2.1**
SHL				pmax	pmax		
	comp=Z,14nm,0.6s						
WB0	**Warramunga Arr**	**45.13**	**189**		**P**	**07 59 50.8**	**-1.2**
WRAB	**Tennant Creek**	**45.30**	**189**	P	**P**	**07 59 52.6**	**-0.8**
WRAB	**Tennant Creek**	**45.30**	**189**	P	**P**	**07 59 52.6**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,37nm,0.5s						
WR8	**Warramunga Arr**	**45.30**	**189**		**P**	**07 59 52.8**	**-0.6**
WRA	**Warramunga Arr**	**45.31**	**189**	P	**P**	**07 59 52.5**	**-0.9**
WRA	**Warramunga Arr**	**45.31**	**189**	P	**P**	**07 59 52.5**	**-0.9**
	comp=Z,24nm,0.4s,baz=9.1,slow=8.7,SNR=367						
WRA	**Warramunga Arr**	**45.31**	**189**	P	**P**	**07 59 52.5**	**-0.9**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FITZ	**Fitzroy Crossi**	**45.55**	**201**	P	**P**	**07 59 55.3**	**-0.1**
BILL	**Bilibino**	**45.56**	**13**	*i* P	**P**	**07 59 54.9**	**+0.1**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PSI	**Prapat**	**46.28**	**248**	P	**P**	**08 00 03.6**	**+2.2**
PSI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
RPSI	**Rantau Prapat**	**46.33**	**248**	P	**P**	**08 00 03.6**	**+1.9**
RPSI				IAmb	IAmb	08 00 04.0	
	comp=Z,7.5nm,0.7s						
NIKH	**Nikolski High**	**46.47**	**40**	P	**P**	**08 00 01.8**	**-0.4**
	baz=253						
WMQ	**Urumqi**	**46.96**	**307**	*e*P	**P**	**08 00 05.6**	**-0.7**
WMQ				pmax	pmax		
	comp=Z,150nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,260nm,3.7s						
WMQ				LR	LR		
	comp=Z,110nm,24.0s						
SPIA	**Saint Paul Isl**	**47.10**	**34**	P	**P**	**08 00 06.7**	**-0.3**
	baz=248						
UNV	**Unalaska Valle**	**48.06**	**39**	P	**P**	**08 00 15.2**	**+0.7**
UNV				IAmb	IAmb	08 00 55.5	
	comp=Z,18nm,1.4s						
LVA	**Lava Point**	**48.41**	**39**	P	**P**	**08 00 17.9**	**+0.6**
AKUT	**Akutan**	**48.56**	**39**	P	**P**	**08 00 19.2**	**+0.9**
AS31	**Alice Springs**	**49.03**	**189**		**P**	**08 00 21.9**	**-0.4**
ASAR	**Alice Springs**	**49.03**	**189**	P	**P**	**08 00 21.0**	**-1.3**
ASAR				PcP	**PcP**	**08 01 43.9**	**-0.1**
ASAR	**Alice Springs**	**49.03**	**189**	P	**P**	**08 00 21.7**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=1.5,slow=8.3,SNR=28						
ASAR				PcP	**PcP**	**08 01 42.5**	**-1.6**
	comp=Z,2.0nm,0.7s,baz=12,slow=3.9,SNR=9.1						
	comp=Z,0.7nm,0.3s						
FALS	**False Pass**	**50.06**	**38**	P	**P**	**08 00 30.0**	**+0.3**
	baz=257						
M11K	**Mekoryuk**	**50.23**	**31**	P	**P**	**08 00 31.4**	**+0.6**
	baz=250						
ZALV	**Zalesovo Beam**	**50.34**	**320**	PcP	**PcP**	**08 01 46.9**	**-1.6**
	comp=Z,1.2nm,0.5s,baz=132,slow=4.2,SNR=3.7						
PSA00	**Pilbara Seismi**	**50.83**	**206**	P	**P**	**08 00 35.0**	**-0.9**
MKAR	**Makanchi Array**	**50.99**	**311**	P	**P**	**08 00 37.3**	**+0.4**
MKAR				PcP	**PcP**	**08 01 50.4**	**-0.6**
MKAR	**Makanchi Array**	**50.99**	**311**	P	**P**	**08 00 37.7**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=91,slow=9.5,SNR=15						
MKAR				PcP	**PcP**	**08 01 50.4**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=84,slow=5.2,SNR=5.5						
	comp=Z,0.9nm,0.4s						
S12K	**Black Hills**	**51.01**	**38**	P	**P**	**08 00 37.2**	**+0.3**
	baz=257						
EIDS	**Eidsvold**	**51.14**	**168**	P	**P**	**08 00 37.3**	**-0.8**
EIDS				IAmb	IAmb	08 01 11.7	
	comp=Z,9.0nm,1.2s						
MAKZ	**Makanchi**	**51.21**	**311**		**P**	**08 00 39.4**	**+0.9**
MAKZ				PcP	**PcP**	**08 01 51.9**	**+0.1**
K13K	**Kusilvak Mount**	**51.47**	**29**	P	**P**	**08 00 41.0**	**+0.9**
	baz=250						
TNA	**Tin City**	**51.55**	**24**	P	**P**	**08 00 40.9**	**+0.2**
	baz=244						
M13K	**Dall Lake**	**51.58**	**31**	P	**P**	**08 00 42.1**	**+1.2**
M13K	**Dall Lake**	**51.58**	**31**	P	**P**	**08 00 40.8**	**-0.1**
	baz=252						
SDPT	**Sand Point**	**51.82**	**38**		**P**	**08 00 43.1**	**+0.3**
SDPT	**Sand Point**	**51.82**	**38**	P	**P**	**08 00 43.0**	**+0.1**
	baz=259						
ANM	**Nome**	**52.12**	**26**	P	**P**	**08 00 44.6**	**-0.3**
	baz=247						
L14K	**Kuka Creek**	**52.17**	**30**	P	**P**	**08 00 45.6**	**+0.3**
	baz=252						
J14K	**Nanvaranak Lak**	**52.23**	**29**	P	**P**	**08 00 44.8**	**-0.9**
	baz=250						
CHNA	**Chernabura Isl**	**52.23**	**39**	P	**P**	**08 00 45.8**	**0.0**
	baz=260						
N14K	**Kuskokwak Cree**	**52.23**	**32**	P	**P**	**08 00 45.3**	**-0.5**
	baz=254						
O14K	**Tigyukauivet M**	**52.27**	**33**	P	**P**	**08 00 47.6**	**+1.5**
O14K				IAmb	IAmb	08 00 54.5	
	comp=Z,9.9nm,1.1s						
O14K	**Tigyukauivet M**	**52.27**	**33**	P	**P**	**08 00 45.8**	**-0.2**
	baz=255						
M14K	**Bethel**	**52.33**	**31**	P	**P**	**08 00 46.2**	**-0.3**
	baz=254						
S14K	**Fog Glacier**	**52.51**	**37**	P	**P**	**08 00 48.0**	**0.0**
	baz=259						
G15K	**Niukluk**	**52.81**	**26**	P	**P**	**08 00 50.3**	**+0.3**
	baz=248						
L15K	**Ungalak Mounta**	**52.81**	**30**	P	**P**	**08 00 50.4**	**+0.3**
	baz=253						
F15K	**North Star Dit**	**52.85**	**25**	P	**P**	**08 00 50.7**	**+0.4**
	baz=247						
M15K	**Kasigluk River**	**52.92**	**32**	P	**P**	**08 00 51.0**	**+0.1**
	baz=255						
O15K	**Ungalikthiuk R**	**52.97**	**34**	P	**P**	**08 00 52.5**	**+1.2**
O15K	**Ungalikthiuk R**	**52.97**	**34**	P	**P**	**08 00 51.2**	**0.0**
	baz=257						
K15K	**Wolf Creek Mou**	**52.97**	**30**	P	**P**	**08 00 51.3**	**0.0**
	baz=253						
N15K	**Kwethluk River**	**53.07**	**32**	P	**P**	**08 00 53.4**	**+1.4**
N15K				IAmb	IAmb	08 00 55.5	
	comp=Z,5.4nm,1.1s						
N15K	**Kwethluk River**	**53.07**	**32**	P	**P**	**08 00 52.1**	**+0.1**
	baz=256						
CHGN	**Chignik**	**53.13**	**37**	P	**P**	**08 00 52.8**	**+0.3**
CHGN				IAmb	IAmb	08 00 54.1	
	comp=Z,13nm,1.5s						
H16K	**Elim**	**53.41**	**27**	P	**P**	**08 00 55.1**	**+0.7**
	baz=250						
G16K	**Koyuk River**	**53.62**	**26**	P	**P**	**08 00 56.1**	**+0.1**
	baz=250						
C16K	**Lisburne Hills**	**53.64**	**22**	P	**P**	**08 00 56.5**	**+0.5**
	baz=245						
J16K	**Anvik River**	**53.67**	**29**	P	**P**	**08 00 55.7**	**-0.6**
	baz=253						
KURK	**Kurchatov**	**53.68**	**316**	P	**P**	**08 00 57.3**	**+0.7**
KURK	**Kurchatov**	**53.68**	**316**	*ce*P	**P**	**08 00 55.5**	**-1.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KURBB	**Kurchatov Arra**	**53.73**	**315**	P	**P**	**08 00 56.8**	**-0.1**
	comp=Z,3.2nm,0.7s,baz=92,slow=8.0,SNR=26						
	comp=Z,3.2nm,0.7s						
N16K	**Nishlik Lake**	**53.78**	**32**	P	**P**	**08 00 57.1**	**-0.1**
	baz=257						
I17K	**Unalakleet**	**53.81**	**28**	P	**P**	**08 00 57.3**	**0.0**
	baz=252						
M16K	**Timber Creek**	**53.82**	**31**	P	**P**	**08 00 57.5**	**+0.1**
	baz=256						
O16K	**Kokwok River B**	**53.92**	**33**	P	**P**	**08 00 58.7**	**+0.5**
	baz=258						
D17K	**Noatak River**	**54.19**	**23**	P	**P**	**08 01 00.6**	**+0.6**
	baz=248						
G17K	**Kiwalik Mounta**	**54.33**	**26**	P	**P**	**08 01 01.7**	**+0.7**
	baz=251						
J17K	**VABM Dome**	**54.36**	**29**	P	**P**	**08 01 01.3**	**-0.1**
	baz=254						
RDOG	**Red Dog Mine**	**54.39**	**23**	P	**P**	**08 01 01.7**	**+0.3**
	baz=247						
L17K	**Donlin**	**54.39**	**30**	P	**P**	**08 01 02.2**	**+0.7**
	baz=256						
F17K	**Baldwin Pennin**	**54.41**	**25**	P	**P**	**08 01 01.7**	**+0.2**
	baz=250						
E17K	**Hotham Inlet**	**54.41**	**24**	P	**P**	**08 01 02.8**	**+1.2**
	baz=249						
H17K	**Granite Mounta**	**54.45**	**27**	P	**P**	**08 01 01.8**	**-0.2**
	baz=253						
O17K	**Koliganek Bris**	**54.45**	**33**	P	**P**	**08 01 01.6**	**-0.4**
	baz=259						
C17K	**DeLong Mountai**	**54.46**	**22**	P	**P**	**08 01 02.3**	**+0.3**
	baz=247						
K17K	**Iditarod**	**54.53**	**30**	P	**P**	**08 01 02.2**	**-0.3**
	baz=256						
N17K	**Nushagak Hills**	**54.56**	**32**	P	**P**	**08 01 02.7**	**-0.1**
	baz=258						
M17K	**Holitna River**	**54.62**	**31**	P	**P**	**08 01 03.0**	**-0.3**
	baz=257						
P17K	**Kvichak River**	**54.68**	**34**	P	**P**	**08 01 03.8**	**+0.2**
	baz=260						
Q17K	**Contact Creek**	**54.81**	**35**	P	**P**	**08 01 04.9**	**+0.1**
	baz=261						
E18K	**Tukpahlearik C**	**54.98**	**24**	P	**P**	**08 01 06.5**	**+0.8**
	baz=250						
F18K	**Selawik**	**55.06**	**25**	P	**P**	**08 01 06.7**	**+0.4**
	baz=252						
H18K	**Honhosa River**	**55.14**	**27**	P	**P**	**08 01 07.2**	**+0.3**
	baz=254						
L18K	**Granite Mounta**	**55.15**	**30**	P	**P**	**08 01 07.5**	**+0.5**
	baz=258						
C18K	**Utukok River**	**55.20**	**22**	P	**P**	**08 01 07.7**	**+0.3**
	baz=249						
N18K	**Kilae Creek**	**55.22**	**32**	P	**P**	**08 01 07.7**	**+0.1**
	baz=259						
G18K	**Tagagawik**	**55.23**	**26**	P	**P**	**08 01 07.8**	**+0.2**
	baz=253						
B18K	**Kokolik River**	**55.26**	**21**	P	**P**	**08 01 08.0**	**+0.3**
	baz=248						
P18K	**Big Mountain,**	**55.32**	**34**	P	**P**	**08 01 08.1**	**-0.3**
	baz

SYI IAmb IAmb 08 01 18.6
comp=Z,4.9nm,0.6s
F20K Avaraart Lake 56.68 25 P P 08 01 18.6 +0.8
baz=255
STKA Stephens Creek 56.71 180 P P 08 01 17.9 -0.5
STKA Stephens Creek 56.71 180 P P 08 01 17.4 -1.0
comp=Z,10nm,0.6s,baz=1.4,slow=6.8,SNR=21
comp=Z,10nm,0.6s
STKA Stephens Creek 56.71 180 P P 08 01 18.0 -0.5
STKA pmax pmax
comp=Z,44nm,1.2s
M20K Styx River 56.73 31 P P 08 01 18.8 +0.4
baz=261
D20K Etivluk River 56.80 23 P P 08 01 19.6 +0.9
baz=253
E20K Nigu River 56.83 23 P P 08 01 20.1 +1.1
baz=254
FORT Forrest 57.00 193 P P 08 01 20.6 +0.1
B20K Meade River 57.01 21 P P 08 01 20.9 +0.8
baz=252
G21K Allakaket 57.41 26 P P 08 01 23.6 +0.6
baz=258
CHUM Lake Minchumin 57.42 29 P P 08 01 23.5 +0.4
baz=261
CAST Castle Rocks 57.44 29 P P 08 01 25.0 +1.7
CAST IAmb IAmb 08 01 25.8
comp=Z,5.2nm,0.9s
CAST Castle Rocks 57.44 29 P P 08 01 23.9 +0.6
baz=261,SNR=9.4
SKT Skwentna 57.49 31 P 08 01 24.5 +0.8
SKT Skwentna 57.49 31 P P 08 01 23.7 0.0
baz=263
H21K Melozitna Rive 57.52 27 P P 08 01 25.6 +1.8
H21K IAmb IAmb 08 01 26.8
comp=Z,4.1nm,0.8s
H21K Melozitna Rive 57.52 27 P P 08 01 24.2 +0.4
baz=259,SNR=6.1
C21K Knifeblade Rid 57.56 22 P P 08 01 24.0 0.0
baz=255
A21K Barrow 57.59 20 P P 08 01 24.9 +0.8
baz=252
E21K Killik River 57.67 23 P P 08 01 25.9 +1.0
baz=256
B21K Ikpikpuk River 57.74 22 P P 08 01 25.7 +0.5
baz=255
I21K Tanana 57.77 27 IAmb IAmb 08 01 28.5
comp=Z,5.9nm,0.9s
I21K Tanana 57.77 27 P P 08 01 26.4 +0.9
baz=260
BBOO Buckleboo 57.84 185 P P 08 01 25.8 -0.5
A22K Sinclair Lake 58.00 20 P P 08 01 28.1 +1.1
baz=254
BPAW Bear Paw Mtn. 58.03 29 P 08 01 28.8 +1.4
BPAW IAmb IAmb 08 01 29.8
comp=Z,3.9nm,1.0s
BPAW Bear Paw Mtn. 58.03 29 P P 08 01 28.0 +0.6
baz=262
F22K John River 58.13 25 P P 08 01 28.1 +0.1
baz=258
M22K Willow 58.13 31 P P 08 01 28.2 +0.2
baz=264
H22K Ishtalitna Cre 58.14 27 P P 08 01 28.6 +0.4
baz=260
D22K Ayikyak River 58.23 23 P P 08 01 28.7 0.0
baz=257
TRF Thorofare Moun 58.25 29 P P 08 01 30.3 +1.2
TRF IAmb IAmb 08 01 31.2
comp=Z,5.7nm,0.9s
TRF Thorofare Moun 58.25 29 P P 08 01 29.3 +0.2
baz=263,SNR=6.5
RC01 Rabbit Creek A 58.25 32 P P 08 01 29.6 +0.6
baz=265
MLY Manley 58.27 28 P P 08 01 29.3 +0.2
baz=261
G22K Bettles 58.27 25 P P 08 01 29.2 +0.3
baz=260
SEW Seward 58.31 33 P P 08 01 29.0 -0.3
baz=266
E22K Anaktuvuk Pass 58.39 24 P P 08 01 30.0 +0.2
baz=258
PMR Palmer 58.59 32 P 08 01 31.6 +0.4
PMR IAmb IAmb 08 01 32.3
comp=Z,4.9nm,0.7s
PMR Palmer 58.59 32 P P 08 01 31.6 +0.4
PMR pmax pmax
comp=Z,5.0nm,0.7s
PMR Palmer 58.59 32 P P 08 01 31.7 +0.4
baz=265,SNR=6.5
NIL Nilore 58.80 295 P P 08 01 33.9 +0.6
NIL IAmb IAmb 08 01 36.4
comp=Z,5.5nm,0.7s
NIL Nilore 58.80 295 P P 08 01 33.9 +0.6
NIL pmax pmax
comp=Z,6.0nm,0.7s
G23K Bananza Creek 58.81 26 IAmb IAmb 08 01 36.6
comp=Z,6.3nm,1.2s
G23K Bananza Creek 58.81 26 P P 08 01 32.6 -0.2
baz=261
COLD Coldfoot 58.83 25 P P 08 01 33.1 +0.2
baz=261
BVAR Borovoye Array 58.83 318 P P 08 01 33.3 +0.2
comp=Z,3.8nm,0.5s,baz=92,slow=8.3,SNR=20
BVAR PcP sP 08 02 19.9 -0.8
comp=Z,1.3nm,0.4s,baz=91,slow=2.6,SNR=4.1
comp=Z,3.8nm,0.5s
I23K Minto, Yukon-K 58.86 28 P P 08 01 35.0 +1.9
I23K IAmb IAmb 08 01 35.6
comp=Z,5.2nm,1.2s
I23K Minto, Yukon-K 58.86 28 P P 08 01 33.5 +0.4
baz=263
H23K Yukon River 58.88 27 P P 08 01 34.0 +0.7
baz=262
MCK McKinley 58.88 29 P P 08 01 33.9 +0.6
MCK IAmb IAmb 08 01 34.9
comp=Z,7.1nm,0.8s
MCK McKinley 58.88 29 P P 08 01 33.9 +0.6
MCK pmax pmax
comp=Z,7.0nm,0.8s
MCK McKinley 58.88 29 P P 08 01 33.3 0.0
baz=264
RND Reindeer 58.88 30 P P 08 01 33.7 +0.3
RND IAmb IAmb 08 01 34.6
comp=Z,4.5nm,0.7s
RND Reindeer 58.88 30 P P 08 01 33.7 +0.3
RND pmax pmax
comp=Z,5.0nm,0.7s
KNK Knik Glacier 58.89 32 P P 08 01 33.3 -0.1
baz=266
BRVK Borovoye 58.90 318 *ce*P P 08 01 34.0 +0.5
BRVK pmax pmax
comp=Z,3.0nm,0.6s
PWL Port Wells 58.91 33 P P 08 01 33.7 +0.2
baz=266
NEA2 Nenana 58.92 28 IAmb IAmb 08 01 36.2
comp=Z,4.5nm,0.7s
NEA2 Nenana 58.92 28 P P 08 01 34.4 +0.8
baz=263,SNR=8.0
D23K Nanushuk River 58.96 23 IAmb IAmb 08 01 36.6
comp=Z,7.1nm,0.8s
D23K Nanushuk River 58.96 23 P P 08 01 35.0 +1.3
baz=259
C23K Itkillik River 59.15 22 IAmb IAmb 08 01 37.6
comp=Z,8.2nm,0.8s
C23K Itkillik River 59.15 22 P P 08 01 36.4 +1.4
baz=259
E23K Chandalar 59.18 24 IAmb IAmb 08 01 37.9
comp=Z,4.3nm,0.6s
E23K Chandalar 59.18 24 P P 08 01 36.8 +1.4
baz=261
M23K Glacier View 59.27 32 P P 08 01 37.0 +1.0
baz=266
TOLK Toolik Lake Re 59.30 23 P P 08 01 37.3 +1.2
baz=260
P23K Montague Islan 59.33 34 P P 08 01 37.9 +1.5
baz=268
KKAR Karatay Array 59.45 307 P P 08 01 38.0 +0.4
KKAR Karatay Array 59.45 307 P P 08 01 38.0 +0.4
SCM Sheep Creek Mo 59.46 32 P P 08 01 38.6 +1.2
baz=266,SNR=5.6
GLI Glacier Island 59.52 33 P P 08 01 37.8 +0.1
GLI Glacier Island 59.52 33 P P 08 01 37.8 +0.1
baz=267
H24K Noodor Dome 59.56 27 P P 08 01 39.3 +1.4
H24K Noodor Dome 59.56 27 P P 08 01 39.1 +1.1
baz=264
E24K Your Creek 59.61 24 IAmb IAmb 08 01 41.2
comp=Z,7.6nm,1.3s
E24K Your Creek 59.61 24 P P 08 01 39.3 +1.1
baz=262
D24K Happy Valley 59.65 23 P P 08 01 39.2 +0.7
baz=261
F24K Squaw Lake 59.76 25 IAmb IAmb 08 01 43.9
comp=Z,2.6nm,0.7s
F24K Squaw Lake 59.76 25 P P 08 01 40.6 +1.3
baz=262
C24K Franklin Bluff 59.78 22 P P 08 01 40.4 +1.1
baz=261
HDA Harding Lake 59.81 29 IAmb IAmb 08 01 41.8
comp=Z,5.9nm,1.3s
HDA Harding Lake 59.81 29 P P 08 01 40.5 +0.8
baz=265
G24K Hadweenzic Riv 59.82 26 IAmb IAmb 08 01 42.5
comp=Z,4.2nm,1.1s
G24K Hadweenzic Riv 59.82 26 P P 08 01 40.6 +1.0
baz=264
Q23K Middleton Isla 59.84 34 P P 08 01 40.4 +0.6
baz=269
ILAR Eielson Array 59.87 28 P P 08 01 39.8 -0.3
ILAR Eielson Array 59.87 28 P P 08 01 40.0 -0.1
comp=Z,2.9nm,0.9s,baz=258,slow=5.8,SNR=28
ILAR pP pwP 08 02 16.8 +0.2
comp=Z,0.7nm,0.9s,baz=260,slow=6.0,SNR=2.6
comp=Z,2.9nm,0.9s
M24K Tolsona, Glenn 60.02 31 P P 08 01 43.1 +1.9
M24K IAmb IAmb 08 02 00.6
comp=Z,6.5nm,0.8s
M24K Tolsona, Glenn 60.02 31 P P 08 01 42.1 +0.9
baz=267
KLU Klutina 60.11 32 P P 08 01 42.8 +1.0
KLU Klutina 60.11 32 P P 08 01 42.1 +0.3
baz=268,SNR=6.6
EYAK Cordova Ski Ar 60.17 33 P P 08 01 43.0 +0.9
baz=269
K24K Doolly Dome 60.29 29 P P 08 01 43.3 +0.4
baz=267
G25K Bearman Lake 60.37 26 P P 08 01 44.1 +0.8
baz=265
PAX Paxson 60.38 30 IAmb IAmb 08 01 45.9
comp=Z,2.8nm,0.5s
PAX Paxson 60.38 30 P P 08 01 44.4 +0.8
baz=268,SNR=6.6
H25L Birch Creek 60.44 26 P P 08 01 44.9 +1.1
baz=265
PRP Porcupine Dome 60.50 27 P P 08 01 45.1 +0.6
baz=266
HARP HAARP 60.51 31 P P 08 01 45.3 +0.8
baz=268
J25K Salcha River, 60.51 28 P P 08 01 45.0 +0.5
baz=267
D25K Kavik River 60.54 23 P P 08 01 45.5 +1.0
baz=263
F25K Christian Rive 60.62 25 IAmb IAmb 08 01 48.4
comp=Z,4.4nm,1.0s
F25K Christian Rive 60.62 25 P P 08 01 46.3 +1.1
baz=265,SNR=7.6
RIDG Independent Ri 60.70 29 IAmb IAmb 08 01 46.7
comp=Z,3.8nm,0.7s
RIDG Independent Ri 60.70 29 P P 08 01 46.7 +0.9
baz=268
E25K Arctic Village 60.70 24 IAmb IAmb 08 01 48.9
comp=Z,5.5nm,1.2s
E25K Arctic Village 60.70 24 P P 08 01 46.4 +0.7
baz=264
BMRM Bremner River 60.74 33 P P 08 01 46.3 +0.2
BMRM IAmb IAmb 08 01 48.0
comp=Z,4.3nm,0.7s
BMRM Bremner River 60.74 33 P P 08 01 46.3 +0.2
baz=269
N25K Chitina, Valde 60.75 32 P P 08 01 46.9 +0.7
N25K Chitina, Valde 60.75 32 P P 08 01 46.3 +0.2
baz=269
KAIM Kayak Island 60.83 34 P P 08 01 47.1 +0.5
baz=270
HMT Hamilton 60.91 33 P P 08 01 48.3 +1.1
HMT IAmb IAmb 08 01 51.4
comp=Z,9.8nm,1.4s
DOT Dot Lake 61.04 29 P P 08 01 48.7 +0.6
DOT IAmb IAmb 08 01 49.6
comp=Z,4.8nm,0.8s
SCRK Sand Creek 61.09 29 P 08 01 49.1 +0.7
SCRK IAmb IAmb 08 01 49.9
comp=Z,7.5nm,1.0s
SCRK Sand Creek 61.09 29 P P 08 01 48.6 +0.1
baz=268,SNR=13
C26K Camden Bay 61.11 22 P P 08 01 48.6 +0.3
baz=264
F26K Sheenjek River 61.20 25 P P 08 01 51.0 +2.0
F26K IAmb IAmb 08 01 52.8
comp=Z,3.8nm,0.7s
F26K Sheenjek River 61.20 25 P P 08 01 49.6 +0.6
baz=266,SNR=7.6
SIMJ Simiganj 61.25 302 P P 08 01 49.6 -0.5
J26L Joseph Creek 61.28 29 P P 08 01 50.0 +0.2
J26L IAmb IAmb 08 01 51.1
comp=Z,4.4nm,0.9s
J26L Joseph Creek 61.28 29 P P 08 01 50.4 +0.6
baz=268,SNR=8.8
G26K Porcupine Rive 61.29 26 P P 08 01 50.7 +1.1
baz=267
L26K Log Cabin Wild 61.35 30 P P 08 01 51.2 +1.1
L26K Log Cabin Wild 61.35 30 P P 08 01 51.1 +0.9
baz=269,SNR=12
CRQE Cirque 61.48 33 P P 08 01 52.4 +1.2
baz=271
C27K Jago River 61.50 23 P P 08 01 52.1 +1.1
baz=265
MCARA McCarthy VSAT 61.51 32 P P 08 01 52.7 +1.5
baz=271
M26K Nabesna, AK 61.51 31 P P 08 01 52.7 +1.4
baz=270
K27K Chicken 61.93 29 P P 08 01 54.9 +1.0
baz=270
M27K Edge Creek, AK 62.03 31 P P 08 01 56.1 +1.2
baz=271
L27K Beaver Creek, 62.05 30 P P 08 01 55.5 +0.7
baz=271,SNR=5.0
MESA MESA 62.06 33 P P 08 01 55.8 +0.6
baz=272
G27K Doyon Strip 62.13 26 P P 08 01 56.5 +1.2
baz=269
I27K Kandik River 62.13 27 P P 08 01 55.9 +0.6
baz=270
H27K Steamboat Moun 62.17 27 IAmb IAmb 08 01 58.4
comp=Z,3.5nm,0.7s
H27K Steamboat Moun 62.17 27 P P 08 01 56.9 +1.3
baz=269,SNR=7.6
E27K Coleen River 62.19 24 P P 08 01 57.0 +1.4
baz=268
CTG Chitna Glacier 62.33 33 P P 08 01 57.6 +0.7
baz=272
D27M Malcolm River 62.45 23 P P 08 01 58.0 +0.6
baz=268
BVCY Beaver Creek 62.51 31 P P 08 01 58.8 +0.9
baz=272
YUK3 Moose Creek 62.72 32 P P 08 02 00.1 +0.5
baz=273
F28M Old Crow 62.83 25 IAmb IAmb 08 02 03.2
comp=Z,3.0nm,0.8s
F28M Old Crow 62.83 25 P P 08 02 01.2 +1.2
baz=270,SNR=6.6
I28M Miner Creek 62.83 27 IAmb IAmb 08 02 02.1
comp=Z,2.9nm,0.7s
I28M Miner Creek 62.83 27 P P 08 02 01.0 +1.0
baz=271,SNR=8.4
O28M Mount Upton 62.90 33 P P 08 02 01.8 +1.0
baz=273
E28M Babbage River 62.96 24 IAmb IAmb 08 02 03.6
comp=Z,5.5nm,1.2s
E28M Babbage River 62.96 24 P P 08 02 02.1 +1.4
baz=270
DAWY Dawson 63.11 29 P P 08 02 03.0 +1.1
baz=272
D28M Stokes Point 63.24 23 P P 08 02 03.4 +0.9
baz=270
H29M Whitestone 63.45 27 P P 08 02 05.0 +1.0
baz=272
I29M Ogilvie Camp, 63.52 28 P P 08 02 05.4 +1.0
baz=273
E29M Blow River 63.56 24 P P 08 02 05.9 +1.2
baz=272
G29M Pine Creek 63.56 26 IAmb IAmb 08 02 07.1
comp=Z,4.9nm,0.8s
G29M Pine Creek 63.56 26 P P 08 02 05.5 +0.8
baz=272
J29N Klondike Camp 63.60 29 P P 08 02 06.0 +0.9
baz=273
YUK4 Talbot Arm 63.61 32 P P 08 02 06.7 +1.2
baz=274
M29M Somme Creek 63.62 31 IAmb IAmb 08 02 07.9
comp=Z,4.6nm,0.7s
M29M Somme Creek 63.62 31 P P 08 02 06.5 +1.2
baz=274,SNR=11
L29M L29M 63.73 30 IAmb IAmb 08 02 08.7
comp=Z,3.8nm,0.8s
L29M L29M 63.73 30 P P 08 02 06.6 +0.6
baz=274,SNR=6.0
K29M Barlow Dome 63.95 29 P P 08 02 08.2 +0.8
baz=274,SNR=5.2
EPYK Eagle Plains 64.11 26 IAmb IAmb 08 02 10.6
comp=Z,6.9nm,0.8s
EPYK Eagle Plains 64.11 26 P P 08 02 09.2 +0.8
baz=274,SNR=6.1
HYT Haines Junctio 64.21 33 IAmb IAmb 08 02 12.3
comp=Z,4.5nm,0.7s
HYT Haines Junctio 64.21 33 P P 08 02 09.2 -0.1
baz=276,SNR=6.4
G30M tAoh Zraii Nji 64.27 26 P P 08 02 10.3 +0.9
baz=274,SNR=5.9
I30M Mount Dempster 64.33 28 IAmb IAmb 08 02 13.1
comp=Z,2.9nm,0.7s
I30M Mount Dempster 64.33 28 P P 08 02 11.3 +1.4
baz=274,SNR=5.7
N30M Aishikik Lake 64.35 32 P P 08 02 11.2 +1.1
baz=276
M30M Minto, Yukon 64.38 31 P P 08 02 11.0 +0.8
baz=275,SNR=5.2
F30M Barrier River 64.39 25 P P 08 02 11.3 +1.1
baz=274
J30M Hart River 64.41 28 P P 08 02 11.8 +1.4
baz=275
P30M Million Dollar 64.56 33 P P 08 02 12.3 +0.9
baz=276
O30N Mendenhall 64.91 33 IAmb IAmb 08 02 41.6
comp=Z,4.1nm,0.8s
N31M Braeburn, Yuko 64.97 32 IAmb IAmb 08 02 27.1
comp=Z,4.2nm,0.8s
N31M Braeburn, Yuko 64.97 32 P P 08 02 14.9 +0.8
baz=277,SNR=6.0
G31M Satah River 65.04 26 P P 08 02 15.4 +1.2
baz=276
H31M Peel River 65.12 27 IAmb IAmb 08 02 18.4
comp=Z,5.0nm,0.9s
H31M Peel River 65.12 27 P P 08 02 15.6 +0.7
baz=276,SNR=5.1
INK Inuvik 65.19 24 P P 08 02 15.8 +0.6
baz=276
F31M Tsiigehtchic 65.19 25 P P 08 02 16.4 +1.2
baz=276
ARTI Arti 65.48 323 *c i*P P 08 02 18.1 +0.8
ARTI S S 08 10 54.3 +3.7
ARTI SS SS 08 15 07.2 +1.0
ARTI pmax pmax
comp=Z,1.0nm,0.6s
M31M Drury Creek, Y 65.53 31 P P 08 02 19.1 +1.4
baz=278,SNR=6.9
SIT Sitka 65.82 37 P P 08 02 20.1 +0.6
baz=279
R32K Eaglecrest 66.05 35 IAmb IAmb 08 02 25.9
comp=Z,4.4nm,0.8s
S32K Killisnoo 66.16 36 P P 08 02 23.0 +1.4
baz=280
P32M Atlin 66.25 34 P P 08 02 23.9 +1.7
baz=279
P33M Teslin, Yukon 66.59 33 P P 08 02 24.8 +0.3
P33M Teslin, Yukon 66.59 33 P P 08 02 26.2 +1.7
baz=280
MMPY Sheldon Lake, 66.91 30 P P 08 02 28.1 +1.7
MMPY Sheldon Lake, 66.91 30 P P 08 02 28.0 +1.6
baz=280
Q32M Nakina River 67.09 34 P P 08 02 26.8 -1.0
A36M Sachs Harbour 67.43 20 P P 08 02 31.0 +1.5
baz=282
WRAK Wrangell Islan 67.55 37 P P 08 02 32.1 +1.7
baz=282
R33M Jennings River 67.66 34 P P 08 02 31.8 +0.5
baz=282
S34M Telegraph Cree 67.89 35 P P 08 02 33.7 +1.1
baz=282
V35K Ketchikan 68.19 38 P P 08 02 34.9 +0.4
baz=283
DLBC Dease Lake 68.34 34 P P 08 02 37.0 +1.4
baz=283
TGTN Hyland Airport 68.51 31 P P 08 02 38.0 +1.5
baz=283
T35M Bob Quinn 68.56 36 P P 08 02 38.4 +1.6
baz=283
WTLY Watson Lake, Y 68.58 33 P P 08 02 38.7 +1.8
baz=283
LIRD Liard River Hi 70.08 33 P P 08 02 47.5 +1.4
baz=286
TOAD Toad River Com 70.66 33 P P 08 02 51.0 +1.2
baz=286
SPITS Spitsbergen Ar 72.12 350 P P 08 02 58.1 0.0
comp=Z,2.6nm,0.7s,baz=100,slow=7.7,SNR=5.5
comp=Z,2.6nm,0.7s
YKA Yellowknife Ar 74.30 28 P P 08 03 11.0 -0.1
comp=Z,1.8nm,0.7s,baz=239,slow=5.6,SNR=18
comp=Z,1.8nm,0.7s
ARCES ARCESS Array B 75.05 341 P P 08 03 15.7 +0.3
ARCES IAmb IAmb 08 03 15.9
comp=Z,5.1nm,0.8s
ARCES ARCESS Array B 75.05 341 P P 08 03 15.3 -0.1
comp=Z,3.9nm,0.7s,baz=62,slow=7.9,SNR=16
comp=Z,3.9nm,0.7s
ARCES ARCESS Array B 75.05 341 P P 08 03 15.7 +0.3
ARCES pmax pmax
comp=Z,5.0nm,0.8s
OBN Obninsk 77.57 325 *de*P P 08 03 29.3 -0.5
OBN *e**PP **pwP** 08 04 06.4 -0.7
OBN *e* 08 06 25.6
OBN *e*PPP PPP 08 08 14.2
OBN *e*S **S** 08 13 03.6 -5.8
OBN pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 78.62 313 P P 08 03 36.8 +1.0
comp=Z,5.2nm,0.7s,baz=61,slow=1.9,SNR=9.3
comp=Z,5.2nm,0.7s
KIV Kislovodsk 78.67 313 *e*P P 08 03 34.4 -1.8
KIV pmax pmax
comp=Z,8.0nm,1.0s
FINES FINESS Array B 79.26 334 P P 08 03 38.3 -0.6
comp=Z,4.8nm,0.4s,baz=72,slow=4.8,SNR=87
comp=Z,4.8nm,0.4s
MNK Minsk 82.25 327 *i* P P 08 03 53.3 -1.7
MNK *i* *PP **pP** 08 04 28.4 -1.2
MNK *i* 08 07 04.0
MNK *i* PPP PPP 08 08 55.6
MNK *i* S **S** 08 13 58.5 0.0
MNK *i* SS **SS** 08 19 23.4 +2.7
MNK *i* SSS SSS 08 22 52.5
MNK pmax pmax
comp=Z,11nm,0.6s
MNK pmax pmax
comp=N,24nm,0.8s
MNK pmax pmax
comp=E,15nm,0.8s
MNK MLR MLR
comp=Z,24nm,16.0s
MNK MLR MLR
comp=E,16nm,16.0s
MNK MLR MLR
comp=N,22nm,21.0s
NVAR Mina Array Bea 82.47 51 P P 08 03 56.8 0.0
comp=N,0.8nm,0.6s,baz=297,slow=5.4,SNR=6.9
NVAR pP **pwP** 08 04 35.5 +0.5
comp=N,1.1nm,0.8s,baz=278,slow=5.8,SNR=4.7
comp=N,0.8nm,0.6s
AKASG Malin Array Be 83.61 324 P P 08 04 01.1 -0.9
comp=N,2.1nm,0.6s,baz=51,slow=5.2,SNR=12
comp=N,2.1nm,0.6s
AKBB Malin Array Si 83.61 324 P P 08 04 01.0 -1.0
AK01 Malin Array Si 83.62 324 P P 08 04 00.7 -1.4
KIEV Kiev 83.62 324 P P 08 04 01.0 -1.1
comp=N,23nm,1.6s
AK02 Malin Array Si 83.64 324 P P 08 04 01.2 -1.0
AK17 Malin Array Si 83.71 324 P P 08 04 01.4 -1.1
HFS Hagfors 84.82 336 P P 08 04 06.5 -1.4
comp=N,3.2nm,0.7s,baz=66,slow=5.0,SNR=13
comp=N,3.2nm,0.7s
NB201 NORSAR Array S 85.02 338 P P 08 04 08.1 -0.9
TPAW Teton Pass 85.02 44 P P 08 04 09.2 -0.5
RAYN Ar Rayn 85.05 294 P P 08 04 08.9 -1.0

RAYN					IAmb	IAmb	08 04 12.1		
	comp=Z,6.1nm,0.6s								
RAYN	**Ar Rayn**	**85.05**	**294**	P	**P**	**08 04 08.9**	**-1.0**		
RAYN				pmax	pmax				
	comp=Z,6.0nm,0.6s								
NB2	**NORSAR Subarra**	**85.05**	**338**	P	**P**	**08 04 07.9**	**-1.3**		
NOA	**NORSAR Array B**	**85.05**	**338**	P	**P**	**08 04 07.7**	**-1.5**		
	comp=Z,2.2nm,0.6s,baz=44,slow=4.9,SNR=11								
	comp=Z,2.2nm,0.6s								
SNOW	**Snow King Moun**	**85.16**	**44**	P	**P**	**08 04 09.2**	**-1.1**		
RLMT	**Red Lodge**	**85.23**	**42**	P	**P**	**08 04 11.4**	**+0.7**		
PDAR	**Pinedale Array**	**86.27**	**44**	P	**P**	**08 04 16.1**	**+0.2**		
	comp=Z,0.5nm,0.4s,baz=342,slow=1.8,SNR=12								
PDAR				pP	**pwP**	**08 04 55.0**	**+1.1**		
	comp=Z,0.7nm,0.9s,baz=349,slow=1.5,SNR=2.6								
	comp=Z,0.5nm,0.4s								
BRTR	**Keskin Array B**	**86.61**	**313**	P	**P**	**08 04 16.3**	**-1.2**		
	comp=Z,0.6nm,0.6s,baz=100,slow=4.5,SNR=3.1								
	comp=Z,0.6nm,0.6s								
ANMO	**Albuquerque**	**92.46**	**49**	*ce*P	**P**	**08 04 44.1**	**-1.0**		
ANMO				pmax	pmax				
	comp=Z,10.0nm,3.8s								
GERES	**GERESS Array B**	**92.66**	**328**	P	**P**	**08 04 43.3**	**-2.2**		
	comp=Z,0.3nm,0.3s,baz=50,slow=4.2,SNR=4.1								
	comp=Z,0.3nm,0.3s								
TXAR	**Lajitas Array**	**97.53**	**53**	P	Pdif	08 05 08.6	+0.4		
	comp=Z,0.2nm,0.5s,baz=296,slow=2.5,SNR=5.2								
	comp=Z,0.2nm,0.5s								
QSPA	**South Pole Qui**	**114.93**	**180**	PKP	**PKiKP**	**08 10 12.1**	**-0.9**		
	comp=Z,0.4nm,0.5s,baz=225,slow=1.2,SNR=5.9								
PLCA	**Paso Flores**	**149.42**	**128**	PKPbc	**PKPbc**	**08 11 22.0**	**-0.2**		
	comp=Z,1.8nm,0.4s,baz=240,slow=3.3,SNR=15								
LPAZ	**La Paz**	**151.31**	**78**	PKPbc	**PKPbc**	**08 11 27.9**	**-0.1**		
	comp=Z,6.5nm,0.6s,baz=349,slow=2.2,SNR=40								

DJA ***22*** *07:59:16.7±0.5, 2°N±12°×12°7E±°, h10km, M3.3/4, MLv3.3/4*

IDC 22 07:58:58.0±2.3, 1.70N×126.99E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=178.9km s-min=28.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.46**	**324**	P	Pg	07 59 53.2	+8.1
WRA	**Warramunga Arr**	**22.68**	**162**	P	P	08 03 60.0	-1.3
	0.6nm,0.3s,baz=340,slow=11,SNR=7.3						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**26.09**	**165**	P	P	08 04 35.1	+1.5
	0.4nm,0.9s,baz=346,slow=11,SNR=2.3						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**59.37**	**326**	P	P	08 09 01.9	-0.2
	0.3nm,0.5s,baz=114,slow=6.8,SNR=3.7						
	0.3nm,0.5s						

GCG ***22*** *07:59:08.5±2.0, 14°02N×93°81W, h32km±153km, MD3.9*
MEX ***22*** *07:59:09.6±0.6, 14°12N×93°76W, h9km±24km, MD4.0*

ISC 22 07:59:02.9±1.9, 14°14N±0°06×93°86W±0°04, h8km±12km, n27, σ2°8.08/45, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.68**	**22**	*e*P	**Pg**	**07 59 35.1**	**0.0**
PCIG				*i* S	**Sg**	**07 59 55.5**	**-1.4**
THIG		**1.73**	**63**	*e*P	**Pb**	**07 59 35.4**	**+0.5**
THIG				*e*S	**Sn**	**07 59 54.7**	**-0.8**
THIG		**1.73**	**63**	*i* P	**Pb**	**07 59 35.4**	**+0.5**
THIG				*i* S	**Sg**	**07 59 57.3**	**-1.2**
PATR	**El Naranjo**	**1.85**	**58**	*e*P	**Pb**	**07 59 36.9**	**-0.3**
PATR				*e*S	**Sb**	**07 59 58.9**	**-1.7**
SMCA	**Catarina**	**1.88**	**67**	*e*P	**Pb**	**07 59 37.6**	**+0.2**
SMCA				*i* S	**Sb**	**08 00 00.6**	**-0.4**
PAVE	**Pavencul**	**1.94**	**57**	*e*P	**Pb**	**07 59 38.3**	**-0.4**
PAVE				*e*S	**Sb**	**08 00 01.6**	**-1.5**
RTAL	**Retalhuleu**	**2.14**	**79**	*e*P	**Pn**	**07 59 41.0**	**+2.1**
RTAL				*e*S	**Sn**	**08 00 04.6**	**-1.0**
SOKI	**Kika Raxquin**	**2.48**	**74**	*i* S	**Sb**	**08 00 17.6**	**-1.2**
NILT	**Santiago Nilte**	**2.52**	**343**	*e*P	**Pn**	**07 59 46.9**	**+2.7**
NILT				*e*S	**Sn**	**08 00 15.4**	**+0.3**
HUEH	**Huehuetenango**	**2.57**	**63**	*i* P	**Pb**	**07 59 49.5**	**+0.1**
HUEH				*i* S	**Sb**	**08 00 20.0**	**-1.2**
HUEH	**Huehuetenango**	**2.57**	**63**	*e*P	**Pb**	**07 59 49.2**	**-0.2**
CCIG	**Comitan**	**2.71**	**38**	*e*P	**Pb**	**07 59 51.7**	**0.0**
CCIG				*i* S	**Sn**	**08 00 19.6**	**-0.4**
CCIG	**Comitan**	**2.71**	**38**	*i* P	**Pb**	**07 59 51.8**	**+0.1**
CCIG				*i* S	**Sb**	**08 00 24.6**	**-0.5**
HUIG	**Huatulco**	**2.71**	**307**	*e*P	**Pn**	**07 59 49.2**	**+2.4**
HUIG				*e*S	**Sn**	**08 00 17.0**	**-2.7**
TGIG		**2.72**	**15**	*e*P	**Pb**	**07 59 51.1**	**-0.7**
TGIG				*e*S	**Sb**	**08 00 22.6**	**-2.9**
TGIG		**2.72**	**15**	*i* P	**Pb**	**07 59 51.5**	**-0.4**
TGIG				*i* S	**Sb**	**08 00 23.4**	**-2.1**
QUIS	**Sacapulas**	**2.92**	**67**	*i* P	**Pb**	**07 59 54.9**	**-0.3**
CMIG	**Matias Romero**	**3.10**	**342**	*e*P	**Pn**	**07 59 55.7**	**+3.6**
CMIG				*e*S	**Sn**	**08 00 30.9**	**+1.6**
UXUV	**UXUV**	**3.17**	**355**	*e*P	**Pb**	**07 59 58.4**	**-1.1**
UXUV				*e*S	**Sb**	**08 00 34.4**	**-4.0**
FG16	**Alotenango, Sa**	**3.25**	**87**	*e*P	**Pn**	**07 59 52.8**	**-1.6**
PEIG	**Puerto Escondi**	**3.67**	**301**	*e*P	**Pn**	**08 00 02.7**	**+2.7**
PEIG				*e*S	**Sn**	**08 00 40.2**	**-3.4**
NUBE	**Las Nubes**	**3.97**	**93**	*e*P	**Pn**	**08 00 07.3**	**+3.0**
NUBE				*i* S	**Sn**	**08 00 48.3**	**-2.8**
YOIG	**Yosondua**	**4.46**	**308**	*e*P	Pn	08 00 16.6	+5.5
YOIG				*e*S	**Sn**	**08 01 02.4**	**-1.0**
PNIG	**Pinotepa**	**4.69**	**299**	*e*P	**Pn**	**08 00 17.9**	**+3.9**
PNIG				*e*		08 01 04.9	
PETF	**Flores**	**4.74**	**54**	*i* P	**Pn**	**08 00 19.0**	**+4.3**
TXIG	**Tlaxiaco**	**4.87**	**310**	*e*P	Pn	08 00 22.5	+5.7
SCIG	**Sabancuy**	**5.45**	**28**	*e*P	**Pn**	**08 00 28.7**	**+4.3**
SCIG				*e*S	**Sn**	**08 01 27.1**	**-0.2**

TEH ***22*** *08:13:13.3, 33°98N×46°80E, h10km±182km*
ISN ***22*** *08:13:15.2±1.3, 33°95N×46°72E, h10km, ML2.5*

ISC 22 08:13:13.3±1.2, 33°97N±0°04×46°80E±0°04, h12km, n9, σ0°77/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCHF	**Cheshme Sefid,**	**0.36**	**33**	Pg	**Pg**	**08 13 20.1**	**-0.6**
IGHG	**Ghaleghazi**	**0.41**	**331**	Pg	**Pg**	**08 13 21.8**	**+0.3**
ILBA	**Ilam Banvizeh**	**0.61**	**235**	Pg	**Pg**	**08 13 25.4**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.76**	**281**	Pg	**Pg**	**08 13 28.2**	**+0.2**
IDHR	**Dehrash**	**0.80**	**335**	Pg	**Pg**	**08 13 28.6**	**-0.3**
IKFM	**Kafar-mosalman**	**0.98**	**117**	Pg	**Pg**	**08 13 31.2**	**-0.9**
SNQR	**Sonqor, Kerman**	**1.12**	**37**	Pg	**Pb**	**08 13 34.8**	**+0.1**
IBDR	**Badra**	**1.13**	**221**	*e*Pg	**Pb**	**08 13 34.0**	**-0.7**
	baz=38						
IBDR				*e*Sg	**Sb**	**08 13 50.0**	**+0.6**
IBDR				AML	AML	08 13 59.3	
	comp=N,14nm,0.8s						
IDOB	**Doab**	**1.16**	**99**	Pg	**Pg**	**08 13 37.0**	**+1.3**

ASRS ***22*** *08:15:29.0±0.8, 53°64N×86°85E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 08:15:32.1±2.6, 53°69N×86°85E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=25.4km s-min=14.3km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**283**	I	I	08 23 30.0	
	baz=100,slow=313,SNR=1.5						
ZALV	**Zalesovo Beam**	**1.23**	**283**	Pg	Pg	08 15 55.0	-0.8
	1.7nm,0.3s,baz=104,slow=12,SNR=10						
ZALV				Lg	Lg	08 16 11.9	
	1.3nm,0.3s,baz=104,slow=32,SNR=8.3						
KURBB	**Kurchatov Arra**	**5.97**	**242**	Pn	Pn	08 17 02.9	+1.2
	0.1nm,0.3s,baz=58,slow=13,SNR=5.0						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.50**	**205**	Pn	Pn	08 17 23.7	+1.0
	0.2nm,0.3s,baz=24,slow=13,SNR=8.9						
	0.3nm,0.3s						

IDC ***22*** *08:15:48.1±0.5, 27°78S×64°39E, h0km, mb4.4/19, mbtmp4.4/19, MS3.6/8, Error ellipse: s-maj=21.2km s-min=14.9km az=91.0*
NEIC ***22*** *08:15:50.4±0.9, 27°83S±0°08×64°2E±0°1, h10km±1km, mb4.7/38, Error ellipse: s-maj=18.9km s-min=11.8km az=115.0*

ISC 22 08:15:49.9±0.5, 27°80S±0°09×64°26E±0°10, h10km, n79, σ0°63/66, mb4.6/33, MS3.6/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FOMA	**Nahampoana Res**	**15.74**	**276**	Pn	**Pn**	**08 19 32.2**	**+0.5**
FOMA				IAmb	IAmb	08 19 37.6	
	comp=Z,36nm,0.9s						
VOI	**Vohitsoka**	**16.89**	**286**	Pn	**Pn**	**08 19 44.8**	**-1.9**
H04N2	**CROZET ISLANDS**	**20.81**	**205**	T	T	08 41 55.2	
	baz=33,slow=74,SNR=874						
H04N1	**CROZET ISLANDS**	**20.82**	**205**	T	T	08 41 56.2	
	baz=33,slow=74,SNR=1009						
H04N3	**CROZET ISLANDS**	**20.83**	**205**	T	T	08 41 54.8	
	baz=33,slow=74,SNR=989						
H08S1	**Diego Carcia H**	**21.50**	**23**	T	T	08 42 42.0	
	baz=200,slow=76,SNR=29						
H08S2	**Diego Garcia H**	**21.51**	**23**	T	T	08 43 01.1	
	baz=200,slow=76,SNR=18						
H08S3	**Diego Garcia H**	**21.52**	**23**	T	T	08 42 44.7	
	baz=200,slow=76,SNR=19						
KAAM	**Kaadhehdhoo**	**29.35**	**18**	P	**P**	**08 21 53.1**	**0.0**
GRHM	**Grahamstown, E**	**32.96**	**251**	P	**P**	**08 22 24.3**	**-0.6**
BOSA	**Boshof**	**34.28**	**259**	P	**P**	**08 22 37.0**	**+0.5**
BOSA				IAmb	IAmb	08 23 06.9	
	comp=Z,10.0nm,1.2s						
BOSA	**Boshof**	**34.28**	**259**	P	**P**	**08 22 36.0**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=126,slow=7.6,SNR=3.4						
BOSA				LR	LR	08 33 36.1	
	comp=Z,73nm,19.1s,baz=203,slow=31						
	comp=Z,2.3nm,0.7s						
SUR	**Sutherland**	**37.68**	**252**	P	**P**	**08 23 05.0**	**-0.7**
MAW	**Mawson**	**39.84**	**181**	P	**P**	**08 23 23.0**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=358,slow=11,SNR=11						
MAW				LR	LR	08 36 19.0	
	comp=Z,59nm,20.1s,baz=16,slow=31						
	comp=Z,3.3nm,0.8s						
H01W2	**Cape Leeuwin H**	**42.82**	**112**	T	T	09 09 25.2	
	baz=265,slow=74,SNR=39						
H01W3	**Cape Leeuwin H**	**42.83**	**112**	T	T	09 09 25.4	
	baz=265,slow=74,SNR=36						
H01W1	**Cape Leeuwin H**	**42.84**	**112**	T	T	09 09 26.4	
	baz=265,slow=74,SNR=33						
JAGI	**Jajag, Banyuwa**	**50.77**	**78**	P	**P**	**08 24 50.2**	**-0.4**
UOSS	**Minazif**	**53.01**	**351**	P	**P**	**08 25 07.5**	**+0.5**
UOSS				IAmb	IAmb	08 25 08.5	
	comp=Z,18nm,1.2s						
RAYN	**Ar Rayn**	**54.13**	**339**		**P**	**08 25 15.8**	**+0.4**
RAYN				IAmb	IAmb	08 25 17.1	
	comp=Z,6.8nm,1.1s						
SNAA	**Sanae**	**56.69**	**200**	P	**P**	**08 25 33.3**	**+0.1**
SNAA	**Sanae**	**56.69**	**200**	P	**P**	**08 25 33.7**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=161,slow=13,SNR=6.2						
	comp=Z,2.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**56.85**	**94**	P	**P**	**08 25 35.4**	**+0.3**
CM31	**Chiang Mai Arr**	**56.94**	**40**	P	**P**	**08 25 36.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**56.94**	**40**	P	**P**	**08 25 35.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**56.94**	**40**	P	**P**	**08 25 34.9**	**-0.7**
	comp=Z,3.2nm,0.4s,baz=230,slow=7.4,SNR=20						
CMAR				LR	LR	08 48 05.0	
	comp=Z,76nm,18.5s,baz=195,slow=34						
	comp=Z,3.2nm,0.4s						
SHL	**Shillong**	**59.35**	**29**		**P**	**08 25 52.8**	**+0.2**
ASAR	**Alice Springs**	**62.12**	**103**	P	**P**	**08 26 11.3**	**-0.2**
ASAR	**Alice Springs**	**62.12**	**103**	P	**P**	**08 26 09.9**	**-1.6**
	comp=Z,1.3nm,0.7s,baz=250,slow=5.9,SNR=16						
	comp=Z,1.3nm,0.7s						
AS31	**Alice Springs**	**62.12**	**103**	P	**P**	**08 26 11.2**	**-0.3**
QSPA	**South Pole Qui**	**62.35**	**180**	P	**P**	**08 26 12.7**	**+0.2**
QSPA				IAmb	IAmb	08 26 25.6	
	comp=Z,8.9nm,1.1s						
QSPA	**South Pole Qui**	**62.35**	**180**	P	**P**	**08 26 12.4**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=235,slow=0.4,SNR=11						
	comp=Z,2.7nm,0.8s						
WRA	**Warramunga Arr**	**63.82**	**100**	P	**P**	**08 26 23.9**	**+1.1**
WRA	**Warramunga Arr**	**63.82**	**100**	P	**P**	**08 26 21.8**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=250,slow=5.7,SNR=8.2						
	comp=Z,2.3nm,0.7s						
WRAB	**Tennant Creek**	**63.83**	**100**	P	**P**	**08 26 22.4**	**-0.5**
WRAB				IAmb	IAmb	08 26 39.8	
	comp=Z,8.3nm,1.2s						
WB0	**Warramunga Arr**	**63.93**	**100**	P	**P**	**08 26 22.9**	**-0.7**
WB0				IAmb	IAmb	08 27 00.5	
	comp=Z,10.0nm,1.4s						
WR8	**Warramunga Arr**	**63.95**	**100**	P	**P**	**08 26 23.1**	**-0.6**
WR8				IAmb	IAmb	08 27 01.0	
	comp=Z,8.5nm,1.2s						
WR0	**Warramunga Arr**	**63.99**	**100**	P	**P**	**08 26 23.3**	**-0.6**
WR0				IAmb	IAmb	08 26 38.6	
	comp=Z,5.7nm,0.9s						
VNDA	**Vanda**	**64.70**	**166**	LR	LR	08 51 34.7	
	comp=Z,89nm,20.4s,baz=261,slow=33						
ARSB	**Arslanbob**	**69.25**	**7**	P	**P**	**08 26 57.3**	**+0.2**
ARSB				IAmb	IAmb	08 27 07.9	
	comp=Z,11nm,1.3s						
GNI	**Garni**	**70.00**	**344**	LR	LR	08 54 52.8	
	comp=Z,37nm,22.0s,baz=165,slow=34						
KDJ	**Kajisay**	**70.59**	**10**	P	**P**	**08 27 05.3**	**-0.1**
KDJ				IAmb	IAmb	08 27 06.5	
	comp=Z,5.8nm,1.0s						
AAK	**Ala-Archa**	**70.72**	**8**	P	**P**	**08 27 06.8**	**+0.7**
AAK				IAmb	IAmb	08 27 07.1	
	comp=Z,4.0nm,0.8s						
AAK	**Ala-Archa**	**70.72**	**8**	P	**P**	**08 27 05.6**	**-0.5**
	comp=Z,1.6nm,0.3s,baz=214,slow=2.6,SNR=4.1						
	comp=Z,1.6nm,0.3s						
KK31	**Karatay Array**	**70.78**	**5**	P	**P**	**08 27 06.8**	**+0.5**
KK31				IAmb	IAmb	08 27 08.9	
	comp=Z,5.2nm,1.1s						
KKAR	**Karatay Array**	**70.78**	**5**		**P**	**08 27 06.7**	**+0.4**
PRZ	**Przheval'sk**	**71.14**	**11**	P	**P**	**08 27 10.2**	**+1.4**
TORD	**Torodi Ar. Bea**	**72.97**	**295**	P	**P**	**08 27 20.2**	**+0.1**
BR131	**Keskin Array S**	**72.98**	**336**		**P**	**08 27 19.9**	**+0.2**
BR131				IAmb	IAmb	08 27 29.5	
	comp=Z,5.9nm,1.0s						
BRTR	**Keskin Array B**	**72.98**	**336**		**P**	**08 27 19.7**	**0.0**
BRTR	**Keskin Array B**	**72.98**	**336**	P	**P**	**08 27 20.0**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=157,slow=6.7,SNR=17						
	comp=Z,3.3nm,0.8s						
MKAR	**Makanchi Array**	**76.01**	**13**		**P**	**08 27 37.3**	**+0.3**
MKAR	**Makanchi Array**	**76.01**	**13**	P	**P**	**08 27 37.0**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=205,slow=5.4,SNR=19						
	comp=Z,3.3nm,0.8s						
SMAI	**San Martin Ant**	**77.83**	**197**	P	**P**	**08 27 47.9**	**+0.7**
AKTO	**Aktyubinsk**	**78.08**	**356**	P	**P**	**08 27 48.7**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=27,slow=0.7,SNR=7.3						
	comp=Z,2.6nm,0.8s						
FNA	**Florina**	**78.98**	**328**	P	**P**	**08 27 53.7**	**-0.2**
FNA				IAmb	IAmb	08 27 55.1	
	comp=Z,3.7nm,0.6s						
TIRR	**Tirgusor**	**79.02**	**335**		**P**	**08 27 54.0**	**+0.1**
TIRR				IAmb	IAmb	08 27 54.9	
	comp=Z,8.8nm,0.9s						
KURBB	**Kurchatov Arra**	**79.09**	**9**	P	**P**	**08 27 54.1**	**0.0**
	comp=Z,3.9nm,0.8s,baz=207,slow=6.1,SNR=10						
	comp=Z,3.9nm,0.8s						
BVAR	**Borovoye Array**	**80.66**	**4**	P	**P**	**08 28 02.3**	**-0.3**
	comp=Z,6.5nm,0.7s,baz=165,slow=6.2,SNR=30						
	comp=Z,6.5nm,0.7s						
BRVK	**Borovoye**	**80.68**	**4**		**P**	**08 28 02.6**	**-0.1**
BRVK				IAmb	IAmb	08 28 03.3	
	comp=Z,4.9nm,0.9s						
MLR	**Muntele Rosu**	**80.84**	**334**	P	**P**	**08 28 03.8**	**-0.1**
MLR				IAmb	IAmb	08 28 04.9	
	comp=Z,8.1nm,1.0s						
BELG	**Belogornoye**	**81.16**	**350**	P	**P**	**08 28 03.3**	**-2.0**
	comp=Z,13nm,0.7s,baz=316,slow=1.9,SNR=5.8						
	comp=Z,13nm,0.7s						
BURAR	**Bucovina Array**	**82.88**	**335**	P	**P**	**08 28 14.6**	**0.0**
ZAA0	**Zalesovo Array**	**83.33**	**12**		**P**	**08 28 16.6**	**0.0**
ZAA0				IAmb	IAmb	08 28 18.6	
	comp=Z,6.4nm,0.8s						
ZALV	**Zalesovo Beam**	**83.33**	**12**	P	**P**	**08 28 16.7**	**+0.1**
ZALV	**Zalesovo Beam**	**83.33**	**12**	P	**P**	**08 28 16.5**	**-0.1**
	comp=Z,7.1nm,0.7s,baz=198,slow=4.4,SNR=20						
	comp=Z,7.1nm,0.7s						
ARTI	**Arti**	**84.00**	**357**		**P**	**08 28 20.7**	**+0.7**
ARTI	**Arti**	**84.00**	**357**	P	**P**	**08 28 19.7**	**-0.3**
	comp=Z,11nm,1.1s,baz=156,slow=5.2,SNR=6.4						
	comp=Z,11nm,1.1s						
AKASG	**Malin Array Be**	**84.07**	**338**	P	**P**	**08 28 19.8**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=118,slow=3.6,SNR=8.1						
	comp=Z,0.4nm,0.4s						
SONM	**Songino Array**	**84.27**	**27**	P	**P**	**08 28 22.1**	**+0.3**
SONM	**Songino Array**	**84.27**	**27**	P	**P**	**08 28 21.5**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=215,slow=4.6,SNR=5.9						
	comp=Z,1.3nm,0.7s						
KIRV	**Kirov**	**86.94**	**352**	LR	LR	09 07 41.0	
	comp=Z,51nm,19.2s,baz=184,slow=36						
ESDC	**Sonseca Array**	**92.36**	**314**	P	**P**	**08 29 00.8**	**+0.1**
ESDC	**Sonseca Array**	**92.36**	**314**	P	**P**	**08 29 01.1**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=112,slow=3.3,SNR=13						
	comp=Z,1.7nm,0.8s						
FINES	**FINESS Array B**	**94.14**	**343**	LR	LR	09 14 45.1	
	comp=Z,18nm,18.4s,baz=144,slow=38						
MJAR	**Matsushiro Arr**	**94.46**	**51**	LR	LR	09 10 04.3	
	comp=Z,22nm,21.7s,baz=208,slow=34						
ILAR	**Eielson Array**	**138.08**	**19**	PKP	**PKPdf**	**08 35 13.6**	**-0.7**
	comp=Z,0.4nm,0.9s,baz=282,slow=2.5,SNR=4.9						
YKA	**Yellowknife Ar**	**145.29**	**359**	PKPbc	**PKPbc**	**08 35 26.8**	**-0.3**
	comp=Z,4.7nm,0.9s,baz=348,slow=4.4,SNR=19						
TXAR	**Lajitas Array**	**169.27**	**281**	PKP	**PKPdf**	**08 35 58.8**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=194,slow=0.5,SNR=5.0						
TXAR				PKPab	**PKPab**	**08 37 11.2**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=111,slow=6.9,SNR=4.7						

SJA ***22*** *08:20:35.8±0.6, 31°24S×68°66W, h105km±2km, ML3.8, MW3.8*
IDC ***22*** *08:20:36.0±0.9, 31°24S×68°62W, h101km±10km, mb3.5/3, mbtmp3.7/7, MS3.1/1, Error ellipse: s-maj=31.3km s-min=27.2km az=106.0*

ISC 22 08:20:36.3±0.7, 31°25S±0°04×68°65W±0°03, h106km±6km, n36, σ0°82/54, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.17**	**117**	*e*P	**Pn**	**08 20 51.3**	**0.0**
RTLL				*e*S	**Sn**	**08 21 02.8**	**+0.3**
SJA	**San Juan**	**0.29**	**164**	*e*P	**Pn**	**08 20 52.1**	**+0.4**
SJA				*e*S	**Sn**	**08 21 03.1**	**-0.1**
SJA				IAML		08 21 09.7	
	comp=Z,1μm,0.2s						
CFA	**Coronel Fontan**	**0.50**	**135**	P	**Pn**	**08 20 52.9**	**0.0**
	comp=Z,732nm,0.3s,baz=280,slow=11						
CFA				S	**Sn**	**08 21 05.3**	**+0.1**
	comp=Z,723nm,0.3s,baz=84,slow=23,SNR=22						
ACCO	**Cerro Coronel**	**0.75**	**332**	*e*P	**Pn**	**08 20 55.3**	**+0.1**
ACCO				*e*S	**Sn**	**08 21 10.1**	**+0.8**
RTLS	**Leoncito**	**0.78**	**225**	*e*P	**Pn**	**08 20 55.9**	**+0.5**
RTLS				*e*S	**Sn**	**08 21 10.8**	**+1.2**
RTLS				IAML		08 21 11.2	
	comp=Z,2μm,0.2s						
ACDV	**Cuesta del Vie**	**1.15**	**339**	*e*P	**Pn**	**08 20 59.4**	**+0.4**
ACDV				*e*S	**Sn**	**08 21 17.0**	**+0.8**
ACDV				IAML		08 21 17.1	
	comp=Z,681nm,0.2s						
AUSP	**Uspallata**	**1.16**	**213**	*e*P	Pn	08 20 54.5	-4.7
AUSP				*e*P		08 21 00.1	
AUSP				*e*S	**Sn**	**08 21 17.6**	**+1.1**
AVFE	**Valle Fertil**	**1.19**	**61**	*e*P	Pn	08 20 54.5	-4.8
AVFE				IAML		08 21 18.3	
	comp=Z,3μm,0.2s						
AROD	**Rodeo**	**1.29**	**327**	*e*P	**Pn**	**08 21 01.3**	**+0.5**
AROD				*e*S	**Sn**	**08 21 19.7**	**+0.4**
ACAN	**Cantantal**	**1.61**	**130**	*e*P	**Pn**	**08 21 05.8**	**+1.4**
ACAN				*e*S	**Sn**	**08 21 26.4**	**+0.8**
ACHE	**Chepes**	**1.71**	**88**	*e*P	**Pn**	**08 21 06.5**	**+0.9**
ACHE				*e*S	**Sn**	**08 21 29.0**	**+1.1**
CO03	**El Pedregal**	**1.79**	**283**	*e*P	**Pn**	**08 21 07.4**	**+0.7**
CO03				*e*S	**Sn**	**08 21 30.2**	**+0.5**
CO03				IAML		08 21 31.8	
	comp=Z,1μm,0.3s						
CO02	**Combarbal**	**2.01**	**271**	*e*P	**Pn**	**08 21 09.9**	**+0.5**
CO02				*e*S	**Sn**	**08 21 35.0**	**+0.4**
CO02				IAML		08 21 36.5	
	comp=Z,833nm,0.3s						
APLL	**PUNTA DE LOS L**	**2.02**	**66**	*e*P	**Pn**	**08 21 10.0**	**+0.6**
APLL				*e*S	**Sn**	**08 21 35.6**	**+0.9**
GO04	**Tololo Observa**	**2.14**	**300**	*e*P	**Pn**	**08 21 11.3**	**+0.2**
GO04				*e*S	**Sn**	**08 21 38.4**	**+0.6**
ACLC	**CERRO LA CRUZ**	**2.34**	**39**	*e*P	**Pn**	**08 21 14.0**	**+0.3**
ACLC				*e*S	**Sn**	**08 21 42.7**	**+0.4**
ACLC				IAML		08 21 43.2	
	comp=Z,430nm,0.3s

CD2					Sg	**Sg**	**08 28 06.3**	**+1.7**
CD2					smax	smax		
	comp=N,2µm,1.2s							
CD2					smax	smax		
	comp=E,3µm,1.1s							
PZH	**PanZhiHua**	**3.41**	**237**		Pn	**Pn**	**08 27 32.5**	**+2.0**
PZH					Pg	**Pg**	**08 27 42.4**	**0.0**
PZH					Sg	**Sg**	**08 28 29.1**	**+2.5**
PZH					smax	smax		
	comp=N,430nm,1.1s							
PZH					smax	smax		
	comp=E,360nm,0.9s							
KMI	**Kunming**	**3.80**	**212**		Pn	**Pn**	**08 27 39.0**	**+3.1**
KMI					Pg	**Pb**	**08 27 46.8**	**+2.4**
KMI					Sn	**Sn**	**08 28 21.4**	**+0.6**
KMI					smax	smax		
	comp=N,110nm,1.1s							
KMI					smax	smax		
	comp=E,120nm,0.9s							
KMI					LR	LR		
	comp=N,1µm,5.9s							
KMI					LR	LR		
	comp=E,1µm,5.1s							
KMI					LR	LR		
	comp=Z,1µm,7.3s							
ENH	**Enshi**	**4.39**	**64**			**Pn**	**08 27 46.8**	**+2.9**
GULI	**GuiLin**	**5.74**	**121**		Pn	Pn	08 27 52.6	-10
GULI					Sn	Sn	08 28 57.8	-11
GULI					LR	LR		
	comp=N,1µm,5.1s							
GULI					LR	LR		
	comp=E,1µm,6.0s							
GULI					smax	smax		
	comp=N,470nm,1.1s							
GULI					smax	smax		
	comp=E,180nm,1.3s							
GULI					LR	LR		
	comp=Z,670nm,7.6s							
XAN	**Xi'an**	**6.59**	**30**		Pn	**Pn**	**08 28 15.3**	**+1.2**
XAN					Sn	**Sn**	**08 29 32.8**	**+3.5**
XAN					smax	smax		
	comp=Z,550nm,1.1s							
XAN					smax	smax		
	comp=Z,760nm,1.0s							
XAN					LR	LR		
	comp=Z,790nm,6.9s							
XAN					LR	LR		
	comp=Z,630nm,5.8s							
XAN					LR	LR		
	comp=Z,770nm,9.6s							
TNCH	**TengChong**	**6.65**	**241**		Pn	**Pn**	**08 28 16.8**	**+1.8**
TNCH					Sg	**Sg**	**08 30 10.3**	**-0.2**
TNCH					smax	smax		
	comp=Z,210nm,0.9s							
TNCH					smax	smax		
	comp=Z,210nm,0.3s							
TNCH					LR	LR		
	comp=Z,520nm,8.8s							
CNSH	**ChangSha**	**7.04**	**90**		Pn	**Pn**	**08 28 21.5**	**+1.2**
CNSH					smax	smax		
	comp=Z,250nm,1.0s							
CNSH					smax	smax		
	comp=Z,120nm,1.0s							
SLVN	**Son La**	**7.08**	**188**		Pn	**Pn**	**08 28 19.6**	**-1.3**
LZH	**Lanzhou**	**7.74**	**353**	*e*Pn		**Pn**	**08 28 33.1**	**+3.1**
LZH					Pg	Pg	08 28 59.4	-5.8
LZH					Sg	**Sg**	**08 30 42.6**	**-2.8**
LZH					smax	smax		
	comp=Z,100nm,0.7s							
LZH					smax	smax		
	comp=Z,170nm,0.6s							
LZH					LR	LR		
	comp=Z,390nm,7.6s							
LZH					LR	LR		
	comp=Z,370nm,7.6s							
LZH					LR	LR		
	comp=Z,340nm,9.0s							
WHN	**Wuhan**	**8.48**	**73**	⇑P		**Pn**	**08 28 41.9**	**+1.9**
WHN					sP	Pb	08 28 50.1	-14
WHN					S	**Sn**	**08 30 15.8**	**+0.1**
WHN					LR	LR		
	comp=Z,2µm,8.4s							
WHN					LR	LR		
	comp=Z,2µm,9.7s							
WHN					LR	LR		
	comp=Z,3µm,12.0s							
LYN	**LuoYang**	**8.89**	**44**		P	**Pn**	**08 28 45.5**	**-0.1**
LYN					S	**Sn**	**08 30 31.0**	**+5.1**
LYN					pmax	pmax		
	comp=Z,47nm,0.9s							
LYN					smax	smax		
	comp=Z,94nm,1.4s							
LYN					smax	smax		
	comp=Z,130nm,1.1s							
LYN					LR	LR		
	comp=Z,1µm,8.7s							
LYN					LR	LR		
	comp=Z,1µm,9.1s							
LYN					LR	LR		
	comp=Z,2µm,12.4s							
GZH	**Guangzhou**	**9.23**	**123**		P	**Pn**	**08 28 49.1**	**-1.2**
GZH					S	**Sn**	**08 30 32.3**	**-1.9**
GZH					smax	smax		
	comp=Z,180nm,1.1s							
GZH					smax	smax		
	comp=Z,140nm,1.1s							
QIZ	**Qiongzhong**	**10.33**	**153**		P	**Pn**	**08 29 07.5**	**+2.0**
QIZ					S	**Sn**	**08 31 03.4**	**+1.9**
QIZ					LR	LR		
	comp=Z,190nm,12.5s							
CHTO	**Chiang Mai**	**11.00**	**211**			**Pn**	**08 29 13.6**	**-1.0**
CHTO	**Chiang Mai**	**11.00**	**211**		P	**Pn**	**08 29 13.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**11.31**	**210**		Pn	**Pn**	**08 29 18.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**11.31**	**210**		Pn	**Pn**	**08 29 20.0**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=18,slow=12,SNR=33							
CMAR					LR	LR	08 34 14.9	
	comp=Z,147nm,19.7s,baz=20,slow=41							
	comp=Z,3.2nm,0.4s							
CMAR	**Chiang Mai Arr**	**11.31**	**210**		P	**Pn**	**08 29 18.1**	**-0.8**
GTA	**Gaotai**	**11.79**	**340**	*e*P		**Pn**	**08 29 27.8**	**+2.3**
GTA					sP		08 29 35.8	
GTA					pmax	pmax		
	comp=Z,3.0nm,1.3s							
GTA					LR	LR		
	comp=Z,220nm,14.7s							
NJ2	**Nanjing**	**12.57**	**70**	*e*P		**Pn**	**08 29 38.3**	**+2.3**
NJ2					pmax	pmax		
	comp=Z,12nm,0.5s							
BTO	**Baotou**	**12.89**	**18**	*e*P		Pn	08 29 32.9	-7.5
BTO					pP		08 29 40.3	
BTO					PP		**PnPn**	**08 29 43.4**	**-5.0**
BTO					sP		08 29 45.0	
BTO					S	Sn	08 31 51.8	-12
BTO					pmax	pmax		
	comp=Z,17nm,0.5s							
BTO					pmax	pmax		
	comp=Z,170nm,5.2s							
BTO					LR	LR		
	comp=N,460nm,4.8s							
BTO					LR	LR		
	comp=E,570nm,2.9s							
BTO					LR	LR		
	comp=Z,520nm,10.6s							
BRDH	**Bariadhala**	**13.28**	**248**		LR	LR	08 35 48.2	
	comp=Z,218nm,19.0s,baz=148,slow=42							
SSLB	**Suanglung**	**15.09**	**104**		Pn	**Pn**	**08 30 10.9**	**+0.4**
SSLB					IAmb	IAmb	08 30 19.9	
	comp=Z,68nm,1.4s							
DL2	**Dalian**	**17.38**	**49**	*e*P		**P**	**08 30 41.3**	**+0.2**
DL2				*e*S		**Sn**	**08 33 55.3**	**+2.1**
DL2					pmax	pmax		
	comp=Z,15nm,1.4s							
DL2					LR	LR		
	comp=Z,370nm,22.6s							
DL2					LR	LR		
	comp=Z,130nm,17.2s							
DL2					LR	LR		
	comp=Z,440nm,19.1s							
XLT	**XiLinHaoTe**	**17.88**	**27**	*e*P		**P**	**08 30 47.3**	**+0.7**
XLT					PP		**PnPn**	**08 31 02.1**	**+5.3**
XLT					PcP		**PcP**	**08 35 22.5**	**+0.2**
XLT					pmax	pmax		
	comp=Z,8.0nm,0.7s							
XLT					LR	LR		
	comp=Z,220nm,9.8s							
XLT					LR	LR		

	comp=Z,160nm,13.2s								
SONM	**Songino Array**	**19.45**		**3**	P		**P**	**08 31 04.3**	**+0.3**
SONM	**Songino Array**	**19.45**		**3**	P		**Pn**	**08 31 04.9**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=187,slow=12,SNR=12								
SONM					LR		LR	08 39 20.6	
	comp=Z,80nm,20.0s,baz=163,slow=39								
	comp=Z,4.1nm,0.8s								
SONM	**Songino Array**	**19.45**		**3**	P		**P**	**08 31 04.3**	**+0.3**
SONM					pmax		pmax		
	comp=Z,9.0nm,1.1s								
ULN	**Ulaanbaatar**	**19.52**		**4**	*ce*P		**P**	**08 31 05.7**	**-0.3**
ULN	**Ulaanbaatar**	**19.52**		**4**	*ce*P		**P**	**08 31 04.3**	**-0.4**
ULN					pmax		pmax		
	comp=Z,6.0nm,1.0s								
SNY	**Shenyang**	**20.25**		**44**	⇓P		**P**	**08 31 09.8**	**-2.7**
SNY					pmax		pmax		
	comp=Z,9.0nm,0.4s								
WMQ	**Urumqi**	**20.71**	**323**		*e*P		Pn	08 31 22.3	+2.3
WMQ					pmax		pmax		
	comp=Z,44nm,0.7s								
JOW	**Kunigami**	**20.73**		**89**	P		**P**	**08 31 18.2**	**+0.3**
JOW					IAmb		IAmb	08 31 19.2	
	comp=Z,51nm,1.4s								
JOW	**Kunigami**	**20.73**		**89**	P		**P**	**08 31 17.8**	**-0.1**
	comp=Z,22nm,1.0s,baz=230,slow=6.1,SNR=7.9								
JOW					LR		LR	08 40 11.6	
	comp=Z,122nm,18.8s,baz=232,slow=39								
	comp=Z,22nm,1.0s								
KSAR	**Wonju Array Be**	**21.23**		**59**			**P**	**08 31 23.7**	**+0.5**
KSAR	**Wonju Array Be**	**21.23**		**59**	P		**P**	**08 31 23.7**	**+0.5**
KS19	**Wonju Array Si**	**21.24**		**59**	P		**P**	**08 31 23.1**	**-0.2**
KSRS	**Korea Array**	**21.26**		**59**	P		**P**	**08 31 23.3**	**-0.2**
	comp=Z,4.3nm,0.6s,baz=240,slow=10,SNR=20								
	comp=Z,4.3nm,0.6s								
ZAK	**Zakamensk**	**22.01**	**357**		*e*P		**P**	**08 31 32.1**	**+0.6**
ZAK					pmax		pmax		
	comp=Z,12nm,1.1s								
JNU	**Nakatsue**	**22.76**		**72**	LR		LR	08 41 10.2	
	comp=Z,76nm,20.5s,baz=316,slow=38								
KULM	**Kulim**	**23.33**	**191**		P		**P**	**08 31 45.8**	**+0.2**
HIA	**Hailar**	**23.74**		**25**	*i* P		**P**	**08 31 49.8**	**+0.3**
HIA					pmax		pmax		
	comp=Z,5.0nm,1.3s								
IPM	**Ipoh**	**24.06**	**190**		P		**P**	**08 31 52.5**	**-0.3**
IPM					IAmb		IAmb	08 32 06.1	
	comp=Z,7.3nm,0.6s								
BNX	**BinXian**	**24.79**		**40**	⇓P		**P**	**08 31 59.3**	**+0.1**
BNX					pmax		pmax		
	comp=Z,4.0nm,0.8s								
MK31	**Makanchi Array**	**25.54**	**322**		*i* P		**P**	**08 32 05.9**	**-0.1**
MKAR	**Makanchi Array**	**25.54**	**322**				**P**	**08 32 05.8**	**-0.2**
MKAR	**Makanchi Array**	**25.54**	**322**		P		**P**	**08 32 06.0**	**0.0**
	comp=Z,5.2nm,0.8s,baz=125,slow=9.4,SNR=29								
MKAR					PcP		**PcP**	**08 35 36.6**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=106,slow=4.0,SNR=6.7								
MKAR					ScP		**ScP**	**08 39 15.3**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=106,slow=3.1,SNR=4.3								
	comp=Z,5.2nm,0.8s								
MKAR	**Makanchi Array**	**25.54**	**322**		*i* P		**P**	**08 32 06.0**	**0.0**
MKAR					pmax		pmax		
	comp=Z,5.0nm,0.8s								
PRZ	**Przheval'sk**	**25.67**	**310**		P		**P**	**08 32 07.5**	**+0.1**
PRZ					IAmb		IAmb	08 32 11.2	
	comp=Z,14nm,0.9s								
PRZ	**Przheval'sk**	**25.67**	**310**		P		**P**	**08 32 07.5**	**+0.1**
PRZ					pmax		pmax		
	comp=Z,14nm,0.9s								
MAKZ	**Makanchi**	**25.72**	**322**				**P**	**08 32 06.8**	**-0.8**
MAKZ	**Makanchi**	**25.72**	**322**		P		**P**	**08 32 06.8**	**-0.8**
MAKZ					pmax		pmax		
	comp=Z,6.0nm,0.9s								
TARG	**Taragay, Kyrgy**	**25.78**	**308**				**P**	**08 32 07.9**	**-0.7**
TARG	**Taragay, Kyrgy**	**25.78**	**308**		P		**P**	**08 32 07.9**	**-0.7**
TARG					pmax		pmax		
	comp=Z,6.0nm,0.8s								
PSI	**Prapat**	**26.08**	**194**		P		**P**	**08 32 11.5**	**+0.3**
PSI					pmax		pmax		
	comp=Z,21nm,1.3s								
RPSI	**Rantau Prapat**	**26.18**	**194**		P		**P**	**08 32 11.5**	**-0.4**
RPSI					IAmb		IAmb	08 32 12.3	
	comp=Z,21nm,1.3s								
KDJ	**Kajisay**	**26.36**	**309**		P		**P**	**08 32 13.4**	**-0.3**
KDJ	**Kajisay**	**26.36**	**309**		P		**P**	**08 32 13.4**	**-0.3**
KDJ					pmax		pmax		
	comp=Z,5.0nm,0.7s								
MYLDM	**Lahad Datu**	**26.42**	**148**				**P**	**08 32 13.6**	**-0.6**
SBUM	**Sibu**	**26.71**	**164**		P		**P**	**08 32 17.0**	**+0.3**
SBUM					IAmb		IAmb	08 32 18.2	
	comp=Z,9.8nm,0.9s								
USRK	**Ussuriysk Ar.**	**26.75**		**47**	P		**P**	**08 32 16.4**	**-0.5**
	comp=Z,4.2nm,0.8s,baz=247,slow=9.8,SNR=5.9								
	comp=Z,4.2nm,0.8s								
HEH	**HeiHe**	**27.71**		**32**	*e*P		**P**	**08 32 27.3**	**+1.8**
HEH					pmax		pmax		
	comp=Z,4.0nm,0.8s								
ARSB	**Arslanbob**	**29.06**	**305**		P		**P**	**08 32 37.8**	**0.0**
ARSB	**Arslanbob**	**29.06**	**305**		P		**P**	**08 32 37.8**	**0.0**
ARSB					pmax		pmax		
	comp=Z,3.0nm,0.8s								
MJB9	**Matsu-Tunnel**	**29.11**		**65**	P		**P**	**08 32 37.0**	**-1.1**
MAJO	**Matsushiro**	**29.11**		**65**	P		**P**	**08 32 37.1**	**-1.0**
MAJO	**Matsushiro**	**29.11**		**65**	P		**P**	**08 32 37.1**	**-1.0**
MAJO					pmax		pmax		
	comp=Z,4.0nm,0.6s								
MJAR	**Matsushiro Arr**	**29.11**		**65**	LR		LR	08 45 41.8	
	comp=Z,98nm,18.1s,baz=240,slow=39								
ZAA0	**Zalesovo Array**	**29.49**	**336**		P		**P**	**08 32 40.2**	**-1.0**
ZALV	**Zalesovo Beam**	**29.49**	**336**		P		**P**	**08 32 41.0**	**-0.2**
ZALV	**Zalesovo Beam**	**29.49**	**336**		P		**P**	**08 32 41.2**	**0.0**
	comp=Z,1.1nm,0.4s,baz=131,slow=4.1,SNR=5.1								
	comp=Z,1.1nm,0.4s								
ZALV	**Zalesovo Beam**	**29.49**	**336**		P		**P**	**08 32 41.0**	**-0.2**
KURBB	**Kurchatov Arra**	**29.86**	**325**		P		**P**	**08 32 44.4**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=132,slow=9.6,SNR=24								
KURBB					PcP		**PcP**	**08 35 47.0**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=117,slow=2.0,SNR=11								
	comp=Z,2.7nm,0.8s								
KURK	**Kurchatov**	**29.88**	**326**				**P**	**08 32 44.6**	**-0.1**
KURK							**PcP**	**08 35 47.2**	**-0.3**
KURK	**Kurchatov**	**29.88**	**326**		*ce*P		**P**	**08 32 43.6**	**-1.1**
KURK					pmax		pmax		
	comp=Z,7.0nm,1.3s								
TOLI2	**Tolitoli**	**31.06**	**148**		P		**P**	**08 32 54.4**	**-1.1**
KK31	**Karatay Array**	**31.32**	**307**		P		**P**	**08 32 58.2**	**+0.6**
KK31	**Karatay Array**	**31.32**	**307**		P		**P**	**08 32 58.2**	**+0.6**
KK31					pmax		pmax		
	comp=Z,5.0nm,1.3s								
KKAR	**Karatay Array**	**31.32**	**307**		P		**P**	**08 32 58.2**	**+0.6**
KKAR	**Karatay Array**	**31.32**	**307**		P		**P**	**08 32 58.3**	**+0.6**
BVAR	**Borovoye Array**	**35.39**	**324**		P		**P**	**08 33 32.7**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=120,slow=8.8,SNR=4.0								
BVAR					PcP		**PcP**	**08 36 01.9**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=134,slow=4.3,SNR=6.1								
BVAR					LR		LR	08 48 19.9	
	comp=Z,37nm,18.1s,baz=134,slow=37								
	comp=Z,0.7nm,0.4s								
BRVK	**Borovoye**	**35.46**	**324**		P		**P**	**08 33 34.0**	**+0.5**
BRVK	**Borovoye**	**35.46**	**324**		*ce*P		**P**	**08 33 32.1**	**-1.4**
BRVK					pmax		pmax		
	comp=Z,4.0nm,1.3s								
YAK	**Yakutsk**	**37.41**		**19**	LR		LR	08 50 34.9	
	comp=Z,97nm,18.4s,baz=218,slow=38								
YAK	**Yakutsk**	**37.41**		**19**	*i* P		**P**	**08 33 50.5**	**+0.5**
YAK					pmax		pmax		
	comp=Z,8.0nm,0.8s								
GUMO	**Guam**	**39.87**	**103**		LR		LR	08 51 14.2	
	comp=Z,26nm,19.2s,baz=254,slow=37								
AKTO	**Aktyubinsk**	**41.55**	**315**		P		**P**	**08 34 25.2**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=263,slow=3.5,SNR=7.9								
	comp=Z,1.8nm,0.6s								
ARTI	**Arti**	**43.12**	**324**		*c i*P		**P**	**08 34 37.2**	**-0.2**
ARTI								08 36 14.7	
ARTI					S		**S**	**08 41 07.6**	**+4.1**
ARTI					pmax		pmax		
	comp=Z,6.0nm,1.3s								
TIXI	**Tiksi**	**45.28**		**10**	LR		LR	08 55 27.4	
	comp=Z,55nm,20.1s,baz=205,slow=38								
PETK	**Petropavlovsk-**	**45.67**		**42**	LR		LR	08 56 10.9	
	comp=Z,28nm,19.4s,baz=235,slow=39								
AKT	**Akhty**	**47.89**	**302**		*e*P		**P**	**08 35 11.1**	**-4.5**
AKT					*e*			08 36 41.1	
AKT					pmax		pmax		
	comp=Z,12nm,1.3s								
KIRV	**Kirov**	**48.39**	**325**		*i* P		**P**	**08 35 18.6**	**-0.4**
KNRA	**Kununurra**	**49.50**	**149**		P		**P**	**08 35 26.9**	**-1.1**
KNRA					IAmb		IAmb	08 35 27.7	

	comp=Z,6.9nm,0.8s								
FITZ	**Fitzroy Crossi**	**50.36**	**154**		P		**P**	**08 35 34.1**	**-0.4**
KIV	**Kislovodsk**	**51.44**	**305**		P		**P**	**08 35 43.7**	**+1.1**
KIV	**Kislovodsk**	**51.44**	**305**		*e*P		**P**	**08 35 41.5**	**-1.1**
KIV					pmax		pmax		
	comp=Z,9.0nm,1.0s								
KIV					MLR		MLR		
	comp=Z,19nm,17.0s								
RAYN	**Ar Rayn**	**53.21**	**279**				**P**	**08 35 55.5**	**-0.5**
RAYN					IAmb		IAmb	08 35 56.5	
	comp=Z,4.2nm,0.7s								
RAYN	**Ar Rayn**	**53.21**	**279**		P		**P**	**08 35 55.5**	**-0.5**
RAYN					pmax		pmax		
	comp=Z,4.0nm,0.7s								
BILL	**Bilibino**	**53.33**		**24**	*i* P		**P**	**08 35 53.8**	**-2.3**
BILL					pmax		pmax		
	comp=Z,6.0nm,1.1s								
KLMR	**Klimovskoe**	**53.72**	**326**		*e*P		**P**	**08 35 56.8**	**-2.3**
KLMR					pmax		pmax		
	comp=Z,23nm,1.3s								
OBN	**Obninsk**	**55.00**	**319**		*ce*P		**P**	**08 36 07.2**	**-1.2**
OBN					*e*			08 37 08.3	
OBN					*e*			08 38 12.2	
OBN					*e*SS		**SS**	**08 47 38.4**	**+4.8**
OBN					pmax		pmax		
	comp=Z,9.0nm,0.9s								
OBN					MLR		MLR		
	comp=Z,31nm,17.0s								
WB0	**Warramunga Arr**	**55.69**	**146**		P		**P**	**08 36 13.0**	**-0.9**
WB0					IAmb		IAmb	08 36 13.6	
	comp=Z,7.7nm,1.0s								
WRAB	**Tennant Creek**	**55.81**	**146**		P		**P**	**08 36 14.0**	**-0.7**
WRAB					IAmb		IAmb	08 36 15.2	
	comp=Z,10nm,0.9s								
WRAB	**Tennant Creek**	**55.81**	**146**		P		**P**	**08 36 14.0**	**-0.7**
WRAB					pmax		pmax		
	comp=Z,10.0nm,0.9s								
WRA	**Warramunga Arr**	**55.81**	**146**		P		**P**	**08 36 13.7**	**-1.1**
WRA	**Warramunga Arr**	**55.81**	**146**		P		**P**	**08 36 13.8**	**-0.9**
	comp=Z,7.1nm,0.8s,baz=334,slow=7.8,SNR=27								
WRA					LR		LR	09 02 57.7	
	comp=Z,171nm,18.6s,baz=281,slow=39								
	comp=Z,7.1nm,0.8s								
WR8	**Warramunga Arr**	**55.91**	**146**				**P**	**08 36 14.5**	**-0.9**
COEN	**Coen**	**56.04**	**134**		P		**P**	**08 36 16.3**	**-0.1**
COEN					IAmb		IAmb	08 36 17.4	
	comp=Z,11nm,1.1s								
GAZ	**Gaziantep**	**56.55**	**298**		P		**P**	**08 36 20.3**	**+0.3**
GAZ					IAmb		IAmb	08 36 56.8	
	comp=Z,6.7nm,0.6s								
LVZ	**Lovozero**	**56.62**	**335**		P		**P**	**08 36 19.8**	**-0.2**
LVZ					IAmb		IAmb	08 36 53.5	
	comp=Z,8.5nm,1.1s								
LVZ	**Lovozero**	**56.62**	**335**		P		**P**	**08 36 19.8**	**-0.2**
LVZ					pmax		pmax		
	comp=Z,9.0nm,1.1s								
BR131	**Keskin Array S**	**58.75**	**301**		P		**P**	**08 36 35.1**	**-0.4**
BR131					IAmb		IAmb	08 36 41.3	
	comp=Z,5.8nm,1.4s								
BR131	**Keskin Array S**	**58.75**	**301**		P		**P**	**08 36 35.1**	**-0.4**
BR131					pmax		pmax		
	comp=Z,6.0nm,1.4s								
BRTR	**Keskin Array B**	**58.75**	**301**		P		**P**	**08 36 35.4**	**-0.1**
BRTR					PcP		**PcP**	**08 37 23.6**	**-1.7**
BRTR	**Keskin Array B**	**58.75**	**301**		P		**P**	**08 36 34.7**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=72,slow=6.7,SNR=5.5								
BRTR					PcP		**PcP**	**08 37 23.6**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=338,slow=2.9,SNR=3.7								
	comp=Z,1.2nm,0.6s								
AS31	**Alice Springs**	**58.79**	**149**		P		**P**	**08 36 35.6**	**-0.2**
ASAR	**Alice Springs**	**58.79**	**149**		P		**P**	**08 36 35.6**	**-0.1**
ASAR					PcP		**PcP**	**08 37 25.3**	**-0.1**
ASAR	**Alice Springs**	**58.79**	**149**		P		**P**	**08 36 35.4**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=330,slow=6.7,SNR=26								
	comp=Z,3.1nm,0.8s								
KEV	**Kevo**	**59.51**	**337**		P		**P**	**08 36 40.0**	**-0.1**
KEV	**Kevo**	**59.51**	**337**		P		**P**	**08 36 40.0**	**-0.1**
KEV					pmax		pmax		
	comp=Z,13nm,1.0s								
AKASG	**Malin Array Be**	**59.79**	**315**		P		**P**	**08 36 41.4**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=75,slow=5.6,SNR=5.3								
	comp=Z,0.7nm,0.4s								
AKBB	**Malin Array Si**	**59.79**	**315**		P		**P**	**08 36 42.1**	**-0.3**
AKBB					IAmb		IAmb	08 36 42.5	
	comp=Z,3.3nm,0.5s								
AKBB	**Malin Array Si**	**59.79**	**315**		P		**P**	**08 36 42.1**	**-0.3**
AKBB					pmax		pmax		
	comp=Z,3.0nm,0.5s								
KIEV	**Kiev**	**59.80**	**315**		P		**P**	**08 36 42.0**	**-0.4**
KIEV					IAmb		IAmb	08 36 42.5	
	comp=Z,2.9nm,0.5s								
KIEV	**Kiev**	**59.80**	**315**		P		**P**	**08 36 42.0**	**-0.4**
KIEV					pmax		pmax		
	comp=Z,3.0nm,0.5s								
ARCES	**ARCESS Array B**	**60.03**	**336**		P		**P**	**08 36 43.6**	**-0.1**
ARCES					IAmb		IAmb	08 36 44.9	
	comp=Z,5.9nm,0.9s								
ARCES	**ARCESS Array B**	**60.03**	**336**		P		**P**	**08 36 43.6**	**-0.1**
	comp=Z,4.1nm,0.8s,baz=74,slow=10,SNR=8.0								
	comp=Z,4.1nm,0.8s								
ARCES	**ARCESS Array B**	**60.03**	**336**		P		**P**	**08 36 43.6**	**-0.1**
ARCES					pmax		pmax		
	comp=Z,6.0nm,1.0s								
FINES	**FINESS Array B**	**60.23**	**327**		P		**P**	**08 36 45.2**	**0.0**
FINES	**FINESS Array B**	**60.23**	**327**		P		**P**	**08 36 44.2**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=96,slow=5.7,SNR=8.7								
	comp=Z,1.9nm,0.8s								
FINES	**FINESS Array B**	**60.23**	**327**		*ce*P		**P**	**08 36 45.7**	**+0.5**
FINES					pmax		pmax		
	comp=Z,2.0nm,0.8s								
SPB2	**Spitsbergen Ar**	**62.14**	**347**		P		**P**	**08 36 58.0**	**+0.1**
SPITS	**Spitsbergen Ar**	**62.14**	**347**		P		**P**	**08 36 57.7**	**-0.3**
SPITS					pmax		pmax		
	comp=Z,28nm,1.4s								
CTAO	**Charters Tower**	**62.57**	**136**		P		**P**	**08 37 01.7**	**+0.1**
CTAO	**Charters Tower**	**62.57**	**136**		P		**P**	**08 37 01.7**	**+0.1**
CT

	baz=287							
D19K	**Kuna River**	66.40	24	P		P	08 37 26.5	+0.4
D19K	**Kuna River**	66.40	24	P		P	08 37 25.3	-0.7
	baz=287							
HFS	**Hagfors**	66.44	327	P		P	08 37 25.9	-0.4
	comp=Z,0.9nm,0.4s,baz=104,slow=6.3,SNR=6.8							
	comp=Z,0.9nm,0.4s							
M13K	**Dall Lake**	66.58	33	P		P	08 37 26.4	-0.8
	baz=286							
L14K	**Kuka Creek**	66.62	32			P	08 37 28.8	+1.3
L14K	**Kuka Creek**	66.62	32	P		P	08 37 26.2	-1.3
	baz=286							
A22K	**Sinclair Lake**	66.65	21	P		P	08 37 27.4	-0.1
	baz=289							
I17K	**Unalakleet**	66.77	29	P		P	08 37 27.0	-1.4
	baz=287							
H17K	**Granite Mounta**	66.78	27	P		P	08 37 29.2	+0.7
H17K				IAmb		IAmb	08 37 30.1	
	comp=Z,5.0nm,0.8s							
H17K	**Granite Mounta**	66.78	27	P		P	08 37 27.7	-0.8
	baz=287							
UNV	**Unalaska Valle**	66.79	40	P		P	08 37 27.9	-0.8
	baz=287							
D20K	**Etivluk River**	66.86	23			P	08 37 29.5	+0.6
D20K	**Etivluk River**	66.86	23	P		P	08 37 28.3	-0.6
	baz=289							
K15K	**Wolf Creek Mou**	66.87	30	P		P	08 37 30.2	+1.1
K15K	**Wolf Creek Mou**	66.87	30	P		P	08 37 28.0	-1.1
	baz=287							
J16K	**Anvik River**	66.99	29	P		P	08 37 28.9	-1.0
	baz=287							
G18K	**Tagagawik**	66.99	26	P		P	08 37 28.6	-1.2
	baz=288							
F19K	**Shaleruckik Mo**	67.04	25	P		P	08 37 29.8	-0.3
F19K				IAmb		IAmb	08 37 30.4	
	comp=Z,5.5nm,1.0s							
F19K	**Shaleruckik Mo**	67.04	25	P		P	08 37 28.8	-1.2
	baz=288							
E19K	**Redstone River**	67.04	25	P		P	08 37 30.3	+0.2
E19K				IAmb		IAmb	08 37 30.8	
	comp=Z,5.2nm,1.0s							
E19K	**Redstone River**	67.04	25	P		P	08 37 29.4	-0.7
	baz=289							
L15K	**Ungalak Mounta**	67.08	31	P		P	08 37 29.8	-0.6
	baz=287							
NC405	**NORSAR Array S**	67.09	328	P		P	08 37 31.0	+0.4
M14K	**Bethel**	67.13	32	P		P	08 37 29.4	-1.3
	baz=287							
E20K	**Nigu River**	67.15	24	P		P	08 37 29.8	-1.1
	baz=289,SNR=5.1							
B21K	**Ikpikpuk River**	67.23	22	P		P	08 37 31.8	+0.5
B21K	**Ikpikpuk River**	67.23	22	P		P	08 37 30.4	-0.9
	baz=290							
C21K	**Knifeblade Rid**	67.33	22	P		P	08 37 31.1	-0.8
	baz=290							
H18K	**Honhosa River**	67.34	27	P		P	08 37 32.2	+0.2
H18K				IAmb		IAmb	08 37 33.8	
	comp=Z,4.9nm,1.0s							
H18K	**Honhosa River**	67.34	27	P		P	08 37 30.9	-1.2
	baz=288							
NB2	**NORSAR Subarra**	67.34	328	P		P	08 37 30.9	-1.3
	comp=Z,1.5nm,1.0s,baz=74,slow=6.9							
NOA	**NORSAR Array B**	67.34	328	P		P	08 37 31.2	-1.0
	comp=Z,1.8nm,0.8s,baz=73,slow=6.5,SNR=5.0							
	comp=Z,1.8nm,0.8s							
B22K	**Teshekpuk Lake**	67.37	21	P		P	08 37 32.6	+0.6
B22K	**Teshekpuk Lake**	67.37	21	P		P	08 37 31.7	-0.4
	baz=291							
NC204	**NORSAR Array S**	67.48	329	P		P	08 37 32.5	-0.5
N14K	**Kuskokwak Cree**	67.51	33	P		P	08 37 33.6	+0.4
N14K	**Kuskokwak Cree**	67.51	33	P		P	08 37 32.3	-0.8
	baz=288							
G19K	**Purcell Mounta**	67.52	26	P		P	08 37 32.3	-0.8
	baz=289							
J17K	**VABM Dome**	67.61	29	P		P	08 37 34.6	+0.9
J17K				IAmb		IAmb	08 38 03.2	
	comp=Z,6.9nm,1.2s							
J17K	**VABM Dome**	67.61	29	P		P	08 37 32.9	-0.9
	baz=289							
F20K	**Avaraart Lake**	67.73	25	P		P	08 37 34.5	+0.1
F20K				IAmb		IAmb	08 37 35.5	
	comp=Z,3.6nm,0.9s							
F20K	**Avaraart Lake**	67.73	25	P		P	08 37 33.6	-0.8
	baz=290							
M15K	**Kasigluk River**	67.75	32	P		P	08 37 34.1	-0.5
	baz=288							
E21K	**Killik River**	67.86	23	P		P	08 37 34.6	-0.8
	baz=291							
O14K	**Tigyukauivet M**	67.93	34	P		P	08 37 35.3	-0.5
	baz=288							
H19K	**Roundabout Mou**	67.98	26			P	08 37 36.5	+0.5
H19K	**Roundabout Mou**	67.98	26	P		P	08 37 35.9	-0.1
	baz=290,SNR=6.9							
L16K	**Owhat River**	67.98	31	P		P	08 37 35.6	-0.5
	baz=289							
GCSA	**Galena City Sc**	68.07	27	P		P	08 37 36.1	-0.5
	baz=290							
D22K	**Ayikyak River**	68.14	22	P		P	08 37 36.8	-0.3
	baz=292							
K17K	**Iditarod**	68.17	30	P		P	08 37 36.4	-0.9
	baz=290							
N15K	**Kwethluk River**	68.19	32			P	08 37 38.5	+1.0
N15K				IAmb		IAmb	08 37 39.8	
	comp=Z,5.9nm,0.8s							
N15K	**Kwethluk River**	68.19	32	P		P	08 37 36.8	-0.7
	baz=289							
L17K	**Donlin**	68.36	30	P		P	08 37 38.0	-0.5
	baz=290							
M16K	**Timber Creek**	68.44	31	P		P	08 37 38.3	-0.7
	baz=290,SNR=5.2							
C23K	**Itkillik River**	68.45	21			P	08 37 39.4	+0.5
C23K	**Itkillik River**	68.45	21	P		P	08 37 38.8	-0.1
	baz=294,SNR=5.4							
F21K	**Alatna River**	68.48	24	P		P	08 37 38.6	-0.7
	baz=292							
J18K	**Innoko River**	68.58	29			P	08 37 40.4	+0.4
J18K				IAmb		IAmb	08 37 41.3	
	comp=Z,6.2nm,0.8s							
J18K	**Innoko River**	68.58	29	P		P	08 37 39.6	-0.3
	baz=291,SNR=8.0							
H20K	**Anotleneega Mo**	68.60	26	P		P	08 37 39.2	-0.8
	baz=291							
O15K	**Ungalikthiuk R**	68.65	33	P		P	08 37 39.9	-0.5
	baz=290							
N16K	**Nishlik Lake**	68.71	32	P		P	08 37 40.0	-0.7
	baz=290,SNR=8.0							
E22K	**Anaktuvuk Pass**	68.72	23	P		P	08 37 39.7	-1.0
	baz=293							
G21K	**Allakaket**	68.74	25	P		P	08 37 41.1	+0.2
G21K				IAmb		IAmb	08 37 41.5	
	comp=Z,8.9nm,1.2s							
G21K	**Allakaket**	68.74	25	P		P	08 37 40.7	-0.1
	baz=292,SNR=5.1							
D23K	**Nanushuk River**	68.78	22			P	08 37 41.6	+0.7
D23K				IAmb		IAmb	08 37 42.9	
	comp=Z,7.9nm,1.0s							
D23K	**Nanushuk River**	68.78	22	P		P	08 37 40.9	-0.1
	baz=294,SNR=5.1							
F22K	**John River**	68.84	24	P		P	08 37 41.0	-0.4
	baz=293							
J19K	**Poorman**	68.85	28	P		P	08 37 41.5	0.0
	baz=291,SNR=5.4							
IMAR	**Indian Mountai**	68.85	25	P		P	08 37 41.5	0.0
M17K	**Holitna River**	69.00	31			P	08 37 44.1	+1.6
M17K	**Holitna River**	69.00	31	P		P	08 37 42.3	-0.2
	baz=291,SNR=9.5							
I20K	**Naaghedeneel**	69.02	27	P		P	08 37 42.3	-0.2
	baz=292							
L18K	**Granite Mounta**	69.04	30	P		P	08 37 43.6	+0.9
L18K				IAmb		IAmb	08 38 11.2	
	comp=Z,4.8nm,1.4s							
L18K	**Granite Mounta**	69.04	30	P		P	08 37 43.1	+0.4
	baz=291							
C24K	**Franklin Bluff**	69.10	21	P		P	08 37 43.4	+0.4
	baz=295							
TOLK	**Toolik Lake Re**	69.28	22	P		P	08 37 44.3	+0.1
	baz=295							
D24K	**Happy Valley**	69.30	22	P		P	08 37 43.4	-0.8
	baz=295							
G22K	**Betties**	69.31	24	P		P	08 37 43.6	-0.7
	baz=294							
H21K	**Melozitna Rive**	69.34	26	P		P	08 37 42.5	-2.0
	baz=293							
O16K	**Kokwok River B**	69.34	33	P		P	08 37 43.6	-1.0
	baz=291,SNR=5.7							
J20K	**Nowinta River**	69.38	27	P		P	08 37 44.2	-0.7
	baz=292							
N17K	**Nushagak Hills**	69.43	32	P		P	08 37 44.5	-0.7
	baz=291							
E23K	**Chandalar**	69.51	23	P		P	08 37 44.9	-0.8
	baz=295							
COLD	**Coldfoot**	69.66	24	P		P	08 37 45.1	-1.3
	baz=295							
M18K	**Stony River**	69.69	30	P		P	08 37 45.4	-1.4
	baz=292							
K20K	**Telida**	69.73	28	P		P	08 37 47.0	0.0
	baz=293							
O17K	**Koliganek Bris**	69.75	32	P		P	08 37 47.1	0.0
	baz=292							
H22K	**Ishtalitna Cre**	69.78	25	P		P	08 37 47.2	-0.1
	baz=294							
S14K	**Fog Glacier**	69.79	36	P		P	08 37 45.7	-1.9
	baz=291							
I21K	**Tanana**	69.84	26	P		P	08 37 47.2	-0.4
	baz=294							
L19K	**White Mountain**	69.85	29	P		P	08 37 47.5	-0.3
	baz=293,SNR=5.5							
E24K	**Your Creek**	69.88	23	P		P	08 37 47.4	-0.5
	baz=296							
G23K	**Bananza Creek**	69.94	24	P		P	08 37 48.2	0.0
	baz=295							
N18K	**Kilae Creek**	69.97	31	P		P	08 37 48.1	-0.4
	baz=292							
GERES	**GERESS Array B**	69.98	315	P		P	08 37 48.5	-0.4
	comp=Z,1.5nm,0.7s,baz=76,slow=5.6,SNR=10							
	comp=Z,1.5nm,0.7s							
D25K	**Kavik River**	70.01	21	P		P	08 37 47.8	-0.9
	baz=297							
L20K	**Farewell, AK**	70.16	29	P		P	08 37 49.3	-0.4
	baz=293							
M19K	**Big River Lodg**	70.16	30	P		P	08 37 49.4	-0.3
	baz=293							
C26K	**Camden Bay**	70.19	20	P		P	08 37 49.4	-0.3
	baz=298							
CHUM	**Lake Minchumin**	70.24	27	P		P	08 37 49.9	-0.2
	baz=294							
P17K	**Kvichak River**	70.27	33	P		P	08 37 49.8	-0.6
	baz=292							
CHNA	**Chernabura Isl**	70.30	38	P		P	08 37 49.5	-1.1
	baz=291							
CNBA	**Chernabura Isl**	70.30	38	P		P	08 37 50.2	-0.4
CNBA				IAmb		IAmb	08 37 51.3	
	comp=Z,7.0nm,0.9s							
F24K	**Squaw Lake**	70.34	23	P		P	08 37 49.7	-0.9
	baz=297							
MLY	**Manley**	70.38	26	P		P	08 37 50.3	-0.8
	baz=295,SNR=9.5							
H23K	**Yukon River**	70.49	25			P	08 37 52.4	+0.7
H23K				IAmb		IAmb	08 37 53.2	
	comp=Z,9.9nm,1.2s							
H23K	**Yukon River**	70.49	25	P		P	08 37 51.0	-0.7
	baz=296,SNR=6.5							
CAST	**Castle Rocks**	70.53	28	P		P	08 37 50.8	-1.1
	baz=294							
N19K	**Bonanza Creek**	70.55	31	P		P	08 37 50.9	-1.3
	baz=293,SNR=6.4							
O18K	**Koktuh Hills**	70.60	32	P		P	08 37 51.4	-1.0
	baz=293							
BPAW	**Bear Paw Mtn.**	70.68	27	P		P	08 37 51.8	-1.1
	baz=295,SNR=7.3							
C27K	**Jago River**	70.69	20	P		P	08 37 51.6	-1.2
	baz=300,SNR=7.4							
PPLA	**Purkeypile**	70.70	28	P		P	08 37 53.9	+0.8
PPLA				IAmb		IAmb	08 37 53.9	
	comp=Z,6.1nm,0.7s							
PPLA	**Purkeypile**	70.70	28	P		P	08 37 51.9	-1.2
	baz=294							
M20K	**Styx River**	70.72	29	P		P	08 37 51.9	-1.3
	baz=294							
P18K	**Big Mountain,**	70.77	32	P		P	08 37 52.3	-1.1
	baz=293							
G24K	**Hadweenzic Riv**	70.85	24	P		P	08 37 53.0	-0.8
	baz=297							
I23K	**Minto, Yukon-K**	70.86	26	P		P	08 37 54.4	+0.6
I23K				IAmb		IAmb	08 37 55.1	
	comp=Z,5.6nm,1.1s							
I23K	**Minto, Yukon-K**	70.86	26	P		P	08 37 53.0	-0.9
	baz=296							
Q17K	**Contact Creek**	70.90	34	P		P	08 37 53.1	-1.2
	baz=293							
F25K	**Christian Rive**	71.06	22			P	08 37 56.1	+0.9
F25K	**Christian Rive**	71.06	22	P		P	08 37 54.2	-1.0
	baz=299							
H24K	**Noodor Dome**	71.10	25	P		P	08 37 54.5	-0.9
	baz=297							
Q18K	**Katmai Hardscr**	71.17	33	P		P	08 37 55.2	-0.8
	baz=294							
NEA2	**Nenana**	71.22	26	P		P	08 37 55.0	-1.1
	baz=297,SNR=10							
TRF	**Thofare Moun**	71.24	27	P		P	08 37 55.3	-1.2
	baz=296							
G25K	**Bearman Lake**	71.30	23	P		P	08 37 55.7	-0.8
	baz=298,SNR=5.9							
SKT	**Skwentna**	71.36	29			P	08 37 57.1	+0.1
SKT				IAmb		IAmb	08 37 58.2	
	comp=Z,7.2nm,1.2s							
SKT	**Skwentna**	71.36	29	P		P	08 37 56.5	-0.5
	baz=295							
F26K	**Sheenjek River**	71.52	22	P		P	08 37 57.2	-0.6
	baz=300							
STAL	**STALIGIAL**	71.53	313	P		P	08 37 57.4	-1.0
STAL				IAmb		IAmb	08 37 58.3	
	comp=Z,6.2nm,1.1s							
COLA	**College**	71.56	25	P		P	08 37 58.3	+0.2
COLA				IAmb		IAmb	08 37 59.4	
	comp=Z,8.1nm,0.8s							
COLA	**College**	71.56	25	P		P	08 37 58.3	+0.2
COLA				pmax		pmax		
	comp=Z,8.0nm,0.8s							
COLA	**College**	71.56	25	P		P	08 37 57.4	-0.7
	baz=298							
P19K	**Oil Pt**	71.59	32	P		P	08 37 57.8	-0.7
	baz=295							
H25L	**Birch Creek**	71.64	24	P		P	08 37 58.3	-0.2
	baz=299							
WRH	**Wood River Hil**	71.65	26	P		P	08 37 59.5	+0.8
WRH				IAmb		IAmb	08 38 00.9	
	comp=Z,6.8nm,1.5s							
MCK	**McKinley**	71.66	27	P		P	08 37 58.2	-0.5
	baz=297							
D27M	**Malcolm River**	71.72	20	P		P	08 37 58.7	-0.4
	baz=302							
ILAR	**Eielson Array**	71.97	25	P		P	08 37 58.2	-2.3
	comp=Z,1.3nm,0.9s,baz=280,slow=6.0,SNR=9.8							
	comp=Z,1.3nm,0.9s							
G26K	**Porcupine Rive**	72.01	23	IAmb		IAmb	08 38 01.7	
	comp=Z,13nm,1.5s							
G26K	**Porcupine Rive**	72.01	23	P		P	08 37 59.9	-0.9
	baz=300,SNR=6.4							
E27K	**Coleen River**	72.09	21	IAmb		IAmb	08 38 02.3	
	comp=Z,5.1nm,1.2s							
E27K	**Coleen River**	72.09	21	P		P	08 38 00.7	-0.6
	baz=302							
PRP	**Porcupine Dome**	72.11	24	IAmb		IAmb	08 38 03.1	
	comp=Z,7.9nm,0.9s							
PRP	**Porcupine Dome**	72.11	24	P		P	08 38 01.2	-0.5
	baz=299,SNR=10							
HDA	**Harding Lake**	72.12	26	P		P	08 38 01.1	-0.4
	baz=298							
SII	**Sitkinak Islan**	72.43	35	P		P	08 38 02.9	-0.6
	baz=295							
E28M	**Babbage River**	72.50	20	IAmb		IAmb	08 38 04.8	
	comp=Z,5.8nm,1.2s							
E28M	**Babbage River**	72.50	20	P		P	08 38 02.2	-1.5
	baz=304							
RC01	**Rabbit Creek A**	72.53	29	P		P	08 38 04.0	0.0
RC01				IAmb		IAmb	08 38 04.7	
	comp=Z,3.4nm,0.8s							
RC01	**Rabbit Creek A**	72.53	29	P		P	08 38 03.0	-1.0
	baz=297							
PMR	**Palmer**	72.56	29			P	08 38 03.9	-0.2
PMR				IAmb		IAmb	08 38 05.0	
	comp=Z,7.7nm,0.9s							
PMR	**Palmer**	72.56	29	P		P	08 38 03.9	-0.2
PMR				pmax		pmax		
	comp=Z,8.0nm,0.9s							
PMR	**Palmer**	72.56	29	P		P	08 38 03.4	-0.7
	baz=297,SNR=8.6							
OHAK	**Old Harbor**	72.60	34	P		P	08 38 03.4	-1.0
	baz=295							
J25K	**Salcha River,**	72.62	25	P		P	08 38 03.5	-1.1
	baz=300							
KDAK	**Kodiak Island**	72.70	33	P		P	08 38 04.4	-0.6
	baz=296							
G27K	**Doyon Strip**	72.80	22	P		P	08 38 04.9	-0.7
	baz=302,SNR=6.4							
K24K	**Donnelly Dome**	72.86	26	P		P	08 38 04.9	-1.0
	baz=300,SNR=7.6							
KNK	**Knik Glacier**	72.93	29	P		P	08 38 05.8	-0.6
	baz=298							
F28M	**Old Crow**	72.95	21	P		P	08 38 05.9	-0.5
	baz=304							
M23K	**Glacier View**	73.06	28	P		P	08 38 06.2	-0.9
	baz=298							
I26K	**Coal Creek Min**	73.08	24	P		P	08 38 06.4	-0.7
	baz=301							
SEW	**Seward**	73.11	30	P		P	08 38 07.2	-0.2
	baz=298							
E29M	**Blow River**	73.13	20	IAmb		IAmb	08 38 08.5	
	comp=Z,4.2nm,1.1s							
E29M	**Blow River**	73.13	20	P		P	08 38 06.5	-0.9
	baz=305							
H27K	**Steamboat Moun**	73.16	23			P	08 38 08.3	+0.6
H27K				IAmb		IAmb	08 38 09.1	
	comp=Z,5.9nm,0.9s							
H27K	**Steamboat Moun**	73.16	23	P		P	08 38 07.0	-0.7
	baz=302,SNR=10							
SCM	**Sheep Creek Mo**	73.20	28	P		P	08 38 07.2	-0.9
	baz=299							
PWL	**Port Wells**	73.24	29	P		P	08 38 07.3	-0.9
	baz=298							
RIDG	**Independent Ri**	73.25	26			P	08 38 07.6	-0.7
RIDG				IAmb		IAmb	08 38 08.1	
	comp=Z,11nm,1.2s							
RIDG	**Independent Ri**	73.25	26	P		P	08 38 07.6	-0.7
	baz=300,SNR=5.5							
J26L	**Joseph Creek**	73.35	25			P	08 38 08.4	-0.5
J26L				IAmb		IAmb	08 38 09.5	
	comp=Z,7.4nm,0.8s							
J26L	**Joseph Creek**	73.35	25	P		P	08 38 08.2	-0.7
	baz=301,SNR=14							
PAX	**Paxson**	73.40	27	P		P	08 38 08.6	-0.7
	baz=300							
SCRK	**Sand Creek**	73.46	25	IAmb		IAmb	08 38 09.8	
	comp=Z,4.8nm,1.1s							
SCRK	**Sand Creek**	73.46	25	P		P	08 38 08.5	-1.2
	baz=301,SNR=5.3							
I27K	**Kandik River**	73.47	23	P		P	08 38 09.0	-0.5
	baz=303,SNR=5.2							
M24K	**Tolsona, Glenn**	73.55	28	P		P	08 38 09.9	-0.2
	baz=300							
G29M	**Pine Creek**	73.94	21	P		P	08 38 12.0	-0.2
	baz=305							
KLU	**Klutina**	73.96	28	IAmb		IAmb	08 38 14.2	
	comp=Z,12nm,1.0s							
KLU	**Klutina**	73.96	28	P		P	08 38 11.9	-0.6
	baz=300,SNR=9.8							
P23K	**Montague Islan**	74.06	30	P		P	08 38 12.1	-0.9
	baz=299							
A36M	**Sachs Harbour**	74.10	14	P		P	08 38 12.1	-0.9
	baz=315							
I28M	**Miner Creek**	74.14	23	P		P	08 38 12.8	-0.7
	baz=304							
K27K	**Chicken**	74.15	25	P		P	08 38 13.4	-0.1
	baz=303							
DIV	**Divide**	74.20	28	P		P	08 38 14.4	+0.5
H29M	**Whitestone**	74.23	22	P		P	08 38 13.7	-0.2
	baz=305							
F30M	**Barrier River**	74.23	20	P		P	08 38 13.7	-0.3
F30M				IAmb		IAmb	08 38 14.9	
	comp=Z,5.8nm,1.1s							
F30M	**Barrier River**	74.23	20	P		P	08 38 13.6	-0.3
	baz=307							
N25K	**Chitina, Valde**	74.44	28	IAmb		IAmb	08 38 16.8	
	comp=Z,9.1nm,1.1s							
N25K	**Chitina, Valde**	74.44	28	P		P	08 38 14.2	-1.1
	baz=301,SNR=5.3							
G30M	**tAoh Zraii Nji**	74.47	21	IAmb		IAmb	08 38 16.0	
	comp=Z,5.8nm,0.8s							
G30M	**tAoh Zraii Nji**	74.47	21	P		P	08 38 15.0	-0.4
	baz=307,SNR=6.1							
INK	**Inuvik**	74.47	19	IAmb		IAmb	08 38 16.2	
	comp=Z,5.0nm,0.9s							
INK	**Inuvik**	74.47	19	P		P	08 38 14.8	-0.5
	baz=309							
EYAK	**Cordova Ski Ar**	74.50	29	P		P	08 38 16.5	+0.9
EYAK				IAmb		IAmb	08 38 17.4	
	comp=Z,8.3nm,0.9s							
EYAK	**Cordova Ski Ar**	74.50	29	P		P	08 38 15.4	-0.2
	baz=300							
M26K	**Nabesna, AK**	74.67	27	P		P	08 38 17.3	+0.6
M26K				IAmb		IAmb	08 38 18.4	
	comp=Z,4.3nm,0.9s							
M26K	**Nabesna, AK**	74.67	27	P		P	08 38 16.8	+0.1
	baz=302,SNR=5.4							
EPYK	**Eagle Plains**	74.68	22	P		P	08 38 16.0	-0.6
	baz=306							
I29M	**Ogilvie Camp,**	74.75	23	P		P	08 38 15.8	-1.2
	baz=305							
L27K	**Beaver Creek,**	74.77	26	P		P	08 38 16.9	-0.3
	baz=303,SNR=5.9							
BMRM	**Bremner River**	74.77	28	P		P	08 38 17.5	+0.2
BMRM	**Bremner River**	74.77	28	P		P	08 38 16.9	-0.3
	baz=301,SNR=7.0							
BCAR	**Beaver Creek A**	74.78	26			P	08 38 17.9	+0.6
F31M	**Tsiigehtchic**	74.95	20	P		P	08 38 17.8	-0.3
F31M	**Tsiigehtchic**	74.95	20	P		P	08 38 17.7	-0.3
	baz=309							
DAWY	**Dawson**	75.11	24	P		P	08 38 18.8	-0.4
	baz=305,SNR=5.5							
VRDI	**Verde Repeater**	75.11	28	P		P	08 38 19.4	+0.1
VRDI				IAmb		IAmb	08 38 20.8	
	comp=Z,3.5nm,0.8s							
G31M	**Satah River**	75.12	21	P		P	08 38 18.4	-0.6
	baz=308							
M27K	**Edge Creek, AK**	75.13	26	P		P	08 38 20.2	+0.8
M27K				IAmb		IAmb	08 38 21.4	
	comp=Z,6.1nm,0.9s							
M27K	**Edge Creek, AK**	75.13	26	P		P	08 38 19.2	-0.2
	baz=303,SNR=8.5							
MCARA	**McCarthy VSAT**	75.20	27	P		P	08 38 19.3	-0.4
	baz=302							
KAIM	**Kayak Island**	75.39	29	P		P	08 38 20.5	-0.3
	baz=302							
BERG	**Berg Lake**	75.45	29	P		P	08 38 21.7	+0.6
I30M	**Mount Dempster**	75.48	22			P	08 38 20.9	-0.4
I30M	**Mount Dempster**	75.48	22	P		P	08 38 20.6	-0.7
	baz=307							
BVCY	**Beaver Creek**	75.50	26	P		P	08 38 21.3	-0.1
	baz=304							
H31M	**Peel River**	75.79	21	P		P	08 38 22.6	-0.4
	baz=309							
J30M	**Hart River**	75.89	23			P	08 38 23.6	-0.1
J30M	**Hart River**	75.89	23	P		P	08 38 23.3	-0.4
	baz=307							
K29M	**Barlow Dome**	75.91	24	IAmb		IAmb	08 38 25.2	
	comp=Z,6.1nm,0.8s							
K29M	**Barlow Dome**	75.91	24	P		P	08 38 23.5	-0.3
	baz=305,SNR=12							
YUK3	**Moose Creek**	76.01	26	P		P	08 38 24.2	-0.3

HYT	**Haines Junctio**	**77.73**	**26**	P	**P**	**08 38 33.4**	**-0.7**
	baz=307							
N31M	**Braeburn, Yuko**	**77.99**	**25**	P	**P**	**08 38 35.6**	**+0.1**
N31M				IAmb	IAmb	08 38 37.0		
	comp=Z,5.8nm,0.9s							
N31M	**Braeburn, Yuko**	**77.99**	**25**	P	**P**	**08 38 35.2**	**-0.2**
	baz=308							
M31M	**Drury Creek, Y**	**78.05**	**24**	P	**P**	**08 38 35.2**	**-0.6**
	baz=309							
O30N	**Mendenhall**	**78.31**	**26**	P	**P**	**08 38 37.9**	**+0.6**
O30N				IAmb	IAmb	08 38 38.6		
	comp=Z,5.9nm,1.2s							
O30N	**Mendenhall**	**78.31**	**26**	P	**P**	**08 38 36.8**	**-0.5**
	baz=308							
P29M	**Windy Craggy**	**78.36**	**27**	P	**P**	**08 38 36.6**	**-1.0**
	baz=307							
P30M	**Million Dollar**	**78.37**	**27**	P	**P**	**08 38 36.8**	**-0.9**
	baz=308							
MMPY	**Sheldon Lake,**	**78.89**	**23**	P	**P**	**08 38 39.9**	**-0.5**
	baz=312							
PLBC	**Pleasant Camp**	**79.02**	**27**	P	**P**	**08 38 40.8**	**-0.3**
	baz=308							
N32M	**Quiet Lake**	**79.21**	**25**	P	**P**	**08 38 41.3**	**-0.9**
	baz=310							
SKAG	**Skagway**	**79.43**	**27**	P	**P**	**08 38 43.6**	**+0.3**
SKAG				IAmb	IAmb	08 38 45.4		
	comp=Z,4.7nm,0.8s							
SKAG	**Skagway**	**79.43**	**27**	P	**P**	**08 38 42.5**	**-0.8**
	baz=309							
P33M	**Teslin, Yukon**	**79.92**	**25**	P	**P**	**08 38 45.4**	**-0.7**
	baz=311							
P32M	**Atlin**	**79.98**	**26**	P	**P**	**08 38 45.3**	**-1.1**
	baz=310							
S31K	**Pelican**	**80.00**	**28**	P	**P**	**08 38 45.8**	**-0.7**
	baz=308							
R32K	**Eaglecrest**	**80.51**	**27**	P	**P**	**08 38 48.5**	**-0.7**
	baz=310							
Q32M	**Nakina River**	**80.95**	**26**	P	**P**	**08 38 50.6**	**-1.2**
	baz=312							
S32K	**Killisnoo**	**81.00**	**28**	P	**P**	**08 38 50.7**	**-1.2**
	baz=310							
R33M	**Jennings River**	**81.16**	**25**	P	**P**	**08 38 52.4**	**-0.5**
	baz=312							
WTLY	**Watson Lake, Y**	**81.47**	**24**	P	**P**	**08 38 53.9**	**-0.5**
	baz=314							
S34M	**Telegraph Cree**	**82.10**	**27**		**P**	**08 38 58.5**	**+0.8**
S34M	**Telegraph Cree**	**82.10**	**27**	P	**P**	**08 38 57.4**	**-0.3**
	baz=312							
DLBC	**Dease Lake**	**82.17**	**26**	P	**P**	**08 38 57.5**	**-0.7**
	baz=313							
U33K	**Whale Pass**	**82.49**	**29**	P	**P**	**08 38 59.5**	**-0.2**
	baz=311							
WRAK	**Wrangell Islan**	**82.61**	**28**	P	**P**	**08 39 01.0**	**+0.6**
T35M	**Bob Quinn**	**83.09**	**27**	P	**P**	**08 39 02.8**	**-0.1**
	baz=313							
TOAD	**Toad River Com**	**83.65**	**24**	P	**P**	**08 39 05.3**	**-0.4**
	baz=317							
V35K	**Ketchikan**	**83.65**	**29**	P	**P**	**08 39 05.3**	**-0.4**
	baz=312							
YKA	**Yellowknife Ar**	**84.06**	**17**	P	**P**	**08 39 06.2**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=336,slow=4.2,SNR=8.4							
	comp=Z,1.3nm,0.8s							
ROSC	**El Rosal**	**146.96**	**359**	PKPbc	**PKPbc**	**08 46 21.7**	**+0.5**
	comp=Z,28nm,0.9s,baz=132,slow=10,SNR=9.1							
LPAZ	**La Paz**	**166.37**	**331**	PKP	**PKPdf**	**08 46 44.5**	**+0.4**
	comp=Z,1.2nm,1.0s,baz=62,slow=7.2,SNR=3.6							

IDC 22 08:30:10.6±2.7, 53°.95N×86°.66E, h0km, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=24.2km s-min=14.0km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.09**	**271**	I	I	08 37 30.0	
	baz=90,slow=318,SNR=4.0						
ZALV	**Zalesovo Beam**	**1.09**	**271**	Pg	Pg	08 30 30.2	-1.2
	0.4nm,0.3s,baz=89,slow=14,SNR=2.6						
ZALV				Lg	Lg	08 30 46.7	
	1.4nm,0.3s,baz=91,slow=34,SNR=8.5						
KURBB	**Kurchatov Arra**	**6.00**	**240**	Pn	Pn	08 31 41.5	+1.0
	0.1nm,0.3s,baz=57,slow=13,SNR=2.6						
	0.3nm,0.2s						
MKAR	**Makanchi Array**	**7.68**	**203**	Pn	Pn	08 32 04.8	+1.1
	0.2nm,0.3s,baz=23,slow=13,SNR=15						
	2.6nm,0.9s						

*SOME **22** 08:35:03.7, 41°.77N×78°.42E*
NNC 22 08:35:05.4±1.9, 41°.86N×78°.56E, h14km±16km, mb3.6, mpv3.0, Error ellipse: s-maj=40.2km s-min=14.0km az=63.0, Suspected Mining explosion., Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**1.67**	**315**	P	Pn	08 35 34.6	-0.1
	1.5nm,0.1s						
TNSS				S	Sb	08 35 56.8	-0.5
	1.3nm,0.1s						
CHKK	**Chushkaly**	**2.30**	**330**	Pg	Pb	08 35 47.2	+0.5
	4.8nm,0.3s						
CHKK				Lg	Lg	08 36 18.6	
	5.3nm,0.7s						
ARXS	**Arharly**	**2.41**	**347**	Pg	Pb	08 35 49.9	+1.3
	1.8nm,0.1s						
ARXS				Lg	Lg	08 36 22.1	
	2.6nm,0.5s						

WEL 22 08:41:17.5±1.2, 32°S±15°×18°0E±1°9, h459km±36km, M4.1/7, mB4.5/7, ML4.5/9, MLv4.6/6, Mw(mB)3.6/7, Error ellipse: s-maj=25.6km s-min=18.4km az=69.1, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.73**	**191**	P	P	08 42 49.3	0.0
MXZ				S	S	08 44 04.8	+0.4
KUZ	**Kuaotunu**	**5.80**	**213**	P	P	08 42 51.0	+1.0
WCZ	**Waipu Caves**	**5.95**	**226**	P	P	08 42 51.6	+0.1
WMGZ	**Waiomatatini S**	**5.97**	**189**	P	P	08 42 52.3	+0.7
WMGZ				S	S	08 44 10.6	+1.9
OUZ	**Omahuta**	**6.02**	**235**	P	P	08 42 50.8	-1.3
HAZ	**Te Kaha**	**6.02**	**194**	P	P	08 42 50.6	-1.5
HAZ				S	S	08 44 10.6	+1.0
PKGZ	**Pakihiroa**	**6.07**	**192**	P	P	08 42 52.9	+0.2
PKGZ				S	S	08 44 11.3	+0.7
MBAZ	**Motutapu North**	**6.22**	**218**	P	P	08 42 55.7	+1.5
PUZ	**Puketiti**	**6.24**	**190**	P	P	08 42 54.4	-0.1
PUZ				S	S	08 44 13.1	-0.7
RUGZ	**Raukumara Rang**	**6.24**	**194**	P	P	08 42 53.9	-0.7
RUGZ				S	S	08 44 13.8	-0.2
MKAZ	**Moumakai**	**6.35**	**214**	P	P	08 42 56.7	+1.2
TWGZ	**Tauwhareparae**	**6.39**	**192**	P	P	08 42 56.6	+0.6
TWGZ				S	S	08 44 19.3	+2.7
MWZ	**Matawai**	**6.63**	**194**	P	P	08 42 57.8	-0.6
MWZ				S	S	08 44 21.5	+0.4
CNGZ	**Carnagh Statio**	**6.65**	**190**	P	P	08 42 58.8	+0.2
URZ	**Urewera**	**6.65**	**197**	P	P	08 42 56.7	-1.9
URZ				S	S	08 44 20.1	-1.5
TKGZ	**Te Karaka**	**6.67**	**192**	P	P	08 42 58.8	0.0
TKGZ				S	S	08 44 22.1	+0.3
TOZ	**Tahuroa Road**	**6.72**	**209**	P	P	08 43 01.1	+1.9
RAGZ	**Rawiri**	**6.81**	**195**	P	P	08 43 00.6	+0.3
RIGZ	**Rimuhau**	**6.94**	**192**	P	P	08 43 01.6	-0.1
MUGZ	**Murupara**	**6.95**	**199**	P	P	08 43 02.4	+0.7
RTZ	**Ruatahuna**	**7.02**	**197**	P	P	08 43 02.1	-0.5
SNGZ	**Shannon Statio**	**7.10**	**195**	P	P	08 43 03.5	+0.2
PRGZ	**Paritu Road**	**7.13**	**191**	P	P	08 43 05.3	+1.6
KNZ	**Kokohu**	**7.26**	**192**	P	P	08 43 04.7	-0.3
RAHZ	**Arahi**	**7.28**	**196**	P	P	08 43 03.5	-1.8
MHGZ	**Mahia Peninsul**	**7.35**	**191**	P	P	08 43 07.3	+1.3
NMHZ	**Naumai**	**7.52**	**197**	P	P	08 43 07.7	-0.2
HIZ	**Hauiti**	**7.65**	**209**	P	P	08 43 11.4	+2.3
BKZ	**Black Stump Fm**	**7.67**	**199**	P	P	08 43 07.9	-1.5
KWHZ	**Kaweka Forest**	**7.93**	**198**	P	P	08 43 10.2	-1.9
VRZ	**Vera Road**	**8.21**	**208**	P	P	08 43 14.6	-0.4

IDC 22 08:45:55.9±2.5, 1°.36S×127°.97E, h0km, mb3.3/2, mbtmp3.2/3, ML3.4/1, MS3.6/2, Error ellipse: s-maj=191.7km s-min=28.6km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.49**	**162**	P	P	08 50 24.3	-0.4
	0.1nm,0.3s,baz=344,slow=13,SNR=6.2						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**22.90**	**166**	P	P	08 51 02.0	+0.5
	0.5nm,0.5s,baz=348,slow=12,SNR=8.9						
	0.5nm,0.5s						
JOW	**Kunigami**	**28.03**	**1**	LR	LR	09 01 11.9	
	comp=Z,180nm,20.3s,baz=84,slow=33						
JNU	**Nakatsue**	**34.41**	**4**	LR	LR	09 05 31.8	
	comp=Z,69nm,19.2s,baz=146,slow=34						
MKAR	**Makanchi Array**	**62.44**	**326**	P	P	08 56 20.8	-0.2
	0.1nm,0.3s,baz=124,slow=7.2,SNR=2.9						
	0.1nm,0.3s						

*IDC **22** 08:50:06.0±3.5, 53°.48N×87°.93E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=34.4km s-min=19.7km az=58.0*
ASRS 22 08:50:03.0±0.8, 53°.56N×87°.87E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**283**	I	I	09 01 50.0	
	0.1nm,0.9s,baz=99,slow=314,SNR=6.1						
ZALV	**Zalesovo Beam**	**1.85**	**283**	Pn	Pg	08 50 39.8	+1.3
	0.9nm,0.3s,baz=101,slow=13,SNR=8.3						
ZALV				Lg	Lg	08 51 05.8	
	1.0nm,0.3s,baz=107,slow=36,SNR=2.6						
KURBB	**Kurchatov Arra**	**6.46**	**247**	Pn	Pn	08 51 43.2	+3.9
	0.1nm,0.3s,baz=64,slow=14,SNR=5.3						
	0.2nm,0.2s						
MKAR	**Makanchi Array**	**7.66**	**210**	Pn	Pn	08 51 58.7	+2.9
	0.1nm,0.3s,baz=25,slow=13,SNR=2.0						
	0.1nm,0.3s						

IDC 22 09:07:17.3±4.1, 3°.72S×152°.42E, h0km, mb3.2/2, mbtmp3.2/2, Error ellipse: s-maj=181.0km s-min=52.8km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.89**	**226**	P	P	09 12 32.9	-0.1
	0.3nm,0.5s,baz=53,slow=9.9,SNR=5.9						
	0.3nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**26.17**	**32**	T	T	09 40 18.7	
	baz=210,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**26.18**	**32**	T	T	09 40 22.4	
	baz=210,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy**	**26.19**	**32**	T	T	09 40 21.6	
	baz=210,slow=76,SNR=21						
ASAR	**Alice Springs**	**26.70**	**220**	P	P	09 12 58.9	+0.3
	0.4nm,0.8s,baz=44,slow=9.4,SNR=4.2						
	0.4nm,1.0s						
H02S1	**DAWSON INLET T**	**84.10**	**36**	T	T	10 52 40.4	
	SNR=54						
TORD	**Torodi Ar. Bea**	**149.60**	**290**	PKPbc	PKPbc	09 27 09.2	-0.8
	0.7nm,0.3s,baz=59,slow=2.4,SNR=2.7						

*IDC **22** 09:22:42.6±1.5, 3°.00N×128°.54E, h0km, mb3.6/6, mbtmp3.7/6, Error ellipse: s-maj=97.8km s-min=18.3km az=71.0*
ISC 22 09:22:47.4±1.7, 3°.0N±0°.3×128°.9E±0°.6, h35km, n6, σ0s52/6, mb3.6/6, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.21**	**189**	P	**P**	**09 27 30.3**	**+0.1**
	0.9nm,0.5s,baz=18,slow=9.9,SNR=6.8						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**23.43**	**167**	P	**P**	**09 27 54.1**	**+0.6**
	0.6nm,0.4s,baz=342,slow=9.9,SNR=19						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**26.96**	**170**	P	**P**	**09 28 25.8**	**-0.1**
	0.3nm,0.4s,baz=348,slow=7.1,SNR=11						
	0.3nm,0.4s						
STKA	**Stephens Creek**	**36.74**	**162**	P	**P**	**09 29 51.2**	**-0.2**
	1.8nm,0.8s,baz=344,slow=7.4,SNR=3.6						
	1.8nm,0.8s						
MKAR	**Makanchi Array**	**59.38**	**325**	P	**P**	**09 32 46.7**	**+0.5**
	0.4nm,0.5s,baz=107,slow=7.8,SNR=4.9						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**63.51**	**327**	P	**P**	**09 33 13.6**	**-0.4**
	0.7nm,0.5s,baz=128,slow=5.8,SNR=6.0						
	0.7nm,0.5s						

AUST 22 09:33:26.7±0.4, 29°S±2°×11°6E±°, h10km, mb4.2/2, ML3.0/4, mL3.5/7, Error ellipse: s-maj=11.3km s-min=5.3km az=88.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORW	**Morawa**	**0.37**	**189**	P	Pg	09 33 34.4	+0.3
MORW				S	Sg	09 33 39.3	+0.3
BLDU	**Ballidu**	**1.98**	**165**	P	Pb	09 34 02.4	-0.5
BLDU	**Ballidu**	**1.98**	**165**	S	Sb	09 34 27.8	+0.3
MEEK	**Meekatharra**	**3.03**	**48**	P	Pn	09 34 14.1	-0.7
KLBR	**Kellerberrin**	**3.21**	**154**	P	Pn	09 34 18.2	+0.9
KLBR	**Kellerberrin**	**3.21**	**154**	S	Sn	09 34 56.3	+0.6
MUN	**Mundaring**	**3.27**	**178**	P	Pn	09 34 20.5	+2.5
MUN	**Mundaring**	**3.27**	**178**	S	Sn	09 34 59.2	+2.3
CVQOZ	**Cooralya Stati**	**4.61**	**336**	P	Pn	09 34 36.0	-0.5
KMBL	**Kambalda**	**5.67**	**119**	P	Pn	09 34 45.4	-5.7
KMBL				S	Sn	09 35 48.6	-7.6
GIRL	**Giralia**	**6.27**	**344**	P	Pn	09 34 59.6	+0.4
	comp=Z,328μmcomp=Z,46nm,2.2s,comp=Z,0.2nm						
GIRL				S	Sn	09 36 03.2	-7.7
FORT	**Forrest**	**10.59**	**104**	P	Pn	09 35 57.5	-1.1
	comp=Z,19nm,1.8s,comp=Z,0.1nm						

IDC 22 09:34:23.1±2.6, 53°.89N×86°.59E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=21.8km s-min=12.9km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**274**	I	I	09 41 40.0	
	baz=90,slow=320,SNR=5.2						
ZALV	**Zalesovo Beam**	**1.05**	**274**	Pg	Pg	09 34 42.1	-1.0
	0.8nm,0.3s,baz=91,slow=17,SNR=8.1						
ZALV				Lg	Lg	09 34 57.8	
	1.7nm,0.3s,baz=96,slow=28,SNR=13						
KURBB	**Kurchatov Arra**	**5.93**	**240**	Pn	Pn	09 35 53.4	+1.2
	0.1nm,0.3s,baz=56,slow=13,SNR=5.8						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.62**	**203**	Pn	Pn	09 36 16.2	+0.9
	0.2nm,0.3s,baz=25,slow=14,SNR=7.2						
	0.3nm,0.3s						

*ASRS **22** 09:35:21.0±1.4, 53°.71N×91°.03E, h0km, M3.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*NNC **22** 09:35:27.4±4.4, 53°.64N×90°.67E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=32.9km s-min=24.2km az=59.0, Suspected Mining explosion.*
*IDC **22** 09:35:29.3±2.8, 53°.57N×90°.66E, h0km, mbtmp3.5/4, ML2.9/4, Error ellipse: s-maj=24.3km s-min=18.3km az=60.0*
ISC 22 09:35:31.7±3.8, 53°.6N±0°.1×90°.3E±0°.2, h0km, n12, σ1s25/16, 9C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.25**	**278**	I	I	09 56 50.0	
	0.3nm,1.0s,baz=92,slow=318,SNR=12						
ZAA0	**Zalesovo Array**	**3.25**	**278**	⇑Pg	**Pb**	**09 36 29.8**	**-0.3**
	1.8nm,0.7s						
ZAA0				⇑Lg	Lg	09 37 22.6	
	24nm,0.8s						
ZALV	**Zalesovo Beam**	**3.25**	**278**	Pn	**Pn**	**09 36 25.4**	**+1.6**
	2.1nm,0.3s,baz=90,slow=13,SNR=12						
ZALV				Lg	Lg	09 37 18.3	
	2.0nm,0.3s,baz=90,slow=31,SNR=6.5						
	3.6nm,0.3s						
KURK	**Kurchatov**	**7.73**	**253**	⇑Pn	**Pn**	**09 37 24.6**	**-0.8**
	4.3nm,1.0s						
KURK				⇑Sn	**Sn**	**09 38 55.1**	**+1.5**
	16nm,0.9s						
KURK				⇑Lg	Lg	09 39 42.4	
	33nm,0.8s						
KURBB	**Kurchatov Arra**	**7.82**	**252**	⇑Pn	**Pn**	**09 37 26.2**	**-0.5**
	2.3nm,0.3s						
KURBB				⇓Sn	**Sn**	**09 38 55.8**	**0.0**
	35nm,0.8s						
KURBB				⇑Lg	Lg	09 39 44.7	
	147nm,1.4s						
KURBB	**Kurchatov Arra**	**7.82**	**252**	Pn	**Pn**	**09 37 26.3**	**-0.3**
	0.2nm,0.3s,baz=64,slow=14,SNR=11						
KURBB				Sn	**Sn**	**09 38 56.2**	**+0.4**
	baz=66,slow=26,SNR=4.8						
KURBB				Lg	Lg	09 39 43.0	
	0.1nm,0.3s,baz=69,slow=29,SNR=8.8						
	1.4nm,0.3s						
MK31	**Makanchi Array**	**8.53**	**220**	⇑Pn	**Pn**	**09 37 35.5**	**-1.0**
	0.4nm,0.4s,baz=45,slow=13,SNR=14						
MK31				⇑Sn	**Sn**	**09 39 16.5**	**+3.1**
	7.2nm,0.9s,baz=45,slow=25,SNR=4.5						
MK31				⇓Lg	Lg	09 40 05.7	
	27nm,0.9s,baz=51,slow=28,SNR=5.1						
MKAR	**Makanchi Array**	**8.53**	**220**	Pn	**Pn**	**09 37 36.2**	**-0.3**
	0.6nm,0.3s,baz=32,slow=13,SNR=13						
MKAR				Sn	**Sn**	**09 39 13.6**	**+0.2**
	0.2nm,0.3s,baz=46,slow=25,SNR=7.6						
MKAR				Lg	Lg	09 40 03.2	
	0.2nm,0.3s,baz=37,slow=29,SNR=5.3						
	0.9nm,0.3s						
MAKZ	**Makanchi**	**8.64**	**221**	Pn	**Pn**	**09 37 37.1**	**-0.9**
	2.7nm,0.6s						
MAKZ				Sn	**Sn**	**09 39 16.0**	**-0.1**
	12nm,1.3s						
MAKZ				Lg	Lg	09 40 10.4	
	18nm,0.9s						
SONM	**Songino Array**	**11.74**	**113**	Lg	Lg	09 41 18.1	
	0.2nm,0.3s,baz=297,slow=26,SNR=5.1						
BVAR	**Borovoye Array**	**11.90**	**275**	Pn	**Pn**	**09 38 22.4**	**0.0**
	baz=80,slow=16,SNR=1.7						
BVAR				Sn	**Sn**	**09 40 34.1**	**-1.7**
	baz=72,slow=28,SNR=1.8						
BVAR				Lg	Lg	09 41 57.0	
	0.1nm,0.3s,baz=76,slow=36,SNR=1.9						
	0.5nm,0.5s						
AAK	**Ala-Archa**	**15.18**	**230**	Lg	Lg	09 43 32.9	
	0.4nm,0.3s,baz=52,slow=19,SNR=1.5						

*NOU **22** 09:42:22.6, 45°.09S×167°.63E, h120km, MLv3.8/17, South Island, New Zealand*
*WEL **22** 09:42:24.2±0.8, 45°.5±.3°×16°8E±°, h104km±5km, M3.1/7, MLv3.1/7, Error ellipse: s-maj=5.9km s-min=3.7km az=117.1, confirmed*
ISC 22 09:42:21.2±1.7, 45°.09S±0°.04×167°.50E±0°.06, h134km±9km, n40, σ1s09/57, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAFS	**Te Anau Fire S**	**0.36**	**155**	P	**Sn**	**09 42 52.7**	**-1.6**
DCZ	**Deep Cove**	**0.45**	**213**	P	**Sn**	**09 42 40.5**	**+0.1**
DCZ				S	**Sn**	**09 42 53.1**	**-1.9**
MSZ	**Milford Sound**	**0.52**	**37**	P	**Pn**	**09 42 41.9**	**+1.1**
MSZ				S	**Sn**	**09 42 55.6**	**+0.1**
MLZ	**Mavora Lakes**	**0.52**	**123**	P	**Pn**	**09 42 41.6**	**+0.8**
MLZ				S	**Sn**	**09 42 54.9**	**-0.8**
GLNY	**Glenorchy**	**0.68**	**71**	P	**Pn**	**09 42 41.2**	**-0.6**
GLNY				S	**Sn**	**09 42 55.9**	**-1.6**
MOSS	**Mossburn Schoo**	**0.78**	**138**	P	**Pn**	**09 42 43.8**	**+1.3**
MOSS				S	**Sn**	**09 42 58.8**	**0.0**
QTPS	**Queenstown Pol**	**0.83**	**87**	P	**Pn**	**09 42 44.2**	**+1.3**
QTPS				S	**Sn**	**09 42 59.7**	**+0.3**
WHZ	**Wether Hill Ro**	**0.87**	**159**	P	**Pn**	**09 42 44.0**	**+0.8**
WHZ				S	**Sn**	**09 42 59.4**	**-0.7**
RRKS	**Rarakau**	**1.06**	**181**	P	**Pn**	**09 42 46.0**	**+1.1**
RRKS				S	**Sn**	**09 43 02.8**	**-0.3**
WKZ	**Wanaka**	**1.11**	**77**	P	**Pn**	**09 42 47.1**	**+1.6**
WKZ				S	**Sn**	**09 43 04.3**	**+0.3**
ORPS	**Orepuki**	**1.22**	**171**	P	**Pn**	**09 42 47.3**	**+0.9**
ORPS				S	**Sn**	**09 43 04.7**	**-1.1**
PYZ	**Puysegur Point**	**1.22**	**208**	P	**Pn**	**09 42 47.1**	**+0.5**
PYZ	**Puysegur Point**	**1.22**	**208**	S	**Sn**	**09 43 05.3**	**-0.6**
PYZ	**Puysegur Point**	**1.22**	**208**	P	**Pn**	**09 42 47.1**	**+0.5**
PYZ				S	**Sn**	**09 43 05.0**	**-0.9**
WNPS	**Wanaka Nationa**	**1.23**	**72**	P	**Pn**	**09 42 46.9**	**+0.2**
WNPS				S	**Sn**	**09 43 05.7**	**-0.4**
EAZ	**Earnscleugh**	**1.29**	**97**	P	**Pn**	**09 42 48.6**	**+1.4**
EAZ				S	**Sn**	**09 43 06.3**	**-0.8**
JCZ	**Jackson Bay**	**1.37**	**43**	P	**Pn**	**09 42 49.4**	**+1.2**
JCZ	**Jackson Bay**	**1.37**	**43**	P	**Sn**	**09 43 08.7**	**-0.1**
JCZ	**Jackson Bay**	**1.37**	**43**	P	**Pn**	**09 42 49.5**	**+1.3**
JCZ				S	**Sn**	**09 43 08.6**	**-0.1**
NSBS	**Neils Beach**	**1.37**	**38**	P	**Pn**	**09 42 49.1**	**+1.0**
GODC	**Gore District**	**1.44**	**136**	S	**Sn**	**09 43 08.7**	**-1.2**
ICCS	**Invercargill C**	**1.45**	**156**	P	**Pn**	**09 42 48.2**	**-0.4**
MECS	**Makarora Emerg**	**1.51**	**56**	P	**Pn**	**09 42 50.9**	**+1.3**
HDWS	**Haast DOC Work**	**1.64**	**43**	P	**Pn**	**09 42 52.2**	**+1.2**
TUZ	**Tuapeka**	**1.73**	**121**	P	**Pn**	**09 42 53.6**	**+1.5**
TUZ				S	**Sn**	**09 43 14.2**	**-1.7**
APZ	**The Paps**	**1.78**	**169**	P	**Pn**	**09 42 53.5**	**+0.7**
SYZ	**Scrubby Hill**	**1.85**	**142**	P	**Pn**	**09 42 54.8**	**+1.4**
SYZ	**Scrubby Hill**	**1.85**	**142**	P	**Pn**	**09 42 54.9**	**+1.4**
SYZ				S	**Sn**	**09 43 17.5**	**-0.7**
BDCS	**Balclutha Dist**	**1.94**	**127**	P	**Pn**	**09 42 56.0**	**+1.4**
BDCS				S	**Sn**	**09 43 18.8**	**-1.4**
ODZ	**Otahua Downs**	**2.23**	**90**	P	**Pn**	**09 42 58.8**	**+0.7**
ODZ	**Otahua Downs**	**2.23**	**90**	S	**Sn**	**09 43 24.9**	**-1.6**
RPZ	**Rata Peaks**	**2.90**	**63**	P	**Pn**	**09 43 06.9**	**+0.3**
RPZ	**Rata Peaks**	**2.90**	**63**	S	**Sn**	**09 43 40.1**	**-1.5**
KHZ	**Kahutara**	**5.13**	**61**	P	**Pn**	**09 43 37.4**	**+1.4**
KHZ	**Kahutara**	**5.13**	**61**	S	**Sn**	**09 44 32.8**	**-1.4**
QRZ	**Quartz Range**	**5.64**	**43**	P	**Pn**	**09 43 43.4**	**+0.6**
QRZ	**Quartz Range**	**5.64**	**43**	S	**Sn**	**09 44 44.9**	**-1.6**
SNZO	**South Karori**	**6.48**	**57**	P	**Pn**	**09 43 54.8**	**+0.7**
SNZO	**South Karori**	**6.48**	**57**	S	**Sn**	**09 45 05.5**	**-1.2**
HIZ	**Hauiti**	**8.56**	**42**	P	**Pn**	**09 44 22.4**	**+0.3**

*SDD **22** 09:44:44.0±2.6, 18°.55N×69°.20W, h124km±9km, MD3.5, ML3.2, MW3.4*
*OSPL **22** 09:44:44.2±2.3, 18°.48N×69°.22W, h124km±14km, ML3.0*
**ISC 22 09:44:42.5±1.4, 18°.53N±0°.05×69°.22W±0°.03, h121km±8

	comp=N,752nm,0.5s								
BANI	**BANI**	**1.09**	**263**	⇑	*e*Pg		**Pn**	09 45 06.2	**+0.4**
BANI				⇑	*e*Sg		**Sn**	**09 45 24.9**	**+1.6**
BANI					IAML			09 45 28.6	
	comp=N,758nm,0.2s								
CADR	**Cabrera**	**1.32**	**329**	⇑	*e*Pg		**Pn**	**09 45 08.0**	**0.0**
CADR				⇑	*e*Sg		**Sn**	**09 45 27.7**	**+0.3**
CADR					IAML			09 45 31.5	
	comp=N,338nm,1.1s								
ABDR	**Alto Bandera**	**1.37**	**282**	⇑	*e*Pg		**Pn**	**09 45 09.0**	**+0.2**
ABDR					IAML			09 45 35.2	
	comp=N,405nm,0.9s								
SC01	**Santiago de lo**	**1.69**	**302**	⇑	*e*Pg		**Pn**	**09 45 12.9**	**+0.7**
SC01					IAML			09 45 41.4	
	comp=N,222nm,0.3s								
SC01	**Santiago de lo**	**1.69**	**302**		*i* P		**Pn**	**09 45 13.3**	**+1.0**
SC01					*e*S		**Sn**	**09 45 35.0**	**+0.1**
SC01					IAML			09 45 44.8	
	comp=Z,104nm,0.4s								
PODR	**Polo**	**2.00**	**260**	⇑	*e*Pg		**Pn**	**09 45 16.3**	**+0.1**
PODR				⇑	*e*Sg		**Sn**	**09 45 42.3**	**+0.5**
PODR					IAML			09 45 44.9	
	comp=N,82nm,0.5s								
PODR	**Polo**	**2.00**	**260**		*i* P		**Pn**	**09 45 16.1**	**0.0**
PODR					*e*S		**Sn**	**09 45 42.8**	**+0.9**
AGPR	**Aguadilla, PR**	**2.00**	**91**	⇑	*e*Pg		**Pn**	**09 45 17.2**	**+1.2**
AGPR					IAML			09 45 52.0	
	comp=N,138nm,0.2s								
AGPR	**Aguadilla, PR**	**2.00**	**91**		*i* P		**Pn**	**09 45 17.4**	**+1.4**
AGPR					*e*S		**Sn**	**09 45 40.4**	**-1.2**
AGPR					IAML			09 45 48.3	
	comp=Z,96nm,0.5s								
SDDR	**Presa de Saban**	**2.02**	**283**	⇑	*e*Pg		**Pn**	**09 45 17.5**	**+1.2**
SDDR					IAML			09 45 47.9	
	comp=N,104nm,0.6s								
SDDR	**Presa de Saban**	**2.02**	**283**		*i* P		**Pn**	**09 45 17.3**	**+1.1**
SDDR					IAML			09 45 48.4	
	comp=Z,45nm,0.3s								
CRPR	**Cabo Rojo, PR**	**2.07**	**104**	⇑	*e*Pg		**Pn**	**09 45 17.0**	**+0.2**
CRPR					IAML			09 45 50.7	
	comp=N,27nm,0.6s								
CRPR	**Cabo Rojo, PR**	**2.07**	**104**		*i* P		**Pn**	**09 45 16.9**	**+0.1**
CRPR					*e*S		**Sn**	**09 45 42.4**	**-0.8**
CRPR					IAML			09 45 52.9	
	comp=Z,52nm,0.5s								
LODU1	**El Espartillar**	**2.15**	**266**		*i* P		**Pn**	**09 45 18.5**	**+0.6**
LODU1					IAML			09 45 52.0	
	comp=Z,62nm,1.4s								
REDR	**Restauracion**	**2.16**	**287**	⇑	*e*Pg		**Pn**	**09 45 21.8**	**+3.8**
REDR					IAML			09 45 57.9	
	comp=N,74nm,0.2s								
LOVI	**El Cajuil, Ovi**	**2.17**	**251**		*i* P		**Pn**	**09 45 17.6**	**-0.5**
LOVI					*e*S		**Sn**	**09 45 43.1**	**-2.4**
LOVI					IAML			09 45 45.3	
	comp=Z,97nm,0.3s								
LOPP1	**Punta Rusia, P**	**2.29**	**305**		*i* P		**Pn**	**09 45 19.7**	**0.0**
LOPP1					*e*S		**Sn**	**09 45 47.9**	**-0.3**
LOPP1					IAML			09 45 59.5	
	comp=Z,122nm,0.6s								
LOBH	**Bahia de las A**	**2.40**	**254**		*i* P		**Pn**	**09 45 21.0**	**0.0**
LOBH					*e*S		**Sn**	**09 45 48.9**	**-1.7**
LOBH					IAML			09 45 58.9	
	comp=Z,80nm,1.9s								
CELP	**Cerrillos**	**2.54**	**100**		*e*Pg		**Pn**	**09 45 23.8**	**+0.9**
CELP					IAML			09 46 01.1	
	comp=N,63nm,0.1s								
SJG	**San Juan**	**2.94**	**98**		*i* P		**Pn**	**09 45 27.7**	**-0.3**
GRTK	**Grand Turk**	**3.47**	**329**		*e*S		**Sn**	**09 46 12.6**	**-3.1**
GRTK					IAML			09 46 14.6	
	comp=Z,69nm,1.2s								

NEIC ***22*** *09:45:09.5±1.1,35°.971N±0°.008×117°.70W±0°.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.2km az=239.0*

PAS 22 09:45:10.0±1.0,35°.957N±0°.009×117°.71W±0°.01, h3km±4km, ML3.1/160, ML2.9/90(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=64.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRC2	**Joshua Ridge**	**0.08**	**288**		Pg	09 45 13.5	+1.7
WCSM	**Coso Springs S**	**0.08**	**328**		Pg	09 45 11.8	0.0
WCSM					Sg	09 45 13.2	+0.3
WVPM	**Volcano Peak E**	**0.08**	**265**		Pg	09 45 12.0	+0.2
WVPM					Sg	09 45 13.3	+0.3
WRVM	**Rose V. Centra**	**0.15**	**290**		Pg	09 45 13.1	+0.1
WRVM					Sg	09 45 15.4	+0.3
TOW	**Tower One**	**0.15**	**195**		Pg	09 45 13.5	+0.5
TOW					Sg	09 45 16.6	+1.5
CLC	**China Lake**	**0.17**	**146**	Pg	Pg	09 45 13.3	0.0
CLC				IAML		09 45 17.0	
	comp=E,2μm,0.2s						
CLC				IAML		09 45 17.3	
	comp=N,2μm,0.3s						
WNMM	**Nine Mile Cany**	**0.19**	**234**		Pg	09 45 16.9	+3.1
MFS	**McCloud Flat S**	**0.20**	**324**		Pg	09 45 14.1	+0.2
MFS					Sg	09 45 17.1	+0.5
MPMC	**Manual Prospec**	**0.21**	**61**	Pg	Pg	09 45 14.2	+0.1
MPMC				IAML		09 45 19.1	
	comp=N,2μm,0.7s						
MPMC				IAML		09 45 19.3	
	comp=E,2μm,0.3s						
SRTC	**Snort**	**0.27**	**186**		Pg	09 45 15.7	+0.5
SRTC					Sg	09 45 20.3	+1.7
GPO	**China Lake**	**0.31**	**172**		Pg	09 45 16.1	+0.1
GPO					Sg	09 45 21.1	+1.0
WSHM	**Spangler Hills**	**0.40**	**153**		Pg	09 45 17.6	-0.1
WSHM					Sg	09 45 23.4	+0.5
WSHM	**Spangler Hills**	**0.40**	**153**	IAML		09 45 23.9	
	comp=E,4μm,0.4s						
WSHM				IAML		09 45 24.1	
	comp=E,3μm,0.2s						
LRMC	**Laurel Mtn Rad**	**0.48**	**177**		Pg	09 45 19.2	0.0
LRMC	**Laurel Mtn Rad**	**0.48**	**177**		Sg	09 45 25.9	+0.5
WORM	**Onyx Ranch**	**0.50**	**239**		Pg	09 45 19.5	-0.2
WORM					Sg	09 45 26.2	0.0
CCCA	**Chr Cany lake**	**0.52**	**147**		Sg	09 45 27.9	+1.3
CCCA	**Chr Cany lake**	**0.52**	**147**		Pg	09 45 20.2	+0.3
CCCA				IAML		09 45 28.3	
	comp=N,5μm,0.3s						
CCCA				IAML		09 45 30.2	
	comp=E,2μm,0.3s						
WBSM	**Bird Springs**	**0.54**	**220**		Sg	09 45 27.8	+0.3
CWC	**Cottonwood Cre**	**0.57**	**329**		Pg	09 45 20.9	0.0
WHFM	**Hanning Flat**	**0.58**	**243**		Pg	09 45 21.1	-0.1
WHFM					Sg	09 45 28.8	+0.2
CGO	**Cerro Gordo**	**0.60**	**353**		Pg	09 45 21.1	-0.4
CGO					Sg	09 45 29.8	+0.5
ISA	**Isabella, Lake**	**0.68**	**245**		Pg	09 45 23.1	-0.1
ISA	**Isabella, Lake**	**0.68**	**245**		Sg	09 45 32.1	+0.1
QSM	**Queen of Sheba**	**0.69**	**89**		Pg	09 45 23.0	-0.2
QSM					Sg	09 45 32.4	+0.3
QSM	**Queen of Sheba**	**0.69**	**89**	IAML		09 45 34.9	
	comp=N,465nm,0.7s						
QSM				IAML		09 45 35.7	
	comp=E,560nm,0.5s						
DTP	**Desert Tortois**	**0.70**	**189**		Pg	09 45 23.0	-0.4
DTP					Sg	09 45 32.8	+0.4
WASM	**Alta Sierra Ca**	**0.72**	**253**		Pg	09 45 23.7	-0.1
WASM					Sg	09 45 33.4	+0.2
CCAC	**Calif City Air**	**0.84**	**197**		Pg	09 45 25.7	-0.4
FURC	**Furnace Creek,**	**0.86**	**53**		Pg	09 45 26.6	+0.2
FURC					Sg	09 45 38.4	+0.8
GWY	**Greenwater Val**	**0.88**	**75**		Pg	09 45 26.9	+0.1
GWY				IAML		09 45 43.3	
	comp=N,440nm,0.4s						
GWY				IAML		09 45 45.3	
	comp=E,581nm,0.4s						
SPG2	**Springville 2**	**0.89**	**286**		Pg	09 45 26.4	-0.7
SPG2					Sg	09 45 37.8	-0.7
GSC	**Goldstone, Bar**	**0.99**	**131**	Pg	Pg	09 45 28.4	-0.6
GSC				IAML		09 45 44.2	
	comp=N,286nm,0.5s						
GSC				IAML		09 45 44.6	
	comp=E,480nm,0.8s						
GSC	**Goldstone, Bar**	**0.99**	**131**		Sg	09 45 42.0	+0.3
GRAC	**Grapevine Rang**	**1.07**	**15**		Pg	09 45 30.2	-0.4
GRAC					Sg	09 45 45.0	+0.5
GRAC	**Grapevine Rang**	**1.07**	**15**	IAML		09 45 49.0	
	comp=E,462nm,0.7s						
GRAC				IAML		09 45 51.9	
	comp=N,390nm,0.8s						

TEJ	**El Tejon**	**1.08**	**228**			Pg		09 45 29.8	-0.9
EDW2	**Edwards Air Fo**	**1.10**	**192**			Pg		09 45 30.1	-1.0
EDW2						Sg		09 45 44.7	-0.6
VES	**Vestal, Richgr**	**1.12**	**264**			Pg		09 45 31.1	-0.4
VES						Sg		09 45 45.3	-0.7
TPO	**Tropico Hills**	**1.16**	**201**			Pg		09 45 31.4	-0.8
TPO					IAML			09 45 52.2	
	comp=E,289nm,0.7s								
TPO					IAML			09 45 52.8	
	comp=N,310nm,0.7s								
WCT	**Wildcat Mounta**	**1.21**	**46**			Pg		09 45 32.6	-0.6
WCT					IAML			09 45 55.6	
	comp=E,132nm,0.8s								
GMN	**Gold Mountain**	**1.39**	**15**			Pg		09 45 35.9	-0.6
GMN					IAML			09 45 58.6	
	comp=N,106nm,0.6s								
VOG	**Valley Oaks Go**	**1.40**	**286**			Pn		09 45 36.0	-0.4
DSP	**Deep Springs**	**1.43**	**352**			Pn		09 45 36.2	-0.5
TPNV	**Topopah Spring**	**1.54**	**50**			Pn		09 45 38.1	-0.5
TPNV					IAML			09 46 03.5	
	comp=N,146nm,1.0s								
TPNV					IAML			09 46 03.9	
	comp=N,167nm,0.9s								
OSI	**Osito Audit: C**	**1.57**	**212**			Pn		09 45 38.4	-0.4
OSI					IAML			09 46 06.2	
	comp=E,111nm,0.8s								
OSI					IAML			09 46 07.2	
	comp=N,112nm,0.8s								
BFSC	**Mount Baldy Ra**	**1.71**	**178**			Pn		09 45 40.5	-0.4
BFSC					IAML			09 46 06.0	
	comp=N,90nm,0.3s								
BFSC					IAML			09 46 06.0	
	comp=E,72nm,0.2s								
MWC	**Mount Wilson**	**1.75**	**189**			Pn		09 45 41.1	-0.3
MWC					IAML			09 46 07.7	
	comp=N,95nm,0.5s								
MWC					IAML			09 46 09.1	
	comp=E,96nm,0.3s								
MTPC	**Mountain Pass**	**1.82**	**104**			Pn		09 45 41.2	-1.2
MTPC					IAML			09 46 10.8	
	comp=N,94nm,0.5s								
MTPC					IAML			09 46 11.2	
	comp=E,93nm,0.6s								
SHPR	**Sheep Range**	**2.14**	**74**			Pn		09 45 46.6	-0.1
TPH	**Tonopah**	**2.15**	**10**			Pn		09 45 48.2	+1.3
TPH					IAML			09 46 20.7	
	comp=E,144nm,0.4s								
TPH					IAML			09 46 24.9	
	comp=N,188nm,0.9s								
TPC	**Twentynine Pal**	**2.30**	**143**			Pn		09 45 48.0	-0.8
S11A	**Rachel**	**2.31**	**43**	Pn	Pn	Pn		09 45 49.1	+0.1
S11A					IAML			09 46 29.0	
	comp=E,113nm,0.9s								
S11A					IAML			09 46 29.4	
	comp=N,94nm,0.7s								
ELS	**Elsinore Mount**	**2.32**	**174**			Pn		09 45 48.5	-0.6
V12A	**Nelson**	**2.34**	**95**	Pn	Pn	Pn		09 45 48.9	-0.6
V12A					IAML			09 46 31.2	
	comp=N,35nm,0.7s								
LHV	**Little Huntoon**	**2.38**	**345**			Pn		09 45 50.7	+0.9
NV11	**Mina Array Sit**	**2.50**	**352**			Pn		09 45 52.2	+0.6
NVAR	**Mina Array Bea**	**2.51**	**349**	Pn		Pn		09 45 52.4	+0.4
PMPB	**Monarch Peak**	**2.51**	**277**			Pn		09 45 52.9	+1.1
PMPB					IAML			09 46 33.6	
	comp=N,78nm,0.9s								
PMPB					IAML			09 46 37.4	
	comp=E,82nm,0.9s								
PFO	**Pinyon Flats O**	**2.56**	**156**	Pn	Pn	Pn		09 45 51.7	-0.8
PFO					IAML			09 46 33.4	
	comp=E,34nm,0.5s								
PRN	**Pahroc Range**	**2.58**	**55**			Pn		09 45 52.8	-0.1
PRN					IAML			09 46 45.1	
	comp=E,53nm,0.8s								
PRN					IAML			09 46 45.4	
	comp=N,65nm,0.8s								
RYN	**Ryan**	**2.74**	**347**	Pn	Pn	Pn		09 45 55.7	+0.6
BBGB	**Big Mountain B**	**2.76**	**284**			Pn		09 45 56.8	+1.6
SAO	**San Andreas Ge**	**3.12**	**286**			Pn		09 46 00.8	+0.7
KNB	**Kanab**	**4.08**	**74**	Pn	Pn	Pn		09 46 14.3	+0.8

ASRS ***22*** *09:59:40.0±1.3,53°.74N×86°.93E,h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 09:59:44.5±3.1, 53°.70N×86°.94E, h0km, mbtmp2.8/2, ML2.3/1, Error ellipse: s-maj=30.0km s-min=17.2km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**282**	I	I	10 08 00.0	
	baz=101,slow=323,SNR=6.1						
ZALV	**Zalesovo Beam**	**1.28**	**282**	Pg	Pg	10 00 08.2	-0.8
	0.8nm,0.3s,baz=102,slow=14,SNR=7.3						
ZALV				Lg	Lg	10 00 25.8	
	1.4nm,0.3s,baz=103,slow=18,SNR=9.0						
KURBB	**Kurchatov Arra**	**6.02**	**243**	Pn	Pn	10 01 15.5	+0.7
	0.1nm,0.3s,baz=56,slow=13,SNR=7.4						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.53**	**205**	Pn	Pn	10 01 36.6	+1.2
	0.2nm,0.3s,baz=22,slow=13,SNR=1.7						

CATAC ***22*** *10:00:30.0±7.6,9°N±7°×7°1W±1°1, h4km±67km, M5.1/6, mb5.0/1, MLv5.1/6, Error ellipse: s-maj=25.3km s-min=11.5km az=60.3, confirmed*
VAO ***22*** *10:00:31.6±0.8,8°.58N×71°.31W, h10km, mb4.5*
RSNC ***22*** *10:00:31.7±0.5,9°N±1°×7°1W±°, h29km±6km, M4.4, mB5.2, mb5.0, ML4.0, Mw(mB)4.6*
IDC ***22*** *10:00:32.0±1.8,8°.78N×71°.33W, h28km±12km, mb4.0/19, mbtmp4.2/24, ML4.1/5, MS3.2/6, Error ellipse: s-maj=14.5km s-min=13.1km az=131.0*
FUNV ***22*** *10:00:32.1,8°.70N×71°.40W, h5km, MW4.5*
NEIC ***22*** *10:00:33.0±2.8,8°.76N±0°.03×71°.32W±0°.04, h33km±6km, mb4.4/47, Error ellipse: s-maj=6.7km s-min=2.7km az=54.0*

ISC 22 10:00:30.2±2.5, 8°.75N±0°.03×71°.34W±0°.03, h17km±16km, n155, σ1s51/183, mb4.3/38, 2C, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.71**	**79**		**Pn**	**10 00 45.7**	**+0.1**
SDV				Sn	**Sb**	**10 00 54.8**	**+1.1**
SDV	**Santo Domingo**	**0.71**	**79**	LR	LR	10 00 44.3	
	comp=Z,99nm,19.8s,baz=302,slow=18						
SDV				Pg	**Pn**	**10 00 45.4**	**-0.1**
	656nm,0.3s,baz=319,slow=19,SNR=788						
SDV				Lg	Lg	10 00 55.2	
	1μm,0.3s,baz=285,slow=11,SNR=24						
SDV	**Santo Domingo**	**0.71**	**79**	*e*P	**Pn**	**10 00 45.5**	**-0.1**
SDV				*e*S	**Sn**	**10 00 56.4**	**+0.2**
SDV	**Santo Domingo**	**0.71**	**79**	P	**Pn**	**10 00 45.5**	**-0.1**
SDV				*S*	**Sn**	**10 00 56.1**	**-0.1**
CAPV	**Capacho**	**1.31**	**228**	*e*P	**Pn**	**10 00 53.4**	**-0.4**
CAPV				*e*S	**Sb**	**10 01 11.9**	**+0.9**
MCQV	**Machiques**	**1.75**	**318**	*e*P	**Pn**	**10 01 00.3**	**+0.6**
MCQV				*e*S	**Sb**	**10 01 25.4**	**+1.9**
PAMC	**Pamplona, Colo**	**1.95**	**224**	P	**Pn**	**10 01 03.6**	**+0.7**
PAMC				S	**Sb**	**10 01 31.4**	**+1.8**
OCAC	**Ocana**	**2.02**	**256**	P	**Pn**	**10 01 03.8**	**+0.1**
OCAC				S	**Sn**	**10 01 29.4**	**+0.7**
TAMC	**Tame, Arauca**	**2.34**	**191**	P	**Pn**	**10 01 10.0**	**+2.0**
TAMC				S	**Sb**	**10 01 40.4**	**-0.3**
CRJC	**Cerrejon, Guaj**	**2.72**	**326**	P	**Pn**	**10 01 13.1**	**-0.1**
CRJC				S	**Sn**	**10 01 45.4**	**-0.3**
BARC	**Barichara**	**2.82**	**221**	P	**Pn**	**10 01 16.8**	**+2.1**
BARC				S	**Sb**	**10 01 55.0**	**+0.4**
BRJC	**Barrancabermej**	**2.97**	**234**	P	**Pn**	**10 01 17.5**	**+1.0**
BRJC				S	**Sb**	**10 01 59.0**	**+0.4**
URIC	**Uribia, Colomb**	**3.00**	**348**	P	**Pn**	**10 01 16.3**	**-0.7**
URIC				S	**Sn**	**10 01 50.9**	**-1.7**
ARGC	**Ariguani, Magd**	**3.07**	**291**	P	**Pn**	**10 01 18.2**	**+0.2**
ARGC				S	**Sn**	**10 01 53.3**	**-1.1**
BAUV	**El Baul**	**3.26**	**86**		**Pn**	**10 01 23.3**	**+2.7**
BAUV				Sn	**Sn**	**10 01 58.2**	**-0.9**
BAUV	**El Baul**	**3.26**	**86**	*e*P	**Pn**	**10 01 23.8**	**+3.2**
BAUV				*e*S	**Sn**	**10 02 02.1**	**+3.1**
RUSC	**La Rusia**	**3.33**	**211**		**Pn**	**10 01 23.2**	**+1.3**
RUSC	**La Rusia**	**3.33**	**211**	P	**Pn**	**10 01 23.4**	**+1.6**
RUSC	**La Rusia**	**3.33**	**211**	P	**Pn**	**10 01 23.0**	**+1.1**
RUSC				S	**Sn**	**10 02 00.1**	**-1.2**
ZARC	**Zaragoza, Cauc**	**3.70**	**250**	P	**Pn**	**10 01 26.8**	**+0.2**

ZARC					S		**Sn**	**10 02 08.1**	**-1.8**
SMRC	**Santa Marta, M**	**3.72**	**310**				**Pn**	**10 01 25.9**	**-0.9**
SMRC	**Santa Marta, M**	**3.72**	**310**		P		**Pn**	**10 01 25.2**	**-1.6**
PTBC	**PUERTO BERRIO,**	**3.79**	**235**		P		**Pn**	**10 01 27.4**	**-0.5**
PTBC					S		**Sn**	**10 02 11.9**	**-0.3**
BENV	**Beln**	**3.88**	**72**		*e*P		**Pn**	**10 01 33.1**	**+4.0**
BENV					*e*S		**Sn**	**10 02 16.8**	**+2.3**
SJCC	**San Jacinto, C**	**3.96**	**287**		P		**Pn**	**10 01 31.5**	**+1.3**
SJCC					S		**Sn**	**10 02 18.6**	**+2.3**
SJCC	**San Jacinto, C**	**3.96**	**287**		P		**Pn**	**10 01 31.5**	**+1.3**
SJCC					S		**Sn**	**10 02 17.1**	**+0.8**
UREC	**San Jos de Ur**	**4.27**	**257**		P		**Pn**	**10 01 34.5**	**+0.1**
TACV	**Tcata**	**4.47**	**72**		*e*P		**Pn**	**10 01 40.2**	**+2.9**
TACV					*e*S		**Sn**	**10 02 31.1**	**+2.2**
NORC	**Norcasia**	**4.72**	**228**		P		**Pn**	**10 01 40.6**	**-0.1**
NORC					S		**Sn**	**10 02 34.1**	**-1.1**
CHIC	**Chingaza**	**4.74**	**210**		P		**Pn**	**10 01 42.2**	**+1.0**
FUNV	**FUNVISIS**	**4.78**	**69**		*e*P		**Pn**	**10 01 44.5**	**+2.9**
FUNV					*e*S		**Sn**	**10 02 38.3**	**+1.6**
HELC	**Santa Helena**	**4.87**	**239**		P		**Pn**	**10 01 45.0**	**+2.0**
HELC	**Santa Helena**	**4.87**	**239**		P		**Pn**	**10 01 44.1**	**+1.1**
HELC					S		**Sn**	**10 02 40.7**	**+1.4**
ROSC	**El Rosal**	**4.88**	**217**		Pn		**Pn**	**10 01 45.5**	**+2.2**
	43nm,0.3s,baz=291,slow=18,SNR=27								
ROSC					Sn		**Sn**	**10 02 39.3**	**-0.3**
	19nm,0.3s,baz=121,slow=16,SNR=4.1								
	155nm,0.5s								
ROSC	**El Rosal**	**4.88**	**217**		P		**Pn**	**10 01 45.6**	**+2.3**
ROSC					S		**Sb**	**10 02 49.5**	**-4.7**
CACV	**CAICARA DEL OR**	**4.89**	**104**		*e*P		**Pb**	**10 01 52.9**	**-2.6**
CACV					*e*S		**Sb**	**10 02 52.6**	**-1.5**
CVER	**Cruz Verde, Cu**	**5.00**	**213**		P		**Pn**	**10 01 47.5**	**+2.5**
	3μm202nm,0.5s								
DBBC	**Dabeiba**	**5.12**	**251**		P		**Pn**	**10 01 49.8**	**+3.5**
DBBC					S		**Sn**	**10 02 46.0**	**+0.9**
VILC	**Villavicencio,**	**5.17**	**207**		P		**Pn**	**10 01 47.6**	**+0.7**
	5μm433nm,0.5s								
VILC					S		**Sn**	**10 02 49.3**	**+3.0**
	5μm433nm,0.5s								
APAC	**Apartado, Choc**	**5.25**	**261**		P		**Pn**	**10 01 49.3**	**+1.3**
	3μm122nm,0.6s								
APAC					S		**Sn**	**10 02 48.2**	**0.0**
	3μm122nm,0.6s								
GUY2C	**Guyana, Caldas**	**5.32**	**229**		P		**Pn**	**10 01 50.3**	**+1.1**
	3μm220nm,0.6s								
GUY2C					S		**Sn**	**10 02 52.2**	**+1.8**
	3μm220nm,0.6s								
CBOC	**Ciudad Bolivar**	**5.45**	**239**		P		**Pn**	**10 01 53.5**	**+2.6**
	906nm80nm,1.0s								
CBOC					S		**Sn**	**10 02 55.2**	**+1.9**
	906nm80nm,1.0s								
ANIL	**Santa Ana**	**5.85**	**224**		P		**Pn**	**10 01 58.6**	**+2.2**
	4μm226nm,0.5s								
PRAC	**Prado**	**6.12**	**215**		P		**Pn**	**10 02 01.0**	**+1.0**
PRAC	**Prado**	**6.12**	**215**		P		**Pn**	**10 02 01.3**	**+1.3**
	1μm70nm,0.5s								
PRAC					S		**Sn**	**10 03 10.1**	**+0.4**
	1μm70nm,0.5s								
ORTC	**Ortega, Tolima**	**6.18**	**219**		P		**Pn**	**10 02 02.4**	**+1.6**
	2μm120nm,1.0s								
ORTC					S		**Sn**	**10 03 12.2**	**+1.0**
	2μm120nm,1.0s								
PLMC	**San Jos del P**	**6.22**	**232**		P		**Pn**	**10 02 03.8**	**+2.5**
	1μm94nm,0.6s								
PLMC					S		**Sn**	**10 03 14.4**	**+2.2**
	1μm94nm,0.6s								
URMC	**La Uribe, Meta**	**6.25**	**209**		P		**Pn**	**10 02 02.7**	**+1.0**
	2μm172nm,1.0s								
PTAC	**Punta Ardita,**	**6.60**	**256**		P		**Pn**	**10 02 08.2**	**+1.7**
	4μm137nm,0.9s								
PCRV	**Puerto La Cruz**	**6.76**	**77**		Pn		**Pn**	**10 02 11.0**	**+2.3**
	5.0nm,0.3s,baz=222,slow=6.8,SNR=22								
PCRV					Sn		**Sn**	**10 03 27.9**	**+2.4**
	6.8nm,0.3s,baz=203,slow=18,SNR=3.6								
	10nm,0.4s								
PCRV	**Puerto La Cruz**	**6.76**	**77**		*e*P		**Pn**	**10 02 11.4**	**+2.6**
PCRV					*e*S		**Sn**	**10 03 26.0**	**+0.6**
YOTC	**Yotoco, Valle**	**6.87**	**227**		P		**Pn**	**10 02 10.3**	**0.0**
	531nm40nm,0.8s								
MACC	**Macarena, Meta**	**7.02**	**201**		P		**Pn**	**10 02 10.9**	**-1.4**
JAMC	**Jamundi, Valle**	**7.64**	**224**		P		**Pn**	**10 02 21.4**	**+0.4**
	26nm,1.2s								
GARC	**Garzon, Huila**	**7.72**	**213**		P		**Pn**	**10 02 22.7**	**+0.6**
	3μm97nm,0.6s								
POPC	**Popayan, Colom**	**8.14**	**221**		P		**Pn**	**10 02 28.7**	**+0.8**
	21nm,0.9s								
FLOC	**Florencia**	**8.32**	**211**				**Pn**	**10 02 30.2**	**+0.1**
FLOC	**Florencia**	**8.32**	**211**		P		**Pn**	**10 02 30.2**	**+0.1**
	655nm55nm,0.6s								
BCIP	**Isla Barro Col**	**8.41**	**273**		Pn		**Pn**	**10 02 30.8**	**-0.5**
BCIP					Sn		**Sn**	**10 04 00.6**	**-5.3**
BCIP	**Isla Barro Col**	**8.41**	**273**		P		**Pn**	**10 02 31.1**	**-0.2**
	45nm,

	comp=Z,0.6nm,0.6s,baz=124,slow=8.9,SNR=12							
TXAR				PcP	PcP	10 09 60.0	+1.1	
	comp=Z,1.0nm,0.6s,baz=134,slow=5.9,SNR=12							
	comp=Z,0.6nm,0.6s							
TX31	**Lajitas Ar. Si**	**36.58**	**308**		**P**	**10 07 35.9**	**+0.3**	
VHRN	**Van Horn**	**38.26**	**310**		**P**	**10 07 50.1**	**+0.2**	
MNTX	**Cornudas Mount**	**38.99**	**311**		**P**	**10 07 56.6**	**+0.7**	
SDCO	**Great Sand Dun**	**42.22**	**319**	P	**P**	**10 08 24.2**	**+1.4**	
BO02	**Sierra Bellavi**	**43.31**	**179**		**P**	**10 08 31.1**	**-0.2**	
AGMN	**Agassiz Nation**	**44.52**	**337**	IAmb	IAmb	10 08 48.4		
	comp=Z,3.5nm,0.8s							
PV15	**Paradox Valley**	**44.52**	**317**	P	**P**	**10 08 41.9**	**+0.6**	
PV15				IAmb	IAmb	10 08 47.9		
	comp=Z,6.6nm,1.0s							
PV13	**Radium Mtn., P**	**44.65**	**317**	IAmb	IAmb	10 08 48.7		
	comp=Z,5.5nm,0.9s							
PV18	**Skein Mesa, Pa**	**44.76**	**317**		**P**	**10 08 44.5**	**+1.3**	
PV18				IAmb	IAmb	10 09 14.1		
	comp=Z,4.5nm,0.9s							
PV05	**Paradox Valley**	**44.80**	**317**	IAmb	IAmb	10 08 49.1		
	comp=Z,3.2nm,0.7s							
SCHQ	**Schefferville**	**46.10**	**4**	P	**P**	**10 08 53.6**	**+0.4**	
	comp=Z,2.4nm,0.7s,baz=217,slow=10,SNR=3.6							
	comp=Z,2.4nm,0.7s							
KNB	**Kanab**	**46.90**	**313**		**P**	**10 09 01.4**	**+1.4**	
KNB				IAmb	IAmb	10 09 06.4		
	comp=Z,4.0nm,0.9s							
BSUT	**Blindstream Ca**	**47.17**	**319**	P	**P**	**10 09 02.5**	**+0.2**	
BSUT				IAmb	IAmb	10 09 08.0		
	comp=Z,5.4nm,1.1s							
LCMT	**Little Creek M**	**47.20**	**313**	IAmb	IAmb	10 09 05.7		
	comp=Z,3.4nm,1.2s							
PD31	**Pinedale Array**	**47.61**	**322**		**P**	**10 09 06.1**	**+0.4**	
PD31				IAmb	IAmb	10 09 11.1		
	comp=Z,2.7nm,0.9s							
PDAR	**Pinedale Array**	**47.61**	**322**		**P**	**10 09 06.3**	**+0.7**	
PDAR	**Pinedale Array**	**47.61**	**322**	P	**P**	**10 09 06.0**	**+0.4**	
	comp=Z,1.2nm,0.6s,baz=126,slow=11,SNR=15							
PDAR				PcP	PcP	**10 10 34.4**	**-0.8**	
	comp=Z,0.3nm,0.6s,baz=96,slow=3.1,SNR=1.8							
	comp=Z,1.2nm,0.6s							
BW06	**Boulder Array**	**47.61**	**322**	IAmb	IAmb	10 09 11.1		
	comp=Z,2.9nm,0.9s							
LOHW	**Long Hollow**	**48.72**	**322**	IAmb	IAmb	10 09 20.0		
	comp=Z,3.1nm,0.9s							
SNOW	**Snow King Moun**	**48.73**	**322**	IAmb	IAmb	10 09 48.4		
	comp=Z,5.3nm,1.2s							
BGU	**Big Grassy Mou**	**48.85**	**318**		**P**	**10 09 16.0**	**+0.9**	
BGU				IAmb	IAmb	10 09 16.6		
	comp=Z,2.9nm,0.7s							
TPAW	**Teton Pass**	**48.86**	**322**	IAmb	IAmb	10 09 21.0		
	comp=Z,2.5nm,0.8s							
PLCA	**Paso Flores**	**49.24**	**179**	P	**P**	**10 09 17.6**	**-0.3**	
	comp=Z,6.0nm,0.8s,baz=356,slow=8.7,SNR=14							
	comp=Z,6.0nm,0.8s							
PLCA	**Paso Flores**	**49.24**	**179**	*e*P	**P**	**10 09 17.6**	**-0.3**	
NVAR	**Mina Array Bea**	**51.44**	**313**	P	**P**	**10 09 35.1**	**+0.3**	
	comp=Z,0.6nm,0.6s,baz=110,slow=7.5,SNR=7.2							
NVAR				PcP	PcP	**10 10 49.2**	**0.0**	
	comp=Z,0.4nm,0.6s,baz=129,slow=5.9,SNR=3.6							
	comp=Z,0.6nm,0.6s							
PLID	**Pearl Lake**	**52.79**	**321**		**P**	**10 09 45.3**	**+0.5**	
WVOR	**Wild Horse Val**	**53.28**	**317**	IAmb	IAmb	10 09 51.3		
	comp=Z,3.4nm,1.1s							
G08A	**Pilot Rock**	**54.73**	**320**	P	**P**	**10 09 58.7**	**-0.2**	
J05D	**Fort Rock, OR**	**55.37**	**317**	IAmb	IAmb	10 10 09.7		
	comp=Z,3.9nm,0.9s							
PINE	**Pine Mountain**	**55.38**	**318**		**P**	**10 10 04.8**	**+1.1**	
PINE				IAmb	IAmb	10 10 05.5		
	comp=Z,3.6nm,0.9s							
C09A	**Chrisman Ranch**	**55.48**	**323**	P	**P**	**10 10 04.8**	**+0.7**	
B08A	**Colville Reser**	**56.37**	**323**	IAmb	IAmb	10 10 11.6		
	comp=Z,3.3nm,0.9s							
YKA	**Yellowknife Ar**	**62.09**	**339**	P	**P**	**10 10 49.8**	**0.0**	
	comp=Z,1.8nm,0.8s,baz=128,slow=6.4,SNR=14							
	comp=Z,1.8nm,0.8s							
DBIC	**Dimbokro**	**65.84**	**87**	P	**P**	**10 11 15.2**	**-0.1**	
	comp=Z,4.3nm,0.7s,baz=302,slow=6.4,SNR=4.7							
	comp=Z,4.3nm,0.7s							
ESDC	**Sonseca Array**	**67.07**	**51**	P	**P**	**10 11 23.6**	**+0.7**	
	comp=Z,1.2nm,0.5s,baz=265,slow=5.9,SNR=11							
	comp=Z,1.2nm,0.5s							
EKA	**Eskdalemuir Ar**	**70.49**	**34**	P	**P**	**10 11 43.1**	**-0.7**	
	comp=Z,3.7nm,1.0s,baz=270,slow=5.5,SNR=1.8							
	comp=Z,3.7nm,1.0s							
TORD	**Torodi Ar. Bea**	**71.63**	**79**	P	**P**	**10 11 51.1**	**-0.3**	
	comp=Z,3.0nm,0.6s,baz=287,slow=6.8,SNR=8.4							
	comp=Z,3.0nm,0.6s							
ILAR	**Eielson Array**	**75.98**	**335**	P	**P**	**10 12 15.9**	**-0.1**	
	comp=Z,0.8nm,0.6s,baz=107,slow=4.4,SNR=14							
	comp=Z,0.8nm,0.6s							
NB2	**NORSAR Subarra**	**78.79**	**29**	P	**P**	**10 12 32.4**	**+0.5**	
	comp=Z,4.1nm,1.1s,baz=266,slow=5.9							
NOA	**NORSAR Array B**	**78.79**	**29**	P	**P**	**10 12 32.2**	**+0.3**	
	comp=Z,1.4nm,0.9s,baz=270,slow=5.5,SNR=4.7							
	comp=Z,1.4nm,0.9s							
HFS	**Hagfors**	**80.00**	**30**	P	**P**	**10 12 38.0**	**-0.4**	
	comp=Z,1.0nm,0.7s,baz=270,slow=2.9,SNR=1.3							
	comp=Z,1.0nm,0.7s							
GERES	**GERESS Array B**	**80.22**	**42**	P	**P**	**10 12 39.6**	**-0.4**	
	comp=Z,1.3nm,0.6s,baz=265,slow=7.5,SNR=8.0							
	comp=Z,1.3nm,0.6s							
SPITS	**Spitsbergen Ar**	**81.02**	**12**	P	**P**	**10 12 44.1**	**+0.5**	
	comp=Z,0.8nm,0.4s,baz=270,slow=4.0,SNR=8.8							
	comp=Z,0.8nm,0.4s							
FINES	**FINESS Array B**	**85.91**	**29**	P	**P**	**10 13 08.9**	**-0.1**	
	comp=Z,1.0nm,0.6s,baz=258,slow=6.4,SNR=2.6							
	comp=Z,1.0nm,0.6s							
VNA3	**Neumayer Olymp**	**89.50**	**163**	⇑P	**P**	**10 13 25.8**	**-0.3**	
	comp=Z,2.4nm,0.7s							
VNA1	**Neumayer--Stat**	**89.62**	**163**	⇑P	**P**	**10 13 27.1**	**+0.6**	
	comp=Z,3.8nm,1.1s							
AKASG	**Malin Array Be**	**89.92**	**39**	P	**P**	**10 13 28.1**	**-0.3**	
	comp=Z,0.3nm,0.4s,baz=274,slow=2.7,SNR=1.2							
	comp=Z,0.3nm,0.4s							
BRTR	**Keskin Array B**	**95.78**	**48**	P	**P**	**10 13 56.5**	**+0.5**	
	comp=Z,0.4nm,0.5s,baz=251,slow=4.4,SNR=2.2							
	comp=Z,0.4nm,0.5s							
CMAR	**Chiang Mai Arr**	**151.31**	**19**	PKPbc	**PKPbc**	**10 20 23.2**	**-0.7**	
	comp=Z,0.9nm,0.3s,baz=359,slow=2.4,SNR=5.7							
ASAR	**Alice Springs**	**151.66**	**235**	PKPbc	**PKPbc**	**10 20 23.6**	**-1.0**	
	comp=Z,6.5nm,0.8s,baz=113,slow=2.6,SNR=6.8							
WRA	**Warramunga Arr**	**152.79**	**243**	PKPbc	**PKPbc**	**10 20 26.5**	**-0.7**	
	comp=Z,12nm,0.7s,baz=108,slow=2.3,SNR=16							

*NEIC **22** 10:01:15.4±1.1, 10°.6S±0°.1×165°.2E±0°.1, h10km±1km, mb4.5/19, Error ellipse: s-maj=23.8km s-min=17.6km az=58.0*

*NOU **22** 10:01:15.8, 10°.54S×165°.03E, h20km, mb5.2/24, Santa Cruz Islands*

*IDC **22** 10:01:19.9±3.4, 10°.78S×164°.90E, h63km±29km, mb3.6/11, mbtmp4.0/12, ML4.7/2, MS3.5/1, Error ellipse: s-maj=23.1km s-min=18.9km az=58.0*

ISC 22 10:01:18.4±0.6, 10°.61S±0°.07×165°.03E±0°.04, h46km, n63, σ1§41/58, mb4.2/21, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUES	**Luesalemba Tem**	**0.87**	**94**	P	**Pn**	**10 01 32.0**	**-2.3**
LUES	**Luesalemba Tem**	**0.87**	**94**	S	**Sn**	**10 01 44.7**	**-1.2**
HURO	**Huro Makira**	**3.08**	**272**	P	**Pn**	**10 02 03.4**	**-1.1**
HURO	**Huro Makira**	**3.08**	**272**	S	**Sn**	**10 02 39.0**	**-1.1**
ALEG	**Aligegeo Malai**	**4.65**	**293**	P	**Pn**	**10 02 25.2**	**-1.0**
ALEG	**Aligegeo Malai**	**4.65**	**293**	S	**Sn**	**10 03 18.0**	**-1.0**
NGOA	**Tingoa Renbel**	**4.97**	**259**	P	**Pn**	**10 02 27.7**	**-2.8**
HNR	**Honiara**	**5.14**	**283**	Pn	**Pn**	**10 02 34.2**	**+1.3**
HNR	**Honiara**	**5.14**	**283**	P	**Pn**	**10 02 32.9**	**0.0**
	14nm,0.3s,baz=139,slow=9.2,SNR=3.2						
HNR				S	**Sn**	**10 03 31.7**	**+0.7**
	92nm,0.3s,baz=156,slow=11,SNR=6.1						
HNR				LR	LR	10 04 36.4	
	comp=Z,522nm,18.8s,baz=130,slow=39						
	100nm,0.5s						
HNR	**Honiara**	**5.14**	**283**	P	**Pn**	**10 02 32.4**	**-0.5**
SAVO	**Savo Central**	**5.34**	**285**	P	**Pn**	**10 02 35.2**	**-0.5**
SAVO	**Savo Central**	**5.34**	**285**	S	**Sn**	**10 03 37.0**	**+1.1**
TATA	**Tatamba Isabel**	**5.61**	**293**	P	**Pn**	**10 02 38.3**	**-1.0**
TATA	**Tatamba Isabel**	**5.61**	**293**	S	**Sn**	**10 03 42.1**	**-0.4**
VLAKA	**Lakatoro**	**5.94**	**157**	P	**Pn**	**10 02 43.7**	**-0.1**
KOUNC	**Koumac, New Ca**	**9.91**	**184**	P	**Pn**	**10 03 38.0**	**-0.3**
DZM	**Mont Dzumac**	**11.48**	**173**		**Pn**	**10 03 59.5**	**-0.4**
DZM	**Mont Dzumac**	**11.48**	**173**	P	**Pn**	**10 03 59.4**	**-0.4**
	9.1nm,0.3s,baz=328,slow=10,SNR=144						
DZM	**Mont Dzumac**	**11.48**	**173**	P	**Pn**	**10 03 59.4**	**-0.4**
YATNC	**Mamie plateau,**	**11.53**	**171**	P	**Pn**	**10 04 00.2**	**-0.2**
ONTNC	**Ouen Toro**	**11.71**	**173**	Pn	**Pn**	**10 04 02.2**	**-0.7**
ONTNC	**Ouen Toro**	**11.71**	**173**	P	**Pn**	**10 04 02.9**	**-0.1**
OUENC	**Ouen Island, N**	**11.87**	**172**	P	**Pn**	**10 04 05.1**	**0.0**
OUENC	**Ouen Island, N**	**11.87**	**172**	S	**Sn**	**10 06 18.9**	**+2.7**
PINNC	**Pines Island,**	**12.16**	**169**	Pn	**Pn**	**10 04 09.4**	**+0.4**
PINNC	**Pines Island,**	**12.16**	**169**	P	**Pn**	**10 04 08.9**	**-0.1**
EIDS	**Eidsvold**	**19.76**	**220**	P	**Pn**	**10 05 45.6**	**-0.8**
H11S2	**WAKE ISLAND Hy**	**28.96**	**3**	T	T	10 37 28.8	
	baz=184,slow=76,SNR=334						
H11S3	**WAKE ISLAND Hy**	**28.96**	**3**	T	T	10 37 29.1	
	baz=184,slow=76,SNR=220						
H11S1	**WAKE ISLAND Hy**	**28.98**	**3**	T	T	10 37 31.7	
	baz=184,slow=76,SNR=165						
H11N1	**WAKE ISLAND Hy**	**30.19**	**3**	T	T	10 39 05.9	
	baz=184,slow=76,SNR=144						
H11N3	**WAKE ISLAND Hy**	**30.19**	**4**	T	T	10 39 06.5	
	baz=184,slow=76,SNR=57						
H11N2	**WAKE ISLAND Hy**	**30.20**	**3**	T	T	10 39 05.4	
	baz=184,slow=76,SNR=70						
BKZ	**Black Stump Fm**	**30.22**	**162**	P	**P**	**10 07 26.2**	**+1.4**
STKA	**Stephens Creek**	**30.28**	**222**	P	**P**	**10 07 22.2**	**-3.1**
	2.9nm,0.8s,baz=75,slow=12,SNR=2.8						
	2.9nm,0.8s						
WR8	**Warramunga Arr**	**30.83**	**249**	P	**P**	**10 07 32.2**	**+1.8**
WR8				IAmb	IAmb	10 07 38.2	
	comp=Z,7.2nm,1.2s						
WB0	**Warramunga Arr**	**30.89**	**249**	P	**P**	**10 07 32.7**	**+1.9**
WB0				IAmb	IAmb	10 08 00.6	
	comp=Z,9.3nm,1.4s						
WRA	**Warramunga Arr**	**30.98**	**249**	P	**P**	**10 07 32.9**	**+1.2**
WRA	**Warramunga Arr**	**30.98**	**249**	P	**P**	**10 07 28.8**	**-2.8**
	comp=Z,0.3nm,0.8s,baz=72,slow=8.3,SNR=2.2						
	comp=Z,0.3nm,0.8s						
ASAR	**Alice Springs**	**32.37**	**242**	P	**P**	**10 07 41.1**	**-2.7**
	comp=Z,0.2nm,0.6s,baz=69,slow=10.0,SNR=4.4						
	comp=Z,0.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**38.82**	**254**	P	**P**	**10 08 37.2**	**-2.0**
	comp=Z,2.1nm,1.0s,baz=100,slow=6.5,SNR=1.6						
	comp=Z,2.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**71.29**	**294**	P	**P**	**10 12 33.5**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=118,slow=6.3,SNR=4.4						
	comp=Z,0.9nm,0.4s						
M16K	**Timber Creek**	**76.85**	**17**	P	**P**	**10 13 07.0**	**+1.7**
K15K	**Wolf Creek Mou**	**77.19**	**15**	P	**P**	**10 13 08.9**	**+1.8**
K15K				IAmb	IAmb	10 13 10.2	
	comp=Z,6.1nm,0.9s						
ILSW	**Iliamna Southw**	**77.86**	**20**	P	**P**	**10 13 12.2**	**+1.1**
SONM	**Songino Array**	**77.90**	**324**	P	**P**	**10 13 12.2**	**+0.6**
SONM	**Songino Array**	**77.90**	**324**	P	**P**	**10 13 12.2**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=140,slow=6.6,SNR=7.1						
	comp=Z,0.7nm,0.4s						
L18K	**Granite Mounta**	**78.46**	**17**	P	**P**	**10 13 16.1**	**+1.9**
L18K				IAmb	IAmb	10 13 23.0	
	comp=Z,4.9nm,0.8s						
J17K	**VABM Dome**	**78.74**	**16**	P	**P**	**10 13 18.0**	**+2.3**
J17K				IAmb	IAmb	10 13 24.9	
	comp=Z,6.7nm,0.9s						
L19K	**White Mountain**	**78.98**	**18**	P	**P**	**10 13 18.5**	**+1.5**
L19K				IAmb	IAmb	10 13 25.5	
	comp=Z,4.2nm,0.8s						
QSPA	**South Pole Qui**	**79.39**	**180**	P	**P**	**10 13 21.0**	**+1.5**
QSPA				IAmb	IAmb	10 13 21.3	
	comp=Z,2.4nm,0.7s						
QSPA	**South Pole Qui**	**79.39**	**180**	P	**P**	**10 13 19.5**	**0.0**
	comp=Z,2.6nm,0.8s,baz=330,slow=1.5,SNR=11						
	comp=Z,2.6nm,0.8s						
IMAR	**Indian Mountai**	**82.20**	**16**	P	**P**	**10 13 35.5**	**+1.3**
CCB	**Clear Creek Bu**	**82.95**	**19**	P	**P**	**10 13 39.9**	**+1.8**
H23K	**Yukon River**	**83.25**	**17**	P	**P**	**10 13 42.2**	**+2.5**
H23K				IAmb	IAmb	10 14 15.5	
	comp=Z,4.2nm,1.4s						
ILAR	**Eielson Array**	**83.33**	**19**	P	**P**	**10 13 40.9**	**+0.9**
ILAR	**Eielson Array**	**83.33**	**19**	P	**P**	**10 13 40.6**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=245,slow=5.5,SNR=16						
	comp=Z,0.8nm,0.6s						
DOT	**Dot Lake**	**83.51**	**20**	P	**P**	**10 13 42.0**	**+0.9**
DOT				IAmb	IAmb	10 13 44.7	
	comp=Z,2.2nm,1.0s						
J25K	**Salcha River,**	**83.70**	**19**	P	**P**	**10 13 43.0**	**+0.8**
J25K				IAmb	IAmb	10 13 50.6	
	comp=Z,4.7nm,0.9s						
K27K	**Chicken**	**84.44**	**21**	P	**P**	**10 13 46.7**	**+1.0**
K27K				IAmb	IAmb	10 13 55.8	
	comp=Z,3.3nm,1.1s						
NVAR	**Mina Array Bea**	**86.28**	**50**	P	**P**	**10 13 55.0**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=280,slow=3.7,SNR=3.5						
	comp=Z,0.4nm,0.8s						
MKAR	**Makanchi Array**	**92.72**	**317**	P	**P**	**10 14 25.4**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=98,slow=6.5,SNR=13						
	comp=Z,1.2nm,0.7s						
PDAR	**Pinedale Array**	**93.78**	**47**	P	**P**	**10 14 31.2**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=294,slow=4.1,SNR=2.6						
	comp=Z,0.2nm,0.6s						

*BJI **22** 10:06:52.9, 3°.46S×131°.32E, h15km, mB5.3/52, mb5.1/98, Ms5.1/99, Ms7 5.0/97*

*IDC **22** 10:06:54.4±0.4, 3°.34S×131°.07E, h0km, mb5.2/23, mbtmp5.2/25, ML4.4/2, MS4.8/43, Error ellipse: s-maj=16.9km s-min=11.3km az=77.0*

*MOS **22** 10:06:54.9±0.9, 3°.29S×131°.05E, h11km, mb5.5/47, MS4.9/11, Error ellipse: s-maj=8.6km s-min=5.4km az=113.0*

*NEIC **22** 10:06:57.9, 3°.52S×131°.15E, h20km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^17 Nm; Mrr 1.01; Mθθ -1.08; Mφφ 0.07; Mrθ 0.38; Mθφ 0.74; Mrφ 0.70; Fault plane solution: Mo 1.51000×10^17 NP1: φs325.78000°, δ53.75000°, λ135.16000°. NP2: φs86.24000°, δ55.35000°, λ45.96000°. Principal axes: T 1.5637, Plg55.0000°, Azm297.0000°; N -0.1251, Plg35.0000°, Azm115.0000°; P -1.4386, Plg1.0000°, Azm206.0000°;*

*NEIC **22** 10:06:57.9±2.0, 3°.32S±0°.06×131°.05E±0°.05, h16km±1km, mb5.4/238, Mww5.4/24 Error ellipse: s-maj=10.3km s-min=7.5km az=330.0*

*NEIC **22** 10:06:57.9, 3°.32S×131°.05E, h20km*

*GCMT **22** 10:06:57.9±0.1, 3°.24S±0°.01×130°.91E±0°.01, h18km, MW5.5/128, Moment Tensor Solution. s120,c213; s128,c238; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr 0.82±.03; Mθθ -1.35±.02; Mφφ 0.53±.02; Mrθ -1.21±.06; Mθφ 0.78±.01; Mrφ 0.97±.06; Best double couple: Mo 2.03000×10^17 NP1: φ75.00000°, δ28.00000°, λ36.00000°. NP2: φ312.00000°, δ74.00000°, λ113.00000°. Principal axes: T 1.7290, Plg55.0000°, Azm251.0000°; N 0.6020, Plg22.0000°, Azm125.0000°; P -2.3320, Plg25.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **22** 10:06:58.4±0.4, 3°.5S±2°×13°.1E±°, h27km±3km, M5.5/114, mb5.6/114, mB6.0/66, MLv5.7/19, Mw(mB)5.6/66, MwMwp5.2/31, Mwp5.5/31*

ISC 22 10:06:57.6±0.4, 3°.39S±0°.03×131°.05E±0°.03, h23km±2km, h23km:pP-P, n911, σ1§51/928, mb5.4/218, MS4.9/85, 24C-13D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.29**	**69**		**Pb**	**10 07 21.3**	**+0.2**
FAKI	**Fak Fak**	**1.29**	**69**	P	**Pb**	**10 07 21.7**	**+0.5**
FAKI	**Fak Fak**	**1.29**	**69**	S	**Sb**	**10 07 40.0**	**+2.7**
FAKI	**Fak Fak**	**1.29**	**69**	P	**Pb**	**10 07 21.2**	**0.0**
BNDI	**Bandanaira**	**1.60**	**226**	P	**Pb**	**10 07 26.6**	**+0.1**
BNDI	**Bandanaira**	**1.60**	**226**	P	**Pn**	**10 07 25.8**	**+1.2**
MSAI	**Maoshi**	**2.12**	**271**	P	**Pn**	**10 07 32.4**	**+0.7**
SWI	**Sorong**	**2.52**	**5**	P	**Pn**	**10 07 35.9**	**-1.4**
KMPI	**Kaimana, Papua**	**2.66**	**96**	P	**Pn**	**10 07 40.5**	**+1.3**
AAI	**Ambon**	**2.87**	**264**	P	**Pn**	**10 07 42.3**	**+0.3**
RKPI	**Ransiki, Papua**	**3.64**	**59**	P	**Pn**	**10 07 53.7**	**+1.0**
NLAI	**Namlea**	**3.95**	**272**	P	**Pn**	**10 07 57.6**	**+0.7**
SAUI	**Saumlaki**	**4.57**	**177**	Pn	**Pn**	**10 08 07.5**	**+2.2**
SAUI	**Saumlaki**	**4.57**	**177**	P	**Pn**	**10 08 07.3**	**+1.9**
SAUI	**Saumlaki**	**4.57**	**177**	P	**Pn**	**10 08 07.2**	**+1.9**
SANI	**Sanana**	**5.23**	**285**	P	**Pn**	**10 08 13.0**	**-1.5**
SANI	**Sanana**	**5.23**	**285**	P	**Pn**	**10 08 12.4**	**-2.1**
	5.2nm8μm8μm716nm,0.6s						
SRPI	**Serui, Papua**	**5.40**	**74**	P	**Pn**	**10 08 17.5**	**+0.6**
	5.3nm12μm7μm488nm,0.7s						
BAKI	**Biak**	**5.51**	**67**	P	**Pn**	**10 08 19.8**	**+1.5**
TNTI	**Ternate**	**5.54**	**318**		**Pn**	**10 08 18.5**	**-0.3**
TNTI	**Ternate**	**5.54**	**318**	P	**Pn**	**10 08 19.3**	**+0.5**
TNTI	**Ternate**	**5.54**	**318**	P	**Pn**	**10 08 18.1**	**-0.7**
	8μm317nm,1.1s						
SMPI	**Sarmi**	**7.78**	**80**	P	**Pn**	**10 08 50.8**	**+1.3**
KMSI	**Cibinong**	**8.09**	**299**	P	**Pn**	**10 08 53.2**	**-0.6**
	16μm884nm,1.0s						
KDI	**Kendari**	**8.43**	**266**	P	**Pn**	**10 08 58.7**	**+0.2**
BBSI	**Bau Bau**	**8.71**	**256**	P	**Pn**	**10 09 05.1**	**+2.8**
SGSI	**Sangihe**	**8.94**	**322**	P	**Pn**	**10 09 06.3**	**+0.8**
	9μm549nm,0.8s						
DRS	**Darwin Rock St**	**8.98**	**181**	P	**Pn**	**10 09 05.1**	**-0.9**
GENI	**Genyem**	**9.14**	**85**	P	**Pn**	**10 09 09.8**	**+1.6**
GENI	**Genyem**	**9.14**	**85**	P	**Pn**	**10 09 06.6**	**-1.6**
	10μm6μm508nm,1.3s						
SOEI	**Soe**	**9.24**	**226**		**Pn**	**10 09 13.3**	**+3.6**
SOEI	**Soe**	**9.24**	**226**	P	**Pn**	**10 09 12.4**	**+2.7**
SOEI	**Soe**	**9.24**	**226**	P	**Pn**	**10 09 12.4**	**+2.7**
KDU	**Kakadu**	**9.34**	**171**	P	**Pn**	**10 09 09.3**	**-1.7**
	comp=Z,252nm,0.7s						
KDU	**Kakadu**	**9.34**	**171**	S	**Sn**	**10 10 52.3**	**-3.1**
KDU	**Kakadu**	**9.34**	**171**	P	**Pn**	**10 09 09.7**	**-1.3**
MTN	**Manton Dam**	**9.39**	**180**		**Pn**	**10 09 10.4**	**-1.3**
MTN	**Manton Dam**	**9.39**	**180**	P	**Pn**	**10 09 10.0**	**-1.7**
	comp=Z,0.0nmcomp=Z,444nm,1.2s						
MTN	**Manton Dam**	**9.39**	**180**	S	**Sn**	**10 10 53.4**	**-3.2**
MTN	**Manton Dam**	**9.39**	**180**	P	**Pn**	**10 09 10.3**	**-1.3**
JAY	**Jayapura**	**9.68**	**85**	Pn	**Pn**	**10 09 15.8**	**+0.1**
	comp=Z,3.5nm,0.3s,baz=212,slow=12,SNR=11						
JAY				Sn	**Sn**	**10 11 05.0**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=303,slow=22,SNR=1.3						
	comp=Z,42nm,0.9s						
JAY	**Jayapura**	**9.68**	**85**	P	**Pn**	**10 09 17.0**	**+1.3**
APSI	**Ampana**	**9.71**	**284**	P	**Pn**	**10 09 15.1**	**-1.0**
	comp=Z,7μmcomp=Z,458nm,1.3s						
MRSI	**Marisa**	**9.88**	**293**	P	**Pn**	**10 09 16.1**	**-2.3**
	comp=Z,4μmcomp=Z,259nm,0.7s						
BATI	**Baumata**	**9.98**	**227**	Pn	**Pn**	**10 09 22.7**	**+2.9**
	comp=Z,24nm,0.3s,baz=170,slow=1.0,SNR=63						
BATI				Sn	**Sn**	**10 11 15.8**	**+4.6**
	comp=Z,3.8nm,0.3s,baz=358,slow=23,SNR=0.8						
BATI	**Baumata**	**9.98**	**227**	P	**Pn**	**10 09 22.6**	**+2.8**
MMRI	**Maumere**	**10.19**	**239**	Pn	**Pn**	**10 09 24.7**	**+2.0**
MMRI	**Maumere**	**10.19**	**239**	P	**Pn**	**10 09 22.6**	**-0.1**
MMRI	**Maumere**	**10.19**	**239**	P	**Pn**	**10 09 25.9**	**+3.2**
	comp=Z,1.1μmcomp=Z,642nm,1.5s						
EDFI	**Ende, Flores**	**10.72**	**240**	P	**Pn**	**10 09 32.4**	**+2.4**
	comp=Z,7μmcomp=Z,377nm,1.2s						
BSSI	**Bau Bau, Buton**	**10.87**	**255**	P	**Pn**	**10 09 34.2**	**+2.2**
	comp=Z,10μmcomp=Z,9μmcomp=Z,568nm,1.2s						
BNSI	**Bone**	**10.96**	**264**	P	**Pn**	**10 09 33.7**	**+0.5**
	comp=Z,6μmcomp=Z,4μmcomp=Z,220nm,1.1s						
BKSI	**Bulukumba**	**11.06**	**260**	P	**Pn**	**10 09 35.8**	**+1.2**
	comp=Z,6μmcomp=Z,5μmcomp=Z,379nm,1.0s						
TOLI2	**Tolitoli**	**11.20**	**293**		**Pn**	**10 09 34.0**	**-2.4**
TOLI2	**Tolitoli**	**11.20**	**293**	P	**Pn**	**10 09 36.6**	**+0.2**
TOLI2	**Tolitoli**	**11.20**	**293**	S	**Sn**	**10 11 39.4**	**-1.6**
TTSI	**Tana Toraja**	**11.22**	**271**	P	**Pn**	**10 09 37.3**	**+0.6**
	comp=Z,7μmcomp=Z,4μmcomp=Z,123nm,1.0s						
SPSI	**Sidrap Palu**	**11.27**	**267**	P	**Pn**	**10 09 38.7**	**+1.2**
	comp=Z,5μmcomp=Z,228nm,1.0s				

AS01	**Alice Springs**	**20.35**	**172**	P	**P**	**10 11 33.6**	**+1.0**
WOJI	**Wonogiri, Jawa**	**20.51**	**257**	P	**P**	**10 11 33.6**	**-0.8**
	comp=Z,316nm,1.3s						
SMRI	**Semarang**	**20.84**	**259**	P	**P**	**10 11 36.6**	**-1.5**
SMRI	**Semarang**	**20.84**	**259**	P	**P**	**10 11 37.9**	**-0.1**
SMRI	**Semarang**	**20.84**	**259**	P	**P**	**10 11 36.9**	**-1.1**
	comp=Z,518nm,1.0s						
UGM	**Wanagama**	**20.91**	**257**	P	**P**	**10 11 38.5**	**-0.3**
	comp=Z,181nm,0.9s						
RABL	**Rabaul**	**21.08**	**93**	P	**P**	**10 11 42.9**	**+2.3**
PSA00	**Pilbara Seismi**	**21.10**	**210**		**P**	**10 11 37.8**	**-2.9**
PSA00	**Pilbara Seismi**	**21.10**	**210**	P	**P**	**10 11 38.6**	**-2.1**
KSM	**Kuching**	**21.29**	**283**		**P**	**10 11 43.1**	**+0.2**
KSM	**Kuching**	**21.29**	**283**	P	**P**	**10 11 44.8**	**+1.9**
GUMO	**Guam**	**21.74**	**39**		**P**	**10 11 49.2**	**+1.5**
GUMO	**Guam**	**21.74**	**39**	P	**P**	**10 11 48.5**	**+0.8**
	comp=Z,628nm,1.2s,baz=189,slow=4.7,SNR=18						
GUMO				LR	LR	10 20 13.8	
	comp=Z,2μm,19.5s,baz=232,slow=37						
	comp=Z,628nm,1.2s						
GUMO	**Guam**	**21.74**	**39**	P	**P**	**10 11 49.7**	**+2.0**
GUMO	**Guam**	**21.74**	**39**	P	**P**	**10 11 49.2**	**+1.5**
GUMO				pmax	pmax		
	comp=Z,854nm,1.2s						
CTAO	**Charters Tower**	**22.25**	**139**	P	**P**	**10 11 54.8**	**+1.6**
CTAO				IAmb	IAmb	10 12 16.0	
	comp=Z,155nm,1.2s						
CTAO	**Charters Tower**	**22.25**	**139**	P	**P**	**10 11 54.8**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,155nm,1.3s						
JCJI	**Jatiwangi**	**22.90**	**261**	P	**P**	**10 11 59.0**	**-1.1**
	comp=Z,365nm,0.7s						
CMJI	**Cimerak**	**22.91**	**258**	P	**P**	**10 11 56.2**	**-4.0**
	comp=Z,259nm,1.0s						
TPI	**Tanjungpandan**	**23.37**	**271**	P	**P**	**10 12 05.5**	**+0.6**
	comp=Z,2μmcomp=Z,146nm,1.2s						
LEM	**Lembang**	**23.58**	**261**	LR	LR	10 23 33.8	
	comp=Z,7μm,19.4s,baz=90,slow=42						
LEM	**Lembang**	**23.58**	**261**	P	**P**	**10 12 03.9**	**-3.3**
	comp=Z,122nm,1.1s						
CNJI	**Cibinong**	**24.13**	**260**	P	**P**	**10 12 08.1**	**-4.0**
	comp=Z,187nm,1.0s						
CBJI	**Citeko**	**24.30**	**262**	P	**P**	**10 12 11.2**	**-2.5**
	comp=Z,136nm,0.6s						
DBJI	**Dramaga**	**24.41**	**262**	P	**P**	**10 12 11.5**	**-3.2**
	comp=Z,214nm,1.3s						
PPBI	**Pangkal Pinang**	**24.91**	**272**	P	**P**	**10 12 20.5**	**+1.2**
SBJI	**Serang**	**24.98**	**263**	P	**P**	**10 12 17.0**	**-2.9**
	comp=Z,196nm,1.3s						
CGJI	**Cibinong**	**25.46**	**262**	P	**P**	**10 12 20.2**	**-4.0**
	comp=Z,4μmcomp=Z,83nm,0.9s						
MEEK	**Meekatharra**	**26.00**	**206**	P	**P**	**10 12 27.5**	**-1.6**
XMI	**Christmas Isla**	**26.12**	**253**	P	**P**	**10 12 29.5**	**-0.7**
KLI	**Kotabumi**	**26.16**	**266**	P	**P**	**10 12 29.9**	**-0.8**
PMBI	**Palembang**	**26.24**	**270**	P	**P**	**10 12 33.3**	**+2.0**
QLP	**Quilpie**	**26.29**	**153**	P	**P**	**10 12 33.5**	**+1.9**
KASI	**Kota Agung**	**26.56**	**264**	P	**P**	**10 12 31.3**	**-2.9**
	comp=Z,2μmcomp=Z,130nm,1.0s						
MDSI	**Maura Dua**	**26.83**	**267**	P	**P**	**10 12 34.7**	**-2.0**
	comp=Z,96nm,1.0s						
TPRI	**Tanjung Pinang**	**26.86**	**279**	P	**P**	**10 12 38.0**	**+1.1**
LWLI	**Liwa**	**26.97**	**266**	P	**P**	**10 12 36.1**	**-1.9**
	comp=Z,147nm,1.2s						
DLV	**Lat**	**27.12**	**305**	P	**P**	**10 12 40.1**	**+0.7**
FORT	**Forrest**	**27.39**	**186**		**P**	**10 12 41.2**	**-0.2**
FORT				IAmb	IAmb	10 13 14.1	
	comp=Z,46nm,0.8s						
LHSI	**Lahat**	**27.48**	**268**	P	**P**	**10 12 42.5**	**0.0**
KSI	**Kapahiang**	**28.40**	**269**	P	**P**	**10 12 49.4**	**-1.5**
	comp=Z,126nm,0.8s						
TPUB	**Ta-pu**	**28.41**	**340**	P	**P**	**10 12 48.9**	**-1.8**
TPUB				IAmb	IAmb	10 12 53.1	
	comp=Z,45nm,0.9s						
TPUB	**Ta-pu**	**28.41**	**340**	P	**P**	**10 12 54.1**	**+3.4**
SSLB	**Suanglung**	**28.75**	**340**	P	**P**	**10 12 51.3**	**-2.4**
SSLB				IAmb	IAmb	10 12 53.7	
	comp=Z,64nm,1.0s						
SSLB	**Suanglung**	**28.75**	**340**	P	**P**	**10 12 51.5**	**-2.2**
EIDS	**Eidsvold**	**29.13**	**140**	P	**P**	**10 12 57.5**	**+0.4**
EIDS				IAmb	IAmb	10 13 18.2	
	comp=Z,123nm,1.6s						
EIDS	**Eidsvold**	**29.13**	**140**	P	**P**	**10 12 58.9**	**+1.8**
MORW	**Morawa**	**29.25**	**208**		**P**	**10 12 56.6**	**-1.5**
MORW				IAmb	IAmb	10 12 57.5	
	comp=Z,66nm,1.2s						
MORW	**Morawa**	**29.25**	**208**	P	**P**	**10 12 56.5**	**-1.6**
YHNB	**Yeheng**	**29.44**	**342**	P	**P**	**10 13 00.0**	**+0.1**
BBOO	**Buckleboo**	**29.64**	**171**	P	**P**	**10 13 02.4**	**+0.9**
STKA	**Stephens Creek**	**30.02**	**162**		**P**	**10 13 05.5**	**+0.6**
STKA	**Stephens Creek**	**30.02**	**162**	P	**P**	**10 13 05.4**	**+0.6**
	comp=Z,36nm,0.9s,baz=339,slow=8.5,SNR=36						
STKA				LR	LR	10 26 20.3	
	comp=Z,5μm,21.9s,baz=335,slow=39						
	comp=Z,36nm,0.9s						
STKA	**Stephens Creek**	**30.02**	**162**	P	**P**	**10 13 05.7**	**+0.8**
STKA	**Stephens Creek**	**30.02**	**162**	*i* P	**P**	**10 13 05.7**	**+0.8**
JOW	**Kunigami**	**30.17**	**355**		**P**	**10 13 06.5**	**+0.3**
JOW				IAmb	IAmb	10 13 08.1	
	comp=Z,147nm,1.3s						
JOW	**Kunigami**	**30.17**	**355**	LR	LR	10 23 35.2	
	comp=Z,5μm,22.0s,baz=174,slow=33						
JOW	**Kunigami**	**30.17**	**355**	P	**P**	**10 13 06.6**	**+0.4**
BKNI	**Bangkinang**	**30.22**	**276**	P	**P**	**10 13 07.7**	**+0.8**
BKNI	**Bangkinang**	**30.22**	**276**	P	**P**	**10 13 07.4**	**+0.5**
BLDU	**Ballidu**	**30.28**	**205**	P	**P**	**10 13 05.6**	**-1.6**
QIZ	**Qiongzhong**	**30.53**	**318**	P	**P**	**10 13 10.0**	**+0.5**
QIZ				S	**S**	**10 18 10.3**	**+0.2**
QIZ				ScP	**ScP**	**10 19 51.8**	**+2.0**
QIZ				pmax	pmax		
	comp=Z,27nm,1.3s						
QIZ				LR	LR		
	comp=Z,810nm,16.2s						
QIZ				LR	LR		
	comp=Z,900nm,13.6s						
QIZ				LR	LR		
	comp=Z,2μm,27.5s						
QZH	**Quanzhou**	**30.66**	**337**	⇓*i* P	**P**	**10 13 09.9**	**-0.7**
QZH				S	**S**	**10 18 10.1**	**-1.8**
QZH				pmax	pmax		
	comp=Z,140nm,0.9s						
QZH				LR	LR		
	comp=Z,2μm,15.8s						
QZH				LR	LR		
	comp=Z,2μm,16.5s						
QZH				LR	LR		
	comp=Z,2μm,20.4s						
KLBR	**Kellerberrin**	**30.72**	**203**	P	**P**	**10 13 10.0**	**-1.1**
PPI	**Padang Panjang**	**30.77**	**275**	P	**P**	**10 13 11.9**	**+0.1**
HTT	**Hallett**	**30.78**	**167**	P	**P**	**10 13 12.7**	**+1.1**
IPM	**Ipoh**	**31.00**	**284**	P	**P**	**10 13 14.4**	**+0.6**
CMSA	**Cobar Meteorol**	**31.21**	**155**	P	**P**	**10 13 16.4**	**+1.0**
GZH	**Guangzhou**	**31.48**	**328**	P	**P**	**10 13 20.8**	**+2.9**
GZH				sP	sP	10 13 34.8	+7.6
GZH				S	**S**	**10 18 30.9**	**+6.0**
GZH				pmax	pmax		
	comp=Z,130nm,0.8s						
GZH				LR	LR		
	comp=Z,3μm,23.1s						
GZH				LR	LR		
	comp=Z,1μm,17.3s						
GZH				LR	LR		
	comp=Z,4μm,25.3s						
KULM	**Kulim**	**31.57**	**286**	IAmb	IAmb	10 13 50.3	
	comp=Z,89nm,1.2s						
KULM	**Kulim**	**31.57**	**286**	P	**P**	**10 13 19.4**	**+0.6**
MUN	**Mundaring**	**31.67**	**204**	P	**P**	**10 13 19.9**	**+0.4**
MNSI	**Mandailing Nat**	**31.73**	**277**	P	**P**	**10 13 20.3**	**+0.1**
	comp=Z,4μmcomp=Z,113nm,1.1s						
SISI	**Saibi**	**32.00**	**273**	P	**P**	**10 13 21.1**	**-1.5**
	comp=Z,210nm,1.1s						
NWAO	**Narrogin (SRO)**	**32.10**	**202**	LR	LR	10 28 03.4	
	comp=Z,3μm,20.6s,baz=24,slow=40						
PSI	**Prapat**	**32.70**	**280**	P	**P**	**10 13 28.1**	**-0.7**
ARMA	**Armidale**	**33.18**	**146**	P	**P**	**10 13 34.4**	**+1.5**
ARMA				IAmb	IAmb	10 13 35.6	
	comp=Z,33nm,0.9s						
ARMA	**Armidale**	**33.18**	**146**	P	**P**	**10 13 34.6**	**+1.7**
SRIT	**Nakonsritamara**	**33.54**	**291**	P	**P**	**10 13 38.2**	**+2.1**
GSI	**Gunungsitoli**	**33.78**	**277**		**P**	**10 13 36.0**	**-2.2**
GSI	**Gunungsitoli**	**33.78**	**277**	P	**P**	**10 13 38.1**	**-0.1**
GSI	**Gunungsitoli**	**33.78**	**277**	P	**P**	**10 13 37.0**	**-1.2**
	comp=Z,209nm,1.2s						
GULI	**GuiLin**	**34.87**	**326**	P	P	10 13 38.1	-9.3
GULI				pP	pP	10 13 52.1	-2.0
GULI				S	S	10 19 07.3	-10
GULI				pmax	pmax		
	comp=Z,22nm,0.9s						
GULI				LR	LR		
	comp=N,1μm,25.3s						
GULI				LR	LR		
	comp=E,2μm,25.4s						
GULI				LR	LR		
	comp=Z,3μm,24.2s						
SYDH	**Sydney Hard Ro**	**35.36**	**151**	P	**P**	**10 13 54.3**	**+2.7**
MLSI	**Meulaboh, Aceh**	**35.45**	**282**	P	**P**	**10 13 51.7**	**-0.9**
	comp=Z,278nm,1.5s						
SSE	**Sheshan**	**35.56**	**345**	P	**P**	**10 13 53.8**	**+0.5**
SSE				pmax	pmax		
	comp=Z,12nm,0.6s						
SSE				pmax	pmax		
	comp=Z,86nm,3.6s						
SSE				LR	LR		
	comp=Z,740nm,19.1s						
SSE				LR	LR		
	comp=Z,600nm,19.4s						
RIV	**Riverview**	**35.62**	**151**	P	**P**	**10 13 55.0**	**+1.2**
CAN	**Canberra**	**35.86**	**155**		**P**	**10 13 57.8**	**+1.8**
CAN	**Canberra**	**35.86**	**155**	P	**P**	**10 13 58.2**	**+2.3**
CAN	**Canberra**	**35.86**	**155**	P	**P**	**10 13 57.8**	**+1.8**
CAN				pmax	pmax		
	comp=Z,155nm,1.1s						
CNSH	**ChangSha**	**35.91**	**332**	P	**P**	**10 13 56.3**	**-0.1**
CNSH				S	**S**	**10 19 31.8**	**-1.6**
CNSH				pmax	pmax		
	comp=Z,36nm,1.2s						
CNSH				LR	LR		
	comp=Z,2μm,25.4s						
CNSH				LR	LR		
	comp=Z,1μm,26.1s						
CNSH				LR	LR		
	comp=Z,2μm,22.7s						
CNB	**Canberra Magne**	**36.01**	**154**	P	**P**	**10 13 59.7**	**+2.4**
SLVN	**Son La**	**36.20**	**314**	IAmb	IAmb	10 14 16.2	
	comp=Z,108nm,1.6s						
SLVN	**Son La**	**36.20**	**314**	P	**P**	**10 13 59.4**	**+0.3**
JNU	**Nakatsue**	**36.32**	**360**	LR	LR	10 30 14.1	
	comp=Z,3μm,18.5s,baz=176,slow=39						
JNU	**Nakatsue**	**36.32**	**360**	P	**P**	**10 14 00.0**	**+0.2**
GEXS	**Deakin Univers**	**36.70**	**162**	P	**P**	**10 14 04.2**	**+1.3**
JMN	**Monobe**	**37.02**	**4**		**P**	**10 14 05.4**	**-0.4**
JMN				IAmb	IAmb	10 14 06.9	
	comp=Z,87nm,1.0s						
JMN	**Monobe**	**37.02**	**4**	P	**P**	**10 14 06.4**	**+0.6**
NJ2	**Nanjing**	**37.11**	**343**	⇑*i* P	**P**	**10 14 07.3**	**+0.8**
NJ2				pP	**pP**	**10 14 12.1**	**-1.0**
NJ2				S	**S**	**10 19 49.9**	**-1.7**
NJ2				pmax	pmax		
	comp=Z,24nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,260nm,5.7s						
NJ2				LR	LR		
	comp=Z,1μm,22.7s						
NJ2				LR	LR		
	comp=Z,2μm,23.6s						
NJ2				LR	LR		
	comp=Z,2μm,24.2s						
WHN	**Wuhan**	**37.33**	**336**	⇓P	**P**	**10 14 09.1**	**+0.7**
WHN				S	**S**	**10 19 55.5**	**+0.5**
WHN				SS	**SnSn**	**10 22 32.8**	**+0.7**
WHN				pmax	pmax		
	comp=Z,230nm,0.8s						
WHN				pmax	pmax		
	comp=Z,960nm,3.5s						
WHN				LR	LR		
	comp=Z,2μm,15.5s						
WHN				LR	LR		
	comp=Z,4μm,14.5s						
WHN				LR	LR		
	comp=Z,10μm,23.0s						
JTU	**Tsushima**	**37.75**	**358**	P	**P**	**10 14 12.8**	**+0.9**
GYA	**Guiyang**	**37.91**	**323**	⇓P	**P**	**10 14 14.4**	**+0.9**
GYA				S	**S**	**10 20 04.1**	**-0.1**
GYA				pmax	pmax		
	comp=Z,43nm,1.2s						
GYA				pmax	pmax		
	comp=Z,170nm,3.4s						
GYA				LR	LR		
	comp=Z,1μm,13.0s						
GYA				LR	LR		
	comp=Z,880nm,16.9s						
GYA				LR	LR		
	comp=Z,950nm,15.0s						
CM31	**Chiang Mai Arr**	**38.36**	**306**	P	**P**	**10 14 20.0**	**+2.7**
	SNR=30						
CM31				S	**S**	**10 20 11.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**38.36**	**306**	P	**P**	**10 14 17.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**38.36**	**306**	P	**P**	**10 14 17.9**	**+0.5**
	comp=Z,11nm,0.8s,baz=136,slow=8.0,SNR=42						
CMAR				ScP	**ScP**	**10 20 18.8**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=121,slow=5.2,SNR=1.9						
	comp=Z,11nm,0.8s						
CMAR	**Chiang Mai Arr**	**38.36**	**306**	*ce* P	**P**	**10 14 18.3**	**+1.0**
CMAR				pmax	pmax		
	comp=Z,11nm,0.8s						
CHTO	**Chiang Mai**	**38.54**	**306**	P	**P**	**10 14 19.6**	**+0.7**
CHTO	**Chiang Mai**	**38.54**	**306**	P	**P**	**10 14 19.8**	**+0.9**
CHTO				P	**P**	**10 14 19.8**	**+0.9**
CHTO				S	**S**	**10 20 13.8**	**0.0**
CHTO				S	**S**	**10 20 13.8**	**0.0**
CHTO	**Chiang Mai**	**38.54**	**306**	P	**P**	**10 14 19.5**	**+0.6**
CHTO	**Chiang Mai**	**38.54**	**306**	P	**P**	**10 14 19.6**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,246nm,1.2s						
INU	**Inuyama**	**38.94**	**8**		**P**	**10 14 21.3**	**-0.7**
INU				IAmb	IAmb	10 14 35.3	
	comp=Z,68nm,1.2s						
INU	**Inuyama**	**38.94**	**8**	P	**P**	**10 14 21.7**	**-0.2**
DZM	**Mont Dzumac**	**39.03**	**121**	*e* P	**P**	**10 14 24.7**	**+1.7**
	comp=Z,68nm,1.2s						
DZM	**Mont Dzumac**	**39.03**	**121**	*e* PP	**PP**	**10 15 53.9**	**+1.2**
	comp=Z,82nm,21.2s						
DZM				*e* S	**S**	**10 20 16.6**	**-4.7**
	comp=Z,355nm,25.5s						
DZM				*e* SS	**SnSn**	**10 23 09.0**	**-4.6**
	comp=Z,2μm,27.1s						
DZM				*e* LR	LR	10 25 02.1	
	comp=Z,5μm,24.7s						
JGF	**Kuroka**	**39.24**	**8**	P	**P**	**10 14 23.7**	**-0.8**
ENH	**Enshi**	**39.31**	**330**	P	**P**	**10 14 25.3**	**+0.1**
KMI	**Kunming**	**39.48**	**317**	P	**P**	**10 14 28.3**	**+1.4**
KMI				S	**S**	**10 20 28.8**	**+0.7**
KMI				pmax	pmax		
	comp=Z,28nm,1.3s						
KMI				pmax	pmax		
	comp=Z,180nm,3.3s						
KMI				LR	LR		
	comp=Z,800nm,18.6s						
KMI				LR	LR		
	comp=Z,1μm,18.0s						
KMI				LR	LR		
	comp=Z,2μm,26.3s						
TJN	**Taejon**	**39.71**	**355**		**P**	**10 14 28.0**	**-0.3**
TJN	**Taejon**	**39.71**	**355**	P	**P**	**10 14 28.6**	**+0.2**
TJN	**Taejon**	**39.71**	**355**	*i* P	**P**	**10 14 28.2**	**-0.2**
MJAR	**Matsushiro Arr**	**40.29**	**9**	P	**P**	**10 14 31.3**	**-1.9**
	comp=Z,30nm,1.0s,baz=189,slow=9.2,SNR=48						
	comp=Z,30nm,1.0s						
MAJO	**Matsushiro**	**40.29**	**9**		**P**	**10 14 31.4**	**-1.8**
MAJO	**Matsushiro**	**40.29**	**9**	P	**P**	**10 14 31.4**	**-1.8**
MAJO	**Matsushiro**	**40.29**	**9**	P	**P**	**10 14 31.4**	**-1.8**
MAJO				pmax	pmax		
	comp=Z,34nm,0.8s						
KSAR	**Wonju Array Be**	**40.73**	**356**		**P**	**10 14 36.1**	**-0.7**
KSAR	**Wonju Array Be**	**40.73**	**356**	P	**P**	**10 14 36.1**	**-0.7**
KSRS	**Korea Array**	**40.74**	**356**	P	**P**	**10 14 36.8**	**-0.1**
	comp=Z,17nm,0.8s,baz=177,slow=9.6,SNR=78						
KSRS				PcP	**PcP**	**10 16 38.6**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=181,slow=4.6,SNR=2.8						
KSRS				LR	LR	10 32 02.7	
	comp=Z,1036μm,19.7s,baz=180,slow=37						
	comp=Z,17nm,0.8s						
INCN	**Inchon**	**40.88**	**355**	P	**P**	**10 14 38.4**	**+0.4**
INCN	**Inchon**	**40.88**	**355**	S	**S**	**10 20 49.1**	**+0.8**
INCN	**Inchon**	**40.88**	**355**	P	**P**	**10 14 38.7**	**+0.7**
INCN	**Inchon**	**40.88**	**355**	P	**P**	**10 14 38.4**	**+0.4**
INCN				pmax	pmax		
	comp=Z,27nm,0.7s						
PZH	**PanZhiHua**	**41.07**	**318**	P	**P**	**10 14 39.6**	**-0.3**
PZH				S	**S**	**10 20 48.6**	**-3.1**
PZH				SS	**SS**	**10 23 51.9**	**-2.6**
PZH				ScS	**ScS**	**10 24 44.5**	**+0.7**
PZH				pmax	pmax		
	comp=Z,30nm,1.0s						
PZH				pmax	pmax		
	comp=Z,160nm,3.7s						
PZH				LR	LR		
	comp=Z,750nm,18.1s						
PZH				LR	LR		
	comp=Z,720nm,16.7s						
PZH				LR	LR		
	comp=Z,1μm,18.6s						
TIA	**Tai'an**	**41.49**	**343**	P	**P**	**10 14 42.8**	**-0.3**
TIA				S	**S**	**10 20 55.1**	**-2.4**
TIA				SS	**SS**	**10 23 54.8**	**-7.8**
TIA				pmax	pmax		
	comp=Z,33nm,0.8s						
TIA				LR	LR		
	comp=Z,2μm,19.2s						
TIA				LR	LR		
	comp=Z,640nm,17.9s						
TIA				LR	LR		
	comp=Z,2μm,21.3s						
LYN	**LuoYang**	**41.60**	**337**	P	**P**	**10 14 43.6**	**-0.4**
LYN				pP	pP	10 14 48.5	-2.1
LYN				S	**S**	**10 20 56.6**	**-2.4**
LYN				sS	sS	10 21 15.3	+5.3
LYN				pmax	pmax		
	comp=Z,70nm,1.1s						
LYN				pmax	pmax		
	comp=Z,280nm,3.8s						
LYN				LR	LR		
	comp=Z,2μm,23.0s						
LYN				LR	LR		
	comp=Z,3μm,23.7s						
LYN				LR	LR		
	comp=Z,3μm,22.9s						
JSD	**Sado**	**41.76**	**9**	P	**P**	**10 14 46.8**	**+1.6**
JMM	**Marumori**	**42.03**	**12**	IAmb	IAmb	10 14 50.5	
	comp=Z,70nm,0.9s						
JMM	**Marumori**	**42.03**	**12**	P	**P**	**10 14 47.7**	**+0.2**
TNCH	**TengChong**	**42.37**	**314**	P	**P**	**10 14 51.3**	**+0.6**
TNCH				sP	pP	10 14 56.4	-1.0
TNCH				PP	**PP**	**10 16 34.8**	**+5.7**
TNCH				S	**S**	**10 21 11.9**	**+0.7**
TNCH				pmax	pmax		
	comp=Z,49nm,0.7s						
TNCH				pmax	pmax		
	comp=Z,280nm,3.4s						
TNCH				LR	LR		
	comp=Z,910nm,19.1s						
TNCH				LR	LR		
	comp=Z,1μm,18.1s						
TNCH				LR	LR		
	comp=Z,1μm,19.5s						
XAN	**Xi'an**	**42.68**	**333**	⇓P	**P**	**10 14 52.1**	**-0.8**
XAN				pP	pP	10 14 57.6	-2.0
XAN				sP	sP	10 15 00.3	-2.1
XAN				S	**S**	**10 21 12.6**	**-2.6**
XAN				pmax	pmax		
	comp=Z,83nm,0.8s						
XAN				LR	LR		
	comp=Z,2μm,23.4s						
XAN				LR	LR		
	comp=Z,2μm,22.9s						
XAN				LR	LR		
	comp=Z,2μm,23.4s						
CD2	**Chengdu**	**42.91**	**325**	P	**P**	**10 14 54.4**	**-0.4**
CD2				pP	pP	10 14 57.9	-3.6
CD2				S	**S**	**10 21 14.8**	**-3.8**
CD2				pmax	pmax		
	comp=Z,40nm,1.1s						
CD2				pmax	pmax		
	comp=Z,530nm,3.0s						
CD2				LR	LR		
	comp=Z,3μm,27.7s						
CD2				LR	LR		
	comp=Z,2μm,24.1s						
CD2				LR	LR		
	comp=Z,2μm,24.3s						
DL2	**Dalian**	**42.98**	**349**	P	**P**	**10 14 55.8**	**+0.7**
DL2				S	**S**	**10 21 18.1**	**-1.2**
DL2				pmax	pmax		
	comp=Z,190nm,0.9s						
DL2				pmax	pmax		
	comp=Z,440nm,11.9s						
DL2				LR	LR		
	comp=Z,2μm,20.3s						
DL2				LR	LR		
	comp=Z,3μm,19.8s						
DL2				LR	LR		
	comp=Z,3μm,20.1s						
HNS	**HongShan**	**43.34**	**341**	⇓P	**P**	**10 14 57.6**	**-0.5**
HNS				S	**S**	**10 21 21.8**	**-2.8**
HNS				SS	**SS**	**10 24 36.0**	**-2.8**
HNS				pmax	pmax		
	comp=Z,34nm,1.3s						
HNS				LR	LR		
	comp=Z,1μm,22.0s						
HNS				LR	LR		
	comp=Z,1μm,23.1s						
HNS				LR	LR		
	comp=Z,1μm,22.7s						
TIY	**Taiyuan**	**44.40**	**339**	P	**P**	**10 15 06.6**	**-0.1**
TIY				S	**S**	**10 21 35.3**	**-5.0**
TIY				pmax	pmax		
	comp=Z,61nm,0.9s						
TIY				LR	LR		
	comp=Z,1μm,29.5s						
TIY				LR	LR		
	comp=Z,1μm,22.0s						
TIY				LR	LR		
	comp=Z,1μm,26.8s						
JTM	**Tenmabayashi**	**44.91**	**11**	P	**P**	**10 15 11.6**	**+0.9**
BJT	**Baijiatuan**	**45.31**	**344**	P	**P**	**10 15 13.9**	**+0.1**
BJI	**Beijing**	**45.33**	**344**	P	**P**	**10 15 13.8**	**-0.2**
BJI				S	**S**	**10 21 52.4**	**-1.1**
BJI				SS	**ScS**	**10 25 12.8**	**+3.3**
BJI				pmax	pmax		
	comp=Z,34nm,1.2s						
BJI				pmax	pmax		
	comp=Z,160nm,4.5s						
BJI				LR	LR		
	comp=Z,290nm,17.5s						
BJI				LR	LR		
	comp=Z,460nm,22.0s						
BJI				LR	LR		
	comp=Z,650nm,19.1s						
SNY	**Shenyang**	**45.52**	**352**	⇑P	**P**	**10 15 14.8**	**-0.6**
SNY				S	**S**	**10 21 56.6**	**+0.5**
SNY				pmax	pmax		
	comp=Z,70nm,1.0s						
SNY				pmax	pmax		
	comp=Z,250nm,6.7s						
SNY				LR	LR		
	comp=Z,1μm,20.8s						
SNY				LR	LR		
	comp=Z,940nm,19.4s						
SNY				LR	LR		
	comp=Z,2μm,31.3s						
LZH	**Lanzhou**	**46.79**	**329**	⇓P	**P**	**10 15 26.4**	**+0.6**
LZH				sP	sP	10 15 34.3	-1.0
LZH				PcP	**PcP**	**10 16 53.9**	**-5.0**
LZH				ScP	**ScP**	**10 20 54.1**	**+2.7**
LZH				S	**S**	**10 22 13.4**	**-1.6**
LZH				SS	**SS**	**10 25 38.6**	**-3.3**
LZH				pmax	pmax		
	comp=Z,81nm,1.0s						
LZH				LR	LR		
	comp=Z,2μm,17.3s						
LZH				LR	LR		
	comp=Z,890nm,18.3s						
LZH				LR	LR		
	comp=Z,2μm,18.3s						
CN2	**Changchun**	**47.25**	**354**	⇑P	**P**	**10 15 29.3**	**+0.3**
CN2				*es* P	pP	10 15 36.0	+0.2
CN2				*eS*	**S**	**10 22 22.6**	**+1.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
CN2				LR	LR

USA0B **Ussuriysk Arra** 47.39 1 IAmb IAmb 10 15 31.3
comp=Z,61nm,0.9s
USA0B **Ussuriysk Arra** 47.39 1 *i* P **P** **10 15 29.9 -0.2**
USRK **Ussuriysk Ar.** 47.39 1 P **P** **10 15 30.2 +0.1**
comp=Z,44nm,0.8s,baz=183,slow=6.9,SNR=65
comp=Z,44nm,0.8s
HHC **Hu-ho-hao-te** 47.50 340 *e*P **P** **10 15 30.6 -0.6**
HHC pP pP 10 15 34.6 -3.3
HHC sP sP 10 15 37.3 -3.4
HHC S S **10 22 22.8 -2.0**
HHC ScS **ScS** **10 25 20.8 -3.1**
HHC SS **SS** **10 25 45.3 -7.8**
HHC pmax pmax
comp=Z,34nm,1.1s
HHC pmax pmax
comp=Z,190nm,3.9s
HHC LR LR
comp=Z,890nm,17.6s
HHC LR LR
comp=Z,520nm,17.6s
HHC LR LR
comp=Z,1µm,19.1s
SHL **Shillong** 47.64 309 **P** **10 15 32.2 -0.4**
SHL **Shillong** 47.64 309 P **P** **10 15 32.1 -0.5**
SNR=24
SHL **Shillong** 47.64 309 P **P** **10 15 32.2 -0.4**
SHL pmax pmax
comp=Z,139nm,1.2s
MDJ **Mudanjiang** 47.81 359 P **P** **10 15 33.6 +0.2**
MDJ S **S** **10 22 29.3 +0.4**
MDJ pmax pmax
comp=Z,92nm,1.1s
MDJ LR LR
comp=Z,700nm,12.8s
MDJ LR LR
comp=Z,890nm,19.8s
MDJ LR LR
comp=Z,1µm,18.4s
MDJ **Mudanjiang** 47.81 359 P **P** **10 15 34.0 +0.6**
BTO **Baotou** 47.83 338 *e*P **P** **10 15 34.3 +0.5**
BTO pP **pP** **10 15 39.3 -1.2**
BTO sP **sP** **10 15 41.3 -2.0**
BTO S **S** **10 22 29.8 +0.2**
BTO SS **SS** **10 25 56.4 -2.1**
BTO pmax pmax
comp=Z,41nm,0.9s
BTO pmax pmax
comp=Z,300nm,4.1s
BTO LR LR
comp=Z,2µm,18.0s
BTO LR LR
comp=Z,2µm,21.1s
BTO LR LR
comp=Z,3µm,19.8s
ASAJ **Asahikawa** 48.42 11 LR LR 10 35 51.5
comp=Z,980nm,20.0s,baz=210,slow=36
ASAJ **Asahikawa** 48.42 11 P **P** **10 15 38.2 +0.1**
ASAJ pmax pmax
comp=Z,36nm,1.1s
JKA **Kamikawa-asahi** 48.42 11 **P** **10 15 38.2 +0.1**
JKA IAmb IAmb 10 15 39.2
comp=Z,36nm,1.1s
XLT **XiLinHaoTe** 48.97 346 *e*P **P** **10 15 42.3 -0.1**
XLT pP pP 10 15 46.4 -2.8
XLT PcP **PcP** **10 17 06.9 +0.5**
XLT ScP **ScP** **10 20 58.4 -1.9**
XLT S **S** **10 22 44.1 -1.4**
XLT sS pS 10 22 52.6 -0.9
XLT ScS **ScS** **10 25 32.8 -0.8**
XLT pmax pmax
comp=Z,51nm,1.2s
XLT LR LR
comp=Z,1µm,17.4s
XLT LR LR
comp=Z,2µm,26.4s
BNX **BinXian** 49.02 357 ⇑P **P** **10 15 42.6 -0.1**
BNX pP **pP** **10 15 45.9 -3.6**
BNX sP **sP** **10 15 47.3 -5.0**
BNX S **S** **10 22 45.5 -0.5**
BNX pmax pmax
comp=Z,40nm,1.3s
BNX pmax pmax
comp=Z,390nm,9.3s
BNX LR LR
comp=Z,230nm,17.9s
BNX LR LR
comp=Z,220nm,15.2s
BNX LR LR
comp=Z,200nm,14.6s
LSA **Lhasa** 50.41 314 P **P** **10 15 54.3 +0.2**
LSA S **S** **10 23 06.0 -0.8**
LSA pmax pmax
comp=Z,19nm,0.9s
LSA LR LR
comp=Z,580nm,18.3s
LSA LR LR
comp=Z,440nm,19.0s
YSS **Yuzhno-Sakhali** 51.19 10 **P** **10 15 58.8 -0.3**
YSS IAmb IAmb 10 15 59.8
comp=Z,34nm,0.9s
YSS **Yuzhno-Sakhali** 51.19 10 P **P** **10 15 59.3 +0.2**
YSS **Yuzhno-Sakhali** 51.19 10 *κe*P **P** **10 15 58.7 -0.3**
YSS *e* 10 17 53.4
YSS *e*S **S** **10 23 14.9 -1.2**
YSS *e* 10 23 36.7
YSS *e*SS **SS** **10 26 42.9 -8.9**
YSS pmax pmax
comp=Z,40nm,0.8s
YSS pmax pmax
comp=Z,200nm,5.8s
YSS pmax pmax
comp=N,100nm,5.4s
YSS pmax pmax
comp=E,100nm,6.5s
PALK **Pallekele** 51.35 282 LR LR 10 39 51.3
comp=E,2µm,20.2s,baz=103,slow=38
GTA **Gaotai** 51.39 329 P **P** **10 16 01.6 +0.7**
GTA pP pP 10 16 06.3 -1.4
GTA S **S** **10 23 18.3 -1.1**
GTA ScS **ScS** **10 25 51.3 +0.9**
GTA pmax pmax
comp=E,48nm,1.0s
GTA pmax pmax
comp=E,200nm,7.2s
GTA LR LR
comp=E,890nm,22.7s
GTA LR LR
comp=E,1µm,19.9s
GTA LR LR
comp=E,1µm,24.7s
GOMU **GeErMu** 51.92 323 P **P** **10 16 06.1 +0.8**
GOMU S **S** **10 23 30.4 +3.0**
GOMU pmax pmax
comp=E,11nm,0.9s
GOMU pmax pmax
comp=E,140nm,3.6s
GOMU LR LR
comp=E,560nm,21.7s
GOMU LR LR
comp=E,990nm,19.9s
GOMU LR LR
comp=E,1µm,22.3s
JCZ **Jackson Bay** 52.42 146 P **P** **10 16 09.7 +1.1**
DCZ **Deep Cove** 52.45 148 IAmb IAmb 10 16 21.4
comp=Z,58nm,1.3s
TOZ **Tahuroa Road** 53.07 136 IAmb IAmb 10 16 35.8
comp=Z,46nm,1.3s
LBZ **Lake Benmore** 53.40 146 **P** **10 16 17.4 +1.7**
HEH **HeiHe** 53.53 357 *e*P **P** **10 16 15.6 -0.8**
HEH sP **sP** **10 16 28.8 +2.8**
HEH S **S** **10 23 45.9 -2.1**
HEH pmax pmax
comp=Z,130nm,1.2s
HEH pmax pmax
comp=Z,420nm,4.1s
HEH LR LR
comp=Z,920nm,24.1s
HEH LR LR
comp=Z,860nm,24.9s
HEH LR LR
comp=Z,2µm,24.9s
TUWZ **Tuamarina** 53.93 141 P **P** **10 16 20.3 +0.7**
GRNR **Gornyy** 54.15 4⇓ *i*P **P** **10 16 21.1 +0.1**
GRNR pmax pmax
comp=Z,10.0nm,1.2s

URZ **Urewera** 54.44 136 LR LR 10 40 45.0
comp=Z,1µm,20.6s,baz=308,slow=37
BKZ **Black Stump Fm** 54.45 137 P **P** **10 16 23.9 +0.5**
BKZ IAmb IAmb 10 16 57.3
comp=Z,22nm,0.9s
RTZ **Ruatahuna** 54.52 136 IAmb IAmb 10 16 44.8
comp=Z,89nm,1.3s
TYV **Tymovskoe** 54.96 9 *e*P **P** **10 16 27.3 +0.5**
TYV *e*S **S** **10 24 10.7 +3.4**
TYV pmax pmax
comp=Z,31nm,0.8s
TYV pmax pmax
comp=Z,200nm,3.0s
TYV smax smax
comp=N,200nm,5.7s
TYV smax smax
comp=E,300nm,5.7s
ULN **Ulaanbaatar** 55.21 341 **P** **10 16 29.7 +0.8**
ULN **Ulaanbaatar** 55.21 341 P **P** **10 16 29.8 +0.9**
ULN P **P** **10 16 29.8 +0.9**
ULN S **S** **10 24 09.3 -1.9**
ULN S **S** **10 24 09.3 -1.9**
ULN **Ulaanbaatar** 55.21 341 *ce*P **P** **10 16 29.8 +0.9**
ULN pmax pmax
comp=Z,102nm,1.7s
SONM **Songino Array** 55.40 340 P **P** **10 16 30.8 +0.5**
SONM IAmb IAmb 10 16 39.6
comp=Z,46nm,1.2s
SONM **Songino Array** 55.40 340 P **P** **10 16 30.3 0.0**
comp=Z,30nm,1.2s,baz=167,slow=6.7,SNR=62
SONM LR LR 10 41 34.8
comp=Z,1µm,21.8s,baz=159,slow=38
SONM PKP2bc 10 46 50.0
comp=Z,0.3nm,0.5s,baz=278,slow=1.0,SNR=4.1
comp=Z,30nm,1.2s
SONM **Songino Array** 55.40 340 P **P** **10 16 30.8 +0.5**
SONM pmax pmax
comp=Z,46nm,1.2s
HYB **Hyderabad** 55.76 294 *e*P **P** **10 16 33.1 -0.1**
SKR **Severo-Kuril's** 58.00 19 *e*P **P** **10 16 51.7 +3.2**
SKR pmax pmax
comp=Z,400nm,2.9s
SKR pmax pmax
comp=Z,110nm,1.2s
ZAK **Zakamensk** 58.65 340 *e*P **P** **10 16 52.9 -0.3**
ZAK pmax pmax
comp=Z,20nm,1.6s
MOY **Mondy** 60.52 339 *e*P **P** **10 17 06.5 +0.4**
MOY pmax pmax
comp=Z,111nm,2.0s
PEA0B **Petropavlovsk-** 60.59 18 **P** **10 17 07.2 +0.8**
PEA0B **Petropavlovsk-** 60.59 18 *i* P **P** **10 17 07.1 +0.7**
PETK **Petropavlovsk-** 60.59 18 P **P** **10 17 06.9 +0.5**
PETK **Petropavlovsk-** 60.59 18 P **P** **10 17 06.7 +0.2**
comp=Z,42nm,1.1s,baz=189,slow=2.9,SNR=34
PETK LR LR 10 39 33.0
comp=Z,1µm,21.9s,baz=201,slow=32
comp=Z,42nm,1.1s
PETK **Petropavlovsk-** 60.59 18 P **P** **10 17 06.9 +0.5**
PET **Petropavlovsk** 60.82 19 P **P** **10 17 08.6 +0.7**
PET IAmb IAmb 10 17 10.1
comp=Z,67nm,1.2s
PET **Petropavlovsk** 60.82 19 P **P** **10 17 08.8 +0.9**
PET **Petropavlovsk** 60.82 19 *e*P **P** **10 17 08.5 +0.6**
PET *e*S **S** **10 25 25.1 +1.1**
PET *e*SS **SS** **10 29 29.5 +6.1**
PET pmax pmax
comp=Z,200nm,8.3s
PET pmax pmax
comp=Z,55nm,1.3s
PET pmax pmax
comp=Z,100nm,10.3s
PET MLR MLR
comp=Z,400nm,18.0s
PET MLR MLR
comp=Z,500nm,15.0s
WMQ **Urumqi** 61.00 325 *e*P **P** **10 17 10.5 +1.0**
WMQ pP pP 10 17 15.8 -0.5
WMQ S **S** **10 25 26.4 -0.5**
WMQ ScS SKKSac 10 26 58.0 -1.4
WMQ pmax pmax
comp=Z,69nm,1.9s
WMQ pmax pmax
comp=Z,520nm,3.7s
WMQ LR LR
comp=Z,1µm,18.5s
WMQ LR LR
comp=Z,940nm,21.5s
WMQ LR LR
comp=Z,1µm,24.2s
CASY **Casey** 64.41 189 **P** **10 17 32.1 +0.4**
CASY IAmb IAmb 10 18 03.7
comp=Z,66nm,1.6s
MA2 **Magadan** 64.68 11 LR LR 10 46 34.2
comp=Z,536nm,18.6s,baz=212,slow=37
ZSN **Zaisan** 64.79 327 *e*P **P** **10 17 35.4 +0.8**
ZSN **Zaisan** 64.79 327 *e*P **P** **10 17 35.4 +0.8**
YAK **Yakutsk** 65.25 359 **P** **10 17 37.7 +0.6**
YAK **Yakutsk** 65.25 359 LR LR 10 46 05.4
comp=Z,462nm,20.0s,baz=178,slow=36
YAK **Yakutsk** 65.25 359 *d i*P **P** **10 17 37.4 +0.2**
YAK *e**PP **pP** **10 17 41.3 -2.8**
YAK *e* 10 18 10.4
YAK *e* 10 19 59.9
YAK *e*PPP PPP 10 21 31.5
YAK *e*S **S** **10 26 18.5 -0.6**
YAK *e* 10 27 28.7
YAK *e*SS **SS** **10 30 31.7 -0.6**
YAK pmax pmax
comp=Z,22nm,0.8s
YAK pmax pmax
comp=N,15nm,0.8s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=Z,54nm,1.9s
YAK pmax pmax
comp=N,49nm,1.9s
YAK pmax pmax
comp=E,22nm,1.4s
YAK smax smax
comp=E,115nm,2.8s
YAK smax smax
comp=N,427nm,3.0s
MK31 **Makanchi Array** 65.83 326 *i* P **P** **10 17 42.3 +1.0**
MKAR **Makanchi Array** 65.83 326 **P** **10 17 41.6 +0.2**
MKAR **Makanchi Array** 65.83 326 P **P** **10 17 41.8 +0.4**
comp=N,20nm,0.7s,baz=116,slow=8.2,SNR=61
MKAR PKP2bc 10 46 22.3
comp=N,0.7nm,0.8s,baz=286,slow=4.9,SNR=4.4
MKAR LR LR 10 50 22.3
comp=N,598nm,18.2s,baz=112,slow=40
comp=N,20nm,0.7s
MAKZ **Makanchi** 66.02 325 **P** **10 17 42.9 +0.4**
MAKZ **Makanchi** 66.02 325 P **P** **10 17 42.9 +0.4**
MAKZ pmax pmax
comp=Z,61nm,1.0s
KSH **Kashi** 66.12 316 P **P** **10 17 44.8 +1.3**
KSH pP pP 10 17 50.3 -0.2
KSH S **S** **10 26 32.6 +1.6**
KSH ScS **ScS** **10 27 40.0 +1.1**
KSH pmax pmax
comp=Z,35nm,1.1s
KSH pmax pmax
comp=Z,220nm,5.2s
KSH LR LR
comp=Z,920nm,23.4s
KSH LR LR
comp=Z,760nm,20.6s
KSH LR LR
comp=Z,930nm,22.7s
SATY **Saty** 66.17 320 *e*P **P** **10 17 44.2 +0.5**
SATY pmax pmax
comp=Z,14nm,0.8s
SATY **Saty** 66.17 320 *e*P **P** **10 17 44.2 +0.5**
comp=Z,14nm,0.8s
SHEM **Shemya Is, Ala** 66.61 27 LR LR 10 42 56.8
comp=Z,565nm,21.4s,baz=208,slow=32
NRN **Naryn** 66.97 318 IAmb IAmb 10 18 06.6
comp=Z,23nm,1.0s
TNSS **Tian-Shan** 67.10 320 *e*P **P** **10 17 50.2 +0.2**
TNSS **Tian-Shan** 67.10 320 *e*P **P** **10 17 50.3 +0.2**
TDK **Taldyqorghan** 67.15 322 *e*P **P** **10 17 50.6 +0.8**
TDK pmax pmax
comp=Z,27nm,1.1s
TDK **Taldyqorghan** 67.15 322 *e*P **P** **10 17 50.6 +0.8**
comp=Z,27nm,1.1s
AAA **Alma-Ata** 67.20 320 *e*P **P** **10 17 50.9 +0.7**
AAA **Alma-Ata** 67.20 320 *e*P **P** **10 17 50.9 +0.7**
KUU **Kurty** 67.89 320 *e*P **P** **10 17 55.2 +0.7**
KUU pmax pmax
comp=Z,25nm,1.1s
KUU **Kurty** 67.89 320 *e*P **P** **10 17 55.2 +0.7**
comp=Z,24nm,1.1s
SEY **Seymchan** 68.09 10 LR LR 10 44 09.1
comp=Z,625nm,21.8s,baz=165,slow=33
SEY **Seymchan** 68.09 10 *i* P **P** **10 17 56.8 +1.5**
SEY pmax pmax
comp=Z,73nm,1.0s
AAK **Ala-Archa** 68.51 319 **P** **10 17 59.5 +0.8**
AAK **Ala-Archa** 68.51 319 P **P** **10 17 58.9 +0.2**
comp=Z,4.5nm,0.6s,baz=126,slow=6.2,SNR=15
AAK LR LR 10 51 47.1
comp=Z,362nm,21.7s,baz=98,slow=39
comp=Z,4.5nm,0.6s
AAK **Ala-Archa** 68.51 319 S **S** **10 27 00.8 +1.0**
AAK **Ala-Archa** 68.51 319 *ce*P **P** **10 17 59.2 +0.6**
AAK pmax pmax
comp=Z,23nm,1.3s
AAK **Ala-Archa** 68.51 319 *i* P **P** **10 17 59.7 +1.1**
SNR=11
ZALV **Zalesovo Beam** 68.85 333 P **P** **10 17 59.8 -0.5**
comp=Z,25nm,0.8s,baz=104,slow=6.3,SNR=60
ZALV PP **PP** **10 20 32.2 -0.4**
comp=Z,4.5nm,0.9s,baz=134,slow=10,SNR=2.8
ZALV LR LR 10 52 34.1
comp=Z,422nm,18.9s,baz=134,slow=40
comp=Z,25nm,0.8s
ZALV **Zalesovo Beam** 68.85 333 *i* P **P** **10 17 59.7 -0.5**
ZALV pmax pmax
comp=Z,19nm,0.7s
KBL **Kabul** 69.29 309 **P** **10 18 04.0 +0.3**
KBL IAmb IAmb 10 18 21.2
comp=Z,30nm,1.1s
KBL **Kabul** 69.29 309 P **P** **10 18 04.4 +0.7**
SNR=10.0
KBL P **P** **10 18 04.4 +0.7**
SNR=10.0
KBL S **S** **10 27 05.8 -3.6**
KBL S **S** **10 27 05.8 -3.6**
KBL **Kabul** 69.29 309 P **P** **10 18 04.0 +0.3**
KBL pmax pmax
comp=Z,30nm,1.2s
BTLS **Baital** 69.88 321 *c i*P **P** **10 18 07.4 +0.6**
BTLS pmax pmax
comp=Z,16nm,1.3s
BTLS **Baital** 69.88 321⇑ *i*P **P** **10 18 07.5 +0.6**
comp=Z,16nm,1.3s
KURBB **Kurchatov Arra** 70.03 327 P **P** **10 18 07.7 +0.1**
comp=Z,29nm,0.8s,baz=126,slow=5.7,SNR=258
comp=Z,29nm,0.8s
KURK **Kurchatov** 70.03 328 **P** **10 18 08.0 +0.4**
KURK **Kurchatov** 70.03 328 P **P** **10 18 07.4 -0.2**
KURK S **S** **10 27 13.7 -3.2**
KURK S **S** **10 27 13.7 -3.2**
KURK **Kurchatov** 70.03 328 *ce*P **P** **10 18 08.1 +0.5**
KURK pmax pmax
comp=Z,88nm,1.1s
DZA **Taraz** 70.73 318 *e*P **P** **10 18 12.7 +0.6**
DZA **Taraz** 70.73 318 *e*P **P** **10 18 12.8 +0.6**
SIMJ **Simiganj** 70.74 313 **P** **10 18 12.8 +0.4**
SIMJ IAmb IAmb 10 18 29.2
comp=Z,53nm,1.4s
IUG **Iuzhnay** 71.31 317 *e*P **P** **10 18 16.4 +0.6**
IUG pmax pmax
comp=Z,25nm,0.9s
IUG **Iuzhnay** 71.31 317 *e*P **P** **10 18 16.4 +0.6**
comp=Z,25nm,0.9s
KKAR **Karatay Array** 71.36 318 P **P** **10 18 16.6 +0.6**
KKAR **Karatay Array** 71.36 318 P **P** **10 18 16.6 +0.6**
CHM **Chimkent** 71.67 317 *e*P **P** **10 18 18.6 +0.8**
CHM **Chimkent** 71.67 317 *e*P **P** **10 18 18.6 +0.8**
BRLS **Boroldoy** 71.79 317 *c i*P **P** **10 18 19.3 +0.8**
BRLS **Boroldoy** 71.79 317⇑ *i*P **P** **10 18 19.3 +0.8**
ATKA **Atka Island** 72.05 32 P **P** **10 18 21.4 +1.6**
BRZS **Berezniki** 72.96 325 *c i*P **P** **10 18 26.1 +0.8**
BRZS **Berezniki** 72.96 325⇑ *i*P **P** **10 18 26.1 +0.8**
JLN **Jalan Bani Buh** 74.37 294 **P** **10 18 35.5 +1.3**
JLN P **P** **10 18 35.5 +1.3**
TIXI **Tiksi** 74.92 359 P **P** **10 18 36.9 +0.6**
TIXI IAmb IAmb 10 18 38.5
comp=Z,86nm,1.6s
TIXI **Tiksi** 74.92 359 LR LR 10 51 06.1
comp=Z,1µm,21.0s,baz=194,slow=35
TIXI **Tiksi** 74.92 359 *ce*P **P** **10 18 36.7 +0.4**
TIXI pmax pmax
comp=Z,33nm,1.0s
WSAR **Wadi Sarin** 75.27 295 P **P** **10 18 40.2 +0.8**
comp=Z,0.1nm,0.9s,baz=127,slow=23,SNR=8.8
WSAR **Wadi Sarin** 75.27 295 P **P** **10 18 40.7 +1.3**
SNR=6.5
NIKH **Nikolski High** 75.28 33 P **P** **10 18 39.1 +0.4**
baz=244
BILL **Bilibino** 75.39 13 *i* P **P** **10 18 40.7 +1.6**
BILL pmax pmax
comp=Z,8.0nm,1.0s
BILL MLR MLR
comp=Z,693nm,19.0s
MHTO **MHTO** 75.49 293 P **P** **10 18 40.3 -0.3**
SNR=6.9
MHTO P **P** **10 18 40.3 -0.3**
SNR=6.9
JMDO **Jabal Madar** 75.60 294 P **P** **10 18 42.3 +1.0**
SNR=5.7
JMDO P **P** **10 18 42.3 +1.0**
SNR=5.7
BVAR **Borovoye Array** 75.61 327 P **P** **10 18 41.0 +0.3**
comp=Z,37nm,0.8s,baz=116,slow=6.8,SNR=101
BVAR LR LR 10 55 08.5
comp=Z,579nm,21.2s,baz=113,slow=38
comp=Z,37nm,0.8s
BRVK **Borovoye** 75.68 327 **P** **10 18 41.6 +0.6**
BRVK IAmb IAmb 10 18 42.5
comp=Z,45nm,0.8s
BRVK **Borovoye** 75.68 327 P **P** **10 18 41.1 0.0**
BRVK P **P** **10 18 41.1 0.0**
BRVK S **S** **10 28 18.0 -3.2**
BRVK S **S** **10 28 18.0 -3.2**
BRVK **Borovoye** 75.68 327 P **P** **10 18 41.7 +0.6**
BRVK pmax pmax
comp=Z,45nm,0.9s
SMDO **Samad** 75.77 295 P **P** **10 18 43.0 +0.7**
SMDO P **P** **10 18 43.0 +0.7**
SMDO S **S** **10 28 22.0 -1.5**
SMDO S **S** **10 28 22.0 -1.5**
BIDO **Bidbid** 75.78 295 P **P** **10 18 43.1 +0.8**
SNR=9.9
BIDO P **P** **10 18 43.1 +0.8**
SNR=9.9
BIDO S **S** **10 28 23.0 -0.4**
BIDO S **S** **10 28 23.0 -0.4**
VNDA **Vanda** 75.88 173 P **P** **10 18 42.5 +0.7**
VNDA **Vanda** 75.88 173 P **P** **10 18 42.6 +0.8**
comp=Z,9.8nm,0.9s,baz=329,slow=6.7,SNR=13
VNDA LR LR 10 51 16.2
comp=Z,743nm,20.2s,baz=350,slow=35
comp=Z,9.8nm,0.9s
VNDA **Vanda** 75.88 173 P **P** **10 18 42.5 +0.7**
VNDA pmax pmax
comp=Z,12nm,0.9s
BSY **Bisya** 76.48 294 P **P** **10 18 47.8 +1.4**
SNR=6.3
BSY P **P** **10 18 47.8 +1.4**
SNR=6.3
SPIA **Saint Paul Isl** 76.52 29 P **P** **10 18 46.7 +0.9**
baz=241
HOQ **Hoqain** 76.52 295 P **P** **10 18 47.9 +1.4**
HOQ P **P** **10 18 47.9 +1.4**
P08K **Saint George I** 76.58 29 P **P** **10 18 47.1 +1.0**
baz=242
SBA **Scott Base** 76.75 173 **P** **10 18 47.9 +1.1**
SBA **Scott Base** 76.75 173 P **P** **10 18 47.9 +1.1**
SBA pmax pmax
comp=Z,22nm,1.1s
UNV **Unalaska Valle** 76.92 33 IAmb IAmb 10 19 05.5
comp=Z,27nm,0.9s
UNV **Unalaska Valle** 76.92 33 P **P** **10 18 48.5 +0.4**
baz=245
ARQ **Araqi** 77.20 295 P **P** **10 18 51.5 +1.1**
SNR=7.4
ARQ P **P** **10 18 51.5 +1.1**
SNR=7.4

LVA	Lava Point	77.31	32	IAmb	IAmb	10 18 52.1			
	comp=Z,57nm,0.9s								
SOHO	SOHO	77.32	296	P	P	10 18 51.8	+0.8		
SOHO				P	P	10 18 51.8	+0.8		
SOHO	SOHO	77.32	296 *i*	P	P	10 18 52.6	+1.6		
	SNR=9.9								
AKUT	Akutan	77.44	33	P	P	10 18 52.4	+1.4		
MDH	Madha	77.72	297	P	P	10 18 53.7	+0.5		
MDH				P	P	10 18 53.7	+0.5		
MDH	Madha	77.72	297	P	P	10 18 57.6	+4.4		
UOSS	Minazif	77.75	296		P	10 18 53.6	+0.2		
UOSS	Minazif	77.75	296	P	P	10 18 54.0	+0.6		
HATD	Hatta, Dubai	77.79	296	P	P	10 18 55.7	+2.0		
HATD	Hatta, Dubai	77.79	296 *i*	P	P	10 18 54.2	+0.5		
	SNR=5.8								
BANOM	Banah	77.83	297	P	P	10 18 55.6	+1.7		
BANOM	Banah	77.83	297	P	P	10 18 53.7	-0.1		
ASHO	Ashiyiah	77.83	296	P	P	10 18 54.7	+0.7		
	SNR=7.4								
ASHO				P	P	10 18 54.7	+0.7		
	SNR=7.4								
ASHO	Ashiyiah	77.83	296	P	P	10 18 53.8	-0.1		
MSFE	Esma-Masafi	77.86	297 *i*	P	P	10 18 54.8	+0.8		
	SNR=9.4								
MASF	Masafi	77.86	297	P	P	10 18 55.2	+1.2		
MASF				P	P	10 18 55.2	+1.2		
SHME	Shamm	77.99	297	P	P	10 18 56.1	+1.4		
SHME				P	P	10 18 56.1	+1.4		
SHME	Shamm	77.99	297 *i*	P	P	10 18 55.2	+0.5		
	SNR=12								
ALNE	Al Ain	78.01	295	P	P	10 18 55.9	+1.1		
	SNR=10								
ALNE				P	P	10 18 55.9	+1.1		
	SNR=10								
ALNE	Al Ain	78.01	295 *i*	P	P	10 18 56.1	+1.2		
	SNR=10								
FAQ	Al Faqa, Dubai	78.26	296	P	P	10 18 57.0	+0.8		
	SNR=6.6								
FAQ				P	P	10 18 57.0	+0.8		
	SNR=6.6								
FAQ	Al Faqa, Dubai	78.26	296	P	P	10 18 56.7	+0.5		
UMZA	Um Al Zommool	78.34	294	P	P	10 18 56.8	+0.1		
UMZA				P	P	10 18 56.8	+0.1		
ASUD	Al Ashush, Dub	78.48	296	P	P	10 18 58.5	+1.1		
ASUD				P	P	10 18 58.5	+1.1		
ASUD	Al Ashush, Dub	78.48	296 *i*	P	P	10 18 58.5	+1.1		
	SNR=5.8								
MAW	Mawson	78.67	201	P	P	10 18 58.4	+0.8		
	comp=Z,16nm,0.8s,baz=66,slow=5.5,SNR=32								
MAW				LR	LR	10 51 03.6			
	comp=Z,751nm,20.3s,baz=66,slow=34								
	comp=Z,16nm,0.8s								
DOK	Doka	78.72	290	P	P	10 18 58.8	-0.1		
DOK				P	P	10 18 58.8	-0.1		
AJN	Ajban	78.78	296	P	P	10 19 00.5	+1.4		
	SNR=5.0								
AJN				P	P	10 19 00.5	+1.4		
	SNR=5.0								
AJN	Ajban	78.78	296 *i*	P	P	10 19 01.6	+2.5		
	SNR=5.8								
PPT2	Papeete2	78.86	107 *e*	P	P	10 19 00.6	+0.8		
	comp=Z,65nm,24.2s								
PPT2				*e*S	S	10 28 52.5	-4.8		
	comp=Z,233nm,25.8s								
PPT2				*e*SS	SS	10 34 02.1	-0.4		
	comp=Z,605nm,27.0s								
PPT2				*e*LQ	LQ	10 40 04.3			
	comp=Z,852nm,25.0s								
PPT2				*e*LR	LR	10 43 25.7			
	comp=Z,979nm,24.8s								
PPT2				*e*LR	LR	10 43 29.7			
	comp=Z,1μm,24.2s								
PPT	Papeete	78.86	107	LR	LR	10 51 34.0			
	comp=Z,434nm,22.0s,baz=267,slow=34								
WHFO	Wadi Hawf	78.97	289	P	P	10 19 00.2	-0.1		
WHFO				P	P	10 19 00.2	-0.1		
FALS	False Pass	78.98	32	IAmb	IAmb	10 19 01.1			
	comp=Z,59nm,1.0s								
FALS	False Pass	78.98	32	P	P	10 19 00.8	+1.3		
FALS	False Pass	78.98	32	P	P	10 19 00.1	+0.5		
	baz=248								
TBI	Tubuai	79.02	113	*e*S	S	10 28 55.9	-2.7		
	comp=Z,707nm,29.8s								
TBI				*e*SS	SS	10 34 05.6	+1.1		
	comp=Z,2μm,31.8s								
TBI				*e*LQ	LQ	10 40 10.5			
	comp=Z,7μm,34.5s								
TBI				*e*LR	LR	10 43 31.8			
	comp=Z,1μm,32.0s								
TBI				*e*LR	LR	10 43 32.0			
	comp=Z,7μm,31.8s								
GAMB	Gambell	79.21	22	P	P	10 19 01.2	+0.7		
	baz=239								
ABTO	Aybut	79.35	288	P	P	10 19 02.8	+0.4		
ABTO				P	P	10 19 02.8	+0.4		
M11K	Mekoryuk	79.86	27	P	P	10 19 04.8	+0.6		
	baz=244								
MZR	Muzera	79.91	294	P	P	10 19 06.4	+1.0		
	SNR=9.6								
MZR				P	P	10 19 06.4	+1.0		
	SNR=9.6								
MZR	Muzera	79.91	294 *i*	P	P	10 19 07.0	+1.7		
	SNR=13								
S12K	Black Hills	80.02	32	IAmb	IAmb	10 19 20.3			
	comp=Z,64nm,1.3s								
S12K	Black Hills	80.02	32	P	P	10 19 05.2	0.0		
	baz=249								
SDPT	Sand Point	80.74	33	P	P	10 19 09.8	+0.8		
SDPT	Sand Point	80.74	33	P	P	10 19 09.3	+0.2		
	baz=250,SNR=19								
JRN	Qarnain Island	80.76	296	P	P	10 19 10.0	+0.2		
	SNR=5.9								
JRN				P	P	10 19 10.0	+0.2		
	SNR=5.9								
CNBA	Chernabura Isl	81.04	33	IAmb	IAmb	10 19 12.2			
	comp=Z,24nm,0.9s								
CHNA	Chernabura Isl	81.05	33	P	P	10 19 11.7	+1.0		
CHNA	Chernabura Isl	81.05	33	P	P	10 19 11.1	+0.4		
	baz=251,SNR=11								
M13K	Dall Lake	81.16	27	P	P	10 19 12.6	+1.4		
M13K				IAmb	IAmb	10 19 13.4			
	comp=Z,39nm,1.1s								
M13K	Dall Lake	81.16	27	P	P	10 19 12.5	+1.3		
	baz=247								
K13K	Kusilvak Mount	81.20	26	P	P	10 19 12.2	+0.9		
	baz=246								
TNA	Tin City	81.50	22	P	P	10 19 13.6	+0.7		
	baz=242								
S14K	Fog Glacier	81.54	32	P	P	10 19 13.8	+0.4		
	baz=251								
O14K	Tigyukauivet M	81.70	29	P	P	10 19 15.0	+0.9		
	baz=249,SNR=12								
N14K	Kuskokwak Cree	81.75	28	P	P	10 19 15.0	+0.7		
	baz=248,SNR=8.4								
L14K	Kuka Creek	81.83	26	P	P	10 19 15.7	+1.1		
	baz=247								
AKTO	Aktyubinsk	81.89	322	LR	LR	10 59 27.9			
	comp=Z,741nm,21.2s,baz=80,slow=38								
M14K	Bethel	81.93	27	IAmb	IAmb	10 19 17.6			
	comp=Z,45nm,0.9s								
M14K	Bethel	81.93	27	P	P	10 19 16.1	+0.9		
	baz=248								
J14K	Nanvaranak Lak	82.00	25	IAmb	IAmb	10 19 18.6			
	comp=Z,24nm,1.1s								
J14K	Nanvaranak Lak	82.00	25	P	P	10 19 16.7	+1.2		
	baz=246								
ANM	Nome	82.02	23	P	P	10 19 16.5	+0.8		
	baz=244								
F14K	Arctic Creek	82.06	22	P	P	10 19 16.6	+0.8		
	baz=244								
CHGN	Chignik	82.15	32	P	P	10 19 17.0	+0.5		
	baz=252,SNR=5.7								
TRNA	Turayna	82.20	295	P	P	10 19 18.0	+0.6		
	SNR=9.8								
SVE	Sverdlovsk	82.25	328 *e*	P	P	10 19 17.0	0.0		
SVE				*e*S	S	10 29 27.0	-4.1		
SVE				pmax	pmax				
	comp=Z,70nm,1.4s								
O15K	Ungalikthiuk R	82.37	29	P	P	10 19 18.3	+0.6		
	baz=250,SNR=9.9								
L15K	Ungalak Mounta	82.48	26	P	P	10 19 19.0	+0.8		
	baz=248								
M15K	Kasigluk River	82.49	27	P	P	10 19 18.9	+0.7		
	baz=249,SNR=16								
SMRA	Abu-Samra	82.55	295	P	P	10 19 20.0	+0.7		
	SNR=12								
SHMA	Al-Shehemyia	82.57	296	P	P	10 19 19.9	+0.5		
	SNR=5.8								
N15K	Kwethluk River	82.58	28	P	P	10 19 19.6	+0.8		
	baz=250,SNR=10								
K15K	Wolf Creek Mou	82.69	26	P	P	10 19 20.6	+1.3		
	baz=248,SNR=15								
G15K	Niukluk	82.72	23	P	P	10 19 19.9	+0.6		
	baz=246								
F15K	North Star Dit	82.79	22	IAmb	IAmb	10 19 22.2			
	comp=Z,31nm,1.1s								
F15K	North Star Dit	82.79	22	P	P	10 19 20.9	+1.2		
	baz=245								
SAKB	Bahrain	82.97	297	P	P	10 19 22.6	+1.1		
P16K	Nushagak River	83.22	29	P	P	10 19 22.9	+0.9		
	baz=252,SNR=20								
H16K	Elim	83.28	23	P	P	10 19 23.3	+1.0		
	baz=247								
N16K	Nishlik Lake	83.31	28	P	P	10 19 23.9	+1.4		
	baz=251,SNR=26								
ARTI	Arti	83.31	328		P	10 19 22.2	-0.3		
ARTI	Arti	83.31	328 *c i*	P	P	10 19 22.6	+0.1		
ARTI						10 22 31.8			
ARTI				S	S	10 29 42.8	+0.9		
ARTI				pmax	pmax				
	comp=Z,30nm,1.1s								
ARTI				MLR	MLR				
	comp=Z,472nm,21.0s								
O16K	Kokwok River B	83.34	29	P	P	10 19 23.6	+0.9		
	baz=252,SNR=19								
L16K	Owhat River	83.39	27	IAmb	IAmb	10 19 25.1			
	comp=Z,30nm,0.9s								
L16K	Owhat River	83.39	27	P	P	10 19 24.0	+1.1		
	baz=250								
M16K	Timber Creek	83.40	27	P	P	10 19 24.1	+1.1		
	baz=251,SNR=28								
VOI	Vohitsoka	83.42	248		P	10 19 23.9	-0.2		
VOI				IAmb	IAmb	10 19 38.2			
	comp=Z,47nm,1.1s								
J16K	Anvik River	83.45	25	P	P	10 19 24.5	+1.3		
	baz=249,SNR=8.8								
CHIR	Chirikof Islan	83.51	33	P	P	10 19 24.4	+0.8		
	baz=254								
G16K	Koyuk River	83.53	23	IAmb	IAmb	10 19 26.4			
	comp=Z,55nm,1.1s								
G16K	Koyuk River	83.53	23	P	P	10 19 24.4	+0.9		
	baz=247								
R17L	Mt. Peulik Vol	83.62	31	P	P	10 19 24.3	+0.1		
	baz=253,SNR=19								
I17K	Unalakleet	83.63	24	IAmb	IAmb	10 19 26.9			
	comp=Z,46nm,1.1s								
I17K	Unalakleet	83.63	24	P	P	10 19 25.5	+1.5		
	baz=249								
C16K	Lisburne Hills	83.65	20	P	P	10 19 24.8	+0.8		
	baz=244								
O17K	Koliganek Bris	83.88	29	P	P	10 19 26.4	+1.0		
	baz=253,SNR=27								
P17K	Kvichak River	84.03	30	P	P	10 19 27.1	+1.0		
	baz=253,SNR=6.6								
Q17K	Contact Creek	84.04	31	P	P	10 19 26.0	-0.4		
	baz=254,SNR=34								
L17K	Donlin	84.06	26	P	P	10 19 27.6	+1.3		
	baz=251,SNR=15								
N17K	Nushagak Hills	84.07	28	P	P	10 19 27.9	+1.5		
	baz=252,SNR=13								
J17K	VABM Dome	84.14	25	P	P	10 19 28.2	+1.5		
	baz=250,SNR=23								
D17K	Nolak River	84.18	20	P	P	10 19 28.2	+1.5		
	baz=246								
M17K	Holitna River	84.22	27	P	P	10 19 28.7	+1.6		
	baz=252,SNR=6.6								
G17K	Kiwalik Mounta	84.23	23	P	P	10 19 28.6	+1.5		
	baz=249								
K17K	Iditarod	84.25	26	P	P	10 19 28.6	+1.4		
	baz=251,SNR=23								
ACHA	Angle Creek He	84.31	31	IAmb	IAmb	10 19 30.8			
	comp=Z,19nm,1.0s								
H17K	Granite Mounta	84.32	24	P	P	10 19 28.9	+1.4		
	baz=250,SNR=15								
F17K	Baldwin Pennin	84.35	22	P	P	10 19 28.5	+0.9		
	baz=248								
RDOG	Red Dog Mine	84.38	20	P	P	10 19 29.0	+1.2		
	baz=246								
E17K	Hotham Inlet	84.38	21	P	P	10 19 28.7	+0.9		
	baz=248								
C17K	Delong Mountai	84.46	20	P	P	10 19 29.6	+1.3		
	baz=246								
SII	Sitkinak Islan	84.48	32	P	P	10 19 29.8	+1.3		
SII	Sitkinak Islan	84.48	32	P	P	10 19 29.5	+1.0		
	baz=255								
Q18K	Katmai Hardscr	84.59	30	P	P	10 19 28.9	-0.3		
	baz=254,SNR=20								
R18K	Karluk	84.59	31	P	P	10 19 29.6	+0.5		
	baz=255								
P18K	Big Mountain,	84.68	30	P	P	10 19 29.6	0.0		
	baz=254								
N18K	Kilae Creek	84.72	28	P	P	10 19 30.7	+1.0		
	baz=254,SNR=12								
L18K	Granite Mounta	84.80	27	P	P	10 19 31.1	+1.0		
	baz=253								
O18K	Koktuh Hills	84.82	29	P	P	10 19 30.8	+0.6		
	baz=254								
E18K	Tukpahlearik C	84.95	21	P	P	10 19 31.6	+0.9		
	baz=249								
M18K	Stony River	84.98	27	P	P	10 19 32.3	+1.3		
	baz=254								
F18K	Selawik	85.01	22	P	P	10 19 32.7	+1.8		
	baz=250								
H18K	Honhosa River	85.01	24	P	P	10 19 32.2	+1.1		
	baz=251,SNR=8.7								
OHAK	Old Harbor	85.12	32	IAmb	IAmb	10 19 33.5			
	comp=Z,17nm,0.8s								
OHAK	Old Harbor	85.12	32	P	P	10 19 33.0	+1.3		
OHAK	Old Harbor	85.12	32	P	P	10 19 32.5	+0.8		
	baz=256,SNR=12								
G18K	Tagagawik	85.15	23	IAmb	IAmb	10 19 34.1			
	comp=Z,18nm,1.1s								
G18K	Tagagawik	85.15	23	P	P	10 19 32.4	+0.6		
	baz=251,SNR=6.5								
J18K	Innoko River	85.17	25	P	P	10 19 32.5	+0.7		
	baz=253,SNR=34								
C18K	Utukok River	85.20	20	P	P	10 19 33.1	+1.1		
	baz=248								
B18K	Kobuk River	85.27	19	P	P	10 19 32.9	+0.7		
	baz=247								
O19K	Port Alsworth	85.34	29	P	P	10 19 33.1	+0.3		
	baz=255								
Q19K	Cape Douglas,	85.35	30	P	P	10 19 32.7	-0.3		
	baz=256								
N19K	Bonanza Creek	85.42	28	P	P	10 19 34.2	+0.9		
	baz=255								
GCSA	Galena City Sc	85.48	24	P	P	10 19 34.1	+0.8		
	baz=252								
KDAK	Kodiak Island	85.62	31		P	10 19 34.8	+0.6		
KDAK				IAmb	IAmb	10 19 36.0			
	comp=Z,21nm,0.8s								
KDAK	Kodiak Island	85.62	31	LR	LR	10 52 23.0			
	comp=Z,492nm,21.3s,baz=243,slow=32								
KDAK	Kodiak Island	85.62	31 *i*	P	P	10 19 35.4	+1.2		
KDAK				pmax	pmax				
	comp=Z,31nm,0.9s								
KDAK	Kodiak Island	85.62	31	P	P	10 19 34.8	+0.6		
	baz=257								
L19K	White Mountain	85.62	27	P	P	10 19 35.3	+1.1		
	baz=254,SNR=48								
P19K	Oil Pt	85.73	30	P	P	10 19 36.1	+1.3		
	baz=256								
M19K	Big River Lodg	85.75	27	P	P	10 19 36.1	+1.2		
	baz=255								
J19K	Poorman	85.79	25	P	P	10 19 36.2	+1.2		
	baz=254,SNR=22								
F19K	Shaleruckik Mo	85.79	22	P	P	10 19 36.4	+1.5		
	baz=251								
A19K	Wainwright	85.83	18	P	P	10 19 36.1	+1.1		
	baz=248								
G19K	Purcell Mounta	85.83	23	IAmb	IAmb	10 19 38.0			
	comp=Z,24nm,1.1s								
G19K	Purcell Mounta	85.83	23	P	P	10 19 36.0	+0.9		
	baz=252								
H19K	Roundabout Mou	85.89	23	P	P	10 19 36.4	+1.0		
	baz=253,SNR=11								
Q20K	Shuyak Island	85.91	31	P	P	10 19 36.1	+0.5		
	baz=257								
SYI	Shuyak Island	85.91	31	IAmb	IAmb	10 19 38.7			
	comp=Z,41nm,1.6s								
C19K	Lookout Ridge	85.91	20	IAmb	IAmb	10 19 40.2			
	comp=Z,45nm,1.2s								
C19K	Lookout Ridge	85.91	20	P	P	10 19 36.2	+0.7		
	baz=250								
O20K	Slope Mountain	86.13	29	P	P	10 19 37.7	+0.9		
	baz=256								
L20K	Farewell, AK	86.14	27	P	P	10 19 37.8	+1.1		
	baz=255,SNR=24								
RED	Redoubt Volcan	86.14	29	IAmb	IAmb	10 19 38.0			
	comp=Z,30nm,1.1s								
E19K	Redstone River	86.19	22	P	P	10 19 37.5	+0.7		
	baz=252,SNR=5.6								
D19K	Kuna River	86.20	20	P	P	10 19 37.6	+0.6		
	baz=251								
K20K	Telida	86.28	26	P	P	10 19 38.2	+0.8		
	baz=255								
M20K	Styx River	86.33	27	P	P	10 19 38.7	+0.9		
	baz=256								
J20K	Nowinta River	86.46	25	P	P	10 19 39.3	+1.1		
	baz=255,SNR=30								
I20K	Naaghedeneel	86.49	24	P	P	10 19 38.8	+0.5		
	baz=254,SNR=5.9								
H20K	Anotleneega Mo	86.51	24	P	P	10 19 39.2	+0.7		
	baz=254								
HOM	Homer	86.52	30	P	P	10 19 38.9	+0.3		
	baz=257								
QSPA	South Pole Qui	86.56	180	P	P	10 19 38.8	-0.1		
	comp=Z,18nm,1.0s,baz=329,slow=3.1,SNR=28								
QSPA				LR	LR	10 58 52.3			
	comp=Z,2μm,21.0s,baz=354,slow=36								
	comp=Z,18nm,1.0s								
F20K	Avaraart Lake	86.62	22	P	P	10 19 39.3	+0.3		
	baz=253								
D20K	Etivluk River	86.80	20	IAmb	IAmb	10 19 41.2			
	comp=Z,19nm,0.9s								
D20K	Etivluk River	86.80	20	P	P	10 19 39.9	0.0		
	baz=252								
E20K	Nigu River	86.81	21	P	P	10 19 40.6	+0.6		
	baz=253,SNR=16								
STLK	Strandline Lak	86.84	28	IAmb	IAmb	10 19 41.4			
	comp=Z,23nm,1.3s								
BRLK	Bradley Lake	86.92	30	IAmb	IAmb	10 19 42.3			
	comp=Z,42nm,1.1s								
PPLA	Purkeypile	86.99	27	IAmb	IAmb	10 19 47.7			
	comp=Z,74nm,1.6s								
PPLA	Purkeypile	86.99	27	P	P	10 19 41.3	+0.2		
	baz=257,SNR=9.4								
B20K	Meade River	87.02	19	P	P	10 19 41.1	+0.3		
	baz=252								
SKT	Skwentna	87.08	27	IAmb	IAmb	10 19 42.4			
	comp=Z,25nm,1.0s								
SKT	Skwentna	87.08	27	P	P	10 19 41.1	-0.3		
	baz=257,SNR=22								
CAST	Castle Rocks	87.16	26	IAmb	IAmb	10 19 44.0			
	comp=Z,19nm,1.2s								
CAST	Castle Rocks	87.16	26	P	P	10 19 41.9	+0.2		
	baz=257,SNR=17								
CHUM	Lake Minchumin	87.17	26	P	P	10 19 42.3	+0.6		
	baz=256,SNR=35								
AKT	Akhty	87.22	312 *e*	P	P	10 19 43.1	+0.5		
AKT				*e*		10 23 05.6			
AKT				pmax	pmax				
	comp=Z,65nm,1.8s								
AKT				MLR	MLR				
	comp=Z,711nm,26.0s								
RAYN	Ar Rayn	87.26	294		P	10 19 42.9	-0.2		
RAYN	Ar Rayn	87.26	294	P	P	10 19 44.2	+1.1		
RAYN	Ar Rayn	87.26	294	P	P	10 19 42.9	-0.2		
RAYN				pmax	pmax				
	comp=Z,45nm,1.0s								
RAYN	Ar Rayn	87.26	294 *i*	P	P	10 19 44.7	+1.6		
	SNR=35								
RAYN				*i* P	PcP	10 19 45.8	+0.6		
	SNR=6.4								
G21K	Allakaket	87.33	23	P	P	10 19 42.8	+0.3		
	baz=255								
SYO	Syowa Base	87.38	201 ⇑ *i*	P	P	10 19 43.2	+0.6		
SYO	Syowa Base	87.38	201 ⇓ *i*	PcP	PcP	10 19 46.6	+1.9		
SYO	Syowa Base	87.38	201 ⇑ *e*	pP	pP	10 19 49.0	-0.9		
H21K	Melozitna Rive	87.39	24	P	P	10 19 43.0	+0.2		
	baz=256,SNR=7.9								
F21K	Alatna River	87.51	22	P	P	10 19 43.9	+0.6		
	baz=255								
C21K	Knifeblade Rid	87.56	20	P	P	10 19 43.3	-0.2		
	baz=254								
MAK	Makhachkala	87.57	313 *e*	P	P	10 19 40.4	-3.7		
MAK				*e*		10 30 04.5			
MAK				pmax	pmax				
	comp=Z,307nm,1.7s								
SEKA	Sheki	87.59	311	P	P	10 19 45.8	+1.4		
A21K	Barrow	87.60	18	P	P	10 19 43.9	+0.3		
	baz=252								
I21K	Tanana	87.61	24	P	P	10 19 44.1	+0.3		
	baz=257,SNR=7.0								
MNGR	Mingechevir, A	87.62	311	P	P	10 19 46.7	+2.3		
O22K	Cooper Landing	87.63	29	P	P	10 19 44.0	0.0		
	baz=259,SNR=7.7								
E21K	Killik River	87.65	21	P	P	10 19 44.0	0.0		
	baz=255								
M22K	Willow	87.69	28	P	P	10 19 44.3	0.0		
	baz=259,SNR=17								
SEW	Seward	87.69	30	IAmb	IAmb	10 19 45.6			
	comp=Z,36nm,1.0s								
SEW	Seward	87.69	30	P	P	10 19 44.3	0.0		
	baz=259,SNR=21								
KTH	Kantishna Hill	87.70	26	IAmb	IAmb	10 19 46.8			
	comp=Z,30nm,1.3s								
RC01	Rabbit Creek A	87.74	29	P	P	10 19 44.6	0.0		
	baz=259,SNR=18								
B21K	Ikpikpuk River	87.75	20	IAmb	IAmb	10 19 45.7			
	comp=Z,26nm,0.9s								
B21K	Ikpikpuk River	87.75	20	P	P	10 19 44.3	-0.1		
	baz=254,SNR=7.0								
CUT	Chulitna	87.75	27	IAmb	IAmb	10 19 46.0			
	comp=Z,40nm,1.1s								
CUT	Chulitna	87.75	27	P	P	10 19 44.6	0.0		
	baz=258								
BPAW	Bear Paw Mtn.	87.79	25	IAmb	IAmb	10 19 48.8			
	comp=Z,23nm,1.4s								
BPAW	Bear Paw Mtn.	87.79	25	P	P	10 19 44.6	-0.2		
	baz=258,SNR=12								
TRF	Thorofare Moun	87.95	26	IAmb	IAmb	10 19 48.1			
	comp=Z,24nm,1.2s								
TRF	Thorofare Moun	87.95	26	P	P	10 19 45.6	-0.2		
	baz=258,SNR=11								
A22K	Sinclair Lake	88.01	18	P	P	10 19 45.6	0.0		
	baz=254								
H22K	Ishtalitna Cre	88.02	24	P	P	10 19 46.0	+0.2		
	baz=257								
F22K	John River	88.07	22	P	P	10 19 46.2	+0.2		
	baz=256								
MLY	Manley	88.09	25	IAmb	IAmb	10 19 48.6			
	comp=Z,16nm,1.0s								
MLY	Manley	88.09	25	P	P	10 19 46.2	0.0		
	baz=258,SNR=25								
PMR	Palmer	88.12	28	P	P	10 19 47.4	+1.1		
PMR	Palmer	88.12	28	P	P	10 19 46.1	-0.2		
	baz=260,SNR=25								
GANJ	Ganja	88.19	311	P	P	10 19

baz=260
BELG Belogornoye 88.65 322 *i* P **P** **10 19 47.5 -1.5**
BELG pmax pmax
comp=Z,11nm,1.4s
NAX Nakhchivan 88.67 309 P **P** **10 19 50.7 +1.1**
I23K Minto, Yukon-K 88.69 25 IAmb IAmb 10 19 51.8
comp=Z,25nm,1.1s
I23K Minto, Yukon-K 88.69 25 P **P** **10 19 49.0 +0.1**
baz=259,SNR=22
P23K Montague Islan 88.69 30 P **P** **10 19 49.3 +0.2**
baz=261
NEA2 Nenana 88.70 25 P **P** **10 19 49.6 +0.6**
baz=259,SNR=6.2
G23K Bananza Creek 88.72 23 IAmb IAmb 10 19 52.0
comp=Z,24nm,1.1s
G23K Bananza Creek 88.72 23 P **P** **10 19 49.5 +0.3**
baz=258,SNR=22
H23K Yukon River 88.74 24 IAmb IAmb 10 19 52.4
comp=Z,15nm,1.1s
H23K Yukon River 88.74 24 P **P** **10 19 49.4 +0.2**
baz=259,SNR=16
COLD Coldfoot 88.76 22 IAmb IAmb 10 19 51.3
comp=Z,13nm,1.0s
COLD Coldfoot 88.76 22 P **P** **10 19 49.6 +0.3**
baz=258,SNR=14
M23K Glacier View 88.82 28 P **P** **10 19 50.0 +0.4**
baz=261,SNR=6.1
ATD Arta Tunnel 88.91 282 LR LR 10 58 29.2
comp=Z,26nm,20.1s,baz=70,slow=35
D23K Nanushuk River 88.94 21 IAmb IAmb 10 19 52.5
comp=Z,34nm,1.2s
D23K Nanushuk River 88.94 21 P **P** **10 19 50.8 +0.7**
baz=258,SNR=14
GLI Glacier Island 88.97 29 P **P** **10 19 50.7 +0.3**
baz=261
SCM Sheep Creek Mo 89.01 28 IAmb IAmb 10 19 53.7
comp=Z,49nm,1.3s
SCM Sheep Creek Mo 89.01 28 P **P** **10 19 50.8 +0.1**
baz=261,SNR=18
WRH Wood River Hil 89.10 25 IAmb IAmb 10 19 52.8
comp=Z,20nm,1.0s
Q23K Middleton Isla 89.13 30 P **P** **10 19 51.6 +0.5**
baz=262
E23K Chandalar 89.14 22 IAmb IAmb 10 19 57.9
comp=Z,17nm,1.0s
E23K Chandalar 89.14 22 P **P** **10 19 51.3 +0.2**
baz=259,SNR=23
C23K Itkillik River 89.15 20 IAmb IAmb 10 19 52.2
comp=Z,17nm,0.8s
C23K Itkillik River 89.15 20 P **P** **10 19 50.9 -0.1**
baz=258,SNR=8.4
HIN Hinchinbrook I 89.19 29 IAmb IAmb 10 20 00.4
comp=Z,30nm,1.3s
CCB Clear Creek Bu 89.25 25 IAmb IAmb 10 19 52.8
comp=Z,19nm,1.0s
COLA College 89.27 25 P **P** **10 19 50.6 -1.0**
COLA IAmb IAmb 10 22 23.8
comp=Z,9.2nm,0.2s
COLA College 89.27 25 P **P** **10 19 53.1 +1.5**
COLA College 89.27 25 *i* P **P** **10 19 52.1 +0.5**
COLA pmax pmax
comp=Z,6.0nm,0.9s
COLA College 89.27 25 P **P** **10 19 51.9 +0.3**
baz=260
TOLK Toolik Lake Re 89.27 21 **P** **10 19 52.2 +0.5**
TOLK IAmb IAmb 10 19 56.5
comp=Z,20nm,1.4s
TOLK Toolik Lake Re 89.27 21 P **P** **10 19 51.9 +0.2**
baz=259
GNI Garni 89.34 310 LR LR 11 05 26.7
comp=Z,168nm,20.9s,baz=90,slow=39
GNI Garni 89.34 310*ce*P **P** **10 19 54.4 +1.6**
GNI pmax pmax
comp=Z,19nm,1.7s
H24K Noodor Dome 89.42 24 P **P** **10 19 52.7 +0.3**
baz=260
E24K Your Creek 89.56 22 P **P** **10 19 53.0 -0.1**
baz=260
HDA Harding Lake 89.58 25 P **P** **10 19 52.9 -0.2**
baz=261,SNR=12
EYAK Cordova Ski Ar 89.58 29 P **P** **10 19 53.5 +0.3**
baz=262
M24K Tolsona, Glenn 89.59 28 IAmb IAmb 10 20 38.7
comp=Z,26nm,1.1s
M24K Tolsona, Glenn 89.59 28 P **P** **10 19 53.5 +0.2**
baz=262
KLU Klutina 89.62 28 P **P** **10 19 53.4 -0.1**
baz=262
D24K Happy Valley 89.64 21 P **P** **10 19 53.5 +0.2**
baz=260
DIV Divide 89.65 29 IAmb IAmb 10 19 57.2
comp=Z,18nm,1.0s
ILAR Eielson Array 89.66 25 **P** **10 19 51.2 -2.3**
ILAR Eielson Array 89.66 25 P **P** **10 19 51.9 -1.7**
comp=Z,3.6nm,0.8s,baz=261,slow=3.9,SNR=29
ILAR PP **PP** **10 23 26.4 +0.9**
comp=Z,3.5nm,1.2s,baz=269,slow=8.4,SNR=4.2
ILAR PKKP **PKKPdf** **10 37 25.6 +0.1**
comp=Z,0.6nm,1.0s,baz=90,slow=2.3,SNR=4.6
ILAR LR LR 10 58 57.5
comp=Z,231nm,20.1s,baz=246,slow=35
comp=Z,3.6nm,0.8s
F24K Squaw Lake 89.69 22 P **P** **10 19 53.9 +0.2**
baz=260,SNR=13
G24K Hadweenzic Riv 89.72 23 IAmb IAmb 10 19 55.9
comp=Z,23nm,1.2s
G24K Hadweenzic Riv 89.72 23 P **P** **10 19 53.9 +0.1**
baz=261,SNR=14
C24K Franklin Bluff 89.78 20 P **P** **10 19 54.1 +0.2**
baz=260
K24K Donnelly Dome 90.00 26 IAmb IAmb 10 19 57.6
comp=Z,18nm,0.9s
K24K Donnelly Dome 90.00 26 P **P** **10 19 55.3 +0.1**
baz=262,SNR=11
PAX Paxson 90.03 27 P **P** **10 19 55.5 +0.1**
baz=263,SNR=10
RAGM Ragged Mountai 90.09 30 P **P** **10 19 54.9 -0.8**
HARP HAARP 90.10 28 P **P** **10 19 55.7 +0.1**
baz=263
KAIM Kayak Island 90.17 30 IAmb IAmb 10 20 03.3
comp=Z,17nm,0.9s
KAIM Kayak Island 90.17 30 P **P** **10 19 56.1 +0.2**
baz=264
BMRM Bremner River 90.19 29 P **P** **10 19 56.3 +0.2**
baz=263,SNR=5.8
G25K Bearman Lake 90.27 23 P **P** **10 19 56.6 +0.3**
baz=262,SNR=9.7
N25K Chitina, Valde 90.27 28 P **P** **10 19 56.6 0.0**
baz=264
J25K Saicha River, 90.28 25 P **P** **10 19 56.6 0.0**
baz=263
HMT Hamilton 90.29 30 IAmb IAmb 10 20 24.7
comp=Z,47nm,1.8s
H25L Birch Creek 90.31 24 P **P** **10 19 56.9 +0.4**
baz=262,SNR=16
PRP Porcupine Dome 90.33 24 P **P** **10 19 56.4 -0.4**
baz=263
RIDG Independent Ri 90.40 26 IAmb IAmb 10 20 04.5
comp=Z,17nm,1.0s
RIDG Independent Ri 90.40 26 P **P** **10 19 56.9 -0.2**
baz=263
SUCK Suckling Hills 90.50 30 IAmb IAmb 10 21 52.3
comp=Z,34nm,1.6s
D25K Kavik River 90.52 21 P **P** **10 19 57.6 +0.1**
baz=262
F25K Christian Rive 90.56 22 P **P** **10 19 58.3 +0.6**
baz=263,SNR=8.7
BERG Berg Lake 90.57 30 IAmb IAmb 10 20 00.2
comp=Z,16nm,1.1s
FYU Fort Yukon 90.58 23 IAmb IAmb 10 20 00.2
comp=Z,54nm,1.7s
E25K Arctic Village 90.65 22 P **P** **10 19 58.4 +0.3**
baz=263,SNR=12
SCRK Sand Creek 90.81 26 P **P** **10 19 59.2 +0.1**
baz=264
CRQM Cirque 90.88 29 IAmb IAmb 10 20 01.6
comp=Z,12nm,1.0s
CRQE Cirque 90.91 29 P **P** **10 20 00.0 +0.4**
baz=265,SNR=5.5
KBZ Khabaz 90.98 314 P **P** **10 19 59.6 -0.5**
comp=Z,1.0nm,0.4s,baz=67,slow=7.9,SNR=4.8
KBZ LR LR 11 06 21.5
comp=Z,222nm,21.0s,baz=90,slow=39
comp=Z,1.0nm,0.4s
KBZ Khabaz 90.98 314 *i* P **P** **10 20 00.3 +0.2**
KBZ pmax pmax
comp=Z,4.0nm,1.1s
MCARA McCarthy VSAT 91.00 29 P **P** **10 20 00.2 +0.4**
baz=265
WAX Waxell Ridge 91.00 30 IAmb IAmb 10 20 01.8
comp=Z,14nm,1.0s
L26K Log Cabin Wild 91.00 27 P **P** **10 20 00.1 +0.3**
baz=265
TGL Tana Glacier 91.03 29 IAmb IAmb 10 20 04.0
comp=Z,12nm,1.0s
J26L Joseph Creek 91.05 26 P **P** **10 19 59.9 -0.2**
baz=264
M26K Nabesna, AK 91.10 28 P **P** **10 20 00.3 0.0**
baz=265
C26K Camden Bay 91.11 20 P **P** **10 20 00.6 +0.4**
baz=263
F26K Sheenjek River 91.14 22 P **P** **10 20 01.0 +0.6**
baz=264,SNR=8.2
KVAR Kislovodsk Arr 91.14 314 LR LR 11 07 33.0
comp=Z,150nm,20.1s,baz=300,slow=40
KIV Kislovodsk 91.15 314 *e*P **P** **10 20 00.1 -1.0**
KIV *e* 10 30 31.9
KIV pmax pmax
comp=Z,4.0nm,0.9s
G26K Porcupine Rive 91.20 23 IAmb IAmb 10 20 02.6
comp=Z,17nm,1.1s
G26K Porcupine Rive 91.20 23 P **P** **10 20 01.1 +0.5**
baz=264,SNR=18
I26K Coal Creek Min 91.30 25 P **P** **10 20 01.1 0.0**
baz=265
GURO Guymak-BITLI 91.32 308 IAmb IAmb 10 20 28.6
comp=Z,32nm,1.1s
MESA MESA 91.42 30 P **P** **10 20 02.0 -0.1**
baz=266
C27K Jago River 91.49 20 IAmb IAmb 10 20 16.6
comp=Z,32nm,1.7s
C27K Jago River 91.49 20 P **P** **10 20 02.5 +0.6**
baz=264
GRNC Granite Creek 91.56 29 IAmb IAmb 10 20 21.3
comp=Z,11nm,1.0s
M27K Edge Creek, AK 91.62 28 P **P** **10 20 03.5 +0.6**
baz=266
BARN Barnard Glacie 91.63 29 IAmb IAmb 10 20 05.5
comp=Z,16nm,1.0s
K27K Chicken 91.65 26 P **P** **10 20 03.9 +1.1**
baz=266
L27K Beaver Creek, 91.69 27 P **P** **10 20 03.7 +0.7**
baz=266
BCAR Beaver Creek A 91.71 27 P **P** **10 20 04.0 +0.8**
CTG Chitna Glacier 91.78 29 P **P** **10 20 04.4 +0.8**
baz=266,SNR=6.9
I27K Kandik River 91.96 25 P **P** **10 20 04.7 +0.4**
baz=266
G27K Doyon Strip 92.03 23 P **P** **10 20 04.8 +0.2**
baz=266
H27K Steamboat Moun 92.04 24 P **P** **10 20 05.4 +0.8**
baz=266
BVCY Beaver Creek 92.09 28 P **P** **10 20 05.6 +0.7**
baz=267,SNR=12
E27K Coleen River 92.14 22 IAmb IAmb 10 20 07.2
comp=Z,21nm,1.4s
E27K Coleen River 92.14 22 P **P** **10 20 05.4 +0.4**
baz=266
YUK3 Moose Creek 92.25 28 P **P** **10 20 06.0 +0.1**
baz=267,SNR=12
PINM Pinnacle 92.27 30 P **P** **10 20 06.0 +0.1**
baz=267
O28M Mount Upton 92.33 29 P **P** **10 20 06.1 -0.3**
baz=267
D27M Malcolm River 92.43 21 P **P** **10 20 06.6 +0.1**
baz=267,SNR=5.6
I28M Miner Creek 92.65 25 P **P** **10 20 07.7 +0.2**
baz=268
PNL Peninsula 92.68 31 P **P** **10 20 08.9 +1.2**
PNL Peninsula 92.68 31 P **P** **10 20 07.8 +0.2**
baz=268
F28M Old Crow 92.76 23 IAmb IAmb 10 20 09.2
comp=Z,16nm,1.1s
F28M Old Crow 92.76 23 P **P** **10 20 08.0 +0.1**
baz=268
DAWY Dawson 92.83 26 P **P** **10 20 08.2 -0.1**
DAWY Dawson 92.83 26 P **P** **10 20 08.5 +0.2**
baz=268
KIBK Kibwezi 92.86 268 **P** **10 20 08.8 -0.8**
KIBK IAmb IAmb 10 20 13.2
comp=Z,24nm,1.2s
E28M Babbage River 92.92 22 IAmb IAmb 10 20 15.2
comp=Z,20nm,1.2s
E28M Babbage River 92.92 22 P **P** **10 20 08.8 +0.2**
baz=268,SNR=12
YUK4 Talbot Arm 93.10 29 P **P** **10 20 10.0 +0.2**
baz=269
O29M Mount Kennedy 93.11 30 P **P** **10 20 10.0 +0.2**
baz=269
M29M Somme Creek 93.21 28 P **P** **10 20 10.8 +0.6**
baz=269
YUK6 Outpost Mounta 93.23 29 P **P** **10 20 10.7 +0.2**
baz=269
SOC Sochi 93.28 313 *e*P **P** **10 20 09.6 -1.2**
SOC *e* 10 23 53.4
SOC *e*PPP PPP 10 25 53.0
SOC *e*S **SKSac** **10 30 43.4 -0.5**
SOC *e*SSS SSS 10 41 05.8
SOC MLR MLR
comp=Z,230nm,21.0s
H29M Whitestone 93.32 24 P **P** **10 20 11.0 +0.6**
baz=269
I29M Ogilvie Camp, 93.33 25 P **P** **10 20 11.0 +0.4**
baz=269
J29N Klondike Camp 93.36 26 IAmb IAmb 10 20 13.4
comp=Z,15nm,1.0s
J29N Klondike Camp 93.36 26 P **P** **10 20 11.1 +0.4**
baz=269
L29M L29M 93.38 27 P **P** **10 20 11.3 +0.4**
baz=269
G29M Pine Creek 93.46 23 P **P** **10 20 11.3 +0.1**
baz=270,SNR=22
P29M Windy Craggy 93.52 31 P **P** **10 20 11.8 +0.2**
baz=269
E29M Blow River 93.52 22 P **P** **10 20 11.2 -0.2**
baz=270,SNR=9.7
HYT Haines Junctio 93.65 29 P **P** **10 20 12.5 +0.3**
baz=270
K29M Barlow Dome 93.66 26 P **P** **10 20 12.2 0.0**
baz=270
KLMR Klimovskoe 93.69 331 *e*P **P** **10 20 09.5 -2.7**
KLMR *e* 10 23 55.2
KLMR S **SKSac** **10 30 44.0 -1.4**
KLMR pmax pmax
comp=Z,21nm,1.6s
KMBO Kilima Mbogo 93.72 269 **P** **10 20 14.1 +0.3**
KMBO IAmb IAmb 10 20 17.5
comp=Z,24nm,1.1s
KMBO Kilima Mbogo 93.72 269 P **P** **10 20 14.1 +0.3**
KMBO pmax pmax
comp=Z,24nm,1.2s
KMBO Kilima Mbogo 93.72 269 *i* P **P** **10 20 15.8 +2.0**
SNR=6.9
N30M Aishikik Lake 93.85 29 P **P** **10 20 13.2 +0.1**
baz=270
P30M Million Dollar 93.91 30 P **P** **10 20 13.5 +0.1**
baz=270
EPYK Eagle Plains 93.98 24 IAmb IAmb 10 20 15.2
comp=Z,27nm,1.2s
EPYK Eagle Plains 93.98 24 P **P** **10 20 13.2 -0.3**
baz=271,SNR=15
M30M Minto, Yukon 93.99 28 P **P** **10 20 13.8 +0.1**
baz=270,SNR=13
J30M Hart River 94.17 26 P **P** **10 20 15.0 +0.4**
baz=271
G30M tAoh Zraii Nji 94.17 23 IAmb IAmb 10 20 15.5
comp=Z,25nm,1.2s
G30M tAoh Zraii Nji 94.17 23 P **P** **10 20 14.0 -0.5**
baz=271,SNR=16
PLBC Pleasant Camp 94.22 31 P **P** **10 20 14.9 +0.2**
baz=270
S31K Pelican 94.30 32 P **P** **10 20 15.1 0.0**
baz=270
F30M Barrier River 94.33 23 IAmb IAmb 10 20 16.7
comp=Z,22nm,1.2s
F30M Barrier River 94.33 23 P **P** **10 20 14.9 -0.1**
baz=272,SNR=8.5
O30N Mendenhall 94.34 29 P **P** **10 20 15.3 0.0**
baz=271
MAYO Mayo, Yukon 94.38 27 IAmb IAmb 10 20 17.2
comp=Z,21nm,0.9s
MAYO Mayo, Yukon 94.38 27 P **P** **10 20 15.6 +0.2**
baz=271,SNR=5.7
N31M Braeburn, Yuko 94.48 29 P **P** **10 20 15.9 0.0**
baz=271
MOS Moscow 94.72 325 *e*P **P** **10 20 18.4 +1.3**
MOS *e* 10 24 08.9
SKAG Skagway 94.75 31 P **P** **10 20 17.8 +0.7**
SKAG Skagway 94.75 31 P **P** **10 20 17.3 +0.2**
baz=271
SIT Sitka 94.80 33 P **P** **10 20 17.4 0.0**
baz=271
WHY Whitehorse 94.94 30 IAmb IAmb 10 20 24.9
comp=Z,34nm,1.6s
WHY Whitehorse 94.94 30 P **P** **10 20 17.6 -0.5**
baz=272
ANN Anapa 94.94 315 *e*P **P** **10 20 15.8 -2.6**
ANN *e*S **SKSac** **10 30 51.8 -1.0**
ANN pmax pmax
comp=Z,34nm,1.0s
G31M Satah River 94.94 23 IAmb IAmb 10 20 19.1
comp=Z,39nm,1.6s
G31M Satah River 94.94 23 P **P** **10 20 17.5 -0.4**
baz=273,SNR=9.6
H31M Peel River 94.97 24 P **P** **10 20 17.6 -0.5**
baz=273
M31M Drury Creek, Y 95.11 28 P **P** **10 20 18.4 -0.4**
baz=272
F31M Tsiigehtchic 95.12 23 IAmb IAmb 10 20 19.7
comp=Z,26nm,1.3s
F31M Tsiigehtchic 95.12 23 P **P** **10 20 18.1 -0.5**
baz=274,SNR=12
INK Inuvik 95.14 22 **P** **10 20 18.1 -0.7**
INK IAmb IAmb 10 20 19.9
comp=Z,30nm,1.4s
INK Inuvik 95.14 22 P **P** **10 20 18.1 -0.7**
INK pmax pmax
comp=Z,29nm,1.4s
INK Inuvik 95.14 22 P **P** **10 20 18.3 -0.5**
baz=274
S32K Killisnoo 95.20 33 P **P** **10 20 18.9 -0.4**
baz=272
R32K Eaglecrest 95.20 32 P **P** **10 20 18.9 -0.3**
baz=272
ASF Jabal al Asfar 95.31 302 LR LR 11 08 56.5
comp=Z,448nm,20.6s,baz=133,slow=39
OBN Obninsk 95.33 325 LR LR 11 06 42.5
comp=Z,307nm,21.7s,baz=45,slow=38
OBN Obninsk 95.33 325*de*P **P** **10 20 23.0 +3.1**
OBN *e* 10 24 09.9
OBN *e*PPP PPP 10 26 17.1
OBN *i* SS SS 10 37 55.8 -5.8
OBN pmax pmax
comp=Z,9.0nm,0.4s
OBN MLR MLR
comp=Z,649nm,23.0s
LVZ Lovozero 95.54 338*ce*P **P** **10 20 23.8 +3.1**
LVZ pmax pmax
comp=Z,35nm,2.5s
P32M Atlin 95.56 31 P **P** **10 20 20.5 -0.4**
baz=273
N32M Quiet Lake 95.79 29 P **P** **10 20 22.0 0.0**
baz=274
P33M Teslin, Yukon 95.98 30 P **P** **10 20 23.0 +0.1**
baz=274
APA Apatity 96.04 338 *e*P **P** **10 20 20.3 -2.6**
APA *e*S **S** **10 31 34.2 -5.9**
APA *e*PS **PS** **10 33 03.7 +1.7**
APA *e*SS **SS** **10 38 12.8 +1.7**
APA MLR MLR
comp=Z,959nm,23.2s
NVL N'lazarevskaya 96.08 197 *e*P P 10 20 15.6 -7.5
NVL *e* 10 20 17.5
NVL pmax pmax
comp=Z,6.0nm,0.7s
WRAK Wrangell Islan 96.47 34 P **P** **10 20 25.1 +0.1**
baz=274
MMPY Sheldon Lake, 96.54 27 P **P** **10 20 25.7 +0.4**
baz=275
MMAI Mount Meron Ar 96.57 303 LR LR 11 09 43.1
comp=Z,390nm,20.9s,baz=102,slow=39
EIL Elat 96.97 299 LR LR 11 12 24.6
comp=Z,379nm,18.0s,baz=68,slow=40
R33M Jennings River 96.98 31 P **P** **10 20 27.9 +0.4**
baz=275
S34M Telegraph Cree 97.02 32 P Pdif 10 20 28.1 +0.5
baz=275
A36M Sachs Harbour 97.44 18 P Pdif 10 20 29.9 +0.7
baz=282
DLBC Dease Lake 97.55 32 LR LR 10 59 55.3
comp=Z,51nm,21.8s,baz=277,slow=33
DLBC Dease Lake 97.55 32 P Pdif 10 20 30.8 +0.7
baz=276
T35M Bob Quinn 97.58 33 P Pdif 10 20 30.8 +0.6
baz=276
BRTR Keskin Array B 97.86 309 P Pdif 10 20 32.2 +0.2
comp=Z,0.7nm,0.8s,baz=116,slow=3.4,SNR=4.2
BRTR PP **PP** **10 24 33.0 +2.5**
comp=Z,2.0nm,1.0s,baz=124,slow=7.3,SNR=5.0
BRTR LR LR 11 12 27.1
comp=Z,108nm,19.5s,baz=95,slow=40
comp=Z,0.7nm,0.8s
TROLL Troll, Antarti 97.89 194 ⇑P Pdif 10 20 32.3 +0.9
comp=Z,498nm,0.9s
SPITS Spitsbgen Ar 98.25 349 LR LR 11 07 15.2
comp=Z,581nm,21.3s,baz=52,slow=37
BELA Belgrano 2 98.45 183 **P** **10 20 32.9 -0.8**
BELA IAmb IAmb 10 20 36.5
comp=Z,12nm,1.4s
ARCES ARCESS Array B 98.58 340 P **P** **10 20 34.1 -0.3**
comp=Z,2.8nm,0.6s,baz=84,slow=4.8,SNR=12
ARCES LR LR 11 10 19.9
comp=Z,544nm,21.6s,baz=83,slow=39
comp=Z,2.8nm,0.6s
BBB Bella Bella 99.32 38 LR LR 10 59 32.4
comp=Z,414nm,21.3s,baz=270,slow=32
SNAA Sanae 99.39 193 ⇑P **Pdif** **10 20 39.5 +1.4**
comp=Z,137nm,0.9s
SNAA Sanae 99.39 193 **Pdif** **10 20 39.3 +1.2**
SNAA IAmb IAmb 10 20 41.6
comp=Z,12nm,1.1s
SNAA Sanae 99.39 193 P **Pdif** **10 20 38.9 +0.9**
comp=Z,8.2nm,1.0s,baz=126,slow=5.5,SNR=9.4
SNAA LR LR 11 07 36.9
comp=Z,1µm,18.9s,baz=83,slow=37
comp=Z,8.2nm,1.0s
SNAA Sanae 99.39 193 P **Pdif** **10 20 39.3 +1.2**
SNAA pmax pmax
comp=Z,12nm,1.1s
AKASG Malin Array Be 100.11 321 P **Pdif** **10 20 40.7 -0.8**
comp=Z,0.3nm,0.4s,baz=76,slow=4.1,SNR=1.4
FINES FINESS Array B 100.11 332 P **Pdif** **10 20 41.7 +0.4**
comp=Z,2.3nm,1.0s,baz=134,slow=4.0,SNR=4.1
MNK Minsk 100.39 325 *i* P **Pdif** **10 20 41.7 -1.0**
MNK *i* 10 24 48.3
MNK *i* PPP PPP 10 26 55.8
MNK *i* S **SKSac** **10 31 20.7 +0.4**
MNK *i* SS **SS** **10 39 15.4 +2.6**
MNK *i* SSS SSS 10 43 05.8
MNK pmax pmax
comp=N,10.0nm,0.8s
MNK pmax pmax
comp=Z,3.0nm,0.6s
MNK pmax pmax
comp=E,9.0nm,0.8s
MNK MLR MLR
comp=E,547nm,22.0s
MNK MLR MLR
comp=N,423nm,21.0s
MNK MLR MLR
comp=Z,620nm,22.0s
VNA3 Neumayer Olymp 101.21 192 ⇑P **Pdif** **10 20 47.2 +1.1**
comp=Z,1.7nm,1.0s
VNA1 Neumayer--Stat 101.35 193 ⇑P **Pdif** **10 20 47.9 +1.2**
comp=Z,3.1nm,0.9s
BOSA Boshof 102.17 240 P **Pdif** **10 20 51.2 -0.2**
comp=Z,10.0nm,1.1s,baz=111,slow=6.1,SNR=5.2
YKA Yellowknife Ar 104.07 26 Pdiff **Pdif** **10 20 59.1 +0.2**
comp=Z,0.9nm,1.0s,baz=298,slow=5.0,SNR=4.9
YKA PP **PP** **10 25 14.9 -1.5**
comp=Z,0.3nm,0.9s,baz=297,slow=8.5,SNR=4.4
YKA PKKP **PKKPdf** **10 36 59.8 +0.6**
comp=Z,1.6nm,1.0s,baz=98,slow=3.8,SNR=6.7
NOA NORSAR Array B 107.04 334 Pdiff **Pdif** **10 21 10.9 -1.3**
comp=Z,0.9nm,0.9s,baz=66,slow=4.5,SNR=2.5
NVAR Mina Array Bea 108.23 51 Pdiff **Pdif** **10 21 18.7 +0.4**
comp=Z,0.2nm,0.4s,baz=283,slow=6.5,SNR=3.9
NVAR PP **PP** **10 25 48.9 +0.7**
comp=Z,0.3nm,0.5s,baz=283,slow=7.4,SNR=6.5
NVAR PKKP **PKKPab** **10 36 50.5 +0.9**
comp=Z,1.9nm,1.1s,baz=118,slow=5.4,SNR=6.5
GERES GERESS Array B 110.31 321 PP **PP** **10 26 03.9 +1.2**
comp=Z,0.2nm,0.2s,baz=81,slow=6.7,SNR=3.7

PDAR	Pinedale Array	113.61	44	PKiKP		PKiKP	10 25 36.2	+1.3
	comp=Z,0.3nm,0.8s,baz=308,slow=4.1,SNR=4.1							
PDAR				PKKPbc		PKKPbc	10 26 19.2	-0.4
	comp=Z,2.3nm,1.1s,baz=118,slow=4.6,SNR=8.3							
PDAR				PKKPab		PKKPab	10 36 25.8	0.0
	comp=Z,4.2nm,1.1s,baz=112,slow=4.0,SNR=12							
ANMO	Albuquerque	118.30	52			PKiKP	10 25 45.3	+1.3
ANMO	Albuquerque	118.30	52	PKiKP		PKiKP	10 25 45.3	+1.3
TXAR	Lajitas Array	122.15	57	PKP		PKiKP	10 25 52.0	+0.3
	comp=Z,1.5nm,1.1s,baz=324,slow=2.3,SNR=4.2							
TXAR				PKKPbc		PKKPbc	10 35 48.5	+0.2
	comp=Z,1.4nm,0.9s,baz=118,slow=5.8,SNR=10							
TXAR	Lajitas Array	122.15	57	PKiKP		PKiKP	10 25 52.0	+0.3
OZNA	Ozona	123.79	55			PKPdf	10 25 53.0	-1.5
ESDC	Sonseca Array	125.61	318	PP		PP	10 27 49.6	+0.6
	comp=Z,1.9nm,1.1s,baz=79,slow=7.3,SNR=4.1							
P38A	Dawn	125.91	42			PKiKP	10 26 00.3	+1.6
TORD	Torodi Ar. Bea	129.05	284	PKP		PKPdf	10 26 05.0	+0.1
	comp=Z,2.2nm,0.5s,baz=68,slow=1.9,SNR=6.4							
PLCA	Paso Flores	131.84	158	PKP		PKiKP	10 26 10.4	-0.2
	comp=Z,3.6nm,0.9s,baz=174,slow=3.2,SNR=6.3							
PLCA	Paso Flores	131.84	158	*eP*		PKiKP	10 26 11.5	+0.9
DBIC	Dimbokro	135.97	276	PKP		PKPdf	10 26 18.4	+0.4
	comp=Z,8.6nm,1.0s,baz=90,slow=2.0,SNR=4.4							
AC02	Maricunga	144.18	148			PKPdf	10 26 32.5	-0.7
HDC	Heredia	144.49	78	*eP*		PKPdf	10 26 34.4	+0.8
PLTB	Pedras Altas	144.76	173			PKPbc	10 26 32.9	+0.6
PLTB	Pedras Altas	144.76	173	*eP*		PKPdf	10 26 33.4	-0.1
CPSB	Cacapava Do Su	146.12	173	*eP*		PKPab	10 26 38.0	+0.8
ITQB	Itaqui	146.31	168	*eP*		PKPab	10 26 38.7	+0.8
CNLB	Canela	147.43	177	*eP*		PKPbc	10 26 39.7	-0.8
CPUP	Villa Florida	149.36	165	PKPbc		PKiKP	10 26 46.8	0.0
CPUP	Villa Florida	149.36	165	PKPbc		PKPbc	10 26 44.2	-1.3
	comp=Z,1.6nm,0.8s,baz=315,slow=2.7,SNR=6.2							
CPUP	Villa Florida	149.36	165	PKP2		PKiKP	10 26 46.8	0.0
ITAB	Concordia	149.40	174	*eP*		PKPdf	10 26 42.7	+1.4
OTAV	Otavalo	150.35	95			PKPbc	10 26 47.6	-1.4
OTAV	Otavalo	150.35	95	PKiKP		PKPbc	10 26 47.6	-1.4
OTAV	Otavalo	150.35	95	*eP*		PKPdf	10 26 44.5	+0.8
SJPY	San Joaquin	150.94	167	*eP*		PKPdf	10 26 46.2	+2.4
PTGB	Pitanga	151.90	174	*eP*		PKPdf	10 26 45.1	-0.2
PET01	Itanhaem-SP	152.44	183	*eP*		PKPdf	10 26 45.6	-0.4
LPAZ	La Paz	152.76	136			PKPdf	10 26 49.7	+2.3
LPAZ	La Paz	152.76	136	PKP		PKPdf	10 26 49.0	+1.6
	comp=Z,3.5nm,1.0s,baz=33,slow=5.9,SNR=9.2							
LPAZ				PKPbc		sPKPdf	10 26 56.5	-1.0
	comp=Z,16nm,0.7s,baz=194,slow=3.3,SNR=29							
LPAZ	La Paz	152.76	136	*eP*		PKPdf	10 26 47.6	+0.2
SPB	Sao Paulo	153.14	183	*eP*		PKPdf	10 26 48.4	+1.4
AMBA	Amambai (Brazi	153.18	168	*eP*		PKPdf	10 26 47.5	+0.3
PARB	Paraibuna	153.23	187	*eP*		PKPdf	10 26 48.3	+1.0
FLOC	Florencia	153.26	93	PKPdf		PKPdf	10 26 47.4	-0.2
FRTB	Fartura	153.42	179	*eP*		PKPdf	10 26 49.1	+1.6
MAN01	Angra dos Reis	153.45	190	*eP*		PKPdf	10 26 49.1	+1.5
VAO	Valinhos	153.69	184	*eP*		PKPdf	10 26 50.2	+2.2
MURT	Porto Murtinho	153.70	162	*eP*		PKPdf	10 26 49.0	+1.1
TRCB	Terra Rica	153.72	172	*eP*		PKPdf	10 26 50.2	+2.2
CZSB	Cruzeiro do Su	153.85	115	*eP*		PKPdf	10 26 49.8	+1.4
DUB01	Friburgo-RJ	153.88	194	*eP*		PKPdf	10 26 50.4	+2.1
AQDB	Aquidauana	155.37	165	*eP*		PKPdf	10 26 51.2	+0.9
BSCB	Bom Sucesso	155.42	189	*eP*		PKPdf	10 26 52.4	+1.9
BB19B	Bebedouro	155.69	181	*eP*		PKPdf	10 26 49.6	-1.1
RUSC	La Rusia	155.82	83	PKPdf		PKPdf	10 26 52.4	+0.8
RUSC						PKPab	10 27 16.1	-2.3
BBSD	Serra de San D	156.53	151	*eP*		PKPdf	10 26 53.2	+1.3
SJMB	Sao Joao De Ma	156.75	199	*eP*		PKPdf	10 26 53.6	+1.4
ITRB	Iturama	157.00	177	*eP*		PKPdf	10 26 52.2	-0.3
SDV	Santo Domingo	157.77	75	*eP*		PKPdf	10 26 54.6	+0.8
PTLB	Pontes e Lacer	158.74	152			PKPdf	10 26 55.3	+0.6
PTLB						PKPab	10 27 32.0	+2.0
PTLB	Pontes e Lacer	158.74	152	*eP*		PKPdf	10 26 55.7	+1.1
SALV	Santo Antonio	159.70	161	*eP*		PKPdf	10 26 56.9	+1.2
GDU01	Guandu, BA	160.62	208	*eP*		PKPdf	10 26 57.8	+1.0
BDFB	Brasilia	161.06	183	PKP		PKPdf	10 26 57.9	+0.5
	comp=Z,6.5nm,1.0s,baz=120,slow=3.7,SNR=4.0							
NPGB	Novo Progresso	167.82	148	*eP*		PKPdf	10 27 03.1	-0.3
ITTB	Itaituba	169.73	139	*eP*		PKPdf	10 27 05.6	+1.0
TMAB	Tom-Au,PA,Br	174.21	188	*eP*		PKPdf	10 27 07.8	+1.1

*IDC **22** 10:14:32.3±3.2, 17˚.84S×173˚.56W, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=184.7km s-min=26.6km az=149.0*

ISC 22 10:14:37.7±3.1,**18˚S**±1˚×**173.7˚W**±0˚.7,**h35**km,**n6**,σ0.9**82**/6, **mb3.9**/5,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.10**	**259**	P		**P**	**10 23 22.0**	**-0.1**
	1.4nm,1.0s,baz=102,slow=7.0,SNR=2.3 1.4nm,1.0s							
ASAR	**Alice Springs**	**49.18**	**254**	P		**P**	**10 23 22.9**	**+0.1**
	4.7nm,0.8s,baz=90,slow=8.1,SNR=20 4.7nm,0.8s							
NVAR	**Mina Array Bea**	**76.22**	**42**	P		**P**	**10 26 22.0**	**-0.9**
	0.3nm,0.6s,baz=245,slow=7.0,SNR=1.5 0.3nm,0.6s							
PDAR	**Pinedale Array**	**84.16**	**42**	P		**P**	**10 27 06.5**	**+0.9**
	0.7nm,0.6s,baz=209,slow=4.2,SNR=5.6 0.7nm,0.6s							
ILAR	**Eielson Array**	**84.76**	**11**	P		**P**	**10 27 08.1**	**+0.3**
	0.5nm,0.8s,baz=204,slow=5.2,SNR=6.1 0.5nm,0.8s							
BRTR	**Keskin Array B**	**147.75**	**318**	PKPbc		**PKiKP**	**10 34 20.7**	**-0.5**
	0.8nm,0.9s,baz=72,slow=1.8,SNR=4.6							

DJA 22 10:34:51.2±0.7,**3˚S**±3˚×**13˚E**±˚,**h24**km±7km,**M3.9**/12, **mb4.1**/1,**MLv3.9**/12,**Seram**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.28**	**76**	P		Pn	10 35 13.3	-0.4
BNDI	**Bandanaira**	**1.69**	**220**	P		Pn	10 35 20.1	+0.9
MSAI	**Masohi**	**2.07**	**267**	P		Pn	10 35 24.5	0.0
SWI	**Sorong**	**2.37**	**6**	P		Pn	10 35 30.3	+1.8
SWI				S		Sn	10 35 57.2	+0.4
KMPI	**Kaimana, Papua**	**2.73**	**99**	P		Pn	10 35 33.1	-0.5
AAI	**Ambon**	**2.84**	**261**	P		Pn	10 35 35.4	+0.4
RKPI	**Ransiki, Papua**	**3.60**	**62**	P		Pn	10 35 45.7	+0.1
NLAI	**Namlea**	**3.89**	**270**	P		Pn	10 35 49.7	+0.1
SANI	**Sanana**	**5.14**	**283**	P		Pn	10 36 04.9	-1.9

*NEIC **22** 10:44:16.9±0.7,31˚.65N×0˚.01×104˚.30W×0˚.01, h6km±2km, Error ellipse: s-maj=1.9km s-min=1.6km az=81.0*
*TXNET **22** 10:44:16.9,31˚.7N×0˚.9×10˚4W±˚, h6km±1km, ML2.9/12, Error ellipse: s-maj=1.7km s-min=1.1km az=52.8,final*
*NEIC **22** 10:44:17.0±0.8,31˚.648N×0˚.009×104˚.32W×0˚.01, h5km±1km, mb_Lg2.7/62, ML2.4/12, ML2.6/18, Error ellipse: s-maj=2.6km s-min=2.0km az=322.0*

ISC 22 10:44:17.2±0.9,**31˚.64N**±0˚.02×**104˚.30W**±0˚.02,**h8**km±8km, **n75**,σ1.9**03**/85,**9C**,**Western Texas**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TPB09	**Culberson Coun**	**0.13**	**1**	⇑P		**Pg**	**10 44 20.4**	**+0.1**
TPB09				S		**Sg**	**10 44 22.4**	**+0.1**
TPB11	**China Draw**	**0.37**	**38**	⇑P		**Pg**	**10 44 24.5**	**0.0**
TPB11				S		**Sg**	**10 44 29.5**	**0.0**
TPB13	**Reeves - Culbe**	**0.40**	**102**	S		**Sb**	**10 44 31.3**	**-1.6**
PECS	**Pecos**	**0.46**	**126**			**Pg**	**10 44 26.5**	**+0.3**
PECS						**Sg**	**10 44 33.0**	**+0.8**
PECS	**Pecos**	**0.46**	**126**	P		**Pb**	**10 44 26.6**	**-1.0**
PECS				S		**Sg**	**10 44 33.1**	**+0.8**
TPB12	**Southwest of T**	**0.52**	**145**	⇑P		**Pg**	**10 44 27.7**	**+0.4**
TPB12				S		**Sg**	**10 44 34.8**	**+0.7**
TPB12	**Southwest of T**	**0.52**	**145**	P		**Pb**	**10 44 27.8**	**-0.8**
TPB07	**Mentone**	**0.55**	**96**	P		**Pb**	**10 44 28.7**	**-0.4**
TPB07				S		**Sb**	**10 44 35.8**	**-1.3**
TPB07	**Mentone**	**0.55**	**96**	P		**Pb**	**10 44 28.8**	**-0.4**
TPB10	**Southeast of T**	**0.59**	**127**	⇑P		**Pb**	**10 44 29.0**	**-0.8**
TPB10				S		**Sb**	**10 44 37.3**	**-1.1**
TPB10	**Southeast of T**	**0.59**	**127**	P		**Pb**	**10 44 29.1**	**-0.7**
PCOS	**Crockett Middl**	**0.72**	**109**			**Pb**	**10 44 32.2**	**+0.2**
PCOS						**Sb**	**10 44 41.4**	**-0.7**
PCOS	**Crockett Middl**	**0.72**	**109**	P		**Pb**	**10 44 32.2**	**+0.2**
PCOS				S		**Sb**	**10 44 41.4**	**-0.7**
CLNB	**Carlsbad**	**0.72**	**30**	P		**Pg**	**10 44 30.8**	**-0.2**
CLNB				S		**Sb**	**10 44 41.1**	**-1.0**
CBET	**Carlsbad E Tow**	**0.82**	**19**			**Pg**	**10 44 32.7**	**-0.3**
CBET	**Carlsbad E Tow**	**0.82**	**19**	P		**Pg**	**10 44 32.7**	**-0.3**
TPB01	**Permian Basin**	**0.83**	**147**	⇑P		**Pg**	**10 44 32.8**	**-0.3**
TPB01				S		**Sg**	**10 44 43.7**	**-0.2**
TPB01	**Permian Basin**	**0.83**	**147**	P		**Pg**	**10 44 32.8**	**-0.3**
TPB03	**Saragosa**	**0.88**	**129**	⇑P		**Pb**	**10 44 34.3**	**-0.4**
TPB03				S		**Sb**	**10 44 46.0**	**-0.6**
CLN7	**Carlsbad 7**	**0.88**	**29**			**Pg**	**10 44 33.6**	**-0.5**
CLN7	**Carlsbad 7**	**0.88**	**29**	P		**Pg**	**10 44 33.6**	**-0.5**
MNTX	**Cornudas Mount**	**0.92**	**274**	Pg		**Pg**	**10 44 34.8**	**-0.2**
MNTX				Sg		**Sg**	**10 44 46.8**	**-0.2**
MNTX				IAML			10 44 49.6	
	94nm,0.2s							
MNTX	**Cornudas Mount**	**0.92**	**274**	P		**Pg**	**10 44 34.8**	**-0.2**
MNTX				S		**Sg**	**10 44 46.9**	**0.0**
TPB04	**Verhalen**	**0.99**	**117**	P		**Pb**	**10 44 36.3**	**-0.5**
HTMS	**Hat Mesa**	**1.00**	**34**	P		**Pg**	**10 44 35.9**	**-0.6**
HTMS				S		**Sb**	**10 44 49.8**	**-0.6**
VHRN	**Van Horn**	**1.03**	**215**			**Pg**	**10 44 36.7**	**-0.4**
VHRN				Sg		**Sg**	**10 44 49.5**	**-1.0**
VHRN				IAML			10 44 53.9	
	154nm,0.3s							
VHRN				IAML			10 44 56.5	
	180nm,0.6s							
VHRN	**Van Horn**	**1.03**	**215**	⇑P		**Pg**	**10 44 36.7**	**-0.4**
VHRN				S		**Sb**	**10 44 51.0**	**-0.2**
TPB05	**Hovey Rd**	**1.10**	**130**	⇑P		**Pg**	**10 44 38.1**	**-0.3**
TPB05				S		**Sb**	**10 44 52.9**	**-0.3**
MNHN	**Monahans**	**1.35**	**102**			**Pn**	**10 44 42.2**	**-0.2**
MNHN						**Sn**	**10 45 01.0**	**+0.4**
MNHN	**Monahans**	**1.35**	**102**	P		**Pn**	**10 44 42.2**	**-0.2**
MNHN				S		**Sn**	**10 45 01.0**	**+0.4**
ALPN	**Alpine**	**1.39**	**156**			**Pn**	**10 44 42.4**	**-0.6**
ALPN						**Sb**	**10 45 00.5**	**-0.9**
ALPN	**Alpine**	**1.39**	**156**	⇑P		**Pn**	**10 44 42.4**	**-0.6**
ALPN				S		**Sb**	**10 45 00.5**	**-0.9**
CPRX	**Cap Rock**	**1.43**	**15**			**Pn**	**10 44 43.6**	**-0.1**
CPRX	**Cap Rock**	**1.43**	**15**	P		**Pn**	**10 44 43.6**	**-0.1**
ODSA	**Odessa**	**1.57**	**72**			**Pb**	**10 44 46.1**	**-0.4**
ODSA						**Sb**	**10 45 06.1**	**-0.5**
ODSA	**Odessa**	**1.57**	**72**	P		**Pb**	**10 44 45.9**	**-0.6**
ODSA				S		**Sb**	**10 45 06.1**	**-0.5**
TMB04	**Seminole**	**1.83**	**57**	P		**Pb**	**10 44 50.1**	**-0.8**
EPT	**El Paso**	**1.88**	**275**	Pn		**Pb**	**10 44 51.2**	**-0.7**
EPT				IAML			10 45 22.0	
	comp=E,62nm,0.7s							
TMB02	**Rankin**	**1.99**	**102**	P		**Pb**	**10 44 52.9**	**-0.7**
TMB02				S		**Sb**	**10 45 18.9**	**+0.3**
TMB05	**Klondike**	**2.29**	**64**	P		**Pb**	**10 44 57.4**	**-1.5**
TX31	**Lajitas Ar. Si**	**2.36**	**166**			**Pn**	**10 44 57.9**	**+1.5**
TX31	**Lajitas Ar. Si**	**2.36**	**166**	P		**Pn**	**10 44 57.9**	**+1.5**
TXAR	**Lajitas Array**	**2.37**	**166**			**Pn**	**10 44 57.4**	**+0.9**
SAND	**Sanderson**	**2.52**	**131**			**Pb**	**10 45 02.4**	**-0.4**
SAND	**Sanderson**	**2.52**	**131**	P		**Pb**	**10 45 02.4**	**-0.4**
MSTX	**Muleshoe**	**2.66**	**29**			**Pb**	**10 45 02.5**	**-2.6**
SGCY	**Sterling City**	**2.72**	**83**			**Pn**	**10 45 02.9**	**+1.6**
SGCY				IAmb_Lg			10 45 46.5	
	comp=Z,34nm,0.9s							
POST	**Post**	**2.76**	**58**			**Pb**	**10 45 04.9**	**-2.1**
OZNA	**Ozona**	**2.81**	**104**			**Pn**	**10 45 04.3**	**+1.7**
CRNM	**Carthage**	**3.08**	**319**			**Pn**	**10 45 08.2**	**+1.9**
SN05	**Snyder 5**	**3.15**	**66**	IAmb_Lg			10 45 58.0	
	comp=Z,22nm,0.7s							
BNM	**Barren Site**	**3.17**	**323**			**Pn**	**10 45 10.2**	**+2.5**
SN07	**Snyder 07**	**3.23**	**63**	IAmb_Lg			10 45 58.8	
	comp=Z,25nm,1.0s							
SBM	**South Baldy**	**3.36**	**315**			**Pn**	**10 45 12.7**	**+2.3**
DKNS	**Dickens**	**3.49**	**54**			**Pn**	**10 45 14.2**	**+2.2**
DKNS				IAmb_Lg			10 46 11.0	
	comp=Z,29nm,1.0s							
ANMO	**Albuquerque**	**3.76**	**332**	IAmb_Lg			10 46 20.7	
	comp=Z,25nm,1.1s							
ANMO	**Albuquerque**	**3.76**	**332**	IAmb_Lg			10 46 20.7	
	comp=Z,26nm,1.1s							
DRIO	**Del Rio**	**3.87**	**124**			**Pn**	**10 45 17.9**	**+0.8**
DRIO				IAmb_Lg			10 46 27.3	
	comp=Z,26nm,1.0s							
APMT	**Aspermont**	**3.91**	**63**			**Pn**	**10 45 19.1**	**+1.5**
JCT	**Junction City**	**4.03**	**106**	IAmb_Lg			10 46 27.6	
	comp=Z,20nm,0.9s							
ABTX	**Abilene, Hawle**	**4.07**	**75**			**Pn**	**10 45 21.5**	**+1.6**
ABTX				IAmb_Lg			10 46 31.4	
	comp=Z,17nm,0.9s							
BRDY	**Brady**	**4.55**	**93**			**Pn**	**10 45 27.9**	**+1.5**
HNDO	**Hondo**	**4.81**	**115**	Pn		**Pn**	**10 45 30.9**	**+0.8**
RTBA	**Rita Blanca**	**4.96**	**15**			**Pn**	**10 45 34.6**	**+2.5**
RTBA				IAmb_Lg			10 46 51.8	
	comp=Z,12nm,0.9s							
FW03	**Perrin-Whitt E**	**5.46**	**74**	IAmb_Lg			10 47 16.9	
	comp=Z,11nm,0.7s							
WMOK	**Wichita Mounta**	**5.56**	**55**	Pn		**Pn**	**10 45 42.7**	**+2.3**
WMOK				IAmb_Lg			10 47 19.4	
	comp=Z,10nm,0.8s							
FW07	**Weatherford**	**5.63**	**77**	IAmb_Lg			10 47 32.6	
	comp=Z,11nm,0.8s							
435B	**Jarrell**	**5.82**	**97**	IAmb_Lg			10 47 29.0	
	comp=Z,17nm,0.7s							
WHTX	**Lake Whitney,**	**5.84**	**85**	IAmb_Lg			10 47 35.7	
	comp=Z,9.6nm,0.8s							
X34A	**Smith Ranch, M**	**6.18**	**60**	IAmb_Lg			10 47 42.9	
	comp=Z,9.7nm,0.8s							
OK038	**West end E0370**	**6.67**	**42**	IAmb_Lg			10 47 56.2	
	comp=Z,9.3nm,0.8s							
OK029	**Liberty Lake**	**7.05**	**52**	IAmb_Lg			10 48 21.1	
	comp=Z,8.0nm,1.0s							
237A	**Washetta, Mont**	**7.24**	**85**	IAmb_Lg			10 48 19.7	
	comp=Z,12nm,1.0s							
KSCO	**Kaye Shedlock'**	**7.48**	**10**	IAmb_Lg			10 48 30.0	
	comp=Z,9.4nm,0.9s							
KAN09	**Caldwell North**	**7.78**	**43**	IAmb_Lg			10 48 31.5	
	comp=Z,9.9nm,0.8s							

GCG 22 10:44:37.4±0.3,**13˚.27N×90˚.31W,h23**km±4km,**MD3.7, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**0.81**	**39**	*i* P		Pb	10 44 52.9	-0.1
NUBE				*i* S		Sn	10 45 04.8	-0.9
JAYA	**Jayaque - finc**	**0.92**	**65**	*i* P		Pb	10 44 53.9	-0.9
JAYA				*i* S		Sb	10 45 07.0	+0.3
MTO3	**Montecristo**	**1.45**	**39**	*i* P		Pn	10 45 02.8	+0.4

*IDC **22** 10:47:45.3±0.9,30˚.07N×143˚.10E, h0km, mb3.8/11, mbtmp3.7/13, ML3.3/2, Error ellipse: s-maj=27.7km s-min=20.2km az=67.0*
*JMA **22** 10:47:46.1±0.3,30˚.1N±0˚.5×14˚3E±˚, h50km, MV4.0/28, FAR E OFF IZU ISLANDS*

ISC 22 10:47:53.6±1.0,**30˚.5N**±0˚.1×**143˚.1E**±0˚.1,**h45**km,**n24**, σ1.9**53**/29,**mb3.8**/11,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.83**	**314**	*eP*		**Pn**	**10 48 48.3**	**-1.7**
JHJ2				*eS*		**Sn**	**10 49 33.7**	**-0.2**
BSO1	**Boso 1**	**4.52**	**337**	*eP*		**Pn**	**10 48 58.6**	**-0.5**
BSO1				*eS*		**Sn**	**10 49 54.6**	**+4.4**
BSO3	**Boso 3**	**4.83**	**334**	*eP*		**Pn**	**10 49 04.3**	**+0.8**
JOD2	**Odawara 2**	**5.84**	**326**	*eP*		**Pn**	**10 49 17.3**	**-0.3**
JYT	**Yasato**	**6.22**	**338**	*eP*		**Pn**	**10 49 23.4**	**+0.5**
JHO	**Hitachi**	**6.46**	**342**	*eP*		**Pn**	**10 49 25.5**	**-0.7**
JHO				*eS*		**Sn**	**10 50 39.1**	**+0.6**
JRY	**Ryogami san**	**6.54**	**329**	*eP*		**Pn**	**10 49 27.6**	**+0.4**
JAG	**Ashikaga**	**6.66**	**334**	P		**Pn**	**10 49 28.6**	**-0.3**
JAG				*eS*		**Sn**	**10 50 45.1**	**+1.6**
JFK	**Kawauchi**	**7.11**	**345**	*eP*		**Pn**	**10 49 34.4**	**-0.6**
JFK				*eS*		**Sn**	**10 50 54.3**	**-0.2**
MJAR	**Matsushiro Arr**	**7.29**	**327**	Pn		**Pn**	**10 49 36.4**	**-1.2**
	0.3nm,0.3s,baz=154,slow=11,SNR=20							
MJAR				Sn		**Sn**	**10 50 59.0**	**0.0**
	0.1nm,0.3s,baz=128,slow=24,SNR=1.6 5.5nm,0.7s							
JMK	**Ichinoseki**	**8.58**	**350**	*eP*		**Pn**	**10 49 55.3**	**+0.1**
JMK				*eS*		**Sn**	**10 51 30.0**	**-0.6**
ASAJ	**Asahikawa**	**13.61**	**358**	Pn		Pn	10 50 59.2	-4.7
	0.4nm,0.3s,baz=283,slow=6.1,SNR=4.6							
ASAJ				Sn		**Sn**	**10 53 28.8**	**-4.8**
	0.2nm,0.3s,baz=283,slow=18,SNR=3.0							
KSRS	**Korea Array**	**14.38**	**303**	Pn		**Pn**	**10 51 13.2**	**-1.2**
	0.2nm,0.3s,baz=111,slow=12,SNR=5.2 1.1nm,0.7s							
SONM	**Songino Array**	**32.94**	**312**	P		**P**	**10 54 25.2**	**+1.3**
	0.6nm,0.5s,baz=106,slow=7.3,SNR=4.0							
	0.6nm,0.5s							
MKAR	**Makanchi Array**	**49.00**	**307**	P		**P**	**10 56 35.9**	**0.0**
	0.6nm,0.5s,baz=86,slow=8.2,SNR=8.6 0.6nm,0.5s							
WRA	**Warramunga Arr**	**50.85**	**191**	P		P	10 56 44.5	-5.4
	0.9nm,0.5s,baz=9.1,slow=8.0,SNR=11 0.9nm,0.5s							
KURBB	**Kurchatov Arra**	**51.30**	**313**	P		**P**	**10 56 53.3**	**+0.2**
	1.3nm,0.7s,baz=89,slow=7.3,SNR=10 1.3nm,0.7s							
ILAR	**Eielson Array**	**54.36**	**30**	P		**P**	**10 57 16.8**	**+1.3**
	0.3nm,0.6s,baz=258,slow=5.7,SNR=4.9 0.3nm,0.6s							
ASAR	**Alice Springs**	**54.57**	**190**	P		P	10 57 12.2	-5.2
	0.2nm,0.4s,baz=2.6,slow=6.0,SNR=2.3 0.2nm,0.4s							
BVAR	**Borovoye Array**	**56.14**	**316**	P		**P**	**10 57 27.1**	**-1.3**
	0.6nm,0.5s,baz=76,slow=6.1,SNR=9.5 0.6nm,0.5s							
FINES	**FINESS Array B**	**75.27**	**334**	P		**P**	**10 59 32.0**	**+0.5**
	0.7nm,0.6s,baz=73,slow=8.6,SNR=5.0 0.7nm,0.6s							
NVAR	**Mina Array Bea**	**77.80**	**53**	P		**P**	**10 59 45.5**	**-1.2**
	0.3nm,0.6s,baz=311,slow=5.9,SNR=3.7 0.3nm,0.6s							
BRTR	**Keskin Array B**	**84.29**	**313**	P		**P**	**11 00 21.4**	**+0.4**
	0.8nm,0.7s,baz=50,slow=5.5,SNR=2.9 0.8nm,0.7s							
TXAR	**Lajitas Array**	**92.93**	**53**	P		**P**	**11 01 02.5**	**0.0**
	0.4nm,0.9s,baz=304,slow=5.1,SNR=3.9 0.4nm,0.9s							

*DJA **22** 10:58:59.2±0.7,8˚S±6˚×11˚9E±˚, h164km±13km, M3.9/10, mb4.3/1, MLv3.7/10*
*IDC **22** 10:58:59.1±5.6,8˚.10S×118˚.79E, h162km±55km, mb3.2/2, mbtmp3.7/5, MS3.9/1, Error ellipse: s-maj=73.9km s-min=29.1km az=61.0*

ISC 22 10:58:58.7±1.0,**8˚39S**±0˚.07×**118˚.55E**±0˚.05,**h152**km,**n17**, σ1.9**39**/18,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.88**	**240**	P		**Pn**	**10 59 24.4**	**+1.7**
WBSI	**Waikabubak, Su**	**1.50**	**146**	P		**Pn**	**10 59 29.8**	**+1.4**
TWSI	**Taliwang, Sumb**	**1.69**	**258**	P		**Pn**	**10 59 31.8**	**+1.4**
WSI	**Waingapu**	**2.15**	**127**	P		**Pn**	**10 59 36.6**	**+1.0**
BASI	**Baing, Sumba**	**2.71**	**132**	P		**Pn**	**10 59 44.3**	**+1.9**
BSSI	**Bau Bau, Buton**	**2.94**	**41**	P		**Pn**	**10 59 47.3**	**+1.9**
EDFI	**Ende, Flores**	**3.12**	**97**	P		**Pn**	**10 59 48.8**	**+1.0**
SRBI	**Singaraja**	**3.32**	**275**	P		**Pn**	**10 59 51.2**	**+1.1**
BKSI	**Bulukumba**	**3.42**	**27**	P		**Pn**	**10 59 53.2**	**+1.7**
JAGI	**Jajag, Banyuwa**	**4.35**	**269**	P		**Pn**	**11 00 03.3**	**-0.3**
BATI	**Baumata**	**5.36**	**110**	P		**Pn**	**11 00 16.5**	**-0.4**
	23nm,0.4s,baz=282,slow=3.4,SNR=2.2							
BATI				S		**Sn**	**11 01 16.3**	**-1.8**
	33nm,0.3s,baz=323,slow=23,SNR=7.4							
BATI	**Baumata**	**5.36**	**110**	P		**Pn**	**11 00 17.8**	**+0.9**
**FIT

JIDR ⇑eSg Sn 11 00 19.9 +0.6
JIDR IAML 11 00 21.0
comp=N,490nm,0.4s
LOVI El Cajuil, Ovi 1.45 217 *i* P Pn 11 00 01.7 +0.1
LOVI eS Sn 11 00 21.2 +1.0
LOVI IAML 11 00 25.4
comp=Z,92nm,0.4s
LOBH Bahia de las A 1.57 226 *i* P Pn 11 00 04.1 +0.8
LOBH IAML 11 00 30.5
comp=Z,75nm,1.1s
HIDR Higuey Centro 1.68 102⇓*e*Pg Pn 11 00 04.6 -0.2
HIDR IAML 11 00 33.0
comp=N,599nm,0.2s
SADR Isla Saona 1.75 115⇑*e*Pg Pn 11 00 08.0 +2.2
PAPH Port-au-Prince 1.81 256 *i* P Pn 11 00 07.0 +0.4
PAPH eS Sn 11 00 29.8 +0.7
PAPH IAML 11 00 38.0
comp=Z,66nm,2.7s
GRTK Grand Turk 2.62 346 *i* P Pn 11 00 18.4 +0.6
GRTK eS Sn 11 00 49.0 -0.2
GRTK IAML 11 00 55.8
comp=Z,75nm,1.4s

*IDC **22** 11:23:37.6±1.9,32˚90S×178˚94W,h0km,mb3.7/3, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=47.5km s-min=32.9km az=60.0*
*WEL **22** 11:23:45.0±1.2,33˚S±6˚×17˚9W±˚,h12km,M4.0/8, mB4.7/6, ML4.4/12, MLv4.1/8, Mw(mB)3.9/6, Error ellipse: s-maj=12.4km s-min=8.3km az=99.0, confirmed*
ISC 22 11:23:43.8±1.6,**33˚22S**±0˚09×**178˚8W**±0˚1,**h45**km,**n20,** σ1§**48**/32,**mb3.7**/3,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.96**	**208**	P		**Pn**	**11 24 55.1**	**-0.6**
MXZ				S		**Sn**	**11 25 52.4**	**+0.7**
WMGZ	**Waiomatatini S**	**5.14**	**206**	P		**Pn**	**11 24 57.0**	**-1.3**
WMGZ				S		**Sn**	**11 25 57.7**	**+1.5**
PKGZ	**Pakihiroa**	**5.31**	**208**	P		**Pn**	**11 24 59.6**	**-1.0**
PKGZ				S		**Sn**	**11 26 00.1**	**-0.3**
HAZ	**Te Kaha**	**5.34**	**211**	P		**Pn**	**11 25 01.2**	**+0.2**
HAZ				S		**Sn**	**11 26 03.4**	**+2.3**
PUZ	**Puketiti**	**5.42**	**206**	P		**Pn**	**11 25 01.3**	**-0.8**
PUZ				S		**Sn**	**11 26 03.6**	**+0.3**
RUGZ	**Raukumara Rang**	**5.56**	**211**	P		**Pn**	**11 25 04.6**	**+0.5**
RUGZ				S		**Sn**	**11 26 07.4**	**+0.6**
TWGZ	**Tauwhareparae**	**5.62**	**207**	P		**Pn**	**11 25 05.1**	**+0.3**
TWGZ				S		**Sn**	**11 26 07.9**	**-0.2**
CNGZ	**Carnagh Statio**	**5.81**	**204**	P		**Pn**	**11 25 08.3**	**+0.9**
TKGZ	**Te Karaka**	**5.90**	**207**	P		**Pn**	**11 25 09.7**	**+1.1**
TKGZ				S		**Sn**	**11 26 13.6**	**-1.3**
MWZ	**Matawai**	**5.93**	**210**	P		**Pn**	**11 25 09.1**	**-0.1**
URZ	**Urewera**	**6.05**	**213**	Pn		**Pn**	**11 25 10.8**	**0.0**
	2.6nm,0.3s,baz=26,slow=1.1,SNR=17							
URZ				S		**Sn**	**11 26 16.3**	**-2.4**
	2.2nm,0.3s,baz=125,slow=16,SNR=6.9 5.5nm,0.3s							
URZ	**Urewera**	**6.05**	**213**	P		**Pn**	**11 25 10.6**	**-0.1**
URZ				S		**Sn**	**11 26 17.4**	**-1.3**
WCZ	**Waipu Caves**	**6.31**	**243**	P		**Pn**	**11 25 16.2**	**+2.0**
MKAZ	**Moumakai**	**6.31**	**230**	P		**Pn**	**11 25 17.5**	**+3.2**
SNGZ	**Shannon Statio**	**6.39**	**209**	P		**Pn**	**11 25 15.1**	**-0.3**
SNGZ				S		**Sn**	**11 26 24.8**	**-2.3**
OUZ	**Omahuta**	**6.64**	**250**	P		**Pn**	**11 25 20.4**	**+1.5**
OUZ				S		**Sn**	**11 26 30.5**	**-2.8**
ASAR	**Alice Springs**	**42.40**	**270**	P		**P**	**11 31 33.0**	**-1.1**
	0.4nm,0.4s,baz=108,slow=7.6,SNR=9.8 0.4nm,0.4s							
WRA	**Warramunga Arr**	**43.64**	**276**	P		**P**	**11 31 42.4**	**-1.8**
	0.5nm,0.3s,baz=116,slow=7.9,SNR=18 0.5nm,0.3s							
QSPA	**South Pole Qui**	**56.90**	**180**	P		**P**	**11 33 26.3**	**+2.2**
	0.8nm,0.9s,baz=159,slow=0.7,SNR=7.3 0.8nm,0.9s							
FINES	**FINESS Array B**	**147.53**	**338**	PKPbc		**PKPbc**	**11 43 21.3**	**-1.0**
	0.9nm,0.6s,baz=64,slow=4.4,SNR=6.6							

*TRN **22** 11:39:52.3, 10˚80N×62˚29W,h88km,MD3.7, North of Paria peninsula.*
*FUNV **22** 11:39:53.1, 10˚77N×62˚25W,h87km,MW4.2*
ISC 22 11:39:50.6±1.5,**10.76N**±0˚05×**62˚28W**±0˚05, **h106**km±15km,**n28,**σ1§**65**/45,**Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**0.74**	**97**	*e*P		**Pn**	**11 40 09.7**	**+0.9**
PSKH	**Kent House, Po**	**0.74**	**96**	*e*P		**Pn**	**11 40 10.0**	**+1.1**
PSKH				*e*S		**Sn**	**11 40 22.1**	**-0.6**
PSNL	**Port of Spain**	**0.76**	**98**	*e*S		**Sn**	**11 40 21.9**	**-1.0**
PSGH	**Port of Spain**	**0.76**	**97**	*e*P		**Pn**	**11 40 10.1**	**+1.1**
PSGH				*e*S		**Sn**	**11 40 21.6**	**-1.4**
TRN	**Trinidad (W)**	**0.86**	**97**	*e*P		**Pn**	**11 40 11.4**	**+1.4**
TRN				*e*S		**Sn**	**11 40 23.7**	**-1.0**
GRFF	**Grenada Fort F**	**1.39**	**22**	*e*P		**Pn**	**11 40 16.0**	**+0.2**
GRFF				*e*S		**Sn**	**11 40 33.1**	**-1.8**
GRGR	**Grenville**	**1.50**	**24**	*e*P		**Pn**	**11 40 17.5**	**+0.4**
GRGR				*e*S		**Sn**	**11 40 35.7**	**-1.6**
GRW	**Mount Saint Ca**	**1.52**	**23**	*e*P		**Pn**	**11 40 19.0**	**+1.5**
GRW				*e*S		**Sn**	**11 40 38.5**	**+0.6**
GRSS	**Sisters**	**1.66**	**23**	*e*P		**Pn**	**11 40 19.9**	**+0.7**
GRSS				*e*S		**Sn**	**11 40 40.5**	**-0.4**
PCRV	**Puerto La Cruz**	**2.39**	**256**	*e*P		**Pn**	**11 40 30.5**	**+2.0**
PCRV				*e*S		**Sn**	**11 40 56.4**	**-1.3**
PCRV	**Puerto La Cruz**	**2.39**	**256**	*e*P		**Pn**	**11 40 30.4**	**+1.9**
PCRV				*e*S		**Sn**	**11 40 57.2**	**-0.4**
SVB	**Belmont**	**2.69**	**22**	*e*P		**Pn**	**11 40 33.3**	**+0.9**
SVB				*e*S		**Sn**	**11 41 03.4**	**-1.2**
SLBI	**Saint Lucia, B**	**3.48**	**21**	*e*P		**Pn**	**11 40 43.0**	**+0.1**
SLBI				*e*S		**Sn**	**11 41 22.2**	**-1.2**
BIM	**Bigot**	**3.92**	**17**	*e*P		**Pn**	**11 40 51.1**	**+2.4**
BIM				*e*S		**Sn**	**11 41 31.6**	**-2.2**
TACV	**Tcata**	**4.71**	**263**	*e*P		**Pn**	**11 41 01.3**	**+1.7**
TACV				*e*S		**Sn**	**11 41 51.7**	**-1.5**
DSLB	**Salisbury**	**4.73**	**10**	*e*P		**Pn**	**11 41 01.8**	**+2.1**
LUEV	**Luepa**	**4.95**	**171**	*e*P		**Pn**	**11 41 04.2**	**+1.3**
LUEV				*e*S		**Sn**	**11 41 55.8**	**-3.3**
TBG	**Guadaloupe-3**	**5.10**	**7**	*e*P		**Pn**	**11 41 05.8**	**+1.1**
CACV	**CAICARA DEL OR**	**5.27**	**233**	*e*P		Pn	11 41 02.7	-4.4
CACV				*e*S		Sn	11 41 55.1	-12
MMLZ	**Guadeloupe Bro**	**5.29**	**6**	*e*P		**Pn**	**11 41 09.3**	**+2.0**
MMLZ				*e*S		**Sn**	**11 42 05.2**	**-1.7**
BENV	**Beln**	**5.30**	**262**	*e*P		**Pn**	**11 41 09.2**	**+1.7**
BENV				*e*S		**Sn**	**11 42 04.9**	**-2.5**
ATGZ	**Broadband at L**	**5.33**	**6**	*e*P		**Pn**	**11 41 09.4**	**+1.5**
DSDZ	**La Diserade, G**	**5.64**	**12**	*e*P		**Pn**	**11 41 12.7**	**+0.5**
MBWH		**5.95**	**1**	*e*P		**Pn**	**11 41 18.2**	**+1.9**
MBFL	**Flemmings, Mon**	**5.96**	**1**	*e*P		**Pn**	**11 41 18.6**	**+2.2**
BAUV	**El Baul**	**5.96**	**253**	*e*P		**Pn**	**11 41 17.1**	**+0.6**
BAUV				*e*S		**Sn**	**11 42 20.0**	**-3.4**
BAUV	**El Baul**	**5.96**	**253**	*e*P		**Pn**	**11 41 17.0**	**+0.6**
BAUV				*e*S		**Sn**	**11 42 21.2**	**-2.2**
ANWB	**Willy Bob**	**6.89**	**4**	*e*P		**Pn**	**11 41 30.0**	**+1.0**

*IDC **22** 11:53:34.1±1.6,30˚43S×178˚04W,h0km,mb3.9/4, mbtmp3.9/5, ML3.2/1, Error ellipse: s-maj=39.8km s-min=22.7km az=108.0*
ISC 22 11:53:38.8±1.3,**30˚43S**±0˚09×**178˚0W**±0˚2,**h46**km,**n10,** σ2§**15**/9,**mb4.0**/4,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.18**	**3**	Pn		**Pn**	**11 53 57.8**	**-1.1**
	122nm,0.3s,baz=55,slow=14,SNR=5.8							
RAO				S		**Sn**	**11 54 11.9**	**-1.8**
	117nm,0.3s,baz=256,slow=23,SNR=3.7							
URZ	**Urewera**	**8.79**	**206**	Pn		**Pn**	**11 55 40.3**	**-2.9**
	0.3nm,0.3s,baz=89,slow=21,SNR=1.6							
URZ				S		**Sn**	**11 57 19.0**	**-1.9**
	1.1nm,0.3s,baz=201,slow=18,SNR=6.2 2.0nm,0.3s							
STKA	**Stephens Creek**	**34.47**	**257**	P		**P**	**12 00 23.9**	**+1.5**
	1.4nm,0.5s,baz=110,slow=15,SNR=3.1 1.4nm,0.5s							
ASAR	**Alice Springs**	**43.11**	**267**	P		**P**	**12 01 35.8**	**+1.0**
	0.3nm,0.4s,baz=108,slow=8.1,SNR=9.7 0.3nm,0.4s							
WRA	**Warramunga Arr**	**44.10**	**272**	P		**P**	**12 01 44.1**	**+1.3**
	0.6nm,0.3s,baz=110,slow=8.1,SNR=18 0.6nm,0.3s							

QSPA South Pole Qui 59.68 180 P **P** **12 03 40.7 +2.4**
1.3nm,0.9s,baz=118,slow=5.4,SNR=2.8 1.3nm,0.9s
H03S2 Juan Fernandez 80.44 124 T T 13 34 58.7
baz=238,slow=74,SNR=10
H03S1 Juan Fernandez 80.45 124 T T 13 35 00.3
baz=238,slow=74,SNR=7.1
H03S3 Juan Fernandez 80.46 124 T T 13 34 59.1
baz=238,slow=74,SNR=8.5
FINES FINESS Array B 145.18 340 PKPbc **PKPdf** **12 13 11.1 +0.6**
0.7nm,0.4s,baz=56,slow=3.8,SNR=7.9

*LDG **22** 11:57:31.1±0.0,44˚42N×7˚27E,h7km,Md1.6/1,Ml2.1/2, Error ellipse: s-maj=0.9km s-min=0.6km az=45.0*
GEN 22 11:57:30.6,44˚43N×7˚26E,h6km±1km,**Ml0.6,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PZZ	**Stroppo**	**0.12**	**307**	P		Pg	11 57 34.2	+0.9
PZZ				S		Sg	11 57 36.4	+1.4
STV	**Sant Anna di V**	**0.19**	**165**	P		Pg	11 57 35.0	+0.6
STV				S		Sg	11 57 37.4	+0.3
ENR	**Entracque**	**0.24**	**150**	P		Pg	11 57 35.6	+0.4
ENR				S		Sg	11 57 38.6	+0.2
ISO	**Isola**	**0.29**	**211**	P		Pb	11 57 37.5	-0.7
ISO				S		Sg	11 57 40.8	+0.7
BHB	**Bricherasio**	**0.41**	**1**	P		Pg	11 57 38.6	+0.1
BHB				S		Sg	11 57 44.0	+0.1
MBDF	**Montbardon**	**0.45**	**311**	*e*Pg		Pg	11 57 40.1	+0.7
MBDF				*e*Sg		Sg	11 57 46.5	+1.2
	5.0nm,0.2s							
GBOS	**Grotte di Boss**	**0.46**	**114**	P		Pg	11 57 39.8	+0.3
GBOS				S		Sg	11 57 44.6	-0.9
TURF	**col de Turini**	**0.47**	**168**	P		Pb	11 57 40.7	-0.6
TURF				S		Sg	11 57 46.7	+0.9
SAOF	**Saorge**	**0.50**	**154**	P		Pb	11 57 41.1	-0.5
SAOF				S		Sg	11 57 47.3	+0.7
SBF	**Sospel**	**0.58**	**167**	*e*Sg		Sg	11 57 49.8	+0.4
	5.0nm,0.3s							
RRL	**Rocca Remolon**	**0.59**	**326**	P		Pb	11 57 43.6	+0.1
RRL				S		Sg	11 57 50.7	+1.0
RORO	**Rocca Rossa**	**0.67**	**119**	S		Sg	11 57 52.7	+0.7
IMI	**Imperia**	**0.69**	**138**	P		Pg	11 57 44.2	+0.2
IMI				S		Sg	11 57 53.4	+0.4
LMR	**La Mourre**	**1.22**	**206**	*e*Pg		Pg	11 57 54.0	0.0
LMR				*e*Sg		Sg	11 58 09.6	-0.3
	3.4nm,0.2s							

ROM 22 11:58:42.3±0.1,**46˚089N**±0˚004×**12˚184E**±0˚004, **h6**km,**ML1.9**/68,**2C-6D, Error ellipse: s-maj=0.3km s-min=0.3km az=165.0, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VARN	**Col Varnada, M**	**0.11**	**210**⇑	*e*Pg		Pg	11 58 45.3	+0.6
VARN				*e*Sg		Sg	11 58 47.1	+0.7
VARN	**Col Varnada, M**	**0.11**	**210**	P		Pg	11 58 45.3	+0.6
VARN				S		Sg	11 58 47.0	+0.6
VARN				AML		AML		
	comp=N,2395μm,0.3s							
VARN				AML		AML		
	comp=E,3715μm,0.4s							
VARN				AML		AML		
	comp=N,2400μm,0.3s							
VARN				AML		AML		
	comp=N,2261μm,0.3s							
VARN				AML		AML		
	comp=N,2396μm,0.3s							
VARN				AML		AML		
	comp=N,2260μm,0.3s							
VARN				AML		AML		
	comp=E,3468μm,0.4s							
VARN				AML		AML		
	comp=E,3362μm,0.4s							
VARN				AML		AML		
	comp=E,3855μm,0.4s							
APGO	**Alpago**	**0.14**	**63**⇓	*e*Pg		Pg	11 58 46.1	+0.8
APGO				*e*Sg		Sg	11 58 48.2	+1.0
FRE8	**Fregona**	**0.14**	**122**	P		Pg	11 58 45.9	+0.6
FRE8				S		Sg	11 58 48.2	+1.0
FRE8				AML		AML		
	comp=E,2775μm,1.5s							
FRE8				AML		AML		
	comp=N,3710μm,0.4s							
FRE8				AML		AML		
	comp=N,3705μm,0.4s							
FRE8				AML		AML		
	comp=N,3705μm,1.6s							
FRE8				AML		AML		
	comp=E,2437μm,0.2s							
FRE8				AML		AML		
	comp=N,2852μm,0.4s							
FRE8				AML		AML		
	comp=E,2775μm,0.5s							
CAE	**Caneva**	**0.20**	**115**⇑	*e*Pg		Pg	11 58 46.8	+0.6
CAE				*e*Sg		Sg	11 58 50.0	+1.1
CAE	**Caneva**	**0.20**	**115**	P		Pg	11 58 46.8	+0.6
CAE				S		Sg	11 58 50.3	+1.4
FAU	**Forcella Aurin**	**0.20**	**315**⇓	*e*Pg		Pg	11 58 47.4	+1.0
FAU				*e*Sg		Sg	11 58 50.6	+1.5
CSO	**Casso**	**0.21**	**28**⇓	*e*Pg		Pg	11 58 47.1	+0.6
CSO				*e*Sg		Sg	11 58 50.3	+0.9
AGOR	**Agordo**	**0.22**	**334**	*e*Pg		Pg	11 58 47.6	+0.9
AGOR				*e*Sg		Sg	11 58 51.0	+1.4
AGOR	**Agordo**	**0.22**	**334**	P		Pg	11 58 47.6	+0.9
AGOR				S		Sg	11 58 50.7	+1.2
POLC	**Polcenigo**	**0.23**	**106**	P		Pg	11 58 47.6	+0.8
POLC				S		Sg	11 58 51.9	+2.0
ED06	**Collalto TV**	**0.23**	**176**⇓	*e*Pg		Pg	11 58 47.7	+0.8
ED06				*e*Sg		Sg	11 58 51.1	+1.1
CRND	**Cornuda**	**0.27**	**196**	P		Pb	11 58 48.7	-0.7
CRND				S		Sb	11 58 53.3	-0.9
MTLO	**Montello**	**0.28**	**192**⇓	*e*Pg		Pg	11 58 48.7	+0.9
MTLO				*e*Sg		Sg	11 58 53.1	+1.5
CIMO	**Cimolais**	**0.28**	**39**⇓	*e*Pg		Pg	11 58 48.2	+0.3
CIMO				*e*Sg		Sg	11 58 52.1	+0.4
CIMO	**Cimolais**	**0.28**	**39**	P		Pg	11 58 48.2	+0.3
CIMO				AML		AML		
	comp=N,211μm,0.1s							
CIMO				AML		AML		
	comp=E,216μm,1.5s							
CIMO				AML		AML		
	comp=E,240μm,0.5s							
CIMO				AML		AML		
	comp=E,240μm,1.5s							
CIMO				AML		AML		
	comp=E,203μm,0.1s							
CIMO				AML		AML		
	comp=E,211μm,0.1s							
CIMO				AML		AML		
	comp=N,199μm,0.1s							
CIMO				AML		AML		
	comp=N,211μm,0.1s							
CIMO				AML		AML		
	comp=N,199μm,0.1s							
MLNI	**Malnisio**	**0.30**	**78**	*e*Pg		Pg	11 58 48.8	+0.5
MLNI				*e*Sg		Sg	11 58 52.9	+0.6
CGRP	**Cima Grappa**	**0.34**	**232**	*e*Pg		Pb	11 58 50.0	-0.9
CGRP				*e*Sg		Sb	11 58 55.4	-1.2
CGRP	**Cima Grappa**	**0.34**	**232**	P		Pg	11 58 49.9	+0.9
CGRP				S		Sb	11 58 55.5	-1.1
CGRP				AML		AML		
	comp=E,118μm,0.5s							
CGRP				AML		AML		
	comp=N,113μm,1.6s							
CGRP				AML		AML		
	comp=N,113μm,0.4s							
CGRP				AML		AML		
	comp=E,162μm,0.5s							
CGRP				AML		AML		
	comp=E,118μm,0.5s							
CGRP				AML		AML		
	comp=E,118μm,1.5s							
CGRP				AML		AML		
	comp=N,139μm,0.4s							
CGRP				AML		AML		
	comp=N,112μm,0.5s							
ASOL	**Asolo**	**0.35**	**214**	P		Pg	11 58 49.8	+0.7
ASOL				S		Sb	11 58 55.5	-1.2
STAL	**STALIGIAL**	**0.40**	**65**	P		Pg	11 58 50.4	+0.2
STAL				AML		AML		
	comp=E,216μm,1.5s							
STAL				AML		AML		
	comp=E,253μm,1.5s							
STAL				AML		AML		
	comp=E,253μm,1.5s							
STAL				AML		AML		
	comp=N,332μm,1.6s							
STAL				AML		AML		
	comp=N,231μm,0.1s							
STAL				AML		AML		
	comp=N,332μm,0.4s							
STAL				AML		AML		
	comp=E,253μm,0.5s							
STAL				AML		AML		
	comp=E,216μm,0.5s							
STAL				AML		AML		
	comp=N,231μm,0.1s							
STAL				AML		AML		
	comp=E,211μm,0.1s							
STAL				AML		AML		
	comp=N,286μm,0.2s							
STAL				AML		AML		
	comp=E,228μm,0.2s							
AFL	**Alpe Faloria**	**0.44**	**360**	*e*Pg		Pg	11 58 51.7	+0.8
AFL				*e*Sg		Sg	11 58 58.1	+1.3
ZIAN	**Ziano**	**0.47**	**294**	*e*Pg		Pb	11 58 52.4	-0.6
ZIAN	**Ziano**	**0.47**	**294**	P		Pb	11 58 52.6	-0.5
ZIAN				S		Sb	11 59 00.3	0.0
ZIAN				AML		AML		
	comp=E,209μm,1.6s							
ZIAN				AML		AML		
	comp=E,208μm,1.6s							
ZIAN				AML		AML		
	comp=N,154μm,0.2s							
ZIAN				AML		AML		
	comp=E,209μm,0.4s							
ZIAN				AML		AML		
	comp=E,191μm,0.2s							
ZIAN				AML		AML		
	comp=N,196μm,0.2s							
ZIAN				AML		AML		
	comp=N,155μm,0.2s							
ZIAN				AML		AML		
	comp=E,172μm,0.2s							
CEKR	**Cima Ekar Asia**	**0.49**	**241**	*e*Pg		Pb	11 58 52.8	-0.6
CSMI	**Casera Mimoias**	**0.53**	**37**	*e*Pg		Pg	11 58 53.4	+0.7
DST2	**Trieste**	**0.54**	**73**	P		Pg	11 58 53.0	+0.3
DST2				S		Sb	11 59 01.6	-0.5
DST2				AML		AML		
	comp=E,142μm,0.8s							
DST2				AML		AML		
	comp=E,142μm,0.8s							
DST2				AML		AML		
	comp=N,137μm,0.5s							
DST2				AML		AML		
	comp=N,137μm,0.5s							
DST2				AML		AML		
	comp=N,137μm,1.5s							
DST2				AML		AML		
	comp=E,142μm,1.2s							
DST2				AML		AML		
	comp=N,125μm,0.3s							
DST2				AML		AML		
	comp=E,131μm,0.3s							
MPRI	**Monte Prat**	**0.58**	**74**	*e*Pg		Pb	11 58 54.2	-0.6
MPRI	**Monte Prat**	**0.58**	**74**	P		Pg	11 58 54.0	+0.5
MPRI				S		Sb	11 59 02.8	-0.6
MPRI				AML		AML		
	comp=E,80μm,0.3s							
MPRI				AML		AML		
	comp=N,92μm,0.4s							
MPRI				AML		AML		
	comp=N,84μm,0.4s							
MPRI				AML		AML		
	comp=E,60μm,0.4s							
MPRI				AML		AML		
	comp=E,80μm,0.3s							
MPRI				AML		AML		
	comp=N,70μm,0.3s							
PANI	**Panarotta**	**0.59**	**267**	P		Pb	11 58 55.0	-0.2
PANI				S		Sb	11 59 03.2	-0.7
PANI				AML		AML		
	comp=E,66μm,0.9s							
PANI				AML		AML		
	comp=N,124μm,0.3s							
PANI				AML		AML		
	comp=N,124μm,0.3s							
PANI				AML		AML		
	comp=E,66μm,0.9s							
PANI				AML		AML		
	comp=E,58μm,0.1s							
PANI				AML		AML		
	comp=N,124μm,0.3s							
CLUD	**Cludinico**	**0.61**	**53**	*e*Pg		Pb	11 58 55.3	-0.1
CLUD	**Cludinico**	**0.61**	**53**	P		Pb	11 58 55.0	-0.4
CLUD				S		Sb	11 59 04.2	0.0
CLUD				AML		AML		
	comp=E,22μm,1.6s							
CLUD				AML		AML		
	comp=N,31μm,0.4s							
CLUD				AML		AML		
	comp=N,31μm,0.4s							
CLUD				AML		AML		
	comp=E,22μm,0.4s							
CLUD				AML		AML		
	comp=E,22μm,0.3s							
FUSE	**Fusea**	**0.65**	**60**	*e*Pg		Pb	11 58 56.0	-0.1
FUSE	**Fusea**	**0.65**	**60**	P		Pb	11 58 55.8	-0.3
BUA	**Buia**	**0.67**	**78**	*e*Pg		Pg	11 58 55.6	+0.5
KOSI	**Kohlern**	**0.67**	**304**	P		Pb	11 58 56.1	-0.4
KOSI				S		Sb	11 59 06.3	+0.1
KOSI				AML		AML		
	comp=E,80μm,0.5s							
KOSI				AML		AML		
	comp=N,79μm,0.5s							
KOSI				AML		AML		
	comp=E,80μm,1.5s							
KOSI				AML		AML		
	comp=E,75μm,0.4s							
KOSI				AML		AML		
	comp=N,79μm,0.5s							
BOO	**Bordano**	**0.68**	**70**	*e*Pg		Pg	11 58 55.9	+0.5
ABTA	**Abfaltersbach**	**0.70**	**19**	*e*Pg		Pb	11 58 57.6	+0.7
	comp=N,0.2nm,0.1s							
ABTA				*i* Sg		Sb	11 59 07.0	+0.2
	comp=N,2.8nm,0.2s							
ZOU	**Zoufplan**	**0.72**	**49**	*e*Pg		Pb	11 58 57.6	+0.2
DOSS	**Dosso del Somm**	**0.72**	**254**	*e*Pg		Pb	11 58 57.7	+0.3
BAD	**Bernadia**	**0.75**	**78**	*e*Pg		Pb	11 58 57.3	-0.5
APPI	**Appiano**	**0.77**	**301**	AML		AML		
	comp=E,61μm,0.2s							
APPI				AML		AML		
	comp=N,58μm,1.4s							
APPI				AML		AML		
	comp=N,58μm,0.6s							
VINO	**Villanova**	**0.78**	**77**	*e*Pg		Pb	11 58 58.0	-0.3
PLRO	**Paularo**	**0.81**	**55**	*e*Pg		Pb	11 58 59.1	+0.2
MARN	**Marana (Italy)**	**0.82**	**237**	*e*Pg		Pb	11 58 59.4	+0.5
COLI	**Coloredo**	**0.83**	**87**	*e*Pg		Pb	11 58 59.4	+0.2
GAGG	**Gaggia**	**0.85**	**270**	*e*Pg		Pb	11 59 00.0	+0.4
ROSI	**Rosskopf**	**0.99**	**328**	AML		AML		
	comp=E,98μm,0.2s							
ROSI				AML		AML		
	comp=N,84μm,1.0s							
ROSI				AML		AML		
	comp=N,84μm,1.0s							
ROSI				AML		AML		
	comp=N,81μm,0.2s							
ROSI				AML		AML		
	comp=E,98μm,0.2s							
MYKA	**Terra Mystica**	**1.15**	**61**	*i* Pg		Pn	11 59 06.3	+1.4
	comp=E,1.0nm,0.1s							
MYKA				*e*Sg		Sn	11 59 23.0	+2.1
	comp=E,5.1nm,0.2s							
TRI	**Trieste**	**1.17**	**108**	AML		AML		
	comp=N,54μm,0.7s							
TRI				AML		AML		
	comp=N,54μm,1.3s							
TRI				AML		AML		
	comp=E,66μm,0.1s							
WTTA	**Wattenberg**	**1.23**	**342**	*e*Pg		Pn	11 59 08.0	+1.7
	comp=E,0.3nm,0.2s							
WTTA				*e*Sg		Sn	11 59 24.7	+1.4
	comp=E,5.8nm,0.2s							
WATA	**Walderalm**	**1.31**	**342**	*i* Pg		Pg	11 59 09.2	+1.7

SQTA	**Sankt Quirin**	**1.32**	**330**	*e*Pg		Pg	11 59 08.9	+1.3
	comp=E,0.5nm,0.1s							
SQTA				*i* Sg		Sn	11 59 26.6	+1.4
	comp=E,0.1nm,0.1s							
FETA	**Feichten**	**1.37**	**313**	*e*Pg		Pg	11 59 10.1	+1.5
	comp=E,0.2nm,0.1s							
FETA				*i* Sg		Sn	11 59 27.5	+0.9
	comp=E,0.1nm,0.1s							
LESA	**Schwarzleotal**	**1.38**	**14**	*i* Pg		Pg	11 59 10.2	+1.5
	comp=E,1.6nm,0.2s							
LESA				*i* Sg		Sn	11 59 27.8	+1.1
	comp=E,7.4nm,0.3s							
MOTA	**Moosalm**	**1.46**	**330**	*e*Pg		Pg	11 59 12.2	+1.9
	comp=E,0.1nm,0.1s							
MOTA				*e*Sg		Sg	11 59 32.1	+2.9
	comp=E,1.1nm,0.2s							
OBKA	**Obir**	**1.69**	**75**	*e*Pg		Pb	11 59 14.2	+0.3
	comp=E,0.4nm,0.1s							
OBKA				*e*Sg		Sg	11 59 37.4	+0.7
	comp=E,1.8nm,0.2s							
RETA	**Reutte**	**1.71**	**326**	*i* Pg		Pg	11 59 16.6	+1.6
	comp=E,1.3nm,0.3s							
RETA				*e*Sg		Sg	11 59 39.9	+2.8
	comp=E,2.0nm,0.2s							

*IDC **22** 12:05:37.7±0.6,54°.28S×134°.14W,h0km,mb4.0/10, mbtmp3.9/10,MS4.1/15,Error ellipse: s-maj=28.8km s-min=21.9km az=139.0*

*GCMT **22** 12:05:43.0±0.4,54°.01S±0°.02×133°.81W±0°.03,h15km, MW4.9/78,Moment Tensor Solution. s11,c13; s78,c96; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.03±.12; Mθθ1.48±.13; Mϕϕ-1.51±.12; Mrθ0.85±.36; Mϕθ1.53±.09; Mϕr2.20±.39; Best double couple: Mo3.18400×10^16^ NP1:ϕs112.00000°,δ42.00000°,λ0.00000°. NP2: ϕs22.00000°,δ90.00000°,λ132.00000°. Principal axes: T 3.1600, Plg32.0000°, Azm326.0000°; N 0.0500, Plg42.0000°, Azm201.0000°; P -3.2070, Plg31.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 22 12:05:38.7±0.6,54°.05S±0°.1×134°.3W±0°.2,h10km,n51, σ1s90/19,mb4.1/10,MS4.2/15,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**32.70**	**334**	*e*LR	LR	12 20 36.3	
	2μm,25.0s						
PMSA	**Palmer Station**	**35.42**	**136**	LR	LR	12 23 11.9	
	comp=Z,345nm,19.8s,baz=295,slow=30						
QSPA	**South Pole Qui**	**36.14**	**180**	P	**P**	**12 12 40.2**	**-0.6**
	1.3nm,1.0s,baz=280,slow=5.7,SNR=2.3						
QSPA				LR	LR	12 25 54.0	
	comp=Z,179nm,19.4s,baz=86,slow=34						
	1.3nm,1.0s						
PPT2	**Papeete2**	**38.25**	**336**	*e*S	S	12 18 47.3	-5.4
	85nm,26.5s						
PPT2				*e*LR	LR	12 23 16.7	
	422nm,23.5s						
PPT2				*e*LR	LR	12 23 22.2	
	630nm,25.2s						
PPT	**Papeete**	**38.27**	**336**	LR	LR	12 24 34.2	
	comp=Z,326nm,19.8s,baz=210,slow=30						
H03S2	**Juan Fernandez**	**43.40**	**85**	T	T	12 59 59.1	
	baz=223,slow=74,SNR=21						
H03S1	**Juan Fernandez**	**43.41**	**85**	T	T	12 59 59.7	
	baz=223,slow=74,SNR=25						
H03S3	**Juan Fernandez**	**43.42**	**85**	T	T	12 59 58.3	
	baz=223,slow=74,SNR=22						
H03N3	**Juan Fernandez**	**43.67**	**85**	T	T	13 00 15.7	
	baz=226,slow=72,SNR=155						
H03N2	**Juan Fernandez**	**43.68**	**85**	T	T	13 00 15.1	
	baz=226,slow=72,SNR=139						
PLCA	**Paso Flores**	**43.69**	**99**	LR	LR	12 27 41.6	
	comp=Z,246nm,18.3s,baz=220,slow=30						
H03N1	**Juan Fernandez**	**43.69**	**85**	T	T	13 00 15.1	
	baz=226,slow=72,SNR=111						
TAOE	**Nuku Hiva Isla**	**45.29**	**352**	*e*S	**S**	**12 20 32.1**	**-5.0**
	67nm,23.4s						
TAOE				*e*LR	LR	12 26 44.7	
	311nm,24.8s						
SNAA	**Sanae**	**50.03**	**162**	LR	LR	12 35 05.9	
	comp=Z,156nm,18.1s,baz=250,slow=36						
DZM	**Mont Dzumac**	**54.45**	**282**	*e*LR	LR	12 30 39.8	
	180nm,27.6s						
MAW	**Mawson**	**58.01**	**188**	P	**P**	**12 15 29.2**	**-1.7**
	1.4nm,0.9s,baz=199,slow=18,SNR=2.5						
	1.4nm,0.9s						
NNA	**Nana**	**61.50**	**70**	LR	LR	12 36 02.1	
	comp=Z,294nm,18.2s,baz=188,slow=30						
CPUP	**Villa Florida**	**61.60**	**96**	LR	LR	12 38 04.2	
	comp=Z,66nm,19.3s,baz=44,slow=32						
LPAZ	**La Paz**	**63.00**	**80**	P	**P**	**12 16 05.0**	**-1.5**
	1.8nm,0.8s,baz=152,slow=2.6,SNR=6.0						
LPAZ				LR	LR	12 36 36.3	
	comp=Z,128nm,21.4s,baz=214,slow=30						
	1.8nm,0.8s						
ATAH	**Atahualpa**	**64.67**	**65**	LR	LR	12 38 20.9	
	comp=Z,147nm,19.4s,baz=228,slow=30						
ASAR	**Alice Springs**	**72.22**	**254**	P	**P**	**12 17 04.5**	**+0.5**
	1.9nm,0.9s,baz=139,slow=6.5,SNR=10						
	1.9nm,0.9s						
H01W1	**Cape Leeuwin H**	**73.64**	**233**	T	T	13 38 52.1	
	baz=145,slow=75,SNR=67						
H01W2	**Cape Leeuwin H**	**73.64**	**233**	T	T	13 38 52.4	
	baz=145,slow=75,SNR=84						
H01W3	**Cape Leeuwin H**	**73.65**	**233**	T	T	13 38 53.3	
	baz=145,slow=75,SNR=52						
WRA	**Warramunga Arr**	**74.89**	**257**	P	**P**	**12 17 20.2**	**+0.5**
	1.3nm,0.9s,baz=144,slow=5.3,SNR=8.4						
	1.3nm,0.9s						
BDFB	**Brasilia**	**75.34**	**96**	LR	LR	12 47 27.5	
	comp=Z,109nm,18.4s,baz=172,slow=33						
JTS	**Las Juntas de**	**76.41**	**50**	LR	LR	12 43 30.2	
	comp=Z,118nm,18.9s,baz=209,slow=30						
ROSC	**El Rosal**	**76.91**	**62**	LR	LR	12 47 18.1	
	comp=Z,182nm,18.1s,baz=207,slow=32						
PCRV	**Puerto La Cruz**	**76.56**	**68**	LR	LR	12 53 04.8	
	comp=Z,175nm,18.2s,slow=33						
TXAR	**Lajitas Array**	**87.15**	**26**	P	**P**	**12 18 27.4**	**+2.7**
	0.1nm,0.3s,baz=237,slow=4.0,SNR=7.7						
	0.1nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**88.06**	**306**	T	T	13 56 14.1	
	baz=144,slow=75,SNR=10						
H11S3	**WAKE ISLAND Hy**	**88.07**	**306**	T	T	13 56 10.3	
	baz=144,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**88.08**	**306**	T	T	13 56 08.9	
	baz=144,slow=75,SNR=8.1						
PFO	**Pinyon Flats O**	**88.64**	**15**	P	**P**	**12 18 34.3**	**+2.6**
	0.8nm,0.5s,baz=268,slow=8.0,SNR=2.1						
	0.8nm,0.5s						
H11N3	**WAKE ISLAND Hy**	**89.01**	**306**	T	T	13 57 10.5	
	baz=149,slow=76,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**89.02**	**306**	T	T	13 57 12.8	
	baz=149,slow=76,SNR=2						
H11N2	**WAKE ISLAND Hy**	**89.03**	**306**	T	T	13 57 11.5	
	baz=149,slow=76,SNR=3.6						
MDP	**Montagnes des**	**89.20**	**80**	LR	LR	12 54 14.6	
	comp=Z,97nm,18.0s,baz=226,slow=33						
ANMO	**Albuquerque**	**91.83**	**23**	P	**P**	**12 18 47.5**	**+0.9**
	0.5nm,0.5s,baz=264,slow=7.3,SNR=5.3						
	0.5nm,0.5s						
NVAR	**Mina Array Bea**	**93.12**	**13**	P	**P**	**12 18 54.0**	**+1.4**
	0.1nm,0.4s,baz=179,slow=2.8,SNR=4.9						
	0.1nm,0.4s						
BOSA	**Boshof**	**95.82**	**162**	P	**P**	**12 19 05.0**	**-0.3**
	1.9nm,0.8s,baz=173,slow=8.1,SNR=1.8						
BOSA				LR	LR	12 58 43.0	
	comp=Z,96nm,19.2s,baz=206,slow=33						
	1.9nm,0.8s						
H02S1	**DAWSON INLET T**	**106.88**	**1**	T	T	14 19 18.5	
ILAR	**Eielson Array**	**118.86**	**354**	PKP	**PKiKP**	**12 24 27.1**	**+1.3**
	1.2nm,0.8s,baz=192,slow=2.6,SNR=13						
CMAR	**Chiang Mai Arr**	**126.10**	**250**	PKP	**PKiKP**	**12 24 43.3**	**+1.7**
	0.5nm,0.5s,baz=138,slow=2.7,SNR=7.4						
TORD	**Torodi Ar. Bea**	**126.58**	**123**	PKP	**PKiKP**	**12 24 43.1**	**+0.5**
	0.8nm,0.4s,baz=193,slow=2.9,SNR=1.4						
SONM	**Songino Array**	**142.30**	**286**	PKP	**PKPdf**	**12 25 09.3**	**-1.4**
	2.4nm,1.1s,baz=98,slow=2.9,SNR=8.7						
ESDC	**Sonseca Array**	**143.92**	**93**	PKP	PKPbc	12 25 12.3	+0.8
	0.4nm,0.7s,baz=242,slow=2.8,SNR=2.7						
KEST	**Kesra**	**148.87**	**111**	PKPbc	**PKPbc**	**12 25 25.9**	**-0.3**
	3.0nm,0.7s,baz=247,slow=6.7,SNR=3.7						
MKAR	**Makanchi Array**	**155.80**	**268**	PKPbc	PKPbc	12 25 44.4	
	1.1nm,1.0s,baz=123,slow=4.5,SNR=4.7						
MKAR				PKPab	**PKPab**	**12 25 59.5**	**+0.7**
	1.2nm,1.0s,baz=107,slow=6.8,SNR=3.9						
ZALV	**Zalesovo Beam**	**157.19**	**286**	PKPab	**PKPab**	**12 26 05.5**	**+1.0**
	4.1nm,0.8s,baz=104,slow=6.3,SNR=4.1						
BVAR	**Borovoye Array**	**165.30**	**276**	PKPab	**PKPab**	**12 26 38.9**	**-1.2**
	1.2nm,0.7s,baz=103,slow=4.6,SNR=4.6						

*JMA **22** 12:08:37.5±0.9,46°.N±6°.6×15°.1E±°.,h30km,MV4.0/9, KURILE ISLANDS REGION*

SKHL 22 12:08:41.7±0.5,45°.10N×151°.50E,h28km±7km,mb4.4/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.57**	**274**	*e*P	Pn	12 09 22.0	+0.5
KUR				AMB	AMB	12 09 23.1	
	40nm,0.4s						
KUR				*e*S	Sn	12 09 50.8	-1.0
KUR				A	A	12 09 58.8	
	200nm,0.5s						
KUR				A	A	12 09 58.8	
	100nm,0.5s						
SHO	**Shikotan**	**3.56**	**251**	*e*P	Pn	12 09 35.7	+0.7
SHO				AMB	AMB	12 09 41.3	
	20nm,0.4s						
SHO				*e*S	Sn	12 10 15.8	-0.4
SHO				A	A	12 10 21.3	
	30nm,0.4s						
SHO				A	A	12 10 21.3	
	50nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.17**	**257**	*e*P	Pn	12 09 44.3	+0.9
YUK				AMB	AMB	12 09 50.7	
	70nm,0.3s						
YUK				*e*S	Sn	12 10 29.9	-1.2
YUK				A	A	12 10 38.8	
	160nm,0.5s						
YUK				A	A	12 10 38.8	
	180nm,0.5s						
NEM2	**Nemuro 2**	**4.49**	**249**	*e*P	Pn	12 09 47.5	-0.3
NEM2				*e*S	Sn	12 10 38.7	-0.3
NMR	**Nemuro--Hokkai**	**4.49**	**249**	*e*P	Pn	12 09 48.2	+0.3
NMR				*e*S	Sn	12 10 39.7	+0.5
GLVR	**Golovnino**	**4.50**	**254**	*e*P	Pn	12 09 51.1	+3.2
GLVR				*e*S	Sn	12 10 41.1	+1.9
JRA	**Rausu**	**4.71**	**258**	*e*P	Pn	12 09 51.7	+0.9
JNK	**Nakash**	**5.09**	**255**	*e*P	Pn	12 09 56.1	0.0
JNK				*e*S	Sn	12 10 54.8	+0.8
AKK	**Akkeshi**	**5.23**	**249**	*e*P	Pn	12 09 58.2	+0.2
JAK	**Akkeshi**	**5.34**	**249**	*e*P	Pn	12 09 59.0	-0.4
JAK				*e*S	Sn	12 11 00.3	+0.4
JTKR	**Abashiri--Toko**	**5.54**	**261**	*e*P	Pn	12 10 02.7	+0.4
JAR	**Ashorobuto**	**5.84**	**255**	*e*P	Pn	12 10 07.2	+0.8
JAR				*e*S	Sn	12 11 14.4	+2.0
YSS	**Yuzhno-Sakhali**	**6.37**	**290**	*e*P	Pn	12 10 15.1	+1.6
JKK2	**Kamakawa 2**	**6.38**	**262**	*e*P	Pn	12 10 15.3	+1.5
JCH	**Churui**	**6.39**	**250**	*e*P	Pn	12 10 13.6	-0.3
JCH				*e*S	Sn	12 11 25.3	-0.5
JNBK	**Urakawa-nobuka**	**6.94**	**249**	*e*P	Pn	12 10 21.5	+0.1
JNBK				*e*S	Sn	12 11 39.0	-0.4

*NEIC **22** 12:13:33.5±1.2,39°.26N±0°.02×111°.94W±0°.01,h5km±1km, Error ellipse: s-maj=3.0km s-min=2.7km az=197.0*

UUSS 22 12:13:33.4±1.2,39°.26N±0°.02×111°.931W±0°.008, h6km±3km,ML2.3/11,ML2.7/72(NEIC),Error ellipse: s-maj=2.4km s-min=0.7km az=164.0,Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FLU	**Fool Peak**	**0.22**	**302**		Pg	12 13 38.0	+0.2
FLU	**Fool Peak**	**0.22**	**302**		Sg	12 13 41.8	+1.0
LEVU	**Levan**	**0.26**	**20**		Pg	12 13 38.8	+0.2
WCU	**Willow Creek**	**0.32**	**203**		Pg	12 13 40.2	+0.4
TMUT	**Trail Mountain**	**0.56**	**86**		Pg	12 13 44.6	+0.3
TMUT					Sb	12 13 53.2	-1.0
TMUT	**Trail Mountain**	**0.56**	**86**	IAML		12 13 54.5	
	comp=E,326nm,0.6s						
TMUT				IAML		12 13 59.7	
	comp=N,236nm,0.6s						
DBD	**Des Bee Dove**	**0.65**	**85**		Pg	12 13 46.3	+0.3
Q16A	**Castle Valley**	**0.68**	**120**		Pg	12 13 46.7	+0.1
NLU	**North Lily Min**	**0.70**	**351**		Pg	12 13 47.3	+0.4
MPU	**Maple Canyon**	**0.79**	**17**		Pg	12 13 48.9	+0.3
WMUT	**West Mountain**	**0.82**	**5**		Pg	12 13 49.5	+0.4
EMUT	**Emma Park**	**1.02**	**57**		Pg	12 13 53.3	+0.3
NMUT	**North Mineral**	**1.03**	**224**		Pb	12 13 53.6	-0.2
SRU	**San Rafael Swe**	**1.10**	**97**		Pg	12 13 54.0	-0.6
SRU	**San Rafael Swe**	**1.10**	**97**	IAML		12 14 16.2	
	comp=N,102nm,0.4s						
SRU				IAML		12 14 19.5	
	comp=E,95nm,0.7s						
DUG	**Dugway, Tooele**	**1.15**	**324**		Pg	12 13 55.3	-0.3
CWU	**Camp Williams**	**1.19**	**354**		Pg	12 13 56.2	0.0
WTU	**Western Traver**	**1.19**	**359**		Pg	12 13 56.2	0.0
ARGU	**Argyle Ridge**	**1.21**	**62**		Pb	12 13 56.9	-0.1
FSU	**Fish Springs**	**1.22**	**293**		Pg	12 13 56.5	-0.3
DAU	**Daniels Canyon**	**1.26**	**24**		Pn	12 13 58.2	+0.3
ROA	**Roan Cliffs**	**1.28**	**71**		Pg	12 13 57.7	-0.2
GMU	**Granite Mounta**	**1.32**	**6**		Pn	12 13 57.9	-0.6
P18A	**Preston Nutter**	**1.35**	**74**		Pn	12 13 59.0	-0.2
P18A	**Preston Nutter**	**1.35**	**74**	IAML		12 14 18.6	
	comp=E,68nm,0.4s						
JLU	**Jordanelle**	**1.39**	**15**		Pb	12 13 59.9	0.0
CTU	**Camp Tracy**	**1.44**	**6**		Pn	12 13 60.0	-0.2
BSUT	**Blindstream Ca**	**1.56**	**35**		Pb	12 14 02.8	-0.1
HMU	**Henry Mountain**	**1.62**	**144**		Pb	12 14 03.5	-0.4
HMU	**Henry Mountain**	**1.62**	**144**	IAML		12 14 29.3	
	comp=E,73nm,0.6s						
HMU				IAML		12 14 30.0	
	comp=N,63nm,0.6s						
PSUT	**Pine Spring**	**1.67**	**245**		Pb	12 14 04.4	-0.3
NAIU	**Northern Antel**	**1.77**	**353**		Pn	12 14 04.3	-0.3
BGU	**Big Grassy Mou**	**1.86**	**333**		Pn	12 14 05.2	-0.8
SPR3	**Spring Creek 3**	**1.89**	**263**		Pb	12 14 07.5	-1.0
SPR3				IAML		12 14 37.6	
	comp=N,26nm,0.8s						
SZCU	**Shurtz Canyon**	**1.90**	**209**	Pn	Pn	12 14 06.8	+0.3
HWUT	**Hardware Ranch**	**2.36**	**7**		Pn	12 14 13.6	+0.8
HWUT				IAML		12 14 50.5	
	comp=N,18nm,0.9s						
HWUT				IAML		12 15 00.7	
	comp=N,16nm,0.9s						
PV21	**Cone Mtn., Par**	**2.41**	**106**		Pb	12 14 16.2	-1.1
PV21				IAML		12 14 53.2	
	comp=N,69nm,0.8s						
PV21				IAML		12 14 54.7	
	comp=E,56nm,0.5s						
PV23	**Carpenter Ridg**	**2.42**	**109**		Pb	12 14 16.3	-1.2
PV10	**Paradox Valley**	**2.43**	**110**		Pb	12 14 16.8	-0.8
PV14	**Lion Creek, Pa**	**2.44**	**110**		Pb	12 14 16.7	-1.2
PV14				IAML		12 14 50.0	
	comp=E,74nm,0.4s						
PV14				IAML		12 14 53.9	
	comp=N,80nm,0.6s						
PV20	**West Nyswonger**	**2.49**	**111**		Pb	12 14 17.4	-1.3
PV05	**Paradox Valley**	**2.51**	**117**		Pb	12 14 18.2	-0.9
PV05				IAML		12 15 07.6	
	comp=N,63nm,0.6s						
PV04	**Paradox Valley**	**2.52**	**109**	IAML		12 14 56.1	
	comp=N,62nm,0.8s						
PV04				IAML		12 14 56.6	
	comp=E,46nm,0.7s						
PV17	**East Wray Mesa**	**2.52**	**112**	IAML		12 14 54.7	
	comp=E,61nm,0.6s						
PV17				IAML		12 14 59.2	
	comp=N,48nm,1.0s						
PV16	**Nyswonger Mesa**	**2.54**	**111**		Pn	12 14 17.4	+2.0
PV16				IAML		12 14 55.0	
	comp=N,68nm,0.6s						
PV16				IAML		12 14 58.3	
	comp=E,65nm,0.7s						
PV22	**Blue Mesa, Par**	**2.56**	**106**		Pb	12 14 18.1	-1.7
PV22				IAML		12 14 58.3	
	comp=E,28nm,0.7s						
PV22				IAML		12 15 03.2	
	comp=N,24nm,0.5s						
PV18	**Skein Mesa, Pa**	**2.57**	**112**		Pb	12 14 18.2	-1.9
PV18				IAML		12 15 01.3	
	comp=E,58nm,0.7s						
HVU	**Hansel Valley**	**2.59**	**346**		Pn	12 14 15.8	-0.3
PV03	**Paradox Valley**	**2.61**	**112**	IAML		12 14 58.2	
	comp=E,32nm,0.3s						
PV03				IAML		12 14 59.1	
	comp=N,48nm,0.6s						
PV13	**Radium Mtn., P**	**2.67**	**113**	IAML		12 15 07.7	
	comp=E,53nm,0.6s						
PV13				IAML		12 15 08.6	
	comp=N,37nm,0.6s						
PV07	**Paradox Valley**	**2.69**	**107**		Pb	12 14 19.9	-2.2
PV07				IAML		12 15 04.8	
	comp=E,23nm,1.1s						
PV07				IAML		12 15 05.4	
	comp=N,21nm,0.7s						
PV15	**Paradox Valley**	**2.85**	**108**	IAML		12 15 11.0	
	comp=N,33nm,0.7s						
PV15				IAML		12 15 15.0	
	comp=E,26nm,0.7s						
PV01	**Paradox Valley**	**2.86**	**112**	IAML		12 15 09.1	
	comp=N,20nm,0.4s						
PV01				IAML		12 15 21.1	
	comp=E,19nm,1.0s						

*IDC **22** 12:14:16.9±0.6,31°.51S×177°.64W,h0km,mb4.5/13, mbtmp4.4/16,ML4.3/3,MS4.2/17,Error ellipse: s-maj=22.9km s-min=16.2km az=108.0*

*WEL **22** 12:14:18.0±0.9,32°.S±7°×17°.7W±1°.5,h12km,M4.8/9, mB5.0/7,ML5.3/9,MLv5.2/9,Mw(mB)4.3/7,Error ellipse: s-maj=20.7km s-min=5.3km az=110.9,confirmed*

*NEIC **22** 12:14:20.5±1.8,31°.47S±0°.07×177°.8W±0°.2,h10km±1km, mb4.9/38,Error ellipse: s-maj=23.9km s-min=11.7km az=98.0*

ISC 22 12:14:19.8±0.4,31°.59S±0°.05×177°.74W±0°.08,h10km, n152,σ1s90/140,mb4.8/35,MS4.3/16,6C-2D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.34**	**356**	Pn	**Pn**	**12 14 56.1**	**-2.2**
RAO	**Raoul Island**	**2.34**	**356**	Pn	**Pn**	**12 14 55.0**	**-3.2**
	138nm,0.3s,baz=290,slow=22,SNR=5.0						
RAO				Sn	**Sn**	**12 15 20.5**	**-6.6**
	307nm,0.3s,baz=271,slow=21,SNR=5.5						
	626nm,0.5s						
RAO	**Raoul Island**	**2.34**	**356**	P	**Pn**	**12 14 56.5**	**-1.8**
MXZ	**Matakaoa Point**	**6.79**	**208**	Pn	**Pn**	**12 16 00.1**	**+0.7**
MXZ	**Matakaoa Point**	**6.79**	**208**	P	**Pn**	**12 15 56.7**	**-2.7**
MXZ				S	**Sn**	**12 17 13.3**	**-3.5**
WMGZ	**Waiomatatini S**	**6.97**	**206**	P	**Pn**	**12 16 00.5**	**-1.4**
WMGZ				S	**Sn**	**12 17 19.2**	**-2.1**
PKGZ	**Pakihiroa**	**7.14**	**208**	P	**Pn**	**12 16 01.7**	**-2.6**
PKGZ				S	**Sn**	**12 17 25.0**	**-0.5**
HAZ	**Te Kaha**	**7.17**	**210**	P	**Pn**	**12 16 03.5**	**-1.2**
HAZ				S	**Sn**	**12 17 27.4**	**+1.3**
PUZ	**Puketiti**	**7.25**	**206**	P	**Pn**	**12 16 03.4**	**-2.4**
PUZ				S	**Sn**	**12 17 26.9**	**-1.4**
RUGZ	**Raukumara Rang**	**7.39**	**209**	P	**Pn**	**12 16 05.4**	**-2.4**
RUGZ				S	**Sn**	**12 17 31.0**	**-0.7**
TWGZ	**Tauwhareparae**	**7.45**	**207**	P	**Pn**	**12 16 06.0**	**-2.6**
TWGZ				S	**Sn**	**12 17 32.3**	**-0.9**
CNGZ	**Carnagh Statio**	**7.63**	**205**	P	**Pn**	**12 16 08.4**	**-2.7**
CNGZ				S	**Sn**	**12 17 37.2**	**-0.4**
TKGZ	**Te Karaka**	**7.73**	**207**	P	**Pn**	**12 16 10.1**	**-2.3**
TKGZ				S	**Sn**	**12 17 38.0**	**-1.9**
MWZ	**Matawai**	**7.76**	**209**	S	**Sn**	**12 17 38.2**	**-2.7**
OPRZ	**Ohinepanea**	**7.80**	**215**	P	**Pn**	**12 16 11.5**	**-1.8**
OPRZ				S	**Sn**	**12 17 44.0**	**+2.3**
URZ	**Urewera**	**7.88**	**211**	Pn	**Pn**	**12 16 12.7**	**-1.7**
	3.3nm,0.3s,baz=318,slow=5.8,SNR=18						
URZ				Sn	**Sn**	**12 17 40.6**	**-3.0**
	9.7nm,0.3s,baz=189,slow=22,SNR=11						
	6.6nm,0.3s						
URZ	**Urewera**	**7.88**	**211**	P	**Pn**	**12 16 12.8**	**-1.7**
URZ				S	**Sn**	**12 17 41.7**	**-1.9**
WCZ	**Waipu Caves**	**7.88**	**235**	P	Pn	12 16 21.8	+7.3
RAGZ	**Rawiri**	**7.95**	**209**	S	**Sn**	**12 17 43.9**	**-1.6**
RIGZ	**Rimuhau**	**7.99**	**206**	S	**Sn**	**12 17 45.9**	**-0.7**
MKAZ	**Moumakai**	**8.04**	**225**	P	Pn	12 16 24.1	+7.5
OUZ	**Omahuta**	**8.09**	**241**	P	Pn	12 16 23.1	+5.8
PRGZ	**Paritu Road**	**8.14**	**205**	S	**Sn**	**12 17 46.8**	**-3.3**
MUGZ	**Murupara**	**8.21**	**212**	P	**Pn**	**12 16 17.8**	**-1.2**
MUGZ				S	**Sn**	**12 17 49.0**	**-2.8**
SNGZ	**Shannon Statio**	**8.22**	**208**	P	**Pn**	**12 16 18.6**	**-0.6**
SNGZ				S	**Sn**	**12 17 49.8**	**-2.3**
RTZ	**Ruatahuna**	**8.23**	**210**		Pn	12 16 15.1	-4.3
MHGZ	**Mahia Peninsul**	**8.34**	**204**	S	**Sn**	**12 17 51.7**	**-3.2**
NGZ	**Ngauruhoe**	**9.31**	**214**	P	**Pn**	**12 16 34.8**	**+0.6**
NGZ				S	**Sn**	**12 18 17.4**	**-1.7**
WAZ	**Wanganui**	**10.06**	**214**	P	**Pn**	**12 16 46.5**	**+2.1**
WAZ				S	**Sn**	**12 18 35.0**	**-2.3**
BFZ	**Birch Farm**	**10.29**	**206**	Pn	**Pn**	**12 16 46.1**	**-1.3**
NNZ	**Nelson**	**11.97**	**214**	Pn	**Pn**	**12 17 11.3**	**+0.9**
CTZ	**Chatham Island**	**12.15**	**176**	P	**Pn**	**12 17 10.4**	**-2.5**
CTZ				S	Sn	12 19 14.1	-14
RPZ	**Rata Peaks**	**14.99**	**213**	Pn	**Pn**	**12 17 50.0**	**-1.6**
	1.2nm,0.3s,baz=79,slow=5.3,SNR=6.0						
RPZ				Sn	Sn	12 20 22.7	-15
	1.5nm,0.3s,baz=290,slow=9.1,SNR=4.1						
	3.4nm,0.3s						
PINNC	**Pines Island,**	**15.92**	**301**		**Pn**	**12 18 02.7**	**-1.3**
PINNC				IAmb	IAmb	12 18 11.6	
	comp=Z,80nm,0.9s						
EAZ	**Earnscleugh**	**16.95**	**213**	P	**Pn**	**12 18 15.8**	**-1.2**
DZM	**Mont Dzumac**	**16.98**	**300**		**Pn**	**12 18 15.3**	**-2.3**
DZM				IAmb	IAmb	12 18 24.6	
	comp=Z,108nm,1.4s						
DZM	**Mont Dzumac**	**16.98**	**300**	*e*Pn	**P**	**

PMSA Palmer Station 71.09 155 LR LR 12 50 09.1
comp=Z,115nm,18.8s,baz=218,slow=30
MAW Mawson 71.27 201 P **P** **12 25 38.4 -0.6**
comp=Z,9.0nm,1.1s,baz=103,slow=8.5,SNR=11
MAW LR LR 12 57 20.4
comp=Z,225nm,18.4s,baz=111,slow=36
comp=Z,9.0nm,1.1s
LEM Lemberg 73.38 272 LR LR 12 59 37.5
comp=Z,181nm,18.0s,baz=28,slow=37
SYO Syowa Base 76.01 193⇑*e*P **P** **12 26 06.2 -0.5**
SYO Syowa Base 76.01 193⇑*es*P sP 12 26 12.2 +3.4
TROLL Troll, Antarti 76.68 180 ⇑P P 12 26 06.0 -4.7
comp=Z,228nm,0.7s
SNAA Sanae 76.96 178 ⇑P **P** **12 26 12.9 +0.7**
comp=Z,110nm,1.0s
SNAA Sanae 76.96 178 P **P** **12 26 13.2 +0.9**
SNAA IAmb IAmb 12 26 36.9
comp=Z,8.9nm,0.8s
SNAA Sanae 76.96 178 P **P** **12 26 11.4 -0.8**
comp=Z,3.8nm,1.1s,baz=226,slow=6.3,SNR=4.7
comp=Z,3.8nm,1.1s
VNA3 Neumayer Olymp 77.10 176 ⇑P **P** **12 26 12.7 -0.2**
comp=Z,20nm,0.8s
VNA1 Neumayer--Stat 77.77 176 ⇑P **P** **12 26 17.5 +0.9**
comp=Z,16nm,0.8s
MJAR Matsushiro Arr 79.34 325 P **P** **12 26 23.6 -2.2**
comp=Z,2.2nm,0.9s,baz=148,slow=4.9,SNR=4.8
comp=Z,2.2nm,0.9s
PLCA Paso Flores 81.54 133 LR LR 12 54 52.3
comp=Z,78nm,18.5s,baz=233,slow=30
LPIG La Paz 84.98 58 LR LR 12 58 16.8
comp=Z,134nm,18.3s,baz=231,slow=31
KSRS Korea Array 85.39 320 P **P** **12 26 55.4 -1.9**
comp=Z,1.5nm,1.0s,baz=148,slow=4.6,SNR=5.6
comp=Z,1.5nm,1.0s
PETK Petropavlovsk- 87.02 345 P **P** **12 27 03.4 -1.6**
PETK Petropavlovsk- 87.02 345 P **P** **12 27 03.6 -1.4**
comp=Z,11nm,0.8s,baz=152,slow=6.6,SNR=18
comp=Z,11nm,0.8s
NJ2 Nanjing 87.18 311 *e*P **P** **12 27 10.1 +3.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
WSHM Spangler Hills 87.54 45 P P 12 27 14.1 +6.1
CCCA Chr Cany lake 87.57 45 P P 12 27 14.7 +6.6
O02D Mt. Diablo Mer 87.68 39 P P 12 27 13.8 +5.3
O02D IAmb IAmb 12 27 26.9
comp=Z,11nm,1.2s
USRK Ussuriysk Ar. 88.27 326 P **P** **12 27 10.1 -1.1**
comp=Z,3.3nm,0.8s,baz=159,slow=5.9,SNR=4.3
comp=Z,3.3nm,0.8s
WAKR Walker 88.36 42 IAmb IAmb 12 27 13.1
comp=Z,7.2nm,1.3s
NVAR Mina Array Bea 88.96 43 **P** **12 27 14.2 -0.7**
NVAR Mina Array Bea 88.96 43 P **P** **12 27 13.3 -1.5**
comp=Z,2.5nm,1.0s,baz=216,slow=7.8,SNR=14
comp=Z,2.5nm,1.0s
TPNV Topopah Spring 89.18 45 P P 12 27 21.1 +5.2
K05A Summer Lake 90.49 38 IAmb IAmb 12 27 23.4
comp=Z,10nm,1.2s
TIA Tai'an 90.94 313 P **P** **12 27 22.8 -1.1**
TIA pmax pmax
comp=Z,4.0nm,0.4s
H04A Detroit Lake 91.21 36 **P** **12 27 22.6 -2.3**
H04A IAmb IAmb 12 27 45.8
comp=Z,4.2nm,0.9s
PINE Pine Mountain 91.21 37 **P** **12 27 24.8 -0.4**
PINE IAmb IAmb 12 27 26.2
comp=Z,6.5nm,1.0s
U15A North Rim 91.28 47 IAmb IAmb 12 27 40.6
comp=Z,3.6nm,0.8s
CCUT Cedar City 91.33 46 IAmb IAmb 12 27 31.3
comp=Z,5.5nm,1.4s
KDAK Kodiak Island 91.52 13 LR LR 13 03 25.8
comp=Z,104nm,18.2s,baz=184,slow=32
BNX BinXian 91.61 325 ⇓P **P** **12 27 29.8 +3.1**
BNX pmax pmax
comp=Z,7.0nm,1.4s
TXAR Lajitas Array 92.85 57 P **P** **12 27 33.9 +0.8**
TXAR Lajitas Array 92.85 57 P **P** **12 27 31.5 -1.5**
comp=Z,0.7nm,0.9s,baz=194,slow=9.0,SNR=4.5
TXAR LR LR 13 03 13.3
comp=Z,63nm,18.2s,baz=256,slow=32
comp=Z,0.7nm,0.9s
NNA Nana 92.89 106 LR LR 13 00 23.0
comp=Z,66nm,21.7s,baz=193,slow=30
CMIG Matias Romero 92.91 72 LR LR 13 00 57.7
comp=Z,57nm,19.8s,baz=188,slow=30
MFID Camas Ranch 93.69 40 IAmb IAmb 12 28 07.9
comp=Z,16nm,2.0s
PV13 Radium Mtn., P 94.52 48 IAmb IAmb 12 27 43.5
comp=Z,6.5nm,1.3s
HLID Hailey 94.56 41 IAmb IAmb 12 27 55.8
comp=Z,11nm,2.0s
PLID Pearl Lake 94.69 39 IAmb IAmb 12 27 41.8
comp=Z,3.4nm,1.1s
PZH PanZhiHua 96.05 297 P **P** **12 27 52.0 +4.2**
NEW Newport 96.21 36 LR LR 13 07 16.1
comp=Z,166nm,18.2s,baz=232,slow=33
PDAR Pinedale Array 96.84 44 P **P** **12 27 50.1 -1.0**
comp=Z,0.2nm,0.5s,baz=269,slow=3.0,SNR=2.4
comp=Z,0.2nm,0.5s
LPAZ La Paz 97.46 114 LR LR 13 05 44.5
comp=Z,30nm,18.1s,baz=182,slow=32
ILAR Eielson Array 99.04 13 P **Pdif** **12 27 58.5 -1.7**
comp=Z,0.3nm,0.7s,baz=218,slow=4.9,SNR=4.1
ILAR LR LR 13 04 48.7
comp=Z,88nm,21.0s,baz=230,slow=31
comp=Z,0.3nm,0.7s
LZH Lanzhou 99.61 306 *e*P **Pdif** **12 28 05.3 +1.6**
LZH pmax pmax
comp=Z,18nm,1.3s
MKAR Makanchi Array 118.70 310 PKP **PKPdf** **12 33 05.5 -2.4**
comp=Z,1.0nm,0.8s,baz=96,slow=1.4,SNR=5.7
KURK Kurchatov 122.03 313 PKPdf **PKPdf** **12 33 13.2 -0.9**
KURBB Kurchatov Arra 122.06 313 PKP **PKPdf** **12 33 12.1 -2.0**
comp=Z,1.6nm,0.9s,baz=104,slow=2.2,SNR=15
KKAR Karatay Array 125.91 303 **PKPdf** **12 33 20.4 -1.4**
BVAR Borovoye Array 127.41 315 PKP **PKPdf** **12 33 23.2 -1.2**
comp=Z,2.2nm,0.9s,baz=82,slow=3.1,SNR=8.3
AKTO Aktyubinsk 135.06 312 PKP **PKPdf** **12 33 38.4 -0.5**
comp=Z,0.7nm,0.3s,baz=1.9,slow=3.7,SNR=4.6
KBZ Khabaz 145.95 303 PKPbc **PKPdf** **12 33 58.0 -0.7**
comp=Z,16nm,1.1s,baz=73,slow=1.8,SNR=14
KARS Kars 146.06 297 **PKPdf** **12 34 01.1 +1.8**
FINES FINESS Array B 146.34 340 PKPbc **PKPdf** **12 33 58.4 -0.4**
comp=Z,26nm,0.8s,baz=56,slow=3.4,SNR=52
GURO Guroymak-BITLI 146.91 293 **PKPdf** **12 34 02.2 +1.4**
NC303 NORSAR Array S 149.76 351 **PKPdf** **12 34 08.2 +3.7**
NB2 NORSAR Subarra 149.96 351 PKP **PKPdf** **12 34 08.5 +3.6**
comp=Z,1.5nm,0.8s,baz=15,slow=2.6
NOA NORSAR Array B 149.96 351 PKPbc **PKPdf** **12 34 06.4 +1.5**
comp=Z,3.9nm,1.0s,baz=15,slow=3.7,SNR=7.7
HFS Hagfors 150.45 348 PKPbc **PKPdf** **12 34 09.5 +3.9**
comp=Z,5.4nm,0.8s,baz=219,slow=3.8,SNR=8.5
MMAI Mount Meron Ar 152.01 282 PKPbc **PKPbc** **12 34 14.6 -0.9**
comp=Z,12nm,0.8s,baz=86,slow=4.3,SNR=7.1
AKASG Malin Array Be 152.37 322 PKPbc **PKPbc** **12 34 14.6 -1.0**
comp=Z,3.7nm,0.9s,baz=46,slow=2.5,SNR=11
AK01 Malin Array Si 152.38 322 PKP **PKPdf** **12 34 13.5 +4.7**
KIEV Kiev 152.38 322 **PKPbc** **12 34 14.7 -1.0**
KIEV Kiev 152.38 322 PKP **PKPdf** **12 34 14.0 +5.2**
BRTR Keskin Array B 153.34 296 **PKPbc** **12 34 16.6 -1.8**
BRTR Keskin Array B 153.34 296 PKPbc **PKPbc** **12 34 16.5 -1.9**
comp=Z,2.2nm,0.9s,baz=96,slow=2.9,SNR=7.0
BURAR Bucovina Array 156.28 319 PKPdf **PKPdf** **12 34 14.1 -0.4**
BURAR **PKPab** **12 34 40.7 -1.9**
MORC Moravsky Berou 158.53 332 *e*PKP **PKPab** **12 34 51.1 -1.0**
CLL Collm 158.76 341 ⇓*i*PKPab **PKPab** **12 34 51.4 -1.6**
comp=Z,10.0nm,0.9s
CLL *ep*PKPab **pPKPab** **12 34 56.0 +1.5**
BRG Berggiesshubel 158.88 339 *e*PKP **PKPab** **12 34 52.4 -1.1**
BRG Amp 12 34 53.6
comp=Z,8.7nm,1.1s
VYHS Vyhne 158.96 328 *e*PKP **PKPab** **12 34 53.3 -0.7**
JAVC Velka Javorina 159.19 330 *e*PKP **PKPab** **12 34 54.6 -0.5**
VRAC Vranov 159.27 333 *e*PKP **PKPab** **12 34 54.7 -0.6**
KRUC Moravsky 159.55 333 *e*PKP **PKPab** **12 34 55.4 -1.1**
CONA Conrad Observa 160.67 331 *i* PKP **PKPab** **12 35 00.8 -0.8**
comp=Z,4.6nm,0.9s
RONA Rosalia, Austr 160.67 330 *i* PKP **PKPab** **12 35 00.8 -0.7**
comp=Z,3.3nm,0.7s
GERES GERESS Array B 160.72 337 PKPab **PKPab** **12 35 00.3 -1.5**
comp=Z,1.3nm,0.7s,baz=0.0,slow=4.0,SNR=8.7
ARSA Arzberg 161.35 331 *e*PKP **PKPab** **12 35 05.1 +0.6**
comp=Z,0.8nm,0.6s
SOKA Soboth 162.00 330 *i* PKP **PKPab** **12 35 06.0 -1.4**
comp=Z,3.2nm,1.0s
LESA Schwarzleotal 162.29 336 *i* PKP **PKPab** **12 35 07.4 -1.2**
comp=Z,3.6nm,1.0s
OBKA Obir 162.34 331 *i* PKP **PKPab** **12 35 07.1 -1.8**
comp=Z,3.0nm,0.8s
MYKA Terra Mystica 162.61 333 *e*PKP **PKPab** **12 35 07.9 -2.1**
comp=Z,2.2nm,0.8s
WTTA Wattenberg 162.78 338 *i* PKP **PKPab** **12 35 10.2 -0.6**
comp=Z,4.5nm,0.6s
RETA Reutte 162.84 340 *i* PKP **PKPab** **12 35 10.2 -0.8**
comp=Z,5.5nm,0.8s
MOTA Moosalm 162.87 339 *i* PKP **PKPab** **12 35 10.3 -0.9**
comp=Z,14nm,1.1s
ABTA Abfaltersbach 162.93 335 *i* PKP **PKPab** **12 35 09.7 -1.8**
comp=Z,5.9nm,1.0s
SQTA Sankt Quirin 162.95 339 *e*PKP **PKPab** **12 35 10.3 -1.2**
comp=Z,9.2nm,1.0s
FETA Feichten 163.27 339 *i* PKP **PKPab** **12 35 12.6 -0.5**
comp=Z,5.3nm,0.9s

IDC ***22*** *12:32:13.2±0.5, 42.74N×87.70E, h0km, mb4.3/26, mbtmp4.3/32, ML4.0/6, MS3.7/23, Error ellipse: s-maj=15.9km s-min=8.5km az=40.0*
MOS ***22*** *12:32:13.7±0.9, 42.83N×87.67E, h9km, mb4.9/22, Error ellipse: s-maj=7.5km s-min=5.3km az=39.0*
NNC ***22*** *12:32:15.4±4.0, 42.69N×87.79E, h14km±21km, mb4.9, mpv5.2, Error ellipse: s-maj=26.6km s-min=15.0km az=157.0*
BJI ***22*** *12:32:16.9, 42.76N×87.67E, h20km, mB4.4/7, mb4.6/36, ML4.7/8, Ms4.2/13, Ms7 4.0/9*
NEIC ***22*** *12:32:16.0±1.6, 42.82N±0.08×87.7E±0.1, h10km±1km, mb4.8/56, Error ellipse: s-maj=14.3km s-min=13.2km az=17.0*
ISC 22 12:32:15.3±0.3, 42.82N±0.05×87.70E±0.04, h10km, n256, σ1s79/243, mb4.6/90, MS3.7/21, 29C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**1.00**	**360**	Pg	**Pn**	**12 32 37.0**	**+1.5**
WMQ				Sg	**Sn**	**12 32 51.0**	**+1.2**
WMQ				smax	smax		
	comp=N,23μm,0.7s						
WMQ				smax	smax		
	comp=E,10μm,0.7s						
MK31	**Makanchi Array**	**5.53**	**318**	⇑Pn	**Pn**	**12 33 41.5**	**+3.8**
	56nm,0.3s,baz=136,slow=14,SNR=1529						
MK31				⇑Lg	Lg	12 35 14.5	
	613nm,0.8s,baz=134,slow=26						
MK31	**Makanchi Array**	**5.53**	**318**	*i* P	**Pn**	**12 33 38.8**	**+1.1**
MKAR	**Makanchi Array**	**5.53**	**318**		**Pn**	**12 33 39.1**	**+1.4**
MKAR	**Makanchi Array**	**5.53**	**318**	Pn	**Pn**	**12 33 39.3**	**+1.6**
	16nm,0.3s,baz=133,slow=14,SNR=208						
MKAR				Sn	**Sn**	**12 34 38.5**	**-2.8**
	31nm,0.3s,baz=138,slow=16,SNR=4.3						
MKAR				Lg	Lg	12 35 11.3	
	86nm,0.3s,baz=50,slow=6.5,SNR=5.5						
MKAR				LR	LR	12 36 14.8	
	comp=Z,377nm,19.4s,baz=187,slow=43						
	27nm,0.4s						
MKAR	**Makanchi Array**	**5.53**	**318**	*i* P	**Pn**	**12 33 39.2**	**+1.6**
MKAR				pmax	pmax		
	comp=Z,26nm,0.4s						
MAKZ	**Makanchi**	**5.70**	**316**		**Pn**	**12 33 42.1**	**+2.1**
MAKZ	**Makanchi**	**5.70**	**316**	⇑Pn	**Pn**	**12 33 43.4**	**+3.5**
	comp=Z,40nm,0.4s						
MAKZ				Lg	Lg	12 35 18.4	
	comp=Z,298nm,0.7s						
MAKZ	**Makanchi**	**5.70**	**316**	P	**Pn**	**12 33 41.3**	**+1.3**
PDGK	**Podgornoye**	**6.03**	**278**	⇑Pn	**Pn**	**12 33 46.9**	**+2.2**
	comp=Z,120nm,0.3s						
PDGK				⇑Sn	**Sn**	**12 34 55.6**	**+1.7**
	comp=Z,274nm,0.5s						
PDGK				⇓Lg	Lg	12 35 28.1	
	comp=Z,683nm,0.6s						
PDGK	**Podgornoye**	**6.03**	**278**	P	**Pn**	**12 33 46.5**	**+1.8**
PRZ	**Przheval'sk**	**6.87**	**270**		**Pn**	**12 33 58.0**	**+1.9**
PRZ	**Przheval'sk**	**6.87**	**270**	P	**Pn**	**12 33 58.0**	**+1.9**
TARG	**Taragay, Kyrgy**	**7.42**	**265**		**Pn**	**12 34 05.5**	**+1.5**
TARG	**Taragay, Kyrgy**	**7.42**	**265**	P	**Pn**	**12 34 05.5**	**+1.5**
KDJ	**Kajisay**	**7.81**	**269**		**Pn**	**12 34 09.8**	**+0.8**
KDJ	**Kajisay**	**7.81**	**269**	P	**Pn**	**12 34 09.9**	**+0.8**
KNDC	**Almaty**	**7.88**	**277**	⇑Pn	**Pn**	**12 34 11.6**	**+1.6**
	comp=Z,147nm,0.5s						
KNDC				⇓Sn	**Sn**	**12 35 42.7**	**+3.6**
	comp=Z,369nm,0.9s						
KNDC				⇑Lg	Lg	12 36 27.2	
	comp=Z,561nm,0.8s						
KNDC	**Almaty**	**7.88**	**277**	P	**Pn**	**12 34 11.5**	**+1.6**
ULHL	**Ulahol**	**8.48**	**270**	P	**Pn**	**12 34 18.7**	**+0.3**
	SNR=31						
GOMU	**GeErMu**	**8.60**	**138**	P	**Pn**	**12 34 20.1**	**+0.1**
GOMU				smax	smax		
	comp=Z,95nm,0.7s						
GOMU				smax	smax		
	comp=Z,86nm,0.7s						
BOOM	**Boomskoye usch**	**8.67**	**272**		**Pn**	**12 34 21.3**	**+0.4**
BOOM	**Boomskoye usch**	**8.67**	**272**	P	**Pn**	**12 34 21.3**	**+0.4**
NRN	**Naryn**	**8.80**	**265**		**Pn**	**12 34 23.4**	**+0.5**
NRN	**Naryn**	**8.80**	**265**	P	**Pn**	**12 34 23.4**	**+0.5**
TKM2	**Tokmak 2**	**8.89**	**275**	P	**Pn**	**12 34 25.7**	**+1.7**
	SNR=88						
KBK	**Karagaybulak**	**9.39**	**273**	P	**Pn**	**12 34 31.8**	**+1.0**
	SNR=26						
KSH	**Kashi**	**9.44**	**253**	P	Pn	12 34 37.4	+6.1
KSH				sP		12 34 48.1	
KSH				pmax	pmax		
	comp=Z,52nm,0.6s						
KSH				LR	LR		
	comp=Z,1μm,21.0s						
KSH				LR	LR		
	comp=Z,840nm,21.6s						
CHMS	**Chumysh**	**9.51**	**275**	P	**Pn**	**12 34 33.7**	**+1.5**
	SNR=5.5						
USP	**Ospenovka**	**9.68**	**277**	P	**Pn**	**12 34 36.1**	**+1.6**
	SNR=10.0						
AAK	**Ala-Archa**	**9.72**	**273**	P	**Pn**	**12 34 35.9**	**+0.7**
	SNR=14						
AAK	**Ala-Archa**	**9.72**	**273**		**Pn**	**12 34 35.9**	**+0.7**
AAK	**Ala-Archa**	**9.72**	**273**	⇓Pn	**Pn**	**12 34 34.9**	**-0.4**
	comp=Z,7.8nm,0.5s						
AAK				⇓Lg	Lg	12 37 25.7	
	comp=Z,40nm,0.8s						
AAK	**Ala-Archa**	**9.72**	**273**	Pn	**Pn**	**12 34 36.0**	**+0.8**
	comp=Z,6.9nm,0.3s,baz=114,slow=8.7,SNR=18						
AAK				Sn	**Sn**	**12 36 22.9**	**-1.7**
	comp=Z,2.2nm,0.3s,baz=9.8,slow=20,SNR=1.3						
AAK				Lg	Lg	12 37 20.9	
	comp=Z,2.4nm,0.3s,baz=274,slow=19,SNR=1.5						
	comp=Z,20nm,0.4s						
AAK	**Ala-Archa**	**9.72**	**273**	*ce*P	**Pn**	**12 34 35.7**	**+0.4**
AAK				pmax	pmax		
	comp=Z,25nm,0.7s						
UCH	**Uchtor**	**9.76**	**271**	P	**Pn**	**12 34 37.1**	**+1.1**
	SNR=15						
GTA	**Gaotai**	**9.76**	**106**	*e*P	**Pn**	**12 34 34.3**	**-1.4**
GTA				pP		12 34 37.6	
GTA				S	**Sn**	**12 36 20.0**	**-5.4**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				LR	LR		
	comp=N,310nm,6.8s						
GTA				LR	LR		
	comp=E,430nm,6.0s						
GTA				LR	LR		
	comp=Z,400nm,11.2s						
KURBB	**Kurchatov Arra**	**10.02**	**324**	⇑Pn	**Pn**	**12 34 38.0**	**-1.2**
	comp=Z,35nm,0.6s						
KURBB				⇑Lg	Lg	12 37 40.7	
	comp=Z,503nm,1.2s						
KURBB	**Kurchatov Arra**	**10.02**	**324**	Pn	**Pn**	**12 34 39.0**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=131,slow=13,SNR=45						
KURBB				Sn	**Sn**	**12 36 29.1**	**-2.5**
	comp=Z,1.4nm,0.3s,baz=220,slow=10.0,SNR=5.0						
KURBB				Lg	Lg	12 37 34.4	
	comp=Z,1.8nm,0.3s,baz=113,slow=31,SNR=5.4						
KURBB				LR	LR	12 38 58.8	
	comp=Z,398nm,20.1s,baz=174,slow=40						
	comp=Z,3.3nm,0.6s						
KURK	**Kurchatov**	**10.05**	**325**		**Pn**	**12 34 39.3**	**-0.3**
KURK	**Kurchatov**	**10.05**	**325**	⇑Pn	**Pn**	**12 34 39.9**	**+0.3**
	comp=Z,20nm,0.8s						
KURK				⇑Lg	Lg	12 37 40.7	
	comp=Z,458nm,1.0s						
KURK	**Kurchatov**	**10.05**	**325**	*ce*P	**Pn**	**12 34 39.9**	**+0.3**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
EKS2	**Erkin-Say**	**10.25**	**274**	P	**Pn**	**12 34 42.9**	**+0.5**
	SNR=20						
ZAA0	**Zalesovo Array**	**11.30**	**351**		**Pn**	**12 34 56.5**	**-0.2**
ZAA0	**Zalesovo Array**	**11.30**	**351**	⇑P	**Pn**	**12 34 56.8**	**+0.1**
	comp=Z,3.4nm,1.1s						
ZALV	**Zalesovo Beam**	**11.30**	**351**	Pn	**Pn**	**12 34 56.8**	**+0.1**
	comp=Z,4.9nm,0.3s,baz=170,slow=13,SNR=60						
ZALV				Sn	**Sn**	**12 36 59.5**	**-3.4**
	comp=Z,9.4nm,0.3s,baz=175,slow=24,SNR=7.9						
ZALV				Lg	Lg	12 38 15.7	
	baz=190,slow=25						
ZALV				LR	LR	12 40 10.5	
	comp=Z,374nm,20.1s,baz=161,slow=42						
	comp=Z,11nm,0.3s						
OHH	**Osh**	**11.39**	**263**	P	**Pn**	**12 34 59.2**	**+1.2**
KK31	**Karatay Array**	**12.60**	**277**		**Pn**	**12 35 15.1**	**+0.6**
KK31	**Karatay Array**	**12.60**	**277**	⇑Pn	**Pn**	**12 35 14.2**	**-0.3**
	comp=Z,3.8nm,0.5s						
KK31				⇑Lg	Lg	12 39 01.5	
	comp=Z,12nm,0.6s						
KK31	**Karatay Array**	**12.60**	**277**	P	**Pn**	**12 35 15.1**	**+0.6**
KKAR	**Karatay Array**	**12.60**	**277**		**Pn**	**12 35 14.6**	**+0.1**
KKAR	**Karatay Array**	**12.60**	**277**	P	**Pn**	**12 35 14.6**	**+0.1**
MOY	**Mondy**	**12.63**	**41**	*e*P	Pn	12 35 29.4	+14
BTK	**Batken**	**12.96**	**263**		**Pn**	**12 35 19.4**	**-0.2**
BTK	**Batken**	**12.96**	**263**	P	**Pn**	**12 35 19.4**	**-0.2**
ZAK	**Zakamensk**	**13.10**	**49**	*e*P	**Pn**	**12 35 23.7**	**+2.3**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GAR	**Garm**	**13.69**	**260**		**Pn**	**12 35 27.9**	**-1.5**
SONM	**Songino Array**	**14.07**	**63**	Pn	**Pn**	**12 35 35.7**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=248,slow=13,SNR=7.8						
SONM				Lg	Lg	12 39 36.9	
	comp=Z,0.6nm,0.3s,baz=270,slow=8.9,SNR=8.8						
SONM				LR	LR	12 41 20.2	
	comp=Z,496nm,19.3s,baz=262,slow=39						
	comp=Z,1.8nm,0.6s						
LZH	**Lanzhou**	**14.16**	**113**	*e*P	**Pn**	**12 35 37.4**	**+1.4**
LZH				sP	P	12 35 48.8	+5.2
ULN	**Ulaanbaatar**	**14.51**	**63**		**Pn**	**12 35 43.2**	**+2.5**
ULN	**Ulaanbaatar**	**14.51**	**63**	*ce*P	**Pn**	**12 35 41.9**	**+1.2**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NIL	**Nilore**	**14.56**	**236**		**Pn**	**12 35 38.3**	**-3.1**
NIL	**Nilore**	**14.56**	**236**	P	**Pn**	**12 35 38.3**	**-3.1**
SIMJ	**Simiganj**	**14.76**	**260**		**Pn**	**12 35 41.2**	**-3.0**
BVA0	**Borovoye Array**	**15.42**	**317**	⇓P	**Pn**	**12 35 54.8**	**+2.1**
	comp=Z,12nm,0.6s						
BVA0	**Borovoye Array**	**15.42**	**317**	P	**Pn**	**12 35 54.8**	**+2.1**
BVAR	**Borovoye Array**	**15.42**	**317**	Pn	**Pn**	**12 35 49.8**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=122,slow=13,SNR=15						
BVAR				Sn	**Sn**	**12 38 34.0**	**-9.4**
	baz=113,slow=23,SNR=1.9						
BVAR				Lg	Lg	12 40 25.3	
	baz=333,slow=45,SNR=1.0						
BVAR				LR	LR	12 42 09.9	
	comp=Z,274nm,21.9s,baz=104,slow=39						
	comp=Z,3.4nm,0.8s						
BRVK	**Borovoye**	**15.49**	**317**		**Pn**	**12 35 54.2**	**+0.6**
BRVK				IAmb	IAmb	12 36 12.7	
	comp=Z,37nm,0.6s						
BRVK	**Borovoye**	**15.49**	**317**	⇑P	**P**	**12 35 57.9**	**-0.2**
	comp=Z,9.7nm,0.5s						
BRVK	**Borovoye**	**15.49**	**317**	*ce*P	**Pn**	**12 35 53.4**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KBL	**Kabul**	**16.72**	**247**		**Pn**	**12 36 06.4**	**-3.4**
KBL				IAmb	IAmb	12 36 13.4	
	comp=Z,65nm,0.7s						
KBL	**Kabul**	**16.72**	**247**	P	**Pn**	**12 36 06.4**	**-3.4**
KBL				pmax	pmax		
	comp=Z,65nm,0.7s						
BTO	**Baotou**	**16.81**	**90**	*e*P	**Pn**	**12 36 09.5**	**-1.2**
BTO				PP	**PnPn**	**12 36 23.1**	**+3.1**
BTO				S	**Sn**	**12 39 15.5**	**-2.0**
BTO				pmax	pmax		
	comp=Z,11nm,0.9s						
BTO				pmax	pmax		
	comp=Z,73nm,4.8s						
BTO				LR	LR		
	comp=Z,350nm,6.8s						
BTO				LR	LR		
	comp=Z,350nm,5.3s						
BTO				LR	LR		
	comp=Z,780nm,9.5s						
SHL	**Shillong**	**17.55**	**167**		**Pn**	**12 36 20.8**	**+0.7**
SHL				IAmb	IAmb	12 36 21.4	
	comp=Z,68nm,1.1s						
SHL	**Shillong**	**17.55**	**167**	P	**Pn**	**12 36 20.8**	**+0.7**
SHL				pmax	pmax		
	comp=Z,68nm,1.1s						
XAN	**Xi'an**	**18.76**	**111**	⇓P	**Pn**	**12 36 35.8**	**+1.0**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XAN				LR	LR		
	comp=Z,280nm,11.7s						
XAN				LR	LR		
	comp=Z,120nm,10.3s						
XAN				LR	LR		
	comp=Z,180nm,13.1s						
TNCH	**TengChong**	**19.85**	**150**	P	**Pn**	**12 36 48.4**	**+0.2**
TNCH				pmax	pmax		
	comp=Z,34nm,0.7s						
PZH	**PanZhiHua**	**19.91**	**140**	P	**Pn**	**12 36 49.5**	**+0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XLT	**XiLinHaoTe**	**20.63**	**77**	*e*P	**P**	**12 36 50.5**	**-4.3**
XLT				pP	Pn	12 36 53.6	-3.5
XLT				sP	pP	12 36 56.8	-1.3
XLT				PP	**PnPn**	**12 37 10.8**	**-1.6**
XLT				S	**S**	**12 40 39.3**	**-6.0**
XLT				sS	Sn	12 40 48.5	-1.2
XLT				PcP	**PcP**	**12 40 59.6**	**-5.4**
XLT				pmax	pmax		
	comp=Z,5.0nm,0.5s						
XLT				LR	LR		
	comp=N,17nm,11.5s						
XLT				LR	LR		
	comp=E,310nm,12.8s						
XLT				LR	LR		
	comp=Z,310nm,16.2s						
LYN	**LuoYang**	**20.97**	**105**	P	Pn	12 37 00.9	-0.1
LYN				pmax	pmax		
	comp=Z,59nm,0.9s						
HNS	**HongShan**	**21.31**	**96**	⇑P	**P**	**12 37 07.8**	**+5.7**
HNS				pmax	pmax		
	comp=Z,15nm,0.9s						
ENH	**Enshi**	**21.45**	**119**		**P**	**12 37 04.9**	**+1.2**
ENH				IAmb	IAmb	12 37 09.2	
	comp=Z,22nm,0.6s						
ENH	**Enshi**	**21.45**	**119**	P	**P**	**12 37 07.7**	**+4.0**
KMI	**Kunming**	**21.55**	**140**	⇑P	**P**	**12 37 05.8**	**+0.8**
KMI				sP	sP	12 37 15.9	+6.3
KMI				pmax	pmax		
	comp=Z,70nm,0.9s						
AKTO	**Aktyubinsk**	**21.66**	**301**	⇑P	**P**	**12 37 04.5**	**-1.2**
	comp=Z,10nm,0.7s						
AKTO	**Aktyubinsk**	**21.66**	**301**	P	**P**	**12 37 05.2**	**-0.5**
	comp=Z,12nm,0.5s,baz=89,slow=8.8,SNR=28						
AKTO				Lg	Lg	12 43 43.7	
	comp=Z,0.3nm,0.3s,baz=48,slow=16,SNR=2.1						
	comp=Z,12nm,0.5s						
SVE	**Sverdlovsk**	**22.20**	**319**	*e*P	P	12 37 19.9	+8.5
SVE				pmax	pmax		
	comp=Z,65nm,0.9s						
BOD	**Bodaibo**	**22.32**	**39**

WHN sP **sP** **12 37 46.3 +6.6**
WHN LR LR
comp=Z,490nm,11.5s
SLVN Son La 25.36 143 IAmb IAmb 12 37 46.8
comp=Z,19nm,0.9s
SLVN Son La 25.36 143 P **P** **12 37 44.6 +2.1**
CHTO Chiang Mai 25.75 155 P **P** **12 37 47.0 +0.9**
CHTO IAmb IAmb 12 37 47.9
comp=Z,22nm,0.9s
CHTO Chiang Mai 25.75 155 P **P** **12 37 47.1 +1.0**
CHTO Chiang Mai 25.75 155 P **P** **12 37 47.0 +0.9**
CHTO pmax pmax
comp=Z,22nm,0.9s
CM31 Chiang Mai Arr 26.09 155 P **P** **12 37 50.7 +1.5**
CMAR Chiang Mai Arr 26.09 155 **P** **12 37 50.3 +1.1**
CMAR Chiang Mai Arr 26.09 155 P **P** **12 37 49.8 +0.7**
comp=Z,18nm,0.8s,baz=333,slow=9.1,SNR=109
CMAR LR LR 12 49 11.5
comp=Z,65nm,18.4s,baz=325,slow=39
comp=Z,18nm,0.8s
CMAR Chiang Mai Arr 26.09 155 *ce*P **P** **12 37 50.2 +1.1**
CMAR pmax pmax
comp=Z,18nm,0.8s
NJ2 Nanjing 26.83 103 *e*P **P** **12 37 57.3 +1.6**
NJ2 pmax pmax
comp=Z,13nm,0.5s
HEH HeiHe 28.04 61 *e*P **P** **12 38 07.3 +0.8**
HEH pmax pmax
comp=Z,3.0nm,0.7s
BELG Belogornoye 28.34 304 LR LR 12 50 00.6
comp=Z,56nm,20.4s,baz=110,slow=38
BNX BinXian 28.38 70 ⇑P **P** **12 38 09.8 +0.3**
BNX pmax pmax
comp=Z,6.0nm,2.7s
KIRV Kirov 28.43 317 LR LR 12 50 09.1
comp=Z,139nm,20.9s,baz=83,slow=38
KIRV Kirov 28.43 317 *i* P **P** **12 38 10.3 +0.5**
KSRS Korea Array 31.00 86 P **P** **12 38 31.3 -1.5**
comp=Z,2.1nm,0.6s,baz=290,slow=8.5,SNR=12
comp=Z,2.1nm,0.6s
YAK Yakutsk 31.23 37 LR LR 12 51 33.3
comp=Z,179nm,20.2s,baz=302,slow=37
YAK Yakutsk 31.23 37 *e*P P 12 38 41.8 +7.2
YAK pmax pmax
comp=Z,23nm,0.8s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.8s
USRK Ussuriysk Ar. 31.86 72 LR LR 12 52 54.9
comp=E,147nm,19.9s,baz=320,slow=39
KBZ Khabaz 32.33 287 P **P** **12 38 44.2 -0.2**
comp=E,1.8nm,0.4s,baz=88,slow=7.8,SNR=5.3
KBZ LR LR 12 53 57.3
comp=E,55nm,18.1s,baz=46,slow=40
comp=E,1.8nm,0.4s
KBZ Khabaz 32.33 287 *i* P **P** **12 38 45.8 +1.4**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 32.43 288 P **P** **12 38 45.8 +0.4**
comp=Z,9.8nm,0.9s
KLMR Klimovskoe 33.83 319 *e*P **P** **12 38 56.9 -0.4**
KLMR pmax pmax
comp=Z,20nm,1.4s
MOS Moscow 34.35 310 *e*P **P** **12 39 05.1 +3.2**
OBN Obninsk 34.96 309 *ce* **P** **12 39 07.4 +0.3**
OBN *e* 12 40 22.0
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,100nm,20.0s
TIXI Tiksi 35.14 21 LR LR 12 54 21.5
comp=Z,236nm,18.6s,baz=318,slow=38
SRIT Nakonsritamara 35.65 160 P **P** **12 39 14.6 +1.1**
TYV Tymovskoe 37.67 58 *e*P **P** **12 39 29.3 -1.0**
TYV pmax pmax
comp=Z,7.0nm,1.2s
TYV pmax pmax
comp=Z,100nm,2.2s
YSS Yuzhno-Sakhali 38.55 64 *e*P P 12 39 44.6 +6.7
YSS pmax pmax
comp=Z,10.0nm,1.0s
KULM Kulim 39.10 159 IAmb IAmb 12 39 44.0
comp=Z,27nm,1.0s
KULM Kulim 39.10 159 P **P** **12 39 43.3 +0.6**
RAYN Ar Rayn 39.73 255 **P** **12 39 47.5 -0.4**
RAYN Ar Rayn 39.73 255 P **P** **12 39 47.6 -0.4**
RAYN pmax pmax
comp=Z,8.0nm,0.7s
VADS Vadso 39.78 333 *e*P **P** **12 39 48.4 +0.5**
AK09 Malin Array Si 39.87 302 P **P** **12 39 49.1 +0.3**
AK08 Malin Array Si 39.88 302 P **P** **12 39 48.9 0.0**
AK03 Malin Array Si 39.88 302 P **P** **12 39 48.7 -0.3**
AKASG Malin Array Be 39.89 302 P **P** **12 39 48.9 -0.1**
comp=Z,2.2nm,0.4s,baz=72,slow=8.6,SNR=16
AKASG LR LR 12 58 18.7
comp=Z,40nm,18.7s,baz=58,slow=39
comp=Z,2.2nm,0.4s
AKASG Malin Array Be 39.89 302 *ce* **P** **12 39 48.9 -0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKBB Malin Array Si 39.89 302 P **P** **12 39 48.8 -0.2**
AKBB Malin Array Si 39.89 302 *i* P **P** **12 39 49.1 +0.1**
AKBB pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 39.89 302 P **P** **12 39 48.5 -0.5**
KIEV Kiev 39.90 302 **P** **12 39 48.9 -0.2**
KIEV Kiev 39.90 302 P **P** **12 39 48.9 -0.2**
KIEV pmax pmax
comp=Z,5.0nm,0.7s
IPM Ipoh 39.97 159 **P** **12 39 49.5 -0.5**
IPM IAmb IAmb 12 39 49.9
comp=Z,13nm,0.7s
IPM Ipoh 39.97 159 P **P** **12 39 49.7 -0.3**
BR131 Keskin Array S 40.17 285 *i* P **P** **12 39 51.7 0.0**
BRTR Keskin Array B 40.17 285 P **P** **12 39 51.6 -0.1**
comp=Z,2.9nm,0.6s,baz=93,slow=7.0,SNR=13
comp=Z,2.9nm,0.6s
FINES FINESS Array B 40.37 319 **P** **12 39 52.9 +0.1**
FINES FINESS Array B 40.37 319 P **P** **12 39 52.7 -0.1**
comp=Z,2.4nm,0.5s,baz=97,slow=9.1,SNR=27
FINES PcP **PcP** **12 41 54.4 -1.4**
comp=Z,1.8nm,0.6s,baz=62,slow=4.8,SNR=2.6
FINES LR LR 12 57 17.4
comp=Z,90nm,21.2s,baz=60,slow=37
comp=Z,2.4nm,0.5s
KEV Kevo 40.52 332 P **P** **12 39 54.8 +0.8**
KEV Kevo 40.52 332 P **P** **12 39 54.8 +0.8**
KEV pmax pmax
comp=Z,12nm,1.1s
ARA0 ARCESS Array S 41.01 332 *e*P **P** **12 39 58.6 +0.6**
ARA0 IAmb IAmb 12 39 59.2
comp=Z,3.2nm,0.7s
ARCES ARCESS Array B 41.01 332 P **P** **12 39 58.4 +0.3**
comp=Z,0.9nm,0.3s,baz=94,slow=9.0,SNR=16
ARCES PcP **PcP** **12 41 56.6 -1.2**
comp=Z,0.6nm,0.3s,baz=101,slow=2.8,SNR=6.0
ARCES LR LR 12 59 22.1
comp=Z,179nm,18.2s,baz=114,slow=40
comp=Z,0.9nm,0.3s
KTK1 Kautokeino 41.76 331 *e*P **P** **12 40 05.5 +1.3**
KTK1 IAmb IAmb 12 40 06.3
comp=Z,3.9nm,1.0s
MMAI Mount Meron Ar 41.81 274 P **P** **12 40 05.2 0.0**
comp=Z,0.9nm,0.3s,baz=63,slow=10,SNR=2.2
comp=Z,0.9nm,0.3s
RNPP8 Varash 41.83 304 P **P** **12 40 05.1 +0.2**
KMPD K-Podol'skiy 42.15 300 P **P** **12 40 06.7 -0.9**
JETT Jettan, Norway 42.79 332 *e*P **P** **12 40 13.6 +0.9**
JETT IAmb IAmb 12 40 14.0
comp=Z,6.8nm,0.8s
BURAR Bucovina Array 43.22 299 **P** **12 40 16.8 +0.2**
SPA0 Spitsbergen Ar 44.67 344 *e*P **P** **12 40 28.9 +1.3**
SPITS Spitsbergen Ar 44.67 344 P **P** **12 40 27.8 +0.2**
comp=Z,4.6nm,0.9s,baz=74,slow=11,SNR=3.0
comp=Z,4.6nm,0.9s
KOLS Kolonicke sedl 44.69 301 *e*P **P** **12 40 30.7 +2.5**
KOLS Kolonicke sedl 44.69 301 *e*P **P** **12 40 30.7 +2.5**
STEI Steigen 44.70 329 *e*P **P** **12 40 28.2 +0.2**
FAUS Fauske 44.73 328 *e*P **P** **12 40 28.4 +0.3**
FAUS IAmb IAmb 12 40 29.7
comp=Z,12nm,1.1s
LOF Lofoten 45.32 330 *e*P **P** **12 40 32.6 -0.3**
LOF IAmb IAmb 12 40 34.2
comp=Z,18nm,1.1s
VAGH Vaagaholmen 45.58 328 *e*P **P** **12 40 35.3 +0.4**

KONS Konsvik 45.67 327 *e*P **P** **12 40 36.5 +0.9**
KONS IAmb IAmb 12 40 37.3
comp=Z,2.3nm,0.8s
STOK Stokkvaagen 45.73 327 *e*P **P** **12 40 35.9 -0.3**
PETK Petropavlovsk- 46.21 52 P **P** **12 40 40.7 +0.6**
comp=Z,0.8nm,0.6s,baz=301,slow=3.5,SNR=4.3
comp=Z,0.8nm,0.6s
HFS Hagfors 46.55 318 P **P** **12 40 42.4 -0.3**
comp=Z,2.7nm,0.5s,baz=90,slow=10,SNR=24
HFS LR LR 13 01 00.3
comp=Z,105nm,19.4s,baz=76,slow=37
comp=Z,2.7nm,0.5s
VYHS Vyhne 46.99 302 *e*P **P** **12 40 47.2 +0.9**
VYHS Vyhne 46.99 302 *e*P **P** **12 40 47.2 +0.9**
STEB Steborice 47.16 304 *e*P **P** **12 40 48.5 +0.9**
STEB *ex* x 12 40 53.5
NC405 NORSAR Array S 47.27 320 P **P** **12 40 48.7 +0.3**
NC405 IAmb IAmb 12 40 56.6
comp=Z,10nm,1.1s
MORC Moravsky Berou 47.35 304 IAmb IAmb 12 40 50.9
comp=Z,3.7nm,0.7s
MORC Moravsky Berou 47.35 304 *e*P **P** **12 40 49.8 +0.6**
NC602 NORSAR Array S 47.44 320 *e*P **P** **12 40 49.5 -0.1**
NC602 IAmb IAmb 12 40 51.7
comp=Z,9.8nm,1.1s
NB2 NORSAR Subarra 47.52 320 P **P** **12 40 49.8 -0.6**
comp=Z,3.4nm,0.7s,baz=77,slow=7.9
NOA NORSAR Array B 47.52 320 P **P** **12 40 50.0 -0.3**
comp=Z,0.9nm,0.4s,baz=73,slow=8.7,SNR=13
NOA LR LR 13 01 42.1
comp=Z,58nm,21.9s,baz=75,slow=37
comp=Z,0.9nm,0.4s
JAVC Velka Javorina 47.59 303 *e*P **P** **12 40 52.0 +1.0**
DPC Dobruska-Polom 47.89 305 *e*P **P** **12 40 54.6 +1.2**
DPC *ex* x 12 41 07.8
MODS Modra-Piesok 48.00 302 *e*P **P** **12 40 54.1 -0.1**
MODS Modra-Piesok 48.00 302 *e*P **P** **12 40 54.1 -0.1**
VRAC Vranov 48.09 304 *e*P **P** **12 40 54.1 -0.8**
RONA Rosalia, Austr 48.86 302 *i* P **P** **12 41 01.8 +0.9**
comp=Z,2.8nm,0.6s
CONA Conrad Observa 49.05 302 *i* P **P** **12 41 02.3 0.0**
comp=Z,2.3nm,1.0s
ARSA Arzberg 49.52 302 *e*P **P** **12 41 06.4 +0.5**
comp=Z,1.8nm,0.7s
CLL Collm 49.53 307 IAmb IAmb 12 41 15.5
comp=Z,9.5nm,0.7s
CLL Collm 49.53 307 *e*P **P** **12 41 06.0 +0.1**
CLL *i* 12 41 14.8
CLL pmax pmax
comp=Z,8.0nm,0.6s
CLL Collm 49.53 307 *e*P **P** **12 41 06.0 +0.1**
comp=Z,8.0nm,0.6s
CLL *i* x x 12 41 14.8
comp=Z,11nm,0.6s
CLL *i* x x 12 41 19.2
CLL *e*PPP PPP 12 43 53.0
GERES GERESS Array B 50.03 304 P **P** **12 41 10.2 +0.3**
comp=Z,1.4nm,0.5s,baz=68,slow=4.9,SNR=10
comp=Z,1.4nm,0.5s
SOKA Soboth 50.05 301 *i* P **P** **12 41 10.3 +0.2**
comp=Z,2.4nm,0.6s
OBKA Obir 50.43 301 *e*P **P** **12 41 13.9 +1.0**
comp=Z,2.0nm,0.6s
MYKA Terra Mystica 50.95 301 *e*P **P** **12 41 15.3 -1.5**
comp=Z,2.3nm,0.5s
LESA Schwarzleotal 51.23 303 *i* P **P** **12 41 20.1 +1.3**
comp=Z,5.5nm,0.6s
WTTA Wattenberg 51.94 303 *i* P **P** **12 41 24.4 +0.1**
comp=Z,17nm,0.5s
WATA Walderalm 51.94 303 *i* P **P** **12 41 25.1 +0.8**
comp=Z,8.0nm,0.7s
SQTA Sankt Quirin 52.22 303 *i* P **P** **12 41 26.3 0.0**
comp=Z,10nm,0.5s
MOTA Moosalm 52.23 303 *i* P **P** **12 41 26.2 -0.3**
comp=Z,4.3nm,0.8s
RETA Reutte 52.38 303 *i* P **P** **12 41 28.2 +0.7**
comp=Z,4.2nm,0.6s
CUC Castrocucco 52.46 293 IAmb IAmb 12 41 30.8
comp=Z,12nm,0.8s
FETA Fethen 52.60 303 *i* P **P** **12 41 29.2 0.0**
comp=Z,6.0nm,0.7s
FDMO Fiordimonte 52.87 298 IAmb IAmb 12 41 47.6
comp=Z,12nm,0.8s
NRCA Norcia 52.94 297 IAmb IAmb 12 41 46.7
comp=Z,7.4nm,0.7s
CEL Celeste 53.24 291 P **P** **12 41 33.9 0.0**
CEL IAmb IAmb 12 41 48.6
comp=Z,15nm,1.0s
TUE Stuetta 53.69 303 **P** **12 41 36.9 -0.5**
TUE IAmb IAmb 12 41 51.3
comp=Z,9.1nm,0.7s
BNI Bardonecchia 56.01 302 IAmb IAmb 12 42 14.2
comp=Z,6.7nm,1.1s
EKA Eskdalemuir Ar 56.67 317 P **P** **12 41 57.6 -0.8**
comp=Z,1.5nm,0.5s,baz=59,slow=6.3,SNR=7.6
comp=Z,1.5nm,0.5s
KEST Kesra 59.03 292 P **P** **12 42 14.3 -1.1**
comp=Z,2.0nm,0.5s,baz=342,slow=6.4,SNR=2.7
comp=Z,2.0nm,0.5s
BORG Borgarnes 59.41 332 LR LR 13 08 26.8
comp=Z,32nm,19.3s,baz=34,slow=36
E24K Your Creek 61.72 21 IAmb IAmb 12 42 49.5
comp=Z,8.5nm,1.4s
BPAW Bear Paw Mtn. 63.87 25 **P** **12 42 51.9 +4.3**
BPAW IAmb IAmb 12 43 15.0
comp=Z,4.6nm,1.0s
CAST Castle Rocks 64.01 26 IAmb IAmb 12 42 58.4
comp=Z,6.1nm,1.4s
KTH Kantishna Hill 64.28 25 P **P** **12 42 52.8 +2.4**
KTH IAmb IAmb 12 43 00.0
comp=Z,4.1nm,0.7s
ILAR Eielson Array 64.59 23 P **P** **12 42 52.0 -0.3**
comp=Z,0.4nm,0.7s,baz=302,slow=5.0,SNR=6.8
comp=Z,0.4nm,0.7s
ILAR Eielson Array 64.59 23 P **P** **12 42 52.0 -0.3**
INK Inuvik 64.98 16 LR LR 13 14 00.5
comp=Z,134nm,19.1s,baz=247,slow=38
ESDC Sonseca Array 65.53 302 P **P** **12 42 58.5 -0.4**
comp=Z,3.2nm,0.5s,baz=50,slow=6.0,SNR=39
comp=Z,3.2nm,0.5s
I30M Mount Dempster 66.96 19 IAmb IAmb 12 43 27.1
comp=Z,4.9nm,0.7s
CNPM China Poot 67.10 28 P **P** **12 43 10.3 +1.8**
L27K Beaver Creek, 67.33 22 IAmb IAmb 12 43 20.5
comp=Z,5.2nm,1.1s
BCAR Beaver Creek A 67.34 22 P **P** **12 43 11.5 +1.5**
M27K Edge Creek, AK 67.88 23 IAmb IAmb 12 43 34.6
comp=Z,5.2nm,0.8s
KNRA Kununurra 69.36 137 P **P** **12 43 23.8 +0.7**
FITZ Fitzroy Crossi 69.95 141 P **P** **12 43 26.7 0.0**
FITZ Fitzroy Crossi 69.95 141 P **P** **12 43 25.9 -0.9**
comp=Z,4.8nm,0.8s,baz=322,slow=6.0,SNR=7.4
comp=Z,4.8nm,0.8s
FRB Frobisher Bay 72.12 349 LR LR 13 17 05.6
comp=Z,78nm,20.0s,baz=332,slow=37
YKA Yellowknife Ar 73.52 11 P **P** **12 43 47.2 -0.5**
comp=Z,0.6nm,0.8s,baz=344,slow=5.9,SNR=5.2
comp=Z,0.6nm,0.8s
YKA Yellowknife Ar 73.52 11 *ce*P **P** **12 43 47.4 -0.3**
WB0 Warramunga Arr 75.66 135 P **P** **12 44 00.8 +0.1**
WRAB Tennant Creek 75.78 135 P **P** **12 44 01.2 -0.1**
WRAB Tennant Creek 75.78 135 P **P** **12 44 01.3 -0.1**
WRAB pmax pmax
comp=Z,13nm,0.8s
WRA Warramunga Arr 75.78 135 P **P** **12 44 01.6 +0.3**
WRA Warramunga Arr 75.78 135 P **P** **12 44 01.1 -0.3**
comp=Z,10nm,0.8s,baz=332,slow=5.6,SNR=38
comp=Z,10nm,0.8s
WRA Warramunga Arr 75.78 135 *ce*P **P** **12 44 01.3 -0.1**
WRA pmax pmax
comp=Z,9.0nm,0.7s
WR8 Warramunga Arr 75.87 135 P **P** **12 44 01.8 -0.1**
COEN Coen 75.96 124 P **P** **12 44 00.8 -1.7**
TORD Torodi Ar. Bea 78.29 277 P **P** **12 44 14.4 -1.3**
TORD Torodi Ar. Bea 78.29 277 P **P** **12 44 14.5 -1.2**
comp=Z,1.5nm,0.3s,baz=39,slow=5.5,SNR=4.6
comp=Z,1.5nm,0.3s
ASAR Alice Springs 78.66 138 P **P** **12 44 17.8 +0.3**
ASAR Alice Springs 78.66 138 P **P** **12 44 17.5 0.0**
comp=Z,6.2nm,0.7s,baz=336,slow=5.9,SNR=38
comp=Z,6.2nm,0.7s
ASAR Alice Springs 78.66 138 P **P** **12 44 17.8 +0.3**
LSZ Lusaka 79.46 238 P **P** **12 44 21.9 -0.1**
LSZ IAmb IAmb 12 44 34.8
comp=Z,7.4nm,0.9s
LSZ Lusaka 79.46 238 P **P** **12 44 22.0 -0.1**
LSZ pmax pmax
comp=Z,7.0nm,1.0s
SCHQ Schefferville 80.33 345 LR LR 13 25 44.6
comp=Z,192nm,18.8s,baz=296,slow=40
FFC Flin Flon 82.48 6 P **P** **12 44 38.5 +0.9**
FFC IAmb IAmb 12 44 46.3
comp=Z,5.1nm,0.7s
FFC Flin Flon 82.48 6 P **P** **12 44 38.5 +0.9**
FFC pmax pmax
comp=Z,5.0nm,0.7s
DBIC Dimbokro 87.39 277 P **P** **12 45 02.3 -0.7**
DBIC Dimbokro 87.39 277 P **P** **12 45 01.8 -1.1**
comp=Z,1.8nm,0.4s,baz=50,slow=6.9,SNR=4.6
comp=Z,1.8nm,0.4s
DBIC Dimbokro 87.39 277 P **P** **12 45 02.3 -0.7**
DBIC pmax pmax
comp=Z,17nm,1.3s
TSUM Tsumeb 89.13 243 LR LR 13 29 34.9
comp=Z,152nm,18.9s,baz=160,slow=39
STKA Stephens Creek 89.26 137 P **P** **12 45 11.2 -0.1**
STKA Stephens Creek 89.26 137 P **P** **12 45 10.2 -1.1**
comp=Z,4.5nm,0.5s,baz=331,slow=4.4,SNR=12
comp=Z,4.5nm,0.5s
STKA Stephens Creek 89.26 137 P **P** **12 45 11.2 -0.1**
STKA pmax pmax
comp=Z,28nm,0.7s
PLID Pearl Lake 89.96 17 IAmb IAmb 12 45 16.6
comp=Z,3.1nm,0.8s
PDAR Pinedale Array 93.40 13 P **P** **12 45 30.8 -0.2**
comp=Z,1.1nm,0.3s,baz=349,slow=6.1,SNR=1.8
comp=Z,0.1nm,0.3s
ECSD EROS Data Cent 93.75 3 IAmb IAmb 12 45 34.1
comp=Z,4.5nm,1.0s
QSPA South Pole Qui 132.59 180 PKP **PKPdf** **12 51 28.3 -0.6**
comp=Z,0.6nm,0.6s,baz=333,slow=1.5,SNR=5.7
LPAZ La Paz 146.46 315 PKPbc **PKPdf** **12 51 55.8 -0.6**
comp=Z,2.0nm,0.7s,baz=122,slow=2.6,SNR=7.9
CPUP Villa Florida 147.12 289 PKPbc **PKPdf** **12 51 56.4 0.0**
comp=Z,0.7nm,0.6s,baz=308,slow=4.4,SNR=4.5

IDC 22 13:03:35.2±4.2, 1°.51N×99°.09E, h130km±22km, mb3.0/3, mbtmp3.3/3, Error ellipse: s-maj=131.4km s-min=26.1km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.29**	**353**	P	Pn	13 04 01.1	-0.1
	13nm,0.3s,baz=163,slow=11,SNR=11						
PSI				S	Sn	13 04 18.7	-2.3
	2.1nm,0.3s,baz=70,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**40.62**	**123**	P	P	13 11 03.0	+0.3
	0.3nm,0.3s,baz=298,slow=8.0,SNR=9.7						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**42.10**	**129**	P	P	13 11 13.7	-1.0
	0.3nm,0.7s,baz=299,slow=8.6,SNR=5.4						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**47.42**	**344**	P	P	13 11 56.5	-0.1
	0.2nm,0.4s,baz=152,slow=6.5,SNR=2.2						
	0.2nm,0.4s						

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*IDC **22** 13:08:20.0±1.7, 54°.10N×128°.11E, h0km, mb3.4/4, mbtmp3.5/7, ML3.8/3, Error ellipse: s-maj=33.0km s-min=23.5km az=127.0*
*MOS **22** 13:08:20.0±1.1, 53°.90N×128°.05E, h12km, mb4.0/1, Error ellipse: s-maj=18.8km s-min=8.5km az=87.8*
*SKHL **22** 13:08:22.9±0.7, 53°.90N×128°.10E, h12km±3km, mb5.2/4*
ISC 22 13:08:21.0±0.6, 53°.89N±0°.03×128°.16E±0°.03, h10km, n26, σ1§67/32, mb3.2/4, 1C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZEA	**Zeya**	**0.56**	**255**	*e*P	**Pg**	**13 08 32.0**	**+0.1**
ZEA				*e*		13 08 38.6	
ZEA	**Zeya**	**0.56**	**255**	⇓*i*Pg	**Pg**	**13 08 31.9**	**+0.1**
ZEA				AMB	AMB	13 08 32.0	
	1μm,0.3s						
ZEA				*e*Sg	**Sg**	**13 08 39.0**	**-0.1**
ZEA				A	A	13 08 39.2	
	14μm,0.2s						
OCTB	**Oktyabr'skiy**	**0.92**	**161**	⇑*i*Pg	**Pn**	**13 08 40.7**	**+0.7**
OCTB				AMB	AMB	13 08 42.8	
	1μm,0.2s						
OCTB				*e*Sg	**Sn**	**13 08 53.3**	**+0.1**
OCTB				A	A	13 08 53.5	
	1μm,0.2s						
BMKR	**Bomnak**	**0.92**	**26**	P	**Pg**	**13 08 39.4**	**+0.7**
BMKR	**Bomnak**	**0.92**	**26**	⇓*i*Pg	**Pg**	**13 08 39.4**	**+0.7**
BMKR				AMB	AMB	13 08 39.7	
	400nm,0.3s						
BMKR				*e*Sg	**Sg**	**13 08 51.3**	**+0.6**
BMKR				A	A	13 08 51.6	
	5μm,0.2s						
EKMR	**Ekimchan**	**2.98**	**104**	*e*Pn	**Pn**	**13 09 11.0**	**+2.7**
EKMR				*e*Pg	**Pg**	**13 09 17.1**	**-1.0**
EKMR				AMB	AMB	13 09 18.2	
	250nm,0.2s						
EKMR				*e*Sg	**Sg**	**13 09 58.1**	**+1.5**
EKMR				A	A	13 10 00.0	
	2μm,0.3s						
CLNS	**Chul'man**	**3.50**	**329**	P	**Pn**	**13 09 16.0**	**+0.6**
CLNS				SN	**Sn**	**13 09 53.5**	**-3.3**
TUP	**Tupik**	**4.85**	**280**	P	**Pn**	**13 09 33.4**	**-0.6**
TUP				SN	**Sn**	**13 10 30.0**	**-0.2**
ALDR	**Aldan**	**4.98**	**343**	P	**Pn**	**13 09 36.7**	**+0.9**
ALDR				SN	**Sn**	**13 10 30.3**	**-3.0**
CGD	**Chagda**	**5.07**	**15**	P	**Pn**	**13 09 38.3**	**+1.4**
KLR	**Kul'dur**	**5.17**	**153**	Lg	Lg	13 11 03.7	
KLR	**Kul'dur**	**5.17**	**153**	*e*Sg	**Sg**	**13 11 06.0**	**-1.0**
GRNR	**Gornyy**	**5.95**	**118**	*er*x	rx	13 10 15.0	
GRNR				*e*Sg	**Sg**	**13 11 30.5**	**-1.4**
GRNR				A	A	13 11 37.3	
	60nm,0.8s						
KHBR	**Khabarovsk**	**6.94**	**139**	*e*Sg	**Sg**	**13 12 00.1**	**-3.4**
KHBR				A	A	13 12 08.8	
	100nm,0.8s						
NKL	**Nikolayevsk**	**7.51**	**91**	*e*Pn	**Pn**	**13 10 12.7**	**+2.3**
NKL				*e*Pg	Pb	13 10 37.8	+6.6
NKL				*e*Sg	**Sg**	**13 12 18.0**	**-3.7**
NKL				A	A	13 12 26.0	
	50nm,0.7s						
NKL				A	A	13 12 26.0	
	40nm,0.7s						
BLSR	**Buluus**	**7.51**	**3**	P	**Pn**	**13 10 11.2**	**+0.8**
TBGR	**Tabaga**	**8.00**	**5**	P	**Pn**	**13 10 18.0**	**+0.9**
YAK	**Yakutsk**	**8.21**	**5**	Pn	Pn	13 10 14.5	-5.5
	2.3nm,0.3s,baz=16,slow=2.2,SNR=2.2						
YAK				Lg	Lg	13 12 25.4	
	15nm,0.3s,baz=2.2,slow=23,SNR=16						
	7.1nm,0.4s						
YAK	**Yakutsk**	**8.21**	**5**	*e*P	**Pn**	**13 10 21.2**	**+1.2**
YAK				*e*		13 11 49.4	
YAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YAK				smax	smax		
	comp=N,14nm,1.0s						
YAK				smax	smax		
	comp=E,9.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**10.01**	**164**	Pn	**Pn**	**13 10 47.6**	**+2.8**
	comp=E,0.1nm,0.3s,baz=344,slow=14,SNR=2.9						
USRK				Lg	Lg	13 13 37.6	
	comp=E,0.1nm,0.3s,baz=170,slow=26,SNR=1.8						
	comp=E,1.7nm,0.6s						
SONM	**Songino Array**	**14.98**	**255**	Pn	**Pn**	**13 11 52.5**	**-0.3**
	comp=E,0.4nm,0.3s,baz=57,slow=14,SNR=5.4						
SONM				Lg	Lg	13 16 08.3	
	comp=E,0.6nm,0.3s,baz=65,slow=28,SNR=9.9						
	comp=E,0.4nm,0.3s						
SEY	**Seymchan**	**15.50**	**45**	Lg	Lg	13 16 21.3	
	comp=E,0.1nm,0.3s,baz=24,slow=20,SNR=2.3						
MKAR	**Makanchi Array**	**29.68**	**275**	P	**P**	**13 14 26.2**	**-0.5**
	comp=E,0.1nm,0.5s,baz=56,slow=8.2,SNR=2.6						
	comp=E,0.1nm,0.5s						
BVAR	**Borovoye Array**	**33.59**	**293**	P	**P**	**13 15 00.9**	**-0.1**
	comp=E,0.1nm,0.3s,baz=77,slow=7.8,SNR=2.7						
	comp=E,0.1nm,0.3s						
ILAR	**Eielson Array**	**41.37**	**40**	P	**P**	**13 16 06.0**	**-0.6**
	comp=E,0.5nm,0.9s,baz=307,slow=8.1,SNR=4.8						
	comp=E,0.5nm,0.9s						
FINES	**FINESS Array B**	**49.66**	**322**	P	**P**	**13 17 12.3**	**-0.1**
	comp=E,1.5nm,0.9s,baz=56,slow=6.1,SNR=4.8						
	comp=E,1.5nm,0.9s						

DJA 22 13:26:07.9±0.4, 9°S±7°×11°5E±°, h59km±9km, M3.8/12, mb4.0/2, MLv3.7/12, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**0.66**	**328**	P	Pn	13 26 21.9	+0.3
JAGI				S	Sn	13 26 32.9	+1.3
SRBI	**Singaraja**	**1.17**	**37**	P	Pn	13 26 28.5	+0.4
SRBI				S	Sn	13 26 44.2	+1.0
GMJI	**Gumukmas**	**1.29**	**305**	P	Pn	13 26 29.8	0.0
GMJI				S	Sn	13 26 46.8	+0.6
KMMI	**Kalianget**	**2.04**	**345**	P	Pn	13 26 39.8	-0.1
PLAI	**Plampang**	**3.23**	**87**	P	Pn	13 26 56.9	+0.7
PLAI				S	Sn	13 27 34.8	+1.2
PCJI	**Pacitan**	**3.40**	**284**	P	Pn	13 26 57.9	-0.6
WOJI	**Wonogiri, Jawa**	**3.74**	**288**	P	Pn	13 27 03.8	+0.6
UGM	**Wanagama**	**4.10**	**285**	P	Pn	13 27 07.6	-0.5
BSSI	**Bau Bau, Buton**	**6.59**	**65**	P	Pn	13 27 41.1	-1.1

ATH ***22*** *13:52:04.6, 37°.47N×20°.60E, h6km±1km, ML2.9/19, Manual Solution by D.Makaris First location: 2019/07/22 13:52:59, This location: 2019/07/22 18:18:24 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

THE ***22*** *13:52:07.2, 38°.N±2°×2°.1E±°, h0km±2km, M2.9/17, MLh2.9/17*

ISC 22 13:52:06.3±1.4**, 37°.52N**±0°.04×**20°.68E**±0°.04**, h6**km±8km**, n52**, σ0**°66/92, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.18**	**38**	P	**Pg**	**13 52 09.9**	**0.0**
KRI1				S	**Sg**	**13 52 12.0**	**-0.3**
LTHK	**Lithakia**	**0.22**	**34**	P	**Pg**	**13 52 10.6**	**-0.1**
LTHK				S	**Sg**	**13 52 12.5**	**-1.2**
LTHK	**Lithakia**	**0.22**	**34**	P	**Pg**	**13 52 10.7**	**-0.1**
KYPS	**Kipseli, Zakin**	**0.32**	**21**	P	**Pg**	**13 52 13.1**	**+0.6**
KYPS				S	**Sg**	**13 52 17.6**	**+0.9**
ORTH	**Orthonies,Zaky**	**0.33**	**2**	P	**Pg**	**13 52 13.3**	**+0.6**
ORTH				S	**Sg**	**13 52 17.8**	**+0.7**
CLEM	**Kyllini,Ilia,G**	**0.51**	**44**	P	**Pg**	**13 52 16.5**	**+0.3**
CLEM				S	**Sg**	**13 52 23.7**	**+0.7**
RTZL	**Ratzakli, Kefa**	**0.56**	**8**	P	**Pg**	**13 52 17.2**	**+0.1**
RTZL				S	**Sg**	**13 52 25.0**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.59**	**353**	P	**Pg**	**13 52 18.0**	**+0.2**
PSDA				S	**Sg**	**13 52 26.5**	**+1.0**
PSDA	**Pessada-Kefalo**	**0.59**	**353**	P	**Pg**	**13 52 18.0**	**+0.2**
PSDA				S	**Sg**	**13 52 26.1**	**+0.5**
VLS	**Valsamata**	**0.66**	**354**	P	**Pg**	**13 52 18.8**	**-0.1**
VLS				S	**Sg**	**13 52 28.1**	**+0.6**
VLS	**Valsamata**	**0.66**	**354**	P	**Pg**	**13 52 18.9**	**-0.1**
VLS				S	**Sg**	**13 52 28.4**	**+0.9**
ARG2	**Argostoli**	**0.67**	**347**	P	**Pg**	**13 52 19.5**	**+0.3**
ARG2				S	**Sg**	**13 52 28.9**	**+0.9**
SMHA	**Samh**	**0.73**	**358**	P	**Pg**	**13 52 19.3**	**-1.0**
SMHA				S	**Sg**	**13 52 29.5**	**-0.2**
DMLN	**Damoulianata-K**	**0.75**	**341**	P	**Pb**	**13 52 21.3**	**+0.6**
DMLN				S	**Sb**	**13 52 33.0**	**+0.7**
DMLN	**Damoulianata-K**	**0.75**	**341**	P	**Pg**	**13 52 21.1**	**+0.3**
DMLN				S	**Sb**	**13 52 31.5**	**-0.9**
ZARO	**Zacharo**	**0.77**	**92**	P	**Pg**	**13 52 20.8**	**-0.4**
ZARO				S	**Sg**	**13 52 32.1**	**+0.9**
YRMI	**Loutra Irminis**	**0.78**	**42**	P	**Pg**	**13 52 21.1**	**-0.3**
YRMI				S	**Sb**	**13 52 32.7**	**-0.5**
AMT	**Artemida-Makis**	**0.82**	**89**	P	**Pb**	**13 52 22.8**	**-0.1**
AMT				S	**Sb**	**13 52 34.3**	**0.0**
RLS	**Riolos of Patr**	**0.82**	**49**	P	**Pg**	**13 52 21.7**	**-0.4**
RLS				S	**Sg**	**13 52 32.9**	**+0.2**
RLS	**Riolos of Patr**	**0.82**	**49**	P	**Pg**	**13 52 21.8**	**-0.4**
RLS				S	**Sb**	**13 52 33.8**	**-0.5**
AXS	**Araxos**	**0.87**	**39**	P	**Pg**	**13 52 22.3**	**-0.7**
AXS				S	**Sg**	**13 52 34.6**	**+0.3**
VSK1	**VASILIKIADES**	**0.89**	**354**	P	**Pg**	**13 52 22.8**	**-0.6**
VSK1				S	**Sb**	**13 52 36.1**	**-0.2**
FSK	**Fiskardo**	**0.94**	**354**	P	**Pg**	**13 52 23.7**	**-0.6**
FSK				S	**Sb**	**13 52 37.6**	**0.0**
FSK	**Fiskardo**	**0.94**	**354**	P	**Pg**	**13 52 24.0**	**-0.4**
FSK				S	**Sb**	**13 52 37.7**	**0.0**
ITM	**Ithomi**	**1.05**	**109**	P	**Pb**	**13 52 27.0**	**+0.1**
ITM	**Ithomi**	**1.05**	**109**	P	**Pg**	**13 52 25.7**	**-0.8**
ITM				S	**Sg**	**13 52 40.3**	**+0.1**
EVGI	**Lefkada island**	**1.09**	**359**	P	**Pg**	**13 52 26.4**	**-0.9**
EVGI	**Lefkada island**	**1.09**	**359**	P	**Pg**	**13 52 26.7**	**-0.7**
EVGI				S	**Sb**	**13 52 42.6**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.16**	**356**	P	**Pg**	**13 52 28.1**	**-0.5**
DRAG				S	**Sn**	**13 52 45.0**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.19**	**1**	P	**Pg**	**13 52 27.6**	**-1.5**
NYDR	**Nydri-Lefkada**	**1.19**	**1**	P	**Pg**	**13 52 28.3**	**-0.8**
NYDR				S	**Sb**	**13 52 45.4**	**+0.5**
LKD2	**Lefkada island**	**1.26**	**359**	P	**Pg**	**13 52 29.7**	**-0.9**
LKD2	**Lefkada island**	**1.26**	**359**	P	**Pg**	**13 52 29.6**	**-0.7**
LKD2				S	**Sb**	**13 52 47.4**	**+0.3**
KLV	**Kalavryta, Ach**	**1.28**	**66**	P	**Pg**	**13 52 30.4**	**-0.3**
KLV	**Kalavryta, Ach**	**1.28**	**66**	P	**Pg**	**13 52 30.5**	**-0.3**
KLV				S	**Sn**	**13 52 49.1**	**+0.9**
PVO	**Paravola**	**1.28**	**31**	P	**Pg**	**13 52 30.0**	**-0.8**
PVO				S	**Sn**	**13 52 49.2**	**+1.1**
TSLK	**Tsoukalades, L**	**1.30**	**359**	P	**Pg**	**13 52 31.0**	**-0.2**
TSLK	**Tsoukalades, L**	**1.30**	**359**	P	**Pb**	**13 52 31.4**	**+0.2**
TSLK				S	**Sb**	**13 52 48.5**	**+0.4**
EFP	**Efpalio**	**1.32**	**47**	P	**Pn**	**13 52 30.1**	**-1.2**
EFP	**Efpalio**	**1.32**	**47**	P	**Pn**	**13 52 30.7**	**-0.6**
EFP				S	**Sn**	**13 52 50.5**	**+1.2**
VLX	**Vlachokerasia**	**1.36**	**96**	P	**Pb**	**13 52 32.3**	**0.0**
VLX				S	**Sb**	**13 52 50.2**	**+0.3**
GUR	**Goura**	**1.38**	**72**	P	**Pb**	**13 52 32.6**	**0.0**
GUR	**Goura**	**1.38**	**72**	P	**Pn**	**13 52 31.9**	**-0.3**
GUR				S	**Sn**	**13 52 52.1**	**+1.3**
SERG	**Sergoula**	**1.41**	**50**	P	**Pn**	**13 52 31.7**	**-0.7**
SERG				S	**Sn**	**13 52 52.1**	**+0.8**
EVR	**Evrytania**	**1.65**	**32**	P	**Pn**	**13 52 35.1**	**-0.8**
EVR				S	**Sn**	**13 52 58.0**	**+0.5**
VLI	**Veliai**	**1.98**	**113**	P	**Pn**	**13 52 40.3**	**0.0**
VLI				S	**Sn**	**13 53 06.1**	**+0.7**
AGG	**Agios Georgios**	**1.98**	**40**	P	**Pn**	**13 52 40.0**	**-0.5**
AGG				S	**Sn**	**13 53 07.1**	**+1.5**
AXAR	**Agios Charalam**	**1.99**	**51**	P	**Pn**	**13 52 40.4**	**-0.1**
AXAR				S	**Sn**	**13 53 06.8**	**+1.0**
IGT	**Igoumenitsa**	**2.02**	**352**	P	**Pn**	**13 52 40.5**	**-0.4**
IGT				S	**Sn**	**13 53 06.4**	**-0.2**
NEST	**Nestorio**	**2.90**	**6**	P	**Pn**	**13 52 52.2**	**-0.9**
SKY	**Skiros Island**	**3.33**	**65**	P	**Pn**	**13 52 58.0**	**-1.0**
HORT	**Hortiatis**	**3.60**	**31**	P	**Pn**	**13 53 01.8**	**-0.9**

KRSC ***22*** *13:53:03.2±1.9, 52°.49N×172°.34E, h61km±32km, Ml4.7*

NEIC ***22*** *13:53:04.2±1.6, 52°.8N±0°.1×172°.58E±0°.06, h10km±1km, mb4.4/207, ML3.8(AEIC), Error ellipse: s-maj=20.0km s-min=6.2km az=182.0*

MOS ***22*** *13:53:04.8±1.1, 52°.72N×172°.52E, h34km, mb4.6/6, Error ellipse: s-maj=10.3km s-min=5.8km az=29.3*

AEIC ***22*** *13:53:05.9±1.8, 52°.8N±0°.1×172°.52E±0°.06, h10km±4km, Error ellipse: s-maj=18.5km s-min=5.4km az=181.0*

IDC ***22*** *13:53:06.0±3.3, 52°.77N×172°.58E, h28km±22km, mb4.1/27, mbtmp4.3/29, ML3.3/2, MS3.3/15, Error ellipse: s-maj=14.7km s-min=9.4km az=172.0*

ISC 22 13:53:05.2±0.4**, 52°.71N**±0°.08×**172°.49E**±0°.03**, h24**km**, n524, σ1**°37**/450, mb4.3**/120**, MS3.3**/14**, 1C, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**0.98**	**88**	Pn	**Pn**	**13 53 22.1**	**-1.3**
	1μm,0.3s,baz=350,slow=1.6,SNR=745						
SHEM				Sn	**Sb**	**13 53 34.6**	**-1.4**
	2μm,0.3s,baz=271,slow=20,SNR=15						
SMY	**Shemya**	**0.98**	**88**		**Pn**	**13 53 22.0**	**-1.4**
SMY					**Sb**	**13 53 33.8**	**-2.2**
SMY	**Shemya**	**0.98**	**88**	P	**Pn**	**13 53 22.0**	**-1.4**
SMY	**Shemya**	**0.98**	**88**	S	**Sb**	**13 53 35.2**	**-0.8**
SMY	**Shemya**	**0.98**	**88**	P	**Pn**	**13 53 22.0**	**-1.4**
SMY						13 53 33.8	
LSNW	**Little Sitkin**	**3.77**	**99**		**Pn**	**13 54 03.6**	**+1.8**
LSNW					**Sn**	**13 54 47.4**	**+2.0**
LSPA	**Little Sitkin**	**3.81**	**99**		**Pn**	**13 54 03.1**	**+0.8**
CETU	**Semis' Tuman**	**4.36**	**97**		**Pn**	**13 54 10.7**	**+0.8**
CEAP	**Semis' Anvil P**	**4.41**	**96**		**Pn**	**13 54 11.3**	**+0.8**
CEAP					**Pn**	**13 54 11.7**	**+1.2**
CEAP					**Sn**	**13 55 02.2**	**+1.2**
AMKA	**Amchitka**	**4.41**	**105**		**Sn**	**13 55 01.3**	**+0.1**
AMKA	**Amchitka**	**4.41**	**105**		**Pn**	**13 54 09.3**	**-1.2**
BKI	**Bering**	**4.59**	**306**	P	**Pn**	**13 54 15.7**	**+2.7**
BKI				S	**Sn**	**13 55 03.7**	**-1.8**
BKI	**Bering**	**4.59**	**306**	eP	**Pn**	**13 54 15.7**	**+2.7**
BKI				eS	**Sn**	**13 55 03.7**	**-1.8**
GASW	**Gareloi Southw**	**5.40**	**96**		**Pn**	**13 54 24.8**	**+0.6**
GAKI	**Gareloi-Kavalg**	**5.48**	**99**		**Pn**	**13 54 26.4**	**+1.1**
GAKI					**Sn**	**13 55 28.9**	**+1.4**
TASE	**Tanaga Southea**	**5.88**	**95**		**Pn**	**13 54 30.6**	**-0.3**
KIMD	**Kanaga Island**	**6.39**	**94**		**Pn**	**13 54 37.5**	**-0.2**
KIKV	**Kanaga Island**	**6.40**	**93**		**Pn**	**13 54 38.2**	**+0.3**
KIKV					**Sn**	**13 55 50.1**	**0.0**
KIWB	**Kanaga Island**	**6.42**	**94**		**Pn**	**13 54 37.7**	**-0.4**
MKZ	**Mys Kozlova**	**6.66**	**290**	P	**Pn**	**13 54 41.8**	**+0.4**
MKZ				S	**Sn**	**13 55 52.5**	**-3.9**
MKZ	**Mys Kozlova**	**6.66**	**290**	eP	**Pn**	**13 54 41.8**	**+0.4**
MKZ				eS	**Sn**	**13 55 52.5**	**-3.9**
ADK	**Adak**	**6.70**	**93**		**Pn**	**13 54 40.5**	**-1.4**
ADK	**Adak**	**6.70**	**93**	P	**Pn**	**13 54 41.9**	**0.0**
ADK	**Adak**	**6.70**	**93**	S	**Sn**	**13 55 56.3**	**-1.1**
ADK	**Adak**	**6.70**	**93**	P	**Pn**	**13 54 41.0**	**-0.9**
ADAG	**Mount Adagdak**	**6.73**	**92**		**Pn**	**13 54 41.8**	**-0.6**
ETKA	**Kagalaska Isla**	**6.87**	**93**		**Pn**	**13 54 43.7**	**-0.6**
GSMY	**Great Sitkin M**	**7.05**	**91**		**Pn**	**13 54 45.7**	**-1.1**
SPN	**Mys Shipunski**	**7.55**	**278**	P	**Pn**	**13 54 53.9**	**+0.3**
SPN				S	**Sn**	**13 56 13.6**	**-4.7**
SPN	**Mys Shipunski**	**7.55**	**278**	eP	**Pn**	**13 54 53.9**	**+0.3**
SPN				eS	**Sn**	**13 56 13.7**	**-4.7**
TUMD	**Tumrok D**	**7.56**	**294**	eS	**Sn**	**13 56 17.8**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**7.62**	**300**	P	**Pn**	**13 54 57.4**	**+2.8**
BZGR	**Bezymyannyi-Gr**	**7.62**	**300**	eP	**Pn**	**13 54 57.5**	**+2.8**
BZMR	**Bezymyannaya**	**7.72**	**300**	P	**Pn**	**13 54 59.0**	**+2.9**
BZMR	**Bezymyannaya**	**7.72**	**300**	eP	**Pn**	**13 54 59.1**	**+2.9**
BZWR	**Bezymyannyi-We**	**7.73**	**300**	P	**Pn**	**13 54 59.2**	**+2.9**
BZWR	**Bezymyannyi-We**	**7.73**	**300**	eP	**Pn**	**13 54 59.2**	**+2.9**
KLY	**Klyuchi**	**7.78**	**302**	P	**Pn**	**13 54 57.0**	**+0.3**
KLY	**Klyuchi**	**7.78**	**302**	eP	**Pn**	**13 54 57.1**	**+0.3**
KMNR	**Kamenistaya**	**7.80**	**298**	P	**Pn**	**13 54 59.9**	**+2.8**
KMNR	**Kamenistaya**	**7.80**	**298**	eP	**Pn**	**13 54 60.0**	**+2.8**
KPT	**Kopyto**	**7.88**	**299**	P	**Pn**	**13 55 01.3**	**+3.1**
KPT	**Kopyto**	**7.88**	**299**	eP	**Pn**	**13 55 01.3**	**+3.1**
KOZ	**Kozyrevsk**	**8.09**	**300**	P	**Pn**	**13 55 04.0**	**+2.9**
KOZ	**Kozyrevsk**	**8.09**	**300**	eP	**Pn**	**13 55 04.0**	**+2.9**
ATKA	**Atka Island**	**8.15**	**88**	P	**Pn**	**13 55 02.3**	**+0.4**
SDLR	**Sedlovina**	**8.23**	**279**	P	**Pn**	**13 55 03.8**	**+0.7**
SDLR	**Sedlovina**	**8.23**	**279**	eP	**Pn**	**13 55 03.8**	**+0.7**
UGLR	**Uglovaya**	**8.27**	**279**	P	**Pn**	**13 55 04.4**	**+0.8**
UGLR	**Uglovaya**	**8.27**	**279**	eP	**Pn**	**13 55 04.5**	**+0.8**
SMAR	**Somma**	**8.28**	**279**	P	**Pn**	**13 55 05.5**	**+1.6**
SMAR	**Somma**	**8.28**	**279**	eP	**Pn**	**13 55 05.5**	**+1.6**
KRER	**Koryakskii**	**8.31**	**280**	P	**Pn**	**13 55 05.4**	**+1.2**
KRER				S	**Sn**	**13 56 32.7**	**-4.6**
KRER	**Koryakskii**	**8.31**	**280**	eP	**Pn**	**13 55 05.5**	**+1.2**
KRER				eS	**Sn**	**13 56 32.8**	**-4.6**
AVH	**Avacha**	**8.32**	**279**	P	**Pn**	**13 55 05.2**	**+1.0**
AVH	**Avacha**	**8.32**	**279**	eP	**Pn**	**13 55 05.2**	**+1.0**
DALK	**Dalny**	**8.32**	**278**	P	**Pn**	**13 55 05.0**	**+0.8**
DALK				S	**Sn**	**13 56 31.9**	**-5.3**
DALK	**Dalny**	**8.32**	**278**	eP	**Pn**	**13 55 05.0**	**+0.8**
DALK				eS	**Sn**	**13 56 32.0**	**-5.3**
KRX	**Arik**	**8.37**	**280**	P	**Pn**	**13 55 06.1**	**+1.1**
KRX	**Arik**	**8.37**	**280**	eP	**Pn**	**13 55 06.1**	**+1.1**
KOK	**Koryaka**	**8.38**	**280**	P	**Pn**	**13 55 06.0**	**+0.9**
KOK	**Koryaka**	**8.38**	**280**	eP	**Pn**	**13 55 06.1**	**+0.9**
PET	**Petropavlovsk**	**8.38**	**278**	P	**Pn**	**13 55 07.5**	**+2.5**
PET	**Petropavlovsk**	**8.38**	**278**	eP	**Pn**	**13 55 06.9**	**+1.9**
PET				eS	**Sn**	**13 56 34.4**	**-4.3**
PET				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PET				MLR	MLR		
	comp=Z,100nm,6.0s						
PET	**Petropavlovsk**	**8.38**	**278**	eP	**Pn**	13 55 06.7	+1.7
PET				eS	**Sn**	13 56 34.5	-4.2
RUS	**Russkaya**	**8.52**	**274**	P	**Pn**	13 55 07.6	+0.7
RUS				S	**Sn**	13 56 35.8	-6.4
RUS	**Russkaya**	**8.52**	**274**	eP	**Pn**	13 55 07.7	+0.7
RUS				eS	**Sn**	13 56 35.8	-6.4
ESO	**Esso**	**8.68**	**297**	P	**Pn**	13 55 10.7	+1.6
ESO	**Esso**	**8.68**	**297**	eP	**Pn**	13 55 10.8	+1.6
KRMR	**Karymshinskiy**	**8.71**	**277**	eS	**Sn**	13 56 42.1	-4.8
MTVR	**Mutnovka**	**8.71**	**274**	P	**Pn**	13 55 11.0	+1.3
MTVR	**Mutnovka**	**8.71**	**274**	eP	**Pn**	13 55 11.1	+1.3
GRL	**Gorelyy**	**8.77**	**275**	P	**Pn**	13 55 12.4	+1.9
GRL	**Gorelyy**	**8.77**	**275**	eP	**Pn**	13 55 12.4	+1.9
GNL	**Ganaly**	**8.79**	**282**	P	**Pn**	13 55 13.0	+2.3
GNL	**Ganaly**	**8.79**	**282**	eP	**Pn**	13 55 13.0	+2.3
ASAK	**Asacha**	**8.90**	**274**	P	**Pn**	13 55 14.0	+1.8
ASAK	**Asacha**	**8.90**	**274**	eP	**Pn**	13 55 14.1	+1.8
PEA0B	**Petropavlovsk-**	**8.95**	**278**		**Pn**	13 55 14.3	+1.4
PEA0B	**Petropavlovsk-**	**8.95**	**278**	P	**Pn**	13 55 13.9	+1.1
PEA0B				S	**Sn**	13 56 48.1	-4.7
PETK	**Petropavlovsk-**	**8.95**	**278**		**Pn**	13 55 13.9	+1.1
PETK	**Petropavlovsk-**	**8.95**	**278**	Pn	**Pn**	13 55 13.1	+0.3
	comp=Z,7nm,1.0s						
S12K	**Black Hills**	**15.16**	**68**	P	**Pn**	**13 56 36.4**	**-1.1**
	baz=269						
M13K	**Dall Lake**	**15.32**	**50**	P	**Pn**	**13 56 39.6**	**0.0**
	baz=250						
K13K	**Kusilvak Mount**	**15.34**	**44**	Pn	**Pn**	**13 56 41.6**	**+1.8**
K13K				IAmb	IAmb	13 56 48.7	
	comp=Z,19nm,1.4s						
K13K	**Kusilvak Mount**	**15.34**	**44**	P	**Pn**	**13 56 39.8**	**0.0**
	baz=243						
L14K	**Kuka Creek**	**15.96**	**47**	P	**Pn**	**13 56 47.5**	**-0.2**
	baz=248						
N14K	**Kuskokwak Cree**	**15.97**	**53**		**P**	**13 56 49.7**	**-1.6**
N14K				IAmb	IAmb	13 57 20.2	
	comp=Z,23nm,1.1s						
N14K	**Kuskokwak Cree**	**15.97**	**53**	P	**Pn**	**13 56 47.7**	**-0.3**
	baz=254						
O14K	**Tigyukauivet M**	**16.01**	**55**	P	**Pn**	**13 56 48.4**	**-0.1**
	baz=257						
SDPT	**Sand Point**	**16.07**	**70**		**Pn**	**13 56 48.9**	**-0.3**
SDPT				IAmb	IAmb	13 57 17.1	
	comp=Z,13nm,0.7s						
SDPT	**Sand Point**	**16.07**	**70**	P	**Pn**	**13 56 49.5**	**+0.3**
SDPT	**Sand Point**	**16.07**	**70**	P	**Pn**	**13 56 48.4**	**-0.8**
	baz=272						
M14K	**Bethel**	**16.08**	**50**		**Pn**	**13 56 50.8**	**+1.4**
M14K				IAmb	IAmb	13 57 04.9	
	comp=Z,27nm,1.0s						
M14K	**Bethel**	**16.08**	**50**	P	**Pn**	**13 56 49.5**	**+0.1**
	baz=251,SNR=8.1						
J14K	**Nanvaranak Lak**	**16.17**	**42**	P	**Pn**	**13 56 51.4**	**+0.9**
	baz=242						
TNA	**Tin City**	**16.23**	**30**	P	**Pn**	**13 56 52.3**	**+1.0**
	baz=227						
ANM	**Nome**	**16.43**	**35**	P	**P**	**13 56 55.1**	**-1.4**
	baz=234						
S14K	**Fog Glacier**	**16.58**	**66**	P	**Pn**	**13 56 55.7**	**-0.2**
	baz=269						
CHNA	**Chernabura Isl**	**16.60**	**72**	P	**Pn**	**13 56 55.5**	**-0.6**
CHNA	**Chernabura Isl**	**16.60**	**72**	P	**Pn**	**13 56 55.9**	**-0.2**
	baz=274						
CNBA	**Chernabura Isl**	**16.60**	**72**		**Pn**	**13 56 54.4**	**-1.6**
L15K	**Ungalak Mounta**	**16.61**	**47**	P	**Pn**	**13 56 56.3**	**+0.2**
	baz=249						
M15K	**Kasigluk River**	**16.66**	**51**	P	**Pn**	**13 56 57.2**	**+0.4**
	baz=253,SNR=10						
O15K	**Ungalikthiuk R**	**16.72**	**56**		**P**	**13 56 59.0**	**-0.7**
O15K				IAmb	IAmb	13 57 11.7	
	comp=Z,20nm,1.1s						
O15K	**Ungalikthiuk R**	**16.72**	**56**	P	**Pn**	**13 56 57.9**	**+0.4**
	baz=259,SNR=8.7						
N15K	**Kwethluk River**	**16.80**	**53**	P	**P**	**13 57 01.9**	**+1.2**
N15K				IAmb	IAmb	13 57 13.9	
	comp=Z,26nm,1.1s						
N15K	**Kwethluk River**	**16.80**	**53**	P	**Pn**	**13 56 58.4**	**-0.3**
	baz=256,SNR=7.4						
K15K	**Wolf Creek Mou**	**16.82**	**45**		**P**	**13 57 02.7**	**+1.9**
K15K	**Wolf Creek Mou**	**16.82**	**45**	P	**Pn**	**13 56 58.5**	**-0.4**
	baz=247						
G15K	**Niukluk**	**17.15**	**35**	P	**Pn**	**13 57 03.3**	**+0.4**
	baz=235						
F15K	**North Star Dit**	**17.37**	**33**	P	**P**	**13 57 06.3**	**-0.5**
	baz=232						
N16K	**Nishlik Lake**	**17.52**	**52**	P	**Pn**	**13 57 07.4**	**-0.2**
	baz=256						
L16K	**Owhat River**	**17.53**	**48**	P	**Pn**	**13 57 06.9**	**-0.7**
	baz=252						
M16K	**Timber Creek**	**17.56**	**50**	P	**P**	**13 57 09.0**	**0.0**
M16K	**Timber Creek**	**17.56**	**50**	P	**Pn**	**13 57 07.6**	**-0.4**
	baz=254						
H16K	**Elim**	**17.60**	**37**	P	**Pn**	**13 57 08.5**	**-0.1**
	baz=239						
J16K	**Anvik River**	**17.61**	**43**	P	**Pn**	**13 57 08.6**	**-0.1**
	baz=246						
P16K	**Nushagak River**	**17.63**	**57**	P	**Pn**	**13 57 08.9**	**0.0**
	baz=262						
O16K	**Kokwok River B**	**17.67**	**55**	P	**Pn**	**13 57 09.2**	**-0.2**
	baz=260						
I17K	**Unalakleet**	**17.84**	**41**	P	**Pn**	**13 57 11.2**	**-0.2**
	baz=244						
G16K	**Koyuk River**	**17.96**	**35**	P	**Pn**	**13 57 12.8**	**-0.2**
	baz=237						
L17K	**Donlin**	**18.19**	**47**	P	**Pn**	**13 57 15.5**	**-0.3**
	baz=252						
O17K	**Koliganek Bris**	**18.20**	**55**	P	**Pn**	**13 57 15.5**	**-0.3**
	baz=261						
J17K	**VABM Dome**	**18.29**	**43**	P	**P**	**13 57 16.9**	**-0.1**
	baz=247						
N17K	**Nushagak Hills**	**18.29**	**53**	P	**Pn**	**13 57 16.9**	**-0.2**
	baz=258						
R17L	**Mt. Peulik Vol**	**18.36**	**62**	P	**Pn**	**13 57 18.0**	**+0.1**
	baz=268,SNR=6.8						
PLK4	**Peulik 4**	**18.36**	**62**	IAmb	IAmb	13 57 20.6	
	comp=Z,15nm,0.8s						
K17K	**Iditarod**	**18.37**	**46**	P	**Pn**	**13 57 18.0**	**0.0**
	baz=250						
M17K	**Holitna River**	**18.37**	**50**	P	**Pn**	**13 57 17.8**	**-0.2**
	baz=255,SNR=7.7						
P17K	**Kvichak River**	**18.45**	**57**	P	**Pn**	**13 57 18.7**	**-0.2**
	baz=263						
H17K	**Granite Mounta**	**18.62**	**38**	P	**P**	**13 57 19.8**	**-0.8**
H17K	**Granite Mounta**	**18.62**	**38**	P	**Pn**	**13 57 20.7**	**-0.3**
	baz=242						
G17K	**Kiwalik Mounta**	**18.62**	**36**	P	**Pn**	**13 57 21.1**	**+0.1**
	baz=239						
Q17K	**Contact Creek**	**18.65**	**60**	P	**P**	**13 57 21.0**	**-0.1**
	baz=266,SNR=15						
CHIR	**Chirikof Islan**	**18.80**	**68**	P	**P**	**13 57 22.4**	**-0.2**
CHIR	**Chirikof Islan**	**18.80**	**68**	P	**P**	**13 57 22.0**	**-0.6**
	baz=274						
F17K	**Baldwin Pennin**	**18.92**	**33**	P	**Pn**	**13 57 24.9**	**+0.3**
	baz=236						
L18K	**Granite Mounta**	**18.93**	**48**	P	**Pn**	**13 57 24.8**	**0.0**
	baz=254						
ACHA	**Angle Creek He**	**18.94**	**60**	P	**P**	**13 57 23.9**	**-0.4**
N18K	**Kilae Creek**	**18.95**	**53**	P	**Pn**	**13 57 24.6**	**-0.4**
	baz=259						
P18K	**Big Mountain,**	**19.09**	**57**	IAmb	IAmb	13 57 29.5	
	comp=Z,9.4nm,0.7s						
P18K	**Big Mountain,**	**19.09**	**57**	P	**Pn**	**13 57 26.2**	**-0.5**
	baz=264						
D17K	**Noatak River**	**19.10**	**29**	P	**P**	**13 57 26.0**	**+0.2**
	baz=230						
E17K	**Hotham Inlet**	**19.10**	**31**	P	**P**	**13 57 25.5**	**-0.4**
	baz=234						
Q18K	**Katmai Hardscr**	**19.13**	**59**	P	**P**	**13 57 26.5**	**+0.1**
	baz=266,SNR=7.3						
M18K	**Stony River**	**19.15**	**50**	P	**Pn**	**13 57 26.7**	**-0.6**
	baz=257						
O18K	**Koktuh Hills**	**19.15**	**55**	P	**Pn**	**13 57 26.9**	**-0.6**
	baz=262						
H18K	**Honhosa River**	**19.30**	**39**	P	**Pn**	**13 57 29.0**	**-0.2**
	baz=244						
J18K	**Innoko River**	**19.30**	**44**	P	**Pn**	**13 57 28.9**	**-0.4**
	baz=250,SNR=11						
RDOG	**Red Dog Mine**	**19.38**	**28**	P	**Pn**	**13 57 30.0**	**-0.2**
	baz=230						
R18K	**Karluk**	**19.39**	**62**	P	**P**	**13 57 29.1**	**+0.1**
	baz=270						
G18K	**Tagagawik**	**

B18K	**Kokolik River** baz=229	20.55	26	P	P	13 57 41.7	+0.1	
J20K	**Nowinta River** comp=Z,15nm,0.7s	20.61	43	IAmb	IAmb	13 57 47.7		
J20K	**Nowinta River** baz=252,SNR=24	20.61	43	P	P	13 57 42.8	+0.4	
I20K	**Naaghedeneel** comp=Z,17nm,0.8s	20.68	41	IAmb	IAmb	13 57 51.9		
I20K	**Naaghedeneel** baz=250	20.68	41	P	P	13 57 43.7	+0.6	
H20K	**Anotleneega Mo** baz=248	20.78	39	P	P	13 57 44.5	+0.4	
E19K	**Redstone River** baz=240	20.80	33	P	P	13 57 44.9	+0.5	
SPU	**Mount Spurr** comp=Z,9.4nm,0.9s	20.88	52	IAmb	IAmb	13 57 48.2		
HOM	**Homer** baz=266	20.93	56	P	P	13 57 46.2	+0.4	
C19K	**Lookout Ridge** baz=233	21.00	28	P	Pn	13 57 48.1	-1.1	
STLK	**Strandline Lak** comp=Z,7.6nm,0.6s	21.03	51	IAmb	IAmb	13 57 52.2		
D19K	**Kuna River** baz=236	21.07	30	P	P	13 57 48.9	+1.6	
F20K	**Avaraart Lake** baz=243	21.12	35	P	P	13 57 49.1	+1.3	
PPLA	**Purkeypile** comp=Z,32nm,1.4s	21.12	47	IAmb	IAmb	13 57 53.6		
PPLA	**Purkeypile** baz=258	21.12	47	P	P	13 57 48.0	0.0	
CNPM	**China Poot** comp=Z,34nm,1.2s	21.13	57	IAmb	IAmb	13 58 00.3		
SKT	**Skwentna** comp=Z,17nm,1.3s	21.25	50	IAmb	IAmb	13 57 54.0		
SKT	**Skwentna** baz=261,SNR=15	21.25	50	P	P	13 57 49.9	+0.7	
CAST	**Castle Rocks** baz=256,SNR=11	21.29	46	P	P	13 57 49.7	+0.1	
A19K	**Wainwright** baz=228	21.30	25	P	P	13 57 50.0	+0.4	
CHUM	**Lake Minchumin** baz=255,SNR=5.9	21.30	45	P	P	13 57 50.4	+0.6	
ASAJ	**Asahikawa** comp=Z,8.5nm,0.8s,baz=59,slow=10,SNR=5.1	21.49	258	P	P	13 57 53.4	+1.5	
ASAJ	comp=Z,64nm,21.5s,baz=331,slow=34 comp=Z,8.5nm,0.8s			LR	LR	14 05 07.9		
E20K	**Nigu River** baz=239	21.55	32	P	P	13 57 52.7	+0.2	
H21K	**Melozitna Rive** comp=Z,9.5nm,0.8s	21.64	40	IAmb	IAmb	13 58 03.9		
H21K	**Melozitna Rive** baz=250,SNR=8.2	21.64	40	P	P	13 57 54.2	+0.8	
D20K	**Etivluk River** baz=238	21.66	31	P	P	13 57 54.5	+1.0	
G21K	**Allakaket** baz=247	21.69	37	P	P	13 57 53.3	-0.6	
I21K	**Tanana** baz=252	21.81	41	P	P	13 57 53.9	-1.3	
KTH	**Kantishna Hill** comp=Z,15nm,1.1s	21.83	46	IAmb	IAmb	13 57 59.3		
BPAW	**Bear Paw Mtn.** baz=256,SNR=7.9	21.92	44	P	P	13 57 56.4	0.0	
F21K	**Alatna River** comp=Z,11nm,1.2s	21.98	36	IAmb	IAmb	13 58 05.7		
F21K	**Alatna River** baz=245	21.98	36	P	P	13 57 56.5	-0.6	
RC01	**Rabbit Creek A** comp=Z,8.9nm,0.7s	21.99	53	IAmb	IAmb	13 58 00.4		
RC01	**Rabbit Creek A** baz=265,SNR=7.2	21.99	53	P	P	13 57 55.9	-1.2	
SEW	**Seward** baz=267	22.06	55	P	P	13 57 57.3	-0.6	
TRF	**Thorofare Moun** comp=Z,10.0nm,0.6s	22.08	46	IAmb	IAmb	13 58 01.4		
TRF	**Thorofare Moun** baz=258,SNR=16	22.08	46	P	P	13 57 58.2	-0.1	
B20K	**Meade River** baz=234	22.22	27	P	P	13 57 58.6	-1.0	
MLY	**Manley** comp=Z,12nm,1.3s	22.27	42	IAmb	IAmb	13 58 03.4		
MLY	**Manley** baz=254,SNR=11	22.27	42	P	P	13 57 59.3	-0.9	
H22K	**Ishtalitna Cre** baz=251	22.27	40	P	P	13 57 59.5	-0.8	
PMR	**Palmer** baz=264	22.33	51	P	P	13 57 59.9	-0.8	
E21K	**Killik River** baz=242	22.36	32	P	P	13 58 00.2	-1.0	
ERM	**Erimo**	22.41	253	P	P	13 58 05.7	+4.0	
GHO	**Glory Hole Cre** comp=Z,6.4nm,0.6s	22.44	51	IAmb	IAmb	13 58 04.4		
C21K	**Knifeblade Rid** baz=240	22.45	30	P	P	13 58 02.0	-0.1	
F22K	**John River** baz=246	22.56	35	P	P	13 58 03.0	-0.2	
G22K	**Bettles** baz=249	22.58	37	P	P	13 58 02.6	-0.8	
KNK	**Knik Glacier** baz=265,SNR=6.9	22.63	52	P	P	13 58 03.8	-0.3	
PWL	**Port Wells** comp=Z,17nm,0.7s	22.65	53	IAmb	IAmb	13 58 05.9		
PWL	**Port Wells** baz=267,SNR=14	22.65	53	P	P	13 58 03.4	-0.9	
RND	**Reindeer** comp=Z,11nm,0.6s	22.71	47	IAmb	IAmb	13 58 06.9		
MCK	**McKinley** comp=Z,14nm,0.8s	22.73	46	IAmb	IAmb	13 58 07.2		
MCK	**McKinley** baz=259,SNR=7.5	22.73	46	P	P	13 58 04.8	-0.3	
B21K	**Ikpikpuk River** comp=Z,13nm,1.1s	22.74	29	IAmb	IAmb	13 58 14.1		
B21K	**Ikpikpuk River** baz=239	22.74	29	P	P	13 58 05.4	+0.3	
NEA2	**Nenana** comp=Z,8.7nm,0.7s	22.85	44	IAmb	IAmb	13 58 09.5		
NEA2	**Nenana** baz=257,SNR=9.5	22.85	44	P	P	13 58 05.8	-0.5	
I23K	**Minto, Yukon-K** comp=Z,5.9nm,0.6s	22.86	42	IAmb	IAmb	13 58 14.2		
I23K	**Minto, Yukon-K** baz=255,SNR=5.6	22.86	42	P	P	13 58 06.4	0.0	
E22K	**Anaktuvuk Pass** comp=Z,5.3nm,0.7s	22.95	34	IAmb	IAmb	13 58 16.2		
E22K	**Anaktuvuk Pass** baz=246	22.95	34	P	P	13 58 07.4	+0.1	
H23K	**Yukon River** baz=254	22.97	40	P	P	13 58 07.4	-0.2	
D22K	**Ayikyak River** comp=Z,7.0nm,0.9s	22.98	32	IAmb	IAmb	13 58 20.4		
D22K	**Ayikyak River** baz=243	22.98	32	P	P	13 58 07.3	-0.4	
M23K	**Glacier View** baz=265,SNR=10	23.01	51	P	P	13 58 07.4	-0.7	
G23K	**Bananza Creek** comp=Z,12nm,1.2s	23.06	38	IAmb	IAmb	13 58 10.6		
G23K	**Banana Creek** baz=251,SNR=7.7	23.06	38	P	P	13 58 08.0	-0.5	
P23K	**Montague Islan** baz=270,SNR=5.5	23.08	56	P	P	13 58 07.9	-0.8	
A21K	**Barrow** baz=233	23.15	25	P	P	13 58 09.2	-0.1	
COLD	**Coldfoot** baz=250	23.17	37	P	P	13 58 09.4	-0.2	
SCM	**Sheep Creek Mo** baz=265,SNR=15	23.20	51	P	P	13 58 09.5	-0.6	
WRH	**Wood River Hil** comp=Z,7.6nm,0.7s	23.24	44	IAmb	IAmb	13 58 12.8		
GLI	**Glacier Island** baz=268	23.26	53	P	P	13 58 09.9	-0.6	
A22K	**Sinclair Lake** baz=236	23.40	26	P	P	13 58 12.1	+0.3	
CCB	**Clear Creek Bu** comp=Z,14nm,1.2s	23.40	44	IAmb	IAmb	13 58 14.2		
COLA	**College** baz=259	23.42	43	P	P	13 58 11.5	-0.5	
B22K	**Teshekpuk Lake** baz=239	23.47	28	P	P	13 58 12.1	-0.3	
FID	**Port Fidalgo** comp=Z,9.8nm,0.6s	23.55	54	IAmb	IAmb	13 58 14.1		
Q23K	**Middleton Isla** baz=272	23.62	57	P	P	13 58 13.2	-0.8	
H24K	**Noodor Dome** comp=Z,12nm,1.1s	23.64	41	IAmb	IAmb	13 58 19.5		
H24K	**Noodor Dome** baz=256,SNR=8.6	23.64	41	P	P	13 58 13.6	-0.7	
D23K	**Nanushuk River**	23.67	33	P	P	13 58 14.5	0.0	
D23K	comp=Z,21nm,1.5s			IAmb	IAmb	13 58 15.1		
D23K	**Nanushuk River** baz=245	23.67	33	P	P	13 58 13.7	-0.8	
E23K	**Chandalar** baz=249	23.68	35	P	P	13 58 14.2	-0.4	
HDA	**Harding Lake** comp=Z,5.9nm,0.5s	23.71	45	IAmb	IAmb	13 58 18.2		
HDA	**Harding Lake** baz=260	23.71	45	P	P	13 58 14.4	-0.5	
M24K	**Tolsona, Glenn** baz=266	23.77	50	P	P	13 58 15.3	-0.2	
IL31	comp=Z,7.9nm,0.7s	23.81	44	IAmb	IAmb	13 58 17.3		
ILAR	**Eielson Array**	23.81	44	P	P	13 58 15.8	0.0	
ILAR	**Eielson Array** comp=Z,5.5nm,0.6s,baz=246,slow=8.8,SNR=56 comp=Z,5.5nm,0.6s	23.81	44	P	P	13 58 15.6	-0.3	
KLU	**Klutina** comp=Z,23nm,1.2s	23.85	52	IAmb	IAmb	13 58 17.7		
KLU	**Klutina** baz=267,SNR=13	23.85	52	P	P	13 58 15.7	-0.7	
TOLK	**Toolik Lake Re** baz=247	23.91	34	P	P	13 58 16.8	+0.1	
EYAK	**Cordova Ski Ar** comp=Z,9.7nm,0.7s	23.91	54	IAmb	IAmb	13 58 18.2		
EYAK	**Cordova Ski Ar** baz=270,SNR=5.6	23.91	54	P	P	13 58 16.3	-0.5	
G24K	**Hadweenzic Riv** comp=Z,5.7nm,0.8s	24.02	39	IAmb	IAmb	13 58 26.8		
G24K	**Hadweenzic Riv** baz=254	24.02	39	P	P	13 58 17.9	+0.1	
C23K	**Itkillik River** baz=244,SNR=6.7	24.07	31	P	P	13 58 17.7	-0.5	
E24K	**Your Creek** baz=250	24.08	35	P	P	13 58 18.0	-0.4	
F24K	**Squaw Lake** baz=252	24.11	37	P	P	13 58 18.3	-0.4	
K24K	**Donnelly Dome** baz=262	24.13	46	P	P	13 58 18.5	-0.4	
PAX	**Paxson** comp=Z,7.2nm,0.8s	24.17	48	IAmb	IAmb	13 58 20.8		
PAX	**Paxson** baz=264,SNR=12	24.17	48	P	P	13 58 19.1	-0.2	
HARP	**HAARP** baz=266	24.27	50	P	P	13 58 19.7	-0.4	
D24K	**Happy Valley** baz=247	24.36	33	P	P	13 58 20.9	+0.1	
J25K	**Salcha River,** baz=261,SNR=11	24.42	44	P	P	13 58 20.5	-1.1	
BMRM	**Bremner River** comp=Z,14nm,0.8s	24.48	53	IAmb	IAmb	13 58 23.8		
BMRM	**Bremner River** baz=270,SNR=10.0	24.48	53	P	P	13 58 21.7	-0.4	
N25K	**Chitina, Valde** comp=Z,9.9nm,0.6s	24.49	52	IAmb	IAmb	13 58 24.3		
N25K	**Chitina, Valde** baz=268,SNR=14	24.49	52	P	P	13 58 22.2	-0.1	
PRP	**Porcupine Dome** comp=Z,6.5nm,0.8s	24.52	42	IAmb	IAmb	13 58 30.2		
PRP	**Porcupine Dome** baz=259,SNR=12	24.52	42	P	P	13 58 22.2	-0.3	
RIDG	**Independent Ri** comp=Z,18nm,1.2s	24.53	47	IAmb	IAmb	13 58 23.5		
RIDG	**Independent Ri** baz=263,SNR=14	24.53	47	P	P	13 58 21.7	-0.9	
H25L	**Birch Creek** baz=257,SNR=8.5	24.56	40	P	P	13 58 22.3	-0.4	
G25K	**Bearman Lake** baz=256	24.57	39	P	P	13 58 21.8	-0.9	
KAIM	**Kayak Island**	24.59	56	P	P	13 58 24.0	+1.0	
KAIM	**Kayak Island** baz=272	24.59	56	P	P	13 58 21.9	-1.1	
C24K	**Franklin Bluff** baz=246	24.62	32	P	P	13 58 23.9	+0.7	
FYU	**Fort Yukon**	24.86	40	P	P	13 58 26.1	+0.8	
DOT	**Dot Lake** comp=Z,6.7nm,0.8s	24.87	47	IAmb	IAmb	13 58 27.6		
SCRK	**Sand Creek** baz=264,SNR=38	24.93	46	P	P	13 58 25.8	-0.5	
F25K	**Christian Rive** comp=Z,5.0nm,0.9s	24.96	37	IAmb	IAmb	13 58 36.0		
F25K	**Christian Rive** baz=254,SNR=8.2	24.96	37	P	P	13 58 25.7	-0.7	
E25K	**Arctic Village**	25.13	36	P	P	13 58 28.8	+0.9	
E25K	comp=Z,5.2nm,0.7s			IAmb	IAmb	13 58 37.7		
E25K	**Arctic Village** baz=253,SNR=5.5	25.13	36	P	P	13 58 27.4	-0.5	
J26L	**Joseph Creek** comp=Z,6.6nm,0.9s	25.18	45	IAmb	IAmb	13 58 39.6		
J26L	**Joseph Creek** baz=263,SNR=15	25.18	45	P	P	13 58 27.9	-0.5	
CRQE	**Cirque** baz=272,SNR=13	25.22	54	P	P	13 58 28.7	-0.2	
D25K	**Kavik River** comp=Z,5.4nm,0.9s	25.23	33	IAmb	IAmb	13 58 36.1		
D25K	**Kavik River** baz=250	25.23	33	P	P	13 58 28.7	-0.1	
MCARA	**McCarthy VSAT** baz=270,SNR=9.8	25.24	52	P	P	13 58 29.3	+0.4	
M26K	**Nabesna, AK** comp=Z,8.1nm,1.4s	25.27	50	IAmb	IAmb	13 58 49.7		
M26K	**Nabesna, AK** baz=268	25.27	50	P	P	13 58 29.6	+0.3	
I26K	**Coal Creek Min** baz=262	25.46	43	P	P	13 58 31.1	+0.2	
G26K	**Porcupine Rive** baz=258,SNR=20	25.50	39	P	P	13 58 30.9	-0.3	
F26K	**Sheenjek River** comp=Z,5.1nm,0.9s	25.54	37	IAmb	IAmb	13 58 34.6		
F26K	**Sheenjek River** baz=256,SNR=8.0	25.54	37	P	P	13 58 31.6	0.0	
K27K	**Chicken** baz=266	25.78	46	P	P	13 58 34.7	+0.9	
M27K	**Edge Creek, AK** comp=Z,9.2nm,0.9s	25.79	50	IAmb	IAmb	13 58 38.1		
M27K	**Edge Creek, AK** baz=269,SNR=11	25.79	50	P	P	13 58 33.9	-0.1	
MESA	**MESA** baz=274	25.81	55	P	P	13 58 33.4	-1.0	
L27K	**Beaver Creek,** comp=Z,5.7nm,0.7s	25.83	48	IAmb	IAmb	13 58 37.8		
L27K	**Beaver Creek,** baz=268,SNR=12	25.83	48	P	P	13 58 34.2	-0.1	
BCAR	**Beaver Creek A**	25.85	48	P	P	13 58 35.1	+0.6	
GRNC	**Granite Creek** comp=Z,9.9nm,0.8s	25.88	54	IAmb	IAmb	13 58 36.5		
BARN	**Barnard Glacie** comp=Z,9.6nm,0.6s	25.91	53	IAmb	IAmb	13 58 40.9		
C26K	**Camden Bay** baz=250	25.92	32	P	P	13 58 35.3	+0.3	
CTG	**Chitna Glacier** baz=272	26.07	53	P	P	13 58 36.5	-0.1	
I27K	**Kandik River** baz=263	26.14	43	P	P	13 58 37.4	+0.3	
C27K	**Jago River** baz=252	26.22	33	P	P	13 58 37.9	+0.1	
H27K	**Steamboat Moun** baz=262	26.26	41	P	P	13 58 37.5	-0.7	
BVCY	**Beaver Creek** baz=270,SNR=5.2	26.26	50	P	P	13 58 38.2	0.0	
G27K	**Doyon Strip** comp=Z,6.5nm,1.2s	26.30	40	IAmb	IAmb	13 58 42.6		
G27K	**Doyon Strip** baz=260,SNR=9.1	26.30	40	P	P	13 58 38.5	-0.1	
YUK3	**Moose Creek** baz=272	26.46	51	P	P	13 58 40.1	-0.2	
E27K	**Coleen River** baz=258	26.59	37	P	P	13 58 41.9	+0.8	
O28M	**Mount Upton** baz=274,SNR=6.2	26.64	54	P	P	13 58 42.0	+0.1	
PINM	**Pinnacle** baz=275	26.66	55	P	P	13 58 41.9	+0.1	
I28M	**Miner Creek** comp=Z,4.8nm,0.7s	26.81	43	IAmb	IAmb	13 58 44.5		
I28M	**Miner Creek** baz=265,SNR=15	26.81	43	P	P	13 58 42.9	-0.3	
DAWY	**Dawson** baz=268,SNR=6.6	26.96	46	P	P	13 58 44.5	0.0	
D27M	**Malcolm River** comp=Z,6.4nm,1.2s	27.05	35	IAmb	IAmb	13 58 53.8		
D27M	**Malcolm River** baz=256,SNR=5.9	27.05	35	P	P	13 58 45.5	+0.2	
F28M	**Old Crow** baz=261	27.12	38	P	P	13 58 45.6	-0.3	
PNL	**Peninsula** baz=277	27.14	56	P	P	13 58 45.9	-0.2	
YUK4	**Talbot Arm** baz=274	27.35	52	P	P	13 58 48.6	+0.4	
M29M	**Somme Creek** baz=272	27.38	50	P	P	13 58 48.1	-0.3	
E28M	**Babbage River** baz=259	27.42	36	P	P	13 58 49.6	+1.0	
O29M	**Mount Kennedy** baz=276	27.48	54	P	P	13 58 49.8	+0.5	
I29M	**Ogilvie Camp,** comp=Z,2.7nm,0.6s	27.49	43	IAmb	IAmb	13 58 49.3		
I29M	**Ogilvie Camp,** baz=266,SNR=5.9	27.49	43	P	P	13 58 49.5	+0.3	
L29M	**L29M** baz=271	27.52	48	P	P	13 58 49.1	-0.4	
YUK6	**Outpost Mounta** baz=275	27.52	53	P	P	13 58 50.1	+0.3	
H29M	**Whitestone** comp=Z,6.0nm,0.7s	27.53	42	IAmb	IAmb	13 58 50.9		
H29M	**Whitestone** baz=265,SNR=7.3	27.53	42	P	P	13 58 49.5	0.0	
G29M	**Pine Creek** comp=Z,7.0nm,0.9s	27.73	40	IAmb	IAmb	13 58 53.3		
G29M	**Pine Creek** baz=264,SNR=5.9	27.73	40	P	P	13 58 51.6	+0.2	
K29M	**Barlow Dome** comp=Z,5.1nm,0.7s	27.78	47	IAmb	IAmb	13 58 54.0		
K29M	**Barlow Dome** baz=270,SNR=12	27.78	47	P	P	13 58 52.1	+0.1	
USRK	**Ussuriysk Ar.** comp=Z,46nm,18.0s,baz=48,slow=40	27.85	269	LR	LR	14 11 49.5		
HYT	**Haines Junctio** baz=276,SNR=5.8	27.95	53	P	P	13 58 52.5	-0.9	
E29M	**Blow River** baz=261	27.98	37	P	P	13 58 53.6	+0.1	
P29M	**Windy Craggy** baz=278	27.98	56	P	P	13 58 53.2	-0.4	
N30M	**Aishikik Lake** baz=275	28.09	52	P	P	13 58 54.0	-0.6	
M30M	**Minto, Yukon** baz=273	28.15	49	P	P	13 58 54.6	-0.5	
EPYK	**Eagle Plains** baz=266,SNR=9.1	28.20	41	P	P	13 58 55.4	-0.2	
I30M	**Mount Dempster** baz=269,SNR=6.9	28.29	44	P	P	13 58 56.0	-0.5	
J30M	**Hart River** baz=270	28.30	45	P	P	13 58 56.3	-0.3	
G30M	**tAoh Zraii Nji** baz=266	28.45	40	P	P	13 58 57.3	-0.5	
O30N	**Mendenhall** baz=277	28.64	53	P	P	13 58 58.5	-1.1	
F30M	**Barrier River** comp=Z,3.9nm,0.8s	28.67	39	IAmb	IAmb	13 59 01.9		
F30M	**Barrier River** baz=265	28.67	39	P	P	13 58 58.9	-0.8	
N31M	**Braeburn, Yuko** baz=276	28.71	52	P	P	13 58 58.7	-1.5	
MJAR	**Matsushiro Arr** comp=Z,1.2nm,0.7s,baz=45,slow=6.7,SNR=4.9	28.91	250	P	P	13 59 04.2	+2.0	
MJAR	comp=Z,29nm,21.9s,baz=71,slow=34 comp=Z,1.2nm,0.7s			LR	LR	14 09 20.3		
S31K	**Pelican** baz=282	29.04	59	P	P	13 59 01.8	-1.2	
H31M	**Peel River** baz=269	29.15	43	P	P	13 59 03.1	-0.9	
G31M	**Satah River** comp=Z,4.6nm,0.8s	29.21	40	IAmb	IAmb	13 59 17.5		
G31M	**Satah River** baz=267	29.21	40	P	P	13 59 03.7	-0.8	
SKAG	**Skagway** baz=280	29.21	56	P	P	13 59 03.4	-1.2	
M31M	**Drury Creek, Y** baz=276	29.29	50	P	P	13 59 04.3	-1.0	
F31M	**Tsiigehtchic** baz=267	29.44	39	P	P	13 59 06.0	-0.5	
INK	**Inuvik** comp=Z,50nm,20.9s,baz=253,slow=37	29.58	38	LR	LR	14 11 17.9		
INK	**Inuvik** baz=266	29.58	38	P	P	13 59 07.1	-0.6	
SIT	**Sitka** baz=284	29.72	61	P	P	13 59 08.8	-0.2	
BNX	**BinXian**	29.85	275	⇑P	P	13 59 10.6	+0.3	
BNX	comp=Z,8.0nm,1.0s			pmax	pmax			
R32K	**Eaglecrest** baz=283	29.86	58	P	P	13 59 10.1	-0.2	
P32M	**Atlin** baz=281	30.00	55	P	P	13 59 10.4	-1.2	
S32K	**Killisnoo** baz=284	30.02	60	P	P	13 59 10.9	-0.8	
N32M	**Quiet Lake** baz=279	30.04	52	P	P	13 59 10.9	-1.1	
P33M	**Teslin, Yukon** baz=280	30.33	54	P	P	13 59 14.0	-0.5	
MMPY	**Sheldon Lake,** baz=278	30.69	49	P	P	13 59 16.8	-0.9	
Q32M	**Nakina River** comp=Z,2.8nm,0.8s	30.86	56	IAmb	IAmb	13 59 22.7		
Q32M	**Nakina River** baz=283,SNR=5.5	30.86	56	P	P	13 59 18.4	-0.9	
U33K	**Whale Pass** baz=287	31.15	62	P	P	13 59 21.0	-0.6	
CRAG	**Craig** baz=288	31.34	63	P	P	13 59 22.4	-1.0	
R33M	**Jennings River** baz=283,SNR=5.9	31.41	55	P	P	13 59 23.6	-0.5	
S34M	**Telegraph Cree** comp=Z,5.8nm,1.2s	31.69	58	IAmb	IAmb	13 59 30.6		
S34M	**Telegraph Cree** baz=285	31.69	58	P	P	13 59 26.3	-0.2	
DLBC	**Dease Lake** comp=Z,6.6nm,20.1s,baz=252,slow=36	32.12	57	LR	LR	14 12 23.1		
V35K	**Ketchikan** baz=289	32.20	63	P	P	13 59 29.8	-1.2	
TGTN	**Hyland Airport** baz=282	32.26	50	P	P	13 59 31.3	-0.2	
WTLY	**Watson Lake, Y** baz=283	32.32	53	P	P	13 59 31.3	-0.7	
T35M	**Bob Quinn** comp=Z,4.4nm,1.0s	32.41	59	IAmb	IAmb	13 59 37.6		
T35M	**Bob Quinn** baz=287	32.41	59	P	P	13 59 32.8	-0.1	
H11N2	**WAKE ISLAND Hy** baz=6.4,slow=76,SNR=584	33.20	190	T	T	14 35 01.4		
H11N3	**WAKE ISLAND Hy** baz=6.4,slow=76,SNR=1185	33.21	190	T	T	14 34 57.2		
H11N1	**WAKE ISLAND Hy** baz=6.4,slow=76,SNR=1139	33.21	190	T	T	14 35 02.7		
KSRS	**Korea Array** comp=Z,1.9nm,0.9s,baz=51,slow=9.8,SNR=7.0 comp=Z,1.9nm,0.9s	34.35	262	P	P	13 59 52.1	+2.2	
H11S1	**WAKE ISLAND Hy** baz=6.2,slow=76,SNR=2937	34.43	190	T	T	14 36 33.6		
H11S3	**WAKE ISLAND Hy** baz=6.2,slow=76,SNR=3296	34.43	190	T	T	14 36 35.1		
H11S2	**WAKE ISLAND Hy** baz=6.2,slow=76,SNR=1497	34.44	190	T	T	14 36 35.3		
BBB	**Bella Bella** comp=Z,59nm,18.1s,baz=248,slow=35	35.31	66	LR	LR	14 13 30.4		
JNU	**Nakatsue** comp=Z,56nm,21.6s,baz=192,slow=34	35.57	253	LR	LR	14 13 36.0		
XLT	**XiLinHaoTe**	37.65	280	eP	P	14 00 19.5	+1.3	
XLT				pP	pwP	14 00 26.8	-0.6	
XLT	comp=Z,4.0nm,0.6s			pmax	pmax			
XLT	comp=Z,120nm,4.7s			pmax	pmax			
YKAW3	**Yellowknife Wh** comp=Z,4.6nm,0.7s	38.17	46	IAmb	IAmb	14 00 23.9		
YKA	**Yellowknife Ar** comp=Z,3.2nm,0.7s,baz=285,slow=18,SNR=18 comp=Z,3.2nm,0.7s	38.20	46	P	P	14 00 23.6	+1.1	
SONM	**Songino Array** comp=Z,1.7nm,0.6s,baz=61,slow=9.0,SNR=8.6 comp=Z,1.7nm,0.6s	41.19	291	P	P	14 00 48.7	+1.0	
TIA	**Tai'an**	41.71	269	P	P	14 00 53.6	+1.6	
TIA	comp=Z,9.0nm,0.6s			pmax	pmax			
NEW	**Newport** comp=Z,27nm,20.8s,baz=328,slow=33	43.38	66	LR	LR	14 16 40.5		
J05D	**Fort Rock, OR**	43.87	75	P	P	14 01 10.2	+0.7	
J05D	comp=Z,2.7nm,0.6s			IAmb	IAmb	14 01 12.3		
K05A	**Summer Lake**	44.41	75	P	P	14 01 14.7	+0.7	
K05A	comp=Z,5.4nm,1.2s			IAmb	IAmb	14 01 51.2		
PLID	**Pearl Lake**	45.83	69	P	P	14 01 25.5	+0.3	
BPMT	**Black Pine Rid**	46.47	67	P	P	14 01 30.0	-0.3	
LYMT	**Lyon Mountain**	46.80	65	P	P	14 01 32.7	-0.2	

LRM	Limekiln Ridge	47.40	67	P	P	14 01 38.5	+1.0
HLID	Hailey	47.66	70	IAmb	IAmb	14 01 42.9	
	comp=Z,1.9nm,0.9s						
BOZ	Bozeman (W)	47.99	66	P	P	14 01 41.9	-0.1
BOZ				IAmb	IAmb	14 01 44.6	
	comp=Z,2.7nm,0.8s						
BOZ	Bozeman (W)	47.99	66	P	P	14 01 41.9	-0.1
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SPITS	Spitsbergen Ar	48.56	354	P	P	14 01 45.3	-0.6
	comp=Z,2.4nm,0.5s,baz=57,slow=6.1,SNR=7.0						
	comp=Z,2.4nm,0.5s						
NVAR	Mina Array Bea	48.64	78	P	P	14 01 47.4	+0.3
NVAR	Mina Array Bea	48.64	78	P	P	14 01 47.1	-0.1
	comp=Z,0.9nm,0.6s,baz=306,slow=8.2,SNR=6.6						
NVAR				ScP	ScP	14 07 05.0	-0.3
	comp=Z,0.8nm,0.8s,baz=310,slow=5.2,SNR=3.9						
	comp=Z,0.9nm,0.6s						
YHL	Hebgen Lake	48.70	67	IAmb	IAmb	14 01 50.5	
	comp=Z,6.3nm,1.0s						
YNE	Yellowstone No	49.26	66	IAmb	IAmb	14 01 54.1	
	comp=Z,3.0nm,0.9s						
H17A	Grant Village	49.32	67	IAmb	IAmb	14 01 56.1	
	comp=Z,4.3nm,0.9s						
RLMT	Red Lodge	49.59	66	IAmb	IAmb	14 01 58.3	
	comp=Z,2.9nm,0.7s						
HVU	Hansel Valley	49.72	71	IAmb	IAmb	14 01 58.3	
	comp=Z,2.5nm,0.7s						
LZH	Lanzhou	49.84	279	eP	P	14 01 58.0	+1.7
LZH				sP	sP	14 02 06.4	+0.5
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
GTA	Gaotai	50.04	285	eP	P	14 01 58.5	+0.7
GTA				pP	pP	14 02 01.1	-3.5
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
R11B	Troy Canyon, C	50.30	76	P	P	14 01 59.9	+0.1
R11B				IAmb	IAmb	14 02 03.0	
	comp=Z,4.6nm,1.5s						
BW06	Boulder Array	50.92	68	IAmb	IAmb	14 02 06.8	
	comp=Z,5.0nm,1.1s						
PD31	Pinedale Array	50.92	68	IAmb	IAmb	14 02 06.8	
	comp=Z,5.1nm,1.1s						
PDAR	Pinedale Array	50.92	68	P	P	14 02 04.5	0.0
	comp=Z,2.0nm,0.6s,baz=312,slow=3.5,SNR=19						
	comp=Z,2.0nm,0.6s						
PSUT	Pine Spring	51.20	75	P	P	14 02 06.9	+0.3
BSUT	Blindstream Ca	51.68	71	P	P	14 02 10.2	-0.2
BSUT				IAmb	IAmb	14 02 14.8	
	comp=Z,2.4nm,0.7s						
TMUT	Trail Mountain	52.24	72	IAmb	IAmb	14 02 15.6	
	comp=Z,4.1nm,0.7s						
SRU	San Rafael Swe	52.76	72	IAmb	IAmb	14 02 21.4	
	comp=Z,4.6nm,0.9s						
KNB	Kanab	52.82	76	P	P	14 02 19.4	+0.8
KNB	Kanab	52.82	76	P	P	14 02 19.5	+0.8
KNB				pmax	pmax		
	comp=Z,3.0nm,1.1s						
PFO	Pinyon Flats O	52.98	81	LR	LR	14 24 19.0	
	comp=Z,27nm,18.2s,baz=242,slow=35						
HMU	Henry Mountain	53.42	73	P	P	14 02 23.7	+0.5
HMU				IAmb	IAmb	14 02 24.3	
	comp=Z,5.3nm,0.7s						
KURK	Kurchatov	54.09	308		P	14 02 27.2	-0.4
KURK	Kurchatov	54.09	308	P	P	14 02 27.2	-0.4
KURK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PV14	Lion Creek, Pa	54.13	72	P	P	14 02 28.5	+0.2
PV22	Blue Mesa, Par	54.15	72	IAmb	IAmb	14 02 30.0	
	comp=Z,3.3nm,0.6s						
PV04	Paradox Valley	54.18	72	IAmb	IAmb	14 02 33.0	
	comp=Z,3.5nm,0.9s						
KURBB	Kurchatov Arra	54.20	308	P	P	14 02 28.3	0.0
	comp=Z,5.6nm,0.6s,baz=54,slow=7.6,SNR=36						
	comp=Z,5.6nm,0.6s						
PV16	Nyswonger Mesa	54.23	72	IAmb	IAmb	14 02 32.3	
	comp=Z,2.7nm,0.5s						
PV03	Paradox Valley	54.31	72	IAmb	IAmb	14 02 32.5	
	comp=Z,3.1nm,0.7s						
PV02	Paradox Valley	54.40	72	P	P	14 02 30.6	+0.3
MKAR	Makanchi Array	54.89	303	P	P	14 02 32.7	-0.8
	comp=Z,1.6nm,0.3s,baz=47,slow=6.7,SNR=42						
	comp=Z,1.6nm,0.3s						
ARCES	ARCESS Array B	55.71	347	P	P	14 02 37.9	-1.1
	comp=Z,2.0nm,0.8s,baz=29,slow=8.0,SNR=6.7						
	comp=Z,2.0nm,0.8s						
S22A	4UR Ranch, Cre	55.82	71	P	P	14 02 41.4	+0.8
S22A				IAmb	IAmb	14 02 42.4	
	comp=Z,2.7nm,0.6s						
BVAR	Borovoye Array	56.26	315	P	P	14 02 43.0	-0.2
	comp=Z,1.8nm,0.4s,baz=51,slow=8.6,SNR=8.4						
BVAR				PcP	PcP	14 03 40.2	-0.2
	comp=Z,1.6nm,0.5s,baz=39,slow=3.4,SNR=5.2						
	comp=Z,1.8nm,0.4s						
SDCO	Great Sand Dun	56.58	70	P	P	14 02 46.8	+0.7
SDCO				IAmb	IAmb	14 02 48.8	
	comp=Z,1.7nm,0.6s						
PZH	PanZhiHua	57.85	272	P	P	14 02 55.9	+0.9
MNTX	Cornudas Mount	60.93	75	IAmb	IAmb	14 03 24.3	
	comp=Z,2.5nm,0.8s						
JFWS	Jewell Farm	61.19	56	P	P	14 03 17.9	+0.3
JFWS	Jewell Farm	61.19	56	P	P	14 03 18.0	+0.3
JFWS				pmax	pmax		
	comp=Z,7.0nm,0.6s						
VHRN	Van Horn	61.82	75	P	P	14 03 22.6	+0.4
VHRN				IAmb	IAmb	14 03 23.0	
	comp=Z,1.3nm,0.6s						
SCHQ	Schefferville	62.12	34	P	P	14 03 23.4	-0.3
	comp=Z,3.6nm,0.7s,baz=58,slow=18,SNR=3.8						
SCHQ				LR	LR	14 30 37.0	
	comp=Z,66nm,18.4s,baz=326,slow=36						
	comp=Z,3.6nm,0.7s						
FINES	FINESS Array B	63.10	343	P	P	14 03 29.9	-0.2
	comp=Z,1.6nm,0.7s,baz=29,slow=6.3,SNR=8.0						
	comp=Z,1.6nm,0.7s						
KSH	Kashi	63.29	301	P	P	14 03 35.6	+3.7
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KK31	Karatay Array	63.39	307		P	14 03 32.0	-0.4
KK31				IAmb	IAmb	14 03 32.7	
	comp=Z,3.1nm,0.7s						
KK31	Karatay Array	63.39	307	P	P	14 03 32.0	-0.4
KK31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KKAR	Karatay Array	63.39	307	P	P	14 03 32.4	0.0
KKAR	Karatay Array	63.39	307	P	P	14 03 32.4	0.0
R40A	Maddies Statio	63.52	61	P	P	14 03 32.2	-1.0
TX31	Lajitas Ar. Si	63.66	76	P	P	14 03 34.6	+0.2
TX31				IAmb	IAmb	14 03 37.4	
	comp=Z,2.3nm,0.7s						
TXAR	Lajitas Array	63.66	76	P	P	14 03 34.7	+0.3
	comp=Z,2.4nm,0.5s,baz=312,slow=4.6,SNR=35						
	comp=Z,2.4nm,0.5s						
NC405	NORSAR Array S	65.50	350	P	P	14 03 45.6	-0.2
CMAR	Chiang Mai Arr	65.58	269	P	P	14 03 47.0	0.0
	comp=Z,2.5nm,0.5s,baz=27,slow=7.1,SNR=12						
CMAR				LR	LR	14 34 22.5	
	comp=Z,26nm,18.3s,baz=175,slow=38						
	comp=Z,2.5nm,0.5s						
NB201	NORSAR Array S	65.60	350	P	P	14 03 46.3	-0.2
NB2	NORSAR Subarra	65.62	350	P	P	14 03 46.2	-0.5
	comp=Z,1.9nm,0.7s,baz=12,slow=6.5						
NOA	NORSAR Array B	65.62	350	P	P	14 03 46.4	-0.3
	comp=Z,1.9nm,0.6s,baz=13,slow=6.4,SNR=11						
	comp=Z,1.9nm,0.6s						
P48A	Milroy	66.19	56	P	P	14 03 49.8	-0.8
HFS	Hagfors	66.23	349	P	P	14 03 49.9	-0.6
	comp=Z,3.7nm,0.5s,baz=44,slow=4.5,SNR=45						
	comp=Z,3.7nm,0.5s						
GAR	Garm	66.58	304	P	P	14 03 53.6	+0.3
WVT	Waverly	67.48	60	P	P	14 03 59.2	+0.3
WVT	Waverly	67.48	60	P	P	14 03 59.2	+0.3
WVT				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TKL	Tuckaleechee C	69.95	57	LR	LR	14 36 03.8	
	comp=Z,42nm,18.5s,baz=316,slow=37						
EKA	Eskdalemuir Ar	72.27	357	P	P	14 04 27.4	-0.6
	comp=Z,1.6nm,0.5s,baz=5.7,slow=5.6,SNR=5.9						
	comp=Z,1.6nm,0.5s						
AKASG	Malin Array Be	72.40	336	P	P	14 04 28.4	-0.4
	comp=Z,1.4nm,0.5s,baz=26,slow=6.4,SNR=6.0						
	comp=Z,1.4nm,0.5s						
GERES	GERESS Array B	77.23	346	P	P	14 04 57.5	+0.5
	comp=Z,1.2nm,0.5s,baz=33,slow=3.7,SNR=9.2						
	comp=Z,1.2nm,0.5s						
WR8	Warramunga Arr	79.52	216	P	P	14 05 09.0	-0.7
WRA	Warramunga Arr	79.56	216	P	P	14 05 10.2	+0.2
	comp=Z,2.4nm,0.8s,baz=29,slow=6.1,SNR=14						
	comp=Z,2.4nm,0.8s						
TEOL	Teolo	80.93	346	P	P	14 05 17.4	+0.3
BRTR	Keskin Array B	81.27	329	P	P	14 05 19.6	+0.4
	comp=Z,0.6nm,0.7s,baz=254,slow=0.3,SNR=3.7						
	comp=Z,0.6nm,0.7s						
FITZ	Fitzroy Crossi	81.33	225	P	P	14 05 19.9	+0.5
	comp=Z,3.4nm,0.6s,baz=30,slow=4.8,SNR=14						
	comp=Z,3.4nm,0.6s						
MSSA	Maissana	82.25	348	P	P	14 05 23.7	-0.6
ASAR	Alice Springs	83.14	215	P	P	14 05 29.9	+1.0
	comp=Z,1.7nm,0.7s,baz=14,slow=4.8,SNR=21						
	comp=Z,1.7nm,0.7s						
SJG	San Juan	93.21	54	LR	LR	14 50 27.4	
	comp=Z,22nm,19.4s,baz=152,slow=37						
QSPA	South Pole Qui	142.46	180	PKhKP	PKPpre	14 12 29.0	
	comp=Z,1.1nm,0.9s,baz=310,slow=2.5,SNR=6.2						
MAW	Mawson	144.22	218	PKP	PKPab	14 12 35.4	+0.1
	comp=Z,3.5nm,0.6s,baz=106,slow=3.3,SNR=13						
BOSA	Boshof	145.89	302	PKPbc	PKPbc	14 12 42.2	-0.1
	comp=Z,1.8nm,0.5s,baz=19,slow=3.7,SNR=7.6						

*IDC **22** 13:59:23.8±1.7,0.47N×123.89E,h0km,mb3.4/4, mbtmp3.5/5,ML3.5/1,MS3.9/1,Error ellipse: s-maj=99.0km s-min=20.6km az=60.0*
*DJA **22** 13:59:38.7±0.3,0.5S×122.3E±*,h113km±5km,M4.0/18, mB4.9/2,mb4.1/8,MLv4.0/18,Mw(mB)4.2/2*

ISC 22 13:59:38.1±0.9,0.12S±0.06×123.12E±0.06,h100km,n22, σ2s07/24,mb3.4/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.98	201	P		P	Pn	14 00 00.7	+2.3
LUWI				S		S	Sn	14 00 17.2	+3.6
KMSI	Cibinong	1.10	52	P		P	Pn	14 00 02.1	+2.4
KMSI				S		S	Sn	14 00 20.2	+4.2
MRSI	Marisa	1.31	297	P		P	Pn	14 00 03.1	+1.0
MRSI				S		S	Sn	14 00 21.2	+0.9
APSI	Ampana	1.67	242	P		P	Pn	14 00 08.5	+2.0
MPSI	Mapaga	3.25	278	P		P	Pn	14 00 29.3	+2.1
PCI	Palu	3.37	257	P		P	Pn	14 00 29.8	+0.9
SANI	Sanana	3.46	124	P		P	Pn	14 00 29.1	-0.9
KDI	Kendari	3.85	187	P		P	Pn	14 00 36.6	+1.3
TTSI	Tana Toraja	4.40	229	P		P	Pn	14 00 44.3	+1.6
NLAI	Namlea	5.05	128	P		P	Pn	14 00 52.2	+0.7
SPSI	Sidrap Palu	5.08	221	P		P	Pn	14 00 53.9	+1.9
	0.1nm14nm,0.6s								
BNSI	Bone	5.21	215	P		P	Pn	14 00 56.5	+2.7
	0.1nm24nm,1.7s								
BBSI	Bau Bau	5.36	186	P		P	Pn	14 00 57.5	+1.6
	0.1nm27nm,1.1s								
BKSI	Bulukumba	5.97	210	P		P	Pn	14 01 04.8	+0.7
	0.1nm10nm,1.2s								
BSSI	Bau Bau, Buton	6.54	204	P		P	Pn	14 01 12.7	+0.9
	56nm,1.2s								
FAKI	Fak Fak	9.54	107	P		P	Pn	14 01 52.6	-0.1
FITZ	Fitzroy Crossi	18.04	172	P		P	Pn	14 03 41.0	-0.6
	0.1nm,0.3s,baz=343,slow=10,SNR=5.1								
	2.1nm,0.7s								
WRA	Warramunga Arr	22.56	152	P		P	Pn	14 04 28.3	-2.0
	0.6nm,0.5s,baz=332,slow=10,SNR=16								
	0.6nm,0.5s								
ASAR	Alice Springs	25.65	157	P		P	Pn	14 04 57.1	-1.6
	0.2nm,0.6s,baz=337,slow=9.1,SNR=1.0								
	0.2nm,0.6s								
CMAR	Chiang Mai Arr	30.08	309	P		P	Pn	14 05 38.0	-0.3
	0.5nm,0.3s,baz=127,slow=8.6,SNR=5.7								
	0.5nm,0.3s								
DZM	Mont Dzumac	47.51	120	LR		LR	LR	14 29 33.2	
	comp=Z,117nm,18.8s,baz=226,slow=38								
MKAR	Makanchi Array	58.77	329	P		P	Pn	14 09 22.8	-3.1
	0.3nm,0.5s,baz=125,slow=7.9,SNR=4.9								
	0.3nm,0.5s								

*WEL **22** 14:04:22.7±0.4,44°S±3°×17°E±*,h5km,M3.3/12, ML3.5/12,MLv3.3/12,Error ellipse: s-maj=4.1km s-min=3.0km az=147.7,confirmed*
*NOU **22** 14:04:24.2,44.01S×169.43E,h10km,ML4.0/8,South Island, New Zealand*

ISC 22 14:04:22.6±1.1,44.01S±0.03×169.55E±0.03,h5km±13km, n32,σ0.93/39,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MECS	Makarora Emerg	0.32	226	P		P	Pg	14 04 29.2	+0.3
MECS				S		S	Sg	14 04 33.9	+0.7
FOZ	Fox Glacier	0.51	22	P		P	Pg	14 04 32.6	+0.1
FOZ				S		S	Sg	14 04 39.4	+0.3
JCZ	Jackson Bay	0.56	263	P		P	Pb	14 04 34.2	-0.8
JCZ	Jackson Bay	0.56	263	P		P	Pb	14 04 34.2	-0.8
JCZ				S		S	Sg	14 04 41.2	+0.5
LBZ	Lake Benmore	0.59	130	P		P	Pg	14 04 34.5	+0.5
LBZ				S		S	Sg	14 04 42.2	+0.5
FJDS	Franz Josef DO	0.77	37	P		P	Pg	14 04 36.3	-1.1
FJDS				S		S	Sg	14 04 46.6	-0.7
GCSZ	Gaunt Creek Bo	0.89	39	P		P	Pg	14 04 39.1	-0.6
WKZ	Wanaka	0.91	205	P		P	Pg	14 04 39.5	-0.5
TMZ	Timaru	1.11	110	P		P	Pg	14 04 44.1	+0.1
RPZ	Rata Peaks	1.12	75	P		P	Pn	14 04 46.4	+1.4
RPZ	Rata Peaks	1.12	75	P		P	Pn	14 04 44.3	+0.1
ARCZ	Arundel	1.17	88	P		P	Pb	14 04 45.1	-0.3
ARCZ				S		S	Sg	14 04 59.2	-1.1
EAZ	Earnscleugh	1.24	188	P		P	Pb	14 04 45.3	-1.2
WVZ	Waitaha Valley	1.27	43	P		P	Pn	14 04 46.6	-0.4
ODZ	Otahua Downs	1.30	143	P		P	Pn	14 04 48.2	+0.8
ODZ	Otahua Downs	1.30	143	P		P	Pn	14 04 47.8	+0.4
ODZ				S		S	Sb	14 05 03.5	-0.9
MSZ	Milford Sound	1.34	240	P		P	Pb	14 04 48.2	-0.1
MLZ	Mavora Lakes	1.70	216	P		P	Pb	14 04 54.1	-0.3
INZ	Inchbonnie	1.88	48	P		P	Pn	14 04 55.6	+0.2
OXZ	Oxford	1.93	70	P		P	Pn	14 04 56.5	+0.5
TUZ	Tuapeka	1.95	178	P		P	Pn	14 04 56.1	-0.2
HHSZ	Highcliff Hill	2.02	159	P		P	Pb	14 04 59.4	-0.4
WHZ	Wether Hill Ro	2.20	211	P		P	Pn	14 04 59.7	-0.1
DCZ	Deep Cove	2.25	229	P		P	Pn	14 05 01.8	+1.4
MQZ	McQueen's Vall	2.26	83	P		P	Pn	14 05 01.2	+0.5
LTZ	Lake Taylor	2.33	59	P		P	Pn	14 05 02.5	+0.9
SYZ	Scrubby Hill	2.55	186	P		P	Pn	14 05 04.4	-0.1
PYZ	Puysegur Point	2.97	222	P		P	Pn	14 05 10.5	+0.2
KHZ	Kahutara	3.32	63	P		P	Pn	14 05 17.8	+2.6
QRZ	Quartz Range	3.87	36	P		P	Pn	14 05 23.4	+0.7
KHEZ	Kahui Hut	5.77	37	P		P	Pn	14 05 50.2	+1.2
BKZ	Black Stump Fm	7.10	49	P		P	Pn	14 06 09.7	+2.5

*IDC **22** 14:12:54.2±0.7,16.96S×174.25W,h0km,mb4.2/9, mbtmp4.2/9,MS3.5/2,Error ellipse: s-maj=37.9km s-min=19.7km az=139.0*

ISC 22 14:13:06.9±0.8,16.95±0.2×174.4W±0.2,h100km,n13, σ1s21/11,mb4.0/9,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PPT	Papeete	23.73	95	LR		LR	LR	14 24 25.7	
	comp=Z,64nm,18.9s,baz=340,slow=29								
STKA	Stephens Creek	42.43	241	P		P	Pn	14 20 50.2	-1.8
	6.9nm,1.0s,baz=98,slow=10.0,SNR=3.9								
	6.9nm,1.0s								
WRA	Warramunga Arr	48.55	258	P		P	Pn	14 21 41.0	+0.5
	2.0nm,1.0s,baz=91,slow=6.9,SNR=8.9								
	2.0nm,1.0s								
ASAR	Alice Springs	48.72	253	P		P	Pn	14 21 42.2	+0.5
	8.9nm,0.8s,baz=87,slow=8.3,SNR=87								
	8.9nm,0.8s								
QSPA	South Pole Qui	73.11	180	P		P	Pn	14 24 26.3	0.0
	5.1nm,1.0s,baz=25,slow=2.8,SNR=9.8								
	5.1nm,1.0s								
NVAR	Mina Array Bea	76.12	42	P		P	Pn	14 24 43.7	-0.6
	1.0nm,0.8s,baz=230,slow=9.3,SNR=5.2								
	1.0nm,0.8s								
TXAR	Lajitas Array	82.28	56	P		P	Pn	14 25 17.8	0.0
	0.7nm,1.0s,baz=224,slow=5.2,SNR=5.0								
	0.7nm,1.0s								
PMSA	Palmer Station	83.17	156	LR		LR	LR	14 52 38.7	
	comp=Z,49nm,21.7s,baz=149,slow=29								
PDAR	Pinedale Array	84.06	42	P		P	Pn	14 25 25.8	-1.1
	1.0nm,1.0s,baz=222,slow=2.0,SNR=5.1								
	1.0nm,1.0s								
ILAR	Eielson Array	84.14	11	P		P	Pn	14 25 25.9	-0.6
	2.2nm,1.1s,baz=216,slow=5.2,SNR=12								
	2.2nm,1.1s								
MAW	Mawson	86.03	199	P		P	Pn	14 25 36.8	+0.8
	2.5nm,1.0s,baz=118,slow=9.1,SNR=4.0								
	2.5nm,1.0s								
BRTR	Keskin Array B	146.69	319	PKPbc		PKPbc	PKPbc	14 32 39.5	+1.9
	2.3nm,1.0s,baz=102,slow=2.0,SNR=5.8								
GERES	GERESS Array B	147.50	350	PKPbc		PKPbc	PKPbc	14 32 40.9	+1.4
	0.3nm,0.2s,baz=342,slow=5.2,SNR=1.6								

*MDD **22** 14:23:07.7±0.9,36.09N×4.40E,h0km,Mb4.4/18, M_mb3.9/18,Error ellipse: s-maj=7.7km s-min=4.5km az=129.0*
*CRAAG **22** 14:23:07.9,36.24N×4.32E,Ml3.8,Algerie 12km SE Ahnif*
*IDC **22** 14:23:08.8±1.9,36.57N×4.36E,h0km,mb3.6/8, mbtmp3.6/11,ML3.3/3,MS2.9/2,Error ellipse: s-maj=44.2km s-min=22.7km az=4.0*
*INMG **22** 14:23:10.6±3.6,36.30N×4.23E,h10km,mb4.6, #DIST_RANGE: DISTANT*

ISC 22 14:23:08.4±0.7,36.25N±0.05×4.31E±0.04,h10km,n45, σ1s93/55,mb3.7/8,9C,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTCHA	Tamokra	0.33	57	P		P	Pg	14 23 15.6	+0.6
ATAF	Djebel Tarf	0.38	184	P		P	Pg	14 23 16.7	+0.8
SET	Setif	0.88	93	P		P	Pb	14 23 26.0	+0.1
EMHD	Djebel Mahouad	1.10	268	P		P	Pn	14 23 38.1	+8.1
ABA	Alger-Bouzarea	1.17	299	P		P	Pn	14 23 31.3	+0.5
DFRA	Djebel Bou Aff	1.30	76	P		P	Pg	14 23 35.8	+2.4
CKFL	Kef-Lekhel	1.95	85	P		P	Pg	14 23 46.2	+0.3
CMAH	Djebel Manchou	2.54	81	P		P	Pn	14 23 50.6	+0.9
EANR	'Ain N'Sour	2.62	264	P		P	Pn	14 23 52.8	+2.0
EIBI	Ibiza	3.64	321	Pn		Pn	Pn	14 24 06.5	+1.8
EIBI				Sn		Sn	Sn	14 24 46.5	-1.3
EIBI	Ibiza	3.64	321	Pn		Pn	Pn	14 24 06.4	+1.6
EIBI				⇑*i*Vmb_VC				14 24 09.0	
	788nm,SNR=2.7								
EIBI				Sn		Sn	Sn	14 24 48.7	+0.9
ETOS	Mallorca	3.71	342	Pn		Pn	Pn	14 24 07.0	+1.3
ETOS				Sn		Sn	Sn	14 24 49.7	+0.2
ETOS	Mallorca	3.71	342	Pn		Pn	Pn	14 24 07.0	+1.3
ETOS				⇑*i*Vmb_VC				14 24 08.8	
	642nm,SNR=2.6								
ETOS				Sn		Sn	Sn	14 24 50.1	+0.6
KEST	Kesra	4.12	96	Pn		Pn	Pn	14 24 13.0	+1.5
	3.6nm,0.3s,baz=256,slow=4.3,SNR=16								
KEST				Sn		Sn	Sn	14 24 56.5	-3.2
	0.6nm,0.3s,baz=202,slow=20,SNR=1.2								
	16nm,0.5s								
EBEN2	Beniarda presa	4.32	305	Pn		Pn	Pn	14 24 15.7	+1.5
EBEN2				⇑*i*Vmb_VC				14 24 18.1	
	929nm,SNR=3.4								
CART	Cartagena	4.46	289	Pn		Pn	Pn	14 24 17.0	+0.9
CART				Sn		Sn	Sn	14 25 05.2	-2.8
ENIJ	Nijar	5.29	280	Sn		Pn	Sn	14 25 26.1	-2.5
ECHE	Chera	5.34	310	Pn		Pn	Pn	14 24 30.6	+2.3
ECHE				Sn		Sn	Sn	14 25 27.3	-2.6
EMOS	Mosqueruela	5.57	319	Pn		Pn	Pn	14 24 32.8	+1.3
EMOS				⇑*i*Vmb_VC				14 24 39.7	
	196nm,SNR=2.8								
EMOS				Sn		Sn	Sn	14 25 35.5	-0.1
EPOB	Poblet	5.69	335	Pn		Pn	Pn	14 24 34.1	+1.1
EPOB				⇑*i*Vmb_VC				14 24 43.1	
	141nm,SNR=2.9								
EPOB				Sn		Sn	Sn	14 25 36.1	-2.3
EQES	Quesada	6.11	287	Pn		Pn	Pn	14 24 41.1	+2.3
EQES				⇑*i*Vmb_VC				14 24 43.8	
	269nm,SNR=3.9								
EQES				Sn		Sn	Sn	14 25 51.9	+3.1
EJON	La Jonquera	6.29	350	Pn		Pn	Pn	14 24 42.8	+1.6
EJON				Sn		Sn	Sn	14 25 49.9	-3.2
EJON	La Jonquera	6.29	350	Pn		Pn	Pn	14 24 42.8	+1.6
EJON				⇑*i*Vmb_VC				14 24 46.3	
	351nm,SNR=6.4								
EQTA	Presa de Quent	6.30	281	Pn		Pn	Pn	14 24 42.6	+1.1
ELGU	Los Guajares,	6.42	278	Pn		Pn	Pn	14 24 43.4	+0.4
ELGU				Sn		Sn	Sn	14 25 51.4	-5.1
ELGU	Los Guajares,	6.42	278	Pn		Pn	Pn	14 24 43.5	+0.4
ELGU				⇑*i*Vmb_VC				14 24 47.3	
	239nm,SNR=3.6								
ELGU				Sn		Sn	Sn	14 25 55.5	-1.0
EGOR	Sierra Gorda,	6.82	280	Pn		Pn	Pn	14 24 51.1	+2.4
ESDC	Sonseca Array	7.37	300	Pn		Pn	Pn	14 24 56.6	+0.4
	0.5nm,0.3s,baz=109,slow=13,SNR=31								
	3.3nm,0.5s								
ECAB	El Cabril	7.98	286	Pn		Pn	Pn	14 25 04.6	+0.1
ECAB				⇑*i*Vmb_VC				14 25 06.7	
	71nm,SNR=1.4								
MVO	Moncorvo	10.13

TUMD	**Tumrok D**	**3.38 270**	*eP*	Pn	14 58 37.1	+4.3
TUMD			*eS*	Sn	14 59 17.8	+6.2
KIRR	**Kirishev**	**3.44 283**	*eP*	Pn	14 58 37.5	+3.8
KMNR	**Kamenistaya**	**3.47 280**	*eP*	Pn	14 58 38.9	+4.8
KPT	**Kopyto**	**3.50 283**	*eP*	Pn	14 58 38.9	+4.3
KOZ	**Kozyrevsk**	**3.71 284**	*eP*	Pn	14 58 42.4	+5.1
KII	**Karymskiy**	**4.18 255**	*eS*	Sn	14 59 37.7	+6.2
SPN	**Mys Shipunski**	**4.31 241**	*eP*	Pn	14 58 48.5	+3.0
SPN			*eS*	Sn	14 59 37.7	+3.3
NLC	**Nalytchevo**	**4.62 245**	*eS*	Sn	14 59 46.0	+4.0
SDLR	**Sedlovina**	**4.80 248**	*eP*	Pn	14 58 57.0	+4.6
SMAR	**Somma**	**4.86 248**	*eP*	Pn	14 58 58.0	+4.8
KRER	**Koryakskii**	**4.86 248**	*eP*	Pn	14 58 58.3	+5.0
UGLR	**Uglovaya**	**4.87 247**	*eP*	Pn	14 58 58.2	+4.9
AVH	**Avacha**	**4.89 248**	*eP*	Pn	14 58 58.5	+5.0
KRX	**Arik**	**4.89 249**	*eP*	Pn	14 58 58.4	+4.8
KOK	**Koryaka**	**4.93 249**	*eP*	Pn	14 58 58.8	+4.7
DALK	**Dalny**	**5.00 246**	*eP*	Pn	14 58 59.3	+4.4
PET	**Petropavlovsk**	**5.05 246**	*eP*	Pn	14 59 01.1	+5.4
GNL	**Ganaly**	**5.14 255**	*eP*	Pn	14 59 02.4	+5.4
KRMR	**Karymshinskiy**	**5.42 246**	*eP*	Pn	14 59 05.6	+4.9
KRMR			*eS*	Sn	15 00 07.0	+5.1
MTVR	**Mutnovka**	**5.58 243**	*eP*	Pn	14 59 07.9	+4.8
GRL	**Gorelyy**	**5.60 244**	*eP*	Pn	14 59 08.2	+4.9
ASAK	**Asacha**	**5.78 243**	*eP*	Pn	14 59 10.7	+4.9

*NEIC **22** 15:04:03.9±1.6, 19.4N±0.1×145.3E±0.3, h126km±11km, mb4.3/21, Error ellipse: s-maj=35.8km s-min=15.3km az=101.0*
*IDC **22** 15:04:04.1±4.0, 19.36N×145.19E, h143km±37km, mb3.4/6, mbtmp3.9/7, Error ellipse: s-maj=62.2km s-min=17.6km az=115.0*
ISC 22 15:04:05.2±0.8, **19.32N**±0.10×**145.2E**±0.3, **h150km, n33,** σ0**88**/34, **mb4.1**/17, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.70**	**183**	Pn	**Pn**	**15 05 27.6**	**-0.4**
GUMO	**Guam**	**5.70**	**183**	P	**Pn**	**15 05 28.4**	**+0.4**
	16nm,0.3s,baz=55,slow=19,SNR=7.4						
GUMO				S	**Sn**	**15 06 32.1**	**-0.7**
	12nm,0.3s,baz=18,slow=20,SNR=1.8						
MTN	**Manton Dam**	**34.84**	**205**	P	**P**	**15 10 42.3**	**+0.3**
PETK	**Petropavlovsk-**	**35.09**	**13**	P	**P**	**15 10 42.3**	**-1.5**
KNRA	**Kununurra**	**38.35**	**206**	P	**P**	**15 11 13.3**	**+1.5**
WB0	**Warramunga Arr**	**40.26**	**196**	P	**P**	**15 11 27.4**	**-0.2**
WB0				IAmb	IAmb	15 12 05.8	
	comp=Z,9.0nm,1.4s						
WRAB	**Tennant Creek**	**40.43**	**196**	P	**P**	**15 11 28.6**	**-0.4**
WRAB				IAmb	IAmb	15 11 56.9	
	comp=Z,7.7nm,1.3s						
WRA	**Warramunga Arr**	**40.45**	**196**	P	**P**	**15 11 29.1**	**0.0**
WRA	**Warramunga Arr**	**40.45**	**196**	P	**P**	**15 11 28.6**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=9.8,slow=8.6,SNR=17						
	comp=Z,1.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**41.85**	**209**	P	**P**	**15 11 41.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**41.85**	**209**	P	**P**	**15 11 41.3**	**+0.7**
	comp=Z,0.5nm,0.2s,baz=34,slow=8.3,SNR=15						
	comp=Z,0.5nm,0.2s						
AS31	**Alice Springs**	**44.12**	**195**	P	**P**	**15 11 59.8**	**+1.0**
ASAR	**Alice Springs**	**44.12**	**195**	P	**P**	**15 11 60.0**	**+1.1**
ASAR	**Alice Springs**	**44.12**	**195**	P	**P**	**15 11 58.0**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=12,slow=9.0,SNR=8.7						
	comp=Z,0.2nm,0.5s						
LVA	**Lava Point**	**50.80**	**35**	P	**P**	**15 12 50.3**	**+0.3**
S12K	**Black Hills**	**53.50**	**34**	P	**P**	**15 13 09.6**	**-0.4**
SDPT	**Sand Point**	**54.23**	**35**	P	**P**	**15 13 12.2**	**0.0**
N15K	**Kwethluk River**	**56.11**	**29**	P	**P**	**15 13 29.8**	**+1.2**
N15K				IAmb	IAmb	15 13 32.1	
	comp=Z,6.2nm,1.2s						
O16K	**Kokwok River B**	**56.85**	**31**	P	**P**	**15 13 34.7**	**+0.8**
O16K				IAmb	IAmb	15 14 06.9	
	comp=Z,4.4nm,1.4s						
CAST	**Castle Rocks**	**60.76**	**27**	P	**P**	**15 14 02.0**	**+1.2**
CAST				IAmb	IAmb	15 14 02.7	
	comp=Z,2.0nm,0.7s						
BPAW	**Bear Paw Mtn.**	**61.41**	**27**	P	**P**	**15 14 05.8**	**+0.6**
BPAW				IAmb	IAmb	15 14 07.1	
	comp=Z,2.2nm,0.7s						
SCM	**Sheep Creek Mo**	**62.54**	**30**	P	**P**	**15 14 13.0**	**+0.1**
SCM				IAmb	IAmb	15 14 14.1	
	comp=Z,4.2nm,0.9s						
ILAR	**Eielson Array**	**63.30**	**26**	P	**P**	**15 14 17.5**	**-0.3**
ILAR	**Eielson Array**	**63.30**	**26**	P	**P**	**15 14 16.9**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=250,slow=5.2,SNR=11						
	comp=Z,0.7nm,0.8s						
E24K	**Your Creek**	**63.43**	**23**	P	**P**	**15 14 18.2**	**-0.4**
E24K				IAmb	IAmb	15 14 21.2	
	comp=Z,1.9nm,0.8s						
DOT	**Dot Lake**	**64.32**	**28**	P	**P**	**15 14 25.2**	**+0.8**
CRQM	**Cirque**	**64.38**	**31**	P	**P**	**15 14 25.9**	**+0.8**
CRQM				IAmb	IAmb	15 14 27.2	
	comp=Z,2.9nm,0.6s						
BMAR	**Burnt Mountain**	**64.74**	**24**	P	**P**	**15 14 28.9**	**+1.8**
F26K	**Sheenjek River**	**64.95**	**23**	P	**P**	**15 14 30.3**	**+1.8**
H29M	**Whitestone**	**67.02**	**25**	P	**P**	**15 14 42.1**	**+0.4**
H29M				IAmb	IAmb	15 15 22.3	
	comp=Z,3.8nm,1.4s						
G31M	**Satah River**	**68.69**	**25**	P	**P**	**15 14 52.8**	**+0.8**
G31M				IAmb	IAmb	15 15 31.5	
	comp=Z,6.6nm,1.3s						
NVAR	**Mina Array Bea**	**83.12**	**52**	P	**P**	**15 16 14.7**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=259,slow=6.7,SNR=6.2						
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**86.13**	**335**	P	**P**	**15 16 29.1**	**0.0**
	comp=Z,0.4nm,0.5s,baz=72,slow=6.2,SNR=3.6						
	comp=Z,0.4nm,0.5s						

*IDC **22** 15:10:35.0±2.2, 3.78N×127.05E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=125.3km s-min=27.8km az=69.0*
*DJA **22** 15:10:51.1±0.3, 3.7N±4.1×127.7E±1.1°, h10km, M3.4/6, mb3.8/1, MLv3.2/6*
ISC 22 15:10:49.1±3.3, **3.0N**±0.3×**127.4E**±0.3, **h49km, n6,** σ0**67**/6, **mb3.2**/4, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.01**	**290**	P	**Pn**	**15 11 20.8**	**+0.2**
SGSI				S	**Sn**	**15 11 44.5**	**-0.1**
TNTI	**Ternate**	**2.22**	**182**	P	**Pn**	**15 11 23.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**21.05**	**185**	P	**P**	**15 15 28.2**	**-0.8**
	1.3nm,0.8s,baz=15,slow=12,SNR=1.8						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**23.80**	**164**	P	**P**	**15 15 57.0**	**-0.5**
	0.3nm,0.4s,baz=344,slow=9.7,SNR=7.6						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**27.25**	**167**	P	**P**	**15 16 29.4**	**+0.5**
	0.2nm,0.5s,baz=343,slow=11,SNR=6.3						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**58.54**	**325**	P	P	15 20 27.3	-13
	0.2nm,0.7s,baz=139,slow=5.5,SNR=1.8						
	0.2nm,0.7s						

*IDC **22** 15:17:08.1±1.1, 5.63S×151.46E, h0km, mb4.0/7, mbtmp4.0/7, MS3.4/4, Error ellipse: s-maj=51.3km s-min=23.5km az=122.0*
*NEIC **22** 15:17:16.7±2.0, 5.76S±0.05×151.11E±0.09, h35km±2km, mb4.3/17, Error ellipse: s-maj=14.5km s-min=8.1km az=94.0*
ISC 22 15:17:16.9±0.6, **5.8S**±0.1×**151.1E**±0.1, **h43km, n33,** σ0**81**/31, **mb4.2**/15, **MS3.5**/3, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.88**	**34**		**Pn**	**15 17 48.2**	**+1.6**
HNR	**Honiara**	**9.48**	**113**	Pn	**Pn**	**15 19 31.3**	**+0.3**
HNR	**Honiara**	**9.48**	**113**	LR	LR	15 22 19.1	
	comp=Z,110nm,21.7s,baz=216,slow=34						
COEN	**Coen**	**11.28**	**223**	Pn	**Pn**	**15 19 57.5**	**+1.8**
MTN	**Manton Dam**	**20.92**	**249**	Pn	**P**	**15 21 57.4**	**+1.3**
MTN				IAmb	IAmb	15 22 01.3	
	comp=Z,14nm,0.8s						
WB0	**Warramunga Arr**	**21.41**	**228**	P	**P**	**15 22 00.9**	**-0.3**
WR8	**Warramunga Arr**	**21.44**	**227**	P	**P**	**15 22 01.7**	**0.0**
WR8				IAmb	IAmb	15 22 11.2	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**21.55**	**228**	P	**P**	**15 22 02.7**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=53,slow=10,SNR=37						
WRA				PcP	**PcP**	**15 26 04.0**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=49,slow=1.6,SNR=4.6						
WRA				ScP	**ScP**	**15 29 38.8**	**+0.8**
	comp=Z,1.2nm,1.1s,baz=52,slow=3.1,SNR=3.3						
	comp=Z,3.2nm,0.8s						
DZM	**Mont Dzumac**	**21.97**	**139**	LR	LR	15 28 44.1	
	comp=Z,166nm,18.7s,baz=226,slow=32						
KNRA	**Kununurra**	**24.04**	**244**	P	**P**	**15 22 28.5**	**+0.3**
AS31	**Alice Springs**	**24.31**	**221**	P	**P**	**15 22 30.5**	**-0.2**
ASAR	**Alice Springs**	**24.31**	**221**	P	**P**	**15 22 30.4**	**-0.3**
	comp=Z,3.5nm,0.7s,baz=54,slow=9.1,SNR=64						
ASAR				ScP	**ScP**	**15 29 46.5**	**+1.3**
	comp=Z,0.7nm,1.1s,baz=102,slow=33,SNR=2.3						
	comp=Z,3.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**27.72**	**242**	P	**P**	**15 23 01.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**27.72**	**242**	P	**P**	**15 23 01.3**	**-0.2**
	comp=Z,6.5nm,0.5s,baz=61,slow=7.5,SNR=39						
	comp=Z,6.5nm,0.5s						
MBWA	**Marble Bar**	**34.04**	**240**	P	**P**	**15 23 57.3**	**+0.1**
TGY	**Tagaytay City**	**35.86**	**304**	LR	LR	15 38 30.0	
	comp=Z,36nm,18.9s,baz=106,slow=36						
MORW	**Morawa**	**40.44**	**231**	P	**P**	**15 24 50.8**	**-0.6**
J17K	**VABM Dome**	**78.46**	**21**	P	**P**	**15 29 13.3**	**+0.2**
J17K				IAmb	IAmb	15 29 43.7	
	comp=Z,7.1nm,1.3s						
L19K	**White Mountain**	**79.28**	**23**	P	**P**	**15 29 17.4**	**-0.3**
L19K				IAmb	IAmb	15 29 48.9	
	comp=Z,5.7nm,1.5s						
CNPM	**China Poot**	**79.31**	**26**	P	**P**	**15 29 17.3**	**-0.5**
MKAR	**Makanchi Array**	**79.95**	**319**	P	**P**	**15 29 20.4**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=102,slow=6.2,SNR=4.0						
	comp=Z,0.2nm,0.4s						
F19K	**Shaleruckik Mo**	**81.06**	**18**	P	**P**	**15 29 27.0**	**-0.1**
F19K				IAmb	IAmb	15 29 56.8	
	comp=Z,5.2nm,1.3s						
H21K	**Melozitna Rive**	**81.99**	**20**	P	**P**	**15 29 31.2**	**-0.9**
MLY	**Manley**	**82.39**	**21**	P	**P**	**15 29 33.8**	**-0.4**
MLY				IAmb	IAmb	15 29 54.9	
	comp=Z,4.0nm,1.5s						
ILAR	**Eielson Array**	**83.68**	**22**	P	P	15 29 35.5	-5.3
	comp=Z,0.5nm,0.6s,baz=254,slow=5.2,SNR=7.2						
	comp=Z,0.5nm,0.6s						
MAW	**Mawson**	**84.04**	**203**	P	**P**	**15 29 41.8**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=62,slow=5.4,SNR=4.3						
	comp=Z,1.1nm,0.7s						
J25K	**Salcha River,**	**84.19**	**23**	P	**P**	**15 29 42.4**	**-1.1**
J25K				IAmb	IAmb	15 29 43.9	
	comp=Z,1.7nm,0.8s						
QSPA	**South Pole Qui**	**84.20**	**180**	P	**P**	**15 29 42.6**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=332,slow=2.4,SNR=2.8						
	comp=Z,1.1nm,0.8s						
M27K	**Edge Creek, AK**	**84.67**	**26**	P	**P**	**15 29 46.3**	**+0.3**
M27K				IAmb	IAmb	15 29 59.0	
	comp=Z,3.2nm,1.4s						
G26K	**Porcupine Rive**	**85.80**	**21**	P	**P**	**15 29 52.1**	**+0.7**
G26K				IAmb	IAmb	15 30 24.1	
	comp=Z,2.2nm,1.2s						
ARTI	**Arti**	**96.27**	**326**	LR	LR	16 16 11.5	
	comp=Z,23nm,18.1s,baz=133,slow=37						
GERES	**GERESS Array B**	**123.98**	**327**	PKP	**PKPdf**	**15 36 09.9**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=90,slow=1.9,SNR=6.8						
TORD	**Torodi Ar. Bea**	**148.98**	**286**	PKPbc	**PKPbc**	**15 37 00.6**	**-0.7**
	comp=Z,3.7nm,0.7s,baz=52,slow=5.5,SNR=3.5						

*IDC **22** 15:34:21.2±3.0, 9.59S×124.09E, h90km±31km, mb3.0/1, mbtmp3.7/4, Error ellipse: s-maj=78.6km s-min=26.6km az=49.0*
*DJA **22** 15:34:22.1±0.8, 9.3S±4.1×127.4E±1.1°, h30km±15km, M3.5/7, MLv3.5/7*
ISC 22 15:34:19.1±1.2, **9.30S**±0.08×**124.05E**±0.09, **h66km, n12,** σ1**78**/17, **Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.50**	**155**	P	**Pn**	**15 34 33.6**	**+1.9**
BATI	**Baumata**	**0.98**	**203**	P	**Pn**	**15 34 38.6**	**+1.4**
	64nm,0.4s,baz=79,slow=16,SNR=16						
BATI				S	**Sn**	**15 34 52.0**	**+1.4**
	679nm,0.4s,baz=34,slow=6.2,SNR=26						
BATI	**Baumata**	**0.98**	**203**	P	**Pn**	**15 34 38.4**	**+1.2**
BATI				S	**Sn**	**15 34 53.0**	**+2.4**
MMRI	**Maumere**	**1.91**	**290**	P	**Pn**	**15 34 50.1**	**+0.6**
MMRI				S	**Sn**	**15 35 14.5**	**+1.9**
EDFI	**Ende, Flores**	**2.40**	**283**	P	**Pn**	**15 34 57.3**	**+1.1**
EDFI				S	**Sn**	**15 35 25.1**	**+0.5**
WSI	**Waingapu**	**3.72**	**264**	P	**Pn**	**15 35 15.5**	**+1.3**
WSI				S	**Sn**	**15 35 55.8**	**-1.1**
WBSI	**Waikabubak, Su**	**4.61**	**265**	P	**Pn**	**15 35 26.5**	**+0.1**
WBSI				S	**Sn**	**15 36 15.2**	**-3.5**
FITZ	**Fitzroy Crossi**	**8.88**	**170**	P	**Pn**	**15 36 23.3**	**-1.4**
	1.7nm,0.3s,baz=352,slow=12,SNR=91						
FITZ				S	Sn	15 37 51.7	-12
	13nm,0.3s,baz=20,slow=8.6,SNR=18						
WRA	**Warramunga Arr**	**14.52**	**138**	P	Pn	15 37 37.4	-3.8
	0.7nm,0.6s,baz=304,slow=14,SNR=28						
WRA				S	Sn	15 40 07.2	-14
	1.1nm,0.4s,baz=310,slow=24,SNR=12						
ASAR	**Alice Springs**	**17.11**	**148**	P	**Pn**	**15 38 11.9**	**-2.2**
	2.4nm,0.5s,baz=319,slow=11,SNR=61						
ASAR				S	Sn	15 41 11.2	-13
	1.8nm,0.8s,baz=319,slow=24,SNR=7.5						
MKAR	**Makanchi Array**	**67.10**	**330**	P	**P**	**15 45 06.3**	**+0.6**
	0.2nm,0.5s,baz=134,slow=6.2,SNR=2.4						
	0.2nm,0.5s						
LPAZ	**La Paz**	**151.86**	**155**	PKP	**PKPdf**	**15 54 00.6**	**-1.3**
	2.2nm,0.5s,baz=196,slow=5.4,SNR=6.8						

IDC 22 15:40:27.6±2.2, **0.28N**×**126.56E**, **h0km, mb3.1**/3, **mbtmp3.2**/3, **Error ellipse: s-maj=181.4km s-min=29.6km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.50**	**160**	P	P	15 45 17.6	-0.6
	0.4nm,0.5s,baz=338,slow=10,SNR=2.6						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**24.85**	**164**	P	P	15 45 52.4	+0.4
	0.3nm,0.5s,baz=342,slow=10.0,SNR=4.7						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**60.30**	**326**	P	P	15 50 38.1	-0.1
	0.1nm,0.4s,baz=126,slow=7.4,SNR=1.7						
	0.1nm,0.4s						

IDC 22 16:04:25.6±4.8, **22.12S**×**177.60W**, **h0km, mb4.1**/5, **mbtmp4.1**/6, **ML4.2**/1, **Error ellipse: s-maj=106.0km s-min=39.2km az=43.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**16.72**	**195**	Pn	P	16 08 22.5	-1.2
	0.9nm,0.3s,baz=63,slow=4.5,SNR=5.7						
	4.8nm,0.6s						
STKA	**Stephens Creek**	**37.45**	**246**	P	P	16 11 39.0	-2.0
	4.2nm,1.0s,baz=90,slow=13,SNR=4.3						
	4.2nm,1.0s						
ASAR	**Alice Springs**	**44.53**	**258**	P	P	16 12 39.4	-0.1
	0.7nm,0.7s,baz=92,slow=6.8,SNR=18						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**44.77**	**264**	P	P	16 12 42.0	+0.6
	1.8nm,0.4s,baz=100,slow=8.2,SNR=39						
	1.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**53.20**	**263**	P	P	16 13 46.4	+0.4
	2.1nm,0.8s,baz=106,slow=7.4,SNR=7.6						
	2.1nm,0.8s						
QSPA	**South Pole Qui**	**67.96**	**180**	P	P	16 15 26.2	-0.1
	1.5nm,0.9s,baz=113,slow=7.7,SNR=2.5						
	1.5nm,0.9s						

*IDC **22** 16:05:43.6±1.1, 1.34N×126.89E, h0km, mb3.6/5, mbtmp3.6/6, ML3.2/1, Error ellipse: s-maj=62.6km s-min=19.1km az=76.0*
*DJA **22** 16:05:49.1±0.3, 1.1N±3.1×127.6E±1.1°, h10km, M3.5/10, mb3.4/1, MLv3.6/10*
ISC 22 16:05:51.5±1.0, **0.95N**±0.08×**126.18E**±0.05, **h44km, n11,** σ1**63**/12, **mb3.6**/5, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.20**	**98**	P	**Pn**	**16 06 10.7**	**-1.1**
TNTI				S	**Sn**	**16 06 29.2**	**+2.2**
KMSI	**Cibinong**	**2.23**	**261**	P	**Pn**	**16 06 25.0**	**-1.0**
KMSI				S	**Sn**	**16 06 52.5**	**+0.2**
SGSI	**Sangihe**	**2.80**	**347**	P	**Pn**	**16 06 35.0**	**+1.2**
LUWI	**Luwuk**	**3.94**	**240**	P	**Pn**	**16 06 51.1**	**+1.6**
APSI	**Ampana**	**4.89**	**248**	P	**Pn**	**16 07 02.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**18.93**	**182**	P	**Pn**	**16 10 12.3**	**+2.4**
	0.1nm,0.3s,baz=356,slow=12,SNR=1.2						
	1.5nm,1.0s						
WRA	**Warramunga Arr**	**22.25**	**159**	P	**P**	**16 10 43.0**	**-1.8**
	0.8nm,0.6s,baz=340,slow=11,SNR=20						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**25.59**	**163**	P	**P**	**16 11 16.2**	**-0.6**
	0.5nm,0.3s,baz=341,slow=9.8,SNR=28						
	0.5nm,0.3s						
MJAR	**Matsushiro Art**	**37.13**	**16**	P	P	16 12 51.4	-6.6
	1.2nm,0.7s,baz=196,slow=6.9,SNR=1.3						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**59.54**	**326**	P	**P**	**16 15 49.0**	**-1.5**
	0.4nm,0.6s,baz=123,slow=7.5,SNR=4.5						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**63.79**	**328**	P	**P**	**16 16 18.1**	**-0.9**
	0.4nm,0.6s,baz=128,slow=6.3,SNR=2.6						
	0.4nm,0.6s						

*ISK **22** 16:06:45.7, 39.18N×44.54E, h8km, ML2.4/4*
*AZER **22** 16:06:48.5, 39.40N×44.41E, h14km, ml2.6*
*TEH **22** 16:06:49.4, 39.34N×44.43E, h10km*
ISC 22 16:06:49.9±1.2, **39.34N**±0.03×**44.33E**±0.03, **h2km**±11km, **n19,** σ0**86**/32, **Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLDR	**Caldiran**	**0.38**	**239**	Pg	**Pg**	**16 06 55.5**	**-1.7**
HYR	**Heyderabad**	**0.55**	**46**	P	**Pg**	**16 06 60.0**	**-0.5**
HYR				S	**Sg**	**16 07 07.5**	**-0.1**
IGDI	**IGDIR**	**0.56**	**340**	P	**Pg**	**16 07 00.8**	**+0.1**
IGDI				S	**Sg**	**16 07 08.9**	**+0.9**
TASB	**TASBURUN-IGDIR**	**0.65**	**354**	Pg	**Pg**	**16 07 02.1**	**-0.2**
GNI	**Garni**	**0.87**	**21**	Pg	**Pg**	**16 07 04.9**	**-1.6**
GNI				Sg	**Sg**	**16 07 18.8**	**+1.0**
GNI	**Garni**	**0.87**	**21**	Pg	**Pg**	**16 07 05.9**	**-0.6**
GNI				Sg	**Sg**	**16 07 18.6**	**+0.8**
NAX	**Nakhchivan**	**0.92**	**100**	P	**Pg**	**16 07 07.5**	**0.0**
NAX				S	**Sg**	**16 07 20.0**	**+0.7**
SBZ	**Shahbuz**	**0.95**	**86**	P	**Pg**	**16 07 08.0**	**-0.1**
SBZ				S	**Sg**	**16 07 20.9**	**+0.6**
AGRB	**Hanur-Agry**	**1.06**	**283**	Pn	**Pg**	**16 07 10.1**	**-0.2**
AGRB				Sn	**Sn**	**16 07 28.1**	**+0.6**
ORD	**Ordubad**	**1.35**	**107**	P	**Pn**	**16 07 14.9**	**-1.0**
ORD				S	**Sb**	**16 07 33.1**	**-0.7**
ISHB	**Shabestar**	**1.46**	**136**	Pg	**Pn**	**16 07 16.5**	**-0.9**
GDB	**GEDABAY**	**1.76**	**38**	P	**Pn**	**16 07 21.9**	**+0.3**
GDB				S	**Sb**	**16 07 44.6**	**-0.9**
HAKT	**HAKKARI**	**1.85**	**196**	P	**Pb**	**16 07 24.8**	**+0.3**
HAKT				S	**Sg**	**16 07 51.2**	**+2.0**
QZX	**Qazax, Azerbai**	**1.89**	**25**	P	**Pn**	**16 07 22.9**	**-0.3**
QZX				S	**Sb**	**16 07 48.8**	**-0.5**
GANJ	**Ganja**	**2.01**	**49**	P	**Pn**	**16 07 24.9**	**+0.1**
GANJ				S	**Sb**	**16 07 51.9**	**-0.7**
IHRS	**Heris**	**2.35**	**115**	Pn	**Pb**	**16 07 32.7**	**-0.3**
YRD	**Yardimli**	**3.07**	**97**	P	**Pb**	**16 07 45.2**	**+0.5**
YRD				S	**Sb**	**16 08 24.8**	**+1.5**
LRK	**Lerik**	**3.20**	**101**	P	**Pn**	**16 07 41.3**	**0.0**
ASTR	**Astara**	**3.56**	**101**	S	**Sn**	**16 08 28.7**	**0.0**

*IDC **22** 16:22:41.6±8.1, 37.42N×71.98E, h139km±56km, mb3.3/4, mbtmp3.7/10, MS3.4/1, Error ellipse: s-maj=68.1km s-min=28.2km az=7.0*
ISC 22 16:22:41.2±1.9, **37.5N**±0.2×**71.8E**±0.1, **h130km, n18,** σ1**5**/20, **mb3.5**/4, **1C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKS2	**Erkin-Say**	**5.39**	**16**	P	**Pn**	**16 24 00.6**	**+1.0**
	SNR=18						
AAK	**Ala-Archa**	**5.55**	**21**	P	**Pn**	**16 24 03.0**	**+1.2**
	SNR=7.2						
AAK	**Ala-Archa**	**5.55**	**21**	⇓P	**Pn**	**16 24 02.3**	**+0.6**
	3.9nm,0.5s						
AAK				⇓S	**Sn**	**16 25 04.9**	**+0.4**
	4.0nm,0.5s						
AAK	**Ala-Archa**	**5.55**	**21**	P	**Pn**	**16 24 02.7**	**+1.0**
	11nm,0.4s,baz=186,slow=6.9,SNR=12						
AAK				S	**Sn**	**16 25 05.3**	**+0.8**
	7.8nm,0.5s,baz=344,slow=19,SNR=8.4						
KK31	**Karatay Array**	**5.71**	**350**	⇑P	**Pn**	**16 24 03.3**	**-0.4**
	28nm,0.3s,baz=176,slow=13						
KK31				⇓S	**Sn**	**16 25 06.5**	**-1.7**
	5.3nm,0.3s,baz=175,slow=22						
CHMS	**Chumysh**	**5.96**	**21**	P	**Pn**	**16 24 08.1**	**+1.0**
	SNR=5.0						
USP	**Ospenovka**	**6.14**	**19**	P	**Pn**	**16 24 09.7**	**+0.3**
	SNR=5.6						
TKM2	**Tokmak 2**	**6.16**	**27**	P	**Pn**	**16 24 11.2**	**+1.3**
	SNR=11						
MKAR	**Makanchi Array**	**12.12**	**37**	P	**Pn**	**16 25

TPC	Twentynine Pal	0.12	2			Pg	16 26 58.8	-0.4
BLAC	Blackrock camp	0.29	287			Pn	16 27 05.9	-0.1
CTW	Cottonwood Mou	0.34	154			Pg	16 27 03.1	+0.3
CTW						Sg	16 27 08.1	+0.7
GTM	Goat Mountain	0.40	321			Pg	16 27 03.7	-0.1
GTM						Sg	16 27 09.4	+0.1
HAY	Hayfield	0.41	132			Pb	16 27 04.7	-0.4
HAY						Sb	16 27 10.7	-0.6
PMD	Palm Desert	0.43	219	Pg		Pg	16 27 04.2	-0.2
DEVC	Devers	0.44	264			Pg	16 27 04.8	+0.3
DEVC						Sb	16 27 11.5	-0.5
XPFO	Pinon Flat	0.50	222			Pg	16 27 05.5	-0.2
XPFO						Sg	16 27 12.3	-0.1
PFO	Pinyon Flats O	0.50	222			Pg	16 27 05.4	-0.4
PFO	Pinyon Flats O	0.50	222			Pg	16 27 05.6	-0.2
PFO						Sg	16 27 12.4	0.0
PFO	Pinyon Flats O	0.50	222	Pg		Pg	16 27 05.3	-0.4
	602nm,0.3s,baz=37,slow=15,SNR=42							
PFO				Lg	Lg		16 27 12.0	
	2µm,0.3s,baz=137,slow=23,SNR=70							
I57US	PINON FLAT INF	0.50	222	Pg		Pg	16 27 05.6	-0.2
	baz=41,slow=32							
I57US				Lg	Lg		16 27 12.2	
	baz=33,slow=32							
BC3	Big Chuckawall	0.60	123			Sg	16 27 15.7	+0.2
GVDA	Garner Valley	0.60	239			Sg	16 27 15.6	-0.1
GVDA	Garner Valley	0.60	239			Pg	16 27 07.4	-0.3
SNDA	J Saunders Pla	0.64	227			Pg	16 27 08.1	-0.1
SNDA						Sg	16 27 16.9	+0.3
FRD	Ford Ranch, An	0.67	223			Pg	16 27 08.7	-0.2
FRD	Ford Ranch, An	0.67	223			Sg	16 27 17.6	-0.2
BOMB	Bombay Beach	0.67	156			Pb	16 27 09.3	-0.2
BOMB						Sb	16 27 19.6	+0.8
5271	Bombay Beach	0.68	157			Pg	16 27 09.3	+0.2
SALN	Salton City	0.70	175			Pg	16 27 09.7	+0.1
SALN	Salton City	0.70	175			Sb	16 27 19.7	+0.1
CRY	Cary Ranch	0.71	234			Sg	16 27 18.8	-0.1
BZNA	Buzz No.'s Pla	0.71	226			Sg	16 27 19.2	+0.2
IRM	Iron Mountain	0.77	77			Pg	16 27 10.3	-0.6
BORC	Borrego Spring	0.78	203			Pg	16 27 10.5	-0.4
BORC					IAML		16 27 22.6	
	comp=N,10µm,0.7s							
BORC	Borrego Spring	0.78	203			Sg	16 27 21.0	0.0
POB	Polly Butte	0.78	248			Pg	16 27 10.7	-0.3
POB						Sg	16 27 21.0	-0.3
SLH	Sleepy Hollow	0.81	192			Sb	16 27 22.9	+0.3
HMTC	Hemet	0.84	251			Sg	16 27 22.6	-0.5
DANC	Danby, Needles	0.86	40			Pg	16 27 11.8	-0.7
DANC						Sg	16 27 23.2	-0.4
GMRC	Granite Mounta	0.86	22			Sg	16 27 22.7	-1.2
DGR	Domenigoni Val	0.86	248			Sg	16 27 23.5	-0.3
HEC	Hector,Ludlow	0.88	345			Sg	16 27 23.8	-0.5
SVD	Seven Oaks Dam	0.88	278			Pg	16 27 12.2	-0.6
SVD						Sg	16 27 24.2	-0.1
ERRC	Elmore Ranch	0.89	167			Sb	16 27 25.5	+0.7
BACC	Bachelor Mtn.	0.90	246			Sg	16 27 24.6	-0.5
PLM	Palomar	0.92	227			Sg	16 27 25.7	-0.1
PEC	Perris	0.93	265			Sg	16 27 25.6	-0.3
WEMD	Westmorland, C	1.02	157			Pb	16 27 14.3	-1.1
MURC	Murrieta	1.03	248			Pb	16 27 14.9	-0.7
CFSC	Central Fire S	1.03	277			Pb	16 27 15.1	-0.5
RSBC	Riverside Bore	1.06	270			Pb	16 27 15.4	-0.6
FON	Fontana	1.16	276			Pb	16 27 17.3	-0.5
IMPE	Imperial	1.16	159			Pb	16 27 17.6	-0.1
ELS	Elsinore Mount	1.19	254			Pn	16 27 17.4	-1.0
ELS					IAML		16 27 34.8	
	comp=N,7µm,0.8s							
ELS					IAML		16 27 37.2	
	comp=E,6µm,0.5s							
DPP	Dos Picos Cty	1.23	217			Pn	16 27 17.7	-1.1
DPP					IAML		16 27 35.8	
	comp=E,6µm,1.0s							
SNR	Schaffner Ranc	1.23	155			Pb	16 27 19.1	+0.1
ADO	Adelanto Recei	1.27	297			Pn	16 27 19.2	-0.3
BLYC	Blythe	1.29	100			Pn	16 27 17.7	-1.9
BLYC					IAML		16 27 40.2	
	comp=N,11µm,0.6s							
BLYC					IAML		16 27 41.4	
	comp=E,12µm,0.5s							
YUH	Yuha Desert	1.34	175			Pn	16 27 18.5	-1.8
BFSC	Mount Baldy Ra	1.36	281			Pn	16 27 19.6	-1.1
GLA	Glamis	1.38	132			Pn	16 27 19.4	-1.5
NEE2	Needles Airpor	1.42	56			Pn	16 27 19.6	-1.9
GSC	Goldstone, Bar	1.45	335			Pn	16 27 20.7	-1.3
GSC					IAML		16 27 42.6	
	comp=N,11µm,0.5s							
TKX	Tecate	1.49	198			Pn	16 27 21.4	-0.9
MTPC	Mountain Pass	1.55	15			Pn	16 27 22.0	-1.4
MTPC					IAML		16 27 45.7	
	comp=N,4µm,0.4s							
MTPC					IAML		16 27 46.0	
	comp=E,7µm,0.5s							
MWC	Mount Wilson	1.68	279			Pn	16 27 24.5	-0.7
MWC					IAML		16 27 51.1	
	comp=E,5µm,0.7s							
MWC					IAML		16 27 55.5	
	comp=N,6µm,0.7s							
TJX	Tijuana	1.69	210			Pn	16 27 25.0	-0.2
CBX	Cerro Bola	1.74	197			Pn	16 27 25.2	-0.8
CBX					IAML		16 27 52.9	
	comp=N,6µm,0.4s							
CBX					IAML		16 27 57.8	
	comp=E,9µm,0.8s							
PASC	Pasadena Art C	1.78	277			Pn	16 27 25.4	-1.0
PASC					IAML		16 27 53.1	
	comp=E,3µm,0.6s							
PASC					IAML		16 27 53.8	
	comp=N,4µm,0.5s							
ESJX	Sierra Juarez	1.98	177			Pn	16 27 28.4	-0.9
V12A	Nelson	2.00	29			Pn	16 27 28.3	-1.2
V12A					IAML		16 28 01.5	
	comp=N,4µm,0.4s							
V12A					IAML		16 28 04.1	
	comp=E,4µm,1.1s							
WSHM	Spangler Hills	2.00	324		IAML		16 28 00.3	
	comp=E,6µm,0.6s							
WSHM					IAML		16 28 02.0	
	comp=E,4µm,0.4s							
LRMC	Laurel Mtn Rad	2.01	318			Pn	16 27 28.4	-1.2
LRMC					IAML		16 28 04.0	
	comp=N,6µm,0.5s							
LRMC					IAML		16 28 06.2	
	comp=E,6µm,0.6s							
TPO	Tropico Hills	2.01	297		IAML		16 28 07.4	
	comp=E,4µm,1.2s							
TPO					IAML		16 28 09.9	
	comp=N,6µm,0.9s							
QSM	Queen of Sheba	2.09	342		IAML		16 28 03.4	
	comp=E,5µm,0.4s							
QSM					IAML		16 28 08.5	
	comp=N,5µm,0.9s							
W13A	Hualapai Mount	2.11	58		IAML		16 28 09.2	
	comp=E,4µm,0.6s							
W13A					IAML		16 28 09.7	
	comp=N,4µm,0.7s							
CCX	Cicese	2.17	194		IAML		16 28 03.8	
	comp=N,3µm,0.4s							
CCX					IAML		16 28 04.2	
	comp=E,3µm,0.4s							
CLC	China Lake	2.23	326		IAML		16 28 12.7	
	comp=E,2µm,1.0s							
CLC					IAML		16 28 13.9	
	comp=N,2µm,0.5s							
113A	Mohawk Valley,	2.27	122		IAML		16 28 14.0	
	comp=N,2µm,0.6s							
113A					IAML		16 28 16.5	
	comp=E,2µm,0.8s							
OSI	Osito Audit: C	2.30	287		IAML		16 28 15.3	
	comp=N,3µm,0.8s							
OSI					IAML		16 28 20.5	
	comp=E,2µm,0.9s							
MPMC	Manual Prospec	2.38	331		IAML		16 28 13.4	
	comp=E,3µm,0.4s							
MPMC					IAML		16 28 13.9	
	comp=N,2µm,0.5s							
Y14A	Wickenburg	2.53	90		IAML		16 28 18.2	
	comp=N,3µm,0.3s							
Y14A					IAML		16 28 21.4	
	comp=E,3µm,0.8s							
ISA	Isabella, Lake	2.60	311		IAML		16 28 22.1	
	comp=E,2µm,0.9s							
ISA					IAML		16 28 23.0	
	comp=N,2µm,0.8s							
WCT	Wildcat Mounta	2.84	351		IAML		16 28 28.1	
	comp=E,1µm,0.5s							
CWC	Cottonwood Cre	2.96	326			Pn	16 27 42.1	-0.6
TPNV	Topopah Spring	2.96	357			Pn	16 27 42.5	-0.3
TPNV					IAML		16 28 32.2	
	comp=E,2µm,0.5s							
TPNV					IAML		16 28 40.7	
	comp=E,1µm,0.6s							
TUC	Tucson	4.72	109		IAML		16 29 42.2	
	comp=E,246nm,0.8s							
NVAR	Mina Array Bea	4.79	338	Pn		Pn	16 28 07.9	-0.1
	comp=E,16nm,0.3s,baz=199,slow=37,SNR=120							
NVAR				Sn		Sn	16 29 03.3	-0.3
	comp=E,8.7nm,0.3s,baz=120,slow=21,SNR=1.7							
NVAR				Lg	Lg		16 29 25.2	
	comp=E,13nm,0.3s,baz=157,slow=30,SNR=2.0							
	comp=E,18nm,0.4s							
CMB	Columbia Colle	5.35	320			Pn	16 28 15.8	+0.2
CMB					IAML		16 29 54.0	
	comp=N,213nm,1.0s							
CMB					IAML		16 29 56.1	
	comp=E,187nm,0.8s							
HMU	Henry Mountain	5.84	46			Pn	16 28 22.6	+0.2
PAHR	Pah Rah Range	6.30	336			Pn	16 28 28.9	+0.2
ELK	Elko	6.78	5	Pn		Pn	16 28 35.9	+0.5
	comp=E,4.1nm,0.3s,baz=182,slow=9.2,SNR=70							
ELK				Lg	Lg		16 30 25.5	
	comp=E,5.0nm,0.3s,baz=293,slow=15,SNR=4.6							
ELK				LR	LR		16 31 47.5	
	comp=E,191nm,18.5s,baz=200,slow=43							
	comp=E,12nm,0.4s							
BGU	Big Grassy Mou	7.33	18			Pn	16 28 43.2	+0.3
ANMO	Albuquerque	7.98	80	Pn		Pn	16 28 52.2	+0.4
	comp=E,0.3nm,0.3s,baz=320,slow=6.9,SNR=3.1							
ANMO				Pg		Pb	16 29 18.2	+4.0
	comp=E,1.2nm,0.3s,baz=342,slow=14,SNR=6.9							
ANMO				Lg	Lg		16 31 03.8	
	comp=E,3.2nm,0.3s,baz=258,slow=19,SNR=7.3							
	comp=E,1.0nm,0.4s							
YBH	Yreka Blue Hor	9.35	328	Pn		Pn	16 29 15.0	+4.6
	baz=104,slow=6.5,SNR=4.6							
YBH				Lg	Lg		16 31 47.9	
	baz=195,slow=15,SNR=4.9							
YBH				LR	LR		16 32 24.4	
	comp=E,8.0nm,18.8s,baz=148,slow=35							
PDAR	Pinedale Array	10.14	28	Pn		Pn	16 29 24.1	+2.7
	comp=E,0.3nm,0.3s,baz=208,slow=13,SNR=46							
PDAR				Lg			16 32 12.8	
	comp=E,0.3nm,0.3s,baz=155,slow=18,SNR=3.5							
PDAR				LR	LR		16 33 17.2	
	comp=E,69nm,21.9s,baz=215,slow=38							
	comp=E,7.6nm,0.9s							
LPIG	La Paz	11.05	151	LR	LR		16 34 00.0	
	comp=E,125nm,18.6s,baz=0.5,slow=39							
TXAR	Lajitas Array	11.52	110	Pn		Pn	16 29 40.4	+0.1
	comp=E,4.7nm,0.4s,baz=289,slow=12,SNR=105							
TXAR				Lg	Lg		16 32 55.2	
	comp=E,0.3nm,0.3s,baz=288,slow=21,SNR=4.2							
TXAR				LR	LR		16 34 11.7	
	comp=E,40nm,20.0s,baz=286,slow=38							
NEW	Newport	14.29	357	Pn		Pn	16 30 19.0	+1.1
	comp=E,0.5nm,0.3s,baz=183,slow=14,SNR=6.0							
NEW				Lg	Lg		16 34 24.6	
	comp=E,0.4nm,0.3s,baz=198,slow=11,SNR=1.7							
NEW				LR	LR		16 35 44.0	
	comp=E,44nm,18.9s,baz=180,slow=37							
	comp=E,6.3nm,0.8s							
BRDY	Brady	14.62	96	Pn		Pn	16 30 21.8	-0.7
FW14	Alvarado	15.87	90	Pn		Pn	16 30 38.4	-0.6
E28A	Huff	17.15	38			Pn	16 30 54.6	-0.6
E28A					IAmb	IAmb	16 30 57.3	
	comp=Z,51nm,1.3s							
MIAR	Mount Ida	18.59	82	P		Pn	16 31 13.3	+0.3
MIAR					IAmb	IAmb	16 31 20.3	
	comp=Z,25nm,1.2s							
BBB	Bella Bella	20.16	338	LR	LR		16 39 31.3	
	comp=E,78nm,18.1s,baz=76,slow=38							
AGMN	Agassiz Nation	20.79	41	P		P	16 31 37.1	+0.4
AGMN					IAmb	IAmb	16 31 38.3	
	comp=E,16nm,0.8s							
FFC	Flin Flon	22.96	21	P		P	16 32 00.1	+0.2
CMIG	Matias Romero	25.37	126	LR	LR		16 44 05.7	
	comp=E,74nm,18.1s,baz=232,slow=41							
S32K	Killisnoo	26.63	337	P		P	16 32 34.1	+0.1
YKA	Yellowknife Ar	28.54	1	P		P	16 32 51.5	+0.5
	comp=Z,0.4nm,0.7s,baz=157,slow=18,SNR=2.5							
YKA				LR	LR		16 45 13.7	
	comp=Z,70nm,19.9s,baz=72,slow=38							
	comp=Z,0.4nm,0.7s							
SADO	Sadowa	30.26	58	LR	LR		16 45 58.8	
	comp=Z,79nm,21.6s,baz=290,slow=38							
KDAK	Kodiak Island	34.16	325	LR	LR		16 44 30.0	
	comp=Z,59nm,19.4s,baz=131,slow=31							
I28M	Miner Creek	34.62	343	IAmb	IAmb		16 34 03.7	
	comp=Z,3.0nm,0.9s							
G31M	Satah River	34.67	347	P		P	16 33 44.9	+0.1
INK	Inuvik	35.79	349	LR	LR		16 50 46.2	
	comp=Z,62nm,19.1s,baz=206,slow=40							
IL31		36.05	338	P		P	16 33 58.1	+1.4
ILAR	Eielson Array	36.05	338	P		P	16 33 58.7	+1.9
	comp=Z,0.5nm,0.6s,baz=152,slow=8.0,SNR=7.6							
ILAR				LR	LR		16 47 38.0	
	comp=Z,27nm,21.1s,baz=174,slow=34							
	comp=Z,0.5nm,0.6s							
JTS	Las Juntas de	36.97	122	LR	LR		16 49 00.0	
	comp=Z,83nm,18.8s,baz=302,slow=36							
N17K	Nushagak Hills	37.53	328	P		P	16 34 08.8	-0.6
N17K					IAmb	IAmb	16 34 30.5	
	comp=Z,7.4nm,1.5s							
M17K	Holitna River	38.03	329	P		P	16 34 14.0	+0.4
M17K					IAmb	IAmb	16 34 45.8	
	comp=Z,8.9nm,1.4s							
SCHQ	Schefferville	39.84	43	LR	LR		16 50 50.2	
	comp=Z,49nm,21.2s,baz=310,slow=36							
K15K	Wolf Creek Mou	40.16	329	P		P	16 34 31.8	+0.3
K15K					IAmb	IAmb	16 34 57.8	
	comp=Z,12nm,1.4s							
SDV	Santo Domingo	48.57	110	LR	LR		17 00 58.5	
	comp=Z,26nm,18.1s,baz=272,slow=42							
SUMG	Summit	54.25	21	P		P	16 36 22.3	+0.8
BBGH	Gun Hill	55.07	98	P		P	16 36 25.9	-2.0
LPAZ	La Paz	67.69	130	LR	LR		17 05 20.5	
	comp=Z,18nm,20.9s,baz=42,slow=34							
PB08	IPOC Station P	69.94	133	P		P	16 38 07.4	-0.1
ARCES	ARCESS Array B	73.03	13	LR	LR		17 12 32.1	
	comp=Z,20nm,18.6s,baz=255,slow=38							
NOA	NORSAR Array B	76.05	24	LR	LR		17 11 37.7	
	comp=Z,18nm,18.3s,baz=330,slow=35							
HFS	Hagfors	77.54	23	LR	LR		17 14 51.0	
	comp=Z,40nm,18.1s,baz=307,slow=37							
MAW	Mawson	146.33	179	PKPbc		PKiKP	16 46 37.4	-1.1
	comp=Z,1.6nm,0.8s,baz=164,slow=2.9,SNR=6.7							

*KRSC **22** 16:58:23.4±1.0,54°.85N×164°.53E,h54km±23km, Ml3.9*
*IDC **22** 16:58:23.2±1.6,55°.10N×164°.46E,h0km,mb3.7/3,*
mbtmp3.6/4,ML2.3/1,MS3.0/2,Error ellipse:
s-maj=120.8km s-min=24.0km az=155.0
ISC 22 16:58:22.7±1.7,54°.90N±0°.05×164°.41E±0°.06,h2km±14km,
n45,σ1°48/49,mb3.8/3,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	Bering	0.95	71	*i* P		Pg		16 58 41.4	+0.6
BKI				*e*S		Sg		16 58 52.9	-0.2
KBTR	Krutoberegovo	1.59	326	*e*P		Pn		16 58 51.3	-0.6
MKZ	Mys Kozlova	1.59	259	*e*P		Pn		16 58 51.9	0.0
MKZ				*e*S		Sn		16 59 10.9	-2.2
KBG	Krutoberegovo	1.67	325	*e*P		Pn		16 58 53.1	+0.1
KBG				*e*S		Sn		16 59 13.5	-1.4
TUMD	Tumrok D	2.33	279	*e*P		Pn		16 59 03.4	+1.3
TUMD				*e*S		Sn		16 59 30.9	-0.4
ZLN	Zelenaya	2.34	300	*e*S		Sn		16 59 32.0	+0.3
BZGR	Bezymyannyi-Gr	2.36	298	*e*P		Pn		16 59 04.5	+1.9
BZGR				*e*S		Sn		16 59 33.5	+1.2
SMKR	Semkarok	2.37	317	*e*P		Pn		16 59 04.2	+1.5
CIRR	Tsirk	2.41	302	*e*P		Pn		16 59 04.6	+1.2
BZWR	Bezymyannyi-We	2.47	297	*e*P		Pn		16 59 05.8	+1.5
KMNR	Kamenistaya	2.54	291	*e*P		Pn		16 59 06.6	+1.6
SRKR	Sorokina	2.54	315	*e*S		Sn		16 59 37.8	+1.2
KIRR	Kirishev	2.55	296	*e*P		Pb		16 59 07.7	-1.5
KLY	Klyuchi	2.56	305	*e*P		Pn		16 59 05.8	+0.6
KLY				*e*S		Sn		16 59 35.7	-1.3
KPT	Kopyto	2.62	296	*e*P		Pb		16 59 08.8	-1.6
KOZ	Kozyrevsk	2.83	296	*e*P		Pb		16 59 12.0	-2.0
SRDR	Sredinnyy	3.02	300	*e*P		Pn		16 59 13.7	+2.1
KII	Karymskiy	3.02	255	*e*P		Pn		16 59 13.4	+1.8
SPN	Mys Shipunski	3.16	237	*e*P		Pn		16 59 13.4	-0.1
SPN				*e*S		Sn		16 59 48.6	-3.1
ESO	Esso	3.42	290	*e*P		Pn		16 59 18.3	+1.3
NLC	Nalytchevo	3.45	242	*e*P		Pn		16 59 19.0	+1.5
SDLR	Sedlovina	3.64	246	*e*P		Pn		16 59 21.3	+1.1
SMAR	Somma	3.69	246	*e*P		Pn		16 59 22.1	+1.2
KRER	Koryakskii	3.70	247	*e*P		Pn		16 59 22.7	+1.6
UGLR	Uglovaya	3.70	245	*e*P		Pn		16 59 22.6	+1.5
AVH	Avacha	3.72	246	*e*P		Pn		16 59 22.4	+1.2
KRX	Arik	3.73	248	*e*P		Pn		16 59 22.6	+1.2
KOK	Koryaka	3.76	247	*e*P		Pn		16 59 23.4	+1.6
DALK	Dalny	3.83	243	*e*P		Pn		16 59 23.4	+0.7
PET	Petropavlovsk	3.89	243	*e*P		Pn		16 59 24.1	+0.6
GNL	Ganaly	3.98	255	*e*P		Pn		16 59 26.7	+1.9
KRMR	Karymshinskiy	4.26	243	*e*S		Sn		17 00 17.3	-1.5
PETK	Petropavlovsk-	4.35	248	Pn		Pn		16 59 30.6	+0.8
	0.8nm,0.3s,baz=70,slow=16,SNR=45								
PETK				Sn		Sn		17 00 20.2	-0.8
	1.0nm,0.3s,baz=74,slow=41,SNR=8.1								
	1.5nm,0.4s								
OSSR	Ossora	4.42	351	*e*P		Pn		16 59 31.8	+1.0
OSSR				*e*S		Sn		17 00 20.3	-2.5
MTVR	Mutnovka	4.42	239	*e*P		Pn		16 59 32.3	+1.3
GRL	Gorelyy	4.44	241	*e*P		Pn		16 59 32.9	+1.8
ASAK	Asacha	4.62	240	*e*P		Pn		16 59 35.7	+2.1
MA2	Magadan	8.75	308	LR		LR		17 04 05.8	
	comp=Z,33nm,18.1s,baz=78,slow=40								
ILAR	Eielson Array	25.72	48	P		P		17 03 53.1	-1.0
	1.2nm,0.8s,baz=260,slow=8.6,SNR=15								
	1.2nm,0.8s								
H11N2	WAKE ISLAND Hy	35.16	176	T		T		17 43 47.3	
	baz=359,slow=76,SNR=9.8								
H11N3	WAKE ISLAND Hy	35.17	176	T		T		17 43 51.4	
	baz=359,slow=76,SNR=7.8								
H11N1	WAKE ISLAND Hy	35.18	176	T		T		17 43 51.1	
	baz=359,slow=76,SNR=6.5								
JOW	Kunigami	38.44	238	LR		LR		17 24 14.3	
	comp=Z,49nm,18.2s,baz=328,slow=40								
CMAR	Chiang Mai Arr	61.02	261	P		P		17 08 39.5	+1.8
	0.4nm,0.5s,baz=42,slow=5.9,SNR=2.0								
	0.4nm,0.5s								
TXAR	Lajitas Array	67.61	71	P		P		17 09 21.3	+0.4
	0.3nm,0.4s,baz=292,slow=4.8,SNR=5.5								
	0.3nm,0.4s								

*IDC **22** 17:00:25.1±0.9,6°.06S×151°.62E,h0km,mb4.0/9,*
mbtmp4.1/10,ML4.4/1,MS3.4/9,Error ellipse:
s-maj=26.0km s-min=23.3km az=103.0
*NEIC **22** 17:00:26.6±2.1,6°.47S±0°.05×152°.02E±0°.10,h10km±1km,*
mb4.6/20,Error ellipse: s-maj=16.8km s-min=9.1km
az=88.0
ISC 22 17:00:31.4±0.6,6°.2S±0°.1×151°.56E±0°.08,h41km,n42,
σ0°.84/33,mb4.5/19,MS3.2/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	Rabaul	2.05	17				Pn	17 01 03.3	-0.1
MANU	Manus Island	5.85	314				Pn	17 02 00.8	+5.1
HNR	Honiara	8.92	112	Pn			Pn	17 02 27.2	-11
HNR	Honiara	8.92	112	P			Pn	17 02 37.0	-0.8
	4.0nm,0.3s,baz=256,slow=4.2,SNR=2.6								
HNR				Sn			Sn	17 04 18.6	+1.5
	1.6nm,0.3s,baz=140,slow=7.9,SNR=2.3								
HNR				LR	LR			17 05 29.9	
	comp=Z,301nm,21.7s,baz=270,slow=34								
	34nm,0.6s								
JAY	Jayapura	11.41	288	LR	LR			17 07 07.7	
	comp=Z,156nm,18.1s,baz=344,slow=35								
GUMO	Guam	20.72	341	LR	LR			17 11 35.6	
	comp=Z,34nm,20.3s,baz=122,slow=32								
MTN	Manton Dam	21.20	250				P	17 05 14.5	+0.7
MTN					IAmb		IAmb	17 05 22.3	
	comp=Z,19nm,0.8s								
DZM	Mont Dzumac	21.38	139	LR	LR			17 12 17.5	
	comp=Z,254nm,20.5s,baz=313,slow=33								
WB0	Warramunga Arr	21.48	229				P	17 05 17.0	+0.3
WB0					IAmb		IAmb	17 05 34.4	
	comp=Z,28nm,1.4s								
WR8	Warramunga Arr	21.51	229				P	17 05 17.5	+0.5
WRAB	Tennant Creek	21.61	229	P			P	17 05 18.2	+0.1
WRA	Warramunga Arr	21.62	229	P			P	17 05 16.7	-1.5
WRA	Warramunga Arr	21.62	229	P			P	17 05 18.0	-0.2
	comp=Z,9.0nm,0.8s,baz=53,slow=9.8,SNR=33								
	comp=Z,9.0nm,0.8s								
KNRA	Kununurra	24.27	245				P	17 05 45.5	+0.4
KNRA					IAmb		IAmb	17 05 53.0	
	comp=Z,16nm,0.8s								
AS31	Alice Springs	24.32	222				P	17 05 45.9	+0.5
ASAR	Alice Springs	24.32	222				P	17 05 45.4	-0.1
ASAR	Alice Springs	24.32	222	P			P	17 05 46.0	+0.6
	comp=Z,13nm,0.8s,baz=58,slow=8.7,SNR=116								
	comp=Z,13nm,0.8s								
FITZ	Fitzroy Crossi	27.93	243	P			P	17 06 18.6	+0.5
DAV	Davao City (W)	29.07	296	LR	LR			17 18 04.5	
	comp=Z,45nm,18.4s,baz=134,slow=36								
KAPI	Kappang	31.68	270	LR	LR			17 20 47.1	
	comp=Z,58nm,21.9s,baz=126,

JCC	**Jacoby Creek,**	**0.76**	**84**			Pb	17 09 08.5	-1.4
JCC	**Jacoby Creek,**	**0.76**	**84**			Pb	17 09 08.3	-1.6
KMPM	**Mount Pierce**	**0.76**	**115**			Pb	17 09 09.0	-1.0
KRPM	**Rodgers**	**0.86**	**61**			Pb	17 09 10.2	-1.6
KCRM	**Chalk Rock**	**0.97**	**109**			Pb	17 09 12.1	-1.5
KHMM	**Horse Mountain**	**0.99**	**82**			Pb	17 09 12.3	-1.7
BRIC	**Briceland Vine**	**1.07**	**126**			Pn	17 09 13.6	-1.4
KMRM	**Mail Ridge**	**1.13**	**117**			Pn	17 09 14.6	-1.3
KRMB	**Red Mountain**	**1.15**	**47**			Pn	17 09 14.0	-2.2
KRMB	**Red Mountain**	**1.15**	**47**	IAML			17 09 28.9	
KRMB	comp=N,559nm,0.4s			IAML			17 09 29.6	
	comp=E,398nm,0.3s							
KOMM	**Orleans Mounta**	**1.30**	**65**			Pn	17 09 16.6	-1.8
SIGP	**Signal Peak, C**	**1.34**	**32**			Pn	17 09 16.8	-2.0
KHBM	**Hayfork Bally**	**1.38**	**93**			Pn	17 09 17.7	-1.7
KHBM	**Hayfork Bally**	**1.38**	**93**	IAML			17 09 35.0	
KHBM	comp=N,489nm,0.6s			IAML			17 09 35.1	
	comp=E,545nm,0.3s							
KSXB	**Camp Six Broad**	**1.39**	**38**			Pn	17 09 17.5	-2.0
KSXB	**Camp Six Broad**	**1.39**	**38**	IAML			17 09 34.7	
KSXB	comp=E,439nm,0.5s			IAML			17 09 35.7	
	comp=N,463nm,0.5s							
KIPM	**Iron Peak**	**1.50**	**128**			Pn	17 09 19.6	-1.5
KCPM	**Cahto Peak**	**1.53**	**133**			Pn	17 09 19.7	-1.8
KCPM	**Cahto Peak**	**1.53**	**133**	IAML			17 09 44.1	
	comp=N,373nm,0.5s							
WEAV	**Weaverville**	**1.55**	**89**			Pn	17 09 19.9	-1.8
KBO	**Bosley Butte**	**1.59**	**22**			Pn	17 09 20.5	-1.7
KBO	**Bosley Butte**	**1.59**	**22**	IAML			17 09 40.5	
	comp=E,503nm,0.3s							
KBNM	**Bluenose Ridge**	**1.64**	**121**			Pn	17 09 22.1	-0.9
KFPM	**Farley Peak**	**1.65**	**131**			Pn	17 09 21.4	-1.7
GTC	**Three Chop Rid**	**1.75**	**139**			Pn	17 09 22.6	-1.9
L02F	**Cave Junction**	**1.76**	**38**			Pn	17 09 22.4	-2.1
L02F	comp=E,237nm,0.4s			IAML			17 09 45.1	
M02C	**Callahan**	**1.77**	**68**			Pn	17 09 23.0	-1.7
M02C	**Callahan**	**1.77**	**68**	IAML			17 09 45.6	
	comp=E,408nm,0.5s							
N02D	**Trinity Center**	**1.77**	**82**			Pn	17 09 23.1	-1.7
O02D	**Mt. Diablo Mer**	**1.80**	**108**			Pn	17 09 23.7	-1.4
O02D	**Mt. Diablo Mer**	**1.80**	**108**	Pn		Pn	17 09 23.4	-1.7
O02D	comp=N,101nm,0.7s			IAML			17 09 51.1	
O02D	comp=E,92nm,0.7s			IAML			17 09 51.5	
DCMP	**DeCamp, Califo**	**1.81**	**134**			Pn	17 09 23.4	-1.9
LBKM	**Bonanza King**	**1.82**	**78**			Pn	17 09 23.7	-1.7
KRKM	**Rackout Spring**	**1.84**	**129**			Pn	17 09 24.1	-1.6
GROM	**Round Mountain**	**1.98**	**114**			Pn	17 09 26.7	-1.0
YBH	**Yreka Blue Hor**	**2.01**	**60**			Pn	17 09 27.0	-1.0
YBH	**Yreka Blue Hor**	**2.01**	**60**			Pn	17 09 28.0	0.0
YBH	comp=E,229nm,0.3s			IAML			17 09 52.4	
YBH	comp=N,369nm,0.3s			IAML			17 09 53.4	
GWRM	**Wonder Ranch**	**2.03**	**139**			Pn	17 09 26.4	-1.8
GHOM	**Hamilton Openi**	**2.04**	**146**			Pn	17 09 26.4	-2.0
KEBM	**Edson Butte**	**2.19**	**13**			Pn	17 09 29.4	-1.1
KEBM	**Edson Butte**	**2.19**	**13**	IAML			17 09 56.3	
	comp=E,102nm,0.5s							
LSHM	**Sage Hen Hill**	**2.27**	**88**			Pn	17 09 30.5	-1.0
GSNM	**Snow Mountain**	**2.29**	**141**			Pn	17 09 30.1	-1.8
HOPS	**Hopland Field**	**2.30**	**139**			Pn	17 09 30.2	-1.8
GCK	**Clark Valley**	**2.32**	**120**			Pn	17 09 31.8	-0.4
GALB	**Galbreath Wild**	**2.32**	**143**			Pn	17 09 30.4	-1.9
GHGM	**Hogback Ridge**	**2.33**	**133**			Pn	17 09 31.0	-1.5
LBFM	**Black Fox Moun**	**2.45**	**75**			Pn	17 09 33.8	-0.4
GPMM	**Pine Mountain**	**2.48**	**139**			Pn	17 09 33.0	-1.5
LDBM	**Digger Butte**	**2.49**	**96**			Pn	17 09 33.1	-1.5
O03E	**Paynes Creek**	**2.50**	**99**			Pn	17 09 33.1	-1.6
O03E	**Paynes Creek**	**2.50**	**99**	IAML			17 10 04.4	
O03E	comp=N,81nm,0.5s			IAML			17 10 11.1	
	comp=E,129nm,0.7s							
L04D	**Klamath Falls**	**2.52**	**53**			Pn	17 09 34.9	-0.2
GFC	**Funks Creek**	**2.53**	**123**			Pn	17 09 34.7	-0.4
J01E	**Myrtle Point**	**2.55**	**18**			Pn	17 09 33.5	-1.9
J01E	comp=E,124nm,0.2s			IAML			17 10 08.8	
J01E	comp=N,125nm,0.3s			IAML			17 10 10.9	
HATC	**Hat Creek Radi**	**2.71**	**87**			Pn	17 09 36.4	-1.2
HATC	comp=E,117nm,0.9s			IAML			17 10 34.6	
HATC	comp=N,94nm,1.6s			IAML			17 10 48.9	
BBOR	**Butler Butte**	**2.77**	**38**			Pn	17 09 37.9	-0.7
BBOR	comp=E,62nm,0.8s			IAML			17 10 12.8	
BBOR	comp=N,51nm,0.7s			IAML			17 10 18.6	
ORV	**Oroville**	**2.95**	**113**			Pn	17 09 38.8	-2.1
ORV	comp=E,67nm,0.4s			IAML			17 10 14.6	
ORV	comp=N,67nm,0.6s			IAML			17 10 15.7	
MCCM	**Marconi Confer**	**3.08**	**147**	Pn		Pn	17 09 40.2	-2.4
MCCM	comp=N,51nm,1.2s			IAML			17 10 16.6	
MCCM	comp=E,45nm,1.4s			IAML			17 10 21.4	
J04A	**Umpqua Nationa**	**3.31**	**40**			Pn	17 09 45.1	-0.9
FARB	**Farallon Islan**	**3.42**	**152**	IAML			17 10 24.3	
FARB	comp=E,45nm,0.4s			IAML			17 10 25.4	
FARB	comp=N,44nm,1.4s			IAML			17 10 35.2	
I02E	**Swisshome, OR**	**3.48**	**14**					
I02E	comp=N,74nm,0.1s			IAML			17 10 35.2	
	comp=E,56nm,0.1s							
AFDM	**Forest Hills D**	**3.60**	**119**			Pn	17 09 47.9	-1.9
BEKR	**Beckworth**	**3.67**	**102**			Pn	17 09 49.8	-1.2
BEKR	comp=E,31nm,0.6s			IAML			17 10 36.8	
BEKR	comp=N,38nm,0.7s			IAML			17 10 38.4	
K05A	**Summer Lake**	**3.67**	**56**	IAML			17 10 36.3	
K05A	comp=N,36nm,0.6s			IAML			17 10 55.1	
BUCK	**Buck Mountain**	**3.77**	**23**			Pn	17 09 52.3	+0.1
BUCK	comp=E,36nm,1.0s			IAML			17 11 25.2	
J05D	**Fort Rock, OR**	**3.80**	**47**			Pn	17 09 52.2	-0.4
J05D	comp=E,28nm,1.9s			IAML			17 10 55.8	
J05D	comp=E,27nm,1.2s			IAML			17 11 02.4	
MPK	**Martis Peak**	**4.10**	**109**	IAML			17 10 48.8	
MPK	comp=E,43nm,1.0s			IAML			17 10 50.3	
H04D	**Lebanon**	**4.14**	**23**	IAML			17 10 48.0	
H04D	comp=N,52nm,0.9s			IAML			17 10 48.5	
	comp=E,26nm,0.3s							
CMB	**Columbia Colle**	**4.50**	**125**			Pn	17 10 01.1	-1.1
NVAR	**Mina Array Bea**	**5.68**	**112**			Pn	17 10 17.0	-1.6
S22A	**4UR Ranch, Cre**	**14.41**	**96**	P		P	17 12 21.8	-3.2
SDCO	**Great Sand Dun**	**15.42**	**95**			Pn	17 12 33.1	+1.3

*IDC **22** 17:17:28.4±0.5,51°.20N×179°.35E, h0km, mb4.3/29, mbtmp4.3/32, ML3.9/3, MS3.7/31, Error ellipse: s-maj=17.2km s-min=10.3km az=174.0*

*NEIC **22** 17:17:29.4±2.6, 50°.91N±0°.04×179°.14E±0°.09, h10km±1km, mb4.5/250, ML4.6/12, ML3.8(AEIC), Error ellipse: s-maj=9.3km s-min=6.5km az=283.0*

*AEIC **22** 17:17:32.7±3.0, 51°.05N±0°.04×179°.32E±0°.08, h17km±4km, Error ellipse: s-maj=7.8km s-min=6.0km az=68.0*

ISC 22 17:17:33.5±0.8, 51°.15N±0°.06×179°.32E±0°.04, h33km±3km, n272, σ1§55/143, mb4.4/122, MS3.6/30, 1C-1D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time	Res	ISC
AMKA	**Amchitka**	**0.23**	**357**				**Pn**	**17 17 40.1**	**+0.1**
AMKA	**Amchitka**	**0.23**	**357**				**Sn**	**17 17 45.7**	**+2.8**
CESW	**Semis' Southwe**	**0.77**	**11**				**Pn**	**17 17 49.1**	**+1.1**
CERB	**Semis' Cerberu**	**0.81**	**14**				**Pb**	**17 17 49.9**	**+0.8**
LSSE	**Little Sitkin**	**0.91**	**329**				**Pn**	**17 17 51.0**	**+1.0**
LSPA	**Little Sitkin**	**0.93**	**330**				**Pn**	**17 17 51.2**	**+0.9**
KIMD	**Kanaga Island**	**2.24**	**73**				**Pn**	**17 18 10.1**	**+1.9**
KIMD							**Sn**	**17 18 37.7**	**+3.0**
KIWB	**Kanaga Island**	**2.32**	**71**				**Pn**	**17 18 10.6**	**+1.4**
KIWB							**Sn**	**17 18 39.8**	**+3.2**
KIWB	**Kanaga Island**	**2.32**	**71**	IAML				17 18 49.4	
	comp=E,2μm,0.6s								
ADK	**Adak**	**2.60**	**72**				**Pn**	**17 18 14.3**	**+1.1**
ADK							**Sn**	**17 18 46.0**	**+2.4**
GSTR	**Great Sitkin T**	**3.03**	**70**				**Pn**	**17 18 20.8**	**+1.7**
GSTR				IAML				17 19 21.3	
	comp=E,2μm,1.0s								
SHEM	**Shemya Is, Ala**	**3.60**	**298**	Pn			**Pn**	**17 18 28.6**	**+1.8**
SHEM				IAML				17 19 22.5	
	comp=E,1μm,0.8s								
SHEM				IAML				17 19 25.0	
	comp=N,1μm,1.0s								
SHEM	**Shemya Is, Ala**	**3.60**	**298**	Pn			**Pn**	**17 18 27.6**	**+0.8**
	comp=N,86nm,0.3s,baz=73,slow=2.6,SNR=27								
SHEM				Sn			**Sn**		
	comp=N,46nm,0.3s,baz=294,slow=20,SNR=7.0								
SHEM				LR			LR	17 19 51.4	
	comp=N,1μm,19.9s,baz=136,slow=40								
SMY	**Shemya**	**3.60**	**298**				**Pn**	**17 18 28.7**	**+1.9**
ATKA	**Atka Island**	**4.17**	**73**				**Pn**	**17 18 36.3**	**+1.6**
ATKA				IAML				17 19 41.1	
	comp=N,614nm,1.0s								
ATKA				IAML				17 19 42.3	
	comp=E,630nm,0.7s								
NIKH	**Nikolski High**	**7.52**	**71**	Pn			**Pn**	**17 19 22.1**	**+1.4**
P08K	**Saint George I**	**8.54**	**46**	Pn			**Pn**	**17 19 37.6**	**+3.0**
LVA	**Lava Point**	**9.40**	**66**	Pn			**Pn**	**17 19 49.0**	**+2.5**
AKUT	**Akutan**	**9.54**	**66**	Pn			**Pn**	**17 19 50.9**	**+2.5**
S12K	**Black Hills**	**11.99**	**60**	Pn			**Pn**	**17 20 24.2**	**+2.3**
M11K	**Mekoryuk**	**12.30**	**36**	Pn			Pn	17 20 30.2	+4.2
SDPT	**Sand Point**	**12.79**	**63**				**Pn**	**17 20 32.8**	**-0.1**
CNBA	**Chernabura Isl**	**13.21**	**66**				**Pn**	**17 20 36.7**	**-1.8**
PETK	**Petropavlovsk-**	**13.42**	**287**	Pn			**Pn**	**17 20 41.2**	**-0.2**
	comp=E,0.4nm,0.3s,baz=85,slow=15,SNR=7.0								
PETK				Sn			**Sn**		
	comp=E,0.3nm,0.3s,baz=172,slow=32,SNR=2.3								
PETK				LR			LR	17 25 35.9	
	comp=E,205nm,21.9s,baz=91,slow=36								
	comp=E,0.8nm,0.7s								
CHGN	**Chignik**	**14.12**	**60**				**Pn**	**17 20 50.2**	**-0.7**
M14K	**Bethel**	**14.17**	**40**				**Pn**	**17 20 53.5**	**+1.9**
L14K	**Kuka Creek**	**14.24**	**37**				**Pn**	**17 20 54.6**	**+2.2**
O15K	**Ungalikthiuk R**	**14.32**	**48**				**Pn**	**17 20 55.8**	**+2.2**
N15K	**Kwethluk River**	**14.66**	**44**				**Pn**	**17 21 00.3**	**+2.1**
P16K	**Nushagak River**	**15.14**	**50**				**Pn**	**17 21 06.0**	**+1.5**
P16K				IAmb			IAmb	17 21 33.8	
	comp=E,21nm,0.6s								
K15K	**Wolf Creek Mou**	**15.26**	**36**	IAmb			IAmb	17 21 14.1	
	comp=E,48nm,1.2s								
O16K	**Kokwok River B**	**15.30**	**48**	IAmb			IAmb	17 21 13.0	
	comp=E,17nm,0.8s								
PLK4	**Peulik 4**	**15.53**	**56**	IAmb			IAmb	17 21 26.1	
	comp=E,14nm,0.5s								
L16K	**Owhat River**	**15.71**	**40**				**P**	**17 21 16.0**	**+0.4**
L16K				IAmb			IAmb	17 21 18.2	
	comp=E,17nm,0.6s								
N17K	**Nushagak Hills**	**16.11**	**45**	Pn			**Pn**	**17 21 18.3**	**+1.2**
ACHA	**Angle Creek He**	**16.21**	**54**				**Pn**	**17 21 19.5**	**+1.0**
M17K	**Holitna River**	**16.39**	**42**	IAmb			IAmb	17 21 26.8	
	comp=E,20nm,0.8s								
K17K	**Iditarod**	**16.72**	**38**	Pn			**Pn**	**17 21 25.1**	**+0.2**
K17K				IAmb			IAmb	17 21 30.6	
	comp=E,19nm,0.8s								
O18K	**Koktuh Hills**	**16.76**	**49**				**P**	**17 21 27.2**	**-0.1**
O18K				IAmb			IAmb	17 21 34.2	
	comp=E,21nm,0.7s								
KDAK	**Kodiak Island**	**17.54**	**57**				**Pn**	**17 21 32.8**	**-2.3**
KDAK				IAmb			IAmb	17 21 49.6	
	comp=E,12nm,0.5s								
KDAK	**Kodiak Island**	**17.54**	**57**	P			**Pn**	**17 21 32.3**	**-2.8**
	comp=E,3.6nm,0.3s,baz=250,slow=6.7,SNR=67								
KDAK				S			**Sn**	**17 24 40.8**	**-8.3**
	comp=E,1.1nm,0.6s,baz=344,slow=20,SNR=1.7								
	comp=E,8.8nm,0.3s								
RED	**Redoubt Volcan**	**18.10**	**48**	IAmb			IAmb	17 21 45.3	
	comp=E,44nm,1.2s								
MA2	**Magadan**	**18.16**	**309**	LR			LR	17 28 27.5	
	comp=E,302nm,18.9s,baz=124,slow=36								
F17K	**Baldwin Pennin**	**18.20**	**25**	P			**P**	**17 21 43.8**	**+0.7**
F17K				IAmb			IAmb	17 21 48.4	
	comp=E,27nm,1.2s								
SEY	**Seymchan**	**18.64**	**320**	P			**P**	**17 21 48.4**	**+0.4**
	comp=E,0.3nm,0.3s,baz=79,slow=9.8,SNR=5.5								
	comp=E,1.7nm,0.6s								
K20K	**Telida**	**18.70**	**39**	P			**P**	**17 21 49.6**	**+0.9**
STLK	**Strandline Lak**	**18.89**	**46**	IAmb			IAmb	17 21 58.5	
	comp=E,21nm,0.8s								
RDOG	**Red Dog Mine**	**19.05**	**21**	IAmb			IAmb	17 21 56.8	
	comp=E,16nm,0.6s								
J20K	**Nowinta River**	**19.08**	**37**	IAmb			IAmb	17 21 55.6	
	comp=E,18nm,0.6s								
SKT	**Skwentna**	**19.19**	**44**	IAmb			IAmb	17 21 57.5	
	comp=E,31nm,1.0s								
G19K	**Purcell Mounta**	**19.21**	**30**	IAmb			IAmb	17 22 01.3	
	comp=E,29nm,0.8s								
PPLA	**Purkeypile**	**19.26**	**41**	IAmb			IAmb	17 22 07.3	
	comp=E,21nm,0.8s								
I20K	**Naaghedeneel**	**19.28**	**35**	IAmb			IAmb	17 21 58.2	
	comp=E,13nm,0.6s								
F19K	**Shaleruckin Mo**	**19.46**	**28**	IAmb			IAmb	17 21 59.9	
	comp=E,26nm,0.8s								
CAST	**Castle Rocks**	**19.53**	**40**	IAmb			IAmb	17 22 04.9	
	comp=E,15nm,0.8s								
SEW	**Seward**	**19.60**	**51**	IAmb			IAmb	17 22 05.5	
	comp=E,11nm,0.4s								
CUT	**Chulitna**	**19.90**	**44**	IAmb			IAmb	17 22 06.6	
	comp=E,35nm,1.0s								
C18K	**Utukok River**	**19.91**	**21**	IAmb			IAmb	17 22 05.2	
	comp=E,25nm,0.8s								
E19K	**Redstone River**	**20.04**	**27**	IAmb			IAmb	17 22 06.4	
	comp=E,18nm,0.6s								
IMAR	**Indian Mountai**	**20.20**	**32**	P			**P**	**17 22 06.2**	**+1.2**
F20K	**Avaraart Lake**	**20.21**	**29**	IAmb			IAmb	17 22 07.8	
	comp=E,12nm,0.8s								
BPAW	**Bear Paw Mtn.**	**20.27**	**39**	IAmb			IAmb	17 22 08.2	
	comp=E,12nm,0.8s								
TRF	**Thorofare Moun**	**20.28**	**41**	IAmb			IAmb	17 22 14.9	
	comp=E,18nm,0.9s								
GHO	**Glory Hole Cre**	**20.29**	**46**	P			**P**	**17 22 05.6**	**-0.6**
GHO				IAmb			IAmb	17 22 20.4	
	comp=E,8.5nm,0.5s								
PWL	**Port Wells**	**20.32**	**49**	IAmb			IAmb	17 22 14.9	
	comp=E,15nm,0.6s								
H21K	**Melozitna Rive**	**20.34**	**34**	IAmb			IAmb	17 22 09.4	
	comp=E,22nm,0.8s								
I21K	**Tanana**	**20.39**	**36**	IAmb			IAmb	17 22 12.7	
	comp=E,18nm,0.7s								
KNK	**Knik Glacier**	**20.40**	**47**	IAmb			IAmb	17 22 35.3	
	comp=E,23nm,1.0s								
P23K	**Montague Islan**	**20.59**	**52**	IAmb			IAmb	17 22 14.3	
	comp=E,12nm,0.9s								
C19K	**Lookout Ridge**	**20.64**	**21**	IAmb			IAmb	17 22 15.1	
	comp=E,26nm,1.1s								
RND	**Reindeer**	**20.86**	**42**				**P**	**17 22 12.2**	**0.0**
BWN	**Browne**	**20.90**	**40**	IAmb			IAmb	17 22 22.8	
	comp=E,28nm,0.9s								
GLI	**Glacier Island**	**20.91**	**49**	IAmb			IAmb	17 22 22.7	
	comp=E,15nm,0.7s								
MCK	**McKinley**	**20.95**	**41**	IAmb			IAmb	17 22 29.1	
	comp=E,13nm,0.8s								
F21K	**Alatna River**	**21.00**	**30**	IAmb			IAmb	17 22 17.1	
	comp=E,15nm,0.8s								
SCM	**Sheep Creek Mo**	**21.04**	**47**	P			**P**	**17 22 13.8**	**-0.5**
SCM				IAmb			IAmb	17 22 20.9	
	comp=E,16nm,0.7s								
HIN	**Hinchinbrook I**	**21.10**	**51**	P			**P**	**17 22 17.2**	**+2.3**
HIN				IAmb			IAmb	17 22 29.8	
	comp=E,12nm,0.8s								
FID	**Port Fidalgo**	**21.18**	**50**	IAmb			IAmb	17 22 23.4	
	comp=E,14nm,0.6s								
DIV	**Divide**	**21.60**	**49**	IAmb			IAmb	17 22 25.0	
	comp=E,12nm,0.6s								
KLU	**Klutina**	**21.60**	**48**	IAmb			IAmb	17 22 29.7	
	comp=E,10nm,0.6s								
E21K	**Killik River**	**21.62**	**27**	IAmb			IAmb	17 22 23.9	
	comp=E,14nm,0.8s								
M24K	**Tolsona, Glenn**	**21.63**	**46**	IAmb			IAmb	17 22 58.7	
	comp=E,32nm,1.1s								
RAGM	**Ragged Mountai**	**22.00**	**51**	IAmb			IAmb	17 22 31.2	
	comp=E,10nm,0.8s								
E22K	**Anaktuvuk Pass**	**22.06**	**29**	IAmb			IAmb	17 22 28.2	
	comp=E,12nm,0.7s								
COLD	**Coldfoot**	**22.07**	**32**	IAmb			IAmb	17 22 29.0	
	comp=E,9.1nm,0.7s								
POKR	**Poker Flat Res**	**22.08**	**38**	IAmb			IAmb	17 22 28.2	
	comp=E,10nm,0.7s								
BMRM	**Bremner River**	**22.12**	**50**	IAmb			IAmb	17 22 40.5	
	comp=E,14nm,0.7s								
IL31		**22.16**	**39**	P			**P**	**17 22 26.0**	**-0.2**
ILAR	**Eielson Array**	**22.16**	**39**	P			**P**	**17 22 24.4**	**-1.8**
	comp=E,2.4nm,0.6s,baz=244,slow=8.7,SNR=30								
ILAR				PcP			**PcP**	**17 26 21.3**	**-0.5**
	comp=E,0.7nm,0.6s,baz=265,slow=2.8,SNR=4.5								
ILAR				ScP			**ScP**	**17 29 58.2**	**+1.8**
	comp=E,0.5nm,0.7s,baz=298,slow=2.6,SNR=4.1								
	comp=E,2.4nm,0.6s								
PAX	**Paxson**	**22.18**	**44**	IAmb			IAmb	17 22 32.8	
	comp=E,7.6nm,0.7s								
HMT	**Hamilton**	**22.19**	**51**	IAmb			IAmb	17 22 46.8	
	comp=E,13nm,1.2s								
H24K	**Noodor Dome**	**22.21**	**36**	IAmb			IAmb	17 22 29.3	
	comp=E,11nm,0.7s								
N25K	**Chitina, Valde**	**22.25**	**48**	IAmb			IAmb	17 22 29.0	
	comp=E,8.0nm,0.7s								
K24K	**Donnelly Dome**	**22.29**	**42**	IAmb			IAmb	17 22 51.8	
	comp=E,10nm,0.7s								
BERG	**Berg Lake**	**22.48**	**51**	IAmb			IAmb	17 23 09.8	
	comp=E,9.0nm,0.9s								
GLB	**Gilahina Butte**	**22.59**	**49**	IAmb			IAmb	17 22 32.2	
	comp=E,9.2nm,0.8s								
RIDG	**Independent Ri**	**22.66**	**43**	IAmb			IAmb	17 23 12.6	
	comp=E,14nm,1.4s								
E23K	**Chandalar**	**22.70**	**30**	IAmb			IAmb	17 22 42.9	
	comp=E,9.2nm,0.7s								
VRDI	**Verde Repeater**	**22.72**	**49**	IAmb			IAmb	17 22 34.0	
	comp=E,22nm,1.4s								
CRQM	**Cirque**	**22.80**	**51**	IAmb			IAmb	17 22 47.5	
	comp=E,11nm,1.0s								
D23K	**Nanushuk River**	**22.89**	**28**				**P**	**17 22 34.3**	**+0.4**
DOT	**Dot Lake**	**22.97**	**43**	IAmb			IAmb	17 22 35.9	
	comp=E,8.7nm,0.8s								
PRP	**Porcupine Dome**	**22.98**	**38**	IAmb			IAmb	17 22 37.7	
	comp=E,6.7nm,0.6s								
B22K	**Teshekpuk Lake**	**23.02**	**23**	IAmb			IAmb	17 22 39.2	
	comp=E,14nm,0.8s								
TOLK	**Toolik Lake Re**	**23.03**	**29**				**P**	**17 22 35.7**	**+0.3**
E24K	**Your Creek**	**23.07**	**31**	IAmb			IAmb	17 22 38.5	
	comp=E,8.7nm,0.7s								
SCRK	**Sand Creek**	**23.10**	**42**	IAmb			IAmb	17 22 42.8	
	comp=E,6.8nm,0.6s								
L26K	**Log Cabin Wild**	**23.13**	**45**	IAmb			IAmb	17 22 46.3	
	comp=E,6.8nm,0.7s								
M26K	**Nabesna, AK**	**23.15**	**46**	IAmb			IAmb	17 22 50.3	
	comp=E,15nm,1.4s								
J26L	**Joseph Creek**	**23.43**	**41**	IAmb			IAmb	17 22 40.4	
	comp=E,8.2nm,0.7s								
M27K	**Edge Creek, AK**	**23.65**	**47**	IAmb			IAmb	17 22 56.6	
	comp=E,8.5nm,0.7s								
L27K	**Beaver Creek,**	**23.81**	**45**	IAmb			IAmb	17 22 44.3	
	comp=E,9.2nm,0.9s								
BCAR	**Beaver Creek A**	**23.83**	**45**				**P**	**17 22 42.5**	**-0.7**
BMAR	**Burnt Mountain**	**24.08**	**34**				**P**	**17 22 45.3**	**-0.2**
YSS	**Yuzhno-Sakhali**	**24.16**	**274**				**P**	**17 22 45.6**	**-0.7**
YSS	comp=E,12nm,0.7s			IAmb			IAmb	17 22 50.1	
G26K	**Porcupine Rive**	**24.17**	**35**				**PcP**	**17 26 27.2**	**+1.3**
O28M	**Mount Upton**	**24.24**	**51**	IAmb			IAmb	17 23 08.0	
	comp=E,7.8nm,0.6s								
F26K	**Sheenjek River**	**24.34**	**33**	IAmb			IAmb	17 22 51.0	
	comp=E,14nm,0.8s								
G27K	**Doyon Strip**	**24.91**	**36**	IAmb			IAmb	17 22 57.1	
	comp=E,5.4nm,0.8s								
DAWY	**Dawson**	**25.08**	**43**	IAmb			IAmb	17 23 03.6	
	comp=E,15nm,1.2s								
I28M	**Miner Creek**	**25.17**	**40**	IAmb			IAmb	17 22 57.3	
	comp=E,8.4nm,0.8s								
M29M	**Somme Creek**	**25.24**	**47**	IAmb			IAmb	17 23 16.8	
	comp=E,6.7nm,0.7s								
L29M	**L29M**	**25.48**	**46**	IAmb			IAmb	17 23 01.9	
	comp=E,5.1nm,0.7s								
JKA	**Kamikawa-asahi**	**25.52**	**268**				**P**	**17 22 59.5**	**+0.8**
ASAJ	**Asahikawa**	**25.52**	**268**	LR			LR	17 32 39.4	
	comp=E,83nm,20.4s,baz=144,slow=36								
I29M	**Ogilvie Camp,**	**25.81**	**40**	IAmb			IAmb	17 23 08.1	
	comp=E,4.7nm,0.7s								
H29M	**Whitestone**	**25.99**	**39**	IAmb			IAmb	17 23 36.0	
	comp=E,15nm,1.5s								
M30M	**Minto, Yukon**	**26.02**	**47**	IAmb			IAmb	17 23 06.0	
	comp=E,5.3nm,0.7s								
E28M	**Babbage River**	**26

	comp=Z,22nm,0.8s							
PLID	**Pearl Lake**	**42.35**	**72**			**P**	**17 25 24.9**	**+0.5**
BEKR	**Beckworth**	**42.61**	**81**	P		**P**	**17 25 27.6**	**+1.1**
HLID	**Hailey**	**44.14**	**73**			**P**	**17 25 39.2**	**+0.4**
HLID				IAmb	IAmb		17 25 40.8	
	comp=Z,6.2nm,0.9s							
BOZ	**Bozeman (W)**	**44.67**	**69**	IAmb	IAmb		17 25 44.2	
	comp=Z,7.7nm,1.0s							
NVAR	**Mina Array Bea**	**44.75**	**81**	P		**P**	**17 25 42.3**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=289,slow=7.5,SNR=8.1							
	comp=Z,1.2nm,0.7s							
ELK	**Elko**	**45.26**	**77**			**P**	**17 25 48.6**	**+0.8**
ELK	**Elko**	**45.26**	**77**	P		**P**	**17 25 48.1**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=304,slow=8.3,SNR=13							
	comp=Z,2.7nm,0.8s							
ULN	**Ulaanbaatar**	**45.30**	**296**			**P**	**17 25 48.7**	**+0.8**
ULN				IAmb	IAmb		17 25 49.6	
	comp=Z,4.9nm,0.7s							
JOW	**Kunigami**	**45.37**	**258**	LR	LR		17 44 15.5	
	comp=Z,33nm,20.4s,baz=17,slow=35							
DSP	**Deep Springs**	**45.61**	**82**			**P**	**17 25 51.1**	**+0.8**
TPH	**Tonopah**	**45.64**	**81**	P		**P**	**17 25 53.5**	**+2.6**
SONM	**Songino Array**	**45.69**	**296**			**P**	**17 25 51.9**	**+0.9**
SONM				IAmb	IAmb		17 25 52.8	
	comp=Z,3.2nm,0.7s							
SONM	**Songino Array**	**45.69**	**296**	P		**P**	**17 25 51.7**	**+0.7**
	comp=Z,3.7nm,0.6s,baz=58,slow=9.5,SNR=23							
SONM				LR	LR		17 46 38.7	
	comp=Z,164nm,18.3s,baz=70,slow=38							
	comp=Z,3.7nm,0.6s							
YNE	**Yellowstone No**	**45.95**	**69**	IAmb	IAmb		17 25 54.4	
	comp=Z,4.4nm,0.8s							
HVU	**Hansel Valley**	**46.15**	**74**	IAmb	IAmb		17 25 59.8	
	comp=Z,3.9nm,0.6s							
ILON	**Igloolik, Nuna**	**46.22**	**29**			**P**	**17 25 54.8**	**+0.1**
RLMT	**Red Lodge**	**46.32**	**68**	IAmb	IAmb		17 25 58.4	
	comp=Z,6.3nm,0.9s							
R11B	**Troy Canyon, C**	**46.49**	**80**	IAmb	IAmb		17 26 02.5	
	comp=Z,2.7nm,0.9s							
GUMO	**Guam**	**46.66**	**229**	LR	LR		17 42 31.6	
	comp=Z,39nm,21.0s,baz=100,slow=32							
TPNV	**Topopah Spring**	**46.95**	**81**	P		**P**	**17 26 02.3**	**+1.3**
TPNV				IAmb	IAmb		17 26 26.1	
	comp=Z,5.0nm,0.8s							
HWUT	**Hardware Ranch**	**46.98**	**73**	IAmb	IAmb		17 26 17.5	
	comp=Z,3.3nm,0.8s							
DUG	**Dugway, Tooele**	**47.07**	**76**	IAmb	IAmb		17 26 13.2	
	comp=Z,5.0nm,0.9s							
PSUT	**Pine Spring**	**47.45**	**78**	IAmb	IAmb		17 26 11.8	
	comp=Z,3.7nm,0.6s							
PDAR	**Pinedale Array**	**47.50**	**71**			**P**	**17 26 05.2**	**-0.2**
PDAR	**Pinedale Array**	**47.50**	**71**	P		**P**	**17 26 05.8**	**+0.4**
	comp=Z,9.4nm,0.7s,baz=303,slow=3.7,SNR=90							
PDAR				LR	LR		17 43 28.3	
	comp=Z,39nm,21.8s,baz=304,slow=33							
	comp=Z,9.4nm,0.7s							
BTO	**Baotou**	**47.69**	**286**	*e*P		**P**	**17 26 08.0**	**+1.3**
BTO				pmax	pmax			
	comp=Z,49nm,0.6s							
BTO				pmax	pmax			
	comp=Z,200nm,5.4s							
BSUT	**Blindstream Ca**	**48.11**	**74**	IAmb	IAmb		17 26 19.9	
	comp=Z,3.7nm,0.8s							
CCUT	**Cedar City**	**48.36**	**79**			**P**	**17 26 16.2**	**+4.1**
TMUT	**Trail Mountain**	**48.60**	**76**	IAmb	IAmb		17 26 19.9	
	comp=Z,4.9nm,0.8s							
LCMT	**Little Creek M**	**48.78**	**79**	IAmb	IAmb		17 26 21.0	
	comp=Z,4.1nm,0.9s							
P18A	**Preston Nutter**	**48.98**	**75**	IAmb	IAmb		17 26 41.4	
	comp=Z,3.7nm,0.7s							
SRU	**San Rafael Swe**	**49.13**	**75**	IAmb	IAmb		17 26 40.4	
	comp=Z,3.7nm,0.7s							
U15A	**North Rim**	**49.74**	**79**	IAmb	IAmb		17 26 36.1	
	comp=Z,4.6nm,0.8s							
SPITS	**Spitsbergen Ar**	**50.52**	**356**	P		**P**	**17 26 27.4**	**-0.3**
	comp=Z,111nm,0.5s,baz=47,slow=6.1,SNR=45							
	comp=Z,11nm,0.5s							
SPB2	**Spitsbergen Ar**	**50.52**	**356**	P		**P**	**17 26 27.3**	**-0.4**
PV22	**Blue Mesa, Par**	**50.55**	**75**	IAmb	IAmb		17 26 39.1	
	comp=Z,4.8nm,1.0s							
PV04	**Paradox Valley**	**50.57**	**75**	IAmb	IAmb		17 26 49.6	
	comp=Z,7.4nm,0.9s							
PV16	**Nyswonger Mesa**	**50.61**	**75**	IAmb	IAmb		17 26 50.5	
	comp=Z,5.2nm,0.6s							
PV03	**Paradox Valley**	**50.69**	**75**	IAmb	IAmb		17 26 44.4	
	comp=Z,5.4nm,0.7s							
PV01	**Paradox Valley**	**50.94**	**75**	IAmb	IAmb		17 26 46.2	
	comp=Z,3.6nm,0.8s							
XAN	**Xi'an**	**52.54**	**280**	⇓P		**P**	**17 26 44.3**	**+0.9**
XAN				pmax	pmax			
	comp=Z,7.0nm,1.0s							
ZALV	**Zalesovo Beam**	**53.32**	**313**			**P**	**17 26 48.1**	**-0.7**
ZALV	**Zalesovo Beam**	**53.32**	**313**	P		**P**	**17 26 48.4**	**-0.5**
	comp=Z,1.6nm,0.4s,baz=49,slow=6.9,SNR=8.9							
ZALV				PcP		**PcP**	**17 27 56.0**	**0.0**
	comp=Z,2.3nm,0.7s,baz=50,slow=2.3,SNR=5.7							
	comp=Z,1.6nm,0.4s							
SUMG	**Summit**	**53.80**	**13**			**P**	**17 26 52.5**	**-0.1**
SUMG	**Summit**	**53.80**	**13**	*i* P		**P**	**17 26 52.0**	**-0.6**
GTA	**Gaotai**	**54.55**	**291**	*e*P		**P**	**17 26 59.3**	**+1.1**
GTA				pP	pP		17 27 05.0	-3.1
GTA				pmax	pmax			
	comp=Z,15nm,1.0s							
RTBA	**Rita Blanca**	**55.57**	**73**	IAmb	IAmb		17 27 07.1	
	comp=Z,7.0nm,1.1s							
ARCES	**ARCESS Array B**	**58.11**	**349**	P		**P**	**17 27 22.3**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=27,slow=7.5,SNR=8.7							
ARCES				LR	LR		17 53 45.9	
	comp=Z,47nm,19.4s,baz=9.0,slow=38							
	comp=Z,1.8nm,0.7s							
KURK	**Kurchatov**	**58.31**	**313**			**P**	**17 27 24.8**	**+0.1**
KURBB	**Kurchatov Arra**	**58.42**	**313**	P		**P**	**17 27 26.1**	**+0.7**
	comp=Z,9.9nm,0.5s,baz=41,slow=6.7,SNR=51							
KURBB				PcP		**PcP**	**17 28 16.3**	**+0.4**
	comp=Z,2.0nm,0.2s,baz=45,slow=3.2,SNR=4.1							
KURBB				LR	LR		17 54 24.7	
	comp=Z,122nm,18.3s,baz=176,slow=38							
	comp=Z,9.9nm,0.5s							
MKAR	**Makanchi Array**	**59.24**	**307**			**P**	**17 27 31.0**	**-0.3**
MKAR	**Makanchi Array**	**59.24**	**307**	P		**P**	**17 27 31.3**	**+0.1**
	comp=Z,4.9nm,0.5s,baz=49,slow=6.3,SNR=69							
MKAR				LR	LR		17 54 32.1	
	comp=Z,83nm,19.4s,baz=12,slow=38							
	comp=Z,4.9nm,0.5s							
TX31	**Lajitas Ar. Si**	**59.86**	**80**	IAmb	IAmb		17 27 40.7	
	comp=Z,1.7nm,0.6s							
TXAR	**Lajitas Array**	**59.86**	**80**	P		**P**	**17 27 36.2**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=305,slow=5.2,SNR=13							
	comp=Z,1.2nm,0.5s							
BVAR	**Borovoye Array**	**60.29**	**319**	P		**P**	**17 27 39.4**	**+1.0**
	comp=Z,25nm,0.7s,baz=49,slow=7.4,SNR=124							
BRVK	**Borovoye**	**60.31**	**319**			**P**	**17 27 39.2**	**+0.8**
SCHQ	**Schefferville**	**60.91**	**37**	P		**P**	**17 27 42.2**	**-0.3**
	comp=Z,4.0nm,0.7s,baz=304,slow=8.8,SNR=4.2							
	comp=Z,4.0nm,0.7s							
ARTI	**Arti**	**62.26**	**327**			**P**	**17 27 51.4**	**-0.1**
DAV	**Davao City (W)**	**62.31**	**245**	LR	LR		18 00 58.9	
	comp=Z,32nm,18.1s,baz=78,slow=42							
MIAR	**Mount Ida**	**62.31**	**69**	P		**P**	**17 27 51.8**	**-0.4**
HNR	**Honiara**	**62.63**	**202**	LR	LR		17 49 31.8	
	comp=Z,70nm,20.2s,baz=247,slow=31							
KIRV	**Kirov**	**63.25**	**333**	LR	LR		17 57 47.2	
	comp=Z,73nm,19.6s,baz=25,slow=38							
BORG	**Borgarnes**	**63.33**	**10**	LR	LR		17 57 22.6	
	comp=Z,41nm,18.3s,baz=339,slow=38							
T47A	**Sharon Grove**	**64.29**	**62**			**P**	**17 28 05.8**	**+0.5**
TARG	**Taragay, Kyrgy**	**65.11**	**306**	IAmb	IAmb		17 28 13.9	
	comp=Z,5.4nm,1.2s							
KDJ	**Kajisay**	**65.13**	**307**			**P**	**17 28 11.5**	**+0.5**
CLTN	**Cedars of Leba**	**65.36**	**63**	P		**P**	**17 28 12.1**	**-0.3**
CLTN				IAmb	IAmb		17 28 37.3	
	comp=Z,5.8nm,1.2s							
FINES	**FINESS Array B**	**65.73**	**346**	P		**P**	**17 28 13.2**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=12,slow=8.6,SNR=10							
FINES				LR	LR		17 59 42.5	
	comp=Z,38nm,19.6s,baz=29,slow=39							
	comp=Z,1.1nm,0.5s							
AAK	**Ala-Archa**	**66.09**	**309**	LR	LR		17 57 46.5	
	comp=Z,93nm,20.4s,baz=75,slow=37							
NRN	**Naryn**	**66.24**	**307**	IAmb	IAmb		17 28 21.7	
	comp=Z,3.2nm,0.8s							
KK31	**Karatay Array**	**67.66**	**311**			**P**	**17 28 27.4**	**+0.5**
KKAR	**Karatay Array**	**67.66**	**311**			**P**	**17 28 25.4**	**-1.6**
KSH	**Kashi**	**67.68**	**306**	P	P		17 28 31.8	+4.6
KSH				pmax	pmax			
	comp=Z,8.0nm,0.6s							
NB201	**NORSAR Array S**	**67.74**	**354**	P		**P**	**17 28 26.9**	**-0.3**
NB2	**NORSAR Subarra**	**67.75**	**354**	P		**P**	**17 28 27.1**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=8.6,slow=6.5							
NOA	**NORSAR Array B**	**67.75**	**354**	P		**P**	**17 28 26.9**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=2.4,slow=5.7,SNR=14							
NOA				LR	LR		17 59 34.5	
	comp=Z,23nm,19.1s,baz=75,slow=37							
	comp=Z,3.0nm,0.7s							
HFS	**Hagfors**	**68.46**	**352**	P		**P**	**17 28 30.9**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=26,slow=3.8,SNR=13							
	comp=Z,3.0nm,0.7s							
BELG	**Belogornoye**	**69.08**	**331**	LR	LR		18 01 52.2	
	comp=Z,79nm,19.2s,baz=305,slow=39							
TAOE	**Nuku Hiva Isla**	**69.25**	**137**	*e*LR	LR		17 49 26.0	
	comp=Z,120nm,22.4s							
CHTO	**Chiang Mai**	**69.59**	**275**	P		**P**	**17 28 39.1**	**-0.2**
CHTO				IAmb	IAmb		17 28 40.9	
	comp=Z,2.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**69.86**	**275**	P		**P**	**17 28 41.0**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=32,slow=6.9,SNR=18							
	comp=Z,2.0nm,0.6s							
PPT2	**Papeete2**	**73.67**	**149**	*e*LR	LR		17 51 25.7	
	comp=Z,115nm,24.5s							
PPT2				*e*LR	LR		17 51 27.6	
	comp=Z,138nm,30.0s							
DZM	**Mont Dzumac**	**73.78**	**192**	*e*LR	LR		17 51 23.6	
	comp=Z,138nm,26.6s							
EKA	**Eskdalemuir Ar**	**73.86**	**1**	P		**P**	**17 29 04.4**	**0.0**
	comp=Z,0.7nm,0.4s,baz=356,slow=5.2,SNR=6.2							
	comp=Z,0.7nm,0.4s							
RAR	**Rarotonga**	**74.36**	**160**	LR	LR		17 55 19.0	
	comp=Z,169nm,20.6s,baz=360,slow=30							
AKASG	**Malin Array Be**	**75.39**	**341**	P		**P**	**17 29 12.9**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=15,slow=3.7,SNR=7.1							
AKASG				LR	LR		18 06 02.4	
	comp=Z,71nm,20.9s,baz=24,slow=39							
	comp=Z,1.7nm,0.4s							
AKBB	**Malin Array Si**	**75.39**	**341**	P		**P**	**17 29 12.5**	**-0.8**
AK20	**Malin Array Si**	**75.39**	**341**	P		**P**	**17 29 12.4**	**-0.9**
KIEV	**Kiev**	**75.40**	**341**	P		**P**	**17 29 12.3**	**-1.0**
	comp=Z,21nm,0.8s							
AK18	**Malin Array Si**	**75.40**	**341**	P		**P**	**17 29 12.7**	**-0.7**
LUBAR	**Lubar, Ukraine**	**76.43**	**342**	P		**P**	**17 29 18.1**	**-1.1**
NDNU	**Novodnistrovsk**	**77.77**	**341**	P		**P**	**17 29 26.0**	**-0.8**
KMPD	**K-Podol'skiy**	**77.98**	**342**	P		**P**	**17 29 27.4**	**-0.5**
STNU	**Starunia**	**78.21**	**343**	P		**P**	**17 29 29.4**	**+0.2**
KBZ	**Khabaz**	**78.21**	**329**	P		**P**	**17 29 28.6**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=53,slow=5.1,SNR=4.1							
	comp=Z,1.4nm,0.5s							
KOLS	**Kolonicke sedl**	**78.38**	**345**	*e*P		**P**	**17 29 31.0**	**+0.8**
LANS	**Liptovska Anna**	**78.60**	**347**	*e*P		**P**	**17 29 32.8**	**+1.3**
VRAC	**Vranov**	**78.84**	**349**	LR	LR		18 08 37.6	
	comp=Z,36nm,18.1s,baz=22,slow=39							
TBI	**Tubuai**	**79.11**	**151**	*e*LR	LR		17 53 57.4	
	comp=Z,893nm,25.5s							
VYHS	**Vyhne**	**79.33**	**347**	*e*P		**P**	**17 29 37.8**	**+2.3**
GERES	**GERESS Array B**	**79.62**	**350**	P		**P**	**17 29 35.6**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=0.0,slow=4.0,SNR=4.9							
	comp=Z,0.4nm,0.6s							
WRA	**Warramunga Arr**	**81.04**	**222**	P		**P**	**17 29 44.1**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=33,slow=6.3,SNR=9.9							
	comp=Z,1.3nm,0.7s							
ASAR	**Alice Springs**	**84.53**	**221**	P		**P**	**17 30 03.2**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=23,slow=5.0,SNR=9.7							
	comp=Z,0.9nm,0.8s							
BRTR	**Keskin Array B**	**84.65**	**334**	P		**P**	**17 30 03.5**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=59,slow=3.2,SNR=14							
	comp=Z,2.3nm,0.7s							
ESDC	**Sonseca Array**	**89.51**	**3**	P		**P**	**17 30 25.5**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=342,slow=4.1,SNR=4.9							
	comp=Z,0.5nm,0.7s							
MMAI	**Mount Meron Ar**	**90.37**	**330**	LR	LR		18 15 13.3	
	comp=Z,32nm,20.2s,baz=60,slow=38							
EIL	**Elat**	**93.61**	**329**	LR	LR		18 19 53.8	
	comp=Z,52nm,18.7s,baz=64,slow=40							
H03N2	**Juan Fernandez**	**122.23**	**105**	T	T		19 50 43.8	
	baz=300,slow=78,SNR=6.4							
H03N1	**Juan Fernandez**	**122.24**	**105**	T	T		19 50 46.4	
	baz=300,slow=78,SNR=7.3							
H03N3	**Juan Fernandez**	**122.24**	**105**	T	T		19 50 46.3	
	baz=300,slow=78,SNR=17							
QSPA	**South Pole Qui**	**140.90**	**180**	PKP		**PKPdf**	**17 36 57.6**	**-0.9**
	comp=Z,15nm,0.7s,baz=12,slow=0.7,SNR=7.6							
MAW	**Mawson**	**145.58**	**217**	PKPbc		**PKPbc**	**17 37 07.2**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=92,slow=3.7,SNR=8.2							
BOSA	**Boshof**	**150.23**	**309**	PKPbc		**PKPbc**	**17 37 21.5**	**+0.6**
	comp=Z,5.3nm,0.6s,baz=43,slow=2.3,SNR=13							

*IDC **22** 17:26:46.9±1.9, 51.06N×179.40E, h0km, mb3.7/8, mbtmp3.8/11, ML1.6/1, MS3.4/4, Error ellipse: s-maj=55.3km s-min=17.2km az=5.0*
*NEIC **22** 17:26:51.4±0.9, 51.03N±0.07×179.26E±0.10, h25km±11km, mb3.7/30, ML3.7/12, ML3.1(AEIC), Error ellipse: s-maj=10.7km s-min=8.3km az=206.0*
*AEIC **22** 17:26:51.5±0.9, 51.05N±0.04×179.28E±0.10, h19km±5km, Error ellipse: s-maj=8.8km s-min=6.2km az=90.0*

ISC 22 17:26:49.6±2.2, 51.0N±0.1×179.2E±0.0, h18km±12km, n80, σ1.0 06/87, mb4.0/9, MS3.9/3, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.43**	**1**		**Pb**	**17 26 59.1**	**+0.5**
AMKA					**Sb**	**17 27 04.8**	**0.0**
CERB	**Semis' Cerberu**	**1.00**	**12**		**Pb**	**17 27 08.6**	**+0.1**
CERB					**Sb**	**17 27 20.9**	**-0.4**
CETU	**Semis' Tuman**	**1.02**	**7**		**Pb**	**17 27 08.8**	**+0.1**
CEPE	**Semis' Perret**	**1.04**	**12**		**Pb**	**17 27 09.0**	**-0.1**
CEAP	**Semis' Anvil P**	**1.07**	**9**		**Pb**	**17 27 09.4**	**-0.1**
CEAP					**Sn**	**17 27 23.6**	**-0.3**
LSSE	**Little Sitkin**	**1.08**	**335**		**Pb**	**17 27 09.6**	**-0.2**
LSPA	**Little Sitkin**	**1.10**	**336**		**Pb**	**17 27 09.9**	**-0.2**
LSPA					**Sn**	**17 27 24.1**	**-0.7**
LSNW	**Little Sitkin**	**1.13**	**335**		**Pb**	**17 27 10.0**	**-0.6**
GAKI	**Gareloi-Kavalg**	**1.33**	**62**		**Pn**	**17 27 13.1**	**-0.2**
GAKI					**Sn**	**17 27 31.4**	**+0.9**
GASW	**Gareloi Southw**	**1.43**	**54**		**Pn**	**17 27 14.6**	**+0.1**
GASW					**Sn**	**17 27 32.6**	**-0.2**
GALA	**Gareloi Lava P**	**1.46**	**55**		**Pn**	**17 27 15.5**	**+0.5**
GANO	**Gareloi North**	**1.48**	**53**		**Pn**	**17 27 16.1**	**+0.8**
GAEA	**Gareloi East**	**1.48**	**55**		**Pn**	**17 27 16.4**	**+1.0**
GAEA					**Sn**	**17 27 34.7**	**+0.4**
TANO	**Tanaga North**	**1.88**	**58**		**Pn**	**17 27 22.4**	**+1.5**
TASE	**Tanaga Southea**	**1.89**	**61**		**Pn**	**17 27 22.1**	**+1.1**
TASE					**Sn**	**17 27 45.9**	**+1.5**
TAPA	**Tanaga Point A**	**2.01**	**63**		**Pn**	**17 27 24.1**	**+1.5**
KIMD	**Kanaga Island**	**2.32**	**68**		**Pn**	**17 27 28.8**	**+2.0**
KIKV	**Kanaga Island**	**2.40**	**66**		**Pn**	**17 27 30.1**	**+2.1**
KIWB	**Kanaga Island**	**2.40**	**67**		**Pn**	**17 27 28.9**	**+0.9**
ADK	**Adak**	**2.69**	**68**		**Pn**	**17 27 32.9**	**+1.1**
ADK				IAML		17 28 17.3	
	264nm,0.6s						
ETKA	**Kagalaska Isla**	**2.84**	**70**		**Pn**	**17 27 35.5**	**+1.5**
GSTD	**Great Sitkin T**	**3.06**	**67**		**Pn**	**17 27 38.6**	**+1.6**
GSMY	**Great Sitkin M**	**3.10**	**68**		**Pn**	**17 27 39.2**	**+1.6**
GSTR	**Great Sitkin T**	**3.12**	**67**	Pn	**Pn**	**17 27 39.0**	**+1.1**
GSTR				IAML		17 28 40.5	
	comp=E,298nm,0.9s						
GSIG	**Igitkin Island**	**3.16**	**69**		**Pn**	**17 27 40.0**	**+1.5**
SHEM	**Shemya Is, Ala**	**3.68**	**301**		**Pn**	**17 27 45.8**	**+0.2**
SHEM				IAML		17 28 40.8	
	comp=E,146nm,0.8s						
SHEM				IAML		17 28 43.4	
	comp=N,112nm,0.8s						
SHEM	**Shemya Is, Ala**	**3.68**	**301**	Pn	**Pn**	**17 27 44.8**	**-0.7**
	comp=N,28nm,0.4s,baz=91,slow=2.6,SNR=18						
SHEM				Sn	**Sn**	**17 28 31.9**	**+3.5**
	comp=N,14nm,0.3s,baz=277,slow=23,SNR=12						
SHEM				LR	LR	17 29 21.1	
	comp=N,123nm,19.2s,baz=288,slow=42						
SMY	**Shemya**	**3.68**	**301**		**Pn**	**17 27 45.8**	**+0.3**
ATKA	**Atka Island**	**4.25**	**70**		**Pn**	**17 27 53.3**	**0.0**
ATKA				IAML		17 28 59.8	
	comp=N,82nm,1.0s						
ATKA				IAML		17 29 01.5	
	comp=E,69nm,0.7s						
NIKH	**Nikolski High**	**7.60**	**70**	Pn	**Pn**	**17 28 40.1**	**+0.8**
P08K	**Saint George I**	**8.69**	**45**	Pn	**Pn**	**17 28 54.6**	**+0.3**
SPIA	**Saint Paul Isl**	**8.75**	**41**	Pn	**Pn**	**17 28 58.5**	**+3.5**
SDPT	**Sand Point**	**12.90**	**62**	Pn	**Pn**	**17 29 50.1**	**-1.7**
CNBA	**Chernabura Isl**	**13.31**	**65**	Pn	**Pn**	**17 29 57.2**	**-0.2**
PETK	**Petropavlovsk-**	**13.46**	**288**	Pn	**Pn**	**17 29 59.5**	**0.0**
	baz=89,slow=18,SNR=1.7						
	comp=E,2.2nm,1.1s						
O14K	**Tigyukauivet M**	**13.85**	**46**	Pn	**Pn**	**17 30 06.8**	**+2.2**
N15K	**Kwethluk River**	**14.81**	**44**	Pn	**Pn**	**17 30 17.8**	**0.0**
K15K	**Wolf Creek Mou**	**15.43**	**35**	P	**P**	**17 30 30.7**	**+0.2**
O16K	**Kokwok River B**	**15.45**	**47**	P	**P**	**17 30 31.1**	**+0.4**
O16K				IAmb	IAmb	17 30 41.6	
	comp=Z,6.5nm,1.2s						
PLK4	**Peulik 4**	**15.65**	**55**	Pn	**Pn**	**17 30 29.1**	**0.0**
M16K	**Timber Creek**	**15.72**	**42**	P	**P**	**17 30 34.8**	**+1.1**
M16K				IAmb	IAmb	17 30 36.3	
	comp=Z,9.5nm,1.4s						
L16K	**Owhat River**	**15.87**	**39**	P	**P**	**17 30 35.5**	**+0.1**
N17K	**Nushagak Hills**	**16.26**	**45**	P	**P**	**17 30 40.4**	**+0.7**
M17K	**Holitna River**	**16.55**	**42**	P	**P**	**17 30 43.9**	**+1.0**
M17K				IAmb	IAmb	17 30 46.8	
	comp=Z,9.0nm,1.3s						
K17K	**Iditarod**	**16.89**	**37**	P	**Pn**	**17 30 46.2**	**+1.5**
K17K				IAmb	IAmb	17 31 22.5	
	comp=Z,9.2nm,1.4s						
N18K	**Kilae Creek**	**16.90**	**45**	P	**P**	**17 30 47.5**	**+0.6**
J17K	**VABM Dome**	**17.00**	**35**	P	**P**	**17 30 48.9**	**+1.1**
J17K				IAmb	IAmb	17 31 22.6	
	comp=Z,10nm,1.4s						
L18K	**Granite Mounta**	**17.26**	**40**	P	**P**	**17 30 51.2**	**+0.4**
L18K				IAmb	IAmb	17 30 53.8	
	comp=Z,5.4nm,1.3s						
N19K	**Bonanza Creek**	**17.59**	**46**		**Pn**	**17 30 54.2**	**+0.7**
KDAK	**Kodiak Island**	**17.66**	**56**	P	**Pn**	**17 30 51.8**	**-2.5**
	comp=Z,1.6nm,0.3s,baz=190,slow=1.9,SNR=28						
H17K	**Granite Mounta**	**17.70**	**30**		**Pn**	**17 30 55.6**	**+0.8**
H17K				IAmb	IAmb	17 31 30.2	
	comp=Z,7.7nm,1.3s						
J18K	**Innoko River**	**17.90**	**36**		**Pn**	**17 30 58.2**	**+0.9**
L19K	**White Mountain**	**18.00**	**41**	Pn	**Pn**	**17 30 57.8**	**-0.8**
H18K	**Honhosa River**	**18.34**	**31**		**P**	**17 31 03.6**	**+0.9**
J19K	**Poorman**	**18.60**	**36**	P	**P**	**17 31 06.2**	**+0.6**
J19K				IAmb	IAmb	17 31 09.9	
	comp=Z,5.7nm,1.2s						
CNPM	**China Poot**	**18.73**	**51**	P	**P**	**17 31 08.0**	**+1.0**
G18K	**Tagagawik**	**18.74**	**29**	P	**Pn**	**17 31 08.3**	**+0.7**
G18K				IAmb	IAmb	17 31 08.7	
	comp=Z,5.0nm,1.2s						
K20K	**Telida**	**18.87**	**39**	P	**P**	**17 31 08.5**	**0.0**
SKT	**Skwentna**	**19.34**	**44**	P	**P**	**17 31 14.2**	**+0.5**
SKT				IAmb	IAmb	17 31 16.1	
	comp=Z,5.8nm,1.2s						
F19K	**Shaleruckik Mo**	**19.64**	**27**	P	**P**	**17 31 17.5**	**+0.6**
F19K				IAmb	IAmb	17 31 23.6	
	comp=Z,3.7nm,0.9s						
CAST	**Castle Rocks**	**19.69**	**40**	P	**P**	**17 31 17.8**	**+0.3**
CAST				IAmb	IAmb	17 31 19.3	
	comp=Z,5.1nm,1.3s						
KTH	**Kantishna Hill**	**20.22**	**40**	P	**P**	**17 31 23.8**	**+0.5**
KTH				IAmb	IAmb	17 31 31.0	
	comp=Z,3.8nm,0.9s						
E19K	**Redstone River**	**20.22**	**26**	P	**P**	**17 31 23.6**	**+0.4**
IMAR	**Indian Mountai**	**20.37**	**32**	P	**P**	**17 31 25.4**	**+0.6**
F20K	**Avaraart Lake**	**20.39**	**28**	P	**P**	**17 31 25.4**	**+0.4**
F20K				IAmb	IAmb	17 31 26.7	
	comp=Z,5.7nm,1.4s						
BPAW	**Bear Paw Mtn.**	**20.43**	**39**	P	**P**	**17 31 26.3**	**+0.7**
BPAW				IAmb	IAmb	17 31 26.4	
	comp=Z,5.8nm,1.5s						
RND	**Reind

YUK					A	A	17 42 06.7		
	comp=N,940nm,0.3s								
YUK					A	A	17 42 06.7		
	comp=N,1μm,0.3s								
GLVR	**Golovnino**	**2.23**	**295**	*e*PN	**Pb**		**17 41 34.4**	**-1.2**	
GLVR				*e*S	**Sb**		**17 42 04.3**	**+1.5**	
GLVR				pmax	pmax				
	comp=N,62nm,0.1s								
GLVR				pmax	pmax				
	comp=E,77nm,0.1s								
GLVR				pmax	pmax				
	comp=Z,439nm,0.1s								
GLVR				smax	smax				
	comp=N,2μm,0.3s								
GLVR				smax	smax				
	comp=E,2μm,0.3s								
GLVR	**Golovnino**	**2.23**	**295**	*e*P	**Pb**		**17 41 34.4**	**-1.2**	
GLVR				AMB	AMB		17 41 35.0		
	comp=E,440nm,0.3s								
GLVR				*e*S	**Sb**		**17 42 04.3**	**+1.5**	
GLVR				A	A		17 42 10.7		
	comp=E,2μm,0.3s								
GLVR				A	A		17 42 10.7		
	comp=E,2μm,0.3s								
KUR	**Kuril'sk**	**2.43**	**353**	*d i*PN	**Pn**		**17 41 29.7**	**-3.7**	
KUR				pmax	pmax				
	comp=Z,499nm,0.3s								
KUR				pmax	pmax				
	comp=N,141nm,0.2s								
KUR				pmax	pmax				
	comp=E,104nm,0.4s								
KUR	**Kuril'sk**	**2.43**	**353**	*i*P	**Pn**		**17 41 30.5**	**-2.9**	
KUR				AMB	AMB		17 41 31.1		
	comp=E,500nm,0.3s								
KUR				*e*S	**Sn**		**17 41 57.8**	**-4.2**	
KUR				A	A		17 42 00.8		
	comp=E,550nm,0.5s								
KUR				A	A		17 42 00.8		
	comp=E,2μm,0.5s								
AKK	**Akkeshi**	**2.54**	**276**	*e*P	**Pb**		**17 41 39.9**	**-1.1**	
RUSJ	**Misakicho**	**2.56**	**301**	*e*PN	**Pb**		**17 41 39.0**	**-2.3**	
RUSJ				*e*S	**Sb**		**17 42 13.1**	**+0.7**	
JRA	**Rausu**	**2.57**	**297**	*i*P	**Pb**		**17 41 39.2**	**-2.3**	
JAK	**Akkeshi**	**2.65**	**275**	*i*P	**Pb**		**17 41 41.6**	**-1.2**	
JAK				*e*S	**Sb**		**17 42 16.7**	**+1.8**	
JNK	**Nakash**	**2.73**	**288**	*i*P	**Pb**		**17 41 41.5**	**-2.6**	
JNK				S	**Sb**		**17 42 17.1**	**0.0**	
JOB	**Onbets**	**3.28**	**273**	P	**Pb**		**17 41 50.5**	**-3.0**	
JAR	**Ashorobuto**	**3.35**	**280**	*i*P	**Pb**		**17 41 51.2**	**-3.5**	
JAR				*e*S	**Sb**		**17 42 33.8**	**-1.2**	
JTKR	**Abashiri--Toko**	**3.40**	**291**	*i*P	**Pb**		**17 41 51.8**	**-3.7**	
JTKR				*e*S	**Sb**		**17 42 35.3**	**-1.1**	
JCH	**Churui**	**3.64**	**268**	P	**Pb**		**17 41 55.8**	**-3.9**	
JCH				*e*S	**Sb**		**17 42 42.2**	**-1.1**	
ERM	**Erimo**	**3.89**	**260**	P	**Pb**		**17 42 00.6**	**-3.3**	
ERM	**Erimo**	**3.89**	**260**	*ce*PN	**Pb**		**17 42 00.7**	**-3.2**	
ERM				pmax	pmax				
	comp=Z,312nm,0.8s								
JNBK	**Urakawa-nobuka**	**4.13**	**264**	*e*P	Pb		17 42 02.3	-5.7	
JKK2	**Kamakawa 2**	**4.18**	**286**	P	Pb		17 42 03.4	-5.5	
JKA	**Kamikawa-asahi**	**4.34**	**289**		Pb		17 42 05.6	-6.0	
JKA	**Kamikawa-asahi**	**4.34**	**289**	*e*P	Pb		17 42 05.6	-6.0	
ASAJ	**Asahikawa**	**4.35**	**289**	P	Pb		17 42 05.6	-6.1	
	comp=Z,36nm,0.6s,baz=133,slow=7.1,SNR=62								
ASAJ				S	**Sb**		**17 42 56.8**	**-6.8**	
	comp=Z,36nm,0.6s,baz=29,slow=27,SNR=3.9								
JAB	**Ashibetsu**	**4.50**	**281**	P	Pb		17 42 08.9	-5.3	
JAB				*e*S	**Sb**		**17 43 05.2**	**-2.7**	
JWK2	**Keihoku**	**5.24**	**301**	*e*P	Pn		17 42 18.0	+6.1	
JTH	**Tanohata**	**5.63**	**241**	*e*P	**Pn**		**17 42 21.1**	**+3.7**	
JANG	**Nango**	**5.64**	**247**	P	**Pn**		**17 42 21.7**	**+4.3**	
YSS	**Yuzhno-Sakhali**	**5.71**	**318**		**Pn**		**17 42 19.3**	**+0.9**	
YSS	**Yuzhno-Sakhali**	**5.71**	**318**	*e*PN	**Pn**		**17 42 20.0**	**+1.6**	
YSS				pmax	pmax				
	comp=Z,10.0nm,0.7s								
YSS	**Yuzhno-Sakhali**	**5.71**	**318**	*e*P	**Pn**		**17 42 20.0**	**+1.6**	
YSS				*e*S	**Sn**		**17 43 23.3**	**+0.6**	
JTM	**Tenmabayashi**	**5.77**	**252**	Pn	**Pn**		**17 42 23.2**	**+4.0**	
JRBN	**Rebuntou**	**5.82**	**299**	*e*P	Pn		17 42 24.9	+5.0	
JMM	**Marumori**	**7.57**	**232**	Pn	**Pn**		**17 42 45.8**	**+1.9**	
TYV	**Tymovskoe**	**8.92**	**336**	*e*PN	**Pn**		**17 43 05.1**	**+2.6**	
TYV				pmax	pmax				
	comp=Z,100nm,2.9s								
TYV				pmax	pmax				
	comp=Z,10.0nm,1.3s								
TYV	**Tymovskoe**	**8.92**	**336**	*e*P	**Pn**		**17 43 03.1**	**+0.6**	
TYV				*e*S	**Sn**		**17 44 39.3**	**-2.4**	
MJA0	**Matsu Arr-Jizo**	**9.96**	**234**	*e*PN	Pn		17 43 22.6	+5.8	
MAJO	**Matsushiro**	**9.98**	**234**		**Pn**		**17 43 17.5**	**+0.4**	
MAJO	**Matsushiro**	**9.98**	**234**	*i* PN	**Pn**		**17 43 21.6**	**+4.5**	
MJAR	**Matsushiro Arr**	**9.98**	**234**	Pn	**Pn**		**17 43 18.5**	**+1.4**	
MJAR	**Matsushiro Arr**	**9.98**	**234**	P	**Pn**		**17 43 21.1**	**+4.0**	
	comp=Z,1.4nm,0.6s,baz=21,slow=13,SNR=7.6								
MJAR				S	**Sn**		**17 45 09.6**	**+1.7**	
	comp=Z,1.1nm,0.6s,baz=15,slow=19,SNR=1.6								
MJB9	**Matsu-Tunnel**	**9.98**	**234**		**Pn**		**17 43 18.6**	**+1.5**	
JGF	**Kuroka**	**11.13**	**233**	Pn	**Pn**		**17 43 33.3**	**+0.5**	
USRK	**Ussuriysk Ar.**	**11.93**	**282**	P	Pn		17 43 48.5	+5.0	
	comp=Z,2.1nm,0.5s,baz=82,slow=13,SNR=5.2								
PETK	**Petropavlovsk-**	**12.06**	**28**	LR	LR		17 49 31.6		
	comp=Z,22nm,21.1s,baz=208,slow=42								
YAK	**Yakutsk**	**22.18**	**337**	LR	LR		17 54 52.9		
	comp=Z,45nm,18.2s,baz=142,slow=37								
YAK	**Yakutsk**	**22.18**	**337**	*e*P	**P**		**17 45 42.7**	**-6.3**	
YAK				pmax	pmax				
	comp=Z,6.0nm,0.6s								
YAK				pmax	pmax				
	comp=N,3.0nm,1.4s								
YAK				pmax	pmax				
	comp=E,3.0nm,1.4s								
H11N2	**WAKE ISLAND Hy**	**27.85**	**140**	T	T		18 16 04.9		
	baz=332								
H11N1	**WAKE ISLAND Hy**	**27.86**	**140**	T	T		18 16 24.4		
	baz=332								
H11N3	**WAKE ISLAND Hy**	**27.87**	**140**	T	T		18 16 01.5		
	baz=332								
H11S1	**WAKE ISLAND Hy**	**28.82**	**142**	T	T		18 16 54.2		
	baz=333,slow=76								
H11S3	**WAKE ISLAND Hy**	**28.82**	**142**	T	T		18 17 14.3		
	baz=333,slow=76								
H11S2	**WAKE ISLAND Hy**	**28.84**	**142**	T	T		18 17 10.4		
	baz=333,slow=76								
ULN	**Ulaanbaatar**	**29.17**	**294**	*i*P	**P**		**17 46 54.9**	**+0.7**	
ULN				pmax	pmax				
	comp=Z,1.0nm,1.0s								
ULN	**Ulaanbaatar**	**29.17**	**294**	*e*P	**P**		**17 46 54.9**	**+0.7**	
SONM	**Songino Array**	**29.61**	**294**	P	**P**		**17 46 57.8**	**-0.3**	
	comp=Z,0.8nm,0.8s,baz=86,slow=8.8,SNR=6.7								
	comp=Z,0.8nm,0.8s								
L18K	**Granite Mounta**	**37.26**	**39**	P	**P**		**17 48 06.6**	**+2.4**	
L18K				IAmb	IAmb		17 48 37.9		
	comp=E,6.2nm,1.4s								
J18K	**Innoko River**	**37.38**	**37**	P	**P**		**17 48 07.1**	**+1.9**	
N18K	**Kilae Creek**	**37.53**	**42**	P	**P**		**17 48 08.6**	**+2.0**	
H19K	**Roundabout Mou**	**37.78**	**34**	P	**P**		**17 48 11.2**	**+2.7**	
H19K				IAmb	IAmb		17 48 27.8		
	comp=Z,3.6nm,0.8s								
J19K	**Poorman**	**37.92**	**37**	P	**P**		**17 48 11.8**	**+2.0**	
J19K				IAmb	IAmb		17 48 12.7		
	comp=Z,3.5nm,0.9s								
M20K	**Styx River**	**38.91**	**40**	P	**P**		**17 48 20.9**	**+2.7**	
CAST	**Castle Rocks**	**39.45**	**38**	P	**P**		**17 48 25.2**	**+2.6**	
E22K	**Anaktuvuk Pass**	**39.99**	**30**	P	**P**		**17 48 29.4**	**+2.3**	
SCM	**Sheep Creek Mo**	**41.66**	**40**	P	**P**		**17 48 42.9**	**+2.0**	
SCM				IAmb	IAmb		17 48 43.7		
	comp=Z,4.2nm,0.7s								
SCM	**Sheep Creek Mo**	**41.66**	**40**	P	**P**		**17 48 42.9**	**+2.0**	
SCM				pmax	pmax				
	comp=Z,4.0nm,0.7s								
ILAR	**Eielson Array**	**41.75**	**36**	P	**P**		**17 48 42.6**	**+1.0**	
	comp=Z,0.4nm,0.7s,baz=268,slow=8.8,SNR=4.0								
	comp=Z,0.4nm,0.7s								
ZALV	**Zalesovo Beam**	**42.23**	**308**	P	**P**		**17 48 45.9**	**+0.3**	
	comp=Z,0.5nm,0.4s,baz=92,slow=13,SNR=1.9								
	comp=Z,0.5nm,0.4s								
M26K	**Nabesna, AK**	**43.64**	**39**	P	**P**		**17 48 60.0**	**+3.0**	
M26K				IAmb	IAmb		17 49 00.9		
	comp=Z,4.2nm,0.8s								
L27K	**Beaver Creek,**	**44.09**	**38**	P	**P**		**17 49 03.7**	**+3.1**	
L27K				IAmb	IAmb		17 49 04.4		
	comp=Z,2.2nm,0.8s								
MK31	**Makanchi Array**	**45.76**	**299**	*i* P	**P**		**17 49 12.0**	**-2.1**	
MKAR	**Makanchi Array**	**45.76**	**299**		**P**		**17 49 16.3**	**+2.2**	
MKAR	**Makanchi Array**	**45.76**	**299**	P	**P**		**17 49 15.3**	**+1.3**	
	comp=Z,1.7nm,0.7s,baz=77,slow=8.2,SNR=16								
	comp=Z,1.7nm,0.7s								
MKAR	**Makanchi Array**	**45.76**	**299**	*e*P	**P**		**17 49 17.3**	**+3.2**	
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MKAR	**Makanchi Array**	**45.76**	**299**	*e*P	**P**		**17 49 17.3**	**+3.2**	
KURK	**Kurchatov**	**46.75**	**305**	P	**P**		**17 49 22.6**	**+0.9**	
KURK	**Kurchatov**	**46.75**	**305**	*e*P	**P**		**17 49 22.6**	**+0.9**	
KURBB	**Kurchatov Arra**	**46.83**	**305**	P	**P**		**17 49 22.6**	**+0.2**	
	comp=Z,1.5nm,0.5s,baz=70,slow=8.6,SNR=5.8								
	comp=Z,1.5nm,0.5s								
KK31	**Karatay Array**	**54.89**	**299**	P	**P**		**17 50 24.8**	**+1.6**	
KK31				IAmb	IAmb		17 50 30.5		
	comp=Z,1.9nm,0.8s								
KK31	**Karatay Array**	**54.89**	**299**	P	**P**		**17 50 24.8**	**+1.6**	
KK31				pmax	pmax				
	comp=Z,2.0nm,0.8s								
KKAR	**Karatay Array**	**54.89**	**299**	P	**P**		**17 50 23.3**	**+0.1**	
KKAR	**Karatay Array**	**54.89**	**299**	P	**P**		**17 50 23.3**	**+0.1**	
ARTI	**Arti**	**55.70**	**318**		**P**		**17 50 29.1**	**+0.3**	
ARTI				IAmb	IAmb		17 50 30.2		
	comp=Z,6.9nm,0.9s								
ARTI	**Arti**	**55.70**	**318**	*d i*P	**P**		**17 50 29.3**	**+0.5**	
ARTI				S	**S**		**17 58 12.4**	**-0.2**	
ARTI				SS	**SS**		**18 01 58.7**	**+1.1**	
ARTI				pmax	pmax				
	comp=Z,5.0nm,0.9s								
WRA	**Warramunga Arr**	**63.76**	**195**	P	**P**		**17 51 22.4**	**-2.1**	
	comp=Z,2.8nm,0.7s,baz=16,slow=6.9,SNR=25								
	comp=Z,2.8nm,0.7s								
FINES	**FINESS Array B**	**66.08**	**334**	P	**P**		**17 51 38.9**	**-0.3**	
	comp=Z,1.4nm,0.5s,baz=41,slow=7.6,SNR=17								
	comp=Z,1.4nm,0.5s								
FINES	**FINESS Array B**	**66.08**	**334**	*e*P	**P**		**17 51 39.4**	**+0.2**	
FINES				pmax	pmax				
	comp=Z,1.0nm,0.5s								
OBN	**Obninsk**	**66.56**	**324**	*e*P	**P**		**17 51 41.9**	**-0.4**	
OBN				*e*			17 52 08.3		
OBN				*e*			17 54 07.7		
OBN				pmax	pmax				
	comp=Z,3.0nm,0.7s								
OBN				MLR	MLR				
	comp=Z,31nm,17.0s								
OBN	**Obninsk**	**66.56**	**324**	*e*P	**P**		**17 51 41.9**	**-0.4**	
ASAR	**Alice Springs**	**67.47**	**194**	P	**P**		**17 51 46.9**	**-1.6**	
	comp=Z,1.6nm,0.7s,baz=12,slow=5.7,SNR=24								
	comp=Z,1.6nm,0.7s								
FRB	**Frobisher Bay**	**69.84**	**17**	LR	LR		18 25 44.5		
	comp=Z,30nm,19.6s,baz=226,slow=38								
NB2	**NORSAR Subarra**	**70.77**	**339**	P	**P**		**17 52 09.5**	**+0.9**	
	comp=Z,0.5nm,0.6s,baz=34,slow=7.4								
NOA	**NORSAR Array B**	**70.77**	**339**	P	**P**		**17 52 09.1**	**+0.5**	
	comp=Z,0.5nm,0.7s,baz=29,slow=6.5,SNR=4.1								
	comp=Z,0.5nm,0.7s								
HFS	**Hagfors**	**70.87**	**338**	P	**P**		**17 52 08.0**	**-1.1**	
	comp=Z,1.0nm,0.8s,baz=67,slow=11,SNR=1.4								
	comp=Z,1.0nm,0.8s								
KIV	**Kislovodsk**	**71.01**	**313**	*e*P	P		17 52 06.3	-4.1	
KIV				pmax	pmax				
	comp=Z,3.0nm,1.1s								
KBZ	**Khabaz**	**71.04**	**312**	*i* P	**P**		**17 52 09.6**	**-0.8**	
KBZ				pmax	pmax				
	comp=Z,1.0nm,1.0s								
KBZ	**Khabaz**	**71.04**	**312**	*e*P	**P**		**17 52 09.6**	**-0.8**	
AKASG	**Malin Array Be**	**72.82**	**324**	P	**P**		**17 52 22.4**	**+1.4**	
	comp=Z,0.9nm,0.7s,baz=37,slow=6.6,SNR=4.0								
	comp=Z,0.9nm,0.7s								

GCMT 22 17:41:06.0±0.5, **4°.01S**±0°.02×**104°.32W**±0°.02, **h12**km, **MW4.8**/80, **Moment Tensor Solution. s8,c8; s80,c96; Duration: 0 Moment tensor: Scale** 10^{16}**Nm;** M_{rr}-0.06±.07; $M_{\theta\theta}$-0.03±.07; $M_{\phi\phi}$0.09±.08; $M_{r\theta}$0.05±.21; $M_{\theta\phi}$1.54±.05; $M_{\phi r}$-1.07±.20; **Best double couple:** $M_0$1.87800×10^{16} **NP1:**ϕ_s268.00000°,δ55.00000°, λ-2.00000°. **NP2:**ϕ_s359.00000°,δ88.00000°, λ-145.00000°. **Principal axes:** T 1.8790, Plg23.0000°, Azm128.0000°; N -0.0020, Plg55.0000°, Azm2.0000°; P -1.8770, Plg25.0000°, Azm230.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Central East Pacific Rise**

TIF ***22*** *18:00:47.9,42°.51N×43°.48E,h13km*
IDC ***22*** *18:00:47.2±0.7,42°.47N×43°.34E,h0km,mb3.5/6, mbtmp3.7/10,ML3.6/4,MS3.2/7,Error ellipse: s-maj=12.7km s-min=7.1km az=71.0*
MOS ***22*** *18:00:47.2,42°.50N×43°.46E,h9km,MPVA4.5*
NORS ***22*** *18:00:48.1,42°.46N×43°.38E,h2km,MPVA4.5*
ISC 22 18:00:48.1±1.0, **42°.47N**±0°.01×**43°.44E**±0°.01, **h5**km±7km, **n129,σ1§16/220,mb3.4/6,MS3.1/4,3C-3D,Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GARIG	**Gari**	**0.14**	**9**	P		**Pg**	**18 00 51.4**	**+0.4**
GARIG				S		**Sg**	**18 00 53.5**	**+0.7**
TKB	**Tkibuli**	**0.35**	**251**	P		**Pb**	**18 00 56.6**	**-0.2**
TKB				S		**Sb**	**18 01 02.9**	**+0.3**
TKB	**Tkibuli**	**0.35**	**251**	*e*Pg		**Pb**	**18 00 56.6**	**-0.2**
TKB				*e*Sg		**Sb**	**18 01 02.9**	**+0.3**
TKB	**Tkibuli**	**0.35**	**251**	PG		**Pb**	**18 00 56.6**	**-0.2**
TKB				S		**Sb**	**18 01 02.9**	**+0.3**
DIGR	**Digorskoe uzhe**	**0.45**	**14**	*i* Pg		**Pg**	**18 00 56.2**	**-0.5**
DIGR				*e*Sg		**Sg**	**18 01 02.3**	**-0.3**
DIGR	**Digorskoe uzhe**	**0.45**	**14**	||*i*PG		**Pg**	**18 00 56.2**	**-0.5**
LACR	**Lac**	**0.73**	**60**	*i* Pg		**Pg**	**18 01 01.5**	**-0.6**
LACR				*e*Sg		**Sg**	**18 01 11.6**	**0.0**
LACR	**Lac**	**0.73**	**60**	||*i*PG		**Pg**	**18 01 01.5**	**-0.6**
LACR				*e*S		**Sg**	**18 01 11.6**	**0.0**
KORR	**Kora**	**0.77**	**37**	*i* Pg		**Pg**	**18 01 02.7**	**-0.3**
KORR				*e*Sg		**Sg**	**18 01 13.0**	**0.0**
KORR	**Kora**	**0.77**	**37**	*e*PG		**Pg**	**18 01 02.8**	**-0.1**
KORR				*e*S		**Sb**	**18 01 14.6**	**-0.3**
LSNR	**Lesken**	**0.86**	**19**	*e*Pg		**Pg**	**18 01 04.3**	**-0.3**
LSNR				*e*Sg		**Sb**	**18 01 16.6**	**-0.8**
LSNR	**Lesken**	**0.86**	**19**	||*e*PG		**Pg**	**18 01 04.3**	**-0.3**
LSNR				*e*S		**Sb**	**18 01 16.6**	**-0.8**
NEUR	**Neytrino**	**0.96**	**326**	*e*Pg		Pg	18 00 56.0	-11
STDR	**Stavd-Durt**	**1.01**	**27**	*e*Pg		**Pn**	**18 01 07.9**	**-0.1**
STDR				*e*Sg		**Sn**	**18 01 22.3**	**-1.2**
STDR	**Stavd-Durt**	**1.01**	**27**	*e*PG		**Pn**	**18 01 08.4**	**-0.5**
STDR				*e*S		**Sn**	**18 01 23.3**	**-0.3**
NCK	**Nalchik**	**1.03**	**6**	*e*PG		**Pb**	**18 01 08.3**	**-0.2**
NCK				*e*S		**Sn**	**18 01 23.1**	**-1.0**
TRLG	**Trialeti**	**1.05**	**152**	P		**Pb**	**18 01 08.8**	**0.0**
TRLG				S		**Sn**	**18 01 23.7**	**-1.0**
TRLG	**Trialeti**	**1.05**	**152**	PG		**Pb**	**18 01 08.8**	**0.0**
TRLG				S		**Sn**	**18 01 23.7**	**-1.0**
AKH	**Akhalkalaki**	**1.06**	**178**	P		**Pn**	**18 01 09.2**	**-0.5**
AKH				S		**Sn**	**18 01 24.6**	**-0.2**
AKH	**Akhalkalaki**	**1.06**	**178**	*e*Pg		**Pn**	**18 01 09.2**	**-0.5**
AKH				*e*Sg		**Sn**	**18 01 24.8**	**-0.1**
AKH	**Akhalkalaki**	**1.06**	**178**	PG		**Pn**	**18 01 09.2**	**-0.5**
AKH				S		**Sn**	**18 01 24.6**	**-0.2**
VLKR	**Vladikavkaz**	**1.08**	**57**	*e*Pg		**Pb**	**18 01 09.2**	**-0.1**
VLKR				*e*Sg		**Sn**	**18 01 25.4**	**+0.1**
VLKR	**Vladikavkaz**	**1.08**	**57**	*e*PG		**Pn**	**18 01 09.7**	**-0.2**
VLKR				*e*S		**Sn**	**18 01 25.4**	**+0.1**
KMGR	**Komgaron**	**1.21**	**60**	*e*PG		**Pg**	**18 01 11.9**	**+0.7**
KMGR				*e*S		**Sn**	**18 01 28.0**	**-0.4**
BGD	**Bogdanovka**	**1.21**	**174**	P		**Pg**	**18 01 11.7**	**+0.5**
BGD				S		**Sn**	**18 01 29.6**	**+1.0**
BGD	**Bogdanovka**	**1.21**	**174**	*e*Pg		**Pg**	**18 01 11.7**	**+0.5**
BGD				*e*Sg		**Sn**	**18 01 29.6**	**+1.0**
BGD	**Bogdanovka**	**1.21**	**174**	PG		**Pg**	**18 01 11.7**	**+0.5**
BGD				S		**Sn**	**18 01 29.6**	**+1.0**
TBLG	**Delisi**	**1.22**	**127**	P		**Pn**	**18 01 11.2**	**-0.5**
TBLG				S		**Sn**	**18 01 28.5**	**0.0**
TBLG	**Delisi**	**1.22**	**127**	PG		**Pn**	**18 01 11.2**	**-0.5**
TBLG				S		**Sn**	**18 01 28.5**	**0.0**
BTKR	**Batakoyurt**	**1.22**	**41**	*e*Pg		**Pg**	**18 01 12.7**	**+1.3**
BTKR				*e*Sg		**Sn**	**18 01 29.4**	**+0.8**
BTKR	**Batakoyurt**	**1.22**	**41**	*e*PG		**Pg**	**18 01 12.7**	**+1.3**
BTKR				*e*S		**Sn**	**18 01 29.4**	**+0.8**
SEAG	**Tbilisi Sea**	**1.23**	**124**	P		**Pb**	**18 01 11.9**	**0.0**
SEAG				S		**Sn**	**18 01 29.3**	**+0.2**
SEAG	**Tbilisi Sea**	**1.23**	**124**	*e*Pg		**Pb**	**18 01 11.9**	**0.0**
SEAG				*e*Sg		**Sn**	**18 01 29.3**	**+0.2**
SEAG	**Tbilisi Sea**	**1.23**	**124**	PG		**Pb**	**18 01 11.9**	**0.0**
SEAG				S		**Sn**	**18 01 29.3**	**+0.2**
BTNK	**Botanikuri**	**1.28**	**127**	PG		**Pn**	**18 01 12.3**	**-0.3**
BTNK				S		**Sg**	**18 01 30.4**	**+1.2**
KZRT	**Kazreti**	**1.29**	**146**	P		**Pn**	**18 01 10.9**	**-1.9**
KZRT				S		**Sb**	**18 01 28.8**	**-1.1**
KZRT	**Kazreti**	**1.29**	**146**	PG		**Pn**	**18 01 10.9**	**-1.9**
KZRT				S		**Sb**	**18 01 28.8**	**-1.1**
KBZ	**Khabaz**	**1.32**	**343**	Pg		**Pn**	**18 01 12.6**	**-0.6**
	15nm,0.3s,baz=176,slow=6.7,SNR=138							
KBZ				Lg		Lg	18 01 29.3	
	22nm,0.3s,baz=2.1,slow=13,SNR=16							
KBZ	**Khabaz**	**1.32**	**343**	*i* PG		**Pn**	**18 01 10.9**	**-2.3**
KBTC	**Kuba-Taba**	**1.35**	**359**	*e*PG		**Pg**	**18 01 14.0**	**0.0**
KBTC				*e*S		**Sg**	**18 01 33.5**	**+2.0**
SHA1	**Shidzhatmaz**	**1.39**	**336**	*e*PG		**Pb**	**18 01 14.3**	**-0.4**
SHA1				*e*S		**Sg**	**18 01 33.1**	**+0.2**
PRTR	**Priterechnaya**	**1.43**	**25**	*i* Pg		**Pg**	**18 01 15.7**	**+0.3**
PRTR				*e*Sg		**Sg**	**18 01 35.8**	**+1.9**
PRTR	**Priterechnaya**	**1.43**	**25**	*e*PG		**Pg**	**18 01 16.2**	**+0.8**
PRTR				*e*S		**Sg**	**18 01 36.9**	**+3.0**
BATM	**Batumi**	**1.56**	**237**	P		**Pb**	**18 01 16.9**	**-0.5**
BATM				S		**Sg**	**18 01 38.5**	**+0.4**
BATM	**Batumi**	**1.56**	**237**	*e*Pg		**Pb**	**18 01 16.9**	**-0.5**
BATM				*e*Sg		**Sg**	**18 01 38.5**	**+0.4**
BATM	**Batumi**	**1.56**	**237**	PG		**Pb**	**18 01 16.9**	**-0.5**
BATM				S		**Sg**	**18 01 38.5**	**+0.4**
DOMR	**Dombai**	**1.57**	**302**	*e*PG		**Pg**	**18 01 18.8**	**+0.7**
DOMR				*e*S		**Sg**	**18 01 40.6**	**+2.1**
TRKR	**Terskaya**	**1.57**	**37**	*e*Pg		**Pb**	**18 01 17.8**	**+0.1**
TRKR				*e*Sg		**Sg**	**18 01 40.0**	**+1.3**
TRKR	**Terskaya**	**1.57**	**37**	*e*PG		**Pg**	**18 01 18.2**	**0.0**
TRKR				*e*S		**Sg**	**18 01 40.5**	**+1.9**
KVAR	**Kislovodsk Arr**	**1.58**	**340**	Pg		**Pb**	**18 01 17.2**	**-0.7**
	baz=72,slow=20							
KVAR				Lg		Lg	18 01 37.8	
	baz=267,slow=17							
KIV	**Kislovodsk**	**1.59**	**340**	*e*PG		**Pb**	**18 01 17.8**	**-0.1**
KIV				*e*S		**Sg**	**18 01 39.0**	**-0.1**
PYA1	**Pyatigorsk**	**1.61**	**351**	*e*PG		**Pb**	**18 01 18.1**	**-0.3**
PYA1				*e*S		**Sb**	**18 01 39.1**	**0.0**
DGRG	**David-gareji**	**1.76**	**124**	P		**Pb**	**18 01 21.4**	**+0.5**
DGRG				S		**Sg**	**18 01 46.3**	**+1.6**
DGRG	**David-gareji**	**1.76**	**124**	*e*Pg		**Pb**	**18 01 21.4**	**+0.5**
DGRG				*e*Sg		**Sg**	**18 01 46.3**	**+1.6**
DGRG	**David-gareji**	**1.76**	**124**	PN		**Pb**	**18 01 21.4**	**+0.5**
DGRG				S		**Sg**	**18 01 46.3**	**+1.6**
GROC	**Groznyy**	**1.88**	**66**	*e*Pg		**Pb**	**18 01 23.6**	**+0.6**
GROC				*e*Sg		**Sg**	**18 01 49.7**	**+1.1**
GROC	**Groznyy**	**1.88**	**66**	*e*PN		**Pb**	**18 01 23.5**	**+0.6**
GROC				*e*S		**Sg**	**18 01 49.7**	**+1.1**
DVE	**Vedeno**	**2.04**	**75**	*e*Pg		**Pb**	**18 01 25.4**	**-0.2**
DVE				*e*Sg		**Sg**	**18 01 52.8**	**-0.9**
DVE	**Vedeno**	**2.04**	**75**	*i* PN		**Pn**	**18 01 24.2**	**+1.1**
DVE				pmax	pmax			
	comp=Z,366nm,0.7s							
BTLR	**Botlikh**	**2.07**	**84**	*e*Pg		**Pb**	**18 01 26.6**	**+0.5**
BTLR				*e*Sg		**Sg**	**18 01 53.7**	**-0.8**
BTLR	**Botlikh**	**2.07**	**84**	*i* PN		**Pb**	**18 01 26.3**	**+0.2**
TLTR	**Tlyarata**	**2.19**	**98**	*e*PN		**Pb**	**18 01 28.3

AKT					smax	smax			
	comp=E,138nm,0.4s								
AKT					smax	smax			
	comp=N,138nm,0.5s								
AKT					MLR	MLR			
	comp=Z,131nm,3.0s								
GOYR	**Goytkh**	**3.46**	**302**	*e*Pn		**Pn**	**18 01 44.7**	**+2.2**	
GOYR				*e*Sn		**Sn**	**18 02 25.3**	**+1.5**	
GOYR	**Goytkh**	**3.46**	**302**	*e*PN		**Pn**	**18 01 44.7**	**+2.2**	
GOYR				*e*S		**Sn**	**18 02 25.3**	**+1.5**	
NAX	**Nakhchivan**	**3.64**	**154**	PN		**Pn**	**18 01 46.1**	**+1.0**	
ERBR	**Yeremizino-Bor**	**3.88**	**328**	*e*PN		**Pn**	**18 01 49.0**	**+0.6**	
ERBR				*e*PPP		PPP	18 02 02.3		
ERBR				*e*S		**Sn**	**18 02 35.5**	**+1.2**	
ERBR				*e*SS		**Sb**	**18 02 43.2**	**-1.1**	
ERBR				*e*SSS		SSS	18 02 53.5		
ERBR				pmax		pmax			
	comp=Z,7.0nm,0.7s								
ERBR				MLR		MLR			
	comp=Z,226nm,13.0s								
ANN	**Anapa**	**4.94**	**300**	*e*PN		**Pn**	**18 02 03.9**	**+1.0**	
ANN				*e*PPP		PPP	18 02 22.3		
ANN				*e*S		**Sn**	**18 03 03.0**	**+2.6**	
ANN				pmax		pmax			
	comp=Z,16nm,0.9s								
ANN				MLR		MLR			
	comp=Z,96nm,14.0s								
BRTR	**Keskin Array B**	**7.89**	**253**	Pn		**Pn**	**18 02 45.4**	**+1.8**	
	comp=Z,0.3nm,0.3s,baz=39,slow=11,SNR=8.5 comp=Z,1.2nm,0.6s								
AKTO	**Aktyubinsk**	**12.81**	**47**	Pn		**Pn**	**18 03 49.1**	**-1.6**	
	comp=Z,0.4nm,0.3s,baz=238,slow=9.8,SNR=15								
AKTO				Sn		Sn	18 06 03.6	-10	
	comp=Z,0.3nm,0.3s,baz=241,slow=13,SNR=1.4 comp=Z,4.3nm,0.6s								
OBN	**Obninsk**	**13.43**	**343**⇑	*e*P		**Pn**	**18 03 59.3**	**+0.2**	
OBN				*e*S		Sn	18 06 37.4	+8.7	
OBN				pmax		pmax			
	comp=Z,7.0nm,0.5s								
OBN				MLR		MLR			
	comp=Z,73nm,9.0s								
NACGM	**Naroch**	**16.55**	**324**	*e*P		**Pn**	**18 04 40.7**	**0.0**	
	comp=Z,6.0nm,0.7s,baz=132								
KIRV	**Kirov**	**16.57**	**11**	LR		LR	18 11 29.2		
	comp=Z,78nm,21.8s,baz=256,slow=39								
ARTI	**Arti**	**16.93**	**30**	Pn		**P**	**18 04 46.5**	**-1.1**	
	comp=Z,0.3nm,0.3s,baz=231,slow=13,SNR=3.8								
ARTI				LR		LR	18 11 56.3		
	comp=Z,44nm,18.4s,baz=300,slow=39 comp=Z,1.5nm,0.5s								
ARTI	**Arti**	**16.93**	**30**	P		**Pn**	**18 04 44.8**	**-0.7**	
ARTI				S		**Sn**	**18 07 53.9**	**0.0**	
SVE	**Sverdlovsk**	**18.10**	**32**	*e*P		**Pn**	**18 04 57.2**	**-2.9**	
SVE				pmax		pmax			
	comp=Z,16nm,1.3s								
BRVK	**Borovoye**	**20.80**	**50**	*i* P		**P**	**18 05 30.4**	**+0.4**	
BRVK				pmax		pmax			
	comp=Z,4.0nm,0.8s								
BVAR	**Borovoye Array**	**20.85**	**50**	P		**P**	**18 05 30.8**	**+0.3**	
	comp=Z,3.4nm,0.8s,baz=242,slow=7.7,SNR=11 comp=Z,3.4nm,0.8s								
GERES	**GERESS Array B**	**21.65**	**297**	P		**P**	**18 05 40.3**	**+1.0**	
	comp=Z,0.5nm,0.7s,baz=104,slow=9.7,SNR=3.6 comp=Z,0.5nm,0.7s								
FINES	**FINESS Array B**	**21.68**	**337**	P		**P**	**18 05 40.1**	**+0.8**	
	comp=Z,0.7nm,0.7s,baz=140,slow=7.4,SNR=4.3								
FINES				LR		LR	18 14 12.6		
	comp=Z,53nm,18.3s,baz=26,slow=37 comp=Z,0.7nm,0.7s								
KURBB	**Kurchatov Arra**	**25.28**	**59**	P		**P**	**18 06 15.2**	**+0.1**	
	comp=Z,0.6nm,0.8s,baz=271,slow=10,SNR=6.4 comp=Z,0.6nm,0.8s								
HFS	**Hagfors**	**25.32**	**325**	P		**P**	**18 06 15.3**	**-0.1**	
	comp=Z,4.9nm,1.0s,baz=134,slow=12,SNR=4.5 comp=Z,4.9nm,1.0s								
KURK	**Kurchatov**	**25.35**	**59**	*i* P		**P**	**18 06 16.8**	**+1.1**	
KURK				pmax		pmax			
	comp=Z,2.0nm,1.0s								
NOA	**NORSAR Array B**	**26.84**	**325**	LR		LR	18 17 46.8		
	comp=Z,48nm,19.9s,baz=105,slow=38								
MKAR	**Makanchi Array**	**27.79**	**68**	P		**P**	**18 06 38.6**	**+0.8**	
	comp=Z,0.5nm,0.6s,baz=267,slow=8.7,SNR=4.9 comp=Z,0.5nm,0.6s								
ARCES	**ARCESS Array B**	**28.68**	**347**	LR		LR	18 18 44.9		
	comp=Z,53nm,19.8s,baz=128,slow=38								
BOSA	**Boshof**	**72.69**	**197**	LR		LR	18 44 11.3		
	comp=Z,93nm,19.2s,baz=204,slow=36								

*SJA **22** 18:05:14.1±0.7,21°.32S×67°.99W,h162km±5km,ML3.6, MW3.6*
*SCB **22** 18:05:14.9±1.4,21°.36S×68°.06W,h156km±13km,ML4.1/4, MW3.3,Error ellipse: s-maj=6.2km s-min=4.0km az=1.0*
*NEIC **22** 18:05:14.2±1.5,21°.33S±0°.04×68°.2W±0°.2,h185km±13km, ML4.0(GUC),Error ellipse: s-maj=25.6km s-min=5.1km az=92.0*
*GUC **22** 18:05:15.1±0.8,21°.30S×68°.20W,h180km±6km,ML4.0*

ISC 22 18:05:14.4±1.2,21°.35S±0°.04×68°.08W±0°.05, h172km±10km,n78,σ0s93/106,6C-8D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**1.17**	**248**		**Pn**	**18 05 43.5**	**+0.7**
PB09				Sn	**Sn**	**18 06 05.1**	**+0.4**
PB09	**IPOC Station P**	**1.17**	**248**	⇑*i*P	**Pn**	**18 05 43.9**	**+1.0**
PB09				*i* S	**Sn**	**18 06 05.0**	**+0.2**
PB09				IAML		18 06 06.1	
	comp=N,2μm,0.3s						
PB09	**IPOC Station P**	**1.17**	**248**	*i* P	**Pn**	**18 05 42.6**	**-0.2**
PB09				*i* S	**Sn**	**18 06 04.3**	**-0.4**
PB09				IAML		18 06 07.6	
	comp=Z,1μm,0.4s						
PB09	**IPOC Station P**	**1.17**	**248**	Pg	**Pn**	**18 05 43.2**	**+0.4**
PB01	**IPOC Station P**	**1.35**	**283**		**Pn**	**18 05 44.2**	**-0.1**
PB01				Sn	**Sn**	**18 06 06.4**	**-1.0**
PB01	**IPOC Station P**	**1.35**	**283**	⇓*i*P	**Pn**	**18 05 44.3**	**-0.1**
PB01				*i* S	**Sn**	**18 06 06.4**	**-1.0**
PB01				IAML		18 06 07.6	
	comp=N,2μm,0.2s						
PB01	**IPOC Station P**	**1.35**	**283**	*i* P	**Pn**	**18 05 44.5**	**+0.1**
PB01				⇓*i* S	**Sn**	**18 06 07.0**	**-0.5**
PB01				IAML		18 06 08.6	
	comp=Z,868nm,0.2s						
PB01	**IPOC Station P**	**1.35**	**283**	Pg	**Pn**	**18 05 44.3**	**-0.1**
PB01				Sg	**Sn**	**18 06 06.6**	**-0.8**
PB01				IAML		18 06 08.2	
	comp=Z,1μm,0.2s						
PB08	**IPOC Station P**	**1.57**	**320**		**Pn**	**18 05 46.8**	**0.0**
PB08	**IPOC Station P**	**1.57**	**320**	⇓*i*P	**Pn**	**18 05 47.2**	**+0.4**
PB08				*i* S	**Sn**	**18 06 11.1**	**-0.7**
PB08	**IPOC Station P**	**1.57**	**320**	*i* P	**Pn**	**18 05 47.2**	**+0.4**
PB08				⇓*i* S	**Sn**	**18 06 11.4**	**-0.4**
PB08				IAML		18 06 12.2	
	comp=Z,216nm,0.4s						
PB08	**IPOC Station P**	**1.57**	**320**	Pg	**Pn**	**18 05 47.3**	**+0.4**
AF01	**San Pedro de A**	**1.59**	**183**		**Pn**	**18 05 47.3**	**+0.4**
AF01	**San Pedro de A**	**1.59**	**183**	IAML		18 06 18.2	
	comp=Z,193nm,0.3s						
PB02	**IPOC Station P**	**1.70**	**271**		**Pn**	**18 05 48.0**	**+0.2**
PB02	**IPOC Station P**	**1.70**	**271**	⇓*i*P	**Pn**	**18 05 48.2**	**+0.6**
PB02				*i* S	**Sn**	**18 06 12.8**	**-0.7**
PB02	**IPOC Station P**	**1.70**	**271**	*i* P	**Pn**	**18 05 48.4**	**+0.6**
PB02				*i* S	**Sn**	**18 06 13.3**	**-0.2**
PB02				IAML		18 06 14.8	
	comp=Z,2μm,0.2s						
PB02	**IPOC Station P**	**1.70**	**271**	Pg	**Pn**	**18 05 48.3**	**+0.6**
PB02				Sg	**Sn**	**18 06 12.9**	**-0.6**
PB02				IAML		18 06 14.4	
	comp=Z,2μm,0.2s						
PB03	**IPOC Station P**	**1.71**	**246**		**Pn**	**18 05 48.0**	**+0.1**
PB03	**IPOC Station P**	**1.71**	**246**	⇑*i*P	**Pn**	**18 05 48.5**	**+0.6**
PB03				*i* S	**Sn**	**18 06 13.4**	**-0.4**
PB03				IAML		18 06 14.3	
	comp=N,2μm,0.2s						
PB03	**IPOC Station P**	**1.71**	**246**	*i* P	**Pn**	**18 05 48.7**	**+0.9**
PB03				*i* S	**Sn**	**18 06 14.1**	**+0.2**
PB03				IAML		18 06 14.8	
	comp=Z,1μm,0.1s						
PB06	**IPOC Station P**	**1.93**	**226**		**Pn**	**18 05 50.7**	**+0.4**
PB06	**IPOC Station P**	**1.93**	**226**	⇑*i*P	**Pn**	**18 05 51.1**	**+0.8**
PB06				*i* S	**Sn**	**18 06 18.3**	**+0.1**
PB06				IAML		18 06 19.5	
	comp=E,997nm,0.6s						
PB06	**IPOC Station P**	**1.93**	**226**	*i* P	**Pn**	**18 05 51.3**	**+1.0**
PB06				*i* S	**Sn**	**18 06 17.9**	**-0.3**
PB06				IAML		18 06 20.4	
	comp=Z,473nm,0.2s						
PB06	**IPOC Station P**	**1.93**	**226**	Pg	**Pn**	**18 05 51.5**	**+1.2**
GO01	**Chusmiza**	**1.98**	**328**		**Pn**	**18 05 51.0**	**-0.2**
GO01	**Chusmiza**	**1.98**	**328**	⇓*i*P	**Pn**	**18 05 51.2**	**0.0**
GO01				*e*S	**Sn**	**18 06 18.5**	**-1.0**
GO01	**Chusmiza**	**1.98**	**328**	*i* P	**Pn**	**18 05 51.4**	**+0.2**
GO01				*i* S	**Sn**	**18 06 19.6**	**+0.1**
GO01				IAML		18 06 22.8	
	comp=Z,170nm,1.1s						
GO01	**Chusmiza**	**1.98**	**328**	Pg	**Pn**	**18 05 51.2**	**0.0**
PATCX	**Punta Patache**	**2.01**	**285**		**Pn**	**18 05 51.1**	**+0.1**
TA01	**Diego Aracena**	**2.12**	**291**		**Pn**	**18 05 51.8**	**-0.4**
TA01	**Diego Aracena**	**2.12**	**291**	⇓*i*P	**Pn**	**18 05 51.9**	**-0.3**
TA01				*i* S	**Sn**	**18 06 19.7**	**-1.7**
TA01				IAML		18 06 21.5	
	comp=E,662nm,0.3s						
TA01	**Diego Aracena**	**2.12**	**291**	*i* P	**Pn**	**18 05 52.8**	**+0.7**
TA01				*i* S	**Sn**	**18 06 21.9**	**+0.4**
TA01				IAML		18 06 23.7	
	comp=Z,278nm,0.5s						
PB11	**IPOC Station P**	**2.17**	**317**		**Pn**	**18 05 52.4**	**-0.6**
PB11	**IPOC Station P**	**2.17**	**317**	⇓*i*P	**Pn**	**18 05 52.5**	**-0.4**
PB11				*i* S	**Sn**	**18 06 20.9**	**-1.9**
PB11				IAML		18 06 22.8	
	comp=E,1μm,0.2s						
PB11	**IPOC Station P**	**2.17**	**317**	*i* P	**Pn**	**18 05 52.8**	**-0.1**
PB11				*i* S	**Sn**	**18 06 21.9**	**-0.9**
PB11				IAML		18 06 24.1	
	comp=Z,412nm,0.2s						
PB11	**IPOC Station P**	**2.17**	**317**	Pg	**Pn**	**18 05 52.5**	**-0.4**
PB11				Sg	**Sn**	**18 06 21.3**	**-1.5**
PB11				IAML		18 06 22.8	
	comp=Z,1μm,0.2s						
TA02	**Huaiquique**	**2.20**	**299**		**Pn**	**18 05 52.4**	**-0.7**
TA02	**Huaiquique**	**2.20**	**299**	*e*P	**Pn**	**18 05 52.5**	**-0.7**
TA02				*e*S	**Sn**	**18 06 21.2**	**-2.0**
TA02	**Huaiquique**	**2.20**	**299**	*i* P	**Pn**	**18 05 54.4**	**+1.2**
TA02				IAML		18 06 26.4	
	comp=Z,367nm,0.3s						
MOCB	**Mochara**	**2.28**	**88**	Pg	**Pn**	**18 05 54.0**	**-0.4**
PB05	**IPOC Station P**	**2.47**	**232**		**Pn**	**18 05 56.8**	**+0.4**
PB05	**IPOC Station P**	**2.47**	**232**	⇑*i*P	**Pn**	**18 05 57.1**	**+0.7**
PB05				*i* S	**Sn**	**18 06 28.4**	**-0.7**
PB05				IAML		18 06 31.0	
	comp=E,405nm,0.2s						
PB05	**IPOC Station P**	**2.47**	**232**	*i* P	**Pn**	**18 05 57.3**	**+0.8**
PB05				*i* S	**Sn**	**18 06 29.9**	**+0.8**
PB05				IAML		18 06 31.0	
	comp=Z,252nm,0.2s						
PB05	**IPOC Station P**	**2.47**	**232**	Pg	**Pn**	**18 05 57.2**	**+0.8**
PB05				Sg	**Sn**	**18 06 28.3**	**-0.7**
PB05				IAML		18 06 31.1	
	comp=Z,360nm,0.2s						
YJA	**Yavi**	**2.52**	**109**	*i* P	**Pn**	**18 05 57.0**	**-0.3**
YJA				*i* S	**Sn**	**18 06 29.3**	**-1.2**
YJA				IAML		18 06 30.8	
	comp=Z,16nm,0.4s						
YJA	**Yavi**	**2.52**	**109**	Pg	**Pn**	**18 05 57.4**	**+0.2**
SOEO	**Opoqueri**	**2.78**	**4**	Pg	**Pn**	**18 06 00.9**	**+0.4**
PB10	**IPOC Station P**	**3.14**	**226**		**Pn**	**18 06 04.6**	**+0.2**
PB10	**IPOC Station P**	**3.14**	**226**	⇑*i*P	**Pn**	**18 06 04.5**	**+0.2**
PB10				*i* S	**Sn**	**18 06 41.1**	**-2.3**
PB10	**IPOC Station P**	**3.14**	**226**	*i* P	**Pn**	**18 06 05.3**	**+0.9**
PB10				IAML		18 06 46.4	
	comp=Z,77nm,0.2s						
PB10	**IPOC Station P**	**3.14**	**226**	Pg	**Pn**	**18 06 04.5**	**+0.2**
PB16	**IPOC Station P**	**3.29**	**336**		**Pn**	**18 06 07.2**	**+0.3**
PB16	**IPOC Station P**	**3.29**	**336**	*i* P	**Pn**	**18 06 07.3**	**+0.5**
PB16				*e*S	**Sn**	**18 06 45.9**	**-1.7**
PB16				IAML		18 06 47.9	
	comp=N,144nm,0.5s						
PB16	**IPOC Station P**	**3.29**	**336**	*i* P	**Pn**	**18 06 07.0**	**+0.2**
PB16				IAML		18 06 49.4	
	comp=Z,72nm,0.9s						
PB16	**IPOC Station P**	**3.29**	**336**	Pg	**Pn**	**18 06 07.4**	**+0.5**
PB14	**IPOC Station P**	**3.90**	**213**		**Pn**	**18 06 14.1**	**-0.2**
PB14	**IPOC Station P**	**3.90**	**213**	*i* P	**Pn**	**18 06 15.1**	**+0.9**
PB14				IAML		18 07 03.0	
	comp=Z,80nm,0.1s						
PB14	**IPOC Station P**	**3.90**	**213**	Pg	**Pn**	**18 06 14.2**	**0.0**
GO02	**Mina Guanaco**	**4.04**	**200**		**Pn**	**18 06 16.1**	**+0.1**
GO02	**Mina Guanaco**	**4.04**	**200**	⇑*i*P	**Pn**	**18 06 16.2**	**+0.1**
GO02	**Mina Guanaco**	**4.04**	**200**	*i* P	**Pn**	**18 06 16.3**	**+0.3**
GO02				IAML		18 07 08.7	
	comp=Z,146nm,0.3s						
SOEJ	**Jacaque**	**4.36**	**359**	Pg	**Pn**	**18 06 21.9**	**+1.6**
BBOE	**La Paz, Chanca**	**4.52**	**1**	Pg	**Pn**	**18 06 23.5**	**+1.0**
BBOD	**La Paz, Gloria**	**4.72**	**354**	Pg	**Pn**	**18 06 26.3**	**+1.3**
LPAZ	**La Paz**	**5.04**	**359**		**Pn**	**18 06 29.5**	**+0.2**
LPAZ	**La Paz**	**5.04**	**359**	*i* P	**Pn**	**18 06 29.9**	**+0.6**
LPAZ				IAML		18 07 34.8	
	comp=Z,4.9nm,1.7s						
LPAZ	**La Paz**	**5.04**	**359**	Pg	**Pn**	**18 06 29.5**	**+0.2**
BBOB	**La Paz, Bander**	**5.18**	**359**	Pg	**Pn**	**18 06 31.2**	**+0.1**
AC01	**Pan de Azucar**	**5.30**	**205**		**Pn**	**18 06 31.2**	**-0.9**
AC01	**Pan de Azucar**	**5.30**	**205**	IAML		18 07 43.6	
	comp=Z,44nm,2.2s						
AC02	**Maricunga**	**5.54**	**190**		**Pn**	**18 06 35.5**	**-0.3**
AC06	**Mina Casimiro**	**6.33**	**199**	Pn	**Pn**	**18 06 43.7**	**-1.9**
GO03	**Copiapo**	**6.52**	**197**	Pn	**Pn**	**18 06 46.6**	**-1.5**
AC04	**Llanos de Chal**	**7.35**	**201**	Pn	**Pn**	**18 06 55.9**	**-3.1**
LCO	**Las Campanas**	**7.99**	**197**	Pn	**Pn**	**18 07 05.2**	**-2.5**
GO04	**Tololo Observa**	**9.12**	**195**	Pn	**Pn**	**18 07 19.9**	**-2.7**
MT09	**Talagante**	**12.64**	**191**		**Pn**	**18 08 10.5**	**+2.2**

*IDC **22** 18:09:44.2±6.3,29°.57N×141°.45E,h35km±50km,mb3.5/5, mbtmp3.7/8,ML3.1/3,MS3.4/5,Error ellipse: s-maj=49.7km s-min=21.2km az=90.0*

ISC 22 18:09:45.1±1.1,29°.6N±0°.1×141°.5E±0°.2,h46km,n13, σ0s76/9,mb3.7/5,MS3.6/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**7.42**	**339**	Pn	**Pn**	**18 11 30.9**	**0.0**
	0.3nm,0.3s,baz=158,slow=12,SNR=13						
MJAR				Sn	**Sn**	**18 12 53.7**	**-0.1**
	baz=191,slow=31 1.8nm,0.3s						
JOW	**Kunigami**	**11.98**	**260**	LR	LR	18 16 17.6	
	comp=Z,50nm,20.4s,baz=64,slow=33						
KSRS	**Korea Array**	**13.74**	**308**	Pn	**Pn**	**18 12 56.9**	**-0.3**
	baz=125,slow=16,SNR=2.5 1.0nm,0.9s						
ASAJ	**Asahikawa**	**14.49**	**3**	Pn	**Pn**	**18 13 06.1**	**-1.2**
	0.2nm,0.3s,baz=193,slow=14,SNR=1.6 2.1nm,0.5s						
WRA	**Warramunga Arr**	**49.76**	**189**	P	**P**	**18 18 33.0**	**-0.2**
	0.5nm,0.3s,baz=6.1,slow=7.8,SNR=24 0.5nm,0.3s						
ASAR	**Alice Springs**	**53.49**	**189**	P	**P**	**18 19 00.1**	**-0.8**
	0.2nm,0.4s,baz=358,slow=5.4,SNR=1.6 0.2nm,0.4s						
ILAR	**Eielson Array**	**55.80**	**29**	P	**P**	**18 19 18.1**	**+0.8**
	0.4nm,0.7s,baz=270,slow=8.3,SNR=4.3 0.4nm,0.7s						
KIRV	**Kirov**	**66.27**	**325**	LR	LR	18 52 51.8	
	comp=Z,29nm,18.1s,baz=353,slow=39						
BELG	**Belogornoye**	**69.35**	**319**	LR	LR	18 54 52.2	
	comp=Z,39nm,18.3s,baz=311,slow=39						
FINES	**FINESS Array B**	**75.42**	**333**	P	**P**	**18 21 24.6**	**+0.8**
	0.4nm,0.4s,baz=68,slow=5.9,SNR=5.6 0.4nm,0.4s						
GNI	**Garni**	**76.27**	**308**	LR	LR	18 57 33.2	
	comp=Z,27nm,18.9s,baz=352,slow=38						
RPZ	**Rata Peaks**	**77.85**	**159**	LR	LR	18 54 17.3	
	comp=Z,46nm,20.7s,baz=36,slow=34						
BRTR	**Keskin Array B**	**83.84**	**312**	P	**P**	**18 22 10.3**	**+0.2**
	0.9nm,0.6s,baz=81,slow=4.0,SNR=5.1 0.9nm,0.6s						

*AEIC **22** 18:10:47.2±1.4,51°.05N±0°.04×179°.30E±0°.05,h19km±5km, Error ellipse: s-maj=5.9km s-min=4.8km az=165.0*

NEIC 22 18:10:47.9±1.1,51°.10N±0°.06×179°.33E±0°.04,h25km±10km, mb3.7/8,ML3.1/12,ML2.6(AEIC),Error ellipse: s-maj=8.5km s-min=2.9km az=165.0,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.28**	**357**		Pb	18 10 54.7	0.0
AMKA					Sb	18 11 00.1	+0.8
CERB	**Semis' Cerberu**	**0.86**	**13**		Pb	18 11 04.3	+0.1
CERB					Sn	18 11 16.6	+0.4
CETU	**Semis' Tuman**	**0.88**	**7**		Pn	18 11 04.7	-0.1
CEPE	**Semis' Perret**	**0.90**	**13**		Pb	18 11 04.7	-0.1
CEAP	**Semis' Anvil P**	**0.92**	**10**		Pb	18 11 05.1	-0.1
LSSE	**Little Sitkin**	**0.96**	**331**		Pn	18 11 05.2	-0.7
LSPA	**Little Sitkin**	**0.98**	**332**		Pn	18 11 05.7	-0.4
LSPA					Sn	18 11 20.2	+1.0
LSNW	**Little Sitkin**	**1.01**	**330**		Pn	18 11 05.7	-0.8
GAKI	**Gareloi-Kavalg**	**1.26**	**68**		Pn	18 11 09.0	-0.8
GAKI					Sb	18 11 26.6	0.0
GASW	**Gareloi Southw**	**1.33**	**58**		Pn	18 11 10.8	-0.1
GASW					Sb	18 11 28.6	-0.1
GALAA	**Gareloi Lava P**	**1.37**	**60**		Pn	18 11 11.7	+0.3
GANO	**Gareloi North**	**1.38**	**57**		Pn	18 11 11.5	-0.1
TANO	**Tanaga North**	**1.79**	**62**		Pn	18 11 18.1	+0.8
TANO					Sb	18 11 42.7	+0.6
TASE	**Tanaga Southea**	**1.81**	**65**		Pn	18 11 18.1	+0.5
KIWB	**Kanaga Island**	**2.33**	**70**	Pn	Pn	18 11 24.9	+0.3
KIWB				IAML		18 12 03.2	
	comp=N,85nm,0.9s						
KIWB				IAML		18 12 08.5	
	comp=E,79nm,0.6s						
ADK	**Adak**	**2.62**	**71**		Pn	18 11 29.1	+0.5
ADK	**Adak**	**2.62**	**71**	IAML		18 12 12.3	
	comp=E,70nm,0.7s						
ADK				IAML		18 12 13.5	
	comp=E,80nm,1.0s						
ETKA	**Kagalaska Isla**	**2.78**	**72**		Pn	18 11 31.1	+0.4
GSMY	**Great Sitkin M**	**3.03**	**70**		Pn	18 11 35.1	+0.7
GSTR	**Great Sitkin T**	**3.05**	**69**	Pn	Pn	18 11 34.2	-0.3
GSTR				IAML		18 12 36.0	
	comp=E,69nm,1.0s						
SHEM	**Shemya Is, Ala**	**3.63**	**299**	Pn	Pn	18 11 42.4	0.0
SHEM				IAML		18 12 36.4	
	comp=E,40nm,1.0s						
SMY	**Shemya**	**3.63**	**299**	Pn	Pn	18 11 42.6	+0.2
ATKA	**Atka Island**	**4.18**	**72**	Pn	Pn	18 11 50.0	-0.1
O15K	**Ungalikthiuk R**	**14.36**	**48**	P	P	18 14 15.6	-0.6
K15K	**Wolf Creek Mou**	**15.30**	**36**	P	P	18 14 27.5	+0.9
K15K				IAmb	IAmb	18 14 43.1	
	comp=Z,7.1nm,1.3s						
KDAK	**Kodiak Island**	**17.57**	**57**	Pn	Pn	18 14 47.5	-3.2
KDAK				IAmb	IAmb	18 15 16.9	
	comp=Z,4.9nm,1.2s						
J20K	**Nowinta River**	**19.12**	**37**	P	P	18 15 08.1	-0.6
SKT	**Skwentna**	**19.23**	**44**	P	P	18 15 09.8	-0.2
E19K	**Redstone River**	**20.09**	**27**	P	P	18 15 19.7	+0.5
E19K				IAmb	IAmb	18 15 45.0	
	comp=Z,6.8nm,1.4s						
D19K	**Kuna River**	**20.58**	**24**	P	P	18 15 24.8	+0.1
D23K	**Nanushuk River**	**22.93**	**28**	P	P	18 15 49.1	-0.7
F24K	**Squaw Lake**	**23.03**	**32**	P	P	18 15 49.7	-1.1
F24K				IAmb	IAmb	18 15 52.2	
	comp=Z,2.0nm,0.7s						
BMAR	**Burnt Mountain**	**24.12**	**34**	P	P	18 16 01.1	-0.3

*IDC **22** 18:24:50.2±11.0,11°.98S×167°.54E,h266km±107km, mb3.7/9,mbtmp4.2/9,Error ellipse: s-maj=40.5km s-min=26.3km az=91.0*
*NEIC **22** 18:24:55.1±1.0,12°.2S±0°.1×167°.7E±0°.1,h306km±10km, mb4.4/76,Error ellipse: s-maj=21.5km s-min=2.7km az=46.0*

ISC 22 18:24:55.5±0.6,12°.3S±0°.1×167°.7E±0°.1,h317km,n291, σ0s77/270,mb4.4/47,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EIDS	**Eidsvold**	**20.37**	**228**	P	**P**	**18 29 09.7**	**+0.5**
CTAO	**Charters Tower**	**21.96**	**246**	P	**P**	**18 29 24.4**	**+0.4**
ARMA	**Armidale**	**23.39**	**217**	P	**P**	**18 29 36.9**	**-0.1**
COEN	**Coen**	**23.89**	**263**	P	**P**	**18 29 41.9**	**+0.3**
COEN				IAmb	IAmb	18 29 56.8	
	comp=Z,22nm,1.4s						
BHW	**Baring Head**	**29.73**	**169**	P	**P**	**18 30 33.3**	**+0.2**
BHW				IAmb	IAmb	18 31 11.8	
	comp=Z,16nm,1.0s						
MSWZ	**Moikau Station**	**29.81**	**168**	P	**P**	**18 30 33.6**	**-0.3**
STKA	**Stephens Creek**	**30.91**	**227**	P	**P**	**18 30 44.7**	**+1.1**
STKA	**Stephens Creek**	**30.91**	**227**	P	**P**	**18 30 44.8**	**+1.1**
	comp=Z,5.2nm,0.4s,baz=66,slow=14,SNR=24 comp=Z,5.2nm,0.4s						
WR8	**Warramunga Arr**	**32.71**	**252**	P	**P**	**18 30 58.1**	**-1.3**
WB0	**Warramunga Arr**	**32.78**	**253**	P	**P**	**18 30 58.6**	**-1.4**
ODZ	**Otahua Downs**	**32.78**	**176**	P	**P**	**18 30 58.2**	**-1.4**
ODZ				IAmb	IAmb	18 31 01.2	
	comp=Z,26nm,1.3s						
WRA	**Warramunga Arr**	**32.86**	**252**	P	**P**	**18 30 58.8**	**-1.9**
	comp=Z,1.0nm,0.8s,baz=80,slow=8.6,SNR=15 comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**33.96**	**246**	P	**P**	**18 31 08.8**	**

baz=201
Q19K **Cape Douglas,** 77.56 19 P P 18 36 16.8 +0.2
baz=219
L15K **Ungalak Mounta** 77.59 15 P P 18 36 16.8 +0.1
baz=211
M16K **Timber Creek** 77.68 16 P
M16K IAmb IAmb 18 36 19.6
comp=Z,13nm,1.1s
M16K **Timber Creek** 77.68 16 P P 18 36 17.6 +0.4
baz=213,SNR=7.0
Q20K **Shuyak Island** 77.73 20 P P 18 36 17.0 -0.5
baz=220
N17K **Nushagak Hills** 77.76 17 P P 18 36 18.4 +0.7
N17K **Nushagak Hills** 77.76 17 P P 18 36 18.1 +0.5
baz=215
QSPA **South Pole Qui** 77.76 180 P P 18 36 19.2 +1.3
QSPA **South Pole Qui** 77.76 180 P P 18 36 19.4 +1.6
comp=Z,3.3nm,0.7s,baz=356,slow=1.6,SNR=15
comp=Z,3.3nm,0.7s
O18K **Koktuh Hills** 77.80 18 P P 18 36 17.9 0.0
O18K IAmb IAmb 18 36 56.6
comp=Z,6.6nm,1.1s
O18K **Koktuh Hills** 77.80 18 P P 18 36 18.4 +0.6
baz=217
J14K **Nanvaranak Lak** 78.04 13 P P 18 36 20.5 +1.4
J14K IAmb IAmb 18 36 38.4
comp=Z,10nm,1.2s
J14K **Nanvaranak Lak** 78.04 13 P P 18 36 19.4 +0.3
baz=209
K15K **Wolf Creek Mou** 78.11 14 P 18 36 20.7 +1.2
K15K **Wolf Creek Mou** 78.11 14 P P 18 36 18.9 -0.6
baz=211
L16K **Owhat River** 78.13 15 P P 18 36 19.2 -0.4
baz=213
P19K **Oil Pt** 78.26 19 P P 18 36 20.6 +0.1
P19K IAmb IAmb 18 36 23.9
comp=Z,8.4nm,0.8s
P19K **Oil Pt** 78.26 19 P P 18 36 19.9 -0.5
baz=219
N18K **Kilae Creek** 78.26 17 P P 18 36 21.2 +0.8
baz=216
M17K **Holitna River** 78.41 16 P P 18 36 22.5 +1.4
M17K IAmb IAmb 18 36 25.9
comp=Z,6.2nm,1.2s
M17K **Holitna River** 78.41 16 P P 18 36 22.3 +1.1
baz=215
N19K **Bonanza Creek** 78.78 18 P P 18 36 23.1 -0.3
baz=218
O20K **Slope Mountain** 78.79 19 P P 18 36 23.6 +0.2
baz=220
L17K **Donlin** 78.79 16 P P 18 36 23.8 +0.6
baz=214
CNPM **China Poot** 78.81 20 P P 18 36 24.2 +0.8
CNPM IAmb IAmb 18 36 24.9
comp=Z,11nm,1.3s
M18K **Stony River** 78.94 17 P P 18 36 24.4 +0.4
baz=216
BRLK **Bradley Lake** 79.11 20 IAmb IAmb 18 36 26.0
comp=Z,5.6nm,0.7s
J16K **Anvik River** 79.18 14 P P 18 36 26.4 +1.1
J16K IAmb IAmb 18 36 27.4
comp=Z,6.1nm,0.8s
J16K **Anvik River** 79.18 14 P P 18 36 26.8 +1.5
baz=212
K17K **Iditarod** 79.27 15 P P 18 36 26.8 +1.0
K17K IAmb IAmb 18 36 43.7
comp=Z,9.3nm,1.2s
K17K **Iditarod** 79.27 15 P P 18 36 26.6 +0.8
baz=214
ANM **Nome** 79.28 12 P P 18 36 27.4 +1.6
baz=207
L18K **Granite Mounta** 79.29 16 IAmb IAmb 18 36 27.9
comp=Z,3.6nm,0.8s
L18K **Granite Mounta** 79.29 16 P P 18 36 26.4 +0.5
baz=215
J17K **VABM Dome** 79.65 15 P P 18 36 29.0 +1.2
J17K IAmb IAmb 18 36 33.2
comp=Z,7.6nm,1.2s
J17K **VABM Dome** 79.65 15 P P 18 36 28.1 +0.3
baz=213
I17K **Unalakleet** 79.68 14 P P 18 36 28.6 +0.7
baz=211
M19K **Big River Lodg** 79.68 17 P P 18 36 28.3 +0.3
baz=218
TNA **Tin City** 79.71 10 P P 18 36 29.5 +1.4
baz=204
L19K **White Mountain** 79.77 17 P P 18 36 29.5 +1.0
L19K **White Mountain** 79.77 17 P P 18 36 28.9 +0.4
baz=217
G15K **Niukluk** 79.92 12 P P 18 36 30.5 +1.3
baz=208
H16K **Elim** 79.98 13 P P 18 36 29.7 +0.2
baz=210
M20K **Styx River** 80.03 18 P P 18 36 30.2 +0.2
baz=219
L20K **Farewell, AK** 80.28 17 P P 18 36 31.5 +0.3
baz=218
J18K **Innoko River** 80.30 15 IAmb IAmb 18 36 32.6
comp=Z,3.6nm,0.6s
J18K **Innoko River** 80.30 15 P P 18 36 31.9 +0.6
baz=215,SNR=5.1
F15K **North Star Dit** 80.44 11 P P 18 36 33.4 +1.5
baz=207
Q23K **Middleton Isla** 80.45 22 P P 18 36 31.5 -0.6
baz=225
RC01 **Rabbit Creek A** 80.48 19 P P 18 36 32.7 +0.4
baz=222
SKT **Skwentna** 80.59 18 P P 18 36 33.1 +0.2
baz=220
G16K **Koyuk River** 80.62 12 P P 18 36 34.2 +1.3
baz=210
H17K **Granite Mounta** 80.75 13 P P 18 36 34.4 +0.8
H17K IAmb IAmb 18 36 50.8
comp=Z,6.1nm,1.2s
H17K **Granite Mounta** 80.75 13 P P 18 36 34.6 +0.9
baz=212
PWL **Port Wells** 80.78 20 P P 18 36 34.3 +0.4
baz=223
K20K **Telida** 80.92 16 P P 18 36 35.5 +1.0
baz=218
J19K **Poorman** 81.02 15 P P 18 36 35.9 +0.9
baz=216
G17K **Kiwalik Mounta** 81.07 13 P P 18 36 36.4 +1.1
baz=211
HIN **Hinchinbrook I** 81.08 21 P P 18 36 36.0 +0.5
KNK **Knik Glacier** 81.14 20 P P 18 36 35.9 +0.1
baz=223
GLI **Glacier Island** 81.22 21 P P 18 36 36.5 +0.4
GLI IAmb IAmb 18 36 39.9
comp=Z,7.9nm,0.9s
GLI **Glacier Island** 81.22 21 P P 18 36 36.0 -0.1
baz=225
H18K **Honhosa River** 81.29 14 P P 18 36 36.6 +0.2
H18K IAmb IAmb 18 36 52.6
comp=Z,9.0nm,1.4s
H18K **Honhosa River** 81.29 14 P P 18 36 37.6 +1.1
baz=214
GCSA **Galena City Sc** 81.31 15 P P 18 36 36.5 0.0
baz=215
FID **Port Fidalgo** 81.34 21 P P 18 36 36.7 -0.1
FID IAmb IAmb 18 37 04.5
comp=Z,4.8nm,0.9s
EYAK **Cordova Ski Ar** 81.45 21 P P 18 36 37.6 +0.3
baz=226
KAIM **Kayak Island** 81.50 22 P P 18 36 37.3 -0.3
baz=227
CAST **Castle Rocks** 81.53 17 IAmb IAmb 18 36 39.3
comp=Z,5.6nm,0.7s
CAST **Castle Rocks** 81.53 17 P P 18 36 37.9 +0.1
baz=220
J20K **Nowinta River** 81.55 16 IAmb IAmb 18 36 40.8
comp=Z,2.9nm,0.6s
J20K **Nowinta River** 81.55 16 P P 18 36 38.6 +0.8
baz=218
M23K **Glacier View** 81.66 20 P P 18 36 38.9 +0.5
baz=224
F17K **Baldwin Pennin** 81.75 12 P P 18 36 39.3 +0.5
baz=211
SCM **Sheep Creek Mo** 81.82 20 P P 18 36 39.2 -0.1
baz=224
CHUM **Lake Minchumin** 81.82 17 P P 18 36 39.5 +0.3
baz=219
G18K **Tagagawik** 81.85 13 P P 18 36 40.2 +0.9
baz=213
I20K **Naaghedeneel** 81.96 15 P P 18 36 40.0 +0.2
baz=217
KTH **Kantishna Hill** 81.97 17 IAmb IAmb 18 36 40.1
comp=Z,4.5nm,0.9s
KLU **Klutina** 82.05 21 P P 18 36 39.9 -0.6
baz=226
H19K **Roundabout Mou** 82.06 14 P P 18 36 41.0 +0.6
baz=215
TRF **Thorofare Moun** 82.08 18 IAmb IAmb 18 36 42.1
comp=Z,6.9nm,1.0s
TRF **Thorofare Moun** 82.08 18 P P 18 36 40.3 -0.5
baz=221
BMRM **Bremner River** 82.15 21 IAmb IAmb 18 36 44.3
comp=Z,4.1nm,0.6s
BMRM **Bremner River** 82.15 21 P P 18 36 41.1 0.0
baz=227
E17K **Hotham Inlet** 82.19 12 P P 18 36 41.8 +0.8
baz=210
F18K **Selawik** 82.22 13 P P 18 36 41.8 +0.6
baz=212
BPAW **Bear Paw Mtn.** 82.37 17 P P 18 36 42.4 +0.3
baz=221
M24K **Tolsona, Glenn** 82.40 20 P P 18 36 42.2 -0.1
baz=225
G19K **Purcell Mounta** 82.41 14 P P 18 36 42.9 +0.6
baz=215
H20K **Anotleneega Mo** 82.41 15 P P 18 36 42.7 +0.4
baz=217
CRQM **Cirque** 82.54 22 IAmb IAmb 18 36 45.4
comp=Z,6.3nm,1.0s
CRQE **Cirque** 82.55 22 P P 18 36 43.2 0.0
baz=228
N25K **Chitina, Valde** 82.59 21 IAmb IAmb 18 36 44.7
comp=Z,5.4nm,0.8s
N25K **Chitina, Valde** 82.59 21 P P 18 36 42.8 -0.5
baz=227
MESA **MESA** 82.60 23 P P 18 36 43.2 -0.3
baz=229
C16K **Lisburne Hills** 82.61 10 P P 18 36 43.0 -0.1
baz=206
MCK **McKinley** 82.69 18 P P 18 36 43.7 -0.1
baz=223
E18K **Tukpahlearik C** 82.73 12 P P 18 36 43.5 -0.3
baz=211
F19K **Shaleruckik Mo** 82.83 13 IAmb IAmb 18 36 45.8
comp=Z,3.6nm,0.8s
F19K **Shaleruckik Mo** 82.83 13 P P 18 36 44.5 +0.2
baz=214
RDOG **Red Dog Mine** 82.84 11 P P 18 36 45.2 +0.8
baz=209
I21K **Tanana** 82.92 16 IAmb IAmb 18 36 46.4
comp=Z,5.4nm,0.7s
I21K **Tanana** 82.92 16 P P 18 36 44.6 -0.2
baz=220,SNR=6.1
HARP **HAARP** 82.94 20 P P 18 36 44.8 -0.2
baz=226
MCARA **McCarthy VSAT** 83.00 22 P P 18 36 44.9 -0.4
baz=230
H21K **Melozitna Rive** 83.07 15 P P 18 36 45.3 -0.3
baz=219
MLY **Manley** 83.14 16 P P 18 36 46.2 +0.2
baz=221,SNR=7.5
C17K **DeLong Mountai** 83.16 10 P P 18 36 46.4 +0.4
baz=209
PINM **Pinnacle** 83.20 23 P P 18 36 45.5 -1.0
baz=231
PAX **Paxson** 83.24 20 P P 18 36 46.7 0.0
baz=226
PNL **Peninsula** 83.27 24 P P 18 36 46.6 -0.2
baz=232
BARN **Barnard Glacie** 83.28 22 IAmb IAmb 18 36 48.4
comp=Z,6.1nm,0.8s
NEA2 **Nenana** 83.29 17 P P 18 36 46.3 -0.4
baz=222
CTG **Chitna Glacier** 83.34 22 P P 18 36 46.8 -0.4
baz=230
E19K **Redstone River** 83.47 13 IAmb IAmb 18 36 50.4
comp=Z,5.8nm,0.7s
E19K **Redstone River** 83.47 13 P P 18 36 48.7 +1.2
baz=214
F20K **Avaraart Lake** 83.47 14 P P 18 36 48.7 +1.2
baz=216
S31K **Pelican** 83.56 26 P P 18 36 47.7 -0.5
baz=235
G21K **Allakaket** 83.57 15 P P 18 36 49.3 +1.1
baz=218
CRAG **Craig** 83.60 29 P P 18 36 48.3 -0.2
baz=238
I23K **Minto, Yukon-K** 83.62 17 P P 18 36 49.4 +1.0
baz=222
H22K **Ishtalitna Cre** 83.63 16 P P 18 36 48.8 +0.4
baz=220
O28M **Mount Upton** 83.65 23 P P 18 36 48.7 -0.3
baz=231,SNR=5.1
M26K **Nabesna, AK** 83.69 21 IAmb IAmb 18 36 50.1
comp=Z,3.5nm,0.7s
M26K **Nabesna, AK** 83.69 21 P P 18 36 49.4 +0.6
baz=228
K24K **Donnelly Dome** 83.72 19 P P 18 36 49.4 +0.4
baz=226
HDA **Harding Lake** 83.79 18 P P 18 36 49.5 +0.3
baz=224,SNR=16
COLA **College** 83.85 18 P P 18 36 50.0 +0.5
baz=224
P29M **Windy Craggy** 83.91 25 P P 18 36 50.0 0.0
baz=233
U33K **Whale Pass** 83.95 29 P P 18 36 49.5 -0.7
baz=238
RIDG **Independent Ri** 83.98 19 IAmb IAmb 18 36 51.5
comp=Z,5.9nm,1.0s
RIDG **Independent Ri** 83.98 19 P P 18 36 51.0 +0.7
baz=226
L26K **Log Cabin Wild** 83.98 20 P P 18 36 50.8 +0.5
baz=228
M27K **Edge Creek, AK** 84.05 21 P P 18 36 51.3 +0.5
baz=229
ILAR **Eielson Array** 84.07 18 P 18 36 50.4 -0.3
ILAR **Eielson Array** 84.07 18 P P 18 36 50.2 -0.4
comp=Z,7.7nm,0.7s,baz=244,slow=5.5,SNR=61
comp=Z,7.7nm,0.7s
H23K **Yukon River** 84.08 16 P P 18 36 51.1 +0.4
baz=222
YUK8 **Steele Glacier** 84.13 23 P P 18 36 51.0 -0.4
baz=231
F21K **Alatna River** 84.14 14 P P 18 36 52.1 +1.1
baz=218
D19K **Kuna River** 84.14 12 P P 18 36 51.9 +0.9
baz=214
POKR **Poker Plat Res** 84.15 17 P P 18 36 50.9 -0.2
baz=224
B18K **Kokolib River** 84.18 10 P P 18 36 52.3 +1.2
baz=210
YUK3 **Moose Creek** 84.18 22 P P 18 36 51.2 -0.3
baz=231,SNR=5.1
V35K **Ketchikan** 84.26 30 P P 18 36 51.5 -0.3
baz=239
E20K **Nigu River** 84.35 13 P P 18 36 53.8 +1.7
baz=215
C19K **Lookout Ridge** 84.37 11 P P 18 36 53.8 +1.7
baz=212
PLBC **Pleasant Camp** 84.37 25 P P 18 36 52.4 +0.1
baz=234
G22K **Bettles** 84.39 15 P P 18 36 53.5 +1.4
baz=220
SCRK **Sand Creek** 84.42 19 P P 18 36 53.1 +0.5
baz=227,SNR=5.1
J25K **Salcha River,** 84.42 18 P P 18 36 52.9 +0.4
baz=226,SNR=8.9
BVCY **Beaver Creek** 84.45 21 P P 18 36 53.5 +0.9
baz=230
YUK6 **Outpost Mounta** 84.46 23 P P 18 36 52.5 -0.5
baz=232
R32K **Eaglecrest** 84.49 27 P P 18 36 53.3 +0.4
baz=236
P30M **Million Dollar** 84.52 24 P P 18 36 53.1 0.0
baz=234
L27K **Beaver Creek,** 84.53 21 P P 18 36 54.0 +0.9
baz=229
H24K **Nodor Dome** 84.55 17 P P 18 36 54.2 +1.1
baz=223
YUK4 **Talbot Arm** 84.59 23 P P 18 36 54.1 +0.5
baz=232
G23K **Bananza Creek** 84.61 16 IAmb IAmb 18 36 55.2
comp=Z,5.7nm,0.7s
G23K **Bananza Creek** 84.61 16 P P 18 36 54.1 +0.8
baz=221
D20K **Etivluk River** 84.64 12 P P 18 36 54.5 +1.1
baz=215
F22K **John River** 84.67 14 P P 18 36 54.0 +0.3
baz=219
HYT **Haines Junctio** 84.72 24 P P 18 36 53.3 -0.8
baz=233
J26L **Joseph Creek** 84.91 19 P P 18 36 54.8 -0.1
baz=228
COLD **Coldfoot** 84.95 15 IAmb IAmb 18 36 57.6
comp=Z,4.7nm,0.8s
COLD **Coldfoot** 84.95 15 P P 18 36 56.1 +1.1
baz=221
E21K **Killik River** 84.99 13 P P 18 36 56.1 +0.9
baz=218
PRP **Porcupine Dome** 85.00 18 P P 18 36 55.9 +0.5
baz=226
K27K **Chicken** 85.08 20 P P 18 36 56.2 +0.5
baz=229
E22K **Anaktuvuk Pass** 85.25 14 P P 18 36 57.1 +0.6
baz=220
O30N **Mendenhall** 85.25 24 P P 18 36 56.5 -0.2
baz=235
N30M **Aishikik Lake** 85.26 23 P P 18 36 57.0 +0.3
baz=234
G24K **Hadweenzic Riv** 85.29 16 IAmb IAmb 18 36 58.7
comp=Z,4.0nm,0.8s
G24K **Hadweenzic Riv** 85.29 16 P P 18 36 57.3 +0.7
baz=224
M29M **Somme Creek** 85.34 22 P P 18 36 57.1 0.0
baz=232
C21K **Knifeblade Rid** 85.38 13 P P 18 36 58.2 +1.1
baz=217
H25L **Birch Creek** 85.44 17 P P 18 36 58.1 +0.7
baz=225
P32M **Atlin** 85.56 26 P P 18 36 57.9 -0.4
baz=237
I26K **Coal Creek Min** 85.58 19 P P 18 36 58.7 +0.6
baz=228
B20K **Meade River** 85.59 11 P P 18 36 58.3 +0.2
baz=214
D22K **Ayikyak River** 85.63 13 P P 18 36 58.8 +0.5
baz=219
WHY **Whitehorse** 85.67 25 P P 18 36 58.7 -0.1
baz=236
G25K **Bearman Lake** 85.72 17 P P 18 36 59.0 +0.3
baz=225
E23K **Chandalar** 85.73 15 P P 18 36 59.3 +0.4
baz=222
T35M **Bob Quinn** 85.76 29 P P 18 36 58.6 -0.6
baz=240
F24K **Squaw Lake** 85.77 16 IAmb IAmb 18 37 01.8
comp=Z,4.4nm,0.8s
F24K **Squaw Lake** 85.77 16 P P 18 36 59.8 +0.7
baz=223
B21K **Ikpikpuk River** 85.79 12 P P 18 37 00.6 +1.6
baz=217
Q32M **Nakina River** 85.85 27 P P 18 36 59.3 -0.6
baz=238
L29M **L29M** 85.86 22 P P 18 37 00.4 +0.8
baz=233
DAWY **Dawson** 86.01 21 P P 18 37 01.0 +0.7
baz=231
E24K **Your Creek** 86.03 15 P P 18 37 01.7 +1.4
baz=223
M30M **Minto, Yukon** 86.04 23 P P 18 37 00.7 +0.2
baz=234
D23K **Nanushuk River** 86.16 14 P P 18 37 02.6 +1.8
baz=221
TOLK **Toolik Lake Re** 86.18 14 P P 18 37 02.2 +1.2
baz=222
I27K **Kandik River** 86.26 19 P P 18 37 02.4 +0.8
baz=229
F25K **Christian Rive** 86.43 16 P P 18 37 03.3 +1.0
baz=225
G26K **Porcupine Rive** 86.51 17 IAmb IAmb 18 37 04.8
comp=Z,5.1nm,0.6s
G26K **Porcupine Rive** 86.51 17 P P 18 37 04.1 +1.5
baz=227
K29M **Barlow Dome** 86.53 21 P P 18 37 03.4 +0.5
baz=233
DLBC **Dease Lake** 86.59 28 P P 18 37 04.1 +0.8
baz=240
B22K **Teshekpuk Lake** 86.62 12 P P 18 37 04.6 +1.6
baz=218
R33M **Jennings River** 86.65 27 P P 18 37 04.6 +0.9
baz=239
N32M **Quiet Lake** 86.68 25 P P 18 37 04.1 +0.5
baz=237
I28M **Miner Creek** 86.70 19 P P 18 37 04.1 +0.4
baz=231
H27K **Steamboat Moun** 86.70 18 P P 18 37 04.4 +0.8
baz=229
D24K **Happy Valley** 86.74 14 P P 18 37 04.9 +1.2
baz=222
E25K **Arctic Village** 86.82 16 P P 18 37 05.1 +1.0
baz=226
A22K **Sinclair Lake** 86.83 11 P P 18 37 05.3 +1.2
baz=216
C23K **Itkillik River** 86.83 13 P P 18 37 05.5 +1.4
baz=221
F26K **Sheenjek River** 86.91 17 P P 18 37 05.1 +0.5
baz=227
G27K **Doyon Strip** 87.04 18 P P 18 37 05.8 +0.6
baz=229
C24K **Franklin Bluff** 87.19 14 P P 18 37 07.1 +1.3
baz=222
J30M **Hart River** 87.38 21 P P 18 37 07.1 +0.1
baz=234
D25K **Kavik River** 87.46 15 P P 18 37 07.6 +0.5
baz=225
H29M **Whitestone** 87.69 19 P P 18 37 09.1 +0.9
baz=232
I30M **Mount Dempster** 87.75 20 P P 18 37 09.3 +0.6
baz=234
E27K **Coleen River** 87.96 17 P P 18 37 10.4 +0.9
baz=229
F28M **Old Crow** 88.09 18 P P 18 37 11.3 +1.2
baz=231
MMPY **Sheldon Lake,** 88.19 24 P P 18 37 10.7 -0.1
baz=239
G29M **Pine Creek** 88.22 19 P P 18 37 10.9 +0.2
baz=233
C26K **Camden Bay** 88.25 15 P P 18 37 12.4 +1.6
baz=226
EPYK **Eagle Plains** 88.31 19 P P 18 37 11.7 +0.5
baz=234
C27K **Jago River** 88.35 15 P P 18 37 12.6 +1.3
baz=227
E28M **Babbage River** 88.81 17 P P 18 37 14.5 +1.1
baz=231
D27M **Malcolm River** 88.82 16 P P 18 37 14.8 +1.3
baz=230
G30M **tAoh Zraii Nji** 88.83 19 P P 18 37 14.2 +0.6
baz=234
TOAD **Toad River Com** 89.00 29 P P 18 37 15.3 +0.7
baz=244
E29M **Blow River** 89.16 18 P P 18 37 15.7 +0.7
baz=233
F30M **Barrier River** 89.33 19 P P 18 37 17.2 +1.3
baz=235
G31M **Satah River** 89.43 20 P P 18 37 17.2 +0.9
baz=236
D28M **Stokes Point** 89.49 17 P P 18 37 17.7 +1.2
baz=232
F31M **Tsiigehtchic** 89.89 19 P P 18 37 19.5 +1.1
baz=236
KOTAN **Kotaneelee Air** 90.09 28 P P 18 37 20.0 +0.4
baz=245
PDAR **Pinedale Array** 93.00 47 P P 18 37 34.2 +0.4
comp=Z,0.2nm,0.6s,baz=278,slow=7.8,SNR=1.7
comp=Z,0.2nm,0.6s
A36M **Sachs Harbour** 94.70 17 P P 18 37 40.4 -0.1
baz=245
TXAR **Lajitas Array** 94.77 61 P P 18 37 40.1 -1.9
comp=Z,0.3nm,0.6s,baz=264,slow=5.6,SNR=3.0
comp=Z,0.3nm,0.6s
YKA **Yellowknife Ar** 95.19 27 P P 18 37 42.0 -1.0
comp=Z,0.4nm,0.6s,baz=220,slow=8.0,SNR=5.1
comp=Z,0.4nm,0.6s
MKAR **Makanchi Array** 95.67 317 P P 18 37 45.6 +0.1
comp=Z,0.5nm,0.7s,baz=104,slow=5.1,SNR=3.7
comp=Z,0.5nm,0.7s
ARCES **ARCESS Array B** 117.95 346 PKP PKPdf 18 43 03.8 -0.4
comp=Z,0.2nm,0.3s,baz=58,slow=2.2,SNR=14
FINES **FINESS Array B** 123.56 339 PKP PKPdf 18 43 14.9 -0.1
comp=Z,1.0nm,0.8s,baz=48,slow=6.8,SNR=4.0

NEIC **22** *18:31:20.4±0.6, 35°.839N±0°.009×117°.66W±0°.01, h5km±2km, Error ellipse: s-maj=1.4km s-min=1.1km az=146.0*
PAS 22 18:31:21.0±0.8, 35°.852N±0°.008×117°.67W±0°.01, h4km±2km, ML3.0/19, **ML2.7**/120(NEIC), **Error ellipse:**

s-maj=1.3km s-min=1.0km az=45.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.07**	**123**		Pg	18 31 22.5	0.0
CLC	comp=N,10μm,0.3s			IAML		18 31 24.0	
CLC	comp=E,7μm,0.2s			IAML		18 31 24.1	
TOW	**Tower One**	**0.09**	**242**		Pg	18 31 23.4	+0.6
WVPM	**Volcano Peak E**	**0.16**	**309**		Pg	18 31 24.3	+0.2
SRTC	**Snort**	**0.17**	**203**		Pg	18 31 24.8	+0.4
JRC2	**Joshua Ridge**	**0.17**	**318**		Pg	18 31 24.6	+0.1
WCSM	**Coso Springs S**	**0.19**	**335**		Pg	18 31 24.8	0.0
WNMM	**Nine Mile Cany**	**0.19**	**267**		Pg	18 31 24.9	+0.2
WRVM	**Rose V. Centra**	**0.24**	**311**		Pg	18 31 25.8	+0.1
MPMC	**Manual Prospec**	**0.25**	**35**		Pg	18 31 25.9	0.0
LRMC	**Laurel Mtn Rad**	**0.37**	**182**		Pg	18 31 28.0	-0.2
QSM	**Queen of Sheba**	**0.66**	**80**		Pg	18 31 33.7	+0.1
QSM	comp=E,460nm,0.2s			IAML		18 31 42.7	
QSM	comp=N,345nm,0.5s			IAML		18 31 46.0	
CWC	**Cottonwood Cre**	**0.68**	**330**		Pg	18 31 33.8	-0.2
CWC	comp=N,372nm,0.2s			IAML		18 31 44.1	
CWC	comp=E,296nm,0.2s			IAML		18 31 45.2	
ISA	**Isabella, Lake**	**0.68**	**254**		Pg	18 31 33.8	-0.3
ISA	comp=E,498nm,0.2s			IAML		18 31 44.0	
ISA	comp=N,271nm,0.2s			IAML		18 31 45.6	
CGO	**Cerro Gordo**	**0.71**	**351**		Pg	18 31 34.4	-0.2
GWY	**Greenwater Val**	**0.87**	**67**		Pg	18 31 37.6	-0.1
GWY	comp=N,269nm,0.4s			IAML		18 31 52.3	
GWY	comp=E,374nm,0.4s			IAML		18 31 53.2	
GSC	**Goldstone, Bar**	**0.89**	**128**		Pg	18 31 37.4	-0.7
GSC	comp=N,272nm,0.5s			IAML		18 31 52.5	
GSC	comp=E,345nm,0.7s			IAML		18 31 52.9	
TPO	**Tropico Hills**	**1.07**	**205**		Pg	18 31 40.6	-1.0
TPO	comp=N,287nm,0.8s			IAML		18 31 58.2	
TPO	comp=E,236nm,0.8s			IAML		18 32 03.5	
GRAC	**Grapevine Rang**	**1.17**	**12**		Pg	18 31 43.0	-0.4
WCT	**Wildcat Mounta**	**1.26**	**42**		Pg	18 31 44.0	-1.1
WCT	comp=N,126nm,0.6s			IAML		18 32 03.7	
WCT	comp=E,162nm,0.4s			IAML		18 32 06.0	
GMN	**Gold Mountain**	**1.48**	**13**	IAML		18 32 12.8	
DSP	comp=N,111nm,0.9s **Deep Springs**	**1.54**	**351**	IAML		18 32 11.1	
DSP	comp=N,78nm,0.4s			IAML		18 32 11.3	
TPNV	comp=E,141nm,0.4s **Topopah Spring**	**1.58**	**46**		Pn	18 31 48.8	-1.2
TPNV	comp=E,129nm,0.5s			IAML		18 32 15.6	
TPNV	comp=E,169nm,0.5s			IAML		18 32 15.6	
BFSC	**Mount Baldy Ra**	**1.61**	**180**		Pn	18 31 49.4	-1.0
BFSC	comp=E,120nm,0.6s			IAML		18 32 14.4	
BFSC	comp=N,95nm,0.3s			IAML		18 32 15.8	
MWC	**Mount Wilson**	**1.66**	**191**		Pn	18 31 50.0	-1.0
PASC	**Pasadena Art C**	**1.73**	**194**		Pn	18 31 51.4	-0.5
PASC	comp=E,51nm,0.8s			IAML		18 32 17.0	
ELS	**Elsinore Mount**	**2.21**	**175**	IAML		18 32 32.5	
ELS	comp=E,56nm,0.3s			IAML		18 32 34.5	
PMD	comp=N,46nm,0.9s **Palm Desert**	**2.44**	**154**	IAML		18 32 39.5	
LHV	comp=E,28nm,0.2s **Little Huntoon**	**2.49**	**345**	IAML		18 32 51.1	
LHV	comp=N,28nm,2.1s			IAML		18 32 59.4	
PMPB	comp=E,25nm,1.6s **Monarch Peak**	**2.57**	**279**	IAML		18 32 48.4	
PMPB	comp=E,58nm,1.0s			IAML		18 32 52.7	
PRN	comp=N,65nm,0.8s **Pahroc Range**	**2.61**	**53**	IAML		18 32 52.0	
PRN	comp=N,35nm,0.9s			IAML		18 32 55.1	
BORC	comp=E,49nm,0.5s **Borrego Spring**	**2.78**	**158**	IAML		18 32 49.7	
BORC	comp=E,33nm,0.6s			IAML		18 32 54.3	
DPP	comp=N,25nm,0.9s **Dos Picos Cty**	**2.91**	**168**	IAML		18 32 53.1	
DPP	comp=E,32nm,0.6s			IAML		18 33 22.6	
R11B	comp=N,21nm,0.1s **Troy Canyon, C**	**3.00**	**33**	IAML		18 32 58.2	
CMB	comp=E,21nm,1.2s **Columbia Colle**	**3.08**	**316**	IAML		18 33 07.6	
PSUT	comp=E,18nm,0.7s **Pine Spring**	**4.05**	**48**	IAML		18 33 33.5	
PSUT	comp=E,16nm,0.9s			IAML		18 33 34.9	
ESJX	comp=N,12nm,0.7s **Sierra Juarez**	**4.09**	**159**	IAML		18 33 30.0	
ESJX	comp=E,10.0nm,0.4s			IAML		18 33 40.5	
SPR3	comp=N,7.7nm,1.3s **Spring Creek 3**	**4.11**	**39**	IAML		18 33 30.6	
SPR3	comp=E,11nm,0.6s			IAML		18 33 31.4	
ELK	comp=N,7.3nm,0.6s **Elko**	**5.25**	**21**	IAML		18 34 11.0	
ELK	comp=N,2.6nm,0.8s			IAML		18 34 11.7	
	comp=N,3.1nm,0.8s						

IDC ***22*** *18:50:04.3±0.7, 12°.47N×143°.96E, h0km, mb4.0/15, mbtmp4.0/15, MS3.6/28, Error ellipse: s-maj=21.8km s-min=15.2km az=112.0*

NEIC ***22*** *18:50:08.7±1.4, 12°.5N±0°.1×144°.2E±0°.2, h19km±6km, mb4.5/35, Error ellipse: s-maj=24.6km s-min=14.4km az=115.0*

ISC 22 18:50:08.6±0.6, 12°.47N±0°.09×144°.1E±0°.1, h27km, n74, σ1§11/47, mb4.3/33, MS3.6/26, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.33**	**33**		**Pn**	**18 50 30.9**	**-0.5**
GUMO	**Guam**	**1.33**	**33**	Pn	**Pb**	**18 50 31.8**	**-1.2**
GUMO	214nm,0.3s,baz=246,slow=1.1,SNR=133			Sn	**Sb**	**18 50 51.1**	**+1.4**
JAY	230nm,0.3s,baz=161,slow=21,SNR=14 **Jayapura**	**15.27**	**193**	LR	LR	18 58 29.1	
DAV	comp=Z,144nm,19.3s,baz=16,slow=33 **Davao City (W)**	**19.03**	**255**	LR	LR	19 00 33.7	
JOW	comp=Z,104nm,20.4s,baz=80,slow=33 **Kunigami**	**20.62**	**316**	LR	LR	19 01 00.9	
TGY	comp=Z,146nm,21.5s,baz=135,slow=32 **Tagaytay City**	**22.62**	**277**	LR	LR	19 04 01.7	
H11N1	comp=Z,111nm,19.0s,baz=110,slow=37 **WAKE ISLAND Hy**	**23.02**	**69**	T	T	19 19 10.8	
H11N2	baz=255,slow=75 **WAKE ISLAND Hy**	**23.03**	**69**	T	T	19 19 08.9	
H11N3	baz=255,slow=75 **WAKE ISLAND Hy**	**23.04**	**69**	T	T	19 19 10.8	
JNU	baz=255,slow=75 **Nakatsue**	**23.86**	**332**	LR	LR	19 02 54.0	
MJAR	comp=Z,54nm,20.5s,baz=137,slow=32 **Matsushiro Arr**	**24.55**	**348**	P	**P**	**18 55 25.2**	**-0.9**
MJAR	0.7nm,0.5s,baz=174,slow=9.0,SNR=2.2			LR	LR	19 03 48.6	
TOLI2	comp=Z,90nm,20.6s,baz=166,slow=34 0.7nm,0.5s **Tolitoli**	**25.74**	**246**	P	**P**	**18 55 39.1**	**+2.0**
TOLI2	comp=Z,8.6nm,1.0s			IAmb	IAmb	18 56 07.0	
HNR	**Honiara**	**26.85**	**143**	LR	LR	19 06 29.7	
CTAO	comp=Z,141nm,18.2s,baz=293,slow=37 **Charters Tower**	**32.42**	**176**	P	**P**	**18 56 37.2**	**+0.7**
USRK	**Ussuriysk Ar.**	**33.29**	**344**	LR	LR	19 07 42.1	

	comp=Z,87nm,21.6s,baz=124,slow=32						
WB0	**Warramunga Arr**	**33.43**	**197**	P	**P**	**18 56 44.4**	**-1.0**
WR8	**Warramunga Arr**	**33.58**	**197**	P	**P**	**18 56 46.8**	**+0.2**
WR8	comp=Z,15nm,1.5s			IAmb	IAmb	18 56 56.0	
WRA	**Warramunga Arr**	**33.61**	**197**	P	**P**	**18 56 47.6**	**+0.7**
WRA	**Warramunga Arr**	**33.61**	**197**	P	**P**	**18 56 45.2**	**-1.7**
	comp=Z,1.6nm,0.7s,baz=20,slow=9.6,SNR=10						
ASAR	comp=Z,1.6nm,0.7s **Alice Springs**	**37.28**	**196**	P	**P**	**18 57 18.2**	**-0.2**
ASAR	comp=Z,0.8nm,0.6s,baz=20,slow=10,SNR=13			PcP	**PcP**	**18 59 37.3**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=15,slow=3.8,SNR=6.9						
EIDS	comp=Z,0.8nm,0.6s **Eidsvold**	**38.22**	**170**	P	**P**	**18 57 26.4**	**+0.2**
EIDS	comp=Z,7.9nm,1.2s			IAmb	IAmb	18 57 33.2	
CMAR	**Chiang Mai Arr**	**43.86**	**284**	P	**P**	**18 58 12.4**	**-0.5**
CMAR	comp=Z,0.9nm,0.6s,baz=92,slow=6.1,SNR=7.0			PcP	**PcP**	**18 59 59.0**	**-0.1**
CMAR	comp=Z,0.6nm,0.4s,baz=109,slow=2.7,SNR=4.8			LR	LR	19 14 27.2	
	comp=Z,55nm,20.9s,baz=120,slow=34						
SONM	comp=Z,0.9nm,0.6s **Songino Array**	**47.23**	**326**	P	**P**	**18 58 42.0**	**+2.5**
SONM	**Songino Array**	**47.23**	**326**	P	**P**	**18 58 39.6**	**+0.2**
SONM	comp=Z,0.5nm,0.5s,baz=144,slow=7.1,SNR=4.3			PcP	**PcP**	**19 00 10.2**	**-0.3**
SONM	comp=Z,0.6nm,0.6s,baz=124,slow=2.9,SNR=3.8			LR	LR	19 18 32.6	
	comp=Z,102nm,19.2s,baz=136,slow=36						
YAK	comp=Z,0.5nm,0.5s **Yakutsk**	**50.57**	**351**	LR	LR	19 20 38.3	
	comp=Z,69nm,18.2s,baz=178,slow=36						
MKAR	**Makanchi Array**	**61.79**	**317**	P	**P**	**19 00 24.1**	**-0.9**
MKAR	comp=Z,0.9nm,0.5s,baz=100,slow=9.8,SNR=10.0			LR	LR	19 28 14.5	
	comp=Z,65nm,19.7s,baz=131,slow=37						
M14K	comp=Z,0.9nm,0.5s **Bethel**	**62.01**	**27**	P	**P**	**19 00 26.7**	**+0.5**
ZALV	**Zalesovo Beam**	**62.11**	**325**	P	**P**	**19 00 26.0**	**-1.0**
ZALV	comp=Z,0.4nm,0.3s,baz=117,slow=8.3,SNR=2.0			PcP	**PcP**	**19 01 05.7**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=108,slow=4.7,SNR=3.9						
ZALV	comp=Z,52nm,20.2s,baz=136,slow=36			LR	LR	19 27 14.2	
O15K	comp=Z,0.4nm,0.3s **Ungalikthiuk R**	**62.31**	**29**	P	**P**	**19 00 28.6**	**+0.3**
PALK	**Pallekele**	**62.57**	**272**	LR	LR	19 27 25.0	
	comp=Z,27nm,21.1s,baz=98,slow=36						
P16K	**Nushagak River**	**63.12**	**29**	P	**P**	**19 00 34.1**	**+0.4**
K17K	**Iditarod**	**64.43**	**26**	P	**P**	**19 00 42.5**	**+0.3**
RAR	**Rarotonga**	**64.47**	**121**	LR	LR	19 24 22.1	
	comp=Z,40nm,21.8s,baz=250,slow=32						
KURK	**Kurchatov**	**64.97**	**320**	P	**P**	**19 00 45.9**	**-0.1**
KURK	comp=Z,4.6nm,1.0s			IAmb	IAmb	19 00 57.9	
KURBB	**Kurchatov Arra**	**65.01**	**320**	P	**P**	**19 00 46.0**	**-0.2**
	comp=Z,1.6nm,0.4s,baz=104,slow=6.7,SNR=5.4						
AAK	comp=Z,1.6nm,0.4s **Ala-Archa**	**66.69**	**311**	LR	LR	19 32 20.5	
	comp=Z,63nm,19.5s,baz=130,slow=38						
J20K	**Nowinta River**	**66.71**	**25**	P	**P**	**19 00 57.7**	**+0.7**
J20K	comp=Z,4.3nm,1.3s			IAmb	IAmb	19 01 39.5	
SKT	**Skwentna**	**67.12**	**28**	P	**P**	**19 00 59.5**	**-0.1**
BPAW	**Bear Paw Mtn.**	**67.99**	**25**	P	**P**	**19 01 04.4**	**-0.8**
BPAW	comp=Z,2.7nm,1.1s			IAmb	IAmb	19 01 06.6	
MLY	**Manley**	**68.38**	**24**	P	**P**	**19 01 08.3**	**+0.8**
D22K	**Ayikyak River**	**68.93**	**20**	P	**P**	**19 01 12.7**	**+1.9**
D22K	comp=Z,8.4nm,1.4s			IAmb	IAmb	19 01 44.2	
E22K	**Anaktuvuk Pass**	**68.97**	**21**	P	**P**	**19 01 11.9**	**+0.7**
E22K	comp=Z,5.2nm,1.3s			IAmb	IAmb	19 01 33.3	
FID	**Port Fidalgo**	**69.17**	**29**	P	**P**	**19 01 12.3**	**-0.2**
FID	comp=Z,4.6nm,1.0s			IAmb	IAmb	19 01 56.5	
KKAR	**Karatay Array**	**69.64**	**311**		**P**	**19 01 16.2**	**+0.5**
ILAR	**Eielson Array**	**69.89**	**25**	P	**P**	**19 01 15.8**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=241,slow=4.8,SNR=7.2						
BVAR	comp=Z,0.7nm,0.6s **Borovoye Array**	**70.35**	**322**	P	**P**	**19 01 18.9**	**-1.1**
	comp=Z,2.9nm,0.4s,baz=102,slow=8.1,SNR=31						
BVAR	comp=Z,118nm,19.6s,baz=111,slow=37			LR	LR	19 32 57.8	
DOT	comp=Z,2.9nm,0.4s **Dot Lake**	**70.86**	**27**	IAmb	IAmb	19 01 24.0	
PPT	comp=Z,2.2nm,0.7s **Papeete**	**71.94**	**113**	LR	LR	19 29 01.6	
	comp=Z,135nm,18.6s,baz=234,slow=32						
H27K	**Steamboat Moun**	**72.37**	**24**	IAmb	IAmb	19 01 34.1	
M29M	comp=Z,2.2nm,0.7s **Somme Creek**	**73.21**	**28**	IAmb	IAmb	19 01 39.5	
L29M	comp=Z,2.1nm,0.6s **L29M**	**73.43**	**28**	IAmb	IAmb	19 01 40.8	
G31M	comp=Z,2.1nm,0.6s **Satah River**	**75.33**	**24**	IAmb	IAmb	19 02 19.0	
R33M	comp=Z,6.9nm,1.2s **Jennings River**	**76.79**	**32**	IAmb	IAmb	19 02 00.4	
ARTI	comp=Z,2.3nm,0.7s **Arti**	**77.37**	**325**	LR	LR	19 37 03.2	
	comp=Z,40nm,19.4s,baz=98,slow=36						
WTLY	**Watson Lake, Y**	**77.85**	**31**	IAmb	IAmb	19 02 05.5	
AKTO	comp=Z,3.7nm,0.7s **Aktyubinsk**	**78.03**	**319**	P	**P**	**19 02 04.9**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=79,slow=5.2,SNR=6.0						
AKTO	comp=Z,32nm,19.5s,baz=188,slow=36			LR	LR	19 37 25.4	
BELG	comp=Z,1.6nm,0.5s **Belogornoye**	**84.15**	**322**	LR	LR	19 41 19.6	
	comp=Z,62nm,19.9s,baz=69,slow=37						
YKA	**Yellowknife Ar**	**84.19**	**27**	P	**P**	**19 02 39.6**	**+2.3**
	comp=Z,0.6nm,0.8s,baz=283,slow=4.4,SNR=3.6						
PINE	comp=Z,0.6nm,0.8s **Pine Mountain**	**85.01**	**46**	P	**P**	**19 02 43.8**	**+1.7**
PINE	comp=Z,2.9nm,0.7s			IAmb	IAmb	19 02 44.5	
NEW	**Newport**	**86.55**	**41**		**P**	**19 02 50.2**	**+0.7**
NEW	**Newport**	**86.55**	**41**	LR	LR	19 35 33.8	
BMO	comp=Z,16nm,20.8s,baz=346,slow=32 **Blue Mountains**	**87.30**	**45**		**P**	**19 02 53.9**	**+0.7**
BMO	comp=Z,4.5nm,1.3s			IAmb	IAmb	19 03 13.4	
ARCES	**ARCESS Array B**	**87.92**	**342**	LR	LR	19 45 27.5	
	comp=Z,25nm,19.2s,baz=72,slow=38						
NVAR	**Mina Array Bea**	**88.19**	**51**	P	**P**	**19 02 57.3**	**-0.5**
NVAR	**Mina Array Bea**	**88.19**	**51**	P	**P**	**19 02 59.4**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=263,slow=5.5,SNR=5.0						
ELK	comp=Z,1.2nm,0.7s **Elko**	**89.86**	**48**	LR	LR	19 36 57.2	
	comp=Z,31nm,20.6s,baz=278,slow=31						
TPNV	**Topopah Spring**	**90.15**	**52**	P	**P**	**19 03 07.7**	**+0.7**
TPNV	comp=Z,1.8nm,0.7s			IAmb	IAmb	19 03 09.2	
FINES	**FINESS Array B**	**91.86**	**335**	P	**P**	**19 03 12.4**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=64,slow=4.4,SNR=6.8						
PDAR	comp=Z,1.2nm,0.7s **Pinedale Array**	**93.27**	**45**	LR	LR	19 38 53.9	
	comp=Z,16nm,21.1s,baz=298,slow=31						
AKASG	**Malin Array Be**	**95.50**	**325**	LR	LR	19 48 12.3	
	comp=Z,28nm,20.4s,baz=48,slow=37						
BRTR	**Keskin Array B**	**97.29**	**313**	P	Pdif	19 03 38.8	-1.0
	comp=Z,0.4nm,0.5s,baz=64,slow=6.6,SNR=2.6						
HFS	comp=Z,0.4nm,0.5s **Hagfors**	**97.54**	**337**	LR	LR	19 52 42.8	
	comp=Z,20nm,18.1s,baz=65,slow=39						
NOA	**NORSAR Array B**	**97.83**	**339**	LR	LR	19 50 00.8	
	comp=Z,18nm,19.5s,baz=50,slow=37						
LPAZ	**La Paz**	**148.55**	**101**	PKPbc	**PKPab**	**19 09 55.8**	**-2.5**
	comp=Z,1.2nm,0.7s,baz=260,slow=0.2,SNR=5.1						

IDC ***22*** *19:19:20.5±2.4, 62°.47N×151°.55W, h82km±24km, mb3.5/12, mbtmp3.8/14, Error ellipse: s-maj=24.8km s-min=19.1km az=64.0*

NEIC ***22*** *19:19:21.2±0.8, 62°.35N±0°.02×151°.32W±0°.07, h96km±6km, Error ellipse: s-maj=4.9km s-min=3.3km az=102.0*

AEIC ***22*** *19:19:22.9±0.9, 62°.36N±0°.03×151°.32W±0°.07, h85km±5km, ML3.3, ML3.6/252(NEIC), Error ellipse: s-maj=4.9km s-min=4.2km az=55.0*

ISC 22 19:19:21.3±0.6, 62°.38N±0°.03×151°.32W±0°.03, h93km, n138, σ1§16/100, mb3.9/12, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC

SKT	**Skwentna**	**0.42**	**194**		**Sn**	**19 19 46.1**	**-0.4**
SKT	**Skwentna**	**0.42**	**194**		**Pn**	**19 19 35.4**	**-0.3**
CUT	**Chulitna**	**0.49**	**87**		**Sn**	**19 19 48.1**	**+0.8**
CUT	**Chulitna**	**0.49**	**87**		**Pn**	**19 19 36.4**	**+0.3**
PPLA	**Purkeypile**	**0.66**	**322**		**Sn**	**19 19 50.7**	**+0.6**
PPLA	**Purkeypile**	**0.66**	**322**		**Pn**	**19 19 38.2**	**+0.4**
PPLA	comp=N,1μm,0.6s			IAML		19 19 51.2	
PPLA	comp=E,1μm,0.5s			IAML		19 19 51.6	
M22K	**Willow**	**0.85**	**138**		**Pn**	**19 19 39.5**	**+0.1**
M22K	**Willow**	**0.85**	**138**		**Sn**	**19 19 53.1**	**0.0**
STLK	**Strandline Lak**	**0.92**	**196**		**Pn**	**19 19 40.0**	**-0.4**
STLK	**Strandline Lak**	**0.92**	**196**		**Sn**	**19 19 54.1**	**-0.5**
M20K	**Styx River**	**0.99**	**240**		**Sn**	**19 19 55.7**	**-0.3**
M20K	**Styx River**	**0.99**	**240**		**Pn**	**19 19 40.8**	**-0.3**
M20K	comp=N,1μm,0.5s			IAML		19 19 56.1	
M20K	comp=E,2μm,0.2s			IAML		19 19 56.1	
CAST	**Castle Rocks**	**1.10**	**342**		**Pn**	**19 19 42.6**	**+0.4**
CAST	comp=N,668nm,0.6s			IAML		19 19 58.3	
CAST	comp=E,666nm,0.3s			IAML		19 19 58.4	
TRF	**Thorofare Moun**	**1.17**	**23**		**Pn**	**19 19 44.0**	**+0.8**
TRF	comp=E,1μm,0.5s			IAML		19 20 01.7	
TRF	comp=N,1μm,0.7s			IAML		19 20 01.9	
KTH	**Kantishna Hill**	**1.19**	**9**		**Pn**	**19 19 44.0**	**+0.7**
KTH	comp=E,758nm,0.6s			IAML		19 20 00.6	
KTH	comp=N,534nm,0.7s			IAML		19 20 02.8	
SPCP	**Crater Peak Br**	**1.19**	**200**		**Pn**	**19 19 43.4**	**-0.1**
SPCP					**Sn**	**19 20 00.2**	**0.0**
L20K	**Farewell, AK**	**1.20**	**276**		**Pn**	**19 19 43.2**	**-0.2**
SPCN	**Chakachatna No**	**1.23**	**200**		**Pn**	**19 19 44.4**	**+0.5**
SPU	**Mount Spurr**	**1.25**	**197**		**Pn**	**19 19 43.9**	**-0.3**
SPU	**Mount Spurr**	**1.25**	**197**		**Sn**	**19 20 00.8**	**-0.6**
SPWE	**Spurr West**	**1.26**	**208**		**Pn**	**19 19 44.4**	**+0.1**
GHO	**Glory Hole Cre**	**1.28**	**118**		**Pn**	**19 19 44.8**	**+0.3**
PMR	**Palmer**	**1.30**	**127**		**Pn**	**19 19 44.6**	**0.0**
PMR	comp=N,933nm,0.5s			IAML		19 20 03.6	
PMR	comp=E,912nm,0.2s			IAML		19 20 03.6	
PMR	**Palmer**	**1.30**	**127**	P	**Pn**	**19 19 44.8**	**+0.2**
PMR	**Palmer**	**1.30**	**127**	S	**Sn**	**19 20 03.0**	**+0.8**
FIS	**Fire Island**	**1.35**	**157**		**Pn**	**19 19 46.4**	**+1.2**
RC01	**Rabbit Creek A**	**1.50**	**149**		**Pn**	**19 19 46.7**	**-0.4**
RC01	comp=N,1μm,0.2s			IAML		19 20 08.0	
RC01	comp=E,1μm,0.5s			IAML		19 20 09.9	
M19K	**Big River Lodg**	**1.52**	**253**		**Pn**	**19 19 47.2**	**-0.2**
M19K	comp=E,284nm,0.8s			IAML		19 20 07.9	
M19K	comp=N,327nm,0.5s			IAML		19 20 09.6	
RND	**Reindeer**	**1.53**	**47**		**Pn**	**19 19 48.1**	**+0.7**
RND	comp=N,495nm,0.5s			IAML		19 20 09.1	
RND	comp=E,527nm,0.4s			IAML		19 20 09.3	
RND	**Reindeer**	**1.53**	**47**		**Sn**	**19 20 08.4**	**+1.0**
CHUM	**Lake Minchumin**	**1.57**	**344**		**Pn**	**19 19 48.7**	**+0.7**
K20K	**Telida**	**1.60**	**309**		**Sn**	**19 20 08.4**	**-0.5**
K20K	**Telida**	**1.60**	**309**		**Pn**	**19 19 48.6**	**+0.3**
K20K	comp=E,727nm,0.8s			IAML		19 20 09.4	
K20K	comp=N,669nm,0.7s			IAML		19 20 09.5	
CAPN	**Captain Cook N**	**1.62**	**177**		**Pn**	**19 19 49.5**	**+0.9**
KNK	**Knik Glacier**	**1.67**	**124**		**Pn**	**19 19 49.1**	**-0.1**
L19K	**White Mountain**	**1.67**	**265**		**Pn**	**19 19 49.2**	**0.0**
L19K	comp=N,512nm,0.8s			IAML		19 20 11.1	
L19K	comp=E,435nm,0.8s			IAML		19 20 12.0	
BPAW	**Bear Paw Mtn.**	**1.73**	**5**		**Pn**	**19 19 50.2**	**+0.2**
BPAW	comp=N,444nm,0.5s			IAML		19 20 12.7	
BPAW	comp=E,418nm,0.7s			IAML		19 20 13.0	
MCK	**McKinley**	**1.73**	**38**		**Pn**	**19 19 50.9**	**+0.8**
DFR	**Drift River**	**1.91**	**201**		**Pn**	**19 19 52.5**	**0.0**
SCM	**Sheep Creek Mo**	**1.95**	**105**		**Pn**	**19 19 52.7**	**-0.3**
SCM	comp=N,753nm,0.9s			IAML		19 20 18.5	
BWN	**Browne**	**1.98**	**24**	IAML		19 20 42.5	
BWN	comp=N,335nm,0.7s			IAML		19 20 47.1	
RED	comp=E,423nm,0.7s **Redoubt Volcan**	**2.09**	**200**		**Pn**	**19 19 54.9**	**+0.1**
RED	comp=N,196nm,0.7s			IAML		19 20 23.0	
RED	comp=E,177nm,0.7s			IAML		19 20 22.0	
N19K	**Bonanza Creek**	**2.19**	**225**		**Pn**	**19 19 56.1**	**+0.1**
J20K	**Nowinta River**	**2.21**	**326**		**Pn**	**19 19 56.6**	**+0.3**
M24K	**Tolsona, Glenn**	**2.42**	**94**		**Pn**	**19 19 59.5**	**+0.4**
NEA2	**Nenana**	**2.44**	**23**	IAML		19 20 27.5	
NEA2	comp=E,173nm,0.8s			IAML		19 20 27.6	
SEW	comp=N,132nm,0.6s **Seward**	**2.46**	**158**		**Pn**	**19 19 59.4**	**-0.1**
SEW	comp=N,281nm,0.5s			IAML		19 20 35.9	
SEW	comp=E,255nm,0.6s			IAML		19 20 38.2	
L18K	**Granite Mounta**	**2.52**	**269**		**Pn**	**19 20 00.6**	**+0.3**
GLI	**Glacier Island**	**2.52**	**125**		**Pn**	**19 19 59.3**	**-1.0**
J19K	**Poorman**	**2.54**	**312**		**Pn**	**19 20 00.9**	**+0.4**
J19K	comp=E,253nm,0.8s			IAML		19 20 31.4	
J19K	comp=N,343nm,0.4s			IAML		19 20 32.1	
WRH	**Wood River Hil**	**2.55**	**33**		**Pn**	**19 20 01.0**	**+0.3**
ILSW	**Iliamna Southw**	**2.56**	**201**		**Pn**	**19 20 01.8**	**+0.7**
BRLK	**Bradley Lake**	**2.64**	**175**		**Pn**	**19 20 02.7**	**+0.8**
BRLK	comp=E,194nm,0.1s			IAML		19 20 35.4	
BRLK	comp=N,276nm,0.2s			IAML		19 20 41.6	
J18K	**Innoko River**	**2.70**	**296**		**Pn**	**19 20 02.5**	**-0.2**
J18K	comp=E,168nm,0.9s			IAML		19 20 36.5	
J18K	comp=N,190nm,0.8s			IAML		19 20 36.5	
KLU	**Klutina**	**2.70**	**107**		**Pn**	**19 20 01.9**	**-0.9**
PAX	**Paxson**	**2.76**	**75**		**Pn**	**19 20 03.9**	**+0.3**
PAX	comp=E,234nm,0.6s			IAML		19 20 39.0	
PAX	comp=N,236nm,0.7s			IAML		19 20 44.5	
CCB	**Clear Creek Bu**	**2.76**	**33**		**Pn**	**19 20 03.8**	**+0.3**
HDA	**Harding Lake**	**2.83**	**42**		**Pn**	**19 20 04.7**	**+0.3**
HDA	comp=N,152nm,0.5s			IAML		19 20 39.6	
HDA	comp=E,123nm,0.4s			IAML		19 20 46.0	
CNPM	**China Poot**	**2.87**	**179**		**Pn**	**19 20 05.2**	**+0.2**
CNPM	comp=E,182nm,0.7s			IAML		19 20 45.0	
CNPM	comp=N,167nm,0.3s			IAML		19 20 45.5	
P19K	**Oil Pt**	**2.89**	**200**	IAML		19 21 12.2	
P19K	comp=N,135nm,0.5s			IAML		19 21 12.2	
I23K	comp=E,167nm,0.5s **Minto, Yukon-K**	**2.91**	**17**	IAML		19 20 40.1	
DIV	comp=E,82nm,1.1s **Divide**	**2.92**	**113**	IAML		19 20 40.0	
COLA	comp=E,314nm,0.3s **College**	**2.94**	**30**		**Pn**	**19 20 06.5**	**+0.6

M17K				IAML			19 20 45.5	
	comp=E,162nm,0.9s							
M17K				IAML			19 21 14.7	
	comp=N,127nm,0.6s							
ILAR	**Eielson Array**	**3.11**	**38**		**Pn**		**19 20 07.7**	**-0.5**
ILAR	**Eielson Array**	**3.11**	**38**	P	**Pn**		**19 20 08.3**	**+0.1**
	comp=N,6.0nm,0.3s,baz=224,slow=14,SNR=65							
ILAR				S	**Sn**		**19 20 37.3**	**-7.2**
	comp=N,13nm,0.6s,baz=227,slow=15,SNR=5.1							
O18K	**Koktuh Hills**	**3.16**	**218**		**Pn**		**19 20 09.2**	**+0.2**
AU22	**Augustine Moun**	**3.18**	**199**		**Pn**		**19 20 10.1**	**+0.9**
AUCH	**Augustine Cone**	**3.20**	**200**		**Pn**		**19 20 10.7**	**+1.1**
EYAK	**Cordova Ski Ar**	**3.24**	**122**	IAML			19 20 54.9	
	comp=E,103nm,0.5s							
EYAK				IAML			19 21 02.5	
	comp=N,206nm,0.9s							
EYAK	**Cordova Ski Ar**	**3.24**	**122**	P	**Pn**		**19 20 09.0**	**-1.0**
RIDG	**Independent Ri**	**3.24**	**62**	IAML			19 20 55.9	
	comp=N,171nm,0.6s							
RIDG				IAML			19 20 56.0	
	comp=E,248nm,0.7s							
K17K	**Iditarod**	**3.25**	**279**	IAML			19 20 49.4	
K17K	comp=N,86nm,1.0s			IAML			19 20 49.7	
	comp=E,176nm,0.9s							
N25K	**Chitina, Valde**	**3.26**	**101**	IAML			19 20 48.7	
	comp=E,216nm,0.8s							
N25K				IAML			19 20 48.9	
	comp=N,236nm,0.4s							
H21K	**Melozitna Rive**	**3.35**	**349**	IAML			19 20 52.4	
	comp=N,58nm,0.7s							
J25K	**Salcha River,**	**3.48**	**47**	IAML			19 20 59.1	
	comp=N,72nm,0.7s							
J25K				IAML			19 20 59.3	
	comp=E,75nm,1.0s							
BMRM	**Bremner River**	**3.50**	**111**	IAML			19 21 02.2	
	comp=E,142nm,0.4s							
DOT	**Dot Lake**	**3.54**	**66**		**Pn**		**19 20 14.3**	**+0.3**
DOT				IAML			19 20 55.8	
	comp=E,132nm,0.5s							
DOT				IAML			19 21 01.5	
	comp=N,102nm,0.4s							
MENT	**Mentasta**	**3.55**	**78**	P	**Pn**		**19 20 18.5**	**+4.3**
P18K	**Big Mountain,**	**3.56**	**214**		**Pn**		**19 20 14.4**	**+0.1**
Q19K	**Cape Douglas,**	**3.65**	**199**	IAML			19 21 16.3	
	comp=E,143nm,1.0s							
Q19K				IAML			19 21 57.8	
	comp=N,117nm,0.8s							
GLB	**Gilahina Butte**	**3.67**	**102**		**Pn**		**19 20 15.9**	**0.0**
GLB				IAML			19 20 59.7	
	comp=E,102nm,0.4s							
GLB				IAML			19 20 60.0	
	comp=N,137nm,0.6s							
SCRK	**Sand Creek**	**3.69**	**61**	IAML			19 21 05.4	
	comp=N,64nm,0.8s							
SCRK				IAML			19 21 05.9	
	comp=E,70nm,0.8s							
L26K	**Log Cabin Wild**	**3.73**	**77**	IAML			19 21 11.7	
	comp=E,154nm,0.5s							
IMAR	**Indian Mountai**	**3.77**	**345**		**Pn**		**19 20 17.8**	**+0.7**
SYI	**Shuyak Island**	**3.82**	**188**	IAML			19 21 03.3	
	comp=E,48nm,0.4s							
SYI				IAML			19 21 10.6	
	comp=N,47nm,0.7s							
M26K	**Nabesna, AK**	**3.87**	**86**	IAML			19 21 21.8	
	comp=N,106nm,0.6s							
M26K				IAML			19 21 31.4	
	comp=E,79nm,0.6s							
H19K	**Roundabout Mou**	**3.88**	**327**	IAML			19 21 04.2	
	comp=N,49nm,0.8s							
H19K				IAML			19 21 18.4	
	comp=E,44nm,0.7s							
VRDI	**Verde Repeater**	**3.91**	**104**	IAML			19 21 07.4	
	comp=E,61nm,0.5s							
VRDI				IAML			19 21 07.4	
	comp=N,80nm,0.9s							
J26L	**Joseph Creek**	**4.08**	**55**	IAML			19 21 09.1	
	comp=E,62nm,0.5s							
J26L				IAML			19 21 14.8	
	comp=N,80nm,0.6s							
H18K	**Honhosa River**	**4.18**	**315**	IAML			19 21 09.6	
	comp=N,40nm,0.8s							
H18K				IAML			19 21 09.7	
	comp=E,36nm,0.8s							
G21K	**Allakaket**	**4.26**	**348**	IAML			19 21 14.0	
	comp=N,65nm,0.7s							
G21K				IAML			19 21 15.1	
	comp=E,55nm,0.7s							
SUCK	**Suckling Hills**	**4.32**	**119**	IAML			19 21 14.8	
	comp=N,106nm,0.5s							
SUCK				IAML			19 21 43.9	
	comp=E,53nm,1.1s							
J16K	**Anvik River**	**4.35**	**286**	IAML			19 21 31.8	
	comp=N,29nm,0.7s							
J16K				IAML			19 21 46.1	
	comp=E,29nm,0.7s							
M27K	**Edge Creek, AK**	**4.40**	**86**	IAML			19 21 17.7	
	comp=E,26nm,0.8s							
M27K				IAML			19 21 47.8	
	comp=N,40nm,1.0s							
BCAR	**Beaver Creek A**	**4.44**	**77**		**Pn**		**19 20 25.3**	**-0.9**
K27K	**Chicken**	**4.50**	**64**	IAML			19 21 25.2	
	comp=N,50nm,0.6s							
K27K				IAML			19 21 26.8	
	comp=E,31nm,0.5s							
I17K	**Unalakleet**	**4.52**	**294**	IAML			19 21 17.1	
	comp=N,24nm,0.8s							
I17K				IAML			19 21 18.5	
	comp=E,45nm,0.6s							
G19K	**Purcell Mounta**	**4.54**	**329**	IAML			19 23 07.7	
	comp=E,63nm,1.0s							
G19K				IAML			19 23 07.7	
	comp=N,33nm,0.2s							
H17K	**Granite Mounta**	**4.61**	**308**		**Pn**		**19 20 29.5**	**+1.1**
H17K				IAML			19 21 19.8	
	comp=N,74nm,0.6s							
H17K				IAML			19 21 21.3	
	comp=E,55nm,1.1s							
I26K	**Coal Creek Min**	**4.65**	**47**	IAML			19 21 29.1	
	comp=N,39nm,0.9s							
I26K				IAML			19 22 00.9	
	comp=E,49nm,0.6s							
KDAK	**Kodiak Island**	**4.66**	**188**		**Pn**		**19 20 27.4**	**-1.7**
KDAK				IAML			19 21 21.9	
	comp=E,30nm,0.3s							
KDAK	**Kodiak Island**	**4.66**	**188**	P	**Pn**		**19 20 27.6**	**-1.5**
	comp=E,4.3nm,0.3s,baz=36,slow=5.2,SNR=78							
KDAK				S	**Sn**		**19 21 18.2**	**-3.7**
	comp=E,9.1nm,0.3s,baz=218,slow=10.0,SNR=10							
G18K	**Tagagawik**	**4.77**	**321**	IAML			19 21 23.8	
	comp=N,38nm,0.7s							
G18K				IAML			19 21 27.1	
	comp=E,29nm,0.8s							
CAHL	**Cahill**	**4.78**	**206**		**Pn**		**19 20 31.7**	**+0.9**
BARN	**Barnard Glacie**	**4.78**	**102**	IAML			19 21 28.6	
	comp=E,57nm,0.4s							
N15K	**Kwethluk River**	**4.78**	**246**	IAML			19 22 04.6	
	comp=E,40nm,0.8s							
N15K				IAML			19 22 23.0	
	comp=N,31nm,1.1s							
GRNC	**Granite Creek**	**4.86**	**106**	IAML			19 21 32.6	
	comp=E,34nm,0.7s							
GRNC				IAML			19 21 52.5	
	comp=N,64nm,0.7s							
F21K	**Alatna River**	**4.95**	**350**	IAML			19 21 30.8	
	comp=N,39nm,0.5s							
F21K				IAML			19 21 30.9	
	comp=E,23nm,0.6s							
CTGM	**Chitina Glacie**	**4.96**	**102**	IAML			19 21 31.8	
	comp=E,38nm,0.3s							
CTGM				IAML			19 21 32.5	
	comp=N,68nm,0.7s							
F20K	**Avaraart Lake**	**5.05**	**340**	IAML			19 21 36.0	
	comp=N,40nm,0.6s							
LOGN	**Logan Glacier**	**5.17**	**103**	IAML			19 21 34.4	
	comp=E,42nm,0.5s							
LOGN				IAML			19 21 39.0	
	comp=N,48nm,0.7s							
F19K	**Shaleruckik Mo**	**5.26**	**331**	IAML			19 21 39.0	
	comp=N,14nm,0.9s							
TABL	**Table Mountain**	**5.26**	**107**	IAML			19 21 40.2	
	comp=E,42nm,0.7s							
TABL				IAML			19 21 42.7	
	comp=N,43nm,0.8s							
PLK2	**Peulik 2**	**5.27**	**211**		**Pn**		**19 20 37.6**	**+0.2**
OHAK	**Old Harbor**	**5.27**	**192**		**Pn**		**19 20 37.2**	**-0.2**
OHAK	**Old Harbor**	**5.27**	**192**	P	**Pn**		**19 20 36.0**	**-1.5**

M14K	**Bethel**	**5.34**	**257**		**Pn**		**19 20 38.7**	**+0.3**
M14K				IAML			19 22 29.1	
	comp=N,14nm,1.2s							
PLK4	**Peulik 4**	**5.39**	**210**		**Pn**		**19 20 39.1**	**-0.1**
PLK4	**Peulik 4**	**5.39**	**210**	IAML			19 22 21.8	
	comp=E,16nm,0.8s							
PLK4				IAML			19 22 30.7	
	comp=N,18nm,1.1s							
BMAR	**Burnt Mountain**	**5.82**	**27**		**Pn**		**19 20 45.7**	**+0.8**
SII	**Sitkinak Islan**	**6.02**	**195**	P	**Pn**		**19 20 46.7**	**-1.0**
E21K	**Killik River**	**6.18**	**351**		**Pn**		**19 20 51.4**	**+1.5**
CHIR	**Chirikof Islan**	**6.94**	**201**	P	**Pn**		**19 20 59.4**	**-0.8**
	comp=N,15nm,1.4s							
NVAR	**Mina Array Bea**	**31.29**	**125**	P	**P**		**19 25 34.5**	**+2.1**
	comp=N,0.8nm,0.6s,baz=326,slow=9.7,SNR=3.6							
	comp=N,0.8nm,0.6s							
SPITS	**Spitsbergen Ar**	**39.48**	**4**	P	**P**		**19 26 40.9**	**-0.9**
	comp=N,1.5nm,0.6s,baz=23,slow=6.6,SNR=6.1							
	comp=N,1.5nm,0.6s							
TXAR	**Lajitas Array**	**45.14**	**114**	P	**P**		**19 27 30.1**	**+1.8**
	comp=N,0.4nm,0.5s,baz=337,slow=7.0,SNR=2.6							
	comp=N,0.4nm,0.5s							
ARCES	**ARCESS Array B**	**48.35**	**1**	P	**P**		**19 27 52.6**	**-0.1**
	comp=N,0.9nm,0.7s,baz=0.6,slow=8.2,SNR=1.4							
	comp=N,0.9nm,0.7s							
SONM	**Songino Array**	**54.06**	**306**	P	**P**		**19 28 37.0**	**+1.2**
	comp=N,1.0nm,0.7s,baz=31,slow=6.9,SNR=7.0							
	comp=N,1.0nm,0.7s							
ZALV	**Zalesovo Beam**	**55.93**	**324**	P	**P**		**19 28 48.5**	**-0.6**
	comp=N,0.7nm,0.3s,baz=350,slow=7.5,SNR=4.4							
	comp=N,0.7nm,0.3s							
FINES	**FINESS Array B**	**56.48**	**2**	P	**P**		**19 28 52.5**	**-0.3**
	comp=N,1.3nm,0.7s,baz=359,slow=9.5,SNR=8.0							
	comp=N,1.3nm,0.7s							
HFS	**Hagfors**	**57.27**	**9**	P	**P**		**19 28 57.8**	**-0.6**
	comp=N,0.9nm,0.8s,baz=20,slow=4.6,SNR=1.8							
	comp=N,0.9nm,0.8s							
BVAR	**Borovoye Array**	**60.33**	**332**	P	**P**		**19 29 19.3**	**-0.4**
	comp=N,0.7nm,0.5s,baz=46,slow=8.5,SNR=5.6							
	comp=N,0.7nm,0.5s							
KURBB	**Kurchatov Arra**	**60.62**	**326**	P	**P**		**19 29 21.1**	**-0.5**
	comp=N,0.4nm,0.4s,baz=30,slow=6.8,SNR=4.5							
	comp=N,0.4nm,0.4s							
MKAR	**Makanchi Array**	**63.07**	**322**	P	**P**		**19 29 37.3**	**-1.0**
	comp=N,0.5nm,0.4s,baz=38,slow=7.2,SNR=9.9							
	comp=N,0.5nm,0.4s							
AKASG	**Malin Array Be**	**67.26**	**360**	P	**P**		**19 30 04.2**	**-1.0**
	comp=N,0.6nm,0.4s,baz=3.6,slow=6.4,SNR=5.5							
	comp=N,0.6nm,0.4s							

*IDC **22** 19:22:38.0±3.4, 50.°34N×179.°62E, h0km, mb3.6/4, mbtmp3.7/6, ML3.3/2, MS3.5/1, Error ellipse: s-maj=76.2km s-min=32.8km az=175.0*
*AEIC **22** 19:22:46.9±1.5, 51.°07N±0.°06×179.°30E±0.°05, h20km±6km, Error ellipse: s-maj=8.3km s-min=4.8km az=187.0*
*NEIC **22** 19:22:47.8±1.7, 51.°11N±0.°07×179.°35E±0.°06, h29km±8km, mb3.9/15, ML3.3/12, ML2.9(AEIC), Error ellipse: s-maj=9.6km s-min=5.8km az=186.0*

ISC 22 19:22:46.7±2.0, 51.°0N±0.°1×179.°32E±0.°04, h24km±12km, n48, σ0°95/55, mb3.9/6, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.33**	**358**	Pg		**Pb**	**19 22 54.2**	**0.0**
AMKA	**Amchitka**	**0.33**	**358**			**Sb**	**19 22 59.2**	**0.0**
CERB	**Semis' Cerberu**	**0.91**	**12**			**Pn**	**19 23 03.8**	**-0.1**
CERB						**Sb**	**19 23 15.0**	**-0.5**
CETU	**Semis' Tuman**	**0.93**	**7**			**Pb**	**19 23 03.9**	**-0.2**
CEPE	**Semis' Perret**	**0.94**	**12**			**Pb**	**19 23 04.0**	**-0.3**
CEAP	**Semis' Anvil P**	**0.97**	**9**			**Pb**	**19 23 04.5**	**-0.3**
LSSE	**Little Sitkin**	**1.01**	**332**			**Pb**	**19 23 04.7**	**-0.7**
LSSE						**Sb**	**19 23 18.3**	**0.0**
LSPA	**Little Sitkin**	**1.03**	**333**			**Pb**	**19 23 05.0**	**-0.7**
LSPA						**Sb**	**19 23 18.6**	**-0.2**
LSNW	**Little Sitkin**	**1.05**	**332**			**Pb**	**19 23 05.1**	**-1.1**
GAKI	**Gareloi-Kavalg**	**1.28**	**66**			**Pn**	**19 23 08.2**	**-0.8**
GAKI						**Sn**	**19 23 26.1**	**+0.8**
GASW	**Gareloi Southw**	**1.36**	**57**			**Pn**	**19 23 10.2**	**+0.1**
GASW						**Sb**	**19 23 27.7**	**-0.6**
GALAA	**Gareloi Lava P**	**1.39**	**58**			**Pn**	**19 23 10.9**	**+0.3**
GANO	**Gareloi North**	**1.41**	**56**			**Pn**	**19 23 10.9**	**+0.1**
TANO	**Tanaga North**	**1.82**	**60**			**Pn**	**19 23 17.6**	**+1.2**
TANO						**Sb**	**19 23 41.7**	**0.0**
TASE	**Tanaga Southea**	**1.83**	**63**			**Pn**	**19 23 17.3**	**+0.6**
KIWB	**Kanaga Island**	**2.35**	**68**	Pn		**Pn**	**19 23 24.7**	**+1.0**
KIWB				IAML			19 24 03.1	
	comp=E,163nm,0.5s							
ADK	**Adak**	**2.64**	**70**	Pn		**Pn**	**19 23 28.2**	**+0.6**
ADK				IAML			19 24 11.5	
	comp=E,147nm,0.7s							
ETKA	**Kagalaska Isla**	**2.79**	**71**			**Pn**	**19 23 30.6**	**+0.7**
GSTR	**Great Sitkin T**	**3.07**	**68**	Pn		**Pn**	**19 23 31.3**	**-2.3**
GSTR				IAML			19 24 34.8	
	comp=E,139nm,1.0s							
SHEM	**Shemya Is, Ala**	**3.65**	**300**	Pn		**Pn**	**19 23 43.8**	**+2.3**
SHEM				IAML			19 24 41.9	
	comp=E,62nm,0.8s							
SHEM	**Shemya Is, Ala**	**3.65**	**300**	Pn		**Pn**	**19 23 44.1**	**+2.6**
	comp=E,12nm,0.3s,baz=73,slow=2.1,SNR=8.1							
SHEM				Sn		**Sb**	**19 24 34.8**	**+0.6**
	comp=E,6.5nm,0.3s,baz=117,slow=23,SNR=6.7							
	comp=E,37nm,0.3s							
SMY	**Shemya**	**3.65**	**300**	Pn		**Pn**	**19 23 43.7**	**+2.1**
ATKA	**Atka Island**	**4.20**	**71**	Pn		**Pn**	**19 23 49.9**	**+0.7**
ATKA				IAML			19 24 56.3	
	comp=E,35nm,0.7s							
ATKA				IAML			19 25 03.1	
	comp=N,36nm,1.0s							
SPIA	**Saint Paul Isl**	**8.67**	**41**	Pn		**Pn**	**19 24 53.0**	**+2.6**
LVA	**Lava Point**	**9.44**	**65**	Pn		**Pn**	**19 25 00.5**	**-0.6**
CNBA	**Chernabura Isl**	**13.26**	**65**	Pn		**Pn**	**19 25 52.2**	**-0.9**
PETK	**Petropavlovsk-**	**13.45**	**287**	Pn		**Pn**	**19 25 55.2**	**-0.6**
	comp=N,0.1nm,0.3s,baz=89,slow=28,SNR=1.9							
	comp=N,1.2nm,0.8s							
K15K	**Wolf Creek Mou**	**15.34**	**35**	P		**P**	**19 26 26.9**	**+1.1**
K15K				IAmb		IAmb	19 27 05.2	
	comp=Z,14nm,1.4s							
L16K	**Owhat River**	**15.79**	**39**	P		**P**	**19 26 31.0**	**+0.2**
L16K				IAmb		IAmb	19 26 52.1	
	comp=Z,7.0nm,1.4s							
SII	**Sitkinak Islan**	**16.53**	**60**	P		**Pn**	**19 26 37.3**	**+0.6**
SII				IAmb		IAmb	19 26 54.9	
	comp=Z,11nm,1.0s							
L18K	**Granite Mounta**	**17.18**	**40**			**Pn**	**19 26 45.1**	**+0.3**
J20K	**Nowinta River**	**19.16**	**37**	P		**P**	**19 27 08.4**	**+0.4**
F19K	**Shaleruckik Mo**	**19.55**	**27**	P		**P**	**19 27 12.6**	**+0.4**
F19K				IAmb		IAmb	19 27 37.7	
	comp=Z,3.5nm,1.1s							
E19K	**Redstone River**	**20.13**	**26**	P		**P**	**19 27 19.3**	**+0.7**
E19K				IAmb		IAmb	19 27 46.1	
	comp=Z,9.2nm,1.4s							
IMAR	**Indian Mountai**	**20.28**	**32**	P		**P**	**19 27 20.1**	**-0.1**
H21K	**Melozitna Rive**	**20.43**	**34**	P		**P**	**19 27 21.3**	**-0.5**
D19K	**Kuna River**	**20.63**	**24**	P		**P**	**19 27 24.5**	**+0.5**
D19K				IAmb		IAmb	19 27 30.3	
	comp=Z,11nm,1.4s							
G21K	**Allakaket**	**20.67**	**31**	P		**P**	**19 27 24.4**	**0.0**
G21K				IAmb		IAmb	19 27 36.9	
	comp=Z,5.3nm,1.4s							
ILAR	**Eielson Array**	**22.25**	**39**	P		**P**	**19 27 41.3**	**0.0**
	comp=Z,0.3nm,0.6s,baz=262,slow=10,SNR=2.6							
	comp=Z,0.3nm,0.6s							
D22K	**Ayikyak River**	**22.35**	**27**	P		**P**	**19 27 43.2**	**+0.7**
F24K	**Squaw Lake**	**23.07**	**32**			**P**	**19 27 49.8**	**-0.3**
F24K				IAmb		IAmb	19 27 51.6	
	comp=Z,3.2nm,0.6s							
TOLK	**Toolik Lake Re**	**23.12**	**29**	P		**P**	**19 27 50.1**	**-0.5**
BMAR	**Burnt Mountain**	**24.17**	**34**	P		**P**	**19 27 59.8**	**-0.8**
G26K	**Porcupine Rive**	**24.26**	**35**	P		**P**	**19 28 00.9**	**-0.5**
G26K				IAmb		IAmb	19 28 02.6	
	comp=Z,2.6nm,0.7s							
KURK	**Kurchatov**	**58.39**	**313**	P		**P**	**19 32 39.1**	**-0.5**
KURBB	**Kurchatov Arra**	**58.49**	**313**	P		**P**	**19 32 39.7**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=42,slow=6.6,SNR=6.7							
KURBB				LR		LR	20 00 17.1	
	comp=Z,38nm,18.8s,baz=165,slow=38							
	comp=Z,0.5nm,0.5s							
MKAR	**Makanchi Array**	**59.31**	**308**	P		**P**	**19 32 45.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=47,slow=5.6,SNR=7.6							
	comp=Z,0.3nm,0.3s							
BVAR	**Borovoye Array**	**60.37**	**319**	P		**P**	**19 32 52.8**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=50,slow=8.4,SNR=6.9							
	comp=Z,1.3nm,0.6s							

*JMA **22** 19:35:57.9±0.1, 23.°2N±0.°6×12.°1E±.°, h31km±2km, MV2.6/10, TAIWAN REGION*
*TAP **22** 19:35:58.0, 23.°16N×121.°43E, h27km, ML2.5, C*

ISC 22 19:35:57.7±0.9, 23.°14N±0.°02×121.°48E±0.°03, h31km±5km, n75, σ0°78/96, 1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHKH	**Chenggong**	**0.09**	**303**	*i* P		**Pb**	**19 36 03.0**	**-0.2**
CHKH				S		**Sb**	**19 36 06.3**	**-0.7**
CHKT	**Chengkung**	**0.11**	**248**	*i* P		**Pb**	**19 36 03.3**	**0.0**
CHKT				*i* S		**Sb**	**19 36 07.1**	**-0.1**
ECBN	**Changbin**	**0.17**	**352**	*i* P		**Pb**	**19 36 03.9**	**+0.1**
ECBN				*e*S		**Sb**	**19 36 07.9**	**-0.1**
FULB	**Fuli**	**0.18**	**288**	*e*P		**Pb**	**19 36 03.6**	**-0.4**
EDH	**Donghe**	**0.23**	**224**	*i* P		**Pb**	**19 36 04.7**	**+0.2**
EDH				*e*S		**Sb**	**19 36 09.4**	**+0.3**
ECS	**Chishang**	**0.24**	**259**	P		**Pn**	**19 36 05.2**	**+0.1**
EHD	**Haiduan**	**0.25**	**271**	P		**Pb**	**19 36 04.5**	**-0.3**
EHD				*e*S		**Sb**	**19 36 08.9**	**-0.6**
EYUL	**Yuli**	**0.25**	**324**	*e*P		**Pn**	**19 36 05.2**	**-0.1**
TWF1	**Yuli**	**0.27**	**321**	*i* P		**Pb**	**19 36 04.7**	**-0.2**
YULB	**Yu-li**	**0.30**	**326**	*i* P		**Pb**	**19 36 04.9**	**-0.4**
YULB				*e*S		**Sb**	**19 36 09.9**	**-0.6**
EHH	**Wanrong**	**0.37**	**341**	*e*S		**Sb**	**19 36 11.7**	**-0.5**
EHY	**Hungye**	**0.39**	**338**	*e*P		**Pb**	**19 36 06.4**	**+0.1**
LONT	**Longtian**	**0.40**	**234**	*i* P		**Pb**	**19 36 06.9**	**+0.2**
LONT				S		**Sn**	**19 36 13.3**	**-0.4**
ELDTW	**Lidau**	**0.43**	**276**	‖ *i* P		**Pb**	**19 36 06.5**	**-0.7**
ELDTW				S		**Sb**	**19 36 12.1**	**-1.6**
LDUT	**Ludao**	**0.47**	**181**	*e*P		**Pb**	**19 36 08.0**	**+0.3**
TWGBT	**Beinan**	**0.49**	**229**	*e*P		**Pb**	**19 36 07.8**	**-0.2**
TWG	**Pinlang**	**0.49**	**230**	*i* P		**Pb**	**19 36 07.9**	**-0.2**
EGFH	**Guangfu**	**0.53**	**355**	*e*P		**Pn**	**19 36 09.2**	**+0.1**
TEGC	**Jichi Village**	**0.57**	**6**	P		**Pb**	**19 36 09.6**	**+0.3**
TEGC				*e*S		**Sn**	**19 36 18.4**	**+0.5**
WARBT	**Fenglin Townsh**	**0.58**	**352**	*e*P		**Pb**	**19 36 08.5**	**-1.0**
SHUL	**Shoufeng**	**0.65**	**7**	*i* P		**Pn**	**19 36 11.4**	**+0.7**
SHUL				*e*S		**Sn**	**19 36 20.7**	**+0.8**
STYH	**Taoyuan**	**0.65**	**273**	*e*P		**Pn**	**19 36 10.4**	**-0.3**
STYH				S		**Sb**	**19 36 18.7**	**-0.7**
ESL	**Shilin**	**0.67**	**356**	*e*P		**Pb**	**19 36 11.0**	**0.0**
VWDT	**VWDT**	**0.68**	**333**	*i* P		**Pb**	**19 36 10.8**	**-0.4**
ALS	**Alishan**	**0.72**	**301**	P		**Pn**	**19 36 12.0**	**0.0**
ALS				S		**Sn**	**19 36 22.0**	**-0.1**
ECL	**Taimali**	**0.73**	**222**	*i* P		**Pb**	**19 36 11.0**	**-0.9**
ECL				*e*S		**Sb**	**19 36 20.4**	**-1.2**
TEYL	**Yanliau Villag**	**0.73**	**9**	*e*P		**Pn**	**19 36 13.2**	**+1.4**
TEYL				*e*S		**Sn**	**19 36 24.4**	**+2.4**
WHYT	**Xinyi Township**	**0.80**	**314**	*e*P		**Pn**	**19 36 13.3**	**+0.5**
WHYT				*e*S		**Sn**	**19 36 23.5**	**-0.1**
TPUB	**Ta-pu**	**0.80**	**282**	*e*P		**Pn**	**19 36 13.4**	**+0.6**
TPUB				*e*S		**Sn**	**19 36 24.2**	**+0.6**
WTP	**Ta-pu**	**0.80**	**278**	P		**Pn**	**19 36 13.5**	**+0.6**
SSLB	**Suanglung**	**0.80**	**323**	*e*P		**Pn**	**19 36 13.6**	**+0.7**
ETM	**Tongmen**	**0.82**	**1**	*e*P		**Pb**	**19 36 13.6**	**+0.1**
OWD	**Renai**	**0.85**	**341**	*e*P		**Pn**	**19 36 13.3**	**-0.4**
OWD				*e*S		**Sb**	**19 36 23.5**	**-1.9**
WCKO	**Fanlu**	**0.86**	**290**	*e*S		**Sn**	**19 36 26.4**	**+1.4**
CHN5	**Tsauling**	**0.86**	**302**	*i* P		**Pb**	**19 36 14.8**	**+0.5**
CHN5				*e*S		**Sn**	**19 36 27.0**	**+1.6**
SSD	**Sandimen**	**0.88**	**243**	*e*P		**Pb**	**19 36 14.1**	**-0.3**
CHN1	**Nanshi**	**0.88**	**273**	*e*P		**Pb**	**19 36 15.3**	**+0.8**
LXIB	**Xiulin Townshi**	**0.88**	**356**	P		**Pn**	**19 36 13.2**	**-0.8**
LXIB				*e*S		**Sb**	**19 36 23.9**	**-2.1**
SNST	**Tainan City**	**0.91**	**275**	*e*P		**Pb**	**19 36 15.4**	**+0.4**
WUSB	**Renai**	**0.91**	**339**	*e*P		**Pn**	**19 36 14.4**	**0.0**
WUSB				*e*S		**Sb**	**19 36 25.0**	**-1.9**
SMLT	**Sun Moon Lake**	**0.91**	**324**	P		**Pb**	**19 36 15.3**	**+0.2**
TWD	**Chiawan**	**0.94**	**7**	*e*P		**Pb**	**19 36 15.7**	**+0.2**
MASBT	**Mashibuluo**	**0.94**	**236**	P		**Pb**	**19 36 15.2**	**-0.4**
SCST	**Cishan**	**0.94**	**254**	P		**Pb**	**19 36 16.7**	**+1.1**
TAW	**Tawu**	**0.95**	**215**	*e*P		**Pn**	**19 36 14.6**	**-0.2**
EAST	**Anshuo**	**0.95**	**218**	P		**Pn**	**19 36 14.8**	**-0.2**
TAWH	**Dawu Township**	**0.97**	**214**	*e*P		**Pn**	**19 36 15.1**	**-0.1**
WHF	**Hehuan Shan**	**1.02**	**349**	*e*P		**Pb**	**19 36 16.9**	**-0.2**
WHF				*e*S		**Sn**	**19 36 29.3**	**-0.4**
WDLH	**Douliu**	**1.02**	**302**	*e*P		**Pb**	**19 36 16.6**	**-0.3**
**TWM

	comp=E,1μm,0.2s							
HUIG	**Huatulco**	**2.07**	**289**	*e*P		**Pn**	**19 59 27.7**	**+1.6**
HUIG				*e*S		**Sn**	**19 59 50.1**	**-2.2**
HUIG	**Huatulco**	**2.07**	**289**	*i* P		**Pn**	**19 59 27.5**	**+1.4**
HUIG				*i* S		**Sn**	**19 59 49.9**	**-2.5**
HUIG				IAML			19 59 52.8	
	comp=N,132nm,0.2s							
CMIG	**Matias Romero**	**2.13**	**339**	*e*P		**Pn**	**19 59 28.3**	**+1.3**
CMIG				*e*S		**Sn**	**19 59 52.8**	**-1.2**
CCIG	**Comitan**	**2.22**	**57**	*e*P		**Pn**	**19 59 29.6**	**+1.3**
CCIG				*e*S		**Sn**	**19 59 54.8**	**-1.5**
CCIG	**Comitan**	**2.22**	**57**	*i* P		**Pn**	**19 59 30.1**	**+1.8**
CCIG				*i* S		**Sn**	**19 59 55.2**	**-1.1**
CCIG				IAML			20 00 05.5	
	comp=N,3μm,0.4s							
CCIG	**Comitan**	**2.22**	**57**	S		**Sn**	**19 59 56.8**	**+0.5**
CCIG	**Comitan**	**2.22**	**57**	P		**Pn**	**19 59 29.9**	**+1.6**
RTAL	**Retalhuleu**	**2.38**	**103**	P		**Pn**	**19 59 31.9**	**+1.6**
HUEH	**Huehuetenango**	**2.50**	**84**	*e*P		**Pn**	**19 59 34.5**	**+2.3**
HUEH				*e*S		**Sn**	**20 00 02.8**	**-0.5**
HUEH	**Huehuetenango**	**2.50**	**84**	*i* P		**Pn**	**19 59 34.6**	**+2.3**
HUEH				*i* S		**Sn**	**20 00 03.5**	**+0.1**
HUEH				IAML			20 00 09.9	
	comp=E,5μm,0.5s							
HUEH	**Huehuetenango**	**2.50**	**84**	S		**Sn**	**20 00 04.4**	**+1.0**
HUEH	**Huehuetenango**	**2.50**	**84**	P		**Pn**	**19 59 33.9**	**+1.6**
STG2	**El Palmar, Qui**	**2.70**	**104**	*e*P		Pn	19 59 30.8	-4.1
STG2				*i* S		Sn	19 59 57.3	-11
STG0	**El Palmar, Qui**	**2.73**	**104**	*i* P		Pn	19 59 31.6	-3.8
STG0				*i* S		Sn	19 59 59.7	-9.3
STG0				IAML			20 00 06.4	
	comp=N,4μm,0.3s							
QUIS	**Sacapulas**	**2.90**	**86**	*i* P		**Pn**	**19 59 40.9**	**+3.3**
TUIG	**Tuzandepetl**	**2.95**	**354**	*e*P		**Pn**	**19 59 36.0**	**-2.2**
TUIG				*e*S		**Sn**	**20 00 11.6**	**-2.4**
TUIG	**Tuzandepetl**	**2.95**	**354**	S		**Sn**	**20 00 14.6**	**+0.6**
TUIG	**Tuzandepetl**	**2.95**	**354**	P		**Pn**	**19 59 40.5**	**+2.3**
PEIG	**Puerto Escondi**	**3.09**	**287**	*e*P		**Pn**	**19 59 42.1**	**+1.9**
PEIG				*e*S		**Sn**	**20 00 14.3**	**-3.3**
VHO	**Vista Hermosa**	**3.22**	**308**	*e*P		**Pn**	**19 59 42.9**	**+0.8**
VHO				*e*S		**Sn**	**20 00 22.1**	**+1.0**
FG16	**Alotenango, Sa**	**3.55**	**103**	*e*P		Pn	19 59 43.0	-3.7
PMUV	**Sontecomapan**	**3.58**	**344**	*e*P		**Pn**	**19 59 49.8**	**+2.9**
PMUV				*e*S		**Sn**	**20 00 28.7**	**-1.0**
YOIG	**Yosondua**	**3.77**	**298**	*e*P		Pn	19 59 54.9	+5.2
YOIG				*e*S		**Sn**	**20 00 37.1**	**+2.5**
PNIG	**Pinotepa**	**4.11**	**289**	*e*P		**Pn**	**19 59 55.6**	**+1.5**
PNIG				*e*			20 00 36.0	
FAME	**Alcaldia de Sa**	**4.13**	**107**	P		**Pn**	**19 59 56.5**	**+2.0**
TOIG	**Toxpalan**	**4.14**	**317**	*e*P		**Pn**	**19 59 58.8**	**+4.1**
TOIG				*e*S		**Sn**	**20 00 43.5**	**-0.1**
TXIG	**Tlaxiaco**	**4.14**	**302**	*e*P		**Pn**	**19 59 59.1**	**+4.2**
TXIG				*e*S		**Sn**	**20 00 42.5**	**-1.5**
SLOZ	**Alcaldia de Sa**	**4.29**	**104**	P		**Pn**	**19 59 58.6**	**+1.9**
NUBE	**Las Nubes**	**4.33**	**105**	P		**Pn**	**20 00 00.3**	**+3.0**
PETF	**Flores**	**4.44**	**65**	*e*P		**Pn**	**19 59 59.8**	**+1.1**
PETF				*e*S		**Sn**	**20 00 45.8**	**-5.2**
PETF	**Flores**	**4.44**	**65**	*e*P		**Pn**	**19 59 59.9**	**+1.1**
PETF	**Flores**	**4.44**	**65**	P		**Pn**	**20 00 00.3**	**+1.5**
PETF	**Flores**	**4.44**	**65**	S		**Sn**	**20 00 51.3**	**+0.3**
HLIG	**Huajuapan de L**	**4.49**	**308**	*e*P		Pn	20 00 05.0	+5.4
HLIG				*e*S		**Sn**	**20 00 52.6**	**+0.1**
TPIG	**Tehuac#an**	**4.56**	**317**	*e*P		**Pb**	**20 00 09.9**	**-1.5**
TPIG				*e*S		**Sn**	**20 00 56.8**	**+2.6**
JAYA	**Jayaque - finc**	**4.71**	**107**	P		**Pn**	**20 00 05.0**	**+2.4**
SCIG	**Sabancuy**	**4.75**	**35**	*e*P		**Pn**	**20 00 02.3**	**-0.6**
SCIG				*e*S		**Sn**	**20 00 54.2**	**-4.3**
SCIG	**Sabancuy**	**4.75**	**35**	S		**Sn**	**20 00 58.8**	**+0.3**
SCIG	**Sabancuy**	**4.75**	**35**	P		**Pn**	**20 00 02.9**	**0.0**
PMON	**Piamonte**	**4.82**	**106**	P		**Pn**	**20 00 06.4**	**+2.4**
MGIG	**Malinaltepec**	**4.87**	**297**	*e*P		**Pn**	**20 00 09.4**	**+4.7**
MGIG				*e*S		**Sn**	**20 01 02.2**	**+0.6**
TLIG	**Tlapa**	**4.96**	**300**	*e*P		**Pn**	**20 00 09.9**	**+4.0**
TLIG				*e*S		**Sn**	**20 01 04.2**	**+0.3**
TLIG	**Tlapa**	**4.96**	**300**	P		**Pn**	**20 00 08.9**	**+2.9**
TLIG	**Tlapa**	**4.96**	**300**	S		**Sn**	**20 01 07.2**	**+3.3**
LOMA	**Loma Larga**	**4.97**	**106**	P		**Pn**	**20 00 08.3**	**+2.2**
JAUV	**Jalcomulco**	**4.99**	**329**	*e*P		**Pn**	**20 00 04.6**	**-1.7**
JAUV				*e*S		**Sn**	**20 01 01.2**	**-3.2**
LVIG	**Laguna Verde**	**5.12**	**335**	*e*P		**Pn**	**20 00 07.2**	**-0.8**
LVIG				*e*			20 01 00.0	
CRIG	**Cruz Grande**	**5.13**	**289**	*e*P		**Pn**	**20 00 11.0**	**+2.8**
CRIG				*e*			20 01 05.2	
SARH	**Santa Rosa de**	**5.15**	**93**	P		**Pn**	**20 00 10.8**	**+2.1**
DAIG	**Los Arroyos**	**5.69**	**291**	*e*P		**Pn**	**20 00 19.1**	**+3.2**
DAIG				*e*			20 01 15.7	
PACA	**Pacayal**	**5.81**	**105**	P		**Pn**	**20 00 19.5**	**+1.8**
PPM	**Popocatepetl**	**5.88**	**313**	*e*P		Pn	20 00 24.1	+5.2
PPM				*e*S		**Sn**	**20 01 29.8**	**+2.8**
CXUV	**Coxquihui**	**6.06**	**327**	*e*P		**Pn**	**20 00 21.4**	**+0.3**
CXUV				*e*S		**Sn**	**20 01 27.9**	**-3.0**
YAIG	**Yautepec**	**6.07**	**309**	*e*P		**Pn**	**20 00 25.4**	**+4.1**
YAIG				*e*			20 01 28.2	
PLIG	**Platanillo**	**6.14**	**303**	*e*P		Pn	20 00 27.7	+5.5
PLIG				*e*S		**Sn**	**20 01 36.0**	**+3.0**
CNCH	**Conchagua**	**6.32**	**106**	S		**Sn**	**20 01 40.0**	**+2.4**
CNCH	**Conchagua**	**6.32**	**106**	P		**Pn**	**20 00 27.2**	**+2.5**
COMHN	**El Horno**	**6.35**	**95**	S		**Sn**	**20 01 40.1**	**+1.8**
COMHN	**El Horno**	**6.35**	**95**	P		**Pn**	**20 00 27.7**	**+2.6**
POTN	**Potosi Cosigui**	**6.71**	**107**	P		**Pn**	**20 00 32.4**	**+2.5**
POTN				S		**Sn**	**20 01 49.8**	**+2.9**
YUSH	**Yuscaran**	**7.10**	**98**	S		**Sn**	**20 01 58.4**	**+1.7**
YUSH	**Yuscaran**	**7.10**	**98**	P		**Pn**	**20 00 37.6**	**+2.2**
MYIG	**Merida**	**7.15**	**35**	P		**Pn**	**20 00 37.8**	**+1.8**
MYIG	**Merida**	**7.15**	**35**	S		**Sn**	**20 01 59.5**	**+1.7**
TEIG	**Tepich**	**7.53**	**46**	P		**Pn**	**20 00 41.7**	**+0.5**
CNGN	**Cerro Negro**	**7.62**	**109**	P		**Pn**	**20 00 44.8**	**+2.4**
CNGN	**Cerro Negro**	**7.62**	**109**	S		**Sn**	**20 02 11.6**	**+2.2**

NEIC ***22*** *20:12:27.0±0.6,35°.637N±0°.010×117°.43W±0°.01, h5km±2km, Error ellipse: s-maj=1.7km s-min=1.3km az=57.0*

PAS 22 20:12:27.5±0.8,35°.64N±0°.01×117°.45W±0°.01,h3km±4km, ML3.0/23,ML2.7/121(NEIC),Error ellipse: s-maj=1.6km s-min=1.6km az=204.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.06**	**222**		Pg	20 12 28.9	+0.1
CCCA	**Chr Cany lake**	**0.14**	**151**		Pg	20 12 30.6	+0.5
CLC	**China Lake**	**0.21**	**324**		Pg	20 12 31.7	0.0
CLC				IAML		20 12 35.2	
	comp=N,2μm,0.4s						
CLC				IAML		20 12 35.2	
	comp=E,2μm,0.5s						
SRTC	**Snort**	**0.25**	**281**		Pg	20 12 32.9	+0.5
LRMC	**Laurel Mtn Rad**	**0.25**	**230**		Pg	20 12 32.4	0.0
TOW	**Tower One**	**0.31**	**303**		Pg	20 12 34.0	+0.5
MPMC	**Manual Prospec**	**0.42**	**355**		Pg	20 12 35.3	-0.3
MPMC				IAML		20 12 41.7	
	comp=N,1μm,0.4s						
MPMC				IAML		20 12 41.7	
	comp=E,1μm,0.4s						
WNMM	**Nine Mile Cany**	**0.42**	**298**		Pg	20 12 35.8	+0.2
WRVM	**Rose V. Centra**	**0.51**	**315**		Pg	20 12 37.4	0.0
QSM	**Queen of Sheba**	**0.57**	**55**		Pg	20 12 38.3	-0.1
QSM				IAML		20 12 46.7	
	comp=E,598nm,0.2s						
QSM				IAML		20 12 48.0	
	comp=N,498nm,0.4s						
GSC	**Goldstone, Bar**	**0.62**	**123**		Pg	20 12 39.3	-0.1
GSC				IAML		20 12 48.2	
	comp=N,642nm,0.4s						
GSC				IAML		20 12 48.7	
	comp=E,646nm,0.5s						
GWY	**Greenwater Val**	**0.83**	**49**		Pg	20 12 43.1	-0.4
GWY				IAML		20 12 57.9	
	comp=N,372nm,0.3s						
GWY				IAML		20 12 58.5	
	comp=E,413nm,0.3s						
ISA	**Isabella, Lake**	**0.84**	**272**		Pg	20 12 43.1	-0.5
ISA				IAML		20 12 54.9	
	comp=E,375nm,0.3s						
ISA				IAML		20 12 57.6	
	comp=N,448nm,0.3s						
CWC	**Cottonwood Cre**	**0.95**	**327**		Pg	20 12 45.5	-0.2
CWC				IAML		20 13 00.4	
	comp=N,147nm,0.2s						
CWC				IAML		20 13 00.5	
	comp=E,134nm,0.3s						

TPO	**Tropico Hills**	**1.00**	**220**			Pg	20 12 46.2	-0.4
TPO					IAML		20 13 06.9	
	comp=N,314nm,0.5s							
DSCC	**Desert Studies**	**1.20**	**114**			Pg	20 12 49.3	-1.3
AMDNV	**Amargosa**	**1.24**	**49**			Pg	20 12 50.7	-0.6
WCT	**Wildcat Mounta**	**1.32**	**30**			Pg	20 12 51.9	-1.0
WCT					IAML		20 13 11.9	
	comp=N,135nm,0.4s							
WCT					IAML		20 13 12.7	
	comp=E,162nm,0.4s							
GRAC	**Grapevine Rang**	**1.35**	**3**			Pn	20 12 52.8	-0.6
GRAC					IAML		20 13 14.3	
	comp=E,184nm,0.5s							
GRAC					IAML		20 13 14.4	
	comp=N,199nm,0.6s							
BFSC	**Mount Baldy Ra**	**1.41**	**187**			Pn	20 12 53.1	-1.1
BFSC					IAML		20 13 13.5	
	comp=N,144nm,0.5s							
BFSC					IAML		20 13 13.9	
	comp=E,124nm,0.5s							
MWC	**Mount Wilson**	**1.50**	**200**			Pn	20 12 54.8	-0.8
MWC					IAML		20 13 19.5	
	comp=N,86nm,0.4s							
MWC					IAML		20 13 22.1	
	comp=E,87nm,0.5s							
MTPC	**Mountain Pass**	**1.55**	**95**			Pn	20 12 54.6	-1.6
MTPC					IAML		20 13 17.9	
	comp=E,86nm,0.2s							
MTPC					IAML		20 13 20.6	
	comp=N,59nm,0.6s							
PASC	**Pasadena Art C**	**1.59**	**203**			Pn	20 12 55.7	-0.8
PASC					IAML		20 13 20.7	
	comp=E,51nm,0.3s							
TPNV	**Topopah Spring**	**1.62**	**36**			Pn	20 12 56.4	-0.8
TPNV					IAML		20 13 22.1	
	comp=E,97nm,0.3s							
TPNV					IAML		20 13 22.6	
	comp=E,68nm,0.5s							
DSP	**Deep Springs**	**1.77**	**346**			Pn	20 12 58.7	-0.4
ELS	**Elsinore Mount**	**1.99**	**180**			Pn	20 13 01.5	-0.7
ELS					IAML		20 13 31.4	
	comp=N,38nm,0.5s							
ELS					IAML		20 13 31.6	
	comp=E,49nm,0.3s							
SHPR	**Sheep Range**	**2.04**	**64**			Pn	20 13 02.5	-0.5
SHPR					IAML		20 13 18.1	
	comp=E,33nm,1.1s							
SHPR					IAML		20 13 18.1	
	comp=N,31nm,1.5s							
V12A	**Nelson**	**2.11**	**87**			Pn	20 13 02.4	-1.5
V12A					IAML		20 13 35.5	
	comp=N,40nm,0.9s							
V12A					IAML		20 13 42.0	
	comp=E,34nm,1.4s							
PMD	**Palm Desert**	**2.18**	**156**			Pn	20 13 03.7	-0.9
PMD					IAML		20 13 37.8	
	comp=E,36nm,0.5s							
PFO	**Pinyon Flats O**	**2.18**	**158**			Pn	20 13 03.8	-1.1
S11A	**Rachel**	**2.42**	**34**			Pn	20 13 07.8	-0.3
S11A					IAML		20 13 50.9	
	comp=N,44nm,0.9s							
S11A					IAML		20 14 00.6	
	comp=E,39nm,0.6s							
TPH	**Tonopah**	**2.43**	**4**			Pn	20 13 08.0	-0.4
NEE2	**Needles Airpor**	**2.47**	**110**			Pn	20 13 07.8	-0.9
NEE2					IAML		20 13 48.0	
	comp=N,68nm,0.2s							
NEE2					IAML		20 13 58.0	
	comp=E,54nm,0.6s							
PRN	**Pahroc Range**	**2.61**	**47**			Pg	20 13 16.9	-0.7
PRN					IAML		20 13 56.6	
	comp=N,33nm,0.5s							
PRN					IAML		20 14 05.8	
	comp=E,34nm,0.7s							
NVAR	**Mina Array Bea**	**2.87**	**346**			Pg	20 13 20.9	-1.5
W13A	**Hualapai Mount**	**2.96**	**100**			Pn	20 13 14.2	-1.4
W13A					IAML		20 14 05.2	
	comp=N,16nm,0.7s							
R11B	**Troy Canyon, C**	**3.08**	**28**			Pb	20 13 24.8	+1.6
RYN	**Ryan**	**3.10**	**344**	Pn		Pn	20 13 17.7	+0.2
CMB	**Columbia Colle**	**3.36**	**316**		IAML		20 14 18.2	
	comp=E,11nm,0.5s							
ESJX	**Sierra Juarez**	**3.84**	**161**		IAML		20 15 25.4	
	comp=N,12nm,0.1s							
ESJX					IAML		20 15 25.6	
	comp=E,21nm,0.1s							
Y14A	**Wickenburg**	**4.03**	**114**		IAML		20 14 39.8	
	comp=N,13nm,0.5s							
Y14A					IAML		20 14 42.7	
	comp=E,13nm,0.4s							
PSUT	**Pine Spring**	**4.07**	**44**		IAML		20 14 19.5	
	comp=E,6.2nm,0.8s							
PSUT					IAML		20 14 20.7	
	comp=N,5.8nm,2.1s							
SPR3	**Spring Creek 3**	**4.17**	**36**		IAML		20 14 51.4	
	comp=E,5.3nm,1.0s							
U15A	**North Rim**	**4.25**	**78**		IAML		20 14 12.9	
	comp=E,7.4nm,1.1s							
U15A					IAML		20 14 44.0	
	comp=N,6.0nm,1.5s							

NEIC ***22*** *20:25:06.2±1.2,23°.6S±0°.1×179°.8W±0°.2, h528km±8km, mb4.4/18, Error ellipse: s-maj=21.8km s-min=19.3km az=53.0*

IDC ***22*** *20:25:10.4±4.9,23°.52S×179°.86E, h572km±51km, mb3.1/7, mbtmp4.1/8, Error ellipse: s-maj=33.2km s-min=21.0km az=59.0*

ISC 22 20:25:06.2±0.6,23°.5S±0°.1×179°.9W±0°.1,h532km,n41, σ0s94/40,mb4.1/15,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.09**	**341**	P		**20 26 44.5**	**-0.6**
PINNC	**Pines Island,**	**11.72**	**272**	P		**20 27 44.1**	**+2.3**
DZM	**Mont Dzumac**	**12.71**	**274**	P		**20 27 53.5**	**+1.1**
DZM	**Mont Dzumac**	**12.71**	**274**	P		**20 27 54.0**	**+1.7**
	3.6nm,0.6s,baz=81,slow=19,SNR=1.5						
BFZ	**Birch Farm**	**17.41**	**190**	P		**20 28 38.1**	**-1.3**
TCW	**Tory Channel**	**18.30**	**194**	P		**20 28 47.6**	**+0.1**
QRZ	**Quartz Range**	**18.39**	**199**	P		**20 28 47.4**	**-0.9**
QRZ				IAmb	IAmb	20 29 10.5	
	comp=Z,22nm,1.2s						
THZ	**Tophouse**	**19.16**	**197**	P		**20 28 54.5**	**-0.9**
THZ				IAmb	IAmb	20 29 31.8	
	comp=Z,10nm,1.0s						
EIDS	**Eidsvold**	**26.49**	**260**	P		**20 30 02.0**	**+0.9**
CTAO	**Charters Tower**	**31.60**	**270**	P		**20 30 45.6**	**0.0**
CTAO				IAmb	IAmb	20 31 06.8	
	comp=Z,22nm,1.4s						
STKA	**Stephens Creek**	**34.98**	**248**	P		**20 31 13.4**	**-0.6**
ASAR	**Alice Springs**	**42.22**	**260**	P		**20 32 12.8**	**0.0**
	comp=Z,0.8nm,0.6s,baz=98,slow=6.5,SNR=9.6						
	comp=Z,0.8nm,0.6s						
WR0	**Warramunga Arr**	**42.37**	**266**	P		**20 32 13.6**	**-0.4**
WR0				IAmb	IAmb	20 32 49.3	
	comp=Z,11nm,1.4s						
WR8	**Warramunga Arr**	**42.41**	**266**	P		**20 32 14.1**	**-0.2**
WR8				IAmb	IAmb	20 32 47.6	
	comp=Z,8.6nm,1.2s						
WB2	**Warramunga Arr**	**42.55**	**266**	P		**20 32 14.9**	**-0.5**
WB2				IAmb	IAmb	20 32 37.0	
	comp=Z,15nm,1.5s						
WB0	**Warramunga Arr**	**42.55**	**266**	P		**20 32 14.8**	**-0.6**
WB0				IAmb	IAmb	20 32 35.0	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**42.56**	**266**	P		**20 32 14.9**	**-0.6**
WRA	**Warramunga Arr**	**42.56**	**266**	P		**20 32 14.9**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=90,slow=5.7,SNR=40						
	comp=Z,0.7nm,0.6s						
FORT	**Forrest**	**46.56**	**249**	P		**20 32 45.4**	**-0.7**
FORT				IAmb	IAmb	20 33 21.6	
	comp=Z,26nm,1.2s						
KNRA	**Kununurra**	**48.81**	**269**	P		**20 33 02.9**	**-0.4**
KNRA				IAmb	IAmb	20 33 46.5	
	comp=Z,11nm,1.3s						
FITZ	**Fitzroy Crossi**	**50.98**	**265**	P		**20 33 18.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**50.98**	**265**	P		**20 33 17.6**	**-1.6**
	comp=Z,2.7nm,0.8s,baz=117,slow=6.8,SNR=1.7						
	comp=Z,2.7nm,0.8s						
QSPA	**South Pole Qui**	**66.55**	**180**	P		**20 35 04.3**	**+1.1**
	comp=Z,3.6nm,0.6s,baz=35,slow=2.6,SNR=19						
	comp=Z,3.6nm,0.6s						
KKM	**Kota Kinabalu**	**68.92**	**287**	P		**20 35 18.9**	**+0.5**
KKM				IAmb	IAmb	20 35 44.4	

	comp=Z,15nm,1.1s							
ADK	**Adak**	**75.14**	**2**	P		**P**	**20 35 53.9**	**+0.3**
BELA	**Belgrano 2**	**76.78**	**173**	P		**P**	**20 36 02.7**	**+0.2**
MAW	**Mawson**	**78.14**	**200**	P		**P**	**20 36 10.1**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=135,slow=5.8,SNR=8.4							
	comp=Z,1.8nm,0.7s							
PMSA	**Palmer Station**	**79.20**	**157**	P		**P**	**20 36 15.6**	**0.0**
CMAR	**Chiang Mai Arr**	**89.52**	**290**	P		**P**	**20 37 06.9**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=100,slow=4.5,SNR=4.6							
	comp=Z,0.8nm,0.9s							
TXAR	**Lajitas Array**	**90.13**	**58**	P		**P**	**20 37 11.8**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=258,slow=3.8,SNR=4.3							
	comp=Z,0.5nm,0.7s							
BVAR	**Borovoye Array**	**120.25**	**319**	PKP		**PKPdf**	**20 42 56.0**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=132,slow=2.1,SNR=5.9							
ARCES	**ARCESS Array B**	**131.55**	**348**	PKP		**PKPdf**	**20 43 16.2**	**-1.5**
	comp=Z,2.1nm,1.0s,baz=17,slow=1.3,SNR=6.1							
FINES	**FINESS Array B**	**138.14**	**342**	PKhKP		PKPpre	20 43 19.4	
	comp=Z,0.6nm,0.8s,baz=26,slow=3.9,SNR=3.9							
FINES				PKP		**PKPdf**	**20 43 30.4**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=49,slow=2.6,SNR=5.1							
HFS	**Hagfors**	**142.21**	**349**	PKhKP		PKPpre	20 43 33.9	
	comp=Z,2.4nm,0.3s,baz=62,slow=3.2,SNR=40							
AKASG	**Malin Array Be**	**144.73**	**328**	PKP		**PKPdf**	**20 43 42.1**	**0.0**
	comp=Z,1.3nm,0.4s,baz=44,slow=4.1,SNR=11							
AKBB	**Malin Array Si**	**144.73**	**328**			**PKPdf**	**20 43 42.0**	**-0.1**
KIEV	**Kiev**	**144.74**	**328**			**PKPdf**	**20 43 42.0**	**-0.2**
BRTR	**Keskin Array B**	**147.45**	**308**	PKPbc		**PKPbc**	**20 43 49.1**	**-1.6**
	comp=Z,1.1nm,0.5s,baz=78,slow=4.0,SNR=7.7							
MMAI	**Mount Meron Ar**	**147.66**	**295**	PKPbc		**PKPbc**	**20 43 51.8**	**+0.4**
	comp=Z,2.6nm,0.5s,baz=80,slow=6.3,SNR=11							
EKA	**Eskdalemuir Ar**	**148.14**	**4**	PKPbc		**PKPbc**	**20 43 51.6**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=342,slow=2.7,SNR=6.4							
GERES	**GERESS Array B**	**152.55**	**340**	PKPbc		**PKPbc**	**20 44 00.7**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=24,slow=2.9,SNR=2.5							

IDC ***22*** *20:28:50.1±1.2,0°.89N×126°.38E, h0km, mb3.9/6, mbtmp3.8/7, ML3.3/1, Error ellipse: s-maj=104.7km s-min=17.0km az=70.0*

DJA ***22*** *20:28:56.5±0.8,1°.N±2°×12°.7E±°, h15km±7km, M3.9/14, mb4.0/6, MLv3.8/14*

NEIC ***22*** *20:28:57.2±1.0,0°.8N±0°.1×126°.48E±0°.05, h35km±2km, mb4.0/9, Error ellipse: s-maj=21.4km s-min=8.8km az=187.0*

ISC 22 20:28:56.6±0.7,0°.94N±0°.06×126°.58E±0°.05,h39km,n32, σ1s93/36,mb4.0/11,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.80**	**102**	Pn	**Pn**	**20 29 13.5**	**+2.1**
TNTI				Sn	**Sn**	**20 29 24.3**	**+2.2**
TNTI	**Ternate**	**0.80**	**102**	P	**Pn**	**20 29 13.6**	**+2.2**
TNTI				S	**Sn**	**20 29 25.2**	**+3.1**
KMSI	**Cibinong**	**2.63**	**262**	P	**Pn**	**20 29 37.9**	**+1.4**
KMSI				S	**Sn**	**20 30 09.7**	**+2.5**
SGSI	**Sangihe**	**2.93**	**339**	P	**Pn**	**20 29 41.9**	**+1.2**
SGSI				S	**Sn**	**20 30 17.5**	**+2.9**
SANI	**Sanana**	**3.02**	**191**	P	**Pn**	**20 29 43.9**	**+1.9**
NLAI	**Namlea**	**4.18**	**173**	P	**Pn**	**20 29 57.2**	**-0.7**
LUWI	**Luwuk**	**4.29**	**243**	P	**Pn**	**20 30 02.3**	**+2.9**
AAI	**Ambon**	**4.87**	**161**	P	**Pn**	**20 30 09.8**	**+2.5**
TOLI2	**Tolitoli**	**5.80**	**272**	Pn	**Pn**	**20 30 19.9**	**-0.3**
FAKI	**Fak Fak**	**6.84**	**124**	Pn	**Pn**	**20 30 35.3**	**+0.8**
FAKI	**Fak Fak**	**6.84**	**124**	P	**Pn**	**20 30 37.8**	**+3.4**
	38nm,1.9s						
BNSI	**Bone**	**8.37**	**231**	P	**Pn**	**20 30 56.6**	**+1.2**
	17nm,1.3s						
SPSI	**Sidrap Palu**	**8.37**	**234**	P	**Pn**	**20 30 56.9**	**+1.4**
BKSI	**Bulukumba**	**8.96**	**226**	P	**Pn**	**20 31 05.5**	**+1.9**
MYLDM	**Lahad Datu**	**9.11**	**298**	Pn	**Pn**	**20 31 06.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**18.94**	**183**	P	**P**	**20 33 12.6**	**-1.8**
FITZ				IAmb	IAmb	20 33 43.3	
	comp=Z,0.9nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.94**	**183**	P	**P**	**20 33 12.8**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=0.0,slow=12,SNR=1.7						
	comp=Z,1.5nm,0.8s						
WB0	**Warramunga Arr**	**21.95**	**160**	P	**P**	**20 33 45.8**	**-1.3**
WB0				IAmb	IAmb	20 33 52.7	
	comp=Z,19nm,1.4s						
WRA	**Warramunga Arr**	**22.10**	**160**	P	**P**	**20 33 46.4**	**-2.3**
WRA	**Warramunga Arr**	**22.10**	**160**	P	**P**	**20 33 47.4**	**-1.3**
	comp=Z,3.1nm,0.5s,baz=339,sl

h102^{km}:pP-P,n1380,σ1$38/1251,mb5.4/409,43C-95D,
Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
JISG	**Ishigakijimahi**	**0.70**	**178**	*i* P	**Pn**	**20 47 18.2**	**+1.7**
JISG				S	**Sn**	**20 47 31.8**	**+2.1**
JISG	**Ishigakijimahi**	**0.70**	**178**	A	A	20 47 18.2	
	comp=N,112nm,1.0s,comp=E,89nm,1.9s						
JTJ	**Tarama**	**0.76**	**149**	P	**Pn**	**20 47 18.8**	**+1.9**
JTJ				S	**Sn**	**20 47 32.1**	**+1.7**
JTJ	**Tarama**	**0.76**	**149**	A	A	20 47 18.8	
	comp=N,81nm,0.6s,comp=E,109nm,1.0s						
JIRB	**Irabujima**	**0.93**	**120**	*i* P	**Pn**	**20 47 20.3**	**+1.6**
JIRB				S	**Sn**	**20 47 35.2**	**+1.6**
JIRB	**Irabujima**	**0.93**	**120**	A	A	20 47 20.3	
	comp=N,143nm,1.5s,comp=E,59nm,0.4s						
JIJ	**Ishigaki jima**	**0.94**	**188**	P	**Pn**	**20 47 19.9**	**+1.2**
JIJ				S	**Sn**	**20 47 34.4**	**+0.8**
JIJ	**Ishigaki jima**	**0.94**	**188**	A	A	20 47 19.9	
	comp=N,69nm,0.9s,comp=E,72nm,0.4s						
JIKM	**Ikemajima**	**0.95**	**113**	*i* P	**Pn**	**20 47 20.9**	**+2.0**
JIKM				S	**Sn**	**20 47 36.4**	**+2.5**
JIKM	**Ikemajima**	**0.95**	**113**	A	A	20 47 20.9	
	comp=N,260nm,1.1s,comp=E,152nm,1.8s						
JMJ	**Miyako jima 2**	**1.04**	**117**	P	**Pn**	**20 47 22.3**	**+2.6**
IRIF	**Iriomote-Funau**	**1.08**	**208**	P	**Pn**	**20 47 21.6**	**+1.4**
IRIF				S	**Sn**	**20 47 37.9**	**+1.6**
IRIF	**Iriomote-Funau**	**1.08**	**208**	A	A	20 47 21.6	
	comp=N,218nm,1.0s,comp=E,151nm,1.6s						
JKRS	**Kuro-shima**	**1.08**	**193**	P	**Pn**	**20 47 21.7**	**+1.5**
JKRS				S	**Sn**	**20 47 37.8**	**+1.4**
JKRS	**Kuro-shima**	**1.08**	**193**	A	A	20 47 21.7	
	comp=N,154nm,1.2s,comp=E,175nm,2.5s						
JMJ2	**Miyako jima3**	**1.10**	**120**	*i* P	**Pn**	**20 47 22.4**	**+1.9**
JMJ2				S	**Sn**	**20 47 38.8**	**+2.1**
JMJ2	**Miyako jima3**	**1.10**	**120**	A	A	20 47 22.4	
	comp=N,190nm,1.1s,comp=E,90nm,2.0s						
JOGS	**Gusukube**	**1.15**	**117**	P	**Pn**	**20 47 23.0**	**+2.0**
JOGS				S	**Sn**	**20 47 40.2**	**+2.4**
JOGS	**Gusukube**	**1.15**	**117**	A	A	20 47 23.0	
	comp=N,187nm,1.1s,comp=E,116nm,2.9s						
HATJ	**Hateruma jima**	**1.31**	**199**	P	**Pn**	**20 47 24.1**	**+1.3**
HATJ				S	**Sn**	**20 47 41.7**	**+0.8**
HATJ	**Hateruma jima**	**1.31**	**199**	A	A	20 47 24.1	
	comp=N,175nm,1.6s,comp=E,138nm,2.0s						
YOJ	**Yonaguni jima**	**1.42**	**235**		**Pn**	**20 47 26.2**	**+2.1**
YOJ	**Yonaguni jima**	**1.42**	**235**	P	**Pn**	**20 47 26.3**	**+2.1**
YOJ	**Yonaguni jima**	**1.42**	**235**	P	**Pn**	**20 47 26.2**	**+2.1**
YOJ	**Yonaguni jima**	**1.42**	**235**	*e*P	**Pn**	**20 47 26.6**	**+2.5**
YOJ				S	**Sn**	**20 47 45.7**	**+2.3**
YOJ	**Yonaguni jima**	**1.42**	**235**	A	A	20 47 26.6	
	comp=N,47nm,1.3s,comp=E,57nm,3.6s						
JYNG	**Yonagunijimaku**	**1.47**	**236**	P	**Pn**	**20 47 27.3**	**+2.5**
JYNG				S	**Sn**	**20 47 46.7**	**+2.1**
JYNG	**Yonagunijimaku**	**1.47**	**236**	A	A	20 47 27.3	
	comp=N,59nm,3.5s,comp=E,67nm,2.2s						
JKE	**Kume jima 2**	**2.48**	**65**	P	**Pn**	**20 47 39.5**	**+1.8**
JKE				S	**Sn**	**20 48 09.5**	**+1.9**
TATO	**Taipei**	**2.55**	**263**		**Pn**	**20 47 42.1**	**+3.5**
TATO	**Taipei**	**2.55**	**263**	Pn	**Pn**	**20 47 43.0**	**+4.4**
TATO				Sn	**Sn**	**20 48 15.1**	**+6.0**
TATO	**Taipei**	**2.55**	**263**	P	**Pn**	**20 47 42.4**	**+3.8**
TATO	**Taipei**	**2.55**	**263**	S	**Sn**	**20 48 15.2**	**+6.0**
NACB	**Ninganchiao**	**2.68**	**246**		**Pn**	**20 47 41.7**	**+1.4**
NACB	**Ninganchiao**	**2.68**	**246**	P	**Pn**	**20 47 41.8**	**+1.4**
NACB	**Ninganchiao**	**2.68**	**246**	S	**Sn**	**20 48 13.3**	**+0.9**
YHNB	**Yeheng**	**2.71**	**257**		**Pn**	**20 47 44.4**	**+3.6**
YHNB	**Yeheng**	**2.71**	**257**	P	**Pn**	**20 47 44.4**	**+3.6**
YHNB	**Yeheng**	**2.71**	**257**	S	**Sn**	**20 48 17.7**	**+4.7**
JJT3	**Tamagusuku3**	**3.27**	**74**	A	A	20 47 51.1	
	comp=N,24nm,2.0s,comp=E,12nm,4.7s						
YULB	**Yu-li**	**3.31**	**236**		**Pn**	**20 47 48.6**	**-0.2**
YULB	**Yu-li**	**3.31**	**236**	P	**Pn**	**20 47 48.8**	**0.0**
YULB	**Yu-li**	**3.31**	**236**	S	**Sn**	**20 48 27.0**	**-0.4**
SSLB	**Suanglung**	**3.38**	**244**		**Pn**	**20 47 51.1**	**+1.4**
SSLB	**Suanglung**	**3.38**	**244**	P	**Pn**	**20 47 51.1**	**+1.4**
TWGBT	**Beinan**	**3.83**	**231**	P	**Pn**	**20 47 54.9**	**-0.8**
TWGBT	**Beinan**	**3.83**	**231**	S	**Sn**	**20 48 38.8**	**-0.9**
TWG	**Pinlang**	**3.83**	**231**		**Pn**	**20 47 54.8**	**-0.9**
TPUB	**Ta-pu**	**3.88**	**240**		**Pn**	**20 47 57.8**	**+1.4**
TPUB	**Ta-pu**	**3.88**	**240**	P	**Pn**	**20 47 58.2**	**+1.8**
TPUB	**Ta-pu**	**3.88**	**240**	S	**Sn**	**20 48 42.6**	**+1.6**
JOW	**Kunigami**	**3.91**	**66**		**Pn**	**20 47 57.2**	**+0.5**
JOW	**Kunigami**	**3.91**	**66**	P	**Pn**	**20 47 57.5**	**+0.8**
	comp=E,577nm,0.3s,baz=194,slow=7.9,SNR=3023						
JOW				S	**Sn**	**20 48 39.4**	**-2.2**
	comp=E,342nm,0.3s,baz=163,slow=29,SNR=10.0						
JOW	**Kunigami**	**3.91**	**66**	P	**Pn**	**20 47 57.2**	**+0.5**
JOW	**Kunigami**	**3.91**	**66**	S	**Sn**	**20 48 40.4**	**-1.2**
QZH	**Quanzhou**	**5.17**	**267**	*i* P	**Pn**	**20 48 16.3**	**+2.5**
QZH				smax	smax		
	comp=E,860nm,0.8s						
QZH				smax	smax		
	comp=E,400nm,0.7s						
KNMB	**Chin-men Tao**	**5.41**	**262**		**Pn**	**20 48 18.9**	**+1.8**
JMZ	**Minamidaito 2**	**6.29**	**84**		**Pn**	**20 48 27.3**	**-1.7**
JMZ	**Minamidaito 2**	**6.29**	**84**	P	**Pn**	**20 48 28.6**	**-0.5**
SSE	**Sheshan**	**6.39**	**335**	P	**Pn**	**20 48 35.1**	**+4.8**
SSE				S	Sn	20 49 54.6	+13
SSE				smax	smax		
	comp=E,110nm,1.1s						
SSE				smax	smax		
	comp=E,120nm,1.2s						
SSE				LR	LR		
	comp=E,500nm,16.5s						
NJ2	**Nanjing**	**8.25**	**326**	⇑*i* P	**Pn**	**20 49 00.0**	**+4.4**
NJ2				S	Sn	20 50 37.3	+10
NJ2				pmax	pmax		
	comp=E,84nm,0.6s						
NJ2				pmax	pmax		
	comp=E,210nm,3.7s						
NJ2				LR	LR		
	comp=E,740nm,16.9s						
NJ2				LR	LR		
	comp=E,550nm,16.9s						
NJ2				LR	LR		
	comp=E,920nm,18.5s						
JNU	**Nakatsue**	**9.70**	**35**		**Pn**	**20 49 16.2**	**+0.8**
JNU	**Nakatsue**	**9.70**	**35**	P	**Pn**	**20 49 17.0**	**+1.7**
	comp=E,23nm,0.7s,baz=197,slow=2.6,SNR=10						
JNU				LR	LR	20 53 11.1	
	comp=E,280nm,20.6s,baz=212,slow=39						
JNU	**Nakatsue**	**9.70**	**35**	P	**Pn**	**20 49 17.6**	**+2.3**
HKPS	**Hong Kong Po S**	**9.76**	**254**		**Pn**	**20 49 16.7**	**+0.5**
JTU	**Tsushima**	**10.21**	**25**	P	Pn	20 49 27.1	+4.8
WHN	**Wuhan**	**10.22**	**303**	⇓P	**Pn**	**20 49 26.3**	**+3.9**
WHN				S	**Sn**	**20 51 21.3**	**+6.3**
WHN				pmax	pmax		
	comp=E,270nm,0.7s						
WHN				LR	LR		
	comp=E,6μm,4.7s						
WHN				LR	LR		
	comp=E,3μm,4.3s						
GZH	**Guangzhou**	**10.22**	**260**	P	**Pn**	**20 49 19.8**	**-2.7**
GZH				S	**Sn**	**20 51 06.8**	**-8.4**
CNSH	**ChangSha**	**10.54**	**288**	P	**Pn**	**20 49 28.1**	**+1.3**
CNSH				LR	LR		
	comp=E,490nm,5.1s						
CNSH				LR	LR		
	comp=E,840nm,6.3s						
TJN	**Taejon**	**11.36**	**13**		**Pn**	**20 49 42.3**	**+4.5**
TJN	**Taejon**	**11.36**	**13**	P	P	20 49 42.7	-4.9
TJN	**Taejon**	**11.36**	**13**	P	**Pn**	**20 49 42.3**	**+4.5**
TGY	**Tagaytay City**	**11.57**	**196**	P	**Pn**	**20 49 42.8**	**+1.9**
	comp=E,159nm,0.5s,baz=245,slow=8.3,SNR=8.0						
TGY				S	**Sn**	**20 51 46.6**	**-1.5**
	comp=E,193nm,0.4s,baz=257,slow=22,SNR=5.1						
TGY				LR	LR	20 54 21.9	
	comp=E,290nm,18.1s,baz=347,slow=38						
INCN	**Inchon**	**12.32**	**9**		**P**	**20 49 54.7**	**-3.8**
INCN	**Inchon**	**12.32**	**9**	Pn	**Pn**	**20 49 54.4**	**+3.9**
INCN				Sn	**Sn**	**20 52 13.5**	**+7.6**
INCN	**Inchon**	**12.32**	**9**	P	**Pn**	**20 49 53.8**	**+3.3**
INCN	**Inchon**	**12.32**	**9**	P	**P**	**20 49 54.7**	**-3.8**
KSAR	**Wonju Array Be**	**12.49**	**13**		**P**	**20 49 56.7**	**-3.7**
KSAR	**Wonju Array Be**	**12.49**	**13**	P	**P**	**20 49 56.7**	**-3.7**
TIA	**Tai'an**	**12.49**	**332**	P	**P**	**20 49 57.8**	**-2.7**
TIA				ScP	**ScP**	**20 58 45.6**	**-2.2**
TIA				ScS	**ScS**	**21 02 16.8**	**-7.2**
TIA				pmax	pmax		
	comp=E,38nm,1.3s						
KSRS	**Korea Array**	**12.51**	**14**	P	**P**	**20 49 57.0**	**-3.6**
	comp=E,83nm,1.0s,baz=192,slow=13,SNR=143						
KSRS				S	**Sn**	**20 52 09.9**	**-0.8**
	comp=E,2.9nm,0.9s,baz=192,slow=11,SNR=1.8						
KSRS				LR	LR	20 54 38.7	
	comp=E,125μm,19.2s,baz=195,slow=37						
KS19	**Wonju Array Si**	**12.55**	**13**		**Pn**	**20 49 56.8**	**+3.2**
GULI	**GuiLin**	**12.59**	**273**	P	Pn	20 49 46.3	-7.9
GULI				pP	P	20 49 54.6	-7.0
GULI				S	**Sn**	**20 52 08.3**	**-4.4**
GULI				pmax	pmax		
	comp=Z,22nm,1.3s						
GULI				LR	LR		
	comp=N,720nm,3.0s						
GULI				LR	LR		
	comp=E,470nm,4.7s						
GULI				LR	LR		
	comp=Z,510nm,13.1s						
DL2	**Dalian**	**13.76**	**351**	P	**Pn**	**20 50 11.3**	**+2.0**
DL2				sP	sPn	20 50 46.3	+11
DL2				S	**Sn**	**20 52 43.5**	**+2.8**
DL2				pmax	pmax		
	comp=Z,130nm,1.3s						
DL2				pmax	pmax		
	comp=Z,240nm,11.2s						
LYN	**LuoYang**	**13.77**	**315**	P	**P**	**20 50 13.8**	**-0.9**
LYN				S	**S**	**20 52 50.4**	**-6.1**
LYN				pmax	pmax		
	comp=Z,62nm,1.4s						
LYN				pmax	pmax		
	comp=Z,1μm,4.5s						
ENH	**Enshi**	**14.00**	**294**	P	**P**	**20 50 16.0**	**-1.3**
ENH	**Enshi**	**14.00**	**294**	P	**P**	**20 50 15.8**	**-1.5**
HNS	**HongShan**	**14.56**	**328**	⇓P	**P**	**20 50 23.6**	**+0.2**
HNS				pmax	pmax		
	comp=Z,44nm,1.3s						
HNS				pmax	pmax		
	comp=Z,900nm,4.0s						
HNS				LR	LR		
	comp=Z,670nm,11.7s						
HNS				LR	LR		
	comp=Z,500nm,10.9s						
HNS				LR	LR		
	comp=Z,500nm,12.0s						
QIZ	**Qiongzhong**	**14.75**	**248**	P	**P**	**20 50 26.5**	**+0.9**
QIZ				S	**Sn**	**20 53 07.6**	**+2.5**
QIZ				pmax	pmax		
	comp=Z,29nm,0.8s						
QIZ				LR	LR		
	comp=Z,170nm,14.3s						
QIZ				LR	LR		
	comp=Z,170nm,20.9s						
QIZ				LR	LR		
	comp=Z,320nm,20.9s						
INU	**Inuyama**	**14.87**	**45**		**P**	**20 50 26.9**	**0.0**
INU	**Inuyama**	**14.87**	**45**	P	**P**	**20 50 27.8**	**+1.0**
JGF	**Kuroka**	**15.24**	**45**		**P**	**20 50 30.6**	**-0.4**
JGF	**Kuroka**	**15.24**	**45**	P	**P**	**20 50 32.3**	**+1.3**
GYA	**Guiyang**	**15.90**	**278**	⇑P	**P**	**20 50 39.8**	**+1.3**
GYA				S	**Sn**	**20 53 30.1**	**-2.8**
GYA				pmax	pmax		
	comp=Z,21nm,1.2s						
GYA				pmax	pmax		
	comp=Z,500nm,3.1s						
GYA				LR	LR		
	comp=Z,830nm,5.4s						
GYA				LR	LR		
	comp=Z,610nm,5.3s						
GYA				LR	LR		
	comp=Z,500nm,4.7s						
XAN	**Xi'an**	**15.93**	**307**	⇑P	**P**	**20 50 40.0**	**+1.3**
XAN				sP	sP	20 51 15.3	+4.8
XAN				ScP	**ScP**	**20 58 52.3**	**-1.5**
XAN				pmax	pmax		
	comp=Z,83nm,1.4s						
XAN				pmax	pmax		
	comp=Z,930nm,6.5s						
XAN				LR	LR		
	comp=Z,430nm,7.6s						
XAN				LR	LR		
	comp=Z,600nm,11.7s						
XAN				LR	LR		
	comp=Z,630nm,11.0s						
TIY	**Taiyuan**	**15.96**	**324**	P	**P**	**20 50 42.3**	**+3.3**
TIY				pmax	pmax		
	comp=Z,57nm,1.3s						
TIY				pmax	pmax		
	comp=Z,1μm,5.1s						
BJT	**Baijiatuan**	**16.18**	**337**	P	**P**	**20 50 43.5**	**+2.2**
BJT	**Baijiatuan**	**16.18**	**337**	P	**P**	**20 50 43.4**	**+2.1**
BJT	**Baijiatuan**	**16.18**	**337**	P	**P**	**20 50 43.5**	**+2.2**
BJI	**Beijing**	**16.20**	**337**	P	**P**	**20 50 43.8**	**+2.3**
BJI				pmax	pmax		
	comp=Z,34nm,1.0s						
BJI				pmax	pmax		
	comp=Z,440nm,3.6s						
BJI				LR	LR		
	comp=Z,160nm,14.4s						
BJI				LR	LR		
	comp=Z,140nm,11.5s						
BJI				LR	LR		
	comp=Z,170nm,11.6s						
MAJO	**Matsushiro**	**16.37**	**43**		**P**	**20 50 43.2**	**-0.2**
MAJO	**Matsushiro**	**16.37**	**43**	P	**P**	**20 50 44.7**	**+1.2**
MAJO	**Matsushiro**	**16.37**	**43**	P	**P**	**20 50 43.2**	**-0.2**
MJAR	**Matsushiro Arr**	**16.37**	**43**	P	**P**	**20 50 43.4**	**-0.1**
MJAR	**Matsushiro Arr**	**16.37**	**43**	P	**Pn**	**20 50 40.7**	**-1.8**
	comp=Z,16nm,0.6s,baz=224,slow=9.2,SNR=76						
MJAR				S	**Sn**	**20 53 45.4**	**+1.4**
	comp=Z,2.4nm,0.9s,baz=232,slow=15,SNR=1.7						
MJAR				LR	LR	20 56 59.0	
	comp=Z,98nm,20.6s,baz=219,slow=37						
MJAR	**Matsushiro Arr**	**16.37**	**43**	P	**P**	**20 50 43.4**	**-0.1**
MJB9	**Matsu-Tunnel**	**16.37**	**43**		**P**	**20 50 45.3**	**+1.8**
SNY	**Shenyang**	**16.50**	**358**	⇓P	**P**	**20 50 47.4**	**+2.6**
SNY				pmax	pmax		
	comp=Z,180nm,1.1s						
SNY				pmax	pmax		
	comp=Z,510nm,3.7s						
SNY				LR	LR		
	comp=Z,210nm,14.0s						
SNY				LR	LR		
	comp=Z,290nm,11.8s						
SNY				LR	LR		
	comp=Z,380nm,12.1s						
MSHR	**Mys Shultsa**	**18.15**	**16**	*i* P	**Pn**	**20 51 04.4**	**+0.4**
MSHR				pmax	pmax		
	comp=Z,58nm,1.0s						
DAV	**Davao City (W)**	**18.16**	**176**	LR	LR	20 57 32.4	
	comp=Z,183nm,19.9s,baz=8.0,slow=35						
DAV	**Davao City (W)**	**18.16**	**176**	P	**Pn**	**20 51 04.9**	**+0.4**
DAV				S	**Sn**	**20 54 28.9**	**+1.4**
CN2	**Changchun**	**18.49**	**3**	⇓P	**Pn**	**20 51 08.8**	**+0.7**
CN2				*e*S	**S**	**20 54 29.0**	**-3.3**
CN2				pmax	pmax		
	comp=Z,100nm,1.0s						
CN2				pmax	pmax		
	comp=Z,400nm,3.0s						
HHC	**Hu-ho-hao-te**	**18.79**	**329**	*e*P	**Pn**	**20 51 12.9**	**+1.1**
HHC				PP	**pP**	**20 51 31.8**	**+2.6**
HHC				S	**Sn**	**20 54 40.4**	**-1.7**
HHC				sS	S	20 54 49.6	+11
HHC				pmax	pmax		
	comp=Z,72nm,1.1s						
JMM	**Marumori**	**18.81**	**44**	P	**P**	**20 51 08.4**	**-1.9**
JMM	**Marumori**	**18.81**	**44**	P	**P**	**20 51 09.3**	**-0.9**
CD2	**Chengdu**	**18.94**	**292**	P	**Pn**	**20 51 13.5**	**-0.1**
CD2				S	**S**	**20 54 42.8**	**+1.1**
CD2				PcP	**PcP**	**20 55 33.4**	**-0.2**
CD2				pmax	pmax		
	comp=Z,210nm,0.8s						
CD2				LR	LR		
	comp=Z,1μm,6.3s						
CD2				LR	LR		
	comp=Z,1μm,5.9s						
CD2				LR	LR		
	comp=Z,1μm,8.2s						
SLVN	**Son La**	**19.12**	**262**	P	**Pn**	**20 51 15.9**	**+0.1**
SLVN	**Son La**	**19.12**	**262**	P	**Pn**	**20 51 17.8**	**+2.0**
BTO	**Baotou**	**19.36**	**326**	*e*P	**Pn**	**20 51 20.3**	**+1.8**
BTO				sP	sP	20 51 58.8	+10
BTO				pmax	pmax		
	comp=Z,18nm,0.6s						
BTO				LR	LR		
	comp=Z,610nm,7.5s						
BTO				LR	LR		
	comp=Z,430nm,7.0s						
BTO				LR	LR		
	comp=Z,690nm,7.3s						
KMI	**Kunming**	**19.49**	**274**	⇓P	**Pn**	**20 51 20.8**	**+0.5**
KMI				sP	sP	20 51 57.8	+8.1
KMI				S	**S**	**20 54 50.6**	**-2.5**
KMI				pmax	pmax		
	comp=Z,41nm,1.3s						
KMI				pmax	pmax		
	comp=Z,310nm,7.5s						
KMI				LR	LR		
	comp=Z,280nm,7.7s						
KMI				LR	LR		
	comp=Z,370nm,8.9s						
KMI				LR	LR		
	comp=Z,470nm,11.8s						
XLT	**XiLinHaoTe**	**19.73**	**342**	*e*P	**P**	**20 51 21.3**	**+1.0**
XLT				pP	sP	20 51 47.5	-5.0
XLT				PcP	**PcP**	**20 55 35.3**	**+0.5**
XLT				pmax	pmax		
	comp=Z,62nm,1.2s						
XLT				pmax	pmax		
	comp=Z,330nm,4.1s						
MDJ	**Mudanjiang**	**19.75**	**11**	P	**P**	**20 51 21.3**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,36nm,0.9s						
MDJ	**Mudanjiang**	**19.75**	**11**	P	**P**	**20 51 21.0**	**+0.5**
USA0B	**Ussuriysk Arra**	**19.88**	**16**	P	**P**	**20 51 21.7**	**-0.1**
USA0B	**Ussuriysk Arra**	**19.88**	**16**	*i* P	**P**	**20 51 21.1**	**-0.7**
USRK	**Ussuriysk Ar.**	**19.88**	**16**	P	**P**	**20 51 20.4**	**-1.4**
USRK	**Ussuriysk Ar.**	**19.88**	**16**	P	**P**	**20 51 21.4**	**-0.5**
	comp=Z,18nm,0.7s,baz=206,slow=11,SNR=28						
USRK				sP	**sP**	**20 51 49.9**	**-4.0**
	comp=Z,28nm,0.8s,baz=200,slow=9.0,SNR=7.6						
UBPT	**Khong Chiam**	**20.24**	**244**		Pn	20 51 28.9	+0.1
UBPT	**Khong Chiam**	**20.24**	**244**	P	Pn	20 51 28.9	+0.1
PZH	**PanZhiHua**	**20.31**	**278**	P	**P**	**20 51 27.9**	**+1.1**
PZH				S	**S**	**20 55 05.5**	**-3.5**
PZH				pmax	pmax		
	comp=Z,260nm,0.9s						
PZH				pmax	pmax		
	comp=Z,440nm,3.5s						
BNX	**BinXian**	**20.55**	**6**	⇑P	**P**	**20 51 29.4**	**+0.3**
BNX				sS	**sS**	**20 55 50.1**	**+5.5**
BNX				pmax	pmax		
	comp=Z,180nm,0.7s						
LZH	**Lanzhou**	**20.56**	**306**	⇓P	Pn	20 51 31.3	-1.4
LZH				PcP	**PcP**	**20 55 38.1**	**+1.4**
LZH				SS	sS	20 55 54.8	+10
LZH				pmax	pmax		
	comp=Z,120nm,1.0s						
LZH				pmax	pmax		
	comp=Z,490nm,6.2s						
LZH				LR	LR		
	comp=Z,420nm,14.1s						
LZH				LR	LR		
	comp=Z,430nm,14.4s						
LZH				LR	LR		
	comp=Z,510nm,14.8s						
KKM	**Kota Kinabalu**	**20.64**	**203**	P	**P**	**20 51 29.9**	**-0.5**
KKM	**Kota Kinabalu**	**20.64**	**203**	P	**P**	**20 51 31.2**	**+0.8**
MYLDM	**Lahad Datu**	**20.75**	**196**	P	Pn	20 51 33.3	-1.5
MYLDM	**Lahad Datu**	**20.75**	**196**	P	Pn	20 51 33.6	-1.2
JTM	**Tenmabayashi**	**20.84**	**38**		**P**	**20 51 31.5**	**-0.8**
GUMO	**Guam**	**22.60**	**117**		**P**	**20 51 51.4**	**+0.3**
GUMO	**Guam**	**22.60**	**117**	LR	LR	21 00 22.9	
	comp=Z,140nm,18.6s,baz=304,slow=36						
GUMO	**Guam**	**22.60**	**117**	P	**P**	**20 51 51.6**	**+0.5**
GUMO	**Guam**	**22.60**	**117**	P	**P**	**20 51 51.4**	**+0.3**
ERM	**Erimo**	**22.83**	**38**	P	**P**	**20 51 52.3**	**-0.8**
ERM	**Erimo**	**22.83**	**38**	*ce*P	**P**	**20 51 51.7**	**-1.4**
ERM				pmax	pmax		
	comp=Z,38nm,1.0s						
TNCH	**TengChong**	**23.31**	**275**	⇓*i* P	**P**	**20 51 58.8**	**+0.7**
TNCH				S	**S**	**20 56 00.3**	**-2.7**
TNCH				SS	**SnSn**	**20 56 51.8**	**+2.7**
TNCH				pmax	pmax		
	comp=Z,120nm,1.5s						
ASAJ	**Asahikawa**	**23.97**	**34**	LR	LR	21 02 48.8	
	comp=Z,66nm,18.9s,baz=194,slow=40						
ASAJ	**Asahikawa**	**23.97**	**34**	P	**P**	**20 52 02.6**	**-1.0**
JKA	**Kamikawa-asahi**	**23.98**	**34**		**P**	**20 52 02.5**	**-1.1**
TOLI2	**Tolitoli**	**24.28**	**189**	P	**P**	**20 52 05.7**	**-0.9**
TOLI2	**Tolitoli**	**24.28**	**189**	P	**P**	**20 52 07.6**	**+1.0**
CHTO	**Chiang Mai**	**24.33**	**260**	P	**P**	**20 52 07.6**	**+0.5**
CHTO	**Chiang Mai**	**24.33**	**260**	P	**P**	**20 52 08.1**	**+1.0**
CHTO				S	**S**	**20 56 19.7**	**+0.5**
CHTO	**Chiang Mai**	**24.33**	**260**	P	**P**	**20 52 08.0**	**+0.9**
CHTO	**Chiang Mai**	**24.33**	**260**	P	**P**	**20 52 07.6**	**+0.5**
CM31	**Chiang Mai Arr**	**24.45**	**259**	P	**P**	**20 52 10.2**	**+1.9**
	SNR=12						
CMAR	**Chiang Mai Arr**	**24.45**	**259**	P	**P**	**20 52 08.6**	**+0.3**
CMAR				PcP	**PcP**	**20 55 44.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**24.45**	**259**	P	**P**	**20 52 09.2**	**+1.0**
	comp=Z,22nm,0.9s,baz=61,slow=7.7,SNR=74						
CMAR				PcP	**PcP**	**20 55 45.0**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=15,slow=0.7,SNR=9.4						
CMAR				ScP	**ScP**	**20 59 12.2**	**-1.9**
	comp=Z,3.3nm,1.1s,baz=53,slow=0.6,SNR=12						
CMAR				LR	LR	21 02 15.0	
	comp=Z,173nm,19.4s,baz=75,slow=38						
	comp=Z,22nm,0.9s						
CMAR	**Chiang Mai Arr**	**24.45**	**259**	*i* P	**P**	**20 52 09.1**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,22nm,0.9s						
TNTI	**Ternate**	**24.56**	**173**	P	**P**	**20 52 08.9**	**-0.3**
TNTI	**Ternate**	**24.56**	**173**	P	**P**	**20 52 10.9**	**+1.7**
TNTI	**Ternate**	**24.56**	**173**	P	**P**	**20 52 10.3**	**+1.1**
	comp=Z,1μmcomp=Z,129nm,1.1s						
MRSI	**Marisa**	**24.77**	**186**	P	**P**	**20 52 12.5**	**+1.4**
	comp=Z,2μmcomp=Z,207nm,1.2s						
GTA	**Gaotai**	**24.90**	**310**	⇓P	**P**	**20 52 12.8**	**+0.5**
GTA				PcP	**PcP**	**20 55 46.8**	**+1.3**
GTA				PcS	**PcS**	**20 59 25.8**	**0.0**
GTA				pmax	pmax		
	comp=Z,37nm,0.9s						
GTA				pmax	pmax		
	comp=Z,300nm,8.8s						
GTA				LR	LR		
	comp=Z,490nm,10.4s						
GTA				LR	LR		
	comp=Z,370nm,9.2s						
GTA				LR	LR		
	comp=Z,550nm,9.2s						
HEH	**HeiHe**	**25.04**	**5**	*e*P	**P**	**20 52 13.5**	**+0.3**
HEH				pP	**pP**	**20 52

	comp=Z,17nm,0.9s									
SWI	**Sorong**	**26.87**	**164**		P		**P**	**20 52 30.3**	**+0.3**	
	comp=Z,811nmcomp=Z,53nm,1.4s									
SANI	**Sanana**	**27.23**	**176**		P		**P**	**20 52 33.5**	**+0.2**	
SANI	**Sanana**	**27.23**	**176**		P		**P**	**20 52 33.8**	**+0.5**	
	comp=Z,79nm,0.7s									
KSM	**Kuching**	**27.25**	**212**		P		**P**	**20 52 35.5**	**+2.0**	
GOMU	**GeErMu**	**27.46**	**300**		P		**P**	**20 52 36.6**	**+1.0**	
GOMU					PcP		**PcP**	**20 55 52.1**	**+0.3**	
GOMU					S		**S**	**20 57 09.3**	**+0.2**	
GOMU					pmax		pmax			
	comp=Z,36nm,1.0s									
GOMU					pmax		pmax			
	comp=Z,110nm,3.8s									
RKPI	**Ransiki, Papua**	**28.32**	**159**		P		**P**	**20 52 45.0**	**+2.0**	
	comp=Z,2µmcomp=Z,63nm,1.2s									
NLAI	**Namlea**	**28.50**	**174**		P		P	20 52 52.2	+7.6	
TTSI	**Tana Toraja**	**28.50**	**189**		P		**P**	**20 52 46.6**	**+2.0**	
	comp=Z,28nm,1.3s									
FAKI	**Fak Fak**	**29.09**	**163**		IAmb		IAmb	20 52 50.4		
	comp=Z,124nm,1.0s									
FAKI	**Fak Fak**	**29.09**	**163**		P		**P**	**20 52 49.8**	**-0.1**	
FAKI	**Fak Fak**	**29.09**	**163**		P		**P**	**20 52 49.8**	**-0.1**	
	comp=Z,133nm,1.2s									
SHL	**Shillong**	**29.22**	**278**		P		**P**	**20 52 51.2**	**0.0**	
SHL					IAmb		IAmb	20 52 53.1		
	comp=Z,105nm,1.3s									
SHL	**Shillong**	**29.22**	**278**		P		**P**	**20 52 52.0**	**+0.8**	
	SNR=12									
SHL	**Shillong**	**29.22**	**278**		P		**P**	**20 52 51.2**	**0.0**	
SHL					pmax		pmax			
	comp=Z,105nm,1.3s									
LSA	**Lhasa**	**29.65**	**286**		P		**P**	**20 52 56.3**	**+1.0**	
LSA					pmax		pmax			
	comp=Z,26nm,0.8s									
LSA					LR		LR			
	comp=Z,180nm,14.7s									
LSA					LR		LR			
	comp=Z,280nm,20.5s									
ZAK	**Zakamensk**	**29.83**	**333**	*eP*			**P**	**20 52 55.5**	**-0.7**	
ZAK					pmax		pmax			
	comp=Z,14nm,1.7s									
IPM	**Ipoh**	**30.44**	**231**		P		**P**	**20 53 01.1**	**-0.8**	
KAPI	**Kappang**	**30.45**	**189**		LR		LR	21 06 32.2		
	comp=Z,203nm,18.0s,baz=349,slow=39									
SMPI	**Sarmi**	**30.52**	**151**		P		**P**	**20 53 03.1**	**+0.6**	
	comp=Z,105nm,1.2s									
BBSI	**Bau Bau**	**30.64**	**183**		P		P	20 53 11.4	+7.8	
GENI	**Genyem**	**31.71**	**149**		P		**P**	**20 53 13.4**	**+0.4**	
GENI	**Genyem**	**31.71**	**149**		P		**P**	**20 53 13.6**	**+0.6**	
	comp=Z,84nm,0.9s									
MOY	**Mondy**	**31.75**	**332**	*eP*			**P**	**20 53 12.7**	**-0.5**	
MOY				*e*				20 53 42.1		
MOY					pmax		pmax			
	comp=Z,136nm,1.6s									
JAY	**Jayapura**	**31.90**	**148**		LR		LR	21 04 10.2		
	comp=Z,152nm,20.9s,baz=348,slow=32									
PSI	**Prapat**	**33.10**	**232**		LR		LR	21 06 15.0		
	comp=Z,194nm,18.9s,baz=66,slow=35									
MMRI	**Maumere**	**33.78**	**184**		P		**P**	**20 53 31.7**	**+0.7**	
MMRI	**Maumere**	**33.78**	**184**		P		**P**	**20 53 31.0**	**0.0**	
EDFI	**Ende, Flores**	**33.93**	**185**		P		**P**	**20 53 31.0**	**-1.4**	
	comp=Z,63nm,1.1s									
MNSI	**Mandailing Nat**	**34.09**	**228**		P		**P**	**20 53 35.1**	**+1.4**	
	comp=Z,22nm,1.1s									
PPI	**Padang Panjang**	**34.48**	**226**		P		**P**	**20 53 37.9**	**+0.8**	
	comp=Z,26nm,1.1s									
SOEI	**Soe**	**34.84**	**180**		IAmb		IAmb	20 53 59.8		
	comp=Z,64nm,1.3s									
JAGI	**Jajag, Banyuwa**	**34.98**	**198**		P		**P**	**20 53 41.6**	**+0.2**	
JAGI					IAmb		IAmb	20 53 42.6		
	comp=Z,80nm,1.1s									
WMQ	**Urumqi**	**34.98**	**311**	*eP*			**P**	**20 53 43.1**	**+1.8**	
WMQ					PcP		**PcP**	**20 56 12.3**	**+0.9**	
WMQ					pmax		pmax			
	comp=Z,90nm,0.9s									
WMQ					LR		LR			
	comp=Z,220nm,24.0s									
MANU	**Manus Island**	**35.20**	**137**		P		**P**	**20 53 43.1**	**-0.2**	
MANU					IAmb		IAmb	20 53 44.5		
	comp=Z,26nm,0.8s									
YAK	**Yakutsk**	**36.91**	**4**		P		**P**	**20 53 56.0**	**-1.3**	
YAK					PcP		**PcP**	**20 56 16.0**	**-0.5**	
YAK	**Yakutsk**	**36.91**	**4**		LR		LR	21 09 41.3		
	comp=Z,84nm,20.3s,baz=184,slow=37									
YAK	**Yakutsk**	**36.91**	**4**	*c i*	P		**P**	**20 53 56.4**	**-0.9**	
YAK				*e*	*PP		**pP**	**20 54 21.3**	**+0.8**	
YAK				*e*				20 55 22.1		
YAK				*e*				20 56 16.5		
YAK				*e*	S		**S**	**20 59 32.5**	**-1.9**	
YAK				*e*	*SS		**sS**	**21 00 16.0**	**+2.5**	
YAK				*e*				21 04 00.1		
YAK					pmax		pmax			
	comp=Z,52nm,1.1s									
YAK					pmax		pmax			
	comp=N,17nm,1.0s									
YAK					pmax		pmax			
	comp=E,15nm,1.3s									
YAK					pmax		pmax			
	comp=Z,116nm,3.5s									
YAK					pmax		pmax			
	comp=N,67nm,2.2s									
YAK					pmax		pmax			
	comp=E,21nm,1.7s									
YAK					smax		smax			
	comp=N,24nm,1.5s									
YAK					smax		smax			
	comp=E,37nm,3.3s									
YAK	**Yakutsk**	**36.91**	**4**		P		**P**	**20 53 55.3**	**-2.0**	
PEA0B	**Petropavlovsk-**	**37.39**	**33**	*i*	P		**P**	**20 54 00.2**	**-1.3**	
PETK	**Petropavlovsk-**	**37.39**	**33**		P		**P**	**20 54 00.2**	**-1.3**	
PETK	**Petropavlovsk-**	**37.39**	**33**		P		**P**	**20 54 00.8**	**-0.7**	
	comp=E,22nm,0.8s,baz=229,slow=4.9,SNR=28									
PETK					sP		**sP**	**20 54 31.7**	**-4.1**	
	comp=E,1.1nm,0.3s,baz=180,slow=30,SNR=1.1									
PETK					PcP		**PcP**	**20 56 18.0**	**-0.3**	
	comp=E,5.7nm,0.8s,baz=228,slow=3.8,SNR=3.9									
PETK					LR		LR	21 11 53.7		
	comp=E,41nm,18.3s,baz=232,slow=40									
	comp=E,22nm,0.8s									
PET	**Petropavlovsk**	**37.82**	**34**		P		**P**	**20 54 03.7**	**-1.4**	
PET	**Petropavlovsk**	**37.82**	**34**		P		**P**	**20 54 04.8**	**-0.3**	
PET	**Petropavlovsk**	**37.82**	**34**	*e*	P		**P**	**20 54 04.1**	**-1.0**	
PET				*e*	S		**S**	**20 59 48.8**	**+0.4**	
PET					pmax		pmax			
	comp=Z,107nm,0.7s									
PET					MLR		MLR			
	comp=Z,100nm,16.0s									
PET	**Petropavlovsk**	**37.82**	**34**		P		**P**	**20 54 04.2**	**-0.9**	
	comp=Z,3µmcomp=Z,119nm,0.8s									
ZSN	**Zaisan**	**38.12**	**316**	*d i*	P		**P**	**20 54 07.8**	**0.0**	
ZSN	**Zaisan**	**38.12**	**316**	⇓ *i*	P		**P**	**20 54 07.9**	**0.0**	
MA2	**Magadan**	**38.91**	**21**		LR		LR	21 11 18.2		
	comp=Z,76nm,18.1s,baz=176,slow=38									
MK31	**Makanchi Array**	**39.55**	**314**	*i*	P		**P**	**20 54 20.6**	**+0.8**	
MKAR	**Makanchi Array**	**39.55**	**314**		P		**P**	**20 54 19.1**	**-0.7**	
MKAR	**Makanchi Array**	**39.55**	**314**		P		**P**	**20 54 19.8**	**-0.1**	
	comp=Z,18nm,0.6s,baz=97,slow=10,SNR=194									
MKAR					sP		**sP**	**20 54 50.4**	**-4.2**	
	comp=Z,8.6nm,0.8s,baz=96,slow=9.5,SNR=3.1									
MKAR					PcP		**PcP**	**20 56 25.1**	**-0.1**	
	comp=Z,13nm,0.8s,baz=90,slow=6.1,SNR=8.6									
MKAR					ScP		**ScP**	**21 00 02.9**	**-1.8**	
	comp=Z,2.8nm,0.9s,baz=81,slow=7.5,SNR=6.2									
MKAR					LR		LR	21 12 30.6		
	comp=Z,160nm,18.6s,baz=180,slow=39									
	comp=Z,18nm,0.6s									
MKAR	**Makanchi Array**	**39.55**	**314**	*i*	P		**P**	**20 54 19.7**	**-0.1**	
MKAR					pmax		pmax			
	comp=Z,19nm,0.6s									
H11N1	**WAKE ISLAND Hy**	**39.63**	**89**		T		T	21 36 45.3		
	baz=283,slow=75,SNR=4.4									
H11N2	**WAKE ISLAND Hy**	**39.64**	**89**		T		T	21 36 50.7		
	baz=283,slow=75,SNR=4.6									
H11N3	**WAKE ISLAND Hy**	**39.65**	**89**		T		T	21 36 44.9		
	baz=283,slow=75,SNR=3.8									
MAKZ	**Makanchi**	**39.76**	**314**		P		**P**	**20 54 22.1**	**+0.6**	
MAKZ	**Makanchi**	**39.76**	**314**		P		**P**	**20 54 21.5**	**0.0**	
MAKZ					pP		**pP**	**20 54 44.6**	**-0.1**	
ZAA0	**Zalesovo Array**	**40.90**	**325**		P		**P**	**20 54 29.4**	**-1.3**	
ZALV	**Zalesovo Beam**	**40.90**	**325**		P		**P**	**20 54 30.0**	**-0.7**	
	comp=Z,99nm,0.6s,baz=108,slow=8.0,SNR=378									
ZALV					PcP		**PcP**	**20 56 29.1**	**-0.2**	
	comp=Z,12nm,0.9s,baz=123,slow=5.5,SNR=4.2									
ZALV					ScP		**ScP**	**21 00 07.9**	**-1.8**	
	comp=Z,5.9nm,0.9s,baz=123,slow=5.5,SNR=7.8									
ZALV					LR		LR	21 12 49.4		
	comp=Z,121nm,18.3s,baz=139,slow=38									
	comp=Z,99nm,0.6s									
KNRA	**Kununurra**	**40.96**	**173**				**P**	**20 54 30.3**	**-1.2**	
KNRA					IAmb		IAmb	20 54 31.8		
	comp=Z,62nm,0.9s									
SATY	**Saty**	**41.32**	**307**	*eP*			**P**	**20 54 34.7**	**+0.2**	
SATY					pmax		pmax			
	comp=Z,29nm,0.9s									
SATY	**Saty**	**41.32**	**307**	*eP*			**P**	**20 54 34.8**	**+0.2**	
	comp=Z,29nm,0.9s									
TDK	**Taldyqorghan**	**41.70**	**310**	*eP*			**P**	**20 54 37.8**	**+0.4**	
TDK	**Taldyqorghan**	**41.70**	**310**	*eP*			**P**	**20 54 37.9**	**+0.4**	
SEY	**Seymchan**	**42.00**	**19**		LR		LR	21 13 19.5		
	comp=Z,130nm,20.5s,baz=299,slow=38									
TNSS	**Tian-Shan**	**42.37**	**307**	*eP*			**P**	**20 54 43.3**	**-0.1**	
TNSS	**Tian-Shan**	**42.37**	**307**	*eP*			**P**	**20 54 43.3**	**-0.1**	
AAA	**Alma-Ata**	**42.42**	**307**	*eP*			**P**	**20 54 43.7**	**+0.3**	
AAA					pmax		pmax			
	comp=Z,56nm,1.6s									
AAA	**Alma-Ata**	**42.42**	**307**	*eP*			**P**	**20 54 43.7**	**+0.3**	
	comp=Z,56nm,1.6s									
CHKK	**Chushkaly**	**42.48**	**308**	*eP*			**P**	**20 54 44.1**	**+0.3**	
CHKK	**Chushkaly**	**42.48**	**308**	*eP*			**P**	**20 54 44.1**	**+0.3**	
KSH	**Kashi**	**42.69**	**302**		P		**P**	**20 54 49.6**	**+3.9**	
KSH					pmax		pmax			
	comp=Z,77nm,1.1s									
ULHL	**Ulahol**	**42.77**	**306**		P		**P**	**20 54 48.3**	**+1.9**	
	SNR=20									
KUU	**Kurty**	**42.95**	**308**	*eP*			**P**	**20 54 48.0**	**+0.4**	
KUU	**Kurty**	**42.95**	**308**	*eP*			**P**	**20 54 48.1**	**+0.4**	
BOOM	**Boomskoye usch**	**43.03**	**306**		IAmb		IAmb	20 54 50.6		
	comp=Z,40nm,0.9s									
KURK	**Kurchatov**	**43.09**	**318**		P		**P**	**20 54 47.9**	**-0.8**	
KURK	**Kurchatov**	**43.09**	**318**		P		**P**	**20 54 48.8**	**+0.2**	
KURK	**Kurchatov**	**43.09**	**318**	*ce*	P		**P**	**20 54 48.4**	**-0.2**	
KURK					pmax		pmax			
	comp=Z,211nm,1.3s									
KURK	**Kurchatov**	**43.09**	**318**		P		**P**	**20 54 48.4**	**-0.2**	
KURBB	**Kurchatov Arra**	**43.12**	**318**		P		**P**	**20 54 48.7**	**-0.1**	
	comp=Z,67nm,0.8s,baz=108,slow=8.1,SNR=275									
KURBB					PP		**PP**	**20 56 31.6**	**+0.8**	
	comp=Z,11nm,1.0s,baz=110,slow=11,SNR=5.4									
KURBB					LR		LR	21 14 16.6		
	comp=Z,112nm,18.2s,baz=175,slow=38									
	comp=Z,67nm,0.8s									
HYB	**Hyderabad**	**43.14**	**269**	*eP*			**P**	**20 54 49.9**	**+0.5**	
COEN	**Coen**	**43.14**	**153**		P		**P**	**20 54 49.3**	**-0.1**	
FITZ	**Fitzroy Crossi**	**43.15**	**178**		P		**P**	**20 54 48.1**	**-1.2**	
TKM2	**Tokmak 2**	**43.34**	**306**		P		**P**	**20 54 52.1**	**+1.1**	
	SNR=209									
KBK	**Karagaybulak**	**43.77**	**306**		P		**P**	**20 54 55.8**	**+1.4**	
	SNR=48									
CHMS	**Chmysh**	**43.96**	**306**		P		**P**	**20 54 56.7**	**+0.9**	
	SNR=46									
FRU1	**Bishkek**	**44.03**	**306**		IAmb		IAmb	20 54 58.6		
	comp=Z,85nm,0.9s									
UCH	**Uchtor**	**44.04**	**305**		P		**P**	**20 54 58.8**	**+1.9**	
	SNR=43									
AAK	**Ala-Archa**	**44.10**	**306**		P		**P**	**20 54 58.4**	**+1.3**	
	SNR=12									
AAK	**Ala-Archa**	**44.10**	**306**		P		**P**	**20 54 57.9**	**+0.8**	
AAK					IAmb		IAmb	20 54 59.2		
	comp=Z,43nm,0.8s									
AAK	**Ala-Archa**	**44.10**	**306**		LR		LR	21 14 03.5		
	comp=Z,124nm,21.5s,baz=90,slow=37									
AAK	**Ala-Archa**	**44.10**	**306**		P		**P**	**20 54 58.2**	**+1.1**	
AAK	**Ala-Archa**	**44.10**	**306**	*ce*	P		**P**	**20 54 58.4**	**+1.3**	
AAK					pmax		pmax			
	comp=Z,48nm,0.8s									
AAK	**Ala-Archa**	**44.10**	**306**	*i*	P		**P**	**20 54 58.4**	**+1.3**	
	SNR=13									
AAK	**Ala-Archa**	**44.10**	**306**		P		**P**	**20 54 58.2**	**+1.1**	
SGDS	**Sogindy**	**44.11**	**307**	⇓ *i*	P		**P**	**20 54 57.4**	**+0.4**	
	comp=Z,23nm,1.0s									
USP	**Ospenovka**	**44.18**	**307**		P		**P**	**20 54 58.3**	**+0.8**	
	SNR=49									
EKS2	**Erkin-Say**	**44.63**	**306**		P		**P**	**20 55 02.2**	**+1.0**	
	SNR=58									
BTLS	**Baital**	**44.75**	**309**	*d i*	P		**P**	**20 55 02.3**	**+0.4**	
BTLS					pmax		pmax			
	comp=Z,39nm,1.1s									
BTLS	**Baital**	**44.75**	**309**	⇓ *i*	P		**P**	**20 55 02.4**	**+0.4**	
	comp=Z,39nm,1.1s									
NIL	**Nilore**	**44.82**	**293**		P		**P**	**20 55 03.3**	**+0.5**	
NIL	**Nilore**	**44.82**	**293**		P		**P**	**20 55 03.7**	**+0.9**	
NIL	**Nilore**	**44.82**	**293**		P		**P**	**20 55 03.3**	**+0.5**	
NIL					pmax		pmax			
	comp=Z,205nm,1.0s									
ARSB	**Arslanbob**	**45.10**	**304**		IAmb		IAmb	20 55 07.3		
	comp=Z,67nm,0.9s									
PALK	**Pallekele**	**45.25**	**254**		LR		LR	21 13 49.3		
	comp=Z,84nm,20.8s,baz=68,slow=36									
PALK	**Pallekele**	**45.25**	**254**		P		**P**	**20 55 07.9**	**+1.6**	
WB0	**Warramunga Arr**	**45.86**	**167**		IAmb		IAmb	20 55 11.6		
	comp=Z,84nm,0.9s									
DRK	**Karamyk**	**45.91**	**301**		IAmb		IAmb	20 55 14.2		
	comp=Z,95nm,1.0s									
WRAB	**Tennant Creek**	**46.01**	**167**		P		**P**	**20 55 11.4**	**-0.7**	
WRAB					IAmb		IAmb	20 55 12.9		
	comp=Z,75nm,0.8s									
WRAB	**Tennant Creek**	**46.01**	**167**		P		**P**	**20 55 11.4**	**-0.7**	
WRAB					pmax		pmax			
	comp=Z,75nm,0.9s									
WRA	**Warramunga Arr**	**46.02**	**167**		P		**P**	**20 55 10.1**	**-2.0**	
WRA	**Warramunga Arr**	**46.02**	**167**		P		**P**	**20 55 11.7**	**-0.5**	
	comp=Z,63nm,0.7s,baz=348,slow=8.8,SNR=221									
	comp=Z,63nm,0.7s									
WR8	**Warramunga Arr**	**46.06**	**167**		IAmb		IAmb	20 55 13.3		
	comp=Z,99nm,0.9s									
SMY	**Shemya**	**46.17**	**40**		P		**P**	**20 55 11.9**	**-1.0**	
SMY	**Shemya**	**46.17**	**40**		P		**P**	**20 55 14.3**	**+1.3**	
SMY	**Shemya**	**46.17**	**40**		P		**P**	**20 55 12.0**	**-1.0**	
SMY					pmax		pmax			
	comp=Z,162nm,1.1s									
DZA	**Taraz**	**46.45**	**306**	*eP*			**P**	**20 55 15.7**	**+0.3**	
DZA					pmax		pmax			
	comp=Z,20nm,0.9s									
DZA	**Taraz**	**46.45**	**306**	*eP*			**P**	**20 55 15.8**	**+0.3**	
	comp=Z,20nm,0.9s									
TIXI	**Tiksi**	**46.46**	**2**		P		**P**	**20 55 13.5**	**-1.5**	
TIXI	**Tiksi**	**46.46**	**2**		LR		LR	21 16 08.2		
	comp=Z,152nm,21.1s,baz=200,slow=38									
TIXI	**Tiksi**	**46.46**	**2**		P		**P**	**20 55 13.5**	**-1.5**	
TIXI					pmax		pmax			
	comp=Z,26nm,0.8s									
TIXI	**Tiksi**	**46.46**	**2**		P		**P**	**20 55 13.3**	**-1.7**	
BRZS	**Berezniki**	**46.57**	**316**	*d i*	P		**P**	**20 55 16.6**	**+0.4**	
BRZS	**Berezniki**	**46.57**	**316**	⇓ *i*	P		**P**	**20 55 16.6**	**+0.4**	
BTK	**Batken**	**46.68**	**302**		IAmb		IAmb	20 55 19.3		
	comp=Z,60nm,1.2s									
PSA00	**Pilbara Seismi**	**46.79**	**186**		P		**P**	**20 55 16.4**	**-1.7**	
KK31	**Karatay Array**	**47.06**	**306**		IAmb		IAmb	20 55 22.9		
	comp=Z,46nm,1.1s									
KKAR	**Karatay Array**	**47.06**	**306**		P		**P**	**20 55 20.0**	**-0.2**	
KKAR	**Karatay Array**	**47.06**	**306**		P		**P**	**20 55 20.0**	**-0.2**	
IUG	**Iuzhnay**	**47.36**	**305**	*eP*			**P**	**20 55 22.9**	**+0.3**	
IUG	**Iuzhnay**	**47.36**	**305**	*eP*			**P**	**20 55 22.9**	**+0.3**	
BRLS	**Borolday**	**47.55**	**306**	*d i*	P		**P**	**20 55 25.2**	**+1.2**	
BRLS					pmax		pmax			
	comp=Z,20nm,1.2s									
BRLS	**Borolday**	**47.55**	**306**	⇓ *i*	P		**P**	**20 55 25.2**	**+1.2**	
	comp=Z,20nm,1.2s									
CHM	**Chimkent**	**47.68**	**305**	*eP*			**P**	**20 55 25.3**	**+0.3**	
CHM					pmax		pmax			
	comp=Z,24nm,1.1s									
CHM	**Chimkent**	**47.68**	**305**	*eP*			**P**	**20 55 25.4**	**+0.3**	
	comp=Z,24nm,1.1s									
SIMJ	**Simiganj**	**48.08**	**300**		P		**P**	**20 55 28.3**	**+0.1**	
SIMJ					IAmb		IAmb	20 55 30.9		
	comp=Z,60nm,0.8s									
SIMJ	**Simiganj**	**48.08**	**300**		P		**P**	**20 55 28.6**	**+0.3**	
KBL	**Kabul**	**48.25**	**295**		P		**P**	**20 55 30.6**	**+0.9**	
KBL	**Kabul**	**48.25**	**295**		P		**P**	**20 55 30.9**	**+1.2**	
	SNR=88									
KBL	**Kabul**	**48.25**	**295**		P		**P**	**20 55 30.6**	**+0.9**	
KBL					pmax		pmax			
	comp=Z,207nm,1.0s									
BVAR	**Borovoye Array**	**48.63**	**319**		P		**P**	**20 55 32.0**	**-0.1**	
	comp=Z,41nm,0.9s,baz=106,slow=11,SNR=148									
BVAR					PcP		**PcP**	**20 56 55.9**	**-0.2**	
	comp=Z,42nm,0.8s,baz=98,slow=4.1,SNR=21									
BVAR					ScP		**ScP**	**21 00 40.0**	**-1.7**	
	comp=Z,8.4nm,1.1s,baz=132,slow=4.2,SNR=6.9									
BVAR					LR		LR	21 19 58.3		
	comp=Z,59nm,18.2s,baz=109,slow=41									
	comp=Z,41nm,0.9s									
BRVK	**Borovoye**	**48.70**	**319**		P		**P**	**20 55 32.6**	**0.0**	
BRVK					IAmb		IAmb	20 55 34.0		
	comp=Z,81nm,0.9s									
BRVK	**Borovoye**	**48.70**	**319**		P		**P**	**20 55 33.4**	**+0.8**	
BRVK	**Borovoye**	**48.70**	**319**	*ce*	P		**P**	**20 55 32.8**	**+0.2**	
BRVK					pmax		pmax			
	comp=Z,106nm,1.0s									
BRVK	**Borovoye**	**48.70**	**319**		P		**P**	**20 55 32.9**	**+0.2**	
ALEG	**Aligegeo Malai**	**49.02**	**129**		P		**P**	**20 55 36.6**	**+1.1**	
ASAR	**Alice Springs**	**49.56**	**168**		P		**P**	**20 55 39.0**	**-0.4**	
ASAR	**Alice Springs**	**49.56**	**168**		P		**P**	**20 55 39.4**	**-0.1**	
	comp=Z,27nm,0.6s,baz=351,slow=8.5,SNR=236									
ASAR					sP		**pP**	**20 56 07.7**	**+4.0**	
	comp=Z,5.9nm,0.8s,baz=2.4,slow=6.8,SNR=2.4									
ASAR					ScP		**ScP**	**21 00 43.7**	**-2.2**	
	comp=Z,1.3nm,1.0s,baz=343,slow=4.0,SNR=4.8									
	comp=Z,27nm,0.6s									
BILL	**Bilibino**	**49.70**	**19**	*i*	P		**P**	**20 55 41.2**	**+1.2**	
BILL					pmax		pmax			
	comp=Z,11nm,0.9s									
CTAO	**Charters Tower**	**49.91**	**153**		P		**P**	**20 55 42.3**	**+0.1**	
ADK	**Adak**	**51.53**	**43**		P		**P**	**20 55 53.4**	**-0.6**	
ADK					IAmb		IAmb	20 55 55.3		
	comp=Z,37nm,0.8s									
ADK	**Adak**	**51.53**	**43**		P		**P**	**20 55 54.8**	**+0.8**	
ADK	**Adak**	**51.53**	**43**		P		**P**	**20 55 53.4**	**-0.6**	
ADK					pmax		pmax			
	comp=Z,37nm,0.8s									
GSTR	**Great Sitkin T**	**51.94**	**43**		P		**P**	**20 55 56.9**	**-0.2**	
HMDM	**Hanimaadhoo**	**52.09**	**258**		P		**P**	**20 56 00.7**	**+2.0**	
ATKA	**Atka Island**	**53.09**	**43**		P		**P**	**20 56 04.6**	**-0.9**	
ATKA					IAmb		IAmb	20 56 07.2		
	comp=Z,54nm,0.8s									
ATKA	**Atka Island**	**53.09**	**43**		P		**P**	**20 56 05.8**	**+0.3**	
SVE	**Sverdlovsk**	**54.84**	**323**	*c i*	P		**P**	**20 56 18.4**	**+0.2**	
SVE					pmax		pmax			
	comp=Z,250nm,1.0s									
SPIA	**Saint Paul Isl**	**55.87**	**37**		P		**P**	**20 56 25.6**	**+0.1**	
	baz=264									
AKTO	**Aktyubinsk**	**55.96**	**315**		LR		LR	21 22 21.6		
	comp=Z,144nm,18.4s,baz=262,slow=38									
ARTI	**Arti**	**56.03**	**322**		P		**P**	**20 56 26.0**	**-0.7**	
ARTI	**Arti**	**56.03**	**322**		LR		LR	21 22 37.5		
	comp=Z,125nm,18.9s,baz=99,slow=38									
ARTI	**Arti**	**56.03**	**322**	*d i*	P		**P**	**20 56 26.2**	**-0.5**	
ARTI					*PP		**pP**	**20 56 52.0**	**+0.6**	
ARTI								20 57 23.3		
ARTI								20 58 32.1		
ARTI					S		**S**	**21 04 12.4**	**+5.2**	
ARTI					SS		**SS**	**21 07 56.8**	**+2.5**	
ARTI					pmax		pmax			
	comp=Z,158nm,0.8s									
ARTI	**Arti**	**56.03**	**322**		P		**P**	**20 56 26.3**	**-0.4**	
GAMB	**Gambell**	**56.16**	**29**		P		**P**	**20 56 27.5**	**+0.1**	
	baz=258									
P08K	**Saint George I**	**56.20**	**38**		P		**P**	**20 56 27.0**	**-0.9**	
	baz=265									
NIKH	**Nikolski High**	**56.39**	**42**		P		**P**	**20 56 28.8**	**-0.5**	
	baz=268									
NGCH	**Negor - Chabah**	**56.56**	**285**		P		**P**	**20 56 33.5**	**+2.5**	
UNV	**Unalaska Valle**	**57.82**	**41**		IAmb		IAmb	20 56 38.8		
	comp=Z,31nm,0.9s									
UNV	**Unalaska Valle**	**57.82**	**41**		P		**P**	**20 56 40.7**	**+1.4**	
UNV	**Unalaska Valle**	**57.82**	**41**	

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H25L	Birch Creek	67.10	26	P		P	20 57 42.2	+1.3	
	baz=281,SNR=29								
M23K	Glacier View	67.11	31	P		P	20 57 41.3	+0.2	
	baz=281,SNR=22								
APA	Apatity	67.23	335	*e*P		P	20 57 40.2	-1.5	
APA				*e**PP		pP	20 58 03.1	-4.0	
C27K	Jago River	67.24	22	IAmb		IAmb	20 57 44.7		
	comp=Z,33nm,0.7s								
C27K	Jago River	67.24	22	P		P	20 57 42.7	+0.9	
	baz=281,SNR=47								
FYU	Fort Yukon	67.27	26	IAmb		IAmb	20 57 45.0		
	comp=Z,44nm,1.0s								
SCM	Sheep Creek Mo	67.29	31	P		P	20 57 42.7	+0.3	
	baz=281,SNR=63								
BMAR	Burnt Mountain	67.35	25	P		P	20 57 42.5	-0.1	
PRP	Porcupine Dome	67.36	27	P		P	20 57 42.7	-0.1	
	baz=281,SNR=30								
OZAP	Van, Ozalp-Mer	67.42	303	⇑P		P	20 57 44.9	+1.1	
F26K	Sheenjek River	67.47	24	IAmb		IAmb	20 57 46.5		
	comp=Z,59nm,0.9s								
F26K	Sheenjek River	67.47	24	P		P	20 57 44.2	+0.9	
	baz=282,SNR=96								
LPSR	Galich'ya Gora	67.57	319	*d* iP		P	20 57 43.8	-0.4	
LPSR				pmax		pmax			
	comp=Z,145nm,1.4s								
GLI	Glacier Island	67.59	32	P		P	20 57 44.4	+0.2	
	baz=282,SNR=29								
MSVF	Nonsavu	67.59	124	P		P	20 57 45.7	+0.8	
MSVF				IAmb		IAmb	20 57 47.3		
	comp=Z,39nm,1.1s								
MSVF	Nonsavu	67.59	124	P		P	20 57 45.6	+0.8	
MSVF	Nonsavu	67.59	124	P		P	20 57 45.7	+0.8	
MSVF				pmax		pmax			
	comp=Z,39nm,1.1s								
K24K	Donnelly Dome	67.59	29	P		P	20 57 43.8	-0.4	
	baz=282,SNR=32								
J25K	Salcha River,	67.60	28	P		P	20 57 43.4	-0.9	
	baz=282,SNR=20								
KARS	Kars	67.60	306	IAmb		IAmb	20 57 47.6		
	comp=Z,86nm,1.2s								
VORR	Voronezh	67.61	318	*i* P		P	20 57 41.6	-2.8	
VORR				pmax		pmax			
	comp=Z,90nm,1.0s								
P23K	Montague Islan	67.62	33	P		P	20 57 44.9	+0.5	
	baz=282,SNR=63								
MOS	Moscow	67.65	322	*e*P		P	20 57 43.4	-1.2	
MOS				*e**PP		pP	20 58 09.7	-0.1	
MOS				*e*			21 00 14.1		
MOS				*e*PPP		PPP	21 01 51.4		
MOS				*e*S		S	21 06 34.2	+0.7	
MOS				*e*SS		SS	21 10 54.9	-0.8	
MOS				pmax		pmax			
	comp=Z,200nm,1.2s								
MOS				pmax		pmax			
	comp=Z,87nm,0.6s								
MOS				pmax		pmax			
	comp=E,30nm,0.6s								
MOS				pmax		pmax			
	comp=N,33nm,0.7s								
VORD	Divnogorie	67.72	317	*e*P		P	20 57 43.1	-2.0	
VORD				pmax		pmax			
	comp=Z,40nm,1.0s								
VSR	Storozhevoye	67.74	317	*e*P		P	20 57 42.1	-3.1	
VSR				pmax		pmax			
	comp=Z,50nm,1.1s								
G26K	Porcupine Rive	67.76	25	IAmb		IAmb	20 57 48.2		
	comp=Z,60nm,0.9s								
G26K	Porcupine Rive	67.76	25	P		P	20 57 46.1	+1.0	
	baz=282,SNR=70								
M24K	Tolsona, Glenn	67.77	31	P		P	20 57 46.4	+1.0	
	baz=282,SNR=31								
PAX	Paxson	67.90	30	IAmb		IAmb	20 57 48.0		
	comp=Z,31nm,0.8s								
PAX	Paxson	67.90	30	P		P	20 57 46.4	+0.2	
	baz=282,SNR=51								
RIDG	Independent Ri	68.01	29	P		P	20 57 46.6	-0.3	
	baz=282,SNR=54								
KLU	Klutina	68.02	31	IAmb		IAmb	20 57 48.6		
	comp=Z,45nm,0.7s								
KLU	Klutina	68.02	31	P		P	20 57 47.4	+0.5	
	baz=282,SNR=40								
VADS	Vadso	68.11	338	*e*P		P	20 57 46.6	-0.7	
HARP	HAARP	68.17	30	P		P	20 57 48.5	+0.7	
	baz=283,SNR=12								
ERBR	Yeremizino-Bor	68.18	311	*d* iP		P	20 57 48.5	+0.4	
ERBR				*i* *PP		pP	20 58 13.1	-0.1	
ERBR				*e*S		S	21 06 42.2	+2.0	
ERBR				pmax		pmax			
	comp=Z,166nm,1.3s								
GEVA	Gevas	68.22	303	IAmb		IAmb	20 57 50.8		
	comp=Z,70nm,1.1s								
Q23K	Middleton Isla	68.27	33	P		P	20 57 49.0	+0.7	
	baz=283								
D27M	Malcolm River	68.27	22	IAmb		IAmb	20 57 51.0		
	comp=Z,25nm,0.6s								
D27M	Malcolm River	68.27	22	P		P	20 57 49.1	+0.8	
	baz=284,SNR=42								
E27K	Coleen River	68.30	24	IAmb		IAmb	20 57 51.2		
	comp=Z,29nm,0.8s								
E27K	Coleen River	68.30	24	P		P	20 57 49.4	+0.9	
	baz=284,SNR=43								
EYAK	Cordova Ski Ar	68.31	32	IAmb		IAmb	20 57 50.6		
	comp=Z,136nm,1.5s								
EYAK	Cordova Ski Ar	68.31	32	P		P	20 57 50.1	+1.5	
EYAK	Cordova Ski Ar	68.31	32	P		P	20 57 49.4	+0.8	
	baz=283,SNR=18								
SCRK	Sand Creek	68.33	28	IAmb		IAmb	20 57 50.4		
	comp=Z,49nm,1.0s								
SCRK	Sand Creek	68.33	28	P		P	20 57 48.8	-0.1	
	baz=283,SNR=59								
I26K	Coal Creek Min	68.37	27	P		P	20 57 49.1	+0.1	
	baz=283								
OBN	Obninsk	68.37	322	P		P	20 57 48.4	-0.7	
OBN	Obninsk	68.37	322	*d* iP		P	20 57 48.4	-0.7	
OBN				*e**PP		PcP	20 58 13.5	-0.4	
OBN				pmax		pmax			
	comp=Z,151nm,1.7s								
OBN	Obninsk	68.37	322	P		P	20 57 48.2	-0.9	
	comp=Z,1µmcomp=Z,88nm,1.4s								
OBN	Obninsk	68.37	322	⇑P		P	20 57 49.0	-0.1	
DOT	Dot Lake	68.37	29	IAmb		IAmb	20 57 50.4		
	comp=Z,49nm,0.8s								
J26L	Joseph Creek	68.39	28	IAmb		IAmb	20 57 50.4		
	comp=Z,68nm,0.8s								
J26L	Joseph Creek	68.39	28	P		P	20 57 48.8	-0.5	
	baz=283,SNR=147								
G27K	Doyon Strip	68.61	25	P		P	20 57 51.3	+0.9	
	baz=284,SNR=35								
N25K	Chitina, Valde	68.61	31	IAmb		IAmb	20 57 52.9		
	comp=Z,139nm,1.6s								
N25K	Chitina, Valde	68.61	31	P		P	20 57 51.1	+0.5	
	baz=284,SNR=41								
HOMI	Horasan	68.62	305	⇓P		P	20 57 52.9	+1.6	
MENT	Mentasta	68.69	29	IAmb		IAmb	20 57 53.3		
	comp=Z,48nm,1.0s								
MENT	Mentasta	68.69	29	P		P	20 57 54.1	+3.1	
BMRM	Bremner River	68.76	32	IAmb		IAmb	20 57 53.3		
	comp=Z,69nm,1.0s								
BMRM	Bremner River	68.76	32	P		P	20 57 52.2	+0.7	
	baz=284,SNR=30								
H27K	Steamboat Moun	68.80	26	IAmb		IAmb	20 57 54.7		
	comp=Z,39nm,0.8s								
H27K	Steamboat Moun	68.80	26	P		P	20 57 52.9	+1.2	
	baz=284,SNR=70								
L26K	Log Cabin Wild	68.83	29	IAmb		IAmb	20 57 54.2		
	comp=Z,72nm,1.1s								
L26K	Log Cabin Wild	68.83	29	P		P	20 57 52.7	+0.8	
	baz=284,SNR=23								
I27K	Kandik River	68.92	26	P		P	20 57 53.5	+1.0	
	baz=284,SNR=158								
E28M	Babbage River	68.93	23	IAmb		IAmb	20 57 55.0		
	comp=Z,41nm,0.8s								
E28M	Babbage River	68.93	23	P		P	20 57 53.2	+0.8	
	baz=285,SNR=75								
GURO	Guroymak-BITLI	68.93	304	IAmb		IAmb	20 57 55.5		
	comp=Z,78nm,1.4s								
KEV	Kevo	68.99	338	P		P	20 57 52.5	-0.2	
KEV				IAmb		IAmb	20 57 53.6		
	comp=Z,34nm,0.8s								
KEV	Kevo	68.99	338	P		P	20 57 52.5	-0.2	
KEV				pmax		pmax			
	comp=Z,34nm,0.8s								
KEV	Kevo	68.99	338	P		P	20 57 51.8	-1.0	
KEV				PcP		PcP	20 58 15.7	-0.6	
SPB2	Spitsbergen Ar	69.00	348	IAmb		IAmb	20 57 53.3		
	comp=Z,54nm,0.8s								
SPA0	Spitsbergen Ar	69.00	348	*e*P		P	20 57 52.0	-0.6	
SPITS	Spitsbergen Ar	69.00	348	P		P	20 57 52.6	-0.1	
	comp=Z,33nm,0.6s,baz=80,slow=9.4,SNR=56								
SPITS				LR		LR	21 32 51.8		
	comp=Z,58nm,19.4s,baz=64,slow=40								
SPITS	Spitsbergen Ar	69.00	348	P		P	20 57 52.4	-0.3	
SPITS				pmax		pmax			
	comp=Z,54nm,0.8s								
D28M	Stokes Point	69.01	22	P		P	20 57 53.5	+0.6	
	baz=286								
F28M	Old Crow	69.07	24	IAmb		IAmb	20 57 56.0		
	comp=Z,60nm,0.9s								
F28M	Old Crow	69.07	24	P		P	20 57 54.1	+0.8	
	baz=285,SNR=69								
HMT	Hamilton	69.07	32	IAmb		IAmb	20 57 55.3		
	comp=Z,47nm,0.8s								
KAIM	Kayak Island	69.10	33	P		P	20 57 54.4	+0.8	
	baz=284								
K27K	Chicken	69.13	28	P		P	20 57 54.6	+0.9	
	baz=285								
M26K	Nabesna, AK	69.15	30	P		P	20 57 54.6	+0.7	
	baz=285,SNR=154								
VRDI	Verde Repeater	69.23	31	IAmb		IAmb	20 57 56.4		
	comp=Z,48nm,0.8s								
SOC	Sochi	69.25	309	*e*P		P	20 57 53.4	-1.4	
SOC				*e*			21 00 37.3		
SOC				*e*S		S	21 06 52.9	-0.1	
SOC				*e*SSS		SSS	21 14 31.6		
SOC				pmax		pmax			
	comp=Z,60nm,1.1s								
SUCK	Suckling Hills	69.38	32	IAmb		IAmb	20 57 57.5		
	comp=Z,179nm,1.7s								
MCARA	McCarthy VSAT	69.39	31	IAmb		IAmb	20 57 58.2		
	comp=Z,94nm,0.9s								
MCARA	McCarthy VSAT	69.39	31	P		P	20 57 56.1	+0.8	
	baz=285,SNR=26								
KBS	Kingsbay	69.49	349	P		P	20 57 54.8	-0.8	
KBS	Kingsbay	69.49	349	*ce*P		P	20 57 55.0	-0.7	
KBS				pmax		pmax			
	comp=Z,20nm,1.3s								
KBS	Kingsbay	69.49	349	*e*P		P	20 57 55.0	-0.7	
KBS	Kingsbay	69.49	349	*i* P		P	20 57 55.8	+0.1	
KBS	Kingsbay	69.49	349	P		P	20 57 55.4	-0.3	
L27K	Beaver Creek,	69.49	29	IAmb		IAmb	20 57 58.7		
	comp=Z,80nm,1.1s								
L27K	Beaver Creek,	69.49	29	P		P	20 57 57.1	+1.1	
	baz=285,SNR=112								
CRQM	Cirque	69.50	32	IAmb		IAmb	20 57 58.0		
	comp=Z,66nm,0.8s								
BCAR	Beaver Creek A	69.51	29	P		P	20 57 56.5	+0.3	
CRQE	Cirque	69.53	32	P		P	20 57 56.9	+0.5	
	baz=285,SNR=31								
ARA0	ARCESS Array S	69.56	338	*e*P		P	20 57 55.4	-0.9	
ARCES	ARCESS Array B	69.56	338	P		P	20 57 55.2	-1.1	
ARCES	ARCESS Array B	69.56	338	P		P	20 57 55.5	-0.7	
	comp=Z,20nm,0.9s,baz=70,slow=7.9,SNR=28								
ARCES				LR		LR	21 34 18.9		
	comp=Z,47nm,18.9s,baz=83,slow=41								
	comp=Z,20nm,0.9s								
ARCES	ARCESS Array B	69.56	338	P		P	20 57 55.2	-1.1	
ARCES				pmax		pmax			
	comp=Z,35nm,1.0s								
E29M	Blow River	69.57	23	P		P	20 57 56.8	+0.5	
	baz=287,SNR=35								
BGLC	Bering Glacier	69.60	32	P		P	20 57 57.9	+1.3	
	baz=285								
I28M	Miner Creek	69.64	26	IAmb		IAmb	20 57 59.6		
	comp=Z,84nm,0.8s								
I28M	Miner Creek	69.64	26	P		P	20 57 57.8	+0.9	
	baz=286,SNR=151								
TGL	Tana Glacier	69.65	32	IAmb		IAmb	20 57 58.7		
	comp=Z,64nm,0.8s								
M27K	Edge Creek, AK	69.66	30	IAmb		IAmb	20 57 59.8		
	comp=Z,50nm,0.8s								
M27K	Edge Creek, AK	69.66	30	P		P	20 57 57.9	+0.7	
	baz=286,SNR=82								
KOPT	Kop Dagi	69.67	305	IAmb		IAmb	20 58 01.1		
	comp=Z,106nm,1.4s								
WAX	Waxell Ridge	69.72	32	IAmb		IAmb	20 57 59.4		
	comp=Z,61nm,0.7s								
BJO1	Bjornoya	69.81	344	*e*P		P	20 57 55.4	-2.3	
HAMF	Hammerfest	69.81	340	*e*P		P	20 57 56.4	-1.4	
KHAM	Kharkiv	69.84	317	P		P	20 57 58.1	-0.3	
ISLE	Juniper Island	69.92	32	IAmb		IAmb	20 58 00.3		
	comp=Z,36nm,0.8s								
G29M	Pine Creek	69.96	25	P		P	20 57 59.6	+0.8	
	baz=287,SNR=99								
H29M	Whitestone	70.03	25	IAmb		IAmb	20 58 01.7		
	comp=Z,47nm,0.8s								
H29M	Whitestone	70.03	25	P		P	20 58 00.0	+0.8	
	baz=287,SNR=52								
BVCY	Beaver Creek	70.10	30	P		P	20 58 00.6	+0.8	
	baz=286,SNR=17								
BARN	Barnard Glacie	70.12	31	IAmb		IAmb	20 58 02.1		
	comp=Z,103nm,1.4s								
GRNC	Granite Creek	70.17	31	IAmb		IAmb	20 58 03.1		
	comp=Z,154nm,1.7s								
MESA	MESA	70.23	32	IAmb		IAmb	20 58 02.8		
	comp=Z,122nm,1.5s								
MESA	MESA	70.23	32	P		P	20 58 01.5	+0.7	
	baz=286,SNR=7.1								
DAWY	Dawson	70.26	28	IAmb		IAmb	20 58 02.8		
	comp=Z,82nm,0.8s								
DAWY	Dawson	70.26	28	P		P	20 58 01.3	+0.6	
	baz=287,SNR=77								
YAH	Yahtse	70.27	32	IAmb		IAmb	20 58 03.1		
	comp=Z,129nm,1.6s								
CTG	Chitina Glacier	70.29	31	P		P	20 58 02.0	+0.9	
	baz=286,SNR=35								
CTGM	Chitina Glacie	70.30	31	IAmb		IAmb	20 58 03.3		
	comp=Z,66nm,0.7s								
I29M	Ogilvie Camp,	70.32	26	P		P	20 58 02.2	+1.2	
	baz=288,SNR=5.4								
YUK3	Moose Creek	70.47	30	P		P	20 58 02.7	+0.5	
	baz=287,SNR=58								
LOGN	Logan Glacier	70.49	31	IAmb		IAmb	20 58 04.5		
	comp=Z,130nm,1.4s								
KTK1	Kautokeino	70.49	338	*e*P		P	20 58 01.7	-0.3	
ANN	Anapa	70.50	311	*d* iP		P	20 58 02.0	-0.4	
ANN				*i* *PP		pwP	20 58 30.9	+0.9	
ANN				*e*S		S	21 07 07.2	-0.3	
ANN				pmax		pmax			
	comp=Z,149nm,1.6s								
TABL	Table Mountain	70.54	32	IAmb		IAmb	20 58 04.7		
	comp=Z,109nm,1.4s								
F30M	Barrier River	70.57	24	IAmb		IAmb	20 58 04.7		
	comp=Z,76nm,0.8s								
F30M	Barrier River	70.57	24	P		P	20 58 02.7	+0.3	
	baz=289,SNR=55								
G30M	tAoh Zrail Nji	70.61	24	IAmb		IAmb	20 58 04.3		
	comp=Z,61nm,0.8s								
G30M	tAoh Zrail Nji	70.61	24	P		P	20 58 02.4	-0.4	
	baz=289,SNR=81								
EPYK	Eagle Plains	70.62	25	P		P	20 58 03.3	+0.5	
	baz=288,SNR=19								
J29N	Klondike Camp	70.63	27	P		P	20 58 04.2	+1.2	
	baz=288,SNR=53								
RAYN	Ar Rayn	70.71	287	P		P	20 58 03.9	-0.3	
RAYN				IAmb		IAmb	20 58 05.5		
	comp=Z,69nm,1.3s								
RAYN	Ar Rayn	70.71	287	P		P	20 58 04.5	+0.4	
RAYN	Ar Rayn	70.71	287	P		P	20 58 03.9	-0.3	
RAYN				pmax		pmax			
	comp=Z,69nm,1.3s								
RAYN	Ar Rayn	70.71	287	*i* P		P	20 58 04.4	+0.2	
	SNR=45								
RAYN	Ar Rayn	70.71	287	P		P	20 58 04.3	+0.2	
RAYN				PcP		PcP	20 58 23.8	-0.7	
O28M	Mount Upton	70.89	31	P		P	20 58 05.9	+1.1	
	baz=288,SNR=43								
YUK8	Steele Glacier	70.93	31	P		P	20 58 06.2	+1.2	
	baz=288,SNR=37								
PINM	Pinnacle	71.06	32	P		P	20 58 07.0	+1.4	
	baz=288,SNR=56								
L29M	L29M	71.09	28	P		P	20 58 07.1	+1.4	
	baz=288,SNR=278								
K29M	Barlow Dome	71.11	28	IAmb		IAmb	20 58 08.5		
	comp=Z,84nm,0.8s								
K29M	Barlow Dome	71.11	28	P		P	20 58 06.9	+0.9	
	baz=289,SNR=181								
I30M	Mount Dempster	71.13	26	IAmb		IAmb	20 58 08.1		
	comp=Z,67nm,0.7s								
I30M	Mount Dempster	71.13	26	P		P	20 58 06.5	+0.4	
	baz=289,SNR=120								
INK	Inuvik	71.13	23	IAmb		IAmb	20 58 07.5		
	comp=Z,49nm,0.8s								
INK	Inuvik	71.13	23	P		P	20 58 05.8	0.0	
	baz=291,SNR=24								
M29M	Somme Creek	71.16	29	P		P	20 58 07.8	+1.6	
	baz=288,SNR=238								
JETT	Jettan, Norway	71.24	339	*e*P		P	20 58 05.7	-0.9	
G31M	Satah River	71.36	24	IAmb		IAmb	20 58 08.4		
	comp=Z,51nm,0.8s								
G31M	Satah River	71.36	24	P		P	20 58 06.7	-0.4	
	baz=290,SNR=58								
F31M	Tsiigehtchic	71.36	23	IAmb		IAmb	20 58 08.6		
	comp=Z,68nm,0.8s								
F31M	Tsiigehtchic	71.36	23	P		P	20 58 06.9	-0.3	
	baz=291,SNR=23								
J30M	Hart River	71.36	27	IAmb		IAmb	20 58 09.8		
	comp=Z,39nm,0.8s								
J30M	Hart River	71.36	27	P		P	20 58 07.9	+0.4	
	baz=289,SNR=86								
YUK4	Talbot Arm	71.42	30	P		P	20 58 09.2	+1.2	
	baz=289,SNR=75								
PNL	Peninsula	71.61	32	P		P	20 58 10.9	+2.0	
PNL	Peninsula	71.61	32	P		P	20 58 10.3	+1.4	
	baz=288,SNR=119								
YUK6	Outpost Mounta	71.68	31	P		P	20 58 11.1	+1.5	
	baz=289,SNR=74								
TRO	Tromso	71.69	339	*e*P		P	20 58 07.7	-1.5	
H31M	Peel River	71.73	25	IAmb		IAmb	20 58 11.1		
	comp=Z,71nm,0.8s								
H31M	Peel River	71.73	25	P		P	20 58 09.4	-0.1	
	baz=291,SNR=83								
O29M	Mount Kennedy	71.79	31	IAmb		IAmb	20 58 12.9		
	comp=Z,77nm,1.1s								
O29M	Mount Kennedy	71.79	31	P		P	20 58 11.7	+1.6	
	baz=289,SNR=12								
M30M	Minto, Yukon	71.84	29	P		P	20 58 11.8	+1.6	
	baz=290								
MAYO	Mayo, Yukon	71.88	28	P		P	20 58 12.2	+1.7	
	baz=290								
FIA1	FINESS Array S	71.90	330	IAmb		IAmb	20 58 11.4		
	comp=Z,90nm,0.9s								
FINES	FINESS Array B	71.90	330	P		P	20 58 09.6	-1.0	
FINES	FINESS Array B	71.90	330	P		P	20 58 09.7	-0.9	
	comp=Z,28nm,0.8s,baz=74,slow=6.8,SNR=78								
FINES				sP		sP	20 58 42.2	-4.7	
	comp=Z,5.0nm,0.8s,baz=59,slow=7.0,SNR=2.3								
FINES				LR		LR	21 33 47.4		
	comp=Z,96nm,18.2s,baz=78,slow=39								
	comp=Z,28nm,0.8s								
FINES	FINESS Array B	71.90	330	*i* P		P	20 58 10.5	-0.1	
FINES				pmax		pmax			
	comp=Z,28nm,0.9s								
N30M	Aishikik Lake	72.09	30	IAmb		IAmb	20 58 14.6		
	comp=Z,84nm,1.1s								
N30M	Aishikik Lake	72.09	30	P		P	20 58 13.4	+1.6	
	baz=290,SNR=78								
HYT	Haines Junctio	72.12	31	P		P	20 58 13.3	+1.2	
	baz=290,SNR=141								
P29M	Windy Craggy	72.42	32	P		P	20 58 15.4	+1.6	
	baz=290,SNR=104								
TOKA	Tokat	72.52	307	IAmb		IAmb	20 58 16.5		
	comp=Z,73nm,1.5s								
VSU	Vasula	72.60	327	*ce*P		P	20 58 14.0	-0.8	
VSU				pmax		pmax			
	comp=Z,107nm,1.3s								
P30M	Million Dollar	72.61	31	P		P	20 58 16.3	+1.4	
	baz=290								
N31M	Braeburn, Yuko	72.67	30	P		P	20 58 16.7	+1.4	
	baz=291,SNR=168								
SIM	Simferopol'	72.70	312	*e*P		P	20 58 13.6	-2.1	
SIM				*e*			20 58 31.0		
SIM				pmax		pmax			
	comp=Z,209nm,1.7s								
O30N	Mendenhall	72.79	30	IAmb		IAmb	20 58 19.1		
	comp=Z,86nm,0.9s								
O30N	Mendenhall	72.79	30	P		P	20 58 17.3	+1.4	
	baz=291,SNR=118								
GAZ	Gaziantep	72.98	303	IAmb		IAmb	20 58 19.6		
	comp=Z,190nm,1.8s								
M31M	Drury Creek, Y	73.02	29	P		P	20 58 18.2	+0.9	
	baz=292,SNR=91								
MSEY	Mahe Island	73.03	256	P		P	20 58 20.4	+2.3	
PLBC	Pleasant Camp	73.13	32	P		P	20 58 19.1	+1.2	
	baz=291,SNR=102								
MNK	Minsk	73.36	323	*i* P		P	20 58 19.5	+0.2	
MNK				*i* *PP		pP	20 58 45.0	+0.1	
MNK				*i*			21 01 04.3		
MNK				*i* PPP		PPP	21 02 49.5		
MNK				*i* S		SKiKP	21 07 41.7	+1.4	
MNK				*i* *SS		sS	21 08 26.0	+1.6	
MNK				*i* SS		SS	21 12 27.2	+3.9	
MNK				pmax		pmax			
	comp=Z,87nm,1.0s								
MNK				pmax		pmax			
	comp=N,63nm,1.1s								
MNK				pmax		pmax			
	comp=E,22nm,0.9s								
MNK				MLR		MLR			
	comp=E,52nm,20.0s								
MNK				MLR		MLR			
	comp=N,122nm,22.0s								
MNK				MLR		MLR			
	comp=Z,125nm,20.0s								
WHY	Whitehorse	73.38	30	P		P	20 58 20.8	+1.3	
	baz=292,SNR=148								
SKAG	Skagway	73.62	32	P		P	20 58 23.0	+2.2	
SKAG	Skagway	73.62	32	P		P	20 58 22.5	+1.8	
	baz=292,SNR=79								
STEI	Steigen	73.63	338	*e*P		P	20 58 19.3	-1.3	
S31K	Pelican	73.74	33	P		P	20 58 22.8	+1.4	
	baz=292,SNR=31								
BZK	Bozkurt	73.75	309	P		P	20 58 21.5	-0.4	
	comp=Z,72nm,1.1s								
R31K	City Hall, Gus	73.82	33	P		P	20 58 23.4	+1.5	
	baz=292								
FAUS	Fauske	73.86	338	*e*P		P	20 58 21.6	-0.4	
AK03	Malin Array Si	73.90	319	P		P	20 58 21.6	-0.9	
AK09	Malin Array Si	73.90	319	P		P	20 58 21.8	-0.8	
AKASG	Malin Array Be	73.91	319	P		P	20 58 21.6	-1.0	
AKASG				IAmb		IAmb	20 58 23.5		
	comp=Z,63nm,1.5s								
AKASG	Malin Array Be	73.91	319	P		P	20 58 21

JIS Juneau Island 74.53 33 P P 20 58 27.7 +1.7
SIT Sitka 74.54 34 P P 20 58 27.7 +1.6
SIT Sitka 74.54 34 P P 20 58 27.9 +1.8
baz=292,SNR=57
MOR8 Moi Rana 74.72 337 eP P 20 58 25.3 -1.8
MI28 Mi28,Pidlybu 74.75 319 P P 20 58 26.7 -0.8
S32K Killisnoo 74.75 33 IAmb IAmb 20 58 29.8
comp=Z,88nm,0.9s
S32K Killisnoo 74.75 33 P P 20 58 28.8 +1.5
baz=293,SNR=45
BR131 Keskin Array S 74.77 307 IAmb IAmb 20 58 29.4
comp=Z,49nm,0.9s
BR131 Keskin Array S 74.77 307 P P 20 58 28.3 +0.3
SNR=24
BR131 Keskin Array S 74.77 307 i P P 20 58 28.6 +0.6
BRTR Keskin Array B 74.77 307 P P 20 58 27.4 -0.7
BRTR Keskin Array B 74.77 307 P P 20 58 27.9 -0.1
comp=Z,23nm,0.8s,baz=96,slow=6.2,SNR=123
BRTR sP sP 20 59 00.4 -4.1
comp=Z,6.8nm,0.9s,baz=99,slow=4.1,SNR=3.6
comp=Z,23nm,0.8s
BRTR Keskin Array B 74.77 307 i P P 20 58 28.0 -0.1
BRTR pmax pmax
comp=Z,24nm,0.8s
KIRS Kirsehir-Merke 74.77 306 ⇓P P 20 58 28.1 +0.1
BR104 Keskin Array S 74.77 307 P P 20 58 27.5 -0.6
comp=Z,346nmcomp=Z,42nm,1.0s
BR106 Keskin Array S 74.78 307 P P 20 58 27.6 -0.5
comp=Z,370nmcomp=Z,45nm,1.0s
BR105 Keskin Array S 74.79 307 P P 20 58 27.6 -0.5
comp=Z,389nmcomp=Z,49nm,1.0s
VAGH Vaagaholmen 74.87 337 eP P 20 58 26.6 -1.2
PURM Purcari 74.97 315 P P 20 58 28.3 -0.5
comp=Z,1μmcomp=Z,91nm,1.0s
PURM Purcari 74.97 315 ⇓P P 20 58 28.5 -0.3
KONS Konsvik 75.03 337 eP P 20 58 28.9 +0.1
LUBAR Lubar, Ukraine 75.06 318 P P 20 58 28.9 -0.4
STOK Stokkvaagen 75.15 337 eP P 20 58 28.3 -1.2
LEIR Leirfjorden 75.23 337 eP P 20 58 29.3 -0.7
Q32M Nakina River 75.27 31 IAmb IAmb 20 58 33.4
comp=Z,91nm,1.1s
Q32M Nakina River 75.27 31 P P 20 58 32.2 +1.6
baz=294,SNR=65
ANTO Ankara 75.33 307 P P 20 58 31.2 0.0
ANTO IAmb IAmb 20 58 32.5
comp=Z,47nm,0.7s
ANTO Ankara 75.33 307 P P 20 58 31.7 +0.5
ANTO Ankara 75.33 307 P P 20 58 31.2 0.0
ANTO pmax pmax
comp=Z,47nm,0.7s
ANTO Ankara 75.33 307 P P 20 58 30.6 -0.6
comp=Z,401nmcomp=Z,38nm,0.8s
ANTO Ankara 75.33 307 ⇑P P 20 58 31.5 +0.3
KIS Kishinev 75.47 315 eP P 20 58 30.0 -1.7
comp=Z,70nm,2.2s
KIS Kishinev 75.47 315 eP P 20 58 30.0 -1.7
KIS pmax pmax
comp=Z,70nm,2.2s
MILM Milestii Mici 75.51 315 ⇓i P P 20 58 30.0 -1.9
comp=Z,160nm,4.0s
MILM M M 20 58 40.0
MILM Milestii Mici 75.51 315 di P P 20 58 30.0 -1.9
MILM pmax pmax
comp=Z,160nm,4.0s
MILM pmax pmax
comp=Z,110nm,5.3s
RNPP9 Sopachiv 75.61 320 P P 20 58 31.9 -0.5
RNPP8 Varash 75.66 320 P P 20 58 32.5 -0.2
RNPP5 Staryi Chortor 75.68 320 P P 20 58 32.6 -0.2
DAG Danmarks Havn 75.69 352 i P P 20 58 31.4 -1.0
DAG IAmb IAmb 20 58 33.0
comp=Z,17nm,0.9s
R33M Jennings River 75.69 31 IAmb IAmb 20 58 35.9
comp=Z,94nm,0.8s
R33M Jennings River 75.69 31 P P 20 58 34.6 +1.7
baz=295,SNR=129
NDNU Novodnistrovsk 75.79 317 P P 20 58 32.3 -1.2
MMAI Mount Meron Ar 75.80 300 P P 20 58 33.7 -0.3
comp=Z,17nm,1.1s,baz=75,slow=7.8,SNR=13
MMAI LR LR 21 37 40.8
comp=Z,84nm,18.4s,baz=72,slow=40
comp=Z,17nm,1.1s
T33K Petersburg 75.83 34 P P 20 58 35.3 +1.8
baz=294
TGTN Hyland Airport 75.94 28 P P 20 58 35.3 +1.1
baz=297,SNR=40
U33K Whale Pass 76.03 34 P P 20 58 36.4 +1.7
baz=294,SNR=68
SUW Suwalki 76.10 323 eP P 20 58 34.9 -0.2
HORU Horodok 76.13 318 P P 20 58 35.1 -0.3
TLCR 76.14 314 P P 20 58 35.6 0.0
TLCR 76.14 314 ⇓P P 20 58 35.6 0.0
IASR Iasi 76.20 316 ⇑P P 20 58 35.6 -0.3
MDUB Mudurnu 76.25 308 IAmb IAmb 20 58 38.0
comp=Z,183nm,1.9s
S34M Telegraph Cree 76.25 32 IAmb IAmb 20 58 38.9
comp=Z,81nm,0.8s
S34M Telegraph Cree 76.25 32 P P 20 58 37.9 +1.9
baz=296,SNR=25
JURR Jurilovca 76.26 313 ⇑P P 20 58 36.5 +0.3
VASR Vaslui 76.26 315 ⇑P P 20 58 36.4 +0.1
WRAK Wrangell Islan 76.30 34 P P 20 58 37.6 +1.4
baz=295,SNR=27
CRAG Craig 76.30 35 P P 20 58 37.9 +1.7
CRAG Craig 76.30 35 P P 20 58 37.8 +1.5
baz=295,SNR=34
KMPD K-Podol'skiy 76.36 317 P P 20 58 35.0 -1.7
WTLY Watson Lake, Y 76.36 30 P P 20 58 37.8 +1.2
baz=297,SNR=16
NSS Namsos 76.44 336 eP P 20 58 35.9 -0.9
TATR Tatarca 76.49 314 ⇑P P 20 58 37.6 +0.1
SCTR Scanteiesti 76.50 314 ⇓P P 20 58 37.7 +0.2
VARL Varlezi 76.50 314 ⇓P P 20 58 37.8 +0.2
TPGR Topolog 76.53 313 ⇓P P 20 58 38.0 +0.2
DLBC Dease Lake 76.55 31 P P 20 58 39.5 +1.7
baz=296,SNR=83
CFR Carcaliu 76.59 314 P P 20 58 37.8 -0.3
CFR Carcaliu 76.59 314 ⇓P P 20 58 37.8 -0.3
TIRR Tirgusor 76.68 313 P P 20 58 38.5 -0.1
TIRR Tirgusor 76.68 313 P P 20 58 38.4 -0.1
comp=Z,471nmcomp=Z,35nm,0.9s
TIRR Tirgusor 76.68 313 ⇓P P 20 58 38.6 -0.1
CSS Mathiatis 76.70 302 P P 20 58 38.6 -0.3
comp=Z,744nmcomp=Z,63nm,1.4s
GHRR 76.73 315 P P 20 58 38.6 -0.3
GHRR 76.73 315 ⇑P P 20 58 39.4 +0.6
TLBR Topalu 76.89 313 ⇑P P 20 58 39.8 0.0
HARR Harsova 76.91 313 P P 20 58 40.3 +0.4
HARR Harsova 76.91 313 ⇓P P 20 58 40.4 +0.5
PANC Panciu 76.97 315 ⇓P P 20 58 41.3 +1.1
PRAR RASCA 76.97 316 ⇑P P 20 58 40.1 -0.2
TESR Tescani 77.04 315 P P 20 58 40.0 -0.6
comp=Z,71nm,0.9s
TESR Tescani 77.04 315 ⇓P P 20 58 40.5 -0.1
ODBI Odobesti 77.07 315 P P 20 58 41.3 +0.5
comp=Z,417nmcomp=Z,38nm,0.8s
WRGLY Wrigley 77.08 25 IAmb IAmb 20 58 42.3
comp=Z,66nm,0.9s
WRGLY Wrigley 77.08 25 P P 20 58 41.4 +0.9
baz=301,SNR=12
T35M Bob Quinn 77.09 33 IAmb IAmb 20 58 43.6
comp=Z,48nm,0.9s
T35M Bob Quinn 77.09 33 P P 20 58 42.6 +1.9
baz=296,SNR=29
RES Resolute Bay 77.11 10 LR LR 21 34 03.4
comp=Z,35nm,21.2s,baz=74,slow=37
V35K Ketchikan 77.14 35 P P 20 58 41.8 +0.8
baz=296,SNR=8.1
PSN Preselentsi 77.18 312 P P 20 58 41.7 +0.3
ICOR Ion Corvin 77.22 313 ⇑P P 20 58 42.2 +0.6
VRI Vrincioaia 77.24 315 P P 20 58 42.2 +0.4
VRI Vrincioaia 77.24 315 P P 20 58 41.5 -0.3
comp=Z,572nmcomp=Z,58nm,1.5s
VRI Vrincioaia 77.24 315 ⇓P P 20 58 42.2 +0.4
ONER Baraj Valea Uz 77.27 315 ⇓P P 20 58 42.7 +0.7
PLOR5 Plostina Array 77.29 315 P P 20 58 41.8 -0.3
comp=Z,582nmcomp=Z,54nm,1.1s
PLOR Plostina 77.30 315 P P 20 58 42.3 +0.2
PLOR Plostina 77.30 315 ⇑P P 20 58 42.5 +0.3
KSV Kosov 77.31 318 P P 20 58 41.8 -0.3
BISRR Bisoca 77.38 314 P P 20 58 42.2 -0.4
comp=Z,5μmcomp=Z,322nm,1.4s
EIL Elat 77.38 297 LR LR 21 38 29.5
comp=Z,110nm,19.2s,baz=65,slow=40
NEEM North Greenlan 77.45 359 i P P 20 58 43.0 +0.2
NEEM IAmb IAmb 20 58 44.3
comp=Z,40nm,0.8s
KLYT Kilyos 77.48 310 P P 20 58 42.6 -0.5
comp=Z,784nmcomp=Z,64nm,0.9s
KLYT Kilyos 77.48 310 ⇑P P 20 58 43.3 +0.2
ATD Arta Tunnel 77.49 277 P P 20 58 45.3 +1.5
STNU Starunia 77.50 318 P P 20 58 42.2 -0.9
BUR08 Bucovina Ar. S 77.50 317 IAmb IAmb 20 58 44.5
comp=Z,86nm,1.8s
BURAR Bucovina Array 77.50 317 P P 20 58 43.0 -0.3
BURAR Bucovina Array 77.50 317 P P 20 58 43.5 +0.2
BURAR Bucovina Array 77.50 317 ⇓P P 20 58 43.6 +0.2
COVR Voineasa-Covas 77.58 315 ⇓P P 20 58 43.9 +0.1
DIB Dawson Inlet, 77.60 37 IAmb IAmb 20 58 45.4
comp=Z,51nm,1.1s
TURR Turia 77.62 315 ⇑P P 20 58 44.7 +0.7
ISR Istrita 77.65 314 P P 20 58 43.7 -0.5
comp=Z,21nm,1.4s
ISR Istrita 77.65 314 ⇓P P 20 58 44.7 +0.5
MORS Morshin 77.69 319 P P 20 58 43.8 -0.4
ISP Isparta 77.73 306 ceP P 20 58 44.5 -0.3
ISP pmax pmax
comp=Z,94nm,1.7s
OZUR 77.75 315 ⇓P P 20 58 45.1 +0.4
BOSR Bodos 77.84 315 ⇑P P 20 58 46.0 +0.9
PRD Provadia 77.85 312 P P 20 58 45.5 +0.3
MLR Muntele Rosu 77.89 315 P P 20 58 45.6 0.0
MLR Muntele Rosu 77.89 315 P P 20 58 45.0 -0.6
comp=Z,449nmcomp=Z,31nm,1.2s
MLR Muntele Rosu 77.89 315 ⇓P P 20 58 46.4 +0.9
LIRD Liard River Hi 77.90 30 P P 20 58 46.3 +1.2
baz=299
CTYL Yalikoy Yolu 77.91 310 P P 20 58 44.8 -0.8
HFS Hagfors 77.96 331 P P 20 58 45.2 -0.3
comp=Z,26nm,0.8s,baz=97,slow=5.1,SNR=49
HFS LR LR 21 38 10.7
comp=Z,81nm,18.1s,baz=66,slow=39
comp=Z,26nm,0.8s
SHIU Shidnytsya 77.97 319 P P 20 58 45.3 -0.5
DBG Daneborg 77.98 351 i P P 20 58 44.4 -0.9
RAKU Rahkiv 77.98 317 P P 20 58 45.0 -0.8
SULR 78.02 314 ⇓P P 20 58 46.8 +0.8
DOPR Dopca 78.06 315 ⇑P P 20 58 46.8 +0.4
MEZ Mezhgor'ye 78.17 318 P P 20 58 46.7 -0.2
KWP Kalwaria Pacla 78.18 319 eP P 20 58 47.2 +0.3
KWP Kalwaria Pacla 78.18 319 P P 20 58 46.5 -0.4
comp=Z,119nm,1.1s
ARCR ARCALIA 78.25 317 ⇓P P 20 58 48.0 +0.7
RUBB Prince Rupert 78.29 35 IAmb IAmb 20 58 50.0
comp=Z,72nm,0.9s
RAZG Razgrad 78.30 313 ⇓P P 20 58 48.0 +0.4
NC405 NORSAR Array S 78.30 333 IAmb IAmb 20 58 48.1
comp=Z,48nm,0.9s
LOZB Loznitsa 78.32 312 ⇓P P 20 58 48.1 +0.3
BEL Belsk 78.33 322 eP P 20 58 47.8 +0.2
JNW Jan Mayen West 78.42 346 eP P 20 58 48.2 +0.4
KOTAN Kotaneelee Air 78.43 28 P P 20 58 48.9 +0.8
baz=301
JMIC Jan Mayen 78.47 346 LR LR 21 38 34.5
comp=Z,63nm,20.0s,baz=28,slow=40
BMR Baia Mare 78.54 317 P P 20 58 49.6 +0.7
BMR Baia Mare 78.54 317 ⇓P P 20 58 49.6 +0.7
NB2 NORSAR Subarra 78.55 333 P P 20 58 47.9 -0.9
comp=Z,46nm,1.1s,baz=56,slow=5.6
NB2 NORSAR Subarra 78.55 333 P P 20 58 47.9 -0.9
baz=56,slow=5.6
NOA NORSAR Array B 78.55 333 P P 20 58 47.8 -0.9
comp=Z,16nm,0.9s,baz=55,slow=5.5,SNR=45
NOA sP sP 20 59 21.3 -4.0
comp=Z,3.7nm,0.8s,baz=58,slow=5.7,SNR=2.5
NOA LR LR 21 38 23.3
comp=Z,71nm,18.1s,baz=65,slow=39
comp=Z,16nm,0.9s
KORU Korolevo 78.55 318 P P 20 58 49.0 0.0
TOAD Toad River Com 78.56 30 P P 20 58 49.3 +0.4
baz=300,SNR=12
NC602 NORSAR Array S 78.57 332 eP P 20 58 47.2 -1.6
ELL Elmali 78.60 305 IAmb IAmb 20 58 50.3
comp=Z,61nm,0.8s
MUKU Mukachevo 78.70 318 P P 20 58 49.6 -0.1
KOLS Kolonicke sedl 78.74 319 eP P 20 58 49.8 -0.2
KOLS pmax pmax
comp=Z,16nm,0.7s
KOLS Kolonicke sedl 78.74 319 eP P 20 58 49.8 -0.2
BERU Beregovo 78.82 318 P P 20 58 50.2 -0.2
HOLU Holmets 78.85 318 P P 20 58 50.4 -0.2
UZHM Uzhgorod 78.86 319 P P 20 58 50.4 -0.2
DOMB Dombas 78.87 334 eP P 20 58 49.2 -1.3
BLEU Blekinge 78.87 327 i P P 20 58 48.7 -1.9
CJR Cluj-Napoca 78.88 316 P P 20 58 52.1 +1.3
CJR Cluj-Napoca 78.88 316 ⇑P P 20 58 52.2 +1.3
HUMR Humele 78.91 314 ⇓P P 20 58 50.6 -0.4
COPA Copaceanca 78.92 314 ⇓P P 20 58 51.0 0.0
ELND Elena 78.98 312 ⇓P P 20 58 51.8 +0.3
TAVA DENIZLI_Tavas 79.05 306 ⇑P P 20 58 51.2 -0.8
MESR Meseseni 79.09 317 ⇑P P 20 58 53.0 +1.0
STHS Stebnicka Huta 79.14 320 eP P 20 58 51.7 -0.5
STHS pmax pmax
comp=Z,9.0nm,1.0s
STHS Stebnicka Huta 79.14 320 eP P 20 58 51.7 -0.5
MOL Molde 79.16 335 eP P 20 58 51.2 -0.8
MARR Marisel-Cluj 79.19 317 ⇓P P 20 58 53.0 +0.4
LOT Lotru 79.31 315 ⇓P P 20 58 53.6 +0.3
OSL Oslo 79.34 332 eP P 20 58 51.9 -1.1
DRGR 79.40 317 P P 20 58 53.7 0.0
DRGR 79.40 317 ⇑P P 20 58 53.8 0.0
AKN Aaknes 79.60 335 eP P 20 58 54.2 -0.2
GKP Gorka Klasztor 79.61 324 eP P 20 58 54.6 0.0
OJC Ojcow 79.62 321 eP P 20 58 54.9 +0.1
OJC Ojcow 79.62 321 P P 20 58 54.4 -0.3
comp=Z,747nmcomp=Z,75nm,1.1s
STRU Stroemstad 79.62 331 i P P 20 58 53.9 -0.7
BORU Boraas 79.65 329 i P P 20 58 52.9 -1.9
DEV Deva 79.67 316 P P 20 58 56.3 +1.2
DEV Deva 79.67 316 ⇓P P 20 58 56.4 +1.2
NIE Niedzica 79.69 320 eP P 20 58 56.0 +0.8
NIE Niedzica 79.69 320 P P 20 58 54.8 -0.4
comp=Z,14nm,1.2s
DEL Delary 79.73 328 i P P 20 58 53.5 -1.7
KDZ Kurdzhali 79.88 311 P P 20 58 56.3 0.0
BSD Bornholm Skovb 79.90 327 i P P 20 58 55.1 -1.1
BSD IAmb IAmb 20 58 56.8
comp=Z,23nm,0.9s
SKAR Skarslia 79.94 333 eP P 20 58 56.8 +0.5
EZN Ezine 79.94 309 P P 20 58 56.5 -0.2
EZN Ezine 79.94 309 P P 20 58 56.4 -0.2
comp=Z,35nm,1.1s
EZN Ezine 79.94 309 ⇓P P 20 58 56.6 -0.2
GZR Gura Zlata 79.96 315 P P 20 58 56.5 -0.3
GZR Gura Zlata 79.96 315 ⇑P P 20 58 56.6 -0.3
KONO Kongsberg 79.97 332 eP P 20 58 54.9 -1.6
PLD Plovdiv 80.06 312 P P 20 58 57.8 +0.5
ARG Arkhangelos 80.12 305 IAmb IAmb 20 58 58.6
comp=Z,57nm,0.8s
SURR Surduc 80.22 316 ⇓P P 20 58 58.2 +0.2
MPEP Malo Peshtene 80.22 313 P P 20 58 58.8 +0.7
RZN Rozhen 80.26 311 P P 20 58 58.9 +0.3
SIRR Siria 80.28 317 ⇓P P 20 58 58.8 +0.3
LANS Liptovska Anna 80.30 320 eP P 20 58 59.7 +1.2
LANS pmax pmax
comp=Z,5.0nm,0.7s
LANS Liptovska Anna 80.30 320 eP P 20 58 59.7 +1.2
BJUU Bjuv 80.34 328 i P P 20 58 57.0 -1.4
PUNG Punghina 80.34 314 ⇓P P 20 58 59.4 +0.7
LUNU Lund 80.36 327 i P P 20 58 57.2 -1.4
KULLO Kullorsuaq 80.37 0 i P P 20 58 58.6 +0.3
HERR Herculane 80.41 315 ⇓P P 20 58 58.9 -0.2
BZS Buzias 80.59 316 P P 20 58 59.5 -0.5
BZS Buzias 80.59 316 ⇑P P 20 58 59.6 -0.5
PSZ Piszkesteto 80.61 319 P P 20 59 00.3 +0.1
PSZ Piszkesteto 80.61 319 ⇓P P 20 59 00.4 +0.1
YKAW3 Yellowknife Wh 80.80 24 IAmb IAmb 20 59 02.2
comp=Z,89nm,0.8s
PLNA Plana 80.81 313 P P 20 59 02.1 +0.7
YKA Yellowknife Ar 80.84 24 P P 20 58 60.0 -1.1
YKA Yellowknife Ar 80.84 24 P P 20 59 01.6 +0.6
comp=Z,41nm,0.8s,baz=314,slow=5.6,SNR=246
YKA sP sP 20 59 34.3 -3.2
comp=Z,11nm,1.0s,baz=313,slow=5.6,SNR=2.9
YKA LR LR 21 39 55.2
comp=Z,20nm,19.3s,baz=0.5,slow=39
comp=Z,41nm,0.8s
YKA Yellowknife Ar 80.84 24 i P P 20 59 01.6 +0.6
YKA pmax pmax
comp=Z,43nm,0.8s
VTS Vitosha 80.87 313 P P 20 59 02.4 +0.6
YKAW1 Yellowknife Wh 80.89 24 IAmb IAmb 20 59 02.8
comp=Z,75nm,0.8s
STEB Steborice 80.90 321 eP P 20 59 01.7 0.0
MDVR Moldovita 80.91 315 ⇓P P 20 59 01.8 0.0
VYHS Vyhne 80.97 320 eP P 20 59 02.5 +0.4
VYHS pmax pmax
comp=Z,32nm,0.9s
VYHS Vyhne 80.97 320 eP P 20 59 02.5 +0.4
RPZ Rata Peaks 80.97 148 P P 20 59 01.2 -0.7
MMB Musomishta 80.99 312 P P 20 59 02.0 -0.3
MRZ Mangatainoka R 81.10 143 P P 20 59 01.5 -1.2
MORC Moravsky Berou 81.11 321 eP P 20 59 02.9 +0.1
MORC Moravsky Berou 81.11 321 P P 20 59 03.0 +0.1
MORC Moravsky Berou 81.11 321 ⇓P P 20 59 03.1 +0.2
KARP Karpathos 81.11 305 P P 20 59 02.8 -0.3
comp=Z,136nm,1.2s
MAUC Maruska 81.14 321 eP P 20 59 03.6 +0.6
TRAN Tran 81.16 313 P P 20 58 58.4 -4.8
KKB Krupnik 81.28 312 P P 20 59 03.9 +0.1
KSP Ksiaz 81.29 322 eP P 20 59 03.7 0.0
KSP Ksiaz 81.29 322 P P 20 59 03.3 -0.4
comp=Z,466nmcomp=Z,43nm,1.0s
KRLC Kraliky 81.40 322 eP P 20 59 04.7 +0.4
KRLC AMS AMS 21 37 40.0
comp=Z,100nm,16.8s
BOVS Bovan 81.42 314 ⇓P P 20 59 04.4 -0.1
OSTC Ostas 81.48 322 eP P 20 59 05.4 +0.7
JAVC Velka Javorina 81.48 320 eP P 20 59 06.2 +1.4
DPC Dobruska-Polom 81.52 322 eP P 20 59 05.5 +0.5
DPC Dobruska-Polom 81.52 322 P P 20 59 04.5 -0.5
comp=Z,357nmcomp=Z,23nm,1.3s
CHVC Chvalec 81.55 322 eP P 20 59 05.5 +0.4
SRO Srobarova 81.60 319 eP P 20 59 06.4 +1.0
SRO pmax pmax
comp=Z,9.0nm,0.8s
SRO Srobarova 81.60 319 eP P 20 59 06.4 +1.0
UPC Upice 81.61 322 AMS AMS 21 37 30.0
comp=Z,100nm,16.9s
SUMG Summit 81.68 355 IAmb IAmb 20 59 07.2
comp=Z,48nm,1.0s
SUMG Summit 81.68 355 i P P 20 59 05.9 +0.1
SUMG IAmb IAmb 20 59 07.2
comp=Z,25nm,0.9s
SNART Snartemo 81.74 332 i P P 20 59 05.1 -0.8
SMOL Smolenice 81.78 320 eP P 20 59 07.5 +1.2
SMOL pmax pmax
comp=Z,14nm,1.0s
RUE Ruedersdorf 81.82 325 eP P 20 59 06.9 +0.5
comp=Z,30nm,1.0s,baz=57,slow=5.1
VRAC Vranov 81.88 321 eP P 20 59 07.3 +0.5
VRAC Vranov 81.88 321 LR LR 21 37 53.9
comp=Z,120nm,20.9s,baz=62,slow=37
VRAC Vranov 81.88 321 P P 20 59 07.3 +0.5
VRAC Vranov 81.88 321 ⇓P P 20 59 07.4 +0.5
VAY Valandovo 81.89 312 i P P 20 59 06.8 -0.2
MODS Modra-Piesok 81.94 320 eP P 20 59 05.8 -1.4
MODS pmax pmax
comp=Z,64nm,1.4s
MODS Modra-Piesok 81.94 320 eP P 20 59 05.8 -1.4
MUD Monsted U'grnd 81.94 329 i P P 20 59 06.8 -0.2
SBV Sambava 82.00 251 P P 20 59 10.4 +2.5
KRUC Moravsky 82.11 321 eP P 20 59 08.1 +0.1
MORH Mrgy, Hungar 82.16 318 ⇓i P P 20 59 08.1 -0.3
MORH Mrgy, Hungar 82.16 318 P P 20 59 08.0 -0.3
comp=Z,381nmcomp=Z,26nm,1.2s
MORH Mrgy, Hungar 82.16 318 ⇓P P 20 59 08.1 -0.3
UPNV Upernavik 82.18 0 i P P 20 59 07.8 -0.1
SKO Skopje 82.35 313 i P P 20 59 09.8 +0.3
MPLH Magyarpolny 82.37 319 P P 20 59 09.1 -0.3
comp=Z,1μmcomp=Z,72nm,1.3s
PVCC Panska Ves 82.40 323 eP P 20 59 09.7 +0.2
TREC Trest 82.51 321 eP P 20 59 10.1 -0.1
BRG Berggiesshubel 82.56 323 eP P 20 59 10.3 0.0
comp=Z,8.2nm,0.8s,baz=57,slow=5.1
BRG Berggiesshubel 82.56 323 ⇓i P P 20 59 10.4 0.0
BRG Amp 20 59 11.1
comp=Z,10nm,0.9s
BRG Berggiesshubel 82.56 323 P P 20 59 13.2 +2.8
BRG Amp 20 59 14.0
comp=Z,14nm,1.0s
BRG pP pwP 20 59 41.3 +2.6
BRG Amp 20 59 43.6
comp=Z,4.0nm,0.8s
BRG sP sP 20 59 53.3 +6.4
BRG Amp 20 59 54.1
comp=Z,4.6nm,1.0s
BRG Berggiesshubel 82.56 323 PP PP 21 02 21.0 +0.5
PRU Pruhonice 82.69 322 eP P 20 59 11.4 +0.4
BSEG Bad Segeberg 82.80 327 eP P 20 59 11.8 +0.3
comp=Z,22nm,0.9s,baz=57,slow=5.1
CLL Collm 82.84 324 ⇓i P P 20 59 11.6 -0.1
CLL e*PP pwP 20 59 44.0 +3.9
CLL pmax pmax
comp=Z,24nm,1.1s
CLL Collm 82.84 324 P P 20 59 11.4 -0.4
comp=Z,340nmcomp=Z,24nm,0.8s
CLL Collm 82.84 324 eP P 20 59 11.7 -0.1
comp=Z,14nm,0.8s,baz=57,slow=5.1
RONA Rosalia, Austr 82.84 320 i P P 20 59 12.1 +0.1
comp=Z,9.2nm,1.2s,SNR=5.3
RONA ePP PP 21 02 22.4 -0.6
comp=Z,2.5nm,0.8s
RUDO Rudo 82.94 315 eP P 20 59 11.9 -0.6
CONA Conrad Observa 82.98 320 i P P 20 59 13.3 +0.5
comp=Z,37nm,1.1s,SNR=27
CONA i PP PP 21 02 24.2 +0.1
comp=Z,6.4nm,1.4s
CBB Campbell River 83.01 38 IAmb IAmb 20 59 14.9
comp=Z,51nm,1.5s
ZVC Zvikov 83.17 322 eP P 20 59 13.7 +0.2
BEHE Becsehely 83.17 318 ⇓i P P 20 59 13.5 -0.1
OHR Ohrid 83.17 312 i P P 20 59 14.0 +0.2
FLTG Flechtingen 83.22 325 eP P 20 59 14.0 +0.3
comp=Z,19nm,0.8s,baz=57,slow=5.1
NUUG Nuugaatsiaq 83.42 359 i P P 20 59 14.6 +0.3
CKRC Cesky Krumlov 83.42 321 eP P 20 59 15.3 +0.4
CKRC AMS AMS 21 38 20.0
comp=Z,100nm,23.1s
KOGS Kog 83.50 319 eP P 20 59 14.9 -0.3
ARSA Arzberg 83.52 320 i P P 20 59 15.5 0.0
comp=Z,13nm,1.2s,SNR=8.3
ARSA i PP PP 21 02 27.1 -1.4
comp=Z,2.3nm,0.8s
NEUB Neuenburg 83.55 324 eP P 20 59 15.2 -0.2
comp=Z,12nm,0.8s,baz=57,slow=5.1
NEUB epP pwP 20 59 44.5 +0.8
PDG Podgorica 83.57 314 IAmb IAmb 20 59 16.9
comp=Z,114nm,1.6s
PDG Podgorica 83.57 314 ⇑P P 20 59 15.2 -0.5
MOSL Moslavina 83.61 318 ⇓i P P 20 59 15.7 -0.2
TANN Tannenbergstha 83.61 323 eP P 20 59 15.5 -0.3
comp=Z,5.1nm,0.9s,baz=57,slow=5.1
KHC Kasperske Hory 83.67 322 eP P 20 59 16.5 +0.3
TIR Tirane 83.69 313 IAmb IAmb 20 59 18.4
comp=Z,73nm,0.9s
TIR Tirane 83.69 313 P P 20 59 16.4 +0.1
TIR Tirane 83.69 313 P P 20 59 16.0 -0.3
comp=Z,1μmcomp=Z,95nm,1.4s
TIR Tirane 83.69 313 ⇓P P 20 59 16.5 +0.1
NRDL Niedersach Rie 83.71 326 eP P 20 59 16.3 +0.3
comp=Z,4.2nm,0.8s,baz=57,slow=5.1
NRDL epP pwP 20 59 44.5 0.0
GEC2 GERESS Array S 83.75 322 eP P 20 59 16.6 0.0
comp=Z,24nm,0.9s,baz=57,slow=5.1
GERES GERESS Array B 83.75 322 P P 20 59 16.2 -0.4
GERES GERESS Array B 83.75 322 P P 20 59 16.6 0.0
comp=Z,20nm,0.8s,baz=54,slow=3.4,SNR=139
comp=Z,20nm,0.8s
GERES GERESS Array B 83.75 322 P P 20 59 16.3 -0.4
BLY Banja Luka 83.77 317 ⇓i P P 20 59 16.8 +0.1
BLY Banja Luka 83.77 317 ⇑P P 20 59 16.9 +0.2
A051A Mrakovica 83.81 317 ⇓i P P 20 59 16.7 -0.3
CLZ Clausthal 83.93 325 eP P 20 59 17.6 +0.2
comp=Z,22nm,1.0s,baz=57,slow=5.1
MOX Moxa 83.94 324 eP P 20 59 17.4 0.0
comp=Z,3.6nm,0.8s,baz=57,slow=5.1
MOX epP pwP 20 59 46.8 +1.0
MOA Molln 83.95 320 i P P 20 59 18.0 +0.4
comp=Z,22nm,0.8s,SNR=17
LRW Lerwick 83.97 336 eP P 20 59 17.1 -0.2
LRW IAmb IAmb 20 59 18.5

comp=Z,69nm,1.0s
TREB Trebinje 84.02 315 *e*P **P 20 59 17.5 -0.5**
MANZ Manzenberg 84.03 323 *e*P **P 20 59 18.0 0.0**
comp=Z,1.4nm,0.8s,baz=57,slow=5.1
WET Wettzell 84.06 322 *e*P **P 20 59 18.3 +0.2**
comp=Z,4.0nm,0.9s,baz=57,slow=5.1
WET *e*PP **pwP 20 59 47.0 +0.6**
PERS Pernice 84.08 319 *i*P **P 20 59 18.0 -0.2**
ROTZ Rotzenmuhle 84.09 323 *e*P **P 20 59 18.3 +0.1**
comp=Z,2.5nm,0.8s,baz=57,slow=5.1
SOKA Soboth 84.11 319 *i*P **P 20 59 18.4 -0.1**
comp=Z,22nm,0.8s,SNR=20
SOKA *i*PP **PP 21 02 32.4 -1.0**
comp=Z,6.0nm,1.3s
GCIS Gornji Cirnik 84.16 318 *i*P **P 20 59 18.6 -0.1**
UMMG Uummannaq 84.26 359 *i*P **P 20 59 18.7 0.0**
A050A Klekovaca 84.31 317 ||*i*P **P 20 59 19.3 -0.2**
GTTG Gottingen 84.31 325 *e*P **P 20 59 19.4 +0.1**
comp=Z,17nm,0.8s,baz=57,slow=5.1
CLRS Cowichan Lake 84.33 38 IAmb IAmb 20 59 22.1
comp=Z,102nm,2.0s
STON Ston 84.37 315 ||*i*P **P 20 59 18.6 -1.1**
OZLJ Ozalj 84.39 318 ||*i*P **P 20 59 19.8 +0.1**
BIOA Bad Ischl, Aus 84.39 321 *i*P **P 20 59 20.1 +0.2**
comp=Z,20nm,1.4s,SNR=5.9
OBKA Obir 84.48 319 *i*P **P 20 59 20.1 -0.2**
comp=Z,21nm,0.8s,SNR=15
OBKA *e*PP **PP 21 02 34.9 -1.5**
comp=Z,3.3nm,0.9s
LLLB Lillooet 84.58 36 IAmb IAmb 20 59 23.7
comp=Z,27nm,0.9s
KIJV Kijevo 84.62 316 ||*i*P **P 20 59 20.6 -0.4**
GRA1 Grafenberg Arr 84.67 323 IAmb IAmb 20 59 24.3
comp=Z,45nm,1.3s
GRF Grafenberg Arr 84.67 323 *e*P **P 20 59 21.5 +0.3**
comp=Z,12nm,0.8s,baz=57,slow=5.1
GRFO Grafenberg 84.67 323 P **P 20 59 20.3 -0.8**
GRFO IAmb IAmb 20 59 24.2
comp=Z,45nm,1.3s
GRFO Grafenberg 84.67 323 P **P 20 59 20.3 -0.8**
GRFO pmax pmax
comp=Z,45nm,1.3s
UBBA Unterbreizbach 84.70 324 *e*P **P 20 59 21.1 0.0**
comp=Z,5.8nm,0.9s,baz=57,slow=5.1
GBRS Gornja Briga 84.83 318 *e*P **P 20 59 22.2 +0.1**
GBAS Gorenja Brezov 84.84 319 *e*P **P 20 59 21.4 -0.7**
RJOB Jochberg 84.85 321 *e*P **P 20 59 22.7 +0.6**
comp=Z,20nm,0.8s,baz=57,slow=5.1
MYKA Terra Mystica 84.95 320 *i*P **P 20 59 22.1 -0.6**
comp=Z,11nm,0.9s
MYKA *i*PP **PP 21 02 39.0 -1.2**
comp=Z,4.2nm,1.2s
IBBN Ibbenburen 85.00 327 *e*P **P 20 59 23.1 +0.4**
comp=Z,32nm,0.9s,baz=57,slow=5.1
LESA Schwarzleotal 85.09 321 *i*P **P 20 59 23.2 -0.1**
comp=Z,15nm,0.9s,SNR=9.6
LESA *i*PP **PP 21 02 40.7 -0.5**
comp=Z,3.9nm,1.1s
KASTN Kahler Asten 85.30 325 *e*P **P 20 59 24.2 -0.2**
comp=Z,9.8nm,0.8s,baz=57,slow=5.1
BLKN Baker Lake 85.32 16 IAmb IAmb 20 59 24.4
comp=Z,52nm,1.0s
FUR Furstenfeldbru 85.48 322 *e*P **P 20 59 25.8 +0.6**
comp=Z,43nm,0.8s,baz=57,slow=5.1
ABTA Abfaltersbach 85.55 320 *i*P **P 20 59 24.8 -0.8**
comp=Z,15nm,0.8s,SNR=6.7
ILULI Ilulissat 85.71 358 IAmb IAmb 20 59 26.7
comp=Z,65nm,1.1s
ILULI Ilulissat 85.71 358 *i*P **P 20 59 26.2 +0.3**
BUG Bochum--Univer 85.75 326 *e*P **P 20 59 26.7 +0.3**
comp=Z,37nm,1.0s,baz=57,slow=5.1
WATA Walderalm 85.76 321 *i*P **P 20 59 26.3 -0.5**
comp=Z,12nm,1.1s,SNR=6.8
WATA *i*PP **PP 21 02 46.8 0.0**
comp=Z,9.5nm,1.2s
WTTA Wattenberg 85.77 321 *i*P **P 20 59 26.4 -0.5**
comp=Z,14nm,0.8s,SNR=12
WTTA *e*PP **PP 21 02 45.4 -1.6**
comp=Z,11nm,1.2s
BRJN Brijuni 85.79 318 ||*i*P **P 20 59 25.9 -0.9**
TNS Taunus Mts 85.85 325 *e*P **P 20 59 27.2 +0.1**
comp=Z,13nm,0.8s,baz=57,slow=5.1
MOTA Moosalm 86.03 321 *i*P **P 20 59 27.5 -0.6**
comp=Z,12nm,1.1s,SNR=8.3
MOTA *e*PP **PP 21 02 47.3 -1.7**
comp=Z,10nm,1.7s
SQTA Sankt Quirin 86.04 321 *i*P **P 20 59 27.7 -0.5**
comp=Z,13nm,1.0s,SNR=8.9
SQTA *i*PP **PP 21 02 47.7 -1.3**
comp=Z,15nm,1.3s
BIGH Upper Bighouse 86.12 336 *e*P **P 20 59 27.9 -0.2**
RETA Reutte 86.14 321 *i*P **P 20 59 28.3 -0.3**
comp=Z,5.8nm,0.8s
RETA *i*PP **PP 21 02 48.8 -1.0**
comp=Z,8.1nm,1.0s
SGRT San Giovanni R 86.18 315 IAmb IAmb 20 59 30.6
comp=Z,31nm,0.8s
F03A Seaside 86.22 40 IAmb IAmb 20 59 28.6
comp=Z,75nm,1.1s
STU Stuttgart 86.29 323 IAmb IAmb 20 59 30.3
comp=Z,28nm,0.7s
STU Stuttgart 86.29 323 *e*P **P 20 59 29.4 +0.2**
comp=Z,63nm,0.8s,baz=57,slow=5.1
STU *e*pP **pwP 20 59 58.3 +0.7**
BORG Borgarnes 86.36 346 P **P 20 59 30.4 +1.2**
BORG IAmb IAmb 20 59 32.1
comp=Z,57nm,1.6s
BORG Borgarnes 86.36 346 LR LR 21 42 55.6
comp=Z,41nm,19.7s,baz=24,slow=39
BORG Borgarnes 86.36 346 P **P 20 59 30.4 +1.2**
BORG pmax pmax
comp=Z,57nm,1.6s
FETA Feichten 86.42 321 *i*P **P 20 59 29.7 -0.4**
comp=Z,11nm,1.1s,SNR=7.1
FETA *i*PP **PP 21 02 50.9 -1.3**
comp=Z,6.9nm,1.5s
D05A Enumclaw 86.43 39 IAmb IAmb 20 59 33.7
comp=Z,28nm,0.7s
ACER Acerenza 86.54 314 IAmb IAmb 20 59 31.9
comp=Z,49nm,1.0s
DRUM Mains of Drumt 86.67 334 *e*P **P 20 59 30.1 -0.8**
DAVA Damuels 86.75 322 *i*PcP **P 20 59 31.8 +0.1**
comp=Z,27nm,0.8s,SNR=13
DAVA *e*PP **PP 21 02 53.7 -1.1**
comp=Z,11nm,1.3s
TEOL Teolo 86.79 319 IAmb IAmb 20 59 34.4
comp=Z,47nm,0.8s
TIP Timpagrande 86.82 312 IAmb IAmb 20 59 33.5
comp=Z,35nm,1.0s
TIP Timpagrande 86.82 312 P **P 20 59 31.6 -0.5**
comp=Z,455nmcomp=Z,35nm,1.4s
TIP Timpagrande 86.82 312 ||P **P 20 59 32.2 +0.1**
BTNL Terneli 86.84 326 *d*P **P 20 59 31.8 0.0**
comp=Z,11nm,1.3s
MEM Membach 86.89 326 *d*P **P 20 59 31.8 -0.2**
comp=Z,11nm,1.1s
FUORN Ofenpass-Fuorn 86.91 321 IAmb IAmb 20 59 35.3
comp=Z,27nm,1.1s
BEBN Eben Emael 86.94 326 *d*P **P 20 59 32.3 0.0**
RAR Rarotonga 87.01 115 LR LR 21 33 42.6
comp=Z,50nm,21.4s,baz=272,slow=32
BFO Black Forest 87.01 323 P **P 20 59 31.3 -1.4**
BFO Black Forest 87.01 323 P **P 20 59 31.3 -1.4**
BFO pmax pmax
comp=Z,13nm,1.0s
BFO Black Forest 87.01 323 *e*P **P 20 59 32.7 -0.1**
comp=Z,7.5nm,0.9s,baz=57,slow=5.1
CUC Castrocucco 87.03 313 IAmb IAmb 21 02 17.1
comp=Z,16nm,0.6s
DAVOX Davos/Dischmat 87.04 321 LR LR 21 41 51.3
comp=Z,100nm,20.2s,baz=52,slow=38
BHOU Houvegnez 87.04 326 *d*P **P 20 59 33.2 +0.4**
comp=Z,8.3nm,1.0s
BSTI Sart Tilman 87.12 326 *d*P **P 20 59 33.8 +0.6**
comp=Z,5.0nm,1.1s
INTR Introdacqua 87.22 316 IAmb IAmb 20 59 36.3
comp=Z,26nm,0.8s
CAMP Campotosto 87.26 316 IAmb IAmb 20 59 35.7
comp=Z,19nm,0.7s
AQU L'Aquila 87.36 316 P **P 20 59 34.1 -0.5**
comp=Z,370nmcomp=Z,32nm,0.8s
BCLA Clavier 87.36 326 *d*P **P 20 59 34.4 +0.1**
comp=Z,8.6nm,1.1s
WLF Walferdange 87.38 325 IAmb IAmb 20 59 36.1
comp=Z,48nm,1.0s
WLF Walferdange 87.38 325 *d*P **P 20 59 34.8 +0.3**
comp=Z,29nm,1.0s
WLF Walferdange 87.38 325 *e*P **P 20 59 35.3 +0.8**
comp=Z,27nm,0.9s,baz=57,slow=5.1
KEBM Edson Butte 87.40 43 IAmb IAmb 20 59 37.6
comp=Z,55nm,1.1s
BGES Gesves 87.49 326 *d*P **P 20 59 34.8 -0.2**
comp=Z,6.2nm,1.2s
J01E Myrtle Point 87.49 43 IAmb IAmb 20 59 37.1
comp=Z,61nm,1.5s
BUCK Buck Mountain 87.50 42 IAmb IAmb 20 59 38.3
comp=Z,41nm,1.1s
RCHB Rochefort 87.56 326 *d*P **P 20 59 34.9 -0.4**
comp=Z,13nm,1.1s
LODK Lodwar 87.58 273 P **P 20 59 36.3 +0.1**
LODK Lodwar 87.58 273 P **P 20 59 36.8 +0.6**
KIBK Kibwezi 87.58 266 P **P 20 59 36.6 +0.4**
KIBK Kibwezi 87.58 266 P **P 20 59 37.0 +0.9**
KPL Plockton 87.59 335 *e*P **P 20 59 34.3 -1.0**
KPL IAmb IAmb 20 59 35.5
comp=Z,29nm,1.1s
UCC Uccle 87.60 327 *d*P **P 20 59 36.0 +0.6**
comp=Z,14nm,0.8s
BMRD Maredsous 87.70 326 *d*P **P 20 59 35.9 -0.1**
comp=Z,13nm,1.0s
ZCCA Zocca 87.76 319 IAmb IAmb 20 59 39.4
comp=Z,29nm,0.8s
KMBO Kilima Mbogo 87.78 268 P **P 20 59 37.4 +0.1**
KMBO Kilima Mbogo 87.78 268 P **P 20 59 38.3 +0.9**
KMBO Kilima Mbogo 87.78 268 P **P 20 59 37.4 +0.1**
KMBO pmax pmax
comp=Z,8.0nm,0.8s
KMBO Kilima Mbogo 87.78 268 *i*P **P 20 59 38.1 +0.7**
SNR=6.2
CEL Celeste 87.86 312 P **P 20 59 36.5 -0.6**
comp=Z,1µmcomp=Z,85nm,0.9s
EDMD Edmundbyers 87.88 332 *e*P **P 20 59 36.2 -0.5**
DOU Dourbes 87.92 326 *d*P **P 20 59 37.5 +0.5**
comp=Z,12nm,0.9s
SFJD Kangerlussuaq 87.92 358 P **P 20 59 35.7 -0.9**
SFJD IAmb IAmb 20 59 37.0
comp=Z,46nm,1.0s
SFJD Kangerlussuaq 87.92 358 LR LR 21 39 18.0
comp=Z,35nm,20.6s,baz=9.5,slow=36
SFJD Kangerlussuaq 87.92 358 P **P 20 59 35.7 -0.9**
SFJD pmax pmax
comp=Z,47nm,1.0s
PRMA PARMA 87.92 319 IAmb IAmb 20 59 39.5
comp=Z,35nm,0.7s
EKA Eskdalemuir Ar 88.03 333 P **P 20 59 37.1 -0.3**
comp=Z,5.7nm,0.9s,baz=28,slow=5.0,SNR=8.7
comp=Z,5.7nm,0.9s
EKA Eskdalemuir Ar 88.03 333 P **P 20 59 36.7 -0.7**
EKA pmax pmax
comp=Z,61nm,1.7s
WAH2 Wahluke Slope 88.04 38 IAmb IAmb 20 59 41.0
comp=Z,27nm,0.7s
ANGG Ammassalik, Gr 88.32 353 IAmb IAmb 21 02 35.0
comp=Z,56nm,1.5s
NEW Newport 88.47 36 IAmb IAmb 20 59 42.9
comp=Z,30nm,1.0s
J04A Umpqua Nationa 88.56 42 IAmb IAmb 20 59 42.9
comp=Z,44nm,1.1s
VOI Vohitsoka 88.59 245 P **P 20 59 44.8 +4.1**
SENIN Lac Senin/Sane 88.73 322 IAmb IAmb 20 59 42.5
comp=Z,19nm,0.8s
LBWR Ladybower, Pea 88.76 331 *e*P **P 20 59 40.6 -0.3**
LBWR IAmb IAmb 20 59 41.5
comp=Z,65nm,1.0s
PINE Pine Mountain 88.95 41 IAmb IAmb 20 59 45.2
comp=Z,31nm,1.1s
GAL1 Galloway 89.00 333 *e*P **P 20 59 40.9 -1.1**
GAL1 IAmb IAmb 20 59 42.3
comp=Z,32nm,1.0s
CWF Charnwood Fore 89.02 330 *e*P **P 20 59 41.5 -0.6**
CWF IAmb IAmb 20 59 42.4
comp=Z,29nm,1.1s
YBH Yreka Blue Hor 89.03 44 P **P 20 59 43.8 +1.2**
YBH Yreka Blue Hor 89.03 44 P **P 20 59 43.8 +1.2**
YBH pmax pmax
comp=Z,30nm,1.9s
VAE Valguarnera 89.27 312 LR LR 21 46 14.1
comp=Z,38nm,19.2s,baz=132,slow=40
LNOR Lincton Mounta 89.28 38 IAmb IAmb 20 59 46.1
comp=Z,42nm,1.8s
FOEL Foel Wylfa 89.75 331 *e*P **P 20 59 45.7 +0.1**
FOEL IAmb IAmb 20 59 46.4
comp=Z,55nm,0.9s
BNI Bardonecchia 89.86 321 IAmb IAmb 20 59 47.4
comp=Z,28nm,0.8s
HLM1 Long Mynd 89.87 331 *e*P **P 20 59 45.1 -1.1**
HLM1 IAmb IAmb 20 59 46.7
comp=Z,39nm,1.1s
LLW Llanuwychllyn 89.98 331 *e*P **P 20 59 46.1 -0.6**
LLW IAmb IAmb 20 59 47.3
comp=Z,26nm,0.9s
WLF1 Llynfaes 89.99 332 *e*P **P 20 59 46.5 -0.1**
WLF1 IAmb IAmb 20 59 47.2
comp=Z,110nm,1.0s
MCH1 Michaelchurch 90.29 331 *e*P **P 20 59 47.9 -0.2**
MCH1 IAmb IAmb 20 59 48.5
comp=Z,64nm,1.1s
FRB Frobisher Bay 90.69 6 LR LR 21 41 47.9
comp=Z,22nm,20.7s,baz=344,slow=36
NUUK Nuuk 90.77 358 *i*P **P 20 59 49.4 -0.7**
SSB Saint Sauveur 90.92 322 IAmb IAmb 20 59 52.1
comp=Z,15nm,0.9s
FFC Flin Flon 90.97 25 P **P 20 59 50.9 -0.3**
FFC Flin Flon 90.97 25 P **P 20 59 50.9 -0.3**
FFC pmax pmax
comp=Z,76nm,1.0s
MSO Missoula 91.06 36 IAmb IAmb 21 00 26.8
comp=Z,39nm,1.6s
WVOR Wild Horse Val 91.11 41 IAmb IAmb 20 59 54.8
comp=Z,25nm,1.4s
BEKR Beckworth 91.55 44 P **P 20 59 54.6 +0.1**
AFDM Forest Hills D 91.69 45 P **P 20 59 54.9 0.0**
PAHR Pah Rah Range 92.26 44 IAmb IAmb 20 59 59.6
comp=Z,15nm,1.2s
DLMT Dillon 92.72 36 IAmb IAmb 21 00 03.3
comp=Z,29nm,1.0s
KEST Kesra 93.64 312 P **P 21 00 04.7 +0.6**
comp=Z,25nm,0.9s,baz=318,slow=1.2,SNR=32
comp=Z,25nm,0.9s
KEST Kesra 93.64 312 P **P 21 00 05.1 +1.1**
SNR=7.3
LHV Little Huntoon 93.67 45 IAmb IAmb 21 00 06.8
comp=Z,18nm,1.2s
NVAR Mina Array Bea 93.69 44 P **P 21 00 04.9 +0.5**
NVAR Mina Array Bea 93.69 44 P **P 21 00 05.2 +0.8**
comp=Z,5.1nm,0.9s,baz=290,slow=4.9,SNR=21
NVAR sP **pwP 21 00 36.4 +3.1**
comp=Z,2.1nm,0.7s,baz=288,slow=5.5,SNR=3.9
NVAR PP **PP 21 03 49.4 -0.7**
comp=Z,0.9nm,0.7s,baz=312,slow=8.7,SNR=3.7
comp=Z,5.1nm,0.9s
YHB Horse Butte 93.87 36 IAmb IAmb 21 00 07.5
comp=Z,13nm,0.9s
PPT Papeete 93.98 107 LR LR 21 43 18.4
comp=Z,41nm,18.1s,baz=334,slow=36
PPT2 Papeete2 93.99 107 *e*LR LR 21 30 13.4
comp=Z,213nm,33.8s
PPT2 *e*LR LR 21 30 21.4
comp=Z,356nm,36.8s
ELK Elko 94.16 41 IAmb IAmb 21 00 41.4
comp=Z,18nm,1.8s
CEST Esterri de Car 94.46 322 IAmb IAmb 21 00 08.5
comp=Z,8.0nm,0.8s
DGMT Dagmar 94.72 30 IAmb IAmb 21 00 10.1
comp=Z,20nm,1.1s
GWY Greenwater Val 96.08 45 IAmb IAmb 21 00 17.1
comp=Z,18nm,1.7s
PDAR Pinedale Array 96.08 37 P **P 21 00 15.0 -0.3**
comp=Z,0.4nm,0.5s,baz=321,slow=2.1,SNR=5.1
PDAR PP **PP 21 04 05.2 -3.3**
comp=Z,0.4nm,0.2s,baz=320,slow=7.1,SNR=3.6
PDAR LR LR 21 47 13.6
comp=Z,12nm,18.9s,baz=338,slow=38
comp=Z,0.4nm,0.5s
QSM Queen of Sheba 96.08 46 IAmb IAmb 21 00 17.0
comp=Z,13nm,1.3s
TBI Tubuai 96.50 113 *e*LR LR 21 31 39.2
comp=Z,1µm,31.5s
GSC Goldstone, Bar 96.52 46 IAmb IAmb 21 00 19.0
comp=Z,15nm,1.4s
PFO Pinyon Flats O 97.77 47 P Pdif 21 00 23.6 +0.6
PFO Pinyon Flats O 97.77 47 P Pdif 21 00 23.6 +0.6
PFO pmax pmax
comp=Z,6.0nm,1.2s
U15A North Rim 98.68 43 IAmb IAmb 21 01 01.9
comp=Z,19nm,2.0s
TAOE Nuku Hiva Isla 98.73 96 *e*LR LR 21 32 33.0
comp=Z,143nm,23.9s
ESDC Sonseca Array 99.34 322 P **Pdif 21 00 29.1 -0.6**
comp=Z,0.5nm,0.6s,baz=46,slow=4.8,SNR=4.8
comp=Z,0.5nm,0.6s
SCHQ Schefferville 99.63 6 P **Pdif 21 00 30.2 -0.5**
comp=Z,3.8nm,0.8s,baz=13,slow=7.1,SNR=4.5
SCHQ LR LR 21 51 21.4
comp=Z,44nm,18.1s,baz=349,slow=39
comp=Z,3.8nm,0.8s
LSZ Lusaka 101.77 259 P **Pdif 21 00 40.0 -1.0**
TXAR Lajitas Array 108.81 43 PKiKP **PKiKP 21 05 15.3 -1.3**
comp=Z,0.6nm,0.7s,baz=341,slow=4.1,SNR=5.7
TXAR PP **PP 21 05 41.9 -2.0**
comp=Z,0.9nm,0.8s,baz=332,slow=6.7,SNR=5.4
TORD Torodi Ar. Bea 112.26 298 PP **PP 21 06 09.3 -0.1**
comp=Z,3.0nm,0.7s,baz=46,slow=8.7,SNR=5.7
TROLL Troll, Antarti 123.50 198 ⇑P **PKPdf 21 05 43.2 -0.2**
comp=Z,124nm,0.6s
VNA1 Neumayer--Stat 127.20 198 ⇑P **PKPdf 21 05 50.5 +0.2**
comp=Z,4.1nm,1.1s
VNA3 Neumayer Olymp 127.25 197 ⇑P **PKPdf 21 05 50.3 -0.2**
comp=Z,2.2nm,0.7s
UUPR Uruado, UPR, P 135.41 15 **PKPdf 21 06 05.2 -2.3**
SDV Santo Domingo 143.05 25 PKPab 21 06 17.8 +0.6
SDV Santo Domingo 143.05 25 *e*P **PKPdf 21 06 21.0 -0.8**
BAUV El Baul 143.91 21 PKPab 21 06 20.1 -0.2
ROSC El Rosal 145.02 34 PKPbc **PKPbc 21 06 24.1 -0.9**
comp=Z,11nm,0.6s,baz=18,slow=6.4,SNR=7.2
OTAV Otavalo 146.43 44 *e*P **PKPdf 21 06 26.6 -1.3**
BOAV Boa Vista 152.08 10 *e*P **PKPdf 21 06 37.1 +0.7**
NBPB Pedra_Branca-C 155.00 319 *e*P **PKPdf 21 06 40.6 0.0**
CZSB Cruzeiro do Su 156.17 46 *e*P **PKPdf 21 06 42.1 0.0**
TEFE Tefe 156.70 23 *e*P **PKPdf 21 06 42.9 +0.1**
ITTB Itaituba 159.19 0 *e*P **PKPdf 21 06 45.8 -0.1**
PRPB Parauapebas 160.16 342 *e*P **PKPdf 21 06 47.7 +0.7**
SMTB Santa Maria do 161.91 333 *e*P **PKPdf 21 06 47.0 -1.9**
LPAZ La Paz 165.35 55 PKP **PKPdf 21 06 53.2 +0.5**
comp=Z,4.2nm,1.1s,baz=24,slow=3.6,SNR=8.8
LPAZ PKPab **PKPab 21 07 49.0 -2.0**
comp=Z,5.2nm,1.0s,baz=348,slow=6.0,SNR=6.3
LPAZ La Paz 165.35 55 *e*P **PKPdf 21 06 49.6 -3.1**
CLDB Colider 165.66 0 *e*P **PKPdf 21 06 52.8 +0.5**
SNDB Serra Nova Dou 166.10 342 *e*P **PKPdf 21 06 52.9 +0.3**
BDFB Brasilia 167.99 322 PKPab **PKPab 21 08 00.6 -1.3**
comp=Z,5.3nm,0.7s,baz=23,slow=9.6,SNR=6.3
PTLB Pontes e Lacer 169.69 19 *e*P **PKPdf 21 06 55.2 +0.3**
BBSD Serra de San D 170.74 30 *e*P **PKPdf 21 06 55.2 -0.3**

DJA 22 20:48:08.8±0.3, 8°S±3°×107°E±°, h10km, M4.2/19, mb4.7/5, MLv4.0/19, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.91**	**349**	P		Pb	20 48 26.9	+0.2
CNJI				S		Sg	20 48 38.0	-0.3
LEM	**Lembang**	**1.41**	**13**	P		Pb	20 48 35.1	-0.2
SKJI	**Sukabumi**	**1.41**	**328**	P		Pn	20 48 34.2	-0.4
DBJI	**Dramaga**	**1.74**	**341**	P		Pn	20 48 39.5	+0.4
CGJI	**Cibinong**	**2.26**	**315**	P		Pn	20 48 46.0	-0.2
SBJI	**Serang**	**2.38**	**331**	P		Pn	20 48 49.1	+1.1
UGM	**Wanagama**	**3.19**	**85**	P		Pn	20 48 58.5	-0.7
SMRI	**Semarang**	**3.31**	**70**	P		Pn	20 49 00.9	+0.2
WOJI	**Wonogiri, Jawa**	**3.60**	**84**	P		Pn	20 49 04.4	-0.3
PCJI	**Pacitan**	**3.83**	**90**	P		Pn	20 49 07.4	-0.4
KASI	**Kota Agung**	**3.86**	**314**	P		Pn	20 49 08.9	+0.6
LWLI	**Liwa**	**4.53**	**314**	P		Pn	20 49 17.4	-0.2
MDSI	**Maura Dua**	**4.83**	**320**	P		Pn	20 49 21.6	-0.1
MNAI	**Manna**	**5.78**	**311**	P		Pn	20 49 35.1	+0.5
GMJI	**Gumukmas**	**6.07**	**91**	P		Pn	20 49 38.8	+0.1
	0.3nm48nm,0.5s							
JAGI	**Jajag, Banyuwa**	**6.78**	**93**	P		Pn	20 49 48.1	-0.3
SRBI	**Singaraja**	**7.83**	**90**	P		Pn	20 50 03.3	+0.5

NOU 22 21:13:54.5, 13°05S×166°31E, h15km, ML4.8/10, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**2.41**	**351**	P		Pn	21 14 33.3	-0.1
VLAKA	**Lakatoro**	**3.22**	**161**	P		Pn	21 14 44.4	-0.2
DVP	**Devils Point**	**4.99**	**159**	P		Pn	21 15 09.3	+0.4
DZM	**Mont Dumac**	**8.97**	**179**	P		Pn	21 16 04.1	+0.4
YATNC	**Mamie plateau,**	**8.98**	**177**	P		Pn	21 16 01.9	-1.8
ONTNC	**Ouen Toro**	**9.21**	**179**	P		Pn	21 16 07.4	+0.6
OUENC	**Ouen Island, N**	**9.33**	**177**	P		Pn	21 16 09.1	+0.6

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*IDC **22** 21:21:11.0±2.9, 7°95S×124°23E, h199km±33km, mb3.1/3, mbtmp4.0/7, Error ellipse: s-maj=76.8km s-min=13.8km az=63.0*

*DJA **22** 21:21:11.4±0.6, 8°S±6°×12°4E±°, h203km±8km, M3.9/9, mb4.0/4, MLv3.9/9*

ISC 22 21:21:11.4±0.9, 8°07S±0°07×124°4E±0°1, h200km, n17, σ1=97/21, mb3.1/3, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.68**	**185**	P		**Pn**	**21 21 47.9**	**+1.0**
MMRI	**Maumere**	**2.23**	**255**	P		**Pn**	**21 21 53.4**	**+1.0**
BATI	**Baumata**	**2.25**	**199**	P		**Pn**	**21 21 53.4**	**+0.8**
	91nm,0.3s,baz=49,slow=4.0,SNR=44							
BATI				S		**Sn**	**21 22 26.0**	**+1.1**
	137nm,0.4s,baz=138,slow=6.9,SNR=18							
BATI	**Baumata**	**2.25**	**199**	P		**Pn**	**21 21 53.8**	**+1.2**
EDFI	**Ende, Flores**	**2.79**	**256**	P		**Pn**	**21 21 59.8**	**+1.1**
BBSI	**Bau Bau**	**3.15**	**324**	P		**Pn**	**21 22 04.4**	**+1.5**
BASI	**Baing, Sumba**	**4.36**	**240**	P		**Pn**	**21 22 18.4**	**+0.8**
WSI	**Waingapu**	**4.38**	**248**	P		**Pn**	**21 22 17.8**	**-0.1**
WBSI	**Waikabubak, Su**	**5.21**	**252**	P		**Pn**	**21 22 29.6**	**+1.0**
	0.3nm52nm,1.2s							
BNSI	**Bone**	**5.63**	**310**	P		**Pn**	**21 22 34.7**	**+0.8**
	0.1nm20nm,1.6s							
PLAI	**Plampang**	**6.62**	**263**	P		**Pn**	**21 22 47.1**	**+0.4**
	0.2nm33nm,1.3s							
FITZ	**Fitzroy Crossi**	**10.04**	**173**	P		**Pn**	**21 23 31.1**	**0.0**
	5.9nm,0.6s,baz=355,slow=11,SNR=33							
FITZ				S		**Sn**	**21 25 18.6**	**-4.9**
	4.3nm,0.3s,baz=78,slow=4.1,SNR=8.3							
WRA	**Warramunga Arr**	**15.22**	**142**	P		**Pn**	**21 24 36.6**	**+0.2**
	5.4nm,0.5s,baz=309,slow=12,SNR=72							
WRA				S		**S**	**21 27 22.9**	**-2.5**
	1.5nm,0.6s,baz=321,slow=25,SNR=7.6							
ASAR	**Alice Springs**	**17.98**	**151**	P		**Pn**	**21 25 10.4**	**+1.2**
	2.1nm,0.3s,baz=332,slow=12,SNR=51							
ASAR				S		**S**	**21 28 26.6**	**+3.6**
	0.4nm,0.5s,baz=316,slow=22,SNR=5.3							
STKA	**Stephens Creek**	**28.58**	**148**	P		**P**	**21 26 51.5**	**+2.6**
	1.4nm,0.6s,baz=308,slow=9.2,SNR=4.9							
	1.4nm,0.6s							
SONM	**Songino Array**	**57.90**	**346**	P		**P**	**21 30 40.1**	**-2.5**
	0.2nm,0.5s,baz=177,slow=5.8,SNR=1.9							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**66.22**	**330**	P		**P**	**21 31 36.6**	**-1.2**
	0.2nm,0.5s,baz=131,slow=6.2,SNR=2.3							
	0.2nm,0.5s							

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*IDC **22** 21:44:52.3±0.9, 2°75S×138°59E, h0km, mb3.8/5, mbtmp4.0/9, ML3.9/4, MS3.1/6, Error ellipse: s-maj=23.1km s-min=12.6km az=103.0*

*NEIC **22** 21:44:55.4±1.7, 2°9S±0°1×138°72E±0°06, h10km±1km, mb4.1/11, Error ellipse: s-maj=19.5km s-min=10.3km az=166.0*

*DJA **22** 21:44:56.2±0.3, 3°S±4°×13°9E±°, h10km, M4.2/8, mB5.1/1, mb4.5/3, MLv4.1/8, Mw(mB)4.4/1*

ISC 22 21:44:53.9±0.5, 2°78S±0°06×138°68E±0°05, h10km, n40, σ1=53/38, mb3.9/9, MS3.2/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.78**	**2**	P		**Pg**	**21 45 08.1**	**-0.9**
GENI	**Genyem**	**1.50**	**83**	P		**Pb**	**21 45 22.3**	**+0.5**
JAY	**Jayapura**	**2.04**	**83**	Pn		**Pn**	**21 45 29.7**	**+1.4**
	7.4nm,0.3s,baz=243,slow=9.9,SNR=45							
JAY				Sn		**Sb**	**21 45 56.7**	**+0.2**
	14nm,0.3s,baz=36,slow=13,SNR=4.2							
	39nm,0.4s							
JAY	**Jayapura**	**2.04**	**83**	P		**Pb**	**21 45 31.3**	**+0.3**
SRPI	**Serui, Papua**	**2.60**	**290**	P		**Pn**	**21 45 36.5**	**+0.5**

BAKI	Biak	3.02	301	P	Pn	21 45 42.9	+1.1
RKPI	Ransiki, Papua	4.67	286	P	Pn	21 46 05.8	+1.2
FAKI	Fak Fak	6.43	269	Pn	Pn	21 46 31.8	+3.1
FAKI	Fak Fak 48nm,1.4s	6.43	269	P	Pn	21 46 31.7	+3.1
SWI	Sorong 0.1nm1µm25nm,0.7s	7.66	284	P	Pn	21 46 47.5	+1.9
COEN	Coen	11.96	158	Pn	Pn	21 47 45.0	+0.3
MTN	Manton Dam	12.48	216	Pn	Pn	21 47 51.9	+0.1
SOEI	Soe	15.91	244	P	P	21 48 41.8	-0.1
KNRA	Kununurra KNRA	16.12	217	Pn IAmb	Pn IAmb	21 48 40.3 21 49 05.1	-0.4
DAV	Davao City (W) comp=Z,16nm,18.1s,baz=168,slow=42	16.33	307	LR	LR	21 56 06.8	
BATI	Baumata comp=Z,3.6nm,0.3s,baz=165,slow=4.1,SNR=5.2 comp=Z,16nm,0.5s	16.64	243	Pn	Pn	21 48 47.1	-0.3
GUMO	Guam comp=Z,43nm,21.8s,baz=166,slow=33	17.38	21	LR	LR	21 54 25.6	
WB0	Warramunga Arr WB0	17.40	194	IAmb	Pn IAmb	21 48 57.2 21 49 05.4	+0.2
	comp=Z,15nm,0.9s						
WR8	Warramunga Arr WR8	17.56	193	Pn IAmb	Pn IAmb	21 48 57.6 21 49 07.7	-1.3
	comp=Z,26nm,1.2s						
WRA	Warramunga Arr	17.58	194	Pn	Pn	21 48 55.7	-3.5
WRA	Warramunga Arr comp=Z,0.7nm,0.3s,baz=16,slow=12,SNR=15	17.58	194	P	Pn	21 48 58.5	-0.7
WRA	comp=Z,1.6nm,0.9s,baz=9.7,slow=22,SNR=2.5 comp=Z,4.8nm,0.9s			S	Sn	21 52 14.7	-0.5
KAPI	Kappang	19.02	263	P	P	21 49 16.2	+0.1
FITZ	Fitzroy Crossi	19.88	219	P	P	21 49 24.8	-0.7
FITZ	Fitzroy Crossi comp=Z,0.1nm,0.3s,baz=43,slow=10,SNR=4.4	19.88	219	P	P	21 49 24.8	-0.7
FITZ	comp=Z,2.5nm,0.7s,baz=162,slow=19,SNR=2.7 comp=Z,3.9nm,0.9s			S	S	21 53 05.4	-4.1
AS31	Alice Springs	21.27	192	P	P	21 49 40.5	-0.2
AS31				IAmb	IAmb	21 49 49.2	
	comp=Z,8.0nm,0.9s						
ASAR	Alice Springs	21.27	192	P	P	21 49 39.7	-1.0
ASAR	Alice Springs comp=Z,8.0nm,0.9s,baz=23,slow=10.0,SNR=19	21.27	192	P	P	21 49 41.0	+0.4
ASAR	comp=Z,2.1nm,0.9s,baz=15,slow=21,SNR=5.7 comp=Z,8.0nm,0.9s			S	S	21 53 39.8	+2.6
JOW	Kunigami comp=Z,30nm,20.0s,baz=24,slow=34	31.11	342	LR	LR	22 02 24.3	
JNU	Nakatsue	36.46	349	LR	LR	22 05 12.6	
SONM	Songino Array SONM	57.77	335	P IAmb	P IAmb	21 54 44.0 21 55 00.8	-1.4
	comp=Z,1.9nm,1.4s						
PETK	Petropavlovsk- comp=Z,17nm,18.0s,baz=206,slow=40	57.93	13	LR	LR	22 22 59.1	
YAK	Yakutsk comp=Z,26nm,18.1s,baz=216,slow=36	65.00	355	LR	LR	22 23 22.8	
MK31	Makanchi Array MK31	69.83	322	P IAmb	P IAmb	21 56 07.2 21 56 18.1	+2.5
	comp=Z,2.8nm,1.2s						
MKAR	Makanchi Array comp=Z,0.8nm,0.8s,baz=116,slow=6.6,SNR=3.9 comp=Z,0.8nm,0.8s	69.83	322	P	P	21 56 05.3	+0.6
KURBB	Kurchatov Arra comp=Z,0.8nm,0.8s,baz=120,slow=5.5,SNR=4.9 comp=Z,0.8nm,0.8s	73.77	325	P	P	21 56 27.2	-1.1
ARSB	Arslanbob ARSB	73.86	314	P IAmb	P IAmb	21 56 30.2 21 56 55.2	+0.8
	comp=Z,4.5nm,1.4s						
BVAR	Borovoye Array comp=Z,1.0nm,0.8s,baz=129,slow=3.9,SNR=2.9 comp=Z,1.0nm,0.8s	79.35	325	P	P	21 56 59.8	-0.2
ILAR	Eielson Array comp=Z,0.4nm,0.7s,baz=254,slow=3.4,SNR=3.0 comp=Z,0.4nm,0.7s	85.91	24	P	P	21 57 33.4	-0.4
KAN14	Manchester OK	117.95	49	PKPdf	PKiKP	22 03 42.8	+1.4
LDAQ	Lac Daran	128.13	25	PKPdf	PKPdf	22 04 01.0	+0.3

NIED ***22*** *21:47:06.8,33˙.20N×138˙.35E,h312km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.39; Mθθ-0.12; Mφφ-0.27; Mrθ-0.31; Mθφ-0.52; Mφr-0.87; Fault plane solution: M0.1.10000×10¹⁵ NP1: φs75.00000°,δ23.00000°,λ144.00000°. NP2: φs198.00000°,δ77.00000°,λ71.00000°.*

JMA ***22*** *21:47:06.8±0.5,33˙.1N±1˙×13˙.8E±˙,h312km±4km,MV3.8/38, FAR S OFF TOKAI DISTRICT*

IDC ***22*** *21:47:08.0±1.1,33˙.15N×138˙.21E,h292km±9km,mb3.3/18, mbtmp4.0/23,Error ellipse: s-maj=13.7km s-min=11.0km az=98.0*

ISC 22 21:47:08.6±0.6,**33˙.22N**±0˙.07×**138˙.31E**±0˙.06,**h300**km,**n45,** σ1§**12**/53,**mb3.7**/18,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	Tokai 2	0.86	328	P	Pn	21 47 48.3	+0.3
TTO3	TONANKAI O.B.S	0.99	310	eP	Pn	21 47 48.9	+0.3
TTO4	TONANKAI O.B.S	1.01	321	eP	Pn	21 47 48.8	+0.2
TTO5	TONANKAI O.B.S	1.14	335	eP	Pn	21 47 49.7	+0.3
TTO2	TONANKAI O.B.S	1.19	296	P	Pn	21 47 50.0	+0.5
JMKN	Mikurajimanish	1.26	58	eP	Pn	21 47 49.7	-0.6
JHJ2	Mitsune	1.27	95	eP	Pn	21 47 49.5	-0.9
TTO1	TONANKAI O.B.S	1.33	288	eP	Pn	21 47 50.6	+0.3
JAOM	Aogashimamukai	1.44	121	eP	Pn	21 47 51.3	-0.1
JIE	Ise	1.77	312	P	Pn	21 47 53.3	-0.2
JOD2	Odawara 2	2.14	17	P	Pn	21 47 56.0	-0.4
JYN	Shimodo	2.28	5	P	Pn	21 47 57.9	+0.2
JTNC	Tanabenakahech	2.33	286	P	Pn	21 47 57.3	-0.7
JWY	Kouya	2.47	294	P	Pn	21 47 59.3	-0.1
BSO1	Boso 1	2.64	56	P	Pn	21 47 58.1	-2.0
BSO1				S	S	21 48 38.1	-3.4
JYTA	Yamagatataniai	2.70	332	P	Pn	21 48 01.4	0.0
JYTA				eS	S	21 48 43.6	+0.1
JRY	Ryogami san	2.83	10	P	Pn	21 48 02.8	+0.1
JWT	Wachi	3.17	311	P	Pn	21 48 05.7	-0.2
JWT				eS	S	21 48 50.2	-1.5
JAI	Aioi	3.27	281	P	Pn	21 48 06.4	-0.6
JAI				eS	S	21 48 51.9	-1.9
MJAR	Matsushiro Arr 6.2nm,0.5s,baz=171,slow=11,SNR=28	3.31	359	P	Pn	21 48 07.2	-0.2
MJAR	1.3nm,0.3s,baz=195,slow=24,SNR=5.6			S	S	21 48 54.1	-0.4
MAT	Matsushiro	3.31	359	P	Pn	21 48 07.4	0.0
MAT				eS	S	21 48 53.1	-1.4
JAG	Ashikaga	3.33	16	P	Pn	21 48 06.1	-1.5
JAG				S	S	21 48 50.7	-4.0
JMN	Monobe	3.74	279	P	Pn	21 48 11.7	-0.2
JMN				eS	S	21 49 01.2	-1.5
JNU	Nakatsue 3.5nm,0.5s,baz=2.7,slow=4.3,SNR=2.1	6.23	271	P	Pn	21 48 39.4	-1.3
KSRS	Korea Array 8.4nm,0.7s,baz=111,slow=13,SNR=27	9.47	299	P	Pn	21 49 20.2	+0.1
JOW	Kunigami 4.8nm,0.7s,baz=29,slow=7.8,SNR=5.6	10.77	236	P	Pn	21 49 34.8	-1.4
USRK	Ussuriysk Ar. 2.4nm,0.6s,baz=150,slow=11,SNR=5.1	12.02	338	P	Pn	21 49 51.8	+0.7
PETK	Petropavlovsk- 4.3nm,1.1s,baz=244,slow=10.0,SNR=3.5 4.3nm,1.1s	24.25	29	P	P	21 51 59.4	+0.6
SONM	Songino Array 2.8nm,0.6s,baz=110,slow=9.0,SNR=21 2.8nm,0.6s	28.07	311	P	P	21 52 33.2	+0.2
CMAR	Chiang Mai Arr 0.6nm,0.4s,baz=51,slow=8.4,SNR=4.6 0.6nm,0.4s	38.12	257	P	P	21 53 58.8	-0.8
ZALV	Zalesovo Beam 1.9nm,0.4s,baz=93,slow=9.1,SNR=10.0 1.9nm,0.4s	42.72	316	P	P	21 54 36.2	-0.3
MKAR	Makanchi Array 1.0nm,0.3s,baz=86,slow=9.3,SNR=33 1.0nm,0.3s	44.10	305	P	P	21 54 47.6	-0.1
KURBB	Kurchatov Arra 1.5nm,0.4s,baz=91,slow=7.0,SNR=14 1.5nm,0.4s	46.44	311	P	P	21 55 05.6	-0.1
BVAR	Borovoye Array 1.5nm,0.4s,baz=92,slow=6.7,SNR=9.0 1.5nm,0.4s	51.32	314	P	P	21 55 42.8	+0.2
WRA	Warramunga Arr 1.2nm,0.3s,baz=0.1,slow=7.6,SNR=30 1.2nm,0.3s	53.00	185	P	P	21 55 54.0	-1.1
ILAR	Eielson Array 0.5nm,0.7s,baz=264,slow=5.9,SNR=5.6 0.5nm,0.7s	54.07	31	P	P	21 56 02.8	+0.4
ASAR	Alice Springs 0.5nm,0.4s,baz=17,slow=11,SNR=8.4 0.5nm,0.4s	56.73	185	P	P	21 56 21.6	-0.1
FINES	FINESS Array B 0.7nm,0.5s,baz=56,slow=7.0,SNR=17 0.7nm,0.5s	70.98	332	P	P	21 57 53.3	-0.2
AKASG	Malin Array Be 0.3nm,0.4s,baz=54,slow=5.4,SNR=1.7 0.3nm,0.4s	75.73	322	P	P	21 58 21.2	-0.1
HFS	Hagfors 0.5nm,0.3s,baz=58,slow=4.9,SNR=11 0.5nm,0.3s	76.48	335	P	P	21 58 25.7	+0.3
NOA	NORSAR Array B 0.2nm,0.5s,baz=42,slow=5.6,SNR=1.7 0.2nm,0.5s	76.69	336	P	P	21 58 27.2	+0.7
NVAR	Mina Array Bea 0.9nm,0.6s,baz=280,slow=4.4,SNR=4.8 0.9nm,0.6s	79.33	51	P	P	21 58 43.6	+1.9
BRTR	Keskin Array B 0.4nm,0.6s,baz=0.0,slow=2.9,SNR=1.9 0.4nm,0.6s	79.43	311	P	P	21 58 42.5	+0.4
PDAR	Pinedale Array 0.5nm,0.7s,baz=333,slow=1.7,SNR=4.5 0.5nm,0.7s	82.16	44	P	P	21 58 57.9	+1.4
TXAR	Lajitas Array 0.5nm,0.6s,baz=299,slow=2.4,SNR=4.9 0.5nm,0.6s	94.48	51	P	P	21 59 56.9	+1.5

IDC ***22*** *21:58:16.6±5.9,20˙.93S×170˙.83E,h135km±41km,mb3.8/4, mbtmp4.2/5,Error ellipse: s-maj=52.8km s-min=29.1km az=43.0*

NOU ***22*** *21:58:52.5,22˙.11S×168˙.06E,h0km,MLv3.5/6,New Caledonia*

ISC 22 21:58:18.3±1.7,**21˙.2S**±0˙.2×**170˙.7E**±0˙.1,**h150**km,**n11,** σ1§**74**/11,**mb4.1/4,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	Pines Island,	3.38	244	P	Pn	21 59 07.1	-3.4
YATNC	Mamie plateau,	3.69	255	P	Pn	21 59 13.1	-1.4
OUENC	Ouen Island, N	3.83	250	P	Pn	21 59 14.6	-1.7
DZM	Mont Dzumac 32nm,0.3s,baz=63,slow=18,SNR=392	4.10	256	P	Pn	21 59 19.8	-0.1
DZM	117nm,0.3s,baz=84,slow=19,SNR=10			S	Sn	22 00 09.0	+1.2
DZM	Mont Dzumac	4.10	256	P	Pn	21 59 19.8	-0.1
ONTNC	Ouen Toro	4.14	253	P	Pn	21 59 19.5	-0.9
KOUNC	Koumac, New Ca	6.06	275	P	Pn	21 59 52.8	+7.0
RPZ	Rata Peaks 11nm,0.7s,baz=351,slow=7.3,SNR=7.9 11nm,0.7s	22.50	179	P	P	22 03 07.1	+1.9
WRA	Warramunga Arr 0.8nm,0.4s,baz=100,slow=8.6,SNR=37 0.8nm,0.4s	34.06	265	P	P	22 04 49.4	+0.9
ASAR	Alice Springs 5.3nm,0.8s,baz=84,slow=9.1,SNR=43 5.3nm,0.8s	34.09	259	P	P	22 04 49.4	+0.7
SONM	Songino Array 0.3nm,0.6s,baz=97,slow=5.8,SNR=3.6 0.3nm,0.6s	89.58	323	P	P	22 10 58.0	-0.9

GCMT 22 22:07:02.0±0.4,**35˙.74S**±0˙.02×**104˙.35W**±0˙.03,**h15**km, **MW4.9**/85,**Moment Tensor Solution. s12,c13; s85,c99; Duration: 0 Moment tensor: Scale** 10¹⁶**Nm;** Mrr-0.77±.10; Mθθ0.08±.12; Mφφ0.68±.11; Mrθ0.75±.39; Mθφ-1.92±.07; Mφr-2.51±.34; **Best double couple:** M☐3.24000×10¹⁶ **NP1:**φs95.00000°,δ32.00000°, λ-162.00000°. **NP2:**φs350.00000°,δ81.00000°, λ-60.00000°. **Principal axes:** T 3.6830, Plg29.0000°, Azm56.0000°; N -0.8870, Plg30.0000°, Azm165.0000°; P -2.7960, Plg46.0000°, Azm291.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southeast of Easter Island**

UCR ***22*** *22:31:05.8±1.0, 10˙.63N×86˙.65W,h17km±6km,MW4.9*

IDC ***22*** *22:31:06.0±1.0, 11˙.33N×86˙.07W,h0km,mb4.0/8, mbtmp4.1/10,ML3.8/2,MS3.5/14,Error ellipse: s-maj=43.2km s-min=15.4km az=41.0*

CATAC ***22*** *22:31:08.6±0.2, 11˙N±2˙×8˙7W±˙,h89km±6km,M4.5/30, mb4.7/4,mB5.7/1,MLv4.4/30,Mw(mB)5.2/1,Error ellipse: s-maj=5.8km s-min=2.2km az=40.7,confirmed*

NEIC ***22*** *22:31:11.6±1.8, 10˙.95N±0˙.04×86˙.48W±0˙.08,h36km±8km, mb4.6/135,Error ellipse: s-maj=11.9km s-min=3.6km az=63.0*

ISC 22 22:31:09.0±1.1,**10˙.77N**±0˙.04×**86˙.52W**±0˙.04,**h33**km±4km, **n217,**σ1§**20**/174,**mb4.6**/69,**MS3.6**/14,**Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRUZ	La Cruz	0.93	71	eP	Pn	22 31 26.0	+0.3
ELI1	Hacienda Flor	0.96	97	eP	Pn	22 31 26.5	+0.4
ALIBA	Liberia Airpor	0.98	100	eP	Pn	22 31 26.4	0.0
CARN	Rivas	1.06	67	eP	Pb	22 31 28.5	-0.4
CARN	Rivas	1.06	67	P	Pb	22 31 29.1	+0.1
CARN				S	Sb	22 31 45.2	+2.5
LAPC	Finca la Perla	1.07	90	eP	Pn	22 31 27.4	-0.3
LAPC				eS	Sb	22 31 43.7	+0.9
GPS3	Bodega del ICE	1.14	91	eP	Pb	22 31 30.3	+0.1
VRLE	La Escondida,	1.14	89	eP	Pn	22 31 28.6	0.0
JUD3	Juan Diaz 3	1.14	122	eP	Pn	22 31 26.6	-2.1
GPS1	Guardaparques	1.15	90	eP	Pn	22 31 28.9	0.0
GPS1				eS	Sb	22 31 45.5	+0.3
MORN	Al O del Volca	1.15	48	P	Pb	22 31 29.9	-0.6
BUAI	Buenos Aires	1.17	85	eP	Pn	22 31 29.8	+0.6
NANN	Nandasmo	1.23	19	P	Pb	22 31 32.1	+0.5
COLC	Colonia	1.30	95	eP	Pn	22 31 30.8	-0.1
MESS	Mesas	1.30	91	eP	Pn	22 31 31.0	+0.1
HORNC	Hornillas	1.32	92	eP	Pn	22 31 31.2	0.0
CUI	Cuipilapa	1.34	95	eP	Pn	22 31 31.5	+0.1
INDI	Punta indio, G	1.35	132	P	Pn	22 31 31.6	+0.1
UNAN	Cigeo UNAN	1.35	10	P	Pb	22 31 33.0	-0.9
UNAN				S	Sb	22 31 52.0	+1.1
WILN	Americas 2	1.42	13	P	Pb	22 31 34.0	-0.9
WILN				S	Sb	22 31 54.0	+1.3
MOTZ	Rio Naranjo	1.43	93	eP	Pn	22 31 33.2	+0.5
INVE	Universidad In	1.46	101	eP	Pn	22 31 33.0	-0.1
APQ3	Volcan Apoyequ	1.50	6	P	Pb	22 31 35.0	-1.3
APQ3				S	Sb	22 31 55.8	+0.8
JTS	Las Juntas de	1.62	107	Pn	Pn	22 31 34.6	-0.6
JTS	Las Juntas de 24nm,0.3s,baz=298,slow=24,SNR=57	1.62	107	Pn	Pn	22 31 34.7	-0.6
JTS	comp=Z,356nm,19.2s,baz=284,slow=33			LR	LR	22 31 55.8	
JTS	55nm,0.3s,baz=320,slow=20,SNR=7.9			Sn	Sb	22 32 03.4	+5.0
JTS	Las Juntas de	1.62	107	eP	Pn	22 31 34.4	-0.8
JTS	Las Juntas de	1.62	107	P	Pn	22 31 34.7	-0.6
JTS				S	Sn	22 31 56.6	+1.7
MOMN	Momotombo	1.63	359	P	Pn	22 31 36.0	+0.6
MOMN				S	Sb	22 31 58.7	0.0
MOM2	El Cardon	1.66	1	P	Pn	22 31 36.7	+0.9
CNGN	Cerro Negro	1.73	354		Pn	22 31 36.5	-0.3
CNGN	Cerro Negro	1.73	354	eP	Pn	22 31 37.1	+0.4
CNGN	Cerro Negro	1.73	354	S	Sb	22 32 01.2	-0.3
CNGN	Cerro Negro	1.73	354	P	Pn	22 31 37.4	+0.7
ACON	Acoyapa	1.78	48	Pn	Pn	22 31 37.5	+0.1
ACON	Acoyapa	1.78	48	eP	Pn	22 31 37.6	+0.1
ACON	Acoyapa	1.78	48	P	Pn	22 31 38.2	+0.8
ACON	Acoyapa	1.78	48	S	Sb	22 32 02.1	-0.9
VARE2	V. Arenal	1.80	100	eP	Pn	22 31 38.4	+0.6
CEDE	Laguna Cedeo	1.81	99	eP	Pn	22 31 38.6	+0.6
HERN	Volcan Telica	1.85	351	Pn	Pn	22 31 37.9	-0.6
SOCE	Pocosol	1.91	101	Pn	Pn	22 31 39.4	+0.1
SOCE	Pocosol	1.91	101	P	Pn	22 31 39.9	+0.6
SOCE	Pocosol	1.91	101	S	Sn	22 32 03.2	+0.9
CRIN	San Cristobal	1.99	345	Pn	Pn	22 31 39.5	-0.9
CRIN	San Cristobal	1.99	345	eP	Pn	22 31 40.4	+0.1
CRIN	San Cristobal	1.99	345	P	Pn	22 31 41.0	+0.7
CRIN	San Cristobal	1.99	345	S	Sb	22 32 06.9	-2.1
COVE	Coope Vega, Sa	2.08	91	S	Sn	22 32 07.6	+1.1
COVE	Coope Vega, Sa	2.08	91	P	Pn	22 31 41.7	+0.1
MATN	Matagalpa	2.22	15	P	Pn	22 31 43.8	+0.2
MATN	Matagalpa	2.22	15	S	Sn	22 32 12.3	+2.3
POTN	Potosi Cosigui	2.42	337	P	Pn	22 31 47.1	+0.9
HDC	Heredia	2.49	108	Pn	Pn	22 31 49.9	+2.6
ACOS	Acosta	2.52	112	eP	Pn	22 31 49.2	+1.5
ESPN	Las Esperanzas	2.60	57	Pn	Pn	22 31 49.5	+0.8
LCR2	La Lucha 2	2.68	112	Pn	Pn	22 31 51.1	+1.0
CHOHN	Orocuina	2.76	347	P	Pn	22 31 52.0	+0.9
CHOHN	Orocuina	2.76	347	S	Sn	22 32 25.1	+1.7
RCPN	Sur Rio San Ju	2.77	9	P	Pn	22 31 52.1	+0.9
CNCH	Conchagua	2.80	333	S	Sn	22 32 26.8	+2.4
CNCH	Conchagua	2.80	333	P	Pn	22 31 52.0	+0.4
RCVN	Varillal2	2.81	7	S	Sn	22 32 26.4	+1.7
RCVN	Varillal2	2.81	7	P	Pn	22 31 51.9	+0.1
LCND	La Caada	2.86	332	P	Pn	22 31 53.1	+0.8
YUSH	Yuscaran	3.18	354	P	Pn	22 31 58.0	+1.2
PACA	Pacayal	3.21	327	P	Pn	22 31 57.9	+0.6
PACA	Pacayal	3.21	327	S	Sn	22 32 34.6	+0.2
OCHAL	Ojochal	3.29	120	P	Pn	22 31 57.2	-1.0
TGUH	Tegucigalpa,Un	3.35	347	Pn	Pn	22 32 00.0	+0.9
TGUH	Tegucigalpa,Un	3.35	347	P	Pn	22 32 00.3	+1.2
TGUH				S	Sn	22 32 39.0	+1.1
SIUN	Universidad Ur	3.39	30	Pn	Pn	22 31 59.0	-0.6
TECO	Alcaldia de Te	3.53	321	P	Pn	22 32 01.9	+0.4
TECO	Alcaldia de Te	3.53	321	S	Sn	22 32 43.5	+1.4
SCLA	Alcaldia de Sa	3.62	324	P	Pn	22 32 03.4	+0.5
SCLA	Alcaldia de Sa	3.62	324	S	Sn	22 32 45.9	+1.4
MARCA	Marcala la Paz	3.68	336	P	Pn	22 32 04.5	+0.8
MARCA	Marcala la Paz	3.68	336	S	Sn	22 32 47.4	+1.4
PMON	Piamonte	4.00	317	P	Pn	22 32 08.2	+0.2
JAYA	Jayaque - finc	4.05	315	P	Pn	22 32 09.6	+0.7
JAYA	Jayaque - finc	4.05	315	S	Sn	22 32 56.2	+0.9
CDITO	Canoas	4.21	121	P	Pn	22 32 09.7	-1.2
CDITO	Canoas	4.21	121	S	Sn	22 32 58.4	-0.6
BRU2	Volcan	4.26	117	Pn	Pn	22 32 16.4	+4.7
BRU2	Volcan	4.26	117	P	Pn	22 32 10.8	-0.9
BRU2	Volcan	4.26	117	S	Sn	22 32 59.2	-1.1
NUBE	Las Nubes	4.45	315	P	Pn	22 32 14.9	+0.6
BILN	Bilwi Airport BILN	4.48	43	P S	Pn Sn	22 32 14.5 22 33 05.7	-0.1 +0.2
SARH	Santa Rosa de	4.54	331	P	Pn	22 32 16.4	+0.9
SARH	Santa Rosa de	4.54	331	S	Sn	22 33 08.2	+1.0
MTO3	Montecristo	4.55	323	Pn	Pn	22 32 15.5	-0.2
FAME	Alcaldia de Sa	4.58	312	P	Pn	22 32 16.3	+0.3
FAME	Alcaldia de Sa	4.58	312	S	Sn	22 33 09.4	+1.4
ESQI	Esquipulas	4.66	324	P	Pn	22 32 17.9	+0.7
RTAL	Retalhuleu	6.28	307	P	Pn	22 32 39.1	-0.2
BCIP	Isla Barro Col	6.78	103	P	Pn	22 32 45.6	-0.5
CCIG	Comitan	7.73	316	Pn	Pn	22 33 01.3	+1.8
CMIG	Matias Romero 0.8nm,0.3s,baz=114,slow=9.1,SNR=11	10.26	309	Pn	Pn	22 33 34.3	+0.3
CMIG	0.8nm,0.3s,baz=311,slow=20,SNR=11 5.9nm,0.7s			Sn	Sn	22 35 39.4	+11
COHC	Cochancay	15.01	151	Pn	P	22 34 43.9	+0.1
SDV	Santo Domingo	15.77	95	Pn	Pn	22 34 50.6	+1.6
SDV	Santo Domingo 4.0nm,0.3s,baz=256,slow=13,SNR=3.6 5.4nm,0.3s	15.77	95	Pn	Pn	22 34 45.5	-3.4
JRQG	Juriquilla Cam JRQG	16.64	308	P IAmb	P IAmb	22 35 04.9 22 35 23.9	+2.8
	comp=Z,10nm,0.3s						
BAUV	El Baul	18.30	94		P	22 35 20.0	-0.4
ATAH	Atahualpa comp=Z,222nm,18.1s,baz=334,slow=34	19.54	155	LR	LR	22 42 10.9	
HBVL	Hebbronville HBVL	19.84	326	P IAmb	Pn IAmb	22 35 38.7 22 35 39.8	-0.2
	comp=Z,19nm,0.9s						
TIGA	Tifton TIGA	20.75	7	P IAmb	P IAmb	22 35 47.7 22 35 59.8	+0.8
	comp=Z,23nm,0.8s						
441A	DeRidder	20.82	344	P	P	22 35 47.9	+0.1
HKT	Hockley	20.96	337	P	P	22 35 49.6	+0.4
HKT	Hockley HKT	20.96	337		P IAmb	22 35 49.8 22 36 01.8	+0.6
	comp=Z,16nm,0.9s						
250A	Grady 250A	21.11	1	P IAmb	P IAmb	22 35 50.8 22 36 02.5	0.0
	comp=Z,34nm,1.3s						
833A	Chaparral WMA,	21.23	327	P	P	22 35 53.1	+0.9
PCRV	Puerto La Cruz comp=Z,13nm,0.9s,baz=243,slow=9.0,SNR=4.0 comp=Z,13nm,0.9s	21.53	90	P	P	22 35 54.4	-1.2
HNVL	Huntsville, TX HNVL	21.55	339	P IAmb	P IAmb	22 35 55.7 22 36 02.6	+0.1
	comp=Z,20nm,0.8s						
VBMS	Vicksburg	21.66	351	P	P	22 35 55.2	-1.5
152A	Waverly Hall	21.86	4	P	P	22 35 58.7	-0.2
146A	Union	21.89	354	P	P	22 35 58.9	-0.3
154A	Montrose	21.96	8	P	P	22 36 00.4	+0.4
LRAL	Lakeview Retre	22.16	359	P	P	22 36 02.2	0.0
Z47A	Carrollton Z47A	22.37	357	P IAmb	P IAmb	22 36 03.6 22 36 13.1	-0.7
	comp=Z,38nm,1.2s						
GOGA	Godfrey comp=Z,22nm,1.1s	22.71	7	IAmb	IAmb	22 36 18.4	
DRIO	Del Rio comp=Z,17nm,1.1s	22.75	327	IAmb	IAmb	22 36 18.3	
Y49A	Blount Mountai comp=Z,17nm,0.7s	22.98	0	IAmb	IAmb	22 36 12.8	
Y52A	Lilburn comp=Z,12nm,0.7s	23.10	5	IAmb	IAmb	22 36 20.2	
WHTX	Lake Whitney, comp=Z,20nm,1.0s	23.41	336	IAmb	IAmb	22 36 16.3	
FPAL	Fort Paine	23.68	2	P	P	22 36 17.6	0.0
HODGE	Hodges comp=Z,14nm,0.8s	23.68	9	IAmb	IAmb	22 36 25.7	
X51A	Calhoun comp=Z,16nm,1.1s	23.73	3	IAmb	IAmb	22 36 25.4	
PAULI	Pauline comp=Z,20nm,0.9s	24.32	9	IAmb	IAmb	22 36 33.3	
W52A	Murphy comp=Z,13nm,0.9s	24.33	5	IAmb	IAmb	22 36 33.6	
BG3	Lake Jocassee comp=Z,27nm,1.0s	24.33	7	IAmb	IAmb	22 36 33.4	
SWET	Sewanee

	comp=Z,15nm,1.0s							
U56A	**King**	**26.06**	**11**	IAmb	IAmb	22 36 49.1		
	comp=Z,26nm,1.3s							
T47A	**Sharon Grove**	**26.11**	**359**	IAmb	IAmb	22 36 48.5		
	comp=Z,13nm,0.9s							
LPIG	**La Paz**	**26.22**	**303**	LR	LR	22 48 11.5		
	comp=Z,74nm,19.6s,baz=74,slow=39							
WMOK	**Wichita Mounta**	**26.35**	**337**	IAmb	IAmb	22 36 45.8		
	comp=Z,20nm,0.9s							
TUL3	**Leonard**	**26.40**	**343**	P	**P**	**22 36 42.0**	**-0.5**	
TUL3				IAmb	IAmb	22 36 51.4		
	comp=Z,12nm,0.8s							
BLA	**Blacksburg**	**26.89**	**11**	P	**P**	**22 36 47.9**	**+0.9**	
BLA				IAmb	IAmb	22 36 56.0		
	comp=Z,10nm,0.9s							
T57A	**Hurt**	**26.92**	**13**	IAmb	IAmb	22 36 48.3		
	comp=Z,9.3nm,0.9s							
SMWD	**Samnorwood**	**27.26**	**335**	P	**P**	**22 36 50.9**	**+0.6**	
SMWD				IAmb	IAmb	22 36 54.8		
	comp=Z,11nm,0.8s							
WCI	**Wyandotte Cave**	**27.34**	**0**	P	**P**	**22 36 49.8**	**-1.2**	
WCI				IAmb	IAmb	22 36 58.7		
	comp=Z,18nm,0.9s							
MSTX	**Muleshoe**	**27.47**	**330**	IAmb	IAmb	22 37 04.0		
	comp=Z,18nm,1.3s							
CCM	**Cathedral Cave**	**27.50**	**352**	P	**P**	**22 36 50.5**	**-1.8**	
AMTX	**Amarillo**	**27.70**	**332**	P	**P**	**22 36 56.2**	**+1.9**	
AMTX				IAmb	IAmb	22 37 07.8		
	comp=Z,10nm,0.8s							
Q54A	**Coxs Mills**	**28.55**	**9**	IAmb	IAmb	22 37 10.8		
	comp=Z,17nm,0.9s							
P48A	**Milroy**	**28.59**	**2**	IAmb	IAmb	22 37 10.3		
	comp=Z,17nm,1.0s							
Q56A	**Snyder Ridge,**	**28.90**	**12**	IAmb	IAmb	22 37 14.8		
	comp=Z,15nm,0.8s							
P38A	**Dawn**	**29.40**	**349**	IAmb	IAmb	22 37 17.1		
	comp=Z,7.9nm,0.8s							
ACSO	**Alum Creek Sta**	**29.51**	**6**	P	**P**	**22 37 08.2**	**-2.1**	
P57A	**Homestead Farm**	**29.58**	**13**	IAmb	IAmb	22 37 12.6		
	comp=Z,13nm,0.7s							
ANMO	**Albuquerque**	**30.15**	**326**	P	**P**	**22 37 16.9**	**+0.6**	
N58A	**Sunbury**	**31.18**	**14**	IAmb	IAmb	22 37 26.5		
	comp=Z,12nm,0.8s							
LPAZ	**La Paz**	**32.47**	**146**	LR	LR	22 51 13.1		
	comp=Z,115nm,18.8s,baz=311,slow=37							
ECSD	**EROS Data Cent**	**33.99**	**347**	P	**P**	**22 37 47.8**	**-1.7**	
SADO	**Sadowa**	**34.47**	**9**	LR	LR	22 52 47.6		
	comp=Z,69nm,19.2s,baz=152,slow=38							
J61A	**Chester**	**34.65**	**18**	IAmb	IAmb	22 38 03.1		
	comp=Z,9.7nm,1.1s							
KNB	**Kanab**	**35.28**	**322**	P	**P**	**22 38 01.4**	**+0.4**	
KNB				IAmb	IAmb	22 38 12.4		
	comp=Z,5.5nm,1.1s							
SRU	**San Rafael Swe**	**35.41**	**327**	IAmb	IAmb	22 38 12.6		
	comp=Z,5.7nm,0.9s							
PFO	**Pinyon Flats O**	**35.62**	**314**	LR	LR	22 53 14.5		
	comp=Z,95nm,20.5s,baz=150,slow=37							
F33A	**5 Mile Ranch,**	**35.93**	**348**	P	**P**	**22 38 04.6**	**-1.7**	
F33A				IAmb	IAmb	22 38 12.1		
	comp=Z,9.1nm,0.9s							
SIV	**San Ignacio**	**36.63**	**136**	LR	LR	22 53 47.4		
	comp=Z,99nm,18.0s,baz=304,slow=37							
PD31	**Pinedale Array**	**37.67**	**332**	P	**P**	**22 38 21.5**	**0.0**	
PDAR	**Pinedale Array**	**37.67**	**332**	P	**P**	**22 38 21.0**	**-0.5**	
PDAR	**Pinedale Array**	**37.67**	**332**	P	**P**	**22 38 21.2**	**-0.2**	
	comp=Z,1.4nm,0.7s,baz=128,slow=11,SNR=11							
	comp=Z,1.4nm,0.7s							
HWUT	**Hardware Ranch**	**37.77**	**329**	IAmb	IAmb	22 38 31.8		
	comp=Z,2nm,1.1s							
AGMN	**Agassiz Nation**	**38.22**	**350**	IAmb	IAmb	22 38 32.9		
	comp=Z,12nm,1.0s							
ELK	**Elko**	**39.15**	**325**	LR	LR	22 57 50.2		
	comp=Z,60nm,18.6s,baz=98,slow=41							
NVAR	**Mina Array Bea**	**39.56**	**319**	P	**P**	**22 38 38.4**	**+1.1**	
	comp=Z,1.4nm,0.8s,baz=133,slow=9.1,SNR=5.4							
NVAR				PcP	**PcP**	**22 40 47.7**	**+3.3**	
	comp=Z,1.4nm,0.6s,baz=130,slow=3.9,SNR=6.0							
NVAR				LR	LR	22 58 31.6		
	comp=Z,85nm,18.5s,baz=104,slow=42							
	comp=Z,1.4nm,0.8s							
ULM	**Lac du Bonnet**	**40.11**	**351**	IAmb	IAmb	22 38 48.0		
	comp=Z,11nm,1.2s							
MCMT	**McKenzie Canyo**	**40.79**	**331**	P	**P**	**22 38 47.9**	**+0.5**	
BOZ	**Bozeman (W)**	**40.81**	**333**	P	**P**	**22 38 47.3**	**-0.2**	
LYMT	**Lyon Mountain**	**42.16**	**334**	P	**P**	**22 38 57.7**	**-0.9**	
BPMT	**Black Pine Rid**	**42.27**	**332**	P	**P**	**22 38 59.5**	**-0.1**	
YBH	**Yreka Blue Hor**	**44.22**	**321**	LR	LR	22 59 33.2		
	comp=Z,5.4nm,20.1s,baz=137,slow=39							
BDFB	**Brasilia**	**46.29**	**124**	P	**P**	**22 39 31.9**	**-0.1**	
	comp=Z,1.6nm,0.5s,baz=349,slow=5.2,SNR=3.2							
	comp=Z,1.6nm,0.5s							
SCHQ	**Schefferville**	**46.63**	**16**	P	**P**	**22 39 30.6**	**-3.4**	
	comp=Z,3.0nm,0.6s,baz=216,slow=6.9,SNR=5.9							
SCHQ				LR	LR	22 59 52.1		
	comp=Z,106nm,19.6s,baz=217,slow=38							
	comp=Z,3.0nm,0.6s							
FRB	**Frobisher Bay**	**54.41**	**10**	LR	LR	23 04 32.0		
	comp=Z,89nm,18.1s,baz=150,slow=37							
YKA	**Yellowknife Ar**	**55.46**	**345**	P	**P**	**22 40 38.3**	**-1.9**	
	comp=Z,0.4nm,0.8s,baz=134,slow=6.0,SNR=5.0							
	comp=Z,0.4nm,0.8s							
YKAW3	**Yellowknife Wh**	**55.52**	**345**	P	**P**	**22 40 42.3**	**+1.7**	
YKAW3				IAmb	IAmb	22 40 46.7		
	comp=Z,4.1nm,1.1s							
DLBC	**Dease Lake**	**57.81**	**335**	LR	LR	23 08 24.4		
	comp=Z,5.1nm,19.0s,baz=100,slow=39							
SFJD	**Kangerlussuaq**	**61.08**	**15**	LR	LR	23 08 31.4		
	comp=Z,70nm,18.3s,baz=214,slow=37							
INK	**Inuvik**	**65.07**	**343**	LR	LR	23 13 48.0		
	comp=Z,52nm,19.6s,baz=174,slow=40							
F30M	**Barrier River**	**65.34**	**341**	P	**P**	**22 41 48.0**	**+0.3**	
F30M				IAmb	IAmb	22 41 56.5		
	comp=Z,6.8nm,1.1s							
G29M	**Pine Creek**	**65.68**	**340**	P	**P**	**22 41 51.6**	**+1.8**	
G29M				IAmb	IAmb	22 41 58.7		
	comp=Z,8.4nm,1.1s							
H27K	**Steamboat Moun**	**66.54**	**339**	P	**P**	**22 41 55.6**	**+0.2**	
H27K				IAmb	IAmb	22 42 04.0		
	comp=Z,6.2nm,1.0s							
ILAR	**Eielson Array**	**67.91**	**336**	P	**P**	**22 42 02.9**	**-1.2**	
ILAR	**Eielson Array**	**67.91**	**336**	P	**P**	**22 42 03.5**	**-0.7**	
	comp=Z,0.3nm,0.5s,baz=121,slow=3.7,SNR=7.1							
	comp=Z,0.3nm,0.5s							
RND	**Reindeer**	**68.21**	**335**	IAmb	IAmb	22 42 14.8		
	comp=Z,6.2nm,1.0s							
PLK4	**Peulik 4**	**70.20**	**328**	IAmb	IAmb	22 42 20.1		
	comp=Z,4.3nm,0.8s							
G21K	**Allakaket**	**71.09**	**337**	IAmb	IAmb	22 42 32.8		
	comp=Z,6.8nm,1.1s							
M14K	**Bethel**	**73.56**	**330**	P	**P**	**22 42 40.0**	**+1.6**	
KSAR	**Wonju Array Be**	**122.20**	**328**	PKPdf	**PKiKP**	**22 50 01.0**	**0.0**	
ASAR	**Alice Springs**	**139.46**	**246**	PKP	**PKiKP**	**22 50 38.1**	**+1.8**	
	comp=Z,0.3nm,0.8s,baz=84,slow=1.9,SNR=4.2							
WRA	**Warramunga Arr**	**139.65**	**252**	PKP	**PKiKP**	**22 50 38.0**	**+1.4**	
	comp=Z,1.3nm,1.2s,baz=90,slow=1.7,SNR=6.2							
CMAR	**Chiang Mai Arr**	**150.46**	**349**	PKPbc	**PKiKP**	**22 50 58.8**	**-0.2**	
	comp=Z,1.0nm,0.5s,baz=347,slow=2.7,SNR=11							

GCG **22** *22:41:25.8±2.2, 15.77N×91.02W, h0km±34km, MD3.5, ML3.8, MW3.7*

CATAC **22** *22:41:25.4±0.4, 16°N±2.2°×97.1°W±°, h1km, M3.8/14, MLv3.8/14, Error ellipse: s-maj=5.7km s-min=3.4km az=152.2, confirmed*

ISC 22 22:41:26.3±1.0, 15°74.74N±0.04×91°07.07W±0.04, h10km, n25, σ1.932/28, 1C, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUEH	**Huehuetenango**	**0.59**	**225**	P	**Pg**	**22 41 36.1**	**-1.6**
HUEH				S	**Sg**	**22 41 43.6**	**-1.9**
CCIG	**Comitan**	**1.16**	**298**	*i* P	**Pb**	**22 41 48.5**	**-0.1**
CCIG				*i* S	**Sn**	**22 42 07.5**	**+2.8**
CCIG				IAML		22 42 09.4	
	comp=N,1μm,0.6s						
RTAL	**Retalhuleu**	**1.35**	**207**	S	**Sb**	**22 42 07.5**	**-1.4**
RTAL	**Retalhuleu**	**1.35**	**207**	P	**Pn**	**22 41 50.7**	**-0.5**
THIG		**1.42**	**235**	*i* P	**Pb**	**22 41 53.8**	**+1.0**
THIG				IAML		22 42 19.8	
	comp=N,1μm,1.2s						
PETF	**Flores**	**1.65**	**44**	*i* P	**Pn**	**22 41 54.3**	**-1.0**
PETF				*i* S	**Sn**	**22 42 17.1**	**+0.6**
PETF				IAML		22 42 21.0	
	comp=N,4μm,0.7s						
PETF				IAML		22 42 21.1	
	comp=Z,902nm,0.4s						

PETF	**Flores**	**1.65**	**44**	P	**Pn**	**22 41 54.5**	**-0.9**
ESQI	**Esquipulas**	**2.04**	**125**	P	**Pn**	**22 42 01.1**	**+0.3**
SLOZ	**Alcaldia de Sa**	**2.11**	**144**	P	**Pn**	**22 42 01.8**	**+0.1**
MTO3	**Montecristo**	**2.12**	**129**	S	**Sn**	**22 42 30.0**	**+1.4**
MTO3	**Montecristo**	**2.12**	**129**	P	**Pn**	**22 42 02.7**	**+0.7**
FAME	**Alcaldia de Sa**	**2.14**	**151**	S	**Sn**	**22 42 30.3**	**+1.6**
FAME	**Alcaldia de Sa**	**2.14**	**151**	P	**Pn**	**22 42 03.1**	**+1.0**
NUBE	**Las Nubes**	**2.21**	**145**	*i* P	**Pn**	**22 42 05.7**	**+2.5**
NUBE	**Las Nubes**	**2.21**	**145**	S	**Sn**	**22 42 31.9**	**+1.2**
NUBE	**Las Nubes**	**2.21**	**145**	P	**Pn**	**22 42 04.2**	**+1.0**
TGIG		**2.23**	**298**	*i* P	**Pn**	**22 42 05.2**	**+1.8**
TGIG				IAML		22 42 39.5	
	comp=N,237nm,0.9s						
SARH	**Santa Rosa de**	**2.43**	**113**	S	**Sn**	**22 42 37.9**	**+2.0**
SARH	**Santa Rosa de**	**2.43**	**113**	P	**Pn**	**22 42 06.6**	**+0.5**
CEDA	**San Andres**	**2.52**	**140**	P	**Pn**	**22 42 07.5**	**+0.2**
JAYA	**Jayaque - finc**	**2.60**	**143**	P	**Pn**	**22 42 08.6**	**0.0**
PMON	**Piamonte**	**2.63**	**140**	P	**Pn**	**22 42 08.9**	**-0.1**
PMON	**Piamonte**	**2.63**	**140**	S	**Sn**	**22 42 42.4**	**+1.3**
LOMA	**Loma Larga**	**2.78**	**138**	P	**Pn**	**22 42 11.1**	**+0.1**
MARCA	**Marcala la Paz**	**3.33**	**118**	P	**Pn**	**22 42 19.1**	**+0.5**

IDC **22** *22:59:00.0±0.5, 26.71N×55.10E, h0km, mb4.5/28, mbtmp4.5/34, ML4.1/6, MS4.2/59, Error ellipse: s-maj=9.2km s-min=8.2km az=19.0*

MOS **22** *22:59:00.0±1.0, 26.72N×55.01E, h11km, mb5.0/58, MS4.1/14, Error ellipse: s-maj=5.3km s-min=3.7km az=100.0*

BJI **22** *22:59:00.0, 26.79N×54.63E, h27km, mB5.1/17, mb4.6/42, Ms4.6/37, Ms7 4.4/36*

TEH **22** *22:59:00.3, 26.61N×55.10E, h15km±12km*

OMAN **22** *22:59:03.0±0.1, 26.65N×55.13E, h12km, mb5.5/13, ml4.6/24, Mwp5.2/13, Error ellipse: s-maj=0.8km s-min=0.5km az=31.0*

NEIC **22** *22:59:02.0±1.4, 26.76N±0.07×55.01E±0.07, h10km±1km, mb5.0/194, Mww5.0/13, Error ellipse: s-maj=12.7km s-min=10.7km az=203.0*

DSN **22** *22:59:02.5±0.4, 26.68N×55.00E, h10km, mb5.7/5, ML4.4/13, Error ellipse: s-maj=9.0km s-min=4.1km az=61.0*

GCMT **22** *22:59:02.0±0.2, 26.58N±0.01×55.11E±0.02, h12km, MW4.9/113, Moment Tensor Solution. s35,c43; s113,c189; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.03±.06; $M_{\theta\theta}$-2.95±.06; $M_{\phi\phi}$-0.08±.06; $M_{r\theta}$-0.17±.20; $M_{\theta\phi}$0.76±.05; $M_{\phi r}$0.55±.25; Best double couple: M_o3.14000×10^{16} NP1:ϕ95.00000°, δ43.00000°, λ76.00000°. NP2:ϕ293.00000°, δ49.00000°, λ102.00000°. Principal axes: T 3.1250, Plg80.0000°, Azm268.0000°; N 0.0260, Plg9.0000°, Azm105.0000°; P -3.1540, Plg3.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

THR **22** *22:59:03.0±0.3, 26.59N×55.00E, h12km, mb4.8*

BGR **22** *22:59:04.1, 26.56N×54.49E, h10km, mb4.5*

ISC 22 22:59:03.1±0.5, 26°70N±0.02×55°03E±0.02, h20km±4km, n1033, σ1938/1002, mb4.9/254, MS4.2/91, 41C-20D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAR1	**LAR**	**1.13**	**329**	Pg	**Pb**	**22 59 24.5**	**+0.5**
LAR1				Sg	**Sn**	**22 59 43.1**	**+4.3**
SHME	**Shamm**	**1.19**	**123**	P	**Pn**	**22 59 24.2**	**-0.4**
	SNR=219						
SHME				P	**Pn**	**22 59 24.2**	**-0.4**
	SNR=219						
SHME				S	**Sb**	**22 59 38.6**	**-1.3**
SHME				S	**Sb**	**22 59 38.6**	**-1.3**
BNDS	**Bandar-Abbas**	**1.23**	**55**	Pg	**Pn**	**22 59 24.2**	**-1.2**
BNDS				Sg	**Sn**	**22 59 43.3**	**+1.9**
BNDS	**Bandar-Abbas**	**1.23**	**55**	*e*PgA		22 59 24.9	
GENO	**Geno**	**1.23**	**55**	Pg	**Pn**	**22 59 25.2**	**-0.2**
UMQ	**Umm Al-Quwin**	**1.30**	**154**	P	**Pb**	**22 59 27.7**	**+0.8**
	SNR=46						
UMQ				P	**Pb**	**22 59 27.7**	**+0.8**
	SNR=46						
UMQ				S	**Sb**	**22 59 43.2**	**+0.1**
UMQ				S	**Sb**	**22 59 43.2**	**+0.1**
UMQ	**Umm Al-Quwin**	**1.30**	**154**	*e*P	**Pb**	**22 59 27.1**	**+0.2**
	SNR=70						
IBND	**Bandar-abas**	**1.54**	**61**	Pg	**Pn**	**22 59 29.9**	**+0.5**
MASF	**Masafi**	**1.67**	**142**	P	**Pn**	**22 59 32.0**	**+0.7**
	SNR=81						
MASF				P	**Pn**	**22 59 32.0**	**+0.7**
	SNR=81						
MASF				S	**Sn**	**22 59 52.9**	**+0.8**
MASF				S	**Sn**	**22 59 52.9**	**+0.8**
MSFE	**Esma-Masafi**	**1.68**	**143**	*e*P	**Pn**	**22 59 31.8**	**+0.4**
	SNR=81						
LMD1	**Lamerd**	**1.78**	**291**	Pn	**Pb**	**22 59 34.7**	**-0.4**
LMD1	**Lamerd**	**1.78**	**291**	*e*PnA		22 59 35.5	
NAZ	**Nazwa, Dubai**	**1.80**	**161**	P	**Pb**	**22 59 34.6**	**-0.8**
	SNR=33						
NAZ				P	**Pb**	**22 59 34.6**	**-0.8**
	SNR=33						
NAZ	**Nazwa, Dubai**	**1.80**	**161**	*e*P	**Pn**	**22 59 34.2**	**+1.2**
	SNR=126						
MDH	**Madha**	**1.80**	**140**	P	**Pn**	**22 59 33.5**	**+0.4**
	SNR=63						
MDH				P	**Pn**	**22 59 33.5**	**+0.4**
	SNR=63						
MDH				S	**Sn**	**22 59 55.5**	**+0.2**
	SNR=128						
MDH				S	**Sn**	**22 59 55.5**	**+0.2**
	SNR=128						
MDH	**Madha**	**1.80**	**140**	*e*P	**Pn**	**22 59 33.2**	**+0.1**
	SNR=63						
FAQ	**Al Faqa, Dubai**	**2.01**	**165**	P	**Pn**	**22 59 37.6**	**+1.7**
	SNR=21						
FAQ				P	**Pn**	**22 59 37.6**	**+1.7**
	SNR=21						
FAQ	**Al Faqa, Dubai**	**2.01**	**165**	*e*P	**Pn**	**22 59 37.0**	**+1.0**
	SNR=21						
UOSS	**Minazif**	**2.04**	**149**		**Pn**	**22 59 36.6**	**+0.2**
UOSS	**Minazif**	**2.04**	**149**	Pn	**Pn**	**22 59 35.5**	**-0.9**
UOSS	**Minazif**	**2.04**	**149**	P	**Pn**	**22 59 36.8**	**+0.4**
UOSS	**Minazif**	**2.04**	**149**	*e*P	**Pn**	**22 59 36.5**	**+0.1**
	SNR=51						
ASUD	**Al Ashush, Dub**	**2.08**	**173**	P	**Pb**	**22 59 39.0**	**-1.3**
	SNR=24						
ASUD				P	**Pb**	**22 59 39.0**	**-1.3**
	SNR=24						
ASUD				S	**Sn**	**23 00 02.6**	**+0.3**
ASUD				S	**Sn**	**23 00 02.6**	**+0.3**
ASUD	**Al Ashush, Dub**	**2.08**	**173**	*e*P	**Pn**	**22 59 38.7**	**+1.8**
	SNR=24						
HATD	**Hatta, Dubai**	**2.12**	**152**	P	**Pn**	**22 59 38.3**	**+0.9**
	SNR=16						
HATD				P	**Pn**	**22 59 38.3**	**+0.9**
	SNR=16						
HATD	**Hatta, Dubai**	**2.12**	**152**	*e*P	**Pn**	**22 59 37.8**	**+0.5**
	SNR=74						
AJN	**Ajban**	**2.13**	**181**	P	**Pn**	**22 59 39.2**	**+1.7**
AJN				P	**Pn**	**22 59 39.2**	**+1.7**
AJN	**Ajban**	**2.13**	**181**	*e*P	**Pn**	**22 59 38.4**	**+0.9**
	SNR=36						
JHRM	**Jahrom**	**2.21**	**325**	Pn	**Pb**	**22 59 41.2**	**-1.3**
ASHO	**Ashiyiah**	**2.21**	**155**	P	**Pn**	**22 59 39.7**	**+1.0**
	SNR=88						
ASHO				P	**Pn**	**22 59 39.7**	**+1.0**
	SNR=88						
ASHO	**Ashiyiah**	**2.21**	**155**	*e*P	**Pn**	**22 59 39.2**	**+0.4**
	SNR=88						
GHIR	**Ghir-Karzin**	**2.41**	**311**	*e*PnA		22 59 43.4	
QIR1	**Qir**	**2.50**	**316**	Pn	**Pn**	**22 59 44.9**	**+2.3**
JRN	**Qarnain Island**	**2.63**	**229**	P	**Pb**	**22 59 47.7**	**-1.9**
	SNR=11						
JRN				P	**Pb**	**22 59 47.7**	**-1.9**
	SNR=11						
JASK	**Jask - Hormozg**	**2.68**	**107**	Pn	**Pn**	**22 59 44.5**	**-0.6**
JASK	**Jask - Hormozg**	**2.68**	**107**	P	**Pn**	**22 59 44.8**	**-0.3**
JASK				S	**Sn**	**23 00 16.4**	**-0.5**
ALNE	**Al Ain**	**2.71**	**166**	P	**Pn**	**22 59 46.8**	**+1.2**
	SNR=51						
ALNE	**Al Ain**	**2.71**	**166**	*e*P	**Pn**	**22 59 46.2**	**+0.6**
	SNR=51						
SOHO	**SOHO**	**2.90**	**152**	P	**Pn**	**22 59 48.1**	**0.0**
SOHO				P	**Pn**	**22 59 48.1**	**0.0**
SOHO	**SOHO**	**2.90**	**152**	*e*P	**Pn**	**22 59 48.0**	**0.0**
	SNR=97						
NGRK	**Negar Kerman**	**3.29**	**27**	Pn	**Pn**	**22 59 55.4**	**+1.5**
GHWR	**Ruwais**	**3.35**	**216**	P	**Pn**	**22 59 55.1**	**+0.7**
GHWR				S	**Sn**	**23 00 36.9**	**+3.3**
KRBR	**Kerman**	**3.61**	**25**	Pn	**Pn**	**23 00 00.0**	**+1.9**
KRBR	**Kerman**	**3.61**	**25**	*e*PnA		23 00 00.1	
ARQ	**Araqi**	**3.61**	**158**	P	**Pn**	**22 59 59.0**	**+1.0**
	SNR=131						
SHI	**Shiraz**	**3.68**	**323**	Pn	**Pn**	**23 00 00.9**	**+1.9**
HOQ	**Hoqain**	**3.73**	**146**	Pn	**Pn**	**22 59 58.2**	**-1.4**
HOQ	**Hoqain**	**3.73**	**146**	P	**Pn**	**22 59 58.5**	**-1.1**
DSBU	**Dashti - Bushe**	**3.73**	**297**	Pn	**Pn**	**23 00 01.7**	**+2.0**
SHMA	**Al-Shehemyia**	**3.75**	**258**	P	**Pn**	**23 00 01.9**	**+2.1**
	SNR=14						
CHMN	**Cheshme madani**	**3.85**	**35**	Pn	**Pn**	**23 00 03.1**	**+1.6**
KHGB	**Koh Gabri**	**3.88**	**19**	Pn	**Pn**	**23 00 03.4**	**+1.7**
KBAM	**BAM**	**3.88**	**51**	Pn	**Pn**	**23 00 02.6**	**+0.9**
MZR	**Muzera**	**3.94**	**201**	P	**Pn**	**23 00 03.6**	**+1.1**
	SNR=42						
MZR	**Muzera**	**3.94**	**201**	*i* P	**Pn**	**23 00 02.7**	**+0.2**
	SNR=62						
TRNA	**Turayna**	**3.96**	**241**	P	**Pn**	**23 00 04.2**	**+1.5**
	SNR=86						
TRNA				S	**Sn**	**23 00 52.5**	**+3.9**
UMZA	**Um Al Zommool**	**3.97**	**178**	P	**Pn**	**23 00 04.1**	**+1.2**
UMZA				S	**Sn**	**23 00 51.0**	**+2.1**
SLWR	**Sila**	**4.00**	**230**	P	**Pn**	**23 00 04.0**	**+0.7**
SLWR				S	**Sn**	**23 00 52.1**	**+2.6**
SAKB	**Bahrain**	**4.10**	**261**	P	**Pn**	**23 00 07.2**	**+2.6**
KAZ2	**Kazeron-Fars-I**	**4.15**	**315**	Pn	**Pn**	**23 00 07.4**	**+1.9**
BIDO	**Bidbid**	**4.23**	**138**	P	**Pn**	**23 00 05.4**	**-1.0**
SMRA	**Abu-Samra**	**4.26**	**244**	P	**Pn**	**23 00 08.6**	**+1.7**
KRM1	**Kerman Provinc**	**4.27**	**27**	Pn	**Pn**	**23 00 08.7**	**+1.5**
BSY	**Bisya**	**4.41**	**153**	P	**Pn**	**23 00 09.6**	**+0.7**
	SNR=26						
ZRDN	**Zarand Kerman**	**4.45**	**17**	Pn	**Pn**	**23 00 11.1**	**+1.4**
SMDO	**Samad**	**4.55**	**142**	P	**Pn**	**23 00 11.0**	**+0.1**
	SNR=150						
SMDO				S	**Sn**	**23 01 03.6**	**+0.4**
IMEH	**Mehriz**	**4.69**	**356**	Pn	**Pn**	**23 00 14.9**	**+2.0**
WSAR	**Wadi Sarin**	**4.75**	**136**	Pn	**Pn**	**23 00 13.4**	**-0.3**
	0.2nm,0.3s,baz=318,slow=24,SNR=73						
WSAR					**Sn**	**23 01 09.2**	**+1.1**
	0.1nm,0.3s,baz=24,slow=24,SNR=3.6						
WSAR				LR	LR	23 02 39.4	
	comp=Z,16nm,18.1s,baz=332,slow=46						
WSAR	**Wadi Sarin**	**4.75**	**136**	P	**Pn**	**23 00 13.3**	**-0.3**
IBAF	**Bafgh**	**4.89**	**5**	Pn	**Pn**	**23 00 17.2**	**+1.5**
CHBR	**Chabahar**	**5.02**	**101**	Pn	**Pn**	**23 00 16.5**	**-0.8**
CHBR	**Chabahar**	**5.02**	**101**	*e*PnA		23 00 17.4	
CHBR				IAML		23 00 30.5	
	comp=Z,240nm,0.6s						
JMDO	**Jabal Madar**	**5.14**	**146**	P	**Pn**	**23 00 18.5**	**-0.5**
	SNR=21						
KLNJ	**Kolanjah**	**5.24**	**326**	Pn	**Pn**	**23 00 22.8**	**+2.1**
KLNJ	**Kolanjah**	**5.24**	**326**	*e*PnA		23 00 22.5	
KLNJ				IAML		23 00 48.8	
	comp=Z,100nm,0.6s						
ISAD	**Sadrabad**	**5.32**	**348**	Pn	**Pn**	**23 00 24.5**	**+2.7**
IRAM	**Ramesheh**	**5.39**	**336**	Pn	**Pn**	**23 00 27.1**	**+1.8**
NGCH	**Negor - Chabah**	**5.65**	**102**	Pn	**Pn**	**23 00 25.3**	**-0.7**
NGCH	**Negor - Chabah**	**5.65**	**102**	P	**Pn**	**23 00 25.6**	**-0.4**
	SNR=8.6						
NGCH				S	**Sn**	**23 01 29.4**	**-0.9**
YZKH	**Yazd**	**5.68**	**356**	*e*PnA		23 00 28.1	
YZKH				IAML		23 00 34.0	
	comp=Z,110nm,0.7s						
ABEH	**Behbahan**	**5.72**	**314**	Pn	**Pn**	**23 00 28.6**	**+1.7**
ZHSF	**Zahedan**	**5.84**	**59**	Pn	**Pn**	**23 00 29.1**	**+0.3**
ZHSF	**Zahedan**	**5.84**	**59**	*e*PnA		23 00 29.9	
ZHSF				IAML		23 00 57.9	
	comp=Z,100nm,1.1s						
JLN	**Jalan Bani Buh**	**6.04**	**138**	P	**Pn**	**23 00 30.3**	**-1.0**
	SNR=33						
IBRJ	**Brojen**	**6.14**	**328**	Pn	**Pn**	**23 00 34.7**	**+1.7**
IGAR	**Gharneh**	**6.25**	**336**	Pn	**Pn**	**23 00 35.7**	**+1.3**
MHTO	**MHTO**	**6.29**	**154**	P	**Pn**	**23 00 34.7**	**-0.1**
MHTO				S	**Sn**	**23 01 47.1**	**+1.0**
BSRN	**Basiran**	**6.35**	**33**	Pn	**Pn**	**23 00 36.7**	**+1.1**
BSRN	**Basiran**	**6.35**	**33**	*e*PnA		23 00 37.3	
BSRN				IAML		23 01 06.8	
	comp=Z,120nm,1.2s						
NHDN	**Nehbandan**	**6.41**	**42**	Pn	**Pn**	**23 00 37.7**	**+1.1**
TPRV	**Parvadeh(Tabas**	**6.47**	**12**	Pn	**Pn**	**23

IDHR Dehrash 10.90 319 Pn Pn 23 01 38.4 +0.2
MRVT Maraveh tapeh 10.96 4 ePnA 23 01 42.6
MRVT IAML 23 02 03.0
comp=Z,17nm,1.4s
KGS1 Ghasr-e-Shirin 11.25 316 Pn Pn 23 01 42.2 -0.5
GAS1 Astara - Iran 12.76 337 Pn Pn 23 02 04.1 +0.7
IHRS Heris 13.39 332 Pn Pn 23 02 13.6 +1.3
GRMI Germi 13.48 335 Pn Pn 23 02 14.6 +1.3
GRMI Germi 13.48 335 ePnA 23 02 14.8
GRMI IAML 23 02 22.5
comp=Z,32nm,1.3s
ISHB Shabestar 14.01 328 Pn Pn 23 02 19.3 -1.3
KBL Kabul 14.36 54 Pn Pn 23 02 27.1 +1.5
KBL Kabul 14.36 54 P Pn 23 02 27.1 +1.5
KBU Kabul Universi 14.42 54 P Pn 23 02 29.0 +2.7
KBU S Sn 23 05 05.5 -0.2
NAX Nakhchivan 14.78 330 P P 23 02 37.0 +0.1
OZAP Van, Ozalp-Mer 15.10 325 ⇓P Pn 23 02 37.1 +1.6
GEVA Gevas 15.35 322 Pn Pn 23 02 36.5 -2.2
MNGR Mingechevir, A 15.50 337 P P 23 02 47.9 +3.1
GANJ Ganja 15.67 335 P P 23 02 47.9 +1.2
SEKA Sheki 15.85 338 P P 23 02 52.2 +3.5
GNI Garni 15.91 330 Pn Pn 23 02 44.9 -1.1
GNI IAmb IAmb 23 02 52.6
comp=Z,85nm,1.0s
GNI Garni 15.91 330 Pn Pn 23 02 46.1 +0.2
comp=Z,2.5nm,0.3s,baz=346,slow=1.5,SNR=23
GNI Sn Sn 23 05 39.8 -2.0
comp=Z,0.4nm,0.3s,baz=15,slow=20,SNR=1.5
GNI Lg Lg 23 07 22.5
comp=Z,0.1nm,0.3s,baz=170,slow=15,SNR=1.2
GNI LR LR 23 10 08.2
comp=Z,2µm,19.3s,baz=142,slow=42
comp=Z,9.7nm,0.7s
GNI Garni 15.91 330 ceP Pn 23 02 45.7 -0.3
GNI pmax pmax
comp=Z,251nm,2.5s
GNI Garni 15.91 330 P P 23 02 48.5 -1.0
AKT Akhty 15.92 340 eP P 23 02 48.3 -1.3
AKT eS Sn 23 05 46.4 +4.4
AKT pmax pmax
comp=Z,45nm,0.7s
AKT smax smax
comp=E,10.0nm,1.6s
AKT smax smax
comp=N,7.0nm,0.9s
AKT MLR MLR
comp=Z,170nm,5.0s
GURO Guroymak-BITLI 16.09 320 Pn Pn 23 02 45.8 -2.4
ASF Jabal al Asfar 16.70 293 Pn Pn 23 02 55.6 -0.5
comp=Z,0.5nm,0.3s,baz=140,slow=4.6,SNR=15
ASF Sn Sn 23 05 57.2 -3.9
comp=Z,0.5nm,0.3s,baz=38,slow=14,SNR=3.5
ASF Lg Lg 23 07 50.4
baz=116,slow=22
ASF LR LR 23 11 41.4
comp=Z,295nm,18.8s,baz=122,slow=45
comp=Z,14nm,0.8s
SIMJ Simiganj 16.73 41 Pn Pn 23 02 56.1 -0.3
KARS Kars 17.06 328 Pn 23 03 00.7 +0.1
KARS IAmb IAmb 23 03 08.0
comp=Z,90nm,1.0s
KARS Kars 17.06 328 P Pn 23 03 00.7 +0.1
KARS pmax pmax
comp=Z,90nm,1.0s
NIL Nilore 17.20 62 Pn 23 03 03.0 +0.8
NIL Nilore 17.20 62 P Pn 23 03 03.0 +0.8
NIL pmax pmax
comp=Z,28nm,1.2s
MAK Makhachkala 17.34 341 eP Pn 23 03 02.1 -1.8
MAK eS Sn 23 06 17.3 +1.0
MAK pmax pmax
comp=Z,424nm,1.1s
MAK MLR MLR
comp=Z,603nm,15.0s
GHAJ Ghor Haditha 17.63 290 Pn 23 03 06.9 -0.6
GHAJ IAmb IAmb 23 03 13.7
comp=Z,300nm,2.0s
FKH Fakeheh 17.71 300 eP Pn 23 03 08.8 +0.1
GAR Garm 17.73 42 Pn Pn 23 03 06.7 -2.2
RCY Rachaya 17.92 297 eP P 23 03 11.9 +0.1
EIL Elat 17.95 284 P Pn 23 03 11.6 +0.1
comp=Z,0.2nm,0.3s,baz=38,slow=6.9,SNR=8.7
EIL S Sn 23 06 33.6 +2.5
comp=Z,16nm,1.0s,baz=137,slow=23,SNR=1.5
EIL Lg Lg 23 08 34.8
comp=Z,0.2nm,0.3s,baz=355,slow=14,SNR=1.5
comp=Z,16nm,1.0s
SHBL Chebaa 17.95 296 eP P 23 03 12.4 +0.2
KOPT Kop Dagi 17.96 321 Pn 23 03 12.1 +0.2
BEIL Beino 17.99 300 eP P 23 03 12.4 0.0
QRWL Qaraoun 18.06 297 eP P 23 03 13.8 +0.5
HWQ Hawqa 18.08 299 eP P 23 03 13.5 0.0
MMAI Mount Meron Ar 18.14 295 P Pn 23 03 13.8 -0.1
comp=Z,1.0nm,0.3s,baz=98,slow=17,SNR=26
MMAI S Sn 23 06 34.5 -1.4
comp=Z,4.1nm,0.7s,baz=115,slow=32,SNR=2.9
MMAI LR LR 23 11 12.4
comp=Z,171nm,18.6s,baz=100,slow=40
comp=Z,24nm,1.1s
BHL Bhannes 18.19 298 eP P 23 03 14.9 +0.2
GAZ Gaziantep 18.35 309 P 23 03 16.2 -0.2
DRK Karamyk 18.93 44 P P 23 03 21.6 -1.4
DRK IAmb IAmb 23 03 26.4
comp=Z,136nm,2.0s
DRK Karamyk 18.93 44 P P 23 03 21.6 -1.4
DRK pmax pmax
comp=Z,136nm,2.0s
ATD Arta Tunnel 18.96 220 P P 23 03 23.5 +0.3
comp=Z,1.1nm,0.9s,baz=342,slow=7.1,SNR=6.3
ATD S S 23 07 00.4 +2.5
comp=Z,0.5nm,0.9s,baz=95,slow=23,SNR=1.5
ATD Lg Lg 23 09 05.2
baz=336,slow=22,SNR=1.2
ATD LR LR 23 11 51.6
comp=Z,61nm,19.3s,baz=38,slow=41
NCK Nalchik 19.16 334 iP P 23 03 25.1 -0.1
CHM Chimkent 19.62 34 eP P 23 03 30.1 -0.2
CHM Chimkent 19.62 34 eP P 23 03 30.1 -0.2
KBZ Khabaz 19.63 333 P Pn 23 03 31.7 0.0
comp=Z,0.4nm,0.3s,baz=132,slow=7.0,SNR=29
comp=Z,30nm,1.0s
KBZ Khabaz 19.63 333 iP P 23 03 30.3 0.0
KBZ pmax pmax
comp=Z,53nm,1.3s
IUG Iuzhnay 19.71 35 eP P 23 03 31.0 -0.4
IUG Iuzhnay 19.71 35 eP P 23 03 31.1 -0.4
KVAR Kislovodsk Arr 19.90 333 P Pn 23 03 34.7 -0.4
baz=78,slow=23
KVAR S Sn 23 07 18.7 +0.5
comp=Z,12nm,1.2s,baz=264,slow=23,SNR=1.2
comp=Z,20nm,0.9s
KIV Kislovodsk 19.90 333 P P 23 03 33.5 0.0
KIV Kislovodsk 19.90 333 P Pn 23 03 35.8 +0.7
KIV Kislovodsk 19.90 333 eP P 23 03 33.2 -0.2
KIV eS Sn 23 07 17.8 -0.5
KIV pmax pmax
comp=Z,75nm,1.1s
KIV MLR MLR
comp=Z,279nm,20.0s
KIV Kislovodsk 19.90 333 iP Pn 23 03 35.2 0.0
SNR=25
KIV Kislovodsk 19.90 333 P P 23 03 32.9 -0.5
comp=Z,1µmcomp=Z,118nm,1.3s
KIV Kislovodsk 19.90 333 ⇑P Pn 23 03 35.9 +0.8
BRLS Boroldav 20.27 33 eP P 23 03 34.2 -3.1
BRLS Boroldav 20.27 33 eP P 23 03 34.3 -3.1
CSS Mathiatis 20.34 299 P P 23 03 38.4 +0.1
CSS IAmb IAmb 23 03 47.1
comp=Z,51nm,0.8s
CSS Mathiatis 20.34 299 P P 23 03 37.5 -0.7
comp=Z,909nmcomp=Z,76nm,0.8s
TOKA Tokat 20.53 316 P P 23 03 41.1 +0.8
TOKA IAmb IAmb 23 03 47.1
comp=Z,79nm,1.1s
KK31 Karatay Array 20.66 34 P P 23 03 39.9 -1.6
KK31 Karatay Array 20.66 34 P P 23 03 39.9 -1.6
KK31 pmax pmax
comp=Z,16nm,1.1s
KKAR Karatay Array 20.66 34 P P 23 03 40.3 -1.2
KKAR Karatay Array 20.66 34 P P 23 03 40.3 -1.2
VSLR Vesyoloye 20.69 328 iP P 23 03 41.8 0.0
VSLR pmax pmax
comp=Z,29nm,0.9s
GOF Gofitskoye 20.69 335 ceP Pn 23 03 43.2 -1.0
GOF eS Sn 23 07 35.8 -1.3
ARSB Arslanbob 20.78 41 P P 23 03 42.4 -0.6
ARSB IAmb IAmb 23 03 58.7
comp=Z,82nm,1.6s
ARSB Arslanbob 20.78 41 P P 23 03 42.4 -0.6
ARSB pmax pmax
comp=Z,82nm,1.6s
DZA Taraz 20.92 35 eP P 23 03 43.9 -0.5
DZA Taraz 20.92 35 eP P 23 03 43.1 -1.3
SOC Sochi 20.93 328 eP P 23 03 39.5 -4.9
SOC e 23 04 04.1
SOC eS S 23 07 30.1 -6.7
SOC eSSS SSS 23 08 10.9
SOC MLR MLR
comp=Z,611nm,17.0s
KIRS Kirsehir-Merke 21.57 310 ⇑P P 23 03 53.9 +2.5
KSH Kashi 21.64 49 P P 23 03 45.9 -6.4
KSH pP pP 23 03 51.0 -7.1
KSH S S 23 07 34.0 -17
KSH pmax pmax
comp=Z,32nm,1.0s
KSH LR LR
comp=Z,780nm,8.9s
KSH LR LR
comp=Z,610nm,11.0s
KSH LR LR
comp=Z,1µm,16.8s
BR104 Keskin Array S 22.04 311 P P 23 03 55.4 -1.1
comp=Z,636nmcomp=Z,86nm,1.0s
BR131 Keskin Array S 22.05 311 P P 23 03 57.0 +0.4
BR131 Keskin Array S 22.05 311 P P 23 03 58.0 +1.4
BR131 Keskin Array S 22.05 311 iP P 23 03 56.4 -0.3
BRTR Keskin Array B 22.05 311 P P 23 03 57.2 +0.6
BRTR Keskin Array B 22.05 311 P P 23 03 57.5 +0.8
comp=Z,63nm,0.9s,baz=132,slow=14,SNR=185
BRTR S Sn 23 08 06.6 -3.3
comp=Z,3.2nm,1.0s,baz=114,slow=14,SNR=4.0
BRTR ScP ScP 23 11 30.4 -0.2
comp=Z,0.7nm,0.7s,baz=128,slow=7.1,SNR=4.9
BRTR LR LR 23 14 45.2
comp=Z,460nm,20.7s,baz=113,slow=43
comp=Z,63nm,0.9s
BR105 Keskin Array S 22.06 311 P P 23 03 55.6 -1.2
comp=Z,929nmcomp=Z,117nm,1.1s
BR106 Keskin Array S 22.06 311 P P 23 03 55.7 -1.1
comp=Z,675nmcomp=Z,82nm,0.9s
ERBR Yeremizino-Bor 22.25 332 eP P 23 03 57.9 -0.7
ERBR ePPP PPP 23 04 24.5
ERBR eS S 23 08 01.5 -0.9
ERBR eSSS SSS 23 08 44.4
ERBR pmax pmax
comp=Z,83nm,1.3s
ERBR MLR MLR
comp=Z,447nm,17.0s
AAK Ala-Archa 22.48 40 P P 23 04 01.7 +0.4
AAK IAmb IAmb 23 04 06.5
comp=Z,126nm,1.9s
AAK Ala-Archa 22.48 40 LR LR 23 14 21.6
comp=Z,853nm,19.8s,baz=244,slow=41
AAK Ala-Archa 22.48 40 iP P 23 04 01.2 -0.1
AAK pmax pmax
comp=Z,27nm,1.7s
AAK Ala-Archa 22.48 40 iP P 23 04 02.0 +0.7
SNR=5.2
FRU1 Bishkek 22.66 40 P P 23 04 05.2 +2.0
FRU1 IAmb IAmb 23 04 07.0
comp=Z,147nm,2.0s
FRU1 Bishkek 22.66 40 P P 23 04 05.2 +2.0
FRU1 pmax pmax
comp=Z,147nm,2.0s
NRN Naryn 22.67 44 P P 23 04 03.0 -0.5
NRN Naryn 22.67 44 P P 23 04 03.0 -0.5
NRN pmax pmax
comp=Z,19nm,0.9s
ILGA Ilgaz 22.68 315 P P 23 04 03.0 -0.6
ILGA IAmb IAmb 23 04 13.4
comp=Z,78nm,1.2s
ANTO Ankara 22.68 311 P P 23 04 03.8 +0.4
ANTO Ankara 22.68 311 P P 23 04 05.4 +2.0
ANTO Ankara 22.68 311 P P 23 04 03.8 +0.4
ANTO pmax pmax
comp=Z,97nm,1.1s
ANTO Ankara 22.68 311 P P 23 04 03.9 +0.4
comp=Z,624nmcomp=Z,49nm,1.6s
ANTO Ankara 22.68 311 ⇑P P 23 04 05.4 +2.0
ANN Anapa 22.94 326 eP P 23 04 05.7 -0.2
ANN ePPP PPP 23 04 37.7
ANN e 23 07 54.6
ANN eS S 23 08 17.2 +2.3
ANN iSS SnSn 23 08 49.3 +2.3
ANN iSSS SSS 23 09 06.8
ANN pmax pmax
comp=Z,49nm,0.8s
ANN MLR MLR
comp=Z,407nm,13.0s
SGDS Sogindy 23.07 39 eP P 23 04 07.1 -0.3
FURI Furi 23.53 224 P P 23 04 13.6 +1.1
FURI IAmb IAmb 23 04 25.0
comp=Z,52nm,0.8s
ELL Elmali 23.54 301 P P 23 04 12.3 +0.1
ELL IAmb IAmb 23 04 38.0
comp=Z,52nm,1.1s
ELL Elmali 23.54 301 P P 23 04 12.3 +0.1
ELL pmax pmax
comp=Z,52nm,1.1s
CIDE Kastamonu/Cide 23.61 316 ⇑P P 23 04 14.5 +1.8
KDJ Kajisay 23.79 44 P P 23 04 14.0 -0.7
KDJ Kajisay 23.79 44 P P 23 04 14.0 -0.7
KDJ pmax pmax
comp=Z,28nm,1.2s
AKTO Aktyubinsk 23.81 5 LR LR 23 15 43.1
comp=Z,2µm,18.3s,baz=205,slow=42
BTLS Baital 23.82 35 eP P 23 04 14.6 -0.1
BTLS pmax pmax
comp=Z,39nm,1.7s
BTLS Baital 23.82 35 eP P 23 04 14.7 -0.1
comp=Z,39nm,1.7s
TARG Taragay, Kyrgy 23.97 46 P P 23 04 16.3 -0.3
TARG Taragay, Kyrgy 23.97 46 P P 23 04 16.3 -0.3
TARG pmax pmax
comp=Z,30nm,1.2s
MDUB Mudurnu 24.05 311 P P 23 04 17.7 +0.7
TNSS Tian-Shan 24.16 42 eP P 23 04 17.8 -0.5
TNSS Tian-Shan 24.16 42 eP P 23 04 17.9 -0.5
AAA Alma-Ata 24.24 42 eP P 23 04 18.7 0.0
AAA pmax pmax
comp=Z,22nm,1.0s
AAA Alma-Ata 24.24 42 eP P 23 04 18.7 0.0
comp=Z,22nm,1.0s
SAHE Sakarya_HENDEK 24.45 311 ⇑P P 23 04 22.4 +1.7
TAVA DENIZLI_Tavas 24.52 302 ⇑P P 23 04 20.3 -1.0
PRZ Przheval'sk 24.74 45 P P 23 04 23.7 +0.2
PRZ Przheval'sk 24.74 45 P P 23 04 23.7 +0.2
PRZ pmax pmax
comp=Z,107nm,2.0s
SIM Simferopol' 24.76 323 eP P 23 04 22.5 -0.8
SIM e 23 04 59.0
SIM eS S 23 08 40.0 -4.5
SIM pmax pmax
comp=Z,82nm,1.0s
SATY Saty 25.06 43 eP P 23 04 26.1 -0.1
SATY Saty 25.06 43 eP P 23 04 26.2 -0.1
MANT Manisa 25.12 305 P P 23 04 27.0 +0.1
MANT IAmb IAmb 23 04 43.2
comp=Z,35nm,1.0s
KLYT Kilyos 25.86 311 P P 23 04 31.5 -1.8
comp=Z,48nm,1.3s
TDK Taldyqorghan 26.16 40 eP P 23 04 36.0 -0.1
TDK pmax pmax
comp=Z,10.0nm,0.7s
TDK Taldyqorghan 26.16 40 eP P 23 04 36.1 -0.1
comp=Z,9.9nm,0.7s
BELG Belogornoye 26.26 350 LR LR 23 18 45.1
comp=Z,408nm,18.1s,baz=141,slow=45
BELG Belogornoye 26.26 350 iP P 23 04 37.0 +0.2
BELG pmax pmax
comp=Z,6.0nm,0.8s
VRH Novokhopyorsk 26.48 341 eP P 23 04 38.7 -0.1
VRH pmax pmax
comp=Z,81nm,0.7s
BRZS Berezniki 26.92 26 eP P 23 04 42.9 +0.1
BRZS Berezniki 26.92 26 eP P 23 04 42.9 +0.1
VORD Divnogorie 27.04 338 eP P 23 04 42.5 -1.3
VORD pmax pmax
comp=Z,20nm,0.9s
EZN Ezine 27.21 306 P P 23 04 46.6 +1.1
EZN Ezine 27.21 306 P P 23 04 44.7 -0.8
EZN Ezine 27.21 306 ⇑P P 23 04 46.7 +1.1
VSR Storozhevoye 27.29 338 eP P 23 04 43.9 -2.2
VSR pmax pmax
comp=Z,10.0nm,0.9s
PSN Preselentsi 27.55 315 P P 23 04 48.9 +0.3
NE56 Odesa 27.59 323 P P 23 04 47.9 -1.0
MFTR Murfatlar 27.64 316 ⇑P P 23 04 51.4 +2.0
VORR Voronezh 27.67 339 eP P 23 04 47.6 -1.9
VORR pmax pmax
comp=Z,20nm,0.9s
ALN Alexandroupoli 27.79 308 P P 23 04 50.4 -0.3
ALN IAmb IAmb 23 04 55.5
comp=Z,21nm,1.2s
ALN Alexandroupoli 27.79 308 P P 23 04 50.4 -0.3
ALN pmax pmax
comp=Z,21nm,1.2s
TIRR Tirgusor 27.79 317 P P 23 04 50.3 -0.4
TIRR Tirgusor 27.79 317 P P 23 04 50.3 -0.4
TIRR pmax pmax
comp=Z,13nm,0.8s
TIRR Tirgusor 27.79 317 P P 23 04 49.8 -0.9
comp=Z,338nmcomp=Z,18nm,1.0s
PRD Provadia 27.80 313 P P 23 04 51.4 +0.7
TPGR Topolog 27.99 317 ⇑P P 23 04 53.4 +0.9
TLBR Topalu 28.06 316 ⇑P P 23 04 54.7 +1.6
PURM Purcari 28.07 321 P P 23 04 52.3 -0.8
comp=Z,54nm,0.9s
PURM Purcari 28.07 321 ⇑P P 23 04 53.7 +0.5
JMB Yambol 28.08 311 P P 23 04 53.9 +0.6
RDO Rodhopi 28.24 308 P P 23 04 53.8 -0.9
RDO IAmb IAmb 23 05 39.4
comp=Z,28nm,1.0s
CFR Carcaliu 28.33 318 P P 23 04 56.2 +0.8
CFR Carcaliu 28.33 318 ⇑P P 23 04 56.2 +0.8
LOZB Loznitsa 28.42 313 ⇑P P 23 04 57.4 +1.0
LPSR Galich'ya Gora 28.55 339 eP P 23 04 56.5 -0.8
LPSR pmax pmax
comp=Z,23nm,0.9s
KDZ Kurdzhali 28.55 309 P P 23 04 57.0 -0.6
RAZG Razgrad 28.57 313 ⇑P P 23 04 59.0 +1.4
BRVK Borovoye 28.68 19 P P 23 04 58.3 -0.3
BRVK Borovoye 28.68 19 ceP P 23 04 59.3 +0.7
BRVK pmax pmax
comp=Z,19nm,2.5s
BVAR Borovoye Array 28.69 19 P P 23 04 58.8 +0.2
comp=Z,7.9nm,0.9s,baz=201,slow=7.9,SNR=21
BVAR PcP PcP 23 08 09.8 +1.0
comp=Z,0.7nm,0.7s,baz=168,slow=0.9,SNR=1.6
BVAR LR LR 23 18 29.5
comp=Z,1µm,18.2s,baz=206,slow=41
comp=Z,7.9nm,0.9s
MILM Milestii Mici 28.89 321 eP P 23 05 00.0 -0.5
comp=Z,180nm,3.4s
MILM Milestii Mici 28.89 321 eP P 23 05 00.0 -0.5
MILM ePPP PPP 23 06 14.0
MILM eS S 23 09 43.0 -6.7
MILM pmax pmax
comp=Z,180nm,3.4s
MILM MLR MLR
comp=Z,300nm,12.0s
RZN Rozhen 29.00 309 P P 23 05 02.7 +1.0
PLD Plovdiv 29.16 310 P P 23 05 03.8 +0.9
GHRR 29.23 319 P P 23 05 03.8 +0.3
MAKZ Makanchi 29.24 40 P P 23 05 03.0 -0.6
MAKZ Makanchi 29.24 40 P P 23 05 03.1 -0.6
MAKZ pmax pmax
comp=Z,13nm,1.1s
ISR Istrita 29.27 316 P P 23 05 03.0 -0.9
comp=Z,35nm,1.8s
MK31 Makanchi Array 29.41 40 iP P 23 05 05.1 -0.1
MKAR Makanchi Array 29.41 40 P P 23 05 04.0 -1.1
MKAR Makanchi Array 29.41 40 P P 23 05 05.2 +0.1
comp=Z,2.0nm,0.6s,baz=222,slow=9.2,SNR=18
MKAR LR LR 23 18 32.7
comp=Z,551nm,18.1s,baz=227,slow=40
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 29.41 40 ceP P 23 05 05.1 -0.1
MKAR pmax pmax
comp=Z,2.0nm,0.6s
VRI Vrincioaia 29.53 318 P P 23 05 06.4 +0.2
VRI Vrincioaia 29.53 318 P P 23 05 05.3 -0.9
comp=Z,13nm,1.3s
VRI Vrincioaia 29.53 318 ⇑P P 23 05 06.4 +0.2
PLOR5 Plostina Array 29.56 318 P P 23 05 05.6 -0.9
comp=Z,401nmcomp=Z,15nm,1.1s
PLOR Plostina 29.57 318 P P 23 05 08.4 +1.9
PLOR Plostina 29.57 318 ⇑P P 23 05 08.5 +1.9
MMB Musomishta 29.64 308 P P 23 05 08.2 +1.0
ARTI Arti 29.76 4 P P 23 05 07.1 -1.0
ARTI Arti 29.76 4 LR LR 23 18 58.7
comp=Z,908nm,19.6s,baz=192,slow=40
ARTI Arti 29.76 4 diP P 23 05 08.8 +0.7
ARTI 23 06 04.3
ARTI 23 08 10.9
ARTI S S 23 10 06.6 +3.4
ARTI SS SnSn 23 11 37.4 +4.0
ARTI pmax pmax
comp=Z,11nm,1.4s
ARTI MLR MLR
comp=Z,686nm,16.0s
MLR Muntele Rosu 29.82 317 P P 23 05 08.5 -0.4
MLR IAmb IAmb 23 06 15.4
comp=Z,22nm,1.1s
MLR Muntele Rosu 29.82 317 P P 23 05 08.5 -0.4
MLR pmax pmax
comp=Z,22nm,1.1s
MLR Muntele Rosu 29.82 317 P P 23 05 07.8 -1.1
comp=Z,15nm,1.5s
MLR Muntele Rosu 29.82 317 ⇓P P 23 05 10.6 +1.6
LODK Lodwar 29.84 222 P P 23 05 09.7 +0.4
LODK Lodwar 29.84 222 P P 23 05 11.8 +2.5
KURBB Kurchatov Arra 29.88 31 P P 23 05 09.8 +0.6
comp=Z,2.9nm,0.8s,baz=230,slow=8.6,SNR=17
KURBB LR LR 23 19 00.8
comp=Z,763nm,20.2s,baz=173,slow=40
comp=Z,2.9nm,0.8s
TESR Tescani 29.91 319 P P 23 05 08.6 -1.0
comp=Z,482nmcomp=Z,22nm,0.9s
TESR Tescani 29.91 319 ⇓P P 23 05 10.1 +0.6
ONER Baraj Valea Uz 29.97 318 ⇑P P 23 05 11.9 +1.8
HUMR Humele 29.98 314 ⇓P P 23 05 10.8 +0.7
KURK Kurchatov 29.98 31 P P 23 05 09.5 -0.6
KURK Kurchatov 29.98 31 ceP P 23 05 11.0 +0.9
KURK pmax pmax
comp=Z,25nm,2.5s
TURR Turia 30.06 318 ⇑P P 23 05 11.5 +0.6
KKB Krupnik 30.17 308 P P 23 05 12.7 +0.8
PLNA Plana 30.19 310 P P 23 05 12.8 +0.6
SVE Sverdlovsk 30.37 6 eP P 23 05 14.0 +0.6
SVE pmax pmax
comp=Z,14nm,1.5s
SVE MLR MLR
comp=Z,952nm,15.0s
VTS Vitosha 30.37 310 P P 23 05 14.6 +0.8
DOPR Dopca 30.39 317 ⇓P P 23 05 14.4 +0.6
VAY Valandovo 30.40 307 iP P 23 05 14.0 +0.1
NDNU Novodnistrovsk 30.66 323 P P 23 05 15.1 -1.0
AK07 Malin Array Si 30.92 327 P P 23 05 17.6 -0.8
AK09 Malin Array Si 30.93 327 P P 23 05 17.6 -0.8
AK10 Malin Array Si 30.93 327 P P 23 05 17.7 -0.8
AK06 Malin Array Si 30.95 327 pP P 23 05 21.3 +2.7
AK05 Malin Array Si 30.97 327 pP P 23 05 21.4 +2.6
AKASG Malin Array Be 31.01 327 P P 23 05 18.3 -0.8
AKASG Malin Array Be 31.01 327 P P 23 05 18.5 -0.7
comp=Z,9.5nm,0.8s,baz=134,slow=8.2,SNR=41
AKASG PcP PcP 23 08 15.3 +0.6
comp=Z,2.8nm,0.8s,baz=98,slow=2.1,SNR=5.7
AKASG LR LR 23 21 07.4
comp=Z,114nm,20.4s,baz=140,slow=43
comp=Z,9.5nm,0.8s
AKBB Malin Array Si 31.01 327 P P 23 05 18.1 -1.1
AKBB IAmb IAmb 23 05 23.1
comp=Z,22nm,0.8s
AKBB Malin Array Si 31.01 327 iP P 23 05 18.7 -0.5
AKBB pmax pmax
comp=Z,24nm,0.9s
AKBB Malin Array Si 31.01 327 P P 23 05 18.3 -0.9
KIEV Kiev 31.01 327 P P 23 05 18.1 -1.1
KIEV IAmb IAmb 23 05 23.1
comp=Z,20nm,0.8s
KIEV Kiev 31.01 327 P P 23 05 18.1 -1.1
KIEV pmax pmax

comp=Z,20nm,0.9s
KIEV Kiev 31.01 327 *i* P **P 23 05 17.8 -1.4**
SNR=15
KIEV Kiev 31.01 327 P **P 23 05 18.4 -0.8**
comp=Z,1µmcomp=Z,118nm,1.0s
KIEV Kiev 31.01 327 ⇓P **P 23 05 19.3 +0.1**
AK14 Malin Array Si 31.02 327 P **P 23 05 18.4 -0.9**
AK11 Malin Array Si 31.02 327 P **P 23 05 18.4 -0.9**
FNA Florina 31.10 305 P **P 23 05 19.5 -0.7**
FNA Florina 31.10 305 P **P 23 05 19.5 -0.7**
FNA pmax pmax
comp=Z,16nm,1.9s
PALK Pallekele 31.12 124 LR LR 23 16 48.6
comp=Z,455nm,21.9s,baz=311,slow=34
KMPD K-Podol'skiy 31.13 322 P **P 23 05 19.2 -1.1**
LOT Lotru 31.16 315 ⇑P **P 23 05 20.9 +0.2**
MSEY Mahe Island 31.19 179 P **P 23 05 19.5 -1.6**
LUBAR Lubar, Ukraine 31.24 325 P **P 23 05 20.4 -0.8**
ZSN Zaisan 31.25 41 *e*P **P 23 05 21.3 -0.1**
ZSN Zaisan 31.25 41 *e*P **P 23 05 21.4 -0.1**
BURAR Bucovina Array 31.32 320 P **P 23 05 21.4 -0.7**
BURAR Bucovina Array 31.32 320 P **P 23 05 23.5 +1.4**
BURAR Bucovina Array 31.32 320 ⇑P **P 23 05 23.5 +1.4**
BUR08 Bucovina Ar. S 31.35 320 P **P 23 05 22.0 -0.4**
WMQ Urumqi 31.41 49 *e*P **P 23 05 25.4 +2.5**
WMQ LR LR
comp=Z,760nm,19.9s
WMQ LR LR
comp=Z,520nm,14.9s
WMQ LR LR
comp=Z,850nm,24.2s
SKO Skopje 31.41 308 *i* P **P 23 05 24.0 +1.1**
OBN Obninsk 31.43 340 P **P 23 05 22.8 +0.1**
OBN Obninsk 31.43 340 *d i*P **P 23 05 23.5 +0.8**
OBN *e* 23 06 22.6
OBN *i* S **S 23 10 20.9 -8.3**
OBN *e*SS **SS 23 12 37.9 -6.0**
OBN pmax pmax
comp=Z,90nm,1.7s
OBN MLR MLR
comp=Z,494nm,21.0s
OBN Obninsk 31.43 340 P **P 23 05 22.0 -0.7**
comp=Z,684nmcomp=Z,38nm,0.8s
MI30 MI30,Zelenitsa 31.54 327 P **P 23 05 22.7 -1.2**
comp=Z,34nm,1.1s
OHR Ohrid 31.61 306 *i* P **P 23 05 23.8 -0.9**
MOS Moscow 31.64 341 *e*P **P 23 05 24.7 +0.1**
MOS *e* 23 06 30.2
MOS *e*S **S 23 10 36.4 +3.8**
MOS pmax pmax
comp=Z,100nm,1.7s
MOS pmax pmax
comp=Z,38nm,1.2s
MOS MLR MLR
comp=Z,400nm,20.0s
MOS MLR MLR
comp=N,1µm,18.0s
MOS MLR MLR
comp=E,900nm,21.0s
GZR Gura Zlata 31.77 314 P **P 23 05 26.6 +0.6**
GZR Gura Zlata 31.77 314 ⇑P **P 23 05 26.6 +0.6**
KSV Kosov 31.77 321 P **P 23 05 25.2 -0.8**
LSA Lhasa 31.89 76 P **P 23 05 26.4 -1.4**
MI28 Mi28,Pidlybu 31.91 327 P **P 23 05 26.2 -0.9**
KIRV Kirov 32.11 354 LR LR 23 23 06.7
comp=E,273nm,18.9s,baz=162,slow=45
KIRV Kirov 32.11 354 *i* P **P 23 05 29.0 +0.3**
RAKU Rahkiv 32.14 320 P **P 23 05 28.7 -0.5**
MDVR Moldovita 32.21 313 ⇑P **P 23 05 31.2 +1.3**
STNU Starunia 32.30 321 P **P 23 05 29.7 -0.9**
SURR Surduc 32.33 315 ⇑P **P 23 05 31.6 +0.7**
BMR Baia Mare 32.36 319 P **P 23 05 32.5 +1.4**
BMR Baia Mare 32.36 319 ⇑P **P 23 05 32.5 +1.4**
DRGR 32.42 317 P **P 23 05 32.4 +0.7**
DRGR 32.42 317 ⇑P **P 23 05 32.5 +0.7**
BZS Buzias 32.60 314 P **P 23 05 34.4 +1.2**
BZS Buzias 32.60 314 ⇑P **P 23 05 34.4 +1.2**
MEZ Mezhgor'ye 32.76 320 P **P 23 05 33.5 -1.1**
SIRR Siria 32.84 315 ⇑P **P 23 05 36.2 +0.8**
MORS Morshin 32.87 321 P **P 23 05 34.6 -0.9**
BRIU Brid 32.96 319 P **P 23 05 35.4 -0.9**
RNPP5 Staryi Chortor 32.99 326 P **P 23 05 35.2 -1.3**
RNPP8 Varash 33.07 326 P **P 23 05 36.6 -0.6**
RNPP9 Sopachiv 33.09 326 P **P 23 05 36.6 -0.8**
RNPP1 Kostyukhnivka 33.12 326 P **P 23 05 36.9 -0.8**
BERU Beregovo 33.13 319 P **P 23 05 37.4 -0.4**
KIBK Kibwezi 33.20 212 P **P 23 05 37.4 -1.5**
MUKU Mukachevo 33.21 319 P **P 23 05 37.6 -0.9**
SHIU Shidnytsya 33.21 321 P **P 23 05 37.6 -1.0**
HOLU Holmets 33.42 319 P **P 23 05 39.5 -0.9**
BRDH Bariadhala 33.43 89 LR LR 23 21 51.9
comp=E,373nm,18.4s,baz=310,slow=41
KOLS Kolonicke sedl 33.69 320 *e*P **P 23 05 44.3 +1.6**
KOLS pmax pmax
comp=Z,43nm,0.9s
KOLS Kolonicke sedl 33.69 320 *e*P **P 23 05 44.3 +1.6**
KWP Kalwaria Pacla 33.79 321 *e*P **P 23 05 44.0 +0.5**
KWP Kalwaria Pacla 33.79 321 P **P 23 05 43.3 -0.3**
comp=Z,25nm,1.6s
MNK Minsk 34.17 332 *e*P **P 23 05 47.0 +0.2**
TIP Timpagrande 34.20 301 P **P 23 05 47.3 -0.1**
comp=Z,322nmcomp=Z,16nm,1.6s
TIP Timpagrande 34.20 301 ⇓P **P 23 05 48.9 +1.6**
CEL Celeste 34.73 299 P **P 23 05 51.8 -0.1**
CEL IAmb IAmb 23 05 55.3
comp=Z,11nm,0.9s
CEL Celeste 34.73 299 P **P 23 05 51.5 -0.4**
comp=Z,17nm,1.5s
MORH Mrgy, Hungar 34.75 314 P **P 23 05 51.2 -0.7**
comp=Z,13nm,1.4s
MORH Mrgy, Hungar 34.75 314 ⇑P **P 23 05 51.9 +0.1**
NACGM Naroch 34.92 331 *e*P **P 23 05 54.0 +0.8**
comp=Z,14nm,0.9s,baz=132
ZAA0 Zalesovo Array 34.97 31 IAmb IAmb 23 05 58.0
comp=Z,26nm,1.2s
ZALV Zalesovo Beam 34.97 31 P **P 23 05 52.7 -1.1**
ZALV Zalesovo Beam 34.97 31 P **P 23 05 53.4 -0.4**
comp=Z,5.2nm,0.4s,baz=238,slow=8.5,SNR=26
ZALV LR LR 23 22 38.1
comp=Z,537nm,18.9s,baz=228,slow=41
comp=Z,5.2nm,0.4s
NIE Niedzica 35.06 320 *e*P **P 23 05 54.2 -0.3**
CUC Castrocucco 35.06 302 P **P 23 05 54.4 -0.3**
LANS Liptovska Anna 35.42 319 *e*P **P 23 05 59.0 +1.3**
LANS pmax pmax
comp=Z,11nm,0.8s
LANS Liptovska Anna 35.42 319 *e*P **P 23 05 59.0 +1.3**
VYHS Vyhne 35.52 317 *e*P **P 23 05 58.9 +0.4**
VYHS pmax pmax
comp=Z,13nm,1.6s
VYHS Vyhne 35.52 317 *e*P **P 23 05 58.9 +0.4**
SRO Srobarova 35.56 316 *e*P **P 23 06 00.3 +1.4**
SRO pmax pmax
comp=Z,11nm,1.2s
SRO Srobarova 35.56 316 *e*P **P 23 06 00.3 +1.4**
OJC Ojcow 35.72 321 *e*P **P 23 06 01.0 +0.8**
OJC Ojcow 35.72 321 P **P 23 06 00.0 -0.2**
comp=Z,486nmcomp=Z,41nm,1.0s
KLMR Klimovskoe 35.74 347 *e*P **P 23 05 58.8 -1.4**
KLMR *e* 23 07 18.7
KLMR *e* 23 08 26.1
KLMR S **S 23 11 35.7 -0.2**
KLMR pmax pmax
comp=Z,49nm,1.3s
KLMR MLR MLR
comp=Z,289nm,16.0s
MPLH Magyarpolny 35.80 315 P **P 23 06 00.3 -0.7**
comp=Z,35nm,1.2s
RAFF Raffo Rosso 35.82 297 P **P 23 06 02.7 +1.4**
RAFF IAmb IAmb 23 06 07.2
comp=Z,32nm,1.2s
BEL Belsk 35.97 324 *e*P **P 23 06 03.0 +0.7**
SUW Suwalki 35.98 328 *e*P **P 23 06 02.6 +0.3**
BEHE Becsehely 36.05 313 P **P 23 06 02.6 -0.4**
BEHE IAmb IAmb 23 06 07.7
comp=Z,24nm,1.6s
JAVC Velka Javorina 36.37 317 *e*P **P 23 06 06.2 +0.3**
KOGS Kog 36.38 313 *i* P **P 23 06 06.3 +0.4**
MODS Modra-Piesok 36.42 317 *e*P **P 23 06 07.1 +0.8**
MODS pmax pmax
comp=Z,71nm,1.9s
MODS Modra-Piesok 36.42 317 *e*P **P 23 06 07.1 +0.8**
OKC Ostrava-Krasne 36.50 319 *e*P **P 23 06 07.2 +0.3**
OKC AMS AMS 23 23 40.0
comp=Z,400nm,16.0s
STEB Steborice 36.76 319 *e*P **P 23 06 09.4 +0.3**
RONA Rosalia, Austr 36.78 315 *i* P **P 23 06 09.9 +0.5**
comp=Z,5.9nm,1.1s
MORC Moravsky Berou 36.83 319 IAmb IAmb 23 06 14.4
comp=Z,32nm,1.4s
MORC Moravsky Berou 36.83 319 *e*P **P 23 06 09.3 -0.4**
INTR Introdacqua 36.85 305 P **P 23 06 09.7 -0.4**
ARSA Arzberg 37.12 314 P **P 23 06 12.0 -0.2**
ARSA Arzberg 37.12 314 *i* P **P 23 06 13.0 +0.8**
comp=Z,2.6nm,1.0s
CONA Conrad Observa 37.14 315 *i* P **P 23 06 12.9 +0.5**
comp=Z,4.8nm,1.1s
VRAC Vranov 37.20 318 *e*P **P 23 06 12.5 -0.4**
VRAC Vranov 37.20 318 LR LR 23 23 59.1
comp=Z,439nm,19.2s,baz=102,slow=40
KRUC Moravsky 37.22 317 *e*P **P 23 06 12.8 -0.3**
SOKA Soboth 37.25 313 *i* P **P 23 06 13.9 +0.4**
comp=Z,3.0nm,0.9s
AQU L'Aquila 37.28 306 P **P 23 06 14.9 +1.2**
AQU L'Aquila 37.28 306 P **P 23 06 14.1 +0.3**
comp=Z,353nmcomp=Z,21nm,0.9s
LJU Ljubljana 37.39 312 *e*P **P 23 06 15.5 +0.9**
KRLC Kraliky 37.40 319 *e*P **P 23 06 14.6 0.0**
KRLC AMS AMS 23 24 00.0
comp=Z,400nm,17.1s
VSU Vasula 37.42 336 *i* P **P 23 06 13.9 -0.6**
VSU pmax pmax
comp=Z,21nm,1.0s
VSU Vasula 37.42 336 *e*P **P 23 06 13.9 -0.6**
GUMA Gualdo di Mace 37.48 307 P **P 23 06 14.7 -0.6**
GUMA IAmb IAmb 23 06 36.2
comp=Z,28nm,0.8s
OBKA Obir 37.52 313 *i* P **P 23 06 16.1 +0.4**
comp=Z,8.0nm,1.6s
CRNS Crni Vrh 37.58 312 *i* P **P 23 06 16.7 +0.4**
SKDS Skadanscina 37.60 311 *e*P **P 23 06 15.8 -0.6**
PBUR Paburge 37.76 330 *e*P **P 23 06 17.9 +0.4**
DPC Dobruska-Polom 37.78 319 *e*P **P 23 06 17.5 -0.3**
DPC AMS AMS 23 24 10.0
comp=Z,300nm,18.2s
DPC Dobruska-Polom 37.78 319 P **P 23 06 16.7 -1.1**
comp=Z,8.6nm,1.2s
TRI Trieste 37.81 311 IAmb IAmb 23 06 21.4
comp=Z,63nm,1.8s
TREC Trest 37.86 317 *e*P **P 23 06 19.5 +1.0**
OSTC Ostas 37.92 319 AMS AMS 23 24 30.0
comp=Z,300nm,15.8s
CESX Cesi 37.93 306 P **P 23 06 19.3 +0.1**
CESX IAmb IAmb 23 06 21.2
comp=Z,22nm,1.0s
SABO M.te Sabotino 38.00 311 P **P 23 06 19.2 -0.5**
KSP Ksiaz 38.00 320 *e*P **P 23 06 19.6 0.0**
KSP Ksiaz 38.00 320 P **P 23 06 18.5 -1.1**
comp=Z,280nmcomp=Z,16nm,1.6s
UPC Upice 38.02 319 *e*P **P 23 06 20.6 +0.8**
UPC AMS AMS 23 24 20.0
comp=Z,400nm,16.9s
CHVC Chvalec 38.03 319 *e*P **P 23 06 19.9 0.0**
CHVC AMS AMS 23 24 30.0
comp=Z,400nm,20.4s
MOA Molln 38.12 315 *i* P **P 23 06 21.2 +0.5**
comp=Z,5.9nm,0.9s
MOA *e*S **S 23 12 14.3 +1.7**
comp=Z,1.9nm,0.9s
MYKA Terra Mystica 38.15 312 *i* pP **P 23 06 22.3 +1.3**
comp=Z,7.1nm,1.0s,SNR=7.1
ARBE Arbavere 38.39 336 *e*P **P 23 06 23.3 +0.6**
CKRC Cesky Krumlov 38.42 316 *e*P **P 23 06 23.5 +0.3**
CKRC AMS AMS 23 23 30.0
comp=Z,200nm,16.8s
BIOA Bad Ischl, Aus 38.47 314 *i* P **P 23 06 24.2 +0.5**
comp=Z,9.2nm,1.1s
GOPC GO Pecny, Ordr 38.52 318 AMS AMS 23 24 10.0
comp=Z,300nm,17.9s
GKP Gorka Klasztor 38.56 324 *e*P **P 23 06 24.5 +0.3**
PRU Pruhonice 38.69 318 *e*S **S 23 12 18.8 -2.4**
PRU AMS AMS 23 26 20.0
comp=Z,300nm,15.9s
ZVC Zvikov 38.70 317 *e*P **P 23 06 25.7 +0.1**
ZVC AMS AMS 23 24 10.0
comp=Z,400nm,20.1s
PRA Prague 38.79 318 *e*P **P 23 06 27.5 +1.3**
PRA AMS AMS 23 24 30.0
comp=Z,300nm,17.8s
GEC2 GERESS Array S 38.80 316 *e*P **P 23 06 26.7 +0.2**
comp=Z,14nm,1.5s,baz=109,slow=8.3
GERES GERESS Array B 38.80 316 P **P 23 06 25.9 -0.6**
GERES GERESS Array B 38.80 316 P **P 23 06 26.4 -0.2**
comp=Z,0.9nm,0.5s,baz=120,slow=8.1,SNR=12
GERES PcP **PcP 23 08 38.8 +1.2**
comp=Z,1.1nm,0.8s,baz=172,slow=2.7,SNR=4.2
GERES ScP **ScP 23 12 26.9 +2.2**
comp=Z,0.6nm,0.8s,baz=149,slow=2.8,SNR=3.5
GERES LR LR 23 25 49.7
comp=Z,267nm,18.1s,baz=118,slow=41
comp=Z,0.9nm,0.5s
PVCC Panska Ves 38.88 319 AMS AMS 23 24 50.0
comp=Z,400nm,17.3s
ABTA Abfaltersbach 38.93 312 *i* P **P 23 06 27.7 +0.1**
comp=Z,11nm,1.0s,SNR=7.6
KHC Kasperske Hory 38.98 316 *e*P P 23 06 11.5 -16
KHC *ex* x 23 06 17.5
LESA Schwarzleotal 39.01 313 *i* P **P 23 06 28.4 +0.1**
comp=Z,6.5nm,0.9s,SNR=8.2
LESA *e*S **S 23 12 27.6 +1.3**
comp=Z,3.7nm,1.1s
RJOB Jochberg 39.03 314 *e*P **P 23 06 28.7 +0.3**
comp=Z,5.1nm,0.8s,baz=109,slow=8.3
TNCH TengChong 39.03 82 *e*P **P 23 06 28.8 0.0**
TNCH pmax pmax
comp=Z,300nm,4.4s
GTA Gaotai 39.24 60 *e*P **P 23 06 30.6 +0.2**
GTA pP pP 23 06 37.8 +1.2
GTA pmax pmax
comp=Z,12nm,1.3s
GTA pmax pmax
comp=Z,140nm,6.0s
GTA LR LR
comp=Z,370nm,18.3s
GTA LR LR
comp=Z,320nm,16.7s
GTA LR LR
comp=Z,350nm,16.7s
BRG Berggiesshubel 39.38 319 *e*P **P 23 06 31.3 +0.1**
comp=Z,40nm,2.2s,baz=109,slow=8.3
BRG Berggiesshubel 39.38 319 *e*P **P 23 06 31.3 +0.1**
BRG Amp 23 06 33.9
comp=Z,5.5nm,1.0s
BRG Berggiesshubel 39.38 319 P P 23 06 40.8 +10
BRG Amp 23 06 41.6
comp=Z,5.0nm,0.9s
BRG ⇑PP **PcP 23 08 37.7 -1.6**
BRG Amp 23 08 40.2
comp=Z,2.6nm,0.9s
BRG Berggiesshubel 39.38 319 S **S 23 12 29.0 -2.5**
BRG Berggiesshubel 39.38 319 SS SS 23 15 23.0 -2.5
WET Wettzell 39.41 316 *e*P **P 23 06 32.0 +0.4**
comp=Z,6.0nm,1.1s,baz=109,slow=8.3
JOF Joensuu 39.45 343 *e*P **P 23 06 31.7 +0.1**
MEF Metsahovi 39.51 336 *e*P **P 23 06 32.4 +0.3**
WTTA Wattenberg 39.65 313 *i* P **P 23 06 33.4 -0.3**
comp=Z,20nm,0.9s,SNR=19
WTTA *i* S **S 23 12 33.4 -2.6**
comp=Z,11nm,1.3s
WATA Walderalm 39.71 313 *i* P **P 23 06 33.9 -0.3**
comp=Z,17nm,0.9s,SNR=20
WATA *i* S **S 23 12 36.1 -0.7**
comp=Z,11nm,1.4s
VLC Villacollemand 39.79 308 P **P 23 06 35.0 +0.3**
KEST Kesra 39.80 295 P **P 23 06 35.8 +0.8**
comp=Z,10.0nm,1.0s,baz=350,slow=1.9,SNR=8.9
comp=Z,10.0nm,1.0s
KEST Kesra 39.80 295 P **P 23 06 34.7 -0.3**
FIA1 FINESS Array S 39.82 339 IAmb IAmb 23 06 39.1
comp=Z,58nm,1.1s
FINES FINESS Array B 39.82 339 P **P 23 06 34.0 -0.6**
FINES FINESS Array B 39.82 339 P **P 23 06 35.0 +0.3**
comp=Z,3.5nm,0.3s,baz=140,slow=8.2,SNR=76
FINES S **S 23 12 37.9 +0.1**
comp=Z,1.6nm,0.8s,baz=134,slow=16,SNR=4.2
FINES LR LR 23 24 34.2
comp=Z,243nm,20.6s,baz=141,slow=38
comp=Z,3.5nm,0.3s
FINES FINESS Array B 39.82 339 *ce*P **P 23 06 35.0 +0.3**
FINES pmax pmax
comp=Z,4.0nm,0.3s
SQTA Sankt Quirin 39.92 313 *i* P **P 23 06 35.7 -0.2**
comp=Z,20nm,0.7s,SNR=14
SQTA *e*S **S 23 12 39.1 -0.9**
comp=Z,9.0nm,1.3s
VSL Villasalto 39.92 300 P **P 23 06 35.4 -0.5**
VSL IAmb IAmb 23 06 42.0
comp=Z,57nm,1.3s
MOTA Moosalm 40.02 313 *i* P **P 23 06 36.2 -0.6**
comp=Z,16nm,1.0s,SNR=16
MOTA *i* S **S 23 12 39.5 -2.0**
comp=Z,9.5nm,1.2s
ROTZ Rotzenmuhle 40.03 317 *e*P **P 23 06 37.0 +0.3**
comp=Z,2.0nm,1.0s,baz=109,slow=8.3
CLL Collm 40.09 319 *i* P **P 23 06 37.1 0.0**
CLL *i* 23 06 45.5
CLL *e*S **S 23 12 43.0 +0.9**
CLL pmax pmax
comp=Z,28nm,1.5s
CLL MLR MLR
comp=Z,300nm,20.7s
CLL Collm 40.09 319 P **P 23 06 36.0 -1.1**
comp=Z,11nm,1.4s
CLL Collm 40.09 319 *i* P **P 23 06 37.1 0.0**
comp=Z,28nm,1.5s
CLL *i* x x 23 06 45.5
CLL *e*(sPP) 23 08 14.0
CLL *e*PPPP 23 08 43.0
CLL *ex* x 23 12 06.0
CLL *e*S **S 23 12 43.0 +0.9**
CLL *ex* x 23 14 36.0
CLL *e*SS **SS 23 15 30.0 -10**
CLL *e*SSS SSS 23 16 05.0
CLL AMS AMS 23 26 00.0
comp=N,300nm,18.8s
CLL AMS AMS 23 26 00.0
comp=E,200nm,19.5s
CLL AMS AMS 23 26 00.0
comp=Z,300nm,20.7s
CLL Collm 40.09 319 *e*P **P 23 06 37.5 +0.4**
comp=Z,7.6nm,0.9s,baz=109,slow=8.3
FUR Furstenfeldbru 40.13 314 *e*P **P 23 06 37.9 +0.3**
comp=Z,18nm,0.9s,baz=109,slow=8.3
MANZ Manzenberg 40.16 317 *e*P **P 23 06 38.1 +0.3**
comp=Z,1.0nm,0.9s,baz=109,slow=8.3
FETA Feichten 40.18 312 *i* P **P 23 06 37.8 -0.4**
comp=Z,17nm,0.9s,SNR=18
FETA *i* S **S 23 12 42.3 -1.6**
comp=Z,7.5nm,1.1s
RETA Reutte 40.28 313 *i* P **P 23 06 38.0 -0.8**
comp=Z,6.8nm,0.8s,SNR=9.5
RETA *i* S **S 23 12 44.5 -0.7**
comp=Z,8.7nm,1.3s
FUORN Ofenpass-Fuorn 40.40 311 IAmb IAmb 23 06 45.2
comp=Z,51nm,1.8s
GRF Grafenberg Arr 40.61 316 *e*P **P 23 06 41.9 +0.4**
comp=Z,13nm,0.8s,baz=109,slow=8.3
GRFO Grafenberg 40.61 316 P **P 23 06 40.4 -1.1**
GRFO Grafenberg 40.61 316 P **P 23 06 40.4 -1.1**
GRFO pmax pmax
comp=Z,13nm,0.8s
BSD Bornholm Skovb 40.64 325 *e*P **P 23 06 40.8 -0.8**
BSD Bornholm Skovb 40.64 325 *i* P **P 23 06 41.0 -0.5**
BSD IAmb IAmb 23 06 41.7
comp=Z,7.8nm,0.4s
DAVOX Davos/Dischmat 40.69 312 LR LR 23 25 23.9
comp=Z,273nm,19.2s,baz=87,slow=39
KEF Keuruu 40.74 339 *e*P **P 23 06 42.3 0.0**
BLEU Blekinge 40.77 327 *i* P **P 23 06 43.5 +0.9**
NEUB Neuenburg 40.77 319 *e*P **P 23 06 43.2 +0.4**
comp=Z,4.9nm,0.7s,baz=109,slow=8.3
DAVA Damuels 40.81 312 *i* P **P 23 06 42.7 -0.6**
comp=Z,47nm,0.7s,SNR=33
DAVA *e*S **S 23 12 52.2 -1.1**
comp=Z,7.7nm,1.3s
TUE Stuetta 40.98 311 P **P 23 06 44.1 -0.7**
TUE Stuetta 40.98 311 P **P 23 06 43.5 -1.3**
comp=Z,35nm,1.2s
RAF Rauma 41.01 336 *e*P **P 23 06 44.9 +0.3**
CHTO Chiang Mai 41.09 92 P **P 23 06 46.6 +0.8**
CHTO Chiang Mai 41.09 92 P **P 23 06 46.6 +0.8**
CHTO pmax pmax
comp=Z,21nm,1.4s
CMAR Chiang Mai Arr 41.21 92 P **P 23 06 47.4 +0.6**
CMAR Chiang Mai Arr 41.21 92 P **P 23 06 46.8 0.0**
comp=Z,0.6nm,0.3s,baz=304,slow=7.4,SNR=1.3
CMAR PcP **PcP 23 08 44.6 -1.1**
comp=Z,1.9nm,0.3s,baz=290,slow=5.4,SNR=5.2
CMAR LR LR 23 28 05.6
comp=Z,134nm,19.6s,baz=285,slow=42
comp=Z,0.6nm,0.3s
FLTG Flechtingen 41.48 320 *e*P **P 23 06 48.3 -0.2**
comp=Z,21nm,1.0s,baz=109,slow=8.3
PZH PanZhiHua 41.58 79 P **P 23 06 50.5 +0.6**
LUNU Lund 41.62 325 *e*P **P 23 06 51.1 +1.5**
GORT1 Trebel 41.68 321 *e*P **P 23 06 50.7 +0.6**
comp=Z,24nm,1.2s,baz=109,slow=8.3
ASSE Asse, Remlinge 41.74 320 *e*P **P 23 06 50.7 +0.2**
comp=Z,8.8nm,1.0s,baz=109,slow=8.3
DEL Delary 41.79 327 *i* P **P 23 06 51.4 +0.4**
CLZ Clausthal 41.81 319 *e*P **P 23 06 51.6 +0.2**
comp=Z,18nm,1.2s,baz=109,slow=8.3
BJUU Bjuv 42.03 326 *i* P **P 23 06 54.1 +1.1**
BFO Black Forest 42.08 314 P **P 23 06 53.4 -0.1**
BFO Black Forest 42.08 314 P **P 23 06 53.4 -0.1**
BFO pmax pmax
comp=Z,5.0nm,0.6s
NRDL Niedersach Rie 42.19 320 *e*P **P 23 06 54.8 +0.6**
comp=Z,25nm,1.0s,baz=109,slow=8.3
LZH Lanzhou 42.33 65 *e*P **P 23 06 56.8 +0.8**
LZH sP sP 23 07 07.1 +2.2
LZH pmax pmax
comp=Z,12nm,1.1s
LZH LR LR
comp=Z,390nm,15.8s
LZH LR LR
comp=Z,310nm,18.6s
LZH LR LR
comp=Z,570nm,21.0s
TNS Taunus Mts 42.48 316 *e*P **P 23 06 57.3 +0.4**
comp=Z,13nm,1.3s,baz=109,slow=8.3
MOY Mondy 42.53 41 *e*P **P 23 06 57.4 +0.1**
MOY pmax pmax
comp=Z,46nm,2.4s
BSEG Bad Segeberg 42.58 322 *e*P **P 23 06 57.9 +0.4**
comp=Z,15nm,1.3s,baz=109,slow=8.3
FABU Falkenberg 42.60 327 *i* P **P 23 06 58.3 +0.7**
RETH Rethem/Aller, 42.70 320 *e*P **P 23 06 59.0 +0.5**
comp=Z,10nm,1.2s,baz=109,slow=8.3
KMI Kunming 42.75 81 P **P 23 07 00.5 +1.0**
KMI S **S 23 13 23.5 +0.9**
KMI pmax pmax
comp=Z,10.0nm,2.2s
KMI LR LR
comp=Z,190nm,15.6s
KMI LR LR
comp=Z,150nm,14.4s
KMI LR LR
comp=Z,180nm,16.9s
KASTN Kahler Asten 42.78 318 *e*P **P 23 06 59.7 +0.5**
comp=Z,37nm,1.6s,baz=109,slow=8.3
ECH Echery 42.81 313 IAmb IAmb 23 07 03.5
comp=Z,35nm,1.6s
BORU Boraas 42.87 328 *i* P **P 23 07 00.2 +0.4**
APA Apatity 42.96 348 *e*P **P 23 06 57.8 -2.6**
APA *e* 23 08 38.6
APA *e*S **S 23 13 23.8 -0.4**
APA *e*SS **SS 23 16 28.7 -7.3**
APA MLR MLR
comp=Z,477nm,17.8s
IBBN Ibbenburen 43.49 319 *e*P **P 23 07 05.6 +0.6**
comp=Z,21nm,1.2s,baz=109,slow=8.3
BUG Bochum--Univer 43.53 318 *e*P **P 23 07 06.1 +0.9**
baz=109,slow=8.3
ZAK Zakamensk 43.56 44 *e*P **P 23 07 04.8 -0.8**
ZAK pmax pmax
comp=Z,10.0nm,2.0s
HFS Hagfors 43.69 331 P **P 23 07 06.3 -0.1**
comp=Z,6.1nm,0.8s,baz=128,slow=9.6,SNR=12
HFS LR LR 23 27 42.3
comp=Z,228nm,20.5s,baz=122,slow=39
comp=Z,6.1nm,0.8s
WLF Walferdange 43.78 315 P **P 23 07 07.5 +0.2**
WLF Walferdange 43.78 315 *d*P **P 23 07 07.2 -0.1**
comp=Z,8.9nm,0.8s
BHOU Houvegnez 44.03 316 *d*P **P 23 07 10.2 +0.9**

MEM Membach 44.09 316 *d*P **P** **23 07 10.3 +0.6**
BEBN Eben Emael 44.34 316 *d*P **P** **23 07 12.5 +0.8**
comp=Z,14nm,0.5s
RCHB Rochefort 44.47 315 *d*P **P** **23 07 13.1 +0.3**
comp=Z,7.0nm,1.7s
BCLA Clavier 44.48 316 *d*P **P** **23 07 13.5 +0.6**
BGES Gesves 44.61 316 *d*P **P** **23 07 14.7 +0.8**
comp=Z,7.8nm,0.9s
BMRD Maredsous 44.79 316 *d*P **P** **23 07 15.8 +0.5**
DOU Dourbes 44.86 315 *d*P **P** **23 07 16.3 +0.4**
comp=Z,15nm,0.9s
TAM Tamanrasset 44.91 276 P **P** **23 07 17.0 +0.1**
TAM Tamanrasset 44.91 276 P **P** **23 07 17.0 +0.1**
TAM pmax pmax
comp=Z,28nm,0.9s
ETOS Mallorca 44.99 301 P **P** **23 07 18.3 +1.2**
EJON La Jonquera 45.02 304 P **P** **23 07 17.7 +0.3**
NC405 NORSAR Array S 45.03 332 IAmb IAmb 23 07 31.5
comp=Z,15nm,0.8s
SONM Songino Array 45.04 48 P **P** **23 07 17.4 -0.1**
SONM Songino Array 45.04 48 P **P** **23 07 17.9 +0.3**
comp=Z,7.7nm,1.0s,baz=255,slow=9.1,SNR=23
SONM LR LR 23 27 23.4
comp=Z,546nm,21.8s,baz=264,slow=38
comp=Z,7.7nm,1.0s
SONM Songino Array 45.04 48 P **P** **23 07 17.5 -0.1**
SONM pmax pmax
comp=Z,13nm,1.2s
UCC Uccle 45.15 316 P **P** **23 07 18.0 -0.2**
UCC IAmb IAmb 23 07 23.4
comp=Z,25nm,1.4s
UCC Uccle 45.15 316 P **P** **23 07 18.0 -0.2**
UCC pmax pmax
comp=Z,25nm,1.4s
UCC Uccle 45.15 316 *d*P **P** **23 07 19.0 +0.8**
NB2 NORSAR Subarra 45.20 332 P **P** **23 07 17.2 -1.3**
comp=Z,64nm,2.5s,baz=117,slow=7.9
NB2 NORSAR Subarra 45.20 332 P **P** **23 07 17.2 -1.3**
baz=117,slow=7.9
NOA NORSAR Array B 45.20 332 P **P** **23 07 18.1 -0.5**
comp=Z,4.3nm,0.9s,baz=117,slow=7.8,SNR=18
NOA PcP **PcP** **23 08 58.6 +0.2**
comp=Z,1.7nm,0.8s,baz=106,slow=3.8,SNR=3.7
NOA LR LR 23 30 11.1
comp=Z,143nm,18.5s,baz=120,slow=41
comp=Z,4.3nm,0.9s
ULN Ulaanbaatar 45.48 48 P **P** **23 07 21.1 -0.1**
ULN IAmb IAmb 23 07 26.3
comp=Z,12nm,1.0s
ULN Ulaanbaatar 45.48 48 P **P** **23 07 18.4 -2.7**
ULN Ulaanbaatar 45.48 48*ce*P **P** **23 07 21.0 -0.1**
ULN pmax pmax
comp=Z,22nm,1.7s
OPO Ambohidratompo 45.64 190 LR LR 23 25 08.2
comp=Z,480nm,18.3s,baz=176,slow=34
VADS Vadso 45.91 348 *e*P **P** **23 07 24.7 +0.8**
KEV Kevo 46.06 347 P **P** **23 07 25.1 0.0**
KEV IAmb IAmb 23 07 30.0
comp=Z,18nm,0.8s
KEV Kevo 46.06 347 P **P** **23 07 25.1 0.0**
KEV pmax pmax
comp=Z,18nm,0.8s
ARA0 ARCESS Array S 46.20 346 *e*P **P** **23 07 27.0 +0.8**
ARCES ARCESS Array B 46.20 346 P **P** **23 07 26.1 -0.1**
ARCES ARCESS Array B 46.20 346 P **P** **23 07 27.1 +0.9**
comp=Z,5.3nm,0.8s,baz=139,slow=7.1,SNR=20
ARCES LR LR 23 29 30.1
comp=Z,327nm,22.0s,baz=136,slow=40
comp=Z,5.3nm,0.8s
CEST Esterri de Car 46.23 304 P **P** **23 07 27.3 +0.2**
CEST IAmb IAmb 23 07 32.5
comp=Z,17nm,1.1s
KTK1 Kautokeino 46.30 345 *e*P **P** **23 07 27.7 +0.6**
SKAR Skarslia 46.30 330 *e*P **P** **23 07 27.8 +0.5**
DOMB Dombas 46.59 332 *e*P **P** **23 07 29.8 +0.4**
BLS5 Blasjo 46.63 328 *e*P **P** **23 07 30.6 +0.9**
NSS Namsos 46.72 336 *e*P **P** **23 07 31.4 +1.0**
ODD1 Odda 46.74 329 *e*P **P** **23 07 31.1 +0.5**
MOR8 Moi Rana 46.81 339 *e*P **P** **23 07 31.6 +0.5**
BTO Baotou 47.12 58 *e*P **P** **23 07 35.9 +1.9**
BTO S **S** **23 14 31.1 +5.7**
BTO pmax pmax
comp=Z,15nm,0.5s
BTO pmax pmax
comp=Z,190nm,4.7s
BTO LR LR
comp=Z,800nm,18.0s
BTO LR LR
comp=Z,490nm,13.2s
BTO LR LR
comp=Z,480nm,16.9s
KMY Karmoy 47.12 328 *e*P **P** **23 07 34.3 +0.7**
LEIR Leirfjorden 47.21 338 *e*P **P** **23 07 34.3 +0.1**
FAUS Fauske 47.30 340 *e*P **P** **23 07 35.2 +0.4**
STOK Stokkvaagen 47.37 338 *e*P **P** **23 07 35.6 +0.2**
JETT Jettan, Norway 47.38 344 *e*P **P** **23 07 35.6 0.0**
HYA Hoyanger 47.44 330 *e*P **P** **23 07 36.2 +0.2**
HAMF Hammerfest 47.46 346 *e*P **P** **23 07 36.3 +0.3**
MOL Molde 47.46 332 *e*P **P** **23 07 36.3 +0.1**
AKN Aaknes 47.52 332 *e*P **P** **23 07 37.5 +0.8**
BER Bergen 47.52 329 *e*P **P** **23 07 36.5 -0.1**
VAGH Vaagaholmen 47.52 339 *e*P **P** **23 07 36.7 +0.1**
ASK Askoy 47.62 329 *e*P **P** **23 07 37.4 0.0**
STEI Steigen 47.66 341 *e*P **P** **23 07 37.7 +0.1**
TRO Tromso 47.80 344 *e*P **P** **23 07 39.5 +0.8**
ECHE Chera 47.91 300 P **P** **23 07 41.4 +1.2**
PSI Prapat 48.27 112 LR LR 23 29 08.4
comp=Z,148nm,18.9s,baz=331,slow=38
LSZ Lusaka 49.21 215 LR LR 23 28 22.8
comp=Z,378nm,18.1s,baz=30,slow=36
UCM Universidad Co 49.63 301 P **P** **23 07 53.9 +0.6**
ELGU Los Guajares, 50.20 297 P **P** **23 07 58.3 +0.6**
ESBB Sonseca Array 50.22 301 IAmb IAmb 23 07 59.2
comp=Z,13nm,0.9s
ESDC Sonseca Array 50.22 301 P **P** **23 07 57.5 -0.3**
ESDC IAmb IAmb 23 07 59.2
comp=Z,14nm,1.1s
ESDC Sonseca Array 50.22 301 P **P** **23 07 57.9 0.0**
comp=Z,11nm,0.9s,baz=71,slow=7.4,SNR=56
comp=Z,11nm,0.9s
EKA Eskdalemuir Ar 50.49 321 P **P** **23 07 59.3 -0.2**
comp=Z,1.0nm,0.3s,baz=98,slow=7.8,SNR=12
comp=Z,1.0nm,0.3s
PAB San Pablo 50.52 300 P **P** **23 07 59.5 -0.7**
PAB IAmb IAmb 23 08 01.6
comp=Z,25nm,0.9s
PAB San Pablo 50.52 300 P **P** **23 07 59.5 -0.7**
PAB pmax pmax
comp=Z,25nm,1.0s
EGOR Sierra Gorda, 50.55 297 P **P** **23 08 00.4 -0.1**
QIZ Qiongzhong 50.76 87 P **P** **23 08 01.0 -1.1**
QIZ S **S** **23 15 16.3 -0.7**
QIZ LR LR
comp=Z,84nm,11.7s
QIZ LR LR
comp=Z,77nm,10.3s
QIZ LR LR
comp=Z,220nm,18.6s
EADA Adamuz 50.82 299 P **P** **23 08 02.5 +0.1**
EMAL Malaga-Limoner 50.85 297 P **P** **23 08 02.9 +0.4**
EMIJ Mijas 51.15 297 P **P** **23 08 04.8 0.0**
PPI Padang Panjang 51.32 114 P **P** **23 08 08.5 +2.2**
comp=Z,20nm,1.1s
BOD Bodaibo 51.37 36 *e*P **P** **23 08 04.4 -1.7**
BOD pmax pmax
comp=Z,85nm,1.6s
ECAB El Cabril 51.49 299 P **P** **23 08 07.8 +0.4**
XLT XiLinHaoTe 51.55 54 *e*P **P** **23 08 08.3 +0.5**
XLT pP pP 23 08 12.8 -1.4
XLT sP sP 23 08 15.6 -1.2
XLT PP **PP** **23 10 08.8 +3.7**
XLT S **S** **23 15 30.9 +3.5**
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT pmax pmax
comp=Z,61nm,3.9s
XLT LR LR
comp=Z,51nm,23.4s
XLT LR LR
comp=Z,200nm,21.7s
XLT LR LR
comp=Z,310nm,17.9s
MDT Midelt 51.55 292 LR LR 23 35 17.1
comp=Z,98nm,18.6s,baz=80,slow=42

TORD Torodi Ar. Bea 51.58 266 P **P** **23 08 07.5 -0.8**
TORD IAmb IAmb 23 08 09.5
comp=Z,30nm,1.2s
TORD Torodi Ar. Bea 51.58 266 P **P** **23 08 08.3 0.0**
comp=Z,17nm,0.9s,baz=51,slow=8.5,SNR=32
comp=Z,17nm,0.9s
ESPR Espera 51.97 297 P **P** **23 08 10.7 -0.2**
PBRG Braganca 52.18 304 *e*P **P** **23 08 13.5 +1.0**
PBRG *i* IAmb IAmb 23 08 17.4
comp=Z,33nm,1.6s
MVO Moncorvo 52.44 303 *e*P **P** **23 08 15.6 +1.1**
MVO *i* IAmb IAmb 23 08 29.1
comp=Z,28nm,2.7s
EBAD Badajoz 52.66 300 P **P** **23 08 16.3 +0.3**
PBAR Barrancos 52.75 299 P **P** **23 08 17.3 +0.7**
PBAR Barrancos 52.75 299 *e*P **P** **23 08 17.4 +0.7**
PBAR *i* IAmb IAmb 23 08 21.4
comp=Z,33nm,1.3s
PMRV Marv??o 52.88 301 *e*P **P** **23 08 18.2 +0.5**
PCBR Castelo Branco 52.90 301 *e*P **P** **23 08 18.6 +0.8**
PCBR *i* IAmb IAmb 23 08 23.5
comp=Z,41nm,1.4s
PVRL Vila Real 52.95 303 *e*P **P** **23 08 19.6 +1.3**
PVRL *i* IAmb IAmb 23 08 21.6
comp=Z,42nm,1.4s
POLO Lamas de Olo 53.00 303 *e*P **P** **23 08 19.9 +1.3**
POLO *i* IAmb IAmb 23 08 23.8
comp=Z,21nm,1.5s
TIA Tai'an 53.02 63 P **P** **23 08 21.6 +2.8**
TIA S **S** **23 15 50.8 +3.1**
TIA pmax pmax
comp=Z,5.0nm,0.6s
TIA LR LR
comp=Z,440nm,18.6s
TIA LR LR
comp=Z,290nm,17.2s
TIA LR LR
comp=Z,290nm,19.2s
PESTR Estremoz 53.10 300 P **P** **23 08 20.1 +0.8**
PESTR Estremoz 53.10 300 P **P** **23 08 19.5 +0.2**
PESTR IAmb IAmb 23 08 20.7
comp=Z,16nm,1.0s
PESTR Estremoz 53.10 300 *e*P **P** **23 08 19.9 +0.7**
PESTR *i* IAmb IAmb 23 08 24.4
comp=Z,23nm,1.4s
PVIS Viseu 53.14 302 *e*P **P** **23 08 21.2 +1.6**
PCAB Cabril 53.15 303 *e*P **P** **23 08 21.0 +1.4**
EGRO El Granado 53.18 298 P **P** **23 08 20.2 +0.3**
PGAV Gavieira, Arco 53.31 304 *e*P **P** **23 08 21.6 +0.7**
PGAV *i* IAmb IAmb 23 08 27.5
comp=Z,43nm,1.6s
PVAQ Vaqueiros 53.38 298 *e*P **P** **23 08 21.7 +0.4**
PVAQ *i* IAmb IAmb 23 08 27.0
comp=Z,54nm,1.9s
PBEJ Beja 53.41 299 *e*P **P** **23 08 22.8 +1.2**
PSARD Sardoal 53.45 301 *e*P **P** **23 08 22.3 +0.4**
PSARD *i* IAmb IAmb 23 08 23.4
comp=Z,38nm,0.9s
EVO Evora 53.46 300 P **P** **23 08 22.6 +0.7**
EVO Evora 53.46 300 *e*P **P** **23 08 22.4 +0.4**
EVO *i* IAmb IAmb 23 08 22.9
comp=Z,32nm,1.2s
COI Coimbra 53.58 302 *e*P **P** **23 08 23.9 +1.2**
COI *i* IAmb IAmb 23 08 25.8
comp=Z,54nm,1.1s
PCVE Castro Verde 53.60 298 *e*P **P** **23 08 23.7 +0.8**
PCAS Casmilo, Conde 53.66 301 *e*P **P** **23 08 24.9 +1.5**
PCAS *i* IAmb IAmb 23 08 31.6
comp=Z,41nm,1.4s
AVE Averroes 53.78 293 P **P** **23 08 25.2 +0.8**
TIO Tiouine 54.13 290 P **P** **23 08 27.8 +0.7**
PARRA Arraiolos 54.23 300 *e*P P 23 08 22.5 -5.0
PFVI Vila Bisbo 54.29 298 *e*P **P** **23 08 29.0 +1.0**
SPITS Spitsbergen Ar 54.45 351 P **P** **23 08 29.8 +1.2**
comp=Z,7.2nm,0.7s,baz=112,slow=8.5,SNR=7.2
SPITS LR LR 23 35 48.1
comp=Z,154nm,18.4s,baz=138,slow=40
comp=Z,7.2nm,0.7s
SPITS Spitsbergen Ar 54.45 351 P **P** **23 08 29.4 +0.8**
SPITS pmax pmax
comp=Z,54nm,1.4s
NJ2 Nanjing 55.17 68 *e*P **P** **23 08 34.0 -0.5**
NJ2 pmax pmax
comp=Z,8.0nm,0.9s
NJ2 LR LR
comp=Z,230nm,22.6s
NJ2 LR LR
comp=Z,240nm,20.8s
NJ2 LR LR
comp=Z,460nm,20.8s
JMIC Jan Mayen 56.43 339 LR LR 23 34 59.2
comp=Z,197nm,22.0s,baz=105,slow=38
QNGWA Qangwa 56.49 219 P **P** **23 08 44.6 +0.6**
QNGWA IAmb IAmb 23 08 57.1
comp=Z,22nm,1.4s
MDSI Maura Dua 56.73 116 P **P** **23 08 42.0 -3.8**
GRTLG Ghanzi 57.93 218 P **P** **23 08 54.7 +0.4**
GRTLG IAmb IAmb 23 09 39.6
comp=Z,16nm,1.2s
CN2 Changchun 58.31 53 *e*P **P** **23 08 55.3 -1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
TSUM Tsumeb 58.33 222 P **P** **23 08 56.5 -0.5**
TSUM IAmb IAmb 23 09 11.2
comp=Z,12nm,1.1s
TSUM Tsumeb 58.33 222 LR LR 23 35 24.9
comp=Z,553nm,19.2s,baz=38,slow=37
LBTB Lobatse 58.74 211 LR LR 23 34 11.4
comp=Z,363nm,20.8s,baz=39,slow=36
HEH HeiHe 58.90 46 *e*P **P** **23 08 59.8 -0.8**
HEH pmax pmax
comp=Z,8.0nm,1.1s
BNX BinXian 59.42 51 ⇑P **P** **23 09 02.6 -1.7**
BNX PcP **PcP** **23 09 50.8 -1.1**
BNX S **S** **23 17 10.8 -1.5**
BNX pmax pmax
comp=Z,7.0nm,1.3s
BNX pmax pmax
comp=Z,120nm,5.1s
BNX LR LR
comp=Z,220nm,20.1s
BNX LR LR
comp=Z,240nm,23.9s
BNX LR LR
comp=Z,250nm,24.4s
YAK Yakutsk 59.62 32 P **P** **23 09 04.1 -1.2**
YAK Yakutsk 59.62 32 LR LR 23 37 27.8
comp=Z,574nm,18.6s,baz=267,slow=39
YAK Yakutsk 59.62 32*ce*P **P** **23 09 05.5 +0.2**
YAK pmax pmax
comp=Z,40nm,1.7s
TIXI Tiksi 59.81 21 LR LR 23 37 58.6
comp=Z,456nm,20.1s,baz=289,slow=39
TIXI Tiksi 59.81 21*ce*P **P** **23 09 08.3 +1.8**
TIXI pmax pmax
comp=Z,34nm,2.5s
DBIC Dimbokro 60.17 262 P **P** **23 09 09.2 -0.7**
DBIC Dimbokro 60.17 262 P **P** **23 09 09.8 0.0**
comp=Z,18nm,0.8s,baz=75,slow=6.6,SNR=20
DBIC LR LR 23 38 03.0
comp=Z,173nm,18.3s,baz=96,slow=39
comp=Z,18nm,0.8s
DBIC Dimbokro 60.17 262 P **P** **23 09 09.2 -0.7**
DBIC pmax pmax
comp=Z,69nm,1.6s
STKI Sintang 60.33 106 P **P** **23 09 14.4 +3.4**
BORG Borgarnes 60.38 331 LR LR 23 39 09.7
comp=Z,77nm,19.6s,baz=105,slow=40
DAG Danmarks Havn 60.48 345 *i* P **P** **23 09 10.7 -0.3**
DAG IAmb IAmb 23 09 12.6
comp=Z,4.0nm,0.8s
KSRS Korea Array 61.31 60 P **P** **23 09 16.9 -0.4**
comp=Z,1.9nm,0.7s,baz=277,slow=6.1,SNR=8.3
comp=Z,1.9nm,0.7s
BOSA Boshof 61.98 210 P **P** **23 09 21.6 -0.3**
comp=Z,3.4nm,0.7s,baz=36,slow=8.5,SNR=7.2
comp=Z,3.4nm,0.7s
TGY Tagaytay City 62.45 87 LR LR 23 40 14.1
comp=Z,151nm,19.7s,baz=228,slow=40
MSHR Mys Shultsa 62.63 54 *i* P **P** **23 09 26.8 +0.7**
MSHR pmax pmax
comp=Z,12nm,1.1s
USRK Ussuriysk Ar. 62.89 52 LR LR 23 40 19.5
comp=Z,243nm,18.3s,baz=289,slow=40
MYLDM Lahad Datu 64.02 98 P **P** **23 09 35.5 -0.2**
JOW Kunigami 64.46 71 LR LR 23 41 03.3
comp=Z,165nm,21.0s,baz=287,slow=39
JNU Nakatsue 64.75 64 LR LR 23 41 47.7
comp=Z,187nm,18.4s,baz=298,slow=40
SUMG Summit 65.81 341 P **P** **23 09 46.7 -0.3**
SUMG Summit 65.81 341 P **P** **23 09 46.7 -0.3**
SUMG pmax pmax
comp=Z,21nm,0.9s
SUMG Summit 65.81 341 *i* P **P** **23 09 47.7 +0.7**
SUMG IAmb IAmb 23 09 49.6
comp=Z,16nm,0.9s
NEEM North Greenlan 67.55 347 *i* P **P** **23 09 58.3 +0.4**
NEEM IAmb IAmb 23 10 03.0
comp=Z,22nm,1.0s
MJAR Matsushiro Arr 69.48 59 P **P** **23 10 11.0 +0.7**
comp=Z,6.7nm,1.2s,baz=295,slow=7.8,SNR=5.2
MJAR LR LR 23 44 05.8
comp=Z,124nm,19.9s,baz=300,slow=39
comp=Z,6.7nm,1.2s
DAV Davao City (W) 69.49 92 LR LR 23 44 13.8
comp=Z,48nm,19.8s,baz=306,slow=39
YSS Yuzhno-Sakhali 69.52 47 *e*P **P** **23 10 12.3 +2.0**
YSS *e*S **S** **23 19 15.1 -1.8**
YSS *e*SS **SS** **23 23 47.5 +3.4**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,400nm,15.0s
SEY Seymchan 69.81 29 LR LR 23 44 29.0
comp=Z,573nm,19.3s,baz=308,slow=39
SEY Seymchan 69.81 29 *i* P **P** **23 10 12.5 +0.7**
SEY pmax pmax
comp=Z,5.0nm,0.9s
KAPI Kappang 70.02 107 P **P** **23 10 13.7 -0.2**
KAPI Kappang 70.02 107 *i* P **P** **23 10 13.3 -0.6**
KAPI pmax pmax
comp=Z,36nm,1.1s
MA2 Magadan 70.17 33 LR LR 23 45 14.6
comp=Z,216nm,18.4s,baz=284,slow=40
ASAJ Asahikawa 70.28 50 LR LR 23 42 39.6
comp=Z,228nm,19.5s,baz=296,slow=37
SFJD Kangerlussuaq 71.57 336 LR LR 23 42 58.4
comp=Z,115nm,20.3s,baz=55,slow=37
BILL Bilibino 73.01 22 *i* P **P** **23 10 32.0 +0.9**
BILL pmax pmax
comp=Z,7.0nm,0.9s
PETK Petropavlovsk- 76.21 37 P **P** **23 10 50.9 +1.0**
comp=Z,2.3nm,0.9s,baz=335,slow=2.1,SNR=3.9
PETK LR LR 23 47 42.3
comp=Z,188nm,20.7s,baz=300,slow=38
comp=Z,2.3nm,0.9s
SOEI Soe 76.27 108 P **P** **23 10 53.0 +2.0**
RES Resolute Bay 76.99 352 LR LR 23 49 13.2
comp=Z,160nm,20.4s,baz=33,slow=39
FRB Frobisher Bay 79.61 338 LR LR 23 48 39.9
comp=Z,94nm,19.7s,baz=57,slow=37
A21K Barrow 79.76 10 P **P** **23 11 05.7 -3.6**
baz=332
A22K Sinclair Lake 80.29 10 P **P** **23 11 08.7 -3.5**
baz=333
B18K Kokolik River 80.56 12 P **P** **23 11 10.6 -3.0**
baz=327
C16K Lisburne Hills 80.73 14 P **P** **23 11 11.4 -3.2**
baz=324
B20K Meade River 80.83 11 P **P** **23 11 12.9 -2.1**
baz=331
C17K DeLong Mountai 81.03 13 P **P** **23 11 13.3 -2.9**
baz=326
C19K Lookout Ridge 81.19 12 P **P** **23 11 14.3 -2.8**
baz=329
C18K Utukok River 81.28 13 P **P** **23 11 15.3 -2.3**
baz=328
B21K Ikpikpuk River 81.59 10 IAmb IAmb 23 11 24.6
comp=Z,13nm,0.8s
B21K Ikpikpuk River 81.59 10 P **P** **23 11 16.7 -2.4**
baz=334
D17K Noatak River 81.69 14 P **P** **23 11 17.0 -2.6**
baz=326
C23K Itkillik River 81.98 9 P **P** **23 11 18.7 -2.4**
baz=337
C21K Knifeblade Rid 81.98 10 P **P** **23 11 18.6 -2.6**
baz=333
D19K Kuna River 81.99 12 P **P** **23 11 18.7 -2.6**
baz=330
D20K Etivluk River 82.07 11 P **P** **23 11 19.2 -2.5**
baz=332
TNA Tin City 82.30 17 P **P** **23 11 20.4 -2.4**
baz=322
C24K Franklin Bluff 82.33 8 P **P** **23 11 20.6 -2.4**
baz=339
E18K Tukpahlearik C 82.44 13 IAmb IAmb 23 11 28.8
comp=Z,11nm,0.8s
E18K Tukpahlearik C 82.44 13 P **P** **23 11 21.1 -2.6**
baz=328
E17K Hotham Inlet 82.48 14 P **P** **23 11 21.5 -2.3**
baz=327
E20K Nigu River 82.55 11 P **P** **23 11 21.9 -2.3**
baz=332
D22K Ayikyak River 82.56 10 IAmb IAmb 23 11 30.2
comp=Z,19nm,1.1s
D22K Ayikyak River 82.56 10 P **P** **23 11 21.9 -2.4**
baz=335
C26K Camden Bay 82.59 7 P **P** **23 11 22.8 -1.5**
baz=342
GAMB Gambell 82.64 19 P **P** **23 11 22.6 -2.1**
baz=319
E21K Killik River 82.75 10 IAmb IAmb 23 11 30.0
comp=Z,7.9nm,0.9s
E21K Killik River 82.75 10 P **P** **23 11 23.1 -2.2**
baz=334
F14K Arctic Creek 82.77 16 P **P** **23 11 23.0 -2.3**
baz=324
D23K Nanushuk River 82.77 9 IAmb IAmb 23 11 30.8
comp=Z,6.5nm,0.8s
D23K Nanushuk River 82.77 9 P **P** **23 11 23.7 -1.7**
baz=337
D24K Happy Valley 82.85 8 P **P** **23 11 24.4 -1.3**
baz=339
F15K North Star Dit 82.99 15 P **P** **23 11 24.7 -1.8**
baz=325
C27K Jago River 82.99 7 IAmb IAmb 23 11 28.7
comp=Z,19nm,1.3s
C27K Jago River 82.99 7 P **P** **23 11 24.2 -2.2**
baz=343,SNR=9.0
D25K Kavik River 82.99 8 IAmb IAmb 23 11 31.9
comp=Z,12nm,1.0s
D25K Kavik River 82.99 8 P **P** **23 11 24.6 -2.0**
baz=341,SNR=9.5
KNRA Kununurra 83.03 111 P **P** **23 11 26.9 -0.6**
KNRA IAmb IAmb 23 11 28.9
comp=Z,14nm,1.1s
E19K Redstone River 83.07 12 IAmb IAmb 23 11 31.4
comp=Z,9.3nm,0.8s
E19K Redstone River 83.07 12 P **P** **23 11 24.9 -2.0**
baz=331
F17K Baldwin Pennin 83.14 14 P **P** **23 11 25.5 -1.7**
baz=328
TOLK Toolik Lake Re 83.23 9 IAmb IAmb 23 11 33.2
comp=Z,12nm,0.9s
TOLK Toolik Lake Re 83.23 9 P **P** **23 11 26.1 -1.6**
baz=338,SNR=6.7
F18K Selawik 83.34 13 P **P** **23 11 27.4 -0.8**
baz=329
E22K Anaktuvuk Pass 83.37 10 IAmb IAmb 23 11 33.6
comp=Z,8.2nm,1.0s
E22K Anaktuvuk Pass 83.37 10 P **P** **23 11 27.1 -1.4**
baz=336
F19K Shaleruckik Mo 83.51 12 IAmb IAmb 23 11 33.3
comp=Z,11nm,1.0s
F19K Shaleruckik Mo 83.51 12 P **P** **23 11 27.6 -1.5**
baz=331
D27M Malcolm River 83.63 6 P **P** **23 11 30.0 +0.2**
D27M Malcolm River 83.63 6 P **P** **23 11 28.4 -1.4**
baz=346
F20K Avaraart Lake 83.70 12 IAmb IAmb 23 11 34.7
comp=Z,6.7nm,0.8s
F20K Avaraart Lake 83.70 12 P **P** **23 11 29.4 -0.7**
baz=333
G15K Niukluk 83.72 16 P **P** **23 11 28.5 -1.8**
baz=326
ANM Nome 83.75 16 P **P** **23 11 29.2 -1.2**
baz=324
E23K Chandalar 83.77 9 P **P** **23 11 29.9 -0.7**
E23K IAmb IAmb 23 11 37.5
comp=Z,12nm,1.0s
E23K Chandalar 83.77 9 P **P** **23 11 28.4 -2.1**
baz=338,SNR=10
G16K Koyuk River 83.78 15 P **P** **23 11 29.4 -1.2**
baz=327

GUMO	**Guam**	**83.87**	**78**	LR	LR	23 50 28.4	
	comp=Z,42nm,21.9s,baz=107,slow=37						
F22K	**John River**	**83.89**	**10**	P	**P**	**23 11 29.8**	**-1.4**
	baz=336						
E24K	**Your Creek**	**83.91**	**9**	IAmb	IAmb	23 11 36.8	
	comp=Z,15nm,1.1s						
E24K	**Your Creek**	**83.91**	**9**	P	**P**	**23 11 30.3**	**-1.0**
	baz=339,SNR=11						
F21K	**Alatna River**	**83.94**	**11**	IAmb	IAmb	23 11 36.5	
	comp=Z,7.0nm,0.8s						
F21K	**Alatna River**	**83.94**	**11**	P	**P**	**23 11 30.7**	**-0.7**
	baz=335,SNR=5.8						
G17K	**Kiwalik Mounta**	**84.07**	**14**	P	**P**	**23 11 30.6**	**-1.5**
	baz=328						
G18K	**Tagagawik**	**84.16**	**13**	IAmb	IAmb	23 11 37.0	
	comp=Z,8.3nm,1.1s						
G18K	**Tagagawik**	**84.16**	**13**	P	**P**	**23 11 31.6**	**-0.9**
	baz=330						
E25K	**Arctic Village**	**84.23**	**8**	IAmb	IAmb	23 11 38.3	
	comp=Z,12nm,0.8s						
E25K	**Arctic Village**	**84.23**	**8**	P	**P**	**23 11 32.6**	**-0.3**
	baz=342,SNR=13						
G19K	**Purcell Mounta**	**84.25**	**13**	P	**P**	**23 11 32.3**	**-0.7**
	baz=332						
E28M	**Babbage River**	**84.37**	**5**	IAmb	IAmb	23 11 39.0	
	comp=Z,9.1nm,1.0s						
E28M	**Babbage River**	**84.37**	**5**	P	**P**	**23 11 33.0**	**-0.6**
	baz=347,SNR=11						
H16K	**Elim**	**84.45**	**15**	P	**P**	**23 11 33.2**	**-0.8**
	baz=327						
COLD	**Coldfoot**	**84.45**	**10**	IAmb	IAmb	23 11 39.8	
	comp=Z,10nm,0.9s						
COLD	**Coldfoot**	**84.45**	**10**	P	**P**	**23 11 33.5**	**-0.5**
	baz=338,SNR=5.2						
F24K	**Squaw Lake**	**84.51**	**9**	IAmb	IAmb	23 11 40.0	
	comp=Z,8.2nm,1.0s						
F24K	**Squaw Lake**	**84.51**	**9**	P	**P**	**23 11 33.7**	**-0.6**
	baz=340						
G21K	**Allakaket**	**84.58**	**11**	IAmb	IAmb	23 11 39.2	
	comp=Z,8.5nm,0.9s						
G21K	**Allakaket**	**84.58**	**11**	P	**P**	**23 11 33.8**	**-0.8**
	baz=335						
E27K	**Coleen River**	**84.59**	**6**	IAmb	IAmb	23 11 40.2	
	comp=Z,15nm,1.2s						
E27K	**Coleen River**	**84.59**	**6**	P	**P**	**23 11 34.5**	**-0.3**
	baz=345,SNR=11						
E29M	**Blow River**	**84.71**	**5**	IAmb	IAmb	23 11 36.9	
	comp=Z,8.7nm,1.1s						
E29M	**Blow River**	**84.71**	**5**	P	**P**	**23 11 35.4**	**+0.1**
	baz=348,SNR=10						
H17K	**Granite Mounta**	**84.72**	**14**	P	**P**	**23 11 34.7**	**-0.7**
H17K				IAmb	IAmb	23 11 40.1	
	comp=Z,7.3nm,0.8s						
H17K	**Granite Mounta**	**84.72**	**14**	P	**P**	**23 11 35.1**	**-0.2**
	baz=329						
F25K	**Christian Rive**	**84.72**	**8**	P	**P**	**23 11 35.0**	**-0.4**
	baz=342,SNR=9.0						
SCHQ	**Schefferville**	**84.76**	**330**	P	**P**	**23 11 34.6**	**-1.1**
	comp=Z,5.2nm,0.8s,baz=66,slow=4.5,SNR=5.5						
SCHQ				LR	LR	23 49 53.3	
	comp=Z,42nm,21.8s,baz=48,slow=36						
	comp=Z,5.2nm,0.8s						
F26K	**Sheenjek River**	**84.80**	**7**	IAmb	IAmb	23 11 41.5	
	comp=Z,16nm,1.6s						
F26K	**Sheenjek River**	**84.80**	**7**	P	**P**	**23 11 35.3**	**-0.5**
	baz=343						
H18K	**Honhosa River**	**84.86**	**14**	P	**P**	**23 11 35.4**	**-0.7**
	baz=330						
H19K	**Roundabout Mou**	**84.92**	**13**	P	**P**	**23 11 35.2**	**-1.1**
	baz=332						
G23K	**Bananza Creek**	**84.96**	**10**	IAmb	IAmb	23 11 42.0	
	comp=Z,10nm,0.9s						
G23K	**Bananza Creek**	**84.96**	**10**	P	**P**	**23 11 36.1**	**-0.5**
	baz=338,SNR=10						
BMAR	**Burnt Mountain**	**85.01**	**7**	P	**P**	**23 11 37.2**	**+0.3**
IMAR	**Indian Mountai**	**85.02**	**11**	P	**P**	**23 11 36.2**	**-0.6**
INK	**Inuvik**	**85.06**	**3**	P	**P**	**23 11 36.7**	**-0.3**
INK				IAmb	IAmb	23 11 41.8	
	comp=Z,9.8nm,1.1s						
INK	**Inuvik**	**85.06**	**3**	LR	LR	23 54 48.8	
	comp=Z,61nm,19.6s,baz=44,slow=39						
INK	**Inuvik**	**85.06**	**3**	P	**P**	**23 11 36.7**	**-0.3**
INK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
INK	**Inuvik**	**85.06**	**3**	P	**P**	**23 11 36.1**	**-0.9**
	baz=352						
H20K	**Anotleneega Mo**	**85.25**	**12**	P	**P**	**23 11 37.2**	**-0.8**
	baz=333,SNR=7.1						
F28M	**Old Crow**	**85.31**	**6**	P	**P**	**23 11 38.1**	**-0.2**
F28M				IAmb	IAmb	23 11 43.5	
	comp=Z,14nm,1.1s						
F28M	**Old Crow**	**85.31**	**6**	P	**P**	**23 11 37.7**	**-0.6**
	baz=347						
G24K	**Hadweenzic Riv**	**85.33**	**9**	P	**P**	**23 11 37.7**	**-0.7**
	baz=340,SNR=19						
I17K	**Unalakleet**	**85.44**	**15**	P	**P**	**23 11 38.7**	**-0.3**
	baz=328						
G25K	**Bearman Lake**	**85.46**	**8**	P	**P**	**23 11 38.9**	**-0.1**
	baz=341						
H21K	**Melozitna Rive**	**85.48**	**11**	IAmb	IAmb	23 11 42.4	
	comp=Z,14nm,1.1s						
H21K	**Melozitna Rive**	**85.48**	**11**	P	**P**	**23 11 38.1**	**-1.1**
	baz=335,SNR=13						
H22K	**Ishtalitna Cre**	**85.50**	**11**	P	**P**	**23 11 39.6**	**+0.3**
	baz=336,SNR=23						
GCSA	**Galena City Sc**	**85.53**	**13**	P	**P**	**23 11 39.4**	**0.0**
	baz=332						
G26K	**Porcupine Rive**	**85.56**	**7**	IAmb	IAmb	23 11 45.2	
	comp=Z,5.4nm,0.8s						
G26K	**Porcupine Rive**	**85.56**	**7**	P	**P**	**23 11 39.9**	**+0.4**
	baz=343,SNR=7.1						
F30M	**Barrier River**	**85.63**	**4**	P	**P**	**23 11 39.6**	**-0.3**
	baz=350,SNR=8.9						
J14K	**Nanvaranak Lak**	**85.70**	**17**	P	**P**	**23 11 40.0**	**-0.3**
	baz=326						
H23K	**Yukon River**	**85.86**	**10**	P	**P**	**23 11 41.1**	**0.0**
	baz=338,SNR=22						
F31M	**Tsiigehtchic**	**85.92**	**3**	P	**P**	**23 11 41.8**	**+0.6**
	baz=352,SNR=12						
G27K	**Doyon Strip**	**85.93**	**7**	IAmb	IAmb	23 11 47.1	
	comp=Z,16nm,1.0s						
G27K	**Doyon Strip**	**85.93**	**7**	P	**P**	**23 11 41.7**	**+0.3**
	baz=345,SNR=24						
I20K	**Naaghedeneel**	**85.95**	**12**	P	**P**	**23 11 41.6**	**+0.1**
I20K	**Naaghedeneel**	**85.95**	**12**	P	**P**	**23 11 40.6**	**-0.9**
	baz=334						
H25L	**Birch Creek**	**85.97**	**8**	P	**P**	**23 11 40.2**	**-1.4**
	baz=341,SNR=5.7						
J16K	**Anvik River**	**85.98**	**15**	P	**P**	**23 11 41.2**	**-0.5**
	baz=329						
I21K	**Tanana**	**86.06**	**11**	P	**P**	**23 11 42.4**	**+0.3**
I21K				IAmb	IAmb	23 11 47.3	
	comp=Z,12nm,1.0s						
I21K	**Tanana**	**86.06**	**11**	P	**P**	**23 11 41.7**	**-0.4**
	baz=336,SNR=11						
K13K	**Kusilvak Mount**	**86.09**	**18**	P	**P**	**23 11 41.8**	**-0.5**
	baz=325						
H24K	**Noodor Dome**	**86.09**	**9**	IAmb	IAmb	23 11 47.9	
	comp=Z,8.1nm,0.9s						
H24K	**Noodor Dome**	**86.09**	**9**	P	**P**	**23 11 42.5**	**+0.2**
	baz=340,SNR=8.6						
G29M	**Pine Creek**	**86.16**	**5**	IAmb	IAmb	23 11 47.9	
	comp=Z,10.0nm,0.8s						
G29M	**Pine Creek**	**86.16**	**5**	P	**P**	**23 11 41.8**	**-0.7**
	baz=348,SNR=12						
G30M	**tAoh Zraii Nji**	**86.22**	**4**	P	**P**	**23 11 42.2**	**-0.7**
	baz=350,SNR=22						
J17K	**VABM Dome**	**86.24**	**15**	IAmb	IAmb	23 11 47.9	
	comp=Z,10nm,1.1s						
J17K	**VABM Dome**	**86.24**	**15**	P	**P**	**23 11 42.3**	**-0.6**
	baz=330						
G31M	**Satah River**	**86.40**	**4**	P	**P**	**23 11 42.8**	**-0.9**
	baz=352,SNR=18						
MLY	**Manley**	**86.40**	**11**	IAmb	IAmb	23 11 48.9	
	comp=Z,12nm,1.0s						
MLY	**Manley**	**86.40**	**11**	P	**P**	**23 11 42.9**	**-0.9**
	baz=337,SNR=14						
J19K	**Poorman**	**86.45**	**13**	IAmb	IAmb	23 11 49.2	
	comp=Z,12nm,0.9s						
J19K	**Poorman**	**86.45**	**13**	P	**P**	**23 11 43.4**	**-0.6**
	baz=333,SNR=18						
H27K	**Steamboat Moun**	**86.50**	**7**	IAmb	IAmb	23 11 49.7	
	comp=Z,14nm,0.9s						
H27K	**Steamboat Moun**	**86.50**	**7**	P	**P**	**23 11 43.6**	**-0.7**
	baz=345,SNR=20						
I23K	**Minto, Yukon-K**	**86.52**	**10**	IAmb	IAmb	23 11 49.5	
	comp=Z,11nm,1.0s						
I23K	**Minto, Yukon-K**	**86.52**	**10**	P	**P**	**23 11 43.5**	**-0.8**
	baz=338,SNR=13						
J20K	**Nowinta River**	**86.58**	**12**	P	**P**	**23 11 44.1**	**-0.5**
	baz=334,SNR=17						
K15K	**Wolf Creek Mou**	**86.60**	**16**	P	**P**	**23 11 44.6**	**-0.2**
	baz=328						
J18K	**Innoko River**	**86.69**	**14**	IAmb	IAmb	23 11 50.2	
	comp=Z,5.8nm,0.9s						
J18K	**Innoko River**	**86.69**	**14**	P	**P**	**23 11 44.8**	**-0.4**
	baz=332,SNR=6.0						
PRP	**Porcupine Dome**	**86.72**	**8**	P	**P**	**23 11 44.9**	**-0.5**
PRP				IAmb	IAmb	23 11 50.7	
	comp=Z,10nm,1.1s						
PRP	**Porcupine Dome**	**86.72**	**8**	P	**P**	**23 11 44.4**	**-1.0**
	baz=342,SNR=11						
EPYK	**Eagle Plains**	**86.79**	**5**	P	**P**	**23 11 44.6**	**-1.1**
	baz=350,SNR=10						
H29M	**Whitestone**	**86.81**	**5**	P	**P**	**23 11 44.4**	**-1.3**
	baz=348,SNR=15						
POKR	**Poker Plat Res**	**86.83**	**9**	P	**P**	**23 11 44.3**	**-1.5**
	baz=340						
M11K	**Mekoryuk**	**86.92**	**19**	P	**P**	**23 11 45.1**	**-1.1**
	baz=324						
K17K	**Iditarod**	**87.01**	**15**	P	**P**	**23 11 45.5**	**-1.2**
	baz=331						
NEA2	**Nenana**	**87.08**	**10**	P	**P**	**23 11 45.8**	**-1.3**
	baz=339						
I27K	**Kandik River**	**87.10**	**7**	P	**P**	**23 11 46.0**	**-1.3**
	baz=345,SNR=9.9						
L14K	**Kuka Creek**	**87.11**	**17**	P	**P**	**23 11 46.2**	**-1.0**
	baz=327						
L15K	**Ungalak Mounta**	**87.14**	**17**	P	**P**	**23 11 46.3**	**-1.1**
	baz=328						
CHUM	**Lake Minchumin**	**87.19**	**12**	P	**P**	**23 11 47.3**	**-0.3**
	baz=336,SNR=14						
I26K	**Coal Creek Min**	**87.22**	**8**	P	**P**	**23 11 46.9**	**-0.8**
	baz=344						
BPAW	**Bear Paw Mtn.**	**87.22**	**11**	P	**P**	**23 11 46.6**	**-1.2**
	baz=337,SNR=22						
IL31		**87.24**	**9**	P	**P**	**23 11 46.7**	**-1.1**
ILAR	**Eielson Array**	**87.24**	**9**	P	**P**	**23 11 47.2**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=328,slow=4.6,SNR=9.8						
ILAR				LR	LR	23 54 42.6	
	comp=Z,134nm,21.1s,baz=300,slow=38						
	comp=Z,1.3nm,0.6s						
K20K	**Telida**	**87.33**	**13**	P	**P**	**23 11 47.8**	**-0.5**
	baz=334,SNR=14						
WRH	**Wood River Hil**	**87.35**	**10**	P	**P**	**23 11 47.3**	**-1.0**
I28M	**Miner Creek**	**87.42**	**6**	P	**P**	**23 11 47.7**	**-1.1**
	baz=347,SNR=18						
H31M	**Peel River**	**87.51**	**4**	P	**P**	**23 11 48.9**	**-0.2**
	baz=352,SNR=13						
L17K	**Donlin**	**87.52**	**15**	P	**P**	**23 11 47.3**	**-1.9**
	baz=331						
HDA	**Harding Lake**	**87.58**	**9**	P	**P**	**23 11 47.7**	**-1.8**
	baz=340						
J25K	**Salcha River,**	**87.60**	**9**	IAmb	IAmb	23 11 54.3	
	comp=Z,9.7nm,1.1s						
J25K	**Salcha River,**	**87.60**	**9**	P	**P**	**23 11 49.0**	**-0.7**
	baz=342,SNR=10						
L16K	**Owhat River**	**87.61**	**16**	P	**P**	**23 11 49.6**	**0.0**
L16K				IAmb	IAmb	23 11 55.0	
	comp=Z,9.9nm,1.1s						
L16K	**Owhat River**	**87.61**	**16**	P	**P**	**23 11 47.9**	**-1.7**
	baz=330						
CAST	**Castle Rocks**	**87.65**	**12**	P	**P**	**23 11 49.0**	**-0.9**
	baz=336,SNR=23						
I29M	**Ogilvie Camp,**	**87.66**	**6**	IAmb	IAmb	23 11 54.2	
	comp=Z,7.1nm,0.9s						
I29M	**Ogilvie Camp,**	**87.66**	**6**	P	**P**	**23 11 49.4**	**-0.5**
	baz=348,SNR=11						
M13K	**Dall Lake**	**87.71**	**18**	P	**P**	**23 11 49.2**	**-0.9**
	baz=326						
M14K	**Bethel**	**87.80**	**17**	P	**P**	**23 11 48.8**	**-1.7**
	baz=328						
L18K	**Granite Mounta**	**87.80**	**14**	IAmb	IAmb	23 11 53.7	
	comp=Z,18nm,1.7s						
L18K	**Granite Mounta**	**87.80**	**14**	P	**P**	**23 11 48.8**	**-1.8**
	baz=332						
MCK	**McKinley**	**87.91**	**10**	P	**P**	**23 11 50.0**	**-1.1**
	baz=339						
J26L	**Joseph Creek**	**87.94**	**8**	P	**P**	**23 11 49.9**	**-1.4**
	baz=343,SNR=22						
TRF	**Thorofare Moun**	**87.94**	**11**	P	**P**	**23 11 50.0**	**-1.4**
	baz=338						
I30M	**Mount Dempster**	**87.95**	**5**	IAmb	IAmb	23 11 56.0	
	comp=Z,10nm,0.9s						
I30M	**Mount Dempster**	**87.95**	**5**	P	**P**	**23 11 50.0**	**-1.4**
	baz=350,SNR=21						
PPLA	**Purkeypile**	**88.11**	**12**	P	**P**	**23 11 50.4**	**-1.9**
	baz=336						
L20K	**Farewell, AK**	**88.16**	**13**	P	**P**	**23 11 51.0**	**-1.4**
	baz=334						
SPIA	**Saint Paul Isl**	**88.17**	**23**	P	**P**	**23 11 51.4**	**-1.0**
	baz=321						
M15K	**Kasigluk River**	**88.18**	**17**	P	**P**	**23 11 51.4**	**-1.0**
	baz=329						
RND	**Reindeer**	**88.22**	**11**	IAmb	IAmb	23 12 16.7	
	comp=Z,5.1nm,1.0s						
L19K	**White Mountain**	**88.23**	**14**	IAmb	IAmb	23 12 36.4	
	comp=Z,7.4nm,1.2s						
L19K	**White Mountain**	**88.23**	**14**	P	**P**	**23 11 52.0**	**-0.7**
	baz=334						
K24K	**Donnelly Dome**	**88.32**	**9**	P	**P**	**23 11 52.2**	**-0.8**
	baz=342						
M16K	**Timber Creek**	**88.33**	**16**	P	**P**	**23 11 52.3**	**-0.8**
	baz=330						
M17K	**Holitna River**	**88.36**	**15**	P	**P**	**23 11 52.6**	**-0.7**
	baz=331						
SCRK	**Sand Creek**	**88.39**	**8**	P	**P**	**23 11 52.7**	**-0.8**
	baz=343,SNR=16						
RIDG	**Independent Ri**	**88.51**	**9**	P	**P**	**23 11 53.6**	**-0.4**
	baz=342						
N14K	**Kuskokwak Cree**	**88.57**	**18**	P	**P**	**23 11 54.1**	**-0.1**
	baz=328						
K27K	**Chicken**	**88.58**	**7**	P	**P**	**23 11 54.3**	**0.0**
	baz=345						
M19K	**Big River Lodg**	**88.58**	**13**	P	**P**	**23 11 54.0**	**-0.3**
	baz=334						
J30M	**Hart River**	**88.59**	**5**	P	**P**	**23 11 54.0**	**-0.5**
	baz=350,SNR=8.9						
M18K	**Stony River**	**88.64**	**14**	P	**P**	**23 11 54.3**	**-0.3**
	baz=333						
N15K	**Kwethluk River**	**88.78**	**17**	P	**P**	**23 11 54.6**	**-0.7**
	baz=329						
DAWY	**Dawson**	**88.83**	**6**	IAmb	IAmb	23 12 00.3	
	comp=Z,8.0nm,0.9s						
DAWY	**Dawson**	**88.83**	**6**	P	**P**	**23 11 54.2**	**-1.3**
	baz=347,SNR=7.1						
N16K	**Nishlik Lake**	**88.85**	**16**	P	**P**	**23 11 54.3**	**-1.3**
	baz=330						
M20K	**Styx River**	**88.86**	**13**	P	**P**	**23 11 54.2**	**-1.5**
	baz=335						
P08K	**Saint George I**	**88.86**	**23**	P	**P**	**23 11 54.4**	**-1.2**
	baz=321						
SKT	**Skwentna**	**89.08**	**12**	IAmb	IAmb	23 12 01.6	
	comp=Z,9.5nm,1.1s						
SKT	**Skwentna**	**89.08**	**12**	P	**P**	**23 11 55.7**	**-0.9**
	baz=336						
PAX	**Paxson**	**89.16**	**9**	P	**P**	**23 11 55.7**	**-1.4**
	baz=342						
N17K	**Nushagak Hills**	**89.19**	**15**	P	**P**	**23 11 55.9**	**-1.2**
	baz=332						
K29M	**Barlow Dome**	**89.22**	**6**	IAmb	IAmb	23 12 02.4	
	comp=Z,4.9nm,0.8s						
K29M	**Barlow Dome**	**89.22**	**6**	P	**P**	**23 11 55.9**	**-1.5**
	baz=349,SNR=8.3						
O14K	**Tigyukauivet M**	**89.25**	**18**	P	**P**	**23 11 56.2**	**-1.2**
	baz=328						
N18K	**Kilae Creek**	**89.35**	**15**	P	**P**	**23 11 56.4**	**-1.5**
	baz=333						
N19K	**Bonanza Creek**	**89.54**	**14**	P	**P**	**23 11 57.0**	**-1.9**
	baz=334						
L27K	**Beaver Creek,**	**89.54**	**8**	P	**P**	**23 11 57.2**	**-1.7**
	baz=345						
BCAR	**Beaver Creek A**	**89.54**	**8**	P	**P**	**23 11 59.6**	**+0.7**
O15K	**Ungalikthiuk R**	**89.71**	**17**	P	**P**	**23 11 58.1**	**-1.5**
	baz=329						
WRA	**Warramunga Arr**	**89.74**	**112**	P	**P**	**23 11 59.1**	**-1.3**
	comp=Z,2.0nm,0.9s,baz=312,slow=4.2,SNR=10.0						
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**89.74**	**112**	*i* P	**P**	**23 12 00.7**	**+0.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
O17K	**Koliganek Bris**	**89.87**	**16**	P	**P**	**23 11 59.8**	**-0.5**
	baz=332						
L29M	**L29M**	**89.89**	**6**	P	**P**	**23 11 59.9**	**-0.5**
	baz=348						
M23K	**Glacier View**	**89.92**	**11**	P	**P**	**23 11 59.5**	**-1.1**
	baz=340						
SCM	**Sheep Creek Mo**	**89.95**	**10**	P	**P**	**23 11 58.9**	**-1.9**
	baz=340						
M26K	**Nabesna, AK**	**90.04**	**8**	P	**P**	**23 11 59.8**	**-1.3**
	baz=344						
M27K	**Edge Creek, AK**	**90.22**	**8**	P	**P**	**23 12 00.9**	**-1.2**
	baz=345						
RC01	**Rabbit Creek A**	**90.23**	**12**	P	**P**	**23 12 01.5**	**-0.6**
	baz=338						
O18K	**Koktuk Hills**	**90.24**	**15**	P	**P**	**23 12 01.2**	**-1.0**
	baz=333						
KLU	**Klutina**	**90.50**	**10**	P	**P**	**23 12 02.2**	**-1.2**
	baz=341						
M29M	**Somme Creek**	**90.51**	**6**	P	**P**	**23 12 02.0**	**-1.4**
	baz=348						
M30M	**Minto, Yukon**	**90.53**	**5**	P	**P**	**23 12 03.0**	**-0.4**
	baz=350						
P17K	**Kvichak River**	**90.54**	**16**	P	**P**	**23 12 01.8**	**-1.7**
	baz=332						
N25K	**Chitina, Valde**	**90.58**	**9**	P	**P**	**23 12 02.5**	**-1.3**
	baz=343						
P18K	**Big Mountain,**	**90.65**	**15**	P	**P**	**23 12 02.7**	**-1.3**
	baz=333						
YKAW3	**Yellowknife Wh**	**90.66**	**355**	P	**P**	**23 12 04.6**	**+0.6**
YKAW3				IAmb	IAmb	23 12 09.1	
	comp=Z,6.9nm,1.1s						
PWL	**Port Wells**	**90.70**	**11**	P	**P**	**23 12 03.3**	**-1.0**
	baz=339						
YKA	**Yellowknife Ar**	**90.73**	**355**	P	**P**	**23 12 04.4**	**+0.1**
YKA	**Yellowknife Ar**	**90.73**	**355**	P	**P**	**23 12 04.7**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=3.3,slow=5.6,SNR=16						
YKA				LR	LR	00 00 22.8	
	comp=Z,52nm,18.4s,baz=354,slow=41						
	comp=Z,1.8nm,0.8s						
YKA	**Yellowknife Ar**	**90.73**	**355**	*ce*P	**P**	**23 12 04.6**	**+0.3**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKAW1	**Yellowknife Wh**	**90.73**	**355**	P	**P**	**23 12 03.4**	**-0.9**
YKAW1				IAmb	IAmb	23 12 09.4	
	comp=Z,6.4nm,0.9s						
MMPY	**Sheldon Lake,**	**90.85**	**3**	P	**P**	**23 12 04.3**	**-0.7**
	baz=354						
GLI	**Glacier Island**	**90.89**	**11**	P	**P**	**23 12 03.2**	**-1.9**
	baz=340						
YUK3	**Moose Creek**	**90.95**	**7**	P	**P**	**23 12 04.5**	**-1.1**
	baz=346						
ASAR	**Alice Springs**	**91.15**	**116**	P	**P**	**23 12 06.2**	**-0.8**
ASAR	**Alice Springs**	**91.15**	**116**	P	**P**	**23 12 05.9**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=298,slow=4.3,SNR=12						
ASAR				LR	LR	23 55 35.3	
	comp=Z,140nm,19.0s,baz=159,slow=37						
	comp=Z,1.8nm,0.8s						
ASAR	**Alice Springs**	**91.15**	**116**	P	**P**	**23 12 06.2**	**-0.8**
Q18K	**Katmai Hardscr**	**91.37**	**15**	P	**P**	**23 12 07.3**	**-0.2**
	baz=333						
Q19K	**Cape Douglas,**	**91.43**	**14**	P	**P**	**23 12 06.9**	**-0.8**
	baz=335						
YUK4	**Talbot Arm**	**91.57**	**7**	P	**P**	**23 12 07.6**	**-0.9**
	baz=348						
CTG	**Chitna Glacier**	**91.64**	**8**	P	**P**	**23 12 07.7**	**-1.1**
	baz=345						
P23K	**Montague Islan**	**91.67**	**11**	P	**P**	**23 12 07.9**	**-0.8**
	baz=340						
R17L	**Mt. Peulik Vol**	**91.95**	**16**	P	**P**	**23 12 09.3**	**-0.8**
	baz=332						
Q20K	**Shuyak Island**	**91.99**	**14**	P	**P**	**23 12 09.8**	**-0.4**
	baz=336						
UNV	**Unalaska Valle**	**92.11**	**23**	P	**P**	**23 12 10.3**	**-0.5**
	baz=324						
HYT	**Haines Junctio**	**92.19**	**6**	P	**P**	**23 12 11.4**	**+0.1**
HYT				IAmb	IAmb	23 12 17.2	
	comp=Z,7.4nm,0.8s						
HYT	**Haines Junctio**	**92.19**	**6**	P	**P**	**23 12 10.2**	**-1.1**
	baz=349						
S14K	**Fog Glacier**	**92.28**	**18**	P	**P**	**23 12 10.0**	**-1.7**
	baz=330						
CHGN	**Chignik**	**92.58**	**18**	P	**P**	**23 12 11.8**	**-1.2**
	baz=330						
KDAK	**Kodiak Island**	**92.71**	**14**	LR	LR	00 00 22.7	
	comp=Z,109nm,19.5s,baz=329,slow=40						
KDAK	**Kodiak Island**	**92.71**	**14**	P	**P**	**23 12 12.4**	**-1.1**
	baz=336						
P30M	**Million Dollar**	**92.94**	**6**	P	**P**	**23 12 13.7**	**-1.0**
	baz=349						
OHAK	**Old Harbor**	**93.06**	**15**	P	**P**	**23 12 14.0**	**-1.1**
	baz=335						
PNL	**Peninsula**	**93.13**	**7**	P	**P**	**23 12 14.6**	**-1.0**
	baz=347						
P33M	**Teslin, Yukon**	**93.17**	**4**	P	**P**	**23 12 14.6**	**-1.2**
	baz=353						
P29M	**Windy Craggy**	**93.34**	**6**	P	**P**	**23 12 15.7**	**-0.9**
	baz=349						
PLBC	**Pleasant Camp**	**93.65**	**6**	P	**P**	**23 12 17.0**	**-0.8**
	baz=350						
P32M	**Atlin**	**93.73**	**4**	P	**P**	**23 12 17.3**	**-1.0**
	baz=352						
CHIR	**Chirikof Islan**	**93.75**	**17**	P	**P**	**23 12 17.4**	**-0.9**
	baz=333						
R33M	**Jennings River**	**94.08**	**3**	P	**P**	**23 12 19.0**	**-1.0**
	baz=355						
MAW	**Mawson**	**94.20**	**177**	LR	LR	23 47 33.9	
	comp=Z,23nm,19.8s,baz=344,slow=31						
Q32M	**Nakina River**	**94.45**	**4**	P	**P**	**23 12 20.2**	**-1.6**
	baz=354						
TOAD	**Toad River Com**	**94.77**	**0**	P	**P**	**23 12 21.7**	**-1.4**
	baz=360						
R32K	**Eaglecrest**	**94.97**	**5**	P	**P**	**23 12 23.1**	**-0.9**
	baz=352						
DLBC	**Dease Lake**	**95.08**	**3**	LR	LR	00 00 23.3	
	comp=Z,10nm,21.1s,baz=324,slow=39						
DLBC	**Dease Lake**	**95.08**	**3**	P	**P**	**23 12 23.8**	**-0.8**
	baz=356						
S32K	**Killisnoo**	**95.77**	**5**	P	**P**	**23 12 26.0**	**-1.6**
	baz=351						
SYO	**Syowa Base**	**96.10**	**186**	*i eP*	**P**	**23 12 31.4**	**+2.9**
SYO	**Syowa Base**	**96.10**	**186**	*i esP*	sP	23 12 37.6	-0.1
SIT	**Sitka**	**96.11**	**6**	P	**P**	**23 12 26.8**	**-2.4**
	baz=351						
SADO	**Sadowa**	**97.49**	**329**	LR	LR	23 58 39.9	
	comp=Z,94nm,18.8s,baz=7.0,slow=37						
NVAR	**Mina Array Bea**	**114.91**	**354**	PKP	PKPdf	23 17 43.8	+0.8
	comp=Z,4nm,0.5s,baz=143,slow=0.7,SNR=4.0						
TXAR	**Lajitas Array**	**120.66**	**338**	PKP	**PKPdf**	**23 17 53.1**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=30,slow=4.5,SNR=3.0						
OTAV	**Otavalo**	**127.86**	**293**	*e*P	**PKPdf**	**23 18 08.8**	**0.0**
PPT2	**Papeete2**	**155.51**	**73**	*e*LR	LR	00 11 02.9	
	comp=Z,106nm,28.5s						
PPT2				*e*LR	LR	00 11 04.3

*OMAN **22** 23:20:35.3±0.1,26°.99N×55°.12E,h20km±2km,ml3.5/17, Error ellipse: s-maj=5.3km s-min=1.3km az=324.0*
*TEH **22** 23:20:36.8,26°.64N×55°.09E,h16km±23km*
*DSN **22** 23:20:36.8±1.4,26°.79N×55°.13E,h10km,ML3.4/10, Error ellipse: s-maj=16.9km s-min=5.6km az=14.0*
ISC 22 23:20:39.6±1.4,**26°.69N**±0°.03×**55°.13E**±0°.04,**h24**km±15km, **n51**,σ1¶**20**/70,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHME	**Shamm**	**1.11**	**125**	P	**Pn**	**23 20 59.0**	**-0.8**
SHME				S	**Sb**	**23 21 15.5**	**+1.3**
	SNR=6.7						
SHME	**Shamm**	**1.11**	**125**	P	**Pn**	**23 20 58.9**	**-0.8**
SHME				S	**Sb**	**23 21 15.3**	**+1.0**
BNDS	**Bandar-Abbas**	**1.17**	**53**	Pg	**Pn**	**23 20 59.9**	**-0.8**
GENO	**Geno**	**1.17**	**53**	Pg	**Pn**	**23 20 59.7**	**-1.0**
GENO				Sg	**Sb**	**23 21 17.8**	**+1.7**
LAR1	**LAR**	**1.18**	**326**	Pg	**Pn**	**23 20 59.8**	**-0.9**
UMQ	**Umm Al-Quwin**	**1.26**	**157**	P	**Pb**	**23 21 02.4**	**-0.2**
	SNR=5.0						
UMQ				S	**Sb**	**23 21 22.0**	**+3.6**
UMQ	**Umm Al-Quwin**	**1.26**	**157**	P	**Pb**	**23 21 02.3**	**-0.4**
IBND	**Bandar-abas**	**1.47**	**59**	Pg	**Pn**	**23 21 04.6**	**0.0**
MASF	**Masafi**	**1.61**	**145**	P	**Pn**	**23 21 07.2**	**+0.6**
	SNR=7.2						
MASF				S	**Sb**	**23 21 29.8**	**+1.2**
MSFE	**Esma-Masafi**	**1.62**	**145**	P	**Pn**	**23 21 06.7**	**-0.1**
MSFE				S	**Sb**	**23 21 29.0**	**0.0**
MDH	**Madha**	**1.74**	**143**	P	**Pn**	**23 21 08.8**	**+0.4**
MDH				S	**Sb**	**23 21 32.9**	**+0.5**
NAZ	**Nazwa, Dubai**	**1.76**	**164**	P	**Pb**	**23 21 09.9**	**-1.4**
	SNR=13						
NAZ				S	**Sb**	**23 21 34.1**	**+1.0**
NAZ	**Nazwa, Dubai**	**1.76**	**164**	P	**Pn**	**23 21 09.4**	**+0.7**
LMD1	**Lamerd**	**1.87**	**291**	Pn	**Pn**	**23 21 09.3**	**-0.9**
FAQ	**Al Faqa, Dubai**	**1.98**	**168**	P	**Pn**	**23 21 12.2**	**+0.5**
FAQ				S	**Sb**	**23 21 40.5**	**+1.1**
FAQ	**Al Faqa, Dubai**	**1.98**	**168**	P	**Pb**	**23 21 12.9**	**-2.2**
UOSS	**Minazif**	**1.99**	**151**	Pn	**Pn**	**23 21 11.6**	**-0.2**
UOSS	**Minazif**	**1.99**	**151**	P	**Pn**	**23 21 12.0**	**+0.1**
UOSS				S	**Sb**	**23 21 39.8**	**+0.2**
UOSS	**Minazif**	**1.99**	**151**	P	**Pn**	**23 21 11.4**	**-0.5**
ASUD	**Al Ashush, Dub**	**2.07**	**175**	P	**Pn**	**23 21 13.6**	**+0.8**
HATD	**Hatta, Dubai**	**2.07**	**154**	P	**Pb**	**23 21 14.4**	**-2.1**
	SNR=7.7						
HATD				S	**Sb**	**23 21 42.9**	**+1.1**
HATD	**Hatta, Dubai**	**2.07**	**154**	P	**Pn**	**23 21 12.9**	**0.0**
AJN	**Ajban**	**2.12**	**183**	P	**Pn**	**23 21 13.7**	**0.0**
AJN				S	**Sb**	**23 21 47.4**	**+4.0**
	SNR=6.1						
ASHO	**Ashiyiah**	**2.17**	**157**	P	**Pn**	**23 21 15.0**	**+0.6**
	SNR=8.6						
ASHO	**Ashiyiah**	**2.17**	**157**	P	**Pn**	**23 21 14.7**	**+0.4**
JASK	**Jask - Hormozg**	**2.59**	**108**	Pn	**Pn**	**23 21 19.9**	**-0.2**
JASK	**Jask - Hormozg**	**2.59**	**108**	P	**Pn**	**23 21 19.6**	**-0.5**
JASK				S	**Sn**	**23 21 53.1**	**+2.2**
ALNE	**Al Ain**	**2.69**	**168**	P	**Pn**	**23 21 21.3**	**-0.1**
ALNE				S	**Sb**	**23 21 58.1**	**-1.4**
SOHO	**SOHO**	**2.85**	**153**	P	**Pn**	**23 21 23.0**	**-0.6**
SOHO	**SOHO**	**2.85**	**153**	P	**Pn**	**23 21 23.0**	**-0.6**
NGRK	**Negar Kerman**	**3.26**	**25**	Pn	**Pn**	**23 21 30.0**	**+0.4**
ARQ	**Araqi**	**3.57**	**159**	P	**Pn**	**23 21 34.0**	**+0.4**
	SNR=17						
KRBR	**Kerman**	**3.58**	**23**	Pn	**Pn**	**23 21 35.0**	**+1.0**
HOQ	**Hoqain**	**3.67**	**147**	P	**Pn**	**23 21 34.7**	**-0.4**
CHMN	**Cheshme madani**	**3.81**	**33**	Pn	**Pn**	**23 21 38.5**	**+1.4**
KBAM	**BAM**	**3.82**	**50**	Pn	**Pn**	**23 21 37.8**	**+0.8**
KHGB	**Koh Gabri**	**3.86**	**18**	Pn	**Pn**	**23 21 38.7**	**+1.0**
UMZA	**Um Al Zommool**	**3.96**	**180**	P	**Pn**	**23 21 39.1**	**+0.2**
UMZA				S	**Sn**	**23 22 26.2**	**+1.5**
MZR	**Muzera**	**3.97**	**203**	P	**Pn**	**23 21 37.8**	**-1.3**
BIDO	**Bidbid**	**4.17**	**139**	P	**Pn**	**23 21 40.9**	**-0.9**
BIDO				S	**Sn**	**23 22 29.7**	**0.0**
KRM1	**Kerman Provinc**	**4.24**	**26**	Pn	**Pn**	**23 21 43.5**	**+0.6**
SMDO	**Samad**	**4.49**	**143**	P	**Pn**	**23 21 46.9**	**+0.7**
SMDO				S	**Sn**	**23 22 37.7**	**-0.1**
WSAR	**Wadi Sarin**	**4.68**	**136**	P	**Pn**	**23 21 48.4**	**-0.4**
WSAR				S	**Sn**	**23 22 42.6**	**+0.1**
IMEH	**Mehriz**	**4.70**	**355**	Pn	**Pn**	**23 21 50.0**	**+0.6**
IBAF	**Bafgh**	**4.90**	**4**	Pn	**Pn**	**23 21 52.4**	**+0.4**
KLNJ	**Kolanjah**	**5.30**	**325**	Pn	**Pn**	**23 21 57.9**	**+0.2**
NGCH	**Negor - Chabah**	**5.57**	**102**	P	**Pn**	**23 21 57.9**	**-3.1**
NGCH				S	**Sn**	**23 23 03.4**	**-0.9**
IRAM	**Ramesheh**	**5.63**	**335**	Pn	**Pn**	**23 22 02.5**	**+0.3**
JLN	**Jalan Bani Buh**	**5.97**	**138**	P	**Pn**	**23 22 05.2**	**-1.4**
MHTO	**MHTO**	**6.25**	**155**	P	**Pn**	**23 22 09.2**	**-1.1**
	SNR=13						
DOK	**Doka**	**8.09**	**187**	P	**Pn**	**23 22 33.6**	**-2.0**

*DSN **22** 23:26:20.9±1.1,26°.92N×55°.20E,h10km,ML3.4/7, Error ellipse: s-maj=12.6km s-min=6.8km az=30.0*
*TEH **22** 23:26:27.5,27°.03N×55°.08E,h20km±43km*
ISC 22 23:26:24.0±1.2,**26°.65N**±0°.04×**55°.01E**±0°.06,**h17**km,**n17**, σ1¶**04**/20,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAR1	**LAR**	**1.17**	**331**	Pg	**Pn**	**23 26 45.1**	**-0.5**
SHME	**Shamm**	**1.18**	**120**	P	**Pn**	**23 26 44.0**	**-1.7**
SHME				S	**Sb**	**23 27 00.7**	**-0.2**
UMQ	**Umm Al-Quwin**	**1.26**	**152**	P	**Pb**	**23 26 47.6**	**+0.3**
UMQ				S	**Sg**	**23 27 07.1**	**+2.3**
BNDS	**Bandar-Abbas**	**1.28**	**54**	Pg	**Pn**	**23 26 45.8**	**-1.5**
GENO	**Geno**	**1.28**	**54**	Pg	**Pn**	**23 26 46.9**	**-0.4**
GENO				Sg	**Sb**	**23 27 03.2**	**-0.9**
IBND	**Bandar-abas**	**1.58**	**59**	Pg	**Pb**	**23 26 52.4**	**-0.5**
NAZ	**Nazwa, Dubai**	**1.75**	**160**	P	**Pn**	**23 26 53.0**	**-0.6**
FAQ	**Al Faqa, Dubai**	**1.96**	**164**	P	**Pb**	**23 26 58.1**	**-1.2**
UOSS	**Minazif**	**2.01**	**147**	P	**Pn**	**23 26 56.6**	**-0.5**
ASUD	**Al Ashush, Dub**	**2.03**	**172**	P	**Pn**	**23 26 59.3**	**-1.1**
HATD	**Hatta, Dubai**	**2.08**	**150**	P	**Pn**	**23 26 58.6**	**+0.5**
ASHO	**Ashiyiah**	**2.17**	**154**	P	**Pn**	**23 26 59.4**	**0.0**
JASK	**Jask - Hormozg**	**2.68**	**106**	Pn	**Pn**	**23 27 12.7**	**+1.1**
NGRK	**Negar Kerman**	**3.35**	**27**	Pn	**Pn**	**23 27 15.3**	**-0.7**
CHMN	**Cheshme madani**	**3.91**	**34**	Pn	**Pn**	**23 27 23.8**	**+0.3**
KBAM	**BAM**	**3.93**	**50**	Pn	**Pn**	**23 27 24.1**	**+0.5**
IRAM	**Ramesheh**	**5.63**	**337**	Pn	**Pn**	**23 27 48.1**	**+0.9**

*KRNET **22** 23:41:37.2±0.1,40°.53N×74°.93E,h15km,mb3.1*
*SOME **22** 23:41:37.3,40°.48N×74°.85E,h10km*
*NNC **22** 23:41:40.7±2.9,40°.43N×75°.42E,h2km±25km,mb3.5, mpv3.3,Error ellipse: s-maj=39.0km s-min=17.8km az=125.0*
ISC 22 23:41:36.2±1.4,**40°.51N**±0°.04×**74°.95E**±0°.03,**h2**km±12km, **n44**,σ1¶**67**/73,**31C-23D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALK	**Salom-Alik**	**0.94**	**294**	⇑*eP*	**Pb**	**23 41 54.7**	**-0.6**
SALK				⇑*eS*	**Sg**	**23 42 07.5**	**+1.2**
SFK	**Sufi-Kurgan**	**1.21**	**246**	⇓*eP*	**Pb**	**23 42 00.1**	**+0.1**
SFK				⇓*eS*	**Sg**	**23 42 16.9**	**+1.7**
NRN	**Naryn**	**1.22**	**40**	⇑*eP*	**Pn**	**23 41 59.9**	**-0.7**
NRN				⇑*eS*	**Sg**	**23 42 16.6**	**+1.2**
OHH	**Osh**	**1.65**	**271**	⇑*eP*	**Pb**	**23 42 07.7**	**+0.3**
OHH				⇑*eS*	**Sg**	**23 42 30.1**	**+0.9**
ARSB	**Arslanbob**	**1.70**	**299**	⇑*eP*	**Pb**	**23 42 08.5**	**+0.2**
ARSB				⇑*eS*	**Sg**	**23 42 31.4**	**+0.6**
UCH	**Uchtor**	**1.75**	**349**	P	**Pg**	**23 42 13.0**	**+3.3**
	SNR=6.5						
UCH	**Uchtor**	**1.75**	**349**	⇑*eP*	**Pb**	**23 42 09.6**	**+0.3**
UCH				⇑*eS*	**Sg**	**23 42 33.2**	**+0.8**
ULHL	**Ulahol**	**1.99**	**29**	⇑*eP*	**Pb**	**23 42 14.0**	**+0.7**
ULHL				⇑*eS*	**Sg**	**23 42 40.9**	**+0.7**
BOOM	**Boomskoye usch**	**2.12**	**20**	⇓*eP*	**Pb**	**23 42 15.8**	**+0.4**
BOOM				⇓*eS*	**Sg**	**23 42 43.8**	**-0.4**
KBK	**Karagaybulak**	**2.15**	**360**	P	**Pg**	**23 42 18.1**	**+0.7**
	SNR=15						
KBK	**Karagaybulak**	**2.15**	**360**	⇓*eP*	**Pb**	**23 42 16.1**	**+0.2**
KBK				⇓*eS*	**Sg**	**23 42 44.4**	**-0.8**
AAK	**Ala-Archa**	**2.15**	**351**	P	**Pg**	**23 42 19.4**	**+1.9**
	SNR=9.5						
AAK	**Ala-Archa**	**2.15**	**351**	⇑Pn	**Pg**	**23 42 18.4**	**+0.9**
	2.2nm,0.4s						
AAK				⇓Sn	**Sg**	**23 42 49.5**	**+4.0**
	8.5nm,0.6s						
AAK	**Ala-Archa**	**2.15**	**351**	⇑*eP*	**Pb**	**23 42 16.1**	**0.0**
AAK				⇑*eS*	**Sg**	**23 42 44.6**	**-0.9**
FRU1	**Bishkek**	**2.31**	**354**	⇓*eP*	**Pb**	**23 42 18.6**	**-0.1**
FRU1				⇑*eS*	**Sg**	**23 42 48.7**	**-1.8**
EKS2	**Erkin-Say**	**2.33**	**338**	P	**Pg**	**23 42 21.0**	**+0.2**
	SNR=12						
EKS2	**Erkin-Say**	**2.33**	**338**	⇓*eP*	**Pb**	**23 42 18.4**	**-0.5**
EKS2				⇓*eS*	**Sb**	**23 42 48.4**	**+0.3**
KDJ	**Kajisay**	**2.33**	**45**	⇓*eP*	**Pb**	**23 42 18.9**	**-0.2**
KDJ				⇓*eS*	**Sb**	**23 42 49.5**	**+1.0**
TKM2	**Tokmak 2**	**2.46**	**11**	P	**Pg**	**23 42 23.4**	**0.0**
	SNR=37						
TKM2	**Tokmak 2**	**2.46**	**11**	⇑*eP*	**Pb**	**23 42 20.5**	**-0.8**
TKM2				⇑*eS*	**Sb**	**23 42 52.0**	**-0.1**
CHMS	**Chumysh**	**2.49**	**357**	P	**Pg**	**23 42 23.7**	**-0.3**
	SNR=12						
CHMS	**Chumysh**	**2.49**	**357**	⇓*eP*	**Pb**	**23 42 20.6**	**-1.1**
CHMS				⇓*eS*	**Sb**	**23 42 52.4**	**-0.5**
MRKS	**Merke**	**2.58**	**331**	Pg	**Pg**	**23 42 25.4**	**-0.3**
	2.9nm,0.1s						
MRKS				Lg	Lg	23 43 00.3	
	9.4nm,0.3s						
MRKS	**Merke**	**2.58**	**331**	*eP*	**Pg**	**23 42 25.4**	**-0.3**
	2.9nm,0.1s						
MRKS				*eS*	**Sg**	**23 43 00.3**	**+1.1**
	22nm,0.7s						
ARK	**Arkit**	**2.60**	**301**	⇑*eP*	**Pb**	**23 42 22.2**	**-1.4**
ARK				⇑*eS*	**Sb**	**23 42 55.0**	**-1.0**
DRK	**Karamyk**	**2.63**	**248**	⇓*eP*	**Pb**	**23 42 22.9**	**-1.3**
DRK				⇓*eS*	**Sb**	**23 42 56.4**	**-0.6**
MNAS	**Manas**	**2.70**	**318**	⇓*eP*	**Pb**	**23 42 23.5**	**-1.8**
MNAS				⇓*eS*	**Sb**	**23 42 57.4**	**-1.5**
USP	**Ospenovka**	**2.78**	**353**	P	**Pb**	**23 42 27.2**	**+0.6**
	SNR=22						
USP	**Ospenovka**	**2.78**	**353**	⇓*eP*	**Pb**	**23 42 24.7**	**-1.9**
USP				⇓*eS*	**Sb**	**23 42 59.3**	**-1.8**
IZV	**Izvestkoviy**	**2.82**	**26**	Pg	**Pg**	**23 42 30.5**	**+0.3**
	11nm,0.4s						
IZV				Lg	Lg	23 43 08.7	
	18nm,0.3s						
IZV	**Izvestkoviy**	**2.82**	**26**	*eP*	**Pg**	**23 42 30.5**	**+0.3**
	11nm,0.4s						
IZV				*eS*	**Sg**	**23 43 08.7**	**+2.0**
	18nm,0.3s						
TNSS	**Tian-Shan**	**2.94**	**30**	Pg	**Pg**	**23 42 33.2**	**+0.7**
	3.1nm,0.4s						
TNSS				Lg	Lg	23 43 13.5	
	5.7nm,1.0s						
TNSS	**Tian-Shan**	**2.94**	**30**	*eP*	**Pg**	**23 42 33.2**	**+0.7**
	3.1nm,0.4s						
TNSS				*eS*	**Sg**	**23 43 13.5**	**+3.0**
	5.7nm,1.0s						
SGDS	**Sogindy**	**2.95**	**355**	Pg	**Pg**	**23 42 32.2**	**-0.5**
	2.6nm,0.2s						
SGDS				Lg	Lg	23 43 12.3	
	38nm,0.6s						
TRKS	**Terek-Say**	**3.06**	**291**	⇑*eP*	**Pb**	**23 42 28.0**	**-3.4**
TRKS				⇑*eS*	**Sb**	**23 43 05.1**	**-4.2**
KNDC	**Almaty**	**3.10**	**28**	⇑Pg	**Pg**	**23 42 35.3**	**-0.3**
	21nm,0.6s						
KNDC				⇓Lg	Lg	23 43 17.7	
	76nm,0.7s						
BTK	**Batken**	**3.19**	**263**	⇑*eP*	**Pb**	**23 42 30.6**	**-3.1**
BTK				⇑*eS*	**Sb**	**23 43 09.5**	**-3.6**
PRZ	**Przheval'sk**	**3.26**	**52**	⇑*eP*	**Pb**	**23 42 31.9**	**-3.0**
PRZ				⇑*eS*	**Sb**	**23 43 11.8**	**-3.2**
KUU	**Kurty**	**3.54**	**17**	Pg	**Pg**	**23 42 42.5**	**-1.5**
	1.9nm,0.0s						
KUU				Lg	Lg	23 43 30.3	
	126nm,0.5s						
KUU	**Kurty**	**3.54**	**17**	*eP*	**Pg**	**23 42 42.5**	**-1.5**
	1.9nm,0.0s						
KUU				*eS*	**Sg**	**23 43 29.2**	**-0.6**
	94nm,0.3s						
SATY	**Saty**	**3.63**	**44**	Pg	**Pg**	**23 42 44.8**	**-0.9**
	2.4nm,0.3s						
SATY				Lg	Lg	23 43 33.3	
	17nm,0.6s						
GAR	**Garm**	**3.88**	**249**	⇓*eP*	**Pn**	**23 42 40.1**	**+3.2**
GAR				⇓*eS*	**Sn**	**23 43 26.0**	**+2.9**
KK31	**Karatay Array**	**4.21**	**309**	⇓Pn	**Pb**	**23 42 51.1**	**+0.1**
	0.4nm,0.3s,baz=128,slow=16						
KK31				⇑Sn	**Sg**	**23 43 47.9**	**-3.6**
	1.7nm,0.6s,baz=126,slow=28						
PDGK	**Pogornoye**	**4.41**	**49**	⇑Pg	**Pg**	**23 42 59.6**	**-1.0**
	2.0nm,0.6s						
PDGK				⇑Lg	Lg	23 43 55.7	
	5.3nm,0.7s						

*IDC **23** 00:10:01.8±0.6,35°.58N×140°.75E,h0km,mb4.1/22, mbtmp4.1/26,ML3.5/5,MS3.5/31,Error ellipse: s-maj=16.5km s-min=13.4km az=82.0*
*JMA **23** 00:10:08.0±0.2,35°.71N±0°.6×140°.8E±0°.8,h49km±1km, MD4.2/39,MW4.5/39,NEAR CHOSHI CITY*
JMA Felt II J1 at NEAR CHOSHI CITY .
*NIED **23** 00:10:08.0,35°.66N×140°.75E,h49km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}4.99; $M_{\theta\theta}$-0.44; $M_{\phi\phi}$-4.54; $M_{r\theta}$-0.15; $M_{\theta\phi}$-0.34; $M_{\phi r}$3.76; Fault plane solution: $M_0$6.08000×10¹⁵ NP1: φs188.00000°,δ26.00000°,λ97.00000°. NP2:φs1.00000°, δ64.00000°,λ87.00000°.*
*NEIC **23** 00:10:09.8,35°.61N×140°.68E,h49km*
*NEIC **23** 00:10:09.9±1.3,35°.62N±0°.06×140°.66E±0°.09,h49km±6km, mb4.5/76,Mwr4.4/15,Error ellipse: s-maj=10.9km s-min=8.1km az=114.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; M_{rr}2.27; $M_{\theta\theta}$0.69; $M_{\phi\phi}$-2.96; $M_{r\theta}$-1.69; $M_{\theta\phi}$-0.68; $M_{\phi r}$4.17; Fault plane solution: $M_0$5.28000×10¹⁵ NP1:φs342.87000°,δ76.61000°, λ71.94000°. NP2:φs217.48000°,δ22.35000°,λ142.47000°. Principal axes: T 5.2883, Plg55.0000°, Azm230.0000°; N -0.0158, Plg18.0000°, Azm347.0000°; P -5.2726, Plg29.0000°, Azm87.0000°;*
*MOS **23** 00:10:11.7±0.8,36°.08N×140°.58E,h69km,mb4.7/26 Error ellipse: s-maj=12.5km s-min=7.3km az=119.9*
ISC 23 00:10:08.7±0.4,**35°.64N**±0°.04×**140°.73E**±0°.05,**h45**km,**n264**, σ1¶**19**/232,**mb4.4**/91,**MS3.6**/27,**6C-7D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.23**	**270**	⇓*iP*	**Pn**	**00 10 17.0**	**+0.2**
JSMT				⇓S	**Sn**	**00 10 24.1**	**+1.7**
JSMT	**Sammumatsuo**	**0.23**	**270**	A	A	00 10 17.0	
	comp=N,53nm,0.8s,comp=E,219nm,1.0s						
JIHU	**Itakohorinouch**	**0.36**	**333**	⇓*iP*	**Pn**	**00 10 18.2**	**+0.1**
JIHU				⇓*eS*	**Sn**	**00 10 25.5**	**+0.9**
JIHU	**Itakohorinouch**	**0.36**	**333**	A	A	00 10 18.2	
	comp=N,49nm,2.0s,comp=E,101nm,4.9s						
JKUC	**kamogawauchiur**	**0.65**	**222**	A	A	00 10 21.4	
	comp=N,17nm,1.7s,comp=E,15nm,1.2s						
JHYU	**Hitachinakayam**	**0.70**	**351**	A	A	00 10 21.6	
	comp=N,12nm,1.6s,comp=E,16nm,1.2s						
BSO4	**Boso 4**	**0.73**	**206**	*iP*	**Pn**	**00 10 22.9**	**+0.3**
JYT	**Yasato**	**0.73**	**324**	P	**Pn**	**00 10 21.9**	**-0.7**
JYT				S	**Sn**	**00 10 32.1**	**-0.6**
JYT	**Yasato**	**0.73**	**324**	A	A	00 10 21.9	
	comp=N,16nm,1.2s,comp=E,18nm,0.4s						
TOK	**Tokyo**	**0.79**	**273**	A	A	00 10 23.2	
	comp=N,22nm,1.1s,comp=E,31nm,1.0s						
BSO3	**Boso 3**	**0.86**	**192**	P	**Pn**	**00 10 24.3**	**+0.1**
JYO	**Yokosk**	**0.96**	**245**	A	A	00 10 25.7	
	comp=N,30nm,0.9s,comp=E,14nm,0.8s						
JHO	**Hitachi**	**0.97**	**352**	A	A	00 10 25.4	
	comp=N,9.0nm,0.9s,comp=E,8.0nm,1.1s						
BSO1	**Boso 1**	**1.01**	**168**	P	**Pn**	**00 10 26.3**	**+0.3**
JSGW	**Sagamiharawaka**	**1.24**	**269**	A	A	00 10 29.6	
	comp=N,7.0nm,1.1s,comp=E,6.0nm,1.1s						
JAG	**Ashikaga**	**1.29**	**307**	*iP*	**Pn**	**00 10 29.6**	**-0.8**
JAG	**Ashikaga**	**1.29**	**307**	A	A	00 10 29.6	
	comp=N,5.0nm,0.7s,comp=E,7.0nm,1.1s						
JOD2	**Odawara 2**	**1.39**	**255**	*iP*	**Pn**	**00 10 31.6**	**-0.2**
JOD2	**Odawara 2**	**1.39**	**255**	A	A	00 10 31.6	
	comp=N,7.0nm,0.9s,comp=E,7.0nm,1.4s						
JIM2	**Oshima 3**	**1.41**	**229**	P	**Pn**	**00 10 30.8**	**-1.1**
JIM2	**Oshima 3**	**1.41**	**229**	A	A	00 10 30.8	
	comp=N,11nm,0.9s,comp=E,13nm,0.9s						
JHTM	**Izuhatsuma**	**1.56**	**245**	A	A	00 10 34.3	
	comp=N,12nm,0.8s,comp=E,13nm,1.3s						
JMM	**Marumori**	**2.22**	**1**		**Pn**	**00 10 43.8**	**+0.7**
JMM	**Marumori**	**2.22**	**1**	P	**Pn**	**00 10 43.7**	**+0.7**
JMM	**Marumori**	**2.22**	**1**	S	**Sn**	**00 11 11.4**	**+2.2**
MJAR	**Matsushiro Arr**	**2.23**	**294**		**Pn**	**00 10 43.9**	**+0.7**
MJAR	**Matsushiro Arr**	**2.23**	**294**	Pn	**Pn**	**00 10 43.5**	**+0.3**
	comp=E,5.1nm,0.3s,baz=93,slow=12,SNR=84						
MJAR				Sn	**Sn**	**00 11 14.7**	**+5.2**
	comp=E,5.6nm,0.3s,baz=52,slow=43,SNR=3.0						
MJAR				LR	LR	00 11 22.1	
	comp=E,346nm,20.3s,baz=146,slow=35						
MJAR	**Matsushiro Arr**	**2.23**	**294**	P	**Pn**	**00 10 43.9**	**+0.7**
MAJO	**Matsushiro**	**2.23**	**294**		**Pn**	**00 10 43.7**	**+0.5**
MAJO	**Matsushiro**	**2.23**	**294**	P	**Pn**	**00 10 45.1**	**+1.9**
MAJO	**Matsushiro**	**2.23**	**294**	S	**Sn**	**00 11 14.3**	**+4.7**
MAJO	**Matsushiro**	**2.23**	**294**	P	**Pn**	**00 10 43.7**	**+0.5**
MJB9	**Matsu-Tunnel**	**2.23**	**295**		**Pn**	**00 10 44.9**	**+1.6**
JSG	**Sagara**	**2.30**	**246**		**Pn**	**00 10 45.0**	**+0.9**
JSG	**Sagara**	**2.30**	**246**	P	**Pn**	**00 10 46.6**	**+2.5**
JHJ2	**Mitsune**	**2.63**	**197**		**Pn**	**00 10 48.8**	**0.0**
JHJ2	**Mitsune**	**2.63**	**197**	P	**Pn**	**00 10 48.5**	**-0.3**
JHJ2	**Mitsune**	**2.63**	**197**	S	**Sn**	**00 11 20.4**	**+0.9**
JGF	**Kuroka**	**2.75**	**270**		**Pn**	**00 10 51.3**	**+1.0**
JGF	**Kuroka**	**2.75**	**270**	P	**Pn**	**00 10 52.0**	**+1.7**
INU	**Inuyama**	**3.04**	**266**		**Pn**	**00 10 54.8**	**+0.5**
INU	**Inuyama**	**3.04**	**266**	P	**Pn**	**00 10 56.0**	**+1.7**
JSD	**Sado**	**3.10**	**321**	P	**Pn**	**00 10 57.1**	**+1.9**
JTM	**Tenmabayashi**	**5.14**	**3**		**Pn**	**00 11 23.4**	**+0.3**
JTM	**Tenmabayashi**	**5.14**	**3**	P	**Pn**	**00 11 23.9**	**+0.7**
JTM	**Tenmabayashi**	**5.14**	**3**	S	**Sn**	**00 12 23.2**	**+2.0**
JMN	**Monobe**	**5.96**	**253**	Pn	**Pn**	**00 11 34.6**	**+0.2**
ERM	**Erimo**	**6.64**	**16**	Pn	**Pn**	**00 11 43.6**	**-0.1**
ERM	**Erimo**	**6.64**	**16**	P	**Pn**	**00 11 43.4**	**-0.3**
ERM	**Erimo**	**6.64**	**16**	P	**Pn**	**00 11 43.6**	**-0.1**
JNU	**Nakatsue**	**8.52**	**256**		**Pn**	**00 12 09.6**	**0.0**
JNU	**Nakatsue**	**8.52**	**256**	Pn	**Pn**	**00 12 06.7**	**-2.9**
	comp=E,0.4nm,0.3s,baz=60,slow=12,SNR=5.4						
JNU				LR	LR	00 15 48.8	
	comp=E,680nm,18.8s,baz=68,slow=41 comp=E,2.2nm,0.4s						
ASAJ	**Asahikawa**	**8.58**	**9**	Pn	**Pn**	**00 12 06.2**	**-4.1**
	comp=E,1.9nm,0.3s,baz=210,slow=11,SNR=6.0						
ASAJ				LR	LR	00 16 16.9	
	comp=E,128nm,21.1s,baz=254,slow=43 comp=E,5.7nm,0.6s						
JKA	**Kamikawa-asahi**	**8.58**	**9**	Pn	**Pn**	**00 12 10.1**	**-0.3**
JCJ	**Chichijima**	**8.61**	**171**	Pn	**Pn**	**00 12 04.7**	**-6.1**
	comp=E,0.1nm,0.3s,baz=48,slow=8.5,SNR=7.3						
TEY	**Ternei**	**9.89**	**343**	*eP*	**Pn**	**00 12 23.5**	**-4.7**
KSRS	**Korea Array**	**10.46**	**284**	Pn	**Pn**	**00 12 33.6**	**-2.4**
	comp=E,0.3nm,0.3s,baz=102,slow=14,SNR=9.1 comp=E,0.5nm,0.4s						
USRK	**Ussuriysk Ar.**	**10.86**	**325**	Pn	**Pn**	**00 12 41.2**	**-0.3**
	comp=E,0.1nm,0.3s,baz=132,slow=12,SNR=3.3						
USRK				LR	LR	00 16 43.7	
	comp=E,165nm,18.1s,baz=152,slow=37 comp=E,2.1nm,0.7s						
JOW	**Kunigami**	**13.80**	**234**	LR	LR	00 18 27.3	
	comp=E,162nm,20.7s,baz=318,slow=37						
BNX	**BinXian**	**14.26**	**319**	⇑P	**Pn**	**00 13 27.3**	**-0.5**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.5s						
PETK	**Petropavlovsk-**	**21.17**	**29**	P	**P**	**00 14 48.8**	**-1.2**
	comp=Z,2.4nm,0.9s,baz=175,slow=8.0,SNR=2.9						
PETK				LR	LR	00 22 55.7	
	comp=Z,43nm,21.6s,baz=221,slow=36 comp=Z,2.4nm,0.9s						
PET	**Petropavlovsk**	**21.49**	**30**	P	**P**	**00 14 54.4**	**+1.0**
	comp=Z,6.4nm,0.4s						
HHC	**Hu-ho-hao-te**	**23.43**	**292**	*

E23K Chandalar 49.91 27 P P 00 18 58.3 +0.8
E23K IAmb IAmb 00 19 08.3
comp=Z,6.3nm,1.2s
NEA2 Nenana 50.03 32 P P 00 18 59.2 +0.9
NEA2 IAmb IAmb 00 19 00.6
comp=Z,6.2nm,1.4s
E24K Your Creek 50.33 27 P P 00 19 02.6 +1.9
E24K IAmb IAmb 00 19 16.2
comp=Z,8.5nm,1.4s
H24K Noodor Dome 50.53 30 P P 00 19 03.1 +1.0
H24K IAmb IAmb 00 19 10.8
comp=Z,4.3nm,1.2s
AAK Ala-Archa 50.67 299 LR LR 00 42 02.1
comp=Z,78nm,19.1s,baz=112,slow=38
AAK Ala-Archa 50.67 299 *i* P P 00 19 03.0 -0.8
AAK pmax pmax
comp=Z,2.0nm,0.9s
POKR Poker Plat Res 50.72 31 P P 00 19 04.2 +0.6
SCM Sheep Creek Mo 50.91 36 P P 00 19 05.3 +0.1
SCM IAmb IAmb 00 19 43.3
comp=Z,8.8nm,1.3s
SCM Sheep Creek Mo 50.91 36 P P 00 19 05.3 +0.1
SCM pmax pmax
comp=Z,9.0nm,1.3s
ILAR Eielson Array 50.96 32 P P 00 19 05.2 -0.3
comp=Z,1.2nm,0.8s,baz=274,slow=5.7,SNR=10
comp=Z,1.2nm,0.8s
ILAR Eielson Array 50.96 32 *eP* P 00 19 06.1 +0.7
ILAR pmax pmax
comp=Z,1.0nm,0.9s
GLI Glacier Island 51.10 37 P P 00 19 07.3 +0.8
BVAR Borovoye Array 51.11 313 P P 00 19 06.5 -0.2
comp=Z,3.4nm,0.8s,baz=94,slow=9.1,SNR=15
BVAR PcP PcP 00 20 21.9 +0.1
comp=Z,1.0nm,0.6s,baz=83,slow=4.6,SNR=3.6
BVAR LR LR 00 40 53.8
comp=Z,32nm,18.4s,baz=119,slow=36
comp=Z,3.4nm,0.8s
D25K Kavik River 51.14 26 P P 00 19 07.9 +1.2
BRVK Borovoye 51.16 313 P P 00 19 07.7 +0.6
BRVK IAmb IAmb 00 19 08.6
comp=Z,3.5nm,0.8s
BRVK Borovoye 51.16 313 *ceP* P 00 19 07.1 0.0
BRVK pmax pmax
comp=Z,3.0nm,0.7s
F25K Christian Rive 51.40 28 P P 00 19 09.8 +1.0
FID Port Fidalgo 51.41 37 P P 00 19 09.2 +0.4
FID IAmb IAmb 00 19 38.0
comp=Z,4.4nm,1.0s
E25K Arctic Village 51.43 27 P P 00 19 10.6 +1.7
KLU Klutina 51.61 36 P P 00 19 11.4 +1.0
KLU IAmb IAmb 00 19 28.0
comp=Z,3.2nm,0.9s
BMAR Burnt Mountain 51.82 28 P P 00 19 14.3 +2.5
F26K Sheenjek River 51.97 28 P P 00 19 14.9 +1.9
F26K IAmb IAmb 00 19 16.3
comp=Z,3.8nm,1.1s
ARSB Arslanbob 52.12 298 P P 00 19 15.6 +0.9
ARSB IAmb IAmb 00 19 23.3
comp=Z,6.4nm,0.9s
ARSB Arslanbob 52.12 298 P P 00 19 15.6 +0.9
ARSB pmax pmax
comp=Z,6.0nm,0.9s
KNRA Kununurra 52.28 195 P P 00 19 15.7 0.0
GSI Gunungsitoli 52.61 239 P P 00 19 17.1 -1.2
E27K Coleen River 52.91 27 P P 00 19 21.1 +1.2
H27K Steamboat Moun 53.10 30 P P 00 19 23.5 +2.2
L27K Beaver Creek, 53.34 34 P P 00 19 23.6 +0.5
KK31 Karatay Array 53.35 301 P P 00 19 23.1 -0.4
KK31 IAmb IAmb 00 19 32.4
comp=Z,5.7nm,1.1s
KK31 Karatay Array 53.35 301 P P 00 19 23.1 -0.4
KK31 pmax pmax
comp=Z,6.0nm,1.2s
KKAR Karatay Array 53.35 301 P 00 19 23.4 -0.1
KKAR Karatay Array 53.35 301 P P 00 19 23.4 -0.1
BCAR Beaver Creek A 53.35 34 P P 00 19 24.1 +0.8
I28M Miner Creek 53.84 31 P P 00 19 27.8 +0.9
E29M Blow River 54.26 27 P P 00 19 30.8 +1.1
H29M Whitestone 54.37 30 P P 00 19 32.7 +2.1
H29M IAmb IAmb 00 20 02.5
comp=Z,4.1nm,1.2s
G29M Pine Creek 54.41 29 P P 00 19 32.2 +1.4
G29M IAmb IAmb 00 19 34.1
comp=Z,6.5nm,1.1s
M29M Somme Creek 54.96 34 P P 00 19 35.5 +0.4
L29M L29M 54.99 33 P 00 19 36.2 +1.1
L29M IAmb IAmb 00 19 47.5
comp=Z,2.8nm,0.8s
EPYK Eagle Plains 55.01 29 P P 00 19 36.0 +0.7
EPYK IAmb IAmb 00 19 37.9
comp=Z,6.5nm,1.1s
G30M tAoh Zraii Nji 55.10 28 P P 00 19 37.6 +1.7
G30M IAmb IAmb 00 20 12.2
comp=Z,3.8nm,1.1s
F30M Barrier River 55.16 28 P P 00 19 36.8 +0.5
F30M IAmb IAmb 00 19 58.2
comp=Z,11nm,1.4s
FITZ Fitzroy Crossi 55.33 198 P P 00 19 38.2 +0.3
FITZ Fitzroy Crossi 55.33 198 P P 00 19 37.4 -0.6
comp=Z,7.1nm,0.7s,baz=22,slow=6.9,SNR=18
comp=Z,7.1nm,0.7s
I30M Mount Dempster 55.35 31 P 00 19 38.7 +0.9
I30M IAmb IAmb 00 19 40.4
comp=Z,3.2nm,0.9s
WB0 Warramunga Arr 55.43 187 P P 00 19 37.9 -0.8
J30M Hart River 55.49 31 P P 00 19 40.2 +1.3
WR8 Warramunga Arr 55.61 187 P P 00 19 39.5 -0.5
WRA Warramunga Arr 55.61 187 P 00 19 38.5 -1.5
WRA Warramunga Arr 55.61 187 P P 00 19 38.6 -1.4
comp=Z,3.5nm,0.7s,baz=0.9,slow=7.6,SNR=27
comp=Z,3.5nm,0.7s
WRA Warramunga Arr 55.61 187 *i* P P 00 19 37.9 -2.1
WRA pmax pmax
comp=Z,4.0nm,0.6s
SVE Sverdlovsk 55.83 319 *eP* P 00 19 41.6 +0.4
SVE pmax pmax
comp=Z,8.0nm,0.9s
G31M Satah River 55.87 28 P P 00 19 42.1 +0.9
G31M IAmb IAmb 00 19 60.0
comp=Z,3.9nm,1.1s
INK Inuvik 55.87 27 P P 00 19 42.9 +1.6
INK IAmb IAmb 00 20 00.9
comp=Z,3.0nm,0.8s
INK Inuvik 55.87 27 P P 00 19 42.9 +1.6
INK pmax pmax
comp=Z,3.0nm,0.8s
H31M Peel River 56.06 30 P 00 19 43.7 +0.9
H31M IAmb IAmb 00 19 51.8
comp=Z,8.8nm,1.2s
ARTI Arti 57.15 319 P 00 19 50.3 -0.3
ARTI Arti 57.15 319 LR LR 00 46 58.2
comp=Z,27nm,18.5s,baz=84,slow=39
ARTI Arti 57.15 319 *c i* P P 00 19 50.2 -0.3
ARTI *PP pP 00 20 03.7 +0.4
ARTI 00 20 38.4
ARTI 00 21 54.2
ARTI S S 00 27 44.0 +1.6
ARTI SS SS 00 31 30.6 -0.6
ARTI pmax pmax
comp=Z,13nm,1.1s
MMPY Sheldon Lake, 58.16 33 P P 00 19 59.5 +1.8
AS31 Alice Springs 59.34 187 P P 00 20 06.9 +0.7
ASAR Alice Springs 59.34 187 P P 00 20 06.3 +0.1
ASAR Alice Springs 59.34 187 P P 00 20 04.8 -1.4
comp=Z,0.9nm,0.6s,baz=20,slow=9.6,SNR=13
comp=Z,0.9nm,0.6s
PSA00 Pilbara Seismi 60.25 202 P P 00 20 12.0 -0.4
KIRV Kirov 61.02 323 LR LR 00 48 43.0
comp=Z,56nm,19.5s,baz=67,slow=38
DZM Mont Dzumac 62.36 153 P P 00 20 26.7 -0.1
LVZ Lovozero 63.15 336 P P 00 20 31.0 -0.5
comp=Z,12nm,1.6s
BELG Belogornoye 64.44 317 LR LR 00 50 37.6
comp=Z,38nm,20.5s,baz=67,slow=38
BELG Belogornoye 64.44 317 *i* P P 00 20 39.7 -0.5
BELG pmax pmax
comp=Z,2.0nm,1.1s
KLMR Klimovskoe 64.64 328 *eP* P 00 20 39.4 -1.9
KLMR *e*PP pP 00 20 52.7 -1.6
KLMR pmax pmax
comp=Z,15nm,1.7s
ARCES ARCESS Array B 65.10 339 P P 00 20 43.6 -0.7
comp=Z,2.1nm,0.9s,baz=45,slow=5.7,SNR=4.1
comp=Z,2.1nm,0.9s

ARCES ARCESS Array B 65.10 339 *eP* P 00 20 46.2 +1.9
ARCES pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 65.29 30 P P 00 20 45.2 -0.4
comp=Z,0.6nm,0.8s,baz=307,slow=7.1,SNR=5.0
comp=Z,0.6nm,0.8s
FORT Forrest 67.14 192 P P 00 20 57.7 0.0
MOS Moscow 68.04 324 *eP* P 00 21 02.0 -1.2
OBN Obninsk 68.88 323 *i* P P 00 21 07.8 -0.6
OBN pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 69.78 332 P P 00 21 13.9 0.0
FINES FINESS Array B 69.78 332 P P 00 21 12.8 -1.2
comp=Z,2.3nm,0.8s,baz=36,slow=7.8,SNR=8.6
FINES LR LR 00 53 52.3
comp=Z,35nm,18.3s,baz=68,slow=38
comp=Z,2.3nm,0.8s
FINES FINESS Array B 69.78 332 *eP* P 00 21 14.0 0.0
FINES pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 71.39 311 P P 00 21 24.6 +0.7
comp=Z,3.4nm,0.8s,baz=3.5,slow=2.5,SNR=6.5
comp=Z,3.4nm,0.8s
KIV Kislovodsk 71.40 311 P P 00 21 24.4 +0.1
KIV Kislovodsk 71.40 311 *eP* P 00 21 22.5 -1.7
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV Kislovodsk 71.40 311 P P 00 21 24.5 +0.3
comp=Z,9.7nm,0.9s
L04D Klamath Falls 71.64 51 P P 00 21 27.3 +1.5
L04D IAmb IAmb 00 21 34.5
comp=Z,7.1nm,1.2s
YPT Yellepit 71.65 46 P P 00 21 28.8 +3.2
YPT IAmb IAmb 00 21 30.6
comp=Z,3.5nm,0.8s
GNI Garni 72.09 307 LR LR 00 55 01.2
comp=Z,36nm,19.7s,baz=110,slow=37
O02D Mt. Diablo Mer 72.40 53 P P 00 21 31.3 +1.0
O02D IAmb IAmb 00 21 44.6
comp=Z,4.9nm,1.1s
HOPS Hopland Field 72.84 54 P P 00 21 35.2 +2.4
BPMT Black Pine Rid 74.61 44 P P 00 21 45.7 +2.3
GURO Guroymak-BITLI 74.72 307 P P 00 21 44.4 +0.4
GURO IAmb IAmb 00 21 45.8
comp=Z,5.8nm,0.8s
LYMT Lyon Mountain 74.94 43 P P 00 21 45.3 0.0
AK03 Malin Array Si 75.04 322 P P 00 21 45.3 -0.1
AKASG Malin Array Be 75.06 322 P P 00 21 45.2 -0.3
comp=Z,1.9nm,0.6s,baz=48,slow=6.0,SNR=14
AKASG LR LR 00 57 23.8
comp=Z,50nm,19.8s,baz=45,slow=38
comp=Z,1.9nm,0.6s
AKBB Malin Array Si 75.06 322 P P 00 21 45.0 -0.5
AKBB IAmb IAmb 00 21 46.0
comp=Z,5.7nm,0.9s
AKBB Malin Array Si 75.06 322 P P 00 21 45.0 -0.5
AKBB pmax pmax
comp=Z,6.0nm,1.0s
AKBB Malin Array Si 75.06 322 P P 00 21 45.4 -0.1
AK01 Malin Array Si 75.07 322 P P 00 21 45.3 -0.3
KIEV Kiev 75.07 322 P P 00 21 44.9 -0.7
KIEV IAmb IAmb 00 21 46.0
comp=Z,5.1nm,0.9s
KIEV Kiev 75.07 322 P P 00 21 44.9 -0.7
KIEV pmax pmax
comp=Z,5.0nm,1.0s
KIEV Kiev 75.07 322 P P 00 21 45.4 -0.2
comp=Z,24nm,1.5s
AK04 Malin Array Si 75.07 322 P P 00 21 45.3 -0.3
AK09 Malin Array Si 75.08 322 P P 00 21 45.4 -0.3
HFS Hagfors 75.12 336 P P 00 21 45.7 0.0
comp=Z,1.9nm,0.8s,baz=104,slow=6.3,SNR=4.8
HFS LR LR 00 56 51.3
comp=Z,44nm,19.3s,baz=55,slow=37
comp=Z,1.9nm,0.8s
NC204 NORSAR Array S 75.21 337 P P 00 21 46.0 -0.3
NB2 NORSAR Subarra 75.25 337 P P 00 21 46.3 -0.2
comp=Z,3.6nm,0.8s,baz=40,slow=6.2
NOA NORSAR Array B 75.25 337 P P 00 21 45.7 -0.9
comp=Z,2.3nm,0.8s,baz=40,slow=5.8,SNR=12
NOA LR LR 00 57 31.3
comp=Z,29nm,20.1s,baz=95,slow=38
comp=Z,2.3nm,0.8s
RNPP9 Sopachiv 76.23 324 P P 00 21 52.3 +0.1
NVAR Mina Array Bea 76.27 53 P P 00 21 53.3 +0.3
NVAR Mina Array Bea 76.27 53 P P 00 21 53.0 0.0
comp=Z,1.1nm,0.7s,baz=301,slow=4.4,SNR=5.4
comp=Z,1.1nm,0.7s
LUBAR Lubar, Ukraine 76.28 322 P P 00 21 52.2 -0.3
RNPP5 Staryi Chortor 76.35 324 P P 00 21 53.1 +0.2
MZP Montezuma Peak 77.28 53 P P 00 21 58.0 -0.8
MZP IAmb IAmb 00 22 34.5
comp=Z,3.7nm,0.6s
NDNU Novodnistrovsk 77.32 321 P P 00 21 58.7 +0.2
HORU Horodok 77.40 322 P P 00 21 58.6 -0.3
KMPD K-Podol'skiy 77.80 322 P P 00 22 00.2 -0.9
KWP Kalwaria Pacla 78.93 324 P P 00 22 07.5 +0.1
comp=Z,14nm,1.4s
PDAR Pinedale Array 79.04 45 P P 00 22 09.1 +0.7
PDAR Pinedale Array 79.04 45 P P 00 22 08.9 +0.5
comp=Z,0.4nm,0.6s,baz=337,slow=1.9,SNR=5.7
comp=Z,0.4nm,0.6s
BR131 Keskin Array S 79.36 311 *i* P P 00 22 09.4 -0.7
BRTR Keskin Array B 79.36 311 P P 00 22 10.6 +0.5
comp=Z,1.5nm,0.7s,baz=99,slow=6.4,SNR=10
comp=Z,1.5nm,0.7s
BR104 Keskin Array S 79.36 311 P P 00 22 10.2 +0.1
comp=Z,3.4nm,0.8s
BSUT Blindstream Ca 79.72 47 P P 00 22 12.5 +0.2
BSUT IAmb IAmb 00 22 40.6
comp=Z,5.7nm,1.4s
MUKU Mukachevo 79.75 323 P P 00 22 11.9 +0.1
ANTO Ankara 79.78 312 P P 00 22 10.8 -1.5
ANTO IAmb IAmb 00 22 15.5
comp=Z,4.2nm,0.8s
ANTO Ankara 79.78 312 P P 00 22 10.8 -1.5
ANTO pmax pmax
comp=Z,4.0nm,0.8s
BERU Beregovo 79.92 323 P P 00 22 12.8 +0.1
PFO Pinyon Flats O 80.28 56 LR LR 00 50 45.9
comp=Z,42nm,19.8s,baz=242,slow=30
RAYN Ar Rayn 80.67 292 P P 00 22 17.7 +0.4
RAYN IAmb IAmb 00 22 18.0
comp=Z,4.8nm,0.8s
RAYN Ar Rayn 80.67 292 P P 00 22 17.7 +0.4
RAYN pmax pmax
comp=Z,5.0nm,0.8s
SRU San Rafael Swe 80.75 48 P P 00 22 17.6 0.0
SRU San Rafael Swe 80.75 48 P P 00 22 17.6 0.0
SRU pmax pmax
comp=Z,2.0nm,0.7s
KSP Ksiaz 80.99 328 P P 00 22 18.8 +0.3
CLL Collm 82.02 330 P P 00 22 23.1 -0.7
CLL IAmb IAmb 00 22 24.6
comp=Z,5.2nm,0.9s
CLL Collm 82.02 330 *i* P P 00 22 23.7 -0.2
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 82.02 330 *i* P P 00 22 23.7 -0.2
comp=Z,7.0nm,1.0s
Y14A Wickenburg 82.37 54 P P 00 22 25.9 -0.3
Y14A IAmb IAmb 00 22 39.1
comp=Z,3.8nm,0.9s
PV13 Radium Mtn., P 82.38 48 P P 00 22 26.9 +0.5
TCW Tory Channel 82.45 155 P P 00 22 25.4 -0.6
RONA Rosalia, Austr 83.30 326 *i* P P 00 22 29.6 -1.1
comp=Z,6.6nm,0.8s
CONA Conrad Observa 83.33 326 *i* P P 00 22 31.4 +0.5
comp=Z,1.3nm,0.8s
GERES GERESS Array B 83.60 328 P P 00 22 31.6 -0.6
comp=Z,0.3nm,0.4s,baz=46,slow=5.8,SNR=6.4
comp=Z,0.3nm,0.4s
ARSA Arzberg 83.98 326 *i* P P 00 22 34.7 +0.5
comp=Z,3.2nm,1.2s
MOA Molln 84.10 327 *eP* P 00 22 35.8 +1.0
comp=Z,2.9nm,1.3s
BIOA Bad Ischl, Aus 84.50 327 *i* P P 00 22 36.5 -0.3
comp=Z,3.5nm,1.1s
SOKA Soboth 84.64 326 *i* P P 00 22 37.7 +0.2
comp=Z,4.2nm,0.9s
LESA Schwarzleotal 85.12 328 *eP* P 00 22 39.8 -0.2
comp=Z,1.9nm,0.7s
MYKA Terra Mystica 85.30 327 *eP* P 00 22 40.4 -0.5
comp=Z,1.9nm,0.6s
WTTA Wattenberg 85.70 328 *eP* P 00 22 42.5 -0.5
comp=Z,5.3nm,1.8s

RETA Reutte 85.90 329 *i* P P 00 22 43.9 +0.1
comp=Z,5.3nm,1.5s
ANMO Albuquerque 85.91 49 *ce* P P 00 22 45.0 +0.7
ANMO pmax pmax
comp=Z,5.0nm,2.5s
FETA Feichten 86.28 328 *i* P P 00 22 46.1 +0.2
comp=Z,1.9nm,1.0s
DAVA Damuels 86.43 329 *i* P P 00 22 46.3 -0.3
comp=Z,4.7nm,1.0s
SCHQ Schefferville 86.82 16 LR LR 01 04 20.6
comp=Z,39nm,18.6s,baz=344,slow=38
DAVOX Davos/Dischmat 86.83 329 LR LR 01 05 20.2
comp=Z,22nm,18.7s,baz=310,slow=38
LPIG La Paz 90.36 60 LR LR 01 00 02.7
comp=Z,18nm,18.5s,baz=220,slow=33
TXAR Lajitas Array 91.41 52 P P 00 23 11.0 +0.6
comp=Z,0.5nm,0.8s,baz=316,slow=3.5,SNR=4.6
comp=Z,0.5nm,0.8s
SADO Sadowa 92.18 27 LR LR 01 08 28.8
comp=Z,33nm,18.2s,baz=299,slow=38
H03N2 Juan Fernandez 147.41 98 T T 03 14 21.4
baz=289,slow=76,SNR=11
H03N3 Juan Fernandez 147.42 98 T T 03 14 23.4
baz=289,slow=76,SNR=14
H03N1 Juan Fernandez 147.42 98 T T 03 14 22.6
baz=289,slow=76,SNR=13
LPAZ La Paz 147.87 61 PKPbc PKPbc 00 29 50.2 +0.1
comp=Z,2.2nm,0.7s,baz=14,slow=12,SNR=5.6

CATAC 23 00:15:30.1±0.6, 10°N×3°×8°7W±°, h1km, M3.5/14, MLv3.5/14, Error ellipse: s-maj=9.3km s-min=5.5km az=48.4, confirmed, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INDI	**Punta indio, G**	**1.37**	**109**	P	Pb	00 15 57.7	+1.1
INDI	**Punta indio, G**	**1.37**	**109**	S	Sg	00 16 13.9	-0.4
CARN	**Rivas**	**1.54**	**56**	P	Pn	00 15 57.1	-1.7
CARN				S	Sn	00 16 18.6	-0.9
JAPN	**AI SSO del Vol**	**1.65**	**43**	P	Pn	00 15 58.2	-2.0
MORN	**AI O del Volca**	**1.68**	**43**	P	Pn	00 15 58.1	-2.6
NANN	**Nandasmo**	**1.75**	**23**	S	Sn	00 16 24.1	-0.6
NANN	**Nandasmo**	**1.75**	**23**	P	Pn	00 16 00.8	-1.0
JTS	**Las Juntas de**	**1.84**	**91**	P	Pb	00 16 03.9	-0.7
UNAN	**Cigeo UNAN**	**1.87**	**17**	P	Pb	00 16 04.6	-0.4
SAPS	**Ciudad Sandino**	**1.89**	**12**	P	Pn	00 16 02.0	-1.5
SAPS	**Ciudad Sandino**	**1.89**	**12**	S	Sg	00 16 32.0	+1.1
WILN	**Americas 2**	**1.94**	**19**	P	Pb	00 16 05.7	-0.6
WILN				S	Sn	00 16 27.0	-2.2
MOM2	**El Cardon**	**2.14**	**9**	P	Pb	00 16 09.7	0.0
SOCE	**Pocosol**	**2.17**	**88**	P	Pb	00 16 09.2	-1.1
CNGN	**Cerro Negro**	**2.18**	**3**	P	Pn	00 16 06.1	-1.5
ACON	**Acoyapa**	**2.31**	**44**	P	Pn	00 16 06.6	-2.7
BOAB	**BOACO BROADBAN**	**2.41**	**28**	P	Pn	00 16 08.2	-2.4
COVE	**Coope Vega, Sa**	**2.41**	**80**	P	Pn	00 16 10.8	+0.1
MATN	**Matagalpa**	**2.74**	**19**	P	Pn	00 16 14.9	-0.5
ESPN	**Las Esperanzas**	**3.10**	**53**	P	Pn	00 16 19.0	-1.2

*IDC **23** 00:16:34.4±1.3, 4.°07N×128.°30E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=95.8km s-min=17.9km az=73.0.*

ISC 23 00:16:40.2±1.6, 4.°2N×0.°2×128.°7E±0.°7, h46km, n8, σ0°86/8, mb3.9/8, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.34**	**188**	P	**P**	**00 21 33.5**	**-0.8**
	3.3nm,1.0s,baz=22,slow=11,SNR=2.4						
	3.3nm,1.0s						
WRA	**Warramunga Arr**	**24.60**	**167**	P	**P**	**00 21 55.0**	**-1.4**
	2.2nm,0.7s,baz=345,slow=10,SNR=13						
	2.2nm,0.7s						
ASAR	**Alice Springs**	**28.14**	**170**	P	**P**	**00 22 29.1**	**+0.8**
	0.7nm,0.6s,baz=351,slow=10.0,SNR=4.8						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**58.32**	**324**	P	**P**	**00 26 30.2**	**-0.5**
	0.5nm,0.4s,baz=117,slow=8.4,SNR=5.0						
	0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**61.10**	**332**	P	**P**	**00 26 49.2**	**-0.3**
	0.4nm,0.4s,baz=126,slow=7.3,SNR=1.6						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**62.44**	**327**	P	**P**	**00 26 58.6**	**0.0**
	0.7nm,0.5s,baz=120,slow=6.3,SNR=7.9						
	0.7nm,0.5s						
BVAR	**Borovoye Array**	**68.03**	**326**	P	**P**	**00 27 35.2**	**+0.4**
	0.3nm,0.3s,baz=94,slow=9.1,SNR=4.0						
	0.3nm,0.3s						
ARCES	**ARCESS Array B**	**90.70**	**340**	P	**P**	**00 29 38.0**	**+0.2**
	1.7nm,0.9s,baz=57,slow=4.5,SNR=5.7						
	1.7nm,0.9s						

*PRU **23** 00:21:28.0, 50.°21N×18.°74E, h0km*

IPEC 23 00:21:26.6±0.2, 50.°25N×18.°77E, h1km, ML1.5/4, Error ellipse: s-maj=2.0km s-min=0.9km az=174.0, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.58**	**224**	*e*PG	Pg	00 21 38.3	+0.7
OKC				*e*SG	Sg	00 21 45.2	+0.1
	comp=Z,15nm,0.8s						
OJC	**Ojcow**	**0.66**	**93**	*e*Pg	Pg	00 21 39.3	0.0
OJC				*e*Sg	Sg	00 21 49.0	+1.2
STEB	**Steborice**	**0.72**	**244**	*e*PG	Pg	00 21 40.7	+0.4
MORC	**Moravsky Berou**	**0.92**	**239**	*e*Pg	Pg	00 21 44.1	-0.2
	baz=58						
MORC				*e*Sg	Sg	00 21 55.4	-0.8
	10.0nm,0.6s,baz=58						
LANS	**Liptovska Anna**	**1.20**	**157**	*e*PG	Pg	00 21 49.6	+0.1
LANS				*e*SG	Sb	00 22 05.6	-0.4
KRLC	**Kraliky**	**1.29**	**263**	*e*PG	Pg	00 21 50.4	-0.9
KRLC				*e*SG	Sb	00 22 08.5	-0.2
	comp=Z,4.3nm,0.4s						
NIE	**Niedzica**	**1.30**	**130**	*e*Pg	Pg	00 21 51.4	0.0
NIE				*e*Sg	Sb	00 22 09.0	+0.1
DPC	**Dobruska-Polom**	**1.57**	**274**	*e*PG	Pn	00 21 55.5	-0.2
DPC				*e*SG	Sg	00 22 17.2	+0.2
	comp=Z,4.7nm,0.6s						
OSTC	**Ostas**	**1.66**	**281**	*e*PG	Pg	00 21 58.3	-0.1
KSP	**Ksiaz**	**1.68**	**291**	*e*Pg	Pg	00 21 58.8	0.0
KSP				*e*Sg	Sg	00 22 21.5	+0.8
VRAC	**Vranov**	**1.70**	**237**	*e*Pn	Pn	00 21 57.2	-0.2
	baz=55						
VRAC				*e*Sg	Sn	00 22 19.5	-0.2
	5.3nm,0.4s,baz=55						
VYHS	**Vyhne**	**1.76**	**178**	*e*PN	Pn	00 21 57.6	-0.7
VYHS				*e*SN	Sn	00 22 19.7	-1.6
STHS	**Stebnicka Huta**	**1.81**	**117**	*e*PN	Pb	00 21 59.9	-0.6
STHS				*e*SN	Sb	00 22 23.5	-0.2
STHS				*e*LG	Lg	00 22 32.1	
KRUC	**Moravsky**	**1.95**	**233**	*e*Pn	Pn	00 22 00.8	0.0
	baz=51						
KRUC				*e*Sg	Sb	00 22 27.6	-0.1
	1.5nm,0.3s,baz=51						
KOLS	**Kolonicke sedl**	**2.64**	**119**	*e*SN	Sn	00 22 42.7	-0.2
KOLS				*e*LG	Lg	00 22 48.3	
CKRC	**Cesky Krumlov**	**3.24**	**245**	*e*SG	Sg	00 23 09.4	-1.2

TRN 23 00:24:42.2, 18.°48N×62.°68W, h3km, MD3.5, North-east of Anguilla., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	**Saint Kitts**	**1.14**	**183**	*e*P	Pn	00 25 06.5	+1.4
SKI				*e*S	Sn	00 25 24.7	+3.5
ANWB	**Willy Bob**	**1.17**	**133**	*e*P	Pn	00 25 06.6	+1.1
ANWB				*e*S	Sn	00 25 24.5	+2.6
SKOC	**St. Kitts, UWI**	**1.18**	**183**	*e*S	Sn	00 25 25.6	+3.5
MBFL	**Flemmings, Mon**	**1.78**	**166**	*e*P	Pg	00 25 16.4	+0.2
MBFL				*e*S	Sg	00 25 42.3	+3.0
ATGZ	**Broadband at L**	**2.54**	**159**	*e*P	Pb	00 25 27.2	-1.1
ATGZ				*e*S	Sb	00 25 59.1	-0.9
DSDZ	**La Diserade, G**	**2.65**	**144**	*e*P	Pb	00 25 29.1	-1.2
DSDZ				*e*S	Sb	00 26 02.7	-0.4
TBG	**Guadaloupe-3**	**2.79**	**159**	*e*P	Pn	00 25 30.2	+2.4
DSLB	**Salisbury**	**3.25**	**158**	*e*P	Pb	00 25 37.6	-3.0
DSLB				*e*S	Sb	00 26 17.9	-2.8

*IDC **23** 00:32:53.1±1.4, 26.°89N×127.°26E, h109km±18km, mb3.8/12, mbtmp4.1/15, Error ellipse: s-maj=37.3km s-min=30.3km az=73.0*

*JMA **23** 00:32:54.4±0.3,27°N±1°×12°7E±°, h97km±3km, MD3.6/23, MV4.3/23, NW OFF OKINAWAJIMA IS*
*NEIC **23** 00:32:54.0±2.0, 26.9°N±0.1°×127.30°E±0.08, h115km±6km, mb4.4/34, Error ellipse: s-maj=14.9km s-min=9.5km az=167.0*
*NIED **23** 00:32:54.4, 27.03°N×127.21E, h97km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.40; $M_{\theta\theta}$=0.50; $M_{\phi\phi}$2.90; $M_{r\theta}$=4.08; $M_{\theta\phi}$=-4.15; $M_{\theta\theta}$-6.85; Fault plane solution: $M_0$9.11000×10^{14} NP1: ϕ_S116.00000°, δ32.00000°, λ-165.00000°. NP2: ϕ_S13.00000°, δ82.00000°, λ-58.00000°.*

ISC 23 00:32:53.5±0.7, 26.89N±0.05×127.32E±0.05, h113km±6km, n100, σ1§27/114, mb4.3/29, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.31**	**192**	*i* P	**Pn**	**00 33 09.6**	**-0.1**
JAGN				S	**Sn**	**00 33 20.9**	**-0.9**
JAGN	**Aguni-jima**	**0.31**	**192**	A	A	00 33 09.6	
	comp=N,6.0nm,0.6s,comp=E,9.0nm,0.8s						
JIH	**Iheya**	**0.60**	**76**	*i* P	**Pn**	**00 33 11.8**	**+0.4**
JIH				S	**Sn**	**00 33 24.2**	**-0.6**
JIH	**Iheya**	**0.60**	**76**	A	A	00 33 11.8	
	comp=N,7.0nm,2.1s,comp=E,5.0nm,0.7s						
JNTH	**Nagotoyohara**	**0.73**	**120**	*i* P	**Pn**	**00 33 13.5**	**+1.1**
JKE	**Kume jima 2**	**0.74**	**220**	*i* P	**Pn**	**00 33 12.4**	**-0.1**
JKE				S	**Sn**	**00 33 25.6**	**-1.2**
JKE	**Kume jima 2**	**0.74**	**220**	A	A	00 33 12.4	
	comp=N,6.0nm,0.3s,comp=E,7.0nm,0.5s						
JJT3	**Tamagusuku3**	**0.85**	**151**	*i* P	**Pn**	**00 33 15.5**	**+1.9**
JJT3				S	**Sn**	**00 33 30.9**	**+2.3**
JOW	**Kunigami**	**0.86**	**94**	P	**Pn**	**00 33 14.3**	**+0.8**
	comp=E,1μm,0.2s,baz=284,slow=8.1,SNR=440						
JOW				S	**Sn**	**00 33 28.5**	**-0.2**
	comp=E,707nm,0.2s,baz=56,slow=26,SNR=4.4						
JOW	**Kunigami**	**0.86**	**94**	P	**Pn**	**00 33 14.1**	**+0.6**
JOW	**Kunigami**	**0.86**	**94**	*i* P	**Pn**	**00 33 14.4**	**+0.8**
JOW				S	**Sn**	**00 33 28.7**	**+0.1**
JYRO	**Yoronjima**	**1.02**	**82**	*i* P	**Pn**	**00 33 16.0**	**+0.9**
JYRO				S	**Sn**	**00 33 31.2**	**-0.2**
JOKE	**Okinoerabujima**	**1.21**	**67**	*i* P	**Pn**	**00 33 17.5**	**+0.3**
JOKE				S	**Sn**	**00 33 34.1**	**-1.0**
JTK	**Tokunoshima**	**1.70**	**58**	*i* P	**Pn**	**00 33 23.1**	**+0.2**
JTK				S	**Sn**	**00 33 43.9**	**-1.5**
JAMN	**Amaminishikomi**	**2.13**	**50**	*i* P	**Pn**	**00 33 28.0**	**-0.2**
JAMN				S	**Sn**	**00 33 52.5**	**-2.3**
JAM	**Amami Oshima**	**2.53**	**53**	*i* P	**Pn**	**00 33 33.4**	**0.0**
JAM				S	**Sn**	**00 34 03.0**	**-1.1**
JZK	**Kikaishima**	**2.75**	**58**	*i* P	**Pn**	**00 33 36.8**	**+0.5**
JZK				*e*S	**Sn**	**00 34 09.9**	**+0.7**
JTAJ	**Takarajima**	**2.80**	**36**	*i* P	**Pn**	**00 33 37.1**	**+0.1**
JTAJ				*e*S	**Sn**	**00 34 09.6**	**-0.8**
JMZ	**Minamidaito 2**	**3.66**	**106**	Pn	**Pn**	**00 33 48.2**	**-0.2**
JMZ				Sn	**Sn**	**00 34 27.9**	**-3.0**
JMZ	**Minamidaito 2**	**3.66**	**106**	P	**Pn**	**00 33 48.2**	**-0.2**
JMZ				*e*S	**Sn**	**00 34 27.9**	**-3.0**
JKDJ	**Kitadaitoujima**	**3.69**	**104**	*e*S	**Sn**	**00 34 29.1**	**-2.4**
JNN	**Nakanoshima**	**3.70**	**37**	P	**Pn**	**00 33 49.4**	**+0.5**
JKC	**Kuchinoerabu**	**4.36**	**35**	P	**Pn**	**00 33 57.3**	**-0.5**
YOJ	**Yonaguni jima**	**4.58**	**239**	Pn	**Pn**	**00 34 00.3**	**-0.4**
YOJ	**Yonaguni jima**	**4.58**	**239**	P	**Pn**	**00 34 00.2**	**-0.5**
TATO	**Taipei**	**5.58**	**251**	Pn	**Pn**	**00 34 15.4**	**+1.1**
TATO	**Taipei**	**5.58**	**251**	P	**Pn**	**00 34 16.0**	**+1.7**
YHNB	**Yeheng**	**5.79**	**249**	Pn	**Pn**	**00 34 17.6**	**+0.4**
YHNB	**Yeheng**	**5.79**	**249**	P	**Pn**	**00 34 18.7**	**+1.5**
NACB	**Ninganchiao**	**5.83**	**244**		**Pn**	**00 34 16.2**	**-1.5**
NACB	**Ninganchiao**	**5.83**	**244**	P	**Pn**	**00 34 16.4**	**-1.3**
YULB	**Yu-li**	**6.47**	**239**	Pn	**Pn**	**00 34 23.3**	**-3.1**
YULB	**Yu-li**	**6.47**	**239**	P	**Pn**	**00 34 23.4**	**-2.9**
SSLB	**Suanglung**	**6.53**	**243**	Pn	**Pn**	**00 34 25.9**	**-1.3**
SSLB	**Suanglung**	**6.53**	**243**	P	**Pn**	**00 34 25.8**	**-1.3**
JNU	**Nakatsue**	**6.93**	**26**	Pn	**Pn**	**00 34 32.9**	**+0.4**
JNU	**Nakatsue**	**6.93**	**26**	P	**Pn**	**00 34 33.5**	**+1.0**
	comp=E,18nm,0.5s,baz=198,slow=12,SNR=16						
JNU	**Nakatsue**	**6.93**	**26**	P	**Pn**	**00 34 33.6**	**+1.0**
TWGBT	**Beinan**	**6.97**	**236**	P	**Pn**	**00 34 29.6**	**-3.4**
TWG	**Pinlang**	**6.97**	**236**	Pn	**Pn**	**00 34 29.4**	**-3.6**
TPUB	**Ta-pu**	**7.04**	**241**	Pn	**Pn**	**00 34 32.8**	**-1.2**
TPUB	**Ta-pu**	**7.04**	**241**	P	**Pn**	**00 34 33.5**	**-0.5**
KNMB	**Chin-men Tao**	**8.41**	**255**	Pn	**Pn**	**00 34 51.3**	**-1.3**
JMN	**Monobe**	**8.86**	**38**	Pn	**Pn**	**00 34 56.6**	**-2.1**
JMN	**Monobe**	**8.86**	**38**	P	**Pn**	**00 34 56.9**	**-1.8**
KSRS	**Korea Array**	**10.54**	**3**	P	**Pn**	**00 35 22.4**	**+1.0**
	comp=E,1.3nm,0.8s,baz=175,slow=13,SNR=4.7						
INU	**Inuyama**	**11.83**	**42**	Pn	**Pn**	**00 35 38.0**	**-0.6**
MJAR	**Matsushiro Arr**	**13.35**	**41**	P	**Pn**	**00 35 59.3**	**+0.8**
	comp=E,0.9nm,0.3s,baz=216,slow=18,SNR=1.7						
SONM	**Songino Array**	**26.56**	**327**	P	**P**	**00 38 22.0**	**+1.1**
SONM	**Songino Array**	**26.56**	**327**	P	**P**	**00 38 20.2**	**-0.7**
	comp=E,2.4nm,0.5s,baz=140,slow=11,SNR=9.7						
	comp=E,2.4nm,0.5s						
MK31	**Makanchi Array**	**40.48**	**312**	P	**P**	**00 40 21.0**	**-0.1**
MK31				IAmb	IAmb	00 40 35.1	
	comp=Z,6.7nm,1.2s						
MKAR	**Makanchi Array**	**40.48**	**312**	P	**P**	**00 40 20.6**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=96,slow=9.3,SNR=14						
	comp=Z,0.7nm,0.4s						
MAKZ	**Makanchi**	**40.70**	**311**	P	**P**	**00 40 22.5**	**-0.4**
MAKZ				IAmb	IAmb	00 41 01.3	
	comp=Z,14nm,1.3s						
ZAA0	**Zalesovo Array**	**41.23**	**323**	P	**P**	**00 40 26.2**	**-0.9**
ZALV	**Zalesovo Beam**	**41.23**	**323**	P	**P**	**00 40 26.6**	**-0.5**
ZALV	**Zalesovo Beam**	**41.23**	**323**	P	**P**	**00 40 26.9**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=115,slow=7.6,SNR=9.0						
	comp=Z,1.4nm,0.5s						
KURK	**Kurchatov**	**43.78**	**316**	P	**P**	**00 40 47.5**	**-0.3**
KURK				IAmb	IAmb	00 40 49.4	
	comp=Z,2.1nm,0.4s						
KURBB	**Kurchatov Arra**	**43.81**	**316**	P	**P**	**00 40 47.3**	**-0.8**
	comp=Z,1.9nm,0.4s,baz=106,slow=9.0,SNR=6.0						
	comp=Z,1.9nm,0.4s						
BVAR	**Borovoye Array**	**49.24**	**318**	P	**P**	**00 41 29.6**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=101,slow=8.9,SNR=6.0						
BVAR				PcP	**PcP**	**00 42 52.5**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=90,slow=3.0,SNR=3.8						
	comp=Z,0.8nm,0.5s						
BRVK	**Borovoye**	**49.31**	**318**	P	**P**	**00 41 30.8**	**-0.1**
BRVK				IAmb	IAmb	00 41 32.7	
	comp=Z,3.8nm,1.1s						
J17K	**VABM Dome**	**58.99**	**30**	P	**P**	**00 42 42.4**	**+1.4**
J17K				IAmb	IAmb	00 43 16.0	
	comp=Z,6.7nm,1.3s						
C19K	**Lookout Ridge**	**59.13**	**24**	P	**P**	**00 42 42.8**	**+0.9**
G18K	**Tagagawik**	**59.26**	**27**	P	**P**	**00 42 43.5**	**+0.7**
D19K	**Kuna River**	**59.61**	**24**	P	**P**	**00 42 46.5**	**+1.3**
E19K	**Redstone River**	**59.89**	**26**	P	**P**	**00 42 48.1**	**+1.0**
E19K				IAmb	IAmb	00 42 49.7	
	comp=Z,4.5nm,1.1s						
H19K	**Roundabout Mou**	**60.16**	**28**	P	**P**	**00 42 50.1**	**+1.1**
H19K				IAmb	IAmb	00 42 51.9	
	comp=Z,3.3nm,1.1s						
D20K	**Etivluk River**	**60.18**	**24**	P	**P**	**00 42 50.0**	**+1.0**
D20K				IAmb	IAmb	00 43 05.0	
	comp=Z,8.2nm,1.4s						
J19K	**Poorman**	**60.53**	**30**	P	**P**	**00 42 53.3**	**+1.8**
J19K				IAmb	IAmb	00 43 13.7	
	comp=Z,4.1nm,1.4s						
J20K	**Nowinta River**	**61.17**	**29**	P	**P**	**00 42 57.7**	**+1.8**
F21K	**Alatna River**	**61.34**	**26**	P	**P**	**00 42 58.5**	**+1.5**
F21K				IAmb	IAmb	00 43 13.2	
	comp=Z,4.8nm,1.4s						
G21K	**Allakaket**	**61.35**	**27**	P	**P**	**00 42 58.4**	**+1.4**
D22K	**Ayikyak River**	**61.61**	**24**	P	**P**	**00 42 59.9**	**+1.1**
H21K	**Melozitna Rive**	**61.67**	**28**	P	**P**	**00 43 01.0**	**+1.8**
H21K				IAmb	IAmb	00 43 02.0	
	comp=Z,3.3nm,1.1s						
PPLA	**Purkeypile**	**62.13**	**31**	P	**P**	**00 43 03.0**	**+0.6**
PPLA				IAmb	IAmb	00 43 38.4	
	comp=Z,9.4nm,1.5s						
D23K	**Nanushuk River**	**62.33**	**24**	P	**P**	**00 43 04.5**	**+1.0**
D23K				IAmb	IAmb	00 43 40.5	
	comp=Z,5.8nm,1.3s						
E23K	**Chandalar**	**62.78**	**25**	P	**P**	**00 43 08.3**	**+1.7**
F24K	**Squaw Lake**	**63.48**	**25**	P	**P**	**00 43 13.1**	**+1.8**
KBZ	**Khabaz**	**68.11**	**309**	P	**P**	**00 43 41.8**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=144,slow=4.0,SNR=6.3						
	comp=Z,3.1nm,0.7s						
ARCES	**ARCESS Array B**	**69.09**	**338**	P	**P**	**00 43 46.3**	**-0.7**
	comp=Z,2.2nm,1.0s,baz=75,slow=5.9,SNR=2.1						
ARCES				PcP	**PcP**	**00 44 10.2**	**0.0**
	comp=Z,1.2nm,0.8s,baz=68,slow=3.6,SNR=3.8						
	comp=Z,2.2nm,1.0s						
FINES	**FINESS Array B**	**71.89**	**330**	P	**P**	**00 44 03.9**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=58,slow=5.4,SNR=20						
	comp=Z,0.8nm,0.3s						
RES	**Resolute Bay**	**75.05**	**11**	P	**P**	**00 44 22.7**	**+0.4**
RES				IAmb	IAmb	00 44 52.1	
	comp=Z,12nm,1.4s						
BR131	**Keskin Array S**	**75.98**	**308**	P	**P**	**00 44 27.5**	**-1.0**
BR131				IAmb	IAmb	00 44 29.9	
	comp=Z,3.8nm,1.0s						
BRTR	**Keskin Array B**	**75.98**	**308**	P	**P**	**00 44 28.8**	**+0.3**
BRTR	**Keskin Array B**	**75.98**	**308**	P	**P**	**00 44 28.9**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=100,slow=4.6,SNR=12						
	comp=Z,2.5nm,0.8s						
HFS	**Hagfors**	**77.86**	**332**	P	**P**	**00 44 38.1**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=88,slow=4.0,SNR=11						
	comp=Z,1.3nm,0.5s						
NC405	**NORSAR Array S**	**78.12**	**333**	P	**P**	**00 44 39.7**	**-0.2**
NC405				IAmb	IAmb	00 45 00.2	
	comp=Z,4.9nm,0.9s						
BUR08	**Bucovina Ar. S**	**78.19**	**318**	P	**P**	**00 44 41.0**	**+0.4**
NC303	**NORSAR Array S**	**78.19**	**334**	P	**P**	**00 44 37.4**	**-2.9**
BURAR	**Bucovina Array**	**78.19**	**317**	P	**P**	**00 44 41.2**	**+0.5**
HOLB	**Holberg**	**78.23**	**39**	P	**P**	**00 44 40.5**	**-0.2**
NB201	**NORSAR Array S**	**78.32**	**333**	P	**P**	**00 44 40.9**	**-0.1**
NB2	**NORSAR Subarra**	**78.36**	**333**	P	**P**	**00 44 40.5**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=55,slow=5.6						
NOA	**NORSAR Array B**	**78.36**	**333**	P	**P**	**00 44 40.8**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=56,slow=5.4,SNR=5.8						
	comp=Z,0.5nm,0.5s						
NC204	**NORSAR Array S**	**78.40**	**334**	P	**P**	**00 44 41.2**	**-0.3**
NC204				IAmb	IAmb	00 45 00.6	
	comp=Z,12nm,1.2s						
ELL	**Elmali**	**79.89**	**306**	P	**P**	**00 44 50.4**	**+0.2**
SUMG	**Summit**	**80.32**	**356**	P	**P**	**00 44 52.1**	**0.0**
SUMG				IAmb	IAmb	00 44 53.9	
	comp=Z,4.4nm,0.8s						
AKAS	**Kas**	**80.34**	**306**	P	**P**	**00 44 51.0**	**-1.6**
TUWZ	**Tuamarina**	**80.52**	**146**	P	**P**	**00 44 54.8**	**+1.8**
CLL	**Collm**	**83.14**	**325**	*i* P	**P**	**00 45 08.1**	**+1.3**
GERES	**GERESS Array B**	**84.18**	**323**	P	**P**	**00 45 12.4**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=50,slow=4.2,SNR=9.1						
	comp=Z,0.8nm,0.7s						

*CATAC **23** 00:40:02.5±0.9, 10°N±4°×8°7W±°, h28km±12km, M3.2/14, MLv3.2/14, Error ellipse: s-maj=14.0km s-min=4.2km az=51.2, confirmed*
*UCR **23** 00:40:04.0±1.0, 10°.59N×86°.62W, h23km±5km, MW3.7*

ISC 23 00:40:02.6±2.2, 10.51N±0.07×86.74W±0.08, h25km±15km, n45, σ0§98/54, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELI1	**Hacienda Flor**	**1.18**	**83**	*e*P	**Pb**	**00 40 24.2**	**-0.1**
ELI1				*e*S	**Sb**	**00 40 40.2**	**+1.1**
ALIBA	**Liberia Airpor**	**1.18**	**86**	*e*P	**Pb**	**00 40 24.0**	**-0.3**
LCRUZ	**La Cruz**	**1.23**	**63**	*e*P	**Pn**	**00 40 23.9**	**-0.3**
JUD3	**Juan Diaz 3**	**1.23**	**106**	*e*P	**Pn**	**00 40 24.3**	**0.0**
LAPC	**Finca la Perla**	**1.31**	**79**	*e*P	**Pn**	**00 40 25.1**	**-0.3**
LAPC				*e*S	**Sn**	**00 40 41.1**	**-1.1**
PG27	**Guanacaste Pro**	**1.37**	**76**	*e*P	**Pn**	**00 40 26.4**	**+0.1**
CARN	**Rivas**	**1.37**	**61**	P	**Pn**	**00 40 26.5**	**+0.3**
CARN				S	**Sb**	**00 40 45.1**	**+0.3**
GPS3	**Bodega del ICE**	**1.38**	**80**	*e*P	**Pb**	**00 40 30.6**	**+3.0**
INDI	**Punta indio, G**	**1.38**	**118**	P	**Pn**	**00 40 26.6**	**+0.4**
INDI	**Punta indio, G**	**1.38**	**118**	S	**Sn**	**00 40 42.8**	**-0.9**
VRLE	**La Escondida,**	**1.38**	**78**	*e*P	**Pn**	**00 40 26.3**	**-0.1**
CMARA	**Lajas Hojancha**	**1.39**	**110**	*e*P	**Pn**	**00 40 26.7**	**+0.3**
CMARA				*e*S	**Sn**	**00 40 42.6**	**-1.4**
GPS1	**Guardaparques**	**1.39**	**79**	*e*P	**Pn**	**00 40 26.5**	**-0.1**
GPS1				*e*S	**Sn**	**00 40 43.0**	**-1.3**
BUAI	**Buenos Aires**	**1.43**	**75**	*e*P	**Pn**	**00 40 27.2**	**+0.2**
JAPN	**AI SSO del Vol**	**1.45**	**46**	*e*P	**Pn**	**00 40 27.7**	**+0.3**
JAPN	**AI SSO del Vol**	**1.45**	**46**	P	**Pn**	**00 40 27.6**	**+0.3**
MORN	**AI O del Volca**	**1.49**	**46**	P	**Pn**	**00 40 28.0**	**+0.1**
MORN				S	**Sb**	**00 40 48.1**	**0.0**
COLC	**Colonia**	**1.52**	**84**	*e*P	**Pn**	**00 40 28.5**	**+0.3**
COLC				*e*S	**Sn**	**00 40 46.4**	**-0.9**
MESS	**Mesas**	**1.54**	**81**	*e*P	**Pn**	**00 40 28.8**	**+0.2**
NANN	**Nandasmo**	**1.54**	**23**	S	**Sb**	**00 40 49.4**	**-0.3**
NANN	**Nandasmo**	**1.54**	**23**	P	**Pb**	**00 40 30.0**	**-0.6**
SABN	**Sabanita**	**1.55**	**22**	P	**Pn**	**00 40 29.3**	**+0.6**
CUI	**Cuipilapa**	**1.56**	**84**	*e*P	**Pn**	**00 40 29.2**	**+0.4**
MOTZ	**Rio Naranjo**	**1.65**	**84**	*e*P	**Pn**	**00 40 30.3**	**+0.3**
UNAN	**Cigeo UNAN**	**1.66**	**16**	P	**Pn**	**00 40 30.3**	**+0.2**
UNAN				S	**Sb**	**00 40 52.4**	**-0.6**
COPN	**Copaltepe**	**1.67**	**5**	*e*P	**Pn**	**00 40 30.2**	**-0.1**
COPN	**Copaltepe**	**1.67**	**5**	P	**Pn**	**00 40 30.5**	**+0.3**
SAPS	**Ciudad Sandino**	**1.68**	**11**	P	**Pn**	**00 40 30.9**	**+0.4**
SAPS	**Ciudad Sandino**	**1.68**	**11**	S	**Sb**	**00 40 52.7**	**-0.9**
JTS	**Las Juntas de**	**1.77**	**97**	*e*P	**Pn**	**00 40 32.2**	**+0.4**
JTS	**Las Juntas de**	**1.77**	**97**	P	**Pn**	**00 40 32.2**	**+0.4**
JTS				S	**Sn**	**00 40 54.4**	**+0.8**
MOMN	**Momotombo**	**1.90**	**6**	P	**Pn**	**00 40 33.6**	**+0.1**
MOM2	**El Cardon**	**1.93**	**7**	P	**Pn**	**00 40 34.2**	**+0.3**
CNGN	**Cerro Negro**	**1.98**	**1**	*e*P	**Pn**	**00 40 36.7**	**+2.2**
CNGN	**Cerro Negro**	**1.98**	**1**	P	**Pn**	**00 40 34.8**	**+0.2**
VARE2	**V. Arenal**	**1.99**	**91**	*e*P	**Pn**	**00 40 36.1**	**+1.4**
CEDE	**Laguna Cedeo**	**2.00**	**90**	*e*P	**Pn**	**00 40 36.4**	**+1.5**
SOCE	**Pocosol**	**2.09**	**93**	S	**Sn**	**00 41 02.1**	**+0.7**
SOCE	**Pocosol**	**2.09**	**93**	P	**Pn**	**00 40 36.0**	**-0.1**
BOAB	**BOACO BROADBAN**	**2.20**	**29**	P	**Pn**	**00 40 37.9**	**+0.4**
CRIN	**San Cristobal**	**2.20**	**352**	P	**Pn**	**00 40 37.8**	**+0.2**
CRIN	**San Cristobal**	**2.20**	**352**	S	**Sn**	**00 41 05.3**	**+1.2**
VICA	**Volcano Irazu**	**2.90**	**100**	*e*P	**Pb**	**00 40 51.1**	**-2.7**
VTLA	**Turrialba Volc**	**2.96**	**100**	*e*P	**Pn**	**00 40 51.3**	**+2.9**
RCPN	**Sur Rio San Ju**	**3.06**	**12**	P	**Pn**	**00 40 49.6**	**0.0**

*DJA **23** 00:45:31.5±0.5, 5°S±5°×12°9E±°, h199km±7km, M4.3/12, mB5.3/1, mb4.5/1, MLv4.2/12, Mw(mB)4.7/1*
*IDC **23** 00:45:35.7±3.8, 4.81S×129.32E, h266km±38km, mb3.2/2, mbtmp3.7/5, Error ellipse: s-maj=74.1km s-min=13.1km az=72.0*

ISC 23 00:45:29.4±0.9, 4.69S±0.06×129.37E±0.07, h200km, n16, σ2§60/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.56**	**73**	P	**Pn**	**00 45 59.7**	**+3.0**
MSAI	**Masohi**	**1.41**	**342**	P	**Pn**	**00 46 03.4**	**+1.0**
MSAI				S	**Sn**	**00 46 28.4**	**+0.4**
AAI	**Ambon**	**1.54**	**310**	P	**Pn**	**00 46 04.7**	**+1.2**
NLAI	**Namlea**	**2.69**	**302**	P	**Pn**	**00 46 17.4**	**+1.9**
FAKI	**Fak Fak**	**3.37**	**59**	P	**Pn**	**00 46 24.9**	**+1.4**
SAUI	**Saumlaki**	**3.79**	**150**	P	**Pn**	**00 46 31.6**	**+2.9**
SWI	**Sorong**	**4.24**	**26**	P	**Pn**	**00 46 34.6**	**+0.3**
SANI	**Sanana**	**4.28**	**308**	P	**Pn**	**00 46 35.4**	**+0.7**
LBMI	**Labuha**	**4.44**	**335**	P	**Pn**	**00 46 37.1**	**+0.3**
KMPI	**Kaimana, Papua**	**4.44**	**77**	P	**Pn**	**00 46 37.7**	**+1.0**
RKPI	**Ransiki, Papua**	**5.74**	**57**	P	**Pn**	**00 46 54.6**	**+1.2**
FITZ	**Fitzroy Crossi**	**13.82**	**195**	P	**Pn**	**00 48 37.8**	**+0.6**
	1.2nm,0.3s,baz=27,slow=10,SNR=13						
WRA	**Warramunga Arr**	**15.91**	**163**	P	**P**	**00 49 02.3**	**-0.2**
	0.5nm,0.5s,baz=343,slow=11,SNR=12						
WRA				S	**S**	**00 51 51.1**	**-8.1**
	1.1nm,0.5s,baz=331,slow=22,SNR=9.7						
ASAR	**Alice Springs**	**19.37**	**167**	P	**P**	**00 49 41.9**	**+1.7**
	1.0nm,0.4s,baz=350,slow=12,SNR=13						
ASAR				S	**S**	**00 53 05.3**	**-3.2**
	2.4nm,0.8s,baz=350,slow=21,SNR=8.5						
MKAR	**Makanchi Array**	**65.97**	**327**	P	**P**	**00 55 53.9**	**-0.4**
	0.6nm,0.7s,baz=116,slow=8.1,SNR=4.7						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**70.23**	**328**	P	**P**	**00 56 20.6**	**-0.1**
	0.4nm,0.4s,baz=127,slow=5.6,SNR=4.8						
	0.4nm,0.4s						

*OMAN **23** 00:55:04.2±0.2, 14°.89N×51°.92E, h24km±2km, ml3.5/2, Error ellipse: s-maj=4.0km s-min=1.0km az=325.0*
*IDC **23** 00:55:06.8±2.3, 14°.85N×52°.54E, h0km, mb4.1/8, mbtmp4.1/8, MS3.4/8, Error ellipse: s-maj=50.4km s-min=29.9km az=9.0*

ISC 23 00:55:08.6±1.3, 15.0N±0.1×52.3E±0.1, h10km, n30, σ1§75/29, mb4.1/8, MS3.4/8, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**2.53**	**21**	P	**Pn**	**00 55 49.2**	**-0.7**
	SNR=29						
ABTO				S	**Sn**	**00 56 21.0**	**+0.1**
RBK	**Rabkut**	**3.08**	**35**	P	**Pn**	**00 55 56.4**	**-1.1**
	SNR=22						
RBK				S	**Sn**	**00 56 34.9**	**+0.5**
WHFO	**Wadi Hawf**	**3.23**	**25**	P	**Pn**	**00 55 57.2**	**-2.3**
	SNR=56						
WHFO				S	**Sn**	**00 56 38.7**	**+0.7**
DMTO	**DMTO**	**3.70**	**42**	P	**Pn**	**00 56 04.4**	**-1.4**
	SNR=20						
DOK	**Doka**	**4.00**	**25**	P	**Pn**	**00 56 07.9**	**-2.1**
	SNR=14						
DOK				S	**Sn**	**00 56 59.0**	**+2.0**
DQM	**DQM**	**6.99**	**45**	P	**Pn**	**00 56 50.2**	**-0.9**
DQM				S	**Sn**	**00 58 14.3**	**+3.6**
MHTO	**MHTO**	**8.02**	**41**	P	**Pn**	**00 57 03.5**	**-1.8**
	SNR=9.0						
MZR	**Muzera**	**8.05**	**8**	P	**Pn**	**00 57 05.0**	**-0.7**
	SNR=7.0						
MZR				S	**Sn**	**00 58 34.4**	**-2.4**
BSY	**Bisya**	**8.99**	**30**	P	**Pn**	**00 57 17.0**	**-1.6**
JMDO	**Jabal Madar**	**9.15**	**36**	P	**Pn**	**00 57 19.7**	**-1.2**
JMDO				S	**Sn**	**00 59 06.4**	**+2.3**
ARQ	**Araqi**	**9.20**	**25**	P	**Pn**	**00 57 18.2**	**-3.3**
SMDO	**Samad**	**9.68**	**33**	P	**Pn**	**00 57 26.3**	**-1.9**
HOQ	**Hoqain**	**9.76**	**28**	P	**Pn**	**00 57 27.5**	**-1.6**
ATD	**Arta Tunnel**	**9.86**	**251**	P	Pn	00 57 18.7	-12
	SNR=367						
KBZ	**Khabaz**	**29.76**	**346**	P	**P**	**01 01 17.2**	**+1.9**
	3.4nm,0.8s,baz=153,slow=9.0,SNR=5.6						
	3.4nm,0.8s						
AAK	**Ala-Archa**	**33.50**	**30**	LR	LR	01 17 46.3	
	comp=Z,65nm,18.6s,baz=190,slow=41						
AKTO	**Aktyubinsk**	**35.66**	**6**	LR	LR	01 20 04.3	
	comp=Z,71nm,19.5s,baz=76,slow=42						
BELG	**Belogornoye**	**37.51**	**355**	LR	LR	01 21 26.1	
	comp=Z,34nm,19.3s,baz=163,slow=42						
LSZ	**Lusaka**	**38.39**	**219**	LR	LR	01 18 17.0	
	comp=Z,48nm,21.6s,baz=127,slow=36						
MKAR	**Makanchi Array**	**40.36**	**32**	P	**P**	**01 02 46.9**	**+0.3**
	0.7nm,0.6s,baz=224,slow=7.2,SNR=4.4						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**40.55**	**17**	P	**P**	**01 02 48.4**	**+0.3**
	1.4nm,0.7s,baz=191,slow=6.0,SNR=6.8						
BVAR				LR	LR	01 22 21.3	
	comp=Z,31nm,18.2s,baz=182,slow=40						
	1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**41.37**	**25**	P	**P**	**01 02 55.1**	**+0.3**
	4.4nm,0.2s,baz=226,slow=8.2,SNR=5.0						
	4.4nm,0.2s						
ARTI	**Arti**	**41.58**	**5**	LR	LR	01 23 20.9	
	comp=Z,41nm,18.5s,baz=168,slow=41						
CMAR	**Chiang Mai Arr**	**44.68**	**79**	P	**P**	**01 03 20.0**	**-2.1**
	1.4nm,0.3s,baz=275,slow=8.2,SNR=5.1						
	1.4nm,0.3s						
ZALV	**Zalesovo Beam**	**46.44**	**26**	P	**P**	**01 03 34.4**	**-1.2**
	0.9nm,0.3s,baz=225,slow=8.2,SNR=6.3						
	0.9nm,0.3s						
TSUM

WORM	**Onyx Ranch**	**0.57**	**266**			**Pg**	**01 36 28.9**	**-0.6**
WORM						**Sg**	**01 36 36.3**	**-0.6**
QSM	**Queen of Sheba**	**0.60**	**68**			**Pg**	**01 36 29.7**	**-0.3**
QSM	comp=E,6µm,0.3s				IAML		01 36 38.3	
WHFM	**Hanning Flat**	**0.65**	**266**			**Pg**	**01 36 30.5**	**-0.6**
GSC	**Goldstone, Bar**	**0.75**	**126**			**Pg**	**01 36 32.8**	**-0.1**
ISA	**Isabella, Lake**	**0.76**	**264**			**Pg**	**01 36 32.4**	**-0.7**
ISA	comp=E,5µm,0.4s				IAML		01 36 43.1	
ISA	comp=N,4µm,0.4s				IAML		01 36 43.3	
CWC	**Cottonwood Cre**	**0.82**	**329**			**Pg**	**01 36 33.6**	**-0.7**
CWC						**Sg**	**01 36 44.4**	**-0.6**
CWC	comp=N,4µm,0.2s				IAML		01 36 45.5	
CWC	comp=E,4µm,0.3s				IAML		01 36 49.7	
WASM	**Alta Sierra Ca**	**0.82**	**270**			**Pg**	**01 36 33.7**	**-0.6**
GWY	**Greenwater Val**	**0.84**	**58**			**Pg**	**01 36 33.5**	**-1.3**
GWY	comp=N,7µm,0.7s				IAML		01 36 51.2	
GWY	comp=E,9µm,0.4s				IAML		01 36 52.0	
HYS	**Haystack Butte**	**0.88**	**181**			**Pg**	**01 36 34.6**	**-0.7**
TPO	**Tropico Hills**	**1.02**	**213**	Pg		**Pg**	**01 36 37.4**	**-0.8**
SHOC	**Shoshone, Teco**	**1.05**	**81**			**Pg**	**01 36 38.7**	**+0.1**
GRAC	**Grapevine Rang**	**1.26**	**7**			**Pn**	**01 36 41.7**	**-0.6**
WCT	**Wildcat Mounta**	**1.29**	**35**			**Pn**	**01 36 41.7**	**-1.0**
WCT	comp=N,2µm,0.9s				IAML		01 37 02.0	
WCT	comp=E,2µm,0.8s				IAML		01 37 02.1	
OSI	**Osito Audit: C**	**1.48**	**221**			**Pn**	**01 36 44.8**	**-0.5**
OSI	comp=E,3µm,0.8s				IAML		01 37 09.8	
OSI	comp=N,2µm,0.8s				IAML		01 37 13.9	
BFSC	**Mount Baldy Ra**	**1.50**	**183**			**Pn**	**01 36 44.9**	**-0.7**
BFSC	comp=E,1µm,0.8s				IAML		01 37 09.4	
MWC	**Mount Wilson**	**1.57**	**196**			**Pn**	**01 36 46.1**	**-0.5**
GMN	**Gold Mountain**	**1.57**	**8**			**Pn**	**01 36 46.4**	**-0.4**
GMN	comp=N,1µm,0.7s				IAML		01 37 11.0	
VOG	**Valley Oaks Go**	**1.59**	**292**			**Pb**	**01 36 47.4**	**-0.7**
TPNV	**Topopah Spring**	**1.60**	**41**			**Pn**	**01 36 45.4**	**-1.6**
TPNV	comp=N,2µm,0.5s				IAML		01 37 12.7	
TPNV	comp=N,2µm,0.7s				IAML		01 37 12.8	
MTPC	**Mountain Pass**	**1.65**	**98**			**Pn**	**01 36 46.5**	**-1.2**
MTPC	comp=N,2µm,0.7s				IAML		01 37 11.9	
MTPC	comp=E,1µm,0.4s				IAML		01 37 13.8	
PASC	**Pasadena Art C**	**1.65**	**199**			**Pn**	**01 36 47.0**	**-0.6**
PASC	comp=N,1µm,1.0s				IAML		01 37 15.1	
PASC	comp=E,2µm,0.6s				IAML		01 37 15.5	
DSP	**Deep Springs**	**1.66**	**348**			**Pn**	**01 36 47.2**	**-0.5**
DSP	comp=E,962nm,0.6s				IAML		01 37 12.3	
MZP	**Montezuma Peak**	**1.96**	**4**			**Pn**	**01 36 52.1**	**0.0**
SMMC	**Simmler**	**2.04**	**259**			**Pb**	**01 36 54.5**	**-1.2**
SHPR	**Sheep Range**	**2.08**	**68**			**Pn**	**01 36 53.2**	**-0.5**
ELS	**Elsinore Mount**	**2.09**	**177**			**Pn**	**01 36 53.2**	**-0.5**
V12A	**Nelson**	**2.19**	**90**			**Pn**	**01 36 54.2**	**-1.0**
V12A	comp=N,782nm,0.7s				IAML		01 37 36.1	
V12A	comp=E,584nm,0.5s				IAML		01 37 37.1	
PMD	**Palm Desert**	**2.30**	**155**			**Pn**	**01 36 55.4**	**-1.1**
PFO	**Pinyon Flats O**	**2.31**	**157**			**Pn**	**01 36 55.9**	**-0.9**
PFO	comp=E,469nm,0.9s				IAML		01 37 36.2	
PFO	**Pinyon Flats O**	**2.31**	**157**	Pn		**Pn**	**01 36 55.1**	**-1.6**
PFO	comp=E,12nm,0.3s,baz=336,slow=14,SNR=138			Pg		**Pb**	**01 37 00.7**	**+0.4**
PFO	comp=E,54nm,0.3s,baz=334,slow=14,SNR=83			Lg	Lg		01 37 31.0	
TPH	**Tonopah**	**2.34**	**6**			**Pn**	**01 36 57.3**	**0.0**
S11A	**Rachel**	**2.39**	**37**			**Pn**	**01 36 57.5**	**-0.3**
NEE2	**Needles Airpor**	**2.59**	**111**			**Pn**	**01 36 59.1**	**-1.4**
PRN	**Pahroc Range**	**2.61**	**50**			**Pn**	**01 37 00.7**	**-0.2**
PRN	comp=E,944nm,0.8s				IAML		01 37 48.6	
PRN	comp=N,828nm,0.8s				IAML		01 37 49.5	
LHV	**Little Huntoon**	**2.62**	**343**			**Pn**	**01 37 01.1**	**+0.3**
BORC	**Borrego Spring**	**2.64**	**159**			**Pn**	**01 37 00.5**	**-0.7**
BORC	comp=N,489nm,0.8s				IAML		01 37 46.7	
PMPB	**Monarch Peak**	**2.68**	**281**			**Pn**	**01 37 02.0**	**+0.2**
NV11	**Mina Array Sit**	**2.73**	**350**			**Pn**	**01 37 02.6**	**0.0**
NVAR	**Mina Array Bea**	**2.75**	**348**			**Pn**	**01 37 02.7**	**-0.2**
NVAR	**Mina Array Bea**	**2.75**	**348**	Pn		**Pn**	**01 37 03.1**	**+0.2**
NVAR	comp=N,8.5nm,0.3s,baz=171,slow=13,SNR=121			Pg		**Pb**	**01 37 09.3**	**+1.4**
NVAR	comp=N,72nm,0.3s,baz=169,slow=15,SNR=122			Lg	Lg		01 37 44.5	
NVAR	comp=N,20nm,0.3s,baz=158,slow=33,SNR=2.8			LR		LR	01 38 09.1	
SALN	**Salton City**	**2.77**	**152**	Pn		**Pn**	**01 37 04.2**	**+1.2**
DPP	**Dos Picos Cty**	**2.78**	**169**			**Pn**	**01 37 02.5**	**-0.6**
BBGB	**Big Mountain B**	**2.94**	**288**			**Pn**	**01 37 05.8**	**+0.3**
RYN	**Ryan**	**2.98**	**345**			**Pn**	**01 37 06.5**	**+0.4**
W13A	**Hualapai Mount**	**3.06**	**101**		IAML		01 38 00.3	
WAKR	comp=N,303nm,1.2s **Walker**	**3.14**	**332**		IAML		01 37 59.1	
WAKR	comp=E,219nm,0.5s				IAML		01 38 15.4	
BLYC	comp=N,216nm,0.7s **Blythe**	**3.19**	**128**		IAML		01 38 03.8	
BLYC	comp=N,562nm,0.6s				IAML		01 38 05.6	
CMB	comp=E,573nm,0.7s **Columbia Colle**	**3.23**	**316**		IAML		01 38 04.3	
CMB	comp=E,300nm,0.7s				IAML		01 38 07.6	
TJX	comp=N,310nm,0.8s **Tijuana**	**3.25**	**173**		IAML		01 38 10.3	
TKX	comp=N,574nm,0.7s **Tecate**	**3.26**	**166**		IAML		01 37 39.3	
TKX	comp=E,521nm,0.1s				IAML		01 39 16.0	
CBX	comp=N,245nm,0.1s **Cerro Bola**	**3.50**	**168**		IAML		01 38 24.1	
CPBX	comp=N,428nm,1.2s **Cerro Prieto**	**3.80**	**150**		IAML		01 38 58.9	
CCX	comp=N,340nm,0.5s **Cicese**	**3.93**	**169**		IAML		01 38 34.5	
CCX	comp=E,157nm,1.3s				IAML		01 38 44.8	
ESJX	comp=N,142nm,0.4s **Sierra Juarez**	**3.96**	**160**		IAML		01 38 26.3	
MPK	comp=E,116nm,0.6s **Martis Peak**	**4.06**	**332**		IAML		01 38 42.6	
MPK	comp=E,314nm,0.8s				IAML		01 38 48.3	
PSUT	comp=N,272nm,1.0s **Pine Spring**	**4.06**	**46**		IAML		01 38 38.7	
PSUT	comp=E,195nm,0.7s				IAML		01 38 39.1	
SPR3	comp=N,202nm,0.8s **Spring Creek 3**	**4.14**	**37**		IAML		01 38 28.8	
SPR3	comp=E,182nm,0.8s				IAML		01 38 30.4	
Y14A	comp=N,176nm,0.8s **Wickenburg**	**4.15**	**114**		IAML		01 38 32.3	
AFDM	comp=E,274nm,0.7s **Forest Hills D**	**4.21**	**321**		IAML		01 38 33.2	
AFDM	comp=N,171nm,0.5s				IAML		01 38 37.2	
113A	comp=E,185nm,0.7s **Mohawk Valley,**	**4.31**	**132**		IAML		01 38 36.1	
113A	comp=E,123nm,0.8s				IAML		01 38 42.8	
U15A	comp=N,119nm,0.8s **North Rim**	**4.31**	**79**		IAML		01 38 50.8	
	comp=E,111nm,0.9s							

VTX	**Valle De La Tr**	**4.58**	**161**		IAML		01 38 49.3	
	comp=E,89nm,1.8s							
WUAZ	**Wupatki**	**5.04**	**91**		IAML		01 39 02.6	
WUAZ	comp=E,124nm,1.6s				IAML		01 39 17.9	
	comp=E,92nm,1.1s							
X16A	**Lo Mia Camp, P**	**5.18**	**103**		IAML		01 39 19.3	
	comp=N,64nm,1.3s							
X16A	comp=E,53nm,0.8s				IAML		01 39 23.2	
SFX	**San Felipe**	**5.21**	**154**		IAML		01 39 15.9	
	comp=E,54nm,1.2s							
SFX	comp=N,50nm,1.0s				IAML		01 39 21.7	
ELK	**Elko**	**5.32**	**19**		IAML		01 39 08.6	
	comp=N,51nm,0.9s							
ELK	comp=N,69nm,0.8s				IAML		01 39 08.7	
ELK	**Elko**	**5.32**	**19**	Pn		**Pn**	**01 37 40.9**	**+2.7**
	comp=N,0.6nm,0.3s,baz=206,slow=13,SNR=11							
ELK	comp=N,3.1nm,0.3s,baz=230,slow=14,SNR=30			Pg		**Pg**	**01 37 56.9**	**-3.4**
ELK	comp=N,12nm,0.3s,baz=310,slow=16,SNR=19			Lg	Lg		01 39 03.9	
ELK	comp=N,75nm,18.8s,baz=224,slow=43			LR		LR	01 40 07.9	
	comp=N,1.7nm,0.4s							
YBH	**Yreka Blue Hor**	**7.21**	**328**	Lg	Lg		01 40 01.7	
	baz=134,slow=6.3,SNR=4.1							
ANMO	**Albuquerque**	**9.10**	**92**	Pg	Pn		01 39 05.4	+35
	comp=N,0.3nm,0.3s,baz=8.9,slow=14,SNR=8.6							
ANMO	comp=N,0.1nm,0.3s,baz=128,slow=23,SNR=7.7			Lg	Lg		01 41 01.7	
ANMO	comp=N,101nm,18.3s,baz=16,slow=40			LR		LR	01 42 16.8	
PDAR	**Pinedale Array**	**9.36**	**39**	Pn		**Pn**	**01 38 36.3**	**+2.6**
	comp=N,0.1nm,0.3s,baz=238,slow=12,SNR=6.7							
PDAR	comp=N,26nm,20.5s,baz=228,slow=35			LR	LR		01 41 45.7	
	comp=N,0.8nm,0.8s							
NEW	**Newport**	**12.52**	**1**	LR	LR		01 45 01.4	
	comp=N,28nm,19.1s,baz=200,slow=42							
TXAR	**Lajitas Array**	**13.34**	**115**	Pn		**Pn**	**01 39 29.0**	**+1.0**
	comp=N,0.1nm,0.3s,baz=304,slow=17,SNR=4.4							
TXAR	baz=285,slow=29,SNR=5.1			Lg	Lg		01 43 20.6	
	comp=N,0.2nm,0.5s							
BBB	**Bella Bella**	**18.08**	**339**	LR	LR		01 47 36.4	
	comp=N,33nm,20.1s,baz=182,slow=38							
DLBC	**Dease Lake**	**24.16**	**344**	LR	LR		01 51 42.9	
	comp=N,5.0nm,18.5s,baz=192,slow=38							
TKL	**Tuckaleechee C**	**27.35**	**80**	LR	LR		01 52 26.0	
	comp=N,26nm,19.4s,baz=24,slow=35							
ILAR	**Eielson Array**	**33.97**	**338**	P	**P**		**01 43 02.6**	**+0.7**
	comp=N,0.3nm,0.9s,baz=133,slow=8.9,SNR=2.3							
ILAR	comp=N,39nm,18.7s,baz=256,slow=35			LR	LR		01 56 09.3	
	comp=N,0.3nm,0.9s							

KRSC 23 01:38:36.5±1.8, 48°.81N×157°.32E, h31km±28km, MI4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.04**	**338**	*e*P	Pn	01 39 10.0	+1.4
SKR				*e*S	Sn	01 39 33.8	+0.9
PAU	**Pauzhetka**	**2.69**	**353**	*e*P	Pn	01 39 19.4	+1.9
PAU				*e*S	Sn	01 39 52.0	+3.1
MIPR	**Malaya Ipel'ka**	**3.49**	**354**	*e*P	Pn	01 39 31.1	+2.5
ASAK	**Asacha**	**3.60**	**6**	*e*P	Pn	01 39 34.8	+4.6
RUS	**Russkaya**	**3.71**	**11**	*e*P	Pn	01 39 35.5	+3.9
RUS				*e*S	Sn	01 40 19.8	+5.6
MTVR	**Mutnovka**	**3.72**	**8**	*e*P	Pn	01 39 36.0	+4.1
MTVR				*e*S	Sb	01 40 20.7	-5.5
GRL	**Gorelyy**	**3.78**	**7**	*e*P	Pn	01 39 37.3	+4.6
KRMR	**Karymshinskiy**	**4.06**	**7**	*e*P	Pn	01 39 40.4	+4.0
APC	**Apacha**	**4.13**	**359**	*e*P	Pn	01 39 41.0	+3.7
PET	**Petropavlovsk**	**4.31**	**11**	*e*S	Sn	01 40 35.2	+6.3
DALK	**Dalny**	**4.33**	**12**	*e*P	Pn	01 39 44.3	+4.3
DALK				*e*S	Sn	01 40 35.2	+5.8
UGLR	**Uglovaya**	**4.51**	**12**	*e*P	Pn	01 39 47.8	+5.1
AVH	**Avacha**	**4.55**	**11**	*e*P	Pn	01 39 49.0	+5.8
NLC	**Nalytchevo**	**4.55**	**16**	*e*S	Sn	01 40 39.9	+5.0
SMAR	**Somma**	**4.56**	**11**	*e*P	Pn	01 39 48.7	+5.3
KOK	**Koryaka**	**4.57**	**10**	*e*P	Pn	01 39 49.1	+5.7
SDLR	**Sedlovina**	**4.59**	**12**	*e*P	Pn	01 39 48.3	+4.6
KRER	**Koryakskii**	**4.59**	**11**	*e*P	Pn	01 39 49.2	+5.3
SPN	**Mys Shipunski**	**4.63**	**21**	*e*P	Pn	01 39 49.4	+5.3
SPN				*e*S	Sn	01 40 43.2	+6.4
KRX	**Arik**	**4.64**	**10**	*e*P	Pn	01 39 49.8	+5.4
GNL	**Ganaly**	**4.91**	**4**	*e*P	Pn	01 39 52.7	+4.5
MKZ	**Mys Kozlova**	**6.38**	**24**	*e*P	Pn	01 40 13.0	+4.8
MKZ				*e*S	Sn	01 41 24.5	+4.6
TUMD	**Tumrok D**	**6.68**	**15**	*e*S	Sn	01 41 34.2	+6.7
BKI	**Bering**	**8.34**	**37**	*e*S	Sn	01 42 11.1	+3.1

NIED ***23*** *01:38:54.7, 44°.91N×145°.46E, h30km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.84; $M_{\theta\theta}$-1.22; $M_{\phi\phi}$-0.63; $M_{r\theta}$-0.98; $M_{\theta\phi}$-1.10; $M_{\phi r}$-0.51; Fault plane solution: $M_0$2.24000×10^{14} NP1: ϕ46.00000°, δ31.00000°, λ80.00000°. NP2:ϕ238.00000°, δ60.00000°, λ96.00000°.*
JMA ***23*** *01:38:54.7±0.3, 44°.9N±0°.8×14°.5E±°, h30km±3km, MV3.6/23, SOUTHERN SEA OF OKHOTSK*
JMA Felt I J1 at SOUTHERN SEA OF OKHOTSK .
SKHL ***23*** *01:38:56.4±0.6, 44°.80N×145°.50E, h27km±6km, mb4.7/3*

ISC 23 01:38:55.9±1.5, 44°.83N±0°.05×145°.53E±0°.04, h30km±14km, n16, σ0°.58/28, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.83**	**163**	*e*P	**Pn**	**01 39 11.7**	**+0.2**
YUK				AMB	AMB	01 39 13.0	
	480nm,0.2s						
YUK				*e*S	**Sb**	**01 39 21.4**	**-1.2**
YUK				A	A	01 39 22.1	
	8µm,0.5s						
YUK				A	A	01 39 22.1	
	10µm,0.5s						
JRA	**Rausu**	**0.94**	**198**	*e*P	**Pn**	**01 39 12.5**	**-0.5**
JRA				*e*S	**Sb**	**01 39 25.9**	**+0.1**
GLVR	**Golovnino**	**1.09**	**180**	*e*P	**Pn**	**01 39 15.1**	**0.0**
GLVR				AMB	AMB	01 39 15.9	
	310nm,0.2s						
GLVR				*e*S	**Sb**	**01 39 30.4**	**+0.3**
GLVR				A	A	01 39 31.7	
	5µm,0.4s						
GLVR				A	A	01 39 31.7	
	5µm,0.4s						
JNSB	**Nemuroshibetsu**	**1.12**	**200**	P	**Pn**	**01 39 15.6**	**+0.1**
JNSB				*e*S	**Sb**	**01 39 31.6**	**+0.7**
SHO	**Shikotan**	**1.34**	**135**	*e*P	**Pb**	**01 39 20.4**	**0.0**
SHO				AMB	AMB	01 39 21.5	
	140nm,0.4s						
SHO				*e*S	**Sb**	**01 39 38.0**	**+0.9**
SHO				A	A	01 39 39.2	
	2µm,0.5s						
SHO				A	A	01 39 39.2	
	2µm,0.5s						
JNK	**Nakash**	**1.38**	**205**	*e*P	**Pn**	**01 39 19.1**	**0.0**
JNK				*e*S	**Sb**	**01 39 37.6**	**-0.6**
JTKR	**Abashiri--Toko**	**1.45**	**234**	*e*P	**Pn**	**01 39 19.6**	**-0.4**
JTKR				*e*S	**Sn**	**01 39 37.6**	**-0.3**
NMR	**Nemuro--Hokkai**	**1.47**	**174**	*e*P	**Pn**	**01 39 20.3**	**0.0**
NMR				*e*S	**Sn**	**01 39 38.6**	**+0.2**
NEM2	**Nemuro 2**	**1.47**	**174**	*i* P	**Pn**	**01 39 20.2**	**-0.1**
NEM2				S	**Sn**	**01 39 39.1**	**+0.6**
KUR	**Kuril'sk**	**1.71**	**76**	*e*P	**Pn**	**01 39 23.4**	**-0.1**
KUR				*e*S	**Sn**	**01 39 43.7**	**-0.6**
KUR				A	A	01 39 47.1	
	250nm,0.2s						
KUR				A	A	01 39 47.1	
	260nm,0.2s						
JMP	**Maruseppu**	**1.76**	**243**	*e*S	**Sn**	**01 39 45.6**	**-0.1**
JKHN	**Kushirohamanak**	**1.77**	**189**	*e*P	**Pn**	**01 39 25.2**	**+0.9**
JKHN				*e*S	**Sb**	**01 39 48.2**	**-1.2**
AKK	**Akkeshi**	**1.88**	**196**	*e*P	**Pn**	**01 39 26.1**	**+0.2**
JAK	**Akkeshi**	**1.93**	**198**	*e*P	**Pn**	**01 39 27.0**	**+0.4**
JAR	**Ashorobuto**	**1.99**	**220**	*e*P	**Pn**	**01 39 28.0**	**+0.5**
YSS	**Yuzhno-Sakhali**	**2.87**	**319**	*e*P	**Pn**	**01 39 40.4**	**+0.8**
YSS				*e*S	**Sn**	**01 40 12.5**	**-0.6**

NEIC ***23*** *01:55:05.8±1.6, 31°.09S±0°.06×178°.2W±0°.1, h35km±1km, mb4.8/56, Error ellipse: s-maj=19.8km s-min=9.5km az=102.0*
WEL ***23*** *01:55:05.1±1.1, 32°.S±.8°×17°.7W±1°.2, h12km, M5.0/12, mB5.3/12, ML5.2/11, MLv5.4/9, Mw(mB)4.7/12, Error ellipse: s-maj=17.0km s-min=8.4km az=113.3, confirmed*
IDC ***23*** *01:55:06.5±1.6, 30°.98S×178°.15W, h48km±14km, mb4.6/10, mbtmp4.8/11, ML3.7/1, MS3.9/17, Error ellipse: s-maj=19.3km s-min=12.2km az=102.0*

ISC 23 01:55:04.8±0.3, 31°.20S±0°.04×178°.01W±0°.07, h35km, n271, σ1°.85/247, mb4.8/50, MS4.0/16, 5D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.94**	**2**		**Pn**	**01 55 33.6**	**-1.7**
RAO				Sn	**Sn**	**01 55 57.2**	**-1.2**
RAO	**Raoul Island**	**1.94**	**2**	P	**Pn**	**01 55 33.0**	**-2.3**
	890nm,0.3s,baz=87,slow=11,SNR=15						
RAO				S	**Sn**	**01 55 55.2**	**-3.2**
	3µm,0.3s,baz=272,slow=23,SNR=11						
MXZ	**Matakaoa Point**	**7.04**	**205**	Pn	**Pn**	**01 56 46.5**	**+1.2**
MXZ	**Matakaoa Point**	**7.04**	**205**	P	**Pn**	**01 56 43.4**	**-1.9**
MXZ				S	**Sn**	**01 58 01.6**	**-2.5**
WMGZ	**Waiomatatini S**	**7.23**	**203**	P	**Pn**	**01 56 46.9**	**-1.1**
WMGZ				S	**Sn**	**01 58 08.5**	**-0.3**
HAZ	**Te Kaha**	**7.41**	**207**	P	**Pn**	**01 56 48.8**	**-1.5**
HAZ				S	**Sn**	**01 58 14.5**	**+1.4**
GRZ	**Great Barrier**	**7.41**	**225**	P	Pn	01 56 55.4	+5.0
PUZ	**Puketiti**	**7.51**	**203**	P	**Pn**	**01 56 49.3**	**-2.6**
PUZ				S	**Sn**	**01 58 12.9**	**-3.0**
KUZ	**Kuaotunu**	**7.59**	**222**	P	Pn	01 56 58.4	+5.5
RUGZ	**Raukumara Rang**	**7.63**	**207**	P	**Pn**	**01 56 51.6**	**-2.0**
RUGZ				S	**Sn**	**01 58 17.5**	**-1.3**
TWGZ	**Tauwhareparae**	**7.70**	**204**	P	**Pn**	**01 56 52.7**	**-1.8**
CNGZ	**Carnagh Station**	**7.90**	**202**	P	**Pn**	**01 56 55.5**	**-1.7**
CNGZ				S	**Sn**	**01 58 25.8**	**+0.4**
WCZ	**Waipu Caves**	**7.94**	**231**	P	Pn	01 57 03.7	+6.0
TKGZ	**Te Karaka**	**7.98**	**204**	P	**Pn**	**01 56 56.3**	**-2.0**
OPRZ	**Ohinepanea**	**8.00**	**213**	P	**Pn**	**01 56 59.7**	**+1.2**
MWZ	**Matawai**	**8.01**	**206**	P	**Pn**	**01 56 56.3**	**-2.3**
MWZ				S	**Sn**	**01 58 24.9**	**-3.1**
OUZ	**Omahuta**	**8.09**	**238**	P	**Pn**	**01 57 04.5**	**+4.7**
URZ	**Urewera**	**8.11**	**208**	P	**Pn**	**01 56 59.1**	**-0.9**
	13nm,0.3s,baz=254,slow=4.8,SNR=36						
URZ				S	**Sn**	**01 58 26.6**	**-3.7**
	178nm,0.6s,baz=156,slow=23,SNR=18						
URZ	**Urewera**	**8.11**	**208**	P	**Pn**	**01 57 00.0**	**+0.1**
URZ				S	**Sn**	**01 58 28.0**	**-2.4**
MKAZ	**Moumakai**	**8.16**	**222**	P	**Pn**	**01 57 05.5**	**+4.7**
RAGZ	**Rawiri**	**8.19**	**206**	P	**Pn**	**01 56 58.4**	**-2.8**
RIGZ	**Rimuhau**	**8.25**	**204**	P	**Pn**	**01 56 59.5**	**-2.6**
RIGZ				S	**Sn**	**01 58 29.9**	**-4.1**
TOZ	**Tahuroa Road**	**8.43**	**218**		**Pn**	**01 57 06.4**	**+1.9**
TOZ	**Tahuroa Road**	**8.43**	**218**	P	**Pn**	**01 57 07.2**	**+2.7**
RTZ	**Ruatahuna**	**8.46**	**208**		**Pn**	**01 57 03.2**	**-1.8**
SNGZ	**Shannon Statio**	**8.47**	**205**	P	**Pn**	**01 57 02.9**	**-2.1**
KNZ	**Kokohu**	**8.57**	**203**	P	**Pn**	**01 57 03.2**	**-3.1**
MHGZ	**Mahia Peninsul**	**8.61**	**202**	P	Pn	01 57 03.1	-3.7
RAHZ	**Arahi**	**8.68**	**206**	P	**Pn**	**01 57 05.8**	**-2.1**
MTHZ	**Maungataniwha**	**8.72**	**207**	P	**Pn**	**01 57 05.9**	**-2.5**
MRHZ	**Matea Rd**	**8.88**	**209**	P	**Pn**	**01 57 08.6**	**-2.1**
NMHZ	**Naumai**	**8.95**	**207**	P	**Pn**	**01 57 08.9**	**-2.7**
ARHZ	**Aropaoanui**	**9.02**	**206**	P	**Pn**	**01 57 10.3**	**-2.3**
BKZ	**Black Stump Fm**	**9.13**	**208**		Pn	01 57 10.1	-4.0
BKZ	**Black Stump Fm**	**9.13**	**208**	P	Pn	01 57 10.5	-3.6
HIZ	**Hauiti**	**9.36**	**217**	Pn	**Pn**	**01 57 17.9**	**+0.8**
HIZ	**Hauiti**	**9.36**	**217**	P	Pn	01 57 22.2	+5.1
KWHZ	**Kaweka Forest**	**9.38**	**207**	P	**Pn**	**01 57 15.7**	**-1.8**
TMVZ	**Te Maari**	**9.42**	**211**	P	**Pn**	**01 57 17.9**	**-0.2**
ETVZ	**East Tongariro**	**9.44**	**211**	P	**Pn**	**01 57 17.8**	**-0.6**
NNVZ	**North Ngauruho**	**9.48**	**212**	P	**Pn**	**01 57 19.4**	**+0.5**
OTVZ	**Oturere**	**9.48**	**211**	P	**Pn**	**01 57 17.4**	**-1.5**
SNVZ	**South Ngauruho**	**9.51**	**211**	P	**Pn**	**01 57 19.4**	**0.0**
NGZ	**Ngauruhoe**	**9.52**	**212**	P	**Pn**	**01 57 21.3**	**+1.9**
KAHZ	**Kahuranaki**	**9.53**	**204**	P	Pn	01 57 15.1	-4.5
KRHZ	**Kereru**	**9.59**	**207**	P	Pn	01 57 16.8	-3.6
FWVZ	**Far West T-bar**	**9.60**	**211**	P	**Pn**	**01 57 21.0**	**+0.3**
MOVZ	**Moawhango**	**9.64**	**210**	P	**Pn**	**01 57 19.1**	**-2.0**
WNVZ	**Wahianoa**	**9.64**	**211**	P	**Pn**	**01 57 21.1**	**-0.1**
PNHZ	**Pukenui**	**9.89**	**207**	P	Pn	01 57 19.8	-4.6
PRHZ	**Porangahau**	**10.04**	**204**	P	Pn	01 57 21.3	-5.1
TSZ	**Takapari Road**	**10.11**	**207**	P	Pn	01 57 23.1	-4.3
DVHZ	**Dannevirke**	**10.23**	**206**	P	Pn	01 57 24.0	-5.2
BFZ	**Birch Farm**	**10.54**	**205**	Pn	Pn	01 57 29.1	-4.3
BFZ	**Birch Farm**	**10.54**	**205**	P	Pn	01 57 28.1	-5.3
MRZ	**Mangatainoka R**	**10.77**	**207**	P	Pn	01 57 31.2	-5.3
QRZ	**Quartz Range**	**12.28**	**216**	Pn	Pn	01 57 52.9	-4.2
CTZ	**Chatham Island**	**12.56**	**175**	Pn	**Pn**	**01 58 00.0**	**-0.9**
CTZ	**Chatham Island**	**12.56**	**175**	P	Pn	01 57 56.2	-4.7
THZ	**Tophouse**	**12.82**	**212**		**Pn**	**01 58 02.5**	**-2.0**
MSVF	**Nonsavu**	**13.87**	**344**	Pn	**Pn**	**01 58 18.6**	**-0.5**
LTZ	**Lake Taylor**	**13.91**	**211**		**Pn**	**01 58 17.1**	**-2.3**
NIUE	**Niue**	**14.11**	**33**	P	**Pn**	**01 58 19.0**	**-3.2**
	comp=Z,262nm,1.4s						
MQZ	**McQueen's Vall**	**14.51**	**208**	Pn	**Pn**	**01 58 26.1**	**-1.4**
RPZ	**Rata Peaks**	**15.20**	**212**	Pn	**Pn**	**01 58 36.8**	**0.0**
RPZ	**Rata Peaks**	**15.20**	**212**	P	**Pn**	**01 58 32.9**	**-3.9**
	comp=Z,7.3nm,0.4s,baz=267,slow=1.7,SNR=5.2						
RPZ				S	Sn	02 01 11.2	-13
	comp=Z,16nm,0.6s,baz=320,slow=16,SNR=6.5						
FOZ	**Fox Glacier**	**15.64**	**215**	Pn	**Pn**	**01

comp=Z,9.1nm,0.8s
MTSU Mount Surprise 36.44 282 P **P** 02 02 06.7 +0.3
comp=Z,10nm,0.9s
BBOO Buckleboo 38.75 255 P **P** 02 02 24.6 -1.3
BBOO Buckleboo 38.75 255 P **P** 02 02 24.7 -1.1
comp=Z,43nm,0.8s
QIS Mount Isa 39.37 275 P **P** 02 02 30.4 -0.8
comp=Z,12nm,2.5s
COEN Coen 39.48 287 **P** 02 02 28.7 -3.4
COEN IAmb IAmb 02 02 34.0
comp=Z,29nm,1.0s
TAOE Nuku Hiva Isla 41.64 66 *e*LR LR 02 14 19.9
comp=Z,231nm,25.5s
AS31 Alice Springs 43.06 268 **P** 02 03 00.5 -1.0
AS31 IAmb IAmb 02 03 01.4
comp=Z,15nm,0.7s
AS31 Alice Springs 43.06 268 P **P** 02 03 00.3 -1.2
comp=Z,23nm,0.7s
ASAR Alice Springs 43.06 268 **P** 02 02 60.0 -1.6
ASAR Alice Springs 43.06 268 P **P** 02 03 00.3 -1.2
comp=Z,49nm,0.7s,baz=105,slow=7.3,SNR=345
ASAR ScP **ScP** 02 08 36.6 -3.1
comp=Z,0.7nm,0.7s,baz=96,slow=5.0,SNR=4.6
ASAR LR LR 02 20 21.2
comp=Z,284nm,18.5s,baz=140,slow=35
comp=Z,49nm,0.7s
WR0 Warramunga Arr 43.94 273 P **P** 02 03 07.4 -1.3
WR0 Warramunga Arr 43.94 273 P **P** 02 03 07.3 -1.3
WR8 Warramunga Arr 43.98 273 **P** 02 03 07.8 -1.1
WB2 Warramunga Arr 44.11 273 P **P** 02 03 08.4 -1.6
WRAB Tennant Creek 44.12 273 P **P** 02 03 08.7 -1.3
WRA Warramunga Arr 44.12 273 **P** 02 03 08.8 -1.2
WRA Warramunga Arr 44.12 273 P **P** 02 03 08.8 -1.2
comp=Z,81nm,0.9s,baz=113,slow=7.8,SNR=324
WRA ScP **ScP** 02 08 40.6 -3.5
comp=Z,0.7nm,0.6s,baz=109,slow=3.7,SNR=4.8
WRA LR LR 02 21 01.3
comp=Z,273nm,18.3s,baz=164,slow=35
comp=Z,81nm,0.9s
WB0 Warramunga Arr 44.15 273 **P** 02 03 09.1 -1.1
FORT Forrest 45.84 256 P **P** 02 03 22.1 -1.5
FORT IAmb IAmb 02 03 24.0
comp=Z,15nm,0.8s
SBA Scott Base 47.24 184 P **P** 02 03 37.0 +3.1
SBA IAmb IAmb 02 03 53.6
comp=Z,14nm,1.1s
WRKA Warakurna 47.37 263 P **P** 02 03 33.6 -2.1
comp=Z,25nm,0.9s
KNRA Kununurra 50.76 275 **P** 02 04 00.8 -0.9
KNRA Kununurra 50.76 275 P **P** 02 04 00.8 -0.9
comp=Z,15nm,0.8s
CCD Concordia, Ant 52.19 196 P **P** 02 04 13.6 +1.6
FITZ Fitzroy Crossi 52.35 271 **P** 02 04 12.6 -0.9
FITZ Fitzroy Crossi 52.35 271 P **P** 02 04 12.2 -1.3
comp=Z,4.6nm,1.1s
FITZ Fitzroy Crossi 52.35 271 LR LR 02 24 19.2
comp=Z,274nm,21.0s,baz=150,slow=34
CASY Casey 54.43 208 **P** 02 04 28.0 -0.1
CASY IAmb IAmb 02 04 29.6
comp=Z,13nm,0.9s
CASY Casey 54.43 208 P **P** 02 04 27.3 -0.8
GUMO Guam 57.04 316 LR LR 02 27 57.1
comp=Z,46nm,18.9s,baz=98,slow=35
BATI Baumata 57.74 278 LR LR 02 29 52.6
comp=Z,616nm,18.1s,baz=139,slow=36
QSPA South Pole Qui 58.91 180 P **P** 02 05 02.5 +2.3
QSPA South Pole Qui 58.91 180 P **P** 02 05 02.1 +1.9
comp=Z,8.7nm,1.0s,baz=33,slow=2.5,SNR=17
QSPA LR LR 02 26 14.7
comp=Z,118nm,21.6s,baz=34,slow=32
comp=Z,8.7nm,1.0s
KAPI Kappang 63.74 281 P **P** 02 05 32.1 -1.3
KAPI Kappang 63.74 281 LR LR 02 33 53.4
comp=Z,68nm,18.3s,baz=110,slow=37
BELA Belgrano 2 69.00 172 **P** 02 06 07.5 +1.4
MAW Mawson 71.56 201 P **P** 02 06 22.4 +0.6
comp=Z,1.8nm,1.2s
MAW Mawson 71.56 201 P **P** 02 06 22.5 +0.6
comp=Z,6.6nm,0.8s,baz=139,slow=7.9,SNR=14
comp=Z,6.6nm,0.8s
ESPZ Base Esperanza 74.84 156 P **P** 02 06 42.9 +1.5
ESPZ IAmb IAmb 02 06 54.5
comp=Z,8.6nm,0.9s
SYO Syowa Base 76.34 193⇓*e*P **P** 02 06 51.0 +1.2
TROLL Troll, Antarti 77.08 180 ⇓P **P** 02 06 55.0 +0.9
comp=Z,1μm,0.9s
MDSI Maura Dua 77.26 272 P **P** 02 06 52.7 -3.2
comp=Z,21nm,1.1s
SNAA Sanae 77.36 178 ⇓P **P** 02 06 56.5 +0.9
comp=Z,292nm,0.7s
SNAA Sanae 77.36 178 **P** 02 06 58.0 +2.4
SNAA IAmb IAmb 02 07 03.2
comp=Z,17nm,0.9s
SNAA Sanae 77.36 178 P **P** 02 06 57.2 +1.6
comp=Z,14nm,0.7s,baz=163,slow=4.9,SNR=26
SNAA LR LR 02 39 22.9
comp=Z,66nm,19.0s,baz=179,slow=34
comp=Z,14nm,0.7s
VNA3 Neumayer Olymp 77.51 176 ⇓P **P** 02 06 56.6 +0.1
comp=Z,60nm,0.8s
VNA1 Neumayer--Stat 78.18 177 ⇓P **P** 02 07 00.9 +0.9
comp=Z,36nm,0.8s
LL02 Futaleuf 79.80 134 P **P** 02 07 11.2 +1.6
LL02 IAmb IAmb 02 07 12.8
comp=Z,11nm,0.9s
H03S2 Juan Fernandez 80.04 123 T T 03 36 13.4
baz=237,slow=74,SNR=113
H03S1 Juan Fernandez 80.05 123 T T 03 36 11.7
baz=237,slow=74,SNR=97
H03S3 Juan Fernandez 80.05 123 T T 03 36 07.7
baz=237,slow=74,SNR=111
H03N3 Juan Fernandez 80.23 123 T T 03 36 12.9
baz=241,slow=72,SNR=12
H03N2 Juan Fernandez 80.23 123 T T 03 36 21.2
baz=241,slow=72,SNR=11
H03N1 Juan Fernandez 80.25 123 T T 03 36 12.0
baz=241,slow=72,SNR=87
PLCA Paso Flores 81.97 133 **P** 02 07 23.1 +1.8
PLCA IAmb IAmb 02 07 24.1
comp=Z,7.5nm,0.9s
PLCA Paso Flores 81.97 133 P **P** 02 07 22.3 +1.0
comp=Z,6.6nm,1.0s,baz=205,slow=4.8,SNR=9.8
PLCA LR LR 02 35 01.6
comp=Z,50nm,21.5s,baz=211,slow=29
comp=Z,6.6nm,1.0s
ADK Adak 82.73 1 P **P** 02 07 24.0 -0.5
MNSI Mandailing Nat 83.91 275 P **P** 02 07 32.3 +0.7
KSRS Korea Array 84.95 320 LR LR 02 42 17.6
comp=Z,26μm,19.7s,baz=145,slow=33
PSI Prapat 85.50 276 LR LR 02 47 31.7
comp=Z,82nm,18.6s,baz=115,slow=37
BORC Borrego Spring 86.56 48 P **P** 02 07 46.5 +2.2
PETK Petropavlovsk- 86.58 346 P **P** 02 07 42.6 -1.3
comp=Z,9.4nm,0.8s,baz=174,slow=7.0,SNR=5.1
comp=Z,9.4nm,0.8s
NJ2 Nanjing 86.75 311 *e*P **P** 02 07 47.9 +2.6
NJ2 pmax pmax
comp=Z,13nm,0.5s
CMB Columbia Colle 87.36 42 P **P** 02 07 48.7 +0.5
CMB IAmb IAmb 02 07 50.3
comp=Z,9.9nm,1.8s
CLC China Lake 87.50 45 P **P** 02 07 49.4 +0.5
CLC IAmb IAmb 02 07 51.5
comp=Z,7.5nm,1.1s
GSC Goldstone, Bar 87.65 46 P **P** 02 07 50.4 +0.7
GSC IAmb IAmb 02 07 53.0
comp=Z,6.6nm,1.3s
MPMC Manual Prospec 87.73 45 P **P** 02 07 51.5 +1.2
WCT Wildcat Mounta 88.74 45 P **P** 02 07 54.2 -0.6
WCT IAmb IAmb 02 09 55.1
comp=Z,6.9nm,1.7s
NVAR Mina Array Bea 88.83 43 **P** 02 07 55.7 +0.3
NVAR Mina Array Bea 88.83 43 P **P** 02 07 55.1 -0.3
comp=Z,1.3nm,0.8s,baz=224,slow=7.2,SNR=7.6
comp=Z,1.3nm,0.8s
Y14A Wickenburg 89.17 49 **P** 02 07 58.0 +1.2
Y14A IAmb IAmb 02 07 59.8
comp=Z,4.2nm,1.0s
TPH Tonopah 89.23 44 P **P** 02 07 58.1 +0.9
W13A Hualapai Mount 89.34 48 **P** 02 07 58.6 +0.8
W13A IAmb IAmb 02 08 00.8
comp=Z,5.0nm,1.2s
TUC Tucson 89.62 51 P **P** 02 08 00.8 +1.8
TUC IAmb IAmb 02 08 18.1
comp=Z,6.2nm,1.2s
PRN Pahroc Range 90.09 45 P **P** 02 08 02.2 +0.9
PRN IAmb IAmb 02 08 05.0
comp=Z,6.1nm,1.2s
PLK4 Peulik 4 90.35 11 P **P** 02 08 01.9 +0.1
PLK4 IAmb IAmb 02 08 10.8
comp=Z,10nm,0.9s
X16A Lo Mia Camp, P 90.48 49 **P** 02 08 04.2 +1.0
X16A IAmb IAmb 02 08 06.4
comp=Z,6.3nm,1.2s
CN2 Changchun 90.77 323 P **P** 02 08 05.6 +1.6
CN2 pmax pmax
comp=Z,10.0nm,0.6s
LCMT Little Creek M 90.95 46 P **P** 02 08 04.0 -1.3
U15A North Rim 91.18 47 P **P** 02 08 06.0 -0.5
U15A IAmb IAmb 02 08 10.2
comp=Z,6.6nm,1.5s
SPR3 Spring Creek 3 91.55 44 P **P** 02 08 07.5 -0.7
SPR3 IAmb IAmb 02 08 11.2
comp=Z,6.0nm,1.5s
O18K Koktuh Hills 92.65 11 P **P** 02 08 11.4 -0.9
O18K IAmb IAmb 02 08 18.0
comp=Z,6.2nm,0.9s
G08A Pilot Rock 93.10 37 P **P** 02 08 14.4 -0.5
NNA Nana 93.22 106 LR LR 02 40 42.3
comp=Z,56nm,20.4s,baz=246,slow=29
MA2 Magadan 94.06 345 LR LR 02 42 58.5
comp=Z,23nm,22.0s,baz=148,slow=31
HVU Hansel Valley 94.23 43 P **P** 02 08 20.3 0.0
PZH PanZhiHua 95.66 297 P **P** 02 08 28.5 +1.3
HHC Hu-ho-hao-te 96.78 314 *e*P **P** 02 08 33.3 +1.4
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,63nm,3.9s
O30N Mendenhall 97.83 19 P **P** 02 08 36.8 +0.8
O30N IAmb IAmb 02 08 45.5
comp=Z,3.8nm,0.7s
ILAR Eielson Array 98.70 13 P **P** 02 08 39.2 -0.6
comp=Z,0.3nm,0.9s,baz=247,slow=5.1,SNR=1.5
comp=Z,0.3nm,0.9s
F33A 5 Mile Ranch, 106.40 46 **Pdif** 02 09 13.1 -1.4
BOSA Boshof 116.52 203 PKP **PKiKP** 02 13 47.7 +2.1
comp=Z,3.6nm,1.0s,baz=154,slow=4.6,SNR=3.6
MKAR Makanchi Array 118.27 310 PKP **PKiKP** 02 13 48.8 +0.7
comp=Z,2.0nm,0.8s,baz=64,slow=3.4,SNR=9.6
ZALV Zalesovo Beam 118.62 318 PKP **PKPdf** 02 13 48.0 -0.4
comp=Z,0.8nm,0.2s,baz=15,slow=1.7,SNR=3.5
KURK Kurchatov 121.59 313 **PKPdf** 02 13 54.8 +0.5
KURBB Kurchatov Arra 121.62 313 PKP **PKPdf** 02 13 52.6 -1.8
comp=Z,4.0nm,0.7s,baz=103,slow=2.0,SNR=29
GAR Garm 124.72 298 **PKiKP** 02 14 02.1 +0.9
KK31 Karatay Array 125.50 303 **PKPdf** 02 14 01.2 -0.9
KKAR Karatay Array 125.50 303 **PKPdf** 02 14 00.9 -1.2
BVAR Borovoye Array 126.96 315 PKP **PKPdf** 02 14 03.6 -1.0
comp=Z,7.2nm,0.8s,baz=104,slow=0.6,SNR=22
SPITS Spitsbergen Ar 132.50 356 PKP **PKPdf** 02 14 13.6 -0.8
comp=Z,3.2nm,0.6s,baz=142,slow=4.2,SNR=3.8
ARTI Arti 133.80 320 **PKiKP** 02 14 19.1 +0.4
ARCES ARCESS Array B 139.36 348 PKhKP PKPpre 02 14 23.6
comp=Z,1.8nm,0.7s,baz=68,slow=1.8,SNR=14
KBZ Khabaz 145.54 303 PKPbc **PKPbc** 02 14 38.1 -1.1
comp=Z,4.6nm,0.8s,baz=146,slow=2.8,SNR=5.7
KARS Kars 145.68 297 **PKiKP** 02 14 43.7 0.0
GEVA Gevas 145.72 293 **PKPdf** 02 14 39.1 -0.7
FIA1 FINESS Array S 145.89 340 **PKPdf** 02 14 38.2 -0.9
FINES FINESS Array B 145.89 340 **PKPdf** 02 14 38.4 -0.7
FINES FINESS Array B 145.89 340 PKPbc **PKPdf** 02 14 38.0 -1.1
comp=Z,28nm,0.7s,baz=49,slow=4.4,SNR=54
KOPT Kop Dagi 147.68 297 PKPdf **PKPdf** 02 14 42.3 -0.9
NC204 NORSAR Array S 149.36 352 **PKPbc** 02 14 48.9 -0.5
NB201 NORSAR Array S 149.51 351 PKPdf **PKPdf** 02 14 46.2 +1.0
NB2 NORSAR Subarra 149.53 351 PKP **PKPbc** 02 14 48.6 -1.2
comp=Z,12nm,0.8s,baz=15,slow=4.1
NOA NORSAR Array B 149.53 351 PKPbc **PKPbc** 02 14 48.8 -1.0
comp=Z,11nm,0.8s,baz=14,slow=4.2,SNR=17
HFS Hagfors 150.02 348 PKPbc **PKPbc** 02 14 49.7 -1.2
comp=Z,13nm,0.6s,baz=83,slow=3.4,SNR=34
GAZ Gaziantep 150.37 291 PKPdf **PKPdf** 02 14 47.6 +0.2
KONO Kongsberg 151.09 352 PKPbc **PKPbc** 02 14 54.3 +0.8
BNN Bunyan 151.36 295 PKPdf **PKPdf** 02 14 48.8 -0.1
MMAI Mount Meron Ar 151.70 283 PKPbc **PKPbc** 02 14 55.7 -0.1
comp=Z,7.6nm,0.6s,baz=87,slow=2.9,SNR=14
AKASG Malin Array Be 151.92 322 PKPbc **PKPbc** 02 14 54.4 -1.3
comp=Z,13nm,0.7s,baz=55,slow=2.7,SNR=34
AKBB Malin Array Si 151.92 322 PKPdf **PKPdf** 02 14 50.0 +0.8
AKBB Malin Array Si 151.92 322 PKP **PKPdf** 02 14 49.1 0.0
KIEV Kiev 151.93 322 PKPdf **PKPdf** 02 14 51.2 +2.0
SUW Suwalki 152.58 332 *e*PKP **PKiKP** 02 14 01.0 +3.7
BR131 Keskin Array S 152.96 297 PKPdf **PKPdf** 02 14 52.3 +1.0
BRTR Keskin Array B 152.96 297 PKPdf **PKPdf** 02 14 50.3 -1.0
BRTR Keskin Array B 152.96 297 PKPbc **PKPbc** 02 14 57.5 -1.1
comp=Z,4.5nm,0.6s,baz=139,slow=3.3,SNR=18
ANTO Ankara 153.58 298 PKPdf **PKPdf** 02 14 51.2 -0.9
KWP Kalwaria Pacla 155.89 326 *e*PKP **PKPab** 02 15 23.3 +1.4
STHS Stebnicka Huta 156.73 327 *e*PKP **PKPab** 02 15 28.2 +2.7
NIE Niedzica 157.16 328 *e*PKP **PKPab** 02 15 30.4 +3.0
KSP Ksiaz 157.68 336 *e*PKP **PKPab** 02 15 32.3 +2.9
FLTG Flechtingen 157.82 345 *e*PKPbc **PKPab** 02 15 32.5 +2.5
baz=25,slow=4.3
MORC Moravsky Berou 158.07 332 *e*PKP **PKPab** 02 15 32.1 +0.8
ASSE Asse, Remlinge 158.13 346 *e*PKPbc **PKPab** 02 15 34.0 +2.8
baz=25,slow=4.3
CLL Collm 158.31 341 *e*PKPbc **PKPab** 02 15 34.6 +2.5
baz=25,slow=4.3
BRG Berggiesshubel 158.43 339 *e*PKPbc **PKPab** 02 15 35.3 +2.6
baz=25,slow=4.3
BRG Berggiesshubel 158.43 339 *e*PKP **PKPab** 02 15 35.6 +2.9
BRG Amp 02 15 36.4
comp=Z,5.5nm,0.9s
CLZ Clausthal 158.47 346 *e*PKPbc **PKPab** 02 15 35.5 +2.6
baz=25,slow=4.3
IBBN Ibbenbueren 158.49 350 *e*PKPbc **PKPab** 02 15 36.3 +3.4
baz=25,slow=4.3
VYHS Vyhne 158.50 328 *e*PKP **PKPab** 02 15 36.0 +2.9
JAVC Velka Javorina 158.73 331 *e*PKP **PKPab** 02 15 37.7 +3.5
VRAC Vranov 158.82 333 *e*PKP **PKPab** 02 15 36.3 +1.8
GTTG Gottingen 158.83 346 *e*PKPbc **PKPab** 02 15 37.2 +2.8
baz=25,slow=4.3
KRUC Moravsky 159.09 333 *e*PKP **PKPab** 02 15 37.8 +2.1
MODS Modra-Piesok 159.27 330 *e*PKP PKPab 02 15 22.8 -14
MODS *e* 02 15 37.6
MODS *e* 02 33 38.2
MOX Moxa 159.29 342 *e*PKPbc **PKPab** 02 15 38.7 +2.3
baz=25,slow=4.3
MANZ Manzenberg 159.75 341 *e*PKPbc **PKPab** 02 15 40.8 +2.3
baz=25,slow=4.3
ROTZ Rotzenmuhle 159.92 340 *e*PKPbc **PKPab** 02 15 41.4 +2.1
baz=25,slow=4.3
RONA Rosalia, Austr 160.21 330 *i* PKP **PKPab** 02 15 43.4 +2.8
comp=Z,5.0nm,0.9s
CONA Conrad Observa 160.21 332 *i* PKP **PKPab** 02 15 43.4 +2.7
comp=Z,4.4nm,0.8s
GEC2 GERESS Array S 160.26 337 *e*PKPbc **PKPab** 02 15 43.5 +2.6
baz=25,slow=4.3
GERES GERESS Array B 160.26 337 PKP **PKPdf** 02 14 59.0 -1.3
comp=Z,0.2nm,0.5s,baz=27,slow=4.5,SNR=4.4
GERES PKPab **PKPab** 02 15 40.7 -0.2
comp=Z,1.2nm,0.7s,baz=38,slow=6.8,SNR=8.9
GRF Grafenberg Arr 160.26 342 *e*PKPbc **PKPab** 02 15 43.0 +2.3
baz=25,slow=4.3
WET Wettzell 160.27 338 *e*PKPbc **PKPab** 02 15 43.3 +2.4
baz=25,slow=4.3
TNS Taunus Mts 160.39 348 *e*PKPbc **PKPab** 02 15 44.0 +2.7
baz=25,slow=4.3
MOA Molln 160.90 334 *i* PKP **PKPab** 02 15 45.5 +1.9
comp=Z,4.4nm,1.6s
BIOA Bad Ischl, Aus 161.27 335 *i* PKP **PKPab** 02 15 48.0 +2.8
comp=Z,2.3nm,1.1s
RJOB Jochberg 161.53 336 *e*PKPbc **PKPab** 02 15 48.9 +2.5
baz=25,slow=4.3
SOKA Soboth 161.55 331 *i* PKP **PKPab** 02 15 45.6 -0.9
comp=Z,1.9nm,0.9s
FUR Furstenfeldbru 161.63 340 *e*PKPbc **PKPab** 02 15 49.1 +2.4
baz=25,slow=4.3
LESA Schwarzleotal 161.84 336 *i* PKP **PKPab** 02 15 49.0 +1.3
comp=Z,1.8nm,0.8s
OBKA Obir 161.88 331 *i* pPKP **PKPab** 02 15 53.9 +5.8
comp=Z,2.6nm,1.0s
TORD Torodi Ar. Bea 162.03 179 PKP **PKPdf** 02 15 04.0 +1.0
comp=Z,1.6nm,1.0s,baz=73,slow=0.5,SNR=4.3
TORD PKPab **PKPab** 02 15 48.9 -0.3
comp=Z,4.6nm,0.8s,baz=165,slow=2.4,SNR=6.0
MYKA Terra Mystica 162.15 333 *e*PKP **PKPab** 02 15 50.2 +1.0
comp=Z,1.8nm,0.4s
BFO Black Forest 162.22 346 *e*PKPbc **PKPab** 02 15 51.9 +2.6
baz=25,slow=4.3
WATA Walderalm 162.28 338 *e*PKP **PKPab** 02 15 52.3 +2.5
comp=Z,3.0nm,0.8s
WTTA Wattenberg 162.32 338 *i* PKP **PKPab** 02 15 52.8 +2.8
comp=Z,4.1nm,0.8s
RETA Reutte 162.39 340 *i* PKP **PKPab** 02 15 53.2 +3.0
comp=Z,4.6nm,0.8s
MOTA Moosalm 162.42 339 *i* PKP **PKPab** 02 15 52.7 +2.3
comp=Z,5.0nm,0.9s
ABTA Abfaltersbach 162.47 335 *i* PKP **PKPab** 02 15 52.0 +1.4
comp=Z,4.1nm,0.9s
SQTA Sankt Quirin 162.50 339 *i* PKP **PKPab** 02 15 52.9 +2.2
comp=Z,4.3nm,0.9s
FETA Feichten 162.82 339 *i* PKP **PKPab** 02 15 54.1 +1.9
comp=Z,4.7nm,1.3s
DAVA Damuels 162.82 342 *i* PKP **PKPab** 02 15 54.7 +2.5
comp=Z,7.6nm,0.9s
FUORN Ofenpass-Fuorn 163.32 340 **PKPab** 02 15 52.7 -1.8
ESDC Sonseca Array 170.25 28 PKP **PKPdf** 02 15 10.1 +1.1
comp=Z,1.2nm,0.8s,baz=334,slow=2.8,SNR=8.1

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*DSN **23** 01:57:55.8±1.0, 26°.83N×55°.10E, h10km, ML2.8/5, Error ellipse: s-maj=15.1km s-min=4.4km az=21.0*
*OMAN **23** 01:57:56.0±0.2, 27°.03N×55°.70E, h11km±8km, ml3.2/12, Error ellipse: s-maj=14.8km s-min=1.7km az=345.0*
*TEH **23** 01:58:02.7, 28°.11N×55°.39E, h9km*
ISC 23 01:57:58.4±1.1, 26.72N±0.04×55.20E±0.06, h10km, n30, σ1§66/46, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHME	**Shamm**	**1.08**	**128**	P	**Pn**	**01 58 18.5**	**-1.0**
SHME				S	**Sn**	**01 58 35.5**	**+1.0**
BNDS	**Bandar-Abbas**	**1.10**	**52**	Pg	**Pn**	**01 58 21.4**	**+1.2**
GENO	**Geno**	**1.11**	**52**	Pg	**Pn**	**01 58 21.3**	**+1.1**
GENO				Sg	**Sn**	**01 58 37.1**	**+1.6**
LAR1	**LAR**	**1.20**	**323**	Pg	**Pn**	**01 58 21.8**	**+0.2**
LAR1				Sg	**Sn**	**01 58 37.2**	**+0.5**
UMQ	**Umm Al-Quwin**	**1.26**	**160**	P	**Pg**	**01 58 22.6**	**0.0**
UMQ				S	**Sg**	**01 58 41.7**	**+2.8**
	SNR=9.2						
IBND	**Bandar-abas**	**1.40**	**58**	Pg	**Pg**	**01 58 26.4**	**+1.0**
MASF	**Masafi**	**1.59**	**147**	P	**Pn**	**01 58 26.8**	**0.0**
	SNR=10						
MASF				S	**Sn**	**01 58 48.7**	**+1.3**
MDH	**Madha**	**1.72**	**145**	P	**Pn**	**01 58 28.4**	**-0.1**
MDH				S	**Sn**	**01 58 51.1**	**+0.5**
MDH	**Madha**	**1.72**	**145**	P	**Pn**	**01 58 28.2**	**-0.3**
NAZ	**Nazwa, Dubai**	**1.77**	**166**	P	**Pb**	**01 58 30.6**	**-0.4**
NAZ				S	**Sg**	**01 58 55.6**	**+0.2**
UOSS	**Minazif**	**1.98**	**153**	P	**Pn**	**01 58 32.0**	**-0.1**
UOSS				S	**Sn**	**01 58 58.9**	**+1.9**
UOSS	**Minazif**	**1.98**	**153**	P	**Pn**	**01 58 31.6**	**-0.4**
HATD	**Hatta, Dubai**	**2.06**	**156**	P	**Pn**	**01 58 33.8**	**+0.7**
HATD				S	**Sn**	**01 59 00.7**	**+1.8**
HATD	**Hatta, Dubai**	**2.06**	**156**	P	**Pn**	**01 58 32.4**	**-0.7**
ASUD	**Al Ashush, Dub**	**2.08**	**177**	P	**Pb**	**01 58 36.1**	**-0.2**
ASUD				S	**Sg**	**01 59 06.4**	**+1.0**
ASHO	**Ashiyiah**	**2.17**	**159**	P	**Pn**	**01 58 34.8**	**+0.2**
ASHO	**Ashiyiah**	**2.17**	**159**	P	**Pn**	**01 58 33.8**	**-0.8**
ALNE	**Al Ain**	**2.69**	**169**	P	**Pn**	**01 58 43.0**	**+1.1**
SOHO	**SOHO**	**2.84**	**155**	P	**Pn**	**01 58 43.0**	**-0.8**
SOHO				S	**Sn**	**01 59 21.4**	**+3.2**
SOHO	**SOHO**	**2.84**	**155**	P	**Pn**	**01 58 42.8**	**-1.0**
ARQ	**Araqi**	**3.57**	**160**	P	**Pn**	**01 58 55.0**	**+1.0**
	SNR=9.4						
ARQ				S	**Sn**	**01 59 36.6**	**+0.4**
HOQ	**Hoqain**	**3.66**	**148**	P	**Pn**	**01 58 53.6**	**-1.5**
HOQ				S	**Sn**	**01 59 39.3**	**+0.8**
KBAM	**BAM**	**3.76**	**49**	Pn	Pn	01 58 51.2	-5.3
BIDO	**Bidbid**	**4.14**	**140**	P	**Pn**	**01 58 58.8**	**-3.0**
BIDO				S	**Sn**	**01 59 48.6**	**-1.7**
SMDO	**Samad**	**4.47**	**144**	P	**Pn**	**01 59 03.9**	**-2.4**
	SNR=7.5						
SMDO				S	**Sn**	**01 59 58.4**	**-0.1**
	SNR=7.3						
WSAR	**Wadi Sarin**	**4.66**	**137**	P	**Pn**	**01 59 05.4**	**-3.5**
WSAR				S	**Sn**	**02 00 02.2**	**-0.8**
JLN	**Jalan Bani Buh**	**5.95**	**139**	P	**Pn**	**01 59 22.4**	**-4.2**
JLN				S	**Sn**	**02 00 30.7**	**-4.2**
MHTO	**MHTO**	**6.24**	**155**	P	**Pn**	**01 59 30.0**	**-0.6**
	SNR=8.3						
WHFO	**Wadi Hawf**	**8.85**	**189**	P	**Pn**	**02 00 05.0**	**-1.6**
	SNR=14						
ABTO	**Aybut**	**9.48**	**191**	P	**Pn**	**02 00 13.0**	**-2.2**
	SNR=5.9						

IDC 23 02:03:39.5±25.0, 21°.22S×177°.05W, h435km±206km, mb3.1/3, mbtmp3.9/3, Error ellipse: s-maj=343.4km s-min=59.1km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.22**	**257**	P	P	02 11 16.9	+0.3
	1.8nm,0.5s,baz=98,slow=7.6,SNR=16						
	1.8nm,0.5s						
WRA	**Warramunga Arr**	**45.38**	**263**	P	P	02 11 17.2	-0.6
	0.8nm,0.5s,baz=96,slow=7.8,SNR=17						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**88.82**	**12**	P	P	02 15 45.2	-0.2
	0.3nm,0.5s,baz=212,slow=5.3,SNR=4.5						
	0.3nm,0.5s						
HFS	**Hagfors**	**140.38**	**352**	PKhKP	PKPpre	02 22 11.0	
	0.6nm,0.5s,baz=28,slow=3.5,SNR=5.6						
AKASG	**Malin Array Be**	**144.07**	**331**	PKP	PKPbc	02 22 21.9	-1.6
	1.2nm,0.5s,baz=46,slow=4.1,SNR=8.7						
BRTR	**Keskin Array B**	**147.98**	**312**	PKPbc	PKPbc	02 22 34.7	-0.6
	0.5nm,0.7s,baz=108,slow=4.7,SNR=2.6						
MMAI	**Mount Meron Ar**	**148.94**	**299**	PKPbc	PKPbc	02 22 37.6	-0.2
	0.9nm,0.5s,baz=64,slow=3.4,SNR=2.1						
GERES	**GERESS Array B**	**151.12**	**345**	PKPbc	PKiKP	02 22 43.0	+0.2
	0.2nm,0.6s,baz=360,slow=2.3,SNR=3.3						

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*IDC **23** 02:26:40.0±0.9, 44°.05N×39°.62E, h0km, mb3.5/1, mbtmp3.3/6, ML3.0/5, MS3.6/1, Error ellipse: s-maj=20.2km s-min=9.4km az=7.0*
*MOS **23** 02:26:41.8, 44°.17N×39°.66E, h11km, MPVA4.2*
*CFUSG **23** 02:26:44.0, 44°.02N×39°.52E, h28km, mb2.3/4, Krasnodar region Magtype MSH 3.0 from 5 stations*
ISC 23 02:26:42.1±0.9, 44.09N±0.03×39.62E±0.02, h15km±6km, n44, σ1§42/75, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRNR	**Maryino**	**0.18**	**215**	*i* Pg	**Pb**	**02 26 47.8**	**+0.5**
MRNR				*i* Sg	**Sg**	**02 26 52.1**	**+2.7**
GOYR	**Goytkh**	**0.24**	**312**	*i* Pg	**Pg**	**02 26 46.6**	**-0.8**
GOYR				*i* Sg	**Sg**	**02 26 49.9**	**-1.1**
GUZR	**Guzeripl'**	**0.37**	**104**	*i* Pg	**Pg**	**02 26 49.3**	**-0.4**
GUZR				*i* Sg	**Sg**	**02 26 54.6**	**-0.2**
SOC	**Sochi**	**0.51**	**172**	*i* Pg	**Pn**	**02 26 54.0**	**-0.9**
SOC				*i* Sg	**Sb**	**02 27 03.1**	**+3.1**
RPOR	**Krasnaya Polya**	**0.60**	**130**	*i* Pg	**Pb**	**02 26 53.7**	**-0.7**
RPOR				*i* Sg	**Sb**	**02 27 02.1**	**-0.8**
VSLR	**Vesyoloye**	**0.69**	**155**	*i* Pg	**Pn**	**02 26 57.3**	**-0.1**
VSLR				*i* Sg	**Sn**	**02 27 08.0**	**0.0**
GRYR	**Gornoye**	**1.06**	**88**	*i* Pg	**Pb**	**02 27 01.3**	**-1.0**
GRYR				*i* Sg	**Sg**	**02 27 15.6**	**-0.8**
SPGR	**Shapsug**	**1.29**	**301**	*i* Pg	**Pb**	**02 27 06.2**	**+0.1**
SPGR				*e*Sg	**Sg**	**02 27 24.3**	**+0.5**
SRGR	**Sergiyevskiy**	**1.37**	**346**	*i* Pg	**Pn**	**02 27 07.1**	**+0.3**
SRGR				*i* Sg	**Sn**	**02 27 25.6**	**+0.9**
GLDR	**Gladkovskiy**	**1.63**	**304**	*i* Pg	**Pb**	**02 27 11.7**	**-0.2**
GLDR				*e*Sg	**Sb**	**02 27 32.9**	**+0.6**
ANN	**Anapa**	**1.72**	**295**	*e*Pg	**Pb**	**02 27 13.6**	**+0.1**
ANN				*e*Sg	**Sg**	**02 27 37.8**	**+0.2**
SUKR	**Sukko**	**1.73**	**295**	*i* Pg	**Pn**	**02 27 12.1**	**+0.4**
SUKR				*i* Sg	**Sn**	**02 27 34.6**	**+1.2**
ERBR	**Yeremizino-Bor**	**1.74**	**20**	*i* Pg	**Pn**	**02 27 12.8**	**+0.9**
ERBR				*i* Sg	**Sn**	**02 27 35.3**	**+1.5**
NVNR	**Nevinnomyssk**	**1.76**	**72**	*e*Pg	**Pn**	**02 27 12.5**	**+0.4**
NVNR				*e*Sg	**Sn**	**02 27 34.1**	**-0.1**
KIV	**Kislovodsk**	**2.21**	**92**	*i* Pg	**Pn**	**02 27 19.8**	**+1.3**
KIV				*e*Sg	**Sb**	**02 27 48.4**	**-0.8**

NEUR	**Neytrino**	**2.38**	**109**	*e*Pn		Pn		02 27 13.7	-7.2
NEUR				*e*Sn		**Sn**		**02 27 43.7**	**-6.2**
KBZ	**Khabaz**	**2.39**	**97**	Pn		**Pn**		**02 27 22.9**	**+2.0**
	3.3nm,0.3s,baz=289,slow=13,SNR=33								
KBZ				Sn		**Sb**		**02 27 54.0**	**-0.3**
	6.8nm,0.3s,baz=68,slow=15,SNR=7.8								
	7.7nm,0.3s								
KBZ	**Khabaz**	**2.39**	**97**	*e*Pn		**Pn**		**02 27 22.8**	**+2.0**
KBZ				*e*Sn		**Sn**		**02 27 52.2**	**+2.4**
ALER	**Alexandrovskoy**	**2.45**	**73**	*e*Pn		**Pn**		**02 27 23.2**	**+1.5**
ALER				*e*Sn		**Sn**		**02 27 53.3**	**+1.9**
PYA1	**Pyatigorsk**	**2.50**	**89**	*e*Pn		**Pn**		**02 27 23.6**	**+1.2**
PYA1				*e*Sn		**Sn**		**02 27 54.5**	**+1.8**
GOF	**Gofitskoye**	**2.63**	**67**	*e*Pn		**Pn**		**02 27 26.6**	**+2.5**
GOF				*e*Sn		**Sn**		**02 27 57.2**	**+1.5**
KBTC	**Kuba-Taba**	**2.75**	**94**	*e*Pn		**Pn**		**02 27 28.0**	**+2.3**
KBTC				*e*Sn		**Sn**		**02 28 00.1**	**+1.4**
SUDU	**Sudak**	**3.41**	**285**	*e*Pn		**Pn**		**02 27 34.5**	**-0.2**
SUDU				*e*Sn		**Sn**		**02 28 14.1**	**-0.7**
SUDU	**Sudak**	**3.41**	**285**	*e*P		**Pn**		**02 27 34.5**	**-0.2**
SUDU				Pm				02 27 35.2	
	comp=Z,3.0nm,0.2s								
SUDU				*e*S		**Sn**		**02 28 14.1**	**-0.7**
SUDU				Sm				02 28 15.5	
	comp=N,20nm,0.5s								
SUDU				Sm				02 28 15.5	
	comp=E,4.0nm,0.4s								
ALU	**Alushta**	**3.79**	**281**	*e*Sn		**Sn**		**02 28 26.3**	**+2.0**
ALU	**Alushta**	**3.79**	**281**	*e*S		**Sn**		**02 28 26.3**	**+2.0**
ALU				Sm				02 28 29.4	
	comp=N,34nm,0.3s								
YAL	**Yalta**	**3.95**	**278**	*e*Pn		**Pn**		**02 27 42.3**	**+0.1**
YAL				*e*Sn		**Sn**		**02 28 28.2**	**0.0**
YAL	**Yalta**	**3.95**	**278**	*e*P		**Pn**		**02 27 42.3**	**+0.1**
YAL				Pm				02 27 42.6	
	comp=Z,2.0nm,0.2s								
YAL				*e*S		**Sn**		**02 28 28.2**	**0.0**
YAL				Sm				02 28 29.8	
	comp=N,1.0nm,0.2s								
YAL				Sm				02 28 29.8	
	comp=E,9.0nm,0.4s								
SIM	**Simferopol'**	**4.03**	**284**	*e*Sn		**Sn**		**02 28 30.4**	**+0.1**
SIM	**Simferopol'**	**4.03**	**284**	*e*S		**Sn**		**02 28 30.4**	**+0.1**
SIM				Sm				02 28 34.4	
	comp=N,6.0nm,0.4s								
SIM				Sm				02 28 34.4	
	comp=E,8.0nm,0.3s								
SEV	**Sevastopol'**	**4.30**	**278**	*e*Pn		**Pn**		**02 27 46.3**	**-0.7**
SEV				*e*Sn		**Sn**		**02 28 35.5**	**-1.4**
SEV	**Sevastopol'**	**4.30**	**278**	*e*P		**Pn**		**02 27 46.3**	**-0.7**
SEV				Pm				02 27 47.8	
	comp=Z,4.0nm,0.3s								
SEV				*e*S		**Sn**		**02 28 35.5**	**-1.4**
SEV				Sm				02 28 35.7	
	comp=N,5.0nm,0.4s								
SEV				Sm				02 28 35.7	
	comp=E,3.0nm,0.3s								
DNZ2	**Donuzlav2**	**4.75**	**288**	*e*Sn		**Sn**		**02 28 48.0**	**+0.1**
DNZ2	**Donuzlav2**	**4.75**	**288**	*e*S		**Sn**		**02 28 48.0**	**+0.1**
DNZ2				Sm				02 28 50.2	
	comp=N,3.0nm,0.4s								
DNZ2				Sm				02 28 50.2	
	comp=E,10.0nm,0.5s								
TARU	**Tarkhankut**	**5.21**	**287**	*e*Pn		**Pn**		**02 28 00.7**	**+1.1**
TARU				*e*Sn		**Sn**		**02 28 59.5**	**+0.1**
TARU	**Tarkhankut**	**5.21**	**287**	*e*P		**Pn**		**02 28 00.7**	**+1.1**
TARU				Pm				02 28 01.1	
	comp=Z,4.0nm,0.2s								
TARU				*e*S		**Sn**		**02 28 59.0**	**-0.4**
TARU				Sm				02 28 59.5	
	comp=N,4.0nm,0.4s								
TARU				Sm				02 28 59.5	
	comp=E,3.0nm,0.3s								
BRTR	**Keskin Array B**	**6.24**	**228**	Pn		**Pn**		**02 28 15.3**	**+1.5**
	comp=E,0.1nm,0.3s,baz=39,slow=11,SNR=5.2								
	comp=E,0.4nm,0.4s								
AKASG	**Malin Array Be**	**9.66**	**317**	Pn		**Pn**		**02 29 00.0**	**-0.6**
	comp=E,0.7nm,0.3s,baz=125,slow=9.2,SNR=3.0								
	comp=E,0.3nm,0.3s								
FINES	**FINESS Array B**	**19.15**	**340**	P		**P**		**02 31 03.3**	**-1.3**
	comp=E,0.1nm,0.3s,baz=160,slow=13,SNR=2.1								
	comp=E,1.9nm,1.1s								
HFS	**Hagfors**	**22.39**	**325**	P		**P**		**02 31 38.3**	**-1.4**
	comp=E,1.3nm,0.6s,baz=126,slow=15,SNR=5.7								
	comp=E,1.3nm,0.6s								
LSZ	**Lusaka**	**59.99**	**193**	LR		LR		03 05 57.4	
	comp=E,49nm,18.3s,baz=144,slow=39								

NIED ***23*** *02:31:55.5,29.74N×141.46E,h50km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.28; Mθθ0.69; Mφφ-1.97; Mrθ-1.59; Mθφ 1.04; Mφr1.61; Fault plane solution: M₀2.99000×10¹⁵ NP1: φs195.00000°,δ29.00000°,λ146.00000°. NP2: φs316.00000°,δ74.00000°,λ65.00000°.*

IDC ***23*** *02:31:59.5±0.9,29.61N×141.20E,h63km±6km,mb3.8/18, mbtmp4.1/20,MS3.1/5 Error ellipse: s-maj=21.4km s-min=14.5km az=75.0*

NEIC ***23*** *02:32:00.1±1.1,29.6N±0.1×141.2E±0.2,h62km±8km, mb4.6/132,Error ellipse: s-maj=23.3km s-min=18.5km az=222.0*

ISC 23 02:32:00.1±0.5, 29.66N±0.09×141.24E±0.09, h67km, n400, σ0s72/397, mb4.5/83, 1C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JHJ2	**Mitsune**	**3.65**	**341**	Pn	**Pn**	**02 32 54.2**	**+0.1**
INU	**Inuyama**	**6.70**	**329**	Pn	**Pn**	**02 33 36.3**	**+0.5**
JGF	**Kuroka**	**6.77**	**332**		**Pn**	**02 33 37.6**	**+0.8**
MJAR	**Matsushiro Arr**	**7.32**	**340**		**Pn**	**02 33 44.7**	**+0.4**
MJAR	**Matsushiro Arr**	**7.32**	**340**	P	**Pn**	**02 33 43.7**	**-0.6**
	4.6nm,0.5s,baz=133,slow=15,SNR=15						
MAJO	**Matsushiro**	**7.32**	**340**		**Pn**	**02 33 45.2**	**+0.9**
MJB9	**Matsu-Tunnel**	**7.32**	**340**		**Pn**	**02 33 44.0**	**-0.4**
JMM	**Marumori**	**8.19**	**357**		**Pn**	**02 33 53.2**	**-3.0**
JOW	**Kunigami**	**11.78**	**259**	LR	LR	02 38 51.1	
	comp=Z,83nm,20.9s,baz=120,slow=35						
KS19	**Wonju Array Si**	**13.61**	**309**		**Pn**	**02 35 09.0**	**-1.0**
ASAJ	**Asahikawa**	**14.46**	**4**	LR	LR	02 42 20.8	
	comp=Z,34nm,18.3s,baz=169,slow=43						
USRK	**Ussuriysk Ar.**	**16.27**	**336**	P	**Pn**	**02 35 42.6**	**-1.6**
	3.4nm,0.8s,baz=160,slow=9.9,SNR=6.8						
NJ2	**Nanjing**	**19.37**	**283**	*e*P	**P**	**02 36 20.3**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
BNX	**BinXian**	**19.38**	**330**	⇑P	**P**	**02 36 20.4**	**0.0**
BNX				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HEH	**HeiHe**	**23.06**	**337**	*e*P	**P**	**02 36 58.8**	**-1.0**
HEH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**25.27**	**107**	T	T	03 03 30.7	
	baz=298,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**25.27**	**107**	T	T	03 03 25.2	
	baz=298,slow=75,SNR=9.0						
H11N3	**WAKE ISLAND Hy**	**25.28**	**107**	T	T	03 03 19.0	
	baz=298,slow=75,SNR=8.4						
PETK	**Petropavlovsk-**	**26.35**	**23**	LR	LR	02 48 07.4	
	comp=Z,40nm,21.9s,baz=200,slow=37						
HHC	**Hu-ho-hao-te**	**26.56**	**303**	*e*P	**P**	**02 37 33.3**	**+1.4**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,5.5s						
DAV	**Davao City (W)**	**26.88**	**216**	LR	LR	02 49 26.5	
	comp=Z,52nm,18.3s,baz=176,slow=39						
SONM	**Songino Array**	**32.32**	**314**	P	**P**	**02 38 22.5**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=116,slow=13,SNR=2.2						
	comp=Z,0.5nm,0.6s						
PZH	**PanZhiHua**	**34.88**	**275**	P	**P**	**02 38 45.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**40.01**	**264**	LR	LR	02 56 55.7	
	comp=Z,36nm,19.1s,baz=200,slow=37						
P08K	**Saint George I**	**43.55**	**37**	P	**P**	**02 39 57.5**	**+0.4**
	baz=253						
UNV	**Unalaska Valle**	**44.57**	**42**	P	**P**	**02 40 05.5**	**+0.3**
	baz=259						
GAMB	**Gambell**	**45.20**	**27**	P	**P**	**02 40 09.6**	**-0.5**
	baz=244						
M11K	**Mekoryuk**	**46.35**	**33**	P	**P**	**02 40 18.8**	**-0.4**
	baz=253						
ZALV	**Zalesovo Beam**	**47.02**	**318**	P	**P**	**02 40 24.4**	**-0.2**
ZALV	**Zalesovo Beam**	**47.02**	**318**	P	**P**	**02 40 25.1**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=108,slow=4.7,SNR=2.1						
	comp=Z,0.5nm,0.4s						

TNA	**Tin City**	**47.43**	**26**	P		**P**		**02 40 26.8**	**-0.7**
	baz=246								
S12K	**Black Hills**	**47.43**	**40**	P		**P**		**02 40 26.5**	**-1.2**
	baz=261								
K13K	**Kusilvak Mount**	**47.53**	**31**	P		**P**		**02 40 27.5**	**-0.8**
	baz=253								
M13K	**Dall Lake**	**47.72**	**34**	P		**P**		**02 40 28.8**	**-1.1**
	baz=256								
F14K	**Arctic Creek**	**48.01**	**26**	P		**P**		**02 40 31.0**	**-1.0**
	baz=248								
ANM	**Nome**	**48.06**	**28**	P		**P**		**02 40 31.4**	**-1.1**
	baz=250								
MKAR	**Makanchi Array**	**48.23**	**308**	P		**P**		**02 40 34.3**	**+0.2**
MKAR	**Makanchi Array**	**48.23**	**308**	PcP		**PcP**		**02 42 01.2**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=96,slow=2.9,SNR=4.1								
J14K	**Nanvaranak Lak**	**48.26**	**30**	P		**P**		**02 40 33.6**	**-0.3**
	baz=253								
L14K	**Kuka Creek**	**48.27**	**32**	P		**P**		**02 40 34.2**	**+0.1**
	baz=255								
SDPT	**Sand Point**	**48.27**	**41**	P		**P**		**02 40 33.5**	**-0.7**
	baz=263								
N14K	**Kuskokwak Cree**	**48.42**	**34**	P		**P**		**02 40 34.8**	**-0.4**
	baz=258								
M14K	**Bethel**	**48.47**	**33**	P		**P**		**02 40 35.6**	**0.0**
	baz=257								
O14K	**Tigyukauivet M**	**48.49**	**35**	P		**P**		**02 40 35.9**	**+0.1**
	baz=259								
G15K	**Niukluk**	**48.75**	**27**	P		**P**		**02 40 38.3**	**+0.6**
	baz=251								
F15K	**North Star Dit**	**48.75**	**26**	P		**P**		**02 40 38.1**	**+0.3**
	baz=250								
S14K	**Fog Glacier**	**48.91**	**39**	P		**P**		**02 40 39.1**	**-0.2**
	baz=263								
L15K	**Ungalak Mounta**	**48.91**	**32**	P		**P**		**02 40 38.8**	**-0.2**
	baz=256								
K15K	**Wolf Creek Mou**	**49.04**	**31**	P		**P**		**02 40 40.2**	**+0.1**
	baz=256								
M15K	**Kasigluk River**	**49.07**	**34**	P		**P**		**02 40 40.5**	**+0.3**
	baz=258								
O15K	**Ungalikthiuk R**	**49.20**	**36**	P		**P**		**02 40 41.8**	**+0.5**
	baz=260								
N15K	**Kwethluk River**	**49.25**	**34**	P		**P**		**02 40 42.2**	**+0.5**
	baz=259								
H16K	**Elim**	**49.37**	**28**	P		**P**		**02 40 42.7**	**+0.2**
	baz=253								
G16K	**Koyuk River**	**49.55**	**27**	P		**P**		**02 40 43.2**	**-0.6**
	baz=252								
J16K	**Anvik River**	**49.70**	**30**	P		**P**		**02 40 44.7**	**-0.3**
	baz=256								
WRA	**Warramunga Arr**	**49.77**	**189**	P		**P**		**02 40 45.4**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=5.4,slow=7.6,SNR=18								
WRA				PcP		**PcP**		**02 42 06.3**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=1.0,slow=3.8,SNR=6.2								
	comp=Z,0.7nm,0.3s								
I17K	**Umalakleet**	**49.81**	**29**	P		**P**		**02 40 46.2**	**+0.4**
	baz=255								
L16K	**Owhat River**	**49.85**	**32**	P		**P**		**02 40 46.4**	**-0.2**
	baz=258								
N16K	**Nishlik Lake**	**49.95**	**34**	P		**P**		**02 40 47.3**	**+0.3**
	baz=260								
M16K	**Timber Creek**	**49.96**	**33**	P		**P**		**02 40 47.1**	**+0.1**
	baz=259								
D17K	**Noatak River**	**50.02**	**24**	P		**P**		**02 40 47.6**	**+0.2**
	baz=250								
P16K	**Nushagak River**	**50.11**	**36**	P		**P**		**02 40 48.3**	**+0.1**
	baz=262								
O16K	**Kokwok River B**	**50.14**	**35**	P		**P**		**02 40 48.7**	**+0.2**
	baz=261								
RDOG	**Red Dog Mine**	**50.21**	**24**	P		**P**		**02 40 49.7**	**+0.8**
	baz=250								
G17K	**Kiwalik Mounta**	**50.26**	**27**	P		**P**		**02 40 49.6**	**+0.4**
	baz=254								
E17K	**Hotham Inlet**	**50.28**	**25**	P		**P**		**02 40 49.8**	**+0.4**
	baz=252								
F17K	**Baldwin Pennin**	**50.30**	**26**	P		**P**		**02 40 49.9**	**+0.5**
	baz=253								
J17K	**VABM Dome**	**50.39**	**30**			**P**		**02 40 51.5**	**+1.3**
J17K					IAmb	IAmb		02 40 52.8	
	comp=Z,8.7nm,1.0s								
J17K	**VABM Dome**	**50.39**	**30**	P		**P**		**02 40 51.1**	**+0.8**
	baz=257								
H17K	**Granite Mounta**	**50.41**	**28**	P		**P**		**02 40 51.2**	**+0.8**
	baz=255								
L17K	**Donlin**	**50.48**	**32**	P		**P**		**02 40 51.5**	**+0.6**
	baz=259								
K17K	**Iditarod**	**50.59**	**31**			**P**		**02 40 53.3**	**+1.5**
K17K	**Iditarod**	**50.59**	**31**	P		**P**		**02 40 52.5**	**+0.7**
	baz=258,SNR=5.2								
O17K	**Koliganek Bris**	**50.67**	**35**	P		**P**		**02 40 52.8**	**+0.4**
	baz=262								
N17K	**Nushagak Hills**	**50.73**	**34**			**P**		**02 40 54.0**	**+1.1**
N17K					IAmb	IAmb		02 40 55.5	
	comp=Z,8.9nm,1.2s								
N17K	**Nushagak Hills**	**50.73**	**34**	P		**P**		**02 40 53.7**	**+0.9**
	baz=261								
M17K	**Holitna River**	**50.75**	**33**			**P**		**02 40 54.0**	**+1.0**
M17K	**Holitna River**	**50.75**	**33**	P		**P**		**02 40 54.5**	**+1.4**
	baz=260,SNR=5.3								
R17L	**Mt. Peulik Vol**	**50.80**	**38**	P		**P**		**02 40 53.8**	**+0.4**
	baz=264								
P17K	**Kvichak River**	**50.93**	**36**	P		**P**		**02 40 54.8**	**+0.5**
	baz=263								
F18K	**Selawik**	**50.95**	**26**	P		**P**		**02 40 54.5**	**+0.1**
	baz=254								
C18K	**Utukok River**	**51.01**	**23**	P		**P**		**02 40 55.4**	**+0.5**
	baz=251								
B18K	**Kokolik River**	**51.05**	**22**	P		**P**		**02 40 55.9**	**+0.8**
	baz=250								
CHIR	**Chirikof Islan**	**51.06**	**40**	P		**P**		**02 40 55.8**	**+0.4**
	baz=266								
H18K	**Honolua River**	**51.10**	**28**	P		**P**		**02 40 56.3**	**+0.7**
	baz=256								
G18K	**Tagagawik**	**51.16**	**27**			**P**		**02 40 57.1**	**+1.1**
G18K					IAmb	IAmb		02 40 58.4	
	comp=Z,9.8nm,1.2s								
G18K	**Tagagawik**	**51.16**	**27**	P		**P**		**02 40 56.8**	**+0.8**
	baz=256								
L18K	**Granite Mounta**	**51.24**	**32**	P		**P**		**02 40 57.8**	**+1.1**
L18K					IAmb	IAmb		02 40 59.9	
	comp=Z,4.4nm,1.0s								
L18K	**Granite Mounta**	**51.24**	**32**	P		**P**		**02 40 57.3**	**+0.6**
	baz=260								
N18K	**Kilae Creek**	**51.39**	**34**	P		**P**		**02 40 58.9**	**+1.0**
	baz=262								
J18K	**Innoko River**	**51.45**	**30**	P		**P**		**02 40 58.7**	**+0.5**
	baz=259								
M18K	**Stony River**	**51.53**	**33**	P		**P**		**02 40 59.9**	**+1.1**
	baz=262								
P18K	**Big Mountain,**	**51.57**	**36**			**P**		**02 40 59.7**	**+0.5**
P18K					IAmb	IAmb		02 41 01.4	
	comp=Z,5.5nm,1.0s								
P18K	**Big Mountain,**	**51.57**	**36**	P		**P**		**02 41 00.4**	**+1.2**
	baz=264								
Q18K	**Katmai Hardscr**	**51.61**	**37**	P		**P**		**02 41 00.3**	**+0.7**
	baz=265								
GCSA	**Galena City Sc**	**51.63**	**29**	P		**P**		**02 40 59.5**	**+0.1**
	baz=258								
O18K	**Koktuh Hills**	**51.63**	**35**	P		**P**		**02 41 00.1**	**+0.4**
	baz=264								
C19K	**Lookout Ridge**	**51.71**	**23**	P		**P**		**02 41 00.3**	**+0.2**
	baz=252								
F19K	**Shaleruckik Mo**	**51.74**	**26**	P		**P**		**02 41 00.8**	**+0.6**
	baz=256								
G19K	**Purcell Mounta**	**51.84**	**27**	P		**P**		**02 41 01.1**	**0.0**
	baz=257								
H19K	**Roundabout Mou**	**51.96**	**28**			**P**		**02 41 03.5**	**+1.5**
H19K	**Roundabout Mou**	**51.96**	**28**	P		**P**		**02 41 01.5**	**-0.4**
	baz=258								
J19K	**Poorman**	**52.02**	**30**			**P**		**02 41 03.2**	**+0.8**
J19K					IAmb	IAmb		02 41 04.3	
	comp=Z,5.5nm,1.0s								
J19K	**Poorman**	**52.02**	**30**	P		**P**		**02 41 02.4**	**0.0**
	baz=260,SNR=6.1								
D19K	**Kuna River**	**52.04**	**24**	P		**P**		**02 41 03.3**	**+0.7**
	baz=254								
L19K	**White Mountain**	**52.09**	**32**			**P**		**02 41 04.2**	**+1.2**
L19K	**White Mountain**	**52.09**	**32**	P		**P**		**02 41 03.3**	**+0.3**
	baz=262								
N19K	**Bonanza Creek**	**52.09**	**34**	P		**P**		**02 41 03.5**	**+0.3**
	baz=264								
E19K	**Redstone River**	**52.10**	**25**			**P**		**02 41 04.3**	**+1.3**
E19K					IAmb	IAmb		02 41 05.0	
	comp=Z,5.0nm,0.8s								
E19K	**Redstone River**	**52.10**	**25**	P		**P**		**02 41 03.4**	**+0.5**
	baz=256								
M19K	**Big River Lodg**	**52.27**	**33**	P		**P**		**02 41 04.2**	**-0.1**
	baz=263								
Q19K	**Cape Douglas,**	**52.34**	**36**	P		**P**		**02 41 04.3**	**-0.6**
	baz=266								
OHAK	**Old Harbor**	**52.43**	**39**	P		**P**		**02 41 05.9**	**+0.4**
	baz=267								
F20K	**Avaraart Lake**	**52.57**	**26**	P		**P**		**02 41 07.1**	**+0.6**
	baz=258								
L20K	**Farewell, AK**	**52.58**	**32**	P		**P**		**02 41 06.5**	**-0.1**
	baz=263								
H20K	**Anotleneega Mo**	**52.60**	**28**	P		**P**		**02 41 07.0**	**+0.3**
	baz=260								
K20K	**Telida**	**52.60**	**31**			**P**		**02 41 08.0**	**+1.1**
K20K	**Telida**	**52.60**	**31**	P		**P**		**02 41 06.9**	**+0.1**
	baz=262,SNR=9.4								
P19K	**Oil Pt**	**52.60**	**36**	P		**P**		**02 41 06.7**	**-0.2**
	baz=266								
D20K	**Etivluk River**	**52.63**	**24**	P		**P**		**02 41 07.9**	**+1.0**
	baz=256								
I20K	**Naaghedeneel**	**52.65**	**29**	P		**P**		**02 41 07.6**	**+0.6**
	baz=261								
E20K	**Nigu River**	**52.67**	**25**	P		**P**		**02 41 07.9**	**+0.6**
	baz=256								
J20K	**Nowinta River**	**52.69**	**30**			**P**		**02 41 08.6**	**+1.2**
J20K					IAmb	IAmb		02 41 10.3	
	comp=Z,9.7nm,1.1s								
J20K	**Nowinta River**	**52.69**	**30**	P		**P**		**02 41 08.1**	**+0.7**
	baz=261,SNR=8.4								
B20K	**Meade River**	**52.79**	**22**	P		**P**		**02 41 08.5**	**+0.5**
	baz=254								
KDAK	**Kodiak Island**	**52.83**	**38**	P		**P**		**02 41 09.2**	**+0.7**
	baz=268								
M20K	**Styx River**	**52.86**	**33**	P		**P**		**02 41 08.8**	**0.0**
	baz=264								
O20K	**Slope Mountain**	**52.94**	**35**	P		**P**		**02 41 08.8**	**-0.6**
	baz=266								
Q20K	**Shuyak Island**	**52.97**	**37**	P		**P**		**02 41 09.4**	**-0.1**
	baz=267								
SYI	**Shuyak Island**	**52.97**	**37**	P		**P**		**02 41 09.4**	**-0.1**
SYI				PcP		**PcP**		**02 42 19.9**	**+2.4**
G21K	**Allakaket**	**53.33**	**27**	P		**P**		**02 41 13.3**	**+1.2**
G21K	**Allakaket**	**53.33**	**27**	P		**P**		**02 41 12.5**	**+0.4**
	baz=260								
C21K	**Knifeblade Rid**	**53.38**	**24**	P		**P**		**02 41 13.0**	**+0.6**
	baz=257								
PPLA	**Purkeypile**	**53.40**	**32**	P		**P**		**02 41 13.7**	**+0.9**
PPLA					IAmb	IAmb		02 41 14.7	
	comp=Z,6.2nm,0.8s								
PPLA	**Purkeypile**	**53.40**	**32**	P		**P**		**02 41 13.1**	**+0.3**
	baz=264								
H21K	**Melozitna Rive**	**53.48**	**28**	P		**P**		**02 41 14.7**	**+1.5**
H21K					IAmb	IAmb		02 41 15.6	
	comp=Z,6.9nm,1.1s								
H21K	**Melozitna Rive**	**53.48**	**28**	P		**P**		**02 41 13.5**	**+0.3**
	baz=262,SNR=6.7								
ASAR	**Alice Springs**	**53.49**	**188**	P		**P**		**02 41 12.8**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=3.9,slow=5.8,SNR=9.2								
	comp=Z,0.6nm,0.7s								
CAST	**Castle Rocks**	**53.50**	**31**	P		**P**		**02 41 14.7**	**+1.3**
CAST					IAmb	IAmb		02 41 15.7	
	comp=Z,5.4nm,0.9s								
CAST	**Castle Rocks**	**53.50**	**31**	P		**P**		**02 41 14.1**	**+0.7**
	baz=264,SNR=10								
E21K	**Killik River**	**53.52**	**25**	P		**P**		**02 41 13.6**	**+0.2**
	baz=258								
B21K	**Ikpikpuk River**	**53.55**	**23**	P		**P**		**02 41 14.2**	**+0.6**
	baz=257								
SKT	**Skwentna**	**53.62**	**33**			**P**		**02 41 14.9**	**+0.6**
SKT					IAmb	IAmb		02 41 15.6	
	comp=Z,4.0nm,0.8s								
SKT	**Skwentna**	**53.62**	**33**	P		**P**		**02 41 14.5**	**+0.2**
	baz=265								
I21K	**Tanana**	**53.75**	**29**	P		**P**		**02 41 15.8**	**+0.6**
I21K					IAmb	IAmb		02 41 18.3	
	comp=Z,6.2nm,1.1s								
I21K	**Tanana**	**53.75**	**29**	P		**P**		**02 41 15.5**	**+0.3**
	baz=263								
F22K	**John River**	**54.01**	**26**	P		**P**		**02 41 17.3**	**+0.2**
	baz=261								
BPAW	**Bear Paw Mtn.**	**54.05**	**30**	P		**P**		**02 41 17.6**	**+0.2**
	baz=264								
D22K	**Ayikyak River**	**54.06**	**24**	P		**P**		**02 41 18.4**	**+0.9**
	baz=259								
H22K	**Ishtalitna Cre**	**54.09**	**28**	P		**P**		**02 41 18.0**	**+0.3**
	baz=263,SNR=5.4								
G22K	**Bettles**	**54.18**	**27**	P		**P**		**02 41 19.0**	**+0.7**
	baz=262								
E22K	**Anaktuvuk Pass**	**54.25**	**25**			**P**		**02 41 20.0**	**+1.1**
E22K					IAmb	IAmb		02 41 39.1	
	comp=Z,10nm,1.4s								
E22K	**Anaktuvuk Pass**	**54.25**	**25**	P		**P**		**02 41 19.1**	**+0.2**
	baz=261								
MLY	**Manley**	**54.26**	**29**	P		**P**		**02 41 20.2**	**+1.3**
MLY					IAmb	IAmb		02 41 21.2	
	comp=Z,4.2nm,0.9s								
MLY	**Manley**	**54.26**	**29**	P		**P**		**02 41 19.3**	**+0.4**
	baz=264,SNR=7.7								
TRF	**Thorofare Moun**	**54.31**

F24K	**Squaw Lake**	55.65	26	P		P	02 41 29.1 +0.2
	baz=265,SNR=5.4						
POKR	**Poker Plat Res**	55.66	29	P		P	02 41 29.1 +0.1
	baz=267						
GLI	**Glacier Island**	55.71	34	P		P	02 41 28.7 -0.7
	baz=270						
G24K	**Hadweenzic Riv**	55.74	27	P		P	02 41 30.0 +0.4
G24K	**Hadweenzic Riv**	55.74	27	P		P	02 41 30.4 +0.8
	baz=266						
HDA	**Harding Lake**	55.84	30	P		P	02 41 30.7 +0.4
	baz=268						
IL31		55.88	29	P		P	02 41 30.2 -0.3
ILAR	**Eielson Array**	55.88	29	P		P	02 41 29.9 -0.6
ILAR	**Eielson Array**	55.88	29	P		P	02 41 29.6 -0.9
	comp=Z,2.4nm,1.0s,baz=260,slow=5.9,SNR=17						
	comp=Z,2.4nm,1.0s						
M24K	**Tolsona, Glenn**	56.15	33	P		P	02 41 33.0 +0.4
	baz=270						
KLU	**Klutina**	56.27	33	P		P	02 41 33.4 -0.1
KLU				IAmb		IAmb	02 41 36.4
	comp=Z,3.4nm,0.8s						
KLU	**Klutina**	56.27	33	P		P	02 41 33.7 +0.3
	baz=271						
G25K	**Bearman Lake**	56.29	27	P		P	02 41 33.8 +0.4
	baz=267						
K24K	**Donnelly Dome**	56.34	31	P		P	02 41 34.1 +0.2
	baz=269						
D25K	**Kavik River**	56.37	24	P		P	02 41 33.7 -0.3
D25K	**Kavik River**	56.37	24	P		P	02 41 34.6 +0.6
	baz=265						
H25L	**Birch Creek**	56.38	28	P		P	02 41 34.2 +0.1
	baz=268						
PAX	**Paxson**	56.47	32	P		P	02 41 34.8 -0.1
PAX				IAmb		IAmb	02 41 36.6
	comp=Z,9.4nm,1.4s						
PAX	**Paxson**	56.47	32	P		P	02 41 34.9 0.0
	baz=270						
PRP	**Porcupine Dome**	56.48	29	P		P	02 41 35.2 +0.2
	baz=268						
F25K	**Christian Rive**	56.52	26	P		P	02 41 36.0 +0.9
F25K				IAmb		IAmb	02 41 38.6
	comp=Z,6.6nm,1.1s						
F25K	**Christian Rive**	56.52	26	P		P	02 41 36.1 +0.9
	baz=267,SNR=8.1						
J25K	**Salcha River,**	56.52	30	P		P	02 41 35.3 +0.1
	baz=269						
E25K	**Arctic Village**	56.57	25	P		P	02 41 35.2 -0.3
E25K				IAmb		IAmb	02 41 38.3
	comp=Z,7.8nm,1.1s						
E25K	**Arctic Village**	56.57	25	P		P	02 41 36.5 +1.0
	baz=267,SNR=8.3						
HARP	**HAARP**	56.62	32	P		P	02 41 36.6 +0.7
	baz=271						
RIDG	**Independent Ri**	56.75	31	P		P	02 41 37.6 +0.7
	baz=270						
N25K	**Chitina, Valde**	56.90	33	P		P	02 41 38.2 +0.2
	baz=272						
BMRM	**Bremner River**	56.92	34	P		P	02 41 38.5 +0.4
BMRM				IAmb		IAmb	02 41 40.0
	comp=Z,5.6nm,1.0s						
BMRM	**Bremner River**	56.92	34	P		P	02 41 38.5 +0.4
	baz=272						
C26K	**Camden Bay**	56.92	23	P		P	02 41 38.6 +0.7
	baz=266						
KK31	**Karatay Array**	56.93	304			P	02 41 37.4 -1.1
KKAR	**Karatay Array**	56.93	304			P	02 41 37.8 -0.6
F26K	**Sheenjek River**	57.09	26	P		P	02 41 40.0 +0.8
F26K				IAmb		IAmb	02 41 42.1
	comp=Z,6.4nm,1.1s						
F26K	**Sheenjek River**	57.09	26	P		P	02 41 40.3 +1.2
	baz=268,SNR=7.8						
DOT	**Dot Lake**	57.10	31	P		P	02 41 39.5 +0.3
SCRK	**Sand Creek**	57.13	30			P	02 41 39.0 -0.6
SCRK				IAmb		IAmb	02 41 41.0
	comp=Z,3.2nm,0.8s						
SCRK	**Sand Creek**	57.13	30	P		P	02 41 39.8 +0.2
	baz=271,SNR=5.2						
G26K	**Porcupine Rive**	57.21	27	P		P	02 41 40.8 +0.8
G26K	**Porcupine Rive**	57.21	27	P		P	02 41 41.1 +1.1
	baz=269						
J26L	**Joseph Creek**	57.30	30			P	02 41 40.5 -0.3
J26L				IAmb		IAmb	02 41 41.8
	comp=Z,3.0nm,0.8s						
J26L	**Joseph Creek**	57.30	30	P		P	02 41 41.3 +0.5
	baz=271,SNR=6.8						
C27K	**Jago River**	57.32	24	P		P	02 41 41.5 +0.8
C27K				IAmb		IAmb	02 41 43.1
	comp=Z,6.3nm,0.9s						
C27K	**Jago River**	57.32	24	P		P	02 41 41.6 +0.9
	baz=267,SNR=6.7						
L26K	**Log Cabin Wild**	57.44	32	P		P	02 41 41.2 -0.5
L26K				IAmb		IAmb	02 41 43.9
	comp=Z,7.5nm,1.1s						
L26K	**Log Cabin Wild**	57.44	32	P		P	02 41 42.5 +0.9
	baz=272						
I26K	**Coal Creek Min**	57.47	29	P		P	02 41 43.0 +1.2
	baz=271						
VRDI	**Verde Repeater**	57.47	34	P		P	02 41 44.1 +1.9
M26K	**Nabesna, AK**	57.62	32	P		P	02 41 43.2 +0.1
	baz=273						
MCARA	**McCarthy VSAT**	57.67	34	P		P	02 41 44.2 +1.0
	baz=273						
K27K	**Chicken**	57.97	30	P		P	02 41 46.1 +0.8
K27K				IAmb		IAmb	02 41 47.7
	comp=Z,4.2nm,1.1s						
K27K	**Chicken**	57.97	30	P		P	02 41 46.1 +0.8
	baz=272						
G27K	**Doyon Strip**	58.06	27	P		P	02 41 46.7 +0.8
	baz=271						
E27K	**Coleen River**	58.06	25			P	02 41 46.7 +0.8
E27K				IAmb		IAmb	02 42 06.5
	comp=Z,5.2nm,1.3s						
E27K	**Coleen River**	58.06	25	P		P	02 41 46.8 +0.8
	baz=270						
I27K	**Kandik River**	58.10	28	P		P	02 41 46.5 +0.2
	baz=272						
H27K	**Steamboat Moun**	58.12	28			P	02 41 47.1 +0.7
H27K				IAmb		IAmb	02 41 49.2
	comp=Z,5.1nm,1.1s						
H27K	**Steamboat Moun**	58.12	28	P		P	02 41 47.1 +0.7
	baz=272,SNR=5.0						
L27K	**Beaver Creek,**	58.13	31	P		P	02 41 46.8 +0.3
L27K				IAmb		IAmb	02 41 48.9
	comp=Z,4.6nm,0.9s						
L27K	**Beaver Creek,**	58.13	31	P		P	02 41 47.6 +1.1
	baz=273,SNR=9.0						
BCAR	**Beaver Creek A**	58.15	31			P	02 41 47.2 +0.5
M27K	**Edge Creek, AK**	58.15	32	P		P	02 41 47.2 +0.4
M27K	**Edge Creek, AK**	58.15	32	P		P	02 41 46.9 +0.1
	baz=274						
MESA	**MESA**	58.28	35	P		P	02 41 47.3 -0.5
	baz=275						
D27M	**Malcolm River**	58.29	24	P		P	02 41 48.3 +0.8
	baz=270						
CTG	**Chitna Glacier**	58.51	34	P		P	02 41 49.0 -0.3
	baz=275						
F28M	**Old Crow**	58.73	26	P		P	02 41 50.4 -0.2
	baz=272						
I28M	**Miner Creek**	58.81	29	P		P	02 41 52.0 +0.7
	baz=274						
E28M	**Babbage River**	58.82	25			P	02 41 51.4 +0.2
E28M				IAmb		IAmb	02 41 53.9
	comp=Z,5.2nm,1.1s						
E28M	**Babbage River**	58.82	25	P		P	02 41 51.8 +0.6
	baz=272						
YUK3	**Moose Creek**	58.86	33	P		P	02 41 51.8 -0.1
	baz=275						
D28M	**Stokes Point**	59.08	24	P		P	02 41 52.9 0.0
	baz=272						
O28M	**Mount Upton**	59.09	34	P		P	02 41 53.3 -0.2
	baz=276						
PCA	**Pinnacle**	59.13	35	P		P	02 41 52.1 -1.5
PINM	**Pinnacle**	59.13	35	P		P	02 41 54.4 +0.9
	baz=276						
DAWY	**Dawson**	59.14	30	P		P	02 41 54.0 +0.4
DAWY	**Dawson**	59.14	30	P		P	02 41 54.6 +1.0
	baz=275						
H29M	**Whitestone**	59.40	28	P		P	02 41 56.7 +1.5
	baz=274						
E29M	**Blow River**	59.43	25	P		P	02 41 56.5 +1.1
	baz=274						
G29M	**Pine Creek**	59.48	27	P		P	02 41 57.0 +1.1
	baz=274						
I29M	**Ogilvie Camp,**	59.50	29	P		P	02 41 57.3 +1.3
	baz=275						
PNL	**Peninsula**	59.61	35	P		P	02 41 57.7 +0.9
	baz=277						
M29M	**Somme Creek**	59.72	32	P		P	02 41 58.8 +1.1
M29M				IAmb		IAmb	02 42 00.5
	comp=Z,5.1nm,0.9s						
M29M	**Somme Creek**	59.72	32	P		P	02 41 58.7 +1.1
	baz=277,SNR=9.5						
L29M	**L29M**	59.80	31			P	02 41 59.1 +0.9
L29M	**L29M**	59.80	31	P		P	02 41 59.4 +1.2
	baz=276,SNR=13						
O29M	**Mount Kennedy**	59.94	35	P		P	02 41 59.9 +0.7
O29M	**Mount Kennedy**	59.94	35	P		P	02 42 00.2 +1.0
	baz=278						
YUK6	**Outpost Mounta**	59.96	34	P		P	02 42 00.2 +0.8
	baz=278						
K29M	**Barlow Dome**	59.99	30			P	02 41 59.5 +0.1
K29M				IAmb		IAmb	02 42 02.1
	comp=Z,4.7nm,0.9s						
K29M	**Barlow Dome**	59.99	30	P		P	02 42 00.4 +0.9
	baz=277,SNR=7.3						
EPYK	**Eagle Plains**	60.05	27	P		P	02 42 00.1 +0.3
EPYK				IAmb		IAmb	02 42 02.0
	comp=Z,6.3nm,1.0s						
EPYK	**Eagle Plains**	60.05	27	P		P	02 42 00.7 +1.0
	baz=276						
G30M	**tAoh Zraii Nji**	60.19	27	P		P	02 42 01.2 +0.5
	baz=276						
F30M	**Barrier River**	60.29	26	P		P	02 42 02.4 +1.1
	baz=276						
I30M	**Mount Dempster**	60.32	29	P		P	02 42 02.3 +0.6
	baz=277						
HYT	**Haines Junctio**	60.39	34			P	02 42 02.1 -0.1
HYT				IAmb		IAmb	02 42 41.3
	comp=Z,3.1nm,0.8s						
HYT	**Haines Junctio**	60.39	34	P		P	02 42 02.4 +0.1
	baz=278						
J30M	**Hart River**	60.42	29	P		P	02 42 03.1 +0.7
	baz=277						
P29M	**Windy Craggy**	60.45	35	P		P	02 42 03.1 +0.5
P29M	**Windy Craggy**	60.45	35	P		P	02 42 03.2 +0.6
	baz=279						
M30M	**Minto, Yukon**	60.48	32	P		P	02 42 02.7 0.0
M30M				IAmb		IAmb	02 42 05.4
	comp=Z,4.1nm,1.1s						
M30M	**Minto, Yukon**	60.48	32	P		P	02 42 03.2 +0.4
	baz=278						
N30M	**Aishikik Lake**	60.50	33	P		P	02 42 03.3 +0.3
	baz=278						
P30M	**Million Dollar**	60.76	35	P		P	02 42 05.1 +0.3
	baz=279						
G31M	**Satah River**	60.95	27	P		P	02 42 06.3 +0.5
	baz=278						
INK	**Inuvik**	61.05	25	P		P	02 42 07.3 +0.8
	baz=278						
H31M	**Peel River**	61.08	28			P	02 42 07.0 +0.2
H31M	**Peel River**	61.08	28	P		P	02 42 07.3 +0.5
	baz=278						
F31M	**Tsiigehtchic**	61.09	26	P		P	02 42 07.5 +0.8
	baz=278						
N31M	**Braeburn, Yuko**	61.11	33	P		P	02 42 08.0 +0.9
N31M				IAmb		IAmb	02 42 09.8
	comp=Z,5.0nm,0.8s						
N31M	**Braeburn, Yuko**	61.11	33	P		P	02 42 07.6 +0.5
	baz=279						
PLBC	**Pleasant Camp**	61.17	35	P		P	02 42 08.0 +0.6
	baz=280						
M31M	**Drury Creek, Y**	61.64	32	P		P	02 42 10.8 +0.2
M31M				IAmb		IAmb	02 42 12.9
	comp=Z,5.4nm,0.8s						
M31M	**Drury Creek, Y**	61.64	32	P		P	02 42 11.1 +0.5
	baz=280						
WHY	**Whitehorse**	61.69	34	P		P	02 42 10.5 -0.5
WHY	**Whitehorse**	61.69	34	P		P	02 42 11.7 +0.6
	baz=281						
ARTI	**Arti**	62.00	321			P	02 42 12.8 -0.2
ARTI	**Arti**	62.00	321	P		P	02 42 13.2 +0.2
	comp=Z,3.0nm,0.7s,baz=75,slow=7.5,SNR=4.8						
	comp=Z,3.0nm,0.7s						
SIT	**Sitka**	62.17	38	P		P	02 42 14.7 +0.6
	baz=282						
R32K	**Eaglecrest**	62.34	36	P		P	02 42 15.9 +0.6
	baz=282						
N32M	**Quiet Lake**	62.45	33	P		P	02 42 16.8 +0.7
	baz=282						
P32M	**Atlin**	62.47	35	P		P	02 42 17.4 +1.1
	baz=282						
P33M	**Teslin, Yukon**	62.78	34	P		P	02 42 19.0 +0.7
	baz=282						
MMPY	**Sheldon Lake,**	62.98	31	P		P	02 42 21.1 +1.4
MMPY	**Sheldon Lake,**	62.98	31	P		P	02 42 20.8 +1.2
	baz=283						
Q32M	**Nakina River**	63.34	35	P		P	02 42 23.2 +1.1
	baz=284						
U33K	**Whale Pass**	63.58	39	P		P	02 42 24.6 +1.1
	baz=284						
CRAG	**Craig**	63.73	39	P		P	02 42 24.9 +0.3
	baz=285						
R33M	**Jennings River**	63.88	35	P		P	02 42 26.1 +0.4
	baz=284						
WRAK	**Wrangell Islan**	63.92	38	P		P	02 42 26.0 +0.3
	baz=285						
S34M	**Telegraph Cree**	64.17	36	P		P	02 42 27.8 +0.4
	baz=285						
DLBC	**Dease Lake**	64.60	36	P		P	02 42 30.7 +0.4
	baz=286						
TOAD	**Toad River Com**	66.87	34	P		P	02 42 45.4 +0.5
	baz=289						
ARCES	**ARCESS Array B**	70.85	340	P		P	02 43 10.3 +1.0
	comp=Z,1.4nm,0.6s,baz=69,slow=6.6,SNR=8.2						
	comp=Z,1.4nm,0.6s						
B08A	**Colville Reser**	74.22	43	P		P	02 43 29.1 -0.7
MXC	**Moxie City**	74.45	45	P		P	02 43 30.9 -0.2
FINES	**FINESS Array B**	75.29	333	P		P	02 43 35.3 -0.3
	comp=Z,1.0nm,0.5s,baz=67,slow=6.1,SNR=16						
FINES				pP		pP	02 43 53.1 +0.6
	comp=Z,1.0nm,0.4s,baz=60,slow=5.7,SNR=4.3						
	comp=Z,1.0nm,0.5s						
PINE	**Pine Mountain**	75.29	48			P	02 43 36.8 +0.5
PINE				IAmb		IAmb	02 43 39.8
	comp=Z,6.1nm,1.1s						
NEW	**Newport**	75.58	43			P	02 43 37.5 -0.2
KBZ	**Khabaz**	75.67	312	P		P	02 43 37.2 -0.9
	comp=Z,2.5nm,0.9s,baz=40,slow=1.3,SNR=3.9						
	comp=Z,2.5nm,0.9s						
K05A	**Summer Lake**	75.81	49			P	02 43 39.0 -0.2
K05A				IAmb		IAmb	02 43 42.7
	comp=Z,10nm,1.3s						
J08A	**Circle Bar Ran**	77.08	47			P	02 43 46.2 -0.1
J08A				IAmb		IAmb	02 43 48.9
	comp=Z,6.2nm,1.2s						
BMO	**Blue Mountains**	77.10	46			P	02 43 46.1 -0.3
BEKR	**Beckworth**	77.49	51			P	02 43 48.5 -0.3
JTMT	**Jette**	77.49	42	P		P	02 43 49.5 +0.9
CMB	**Columbia Colle**	78.34	53			P	02 43 54.5 +1.1
MFID	**Camas Ranch**	78.74	46			P	02 43 56.4 +0.8
MFID				IAmb		IAmb	02 43 58.0
	comp=Z,6.1nm,1.0s						
LYMT	**Lyon Mountain**	79.06	42	P		P	02 43 57.9 +0.6
HLID	**Hailey**	79.55	46			P	02 44 00.9 +0.9
LRM	**Limekiln Ridge**	79.56	43	P		P	02 44 00.2 0.0
NVAR	**Mina Array Bea**	79.58	52			P	02 44 00.7 +0.3
NVAR	**Mina Array Bea**	79.58	52	P		P	02 44 01.9 +1.5
	comp=Z,2.0nm,0.7s,baz=286,slow=5.7,SNR=15						
	comp=Z,2.0nm,0.7s						
FFC	**Flin Flon**	80.00	32	P		P	02 44 02.1 +0.1
AKASG	**Malin Array Be**	80.07	323	P		P	02 44 02.4 -0.1
	comp=Z,0.6nm,0.5s,baz=51,slow=6.5,SNR=5.3						
	comp=Z,0.6nm,0.5s						
DSP	**Deep Springs**	80.34	53			P	02 44 05.6 +1.4
DSP				IAmb		IAmb	02 44 06.8
	comp=Z,8.0nm,1.4s						
ELK	**Elko**	80.47	49	P		P	02 44 06.0 +0.8
TPH	**Tonopah**	80.50	52	P		P	02 44 06.2 +0.8
HFS	**Hagfors**	80.75	336	P		P	02 44 05.6 -0.3
	comp=Z,1.8nm,0.6s,baz=104,slow=4.7,SNR=9.2						
HFS				pP		pP	02 44 23.4 +0.4
	comp=Z,0.9nm,0.5s,baz=92,slow=4.6,SNR=1.9						
	comp=Z,1.8nm,0.6s						
NB2	**NORSAR Subarra**	80.93	338	P		P	02 44 07.2 +0.3
	comp=Z,0.6nm,0.6s,baz=41,slow=5.1						
NOA	**NORSAR Array B**	80.93	338	P		P	02 44 07.2 +0.3
	comp=Z,1.3nm,0.8s,baz=42,slow=5.3,SNR=5.6						
	comp=Z,1.3nm,0.8s						
MPMC	**Manual Prospec**	81.33	54	P		P	02 44 10.7 +0.9
R11B	**Troy Canyon, C**	81.47	51			P	02 44 11.6 +1.1
WCT	**Wildcat Mounta**	81.56	53	P		P	02 44 11.5 +0.7
WSHM	**Spangler Hills**	81.56	54	P		P	02 44 11.5 +0.7
FXWY	**Fox Creek**	81.59	44	P		P	02 44 11.4 +0.3
TPNV	**Topopah Spring**	81.74	52	P		P	02 44 12.3 +0.5
TPNV				IAmb		IAmb	02 44 13.8
	comp=Z,5.8nm,0.8s						
QSM	**Queen of Sheba**	81.81	53	P		P	02 44 12.4 +0.3
QSM				IAmb		IAmb	02 44 14.0
	comp=Z,7.4nm,1.1s						
GWY	**Greenwater Val**	81.84	53			P	02 44 13.3 +0.9
GWY				IAmb		IAmb	02 44 14.2
	comp=Z,5.4nm,0.9s						
GSC	**Goldstone, Bar**	82.19	54	P		P	02 44 14.8 +0.6
PRN	**Pahroc Range**	82.32	51	P		P	02 44 15.5 +0.6
PRN				IAmb		IAmb	02 44 17.6
	comp=Z,5.1nm,0.9s						
HWUT	**Hardware Ranch**	82.37	46			P	02 44 15.8 +0.7
HWUT				IAmb		IAmb	02 44 17.6
	comp=Z,5.0nm,0.9s						
SHPR	**Sheep Range**	82.71	52	P		P	02 44 17.9 +0.9
PDAR	**Pinedale Array**	82.97	44	P		P	02 44 18.9 +0.6
	comp=Z,0.7nm,0.7s,baz=288,slow=1.4,SNR=7.2						
	comp=Z,0.7nm,0.7s						
CCUT	**Cedar City**	83.38	50			P	02 44 21.2 +0.7
BR131	**Keskin Array S**	83.66	312			P	02 44 22.0 +0.3
BR131				IAmb		IAmb	02 44 23.8
	comp=Z,5.9nm,0.8s						
BRTR	**Keskin Array B**	83.66	312	P		P	02 44 22.8 +1.0
	comp=Z,4.6nm,0.7s,baz=108,slow=3.8,SNR=31						
BRTR				pP		pP	02 44 39.4 +0.5
	comp=Z,2.9nm,0.8s,baz=100,slow=4.3,SNR=6.5						
	comp=Z,4.6nm,0.7s						
LCMT	**Little Creek M**	83.75	51	P		P	02 44 22.9 +0.6
LCMT				IAmb		IAmb	02 44 24.6
	comp=Z,5.2nm,1.1s						
KNB	**Kanab**	84.03	51			P	02 44 24.6 +0.8
P18A	**Preston Nutter**	84.30	47	P		P	02 44 26.0 +0.8
P18A				IAmb		IAmb	02 44 27.9
	comp=Z,3.4nm,0.7s						
SRU	**San Rafael Swe**	84.40	48	P		P	02 44 25.8 +0.2
SRU				IAmb		IAmb	02 44 27.4
	comp=Z,4.4nm,0.7s						
U15A	**North Rim**	84.71	51			P	02 44 28.0 +0.7
HMU	**Henry Mountain**	84.91	49	P		P	02 44 28.9 +0.5
HMU				IAmb		IAmb	02 44 29.9
	comp=Z,4.1nm,0.8s						
Y14A	**Wickenburg**	85.57	53	P		P	02 44 31.4 +0.1
PV21	**Cone Mtn., Par**	85.71	48	P		P	02 44 32.7 +0.4
PV23	**Carpenter Ridg**	85.75	48	P		P	02 44 32.9 +0.4
PV10	**Paradox Valley**	85.78	48	P		P	02 44 33.6 +1.1
PV20	**West Nyswonger**	85.84	48	P		P	02 44 33.0 +0.2
PV22	**Blue Mesa, Par**	85.85	48	P		P	02 44 33.6 +0.7
PV22				IAmb		IAmb	02 44 37.2
	comp=Z,4.1nm,1.0s						
PV19	**Morning Glory**	85.85	48	P		P	02 44 33.6 +0.7
PV17	**East Wray Mesa**	85.88	48	P		P	02 44 33.0 -0.1
PV16	**Nyswonger Mesa**	85.89	48	P		P	02 44 33.7 +0.6
PV05	**Paradox Valley**	85.91	48	P		P	02 44 33.2 0.0
PV05				IAmb		IAmb	02 44 35.1
	comp=Z,5.2nm,0.8s						
PV18	**Skein Mesa, Pa**	85.94	48			P	02 44 33.4 +0.1
PV12	**Saucer Basin,**	85.96	48	P		P	02 44 33.6 +0.2
PV03	**Paradox Valley**	85.97	48	P		P	02 44 33.5 +0.1
PV03				IAmb		IAmb	02 44 35.3
	comp=Z,7.7nm,1.1s						
PV13	**Radium Mtn., P**	86.04	48	P		P	02 44 34.2 +0.3
PV13				IAmb		IAmb	02 44 35.6
	comp=Z,3.9nm,0.7s						
PV02	**Paradox Valley**	86.07	48	P		P	02 44 34.2 +0.2
PV01	**Paradox Valley**	86.22	48	P		P	02 44 34.5 -0.2
PV01				IAmb		IAmb	02 44 36.5
	comp=Z,3.4nm,0.9s						
GERES	**GERESS Array B**	88.89	328	P		P	02 44 46.8 -0.4
	comp=Z,0.4nm,0.7s,baz=352,slow=4.0,SNR=3.5						
	comp=Z,0.4nm,0.7s						
VHRN	**Van Horn**	92.93	52			P	02 45 06.8 +0.5
VHRN				IAmb		IAmb	02 45 08.0
	comp=Z,1.8nm,0.8s						
TXAR	**Lajitas Array**	94.72	53	P		P	02 45 14.9 +0.3
	comp=Z,0.8nm,0.7s,baz=255,slow=1.5,SNR=7.2						
	comp=Z,0.8nm,0.7s						
QSPA	**South Pole Qui**	119.43	180	PKP		PKPdf	02 50 40.6 -0.6
	comp=Z,0.5nm,0.4s,baz=281,slow=1.3,SNR=5.8						
TORD	**Torodi Ar. Bea**	122.27	312	PKP		PKPdf	02 50 48.0 -0.2
	comp=Z,0.3nm,0.7s,baz=8.4,slow=2.9,SNR=4.1						
DBIC	**Dimbokro**	131.36	312	PKPdf		PKPdf	02 51 04.4 -1.2
ESPZ	**Base Esperanza**	144.28	166	PKPdf		PKPdf	02 51 27.3 -0.4
MACA	**Manacapuru-AM**	146.43	42	PKPdf		PKPdf	02 51 32.8 -0.2
LPAZ	**La Paz**	149.96	70	PKPbc		PKPbc	02 51 43.8 -0.5
	comp=Z,2.5nm,0.8s,baz=339,slow=2.5,SNR=5.5						
PLCA	**Paso Flores**	151.91	122	PKPbc		PKPbc	02 51 46.0 -1.6
	comp=Z,1.3nm,0.6s,baz=66,slow=0.9,SNR=6.1						

IDC ***23*** *02:42:28.8±1.8, 0°.71S×127°.39E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=157.8km s-min=24.1km az=67.0*

DJA ***23*** *02:42:32.5±0.3, 1°S±2°×12°7E±°, h10km, M3.8/8, mB5.0/1, mb4.2/2, MLv3.6/8, Mw(mB)4.3/1*

ISC 23 02:42:33.1±1.0, 0.91S±0°.06×127°.5E±0°.1, h31km, n8, σ1§16/11, **mb3.7/3, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	1.68	356	P		Pn	02 43 00.7	+0.3
TNTI				S		Sn	02 43 21.2	+0.4
SANI	**Sanana**	1.88	233	P		Pn	02 43 03.5	+0.4
SANI				S		Sn	02 43 27.0	+1.2
NLAI	**Namlea**	2.34	190	P		Pb	02 43 13.6	-1.1
NLAI				S		Sb	02 43 42.5	-0.8
APSI	**Ampana**	5.84	270	P		Pn	02 43 57.8	+0.2
	1μm30nm,0.6s							
WRA	**Warramunga Arr**	20.07	161	P		Pn	02 47 06.2	+0.2
	0.4nm,0.6s,baz=340,slow=12,SNR=2.2							
	0.4nm,0.6s							
ASAR	**Alice Springs**	23.46	165	P		P	02 47 42.4	+2.3
	0.7nm,0.9s,baz=344,slow=11,SNR=6.9							
	0.7nm,0.9s							
MKAR	**Makanchi Array**	61.80	326	P		P	02 52 48.2	-0.9
	0.5nm,0.6s,baz=114,slow=8.1,SNR=3.6							
	0.5nm,0.6s							
KURBB	**Kurchatov Arra**	66.05	328	P		P	02 53 15.8	-1.0
	0.5nm,0.7s,baz=128,slow=5.4,SNR=

NILT Sn 02 50 05.0 -3.8
NILT Santiago Nilte 1.13 50 *eP* Pn 02 49 53.4 -0.6
NILT *eS* Sn 02 50 05.0 -3.8
CMIG Matias Romero 1.39 26 Pn 02 49 56.5 -1.1
CMIG Sn 02 50 13.4 -1.8
CMIG Matias Romero 1.39 26 P Pn 02 49 56.8 -0.8
4µm,0.5s,baz=219,slow=11,SNR=6133
CMIG S Sn 02 50 14.0 -1.2
7µm,0.4s,baz=316,slow=22,SNR=11
CMIG Matias Romero 1.39 26 *eP* Pn 02 49 56.5 -1.1
CMIG *eS* Sn 02 50 13.4 -1.8
PEIG Puerto Escondi 1.57 276 Pn 02 49 58.7 -1.3
PEIG Sn 02 50 16.8 -2.9
PEIG Puerto Escondi 1.57 276 *eP* Pn 02 49 58.7 -1.3
PEIG *eS* Sn 02 50 16.8 -2.9
OXLC Oaxaca 1.67 317 Pn 02 50 00.2 -1.3
OXLC Sn 02 50 21.6 -0.7
OXLC Oaxaca 1.67 317 *eP* Pn 02 50 00.2 -1.3
OXLC *i* S Sn 02 50 21.6 -0.7
OXBJ Oaxaca 1.68 317 Pn 02 50 03.0 +1.3
OXBJ Sn 02 50 21.3 -1.3
OXBJ Oaxaca 1.68 317 *eP* Pn 02 50 03.0 +1.3
OXBJ *eS* Sn 02 50 21.3 -1.3
OXIG Oaxaca 1.69 317 Pn 02 50 01.8 -0.1
OXIG Sn 02 50 21.4 -1.5
VHO Vista Hermosa 1.69 317 *eP* Pn 02 50 01.8 -0.1
VHO *eS* Sn 02 50 21.4 -1.5
YOIG Yosondua 2.19 298 Pn 02 50 09.5 +0.7
YOIG Sn 02 50 33.9 -1.4
YOIG Yosondua 2.19 298 *eP* Pn 02 50 09.5 +0.7
YOIG *eS* Sn 02 50 33.9 -1.4
PCIG 2.22 93 Pn 02 50 09.6 +0.6
PCIG Sn 02 50 34.0 -1.7
PCIG 2.22 93 *eP* Pn 02 50 09.6 +0.6
PCIG *eS* Sn 02 50 34.0 -1.7
MIHL Minatitlan 2.34 24 Pn 02 50 05.1 -5.5
MIHL Sn 02 50 34.7 -3.9
MIHL Minatitlan 2.34 24 *eP* Pn 02 50 05.1 -5.5
MIHL *eS* Sn 02 50 34.7 -3.9
TUIG Tuzandepetl 2.43 26 *eP* Pn 02 50 11.6 -0.2
TUIG *eS* Sb 02 50 45.0 -1.0
TUIG Tuzandepetl 2.43 26 P Pn 02 50 11.8 0.0
TGIG 2.49 68 Pn 02 50 14.4 +1.7
TGIG Sn 02 50 40.8 -1.6
TGIG 2.49 68 *eP* Pn 02 50 14.4 +1.7
TGIG *eS* Sn 02 50 40.8 -1.6
TGIG 2.49 68 *i* P Pn 02 50 13.8 +1.1
TGIG IAML 02 50 56.9
comp=N,4µm,0.5s
TGBT Tuxtla Gutierr 2.52 68 Pn 02 50 12.3 -0.7
TGBT Sn 02 50 41.4 -1.6
TGBT Tuxtla Gutierr 2.52 68 *eP* Pn 02 50 12.3 -0.7
TGBT *eS* Sn 02 50 41.4 -1.6
PNIG Pinotepa 2.56 283 Pn 02 50 12.8 -0.9
PNIG Sn 02 50 37.6 -6.5
PNIG Pinotepa 2.56 283 *eP* Pn 02 50 12.8 -0.9
PNIG *eS* Sn 02 50 37.6 -6.5
TXIG Tlaxiaco 2.57 304 Pn 02 50 16.5 +2.5
TXIG Sn 02 50 47.7 +2.9
TXIG Tlaxiaco 2.57 304 *eP* Pn 02 50 16.5 +2.5
TXIG *eS* Sn 02 50 47.7 +2.9
TOIG Toxpalan 2.69 327 Pn 02 50 17.9 +2.4
TOIG Sn 02 50 51.3 +3.9
TOIG Toxpalan 2.69 327 *eP* Pn 02 50 17.9 +2.4
TOIG *eS* Sn 02 50 51.3 +3.9
PMUV Sontecomapan 2.72 8 Pn 02 50 14.1 -1.9
PMUV Sn 02 50 33.5 -15
PMUV Sontecomapan 2.72 8 *eP* Pn 02 50 14.1 -1.9
PMUV *eS* Sn 02 50 33.5 -15
HLIG Huajuapan de L 2.95 313 Pn 02 50 22.6 +3.4
HLIG Sb 02 51 00.3 -1.0
HLIG Huajuapan de L 2.95 313 *eP* Pn 02 50 22.6 +3.4
HLIG *eS* Sb 02 51 00.3 -1.0
TPIG Tehuac#an 3.11 326 Pn 02 50 23.4 +2.0
TPIG Sb 02 51 05.8 -0.2
TPIG Tehuac#an 3.11 326 *eP* Pn 02 50 23.4 +2.0
TPIG *eS* Sb 02 51 05.8 -0.2
PATR El Naranjo 3.25 102 Pn 02 50 24.7 +1.4
PATR Sn 02 50 00.2 -1.2
PATR El Naranjo 3.25 102 *eP* Pn 02 50 24.7 +1.4
PATR *eS* Sn 02 51 00.2 -1.2
VHSA Villahermosa 3.27 49 Pn 02 50 19.3 -4.0
VHSA Sn 02 50 59.4 -2.1
VHSA Villahermosa 3.27 49 *eP* Pn 02 50 19.3 -4.0
VHSA *eS* Sn 02 50 59.4 -2.1
THIG 3.28 106 Pn 02 50 25.4 +1.9
THIG Sn 02 51 00.6 -1.1
THIG 3.28 106 *eP* Pn 02 50 25.4 +1.9
THIG *eS* Sn 02 51 00.6 -1.1
THIG 3.28 106 *i* P Pn 02 50 25.2 +1.7
THIG *i* S Sn 02 51 02.0 +0.3
THIG IAML 02 51 11.9
comp=E,4µm,0.4s
CCIG Comitan 3.29 82 Pn 02 50 24.3 +0.5
CCIG Comitan 3.29 82 *eP* Pn 02 50 25.0 +1.3
CCIG *eS* Sn 02 51 01.7 -0.5
CCIG Comitan 3.29 82 *eP* Pn 02 50 24.7 +0.9
CCIG *i* S Sn 02 51 03.4 +1.1
CCIG IAML 02 51 17.0
comp=N,4µm,0.6s
CCIG Comitan 3.29 82 P Pn 02 50 26.7 +2.9
PAVE Pavencul 3.29 101 Pn 02 50 25.5 +1.7
PAVE Sn 02 50 59.2 -3.1
PAVE Pavencul 3.29 101 *eP* Pn 02 50 25.5 +1.7
PAVE *eS* Sn 02 50 59.2 -3.1
MGIG Malinaltepec 3.29 295 Pn 02 50 24.8 +1.0
MGIG Sn 02 50 58.6 -3.7
MGIG Malinaltepec 3.29 295 *eP* Pn 02 50 24.8 +1.0
MGIG *eS* Sn 02 50 58.6 -3.7
TLIG Tlapa 3.38 301 Pn 02 50 26.1 +1.0
TLIG Tlapa 3.38 301 *eP* Pn 02 50 25.9 +0.8
TLIG *eS* Sn 02 51 00.2 -4.4
TLIG Tlapa 3.38 301 P Pb 02 50 32.5 -0.5
TLIG Tlapa 3.38 301 S Sb 02 51 19.7 +5.9
SMCA Catarina 3.47 106 *i* P Pn 02 50 27.9 +1.8
SMCA *i* S Sn 02 51 05.2 -1.2
HMTT Tlapaneco 3.50 304 Pn 02 50 29.6 +3.0
HMTT Sn 02 51 11.7 +4.3
HMTT Tlapaneco 3.50 304 *eP* Pn 02 50 29.6 +3.0
HMTT *eS* Sn 02 51 11.7 +4.3
CRIG Cruz Grande 3.58 285 Pn 02 50 27.2 -0.5
CRIG Sn 02 51 02.6 -6.6
CRIG Cruz Grande 3.58 285 *eP* Pn 02 50 27.2 -0.5
CRIG *eS* Sn 02 51 02.6 -6.6
JAUV Jalcomulco 3.72 341 Pn 02 50 28.0 -1.6
JAUV Sn 02 51 14.4 +1.7
JAUV Jalcomulco 3.72 341 *eP* Pn 02 50 28.0 -1.6
JAUV *eS* Sn 02 51 14.4 +1.7
HUEH Huehuetenango 3.91 97 Pn 02 50 36.2 +3.6
HUEH Huehuetenango 3.91 97 *eP* Pb 02 50 37.7 -4.3
HUEH *i* S Sn 02 51 17.6 -0.1
HUEH Huehuetenango 3.91 97 *i* P Pn 02 50 37.2 +4.8
HUEH *i* S Sn 02 51 22.4 +4.8
HUEH IAML 02 51 27.8
comp=N,5µm,0.5s
HUEH Huehuetenango 3.91 97 P Pn 02 50 37.1 +4.7
RTAL Retalhuleu 3.92 109 Pn 02 50 35.0 +2.7
RTAL Retalhuleu 3.92 109 *eP* Pn 02 50 35.8 +3.4
RTAL *i* S Sn 02 51 18.0 +0.4
RTAL Retalhuleu 3.92 109 P Pn 02 50 35.1 +2.7
LVIG Laguna Verde 3.96 348 *eP* Pn 02 50 34.6 +1.8
LVIG *eS* Sn 02 51 17.5 -1.1
PHPU Puebla 4.07 322 Pn 02 50 35.2 +0.6
PHPU Sn 02 51 24.2 +2.5
PHPU Puebla 4.07 322 *eP* Pn 02 50 35.2 +0.6
PHPU *eS* Sn 02 51 24.2 +2.5
DAIG Los Arroyos 4.13 287 Pn 02 50 35.3 0.0
DAIG Sn 02 51 16.2 -6.6
DAIG Los Arroyos 4.13 287 *eP* Pn 02 50 35.3 0.0
DAIG *eS* Sn 02 51 16.2 -6.6
STG0 El Palmar, Qui 4.27 109 *i* P Pn 02 50 35.8 -1.6
STG0 *i* S Sn 02 51 20.5 -6.2
PPM Popocatepetl 4.37 318 *eP* Pn 02 50 41.9 +3.0
PPM *eS* Sn 02 51 30.3 +0.8
PPIG Popocatepetl 4.37 318 Pn 02 50 41.9 +2.9
PPIG Sn 02 51 30.3 +0.8
MEIG Mezcala 4.44 299 Pn 02 50 41.1 +1.6
MEIG Sn 02 51 26.1 -4.5
MEIG Mezcala 4.44 299 *eP* Pn 02 50 41.1 +1.6
MEIG *eS* Sn 02 51 26.1 -4.5

AMVM AMECAMECA 4.52 317 Pn 02 50 42.4 +1.5
AMVM Sn 02 51 30.9 -2.0
AMVM AMECAMECA 4.52 317 *eP* Pn 02 50 42.4 +1.5
AMVM *eS* Sn 02 51 30.9 -2.0
YAIG Yautepec 4.53 312 Pn 02 50 42.5 +1.6
YAIG Sn 02 51 29.3 -3.6
YAIG Yautepec 4.53 312 *eP* Pn 02 50 42.5 +1.6
YAIG *eS* Sn 02 51 29.3 -3.6
PLIG Platanillo 4.58 304 Pn 02 50 43.5 +2.0
PLIG Sn 02 51 37.0 +3.0
PLIG Platanillo 4.58 304 *eP* Pn 02 50 43.5 +2.0
PLIG *eS* Sn 02 51 37.0 +3.0
CAIG El Cayaco 4.71 285 Pn 02 50 43.2 0.0
CAIG El Cayaco 4.71 285 *eP* Pn 02 50 43.2 0.0
CAIG *e* 02 51 28.9
MPVM San Francisco 4.72 316 Pn 02 50 44.6 +1.1
MPVM Sn 02 51 39.0 +1.3
MPVM San Francisco 4.72 316 *eP* Pn 02 50 44.6 +1.1
MPVM *eS* Sn 02 51 39.0 +1.3
CXUV Coxquihui 4.74 336 Pn 02 50 43.2 -0.5
CXUV Sn 02 51 42.2 +4.3
CXUV Coxquihui 4.74 336 *eP* Pn 02 50 43.2 -0.5
CXUV *eS* Sn 02 51 42.2 +4.3
THVM De Xico 4.77 317 *eP* Pn 02 50 45.1 +0.8
THVM *e* 02 51 54.7
TLVM San Miguel Top 4.82 315 Pn 02 50 46.0 +0.9
TLVM San Miguel Top 4.82 315 *eP* Pn 02 50 46.0 +0.9
TLVM *e* 02 51 53.0
TXVM Universitario 4.82 318 *e* Pb 02 50 52.8 -4.8
TXVM *e* 02 52 00.6
MAVM Malinalco, Edo 4.90 310 *e* Pn 02 50 47.9 +1.9
MAVM *e* 02 51 53.6
UNM Universidad Na 4.92 315 Pn Pn 02 50 52.6 +6.3
COVM Coyoacan 4.92 316 *e* 02 52 01.3
CUP5 Mexico City 4.92 315 Pn 02 50 49.2 +2.8
CUP5 Sn 02 51 39.4 -3.4
CUP5 Mexico City 4.92 315 *eP* Pn 02 50 49.2 +2.8
CUP5 *eS* Sn 02 51 39.4 -3.4
BJVM Benito Juarez 4.95 316 *e* 02 52 00.2
AOVM Tlapan 4.98 314 *e* Pn 02 50 50.0 +2.7
AOVM *e* 02 51 52.5
VTVM Tizayuca 4.99 322 *e* Pb 02 50 56.5 -3.9
VTVM *e* 02 51 59.1
CJVM Cuajimalpa 5.02 315 *e* 02 52 04.0
APVM Azcapotzalco 5.05 316 Sn 02 51 46.9 +1.0
APVM Azcapotzalco 5.05 316 *eS* Sn 02 51 46.9 +1.0
SCIG Sabancuy 5.18 52 *i* P Pn 02 50 49.1 -0.6
SCIG Sabancuy 5.18 52 P Pn 02 50 50.3 +0.7
SCIG Sabancuy 5.18 52 S Sn 02 51 44.5 -4.2
ARIG Puente Sto Nin 5.21 298 Pn 02 50 52.1 +1.9
ARIG Sn 02 51 45.6 -4.0
ARIG Puente Sto Nin 5.21 298 *eP* Pn 02 50 52.1 +1.9
ARIG *eS* Sn 02 51 45.6 -4.0
ZUVM ZUMPANGO 5.22 320 Pn 02 50 53.2 +2.8
ZUVM ZUMPANGO 5.22 320 *eP* Pn 02 50 53.2 +2.8
ZUVM *e* 02 52 06.3
PETF Flores 5.54 78 Pn 02 50 55.1 +0.5
PETF Flores 5.54 78 *eP* Pn 02 50 55.9 +1.4
PETF *eS* Sn 02 51 55.7 -1.8
PETF Flores 5.54 78 *eP* Pn 02 50 55.7 +1.2
PETF Flores 5.54 78 P Pn 02 50 55.8 +1.2
DEIG Demacu 5.56 324 *e* Pn 02 51 02.2 +7.1
DEIG *e* 02 51 55.8
FAME Alcaldia de Sa 5.68 110 P Pn 02 50 59.7 +3.1
FAME Alcaldia de Sa 5.68 110 S Sn 02 52 01.9 +0.7
SLOZ Alcaldia de Sa 5.83 107 P Pn 02 51 03.0 +4.3
ACIG Acambay 5.85 315 Pn 02 51 01.6 +2.6
ACIG Sn 02 51 58.9 -6.5
ACIG Acambay 5.85 315 *eP* Pn 02 51 01.6 +2.6
ACIG *eS* Sn 02 51 58.9 -6.5
NUBE Las Nubes 5.88 108 P Pn 02 51 03.7 +4.3
NUBE Las Nubes 5.88 108 S Sn 02 52 07.3 +1.2
ZIIG Zihuatanejo 5.96 288 Pn 02 50 58.7 -1.7
ZIIG Zihuatanejo 5.96 288 *eP* Pn 02 50 58.7 -1.7
ZIIG *e* 02 51 56.9
ESQI Esquipulas 6.10 101 Pn 02 51 03.9 +1.5
MTO3 Montecristo 6.12 103 Pn 02 51 03.9 +1.1
MTO3 Montecristo 6.12 103 P Pn 02 51 05.7 +2.9
CTUV Llano Grande 6.21 335 Pn 02 51 06.5 +2.6
CTUV Sn 02 52 15.1 +0.9
CTUV Llano Grande 6.21 335 *eP* Pn 02 51 06.5 +2.6
CTUV *eS* Sn 02 52 15.1 +0.9
JAYA Jayaque - finc 6.26 109 P Pn 02 51 09.6 +4.9
JAYA Jayaque - finc 6.26 109 S Sn 02 52 17.0 +1.4
PMON Piamonte 6.37 109 P Pn 02 51 10.4 +4.4
MOIG Morelia 6.61 306 Pn 02 51 09.1 -0.5
MOIG Morelia 6.61 306 *eP* Pn 02 51 15.6 +6.1
MOIG *eS* Sn 02 52 26.3 +1.9
MOIG Morelia 6.61 306 P Pb 02 51 19.6 -8.4
COEG Centro de Oper 6.79 108 P Pn 02 51 16.6 +4.7
COEG Centro de Oper 6.79 108 S Sn 02 52 32.5 +3.9
RPIG Rio Verde 7.35 326 *e* Pn 02 51 28.6 +9.0
RPIG *e* 02 52 35.6
MMIG Aquila 7.87 289 Pn 02 51 27.4 +0.8
MMIG Aquila 7.87 289 *eP* Pn 02 51 27.4 +0.8
MMIG *e* 02 52 44.9
TEIG Tepich 8.16 57 Pn 02 51 28.6 -2.0
TGUH Tegucigalpa,Un 8.17 101 Pn 02 51 33.6 +2.7
SOMAC Volcano de Col 8.55 297 *eP* Pn 02 51 41.3 +5.0
SOMAC *eS* Sn 02 53 15.5 +3.2
CDAR Ciudad de Arme 8.67 292 *eP* Pn 02 51 41.5 +3.9
CDAR *eS* Sn 02 53 12.3 -2.4
CEGR Campo Tres 8.70 295 *eP* Pn 02 51 42.0 +3.8
CEGR *eS* Sn 02 53 16.0 +0.4
HERN Volcan Telica 9.02 110 Pn 02 51 44.3 +1.8
CNGN Cerro Negro 9.18 110 Pn 02 51 47.7 +3.1
CIHU Emiliano Zapat 9.42 293 *eP* Pn 02 51 38.8 -9.2
CIHU *i* S Sn 02 53 55.7 +22
ZAIG Zacatecas 9.58 317 Pn 02 51 54.2 +3.8
JTS Las Juntas de 11.68 117 Pn 02 52 22.8 +3.9
JTS Las Juntas de 11.68 117 P Pn 02 52 21.6 +2.7
comp=N,4.2nm,0.4s,baz=314,slow=18,SNR=7.2
JTS LR LR 02 55 24.1
comp=N,32nm,21.5s,baz=308,slow=30
LCR2 La Lucha 2 12.76 117 Pn 02 52 35.7 +1.8
833A Chaparral WMA, 12.93 345 Pn 02 52 35.3 -0.7
HNDO Hondo 14.06 346 Pn 02 52 50.2 -1.2
DRIO Del Rio 14.31 342 Pn 02 52 54.4 -0.4
435B Jarrell 15.00 353 Pn 02 53 03.1 -1.0
JCT Junction City 15.10 346 P Pn 02 53 07.2 +1.7
SAND Sanderson 15.30 338 Pn 02 53 06.0 -2.2
TXAR Lajitas Array 15.39 332 P Pn 02 53 08.9 -0.4
TXAR Lajitas Array 15.39 332 P Pn 02 53 10.2 +0.9
comp=N,0.9nm,0.6s,baz=156,slow=12,SNR=12
TXAR LR LR 02 59 36.8
comp=N,58nm,18.6s,baz=143,slow=39
BRDY Brady 15.71 349 Pn 02 53 10.8 -2.5
BRDY IAmb IAmb 02 53 51.5
comp=Z,18nm,0.7s
OZNA Ozona 15.87 342 Pn 02 53 16.9 +1.4
OZNA IAmb IAmb 02 53 37.8
comp=Z,54nm,1.4s
NATX Nacogdoches 15.87 3 P Pn 02 53 15.3 -0.2
NATX IAmb IAmb 02 53 32.7
comp=Z,96nm,1.5s
237A Washetta, Mont 16.10 359 P P 02 53 20.9 -0.6
237A IAmb IAmb 02 53 36.4
comp=Z,43nm,0.8s
LPIG La Paz 16.14 303 LR LR 02 59 16.4
comp=Z,281nm,18.0s,baz=127,slow=36
WHTX Lake Whitney, 16.18 354 Pn 02 53 21.1 +1.7
WHTX IAmb IAmb 02 53 33.0
comp=Z,39nm,0.8s
ALPN Alpine 16.27 334 Pn 02 53 19.2 -1.6
ALPN IAmb IAmb 02 53 33.7
comp=Z,25nm,0.8s
PLPT Palo Pinto 17.09 352 IAmb IAmb 02 53 49.1
comp=Z,35nm,0.8s
ABTX Abilene, Hawle 17.13 348 IAmb IAmb 02 53 59.1
comp=Z,19nm,0.6s
FW06 Azle 17.16 354 IAmb IAmb 02 53 48.5
comp=Z,39nm,0.8s
PECS Pecos 17.24 335 IAmb IAmb 02 53 45.0
comp=Z,23nm,0.8s
FW03 Perrin-Whitt E 17.28 353 IAmb IAmb 02 53 46.0
comp=Z,44nm,0.8s
Z38A Mt. Pleasant 17.36 2 IAmb IAmb 02 53 59.8
comp=Z,39nm,0.7s
Z35A Perchaven, San 17.49 355 IAmb IAmb 02 54 01.3
comp=Z,39nm,0.7s
Z41A Richland Creek 17.52 8 IAmb IAmb 02 53 41.2
comp=Z,64nm,0.9s
WLAR White Oak Lake 17.91 7 IAmb IAmb 02 54 12.8
comp=Z,46nm,0.8s
WTFS Witchita Falls 18.05 352 IAmb IAmb 02 54 03.2
comp=Z,32nm,0.6s
250A Grady 18.14 26 Pn 02 53 43.2 -0.8
250A IAmb IAmb 02 53 51.3
comp=Z,19nm,0.7s
DKNS Dickens 18.41 346 IAmb IAmb 02 54 04.4
comp=Z,21nm,0.7s
Y45A Yeager Farm, C 18.75 16 IAmb IAmb 02 54 07.1
comp=Z,27nm,0.7s
UALR University of 19.07 8 P 02 53 52.6 -1.8
UALR IAmb IAmb 02 53 59.1
comp=Z,26nm,0.8s
WHAR Wooly Hollow 19.59 8 P P 02 53 58.3 -1.7
WHAR IAmb IAmb 02 54 17.3
comp=Z,16nm,0.7s
AMTX Amarillo 19.76 345 IAmb IAmb 02 54 12.5
comp=Z,15nm,0.7s
OK029 Liberty Lake 19.95 355 IAmb IAmb 02 54 18.9
comp=Z,35nm,0.9s
TUL3 Leonard 20.00 359 P 02 54 03.1 -1.4
TUL3 IAmb IAmb 02 54 33.2
comp=Z,38nm,0.9s
X48A Hartselle 20.05 21 P P 02 54 02.1 -2.9
154A Montrose 20.15 32 IAmb IAmb 02 54 24.2
comp=Z,35nm,1.0s
FCAR Ozark Folk Cen 20.20 8 IAmb IAmb 02 54 19.7
comp=Z,35nm,0.9s
RLO Rose Lookout 20.25 1 P P 02 54 05.5 -1.7
RLO IAmb IAmb 02 54 24.8
comp=Z,15nm,0.7s
LCAR Lake Charles 20.52 10 P 02 54 08.0 -2.2
LCAR IAmb IAmb 02 54 22.1
comp=Z,37nm,1.1s
U38A Gravette 20.55 3 P 02 54 08.8 -1.7
U38A IAmb IAmb 02 54 22.7
comp=Z,32nm,1.1s
GOGA Godfrey 20.62 30 IAmb IAmb 02 54 35.3
comp=Z,16nm,0.9s
CROK Carrier 20.70 354 P P 02 54 10.2 -1.9
BLOK Blackwell 20.90 356 IAmb IAmb 02 54 29.0
comp=Z,35nm,0.9s
T35A Sooner Cattle 21.02 358 P 02 54 14.4 -1.1
KAN13 South Haven SW 21.16 356 IAmb IAmb 02 54 31.2
comp=Z,30nm,0.8s
W50A Signal Mountai 21.34 24 IAmb IAmb 02 54 34.7
comp=Z,12nm,0.7s
WVT Waverly 21.34 17 P 02 54 17.5 -1.5
WVT IAmb IAmb 02 54 37.6
comp=Z,30nm,1.4s
ANMO Albuquerque 21.41 335 P 02 54 18.5 -1.5
ANMO Albuquerque 21.41 335 P P 02 54 21.2 +1.2
comp=Z,2.6nm,0.6s,baz=231,slow=12,SNR=10
ANMO LR LR 03 04 14.9
comp=Z,93nm,21.1s,baz=248,slow=41
comp=Z,2.6nm,0.6s
KAN08 Anthony NE Sta 21.42 355 IAmb IAmb 02 54 36.9
comp=Z,18nm,0.8s
MGMO Mountain Grove 21.43 7 IAmb IAmb 02 54 31.6
comp=Z,15nm,0.7s
TUC Tucson 21.48 322 P P 02 54 19.9 -0.7
RTBA Rita Blanca 21.50 344 IAmb IAmb 02 54 35.3
comp=Z,19nm,0.8s
HODGE Hodges 21.87 31 IAmb IAmb 02 54 42.2
comp=Z,16nm,1.1s
CGM3 Cape Girardeau 22.00 13 IAmb IAmb 02 54 32.0
comp=Z,18nm,0.9s
BG3 Lake Jocassee 22.17 28 IAmb IAmb 02 54 43.4
comp=Z,17nm,0.8s
U49A Red Boiling Sp 22.35 21 IAmb IAmb 02 54 42.3
comp=Z,13nm,0.5s
T47A Sharon Grove 22.36 18 IAmb IAmb 02 54 47.8
comp=Z,16nm,0.9s
TKL Tuckaleechee C 22.36 26 IAmb IAmb 02 54 49.5
comp=Z,24nm,1.1s
TKL Tuckaleechee C 22.36 26 LR LR 03 06 27.8
comp=Z,74nm,18.2s,baz=202,slow=46
CCM Cathedral Cave 22.45 9 P 02 54 29.3 -1.7
CCM IAmb IAmb 02 54 33.9
comp=Z,20nm,0.9s
S44A Carbondale 22.47 13 IAmb IAmb 02 54 36.3
comp=Z,20nm,0.9s
R40A Maddies Statio 22.55 7 IAmb IAmb 02 54 45.8
comp=Z,22nm,0.8s
T25A Trinidad 22.64 341 IAmb IAmb 02 54 45.5
comp=Z,26nm,1.0s
R32A Long Quarter, 22.68 353 IAmb IAmb 02 54 52.5
comp=Z,32nm,1.1s
V53A Saluda 22.79 28 IAmb IAmb 02 54 55.4
comp=Z,11nm,0.8s
OTAV Otavalo 22.89 131 P P 02 54 36.9 +0.6
KMSC Kings Mountain 23.05 31 IAmb IAmb 02 54 56.1
comp=Z,19nm,0.9s
T50A Nancy 23.13 22 IAmb IAmb 02 55 11.1
comp=Z,9.4nm,0.7s
ROSC El Rosal 23.52 115 P P 02 54 45.5 +2.9
comp=Z,17nm,0.8s,baz=137,slow=18,SNR=7.9
comp=Z,17nm,0.8s
SDCO Great Sand Dun 23.54 340 IAmb IAmb 02 54 53.5
comp=Z,14nm,1.0s
OLIL Olney 23.73 15 IAmb IAmb 02 54 47.8
comp=Z,18nm,0.7s
P38A Dawn 23.77 4 IAmb IAmb 02 55 12.9
comp=Z,14nm,0.7s
P40A Paris 23.80 7 IAmb IAmb 02 54 56.1
comp=Z,18nm,0.9s
U54A Nelsons Funny 23.94 28 IAmb IAmb 02 55 22.6
comp=Z,14nm,0.8s
RUSC La Rusia 24.12 112 P 02 54 48.2 -0.2
RUSC IAmb IAmb 02 55 07.2
comp=Z,12nm,0.9s
WUAZ Wupatki 24.19 327 IAmb IAmb 02 54 51.6
comp=Z,15nm,0.9s
MVCO Mesa Verde 24.20 334 IAmb IAmb 02 54 59.4
comp=Z,11nm,0.9s
COHC Cochancay 24.28 137 P P 02 54 50.6 +1.4
ESJX Sierra Juarez 24.58 315 P 02 54 52.3 +0.2
YUH Yuha Desert 24.95 316 P 02 54 53.6 -1.6
PV01 Paradox Valley 25.02 335 IAmb IAmb 02 54 59.0
comp=Z,13nm,0.8s
PV13 Radium Mtn., P 25.14 335 IAmb IAmb 02 54 59.9
comp=Z,13nm,0.9s
P48A Milroy 25.14 19 IAmb IAmb 02 55 33.0
comp=Z,10nm,0.9s
PV02 Paradox Valley 25.15 335 IAmb IAmb 02 55 00.1
comp=Z,20nm,0.8s
PV05 Paradox Valley 25.19 334 IAmb IAmb 02 55 00.1
comp=Z,9.0nm,0.8s
PV03 Paradox Valley 25.23 335 IAmb IAmb 02 55 00.7
comp=Z,11nm,0.9s
PV18 Skein Mesa, Pa 25.25 335 IAmb IAmb 02 55 00.9
comp=Z,15nm,0.8s
SDV Santo Domingo 25.26 103 LR LR 03 05 55.3
comp=Z,132nm,18.0s,baz=266,slow=39
PV11 David Mesa, Pa 25.28 335 IAmb IAmb 02 55 05.1
comp=Z,11nm,0.8s
PV16 Nyswonger Mesa 25.31 335 IAmb IAmb 02 55 29.6
comp=Z,12nm,1.0s
PV19 Morning Glory 25.33 335 IAmb IAmb 02 55 01.6
comp=Z,12nm,0.8s
PV20 West Nyswonger 25.36 335 IAmb IAmb 02 55 06.2
comp=Z,15nm,0.8s
PV04 Paradox Valley 25.37 335 IAmb IAmb 02 55 11.8
comp=Z,16nm,0.9s
PV14 Lion Creek, Pa 25.40 335 IAmb IAmb 02 55 20.3
comp=Z,13nm,1.1s
PV10 Paradox Valley 25.41 335 P P 02 54 58.5 -1.1
PV10 IAmb IAmb 02 55 01.7
comp=Z,12nm,0.8s
PV10 PcP 02 58 31.0 -0.7
PV22 Blue Mesa, Par 25.45 335 IAmb IAmb 02 55 20.1
comp=Z,12nm,1.0s
PV23 Carpenter Ridg 25.47 335 IAmb IAmb 02 55 23.8
comp=Z,24nm,1.0s
HMU Henry Mountain 25.79 332 IAmb IAmb 02 55 15.4
comp=Z,18nm,1.4s
Q52A Bidwell 25.81 24 IAmb IAmb 02 55 34.9
comp=Z,18nm,0.9s
PMD Palm Desert 25.86 317 P P 02 55 02.9 -0.6
PFO Pinyon Flats O 25.89 317 P P 02 55 04.0 +0.1
PFO Pinyon Flats O 25.89 317 LR LR 03 05 05.7
comp=Z,184nm,21.5s,baz=143,slow=36
BAUV El Baul 27.68 101 P P 02 55 20.4 +0.4
BAUV IAmb IAmb 02 55 21.3
comp=Z,12nm,0.6s

ECSD **EROS Data Cent** 27.82 358 IAmb IAmb 02 56 05.7
comp=Z,7.5nm,0.8s
BSUT **Blindstream Ca** 27.95 335 IAmb IAmb 02 55 46.2
comp=Z,11nm,1.3s
SPMN **Marine on St.** 29.39 4 IAmb IAmb 02 55 47.6
comp=Z,12nm,0.7s
PD31 **Pinedale Array** 29.41 339 P P **02 55 33.6 -1.9**
PDAR **Pinedale Array** 29.41 339 P P **02 55 35.3 -0.2**
comp=Z,0.6nm,0.6s,baz=142,slow=11,SNR=5.5
PDAR LR LR 03 08 44.5
comp=Z,61nm,18.5s,baz=158,slow=39
comp=Z,0.6nm,0.6s
HVU **Hansel Valley** 29.83 334 IAmb IAmb 02 55 49.8
comp=Z,8.0nm,0.9s
NV11 **Mina Array Sit** 30.05 323 IAmb IAmb 02 55 53.0
comp=Z,7.1nm,0.9s
NVAR **Mina Array Bea** 30.13 323 P **P** **02 55 42.3 +0.4**
NVAR **Mina Array Bea** 30.13 323 P P **02 55 43.9 +1.9**
comp=Z,4.8nm,0.8s,baz=139,slow=9.1,SNR=31
NVAR PcP **PcP** **02 58 43.1 0.0**
comp=Z,1.1nm,0.7s,baz=169,slow=2.9,SNR=4.5
NVAR LR LR 03 09 23.1
comp=Z,280nm,18.3s,baz=98,slow=40
comp=Z,4.8nm,0.8s
ELK **Elko** 30.14 329 LR LR 03 10 04.9
comp=Z,137nm,18.0s,baz=158,slow=41
LOHW **Long Hollow** 30.52 338 IAmb IAmb 02 55 55.6
comp=Z,7.3nm,1.0s
TPAW **Teton Pass** 30.54 338 IAmb IAmb 02 55 56.1
comp=Z,6.5nm,0.9s
PCRV **Puerto La Cruz** 30.59 97 LR LR 03 09 01.8
comp=Z,60nm,18.3s,slow=38
YHL **Hebgen Lake** 31.80 339 P **P** **02 55 57.7 +1.1**
YHL IAmb IAmb 02 56 08.5
comp=Z,5.0nm,0.9s
YHL **PcP** **02 58 46.9 -0.5**
HLID **Hailey** 31.98 334 IAmb IAmb 02 56 09.2
comp=Z,7.6nm,0.9s
SADO **Sadowa** 31.99 22 LR LR 03 11 43.9
comp=Z,102nm,18.2s,baz=210,slow=42
MFID **Camas Ranch** 32.49 332 P **P** **02 56 00.6 -1.9**
CZSB **Cruzeiro do Su** 32.54 134 P **P** **02 56 03.9 +0.9**
CZSB IAmb IAmb 02 56 38.6
comp=Z,8.6nm,1.1s
WVOR **Wild Horse Val** 33.10 328 IAmb IAmb 02 56 18.8
comp=Z,12nm,1.2s
MSO **Missoula** 34.49 337 IAmb IAmb 02 56 30.5
comp=Z,8.9nm,1.2s
YBH **Yreka Blue Hor** 34.85 323 LR LR 03 11 42.5
comp=Z,14nm,21.3s,baz=134,slow=38
H04A **Detroit Lake** 36.52 327 IAmb IAmb 02 56 47.6
comp=Z,11nm,1.0s
LON **Longmire** 37.78 330 IAmb IAmb 02 57 30.5
comp=Z,5.6nm,0.6s
FFC **Flin Flon** 39.13 354 **P** **02 56 57.8 -1.3**
FFC IAmb IAmb 02 57 12.5
comp=Z,18nm,1.4s
MACA **Manacapuru-AM** 39.29 116 **P** **02 57 00.8 -0.2**
LPAZ **La Paz** 41.83 139 P **P** **02 57 23.8 +1.3**
comp=Z,2.3nm,0.6s,baz=318,slow=4.8,SNR=10
comp=Z,2.3nm,0.6s
PB16 **IPOC Station P** 42.54 142 IAmb IAmb 02 57 31.6
comp=Z,9.2nm,0.9s
MDP **Montagnes des** 43.41 99 LR LR 03 18 41.8
comp=Z,48nm,18.1s,baz=220,slow=40
BBB **Bella Bella** 44.52 332 LR LR 03 18 59.7
comp=Z,55nm,19.5s,baz=204,slow=40
PTLB **Pontes e Lacer** 47.51 129 **P** **02 58 07.1 -0.1**
PTLB IAmb IAmb 02 58 08.3
comp=Z,6.9nm,0.9s
TOAD **Toad River Com** 48.22 340 P **P** **02 58 12.9 +0.7**
baz=140
YKAW1 **Yellowknife Wh** 48.47 348 IAmb IAmb 02 58 23.2
comp=Z,5.6nm,0.9s
YKA **Yellowknife Ar** 48.51 348 P **P** **02 58 13.2 -1.1**
comp=Z,1.4nm,0.8s,baz=155,slow=6.8,SNR=9.5
YKA PcP **PcP** **02 59 39.5 -0.5**
comp=Z,0.3nm,0.6s,baz=154,slow=3.0,SNR=4.0
YKA LR LR 03 21 10.8
comp=Z,48nm,19.0s,baz=314,slow=39
comp=Z,1.4nm,0.8s
YKAW3 **Yellowknife Wh** 48.57 348 P **P** **02 58 13.6 -1.2**
YKAW3 IAmb IAmb 02 58 24.0
comp=Z,4.0nm,0.8s
CRAG **Craig** 48.91 333 P **P** **02 58 18.9 +1.4**
baz=128
U33K **Whale Pass** 49.32 333 P **P** **02 58 21.4 +0.8**
baz=129
DLBC **Dease Lake** 49.62 337 LR LR 03 22 11.4
comp=Z,6.4nm,18.8s,baz=130,slow=40
DLBC **Dease Lake** 49.62 337 P **P** **02 58 23.7 +0.7**
baz=134
S34M **Telegraph Cree** 49.68 336 P **P** **02 58 24.5 +1.1**
baz=132
WTLY **Watson Lake, Y** 50.38 339 P **P** **02 58 29.6 +0.9**
baz=136
R33M **Jennings River** 50.64 337 P **P** **02 58 32.1 +1.3**
baz=133
S32K **Killisnoo** 50.80 334 P **P** **02 58 33.6 +1.8**
baz=128
Q32M **Nakina River** 50.83 336 P **P** **02 58 33.6 +1.2**
baz=132
R32K **Eaglecrest** 51.28 335 P **P** **02 58 37.1 +1.7**
baz=129
P32M **Atlin** 51.81 336 P **P** **02 58 40.6 +1.2**
baz=130
P33M **Teslin, Yukon** 51.88 337 P **P** **02 58 41.0 +1.0**
baz=132
MMPY **Sheldon Lake,** 53.01 340 IAmb IAmb 02 58 50.4
comp=Z,6.0nm,1.0s
MMPY **Sheldon Lake,** 53.01 340 P **P** **02 58 48.9 +0.6**
baz=135
AQDB **Aquidauana** 53.22 131 P **P** **02 58 49.8 -0.5**
P30M **Million Dollar** 53.41 336 P **P** **02 58 52.6 +1.3**
baz=127
P29M **Windy Craggy** 53.43 335 P **P** **02 58 52.3 +0.9**
baz=126
O30N **Mendenhall** 53.48 337 P **P** **02 58 52.6 +0.8**
baz=128
M31M **Drury Creek, Y** 53.78 339 P **P** **02 58 55.1 +1.1**
baz=131
N31M **Braeburn, Yuko** 53.81 337 P **P** **02 58 55.3 +1.1**
baz=129
HYT **Haines Junctio** 54.06 336 P **P** **02 58 57.0 +0.8**
baz=127
PNL **Peninsula** 54.14 334 P **P** **02 58 57.3 +0.7**
baz=124
O29M **Mount Kennedy** 54.17 335 P **P** **02 58 57.6 +0.6**
baz=125
N30M **Aishikik Lake** 54.29 337 P **P** **02 58 58.2 +0.5**
baz=128
YUK6 **Outpost Mounta** 54.46 336 P **P** **02 58 59.8 +0.6**
baz=126
MT08 **Bocatoma Ro** 54.72 154 **P** **02 59 01.8 +0.4**
PINM **Pinnacle** 54.74 334 P **P** **02 59 01.5 +0.5**
baz=124
YUK4 **Talbot Arm** 54.81 336 P **P** **02 59 02.0 +0.2**
baz=126
M30M **Minto, Yukon** 54.88 338 P **P** **02 59 02.8 +0.8**
baz=129
YUK8 **Steele Glacier** 55.22 336 P **P** **02 59 05.7 +1.0**
baz=125
MAYO **Mayo, Yukon** 55.22 339 P **P** **02 59 05.4 +1.1**
baz=130
M29M **Somme Creek** 55.40 337 IAmb IAmb 02 59 07.7
comp=Z,7.5nm,0.8s
M29M **Somme Creek** 55.40 337 P **P** **02 59 06.6 +0.8**
baz=127
MESA **MESA** 55.49 334 P **P** **02 59 06.6 0.0**
baz=122
CTG **Chitna Glacier** 55.67 335 P **P** **02 59 09.2 +1.4**
baz=123
L29M **L29M** 55.69 338 IAmb IAmb 02 59 10.5
comp=Z,5.5nm,0.8s
L29M **L29M** 55.69 338 P **P** **02 59 08.5 +0.7**
baz=127,SNR=8.8
YUK3 **Moose Creek** 55.77 336 P **P** **02 59 09.2 +0.6**
baz=124
K29M **Barlow Dome** 55.93 339 P **P** **02 59 10.0 +0.3**
baz=128
CPUP **Villa Florida** 56.00 138 LR LR 03 22 03.2
comp=Z,18nm,19.2s,baz=184,slow=35
J30M **Hart River** 56.01 340 P **P** **02 59 10.7 +0.5**
baz=130
H31M **Peel River** 56.21 342 P **P** **02 59 11.8 +0.4**
baz=133
BVCY **Beaver Creek** 56.29 337 P **P** **02 59 12.6 +0.5**
baz=124

BDFB **Brasilia** 56.38 121 P **P** **02 59 13.5 0.0**
comp=Z,5.4nm,0.7s,baz=279,slow=5.2,SNR=7.5
comp=Z,5.4nm,0.7s
I30M **Mount Dempster** 56.45 341 IAmb IAmb 02 59 13.9
comp=Z,2.7nm,0.7s
I30M **Mount Dempster** 56.45 341 P **P** **02 59 13.6 +0.3**
baz=130
MCARA **McCarthy VSAT** 56.58 335 P **P** **02 59 14.8 +0.6**
baz=121
M27K **Edge Creek, AK** 56.65 336 P **P** **02 59 15.8 +1.0**
baz=123
DAWY **Dawson** 56.72 339 P **P** **02 59 15.3 +0.1**
baz=127
G31M **Satah River** 56.97 343 P **P** **02 59 16.1 -0.6**
baz=134,SNR=12
BCAR **Beaver Creek A** 57.01 337 **P** **02 59 16.5 -0.8**
L27K **Beaver Creek,** 57.02 337 P **P** **02 59 17.3 -0.1**
baz=124
BMRM **Bremner River** 57.03 334 P **P** **02 59 17.6 +0.2**
baz=119
Q23K **Middleton Isla** 57.05 332 P **P** **02 59 18.0 +0.5**
baz=117
M26K **Nabesna, AK** 57.11 336 IAmb IAmb 02 59 19.7
comp=Z,7.6nm,1.2s
M26K **Nabesna, AK** 57.11 336 P **P** **02 59 18.0 +0.1**
baz=122
I29M **Ogilvie Camp,** 57.16 340 P **P** **02 59 18.4 +0.2**
baz=128
F31M **Tsiigehtchic** 57.18 343 IAmb IAmb 02 59 28.1
comp=Z,6.1nm,1.1s
F31M **Tsiigehtchic** 57.18 343 P **P** **02 59 18.1 -0.2**
baz=134
EPYK **Eagle Plains** 57.31 342 P **P** **02 59 19.4 +0.1**
baz=131
EYAK **Cordova Ski Ar** 57.31 333 P **P** **02 59 19.9 +0.6**
baz=118
N25K **Chitina, Valde** 57.34 335 IAmb IAmb 02 59 21.9
comp=Z,6.2nm,0.9s
N25K **Chitina, Valde** 57.34 335 P **P** **02 59 20.6 +1.0**
baz=120,SNR=5.1
L26K **Log Cabin Wild** 57.59 336 P **P** **02 59 21.6 +0.3**
baz=122
K27K **Chicken** 57.66 338 IAmb IAmb 02 59 23.4
comp=Z,4.8nm,1.1s
K27K **Chicken** 57.66 338 P **P** **02 59 22.7 +1.0**
baz=124
H29M **Whitestone** 57.72 341 IAmb IAmb 02 59 22.9
comp=Z,5.9nm,0.9s
H29M **Whitestone** 57.72 341 P **P** **02 59 21.6 -0.5**
baz=129,SNR=5.1
INK **Inuvik** 57.74 344 LR LR 03 27 51.8
comp=Z,89nm,19.5s,baz=106,slow=40
INK **Inuvik** 57.74 344 P **P** **02 59 21.5 -0.7**
baz=135,SNR=11
I28M **Miner Creek** 57.75 340 P **P** **02 59 22.3 -0.1**
baz=127
P23K **Montague Islan** 57.79 332 P **P** **02 59 22.9 +0.3**
baz=116
KLU **Klutina** 57.84 334 IAmb IAmb 02 59 25.1
comp=Z,4.0nm,0.8s
KLU **Klutina** 57.84 334 P **P** **02 59 24.2 +1.1**
baz=118
F30M **Barrier River** 57.87 343 P **P** **02 59 23.1 -0.1**
baz=132,SNR=6.9
HARP **HAARP** 57.97 335 P **P** **02 59 24.4 +0.4**
baz=120
GLI **Glacier Island** 58.05 333 P **P** **02 59 24.2 -0.4**
baz=117
G29M **Pine Creek** 58.06 342 **P** **02 59 24.2 -0.3**
G29M IAmb IAmb 02 59 24.6
comp=Z,3.7nm,0.8s
G29M **Pine Creek** 58.06 342 P **P** **02 59 24.5 0.0**
baz=130,SNR=5.4
DOT **Dot Lake** 58.19 337 P **P** **02 59 25.9 +0.4**
DOT IAmb IAmb 02 59 27.0
comp=Z,4.5nm,0.9s
M24K **Tolsona, Glenn** 58.24 335 P **P** **02 59 26.0 +0.1**
baz=118
SCRK **Sand Creek** 58.34 337 **P** **02 59 27.2 +0.6**
SCRK IAmb IAmb 02 59 28.7
comp=Z,4.3nm,1.0s
SCRK **Sand Creek** 58.34 337 P **P** **02 59 26.8 +0.1**
baz=122,SNR=6.0
PAX **Paxson** 58.38 336 P **P** **02 59 27.3 +0.3**
PAX IAmb IAmb 02 59 28.1
comp=Z,6.6nm,0.9s
PAX **Paxson** 58.38 336 P **P** **02 59 26.6 -0.4**
baz=120,SNR=8.1
I27K **Kandik River** 58.40 339 P **P** **02 59 26.5 -0.5**
baz=125
J26L **Joseph Creek** 58.47 338 **P** **02 59 28.2 +0.7**
J26L IAmb IAmb 02 59 29.0
comp=Z,5.8nm,1.1s
J26L **Joseph Creek** 58.47 338 P **P** **02 59 27.5 0.0**
baz=122,SNR=7.1
RIDG **Independent Ri** 58.54 337 **P** **02 59 28.5 +0.5**
RIDG **Independent Ri** 58.54 337 P **P** **02 59 28.0 0.0**
baz=121,SNR=6.9
SCM **Sheep Creek Mo** 58.59 334 P **P** **02 59 28.5 +0.1**
baz=117
H27K **Steamboat Moun** 58.74 340 P **P** **02 59 29.3 -0.1**
H27K IAmb IAmb 02 59 53.2
comp=Z,4.0nm,1.2s
H27K **Steamboat Moun** 58.74 340 P **P** **02 59 28.9 -0.4**
baz=125
SEW **Seward** 58.76 332 P **P** **02 59 29.6 +0.2**
baz=114
I26K **Coal Creek Min** 58.76 339 P **P** **02 59 29.7 +0.2**
baz=123
SFJD **Kangerlussuaq** 58.85 19 LR LR 03 27 57.5
comp=Z,40nm,18.4s,baz=256,slow=39
KNK **Knik Glacier** 58.88 333 P **P** **02 59 30.4 0.0**
baz=116
K24K **Donnelly Dome** 58.92 337 P **P** **02 59 30.9 +0.3**
K24K **Donnelly Dome** 58.92 337 P **P** **02 59 30.9 +0.3**
baz=120
E29M **Blow River** 58.98 343 **P** **02 59 30.9 0.0**
E29M IAmb IAmb 02 59 31.8
comp=Z,8.9nm,1.3s
E29M **Blow River** 58.98 343 P **P** **02 59 30.4 -0.5**
baz=130,SNR=7.3
F28M **Old Crow** 59.06 342 P **P** **02 59 31.5 0.0**
F28M **Old Crow** 59.06 342 P **P** **02 59 31.5 0.0**
baz=128,SNR=18
G27K **Doyon Strip** 59.12 341 **P** **02 59 31.6 -0.4**
G27K IAmb IAmb 02 59 32.5
comp=Z,3.1nm,0.8s
G27K **Doyon Strip** 59.12 341 P **P** **02 59 31.3 -0.7**
baz=126,SNR=6.6
J25K **Salcha River,** 59.19 337 **P** **02 59 32.6 +0.1**
J25K IAmb IAmb 02 59 35.6
comp=Z,3.8nm,0.8s
J25K **Salcha River,** 59.19 337 P **P** **02 59 31.8 -0.6**
baz=121
PMR **Palmer** 59.25 333 P **P** **02 59 32.4 -0.5**
baz=115
RC01 **Rabbit Creek A** 59.30 333 P **P** **02 59 32.8 -0.5**
baz=114
KDAK **Kodiak Island** 59.38 329 LR LR 03 24 13.2
comp=Z,52nm,20.6s,baz=120,slow=35
KDAK **Kodiak Island** 59.38 329 P **P** **02 59 33.4 -0.4**
baz=110
Q20K **Shuyak Island** 59.58 329 P **P** **02 59 35.0 -0.1**
baz=110
E28M **Babbage River** 59.58 343 P **P** **02 59 34.6 -0.4**
E28M IAmb IAmb 02 59 34.9
comp=Z,3.1nm,0.8s
E28M **Babbage River** 59.58 343 P **P** **02 59 34.7 -0.4**
baz=129
HDA **Harding Lake** 59.67 337 P **P** **02 59 36.3 +0.5**
HDA **Harding Lake** 59.67 337 P **P** **02 59 34.9 -0.9**
baz=119
PRP **Porcupine Dome** 59.71 338 P **P** **02 59 35.8 -0.4**
PRP IAmb IAmb 02 59 37.0
comp=Z,4.0nm,0.8s
PRP **Porcupine Dome** 59.71 338 P **P** **02 59 35.7 -0.5**
baz=121,SNR=6.8
D28M **Stokes Point** 59.83 344 P **P** **02 59 36.2 -0.5**
baz=130
IL31 59.83 337 P **P** **02 59 36.8 0.0**
IL31 IAmb IAmb 02 59 38.0
comp=Z,6.2nm,1.0s
ILAR **Eielson Array** 59.83 337 **P** **02 59 36.7 -0.1**
ILAR PcP **PcP** **03 00 22.6 -0.6**
ILAR **Eielson Array** 59.83 337 P **P** **02 59 36.4 -0.4**
comp=Z,3.8nm,0.9s,baz=132,slow=4.8,SNR=43
ILAR PcP **PcP** **03 00 22.6 -0.6**
comp=Z,1.0nm,0.6s,baz=142,slow=2.3,SNR=9.0
ILAR LR LR 03 28 54.2
comp=Z,111nm,18.3s,baz=170,slow=40
comp=Z,3.8nm,0.9s
G26K **Porcupine Rive** 59.89 340 **P** **02 59 37.2 0.0**
G26K IAmb IAmb 02 59 47.4
comp=Z,3.7nm,0.9s
G26K **Porcupine Rive** 59.89 340 P **P** **02 59 37.2 0.0**
baz=123
E27K **Coleen River** 59.93 342 **P** **02 59 37.2 -0.3**
E27K IAmb IAmb 02 59 38.4
comp=Z,4.3nm,0.9s
E27K **Coleen River** 59.93 342 P **P** **02 59 37.2 -0.3**
baz=126,SNR=6.8
RND **Reindeer** 59.94 335 **P** **02 59 38.0 +0.3**
CCB **Clear Creek Bu** 60.11 337 **P** **02 59 38.0 -0.7**
CCB IAmb IAmb 02 59 38.7
comp=Z,2.1nm,0.6s
MCK **McKinley** 60.12 336 P **P** **02 59 38.2 -0.6**
baz=116
WRH **Wood River Hil** 60.14 337 **P** **02 59 38.2 -0.7**
WRH IAmb IAmb 02 59 39.9
comp=Z,3.0nm,1.0s
POKR **Poker Plat Res** 60.20 337 P **P** **02 59 39.6 +0.2**
baz=119
H25L **Birch Creek** 60.21 339 P **P** **02 59 39.6 +0.2**
baz=121
O20K **Slope Mountain** 60.22 331 P **P** **02 59 40.1 +0.5**
baz=111
D27M **Malcolm River** 60.39 343 P **P** **02 59 40.3 -0.4**
baz=128
STLK **Strandline Lak** 60.39 333 P **P** **02 59 41.3 +0.4**
STLK IAmb IAmb 02 59 41.9
comp=Z,4.2nm,1.0s
RED **Redoubt Volcan** 60.41 331 P **P** **02 59 40.8 -0.1**
BMAR **Burnt Mountain** 60.42 340 **P** **02 59 41.0 +0.2**
BMAR PcP **PcP** **03 00 26.0 +0.4**
F26K **Sheenjek River** 60.43 341 P **P** **02 59 41.3 +0.4**
F26K IAmb IAmb 02 59 42.6
comp=Z,5.7nm,1.2s
F26K PcP **PcP** **03 00 26.1 +0.5**
F26K **Sheenjek River** 60.43 341 P **P** **02 59 41.1 +0.2**
baz=123,SNR=7.7
SKT **Skwentna** 60.45 333 **P** **02 59 41.3 +0.1**
SKT **Skwentna** 60.45 333 P **P** **02 59 41.0 -0.1**
baz=113,SNR=6.5
BWN **Browne** 60.53 336 P **P** **02 59 41.5 -0.1**
TRF **Thorofare Moun** 60.54 335 **P** **02 59 41.5 -0.4**
TRF **Thorofare Moun** 60.54 335 P **P** **02 59 41.6 -0.4**
baz=115,SNR=6.3
G25K **Bearman Lake** 60.57 339 P **P** **02 59 42.0 +0.2**
baz=121
NEA2 **Nenana** 60.57 337 P **P** **02 59 41.4 -0.4**
NEA2 IAmb IAmb 02 59 54.2
comp=Z,3.2nm,0.9s
NEA2 **Nenana** 60.57 337 P **P** **02 59 41.5 -0.4**
baz=117
H24K **Noodor Dome** 60.72 338 **P** **02 59 42.8 -0.1**
H24K IAmb IAmb 02 59 43.3
comp=Z,4.0nm,0.7s
H24K **Noodor Dome** 60.72 338 P **P** **02 59 42.6 -0.3**
baz=119,SNR=8.6
F25K **Christian Rive** 60.85 340 P **P** **02 59 44.2 +0.4**
F25K IAmb IAmb 02 59 44.6
comp=Z,3.6nm,0.8s
F25K **Christian Rive** 60.85 340 P **P** **02 59 44.0 +0.2**
baz=122,SNR=5.9
PLCA **Paso Flores** 60.87 158 **P** **02 59 45.9 +1.7**
PLCA **Paso Flores** 60.87 158 P **P** **02 59 46.0 +1.7**
comp=Z,6.3nm,0.8s,baz=326,slow=7.5,SNR=16
comp=Z,6.3nm,0.8s
Q18K **Katmai Hardscr** 60.88 329 P **P** **02 59 44.5 +0.3**
baz=108
I23K **Minto, Yukon-K** 60.94 337 P **P** **02 59 44.8 +0.4**
I23K **Minto, Yukon-K** 60.94 337 P **P** **02 59 44.4 0.0**
baz=117,SNR=13
G24K **Hadweenzic Riv** 61.00 339 P **P** **02 59 44.6 -0.3**
G24K IAmb IAmb 02 59 45.4
comp=Z,2.7nm,0.8s
G24K PcP **PcP** **03 00 28.0 +0.1**
G24K **Hadweenzic Riv** 61.00 339 P **P** **02 59 44.5 -0.3**
baz=120
PPLA **Purkeypile** 61.10 334 P **P** **02 59 45.2 -0.5**
baz=113
BPAW **Bear Paw Mtn.** 61.10 336 **P** **02 59 45.5 -0.1**
BPAW IAmb IAmb 02 59 46.0
comp=Z,4.1nm,0.9s
BPAW **Bear Paw Mtn.** 61.10 336 P **P** **02 59 45.1 -0.5**
baz=115,SNR=6.2
E25K **Arctic Village** 61.11 341 P **P** **02 59 45.4 -0.2**
baz=122
M20K **Styx River** 61.11 333 P **P** **02 59 45.6 -0.1**
M20K IAmb IAmb 02 59 46.5
comp=Z,5.0nm,0.8s
M20K **Styx River** 61.11 333 P **P** **02 59 45.8 0.0**
baz=111
Q17K **Contact Creek** 61.20 328 P **P** **02 59 46.5 +0.1**
baz=107
P18K **Big Mountain,** 61.22 330 P **P** **02 59 46.7 +0.2**
baz=108
R17L **Mt. Peulik Vol** 61.26 328 P **P** **02 59 46.5 -0.2**
baz=106
CAST **Castle Rocks** 61.26 335 **P** **02 59 46.2 -0.4**
CAST IAmb IAmb 02 59 46.5
comp=Z,3.3nm,0.8s
CAST PcP **PcP** **03 00 28.4 -0.6**
CAST **Castle Rocks** 61.26 335 P **P** **02 59 46.0 -0.6**
baz=113,SNR=6.5
H23K **Yukon River** 61.31 338 P **P** **02 59 46.5 -0.5**
baz=117
N19K **Bonanza Creek** 61.34 331 **P** **02 59 47.1 -0.2**
N19K IAmb IAmb 02 59 48.0
comp=Z,6.8nm,0.9s
N19K **Bonanza Creek** 61.34 331 P **P** **02 59 46.8 -0.5**
baz=110,SNR=6.1
O18K **Koktuh Hills** 61.36 330 **P** **02 59 46.8 -0.5**
O18K **Koktuh Hills** 61.36 330 P **P** **02 59 46.5 -0.8**
baz=108
C27K **Jago River** 61.40 343 P **P** **02 59 47.8 +0.4**
C27K IAmb IAmb 02 59 48.4
comp=Z,7.6nm,1.1s
C27K **Jago River** 61.40 343 P **P** **02 59 47.3 -0.2**
baz=125,SNR=5.0
MLY **Manley** 61.41 337 P **P** **02 59 47.3 -0.3**
MLY **Manley** 61.41 337 P **P** **02 59 46.7 -0.9**
baz=115,SNR=14
F24K **Squaw Lake** 61.55 340 P **P** **02 59 47.6 -0.9**
baz=119
L20K **Farewell, AK** 61.66 333 P **P** **02 59 49.0 -0.4**
baz=111,SNR=7.2
M19K **Big River Lodg** 61.68 333 P **P** **02 59 49.5 0.0**
M19K IAmb IAmb 02 59 50.5
comp=Z,6.0nm,0.9s
M19K **Big River Lodg** 61.68 333 P **P** **02 59 49.4 -0.1**
baz=110
Q16K **King Salmon** 61.71 329 P **P** **02 59 49.9 +0.2**
baz=106
P17K **Kvichak River** 61.75 329 P **P** **02 59 50.1 +0.2**
baz=107
G23K **Bananza Creek** 61.90 338 **P** **02 59 51.1 +0.2**
G23K IAmb IAmb 03 00 14.3
comp=Z,4.2nm,1.2s
G23K **Bananza Creek** 61.90 338 P **P** **02 59 50.8 -0.1**
baz=117
I21K **Tanana** 61.95 337 P **P** **02 59 51.0 -0.2**
baz=114
N18K **Kilae Creek** 61.95 331 P **P** **02 59 50.6 -0.7**
baz=108
L19K **White Mountain** 61.98 333 P **P** **02 59 51.2 -0.3**
L19K IAmb IAmb 02 59 52.1
comp=Z,5.3nm,1.1s
L19K **White Mountain** 61.98 333 P **P** **02 59 51.0 -0.5**
baz=110
D25K **Kavik River** 62.01 342 P **P** **02 59 51.5 -0.1**
baz=122
H22K **Ishtalitna Cre** 62.02 337 P **P** **02 59 51.1 -0.6**
baz=115,SNR=5.1
E24K **Your Creek** 62.03 340 P **P** **02 59 51.0 -0.7**
baz=119
K20K **Telida** 62.06 334 **P** **02 59 51.7 -0.4**
K20K IAmb IAmb 02 59 52.5
comp=Z,4.4nm,0.8s
K20K **Telida** 62.06 334 P **P** **02 59 51.2 -0.8**
baz=111,SNR=8.0
M18K **Stony River** 62.18 332 P **P** **02 59 52.3 -0.5**
baz=108
COLD **Coldfoot** 62.20 339 P **P** **02 59 51.9 -1.0**

baz=117
O17K **Koliganek Bris** 62.24 330 P P 02 59 53.2 -0.1
baz=106
E23K **Chandalar** 62.39 340 P P 02 59 54.3 0.0
baz=118
J20K **Nowinta River** 62.40 335 P 02 59 53.7 -0.5
J20K IAmb IAmb 02 59 54.6
comp=Z,4.4nm,0.9s
J20K **Nowinta River** 62.40 335 P P 02 59 53.4 -0.8
baz=112,SNR=8.3
H21K **Melozitna Rive** 62.46 337 P P 02 59 54.1 -0.5
H21K IAmb IAmb 02 59 54.8
comp=Z,3.4nm,0.9s
H21K **Melozitna Rive** 62.46 337 P P 02 59 53.4 -1.3
baz=114
N17K **Nushagak Hills** 62.51 331 P P 02 59 54.8 -0.2
baz=107
G22K **Bettles** 62.52 338 P P 02 59 54.6 -0.4
baz=116
S14K **Fog Glacier** 62.60 326 P P 02 59 56.1 +0.2
baz=102
TOLK **Toolik Lake Re** 62.66 340 P P 02 59 55.8 -0.2
baz=118
D24K **Happy Valley** 62.67 341 P P 02 59 55.4 -0.6
baz=119
O16K **Kokwok River B** 62.68 329 P 02 59 56.1 0.0
O16K IAmb IAmb 02 59 58.6
comp=Z,5.5nm,0.9s
O16K **Kokwok River B** 62.68 329 P P 02 59 56.2 0.0
baz=106
I20K **Naaghedeneel** 62.77 336 P P 02 59 57.1 +0.4
baz=112
L18K **Granite Mounta** 62.80 333 P P 02 59 57.0 0.0
baz=108
M17K **Holitna River** 62.89 332 P P 02 59 56.8 -0.7
baz=107
C24K **Franklin Bluff** 62.92 342 P P 02 59 56.9 -0.7
baz=120
J19K **Poorman** 62.94 335 P 02 59 57.4 -0.5
J19K **Poorman** 62.94 335 P P 02 59 56.4 -1.4
baz=110,SNR=12
G21K **Allakaket** 63.07 338 P P 02 59 57.5 -1.2
baz=113
E22K **Anaktuvuk Pass** 63.16 340 P P 02 59 58.6 -0.7
baz=116
D23K **Nanushuk River** 63.16 341 P P 02 59 58.5 -0.8
baz=117
H20K **Anotleneega Mo** 63.19 336 P P 02 59 58.7 -0.8
baz=111
J18K **Innoko River** 63.22 334 P P 02 59 58.8 -1.0
baz=109
N16K **Nishlik Lake** 63.24 330 P P 03 00 00.2 +0.3
baz=105
F21K **Alatna River** 63.34 338 P 03 00 00.8 +0.3
F21K **Alatna River** 63.34 338 P P 02 59 60.0 -0.6
baz=114,SNR=9.4
O15K **Ungalikthiuk R** 63.42 329 P P 03 00 00.9 -0.2
baz=104
M16K **Timber Creek** 63.48 331 P P 03 00 01.8 +0.3
baz=105
L17K **Donlin** 63.49 332 P P 03 00 01.6 0.0
baz=106
C23K **Itkillik River** 63.55 341 P P 03 00 01.1 -0.7
baz=118
K17K **Iditarod** 63.67 333 P P 03 00 02.2 -0.5
baz=107
D22K **Ayikyak River** 63.77 340 P P 03 00 02.9 -0.4
baz=115
N15K **Kwethluk River** 63.80 330 P P 03 00 03.7 +0.1
baz=104
H19K **Roundabout Mou** 63.81 336 P P 03 00 03.7 +0.2
baz=110
S12K **Black Hills** 63.87 325 P P 03 00 04.9 +0.8
baz=100
E21K **Killik River** 64.02 339 P P 03 00 04.9 0.0
baz=114
F20K **Avaraart Lake** 64.08 338 P P 03 00 05.4 0.0
F20K IAmb IAmb 03 00 06.3
comp=Z,4.1nm,0.9s
F20K **Avaraart Lake** 64.08 338 P P 03 00 05.2 -0.1
baz=111
O14K **Tigyukauivet M** 64.16 329 P P 03 00 06.5 +0.5
baz=102
J17K **VABM Dome** 64.21 333 P P 03 00 06.4 +0.2
baz=106
M15K **Kasigluk River** 64.22 330 P P 03 00 06.6 +0.3
baz=104
G19K **Purcell Mounta** 64.27 337 P 03 00 06.2 -0.3
G19K IAmb IAmb 03 00 06.6
comp=Z,4.4nm,0.8s
G19K **Purcell Mounta** 64.27 337 P P 03 00 05.9 -0.7
baz=110,SNR=5.4
H18K **Honhosa River** 64.44 335 P P 03 00 07.1 -0.7
baz=108
N14K **Kuskokwak Cree** 64.52 329 P P 03 00 08.0 -0.3
baz=102
C21K **Knifeblade Rid** 64.58 340 P P 03 00 08.2 -0.4
baz=113
B22K **Teshekpuk Lake** 64.64 342 P P 03 00 08.5 -0.4
baz=115
E20K **Nigu River** 64.70 339 P P 03 00 09.2 -0.3
baz=111
B21K **Ikpikpuk River** 64.71 341 P P 03 00 09.3 -0.1
baz=114
F19K **Shaleruckik Mo** 64.76 337 P P 03 00 09.6 -0.1
baz=109
E19K **Redstone River** 64.78 338 P P 03 00 09.6 -0.3
baz=110
G18K **Tagagawik** 64.79 336 P P 03 00 09.8 -0.3
baz=108
L15K **Ungalak Mounta** 64.83 331 P P 03 00 10.2 -0.1
baz=103
J16K **Anvik River** 64.84 333 P P 03 00 10.4 +0.1
baz=105
M14K **Bethel** 64.84 330 P P 03 00 10.0 -0.3
baz=102
K15K **Wolf Creek Mou** 65.00 332 P P 03 00 11.0 -0.5
baz=104
H17K **Granite Mounta** 65.00 335 P P 03 00 11.3 -0.1
baz=106
D20K **Ettluk River** 65.02 339 P P 03 00 11.0 -0.5
baz=111
I17K **Unalakleet** 65.04 334 P P 03 00 10.9 -0.7
baz=105
L14K **Kuka Creek** 65.31 331 P P 03 00 13.2 -0.3
baz=102
A22K **Sinclair Lake** 65.39 342 P P 03 00 13.3 -0.5
baz=114
F18K **Selawik** 65.39 337 P P 03 00 13.4 -0.5
baz=107
M13K **Dall Lake** 65.44 330 P P 03 00 14.1 -0.1
baz=101
D19K **Kuna River** 65.45 339 P P 03 00 13.7 -0.6
baz=110
G17K **Kiwalik Mounta** 65.46 335 P P 03 00 14.3 -0.1
baz=106
NEEM **North Greenlan** 65.49 10 *i* P P 03 00 09.6 -5.2
B20K **Meade River** 65.68 341 P P 03 00 14.8 -0.8
baz=111
H16K **Elim** 65.88 334 P P 03 00 16.8 -0.3
baz=104
E18K **Tukpahlearik C** 66.00 337 P P 03 00 17.7 -0.1
baz=107
J14K **Nanvaranak Lak** 66.02 332 P P 03 00 19.0 +1.1
J14K **Nanvaranak Lak** 66.02 332 P P 03 00 18.5 +0.6
baz=102
G16K **Koyuk River** 66.12 335 P P 03 00 18.6 0.0
baz=104
K13K **Kusilvak Mount** 66.35 331 P P 03 00 21.0 +0.8
baz=100
E17K **Hotham Inlet** 66.36 337 P P 03 00 19.9 -0.2
baz=105
C18K **Utukok River** 66.57 339 P P 03 00 21.9 +0.4
baz=107
TNA **Tin City** 68.43 335 P P 03 00 33.8 +0.6
baz=99
SPIA **Saint Paul Isl** 68.56 326 P P 03 00 35.0 +0.8
baz=94
BORG **Borgarnes** 69.06 26 LR LR 03 31 29.9
comp=Z,36nm,19.9s,baz=284,slow=36
GAMB **Gambell** 69.81 333 P P 03 00 42.3 +0.5
baz=95
DAG **Danmarks Havn** 71.68 14 *i* P P 03 00 51.0 -2.0
JMIC **Jan Mayen** 74.18 20 LR LR 03 35 40.4
comp=Z,30nm,18.4s,baz=34,slow=37
EKA **Eskdalemuir Ar** 78.47 36 P P 03 01 31.1 -1.4
comp=Z,3.5nm,0.7s,baz=281,slow=4.4,SNR=8.5
comp=Z,3.5nm,0.7s

SPITS **Spitsbergen Ar** 78.97 11 LR LR 03 41 37.1
comp=Z,47nm,18.4s,baz=305,slow=40
ESDC **Sonseca Array** 81.25 51 P 03 01 47.1 -0.9
ESDC **Sonseca Array** 81.25 51 P P 03 01 47.4 -0.6
comp=Z,2.9nm,1.0s,baz=296,slow=5.5,SNR=12
comp=Z,2.9nm,1.0s
NB2 **NORSAR Subarra** 84.15 28 P P 03 02 02.6 0.0
comp=Z,12nm,1.2s,baz=294,slow=5.1
NOA **NORSAR Array B** 84.15 28 P P 03 02 02.1 -0.6
comp=Z,1.8nm,0.8s,baz=292,slow=5.0,SNR=9.2
NOA LR LR 03 38 09.2
comp=Z,29nm,21.9s,baz=70,slow=35
comp=Z,1.8nm,0.8s
ARCES **ARCESS Array B** 85.45 18 P P 03 02 08.3 -0.7
comp=Z,2.0nm,0.8s,baz=333,slow=4.1,SNR=5.5
ARCES LR LR 03 43 23.3
comp=Z,45nm,18.3s,baz=120,slow=38
comp=Z,2.0nm,0.8s
HFS **Hagfors** 85.63 28 LR LR 03 43 01.3
comp=Z,38nm,18.3s,baz=310,slow=38
MA2 **Magadan** 87.91 332 LR LR 03 44 47.1
comp=Z,31nm,18.9s,baz=276,slow=38
DBIC **Dimbokro** 88.84 83 LR LR 03 39 14.4
comp=Z,29nm,18.6s,baz=127,slow=34
GERES **GERESS Array B** 90.33 39 P P 03 02 32.1 -0.8
comp=Z,0.6nm,0.8s,baz=302,slow=2.5,SNR=5.0
comp=Z,0.6nm,0.8s
AKASG **Malin Array Be** 98.02 32 LR LR 03 48 50.5
comp=Z,36nm,18.1s,baz=289,slow=36
MRZ **Mangatainoka R** 99.32 230 P Pdif 03 03 15.4 +1.5
HHC **Hu-ho-hao-te** 118.25 337 *eP* PKiKP 03 08 23.4 +4.0
NJ2 **Nanjing** 122.10 326 *eP* PKiKP 03 08 28.0 +1.0
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
BOSA **Boshof** 124.21 114 PKPdf PKPdf 03 08 30.6 -0.5
STKA **Stephens Creek** 125.95 242 PKP PKPdf 03 08 34.1 -0.1
comp=Z,3.7nm,0.7s,baz=25,slow=4.3,SNR=4.8
WB0 **Warramunga Arr** 132.44 258 PKPdf PKPdf 03 08 47.6 +0.8
WRA **Warramunga Arr** 132.51 257 PKPdf PKPdf 03 08 47.5 +0.6
WRA **Warramunga Arr** 132.51 257 PKP PKPdf 03 08 46.9 -0.1
comp=Z,1.4nm,0.8s,baz=80,slow=2.2,SNR=13
ASAR **Alice Springs** 133.02 252 PKPdf PKPdf 03 08 48.5 +0.6
ASAR **Alice Springs** 133.02 252 PKP PKPdf 03 08 47.6 -0.2
comp=Z,1.1nm,0.7s,baz=76,slow=1.9,SNR=10
PZH **PanZhiHua** 134.69 338 PKP PKPdf 03 08 51.8 +0.7
FITZ **Fitzroy Crossi** 140.62 261 PKPdf PKPdf 03 09 02.8 +0.8
CMAR **Chiang Mai Arr** 143.06 337 PKP PKPdf 03 09 07.0 +0.6
comp=Z,9.9nm,0.3s,baz=329,slow=0.9,SNR=4.2
PSA00 **Pilbara Seismi** 146.07 255 PKPdf PKPdf 03 09 12.0 +0.6
PSA00 **Pilbara Seismi** 146.07 255 PKPdf PKPdf 03 09 12.1 +0.6
MBWA **Marble Bar** 146.20 256 PKPdf PKPdf 03 09 12.5 +0.8

*JMA **23** 02:55:34.4±0.2,36.2°N±0.4×142.5°E±1.0,h71km, MV3.3/27, FAR E OFF KANTO*
*IDC **23** 02:55:39.8±4.2,35.92°N×142.19°E,h57km±37km, mb3.4/11, mbtmp3.7/13,ML2.5/1,MS3.2/5,Error ellipse: s-maj=34.0km s-min=24.7km az=42.0*
ISC 23 02:55:39.4±0.8,36.14N±0.07°×142.20E±0.08,h50km,n35, σ1s41/26,mb3.6/11,MS3.3/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	1.32	279	P		P	Pn	02 56 00.5	-0.9
JHO	Hitachi	1.40	290	P		P	Pn	02 56 01.0	-1.5
JHO						eS	Sn	02 56 20.9	+1.1
ONAJ	Iwakimizuishiy	1.48	311	*eP*		P	Pn	02 56 01.5	-2.2
JFK	Kawauchi	1.62	319	*eP*		P	Pn	02 56 03.0	-2.6
JFK						eS	Sn	02 56 24.5	-0.9
BSO1	Boso 1	1.79	214	*eP*		P	Pn	02 56 05.9	-1.4
JOTO	OTAMA OYAMA	2.06	314	*eP*		P	Pn	02 56 10.4	-1.3
JOTO						eS	Sn	02 56 36.8	+0.6
JAG	Ashikaga	2.24	278	*eP*		P	Pn	02 56 13.1	-0.9
JRY	Ryogami san	2.67	268	*eP*		P	Pn	02 56 19.4	-0.6
JMK	Ichinoseki	2.92	345	*eP*		P	Pn	02 56 19.7	-3.5
JMK						eS	Sn	02 56 54.2	-2.9
JYN	Shimob	3.04	259	*eP*		P	Pn	02 56 24.7	-0.3
JYK	Kaneyama	3.14	333	*eP*		P	Pn	02 56 23.6	-2.7
MJAR	Matsushiro Arr	3.25	278	P		P	Pn	02 56 27.7	-0.2
	0.5nm,0.3s,baz=101,slow=7.8,SNR=29								
MJAR						S	Sn	02 57 02.1	-3.1
	8.3nm,0.5s,baz=92,slow=11,SNR=6.1								
MJAR						LR	LR	02 58 08.7	
	comp=Z,206nm,20.4s,baz=110,slow=45								
	8.7nm,0.7s								
JOM	Ohasama	3.41	348	*eP*			Pn	02 56 26.0	-4.0
USRK	Ussuriysk Ar.	11.21	319	LR		LR	LR	03 02 32.5	
	comp=Z,146nm,18.5s,baz=120,slow=36								
KSRS	Korea Array	11.52	281	P			Pn	02 58 22.6	+1.4
	1.3nm,0.8s,baz=100,slow=12.5,SNR=4.7								
MA2	Magadan	24.11	11	LR		LR	LR	03 10 53.6	
	comp=Z,37nm,19.2s,baz=96,slow=38								
H11N2	WAKE ISLAND Hy	27.15	120	T		T	T	03 29 20.7	
	baz=313,slow=75,SNR=21								
H11N1	WAKE ISLAND Hy	27.16	120	T		T	T	03 29 24.7	
	baz=313,slow=75,SNR=16								
H11N3	WAKE ISLAND Hy	27.17	120	T		T	T	03 29 22.6	
	baz=313,slow=75,SNR=24								
H11S1	WAKE ISLAND Hy	27.84	123	T		T	T	03 30 20.3	
	baz=315,slow=76,SNR=14								
H11S3	WAKE ISLAND Hy	27.84	123	T		T	T	03 30 17.0	
	baz=315,slow=76,SNR=14								
H11S2	WAKE ISLAND Hy	27.86	123	T		T	T	03 30 20.6	
	baz=315,slow=76,SNR=11								
SONM	Songino Array	28.81	305	P		P	P	03 01 34.1	+1.3
	1.7nm,0.7s,baz=108,slow=9.1,SNR=9.9								
	1.7nm,0.7s								
ZALV	Zalesovo Beam	42.99	313	P		P	P	03 03 34.8	+1.3
	0.7nm,0.6s,baz=97,slow=11,SNR=4.8								
	0.7nm,0.6s								
MKAR	Makanchi Array	45.13	303	P		P	P	03 03 51.6	+0.7
	2.0nm,0.8s,baz=91,slow=11,SNR=10								
	2.0nm,0.8s								
KURBB	Kurchatov Arra	47.05	309	P		P	P	03 04 06.2	+0.4
	2.0nm,0.9s,baz=85,slow=7.9,SNR=11								
	2.0nm,0.9s								
AAK	Ala-Archa	51.47	299	LR		LR	LR	03 27 30.1	
	comp=Z,58nm,18.9s,baz=163,slow=37								
BVAR	Borovoye Array	51.64	313	LR		LR	LR	03 26 43.1	
	comp=Z,25nm,18.4s,baz=155,slow=36								
WRA	Warramunga Arr	56.27	189	P		P	P	03 05 12.8	-2.0
	1.0nm,0.9s,baz=7.2,slow=8.0,SNR=4.8								
	1.0nm,0.9s								
FINES	FINESS Array B	69.90	333	P		P	P	03 06 45.7	+0.9
	0.5nm,0.7s,baz=57,slow=10,SNR=1.6								
	0.5nm,0.7s								
NVAR	Mina Array Bea	75.02	53	P		P	P	03 07 17.1	+1.2
	0.4nm,0.6s,baz=288,slow=6.8,SNR=3.6								
	0.4nm,0.6s								
AKASG	Malin Array Be	75.39	323	P		P	P	03 07 17.2	-0.3
	0.2nm,0.4s,baz=64,slow=2.2,SNR=1.2								
	0.2nm,0.4s								
PDAR	Pinedale Array	77.84	46	P		P	P	03 07 31.9	0.0
	0.2nm,0.5s,baz=325,slow=8.7,SNR=1.7								
	0.2nm,0.5s								
GERES	GERESS Array B	83.80	329	P		P	P	03 08 03.4	0.0
	0.1nm,0.3s,baz=20,slow=3.3,SNR=2.4								
	0.1nm,0.3s								
TXAR	Lajitas Array	90.16	53	P		P	P	03 08 35.0	+0.3
	0.3nm,0.9s,baz=296,slow=4.5,SNR=2.3								
	0.3nm,0.9s								

*IDC **23** 03:01:53.3±5.2,24.29°N×121.77°E,h0km,mb4.0/3, mbtmp4.0/4,ML3.8/1,Error ellipse: s-maj=233.9km s-min=40.4km az=99.0*
*JMA **23** 03:02:02.9±0.2,24.18°N±0.9×122.0°E±0.5,h105km±2km, MV3.5/13,TAIWAN REGION*
*TAP **23** 03:02:02.8,24.88°N×122.01°E,h108km,ML4.5,C*
*ASIES **23** 03:02:02.8,24.88°N×122.01°E,h108km,ML4.5,Mw4.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr0.14; Mθθ-4.76; Mφφ4.63; Mrθ5.82; Mθφ3.14; Mφr-8.50; Fault plane solution: M₀11.74900×10¹⁴ NP1: φs239.89000°,δ28.54000°,λ1.64000°. NP2:φs148.45000°, δ89.22000°,λ118.53000°. Principal axes: T Plg39.1130°, Azm84.2520°; N Plg28.5270°, Azm328.0230°; P Plg37.6990°, Azm213.1820°;*
ISC 23 03:02:02.1±0.9,24.89N±0.03×122.01E±0.02,h114km±4km, n163,σ0s95/296,mb4.0/3,7C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EGS		0.09	238	*i*	P		Pn	03 02 18.0	+0.3
EGS						S	Sn	03 02 29.0	-0.4
TWB1	Santiao Chiao	0.12	349	*i*	P		Pn	03 02 17.8	0.0
TWB1						*i* S	Sn	03 02 28.5	-1.0
NTC	Toucheng	0.17	258	*e*	P		Pn	03 02 18.1	+0.3
NTC						S	Sn	03 02 28.7	-0.9
TIPB	Shuangxi	0.19	296	*i*	P		Pn	03 02 18.0	+0.1
TIPB						*i* S	Sn	03 02 28.7	-1.2
SXI1	Grass Mountain	0.24	328	↑*i*	P		Pn	03 02 18.0	-0.2
SXI1						*i* S	Sn	03 02 29.3	-1.0
ILA	Ilan	0.27	243		P		Pn	03 02 18.4	+0.2
ILA						S	Sn	03 02 29.9	-0.3
NWF	Wu-fen Shan	0.28	311	*i*	P		Pn	03 02 18.4	+0.1
NWF						S	Sn	03 02 29.6	-0.9
WFSB	Wu-fen Shan	0.28	311		P		Pn	03 02 18.3	+0.1
WFSB						S	Sn	03 02 29.2	-1.1
TWC	Suao	0.32	208	*i*	P		Pn	03 02 18.5	+0.1
TWC						S	Sn	03 02 29.6	-1.0
TNOU	National Taiwa	0.34	320	*i*	P		Pn	03 02 18.6	+0.1
TNOU						S	Sn	03 02 29.7	-1.0
ESAO	Su ao	0.35	206	*i*	P		Pn	03 02 18.7	+0.2
ESAO						S	Sn	03 02 30.0	-0.8
TWE	Neicheng	0.36	242	*e*	P		Pn	03 02 18.8	+0.2
TWE						eS	Sn	03 02 31.5	+0.7
NDS	Dongshan	0.37	227		P		Pn	03 02 18.3	-0.3
NDS						S	Sn	03 02 30.2	-0.8
TWA	Mucha	0.40	283	*e*	P		Pn	03 02 18.8	0.0
TWA						S	Sn	03 02 30.3	-1.0
FUSB	Fushanzhiwuyua	0.41	251		P		Pn	03 02 19.1	+0.2
FUSB						S	Sn	03 02 30.3	-1.2
NHDH	Xindian Distri	0.45	279		P		Pn	03 02 19.4	+0.4
NHDH						eS	Sn	03 02 31.3	-0.4
YM01	YM01	0.48	302		P		Pn	03 02 19.3	0.0
YM01						S	Sn	03 02 30.9	-1.3
ENTT	Nioudou	0.48	239	↑*i*	P		Pn	03 02 20.0	+0.8
ENTT						S	Sn	03 02 32.5	+0.4
NWLT	Wulai	0.48	256	*i*	P		Pn	03 02 19.4	+0.2
NWLT						S	Sn	03 02 31.7	-0.4
TATO	Taipei	0.48	280		P		Pn	03 02 19.4	+0.2
TATO	Taipei	0.48	280		S		Sn	03 02 31.3	-0.8
YM08	YM08	0.48	308		P		Pn	03 02 19.0	-0.3
YM08						S	Sn	03 02 30.4	-1.8
ZUZH	Zhuzihu	0.50	303	*e*	P		Pn	03 02 19.7	+0.3
ZUZH						S	Sn	03 02 31.7	-0.8
EOS2	EOS2	0.51	157		P		Pn	03 02 20.2	+1.0
EOS2						S	Sn	03 02 33.3	+1.1
ENA	Nanau	0.52	208	*i*	P		Pn	03 02 20.0	+0.5
ENA						S	Sn	03 02 32.9	+0.3
ANP	Anpu	0.54	304		P		Pn	03 02 19.9	+0.3
TWY	Chenhua	0.54	316		P		Pn	03 02 19.9	+0.3
TWY						S	Sn	03 02 32.2	-0.5
LATG	Datong	0.57	231		P		Pn	03 02 20.6	+0.7
LATG						S	Sn	03 02 33.5	+0.2
TWS1	Kuangyinshan	0.58	291	*e*	P		Pn	03 02 20.3	+0.4
TWS1						S	Sn	03 02 33.5	+0.3
NTST	Danshui	0.58	298		P		Pn	03 02 20.7	+0.9
NTST						S	Sn	03 02 34.0	+0.7
EAHA	Aohua	0.61	204		P		Pn	03 02 20.4	+0.3
EAHA						eS	Sn	03 02 33.2	-0.5
YHNB	Yeheng	0.62	249		P		Pn	03 02 20.5	+0.3
YHNB	Yeheng	0.62	249	*i*	P		Pn	03 02 20.5	+0.3
YHNB						S	Sn	03 02 33.4	-0.6
EHP	Heping Village	0.63	203		P		Pn	03 02 20.9	+0.7
EHP						eS	Sn	03 02 34.1	+0.1
NSK	Sanguang	0.63	250	↑*i*	P		Pn	03 02 20.5	+0.1
NSK						S	Sn	03 02 33.4	-0.7
EOS3	EOS3	0.66	155	*e*	P		Pn	03 02 21.4	+1.1
EOS3						eS	Sn	03 02 34.6	+0.6
NNS	Nan Shan	0.73	233	*i*	P		Pn	03 02 21.8	+0.5
NNS						S	Sn	03 02 35.7	-0.1
NNSB	Datong	0.73	231	↑*i*	P		Pn	03 02 21.7	+0.5
NNSB						S	Sn	03 02 35.6	-0.1
PCYT	Pengchaiyu	0.74	4	↓*i*	P		Pn	03 02 21.6	+0.5
PCYT						S	Sn	03 02 35.9	+0.4
NCUH	Zhongli	0.76	276		P		Pn	03 02 21.9	+0.7
NCUH						eS	Sn	03 02 36.4	+0.7
KSHI	Guanxi Townshi	0.77	262		P		Pn	03 02 22.0	+0.6
KSHI						S	Sn	03 02 36.5	+0.6
NACB	Ninganchiao	0.81	208		P		Pn	03 02 21.6	-0.2
NACB	Ninganchiao	0.81	208		P		Pn	03 02 36.2	-0.4
NACB	Ninganchiao	0.81	208		P		Pn	03 02 21.5	-0.2
NACB						S	Sn	03 02 35.1	-1.5
ETL	Fush Village	0.81	206	*e*	P		Pn	03 02 21.8	0.0
ETL						eS	Sn	03 02 35.7	-1.0
EOS4	EOS4	0.81	160		P		Pn	03 02 21.8	+0.4
EOS4						S	Sn	03 02 36.3	+0.3
ETLH	Xiulin Townshi	0.83	216	*i*	P		Pn	03 02 22.1	+0.1
ETLH						S	Sn	03 02 36.0	-0.6
NFS	Wufeng Townshi	0.85	253	*i*	P		Pn	03 02 22.5	+0.2
NFF						S	Sn	03 02 36.6	-0.8
TWD	Chiawan	0.89	205		P		Pn	03 02 22.1	-0.4
TWD						S	Sn	03 02 36.6	-1.3
LIOB	Emei	0.94	255	*i*	P		Pn	03 02 23.4	+0.5
LIOB						S	Sn	03 02 38.6	-0.2
SBCB	Hsinchu	0.94	264	*i*	P		Pn	03 02 23.5	+0.6
SBCB						S	Sn	03 02 38.8	+0.1
FUSS	Fushou	0.95	228	*i*	P		Pn	03 02 24.1	+0.8
FUSS						eS	Sn	03 02 39.2	-0.1
HSN	Hsinchu	0.95	265	*e*	P		Pn	03 02 23.4	+0.3
HSN						*i* S	Sn	03 02 38.8	-0.2
NSTT	Nanjuang	0.96	255	↑*i*	P		Pn	03 02 23.4	+0.3
NSTT						*i* S	Sn	03 02 38.6	-0.4
HWA	Hwalien	0.98	202	*e*	P		Pn	03 02 24.0	+0.6
HWA						eS	Sn	03 02 39.8	+0.4
TWT	Tachien	0.99	230	↑*i*	P		Pn	03 02 24.7	+1.0
TWT						S	Sn	03 02 40.1	+0.1
YOJ	Yonaguni jima	1.00	115		P		Pn	03 02 23.5	-0.1
YOJ	Yonaguni jima	1.00	115		P		Pn	03 02 23.8	+0.2
YOJ						eS	Sn	03 02 39.4	-0.5
YOJ	Yonaguni jima	1.00	115	↓*i*	P		Pn	03 02 23.7	+0.1
YOJ						S	Sn	03 02 39.1	-0.8
TDCB	Techi	1.00	231	↑*i*	P		Pn	03 02 24.8	+1.0
TDCB						S	Sn	03 02 40.0	-0.1
WHF	Hehuan Shan	1.01	223	*i*	P		Pn	03 02 24.6	+0.5
WHF						*i* S	Sn	03 02 40.3	-0.4
LXIB	Xiulin Townshi	1.02	212	*i*	P		Pn	03 02 23.4	-0.6
LXIB						S	Sn	03 02 39.9	-0.7
ETM	Tongmen	1.04	207	*e*	P		Pn	03 02 23.7	-0.3
ETM						S	Sn	03 02 39.2	-1.3
TEYL	Yanliau Villag	1.09	200		P		Pn	03 02 24.7	+0.3
TEYL						S	Sn	03 02 41.3	-0.1
WHP	Taichung City	1.15	238		P		Pn	03 02 26.1	+0.9
WHP						S	Sn	03 02 42.0	+0.1
NMLH	Miaoli	1.17	253		P		Pn	03 02 25.4	+0.1
NMLH						S	Sn	03 02 42.8	-0.1
SHUL	Shoufeng	1.17	201		P		Pn	03 02 25.8	+0.4
SHUL						S	Sn	03 02 43.3	+0.3
ESL	Shilin	1.20	206	*e*	P		Pn	03 02 26.5	+0.8
ESL						S	Sn	03 02 41.6	-1.9
OWD	Renai	1.20	219		P		Pn	03 02 26.9	+1.0
OWD						S	Sn	03 02 44.0	+0.1
WUSB	Renai	1.21	223		P		Pn	03 02 26.9	+0.9
WUSB						S	Sn	03 02 44.2	+0.2
NSY	Sanyi	1.23	248	*i*	P		Pn	03 02 27.5	+1.4
NSY						S	Sn	03 02 45.1	+0.9
TWQ1	Liyutan	1.25	245	*i*	P		Pn	03 02 26.9	+0.6
TWQ1						S	Sn	03 02 44.3	-0.3
TEGC	Jichi Village	1.25	200		P		Pn	03 02 26.7	+0.4
TEGC						S	Sn	03 02 44.6	0.0
WARBT	Fenglin Townsh	1.30	206		P		Pn	03 02 25.8	-1.0
WARBT						eS	Sn	03 02 42.4	-3.2
WCS	Beigang Elemen	1.30	231	*i*	P		Pn	03 02 27.7	+0.9
WCS						eS	Sn	03 02 46.4	+0.8
EGFH	Guangfu	1.33	204	*e*	P		Pn	03 02 27.8	+0.6
EGFH						S	Sn	03 02 44.5	-1.6
WDJ	Dajia District	1.36	247	*e*	P		Pn	03 02 28.4	+1.0
WDJ						eS	Sn	03 02 47.2	+0.4
VWDT	VWDT	1.38	215	*i*	P		Pn	03 02 28.9	+1.2
VWDT						*i* S	Sn	03 02 48.2	+1.0
TCU	Taichung	1.43	239	*e*	P		Pn	03 02 29.1	+0.9
TCU						S	Sn	03 02 48.4	+0.4
SMLT	Sun Moon Lake	1.43	226	*i*	P		Pn	03 02 29.3	+0.9
SMLT						S	Sn	03 02 48.9	+0.6
TYC	Yuchr	1.44	227	*i*	P		Pn	03 02 29.2	+0.9
TYC						*i* S	Sn	03 02 48.6	+0.3
SSLB	Suanglung	1.46	222		P		Pn	03 02 29.5	+0.8
SSLB	Suanglung	1.46	222

EHYH				S		**Sn**	**03 02 48.7**	**-1.4**
WCHH	**Zhanghua**	**1.55 239**		P		**Pn**	**03 02 30.6**	**+0.9**
WCHH				S		**Sn**	**03 02 51.1**	**+0.4**
WNT	**Mingjian**	**1.58 231**	*i*	P		**Pn**	**03 02 30.9**	**+0.9**
WNT				S		**Sn**	**03 02 52.0**	**+0.7**
WJS	**Zhushan**	**1.58 228**		P		**Pn**	**03 02 31.1**	**+1.0**
WJS				S		**Sn**	**03 02 52.2**	**+0.8**
WHYT	**Xinyi Township**	**1.59 222**	*i*	P		**Pn**	**03 02 31.4**	**+1.1**
WHYT				S		**Sn**	**03 02 52.9**	**+1.2**
YULB	**Yu-li**	**1.63 204**		P		**Pn**	**03 02 30.6**	**-0.1**
YULB	**Yu-li**	**1.63 204**		P		**Sn**	**03 02 50.7**	**-1.7**
YULB	**Yu-li**	**1.63 204**		P		**Sn**	**03 02 30.1**	**-0.6**
YULB				S		**Sn**	**03 02 50.4**	**-2.1**
IRIF	**Iriomote-Funau**	**1.66 109**	*e*	P		**Pn**	**03 02 31.3**	**+0.3**
IRIF				eS		**Sn**	**03 02 52.4**	**-0.6**
EYUL	**Yuli**	**1.66 203**		eS		**Sn**	**03 02 53.7**	**+0.6**
TWF1	**Yuli**	**1.67 203**		eP		**Pn**	**03 02 30.8**	**-0.3**
ALS	**Alishan**	**1.76 219**		P		**Pn**	**03 02 33.7**	**+1.1**
ALS				S		**Sn**	**03 02 56.2**	**+0.5**
CHN5	**Tsauling**	**1.77 224**	*e*	P		**Pn**	**03 02 33.4**	**+0.9**
CHN5				S		**Sn**	**03 02 56.3**	**+0.6**
CHKH	**Chenggong**	**1.78 199**	*e*	P		**Pn**	**03 02 33.0**	**+0.4**
CHKH				eS		**Sn**	**03 02 54.5**	**-1.2**
WGK	**Gukeng**	**1.79 228**	*e*	P		**Pn**	**03 02 33.6**	**+1.1**
WGK				eS		**Sn**	**03 02 56.2**	**+0.4**
WDLH	**Douliu**	**1.80 229**	*i*	P		**Pn**	**03 02 33.8**	**+1.0**
WDLH				S		**Sn**	**03 02 57.2**	**+1.1**
FULB	**Fuli**	**1.81 201**	*e*	P		**Pn**	**03 02 33.7**	**+0.8**
FULB				S		**Sn**	**03 02 56.9**	**+0.6**
HATJ	**Hateruma jima**	**1.83 117**		P		**Pn**	**03 02 33.7**	**+0.6**
HATJ				eS		**Sn**	**03 02 57.0**	**+0.2**
CHKT	**Chengkung**	**1.88 199**	*e*	P		**Pn**	**03 02 32.4**	**-1.3**
CHKT				eS		**Sn**	**03 02 56.1**	**-1.8**
EHD	**Haiduan**	**1.88 203**	*e*	P		**Pn**	**03 02 33.1**	**-0.7**
EHD				eS		**Sn**	**03 02 56.7**	**-1.3**
WTK	**Tuku**	**1.91 231**	*e*	P		**Pn**	**03 02 34.5**	**+0.5**
WTK				S		**Sn**	**03 02 58.4**	**-0.1**
ELDTW	**Lidau**	**1.92 208**		P		**Pn**	**03 02 34.7**	**+0.3**
ELDTW				S		**Sn**	**03 02 59.1**	**+0.1**
ECS	**Chishang**	**1.93 202**	*e*	P		**Pn**	**03 02 35.8**	**+1.4**
ECS				eS		**Sn**	**03 02 58.8**	**-0.3**
JKRS	**Kuro-shima**	**1.93 109**	*e*	P		**Pn**	**03 02 35.0**	**+0.6**
JKRS				eS		**Sn**	**03 02 58.7**	**-0.2**
WCKO	**Fanlu**	**1.94 222**	*e*	P		**Pn**	**03 02 35.8**	**+1.3**
WCKO				eS		**Sn**	**03 02 60.0**	**+0.8**
CHY	**Chiayi**	**2.01 227**		P		**Pn**	**03 02 35.8**	**+0.5**
CHY				S		**Sn**	**03 03 01.0**	**+0.3**
JIJ	**Ishigaki jima**	**2.01 105**	*e*	P		**Pn**	**03 02 35.7**	**+0.4**
JIJ				eS		**Sn**	**03 03 00.5**	**-0.3**
EDH	**Donghe**	**2.02 199**		P		**Pn**	**03 02 35.9**	**+0.4**
EDH				eS		**Sn**	**03 02 59.5**	**-1.5**
TPUB	**Ta-pu**	**2.03 219**		P		**Pn**	**03 02 36.4**	**+0.8**
TPUB	**Ta-pu**	**2.03 219**		P		**Pn**	**03 02 36.7**	**+1.1**
TPUB				S		**Sn**	**03 03 01.7**	**+0.5**
STYH	**Taoyuan**	**2.05 214**		P		**Pn**	**03 02 37.2**	**+1.3**
STYH				eS		**Sn**	**03 03 03.0**	**+1.3**
WSF	**Szhu**	**2.06 233**	*e*	P		**Pn**	**03 02 37.3**	**+1.4**
WSF				eS		**Sn**	**03 03 02.0**	**+0.2**
WTP	**Ta-pu**	**2.08 218**	*e*	P		**Pn**	**03 02 37.5**	**+1.2**
WTP				eS		**Sn**	**03 03 02.1**	**-0.3**
JISG	**Ishigakijimahi**	**2.11 98**	*e*	P		**Pn**	**03 02 37.5**	**+0.8**
JISG				eS		**Sn**	**03 03 03.1**	**0.0**
WSL	**Shuilin Townsh**	**2.12 230**	*e*	P		**Pn**	**03 02 37.4**	**+0.6**
WSL				eS		**Sn**	**03 03 03.0**	**-0.3**
LONT	**Longtian**	**2.13 202**	*e*	P		**Pn**	**03 02 38.1**	**+1.1**
LONT				eS		**Sn**	**03 03 02.0**	**-1.6**
SNST	**Tainan City**	**2.17 220**	*e*	P		**Pn**	**03 02 38.2**	**+0.8**
SNST				eS		**Sn**	**03 03 04.0**	**-0.3**
CHN1	**Nanshi**	**2.17 219**	*e*	P		**Pn**	**03 02 38.9**	**+1.4**
CHN1				eS		**Sn**	**03 03 04.6**	**0.0**
ICHU	**Yijhu**	**2.20 226**		P		**Pn**	**03 02 38.4**	**+0.6**
ICHU				eS		**Sn**	**03 03 05.1**	**+0.1**
TWG	**Pinlang**	**2.23 203**	*e*	P		**Pn**	**03 02 38.9**	**+0.7**
TWG				eS		**Sn**	**03 03 03.9**	**-2.0**
TWGBT	**Beinan**	**2.23 203**		P		**Pn**	**03 02 37.9**	**-0.3**
TWGBT	**Beinan**	**2.23 203**		S		**Sn**	**03 03 04.2**	**-1.7**
TWGBT	**Beinan**	**2.23 203**	*e*	P		**Pn**	**03 02 37.8**	**-0.5**
TWGBT				eS		**Sn**	**03 03 03.7**	**-2.2**
MATB	**Ma-tsu**	**2.25 304**	*e*	P		**Pn**	**03 02 38.5**	**+0.1**
MATB				eS		**Sn**	**03 03 04.5**	**-1.7**
CHN8	**Yiju**	**2.25 227**	*e*	P		**Pn**	**03 02 39.4**	**+1.0**
CHN8				eS		**Sn**	**03 03 06.6**	**+0.3**
LDUT	**Ludao**	**2.26 193**	*e*	P		**Pn**	**03 02 38.0**	**-0.6**
LDUT				eS		**Sn**	**03 03 03.9**	**-2.6**
TTN	**Taitung**	**2.27 201**	*e*	P		**Pn**	**03 02 38.0**	**-0.6**
TTN				eS		**Sn**	**03 03 06.7**	**0.0**
VWUC	**VWUC**	**2.33 273**		P		**Pn**	**03 02 39.4**	**0.0**
VWUC				eS		**Sn**	**03 03 06.3**	**-1.7**
CHN3	**Shinhua**	**2.35 220**	*e*	P		**Pn**	**03 02 40.3**	**+0.5**
CHN3				eS		**Sn**	**03 03 10.8**	**+2.2**
SSHA	**Shanhua**	**2.35 222**		eS		**Sn**	**03 03 07.8**	**-0.8**
SCST	**Cishan**	**2.43 215**	*e*	P		**Pn**	**03 02 42.4**	**+1.6**
SCST				eS		**Sn**	**03 03 12.1**	**+1.6**
JTJ	**Tarama**	**2.46 95**		P		**Pn**	**03 02 42.3**	**+1.2**
JTJ				eS		**Sn**	**03 03 11.4**	**+0.5**
TSCK	**Chigu Township**	**2.47 226**	*e*	P		**Pn**	**03 02 42.6**	**+1.3**
TSCK				eS		**Sn**	**03 03 11.3**	**0.0**
ECL	**Taimali**	**2.48 203**		P		**Pn**	**03 02 42.1**	**+0.7**
ECL				eS		**Sn**	**03 03 09.1**	**-2.5**
SSD	**Sandimen**	**2.48 211**	*e*	P		**Pn**	**03 02 42.5**	**+1.1**
TWM1	**Shoushan**	**2.52 216**	*e*	P		**Pn**	**03 02 42.7**	**+0.7**
MASBT	**Mashibuluo**	**2.60 209**		P		**Pn**	**03 02 43.9**	**+1.0**
MASBT				eS		**Sn**	**03 03 14.4**	**+0.2**
PNG	**Penghu**	**2.60 240**	*e*	P		**Pn**	**03 02 42.7**	**-0.2**
PNG				eS		**Sn**	**03 03 12.3**	**-2.0**
XPSS	**Dashiqiu**	**2.61 321**	*e*	P		**Pn**	**03 02 43.1**	**+0.1**
PHUB	**P'eng-hu**	**2.62 239**		P		**Pn**	**03 02 42.8**	**-0.4**
PHUB				S		**Sn**	**03 03 12.5**	**-2.2**
PTMZ	**Houxiangcun**	**2.63 274**	*e*	P		**Pn**	**03 02 43.5**	**+0.2**
PTMZ				eS		**Sn**	**03 03 13.1**	**-1.9**
EAST	**Anshuo**	**2.71 203**	*e*	P		**Pn**	**03 02 47.2**	**+2.7**
TAWH	**Dawu Township**	**2.74 202**	*e*	P		**Pn**	**03 02 45.0**	**+0.2**
TAWH				eS		**Sn**	**03 03 15.7**	**-1.9**
SCZT	**Fangliau**	**2.81 207**	*e*	P		**Pn**	**03 02 47.1**	**+1.4**
SCZT				eS		**Sn**	**03 03 19.1**	**-0.3**
LAY	**Lan-yu**	**2.87 189**	*e*	P		**Pn**	**03 02 45.9**	**-0.7**
LAY				eS		**Sn**	**03 03 17.9**	**-2.8**
VCHM	**Qimei**	**2.90 235**		P		**Pn**	**03 02 46.6**	**-0.2**
VCHM				S		**Sn**	**03 03 19.7**	**-1.5**
LYUB	**Lan-yu**	**2.90 188**	*e*	S		**Sn**	**03 03 17.5**	**-1.2**
						Sn	**03 03 17.5**	**-3.9**
TWKBT	**Hengchun**	**3.14 201**		P		**Pn**	**03 02 51.2**	**+1.2**
TWKBT				eS		**Sn**	**03 03 26.5**	**-0.5**
TSEB	**Hengchuen, Pin**	**3.15 199**	*e*	P		**Pn**	**03 02 53.1**	**+2.9**
TSEB				eS		**Sn**	**03 03 28.1**	**+0.9**
KNM	**Kinmen**	**3.29 263**	*e*	P		**Pn**	**03 02 53.8**	**+1.8**
KNMB	**Chin-men Tao**	**3.32 263**	*e*	P		**Pn**	**03 02 52.5**	**+0.1**
ZPLA	**Ao Xicun**	**4.00 257**	*e*	P		**Pn**	**03 03 01.1**	**-0.4**
SXFK	**Yanhouchang**	**4.22 292**	*e*	P		**Pn**	**03 03 04.8**	**+0.3**
DSXP	**Dongshan**	**4.35 255**	*e*	P		**Pn**	**03 03 06.1**	**0.0**
KSRS	**Korea Array**	**13.50 21**		Pn		**P**	**03 05 14.3**	**+0.3**
	0.4nm,0.3s,baz=200,slow=12,SNR=10 2.9nm,0.6s							
FITZ	**Fitzroy Crossi**	**42.88 175**		P		**P**	**03 09 48.4**	**-0.9**
	4.1nm,1.0s,baz=341,slow=9.2,SNR=3.3 4.1nm,1.0s							
WRA	**Warramunga Arr**	**46.15 164**		P		**P**	**03 10 15.7**	**+0.3**
	1.1nm,0.4s,baz=346,slow=8.7,SNR=15 1.1nm,0.4s							
ASAR	**Alice Springs**	**49.63 166**		P		**P**	**03 10 43.0**	**+0.8**
	0.3nm,0.4s,baz=342,slow=6.7,SNR=6.3 0.3nm,0.4s							

DJA 23 03:09:17.3±0.8, **10°S**±6°×**11°9E**±°, **h10**km, **M3.7**/6, **mb3.5**/1, **MLv3.9**/6, **South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.76**	**54**	P	Pg	03 09 31.4	-0.6
WSI	**Waingapu**	**1.56**	**75**	P	Pn	03 09 44.9	-0.2
PLAI	**Plampang**	**1.59**	**322**	P	Pn	03 09 44.9	-0.7
PLAI				S	Sb	03 10 06.7	-0.3
TWSI	**Taliwang, Sumb**	**2.30**	**306**	P	Pn	03 09 54.1	-1.2
TWSI				S	Sn	03 10 24.4	+0.8
BSSI	**Bau Bau, Buton**	**4.28**	**24**	P	Pn	03 10 23.2	+0.7
BSSI				S	Sn	03 11 12.4	-0.1
BKSI	**Bulukumba**	**4.92**	**16**	P	Pn	03 10 32.0	+0.6

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IDC ***23*** *03:09:49.7±0.5, 1.°92S×128.°94E, h0km, mb4.4/18, mbtmp4.4/20, ML4.5/2, MS3.6/9, Error ellipse: s-maj=26.3km s-min=12.0km az=78.0*
DJA ***23*** *03:09:55.6±0.3, 2.°3S×12.°9E±°, h34km±4km, M5.2/37, mB5.7/14, mb5.1/37, MLv5.0/20, Mw(mB)5.2/14, MwMwp6.2/1, Mwp6.2/1*
NEIC ***23*** *03:09:55.1±2.0, 2.°02S±0.°07×129.°01E±0.°07, h35km±2km, mb4.7/37, Error ellipse: s-maj=14.0km s-min=10.0km az=44.0*

ISC 23 03:09:53.8±0.3, **2.°05S**±0.°04×**128.°96E**±0.°05, **h24**km, **n138**, σ1°**75**/140, **mb4.7**/**42**, **MS3.6**/9, **3C**, **Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.29**	**182**	P	**Pn**	**03 10 19.5**	**+3.2**
AAI	**Ambon**	**1.80**	**205**	P	**Pn**	**03 10 26.3**	**+2.9**
NLAI	**Namlea**	**2.20**	**238**	P	**Pn**	**03 10 29.8**	**+0.9**
SWI	**Sorong**	**2.58**	**63**	P	**Pn**	**03 10 34.3**	**+0.1**
BNDI	**Bandanaira**	**2.63**	**159**	P	**Pn**	**03 10 37.6**	**+2.8**
SANI	**Sanana**	**2.97**	**270**	P	**Pn**	**03 10 37.2**	**-2.3**
TNTI	**Ternate**	**3.23**	**330**		**Pn**	**03 10 42.1**	**-1.0**
TNTI	**Ternate**	**3.23**	**330**	P	**Pn**	**03 10 42.8**	**-0.2**
FAKI	**Fak Fak**	**3.39**	**105**		**Pn**	**03 10 45.7**	**+0.3**
FAKI	**Fak Fak**	**3.39**	**105**	P	**Pn**	**03 10 46.4**	**+1.0**
KMPI	**Kaimana, Papua** 8μm533nm,0.7s	**5.00**	**109**	P	**Pn**	**03 11 09.5**	**+2.1**
RKPI	**Ransiki, Papua**	**5.24**	**84**	P	**Pn**	**03 11 11.5**	**+0.8**
KMSI	**Cibinong** 4.0nm288nm,0.8s	**5.62**	**298**	P	**Pn**	**03 11 16.0**	**0.0**
LUWI	**Luwuk** 1.4nm3μm189nm,0.9s	**6.27**	**279**	P	**Pn**	**03 11 24.4**	**-0.5**
SAUI	**Saumlaki** 1.7nm440nm,1.1s	**6.33**	**159**	P	**Pn**	**03 11 28.1**	**+2.3**
KDI	**Kendari**	**6.61**	**253**	P	**Pn**	**03 11 31.5**	**+1.9**
BAKI	**Biak** 0.7nm2μm240nm,0.6s	**7.19**	**83**	P	**Pn**	**03 11 39.5**	**+1.9**
APSI	**Ampana**	**7.40**	**279**	P	**Pn**	**03 11 40.3**	**-0.1**
MRSI	**Marisa** 0.6nm111nm,0.6s	**7.46**	**290**	P	**Pn**	**03 11 41.3**	**+0.1**
TOLI2	**Tolitoli**	**8.76**	**291**		**Pn**	**03 11 58.1**	**-1.0**
BNSI	**Bone** 2μm137nm,1.4s	**9.14**	**255**	P	**Pn**	**03 12 07.8**	**+3.4**
TTSI	**Tana Toraja** 37nm,0.8s	**9.19**	**264**	P	**Pn**	**03 12 05.8**	**+0.8**
PCI	**Palu** 104nm,0.8s	**9.19**	**277**	P	**Pn**	**03 12 04.7**	**-0.4**
MPSI	**Mapaga** 70nm,0.8s	**9.37**	**285**	P	**Pn**	**03 12 07.3**	**-0.2**
BSSI	**Bau Bau, Buton** 84nm,0.6s	**9.38**	**244**	P	**Pn**	**03 12 08.7**	**+1.1**
SPSI	**Sidrap Palu** 209nm,0.8s	**9.38**	**258**	P	**Pn**	**03 12 10.7**	**+3.2**
BKSI	**Bulukumba** 2μm148nm,0.9s	**9.40**	**250**	P	**Pn**	**03 12 11.0**	**+3.1**
KAPI	**Kappang**	**9.65**	**252**	Pn	**Pn**	**03 12 13.5**	**+2.2**
KAPI	**Kappang** 23nm,0.3s,baz=78,slow=9.3,SNR=94	**9.65**	**252**	Pn	**Pn**	**03 12 13.9**	**+2.6**
KAPI				Sn	**Sn**	**03 13 58.2**	**-0.9**
	0.2nm,0.3s,baz=263,slow=22,SNR=0.9						
MTN	**Manton Dam**	**10.94**	**169**	Pn	**Pn**	**03 12 28.9**	**0.0**
GENI	**Genyem** 10μm138nm,1.1s	**11.21**	**93**	P	**Pn**	**03 12 33.5**	**+0.8**
WSI	**Waingapu**	**11.46**	**228**	P	**Pn**	**03 12 38.6**	**+2.4**
JAY	**Jayapura** 1.2nm,0.3s,baz=236,slow=14,SNR=4.8	**11.74**	**92**	Pn	**Pn**	**03 12 39.3**	**-0.8**
JAY				LR	LR	03 18 03.8	
	comp=Z,291nm,18.2s,baz=273,slow=42 11nm,0.8s						
JAY	**Jayapura** 34nm,1.1s	**11.74**	**92**	P	**Pn**	**03 12 40.4**	**+0.4**
WBSI	**Waikabubak, Su** 41nm,0.7s	**12.14**	**231**	P	**Pn**	**03 12 48.0**	**+2.5**
MYLDM	**Lahad Datu**	**12.68**	**305**	Pn	**Pn**	**03 12 53.7**	**+0.9**
KNRA	**Kununurra**	**13.54**	**181**	Pn	**Pn**	**03 13 03.8**	**-0.7**
JAGI	**Jajag, Banyuwa** 50nm,1.0s	**16.06**	**246**	P	**P**	**03 13 41.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**16.28**	**191**	Pn	**Pn**	**03 13 40.0**	**-1.0**
FITZ	**Fitzroy Crossi** 3.0nm,0.3s,baz=34,slow=11,SNR=15 9.2nm,0.7s	**16.28**	**191**	Pn	**Pn**	**03 13 40.4**	**-0.7**
GMJI	**Gumukmas**	**16.64**	**248**	P	**P**	**03 13 48.5**	**+0.6**
COEN	**Coen**	**18.36**	**131**		**P**	**03 14 05.9**	**-1.1**
COEN				IAmb	IAmb	03 14 10.1	
	comp=Z,46nm,0.8s						
WB0	**Warramunga Arr**	**18.39**	**164**	P	**P**	**03 14 04.5**	**-2.7**
WB0				IAmb	IAmb	03 14 07.9	
	comp=Z,33nm,0.6s						
WRAB	**Tennant Creek**	**18.54**	**164**	P	**P**	**03 14 06.8**	**-2.1**
WRAB				IAmb	IAmb	03 14 10.8	
	comp=Z,41nm,0.6s						
WRA	**Warramunga Arr**	**18.54**	**164**	P	**P**	**03 14 05.2**	**-3.8**
WRA	**Warramunga Arr** comp=Z,27nm,0.5s,baz=335,slow=13,SNR=101	**18.54**	**164**	P	**P**	**03 14 06.3**	**-2.6**
WRA				S	Sn	03 17 25.8	-10
	comp=Z,3.6nm,0.7s,baz=356,slow=23,SNR=4.2						
WR8	**Warramunga Arr**	**18.60**	**163**	P	**P**	**03 14 07.6**	**-2.0**
WR8				IAmb	IAmb	03 14 11.6	
	comp=Z,48nm,1.1s						
PCJI	**Pacitan** comp=Z,103nm,0.9s	**18.73**	**250**	P	**P**	**03 14 12.1**	**+1.1**
WOJI	**Wonogiri, Jawa** comp=Z,102nm,1.9s	**18.86**	**252**	P	**Pn**	**03 14 14.3**	**+1.2**
PSA00	**Pilbara Seismi**	**21.34**	**204**		**P**	**03 14 37.7**	**-1.6**
PSA00				IAmb	IAmb	03 14 39.2	
	comp=Z,25nm,0.8s						
PSA00	**Pilbara Seismi**	**21.34**	**204**	P	**P**	**03 14 37.7**	**-1.6**
PSA00				IAmb	IAmb	03 14 38.5	
	comp=Z,11nm,0.8s						
AS31	**Alice Springs**	**22.01**	**168**	P	**P**	**03 14 46.5**	**-0.1**
ASAR	**Alice Springs**	**22.01**	**168**	P	**P**	**03 14 46.5**	**-0.2**
ASAR	**Alice Springs** comp=Z,85nm,0.7s,baz=348,slow=11,SNR=382	**22.01**	**168**	P	**P**	**03 14 46.2**	**-0.4**
ASAR				S	**S**	**03 18 42.8**	**-5.8**
	comp=Z,4.7nm,0.7s,baz=349,slow=20,SNR=6.6 comp=Z,85nm,0.7s						
GIRL	**Giralia**	**24.97**	**214**	P	**P**	**03 15 15.3**	**-0.4**
FORT	**Forrest**	**28.59**	**182**	P	**P**	**03 15 47.7**	**-0.5**
JOW	**Kunigami** comp=Z,106nm,20.6s,baz=200,slow=35	**28.72**	**359**	LR	LR	03 26 24.2	
MORW	**Morawa**	**29.55**	**203**	P	**P**	**03 15 56.0**	**-0.8**
MORW				IAmb	IAmb	03 15 57.3	
	comp=Z,22nm,1.2s						
BBOO	**Buckleboo**	**31.32**	**168**	P	**P**	**03 16 12.2**	**-0.1**
STKA	**Stephens Creek**	**31.97**	**159**	P	**P**	**03 16 17.8**	**-0.3**
STKA	**Stephens Creek** comp=Z,4.3nm,0.4s,baz=333,slow=9.2,SNR=13 comp=Z,4.3nm,0.4s	**31.97**	**159**	P	**P**	**03 16 18.3**	**+0.2**
JNU	**Nakatsue** comp=Z,83nm,18.2s,baz=143,slow=40	**35.03**	**3**	LR	LR	03 32 52.5	
NJ2	**Nanjing**	**35.25**	**345**	*e*P	**P**	**03 16 48.8**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WHN	**Wuhan**	**35.28**	**338**	P	**P**	**03 16 48.3**	**+1.4**
ARMA	**Armidale**	**35.46**	**145**	P	**P**	**03 16 50.0**	**+1.4**
ARMA				IAmb	IAmb	03 16 52.5	
	comp=Z,9.0nm,0.8s						
CMAR	**Chiang Mai Arr** comp=Z,1.4nm,0.3s,baz=139,slow=6.8,SNR=4.8 comp=Z,1.4nm,0.3s	**35.89**	**306**	P	**P**	**03 16 51.6**	**-0.7**
KMI	**Kunming**	**37.09**	**318**	P	**P**	**03 17 06.6**	**+3.8**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CAN	**Canberra**	**37.98**	**153**	P	**P**	**03 17 11.1**	**+1.1**
TOO	**Toolangi**	**38.48**	**159**	P	**P**	**03 17 13.6**	**-0.6**
PZH	**PanZhiHua**	**38.69**	**319**	P	**P**	**03 17 17.4**	**+1.3**
KSRS	**Korea Array** comp=Z,3.5nm,0.8s,baz=174,slow=9.9,SNR=13 comp=Z,3.5nm,0.8s	**39.32**	**359**	P	**P**	**03 17 19.2**	**-1.8**
MAJO	**Matsushiro**	**39.35**	**12**		**P**	**03 17 19.4**	**-2.0**
MAJO				IAmb	IAmb	03 17 21.1	
	comp=Z,9.1nm,0.7s						
MJAR	**Matsushiro Arr**	**39.35**	**12**	P	**P**	**03 17 19.9**	**-1.6**
MJAR	**Matsushiro Arr** comp=Z,5.5nm,0.7s,baz=184,slow=9.0,SNR=16	**39.35**	**12**	P	**P**	**03 17 19.7**	**-1.7**
MJAR				LR	LR	03 30 54.5	
	comp=Z,61nm,20.2s,baz=191,slow=32 comp=Z,5.5nm,0.7s						
MJB9	**Matsu-Tunnel**	**39.35**	**12**		**P**	**03 17 20.3**	**-1.2**
MJB9				IAmb	IAmb	03 17 22.1	
	comp=Z,8.9nm,0.7s						
XAN	**Xi'an**	**40.55**	**334**	⇑P	**P**	**03 17 30.5**	**-1.0**
XAN				pP	sP	03 17 41.8	+0.4
XAN				pmax	pmax		
	comp=Z,14nm,0.7s						
LHI	**Lord Howe Isla**	**40.81**	**139**	P	**P**	**03 17 33.0**	**-0.6**
LHI				IAmb	IAmb	03 17 34.8	
	comp=Z,18nm,0.9s						
DZM	**Mont Dzumac** comp=Z,179nm,25.2s	**41.50**	**122**	*e*LR	LR	03 29 14.0	
BJI	**Beijing**	**43.50**	**346**	P	**P**	**03 17 54.6**	**-0.7**
BJI				sP	**sP**	**03 18 05.8**	**+0.5**
BJI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LZH	**Lanzhou**	**44.60**	**331**	*e*P	**P**	**03 18 04.3**	**-0.2**
LZH				pP	sP	03 18 14.6	+0.2
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
SHL	**Shillong**	**45.18**	**310**		**P**	**03 18 08.4**	**-1.0**
SHL				IAmb	IAmb	03 18 12.0	
	comp=Z,8.2nm,0.7s						
HHC	**Hu-ho-hao-te**	**45.55**	**341**	*e*P	**P**	**03 18 15.4**	**+3.5**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,87nm,4.5s						
USRK	**Ussuriysk Ar.** comp=Z,6.4nm,0.8s,baz=204,slow=6.9,SNR=6.1 comp=Z,6.4nm,0.8s	**46.13**	**3**	P	**P**	**03 18 15.7**	**-0.6**
MDJ	**Mudanjiang**	**46.47**	**1**	P	**P**	**03 18 18.3**	**-0.6**
MDJ				pmax	pmax		
	comp=Z,12nm,1.0s						
ASAJ	**Asahikawa** comp=Z,43nm,20.9s,baz=182,slow=35	**47.56**	**13**	LR	LR	03 37 28.8	
BNX	**BinXian**	**47.60**	**359**	⇑P	**P**	**03 18 29.8**	**+2.0**
BNX				pP	**sP**	**03 18 38.3**	**+0.6**
BNX				sP	**pP**	**03 18 42.4**	**+7.5**
BNX				PcP	**PcP**	**03 19 57.3**	**0.0**
BNX				S	**S**	**03 25 23.8**	**+2.0**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BNX				pmax	pmax		
	comp=Z,45nm,3.9s						
BNX				LR	LR		
	comp=N,110nm,25.5s						
BNX				LR	LR		
	comp=E,250nm,27.1s						
BNX				LR	LR		
	comp=Z,98nm,10.3s						
GTA	**Gaotai**	**49.18**	**330**	*e*P	**P**	**03 18 40.4**	**+0.2**
GTA				pP	sP	03 18 50.3	0.0
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ULN	**Ulaanbaatar**	**53.27**	**342**	P	**P**	**03 19 09.7**	**-1.1**
ULN				IAmb	IAmb	03 19 11.4	
	comp=Z,7.9nm,1.0s						
SONM	**Songino Array**	**53.45**	**341**	P	**P**	**03 19 11.8**	**-0.3**
SONM	**Songino Array** comp=Z,2.7nm,0.8s,baz=162,slow=8.2,SNR=14	**53.45**	**341**	P	**P**	**03 19 11.8**	**-0.3**
SONM				PcP	**PcP**	**03 20 18.8**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=166,slow=4.7,SNR=4.0 comp=Z,2.7nm,0.8s						
JCZ	**Jackson Bay**	**54.70**	**146**	P	**P**	**03 19 24.0**	**+2.7**
QRZ	**Quartz Range**	**55.06**	**140**	P	**P**	**03 19 26.6**	**+2.7**
KUZ	**Kuaotunu**	**55.17**	**135**	P	**P**	**03 19 27.5**	**+2.8**
WHZ	**Wether Hill Ro**	**55.39**	**148**	P	**P**	**03 19 27.2**	**+1.1**
LBZ	**Lake Benmore**	**55.68**	**145**	P	**P**	**03 19 27.9**	**-0.4**
LBZ	**Lake Benmore**	**55.68**	**145**	P	**P**	**03 19 30.2**	**+1.9**
TUWZ	**Tuamarina**	**56.29**	**140**	P	**P**	**03 19 32.4**	**-0.3**
MQZ	**McQueen's Vall**	**56.73**	**143**	P	**P**	**03 19 37.5**	**+1.8**
BKZ	**Black Stump Fm**	**56.84**	**137**	P	**P**	**03 19 37.0**	**+0.3**
BKZ	**Black Stump Fm**	**56.84**	**137**	P	**P**	**03 19 38.4**	**+1.7**
URZ	**Urewera**	**56.85**	**136**	P	**P**	**03 19 36.9**	**+0.3**
MTHZ	**Maungataniwha**	**56.94**	**136**	P	**P**	**03 19 38.6**	**+1.3**
RAGZ	**Rawiri**	**57.17**	**136**	P	**P**	**03 19 40.7**	**+1.6**
MWZ	**Matawai**	**57.17**	**135**	P	**P**	**03 19 40.7**	**+1.7**
SNGZ	**Shannon Statio**	**57.25**	**136**	P	**P**	**03 19 41.6**	**+2.0**
KAHZ	**Kahuranaki**	**57.40**	**137**	P	**P**	**03 19 42.1**	**+1.4**
CNGZ	**Carnagh Statio**	**57.72**	**135**	P	**P**	**03 19 46.0**	**+3.1**
WMQ	**Urumqi**	**58.72**	**326**	*e*P	**P**	**03 19 52.0**	**+2.2**
WMQ				pP	sP	03 20 02.1	+2

22nm,0.7s
KST Kastek 4.96 23 Pg Pb 03 12 27.5 +2.6
4.2nm,1.1s
KST Lg Lg 03 13 41.3
7.2nm,0.8s
KK31 Karatay Array 5.09 336 ⇑Pn Pn 03 12 14.8 0.0
1.9nm,0.5s,baz=167,slow=15,SNR=16
KK31 ⇑Sn Sn 03 13 15.4 +1.1
1.9nm,0.5s
TNSS Tian-Shan 5.29 30 Pg Pb 03 12 33.9 +3.1
TNSS Lg Lg 03 13 52.7

*JMA **23** 03:12:39.1±0.2,24.°0N±0.°6×122.°9E±0.°5,h15km±2km, MV2.4/10,NEAR ISHIGAKIJIMA ISLAND*
*TAP **23** 03:12:39.1,24.°06N×122.°75E,h11km,ML2.6,C*
ISC 23 03:12:37.5±1.2,**24.°05N**±0.°06×**122.°83E**±0.°02,**h18**km±6km, **n30,σ0.51/43,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.44**	**21**	P	**Pn**	**03 12 48.9**	**-0.1**
YOJ				eS	**Sn**	**03 12 55.6**	**-0.9**
YOJ	**Yonaguni jima**	**0.44**	**21**	P	**Pn**	**03 12 48.9**	**-0.1**
YOJ				S	**Sn**	**03 12 55.6**	**-0.9**
EOS4	**EOS4**	**0.48**	**279**	eP	**Pb**	**03 12 47.7**	**+0.6**
EOS3	**EOS3**	**0.53**	**297**	P	**Pn**	**03 12 49.6**	**-0.4**
EOS3				eS	**Sn**	**03 12 57.8**	**-0.6**
EOS2	**EOS2**	**0.66**	**304**	eP	**Pn**	**03 12 52.4**	**+0.5**
EOS2				eS	**Sn**	**03 13 03.0**	**+1.2**
IRIF	**Iriomote-Funau**	**0.87**	**71**	P	**Pn**	**03 12 55.4**	**+0.6**
IRIF				eS	**Sn**	**03 13 07.0**	**+0.1**
HATJ	**Hateruma jima**	**0.89**	**89**	P	**Pg**	**03 12 55.0**	**+0.2**
HATJ				eS	**Sg**	**03 13 07.0**	**+0.5**
TWC	**Suao**	**1.06**	**302**	eP	**Pg**	**03 12 58.0**	**0.0**
TWC				eS	**Sn**	**03 13 11.6**	**-0.1**
ENA	**Nanau**	**1.07**	**291**	eP	**Pg**	**03 12 57.9**	**-0.2**
JKRS	**Kuro-shima**	**1.09**	**80**	P	**Pg**	**03 12 59.0**	**+0.4**
JKRS				eS	**Sg**	**03 13 13.3**	**+0.4**
NACB	**Ninganchiao**	**1.14**	**277**	eP	**Pg**	**03 12 59.2**	**-0.4**
JIJ	**Ishigaki jima**	**1.24**	**75**	eP	**Pg**	**03 13 01.4**	**0.0**
JIJ				eS	**Sg**	**03 13 17.9**	**+0.3**
ETLH	**Xiulin Townshi**	**1.25**	**278**	eP	**Pb**	**03 13 00.6**	**+0.1**
LATG	**Datong**	**1.29**	**292**	eP	**Pg**	**03 13 02.3**	**-0.1**
ENTT	**Nioudou**	**1.30**	**297**	eP	**Pg**	**03 13 02.5**	**0.0**
LXIB	**Xiulin Townshi**	**1.30**	**269**	eP	**Pn**	**03 13 01.1**	**+0.2**
TIPB	**Shuangxi**	**1.30**	**315**	eP	**Pg**	**03 13 03.0**	**+0.4**
TIPB				eS	**Sg**	**03 13 19.6**	**0.0**
FUSB	**Fushanzhiwuyua**	**1.34**	**302**	eP	**Pg**	**03 13 03.9**	**+0.6**
SXI1	**Grass Mountain**	**1.36**	**320**	eP	**Pg**	**03 13 03.8**	**+0.1**
WARBT	**Fenglin Townsh**	**1.37**	**256**	eP	**Pn**	**03 13 01.2**	**-0.5**
NNSB	**Datong**	**1.38**	**286**	eP	**Pg**	**03 13 03.5**	**-0.6**
NWLT	**Wulai**	**1.41**	**301**	eP	**Pg**	**03 13 05.3**	**+0.5**
WHF	**Hehuan Shan**	**1.44**	**274**	eP	**Pb**	**03 13 03.8**	**-0.2**
JISG	**Ishigakijimahi**	**1.45**	**68**	eP	**Pg**	**03 13 04.8**	**-0.6**
JISG				eS	**Sg**	**03 13 23.9**	**-0.5**
YHNB	**Yeheng**	**1.47**	**295**	eP	**Pg**	**03 13 05.3**	**-0.5**
NSK	**Sanguang**	**1.48**	**295**	eP	**Pg**	**03 13 05.6**	**-0.5**
YULB	**Yu-li**	**1.55**	**245**	eP	**Pn**	**03 13 03.6**	**-0.6**
WUSB	**Renai**	**1.57**	**268**	eP	**Pn**	**03 13 05.4**	**+0.8**
WUSB				eS	**Sb**	**03 13 25.7**	**0.0**
VWDT	**VWDT**	**1.58**	**260**	eP	**Pn**	**03 13 04.9**	**+0.4**
JTJ	**Tarama**	**1.80**	**71**	eP	**Pg**	**03 13 11.7**	**-0.5**
JTJ				eS	**Sg**	**03 13 34.8**	**-0.8**

*SJA **23** 03:23:24.6±0.6,27.°82S×71.°48W,h24km±2km,ML3.5, MW3.6*
*GUC **23** 03:23:30.0±0.7,27.°95S×71.°06W,h28km±4km,ML3.3*
ISC 23 03:23:24.7±2.2,**27.°84S**±0.°02×**71.°34W**±0.°05,**h4**km±15km, **n29,σ2.39/54,1C,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.43**	**147**	⇑iP	**Pb**	**03 23 35.7**	**+0.8**
AC04				eS	**Sg**	**03 23 40.3**	**+1.7**
AC04				IAML		03 23 41.2	
	comp=E,6μm,0.1s						
AC04	**Llanos de Chal**	**0.43**	**147**	eP	**Pb**	**03 23 35.5**	**+0.7**
AC06	**Mina Casimiro**	**1.00**	**61**	eP	**Pb**	**03 23 45.0**	**+0.4**
AC06				eS	**Sb**	**03 23 56.4**	**-1.6**
AC06				IAML		03 24 00.5	
	comp=E,834nm,0.2s						
GO03	**Copiapo**	**1.01**	**76**	eP	**Pb**	**03 23 44.9**	**+0.1**
GO03				eS	**Sb**	**03 23 55.8**	**-2.6**
GO03				IAML		03 23 58.4	
	comp=E,1μm,0.1s						
GO03	**Copiapo**	**1.01**	**76**	eP	**Pb**	**03 23 45.0**	**+0.3**
GO03				eS	**Sb**	**03 23 56.5**	**-1.9**
LCO	**Las Campanas**	**1.29**	**154**	eP	**Pn**	**03 23 49.5**	**-0.2**
LCO				eS	**Sb**	**03 24 04.2**	**-2.6**
LCO	**Las Campanas**	**1.29**	**154**	eP	**Pn**	**03 23 49.7**	**-0.1**
LCO				eS	**Sb**	**03 24 05.0**	**-1.8**
LCO				IAML		03 24 06.6	
	comp=Z,2μm,0.4s						
AC01	**Pan de Azucar**	**1.81**	**22**	eP	**Pn**	**03 23 57.9**	**+1.2**
AC01				eS	**Sn**	**03 24 20.9**	**+0.8**
CO05	**La Serena**	**2.07**	**178**	eP	**Pb**	**03 24 03.3**	**+0.5**
CO05				eS	**Sb**	**03 24 28.2**	**-0.7**
CO05				IAML		03 24 31.5	
	comp=E,527nm,0.6s						
AC02	**Maricunga**	**2.21**	**63**	eP	**Pb**	**03 24 05.4**	**0.0**
AC02				IAML		03 24 33.7	
	comp=N,368nm,0.3s						
AC02	**Maricunga**	**2.21**	**63**	eP	**Pb**	**03 24 05.2**	**-0.3**
AC02				eS	**Sb**	**03 24 33.4**	**0.0**
AC02				IAML		03 24 34.5	
	comp=Z,307nm,0.2s						
GO04	**Tololo Observa**	**2.37**	**169**	eP	**Pn**	**03 24 05.7**	**+1.1**
GO04				eS	**Sn**	**03 24 33.2**	**-1.0**
CO01	**Juntas del Tor**	**2.39**	**153**	eP	**Pn**	**03 24 06.7**	**+1.9**
CO01				IAML		03 24 44.1	
	comp=E,215nm,0.7s						
CO01	**Juntas del Tor**	**2.39**	**153**	eP	**Pn**	**03 24 06.3**	**+1.5**
CO01				eS	**Sb**	**03 24 36.8**	**-1.6**
CO01				IAML		03 24 44.4	
	comp=Z,179nm,0.6s						
AROD	**Rodeo**	**2.83**	**145**	eP	**Pb**	**03 24 14.1**	**-2.0**
AROD				eS	**Sb**	**03 24 47.4**	**-3.8**
VCA	**Vinchina**	**2.90**	**109**	eP	**Pb**	**03 24 15.8**	**-1.3**
VCA				eS	**Sb**	**03 24 51.0**	**-2.0**
VCA				IAML		03 24 59.5	
	comp=Z,131nm,0.3s						
CO03	**El Pedregal**	**3.04**	**169**	eP	**Pn**	**03 24 15.0**	**+1.4**
CO03				eS	**Sn**	**03 24 52.0**	**+1.5**
CO03				IAML		03 25 00.3	
	comp=Z,69nm,0.3s						
GO02	**Mina Guanaco**	**3.10**	**31**	eP	**Pn**	**03 24 16.6**	**+2.0**
PB14	**IPOC Station P**	**3.31**	**15**	eP	**Pn**	**03 24 18.4**	**+0.8**
PB14				eS	**Sn**	**03 24 58.0**	**+0.4**
CO02	**Combarbal**	**3.36**	**175**	eP	**Pn**	**03 24 18.6**	**+0.5**
CO02				eS	**Sn**	**03 24 59.9**	**+1.4**
CO02				IAML		03 25 18.2	
	comp=Z,129nm,0.5s						
ACCO	**Cerro Coronel**	**3.38**	**145**	eP	**Pb**	**03 24 22.1**	**-3.2**
ACCO				eS	**Sb**	**03 25 04.9**	**-2.0**
ACLC	**CERRO LA CRUZ**	**4.17**	**113**	eP	**Pn**	**03 24 31.6**	**+2.4**
ACLC				eS	**Sb**	**03 25 24.6**	**-4.9**
RTLS	**Leoncito**	**4.32**	**156**	eP	**Pn**	**03 24 35.0**	**+3.6**
RTLS				eS	**Sb**	**03 25 28.1**	**-5.9**
RTLS				IAML		03 25 44.9	
	comp=Z,115nm,0.5s						
AVFE	**Valle Fertil**	**4.40**	**131**	eP	**Pn**	**03 24 34.3**	**+1.9**
AVFE				eS	**Sn**	**03 25 24.0**	**-0.2**
AVFE				IAML		03 25 33.6	
	comp=Z,54nm,0.4s						
CFA	**Coronel Fontan**	**4.62**	**145**	eP	**Pn**	**03 24 38.0**	**+2.7**
CFA				eS	**Sn**	**03 25 31.8**	**+2.4**
APLL	**PUNTA DE LOS L**	**4.92**	**122**	eP	**Pn**	**03 24 41.1**	**+1.7**
APLL				eS	**Sn**	**03 25 40.3**	**+3.5**
CYA	**Choya**	**4.92**	**98**	eP	**Pn**	**03 24 41.6**	**+2.1**
CYA				eS	**Sb**	**03 25 44.1**	**-7.1**
PB05	**IPOC Station P**	**5.07**	**12**	eP	**Pn**	**03 24 41.5**	**-0.1**
PB05				eS	**Sn**	**03 25 40.0**	**-0.8**
PB05				IAML		03 26 11.9	
	comp=Z,16nm,1.1s						
ACHE	**Chepes**	**5.25**	**130**	eP	**Pn**	**03 24 45.4**	**+1.3**
ACHE				eS	**Sn**	**03 25 50.5**	**+5.4**

*NEIC **23** 03:23:27.1±1.2,22.°5S±0.°1×179.°7E±0.°2,h516km±8km, mb4.3/21,Error ellipse: s-maj=25.0km s-min=14.9km az=133.0*
*IDC **23** 03:23:30.0±24.0,22.°69S×179.°56E,h551km±249km, mb3.0/4,mbtmp3.9/4,Error ellipse: s-maj=170.0km s-min=60.4km az=54.0*
ISC 23 03:23:25.4±0.9,**22.°6S**±0.°1×**179.°7E**±0.°1,**h500**km,**n27, σ1.15/27,mb4.2/14,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**11.30**	**267**	P	**P**	**03 25 56.8**	**+0.2**
MXZ	**Matakaoa Point**	**14.98**	**184**	P	**P**	**03 26 35.9**	**+0.6**
QRZ	**Quartz Range**	**19.17**	**197**	P	**P**	**03 27 14.5**	**-1.8**
NNZ	**Nelson**	**19.33**	**194**	P	**P**	**03 27 14.9**	**-2.8**
DSZ	**Denniston Nort**	**20.22**	**197**	P	**P**	**03 27 24.7**	**-1.2**
LTZ	**Lake Taylor**	**21.07**	**195**	P	**P**	**03 27 31.4**	**-2.2**
LTZ				IAmb	IAmb	03 27 48.2	
	comp=Z,17nm,1.3s						
EIDS	**Eidsvold**	**26.25**	**258**	P	**P**	**03 28 20.3**	**+0.2**
EIDS				IAmb	IAmb	03 28 35.8	
	comp=Z,11nm,1.4s						
CTAO	**Charters Tower**	**31.20**	**268**	P	**P**	**03 29 03.1**	**-0.2**
CTAO				IAmb	IAmb	03 29 20.1	
	comp=Z,22nm,1.4s						
TAU	**Tasmania Unive**	**33.63**	**225**	P	**P**	**03 29 24.1**	**+0.4**
COEN	**Coen**	**35.63**	**278**	P	**P**	**03 29 41.0**	**+0.2**
COEN				IAmb	IAmb	03 29 49.9	
	comp=Z,10nm,1.2s						
AS31	**Alice Springs**	**41.97**	**259**	P	**P**	**03 30 32.1**	**-0.2**
ASAR	**Alice Springs**	**41.97**	**259**	P	**P**	**03 30 32.5**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=92,slow=7.5,SNR=6.5						
	comp=Z,0.9nm,0.8s						
WR8	**Warramunga Arr**	**42.06**	**265**	P	**P**	**03 30 33.2**	**+0.2**
WB0	**Warramunga Arr**	**42.20**	**265**	P	**P**	**03 30 34.2**	**+0.1**
WB0				IAmb	IAmb	03 30 44.9	
	comp=Z,7.9nm,1.3s						
WB2	**Warramunga Arr**	**42.20**	**265**	P	**P**	**03 30 34.4**	**+0.3**
WB2				IAmb	IAmb	03 30 47.9	
	comp=Z,9.9nm,1.5s						
WRA	**Warramunga Arr**	**42.21**	**265**	P	**P**	**03 30 34.4**	**+0.1**
WRA	**Warramunga Arr**	**42.21**	**265**	P	**P**	**03 30 34.2**	**0.0**
	comp=Z,1.5nm,0.7s,baz=97,slow=8.1,SNR=48						
	comp=Z,1.5nm,0.7s						
TNTI	**Ternate**	**55.95**	**287**	P	**P**	**03 32 15.3**	**-0.8**
TNTI				IAmb	IAmb	03 32 30.6	
	comp=Z,23nm,0.8s						
CASY	**Casey**	**61.17**	**206**	P	**P**	**03 32 53.6**	**+3.2**
QSPA	**South Pole Qui**	**67.50**	**180**	P	**P**	**03 33 30.2**	**-0.8**
QSPA				IAmb	IAmb	03 33 40.1	
	comp=Z,6.5nm,1.4s						
QSPA	**South Pole Qui**	**67.50**	**180**	P	**P**	**03 33 30.8**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=62,slow=11,SNR=1.6						
	comp=Z,0.4nm,0.4s						
MAW	**Mawson**	**78.88**	**200**	P	**P**	**03 34 35.0**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=148,slow=5.0,SNR=5.8						
	comp=Z,1.1nm,0.6s						
MDJ	**Mudanjiang**	**81.00**	**326**	P	**P**	**03 34 46.9**	**-0.6**
MDJ				IAmb	IAmb	03 35 04.7	
	comp=Z,7.7nm,0.9s						
BRLK	**Bradley Lake**	**85.52**	**14**	P	**P**	**03 35 09.7**	**0.0**
BRLK				IAmb	IAmb	03 35 09.9	
	comp=Z,3.9nm,0.6s						
BERG	**Berg Lake**	**87.88**	**17**	P	**P**	**03 35 20.7**	**-0.2**
BERG				IAmb	IAmb	03 35 29.0	
	comp=Z,16nm,1.4s						
F28M	**Old Crow**	**94.78**	**14**	P	**P**	**03 35 53.0**	**+0.5**
HFS	**Hagfors**	**141.20**	**349**	PKP	**PKPdf**	**03 41 59.1**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=48,slow=4.3,SNR=9.8						

*IDC **23** 03:38:42.1±1.9,26.°82N×55.°06E,h0km,mb3.4/3, mbtmp3.5/3,ML1.2/1,MS3.6/1,Error ellipse: s-maj=55.6km s-min=30.5km az=51.0*
*OMAN **23** 03:38:43.2±0.1,26.°89N×55.°21E,h10km,ml3.2/14,Error ellipse: s-maj=3.1km s-min=2.3km az=23.0*
*DSN **23** 03:38:43.7±1.3,26.°86N×55.°14E,h10km,ML3.1/7,Error ellipse: s-maj=16.1km s-min=5.1km az=13.0*
*TEH **23** 03:38:45.1,26.°70N×55.°16E,h18km±34km*
ISC 23 03:38:44.4±1.4,**26.°83N**±0.°05×**55.°16E**±0.°04,**h14**km±10km, **n46,σ1.57/62,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.07**	**57**	Pg	**Pn**	**03 39 07.3**	**+2.2**
GENO	**Geno**	**1.07**	**57**	Pg	**Pn**	**03 39 06.4**	**+1.3**
LAR1	**LAR**	**1.09**	**320**	Pg	**Pn**	**03 39 07.2**	**+1.8**
SHME	**Shamm**	**1.17**	**131**	P	**Pb**	**03 39 06.4**	**0.0**
SHME				S	**Sn**	**03 39 23.3**	**+1.2**
BANOM	**Banah**	**1.36**	**131**	P	**Pb**	**03 39 09.8**	**+0.1**
BANOM				S	**Sg**	**03 39 28.8**	**+0.6**
BANOM	**Banah**	**1.36**	**131**	P	**Pb**	**03 39 09.5**	**-0.2**
BANOM				S	**Sg**	**03 39 28.3**	**0.0**
UMQ	**Umm Al-Quwin**	**1.37**	**161**	P	**Pb**	**03 39 10.1**	**+0.3**
UMQ				S	**Sg**	**03 39 30.2**	**+1.6**
UMQ	**Umm Al-Quwin**	**1.37**	**161**	P	**Pn**	**03 39 09.4**	**+0.3**
MASF	**Masafi**	**1.71**	**148**	P	**Pn**	**03 39 14.6**	**+0.8**
MASF				S	**Sn**	**03 39 36.6**	**+1.2**
MSFE	**Esma-Masafi**	**1.71**	**148**	P	**Pn**	**03 39 13.8**	**0.0**
MDH	**Madha**	**1.83**	**146**	P	**Pn**	**03 39 15.9**	**+0.4**
MDH				S	**Sn**	**03 39 38.6**	**+0.1**
LMD1	**Lamerd**	**1.85**	**286**	Pn	**Pg**	**03 39 18.7**	**-1.2**
NAZ	**Nazwa, Dubai**	**1.89**	**166**	P	**Pb**	**03 39 17.7**	**-0.9**
NAZ				S	**Sb**	**03 39 43.6**	**+1.5**
UOSS	**Minazif**	**2.10**	**153**	P	**Pn**	**03 39 19.7**	**+0.6**
UOSS				S	**Sn**	**03 39 47.2**	**+2.2**
UOSS	**Minazif**	**2.10**	**153**	P	**Pn**	**03 39 19.6**	**+0.5**
FAQ	**Al Faqa, Dubai**	**2.11**	**169**	P	**Pn**	**03 39 20.2**	**+1.0**
HATD	**Hatta, Dubai**	**2.18**	**156**	P	**Pn**	**03 39 20.9**	**+0.7**
HATD				S	**Sb**	**03 39 51.5**	**+1.0**
HATD	**Hatta, Dubai**	**2.18**	**156**	P	**Pn**	**03 39 20.9**	**+0.7**
ASUD	**Al Ashush, Dub**	**2.20**	**176**	P	**Pn**	**03 39 20.7**	**+0.2**
ASUD				S	**Sn**	**03 39 49.7**	**+2.2**
ASUD	**Al Ashush, Dub**	**2.20**	**176**	P	**Pn**	**03 39 22.1**	**+1.6**
ASHO	**Ashiyiah**	**2.28**	**159**	P	**Pn**	**03 39 22.1**	**+0.4**
	SNR=12						
ASHO				S	**Sn**	**03 39 50.2**	**+0.5**
JASK	**Jask - Hormozg**	**2.61**	**111**	Pn	**Pn**	**03 39 27.3**	**+1.1**
JRN	**Qarnain Island**	**2.80**	**228**	P	**Pn**	**03 39 30.1**	**+1.3**
JRN				S	**Sn**	**03 40 04.9**	**+2.5**
SOHO	**SOHO**	**2.95**	**155**	P	**Pn**	**03 39 31.7**	**+0.8**
HOQ	**Hoqain**	**3.77**	**148**	P	**Pn**	**03 39 41.7**	**-0.4**
HOQ				S	**Sn**	**03 40 26.4**	**0.0**
TRNA	**Turayna**	**4.12**	**241**	P	**Pn**	**03 39 47.0**	**0.0**
	SNR=10						
SMRA	**Abu-Samra**	**4.42**	**243**	P	**Pn**	**03 39 50.8**	**-0.3**
SMRA				S	**Sn**	**03 40 41.8**	**-0.7**
BSY	**Bisya**	**4.47**	**155**	P	**Pn**	**03 39 51.9**	**+0.2**
IMEH	**Mehriz**	**4.57**	**354**	Pn	**Pn**	**03 39 57.3**	**+3.9**
SMDO	**Samad**	**4.58**	**144**	P	**Pn**	**03 39 53.9**	**+0.5**
SMDO				S	**Sn**	**03 40 45.9**	**-0.5**
IBAF	**Bafgh**	**4.76**	**4**	Pn	**Pn**	**03 39 59.6**	**+3.7**
WSAR	**Wadi Sarin**	**4.76**	**138**	Pn	**Pn**	**03 39 56.5**	**+0.7**
	baz=321,slow=24,SNR=6.6						
WSAR	**Wadi Sarin**	**4.76**	**138**	P	**Pn**	**03 39 55.3**	**-0.5**
WSAR				S	**Sn**	**03 40 49.5**	**-1.3**
KLNJ	**Kolanjah**	**5.21**	**324**	Pn	**Pn**	**03 40 05.4**	**+3.1**
ISAD	**Sadrabad**	**5.23**	**346**	Pn	**Pn**	**03 40 06.2**	**+3.7**
IRAM	**Ramesheh**	**5.53**	**335**	Pn	**Pn**	**03 40 10.0**	**+3.5**
JLN	**Jalan Bani Buh**	**6.05**	**139**	P	**Pn**	**03 40 12.4**	**-1.1**
JLN				S	**Sn**	**03 41 18.8**	**-3.9**
MHTO	**MHTO**	**6.36**	**156**	P	**Pn**	**03 40 18.0**	**+0.3**
	SNR=7.4						
DOK	**Doka**	**8.22**	**187**	P	**Pn**	**03 40 42.0**	**-1.4**
	SNR=9.2						
WHFO	**Wadi Hawf**	**8.96**	**189**	P	**Pn**	**03 40 52.0**	**-1.5**
	SNR=30						
DMTO	**DMTO**	**9.07**	**181**	P	**Pn**	**03 40 55.0**	**+0.1**
	SNR=9.5						
ABTO	**Aybut**	**9.58**	**191**	P	**Pn**	**03 40 60.0**	**-2.1**
	SNR=11						
BRTR	**Keskin Array B**	**22.05**	**311**	P	**P**	**03 43 39.0**	**+0.2**
	1.2nm,0.9s,baz=120,slow=11,SNR=7.2						
	1.2nm,0.9s						
OBN	**Obninsk**	**31.35**	**339**	LR	LR	03 58 33.6	
	comp=Z,104nm,21.7s,baz=166,slow=38						
FINES	**FINESS Array B**	**39.74**	**339**	P	**P**	**03 46 15.4**	**-0.9**
	0.5nm,0.5s,baz=138,slow=9.1,SNR=5.3						
	0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**51.71**	**266**	P	**P**	**03 47 50.1**	**-1.4**
	0.4nm,0.7s,baz=59,slow=8.4,SNR=4.2						
	0.4nm,0.7s						

*RSNC **23** 03:44:25.3±0.0,5.°N±1.°×7.°5W±.°,h138km±2km,M3.4,mb4.3, mB5.1,ML3.1,Mw(mB)4.5*
*IDC **23** 03:44:26.0±0.8,5.°00N×74.°93W,h152km±8km,mb3.1/5, mbtmp3.5/5,Error ellipse: s-maj=38.4km s-min=26.6km az=54.0*
ISC 23 03:44:24.7±0.8,**4.°98N**±0.°03×**75.°18W**±0.°03,**h143**km±5km, **n54,σ1.27/86,mb3.4/4,Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RECRC	**Villamaria, Ca**	**0.17**	**264**	P	**Pn**	**03 44 44.6**	**-0.1**
RECRC				S	**Sn**	**03 45 04.1**	**+4.2**
NIZA	**Niza - Manizal**	**0.30**	**285**	P	**Pn**	**03 44 44.6**	**-0.2**
NIZA				S	**Sn**	**03 44 58.9**	**-1.0**
GUY2C	**Guyana, Caldas**	**0.31**	**322**	P	**Pn**	**03 44 44.7**	**-0.3**
GUY2C				S	**Sn**	**03 44 59.1**	**-1.3**
CMAN1	**Manizales, Cal**	**0.36**	**285**	P	**Pn**	**03 44 44.7**	**-0.2**
CMAN1				S	**Sn**	**03 45 00.0**	**-0.2**
ANIL	**Santa Ana**	**0.53**	**205**	P	**Pn**	**03 44 45.2**	**-0.6**
NORC	**Norcasia**	**0.66**	**28**	P	**Pn**	**03 44 45.5**	**-0.7**
NORC				S	**Sn**	**03 45 00.7**	**-1.9**
ROSC	**El Rosal**	**0.86**	**99**	P	**Pn**	**03 44 49.0**	**+0.8**
	435nm,0.3s,baz=321,slow=5.3,SNR=323						
ROSC				S	**Sn**	**03 45 07.3**	**+1.5**
	62nm,0.3s,baz=157,slow=23,SNR=4.4						
ROSC	**El Rosal**	**0.86**	**99**	P	**Pn**	**03 44 48.9**	**+0.8**
ROSC				S	**Sn**	**03 45 06.8**	**+1.0**
ORTC	**Ortega, Tolima**	**1.06**	**184**	P	**Pn**	**03 44 49.4**	**-0.1**
ORTC				S	**Sn**	**03 45 07.3**	**-1.0**
PLMC	**San Jos del P**	**1.10**	**266**	P	**Pn**	**03 44 49.4**	**-0.4**
PLMC				S	**Sn**	**03 45 08.9**	**0.0**
CVER	**Cruz Verde, Cu**	**1.19**	**112**	P	**Pn**	**03 44 52.0**	**+0.9**
CBOC	**Ciudad Bolivar**	**1.21**	**317**	P	**Pn**	**03 44 50.6**	**-0.4**
CBOC				S	**Sn**	**03 45 09.7**	**-1.3**
HELC	**Santa Helena**	**1.25**	**344**	P	**Pn**	**03 44 50.9**	**-0.7**
HELC				S	**Sn**	**03 45 10.4**	**-1.7**
PRAC	**Prado**	**1.29**	**167**	P	**Pn**	**03 44 51.3**	**-0.3**
PRAC				S	**Sn**	**03 45 11.2**	**-1.0**
YOTC	**Yotoco, Valle**	**1.53**	**230**	P	**Pn**	**03 44 52.9**	**-1.3**
YOTC				S	**Sn**	**03 45 13.9**	**-2.8**
PTBC	**PUERTO BERRIO,**	**1.71**	**25**	P	**Pn**	**03 44 55.3**	**-0.8**
PTBC				S	**Sn**	**03 45 18.3**	**-1.8**
VILC	**Villavicencio,**	**1.71**	**120**	P	**Pn**	**03 44 57.1**	**+0.9**
VILC				S	**Sn**	**03 45 21.4**	**+1.1**
URMC	**La Uribe, Meta**	**1.90**	**155**	P	**Pn**	**03 44 58.0**	**-0.3**
URMC				S	**Sn**	**03 45 22.1**	**-1.9**
DBBC	**Dabeiba**	**2.27**	**333**	P	**Pn**	**03 45 03.3**	**+0.5**
DBBC				S	**Sn**	**03 45 33.0**	**+0.9**
RUSC	**La Rusia**	**2.27**	**66**	P	**Pn**	**03 45 03.8**	**+0.6**
RUSC				S	**Sn**	**03 45 33.2**	**+0.5**
JAMC	**Jamundi, Valle**	**2.30**	**220**	P	**Pn**	**03 45 02.6**	**-0.7**
JAMC				S	**Sn**	**03 45 31.3**	**-1.6**
MALC	**Bahia Malaga**	**2.36**	**246**	P	**Pn**	**03 45 05.1**	**+1.4**
MALC				S	**Sn**	**03 45 35.9**	**+2.2**
BRJC	**Barrancabermej**	**2.44**	**36**	P	**Pn**	**03 45 04.6**	**-0.2**
BRJC				S	**Sn**	**03 45 34.3**	**-1.3**
ZARC	**Zaragoza, Cauc**	**2.52**	**7**	P	**Pn**	**03 45 05.4**	**-0.3**
ZARC				S	**Sn**	**03 45 35.4**	**-2.0**
SOLC	**Bahia Solano**	**2.54**	**299**	P	**Pn**	**03 45 06.6**	**+0.6**
BARC	**Barichara**	**2.55**	**51**	P	**Pn**	**03 45 06.8**	**+0.4**
BARC				S	**Sn**	**03 45 37.2**	**-1.2**
UREC	**San Jos de Ur**	**2.78**	**353**	P	**Pn**	**03 45 08.6**	**-0.4**
UREC				S	**Sn**	**03 45 41.6**	**-1.6**
GARC	**Garzon, Huila**	**2.79**	**186**	P	**Pn**	**03 45 08.6**	**-0.8**
POPC	**Popayan, Colom**	**2.85**	**212**	P	**Pn**	**03 45 09.8**	**-0.3**
MACC	**Macarena, Meta**	**3.11**	**155**	P	**Pn**	**03 45 12.3**	**-1.0**
APAC	**Apartado, Choc**	**3.22**	**334**	P	**Pn**	**03 45 16.2**	**+1.6**
APAC				S	**Sn**	**03 45 55.2**	**+1.9**
PTAC	**Punta Ardita,**	**3.39**	**310**	P	**Pn**	**03 45 16.3**	**-0.5**
PAMC	**Pamplona, Colo**	**3.40**	**46**	P	**Pn**	**03 45 18.1**	**+0.7**
PAMC				S	**Sn**	**03 45 57.3**	**-0.9**
FLOC	**Florencia**	**3.41**	**188**	P	**Pn**	**03 45 16.9**	**-0.2**
FLOC				S	**Sn**	**03 45 55.7**	**-2.0**
GUVC	**San Jose del G**	**3.51**	**133**	P	**Pn**	**03 45 17.5**	**-0.9**
GUVC				S	**Sn**	**03 45 58.5**	**-1.5**
GR1C	**Gorgona, Isla**	**3.57**	**237**	P	**Pn**	**03 45 17.7**	**-1.5**
GR1C				S	**Sn**	**03 45 59.3**	**-2.1**
BBAC	**Balboa, Cauca**	**3.59**	**215**	P	**Pn**	**03 45 19.3**	**-0.4**
BBAC				S	**Sn**	**03 46 01.3**	**-0.9**
TAMC	**Tame, Arauca**	**3.67**	**67

	comp=E,57nm,0.4s							
DDEM	**Demirkent**	**1.58**	**264**	P	**Pb**	**03 47 24.3**	**-0.1**
DDEM				S	**Sg**	**03 47 45.6**	**+0.4**
DDEM				*i* IAML		03 47 50.0	
	comp=E,134nm,0.4s						
DDEM				*i* IAML		03 47 51.0	
	comp=N,127nm,0.5s						
AGRB	**Hanur-Agry**	**1.64**	**203**	Pn	**Pn**	**03 47 24.6**	**+0.1**
DBOC	**Borcka**	**1.65**	**280**	P	**Pb**	**03 47 25.3**	**-0.3**
DBOC				S	**Sn**	**03 47 45.5**	**-1.0**
KOPR	**Koprukoy-ERZUR**	**1.86**	**235**	Pn	**Pb**	**03 47 28.5**	**-0.7**
TLTR	**Tlyarata**	**2.15**	**61**	*e*Pg	**Pn**	**03 47 31.3**	**-0.2**
	1.0nm,0.2s						
TLTR				*e*Sg	**Sn**	**03 47 59.7**	**+0.8**
	17nm,0.3s						
BTLR	**Botlikh**	**2.38**	**48**	*e*Pn	**Pn**	**03 47 35.4**	**+0.8**
	7.0nm,0.4s						
XNZR	**Khunzakh**	**2.60**	**55**	*e*Pn	**Pn**	**03 47 38.4**	**+0.8**
	2.0nm,0.2s						
KMKR	**Kumukh**	**2.67**	**66**	*e*Pn	**Pn**	**03 47 38.4**	**-0.2**
	4.0nm,0.1s						
GNBR	**Gunib**	**2.68**	**60**	*e*Pn	**Pn**	**03 47 39.4**	**+0.7**
	2.0nm,0.1s						
UNCR	**Uncukul**	**2.75**	**53**	*e*Pn	**Pn**	**03 47 40.1**	**+0.5**
	2.0nm,0.2s						
ARKR	**Arakani**	**2.81**	**56**	*e*Pn	**Pn**	**03 47 41.0**	**+0.6**
	3.0nm,0.3s						

ASRS ***23*** *03:58:59.5±0.1, 52°.9N±0°.7×88°.1E±0°.9, h1km, MLh3.8/26, Error ellipse: s-maj=2.0km s-min=1.5km az=72.0, confirmed*
NNC ***23*** *03:59:04.5±1.1, 52°.83N×87°.83E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=9.1km s-min=4.3km az=85.0, Suspected Mining explosion.*

ISC 23 03:59:01.7±0.7, 52°.91N±0°.02×88°.01E±0°.02, h0km, n42, σ1s22/78, 4C-9D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TASR	**Tashtagol**	**0.16**	**208**	⇓Pg	**Pg**	**03 59 06.3**	**+1.5**
TASR				Sg	**Sg**	**03 59 08.2**	**+1.3**
KALT1	**Kaltan 1**	**0.62**	**326**	Pg	**Pg**	**03 59 13.5**	**0.0**
KALT1				Sg	**Sg**	**03 59 21.8**	**+0.2**
KALT2	**Kaltan 2**	**0.65**	**321**	⇓Pg	**Pg**	**03 59 13.9**	**-0.1**
KALT2				Sg	**Sg**	**03 59 22.3**	**-0.1**
MALIN	**Malinovka, Kuz**	**0.68**	**320**	Pg	**Pg**	**03 59 14.6**	**0.0**
MALIN				Sg	**Sg**	**03 59 23.6**	**+0.1**
KALT3	**Kaltan 3**	**0.70**	**331**	Pg	**Pg**	**03 59 15.1**	**+0.1**
KALT3				Sg	**Sg**	**03 59 24.2**	**+0.1**
TAIL	**Tailep, Kuzbas**	**0.73**	**319**	Pg	**Pg**	**03 59 15.6**	**0.0**
TAIL				Sg	**Sg**	**03 59 25.1**	**0.0**
LUZB	**Luzhba, Kemero**	**0.93**	**35**	⇓Pg	**Pg**	**03 59 18.5**	**-1.0**
LUZB				Sg	**Sg**	**03 59 30.9**	**-0.7**
ELT	**Eltsovka**	**1.12**	**289**	⇓Pg	**Pg**	**03 59 22.1**	**-1.1**
ELT				Sg	**Sg**	**03 59 36.6**	**-1.2**
YALR	**Yailyu, Altay**	**1.16**	**192**	⇓Pg	**Pg**	**03 59 22.8**	**-1.1**
YALR				Sg	**Sb**	**03 59 39.7**	**-0.6**
ARTR	**Artybash**	**1.19**	**202**	⇓Pg	**Pg**	**03 59 23.7**	**-0.8**
ARTR				Sg	**Sg**	**03 59 40.0**	**0.0**
KOTO	**Kotino, Kuzbas**	**1.44**	**334**	Pg	**Pn**	**03 59 28.7**	**-0.3**
KOTO				Sg	**Sn**	**03 59 48.6**	**0.0**
VEH	**Verkhnyaya Baz**	**1.44**	**75**	Pg	**Pn**	**03 59 27.5**	**-1.6**
VEH				Sg	**Sg**	**03 59 47.3**	**-0.6**
GALT	**Gorno-Altaysk,**	**1.58**	**234**	Pg	**Pn**	**03 59 30.4**	**-0.4**
GALT				Sg	**Sn**	**03 59 51.6**	**-0.4**
BJR3	**Bachatsky-3 (S**	**1.72**	**321**	Pg	**Pb**	**03 59 33.1**	**-0.3**
BJR3				Sg	**Sb**	**03 59 56.6**	**+0.2**
POMOR	**Pomortsevo, Ku**	**1.74**	**330**	Pg	**Pb**	**03 59 34.1**	**-0.5**
POMOR				Sg	**Sg**	**03 59 58.4**	**+0.7**
BJR2	**Bachatsky-2, K**	**1.78**	**322**	Pg	**Pn**	**03 59 34.0**	**+0.3**
BJR2				Sg	**Sg**	**03 59 58.7**	**0.0**
BJR1	**Bachatsky 1, K**	**1.78**	**320**	⇓Pg	**Pn**	**03 59 33.8**	**+0.1**
BJR1				Sg	**Sb**	**03 59 57.8**	**-0.2**
DJO	**Djoy, Khakassi**	**1.95**	**92**	Pg	**Pb**	**03 59 37.0**	**-1.1**
DJO				Sg	**Sb**	**04 00 02.7**	**-0.3**
SALR	**Pechorkino, Sa**	**2.04**	**319**	Pg	**Pb**	**03 59 39.6**	**0.0**
SALR				Sg	**Sb**	**04 00 05.4**	**-0.1**
ELDR	**Elanda**	**2.06**	**216**	Pg	**Pb**	**03 59 39.9**	**-0.1**
ELDR				Sg	**Sg**	**04 00 06.8**	**-1.1**
CERR	**Cheremushki**	**2.07**	**90**	Pg	**Pb**	**03 59 39.3**	**-0.7**
CERR				Sg	**Sb**	**04 00 05.4**	**-0.9**
ZAA0	**Zalesovo Array**	**2.17**	**300**	⇓Pn	**Pb**	**03 59 40.5**	**-1.4**
	10nm,0.7s,baz=119,slow=16						
ZAA0				Sn	**Sb**	**04 00 09.5**	**+0.2**
	14nm,0.5s,baz=121,slow=27						
ULGR	**Ulagan, Altay**	**2.29**	**181**	Pg	**Pg**	**03 59 45.4**	**0.0**
ULGR				Sg	**Sg**	**04 00 14.7**	**-0.3**
TEL	**Teeli**	**2.33**	**143**	Pg	**Pb**	**03 59 42.8**	**-1.7**
TEL				Sg	**Sg**	**04 00 14.7**	**-1.6**
AKAR	**Aktash**	**2.60**	**185**	Pg	**Pb**	**03 59 48.2**	**-1.0**
AKAR				Sg	**Sg**	**04 00 23.3**	**-1.8**
CHBI	**Chibit, Altay**	**2.61**	**187**	Pg	**Pb**	**03 59 47.9**	**-1.5**
CHBI				Sg	**Sb**	**04 00 22.0**	**-0.2**
KEM	**Kemerovo**	**2.69**	**336**	Pg	**Pb**	**03 59 48.7**	**-2.0**
KEM				Sg	**Sb**	**04 00 25.1**	**+0.9**
BRCR	**Berchikul'**	**2.75**	**4**	Pg	**Pb**	**03 59 49.5**	**-2.1**
BRCR				Sg	**Sb**	**04 00 29.4**	**+0.6**
BALAH	**Balakhonka, Ku**	**2.95**	**338**	Pg	**Pn**	**03 59 52.2**	**+2.5**
BALAH				Sg	**Sb**	**04 00 32.5**	**+0.8**
KHAR	**Kharino, NSO,**	**3.13**	**305**	Sg	**Sb**	**04 00 37.3**	**+0.5**
DGZ	**Jazzator, Alta**	**3.23**	**187**	Pg	**Pb**	**04 00 01.3**	**+1.3**
DGZ				Sg	**Sb**	**04 00 41.5**	**+1.6**
ARDR	**Aradan**	**3.31**	**93**	Pg	**Pb**	**04 00 01.4**	**+0.1**
ARDR				Sg	**Sg**	**04 00 52.8**	**+4.7**
NVSII	**Novosibirsk**	**3.42**	**306**	Pg	**Pb**	**04 00 02.8**	**-0.4**
NVSII				Sg	**Sb**	**04 00 44.8**	**-0.6**
NVS	**Novosibirsk**	**3.43**	**306**	Pg	**Pb**	**04 00 02.8**	**-0.4**
NVS				Sg	**Sb**	**04 00 44.9**	**-0.4**
MINR	**Mina**	**4.17**	**59**	Pg	**Pb**	**04 00 16.9**	**+0.9**
SHTK	**Zheleznogorsk-**	**4.73**	**41**	Sg	**Sg**	**04 01 33.1**	**-0.4**
GZLN	**Zheleznogorsk**	**4.83**	**42**	Pg	**Pb**	**04 00 29.5**	**+2.4**
GZLN				Sg	**Sg**	**04 01 37.5**	**+0.8**
KURK	**Kurchatov**	**6.22**	**253**	⇑Pn	**Pn**	**04 00 35.7**	**+1.1**
	1.5nm,0.6s						
KURK				⇑Lg	Lg	04 02 16.9	
	46nm,1.2s						
KURK	**Kurchatov**	**6.22**	**253**	Sg	**Sg**	**04 02 17.8**	**-3.6**
KURBB	**Kurchatov Arra**	**6.31**	**253**	Pn	**Pn**	**04 00 37.4**	**+1.5**
	1.4nm,0.3s,baz=67,slow=15						
KURBB				⇑Lg	Lg	04 02 20.2	
	37nm,0.7s						
MK31	**Makanchi Array**	**7.14**	**213**	Pn	**Pn**	**04 00 50.3**	**+2.9**
	3.3nm,0.3s,baz=29,slow=12,SNR=277						
MK31				Sn	**Sn**	**04 02 10.9**	**+1.6**
	18nm,0.8s,baz=28,slow=25						
MK31				Lg	Lg	04 02 47.4	
	7.9nm,0.6s						
MAKZ	**Makanchi**	**7.24**	**215**	Pn	**Pn**	**04 00 49.4**	**+0.7**
	4.0nm,0.4s						
MAKZ				⇑Sn	**Sn**	**04 02 11.9**	**+0.3**
	4.6nm,0.5s						
MAKZ				⇓Lg	Lg	04 02 49.8	
	19nm,1.2s						

AUST 23 04:01:27.4±0.7, 18°S±6°×12°0E±°, h10km, mb4.3/3, ML3.1/6, ML3.6/6, Error ellipse: s-maj=15.8km s-min=6.8km az=132.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior**	**1.89**	**74**	P	Pn	04 02 00.3	+0.6
PSAA2	**Pilbara Seismi**	**3.10**	**188**	P	Pn	04 02 17.4	+1.0
PSAA2				S	Sn	04 02 53.6	+0.1
PSA00	**Pilbara Seismi**	**3.11**	**188**	P	Pn	04 02 17.4	+0.9
PSA00				S	Sn	04 02 54.9	+1.1
FITZ	**Fitzroy Crossi**	**5.07**	**87**	P	Pn	04 02 42.5	-0.9
FITZ	**Fitzroy Crossi**	**5.07**	**87**	S	Sn	04 03 36.4	-5.7
GIRL	**Giralia**	**7.05**	**233**	P	Pn	04 03 10.0	-0.6
	comp=Z,109nm,1.7s,comp=Z,356µmcomp=Z,0.4nm						
GIRL				S	Sn	04 04 24.8	-6.1
MEEK	**Meekatharra**	**8.27**	**191**	P	Pn	04 03 27.8	+0.3
MEEK	**Meekatharra**	**8.27**	**191**	S	Sn	04 04 57.5	-3.6
CVQOZ	**Cooralya Stati**	**8.31**	**223**	S	Sn	04 04 55.7	-6.2
WRKA	**Warakurna**	**9.87**	**133**	P	Pn	04 03 49.1	-0.3
	comp=Z,5.9nm,1.5s,comp=Z,0.0nm						
MORW	**Morawa**	**11.24**	**200**	P	Pn	04 04 08.0	-0.2
MORW	**Morawa**	**11.24**	**200**	S	Sn	04 06 04.7	-9.3
BLDU	**Ballidu**	**12.52**	**195**	S	Sn	04 06 34.6	-11
BLDU	**Ballidu**	**12.52**	**195**	P	Pn	04 04 25.5	-0.2
KLBR	**Kellerberrin**	**13.26**	**190**	P	Pn	04 04 35.4	-0.4
	comp=Z,21nm,1.5s						
KLBR	**Kellerberrin**	**13.26**	**190**	S	Sn	04 06 52.7	-11

TIR ***23*** *04:02:35.1, 40°.50N×20°.82E, h0km±1km, Ml2.7/2*
THE ***23*** *04:02:35.5, 41°N±1°×2°1E±°, h5km±2km, M2.5/12, MLh2.5/12*
SKO ***23*** *04:02:36.0, 40°.50N×20°.90E, h24km*
ATH ***23*** *04:02:35.0, 40°.52N×20°.72E, h8km±1km, ML2.5/10, Manual Solution by D.Venizelos First location: 2019/07/23 04:03:00, This location: 2021/06/10 07:17:21 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
PDG ***23*** *04:02:36.2±0.4, 40°.50N×20°.88E, h11km±1km, ML2.7/8, Error ellipse: s-maj=1.0km s-min=1.3km az=0.0*

ISC 23 04:02:35.6±0.9, 40°.51N±0°.02×20°.82E±0°.02, h18km±2km, n48, σ1s09/86, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBN	**Korca**	**0.12**	**347**	P	**Pb**	**04 02 37.9**	**-0.6**
KBN				S	**Sb**	**04 02 39.8**	**-0.5**
NEST	**Nestorio**	**0.20**	**118**	Pg	**Pg**	**04 02 40.2**	**-0.4**
NEST				Sg	**Sg**	**04 02 43.7**	**-0.2**
NEST				AML	AML	04 02 45.8	
	4.6nm,0.3s						
NEST	**Nestorio**	**0.20**	**118**	P	**Pg**	**04 02 40.2**	**-0.4**
NEST				S	**Sg**	**04 02 44.0**	**+0.1**
NEST	**Nestorio**	**0.20**	**118**	P	**Pg**	**04 02 40.8**	**+0.3**
NEST				S	**Sg**	**04 02 44.6**	**+0.6**
PENT	**Pentalofos**	**0.39**	**142**	P	**Pg**	**04 02 43.4**	**-0.4**
PENT				S	**Sb**	**04 02 50.2**	**+0.3**
PENT	**Pentalofos**	**0.39**	**142**	P	**Pb**	**04 02 43.9**	**-0.2**
PENT				S	**Sb**	**04 02 50.5**	**+0.6**
FNA	**Florina**	**0.50**	**56**	Pg	**Pg**	**04 02 45.6**	**-0.2**
FNA				S	**Sb**	**04 02 54.2**	**+1.2**
FNA	**Florina**	**0.50**	**56**	P	**Pg**	**04 02 45.3**	**-0.5**
FNA				S	**Sb**	**04 02 53.2**	**+0.2**
FNA	**Florina**	**0.50**	**56**	*i* Pg	**Pg**	**04 02 45.5**	**-0.3**
FNA				*i* Sg	**Sb**	**04 02 54.1**	**+1.2**
FNA	**Florina**	**0.50**	**56**	P	**Pg**	**04 02 45.6**	**-0.2**
FNA				S	**Sb**	**04 02 54.0**	**+1.0**
OHR	**Ohrid**	**0.60**	**358**	*i* Pg	**Pb**	**04 02 47.6**	**-0.1**
OHR				*i* Sg	**Sn**	**04 02 58.5**	**-0.2**
KZN	**Kozani**	**0.75**	**105**	P	**Pg**	**04 02 50.0**	**-0.3**
KZN				S	**Sn**	**04 03 01.8**	**-0.5**
SRN	**Sarande**	**0.89**	**225**	Pg	**Pn**	**04 02 52.9**	**-0.2**
SRN				Sg	**Sn**	**04 03 07.1**	**+1.5**
IGT	**Igoumenitsa**	**1.04**	**201**	P	**Pg**	**04 02 55.7**	**-0.1**
IGT				S	**Sg**	**04 03 12.5**	**+3.0**
IGT	**Igoumenitsa**	**1.04**	**201**	P	**Pg**	**04 02 55.3**	**-0.6**
IGT				S	**Sg**	**04 03 11.8**	**+2.3**
IGT	**Igoumenitsa**	**1.04**	**201**	*i* Pg	**Pg**	**04 02 55.5**	**-0.4**
IGT	**Igoumenitsa**	**1.04**	**201**	P	**Pn**	**04 02 55.0**	**-0.3**
IGT				S	**Sb**	**04 03 07.8**	**-0.7**
KEK	**Kerkira**	**1.12**	**225**	P	**Pn**	**04 02 55.8**	**-0.5**
KEK				S	**Sb**	**04 03 09.0**	**-1.5**
TETR	**Tetrakomo, Epi**	**1.21**	**163**	P	**Pg**	**04 02 58.9**	**-0.1**
TETR				S	**Sg**	**04 03 17.5**	**+2.6**
TETR	**Tetrakomo, Epi**	**1.21**	**163**	P	**Pg**	**04 02 59.3**	**+0.2**
TETR				S	**Sg**	**04 03 15.1**	**+0.2**
THL	**Klokotos Trika**	**1.31**	**135**	P	**Pb**	**04 02 59.6**	**0.0**
THL				S	**Sg**	**04 03 18.7**	**+0.6**
THL	**Klokotos Trika**	**1.31**	**135**	P	**Pg**	**04 03 00.0**	**-0.9**
THL				S	**Sg**	**04 03 17.9**	**-0.2**
TYRN	**Tyrnavos**	**1.34**	**126**	P	**Pb**	**04 02 59.9**	**-0.3**
TYRN				S	**Sg**	**04 03 19.9**	**+1.0**
TYRN	**Tyrnavos**	**1.34**	**126**	P	**Pg**	**04 03 01.1**	**-0.3**
TYRN				S	**Sg**	**04 03 20.0**	**+1.0**
VAY	**Valandovo**	**1.55**	**58**	*i* Pn	**Pg**	**04 03 04.7**	**-0.8**
PUK	**Puka**	**1.69**	**336**	Pn	**Pg**	**04 03 08.7**	**+0.6**
PUK				S	**Sg**	**04 03 33.4**	**+3.4**
PUK				AML	AML	04 03 36.0	
	0.4nm,0.8s						
KNT	**Kendrikon**	**1.71**	**67**	P	**Pb**	**04 03 06.0**	**-0.4**
KNT				S	**Sg**	**04 03 28.8**	**-1.8**
KNT	**Kendrikon**	**1.71**	**67**	*i* Pn	**Pb**	**04 03 06.2**	**-0.2**
KNT	**Kendrikon**	**1.71**	**67**	P	**Pb**	**04 03 06.0**	**-0.4**
KNT				S	**Sb**	**04 03 27.8**	**+0.3**
LKD2	**Lefkada island**	**1.72**	**184**	P	**Pg**	**04 03 08.5**	**-0.2**
HORT	**Hortiatis**	**1.74**	**86**	P	**Pb**	**04 03 06.5**	**-0.5**
HORT				S	**Sb**	**04 03 29.0**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.80**	**146**	P	**Pb**	**04 03 07.8**	**-0.3**
ULC	**Ulcinj**	**1.88**	**321**	*e*Pn	**Pb**	**04 03 09.5**	**+0.1**
ULC				*i* Sn	**Sg**	**04 03 35.9**	**-0.3**
AGG	**Agios Georgios**	**1.88**	**141**	P	**Pb**	**04 03 09.1**	**-0.3**
AGG	**Agios Georgios**	**1.88**	**141**	P	**Pb**	**04 03 08.8**	**-0.7**
AGG				S	**Sb**	**04 03 32.7**	**+0.1**
EVGI	**Lefkada island**	**1.89**	**184**	P	**Pn**	**04 03 07.6**	**+0.7**
EVGI				S	**Sb**	**04 03 32.1**	**-0.6**
SOH	**Sokhos**	**1.95**	**80**	P	**Pb**	**04 03 09.8**	**-0.8**
SOH	**Sokhos**	**1.95**	**80**	*i* Pn	**Pb**	**04 03 10.0**	**-0.6**
SOH	**Sokhos**	**1.95**	**80**	P	**Pb**	**04 03 09.3**	**-1.3**
SOH				S	**Sb**	**04 03 35.5**	**+0.9**
DRME	**Dracevica, Mon**	**2.08**	**324**	*e*Pn	**Pb**	**04 03 12.5**	**-0.4**
DRME				*i* Sn	**Sg**	**04 03 41.0**	**-1.7**
EFP	**Efpalio**	**2.24**	**158**	P	**Pg**	**04 03 17.2**	**-1.4**
PDG	**Podgorica**	**2.25**	**329**	*e*Pn	**Pb**	**04 03 15.0**	**-0.8**
PDG				*i* Sn	**Sb**	**04 03 45.0**	**+1.7**
BUM	**Brajici-Budva**	**2.31**	**322**	*e*Pn	**Pb**	**04 03 15.3**	**-1.4**
BUM				*i* Sn	**Sb**	**04 03 46.1**	**+1.2**
BARS	**Barje**	**2.42**	**18**	*i* Pn	**Pn**	**04 03 16.3**	**+1.9**
IVA	**Berane**	**2.46**	**344**	*e*Pn	**Pb**	**04 03 18.3**	**-1.1**
IVA				*i* Sn	**Sb**	**04 03 50.4**	**+1.0**
CEME	**Cevo**	**2.49**	**326**	*e*Pn	**Pb**	**04 03 17.9**	**-1.9**
CEME				*i* Sn	**Sb**	**04 03 50.8**	**+0.6**
KOME	**Kolasin**	**2.54**	**338**	*e*Pn	**Pb**	**04 03 19.3**	**-1.4**
KOME				*i* Sn	**Sb**	**04 03 52.4**	**+0.8**
PLE	**Pljevlja**	**3.02**	**340**	*e*Pn	**Pb**	**04 03 26.0**	**-2.8**
PLE				*i* Sn	**Sb**	**04 04 03.0**	**-2.4**

NEIC ***23*** *04:26:25.1±0.8, 19°.84N±0°.02×155°.11W±0°.02, h35km±2km, Error ellipse: s-maj=4.3km s-min=3.0km az=298.0*

HVO 23 04:26:26.1±0.8, 19°.82N±0°.03×155°.05W±0°.03, h43km±4km, ML2.7/32, ML2.8/44(NEIC), Error ellipse: s-maj=5.4km s-min=3.3km az=214.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKA	**Jonika Flow**	**0.38**	**174**		Pn	04 26 34.5	-1.1
JOKA	**Jonika Flow**	**0.38**	**174**	IAML		04 26 45.5	
	comp=N,454nm,0.3s						
NPOC	**North of Pu'u**	**0.42**	**188**		Pn	04 26 35.0	-1.1
NPOC					Sn	04 26 41.5	-1.6
JCUZ	**Jacuzzi**	**0.43**	**187**		Pn	04 26 35.1	-1.1
JCUZ					Sn	04 26 41.5	-1.7
STCH	**Steam Cracks**	**0.43**	**190**		Pn	04 26 35.0	-1.2
STCH					Sn	04 26 41.7	-1.6
STCH	**Steam Cracks**	**0.43**	**190**	IAML		04 26 42.1	
	comp=E,1µm,0.1s						
STCH				IAML		04 26 42.6	
	comp=N,763nm,0.2s						
SBLH	**Steaming Bluff**	**0.44**	**209**		Pn	04 26 35.0	-1.3
SBLHI					Sn	04 26 41.7	-1.8
HATHI	**Halema'uma'u T**	**0.44**	**208**		Pn	04 26 35.1	-1.3
HATHI					Sn	04 26 41.6	-1.9
HATHI	**Halema'uma'u T**	**0.44**	**208**	IAML		04 26 44.7	
	comp=E,596nm,0.4s						
HATHI				IAML		04 26 47.2	
	comp=N,430nm,0.3s						
UWB	**Uwekahuna Bluf**	**0.45**	**209**		Pn	04 26 35.0	-1.4
UWB					Sn	04 26 41.8	-1.9
BYL	**Byron's Ledge**	**0.45**	**207**		Pn	04 26 35.1	-1.3
BYL					Sn	04 26 42.0	-1.7
BYL	**Byron's Ledge**	**0.45**	**207**	IAML		04 26 42.1	
	comp=E,420nm,0.3s						
BYL				IAML		04 26 46.0	
	comp=N,305nm,0.3s						
KNHH	**Kane Nui o Ham**	**0.45**	**195**		Pn	04 26 35.2	-1.2
MLH	**Mauna Loa**	**0.45**	**225**		Pn	04 26 35.4	-1.2
MLH					Sn	04 26 42.4	-1.6
MLH	**Mauna Loa**	**0.45**	**225**	IAML		04 26 42.5	
	comp=E,516nm,0.4s						
MLH				IAML		04 26 42.7	
	comp=N,453nm,0.4s						
OBL	**Observatory Le**	**0.46**	**210**		Pn	04 26 35.1	-1.4
OBL					Sn	04 26 42.2	-1.6
UWE	**Uwekahuna**	**0.46**	**211**		Pn	04 26 35.3	-1.3
UWE					Sn	04 26 42.2	-1.7
UWE	**Uwekahuna**	**0.46**	**211**	IAML		04 26 42.4	
	comp=N,2µm,0.1s						
UWE				IAML		04 26 42.4	
	comp=E,2µm,0.1s						
POHA	**Pohakuloa**	**0.46**	**263**		Pn	04 26 35.1	-1.6
POHA	**Pohakuloa**	**0.46**	**263**		Sn	04 26 41.7	-2.5
HMH	**Humu'ula Sheep**	**0.46**	**243**		Pn	04 26 35.7	-1.1
HMH					Sn	04 26 43.0	-1.3
HMH	**Humu'ula Sheep**	**0.46**	**243**	IAML		04 26 43.3	
	comp=E,366nm,0.3s						
HMH				IAML		04 26 44.4	
	comp=N,286nm,0.9s						
KKO	**Keanakako'i**	**0.47**	**207**		Pn	04 26 35.4	-1.3
KKO					Sn	04 26 42.1	-2.0
PUH	**Pauahi**	**0.47**	**200**		Pn	04 26 35.4	-1.2
PUH					Sn	04 26 42.2	-1.9
PUH	**Pauahi**	**0.47**	**200**	IAML		04 26 42.6	
	comp=N,1µm,0.3s						
PUH				IAML		04 26 42.9	
	comp=E,625nm,0.2s						
RIM	**Rim**	**0.47**	**207**		Pn	04 26 35.4	-1.3
RIM					Sn	04 26 42.6	-1.6
WRMHI	**West Rim**	**0.47**	**211**		Pn	04 26 35.3	-1.5
WRMHI					Sn	04 26 42.0	-2.2
SDHHI	**Sand Hill**	**0.48**	**209**		Pn	04 26 35.5	-1.4
SDHHI					Sn	04 26 42.5	-2.0
HLP	**Hilina Pali**	**0.57**	**206**		Pn	04 26 36.5	-1.5
HLP					Sn	04 26 44.6	-1.9
HLP	**Hilina Pali**	**0.57**	**206**	IAML		04 26 45.0	
	comp=N,426nm,0.1s						
HLP				IAML		04 26 54.4	
	comp=E,374nm,2.6s						
AIN	**Ainahou**	**0.59**	**221**		Pn	04 26 37.0	-1.3
AIN					Sn	04 26 45.3	-1.6
AIN	**Ainahou**	**0.59**	**221**	IAML		04 26 45.6	
	comp=E,465nm,0.2s						
AIN				IAML		04 26 45.7	
	comp=N,720nm,0.4s						
MWH	**Mokuaweoweo**	**0.61**	**238**		Pn	04 26 37.4	-1.6
MWH	**Mokuaweoweo**	**0.61**	**238**	IAML		04 26 52.9	
	comp=E,399nm,2.6s						
MWH				IAML		04 27 03.5	
	comp=N,297nm,2.1s						
ALEP	**Alea Permanent**	**0.63**	**244**		Pn	04 26 37.5	-1.5
ALEP					Sn	04 26 46.1	-2.0
HPAH	**Hawaii Prepara**	**0.65**	**289**		Pn	04 26 37.0	-2.0
HPAH					Sn	04 26 44.9	-3.3
HPAH	**Hawaii Prepara**	**0.65**	**289**	IAML		04 26 45.5	
	comp=N,1µm,0.4s						
HPAH				IAML		04 26 46.4	
	comp=E,414nm,0.2s						
HTC	**Hot Caves**	**0.67**	**210**		Pn	04 26 37.9	-1.3
HUH	**Hualalai**	**0.76**	**260**		Pn	04 26 39.2	-1.4
HUH					Sn	04 26 48.9	-2.2
HUH	**Hualalai**	**0.76**	**260**	IAML		04 26 49.8	
	comp=N,469nm,0.1s						
HUH				IAML		04 26 50.2	
	comp=E,334nm,0.1s						
KHU	**Kahuku**	**0.78**	**224**		Pn	04 26 39.2	-1.8
KHU					Sn	04 26 48.9	-2.7
KHLU	**Kahalu`u**	**0.83**	**255**		Pn	04 26 39.7	-1.8
KHLU					Sn	04 26 49.8	-2.8
KHLU	**Kahalu`u**	**0.83**	**255**	IAML		04 26 50.5	
	comp=N,403nm,0.1s						
HPO	**Honuapo**	**0.87**	**214**		Sn	04 26 51.1	-2.3
HLK	**Haleakala**	**1.47**	**310**		Pn	04 26 47.6	-2.7
HLK					Sn	04 27 04.0	-4.5
HLK	**Haleakala**	**1.47**	**310**	IAML		04 27 28.8	
	comp=E,170nm,3.3s						
HLK				IAML		04 27 30.8	
	comp=N,171nm,2.9s						

ASRS ***23*** *04:32:10.0±1.2, 53°.82N×85°.64E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 23 04:32:13.6±1.7, 53°.80N×85°.58E, h0km, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=12.2km s-min=6.7km az=95.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.47**	**288**	I	I	04 34 50.0	
	0.1nm,0.7s,baz=108,slow=328,SNR=8.0						
ZALV	**Zalesovo Beam**	**0.47**	**288**	Pg	Pg	04 32 22.6	0.0
	3.4nm,0.3s,baz=106,slow=17,SNR=25						
ZALV				Lg	Lg	04 32 29.2	
	6.3nm,0.3s,baz=108,slow=31,SNR=27		

BRCR	**Berchikul'**	**2.77**	**3**	Pg	**Pb**	**04 34 30.7**	**-1.5**
BRCR				Sg	**Sb**	**04 35 08.8**	**+2.2**
BALAH	**Balakhonka, Ku**	**2.98**	**337**	Sg	**Sb**	**04 35 14.7**	**+1.8**
KHAR	**Kharino, NSO,**	**3.17**	**305**	Sg	**Sb**	**04 35 18.6**	**+0.4**
DGZ	**Jazzator, Alta**	**3.21**	**187**	Pg	**Pg**	**04 34 42.3**	**-1.1**
DGZ				Sg	**Sg**	**04 35 23.1**	**-2.0**
ARDR	**Aradan**	**3.28**	**93**	Pg	**Pg**	**04 34 44.3**	**-0.3**
ARDR				Sg	**Sg**	**04 35 25.6**	**-1.5**
NVSII	**Novosibirsk**	**3.47**	**306**	Pg	**Pb**	**04 34 44.3**	**+0.2**
NVSII				Sg	**Sb**	**04 35 28.7**	**+2.0**
NVS	**Novosibirsk**	**3.47**	**306**	Pg	**Pb**	**04 34 44.3**	**+0.2**
NVS				Sg	**Sb**	**04 35 26.5**	**-0.2**
SHTK	**Zheleznogorsk-**	**4.72**	**41**	Pg	**Pg**	**04 35 11.5**	**-0.9**
SHTK				Sg	**Sg**	**04 36 14.5**	**+1.0**
GZLN	**Zheleznogorsk**	**4.82**	**41**	Pg	**Pg**	**04 35 10.9**	**-3.3**
KURK	**Kurchatov**	**6.25**	**253**	⇓Pn	**Pn**	**04 35 14.1**	**-1.2**
	4.7nm,0.9s						
KURK				⇓Sn	**Sn**	**04 36 26.7**	**-0.6**
	4.5nm,0.6s						
KURK				⇑Lg	Lg	04 36 59.5	
	14nm,0.6s						
KURBB	**Kurchatov Arra**	**6.34**	**253**	⇑Pn	**Pn**	**04 35 15.0**	**-1.5**
	3.8nm,0.6s						
KURBB				⇓Sn	**Sn**	**04 36 30.2**	**+0.6**
	9.1nm,0.6s						
KURBB				⇑Lg	Lg	04 37 02.8	
	25nm,0.6s						
MK31	**Makanchi Array**	**7.15**	**214**	⇑Pn	**Pn**	**04 35 27.2**	**-0.5**
	4.2nm,0.4s,baz=29,slow=12,SNR=112						
MK31				⇑Sn	**Sn**	**04 36 49.1**	**-0.5**
	6.5nm,0.6s,baz=39,slow=24						
MK31				⇑Lg	Lg	04 37 27.4	
	5.7nm,0.6s,baz=32,slow=29						
MAKZ	**Makanchi**	**7.24**	**215**	Pn	**Pn**	**04 35 28.4**	**-0.5**
	4.3nm,0.6s						
MAKZ				⇓Sn	**Sn**	**04 36 52.5**	**+0.6**
	7.6nm,1.0s						
MAKZ				Lg	Lg	04 37 29.0	
	8.5nm,0.7s						
MAKZ	**Makanchi**	**7.24**	**215**	Pn	**Pn**	**04 35 32.9**	**+4.0**
MAKZ				S	**Sn**	**04 36 53.8**	**+1.9**
MAKZ				Sg	**Sg**	**04 37 29.4**	**-5.0**

NEIC ***23*** *04:34:09.6±1.2, 15.°90S±0.°09×174.°07W±0.°09, h118km±5km, mb4.8/59, Error ellipse: s-maj=14.6km s-min=11.4km az=132.0*

IDC ***23*** *04:34:12.5±0.8, 15.°86S×174.°19W, h147km±7km, mb4.2/11, mbtmp4.6/12, Error ellipse: s-maj=20.1km s-min=12.7km az=129.0*

ISC 23 04:34:09.2±0.4,**15.92S**±0.°07×**174.°14W**±0.°09,**h115**km, **n140,σ1$37/140,mb4.8/44,4C-1D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.04**	**49**		**Pn**	**04 34 56.3**	**+0.4**
NIUE	**Niue**	**5.10**	**129**		**Pn**	**04 35 24.1**	**+0.8**
PINNC	**Pines Island,**	**18.60**	**246**	Pn	**P**	**04 38 19.8**	**+2.2**
DZM	**Mont Dzumac**	**19.34**	**249**		**P**	**04 38 26.4**	**+0.6**
DZM	**Mont Dzumac**	**19.34**	**249**	P	**P**	**04 38 26.9**	**+1.1**
	9.5nm,0.7s,baz=116,slow=17						
ONTNC	**Quen Toro**	**19.40**	**248**		**P**	**04 38 27.3**	**+1.0**
KUZ	**Kuaotunu**	**22.61**	**202**	P	**P**	**04 39 02.1**	**+1.9**
ABAZ	**Army Bay**	**22.81**	**203**	P	**P**	**04 39 04.6**	**+2.4**
WIAZ	**Waiheke Island**	**22.87**	**203**	P	**P**	**04 39 04.1**	**+1.4**
MBAZ	**Motutapu North**	**22.93**	**203**	P	**P**	**04 39 05.6**	**+2.2**
MKAZ	**Moumakai**	**23.13**	**202**	P	**P**	**04 39 06.8**	**+1.5**
AWAZ	**Awhitu Peninsu**	**23.29**	**203**	P	**P**	**04 39 08.7**	**+2.0**
TOZ	**Tahuroa Road**	**23.57**	**201**		**P**	**04 39 10.5**	**+1.2**
QRZ	**Quartz Range**	**27.38**	**202**	P	**P**	**04 39 44.1**	**+0.5**
QRZ	**Quartz Range**	**27.38**	**202**	P	**P**	**04 39 44.0**	**+0.3**
QRZ				S	S	04 44 04.7	-10
NNZ	**Nelson**	**27.42**	**201**	P	**P**	**04 39 44.9**	**+0.9**
THZ	**Tophouse**	**28.07**	**201**	P	**P**	**04 39 51.2**	**+1.4**
THZ				S	S	04 44 15.5	-11
GVZ	**Greta Valley S**	**29.10**	**200**	P	**P**	**04 39 59.4**	**+0.5**
LTZ	**Lake Taylor**	**29.19**	**201**		**P**	**04 39 59.2**	**-0.6**
LTZ				IAmb	IAmb	04 40 02.7	
	comp=Z,21nm,1.0s						
LTZ	**Lake Taylor**	**29.19**	**201**	P	**P**	**04 40 00.9**	**+1.1**
LTZ				S	**S**	**04 44 38.7**	**-5.1**
INZ	**Inchbonnie**	**29.43**	**202**	P	**P**	**04 40 01.4**	**-0.4**
INZ				IAmb	IAmb	04 40 03.1	
	comp=Z,28nm,0.9s						
ODZ	**Otahua Downs**	**31.74**	**201**	P	**P**	**04 40 23.4**	**+1.3**
ODZ				IAmb	IAmb	04 41 10.0	
	comp=Z,39nm,1.6s						
WKZ	**Wanaka**	**32.13**	**203**	P	**P**	**04 40 24.1**	**-1.5**
MLZ	**Mavora Lakes**	**32.93**	**203**	P	**P**	**04 40 32.8**	**+0.3**
MLZ				IAmb	IAmb	04 40 37.0	
	comp=Z,18nm,1.0s						
DCZ	**Deep Cove**	**33.38**	**204**	P	**P**	**04 40 36.3**	**-0.1**
DCZ				IAmb	IAmb	04 40 38.6	
	comp=Z,18nm,1.0s						
WHZ	**Wether Hill Ro**	**33.43**	**203**		**P**	**04 40 37.9**	**+0.9**
EIDS	**Eidsvold**	**33.79**	**248**	P	**P**	**04 40 40.3**	**0.0**
EIDS				IAmb	IAmb	04 41 38.8	
	comp=Z,18nm,1.6s						
ARMA	**Armidale**	**34.46**	**239**		**P**	**04 40 46.3**	**+0.1**
ARMA				IAmb	IAmb	04 40 46.6	
	comp=Z,7.2nm,0.8s						
CTAO	**Charters Tower**	**37.83**	**258**	P	**P**	**04 41 16.2**	**+1.3**
CTAO				IAmb	IAmb	04 41 19.5	
	comp=Z,26nm,1.4s						
CAN	**Canberra**	**38.15**	**233**	P	**P**	**04 41 17.8**	**+0.4**
CAN				IAmb	IAmb	04 41 26.4	
	comp=Z,41nm,1.5s						
COEN	**Coen**	**41.24**	**267**	P	**P**	**04 41 44.6**	**+1.4**
COEN				IAmb	IAmb	04 41 45.3	
	comp=Z,15nm,0.8s						
TOO	**Toolangi**	**41.58**	**231**	P	**P**	**04 41 46.3**	**+0.5**
TOO				IAmb	IAmb	04 42 37.6	
	comp=Z,17nm,1.4s						
STKA	**Stephens Creek**	**43.16**	**240**		**P**	**04 41 58.8**	**+0.2**
STKA	**Stephens Creek**	**43.16**	**240**	P	**P**	**04 41 58.8**	**+0.2**
	comp=Z,11nm,0.5s,baz=80,slow=9.9,SNR=28						
	comp=Z,11nm,0.5s						
INKA	**Innaminka**	**43.28**	**246**	P	**P**	**04 42 00.5**	**+0.9**
INKA				IAmb	IAmb	04 42 02.4	
	comp=Z,6.1nm,0.5s						
BBOO	**Buckleboo**	**47.94**	**240**	P	**P**	**04 42 35.6**	**-0.6**
WR0	**Warramunga Arr**	**48.84**	**257**	P	**P**	**04 42 43.2**	**-0.2**
WR0				IAmb	IAmb	04 42 44.4	
	comp=Z,23nm,1.2s						
WR8	**Warramunga Arr**	**48.88**	**257**		**P**	**04 42 43.0**	**-0.7**
WR8				IAmb	IAmb	04 42 44.0	
	comp=Z,41nm,1.5s						
WB0	**Warramunga Arr**	**48.99**	**257**		**P**	**04 42 44.0**	**-0.5**
WB0				IAmb	IAmb	04 42 44.9	
	comp=Z,21nm,0.8s						
WB2	**Warramunga Arr**	**49.02**	**257**	P	**P**	**04 42 43.9**	**-0.9**
WRAB	**Tennant Creek**	**49.02**	**257**	P	**P**	**04 42 44.6**	**-0.1**
WRA	**Warramunga Arr**	**49.03**	**257**		**P**	**04 42 43.8**	**-1.0**
WRA	**Warramunga Arr**	**49.03**	**257**	P	**P**	**04 42 43.9**	**-1.0**
	comp=Z,12nm,0.4s,baz=93,slow=6.5,SNR=318						
	comp=Z,12nm,0.4s						
AS31	**Alice Springs**	**49.27**	**252**		**P**	**04 42 46.2**	**-0.4**
AS31				IAmb	IAmb	04 42 47.7	
	comp=Z,15nm,0.7s						
ASAR	**Alice Springs**	**49.27**	**252**		**P**	**04 42 45.7**	**-0.9**
ASAR	**Alice Springs**	**49.27**	**252**	P	**P**	**04 42 45.9**	**-0.7**
	comp=Z,74nm,0.7s,baz=87,slow=7.6,SNR=307						
MTN	**Manton Dam**	**52.98**	**266**	P	**P**	**04 43 13.7**	**-0.7**
MTN				IAmb	IAmb	04 43 18.8	
	comp=Z,10.0nm,0.8s						
FORT	**Forrest**	**54.55**	**243**	P	**P**	**04 43 25.0**	**-0.6**
FORT				IAmb	IAmb	04 45 23.6	
	comp=Z,22nm,1.2s						
KNRA	**Kununurra**	**54.78**	**262**	P	**P**	**04 43 27.6**	**+0.1**
KNRA				IAmb	IAmb	04 43 31.9	
	comp=Z,8.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**57.41**	**258**	P	**P**	**04 43 46.4**	**+0.3**
SOEI	**Soe**	**60.19**	**268**	P	**P**	**04 44 05.7**	**0.0**
PSA00	**Pilbara Seismi**	**62.37**	**254**	P	**P**	**04 44 19.6**	**-0.5**
PSA00	**Pilbara Seismi**	**62.37**	**254**	P	**P**	**04 44 19.7**	**-0.4**
PSA00				IAmb	IAmb	04 44 20.5	
	comp=Z,49nm,0.7s						
MBWA	**Marble Bar**	**62.53**	**254**	P	**P**	**04 44 20.9**	**-0.3**
SBA	**Scott Base**	**62.67**	**184**		**P**	**04 44 21.8**	**+0.7**
SBA				IAmb	IAmb	04 44 24.2	
	comp=Z,13nm,1.1s						
VNDA	**Vanda**	**62.79**	**186**		**P**	**04 44 22.6**	**+0.7**
VNDA				IAmb	IAmb	04 44 24.1	
	comp=Z,8.3nm,1.1s						
VNDA	**Vanda**	**62.79**	**186**	P	**P**	**04 44 22.3**	**+0.4**
	comp=Z,4.5nm,0.9s,baz=9.6,slow=6.2,SNR=8.5						
	comp=Z,4.5nm,0.9s						
NWAO	**Narrogin (SRO)**	**63.74**	**241**	P	**P**	**04 44 28.6**	**-0.4**
MORW	**Morawa**	**65.02**	**245**	P	**P**	**04 44 36.8**	**-0.5**
GIRL	**Giralia**	**67.39**	**252**	P	**P**	**04 44 53.1**	**+0.5**
CCD	**Concordia, Ant**	**67.79**	**194**	P	**P**	**04 44 54.6**	**0.0**
CASY	**Casey**	**69.64**	**205**		**P**	**04 45 05.4**	**-0.4**
CASY				IAmb	IAmb	04 45 06.8	
	comp=Z,8.0nm,0.8s						
CASY	**Casey**	**69.64**	**205**	P	**P**	**04 45 05.3**	**-0.4**
PEA0B	**Petropavlovsk-**	**72.91**	**343**	P	**P**	**04 45 25.1**	**-0.4**
PEA0B				IAmb	IAmb	04 45 26.1	
	comp=Z,33nm,1.4s						
PETK	**Petropavlovsk-**	**72.91**	**343**	P	**P**	**04 45 25.1**	**-0.4**
PETK	**Petropavlovsk-**	**72.91**	**343**	P	**P**	**04 45 25.4**	**-0.2**
	comp=Z,4.0nm,0.6s,baz=102,slow=8.9,SNR=14						
	comp=Z,4.0nm,0.6s						
SII	**Sitkinak Islan**	**74.12**	**11**	P	**P**	**04 45 31.6**	**-1.0**
SII				IAmb	IAmb	04 46 35.1	
	comp=Z,16nm,1.1s						
QSPA	**South Pole Qui**	**74.12**	**180**	P	**P**	**04 45 33.3**	**+0.6**
QSPA				IAmb	IAmb	04 45 34.4	
	comp=Z,19nm,0.8s						
QSPA	**South Pole Qui**	**74.12**	**180**	P	**P**	**04 45 33.4**	**+0.7**
	comp=Z,22nm,1.0s,baz=17,slow=1.2,SNR=50						
	comp=Z,22nm,1.0s						
NVAR	**Mina Array Bea**	**75.19**	**42**	P	**P**	**04 45 38.5**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=227,slow=10,SNR=3.7						
NVAR				pP	**sP**	**04 46 15.7**	**-4.7**
	comp=Z,1.2nm,0.8s,baz=230,slow=9.8,SNR=2.9						
	comp=Z,0.5nm,0.7s						
O18K	**Koktuh Hills**	**77.06**	**10**		**P**	**04 45 49.4**	**+0.1**
O18K				IAmb	IAmb	04 45 59.0	
	comp=Z,35nm,1.9s						
M16K	**Timber Creek**	**77.64**	**8**	P	**P**	**04 45 53.0**	**+0.5**
M16K				IAmb	IAmb	04 45 56.2	
	comp=Z,15nm,1.5s						
GHO	**Glory Hole Cre**	**79.98**	**12**	P	**P**	**04 46 05.0**	**-0.4**
J18K	**Innoko River**	**80.29**	**8**	P	**P**	**04 46 07.2**	**+0.3**
CAST	**Castle Rocks**	**80.93**	**10**	P	**P**	**04 46 09.8**	**-0.5**
J20K	**Nowinta River**	**81.32**	**9**		**P**	**04 46 12.0**	**-0.4**
RND	**Reindeer**	**81.49**	**11**		**P**	**04 46 12.9**	**-0.4**
TXAR	**Lajitas Array**	**81.49**	**56**	P	**P**	**04 46 15.5**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=210,slow=8.7,SNR=3.8						
TXAR				pP	**pP**	**04 46 50.1**	**+6.8**
	comp=Z,0.8nm,0.9s,baz=218,slow=7.9,SNR=5.2						
MCK	**McKinley**	**81.77**	**11**	P	**P**	**04 46 14.5**	**-0.3**
M26K	**Nabesna, AK**	**81.82**	**14**	P	**P**	**04 46 14.9**	**-0.2**
WRH	**Wood River Hil**	**82.60**	**11**		**P**	**04 46 17.8**	**-1.2**
WRH				IAmb	IAmb	04 46 19.8	
	comp=Z,11nm,1.4s						
MLY	**Manley**	**82.65**	**10**	P	**P**	**04 46 18.7**	**-0.6**
CCB	**Clear Creek Bu**	**82.81**	**11**		**P**	**04 46 19.3**	**-0.8**
CCB				IAmb	IAmb	04 46 21.9	
	comp=Z,15nm,1.6s						
I23K	**Minto, Yukon-K**	**82.99**	**10**	P	**P**	**04 46 21.1**	**+0.1**
ILAR	**Eielson Array**	**83.10**	**11**	P	**P**	**04 46 20.4**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=222,slow=6.2,SNR=16						
	comp=Z,0.9nm,0.5s						
PDAR	**Pinedale Array**	**83.13**	**42**	P	**P**	**04 46 21.5**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=210,slow=4.9,SNR=13						
PDAR				pP	**sP**	**04 46 59.2**	**-4.6**
	comp=Z,0.8nm,1.0s,baz=239,slow=5.0,SNR=2.0						
	comp=Z,1.0nm,0.6s						
J25K	**Salcha River,**	**83.25**	**12**		**P**	**04 46 22.1**	**-0.3**
G21K	**Allakaket**	**83.63**	**8**	P	**P**	**04 46 23.7**	**-0.6**
PRP	**Porcupine Dome**	**84.02**	**12**	P	**P**	**04 46 25.8**	**-0.8**
PRP				IAmb	IAmb	04 46 27.5	
	comp=Z,23nm,1.8s						
G23K	**Bananza Creek**	**84.32**	**9**		**P**	**04 46 27.4**	**-0.4**
G23K				IAmb	IAmb	04 48 20.0	
	comp=Z,14nm,1.8s						
MAW	**Mawson**	**87.07**	**199**	P	**P**	**04 46 40.7**	**-0.8**
	comp=Z,4.3nm,0.5s,baz=160,slow=3.1,SNR=12						
	comp=Z,4.3nm,0.5s						
SYO	**Syowa Base**	**91.95**	**192**	⇓*eP*	**P**	**04 47 03.2**	**-1.2**
CMAR	**Chiang Mai Arr**	**92.10**	**288**	P	**P**	**04 47 06.2**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=85,slow=2.6,SNR=7.5						
	comp=Z,1.5nm,0.4s						
TROLL	**Troll, Antarti**	**92.25**	**179**	⇑P	**P**	**04 47 05.5**	**-0.5**
	comp=Z,94nm,0.2s						
VNA3	**Neumayer Olymp**	**92.40**	**175**	⇑P	P	04 46 58.2	-8.3
	comp=Z,3.8nm,0.8s						
SNAA	**Sanae**	**92.42**	**177**	⇑P	P	04 46 58.0	-8.7
	comp=Z,46nm,0.7s						
SNAA	**Sanae**	**92.42**	**177**	P	**P**	**04 47 06.2**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=160,slow=3.7,SNR=5.3						
	comp=Z,1.9nm,0.7s						
VNA1	**Nenayer--Stat**	**93.09**	**175**	⇑P	P	04 46 55.4	-14
	comp=Z,6.8nm,1.0s						
ARCES	**ARCESS Array B**	**125.02**	**352**	PKP	**PKPdf**	**04 52 53.5**	**-1.7**
	comp=Z,2.9nm,0.6s,baz=4.8,slow=1.2,SNR=36						
FINES	**FINESS Array B**	**132.29**	**347**	PKP	**PKPdf**	**04 53 08.0**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=18,slow=1.7,SNR=8.7						
HFS	**Hagfors**	**135.49**	**354**	PKP	**PKPdf**	**04 53 14.1**	**-1.2**
	comp=Z,2.5nm,0.8s,baz=354,slow=3.0,SNR=5.1						
OJC	**Ojcow**	**143.98**	**345**	*e*PKP	PKPab	04 53 27.9	-0.7
KSP	**Ksiaz**	**144.17**	**349**	*e*PKP	**PKPab**	**04 53 29.2**	**-0.1**
CLL	**Collm**	**144.24**	**352**	*i* PKPdf	**PKPab**	**04 53 28.1**	**-1.4**
	comp=Z,6.0nm,0.6s						
CLL				*ex*	x	04 54 11.0	
STHS	**Stebnicka Huta**	**144.32**	**343**	*e*PKP	**PKPab**	**04 53 29.2**	**-0.7**
KOLS	**Kolonicke sedl**	**144.45**	**341**	*e*PKP	**PKPab**	**04 53 30.1**	**-0.3**
UPC	**Upice**	**144.54**	**349**	*e*PKP	**PKPab**	**04 53 30.6**	**-0.1**
NIE	**Niedzica**	**144.58**	**344**	*e*PKP	**PKPab**	**04 53 30.8**	**-0.1**
DPC	**Dobruska-Polom**	**144.63**	**348**	*e*PKP	**PKPab**	**04 53 31.1**	**0.0**
STEB	**Steborice**	**144.73**	**347**	*e*PKP	**PKPab**	**04 53 30.9**	**-0.5**
KRLC	**Kraliky**	**144.81**	**348**	*e*PKP	**PKPab**	**04 53 31.2**	**-0.6**
MORC	**Moravsky Berou**	**144.93**	**347**	*e*PKP	**PKPab**	**04 53 31.0**	**-1.2**
LANS	**Liptovska Anna**	**145.05**	**344**	*e*PKP	**PKPbc**	**04 53 32.6**	**0.0**
MAUC	**Maruska**	**145.25**	**346**	*e*PKP	**PKPbc**	**04 53 32.8**	**-0.4**
PRU	**Pruhonice**	**145.30**	**350**	*e*PKP	**PKPbc**	**04 53 32.7**	**-0.6**
GOPC	**GO Pecny, Ondr**	**145.33**	**350**	*e*PKP	**PKPbc**	**04 53 32.9**	**-0.5**
VRAC	**Vramov**	**145.57**	**348**	*e*PKP	**PKPdf**	**04 53 34.0**	**+0.2**
JAVC	**Velka Javorina**	**145.76**	**346**	*e*PKP	**PKPdf**	**04 53 34.9**	**+0.7**
VYHS	**Vyhne**	**145.82**	**345**	*e*PKP	**PKPdf**	**04 53 34.8**	**+0.5**
KRUC	**Moravsky**	**145.85**	**348**	*e*PKP	**PKPdf**	**04 53 33.9**	**-0.4**
ZVC	**Zvikov**	**145.89**	**350**	*e*PKP	**PKPdf**	**04 53 34.4**	**0.0**
BRTR	**Keskin Array B**	**146.10**	**320**	PKPbc	**PKPdf**	**04 53 35.4**	**+0.1**
	comp=Z,5.3nm,0.8s,baz=109,slow=1.5,SNR=30						
KHC	**Kasperske Hory**	**146.29**	**351**	*e*PKP	**PKPdf**	**04 53 35.9**	**+0.8**
MODS	**Modra-Piesok**	**146.31**	**346**	*e*PKP	**PKPdf**	**04 53 34.4**	**-0.7**
CKRC	**Cesky Krumlov**	**146.47**	**350**	*e*PKP	**PKPdf**	**04 53 36.7**	**+1.3**
GERES	**GERESS Array B**	**146.55**	**351**	PKPbc	**PKPdf**	**04 53 35.7**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=3.8,slow=4.0,SNR=16						
CONA	**Conrad Observa**	**147.04**	**348**	*i* PKP	**PKPdf**	**04 53 38.1**	**+1.6**
	comp=Z,4.7nm,0.6s						
RONA	**Rosalia, Austr**	**147.16**	**347**	*i* PKP	**PKPdf**	**04 53 38.2**	**+1.6**
	comp=Z,7.4nm,1.1s						
BIOA	**Bad Ischl, Aus**	**147.68**	**350**	*i* PKiKP	**PKiKP**	**04 53 42.5**	**+0.2**
	comp=Z,3.1nm,0.4s						
ARSA	**Arzberg**	**147.75**	**348**	*e*PKP	**PKPdf**	**04 53 40.1**	**+2.5**
	comp=Z,2.2nm,0.5s						
LESA	**Schwarzleotal**	**148.09**	**351**	*i* PKP	**PKPdf**	**04 53 40.5**	**+2.3**
	comp=Z,1.7nm,0.5s						
MMAI	**Mount Meron Ar**	**148.34**	**308**	PKPbc	**PKPdf**	**04 53 41.8**	**+2.8**
	comp=Z,4.9nm,0.6s,baz=64,slow=9.4,SNR=6.7						
MOTA	**Moosalm**	**148.37**	**353**	*i* PKP	**PKPbc**	**04 53 41.8**	**-0.5**
	comp=Z,1.7nm,0.6s						
WTTA	**Wattenberg**	**148.39**	**352**	*i* PKP	**PKPdf**	**04 53 41.4**	**+2.5**
	comp=Z,6.8nm,0.5s						
SOKA	**Soboth**	**148.40**	**348**	*i* PKP	**PKPdf**	**04 53 41.0**	**+2.2**
	comp=Z,2.2nm,0.8s						
SQTA	**Sankt Quirin**	**148.48**	**353**	*e*PKP	**PKPdf**	**04 53 40.9**	**+2.0**
	comp=Z,4.0nm,0.6s						
DAVA	**Damuels**	**148.55**	**355**	*i* PKP	**PKPbc**	**04 53 42.3**	**-0.5**
	comp=Z,4.8nm,0.6s						
MYKA	**Terra Mystica**	**148.71**	**350**	*i* PKP	**PKPdf**	**04 53 41.2**	**+1.9**
	comp=Z,4.1nm,0.9s						
FETA	**Feichten**	**148.73**	**354**	*i* PKP	**PKPdf**	**04 53 42.3**	**+2.9**
	comp=Z,3.6nm,1.1s						
ABTA	**Abfaltersbach**	**148.77**	**351**	*i* PKP	**PKPdf**	**04 53 41.7**	**+2.3**
	comp=Z,3.5nm,0.6s						

MEX ***23*** *04:36:58.4±0.6, 14.°68N×92.°40W, h87km±15km, MD3.7*
GCG ***23*** *04:37:00.3±0.7, 14.°78N×92.°32W, h68km±7km, MD3.3, ML3.1*

ISC 23 04:36:54.0±2.6,**14.5N**±0.°1×**92.5W**±0.°1,**h95**km±15km,**n11,** σ1$95/20,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.45**	**23**	*e*P	**Pn**	**04 37 09.9**	**+1.0**
THIG				*e*S	**Sn**	**04 37 19.6**	**-0.4**
SMCA	**Catarina**	**0.51**	**45**	*i* P	**Pn**	**04 37 10.8**	**+1.4**
SMCA				*e*S	**Sn**	**04 37 19.8**	**-1.0**
SMCA				IAML		04 37 21.2	
	comp=E,978nm,0.1s						
PATR	**El Naranjo**	**0.66**	**18**	*e*P	**Pn**	**04 37 11.4**	**+0.6**
PATR				*e*S	**Sn**	**04 37 21.2**	**-2.2**
RTAL	**Retalhuleu**	**0.73**	**87**	*e*P	**Pn**	**04 37 11.8**	**+0.6**
RTAL				*e*S	**Sn**	**04 37 26.0**	**+1.9**
PAVE	**Pavencul**	**0.75**	**21**	*e*P	**Pn**	**04 37 12.6**	**+0.9**
PAVE				*e*S	**Sn**	**04 37 23.4**	**-1.4**
STG2	**El Palmar, Qui**	**1.04**	**93**	*e*P	**Pn**	**04 37 15.4**	**+0.8**
STG2				*i* S	**Sn**	**04 37 27.0**	**-3.2**
STG0	**El Palmar, Qui**	**1.07**	**93**	*e*P	**Pn**	**04 37 15.8**	**+0.7**
STG0				*i* S	**Sn**	**04 37 28.1**	**-2.7**
STG0				IAML		04 37 30.8	
	comp=E,684nm,0.3s						
HUEH	**Huehuetenango**	**1.23**	**48**	*e*S	**Sn**	**04 37 36.3**	**+2.1**
PCIG		**1.42**	**328**	*e*P	**Pn**	**04 37 20.6**	**+1.6**
PCIG				*e*S	**Sn**	**04 37 37.0**	**-0.8**
CCIG	**Comitan**	**1.81**	**10**	*e*P	**Pn**	**04 37 25.9**	**+1.8**
CCIG				*e*S	**Sn**	**04 37 45.0**	**-1.8**
TGIG		**2.37**	**344**	*e*S	**Sn**	**04 37 56.3**	**-3.4**

WEL 23 04:37:14.0±0.6,**33.°S**±9.°×**18.°0E**±2.°2,**h12**km,**M4.4**/13, **mB5.0/9,ML4.7/19,MLv4.6/13,Mw(mB)4.2/9,Error ellipse: s-maj=30.2km s-min=3.7km az=112.1, confirmed,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.95**	**31**	P	Pn	04 38 13.8	-0.5
GLKZ				S	Sn	04 38 57.9	-2.7
MXZ	**Matakaoa Point**	**5.01**	**193**	P	Pn	04 38 31.2	+2.2
MXZ				S	Sn	04 39 29.4	+2.5
WMGZ	**Waiomatatini S**	**5.24**	**192**	P	Pn	04 38 35.7	+3.6
WMGZ				S	Sn	04 39 34.0	+1.4
HAZ	**Te Kaha**	**5.32**	**197**	P	Pn	04 38 35.5	+2.3
HAZ				S	Sn	04 39 36.3	+1.9
PKGZ	**Pakihiroa**	**5.35**	**194**	P	Pn	04 38 36.9	+3.2
PKGZ				S	Sn	04 39 38.2	+2.9
PUZ	**Puketiti**	**5.52**	**192**	P	Pn	04 38 36.3	+0.4
PUZ				S	Sn	04 39 39.8	+0.5
WCZ	**Waipu Caves**	**5.54**	**233**	P	Pg	04 39 00.8	+0.7
RUGZ	**Raukumara Rang**	**5.54**	**197**	P	Pn	04 38 37.3	+1.0
RUGZ				S	Sn	04 39 41.3	+1.3
TWGZ	**Tauwhareparae**	**5.67**	**194**	P	Pn	04 38 40.2	+2.1
TWGZ				S	Sn	04 39 44.7	+1.5
CNGZ	**Carnagh Statio**	**5.93**	**192**	P	Pn	04 38 43.5	+2.0
MWZ	**Matawai**	**5.93**	**197**	P	Pn	04 38 42.8	+1.2
MWZ				S	Sn	04 39 50.0	+0.6
TKGZ	**Te Karaka**	**5.95**	**195**	P	Pn	04 38 41.3	-0.6
TKGZ				S	Sn	04 39 51.1	+1.1
URZ	**Urewera**	**5.97**	**201**	P	Pn	04 38 42.7	+0.5
URZ				S	Sn	04 39 50.9	+0.5
WTAZ	**Waiatarua**	**6.02**	**224**	P	Pg	04 39 08.1	-1.1
RAGZ	**Rawiri**	**6.11**	**198**	P	Pn	04 38 44.0	-0.1
RAGZ				S	Sn	04 39

KMMI	**Kalianget**	**2.37**	**19**	P	Pn	04 48 00.4	+0.2
WOJI	**Wonogiri, Jawa**	**2.69**	**303**	P	Pn	04 48 04.5	0.0
UGM	**Wanagama**	**2.99**	**297**	P	Pn	04 48 09.0	+0.3
TWSI	**Taliwang, Sumb**	**3.68**	**81**	P	Pn	04 48 18.4	+0.2
PLAI	**Plampang**	**4.54**	**84**	P	Pn	04 48 30.0	-0.1
CNJI	**Cibinong** 0.1nm983nm33nm,1.2s	**6.33**	**288**	P	Pn	04 48 55.7	+1.1
BSSI	**Bau Bau, Buton**	**7.88**	**67**	P	Pn	04 49 15.5	-0.5
BKSI	**Bulukumba**	**7.93**	**60**	P	Pn	04 49 15.9	-0.7

*THE **23** 04:55:02.9, 37°N±1°×2°7E±°, h8km±2km, M2.9/6, MLh2.9/6*
*ISK **23** 04:55:02.5, 36°.94N×27°.35E, h14km, ML3.0/21*
*ATH **23** 04:55:02.7, 36°.93N×27°.32E, h12km±3km, ML2.8/7,*
Manual Solution by I.Dede First location: 2019/07/23 04:56:19, This location: 2019/07/23 08:03:05 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km
*AFAD **23** 04:55:02.7, 36°.90N×27°.32E, h10km±1km, ML3.0*

ISC 23 04:55:02.7±0.8, 36°.93N±0°.02×27°.32E±0°.02, h13km±5km, n57, σ0°65/84, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BODT	**Bodrum**	**0.14**	**355**	Pg	**Pg**	**04 55 06.1**	**0.0**
BODT				Sg	**Sg**	**04 55 08.8**	**+0.2**
BODT	**Bodrum**	**0.14**	**355**	P	**Pg**	**04 55 06.2**	**0.0**
BODT				S	**Sg**	**04 55 08.5**	**-0.1**
BDRM	**Kayabasi**	**0.17**	**35**	P	**Pg**	**04 55 06.9**	**+0.3**
BDRM				S	**Sg**	**04 55 09.8**	**+0.4**
BDRM	comp=E,3μm,0.4s			*i* IAML		04 55 11.0	
YKAV	**Yalikavak-Bodr**	**0.20**	**350**	Pg	**Pg**	**04 55 07.2**	**+0.1**
YKAV				Sg	**Sg**	**04 55 10.6**	**+0.4**
YAZI	**Mula-Dat§a-**	**0.27**	**157**	P	**Pg**	**04 55 08.2**	**-0.1**
YAZI				S	**Sg**	**04 55 11.3**	**-0.6**
KLNA	**Kalymnos**	**0.28**	**276**	P	**Pg**	**04 55 08.2**	**-0.3**
KLNA				S	**Sg**	**04 55 12.8**	**+0.3**
DAT	**Datca**	**0.28**	**134**	Pg	**Pg**	**04 55 08.7**	**+0.1**
NISR	**Nisiros**	**0.35**	**207**	P	**Pg**	**04 55 09.3**	**-0.5**
NISR				S	**Sg**	**04 55 14.4**	**-0.2**
NISR	**Nisiros**	**0.35**	**207**	P	**Pg**	**04 55 09.8**	**0.0**
NISR				S	**Sg**	**04 55 14.7**	**+0.1**
MLSB	**Milas**	**0.52**	**44**	Pg	**Pg**	**04 55 12.5**	**-0.3**
DDIM	**Aydin, Didim**	**0.53**	**353**	P	**Pb**	**04 55 13.8**	**-0.1**
DDIM				S	**Sb**	**04 55 21.6**	**+0.1**
DDIM	comp=E,1μm,0.3s			*i* IAML		04 55 23.0	
DDIM	comp=N,1μm,0.6s			*i* IAML		04 55 25.0	
TURN	**Turunc**	**0.75**	**101**	Pg	**Pg**	**04 55 16.9**	**-0.4**
TURN	**Turunc**	**0.75**	**101**	P	**Pg**	**04 55 17.4**	**+0.1**
TURN				S	**Sb**	**04 55 27.7**	**-0.1**
GCAM	**G?zelcaml?**	**0.78**	**355**	Pg	**Pg**	**04 55 17.7**	**0.0**
GCAM	**G?zelcaml?**	**0.78**	**355**	P	**Pb**	**04 55 18.4**	**+0.3**
GCAM				S	**Sb**	**04 55 29.6**	**+1.1**
GCAM	comp=N,617nm,0.2s			*i* IAML		04 55 32.0	
GCAM	comp=E,705nm,0.2s			*i* IAML		04 55 34.0	
AYDN	**Tasoluk**	**0.85**	**31**	P	**Pb**	**04 55 19.4**	**-0.1**
AYDN				S	**Sb**	**04 55 30.8**	**-0.1**
AYDN	comp=N,528nm,0.5s			*i* IAML		04 55 38.0	
AYDN	comp=E,478nm,0.5s			*i* IAML		04 55 38.0	
MULA	**Mugla, Merkez-**	**0.86**	**67**	P	**Pn**	**04 55 20.4**	**-0.2**
MULA				S	**Sn**	**04 55 32.4**	**-0.8**
ASTA	**Astypalaia**	**0.87**	**244**	P	**Pb**	**04 55 19.9**	**+0.3**
SMG	**Samos**	**0.87**	**334**	P	**Pg**	**04 55 19.6**	**0.0**
SMG				S	**Sb**	**04 55 31.8**	**+0.5**
SMG	**Samos**	**0.87**	**334**	P	**Pg**	**04 55 19.5**	**0.0**
SMG				S	**Sb**	**04 55 31.2**	**-0.1**
ARG	**Arkhangelos**	**0.96**	**137**	Pg	**Pb**	**04 55 21.3**	**+0.1**
ARG	**Arkhangelos**	**0.96**	**137**	P	**Pb**	**04 55 21.2**	**-0.1**
ARG				S	**Sn**	**04 55 35.1**	**-0.3**
ARG	**Arkhangelos**	**0.96**	**137**	P	**Pb**	**04 55 21.3**	**+0.1**
ARG				S	**Sb**	**04 55 34.4**	**+0.7**
DALY	**Dalyan (Mula)**	**1.07**	**96**	Pg	**Pb**	**04 55 23.1**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.11**	**24**	Pn	**Pb**	**04 55 23.8**	**-0.1**
DGB	**zmir**	**1.18**	**343**	P	**Pb**	**04 55 24.9**	**0.0**
ESEN	**Aydn-Nazilli**	**1.19**	**43**	P	**Pg**	**04 55 25.6**	**0.0**
ESEN				S	**Sg**	**04 55 40.9**	**-0.3**
ESEN	comp=E,225nm,0.8s			*i* IAML		04 55 46.0	
GMLD	**Gumuldur**	**1.19**	**344**	Pn	**Pb**	**04 55 25.4**	**+0.2**
NAZL	**Nazilli-Aydin**	**1.29**	**36**	Pn	**Pn**	**04 55 26.4**	**-0.1**
IZMR	**zmir-demi**	**1.31**	**22**	P	**Pb**	**04 55 27.2**	**+0.1**
IZMR				S	**Sb**	**04 55 43.5**	**-0.4**
IZMR	comp=E,154nm,0.6s			*i* IAML		04 55 55.0	
SABU	**Mula-Dalaman**	**1.32**	**94**	P	**Pg**	**04 55 29.7**	**+1.6**
SABU				S	**Sg**	**04 55 45.7**	**+0.4**
TAVA	**DENIZLI_Tavas**	**1.38**	**67**	P	**Pg**	**04 55 29.2**	**0.0**
TAVA				S	**Sb**	**04 55 46.2**	**+0.3**
KARP	**Karpathos**	**1.38**	**186**	Pn	**Pn**	**04 55 27.3**	**-0.5**
KARP	**Karpathos**	**1.38**	**186**	P	**Pn**	**04 55 27.3**	**-0.5**
KARP	**Karpathos**	**1.38**	**186**	P	**Pn**	**04 55 27.3**	**-0.5**
DNZT	**Denizli-Tavas-**	**1.40**	**75**	P	**Pg**	**04 55 31.0**	**+1.3**
DNZT				S	**Sg**	**04 55 50.0**	**+2.0**
ZEYE	**Izmir, Urla-Ze**	**1.46**	**334**	P	**Pn**	**04 55 28.9**	**+0.1**
ZEYE				S	**Sn**	**04 55 46.9**	**-1.0**
ZEYE	comp=N,219nm,0.6s			*i* IAML		04 55 54.0	
ODEM	**Odemis-Izmir**	**1.47**	**24**	Pn	**Pn**	**04 55 29.0**	**0.0**
BLCB	**Balcova**	**1.47**	**351**	Pn	**Pn**	**04 55 28.8**	**-0.2**
BLCB	**Balcova**	**1.47**	**351**	P	**Pn**	**04 55 29.0**	**+0.1**
KIRA	**zmir-Kiraz**	**1.53**	**34**	P	**Pb**	**04 55 30.6**	**-0.3**
KIRA				S	**Sn**	**04 55 49.3**	**-0.3**
DNIZ	**Denizli-Tavas-**	**1.54**	**62**	P	**Pg**	**04 55 32.1**	**-0.1**
DNIZ				S	**Sg**	**04 55 53.4**	**+1.3**
DNIZ	comp=N,181nm,0.4s			*i* IAML		04 56 00.0	
URLA	**Izmir**	**1.54**	**338**	Pn	**Pn**	**04 55 30.3**	**+0.3**
IZZE	**Mula-Seydike**	**1.60**	**107**	P	**Pg**	**04 55 34.5**	**+1.0**
IZZE				S	**Sg**	**04 55 54.4**	**+0.1**
IZZE	comp=N,243nm,0.4s			*i* IAML		04 56 01.0	
THR6	**Thira Island,**	**1.65**	**250**	P	**Pg**	**04 55 35.4**	**+1.0**
APNY	**Acipayam-Deniz**	**1.67**	**70**	Pn	**Pn**	**04 55 31.8**	**0.0**
CHOS	**Chios island**	**1.77**	**326**	Pn	**Pn**	**04 55 33.3**	**+0.2**
CHOS	**Chios island**	**1.77**	**326**	P	**Pn**	**04 55 33.5**	**+0.3**
CHOS	**Chios island**	**1.77**	**326**	P	**Pn**	**04 55 33.3**	**+0.2**
GOLH	**Golhisar**	**1.81**	**80**	P	**Pg**	**04 55 37.7**	**+0.2**
MANT	**Manisa**	**1.84**	**32**	P	**Pn**	**04 55 33.9**	**-0.4**
MANT				S	**Sn**	**04 55 54.2**	**-3.3**
KULA	**Kula-Manisa**	**1.91**	**33**	Pn	**Pn**	**04 55 35.1**	**+0.1**
AKAS	**Kas**	**1.96**	**110**	Pn	**Pn**	**04 55 36.1**	**+0.3**
KSL	**Kastellorizon**	**1.98**	**112**	P	**Pb**	**04 55 37.6**	**-1.0**
ZKR	**Zakros**	**2.02**	**207**	Pn	**Pn**	**04 55 37.5**	**+1.0**
GORD	**Gordes-Manisa**	**2.09**	**19**	Pn	**Pn**	**04 55 37.8**	**+0.3**
LIA	**Limnos Island**	**3.41**	**331**	P	**Pn**	**04 55 56.5**	**+1.0**

*NEIC **23** 04:56:32.5±1.5, 61°.83S±0°.04×153°.8E±0°.4, h10km±1km, mb4.5/19, Error ellipse: s-maj=32.5km s-min=4.8km az=81.0*
*IDC **23** 04:56:32.5±1.0, 61°.80S×153°.36E, h0km, mb3.9/4, mbtmp4.0/5, ML4.3/1, MS4.2/36, Error ellipse: s-maj=68.8km s-min=21.4km az=71.0*
*GCMT **23** 04:56:34.5±0.2, 61°.55S±0°.01×154°.40E±0°.03, h12km, MW5.0/98, Moment Tensor Solution. s35,c38; s98,c147; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.32±.13; Mθθ=3.15±.10; Mφφ=-2.83±.12; Mrθ=-3.21±.31; Mθφ=-2.42±.10; Mφr=1.00±.37; Best double couple: Mo=4.76800×10^16 NP1:ϕs=339.00000°, δ67.00000°, λ18.00000°. NP2: ϕs=242.00000°, δ73.00000°, λ156.00000°. Principal axes: T 5.8400, Plg29.0000°, Azm199.0000°; N -2.1430, Plg61.0000°, Azm28.0000°; P -3.6950, Plg4.0000°, Azm291.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 04:56:33.2±0.6, 61°.75S±0°.08×153°.8E±0°.1, h10km, n76, σ1°53/31, mb4.3/15, MS4.2/35, 3C, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**16.06**	**174**		**Pn**	**05 00 17.6**	**-1.1**
VNDA	**Vanda** 1.0nm,0.3s,baz=346,slow=14,SNR=20	**16.06**	**174**	Pn	**Pn**	**05 00 17.0**	**-1.7**
VNDA	comp=Z,2μm,18.8s,baz=356,slow=36 2.2nm,0.3s			LR	LR	05 06 03.7	
SBA	**Scott Base**	**16.70**	**170**	Pn	**Pn**	**05 00 24.7**	**-2.2**
DCZ	**Deep Cove**	**18.08**	**32**		**Pn**	**05 00 43.9**	**-0.4**
MLZ	**Mavora Lakes**	**18.42**	**34**	P	**P**	**05 00 47.6**	**-0.8**
FOZ	**Fox Glacier**	**20.58**	**35**	P	**P**	**05 01 12.0**	**+0.1**
FOZ	comp=Z,53nm,1.4s			IAmb	IAmb	05 01 13.4	
RPZ	**Rata Peaks**	**20.75**	**37**	LR	LR	05 07 45.7	
LTZ	**Lake Taylor**	**21.97**	**39**	P	**P**	**05 01 27.1**	**+0.1**
LTZ	comp=Z,1μm,19.3s,baz=181,slow=32 comp=Z,18nm,1.2s			IAmb	IAmb	05 01 45.4	
KHZ	**Kahutara**	**22.68**	**40**	P	**P**	**05 01 33.8**	**-0.7**
KHZ	comp=Z,22nm,1.1s			IAmb	IAmb	05 01 34.4	
THZ	**Tophouse**	**23.09**	**39**	P	**P**	**05 01 37.4**	**-1.4**
THZ	comp=Z,20nm,1.2s			IAmb	IAmb	05 01 42.9	
URZ	**Urewera**	**27.59**	**42**	LR	LR	05 13 25.5	
QSPA	**South Pole Qui**	**28.34**	**180**	P	**P**	**05 02 26.0**	**-1.0**
QSPA	comp=Z,874nm,18.1s,baz=196,slow=36 comp=Z,12nm,1.3s			IAmb	IAmb	05 02 42.9	
QSPA	**South Pole Qui** comp=Z,0.6nm,0.5s,baz=333,slow=6.5,SNR=4.7	**28.34**	**180**	P	**P**	**05 02 26.6**	**-0.4**
QSPA	comp=Z,529nm,18.6s,baz=16,slow=38 comp=Z,0.6nm,0.5s			LR	LR	05 14 18.4	
STKA	**Stephens Creek** comp=Z,444nm,18.3s,baz=160,slow=34	**30.92**	**340**	LR	LR	05 13 56.1	
ARMA	**Armidale**	**31.37**	**356**	P	**P**	**05 02 54.9**	**+0.9**
ARMA	comp=Z,4.1nm,1.1s			IAmb	IAmb	05 02 56.3	
FORT	**Forrest**	**35.24**	**320**	P	**P**	**05 03 27.9**	**+0.3**
MAW	**Mawson** comp=Z,998nm,18.3s,baz=112,slow=37	**35.95**	**221**	LR	LR	05 18 42.6	
H01W1	**Cape Leeuwin H** baz=148,slow=75,SNR=267	**36.67**	**299**	T	T	05 42 50.9	
H01W2	**Cape Leeuwin H** baz=148,slow=75,SNR=153	**36.67**	**299**	T	T	05 42 51.3	
H01W3	**Cape Leeuwin H** baz=148,slow=75,SNR=162	**36.68**	**299**	T	T	05 42 52.2	
NWAO	**Narrogin (SRO)** comp=Z,860nm,21.9s,baz=112,slow=30	**37.12**	**304**	LR	LR	05 14 50.5	
RAO	**Raoul Island** comp=Z,638nm,19.8s,baz=174,slow=34	**37.47**	**43**	LR	LR	05 17 34.5	
ASAR	**Alice Springs** comp=Z,1.7nm,0.9s,baz=170,slow=8.4,SNR=8.2	**40.42**	**331**	P	**P**	**05 04 11.2**	**-0.3**
ASAR	comp=Z,340nm,20.2s,baz=156,slow=33 comp=Z,1.7nm,0.9s			LR	LR	05 18 42.9	
DZM	**Mont Dzumac** comp=Z,969nm,25.7s	**40.61**	**18**	*e*LR	LR	05 15 21.2	
MORW	**Morawa**	**41.02**	**305**	P	**P**	**05 04 15.6**	**-0.7**
WB2	**Warramunga Arr**	**43.92**	**333**	P	**P**	**05 04 37.4**	**-2.5**
WB2	comp=Z,19nm,1.5s			IAmb	IAmb	05 04 45.2	
WRA	**Warramunga Arr** comp=Z,2.5nm,1.0s,baz=163,slow=7.0,SNR=8.6	**43.92**	**333**	P	**P**	**05 04 38.9**	**-1.1**
WRA	comp=Z,175nm,18.3s,baz=188,slow=34 comp=Z,2.5nm,1.0s			LR	LR	05 21 20.5	
WB0	**Warramunga Arr**	**44.08**	**333**	P	**P**	**05 04 40.4**	**-0.9**
WB0	comp=Z,5.8nm,1.2s			IAmb	IAmb	05 04 58.4	
SNAA	**Sanae** comp=Z,11nm,0.4s	**45.87**	**190**	⇑P	**P**	**05 04 52.5**	**-2.6**
SNAA	**Sanae** comp=Z,1μm,19.0s,baz=250,slow=37	**45.87**	**190**	LR	LR	05 24 53.0	
VNA3	**Neumayer Olymp** comp=Z,2.8nm,0.9s	**46.78**	**187**	⇑P	**P**	**05 05 05.4**	**+3.3**
VNA1	**Neumayer--Stat** comp=Z,8.4nm,1.0s	**47.28**	**188**	⇑P	**P**	**05 05 10.1**	**+4.2**
FITZ	**Fitzroy Crossi**	**47.88**	**323**	P	**P**	**05 05 12.2**	**+1.0**
FITZ	comp=Z,3.8nm,1.4s			IAmb	IAmb	05 05 18.8	
FITZ	**Fitzroy Crossi** comp=Z,305nm,18.2s,baz=156,slow=35	**47.88**	**323**	LR	LR	05 24 14.8	
COEN	**Coen**	**48.33**	**346**	P	**P**	**05 05 14.3**	**-0.4**
COEN	comp=Z,6.6nm,0.9s			IAmb	IAmb	05 05 25.9	
KNRA	**Kununurra**	**49.35**	**328**	P	**P**	**05 05 21.9**	**-0.6**
KNRA	comp=Z,9.0nm,1.1s			IAmb	IAmb	05 05 38.4	
PMSA	**Palmer Station** comp=Z,227nm,18.3s,baz=202,slow=34	**50.68**	**160**	LR	LR	05 25 34.6	
RAR	**Rarotonga** comp=Z,56nm,18.5s,baz=212,slow=33	**51.52**	**60**	LR	LR	05 24 42.2	
HNR	**Honiara** comp=Z,456nm,18.1s,baz=190,slow=32	**52.42**	**8**	LR	LR	05 24 59.1	
TBI	**Tubuai** comp=Z,1μm,29.5s	**54.11**	**72**	*e*LR	LR	05 21 12.9	
PPT2	**Papeete2** comp=Z,183nm,25.0s	**59.09**	**68**	*e*LR	LR	05 23 26.1	
PPT2	comp=Z,130nm,23.8s			*e*LR	LR	05 23 27.4	
PPT	**Papeete** comp=Z,84nm,18.1s,baz=208,slow=32	**59.11**	**68**	LR	LR	05 27 50.9	
JAY	**Jayapura** comp=Z,219nm,20.5s,baz=118,slow=34	**59.91**	**345**	LR	LR	05 30 34.7	
FAKI	**Fak Fak**	**60.89**	**335**	P	**P**	**05 06 46.5**	**+0.6**
KAPI	**Kappang** comp=Z,260nm,20.2s,baz=161,slow=34	**62.02**	**321**	LR	LR	05 31 27.8	
LEM	**Lembang** comp=Z,107nm,18.4s,baz=174,slow=35	**64.46**	**307**	LR	LR	05 34 09.6	
MNAI	**Manna**	**68.52**	**304**	P	**P**	**05 07 34.9**	**-0.8**
TAOE	**Nuku Hiva Isla** comp=Z,58nm,26.7s	**71.03**	**73**	*e*S	S	05 16 48.3	-19
TAOE	**Nuku Hiva Isla** comp=Z,137nm,29.8s	**71.03**	**73**	*e*LR	LR	05 28 58.1	
PLCA	**Paso Flores** comp=Z,1.2nm,0.8s,baz=187,slow=8.9,SNR=3.9	**71.75**	**146**	P	**P**	**05 07 56.1**	**+0.8**
PLCA	comp=Z,113nm,18.5s,baz=202,slow=31 comp=Z,1.2nm,0.8s			LR	LR	05 33 47.6	
DAV	**Davao City (W)** comp=Z,54nm,19.9s,baz=181,slow=35	**72.03**	**330**	LR	LR	05 38 47.2	
GUMO	**Guam** comp=Z,49nm,19.7s,baz=148,slow=34	**75.42**	**351**	LR	LR	05 38 45.5	
H03S2	**Juan Fernandez** baz=201,slow=74,SNR=66	**75.67**	**137**	T	T	06 31 39.8	
H03S1	**Juan Fernandez** baz=201,slow=74,SNR=66	**75.67**	**137**	T	T	06 31 41.1	
H03S3	**Juan Fernandez** baz=201,slow=74,SNR=100	**75.68**	**137**	T	T	06 31 40.8	
H08S2	**Diego Garcia H** baz=151,slow=76,SNR=37	**79.18**	**274**	T	T	06 36 29.6	
H08S1	**Diego Cardia H** baz=151,slow=76,SNR=38	**79.19**	**274**	T	T	06 36 22.7	
H08S3	**Diego Garcia H** baz=151,slow=76,SNR=39	**79.20**	**274**	T	T	06 36 31.1	
BOSA	**Boshof** comp=Z,103nm,18.4s,baz=191,slow=35	**80.88**	**224**	LR	LR	05 43 19.8	
LBTB	**Lobatse** comp=Z,154nm,20.6s,baz=212,slow=34	**84.08**	**226**	LR	LR	05 43 27.3	
PALK	**Pallekele** comp=Z,124nm,18.2s,baz=130,slow=33	**88.46**	**288**	LR	LR	05 44 41.0	
CPUP	**Villa Florida** comp=Z,29nm,18.9s,baz=54,slow=33	**88.71**	**152**	LR	LR	05 45 57.4	
JOW	**Kunigami** comp=Z,71nm,21.8s,baz=130,slow=34	**90.64**	**337**	LR	LR	05 48 12.5	
CMAR	**Chiang Mai Arr** comp=Z,66nm,18.6s,baz=150,slow=35	**90.96**	**309**	LR	LR	05 49 17.8	
LSZ	**Lusaka** comp=Z,57nm,18.4s,baz=151,slow=34	**92.11**	**232**	LR	LR	05 47 50.9	
TSUM	**Tsumeb** comp=Z,198nm,21.4s,baz=154,slow=34	**92.11**	**221**	LR	LR	05 48 38.4	
JHJ	**Hachijo jima 2** comp=Z,85nm,21.8s,baz=132,slow=33	**95.22**	**348**	LR	LR	05 48 39.9	
LPAZ	**La Paz** comp=Z,68nm,21.2s,baz=160,slow=30	**95.44**	**140**	LR	LR	05 43 28.0	
NNA	**Nana** comp=Z,129nm,19.9s,baz=198,slow=30	**96.54**	**130**	LR	LR	05 44 10.1	
BRDH	**Bariadhala** comp=Z,113nm,18.7s,baz=146,slow=34	**97.57**	**305**	LR	LR	05 52 10.8	
SIV	**San Ignacio** comp=Z,64nm,19.1s,baz=174,slow=34	**97.74**	**146**	LR	LR	05 51 38.1	
MJAR	**Matsushiro Arr** comp=Z,41nm,21.1s,baz=166,slow=34	**98.76**	**347**	LR	LR	05 51 51.8	
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.5s,baz=204,slow=6.0,SNR=3.9	**122.07**	**68**	PKP	**PKiKP**	**05 15 29.6**	**+2.1**
ILAR	**Eielson Array** comp=Z,0.3nm,0.9s,baz=207,slow=5.8,SNR=2.2	**133.69**	**31**	PKP	**PKiKP**	**05 15 49.9**	**+0.2**
KEST	**Kesra**	**145.71**	**237**	PKPbc	**PKPbc**	**05 16 11.7**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=328,slow=6.4,SNR=5.1						
AKASG	**Malin Array Be** comp=Z,1.6nm,0.8s,baz=101,slow=2.3,SNR=5.4	**148.25**	**275**	PKPbc	**PKiKP**	**05 16 20.1**	**+0.2**

*IDC **23** 05:00:01.3±3.6, 55°.55N×86°.03E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=30.7km s-min=27.0km az=42.0*

ASRS 23 04:59:57.0±0.8, 55°.64N×86°.18E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA** baz=23,slow=320,SNR=9.5	**1.87**	**205**	I	I	05 11 50.0	
ZALV	**Zalesovo Beam** 2.3nm,0.3s,baz=25,slow=17,SNR=19	**1.87**	**205**	Pn	Pb	05 00 32.2	+0.2
ZALV	3.0nm,0.3s,baz=19,slow=27,SNR=7.9			Lg	Lg	05 00 56.6	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=43,slow=15,SNR=2.0 0.2nm,0.3s	**6.81**	**226**	Pn	Pn	05 01 41.1	+3.0
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=16,slow=16,SNR=2.1 0.5nm,0.8s	**9.19**	**197**	Pn	Pn	05 02 13.1	+2.4

*CATAC **23** 05:02:00.8±0.3, 13°N±3°×8°1W±°, h14km±2km, M3.7/6, MLv3.7/6, Error ellipse: s-maj=6.1km s-min=3.8km az=154.0, confirmed*
*RSNC **23** 05:02:02.2±0.0, 13°N±2°×8°1W±°, h11km±6km, M2.8, mb4.0, ML2.8*

ISC 23 05:02:00.3±1.0, 13°.19N±0°.05×81°.16W±0°.03, h17km±9km, n16, σ2s51/27, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRVC	**Isla de Provid**	**0.28**	**313**	P	**Pg**	**05 02 06.2**	**-0.1**
PRVC				S	**Sg**	**05 02 10.4**	**-0.1**
PRVC	**Isla de Provid**	**0.28**	**313**	P	**Pg**	**05 02 06.2**	**-0.1**
PRVC				S	**Sg**	**05 02 10.5**	**0.0**
SAIC	**Isla e San And**	**0.84**	**220**	P	**Pg**	**05 02 17.1**	**+0.3**
SAIC				S	**Sn**	**05 02 29.9**	**+0.4**
RNCC	**Cayo Roncador,**	**1.10**	**69**	P	**Pb**	**05 02 20.6**	**-0.4**
RNCC				S	**Sg**	**05 02 36.9**	**+0.7**
SERC	**Banco Serrana,**	**1.33**	**35**	P	**Pb**	**05 02 24.6**	**-0.3**
SERC				S	**Sg**	**05 02 43.0**	**-0.5**
BILN	**Bilwi Airport**	**2.32**	**292**	P	**Pn**	**05 02 37.8**	**0.0**
ESPN	**Las Esperanzas**	**3.22**	**253**	P	**Pn**	**05 02 51.8**	**+1.6**
ESPN				S	**Sb**	**05 03 39.0**	**+2.8**
SIUN	**Universidad Ur**	**3.56**	**279**	P	**Pn**	**05 02 54.9**	**+0.1**
SIUN				S	**Sn**	**05 03 36.0**	**-0.6**
ACON	**Acoyapa**	**4.11**	**253**	P	**Pn**	**05 03 04.2**	**+1.8**
ACON				S	**Sb**	**05 04 06.3**	**+4.7**
BCIP	**Isla Barro Col**	**4.20**	**162**	P	**Pn**	**05 03 05.5**	**+1.8**
BCIP	**Isla Barro Col**	**4.20**	**162**	P	**Pn**	**05 03 02.7**	**-1.0**
BCIP				S	**Sn**	**05 03 48.2**	**-4.2**
BOAB	**BOACO BROADBAN**	**4.46**	**261**	P	**Pn**	**05 03 08.7**	**+1.4**
JTS	**Las Juntas de**	**4.70**	**233**	P	**Pn**	**05 03 12.2**	**+1.6**
GMAL	**Guarumal, Vera** 18nm,1.6s	**5.39**	**181**	P	**Pn**	**05 03 21.3**	**+1.2**
AZU	**Azuero** 42nm,1.6s	**5.43**	**171**	P	**Pn**	**05 03 23.0**	**+2.4**
AZU	42nm,1.6s			S	**Sn**	**05 04 19.3**	**-3.5**
TGUH	**Tegucigalpa,Un**	**6.01**	**279**	P	**Pn**	**05 03 30.4**	**+1.7**
TGUH				S	**Sg**	**05 05 05.7**	**-7.7**

IDC 23 05:14:53.7±2.2, 0°.69N×126°.78E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=175.1km s-min=28.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.6nm,0.6s,baz=339,slow=11,SNR=4.6 0.6nm,0.6s	**21.81**	**161**	P	P	05 19 46.7	-0.9
ASAR	**Alice Springs** 0.3nm,0.4s,baz=345,slow=13,SNR=6.6 0.3nm,0.4s	**25.18**	**164**	P	P	05 20 21.8	+0.6
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=122,slow=5.8,SNR=2.9 0.2nm,0.4s	**60.08**	**326**	P	P	05 25 02.6	-0.1

*SSNC **23** 05:27:29.0±1.2, 19°.45N×73°.25W, h8km±10km, MD3.1, ML2.2, MW1.9*
*OSPL **23** 05:27:31.3±2.5, 18°.48N×73°.49W, h0km±14km, ML2.2*
*SDD **23** 05:27:38.6±1.4, 17°.43N×71°.82W, h15km±22km, MD2.9, ML2.2, MW2.6*

ISC 23 05:27:24.0±1.2, 19°.06N±0°.09×73°.59W±0°.04, h17km±8km, n16, σ1s85/28, 7C-2D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASC	**Masc**	**1.26**	**331**	⇓*e*P	**Pb**	**05 27 44.6**	**-2.7**
MASC				*e*S	**Sn**	**05 28 03.9**	**+0.5**
MASC	comp=N,14nm,0.4s			IAML		05 28 06.9	
PAPH	**Port-au-Prince**	**1.33**	**113**	*e*P	**Pg**	**05 27 50.2**	**+0.4**
PAPH				*e*S	**Sb**	**05 28 06.5**	**+1.1**
PAPH	comp=E,113nm,0.2s			IAML		05 28 07.5	
PAPH	comp=N,73nm,0.1s			IAML		05 28 07.7	
PAPH	**Port-au-Prince**	**1.33**	**113**	*i* P	**Pg**	**05 27 50.7**	**+1.0**
PAPH				*e*S	**Sn**	**05 28 06.9**	**+1.7**
PAPH	comp=Z,54nm,0.1s			IAML		05 28 08.0	
QMBU	**Quimbuelo**	**1.62**	**315**	*e*P	**Pg**	**05 27 54.9**	**-0.2**
QMBU				*e*S	**Sg**	**05 28 15.0**	**-1.1**
QMBU				*e*Sg	**Sb**	**05 28 17.3**	**+3.8**
QMBU	comp=N,14nm,0.9s			IAML		05 28 24.6	
QMBU	comp=E,11nm,0.3s			IAML		05 28 25.5	
GTBY	**Guantanamo Bay**	**1.67**	**301**	*e*P	**Pg**	**05 27 59.4**	**+3.2**
GTBY				*e*S	**Sg**	**05 28 19.9**	**+1.9**
GTBY	comp=E,23nm,0.3s			IAML		05 28 25.2	
GTBY	comp=E,21nm,0.1s			IAML		05 28 25.3	
JIDR	**Jimani**	**1.74**	**109**	*i* P	**Pg**	**05 27 56.9**	**-0.6**
JIDR				*e*Sg	**Sn**	**05 28 11.3**	**-3

HATOM			⇑*e*Sg		Sn	05 28 58.6	-12	
HATOM			IAML			05 29 14.4		
comp=N,17nm,1.6s								

SOME ***23*** *05:38:13.4, 41.˝22N×84.˝07E, h10km*
NNC ***23*** *05:38:37.4±3.5, 41.˝99N×82.˝53E, h0km, mb3.6, mpv3.2,*
Error ellipse: s-maj=29.3km s-min=13.2km az=143.0
ISC 23 05:38:05.4±3.7, **40.˚9N**±0.˚2×**84.˚2E**±0.˚1, **h10**km, **n14, σ2ˢ53**/20, **3C-5D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**3.84**	**313**	*e*P	**Pg**	**05 39 19.1**	**+0.1**
	4.5nm,0.3s						
KTMS				*e*S	**Sg**	**05 40 06.0**	**-2.7**
	17nm,0.2s						
PDGK	**Podgornoye**	**4.27**	**307**	⇓Pn	**Pb**	**05 39 19.7**	**-0.9**
	3.7nm,0.7s						
PDGK				⇓Pg	Pg	05 39 25.2	-2.0
	14nm,0.6s						
PDGK				⇑Sn	**Sn**	**05 39 54.4**	**-6.1**
	39nm,0.6s						
SATY	**Saty**	**4.83**	**299**	Pg	**Pg**	**05 39 38.1**	**+0.3**
	4.2nm,0.3s						
SATY				Lg	Lg	05 40 39.2	
	32nm,0.3s						
KNOS	**Konyrlen**	**5.08**	**315**	Lg	Lg	05 40 46.6	
	29nm,0.3s						
KOTS	**Kotyrbulak**	**5.77**	**297**	Pg	**Pg**	**05 39 58.3**	**+2.4**
	7.7nm,0.7s						
KOTS	**Kotyrbulak**	**5.77**	**297**	*e*P	**Pg**	**05 39 58.3**	**+2.4**
	7.7nm,0.7s						
KOTS				*e*S	**Sg**	**05 41 14.2**	**+3.6**
	37nm,0.9s						
TNSS	**Tian-Shan**	**5.81**	**294**	Pg	**Pg**	**05 39 58.2**	**+1.6**
	1.0nm,0.5s						
TNSS	**Tian-Shan**	**5.81**	**294**	*e*P	**Pg**	**05 39 58.2**	**+1.6**
	1.0nm,0.5s						
TNSS				*e*S	**Sg**	**05 41 13.9**	**+1.9**
	2.8nm,0.3s						
MK31	**Makanchi Array**	**6.08**	**348**	⇑Pn	**Pb**	**05 39 50.6**	**-0.8**
	2.6nm,1.0s,baz=183,slow=12,SNR=5.2						
MK31				⇓Sn	**Sn**	**05 40 48.7**	**+3.8**
	3.7nm,0.6s,baz=180,slow=26						
MK31				⇓Lg	Lg	05 41 11.7	
	14nm,0.5s,baz=184,slow=32						
MAKZ	**Makanchi**	**6.15**	**346**	⇓Pn	**Pb**	**05 39 50.8**	**-1.7**
	6.1nm,0.6s						
MAKZ				⇑Sn	**Sn**	**05 40 50.0**	**+3.4**
	3.1nm,0.5s						
MAKZ				Lg	Lg	05 41 12.1	
	27nm,1.1s						
KST	**Kastek**	**6.50**	**292**	Pg	**Pg**	**05 40 09.6**	**-0.2**
	2.3nm,0.5s						
KST	**Kastek**	**6.50**	**292**	*e*P	**Pg**	**05 40 09.6**	**-0.2**
	2.3nm,0.5s						
KST				*e*S	**Sg**	**05 41 33.3**	**-0.7**
	13nm,0.6s						
ZSN	**Zaisan**	**6.60**	**4**	Lg	Lg	05 41 36.6	
	21nm,0.9s						
ZSN	**Zaisan**	**6.60**	**4**	*e*P	**Pg**	**05 40 11.6**	**0.0**
	6.5nm,0.6s						
ZSN				*e*S	**Sg**	**05 41 36.6**	**-0.4**
	21nm,0.9s						

NEIC ***23*** *05:39:07.8±0.7, 19.˚21N±0.˚02×155.˚45W±0.˚02, h44km±2km,*
Error ellipse: s-maj=3.7km s-min=2.4km az=150.0
HVO 23 05:39:09.4±0.8, **19.˚20N**±0.˚03×**155.˚44W**±0.˚02, **h37**km±3km, **ML2.6**/39, **ML2.7**/42(NEIC), **Error ellipse: s-maj=4.4km s-min=2.4km az=162.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.06**	**46**		Pn	05 39 15.2	-0.4
HPO	**Honuapo**	**0.15**	**225**		Pn	05 39 15.4	-5.1
HPO					Sn	05 39 19.7	-12
HLP	**Hilina Pali**	**0.16**	**52**		Pn	05 39 15.6	-4.5
HLP					Sn	05 39 19.9	-11
HLP	**Hilina Pali**	**0.16**	**52**	IAML		05 39 20.5	
	comp=N,802nm,1.0s						
HLP				IAML		05 39 22.0	
	comp=E,742nm,0.4s						
KHU	**Kahuku**	**0.17**	**287**		Pn	05 39 15.5	-4.4
KHU					Sn	05 39 20.2	-10
AIN	**Ainahou**	**0.17**	**355**		Pn	05 39 15.8	-3.9
AIN					Sn	05 39 20.6	-9.3
AIN	**Ainahou**	**0.17**	**355**	IAML		05 39 20.7	
	comp=E,1μm,0.3s						
AIN				IAML		05 39 21.2	
	comp=N,1μm,0.3s						
SDHHI	**Sand Hill**	**0.24**	**36**		Pn	05 39 16.0	-2.1
SDHHI					Sn	05 39 21.0	-5.3
WRMHI	**West Rim**	**0.25**	**33**		Pn	05 39 16.0	-2.0
WRMHI					Sn	05 39 21.4	-4.4
RIM	**Rim**	**0.25**	**39**		Pn	05 39 16.1	-1.8
KKO	**Keanakako'i**	**0.26**	**40**		Pn	05 39 16.2	-1.7
KKO					Sn	05 39 21.2	-4.4
UWE	**Uwekahuna**	**0.27**	**32**		Pn	05 39 16.2	-1.7
UWE					Sn	05 39 21.5	-4.0
UWE	**Uwekahuna**	**0.27**	**32**	IAML		05 39 21.8	
	comp=E,1μm,0.3s						
UWE				IAML		05 39 21.8	
	comp=N,1μm,0.3s						
OBL	**Observatory Le**	**0.27**	**34**		Pn	05 39 16.2	-1.7
OBL					Sn	05 39 21.2	-4.2
BYL	**Byron's Ledge**	**0.28**	**39**		Pn	05 39 16.2	-1.6
BYL					Sn	05 39 21.4	-3.9
BYL	**Byron's Ledge**	**0.28**	**39**	IAML		05 39 21.8	
	comp=E,491nm,0.1s						
BYL				IAML		05 39 25.9	
	comp=N,351nm,0.4s						
UWB	**Uwekahuna Bluf**	**0.28**	**34**		Pn	05 39 16.1	-1.7
UWB					Sn	05 39 21.1	-4.1
PUH	**Pauahi**	**0.28**	**50**		Pn	05 39 16.3	-1.5
PUH					Sn	05 39 21.4	-3.8
PUH	**Pauahi**	**0.28**	**50**	IAML		05 39 21.5	
	comp=E,601nm,0.3s						
PUH				IAML		05 39 23.0	
	comp=N,560nm,0.2s						
HATHI	**Halema'uma'u T**	**0.28**	**37**		Pn	05 39 16.3	-1.5
HATHI					Sn	05 39 21.5	-3.7
HATHI	**Halema'uma'u T**	**0.28**	**37**	IAML		05 39 21.8	
	comp=E,761nm,0.3s						
HATHI				IAML		05 39 22.6	
	comp=N,599nm,0.3s						
SBLHI	**Steaming Bluff**	**0.28**	**36**		Pn	05 39 16.2	-1.6
SBLHI					Sn	05 39 21.1	-4.0
MLH	**Mauna Loa**	**0.30**	**10**		Pn	05 39 16.8	-1.2
MLH					Sn	05 39 22.0	-3.3
MLH	**Mauna Loa**	**0.30**	**10**	IAML		05 39 22.5	
	comp=N,960nm,0.4s						
MLH				IAML		05 39 22.7	
	comp=E,714nm,0.4s						
RSD	**Rainshed**	**0.31**	**30**		Pn	05 39 16.5	-1.3
RSD					Sn	05 39 21.9	-3.1
KNHH	**Kane Nui o Ham**	**0.32**	**55**		Pn	05 39 16.7	-1.0
MWH	**Mokuaweoweo**	**0.32**	**333**		Pn	05 39 16.9	-1.5
MWH	**Mokuaweoweo**	**0.32**	**333**	IAML		05 39 23.1	
	comp=E,305nm,0.3s						
MWH				IAML		05 39 23.1	
	comp=N,413nm,0.2s						
STCH	**Steam Cracks**	**0.35**	**58**		Pn	05 39 17.1	-0.9
STCH					Sn	05 39 22.8	-2.1
STCH	**Steam Cracks**	**0.35**	**58**	IAML		05 39 23.0	
	comp=E,764nm,0.2s						
STCH				IAML		05 39 23.1	
	comp=N,539nm,0.1s						
NPOC	**North of Pu'u**	**0.37**	**58**		Pn	05 39 17.3	-0.8
NPOC					Sn	05 39 23.1	-1.9
JCUZ	**Jacuzzi**	**0.37**	**60**		Pn	05 39 17.4	-0.7
JCUZ					Sn	05 39 23.2	-1.8
ALEP	**Alea Permanent**	**0.39**	**331**		Pn	05 39 17.4	-1.4
ALEP					Sn	05 39 23.4	-2.4
HMH	**Humu'ula Sheep**	**0.41**	**355**		Pn	05 39 18.1	-0.8
HMH					Sn	05 39 24.5	-1.5
HMH	**Humu'ula Sheep**	**0.41**	**355**	IAML		05 39 24.8	
	comp=E,760nm,0.2s						
HMH				IAML		05 39 24.8	
	comp=N,955nm,0.2s						
JOKA	**Jonika Flow**	**0.48**	**60**		Pn	05 39 18.4	-1.3
JOKA					Sn	05 39 25.2	-1.7
JOKA	**Jonika Flow**	**0.48**	**60**	IAML		05 39 29.2	
	comp=N,406nm,0.3s						
POHA	**Pohakuloa**	**0.56**	**351**		Pn	05 39 19.4	-1.9
POHA					Sn	05 39 26.7	-2.8
POHA	**Pohakuloa**	**0.56**	**351**	IAML		05 39 27.7	
	comp=N,179nm,0.7s						
POHA				IAML		05 39 36.4	
	comp=N,186nm,1.7s						
KHLU	**Kahalu`u**	**0.58**	**313**		Pn	05 39 19.5	-1.9
KHLU					Sn	05 39 26.9	-2.8
KHLU	**Kahalu`u**	**0.58**	**313**	IAML		05 39 27.0	
	comp=N,585nm,0.3s						
KHLU				IAML		05 39 27.0	
	comp=E,477nm,0.7s						
HUH	**Hualalai**	**0.61**	**323**		Pn	05 39 20.3	-1.6
HUH	**Hualalai**	**0.61**	**323**	IAML		05 39 30.0	
	comp=E,397nm,0.1s						
HUH				IAML		05 39 33.2	
	comp=N,535nm,0.1s						
HPAH	**Hawaii Prepara**	**0.86**	**344**		Pn	05 39 23.1	-2.0
HPAH					Sn	05 39 33.2	-3.4
HPAH	**Hawaii Prepara**	**0.86**	**344**	IAML		05 39 33.7	
	comp=N,319nm,0.2s						
HPAH				IAML		05 39 33.9	
	comp=E,319nm,0.1s						
MHA	**Mahukona**	**1.08**	**336**	Pn	Pn	05 39 26.6	-1.4

IDC 23 05:54:13.7±2.0, **5.˚84S**×**150.˚50E, h0**km, **mb3.9**/3, **mbtmp4.0**/3, **Error ellipse: s-maj=124.2km s-min=28.2km az=125.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.06**	**227**	P	P	05 59 00.7	+1.2
	4.5nm,0.8s,baz=53,slow=10,SNR=17						
	4.5nm,0.8s						
ASAR	**Alice Springs**	**23.86**	**220**	P	P	05 59 28.6	-0.5
	7.3nm,0.8s,baz=53,slow=9.2,SNR=42						
	7.3nm,0.8s						
ILAR	**Eielson Array**	**83.98**	**22**	P	P	06 06 46.4	+0.8
	0.2nm,0.5s,baz=246,slow=5.7,SNR=5.4						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**148.41**	**286**	PKPbc	PKPdf	06 14 01.2	+1.3
	0.4nm,0.6s,baz=97,slow=2.5,SNR=3.0						

IDC ***23*** *05:59:28.0±12.0, 17.˚81S×178.˚31W, h349km±119km,*
mb3.3/6, mbtmp4.0/6, Error ellipse: s-maj=56.8km
s-min=30.7km az=138.0
ISC 23 05:59:27.8±1.3, **17.˚9S**±0.˚4×**178.˚3W**±0.˚2, **h350**km, **n8, σ0ˢ47**/8, **mb3.6**/7, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**22.70**	**289**	P	**P**	**06 04 00.6**	**0.0**
	210nm,0.5s,baz=62,slow=10,SNR=5.3						
STKA	**Stephens Creek**	**38.74**	**241**	P	**P**	**06 06 19.4**	**-0.3**
	2.9nm,0.8s,baz=102,slow=18,SNR=1.6						
	2.9nm,0.8s						
WRA	**Warramunga Arr**	**44.73**	**259**	P	**P**	**06 07 08.2**	**+0.2**
	0.9nm,0.5s,baz=98,slow=6.3,SNR=24						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**44.89**	**254**	P	**P**	**06 07 09.8**	**+0.5**
	6.7nm,0.5s,baz=90,slow=8.6,SNR=107						
	6.7nm,0.5s						
NVAR	**Mina Array Bea**	**79.32**	**44**	P	**P**	**06 10 55.8**	**+0.1**
	0.4nm,0.7s,baz=229,slow=7.7,SNR=3.8						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**85.81**	**13**	P	**P**	**06 11 28.2**	**+0.1**
	0.2nm,0.4s,baz=218,slow=5.4,SNR=6.7						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**85.89**	**58**	P	**P**	**06 11 29.6**	**+0.2**
	0.9nm,0.8s,baz=218,slow=7.0,SNR=14						
	0.9nm,0.8s						
GERES	**GERESS Array B**	**147.58**	**345**	PKPbc	**PKPbc**	**06 18 30.6**	**-0.8**
	0.8nm,0.5s,baz=33,slow=5.6,SNR=5.0						

IDC 23 06:05:04.0±3.5, **54.˚42N**×**87.˚03E, h0**km, **mbtmp2.8**/2, **ML2.4**/2, **Error ellipse: s-maj=31.6km s-min=20.2km az=52.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**251**	I	I	06 13 40.0	
	baz=70,slow=311,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.38**	**251**	Pg	Pg	06 05 28.4	-2.0
	0.9nm,0.3s,baz=68,slow=17,SNR=7.1						
ZALV				Lg	Lg	06 05 48.0	
	1.0nm,0.3s,baz=70,slow=28,SNR=5.3						
KURBB	**Kurchatov Arra**	**6.43**	**237**	Pn	Pn	06 06 41.0	+1.1
	0.1nm,0.3s,baz=54,slow=14,SNR=4.5						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**8.20**	**203**	Pn	Pn	06 07 05.3	+1.1
	0.1nm,0.3s,baz=26,slow=14,SNR=2.2						
	0.1nm,0.3s						

IDC 23 06:15:55.6±443.0, **47.˚96N**×**47.˚26E, h0**km, **Error ellipse: s-maj=194.9km s-min=134.4km az=31.0, Ukraine-Moldova-Southwestern Russia region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**7.48**	**67**	I	I	06 59 50.0	
	baz=256,slow=317,SNR=1.0						
I43RU	**DUBNA INFRASON**	**10.70**	**329**	I	I	07 18 10.0	
	baz=141,slow=317,SNR=3.1						
I37NO	**I37NO**	**25.46**	**336**	I	I	08 53 10.0	
	baz=132,slow=318,SNR=3.0						

JMA ***23*** *06:28:07.8±0.2, 35.˚6N±0.˚6×140.˚2E±0.˚8, h67km±1km,*
MD3.9/39, MV3.7/39, CENTRAL CHIBA PREF
JMA Felt II J1 at CENTRAL CHIBA PREF .
NIED ***23*** *06:28:07.8, 35.˚64N×140.˚16E, h67km, MW4.0, Moment*
Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm;
M_{rr}-0.15; $M_{\theta\theta}$0.80; $M_{\phi\phi}$-0.65; $M_{r\theta}$0.50; $M_{\theta\phi}$-0.08; $M_{\phi r}$0.60;
Fault plane solution: $M_0$1.07000×10^{15} NP1:
ϕ_s134.00000°, δ44.00000°, λ-9.00000°. NP2:ϕ_s230.00000°,
δ84.00000°, λ-133.00000°.
IDC ***23*** *06:28:08.0±1.6, 35.˚52N×140.˚22E, h67km±14km, mb3.6/14,*
mbtmp3.9/17, MS3.2/1 Error ellipse: s-maj=21.1km
s-min=6.9km az=69.0
NEIC ***23*** *06:28:08.2±1.3, 35.˚53N±0.˚06×140.˚27E±0.˚10, h62km±9km,*
mb4.4/14, Error ellipse: s-maj=11.7km s-min=8.4km
az=109.0
ISC 23 06:28:08.7±0.7, **35.˚59N**±0.˚04×**140.˚18E**±0.˚04, **h68**km±6km, **n79, σ1ˢ11**/71, **mb4.1**/23, **6D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.23**	**76**	*e*P	**Pn**	**06 28 18.6**	**-0.6**
JSMT				*e*S	**Sn**	**06 28 27.9**	**+1.1**
JSMT	**Sammumatsuo**	**0.23**	**76**	A	A	06 28 18.6	
	comp=N,22nm,0.6s,comp=E,29nm,0.8s						
TOK	**Tokyo**	**0.35**	**286**	P	**Pn**	**06 28 20.0**	**0.0**
TOK				*e*S	**Sn**	**06 28 28.8**	**+0.6**
TOK	**Tokyo**	**0.35**	**286**	A	A	06 28 20.0	
	comp=N,24nm,0.3s,comp=E,33nm,0.3s						
JKUC	**kamogawauchiur**	**0.43**	**177**	A	A	06 28 20.2	
	comp=N,15nm,0.6s,comp=E,20nm,2.3s						
JIHU	**Itakohorinouch**	**0.47**	**37**	*e*P	**Pn**	**06 28 20.4**	**-0.6**
JIHU	**Itakohorinouch**	**0.47**	**37**	A	A	06 28 20.4	
	comp=N,14nm,1.1s,comp=E,21nm,1.6s						
JYO	**Yokosk**	**0.55**	**229**	A	A	06 28 21.3	
	comp=N,31nm,0.3s,comp=E,34nm,1.3s						
TATJ	**Tateyama 2**	**0.60**	**203**	A	A	06 28 22.0	
	comp=N,11nm,1.4s,comp=E,11nm,0.8s						
JYT	**Yasato**	**0.64**	**1**	A	A	06 28 21.4	
	comp=N,12nm,1.2s,comp=E,11nm,0.3s						
JSGW	**Sagamiharawaka**	**0.79**	**271**	A	A	06 28 23.5	
	comp=N,5.0nm,1.8s,comp=E,5.0nm,0.7s						
BSO3	**Boso 3**	**0.83**	**161**	*i* P	**Pn**	**06 28 24.5**	**-0.3**
BSO3				*e*X		06 28 37.3	
JOD2	**Odawara 2**	**0.94**	**250**	P	**Pn**	**06 28 25.9**	**-0.5**
JOD2				*e*S	**Sn**	**06 28 38.5**	**-1.0**
JOD2	**Odawara 2**	**0.94**	**250**	A	A	06 28 25.9	
	comp=N,12nm,0.3s,comp=E,16nm,0.3s						
JAG	**Ashikaga**	**1.02**	**325**	⇓*i*P	**Pn**	**06 28 26.2**	**-1.1**
JAG				⇓*e*S	**Sn**	**06 28 39.1**	**-2.1**
JIM2	**Oshima 3**	**1.06**	**215**	P	**Pn**	**06 28 26.7**	**-1.2**
JIM2				*e*S	**Sn**	**06 28 41.1**	**-1.1**
JRY	**Ryogami san**	**1.12**	**293**	⇓*i*P	**Pn**	**06 28 28.5**	**-0.1**
BSO1	**Boso 1**	**1.14**	**145**	P	**Pn**	**06 28 27.4**	**-0.9**
BSO1				*e*S	**Sn**	**06 28 43.8**	**+0.7**
JHTM	**Izuhatsuma**	**1.14**	**237**	A	A	06 28 28.5	
	comp=N,24nm,0.3s,comp=E,24nm,0.4s						
JYN	**Shimob**	**1.33**	**267**	⇓P	**Pn**	**06 28 31.0**	**-0.4**
JYN				⇓*e*S	**Sn**	**06 28 47.8**	**-0.7**
JIZS	**Izushimoda**	**1.37**	**231**	*i* P	**Pn**	**06 28 31.3**	**-0.6**
JIZS				*e*S	**Sn**	**06 28 48.2**	**-1.1**
JKT	**Katashina**	**1.39**	**328**	*e*P	**Pn**	**06 28 31.5**	**-0.8**
SHZ3	**Shizuoka 3**	**1.69**	**253**	A	A	06 28 35.8	
	comp=N,10.0nm,0.6s,comp=E,5.0nm,0.9s						
MJAR	**Matsushiro Arr**	**1.85**	**301**	P	**Pn**	**06 28 37.3**	**-1.0**
	comp=E,62nm,0.3s,baz=144,slow=13,SNR=129						
MJAR				S	**Sn**	**06 29 01.4**	**+0.6**
	comp=E,81nm,0.4s,baz=39,slow=29,SNR=5.3						
MJAR				LR	LR	06 29 37.6	
	comp=E,169nm,21.5s,baz=78,slow=46						
MAJO	**Matsushiro**	**1.86**	**301**	Pn	**Pn**	**06 28 38.4**	**0.0**
MJB9	**Matsu-Tunnel**	**1.86**	**301**	Pn	**Pn**	**06 28 39.0**	**+0.6**
JSG	**Sagara**	**1.87**	**241**	Pn	**Pn**	**06 28 39.6**	**+1.1**
JGF	**Kuroka**	**2.30**	**271**	Pn	**Pn**	**06 28 44.5**	**+0.2**
JMM	**Marumori**	**2.33**	**12**	Pn	**Pn**	**06 28 44.2**	**-0.5**
JHJ	**Hachijo jima 2**	**2.48**	**188**	P	**Pn**	**06 28 45.6**	**-1.2**
	comp=E,330nm,0.3s,baz=36,slow=2.0,SNR=24						
JHJ				S	**Sn**	**06 29 14.5**	**-1.6**
	comp=E,638nm,0.3s,baz=216,slow=23,SNR=13						
JHJ2	**Mitsune**	**2.49**	**187**	Pn	**Pn**	**06 28 46.2**	**-0.6**
INU	**Inuyama**	**2.59**	**266**	Pn	**Pn**	**06 28 48.5**	**+0.3**
JTM	**Tenmabayashi**	**5.24**	**7**	Pn	**Pn**	**06 29 24.2**	**-0.1**
ERM	**Erimo**	**6.83**	**19**	Pn	**Pn**	**06 29 43.2**	**-2.8**
ASAJ	**Asahikawa**	**8.72**	**12**	P	**Pn**	**06 30 07.8**	**-4.1**
	comp=E,4.9nm,0.3s,baz=184,slow=1.7,SNR=6.6						
JKA	**Kamikawa-asahi**	**8.72**	**12**	Pn	**Pn**	**06 30 09.1**	**-2.8**
KSRS	**Korea Array**	**10.04**	**284**	P	**Pn**	**06 30 31.4**	**+1.4**
	comp=E,0.8nm,0.3s,baz=95,slow=15,SNR=4.1						
USRK	**Ussuriysk Ar.**	**10.65**	**326**	P	**Pn**	**06 30 38.9**	**+0.7**
	comp=E,4.7nm,0.8s,baz=131,slow=12,SNR=6.6						
CN2	**Changchun**	**13.98**	**310**	P	**P**	**06 31 31.3**	**+2.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BNX	**BinXian**	**14.01**	**320**	⇓P	**Pn**	**06 31 24.1**	**+0.4**
BNX				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PEA0B	**Petropavlovsk-**	**21.44**	**30**	P	**P**	**06 32 51.5**	**+0.5**
PEA0B				IAmb	IAmb	06 32 59.7	
	comp=Z,18nm,1.3s						
PETK	**Petropavlovsk-**	**21.44**	**30**	P	**P**	**06 32 50.3**	**-0.6**
PETK	**Petropavlovsk-**	**21.44**	**30**	P	**P**	**06 32 50.5**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=188,slow=9.0,SNR=4.2						
	comp=Z,2.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**23.03**	**292**	*e*P	**P**	**06 33 08.1**	**0.0**
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,92nm,5.1s						
SONM	**Songino Array**	**27.80**	**307**	LR	LR	06 44 32.0	
	comp=Z,43nm,19.5s,baz=58,slow=35						
H11N2	**WAKE ISLAND Hy**	**28.33**	**117**	T	T	07 03 33.9	
	baz=309,slow=75,SNR=58						
H11N1	**WAKE ISLAND Hy**	**28.34**	**117**	T	T	07 03 24.6	
	baz=309,slow=75,SNR=50						
H11N3	**WAKE ISLAND Hy**	**28.35**	**117**	T	T	07 03 42.6	
	baz=309,slow=75,SNR=62						
H11S3	**WAKE ISLAND Hy**	**28.98**	**119**	T	T	07 04 03.8	
	baz=312,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**28.98**	**119**	T	T	07 03 56.0	
	baz=312,slow=75,SNR=42						
H11S2	**WAKE ISLAND Hy**	**28.99**	**119**	T	T	07 04 11.7	
	baz=312,slow=75,SNR=20						
ZALV	**Zalesovo Beam**	**42.17**	**314**	P	**P**	**06 35 54.3**	**0.0**
ZALV	**Zalesovo Beam**	**42.17**	**314**	P	**P**	**06 35 55.0**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=81,slow=9.2,SNR=5.5						
	comp=Z,1.4nm,0.5s						
MKAR	**Makanchi Array**	**44.05**	**303**	P	**P**	**06 36 09.9**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=81,slow=10,SNR=5.7						
	comp=Z,0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**46.12**	**309**	P	**P**	**06 36 26.1**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=85,slow=7.5,SNR=12						
	comp=Z,1.7nm,0.6s						
G18K	**Tagagawik**	**46.40**	**30**	P	**P**	**06 36 28.4**	**+0.5**
C19K	**Lookout Ridge**	**46.69**	**25**	P	**P**	**06 36 29.9**	**-0.4**
D19K	**Kuna River**	**47.08**	**26**	P	**P**	**06 36 33.9**	**+0.7**
D19K				IAmb	IAmb	06 36 38.8	
	comp=Z,9.0nm,1.3s						
E19K	**Redstone River**	**47.22**	**28**	P	**P**	**06 36 35.4**	**+1.1**
E19K				IAmb	IAmb	06 37 09.9	
	comp=Z,5.7nm,1.2s						
KDAK	**Kodiak Island**	**48.84**	**41**	P	**P**	**06 36 47.3**	**+0.4**
E22K	**Anaktuvuk Pass**	**49.34**	**27**	P	**P**	**06 36 51.2**	**+0.5**
BVAR	**Borovoye Array**	**50.81**	**313**	P	**P**	**06 37 01.7**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=94,slow=5.8,SNR=2.0						
	comp=Z,0.5nm,0.4s						
ILAR	**Eielson Array**	**51.25**	**32**	P	**P**	**06 37 04.4**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=269,slow=5.7,SNR=6.6						
	comp=Z,0.7nm,0.8s						
F26K	**Sheenjek River**	**52.23**	**28**	P	**P**	**06 37 14.7**	**+2.3**
F26K				IAmb	IAmb	06 37 33.2	
	comp=Z,4.4nm,1.4s						
EPYK	**Eagle Plains**	**55.27**	**29**	P	**P**	**06 37 35.0**	**+0.4**
EPYK				IAmb	IAmb	06 37 44.2	
	comp=Z,5.6nm,1.4s						
WB0	**Warramunga Arr**	**55.32**	**187**	P	**P**	**06 37 34.5**	**-0.9**
WR8	**Warramunga Arr**	**55.50**	**186**	P	**P**	**06 37 35.9**	**-0.8**
WR8				IAmb	IAmb	06 37 54.6	
	comp=Z,4.1nm,0.8s						
WRA	**Warramunga Arr**	**55.50**	**187**	P	**P**	**06 37 35.1**	**-1.6**
WRA	**Warramunga Arr**	**55.50**	**187**	P	**P**	**06 37 35.3**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=0.5,slow=7.6,SNR=18						
	comp

	comp=E,129nm,0.2s							
JDG	**Jersey Dam (Ga**	**0.83**	**356**	*e*P		**Pg**	**06 46 55.6**	**+0.3**
JDG				IAML			06 47 09.4	
	comp=E,26nm,0.5s							
JDG				IAML			06 47 10.2	
	comp=N,23nm,0.2s							
JRS	**Jersey**	**0.83**	**354**	*e*P		**Pb**	**06 46 56.4**	**+0.2**
JRS				*e*S		**Sg**	**06 47 06.1**	**-0.1**
JRS				IAML			06 47 09.7	
	comp=N,36nm,0.2s							
JRS				IAML			06 47 09.9	
	comp=E,51nm,0.2s							
JSA	**Saint Aubin**	**0.83**	**350**	*e*P		**Pg**	**06 46 55.7**	**+0.3**
JSA				*e*S		**Sg**	**06 47 06.3**	**0.0**
JSA				IAML			06 47 09.7	
	comp=E,21nm,0.1s							
JSA				IAML			06 47 09.8	
	comp=N,26nm,0.1s							
JSA	**Saint Aubin**	**0.83**	**350**	Pg		**Pg**	**06 46 55.2**	**-0.2**
JSA				Sg		**Sg**	**06 47 06.4**	**+0.2**
JLP	**Les Platons**	**0.88**	**353**	*e*P		**Pg**	**06 46 56.5**	**+0.2**
ROSF	**Rostrenen**	**0.88**	**269**	*e*Pg		**Pg**	**06 46 56.5**	**+0.2**
ROSF				*e*Sg		**Sg**	**06 47 08.0**	**+0.2**
	comp=N,26nm,0.2s							
ROSF	**Rostrenen**	**0.88**	**269**	*e*P		**Pg**	**06 46 56.5**	**+0.2**
ROSF				*e*S		**Sg**	**06 47 07.5**	**-0.3**
ROSF				IAML			06 47 10.5	
	comp=N,103nm,0.1s							
ROSF				IAML			06 47 10.9	
	comp=E,32nm,0.1s							
ROSF	**Rostrenen**	**0.88**	**269**	Pg		**Pg**	**06 46 56.6**	**+0.2**
ROSF				Sg		**Sg**	**06 47 08.1**	**+0.2**
QUIF	**Quistinic**	**0.93**	**242**	*e*Pg		**Pg**	**06 46 57.2**	**0.0**
QUIF				*e*Sg		**Sg**	**06 47 08.7**	**-0.6**
	comp=E,30nm,0.2s							
FLN	**La Foliniere**	**1.05**	**67**	*e*Pg		**Pg**	**06 46 59.4**	**-0.1**
	baz=249							
FLN				*e*Sg		**Sg**	**06 47 12.7**	**-0.5**
	comp=E,19nm,0.2s,baz=239							
LOCF	**Locquirec - 29**	**1.19**	**286**	Pn		**Pg**	**06 47 01.8**	**-0.4**
LOCF				Sn		**Sg**	**06 47 17.1**	**-0.5**
LDF	**La Druitiere**	**1.24**	**79**	*e*Pg		**Pg**	**06 47 03.0**	**-0.1**
LDF				*e*Sg		**Sg**	**06 47 18.7**	**-0.4**
	comp=E,25nm,0.2s							
OLIV	**Plomelin**	**1.54**	**254**	Pn		**Pn**	**06 47 05.9**	**-1.4**
OLIV				Pg		**Pb**	**06 47 08.1**	**0.0**
OLIV				Sg		**Sb**	**06 47 28.4**	**+0.5**
TSDF	**Thoir-sur-Di**	**1.73**	**110**	Pg		**Pb**	**06 47 11.5**	**0.0**
TSDF				Sg		**Sg**	**06 47 34.5**	**-0.3**
CAMF	**Camaret-sur-Me**	**1.78**	**268**	Sg		**Sg**	**06 47 36.3**	**-0.3**
MFF	**Saint Martin d**	**2.15**	**145**	*e*Pg		**Pb**	**06 47 18.0**	**-0.6**
MFF	**Saint Martin d**	**2.15**	**145**	*e*Pg		**Pb**	**06 47 18.2**	**-0.4**
MFF				*e*Sg		**Sb**	**06 47 45.5**	**+0.1**
	comp=E,13nm,0.3s							
MFF				*e*Sg		**Sb**	**06 47 45.6**	**+0.1**
	comp=E,7.5nm,0.2s							
RJF	**Les Rejaudoux**	**3.88**	**141**	*e*Sg		**Sb**	**06 48 39.6**	**+4.3**
	comp=E,5.5nm,0.3s							

*VAO **23** 06:52:41.9±3.1,8.˚15S×77.˚53W, h89km±13km, mb4.2*
*IDC **23** 06:53:05.6±3.1, 7.˚91S×75.˚95W, h129km±30km, mb3.0/2, mbtmp3.6/5, Error ellipse: s-maj=47.3km s-min=11.3km az=62.0*
ISC 23 06:53:03.2±0.8,**7.˚78S**±0.˚08×**75.˚77W**±0.˚06,**h100**km,**n16,** σ1f**77/17,Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.68**	**284**	P	**Pn**	**06 53 46.8**	**+1.7**
	61nm,0.4s,baz=135,slow=5.7,SNR=390						
ATAH				S	**Sn**	**06 54 18.7**	**+1.5**
	62nm,0.6s,baz=188,slow=16,SNR=6.9						
CZSB	**Cruzeiro do Su**	**3.04**	**89**	*e*P	**Pn**	**06 53 52.2**	**+2.8**
NNA	**Nana**	**4.32**	**194**	P	**Pn**	**06 54 08.6**	**+1.9**
	10.0nm,0.2s,baz=19,slow=8.3,SNR=17						
NNA				S	**Sn**	**06 54 55.3**	**-0.8**
	52nm,0.3s,baz=162,slow=16,SNR=12						
TBTG	**Tabatinga, AM**	**6.83**	**59**	*e*P	**Pn**	**06 54 43.3**	**+2.4**
TEFE	**Tefe**	**11.86**	**70**	*e*P	**Pn**	**06 55 50.7**	**+1.6**
MACA	**Manacapuru-AM**	**15.70**	**74**	*e*P	**Pn**	**06 56 37.8**	**-1.0**
SIV	**San Ignacio**	**16.53**	**121**	P	**P**	**06 56 50.4**	**+0.4**
	0.9nm,0.6s,baz=300,slow=16,SNR=4.4						
BOAV	**Boa Vista**	**18.26**	**57**	*e*P	**P**	**06 57 07.6**	**-1.5**
PDRB	**Porto dos Gac**	**19.15**	**103**	*e*P	**P**	**06 57 16.9**	**-1.9**
CLDB	**Colider**	**19.95**	**100**	*e*P	**P**	**06 57 25.2**	**-2.3**
ITTB	**Itaituba**	**20.20**	**82**	*e*P	**P**	**06 57 29.6**	**-0.7**
NPGB	**Novo Progresso**	**20.25**	**89**	*e*P	**P**	**06 57 28.9**	**-2.0**
PTGB	**Pitanga**	**28.23**	**129**	*e*P	P	06 58 36.4	-11
TXAR	**Lajitas Array**	**45.64**	**325**	P	**P**	**07 01 13.8**	**-0.2**
	0.4nm,0.4s,baz=144,slow=7.4,SNR=17						
	0.4nm,0.4s						
PDAR	**Pinedale Array**	**58.97**	**331**	P	**P**	**07 02 51.3**	**-1.2**
	0.1nm,0.5s,baz=136,slow=8.1,SNR=1.9						
	0.1nm,0.5s						
WRA	**Warramunga Arr**	**139.54**	**227**	PKP	**PKPdf**	**07 12 19.4**	**-0.6**
	0.2nm,0.3s,baz=114,slow=2.2,SNR=5.0						

*IDC **23** 06:56:54.6±0.7,28.˚76N×96.˚03E, h0km, mb4.1/15, mbtmp4.1/16, ML4.2/1, MS3.5/26, Error ellipse: s-maj=36.2km s-min=14.1km az=59.0*
*BJI **23** 06:56:55.9,28.˚71N×96.˚03E, h8km, mB4.3/1, mb4.5/24, ML4.0/9, Ms3.9/11, Ms7 3.8/16*
*NEIC **23** 06:56:57.4±1.3,28.˚82N±0.˚04×95.˚98E±0.˚07, h10km±1km, mb4.5/32, Error ellipse: s-maj=11.5km s-min=3.2km az=300.0*
*NDI **23** 06:57:00.2±1.9,28.˚67N×95.˚95E, h10km, ML4.4, MW4.4*
ISC 23 06:56:56.7±0.4,**28.˚78N**±0.˚04×**96.˚03E**±0.˚04,**h10**km,**n97,** σ1f**91**/99,**mb4.4**/27,**MS3.5**/25,**2C,Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIRO	**ZIRO**	**2.29**	**238**	*e*P	**Pn**	**06 57 36.5**	**+1.8**
ZIRO				*e*S	**Sn**	**06 58 03.5**	**+0.3**
ZIRO				IAML		06 58 11.3	
	comp=E,10μm,0.7s						
ZIRO				IAML		06 58 13.7	
	comp=N,8μm,0.8s						
KOHI	**KOHIMA**	**3.49**	**210**	*e*P	**Pn**	**06 57 53.9**	**+2.6**
KOHI				*e*S	**Sn**	**06 58 32.7**	**-0.1**
KOHI				IAML		06 58 36.9	
	comp=N,837nm,0.7s						
KOHI				IAML		06 58 38.8	
	comp=E,1μm,0.6s						
TEZP	**TEZPUR**	**3.58**	**234**	*e*P	**Pn**	**06 57 53.2**	**+0.9**
TEZP				*e*S	**Sn**	**06 58 33.9**	**-0.8**
TEZP				IAML		06 58 39.2	
	comp=N,1μm,0.2s						
TEZP				IAML		06 58 41.5	
	comp=E,591nm,0.1s						
TNCH	**TengChong**	**4.35**	**149**	Pn	**Pn**	**06 58 02.8**	**-0.3**
TNCH				Sn	**Sn**	**06 58 54.8**	**+0.8**
TNCH				Sg	**Sg**	**06 59 15.8**	**-0.7**
TNCH				LR	LR		
	comp=E,740nm,5.4s						
LSA	**Lhasa**	**4.36**	**283**		**Pn**	**06 58 03.5**	**0.0**
LSA	**Lhasa**	**4.36**	**283**	Pn	**Pn**	**06 58 06.3**	**+2.8**
LSA				Sn	**Sn**	**06 58 58.3**	**+3.7**
LSA				smax	smax		
	comp=E,160nm,0.8s						
GUWA	**GUWAHATI**	**4.63**	**237**	*e*P	**Pn**	**06 58 07.4**	**+0.6**
GUWA				*e*S	**Sn**	**06 58 57.6**	**-3.0**
GUWA				IAML		06 59 03.7	
	comp=E,845nm,0.2s						
GUWA				IAML		06 59 03.8	
	comp=N,819nm,0.5s						
SHL	**Shillong**	**4.88**	**230**		**Pn**	**06 58 10.1**	**-0.3**
SHL	**Shillong**	**4.88**	**230**	*e*P	**Pn**	**06 58 09.9**	**-0.6**
SHL				*e*S	**Sn**	**06 59 03.0**	**-4.1**
SHL				IAML		06 59 06.5	
	comp=E,882nm,0.4s						
SHL				IAML		06 59 09.5	
	comp=N,842nm,0.2s						
PZH	**PanZhiHua**	**5.55**	**113**	Pn	**Pn**	**06 58 21.9**	**+2.3**
PZH				Sn	**Sn**	**06 59 29.1**	**+5.5**
PZH				smax	smax		
	comp=N,100nm,0.9s						
PZH				smax	smax		
	comp=N,80nm,0.8s						
AZL	**Aizawl**	**5.85**	**212**	*e*P	**Pn**	**06 58 25.4**	**+1.8**
AZL				*e*S	**Sn**	**06 59 26.7**	**-4.1**
AZL				IAML		06 59 33.9	
	comp=E,811nm,0.7s						
AZL				IAML		06 59 36.2	
	comp=N,787nm,0.7s						
GTK	**Tadong**	**6.72**	**259**	*e*P	**Pn**	**06 58 38.5**	**+2.8**
GTK				*e*S	**Sn**	**06 59 49.5**	**-2.8**
GTK				IAML		07 00 00.3	
	comp=E,356nm,0.3s						
GTK				IAML		07 00 00.6	
	comp=N,472nm,0.2s						
SAIH	**SAIHA**	**6.84**	**204**	*e*P	**Pn**	**06 58 39.2**	**+2.0**
SAIH				*e*S	**Sn**	**06 59 49.8**	**-5.4**
SAIH				IAML		07 00 00.6	
	comp=E,986nm,0.5s						
SAIH				IAML		07 00 02.0	
	comp=N,984nm,0.3s						
KMI	**Kunming**	**7.01**	**120**	Pn	**Pn**	**06 58 43.3**	**+3.6**
KMI				Sg	**Sg**	**07 00 42.3**	**+0.4**
KMI				smax	smax		
	comp=N,74nm,1.0s						
KMI				smax	smax		
	comp=N,57nm,1.1s						
KMI				LR	LR		
	comp=N,410nm,10.4s						
LZH	**Lanzhou**	**9.83**	**40**	*e*P	**Pn**	**06 59 20.4**	**+2.1**
LZH				pP		06 59 27.6	
LZH				pmax	pmax		
	comp=N,70nm,1.3s						
CHTO	**Chiang Mai**	**10.27**	**164**		**Pn**	**06 59 26.7**	**+2.4**
CMAR	**Chiang Mai Arr**	**10.62**	**165**	Pn	**Pn**	**06 59 30.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**10.62**	**165**	Pn	**Pn**	**06 59 29.1**	**+0.1**
	comp=N,0.5nm,0.3s,baz=334,slow=14,SNR=9.1						
CMAR				LR	LR	07 04 04.1	
	comp=N,252nm,20.9s,baz=340,slow=40						
	comp=N,1.4nm,0.6s						
GTA	**Gaotai**	**11.06**	**15**	*e*P	**Pn**	**06 59 32.6**	**-2.5**
GTA				pP		06 59 37.3	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ENH	**Enshi**	**11.82**	**79**	Pn	**Pn**	**06 59 46.3**	**+0.9**
XAN	**Xi'an**	**12.20**	**61**	⇑P	**Pn**	**06 59 51.8**	**+1.2**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN				LR	LR		
	comp=Z,320nm,12.4s						
XAN				LR	LR		
	comp=Z,130nm,11.0s						
XAN				LR	LR		
	comp=Z,180nm,10.3s						
QIZ	**Qiongzhong**	**15.92**	**125**	P	**Pn**	**07 00 41.0**	**0.0**
QIZ				S	**Sn**	**07 03 41.6**	**+4.0**
QIZ				pmax	pmax		
	comp=Z,12nm,1.3s						
QIZ				LR	LR		
	comp=Z,280nm,9.9s						
UBPT	**Khong Chiam**	**16.02**	**145**	Pn	**Pn**	**07 00 43.1**	**+0.8**
WMQ	**Urumqi**	**16.43**	**338**	*e*P	**P**	**07 00 52.3**	**+2.1**
BTO	**Baotou**	**16.46**	**41**	*e*P	**Pn**	**07 00 43.8**	**-4.0**
BTO				sP	**P**	**07 00 50.3**	**-0.3**
BTO				PP	**PnPn**	**07 00 57.3**	**+0.4**
BTO				S	**Sn**	**07 03 43.5**	**-7.1**
BTO				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BTO				pmax	pmax		
	comp=Z,290nm,6.5s						
BTO				LR	LR		
	comp=N,540nm,11.6s						
BTO				LR	LR		
	comp=E,430nm,9.3s						
BTO				LR	LR		
	comp=Z,680nm,10.4s						
TARG	**Taragay, Kyrgy**	**19.66**	**316**		**Pn**	**07 01 28.3**	**+0.8**
TARG				IAmb	IAmb	07 01 44.9	
	comp=Z,20nm,1.3s						
KSH	**Kashi**	**19.71**	**308**	P	**Pn**	**07 01 33.9**	**+6.0**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KDJ	**Kajisay**	**20.27**	**316**	P	**P**	**07 01 33.4**	**+0.8**
KDJ				IAmb	IAmb	07 01 37.2	
	comp=Z,20nm,0.9s						
SRIT	**Nakonsritamara**	**20.36**	**170**		**P**	**07 01 33.6**	**+0.1**
SONM	**Songino Array**	**20.66**	**20**		**P**	**07 01 35.8**	**-0.9**
SONM	**Songino Array**	**20.66**	**20**	P	**P**	**07 01 36.8**	**+0.1**
	comp=Z,2.9nm,0.5s,baz=203,slow=11,SNR=12						
SONM				LR	LR	07 10 33.3	
	comp=Z,119nm,21.1s,baz=247,slow=40						
	comp=Z,2.9nm,0.5s						
ULN	**Ulaanbaatar**	**20.89**	**21**	P	**P**	**07 01 38.3**	**-0.9**
MKAR	**Makanchi Array**	**20.95**	**333**		**P**	**07 01 38.9**	**-0.8**
MKAR	**Makanchi Array**	**20.95**	**333**	P	**P**	**07 01 39.5**	**-0.3**
	comp=Z,15nm,0.6s,baz=141,slow=13,SNR=41						
MKAR				LR	LR	07 10 39.4	
	comp=Z,111nm,18.1s,baz=146,slow=39						
	comp=Z,15nm,0.6s						
BOOM	**Boomskoye usch**	**21.23**	**315**	P	**P**	**07 01 43.5**	**+0.5**
AAK	**Ala-Archa**	**22.21**	**314**	P	**P**	**07 01 53.2**	**-0.3**
AAK	**Ala-Archa**	**22.21**	**314**	LR	LR	07 11 58.6	
	comp=Z,88nm,21.7s,baz=122,slow=41						
BTK	**Batken**	**23.56**	**305**		**P**	**07 02 09.1**	**+1.6**
BTK				IAmb	IAmb	07 02 23.6	
	comp=Z,9.1nm,0.8s						
GAR	**Garm**	**23.58**	**302**		**P**	**07 02 08.5**	**+0.7**
GAR				IAmb	IAmb	07 02 09.4	
	comp=Z,13nm,0.6s						
SIMJ	**Simiganj**	**24.46**	**301**	P	**P**	**07 02 15.3**	**-0.7**
SIMJ				IAmb	IAmb	07 02 38.7	
	comp=Z,9.7nm,1.1s						
KK31	**Karatay Array**	**25.00**	**312**		**P**	**07 02 21.7**	**+1.0**
KKAR	**Karatay Array**	**25.00**	**312**		**P**	**07 02 21.0**	**+0.3**
KURBB	**Kurchatov Arra**	**25.51**	**334**	P	**P**	**07 02 25.2**	**0.0**
	comp=Z,2.3nm,0.6s,baz=142,slow=11,SNR=23						
KURBB				LR	LR	07 13 37.1	
	comp=Z,143nm,19.4s,baz=184,slow=39						
	comp=Z,2.3nm,0.6s						
KURK	**Kurchatov**	**25.55**	**334**	P	**P**	**07 02 24.2**	**-1.3**
KURK				IAmb	IAmb	07 02 27.4	
	comp=Z,5.6nm,0.9s						
ZALV	**Zalesovo Beam**	**26.45**	**345**	P	**P**	**07 02 33.7**	**0.0**
ZALV	**Zalesovo Beam**	**26.45**	**345**	P	**P**	**07 02 33.3**	**-0.4**
	comp=Z,4.5nm,0.6s,baz=155,slow=11,SNR=9.1						
ZALV				LR	LR	07 13 48.2	
	comp=Z,69nm,19.5s,baz=178,slow=38						
	comp=Z,4.5nm,0.6s						
BNX	**BinXian**	**29.92**	**47**	⇑P	**P**	**07 03 04.5**	**-0.3**
BNX				pmax	pmax		
	comp=Z,13nm,0.9s						
BVAR	**Borovoye Array**	**30.71**	**329**	P	**P**	**07 03 12.0**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=142,slow=5.3,SNR=6.4						
BVAR				LR	LR	07 17 02.5	
	comp=Z,60nm,18.3s,baz=152,slow=39						
	comp=Z,2.0nm,0.6s						
HEH	**HeiHe**	**31.97**	**39**	*e*P	**P**	**07 03 23.1**	**+0.3**
HEH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
AKTO	**Aktyubinsk**	**35.85**	**318**	LR	LR	07 20 44.6	
	comp=Z,74nm,19.1s,baz=242,slow=40						
TOLI2	**Tolitoli**	**36.27**	**135**	P	**P**	**07 04 01.0**	**+0.5**
TOLI2				IAmb	IAmb	07 04 01.4	
	comp=Z,9.2nm,0.9s						
ARTI	**Arti**	**38.31**	**327**	LR	LR	07 21 26.2	
	comp=Z,62nm,19.0s,baz=125,slow=38						
BELG	**Belogornoye**	**42.64**	**317**	LR	LR	07 24 37.3	
	comp=Z,64nm,21.3s,baz=53,slow=39						
GNI	**Garni**	**43.24**	**299**	LR	LR	07 28 20.6	
	comp=Z,26nm,19.0s,baz=110,slow=44						
KIRV	**Kirov**	**43.63**	**327**	LR	LR	07 25 20.0	
	comp=Z,37nm,19.5s,baz=81,slow=39						
KBZ	**Khabaz**	**44.62**	**304**	LR	LR	07 28 00.1	
	comp=Z,34nm,21.1s,baz=114,slow=42						
MA2	**Magadan**	**47.92**	**34**	LR	LR	07 27 36.7	
	comp=Z,61nm,18.2s,baz=288,slow=38						
PETK	**Petropavlovsk-**	**50.71**	**43**	LR	LR	07 29 50.0	
	comp=Z,46nm,20.9s,baz=269,slow=39						
LVZ	**Lovozero**	**52.95**	**335**	P	**P**	**07 06 13.0**	**0.0**
AKASG	**Malin Array Be**	**53.88**	**314**	P	**P**	**07 06 18.8**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=77,slow=6.3,SNR=2.5						
AKASG				LR	LR	07 31 42.1	
	comp=Z,43nm,21.3s,baz=240,slow=39						
	comp=Z,0.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**54.69**	**145**	P	**P**	**07 06 25.3**	**-0.9**
FINES	**FINESS Array B**	**55.62**	**327**	P	**P**	**07 06 32.4**	**-0.1**
FINES	**FINESS Array B**	**55.62**	**327**	P	**P**	**07 06 31.9**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=79,slow=9.9,SNR=8.5						
FINES				LR	LR	07 30 48.2	
	comp=Z,39nm,18.5s,baz=74,slow=36						
	comp=Z,1.7nm,0.6s						
KEV	**Kevo**	**56.05**	**337**	P	**P**	**07 06 35.4**	**-0.1**
ARCES	**ARCESS Array B**	**56.54**	**337**	P	**P**	**07 06 39.1**	**+0.1**
ARCES				IAmb	IAmb	07 06 45.5	
	comp=Z,7.7nm,1.3s						
ARCES	**ARCESS Array B**	**56.54**	**337**	P	**P**	**07 06 38.2**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=74,slow=8.9,SNR=8.8						
ARCES				LR	LR	07 33 40.5	
	comp=Z,63nm,19.4s,baz=67,slow=39						
	comp=Z,1.9nm,0.7s						
MLR	**Muntele Rosu**	**56.58**	**308**	LR	LR	07 35 00.9	
	comp=Z,33nm,20.5s,baz=288,slow=40						
WB0	**Warramunga Arr**	**60.84**	**138**	P	**P**	**07 07 09.0**	**-0.6**
WRAB	**Tennant Creek**	**60.95**	**138**	P	**P**	**07 07 09.6**	**-0.7**
WRA	**Warramunga Arr**	**60.95**	**138**	P	**P**	**07 07 09.0**	**-1.3**
WRA	**Warramunga Arr**	**60.95**	**138**	P	**P**	**07 07 09.5**	**-0.8**
	comp=Z,4.1nm,0.7s,baz=322,slow=8.3,SNR=72						
	comp=Z,4.1nm,0.7s						
WR8	**Warramunga Arr**	**61.05**	**138**	P	**P**	**07 07 10.1**	**-0.9**
WR8				IAmb	IAmb	07 07 11.8	
	comp=Z,5.9nm,0.8s						
HFS	**Hagfors**	**61.75**	**326**	P	**P**	**07 07 15.1**	**-0.1**
	comp=Z,3.7nm,0.6s,baz=76,slow=6.3,SNR=13						
	comp=Z,3.7nm,0.6s						
VRAC	**Vranov**	**62.13**	**313**	LR	LR	07 36 50.4	
	comp=Z,30nm,18.6s,baz=23,slow=39						
NC405	**NORSAR Array S**	**62.55**	**327**	P	**P**	**07 07 20.6**	**0.0**
NB201	**NORSAR Array S**	**62.76**	**327**	P	**P**	**07 07 21.7**	**-0.3**
NB201				IAmb	IAmb	07 07 22.2	
	comp=Z,4.4nm,0.6s						
NB2	**NORSAR Subarra**	**62.80**	**327**	P	**P**	**07 07 21.3**	**-1.0**
	comp=Z,1.7nm,0.5s,baz=79,slow=6.5						
NOA	**NORSAR Array B**	**62.80**	**327**	P	**P**	**07 07 21.8**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=81,slow=6.6,SNR=21						
NOA				LR	LR	07 36 35.8	
	comp=Z,41nm,18.2s,baz=90,slow=38						
	comp=Z,3.0nm,0.7s						
AS31	**Alice Springs**	**63.63**	**141**	P	**P**	**07 07 26.8**	**-1.5**
ASAR	**Alice Springs**	**63.63**	**141**	P	**P**	**07 07 27.2**	**-1.0**
ASAR	**Alice Springs**	**63.63**	**141**	P	**P**	**07 07 27.6**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=324,slow=6.7,SNR=48						
	comp=Z,2.2nm,0.6s						
GERES	**GERESS Array B**	**64.09**	**313**	P	**P**	**07 07 30.4**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=66,slow=4.5,SNR=5.4						
GERES				LR	LR	07 40 07.5	
	comp=Z,36nm,18.7s,baz=18,slow=40						
	comp=Z,0.7nm,0.5s						
NWAO	**Narrogin (SRO)**	**64.59**	**160**	P	**P**	**07 07 33.0**	**-1.2**
DAVOX	**Davos/Dischmat**	**67.14**	**312**	LR	LR	07 41 20.6	
	comp=Z,30nm,18.2s,baz=70,slow=40						
D19K	**Kuna River**	**69.10**	**22**	P	**P**	**07 08 03.1**	**+0.4**
D19K				IAmb	IAmb	07 08 06.1	
	comp=Z,5.4nm,1.0s						
E19K	**Redstone River**	**69.85**	**23**	P	**P**	**07 08 07.0**	**-0.4**
E19K				IAmb	IAmb	07 08 07.4	
	comp=Z,7.4nm,1.5s						
C23K	**Itkillik River**	**70.82**	**20**	P	**P**	**07 08 13.8**	**+0.7**
C23K				IAmb	IAmb	07 08 23.2	
	comp=Z,6.0nm,1.1s						
IMAR	**Indian Mountai**	**71.77**	**24**	P	**P**	**07 08 18.8**	**-0.2**
MLY	**Manley**	**73.34**	**24**	P	**P**	**07 08 29.0**	**+0.6**
MLY				IAmb	IAmb	07 08 38.8	
	comp=Z,3.1nm,1.2s						
F25K	**Christian Rive**	**73.58**	**21**	P	**P**	**07 08 30.4**	**+0.6**
F25K				IAmb	IAmb	07 08 46.8	
	comp=Z,3.5nm,1.3s						
BPAW	**Bear Paw Mtn.**	**73.75**	**25**	P	**P**	**07 08 31.4**	**+0.5**
BPAW				IAmb	IAmb	07 09 01.6	
	comp=Z,2.6nm,1.0s						
BMAR	**Burnt Mountain**	**74.01**	**20**	P	**P**	**07 08 33.4**	**+1.1**
STKA	**Stephens Creek**	**74.27**	**141**	LR	LR	07 45 25.5	
	comp=Z,237nm,21.8s,baz=191,slow=39						
ILAR	**Eielson Array**	**74.84**	**23**	P	**P**	**07 08 36.2**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=326,slow=5.6,SNR=4.9						
	comp=Z,0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**87.50**	**284**	P	**P**	**07 09 44.7**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=54,slow=7.4,SNR=3.4						
	comp=Z,0.8nm,0.9s						
NEW	**Newport**	**97.74**	**22**	LR	LR	07 57 04.5	
	comp=Z,50nm,18.4s,baz=206,slow=37						
MAW	**Mawson**	**99.25**	**192**	LR	LR	07 50 48.1	
	comp=Z,32nm,18.3s,baz=64,slow=33						

IDC 23 07:20:02.0±3.1,**53.˚76N**×**87.˚05E, h0**km,**mbtmp2.6**/2, **ML2.1**/2,**Error ellipse: s-maj=29.5km s-min=17.8km az=66.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.33**	**279**	Pg	Pg	07 20 25.2	-2.3
	0.7nm,0.3s,baz=98,slow=13,SNR=6.1						
ZALV				Lg	Lg	07 20 45.9	
	0.7nm,0.3s,baz=100,slow=25,SNR=5.3						
I46RU	**ZALESOVO INFRA**	**1.33**	**279**	I	I	07 28 18.7	
	baz=99,slow=323,SNR=12						
KURBB	**Kurchatov Arra**	**6.11**	**242**	Pn	Pn	07 21 33.4	0.0
	baz=58,slow=14,SNR=2.4						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**7.61**	**205**	Pn	Pn	07 21 56.5	+2.4
	0.1nm,0.3s,baz=26,slow=13,SNR=1.5						
	0.2nm,0.4s						

*SOME **23** 07:25:36.2,38.˚55N×72.˚30E, h5km*
NNC 23 07:25:59.1±4.4,**39.˚43N**×**72.˚27E, h0**km,**mb3.5, mpv3.2, 1C-1D, Error ellipse: s-maj=45.0km s-min=37.2km az=160.0, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**luzhnay**	**3.20**	**329**	Pg	Pn	07 26 50.8	+0.1
	7.8nm,0.2s						
IUG				Lg	Lg	07 27 45.0	
	22nm,0.3s						
MRKS	**Merke**	**3.39**	**12**	Pg	Pn	07

comp=N,11µm,0.6s
MPMC IAML 07 45 19.6
comp=E,13µm,0.6s
MPMC Manual Prospec 0.45 354 Sg 07 45 16.4 -1.4
WVPM Volcano Peak E 0.46 318 Pg 07 45 11.2 -0.8
WVPM Sg 07 45 17.6 -0.5
DTP Desert Tortois 0.48 225 Pg 07 45 11.7 -0.5
DTP Sg 07 45 18.3 -0.2
JRC2 Joshua Ridge 0.48 321 Pg 07 45 11.6 -0.7
JRC2 Sg 07 45 18.3 -0.5
WRVM Rose V. Centra 0.55 317 Pg 07 45 12.7 -0.9
WRVM Sg 07 45 20.3 -0.4
WBSM Bird Springs 0.58 263 Sg 07 45 21.9 0.0
QSM Queen of Sheba 0.58 52 Pg 07 45 13.4 -0.8
QSM Sg 07 45 21.0 -0.8
QSM Queen of Sheba 0.58 52 IAML 07 45 21.8
comp=E,15µm,0.8s
QSM IAML 07 45 21.8
comp=N,19µm,0.8s
GSC Goldstone, Bar 0.60 121 Pg 07 45 13.9 -0.5
GSC Goldstone, Bar 0.60 121 Sg 07 45 21.9 -0.3
MFS McCloud Flat S 0.61 326 Pg 07 45 13.8 -1.0
MFS Sg 07 45 22.6 -0.3
CCAC Calif City Air 0.66 227 Pg 07 45 15.2 -0.4
CCAC Sg 07 45 24.4 +0.2
WORM Onyx Ranch 0.67 278 Pg 07 45 14.9 -0.9
WORM Sg 07 45 23.9 -0.6
HYS Haystack Butte 0.75 189 Pg 07 45 16.7 -0.7
HYS Sg 07 45 27.1 -0.1
WHFM Hanning Flat 0.75 277 Pg 07 45 16.5 -0.9
WHFM Sg 07 45 26.7 -0.5
RRX Edison Barstow 0.81 154 Pg 07 45 18.0 -0.6
RRX Sg 07 45 29.0 -0.2
GWY Greenwater Val 0.85 47 Pg 07 45 18.1 -1.2
GWY IAML 07 45 32.5
comp=N,11µm,1.0s
GWY IAML 07 45 33.6
comp=E,10µm,0.3s
GWY Greenwater Val 0.85 47 Sg 07 45 29.3 -1.0
ISA Isabella, Lake 0.85 274 Pg 07 45 18.3 -1.0
ISA IAML 07 45 33.7
comp=E,5µm,0.6s
ISA Isabella, Lake 0.85 274 Sg 07 45 29.7 -0.7
EDW2 Edwards Air Fo 0.86 213 Sg 07 45 30.3 -0.3
WASM Alta Sierra Ca 0.93 278 Pg 07 45 19.7 -1.0
WASM Pn 07 45 31.6 +9.2
SBB Saddle Back Bu 0.97 199 Sg 07 45 33.6 -0.6
FURC Furnace Creek, 0.97 28 Pg 07 45 20.6 -1.1
FURC Sg 07 45 33.3 -1.0
TPO Tropico Hills 0.97 222 Pg 07 45 20.9 -0.8
TPO Sb 07 45 35.7 +0.5
CWC Cottonwood Cre 0.98 328 Pg 07 45 20.7 -1.2
CWC Cottonwood Cre 0.98 328 Sg 07 45 33.6 -1.1
SHOC Shoshone, Teco 0.99 72 Pg 07 45 20.8 -1.1
SHOC Sg 07 45 34.0 -0.7
CGO Cerro Gordo 0.99 342 Sb 07 45 34.6 -1.2
VTV Victorville 1.05 175 Pg 07 45 22.1 -1.0
VTV Sb 07 45 37.5 +0.3
ADO Adelanto Recei 1.05 180 Pg 07 45 22.6 -0.6
ADO Sn 07 45 39.2 +0.2
TEJ El Tejon 1.09 250 Pb 07 45 22.4 -1.7
TEJ Sg 07 45 37.0 -1.1
TUQ Turquoise Moun 1.24 97 Pn 07 45 24.8 -1.9
WCT Wildcat Mounta 1.35 29 IAML 07 45 47.1
comp=N,3µm,0.6s
WCT IAML 07 45 48.1
comp=E,3µm,0.5s
BFSC Mount Baldy Ra 1.38 188 Pn 07 45 27.5 -1.1
BFSC IAML 07 45 47.8
comp=E,3µm,0.7s
BFSC IAML 07 45 48.3
comp=N,3µm,0.6s
GRAC Grapevine Rang 1.39 2 IAML 07 45 51.5
comp=E,4µm,0.7s
GRAC IAML 07 45 51.6
comp=N,6µm,0.8s
OSI Osito Audit: C 1.45 227 Pn 07 45 28.6 -0.9
MWC Mount Wilson 1.47 201 IAML 07 45 52.3
comp=N,5µm,0.6s
MWC IAML 07 45 56.3
comp=E,4µm,0.6s
MTPC Mountain Pass 1.54 94 Pn 07 45 29.0 -1.8
MTPC IAML 07 45 52.8
comp=N,2µm,0.4s
MTPC IAML 07 45 53.0
comp=E,2µm,0.3s
PASC Pasadena Art C 1.56 204 IAML 07 45 58.3
comp=E,3µm,0.8s
PASC IAML 07 46 00.3
comp=N,2µm,0.8s
TPNV Topopah Spring 1.65 35 Pn 07 45 31.1 -1.2
TPNV IAML 07 45 56.6
comp=N,3µm,0.6s
GMN Gold Mountain 1.70 5 Pn 07 45 32.1 -1.0
DANC Danby, Needles 1.94 119 Pn 07 45 34.5 -1.7
ELS Elsinore Mount 1.96 180 Pn 07 45 35.7 -0.7
SHPR Sheep Range 2.05 63 Pn 07 45 36.7 -1.1
MZP Montezuma Peak 2.09 1 Pn 07 45 37.8 -0.7
V12A Nelson 2.11 86 Pn 07 45 37.0 -1.6
PMD Palm Desert 2.14 156 Pn 07 45 37.5 -1.4
PFO Pinyon Flats O 2.15 158 Pn 07 45 38.1 -1.2
PFO IAML 07 46 16.3
comp=N,885nm,1.6s
PFO Pinyon Flats O 2.15 158 Pn **Pn 07 45 37.9 -1.2**
comp=N,7.9nm,0.3s,baz=336,slow=12,SNR=134
PFO Pg **Pb 07 45 41.8 -0.3**
comp=N,43nm,0.3s,baz=334,slow=16,SNR=66
PFO Lg Lg 07 46 10.2
comp=N,198nm,0.3s,baz=73,slow=16,SNR=13
PFO LR LR 07 46 35.9
comp=N,195nm,20.9s,baz=324,slow=44
comp=N,75nm,0.3s
S11A Rachel 2.44 33 Pn **Pn 07 45 42.6 -0.6**
NEE2 Needles Airpor 2.45 109 Pn 07 45 41.3 -1.9
NEE2 IAML 07 46 24.4
comp=E,2µm,0.6s
TPH Tonopah 2.47 4 Pn 07 45 43.0 -0.6
BORC Borrego Spring 2.48 160 Pn 07 45 42.6 -1.0
BORC IAML 07 46 27.4
comp=E,772nm,0.9s
PRN Pahroc Range 2.63 46 Pn 07 45 45.1 -0.7
DPP Dos Picos Cty 2.63 171 Pn 07 45 44.9 -0.8
DPP IAML 07 46 25.9
comp=E,662nm,0.7s
LHV Little Huntoon 2.77 342 Pn 07 45 47.8 +0.2
LHV IAML 07 46 37.5
comp=E,761nm,1.2s
LHV IAML 07 46 39.8
comp=N,756nm,1.1s
PMPB Monarch Peak 2.80 284 Pn 07 45 47.1 -1.0
PMPB IAML 07 46 47.9
comp=N,1µm,0.8s
PMPB IAML 07 46 52.0
comp=E,1µm,0.9s
NV11 Mina Array Sit 2.88 349 Pn 07 45 48.9 -0.4
NVAR Mina Array Bea 2.90 346 Pn 07 45 48.9 -0.8
NVAR Mina Array Bea 2.90 346 Pn **Pn 07 45 49.2 -0.4**
comp=E,4.9nm,0.3s,baz=171,slow=16,SNR=152
NVAR Pg **Pb 07 45 56.0 +0.9**
comp=E,55nm,0.3s,baz=165,slow=18,SNR=104
NVAR Lg Lg 07 46 33.6
comp=E,16nm,0.3s,baz=163,slow=19,SNR=1.4
comp=E,30nm,0.8s
W13A Hualapai Mount 2.94 99 IAML 07 46 39.5
comp=E,393nm,0.8s
BLYC Blythe 3.03 127 IAML 07 46 41.7
comp=N,963nm,1.0s
BLYC IAML 07 46 45.9
comp=E,566nm,0.9s
BBGB Big Mountain B 3.08 289 Pn 07 45 52.0 0.0
TJX Tijuana 3.10 174 Pn 07 45 52.6 +0.4
TKX Tecate 3.11 167 Pn 07 45 51.9 -0.4
TKX IAML 07 46 41.8
comp=E,338nm,0.4s
R11B Troy Canyon, C 3.11 28 Pn 07 45 51.2 -1.2
YUH Yuha Desert 3.21 157 Pn 07 45 51.8 -1.7
Q09A Carvers 3.23 3 Pn 07 45 53.1 -0.9
Q09A IAML 07 46 52.7
comp=N,881nm,0.9s
WAKR Walker 3.31 332 IAML 07 46 54.8
comp=E,312nm,1.3s
WAKR IAML 07 47 09.2
comp=N,340nm,1.2s
GLA Glamis 3.34 139 IAML 07 46 56.6
comp=N,863nm,1.2s
CBX Cerro Bola 3.35 169 IAML 07 46 54.1
comp=N,871nm,0.8s
CMB Columbia Colle 3.39 317 IAML 07 46 53.7
comp=E,511nm,0.9s
CMB IAML 07 47 00.6
comp=N,604nm,0.8s
LCMT Little Creek M 3.66 66 Pn 07 45 59.8 -0.2
CCX Cicese 3.78 170 Pn 07 46 01.6 +0.1
CCX IAML 07 47 08.2
comp=N,240nm,1.1s
CCX IAML 07 47 09.8
comp=E,251nm,0.7s
ESJX Sierra Juarez 3.80 161 IAML 07 47 04.2
comp=E,195nm,0.6s
CCUT Cedar City 3.81 58 Pn 07 46 01.9 -0.2
CCUT IAML 07 47 10.3
comp=N,220nm,1.1s
KNB Kanab 3.98 68 Pn 07 46 04.4 0.0
KNB IAML 07 47 18.0
comp=N,303nm,1.4s
KNB IAML 07 47 20.7
comp=E,208nm,1.0s
Y14A Wickenburg 4.01 113 IAML 07 47 14.3
comp=E,446nm,0.7s
SZCU Shurtz Canyon 4.02 59 Pn 07 46 04.7 -0.3
PSUT Pine Spring 4.09 43 Pn 07 46 05.3 -0.6
PSUT IAML 07 47 22.6
comp=N,342nm,1.3s
PSUT IAML 07 47 22.7
comp=E,263nm,1.5s
113A Mohawk Valley, 4.15 132 IAML 07 47 24.4
comp=E,162nm,1.2s
SPR3 Spring Creek 3 4.19 35 Pn 07 46 06.7 -0.8
SPR3 IAML 07 47 15.3
comp=N,209nm,1.2s
SPR3 IAML 07 47 15.9
comp=E,300nm,1.3s
U15A North Rim 4.25 77 IAML 07 47 19.3
comp=N,253nm,1.3s
U15A IAML 07 47 20.9
comp=E,224nm,1.1s
WUAZ Wupatki 4.94 89 Pn 07 46 17.7 +0.1
WUAZ IAML 07 47 44.1
comp=E,216nm,0.7s
WUAZ IAML 07 48 07.5
comp=E,155nm,2.1s
X16A Lo Mia Camp, P 5.06 102 IAML 07 47 45.7
comp=E,96nm,1.1s
X16A IAML 07 47 52.3
comp=N,98nm,1.3s
ELK Elko 5.41 18 IAML 07 47 55.1
comp=N,59nm,0.7s
ELK Elko 5.41 18 Pn **Pn 07 46 24.2 0.0**
comp=N,0.5nm,0.3s,baz=208,slow=11,SNR=24
ELK Pg **Pb 07 46 41.3 +3.4**
comp=N,6.3nm,0.3s,baz=225,slow=14,SNR=43
ELK Lg Lg 07 47 51.8
comp=N,11nm,0.3s,baz=50,slow=2.2,SNR=12
ELK LR LR 07 48 48.6
comp=N,198nm,18.2s,baz=207,slow=42
comp=N,3.3nm,0.5s
X18A Snowflake 6.23 98 Pn **Pn 07 46 36.1 +0.8**
TUC Tucson 6.43 119 Pn 07 46 36.9 -1.0
CTU Camp Tracy 6.77 40 Pn **Pn 07 46 41.4 -1.3**
HVU Hansel Valley 7.16 29 Pn **Pn 07 46 48.0 -0.1**
YBH Yreka Blue Hor 7.38 328 Pn **Pn 07 46 51.5 +0.5**
baz=164,slow=18
YBH Lg Lg 07 48 51.2
baz=32,slow=12,SNR=8.4
ANMO Albuquerque 9.00 91 Pn **Pn 07 47 14.3 +0.9**
baz=272,slow=3.2,SNR=3.6
ANMO Pg Pg 07 47 46.3 -8.9
comp=N,0.4nm,0.3s,baz=9.5,slow=14,SNR=16
ANMO Lg Lg 07 49 43.1
comp=N,0.2nm,0.3s,baz=282,slow=19,SNR=10
ANMO LR LR 07 51 05.8
comp=N,162nm,20.1s,baz=22,slow=40
comp=N,0.7nm,0.6s
PDAR Pinedale Array 9.40 38 Pn **Pn 07 47 21.0 +2.1**
baz=230,slow=12,SNR=6.1
PDAR Lg Lg 07 49 58.2
comp=N,0.1nm,0.3s,baz=218,slow=28,SNR=7.0
PDAR LR LR 07 50 31.7
comp=N,32nm,20.2s,baz=222,slow=35
comp=N,0.6nm,0.7s
LPIG La Paz 13.02 150 LR LR 07 53 13.0
comp=N,70nm,18.0s,baz=341,slow=38
TXAR Lajitas Array 13.19 114 Pn **Pn 07 48 11.6 +0.9**
comp=N,0.2nm,0.3s,baz=294,slow=12,SNR=6.6
TXAR Lg Lg 07 51 58.2
comp=N,0.1nm,0.3s,baz=285,slow=28,SNR=8.3
comp=N,0.4nm,0.6s
OZNA Ozona 14.42 104 P 07 48 33.5 -0.9
DLBC Dease Lake 24.32 344 LR LR 08 00 57.8
comp=N,11nm,19.4s,baz=138,slow=39
YKA Yellowknife Ar 26.97 3 P P 07 50 45.6 +1.0
comp=N,0.4nm,0.7s,baz=188,slow=8.0,SNR=5.8
comp=N,0.4nm,0.7s
TKL Tuckaleechee C 27.28 80 LR LR 08 02 19.3
comp=N,30nm,21.1s,baz=288,slow=38
SADO Sadowa 30.41 61 LR LR 08 04 10.7
comp=N,72nm,19.3s,baz=290,slow=38
INK Inuvik 33.99 349 LR LR 08 08 45.3
comp=N,48nm,18.7s,baz=116,slow=42
ILAR Eielson Array 34.13 338 P **P 07 51 49.9 +2.0**
comp=N,0.6nm,0.8s,baz=159,slow=5.1,SNR=6.1
comp=N,0.6nm,0.8s
PCRV Puerto La Cruz 54.07 104 LR LR 08 20 04.5
comp=N,38nm,18.1s,slow=39
TIXI Tiksi 63.51 341 LR LR 08 24 49.0
comp=N,20nm,19.3s,baz=198,slow=38
NOA NORSAR Array B 75.01 23 LR LR 08 30 41.2
comp=N,12nm,18.1s,baz=270,slow=36

*IDC **23** 07:46:07.3±0.9,52.°96N×168.°06W,h0km,mb3.8/14, mbtmp3.8/16,ML3.7/2,MS3.1/4,Error ellipse: s-maj=25.7km s-min=15.3km az=178.0*
*AEIC **23** 07:46:12.8±2.4,52.°71N±0.°06×167.°87W±0.°08,h26km±5km, Error ellipse: s-maj=8.9km s-min=6.5km az=207.0*
*NEIC **23** 07:46:13.7±2.0,52.°76N±0.°07×167.°92W±0.°10,h42km±9km, mb3.8/62,ML4.0/24,ML3.9(AEIC),Error ellipse: s-maj=10.9km s-min=7.5km az=211.0*

ISC 23 07:46:12.9±0.6,52.77N±0.°07×167.90W±0.°05,h35km, n140,σ2°08/111,mb4.0/17,MS3.0/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKSP	**Okmok Steeple**	**0.54**	**334**				**Pn**	**07 46 24.8**	**+0.6**
NIKH	**Nikolski High**	**0.61**	**290**				**Pn**	**07 46 25.4**	**+0.3**
NIKH					IAML			07 46 37.9	
	comp=N,7µm,0.6s								
NIKH					IAML			07 46 41.2	
	comp=E,5µm,0.5s								
NIKH	**Nikolski High**	**0.61**	**290**	P		P	**Pn**	**07 46 25.3**	**+0.1**
NIKH	**Nikolski High**	**0.61**	**290**	S		S	**Sn**	**07 46 34.7**	**+0.9**
OKTU	**Okmok Mt. Tuli**	**0.62**	**352**				**Pn**	**07 46 26.1**	**+0.8**
OKFG	**Magazine Ridge**	**0.64**	**359**				**Pn**	**07 46 26.3**	**+0.7**
OKFG							**Sn**	**07 46 35.1**	**+0.6**
OKCE	**Okmok Cone E**	**0.68**	**346**				**Pn**	**07 46 27.0**	**+0.9**
OKNC	**Okmok New Cone**	**0.70**	**349**				**Pn**	**07 46 27.5**	**+1.1**
OKNC							**Sn**	**07 46 37.9**	**+1.8**
MAPS	**Pakushin South**	**1.19**	**29**				**Pn**	**07 46 33.4**	**+0.3**
MGOD	**Makushin Gods**	**1.20**	**31**				**Pn**	**07 46 33.4**	**+0.2**
MREP	**Makushin Rep't**	**1.25**	**33**				**Pn**	**07 46 34.6**	**+0.6**
UNV	**Unalaska Valle**	**1.36**	**37**				**Pn**	**07 46 36.0**	**+0.6**
UNV					IAML			07 46 53.9	
	comp=N,2µm,0.4s								
UNV					IAML			07 46 56.2	
	comp=E,2µm,0.4s								
UNV	**Unalaska Valle**	**1.36**	**37**				**Sn**	**07 46 53.5**	**+1.3**
MTBL	**Makushin Table**	**1.41**	**31**				**Sn**	**07 46 55.5**	**+2.1**
AKMO	**Akutan Morgan**	**1.74**	**40**				**Pn**	**07 46 41.8**	**+1.2**
AKMO							**Sn**	**07 47 03.5**	**+1.9**
LVA	**Lava Point**	**1.79**	**38**				**Pn**	**07 46 43.1**	**+1.9**
AKUT	**Akutan**	**1.87**	**42**				**Pn**	**07 46 43.3**	**+1.0**
AKUT					IAML			07 47 16.6	
	comp=E,1µm,0.6s								
AKUT					IAML			07 47 18.4	
	comp=N,891nm,0.6s								
AKUT	**Akutan**	**1.87**	**42**	P		P	**Pn**	**07 46 43.0**	**+0.6**
WESE	**West Dahl East**	**2.61**	**48**				**Pn**	**07 46 54.4**	**+1.7**
WEBT	**Westdahl Beart**	**2.61**	**44**				**Pn**	**07 46 54.8**	**+2.1**
WEBT							**Sn**	**07 47 28.4**	**+5.3**

SSBA Shishaldin 3.01 47 Pn 07 46 59.9 +1.8
SSLS Shishaldin Sou 3.03 48 Pn 07 47 00.3 +2.0
ISNN Isanotski Nort 3.20 48 Pn 07 47 03.2 +2.5
FALS False Pass 3.38 50 Pn 07 47 05.0 +1.9
FALS False Pass 3.38 50 P **Pn 07 47 06.8 +3.7**
FALS False Pass 3.38 50 S **Sn 07 47 49.0 +7.0**
ATKA Atka Island 3.89 264 Pn 07 47 12.3 +2.2
ATKA Atka Island 3.89 264 P **Pn 07 47 12.1 +2.0**
ATKA Atka Island 3.89 264 S **Sn 07 47 59.6 +5.1**
P08K Saint George I 3.96 347 Pn 07 47 12.2 +1.2
S12K Black Hills 4.51 47 Pn 07 47 21.1 +2.3
S12K Black Hills 4.51 47 IAML 07 48 30.3
comp=N,78nm,1.1s
S12K IAML 07 48 46.6
comp=E,81nm,1.3s
SPIA Saint Paul Isl 4.62 344 Pn 07 47 22.9 +2.8
SPIA IAML 07 48 05.8
comp=N,141nm,1.5s
SPIA IAML 07 48 28.9
comp=E,128nm,1.3s
GSIG Igitkin Island 4.98 264 Pn 07 47 26.9 +1.8
GSTR Great Sitkin T 5.04 266 Pn 07 47 28.4 +2.4
GSMY Great Sitkin M 5.05 265 Pn 07 47 28.2 +2.1
SDPT Sand Point 5.08 56 Pn 07 47 27.6 +1.1
SDPT IAML 07 48 50.0
comp=E,101nm,1.1s
SDPT IAML 07 48 52.3
comp=N,154nm,0.9s
SDPT Sand Point 5.08 56 P **Pn 07 47 29.5 +3.1**
GSCK Great Sitkin C 5.12 265 Pn 07 47 28.9 +1.9
ETKA Kagalaska Isla 5.30 264 Pn 07 47 31.0 +1.6
CNBA Chernabura Isl 5.34 64 Pn 07 47 30.8 +0.8
CHNA Chernabura Isl 5.34 64 P **Pn 07 47 31.8 +1.8**
ADAG Mount Adagdak 5.39 265 Pn 07 47 32.7 +2.0
ADK Adak 5.46 264 Pn 07 47 33.7 +2.0
ADK Adak 5.46 264 P **Pn 07 47 34.3 +2.6**
KIWB Kanaga Island 5.75 265 Pn 07 47 38.0 +2.3
CHGN Chignik 6.56 54 Pn 07 47 49.5 +2.8
O14K Tigyukauivet M 7.49 27 Pn 07 48 02.6 +3.1
M11K Mekoryuk 7.69 6 Pn 07 48 05.0 +2.7
CHIR Chirikof Islan 7.81 62 P **Pn 07 48 05.9 +2.0**
O15K Ungalikthiuk R 7.85 32 Pn 07 48 07.7 +3.1
N14K Kuskokwak Cree 7.96 23 Pn 07 48 08.8 +2.9
AMKA Amchitka 8.01 265 Pn 07 48 08.0 +1.3
M13K Dall Lake 8.06 16 Pn 07 48 10.7 +3.4
PLK4 Peulik 4 8.20 49 Pn 07 48 13.1 +3.8
PLK3 Peulik 3 8.27 49 Pn 07 48 13.3 +3.0
P16K Nushagak River 8.38 38 Pn 07 48 11.9 +0.2
SII Sitkinak Islan 8.81 59 P **Pn 07 48 20.2 +2.6**
ANCK Angle Creek 8.89 47 Pn 07 48 21.7 +2.9
ACHA Angle Creek He 8.97 48 Pn 07 48 22.2 +2.3
L14K Kuka Creek 9.05 16 Pn 07 48 23.6 +2.7
OHAK Old Harbor 9.50 56 P **Pn 07 48 28.2 +1.1**
L15K Ungalak Mounta 9.58 19 Pn 07 48 30.8 +2.6
O18K Koktuh Hills 9.99 40 Pn 07 48 37.1 +3.3
KDAK Kodiak Island 10.07 54 Pn 07 48 35.7 +0.9
KDAK Kodiak Island 10.07 54 Pn **Pn 07 48 34.6 -0.2**
comp=N,1.2nm,0.3s,baz=228,slow=5.1,SNR=35
KDAK Sn **Sn 07 50 23.1 -3.3**
comp=N,0.2nm,0.3s,baz=283,slow=16,SNR=3.7
comp=N,4.4nm,0.5s
K15K Wolf Creek Mou 10.14 17 Pn 07 48 38.4 +2.6
N18K Kilae Creek 10.30 35 Pn 07 48 40.5 +2.5
SYI Shuyak Island 10.52 50 Pn 07 48 42.4 +1.5
SEW Seward 12.54 47 Pn 07 49 09.2 +0.6
H21K Melozitna Rive 14.99 25 lAmb lAmb 07 49 51.2
comp=Z,4.8nm,0.9s
BMRM Bremner River 15.08 48 lAmb lAmb 07 49 47.8
comp=Z,15nm,1.4s
MLY Manley 15.08 29 lAmb lAmb 07 49 50.5
comp=Z,4.3nm,0.8s
N25K Chitina, Valde 15.34 46 lAmb lAmb 07 49 55.4
comp=Z,3.7nm,0.6s
I23K Minto, Yukon-K 15.57 30 lAmb lAmb 07 50 05.8
comp=Z,5.5nm,1.1s
GLB Gilahina Butte 15.62 47 lAmb lAmb 07 50 01.2
comp=Z,3.0nm,0.6s
E19K Redstone River 15.62 15 lAmb lAmb 07 49 57.5
comp=Z,5.3nm,0.8s
CRQM Cirque 15.67 50 Pn **Pn 07 49 51.2 +0.1**
VRDI Verde Repeater 15.70 48 lAmb lAmb 07 50 00.0
comp=Z,4.1nm,0.6s
WAX Waxell Ridge 15.71 51 Pn 07 49 53.5 +2.2
ILAR Eielson Array 16.12 34 Pn **Pn 07 49 53.7 -2.8**
comp=Z,0.2nm,0.3s,baz=231,slow=10,SNR=8.7
comp=Z,0.7nm,0.7s
G23K Bananza Creek 16.53 25 P 07 50 05.5 +1.4
G23K lAmb lAmb 07 50 09.5
comp=Z,4.6nm,0.7s
COLD Coldfoot 16.88 24 lAmb lAmb 07 50 12.1
comp=Z,5.8nm,1.0s
O28M Mount Upton 17.06 51 lAmb lAmb 07 50 14.7
comp=Z,8.1nm,0.8s
J26L Joseph Creek 17.14 37 lAmb lAmb 07 50 16.2
comp=Z,4.2nm,0.5s
E22K Anaktuvuk Pass 17.23 21 lAmb lAmb 07 50 19.4
comp=Z,4.4nm,0.7s
FYU Fort Yukon 17.79 30 lAmb lAmb 07 50 46.0
comp=Z,13nm,1.5s
M29M Somme Creek 18.34 47 lAmb lAmb 07 50 30.4
comp=Z,5.4nm,0.7s
BMAR Burnt Mountain 18.55 29 Pn 07 50 28.5 +1.8
L29M L29M 18.70 45 lAmb lAmb 07 50 32.6
comp=Z,4.2nm,0.9s
H27K Steamboat Moun 18.79 34 lAmb lAmb 07 50 33.3
comp=Z,4.1nm,0.9s
C23K Itkillik River 18.89 19 P 07 50 30.8 +0.9
C23K lAmb lAmb 07 50 36.1
comp=Z,13nm,1.1s
I28M Miner Creek 18.95 37 lAmb lAmb 07 50 41.2
comp=Z,3.5nm,0.5s
SKAG Skagway 19.20 57 lAmb lAmb 07 50 38.4
comp=Z,7.1nm,0.6s
K29M Barlow Dome 19.21 43 P 07 50 33.9 +0.2
I29M Ogilvie Camp, 19.51 38 lAmb lAmb 07 50 57.4
comp=Z,4.7nm,1.2s
J30M Hart River 19.97 41 P P 07 50 42.4 +0.5
F28M Old Crow 20.10 32 P P 07 50 43.1 -0.1
F28M lAmb lAmb 07 50 48.5
comp=Z,3.2nm,0.7s
M31M Drury Creek, Y 20.11 49 lAmb lAmb 07 50 48.1
comp=Z,4.5nm,0.8s
I30M Mount Dempster 20.19 40 P 07 50 43.7 -0.6
I30M lAmb lAmb 07 50 52.4
comp=Z,2.9nm,0.6s
C27K Jago River 20.27 24 P P 07 50 45.3 +0.2
C27K lAmb lAmb 07 50 50.8
comp=Z,5.3nm,0.6s
P33M Teslin, Yukon 20.54 55 Pn 07 50 50.8 +0.3
P33M lAmb lAmb 07 50 56.6
comp=Z,5.1nm,0.7s
PETK Petropavlovsk- 20.62 285 P **P 07 50 46.9 -2.1**
comp=Z,1.0nm,0.4s,baz=82,slow=14,SNR=5.5
comp=Z,1.0nm,0.4s
D27M Malcolm River 20.75 27 P P 07 50 51.4 +1.1
D27M lAmb lAmb 07 51 00.5
comp=Z,6.7nm,1.4s
E28M Babbage River 20.77 29 lAmb lAmb 07 50 59.3
comp=Z,2.7nm,0.8s
E29M Blow River 21.15 31 P 07 50 53.7 -0.8
E29M lAmb lAmb 07 50 59.1
comp=Z,5.6nm,0.8s
H31M Peel River 21.20 39 P **P 07 50 54.9 -0.2**
R33M Jennings River 21.42 57 P 07 50 59.6 +1.9
MMPY Sheldon Lake, 21.62 48 P 07 51 01.2 +1.6
MMPY lAmb lAmb 07 51 05.7
comp=Z,6.0nm,0.9s
G31M Satah River 21.66 36 lAmb lAmb 07 51 09.2
comp=Z,4.0nm,0.7s
INK Inuvik 22.52 33 P 07 51 07.3 -1.8
YKA Yellowknife Ar 29.30 50 P **P 07 52 10.7 -0.9**
comp=Z,0.3nm,0.8s,baz=278,slow=14,SNR=9.0
YKA PcP **PcP 07 55 17.3 0.0**
comp=Z,0.3nm,0.6s,baz=304,slow=2.2,SNR=5.2
comp=Z,0.3nm,0.8s
TIXI Tiksi 32.86 329 LR LR 08 07 33.5
comp=Z,25nm,18.7s,baz=186,slow=39
YAK Yakutsk 33.59 311 LR LR 08 06 50.3
comp=Z,18nm,18.0s,baz=247,slow=37
NVAR Mina Array Bea 36.78 93 P **P 07 53 18.2 +1.0**
comp=Z,0.3nm,0.6s,baz=316,slow=6.8,SNR=2.9
comp=Z,0.3nm,0.6s
H11N2 WAKE ISLAND Hy 38.33 220 T T 08 34 42.5
baz=24,slow=76,SNR=473
H11N3 WAKE ISLAND Hy 38.34 220 T T 08 34 53.7

	baz=24,slow=76,SNR=690								
H11N1	**WAKE ISLAND Hy**	**38.35**	**220**		T		T	08 34 40.5	
	baz=24,slow=76,SNR=387								
PDAR	**Pinedale Array**	**39.45**	**81**		P		**P**	**07 53 40.5**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=281,slow=7.0,SNR=3.2								
	comp=Z,0.2nm,0.4s								
H11S1	**WAKE ISLAND Hy**	**39.52**	**220**		T		T	08 35 55.1	
	baz=23,slow=76,SNR=1615								
H11S2	**WAKE ISLAND Hy**	**39.53**	**220**		T		T	08 36 05.5	
	baz=23,slow=76,SNR=769								
H11S3	**WAKE ISLAND Hy**	**39.53**	**220**		T		T	08 35 56.6	
	baz=23,slow=76,SNR=854								
TXAR	**Lajitas Array**	**51.85**	**90**		P		**P**	**07 55 18.9**	**+1.3**
TXAR	**Lajitas Array**	**51.85**	**90**		P		**P**	**07 55 17.4**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=300,slow=5.4,SNR=14								
	comp=Z,1.2nm,0.7s								
SONM	**Songino Array**	**51.86**	**301**		P		**P**	**07 55 17.2**	**-0.4**
SONM					IAmb		IAmb	07 55 22.1	
	comp=Z,2.0nm,1.3s								
ARCES	**ARCESS Array B**	**57.61**	**354**		P		**P**	**07 55 56.3**	**-2.4**
	comp=Z,0.9nm,0.8s,baz=22,slow=6.8,SNR=5.5								
ARCES					PcP		**PcP**	**07 56 50.0**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=15,slow=5.0,SNR=5.5								
ARCES					LR		LR	08 20 34.6	
	comp=Z,11nm,20.2s,baz=360,slow=36								
	comp=Z,0.9nm,0.8s								
BORG	**Borgarnes**	**60.01**	**16**		LR		LR	08 26 06.8	
	comp=Z,33nm,18.1s,baz=305,slow=40								
KURBB	**Kurchatov Arra**	**62.77**	**319**		P		**P**	**07 56 32.9**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=43,slow=8.2,SNR=6.9								
	comp=Z,0.5nm,0.3s								
BVAR	**Borovoye Array**	**63.89**	**325**		P		**P**	**07 56 40.7**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=61,slow=7.0,SNR=7.1								
	comp=Z,1.4nm,0.4s								
MKAR	**Makanchi Array**	**64.18**	**314**		P		**P**	**07 56 42.8**	**-0.8**
MKAR	**Makanchi Array**	**64.18**	**314**		P		**P**	**07 56 41.4**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=54,slow=6.7,SNR=6.8								
	comp=Z,0.3nm,0.3s								
FINES	**FINESS Array B**	**65.59**	**353**		P		**P**	**07 56 51.3**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=16,slow=5.5,SNR=12								
	comp=Z,0.8nm,0.4s								
HFS	**Hagfors**	**67.44**	**359**		P		**P**	**07 57 02.8**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=357,slow=3.1,SNR=9.6								
	comp=Z,0.6nm,0.3s								
AKASG	**Malin Array Be**	**75.89**	**349**		P		**P**	**07 57 53.2**	**-2.1**
	comp=Z,1.0nm,0.5s,baz=14,slow=5.6,SNR=2.9								
	comp=Z,1.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**77.40**	**284**		P		**P**	**07 58 04.0**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=20,slow=6.6,SNR=6.3								
	comp=Z,0.9nm,0.4s								
ASAR	**Alice Springs**	**91.34**	**231**		P		**P**	**07 59 14.9**	**+0.1**
ASAR	**Alice Springs**	**91.34**	**231**		P		**P**	**07 59 14.6**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=19,slow=5.2,SNR=7.3								
	comp=Z,0.6nm,0.7s								
H03N2	**Juan Fernandez**	**115.24**	**112**		T		T	10 10 58.6	
	baz=322,slow=78,SNR=24								
H03N1	**Juan Fernandez**	**115.26**	**112**		T		T	10 11 02.9	
	baz=322,slow=78,SNR=19								
H03N3	**Juan Fernandez**	**115.26**	**112**		T		T	10 10 45.0	
	baz=322,slow=78,SNR=23								

*IDC **23** 07:50:07.1±3.6,54˚.19N×87˚.39E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=31.6km s-min=19.7km az=49.0*

ASRS 23 07:50:04.0±1.4, 54˚.16N×87˚.19E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.41**	**262**	I	I	07 59 30.0	
	baz=81,slow=323,SNR=12						
ZALV	**Zalesovo Beam**	**1.41**	**262**	Pg	Pb	07 50 33.0	+1.8
	1.0nm,0.3s,baz=80,slow=11,SNR=6.7						
ZALV				Lg	Lg	07 50 55.7	
	1.9nm,0.3s,baz=79,slow=28,SNR=9.2						
KURBB	**Kurchatov Arra**	**6.37**	**240**	Pn	Pn	07 51 46.1	+7.0
	baz=57,slow=14,SNR=1.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**8.01**	**205**	Pn	Pn	07 52 06.0	+4.4
	0.1nm,0.3s,baz=26,slow=14,SNR=1.4						
	0.1nm,0.3s						

*KRNET **23** 07:51:01.2±0.1,39˚.42N×73˚.58E, h17km, mb3.4*
*NNC **23** 07:51:01.4±4.1,39˚.23N×73˚.54E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=31.4km s-min=19.4km az=173.0*

ISC 23 07:51:01.5±1.4, 39˚.43N±0˚.07×73˚.54E±0˚.04, h10km, n28, σ2s17/48, 28C-11D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.58**	**357**	*eP*	**Pg**	**07 51 12.5**	**-0.4**
SFK				⇑*iS*	**Sg**	**07 51 21.1**	**+0.4**
OHH	**Osh**	**1.24**	**332**	*eP*	**Pn**	**07 51 24.6**	**-0.4**
OHH				⇑*eS*	**Sg**	**07 51 41.9**	**+0.5**
DRK	**Karamyk**	**1.35**	**273**	⇓*eP*	**Pn**	**07 51 27.0**	**+0.3**
DRK				⇓*eS*	**Sg**	**07 51 45.6**	**+0.7**
SALK	**Salom-Alik**	**1.47**	**8**	⇓*eP*	**Pb**	**07 51 28.7**	**-0.3**
SALK				⇓*eS*	**Sg**	**07 51 48.6**	**-0.2**
ARSB	**Arslanbob**	**1.94**	**347**	⇑*iP*	**Pb**	**07 51 36.8**	**-0.3**
ARSB				⇑*iS*	**Sg**	**07 52 02.8**	**-1.1**
BTK	**Batken**	**2.19**	**288**	⇓*iP*	**Pb**	**07 51 40.4**	**-0.9**
BTK				⇓*iS*	**Sb**	**07 52 09.2**	**+0.7**
ARK	**Arkit**	**2.65**	**334**	⇑*iP*	**Pn**	**07 51 46.8**	**+2.3**
ARK				⇑*eS*	**Sb**	**07 52 19.9**	**-2.0**
NRN	**Naryn**	**2.75**	**42**	*eP*	**Pn**	**07 51 47.1**	**+1.2**
NRN				⇑*eS*	**Sn**	**07 52 21.0**	**+1.7**
TRKS	**Terek-Say**	**2.79**	**320**	⇑*iP*	**Pn**	**07 51 47.9**	**+1.6**
TRKS				⇑*iS*	**Sn**	**07 52 21.8**	**+1.7**
UCH	**Uchtor**	**2.89**	**14**	⇑*iP*	**Pn**	**07 51 49.9**	**+1.8**
UCH				⇑*iS*	**Sn**	**07 52 25.7**	**+2.6**
MNAS	**Manas**	**3.15**	**346**	⇓*iP*	**Pn**	**07 51 53.8**	**+2.4**
MNAS				⇓*iS*	**Sn**	**07 52 32.2**	**+3.0**
EKS2	**Erkin-Say**	**3.23**	**3**	⇑*eP*	**Pn**	**07 51 54.7**	**+2.2**
EKS2				⇑*eS*	**Sn**	**07 52 33.6**	**+2.5**
AAK	**Ala-Archa**	**3.29**	**12**	⇑Pn	**Pb**	**07 51 57.6**	**-2.4**
	8.9nm,0.8s,baz=152,slow=25						
AAK				⇓Sn	**Sb**	**07 52 39.7**	**-0.4**
	8.9nm,0.6s,baz=152,slow=25						
AAK	**Ala-Archa**	**3.29**	**12**	⇓*iP*	**Pn**	**07 51 55.5**	**+2.3**
AAK				⇓*iS*	**Sn**	**07 52 34.8**	**+2.4**
MRKS	**Merke**	**3.32**	**356**	Pg	**Pb**	**07 52 02.5**	**+1.9**
	4.1nm,0.4s						
MRKS				Lg	Lg	07 52 46.0	
	39nm,0.4s						
ULHL	**Ulahol**	**3.48**	**35**	⇑*iP*	**Pn**	**07 51 57.8**	**+1.9**
ULHL				⇑*iS*	**Sn**	**07 52 39.3**	**+2.0**
BOOM	**Boomskoye usch**	**3.56**	**30**	⇑*eP*	**Pn**	**07 51 59.0**	**+2.0**
BOOM				⇑*iS*	**Sn**	**07 52 41.1**	**+2.0**
TKM2	**Tokmak 2**	**3.82**	**23**	⇑*iP*	**Pn**	**07 52 02.6**	**+2.0**
TKM2				⇑*iS*	**Sn**	**07 52 47.5**	**+1.9**
KDJ	**Kajisay**	**3.86**	**45**	⇑*iP*	**Pn**	**07 52 03.1**	**+1.9**
KDJ				⇑*iS*	**Sn**	**07 52 48.3**	**+1.6**
USP	**Ospenovka**	**3.90**	**10**	⇑*iP*	**Pn**	**07 52 03.7**	**+2.1**
USP				⇑*iS*	**Sn**	**07 52 49.5**	**+2.0**
KST	**Kastek**	**4.05**	**26**	Pg	**Pg**	**07 52 17.3**	**-1.8**
	3.2nm,0.3s						
KST				Lg	Lg	07 53 11.1	
	28nm,0.8s						
KK31	**Karatay Array**	**4.32**	**329**	Pn	**Pn**	**07 52 11.6**	**+4.3**
	1.4nm,0.3s,baz=149,slow=13,SNR=11						
KK31				⇑Sn	**Sb**	**07 53 04.7**	**-5.1**
	8.9nm,0.5s,baz=152,slow=25						
TNSS	**Tian-Shan**	**4.43**	**34**	Pg	**Pg**	**07 52 24.3**	**-2.0**
	1.3nm,0.4s						
TNSS				Lg	Lg	07 53 24.0	
	4.4nm,0.7s						
BRLS	**Borolday**	**4.55**	**323**	Pg	**Pb**	**07 52 21.0**	**-0.5**
BRLS				Lg	Lg	07 53 17.7	
KOTS	**Kotyrbulak**	**4.66**	**34**	Pg	**Pg**	**07 52 28.6**	**-2.1**
	5.6nm,0.8s						
KOTS				Lg	Lg	07 53 30.5	
	38nm,0.7s						
KTBS	**Karatobe**	**4.88**	**28**	Pg	**Pg**	**07 52 31.5**	**-3.6**
	3.4nm,0.7s						
KTBS				Lg	Lg	07 53 36.3	
	15nm,0.5s						
KUU	**Kurty**	**4.93**	**24**	Pg	**Pg**	**07 52 32.7**	**-3.2**
	1.8nm,0.1s						
KUU				Lg	Lg	07 53 38.4	
	31nm,0.8s						
BTLS	**Baital**	**5.62**	**4**	Pg	**Pg**	**07 52 45.4**	**-3.8**
	2.0nm,0.6s						
BTLS				Lg	Lg	07 53 59.4	

2.2nm,0.4s

*PRE **23** 07:56:06.5±1.0,28˚.20S×26˚.74E, h2km, ML3.1*
*IDC **23** 07:56:08.4±1.4,28˚.14S×26˚.74E, h0km, mb3.8/3, mbtmp3.9/6, ML2.4/2, Error ellipse: s-maj=21.6km s-min=14.6km az=114.0*
*NEIC **23** 07:56:10.5±1.1,28˚.19S±0˚.07×26˚.59E±0˚.09, h5km±1km, mb4.4/5, Error ellipse: s-maj=16.0km s-min=8.2km az=126.0*

ISC 23 07:56:08.7±0.6, 28˚.23S±0˚.04×26˚.70E±0˚.05, h4km, n44, σ1s70/60, mb4.0/5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**1.33**	**253**	*eP*	**Pn**	**07 56 34.6**	**+0.5**
BOSA				*eS*	**Sg**	**07 56 52.1**	**+0.7**
BOSA	**Boshof**	**1.33**	**253**	Pg	**Pn**	**07 56 34.5**	**+0.5**
	29nm,0.3s,baz=73,slow=15,SNR=567						
BOSA				Lg	Lg	07 56 53.2	
	14nm,0.3s,baz=105,slow=14,SNR=6.1						
BOSA	**Boshof**	**1.33**	**253**	*eP*	**Pn**	**07 56 32.6**	**-1.5**
BOSA				*eS*	**Sg**	**07 56 52.0**	**+0.6**
BOSA				IAML		07 56 55.1	
	comp=Z,472nm,0.5s						
HRAO	**HartRAO**	**2.49**	**21**	*eP*	**Pn**	**07 56 48.8**	**-1.4**
HRAO				*eS*	**Sn**	**07 57 18.7**	**-2.4**
HRAO				IAML		07 57 27.8	
	comp=Z,122nm,0.3s						
HVD	**Gariep Dam**	**2.59**	**204**	*eP*	**Pn**	**07 56 51.4**	**-0.1**
HVD				*eS*	**Sn**	**07 57 22.4**	**-1.0**
MAKGR	**Makgori**	**2.95**	**324**	Pn	**Pn**	**07 56 57.3**	**+0.9**
LBTB	**Lobatse**	**3.35**	**343**	Pn	**Pn**	**07 57 02.5**	**+0.5**
	comp=Z,3.2nm,0.3s,baz=164,slow=12,SNR=137						
LBTB				Sn	**Sn**	**07 57 40.7**	**-1.7**
	comp=Z,8.1nm,0.3s,baz=246,slow=22,SNR=14						
LBTB				Lg	Lg	07 57 51.5	
	comp=Z,12nm,0.3s,baz=56,slow=22,SNR=4.3						
	comp=Z,8.7nm,0.3s						
CRLN	**Carolina, Mapu**	**3.71**	**54**	*eP*	**Pn**	**07 57 04.5**	**-2.4**
CRLN				*eS*	**Sn**	**07 57 47.6**	**-3.5**
CRLN				IAML		07 58 02.5	
	comp=Z,42nm,0.4s						
ALKP	**Alkanpan, Nort**	**4.25**	**245**	*eP*	**Pn**	**07 57 13.9**	**-0.4**
ALKP				*eS*	**Sn**	**07 58 02.5**	**-2.0**
ALKP				IAML		07 58 26.1	
	comp=Z,52nm,0.4s						
BFON	**Badsfontein, M**	**4.41**	**216**	*eP*	**Pn**	**07 57 16.3**	**-0.3**
BFON				*eS*	**Sn**	**07 58 07.2**	**-1.2**
BFON				IAML		07 58 37.5	
	comp=Z,78nm,0.5s						
GRAF	**Camdeboo Natio**	**4.46**	**205**	*eP*	**Pn**	**07 57 17.4**	**+0.2**
GRAF				*eS*	**Sn**	**07 58 09.0**	**-0.7**
GRAF				IAML		07 58 30.3	
	comp=Z,47nm,0.4s						
BRAK	**Brakfontein**	**4.84**	**222**	*eP*	**Pn**	**07 57 22.4**	**0.0**
BRAK				*eS*	**Sn**	**07 58 16.8**	**-2.1**
BRAK				IAML		07 58 47.7	
	comp=Z,49nm,0.5s						
LPHEP	**Lephephe**	**4.91**	**351**		**Pn**	**07 57 23.7**	**+0.3**
GRHM	**Grahamstown, E**	**5.04**	**183**	*eP*	**Pn**	**07 57 25.1**	**0.0**
GRHM				*eS*	**Sn**	**07 58 21.9**	**-1.8**
GRHM				IAML		07 58 59.0	
	comp=Z,24nm,0.6s						
KEIM	**Keimoes**	**5.07**	**263**	*eP*	**Pn**	**07 57 25.6**	**+0.1**
KEIM				*eS*	**Sn**	**07 58 22.9**	**-1.7**
KEIM				IAML		07 58 51.5	
	comp=Z,44nm,0.5s						
KDWAN	**Kaudwane**	**5.17**	**339**		**Pn**	**07 57 27.4**	**+0.4**
GRAN	**Grantham**	**5.64**	**223**	*eP*	**Pn**	**07 57 32.2**	**-1.2**
GRAN				*eS*	**Sn**	**07 58 35.7**	**-2.9**
GRAN				IAML		07 58 54.1	
	comp=Z,9.0nm,0.4s						
MREMI	**Moremi**	**5.68**	**7**		**Pn**	**07 57 33.6**	**-0.3**
FRAZ	**Fraserburg**	**5.88**	**230**	*eP*	**Pn**	**07 57 36.6**	**-0.1**
FRAZ				*eS*	**Sn**	**07 58 41.5**	**-3.2**
FRAZ				IAML		07 59 14.7	
	comp=Z,33nm,0.5s						
BUFB	**Buffelsbos**	**6.13**	**195**	*eP*	**Pn**	**07 57 39.6**	**-0.5**
BUFB				*eS*	**Sn**	**07 58 47.1**	**-3.6**
BUFB				IAML		07 59 24.2	
	comp=Z,16nm,0.9s						
LKGWB	**Lokgwabe**	**6.41**	**309**	Pn	Pn	07 57 39.7	-4.3
SUR	**Sutherland**	**6.56**	**230**	Pn	**Pn**	**07 57 47.2**	**+1.2**
KGCAE	**Kacgae**	**6.72**	**322**	Pn	**Pn**	**07 57 48.2**	**-0.1**
CVNA	**Calvinia**	**6.84**	**240**	*eP*	**Pn**	**07 57 49.5**	**-0.4**
CVNA				*eS*	**Sn**	**07 59 04.9**	**-3.4**
CVNA				IAML		07 59 48.6	
	comp=Z,33nm,0.4s						
KOMG	**Komaggas**	**8.22**	**257**	*eP*	**Pn**	**07 58 09.2**	**+0.4**
KOMG				*eS*	**Sn**	**07 59 38.2**	**-3.9**
KOMG				IAML		08 00 30.3	
	comp=Z,26nm,0.4s						
PHDHD	**Phuduhudu**	**8.24**	**346**		**Pn**	**07 58 10.2**	**+1.1**
GRTLG	**Ghanzi**	**8.46**	**323**	Pn	**Pn**	**07 58 12.6**	**+0.4**
ELIM	**Elim**	**8.69**	**221**	*eP*	**Pn**	**07 58 14.7**	**-0.5**
ELIM				*eS*	**Sn**	**07 59 49.2**	**-4.5**
ELIM				IAML		08 00 46.3	
	comp=Z,17nm,0.6s						
QNGWA	**Qangwa**	**10.03**	**329**	Pn	**Pn**	**07 58 34.0**	**+0.3**
KSANE	**Kasane**	**10.48**	**352**	Pn	**Pn**	**07 58 39.5**	**-0.4**
TSUM	**Tsumeb**	**12.27**	**315**	Pn	**Pn**	**07 59 04.0**	**-0.3**
TSUM	**Tsumeb**	**12.27**	**315**	Pn	**Pn**	**07 59 02.1**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=143,slow=15,SNR=8.2						
	comp=Z,3.3nm,0.6s						
LSZ	**Lusaka**	**12.97**	**6**	Pn	**Pn**	**07 59 11.3**	**-2.7**
	comp=Z,4.9nm,0.6s,baz=190,slow=12,SNR=7.0						
LSZ				Lg	Lg	08 02 52.9	
	comp=Z,0.5nm,0.3s,baz=284,slow=15,SNR=4.1						
SNAA	**Sanae**	**46.42**	**192**	P	**P**	**08 04 35.9**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=22,slow=19,SNR=3.7						
	comp=Z,1.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**47.73**	**326**	P	**P**	**08 04 46.8**	**-0.1**
TORD				IAmb	IAmb	08 05 15.9	
	comp=Z,1.5nm,1.2s						
TORD	**Torodi Ar. Bea**	**47.73**	**326**	P	**P**	**08 04 46.8**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=144,slow=6.2,SNR=39						
	comp=Z,1.5nm,0.5s						
BELA	**Belgrano 2**	**56.67**	**193**	P	**P**	**08 05 56.5**	**+3.8**
BELA				IAmb	IAmb	08 06 02.7	
	comp=Z,3.7nm,1.1s						
RDO	**Rodhopi**	**69.04**	**359**	P	**P**	**08 07 15.1**	**-0.2**
RDO				IAmb	IAmb	08 07 34.5	
	comp=Z,8.6nm,1.1s						
VNDA	**Vanda**	**71.14**	**171**	P	**P**	**08 07 29.1**	**+1.2**
TRQA	**Tornquist**	**72.25**	**236**	P	**P**	**08 07 35.9**	**+0.6**
ESDC	**Sonseca Array**	**73.35**	**336**	P	**P**	**08 07 42.0**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=157,slow=7.0,SNR=1.6						
	comp=Z,0.4nm,0.7s						
BCAR	**Beaver Creek A**	**144.36**	**351**	PKPdf	PKPbc	08 15 45.9	+2.0
K17K	**Iditarod**	**145.36**	**4**	PKPbc	**PKPbc**	**08 15 48.1**	**+1.2**
NVAR	**Mina Array Bea**	**149.21**	**298**	PKPbc	**PKPbc**	**08 15 59.8**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=54,slow=3.3,SNR=5.2						

CATAC 23 07:58:18.1±1.2, 10˚.N±6˚×8˚.5W±˚, h6km±4km, M2.5/4, MLv2.5/4, Error ellipse: s-maj=15.0km s-min=6.1km az=146.1, confirmed, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**Las Juntas de**	**0.66**	**348**	P	Pg	07 58 30.6	-0.3
JTS				S	Sg	07 58 40.1	+0.5
INDI	**Punta indio, G**	**0.71**	**289**	P	Pg	07 58 31.4	-0.5
INDI	**Punta indio, G**	**0.71**	**289**	S	Sb	07 58 43.2	+0.1
SOCE	**Pocosol**	**0.77**	**15**	P	Pg	07 58 33.2	+0.3
SOCE	**Pocosol**	**0.77**	**15**	S	Sb	07 58 44.4	-0.3
COVE	**Coope Vega, Sa**	**1.15**	**21**	S	Sb	07 58 56.0	+0.3

*IDC **23** 08:13:12.4±1.4, 12˚.19N×144˚.62E, h0km, mb3.7/7, mbtmp3.7/7, MS3.0/1, Error ellipse: s-maj=56.8km s-min=23.0km az=90.0*

ISC 23 08:13:16.8±1.4, 12˚.2N±0˚.2×144˚.6E±0˚.4, h29km, n8, σ1s02/7, mb3.9/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**24.95**	**348**	LR	LR	08 26 45.1	
	comp=Z,34nm,21.2s,baz=164,slow=33						
WRA	**Warramunga Arr**	**33.47**	**198**	P	**P**	**08 19 54.0**	**+0.4**
	0.7nm,0.9s,baz=19,slow=9.0,SNR=3.3						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**37.12**	**196**	P	**P**	**08 20 24.8**	**-0.2**
	0.4nm,0.7s,baz=17,slow=9.5,SNR=6.6						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**62.35**	**317**	P	**P**	**08 23 37.4**	**+0.7**
	0.6nm,0.6s,baz=86,slow=8.4,SNR=3.7						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**62.64**	**325**	P	**P**	**08 23 39.9**	**+1.4**
	0.7nm,0.5s,baz=90,slow=6.5,SNR=1.9						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**65.56**	**320**	P	**P**	**08 23 56.9**	**-0.8**
	0.4nm,0.3s,baz=102,slow=6.3,SNR=4.4						
	0.4nm,0.3s						
ILAR	**Eielson Array**	**69.95**	**25**	P	**P**	**08 24 25.1**	**0.0**
	0.4nm,0.7s,baz=261,slow=5.9,SNR=3.6						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**70.90**	**322**	P	**P**	**08 24 30.2**	**-0.9**
	0.7nm,0.4s,baz=86,slow=8.3,SNR=4.2						
	0.7nm,0.4s						

*IDC **23** 08:14:07.0±3.5,54˚.19N×87˚.19E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=32.7km s-min=20.8km az=53.0*

ASRS 23 08:14:05.0±0.5, 54˚.14N×87˚.11E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.36**	**263**	I	I	08 23 10.0	
	baz=80,slow=320,SNR=8.6						
ZALV	**Zalesovo Beam**	**1.36**	**263**	Pg	Pb	08 14 32.5	+1.1
	1.8nm,0.3s,baz=80,slow=11,SNR=16						
ZALV				Lg	Lg	08 14 52.0	
	1.2nm,0.3s,baz=77,slow=26,SNR=3.5						
KURBB	**Kurchatov Arra**	**6.32**	**240**	Pn	Pn	08 15 43.6	+4.2
	0.1nm,0.3s,baz=52,slow=12,SNR=4.6						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.97**	**205**	Pn	Pn	08 16 05.8	+3.8
	0.1nm,0.3s,baz=22,slow=12,SNR=1.6						
	0.2nm,0.4s						

*ASRS **23** 08:25:07.0±0.5,54˚.63N×86˚.62E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 23 08:25:10.3±3.7, 54˚.63N×86˚.60E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=31.8km s-min=19.2km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**237**	I	I	08 33 10.0	
	baz=56,slow=314,SNR=5.3						
ZALV	**Zalesovo Beam**	**1.25**	**237**	Pg	Pg	08 25 32.4	-1.8
	0.7nm,0.3s,baz=56,slow=17,SNR=6.9						
ZALV				Lg	Lg	08 25 50.9	
	1.5nm,0.3s,baz=57,slow=29,SNR=6.9						
KURBB	**Kurchatov Arra**	**6.34**	**234**	Pn	Pn	08 26 46.2	+1.2
	0.1nm,0.3s,baz=50,slow=14,SNR=5.4						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**8.31**	**201**	Pn	Pn	08 27 12.9	+0.9
	0.1nm,0.3s,baz=22,slow=13,SNR=1.7						
	0.1nm,0.3s						

JMA 23 08:29:52.4±0.2, 27˚.5N±1˚.0×129˚.9E±˚, h34km±4km, MV3.3/23, NEAR AMAMI-OSHIMA ISLAND, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.55**	**301**	*i* P	Pn	08 30 03.2	-0.5
JTK				*eS*	Sn	08 30 11.7	0.0
JAMN	**Amaminishikomi**	**0.79**	**340**	*i* P	Pn	08 30 07.0	0.0
JAMN				*eS*	Sn	08 30 17.6	0.0
JOKE	**Okinoerabujima**	**0.82**	**260**	*i* P	Pn	08 30 07.8	+0.4
JOKE				*eS*	Sb	08 30 18.9	-0.1
JAM	**Amami Oshima**	**0.91**	**7**	*i* P	Pn	08 30 08.8	0.0
JAM				*eS*	Sb	08 30 21.4	-0.2
JZK	**Kikaishima**	**0.92**	**28**	P	Pb	08 30 09.4	-0.5
JYRO	**Yoronjima**	**1.03**	**243**	*i* P	Pn	08 30 10.9	+0.5
JYRO				*eS*	Sb	08 30 24.5	-0.6
JOW	**Kunigami**	**1.26**	**238**	P	Pn	08 30 13.9	+0.3
JIH	**Iheya**	**1.42**	**251**	P	Pn	08 30 16.5	+0.7
JIH				*eS*	Sn	08 30 34.3	+1.0
JNTH	**Nagotoyohara**	**1.63**	**233**	P	Pn	08 30 18.8	+0.2
JTAJ	**Takarajima**	**1.66**	**352**	P	Pn	08 30 19.2	+0.1
JJT3	**Tamagusuku3**	**2.03**	**229**	*eS*	Sn	08 30 48.2	-0.2
JAGN	**Aguni-jima**	**2.19**	**246**	P	Pn	08 30 26.6	+0.2
JAGN				*eS*	Sn	08 30 52.6	+0.3
JKDJ	**Kitadaitoujima**	**2.24**	**133**	P	Pn	08 30 25.7	-1.4
JKDJ				S	Sn	08 30 50.8	-2.8
**JM

PSA00				IAmb	IAmb	08 38 33.2	
	comp=Z,43nm,1.1s						
PSA00	**Pilbara Seismi**	**20.91**	**211**	P	**P**	**08 38 30.5**	**-0.9**
PSA00				IAmb	IAmb	08 38 33.2	
	comp=Z,13nm,0.8s						
KSM	**Kuching**	**21.38**	**283**		**P**	**08 38 36.9**	**+0.3**
GUMO	**Guam**	**21.91**	**38**	LR	LR	08 47 49.5	
	comp=Z,48nm,19.2s,baz=222,slow=39						
GIRL	**Giralia**	**24.97**	**219**		**P**	**08 39 11.9**	**-0.4**
TWG	**Pinlang**	**28.06**	**340**	P	**P**	**08 39 38.7**	**-1.5**
STKA	**Stephens Creek**	**29.78**	**162**	P	**P**	**08 39 55.9**	**+0.5**
STKA	**Stephens Creek**	**29.78**	**162**	P	**P**	**08 39 55.9**	**+0.5**
	comp=Z,4.8nm,0.8s,baz=356,slow=7.8,SNR=5.4						
	comp=Z,4.8nm,0.8s						
JOW	**Kunigami**	**30.41**	**355**	LR	LR	08 51 00.7	
	comp=Z,87nm,20.5s,baz=128,slow=34						
JNU	**Nakatsue**	**36.56**	**360**	LR	LR	08 54 25.8	
	comp=Z,69nm,19.3s,baz=149,slow=34						
NJ2	**Nanjing**	**37.35**	**343**	*e*P	**P**	**08 41 03.1**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
CMAR	**Chiang Mai Arr**	**38.53**	**306**	P	**P**	**08 41 10.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**38.53**	**306**	P	**P**	**08 41 11.1**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=135,slow=7.6,SNR=11						
	comp=Z,1.8nm,0.3s						
KSAR	**Wonju Array Be**	**40.98**	**356**	P	**P**	**08 41 31.6**	**+0.2**
KSRS	**Korea Array**	**40.99**	**356**	P	**P**	**08 41 29.5**	**-2.0**
	comp=Z,1.5nm,0.7s,baz=175,slow=9.0,SNR=6.7						
	comp=Z,1.5nm,0.7s						
PZH	**PanZhiHua**	**41.27**	**318**	P	**P**	**08 41 36.6**	**+2.4**
XAN	**Xi'an**	**42.91**	**333**	⇑P	**P**	**08 41 50.4**	**+3.0**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
LZH	**Lanzhou**	**47.02**	**330**	*e*P	**P**	**08 42 22.0**	**+1.8**
LZH				pP	sP	08 42 32.5	-0.1
LZH				pmax	pmax		
	comp=Z,11nm,1.2s						
HHC	**Hu-ho-hao-te**	**47.74**	**340**	*e*P	P	08 42 30.8	+5.2
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,44nm,5.6s						
ASAJ	**Asahikawa**	**48.65**	**11**	LR	LR	09 02 42.3	
	comp=Z,28nm,20.0s,baz=224,slow=36						
SONM	**Songino Array**	**55.64**	**340**	P	**P**	**08 43 25.0**	**+0.5**
SONM	**Songino Array**	**55.64**	**340**	P	**P**	**08 43 24.0**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=166,slow=9.2,SNR=5.3						
	comp=Z,0.6nm,0.5s						
MK31	**Makanchi Array**	**66.05**	**326**	P	**P**	**08 44 34.8**	**-0.5**
MK31				IAmb	IAmb	08 44 36.2	
	comp=Z,3.9nm,0.9s						
MKAR	**Makanchi Array**	**66.05**	**326**		**P**	**08 44 34.5**	**-0.7**
MKAR	**Makanchi Array**	**66.05**	**326**	P	**P**	**08 44 34.8**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=124,slow=7.2,SNR=18						
MKAR				LR	LR	09 14 59.6	
	comp=Z,38nm,19.8s,baz=154,slow=38						
	comp=Z,3.2nm,0.8s						
MAKZ	**Makanchi**	**66.24**	**325**	P	**P**	**08 44 36.1**	**-0.4**
AAK	**Ala-Archa**	**68.72**	**319**	LR	LR	09 20 08.7	
	comp=Z,26nm,18.2s,baz=105,slow=40						
ZALV	**Zalesovo Beam**	**69.08**	**333**		**P**	**08 44 52.9**	**-1.4**
ZALV	**Zalesovo Beam**	**69.08**	**333**	P	**P**	**08 44 53.6**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=95,slow=5.4,SNR=6.8						
ZALV				LR	LR	09 17 33.6	
	comp=Z,27nm,18.2s,baz=130,slow=38						
	comp=Z,1.0nm,0.3s						
KURBB	**Kurchatov Arra**	**70.25**	**327**	P	**P**	**08 45 00.8**	**-0.7**
	comp=Z,3.1nm,0.7s,baz=127,slow=5.5,SNR=35						
	comp=Z,3.1nm,0.7s						
KURK	**Kurchatov**	**70.25**	**328**		**P**	**08 45 01.1**	**-0.4**
KURK				IAmb	IAmb	08 45 02.8	
	comp=Z,8.2nm,1.1s						
KKAR	**Karatay Array**	**71.56**	**318**	P	**P**	**08 45 09.3**	**-0.4**
VNDA	**Vanda**	**75.64**	**173**	P	**P**	**08 45 35.1**	**+2.1**
	comp=Z,1.7nm,0.8s,baz=315,slow=6.3,SNR=7.3						
	comp=Z,1.7nm,0.8s						
BVAR	**Borovoye Array**	**75.83**	**327**	P	**P**	**08 45 34.0**	**-0.5**
	comp=Z,5.7nm,0.9s,baz=120,slow=5.8,SNR=20						
	comp=Z,5.7nm,0.9s						
BRVK	**Borovoye**	**75.90**	**327**		**P**	**08 45 35.0**	**+0.1**
BRVK				IAmb	IAmb	08 45 35.8	
	comp=Z,5.1nm,0.9s						
L18K	**Granite Mounta**	**85.01**	**27**	P	**P**	**08 46 23.3**	**-0.2**
L18K				IAmb	IAmb	08 46 26.3	
	comp=Z,3.9nm,0.8s						
OHAK	**Old Harbor**	**85.30**	**32**	P	**P**	**08 46 24.7**	**-0.4**
OHAK				IAmb	IAmb	08 46 31.7	
	comp=Z,3.7nm,1.1s						
J18K	**Innoko River**	**85.37**	**25**		**P**	**08 46 25.5**	**+0.1**
J18K				IAmb	IAmb	08 46 26.9	
	comp=Z,3.8nm,0.8s						
KDAK	**Kodiak Island**	**85.81**	**31**	LR	LR	09 19 37.8	
	comp=Z,20nm,19.7s,baz=236,slow=32						
QSPA	**South Pole Qui**	**86.32**	**180**	P	**P**	**08 46 31.7**	**+1.5**
	comp=Z,1.7nm,1.0s,baz=214,slow=1.2,SNR=3.6						
	comp=Z,1.7nm,1.0s						
M20K	**Styx River**	**86.53**	**27**	IAmb	IAmb	08 46 33.1	
	comp=Z,4.2nm,0.9s						
J20K	**Nowinta River**	**86.67**	**25**	IAmb	IAmb	08 46 34.3	
	comp=Z,3.8nm,0.9s						
RC01	**Rabbit Creek A**	**87.94**	**29**	P	**P**	**08 46 37.5**	**-0.5**
MLY	**Manley**	**88.30**	**25**	IAmb	IAmb	08 46 42.3	
	comp=Z,4.1nm,1.2s						
I23K	**Minto, Yukon-K**	**88.89**	**25**	IAmb	IAmb	08 46 44.9	
	comp=Z,3.0nm,1.0s						
C23K	**Itkillik River**	**89.37**	**20**	P	**P**	**08 46 44.8**	**+0.3**
C23K				IAmb	IAmb	08 46 45.1	
	comp=Z,4.9nm,1.2s						
CCB	**Clear Creek Bu**	**89.45**	**25**		**P**	**08 46 44.5**	**-0.5**
CCB				IAmb	IAmb	08 46 46.4	
	comp=Z,4.6nm,1.4s						
EYAK	**Cordova Ski A**	**89.78**	**29**	P	**P**	**08 46 46.2**	**-0.4**
EYAK				IAmb	IAmb	08 47 02.2	
	comp=Z,5.7nm,1.1s						
ILAR	**Eielson Array**	**89.86**	**25**	P	**P**	**08 46 45.3**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=249,slow=5.0,SNR=5.9						
	comp=Z,0.5nm,0.8s						
L27K	**Beaver Creek,**	**91.89**	**27**	P	**P**	**08 46 56.0**	**-0.5**
L27K				IAmb	IAmb	08 46 59.1	
	comp=Z,5.1nm,1.5s						
BCAR	**Beaver Creek A**	**91.91**	**27**	P	**P**	**08 46 56.5**	**-0.1**
I28M	**Miner Creek**	**92.86**	**25**	IAmb	IAmb	08 47 02.3	
	comp=Z,1.2nm,0.7s						
DAWY	**Dawson**	**93.04**	**26**	IAmb	IAmb	08 47 04.3	
	comp=Z,3.5nm,1.1s						
ARCES	**ARCESS Array B**	**98.82**	**340**	P	**P**	**08 47 27.0**	**-0.9**
ARCES	**ARCESS Array B**	**98.82**	**340**	LR	LR	09 40 22.1	
	comp=Z,19nm,18.0s,baz=104,slow=40						
TORD	**Torodi Ar. Bea**	**129.14**	**284**	PKP	**PKiKP**	**08 52 58.1**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=90,slow=1.9,SNR=4.0						
LPAZ	**La Paz**	**152.56**	**137**	PKPbc	**PKiKP**	**08 53 48.5**	**+1.6**
	comp=Z,1.0nm,0.4s,baz=73,slow=1.5,SNR=8.5						

*DSN **23** 08:35:39.4±1.1,26°.91N×55°.23E,h10km,ML2.5/6,Error ellipse: s-maj=19.3km s-min=5.4km az=30.0*
*TEH **23** 08:35:43.8,26°.85N×55°.23E,h21km±29km*
ISC 23 08:35:42.0±1.2,26°.74N±0°.05×55°.19E±0°.07,h17km,n12,
σ1s64/14,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.09**	**53**	Pg	**Pn**	**08 36 04.1**	**+1.4**
SHME	**Shamm**	**1.09**	**129**	P	**Pn**	**08 36 01.9**	**-0.6**
SHME				S	**Sn**	**08 36 18.6**	**+1.3**
GENO	**Geno**	**1.09**	**53**	Pg	**Pn**	**08 36 04.5**	**+1.8**
LAR1	**LAR**	**1.18**	**322**	Pg	**Pg**	**08 36 06.2**	**+1.4**
BANOM	**Banah**	**1.28**	**129**	P	**Pn**	**08 36 04.9**	**-0.2**
BANOM				S	**Sb**	**08 36 23.7**	**+1.8**
IBND	**Bandar-abas**	**1.39**	**59**	Pg	**Pg**	**08 36 09.6**	**+0.8**
MSFE	**Esma-Masafi**	**1.62**	**147**	P	**Pn**	**08 36 09.6**	**-0.3**
MDH	**Madha**	**1.75**	**145**	P	**Pn**	**08 36 11.2**	**-0.3**
UOSS	**Minazif**	**2.00**	**153**	P	**Pn**	**08 36 15.4**	**+0.3**
HATD	**Hatta, Dubai**	**2.08**	**156**	P	**Pn**	**08 36 17.5**	**+1.4**
ASHO	**Ashiyiah**	**2.19**	**159**	P	**Pn**	**08 36 17.5**	**-0.1**
NGRK	**Negar Kerman**	**3.20**	**25**	Pn	**Pb**	**08 36 34.8**	**-3.8**

IDC 23 08:43:50.7±999.0,54°.46N×41°.59E,h0km,Error ellipse: s-maj=424.7km s-min=74.1km az=133.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**3.36**	**314**	I	I	09 05 00.0	
	0.1nm,0.7s,baz=130,slow=314,SNR=4.8						
I37NO	**I37NO**	**18.06**	**333**	I	I	10 33 50.0	
	baz=134,slow=316,SNR=1.5						
I26DE	**FREYUNG INFRAS**	**18.11**	**263**	I	I	10 29 50.0	
	baz=61,slow=314,SNR=1.5						

*IDC **23** 08:45:07.6±3.6,53°.60N×87°.93E,h0km,mbtmp2.7/2, ML2.4/2,Error ellipse: s-maj=35.6km s-min=19.5km az=50.0*
ASRS 23 08:45:04.0±0.6,53°.64N×87°.86E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**281**	I	I	08 56 58.1	
	baz=97,slow=312,SNR=19						
ZALV	**Zalesovo Beam**	**1.83**	**281**	Pn	Pg	08 45 40.8	+1.8
	1.5nm,0.3s,baz=102,slow=12,SNR=10						
ZALV				Lg	Lg	08 46 07.2	
	2.0nm,0.3s,baz=104,slow=23,SNR=13						
KURBB	**Kurchatov Arra**	**6.49**	**246**	Pn	Pn	08 46 45.1	+4.4
	0.1nm,0.3s,baz=61,slow=14,SNR=3.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.73**	**210**	Pn	Pn	08 47 02.3	+4.6
	0.1nm,0.3s,baz=25,slow=14,SNR=1.4						
	0.1nm,0.3s						

IDC 23 08:47:34.5±2.1,6°.53S×129°.07E,h0km,mb3.6/1, mbtmp3.9/4,ML4.1/3,Error ellipse: s-maj=83.2km s-min=28.4km az=75.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.98**	**196**	Pn	Pn	08 50 28.4	+1.8
	0.5nm,0.3s,baz=28,slow=12,SNR=16						
FITZ				Sn	Sn	08 52 27.1	-14
	0.8nm,0.3s,baz=56,slow=19,SNR=4.1						
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**14.28**	**160**	Pn	Pn	08 50 57.4	-0.9
	0.7nm,0.3s,baz=337,slow=11,SNR=22						
WRA				Sn	Sn	08 53 22.8	-15
	0.8nm,0.3s,baz=337,slow=22,SNR=8.9						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**17.66**	**165**	P	Pn	08 51 41.4	-0.9
	2.5nm,0.3s,baz=341,slow=10.0,SNR=177						
ASAR				S	Sn	08 54 47.0	-13
	0.4nm,0.5s,baz=347,slow=25,SNR=6.2						
	6.6nm,0.4s						
MKAR	**Makanchi Array**	**67.33**	**327**	P	P	08 58 31.4	0.0
	0.3nm,0.3s,baz=119,slow=6.9,SNR=4.5						
	0.3nm,0.3s						

*VIE **23** 08:57:34.1±0.5,50°.35N×18°.65E,h0km,mb2.4/5,ml2.7/5, ms3.3/1,Error ellipse: s-maj=4.2km s-min=2.6km az=2.0*
26 km WNW of Katowice Suspected Mining induced.
*IPEC **23** 08:57:35.1±0.1,50°.21N×18°.71E,h1km,ML2.5/4,Error ellipse: s-maj=1.9km s-min=0.7km az=167.0*
*PRU **23** 08:57:35.9,50°.25N×18°.63E,h0km*
*IDC **23** 08:57:35.1±2.0,50°.00N×18°.76E,h0km,mbtmp3.3/4, ML2.5/4,Error ellipse: s-maj=27.8km s-min=7.9km az=128.0*
*MCSM **23** 08:57:36.4±0.4,51°.9N×1°.9E±°,h10km±3km,mb4.3, MLv3.8*
ISC 23 08:57:33.3±0.7,50°.31N±0°.03×18°.77E±0°.02,h0km,n61, σ1s30/90,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.43**	**239**	*e*PG	**Pb**	**08 57 43.2**	**-0.5**
RAC				*e*SG	**Sg**	**08 57 48.9**	**+1.8**
OKC	**Ostrava-Krasne**	**0.62**	**221**	*e*PG	**Pg**	**08 57 45.7**	**+0.6**
OKC				*e*SG	**Sg**	**08 57 53.1**	**+0.1**
	comp=Z,139nm,0.4s						
OJC	**Ojcow**	**0.67**	**97**	*e*Pg	**Pn**	**08 57 48.7**	**-1.3**
OJC				*e*Sg	**Sb**	**08 57 58.3**	**+0.8**
STEB	**Steborice**	**0.74**	**240**	*e*PG	**Pg**	**08 57 48.3**	**+0.9**
STEB				*e*SG	**Sg**	**08 57 56.7**	**-0.3**
	comp=Z,325nm,0.3s						
MORC	**Moravsky Berou**	**0.95**	**237**	*e*PG	**Pg**	**08 57 51.7**	**+0.2**
MORC				*e*SG	**Sg**	**08 58 02.6**	**-1.2**
MORC	**Moravsky Berou**	**0.95**	**237**	*e*Pg	**Pg**	**08 57 51.6**	**+0.1**
	baz=59						
MORC				*e*Sg	**Sg**	**08 58 02.5**	**-1.2**
	74nm,0.3s,baz=59						
KRLC	**Kraliky**	**1.30**	**260**	*e*PG	**Pg**	**08 57 57.9**	**-0.2**
KRLC				*e*SG	**Sg**	**08 58 13.8**	**-1.1**
	comp=Z,156nm,0.8s						
NIE	**Niedzica**	**1.33**	**131**	*e*Pg	**Pn**	**08 57 59.9**	**+0.8**
NIE				*e*Sg	**Sn**	**08 58 18.2**	**+0.6**
DPC	**Dobruska-Polom**	**1.57**	**273**	*e*PG	**Pb**	**08 58 03.3**	**+0.1**
DPC				*e*SG	**Sb**	**08 58 24.1**	**+0.6**
	comp=Z,58nm,0.4s						
JAVC	**Velka Javorina**	**1.62**	**207**	*e*Pn	**Pn**	**08 58 03.3**	**+0.2**
	baz=26						
OSTC	**Ostas**	**1.65**	**280**	*e*PG	**Pb**	**08 58 04.5**	**-0.1**
OSTC				*e*SG	**Sb**	**08 58 26.5**	**+0.6**
	comp=Z,38nm,0.4s						
KSP	**Ksiaz**	**1.67**	**290**	*e*Pn	**Pn**	**08 58 04.2**	**+0.5**
KSP				*e*Pg	**Pg**	**08 58 06.6**	**+1.4**
KSP				*e*Sn	**Sn**	**08 58 26.4**	**+0.6**
KSP				*e*Sg	**Sg**	**08 58 28.5**	**+1.7**
KSP	**Ksiaz**	**1.67**	**290**	P	**Pg**	**08 58 06.2**	**+1.0**
VRAC	**Vranov**	**1.73**	**235**	Pg	**Pn**	**08 58 04.3**	**-0.2**
	6.4nm,0.3s,baz=59,slow=15,SNR=35						
VRAC				Lg	Lg	08 58 25.4	
	13nm,0.3s,baz=153,slow=18,SNR=17						
VRAC	**Vranov**	**1.73**	**235**	*e*Pn	**Pn**	**08 58 05.0**	**+0.4**
	baz=56						
VRAC				*e*Sg	**Sn**	**08 58 26.6**	**-0.7**
	41nm,0.2s,baz=56						
CHVC	**Chvalec**	**1.76**	**280**	*e*SG	**Sb**	**08 58 29.0**	**0.0**
UPC	**Upice**	**1.77**	**278**	*e*PG	**Pn**	**08 58 06.0**	**+0.8**
VYHS	**Vyhne**	**1.81**	**179**	*e*PN	**Pn**	**08 58 05.7**	**-0.1**
VYHS				*e*SN	**Sb**	**08 58 30.6**	**0.0**
STHS	**Stebnicka Huta**	**1.83**	**118**	*e*PN	**Pg**	**08 58 08.8**	**+0.4**
STHS				*e*SG	**Sg**	**08 58 34.8**	**+2.7**
STHS				*e*LG	Lg	08 58 41.0	
KRUC	**Moravsky**	**1.98**	**232**	*e*PN	**Pn**	**08 58 08.6**	**+0.5**
KRUC				*e*SG	**Sn**	**08 58 34.2**	**+0.6**
KRUC	**Moravsky**	**1.98**	**232**	*e*Pn	**Pn**	**08 58 08.5**	**+0.5**
	baz=52						
KRUC				*e*Sg	**Sn**	**08 58 34.1**	**+0.5**
	25nm,0.3s,baz=52						
KECS	**Kecovo**	**2.14**	**148**	*e*PN	**Pn**	**08 58 10.5**	**+0.3**
KECS				*e*PG	**Pg**	**08 58 15.4**	**+1.1**
KECS				*e*SN	**Sn**	**08 58 36.3**	**-1.2**
KECS				*e*LG	Lg	08 58 45.8	
MODS	**Modra-Piesok**	**2.17**	**207**	*e*PN	**Pn**	**08 58 08.6**	**-2.0**
GOPC	**GO Pecny, Ondr**	**2.59**	**263**	*e*SG	**Sb**	**08 58 53.6**	**+0.6**
	comp=Z,37nm,0.7s						
KOLS	**Kolonicke sedl**	**2.66**	**120**	*e*PG	**Pg**	**08 58 26.5**	**+2.3**
KOLS				*e*SN	**Sn**	**08 58 51.5**	**+1.1**
KOLS				*e*LG	Lg	08 59 00.0	
PRU	**Pruhonice**	**2.74**	**265**	*e*SG	**Sb**	**08 58 57.9**	**+0.8**
	comp=Z,18nm,0.4s						
HOLU	**Holmets**	**2.96**	**126**	P	**Pb**	**08 58 25.6**	**-1.2**
CONA	**Conrad Observa**	**3.05**	**220**	*i* Pn	**Pn**	**08 58 23.8**	**+0.9**
	4.2nm,0.3s						
CONA				*e*Sg	**Sg**	**08 59 11.5**	**+0.3**
	12nm,0.4s						
RONA	**Rosalia, Austr**	**3.08**	**213**	*i* Pn	**Pn**	**08 58 23.7**	**+0.6**
	1.2nm,0.2s						
RONA				*e*Sn	**Sn**	**08 59 01.8**	**+1.2**
	1.8nm,0.2s						
BRG	**Berggiesshubel**	**3.13**	**282**	Pg	**Pg**	**08 58 33.0**	**-0.1**
BRG				Sg	**Sg**	**08 59 13.6**	**0.0**
BRG				Amp		08 59 17.8	
	comp=Z,15nm,0.4s						
CKRC	**Cesky Krumlov**	**3.26**	**245**	*e*SG	**Sb**	**08 59 14.8**	**+2.6**
	comp=Z,22nm,0.5s						
KHC	**Kasperske Hory**	**3.57**	**253**	*e*PN	**Pn**	**08 58 29.9**	**0.0**
KHC				*e*PG	**Pb**	**08 58 37.8**	**+0.6**
KHC				*e*SG	**Sg**	**08 59 25.4**	**-2.4**
	comp=Z,24nm,0.6s						
GERES	**GERESS Array B**	**3.61**	**248**	Pn	**Pn**	**08 58 31.1**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=66,slow=14,SNR=14						
GERES				Pg	**Pb**	**08 58 38.9**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=71,slow=18,SNR=5.7						
GERES				Lg	Lg	08 59 25.0	
	comp=Z,0.5nm,0.3s,baz=70,slow=26,SNR=9.5						
	comp=Z,0.9nm,0.2s						

ARSA	**Arzberg**	**3.74**	**216**	*e*Sn	**Sb**	**08 59 27.8**	**+1.9**
	comp=Z,3.3nm,0.4s						
CLL	**Collm**	**3.79**	**288**	*e*Pg	**Pg**	**08 58 48.0**	**+2.1**
CLL				*e*Sg	**Sg**	**08 59 35.0**	**0.0**
	comp=Z,19nm,0.9s						
MOA	**Molln**	**3.85**	**232**	*e*Sn	**Sb**	**08 59 30.0**	**+0.9**
	comp=Z,8.5nm,0.5s						
RNPP8	**Varash**	**4.61**	**74**	P	**Pn**	**08 58 43.4**	**-0.7**
RNPP5	**Staryi Chortor**	**4.61**	**76**	P	**Pn**	**08 58 43.5**	**-0.6**
LESA	**Schwarzleotal**	**4.95**	**237**	*e*Sn	**Sb**	**08 59 55.4**	**-5.4**
	comp=Z,4.4nm,0.4s						
WTTA	**Wattenberg**	**5.61**	**240**	*e*Sn	**Sn**	**09 00 04.4**	**+1.1**
	comp=Z,8.9nm,0.7s						
AK20	**Malin Array Si**	**6.55**	**82**	P	**Pn**	**08 59 09.1**	**-1.6**
AK19	**Malin Array Si**	**6.55**	**82**	P	**Pn**	**08 59 09.1**	**-1.6**
AK21	**Malin Array Si**	**6.57**	**82**	P	**Pn**	**08 59 09.9**	**-1.1**
AK17	**Malin Array Si**	**6.58**	**83**	P	**Pn**	**08 59 09.2**	**-1.9**
AK18	**Malin Array Si**	**6.58**	**82**	P	**Pn**	**08 59 09.3**	**-1.9**
AK22	**Malin Array Si**	**6.58**	**82**	P	**Pn**	**08 59 10.9**	**-0.3**
AK16	**Malin Array Si**	**6.61**	**83**	P	**Pn**	**08 59 10.4**	**-1.2**
AK14	**Malin Array Si**	**6.61**	**83**	P	**Pn**	**08 59 10.4**	**-1.2**
AK12	**Malin Array Si**	**6.64**	**83**	P	**Pn**	**08 59 10.7**	**-1.3**
AK04	**Malin Array Si**	**6.65**	**82**	P	**Pn**	**08 59 10.8**	**-1.3**
AK11	**Malin Array Si**	**6.65**	**83**	P	**Pn**	**08 59 10.8**	**-1.3**
AK02	**Malin Array Si**	**6.67**	**83**	P	**Pn**	**08 59 11.2**	**-1.2**
KIEV	**Kiev**	**6.67**	**83**	P	**Pn**	**08 59 13.1**	**+0.7**
	comp=Z,0.2nmcomp=Z,27nm,1.5s						
AKBB	**Malin Array Si**	**6.68**	**83**	P	**Pn**	**08 59 13.1**	**+0.5**
AK10	**Malin Array Si**	**6.70**	**83**	P	**Pn**	**08 59 11.5**	**-1.3**
NACGM	**Naroch**	**6.71**	**44**	*e*P	**Pn**	**08 59 15.5**	**+2.6**
	comp=Z,6.0nm,0.8s,baz=231						
AK09	**Malin Array Si**	**6.72**	**83**	P	**Pn**	**08 59 11.8**	**-1.3**
DAVOX	**Davos/Dischmat**	**6.87**	**243**	Lg	Lg	09 01 11.6	
	comp=Z,0.5nm,0.3s,baz=211,slow=20,SNR=2.3						
HFS	**Hagfors**	**10.26**	**346**	Pn	**Pn**	**09 00 02.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=165,slow=13,SNR=1.8						
HFS				Sn	**Sn**	**09 01 54.8**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=162,slow=15,SNR=3.9						
	comp=Z,1.4nm,0.8s						
NOA	**NORSAR Array B**	**11.56**	**341**	Pn	**Pn**	**09 00 19.3**	**-0.1**
	baz=153,slow=12,SNR=1.7						
	comp=Z,0.3nm,0.6s						
FINES	**FINESS Array B**	**11.88**	**17**	Pn	**Pn**	**09 00 23.4**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=196,slow=12,SNR=8.4						
FINES				Sn	**Sn**	**09 02 34.9**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=196,slow=21,SNR=6.4						
	comp=Z,0.7nm,0.3s						

*TAP **23** 09:02:37.7,24°.63N×122°.13E,h72km,ML3.3,C*
*JMA **23** 09:02:37.8±0.3,25°.N±1°×122°.1E±0°.6,h72km±4km, MV2.6/11,TAIWAN REGION*
ISC 23 09:02:37.4±1.2,24°.64N±0°.03×122°.14E±0°.02,h77km±5km, n128,σ1s14/243,3C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.23**	**159**	*e*P	**Pn**	**09 02 49.5**	**+0.7**
EOS2				*e*S	**Sn**	**09 02 58.6**	**+1.4**
TWC	**Suao**	**0.27**	**264**	⇑*i*P	**Pn**	**09 02 49.0**	**-0.2**
TWC				S	**Sn**	**09 02 56.8**	**-1.0**
ESAO	**Su ao**	**0.28**	**257**	P	**Pn**	**09 02 49.2**	**0.0**
ESAO				*i* S	**Sn**	**09 02 57.2**	**-0.8**
EGS		**0.28**	**317**	*e*P	**Pn**	**09 02 49.5**	**+0.2**
EGS				S	**Sn**	**09 02 57.8**	**-0.2**
NTC	**Toucheng**	**0.36**	**307**	P	**Pn**	**09 02 49.7**	**0.0**
NTC				*e*S	**Sn**	**09 02 56.5**	**-2.3**
ILA	**Ilan**	**0.38**	**290**	*i* P	**Pn**	**09 02 50.1**	**+0.2**
ILA				*e*S	**Sn**	**09 02 58.5**	**-0.6**
EWUT	**Wuta**	**0.38**	**240**	*e*P	**Pn**	**09 02 50.4**	**+0.5**
EOS3	**EOS3**	**0.38**	**155**	*e*P	**Pn**	**09 02 50.7**	**+0.9**
EOS3				*e*S	**Sn**	**09 03 00.7**	**+1.9**
NDS	**Dongshan**	**0.39**	**269**	*e*P	**Pn**	**09 02 49.4**	**-0.5**
NDS				S	**Sn**	**09 02 59.1**	**-0.1**
TWB1	**Santiao Chiao**	**0.40**	**339**	*i* P	**Pn**	**09 02 49.9**	**-0.1**
TWB1				*e*S	**Sn**	**09 02 57.7**	**-1.7**
ENA	**Nanau**	**0.42**	**240**	*i* P	**Pn**	**09 02 50.4**	**+0.2**
ENA				S	**Sn**	**09 03 00.2**	**+0.6**
TIPB	**Shuangxi**	**0.44**	**319**	P	**Pn**	**09 02 50.4**	**0.0**
TIPB				*i* S	**Sn**	**09 02 59.1**	**-0.9**
TWE	**Neicheng**	**0.44**	**281**	P	**Pn**	**09 02 50.6**	**+0.3**
TWE				S	**Sn**	**09 02 59.2**	**-0.7**
EAHA	**Aohua**	**0.48**	**230**	*i* P	**Pn**	**09 02

NFF	**Wufeng Townshi**	**0.93 270**	*i* P	**Pn**	**09 02 56.3 +0.8**
NFF			S	**Sn**	**09 03 08.9 -0.2**
WHF	**Hehuan Shan**	**0.94 239**	*i* P	**Pn**	**09 02 56.0 0.0**
WHF			*e*S	**Sn**	**09 03 09.6 -0.2**
TWT	**Tachien**	**0.96 247**	*e*P	**Pn**	**09 02 57.0 +1.0**
TWT			*i* S	**Sn**	**09 03 10.3 +0.5**
NJD	**Zhudong**	**0.96 276**	P	**Pn**	**09 02 55.7 -0.1**
NJD			*e*S	**Sn**	**09 03 11.1 +1.5**
TDCB	**Techi**	**0.97 247**	*e*P	**Pn**	**09 02 57.0 +0.8**
TDCB			*i* S	**Sn**	**09 03 10.3 +0.2**
PCYT	**Pengchaiyu**	**0.99 356**	P	**Pn**	**09 02 57.1 +0.9**
PCYT			*e*S	**Sn**	**09 03 11.6 +1.4**
SHUL	**Shoufeng**	**1.00 212**	*e*P	**Pn**	**09 02 56.2 -0.1**
SHUL			*e*S	**Sn**	**09 03 10.4 +0.1**
LIOB	**Emei**	**1.02 271**	*e*P	**Pn**	**09 02 57.5 +0.9**
LIOB			S	**Sn**	**09 03 11.3 +0.4**
HSN1	**Hsinchu**	**1.03 278**	P	**Pn**	**09 02 56.4 -0.2**
HSN1			S	**Sn**	**09 03 12.0 +0.9**
NSTT	**Nanjuang**	**1.04 270**	*e*P	**Pn**	**09 02 57.4 +0.7**
NSTT			*i* S	**Sn**	**09 03 11.6 +0.3**
ESL	**Shilin**	**1.04 218**	*e*P	**Pn**	**09 02 56.2 -0.6**
SBCB	**Hsinchu**	**1.06 279**	P	**Pn**	**09 02 57.1 +0.1**
SBCB			S	**Sn**	**09 03 12.5 +0.8**
TEGC	**Jichi Village**	**1.08 211**	*e*P	**Pn**	**09 02 56.2 -0.9**
TEGC			S	**Sn**	**09 03 12.0 0.0**
HSN	**Hsinchu**	**1.08 279**	*e*S	**Sn**	**09 03 11.3 -0.8**
OWD	**Renai**	**1.11 233**	*e*P	**Pn**	**09 02 58.0 +0.2**
OWD			*e*S	**Sn**	**09 03 12.5 -0.6**
WUSB	**Renai**	**1.14 236**	*i* P	**Pn**	**09 02 58.6 +0.6**
WUSB			*i* S	**Sn**	**09 03 13.8 +0.3**
WARBT	**Fenglin Townsh**	**1.15 217**	*e*P	**Pn**	**09 02 57.0 -1.1**
WARBT			*e*S	**Sn**	**09 03 12.6 -2.4**
WHP	**Taichung City**	**1.15 252**	*e*P	**Pn**	**09 02 59.8 +1.7**
WHP			*e*S	**Sn**	**09 03 14.7 +1.0**
NJN	**Zhunan**	**1.16 273**	*e*P	**Pn**	**09 02 57.8 -0.4**
NJN			*e*S	**Sn**	**09 03 12.9 -0.9**
EGFH	**Guangfu**	**1.17 214**	*e*P	**Pn**	**09 02 58.9 +0.6**
EGFH			*e*S	**Sn**	**09 03 12.8 -1.2**
NMLH	**Miaoli**	**1.23 266**	*e*S	**Sn**	**09 03 16.1 +0.5**
DPDB	**Guoxing**	**1.26 242**	P	**Pn**	**09 03 01.2 +1.6**
DPDB			S	**Sn**	**09 03 16.7 +0.4**
WCS	**Beigang Elemen**	**1.26 243**	*e*P	**Pn**	**09 03 00.9 +1.4**
WCS			S	**Sn**	**09 03 17.3 +1.1**
VWDT	**VWDT**	**1.27 226**	*i* P	**Pn**	**09 03 00.1 +0.5**
VWDT			S	**Sn**	**09 03 16.2 -0.1**
NSY	**Sanyi**	**1.28 260**	*e*S	**Sn**	**09 03 18.2 +1.6**
TWQ1	**Liyutan**	**1.28 257**	P	**Pn**	**09 03 00.2 +0.4**
TWQ1			*e*S	**Sn**	**09 03 18.2 +1.6**
EHYH	**Wanrong**	**1.35 213**	*e*P	**Pn**	**09 03 01.7 +1.0**
EHYH			*e*S	**Sn**	**09 03 16.5 -1.7**
EHY	**Hungye**	**1.35 214**	*e*P	**Pn**	**09 02 59.8 -0.9**
EHY			*e*S	**Sn**	**09 03 15.8 -2.4**
SMLT	**Sun Moon Lake**	**1.36 237**	*e*P	**Pn**	**09 03 02.2 +1.3**
SMLT			*e*S	**Sn**	**09 03 20.8 +2.2**
SSLB	**Suanglung**	**1.38 232**	*e*P	**Pn**	**09 03 02.0 +0.9**
SSLB			*e*S	**Sn**	**09 03 20.7 +1.8**
TYC	**Yuchr**	**1.38 238**	*e*P	**Pn**	**09 03 02.6 +1.6**
TYC			*e*S	**Sn**	**09 03 21.2 +2.3**
WWF	**Wufeng**	**1.44 246**	P	**Pn**	**09 03 02.9 +1.0**
WWF			*e*S	**Sn**	**09 03 20.3 0.0**
YULB	**Yu-li**	**1.46 212**	*e*P	**Pn**	**09 03 01.2 -0.9**
YULB			*e*S	**Sn**	**09 03 18.8 -2.0**
IRIF	**Iriomote-Funau**	**1.48 101**	P	**Pn**	**09 03 02.6 +0.4**
IRIF			S	**Sn**	**09 03 21.0 -0.1**
TWF1	**Yuli**	**1.50 211**	*e*P	**Pn**	**09 03 01.6 -0.9**
TWF1			*e*S	**Sn**	**09 03 19.6 -2.0**
WHYT	**Xinyi Township**	**1.50 232**	*e*P	**Pn**	**09 03 04.1 +1.4**
WHYT			*e*S	**Sn**	**09 03 24.0 +2.2**
WJS	**Zhushan**	**1.52 238**	*e*P	**Pn**	**09 03 05.2 +2.2**
WJS			*e*S	**Sn**	**09 03 25.5 +3.3**
WNT	**Mingjian**	**1.53 241**	P	**Pn**	**09 03 04.4 +1.4**
WNT			S	**Sn**	**09 03 24.0 +1.6**
WCH1	**Changhua City**	**1.56 249**	*e*S	**Sn**	**09 03 23.1 +0.1**
YUS	**Yu-Shan**	**1.58 224**	P	**Pn**	**09 03 04.7 +0.6**
YUS			S	**Sn**	**09 03 24.0 -0.2**
CHKH	**Chenggong**	**1.59 206**	*e*P	**Pn**	**09 03 03.1 -0.7**
CHKH			*e*S	**Sn**	**09 03 21.0 -2.8**
HATJ	**Hateruma jima**	**1.62 111**	P	**Pn**	**09 03 05.2 +1.1**
FULB	**Fuli**	**1.63 209**	*e*P	**Pn**	**09 03 04.4 +0.1**
FULB			*e*S	**Sn**	**09 03 25.8 +1.1**
ALS	**Alishan**	**1.66 228**	*e*P	**Pn**	**09 03 06.5 +1.5**
ALS			*e*S	**Sn**	**09 03 29.3 +3.5**
CHKT	**Chengkung**	**1.69 205**	*e*P	**Pn**	**09 03 04.0 -1.1**
CHKT			*e*S	**Sn**	**09 03 23.6 -2.5**
EHD	**Haiduan**	**1.71 210**	*e*P	**Pn**	**09 03 04.2 -1.2**
EHD			S	**Sn**	**09 03 24.5 -2.1**
WDLH	**Douliu**	**1.74 238**	P	**Pn**	**09 03 06.9 +1.1**
WDLH			*e*S	**Sn**	**09 03 30.8 +3.4**
JKRS	**Kuro-shima**	**1.75 103**	P	**Pn**	**09 03 06.6 +0.8**
JKRS			S	**Sn**	**09 03 28.1 +0.6**
ELDTW	**Lidau**	**1.77 216**	*e*P	**Pn**	**09 03 06.6 +0.3**
ELDTW			*e*S	**Sn**	**09 03 27.2 -1.1**
EDH	**Donghe**	**1.83 205**	*e*P	**Pn**	**09 03 06.0 -1.0**
EDH			*e*S	**Sn**	**09 03 26.6 -2.8**
JIJ	**Ishigaki jima**	**1.84 98**	P	**Pn**	**09 03 07.8 +0.7**
WTCT	**Ta-ch'eng**	**1.86 246**	*e*P	**Pn**	**09 03 06.4 -1.0**
TPUB	**Ta-pu**	**1.92 226**	*e*P	**Pn**	**09 03 10.5 +2.3**
TPUB			*e*S	**Sn**	**09 03 34.6 +3.0**
STYH	**Taoyuan**	**1.92 221**	P	**Pn**	**09 03 09.3 +1.1**
STYH			S	**Sn**	**09 03 32.2 +0.7**
WTP	**Ta-pu**	**1.97 226**	P	**Pn**	**09 03 10.3 +1.4**
WTP			S	**Sn**	**09 03 33.6 +0.8**
JISG	**Ishigakijimahi**	**1.97 91**	P	**Pn**	**09 03 09.5 +0.6**
JISG			S	**Sn**	**09 03 33.5 +0.7**
LDUT	**Ludao**	**2.05 198**	*e*P	**Pn**	**09 03 08.2 -1.6**
LDUT			*e*S	**Sn**	**09 03 31.1 -3.5**
SNST	**Tainan City**	**2.06 227**	P	**Pn**	**09 03 11.2 +1.2**
SNST			S	**Sn**	**09 03 35.6 +0.7**
WSL	**Shuilin Townsh**	**2.07 238**	P	**Pn**	**09 03 11.1 +1.0**
WSL			*e*S	**Sn**	**09 03 35.3 +0.2**
SGST	**Jiashian**	**2.11 223**	*e*P	**Pn**	**09 03 11.7 +1.0**
SGST			*e*S	**Sn**	**09 03 36.5 +0.5**
ECL	**Taimali**	**2.31 208**	*e*P	**Pn**	**09 03 14.7 +1.4**
ECL			*e*S	**Sn**	**09 03 39.7 -1.0**
SSD	**Sandimen**	**2.34 217**	*e*P	**Pn**	**09 03 15.9 +2.2**
SSD			S	**Sn**	**09 03 42.6 +1.1**
TSMG	**Majia**	**2.36 216**	*e*P	**Pn**	**09 03 16.0 +1.9**
TSMG			S	**Sn**	**09 03 43.3 +1.1**
MASBT	**Mashibuluo**	**2.45 215**	P	**Pn**	**09 03 16.1 +0.9**
MASBT			*e*S	**Sn**	**09 03 43.1 +1.5**
VWUC	**VWUC**	**2.47 279**	*e*P	**Pn**	**09 03 15.5 0.0**
VWUC			*e*S	**Sn**	**09 03 42.7 -2.1**
MATB	**Ma-tsu**	**2.49 308**	*e*P	**Pn**	**09 03 15.8 0.0**
MSUT	**Lienchiang**	**2.52 308**	*e*P	**Pn**	**09 03 15.9 -0.3**
EAST	**Anshuo**	**2.54 208**	*e*P	**Pn**	**09 03 18.4 +1.9**
EAST			*e*S	**Sn**	**09 03 47.4 +0.9**
TAWH	**Dawu Township**	**2.56 207**	*e*S	**Sn**	**09 03 45.9 -1.1**
PHUB	**P'eng-hu**	**2.60 245**	P	**Pn**	**09 03 17.4 +0.1**
PHUB			*e*S	**Sn**	**09 03 45.8 -2.2**
WDGT	**Dungji**	**2.65 239**	P	**Pn**	**09 03 18.7 +0.7**
WDGT			S	**Sn**	**09 03 48.8 -0.4**
LYUB	**Lan-yu**	**2.67 191**	*e*P	**Pn**	**09 03 17.0 -1.3**
LYUB			*e*S	**Sn**	**09 03 46.2 -3.5**
PTMZ	**Houxiangcun**	**2.77 279**	*e*P	**Pn**	**09 03 19.5 -0.1**
PTMZ			*e*S	**Sn**	**09 03 50.2 -1.9**
VCHM	**Qimei**	**2.86 241**	P	**Pn**	**09 03 21.3 +0.5**
VCHM			S	**Sn**	**09 03 52.8 -1.5**
KNMB	**Chin-men Tao**	**3.42 268**	*e*P	**Pn**	**09 03 28.1 -0.3**
KNMB			*e*S	**Sn**	**09 04 05.2 -2.7**

*ASRS **23** 09:05:57.0±1.1,53°.55N×87°.79E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 23 09:05:59.7±3.3, 53°.59N×87°.58E, h0km, mbtmp3.2/2, ML2.5/1, Error ellipse: s-maj=27.3km s-min=15.2km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.68**	**283**	I	I	09 17 00.0	
	0.1nm,0.8s,baz=101,slow=320,SNR=7.2						
ZALV	**Zalesovo Beam**	**1.68**	**283**	Pg	Pb	09 06 31.1	-0.3
	1.2nm,0.3s,baz=99,slow=14,SNR=6.1						
ZALV				Lg	Lg	09 06 52.1	
	2.3nm,0.3s,baz=99,slow=28,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.32**	**246**	Pn	Pn	09 07 34.8	+0.8
	0.1nm,0.3s,baz=64,slow=16,SNR=1.8						
KURBB				Lg	Lg	09 09 18.3	
	0.2nm,0.3s,baz=61,slow=31,SNR=4.3						
	1.0nm,0.2s						
MKAR	**Makanchi Array**	**7.60**	**209**	Pn	Pn	09 07 52.3	+0.6
	0.3nm,0.3s,baz=27,slow=13,SNR=1.9						
MKAR				Sn	Sn	09 09 18.8	+0.3
	0.1nm,0.3s,baz=27,slow=30,SNR=2.4						
MKAR				Lg	Lg	09 10 01.8	
	0.1nm,0.3s,baz=23,slow=27,SNR=3.5						

*IDC **23** 09:08:36.4±1.3,4°.17S×152°.43E, h0km, mb4.1/6, mbtmp4.2/7, ML4.9/1, MS3.4/3, Error ellipse: s-maj=28.7km s-min=25.8km az=166.0*

*NEIC **23** 09:08:37.4±1.2,3°.71S±0°.10×152°.67E±0°.08, h10km±2km, mb4.5/10, Error ellipse: s-maj=20.4km s-min=5.2km az=321.0*

ISC 23 09:08:38.0±1.1, 3°.9S±0°.1×152°.68E±0°.07, h10km, n24, σ1°.61/22, mb4.3/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.61**	**237**		**Pg**	**09 08 51.3**	**+1.5**
RABL				Sg	**Sb**	**09 08 59.8**	**+0.4**
HNR	**Honiara**	**9.10**	**128**	Pn	**Pn**	**09 10 49.9**	**+0.5**
HNR	**Honiara**	**9.10**	**128**	Pn	**Pn**	**09 10 50.0**	**+0.5**
	13nm,0.3s,baz=349,slow=5.2,SNR=1.6						
HNR				Sn	**Sn**	**09 12 33.3**	**+1.2**
	7.4nm,0.3s,baz=282,slow=19,SNR=1.4						
HNR				LR	LR	09 14 14.0	
	comp=Z,108nm,20.0s,baz=15,slow=37						
	59nm,0.4s						
PATS	**Pohnpei**	**12.02**	**28**		Pn	09 11 27.0	-2.6
COEN	**Coen**	**13.73**	**222**	Pn	**Pn**	**09 11 53.3**	**+0.3**
DZM	**Mont Dzumac**	**22.50**	**145**	P	**P**	**09 13 38.0**	**0.0**
DZM				IAmb	IAmb	09 13 43.6	
	comp=Z,27nm,1.4s						
DZM	**Mont Dzumac**	**22.50**	**145**	P	**P**	**09 13 37.0**	**-1.0**
	comp=Z,5.8nm,0.7s,baz=306,slow=8.7,SNR=6.3						
	comp=Z,5.8nm,0.7s						
PINNC	**Pines Island,**	**23.50**	**144**	P	**P**	**09 13 48.4**	**+0.2**
WB0	**Warramunga Arr**	**23.83**	**227**		**P**	**09 13 49.5**	**-2.0**
WB0				IAmb	IAmb	09 13 51.1	
	comp=Z,14nm,0.8s						
WR8	**Warramunga Arr**	**23.87**	**226**	P	**P**	**09 13 49.8**	**-2.1**
WR8				IAmb	IAmb	09 13 51.4	
	comp=Z,8.6nm,0.7s						
WRA	**Warramunga Arr**	**23.98**	**227**	P	**P**	**09 13 50.4**	**-2.6**
WRA	**Warramunga Arr**	**23.98**	**227**	P	**P**	**09 13 50.1**	**-2.9**
	comp=Z,12nm,0.6s,baz=50,slow=10,SNR=91						
	comp=Z,12nm,0.6s						
KNRA	**Kununurra**	**26.29**	**242**	P	**P**	**09 14 14.4**	**+0.4**
KNRA				IAmb	IAmb	09 14 15.4	
	comp=Z,16nm,1.4s						
AS31	**Alice Springs**	**26.76**	**221**	P	**P**	**09 14 16.8**	**-1.5**
ASAR	**Alice Springs**	**26.77**	**221**	P	**P**	**09 14 17.7**	**-0.6**
ASAR	**Alice Springs**	**26.77**	**221**	P	**P**	**09 14 15.4**	**-2.8**
	comp=Z,1.5nm,0.7s,baz=45,slow=8.4,SNR=15						
	comp=Z,1.5nm,0.7s						
STKA	**Stephens Creek**	**29.75**	**199**	P	P	09 14 40.7	-4.0
	comp=Z,4.2nm,1.1s,baz=24,slow=20,SNR=3.2						
	comp=Z,4.2nm,1.1s						
FITZ	**Fitzroy Crossi**	**30.01**	**240**	P	**P**	**09 14 45.0**	**-2.2**
FITZ				IAmb	IAmb	09 15 02.4	
	comp=Z,1.9nm,1.1s						
FUTU	**Fugatoga**	**30.60**	**112**	P	**P**	**09 14 51.6**	**-0.9**
MJAR	**Matsushiro Arr**	**42.41**	**343**	LR	LR	09 33 40.7	
	comp=Z,21nm,18.4s,baz=206,slow=35						
ILAR	**Eielson Array**	**81.34**	**22**	P	**P**	**09 20 56.1**	**+1.6**
	comp=Z,0.4nm,1.0s,baz=247,slow=5.8,SNR=3.1						
	comp=Z,0.4nm,1.0s						
QSPA	**South Pole Qui**	**86.09**	**180**	P	**P**	**09 21 18.2**	**-0.9**
QSPA				IAmb	IAmb	09 21 30.5	
	comp=Z,6.7nm,1.2s						
QSPA	**South Pole Qui**	**86.09**	**180**	P	P	09 21 16.1	-3.0
	comp=Z,1.0nm,0.9s,baz=12,slow=2.7,SNR=6.1						
QSPA				LR	LR	09 56 16.1	
	comp=Z,83nm,20.6s,baz=338,slow=33						
	comp=Z,1.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**149.89**	**290**	PKPbc	**PKPbc**	**09 28 29.7**	**0.0**
	comp=Z,0.4nm,0.6s,baz=68,slow=2.5,SNR=4.0						

*TEH **23** 09:21:44.0, 38°.20N×48°.03E, h10km±59km*
*AZER **23** 09:21:48.8, 38°.26N×48°.23E, h14km, ml2.9*

ISC 23 09:21:47.3±1.4, 38°.08N±0°.04×48°.22E±0°.04, h0km±11km, n30, σ0°.99/45, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRK	**Lerik**	**0.57**	**9**	P	**Pg**	**09 21 58.0**	**-0.3**
LRK				S	**Sg**	**09 22 04.9**	**-0.7**
ASTR	**Astara**	**0.66**	**43**	P	**Pg**	**09 22 00.3**	**+0.4**
ASTR				S	**Sg**	**09 22 09.1**	**+0.7**
LKRN	**Lenkeran, Azer**	**0.77**	**35**	P	**Pg**	**09 22 02.0**	**0.0**
LKRN				S	**Sg**	**09 22 12.5**	**+0.5**
GRMI	**Germi**	**0.77**	**341**	Pg	Pg	09 21 55.3	-6.8
YRD	**Yardimli**	**0.83**	**1**	P	**Pg**	**09 22 03.4**	**0.0**
YRD				S	**Sg**	**09 22 13.6**	**-0.6**
CSN1	**Caspian**	**0.86**	**127**	Pg	**Pg**	**09 22 04.4**	**+0.5**
IHRS	**Heris**	**0.96**	**285**	Pg	Pg	09 21 59.6	-6.1
IHSH	**Hashtrud**	**1.09**	**225**	Pg	Pg	09 22 03.6	-4.5
GLBA	**Clilabad**	**1.17**	**6**	P	**Pg**	**09 22 09.8**	**+0.1**
GLBA				S	**Sb**	**09 22 25.9**	**-0.2**
QRD	**Qoradiz**	**1.55**	**333**	P	**Pn**	**09 22 15.7**	**-0.5**
QRD				S	**Sg**	**09 22 37.4**	**+0.3**
BLQ	**Beylaqan**	**1.72**	**343**	P	**Pn**	**09 22 18.9**	**+0.4**
BLQ				S	**Sg**	**09 22 42.8**	**+0.2**
ORD	**Ordubad**	**1.94**	**297**	P	**Pb**	**09 22 23.8**	**+0.1**
ORD				S	**Sg**	**09 22 49.4**	**-0.3**
ISHB	**Shabestar**	**2.06**	**276**	Pn	Pn	09 22 18.8	-4.7
AGDM	**Agdam**	**2.20**	**337**	P	**Pn**	**09 22 26.7**	**+1.5**
AGDM				S	**Sb**	**09 22 54.3**	**-1.6**
KDMR	**Kurdemir**	**2.29**	**359**	S	**Sb**	**09 22 57.3**	**-1.1**
IGZV	**Ghazvin**	**2.32**	**136**	Pn	**Pn**	**09 22 27.0**	**-0.1**
BRDA	**Brd**	**2.33**	**340**	S	**Sb**	**09 23 00.1**	**+0.7**
NAX	**Nakhchivan**	**2.40**	**298**	P	**Pb**	**09 22 30.8**	**-0.7**
NAX				S	**Sn**	**09 22 59.6**	**+1.5**
SBZ	**Shahbuz**	**2.47**	**303**	P	**Pb**	**09 22 34.6**	**-1.0**
SBZ				S	**Sb**	**09 23 01.6**	**-2.0**
IML	**Ismayilli**	**2.71**	**359**	P	**Pn**	**09 22 33.2**	**+1.0**
IML				S	**Sn**	**09 23 04.9**	**-0.8**
KLST	**Kelardasht - M**	**2.75**	**124**	Pn	**Pn**	**09 22 32.9**	**0.0**
ATGJ	**Altiaghaj**	**2.83**	**11**	P	**Pn**	**09 22 35.0**	**+1.1**
ATGJ				S	**Sn**	**09 23 07.7**	**-1.1**
QBL	**Gabala**	**2.88**	**354**	S	**Sn**	**09 23 09.5**	**-0.4**
GANJ	**Ganja**	**2.96**	**331**	P	**Pn**	**09 22 37.0**	**+1.4**
GANJ				S	**Sn**	**09 23 12.9**	**+1.2**
SIZA	**Siyzn**	**3.04**	**10**	P	**Pn**	**09 22 37.9**	**+1.2**
SIZA				S	**Sn**	**09 23 13.4**	**-0.4**
XNQ	**Khinaliq**	**3.09**	**359**	P	**Pn**	**09 22 38.8**	**+1.3**
XNQ				S	**Sn**	**09 23 15.9**	**+0.6**
SEKA	**Sheki**	**3.22**	**346**	P	**Pn**	**09 22 39.9**	**+0.6**
SEKA				S	**Sn**	**09 23 18.3**	**-0.1**
GDB	**GEDABAY**	**3.26**	**325**	P	**Pn**	**09 22 41.3**	**+1.4**
GDB				S	**Sn**	**09 23 18.2**	**-1.2**
QZX	**Qazax, Azerbai**	**3.70**	**324**	P	**Pn**	**09 22 48.2**	**+2.4**
ZKTA	**Zakatala**	**3.76**	**341**	P	**Pn**	**09 22 47.8**	**+1.2**
ZKTA				S	**Sn**	**09 23 32.4**	**+0.8**

*IDC **23** 09:29:48.7±2.9, 53°.52N×87°.66E, h0km, mbtmp3.5/2, ML2.9/2, Error ellipse: s-maj=26.4km s-min=15.7km az=64.0*

ASRS 23 09:29:46.0±1.1, 53°.58N×87°.77E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.79**	**283**	I	I	09 40 50.0	
	0.2nm,1.0s,baz=101,slow=320,SNR=4.4						
ZALV	**Zalesovo Beam**	**1.79**	**283**	Pg	Pg	09 30 20.2	-0.1
	0.7nm,0.3s,baz=101,slow=14,SNR=6.7						
ZALV				Lg	Lg	09 30 43.5	
	0.8nm,0.3s,baz=101,slow=22,SNR=4.3						
KURBB	**Kurchatov Arra**	**6.42**	**246**	Pn	Pn	09 31 24.1	+2.4
	0.2nm,0.3s,baz=63,slow=14,SNR=1.5						
KURBB				Lg	Lg	09 33 09.4	
	baz=58,slow=32						
	3.8nm,0.2s						
MKAR	**Makanchi Array**	**7.65**	**210**	Pn	Pn	09 31 41.4	+2.8
	0.3nm,0.3s,baz=28,slow=13,SNR=9.2						
MKAR				Sn	Sn	09 33 06.1	+0.2
	0.1nm,0.3s,baz=26,slow=27,SNR=3.1						
MKAR				Lg	Lg	09 33 47.5	
	0.1nm,0.3s,baz=27,slow=29,SNR=4.4						
	0.4nm,0.4s						

*IDC **23** 09:31:03.3±1.0, 44°.38S×38°.31E, h0km, mb3.9/7, mbtmp3.9/7, MS3.5/7, Error ellipse: s-maj=33.1km s-min=28.2km az=3.0*

ISC 23 09:31:04.7±1.0, 44°.4S±0°.2×38°.3E±0°.2, h10km, n14, σ0°.87/8, mb4.0/6, MS3.4/6, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**18.86**	**322**	LR	LR	09 40 44.8	
	comp=Z,131nm,19.7s,baz=204,slow=31						
LBTB	**Lobatse**	**21.90**	**328**	LR	LR	09 42 40.6	
	comp=Z,100nm,22.0s,baz=154,slow=32						
MAW	**Mawson**	**26.67**	**159**	LR	LR	09 44 54.8	
	comp=Z,64nm,21.4s,baz=350,slow=31						
LSZ	**Lusaka**	**30.24**	**340**	LR	LR	09 48 03.8	
	comp=Z,84nm,18.1s,baz=204,slow=34						
SNAA	**Sanae**	**33.70**	**202**	P	**P**	**09 37 46.2**	**+0.6**
	0.9nm,0.9s,baz=61,slow=13,SNR=2.1						
SNAA				LR	LR	09 50 03.8	
	comp=Z,66nm,18.1s,baz=258,slow=34						
	0.9nm,0.9s						
QSPA	**South Pole Qui**	**45.85**	**180**	P	**P**	**09 39 25.4**	**-1.3**
	2.2nm,1.1s,baz=254,slow=3.0,SNR=9.7						
	2.2nm,1.1s						
VNDA	**Vanda**	**53.56**	**167**	LR	LR	10 03 49.0	
	comp=Z,67nm,18.3s,baz=313,slow=37						
TORD	**Torodi Ar. Bea**	**66.21**	**321**	P	**P**	**09 41 52.4**	**-0.3**
	0.6nm,0.9s,baz=160,slow=6.2,SNR=2.1						
	0.6nm,0.9s						
PLCA	**Paso Flores**	**73.93**	**228**	P	**P**	**09 42 40.9**	**+0.8**
	0.7nm,0.4s,baz=124,slow=18,SNR=9.2						
	0.7nm,0.4s						
STKA	**Stephens Creek**	**76.94**	**122**	P	**P**	**09 42 57.4**	**0.0**
	5.6nm,1.0s,baz=261,slow=8.7,SNR=3.4						
	5.6nm,1.0s						
ASAR	**Alice Springs**	**77.64**	**111**	P	**P**	**09 43 02.1**	**+0.6**
	1.1nm,0.8s,baz=237,slow=5.9,SNR=14						
	1.1nm,0.8s						
WRA	**Warramunga Arr**	**80.48**	**108**	P	**P**	**09 43 17.3**	**+0.3**
	0.7nm,0.8s,baz=217,slow=4.0,SNR=5.1						
	0.7nm,0.8s						
MDT	**Midelt**	**86.19**	**325**	LR	LR	10 23 33.1	
	comp=Z,59nm,18.0s,baz=160,slow=36						
TXAR	**Lajitas Array**	**146.41**	**256**	PKPbc	**PKPbc**	**09 50 45.3**	**-0.6**
	0.4nm,0.8s,baz=120,slow=4.7,SNR=4.2						

*IDC **23** 09:38:29.7±2.0, 9°.32N×125°.96E, h53km±18km, mb4.3/28, mbtmp4.6/32, ML4.7/4, MS3.9/32, Error ellipse: s-maj=17.5km s-min=9.3km az=75.0*

*BJI **23** 09:38:30.2, 9°.30N×126°.14E, h67km, mB4.8/9, mb4.6/37, Ms4.3/29, Ms7.4 0/30*

*NEIC **23** 09:38:31.3±1.4, 9°.24N±0°.07×125°.95E±0°.09, h58km±6km, mb4.8/243, Error ellipse: s-maj=13.6km s-min=9.3km az=71.0*

*DJA **23** 09:38:36.2±2.3, 9°.9N±9°.12°6E±°, h20km±16km, M5.1/24, mb5.0/24, mB5.6/11, MLv5.2/6, Mw(mB)5.1/11, MwMwp4.8/1, Mwp5.1/1*

ISC 23 09:38:30.2±0.3, 9°.27N±0°.04×125°.96E±0°.05, h50km, n618, σ0°.97/544, mb4.8/190, MS3.9/37, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.22**	**190**		**Pn**	**09 39 05.2**	**+0.6**
DAV	**Davao City (W)**	**2.22**	**190**	P	**Pn**	**09 39 03.9**	**-0.7**
	224nm,0.3s,baz=47,slow=2.2,SNR=14						
DAV				S	**Sn**	**09 39 36.5**	**+5.6**
	2µm,0.6s,baz=58,slow=19,SNR=7.5						
DAV				LR	LR	09 40 28.2	
	comp=Z,3µm,21.3s,baz=199,slow=52						
	290nm,0.3s						
DAV	**Davao City (W)**	**2.22**	**190**	*e*P	**Pn**	**09 39 06.0**	**+1.4**
SGSI	**Sangihe**	**5.57**	**184**	P	**Pn**	**09 39 49.1**	**-1.4**
TGY	**Tagaytay City**	**6.87**	**315**	P	**Pn**	**09 40 10.8**	**+2.4**
	225nm,0.5s,baz=129,slow=6.5,SNR=4.8						
MYLDM	**Lahad Datu**	**8.44**	**242**		**Pn**	**09 40 29.8**	**-0.1**
TNTI	**Ternate**	**8.56**	**170**	Pn	**Pn**	**09 40 31.3**	**-0.3**
TNTI	**Ternate**	**8.56**	**170**	P	**Pn**	**09 40 29.1**	**-2.5**
	0.4nm2µm86nm,1.2s						
KMSI	**Cibinong**	**8.86**	**193**	P	**Pn**	**09 40 33.6**	**-2.1**
MRSI	**Marisa**	**9.61**	**205**	P	**Pn**	**09 40 47.6**	**+1.7**
	55nm,0.9s						
LUWI	**Luwuk**	**10.73**	**197

KDU **Kakadu** 22.76 163 P **P** 09 43 27.1 -1.3
comp=Z,75nm,1.0s
NJ2 **Nanjing** 23.61 345 *e*P **P** 09 43 37.4 +0.8
NJ2 pP **pP** 09 43 48.3 -0.7
NJ2 pmax pmax
comp=Z,17nm,1.1s
WHN **Wuhan** 23.77 334 P **P** 09 43 38.3 +0.1
WHN LR LR
comp=Z,1µm,20.4s
MANU **Manus Island** 24.11 117 **P** 09 43 40.9 -0.6
MANU IAmb IAmb 09 43 44.2
comp=Z,33nm,1.1s
JNU **Nakatsue** 24.16 10 P **P** 09 43 42.0 +0.2
JNU IAmb IAmb 09 43 52.4
comp=Z,30nm,1.1s
JNU **Nakatsue** 24.16 10 LR LR 09 51 57.9
comp=Z,202nm,21.8s,baz=170,slow=34
SLVN **Son La** 24.38 302 P **P** 09 43 42.7 -1.3
KNRA **Kununurra** 24.94 174 P **P** 09 43 47.9 -1.1
KNRA **Kununurra** 24.94 174 P **P** 09 43 49.4 +0.4
comp=Z,57nm,0.8s
IPM **Ipoh** 25.20 261 P **P** 09 43 51.3 -0.1
IPM IAmb IAmb 09 43 54.7
comp=Z,25nm,0.8s
KULM **Kulim** 25.41 263 P **P** 09 43 52.7 -0.6
JMN **Monobe** 25.41 16 P **P** 09 43 51.6 -1.5
JMN IAmb IAmb 09 44 07.8
comp=Z,49nm,1.1s
ENH **Enshi** 25.95 326 P **P** 09 43 57.0 -1.1
SRIT **Nakonsritamara** 26.04 271 P **P** 09 43 58.1 -0.9
SRIT IAmb IAmb 09 44 04.1
comp=Z,39nm,1.1s
KMI **Kunming** 27.14 308 P **P** 09 44 10.6 +1.5
KMI pmax pmax
comp=Z,10.0nm,0.5s
KMI LR LR
comp=Z,170nm,15.3s
KMI LR LR
comp=Z,200nm,16.7s
KMI LR LR
comp=Z,190nm,14.7s
FITZ **Fitzroy Crossi** 27.20 181 P **P** 09 44 09.2 -0.1
FITZ **Fitzroy Crossi** 27.20 181 P **P** 09 44 09.4 +0.1
comp=Z,7.3nm,1.0s
PSI **Prapat** 27.63 258 LR LR 09 56 44.6
comp=Z,318nm,20.3s,baz=91,slow=40
RPSI **Rantau Prapat** 27.65 258 P **P** 09 44 13.4 -0.1
CMAR **Chiang Mai Arr** 27.74 292 P **P** 09 44 13.4 -0.8
CMAR **Chiang Mai Arr** 27.74 292 P **P** 09 44 14.5 +0.3
comp=Z,4.0nm,0.7s,baz=102,slow=9.2,SNR=20
CMAR PcP **PcP** 09 47 29.4 -0.8
comp=Z,0.9nm,0.3s,baz=96,slow=2.1,SNR=5.9
CMAR LR LR 09 55 51.0
comp=Z,109nm,19.9s,baz=100,slow=38
comp=Z,4.0nm,0.7s
CHTO **Chiang Mai** 27.83 293 P **P** 09 44 13.8 -1.3
INU **Inuyama** 27.85 20 P **P** 09 44 14.9 -0.2
INU IAmb IAmb 09 44 17.9
comp=Z,16nm,0.6s
TIA **Tai'an** 28.00 345 P P 09 44 10.0 -6.4
TIA pmax pmax
comp=Z,9.0nm,1.8s
TIA LR LR
comp=N,190nm,15.3s
TIA LR LR
comp=E,120nm,14.1s
TIA LR LR
comp=Z,250nm,22.6s
KSAR **Wonju Array Be** 28.10 3 P **P** 09 44 17.2 -0.1
KSRS **Korea Array** 28.11 3 P **P** 09 44 16.3 -1.0
comp=Z,1.5nm,0.5s,baz=185,slow=11,SNR=9.6
comp=Z,1.5nm,0.5s
KS19 **Wonju Array Si** 28.16 3 P **P** 09 44 17.1 -0.7
KS19 IAmb IAmb 09 44 37.8
comp=Z,56nm,1.8s
JGF **Kuroka** 28.20 20 P **P** 09 44 18.3 +0.1
PZH **PanZhiHua** 28.63 310 P **P** 09 44 24.3 +2.1
COEN **Coen** 28.71 143 P **P** 09 44 22.1 -0.8
COEN IAmb IAmb 09 44 27.9
comp=Z,25nm,0.8s
COEN **Coen** 28.71 143 P **P** 09 44 22.0 -1.0
comp=Z,34nm,1.2s
XAN **Xi'an** 29.20 330 ⇑P **P** 09 44 27.9 +0.7
XAN pP pP 09 44 42.4 +2.3
XAN sP sP 09 44 50.8 +4.7
XAN pmax pmax
comp=Z,8.0nm,0.6s
XAN LR LR
comp=Z,280nm,19.2s
XAN LR LR
comp=Z,310nm,19.2s
XAN LR LR
comp=Z,260nm,19.9s
GSI **Gunungsitoli** 29.33 256 P **P** 09 44 28.5 +0.1
MJAR **Matsushiro Arr** 29.34 20 P **P** 09 44 28.0 -0.3
MJAR **Matsushiro Arr** 29.34 20 P **P** 09 44 26.3 -2.0
comp=Z,5.4nm,0.8s,baz=197,slow=9.1,SNR=12
MJAR LR LR 09 54 17.1
comp=Z,355nm,21.4s,baz=200,slow=32
comp=Z,5.4nm,0.8s
HNS **HongShan** 29.79 342 ⇑P **P** 09 44 32.1 -0.2
HNS pmax pmax
comp=Z,11nm,0.7s
CD2 **Chengdu** 29.85 319 P **P** 09 44 33.4 +0.4
CD2 LR LR
comp=Z,780nm,23.5s
CD2 LR LR
comp=Z,870nm,23.0s
CD2 LR LR
comp=Z,450nm,13.7s
WB0 **Warramunga Arr** 30.03 164 P **P** 09 44 33.5 -1.0
WRAB **Tennant Creek** 30.18 164 P **P** 09 44 35.1 -0.8
WRA **Warramunga Arr** 30.18 164 P **P** 09 44 33.6 -2.3
WRA **Warramunga Arr** 30.18 164 P **P** 09 44 34.4 -1.5
comp=Z,4.9nm,0.6s,baz=344,slow=8.9,SNR=46
WRA PcP **PcP** 09 47 36.0 -0.2
comp=Z,1.1nm,0.7s,baz=335,slow=3.1,SNR=3.1
comp=Z,4.9nm,0.6s
WR8 **Warramunga Arr** 30.24 164 P **P** 09 44 35.6 -0.8
PSAB2 **Pilbara Seismi** 31.21 191 P **P** 09 44 44.3 -0.7
comp=Z,42nm,1.3s
PSA00 **Pilbara Seismi** 31.23 191 P **P** 09 44 44.5 -0.6
PSA00 **Pilbara Seismi** 31.23 191 P **P** 09 44 44.6 -0.6
comp=Z,34nm,0.9s
JMM **Marumori** 31.46 23 P **P** 09 44 47.0 +0.1
BJT **Baijiatuau** 31.84 346 P **P** 09 44 49.3 -1.0
BJT IAmb IAmb 09 45 00.0
comp=Z,17nm,1.2s
BJI **Beijing** 31.86 346 P **P** 09 44 49.1 -1.3
BJI pmax pmax
comp=Z,4.0nm,0.8s
QIS **Mount Isa** 32.54 156 P **P** 09 44 55.9 -0.8
comp=Z,60nm,1.0s
MTSU **Mount Surprise** 32.71 146 P **P** 09 44 57.9 -0.3
comp=Z,26nm,0.8s
LZH **Lanzhou** 33.42 326 *e*P **P** 09 45 07.3 +2.8
LZH sP sP 09 45 28.3 +4.9
LZH pmax pmax
comp=Z,16nm,1.3s
LZH LR LR
comp=Z,500nm,14.1s
LZH LR LR
comp=Z,380nm,13.7s
LZH LR LR
comp=Z,510nm,14.1s
AS31 **Alice Springs** 33.65 167 **P** 09 45 06.0 -0.3
AS31 **Alice Springs** 33.65 167 P **P** 09 45 05.9 -0.4
comp=Z,4.6nm,0.7s
ASAR **Alice Springs** 33.65 167 P **P** 09 45 05.9 -0.4
ASAR **Alice Springs** 33.65 167 P **P** 09 45 05.5 -0.8
comp=Z,4.4nm,0.7s,baz=347,slow=9.1,SNR=52
ASAR PP **PP** 09 46 23.1 -0.2
comp=Z,5.7nm,1.0s,baz=345,slow=10,SNR=5.9
ASAR PcP **PcP** 09 47 45.3 -0.3
comp=Z,3.4nm,0.9s,baz=339,slow=3.1,SNR=6.2
ASAR ScP **ScP** 09 51 24.4 -1.9
comp=Z,0.4nm,0.8s,baz=343,slow=4.0,SNR=2.2
comp=Z,4.4nm,0.7s
GIRL **Giralia** 33.73 200 P **P** 09 45 09.9 +2.9
comp=Z,100nm,0.5s
HHC **Hu-ho-hao-te** 33.94 340 *e*P **P** 09 45 10.3 +1.5
HHC pmax pmax
comp=Z,80nm,5.5s
HHC LR LR
comp=Z,210nm,15.1s
HHC LR LR
comp=Z,180nm,13.5s
HHC LR LR
comp=Z,230nm,14.4s
WRKA **Warakurna** 34.18 176 P **P** 09 45 11.2 +0.3
comp=Z,13nm,0.9s
USRK **Ussuriysk Ar.** 35.19 8 P **P** 09 45 19.1 -0.3
comp=Z,22nm,0.9s,baz=191,slow=7.1,SNR=20
USRK LR LR 09 58 01.8
comp=Z,174nm,21.2s,baz=189,slow=33
comp=Z,22nm,0.9s
MDJ **Mudanjiang** 35.35 4 P **P** 09 45 21.8 +1.0
MDJ pmax pmax
comp=Z,9.0nm,0.8s
CTAO **Charters Tower** 35.36 146 P **P** 09 45 21.6 +0.4
CTAO IAmb IAmb 09 45 22.0
comp=Z,15nm,0.9s
CTAO **Charters Tower** 35.36 146 P **P** 09 45 17.8 -3.4
BRDH **Bariadhala** 35.47 296 LR LR 10 00 47.0
comp=Z,230nm,20.3s,baz=140,slow=38
XLT **XiLinHaoTe** 35.55 348 *e*P **P** 09 45 21.8 -0.8
XLT pmax pmax
comp=Z,12nm,0.9s
XLT LR LR
comp=Z,200nm,13.6s
XLT LR LR
comp=Z,190nm,19.8s
SHL **Shillong** 36.18 301 P **P** 09 45 27.9 -0.4
BNX **BinXian** 36.36 2 ⇑P **P** 09 45 30.8 +1.4
BNX pP **pP** 09 45 45.5 +3.0
BNX sP **sP** 09 45 52.6 +4.2
BNX S **S** 09 51 08.8 +1.8
BNX pmax pmax
comp=Z,8.0nm,0.9s
BNX pmax pmax
comp=Z,62nm,3.7s
BNX LR LR
comp=Z,96nm,17.4s
BNX LR LR
comp=Z,140nm,17.3s
BNX LR LR
comp=Z,160nm,21.1s
MEEK **Meekatharra** 36.40 191 P **P** 09 45 29.4 -0.7
comp=Z,52nm,1.0s
ASAJ **Asahikawa** 37.60 20 LR LR 09 59 29.3
comp=Z,196nm,21.7s,baz=229,slow=34
JKA **Kamikawa-asahi** 37.60 20 P **P** 09 45 40.3 +0.3
GTA **Gaotai** 38.03 326 *e*P **P** 09 45 45.6 +1.8
GTA pmax pmax
comp=Z,5.0nm,0.6s
HNR **Honiara** 38.60 118 LR LR 09 59 29.6
comp=Z,119nm,21.7s,baz=249,slow=33
MORW **Morawa** 39.30 194 P **P** 09 45 53.7 -0.7
comp=Z,25nm,1.9s
QLP **Quilpie** 39.82 154 P **P** 09 45 57.5 -1.3
comp=Z,40nm,1.1s
FORT **Forrest** 39.87 177 P **P** 09 45 59.7 +0.6
comp=Z,22nm,1.2s
H11S3 **WAKE ISLAND Hy** 40.51 72 T T 10 28 57.9
baz=256,slow=72,SNR=452
H11S1 **WAKE ISLAND Hy** 40.52 72 T T 10 28 59.7
baz=256,slow=72,SNR=202
H11S2 **WAKE ISLAND Hy** 40.52 72 T T 10 28 57.5
baz=256,slow=72,SNR=117
BLDU **Ballidu** 40.64 192 P **P** 09 46 05.0 -0.5
comp=Z,32nm,1.1s
H11N1 **WAKE ISLAND Hy** 40.87 71 T T 10 29 25.2
baz=264,slow=74,SNR=202
HEH **HeiHe** 40.87 1 *e*P **P** 09 46 08.3 +1.1
HEH pmax pmax
comp=Z,6.0nm,1.0s
H11N2 **WAKE ISLAND Hy** 40.88 71 T T 10 29 25.7
baz=264,slow=74,SNR=153
H11N3 **WAKE ISLAND Hy** 40.88 71 T T 10 29 30.0
baz=264,slow=74,SNR=207
KLBR **Kellerberrin** 41.38 191 P **P** 09 46 11.2 -0.5
comp=Z,41nm,1.0s
SONM **Songino Array** 41.84 340 P **P** 09 46 15.8 +0.4
comp=Z,1.0nm,0.6s,baz=158,slow=10.0,SNR=4.0
SONM LR LR 10 06 43.5
comp=Z,110nm,18.2s,baz=137,slow=40
comp=Z,1.0nm,0.6s
MUN **Mundaring** 42.06 192 P **P** 09 46 16.6 -0.5
comp=Z,36nm,1.8s
EIDS **Eidsvold** 42.24 145 P **P** 09 46 17.9 -0.8
EIDS **Eidsvold** 42.24 145 P **P** 09 46 17.7 -1.0
comp=Z,16nm,1.0s
NWAO **Narrogin (SRO)** 42.78 191 P **P** 09 46 23.0 0.0
comp=Z,98nm,1.9s
BBOO **Buckleboo** 42.94 167 P **P** 09 46 24.0 -0.2
BBOO **Buckleboo** 42.94 167 P **P** 09 46 24.7 +0.4
comp=Z,71nm,1.1s
STKA **Stephens Creek** 43.57 161 **P** 09 46 29.3 0.0
STKA **Stephens Creek** 43.57 161 P **P** 09 46 29.1 -0.2
comp=Z,171nm,0.9s
STKA **Stephens Creek** 43.57 161 P **P** 09 46 29.3 0.0
comp=Z,17nm,0.7s,baz=338,slow=10.0,SNR=32
STKA LR LR 10 07 28.0
comp=Z,95nm,18.0s,baz=203,slow=40
comp=Z,17nm,0.7s
HTT **Hallett** 44.22 164 P **P** 09 46 35.1 +0.4
comp=Z,8.3nm,1.4s
RKGY **Rocky Gully** 44.46 191 P **P** 09 46 38.2 +1.7
CMSA **Cobar Meteorol** 44.76 156 P **P** 09 46 39.0 0.0
comp=Z,36nm,1.0s
ARMA **Armidale** 46.54 149 P **P** 09 46 53.8 +0.7
ARMA **Armidale** 46.54 149 P **P** 09 46 53.0 -0.1
comp=Z,23nm,1.0s
WMQ **Urumqi** 47.82 323 *e*P **P** 09 47 06.4 +3.5
WMQ sP sP 09 47 31.9 +9.5
WMQ pmax pmax
comp=Z,35nm,0.9s
WMQ LR LR
comp=Z,510nm,19.9s
WMQ LR LR
comp=Z,570nm,19.9s
WMQ LR LR
comp=Z,180nm,16.7s
ARPS **Mount Arapiles** 48.17 163 P **P** 09 47 05.6 +0.1
comp=Z,30nm,1.1s
YNG **Young** 48.28 155 P **P** 09 47 06.4 -0.1
comp=Z,31nm,0.6s
CAN **Canberra** 49.41 155 P **P** 09 47 16.2 +1.1
CAN **Canberra** 49.41 155 P **P** 09 47 16.0 +0.8
comp=Z,53nm,0.9s
CAN **Canberra** 49.41 155 P **P** 09 47 16.4 +1.2
CNB **Canberra Magne** 49.55 155 P **P** 09 47 16.8 +0.5
comp=Z,54nm,0.8s
TOO **Toolangi** 50.06 160 P **P** 09 47 19.8 -0.2
TOO IAmb IAmb 09 47 22.4
comp=Z,11nm,0.8s
TOO **Toolangi** 50.06 160 P **P** 09 47 20.9 +0.8
comp=Z,20nm,1.0s
DZM **Mont Dzumac** 50.46 129 *e*LR LR 10 01 52.4
comp=Z,105nm,21.1s
DZM **Mont Dzumac** 50.46 129 LR LR 10 09 46.2
comp=Z,80nm,18.1s,baz=230,slow=37
PEA0B **Petropavlovsk-** 50.67 24 **P** 09 47 24.1 -0.4
PETK **Petropavlovsk-** 50.67 24 P **P** 09 47 23.2 -1.2
PETK **Petropavlovsk-** 50.67 24 P **P** 09 47 24.6 +0.1
comp=Z,8.2nm,0.6s,baz=227,slow=6.9,SNR=15
PETK LR LR 10 07 38.9
comp=Z,131nm,20.4s,baz=215,slow=34
comp=Z,8.2nm,0.6s
MKAR **Makanchi Array** 52.63 323 P **P** 09 47 38.9 -0.4
MKAR **Makanchi Array** 52.63 323 P **P** 09 47 38.2 -1.0
comp=Z,4.1nm,0.6s,baz=124,slow=7.3,SNR=29
MKAR PcP **PcP** 09 48 49.4 +0.6
comp=Z,1.7nm,0.6s,baz=123,slow=4.2,SNR=1.4
MKAR LR LR 10 10 04.0
comp=Z,147nm,19.6s,baz=125,slow=36
comp=Z,4.1nm,0.6s
YAK **Yakutsk** 52.73 2 LR LR 10 10 42.7
comp=Z,85nm,20.0s,baz=182,slow=37
YAK **Yakutsk** 52.73 2 P **P** 09 47 37.7 -1.9
MAKZ **Makanchi** 52.83 323 P **P** 09 47 41.4 +0.7
MAKZ IAmb IAmb 09 47 43.2
comp=Z,5.9nm,0.8s
MAKZ **Makanchi** 52.83 323 P **P** 09 47 40.2 -0.5
TARG **Taragay, Kyrgy** 53.20 316 P **P** 09 47 43.6 -0.4
TARG IAmb IAmb 09 47 56.7
comp=Z,15nm,1.4s
MA2 **Magadan** 53.57 15 P **P** 09 47 46.5 +0.6
MA2 IAmb IAmb 09 47 52.2
comp=Z,16nm,1.1s
MA2 **Magadan** 53.57 15 LR LR 10 08 18.9
comp=Z,74nm,21.7s,baz=185,slow=33
KSH **Kashi** 53.67 313 P **P** 09 47 48.8 +1.6
KSH pmax pmax
comp=Z,6.0nm,1.0s
KDJ **Kajisay** 53.78 316 **P** 09 47 47.6 -0.3
KDJ IAmb IAmb 09 47 49.9
comp=Z,6.4nm,0.8s
NIL **Nilore** 54.04 305 P **P** 09 47 49.5 -0.4
NRN **Naryn** 54.34 315 IAmb IAmb 09 47 53.8
comp=Z,6.0nm,0.7s
ZALV **Zalesovo Beam** 55.35 332 P **P** 09 47 58.6 -0.2
ZALV **Zalesovo Beam** 55.35 332 P **P** 09 47 57.5 -1.4
comp=Z,1.1nm,0.4s,baz=116,slow=6.6,SNR=5.3
ZALV LR LR 10 12 40.3
comp=Z,99nm,22.0s,baz=124,slow=37
comp=Z,1.1nm,0.4s
TAU **Tasmania Unive** 55.47 161 P **P** 09 47 59.4 -0.4
AAK **Ala-Archa** 55.82 316 P **P** 09 48 02.8 +0.1
AAK **Ala-Archa** 55.82 316 LR LR 10 14 01.5
comp=Z,199nm,20.0s,baz=98,slow=38
ARSB **Arslanbob** 56.43 314 P **P** 09 48 06.0 -1.0
ARSB IAmb IAmb 09 48 08.6
comp=Z,7.1nm,0.8s
KURK **Kurchatov** 56.71 326 **P** 09 48 07.8 -0.8
KURK IAmb IAmb 09 48 10.3
comp=Z,13nm,0.9s
KURK **Kurchatov** 56.71 326 P **P** 09 48 07.5 -1.1
KURBB **Kurchatov Arra** 56.72 326 P **P** 09 48 07.5 -1.2
comp=Z,5.5nm,0.6s,baz=124,slow=6.9,SNR=27
comp=Z,5.5nm,0.6s
BTK **Batken** 57.61 312 IAmb IAmb 09 48 21.0
comp=Z,7.1nm,0.8s
KBL **Kabul** 57.64 305 **P** 09 48 15.5 -0.3
GAR **Garm** 57.70 310 **P** 09 48 15.6 -0.5
MSVF **Nonsavu** 58.02 118 P **P** 09 48 20.1 +1.5
SHEM **Shemya Is, Ala** 58.15 32 LR LR 10 10 20.3
comp=Z,46nm,20.6s,baz=263,slow=33
SIMJ **Simiganj** 58.60 310 P **P** 09 48 21.8 -0.6
SIMJ **Simiganj** 58.60 310 P **P** 09 48 21.8 -0.6
KK31 **Karatay Array** 58.73 315 **P** 09 48 22.2 -0.9
KK31 IAmb IAmb 09 48 24.3
comp=Z,9.9nm,0.9s
KKAR **Karatay Array** 58.73 315 **P** 09 48 22.1 -0.9
BVAR **Borovoye Array** 62.31 326 P **P** 09 48 46.1 -1.2
comp=Z,4.4nm,0.6s,baz=113,slow=9.6,SNR=13
BVAR PcP **PcP** 09 49 26.3 -0.3
comp=Z,1.6nm,0.6s,baz=74,slow=5.1,SNR=1.5
BVAR LR LR 10 16 09.2
comp=Z,118nm,18.9s,baz=112,slow=36
comp=Z,4.4nm,0.6s
TIXI **Tiksi** 62.35 1 LR LR 10 15 47.6
comp=Z,174nm,21.9s,baz=188,slow=36
ATKA **Atka Island** 64.45 36 P **P** 09 49 01.1 -0.3
DCZ **Deep Cove** 65.86 149 **P** 09 49 11.1 +0.5
LBZ **Lake Benmore** 66.70 147 **P** 09 49 16.4 +0.4
RPZ **Rata Peaks** 66.73 146 P **P** 09 49 16.4 +0.2
OXZ **Oxford** 67.03 145 P **P** 09 49 17.9 -0.3
URZ **Urewera** 67.13 138 P **P** 09 49 17.9 -0.9
comp=Z,7.8nm,0.9s,baz=297,slow=2.3,SNR=3.7
comp=Z,7.8nm,0.9s
NIKH **Nikolski High** 67.79 36 P **P** 09 49 22.4 -0.4
baz=255
SPIA **Saint Paul Isl** 68.18 32 P **P** 09 49 24.9 -0.2
baz=252
P08K **Saint George I** 68.38 32 P **P** 09 49 26.4 0.0
baz=253
AKTO **Aktyubinsk** 68.89 321 LR LR 10 20 34.5
comp=Z,136nm,19.2s,baz=58,slow=37
UNV **Unalaska Valle** 69.36 36 P **P** 09 49 32.4 -0.1
baz=257
GAMB **Gambell** 69.70 25 P **P** 09 49 34.6 +0.2
baz=249
ARTI **Arti** 69.97 327 P **P** 09 49 35.0 -1.3
ARTI IAmb IAmb 09 49 36.4
comp=Z,12nm,0.6s
ARTI **Arti** 69.97 327 LR LR 10 22 28.2
comp=Z,94nm,18.5s,baz=77,slow=38
ARTI **Arti** 69.97 327 P **P** 09 49 35.0 -1.3
M11K **Mekoryuk** 71.10 29 P **P** 09 49 42.9 -0.2
baz=255
FALS **False Pass** 71.34 35 P **P** 09 49 44.6 0.0
baz=259
TNA **Tin City** 71.83 24 P **P** 09 49 47.1 -0.3
baz=252
K13K **Kusilvak Mount** 72.22 28 P **P** 09 49 49.1 -0.6
baz=256
S12K **Black Hills** 72.25 34 P **P** 09 49 49.8 -0.3
baz=260
F14K **Arctic Creek** 72.44 24 P **P** 09 49 50.9 -0.1
baz=253
M13K **Dall Lake** 72.49 29 P **P** 09 49 51.3 -0.1
baz=258
ANM **Nome** 72.58 25 P **P** 09 49 51.7 -0.1
baz=254
J14K **Nanvaranak Lak** 72.91 27 P **P** 09 49 53.8 0.0
baz=257
L14K **Kuka Creek** 73.00 29 IAmb IAmb 09 49 58.0
comp=Z,14nm,0.8s
L14K **Kuka Creek** 73.00 29 P **P** 09 49 54.6 +0.2
baz=258
SDPT **Sand Point** 73.09 35 P **P** 09 49 54.8 -0.2
baz=262
F15K **North Star Dit** 73.17 24 P **P** 09 49 55.5 +0.1
baz=255
N14K **Kuskokwak Cree** 73.20 30 IAmb IAmb 09 50 04.1
comp=Z,15nm,0.9s
N14K **Kuskokwak Cree** 73.20 30 P **P** 09 49 55.6 0.0
baz=259
M14K **Bethel** 73.23 29 P **P** 09 49 55.9 +0.1
baz=259,SNR=6.4
G15K **Niukluk** 73.24 25 P **P** 09 49 55.5 -0.3
baz=256
O14K **Tigyukauivet M** 73.29 31 P **P** 09 49 56.0 -0.2
baz=260
CHNA **Chernabura Isl** 73.52 36 P **P** 09 49 57.6 0.0
baz=263
C16K **Lisburne Hills** 73.62 21 P **P** 09 49 58.0 +0.1
baz=254
L15K **Ungalak Mounta** 73.63 28 P **P** 09 49 58.0 -0.1
baz=259
K15K **Wolf Creek Mou** 73.73 28 P **P** 09 49 58.8 +0.1
baz=259
S14K **Fog Glacier** 73.73 34 P **P** 09 49 58.6 -0.4
baz=262
M15K **Kasigluk River** 73.83 29 P **P** 09 49 59.5 +0.2
baz=260
H16K **Elim** 73.91 25 P **P** 09 49 59.9 +0.2
baz=257
O15K **Ungalikthiuk R** 74.01 31 IAmb IAmb 09 50 03.8
comp=Z,9.7nm,0.9s
O15K **Ungalikthiuk R** 74.01 31 P **P** 09 50 00.4 0.0
baz=261,SNR=6.1
G16K **Koyuk River** 74.03 24 P **P** 09 50 00.7 +0.3
baz=257
N15K **Kwethluk River** 74.03 30 IAmb IAmb 09 50 04.3
comp=Z,14nm,0.8s
N15K **Kwethluk River** 74.03 30 P **P** 09 50 00.6 +0.1
baz=261,SNR=8.0
D17K **Noatak River** 74.28 22 P **P** 09 50 02.1 +0.2
baz=256
J16K **Anvik River** 74.34 27 P **P** 09 50 02.4 +0.1
baz=259
CHGN **Chignik** 74.37 34 IAmb IAmb 09 50 12.0
comp=Z,17nm,0.9s
I17K **Unalakleet** 74.41 26 P **P** 09 50 02.9 +0.3
baz=259
RDOG **Red Dog Mine** 74.44 22 P **P** 09 50 03.4 +0.6
baz=256
C17K **DeLong Mountai** 74.44 21 P **P** 09 50 02.9 +0.1
baz=256
L16K **Owhat River** 74.58 28 P **P** 09 50 04.2 +0.5
baz=261
E17K **Hotham Inlet** 74.61 23 P **P** 09 50 04.3 +0.6
baz=257
F17K **Baldwin Pennin** 74.70 23 P **P** 09 50 04.9 +0.7
baz=258
M16K **Timber Creek** 74.72 29 IAmb IAmb 09 50 08.2
comp=Z,14nm,1.0s
M16K **Timber Creek** 74.72 29 P **P** 09 50 04.4 -0.1
baz=261,SNR=7.1
N16K **Nishlik Lake** 74.73 30 P **P** 09 50 04.4 -0.2
baz=262,SNR=9.6
G17K **Kiwalik Mounta** 74.74 24 P **P** 09 50 04.4 -0.2
baz=259
P16K **Nushagak River** 74.93 31 P **P** 09 50 05.4 -0.3
baz=263
H17K **Granite Mounta** 74.94 25 P **P** 09 50 06.4 +0.7
H17K **Granite Mounta** 74.94 25 P **P** 09 50 05.7 0.0
baz=260,SNR=5.2

O16K Kokwok River B 74.95 31 P P 09 50 06.3 +0.5
O16K IAmb IAmb 09 50 09.5
comp=Z,15nm,0.9s
O16K Kokwok River B 74.95 31 P P 09 50 05.6 -0.3
baz=263,SNR=11
J17K VABM Dome 75.04 27 IAmb IAmb 09 50 32.8
comp=Z,21nm,1.5s
J17K VABM Dome 75.04 27 P P 09 50 06.4 +0.1
baz=261
KIRV Kirov 75.13 328 LR LR 10 26 28.9
comp=Z,92nm,18.3s,baz=100,slow=38
B18K Kokolik River 75.14 20 P P 09 50 07.2 +0.4
baz=257
E18K Tukpahlearik C 75.15 23 IAmb IAmb 09 50 10.6
comp=Z,11nm,0.8s
E18K Tukpahlearik C 75.15 23 P P 09 50 07.2 +0.4
baz=258,SNR=7.7
C18K Utukok River 75.19 21 P P 09 50 07.4 +0.2
baz=257
L17K Donlin 75.20 28 P P 09 50 06.9 -0.3
baz=262
K17K Iditarod 75.28 28 IAmb IAmb 09 50 19.2
comp=Z,13nm,1.0s
K17K Iditarod 75.28 28 P P 09 50 07.6 -0.2
baz=262,SNR=6.2
F18K Selawik 75.36 23 P P 09 50 08.4 +0.4
baz=259
O17K Koliganek Bris 75.47 31 P P 09 50 09.1 +0.3
baz=263,SNR=5.5
M17K Holitna River 75.50 29 IAmb IAmb 09 50 15.9
comp=Z,17nm,1.2s
M17K Holitna River 75.50 29 P P 09 50 09.5 +0.5
baz=263
N17K Nushagak Hills 75.51 30 IAmb IAmb 09 50 12.9
comp=Z,10nm,1.0s
N17K Nushagak Hills 75.51 30 P P 09 50 09.7 +0.6
baz=263,SNR=6.7
A19K Wainwright 75.58 20 P P 09 50 10.1 +0.8
baz=257
H18K Honhosa River 75.63 25 P P 09 50 09.9 +0.2
baz=261
G18K Tagagawik 75.63 24 P P 09 50 10.0 +0.3
G18K Tagagawik 75.63 24 P P 09 50 10.1 +0.4
baz=260
R17L Mt. Peulik Vol 75.63 33 P P 09 50 10.1 +0.3
baz=265,SNR=5.4
PLK4 Peulik 4 75.63 33 IAmb IAmb 09 50 12.4
comp=Z,13nm,0.8s
P17K Kvichak River 75.74 31 P P 09 50 10.6 +0.2
baz=264,SNR=5.2
C19K Lookout Ridge 75.86 21 IAmb IAmb 09 50 14.6
comp=Z,14nm,0.8s
C19K Lookout Ridge 75.86 21 P P 09 50 11.3 +0.3
baz=259
CHIR Chirikof Islan 75.88 35 P P 09 50 10.6 -0.6
baz=266
Q17K Contact Creek 75.94 32 P P 09 50 11.4 -0.3
baz=265,SNR=9.9
L18K Granite Mounta 75.96 28 P P 09 50 11.8 +0.2
baz=263,SNR=5.8
J18K Innoko River 76.10 27 P P 09 50 12.8 +0.4
baz=263
F19K Shaleruckik Mo 76.13 23 P P 09 50 12.2 -0.3
baz=261
N18K Kilae Creek 76.17 30 P P 09 50 12.5 -0.4
baz=264
GCSA Galena City Sc 76.19 26 P P 09 50 13.2 +0.4
baz=262
ACHA Angle Creek He 76.23 32 P P 09 50 14.4 +1.1
D19K Kuna River 76.27 22 P P 09 50 13.4 +0.1
baz=260
M18K Stony River 76.28 29 P P 09 50 13.6 +0.1
baz=264
G19K Purcell Mounta 76.30 24 P P 09 50 13.7 +0.2
G19K Purcell Mounta 76.30 24 P P 09 50 13.8 +0.3
baz=262,SNR=5.4
P18K Big Mountain, 76.38 31 P P 09 50 14.6 +0.5
baz=265
O18K Koktuh Hills 76.43 31 P P 09 50 15.1 +0.7
O18K Koktuh Hills 76.43 31 P P 09 50 14.4 +0.1
baz=265,SNR=18
Q18K Katmai Hardscr 76.43 32 P P 09 50 14.4 -0.1
baz=266
E19K Redstone River 76.44 23 P P 09 50 14.0 -0.2
E19K IAmb IAmb 09 50 18.0
comp=Z,19nm,1.1s
E19K Redstone River 76.44 23 P P 09 50 14.7 +0.5
baz=261,SNR=13
H19K Roundabout Mou 76.47 25 P 09 50 15.7 +1.2
H19K IAmb IAmb 09 50 17.8
comp=Z,11nm,0.8s
H19K Roundabout Mou 76.47 25 P P 09 50 14.5 +0.1
baz=263,SNR=11
J19K Poorman 76.64 26 P P 09 50 16.0 +0.5
J19K Poorman 76.64 26 P P 09 50 16.0 +0.5
baz=264
R18K Karluk 76.65 33 P P 09 50 16.0 +0.4
baz=266
SII Sitkinak Islan 76.73 34 P P 09 50 16.5 +0.3
baz=267
L19K White Mountain 76.81 28 P P 09 50 17.5 +1.0
L19K White Mountain 76.81 28 P P 09 50 17.0 +0.5
baz=265,SNR=6.4
D20K Etivluk River 76.85 21 P P 09 50 16.9 +0.3
D20K IAmb IAmb 09 50 20.2
comp=Z,16nm,0.9s
D20K Etivluk River 76.85 21 P P 09 50 17.1 +0.5
baz=262,SNR=14
B20K Meade River 76.86 20 IAmb IAmb 09 50 19.7
comp=Z,12nm,0.8s
B20K Meade River 76.86 20 P P 09 50 17.1 +0.6
baz=261
N19K Bonanza Creek 76.87 30 P P 09 50 18.5 +1.6
N19K IAmb IAmb 09 50 28.1
comp=Z,12nm,1.1s
N19K Bonanza Creek 76.87 30 P P 09 50 17.1 +0.2
baz=265,SNR=5.1
O19K Port Alsworth 76.90 30 IAmb IAmb 09 50 19.9
comp=Z,12nm,1.1s
O19K Port Alsworth 76.90 30 P P 09 50 17.2 +0.3
baz=266
E20K Nigu River 76.94 22 P P 09 50 17.5 +0.4
baz=262,SNR=8.9
F20K Avaraart Lake 76.96 23 IAmb IAmb 09 50 20.3
comp=Z,7.7nm,0.8s
F20K Avaraart Lake 76.96 23 P P 09 50 17.5 +0.3
baz=263,SNR=10
M19K Big River Lodg 77.00 29 P P 09 50 17.7 +0.2
baz=265
H20K Anotleneega Mo 77.12 25 P P 09 50 18.3 +0.2
baz=264,SNR=15
Q19K Cape Douglas, 77.16 32 P P 09 50 18.4 -0.1
baz=267
I20K Naaghedeneel 77.22 26 P P 09 50 18.7 +0.1
I20K Naaghedeneel 77.22 26 P P 09 50 19.1 +0.4
baz=264,SNR=6.5
OHAK Old Harbor 77.26 33 P P 09 50 19.6 +0.6
OHAK IAmb IAmb 09 50 22.3
comp=Z,9.5nm,0.9s
OHAK Old Harbor 77.26 33 P P 09 50 19.3 +0.3
baz=267,SNR=7.1
K20K Telida 77.27 27 P P 09 50 19.6 +0.6
baz=265
L20K Farewell, AK 77.28 28 P P 09 50 19.1 0.0
baz=266
J20K Nowinta River 77.31 26 P P 09 50 20.1 +1.0
J20K Nowinta River 77.31 26 P P 09 50 19.1 -0.1
baz=265,SNR=5.8
GNI Garni 77.39 309 LR LR 10 28 20.0
comp=Z,35nm,21.4s,baz=119,slow=39
P19K Oil Pt 77.41 31 P P 09 50 20.0 +0.1
baz=267
C21K Knifeblade Rid 77.57 21 P P 09 50 21.1 +0.6
baz=263
M20K Styx River 77.59 29 P P 09 50 20.7 -0.3
M20K IAmb IAmb 09 50 31.4
comp=Z,9.5nm,1.1s
M20K Styx River 77.59 29 P P 09 50 20.8 -0.1
baz=266,SNR=5.3
IMAR Indian Mountai 77.63 24 P P 09 50 21.6 +0.7
RAYN Ar Rayn 77.66 292 P 09 50 21.7 -0.3
RAYN IAmb IAmb 09 50 33.8
comp=Z,7.1nm,0.8s
KDAK Kodiak Island 77.66 33 P 09 50 21.9 +0.6
KDAK IAmb IAmb 09 50 29.2
comp=Z,9.9nm,0.8s
KDAK Kodiak Island 77.66 33 LR LR 10 20 00.4
comp=Z,106nm,22.0s,baz=246,slow=32
KDAK Kodiak Island 77.66 33 P P 09 50 21.7 +0.4
baz=268
B21K Ikpikpuk River 77.68 21 P P 09 50 21.6 +0.4
baz=263
A22K Sinclair Lake 77.73 19 P P 09 50 21.9 +0.5
baz=263
O20K Slope Mountain 77.74 30 P P 09 50 21.9 +0.1
baz=267
G21K Allakaket 77.78 24 P P 09 50 23.2 +1.4
G21K IAmb IAmb 09 50 25.0
comp=Z,12nm,0.9s
G21K Allakaket 77.78 24 P P 09 50 22.1 +0.3
baz=265,SNR=14
E21K Killik River 77.78 22 IAmb IAmb 09 50 24.7
comp=Z,8.7nm,0.8s
E21K Killik River 77.78 22 P P 09 50 21.9 +0.1
baz=264
Q20K Shuyak Island 77.79 32 P P 09 50 22.2 +0.2
baz=268
F21K Alatna River 77.85 23 P P 09 50 23.0 +0.8
F21K IAmb IAmb 09 50 45.0
comp=Z,14nm,1.6s
F21K Alatna River 77.85 23 P P 09 50 22.5 +0.3
baz=265
H21K Melozitna Rive 78.00 25 P P 09 50 23.9 +0.8
H21K Melozitna Rive 78.00 25 P P 09 50 23.6 +0.6
baz=266,SNR=7.5
CHUM Lake Minchumin 78.09 27 P P 09 50 23.8 +0.2
baz=267,SNR=6.0
PPLA Purkeypile 78.09 28 P P 09 50 23.8 0.0
PPLA IAmb IAmb 09 50 57.9
comp=Z,22nm,1.4s
PPLA Purkeypile 78.09 28 P P 09 50 23.8 0.0
baz=267
CAST Castle Rocks 78.17 27 IAmb IAmb 09 50 27.3
comp=Z,8.5nm,0.7s
CAST Castle Rocks 78.17 27 P P 09 50 24.5 +0.5
baz=267
B22K Teshekpuk Lake 78.17 20 P P 09 50 24.3 +0.5
baz=264
HOM Homer 78.22 31 P P 09 50 24.6 +0.3
baz=268
D22K Ayikyak River 78.29 21 IAmb IAmb 09 50 27.8
comp=Z,6.1nm,0.6s
D22K Ayikyak River 78.29 21 P P 09 50 25.1 +0.5
baz=265,SNR=5.8
I21K Tanana 78.31 25 IAmb IAmb 09 50 28.1
comp=Z,10nm,0.8s
I21K Tanana 78.31 25 P P 09 50 25.3 +0.6
baz=267,SNR=15
SKT Skwentna 78.35 29 P P 09 50 25.1 0.0
baz=268
F22K John River 78.38 23 P P 09 50 25.7 +0.6
baz=266
CNPM China Poot 78.42 31 IAmb IAmb 09 50 27.4
comp=Z,7.0nm,0.8s
CAPN Captain Cook N 78.50 30 P P 09 50 26.4 +0.6
baz=268
E22K Anaktuvuk Pass 78.56 22 P P 09 50 26.8 +0.7
E22K IAmb IAmb 09 50 30.4
comp=Z,9.6nm,1.1s
E22K Anaktuvuk Pass 78.56 22 P P 09 50 25.8 -0.3
baz=266,SNR=8.0
H22K Ishtalitna Cre 78.60 25 P P 09 50 26.6 +0.3
baz=267,SNR=9.1
G22K Bettles 78.60 24 P P 09 50 26.7 +0.4
baz=267
BRLK Bradley Lake 78.60 31 P P 09 50 25.8 -0.7
BRLK IAmb IAmb 09 50 31.2
comp=Z,10.0nm,0.9s
KBZ Khabaz 78.65 313 P P 09 50 25.3 -1.7
comp=Z,7.1nm,1.2s,baz=116,slow=5.1,SNR=4.4
KBZ LR LR 10 31 24.7
comp=Z,83nm,18.1s,baz=84,slow=40
comp=Z,7.1nm,1.2s
BPAW Bear Paw Mtn. 78.68 26 P 09 50 27.6 +0.7
BPAW IAmb IAmb 09 50 29.7
comp=Z,13nm,0.8s
BPAW Bear Paw Mtn. 78.68 26 P P 09 50 26.9 +0.1
baz=268,SNR=16
MLY Manley 78.83 25 P P 09 50 28.1 +0.4
MLY IAmb IAmb 09 50 30.5
comp=Z,6.9nm,0.8s
MLY Manley 78.83 25 P P 09 50 27.0 -0.7
baz=268,SNR=18
TRF Thorofare Moun 78.97 27 P P 09 50 28.0 -0.6
TRF IAmb IAmb 09 50 30.8
comp=Z,8.6nm,0.9s
TRF Thorofare Moun 78.97 27 P P 09 50 28.3 -0.3
baz=269,SNR=7.3
M22K Willow 79.02 29 P P 09 50 29.5 +0.8
M22K Willow 79.02 29 P P 09 50 29.0 +0.3
baz=269
D23K Nanushuk River 79.02 21 IAmb IAmb 09 50 32.1
comp=Z,7.5nm,0.8s
D23K Nanushuk River 79.02 21 P P 09 50 28.8 +0.2
baz=267
C23K Itkillik River 79.09 21 P P 09 50 29.2 +0.3
C23K Itkillik River 79.09 21 P P 09 50 29.4 +0.5
baz=267,SNR=10
COLD Coldfoot 79.12 23 P P 09 50 30.5 +1.3
COLD IAmb IAmb 09 50 32.5
comp=Z,7.6nm,0.8s
COLD Coldfoot 79.12 23 P P 09 50 29.6 +0.4
baz=268,SNR=12
G23K Bananza Creek 79.18 24 IAmb IAmb 09 50 41.5
comp=Z,9.8nm,1.1s
G23K Bananza Creek 79.18 24 P P 09 50 30.2 +0.6
baz=268
RC01 Rabbit Creek A 79.19 29 P P 09 50 30.4 +0.7
baz=270
O22K Cooper Landing 79.19 30 P P 09 50 30.4 +0.7
baz=270
SEW Seward 79.33 30 P P 09 50 30.2 -0.2
SEW Seward 79.33 30 P P 09 50 30.6 +0.2
baz=270
H23K Yukon River 79.35 25 P P 09 50 31.0 +0.6
H23K Yukon River 79.35 25 P P 09 50 31.1 +0.6
baz=269,SNR=5.2
E23K Chandalar 79.38 22 P P 09 50 31.3 +0.6
E23K IAmb IAmb 09 50 35.7
comp=Z,16nm,1.1s
E23K Chandalar 79.38 22 P P 09 50 30.7 0.0
baz=268,SNR=17
TOLK Toolik Lake Re 79.41 22 P P 09 50 30.9 +0.2
TOLK IAmb IAmb 09 50 34.0
comp=Z,7.3nm,0.7s
TOLK Toolik Lake Re 79.41 22 P P 09 50 31.1 +0.3
baz=268,SNR=5.9
I23K Minto, Yukon-K 79.41 25 P P 09 50 31.4 +0.6
I23K Minto, Yukon-K 79.41 25 P P 09 50 31.2 +0.4
baz=269,SNR=9.0
PMR Palmer 79.49 29 P P 09 50 30.4 -0.8
PMR IAmb IAmb 09 50 33.2
comp=Z,8.2nm,0.8s
PMR Palmer 79.49 29 P P 09 50 31.6 +0.3
baz=270,SNR=8.5
NEA2 Nenana 79.53 26 P P 09 50 31.9 +0.5
NEA2 IAmb IAmb 09 50 34.6
comp=Z,8.4nm,0.8s
NEA2 Nenana 79.53 26 P P 09 50 31.9 +0.5
baz=270,SNR=16
GURO Guroymak-BITLI 79.56 308 P P 09 50 32.7 +0.3
GURO IAmb IAmb 09 50 35.0
comp=Z,12nm,0.8s
MCK McKinley 79.58 27 P P 09 50 32.0 +0.2
MCK IAmb IAmb 09 50 33.9
comp=Z,15nm,0.8s
MCK McKinley 79.58 27 P P 09 50 31.9 +0.1
baz=270,SNR=10
GHO Glory Hole Cre 79.59 29 P P 09 50 31.2 -0.7
RND Reindeer 79.62 27 P P 09 50 31.5 -0.5
RND IAmb IAmb 09 50 42.3
comp=Z,9.7nm,1.0s
D24K Happy Valley 79.69 21 P P 09 50 31.5 -0.7
D24K IAmb IAmb 09 50 35.5
comp=Z,11nm,0.8s
D24K Happy Valley 79.69 21 P P 09 50 32.4 +0.2
baz=269
C24K Franklin Bluff 79.75 21 IAmb IAmb 09 50 44.0
comp=Z,31nm,1.8s
C24K Franklin Bluff 79.75 21 P P 09 50 32.8 +0.3
baz=269
E24K Your Creek 79.80 22 P P 09 50 32.9 0.0
E24K Your Creek 79.80 22 P P 09 50 33.1 +0.2
baz=269,SNR=7.5
KNK Knik Glacier 79.81 29 P P 09 50 33.0 -0.1
KNK IAmb IAmb 09 50 35.5
comp=Z,10nm,0.8s
KNK Knik Glacier 79.81 29 P P 09 50 33.0 -0.1
baz=271
PWL Port Wells 79.88 30 P P 09 50 32.7 -0.8
PWL Port Wells 79.88 30 P P 09 50 33.2 -0.2
baz=271,SNR=8.0
WRH Wood River Hil 79.95 26 P P 09 50 33.2 -0.5
F24K Squaw Lake 80.03 23 IAmb IAmb 09 50 38.0
comp=Z,7.6nm,0.8s
F24K Squaw Lake 80.03 23 P P 09 50 34.0 -0.1
baz=270,SNR=12
H24K Noodor Dome 80.03 25 P P 09 50 33.8 -0.4
baz=270,SNR=12
COLA College 80.05 26 P P 09 50 34.5 +0.3
COLA IAmb IAmb 09 50 37.7
comp=Z,7.3nm,0.8s
COLA College 80.05 26 P P 09 50 34.3 +0.1
baz=270
CCB Clear Creek Bu 80.08 26 IAmb IAmb 09 50 44.5
comp=Z,16nm,1.6s
M23K Glacier View 80.16 29 P P 09 50 34.9 0.0
baz=271,SNR=8.1
G24K Hadweenzic Riv 80.19 24 P P 09 50 35.1 +0.1
baz=271,SNR=12
POKR Poker Flat Res 80.23 25 P P 09 50 35.4 +0.2
baz=271
SCM Sheep Creek Mo 80.34 29 P P 09 50 36.0 0.0
baz=272
P23K Montague Islan 80.36 31 P P 09 50 36.3 +0.3
baz=272,SNR=5.2
HDA Harding Lake 80.45 26 IAmb IAmb 09 50 38.0
comp=Z,6.0nm,0.6s
HDA Harding Lake 80.45 26 P P 09 50 36.6 +0.2
baz=271,SNR=6.9
ILAR Eielson Array 80.47 26 P 09 50 36.2 -0.3
ILAR Eielson Array 80.47 26 P P 09 50 34.5 -2.0
comp=Z,2.9nm,0.9s,baz=247,slow=5.7,SNR=22
ILAR LR LR 10 27 36.0
comp=Z,22nm,20.2s,baz=276,slow=37
comp=Z,2.9nm,0.9s
GLI Glacier Island 80.48 30 P P 09 50 36.7 0.0
baz=272
D25K Kavik River 80.57 21 P P 09 50 37.2 +0.2
D25K Kavik River 80.57 21 P P 09 50 36.8 -0.2
baz=271,SNR=9.4
G25K Bearman Lake 80.73 24 P P 09 50 37.9 0.0
baz=272,SNR=6.0
FID Port Fidalgo 80.79 30 IAmb IAmb 09 50 50.4
comp=Z,8.4nm,0.8s
H25L Birch Creek 80.86 24 P P 09 50 38.6 0.0
baz=272,SNR=11
M24K Tolsona, Glenn 80.88 28 IAmb IAmb 09 50 54.4
comp=Z,14nm,0.8s
M24K Tolsona, Glenn 80.88 28 P P 09 50 38.7 -0.2
baz=272
F25K Christian Rive 80.89 23 P P 09 50 38.9 +0.2
baz=272,SNR=7.8
E25K Arctic Village 80.89 22 P P 09 50 38.7 -0.1
baz=272,SNR=6.7
K24K Donnelly Dome 80.98 27 IAmb IAmb 09 50 43.1
comp=Z,15nm,0.8s
K24K Donnelly Dome 80.98 27 P P 09 50 39.6 +0.3
baz=273,SNR=7.8
PRP Porcupine Dome 81.02 25 P P 09 50 39.7 +0.1
baz=273
KLU Klutina 81.03 29 P P 09 50 39.9 +0.2
baz=273
C26K Camden Bay 81.06 20 P P 09 50 40.0 +0.5
baz=272
FYU Fort Yukon 81.09 24 IAmb IAmb 09 50 52.7
comp=Z,23nm,1.6s
DIV Divide 81.12 29 IAmb IAmb 09 50 41.2
comp=Z,8.6nm,0.6s
J25K Salcha River, 81.12 26 P P 09 50 40.4 +0.3
baz=273
PAX Paxson 81.16 28 IAmb IAmb 09 50 51.8
comp=Z,13nm,1.5s
PAX Paxson 81.16 28 P P 09 50 40.6 +0.2
baz=273
BMAR Burnt Mountain 81.30 23 P 09 50 40.8 -0.2
HARP HAARP 81.34 28 P P 09 50 41.5 +0.3
baz=273
RIDG Independent Ri 81.40 27 P P 09 50 41.4 -0.2
RIDG IAmb IAmb 09 50 51.0
comp=Z,14nm,1.0s
RIDG Independent Ri 81.40 27 P P 09 50 41.3 -0.2
baz=273,SNR=9.5
F26K Sheenjek River 81.45 23 P P 09 50 41.9 +0.1
baz=274
C27K Jago River 81.49 21 P P 09 50 41.9 0.0
baz=274
G26K Porcupine Rive 81.64 23 P P 09 50 43.0 +0.3
baz=274
N25K Chitina, Valde 81.65 29 IAmb IAmb 09 50 54.0
comp=Z,13nm,1.4s
N25K Chitina, Valde 81.65 29 P P 09 50 42.6 -0.4
baz=274
BMRM Bremner River 81.69 30 P P 09 50 42.4 -0.8
BMRM IAmb IAmb 09 50 53.9
comp=Z,12nm,1.3s
BMRM Bremner River 81.69 30 P P 09 50 42.9 -0.2
baz=274
SCRK Sand Creek 81.77 26 P 09 50 43.2 -0.3
SCRK Sand Creek 81.77 26 P P 09 50 43.3 -0.3
baz=274
J26L Joseph Creek 81.91 26 P P 09 50 43.7 -0.6
baz=274
I26K Coal Creek Min 82.02 25 P P 09 50 44.5 -0.3
baz=275
GLB Gilahina Butte 82.04 29 P 09 50 44.7 -0.3
GLB IAmb IAmb 09 50 55.1
comp=Z,10nm,1.0s
L26K Log Cabin Wild 82.13 27 P P 09 50 45.7 +0.3
L26K IAmb IAmb 09 50 52.6
comp=Z,9.6nm,1.1s
L26K Log Cabin Wild 82.13 27 P P 09 50 45.6 +0.3
baz=275,SNR=11
BERG Berg Lake 82.18 30 IAmb IAmb 09 50 56.5
comp=Z,12nm,1.0s
M26K Nabesna, AK 82.34 28 P P 09 50 46.6 0.0
baz=275,SNR=6.8
E27K Coleen River 82.37 22 P P 09 50 46.8 +0.2
E27K Coleen River 82.37 22 P P 09 50 47.0 +0.4
baz=276,SNR=8.3
MCARA McCarthy VSAT 82.42 29 P P 09 50 46.8 -0.1
baz=275
CRQE Cirque 82.45 30 P P 09 50 47.3 +0.1
baz=275
G27K Doyon Strip 82.49 24 P P 09 50 47.5 +0.3
baz=276,SNR=5.8
D27M Malcolm River 82.49 21 IAmb IAmb 09 50 50.6
comp=Z,8.8nm,0.8s
D27M Malcolm River 82.49 21 P P 09 50 47.8 +0.6
baz=276,SNR=14
K27K Chicken 82.60 26 IAmb IAmb 09 50 52.1
comp=Z,15nm,1.0s
K27K Chicken 82.60 26 P P 09 50 47.9 +0.1
baz=276
H27K Steamboat Moun 82.60 24 P P 09 50 48.7 +0.8
baz=276,SNR=7.9
I27K Kandik River 82.63 25 P P 09 50 48.7 +0.7
baz=276,SNR=26
L27K Beaver Creek, 82.81 27 P P 09 50 49.6 +0.7
baz=276,SNR=14
BCAR Beaver Creek A 82.83 27 P 09 50 49.0 0.0
M27K Edge Creek, AK 82.86 28 IAmb IAmb 09 50 53.5
comp=Z,8.0nm,0.9s
M27K Edge Creek, AK 82.86 28 P P 09 50 49.5 +0.1
baz=276,SNR=7.3
MESA MESA 83.07 30 P P 09 50 50.4 -0.1
baz=276
E28M Babbage River 83.08 22 P P 09 50 50.9 +0.7
baz=278,SNR=7.4
F28M Old Crow 83.09 23 IAmb IAmb 09 50 53.5
comp=Z,7.5nm,0.7s
F28M Old Crow 83.09 23 P P 09 50 51.3 +1.0
baz=277,SNR=13
GRNC Granite Creek 83.11 30 IAmb IAmb 09 50 54.1
comp=Z,8.3nm,0.8s
BARN Barnard Glacie 83.11 29 IAmb IAmb 09 50 54.7
comp=Z,13nm,0.8s
CTG Chitna Glacier 83.28 29 P P 09 50 51.7 +0.2
baz=277,SNR=9.8
I28M Miner Creek 83.34 25 IAmb IAmb 09 50 55.4
comp=Z,11nm,0.8s
I28M Miner Creek 83.34 25 P P 09 50 52.6 +0.8

baz=278,SNR=19
TABL Table Mountain 83.44 30 P **P** 09 50 52.4 -0.1
LOGN Logan Glacier 83.46 30 IAmb IAmb 09 51 04.7
comp=Z,9.6nm,0.8s
YUK3 Moose Creek 83.60 29 P **P** 09 50 53.3 +0.1
baz=278
E29M Blow River 83.71 22 P **P** 09 50 54.1 +0.7
baz=279
DAWY Dawson 83.77 26 IAmb IAmb 09 51 05.0
comp=Z,18nm,1.3s
DAWY Dawson 83.77 26 P **P** 09 50 54.2 +0.3
baz=278,SNR=14
O28M Mount Upton 83.86 30 IAmb IAmb 09 51 06.2
comp=Z,11nm,0.9s
O28M Mount Upton 83.86 30 P **P** 09 50 55.1 +0.4
baz=278,SNR=6.3
H29M Whitestone 83.87 24 IAmb IAmb 09 50 57.5
comp=Z,9.6nm,0.8s
H29M Whitestone 83.87 24 P **P** 09 50 55.1 +0.7
baz=279,SNR=9.3
G29M Pine Creek 83.90 23 P **P** 09 50 54.7 +0.3
baz=279,SNR=15
PCA Pinnacle 83.92 30 P **P** 09 50 54.4 -0.4
PINM Pinnacle 83.92 30 P **P** 09 50 55.0 +0.2
baz=278
YUK8 Steele Glacier 84.00 29 P **P** 09 50 55.0 -0.4
baz=278
I29M Ogilvie Camp, 84.03 25 **P** 09 50 55.7 +0.6
I29M Ogilvie Camp, 84.03 25 P **P** 09 50 55.3 +0.1
baz=279,SNR=14
J29N Klondike Camp 84.22 26 P **P** 09 50 56.3 +0.2
baz=279
BNN Bunyan 84.35 308 IAmb IAmb 09 51 16.9
comp=Z,21nm,1.4s
PNL Peninsula 84.41 31 P **P** 09 50 56.7 -0.5
baz=279,SNR=7.3
M29M Somme Creek 84.43 28 IAmb IAmb 09 51 01.3
comp=Z,11nm,0.8s
M29M Somme Creek 84.43 28 P **P** 09 50 57.5 +0.2
baz=279,SNR=20
L29M L29M 84.47 27 P **P** 09 50 57.8 +0.3
baz=280,SNR=23
EPYK Eagle Plains 84.50 24 P **P** 09 50 57.8 +0.2
EPYK Eagle Plains 84.50 24 P **P** 09 50 57.7 +0.2
baz=280,SNR=14
YUK4 Talbot Arm 84.52 29 P **P** 09 50 57.8 -0.1
baz=279
G30M tAoh Zraii Nji 84.59 23 **P** 09 50 57.7 -0.2
G30M IAmb IAmb 09 51 00.9
comp=Z,14nm,1.2s
G30M tAoh Zraii Nji 84.59 23 P **P** 09 50 58.0 0.0
baz=281
K29M Barlow Dome 84.62 26 IAmb IAmb 09 51 01.8
comp=Z,6.4nm,0.8s
K29M Barlow Dome 84.62 26 P **P** 09 50 58.1 -0.2
baz=280,SNR=14
F30M Barrier River 84.63 22 IAmb IAmb 09 51 01.1
comp=Z,9.7nm,0.8s
F30M Barrier River 84.63 22 P **P** 09 50 58.9 +0.7
baz=281,SNR=8.0
YUK6 Outpost Mounta 84.72 29 P **P** 09 50 59.2 +0.2
baz=280,SNR=7.2
O29M Mount Kennedy 84.72 30 P **P** 09 50 59.0 +0.1
baz=279
I30M Mount Dempster 84.86 25 P **P** 09 50 60.0 +0.5
baz=281,SNR=26
SPITS Spitsbergen Ar 84.93 349 P **P** 09 50 58.2 -1.2
comp=Z,2.4nm,0.4s,baz=70,slow=4.7,SNR=11
comp=Z,2.4nm,0.4s
J30M Hart River 85.00 25 IAmb IAmb 09 51 12.1
comp=Z,15nm,1.3s
J30M Hart River 85.00 25 P **P** 09 51 00.7 +0.5
baz=281
ARCES ARCESS Array B 85.02 340 P **P** 09 50 59.4 -0.7
ARCES ARCESS Array B 85.02 340 P **P** 09 50 58.1 -1.9
comp=Z,5.3nm,0.7s,baz=79,slow=4.8,SNR=18
comp=Z,5.3nm,0.7s
HYT Haines Junctio 85.16 29 P **P** 09 51 01.0 0.0
HYT IAmb IAmb 09 51 04.7
comp=Z,6.7nm,0.8s
HYT Haines Junctio 85.16 29 P **P** 09 51 01.2 +0.1
baz=280,SNR=8.6
M30M Minto, Yukon 85.17 27 P **P** 09 51 01.1 +0.1
baz=281,SNR=14
N30M Aishikik Lake 85.24 29 IAmb IAmb 09 51 05.8
comp=Z,8.9nm,0.9s
N30M Aishikik Lake 85.24 29 P **P** 09 51 00.8 -0.6
baz=280,SNR=15
P29M Windy Craggy 85.25 30 IAmb IAmb 09 51 05.4
comp=Z,11nm,1.0s
P29M Windy Craggy 85.25 30 P **P** 09 51 01.8 +0.3
baz=280
INK Inuvik 85.32 22 IAmb IAmb 09 51 04.0
comp=Z,6.6nm,0.8s
INK Inuvik 85.32 22 P **P** 09 51 01.9 +0.4
baz=283,SNR=8.3
G31M Satah River 85.35 23 IAmb IAmb 09 51 04.1
comp=Z,11nm,0.9s
G31M Satah River 85.35 23 P **P** 09 51 01.7 0.0
baz=283,SNR=9.9
MAYO Mayo, Yukon 85.38 26 P **P** 09 51 02.3 +0.3
MAYO Mayo, Yukon 85.38 26 P **P** 09 51 01.8 -0.2
baz=281,SNR=8.6
F31M Tsiigehtchic 85.44 22 IAmb IAmb 09 51 04.4
comp=Z,8.0nm,0.8s
F31M Tsiigehtchic 85.44 22 P **P** 09 51 02.5 +0.4
baz=283,SNR=10.0
KBS Kingsbay 85.45 350 P **P** 09 51 01.5 -0.5
P30M Million Dollar 85.55 30 P **P** 09 51 02.0 -0.9
baz=281
H31M Peel River 85.57 24 P **P** 09 51 03.0 +0.1
baz=283,SNR=9.0
O30N Mendenhall 85.85 29 IAmb IAmb 09 51 19.9
comp=Z,9.3nm,1.4s
O30N Mendenhall 85.85 29 P **P** 09 51 04.8 +0.4
baz=282
N31M Braeburn, Yuko 85.85 28 P **P** 09 51 04.5 +0.1
baz=282
BRTR Keskin Array B 85.92 309 **P** 09 51 03.6 -1.7
BRTR Keskin Array B 85.92 309 P **P** 09 51 03.1 -2.3
comp=Z,2.8nm,0.9s,baz=106,slow=4.7,SNR=10
comp=Z,2.8nm,0.9s
PLBC Pleasant Camp 85.97 30 P **P** 09 51 04.7 -0.2
baz=281
S31K Pelican 86.33 32 P **P** 09 51 06.8 +0.1
baz=282
M31M Drury Creek, Y 86.34 28 P **P** 09 51 06.8 0.0
M31M IAmb IAmb 09 51 10.3
comp=Z,4.2nm,0.7s
M31M Drury Creek, Y 86.34 28 P **P** 09 51 07.0 +0.2
baz=283,SNR=6.0
WHY Whitehorse 86.45 29 P **P** 09 51 07.2 -0.2
WHY Whitehorse 86.45 29 P **P** 09 51 07.3 -0.2
baz=282
SKAG Skagway 86.49 30 P **P** 09 51 07.2 -0.3
baz=282
FIA1 FINESS Array S 86.62 332 P **P** 09 51 06.5 -1.6
FINES FINESS Array B 86.62 332 **P** 09 51 06.9 -1.2
FINES FINESS Array B 86.62 332 P **P** 09 51 06.2 -1.9
comp=Z,3.3nm,0.6s,baz=63,slow=4.9,SNR=16
comp=Z,3.3nm,0.6s
A36M Sachs Harbour 86.95 17 P **P** 09 51 09.5 0.0
baz=291
SIT Sitka 87.00 33 P **P** 09 51 09.8 -0.2
baz=282
AKASG Malin Array Be 87.14 321 P **P** 09 51 09.2 -1.7
comp=Z,0.6nm,0.5s,baz=66,slow=5.3,SNR=6.9
comp=Z,0.6nm,0.5s
AKBB Malin Array Si 87.14 321 **P** 09 51 09.9 -1.0
AKBB IAmb IAmb 09 51 11.4
comp=Z,6.7nm,1.1s
KIEV Kiev 87.15 321 P **P** 09 51 10.0 -0.9
KIEV IAmb IAmb 09 51 11.4
comp=Z,6.1nm,1.1s
R32K Eaglecrest 87.16 31 P **P** 09 51 10.6 -0.2
baz=283
N32M Quiet Lake 87.19 28 IAmb IAmb 09 51 16.9
comp=Z,7.9nm,0.8s
N32M Quiet Lake 87.19 28 P **P** 09 51 10.8 -0.2
baz=284
P32M Atlin 87.26 30 P **P** 09 51 11.0 -0.3
baz=284
S32K Killisnoo 87.31 32 P **P** 09 51 11.3 -0.2
baz=283
P33M Teslin, Yukon 87.55 29 P **P** 09 51 12.4 -0.4
baz=284
PPT2 Papeete2 87.55 108 *e*S **S** 10 01 45.9 -5.9
comp=Z,51nm,25.8s
PPT2 Papeete2 87.55 108 *e*LR LR 10 19 03.2
comp=Z,108nm,29.0s
PPT2 *e*LR LR 10 19 11.2
comp=Z,116nm,23.5s
MMPY Sheldon Lake, 87.65 27 P **P** 09 51 12.3 -0.8
baz=286
Q32M Nakina River 88.14 31 P **P** 09 51 15.1 -0.7
baz=285
U33K Whale Pass 88.40 33 P **P** 09 51 16.3 -0.4
baz=284
CRAG Craig 88.56 34 P **P** 09 51 17.3 -0.2
baz=284
R33M Jennings River 88.67 30 P **P** 09 51 18.0 -0.2
baz=286
WRAK Wrangell Islan 88.75 33 P **P** 09 51 18.5 +0.1
baz=285
VNDA Vanda 88.98 173 P **P** 09 51 19.4 +0.5
VNDA Vanda 88.98 173 P **P** 09 51 18.7 -0.3
comp=Z,7.6nm,0.9s,baz=323,slow=1.8,SNR=18
comp=Z,7.6nm,0.9s
S34M Telegraph Cree 88.99 31 P **P** 09 51 19.3 -0.2
baz=286
TGTN Hyland Airport 89.32 27 P **P** 09 51 21.1 +0.1
baz=288
DLBC Dease Lake 89.40 31 P **P** 09 51 21.3 -0.2
baz=287
V35K Ketchikan 89.43 34 P **P** 09 51 21.2 -0.3
baz=286
WTLY Watson Lake, Y 89.51 29 IAmb IAmb 09 51 26.1
comp=Z,4.4nm,0.9s
T35M Bob Quinn 89.71 32 P **P** 09 51 23.1 +0.1
baz=287
SBA Scott Base 89.89 172 P **P** 09 51 23.7 +0.4
SBA IAmb IAmb 09 51 53.7
comp=Z,8.0nm,1.1s
BURAR Bucovina Array 90.38 318 P **P** 09 51 25.7 -0.7
BUR08 Bucovina Ar. S 90.38 318 P **P** 09 51 25.9 -0.5
BUR08 IAmb IAmb 09 54 40.7
comp=Z,9.0nm,1.6s
MLR Muntele Rosu 90.40 316 P **P** 09 51 25.7 -0.9
comp=Z,1.5nm,0.5s,baz=78,slow=16,SNR=1.6
comp=Z,1.5nm,0.5s
WRGLY Wrigley 90.83 25 P **P** 09 51 28.3 +0.4
baz=292
TOAD Toad River Com 91.64 29 P **P** 09 51 32.3 +0.3
baz=291
HFS Hagfors 92.78 332 P **P** 09 51 35.2 -1.9
comp=Z,2.3nm,0.8s,baz=83,slow=4.5,SNR=10
comp=Z,2.3nm,0.8s
NB2 NORSAR Subarra 93.51 334 P **P** 09 51 38.2 -2.3
comp=Z,1.8nm,0.7s,baz=63,slow=4.6
NOA NORSAR Array B 93.51 334 P **P** 09 51 37.8 -2.7
comp=Z,1.2nm,0.7s,baz=63,slow=4.6,SNR=7.6
comp=Z,1.2nm,0.7s
YKAW3 Yellowknife Wh 94.75 24 P **P** 09 51 45.2 -0.9
YKAW3 IAmb IAmb 09 51 48.5
comp=Z,4.3nm,0.8s
YKA Yellowknife Ar 94.79 24 P **P** 09 51 45.2 -1.1
YKA Yellowknife Ar 94.79 24 P **P** 09 51 45.0 -1.2
comp=Z,2.8nm,0.8s,baz=302,slow=5.0,SNR=17
comp=Z,2.8nm,0.8s
YKAW1 Yellowknife Wh 94.84 24 P **P** 09 51 45.8 -0.7
YKAW1 IAmb IAmb 09 51 49.0
comp=Z,3.6nm,0.8s
TAOE Nuku Hiva Isla 95.21 98 *e*LR LR 10 22 27.5
comp=Z,195nm,29.8s
GERES GERESS Array B 97.28 322 P **P** 09 51 58.1 0.0
comp=Z,1.4nm,0.9s,baz=72,slow=7.0,SNR=7.5
comp=Z,1.4nm,0.9s
QSPA South Pole Qui 99.14 180 P **Pdif** 09 52 05.7 -0.2
comp=Z,2.2nm,1.0s,baz=348,slow=5.1,SNR=4.0
comp=Z,2.2nm,1.0s
Y22D IRIS PASSCAL I 113.91 46 P **PKiKP** 09 57 04.0 -0.3
baz=301
TXAR Lajitas Array 118.71 49 PKP **PKPdf** 09 57 13.5 -0.1
comp=Z,0.2nm,0.6s,baz=291,slow=3.4,SNR=1.9
TORD Torodi Ar. Bea 120.34 291 PKP **PKPdf** 09 57 15.5 -1.5
comp=Z,1.6nm,0.7s,baz=105,slow=2.3,SNR=7.0
TORD PP **PP** 09 58 44.3 +0.9
comp=Z,0.4nm,0.6s,baz=68,slow=9.4,SNR=4.5
PLCA Paso Flores 145.41 158 PKPbc **PKPbc** 09 58 03.4 +0.4
comp=Z,18nm,1.0s,baz=215,slow=3.8,SNR=29
CPUP Villa Florida 162.75 170 PKPab **PKPab** 09 59 13.6 -2.5
comp=Z,1.8nm,1.1s,baz=198,slow=1.7,SNR=5.2
LPAZ La Paz 164.60 118 PKP **PKPdf** 09 58 28.2 -2.1
comp=Z,2.4nm,0.8s,baz=266,slow=0.3,SNR=9.2

*SJA **23** 09:40:46.3±0.6, 33.00S×72.57W, h12km±18km, ML3.7, MW3.6*
*GUC **23** 09:40:52.1±0.8, 33.03S×72.07W, h24km±6km, ML3.7*
ISC 23 09:40:50.1±1.8, 33.08S±0.03×72.14W±0.06, h3km±10km, n31, σ1.9s86/61, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
VA01	**Torpederas**	**0.42**	**82**	*e*P	**Pg**	**09 40 59.4**	**+1.3**
VA01				*i* S	**Sg**	**09 41 04.7**	**+1.2**
VA05	**Santo Domingo**	**0.72**	**143**	*e*P	**Pg**	**09 41 05.8**	**+1.9**
VA05				*i* S	**Sb**	**09 41 15.8**	**+0.3**
VA05				IAML		09 41 16.4	
comp=E,6μm,0.4s							
MT02	**Curacav**	**0.86**	**102**	*e*P	**Pg**	**09 41 06.6**	**+0.1**
MT02				*i* S	**Sg**	**09 41 17.1**	**-0.5**
VA06	**Catapilco**	**0.88**	**54**	*e*P	**Pg**	**09 41 06.6**	**-0.3**
VA06				*i* S	**Sg**	**09 41 16.9**	**-1.5**
VA06				IAML		09 41 18.4	
comp=E,8μm,0.3s							
ROCH	**El Roble**	**0.95**	**84**	*e*P	**Pg**	**09 41 07.9**	**-0.4**
ROCH				*e*P	**Pg**	**09 41 08.0**	**-0.4**
ROCH				*i* S	**Sg**	**09 41 20.2**	**-0.5**
ROCH				*i* S	**Sg**	**09 41 20.2**	**-0.5**
ROCH				IAML		09 41 21.3	
comp=N,3μm,0.2s							
MT01	**Popeta**	**1.07**	**137**	*e*P	**Pg**	**09 41 11.0**	**+0.3**
MT01				*i* S	**Sg**	**09 41 25.1**	**+0.4**
MT01				IAML		09 41 26.1	
comp=E,3μm,0.3s							
MT09	**Talagante**	**1.18**	**126**	*e*P	**Pb**	**09 41 12.8**	**-0.5**
MT09				*i* S	**Sg**	**09 41 27.9**	**-0.2**
MT09				IAML		09 41 28.6	
comp=N,5μm,0.3s							
MT05	**Renca**	**1.21**	**105**	*e*P	**Pb**	**09 41 12.7**	**-1.0**
MT05				*i* S	**Sb**	**09 41 28.2**	**-1.5**
MT05				IAML		09 41 32.6	
comp=N,3μm,0.3s							
PEL	**Peldehue**	**1.22**	**93**	*e*P	**Pb**	**09 41 12.8**	**-1.0**
PEL				*i* S	**Sb**	**09 41 28.0**	**-2.0**
PEL				IAML		09 41 33.1	
comp=N,2μm,0.5s							
MT10	**Hacienda Santa**	**1.35**	**98**	*e*P	**Pn**	**09 41 15.0**	**-1.0**
MT10				*i* S	**Sb**	**09 41 32.2**	**-1.8**
MT10				IAML		09 41 40.7	
comp=E,3μm,0.4s							
VA03	**San Esteban**	**1.37**	**77**	*e*P	**Pn**	**09 41 14.5**	**-1.7**
VA03				*i* S	**Sb**	**09 41 32.0**	**-2.4**
VA03				IAML		09 41 36.9	
comp=E,3μm,0.3s							
MT14	**Cerro Cal¡n**	**1.38**	**104**	*e*P	**Pn**	**09 41 15.6**	**-0.7**
MT14				*i* S	**Sb**	**09 41 33.4**	**-1.1**
MT14				IAML		09 41 38.9	
comp=N,3μm,0.3s							
MT16	**CCHEN**	**1.40**	**105**	*e*P	**Pn**	**09 41 15.6**	**-0.9**
MT16				*i* S	**Sb**	**09 41 33.2**	**-1.9**
BO03	**Pichilemu**	**1.42**	**174**	*e*P	**Pn**	**09 41 16.8**	**+0.1**
BO03				*i* S	**Sn**	**09 41 34.0**	**-1.9**
MT15	**Las Vizcachas**	**1.46**	**111**	*e*P	**Pn**	**09 41 16.7**	**-0.7**
MT15				*i* S	**Sn**	**09 41 35.7**	**-1.3**
BO04	**La Punta**	**1.56**	**126**	*e*P	**Pn**	**09 41 18.6**	**-0.2**
BO04				*i* S	**Sn**	**09 41 38.7**	**-0.9**
BO04				IAML		09 41 43.0	
comp=N,957nm,0.3s							
FCH	**Farellones**	**1.57**	**99**	*e*P	**Pn**	**09 41 18.5**	**-0.6**
FCH				*i* S	**Sn**	**09 41 38.5**	**-1.6**
BO01	**Tunca**	**1.57**	**146**	*e*P	**Pn**	**09 41 18.5**	**-0.4**
BO01				*i* S	**Sn**	**09 41 39.5**	**-0.3**
MT04	**Ro Olivares**	**1.71**	**101**	*e*P	**Pn**	**09 41 20.7**	**-0.2**
MT04				*i* S	**Sn**	**09 41 42.1**	**-1.2**
MT04				IAML		09 41 46.6	
comp=N,1μm,0.4s							
LMEL	**Las Melosas**	**1.79**	**116**	*e*P	**Pn**	**09 41 22.2**	**+0.2**
LMEL				*i* S	**Sn**	**09 41 44.9**	**-0.4**
LMEL				IAML		09 41 50.6	
comp=N,2μm,0.3s							
MT08	**Bocatoma Ro**	**1.81**	**102**	*e*P	**Pn**	**09 41 22.7**	**+0.3**
MT08				*i* S	**Sn**	**09 41 45.5**	**-0.5**
MT08				IAML		09 41 52.4	
comp=N,753nm,0.4s							
BO02	**Sierra Bellavi**	**2.04**	**147**	*e*P	**Pn**	**09 41 25.9**	**+0.5**
BO02				*i* S	**Sb**	**09 41 53.1**	**-0.7**
BO02				IAML		09 42 00.1	
comp=N,1μm,0.2s							
CO03	**El Pedregal**	**2.55**	**29**	*e*P	**Pn**	**09 41 31.2**	**-1.2**
CO03				*i* S	**Sn**	**09 42 01.0**	**-3.1**
CO03				IAML		09 42 10.2	
comp=E,649nm,0.8s							
RTLS	**Leoncito**	**2.72**	**63**	*i* P	**Pn**	**09 41 37.4**	**+2.4**
RTLS				*i* S	**Sb**	**09 42 15.1**	**+1.6**
RTLS				IAML		09 42 17.7	
comp=Z,435nm,0.8s							
RFA	**San Rafael**	**3.49**	**120**	*i* P	**Pn**	**09 41 48.2**	**+2.9**
RFA				IAML		09 42 51.6	
comp=Z,28nm,0.8s							
EDS3	**Malargue**	**3.51**	**141**	*i* P	**Pn**	**09 41 48.4**	**+2.7**
ACCO	**Cerro Coronel**	**3.61**	**47**	*i* P	**Pn**	**09 41 49.3**	**+2.1**
ACCO				*i* S	**Sb**	**09 42 35.4**	**-3.6**
ACHE	**Chepes**	**5.02**	**69**	*i* P	**Pn**	**09 42 09.6**	**+3.1**
ACHE				*i* S	**Sn**	**09 43 10.9**	**+5.8**
APLL	**PUNTA DE LOS L**	**5.48**	**62**	*i* P	**Pn**	**09 42 15.2**	**+2.6**
APLL				*i* S	**Sn**	**09 43 21.2**	**+5.0**
APLL				IAML		09 43 27.1	
comp=Z,14nm,0.9s							
VCA	**Vinchina**	**5.49**	**39**	*i* P	**Pn**	**09 42 13.5**	**+0.6**
VCA				IAML		09 43 54.8	
comp=Z,83nm,0.6s							
ACLC	**CERRO LA CRUZ**	**5.74**	**52**	*i* P	**Pn**	**09 42 18.1**	**+1.7**
ACLC				*i* S	**Sn**	**09 43 27.0**	**+4.1**
ACLC				IAML		09 43 36.3	
comp=Z,49nm,0.8s							

*UPP **23** 09:43:22.5±3.4, 67.60N×34.70E, h1km, ML1.5*
*KOLA **23** 09:43:24.8, 67.67N×34.26E, h0km, ML2.2, Error ellipse: s-maj=4.5km s-min=1.7km az=120.0, Murmansk region, Kirovsk district*
*HEL **23** 09:43:26.0±0.2, 67.49N×34.39E, h0km, ML1.8, Explosion Hypocentre not reviewed by the ISC*
*IDC **23** 09:43:28.2±2.6, 67.65N×33.41E, h0km, mbtmp2.7/2, ML2.1/1, Error ellipse: s-maj=29.4km s-min=11.9km az=72.0*
ISC 23 09:43:23.9±1.1, 67.68N±0.05×34.19E±0.05, h0km, n15, σ0.88/23, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.28**	**39**	P	**Pg**	**09 43 29.4**	**+0.1**
LVZ				S	**Sg**	**09 43 33.7**	**+0.9**
LVZ	**Lovozero**	**0.28**	**39**	PG		09 43 33.6	
APA	**Apatity**	**0.32**	**249**	P	**Pg**	**09 43 30.4**	**+0.3**
APA				S	**Sg**	**09 43 35.5**	**+1.4**
APA0	**Apatity Array**	**0.46**	**261**	P	**Pg**	**09 43 32.5**	**-0.3**
KVDA	**Kovda**	**1.12**	**208**	P	**Pg**	**09 43 44.5**	**-0.9**
KVDA				S	**Sg**	**09 44 00.0**	**+0.2**
TERR	**Teriberka**	**1.56**	**12**	P	**Pn**	**09 43 52.5**	**-0.5**
TERR				S	**Sn**	**09 44 13.3**	**-0.5**
VRF	**Varrio**	**1.75**	**274**	SG		09 44 19.9	
VRF				MSG		09 44 20.9	
comp=Z,11nm,0.2s							
OLKF	**Oulanka, Finla**	**2.33**	**236**	PN		09 44 04.6	
OLKF				MSG		09 44 33.9	
comp=Z,3.4nm,0.2s							
OLKF				SG		09 44 36.6	
RAJF	**Raja-Jooseppi**	**2.34**	**293**	PN		09 44 05.4	
RAJF				SN		09 44 35.0	
KU6	**Riekki**	**2.38**	**228**	PB		09 44 05.5	
baz=52							
KU6				MSG		09 44 34.4	
comp=Z,3.2nm,0.2s							
KU6				SG		09 44 37.4	
MSF	**Maaselka**	**2.71**	**231**	PN		09 44 10.6	
MSF				SG		09 44 47.5	
KU1	**Kurvinen**	**2.82**	**223**	PN		09 44 10.8	
VADS	**Vadso**	**3.01**	**327**	P	**Pn**	**09 44 13.3**	**+0.6**
VADS				S	**Sn**	**09 44 49.5**	**+0.2**
KU2	**Taivalkoski**	**3.09**	**233**	PB		09 44 16.4	
RNF	**Rovaniemi**	**3.37**	**255**	PN		09 44 18.0	
baz=73							
RNF				SN		09 45 00.0	
RANF	**Ranua**	**3.37**	**244**	PB		09 44 23.6	
RANF				SG		09 45 07.2	
ARA0	**ARCESS Array S**	**3.68**	**304**	SB		09 45 18.4	
ARCES	**ARCESS Array B**	**3.68**	**304**	Pn	**Pn**	**09 44 22.2**	**+0.1**
comp=Z,0.2nm,0.3s,baz=120,slow=15,SNR=21							
ARCES				Pg	**Pb**	**09 44 29.6**	**-0.2**
comp=Z,0.2nm,0.3s,baz=119,slow=14,SNR=13							
ARCES				Sn	**Sn**	**09 45 04.8**	**-1.3**
comp=Z,0.4nm,0.3s,baz=116,slow=26,SNR=8.5							
ARCES				Lg	Lg	09 45 16.2	
comp=Z,0.9nm,0.3s,baz=115,slow=32,SNR=14							
comp=Z,0.7nm,0.2s							
ARCES	**ARCESS Array B**	**3.68**	**304**	P	**Pn**	**09 44 23.1**	**+1.0**
ARCES				S	**Sn**	**09 45 05.5**	**-0.6**
RMF	**Romuvaara**	**3.89**	**209**	PN		09 44 25.1	
baz=22							
KLF	**Kolari**	**3.96**	**268**	PN		09 44 28.9	
baz=83							
HEF	**Hetta**	**4.02**	**285**	PB		09 44 36.1	
HEF				SB		09 45 28.5	
TOF	**Tornio**	**4.21**	**252**	PG		09 44 43.2	
TOF				SN		09 45 18.1	
KTK1	**Kautokeino**	**4.27**	**293**	SB		09 45 35.7	
PAJU	**Pajala**	**4.33**	**266**	P	**Pn**	**09 44 30.9**	**0.0**
PAJU	**Pajala**	**4.33**	**266**	PN		09 44 32.2	
PAJU				SN		09 45 23.2	
LANU	**Lannavaara**	**4.63**	**280**	PB		09 44 46.4	
LANU				SB		09 45 47.0	
ERTU	**Ertsjaerv**	**4.82**	**262**	P	**Pn**	**09 44 38.0**	**+0.4**
ERTU				S	**Sn**	**09 45 35.1**	**+1.1**
KOVU	**Salmi**	**5.31**	**282**	P	**Pn**	**09 44 44.2**	**-0.2**
RATU	**Laukkuluspa**	**5.55**	**278**	P	**Pn**	**09 44 48.0**	**+0.4**
I37NO	**I37NO**	**5.92**	**291**	I	I	10 17 10.0	
baz=96,slow=316,SNR=3.7							
FINES	**FINESS Array B**	**7.17**	**213**	Pn	**Pn**	**09 45 10.7**	**+0.9**
comp=Z,0.8nm,0.9s,baz=30,slow=14,SNR=1.9							
FINES				Lg	Lg	09 47 03.4	
comp=Z,0.2nm,0.3s,baz=25,slow=28,SNR=4.7							
FAUS	**Fauske**	**7.24**	**276**	S	**Sn**	**09 46 31.3**	**-2.3**

*IDC **23** 09:56:18.1±3.4, 53.49N×87.62E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=29.8km s-min=17.3km az=58.0*
ASRS 23 09:56:17.0±1.2, 53.51N×87.72E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.78**	**285**	I	I	10 07 20.0	
0.2nm,0.8s,baz=102,slow=316,SNR=15							
ZALV	**Zalesovo Beam**	**1.78**	**285**	Pg	Pn	09 56 49.5	+0.5
0.8nm,0.3s,baz=106,slow=18,SNR=6.0							
ZALV				Lg	Lg	09 57 12.3	
1.1nm,0.3s,baz=108,slow=18,SNR=4.1							
KURBB	**Kurchatov Arra**	**6.36**	**247**	Pn	Pn	09 57 53.1	+1.2
baz=62,slow=14,SNR=3.4							
KURBB				Lg	Lg	09 59 37.6	
baz=63,slow=32,SNR=4.3							
0.2nm,0.3s							
MKAR	**Makanchi Array**	**7.57**	**210**	Pn	Pn	09 58 10.2	+1.6
0.1nm,0.3s,baz=34,slow=10,SNR=1.9							
MKAR				Lg	Lg	10 00 15.5	
0.1nm,0.3s,baz=31,slow=31,SNR=1.8							
0.2nm,0.3s							

*GCG **23** 10:01:31.9±1.1, 14.59N×92.37W, h67km±8km, MD3.5, ML3.4, MW2.8*
*CATAC **23** 10:01:31.4±0.5, 15°N±4'×9°2W±°, h41km±6km, M3.1/8, MLv3.1/8, Error ellipse: s-maj=10.0km s-min=4.0km az=31.4, confirmed*
*MEX **23** 10:01:32.1±0.6, 14.66N×92.40W, h80km±8km, MD3.9*
ISC 23 10:01:28.1±1.3, 14.33N±0.06×92.53W±0.04, h62km±13km, n29, σ2.37/48, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
THIG		**0.63**	**24**	*e*P	**Pn**	**10 01 42.8**	**+1.2**

THIG					*e*S		**Sn**	10 01 51.4	-0.1
THIG		**0.63**	**24**	*i* P			**Pn**	10 01 42.7	+1.0
	comp=Z,287nm,0.2s								
THIG					*i* S		**Sn**	10 01 51.8	+0.3
THIG					IAML			10 01 53.1	
	comp=E,718nm,0.4s								
SMCA	**Catarina**	**0.69**	**40**	*i* P			**Pn**	10 01 43.2	+0.9
	comp=Z,708nm,0.1s								
SMCA					*i* S		**Sn**	10 01 52.6	-0.1
SMCA					IAML			10 01 54.0	
	comp=N,4μm,0.1s								
PATR	**El Naranjo**	**0.83**	**20**	*e*P			**Pn**	10 01 44.2	-0.1
PATR					*e*S		**Sn**	10 01 54.1	-2.2
RTAL	**Retalhuleu**	**0.83**	**77**	*e*P			**Pn**	10 01 46.8	+2.7
RTAL					*e*S		**Sn**	10 01 57.5	+1.6
PAVE	**Pavencul**	**0.92**	**22**	*e*P			**Pn**	10 01 45.3	-0.2
PAVE					*e*S		**Sn**	10 01 56.2	-2.1
STG2	**El Palmar, Qui**	**1.13**	**85**	*i* P			**Pn**	10 01 47.2	-0.8
STG2					*e*S		**Sn**	10 01 58.7	-4.1
STG0	**El Palmar, Qui**	**1.16**	**85**	*i* P			**Pn**	10 01 47.8	-0.6
	comp=Z,1μm,0.1s								
STG0					*i* S		**Sn**	10 01 59.8	-3.8
STG0					IAML			10 02 02.2	
	comp=E,3μm,0.3s								
STG0					IAML			10 02 03.3	
	comp=Z,1μm,0.1s								
HUEH	**Huehuetenango**	**1.40**	**45**	*e*P			**Pn**	10 01 52.1	+0.4
HUEH					*e*S		**Sn**	10 02 07.7	-1.7
HUEH	**Huehuetenango**	**1.40**	**45**	*i* P			**Pn**	10 01 52.5	+0.9
HUEH					*i* S		**Sn**	10 02 09.4	0.0
HUEH					IAML			10 02 14.2	
	comp=E,447nm,0.7s								
HUEH	**Huehuetenango**	**1.40**	**45**	P			**Pn**	10 01 52.6	+0.9
PCIG		**1.52**	**334**	*e*P			**Pn**	10 01 53.8	+0.7
PCIG					*e*S		**Sn**	10 02 10.1	-1.2
FG8	**Yepocapa, Chim**	**1.91**	**92**	*i* P			**Pn**	10 01 56.3	-2.3
FG8					*i* S		**Sn**	10 02 14.9	-6.7
FG16	**Alotenango, Sa**	**1.96**	**91**	*i* P			**Pn**	10 01 57.2	-2.1
	comp=Z,206nm,0.3s								
FG16					IAML			10 02 20.2	
	comp=N,1μm,0.2s								
CCIG	**Comitan**	**1.98**	**11**	*e*P			**Pn**	10 01 59.9	+0.4
CCIG					*e*S		**Sn**	10 02 23.2	-0.1
CCIG	**Comitan**	**1.98**	**11**	P			**Pn**	10 02 00.0	+0.6
CCIG	**Comitan**	**1.98**	**11**	S			**Sn**	10 02 21.9	-1.4
FAME	**Alcaldia de Sa**	**2.49**	**101**	S			**Sn**	10 02 38.3	+2.7
FAME	**Alcaldia de Sa**	**2.49**	**101**	P			**Pn**	10 02 10.0	+3.7
TGIG		**2.50**	**347**	*e*P			**Pn**	10 02 07.8	+1.3
TGIG					*e*S		**Sn**	10 02 31.9	-3.9
NUBE	**Las Nubes**	**2.71**	**99**	P			**Pn**	10 02 12.8	+3.4
NILT	**Santiago Nilte**	**3.00**	**318**	*e*P			**Pn**	10 02 15.2	+2.1
NILT					*e*S		**Sn**	10 02 47.5	-0.4
UXUV	**UXUV**	**3.35**	**333**	*e*P			**Pn**	10 02 18.1	+0.1
UXUV					*e*S		**Sn**	10 02 58.0	+1.4
CMIG	**Matias Romero**	**3.56**	**321**	*e*P			**Pn**	10 02 19.0	-1.8
CMIG					*e*S		**Sn**	10 02 59.7	-2.0
PETF	**Flores**	**3.63**	**45**	*e*P			Pn	10 02 19.6	-2.3
PETF					*e*S		**Sn**	10 03 08.0	+4.4
HUIG	**Huatulco**	**3.74**	**293**	*e*P			**Pn**	10 02 24.5	+1.2
HUIG					*e*S		**Sn**	10 03 02.7	-3.4
PEIG	**Puerto Escondi**	**4.75**	**291**	*e*P			**Pn**	10 02 39.9	+2.6
PEIG					*e*S		**Sn**	10 03 27.1	-4.0
PNIG	**Pinotepa**	**5.77**	**292**	*e*P			**Pn**	10 02 54.4	+3.2
PNIG					*e*S		**Sn**	10 03 55.2	-0.9
TXIG	**Tlaxiaco**	**5.82**	**301**	*e*P			Pn	10 02 56.7	+4.7

*IDC **23** 10:10:44.9±2.6,60°.95N×29°.81E, h0km, mbtmp3.2/1, ML2.1/1, Error ellipse: s-maj=27.0km s-min=13.4km az=177.0*

*HEL **23** 10:10:46.8±0.4,61°.07N×29°.91E, h0km, ML1.6, Suspected explosion Hypocentre not reviewed by the ISC*

ISC 23 10:10:48.0±2.4, 61°.1N±0°.2×29°.4E±0°.2, h10km, n7, σ2≥27/6, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.40**	**329**	PG		10 10 57.4	
	baz=123						
RUF				SG		10 11 04.1	
RUF				MSG		10 11 05.5	
	comp=Z,11nm,0.2s						
VJF	**Virojoki**	**1.05**	**239**	PG		10 11 09.1	
VJF				MSG		10 11 25.2	
	comp=Z,8.7nm,0.2s						
VJF				SN		10 11 30.4	
FIA0	**FINESS Array S**	**1.64**	**284**	PG		10 11 20.5	
FIA0				MSG		10 11 43.0	
	comp=Z,3.1nm,0.2s						
FIA0				SG		10 11 44.8	
FINES	**FINESS Array B**	**1.64**	**284**	Pn	**Pb**	**10 11 20.4**	**+2.2**
	comp=Z,0.8nm,0.3s,baz=106,slow=16,SNR=29						
FINES				Lg	Lg	10 11 43.8	
	comp=Z,2.0nm,0.3s,baz=99,slow=28,SNR=42						
FINES				Rg	Rg	10 11 53.3	
	comp=Z,92nm,0.9s,baz=100,slow=34,SNR=56						
KAF	**Kangasniemi**	**1.80**	**306**	PG		10 11 23.4	
KAF				MSG		10 11 46.7	
	comp=Z,2.1nm,0.2s						
KAF				SG		10 11 48.4	
PVF	**Pernaja**	**1.81**	**254**	PG		10 11 23.8	
PVF				MSG		10 11 47.7	
	comp=Z,5.3nm,0.2s						
PVF				SG		10 11 51.2	
JOF	**Joensuu**	**2.06**	**25**	*e*P	**Pn**	**10 11 22.8**	**+0.2**
JOF	**Joensuu**	**2.06**	**25**	PG		10 11 22.0	
	baz=200						
JOF				SG		10 11 47.4	
SUF	**Sumiainen**	**2.25**	**318**	PG		10 11 29.9	
	baz=132						
SUF				MSG		10 11 58.6	
	comp=Z,1.3nm,0.2s						
SUF				SG		10 12 01.6	
HEL1	**Helsinki**	**2.40**	**250**	PN		10 11 27.7	
KEF	**Keuruu**	**2.41**	**299**	*e*P	**Pb**	**10 11 33.0**	**+1.5**
KEF	**Keuruu**	**2.41**	**299**	PB		10 11 32.7	
KEF				MSG		10 12 04.8	
	comp=Z,1.5nm,0.2s						
KEF				SB		10 12 06.0	
NIF	**Nilsia**	**2.43**	**343**	PG		10 11 31.1	
MEF	**Metsahovi**	**2.60**	**253**	*e*P	**Pb**	**10 11 36.0**	**+1.3**
MEF	**Metsahovi**	**2.60**	**253**	MSG		10 12 10.5	
	comp=Z,1.9nm,0.2s						
MEF				SG		10 12 16.0	
RAF	**Rauma**	**3.70**	**272**	*e*P	**Pb**	**10 11 51.5**	**-1.9**
ARCES	**ARCESS Array B**	**8.64**	**351**	Pn	**Pn**	**10 12 51.2**	**-1.8**
	baz=171,slow=12,SNR=1.8						
	comp=Z,1.1nm,0.9s						
I37NO	**I37NO**	**9.21**	**335**	I	I	11 02 20.0	
	baz=146,slow=312,SNR=6.4						

*DSN **23** 10:16:08.2±0.8,26°.93N×55°.21E, h15km, ML3.0/8, Error ellipse: s-maj=11.3km s-min=5.1km az=28.0*

*TEH **23** 10:16:09.5,26°.62N×55°.16E, h18km±42km*

*OMAN **23** 10:16:10.1±0.1,26°.49N×55°.03E, h2km, ml3.0/14, Error ellipse: s-maj=3.4km s-min=1.3km az=9.0*

ISC 23 10:16:09.9±1.1, 26°.60N±0°.03×55°.06E±0°.03, h14km±10km, n44, σ0≥98/67, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**1.11**	**119**	P	**Pb**	**10 16 30.7**	**-0.3**
	SNR=23						
SHME				S	**Sn**	**10 16 47.5**	**+1.2**
SHME	**Shamm**	**1.11**	**119**	P	**Pb**	**10 16 30.6**	**-0.3**
SHME				S	**Sn**	**10 16 47.4**	**+1.2**
UMQ	**Umm Al-Quwin**	**1.20**	**153**	P	**Pn**	**10 16 30.0**	**-2.3**
UMQ				S	**Sb**	**10 16 46.1**	**-1.6**
LAR1	**LAR**	**1.23**	**330**	Pg	**Pg**	**10 16 33.1**	**-0.5**
LAR1				Sg	**Sg**	**10 16 50.7**	**+1.1**
BNDS	**Bandar-Abbas**	**1.27**	**51**	Pg	**Pn**	**10 16 31.3**	**-2.2**
GENO	**Geno**	**1.27**	**51**	Pg	**Pn**	**10 16 32.0**	**-1.5**
GENO				Sg	**Sb**	**10 16 49.9**	**-0.2**
BANOM	**Banah**	**1.30**	**121**	P	**Pb**	**10 16 33.8**	**-0.4**
BANOM				S	**Sg**	**10 16 52.4**	**+0.5**
BANOM	**Banah**	**1.30**	**121**	P	**Pn**	**10 16 33.5**	**-0.2**
BANOM				S	**Sg**	**10 16 52.5**	**+0.5**
IBND	**Bandar-abas**	**1.57**	**57**	Pg	**Pn**	**10 16 36.5**	**-0.8**
MASF	**Masafi**	**1.57**	**141**	P	**Pb**	**10 16 38.7**	**-0.1**
	SNR=9.0						
MASF				S	**Sb**	**10 16 58.5**	**-0.1**
MSFE	**Esma-Masafi**	**1.58**	**141**	P	**Pb**	**10 16 38.3**	**-0.7**
MSFE				S	**Sg**	**10 17 01.4**	**+0.5**
NAZ	**Nazwa, Dubai**	**1.69**	**161**	P	**Pg**	**10 16 42.2**	**-0.2**
MDH	**Madha**	**1.71**	**139**	P	**Pb**	**10 16 40.2**	**-0.9**
MDH				S	**Sb**	**10 17 02.1**	**-0.4**
MDH	**Madha**	**1.71**	**139**	P	**Pb**	**10 16 40.0**	**-1.1**
LMD1	**Lamerd**	**1.84**	**294**	Pn	**Pg**	**10 16 45.7**	**+0.4**
UOSS	**Minazif**	**1.94**	**148**	P	**Pn**	**10 16 43.5**	**+1.0**
UOSS				S	**Sb**	**10 17 08.3**	**-1.0**
ASUD	**Al Ashush, Dub**	**1.98**	**173**	P	**Pn**	**10 16 43.2**	**+0.2**
ASUD				S	**Sb**	**10 17 10.2**	**0.0**
ASUD	**Al Ashush, Dub**	**1.98**	**173**	P	**Pb**	**10 16 45.8**	**+0.1**
HATD	**Hatta, Dubai**	**2.01**	**151**	P	**Pb**	**10 16 45.7**	**-0.7**
HATD				S	**Sb**	**10 17 12.4**	**+1.1**
HATD	**Hatta, Dubai**	**2.01**	**151**	P	**Pb**	**10 16 45.3**	**-1.1**
ASHO	**Ashiyiah**	**2.11**	**154**	P	**Pn**	**10 16 45.5**	**+0.6**
ASHO				S	**Sb**	**10 17 12.6**	**-1.5**
ASHO	**Ashiyiah**	**2.11**	**154**	P	**Pn**	**10 16 45.6**	**+0.8**
JRN	**Qarnain Island**	**2.59**	**231**	P	**Pn**	**10 16 49.9**	**-1.4**
JRN				S	**Sn**	**10 17 21.5**	**-1.1**
JASK	**Jask - Hormozg**	**2.62**	**105**	Pn	**Pn**	**10 16 51.2**	**-0.7**
JASK	**Jask - Hormozg**	**2.62**	**105**	P	**Pn**	**10 16 51.5**	**-0.4**
JASK				S	**Sn**	**10 17 25.0**	**+1.5**
KHNJ	**Kahnooj**	**2.71**	**60**	Pn	**Pn**	**10 16 52.0**	**-1.1**
SOHO	**SOHO**	**2.79**	**151**	P	**Pn**	**10 16 54.6**	**+0.4**
SOHO				S	**Sn**	**10 17 29.3**	**+1.6**
ARQ	**Araqi**	**3.51**	**157**	P	**Pn**	**10 17 06.7**	**+2.6**
HOQ	**Hoqain**	**3.63**	**145**	P	**Pn**	**10 17 05.0**	**-0.8**
HOQ				S	**Sn**	**10 17 50.0**	**+1.5**
MZR	**Muzera**	**3.86**	**202**	P	**Pn**	**10 17 08.8**	**0.0**
MZR				S	**Sn**	**10 17 54.0**	**0.0**
KBAM	**BAM**	**3.93**	**49**	Pn	**Pn**	**10 17 09.9**	**0.0**
TRNA	**Turayna**	**3.94**	**243**	P	**Pn**	**10 17 11.0**	**+1.1**
	SNR=10						
KHGB	**Koh Gabri**	**3.96**	**18**	Pn	**Pn**	**10 17 10.8**	**+0.2**
BSY	**Bisya**	**4.30**	**153**	P	**Pn**	**10 17 16.2**	**+1.2**
BSY				S	**Sn**	**10 18 05.4**	**+0.4**
SMDO	**Samad**	**4.45**	**142**	P	**Pn**	**10 17 18.0**	**+0.9**
SMDO				S	**Sn**	**10 18 07.6**	**-1.2**
WSAR	**Wadi Sarin**	**4.66**	**135**	P	**Pn**	**10 17 20.6**	**+0.7**
WSAR				S	**Sn**	**10 18 13.8**	**-0.1**
IMEH	**Mehriz**	**4.79**	**355**	Pn	**Pn**	**10 17 22.1**	**+0.2**
JMDO	**Jabal Madar**	**5.04**	**146**	P	**Pn**	**10 17 26.4**	**+1.2**
JMDO				S	**Sn**	**10 18 23.9**	**+0.6**
IRAM	**Ramesheh**	**5.70**	**336**	Pn	**Pn**	**10 17 35.3**	**+1.0**
JLN	**Jalan Bani Buh**	**5.95**	**137**	P	**Pn**	**10 17 37.0**	**-0.6**
MHTO	**MHTO**	**6.19**	**154**	⇑P	**Pn**	**10 17 41.4**	**+0.5**
DOK	**Doka**	**7.99**	**186**	P	**Pn**	**10 18 05.7**	**0.0**
WHFO	**Wadi Hawf**	**8.72**	**188**	P	**Pn**	**10 18 16.6**	**+0.8**
	SNR=17						
ABTO	**Aybut**	**9.34**	**190**	P	**Pn**	**10 18 24.7**	**+0.4**

*IDC **23** 10:33:23.0±0.3,61°.11S×154°.08E, h0km, mb5.2/17, mbtmp5.2/17, MS5.2/37, Error ellipse: s-maj=12.3km s-min=7.0km az=95.0*

*IPGP **23** 10:33:24.0,61°.29S×154°.06E, h19km, Mw6.1, Fault plane solution: NP1:φs157.00000°, δ73.00000°, λ-8.00000°. NP2:φs250.00000°, δ82.00000°, λ-163.00000°.*

*NEIC **23** 10:33:24.1,61°.30S×154°.01E, h10km*

*NEIC **23** 10:33:24,61°.27S×154°.08E, h12km*

*NEIC **23** 10:33:24.1±1.3,61°.29S±0°.09×154°.1E±0°.2, h10km±1km, mb5.5/105, Ms_20 5.6/995, Mwb6.0/34, Mww6.0/18, Error ellipse: s-maj=19.6km s-min=14.5km az=260.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.09; Mθθ1.11; Mφφ-1.20; Mrθ0.05; Mφθ-0.94; Mrφ0.00; Fault plane solution: M₀1.49000×10¹⁸ NP1: φs154.58000°, δ88.32000°, λ0.82000°. NP2:φs64.56000°, δ89.18000°, λ178.32000°. Principal axes: T 1.4484, Plg2.0000°, Azm20.0000°; N 0.0847, Plg88.0000°, Azm219.0000°; P -1.5331, Plg1.0000°, Azm110.0000°;*

*ISC-PP **23** 10:33:24,61°.29S×154°.11E, h8km±4km, Mwppsm6.3, Moment Tensor Solution. s29 Moment tensor: Scale 10¹⁸Nm; Mrr0.20±.09; Mθθ0.15±.20; Mφφ-0.33±.18; Mrθ-0.14±.25; Mφθ-0.07±.22; Mφr0.62±.15; Fault plane solution: M₀3.16000×10¹⁸ NP1:φs188.80000°, δ75.20000°, λ166.60000°. NP2:φs282.30000°, δ77.00000°, λ15.20000°.*

*NEIC **23** 10:33:24,61°.27S×154°.91E, h12km, Moment Tensor Solution. Duration: 14≥6 Moment tensor: Scale 10¹⁸Nm; Mrr0.10; Mθθ0.69; Mφφ-0.79; Mrθ0.00; Mφθ-0.72; Mφr0.24; Fault plane solution: M₀1.07000×10¹⁸ NP1: φs247.55000°, δ78.37000°, λ-176.79000°. NP2: φs156.90000°, δ86.86000°, λ-11.65000°. Principal axes: T 0.9959, Plg6.0000°, Azm203.0000°; N 0.1333, Plg78.0000°, Azm322.0000°; P -1.1292, Plg10.0000°, Azm112.0000°;*

*MOS **23** 10:33:25.1±1.2,61°.13S×154°.22E, h22km, mb5.5/30, MS5.3/5 Error ellipse: s-maj=28.7km s-min=8.4km az=95.5*

*GCMT **23** 10:33:31.0±0.1,61°.31S×154°.26E, h13km, MW6.1/157, Moment Tensor Solution. s157,c354; s157,c550; Duration: 2≥7 Moment tensor: Scale 10¹⁸Nm; Mrr-0.15±.01; Mθθ1.40±.01; Mφφ-1.25±.01; Mrθ-0.11±.02; Mφθ-1.01±.01; Mφr-0.05±.02; Best double couple: M₀1.67100×10¹⁸ NP1:φs334.00000°, δ86.00000°, λ-1.00000°. NP2:φs64.00000°, δ89.00000°, λ-176.00000°. Principal axes: T 1.7450, Plg3.0000°, Azm199.0000°; N -0.1490, Plg86.0000°, Azm70.0000°; P -1.5960, Plg3.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 23 10:33:23.9±0.2, 61°.20S±0°.03×154°.37E±0°.05, h8km, n1047, σ1≥84/597, mb5.5/104, MS5.5/536, 53C-29D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**16.41**	**35**	P	**Pn**	**10 37 14.7**	**+0.3**
VNDA	**Vanda**	**16.59**	**174**	Pn	**Pn**	**10 37 09.2**	**-7.1**
	8.4nm,0.3s,baz=348,slow=14,SNR=111						
VNDA				Sn	Sn	10 40 09.0	-11
	1.1nm,0.3s,baz=31,slow=19,SNR=2.5						
VNDA				LR	LR	10 42 51.5	
	comp=Z,59μm,19.9s,baz=356,slow=34						
PYZ	**Puysegur Point**	**16.68**	**31**	P	**P**	**10 37 20.6**	**+0.5**
SYZ	**Scrubby Hill**	**17.01**	**37**	P	**P**	**10 37 23.2**	**-0.5**
SYZ	**Scrubby Hill**	**17.01**	**37**	P	**P**	**10 37 24.1**	**+0.4**
SBA	**Scott Base**	**17.21**	**171**		**Pn**	**10 37 21.0**	**-3.2**
SBA				IAmb	IAmb	10 37 30.3	
	comp=Z,486nm,1.4s						
SBA	**Scott Base**	**17.21**	**171**	P	**Pn**	**10 37 21.0**	**-3.2**
SBA				pmax	pmax		
	comp=Z,486nm,1.4s						
WHZ	**Wether Hill Ro**	**17.26**	**34**	P	**P**	**10 37 27.0**	**+0.4**
DCZ	**Deep Cove**	**17.45**	**31**	P	**P**	**10 37 28.0**	**-0.6**
TUZ	**Tuapeka**	**17.68**	**37**	P	**P**	**10 37 32.2**	**+1.1**
MLZ	**Mavora Lakes**	**17.80**	**33**	P	**P**	**10 37 33.7**	**+1.2**
HHSZ	**Highcliff Hill**	**18.03**	**39**	P	**P**	**10 37 36.4**	**+1.3**
EAZ	**Earnscleugh**	**18.25**	**36**	P	**P**	**10 37 37.6**	**+0.1**
MSZ	**Milford Sound**	**18.39**	**32**	P	**P**	**10 37 39.5**	**+0.5**
WKZ	**Wanaka**	**18.54**	**34**	P	**Pn**	**10 37 42.0**	**+1.2**
TAU	**Tasmania Unive**	**18.80**	**344**		**Pn**	**10 37 44.2**	**+0.3**
TAU				IAmb	IAmb	10 37 47.1	
	comp=Z,419nm,1.4s						
TAU	**Tasmania Unive**	**18.80**	**344**	P	**Pn**	**10 37 44.3**	**+0.3**
TAU	**Tasmania Unive**	**18.80**	**344**	P	**Pn**	**10 37 44.2**	**+0.3**
TAU				pmax	pmax		
	comp=Z,419nm,1.4s						
ODZ	**Otahua Downs**	**18.80**	**38**	P	**Pn**	**10 37 46.1**	**+2.1**
JCZ	**Jackson Bay**	**19.17**	**33**	P	**Pn**	**10 37 50.0**	**+1.4**
JCZ	**Jackson Bay**	**19.17**	**33**	P	**Pn**	**10 37 48.9**	**+0.3**
LBZ	**Lake Benmore**	**19.27**	**36**	P	**Pn**	**10 37 50.3**	**+0.6**
MOO	**Moorlands**	**19.28**	**344**	P	**Pn**	**10 37 49.3**	**-0.4**
	comp=Z,356nm,1.0s						
MOO	**Moorlands**	**19.28**	**344**	P	**P**	**10 37 48.8**	**+0.1**
TMZ	**Timaru**	**19.51**	**38**	P	**Pn**	**10 37 54.2**	**+1.7**
CASY	**Casey**	**19.70**	**236**		**P**	**10 37 51.0**	**-2.2**
CASY				IAmb	IAmb	10 38 01.0	
	comp=Z,464nm,1.4s						
FOZ	**Fox Glacier**	**19.95**	**35**	P	**Pn**	**10 37 57.3**	**-0.5**
RPZ	**Rata Peaks**	**20.14**	**37**	P	Pn	10 37 59.6	-0.4
	comp=Z,157nm,1.0s,baz=199,slow=12,SNR=27						
RPZ				S	Sn	10 41 46.2	-0.3
	comp=Z,2.9nm,0.9s,baz=221,slow=19,SNR=1.0						
RPZ				LR	LR	10 44 18.2	
	comp=Z,14μm,21.7s,baz=186,slow=32						
RPZ	**Rata Peaks**	**20.14**	**37**	P	Pn	10 38 00.4	+0.4
MQZ	**McQueen's Vall**	**20.63**	**40**	P	Pn	10 38 05.1	-0.6
WVZ	**Waitaha Valley**	**20.63**	**36**	P	Pn	10 38 05.3	-0.4
OXZ	**Oxford**	**20.79**	**39**	P	Pn	10 38 06.8	-0.8
INZ	**Inchbonnie**	**21.16**	**37**	P	**P**	**10 38 10.7**	**+1.5**
LTZ	**Lake Taylor**	**21.35**	**38**	P	**P**	**10 38 13.6**	**+2.2**
GVZ	**Greta Valley S**	**21.42**	**40**	P	**P**	**10 38 13.9**	**+1.9**
KHZ	**Kahutara**	**22.07**	**40**	P	**P**	**10 38 21.2**	**+2.2**
DSZ	**Denniston Nort**	**22.16**	**36**	P	**P**	**10 38 21.3**	**+1.2**
THZ	**Tophouse**	**22.47**	**38**	P	**P**	**10 38 25.3**	**+1.9**
NNZ	**Nelson**	**23.11**	**39**	IAMs_20	IAMs_20	10 45 46.9	
	comp=Z,14μm,20.0s						
NNZ	**Nelson**	**23.11**	**39**	P	**P**	**10 38 31.4**	**+1.4**
QRZ	**Quartz Range**	**23.22**	**37**	IAMs_20	IAMs_20	10 45 39.7	
	comp=Z,19μm,21.0s						
QRZ	**Quartz Range**	**23.22**	**37**	P	**P**	**10 38 32.3**	**+1.1**
TOO	**Toolangi**	**24.30**	**343**		**P**	**10 38 40.1**	**-1.4**
TOO	**Toolangi**	**24.30**	**343**	P	**P**	**10 38 41.6**	**0.0**
	comp=Z,71nm,1.7s						
TOO	**Toolangi**	**24.30**	**343**	P	**P**	**10 38 40.2**	**-1.4**
TOO				pmax	pmax		
	comp=Z,78nm,1.2s						
MRZ	**Mangatainoka R**	**24.31**	**42**	P	**P**	**10 38 41.8**	**+0.2**
BFZ	**Birch Farm**	**24.51**	**43**	P	**P**	**10 38 45.5**	**+2.0**
BFZ	**Birch Farm**	**24.51**	**43**	P	**P**	**10 38 44.1**	**+0.6**
WAZ	**Wanganui**	**24.95**	**40**	P	**P**	**10 38 47.8**	**+0.4**
ARPS	**Mount Arapiles**	**25.70**	**336**	P	**P**	**10 38 54.2**	**0.0**
	comp=Z,78nm,1.1s						
BKZ	**Black Stump Fm**	**25.96**	**42**	P	**P**	**10 38 57.4**	**+0.7**
HIZ	**Hauiti**	**26.05**	**39**	IAMs_20	IAMs_20	10 47 44.0	
	comp=Z,15μm,21.0s						
CNB	**Canberra Magne**	**26.10**	**351**	P	**P**	**10 38 56.0**	**-1.9**
CAN	**Canberra**	**26.12**	**350**	P	**P**	**10 38 58.4**	**+0.3**
CAN	**Canberra**	**26.12**	**350**	P	**P**	**10 38 58.5**	**+0.3**
	comp=Z,82nm,1.9s						
CAN	**Canberra**	**26.12**	**350**	P	**P**	**10 38 58.9**	**+0.8**
CAN	**Canberra**	**26.12**	**350**	P	**P**	**10 38 58.4**	**+0.3**
CAN				pmax	pmax		
	comp=Z,91nm,1.2s						
TOZ	**Tahuroa Road**	**26.96**	**39**	IAMs_20	IAMs_20	10 48 00.2	
	comp=Z,17μm,22.0s						
URZ	**Urewera**	**26.98**	**42**	P	**P**	**10 39 05.4**	**-0.4**
	comp=Z,90nm,0.9s,baz=219,slow=7.7,SNR=30						
URZ				S	**S**	**10 43 46.4**	**+3.3**
	comp=Z,2.8nm,0.7s,baz=176,slow=19,SNR=0.9						
URZ				LR	LR	10 47 56.8	
	comp=Z,6μm,21.2s,baz=202,slow=32						
	comp=Z,90nm,0.9s						
YNG	**Young**	**27.19**	**349**	P	**P**	**10 39 08.4**	**+0.7**
	comp=Z,111nm,1.6s						
RIV	**Riverview**	**27.46**	**354**	P	**P**	**10 39 10.9**	**+0.8**
	comp=Z,125nm,1.1s						
MXZ	**Matakaoa Point**	**28.01**	**43**	IAMs_20	IAMs_20	10 50 34.1	
	comp=Z,13nm,18.0s						
QSPA	**South Pole Qui**	**28.90**	**180**	P	**P**	**10 39 20.8**	**-2.2**
QSPA	**South Pole Qui**	**28.90**	**180**	P	**P**	**10 39 22.3**	**-0.7**
	comp=Z,40nm,1.0s,baz=11,slow=3.8,SNR=24						
QSPA				S	**S**	**10 44 19.9**	**+6.7**
	comp=Z,2.6nm,0.9s,baz=330,slow=20,SNR=0.8						
QSPA				LR	LR	10 50 54.4	
	comp=Z,22μm,20.0s,baz=16,slow=36						
	comp=Z,40nm,1.0s						
HTT	**Hallett**	**29.53**	**333**	P	**P**	**10 39 29.0**	**+0.4**
	comp=Z,13nm,1.3s						
CMSA	**Cobar Meteorol**	**30.21**	**345**	P	**P**	**10 39 34.9**	**+0.3**
	comp=Z,95nm,1.5s						
STKA	**Stephens Creek**	**30.50**	**338**	P	**P**	**10 39 35.9**	**-1.3**
STKA	**Stephens Creek**	**30.50**	**338**	P	**P**	**10 39 37.5**	**+0.3**
	comp=Z,365nm,1.3s						
STKA	**Stephens Creek**	**30.50**	**338**	P	**P**	**10 39 36.9**	**-0.3**
	comp=Z,53nm,1.0s,baz=162,slow=8.8,SNR=29						
STKA				S	**S**	**10 44 41.0**	**+2.5**
	comp=Z,15nm,1.4s,baz=136,slow=18,SNR=1.3						
STKA				LR	LR	10 49 25.9	
	comp=Z,3μm,20.0s,baz=160,slow=32						
	comp=Z,53nm,1.0s						
STKA	**Stephens Creek**	**30.50**	**338**	*ce*P	**P**	**10 39 37.4**	**+0.3**
BBOO	**Buckleboo**	**30.79**	**329**	P	**P**	**10 39 39.6**	**-0.1**
BBOO				IAmb	IAmb	10 39 45.0	
	comp=Z,96nm,0.9s						
BBOO	**Buckleboo**	**30.79**	**329**	P	**P**	**10 39 39.7**	**-0.1**
	comp=Z,121nm,1.0s						
ARMA	**Armidale**	**30.84**	**355**		**P**	**10 39 40.3**	**0.0**
ARMA	**Armidale**	**30.84**	**355**	P	**P**	**10 39 40.7**	**+0.5**
	comp=Z,62nm,1.2s						
INKA	**Innaminka**	**34.68**	**338**	P	**P**	**10 40 14.4**	**+0.6**
INKA				IAmb	IAmb	10 40 15.9	
	comp=Z,90nm,1.1s						
FORT	**Forrest**	**35.00**	**318**	P	**P**	**10 40 16.4**	**-0.1**
FORT	**Forrest**	**35.00**	**318**	P	**P**	**10 40 16.8**	**+0.3**
	comp=Z,42nm,1.0s						
QLP	**Quilpie**	**35.28**	**344**	P

WRKA	**Warakurna**	**40.28**	**322**		P		**P**	**10 41 00.5**	**-0.8**		
	comp=Z,43nm,1.7s										
MORW	**Morawa**	**40.93**	**304**		P		**P**	**10 41 04.9**	**-1.7**		
MORW	**Morawa**	**40.93**	**304**		P		**P**	**10 41 06.1**	**-0.5**		
	comp=Z,84nm,1.3s										
BELA	**Belgrano 2**	**41.06**	**177**		P		**P**	**10 41 06.4**	**-0.7**		
BELA					IAmb		IAmb	10 41 11.4			
	comp=Z,142nm,1.4s										
BELA					IAMs_20		IAMs_20	10 56 03.4			
	comp=Z,12µm,22.0s										
KOUNC	**Koumac, New Ca**	**41.20**	**14**		P		**P**	**10 41 10.1**	**+1.3**		
CTAO	**Charters Tower**	**41.46**	**348**		P		**P**	**10 41 11.0**	**0.0**		
CTAO					IAmb		IAmb	10 41 12.8			
	comp=Z,116nm,1.1s										
CTAO	**Charters Tower**	**41.46**	**348**		P		**P**	**10 41 11.0**	**0.0**		
CTAO					pmax		pmax				
	comp=Z,116nm,1.1s										
QIS	**Mount Isa**	**41.90**	**339**		P		**P**	**10 41 13.8**	**-0.8**		
	comp=Z,57nm,1.8s										
SYO	**Syowa Base**	**42.01**	**209**	⇑	*e*P		**P**	**10 41 12.2**	**-2.8**		
SYO	**Syowa Base**	**42.01**	**209**	↑	*p*P		**P**	**10 41 15.2**	**+0.2**		
SYO	**Syowa Base**	**42.01**	**209**	⇓	*s*P		sP	10 41 17.4	0.0		
MEEK	**Meekatharra**	**42.10**	**309**		P		**P**	**10 41 15.4**	**-0.8**		
	comp=Z,72nm,2.0s										
WR0	**Warramunga Arr**	**43.49**	**332**		P		**P**	**10 41 26.2**	**-1.3**		
WR0					IAmb		IAmb	10 41 30.1			
	comp=Z,130nm,1.3s										
WR8	**Warramunga Arr**	**43.51**	**332**				**P**	**10 41 26.5**	**-1.2**		
WR8					IAmb		IAmb	10 41 28.0			
	comp=Z,87nm,1.1s										
WRA	**Warramunga Arr**	**43.55**	**332**		P		**P**	**10 41 26.7**	**-1.3**		
	comp=Z,53nm,1.1s,baz=166,slow=7.5,SNR=96										
WRA					PcP		**PcP**	**10 43 14.2**	**-1.4**		
	comp=Z,14nm,1.0s,baz=174,slow=3.0,SNR=8.7										
WRA					S		**S**	**10 48 00.1**	**+2.9**		
	comp=Z,1.1nm,1.1s,baz=168,slow=16,SNR=2.4										
WRA					LR		LR	10 59 21.7			
	comp=Z,1µm,18.3s,baz=162,slow=36										
	comp=Z,53nm,1.1s										
WRA	**Warramunga Arr**	**43.55**	**332**		*e*P		**P**	**10 41 26.1**	**-1.9**		
WRAB	**Tennant Creek**	**43.56**	**332**		P		**P**	**10 41 27.0**	**-1.1**		
WRAB					IAmb		IAmb	10 41 30.6			
	comp=Z,118nm,1.2s										
WRAB	**Tennant Creek**	**43.56**	**332**	⇑	*e*P		**P**	**10 41 26.9**	**-1.1**		
WRAB					pmax		pmax				
	comp=Z,124nm,1.4s										
WRAB					MLR		MLR				
	comp=Z,2µm,14.0s										
MTSU	**Mount Surprise**	**43.60**	**346**		P		**P**	**10 41 28.7**	**+0.3**		
	comp=Z,48nm,1.2s										
WB0	**Warramunga Arr**	**43.71**	**332**		P		**P**	**10 41 28.1**	**-1.2**		
TROLL	**Troll, Antarti**	**45.66**	**192**	⇑	P		**P**	**10 41 42.3**	**-2.2**		
	comp=Z,26nm,0.5s										
TROLL				⇑	PP		**PP**	**10 43 33.1**	**+2.2**		
TROLL				⇓	S		**S**	**10 48 25.1**	**-1.8**		
TROLL	**Troll, Antarti**	**45.66**	**192**	⇓	SS		SS	10 51 54.5	+4.3		
NVL	**N'lazarevskaya**	**45.73**	**196**		*e*P		P	10 41 52.8	+8.0		
NVL					*e*			10 43 40.4			
NVL					*e*PPP		PPP	10 44 21.8			
NVL					*e*S		S	10 48 18.2	-9.4		
NVL					*e*SSS		SSS	10 52 41.4			
NVL					pmax		pmax				
	comp=Z,6.0nm,0.7s										
NVL					MLR		MLR				
	comp=Z,120nm,19.0s										
VLAKA	**Lakatoro**	**46.00**	**18**		P		**P**	**10 41 48.2**	**+0.8**		
VLAKA	**Lakatoro**	**46.00**	**18**		S		**S**	**10 48 29.7**	**-2.8**		
PSA00	**Pilbara Seismi**	**46.27**	**313**		P		**P**	**10 41 47.7**	**-1.9**		
PSA00	**Pilbara Seismi**	**46.27**	**313**		P		**P**	**10 41 49.2**	**-0.4**		
	comp=Z,112nm,1.4s										
SNAA	**Sanae**	**46.47**	**190**	⇑	P		**P**	**10 41 49.1**	**-1.7**		
	comp=Z,309nm,0.8s										
SNAA				⇑	PP		**PP**	**10 43 42.4**	**+3.0**		
SNAA				⇑	S		**S**	**10 48 43.2**	**+4.7**		
SNAA	**Sanae**	**46.47**	**190**	⇓	SS		SS	10 52 07.2	+3.7		
SNAA	**Sanae**	**46.47**	**190**		P		**P**	**10 41 49.5**	**-1.2**		
SNAA	**Sanae**	**46.47**	**190**		P		**P**	**10 41 50.9**	**+0.2**		
	comp=Z,10nm,0.6s,baz=163,slow=11,SNR=60										
SNAA					S		**S**	**10 48 46.2**	**+7.6**		
	comp=Z,0.9nm,1.1s,baz=150,slow=20,SNR=0.9										
SNAA					LR		LR	11 01 51.3			
	comp=Z,43µm,19.0s,baz=167,slow=37										
	comp=Z,10nm,0.6s										
SNAA	**Sanae**	**46.47**	**190**	⇑	*e*P		**P**	**10 41 50.7**	**-0.1**		
SNAA					pmax		pmax				
	comp=Z,115nm,1.7s										
SNAA					MLR		MLR				
	comp=Z,43µm,17.0s										
MSVF	**Nonsavu**	**46.56**	**32**		P		**P**	**10 41 50.6**	**-1.5**		
MSVF					IAmb		IAmb	10 42 21.8			
	comp=Z,62nm,1.6s										
MSVF	**Nonsavu**	**46.56**	**32**		P		**P**	**10 41 54.2**	**+2.2**		
MSVF	**Nonsavu**	**46.56**	**32**	⇑	*e*P		**P**	**10 41 52.9**	**+0.9**		
LKBA	**Tubou, Lakemba**	**46.93**	**36**		P		**P**	**10 41 54.9**	**+0.1**		
VNA3	**Neumayer Olymp**	**47.37**	**187**	⇑	P		**P**	**10 41 55.9**	**-1.9**		
	comp=Z,32nm,0.7s										
VNA3				⇑	PP		**PP**	**10 43 50.1**	**+1.7**		
VNA3				⇓	S		**S**	**10 48 56.6**	**+5.3**		
VNA3	**Neumayer Olymp**	**47.37**	**187**	⇑	SS		SS	10 52 17.9	0.0		
SMAI	**San Martin Ant**	**47.53**	**160**		P		**P**	**10 41 59.2**	**+0.2**		
SMAI					IAmb		IAmb	10 42 04.7			
	comp=Z,53nm,1.3s										
FITZ	**Fitzroy Crossi**	**47.62**	**322**		P		**P**	**10 41 59.5**	**-0.6**		
FITZ	**Fitzroy Crossi**	**47.62**	**322**		LR		LR	11 00 47.3			
	comp=Z,2µm,18.3s,baz=166,slow=35										
COEN	**Coen**	**47.86**	**345**				**P**	**10 42 02.0**	**-0.1**		
COEN	**Coen**	**47.86**	**345**		P		**P**	**10 42 01.9**	**-0.1**		
	comp=Z,91nm,1.5s										
VNA1	**Neumayer–Stat**	**47.87**	**188**	⇑	P		**P**	**10 41 59.6**	**-1.9**		
	comp=Z,64nm,1.0s										
DGTI	**Dogotuki**	**48.37**	**33**		P		**P**	**10 42 05.5**	**-0.5**		
KNRA	**Kununurra**	**49.03**	**327**		P		**P**	**10 42 10.4**	**-0.6**		
KNRA					IAmb		IAmb	10 42 36.4			
	comp=Z,69nm,1.1s										
KNRA	**Kununurra**	**49.03**	**327**		P		**P**	**10 42 10.5**	**-0.6**		
	comp=Z,74nm,2.0s										
KDU	**Kakadu**	**50.99**	**332**		P		**P**	**10 42 24.9**	**-1.0**		
	comp=Z,113nm,1.3s										
RAR	**Rarotonga**	**50.99**	**60**		P		**P**	**10 42 26.7**	**+0.7**		
RAR	**Rarotonga**	**50.99**	**60**		S		**S**	**10 49 45.3**	**+2.3**		
	comp=Z,15nm,0.7s,baz=168,slow=14,SNR=1.7										
RAR					LR		LR	11 01 14.2			
	comp=Z,950nm,19.1s,baz=204,slow=33										
RAR	**Rarotonga**	**50.99**	**60**		P		**P**	**10 42 26.7**	**+0.7**		
RAR					pmax		pmax				
	comp=Z,415nm,1.8s										
PMSA	**Palmer Station**	**51.11**	**160**		LR		LR	11 02 26.5			
	comp=Z,10µm,18.3s,baz=213,slow=34										
MTN	**Manton Dam**	**51.15**	**330**				**P**	**10 42 26.5**	**-0.7**		
MTN	**Manton Dam**	**51.15**	**330**		P		**P**	**10 42 26.2**	**-1.0**		
	comp=Z,120nm,1.1s										
HNR	**Honiara**	**51.83**	**7**		IAMs_20		IAMs_20	10 59 08.0			
	comp=Z,4µm,20.0s										
HNR	**Honiara**	**51.83**	**7**		P		**P**	**10 42 31.9**	**-0.3**		
	comp=Z,242nm,0.9s,baz=187,slow=8.3,SNR=4.0										
HNR					S		**S**	**10 49 57.6**	**+3.0**		
	comp=Z,150nm,0.9s,baz=215,slow=16,SNR=1.6										
HNR					LR		LR	10 59 29.7			
	comp=Z,4µm,21.6s,baz=172,slow=30										
	comp=Z,242nm,0.9s										
SAVO	**Savo Central**	**52.10**	**7**		P		**P**	**10 42 35.3**	**+1.0**		
ALEG	**Aligegeo Malai**	**52.55**	**8**		P		**P**	**10 42 37.0**	**-0.6**		
TATA	**Tatamba Isabel**	**52.86**	**7**		P		**P**	**10 42 40.7**	**+0.8**		
AFI	**Afiamalu**	**53.16**	**43**		P		**P**	**10 42 43.1**	**+0.9**		
AFI	**Afiamalu**	**53.16**	**43**		IAMs_20		IAMs_20	11 01 02.3			
	comp=Z,5µm,22.0s										
AFI	**Afiamalu**	**53.16**	**43**		P		**P**	**10 42 43.1**	**+0.9**		
AFI					pmax		pmax				
	comp=Z,134nm,1.2s										
TBI	**Tubuai**	**53.66**	**71**		*e*P		**P**	**10 42 41.6**	**-4.1**		
	comp=Z,1µm,33.2s										
TBI					*e*S		**S**	**10 50 23.1**	**+3.6**		
	comp=Z,6µm,28.2s										
TBI					*e*SS		**SKiKP**	**10 54 02.8**	**+2.4**		
	comp=Z,3µm,31.0s										
TBI					*e*LQ		LQ	10 55 20.8			
	comp=Z,49µm,29.2s										
TBI					*e*LR		LR	10 58 06.8			
	comp=Z,28µm,25.8s										
TBI					*e*LR		LR	10 58 09.5			
	comp=Z,6µm,25.0s										
BATI	**Baumata**	**55.67**	**323**		LR		LR	11 05 26.6			
	comp=Z,1µm,21.8s,baz=196,slow=35										
SOEI	**Soe**	**55.92**	**323**		P		**P**	**10 43 00.9**	**-1.5**		
SOEI	**Soe**	**55.92**	**323**		P		**P**	**10 43 04.1**	**+1.8**		
RABL	**Rabaul**	**56.89**	**357**		P		**P**	**10 43 08.2**	**-1.0**		
RABL					IAmb		IAmb	10 43 11.8			
	comp=Z,98nm,1.3s										
MMRI	**Maumere**	**57.58**	**321**		P		**P**	**10 43 12.9**	**-1.1**		
MMRI	**Maumere**	**57.58**	**321**		P		**P**	**10 43 14.8**	**+0.8**		
PAE	**Paea**	**58.55**	**68**	*e*	LR		LR	11 00 36.4			
	comp=Z,853nm,22.4s										
TVO	**Taravao**	**58.60**	**68**	*e*	S		**S**	**10 51 25.8**	**+0.5**		
	comp=Z,2µm,34.4s										
TVO				*e*	SS		**SS**	**10 55 23.7**	**+5.9**		
	comp=Z,1µm,31.9s										
TVO				*e*	LR		LR	11 00 37.5			
	comp=Z,968nm,23.0s										
PPT2	**Papeete2**	**58.62**	**68**	*e*	P		**P**	**10 43 20.4**	**-0.9**		
	comp=Z,195nm,27.8s										
PPT2				*e*	S		**S**	**10 51 26.5**	**+0.8**		
	comp=Z,721nm,25.8s										
PPT2				*e*	SS		**SS**	**10 55 15.7**	**-2.5**		
	comp=Z,613nm,25.2s										
PPT2				*e*	LQ		LQ	10 58 01.6			
	comp=Z,7µm,26.2s										
PPT2				*e*	LR		LR	11 00 28.2			
	comp=Z,6µm,28.5s										
PPT2				*e*	LR		LR	11 00 36.0			
	comp=Z,7µm,24.8s										
PPT	**Papeete**	**58.64**	**68**		LR		LR	11 03 59.6			
	comp=Z,2µm,18.2s,baz=214,slow=31										
PLAI	**Plampang**	**58.82**	**316**		P		**P**	**10 43 23.6**	**+0.9**		
MANU	**Manus Island**	**59.24**	**352**		P		**P**	**10 43 25.6**	**0.0**		
GENI	**Genyem**	**59.45**	**343**		P		**P**	**10 43 27.3**	**+0.4**		
JAY	**Jayapura**	**59.45**	**344**		P		**P**	**10 43 25.5**	**-1.6**		
	comp=Z,28nm,1.1s,baz=165,slow=3.9,SNR=5.3										
JAY					S		**S**	**10 51 41.7**	**+5.3**		
	comp=Z,8.1nm,0.9s,baz=173,slow=15,SNR=1.3										
JAY					LR		LR	11 08 09.7			
	comp=Z,2µm,19.6s,baz=123,slow=35										
	comp=Z,28nm,1.1s										
MG03	**Isla Dawson**	**59.92**	**151**		P		**P**	**10 43 29.6**	**-0.2**		
FAKI	**Fak Fak**	**60.50**	**334**		P		**P**	**10 43 33.9**	**-0.3**		
FAKI	**Fak Fak**	**60.50**	**334**		P		**P**	**10 43 34.4**	**+0.2**		
VAH	**Vaihoa**	**61.56**	**69**	*e*	LR		LR	11 01 59.6			
	comp=Z,5µm,25.7s										
PMOR	**Pomariorio Ree**	**61.65**	**68**	*e*	LR		LR	11 02 02.7			
	comp=Z,6µm,23.3s										
KAPI	**Kappang**	**61.77**	**320**		P		**P**	**10 43 42.0**	**-0.8**		
KAPI	**Kappang**	**61.77**	**320**		P		**P**	**10 43 43.9**	**+1.1**		
KAPI	**Kappang**	**61.77**	**320**	⇓	*e*P		**P**	**10 43 43.1**	**+0.3**		
KAPI					pmax		pmax				
	comp=Z,56nm,1.2s										
KAPI					MLR		MLR				
	comp=Z,1µm,17.0s										
GO09	**Cerro Castillo**	**61.83**	**149**		IAMs_20		IAMs_20	11 08 20.0			
	comp=Z,5µm,18.0s										
LEM	**Lembang**	**64.35**	**307**		LR		LR	11 07 33.5			
	comp=Z,729nm,21.5s,baz=166,slow=32										
EFI	**East Falkland**	**64.53**	**158**	⇓	*e*P		**P**	**10 44 02.0**	**+1.3**		
EFI					pmax		pmax				
	comp=Z,169nm,1.5s										
COYC	**Coyhaique**	**67.15**	**146**		P		**P**	**10 44 17.4**	**-0.3**		
COYC					IAmb		IAmb	10 44 22.5			
	comp=Z,65nm,1.4s										
TOLI2	**Tolitoli**	**67.26**	**323**		P		**P**	**10 44 17.7**	**-1.0**		
PATS	**Pohnpei**	**67.89**	**4**		P		**P**	**10 44 23.1**	**+0.4**		
PATS	**Pohnpei**	**67.89**	**4**		P		**P**	**10 44 22.8**	**+0.2**		
	comp=Z,26nm,1.1s										
PATS	**Pohnpei**	**67.89**	**4**		P		**P**	**10 44 23.2**	**+0.6**		
LL02	**Futaleuf**	**69.42**	**146**		P		**P**	**10 44 32.1**	**+0.1**		
LL02					IAmb		IAmb	10 44 35.9			
	comp=Z,61nm,1.4s										
LL01	**San Ignacio de**	**70.02**	**145**		P		**P**	**10 44 35.8**	**+0.1**		
LL01					IAmb		IAmb	10 44 39.5			
	comp=Z,52nm,1.3s										
TAOE	**Nuku Hiva Isla**	**70.59**	**72**	*e*	P		**P**	**10 44 36.9**	**-2.7**		
	comp=Z,130nm,33.1s										
TAOE				*e*	S		**S**	**10 53 51.5**	**-1.9**		
	comp=Z,368nm,29.8s										
TAOE				*e*	SS		**SS**	**10 58 18.6**	**-6.1**		
	comp=Z,2µm,28.3s										
TAOE				*e*	LQ		LQ	11 02 44.4			
	comp=Z,13µm,28.2s										
TAOE				*e*	LR		LR	11 05 53.5			
	comp=Z,5µm,27.0s										
LL05	**Los Muermos**	**70.61**	**144**		P		**P**	**10 44 38.7**	**-0.7**		
KSM	**Kuching**	**71.00**	**313**				**P**	**10 44 41.8**	**-0.1**		
KSM					IAmb		IAmb	10 44 43.0			
	comp=Z,41nm,1.1s										
KSM	**Kuching**	**71.00**	**313**		P		**P**	**10 44 42.3**	**+0.4**		
SBUM	**Sibu**	**71.24**	**315**		P		**P**	**10 44 41.3**	**-2.1**		
SBUM	**Sibu**	**71.24**	**315**		P		**P**	**10 44 43.6**	**+0.2**		
DAV	**Davao City (W)**	**71.68**	**330**		LR		LR	11 18 17.1			
	comp=Z,223nm,18.0s,baz=118,slow=38										
MYLDM	**Lahad Datu**	**71.79**	**322**		P		**P**	**10 44 46.7**	**0.0**		
MYLDM					IAmb		IAmb	10 45 35.1			
	comp=Z,71nm,1.4s										
MYLDM	**Lahad Datu**	**71.79**	**322**		P		**P**	**10 44 47.2**	**+0.5**		
PLCA	**Paso Flores**	**72.06**	**146**		P		**P**	**10 44 48.3**	**+0.1**		
PLCA					IAmb		IAmb	10 44 53.4			
	comp=Z,113nm,1.8s										
PLCA	**Paso Flores**	**72.06**	**146**		P		**P**	**10 44 48.8**	**+0.6**		
	comp=Z,12nm,0.8s,baz=206,slow=7.9,SNR=25										
PLCA					S		**S**	**10 54 14.9**	**+5.0**		
	comp=Z,1.2nm,1.0s,baz=210,slow=14,SNR=1.4										
PLCA					LR		LR	11 10 22.4			
	comp=Z,5µm,19.4s,baz=208,slow=31										
	comp=Z,12nm,0.8s										
PLCA	**Paso Flores**	**72.06**	**146**		P		**P**	**10 44 48.3**	**+0.1**		
PLCA					pmax		pmax				
	comp=Z,113nm,1.8s										
LR05	**Currie**	**72.12**	**144**		P		**P**	**10 44 48.0**	**-0.4**		
LR03	**Panguipulli**	**72.58**	**144**		P		**P**	**10 44 51.7**	**+0.5**		
KKM	**Kota Kinabalu**	**73.31**	**320**		P		**P**	**10 44 55.0**	**-0.8**		
KKM					IAmb		IAmb	10 44 56.1			
	comp=Z,43nm,1.1s										
KKM	**Kota Kinabalu**	**73.31**	**320**		P		**P**	**10 44 55.1**	**-0.8**		
GUMO	**Guam**	**74.92**	**350**		LR		LR	11 15 22.7			
	comp=Z,291nm,21.6s,baz=182,slow=34										
BI02	**San Fabin de**	**75.65**	**144**		P		**P**	**10 45 09.5**	**+0.3**		
BI02					IAmb		IAmb	10 45 10.4			
	comp=Z,132nm,2.0s										
GSI	**Gunungsitoli**	**75.79**	**300**		P		**P**	**10 45 09.6**	**-0.6**		
GSI					IAmb		IAmb	10 45 12.5			
	comp=Z,76nm,1.1s										
GSI	**Gunungsitoli**	**75.79**	**300**		P		**P**	**10 45 10.6**	**+0.4**		
H03S2	**Juan Fernandez**	**75.88**	**137**		T		T	12 08 54.5			
	baz=201,slow=74,SNR=74										
H03S1	**Juan Fernandez**	**75.88**	**137**		T		T	12 08 55.8			
	baz=201,slow=74,SNR=82										
H03S3	**Juan Fernandez**	**75.90**	**137**		T		T	12 08 58.6			
	baz=201,slow=74,SNR=85										
ML02	**Panimavida**	**76.45**	**143**		P		**P**	**10 45 13.3**	**-0.4**		
ML02					IAMs_20		IAMs_20	11 12 53.3			
	comp=Z,4µm,19.0s										
RPSI	**Rantau Prapat**	**76.49**	**302**		P		**P**	**10 45 13.1**	**-1.1**		
RPSI					IAmb		IAmb	10 45 20.8			
	comp=Z,70nm,1.8s										
PSI	**Prapat**	**76.59**	**302**		LR		LR	11 14 13.8			
	comp=Z,495nm,21.0s,baz=138,slow=32										
PSI	**Prapat**	**76.59**	**302**		P		**P**	**10 45 13.4**	**-1.5**		
PSI	**Prapat**	**76.59**	**302**		P		**P**	**10 45 13.1**	**-1.8**		
PSI					pmax		pmax				
	comp=Z,71nm,1.8s										
TRQA	**Tornquist**	**76.75**	**151**				**P**	**10 45 15.4**	**-0.1**		
TRQA	**Tornquist**	**76.75**	**151**		P		**P**	**10 45 15.4**	**-0.1**		
TRQA					pmax		pmax				
	comp=Z,21nm,1.1s										
IPM	**Ipoh**	**77.27**	**305**		P		**P**	**10 45 17.5**	**-1.1**		
IPM	**Ipoh**	**77.27**	**305**		P		**P**	**10 45 18.7**	**+0.2**		
BO02	**Sierra Bellavi**	**77.54**	**143**		P		**P**	**10 45 20.2**	**+0.2**		
BO01	**Tunca**	**77.82**	**143**		P		**P**	**10 45 21.5**	**0.0**		
BO01					IAmb		IAmb	10 45 22.1			
	comp=Z,40nm,0.8s										
BO01					IAMs_20		IAMs_20	11 12 16.8			
	comp=Z,3µm,20.0s										
KULM	**Kulim**	**78.15**	**305**				**P**	**10 45 23.0**	**-0.5**		
KULM	**Kulim**	**78.15**	**305**		P		**P**	**10 45 23.4**	**0.0**		
MT01	**Popeta**	**78.27**	**143**		P		**P**	**10 45 23.9**	**-0.1**		
MT01					IAmb		IAmb	10 45 27.6			
	comp=Z,84nm,1.4s										
BO04	**La Punta**	**78.34**	**143**		P		**P**	**10 45 24.4**	**-0.1**		
BO04					IAmb		IAmb	10 45 25.5			
	comp=Z,90nm,1.3s										
MT09	**Talagante**	**78.42**	**143**		P		**P**	**10 45 24.7**	**-0.3**		
LMEL	**Las Melosas**	**78.59**	**143**		P		**P**	**10 45 25.9**	**0.0**		
LMEL					IAMs_20		IAMs_20	11 13 24.9			
	comp=Z,4µm,22.0s										
MT05	**Renca**	**78.86**	**143**		P		**P**	**10 45 27.1**	**-0.2**		
MT02	**Curacav**	**78.86**	**142**		P		**P**	**10 45 26.9**	**-0.3**		
MT16	**CCHEN**	**78.89**	**143**		P		**P**	**10 45 26.6**	**-0.8**		
MT16					IAmb		IAmb	10 45 42.6			
	comp=Z,62nm,1.2s										
MT08	**Bocatoma Ro**	**79.02**	**143**		P		**P**	**10 45 27.8**	**-0.6**		
PEL	**Peldehue**	**79.10**	**143**		P		**P**	**10 45 28.1**	**-0.5**		
PEL	**Peldehue**	**79.10**	**143**		P		**P**	**10 45 28.1**	**-0.5**		
PEL					pmax		pmax				
	comp=Z,38nm,1.0s										
H08S2	**Diego Garcia H**	**79.43**	**273**		T		T	12 13 04.5			
	baz=151,slow=76,SNR=523										
H08S1	**Diego Garcia H**	**79.44**	**273**		T		T	12 13 09.4			
	baz=151,slow=76,SNR=714										
H08S3	**Diego Garcia H**	**79.45**	**273**		T		T	12 13 15.4			
	baz=151,slow=76,SNR=1240										
VA03	**San Esteban**	**79.50**	**143**		P		**P**	**10 45 30.5**	**-0.3**		
VA03					IAmb		IAmb	10 45 52.1			
	comp=Z,49nm,1.1s										
H11S2	**WAKE ISLAND Hy**	**80.03**	**12**		T		T	12 13 42.8			
	baz=188,slow=76,SNR=16										
H11S3	**WAKE ISLAND Hy**	**80.03**	**12**		T		T	12 13 34.3			
	baz=188,slow=76,SNR=19										
H11S1	**WAKE ISLAND Hy**	**80.04**	**12**		T		T	12 13 33.8			
	baz=188,slow=76,SNR=14										
CO02	**Combarbal**	**80.82**	**142**				**P**	**10 45 38.4**	**+0.3**		
CO02					IAmb		IAmb	10 45 40.1			
	comp=Z,54nm,0.9s										
ZON	**Zonda**	**81.18**	**144**		P		**P**	**10 45 40.0**	**+0.1**		
ZON					IAmb		IAmb	10 45 43.9			
	comp=Z,101nm,1.9s										
ZON	**Zonda**	**81.18**	**144**		P		**P**	**10 45 40.0**	**+0.1**		
ZON					pmax		pmax				
	comp=Z,101nm,1.9s										
CFA	**Coronel Fontan**	**81.25**	**144**		LR		LR	11 15 09.2			
	comp=Z,1µm,20.8s,baz=185,slow=31										
H11N1	**WAKE ISLAND Hy**	**81.25**	**12**		T		T	12 15 13.5			
	baz=188,slow=76,SNR=5.0										
CO03	**El Pedregal**	**81.26**	**142**		P		**P**	**10 45 40.3**	**-0.1**		
CO03					IAmb		IAmb	10 46 55.2			
	comp=Z,118nm,1.8s										
H11N3	**WAKE ISLAND Hy**	**81.26**	**12**		T		T	12 15 04.4			
	baz=188,slow=76,SNR=4.9										
H11N2	**WAKE ISLAND Hy**	**81.27**	**12**		T		T	12 15 06.0			
	baz=188,slow=76,SNR=5.2										
BOSA	**Boshof**	**81.48**	**224**		P		**P**	**10 45 40.0**	**-1.6**		
BOSA	**Boshof**	**81.48**	**224**		P		**P**	**10 45 42.6**	**+1.1**		
	comp=Z,11nm,1.0s,baz=152,slow=6.3,SNR=5.6										
BOSA					S		**S**	**10 55 53.8**	**+0.6**		
	comp=Z,2.1nm,0.9s,baz=176,slow=19,SNR=1.1										
BOSA					LR		LR	11 20 16.0			
	comp=Z,3µm,18.9s,baz=160,slow=34										
	comp=Z,11nm,1.0s										
BOSA	**Boshof**	**81.48**	**224**		P		**P**	**10 45 40.0**	**-1.6**		
BOSA					pmax		pmax				
	comp=Z,29nm,1.2s										
SRIT	**Nakonsritamara**	**81.58**	**305**		P		**P**	**10 45 41.0**	**-0.9**		
SRIT	**Nakonsritamara**	**81.58**	**305**		P		**P**	**10 45 41.9**	**-0.1**		
GO04	**Tololo Observa**	**81.85**	**142**		IAMs_20		IAMs_20	11 14 20.5			
	comp=Z,3µm,21.0s										
CO05

QZH pmax pmax
comp=Z,220nm,5.5s
QZH LR LR
comp=Z,300nm,20.6s
QZH LR LR
comp=Z,520nm,28.5s
QZH LR LR
comp=Z,540nm,24.4s
KIP Kipapa 90.78 43⇑ *e*P **P 10 46 27.8 +0.7**
KIP pmax pmax
comp=Z,126nm,1.8s
PB01 IPOC Station P 90.80 140 P **P 10 46 26.5 -1.2**
PB01 IAmb IAmb 10 46 42.1
comp=Z,32nm,1.3s
CM31 Chiang Mai Arr 90.83 309 P **P 10 46 27.1 -0.4**
CM31 IAmb IAmb 10 46 32.9
comp=Z,36nm,1.4s
CMAR Chiang Mai Arr 90.83 309 P **P 10 46 27.2 -0.2**
CMAR Chiang Mai Arr 90.83 309 P **P 10 46 27.3 -0.1**
comp=Z,6.0nm,1.0s,baz=158,slow=5.1,SNR=26
CMAR S **SKSac 10 57 01.5 +2.3**
comp=Z,0.6nm,0.3s,baz=190,slow=34,SNR=1.6
CMAR LR LR 11 24 04.7
comp=Z,427nm,21.4s,baz=165,slow=34
comp=Z,6.0nm,1.0s
CMAR Chiang Mai Arr 90.83 309 *i* P **P 10 46 28.1 +0.6**
CMAR pmax pmax
comp=Z,6.0nm,1.0s
CHTO Chiang Mai 91.15 309 P **P 10 46 29.3 +0.3**
CHTO IAmb IAmb 10 46 30.5
comp=Z,26nm,1.1s
CHTO Chiang Mai 91.15 309 P **P 10 46 29.5 +0.5**
CHTO Chiang Mai 91.15 309 P **P 10 46 29.3 +0.3**
CHTO pmax pmax
comp=Z,26nm,1.1s
SLVN Son La 91.66 314 P **P 10 46 30.2 -1.2**
PB11 IPOC Station P 91.95 139 P **P 10 46 31.0 -2.0**
PB11 IAmb IAmb 10 46 35.9
comp=Z,27nm,0.9s
GO01 Chusmiza 92.18 139 P **P 10 46 33.1 -1.4**
GO01 IAmb IAmb 10 46 35.8
comp=Z,40nm,1.5s
LSZ Lusaka 92.68 231 P **P 10 46 35.9 -0.6**
LSZ Lusaka 92.68 231 IAMs_20 IAMs_20 11 28 10.0
comp=Z,2μm,18.0s
LSZ Lusaka 92.68 231 LR LR 11 24 48.5
comp=Z,920nm,19.9s,baz=162,slow=33
LSZ Lusaka 92.68 231 P **P 10 46 35.9 -0.6**
LSZ pmax pmax
comp=Z,16nm,1.3s
LSZ MLR MLR
comp=Z,2μm,18.0s
TSUM Tsumeb 92.72 220 LR LR 11 25 35.0
comp=Z,6μm,21.9s,baz=160,slow=34
PB16 IPOC Station P 93.33 139 IAmb IAmb 10 46 55.8
comp=Z,41nm,1.6s
GYA Guiyang 95.48 318 ⇑P **P 10 46 50.0 +1.1**
GYA SKS **SKSac 10 57 28.4 +3.5**
GYA S **S 10 58 02.9 -2.4**
GYA SS **SS 11 04 31.4 -2.6**
GYA pmax pmax
comp=Z,13nm,1.0s
GYA pmax pmax
comp=Z,220nm,8.8s
GYA LR LR
comp=Z,300nm,26.4s
GYA LR LR
comp=Z,670nm,19.4s
GYA LR LR
comp=Z,740nm,27.8s
KMI Kunming 95.56 314 P **P 10 46 50.3 +0.9**
KMI PP **PP 10 50 43.5 +2.7**
KMI SKS **SKSac 10 57 26.8 +1.3**
KMI SS **SS 11 04 31.8 -3.5**
KMI pmax pmax
comp=Z,7.0nm,1.3s
KMI LR LR
comp=Z,570nm,28.8s
KMI LR LR
comp=Z,790nm,26.2s
KMI LR LR
comp=Z,1μm,31.6s
LPAZ La Paz 95.69 139 P **P 10 46 50.5 -0.4**
LPAZ IAmb IAmb 10 46 55.2
comp=Z,29nm,1.6s
LPAZ La Paz 95.69 139 P **P 10 46 51.3 +0.5**
comp=Z,3.6nm,0.8s,baz=228,slow=3.4,SNR=9.5
LPAZ S **SKSac 10 57 33.6 +5.8**
comp=Z,0.3nm,0.3s,baz=203,slow=7.7,SNR=2.1
LPAZ LR LR 11 20 28.7
comp=Z,3μm,21.8s,baz=151,slow=30
comp=Z,3.6nm,0.8s
LPAZ La Paz 95.69 139 P **P 10 46 50.5 -0.4**
LPAZ pmax pmax
comp=Z,29nm,1.6s
SSE Sheshan 95.85 332 P **P 10 46 51.5 +1.2**
SSE S **S 10 58 11.4 +3.4**
SSE pmax pmax
comp=Z,8.0nm,0.6s
SSE pmax pmax
comp=Z,52nm,3.5s
SSE LR LR
comp=Z,140nm,27.8s
SSE LR LR
comp=Z,260nm,28.2s
JNU Nakatsue 95.92 340 LR LR 11 30 43.6
comp=Z,262nm,18.0s,baz=166,slow=36
NNA Nana 96.68 130 IAMs_20 IAMs_20 11 21 07.0
comp=Z,3μm,22.0s
NNA Nana 96.68 130 LR LR 11 21 29.5
comp=Z,2μm,21.0s,baz=195,slow=30
TNCH TengChong 96.97 311 P P 10 47 00.6 +4.8
TNCH pP pwP 10 47 07.3 +6.3
TNCH S **S 10 58 18.1 -0.3**
TNCH sS sS 10 58 24.3 +2.8
TNCH pmax pmax
comp=Z,160nm,5.6s
TNCH LR LR
comp=Z,770nm,18.6s
TNCH LR LR
comp=Z,1μm,46.8s
TNCH LR LR
comp=Z,3μm,38.8s
WHN Wuhan 97.03 326 P Pdif 10 46 55.6 -0.1
WHN PP **PP 10 50 51.8 -0.1**
WHN SKS **SKSac 10 57 32.8 +0.4**
WHN S **S 10 58 15.8 -2.4**
WHN SS **SS 11 04 58.3 +2.7**
WHN LR LR
comp=Z,3μm,23.9s
PZH PanZhiHua 97.17 314 P Pdif 10 46 59.3 +2.6
PZH SKS **SKSac 10 57 37.8 +4.1**
PZH S **ScS 10 58 22.9 +2.6**
PZH SS **SS 11 04 55.4 -2.5**
PZH LR LR
comp=Z,420nm,24.7s
PZH LR LR
comp=Z,870nm,22.6s
PZH LR LR
comp=Z,550nm,27.5s
NJ2 Nanjing 97.31 330 *e*P **P 10 46 56.4 -0.5**
NJ2 SKS **SKSac 10 57 37.9 +4.1**
NJ2 pmax pmax
comp=Z,21nm,0.7s
BRDH Bariadhala 97.49 304 LR LR 11 31 58.1
comp=Z,327nm,18.4s,baz=154,slow=36
SIV San Ignacio 98.05 146 LR LR 11 26 13.7
comp=Z,2μm,19.9s,baz=196,slow=32
MJAR Matsushiro Arr 98.28 347 P Pdif 10 47 01.3 +0.1
comp=Z,1.0nm,0.7s,baz=152,slow=5.5,SNR=3.9
MJAR PP **PP 10 50 59.9 -1.6**
comp=Z,3.3nm,1.0s,baz=182,slow=4.7,SNR=4.6
MJAR S **SKSac 10 57 36.6 -2.0**
comp=Z,1.2nm,0.9s,baz=156,slow=13,SNR=2.1
comp=Z,1.0nm,0.7s
MAJO Matsushiro 98.28 347⇓ *e*P Pdif 10 47 01.1 -0.1
MAJO pmax pmax
comp=Z,23nm,2.3s
CD2 Chengdu 100.55 317 P **Pdif 10 47 12.6 +1.1**
CD2 PP **PP 10 51 20.3 +1.4**
CD2 SKS **SKSac 10 57 53.8 +3.5**
CD2 SS **SS 11 05 48.1 +3.1**
CD2 AMB AMB
comp=Z,240nm,10.9s
CD2 LR LR
comp=Z,1μm,24.9s
CD2 LR LR
comp=Z,2μm,23.3s
CD2 LR LR
comp=Z,640nm,28.8s
KSRS Korea Array 100.64 339 P **Pdif 10 47 12.6 +1.0**
comp=Z,0.4nm,0.4s,baz=158,slow=4.6,SNR=2.1
KSRS PP **PP 10 51 18.1 -1.3**
comp=Z,1.1nm,0.9s,baz=172,slow=9.2,SNR=6.9
KSRS S **SKSac 10 57 54.0 +3.8**
comp=Z,0.2nm,0.3s,baz=157,slow=22,SNR=1.6
VILB Vilhena 101.18 146 IAMs_20 IAMs_20 11 30 30.3
comp=Z,2μm,19.0s
LYN LuoYang 101.33 326 *e*P **Pdif 10 47 17.3 +2.5**
LYN PP **PP 10 51 24.3 -0.3**
LYN SKS **SKSac 10 57 56.6 +2.9**
LYN S **Sdif 10 58 47.4 -6.8**
LYN LR LR
comp=Z,590nm,27.0s
LYN LR LR
comp=Z,410nm,20.6s
LYN LR LR
comp=Z,1μm,33.3s
XAN Xi'an 101.85 323 ⇑P **Pdif 10 47 18.8 +1.6**
XAN SKS **SKSac 10 57 56.9 +0.5**
XAN S **Sdif 10 58 57.9 -0.8**
XAN SS **SS 11 06 05.0 +1.9**
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN LR LR
comp=Z,590nm,21.6s
XAN LR LR
comp=Z,730nm,23.4s
XAN LR LR
comp=Z,1μm,22.1s
CZSB Cruzeiro do Su 102.12 132 IAMs_20 IAMs_20 11 25 44.9
comp=Z,2μm,19.0s
LZH Lanzhou 105.29 320 SS SS 11 06 54.5 +3.9
LZH AMB AMB
comp=Z,180nm,8.9s
LZH LR LR
comp=N,2μm,20.3s
LZH LR LR
comp=E,2μm,21.5s
LZH LR LR
comp=Z,1μm,22.0s
BTO Baotou 107.67 326 *e*Pdif **Pdif 10 47 46.0 +3.0**
BTO PP **PP 10 52 16.1 +4.2**
BTO SKS **SKSac 10 58 26.9 +4.3**
BTO S **Sdif 10 59 47.6 +0.5**
BTO LR LR
comp=Z,640nm,13.4s
BTO LR LR
comp=Z,420nm,20.2s
BTO LR LR
comp=Z,740nm,21.8s
H06S1 SOCORRO T 108.47 85 T T 12 49 07.3
SNR=4.2
H06E1 SOCORRO T-PHASE 108.52 85 T T 12 49 10.2
SNR=17
H06N1 SOCORRO T-PHASE 108.56 85 T T 12 49 10.5
SNR=10
RCBR Riachuelo 112.70 169 IAMs_20 IAMs_20 11 36 34.7
comp=Z,1μm,22.0s
PEA0B Petropavlovsk- 113.99 2 *i* PKIKP **PKiKP 10 52 02.8 +0.8**
PETK Petropavlovsk- 113.99 2 PP **PP 10 52 52.9 -4.2**
comp=Z,6.2nm,1.1s,baz=178,slow=6.3,SNR=3.7
MOIG Morelia 114.00 93 IAMs_20 IAMs_20 11 30 52.2
comp=Z,1μm,20.0s
CRIN San Cristobal 114.66 109 IAMs_20 IAMs_20 11 29 08.4
comp=Z,1μm,22.0s
UNM Universidad Na 114.67 95 IAMs_20 IAMs_20 11 31 19.0
comp=Z,1μm,20.0s
HERN Volcan Telica 114.68 110 IAMs_20 IAMs_20 11 32 58.7
comp=Z,1μm,19.0s
BCIP Isla Barro Col 114.72 118 IAMs_20 IAMs_20 11 29 10.7
comp=Z,2μm,19.0s
ADK Adak 115.08 19 IAMs_20 IAMs_20 11 29 51.6
comp=Z,1μm,20.0s
MTO3 Monteristo 115.08 106 IAMs_20 IAMs_20 11 31 23.7
comp=Z,1μm,19.0s
SRIG Santa Rosalia 115.15 79 IAMs_20 IAMs_20 11 31 29.8
comp=Z,1μm,20.0s
ULN Ulaanbaatar 115.20 327 *c i* PKIKP **PKPdf 10 52 04.4 -0.3**
ULN pmax pmax
comp=Z,2.0nm,1.0s
ESQI Esquipulas 115.23 106 IAMs_20 IAMs_20 11 31 36.7
comp=Z,1μm,19.0s
SONM Songino Array 115.34 326 PKP **PKPdf 10 52 03.3 -1.7**
comp=Z,1.3nm,0.9s,baz=121,slow=0.8,SNR=4.8
SONM PKKPbc **PKKPbc 11 02 38.0 -0.2**
comp=Z,0.4nm,0.5s,baz=343,slow=1.5,SNR=1.9
TGUH Tegucigalpa,Un 115.75 109 IAMs_20 IAMs_20 11 29 38.1
comp=Z,2μm,22.0s
SIUN Universidad Ur 116.59 111 IAMs_20 IAMs_20 11 37 09.1
comp=Z,742nm,19.0s
CCX Cicese 116.89 73 IAMs_20 IAMs_20 11 32 42.3
comp=Z,1μm,20.0s
VTX Valle De La Tr 116.90 74 IAMs_20 IAMs_20 11 31 38.5
comp=Z,1μm,20.0s
PETF Flores 117.04 105 IAMs_20 IAMs_20 11 38 41.7
comp=Z,837nm,18.0s
SFX San Felipe 117.04 74 IAMs_20 IAMs_20 11 31 30.1
comp=Z,1μm,21.0s
HSIG 117.19 79 IAMs_20 IAMs_20 11 31 02.8
comp=Z,1μm,21.0s
TJX Tijuana 117.25 72 IAMs_20 IAMs_20 11 29 57.8
comp=Z,1μm,22.0s
ESJX Sierra Juarez 117.33 73 IAMs_20 IAMs_20 11 32 28.1
comp=Z,2μm,19.0s
TKX Tecate 117.50 72 IAMs_20 IAMs_20 11 32 32.5
comp=Z,1μm,22.0s
BILN Bilwi Airport 117.51 112 IAMs_20 IAMs_20 11 30 58.4
comp=Z,2μm,21.0s
NIKH Nikolski High 117.53 24 IAMs_20 IAMs_20 11 31 17.6
comp=Z,1μm,22.0s
CPE Camp Elliot 117.54 72 IAMs_20 IAMs_20 11 33 28.4
comp=Z,2μm,19.0s
WMQ Urumqi 117.70 311 *e*PKP **PKiKP 10 52 10.0 +0.4**
WMQ LR LR
comp=Z,650nm,20.9s
WMQ LR LR
comp=Z,500nm,23.1s
WMQ LR LR
comp=Z,1μm,24.1s
DPP Dos Picos Cty 117.71 72 IAMs_20 IAMs_20 11 33 33.0
comp=Z,1μm,20.0s
YUH Yuha Desert 117.88 73 IAMs_20 IAMs_20 11 30 07.6
comp=Z,2μm,22.0s
RAMR Ramage Ranch 118.13 67 IAMs_20 IAMs_20 11 34 39.2
comp=Z,2μm,19.0s
BORC Borrego Spring 118.17 72 IAMs_20 IAMs_20 11 30 36.3
comp=Z,2μm,20.0s
OSI Osito Audit: C 118.24 69 IAMs_20 IAMs_20 11 32 46.2
comp=Z,2μm,20.0s
HULI Fort Hunter Li 118.29 66 IAMs_20 IAMs_20 11 36 12.4
comp=Z,1μm,18.0s
SALN Salton City 118.38 72 IAMs_20 IAMs_20 11 30 21.8
comp=Z,1μm,22.0s
PMD Palm Desert 118.51 72 IAMs_20 IAMs_20 11 30 35.2
comp=Z,2μm,22.0s
KSH Kashi 118.63 300 PKP **PKiKP 10 52 11.8 +0.2**
KSH LR LR
comp=Z,780nm,22.0s
KSH LR LR
comp=Z,580nm,19.9s
KSH LR LR
comp=Z,480nm,21.3s
PMPB Monarch Peak 118.64 67 IAMs_20 IAMs_20 11 33 50.0
comp=Z,1μm,20.0s
SCZ Santa Cruz 118.70 66 IAMs_20 IAMs_20 11 36 34.2
comp=Z,1μm,18.0s
GLA Glamis 118.73 73 IAMs_20 IAMs_20 11 33 20.9
comp=Z,1μm,19.0s
214A Organ Pipe Nat 118.76 76 IAMs_20 IAMs_20 11 31 37.6
comp=Z,1μm,21.0s
SAO San Andreas Ge 118.82 66 IAMs_20 IAMs_20 11 39 05.5
comp=Z,1μm,18.0s
UNV Unalaska Valle 118.83 25 IAMs_20 IAMs_20 11 33 26.0
comp=Z,2μm,22.0s
BBGB Big Mountain B 118.84 66 IAMs_20 IAMs_20 11 36 48.2
comp=Z,2μm,19.0s
FARB Farallon Islan 118.91 64 IAMs_20 IAMs_20 11 32 41.0
comp=Z,969nm,20.0s
113A Mohawk Valley, 118.98 74 IAMs_20 IAMs_20 11 38 55.7
comp=Z,1μm,18.0s
LVA Lava Point 119.22 25 IAMs_20 IAMs_20 11 33 36.4
comp=Z,2μm,22.0s
MCCM Marconi Confer 119.34 64 IAMs_20 IAMs_20 11 32 53.4
comp=Z,1μm,20.0s
LRMC Laurel Mtn Rad 119.43 69 IAMs_20 IAMs_20 11 32 53.8
comp=Z,2μm,20.0s
BLYC Blythe 119.45 73 IAMs_20 IAMs_20 11 34 21.0
comp=Z,1μm,19.0s
MTOS Mt Oso, Westle 119.48 65 IAMs_20 IAMs_20 11 38 45.1
comp=Z,1μm,18.0s
CLC China Lake 119.75 69 IAMs_20 IAMs_20 11 34 03.2
comp=Z,2μm,20.0s
GDXM Geysers 119.93 63 IAMs_20 IAMs_20 11 33 22.0
comp=Z,2μm,20.0s
319A Douglas 119.94 79 IAMs_20 IAMs_20 11 36 47.8
comp=Z,1μm,19.0s
HOPS Hopland Field 119.96 63 IAMs_20 IAMs_20 11 33 42.9
comp=Z,2μm,20.0s
TUC Tucson 120.00 77 IAMs_20 IAMs_20 11 37 37.5
comp=Z,1μm,19.0s
RUSS Russell Ranch 120.11 64 IAMs_20 IAMs_20 11 34 56.7
comp=Z,901nm,19.0s
MNRC McLaughlin Min 120.14 64 IAMs_20 IAMs_20 11 33 29.4
comp=Z,1μm,20.0s
BUCR Buckhorn Ranch 120.14 66 IAMs_20 IAMs_20 11 40 12.5
comp=Z,974nm,18.0s
NEE2 Needles Airpor 120.25 72 IAMs_20 IAMs_20 11 34 09.2
comp=Z,1μm,19.0s
Y14A Wickenburg 120.31 74 IAMs_20 IAMs_20 11 33 44.8
comp=Z,1μm,20.0s
KCPM Cahto Peak 120.32 62 IAMs_20 IAMs_20 11 34 11.3
comp=Z,1μm,21.0s
CMB Columbia Colle 120.34 66 IAMs_20 IAMs_20 11 38 45.8
comp=Z,903nm,18.0s
GWY Greenwater Val 120.48 70 IAMs_20 IAMs_20 11 36 21.4
comp=Z,2μm,20.0s
GAR Garm 120.61 296 IAMs_20 IAMs_20 11 55 59.3
comp=Z,810nm,18.0s
TEIG Tepich 120.64 104 IAMs_20 IAMs_20 11 36 12.3
comp=Z,932nm,20.0s
KMPM Mount Pierce 120.69 61 IAMs_20 IAMs_20 11 35 29.3
comp=Z,1μm,21.0s
KMRM Mail Ridge 120.71 62 IAMs_20 IAMs_20 11 35 30.2
comp=Z,1μm,20.0s
P08K Saint George I 120.83 22 IAMs_20 IAMs_20 11 34 52.8
comp=Z,1μm,22.0s
AFDM Forest Hills D 120.84 65 IAMs_20 IAMs_20 11 41 04.0
comp=Z,878nm,18.0s
W13A Hualapai Mount 120.86 73 IAMs_20 IAMs_20 11 32 11.2
comp=Z,1μm,21.0s
V12A Nelson 120.93 72 IAMs_20 IAMs_20 11 32 21.3
comp=Z,2μm,21.0s
TXAR Lajitas Array 120.94 85 PKP **PKiKP 10 52 17.4 +0.9**
comp=Z,0.3nm,0.6s,baz=165,slow=5.6,SNR=2.6
JCC Jacoby Creek, 121.06 61 IAMs_20 IAMs_20 11 33 33.1
comp=Z,1μm,21.0s
O02D Mt. Diablo Mer 121.06 63 IAMs_20 IAMs_20 11 34 39.1
comp=Z,2μm,20.0s
GMN Gold Mountain 121.13 69 IAMs_20 IAMs_20 11 39 58.7
comp=Z,1μm,18.0s
WAKR Walker 121.15 66 IAMs_20 IAMs_20 11 33 14.2
comp=Z,1μm,21.0s
KHMM Horse Mountain 121.24 61 IAMs_20 IAMs_20 11 35 55.7
comp=Z,1μm,20.0s
SPIA Saint Paul Isl 121.25 22 IAMs_20 IAMs_20 11 34 29.8
comp=Z,1μm,22.0s
CNBA Chernabura Isl 121.26 29 IAMs_20 IAMs_20 11 34 03.9
comp=Z,988nm,21.0s
LHV Little Huntoon 121.35 67 IAMs_20 IAMs_20 11 37 11.7
comp=Z,2μm,19.0s
MZP Montezuma Peak 121.40 68 IAMs_20 IAMs_20 11 43 11.9
comp=Z,927nm,18.0s
SHPR Sheep Range 121.43 71 IAMs_20 IAMs_20 11 36 35.6
comp=Z,1μm,19.0s
X16A Lo Mia Camp, P 121.44 75 IAMs_20 IAMs_20 11 40 17.5
comp=Z,1μm,18.0s
S12K Black Hills 121.51 27 IAMs_20 IAMs_20 11 33 57.0
comp=Z,1μm,22.0s
O03E Paynes Creek 121.59 63 IAMs_20 IAMs_20 11 34 44.7
comp=Z,1μm,20.0s
NVAR Mina Array Bea 121.59 67 **PKiKP 10 52 18.4 +0.7**
NVAR Mina Array Bea 121.59 67 PKP **PKiKP 10 52 18.0 +0.4**
comp=Z,2.2nm,0.8s,baz=221,slow=2.8,SNR=12
RYN Ryan 121.66 67 IAMs_20 IAMs_20 11 33 33.7
comp=Z,1μm,21.0s
KRMB Red Mountain 121.70 61 IAMs_20 IAMs_20 11 34 03.9
comp=Z,983nm,21.0s
AAK Ala-Archa 121.84 301 *c i* PKIKP **PKiKP 10 52 17.8 -0.1**
AAK pmax pmax
comp=Z,7.0nm,1.7s
KSXB Camp Six Broad 121.97 61 IAMs_20 IAMs_20 11 37 09.0
comp=Z,927nm,19.0s
M02C Callahan 122.04 62 IAMs_20 IAMs_20 11 36 23.7
comp=Z,1μm,20.0s
PAHR Pah Rah Range 122.16 65 IAMs_20 IAMs_20 11 33 17.1
comp=Z,940nm,21.0s
HATC Hat Creek Radi 122.16 63 IAMs_20 IAMs_20 11 35 03.2
comp=Z,1μm,20.0s
833A Chaparral WMA, 122.17 89 IAMs_20 IAMs_20 11 35 12.0
comp=Z,2μm,22.0s
X18A Snowflake 122.23 76 IAMs_20 IAMs_20 11 37 10.4
comp=Z,1μm,19.0s
MKAR Makanchi Array 122.23 309 PKP **PKPdf 10 52 16.4 -1.7**
comp=Z,3.6nm,0.9s,baz=150,slow=2.8,SNR=14
MKAR Makanchi Array 122.23 309 *c i* PKIKP **PKPdf 10 52 16.8 -1.3**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
L02F Cave Junction 122.33 61 IAMs_20 IAMs_20 11 37 10.7
comp=Z,1μm,20.0s
WUAZ Wupatki 122.37 74 IAMs_20 IAMs_20 11 33 40.3
comp=Z,987nm,20.0s
YBH Yreka Blue Hor 122.38 62 IAMs_20 IAMs_20 11 36 34.9
comp=Z,944nm,20.0s
Q09A Carvers 122.42 68 IAMs_20 IAMs_20 11 37 47.9
comp=Z,2μm,20.0s
LCMT Little Creek M 122.72 72 IAMs_20 IAMs_20 11 33 18.8
comp=Z,2μm,22.0s
W18A Petrified Fore 122.81 76 IAMs_20 IAMs_20 11 39 14.9
comp=Z,1μm,18.0s
KNB Kanab 122.92 72 IAMs_20 IAMs_20 11 36 01.0
comp=Z,1μm,20.0s
TULE Intermountain 123.10 62 IAMs_20 IAMs_20 11 36 50.9
comp=Z,1μm,20.0s
Y22D IRIS PASSCAL I 123.29 79 IAMs_20 IAMs_20 11 35 36.3
comp=Z,1μm,20.0s
DBIC Dimbokro 123.42 205 PKP **PKiKP 10 52 23.0 +1.3**
comp=Z,12nm,1.1s,baz=180,slow=1.0,SNR=4.3
DBIC PKKPbc **PKKPbc 11 02 03.1 -4.8**
comp=Z,3.5nm,0.6s,baz=11,slow=2.3,SNR=4.5
JCT Junction City 123.75 87 IAMs_20 IAMs_20 11 33 16.2
comp=Z,1μm,22.0s
I02E Swisshome, OR 123.85 59 IAMs_20 IAMs_20 11 35 44.8
comp=Z,1μm,21.0s
KKAR Karatay Array 123.90 299 **PKPdf 10 52 20.6 -0.9**
KKAR Karatay Array 123.90 299 PKIKP **PKPdf 10 52 20.6 -0.9**
K05A Summer Lake 123.97 62 IAMs_20 IAMs_20 11 35 24.0
comp=Z,1μm,22.0s
SII Sitkinak Islan 124.16 32 IAMs_20 IAMs_20 11 37 06.3
comp=Z,967nm,22.0s
ANMO Albuquerque 124.22 79 IAMs_20 IAMs_20 11 40 18.0
comp=Z,1μm,19.0s
ANMO Albuquerque 124.22 79 *i* PKIKP **PKPdf 10 52 22.2 -0.4**
COR Corvallis 124.46 59 IAMs_20 IAMs_20 11 36 14.0
comp=Z,1μm,21.0s
PLK4 Peulik 4 124.58 30 IAMs_20 IAMs_20 11 36 40.4
comp=Z,1μm,22.0s
HMU Henry Mountain 124.63 73 IAMs_20 IAMs_20 11 34 32.2
comp=Z,1μm,21.0s
WVOR Wild Horse Val 124.71 64 IAMs_20 IAMs_20 11 38 04.5
comp=Z,868nm,20.0s
G03D McMinnville, O 124.99 59 IAMs_20 IAMs_20 11 36 28.9
comp=Z,1μm,22.0s
435B Jarrell 125.08 89 IAMs_20 IAMs_20 11 37 56.1
comp=Z,2μm,20.0s
MVCO Mesa Verde 125.09 76 IAMs_20 IAMs_20 11 35 37.1
comp=Z,1μm,21.0s
Q16A Castle Valley 125.22 72 IAMs_20 IAMs_20 11 34 41.0
comp=Z,2μm,22.0s
HKT Hockley 125.24 91 IAMs_20 IAMs_20 11 36 46.5
comp=Z,1μm,22.0s
G04A Mulino 125.31 59 IAMs_20 IAMs_20 11 36 30.5
comp=Z,1μm,22.0s
F03A Seaside 125.45 58 IAMs_20 IAMs_20 11 36 58.1
comp=Z,1μm,21.0s
P16K Nushagak River 125.46 28 IAMs_20 IAMs_20 11 35 00.5
comp=Z,1μm,22.0s
N14K Kuskokwak Cree 125.46 25 IAMs_20 IAMs_20 11 37 56.5
comp=Z,1μm,22.0s
DUG Dugway, Tooele 125.50 70 IAMs_20 IAMs_20 11 35 39.4
comp=Z,1μm,20.0s

M13K	**Dall Lake**	125.58	24	IAMs_20	IAMs_20	11 37 26.4		
	comp=Z,2µm,22.0s							
KDAK	**Kodiak Island**	125.65	32	IAMs_20	IAMs_20	11 38 02.8		
	comp=Z,1µm,22.0s							
SRU	**San Rafael Swe**	125.68	73	IAMs_20	IAMs_20	11 34 55.0		
	comp=Z,1µm,22.0s							
MPU	**Maple Canyon**	125.89	71	IAMs_20	IAMs_20	11 39 30.7		
	comp=Z,1µm,20.0s							
O16K	**Kokwok River B**	125.94	28	IAMs_20	IAMs_20	11 36 46.3		
	comp=Z,996nm,22.0s							
N15K	**Kwethluk River**	126.02	26	IAMs_20	IAMs_20	11 35 48.4		
	comp=Z,962nm,22.0s							
M14K	**Bethel**	126.16	25	IAMs_20	IAMs_20	11 38 06.0		
	comp=Z,1µm,22.0s							
P18A	**Preston Nutter**	126.22	72	IAMs_20	IAMs_20	11 35 44.4		
	comp=Z,1µm,21.0s							
CAMR	**Camarioca**	126.29	109	IAMs_20	IAMs_20	11 39 52.4		
	comp=Z,2µm,19.0s							
S22A	**4UR Ranch, Cre**	126.31	76	IAMs_20	IAMs_20	11 42 10.4		
	comp=Z,1µm,18.0s							
WISH	**Wishkah**	126.32	57	IAMs_20	IAMs_20	11 40 23.1		
	comp=Z,981nm,20.0s							
GTBY	**Guantanamo Bay**	126.33	117	IAMs_20	IAMs_20	11 40 13.5		
	comp=Z,1µm,18.0s							
CTU	**Camp Tracy**	126.38	70	IAMs_20	IAMs_20	11 40 11.7		
	comp=Z,1µm,20.0s							
P18K	**Big Mountain,**	126.42	29	IAMs_20	IAMs_20	11 37 12.1		
	comp=Z,924nm,22.0s							
JLU	**Jordanelle**	126.45	71	IAMs_20	IAMs_20	11 40 15.4		
	comp=Z,1µm,19.0s							
NLWA	**Neilton Lookou**	126.50	57	IAMs_20	IAMs_20	11 37 45.9		
	comp=Z,1µm,22.0s							
FW07	**Weatherford**	126.56	88	IAMs_20	IAMs_20	11 37 05.4		
	comp=Z,987nm,21.0s							
L14K	**Kuka Creek**	126.56	24	IAMs_20	IAMs_20	11 37 56.4		
	comp=Z,2µm,22.0s							
FW03	**Perrin-Whitt E**	126.69	87	IAMs_20	IAMs_20	11 35 31.1		
	comp=Z,2µm,22.0s							
K13K	**Kusilvak Mount**	126.72	23	IAMs_20	IAMs_20	11 38 35.6		
	comp=Z,1µm,22.0s							
KURBB	**Kurchatov Arra**	126.80	310	PKP	**PKPdf**	**10 52 25.2**	**-1.5**	
	comp=Z,3.9nm,0.9s,baz=150,slow=1.7,SNR=20							
KURBB				PP	**PP**	**10 54 26.3**	**+1.4**	
	comp=Z,0.5nm,0.2s,baz=150,slow=4.4,SNR=6.7							
KURK	**Kurchatov**	126.84	310		**PKPdf**	**10 52 25.8**	**-0.9**	
KURK	**Kurchatov**	126.84	310	*c* iPKIKP	**PKPdf**	**10 52 25.3**	**-1.5**	
KURK				pmax	pmax			
	comp=Z,11nm,1.7s							
G08A	**Pilot Rock**	126.86	62	IAMs_20	IAMs_20	11 38 18.5		
	comp=Z,857nm,20.0s							
BIM	**Bigot**	126.88	135	IAMs_20	IAMs_20	11 42 41.6		
	comp=Z,1µm,19.0s							
FW06	**Azle**	126.89	88	IAMs_20	IAMs_20	11 37 15.2		
	comp=Z,1µm,21.0s							
F07A	**Phinny Hill Vi**	126.93	61	IAMs_20	IAMs_20	11 37 50.4		
	comp=Z,930nm,22.0s							
SDCO	**Great Sand Dun**	126.93	77	IAMs_20	IAMs_20	11 40 26.0		
	comp=Z,1µm,20.0s							
237A	**Washetta, Mont**	126.94	90	IAMs_20	IAMs_20	11 39 14.4		
	comp=Z,1µm,20.0s							
NMDO	**Nuevo Mundo**	126.95	117	IAMs_20	IAMs_20	11 36 14.8		
	comp=Z,1µm,22.0s							
T25A	**Trinidad**	126.96	79	IAMs_20	IAMs_20	11 41 15.7		
	comp=Z,1µm,19.0s							
N17K	**Nushagak Hills**	126.98	28	IAMs_20	IAMs_20	11 37 50.8		
	comp=Z,1µm,22.0s							
M16K	**Timber Creek**	127.04	26	IAMs_20	IAMs_20	11 40 11.2		
	comp=Z,982nm,22.0s							
FDF	**Fort de France**	127.05	135	IAMs_20	IAMs_20	11 42 37.2		
	comp=Z,2µm,19.0s							
GNW	**Green Mountain**	127.06	57	IAMs_20	IAMs_20	11 38 07.8		
	comp=Z,1µm,22.0s							
SDDR	**Presa de Saban**	127.10	122	IAMs_20	IAMs_20	11 39 10.2		
	comp=Z,1µm,22.0s							
SVN	**Savane Anatole**	127.15	135	IAMs_20	IAMs_20	11 41 16.7		
	comp=Z,2µm,20.0s							
441A	**DeRidder**	127.18	93	IAMs_20	IAMs_20	11 40 22.5		
	comp=Z,1µm,20.0s							
HWUT	**Hardware Ranch**	127.20	70	IAMs_20	IAMs_20	11 38 23.2		
	comp=Z,2µm,20.0s							
GAMB	**Gambell**	127.25	18	IAMs_20	IAMs_20	11 37 43.3		
	comp=Z,928nm,21.0s							
ZALV	**Zalesovo Beam**	127.28	316		**PKPdf**	**10 52 25.6**	**-1.9**	
ZALV	**Zalesovo Beam**	127.28	316	PKP	**PKPdf**	**10 52 25.4**	**-2.1**	
	comp=Z,0.5nm,0.3s,baz=129,slow=2.0,SNR=4.4							
ZALV	**Zalesovo Beam**	127.28	316	PKIKP	**PKPdf**	**10 52 25.6**	**-1.9**	
NATX	**Nacogdoches**	127.30	91	IAMs_20	IAMs_20	11 36 52.8		
	comp=Z,1µm,22.0s							
Z35A	**Perchaven, San**	127.33	88	IAMs_20	IAMs_20	11 37 29.8		
	comp=Z,1µm,22.0s							
O19K	**Port Alsworth**	127.35	29	IAMs_20	IAMs_20	11 37 40.6		
	comp=Z,994nm,22.0s							
HOLB	**Holberg**	127.44	52	IAMs_20	IAMs_20	11 38 49.7		
	comp=Z,1µm,21.0s							
ILSW	**Iliamna Southw**	127.45	30	IAMs_20	IAMs_20	11 38 19.2		
	comp=Z,999nm,21.0s							
HLID	**Hailey**	127.47	66	IAMs_20	IAMs_20	11 37 14.5		
	comp=Z,845nm,20.0s							
HAWA	**Hanford**	127.49	60	IAMs_20	IAMs_20	11 38 16.3		
	comp=Z,1µm,21.0s							
HOM	**Homer**	127.53	31	IAMs_20	IAMs_20	11 37 08.4		
	comp=Z,1µm,22.0s							
O20A	**White River Ci**	127.55	74	IAMs_20	IAMs_20	11 36 07.6		
	comp=Z,1µm,22.0s							
LNOR	**Lincton Mounta**	127.61	62	IAMs_20	IAMs_20	11 38 42.3		
	comp=Z,920nm,21.0s							
HG4B	**Hotspring**	127.63	48	IAMs_20	IAMs_20	11 39 10.9		
	comp=Z,1µm,20.0s							
K15K	**Wolf Creek Mou**	127.66	24	IAMs_20	IAMs_20	11 38 04.4		
	comp=Z,2µm,22.0s							
N19K	**Bonanza Creek**	127.86	29	IAMs_20	IAMs_20	11 34 58.0		
	comp=Z,1µm,22.0s							
CRPR	**Cabo Rojo, PR**	127.89	127	IAMs_20	IAMs_20	11 53 37.5		
	comp=Z,892nm,19.0s							
LOOK	**Love County**	127.90	87	IAMs_20	IAMs_20	11 45 23.0		
	comp=Z,1µm,22.0s							
PLID	**Pearl Lake**	127.97	64	IAMs_20	IAMs_20	11 45 17.0		
	comp=Z,927nm,18.0s							
CBB	**Campbell River**	128.02	54	IAMs_20	IAMs_20	11 35 59.0		
	comp=Z,1µm,22.0s							
PRSN	**Puerto Rico Se**	128.07	127	IAMs_20	IAMs_20	11 40 41.2		
	comp=Z,1µm,22.0s							
TORD	**Torodi Ar. Bea**	128.09	215		**PKPdf**	**10 52 30.0**	**-0.3**	
TORD	**Torodi Ar. Bea**	128.09	215	PKP	**PKPdf**	**10 52 29.2**	**-1.1**	
	comp=Z,2.0nm,1.0s,baz=162,slow=2.8,SNR=5.9							
UUPR	**Utuado, UPR, P**	128.26	127	IAMs_20	IAMs_20	11 42 29.3		
	comp=Z,953nm,20.0s							
D08A	**Wollman Farm,**	128.28	60	IAMs_20	IAMs_20	11 38 40.0		
	comp=Z,1µm,21.0s							
AGPR	**Aguadilla, PR**	128.31	127	IAMs_20	IAMs_20	11 40 58.6		
	comp=Z,1µm,22.0s							
PDPR	**Patillas Dam,**	128.32	128	IAMs_20	IAMs_20	11 43 12.6		
	comp=Z,802nm,20.0s							
SJG	**San Juan**	128.35	128	IAMs_20	IAMs_20	11 47 15.6		
	comp=Z,1µm,20.0s							
Z38A	**Mt. Pleasant**	128.37	90	IAMs_20	IAMs_20	11 40 18.2		
	comp=Z,1µm,20.0s							
HUMP	**Col San Antoni**	128.50	128	IAMs_20	IAMs_20	11 45 59.4		
	comp=Z,930nm,20.0s							
ISCO	**Idaho Springs**	128.52	76	IAMs_20	IAMs_20	11 35 49.9		
	comp=Z,899nm,22.0s							
GDSD	**La Dsirade Is**	128.55	135	IAMs_20	IAMs_20	11 42 24.9		
	comp=Z,1µm,19.0s							
L18K	**Granite Mounta**	128.60	27	IAMs_20	IAMs_20	11 39 04.1		
	comp=Z,1µm,21.0s							
CAPN	**Captain Cook N**	128.62	31	IAMs_20	IAMs_20	11 39 52.2		
	comp=Z,1µm,21.0s							
BBB	**Bella Bella**	128.68	50	IAMs_20	IAMs_20	11 40 04.6		
	comp=Z,1µm,20.0s							
K17K	**Iditarod**	128.70	26	IAMs_20	IAMs_20	11 40 29.6		
	comp=Z,1µm,22.0s							
J16K	**Anvik River**	128.74	24	IAMs_20	IAMs_20	11 39 23.5		
	comp=Z,2µm,22.0s							
061Z	**Ochoppi**	128.92	108	IAMs_20	IAMs_20	11 51 19.1		
	comp=Z,818nm,20.0s							
P23K	**Montague Islan**	128.92	33	IAMs_20	IAMs_20	11 36 56.9		
	comp=Z,1µm,22.0s							
SEUS	**St. Eustatius**	128.96	132	IAMs_20	IAMs_20	11 41 55.3		
	comp=Z,2µm,22.0s							
BW06	**Boulder Array**	129.03	70	IAMs_20	IAMs_20	11 39 35.6		
	comp=Z,1µm,20.0s							
PDAR	**Pinedale Array**	129.03	70		**PKPdf**	**10 52 31.6**	**0.0**	
PDAR	**Pinedale Array**	129.03	70	PKP	**PKPdf**	**10 52 30.7**	**-0.9**	
	comp=Z,1.1nm,0.8s,baz=228,slow=4.4,SNR=9.9							
M20K	**Styx River**	129.11	29	IAMs_20	IAMs_20	11 40 29.7		
	comp=Z,865nm,21.0s							
J17K	**VABM Dome**	129.14	25	IAMs_20	IAMs_20	11 40 20.4		
	comp=Z,1µm,22.0s							
FIS	**Fire Island**	129.18	31	IAMs_20	IAMs_20	11 38 25.5		
	comp=Z,911nm,21.0s							
I17K	**Unalakleet**	129.26	24	IAMs_20	IAMs_20	11 39 17.4		
	comp=Z,1µm,22.0s							
KSCO	**Kaye Shedlock'**	129.30	79	IAMs_20	IAMs_20	11 42 50.6		
	comp=Z,1µm,21.0s							
Z41A	**Richland Creek**	129.42	91	IAMs_20	IAMs_20	11 42 07.0		
	comp=Z,941nm,19.0s							
CRAG	**Craig**	129.52	45	IAMs_20	IAMs_20	11 38 29.6		
	comp=Z,1µm,21.0s							
ANWB	**Willy Bob**	129.55	133	IAMs_20	IAMs_20	11 44 49.7		
	comp=Z,1µm,19.0s							
RUBB	**Prince Rupert**	129.61	47	IAMs_20	IAMs_20	11 40 30.0		
	comp=Z,925nm,21.0s							
WLAR	**White Oak Lake**	129.62	91	IAMs_20	IAMs_20	11 46 46.3		
	comp=Z,1µm,21.0s							
143A	**Socs Landing,**	129.65	93	IAMs_20	IAMs_20	11 41 49.8		
	comp=Z,878nm,21.0s							
DLMT	**Dillon**	129.69	66	IAMs_20	IAMs_20	11 40 21.8		
	comp=Z,1µm,20.0s							
J18K	**Innoko River**	129.70	26	IAMs_20	IAMs_20	11 41 33.1		
	comp=Z,1µm,22.0s							
M22K	**Willow**	129.72	31	IAMs_20	IAMs_20	11 40 48.0		
	comp=Z,876nm,21.0s							
FID	**Port Fidalgo**	129.80	33	IAMs_20	IAMs_20	11 34 54.9		
	comp=Z,764nm,19.0s							
V35K	**Ketchikan**	129.92	46	IAMs_20	IAMs_20	11 39 36.9		
	comp=Z,937nm,21.0s							
SUCK	**Suckling Hills**	129.97	35	IAMs_20	IAMs_20	11 40 49.8		
	comp=Z,785nm,20.0s							
NEW	**Newport**	129.98	61	IAMs_20	IAMs_20	11 39 41.0		
	comp=Z,1µm,22.0s							
U33K	**Whale Pass**	130.04	44	IAMs_20	IAMs_20	11 38 53.8		
	comp=Z,953nm,20.0s							
HMT	**Hamilton**	130.06	35	IAMs_20	IAMs_20	11 41 25.0		
	comp=Z,1µm,21.0s							
MIAR	**Mount Ida**	130.09	90	IAMs_20	IAMs_20	11 41 59.8		
	comp=Z,923nm,20.0s							
060A	**Indiantown**	130.17	108	IAMs_20	IAMs_20	11 37 47.2		
	comp=Z,939nm,22.0s							
BERG	**Berg Lake**	130.26	35	IAMs_20	IAMs_20	11 36 52.9		
	comp=Z,924nm,22.0s							
BOZ	**Bozeman (W)**	130.30	67	IAMs_20	IAMs_20	11 47 12.9		
	comp=Z,1µm,18.0s							
G16K	**Koyuk River**	130.31	22	IAMs_20	IAMs_20	11 38 58.0		
	comp=Z,1µm,22.0s							
K22A	**Casper**	130.33	73	IAMs_20	IAMs_20	11 38 11.7		
	comp=Z,2µm,21.0s							
H17K	**Granite Mounta**	130.36	24	IAMs_20	IAMs_20	11 39 49.3		
	comp=Z,1µm,22.0s							
J19K	**Poorman**	130.40	26	IAMs_20	IAMs_20	11 42 03.6		
	comp=Z,1µm,21.0s							
X40A	**Basin Creek Fa**	130.40	91	IAMs_20	IAMs_20	11 41 16.7		
	comp=Z,895nm,20.0s							
BRAL	**Brvton**	130.48	98	IAMs_20	IAMs_20	11 44 05.2		
	comp=Z,1µm,20.0s							
WRAK	**Wrangell Islan**	130.54	44	IAMs_20	IAMs_20	11 39 10.2		
	comp=Z,978nm,21.0s							
KLU	**Klutina**	130.58	33	IAMs_20	IAMs_20	11 36 10.6		
	comp=Z,1µm,22.0s							
DWPF	**Disney Wildern**	130.58	106	IAMs_20	IAMs_20	11 42 29.2		
	comp=Z,1µm,18.0s							
451A	**Vernon**	130.65	100	IAMs_20	IAMs_20	11 42 25.5		
	comp=Z,1µm,22.0s							
YKU2	**Yakutat**	130.69	38	IAMs_20	IAMs_20	11 38 30.0		
	comp=Z,1µm,22.0s							
GHAJ	**Ghor Haditha**	130.70	262	IAMs_20	IAMs_20	12 02 31.1		
	comp=Z,1µm,19.0s							
CRQM	**Cirque**	130.72	35	IAMs_20	IAMs_20	11 41 01.7		
	comp=Z,974nm,22.0s							
YAH	**Yahtse**	130.79	36	IAMs_20	IAMs_20	11 39 22.2		
	comp=Z,850nm,22.0s							
TGL	**Tana Glacier**	130.80	35	IAMs_20	IAMs_20	11 41 03.7		
	comp=Z,946nm,22.0s							
ISLE	**Juniper Island**	130.81	36	IAMs_20	IAMs_20	11 37 08.1		
	comp=Z,978nm,22.0s							
H18K	**Honhosa River**	130.85	24	IAMs_20	IAMs_20	11 40 28.1		
	comp=Z,1µm,22.0s							
UALR	**University of**	130.87	91	IAMs_20	IAMs_20	11 41 51.2		
	comp=Z,950nm,20.0s							
J20K	**Nowinta River**	130.88	27	IAMs_20	IAMs_20	11 40 36.3		
	comp=Z,1µm,22.0s							
553A	**Crawfordville**	130.92	101	IAMs_20	IAMs_20	11 46 17.5		
	comp=Z,857nm,19.0s							
PCA	**Pinnacle**	131.00	37	IAMs_20	IAMs_20	11 39 16.0		
	comp=Z,2µm,22.0s							
VRDI	**Verde Repeater**	131.02	35	IAMs_20	IAMs_20	11 37 53.5		
	comp=Z,1µm,22.0s							
TABL	**Table Mountain**	131.02	36	IAMs_20	IAMs_20	11 39 39.6		
	comp=Z,1µm,22.0s							
BCPM	**Baas Point**	131.06	38	IAMs_20	IAMs_20	11 38 53.8		
	comp=Z,1µm,22.0s							
GRNC	**Granite Creek**	131.09	36		**PKiKP**	**10 52 35.8**	**0.0**	
GRNC				IAMs_20	IAMs_20	11 37 16.3		
	comp=Z,946nm,22.0s							
OGNE	**Ogallala**	131.10	78	IAMs_20	IAMs_20	11 43 20.0		
	comp=Z,1µm,20.0s							
656A	**Willston**	131.13	104	IAMs_20	IAMs_20	11 47 14.8		
	comp=Z,779nm,19.0s							
TRF	**Thorofare Moun**	131.13	29	IAMs_20	IAMs_20	11 47 33.2		
	comp=Z,894nm,21.0s							
U38A	**Gravette**	131.22	88	IAMs_20	IAMs_20	11 38 24.5		
	comp=Z,1µm,22.0s							
WHAR	**Wooly Hollow**	131.31	90	IAMs_20	IAMs_20	11 48 22.9		
	comp=Z,729nm,18.0s							
I20K	**Naaghedeneel**	131.34	26	IAMs_20	IAMs_20	11 39 04.6		
	comp=Z,945nm,21.0s							
LOGN	**Logan Glacier**	131.38	36	IAMs_20	IAMs_20	11 39 52.9		
	comp=Z,872nm,21.0s							
F17K	**Baldwin Penin**	131.45	22	IAMs_20	IAMs_20	11 40 44.2		
	comp=Z,1µm,22.0s							
Y45A	**Yeager Farm, C**	131.49	94	IAMs_20	IAMs_20	11 40 41.3		
	comp=Z,894nm,22.0s							
250A	**Grady**	131.53	98	IAMs_20	IAMs_20	11 51 38.8		
	comp=Z,805nm,20.0s							
O28M	**Mount Upton**	131.57	37	IAMs_20	IAMs_20	11 39 58.0		
	comp=Z,1µm,22.0s							
H19K	**Roundabout Mou**	131.57	25	IAMs_20	IAMs_20	11 41 44.4		
	comp=Z,1µm,22.0s							
O29M	**Mount Kennedy**	131.66	38	IAMs_20	IAMs_20	11 39 12.5		
	comp=Z,2µm,22.0s							
T35M	**Bob Quinn**	131.70	45	IAMs_20	IAMs_20	11 39 48.8		
	comp=Z,1µm,21.0s							
BVAR	**Borovoye Array**	131.80	306	PKP	**PKiKP**	**10 52 36.8**	**-0.4**	
	comp=Z,3.4nm,0.9s,baz=134,slow=4.2,SNR=9.2							
BRVK	**Borovoye**	131.87	306		**PKiKP**	**10 52 37.2**	**-0.1**	
BRVK	**Borovoye**	131.87	306	*c* iPKIKP	**PKPdf**	**10 52 35.6**	**-0.7**	
BRVK				pmax	pmax			
	comp=Z,14nm,2.5s							
BRVK				MLR	MLR			
	comp=Z,388nm,19.0s							
FCAR	**Ozark Folk Cen**	131.88	90	IAMs_20	IAMs_20	11 42 01.7		
	comp=Z,1µm,20.0s							
BWN	**Browne**	131.94	29	IAMs_20	IAMs_20	11 42 50.6		
	comp=Z,969nm,22.0s							
G19K	**Purcell Mounta**	131.98	24	IAMs_20	IAMs_20	11 41 34.3		
	comp=Z,974nm,21.0s							
LRAL	**Lakeview Retre**	132.04	97	IAMs_20	IAMs_20	11 41 31.5		
	comp=Z,861nm,21.0s							
S34M	**Telegraph Cree**	132.13	44	IAMs_20	IAMs_20	11 41 59.1		
	comp=Z,958nm,21.0s							
I21K	**Tanana**	132.22	27	IAMs_20	IAMs_20	11 40 04.8		
	comp=Z,1µm,22.0s							
HBAR	**Harrisburg**	132.32	92	IAMs_20	IAMs_20	11 43 16.3		
	comp=Z,856nm,21.0s							
HYT	**Haines Junctio**	132.40	38	IAMs_20	IAMs_20	11 40 58.1		
	comp=Z,802nm,21.0s							
C16K	**Lisburne Hills**	132.41	19	IAMs_20	IAMs_20	11 40 51.4		
	comp=Z,963nm,22.0s							
E18K	**Tukpahlearik C**	132.44	22	IAMs_20	IAMs_20	11 39 16.0		
	comp=Z,1µm,22.0s							
H21K	**Melozitna Rive**	132.45	27	IAMs_20	IAMs_20	11 40 58.8		
	comp=Z,1µm,22.0s							
LCAR	**Lake Charles**	132.49	91	IAMs_20	IAMs_20	11 44 55.9		
	comp=Z,848nm,19.0s							
456A	**Hilliard**	132.50	103	IAMs_20	IAMs_20	11 39 13.3		
	comp=Z,1µm,22.0s							
K24K	**Donnelly Dome**	132.54	31	IAMs_20	IAMs_20	11 43 58.4		
	comp=Z,879nm,21.0s							
P32M	**Atlin**	132.59	41	IAMs_20	IAMs_20	11 40 29.3		
	comp=Z,1µm,22.0s							
RDOG	**Red Dog Mine**	132.61	20	IAMs_20	IAMs_20	11 41 45.7		
	comp=Z,1µm,22.0s							
RSSD	**Black Hills**	132.62	73	IAMs_20	IAMs_20	11 44 27.2		
	comp=Z,932nm,19.0s							
S39A	**Bolivar**	132.73	88	IAMs_20	IAMs_20	11 43 52.1		
	comp=Z,1µm,19.0s							
I23K	**Minto, Yukon-K**	132.79	29	IAMs_20	IAMs_20	11 42 42.9		
	comp=Z,801nm,21.0s							
MGMO	**Mountain Grove**	132.81	89	IAMs_20	IAMs_20	11 52 55.6		
	comp=Z,863nm,20.0s							
DOT	**Dot Lake**	132.85	32	IAMs_20	IAMs_20	11 39 34.6		
	comp=Z,951nm,22.0s							
AKT	**Akhty**	132.96	280	*e*PKIKP	**PKiKP**	**10 52 41.5**	**+1.4**	
BCAR	**Beaver Creek A**	132.98	34		**PKPdf**	**10 52 37.6**	**-0.5**	
EGMT	**Eagleton**	132.98	66	IAMs_20	IAMs_20	11 43 21.0		
	comp=Z,1µm,21.0s							
N30M	**Aishikik Lake**	133.03	38	IAMs_20	IAMs_20	11 43 13.6		
	comp=Z,786nm,21.0s							
G21K	**Allakaket**	133.03	26	IAMs_20	IAMs_20	11 43 43.8		
	comp=Z,1µm,21.0s							
F20K	**Avaraart Lake**	133.04	24	IAMs_20	IAMs_20	11 41 55.3		
	comp=Z,1µm,22.0s							
ILAR	**Eielson Array**	133.06	30		**PKPdf**	**10 52 36.3**	**-1.9**	
ILAR	**Eielson Array**	133.06	30	PKP	**PKPdf**	**10 52 36.1**	**-2.1**	
	comp=Z,4.2nm,1.0s,baz=258,slow=1.7,SNR=18							
ILAR				PP	**PP**	**10 55 02.3**	**-3.3**	
	comp=Z,1.5nm,1.1s,baz=232,slow=5.6,SNR=4.1							
ILAR	**Eielson Array**	133.06	30	PKIKP	**PKPdf**	**10 52 36.3**	**-1.9**	
WHY	**Whitehorse**	133.06	40	IAMs_20	IAMs_20	11 42 50.7		
	comp=Z,1µm,22.0s							
HALT	**Halls**	133.24	93	IAMs_20	IAMs_20	11 44 06.7		
	comp=Z,806nm,20.0s							
BGNE	**Belgrade**	133.31	80	IAMs_20	IAMs_20	11 41 57.2		
	comp=Z,1µm,20.0s							
LNXT	**Lenox**	133.32	92	IAMs_20	IAMs_20	11 49 29.8		
	comp=Z,990nm,18.0s							
R33M	**Jennings River**	133.33	43	IAMs_20	IAMs_20	11 42 27.8		
	comp=Z,897nm,22.0s							
P33M	**Teslin, Yukon**	133.36	41	IAMs_20	IAMs_20	11 41 01.6		
	comp=Z,1µm,22.0s							
M29M	**Somme Creek**	133.40	36	IAMs_20	IAMs_20	11 40 44.5		
	comp=Z,1µm,21.0s							
PBMO	**Poplar Bluff**	133.41	91	IAMs_20	IAMs_20	11 42 22.2		
	comp=Z,1µm,21.0s							
C18K	**Utukok River**	133.43	21	IAMs_20	IAMs_20	11 39 44.4		
	comp=Z,859nm,22.0s							
N31M	**Braeburn, Yuko**	133.44	38	IAMs_20	IAMs_20	11 40 07.5		
	comp=Z,946nm,22.0s							
LAO	**LASA Array**	133.56	70	IAMs_20	IAMs_20	11 42 17.2		
	comp=Z,1µm,20.0s							
K30B	**Basset**	133.59	78	IAMs_20	IAMs_20	11 45 06.7		
	comp=Z,1µm,19.0s							
F21K	**Alatna River**	133.64	25	IAMs_20	IAMs_20	11 43 20.2		
	comp=Z,1µm,22.0s							
R40A	**Maddies Statio**	133.71	88	IAMs_20	IAMs_20	11 44 07.5		
	comp=Z,1µm,20.0s							
D19K	**Kuna River**	133.84	22	IAMs_20	IAMs_20	11 42 19.9		
	comp=Z,1µm,22.0s							
G23K	**Bananza Creek**	133.95	27	IAMs_20	IAMs_20	11 41 46.4		
	comp=Z,1µm,22.0s							
M30M	**Minto, Yukon**	133.99	37	IAMs_20	IAMs_20	11 41 00.1		
	comp=Z,1µm,22.0s							
257A	**Skidaway Islan**	134.01	103	IAMs_20	IAMs_20	11 45 39.3		
	comp=Z,992nm,21.0s							
L29M	**L29M**	134.02	36	IAMs_20	IAMs_20	11 41 17.9		
	comp=Z,844nm,22.0s							
C19K	**Lookout Ridge**	134.11	21	IAMs_20	IAMs_20	11 36 53.4		
	comp=Z,942nm,19.0s							
WVT	**Waverly**	134.

	comp=Z,998nm,22.0s									
W57A	**Gilead**	**137.12**	**102**		IAMs_20	IAMs_20	11 47 54.5			
	comp=Z,879nm,21.0s									
R49A	**Shelbyville**	**137.15**	**94**		IAMs_20	IAMs_20	11 43 06.0			
	comp=Z,787nm,21.0s									
BLO	**Bloomington**	**137.19**	**92**		IAMs_20	IAMs_20	11 51 51.2			
	comp=Z,824nm,19.0s									
P46A	**Rosedale**	**137.20**	**91**		IAMs_20	IAMs_20	11 44 49.7			
	comp=Z,1µm,22.0s									
KIV	**Kislovodsk**	**137.25**	**279**	*i*	PKiKP	**PKiKP**	**10 52 49.0**	**+0.3**		
KIV				*e*			10 55 30.7			
KIV				*e*	SS	SS	11 13 37.6	-1.5		
KIV				*e*	SSS	SSS	11 18 43.8			
KIV					pmax	pmax				
	comp=Z,13nm,1.1s									
S51A	**Beattyville**	**137.39**	**96**		IAMs_20	IAMs_20	11 47 42.3			
	comp=Z,976nm,20.0s									
MDND	**Maddock**	**137.46**	**73**		IAMs_20	IAMs_20	11 41 28.2			
	comp=Z,1µm,21.0s									
R50A	**Paris**	**137.55**	**95**		IAMs_20	IAMs_20	11 44 36.5			
	comp=Z,1µm,22.0s									
I37A	**Lemond, Waseca**	**137.56**	**82**		IAMs_20	IAMs_20	11 49 40.8			
	comp=Z,1µm,18.0s									
C27K	**Jago River**	**137.70**	**27**		IAMs_20	IAMs_20	11 44 50.7			
	comp=Z,1µm,21.0s									
SFIN	**Lafayette**	**137.84**	**91**		IAMs_20	IAMs_20	11 48 50.7			
	comp=Z,931nm,19.0s									
W59A	**Clinton**	**137.86**	**103**		IAMs_20	IAMs_20	11 45 05.1			
	comp=Z,1µm,21.0s									
E28M	**Babbage River**	**137.89**	**30**		IAMs_20	IAMs_20	11 47 47.8			
	comp=Z,772nm,21.0s									
U56A	**King**	**137.90**	**100**		IAMs_20	IAMs_20	11 44 43.4			
	comp=Z,934nm,22.0s									
P48A	**Milroy**	**137.94**	**93**		IAMs_20	IAMs_20	11 47 00.1			
	comp=Z,966nm,20.0s									
M44A	**Midewin, Midew**	**138.16**	**89**		IAMs_20	IAMs_20	11 44 45.2			
	comp=Z,1µm,22.0s									
KARP	**Karpathos**	**138.18**	**257**		IAMs_20	IAMs_20	12 05 41.8			
	comp=Z,1µm,21.0s									
BRTR	**Keskin Array B**	**138.40**	**267**		PKP	**PKPdf**	**10 52 49.4**	**+0.3**		
	comp=Z,1.5nm,0.9s,baz=135,slow=1.9,SNR=4.1									
BRTR	**Keskin Array B**	**138.40**	**267**	*c* *i*	PKiKP	**PKPdf**	**10 52 50.0**	**+0.9**		
BRTR					pmax	pmax				
	comp=Z,2.0nm,0.9s									
SOC	**Sochi**	**138.40**	**276**	*e*	PKiKP	**PKPdf**	**10 52 47.9**	**-0.9**		
SOC				*e*			10 55 36.9			
SOC				*e*	SS	SS	11 14 23.5	+31		
SOC				*e*	SSS	SSS	11 19 07.3			
ISP	**Isparta**	**138.40**	**262**		IAMs_20	IAMs_20	12 02 19.8			
	comp=Z,882nm,22.0s									
SVE	**Sverdlovsk**	**138.43**	**304**	*e*	PKiKP	**PKPdf**	**10 52 47.9**	**-0.5**		
HQIL	**Hanson Quary C**	**138.57**	**89**		IAMs_20	IAMs_20	11 47 42.0			
	comp=Z,1µm,19.0s									
BLA	**Blacksburg**	**138.57**	**100**		IAMs_20	IAMs_20	12 07 21.3			
	comp=Z,855nm,20.0s									
Q51A	**Peebles**	**138.61**	**95**		IAMs_20	IAMs_20	11 47 03.3			
	comp=Z,785nm,22.0s									
S54A	**Dingess, Beckl**	**138.62**	**98**		IAMs_20	IAMs_20	11 51 23.6			
	comp=Z,920nm,22.0s									
O48B	**Farmland**	**138.69**	**92**		IAMs_20	IAMs_20	11 47 12.0			
	comp=Z,930nm,20.0s									
SPMN	**Marine on St.**	**138.75**	**81**		IAMs_20	IAMs_20	11 47 40.1			
	comp=Z,1µm,21.0s									
N47A	**Urbana**	**138.91**	**91**		IAMs_20	IAMs_20	11 47 41.9			
	comp=Z,1µm,20.0s									
K43A	**Burlington**	**139.02**	**87**		IAMs_20	IAMs_20	11 43 18.1			
	comp=Z,1µm,22.0s									
O49A	**Covington**	**139.03**	**93**		IAMs_20	IAMs_20	11 47 28.0			
	comp=Z,920nm,20.0s									
ARTI	**Arti**	**139.04**	**302**	*i*	PKiKP	**PKPdf**	**10 52 48.9**	**-0.6**		
L46A	**Eue Claire**	**139.49**	**90**		IAMs_20	IAMs_20	11 48 32.2			
	comp=Z,706nm,20.0s									
AGMN	**Agassiz Nation**	**139.52**	**75**		IAMs_20	IAMs_20	11 50 36.8			
	comp=Z,1µm,18.0s									
ERBR	**Yeremizino-Bor**	**139.61**	**279**	*i*	PKiKP	**PKiKP**	**10 52 58.2**	**+4.9**		
ERBR				*e*			10 53 01.7			
ERBR				*e*			10 55 51.7			
ERBR					pmax	pmax				
	comp=Z,15nm,0.6s									
N49A	**Columbus Grove**	**139.68**	**93**		IAMs_20	IAMs_20	11 46 58.0			
	comp=Z,1µm,21.0s									
S57A	**Dark Hollow, R**	**139.71**	**101**		IAMs_20	IAMs_20	11 50 29.4			
	comp=Z,767nm,20.0s									
ACSO	**Alum Creek Sta**	**139.72**	**94**		IAMs_20	IAMs_20	11 51 38.1			
	comp=Z,1µm,20.0s									
T59A	**Double "B" Far**	**139.74**	**103**		IAMs_20	IAMs_20	11 46 38.0			
	comp=Z,1µm,21.0s									
Q54A	**Coxs Mills**	**139.78**	**98**		IAMs_20	IAMs_20	12 04 10.5			
	comp=Z,818nm,20.0s									
P53A	**Whipple**	**139.91**	**97**		IAMs_20	IAMs_20	11 46 41.9			
	comp=Z,757nm,20.0s									
O52A	**Adamsville**	**140.19**	**96**		IAMs_20	IAMs_20	11 59 44.1			
	comp=Z,822nm,21.0s									
E38A	**The Farm, Brul**	**140.35**	**81**		IAMs_20	IAMs_20	11 52 16.5			
	comp=Z,1µm,20.0s									
R58B	**Mineral**	**140.38**	**101**		IAMs_20	IAMs_20	11 46 57.1			
	comp=Z,1µm,21.0s									
ANN	**Anapa**	**140.40**	**275**	*i*	PKiKP	**PKiKP**	**10 53 01.0**	**+6.1**		
ANN				*e*			10 53 04.8			
ANN				*e*			10 55 48.0			
ANN					pmax	pmax				
	comp=E,19nm,1.2s									
ANN					pmax	pmax				
	comp=Z,48nm,1.6s									
ANN					pmax	pmax				
	comp=N,29nm,1.6s									
N51A	**Ashland**	**140.55**	**94**		IAMs_20	IAMs_20	12 05 37.9			
	comp=Z,1µm,22.0s									
O53A	**New Philadelph**	**140.59**	**96**		IAMs_20	IAMs_20	12 09 14.0			
	comp=Z,928nm,21.0s									
M50A	**Fremont**	**140.59**	**93**		IAMs_20	IAMs_20	11 48 31.3			
	comp=Z,1µm,20.0s									
Q56A	**Snyder Ridge,**	**140.62**	**99**		IAMs_20	IAMs_20	12 06 25.4			
	comp=Z,859nm,20.0s									
MCWV	**Mont Chateau**	**140.78**	**98**		IAMs_20	IAMs_20	12 08 38.0			
	comp=Z,1µm,22.0s									
CBN	**Corbin Frederi**	**140.82**	**102**		IAMs_20	IAMs_20	11 49 26.5			
	comp=Z,1µm,22.0s									
O54A	**Avella**	**140.94**	**97**		IAMs_20	IAMs_20	12 07 18.2			
	comp=Z,1µm,22.0s									
AAM	**Ann Arbor**	**140.98**	**92**		IAMs_20	IAMs_20	11 51 14.7			
	comp=Z,1µm,19.0s									
I45A	**Fountain**	**141.03**	**88**		IAMs_20	IAMs_20	11 49 32.3			
	comp=Z,1µm,20.0s									
J47A	**Sunmer**	**141.12**	**90**		IAMs_20	IAMs_20	11 49 22.5			
	comp=Z,1µm,20.0s									
YKA	**Yellowknife Ar**	**141.16**	**48**		PKhKP	PKPpre	10 52 47.1			
	comp=Z,1.8nm,0.9s,baz=228,slow=1.7,SNR=5.3									
YKA					PP	**PP**	**10 55 58.6**	**+2.5**		
	comp=Z,1.0nm,1.0s,baz=239,slow=6.5,SNR=3.7									
N53A	**Lisbon**	**141.20**	**96**		IAMs_20	IAMs_20	12 09 08.2			
	comp=Z,750nm,20.0s									
EYMN	**Ely**	**141.34**	**79**		IAMs_20	IAMs_20	11 50 18.7			
	comp=Z,1µm,20.0s									
EPLO	**Experimental L**	**141.49**	**75**		IAMs_20	IAMs_20	11 46 58.9			
	comp=Z,1µm,21.0s									
M52A	**Chesterland**	**141.51**	**95**		IAMs_20	IAMs_20	11 54 13.6			
	comp=Z,875nm,20.0s									
P57A	**Homestead Farm**	**141.53**	**100**		IAMs_20	IAMs_20	11 47 06.5			
	comp=Z,991nm,20.0s									
BBSR	**BB Station**	**141.67**	**121**		IAMs_20	IAMs_20	12 01 56.1			
	comp=Z,896nm,20.0s									
K50A	**Casco**	**141.84**	**92**		IAMs_20	IAMs_20	11 48 40.3			
	comp=Z,945nm,20.0s									
ALLY	**Alegheny Colle**	**142.18**	**96**		IAMs_20	IAMs_20	12 05 37.2			
	comp=Z,1µm,21.0s									
GLMI	**Grayling**	**142.40**	**88**		IAMs_20	IAMs_20	11 51 32.3			
	comp=Z,1µm,20.0s									
I49A	**Point Hope**	**142.61**	**91**		IAMs_20	IAMs_20	11 53 03.9			
	comp=Z,1µm,19.0s									
ERPA	**Erie**	**142.62**	**95**		IAMs_20	IAMs_20	11 49 44.4			
	comp=Z,866nm,21.0s									
MVL	**Millersville**	**142.72**	**101**		IAMs_20	IAMs_20	11 48 43.1			
	comp=Z,965nm,20.0s									
VRH	**Novokhopyorsk**	**142.88**	**286**	*e*	PKiKP	**PKPdf**	**10 52 54.8**	**-1.8**		
VRH					pmax	pmax				
	comp=Z,4.0nm,0.8s									
WUPA	**West Chester U**	**143.02**	**102**		IAMs_20	IAMs_20	11 51 29.9			
	comp=Z,713nm,20.0s									
N58A	**Sunbury**	**143.20**	**100**		IAMs_20	IAMs_20	12 03 57.9			
	comp=Z,885nm,21.0s									
P61A	**Hammonton**	**143.20**	**103**		IAMs_20	IAMs_20	11 50 34.6			
	comp=Z,956nm,19.0s									
M57A	**Sunshine Farm,**	**143.39**	**99**		IAMs_20	IAMs_20	11 53 03.9			
	comp=Z,1µm,19.0s									
WVNY	**West Valley, N**	**143.50**	**96**		IAMs_20	IAMs_20	11 50 18.0			
	comp=Z,999nm,19.0s									
L56A	**Greenwood**	**143.80**	**98**		IAMs_20	IAMs_20	12 04 40.8			
	comp=Z,887nm,20.0s									
KDZ	**Kurdzhali**	**143.87**	**261**		P	PKPab	10 52 55.9	+0.1		
PRD	**Provadia**	**144.03**	**265**		P	**PKPab**	**10 52 56.2**	**-0.2**		
VSR	**Storozhevoye**	**144.08**	**284**	*e*	PKHKP	PKPpre	10 52 54.0			
VSR					pmax	pmax				
	comp=Z,5.0nm,1.0s									
BRNJ	**Basking Ridge**	**144.10**	**102**		IAMs_20	IAMs_20	11 45 50.5			
	comp=Z,1µm,22.0s									
MEDO	**Medina**	**144.15**	**96**		IAMs_20	IAMs_20	11 54 33.2			
	comp=Z,1µm,21.0s									
RZN	**Rozhen**	**144.20**	**260**		P	**PKPab**	**10 52 57.0**	**-0.3**		
KSPA	**Keystone Colle**	**144.21**	**100**		IAMs_20	IAMs_20	11 48 34.5			
	comp=Z,1µm,22.0s									
VORR	**Voronezh**	**144.37**	**285**	*e*	PKiKP	PKPbc	10 52 58.0	+0.3		
VORR					pmax	pmax				
	comp=Z,88nm,0.4s									
TIRR	**Tirgusor**	**144.52**	**267**	⇓	PKiKP	**PKPab**	**10 52 57.9**	**-0.3**		
TIRR	**Tirgusor**	**144.52**	**267**	⇓	P	**PKPab**	**10 52 57.9**	**-0.3**		
JURR	**Jurilovca**	**144.52**	**268**	⇑	P	**PKPab**	**10 52 57.9**	**-0.3**		
J55A	**Hilton**	**144.53**	**96**		IAMs_20	IAMs_20	11 50 10.3			
	comp=Z,1µm,21.0s									
ELND	**Elena**	**144.60**	**263**	⇑	P	**PKPab**	**10 52 58.3**	**-0.3**		
BINY	**Binghamton**	**144.60**	**99**		IAMs_20	IAMs_20	12 04 50.9			
	comp=Z,1µm,20.0s									
K57A	**Scipio Center**	**144.75**	**98**		IAMs_20	IAMs_20	11 54 16.0			
	comp=Z,1µm,20.0s									
TLBR	**Topalu**	**144.76**	**267**	⇓	P	PKPbc	10 52 59.2	+0.1		
TPGR	**Topolog**	**144.81**	**268**	⇑	P	PKPbc	10 52 59.4	0.0		
N62A	**Caumsett State**	**144.82**	**103**		IAMs_20	IAMs_20	12 08 31.3			
	comp=Z,1µm,20.0s									
HARR	**Harsova**	**144.92**	**267**	⇓	PKiKP	**PKPab**	**10 52 59.4**	**-0.2**		
HARR	**Harsova**	**144.92**	**267**	⇓	P	**PKPab**	**10 52 59.4**	**-0.2**		
VAY	**Valandovo**	**144.94**	**258**	*i*	P	**PKPab**	**10 52 59.5**	**-0.3**		
SADO	**Sadowa**	**145.01**	**93**		IAMs_20	IAMs_20	11 51 46.1			
	comp=Z,1µm,19.0s									
L59A	**Walton**	**145.04**	**100**			**PKPbc**	**10 52 59.6**	**-0.6**		
L59A					IAMs_20	IAMs_20	12 09 53.6			
	comp=Z,1µm,20.0s									
KKB	**Krupnik**	**145.08**	**259**		P	**PKPbc**	**10 52 59.0**	**-1.3**		
PGB	**Panagyurishte**	**145.10**	**261**		P	**PKPbc**	**10 52 59.5**	**-0.9**		
LPSR	**Galich'ya Gora**	**145.10**	**286**	*e*	PKiKP	**PKPbc**	**10 52 59.0**	**-1.0**		
LPSR					pmax	pmax				
	comp=Z,33nm,0.8s									
CFR	**Carcaliu**	**145.18**	**268**	⇓	PKiKP	**PKPbc**	**10 53 00.4**	**-0.1**		
CFR	**Carcaliu**	**145.18**	**268**	⇓	P	**PKPbc**	**10 53 00.4**	**-0.1**		
BUKO	**Buck Lake**	**145.38**	**92**			**PKPbc**	**10 53 00.9**	**-0.2**		
BUKO					IAMs_20	IAMs_20	12 09 13.9			
	comp=Z,1µm,22.0s									
PECO	**Prince Edward**	**145.43**	**96**			**PKPdf**	**10 53 00.0**	**-1.2**		
KSCT	**Kent School, K**	**145.43**	**102**			**PKPdf**	**10 53 00.6**	**-0.8**		
PLNA	**Plana**	**145.43**	**260**		P	**PKPdf**	**10 53 01.1**	**-0.4**		
J57A	**Williamstown**	**145.51**	**98**			**PKPdf**	**10 53 00.8**	**-0.7**		
J57A					IAMs_20	IAMs_20	11 56 37.2			
	comp=Z,1µm,21.0s									
DELO	**Deloro Mine**	**145.56**	**95**			**PKPdf**	**10 53 00.7**	**-0.9**		
OHR	**Ohrid**	**145.62**	**256**	*i*	P	**PKPdf**	**10 53 01.8**	**0.0**		
VTS	**Vitosha**	**145.63**	**260**		P	**PKPdf**	**10 53 01.5**	**-0.4**		
M63A	**Gales Ferry**	**145.86**	**104**		IAMs_20	IAMs_20	12 08 46.7			
	comp=Z,1µm,21.0s									
SCTE	**Santa Cesarea**	**145.88**	**252**		IAMs_20	IAMs_20	12 11 11.5			
	comp=Z,1µm,20.0s									
ISR	**Istrita**	**145.91**	**266**	⇓	PKP2	**PKPdf**	**10 53 02.4**	**+0.2**		
ISR	**Istrita**	**145.91**	**266**	⇓	P	**PKPdf**	**10 53 02.4**	**+0.2**		
TIP	**Timpagrande**	**145.94**	**249**		IAMs_20	IAMs_20	12 07 27.1			
	comp=Z,1µm,22.0s									
TIP	**Timpagrande**	**145.94**	**249**	⇓	P	**PKPdf**	**10 53 02.7**	**+0.3**		
MPEP	**Malo Peshtene**	**145.95**	**261**		P	**PKPdf**	**10 53 02.4**	**+0.2**		
SKO	**Skopje**	**145.99**	**257**	*i*	P	**PKPbc**	**10 53 03.1**	**-0.1**		
UCCT	**U. Connecticut**	**146.08**	**103**		IAMs_20	IAMs_20	11 47 20.6			
	comp=Z,1µm,21.0s									
MILM	**Milestii Mici**	**146.10**	**270**	⇑	*i* PKP	**PKPdf**	**10 53 01.8**	**-0.5**		
	comp=Z,350nm,5.8s									
MILM	**Milestii Mici**	**146.10**	**270**	*c*	*i* PKP2	**PKPdf**	**10 53 02.0**	**-0.3**		
MILM					pmax	pmax				
	comp=Z,350nm,5.8s									
TRY	**Troy**	**146.11**	**101**		PKPbc	**PKiKP**	**10 53 05.7**	**-1.1**		
TRY					IAMs_20	IAMs_20	11 53 24.8			
	comp=Z,1µm,20.0s									
NEHR	**Nehoiu**	**146.25**	**266**	⇑	P	**PKPbc**	**10 53 03.7**	**-0.2**		
KEST	**Kesra**	**146.26**	**237**		PKPbc	**PKPab**	**10 53 04.7**	**-0.3**		
	comp=Z,18nm,1.0s,baz=180,slow=2.0,SNR=12									
J59A	**Piesco**	**146.27**	**99**		PKPdf	**PKPbc**	**10 53 03.6**	**-0.4**		
J59A					IAMs_20	IAMs_20	12 02 13.9			
	comp=Z,1µm,20.0s									
VRI	**Vrincioaia**	**146.36**	**267**	⇓	PKP2	**PKPbc**	**10 53 03.7**	**-0.5**		
VRI	**Vrincioaia**	**146.36**	**267**		PKP	**PKPdf**	**10 53 03.2**	**+0.3**		
VRI	**Vrincioaia**	**146.36**	**267**	⇓	P	**PKPbc**	**10 53 03.7**	**-0.5**		
L61B	**Northampton**	**146.37**	**102**		IAMs_20	IAMs_20	12 03 58.4			
	comp=Z,1µm,22.0s									
PLORS	**Plostina Array**	**146.38**	**267**		PKP	**PKPdf**	**10 53 03.5**	**+0.6**		
PLOR	**Plostina**	**146.39**	**267**	⇑	PKP2	**PKPdf**	**10 53 03.4**	**+0.5**		
PLOR	**Plostina**	**146.39**	**267**	⇑	P	**PKPdf**	**10 53 03.4**	**+0.5**		
MLR	**Muntele Rosu**	**146.47**	**266**	⇓	PKP2	**PKPdf**	**10 53 03.5**	**+0.3**		
MLR	**Muntele Rosu**	**146.47**	**266**	⇓	P	**PKPdf**	**10 53 03.5**	**+0.3**		
COVR	**Voineasa-Covas**	**146.60**	**267**	⇓	P	**PKPdf**	**10 53 03.7**	**+0.3**		
M65A	**Busby, Falmout**	**146.64**	**105**		IAMs_20	IAMs_20	11 57 20.3			
	comp=Z,1µm,20.0s									
K62A	**Royalston**	**146.74**	**102**		PKPdf	**PKPdf**	**10 53 03.2**	**-0.4**		
K62A					IAMs_20	IAMs_20	12 05 32.3			
	comp=Z,1µm,21.0s									
L64A	**Middleborough**	**146.84**	**105**		IAMs_20	IAMs_20	12 03 29.6			
	comp=Z,1µm,20.0s									
ONER	**Baraj Valea Uz**	**146.86**	**268**	⇑	P	**PKPdf**	**10 53 04.5**	**+0.8**		
HRV	**Adam Dziewonsk**	**146.94**	**103**		PKPdf	**PKPdf**	**10 53 03.7**	**-0.2**		
HRV	**Adam Dziewonsk**	**146.94**	**103**		IAMs_20	IAMs_20	11 47 41.5			
	comp=Z,1µm,22.0s									
HRV	**Adam Dziewonsk**	**146.94**	**103**		PKiKP	**PKPdf**	**10 53 03.7**	**-0.2**		
WES	**Weston**	**146.96**	**104**		IAMs_20	IAMs_20	11 47 17.9			
	comp=Z,1µm,22.0s									
CUC	**Castrocucco**	**147.03**	**249**		PKPdf	**PKPdf**	**10 53 04.0**	**-0.2**		
WBO	**Williamsburg**	**147.04**	**96**		PKPdf	**PKPdf**	**10 53 04.5**	**+0.5**		
WBO					IAMs_20	IAMs_20	11 55 08.8			
	comp=Z,920nm,21.0s									
DOPR	**Dopca**	**147.08**	**266**	⇑	P	**PKPbc**	**10 53 05.3**	**-0.9**		
LONY	**Lake Ozonia**	**147.09**	**98**		PKPdf	**PKPdf**	**10 53 03.5**	**-0.6**		
LONY					IAMs_20	IAMs_20	11 50 18.0			
	comp=Z,879nm,21.0s									
J61A	**Chester**	**147.11**	**101**		IAMs_20	IAMs_20	11 56 14.2			
	comp=Z,1µm,20.0s									
BOVS	**Bovan**	**147.13**	**260**	⇑	P	**PKPdf**	**10 53 04.5**	**+0.3**		
SORM	**Soroca**	**147.18**	**272**	⇑	PKP2	**PKPbc**	**10 53 05.8**	**-0.6**		
SORM	**Soroca**	**147.18**	**272**	⇑	P	**PKPbc**	**10 53 05.8**	**-0.6**		
PDG	**Podgorica**	**147.37**	**256**		IAMs_20	IAMs_20	12 03 32.0			
	comp=Z,1µm,21.0s									
TNR	**Turnu Rosu**	**147.39**	**265**	⇓	PKP2	**PKPdf**	**10 53 05.4**	**+0.8**		
TNR	**Turnu Rosu**	**147.39**	**265**	⇓	P	**PKPdf**	**10 53 05.4**	**+0.8**		
LOT	**Lotru**	**147.49**	**264**	⇓	P	**PKPbc**	**10 53 07.0**	**-0.5**		
HNH	**Hanover**	**147.51**	**101**		PKPdf	**PKPdf**	**10 53 04.2**	**-0.6**		
HNH					IAMs_20	IAMs_20	11 50 44.7			
	comp=Z,1µm,22.0s									
ACER	**Acerenza**	**147.61**	**250**		PKPdf	**PKPdf**	**10 53 04.0**	**-1.2**		
MOS	**Moscow**	**147.65**	**289**	*i*	PKP2	**PKPbc**	**10 53 06.3**	**-1.1**		
MOS				*e*			10 56 31.8			
MOS				*e*	SS	SS	11 15 33.5	-5.6		
MOS					pmax	pmax				
	comp=Z,39nm,0.6s									
HERR	**Herculane**	**147.72**	**262**	⇑	P	**PKPbc**	**10 53 08.1**	**+0.1**		
OBN	**Obninsk**	**147.76**	**288**		PKPdf	**PKPdf**	**10 53 04.9**	**+0.1**		
OBN	**Obninsk**	**147.76**	**288**	*c*	PKP2	**PKPbc**	**10 53 06.9**	**-0.8**		
OBN				*i*	SS	SS	11 15 33.1	-7.3		
OBN					pmax	pmax				
	comp=Z,56nm,1.1s									
MDVR	**Moldovita**	**147.98**	**261**	⇑	P	**PKPdf**	**10 53 06.9**	**+1.2**		
LBNH	**Lisbon**	**148.08**	**101**		PKPbc	**PKiKP**	**10 53 10.3**	**-0.5**		
LBNH					IAMs_20	IAMs_20	12 02 34.9			
	comp=Z,1µm,21.0s									
LBNH	**Lisbon**	**148.08**	**101**		PKP2	**PKiKP**	**10 53 10.3**	**-0.5**		
I62A	**Tamworth**	**148.09**	**102**		IAMs_20	IAMs_20	12 01 59.0			
	comp=Z,1µm,21.0s									
MNTQ	**Montreal, Queb**	**148.20**	**97**		PKPdf	**PKPdf**	**10 53 06.4**	**+0.5**		
VLDQ	**Val d'Or**	**148.21**	**90**		IAMs_20	IAMs_20	12 12 01.6			
	comp=Z,976nm,20.0s									
TRQ	**Mont Tremblant**	**148.28**	**96**			**PKPab**	**10 53 11.9**	**-0.7**		
BURAR	**Bucovina Array**	**148.33**	**268**			**PKPbc**	**10 53 10.2**	**+0.6**		
BURAR	**Bucovina Array**	**148.33**	**268**	⇑	PKP2	**PKiKP**	**10 53 10.6**	**-0.7**		
BURAR	**Bucovina Array**	**148.33**	**268**	⇑	P	**PKiKP**	**10 53 10.6**	**-0.7**		
BUR08	**Bucovina Ar. S**	**148.36**	**268**			**PKPbc**	**10 53 10.2**	**+0.4**		
KMPD	**K-Podol'skiy**	**148.39**	**271**		PKP	**PKPbc**	**10 53 08.3**	**-1.3**		
AK07	**Malin Array Si**	**148.39**	**276**		PKP	**PKPbc**	**10 53 08.9**	**-0.7**		
AK09	**Malin Array Si**	**148.40**	**276**		PKP	**PKPbc**	**10 53 08.9**	**-0.7**		
AK10	**Malin Array Si**	**148.40**	**276**		PKP	**PKPbc**	**10 53 08.9**	**-0.7**		
AK05	**Malin Array Si**	**148.44**	**276**		PKP	**PKPbc**	**10 53 08.9**	**-0.8**		
AK02	**Malin Array Si**	**148.46**	**276**		PKP	**PKPbc**	**10 53 08.9**	**-0.8**		
SGRT	**San Giovanni R**	**148.47**	**251**		PKPbc	**PKPbc**	**10 53 10.2**	**0.0**		
SGRT					IAMs_20	IAMs_20	12 13 22.0			
	comp=Z,1µm,20.0s									
AK12	**Malin Array Si**	**148.48**	**276**		PKP	**PKPbc**	**10 53 09.0**	**-0.8**		
AKASG	**Malin Array Be**	**148.48**	**276**			**PKPbc**	**10 53 09.0**	**-0.8**		
AKASG	**Malin Array Be**	**148.48**	**276**		PKPbc	**PKPdf**	**10 53 07.5**	**+1.3**		
	comp=Z,7.2nm,0.8s,baz=110,slow=2.2,SNR=19									
AKASG	**Malin Array Be**	**148.48**	**276**	*c*	PKP2	**PKPbc**	**10 53 09.0**	**-0.8**		
AKASG					pmax	pmax				
	comp=Z,7.0nm,0.8s									
AKBB	**Malin Array Si**	**148.48**	**276**		PKP	**PKPbc**	**10 53 08.6**	**-1.2**		
KIEV	**Kiev**	**148.49**	**276**			**PKPbc**	**10 53 08.6**	**-1.2**		
KIEV	**Kiev**	**148.49**	**276**		IAMs_20	IAMs_20	12 13 05.7			
	comp=Z,1µm,22.0s									
KIEV	**Kiev**	**148.49**	**276**		PKP2	**PKPbc**	**10 53 08.6**	**-1.2**		
KIEV	**Kiev**	**148.49**	**276**		PKP	**PKPbc**	**10 53 08.6**	**-1.2**		
KIEV	**Kiev**	**148.49**	**276**	⇑	P	**PKPbc**	**10 53 08.2**	**-1.6**		
MDT	**Midelt**	**148.49**	**215**		PKPbc	**PKPbc**	**10 53 10.8**	**+0.2**		
	comp=Z,7.6nm,1.1s,baz=193,slow=5.0,SNR=5.9									
AK14	**Malin Array Si**	**148.49**	**276**		PKP	**PKPbc**	**10 53 08.8**

comp=Z,2µm,23.4s
FINES FINESS Array B 155.71 294 PKPbc PKPdf 10 53 25.7 +9.1
comp=Z,2.9nm,0.8s,baz=74,slow=4.4,SNR=10
FINES PKPab **PKPab 10 53 42.5 -0.8**
comp=Z,7.2nm,1.1s,baz=108,slow=4.5,SNR=6.7
PSMN Pico do Norte, 155.78 181 eLR LR 11 47 50.2
VADS Vadso 156.51 315 ePKPab **PKPab 10 53 46.8 +0.3**
VADS eSS SS 11 17 18.2 +2.0
VADS IVMs_BB IVMs_BB 11 50 41.8
comp=Z,744nm,3.2s
CMLA Cha da Macela 156.54 180 eLR LR 11 48 00.4
PSET Sete Cidades 156.60 180 eLR LR 11 47 50.1
CLL Collm 156.71 262 ePKP2 **PKPab 10 53 48.0 +0.2**
CLL pmax pmax
comp=Z,35nm,2.1s
CLL MLR MLR
comp=Z,2µm,19.5s
PICO Pico 157.21 174 eLR LR 11 47 57.4
HOPEN Hopen 157.30 332 ePKPab **PKPab 10 53 47.0 -2.7**
ROSA Rosais 157.44 175 eLR LR 11 48 10.7
PAGU Agualva, Azore 157.53 177 eLR LR 11 48 01.1
ARA0 ARCESS Array S 157.80 314 ePKPab **PKPab 10 53 50.9 -1.2**
ARA0 ePP **PP 10 57 33.3 +0.8**
ARA0 eSS SS 11 17 31.3 +1.2
ARA0 IVMs_BB IVMs_BB 11 49 00.4
comp=Z,785nm,3.3s
ARCES ARCESS Array B 157.80 314 PKPab **PKPab 10 53 51.5 -0.6**
comp=Z,17nm,1.0s,baz=90,slow=3.6,SNR=17
PGAV Gavieira, Arco 158.06 217 ePP PP 10 57 32.4 -1.5
HAMF Hammerfest 158.45 316 ePKPab **PKPab 10 53 53.7 -1.1**
HAMF ePP **PP 10 57 35.4 -0.5**
HAMF eSS SS 11 17 34.9 -2.0
HAMF IVMs_BB IVMs_BB 11 50 24.2
comp=Z,999nm,3.1s
SPA0 Spitsbergen Ar 158.48 338 ePKPab **PKPab 10 53 54.3 -0.6**
SPITS Spitsbergen Ar 158.48 338 PKPab **PKPab 10 53 54.4 -0.4**
comp=Z,12nm,0.9s,baz=42,slow=4.5,SNR=5.9
KTK1 Kautokeino 158.58 312 ePKPab **PKPab 10 53 54.1 -1.3**
KTK1 ePP **PP 10 57 37.4 +0.6**
KTK1 eSS SS 11 17 37.5 -0.8
KTK1 IVMs_BB IVMs_BB 11 45 32.2
comp=Z,479nm,3.1s
KBS Kingsbay 158.84 341 ePKPab **PKPab 10 53 56.0 -0.4**
KBS eSS SS 11 17 41.7 +1.0
KBS IVMs_BB IVMs_BB 11 52 05.9
comp=Z,294nm,3.8s
JETT Jettan, Norway 159.59 314 ePKPab **PKPab 10 53 58.7 -1.2**
JETT ePP **PP 10 57 43.4 +1.1**
TRO Tromso 160.11 314 ePKPab **PKPab 10 54 01.0 -1.1**
TRO ePP **PP 10 57 45.4 +0.4**
TRO eSS SS 11 17 51.6 -2.8
TRO IVMs_BB IVMs_BB 11 49 09.8
comp=Z,572nm,3.2s
HFS Hagfors 160.90 284 PKPab **PKPab 10 54 05.1 -0.7**
comp=Z,4.4nm,0.9s,baz=116,slow=6.6,SNR=5.7
FAUS Fauske 161.50 307 ePKPab **PKPab 10 54 07.3 -0.9**
FAUS ePP **PP 10 57 52.0 -0.6**
FAUS eSS SS 11 18 10.7 +1.5
STEI Steigen 161.51 309 ePKPab **PKPab 10 54 07.2 -1.0**
NEEM North Greenlan 161.69 17 *i* P **PKPab 10 54 03.2 -6.0**
NEEM IAmb IAmb 10 54 08.6
comp=Z,26nm,1.1s
MOR8 Moi Rana 161.81 303 ePKPab **PKPab 10 54 07.6 -2.0**
MOR8 ePP **PP 10 57 55.3 +1.0**
MOR8 eSS SS 11 18 11.6 -1.0
NC602 NORSAR Array S 162.10 285 ePKPab **PKPab 10 54 11.3 +0.3**
NC602 ePP **PP 10 57 57.4 +1.4**
NC602 eSS SS 11 18 15.7 -0.1
NC602 IVMs_BB IVMs_BB 11 51 23.6
comp=Z,237nm,12.8s
LOF Lofoten 162.14 309 ePKPab **PKPab 10 54 09.5 -1.5**
LOF eSS SS 11 18 16.6 +0.7
VAGH Vaagaholmen 162.29 305 ePKPab **PKPab 10 54 10.8 -0.9**
VAGH ePP **PP 10 57 57.8 +1.1**
VAGH eSS SS 11 18 21.5 +4.1
LEIR Leirfjorden 162.34 303 ePKPab **PKPab 10 54 10.7 -1.2**
LEIR ePP **PP 10 57 56.3 -0.8**
NOA NORSAR Array B 162.35 286 PKP **PKPdf 10 53 23.7 -0.8**
comp=Z,0.3nm,0.8s,baz=105,slow=1.6,SNR=1.6
STOK Stokkvaagen 162.39 304 ePKPab **PKPab 10 54 10.8 -1.3**
HOMB Homborsund 162.66 275 ePKPab **PKPab 10 54 11.9 -1.6**
KONO Kongsberg 162.66 281 ePKPab **PKPab 10 54 11.7 -1.8**
NSS Namsos 162.71 297 ePKPab **PKPab 10 54 11.9 -1.7**
DAG Danmarks Havn 164.17 354 *i* P **PKPab 10 54 16.4 -3.3**
DAG IAmb IAmb 10 54 18.9
comp=Z,26nm,1.1s
EKA Eskdalemuir Ar 166.84 254 PKPab **PKPab 10 54 32.8 +0.7**
comp=Z,0.6nm,0.6s,baz=146,slow=3.9,SNR=2.1
SUMG Summit 167.56 18 *i* P **PKPab 10 54 34.1 -1.1**
SUMG IAmb IAmb 10 54 36.6
comp=Z,16nm,1.1s

*TXNET **23** 10:42:57.2, 31.7°N±0.9° × 104.4°W±°, h6km ± 1km, ML2.7/16, Error ellipse: s-maj=1.8km s-min=1.2km az=66.2, final*
*NEIC **23** 10:42:57.2 ± 1.0, 31.690°N ± 0.007° × 104.31°W ± 0.02, h5km ± 1km, mb_Lg2.6/23, ML2.2/16, ML2.6/44, Error ellipse: s-maj=3.0km s-min=2.6km az=65.0*
*NEIC **23** 10:42:57.2 ± 1.1, 31.68°N ± 0.01° × 104.29°W ± 0.02, h6km ± 4km, Error ellipse: s-maj=2.3km s-min=1.6km az=221.0*
ISC 23 10:42:57.3 ± 0.9, 31.69°N ± 0.02° × 104.31°W ± 0.02, h10km ± 6km, n62, σ1s48/78, 9C, Western Texas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TPB09	**Culberson Coun**	**0.09**	**3**	⇑P		**Pg**	**10 43 09.1**	**+0.2**
TPB09				S		**Sg**	**10 43 01.6**	**-0.2**
TPB11	**China Draw**	**0.34**	**43**	⇑P		**Pg**	**10 43 04.3**	**+0.2**
TPB11				S		**Sg**	**10 43 08.8**	**+0.1**
TPB13	**Reeves - Culbe**	**0.41**	**108**	S		**Sg**	**10 43 11.4**	**+0.4**
PECS	**Pecos**	**0.49**	**130**			**Pg**	**10 43 07.1**	**+0.2**
PECS				Sg		**Sg**	**10 43 13.9**	**+0.5**
PECS	**Pecos**	**0.49**	**130**	P		**Pg**	**10 43 07.1**	**+0.2**
PECS				S		**Sg**	**10 43 13.7**	**+0.3**
TPB07	**Mentone**	**0.56**	**101**	P		**Pb**	**10 43 08.8**	**-0.4**
TPB07				S		**Sb**	**10 43 16.5**	**-0.7**
TPB12	**Southwest of T**	**0.56**	**147**	⇑P		**Pg**	**10 43 08.5**	**+0.3**
TPB12				S		**Sg**	**10 43 15.7**	**+0.2**
TPB10	**Southeast of T**	**0.62**	**130**	⇑P		**Pb**	**10 43 09.7**	**-0.6**
TPB10				S		**Sg**	**10 43 18.1**	**+0.6**
CLNB	**Carlsbad**	**0.68**	**32**	P		**Pg**	**10 43 10.8**	**+0.3**
CLNB				S		**Sb**	**10 43 20.3**	**-0.6**
PCOS	**Crockett Middl**	**0.73**	**112**	S		**Sb**	**10 43 21.9**	**-0.5**
CBET	**Carlsbad E Tow**	**0.78**	**20**			**Pg**	**10 43 12.5**	**+0.1**
CBET	**Carlsbad E Tow**	**0.78**	**20**	P		**Pg**	**10 43 12.5**	**+0.1**
CLN7	**Carlsbad 7**	**0.84**	**30**			**Pg**	**10 43 13.5**	**-0.1**
CLN7	**Carlsbad 7**	**0.84**	**30**	P		**Pg**	**10 43 13.4**	**-0.1**
TPB01	**Permian Basin**	**0.87**	**149**	⇑P		**Pg**	**10 43 13.6**	**-0.4**
TPB01				S		**Sg**	**10 43 24.7**	**-0.6**
TPB03	**Saragosa**	**0.91**	**131**	⇑P		**Pb**	**10 43 14.9**	**-0.2**
TPB03				S		**Sb**	**10 43 26.8**	**-0.5**
MNTX	**Cornudas Mount**	**0.92**	**271**			**Pg**	**10 43 15.1**	**+0.1**
MNTX				Sg		**Sg**	**10 43 27.0**	**+0.1**
MNTX	**Cornudas Mount**	**0.92**	**271**	⇑P		**Pg**	**10 43 15.1**	**+0.1**
MNTX				S		**Sg**	**10 43 27.2**	**+0.3**
TPB06	**Permian Basin**	**0.93**	**92**	P		**Pb**	**10 43 15.5**	**-0.1**
TPB06				S		**Sb**	**10 43 28.0**	**+0.1**
HTMS	**Hat Mesa**	**0.97**	**36**			**Pg**	**10 43 15.8**	**-0.2**
HTMS	**Hat Mesa**	**0.97**	**36**	P		**Pg**	**10 43 15.8**	**-0.2**
HTMS				S		**Sb**	**10 43 29.2**	**-0.1**
TPB04	**Verhalen**	**1.02**	**119**	P		**Pb**	**10 43 17.0**	**-0.1**
NM01	**Eunice**	**1.02**	**49**	P		**Pg**	**10 43 16.8**	**-0.1**
NM01				S		**Sb**	**10 43 30.4**	**-0.3**
TPB16	**Coyonosa**	**1.06**	**121**	P		**Pb**	**10 43 17.7**	**-0.1**
VHRN	**Van Horn**	**1.07**	**213**			**Pg**	**10 43 17.6**	**-0.2**
VHRN				IAML			10 43 38.7	
	127nm,0.5s							
VHRN				IAML			10 43 40.3	
	113nm,0.4s							
VHRN	**Van Horn**	**1.07**	**213**	P		**Pg**	**10 43 17.6**	**-0.2**
TPB05	**Hovey Rd**	**1.14**	**132**	⇑P		**Pg**	**10 43 18.8**	**-0.3**
TPB05				S		**Sg**	**10 43 33.6**	**-0.3**
TPB15	**Southwest of C**	**1.15**	**114**	P		**Pb**	**10 43 19.3**	**0.0**
MNHN	**Monahans**	**1.36**	**104**			**Pg**	**10 43 22.9**	**-0.1**
MNHN						**Sn**	**10 43 41.3**	**+0.7**
MNHN	**Monahans**	**1.36**	**104**	P		**Pb**	**10 43 22.8**	**-0.1**
MNHN				S		**Sn**	**10 43 41.4**	**+0.7**
CPRX	**Cap Rock**	**1.39**	**15**			**Pn**	**10 43 23.3**	**+0.4**
CPRX	**Cap Rock**	**1.39**	**15**	P		**Pn**	**10 43 23.4**	**+0.4**
ALPN	**Alpine**	**1.43**	**156**			**Pn**	**10 43 23.3**	**-0.2**
ALPN				IAML			10 43 51.3	
	122nm,0.3s							
ALPN	**Alpine**	**1.43**	**156**	⇑P		**Pn**	**10 43 23.2**	**-0.2**
ODSA	**Odessa**	**1.56**	**73**			**Pn**	**10 43 24.8**	**-0.3**
ODSA						**Sn**	**10 43 45.9**	**+0.5**
ODSA	**Odessa**	**1.56**	**73**	P		**Pb**	**10 43 25.9**	**-0.4**
ODSA				S		**Sn**	**10 43 45.8**	**+0.4**
TMB04	**Seminole**	**1.81**	**58**	P		**Pb**	**10 43 30.1**	**-0.4**
EPT	**El Paso**	**1.88**	**273**	Pn		**Pn**	**10 43 29.4**	**-0.2**
EPT				IAML			10 43 59.5	
	comp=E,34nm,0.3s							
EPT				IAML			10 44 01.8	
	comp=N,45nm,0.3s							
TMB02	**Rankin**	**2.00**	**103**	P		**Pb**	**10 43 33.1**	**-0.7**
TMB05	**Klondike**	**2.28**	**65**	P		**Pb**	**10 43 37.3**	**-1.3**
TX31	**Lajitas Ar. Si**	**2.41**	**167**			**Pn**	**10 43 37.2**	**+0.4**
TX31	**Lajitas Ar. Si**	**2.41**	**167**	P		**Pn**	**10 43 38.7**	**+1.9**
TXAR	**Lajitas Array**	**2.41**	**167**			**Pn**	**10 43 36.8**	**0.0**
SAND	**Sanderson**	**2.55**	**132**			**Pn**	**10 43 38.7**	**-0.1**
SAND				IAmb_Lg			10 44 18.5	
	comp=Z,16nm,0.8s							
MSTX	**Muleshoe**	**2.62**	**29**			**Pn**	**10 43 40.4**	**+0.6**
SGCY	**Sterling City**	**2.72**	**84**			**Pn**	**10 43 40.6**	**-0.5**
SGCY				IAmb_Lg			10 44 27.5	
	comp=Z,24nm,1.1s							
POST	**Post**	**2.75**	**59**	Pn		**Pn**	**10 43 41.4**	**-0.1**
OZNA	**Ozona**	**2.83**	**105**	Pn		**Pn**	**10 43 44.0**	**+1.4**
CRNM	**Carthage**	**3.05**	**319**			**Pn**	**10 43 45.1**	**-0.6**
SN05	**Snyder 5**	**3.13**	**67**	IAmb_Lg			10 44 45.2	
	comp=Z,16nm,0.8s							
BNM	**Barren Site**	**3.14**	**322**			**Pn**	**10 43 47.9**	**+0.8**
Y22A	**Socorro**	**3.17**	**316**	Pn		**Pn**	**10 43 48.2**	**+0.8**
Y22A				IAML			10 44 38.5	
	comp=N,17nm,0.4s							
SN07	**Snyder 07**	**3.21**	**63**	Pn		**Pn**	**10 43 47.8**	**-0.1**
SN07				IAmb_Lg			10 44 37.5	
	comp=Z,20nm,0.7s							
SBM	**South Baldy**	**3.33**	**314**	Pn		**Pn**	**10 43 49.5**	**-0.3**
DKNS	**Dickens**	**3.47**	**54**	Pn		**Pn**	**10 43 51.2**	**-0.3**
DKNS				IAmb_Lg			10 44 50.5	
	comp=Z,15nm,0.7s							
AMTX	**Amarillo**	**3.88**	**34**	Pn		**Pn**	**10 43 57.5**	**+0.5**
APMT	**Aspermont**	**3.90**	**64**	Pn		**Pn**	**10 43 57.6**	**+0.4**
APMT				IAmb_Lg			10 45 10.7	
	comp=Z,13nm,1.0s							
DRIO	**Del Rio**	**3.90**	**124**	IAmb_Lg			10 45 03.8	
	comp=Z,15nm,0.9s							
JCT	**Junction City**	**4.05**	**106**	IAmb_Lg			10 45 09.3	
	comp=Z,12nm,0.9s							
ABTX	**Abilene, Hawle**	**4.07**	**75**	Pn		**Pn**	**10 43 59.6**	**0.0**
ABTX				IAmb_Lg			10 45 10.3	
	comp=Z,11nm,0.7s							
RTBA	**Rita Blanca**	**4.92**	**15**	IAmb_Lg			10 45 46.7	
	comp=Z,11nm,0.9s							
T25A	**Trinidad**	**5.44**	**359**	Pn		**Pn**	**10 44 18.8**	**+0.2**

*IDC **23** 10:47:07.3 ± 1.4, 20.01°S × 169.64°E, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=40.2km s-min=32.7km az=73.0*
*NEIC **23** 10:47:19.9 ± 1.6, 20.7°S ± 0.1° × 169.7°E ± 0.1, h98km ± 12km, mb4.3/10, Error ellipse: s-maj=17.5km s-min=13.5km az=211.0*
*NOU **23** 10:47:20.1, 20.36°S × 169.43°E, h81km, MLv4.6/15, Vanuatu Islands*
ISC 23 10:47:19.8 ± 0.9, 20.37°S ± 0.05° × 169.5°E ± 0.1, h100km, n38, σ1s18/41, mb4.0/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
INH	**Isangel**	**0.84**	**347**	P		**Pn**	**10 47 37.7**	**-0.9**
INH	**Isangel**	**0.84**	**347**	P		**Sn**	**10 47 51.9**	**-0.8**
DVP	**Devils Point**	**2.90**	**335**	P		**Pn**	**10 48 04.1**	**-0.2**
PINNC	**Pines Island,**	**2.92**	**220**			**Pn**	**10 48 03.8**	**-0.8**
PINNC				Sn		**Sn**	**10 48 36.5**	**-2.5**
PINNC	**Pines Island,**	**2.92**	**220**	P		**Pn**	**10 48 03.8**	**-0.8**
PINNC	**Pines Island,**	**2.92**	**220**	S		**Sn**	**10 48 37.0**	**-2.0**
YATNC	**Mamie plateau,**	**2.94**	**235**	P		**Pn**	**10 48 03.4**	**-1.4**
OUENC	**Ouen Island, N**	**3.19**	**230**	P		**Pn**	**10 48 08.2**	**+0.1**
OUENC	**Ouen Island, N**	**3.19**	**230**	S		**Sn**	**10 48 45.5**	**+0.1**
DZM	**Mont Dzumac**	**3.30**	**239**			**Pn**	**10 48 09.1**	**-0.5**
DZM				Sn		**Sn**	**10 48 46.9**	**-1.2**
DZM	**Mont Dzumac**	**3.30**	**239**	Pn		**Pn**	**10 48 09.1**	**-0.5**
	23nm,0.3s,baz=59,slow=18,SNR=547							
DZM				Sn		**Sn**	**10 48 46.4**	**-1.7**
	75nm,0.3s,baz=105,slow=20,SNR=14							
DZM	**Mont Dzumac**	**3.30**	**239**	P		**Pn**	**10 48 09.0**	**-0.6**
ONTNC	**Ouen Toro**	**3.41**	**235**			**Pn**	**10 48 10.8**	**-0.3**
ONTNC	**Ouen Toro**	**3.41**	**235**	P		**Pn**	**10 48 11.0**	**-0.1**
ONTNC	**Ouen Toro**	**3.41**	**235**	S		**Sn**	**10 48 50.1**	**-0.6**
VLAKA	**Lakatoro**	**4.67**	**335**	P		**Pn**	**10 48 27.7**	**-0.4**
VLAKA	**Lakatoro**	**4.67**	**335**	S		**Sn**	**10 49 20.0**	**-1.2**
KOUNC	**Koumac, New Ca**	**4.87**	**267**	P		**Pn**	**10 48 31.9**	**+1.1**
ARMA	**Armidale**	**18.95**	**235**	P		**P**	**10 51 33.3**	**+0.1**
ARMA				IAmb		IAmb	10 52 02.0	
	comp=Z,11nm,1.2s							
CTAO	**Charters Tower**	**21.79**	**267**	P		**P**	**10 52 05.7**	**+1.8**
CTAO				IAmb		IAmb	10 52 21.9	
	comp=Z,18nm,1.4s							
WR8	**Warramunga Arr**	**32.80**	**265**	P		**P**	**10 53 44.6**	**+0.7**
WR8				IAmb		IAmb	10 53 54.8	
	comp=Z,11nm,1.4s							
WB0	**Warramunga Arr**	**32.92**	**265**	P		**P**	**10 53 45.1**	**+0.2**
WB0				IAmb		IAmb	10 54 06.2	
	comp=Z,7.7nm,1.2s							
WRA	**Warramunga Arr**	**32.95**	**265**	P		**P**	**10 53 43.8**	**-1.4**
WRA	**Warramunga Ar**	**32.95**	**265**	P		**P**	**10 53 45.4**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=97,slow=8.4,SNR=14							
	comp=Z,0.9nm,0.6s							
AS31	**Alice Springs**	**33.09**	**258**	P		**P**	**10 53 47.5**	**+1.1**
AS31				IAmb		IAmb	10 53 48.5	
	comp=Z,2.3nm,0.7s							
ASAR	**Alice Springs**	**33.09**	**258**	P		**P**	**10 53 47.5**	**+1.1**
ASAR	**Alice Springs**	**33.09**	**258**	P		**P**	**10 53 47.3**	**+1.0**
	comp=Z,4.3nm,0.6s,baz=86,slow=8.7,SNR=77							
	comp=Z,4.3nm,0.6s							
MTN	**Manton Dam**	**37.43**	**275**	P		**P**	**10 54 24.4**	**+0.8**
KNRA	**Kununurra**	**38.93**	**270**	P		**P**	**10 54 37.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**41.36**	**265**	P		**P**	**10 54 56.1**	**-0.2**
PSA00	**Pilbara Seismi**	**46.20**	**259**	P		**P**	**10 55 35.2**	**+0.2**
PSA00				IAmb		IAmb	10 55 39.8	
	comp=Z,6.3nm,1.1s							
MJAR	**Matsushiro Arr**	**63.85**	**332**	P		**P**	**10 57 38.9**	**-2.8**
	comp=Z,0.7nm,0.6s,baz=154,slow=8.8,SNR=2.2							
	comp=Z,0.7nm,0.6s							
QSPA	**South Pole Qui**	**69.69**	**180**	P		**P**	**10 58 17.4**	**-1.2**
QSPA	**South Pole Qui**	**69.69**	**180**	P		**P**	**10 58 21.0**	**+2.4**
	comp=Z,1.4nm,0.7s,baz=8.3,slow=3.9,SNR=2.8							
	comp=Z,1.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**79.17**	**294**	P		**P**	**10 59 14.4**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=118,slow=6.4,SNR=5.2							
	comp=Z,0.7nm,0.5s							
SNAA	**Sanae**	**88.05**	**182**	P		**P**	**11 00 00.4**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=173,slow=18,SNR=1.5							
	comp=Z,0.3nm,0.6s							
SONM	**Songino Array**	**88.25**	**323**	P		**P**	**10 59 60.0**	**0.0**
	comp=Z,0.3nm,0.3s,baz=141,slow=4.8,SNR=1.8							
	comp=Z,0.3nm,0.3s							
GERES	**GERESS Array B**	**145.59**	**331**	PKPbc		**PKPab**	**11 06 47.5**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=39,slow=4.6,SNR=4.4							

*AZER **23** 11:30:06.4, 38.43°N × 46.68°E, h3km, ml3.0*
*NSSP **23** 11:30:07.9, 38.42°N × 46.70°E, h10km, Ms3.3*
*TEH **23** 11:30:08.2, 38.38°N × 46.65°E, h9km ± 70km*
ISC 23 11:30:08.2 ± 1.2, 38.39°N ± 0.03° × 46.65°E ± 0.02, h4km ± 10km, n43, σ1s24/73, 4D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.31**	**104**	Pg		**Pg**	**11 30 14.5**	**+0.2**
IHRS				Sg		**Sb**	**11 30 19.5**	**-2.6**
ITBZ	**Tabriz**	**0.43**	**248**	Pg		**Pg**	**11 30 16.5**	**0.0**
ORD	**Ordubad**	**0.74**	**316**	P		**Pb**	**11 30 23.2**	**-0.6**
ORD				S		**Sb**	**11 30 33.7**	**-0.6**
ISHB	**Shabestar**	**0.82**	**263**	Pg		**Pg**	**11 30 23.8**	**-0.2**
IAZR	**Azarshahr**	**0.89**	**217**	Pg		**Pg**	**11 30 25.4**	**+0.1**
GRMI	**Germi**	**1.06**	**66**	Pg		**Pb**	**11 30 28.1**	**-1.0**
QRD	**Qoradiz**	**1.19**	**26**	P		**Pn**	**11 30 31.9**	**+0.4**
QRD				S		**Sn**	**11 30 49.1**	**+1.0**
IHSH	**Hashtrud**	**1.19**	**156**	Pg		**Pb**	**11 30 30.0**	**-1.4**
NAX	**Nakhchivan**	**1.20**	**311**	P		**Pg**	**11 30 31.7**	**+0.6**
NAX				S		**Sn**	**11 30 49.1**	**+0.6**
SBZ	**Shahbuz**	**1.32**	**320**	Pn		**Pg**	**11 30 33.5**	**0.0**
SBZ				Sn		**Sn**	**11 30 52.6**	**+1.0**
LRK	**Lerik**	**1.35**	**79**	Pn		**Pg**	**11 30 33.6**	**-0.4**
LRK				Sn		**Sn**	**11 30 52.6**	**+0.3**
YRD	**Yardimli**	**1.35**	**67**	Pn		**Pg**	**11 30 34.0**	**0.0**
YRD				Sn		**Sn**	**11 30 52.5**	**+0.1**
BLQ	**Beylaqan**	**1.50**	**28**	Pn		**Pg**	**11 30 37.6**	**+0.6**
BLQ				Sn		**Sg**	**11 30 58.9**	**+2.4**
GLBA	**Clilabad**	**1.60**	**57**	Pn		**Pg**	**11 30 40.0**	**+1.1**
GLBA				Sn		**Sg**	**11 31 02.6**	**+2.9**
VAYK	**Vayk**	**1.61**	**324** ⇓	eP		**Pg**	**11 30 38.8**	**-0.3**
VAYK				⇓eS		**Sg**	**11 31 01.0**	**+0.9**
ASTR	**Astara**	**1.69**	**84**	Pn		**Pg**	**11 30 40.1**	**-0.3**
ASTR				Sn		**Sg**	**11 31 03.9**	**+1.5**
LKRN	**Lenkeran, Azer**	**1.70**	**79**	Pn		**Pg**	**11 30 41.0**	**+0.4**
LKRN				Sn		**Sg**	**11 31 04.2**	**+1.5**
GAS1	**Astara - Iran**	**1.72**	**90**	Pg		**Pg**	**11 30 40.3**	**-0.8**
AGDM	**Agdam**	**1.75**	**11**	Pn		**Pg**	**11 30 41.4**	**-0.4**
AGDM				Sn		**Sg**	**11 31 05.8**	**+1.4**
AYRK	**Ayrk**	**1.85**	**339**	eP		**Pg**	**11 30 42.7**	**-0.9**
AYRK				eS		**Sg**	**11 31 08.7**	**+1.2**
BRDA	**Brd**	**1.91**	**12**	Pn		**Pg**	**11 30 44.4**	**-0.4**
BRDA				Sn		**Sg**	**11 31 09.0**	**-0.6**
HYR	**Heyderabad**	**1.93**	**314**	Pn		**Pg**	**11 30 44.2**	**-0.9**
HYR				Sn		**Sg**	**11 31 12.2**	**+2.0**
SAAT	**Saatly**	**2.01**	**43**	Sn		**Sg**	**11 31 12.2**	**-0.5**
ZRD	**Zardab**	**2.05**	**23**	Sn		**Sg**	**11 31 16.0**	**+2.1**
NRKZ	**NAREK**	**2.23**	**317**	eP		**Pb**	**11 30 49.4**	**+0.3**
NRKZ				eS		**Sg**	**11 31 19.3**	**-0.5**
GANJ	**Ganja**	**2.27**	**354**	Pn		**Pb**	**11 30 47.9**	**-1.7**
GANJ				Sn		**Sg**	**11 31 19.1**	**-1.8**
GNI	**Garni**	**2.30**	**320** ⇓	iP		**Pg**	**11 30 51.1**	**-1.0**
GNI				⇓iS		**Sg**	**11 31 24.1**	**+2.0**
KDMR	**Kurdemir**	**2.31**	**30**	Sn		**Sg**	**11 31 21.9**	**-0.4**
MNGR	**Mingechevir, A**	**2.40**	**8**	Sn		**Sg**	**11 31 24.2**	**-1.1**
ALIB	**&Aumlli-Bayram**	**2.41**	**49**	Pn		**Pb**	**11 30 51.5**	**-0.5**
GDB	**GEDABAY**	**2.43**	**344**	Pn		**Pb**	**11 30 52.5**	**0.0**
GDB				Sn		**Sg**	**11 31 24.7**	**-1.4**
KAPZ	**Kaputan**	**2.45**	**322**	eP		**Pg**	**11 30 53.8**	**-1.4**
KAPZ				eS		**Sg**	**11 31 28.6**	**+1.7**
IML	**Ismayilli**	**2.67**	**26**	Pn		**Pb**	**11 30 56.3**	**-0.3**
IML				Sn		**Sb**	**11 31 30.0**	**+0.3**
QBL	**Gabala**	**2.71**	**19**	Sg		**Sb**	**11 31 31.0**	**+0.2**
LSVT	**Lusahovit**	**2.76**	**336**	eP		**Pg**	**11 30 59.5**	**-1.6**
LSVT				eS		**Sg**	**11 31 37.6**	**+0.6**
PQL	**Pirkuli**	**2.82**	**31**	Pg		**Pb**	**11 30 58.6**	**-0.6**
PQL				Sg		**Sg**	**11 31 38.1**	**-0.8**
QZX	**Qazax, Azerbai**	**2.84**	**340**	Pg		**Pg**	**11 31 00.3**	**-2.2**
QZX				Sg		**Sg**	**11 31 39.3**	**-0.1**
VSHL	**Vashlovani**	**2.84**	**356**	P		**Pb**	**11 30 59.9**	**+0.4**
VSHL				S		**Sg**	**11 31 40.0**	**+0.5**
SEKA	**Sheki**	**2.84**	**8**	Pg		**Pb**	**11 30 58.1**	**-1.4**
SEKA				Sg		**Sb**	**11 31 35.6**	**+0.9**
XNQ	**Khinaliq**	**3.00**	**22**	Pg		**Pb**	**11 30 59.0**	**-3.3**
XNQ				Sg		**Sb**	**11 31 39.9**	**+0.5**
SIZA	**Siyzn**	**3.19**	**32**	Pg		**Pb**	**11 31 03.7**	**-1.8**
SIZA				Sg		**Sb**	**11 31 45.4**	**+0.7**
QUBA	**Quba, Azerbaij**	**3.28**	**25**	Sg		**Sb**	**11 31 48.0**	**+0.8**
TRLG	**Trialeti**	**3.70**	**329**	P		**Pb**	**11 31 15.9**	**+1.7**
TRLG				S		**Sg**	**11 32 04.8**	**-2.4**

*KOLA **23** 11:37:42.7, 64.73°N × 30.57°E, h0km, ML2.3, Error ellipse: s-maj=14.5km s-min=9.3km az=150.0, Kostomuksha, Karelia*
*IDC **23** 11:37:44.0 ± 1.9, 64.78°N × 31.06°E, h0km, mbtmp2.9/4, ML2.2/4, Error ellipse: s-maj=23.8km s-min=9.3km az=103.0*
*HEL **23** 11:37:43.9 ± 0.4, 64.79°N × 30.49°E, h0km, ML2.1, Suspected explosion Hypocentre not reviewed by the ISC*
ISC 23 11:37:44.1 ± 1.1, 64.89°N ± 0.05° × 30.20°E ± 0.07, h0km, n16, σ1s96/24, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.69**	**190**	PG			11 37 55.1	
	baz=26							
RMF				MSG			11 38 03.6	
	comp=Z,46nm,0.2s							
KU1	**Kurvinen**	**0.73**	**339**	PG			11 37 59.5	
MSF	**Maaselka**	**1.13**	**335**	PG			11 38 06.9	
	baz=153							
MSF				SB			11 38 25.4	
KU6	**Riekki**	**1.15**	**354**	PG

ARCES				Sn		**Sn**	**11 39 58.8**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=156,slow=25,SNR=7.1							
ARCES				Lg		Lg	11 40 20.0	
	comp=Z,0.5nm,0.3s,baz=154,slow=31,SNR=11							
	comp=Z,0.6nm,0.3s							
ARCES	**ARCESS Array B**	**5.01**	**341**	P		**Pn**	**11 39 01.1**	**+0.7**
ARCES				S		**Sn**	**11 40 00.8**	**+1.8**
MEF	**Metsahovi**	**5.40**	**212**	*eP*		**Pn**	**11 39 05.9**	**0.0**
RAF	**Rauma**	**5.46**	**229**	*eP*		**Pn**	**11 39 08.5**	**+1.9**
I37NO	**I37NO**	**6.18**	**318**	I		I	12 13 50.0	
	comp=Z,0.1nm,1.0s,baz=127,slow=310,SNR=12							
FAUS	**Fauske**	**6.54**	**299**	S		**Sn**	**11 40 30.3**	**-6.3**
HFS	**Hagfors**	**8.98**	**246**	Pn		**Pn**	**11 39 55.7**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=54,slow=14,SNR=6.2							
HFS				Sn		**Sn**	**11 41 34.3**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=55,slow=23,SNR=2.1							
HFS				Lg		Lg	11 42 23.1	
	comp=Z,0.4nm,0.3s,baz=62,slow=31,SNR=6.1							
	comp=Z,0.7nm,0.6s							
NOA	**NORSAR Array B**	**9.45**	**255**	Pn		**Pn**	**11 40 02.4**	**+1.0**
	baz=63,slow=12,SNR=5.1							
NOA				Sn		**Sn**	**11 41 46.5**	**-1.7**
	baz=62,slow=20,SNR=1.4							
NOA				Lg		Lg	11 42 38.0	
	baz=55,slow=22,SNR=3.6							
	comp=Z,0.1nm,0.3s							

*SOME **23** 11:40:14.7, 40.58N×70.27E, h5km*
*KRNET **23** 11:40:22.4±0.1, 41.04N×70.15E, h15km, mb2.6*
*NNC **23** 11:40:22.4±3.9, 40.78N×70.22E, h0km, mb3.5, mpv3.8,*
Error ellipse: s-maj=31.7km s-min=23.3km az=55.0
*ISU **23** 11:40:23, 40.96N×70.07E, h15km*
ISC 23 11:40:23.4±1.3, 41.07N±0.03×70.15E±0.04, h18km±8km, n17, σ2s25/30, 11C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHMG	**Chimgan**	**0.49**	**347**	P		**Pb**	**11 40 34.0**	**+0.4**
CHMG				S		**Sn**	**11 40 42.7**	**-1.2**
CHRV	**Charvak**	**0.59**	**345**	P		**Pb**	**11 40 35.5**	**+0.2**
CHRV				S		**Sn**	**11 40 45.0**	**-1.3**
TGS	**TashGRES**	**0.59**	**307**	S		**Sn**	**11 40 45.1**	**-1.1**
TRKS	**Terek-Say**	**0.88**	**58**	⇑*i*	P	**Pb**	**11 40 39.4**	**-0.7**
TRKS				⇑*i*	S	**Sb**	**11 40 51.7**	**+0.1**
IUG	**luzhnay**	**1.08**	**355**	P		**Pg**	**11 40 44.9**	**+0.5**
	81nm,0.2s							
IUG				S		**Sn**	**11 41 07.1**	**+8.7**
	155nm,0.4s							
BTK	**Batken**	**1.13**	**153**	⇓*i*	P	**Pn**	**11 40 43.6**	**-0.8**
BTK				⇓*i*	S	**Sn**	**11 40 59.1**	**-0.4**
CHMI	**Chimion**	**1.31**	**127**	P		**Pg**	**11 40 50.1**	**+1.4**
CHMI				S		**Sg**	**11 41 08.2**	**+2.4**
FRG	**Fergana**	**1.42**	**119**	P		**Pg**	**11 40 53.2**	**+2.5**
FRG				S		**Sg**	**11 41 12.3**	**+3.1**
ARK	**Arkit**	**1.54**	**61**	⇓*i*	P	**Pg**	**11 40 51.9**	**-1.2**
ARK				⇓*i*	S	**Sg**	**11 41 13.1**	**-0.1**
DRK	**Karamyk**	**2.03**	**141**	⇑*e*	P	**Pb**	**11 40 59.6**	**-0.2**
DRK				⇑*e*	S	**Sg**	**11 41 26.8**	**-1.8**
KK31	**Karatay Array**	**2.05**	**7**	Pn		**Pg**	**11 41 01.9**	**-0.8**
	4.5nm,0.4s,baz=186,slow=14,SNR=32							
KK31				⇑Lg		Lg	11 41 35.3	
	11nm,0.6s,baz=186,slow=31							
GAR	**Garm**	**2.07**	**176**	⇑*i*	P	**Pb**	**11 41 00.3**	**-0.2**
GAR				⇑*i*	S	**Sg**	**11 41 27.8**	**-2.2**
ARSB	**Arslanbob**	**2.15**	**82**	⇓*e*	P	**Pb**	**11 41 01.5**	**-0.4**
ARSB				⇓*e*	S	**Sg**	**11 41 30.6**	**-1.9**
MNAS	**Manas**	**2.26**	**50**	⇑*i*	P	**Pb**	**11 41 03.4**	**-0.3**
MNAS				⇑*i*	S	**Sb**	**11 41 33.3**	**+1.9**
SALK	**Salom-Alik**	**2.78**	**93**	⇑*i*	P	**Pb**	**11 41 10.5**	**-2.2**
SALK				⇑*i*	S	**Sb**	**11 41 45.4**	**-1.1**
MRKS	**Merke**	**2.84**	**53**	Lg		Lg	11 41 53.6	
	9.1nm,0.5s							
MRKS	**Merke**	**2.84**	**53**	*eP*		**Pb**	**11 41 12.2**	**-1.4**
	1.0nm,0.1s							
MRKS				*eS*		**Sg**	**11 41 53.6**	**-1.0**
	10.0nm,0.4s							

*IDC **23** 11:41:15.9±0.5, 15.66S×74.57W, h0km, mb4.4/14,*
mbtmp4.3/18, ML4.1/4, MS4.2/5, Error ellipse:
s-maj=21.5km s-min=13.8km az=69.0
*NEIC **23** 11:41:19.8±1.8, 15.68S±0.07×74.63W±0.07, h35km±1km,*
mb4.7/152, Error ellipse: s-maj=13.4km s-min=9.0km
az=46.0
*VAO **23** 11:41:21.0±1.9, 15.76S×74.49W, h27km±13km, mb4.7*
ISC 23 11:41:19.9±0.3, 15.71S±0.05×74.69W±0.06, h35km, n267,
σ1s49/247, mb4.7/75, 4C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNA	**Nana**	**4.25**	**330**	Pn		**Pn**	**11 42 21.6**	**-0.6**
NNA	**Nana**	**4.25**	**330**	Pn		**Pn**	**11 42 24.3**	**+2.1**
	33nm,0.3s,baz=147,slow=11,SNR=18							
NNA				Sn		Sn	11 43 23.7	+13
	158nm,0.3s,baz=218,slow=12,SNR=8.8							
	12nm,0.4s							
AP01	**Chacalluta**	**4.93**	**123**	Pn		**Pn**	**11 42 28.5**	**-3.0**
PB18	**Visviri**	**5.33**	**111**	Pn		**Pn**	**11 42 36.4**	**-1.2**
PB16	**IPOC Station P**	**5.61**	**118**	Pn		**Pn**	**11 42 40.5**	**-0.9**
PB11	**IPOC Station P**	**6.27**	**131**	Pn		**Pn**	**11 42 49.6**	**-0.5**
TA02	**Huaiquique**	**6.28**	**137**	Pn		**Pn**	**11 42 47.9**	**-2.1**
LPAZ	**La Paz**	**6.34**	**96**	Pn		**Pn**	**11 42 55.4**	**+4.0**
	8.1nm,0.3s,baz=269,slow=8.7,SNR=111							
LPAZ				Sn		**Sn**	**11 44 09.4**	**+6.5**
	baz=243,slow=9.0							
LPAZ				LR		LR	11 45 32.2	
	comp=Z,1μm,21.9s,baz=273,slow=41							
LPAZ	**La Paz**	**6.34**	**96**	*eP*		**Pn**	**11 42 50.0**	**-1.4**
TA01	**Diego Aracena**	**6.46**	**139**	Pn		**Pn**	**11 42 49.6**	**-3.0**
GO01	**Chusmiza**	**6.55**	**128**	Pn		**Pn**	**11 42 53.4**	**-0.9**
PATCX	**Punta Patache**	**6.67**	**140**	Pn		**Pn**	**11 42 53.7**	**-1.8**
PB08	**IPOC Station P**	**6.87**	**131**	Pn		**Pn**	**11 42 58.5**	**-0.1**
PB02	**IPOC Station P**	**7.20**	**142**	Pn		**Pn**	**11 43 01.9**	**-0.9**
PB01	**IPOC Station P**	**7.25**	**138**	Pn		**Pn**	**11 43 02.9**	**-0.6**
PB03	**IPOC Station P**	**7.85**	**144**	Pn		**Pn**	**11 43 11.2**	**-0.6**
PB09	**IPOC Station P**	**7.96**	**140**	Pn		**Pn**	**11 43 12.9**	**-0.4**
CZSB	**Cruzeiro do Su**	**8.17**	**14**	*eP*		**Pn**	**11 43 18.0**	**+2.0**
PB05	**IPOC Station P**	**8.27**	**150**	Pn		**Pn**	**11 43 15.6**	**-2.0**
PB06	**IPOC Station P**	**8.47**	**146**	Pn		**Pn**	**11 43 18.2**	**-2.2**
PB10	**IPOC Station P**	**8.69**	**154**	Pn		**Pn**	**11 43 22.1**	**-1.1**
ATAH	**Atahualpa**	**9.26**	**337**	Pn		Pn	11 43 40.1	+8.7
	1.8nm,0.3s,baz=147,slow=3.4,SNR=8.5							
ATAH				Sn		Sn	11 45 35.6	+21
	2.3nm,0.3s,baz=131,slow=20,SNR=6.1							
AF01	**San Pedro de A**	**9.47**	**141**	Pn		**Pn**	**11 43 31.3**	**-2.9**
PB14	**IPOC Station P**	**9.74**	**156**	Pn		**Pn**	**11 43 37.7**	**-0.2**
GO02	**Mina Guanaco**	**10.55**	**154**	Pn		**Pn**	**11 43 47.6**	**-1.4**
AC01	**Pan de Azucar**	**11.07**	**160**	Pn		**Pn**	**11 43 54.1**	**-1.6**
AC02	**Maricunga**	**12.22**	**156**	Pn		Pn	11 44 08.1	-3.9
TBTG	**Tabatinga, AM**	**12.38**	**23**	Pn		**Pn**	**11 44 12.4**	**-1.3**
TBTG	**Tabatinga, AM**	**12.38**	**23**	*eP*		**Pn**	**11 44 15.7**	**+1.9**
SIV	**San Ignacio**	**13.11**	**93**	Pn		**Pn**	**11 44 22.2**	**-1.5**
	0.2nm,0.3s,baz=272,slow=13,SNR=15							
SIV				Sn		S	11 47 03.1	-10
	baz=338,slow=19							
SIV				LR		LR	11 50 05.4	
	comp=Z,1μm,18.6s,baz=248,slow=41							
	2.9nm,0.4s							
BBSD	**Serra de San D**	**13.59**	**98**	*eP*		**Pn**	**11 44 27.6**	**-2.7**
COHC	**Cochancay**	**13.91**	**341**	Pn		**Pn**	**11 44 34.9**	**+0.3**
VILB	**Vilhena**	**14.31**	**81**	Pn		Pn	11 44 35.2	-5.0
VILB	**Vilhena**	**14.31**	**81**	*eP*		**Pn**	**11 44 39.4**	**-0.7**
CO01	**Juntas del Tor**	**14.82**	**164**	Pn		**Pn**	**11 44 45.5**	**-1.6**
GO04	**Tololo Observa**	**14.83**	**167**	Pn		Pn	11 44 43.3	-4.1
PTLB	**Pontes e Lacer**	**14.99**	**91**			**Pn**	**11 44 45.7**	**-3.5**
PTLB	**Pontes e Lacer**	**14.99**	**91**	*eP*		**Pn**	**11 44 48.5**	**-0.8**
CO03	**El Pedregal**	**15.50**	**167**			**Pn**	**11 44 55.0**	**-1.0**
CO03					IAmb	IAmb	11 45 03.8	
	comp=Z,39nm,0.9s							
TEFE	**Tefe**	**15.65**	**40**	*eP*		**Pn**	**11 44 58.9**	**+1.0**
CO02	**Combarbal**	**15.79**	**168**	Pn		**Pn**	**11 44 57.6**	**-2.2**
OTAV	**Otavalo**	**16.27**	**346**	*eP*		**Pn**	**11 45 09.0**	**+2.7**
CFA	**Coronel Fontan**	**16.88**	**161**	Pn		**Pn**	**11 45 14.9**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=338,slow=13,SNR=12							
	comp=Z,7.0nm,0.7s							
MURT	**Porto Murtinho**	**17.23**	**113**	*eP*		**Pn**	**11 45 15.6**	**-2.3**
VA03	**San Esteban**	**17.39**	**168**			**Pn**	**11 45 17.3**	**-2.7**
VA03					IAmb	IAmb	11 45 26.2	
	comp=Z,70nm,1.4s							
VA01	**Torpederas**	**17.46**	**171**	Pn		**Pn**	**11 45 17.2**	**-3.5**
BDQN	**Bodoquena, MS**	**17.70**	**108**	*eP*		**Pn**	**11 45 22.0**	**-1.7**
MT02	**Curacav**	**17.77**	**170**			**Pn**	**11 45 22.0**	**-2.5**
PDRB	**Porto dos Gac**	**17.92**	**79**	*eP*		**Pn**	**11 45 26.6**	**+0.1**
MT05	**Renca**	**17.97**	**169**	Pn		**Pn**	**11 45 25.1**	**-1.9**
H03N1	**Juan Fernandez**	**18.06**	**191**	T		T	12 04 05.3	
	baz=15,slow=74,SNR=5340							
H03N2	**Juan Fernandez**	**18.07**	**191**	T		T	12 04 07.7	
	baz=15,slow=74,SNR=6653							
H03N3	**Juan Fernandez**	**18.08**	**191**	T		T	12 04 06.9	
	baz=15,slow=74,SNR=8834							
MT08	**Bocatoma Ro**	**18.16**	**167**			**Pn**	**11 45 26.3**	**-3.2**
SALV	**Santo Antonio**	**18.29**	**93**	*eP*		**Pn**	**11 45 31.1**	**+0.1**
MT09	**Talagante**	**18.30**	**170**	P		**P**	**11 45 28.6**	**-2.5**
MT01	**Popeta**	**18.34**	**171**			**P**	**11 45 30.6**	**-0.8**
H03S3	**Juan Fernandez**	**18.44**	**191**	T		T	12 04 24.2	
	baz=8.5,slow=75,SNR=63							
H03S2	**Juan Fernandez**	**18.45**	**191**	T		T	12 04 29.6	
	baz=8.5,slow=75,SNR=77							
H03S1	**Juan Fernandez**	**18.45**	**191**	T		T	12 04 34.5	
	baz=8.5,slow=75							
LMEL	**Las Melosas**	**18.51**	**168**	P		**P**	**11 45 31.0**	**-2.4**
LMEL					IAmb	IAmb	11 45 37.8	
	comp=Z,39nm,1.0s							
MACA	**Manacapuru-AM**	**18.59**	**49**	P		**P**	**11 45 29.9**	**-4.4**
MACA					IAmb	IAmb	11 45 37.8	
	comp=Z,33nm,0.8s							
MACA	**Manacapuru-AM**	**18.59**	**49**	*eP*		**Pn**	**11 45 35.3**	**+0.6**
AQDB	**Aquidauana**	**18.66**	**108**			**P**	**11 45 31.3**	**-3.7**
AQDB	**Aquidauana**	**18.66**	**108**	*eP*		**P**	**11 45 35.4**	**+0.4**
BO01	**Tunca**	**18.89**	**171**	P		**P**	**11 45 35.5**	**-1.8**
CLDB	**Colider**	**19.00**	**78**	*eP*		**Pn**	**11 45 40.1**	**+0.4**
BO02	**Sierra Bellavi**	**19.32**	**170**	P		**P**	**11 45 40.3**	**-1.9**
CPUP	**Villa Florida**	**19.33**	**126**	P		**P**	**11 45 42.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=254,slow=14,SNR=3.3							
CPUP					LR	LR	11 53 32.7	
	comp=Z,130nm,20.8s,baz=192,slow=38							
	comp=Z,0.6nm,0.6s							
CPUP	**Villa Florida**	**19.33**	**126**	*eP*		**P**	**11 45 40.2**	**-2.0**
SJPY	**San Joaquin**	**19.71**	**121**	*eP*		**P**	**11 45 47.9**	**+1.5**
AMBA	**Amambai (Brazi**	**19.92**	**114**	*eP*		**P**	**11 45 50.1**	**+1.4**
ML02	**Panimavida**	**20.18**	**172**	P		**P**	**11 45 50.4**	**-1.1**
ML02					IAmb	IAmb	11 45 58.6	
	comp=Z,42nm,0.8s							
RPRD	**Ribas do Rio P**	**20.50**	**106**	*eP*		**P**	**11 45 56.8**	**+1.6**
NPGB	**Novo Progresso**	**20.80**	**68**	*eP*		**P**	**11 45 57.5**	**-1.0**
BI05	**Punta Hualpn**	**21.00**	**177**	P		**P**	**11 45 58.5**	**-1.7**
BI02	**San Fabin de**	**21.09**	**172**	P		**P**	**11 45 58.5**	**-2.9**
BI02					IAmb	IAmb	11 46 07.5	
	comp=Z,22nm,0.8s							
C2SB	**Chapadao do Su**	**21.09**	**101**	*eP*		**P**	**11 46 02.5**	**+1.1**
ITQB	**Itaqui**	**21.66**	**133**	P		**P**	**11 46 05.3**	**-2.2**
ITTB	**Itaituba**	**21.78**	**61**	*eP*		**P**	**11 46 08.0**	**-0.9**
TRCB	**Terra Rica**	**21.97**	**112**	P		**P**	**11 46 08.3**	**-2.7**
TRCB					IAmb	IAmb	11 46 37.7	
	comp=Z,32nm,0.8s							
ARAG	**Araguaiana, MT**	**22.03**	**93**	*eP*		**P**	**11 46 12.7**	**+1.2**
BOAV	**Boa Vista**	**22.80**	**39**	P		**P**	**11 46 19.9**	**+0.1**
BOAV	**Boa Vista**	**22.80**	**39**	*eP*		**P**	**11 46 21.0**	**+1.1**
PCMB	**Pacaembu**	**22.95**	**108**	*eP*		**P**	**11 46 21.0**	**-0.4**
SNDB	**Serra Nova Dou**	**23.02**	**84**	*eP*		**P**	**11 46 21.2**	**-0.8**
PTGB	**Pitanga**	**23.02**	**117**	*eP*		**P**	**11 46 22.6**	**+0.5**
ITRB	**Iturama**	**23.51**	**103**	*eP*		**P**	**11 46 26.8**	**-0.2**
ITAB	**Concordia**	**23.88**	**122**	P		**P**	**11 46 31.0**	**+0.7**
ITAB	**Concordia**	**23.88**	**122**	*eP*		**P**	**11 46 30.3**	**0.0**
MAL2	**Monte Alegre,**	**24.37**	**58**	P		**P**	**11 46 31.7**	**-3.3**
MAL2					IAmb	IAmb	11 46 36.7	
	comp=Z,29nm,0.9s							
LR05	**Currie**	**24.54**	**175**	P		**P**	**11 46 35.1**	**-1.2**
SDV	**Santo Domingo**	**24.77**	**10**	P		**P**	**11 46 36.4**	**-2.3**
SDV					IAmb	IAmb	11 46 43.3	
	comp=Z,15nm,0.9s							
SDV	**Santo Domingo**	**24.77**	**10**	P		**P**	**11 46 41.1**	**+2.3**
	comp=Z,6.3nm,0.4s,baz=188,slow=7.1,SNR=6.3							
	comp=Z,6.3nm,0.4s							
FRTB	**Fartura**	**24.85**	**112**	*eP*		**P**	**11 46 39.3**	**0.0**
TRQA	**Tornquist**	**24.93**	**156**	P		**P**	**11 46 39.9**	**0.0**
PLCA	**Paso Flores**	**25.19**	**173**	P		**P**	**11 46 42.8**	**+0.5**
PLCA					IAmb	IAmb	11 46 45.2	
	comp=Z,16nm,0.9s							
PLCA	**Paso Flores**	**25.19**	**173**	P		**P**	**11 46 43.6**	**+1.3**
	comp=Z,11nm,0.8s,baz=346,slow=13,SNR=22							
	comp=Z,11nm,0.8s							
PLCA	**Paso Flores**	**25.19**	**173**	*eP*		**P**	**11 46 43.6**	**+1.3**
BAUV	**El Baul**	**25.36**	**15**	P		**P**	**11 46 45.1**	**+1.2**
IPMB	**Ipameri, GO**	**25.44**	**99**	*eP*		**P**	**11 46 44.7**	**-0.1**
BDFB	**Brasilia**	**25.68**	**93**	P		**P**	**11 46 46.9**	**-0.2**
BDFB					IAmb	IAmb	11 46 48.4	
	comp=Z,29nm,1.2s							
BDFB	**Brasilia**	**25.68**	**93**	P		**P**	**11 46 47.0**	**0.0**
	comp=Z,11nm,0.7s,baz=255,slow=11,SNR=11							
	comp=Z,11nm,0.7s							
PRPB	**Parauapebas**	**26.17**	**72**	*eP*		**P**	**11 46 51.7**	**+0.4**
MAJ01	**Sao Joao Batis**	**26.51**	**120**	*eP*		**P**	**11 46 54.6**	**+0.4**
LL01	**San Ignacio de**	**26.65**	**176**	P		**P**	**11 46 54.8**	**-0.5**
SMRC	**Santa Marta, M**	**26.70**	**1**	P		**P**	**11 46 55.1**	**-1.0**
SPB	**Sao Paulo**	**26.81**	**111**	P		**P**	**11 46 54.5**	**-2.5**
SPB					IAmb	IAmb	11 46 60.0	
	comp=Z,36nm,1.2s							
SMTB	**Santa Maria do**	**27.32**	**79**	*eP*		**P**	**11 47 01.4**	**-0.3**
JTS	**Las Juntas de**	**27.76**	**338**	P		**P**	**11 47 04.6**	**-0.9**
JANB	**Januaria**	**29.29**	**93**	*eP*		**P**	**11 47 18.6**	**-0.8**
DIAM	**Diamantina, MG**	**29.76**	**99**	*eP*		**P**	**11 47 23.8**	**+0.2**
AY03	**Cochrane**	**31.50**	**177**	P		**P**	**11 47 35.9**	**-2.5**
AY03					IAmb	IAmb	11 47 42.1	
	comp=Z,15nm,0.9s							
MPOM	**Morne Pois Mar**	**32.93**	**25**	P		**P**	**11 47 48.5**	**-2.7**
SVN	**Savane Anatole**	**33.17**	**24**	P		**P**	**11 47 50.4**	**-3.0**
MTO3	**Montecristo**	**33.24**	**333**	P		**P**	**11 47 53.5**	**-0.7**
MTO3					IAmb	IAmb	11 48 08.2	
	comp=Z,9.9nm,1.1s							
MTDJ	**Mount Denham**	**33.84**	**355**	P		**P**	**11 47 57.9**	**-1.3**
GO09	**Cerro Castillo**	**35.52**	**177**	P		**P**	**11 48 13.4**	**+0.1**
GO09					IAmb	IAmb	11 48 41.1	
	comp=Z,12nm,1.1s							
TEIG	**Tepich**	**38.12**	**339**	P		**P**	**11 48 34.0**	**-1.8**
ESPZ	**Base Esperanza**	**49.21**	**170**	P		**P**	**11 50 04.9**	**+0.5**
HNDO	**Hondo**	**50.85**	**332**	P		**P**	**11 50 16.8**	**-0.6**
KMSC	**Kings Mountain**	**50.96**	**353**	P		**P**	**11 50 18.0**	**-0.1**
KMSC					IAmb	IAmb	11 50 30.4	
	comp=Z,9.3nm,0.9s							
X48A	**Hartselle**	**51.25**	**347**	P		**P**	**11 50 19.3**	**-0.9**
HPIG		**51.98**	**324**	P		**P**	**11 50 25.0**	**-1.0**
HPIG					IAmb	IAmb	11 50 40.0	
	comp=Z,17nm,1.4s							
WLAR	**White Oak Lake**	**52.17**	**341**	P		**P**	**11 50 25.4**	**-1.7**
SAND	**Sanderson**	**52.54**	**330**			**P**	**11 50 30.5**	**+0.5**
SAND					IAmb	IAmb	11 50 43.3	
	comp=Z,14nm,1.3s							
SMAI	**San Martin Ant**	**52.62**	**176**	P		**P**	**11 50 31.0**	**+1.1**
TXAR	**Lajitas Array**	**52.80**	**328**	P		**P**	**11 50 31.0**	**-1.0**
TXAR	**Lajitas Array**	**52.80**	**328**	P		**P**	**11 50 31.7**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=152,slow=4.8,SNR=6.7							
	comp=Z,0.3nm,0.4s							
TX31	**Lajitas Ar. Si**	**52.80**	**328**	P		**P**	**11 50 31.0**	**-1.0**
Z35A	**Perchaven, San**	**53.31**	**336**	P		**P**	**11 50 34.3**	**-1.3**
WHAR	**Wooly Hollow**	**53.40**	**342**	P		**P**	**11 50 35.7**	**-0.4**
WHAR					IAmb	IAmb	11 51 00.1	
	comp=Z,13nm,1.4s							
ALPN	**Alpine**	**53.63**	**329**	P		**P**	**11 50 37.0**	**-1.2**
ALPN					IAmb	IAmb	11 50 51.3	
	comp=Z,10nm,1.4s							
ABTX	**Abilene, Hawle**	**53.66**	**334**	P		**P**	**11 50 37.4**	**-0.9**
ABTX					IAmb	IAmb	11 50 50.5	
	comp=Z,7.0nm,0.7s							
FCAR	**Ozark Folk Cen**	**53.91**	**342**	P		**P**	**11 50 38.9**	**-1.0**
MNHN	**Monahans**	**53.99**	**330**	P		**P**	**11 50 40.0**	**-0.6**
MNHN					IAmb	IAmb	11 50 53.7	
	comp=Z,7.4nm,0.9s							
APMT	**Aspermont**	**54.47**	**334**	P		**P**	**11 50 42.3**	**-1.8**
APMT					IAmb	IAmb	11 50 56.5	
	comp=Z,7.3nm,0.9s							
ODSA	**Odessa**	**54.54**	**331**	P		**P**	**11 50 43.7**	**-1.0**
CGM3	**Cape Girardeau**	**54.58**	**345**	P		**P**	**11 50 43.5**	**-1.2**
CGM3					IAmb	IAmb	11 51 06.8	
	comp=Z,3.8nm,0.7s							
SN07	**Snyder 07**	**54.60**	**333**	P		**P**	**11 50 44.0**	**-1.1**
VHRN	**Van Horn**	**54.65**	**328**	P		**P**	**11 50 45.0**	**-0.6**
VHRN					IAmb	IAmb	11 50 58.6	
	comp=Z,12nm,1.2s							
WCI	**Wyandotte Cave**	**54.75**	**349**	P		**P**	**11 50 44.1**	**-1.8**
MGMO	**Mountain Grove**	**55.13**	**343**	P		**P**	**11 50 48.0**	**-0.8**
MGMO					IAmb	IAmb	11 50 51.0	
	comp=Z,6.6nm,1.0s							
WMOK	**Wichita Mounta**	**55.15**	**336**	P		**P**	**11 50 48.6**	**-0.4**
MNTX	**Cornudas Mount**	**55.58**	**328**	P		**P**	**11 50 52.1**	**0.0**
MSTX	**Muleshoe**	**56.18**	**332**	P		**P**	**11 50 56.1**	**-0.5**
MSTX					IAmb	IAmb	11 51 09.0	
	comp=Z,16nm,1.4s							
R40A	**Maddies Statio**	**56.19**	**343**	P		**P**	**11 50 55.7**	**-0.6**
R40A					IAmb	IAmb	11 51 08.1	
	comp=Z,6.3nm,0.9s							
T35A	**Sooner Cattle**	**56.24**	**339**	P		**P**	**11 50 55.1**	**-1.6**
BLOK	**Blackwell**	**56.35**	**338**	P		**P**	**11 50 55.8**	**-1.7**
BLOK					IAmb	IAmb	11 51 10.8	
	comp=Z,10nm,0.9s							
TUC	**Tucson**	**58.94**	**324**	P		**P**	**11 51 15.6**	**-0.4**
TUC					IAmb	IAmb	11 51 29.6	
	comp=Z,5.0nm,1.1s							
J47A	**Sunmer**	**59.39**	**351**	P		**P**	**11 51 18.4**	**-0.3**
T25A	**Trinidad**	**59.56**	**333**	P		**P**	**11 51 20.3**	**0.0**
T25A					IAmb	IAmb	11 51 33.6	
	comp=Z,8.3nm,1.3s							
W18A	**Petrified Fore**	**60.51**	**327**	P		**P**	**11 51 27.8**	**+1.0**
SDCO	**Great Sand Dun**	**60.55**	**332**	P		**P**	**11 51 26.4**	**-0.7**
I42A	**Draeger Farm,**	**60.72**	**348**	P		**P**	**11 51 28.3**	**+0.5**
L34A	**Svendsen Farm,**	**60.78**	**342**	P		**P**	**11 51 28.1**	**-0.2**
BGNE	**Belgrade**	**60.84**	**340**	P		**P**	**11 51 29.2**	**+0.5**
X16A	**Lo Mia Camp, P**	**60.88**	**326**	P		**P**	**11 51 28.3**	**-1.1**
X16A					IAmb	IAmb	11 51 43.6	
	comp=Z,7.7nm,1.2s							
Y14A	**Wickenburg**	**61.40**	**324**	P		**P**	**11 51 32.8**	**+0.1**
Y14A					IAmb	IAmb	11 51 46.7	
	comp=Z,8.5nm,1.2s							
MVCO	**Mesa Verde**	**61.52**	**330**	P		**P**	**11 51 33.8**	**+0.1**
WUAZ	**Wupatki**	**61.67**	**326**	P		**P**	**11 51 34.5**	**-0.2**
WUAZ					IAmb	IAmb	11 51 49.5	
	comp=Z,9.0nm,1.1s							
PV15	**Paradox Valley**	**62.41**	**330**	P		**P**	**11 51 38.9**	**-0.7**
ECSD	**EROS Data Cent**	**62.46**	**342**	P		**P**	**11 51 39.4**	**-0.3**
ECSD					IAmb	IAmb	11 51 51.8	
	comp=Z,6.5nm,0.9s							
PV05	**Paradox Valley**	**62.49**	**330**	P		**P**	**11 51 40.0**	**-0.2**
PV19	**Morning Glory**	**62.62**	**330**	P		**P**	**11 51 41.2**	**+0.1**
PV19					IAmb	IAmb	11 51 53.7	
	comp=Z,8.8nm,1.3s							
U15A	**North Rim**	**62.85**	**326**	P		**P**	**11 51 41.8**	**-0.9**
U15A					IAmb	IAmb	11 51 57.0	
	comp=Z,8.5nm,1.4s							
BORC	**Borrego Spring**	**62.91**	**321**	P		**P**	**11 51 43.5**	**+0.6**
BORC					IAmb	IAmb	11 51 57.4	
	comp=Z,8.8nm,1.1s							
DPP	**Dos Picos Cty**	**63.05**	**321**	P		**P**	**11 51 42.8**	**-1.0**
DPP					IAmb	IAmb	11 51 58.5	
	comp=Z,6

MFID	Camas Ranch	69.86	329	P		P		11 52 26.6	-0.6
MCCM	Marconi Confer	70.08	321	P		P		11 52 27.9	-0.6
ORV	Oroville	70.19	323	P		P		11 52 28.6	-0.6
TBI	Tubuai	70.21	250	eLR		LR		12 13 56.4	
	comp=Z,1µm,32.0s								
PLID	Pearl Lake	71.18	330	P		P		11 52 36.4	+1.0
TROLL	Troll, Antarti	71.22	161	⇑P		P		11 52 37.2	+2.0
	comp=Z,252nm,0.9s								
PPT2	Papeete2	71.31	256	eLR		LR		12 14 25.1	
PPT2				eLR		LR		12 14 30.4	
	comp=Z,226nm,26.2s								
BMO	Blue Mountains	71.64	330	P		P		11 52 37.8	-0.2
DBIC	Dimbokro	72.62	78	P		P		11 52 44.4	0.0
	comp=Z,4.7nm,0.6s,baz=276,slow=9.2,SNR=6.4								
	comp=Z,4.7nm,0.6s								
G08A	Pilot Rock	72.77	329	P		P		11 52 44.9	+0.1
QSPA	South Pole Qui	74.45	180	P		P		11 52 56.7	+2.3
	comp=Z,5.6nm,0.9s,baz=150,slow=3.8,SNR=14								
	comp=Z,5.6nm,0.9s								
RAR	Rarotonga	79.99	251	LR		LR		12 20 45.9	
	comp=Z,116nm,21.6s,baz=65,slow=30								
NRS	Narsarsuaq	80.09	14	P		P		11 53 23.9	-1.8
SBA	Scott Base	80.48	191			P		11 53 28.4	+0.7
SBA				IAmb		IAmb		11 53 31.7	
	comp=Z,6.5nm,1.0s								
TORD	Torodi Ar. Bea	80.79	74	P		P		11 53 29.3	-1.3
TORD	Torodi Ar. Bea	80.79	74	P		P		11 53 31.5	+0.9
	comp=Z,13nm,0.7s,baz=259,slow=5.2,SNR=58								
	comp=Z,13nm,0.7s								
VNDA	Vanda	81.54	191			P		11 53 35.3	+1.9
VNDA				IAmb		IAmb		11 53 37.7	
	comp=Z,5.1nm,0.8s								
VNDA	Vanda	81.54	191	P		P		11 53 36.5	+3.1
	comp=Z,4.4nm,0.8s,baz=133,slow=4.8,SNR=10								
	comp=Z,4.4nm,0.8s								
YKA	Yellowknife Ar	83.99	343	P		P		11 53 46.3	+0.1
YKA	Yellowknife Ar	83.99	343	P		P		11 53 47.8	+1.7
	comp=Z,1.2nm,1.0s,baz=140,slow=5.0,SNR=7.6								
	comp=Z,1.2nm,1.0s								
ESDC	Sonseca Array	85.74	47	P		P		11 53 56.7	+1.0
	comp=Z,1.1nm,1.0s,baz=263,slow=5.7,SNR=5.1								
	comp=Z,1.1nm,1.0s								
MAW	Mawson	91.37	165	P		P		11 54 22.6	+0.8
	comp=Z,1.8nm,0.6s,baz=225,slow=7.1,SNR=6.6								
	comp=Z,1.8nm,0.6s								
I29M	Ogilvie Camp,	93.72	338	P		P		11 54 31.3	-1.4
I29M				IAmb		IAmb		11 54 45.5	
	comp=Z,3.6nm,1.1s								
BCAR	Beaver Creek A	93.95	335	P		P		11 54 33.2	-0.5
KDAK	Kodiak Island	96.83	328	LR		LR		12 38 43.7	
	comp=Z,923nm,21.3s,baz=37,slow=36								
DZM	Mont Dzumac	109.31	239	eLR		LR		12 32 02.8	
	comp=Z,252nm,34.0s								
H11N3	WAKE ISLAND Hyl	21.45	284	T		T		14 13 27.0	
	baz=97,slow=75,SNR=15								
H11N2	WAKE ISLAND Hyl	21.46	284	T		T		14 13 50.1	
	baz=97,slow=75,SNR=16								
H11N1	WAKE ISLAND Hyl	21.47	284	T		T		14 13 28.3	
	baz=97,slow=75,SNR=12								
H11S2	WAKE ISLAND Hyl	21.49	282	T		T		14 14 07.9	
	baz=99								
H11S1	WAKE ISLAND Hyl	21.50	282	T		T		14 14 10.2	
	baz=99,slow=74								
H11S3	WAKE ISLAND Hyl	21.51	282	T		T		14 14 09.4	
	baz=99,slow=74								
ASAR	Alice Springs	131.91	216	PKP		PKPdf		12 00 31.8	+1.4
	comp=Z,1.0nm,1.0s,baz=144,slow=2.2,SNR=5.5								
WRA	Warramunga Arr	134.51	220	PKP		PKPdf		12 00 36.6	+1.2
	comp=Z,1.5nm,0.7s,baz=134,slow=1.7,SNR=16								
ZALV	Zalesovo Beam	138.62	18	PKP		PKPdf		12 00 43.7	+1.8
	comp=Z,2.3nm,0.8s,baz=286,slow=5.2,SNR=7.0								
KURBB	Kurchatov Arra	139.04	26	PKP		PKPdf		12 00 43.9	+1.2
	comp=Z,0.2nm,0.3s,baz=302,slow=2.7,SNR=2.2								
MKAR	Makanchi Array	143.57	27	PKP		PKPdf		12 00 51.5	+0.4
	comp=Z,0.8nm,0.8s,baz=0.0,slow=0.6,SNR=6.0								
MJAR	Matsushiro Arr	144.17	312	PKPdf		PKPab		12 00 49.4	-0.8
MAJO	Matsushiro	144.17	312	PKPdf		PKPab		12 00 49.6	-0.6
MJB9	Matsu-Tunnel	144.17	312	PKPdf		PKPab		12 00 49.4	-0.8
JHJ2	Mitsune	144.33	305	PKPdf		PKPab		12 00 51.2	+0.4
PRZ	Przheval'sk	144.72	35	PKPdf		PKPab		12 00 52.6	+0.3
TARG	Taragay, Kyrgy	144.87	37	PKPdf		PKPab		12 00 53.4	+0.3
SONM	Songino Array	147.95	359	PKPbc		PKPbc		12 01 02.6	+0.8
SONM	Songino Array	147.95	359	PKPbc		PKPbc		12 01 02.9	+1.1
	comp=Z,1.8nm,0.8s,baz=358,slow=3.4,SNR=9.6								
KSRS	Korea Array	150.51	322	PKPbc		PKPbc		12 01 09.9	+1.6
	comp=Z,4.2nm,0.9s,baz=1.6,slow=0.3,SNR=14								
MMRI	Maumere	150.57	216	PKPbc		PKPdf		12 01 08.0	+4.3

NEIC ***23*** *11:44:56.8±1.3,2°.36S±0°.06×76°.29W±0°.07,h144km±6km, mb4.9/537, Error ellipse: s-maj=10.3km s-min=8.0km az=72.0*

IDC ***23*** *11:44:57.0±0.5,2°.28S×76°.25W,h151km±3km,mb4.5/27, mbtmp4.9/33, Error ellipse: s-maj=11.6km s-min=6.8km az=64.0*

VAO ***23*** *11:44:57.0±0.5,2°.30S×76°.19W,h144km±4km,mb5.2*

BGR ***23*** *11:45:05.7,0°.51S×75°.06W,h135km±1km,mb5.0*

ISC 23 11:44:56.3±0.3,2°.36S±0°.03×76°.29W±0°.05,h148km±3km, h149km;pP-P,n944,o1908/846,mb4.9/349,18C-16D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIAT	Ana Tenorio	2.39	305	P	Pn	11 45 34.5	-1.9
SLOR	San Lorenzo -	2.73	306	Pn	Pn	11 45 40.9	+0.1
SLOR				Sn	Sn	11 46 14.1	-0.9
COHC	Cochancay	2.96	268	Pn	Pn	11 45 40.2	-2.9
COHC	Cochancay	2.96	268	P	Pn	11 45 39.9	-3.2
OTAV	Otavalo	3.36	320		Pn	11 45 49.1	+0.3
OTAV				Sn	Sn	11 46 26.6	-2.6
OTAV	Otavalo	3.36	320	eP	Pn	11 45 48.9	+0.2
OTAV	Otavalo	3.36	320	P	Pn	11 45 49.0	+0.3
CUSE	Cuicocha Este	3.38	321	P	Pn	11 45 49.6	+0.7
TULM	Tulcn-Chalpat	3.40	334	P	Pn	11 45 49.5	+0.3
PAC1	Pacto, Paraso	3.61	316	P	Pn	11 45 51.8	+0.2
CMBC	Cumbal	3.62	335	P	Pn	11 45 54.1	+2.1
CRUC	La Cruz	3.96	350	P	Pn	11 45 56.9	+0.6
FLOC	Florencia	3.97	9		Pn	11 45 56.8	+0.6
FLOC	Florencia	3.97	9	P	Pn	11 45 56.6	+0.4
FLF1	Flavio Alfaro-	4.07	299	P	Pn	11 45 55.9	-1.6
BBAC	Balboa, Cauca	4.46	348	P	Pn	11 46 03.8	+1.1
PPLP	Puerto Lpez	4.55	280	P	Pn	11 45 58.4	-5.4
GARC	Garzon, Huila	4.59	10	P	Pn	11 46 05.1	+0.6
POPC	Popayan, Colom	4.88	356	P	Pn	11 46 09.9	+1.5
MACC	Macarena, Meta	5.10	29	P	Pn	11 46 12.0	+0.9
	9µm1µm,0.7s						
ATAH	Atahualpa	5.18	204	P	Pn	11 46 10.9	-1.7
	1µm,0.8s,baz=24,slow=5.7,SNR=86						
ATAH				S	Sn	11 47 07.3	-4.7
	982nm,0.8s,baz=3.4,slow=19,SNR=7.9						
JAMC	Jamundi, Valle	5.55	356	P	Pn	11 46 18.6	+1.3
	2µm254nm,1.0s						
URMC	La Uribe, Meta	5.89	19	P	Pn	11 46 22.2	+0.6
	6µm680nm,0.9s						
GUVC	San Jose del G	6.10	37	P	Pn	11 46 25.5	+1.2
PRAC	Prado	6.20	13	P	Pn	11 46 27.7	+2.0
	6µm344nm,1.1s						
YOTC	Yotoco, Valle	6.30	360	P	Pn	11 46 27.5	+0.3
	2µm145nm,0.8s						
ORTC	Ortega, Tolima	6.32	10	P	Pn	11 46 29.5	+2.2
	7µm800nm,0.9s						
MALC	Bahia Malaga	6.42	351	P	Pn	11 46 27.0	-1.6
CZSB	Cruzeiro do Su	6.42	146	Pn	Pn	11 46 28.6	-0.1
CZSB	Cruzeiro do Su	6.42	146	eP	Pn	11 46 28.5	-0.1
CZSB	Cruzeiro do Su	6.42	146	P	Pn	11 46 27.7	-1.0
	4µm324nm,0.9s						
TBTG	Tabatinga, AM	6.63	106		Pn	11 46 31.8	+0.4
TBTG	Tabatinga, AM	6.63	106	eP	Pn	11 46 31.6	+0.2
TBTG	Tabatinga, AM	6.63	106	P	Pn	11 46 30.9	-0.5
	13µm886nm,1.0s						
VILC	Villavicencio,	6.93	22	P	Pn	11 46 37.3	+1.7
	5µm624nm,0.7s						
CVER	Cruz Verde, Cu	7.19	18	P	Pn	11 46 42.6	+3.3
	8µm740nm,1.0s						
PLMC	San Jos del P	7.22	0	P	Pn	11 46 38.8	-0.6
	2µm147nm,1.0s						
CHIC	Chingaza	7.40	20	P	Pn	11 46 42.7	+0.6
	456nm,0.9s						
ROSC	El Rosal	7.42	15	P	Pn	11 46 43.3	+0.9
	104nm,0.5s,baz=228,slow=14,SNR=39						
ROSC				S	Sn	11 48 15.2	+10
	106nm,0.9s,baz=196,slow=19,SNR=1.1						
ROSC	El Rosal	7.42	15	P	Pn	11 46 44.8	+2.4
	4µm394nm,0.7s						
GUY2C	Guyana, Caldas	7.59	7	P	Pn	11 46 46.1	+1.4
	5µm394nm,1.5s						
PTGC	Puerto Gaitan,	7.73	33	P	Pn	11 46 46.1	0.0
	10µm1µm,0.9s						
NORC	Norcasia	8.00	10	P	Pn	11 46 49.8	0.0
	3µm335nm,1.0s						
CBOC	Ciudad Bolivar	8.17	2	P	Pn	11 46 56.9	+4.6
	183nm,1.0s						
HELC	Santa Helena	8.53	5	P	Pn	11 46 56.9	-0.3
	1µm73nm,0.9s						
RUSC	La Rusia	8.80	21	Pn	Pn	11 47 02.0	+1.1
RUSC	La Rusia	8.80	21	P	Pn	11 47 02.5	+1.6
	8µm852nm,1.2s						
PTBC	PUERTO BERRIO,	9.03	12	P	Pn	11 47 04.5	+1.0
	661nm90nm,0.8s						
DBBC	Dabeiba	9.32	1	P	Pn	11 47 11.1	+3.7
	7µm99nm,0.8s						
BARC	Barichara	9.42	19	P	Pn	11 47 10.3	+1.4
PTAC	Punta Ardita,	9.56	351	P	Pn	11 47 10.3	-0.3
	9µm51nm,0.6s						
SGC2	Sao Gabriel da	9.57	77	P	Pn	11 47 09.2	-1.5
	3µm191nm,0.9s						
NNA	Nana	9.58	183		Pn	11 47 10.0	-0.9
NNA	Nana	9.58	183	P	Pn	11 47 12.0	+1.1
	25nm,0.3s,baz=13,slow=6.2,SNR=7.9						
NNA				S	Sn	11 48 46.3	-11
	129nm,0.5s,baz=260,slow=18,SNR=7.2						
NNA	Nana	9.58	183	P	Pn	11 47 09.5	-1.4
	72nm,0.7s						
BRJC	Barrancabermej	9.61	15	P	Pn	11 47 11.6	+0.3
	4µm521nm,0.8s						
TAMC	Tame, Arauca	9.83	27	P	Pn	11 47 15.7	+1.6
	7µm925nm,1.0s						
ZARC	Zaragoza, Cauc	9.89	8	P	Pn	11 47 14.2	-0.8
	160nm,0.8s						
UREC	San Jos de Ur	10.07	4	P	Pn	11 47 19.6	+2.2
	56nm,0.6s						
APAC	Apartado, Choc	10.20	358	P	Pn	11 47 21.9	+2.9
	109nm,0.8s						
PAMC	Pamplona, Colo	10.28	20	P	Pn	11 47 23.1	+2.5
OCAC	Ocana	10.94	16	P	Pn	11 47 28.5	-0.5
	4µm314nm,0.4s						
TEFE	Tefe	11.70	96	eP	Pn	11 47 36.6	-2.2
BCIP	Isla Barro Col	11.98	343	Pn	Pn	11 47 43.3	+0.8
BCIP	Isla Barro Col	11.98	343	P	P	11 47 48.9	-0.3
	108nm,1.7s						
SJCC	San Jacinto, C	12.23	5	P	Pn	11 47 44.9	-0.8
	2µm207nm,1.0s						
ARGC	Ariguani, Magd	12.31	10	P	Pn	11 47 48.0	+1.3
	1µm108nm,0.7s						
SDV	Santo Domingo	12.52	27	Pn	Pn	11 47 50.0	+0.5
SDV	Santo Domingo	12.52	27	P	Pn	11 47 50.2	+0.6
	154nm,0.9s,baz=216,slow=13,SNR=32						
SDV				S	Sn	11 50 06.4	-1.8
	19nm,0.5s,baz=261,slow=19,SNR=1.1						
SDV	Santo Domingo	12.52	27	eP	Pn	11 47 49.5	-0.1
SDV	Santo Domingo	12.52	27	P	Pn	11 47 50.5	+0.9
	2µm189nm,1.0s						
SMRC	Santa Marta, M	13.59	9		Pn	11 48 02.6	-0.5
SMRC	Santa Marta, M	13.59	9	P	Pn	11 48 02.7	-0.5
	95nm,0.8s						
CRJC	Cerrejon, Guaj	13.72	14	P	Pn	11 48 03.4	-1.5
	3µm190nm,0.7s						
BAUV	El Baul	13.92	36	Pn	Pn	11 48 07.1	-0.2
PAYG	Puerto Ayora	14.09	277	Pn	Pn	11 48 09.1	-0.4
LCR2	La Lucha 2	14.27	328		Pn	11 48 12.1	+0.2
URIC	Uribia, Colomb	14.61	17	P	Pn	11 48 13.9	-2.1
	2µm283nm,1.2s						
JTS	Juntas de	15.24	326	P	P	11 48 25.6	+0.2
	4.1nm,0.4s,baz=166,slow=15,SNR=2.2						
MACA	Manacapuru-AM	15.61	93		Pn	11 48 26.7	-1.8
MACA	Manacapuru-AM	15.61	93	eP	Pn	11 48 26.5	-2.0
SAIC	Isla e San And	15.75	340	P	Pn	11 48 30.7	+0.6
	78nm,1.7s						
LPAZ	La Paz	16.00	150	Pn	Pn	11 48 32.6	-1.3
LPAZ	La Paz	16.00	150	P	P	11 48 36.5	+2.1
	24nm,0.7s,baz=329,slow=7.5,SNR=8.5						
LPAZ				S	Sn	11 51 34.3	+1.7
	4.3nm,0.7s,baz=315,slow=4.3,SNR=1.3						
LPAZ	La Paz	16.00	150	eP	P	11 48 36.6	+2.1
LPAZ	La Paz	16.00	150	P	P	11 48 34.7	+0.2
	44nm,0.8s						
BOAV	Boa Vista	16.46	73		P	11 48 38.3	-0.6
BOAV	Boa Vista	16.46	73	eP	P	11 48 37.3	-1.6
BOAV	Boa Vista	16.46	73	P	P	11 48 35.7	-3.2
	48nm,1.0s						
ESPN	Las Esperanzas	16.50	331		P	11 48 37.1	-2.2
ESPN	Las Esperanzas	16.50	331	P	P	11 48 39.0	-0.3
	77nm,1.1s						
PB18	Visviri	16.55	157		P	11 48 39.7	-0.7
ACON	Acoyapa	16.75	328	P	P	11 48 42.0	-0.1
PCRV	Puerto La Cruz	17.02	43	P	Pn	11 48 46.5	+0.8
	32nm,0.5s,baz=222,slow=5.7,SNR=31						
PB16	IPOC Station P	17.21	158		P	11 48 48.0	+0.2
BOAB	BOACO BROADBAN	17.41	328	P	P	11 48 49.7	+0.4
SIUN	Universidad Ur	18.05	332	P	Pn	11 48 57.5	-0.4
PB11	IPOC Station P	18.47	160		P	11 49 01.8	+0.7
GO01	Chusmiza	18.55	159	P	P	11 49 02.1	-0.2
TA02	Huaiquique	18.79	162	P	P	11 49 04.4	+0.1
PB08	IPOC Station P	19.00	159	P	P	11 49 07.3	+0.2
TA01	Diego Aracena	19.05	162	P	P	11 49 07.6	+0.4
VILB	Vilhena	19.09	124		P	11 49 07.8	+0.1
PATCX	Punta Patache	19.30	162	P	P	11 49 09.5	-0.5
TGUH	Tegucigalpa,Un	19.61	327	P	P	11 49 13.3	-0.1
PB01	IPOC Station P	19.72	161	P	P	11 49 12.8	-1.8
PB02	IPOC Station P	19.85	162	P	P	11 49 14.5	-1.4
SIV	San Ignacio	20.20	133	P	P	11 49 21.1	+1.3
	20nm,0.5s,baz=307,slow=13,SNR=23						
SIV				S	S	11 52 58.0	-0.5
	8.3nm,0.9s,baz=282,slow=20,SNR=5.6						
	20nm,0.5s						
MTDJ	Mount Denham	20.49	357	P	P	11 49 24.1	+1.2
MTDJ	Mount Denham	20.49	357	P	P	11 49 23.0	+0.2
	2µm179nm,1.6s						
PB09	IPOC Station P	20.50	161	P	P	11 49 22.9	-0.1
PB03	IPOC Station P	20.58	163	P	P	11 49 24.4	+0.6
ITTB	Ituiutaba	20.62	96	eP	P	11 49 23.4	-0.8
MTO3	Montecristo	21.09	323		P	11 49 30.3	+0.9
ESQI	Esquipulas	21.21	323	P	P	11 49 30.4	-0.1
PB05	IPOC Station P	21.21	164		P	11 49 30.9	+0.3
PB06	IPOC Station P	21.25	163	P	P	11 49 31.0	0.0
PB06				PcP	PcP	11 53 29.8	-0.4
BBSD	Serra de San D	21.32	135	eP	P	11 49 31.9	+0.2
PTLB	Pontes e Lacer	21.34	129		P	11 49 32.3	+0.5
PTLB	Pontes e Lacer	21.34	129	eP	P	11 49 32.2	+0.4
NPGB	Novo Progresso	21.37	103	eP	P	11 49 31.6	-0.7
BANI	BANI	21.43	16	P	P	11 49 32.0	-1.0
PDRB	Porto dos Gac	21.47	116	eP	P	11 49 33.2	-0.1
SDDR	Presa de Saban	21.77	13		P	11 49 37.8	+1.3
SDDR	Presa de Saban	21.77	13	P	P	11 49 37.4	+0.9
AF01	San Pedro de A	21.93	160	P	P	11 49 37.4	-1.0
CLDB	Colider	22.03	114	eP	P	11 49 38.9	-0.3
DR12	Loma Pena Alta	22.09	18	P	P	11 49 40.1	+0.4
MAL2	Monte Alegre,	22.10	90		P	11 49 39.8	-0.1
PRSN	Puerto Rico Se	22.34	23	P	P	11 49 42.5	+0.3
OBIP	Obispado Ponce	22.41	25	P	P	11 49 42.8	0.0
OBIP				IAmb	IAmb	11 49 43.9	
	comp=Z,56nm,0.8s						
CELP	Cerrillos	22.45	25	P	P	11 49 43.1	0.0
CELP				IAmb	IAmb	11 49 46.8	
	comp=Z,50nm,0.8s						
UUPR	Utuado, UPR, P	22.55	24	P	P	11 49 44.4	+0.3
AGPR	Aguadilla, PR	22.59	23	P	P	11 49 44.8	+0.3
PDPR	Patillas Dam,	22.64	26		P	11 49 44.9	-0.1
SJG	San Juan	22.66	26	P	P	11 49 45.2	0.0
SJG	San Juan	22.66	26	P	P	11 49 44.3	-0.9
	comp=Z,152nm,0.8s,baz=208,slow=6.4,SNR=43						
	comp=Z,152nm,0.8s						
HUMP	Col San Antoni	22.82	26	P	P	11 49 46.6	-0.1
HUMP				IAmb	IAmb	11 49 47.5	
	comp=Z,38nm,0.8s						
PB14	IPOC Station P	22.86	166	P	P	11 49 47.8	+0.5
PB14				IAmb	IAmb	11 49 49.6	
	comp=Z,74nm,0.9s						
GCPR	Guaynabo City	22.87	26	P	P	11 49 47.2	+0.1
GCPR				IAmb	IAmb	11 49 49.2	
	comp=Z,28nm,0.8s						
PETF	Flores	23.38	326	P	P	11 49 53.0	+1.3
PETF				IAmb	IAmb	11 50 26.3	
	comp=Z,40nm,1.1s						
GO02	Mina Guanaco	23.57	165	P	P	11 49 55.1	+1.2
GO02				IAmb	IAmb	11 50 10.9	
	comp=Z,70nm,1.1s						
SABA	Saba	23.66	32	P	P	11 49 54.4	0.0
SEUS	St. Eustatius	23.70	33	P	P	11 49 55.7	+1.0
GDSD	La Dsirade Is	23.89	39	P	P	11 49 55.2	-1.2
CCIG	Comitan	24.25	320	P	P	11 50 00.3	+0.3
GRTK	Grand Turk	24.26	12	P	P	11 50 00.4	+0.7
AC01	Pan de Azucar	24.28	167	P	P	11 49 60.0	+0.1
SALV	Santo Antonio	24.35	125	eP	P	11 50 03.1	+2.4
AC02	Maricunga	25.29	165	P	P	11 50 12.1	+2.5
TEIG	Tepich	25.34	333	P	P	11 50 10.7	+1.1
TEIG				IAmb	IAmb	11 50 44.3	
	comp=Z,36nm,0.9s						
BDQN	Bodoquena, MS	26.21	135	eP	P	11 50 19.1	+1.6
SNDB	Serra Nova Dou	26.55	112	eP	P	11 50 21.3	+0.7
CMIG	Matias Romero	26.65	317	P	P	11 50 21.1	-0.3
	comp=Z,2.7nm,0.5s,baz=131,slow=11,SNR=8.3						
CMIG				pP	pP	11 50 53.4	+0.8
	comp=Z,12nm,0.9s,baz=132,slow=9.9,SNR=8.7						
CMIG				PcP	PcP	11 53 41.9	+0.2
	comp=Z,4.0nm,0.8s,baz=134,slow=5.0,SNR=7.4						
	comp=Z,2.7nm,0.5s						
PRPB	Paraupebas	26.67	99	eP	P	11 50 21.4	-0.3
AQDB	Aquidauana	26.98	133	P	P	11 50 25.3	+1.0
AQDB				IAmb	IAmb	11 50 26.1	
	comp=Z,22nm,0.7s						
AQDB	Aquidauana	26.98	133	eP	P	11 50 24.2	-0.2
LCO	Las Campanas	27.03	169	P	P	11 50 25.6	+0.6
ARAG	Araguaiana, MT	27.52	120	eP	P	11 50 29.5	+0.2
CO05	La Serena	27.82	171	P	P	11 50 31.5	-0.3
TMAB	Tom-Au,PA,Br	28.17	91	eP	P	11 50 36.3	+1.2
RPRD	Ribas do Rio P	28.46	131	eP	P	11 50 38.5	+0.9
AMBA	Amambai (Brazi	29.07	136	eP	P	11 50 43.1	+0.2
CO02	Combarbal	29.12	171	P	P	11 50 44.6	+1.2
SMTB	Santa Maria do	29.27	104	eP	P	11 50 45.2	+0.4
SJPY	San Joaquin	29.76	141	eP	P	11 50 48.6	-0.4
ZON	Zonda	29.91	167	P	P	11 50 51.5	+1.3
CPUP	Villa Florida	30.00	144	P	P	11 50 50.9	-0.2
CPUP	Villa Florida	30.00	144	P	P	11 50 50.8	-0.2
	comp=Z,5.1nm,0.8s,baz=306,slow=9.8,SNR=22						
CPUP				PcP	PcP	11 53 50.6	+0.7
	comp=Z,1.0nm,0.6s,baz=204,slow=3.1,SNR=5.1						
	comp=Z,5.1nm,0.8s						
CPUP	Villa Florida	30.00	144	P	P	11 50 50.5	-0.6
CFA	Coronel Fontan	30.07	166	P	P	11 50 52.5	+0.9
	comp=Z,13nm,0.9s,baz=345,slow=11,SNR=13						
CFA				PcP	PcP	11 53 50.6	+0.6
	comp=Z,1.9nm,0.8s,baz=326,slow=4.1,SNR=4.1						
	comp=Z,13nm,0.9s						
ITRB	Iturama	30.65	126	eP	P	11 50 57.0	+0.1
DWPF	Disney Wildern	30.70	351	P	P	11 50 57.9	+0.7
VA03	San Esteban	30.72	170	P	P	11 50 58.9	+1.4
BDFB	Brasilia	30.83	117	P	P	11 50 59.6	+0.9
BDFB				IAmb	IAmb	11 51 03.0	
	comp=Z,56nm,1.5s						
BDFB	Brasilia	30.83	117	P	P	11 50 59.3	+0.6
	comp=Z,16nm,0.6s,baz=294,slow=11,SNR=10.0						
	comp=Z,16nm,0.6s						
PCMB	Pacaembu	30.97	130	eP	P	11 50 59.6	-0.2
PEL	Peldehue	31.07	171	P	P	11 51 01.7	+1.2
PEL	Peldehue	31.07	171	P	P	11 51 01.6	+1.1
MT05	Renca	31.31	171	P	P	11 51 04.5	+1.9
MT08	Bocatoma Ro	31.48	170	P	P	11 51 06.7	+2.4
MT08					PcP	11 53 54.8	+0.8
IPMB	Ipameri, GO	31.62	121	eP	P	11 51 05.7	+0.2
MT09	Talagante	31.65	172	P	P	11 51 07.0	+1.3
MT01	Popeta	31.70	172	P	P	11 51 05.7	-0.2
MT01				IAmb	IAmb	11 51 09.0	
	comp=Z,24nm,0.9s						
LMEL	Las Melosas	31.84	170	P	P	11 51 09.0	+1.6
BO04	La Punta	31.91	171	P	P	11 51 09.3	+1.4
BO01	Tunca	32.24	172	P	P	11 51 11.3	+0.6
BO01				PcP	PcP	11 53 55.9	+0.2
PTGB	Pitanga	32.26	136	eP	P	11 51 11.0	-0.1
SDBA	SAO DESIDERIO	32.65	109	eP	P	11 51 14.5	0.0
BO02	Sierra Bellavi	32.67	172	P	P	11 51 15.6	+1.1
BO02				IAmb	IAmb	11 51 18.8	

LL01 IAmb IAmb 11 52 17.6
comp=Z,39nm,1.1s
WHAR Wooly Hollow 40.34 340 P P 11 52 18.3 -1.1
WHAR IAmb IAmb 11 52 52.8
comp=Z,78nm,1.9s
S51A Beattyville 40.37 351 P P 11 52 19.3 -0.3
S51A IAmb IAmb 11 52 55.4
comp=Z,37nm,1.1s
NBAN Anadia - AL 40.42 102 eP P 11 52 21.0 +0.5
RCBR Riachuelo 40.43 96 P P 11 52 20.8 +0.3
RCBR IAmb IAmb 11 52 22.9
comp=Z,40nm,0.8s
SAND Sanderson 40.52 324 P P 11 52 21.6 +0.6
GO07 Milladeo Hill, 40.65 177 P P 11 52 22.7 +0.9
OZNA Ozona 40.68 326 IAmb IAmb 11 52 57.5
comp=Z,22nm,1.3s
PLPT Palo Pinto 40.72 331 IAmb IAmb 11 52 57.1
comp=Z,29nm,1.0s
FCAR Ozark Folk Cen 40.83 340 P P 11 52 22.1 -1.3
FCAR IAmb IAmb 11 52 56.6
comp=Z,37nm,1.6s
LL02 Futaleuf 40.85 175 P P 11 52 23.8 +0.3
LL02 IAmb IAmb 11 52 24.9
comp=Z,38nm,1.0s
TXAR Lajitas Array 40.99 322 P P 11 52 25.2 +0.3
TXAR PcP PcP 11 54 22.5 +0.2
TXAR Lajitas Array 40.99 322 P P 11 52 25.5 +0.6
comp=Z,2.4nm,0.5s,baz=134,slow=6.0,SNR=12
TXAR pP pP 11 52 58.7 +0.9
comp=Z,2.7nm,0.9s,baz=133,slow=5.5,SNR=3.3
TXAR PcP PcP 11 54 23.3 +1.0
comp=Z,2.8nm,0.7s,baz=127,slow=4.0,SNR=8.4
TXAR ScP ScP 11 57 58.0 -0.3
comp=Z,1.2nm,0.9s,baz=136,slow=3.2,SNR=4.5
comp=Z,2.4nm,0.5s
TX31 Lajitas Ar. Si 40.99 322 P P 11 52 25.0 0.0
PBMO Poplar Bluff 41.10 343 P P 11 52 24.4 -1.2
R50A Paris 41.12 350 P P 11 52 24.9 -0.8
R50A IAmb IAmb 11 53 01.3
comp=Z,22nm,0.9s
ABTX Abilene, Hawle 41.22 330 P P 11 52 26.8 +0.1
ABTX IAmb IAmb 11 53 01.5
comp=Z,18nm,1.0s
R49A Shelbyville 41.27 349 P P 11 52 26.8 -0.2
R49A IAmb IAmb 11 53 02.2
comp=Z,32nm,1.2s
Q54A Coxs Mills 41.35 355 P P 11 52 27.5 -0.1
Q54A IAmb IAmb 11 53 04.7
comp=Z,38nm,1.3s
SIUC Southern Illin 41.63 345 IAmb IAmb 11 52 29.3
comp=Z,16nm,0.8s
ALPN Alpine 41.72 323 IAmb IAmb 11 53 06.5
comp=Z,42nm,1.4s
SLBS Sierra La Lagu 41.74 310 P P 11 52 32.1 +1.0
SLBS IAmb IAmb 11 52 33.3
comp=Z,19nm,0.7s
SLBS Sierra La Lagu 41.74 310 P P 11 52 32.1 +1.0
P53A Whipple 41.91 354 IAmb IAmb 11 53 08.6
comp=Z,75nm,1.6s
MNHN Monahans 41.91 325 IAmb IAmb 11 53 07.9
comp=Z,17nm,1.0s
APMT Aspermont 42.02 330 IAmb IAmb 11 53 08.3
comp=Z,26nm,1.2s
MGMO Mountain Grove 42.02 341 P P 11 52 31.9 -1.2
MGMO IAmb IAmb 11 53 07.6
comp=Z,34nm,1.1s
SN05 Snyder 5 42.06 328 IAmb IAmb 11 53 09.0
comp=Z,52nm,1.2s
RLO Rose Lookout 42.12 337 P P 11 52 33.1 -0.8
RLO IAmb IAmb 11 53 07.8
comp=Z,34nm,1.2s
U38A Gravette 42.12 338 IAmb IAmb 11 53 07.4
comp=Z,26nm,1.3s
MVL Millersville 42.15 360 P P 11 52 34.7 +0.6
MVL IAmb IAmb 11 53 10.1
comp=Z,40nm,0.9s
TUL3 Leonard 42.21 336 P P 11 52 34.0 -0.7
TUL3 IAmb IAmb 11 53 08.5
comp=Z,36nm,1.2s
SN07 Snyder 07 42.23 329 IAmb IAmb 11 53 10.1
comp=Z,42nm,1.2s
CCM Cathedral Cave 42.53 342 P P 11 52 35.8 -1.4
CCM IAmb IAmb 11 53 10.5
comp=Z,65nm,1.8s
POST Post 42.53 328 IAmb IAmb 11 53 12.8
comp=Z,47nm,1.1s
PECS Pecos 42.58 324 P P 11 52 38.8 +1.0
PECS IAmb IAmb 11 53 14.3
comp=Z,40nm,1.4s
DKNS Dickens 42.70 329 IAmb IAmb 11 53 14.2
comp=Z,39nm,1.1s
VHRN Van Horn 42.82 323 IAmb IAmb 11 53 16.3
comp=Z,32nm,1.2s
OK051 E0350 and S346 43.15 336 P P 11 52 41.8 -0.4
OK051 IAmb IAmb 11 53 16.4
comp=Z,41nm,1.1s
O48B Farmland 43.18 350 IAmb IAmb 11 53 17.7
comp=Z,24nm,0.9s
COYC Coyhaique 43.20 176 P P 11 52 41.8 -0.7
M57A Sunshine Farm, 43.50 359 IAmb IAmb 11 53 21.2
comp=Z,42nm,0.9s
MNTX Cornudas Mount 43.71 323 P P 11 52 47.1 +0.3
KSPA Keystone Colle 43.71 1 P P 11 52 47.7 +1.1
KSPA IAmb IAmb 11 53 22.1
comp=Z,22nm,0.9s
MSTX Muleshoe 43.90 328 P P 11 52 48.1 -0.3
KAN14 Manchester OK 44.00 335 IAmb IAmb 11 53 23.4
comp=Z,43nm,1.1s
KAN09 Caldwell North 44.01 335 P P 11 52 49.0 -0.1
KAN09 IAmb IAmb 11 53 23.6
comp=Z,47nm,1.1s
AMTX Amarillo 44.04 330 P P 11 52 50.0 +0.5
AMTX IAmb IAmb 11 53 24.8
comp=Z,44nm,0.9s
KAN01 Argonia South 44.08 335 IAmb IAmb 11 53 24.3
comp=Z,66nm,1.2s
KAN08 Anthony NE Sta 44.23 335 IAmb IAmb 11 53 25.5
comp=Z,56nm,1.1s
L56A Greenwood 44.30 359 IAmb IAmb 11 53 27.1
comp=Z,28nm,1.0s
BINY Binghamton 44.35 0 IAmb IAmb 11 53 27.9
comp=Z,46nm,0.9s
P38A Dawn 44.68 341 IAmb IAmb 11 53 27.9
comp=Z,51nm,1.6s
L61B Northampton 44.72 4 P P 11 52 54.9 +0.3
L61B IAmb IAmb 11 52 55.8
comp=Z,38nm,0.9s
BCX Boston College 44.73 5 IAmb IAmb 11 52 56.7
comp=Z,38nm,0.8s
WES Weston 44.76 5 P P 11 52 55.5 +0.5
AY03 Cochrane 44.83 176 P P 11 52 55.8 +0.3
AY03 IAmb IAmb 11 52 58.1
comp=Z,31nm,0.8s
HRV Adam Dziewonsk 44.86 5 P P 11 52 55.8 0.0
HRV IAmb IAmb 11 52 59.2
comp=Z,24nm,0.8s
HRV Adam Dziewonsk 44.86 5 P P 11 52 56.0 +0.2
HRV pP pP 11 53 30.2 +1.2
K57A Scipio Center 44.88 360 P P 11 52 56.2 +0.3
TRY Troy 44.95 3 P P 11 52 56.8 +0.4
TRY IAmb IAmb 11 52 58.8
comp=Z,36nm,0.8s
J57A Williamstown 45.56 0 IAmb IAmb 11 53 36.8
comp=Z,39nm,0.9s
ACCN Adirondack Com 45.60 3 IAmb IAmb 11 53 03.3
comp=Z,22nm,0.8s
J61A Chester 45.62 4 IAmb IAmb 11 53 03.7
comp=Z,32nm,0.8s
J59A Piesco 45.65 2 IAmb IAmb 11 53 04.1
comp=Z,34nm,0.8s
319A Douglas 45.92 320 IAmb IAmb 11 53 06.6
comp=Z,22nm,1.2s
HNH Hanover 46.00 4 P P 11 53 05.7 +1.0
J47A Sunmer 46.04 351 IAmb IAmb 11 53 40.7
comp=Z,40nm,0.9s
VT1 Waterbury 46.59 3 IAmb IAmb 11 53 12.1
comp=Z,22nm,0.8s
ANMO Albuquerque 46.66 325 P P 11 53 11.3 +1.0
ANMO IAmb IAmb 11 53 12.0
comp=Z,21nm,0.7s
ANMO Albuquerque 46.66 325 P P 11 53 11.0 +0.7
ANMO pP pP 11 53 45.2 +1.4
DELO Deloro Mine 46.69 359 P P 11 53 10.1 0.0
DELO IAmb IAmb 11 53 45.5
comp=Z,25nm,1.0s
JFWS Jewell Farm 46.79 346 P P 11 53 10.7 -0.2

LONY Lake Ozonia 46.80 2 P P 11 53 11.5 +0.6
LONY IAmb IAmb 11 53 12.4
comp=Z,65nm,1.6s
H62A Milan 46.95 5 IAmb IAmb 11 53 13.9
comp=Z,31nm,1.0s
SADO Sadowa 46.99 357 IAmb IAmb 11 53 47.4
comp=Z,30nm,1.1s
WVL Waterville 47.09 6 IAmb IAmb 11 53 17.3
comp=Z,23nm,0.9s
T25A Trinidad 47.19 329 IAmb IAmb 11 53 51.0
comp=Z,29nm,1.1s
TUC Tucson 47.50 319 P P 11 53 16.8 +0.1
TUC Tucson 47.50 319 P P 11 53 17.2 +0.5
EMMW East Machias 47.52 9 IAmb IAmb 11 53 17.5
comp=Z,20nm,0.6s
BUKO Buck Lake 47.67 357 IAmb IAmb 11 53 52.0
comp=Z,25nm,1.1s
GGN Saint George 48.02 9 IAmb IAmb 11 53 21.9
comp=Z,29nm,0.9s
SDCO Great Sand Dun 48.21 329 IAmb IAmb 11 53 58.8
comp=Z,27nm,1.0s
TRQ Mont Tremblant 48.40 2 P P 11 53 22.7 -0.6
TRQ IAmb IAmb 11 53 24.5
comp=Z,22nm,1.0s
X18A Snowflake 48.43 322 P P 11 53 24.1 +0.2
X18A IAmb IAmb 11 54 01.6
comp=Z,20nm,1.5s
F64A Sherman 48.53 7 P P 11 53 24.9 +0.7
214A Organ Pipe Nat 48.62 318 IAmb IAmb 11 54 01.8
comp=Z,24nm,1.3s
W18A Petrified Fore 48.70 323 IAmb IAmb 11 53 28.1
comp=Z,42nm,1.0s
S22A 4UR Ranch, Cre 48.91 328 IAmb IAmb 11 54 04.1
comp=Z,23nm,1.2s
GBN Guysborough 49.34 14 IAmb IAmb 11 53 34.1
comp=Z,39nm,1.4s
ECSD EROS Data Cent 49.38 341 IAmb IAmb 11 54 04.6
comp=Z,31nm,1.2s
MVCO Mesa Verde 49.43 326 IAmb IAmb 11 54 07.9
comp=Z,45nm,1.8s
K30B Basset 49.53 337 P P 11 53 31.8 -0.2
WUAZ Wupatki 49.96 322 IAmb IAmb 11 53 37.7
comp=Z,24nm,1.1s
PV01 Paradox Valley 50.13 327 IAmb IAmb 11 54 13.5
comp=Z,21nm,1.2s
VLDQ Val d'Or 50.27 359 IAmb IAmb 11 54 13.2
comp=Z,19nm,1.1s
PV13 Radium Mtn., P 50.29 327 IAmb IAmb 11 54 14.3
comp=Z,36nm,1.2s
VTX Valle De La Tr 50.34 315 IAmb IAmb 11 54 14.8
comp=Z,16nm,1.2s
PV03 Paradox Valley 50.37 327 IAmb IAmb 11 54 14.8
comp=Z,23nm,1.3s
PV05 Paradox Valley 50.38 326 IAmb IAmb 11 54 14.7
comp=Z,32nm,1.3s
PV11 David Mesa, Pa 50.42 327 IAmb IAmb 11 54 15.2
comp=Z,40nm,1.5s
PV16 Nyonger Mesa 50.45 327 IAmb IAmb 11 54 15.5
comp=Z,19nm,1.2s
PV17 East Wray Mesa 50.45 327 IAmb IAmb 11 54 15.4
comp=Z,23nm,1.2s
PV19 Morning Glory 50.48 327 IAmb IAmb 11 54 16.4
comp=Z,24nm,1.1s
PV20 West Nyswonger 50.50 327 P P 11 53 40.4 +0.9
PV20 IAmb IAmb 11 54 15.8
comp=Z,18nm,1.0s
PV10 Paradox Valley 50.56 327 IAmb IAmb 11 54 15.8
comp=Z,28nm,1.1s
PV23 Carpenter Ridg 50.60 327 IAmb IAmb 11 54 21.5
comp=Z,19nm,1.3s
F33A 5 Mile Ranch, 51.16 342 IAmb IAmb 11 54 18.0
comp=Z,26nm,1.1s
HMU Henry Mountain 51.21 325 IAmb IAmb 11 53 48.0
comp=Z,15nm,0.7s
CBX Cerro Bola 51.48 315 IAmb IAmb 11 54 23.9
comp=Z,23nm,1.2s
KNB Kanab 51.82 323 IAmb IAmb 11 54 26.6
comp=Z,32nm,1.8s
EYMN Ely 51.83 347 IAmb IAmb 11 54 23.4
comp=Z,42nm,1.1s
SRU San Rafael Swe 51.90 326 IAmb IAmb 11 54 26.4
comp=Z,33nm,1.5s
PFO Pinyon Flats O 52.07 317 P P 11 53 52.1 +0.8
LCMT Little Creek M 52.08 322 P P 11 53 51.6 +0.4
CPE Camp Elliot 52.11 316 P P 11 53 52.0 +0.6
CPE IAmb IAmb 11 54 28.6
comp=Z,18nm,1.2s
Q16A Castle Valley 52.13 326 IAmb IAmb 11 54 28.4
comp=Z,42nm,1.8s
RSSD Black Hills 52.52 335 P P 11 53 55.3 +0.8
RSSD Black Hills 52.52 335 P P 11 53 55.4 +0.9
RSSD pP pP 11 54 30.3 +1.5
ELS Elsinore Mount 52.76 316 P P 11 53 56.4 +0.1
BSUT Blindstream Ca 53.03 327 IAmb IAmb 11 54 35.2
comp=Z,25nm,1.5s
GSC Goldstone, Bar 53.29 318 IAmb IAmb 11 54 02.2
comp=Z,24nm,1.5s
PSUT Pine Spring 53.43 323 P P 11 54 01.9 +0.6
MWC Mount Wilson 53.51 317 IAmb IAmb 11 54 03.8
comp=Z,14nm,0.9s
CCCA Chr Cany lake 53.79 318 IAmb IAmb 11 54 35.7
comp=Z,17nm,0.5s
TPNV Topopah Spring 53.91 320 IAmb IAmb 11 54 07.0
comp=Z,16nm,0.9s
WSHM Spangler Hills 53.92 318 IAmb IAmb 11 54 06.0
comp=Z,8.6nm,0.7s
DRLN Deer Lake 53.92 15 IAmb IAmb 11 54 06.9
comp=Z,39nm,1.2s
DUG Dugway, Tooele 53.93 326 P P 11 54 05.8 +1.0
DUG IAmb IAmb 11 54 06.8
comp=Z,11nm,0.7s
LRMC Laurel Mtn Rad 53.97 318 IAmb IAmb 11 54 07.2
comp=Z,18nm,1.4s
TPO Tropico Hills 54.00 317 IAmb IAmb 11 54 42.0
comp=Z,16nm,1.0s
SPR3 Spring Creek 3 54.02 324 IAmb IAmb 11 54 07.2
comp=Z,12nm,0.9s
BW06 Boulder Array 54.02 330 IAmb IAmb 11 54 41.4
comp=Z,19nm,1.6s
PD31 Pinedale Array 54.02 330 IAmb IAmb 11 54 41.4
comp=Z,18nm,1.5s
PDAR Pinedale Array 54.02 330 P P 11 54 05.7 +0.2
PDAR Pinedale Array 54.02 330 P P 11 54 05.4 -0.1
comp=Z,1.3nm,0.6s,baz=136,slow=8.1,SNR=10
PDAR pP pP 11 54 39.8 -0.1
comp=Z,1.1nm,0.7s,baz=132,slow=4.1,SNR=2.9
PDAR PcP PcP 11 55 08.4 -0.3
comp=Z,0.7nm,0.4s,baz=140,slow=3.4,SNR=4.6
PDAR ScP ScP 11 58 52.5 -0.5
comp=Z,0.8nm,0.8s,baz=141,slow=2.2,SNR=4.5
PDAR S S 12 01 26.0 -4.3
comp=Z,0.2nm,0.4s,baz=120,slow=15,SNR=2.2
comp=Z,1.3nm,0.6s
S11A Rachel 54.02 321 IAmb IAmb 11 54 16.9
comp=Z,10nm,1.0s
WCT Wildcat Mounta 54.05 320 IAmb IAmb 11 54 08.0
comp=Z,13nm,1.0s
CLC China Lake 54.11 319 P P 11 54 06.2 +0.1
CLC IAmb IAmb 11 54 42.8
comp=Z,19nm,1.7s
HWUT Hardware Ranch 54.22 328 IAmb IAmb 11 54 07.8
comp=Z,11nm,0.7s
R11B Troy Canyon, C 54.36 322 IAmb IAmb 11 54 10.1
comp=Z,16nm,1.4s
BGU Big Grassy Mou 54.55 326 IAmb IAmb 11 54 46.5
comp=Z,16nm,1.1s
GRAC Grapevine Rang 54.65 320 P P 11 54 10.6 +0.7
GMN Gold Mountain 54.76 320 IAmb IAmb 11 54 12.9
comp=Z,11nm,0.9s
CWC Cottonwood Cre 54.79 319 IAmb IAmb 11 54 13.0
comp=Z,14nm,1.3s
AHID Auburn Hatcher 54.80 329 P P 11 54 11.1 0.0
AHID IAmb IAmb 11 54 11.8
comp=Z,7.2nm,0.7s
LOHW Long Hollow 55.16 330 IAmb IAmb 11 54 50.0
comp=Z,20nm,1.4s
DSP Deep Springs 55.26 320 IAmb IAmb 11 54 16.5
comp=Z,13nm,1.1s
ELK Elko 55.68 325 IAmb IAmb 11 54 26.9
comp=Z,19nm,1.9s
NV11 Mina Array Sit 56.01 321 P P 11 54 20.2 +0.4
NV11 IAmb IAmb 11 54 21.7
comp=Z,8.1nm,0.8s
NVAR Mina Array Bea 56.10 321 P P 11 54 21.0 +0.5
NVAR Mina Array Bea 56.10 321 P P 11 54 21.2 +0.7
comp=Z,8.4nm,0.8s,baz=112,slow=5.8,SNR=48
NVAR pP pP 11 54 57.3 +2.1
comp=Z,3.1nm,0.7s,baz=115,slow=5.0,SNR=3.1
NVAR PcP PcP 11 55 15.6 -1.2
comp=Z,4.1nm,0.8s,baz=114,slow=4.9,SNR=5.0
NVAR ScP ScP 11 59 02.2 0.0
comp=Z,1.2nm,0.8s,baz=109,slow=5.0,SNR=5.7
comp=Z,8.4nm,0.8s
LHV Little Huntoon 56.12 320 IAmb IAmb 11 54 22.8
comp=Z,9.1nm,0.8s
YHH Holmes Hill 56.13 331 P P 11 54 21.5 +0.8
WAKR Walker 56.86 320 IAmb IAmb 11 54 28.0
comp=Z,7.8nm,0.8s
BOZ Bozeman (W) 57.10 331 IAmb IAmb 11 55 04.8
comp=Z,18nm,1.1s
MCMT McKenzie Canyo 57.15 330 P P 11 54 28.3 +0.4
CMB Columbia Colle 57.21 319 P P 11 54 28.4 +0.2
PAHR Pah Rah Range 57.53 321 P P 11 54 31.5 +1.0
PAHR IAmb IAmb 11 54 32.5
comp=Z,14nm,1.0s
SCHQ Schefferville 57.53 6 P P 11 54 30.2 +0.2
comp=Z,27nm,0.6s,baz=184,slow=8.7,SNR=46
SCHQ pP pP 11 55 04.8 0.0
comp=Z,9.9nm,0.9s,baz=168,slow=3.7,SNR=1.8
comp=Z,27nm,0.6s
MPK Martis Peak 57.70 321 IAmb IAmb 11 54 34.0
comp=Z,26nm,1.0s
MFID Camas Ranch 57.76 327 IAmb IAmb 11 54 33.8
comp=Z,13nm,0.8s
EGMT Eagleton 58.05 334 IAmb IAmb 11 55 10.3
comp=Z,15nm,1.0s
BEKR Beckworth 58.23 321 P P 11 54 36.4 +0.9
BEKR IAmb IAmb 11 54 37.2
comp=Z,13nm,0.8s
WVOR Wild Horse Val 58.72 324 IAmb IAmb 11 54 40.1
comp=Z,19nm,0.9s
MSO Missoula 59.10 331 IAmb IAmb 11 55 18.9
comp=Z,12nm,1.1s
J08A Circle Bar Ran 59.20 325 IAmb IAmb 11 55 20.0
comp=Z,11nm,1.1s
HATC Hat Creek Radi 59.47 321 IAmb IAmb 11 54 45.3
comp=Z,20nm,0.9s
K05A Summer Lake 60.23 323 IAmb IAmb 11 54 51.2
comp=Z,31nm,1.2s
G08A Pilot Rock 60.68 327 IAmb IAmb 11 55 30.2
comp=Z,23nm,1.3s
LNOR Lincton Mounta 60.69 328 IAmb IAmb 11 55 30.8
comp=Z,13nm,1.2s
FFC Flin Flon 60.72 343 P P 11 54 51.3 -0.6
FFC IAmb IAmb 11 55 28.1
comp=Z,40nm,1.6s
FFC Flin Flon 60.72 343 P P 11 54 50.9 -1.1
J05D Fort Rock, OR 60.76 324 P P 11 54 53.5 +0.9
J05D IAmb IAmb 11 54 55.0
comp=Z,33nm,1.2s
YBH Yreka Blue Hor 60.76 322 IAmb IAmb 11 54 52.7
comp=Z,7.1nm,0.8s
PINE Pine Mountain 60.88 324 P P 11 54 54.8 +1.2
I05D Terrebonne, OR 61.44 325 IAmb IAmb 11 54 59.1
comp=Z,20nm,0.8s
KSXB Camp Six Broad 61.54 321 P P 11 54 59.1 +1.2
G06A Carlson Farm, 61.58 326 P P 11 54 59.3 +1.3
G06A IAmb IAmb 11 55 00.4
comp=Z,11nm,1.0s
CMLA Cha da Macela 61.58 44 P P 11 54 58.6 +0.5
K02D Willamette Mer 61.89 322 IAmb IAmb 11 55 01.6
comp=Z,30nm,1.2s
H04A Detroit Lake 62.13 325 IAmb IAmb 11 55 02.8
comp=Z,10nm,1.0s
HOOD Mount Hood Mea 62.20 325 P P 11 55 03.1 +0.9
HOOD IAmb IAmb 11 55 04.5
comp=Z,30nm,1.4s
MXC Moxie City 62.21 327 P P 11 55 03.0 +0.8
MXC IAmb IAmb 11 55 41.2
comp=Z,10.0nm,1.2s
I03D Drain, OR 62.25 323 P P 11 55 02.9 +0.4
BUCK Buck Mountain 62.32 324 P P 11 55 03.4 +0.4
BUCK IAmb IAmb 11 55 04.0
comp=Z,16nm,0.9s
ESPZ Base Esperanza 62.54 170 P P 11 55 03.8 -0.2
ESPZ IAmb IAmb 11 55 43.3
comp=Z,20nm,1.0s
G04A Mulino 62.61 325 P P 11 55 05.0 +0.2
G04A IAmb IAmb 11 55 43.8
comp=Z,21nm,0.9s
I02E Swisshome, OR 62.78 323 P P 11 55 07.4 +1.4
LON Longmire 63.15 327 IAmb IAmb 11 55 09.6
comp=Z,7.9nm,0.9s
D05A Enumclaw 63.51 327 IAmb IAmb 11 55 12.2
comp=Z,19nm,0.9s
E03A Lebam 64.00 326 IAmb IAmb 11 55 15.8
comp=Z,13nm,0.8s
GNW Green Mountain 64.19 327 IAmb IAmb 11 55 16.1
comp=Z,9.0nm,1.0s
NLWA Neilton Lookou 64.66 326 IAmb IAmb 11 55 20.5
comp=Z,12nm,0.8s
MACI Morro de la Ar 64.89 57 P P 11 55 21.2 +0.9
PMOZ Porto Moniz, M 65.79 52 eP P 11 55 25.9 -0.1
PMOZ *i* IAmb IAmb 11 55 31.5
comp=Z,85nm,1.1s
SMAI San Martin Ant 65.95 176 P P 11 55 27.1 +1.0
IVI Ivigtut 66.99 14 P P 11 55 32.6 -0.1
IVI Ivigtut 66.99 14 P P 11 55 32.7 -0.1
IVI pP pP 11 56 08.8 +0.1
BLKN Baker Lake 68.10 351 P P 11 55 39.0 -0.7
YKAW1 Yellowknife Wh 70.82 342 P P 11 55 56.3 -0.2
YKAW1 IAmb IAmb 11 55 59.1
comp=Z,12nm,1.6s
YKA Yellowknife Ar 70.87 342 P P 11 55 56.0 -0.7
comp=Z,1.3nm,0.6s,baz=139,slow=5.4,SNR=14
comp=Z,1.3nm,0.6s
YKAW3 Yellowknife Wh 70.92 342 P P 11 55 56.4 -0.6
YKAW3 IAmb IAmb 11 56 17.8
comp=Z,9.6nm,1.4s
DBIC Dimbokro 71.87 82 P P 11 56 04.2 +0.5
DBIC Dimbokro 71.87 82 P P 11 56 04.2 +0.5
comp=Z,57nm,0.8s,baz=284,slow=6.5,SNR=45
comp=Z,57nm,0.8s
DBIC Dimbokro 71.87 82 P P 11 56 04.4 +0.6
TOAD Toad River Com 72.17 336 P P 11 56 05.3 +0.6
baz=128
V35K Ketchikan 73.06 331 P P 11 56 10.6 +0.7
baz=121
T35M Bob Quinn 73.28 332 P P 11 56 12.3 +1.0
baz=122
ILULI Ilulissat 73.47 9 P P 11 56 12.2 +0.2
ILULI IAmb IAmb 11 56 49.0
comp=Z,40nm,1.1s
PFVI Vila Bisbo 73.66 50 eP P 11 56 14.9 +1.1
PFVI *i* IAmb IAmb 11 56 16.1
comp=Z,140nm,1.1s
AVE Averroes 73.79 54 P P 11 56 15.6 +0.9
MORF Marmelete 73.84 50 eP P 11 56 16.1 +1.2
MORF IAmb IAmb 11 56 17.9
comp=Z,138nm,1.1s
MORF Marmelete 73.84 50 P P 11 56 15.4 +0.5
MORF Marmelete 73.84 50 eP P 11 56 16.1 +1.2
MORF *i* IAmb IAmb 11 56 18.4
comp=Z,155nm,1.7s
PTEO Sao Teotonio 73.85 50 eP P 11 56 15.5 +0.6
PTEO *i* IAmb IAmb 11 56 17.6
comp=Z,88nm,1.5s
CRAG Craig 73.88 330 P P 11 56 16.5 +1.8
baz=120
PARRA Arraiolos 73.96 49 eP P 11 56 20.0 +4.4
PARRA *i* IAmb IAmb 11 56 22.8
comp=Z,42nm,2.0s
DLBC Dease Lake 73.97 334 P P 11 56 16.2 +0.8
baz=123
S34M Telegraph Cree 74.18 333 P P 11 56 17.4 +0.9
baz=122
WRGLY Wrigley 74.27 340 P P 11 56 18.4 +1.6
baz=130
MESJ Messejana 74.31 50 eP P 11 56 18.8 +1.1
MESJ IAmb IAmb 11 56 19.6
comp=Z,25nm,1.1s
MESJ Messejana 74.31 50 eP P 11 56 18.3 +0.6
MESJ *i* IAmb IAmb 11 56 22.5
comp=Z,41nm,1.8s
PBDV Barranco-do-Ve 74.37 50 eP P 11 56 19.2 +1.2
PBDV *i* IAmb IAmb 11 56 20.4
comp=Z,67nm,1.4s
WTLY Watson Lake, Y 74.38 336 P P 11 56 18.6 +0.9
WTLY Watson Lake, Y 74.38 336 P P 11 56 18.9 +1.2
baz=125
PCVE Castro Verde 74.39 50 eP P 11 56 19.0 +0.8
PCVE *i* IAmb IAmb 11 56 20.2
comp=Z,66nm,1.2s

PVAQ **Vaqueiros** 74.58 50 *e*P P 11 56 20.2 +1.0
PVAQ *i* lAmb lAmb 11 56 40.3
comp=Z,41nm,2.1s
PBEJ **Beja** 74.63 50 *e*P P 11 56 20.1 +0.6
PBEJ *i* lAmb lAmb 11 56 43.4
comp=Z,40nm,1.8s
PMTG **Montargil** 74.64 48 *e*P P 11 56 19.3 -0.3
PMTG *i* lAmb lAmb 11 56 20.8
comp=Z,53nm,1.0s
EVO **Evora** 74.66 49 *e*P P 11 56 19.9 +0.2
EVO *i* lAmb lAmb 11 56 21.2
comp=Z,39nm,1.0s
PCAS **Casmilo, Conde** 74.72 47 *e*P P 11 56 20.1 +0.1
PCAS *i* lAmb lAmb 11 56 21.5
comp=Z,89nm,1.2s
COI **Coimbra** 74.82 47 P P 11 56 20.8 +0.2
COI **Coimbra** 74.82 47 *e*P P 11 56 20.8 +0.2
COI *i* lAmb lAmb 11 56 21.8
comp=Z,152nm,1.0s
PSARD **Sardoal** 74.84 48 *e*P P 11 56 20.6 0.0
PSARD *i* lAmb lAmb 11 56 21.8
comp=Z,63nm,1.0s
R33M **Jennings River** 74.90 334 P P 11 56 22.4 +1.6
baz=122
PTO **Porto** 74.95 46 *e*P P 11 56 23.2 +2.0
PTO *i* lAmb lAmb 11 56 24.6
comp=Z,77nm,1.4s
TGTN **Hyland Airport** 74.99 337 P P 11 56 22.9 +1.8
baz=126
PESTR **Estremoz** 75.06 49 P P 11 56 22.5 +0.5
PESTR **Estremoz** 75.06 49 *e*P P 11 56 22.5 +0.5
PESTR *i* lAmb lAmb 11 56 23.7
comp=Z,118nm,1.0s
Q32M **Nakina River** 75.24 334 P P 11 56 23.9 +1.1
baz=121
PBAR **Barrancos** 75.30 50 *e*P P 11 56 24.2 +0.9
PBAR *i* lAmb lAmb 11 56 26.4
comp=Z,41nm,1.5s
PVIS **Viseu** 75.34 47 *e*P P 11 56 23.5 -0.1
PMRV **Marv??o** 75.36 48 *e*P P 11 56 23.5 -0.2
PMRV *i* lAmb lAmb 11 56 25.3
comp=Z,50nm,1.6s
PCBR **Castelo Branco** 75.41 48 *e*P P 11 56 23.8 -0.1
PCBR *i* lAmb lAmb 11 56 25.7
comp=Z,59nm,1.7s
PGAV **Gavieira, Arco** 75.43 46 *e*P P 11 56 24.0 -0.1
PGAV *i* lAmb lAmb 11 56 25.8
comp=Z,45nm,1.4s
PCAB **Cabril** 75.53 46 *e*P P 11 56 24.5 -0.1
PCAB *i* lAmb lAmb 11 56 28.9
comp=Z,39nm,1.5s
S32K **Killisnoo** 75.56 332 P P 11 56 25.6 +1.2
baz=119
POLO **Lamas de Olo** 75.60 46 *e*P P 11 56 25.2 +0.1
POLO *i* lAmb lAmb 11 56 26.9
comp=Z,30nm,1.2s
PVRL **Vila Real** 75.63 46 *e*P P 11 56 25.2 0.0
PVRL *i* lAmb lAmb 11 56 26.4
comp=Z,48nm,1.3s
SIT **Sitka** 75.72 331 P P 11 56 26.5 +1.2
baz=118
R32K **Eaglecrest** 75.92 332 P P 11 56 27.6 +1.2
baz=119
MDT **Midelt** 75.98 55 P P 11 56 27.9 +0.4
comp=Z,7.5nm,0.7s,baz=272,slow=7.9,SNR=12
comp=Z,7.5nm,0.7s
MVO **Moncorvo** 76.10 47 *e*P P 11 56 27.9 0.0
MVO *i* lAmb lAmb 11 56 29.8
comp=Z,67nm,1.6s
P33M **Teslin, Yukon** 76.13 335 P P 11 56 29.1 +1.5
baz=121
P32M **Atlin** 76.20 334 P P 11 56 29.1 +1.0
baz=120
ACRG **Accra** 76.40 84 P P 11 56 29.7 -0.3
PBRG **Braganca** 76.48 46 *e*P P 11 56 30.1 0.0
PBRG *i* lAmb lAmb 11 56 32.0
comp=Z,32nm,1.5s
N32M **Quiet Lake** 76.72 335 P P 11 56 31.3 +0.3
N32M **Quiet Lake** 76.72 335 P P 11 56 32.4 +1.4
baz=121
MMPY **Sheldon Lake,** 76.77 337 P P 11 56 32.4 +1.1
MMPY **Sheldon Lake,** 76.77 337 P P 11 56 32.7 +1.5
baz=123
SKAG **Skagway** 76.86 333 P P 11 56 32.8 +1.1
baz=118
WHY **Whitehorse** 77.24 334 P P 11 56 34.7 +0.7
baz=119
PAB **San Pablo** 77.67 49 P P 11 56 36.9 +0.1
PAB lAmb lAmb 11 56 38.2
comp=Z,35nm,1.2s
M31M **Drury Creek, Y** 77.79 336 P P 11 56 37.7 +0.8
M31M **Drury Creek, Y** 77.79 336 P P 11 56 38.1 +1.2
baz=120
O30N **Mendenhall** 77.81 334 P P 11 56 38.5 +1.4
baz=118
ESDC **Sonseca Array** 77.99 49 P P 11 56 38.7 +0.2
ESDC lAmb lAmb 11 56 40.2
comp=Z,27nm,1.3s
ESDC **Sonseca Array** 77.99 49 P P 11 56 38.7 +0.2
comp=Z,12nm,1.1s,baz=254,slow=5.2,SNR=36
comp=Z,12nm,1.1s
ESBB **Sonseca Array** 77.99 49 lAmb lAmb 11 56 40.1
comp=Z,41nm,1.5s
N31M **Braeburn, Yuko** 78.02 335 P P 11 56 39.0 +0.8
N31M **Braeburn, Yuko** 78.02 335 P P 11 56 39.5 +1.4
baz=118
P29M **Windy Craggy** 78.03 333 P P 11 56 39.8 +1.5
baz=116
HYT **Haines Junctio** 78.46 334 P P 11 56 42.3 +1.6
baz=117
SUMG **Summit** 78.54 11 P P 11 56 40.9 -0.4
N30M **Aishikik Lake** 78.56 335 P P 11 56 42.5 +1.3
baz=117
BELA **Belgrano 2** 78.59 172 P P 11 56 41.7 +0.7
BELA lAmb lAmb 11 56 42.8
comp=Z,50nm,1.2s
O29M **Mount Kennedy** 78.70 333 P P 11 56 43.2 +1.2
baz=116
PNL **Peninsula** 78.80 333 P P 11 56 43.5 +1.0
baz=115
TORD **Torodi Ar. Bea** 78.85 76 P P 11 56 43.7 0.0
TORD lAmb lAmb 11 56 44.6
comp=Z,19nm,1.0s
TORD **Torodi Ar. Bea** 78.85 76 P P 11 56 43.6 0.0
comp=Z,10nm,0.4s,baz=285,slow=5.9,SNR=151
TORD PP PP 11 59 41.8 -2.6
comp=Z,3.2nm,1.0s,baz=274,slow=8.5,SNR=3.8
comp=Z,10nm,0.4s
YUK6 **Outpost Mounta** 78.89 334 P P 11 56 44.1 +0.9
baz=116
M30M **Minto, Yukon** 78.96 336 P P 11 56 44.5 +1.2
baz=118
MAYO **Mayo, Yukon** 79.08 337 P P 11 56 45.3 +1.4
baz=119
YUK4 **Talbot Arm** 79.18 334 P P 11 56 45.6 +0.9
baz=116
PINM **Pinnacle** 79.37 333 P P 11 56 46.5 +0.9
baz=114
M29M **Somme Creek** 79.59 335 P P 11 56 47.8 +1.0
baz=116
H31M **Peel River** 79.59 339 P P 11 56 47.9 +1.2
baz=120,SNR=7.0
O28M **Mount Upton** 79.62 333 P P 11 56 47.8 +0.5
baz=114
J30M **Hart River** 79.72 338 P P 11 56 48.7 +1.2
baz=118,SNR=6.4
L29M **L29M** 79.75 336 P P 11 56 48.8 +1.2
baz=116
CCA1 **Carnmenellis** 79.80 38⇑ *e*P P 11 56 48.2 +0.2
CCA1 lAmb lAmb 11 56 49.0
comp=Z,53nm,0.7s
K29M **Barlow Dome** 79.83 337 P P 11 56 49.1 +1.0
baz=117
I30M **Mount Dempster** 80.04 338 P P 11 56 50.1 +0.9
baz=118,SNR=18
G31M **Satah River** 80.14 340 lAmb lAmb 11 56 51.4
comp=Z,12nm,0.8s
G31M **Satah River** 80.14 340 P P 11 56 50.1 +0.7
baz=121,SNR=11
YUK3 **Moose Creek** 80.15 334 P P 11 56 50.8 +0.8
baz=114
MESA **MESA** 80.19 332 P P 11 56 50.9 +0.7
baz=112
CTG **Chitna Glacier** 80.22 333 P P 11 56 50.9 +0.7
baz=113
F31M **Tsiigehtchic** 80.23 341 P P 11 56 50.9 +0.9
baz=121,SNR=7.2

SBD **Saint Breward** 80.24 38⇑ *e*P P 11 56 50.4 0.0
VNA3 **Neumayer Olymp** 80.39 162 ⇓P P 11 56 51.1 +0.2
comp=Z,27nm,0.7s
HTL **Hartland** 80.48 37⇑ *e*P P 11 56 51.8 +0.1
HTL lAmb lAmb 11 56 53.5
comp=Z,37nm,0.8s
A36M **Sachs Harbour** 80.49 346 P P 11 56 52.4 +1.2
baz=130
RSBS **Rosebush, Pemb** 80.59 37⇑ *e*P P 11 56 51.8 -0.4
BVCY **Beaver Creek** 80.59 335 P P 11 56 53.0 +0.9
baz=114
VNA1 **Neumayer--Stat** 80.61 162 ⇓P P 11 56 52.9 +1.0
comp=Z,23nm,0.9s
INK **Inuvik** 80.61 342 P P 11 56 52.9 +0.9
INK **Inuvik** 80.61 342 P P 11 56 53.2 +1.2
baz=122
DAWY **Dawson** 80.67 337 P P 11 56 53.0 +0.5
baz=116
EPYK **Eagle Plains** 80.72 339 P P 11 56 53.3 +0.6
baz=118,SNR=5.5
BGLC **Bering Glacier** 80.78 332 P P 11 56 53.8 +0.8
baz=111
I29M **Ogilvie Camp,** 80.83 338 lAmb lAmb 11 59 48.0
comp=Z,9.7nm,0.6s
I29M **Ogilvie Camp,** 80.83 338 P P 11 56 53.9 +0.6
baz=117,SNR=5.7
G30M **tAoh Zraii Nji** 80.83 340 P P 11 56 54.2 +0.9
baz=119
CRQE **Cirque** 80.93 333 P P 11 56 55.0 +1.0
baz=112
VNA2 **Neumayer--Watz** 80.97 162 ⇓P P 11 56 55.5 +1.6
comp=Z,0.9nm,0.2s,baz=299,slow=5.2
F30M **Barrier River** 80.99 340 P P 11 56 55.0 +0.9
baz=119,SNR=6.3
M27K **Edge Creek, AK** 81.00 335 P P 11 56 55.5 +1.1
baz=113
MCARA **McCarthy VSAT** 81.13 333 P P 11 56 56.3 +1.4
baz=112
H29M **Whitestone** 81.24 339 P P 11 56 56.4 +1.0
baz=117,SNR=6.8
BCAR **Beaver Creek A** 81.24 335 P P 11 56 56.3 +0.7
YLL **Llanberis** 81.25 35 *e*P P 11 56 55.7 0.0
L27K **Beaver Creek,** 81.25 335 P P 11 56 56.8 +1.2
baz=113
HMT **Hamilton** 81.32 332 lAmb lAmb 11 56 57.8
comp=Z,18nm,0.8s
GAL1 **Galloway** 81.42 34⇑ *e*P P 11 56 56.5 -0.1
GAL1 lAmb lAmb 11 56 57.1
comp=Z,26nm,1.0s
G29M **Pine Creek** 81.43 339 P P 11 56 57.1 +0.7
baz=117,SNR=12
I28M **Miner Creek** 81.48 338 P P 11 56 57.7 +0.9
baz=115,SNR=10
M26K **Nabesna, AK** 81.50 334 P P 11 56 57.7 +0.8
baz=112
MCH1 **Michaelchurch** 81.64 37⇑ *e*P P 11 56 57.3 -0.5
MCH1 lAmb lAmb 11 56 58.5
comp=Z,27nm,0.7s
BMRM **Bremner River** 81.70 333 P P 11 56 58.8 +0.8
baz=110
MONM **Monmouth** 81.72 37⇑ *e*P P 11 56 58.0 -0.1
MONM lAmb lAmb 11 56 58.7
comp=Z,32nm,0.7s
K27K **Chicken** 81.74 336 lAmb lAmb 11 57 00.3
comp=Z,12nm,0.8s
K27K **Chicken** 81.74 336 P P 11 56 59.2 +1.1
baz=113
FOEL **Foel Wylfa** 81.75 36⇑ *e*P P 11 56 57.9 -0.5
FOEL lAmb lAmb 11 56 58.8
comp=Z,18nm,0.8s
NEWG **New Galloway** 81.76 34⇑ *e*P P 11 56 58.1 -0.3
HLM1 **Long Mynd** 81.84 36⇑ *e*P P 11 56 58.6 -0.3
HLM1 lAmb lAmb 11 56 59.4
comp=Z,25nm,0.7s
L26K **Log Cabin Wild** 81.88 335 P P 11 56 59.7 +0.8
baz=112
N25K **Chitina, Valde** 81.92 333 P P 11 57 00.2 +1.0
baz=110
Q23K **Middleton Isla** 82.01 331 P P 11 57 00.5 +1.0
baz=108
E29M **Blow River** 82.07 341 P P 11 57 00.4 +0.8
baz=118
I27K **Kandik River** 82.18 338 P P 11 57 01.6 +1.2
baz=114,SNR=7.0
KESW **Keswick, Cumbr** 82.25 34⇑ *e*P P 11 57 00.8 -0.1
KESW lAmb lAmb 11 57 02.0
comp=Z,26nm,0.8s
ESK **Eskdalemuir** 82.38 33 P P 11 57 01.2 -0.3
ESK lAmb lAmb 11 57 37.6
comp=Z,36nm,1.4s
ESK **Eskdalemuir** 82.38 33⇑ *e*P P 11 57 01.0 -0.6
ESK lAmb lAmb 11 57 02.4
comp=Z,16nm,0.9s
F28M **Old Crow** 82.39 340 P P 11 57 02.0 +0.6
baz=116
H27K **Steamboat Moun** 82.40 338 P P 11 57 01.8 +0.3
H27K **Steamboat Moun** 82.40 338 P P 11 57 02.0 +0.5
baz=114
DOT **Dot Lake** 82.41 335 P P 11 57 02.1 +0.5
EKA **Eskdalemuir Ar** 82.41 33 P P 11 57 01.1 -0.6
comp=Z,5.9nm,0.6s,baz=250,slow=3.5,SNR=28
comp=Z,5.9nm,0.6s
HARP **HAARP** 82.44 334 P P 11 57 02.8 +1.0
baz=110
CEST **Esterri de Car** 82.44 47 P P 11 57 03.4 +1.0
CEST lAmb lAmb 11 57 05.9
comp=Z,20nm,0.8s
KLU **Klutina** 82.47 333 P P 11 57 02.4 +0.4
KLU **Klutina** 82.47 333 P P 11 57 02.7 +0.7
baz=109
SCRK **Sand Creek** 82.50 336 P P 11 57 02.6 +0.4
SCRK **Sand Creek** 82.50 336 P P 11 57 02.7 +0.4
baz=111,SNR=8.5
J26L **Joseph Creek** 82.52 336 P P 11 57 03.1 +0.9
J26L **Joseph Creek** 82.52 336 P P 11 57 03.1 +0.9
baz=112,SNR=10
SNAA **Sanae** 82.60 162 ⇓P P 11 57 02.9 +0.4
comp=Z,272nm,0.6s
SNAA **Sanae** 82.60 162 P P 11 57 03.0 +0.4
SNAA lAmb lAmb 11 57 04.0
comp=Z,57nm,1.5s
SNAA **Sanae** 82.60 162 P P 11 57 02.8 +0.4
comp=Z,10nm,0.6s,baz=268,slow=6.7,SNR=72
comp=Z,10nm,0.6s
I26K **Coal Creek Min** 82.66 337 P P 11 57 02.9 +0.1
I26K **Coal Creek Min** 82.66 337 P P 11 57 03.1 +0.3
baz=112
G27K **Doyon Strip** 82.68 339 P P 11 57 03.1 +0.2
baz=114,SNR=5.8
P23K **Montague Islan** 82.69 331 P P 11 57 03.3 +0.2
baz=108
E28M **Babbage River** 82.70 341 P P 11 57 03.2 +0.1
baz=116
LBWR **Ladybower, Pea** 82.74 36⇑ *e*P P 11 57 03.5 0.0
LBWR lAmb lAmb 11 57 04.4
comp=Z,34nm,0.8s
D28M **Stokes Point** 82.77 341 P P 11 57 04.2 +0.9
baz=117
PAX **Paxson** 82.77 335 P P 11 57 04.0 +0.5
baz=110
RIDG **Independent Ri** 82.77 335 P P 11 57 04.3 +0.8
baz=110,SNR=5.9
M24K **Tolsona, Glenn** 82.79 334 P P 11 57 04.5 +0.8
baz=109
GLI **Glacier Island** 82.82 332 P P 11 57 03.8 +0.1
baz=108
ESY **Stoneypath** 82.86 33⇑ *e*P P 11 57 03.9 -0.2
BIGH **Upper Bighouse** 82.88 30⇑ *e*P P 11 57 04.0 0.0
BIGH lAmb lAmb 11 57 04.6
comp=Z,25nm,0.7s
MCD **Coleburn Disti** 82.96 31 *e*P P 11 57 04.4 -0.1
MCD lAmb lAmb 11 57 05.2
comp=Z,32nm,0.7s
K24K **Donnelly Dome** 83.18 335 P P 11 57 06.0 +0.4
baz=110
DRUM **Mains of Drumt** 83.19 32⇑ *e*P P 11 57 05.5 -0.2
DRUM lAmb lAmb 11 57 05.9
comp=Z,25nm,0.8s
E27K **Coleen River** 83.22 340 P P 11 57 06.1 +0.4
baz=114
SCM **Sheep Creek Mo** 83.22 333 lAmb lAmb 11 57 07.1
comp=Z,12nm,0.8s
SCM **Sheep Creek Mo** 83.22 333 P P 11 57 06.1 +0.2
baz=108
J25K **Salcha River,** 83.29 336 P P 11 57 06.5 +0.3
J25K **Salcha River,** 83.29 336 P P 11 57 06.5 +0.3
baz=110,SNR=6.3

M23K **Glacier View** 83.39 333 P P 11 57 06.9 +0.3
baz=108
PWL **Port Wells** 83.39 332 P P 11 57 06.8 +0.1
PWL **Port Wells** 83.39 332 P P 11 57 07.1 +0.3
baz=107
D27M **Malcolm River** 83.44 341 P P 11 57 07.4 +0.5
baz=115
GDLE **Glaisdale, N Y** 83.50 35⇑ *e*P P 11 57 07.5 +0.1
GDLE lAmb lAmb 11 57 08.2
comp=Z,56nm,1.0s
G26K **Porcupine Rive** 83.51 339 P P 11 57 07.5 +0.3
baz=112
KNK **Knik Glacier** 83.61 333 P P 11 57 08.6 +0.8
baz=107
PRP **Porcupine Dome** 83.66 337 P P 11 57 08.6 +0.4
baz=110
SEW **Seward** 83.71 331 P P 11 57 08.8 +0.5
baz=105
HDA **Harding Lake** 83.86 336 P P 11 57 09.2 +0.2
baz=109,SNR=6.6
FYU **Fort Yukon** 83.91 338 lAmb lAmb 11 58 09.0
comp=Z,22nm,1.6s
F26K **Sheenjek River** 83.92 339 P P 11 57 10.4 +1.1
baz=112,SNR=6.0
GHO **Glory Hole Cre** 83.92 333 lAmb lAmb 11 57 12.7
comp=Z,14nm,0.9s
ILAR **Eielson Array** 83.95 336 P P 11 57 09.3 -0.1
comp=Z,1.6nm,0.8s,baz=112,slow=6.3,SNR=18
ILAR pP pP 11 57 46.7 -0.1
comp=Z,0.9nm,0.8s,baz=104,slow=3.8,SNR=2.3
ILAR PP PP 12 00 23.5 -1.6
comp=Z,0.7nm,1.0s,baz=110,slow=7.7,SNR=3.3
comp=Z,1.6nm,0.8s
PMR **Palmer** 83.97 333 P P 11 57 09.8 +0.2
PMR **Palmer** 83.97 333 P P 11 57 09.8 +0.2
baz=106
WACR **West Acre** 83.97 37⇑ *e*P P 11 57 09.6 -0.1
WACR lAmb lAmb 11 57 11.6
comp=Z,140nm,0.8s
BMAR **Burnt Mountain** 83.97 339 P P 11 57 10.5 +0.9
H25L **Birch Creek** 84.03 338 P P 11 57 11.2 +1.4
baz=110,SNR=7.1
CLF **Chambon-Foret** 84.10 41 P P 11 57 11.1 +0.5
RC01 **Rabbit Creek A** 84.11 332 P P 11 57 10.7 +0.4
RC01 lAmb lAmb 11 57 11.3
comp=Z,11nm,0.7s
RC01 **Rabbit Creek A** 84.11 332 P P 11 57 10.5 +0.1
baz=106
POKR **Poker Plat Res** 84.28 336 P P 11 57 11.6 +0.4
baz=108
G25K **Bearman Lake** 84.30 338 P P 11 57 12.7 +1.5
baz=110,SNR=6.6
TROLL **Troll, Antarti** 84.31 162 ⇓P P 11 57 12.0 +0.6
comp=Z,2µm,0.7s
F25K **Christian Rive** 84.42 339 P P 11 57 12.8 +1.0
baz=110
M22K **Willow** 84.47 333 lAmb lAmb 11 57 14.1
comp=Z,17nm,0.8s
M22K **Willow** 84.47 333 P P 11 57 13.2 +1.1
baz=105
C27K **Jago River** 84.49 341 P P 11 57 13.1 +1.0
baz=112
MCK **McKinley** 84.49 335 P P 11 57 13.1 +0.8
baz=107
E25K **Arctic Village** 84.57 339 P P 11 57 13.5 +0.9
baz=110
HOM **Homer** 84.66 330 P P 11 57 13.8 +0.7
baz=104
H24K **Noodor Dome** 84.68 337 P P 11 57 13.9 +0.7
H24K **Noodor Dome** 84.68 337 P P 11 57 13.9 +0.7
baz=108
CAPN **Captain Cook N** 84.69 332 P P 11 57 14.2 +1.0
baz=104
KDAK **Kodiak Island** 84.70 328 P P 11 57 13.4 +0.1
baz=103
CUT **Chulitna** 84.71 333 P P 11 57 13.2 -0.1
CUT lAmb lAmb 11 57 14.9
comp=Z,36nm,1.4s
CUT **Chulitna** 84.71 333 P P 11 57 13.8 +0.5
baz=105
Q20K **Shuyak Island** 84.79 329 P P 11 57 14.2 +0.4
baz=103
NEA2 **Nenana** 84.79 336 P P 11 57 13.9 +0.2
baz=107,SNR=12
G24K **Hadweenzic Riv** 84.80 338 P P 11 57 14.0 +0.3
baz=108
OHAK **Old Harbor** 84.95 328 P P 11 57 14.1 -0.5
baz=102
C26K **Camden Bay** 84.98 341 P P 11 57 15.5 +1.0
baz=111
TRF **Thorofare Moun** 84.99 334 P P 11 57 15.5 +0.5
baz=105
I23K **Minto, Yukon-K** 85.07 336 lAmb lAmb 11 57 17.1
comp=Z,28nm,1.8s
I23K **Minto, Yukon-K** 85.07 336 P P 11 57 15.4 +0.4
baz=106,SNR=7.4
SKT **Skwentna** 85.17 333 lAmb lAmb 11 57 16.7
comp=Z,16nm,0.7s
SKT **Skwentna** 85.17 333 P P 11 57 15.9 +0.2
baz=104,SNR=14
F24K **Squaw Lake** 85.21 339 P P 11 57 16.9 +1.1
baz=108
SSB **Saint Sauveur** 85.22 44 P P 11 57 17.1 +0.8
SSB lAmb lAmb 11 57 17.9
comp=Z,19nm,0.8s
O20K **Slope Mountain** 85.24 331 P P 11 57 17.1 +1.0
baz=103
D25K **Kavik River** 85.26 340 P P 11 57 16.9 +0.9
D25K **Kavik River** 85.26 340 P P 11 57 17.1 +1.1
baz=110
KTH **Kantishna Hill** 85.30 334 P P 11 57 16.6 +0.3
SII **Sitkinak Islan** 85.30 327 P P 11 57 16.6 +0.2
baz=101
H23K **Yukon River** 85.34 337 P P 11 57 16.8 +0.4
baz=106
P19K **Oil Pt** 85.44 330 P P 11 57 17.3 +0.2
baz=102
BPAW **Bear Paw Mtn.** 85.46 335 lAmb lAmb 11 57 18.0
comp=Z,11nm,0.8s
BPAW **Bear Paw Mtn.** 85.46 335 P P 11 57 17.5 +0.4
baz=105,SNR=13
Q19K **Cape Douglas,** 85.50 329 P P 11 57 17.8 +0.4
baz=102
E24K **Your Creek** 85.59 339 P P 11 57 18.6 +1.0
baz=108
MLY **Manley** 85.60 336 P P 11 57 18.1 +0.3
baz=105,SNR=8.1
PPLA **Purkeypile** 85.69 334 lAmb lAmb 11 57 19.2
comp=Z,9.0nm,0.7s
PPLA **Purkeypile** 85.69 334 P P 11 57 18.5 +0.1
baz=104,SNR=5.9
CAST **Castle Rocks** 85.77 334 lAmb lAmb 11 57 19.2
comp=Z,9.5nm,0.7s
CAST **Castle Rocks** 85.77 334 P P 11 57 18.4 -0.2
baz=104,SNR=11
G23K **Bananza Creek** 85.77 337 P P 11 57 19.4 +0.8
baz=106
M20K **Styx River** 85.89 332 P P 11 57 19.0 -0.3
baz=103
CHIR **Chirikof Islan** 85.95 326 P P 11 57 20.0 +0.4
baz=100
DOU **Dounes** 85.95 40 *d*P P 11 57 19.9 +0.2
comp=Z,30nm,0.8s
CHUM **Lake Minchumin** 85.98 334 P P 11 57 19.8 +0.3
baz=104
COLD **Coldfoot** 85.98 338 P P 11 57 20.3 +0.8
baz=106
E23K **Chandalar** 85.99 339 P P 11 57 20.8 +1.1
baz=106
D24K **Happy Valley** 86.03 340 P P 11 57 20.9 +1.2
baz=107
H22K **Ishtalitna Cre** 86.08 337 P P 11 57 20.8 +0.7
baz=105
BMRD **Maredsous** 86.09 39 *d*P P 11 57 20.5 +0.1
comp=Z,15nm,0.9s
Q18K **Katmai Hardscr** 86.14 329 P P 11 57 20.9 +0.3
baz=101
TOLK **Toolik Lake Re** 86.14 339 P P 11 57 21.7 +1.3
baz=106
I21K **Tanana** 86.15 336 P P 11 57 20.8 +0.4
baz=104
C24K **Franklin Bluff** 86.16 341 lAmb lAmb 11 57 22.2
comp=Z,15nm,0.9s
C24K **Franklin Bluff** 86.16 341 P P 11 57 21.2 +0.9
baz=107
N19K **Bonanza Creek** 86.30 331 P P 11 57 21.3 -0.1
baz=102
BGES **Gesves** 86.31 39 *d*P P 11 57 21.6 +0.1

L20K **Farewell, AK** 86.36 333 P P 11 57 21.3 -0.2
baz=102,SNR=6.7
RCHB **Rochefort** 86.36 40 *d*P P 11 57 21.9 +0.2
comp=Z,19nm,0.9s
P18K **Big Mountain,** 86.39 330 P P 11 57 21.6 -0.2
baz=101
G22K **Bettles** 86.39 338 P P 11 57 22.5 +1.0
baz=105
BCLA **Clavier** 86.45 39 *d*P P 11 57 22.2 0.0
comp=Z,12nm,0.9s
O18K **Koktuh Hills** 86.47 330 P P 11 57 22.1 0.0
O18K **Koktuh Hills** 86.47 330 P P 11 57 22.4 +0.3
baz=101
M19K **Big River Lodg** 86.47 332 P P 11 57 22.4 +0.3
M19K IAmb IAmb 11 57 23.0
comp=Z,23nm,1.6s
M19K **Big River Lodg** 86.47 332 P P 11 57 22.6 +0.5
baz=102
Q17K **Contact Creek** 86.52 329 P P 11 57 23.0 +0.5
baz=100
H21K **Melozitna Rive** 86.60 336 P P 11 57 22.8 +0.2
baz=103,SNR=5.3
D23K **Nanushuk River** 86.62 340 P P 11 57 23.8 +1.1
D23K IAmb IAmb 11 57 24.7
comp=Z,9.9nm,1.1s
D23K **Nanushuk River** 86.62 340 P P 11 57 23.7 +1.1
baz=106
K20K **Telida** 86.62 334 IAmb IAmb 11 57 23.5
comp=Z,11nm,1.2s
K20K **Telida** 86.62 334 P P 11 57 22.6 -0.2
baz=102,SNR=6.2
BSTI **Sart Tilman** 86.64 39 *d*P P 11 57 23.7 +0.6
comp=Z,5.0nm,0.9s
PLK4 **Peulik 4** 86.66 328 IAmb IAmb 11 57 24.3
comp=Z,12nm,0.9s
R17L **Mt. Peulik Vol** 86.66 328 P P 11 57 23.7 +0.6
baz=100
BNI **Bardonecchia** 86.69 45 IAmb IAmb 11 57 26.3
comp=Z,7.9nm,0.7s
BEBN **Eben Emael** 86.73 39 *d*P P 11 57 23.8 +0.3
L19K **White Mountain** 86.74 333 IAmb IAmb 11 57 24.1
comp=Z,8.8nm,1.0s
L19K **White Mountain** 86.74 333 P P 11 57 23.5 +0.1
baz=101
F22K **John River** 86.79 338 P P 11 57 24.2 +0.7
baz=104
E22K **Anaktuvuk Pass** 86.81 339 P P 11 57 24.3 +0.7
baz=104
J20K **Nowinta River** 86.83 335 P P 11 57 24.1 +0.3
baz=102
C23K **Itkillik River** 86.83 340 IAmb IAmb 11 57 26.1
comp=Z,8.9nm,0.9s
C23K **Itkillik River** 86.83 340 P P 11 57 24.3 +0.7
baz=106
BHOU **Houvegnez** 86.88 39 *d*P P 11 57 24.9 +0.5
comp=Z,15nm,1.0s
WLF **Walferdange** 86.89 40 *d*P P 11 57 24.8 +0.4
comp=Z,35nm,1.0s
WLF **Walferdange** 86.89 40 *e*P P 11 57 24.8 +0.4
comp=Z,35nm,0.8s,baz=266,slow=4.8
MEM **Membach** 86.92 39 *d*P P 11 57 24.9 +0.4
comp=Z,12nm,1.0s
N18K **Kilae Creek** 86.95 331 IAmb IAmb 11 57 25.1
comp=Z,16nm,1.1s
N18K **Kilae Creek** 86.95 331 P P 11 57 24.5 +0.1
baz=100,SNR=5.8
P17K **Kvichak River** 86.97 329 P P 11 57 24.7 +0.2
baz=100
Q16K **King Salmon** 86.99 329 P P 11 57 25.0 +0.5
baz=100
BTNL **Ternell** 86.99 39 *d*P P 11 57 25.0 +0.1
comp=Z,13nm,0.8s
IMAR **Indian Mountai** 87.05 336 P P 11 57 25.1 +0.4
M18K **Stony River** 87.06 332 P P 11 57 25.2 +0.3
baz=100
G21K **Allakaket** 87.07 337 P P 11 57 25.5 +0.6
G21K IAmb IAmb 11 57 26.4
comp=Z,8.2nm,0.8s
G21K **Allakaket** 87.07 337 P P 11 57 25.4 +0.6
baz=103
I20K **Naaghedeneel** 87.10 335 P P 11 57 25.2 +0.3
baz=102
F21K **Alatna River** 87.22 338 P P 11 57 26.5 +0.9
F21K IAmb IAmb 11 57 27.3
comp=Z,7.5nm,0.9s
F21K **Alatna River** 87.22 338 P P 11 57 26.5 +0.9
baz=103
SENIN **Lac Senin/Sane** 87.27 44 P P 11 57 27.1 +0.6
SENIN IAmb IAmb 11 57 28.6
comp=Z,6.1nm,0.7s
D22K **Ayikyak River** 87.30 339 P P 11 57 27.1 +1.2
baz=104
ECH **Echery** 87.38 42 IAmb IAmb 11 57 27.1
comp=Z,8.8nm,0.8s
O17K **Koliganek Bris** 87.39 330 P P 11 57 26.4 -0.1
baz=99,SNR=7.1
H20K **Anotleneega Mo** 87.40 336 P P 11 57 26.8 +0.3
baz=101,SNR=6.4
J19K **Poorman** 87.43 334 P P 11 57 27.0 +0.4
baz=101
N17K **Nushagak Hills** 87.56 331 P P 11 57 27.6 +0.3
baz=99
CHGN **Chignik** 87.57 326 P P 11 57 27.8 +0.4
baz=98
L18K **Granite Mounta** 87.59 332 P P 11 57 27.8 +0.4
baz=100
E21K **Killik River** 87.66 339 IAmb IAmb 11 57 29.0
comp=Z,6.8nm,0.8s
E21K **Killik River** 87.66 339 P P 11 57 27.9 +0.2
baz=102
KMY **Karmoy** 87.68 31 *e*P P 11 57 28.3 +0.5
QSPA **South Pole Qui** 87.71 180 P P 11 57 29.5 +1.4
comp=Z,60nm,0.8s,baz=155,slow=2.4,SNR=128
QSPA pP pP 11 58 07.8 +2.1
comp=Z,17nm,1.0s,baz=150,slow=11,SNR=2.7
comp=Z,60nm,0.8s
SUE **Sulen** 87.72 29 *e*P P 11 57 28.9 +0.9
P16K **Nushagak River** 87.73 329 P P 11 57 28.3 +0.2
baz=98
BUG **Bochum--Univer** 87.81 38 *e*P P 11 57 28.8 +0.1
comp=Z,26nm,0.8s,baz=266,slow=4.8
M17K **Holitna River** 87.81 332 IAmb IAmb 11 57 29.5
comp=Z,6.6nm,0.8s
M17K **Holitna River** 87.81 332 P P 11 57 29.2 +0.7
baz=99
J18K **Innoko River** 87.81 334 P P 11 57 29.0 +0.5
baz=100,SNR=6.1
KEST **Kesra** 87.82 54 P P 11 57 29.3 +0.1
comp=Z,18nm,0.8s,baz=295,slow=2.4,SNR=22
comp=Z,18nm,0.8s
ASK **Askoy** 87.84 29 *e*P P 11 57 29.4 +0.8
O16K **Kokwok River B** 87.86 330 P P 11 57 28.2 -0.6
baz=98
B22K **Teshekpuk Lake** 87.89 341 P P 11 57 29.8 +1.1
baz=103
BER **Bergen** 87.89 29 *e*P P 11 57 30.0 +1.1
FOO **Floro** 87.94 28 *e*P P 11 57 29.7 +0.7
F20K **Avaraart Lake** 88.04 337 P P 11 57 30.5 +1.1
baz=101
H19K **Roundabout Mou** 88.05 336 IAmb IAmb 11 57 31.2
comp=Z,7.0nm,0.8s
H19K **Roundabout Mou** 88.05 336 P P 11 57 30.5 +1.0
baz=100
C21K **Knifeblade Rid** 88.10 339 P P 11 57 30.5 +0.8
baz=102
GCSA **Galena City Sc** 88.10 335 P P 11 57 30.6 +0.9
baz=100
B21K **Ikpikpuk River** 88.14 340 IAmb IAmb 11 57 31.4
comp=Z,13nm,0.9s
B21K **Ikpikpuk River** 88.14 340 P P 11 57 30.8 +1.0
baz=102
S14K **Fog Glacier** 88.20 326 P P 11 57 31.1 +0.5
baz=97
IBBN **Ibbenburen** 88.21 38 *e*P P 11 57 30.5 0.0
comp=Z,30nm,0.8s,baz=266,slow=4.8
BLS5 **Blasjo** 88.32 30 *e*P P 11 57 32.2 +1.2
N16K **Nishlik Lake** 88.32 331 P P 11 57 31.7 +0.7
baz=98
L17K **Donlin** 88.33 332 P P 11 57 31.9 +1.0
baz=98,SNR=7.3
K17K **Iditarod** 88.41 333 P P 11 57 32.1 +0.9
K17K IAmb IAmb 11 57 32.8
comp=Z,10nm,1.1s
K17K **Iditarod** 88.41 333 P P 11 57 32.3 +1.0
baz=98
G19K **Purcell Mounta** 88.42 336 P P 11 57 31.9 +0.6
baz=99

HYA **Hoyanger** 88.42 29 *e*P P 11 57 32.3 +1.0
E20K **Nigu River** 88.43 338 P P 11 57 32.2 +0.8
baz=100
ODD1 **Odda** 88.47 30 *e*P P 11 57 33.1 +1.4
M16K **Timber Creek** 88.49 331 IAmb IAmb 11 57 35.0
comp=Z,12nm,1.3s
M16K **Timber Creek** 88.49 331 P P 11 57 32.9 +1.2
baz=98
KASTN **Kahler Asten** 88.50 39 *e*P P 11 57 32.0 -0.1
comp=Z,7.8nm,0.8s,baz=266,slow=4.8
A22K **Sinclair Lake** 88.53 341 P P 11 57 33.5 +1.8
baz=102
SNART **Snartemo** 88.58 32 *e*P P 11 57 33.5 +1.4
SDPT **Sand Point** 88.61 325 P P 11 57 33.2 +0.9
baz=96
D20K **Etivluk River** 88.67 339 P P 11 57 33.3 +0.9
baz=100
E19K **Redstone River** 88.69 338 P P 11 57 33.3 +0.8
baz=99
O15K **Ungalikthiuk R** 88.69 329 P P 11 57 32.9 +0.3
baz=97
H18K **Honhosa River** 88.79 335 IAmb IAmb 11 57 35.4
comp=Z,12nm,1.2s
H18K **Honhosa River** 88.79 335 P P 11 57 34.0 +0.9
baz=98
F19K **Shaleruckik Mo** 88.80 337 P P 11 57 33.8 +0.8
baz=99
J17K **VABM Dome** 88.86 333 P P 11 57 34.2 +0.8
baz=98
N15K **Kwethluk River** 88.94 330 P P 11 57 34.8 +0.9
baz=97
G18K **Tagagawik** 89.01 336 P P 11 57 35.2 +1.2
baz=98
B20K **Meade River** 89.08 340 P P 11 57 35.4 +1.2
baz=99
DAVA **Damuels** 89.12 43 *i* P P 11 57 35.6 +0.4
comp=Z,19nm,0.6s
A21K **Barow** 89.12 341 P P 11 57 35.8 +1.4
baz=100
D19K **Kuna River** 89.17 339 P P 11 57 36.4 +1.5
baz=98
M15K **Kasigluk River** 89.29 331 P P 11 57 36.4 +1.0
baz=96
SKAR **Skarslia** 89.39 29 *e*P P 11 57 37.0 +1.0
H17K **Granite Mounta** 89.41 335 P P 11 57 37.2 +1.3
baz=97
O14K **Tigyukauivet M** 89.43 329 P P 11 57 37.4 +1.3
baz=96
GTTG **Gottingen** 89.50 39 *e*P P 11 57 36.9 +0.3
comp=Z,9.5nm,0.9s,baz=266,slow=4.8
F18K **Selawik** 89.50 337 P P 11 57 37.4 +1.1
baz=97
J16K **Anvik River** 89.52 333 P P 11 57 38.0 +1.5
baz=96
S12K **Black Hills** 89.54 326 P P 11 57 37.4 +0.7
baz=95
I17K **Unalakleet** 89.63 334 P P 11 57 38.4 +1.5
baz=96
NRDL **Niedersach Rie** 89.66 38 *e*P P 11 57 37.8 +0.6
comp=Z,8.7nm,1.1s,baz=266,slow=4.8
NRDL epP pP 11 58 12.1 -2.8
FETA **Feichten** 89.67 43 *i* P P 11 57 38.1 +0.3
comp=Z,14nm,0.8s,SNR=9.4
N14K **Kuskokwak Cree** 89.71 330 P P 11 57 38.7 +1.3
baz=95,SNR=7.2
RETA **Reutte** 89.73 43 *i* P P 11 57 38.4 +0.5
comp=Z,11nm,1.0s
L15K **Ungalak Mounta** 89.77 332 P P 11 57 39.1 +1.4
baz=95
CLZ **Clausthal** 89.77 38 *e*P P 11 57 38.2 +0.3
comp=Z,8.1nm,0.8s,baz=266,slow=4.8
G17K **Kiwalik Mounta** 89.78 335 P P 11 57 39.3 +1.6
baz=96
K15K **Wolf Creek Mou** 89.85 332 P P 11 57 39.6 +1.5
baz=95
DOMB **Dombas** 89.88 28 *e*P P 11 57 39.2 +0.9
BSEG **Bad Segeberg** 89.89 36 *e*P P 11 57 39.1 +0.8
comp=Z,11nm,0.8s,baz=266,slow=4.8
M14K **Bethel** 89.92 331 IAmb IAmb 11 57 40.2
comp=Z,12nm,0.8s
M14K **Bethel** 89.92 331 P P 11 57 39.7 +1.4
baz=95,SNR=5.3
MOTA **Moosalm** 89.95 43 *i* P P 11 57 39.2 +0.1
comp=Z,23nm,0.7s,SNR=11
E18K **Tukpahlearik C** 89.97 337 P P 11 57 40.4 +1.9
baz=96
ASSE **Asse, Remlinge** 89.98 38 *e*P P 11 57 39.4 +0.6
comp=Z,12nm,1.2s,baz=266,slow=4.8
SQTA **Sankt Quirin** 90.01 43 *i* P P 11 57 39.7 +0.3
comp=Z,28nm,0.6s,SNR=14
F17K **Baldwin Pennin** 90.12 336 P P 11 57 41.2 +2.0
baz=96
FALS **False Pass** 90.25 325 P P 11 57 40.5 +0.5
baz=94
WATA **Walderalm** 90.27 43 *i* P P 11 57 40.6 0.0
comp=Z,7.5nm,0.7s
WTTA **Wattenberg** 90.31 43 *i* P P 11 57 41.2 +0.4
comp=Z,24nm,0.7s,SNR=10
L14K **Kuka Creek** 90.31 331 P P 11 57 41.3 +1.1
baz=94
C18K **Utukok River** 90.32 339 P P 11 57 41.3 +1.1
baz=96
FLTG **Fischtingen** 90.34 38 *e*P P 11 57 41.1 +0.6
comp=Z,5.6nm,0.7s,baz=266,slow=4.8
FLTG epP pP 11 58 15.7 -2.5
H16K **Elim** 90.37 335 P P 11 57 41.8 +1.4
baz=95
A19K **Wainwright** 90.43 340 P P 11 57 41.9 +1.4
baz=96
MOX **Moxa** 90.48 40 *e*P P 11 57 41.7 +0.5
comp=Z,2.6nm,0.8s,baz=266,slow=4.8
G16K **Koyuk River** 90.48 335 P P 11 57 42.5 +1.6
baz=95
M13K **Dall Lake** 90.58 330 P P 11 57 43.0 +1.6
baz=94
B18K **Kokolik River** 90.60 339 P P 11 57 42.4 +1.0
baz=95
NEUB **Neuenburg** 90.61 39 *e*P P 11 57 42.1 +0.3
comp=Z,13nm,0.6s,baz=266,slow=4.8
NEUB epP pP 11 58 16.6 -2.9
NBO00 **NORSAR Array S** 90.62 29 IAmb IAmb 11 57 43.7
comp=Z,8.4nm,0.8s
NC204 **NORSAR Array S** 90.63 29 P P 11 57 42.6 +0.8
CESX **Cesi** 90.75 48 P P 11 57 42.5 -0.2
CESX IAmb IAmb 11 57 43.5
comp=Z,22nm,1.2s
MANZ **Manzenberg** 90.76 40 *e*P P 11 57 43.4 +0.8
comp=Z,1.6nm,0.8s,baz=266,slow=4.8
MANZ epP pP 11 58 17.4 -2.9
ROTZ **Rotzenmuhle** 90.81 40 *e*P P 11 57 43.5 +0.6
comp=Z,1.7nm,0.8s,baz=266,slow=4.8
J14K **Nanvaranak Lak** 90.82 333 P P 11 57 43.3 +0.8
baz=94
NB2 **NORSAR Subarra** 90.84 29 P P 11 57 43.2 +0.5
comp=Z,8.2nm,0.9s,baz=267,slow=4.8
NOA **NORSAR Array B** 90.84 29 P P 11 57 43.1 +0.3
comp=Z,4.2nm,0.8s,baz=269,slow=4.7,SNR=18
comp=Z,4.2nm,0.8s
ABTA **Abfaltersbach** 90.88 43 *i* P P 11 57 43.7 +0.4
comp=Z,17nm,0.9s,SNR=8.8
NC303 **NORSAR Array S** 90.92 29 IAmb IAmb 11 57 45.1
comp=Z,7.5nm,0.8s
D17K **Noatak River** 90.94 338 P P 11 57 44.4 +1.4
baz=94
NC602 **NORSAR Array S** 90.98 29 *e*P P 11 57 45.1 +1.8
STAL **STALIGIAL** 91.00 44 IAmb IAmb 11 57 47.4
comp=Z,9.0nm,0.7s
TANN **Tannenbergstha** 91.01 40 *e*P P 11 57 44.6 +0.8
comp=Z,9.9nm,0.9s,baz=266,slow=4.8
LESA **Schwarzleotal** 91.02 43 *i* P P 11 57 44.2 +0.2
comp=Z,13nm,1.0s,SNR=5.9
C17K **Deng Mountai** 91.03 338 P P 11 57 44.6 +1.1
baz=94
NC405 **NORSAR Array S** 91.08 29 P P 11 57 45.2 +1.4
NC405 IAmb IAmb 11 57 46.0
comp=Z,8.0nm,0.8s
RJOB **Jochberg** 91.11 42 *e*P P 11 57 44.7 +0.3
comp=Z,9.7nm,0.8s,baz=266,slow=4.8
G15K **Niukluk** 91.16 335 P P 11 57 44.6 +0.5
baz=93
WET **Wettzell** 91.22 41 *e*P P 11 57 45.1 +0.3
comp=Z,5.3nm,0.9s,baz=266,slow=4.8
K13K **Kusilvak Mount** 91.29 332 P P 11 57 45.3 +0.6
baz=93
CLL **Collm** 91.38 39 IAmb IAmb 11 57 47.0
comp=Z,8.9nm,0.7s
CLL **Collm** 91.38 39 *i* P P 11 57 45.9 +0.5
comp=Z,9.0nm,0.7s

CLL **Collm** 91.38 39 *e*P P 11 57 46.0 +0.5
comp=Z,7.0nm,0.7s,baz=266,slow=4.8
F15K **North Star Dit** 91.45 336 P P 11 57 46.1 +0.6
baz=92
KBA **Koelnbreinsper** 91.46 43 *i* P P 11 57 46.1 0.0
comp=Z,7.0nm,0.9s
MYKA **Terra Mystica** 91.65 44 *i* P P 11 57 47.1 +0.2
comp=Z,12nm,1.0s
KHC **Kasperske Hory** 91.68 41 *e*P P 11 57 47.5 +0.6
ANM **Nome** 91.72 334 P P 11 57 47.3 +0.6
baz=92
GEC2 **GERESS Array S** 91.76 41 P P 11 57 47.5 +0.1
GEC2 **GERESS Array S** 91.76 41 *e*P P 11 57 47.4 +0.1
comp=Z,2.3nm,0.7s,baz=266,slow=4.8
GERES **GERESS Array B** 91.76 41 P P 11 57 47.6 +0.3
GERES **GERESS Array B** 91.76 41 P P 11 57 47.3 +0.1
comp=Z,1.8nm,0.6s,baz=266,slow=2.9,SNR=13
comp=Z,1.8nm,0.6s
C16K **Lisburne Hills** 91.82 338 P P 11 57 47.5 +0.5
baz=92
BRG **Berggiesshubel** 91.96 39 *e*P P 11 57 48.8 +0.7
comp=Z,8.9nm,0.8s,baz=266,slow=4.8
BRG **Berggiesshubel** 91.96 39 *i* P P 11 57 48.9 +0.8
BRG Amp 11 57 50.0
comp=Z,12nm,0.8s
M11K **Mekoryuk** 91.99 330 P P 11 57 48.4 +0.5
baz=91
UNV **Unalaska Valle** 92.01 324 P P 11 57 48.8 +0.6
baz=91
HFS **Hagfors** 92.02 30 P P 11 57 47.2 -0.9
comp=Z,4.7nm,0.8s,baz=261,slow=5.5,SNR=9.7
comp=Z,4.7nm,0.8s
MOA **Molln** 92.11 42 *i* P P 11 57 49.1 +0.2
comp=Z,8.1nm,1.0s,SNR=5.4
F14K **Arctic Creek** 92.14 335 P P 11 57 49.8 +1.2
baz=91
OBKA **Obir** 92.28 44 *e*P P 11 57 50.0 +0.2
comp=Z,5.7nm,1.1s
PRU **Pruhonice** 92.33 40 *e*P P 11 57 50.0 +0.2
SOKA **Soboth** 92.61 44 *i* P P 11 57 51.4 0.0
comp=Z,2.4nm,0.6s
TNA **Tin City** 92.81 335 P P 11 57 52.8 +1.2
baz=90
SPITS **Spitsbergen Ar** 92.84 12 PP PP 12 01 35.2 -0.5
comp=Z,1.0nm,0.5s,baz=280,slow=12,SNR=1.4
ARSA **Arzberg** 92.95 43 *e*P P 11 57 52.9 +0.1
comp=Z,3.4nm,0.6s
CUC **Castrocucco** 93.12 50 IAmb IAmb 11 57 54.2
comp=Z,9.4nm,1.0s
CONA **Conrad Observa** 93.18 42 *i* P P 11 57 54.4 +0.4
comp=Z,7.3nm,0.7s,SNR=7.0
SBA **Scott Base** 93.21 191 P P 11 57 54.7 +1.4
SBA IAmb IAmb 11 57 55.6
comp=Z,11nm,1.1s
CHVC **Chvalec** 93.30 40 *e*P P 11 57 55.5 +1.2
NIKH **Nikolski High** 93.42 323 P P 11 57 55.3 +0.5
baz=89
DPC **Dobruska-Polom** 93.48 40 *e*P P 11 57 54.0 -1.2
RONA **Rosalia, Austr** 93.48 43 *i* P P 11 57 55.7 +0.4
comp=Z,5.8nm,0.7s
KRUC **Moravsky** 93.53 41 *e*P P 11 57 55.8 +0.4
VRAC **Vranov** 93.66 41 *e*P P 11 57 56.2 +0.2
P08K **Saint George I** 93.75 326 P P 11 57 56.8 +0.6
baz=89
SPIA **Saint Paul Isl** 94.12 327 P P 11 57 58.3 +0.5
baz=88
MODS **Mostra-Piesok** 94.13 42 *e*P P 11 57 56.8 -1.4
MORC **Moravsky Berou** 94.27 40 IAmb IAmb 11 58 03.2
comp=Z,14nm,1.5s
MORC **Moravsky Berou** 94.27 40 *e*P P 11 57 59.4 +0.6
VNDA **Vanda** 94.29 191 IAmb IAmb 11 58 00.4
comp=Z,6.5nm,0.7s
VNDA **Vanda** 94.29 191 P P 11 57 59.1 +0.8
comp=Z,6.3nm,0.7s,baz=124,slow=3.5,SNR=19
comp=Z,6.3nm,0.7s
JAVC **Velka Javorina** 94.38 41 *e*P P 11 58 00.0 +0.6
STEB **Steborice** 94.42 40 *e*P P 11 57 59.9 +0.5
MAUC **Maruska** 94.47 41 *e*P P 11 58 01.3 +1.6
GAMB **Gambell** 94.50 334 P P 11 58 00.1 +0.6
baz=86
VYHS **Vyhne** 95.16 42 *e*P P 11 58 03.4 +0.5
ARCES **ARCESS Array B** 96.32 20 P P 11 58 07.0 -0.7
comp=Z,0.8nm,0.5s,baz=285,slow=3.5,SNR=8.6
ARCES PP PP 12 02 04.8 +1.9
comp=Z,2.9nm,0.8s,baz=274,slow=8.4,SNR=5.5
comp=Z,0.8nm,0.5s
FNA **Florina** 97.35 49 IAmb IAmb 11 58 14.8
comp=Z,9.0nm,1.1s
FINES **FINESS Array B** 97.97 28 P P 11 58 14.7 -0.6
comp=Z,1.3nm,0.7s,baz=267,slow=4.9,SNR=6.9
comp=Z,1.3nm,0.7s
BRTR **Keskin Array B** 106.78 49 PP PP 12 03 20.1 -2.5
comp=Z,0.3nm,0.4s,baz=285,slow=2.8,SNR=3.6
BVAR **Borovoye Array** 122.48 23 PKP PKPdf 12 03 34.1 0.0
comp=Z,0.9nm,0.6s,baz=315,slow=0.4,SNR=5.3
BVAR pPKP pPKPdf 12 04 13.6 +0.1
comp=Z,1.0nm,0.6s,baz=300,slow=2.8,SNR=2.7
ZALV **Zalesovo Beam** 126.28 14 PKP PKPdf 12 03 41.4 +0.1
comp=Z,2.5nm,0.5s,baz=306,slow=4.8,SNR=9.2
ZALV pPKP pPKPdf 12 04 20.4 -0.4
comp=Z,3.1nm,0.7s,baz=268,slow=3.8,SNR=4.0
KURBB **Kurchatov Arra** 127.41 20 PKP PKiKP 12 03 43.9 -0.2
comp=Z,1.6nm,0.4s,baz=319,slow=2.5,SNR=14
KURBB pPKP pPKPdf 12 04 23.2 +0.2
comp=Z,2.8nm,0.7s,baz=326,slow=2.4,SNR=6.0
HEH **HeiHe** 128.22 341 *e*P PKPdf 12 03 44.5 -0.6
HEH pmax pmax
comp=Z,5.0nm,0.8s
STKA **Stephens Creek** 130.49 223 PKP PKPdf 12 03 50.2 +0.2
comp=Z,7.9nm,0.8s,baz=135,slow=2.5,SNR=7.0
USRK **Ussuriysk Ar.** 131.40 333 PKP PKiKP 12 03 52.2 -0.1
comp=Z,4.7nm,0.9s,baz=48,slow=2.1,SNR=4.5
USRK SKPbc SKPbc 12 07 01.4 -1.5
comp=Z,6.6nm,0.8s,baz=47,slow=4.9,SNR=12
MKAR **Makanchi Array** 131.98 20 PKP PKPdf 12 03 52.6 +0.2
comp=Z,1.0nm,0.5s,baz=328,slow=1.9,SNR=9.7
MKAR pPKP pPKPdf 12 04 31.7 -0.2
comp=Z,2.3nm,0.9s,baz=343,slow=1.5,SNR=5.5
MKAR SKPab SKPab 12 07 05.2 -0.7
comp=Z,1.0nm,0.9s,baz=336,slow=3.2,SNR=3.9
MJAR **Matsushiro Arr** 133.42 321 PKP PKPdf 12 03 54.8 -0.6
comp=Z,3.6nm,0.6s,baz=58,slow=1.2,SNR=8.9
MJAR SKPbc SKPbc 12 07 09.2 -1.1
comp=Z,4.7nm,1.1s,baz=62,slow=4.0,SNR=6.7
SONM **Songino Array** 134.64 357 PKP PKPdf 12 03 57.6 0.0
comp=Z,1.8nm,0.8s,baz=349,slow=1.5,SNR=5.8
SONM SKPbc SKPbc 12 07 12.9 -1.1
comp=Z,2.3nm,0.6s,baz=331,slow=1.8,SNR=9.2
KSH **Kashi** 135.24 31 PKPbc Pdif 12 01 04.3 +2.6
WMQ **Urumqi** 136.34 17 *e*PKP PKPdf 12 04 00.5 -0.2
WMQ LR LR
comp=N,350nm,21.7s
WMQ LR LR
comp=E,190nm,19.7s
WMQ LR LR
comp=Z,340nm,18.3s
KSRS **Korea Array** 138.59 330 PKP PKPdf 12 04 05.0 +0.1
comp=Z,5.7nm,0.7s,baz=5.8,slow=2.1,SNR=22
KSRS pPKP pPKPdf 12 04 44.6 +0.1
comp=Z,2.0nm,0.8s,baz=9.4,slow=2.5,SNR=2.5
KSRS SKPbc SKPbc 12 07 25.1 -0.9
comp=Z,1.8nm,0.9s,baz=14,slow=2.5,SNR=7.3
ASAR **Alice Springs** 140.85 227 PKHKP PKPpre 12 04 01.2
comp=Z,4.7nm,0.8s,baz=132,slow=3.7,SNR=27
ASAR PKP PKPdf 12 04 09.2 -0.3
comp=Z,8.1nm,0.7s,baz=120,slow=2.3,SNR=20
ASAR SKP 12 07 30.3
comp=Z,1.2nm,0.7s,baz=128,slow=3.2,SNR=4.8
HHC **Hu-ho-hao-te** 141.03 351 *e*P Pdif 12 01 14.3 -13
HHC **Hu-ho-hao-te** 141.03 351 *e*P PKPdf 12 04 07.5 -2.0
WRA **Warramunga Arr** 142.65 232 PKhKP PKPpre 12 04 07.4
comp=Z,7.0nm,0.6s,baz=122,slow=2.3,SNR=68
WRA PKP PKPdf 12 04 12.6 -0.2
comp=Z,12nm,0.6s,baz=120,slow=1.9,SNR=22
WRA SKP 12 07 33.8
comp=Z,1.8nm,0.8s,baz=120,slow=2.1,SNR=6.6
WRA SKPbc SKPbc 12 07 36.4 -0.8
comp=Z,1.9nm,0.8s,baz=121,slow=2.3,SNR=4.8
LZH **Lanzhou** 146.44 360 PKPbc PKPab 12 04 21.4 -0.4
LZH pPKP pPKPdf 12 04 59.9 +1.2
LZH sPKP 12 05 17.8
LZH LR LR
comp=N,550nm,18.9s
LZH LR LR
comp=E,660nm,18.2s
LZH LR LR
comp=Z,850nm,17.2s

LYN	LuoYang	146.95	347	PKPbc	PKPbc	12 04 22.3	+0.4	
LYN				pPKP	pPKPdf	12 05 00.8	+1.4	
LYN				LR	LR			
	comp=N,350nm,18.2s							
LYN				LR	LR			
	comp=E,770nm,18.8s							
LYN				LR	LR			
	comp=Z,690nm,20.1s							
NJ2	Nanjing	147.20	336	eP	PKPdf	12 04 20.4	+0.1	
NJ2				pmax	pmax			
	comp=Z,12nm,0.5s							
WHN	Wuhan	150.21	341	PKPbc	PKPbc	12 04 30.6	+0.2	
PZH	PanZhiHua	155.92	4	PKP	PKPdf	12 04 31.9	-1.9	
CMAR	Chiang Mai Arr	163.34	16	PKP	PKPdf	12 04 42.1	-0.2	
	comp=Z,1.4nm,0.7s,baz=357,slow=1.6,SNR=8.9							
CMAR				PKPab	PKPab	12 05 33.3	-0.1	
	comp=Z,2.2nm,0.6s,baz=346,slow=4.7,SNR=8.7							
CMAR				pPKPab	pPKPab	12 06 11.4	0.0	
	comp=Z,1.1nm,0.8s,baz=350,slow=4.4,SNR=2.1							

IDC 23 12:18:48.7±1.1, 0°.15N×126°.03E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=67.8km s-min=20.8km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.57	158	P	P	12 23 39.5	-0.5
	2.1nm,0.6s,baz=336,slow=10,SNR=30						
	2.1nm,0.6s						
ASAR	Alice Springs	24.88	163	P	P	12 24 13.8	+0.4
	2.6nm,0.6s,baz=343,slow=9.5,SNR=47						
	2.6nm,0.6s						
PETK	Petropavlovsk-	58.99	22	P	P	12 28 49.7	-0.4
	1.0nm,0.7s,baz=227,slow=6.9,SNR=1.8						
	1.0nm,0.7s						
MKAR	Makanchi Array	60.11	327	P	P	12 28 57.7	-0.3
	0.4nm,0.5s,baz=137,slow=6.4,SNR=4.7						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	64.38	329	P	P	12 29 26.9	+0.4
	0.5nm,0.5s,baz=132,slow=6.0,SNR=6.0						
	0.5nm,0.5s						

FUNV 23 12:39:03.9, 10°.46N×62°.39W, h36km, MW3.5
ISC 23 12:39:03.8±1.3, 10°.24N±0°.08×62°.52W±0°.04, h35km, n8, σ1ş70/14, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	1.17	70	eP	Pn	12 39 24.2	+0.5
TRN				eS	Sn	12 39 37.4	-1.0
PCRV	Puerto La Cruz	2.08	268	eP	Pn	12 39 37.5	+1.3
PCRV				eS	Sn	12 40 01.8	+0.8
PCRV	Puerto La Cruz	2.08	268	eP	Pn	12 39 38.2	+1.9
PCRV				eS	Sn	12 40 01.6	+0.5
TACV	Tcata	4.44	269	eP	Pn	12 40 09.9	+1.3
TACV				eS	Sn	12 40 57.5	-1.6
LUEV	Luepa	4.49	166	eP	Pn	12 40 10.4	+0.8
LUEV				eS	Sn	12 41 00.4	-0.3
CACV	CAICARA DEL OR	4.78	237	eP	Pn	12 40 10.1	-3.3
CACV				eS	Sn	12 40 58.0	-10
BENV	Beln	5.01	267	eP	Pn	12 40 17.5	+0.9
BENV				eS	Sn	12 41 10.8	-2.5
BAUV	El Baul	5.60	257	eP	Pn	12 40 24.8	+0.2
BAUV				eS	Sn	12 41 24.2	-3.5

IDC 23 13:00:24.9±1.2, 0°.87S×127°.38E, h0km, mb3.7/6, mbtmp3.7/7, ML2.9/1, Error ellipse: s-maj=97.0km s-min=18.8km az=70.0
DJA 23 13:00:30.5±1.3, 1°.5±2°.×12°.7E±°, h30km±14km, M4.6/14, mb4.5/13, mB5.6/6, MLv4.2/14, Mw(mB)5.2/6
ISC 23 13:00:29.9±0.8, 0°.82S±0°.06×127°.40E±0°.07, h31km, n25, σ1ş74/28, mb4.0/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.58	359	P	Pn	13 00 56.0	+0.1
SANI	Sanana	1.86	229	P	Pn	13 00 59.7	0.0
SANI				S	Sb	13 01 25.4	-0.9
NLAI	Namlea	2.42	187	P	Pn	13 01 09.4	+2.0
NLAI				S	Sb	13 01 39.5	-2.7
MSAI	Masohi	2.94	149	S	Sn	13 01 51.4	+2.6
AAI	Ambon	2.96	164	P	Pn	13 01 17.0	+2.2
KMSI	Cibinong	3.69	292	P	Pn	13 01 26.7	+1.9
SWI	Sorong	3.86	91	P	Pn	13 01 26.5	-0.7
SGSI	Sangihe	4.85	337	P	Pn	13 01 40.6	-0.3
MRSI	Marisa	5.61	283	P	Pn	13 01 51.8	+0.6
	0.1nm30nm,0.9s						
APSI	Ampana	5.75	269	P	Pn	13 01 54.2	+1.0
	2µm87nm,0.7s						
MPSI	Mapaga	7.59	279	P	Pn	13 02 19.3	+0.9
TTSI	Tana Toraja	7.89	254	P	Pn	13 02 23.7	+1.1
	0.1nm24nm,0.5s						
BNSI	Bone	8.10	244	P	Pn	13 02 26.6	+1.1
SPSI	Sidrap Palu	8.23	248	P	Pn	13 02 30.5	+3.2
BKSI	Bulukumba	8.53	238	P	Pn	13 02 35.6	+4.2
	20nm,0.6s						
BSSI	Bau Bau, Buton	8.69	232	P	Pn	13 02 36.0	+2.5
	36nm,0.7s						
EDFI	Ende, Flores	9.71	216	P	Pn	13 02 47.9	+0.2
	8.7nm,0.6s						
WSI	Waingapu	11.28	219	P	Pn	13 03 10.1	+1.1
FITZ	Fitzroy Crossi	17.25	186	P	Pn	13 04 26.7	-2.0
	baz=355,slow=11,SNR=1.6						
	1.4nm,0.9s						
WRA	Warramunga Arr	20.18	161	P	P	13 05 00.7	-1.5
	1.0nm,0.6s,baz=340,slow=11,SNR=8.1						
	1.0nm,0.6s						
ASAR	Alice Springs	23.57	165	P	P	13 05 37.1	-0.9
	1.3nm,0.7s,baz=343,slow=9.9,SNR=14						
ASAR				PcP	PcP	13 09 22.9	0.0
	0.5nm,0.7s,baz=351,slow=3.0,SNR=2.7						
	1.3nm,0.7s						
SONM	Songino Array	51.80	342	P	P	13 09 35.7	+0.7
	0.5nm,0.7s,baz=161,slow=9.2,SNR=2.1						
	0.5nm,0.7s						
MKAR	Makanchi Array	61.67	326	P	P	13 10 45.2	+0.1
	0.6nm,0.3s,baz=116,slow=8.1,SNR=16						
	0.6nm,0.3s						
KURBB	Kurchatov Arra	65.92	328	P	P	13 11 12.3	-0.6
	0.6nm,0.5s,baz=129,slow=5.8,SNR=9.1						
	0.6nm,0.5s						
BRTR	Keskin Array B	93.42	310	P	P	13 13 42.6	-0.1
	0.3nm,0.4s,baz=69,slow=7.9,SNR=2.1						
	0.3nm,0.4s						

ISK 23 13:08:20.8, 41°.15N×43°.92E, h2km, ML2.7/8
AFAD 23 13:08:20.9, 41°.18N×43°.92E, h6km±5km, ML2.8
TIF 23 13:08:21.1, 41°.14N×43°.91E, h10km±1km
AZER 23 13:08:21.9, 40°.91N×44°.17E, h2km, ml2.7
ISC 23 13:08:21.2±1.0, 41°.14N±0°.02×43°.93E±0°.01, h6km±10km, n39, σ0ş97/75, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGD	Bogdanovka	0.28	298	P	Pg	13 08 27.5	+0.7
BGD				S	Sb	13 08 31.8	-2.0
TRLG	Trialeti	0.42	18	P	Pb	13 08 30.2	-1.0
TRLG				S	Sb	13 08 36.5	-1.5
AKH	Akhalkalaki	0.43	310	Pg	Pg	13 08 29.8	+0.3
AKH				Sg	Sg	13 08 35.9	+0.8
AKH	Akhalkalaki	0.43	310	P	Pg	13 08 29.8	+0.3
AKH				S	Sg	13 08 35.9	+0.8
KZRT	Kazreti	0.43	55	P	Pg	13 08 29.1	-0.5
KZRT				S	Sg	13 08 35.6	+0.3
EAK	Akyaka	0.51	209	P	Pg	13 08 30.2	-0.9
EAK				i IAML		13 08 38.0	
	comp=N,479nm,0.6s						
EAK				S	Sb	13 08 39.6	-0.8
EAK				i IAML		13 08 41.0	
	comp=E,546nm,0.6s						
KARS	Kars	0.82	232	Pg	Pg	13 08 37.4	+0.5
KARS				Sg	Sb	13 08 49.3	0.0
DIGO	Kars	0.83	210	P	Pb	13 08 37.9	-0.3
DIGO				S	Sg	13 08 48.0	0.0
DIGO				i IAML		13 08 51.0	
	comp=E,447nm,0.4s						
DIGO				i IAML		13 08 56.0	
	comp=N,411nm,0.8s						
TBLG	Delisi	0.85	45	P	Pg	13 08 37.7	+0.1
TBLG				S	Sb	13 08 50.5	+0.4
BOZK	Kars-Merkez-Bo	0.90	233	P	Pb	13 08 39.2	-0.2
BOZK				S	Sb	13 08 51.3	-0.4
SEAG	Tbilisi Sea	0.91	46	P	Pg	13 08 38.5	-0.1
EPOS	Posof	0.98	293	P	Pb	13 08 40.0	-0.6
EPOS				S	Sb	13 08 53.2	-0.6
EPOS				i IAML		13 08 58.0	
	comp=N,174nm,0.4s						
AHAN	Ardahan-Merkez	0.98	272	P	Pg	13 08 36.2	-3.9
AHAN				S	Sb	13 08 54.5	+0.4
AHAN				i IAML		13 08 55.0	
	comp=N,373nm,0.5s						
ALIG	Mtskhetisjvari	0.99	348	P	Pb	13 08 40.4	-0.4
ALIG				S	Sb	13 08 54.3	+0.1
GOLE	Ardahan-G¶le	1.05	254	P	Pg	13 08 41.5	+0.1
GOLE				S	Sb	13 08 56.6	+0.6
GOLE				i IAML		13 08 57.0	
	comp=N,164nm,0.3s						
GOLE				i IAML		13 08 58.0	
	comp=E,278nm,0.2s						
QZX	Qazax, Azerbai	1.09	94	P	Pb	13 08 42.5	0.0
QZX				S	Sn	13 08 58.0	-0.5
DGRG	David-gareji	1.13	73	P	Pn	13 08 43.8	+0.1
DGRG				S	Sb	13 08 58.5	+0.3
GNI	Garni	1.16	148	Pn	Pn	13 08 44.1	0.0
GNI				Sn	Sn	13 09 01.5	+1.1
TASB	TASBURUN-IGDIR	1.17	168	Pn	Pg	13 08 43.7	0.0
TASB				Sn	Sn	13 09 01.2	+0.6
IGDI	IGDIR	1.27	175	P	Pn	13 08 44.8	-0.7
IGDI				S	Sg	13 09 01.9	-0.2
SENK	Senkaya-Erzuru	1.33	245	Pn	Pg	13 08 46.9	+0.3
SENK				Sn	Sn	13 09 05.9	+1.4
TKB	Tkibuli	1.40	330	P	Pg	13 08 47.6	-0.4
TKB				S	Sg	13 09 06.5	+0.3
GDB	GEDABAY	1.44	106	P	Pn	13 08 48.0	0.0
GDB				S	Sb	13 09 07.2	-0.1
DAGI	Agillar	1.52	268	P	Pg	13 08 50.1	-0.3
DAGI				S	Sg	13 09 10.4	+0.3
HYR	Heyderabad	1.58	153	P	Pn	13 08 50.3	+0.5
HYR				S	Sb	13 09 11.7	+0.6
DDEM	Demirkent	1.67	262	P	Pb	13 08 52.2	-0.1
DDEM				S	Sb	13 09 13.6	0.0
DDEM				i IAML		13 09 18.0	
	comp=E,244nm,0.4s						
DDEM				i IAML		13 09 19.0	
	comp=N,266nm,0.4s						
DBOC	Borcka	1.72	278	P	Pb	13 08 52.9	-0.3
DBOC				S	Sb	13 09 15.2	+0.2
DBOC				i IAML		13 09 19.0	
	comp=E,83nm,0.4s						
BATM	Batumi	1.75	286	P	Pb	13 08 53.5	-0.1
BATM				S	Sg	13 09 16.7	-0.6
SHTL	Shatili	1.77	31	P	Pb	13 08 54.3	+0.1
SHTL				S	Sg	13 09 18.7	+0.6
VSHL	Vashlovani	1.87	86	P	Pg	13 08 56.9	-0.1
VSHL				S	Sg	13 09 24.7	+3.5
GANJ	Ganja	1.88	104	P	Pb	13 08 55.4	-0.5
GANJ				S	Sb	13 09 19.8	+0.2
HOPA	Hopa-Artvin	1.89	278	Pn	Pb	13 08 54.8	-1.2
HOPA				Sn	Sb	13 09 20.0	+0.1
KOPR	Koprukoy-ERZUR	1.95	235	Pn	Pb	13 08 56.4	-0.8
ZKTA	Zakatala	2.09	75	P	Pb	13 08 59.7	+0.2
ZKTA				S	Sg	13 09 28.4	+0.2
SBZ	Shahbuz	2.14	144	P	Pn	13 08 58.2	+0.7
SBZ				S	Sb	13 09 27.2	0.0
CHOM	Cayeli-Rize	2.39	270	Pn	Pn	13 09 02.4	+1.5
MNGR	Mingechevir, A	2.42	98	P	Pb	13 09 03.8	-1.3
MNGR				S	Sb	13 09 35.3	+0.2
SEKA	Sheki	2.47	87	P	Pb	13 09 05.7	-0.3
SEKA				S	Sg	13 09 39.8	-0.7
XNQ	Khinaliq	3.18	88	P	Pb	13 09 15.3	-2.9
XNQ				S	Sb	13 09 55.3	-2.0

IDC 23 13:10:53.6±0.7, 20°.36N×123°.03E, h0km, mb4.1/21, mbtmp4.2/25, ML4.4/4, MS3.7/10, Error ellipse: s-maj=19.6km s-min=15.4km az=84.0
BJI 23 13:10:54.6, 20°.27N×122°.88E, h8km, mB4.8/11, mb4.4/52, ML4.0/3, Ms4.2/34, Ms7 3.9/35
NEIC 23 13:10:55.4±1.6, 20°.37N±0°.06×123°.05E±0°.09, h10km±1km, mb4.9/118, Error ellipse: s-maj=14.2km s-min=10.7km az=98.0
JMA 23 13:10:59.9±0.6, 21°.N±3°.×12°.3E±°, h42km, MV5.3/35, PHILIPPINE ISL REGION
ISC 23 13:10:54.8±0.4, 20°.35N±0°.05×123°.14E±0°.04, h10km, n428, σ1ş96/395, mb4.8/90, MS3.7/17, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	Beinan	3.11	322	P	Pn	13 11 43.1	-0.9
TWGBT	Beinan	3.11	322	S	Sn	13 12 17.2	-4.1
TWG	Pinlang	3.12	322		Pn	13 11 42.2	-1.9
YULB	Yu-li	3.48	331		Pn	13 11 47.1	-1.9
YULB	Yu-li	3.48	331	P	Pn	13 11 47.4	-1.6
YULB	Yu-li	3.48	331	S	Sn	13 12 25.7	-4.6
HATJ	Hateruma jima	3.74	9	P	Pn	13 11 53.9	+1.4
HATJ				S	Sn	13 12 32.9	-3.8
TPUB	Ta-pu	3.75	322		Pn	13 11 53.1	+0.3
TPUB	Ta-pu	3.75	322	P	Pn	13 11 54.0	+1.3
TPUB	Ta-pu	3.75	322	S	Sn	13 12 35.8	-1.2
JKRS	Kuro-shima	3.95	12	P	Pn	13 11 57.2	+1.7
JKRS				S	Sn	13 12 38.9	-3.0
SSLB	Suanglung	3.98	330		Pn	13 11 55.1	-0.7
SSLB	Suanglung	3.98	330	P	Pn	13 11 56.0	+0.1
IRIF	Iriomote-Funau	4.00	8	P	Pn	13 11 57.5	+1.3
IRIF				eS	Sn	13 12 39.3	-3.8
NACB	Ninganchiao	4.06	340		Pn	13 11 55.5	-1.6
NACB	Ninganchiao	4.06	340	P	Pn	13 11 55.9	-1.2
YOJ	Yonaguni jima	4.09	358		Pn	13 11 58.4	+0.9
YOJ	Yonaguni jima	4.09	358	P	Pn	13 11 58.4	+0.9
YOJ	Yonaguni jima	4.09	358	P	Pn	13 11 58.8	+1.3
JIJ	Ishigaki jima	4.10	13	P	Pn	13 11 58.7	+1.1
JIJ				eS	Sn	13 12 41.6	-4.0
JISG	Ishigakijimahi	4.35	14	P	Pn	13 12 02.2	+1.2
JISG				S	Sn	13 12 49.3	-2.5
JTJ	Tarama	4.51	18	P	Pn	13 12 04.8	+1.7
JTJ				eS	Sn	13 12 54.5	-1.1
YHNB	Yeheng	4.60	340		Pn	13 12 04.4	0.0
YHNB	Yeheng	4.60	340	P	Pn	13 12 04.8	+0.3
JMJ2	Miyako jima3	4.81	24	P	Pn	13 12 09.1	+1.8
JMJ2				S	Sn	13 13 02.5	-0.7
JIRB	Irabujima	4.83	22	P	Pn	13 12 09.1	+1.4
JIRB				eS	Sn	13 13 01.6	-2.1
TATO	Taipei	4.85	342		Pn	13 12 08.1	+0.2
TATO	Taipei	4.85	342	P	Pn	13 12 09.3	+1.5
JOGS	Gusukube	4.86	25	P	Pn	13 12 10.0	+2.0
JOGS				eS	Sn	13 13 02.7	-1.7
JMJ	Miyako jima 2	4.87	24	P	Pn	13 12 09.6	+1.5
JIKM	Ikemajima	4.95	23	P	Pn	13 12 10.9	+1.7
JIKM				eS	Sn	13 13 05.1	-1.4
KNMB	Chin-men Tao	6.01	314	Pn	Pn	13 12 23.6	-0.1
QZH	Quanzhou	6.21	318	Pn	Pn	13 12 26.3	-0.2
QZH				Sn	Sn	13 13 31.9	-5.6
QZH				smax	smax		
	comp=N,88nm,0.8s						
QZH				smax	smax		
	comp=E,82nm,0.6s						
QZH				LR	LR		
	comp=N,1µm,13.1s						
QZH				LR	LR		
	comp=E,750nm,16.5s						
QZH				LR	LR		
	comp=Z,560nm,12.4s						
TGY	Tagaytay City	6.56	199	Pn	Pn	13 12 31.7	+0.3
	28nm,0.3s,baz=9.5,slow=12,SNR=1.4						
	104nm,0.3s						
JKE	Kume jima 2	6.83	29	P	Pn	13 12 35.8	+0.8
JKE				eS	Sn	13 13 48.3	-4.5
JJT3	Tamagusuku3	7.17	36	i P	Pn	13 12 41.0	+1.2
JJT3				eS	Sn	13 13 57.2	-4.1
JAGN	Aguni-jima	7.26	30	P	Pn	13 12 41.8	+0.8
JAGN				S	Sn	13 13 59.8	-3.7
JNTH	Nagotoyohara	7.60	35	eS	Sn	13 14 06.5	-5.4
JOW	Kunigami	7.99	35		Pn	13 12 51.5	+0.6
JOW	Kunigami	7.99	35	Pn	Pn	13 12 51.9	+0.9
	26nm,0.3s,baz=230,slow=12,SNR=102						
JOW				Sn	Sn	13 14 15.0	-6.4
	17nm,0.3s,baz=123,slow=29,SNR=14						
	171nm,0.7s						
JOW	Kunigami	7.99	35	P	Pn	13 12 52.1	+1.1
JOW	Kunigami	7.99	35	P	Pn	13 12 52.0	+1.1
JOW				S	Sn	13 14 16.2	-5.2
JIH	Iheya	7.99	33	P	Pn	13 12 51.8	+0.8
JYRO	Yoronjima	8.23	35	P	Pn	13 12 54.8	+0.5
JYRO				S	Sn	13 14 20.5	-7.0
JOKE	Okinoerabujima	8.56	34	P	Pn	13 12 59.5	+0.5
JTK	Tokunoshima	9.11	35	P	Pn	13 13 06.5	+0.2
JMZ	Minamidaito 2	9.22	52	eS	Sn	13 14 44.1	-7.6
JKDJ	Kitadaitoujima	9.35	52	eS	Sn	13 14 47.9	-6.9
JAMN	Amaminishikomi	9.59	34	P	Pn	13 13 12.5	-0.5
JAMN				S	Sn	13 14 53.8	-7.0
JAM	Amami Oshima	9.95	35	P	Pn	13 13 18.0	+0.1
JAM				eS	Sn	13 15 01.7	-8.0
JZK	Kikaishima	10.08	37	P	Pn	13 13 21.1	+1.4
JZK				eS	Sn	13 15 05.5	-7.3
JTAJ	Takarajima	10.35	31	P	Pn	13 13 23.5	+0.2
NJ2	Nanjing	12.27	343	eP	Pn	13 13 50.1	+0.5
NJ2				pmax	pmax		
	comp=Z,23nm,0.5s						
QIZ	Qiongzhong	12.59	266	P	Pn	13 13 52.8	-1.3
QIZ				S	Sn	13 16 13.3	-1.3
QIZ				pmax	pmax		
	comp=Z,21nm,2.1s						
QIZ				LR	LR		
	comp=N,170nm,13.3s						
QIZ				LR	LR		
	comp=E,160nm,12.9s						
QIZ				LR	LR		
	comp=Z,430nm,19.8s						
JNU	Nakatsue	14.47	27		Pn	13 14 19.7	0.0
JNU	Nakatsue	14.47	27	Pn	Pn	13 14 20.3	+0.5
	0.6nm,0.3s,baz=206,slow=4.7,SNR=12						
	20nm,0.9s						
TIA	Tai'an	16.66	343	P	P	13 14 51.9	+1.1
TIA				pmax	pmax		
	comp=Z,14nm,1.3s						
LYN	LuoYang	17.00	328	eP	P	13 14 54.8	+0.2
LYN				pP	sP	13 14 57.8	+1.3
LYN				PP	pwP	13 15 09.5	+6.4
LYN				pmax	pmax		
	comp=Z,19nm,0.8s						
LYN				LR	LR		
	comp=N,780nm,12.0s						
LYN				LR	LR		
	comp=E,380nm,12.4s						
LYN				LR	LR		
	comp=Z,940nm,11.8s						
KSAR	Wonju Array Be	17.52	13	Pn	Pn	13 14 58.8	-0.5
KSRS	Korea Array	17.54	13	P	P	13 15 00.8	+0.3
	0.2nm,0.3s,baz=194,slow=12,SNR=33						
	21nm,1.0s						
KS19	Wonju Array Si	17.58	13	Pn	Pn	13 14 59.4	-0.5
HNS	HongShan	18.51	338	⇓P	Pn	13 15 16.0	+4.7
HNS				pmax	pmax		
	comp=Z,11nm,0.9s						
HNS				LR	LR		
	comp=N,370nm,14.9s						
HNS				LR	LR		
	comp=E,310nm,16.9s						
HNS				LR	LR		
	comp=Z,370nm,16.3s						
XAN	Xi'an	18.57	320	⇑P	Pn	13 15 13.8	+1.6
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XAN				LR	LR		
	comp=N,370nm,11.7s						
XAN				LR	LR		
	comp=E,350nm,12.4s						
XAN				LR	LR		
	comp=Z,300nm,11.0s						
INU	Inuyama	19.30	36	P	P	13 15 20.1	+0.1
KMI	Kunming	19.40	288	P	Pn	13 15 22.8	+0.3
KMI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KMI				LR	LR		
	comp=N,160nm,9.1s						
KMI				LR	LR		
	comp=E,270nm,15.3s						
KMI				LR	LR		
	comp=Z,310nm,16.3s						
CD2	Chengdu	20.36	305	P	P	13 15 30.8	-0.9
CD2				sP	sP	13 15 36.0	+2.5
CD2				pmax	pmax		
	comp=Z,30nm,0.4s						
BJI	Beijing	20.51	345	P	Pn	13 15 39.9	+4.6
BJI				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BJI				LR	LR		
	comp=N,75nm,10.0s						
BJI				LR	LR		
	comp=E,130nm,14.2s						
BJI				LR	LR		
	comp=Z,110nm,12.8s						
PZH	PanZhiHua	20.55	291	P	Pn	13 15 34.9	-1.2
PZH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
SBUM	Sibu	20.74	212	P	P	13 15 35.2	-0.6
SBUM				IAmb	IAmb	13 15 43.3	
	comp=Z,37nm,0.9s						
MAJO	Matsushiro	20.83	36	P	P	13 15 35.2	-1.4
MAJO				IAmb	IAmb	13 15 51.4	
	comp=Z,37nm,0.9s						
MJAR	Matsushiro Arr	20.83	36	P	Pn	13 15 41.7	+2.6
	comp=Z,39nm,1.0s,baz=235,slow=9.5,SNR=49						
MJAR				LR	LR	13 23 32.5	
	comp=Z,140nm,20.4s,baz=248,slow=36						
GUMO	Guam	21.83	105	LR	LR	13 24 11.1	
	comp=Z,178nm,19.3s,baz=303,slow=36						
HHC	Hu-ho-hao-te	22.69	337	eP	P	13 15 52.8	-3.9
HHC				S	S	13 20 03.3	-1.8
HHC				pmax	pmax		
	comp=Z,23nm,0.5s						
HHC				pmax	pmax		
	comp=Z,57nm,5.6s						
HHC				LR	LR		
	comp=N,210nm,15.8s						
HHC				LR	LR		
	comp=E,240nm,14.6s						
HHC				LR	LR		
	comp=Z,330nm,13.3s						
CMAR	Chiang Mai Arr	22.90	269	P	P	13 15 55.9	-3.0
CMAR	Chiang Mai Arr	22.90	269	P	P	13 15 59.6	+0.7
	comp=Z,3.4nm,0.9s,baz=68,slow=8.4,SNR=18						
CMAR				LR	LR	13 26 04.9	
	comp=Z,148nm,18.4s,baz=75,slow=40						
	comp=Z,3.4nm,0.9s						
LZH	Lanzhou	23.06	317	eP	P	13 16 00.8	+0.2
LZH				pP	pwP	13 16 07.3	-1.8
LZH				pmax	pmax		
	comp=Z,30nm,1.2s						
LZH				LR	LR		
	comp=Z,290nm,13.1s						
LZH				LR	LR		
	comp=Z,310nm,14.4s						
LZH				LR	LR		
	comp=Z,300nm,14.1s						
BTO	Baotou	23.09	334	eP	P	13 16 04.4	+3.6
BTO				pP	pwP	13 16 08.9	-0.4
BTO				sP	sP	13 16 11.8	+9.1
BTO				SS	Sn	13 20 56.1	+28
BTO				pmax	pmax		
	comp=Z,45nm,0.8s						
BTO				pmax	pmax		
	comp=Z,620nm,9.6s						
BTO				LR	LR		
	comp=Z,510nm,11.6s						
BTO				LR	LR		
	comp=Z,910nm,12.5s						
BTO				LR	LR		
	comp=Z,670nm,11.5s						
TNCH	TengChong	23.17	286	P	P	13 16 00.4	-1.5
TNCH				pP	pP	13 16 02.8	-0.5
TNCH				PP	PnPn	13 16 26.1	-1.2
TNCH				S	S	13 19 56.8	-17
TNCH				pmax	pmax		
	comp=Z,22nm,1.8s						
TNCH				pmax	pmax		
	comp=Z,220nm,3.2s						

comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,200nm,14.0s
XLT XiLinHaoTe 24.21 347 *e*P **P 13 16 18.6 +6.9**
XLT sP pwP 13 16 25.3 +5.0
XLT S **S 13 20 37.5 +7.4**
XLT pmax pmax
comp=Z,10.0nm,0.8s
XLT LR LR
comp=N,12nm,16.5s
XLT LR LR
comp=E,190nm,15.1s
XLT LR LR
comp=Z,210nm,14.4s
FAKI Fak Fak 24.79 158 P **P 13 16 15.3 -1.8**
USRK Ussuriysk Ar. 24.90 15 P **P 13 16 16.6 -1.3**
comp=Z,1.7nm,0.7s,baz=200,slow=6.8,SNR=2.4
USRK LR LR 13 26 24.3
comp=Z,133nm,20.7s,baz=228,slow=37
comp=Z,1.7nm,0.7s
BNX BinXian 25.56 7 ⇑P **P 13 16 21.3 -2.5**
BNX pmax pmax
comp=Z,6.0nm,0.4s
GTA Gaotai 27.61 319 *e*P **P 13 16 44.3 +1.7**
GTA sP pwP 13 16 51.4 +0.3
GTA pmax pmax
comp=Z,9.0nm,1.0s
HEH HeiHe 30.03 5 *e*P P 13 16 55.9 -7.9
PPI Padang Panjang 30.39 230 P **P 13 17 08.1 +0.8**
SONM Songino Array 30.59 338 P **P 13 17 09.1 +0.2**
comp=Z,3.2nm,1.0s,baz=160,slow=9.8,SNR=14
SONM LR LR 13 30 47.5
comp=Z,127nm,18.8s,baz=166,slow=39
comp=Z,3.2nm,1.0s
MDSI Maura Dua 30.92 219 P **P 13 17 13.4 +1.4**
comp=Z,18nm,1.0s
GSI Gunungsitoli 31.34 236 P **P 13 17 15.5 -0.3**
KNRA Kununurra 36.23 171 P **P 13 17 57.0 -1.1**
KNRA IAmb IAmb 13 18 33.0
comp=Z,24nm,1.6s
WMQ Urumqi 37.64 317 *e*P **P 13 18 11.5 +1.4**
H11N1 WAKE ISLAND Hy 41.02 83 T T 14 02 56.9
baz=277
H11N2 WAKE ISLAND Hy 41.02 83 T T 14 02 51.6
baz=277
H11S3 WAKE ISLAND Hy 41.02 85 T T 14 02 52.0
baz=281,slow=75
H11S1 WAKE ISLAND Hy 41.03 85 T T 14 02 48.4
baz=281
H11N3 WAKE ISLAND Hy 41.04 83 T T 14 02 55.8
baz=277
H11S2 WAKE ISLAND Hy 41.04 85 T T 14 02 53.3
baz=281,slow=75
WRA Warramunga Arr 41.52 164 P **P 13 18 43.0 +0.5**
comp=Z,1.1nm,0.4s,baz=344,slow=9.2,SNR=8.2
comp=Z,1.1nm,0.4s
WR8 Warramunga Arr 41.58 164 P **P 13 18 42.6 -0.3**
PSA00 Pilbara Seismi 41.79 185 P **P 13 18 43.4 -1.3**
PSA00 IAmb IAmb 13 20 05.7
comp=Z,41nm,1.9s
PETK Petropavlovsk- 42.12 31 P **P 13 18 47.8 +0.7**
PETK Petropavlovsk- 42.12 31 P **P 13 18 49.1 +2.0**
comp=Z,3.1nm,0.9s,baz=264,slow=1.5,SNR=3.9
comp=Z,3.1nm,0.8s
MKAR Makanchi Array 42.36 318 P **P 13 18 49.6 +0.4**
MKAR Makanchi Array 42.36 318 P **P 13 18 50.1 +0.9**
comp=Z,6.4nm,0.9s,baz=109,slow=10,SNR=40
comp=Z,6.4nm,0.9s
ZAA0 Zalesovo Array 44.44 328 **P 13 19 05.9 +0.1**
ZALV Zalesovo Beam 44.44 328 P **P 13 19 05.8 +0.1**
comp=Z,4.3nm,0.7s,baz=110,slow=8.1,SNR=16
comp=Z,4.3nm,0.7s
KSH Kashi 44.55 306 P **P 13 19 10.8 +3.7**
KSH pmax pmax
comp=Z,6.0nm,1.0s
AS31 Alice Springs 44.99 166 P **P 13 19 10.7 +0.1**
ASAR Alice Springs 44.99 166 P **P 13 19 11.0 +0.5**
ASAR Alice Springs 44.99 166 P **P 13 19 11.1 +0.5**
comp=Z,0.4nm,0.6s,baz=349,slow=8.8,SNR=8.0
comp=Z,0.4nm,0.6s
NIL Nilore 45.98 297 P **P 13 19 18.0 -0.3**
KURK Kurchatov 46.20 322 P **P 13 19 20.1 +0.3**
KURBB Kurchatov Arra 46.21 322 P **P 13 19 20.1 +0.2**
comp=Z,4.1nm,0.8s,baz=118,slow=7.5,SNR=26
comp=Z,4.1nm,0.8s
KBL Kabul 49.51 298 P **P 13 19 44.8 -1.2**
KBL IAmb IAmb 13 19 47.8
comp=Z,12nm,0.8s
BVAR Borovoye Array 51.79 322 P **P 13 20 02.0 -0.7**
BVAR PcP **PcP 13 21 15.6 -0.2**
comp=Z,1.8nm,0.7s,baz=122,slow=5.2,SNR=4.9
comp=Z,1.0nm,0.5s
ATKA Atka Island 57.47 40 P **P 13 20 44.8 +0.9**
SPIA Saint Paul Isl 60.47 35 P **P 13 21 05.9 +1.2**
baz=262
P08K Saint George I 60.78 36 P **P 13 21 07.5 +0.8**
baz=263
F14K Arctic Creek 63.59 26 P **P 13 21 26.3 +0.8**
baz=261
ANM Nome 63.87 27 P **P 13 21 28.6 +1.3**
baz=262
K13K Kusilvak Mount 63.88 30 P **P 13 21 28.4 +1.0**
baz=264
FALS False Pass 64.11 38 P **P 13 21 29.5 +0.5**
baz=269
F15K North Star Dit 64.32 26 P **P 13 21 30.3 0.0**
baz=263
M13K Dall Lake 64.39 32 P **P 13 21 30.4 -0.4**
baz=266
C16K Lisburne Hills 64.43 23 P **P 13 21 31.1 +0.2**
C16K Lisburne Hills 64.43 23 P **P 13 21 30.6 -0.4**
baz=261
J14K Nanvaranak Lak 64.47 29 P **P 13 21 31.0 -0.3**
baz=265
G15K Niukluk 64.48 27 P **P 13 21 32.1 +0.7**
baz=264
L14K Kuka Creek 64.77 31 P **P 13 21 33.9 +0.6**
baz=266
S12K Black Hills 64.89 37 P **P 13 21 35.0 +0.8**
baz=270
M14K Bethel 65.09 32 P **P 13 21 36.2 +0.8**
baz=267
D17K Noatak River 65.19 24 P **P 13 21 36.1 +0.2**
baz=263
N14K Kuskokwak Cree 65.19 32 P **P 13 21 37.1 +1.1**
baz=268
H16K Elim 65.22 27 P **P 13 21 36.3 +0.2**
baz=265
C17K DeLong Mountai 65.25 23 P **P 13 21 37.4 +1.1**
baz=263
BELG Belogornoye 65.35 319 LR LR 13 50 39.1
comp=Z,49nm,18.6s,baz=79,slow=36
L15K Ungalak Mounta 65.36 31 P **P 13 21 38.4 +1.3**
baz=267
K15K Wolf Creek Mou 65.37 30 P **P 13 21 38.1 +0.9**
baz=267
E17K Hotham Inlet 65.61 25 P **P 13 21 39.3 +0.7**
baz=265
M15K Kasigluk River 65.71 32 P **P 13 21 40.7 +1.3**
baz=268
F17K Baldwin Pennin 65.78 25 P **P 13 21 40.7 +1.0**
baz=265
SDPT Sand Point 65.80 37 P **P 13 21 40.8 +0.8**
baz=271
I17K Unalakleet 65.84 28 P **P 13 21 41.4 +1.3**
baz=267
J16K Anvik River 65.85 29 P **P 13 21 41.4 +1.1**
baz=267
B18K Kokolik River 65.86 22 P **P 13 21 41.7 +1.5**
baz=264
G17K Kiwalik Mounta 65.95 26 P **P 13 21 42.1 +1.2**
baz=266
N15K Kwethluk River 66.00 32 P **P 13 21 43.1 +1.8**
baz=269
C18K Utukok River 66.00 23 P **P 13 21 42.0 +0.8**
baz=264
E18K Tukpahlearik C 66.11 24 P **P 13 21 43.3 +1.5**
baz=266
O15K Ungalikthiuk R 66.12 33 P **P 13 21 43.3 +1.2**
baz=270
H17K Granite Mounta 66.23 27 P **P 13 21 44.2 +1.5**
baz=267
S14K Fog Glacier 66.30 36 P **P 13 21 44.0 +0.6**
baz=271
CHNA Chernabura Isl 66.32 38 P **P 13 21 43.9 +0.5**
baz=272
F18K Selawik 66.43 25 P **P 13 21 44.8 +1.0**
baz=267
J17K VABM Dome 66.54 29 P **P 13 21 45.1 +0.4**
baz=269
M16K Timber Creek 66.56 31 IAmb IAmb 13 22 01.0
comp=Z,8.6nm,0.9s
M16K Timber Creek 66.56 31 P **P 13 21 46.0 +1.1**
baz=270
C19K Lookout Ridge 66.62 22 P **P 13 21 45.7 +0.5**
baz=266
N16K Nishlik Lake 66.66 32 P **P 13 21 46.0 +0.5**
baz=270
G18K Tagagawik 66.80 26 P **P 13 21 46.8 +0.5**
baz=268
K17K Iditarod 66.88 29 P **P 13 21 47.3 +0.4**
baz=270
L17K Donlin 66.88 30 P **P 13 21 48.3 +1.4**
baz=270
H18K Honhosa River 66.89 27 P **P 13 21 48.4 +1.4**
baz=269
O16K Kokwok River B 67.01 33 P **P 13 21 49.5 +1.8**
O16K Kokwok River B 67.01 33 P **P 13 21 48.9 +1.2**
baz=271
D19K Kuna River 67.11 23 P **P 13 21 49.3 +1.0**
baz=267
F19K Shaleruckik Mo 67.18 25 P **P 13 21 49.7 +1.0**
baz=268
M17K Holitna River 67.30 31 P **P 13 21 49.7 +0.2**
baz=271
E19K Redstone River 67.41 24 P **P 13 21 51.7 +1.6**
baz=269
N17K Nushagak Hills 67.44 32 P **P 13 21 50.7 +0.3**
baz=272
G19K Purcell Mounta 67.44 26 P **P 13 21 52.6 +2.2**
G19K IAmb IAmb 13 22 06.6
comp=Z,8.2nm,1.0s
G19K Purcell Mounta 67.44 26 P **P 13 21 51.3 +0.9**
baz=269
O17K Koliganek Bris 67.51 33 P **P 13 21 52.1 +1.2**
baz=272
B20K Meade River 67.52 21 P **P 13 21 52.1 +1.3**
baz=268
GCSA Galena City Sc 67.52 27 P **P 13 21 52.2 +1.4**
baz=270
J18K Innoko River 67.60 29 P **P 13 21 53.1 +1.6**
baz=271
L18K Granite Mounta 67.64 30 P **P 13 21 53.2 +1.5**
baz=271
D20K Etivluk River 67.67 23 P **P 13 21 53.3 +1.4**
baz=269
H19K Roundabout Mou 67.70 26 P **P 13 21 54.2 +2.2**
baz=270,SNR=5.7
E20K Nigu River 67.82 23 P **P 13 21 54.7 +1.9**
baz=269
P17K Kvichak River 67.86 33 P **P 13 21 54.9 +1.8**
baz=273
R17L Mt. Peulik Vol 67.99 35 P **P 13 21 55.4 +1.3**
baz=274
F20K Avaraart Lake 67.99 25 P **P 13 21 55.1 +1.2**
baz=270
M18K Styx River 68.07 31 P **P 13 21 55.7 +1.3**
baz=272,SNR=5.7
N18K Kilae Creek 68.07 32 P **P 13 21 55.8 +1.3**
baz=273
J19K Poorman 68.08 28 P **P 13 21 55.6 +1.2**
J19K Poorman 68.08 28 P **P 13 21 56.2 +1.8**
baz=272,SNR=5.6
Q17K Contact Creek 68.20 34 P **P 13 21 56.4 +0.9**
baz=274
A22K Sinclair Lake 68.28 20 P **P 13 21 56.7 +1.2**
baz=269
C21K Knifeblade Rid 68.34 22 P **P 13 21 56.5 +0.5**
baz=270
H20K Anotleneega Mo 68.36 26 P **P 13 21 57.0 +0.8**
baz=272
B21K Ikpikpuk River 68.40 22 P **P 13 21 57.4 +1.1**
baz=270
O18K Koktuh Hills 68.46 32 P **P 13 21 58.4 +1.5**
baz=274
P18K Big Mountain, 68.47 33 P **P 13 21 58.7 +1.7**
baz=274
GNI Garni 68.49 306 LR LR 13 56 15.1
comp=Z,56nm,18.9s,baz=78,slow=40
L19K White Mountain 68.50 30 IAmb IAmb 13 22 14.1
comp=Z,13nm,1.4s
L19K White Mountain 68.50 30 P **P 13 21 57.9 +0.8**
baz=273
I20K Naaghedeneel 68.55 27 P **P 13 21 58.6 +1.2**
baz=272
Q18K Katmai Hardscr 68.64 34 P **P 13 21 58.6 +0.4**
baz=274
E21K Killik River 68.64 23 P **P 13 21 58.2 +0.2**
baz=271
J20K Nowinta River 68.72 28 IAmb IAmb 13 22 15.0
comp=Z,6.3nm,0.8s
J20K Nowinta River 68.72 28 P **P 13 21 58.1 -0.3**
baz=273,SNR=5.2
M19K Big River Lodg 68.73 30 P **P 13 21 59.2 +0.6**
baz=274
N19K Bonanza Creek 68.75 31 P **P 13 21 58.7 -0.1**
baz=274
K20K Telida 68.80 29 P **P 13 22 00.5 +1.5**
baz=273
F21K Alatna River 68.86 24 P **P 13 22 00.3 +0.9**
baz=272
O19K Port Alsworth 68.88 32 P **P 13 21 59.9 +0.4**
baz=274
G21K Allakaket 68.88 25 P **P 13 22 00.4 +0.9**
baz=272
L20K Farewell, AK 68.94 30 P **P 13 22 00.2 +0.3**
baz=274
R18K Karluk 69.02 35 P **P 13 22 01.1 +0.7**
baz=275
D22K Ayikyak River 69.10 23 IAmb IAmb 13 22 17.4
comp=Z,6.4nm,0.8s
D22K Ayikyak River 69.10 23 P **P 13 22 01.6 +0.8**
baz=272
H21K Melozitna Rive 69.21 26 IAmb IAmb 13 22 18.1
comp=Z,8.7nm,0.8s
H21K Melozitna Rive 69.21 26 P **P 13 22 02.8 +1.3**
baz=274,SNR=7.5
KBZ Khabaz 69.30 310 P **P 13 22 02.7 +0.3**
comp=Z,4.9nm,0.8s,baz=72,slow=3.2,SNR=6.4
comp=Z,4.9nm,0.8s
M20K Styx River 69.33 30 P **P 13 22 03.5 +1.1**
baz=275
F22K John River 69.36 24 P **P 13 22 03.5 +1.1**
baz=273
E22K Anaktuvuk Pass 69.46 23 IAmb IAmb 13 22 19.4
comp=Z,5.2nm,0.8s
E22K Anaktuvuk Pass 69.46 23 P **P 13 22 03.6 +0.5**
baz=273
P19K Oil Pt 69.47 33 P **P 13 22 04.5 +1.3**
baz=275
CHUM Lake Minchumin 69.54 28 P **P 13 22 04.9 +1.4**
baz=275
I21K Tanana 69.59 27 IAmb IAmb 13 22 20.5
comp=Z,11nm,1.1s
I21K Tanana 69.59 27 P **P 13 22 04.9 +1.1**
baz=274
G22K Bettles 69.65 25 P **P 13 22 05.5 +1.3**
baz=274
OHAK Old Harbor 69.68 35 P **P 13 22 04.9 +0.4**
OHAK IAmb IAmb 13 22 19.6
comp=Z,7.0nm,0.9s
OHAK Old Harbor 69.68 35 P **P 13 22 06.0 +1.5**
baz=276
PPLA Purkeypile 69.68 29 P **P 13 22 05.8 +1.2**
baz=275
CAST Castle Rocks 69.68 29 P **P 13 22 05.4 +0.9**
baz=275,SNR=11
C23K Itkillik River 69.78 22 P **P 13 22 06.2 +1.3**
baz=274
H22K Ishtalitna Cre 69.78 26 P **P 13 22 06.3 +1.2**
baz=275,SNR=7.4
D23K Nanushuk River 69.82 23 P **P 13 22 06.1 +0.9**
baz=274,SNR=6.5
KDAK Kodiak Island 70.00 35 **P 13 22 07.5 +1.1**
KDAK IAmb IAmb 13 22 21.7
comp=Z,9.3nm,0.8s
KDAK Kodiak Island 70.00 35 P **P 13 22 07.5 +1.1**
baz=277
SKT Skwentna 70.07 30 IAmb IAmb 13 22 26.4
comp=Z,9.2nm,0.8s
SKT Skwentna 70.07 30 P **P 13 22 07.9 +1.0**
baz=276
BPAW Bear Paw Mtn. 70.11 28 IAmb IAmb 13 22 23.1
comp=Z,12nm,1.1s
BPAW Bear Paw Mtn. 70.11 28 P **P 13 22 08.3 +1.2**
baz=276,SNR=6.7
MLY Manley 70.12 27 IAmb IAmb 13 22 23.4
comp=Z,8.1nm,0.8s
MLY Manley 70.12 27 P **P 13 22 08.5 +1.3**
baz=276,SNR=7.6
COLD Coldfoot 70.14 24 P **P 13 22 09.0 +1.8**
baz=275
TOLK Toolik Lake Re 70.25 23 P **P 13 22 09.1 +1.2**
baz=275
G23K Bananza Creek 70.26 25 IAmb IAmb 13 22 24.5
comp=Z,6.6nm,0.9s
G23K Bananza Creek 70.26 25 P **P 13 22 09.9 +1.9**
baz=276,SNR=6.9
HOM Homer 70.27 33 P **P 13 22 09.9 +1.8**
baz=277
E23K Chandalar 70.28 24 IAmb IAmb 13 22 24.6
comp=Z,6.5nm,0.7s
E23K Chandalar 70.28 24 P **P 13 22 09.8 +1.6**
baz=276
CAPN Captain Cook N 70.39 31 P **P 13 22 10.4 +1.6**
baz=277
C24K Franklin Bluff 70.45 22 P **P 13 22 11.2 +2.1**
baz=276
D24K Happy Valley 70.47 22 IAmb IAmb 13 22 25.4
comp=Z,6.7nm,0.9s
D24K Happy Valley 70.47 22 P **P 13 22 10.7 +1.5**
baz=276
TRF Thorofare Moun 70.48 28 P **P 13 22 11.7 +2.2**
baz=276
CNPM China Poot 70.49 33 IAmb IAmb 13 22 26.2
comp=Z,10nm,0.8s
H23K Yukon River 70.54 26 IAmb IAmb 13 22 26.4
comp=Z,9.7nm,0.8s
H23K Yukon River 70.54 26 P **P 13 22 12.2 +2.5**
baz=276,SNR=10
CUT Chulitna 70.61 30 P **P 13 22 12.6 +2.4**
baz=277
I23K Minto, Yukon-K 70.69 27 IAmb IAmb 13 22 26.7
comp=Z,8.0nm,1.1s
I23K Minto, Yukon-K 70.69 27 P **P 13 22 13.0 +2.4**
baz=277
E24K Your Creek 70.70 23 P **P 13 22 13.3 +2.5**
baz=276,SNR=8.5
NEA2 Nenana 70.88 27 IAmb IAmb 13 22 27.5
comp=Z,9.7nm,0.8s
NEA2 Nenana 70.88 27 P **P 13 22 14.0 +2.2**
baz=277
F24K Squaw Lake 71.00 24 IAmb IAmb 13 22 28.8
comp=Z,8.3nm,0.7s
F24K Squaw Lake 71.00 24 P **P 13 22 14.5 +2.0**
baz=277,SNR=10
RC01 Rabbit Creek A 71.03 31 P **P 13 22 14.9 +2.1**
baz=278
MCK McKinley 71.05 28 P **P 13 22 14.5 +1.6**
baz=278
H24K Noodor Dome 71.22 26 IAmb IAmb 13 22 30.4
comp=Z,6.9nm,1.1s
H24K Noodor Dome 71.22 26 P **P 13 22 15.7 +1.8**
baz=278
RAYN Ar Rayn 71.24 289 **P 13 22 14.2 -0.5**
PMR Palmer 71.25 30 IAmb IAmb 13 22 28.7
comp=Z,7.6nm,0.9s
PMR Palmer 71.25 30 P **P 13 22 15.6 +1.6**
baz=278
G24K Hadweenzic Riv 71.26 25 IAmb IAmb 13 22 30.5
comp=Z,6.9nm,0.8s
G24K Hadweenzic Riv 71.26 25 P **P 13 22 17.0 +2.9**
baz=278,SNR=6.3
SEW Sewad 71.31 32 P **P 13 22 15.6 +1.3**
baz=278
D25K Kavik River 71.31 22 IAmb IAmb 13 22 30.3
comp=Z,6.2nm,0.7s
D25K Kavik River 71.31 22 P **P 13 22 16.5 +2.1**
baz=278,SNR=5.9
WRH Wood River Hil 71.32 27 IAmb IAmb 13 22 30.2
comp=Z,6.3nm,0.7s
POKR Poker Plat Res 71.50 26 P **P 13 22 17.9 +2.3**
baz=278
KNK Knik Glacier 71.60 30 P **P 13 22 17.8 +1.6**
baz=279
PWL Port Wells 71.74 31 P **P 13 22 19.9 +2.9**
baz=279
ILAR Eielson Array 71.79 27 P **P 13 22 18.5 +1.3**
comp=Z,0.7nm,0.7s,baz=278,slow=4.8,SNR=7.5
comp=Z,0.7nm,0.7s
G25K Bearman Lake 71.79 25 P **P 13 22 19.4 +2.2**
baz=279,SNR=5.2
HDA Harding Lake 71.82 27 P **P 13 22 19.8 +2.3**
baz=279
F25K Christian Rive 71.84 24 IAmb IAmb 13 22 34.2
comp=Z,6.8nm,0.7s
F25K Christian Rive 71.84 24 P **P 13 22 19.9 +2.3**
baz=279,SNR=9.5
M23K Glacier View 71.88 30 P **P 13 22 20.1 +2.2**
baz=279
H25L Birch Creek 71.99 25 P **P 13 22 20.6 +2.3**
baz=280
SCM Sheep Creek Mo 72.06 30 P **P 13 22 21.2 +2.1**
baz=280,SNR=5.4
C27K Jago River 72.19 22 P **P 13 22 22.0 +2.4**
baz=280
PRP Porcupine Dome 72.23 26 P **P 13 22 22.7 +2.6**
baz=280
BMAR Burnt Mountain 72.27 24 P **P 13 22 22.9 +2.7**
GLI Glacier Island 72.34 31 P **P 13 22 23.4 +2.8**
baz=280
F26K Sheenjek River 72.39 24 P **P 13 22 23.5 +2.6**
baz=281,SNR=6.8
K24K Donnelly Dome 72.42 28 P **P 13 22 23.9 +2.7**
baz=280
M24K Tolsona, Glenn 72.55 30 P **P 13 22 24.0 +2.0**
baz=280
G26K Porcupine Rive 72.66 24 IAmb IAmb 13 22 38.9
comp=Z,8.5nm,0.8s
G26K Porcupine Rive 72.66 24 P **P 13 22 25.0 +2.6**
baz=281,SNR=5.5
PAX Paxson 72.71 29 P **P 13 22 24.2 +1.3**
baz=281
KLU Klutina 72.78 30 IAmb IAmb 13 22 38.9
comp=Z,8.8nm,1.0s
KLU Klutina 72.78 30 P **P 13 22 25.3 +2.0**
baz=281
RIDG Independent Ri 72.84 28 IAmb IAmb 13 22 39.2
comp=Z,9.4nm,1.2s
RIDG Independent Ri 72.84 28 P **P 13 22 25.3 +1.7**
baz=281
HARP HAARP 72.97 29 P **P 13 22 26.3 +1.9**
baz=281
SCRK Sand Creek 73.17 27 P **P 13 22 27.7 +2.0**
baz=282
DOT Dot Lake 73.20 28 P **P 13 22 26.2 +0.5**
DOT IAmb IAmb 13 22 40.9
comp=Z,6.2nm,0.8s
D27M Malcolm River 73.22 22 P **P 13 22 27.8 +2.0**
baz=283
E27K Coleen River 73.23 23 P **P 13 22 28.0 +2.2**
baz=283
J26L Joseph Creek 73.24 27 P **P 13 22 27.4 +1.4**
baz=282,SNR=5.7
I26K Coal Creek Min 73.25 26 P **P 13 22 28.2 +2.3**
baz=282
N25K Chitina, Valde 73.38 30 IAmb IAmb 13 22 43.5
comp=Z,7.0nm,0.8s
N25K Chitina, Valde 73.38 30 P **P 13 22 29.0 +2.1**
baz=282
BMRM Bremner River 73.51 31 P **P 13 22 28.7 +1.1**
baz=282
G27K Doyon Strip 73.52 24 P **P 13 22 29.7 +2.2**
baz=283
L26K Log Cabin Wild 73.65 28 P **P 13 22 29.7 +1.3**
baz=283
H27K Steamboat Moun 73.70 25 IAmb IAmb 13 22 44.6
comp=Z,21nm,1.8s
H27K Steamboat Moun 73.70 25 P **P 13 22 30.6 +2.0**
baz=283
ARCES ARCESS Array B 73.75 339 P **P 13 22 29.1 +0.3**
comp=Z,2.6nm,0.8s,baz=90,slow=7.4,SNR=6.0
comp=Z,2.6nm,0.8s
GLB Gilahina Butte 73.79 30 IAmb IAmb 13 22 44.9
comp=Z,11nm,0.9s
I27K Kandik River 73.81 26 P **P 13 22 31.4 +2.1**
baz=283,SNR=7.7
E28M Babbage River 73.88 22 P **P 13 22 31.8 +2.2**
baz=284

M26K	Nabesna, AK	73.95	29	P	P	13 22 32.3	+2.1
	baz=283,SNR=10.0						
D28M	Stokes Point	73.97	21	P	P	13 22 32.3	+2.3
	baz=285						
K27K	Chicken	73.98	27	P	P	13 22 32.3	+2.1
	baz=284						
F28M	Old Crow	74.00	23	P	P	13 22 32.5	+2.2
	baz=284						
VRDI	Verde Repeater	74.00	30	IAmb	IAmb	13 22 46.1	
	comp=Z,7.3nm,0.8s						
MCARA	McCarthy VSAT	74.17	30	P	P	13 22 33.8	+2.4
	baz=283						
CRQE	Cirque	74.28	31	P	P	13 22 34.4	+2.1
	baz=284						
L27K	Beaver Creek,	74.32	28	P	P	13 22 34.2	+1.9
	baz=284,SNR=6.7						
BCAR	Beaver Creek A	74.34	28		P	13 22 32.9	+0.4
M27K	Edge Creek, AK	74.47	29	P	P	13 22 35.3	+2.0
	baz=284						
E29M	Blow River	74.52	22	P	P	13 22 35.4	+2.1
	baz=286						
I28M	Miner Creek	74.52	25	IAmb	IAmb	13 22 49.7	
	comp=Z,9.4nm,0.8s						
I28M	Miner Creek	74.52	25	P	P	13 22 35.9	+2.4
	baz=285,SNR=8.8						
G29M	Pine Creek	74.88	24	IAmb	IAmb	13 22 51.3	
	comp=Z,10nm,0.8s						
G29M	Pine Creek	74.88	24	P	P	13 22 37.6	+2.1
	baz=286,SNR=6.2						
BVCY	Beaver Creek	74.91	29	P	P	13 22 37.7	+2.0
	baz=285						
H29M	Whitestone	74.94	25	IAmb	IAmb	13 22 51.7	
	comp=Z,7.7nm,0.8s						
H29M	Whitestone	74.94	25	P	P	13 22 38.0	+2.2
	baz=286						
CTG	Chitna Glacier	75.06	30	P	P	13 22 38.5	+1.7
	baz=285						
DAWY	Dawson	75.11	27	IAmb	IAmb	13 22 52.6	
	comp=Z,6.9nm,0.8s						
DAWY	Dawson	75.11	27	P	P	13 22 39.4	+2.5
	baz=286,SNR=6.6						
I29M	Ogilvie Camp,	75.20	25	P	P	13 22 39.4	+2.0
	baz=286						
LOGN	Logan Glacier	75.26	30	IAmb	IAmb	13 22 53.9	
	comp=Z,12nm,0.8s						
YUK3	Moose Creek	75.26	29	P	P	13 22 39.9	+1.9
	baz=286						
J29N	Klondike Camp	75.50	26	P	P	13 22 41.4	+2.3
	baz=287						
F30M	Barrier River	75.50	23	IAmb	IAmb	13 22 54.6	
	comp=Z,7.4nm,0.8s						
F30M	Barrier River	75.50	23	P	P	13 22 41.0	+1.9
	baz=288						
EPYK	Eagle Plains	75.53	24	IAmb	IAmb	13 22 54.4	
	comp=Z,9.0nm,0.8s						
EPYK	Eagle Plains	75.53	24	P	P	13 22 41.1	+1.9
	baz=288						
G30M	tAoh Zraii Nji	75.54	24	IAmb	IAmb	13 22 54.2	
	comp=Z,10nm,1.1s						
G30M	tAoh Zraii Nji	75.54	24	P	P	13 22 40.2	+1.0
	baz=288						
FINES	FINESS Array B	75.66	331	P	P	13 22 39.9	-0.1
FINES	FINESS Array B	75.66	331	P	P	13 22 39.7	-0.2
	comp=Z,3.0nm,0.8s,baz=98,slow=8.5,SNR=10						
	comp=Z,3.0nm,0.8s						
O28M	Mount Upton	75.66	30	P	P	13 22 42.2	+1.8
	baz=286						
YUK8	Steele Glacier	75.71	30	P	P	13 22 42.8	+2.1
	baz=286						
PINM	Pinnacle	75.81	31	P	P	13 22 43.1	+2.0
	baz=286						
L29M	L29M	75.93	28	IAmb	IAmb	13 22 58.2	
	comp=Z,11nm,0.8s						
L29M	L29M	75.93	28	P	P	13 22 44.1	+2.5
	baz=287,SNR=8.8						
K29M	Barlow Dome	75.97	27	IAmb	IAmb	13 22 58.0	
	comp=Z,5.7nm,0.8s						
K29M	Barlow Dome	75.97	27	P	P	13 22 44.0	+2.1
	baz=288,SNR=6.0						
M29M	Somme Creek	75.98	28	P	P	13 22 44.1	+2.1
	baz=287,SNR=9.4						
I30M	Mount Dempster	76.02	25	P	P	13 22 44.6	+2.4
	baz=288						
INK	Inuvik	76.08	22	P	P	13 22 44.7	+2.4
	baz=290						
YUK4	Talbot Arm	76.21	29	P	P	13 22 45.5	+2.1
	baz=287						
J30M	Hart River	76.24	26	P	P	13 22 46.1	+2.6
	baz=288						
G31M	Satah River	76.28	23	P	P	13 22 45.7	+2.3
	baz=290						
F31M	Tsiigehtchic	76.30	23		P	13 22 44.1	+0.6
F31M				IAmb	IAmb	13 22 58.4	
	comp=Z,7.8nm,0.8s						
F31M	Tsiigehtchic	76.30	23	P	P	13 22 45.5	+2.0
	baz=290						
PNL	Peninsula	76.35	31	P	P	13 22 45.5	+1.5
	baz=287						
YUK6	Outpost Mounta	76.46	30	P	P	13 22 46.7	+1.8
	baz=288						
O29M	Mount Kennedy	76.56	30	P	P	13 22 47.3	+1.9
	baz=287						
H31M	Peel River	76.63	24	IAmb	IAmb	13 23 00.6	
	comp=Z,6.9nm,0.8s						
H31M	Peel River	76.63	24	P	P	13 22 46.9	+1.4
	baz=290						
MNK	Minsk	76.66	323	*i* P	P	13 22 45.5	-0.4
	comp=E,23nm,0.7s						
MNK				*i* P	P	13 22 45.5	-0.4
	comp=N,7.0nm,0.9s						
MNK				*i* P	P	13 22 45.5	-0.4
	comp=Z,11nm,0.8s,baz=74						
MNK				*i* PcP	PcP	13 22 57.2	-0.1
MNK				*i* PP	PP	13 25 37.5	-0.4
MNK				*i* PPP	PPP	13 26 58.2	
MNK				*i* S	S	13 32 32.7	+0.3
M30M	Minto, Yukon	76.67	28	IAmb	IAmb	13 23 01.7	
	comp=Z,6.4nm,0.8s						
M30M	Minto, Yukon	76.67	28	P	P	13 22 47.8	+1.9
	baz=288,SNR=7.0						
MAYO	Mayo, Yukon	76.74	27	P	P	13 22 48.0	+1.9
	baz=289						
N30M	Aishikik Lake	76.89	29	IAmb	IAmb	13 23 03.5	
	comp=Z,9.7nm,0.9s						
N30M	Aishikik Lake	76.89	29	P	P	13 22 49.3	+2.1
	baz=288,SNR=5.1						
HYT	Haines Junctio	76.90	30	IAmb	IAmb	13 23 03.5	
	comp=Z,8.5nm,1.0s						
HYT	Haines Junctio	76.90	30	P	P	13 22 49.5	+2.3
	baz=289						
BRTR	Keskin Array B	76.92	308	P	P	13 22 46.4	-1.4
	comp=Z,0.5nm,0.4s,baz=104,slow=4.6,SNR=4.9						
	comp=Z,0.5nm,0.4s						
AKASG	Malin Array Be	76.93	319	P	P	13 22 46.5	-1.0
	comp=Z,0.6nm,0.4s,baz=61,slow=6.2,SNR=12						
	comp=Z,0.6nm,0.4s						
AKBB	Malin Array Si	76.93	319	P	P	13 22 46.1	-1.4
KIEV	Kiev	76.95	319	P	P	13 22 46.0	-1.5
P29M	Windy Craggy	77.16	31	P	P	13 22 50.8	+2.2
	baz=288						
P30M	Million Dollar	77.38	30	P	P	13 22 51.9	+2.0
	baz=289						
N31M	Braeburn, Yuko	77.48	29	IAmb	IAmb	13 23 07.2	
	comp=Z,13nm,1.1s						
N31M	Braeburn, Yuko	77.48	29	P	P	13 22 52.4	+2.1
	baz=290						
O30N	Mendenhall	77.58	30	IAmb	IAmb	13 23 07.0	
	comp=Z,6.5nm,0.8s						
O30N	Mendenhall	77.58	30	P	P	13 22 53.4	+2.5
	baz=289						
M31M	Drury Creek, Y	77.85	28	IAmb	IAmb	13 23 08.1	
	comp=Z,7.7nm,0.8s						
M31M	Drury Creek, Y	77.85	28	P	P	13 22 54.5	+2.0
	baz=290,SNR=5.8						
PLBC	Pleasant Camp	77.88	31	P	P	13 22 54.7	+2.1
	baz=289						
WHY	Whitehorse	78.17	29	P	P	13 22 56.8	+2.5
	baz=290,SNR=5.8						
SKAG	Skagway	78.38	31	P	P	13 22 57.7	+2.3
	baz=290						
N32M	Quiet Lake	78.82	29	P	P	13 22 59.7	+1.9
	baz=292						
MMPY	Sheldon Lake,	79.05	27	P	P	13 23 00.8	+1.7
	baz=293						
P32M	Atlin	79.10	30	P	P	13 23 01.5	+2.1
	baz=292						
R32K	Eaglecrest	79.19	32	P	P	13 23 02.3	+2.5
	baz=291						

SIT	Sitka	79.22	33	P	P	13 23 02.0	+2.0
	baz=291						
P33M	Teslin, Yukon	79.29	30	P	P	13 23 02.5	+2.0
	baz=292						
S32K	Killisnoo	79.45	32	P	P	13 23 03.1	+1.9
	baz=291						
Q32M	Nakina River	80.03	31	P	P	13 23 06.3	+1.6
	baz=293						
R33M	Jennings River	80.47	30	P	P	13 23 09.0	+2.1
	baz=294						
U33K	Whale Pass	80.70	33	P	P	13 23 10.3	+2.3
	baz=293						
TGTN	Hyland Airport	80.79	27	P	P	13 23 10.7	+2.2
	baz=296						
CRAG	Craig	80.95	34	P	P	13 23 11.3	+1.9
	baz=293						
S34M	Telegraph Cree	80.99	31	P	P	13 23 11.6	+2.0
	baz=294						
WTLY	Watson Lake, Y	81.17	29	IAmb	IAmb	13 23 26.8	
	comp=Z,9.2nm,1.0s						
WTLY	Watson Lake, Y	81.17	29	P	P	13 23 12.5	+1.9
	baz=296						
DLBC	Dease Lake	81.31	31	P	P	13 23 12.8	+1.4
	baz=295						
HFS	Hagfors	81.78	332	P	P	13 23 13.0	-0.7
	comp=Z,1.7nm,0.8s,baz=81,slow=9.2,SNR=3.8						
HFS				LR	LR	14 02 42.0	
	comp=Z,57nm,19.6s,baz=60,slow=38						
	comp=Z,1.7nm,0.8s						
V35K	Ketchikan	81.80	34	P	P	13 23 14.6	+0.8
	baz=294						
T35M	Bob Quinn	81.81	32	P	P	13 23 15.0	+1.0
	baz=295						
WRGLY	Wrigley	81.98	25	P	P	13 23 15.5	+0.8
	baz=300						
NC405	NORSAR Array S	82.19	333	P	P	13 23 15.5	-0.4
NB2	NORSAR Subarra	82.44	333	P	P	13 23 16.8	-0.5
	comp=Z,1.9nm,1.1s,baz=65,slow=5.1						
NOA	NORSAR Array B	82.44	333	P	P	13 23 16.6	-0.7
	comp=Z,0.4nm,0.7s,baz=63,slow=5.4,SNR=3.0						
NOA				LR	LR	14 01 12.0	
	comp=Z,52nm,20.7s,baz=50,slow=37						
	comp=Z,0.4nm,0.7s						
LIRD	Liard River Hi	82.70	29	P	P	13 23 20.1	+1.5
	baz=298						
TOAD	Toad River Com	83.36	29	P	P	13 23 23.7	+1.6
	baz=299						
VYHS	Vyhne	84.03	320	*eP*	P	13 23 26.0	+0.3
MORC	Moravsky Berou	84.28	321	*eP*	P	13 23 26.3	-0.6
JAVC	Velka Javorina	84.59	320	*eP*	P	13 23 28.6	+0.1
VRAC	Vranov	85.04	321	*eP*	P	13 23 29.4	-1.3
YKA	Yellowknife Ar	85.77	23	P	P	13 23 35.2	+1.1
	comp=Z,2.9nm,1.0s,baz=319,slow=5.4,SNR=14						
	comp=Z,2.9nm,1.0s						
GERES	GERESS Array B	86.95	321	P	P	13 23 39.9	-0.4
	comp=Z,0.4nm,0.2s,baz=62,slow=3.2,SNR=3.9						
	comp=Z,0.4nm,0.2s						
FDMO	Fiordimonte	90.05	316	IAmb	IAmb	13 23 56.1	
	comp=Z,8.7nm,1.0s						
BORG	Borgarnes	90.87	346	LR	LR	14 07 17.0	
	comp=Z,22nm,21.5s,baz=34,slow=37						
NVAR	Mina Array Bea	97.95	44	P	P	13 24 32.0	+0.3
	comp=Z,0.1nm,0.4s,baz=291,slow=5.0,SNR=1.3						
	comp=Z,0.1nm,0.4s						

AUST ***23*** *13:53:54.0±0.4,31°S±2°×11°E±°,h10km,ML2.5/5, Error ellipse: s-maj=6.2km s-min=4.5km az=88.7*
CUPWA ***23*** *13:53:54.8±0.5,30°.93S×117°.76E, h2km±10km, ML2.5, Region: WESTERN AUSTRALIA*

ISC 23 13:53:54.0±0.9, 30°.92S±0°.03×117°.76E±0°.03, h10km, n18, σ0°.49/22, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOO6	Koorda	0.26	291	P	Pg	13 53 59.6	+0.4
KOO6				S	Sg	13 54 03.0	+0.3
BR4	Bonnie Rock 4	0.56	61	P	Pg	13 54 04.8	+0.1
BR4				S	Sg	13 54 12.4	+0.3
KLBR	Kellerberrin	0.67	180	P	Pg	13 54 06.9	-0.1
KLBR	Kellerberrin	0.67	180	S	Sg	13 54 15.5	-0.3
KLBR	Kellerberrin	0.67	180	P	Pg	13 54 06.5	-0.5
BLDU	Ballidu	0.95	288	P	Pg	13 54 12.2	-0.1
BLDU	Ballidu	0.95	288	P	Pg	13 54 12.2	-0.1
BLDU				S	Sg	13 54 24.3	-0.5
MUN	Mundaring	1.70	231	P	Pn	13 54 24.2	+0.6
MUN	Mundaring	1.70	231	S	Sn	13 54 45.2	-0.2
MUN	Mundaring	1.70	231	P	Pn	13 54 24.2	+0.6
MUN	Mundaring	1.70	231	S	Sn	13 54 45.2	-0.2
AUKUL	Kulin High Sch	1.78	169	P	Pn	13 54 25.4	+0.6
AUKUL	Kulin High Sch	1.78	169	SG	Sb	13 54 49.4	+0.4
NWAO	Narrogin (SRO)	2.05	192	P	Pn	13 54 28.8	+0.2
NWAO	Narrogin (SRO)	2.05	192	P	Pn	13 54 28.8	+0.2
MORW	Morawa	2.37	321	P	Pn	13 54 33.2	+0.2
MORW	Morawa	2.37	321	P	Pn	13 54 33.2	+0.2
MEEK	Meekatharra	4.33	10	P	Pn	13 55 00.4	+0.4
MEEK				S	Sn	13 55 49.1	-1.4

DJA 23 13:59:09.9±0.3, 2°S±3°×12°2E±°, h10km, M3.9/12, mb4.1/3, MLv3.8/12, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	Luwuk	1.30	17	P	Pn	13 59 33.7	-0.4
APSI	Ampana	1.56	332	P	Pn	13 59 36.9	-0.8
TTSI	Tana Toraja	2.68	254	P	Pn	13 59 53.6	+0.5
PCI	Palu	2.90	298	P	Pn	13 59 57.0	+0.8
BNSI	Bone	3.10	227	P	Pn	13 59 58.3	-0.6
SPSI	Sidrap Palu	3.10	237	P	Pn	13 59 58.2	-0.7
MPSI	Mapaga	3.61	316	P	Pn	14 00 05.6	-0.3
BKSI	Bulukumba	3.77	217	P	Pn	14 00 09.4	+1.3
EDFI	Ende, Flores	6.46	186	P	Pn	14 00 45.5	+0.3
	0.1nm6.4nm,0.7s						
MSAI	Masohi	6.61	99	P	Pn	14 00 46.2	-1.1

IDC ***23*** *14:21:03.7±0.9, 11°.70S×163°.46E, h0km, mb4.1/9, mbtmp4.1/11, ML4.1/2, MS3.3/17, Error ellipse: s-maj=26.8km s-min=21.8km az=95.0*
NEIC ***23*** *14:21:05.9±2.1, 11°.6S±0°.1×163°.5E±0°.1, h10km±1km, mb4.6/22, Error ellipse: s-maj=23.2km s-min=14.2km az=49.0*
NOU ***23*** *14:21:07.3, 11°.45S×163°.56E, h36km, MLv5.0/19, Solomon Islands*

ISC 23 14:21:08.8±0.5, 11°.58S±0°.06×163°.53E±0°.05, h35km, n71, σ1°.59/59, mb4.4/20, MS3.3/16, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HURO	Huro Makira	1.95	305	P	Pn	14 21 36.1	-3.3
LUES	Luesalemba Tem	2.51	69	P	Pn	14 21 44.5	-2.6
LUES	Luesalemba Tem	2.51	69	S	Sn	14 22 13.7	-2.8
NGOA	Tingoa Renbel	3.40	270	P	Pn	14 21 56.7	-2.7
ALEG	Aligegeo Malai	3.96	315	P	Pn	14 22 04.1	-3.0
ALEG	Aligegeo Malai	3.96	315	S	Sn	14 22 49.6	-2.8
HNR	Honiara	4.12	301	Pn	Pn	14 22 07.8	-1.5
	25nm,0.3s,baz=191,slow=3.7,SNR=15						
HNR				Sn	Sn	14 22 54.5	-1.9
	6.4nm,0.3s,baz=1.7,slow=16,SNR=1.5						
HNR				LR	LR	14 23 31.6	
	comp=Z,524nm,18.3s,baz=114,slow=36						
	283nm,0.6s						
HNR	Honiara	4.12	301	P	Pn	14 22 08.2	-1.1
SAVO	Savo Central	4.39	303	P	Pn	14 22 12.6	-0.4
TATA	Tatamba Isabel	4.86	311	P	Pn	14 22 17.9	-1.5
TATA	Tatamba Isabel	4.86	311	S	Sn	14 23 12.8	-1.7
VLAKA	Lakatoro	5.87	140	P	Pn	14 22 33.4	+0.1
VLAKA	Lakatoro	5.87	140	S	Sn	14 23 40.9	+1.5
DVP	Devils Point	7.59	144	P	Pn	14 22 57.1	+0.2
DZM	Mont Dzumac	10.79	165	Pn	Pn	14 23 40.5	-0.5
DZM	Mont Dzumac	10.79	165	Pn	Pn	14 23 39.7	-1.3
	0.7nm,0.3s,baz=339,slow=14,SNR=23						
DZM				Sn	Sn	14 25 35.3	-5.4
	0.1nm,0.3s,baz=49,slow=14,SNR=1.7						
	1.9nm,0.3s						
DZM	Mont Dzumac	10.79	165	P	Pn	14 23 42.0	+1.0
YATNC	Mamie plateau,	10.90	163	P	Pn	14 23 41.7	-0.7
ONTNC	Ouen Toro	11.02	166	Pn	Pn	14 23 44.9	+0.9
PINNC	Pines Island,	11.59	162	Pn	Pn	14 23 51.2	-0.5
PINNC	Pines Island,	11.59	162	P	Pn	14 23 52.2	+0.5
MANU	Manus Island	18.63	299	P	Pn	14 25 24.6	+0.5
CTAO	Charters Tower	18.64	241	P	Pn	14 25 24.5	+0.3

COEN	Coen	19.99	261	P	Pn	14 25 40.8	+0.4
RAO	Raoul Island	24.66	138	LR	LR	14 34 51.4	
	comp=Z,77nm,18.4s,baz=128,slow=34						
STKA	Stephens Creek	28.58	222	P	P	14 27 04.2	+2.6
MXZ	Matakaoa Point	29.07	155	P	P	14 27 05.3	-0.6
WB0	Warramunga Arr	29.18	250		P	14 27 05.4	-1.7
WB0				IAmb	IAmb	14 27 09.9	
	comp=Z,11nm,1.1s						
WRA	Warramunga Arr	29.26	250	P	P	14 27 06.4	-1.5
	comp=Z,5.1nm,1.0s,baz=79,slow=8.9,SNR=13						
WRA				PcP	PcP	14 30 14.8	+0.3
	comp=Z,2.8nm,0.8s,baz=80,slow=2.7,SNR=7.8						
WRA				LR	LR	14 37 01.7	
	comp=Z,105nm,19.1s,baz=42,slow=33						
	comp=Z,5.1nm,1.0s						
H11S2	WAKE ISLAND Hy	30.05	6	T	T	14 58 46.1	
	baz=188,slow=76,SNR=24						
H11S3	WAKE ISLAND Hy	30.05	6	T	T	14 58 50.8	
	baz=188,slow=76,SNR=17						
H11S1	WAKE ISLAND Hy	30.06	6	T	T	14 58 49.3	
	baz=188,slow=76,SNR=15						
AS31	Alice Springs	30.61	243		P	14 27 19.5	-0.4
ASAR	Alice Springs	30.61	243	P	P	14 27 18.8	-1.1
ASAR	Alice Springs	30.61	243	P	P	14 27 18.2	-1.7
	comp=Z,5.7nm,0.7s,baz=64,slow=10,SNR=53						
ASAR				PcP	PcP	14 30 17.6	-0.3
	comp=Z,2.2nm,0.9s,baz=74,slow=3.2,SNR=8.5						
	comp=Z,5.7nm,0.7s						
GUMO	Guam	31.12	323	LR	LR	14 39 14.4	
	comp=Z,58nm,21.8s,baz=144,slow=35						
KNRA	Kununurra	34.01	259		P	14 27 48.4	-1.3
KNRA				IAmb	IAmb	14 28 31.9	
	comp=Z,19nm,1.5s						
RAR	Rarotonga	36.40	110	LR	LR	14 40 19.1	
	comp=Z,18nm,19.7s,baz=278,slow=32						
FITZ	Fitzroy Crossi	37.15	255	P	P	14 28 15.1	-1.5
FITZ	Fitzroy Crossi	37.15	255	LR	LR	14 42 01.8	
	comp=Z,70nm,18.5s,baz=158,slow=34						
DAV	Davao City (W)	42.06	294	LR	LR	14 45 27.1	
	comp=Z,27nm,18.5s,baz=132,slow=35						
TOLI2	Tolitoli	44.31	284	P	P	14 29 14.9	-0.9
TOLI2				IAmb	IAmb	14 29 16.4	
	comp=Z,7.9nm,0.8s						
PPT	Papeete	45.68	103	LR	LR	14 45 26.9	
	comp=Z,36nm,19.7s,baz=22,slow=32						
JAGI	Jajag, Banyuwa	48.68	269	P	P	14 29 51.2	+1.1
TGY	Tagaytay City	49.34	300	LR	LR	14 50 01.6	
	comp=Z,34nm,21.2s,baz=174,slow=35						
UGM	Wanaguna	52.31	269	P	P	14 30 19.4	+1.8
MJAR	Matsushiro Arr	53.48	335	P	P	14 30 26.5	+0.7
	comp=Z,1.2nm,0.7s,baz=157,slow=3.4,SNR=2.5						
MJAR				LR	LR	14 49 44.6	
	comp=Z,18nm,21.1s,baz=159,slow=32						
	comp=Z,1.2nm,0.7s						
JNU	Nakatsue	54.28	326	LR	LR	14 52 11.0	
	comp=Z,16nm,18.5s,baz=132,slow=34						
JKA	Kamikawa-asahi	58.61	342	P	P	14 31 03.4	+1.1
ASAJ	Asahikawa	58.62	342	LR	LR	14 53 15.4	
	comp=Z,18nm,21.8s,baz=172,slow=33						
KSRS	Korea Array	59.12	327	P	P	14 31 06.7	+0.7
	comp=Z,1.1nm,0.8s,baz=131,slow=8.6,SNR=5.3						
	comp=Z,1.1nm,0.8s						
PETK	Petropavlovsk-	64.63	356	LR	LR	14 56 17.9	
	comp=Z,29nm,18.7s,baz=179,slow=33						
MA2	Magadan	71.66	353	LR	LR	14 58 35.4	
	comp=Z,18nm,21.4s,baz=147,slow=31						
SONM	Songino Array	77.83	325	P	P	14 33 04.6	+1.8
	comp=Z,0.8nm,0.7s,baz=139,slow=6.4,SNR=3.9						
SONM				LR	LR	15 06 54.6	
	comp=Z,24nm,19.2s,baz=116,slow=35						
	comp=Z,0.8nm,0.7s						
P18K	Big Mountain,	78.13	20	P	P	14 33 05.3	+1.2
P18K				IAmb	IAmb	14 33 09.4	
	comp=Z,7.6nm,1.2s						
QSPA	South Pole Qui	78.42	180	P	P	14 33 05.7	-0.1
	comp=Z,1.9nm,0.8s,baz=20,slow=3.3,SNR=4.9						
	comp=Z,1.9nm,0.8s						
J17K	VABM Dome	80.07	16	P	P	14 33 15.4	+0.8
J17K				IAmb	IAmb	14 33 27.8	
	comp=Z,9.5nm,1.4s						
F19K	Shaleruckik Mo	83.14	14	P	P	14 33 32.1	+1.4
F19K				IAmb	IAmb	14 33 45.2	
	comp=Z,5.3nm,1.4s						
IMAR	Indian Mountai	83.53	16	P	P	14 33 32.7	0.0
E19K	Redstone River	83.77	14	P	P	14 33 34.3	+0.4
E19K				IAmb	IAmb	14 34 02.2	
	comp=Z,4.0nm,1.1s						
G21K	Allakaket	84.00	16	P	P	14 33 35.9	+0.7
G21K				IAmb	IAmb	14 33 47.6	
	comp=Z,2.7nm,1.1s						
ILAR	Eielson Array	84.72	19	P	P	14 33 38.3	-0.5
	comp=Z,0.5nm,1.0s,baz=224,slow=8.8,SNR=5.0						
	comp=Z,0.5nm,1.0s						
NVAR	Mina Array Bea	88.03	50	P	P	14 33 57.6	+1.6
NVAR	Mina Array Bea	88.03	50	P	P	14 33 57.2	+1.2
	comp=Z,0.7nm,0.6s,baz=239,slow=5.8,SNR=5.7						
	comp=Z,0.7nm,0.6s						
BMO	Blue Mountains	90.53	44	P	P	14 34 07.6	+0.2
BMO				IAmb	IAmb	14 34 09.4	
	comp=Z,5.0nm,1.4s						
PLID	Pearl Lake	91.48	44		P	14 34 11.6	-0.4
PLID				IAmb	IAmb	14 34 13.5	
	comp=Z,3.6nm,0.9s						
MKAR	Makanchi Array	92.43	317	P	P	14 34 17.1	+1.0
	comp=Z,0.6nm,0.7s,baz=88,slow=6.7,SNR=5.5						
	comp=Z,0.6nm,0.7s						
ZALV	Zalesovo Beam	92.73	325	LR	LR	15 13 31.3	
	comp=Z,23nm,22.0s,baz=90,slow=34						
HMU	Henry Mountain	93.69	52	IAmb	IAmb	14 34 23.4	
	comp=Z,4.6nm,1.0s						
AAK	Ala-Archa	97.04	312	LR	LR	15 17 50.0	
	comp=Z,16nm,21.7s,baz=172,slow=35						
TORD	Torodi Ar. Bea	162.19	277	PKP	PKPdf	14 41 07.1	-0.6
	comp=Z,1.1nm,0.9s,baz=63,slow=3.9,SNR=4.0						
TORD				PKPab	PKPab	14 41 55.1	+0.5
	comp=Z,0.9nm,1.0s,baz=90,slow=5.9,SNR=4.0						

IDC ***23*** *14:25:23.5±0.8,28°.31N×104°.82E, h0km, mb3.7/9, mbtmp3.7/11, ML4.3/1, Error ellipse: s-maj=33.8km s-min=16.4km az=63.0*
NEIC ***23*** *14:25:24.5±1.8,28°.21N±0°.05×104°.6E±0°.1, h10km±1km, mb4.5/15, Error ellipse: s-maj=20.8km s-min=6.9km az=289.0*

**ISC 23 14:25:26.2±0.5, 28°

comp=E,1.2nm,0.8s,baz=124,slow=11,SNR=9.7
comp=E,1.2nm,0.8s

SBUM	**Sibu**	**26.62**	**163**	P	**P**	**14 31 01.9**	**-1.8**
SBUM				IAmb	IAmb	14 31 39.5	
	comp=Z,7.4nm,1.3s						
DAV	**Davao City (W)**	**28.80**	**133**	P	**P**	**14 31 22.8**	**-0.3**
ZALV	**Zalesovo Beam**	**29.55**	**336**	P	**P**	**14 31 29.0**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=126,slow=11,SNR=2.5						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**29.91**	**326**	P	**P**	**14 31 32.5**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=122,slow=8.8,SNR=4.7						
	comp=Z,0.5nm,0.3s						
PSA00	**Pilbara Seismi**	**51.63**	**162**	P	**P**	**14 34 29.7**	**-1.9**
WB0	**Warramunga Arr**	**55.65**	**146**	P	**P**	**14 35 01.5**	**+0.3**
WB0				IAmb	IAmb	14 35 02.6	
	comp=Z,7.2nm,1.1s						
SHEM	**Shemya Is, Ala**	**55.67**	**44**	P	**P**	**14 35 02.3**	**+1.4**
SMY	**Shemya**	**55.67**	**44**	P	**P**	**14 35 02.6**	**+1.7**
WRA	**Warramunga Arr**	**55.77**	**146**	P	**P**	**14 35 02.1**	**+0.1**
WRA	**Warramunga Arr**	**55.77**	**146**	P	**P**	**14 35 02.5**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=336,slow=8.2,SNR=14						
	comp=Z,1.3nm,0.7s						
WR8	**Warramunga Arr**	**55.86**	**146**	P	**P**	**14 35 02.7**	**0.0**
WR8				IAmb	IAmb	14 35 32.7	
	comp=Z,8.5nm,1.4s						
ASAR	**Alice Springs**	**58.75**	**149**	P	**P**	**14 35 23.7**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=326,slow=6.8,SNR=12						
	comp=Z,0.7nm,0.7s						
KEV	**Kevo**	**59.58**	**337**	P	**P**	**14 35 26.5**	**-1.6**
ARCES	**ARCESS Array B**	**60.10**	**337**	P	**P**	**14 35 31.6**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=96,slow=8.2,SNR=1.8						
	comp=Z,0.8nm,0.8s						
FINES	**FINESS Array B**	**60.28**	**327**	P	**P**	**14 35 32.2**	**-0.9**
FINES	**FINESS Array B**	**60.28**	**327**	P	**P**	**14 35 33.3**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=64,slow=4.4,SNR=4.0						
	comp=Z,0.4nm,0.5s						
HFS	**Hagfors**	**66.48**	**327**	P	**P**	**14 36 14.3**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=78,slow=7.5,SNR=1.7						
	comp=Z,0.4nm,0.4s						
D20K	**Etivluk River**	**67.00**	**23**	P	**P**	**14 36 17.9**	**+0.4**
D20K				IAmb	IAmb	14 36 18.4	
	comp=Z,3.7nm,1.1s						
NC204	**NORSAR Array S**	**67.53**	**329**	P	**P**	**14 36 20.5**	**-0.4**
N14K	**Kuskokwak Cree**	**67.66**	**33**	P	**P**	**14 36 21.6**	**0.0**
N15K	**Kwethluk River**	**68.34**	**32**	P	**P**	**14 36 26.3**	**+0.3**
BMAR	**Burnt Mountain**	**71.64**	**22**	P	**P**	**14 36 47.1**	**+0.9**
H31M	**Peel River**	**75.93**	**21**	P	**P**	**14 37 10.7**	**-0.6**
H31M				IAmb	IAmb	14 37 18.4	
	comp=Z,6.6nm,1.4s						

*CATAC **23** 14:35:39.0±0.2, 13°N±3°×8°8W±°, h46km±5km, M3.2/25, MLv3.2/25, Error ellipse: s-maj=6.5km s-min=1.9km az=25.5, confirmed*

*SNET **23** 14:35:39.0±1.1, 12°91N×88°33W, h71km±9km, ML3.4*

ISC 23 14:35:38.6±1.3, 12°82N±0°06×88°37W±0°03, h70km±11km, n71, σ0s45/83, 1C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.54**	**339**	*eP*		**Pn**		**14 35 53.1**	**+1.3**
ALJI				*eS*		**Sn**		**14 36 02.0**	**+0.5**
ALJI	**Alcalda de J**	**0.54**	**339**	P		**Pn**		**14 35 53.2**	**+1.3**
LCY	**Lacayo**	**0.61**	**7**	*eP*		**Pn**		**14 35 52.4**	**-0.2**
LCY				*eS*		**Sn**		**14 36 02.2**	**-0.7**
BLLM	**Bellamira**	**0.63**	**12**	*iP*		**Pn**		**14 35 52.6**	**-0.2**
BLLM				*eS*		**Sn**		**14 36 03.1**	**-0.2**
PACA	**Pacayal**	**0.65**	**4**	*eP*		**Pn**		**14 35 53.1**	**0.0**
PACA				*eS*		**Sn**		**14 36 03.5**	**-0.3**
PACA	**Pacayal**	**0.65**	**4**	⇓P		**Pn**		**14 35 53.0**	**0.0**
LCND	**La Caada**	**0.67**	**44**	*eP*		**Pn**		**14 35 52.8**	**-0.4**
LCND	**La Caada**	**0.67**	**44**	⇓P		**Pn**		**14 35 52.8**	**-0.4**
CNRM	**Centro Naciona**	**0.68**	**16**	S		**Sn**		**14 36 04.5**	**+0.4**
TECA	**Tecapa**	**0.69**	**349**	*eP*		**Pn**		**14 35 53.2**	**-0.3**
TECA				*eP*				14 35 53.2	
TECA				*eS*		**Sn**		**14 36 04.4**	**-0.1**
CNCH	**Conchagua**	**0.69**	**49**	*eP*		**Pn**		**14 35 53.1**	**-0.4**
CNCH	**Conchagua**	**0.69**	**49**	P		**Pn**		**14 35 53.2**	**-0.3**
CNCH	**Conchagua**	**0.69**	**49**	S		**Sn**		**14 36 04.3**	**-0.3**
TECO	**Alcaldia de Te**	**0.82**	**331**	S		**Sn**		**14 36 06.2**	**-0.8**
TECO	**Alcaldia de Te**	**0.82**	**331**	P		**Pn**		**14 35 54.8**	**-0.2**
PQSS	**Presa 15 de Se**	**0.82**	**347**	S		**Sn**		**14 36 07.7**	**+0.7**
POTN	**Potosi Cosigui**	**0.86**	**78**	P		**Pn**		**14 35 55.0**	**-0.3**
POTN				S		**Sn**		**14 36 07.7**	**-0.1**
UESV	**Universidad de**	**0.91**	**333**	P		**Pn**		**14 35 56.4**	**+0.4**
UESV	**Universidad de**	**0.91**	**333**	S		**Sn**		**14 36 08.9**	**-0.1**
COEG	**Centro de Oper**	**0.94**	**328**	S		**Sn**		**14 36 09.0**	**-0.7**
COEG	**Centro de Oper**	**0.94**	**328**	P		**Pn**		**14 35 56.3**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.95**	**338**	*eP*		**Pn**		**14 35 56.7**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.95**	**338**	P		**Pn**		**14 35 56.5**	**0.0**
SCLA	**Alcaldia de Sa**	**0.95**	**338**	S		**Sn**		**14 36 09.7**	**0.0**
CAHU	**Cacaocuatique**	**0.96**	**9**	*eP*		**Pn**		**14 35 56.7**	**-0.1**
LFRS	**El Faro**	**1.05**	**320**	*eP*		**Pn**		**14 35 57.8**	**0.0**
PAVA	**Las Pavas**	**1.05**	**328**	S		**Sn**		**14 36 12.7**	**+0.6**
PANCS	**Alcalda de**	**1.12**	**315**	S		**Sn**		**14 36 13.4**	**-0.1**
LOMA	**Loma Larga**	**1.14**	**316**	*eP*		**Pn**		**14 35 59.0**	**+0.1**
LOMA	**Loma Larga**	**1.14**	**316**	S		**Sn**		**14 36 13.6**	**-0.5**
LOMA	**Loma Larga**	**1.14**	**316**	P		**Pn**		**14 35 58.6**	**-0.3**
LALI	**Alcalda de L**	**1.14**	**306**	S		**Sn**		**14 36 13.6**	**-0.5**
UEES	**Universidad Ev**	**1.23**	**317**	S		**Sn**		**14 36 16.3**	**+0.1**
BOQS	**Boqueron**	**1.27**	**316**	*eP*		**Pn**		**14 36 01.3**	**+0.5**
PMON	**Piamonte**	**1.28**	**314**	S		**Sn**		**14 36 17.3**	**-0.1**
PMON	**Piamonte**	**1.28**	**314**	P		**Pn**		**14 36 01.6**	**+0.8**
CRIN	**San Cristobal**	**1.29**	**95**	P		**Pn**		**14 36 01.5**	**+0.7**
CRIN	**San Cristobal**	**1.29**	**95**	S		**Sn**		**14 36 18.5**	**+0.9**
JAYA	**Jayaque - finc**	**1.34**	**308**	*eP*		**Pn**		**14 36 01.3**	**-0.4**
JAYA	**Jayaque - finc**	**1.34**	**308**	P		**Pn**		**14 36 01.2**	**-0.4**
JAYA	**Jayaque - finc**	**1.34**	**308**	S		**Sn**		**14 36 18.4**	**-0.5**
CHOHN	**Orocuina**	**1.35**	**61**	S		**Sn**		**14 36 18.6**	**-0.4**
CHOHN	**Orocuina**	**1.35**	**61**	P		**Pn**		**14 36 01.5**	**-0.1**
MARCA	**Marcala la Paz**	**1.37**	**14**	P		**Pn**		**14 36 02.5**	**+0.5**
MARCA	**Marcala la Paz**	**1.37**	**14**	S		**Sn**		**14 36 19.5**	**-0.1**
POLN	**Al Sur del Vol**	**1.53**	**96**	P		**Pn**		**14 36 04.1**	**+0.2**
POLN				S		**Sn**		**14 36 22.9**	**-0.2**
PLRN	**Geotermica Pol**	**1.58**	**98**	P		**Pn**		**14 36 03.8**	**0.0**
PLRN				S		**Sn**		**14 36 23.9**	**+0.4**
TGUH	**Tegucigalpa,Un**	**1.63**	**41**	P		**Pn**		**14 36 05.9**	**+0.5**
TGUH				S		**Sn**		**14 36 26.0**	**+0.3**
CNGA	**Al SSO del Vol**	**1.66**	**101**	P		**Pn**		**14 36 05.7**	**0.0**
CNGA				S		**Sn**		**14 36 25.9**	**-0.3**
CNGN	**Cerro Negro**	**1.66**	**101**	P		**Pn**		**14 36 05.7**	**0.0**
CNGN	**Cerro Negro**	**1.66**	**101**	S		**Sn**		**14 36 26.9**	**+0.6**
NUBE	**Las Nubes**	**1.75**	**308**	*eP*		**Pn**		**14 36 07.4**	**+0.4**
NUBE	**Las Nubes**	**1.75**	**308**	P		**Pn**		**14 36 07.3**	**+0.4**
NUBE	**Las Nubes**	**1.75**	**308**	S		**Sn**		**14 36 28.7**	**+0.2**
MOMN	**Momotombo**	**1.83**	**103**	P		**Pn**		**14 36 08.0**	**0.0**
MOMN				S		**Sn**		**14 36 30.1**	**-0.2**
MTO3	**Montecristo**	**1.84**	**329**	P		**Pn**		**14 36 08.6**	**+0.2**
COPN	**Copaltepe**	**1.85**	**110**	P		**Pn**		**14 36 08.1**	**-0.1**
YUSH	**Yuscaran**	**1.86**	**53**	P		**Pn**		**14 36 08.7**	**+0.1**
MOM2	**El Cardon**	**1.88**	**101**	P		**Pn**		**14 36 08.9**	**+0.3**
MOM2				S		**Sn**		**14 36 31.6**	**+0.2**
FAME	**Alcaldia de Sa**	**1.90**	**303**	S		**Sn**		**14 36 31.0**	**-0.9**
SAPS	**Ciudad Sandino**	**2.02**	**108**	P		**Pn**		**14 36 10.0**	**-0.6**
SAPS	**Ciudad Sandino**	**2.02**	**108**	S		**Sn**		**14 36 34.4**	**-0.5**
APQ3	**Volcan Apoyequ**	**2.03**	**105**	S		**Sn**		**14 36 34.9**	**-0.1**
WILN	**Americas 2**	**2.23**	**107**	S		**Sn**		**14 36 40.2**	**+0.4**
RCVN	**Varillal2**	**2.25**	**70**	P		**Pn**		**14 36 14.1**	**+0.3**
RCPN	**Sur Rio San Ju**	**2.32**	**72**	P		**Pn**		**14 36 14.6**	**-0.1**
NANN	**Nandasmo**	**2.36**	**111**	S		**Sn**		**14 36 43.5**	**+0.4**
MATN	**Matagalpa**	**2.38**	**87**	P		**Pn**		**14 36 14.6**	**-0.9**
MATN	**Matagalpa**	**2.38**	**87**	S		**Sn**		**14 36 43.7**	**-0.1**
BOAB	**BOACO BROADBAN**	**2.66**	**98**	P		**Pn**		**14 36 19.1**	**-0.1**
BOAB	**BOACO BROADBAN**	**2.66**	**98**	S		**Sn**		**14 36 51.1**	**+0.7**

*IDC **23** 15:30:58.5±9.7, 17°76S×177°83W, h535km±101km, mb3.2/7, mbtmp4.0/7, Error ellipse: s-maj=48.6km s-min=32.4km az=87.0*

*NEIC **23** 15:31:03.7±0.9, 18°0S±0°2×177°9W±0°2, h598km±13km, mb4.2/15, Error ellipse: s-maj=30.4km s-min=21.6km az=121.0*

ISC 23 15:31:03.7±0.8, 18°0S±0°1×177°9W±0°2, h600km, n32, σ1s04/32, mb4.1/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.63**	**357**	P		**P**	**P**	**15 32 24.1**	**-2.7**
MSVF	**Nonsavu**	**3.83**	**273**	P		**P**	**P**	**15 32 27.9**	**-0.2**
RAO	**Raoul Island**	**11.25**	**180**	P		**P**	**P**	**15 33 33.8**	**-0.9**
FOZ	**Fox Glacier**	**27.52**	**200**	P		**P**	**P**	**15 36 03.7**	**-0.1**
CTAO	**Charters Tower**	**33.88**	**261**	P		**P**		**15 36 58.3**	**-0.2**
CTAO				IAmb		IAmb		15 37 36.2	
	comp=Z,28nm,1.4s								
CAN	**Canberra**	**34.03**	**233**	P		**P**		**15 36 57.4**	**-2.2**
BBOO	**Buckleboo**	**43.78**	**241**	P		**P**		**15 38 17.9**	**+0.1**
WR8	**Warramunga Arr**	**44.91**	**260**	P		**P**		**15 38 26.2**	**-0.6**
WR8				IAmb		IAmb		15 39 05.3	
	comp=Z,9.7nm,1.4s								
WB0	**Warramunga Arr**	**45.03**	**260**	P		**P**		**15 38 27.5**	**-0.1**
WB0				IAmb		IAmb		15 38 39.0	
	comp=Z,9.7nm,1.4s								
WRA	**Warramunga Arr**	**45.07**	**260**	P		**P**		**15 38 27.2**	**-0.6**
WRA	**Warramunga Arr**	**45.07**	**260**	P		**P**		**15 38 27.6**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=93,slow=7.3,SNR=24								
	comp=Z,0.8nm,0.3s								
AS31	**Alice Springs**	**45.21**	**254**	P		**P**		**15 38 29.0**	**0.0**
ASAR	**Alice Springs**	**45.21**	**254**	P		**P**		**15 38 28.1**	**-0.9**
ASAR	**Alice Springs**	**45.21**	**254**	P		**P**		**15 38 29.2**	**+0.2**
	comp=Z,3.6nm,0.5s,baz=87,slow=8.6,SNR=110								
	comp=Z,3.6nm,0.5s								
KNRA	**Kununurra**	**50.93**	**264**	P		**P**		**15 39 11.8**	**+0.4**
KNRA				IAmb		IAmb		15 39 12.2	
	comp=Z,12nm,1.2s								
FITZ	**Fitzroy Crossi**	**53.47**	**260**	P		**P**		**15 39 29.5**	**0.0**
QSPA	**South Pole Qui**	**72.10**	**180**	P		**P**		**15 41 30.2**	**+1.9**
	comp=Z,0.7nm,0.6s,baz=23,slow=3.3,SNR=1.8								
	comp=Z,0.7nm,0.6s								
PETK	**Petropavlovsk-**	**73.84**	**345**	P		**P**		**15 41 38.6**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=140,slow=9.2,SNR=4.1								
	comp=Z,1.7nm,0.8s								
O14K	**Tigyukauivet M**	**78.13**	**9**	P		**P**		**15 42 00.6**	**-0.9**
O14K				IAmb		IAmb		15 42 41.3	
	comp=Z,15nm,1.4s								
N14K	**Kuskokwak Cree**	**78.72**	**8**	P		**P**		**15 42 04.0**	**-0.6**
N14K				IAmb		IAmb		15 42 19.3	
	comp=Z,13nm,1.1s								
J17K	**VABM Dome**	**82.42**	**8**	P		**P**		**15 42 24.2**	**+0.5**
J17K				IAmb		IAmb		15 42 51.2	
	comp=Z,9.2nm,1.4s								
I17K	**Unalakleet**	**82.67**	**8**	P		**P**		**15 42 25.8**	**+0.9**
I17K				IAmb		IAmb		15 42 25.9	
	comp=Z,13nm,1.0s								
CAST	**Castle Rocks**	**83.58**	**11**	P		**P**		**15 42 30.6**	**+1.0**
CAST				IAmb		IAmb		15 42 41.5	
	comp=Z,2.7nm,1.3s								
IMAR	**Indian Mountai**	**85.65**	**10**	P		**P**		**15 42 40.3**	**+0.9**
ILAR	**Eielson Array**	**85.83**	**13**	P		**P**		**15 42 38.5**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=208,slow=5.0,SNR=2.6								
	comp=Z,0.2nm,0.5s								
BMAR	**Burnt Mountain**	**88.61**	**12**	P		**P**		**15 42 54.7**	**+1.3**
CMAR	**Chiang Mai Arr**	**89.32**	**290**	P		**P**		**15 42 59.1**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=133,slow=3.2,SNR=4.0								
	comp=Z,0.4nm,0.4s								
SONM	**Songino Array**	**93.88**	**319**	P		**P**		**15 43 18.9**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=128,slow=4.4,SNR=2.3								
	comp=Z,0.5nm,0.5s								
ARCES	**ARCESS Array B**	**126.44**	**350**	PKP		**PKPdf**		**15 48 58.9**	**+0.1**
	comp=Z,2.3nm,1.1s,baz=48,slow=5.4,SNR=1.7								
BRTR	**Keskin Array B**	**145.13**	**315**	PKPbc		**PKPdf**		**15 49 34.4**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=139,slow=4.3,SNR=3.8								
MMAI	**Mount Meron Ar**	**146.54**	**303**	PKPbc		**PKPbc**		**15 49 40.3**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=79,slow=3.1,SNR=2.4								
GERES	**GERESS Array B**	**147.77**	**346**	PKPbc		**PKPbc**		**15 49 42.4**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=8.5,slow=2.7,SNR=4.0								

*IDC **23** 15:35:06.6±4.7, 6°99S×147°61E, h0km, mb3.9/2, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=93.7km s-min=40.4km az=143.0*

*NEIC **23** 15:35:12.6±1.0, 7°08S±0°09×147°92E±0°10, h35km±2km, mb4.2/13, Error ellipse: s-maj=18.7km s-min=11.4km az=50.0*

ISC 23 15:35:13.8±1.1, 7°1S±0°1×147°88E±0°09, h54km, n21, σ0s75/22, mb4.2/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**8.23**	**214**	Pn		**Pn**		**15 37 10.8**	**+0.1**
HNR	**Honiara**	**12.16**	**102**	Pn		**Pn**		**15 38 05.4**	**+1.0**
CTAO	**Charters Tower**	**13.01**	**187**	Pn		**Pn**		**15 38 17.3**	**+1.4**
FAKI	**Fak Fak**	**16.12**	**284**	P		**P**		**15 39 00.4**	**+1.0**
FAKI				IAmb		IAmb		15 39 37.2	
	comp=Z,64nm,1.2s								
MTN	**Manton Dam**	**17.45**	**250**	P		**Pn**		**15 39 14.3**	**+0.7**
MTN				IAmb		IAmb		15 39 23.5	
	comp=Z,14nm,1.4s								
WB0	**Warramunga Arr**	**18.16**	**225**	P		**P**		**15 39 22.1**	**+0.1**
WB0				IAmb		IAmb		15 39 22.8	
	comp=Z,12nm,1.4s								
WR8	**Warramunga Arr**	**18.22**	**224**	P		**P**		**15 39 22.6**	**0.0**
WRA	**Warramunga Arr**	**18.32**	**225**	P		**P**		**15 39 22.9**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=47,slow=11,SNR=5.3								
WRA				S		Sn		15 42 38.0	-10
	comp=Z,1.2nm,0.9s,baz=38,slow=22,SNR=4.8								
	comp=Z,0.4nm,0.6s								
EIDS	**Eidsvold**	**18.42**	**171**	P		**Pn**		**15 39 24.4**	**-1.0**
EIDS				IAmb		IAmb		15 39 54.5	
	comp=Z,13nm,1.5s								
KNRA	**Kununurra**	**20.57**	**244**	P		**P**		**15 39 48.0**	**-0.3**
KNRA				IAmb		IAmb		15 39 55.3	
	comp=Z,6.5nm,1.1s								
AS31	**Alice Springs**	**21.25**	**218**	P		**P**		**15 39 55.6**	**0.0**
ASAR	**Alice Springs**	**21.25**	**218**	P		**P**		**15 39 55.3**	**-0.3**
ASAR	**Alice Springs**	**21.25**	**218**	P		**P**		**15 39 55.6**	**0.0**
	comp=Z,2.0nm,0.6s,baz=47,slow=9.9,SNR=34								
ASAR				S		**S**		**15 43 49.5**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=42,slow=24,SNR=1.7								
	comp=Z,2.0nm,0.6s								
ONTNC	**Ouen Toro**	**23.43**	**132**	P		**P**		**15 40 17.1**	**-1.3**
ONTNC				IAmb		IAmb		15 40 17.4	
	comp=Z,29nm,1.0s								
FITZ	**Fitzroy Crossi**	**24.27**	**241**	P		**P**		**15 40 26.0**	**-0.2**
STKA	**Stephens Creek**	**25.34**	**193**	P		**P**		**15 40 35.1**	**-0.6**
STKA	**Stephens Creek**	**25.34**	**193**	P		**P**		**15 40 35.1**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=1.2,slow=8.8,SNR=8.7								
	comp=Z,1.7nm,0.4s								
MMRI	**Maumere**	**25.45**	**265**	P		**P**		**15 40 36.6**	**-0.4**
CAN	**Canberra**	**28.10**	**178**	P		**P**		**15 41 01.7**	**+1.0**
MSWZ	**Moikau Station**	**41.94**	**149**	P		**P**		**15 42 58.6**	**-0.8**
CM31	**Chiang Mai Arr**	**54.54**	**299**	P		**P**		**15 44 36.6**	**-0.3**
CM31				IAmb		IAmb		15 44 52.6	
	comp=Z,4.2nm,1.1s								

IDC 23 15:58:17.7±2.2, 27°09N×91°76E, h0km, mb3.2/4, mbtmp3.3/5, ML3.7/1, Error ellipse: s-maj=82.8km s-min=24.8km az=72.0, Bhutan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.85**	**141**	Pn		Pn		16 00 55.8	+1.4
	0.2nm,0.3s,baz=322,slow=14,SNR=1.8								
	0.4nm,0.4s								
MKAR	**Makanchi Array**	**21.04**	**342**	P		P		16 03 02.6	-0.6
	0.2nm,0.5s,baz=154,slow=12,SNR=4.1								
	0.2nm,0.5s								
SONM	**Songino Array**	**23.67**	**25**	P		P		16 03 32.1	+1.1
	0.3nm,0.5s,baz=220,slow=11,SNR=2.2								
	0.3nm,0.5s								
WRA	**Warramunga Arr**	**62.36**	**134**	P		P		16 08 41.5	-0.9
	0.5nm,0.7s,baz=317,slow=8.0,SNR=2.3								
	0.5nm,0.7s								
ASAR	**Alice Springs**	**64.83**	**137**	P		P		16 08 58.8	0.0
	0.3nm,0.5s,baz=322,slow=6.1,SNR=9.9								
	0.3nm,0.5s								

*IDC **23** 16:06:16.4±1.5, 5°93N×127°38E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=159.7km s-min=20.3km az=68.0*

ISC 23 16:06:21.0±1.6, 6°1N±0°4×129°8E±°, h35km, n7, σ0s47/8, mb3.8/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.66**	**166**	P		**P**		**16 11 57.4**	**+0.6**
	0.2nm,0.5s,baz=344,slow=9.2,SNR=1.4								
	0.2nm,0.5s								
ASAR	**Alice Springs**	**30.17**	**169**	P		**P**		**16 12 28.1**	**-0.1**
	0.2nm,0.7s,baz=337,slow=6.9,SNR=5.1								
ASAR				PcP		**PcP**		**16 15 28.6**	**-0.4**
	0.2nm,0.4s,baz=348,slow=2.5,SNR=9.6								
	0.2nm,0.7s								
MKAR	**Makanchi Array**	**56.29**	**324**	P		**P**		**16 15 58.2**	**-0.1**
	0.2nm,0.3s,baz=112,slow=8.1,SNR=4.1								
	0.2nm,0.3s								
ZALV	**Zalesovo Beam**	**59.02**	**332**	P		**P**		**16 16 17.8**	**+0.5**
	0.5nm,0.3s,baz=126,slow=6.2,SNR=1.9								
	0.5nm,0.3s								
KURBB	**Kurchatov Arra**	**60.38**	**326**	P		**P**		**16 16 26.7**	**0.0**
	0.6nm,0.5s,baz=127,slow=6.3,SNR=9.4								
	0.6nm,0.5s								
BVAR	**Borovoye Array**	**65.97**	**326**	P		**P**		**16 17 04.2**	**+0.4**
	0.5nm,0.5s,baz=111,slow=8.0,SNR=2.4								
	0.5nm,0.5s								
ARCES	**ARCESS Array B**	**88.62**	**340**	P		**P**		**16 19 09.9**	**-0.3**
	1.9nm,1.1s,baz=74,slow=5.5,SNR=1.9								
	1.9nm,1.1s								

*NEIC **23** 16:15:20.0±1.5, 12°55S±0°10×166°0E±0°1, h10km±1km, mb4.6/8, Error ellipse: s-maj=22.0km s-min=15.1km az=65.0*

*NOU **23** 16:15:20.2, 12°43S×165°97E, h0km, MLv4.8/10, Santa Cruz Islands*

*IDC **23** 16:15:26.9±3.2, 12°72S×165°67E, h72km±27km, mb3.7/12, mbtmp4.0/14, MS3.1/2, Error ellipse: s-maj=28.6km s-min=15.4km az=64.0*

ISC 23 16:15:23.2±0.6, 12°55S±0°06×165°95E±0°08, h40km, n37, σ1s35/38, mb4.2/14, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**1.88**	**359**	P		**P**	**Pn**	**16 15 51.4**	**-1.5**
VLAKA	**Lakatoro**	**3.81**	**158**	P		**P**	**Pn**	**16 16 21.5**	**+2.0**
HURO	**Huro Makira**	**4.47**	**297**	P		**P**	**Pn**	**16 16 27.7**	**-0.9**
NGOA	**Tingoa Renbel**	**5.84**	**279**	P		**P**	**Pn**	**16 16 46.4**	**-1.0**
ALEG	**Aligegeo Malai**	**6.39**	**306**	P		**P**	**Pn**	**16 16 54.8**	**-0.2**
HNR	**Honiara**	**6.66**	**297**	Pn		**Pn**	**Pn**	**16 16 58.5**	**-0.1**
HNR	**Honiara**	**6.66**	**297**	P		**Pn**	**Pn**	**16 16 59.8**	**+1.2**
	81nm,0.7s,baz=111,slow=2.4,SNR=7.0								
HNR				S		**Sn**	**Sn**	**16 18 14.2**	**+1.0**
	34nm,0.5s,baz=166,slow=15,SNR=5.5								
HNR				LR		LR		16 19 49.2	
	comp=Z,138nm,20.4s,baz=146,slow=40								
HNR	**Honiara**	**6.66**	**297**	P		**Pn**	**Pn**	**16 17 00.2**	**+1.6**
SAVO	**Savo Central**	**6.91**	**299**	P		**Pn**	**Pn**	**16 17 03.2**	**+1.1**
TATA	**Tatamba Isabel**	**7.32**	**304**	P		**Pn**	**Pn**	**16 17 08.0**	**+0.3**
KOUNC	**Koumac, New Ca**	**8.11**	**191**	P		**Pn**	**Pn**	**16 17 21.5**	**+2.9**
DZM	**Mont Dzumac**	**9.48**	**177**	Pn		**Pn**	**Pn**	**16 17 36.8**	**-0.6**
DZM	**Mont Dzumac**	**9.48**	**177**	P		**Pn**	**Pn**	**16 17 38.2**	**+0.8**
	8.2nm,1.1s,baz=335,slow=19,SNR=7.1								
DZM				S		**Sn**	**Sn**	**16 19 21.7**	**-1.1**
	4.7nm,0.8s,baz=319,slow=20,SNR=1.3								
JAY	**Jayapura**	**26.91**	**290**	P		**P**	**P**	**16 21 01.1**	**+0.2**
	6.6nm,0.8s,baz=110,slow=12,SNR=4.3								
	6.6nm,0.8s								
RTZ	**Ruatahuna**	**27.75**	**161**	P		**P**	**P**	**16 21 08.7**	**+0.4**
PLWZ	**Palliser**	**30

BBOO	**Buckleboo**	**43.60**	**242**	P	**P**	**16 34 16.8**	**-0.1**
WR8	**Warramunga Arr**	**45.03**	**260**	P	**P**	**16 34 28.1**	**0.0**
WR8				IAmb	IAmb	16 34 34.0	
	comp=Z,5.0nm,1.1s						
WB0	**Warramunga Arr**	**45.15**	**261**	P	**P**	**16 34 29.2**	**+0.2**
WB0				IAmb	IAmb	16 34 47.0	
	comp=Z,3.7nm,1.1s						
WRA	**Warramunga Arr**	**45.18**	**260**	P	**P**	**16 34 29.5**	**+0.3**
WRA	**Warramunga Arr**	**45.18**	**260**	P	**P**	**16 34 29.3**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=97,slow=7.6,SNR=39						
WRA				S	**S**	**16 40 23.0**	**-3.6**
	comp=Z,0.4nm,0.6s,baz=100,slow=14,SNR=3.2						
	comp=Z,1.2nm,0.4s						
AS31	**Alice Springs**	**45.24**	**255**	P	**P**	**16 34 30.0**	**+0.4**
ASAR	**Alice Springs**	**45.24**	**255**	P	**P**	**16 34 29.5**	**-0.2**
ASAR	**Alice Springs**	**45.24**	**255**	P	**P**	**16 34 29.9**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=89,slow=8.0,SNR=94						
ASAR				S	**S**	**16 40 25.5**	**-1.9**
	comp=Z,2.8nm,0.7s,baz=93,slow=14,SNR=21						
	comp=Z,3.5nm,0.7s						
KNRA	**Kununurra**	**51.12**	**265**	P	**P**	**16 35 13.4**	**+0.1**
KNRA				IAmb	IAmb	16 35 27.0	
	comp=Z,12nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.59**	**261**	P	**P**	**16 35 31.0**	**+0.1**
QSPA	**South Pole Qui**	**71.21**	**180**	P	**P**	**16 37 25.5**	**+1.9**
	comp=Z,1.7nm,0.6s,baz=42,slow=8.5,SNR=11						
	comp=Z,1.7nm,0.6s						
SNAA	**Sanae**	**89.64**	**178**	P	**P**	**16 38 59.5**	**+0.7**
SNAA				IAmb	IAmb	16 39 42.5	
	comp=Z,5.2nm,1.5s						
SNAA	**Sanae**	**89.64**	**178**	P	**P**	**16 38 59.2**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=193,slow=5.1,SNR=2.2						
	comp=Z,0.6nm,0.6s						

*IDC **23** 16:32:06.5±1.1,20.°93S×176.°20W, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=49.1km s-min=29.8km az=143.0*
*NEIC **23** 16:32:24.9±1.1,21.°12S±0.°10×176.°2W±0.°1, h150km±9km, mb4.4/14, Error ellipse: s-maj=14.8km s-min=13.5km az=137.0*

ISC 23 16:32:24.8±0.5**,21.°13S**±0.°08×**176.°23W**±0.°08**, h150**km**, n33,** σ0**86/34, mb4.2**/13**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.26**	**72**	Pn	**Pn**	**16 33 55.0**	**0.0**
NIUE				Sn	**Sn**	**16 35 04.8**	**-0.9**
MSVF	**Nonsavu**	**6.37**	**301**	Pn	**Pn**	**16 33 58.1**	**+1.5**
FUTU	**Fugatoga**	**7.02**	**345**	Pn	**Pn**	**16 34 04.9**	**-0.3**
RAO	**Raoul Island**	**8.23**	**190**	Pn	**Pn**	**16 34 21.4**	**+0.1**
FUNA	**Funafuti**	**13.28**	**340**	P	**P**	**16 35 31.8**	**-0.2**
HIZ	**Hauiti**	**18.96**	**202**	Pn	**Pn**	**16 36 36.5**	**-0.2**
QRZ	**Quartz Range**	**21.84**	**203**	P	**P**	**16 37 04.4**	**-0.9**
QRZ				IAmb	IAmb	16 37 30.4	
	comp=Z,39nm,1.4s						
THZ	**Tophouse**	**22.53**	**202**	P	**P**	**16 37 11.8**	**-0.3**
THZ				IAmb	IAmb	16 37 18.8	
	comp=Z,18nm,1.2s						
FOZ	**Fox Glacier**	**25.19**	**204**	P	**P**	**16 37 35.5**	**-0.8**
FOZ				IAmb	IAmb	16 37 50.1	
	comp=Z,28nm,1.3s						
STKA	**Stephens Creek**	**39.02**	**245**	P	**P**	**16 39 35.2**	**-1.7**
STKA	**Stephens Creek**	**39.02**	**245**	P	**P**	**16 39 36.1**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=83,slow=9.6,SNR=5.3						
	comp=Z,1.1nm,0.5s						
ASAR	**Alice Springs**	**45.99**	**257**	P	**P**	**16 40 32.9**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=90,slow=8.4,SNR=4.6						
ASAR				PcP	**PcP**	**16 42 07.2**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=101,slow=3.7,SNR=5.2						
	comp=Z,1.5nm,0.8s						
WB0	**Warramunga Arr**	**46.14**	**262**	P	**P**	**16 40 33.2**	**-1.3**
WB0				IAmb	IAmb	16 41 02.9	
	comp=Z,8.2nm,1.4s						
WRA	**Warramunga Arr**	**46.16**	**262**	P	**P**	**16 40 33.8**	**-0.9**
WRA	**Warramunga Arr**	**46.16**	**262**	P	**P**	**16 40 33.6**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=98,slow=7.9,SNR=11						
	comp=Z,0.6nm,0.6s						
FORT	**Forrest**	**50.57**	**247**	P	**P**	**16 41 07.9**	**-0.4**
FORT				IAmb	IAmb	16 41 40.4	
	comp=Z,9.7nm,1.0s						
KNRA	**Kununurra**	**52.27**	**266**	P	**P**	**16 41 20.2**	**-0.9**
KNRA				IAmb	IAmb	16 42 00.4	
	comp=Z,8.0nm,1.2s						
FITZ	**Fitzroy Crossi**	**54.59**	**262**	P	**P**	**16 41 38.2**	**+0.2**
FITZ				IAmb	IAmb	16 42 17.9	
	comp=Z,2.5nm,1.4s						
MBWA	**Marble Bar**	**59.33**	**257**	P	**P**	**16 42 09.8**	**-1.6**
QSPA	**South Pole Qui**	**68.94**	**180**	P	**P**	**16 43 14.8**	**+1.4**
QSPA	**South Pole Qui**	**68.94**	**180**	P	**P**	**16 43 15.0**	**+1.5**
	comp=Z,1.2nm,0.8s,baz=70,slow=3.3,SNR=2.4						
	comp=Z,1.2nm,0.8s						
BELA	**Belgrano 2**	**78.72**	**172**	P	**P**	**16 44 10.5**	**+0.5**
G19K	**Purcell Mounta**	**88.20**	**8**	P	**P**	**16 44 58.1**	**-0.2**
G19K				IAmb	IAmb	16 45 10.1	
	comp=Z,3.3nm,1.2s						
ILAR	**Eielson Array**	**88.57**	**12**	P	**P**	**16 45 00.8**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=207,slow=3.9,SNR=2.3						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**112.83**	**313**	PKiKP	**PKiKP**	**16 50 44.5**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=73,slow=2.8,SNR=3.1						
KURBB	**Kurchatov Arra**	**115.63**	**317**	PKP	**PKPdf**	**16 50 49.0**	**0.0**
	comp=Z,0.3nm,0.5s,baz=92,slow=1.8,SNR=2.1						
BVAR	**Borovoye Array**	**120.62**	**320**	PKP	**PKiKP**	**16 50 59.1**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=98,slow=2.1,SNR=7.5						
ARCES	**ARCESS Array B**	**129.82**	**350**	PKP	**PKiKP**	**16 51 17.1**	**+0.6**
	comp=Z,1.9nm,1.1s,baz=4.8,slow=1.5,SNR=6.1						
FINES	**FINESS Array B**	**136.83**	**345**	PKP	**PKPdf**	**16 51 29.6**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=8.4,slow=14,SNR=1.9						
HFS	**Hagfors**	**140.40**	**352**	PKhKP	PKPpre	16 51 28.9	
	comp=Z,0.3nm,0.3s,baz=103,slow=4.6,SNR=6.0						
AKASG	**Malin Array Be**	**144.35**	**332**	PKP	**PKPdf**	**16 51 43.3**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=70,slow=1.1,SNR=2.6						
BRTR	**Keskin Array B**	**148.48**	**313**	PKPbc	**PKPbc**	**16 51 54.6**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=90,slow=7.0,SNR=4.8						
MMAI	**Mount Meron Ar**	**149.56**	**300**	PKPbc	**PKiKP**	**16 51 58.0**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=101,slow=2.9,SNR=4.9						

*BEO **23** 17:09:12.5±0.3,42.°97N×23.°33E, h4km±3km, ML2.7/14*
*SOF **23** 17:09:12.5,42.°95N±0.°01×23.°29E±0.°01, h17km±2km, MD2.7/11*
*THE **23** 17:09:15.0,43.°7N±4.°×2.°3E±.°, h0km±4km, M2.6/10, MLh2.6/10*

ISC 23 17:09:12.8±1.0**,42.°97N**±0.°02×**23.°28E**±0.°02**, h8**km±9km**, n65,** σ0**66/104, 18C-15D, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOF	**Sofia**	**0.30**	**167**	⇑*i*Pg	**Pg**	**17 09 19.4**	**+0.6**
SOF				Sg	**Sg**	**17 09 23.7**	**+0.9**
VTS	**Vitosha**	**0.35**	**185**	⇑*i*Pg	**Pg**	**17 09 20.0**	**+0.3**
VTS				Sg	**Sg**	**17 09 24.8**	**+0.3**
VTS	**Vitosha**	**0.35**	**185**	P	**Pg**	**17 09 20.1**	**+0.3**
VTS				S	**Sg**	**17 09 24.4**	**0.0**
VTS	**Vitosha**	**0.35**	**185**	*e*Pg	**Pg**	**17 09 20.1**	**+0.3**
VTS				*e*Sg	**Sg**	**17 09 24.3**	**-0.2**
PLNA	**Plana**	**0.51**	**168**	*i* Pg	**Pg**	**17 09 22.7**	**+0.1**
PLNA				Sg	**Sg**	**17 09 29.0**	**-0.2**
MPEP	**Malo Peshtene**	**0.51**	**41**	⇑*i*Pg	**Pb**	**17 09 23.2**	**-0.8**
MPEP				Sg	**Sb**	**17 09 30.6**	**-1.0**
VALD	**Valchedram**	**0.73**	**9**	⇑*i*Pg	**Pb**	**17 09 27.6**	**-0.1**
BOSS	**Bosilegrad**	**0.76**	**231**	*e*Pg	**Pb**	**17 09 27.6**	**-0.6**
BOSS				*e*Sg	**Sg**	**17 09 36.4**	**-0.8**
BLKB	**Belogradchik**	**0.79**	**326**	*e*Pg	**Pg**	**17 09 27.9**	**-0.1**
BLKB				*e*Sg	**Sb**	**17 09 38.8**	**-0.8**
BLKB	**Belogradchik**	**0.79**	**326**	⇓S	**Sb**	**17 09 38.8**	**-0.8**
PGB	**Panagyurishte**	**0.80**	**124**	*i* Pg	**Pg**	**17 09 27.5**	**-0.7**
PGB				Sg	**Sg**	**17 09 38.0**	**-0.6**
PLVB	**Pleven**	**1.07**	**67**	⇑P	**Pn**	**17 09 33.8**	**-0.2**
PLVB				⇑S	**Sb**	**17 09 48.2**	**+0.6**
BARS	**Barje**	**1.09**	**262**	*e*Pg	**Pb**	**17 09 33.6**	**-0.2**
BARS				*e*Sg	**Sn**	**17 09 49.5**	**0.0**
KKB	**Krupnik**	**1.13**	**186**	*i* Pg	**Pn**	**17 09 35.4**	**+0.5**
KKB				Sg	**Sg**	**17 09 49.3**	**+0.1**
KKB	**Krupnik**	**1.13**	**186**	P	**Pg**	**17 09 33.9**	**-0.7**
KKB				S	**Sg**	**17 09 48.7**	**-0.5**
ZAGS	**Zajecar**	**1.14**	**318**	*e*Pg	**Pb**	**17 09 34.3**	**-0.3**
ZAGS				*e*Sg	**Sn**	**17 09 50.6**	**-0.1**
VLAD	**Vladila**	**1.31**	**38**	⇑P	**Pg**	**17 09 38.5**	**+0.5**
VLAD				⇓S	**Sn**	**17 09 55.9**	**+0.8**
BOVS	**Bovan**	**1.33**	**301**	*e*Pg	**Pg**	**17 09 37.9**	**-0.3**
BOVS				*e*Sg	**Sn**	**17 09 55.4**	**0.0**
BOVS	**Bovan**	**1.33**	**301**	⇑P	**Pg**	**17 09 37.9**	**-0.4**
BOVS				⇓S	**Sn**	**17 09 55.5**	**+0.1**
PUNG	**Punghina**	**1.33**	**349**	⇑P	**Pg**	**17 09 38.2**	**-0.1**
PUNG				⇑S	**Sn**	**17 09 55.6**	**+0.1**
PLD	**Plovdiv**	**1.36**	**127**	P	**Pn**	**17 09 37.3**	**-0.7**
PLD				S	**Sb**	**17 09 54.9**	**-1.1**
PLD	**Plovdiv**	**1.36**	**127**	P	**Pn**	**17 09 37.2**	**-0.8**
PLD				S	**Sb**	**17 09 54.3**	**-1.7**
PLD	**Plovdiv**	**1.36**	**127**	*e*Pg	**Pn**	**17 09 37.3**	**-0.7**
PLD				*e*Sg	**Sb**	**17 09 54.6**	**-1.4**
PVL	**Pavlikeni**	**1.40**	**83**	P	**Pg**	**17 09 39.4**	**-0.2**
PVL				Sg	**Sg**	**17 09 57.8**	**+0.1**
BORS2	**Bor- Borsko je**	**1.45**	**321**	*e*Pg	**Pn**	**17 09 38.4**	**-0.9**
BORS2				*e*Sg	**Sn**	**17 09 57.8**	**-0.6**
MMB	**Musomishta**	**1.46**	**166**	P	**Pb**	**17 09 40.0**	**-0.3**
MMB				S	**Sb**	**17 09 59.5**	**+0.5**
MMB	**Musomishta**	**1.46**	**166**	P	**Pn**	**17 09 39.8**	**+0.3**
MMB				S	**Sb**	**17 09 59.3**	**+0.3**
SELS	**Selova**	**1.60**	**280**	*e*Pg	**Pb**	**17 09 42.1**	**-0.5**
SELS				*e*Sg	**Sg**	**17 10 04.3**	**0.0**
RZN	**Rozhen**	**1.67**	**139**	P	**Pn**	**17 09 42.8**	**+0.3**
RZN				S	**Sn**	**17 10 04.7**	**+0.5**
RZN	**Rozhen**	**1.67**	**139**	S	**Sb**	**17 10 04.9**	**-0.3**
SRE	**Strehaia**	**1.69**	**358**	⇓P	**Pn**	**17 09 42.6**	**0.0**
VAY	**Valandovo**	**1.73**	**198**	*i* Pn	**Pn**	**17 09 43.7**	**+0.6**
DJES	**Djerdap**	**1.78**	**342**	⇑P	**Pn**	**17 09 44.2**	**+0.3**
DJES				⇓S	**Sn**	**17 10 06.3**	**-0.4**
COPA	**Copaceanca**	**1.83**	**50**	⇓P	**Pn**	**17 09 44.4**	**0.0**
KNT	**Kendrikon**	**1.83**	**189**	P	**Pn**	**17 09 45.0**	**+0.5**
KNT				S	**Sn**	**17 10 08.4**	**+0.6**
KUBS	**Kucevo**	**1.85**	**322**	*e*Pn	**Pn**	**17 09 44.2**	**-0.6**
KUBS				*e*Sg	**Sb**	**17 10 10.4**	**+0.2**
GOCS	**Kraljevo Serbi**	**1.85**	**289**	*e*Pn	**Pn**	**17 09 45.6**	**+0.7**
GOCS				*e*Sg	**Sg**	**17 10 13.3**	**+0.9**
SRS	**Serrai**	**1.87**	**173**	P	**Pn**	**17 09 45.1**	**+0.1**
ELND	**Elena**	**1.91**	**90**	⇑P	**Pn**	**17 09 46.1**	**+0.6**
ELND				⇓S	**Sn**	**17 10 10.6**	**+0.9**
HUMR	**Humele**	**1.99**	**38**	⇓S	**Sn**	**17 10 11.7**	**0.0**
SZH	**Strazhitsa**	**2.00**	**81**	P	**Pn**	**17 09 47.0**	**+0.2**
SZH				S	**Sg**	**17 10 15.8**	**-1.1**
SZH	**Strazhitsa**	**2.00**	**81**	P	**Pb**	**17 09 48.3**	**-1.0**
SZH				S	**Sb**	**17 10 14.4**	**+0.1**
HERR	**Herculane**	**2.01**	**342**	⇑P	**Pn**	**17 09 46.6**	**-0.4**
KDZ	**Kurdzhali**	**2.03**	**131**	P	**Pn**	**17 09 47.6**	**+0.3**
KDZ				S	**Sn**	**17 10 13.9**	**+1.1**
KDZ	**Kurdzhali**	**2.03**	**131**	P	**Pn**	**17 09 47.3**	**+0.1**
KDZ				S	**Sn**	**17 10 13.3**	**+0.5**
GRUS	**Gruza**	**2.08**	**297**	*e*Pn	**Pn**	**17 09 48.8**	**+0.9**
MDVR	**Moldovita**	**2.14**	**329**	⇑P	**Pn**	**17 09 49.1**	**+0.4**
MDVR				⇑S	**Sn**	**17 10 15.3**	**-0.1**
SOH	**Sokhos**	**2.15**	**178**	P	**Pn**	**17 09 49.6**	**+0.7**
SOH				S	**Sn**	**17 10 16.3**	**+0.6**
KAVA	**Kavala**	**2.18**	**155**	P	**Pn**	**17 09 49.8**	**+0.5**
TRUS	**Trudelj**	**2.43**	**302**	*e*Pn	**Pn**	**17 09 53.3**	**+0.5**
GZR	**Gura Zlata**	**2.45**	**352**	⇑P	**Pn**	**17 09 53.4**	**+0.3**
LOT	**Lotru**	**2.50**	**8**	⇓P	**Pn**	**17 09 53.7**	**-0.2**
VRSS	**Vrsac**	**2.57**	**327**	*e*Pn	**Pn**	**17 09 54.8**	**+0.1**
OUR	**Ouranopolis**	**2.69**	**168**	P	**Pn**	**17 09 56.2**	**0.0**
BZS	**Buzias**	**2.90**	**336**	⇓P	**Pn**	**17 09 58.9**	**-0.4**
BZS				⇓S	**Sn**	**17 10 34.8**	**+0.5**
SURR	**Surduc**	**2.90**	**344**	⇓P	**Pn**	**17 09 59.3**	**0.0**
ALN	**Alexandroupoli**	**2.92**	**134**	P	**Pn**	**17 09 59.9**	**+0.4**
NEF	**NEVSHA**	**2.94**	**83**	S	**Sb**	**17 10 43.4**	**+1.9**
TEKS	**Tekeris**	**3.14**	**301**	*e*Pn	**Pn**	**17 10 01.9**	**-0.6**
SIRR	**Siria**	**3.49**	**341**	⇓P	**Pn**	**17 10 07.2**	**-0.2**
VRI	**Vrincioaia**	**3.81**	**39**	⇑P	**Pn**	**17 10 12.1**	**+0.5**
DRGR		**3.84**	**354**	⇑P	**Pn**	**17 10 12.5**	**+0.2**
TIRR	**Tirgusor**	**4.01**	**66**	⇓P	**Pn**	**17 10 15.0**	**+0.6**
TPGR	**Topolog**	**4.17**	**61**	⇓P	**Pn**	**17 10 17.3**	**+0.7**
KOLS	**Kolonicke sedl**	**6.00**	**354**	*e*SG	**Sg**	**17 12 28.4**	**+2.9**

IDC 23 17:22:41.0±4.6**, 0.°54S×98.°75E, h0**km**, mb3.3**/4**, mbtmp3.3/4, Error ellipse: s-maj=183.6km s-min=27.1km az=59.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**27.11**	**254**	T	T	17 56 13.3	
	baz=75,slow=75						
H08S3	**Diego Garcia H**	**27.12**	**254**	T	T	17 56 12.6	
	baz=75,slow=75						
H08S1	**Diego Garcia H**	**27.13**	**254**	T	T	17 56 00.6	
	baz=75,slow=75						
WRA	**Warramunga Arr**	**39.81**	**121**	P	P	17 30 16.8	+0.5
	0.3nm,0.8s,baz=302,slow=9.0,SNR=1.5						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**41.12**	**127**	P	P	17 30 26.4	-0.7
	0.3nm,0.7s,baz=301,slow=7.9,SNR=5.4						
	0.3nm,0.7s						
SONM	**Songino Array**	**48.63**	**7**	P	P	17 31 27.3	+0.6
	0.4nm,0.5s,baz=204,slow=6.1,SNR=3.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**49.30**	**345**	P	P	17 31 31.1	-0.7
	0.2nm,0.5s,baz=156,slow=9.1,SNR=2.6						
	0.2nm,0.5s						
H04N2	**CROZET ISLANDS**	**61.24**	**215**	T	T	18 39 09.0	
	baz=53						
H04N1	**CROZET ISLANDS**	**61.25**	**215**	T	T	18 39 09.7	
	baz=53						
H04N3	**CROZET ISLANDS**	**61.26**	**215**	T	T	18 39 10.1	
	baz=53						
H04S1	**CROZET ISLANDS**	**61.55**	**215**	T	T	18 39 37.5	
	baz=55						
H04S3	**CROZET ISLANDS**	**61.57**	**215**	T	T	18 39 29.4	
	baz=55						
H04S2	**CROZET ISLANDS**	**61.57**	**215**	T	T	18 39 30.7	
	baz=55						

*IDC **23** 17:28:09.9±0.8, 0.°54S×98.°56E, h0km, mb4.1/12, mbtmp4.1/14, ML3.8/2, MS3.1/4, Error ellipse: s-maj=35.6km s-min=14.0km az=60.0*
*DJA **23** 17:28:13.2±0.9, 0.°S±4.°×9.°9E±.°, h12km±9km, M4.4/12, mb4.4/2, MLv4.4/12*
*NEIC **23** 17:28:15.2±1.7, 0.°41S±0.°08×98.°58E±0.°07, h40km±8km, mb4.4/18, Error ellipse: s-maj=13.4km s-min=7.2km az=222.0*

ISC 23 17:28:14.2±0.5**, 0.°46S**±0.°05×**98.°55E**±0.°06**, h32**km**, n69,** σ1**36/66, mb4.3/20, MS3.0/3, 1D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**1.02**	**148**	P	**Pb**	**17 32.4**	**-0.9**
MNSI	**Mandailing Nat**	**1.61**	**40**	P	**Pn**	**17 28 39.8**	**-0.7**
PPI	**Padang Panjang**	**1.84**	**90**	P	**Pn**	**17 28 43.5**	**-0.1**
PPI				S	**Sn**	**17 29 06.4**	**+0.5**
GSI	**Gunungsitoli**	**2.00**	**331**		**Pn**	**17 28 46.1**	**+0.3**
GSI				Sn	**Sn**	**17 29 08.1**	**-1.8**
GSI	**Gunungsitoli**	**2.00**	**331**	P	**Pn**	**17 28 47.1**	**+1.2**
SBSI	**Sibolga**	**2.02**	**10**	P	**Pn**	**17 28 47.1**	**+1.0**
BKNI	**Bangkinang**	**2.60**	**73**		**Pn**	**17 28 55.5**	**+1.4**
BKNI				Sn	**Sn**	**17 29 22.6**	**-2.1**
BKNI	**Bangkinang**	**2.60**	**73**	P	**Pn**	**17 28 56.2**	**+2.1**
PPSI	**Pulau Pagai**	**2.71**	**148**	P	**Pn**	**17 28 56.5**	**+0.9**
RPSI	**Rantau Prapat**	**3.15**	**7**		**Pn**	**17 29 00.9**	**-0.8**
RPSI	**Rantau Prapat**	**3.15**	**7**		**Pn**	**17 29 00.8**	**-0.9**
RPSI					**Sn**	**17 29 41.6**	**+3.4**
PSI	**Prapat**	**3.26**	**7**	Pn	**Pn**	**17 29 00.8**	**-2.5**
	4.2nm,0.3s,baz=174,slow=9.7,SNR=12						
PSI				Sn	**Sn**	**17 29 41.6**	**+0.6**
	4.8nm,0.3s,baz=282,slow=19,SNR=3.9						
	7.7nm,0.4s						
MLSI	**Meulaboh, Aceh**	**5.16**	**335**	P	**Pn**	**17 29 30.6**	**+1.3**
	0.4nm33nm,0.9s						
IPM	**Ipoh**	**5.49**	**27**		**Pn**	**17 29 33.8**	**-0.1**
MNAI	**Manna**	**5.86**	**131**	Pn	**Pn**	**17 29 40.4**	**+1.5**
MNAI					**Sn**	**17 30 44.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**18.80**	**1**	Pn	**Pn**	**17 32 32.3**	**+0.4**
	0.2nm,0.3s,baz=188,slow=12,SNR=9.0						
CMAR				LR	LR	17 40 50.6	
	comp=Z,48nm,18.3s,baz=170,slow=40						
	1.3nm,0.7s						
PALK	**Pallekele**	**19.39**	**294**	LR	LR	17 39 06.6	
	comp=Z,84nm,18.7s,baz=114,slow=34						
TOLI2	**Tolitoli**	**22.28**	**86**	P	**P**	**17 33 07.7**	**-1.3**
TNCH	**TengChong**	**25.34**	**360**	P	**P**	**17 33 40.4**	**+1.8**
TNCH				pP	sP	17 33 50.1	-1.6
TNCH				sP	pP	17 33 54.6	+6.8
TNCH				pmax	pmax		
	comp=Z,7.0nm,1.7s						
TNCH				pmax	pmax		
	comp=Z,82nm,3.8s						

TGY	**Tagaytay City**	**26.47**	**56**	LR	LR	17 45 01.6		
	comp=Z,22nm,19.1s,baz=298,slow=38							
H08S2	**Diego Garcia H**	**26.94**	**254**	T	T	18 01 36.6		
	baz=75,slow=75,SNR=658							
H08S3	**Diego Garcia H**	**26.95**	**254**	T	T	18 01 36.9		
	baz=75,slow=75,SNR=584							
H08S1	**Diego Garcia H**	**26.96**	**254**	T	T	18 01 38.0		
	baz=75,slow=75,SNR=389							
PZH	**PanZhiHua**	**26.98**	**6**	P	**P**	**17 33 55.6**	**+2.2**
DAV	**Davao City (W)**	**27.98**	**74**	LR	LR	17 46 09.6		
	comp=Z,37nm,18.1s,baz=208,slow=39							
ENH	**Enshi**	**32.28**	**18**	P	**P**	**17 34 37.0**	**-3.3**
XAN	**Xi'an**	**35.67**	**15**	⇓P	**P**	**17 35 10.0**	**+0.4**
XAN				pmax	pmax			
	comp=Z,9.0nm,0.9s							
WB0	**Warramunga Arr**	**39.99**	**121**	P	**P**	**17 35 45.0**	**-1.3**
WB0				IAmb	IAmb	17 36 09.0		
	comp=Z,7.4nm,1.2s							
WRA	**Warramunga Arr**	**40.02**	**121**	P	**P**	**17 35 45.4**	**-1.2**
WRA	**Warramunga Arr**	**40.02**	**121**	P	**P**	**17 35 45.2**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=301,slow=8.9,SNR=13							
WRA				PcP	**PcP**	**17 37 52.4**	**+1.0**	
	comp=Z,0.4nm,0.4s,baz=311,slow=2.9,SNR=6.5							
	comp=Z,1.2nm,0.7s							
AS31	**Alice Springs**	**41.33**	**127**	P	**P**	**17 35 56.4**	**-0.9**	
ASAR	**Alice Springs**	**41.33**	**127**	P	**P**	**17 35 56.7**	**-0.6**	
ASAR	**Alice Springs**	**41.33**	**127**	P	**P**	**17 35 56.9**	**-0.5**	
	comp=Z,2.2nm,0.8s,baz=303,slow=8.1,SNR=33							
ASAR				PcP	**PcP**	**17 37 56.9**	**+1.3**	
	comp=Z,1.2nm,0.8s,baz=307,slow=3.0,SNR=9.7							
	comp=Z,2.2nm,0.8s							
HHC	**Hu-ho-hao-te**	**42.78**	**15**	*e*P	**P**	**17 36 11.3**	**+2.3**	
HHC				pmax	pmax			
	comp=Z,13nm,0.6s							
HHC				pmax	pmax			
	comp=Z,90nm,5.0s							
WMQ	**Urumqi**	**45.14**	**349**	*e*P	**P**	**17 36 29.0**	**+1.1**	
WMQ				LR	LR			
	comp=Z,170nm,19.9s							
NRN	**Naryn**	**46.44**	**337**		**P**	**17 36 36.7**	**-1.8**	
NRN				IAmb	IAmb	17 36 41.8		
	comp=Z,6.3nm,1.2s							
KSRS	**Korea Array**	**46.47**	**33**	P	**P**	**17 36 39.7**	**+1.3**	
	comp=Z,0.5nm,0.5s,baz=217,slow=7.8,SNR=2.6							
	comp=Z,0.5nm,0.5s							
ARSB	**Arslanbob**	**47.61**	**334**	P	**P**	**17 36 46.4**	**-1.0**	
ARSB				IAmb	IAmb	17 36 50.4		
	comp=Z,6.1nm,1.0s							
SONM	**Songino Array**	**48.58**	**7**	P	**P**	**17 36 53.3**	**-1.4**	
SONM				IAmb	IAmb	17 36 57.9		
	comp=Z,2.9nm,0.8s							
SONM	**Songino Array**	**48.58**	**7**	P	**P**	**17 36 56.6**	**+1.8**	
	comp=Z,3.8nm,0.9s,baz=188,slow=9.2,SNR=19							
SONM				PcP	**PcP**	**17 38 21.1**	**+1.0**	
	comp=Z,0.9nm,0.6s,baz=198,slow=4.1,SNR=3.1							
	comp=Z,3.8nm,0.9s							
ULN	**Ulaanbaatar**	**48.69**	**8**	P	**P**	**17 36 54.8**	**-0.9**	
MKAR	**Makanchi Array**	**49.17**	**345**	P	**P**	**17 36 58.2**	**-1.0**	
MKAR	**Makanchi Array**	**49.17**	**345**	P	**P**	**17 37 00.5**	**+1.3**	
	comp=Z,2.1nm,0.5s,baz=152,slow=8.1,SNR=25							
	comp=Z,2.1nm,0.5s							
MAKZ	**Makanchi**	**49.27**	**345**		**P**	**17 36 59.4**	**-0.5**	
MAKZ				IAmb	IAmb	17 37 02.7		
	comp=Z,3.6nm,1.1s							
KKAR	**Karatay Array**	**50.13**	**333**	P	**P**	**17

comp=Z,2.0nm,0.8s
WB0 Warramunga Arr 45.22 268 P P 17 38 09.5 -0.3
WB0 IAmb IAmb 17 38 12.5
comp=Z,8.1nm,1.2s
KNRA Kununurra 51.66 271 P P 17 38 59.5 +0.1
GUMO Guam 54.80 312 LR LR 18 01 34.5
comp=Z,24nm,18.1s,baz=169,slow=35
CASY Casey 58.85 207 P P 17 39 50.7 +0.1
CASY IAmb IAmb 17 40 29.1
comp=Z,3.0nm,0.9s
QSPA South Pole Qui 63.31 180 P P 17 40 22.6 +1.5
QSPA IAmb IAmb 17 40 39.1
comp=Z,4.2nm,1.1s
QSPA South Pole Qui 63.31 180 P P 17 40 22.8 +1.8
comp=Z,1.5nm,0.9s,baz=45,slow=4.2,SNR=3.6
comp=Z,1.5nm,0.9s
MJAR Matsushiro Arr 75.95 324 LR LR 18 09 24.4
comp=Z,14nm,19.6s,baz=178,slow=31
ASAJ Asahikawa 79.79 332 LR LR 18 11 09.7
comp=Z,26nm,19.6s,baz=164,slow=31
TROLL Troll, Antarti 81.47 180 ⇑P **P 17 42 09.3 0.0**
comp=Z,94nm,0.8s
H03S2 Juan Fernandez 81.52 124 T T 19 12 41.6
baz=242,slow=75,SNR=52
H03S1 Juan Fernandez 81.53 124 T T 19 12 42.8
baz=242,slow=75,SNR=64
H03S3 Juan Fernandez 81.54 124 T T 19 12 41.6
baz=242,slow=75,SNR=70
H03N2 Juan Fernandez 81.69 123 T T 19 12 20.1
baz=241,slow=74
H03N3 Juan Fernandez 81.69 123 T T 19 13 03.7
baz=241
H03N1 Juan Fernandez 81.70 123 T T 19 12 26.6
baz=241,slow=74
SNAA Sanae 81.72 178 ⇑P **P 17 42 10.4 -0.1**
comp=Z,18nm,0.7s
SNAA Sanae 81.72 178 P P 17 42 10.9 +0.4
SNAA Sanae 81.72 178 P P 17 42 11.0 +0.6
comp=Z,1.0nm,0.8s,baz=184,slow=14,SNR=2.6
SNAA LR LR 18 18 38.8
comp=Z,32nm,18.1s,baz=314,slow=36
comp=Z,1.0nm,0.8s
VNA3 Neumayer Olymp 81.81 176 ⇑P **P 17 42 11.0 +0.1**
comp=Z,1.6nm,0.7s
VNA1 Neumayer--Stat 82.49 176 ⇑P **P 17 42 14.9 +0.5**
comp=Z,2.7nm,1.0s
PETK Petropavlovsk- 82.62 345 P P 17 42 15.3 +0.2
USRK Ussuriysk Ar. 84.80 326 LR LR 18 13 29.0
comp=Z,30nm,20.7s,baz=150,slow=31
PDAR Pinedale Array 92.75 43 LR LR 18 17 54.2
comp=Z,12nm,19.9s,baz=258,slow=31
ARCES ARCESS Array B 135.29 349 PKP **PKPdf 17 49 11.4 +0.2**
comp=Z,3.5nm,1.1s,baz=28,slow=4.1,SNR=4.0
H10S3 ASCENSION HYDR 140.44 151 T T 20 27 19.4
baz=17
H10S2 ASCENSION HYDR 140.44 151 T T 20 27 11.6
baz=203
H10N3 ASCENSION HYDR 141.50 151 T T 20 28 23.7
baz=204
H10N1 ASCENSION HYDR 141.50 151 T T 20 28 19.2
baz=204
H10N2 ASCENSION HYDR 141.52 151 T T 20 28 13.8
baz=204
FINES FINESS Array B 142.10 342 PKP **PKiKP 17 49 26.2 -0.6**
comp=Z,1.0nm,0.8s,baz=48,slow=2.1,SNR=3.4
NB2 NORSAR Subarra 145.34 353 PKP PKiKP 17 49 42.7 +9.1
comp=Z,1.2nm,0.7s,baz=12,slow=3.4
NOA NORSAR Array B 145.34 353 PKPbc **PKPdf 17 49 30.3 +0.6**
comp=Z,0.4nm,0.7s,baz=16,slow=3.2,SNR=3.5
HFS Hagfors 145.91 351 PKPbc **PKPbc 17 49 31.2 0.0**
comp=Z,2.6nm,1.0s,baz=96,slow=6.0,SNR=6.8
AKASG Malin Array Be 148.99 327 PKPbc **PKPbc 17 49 40.0 0.0**
comp=Z,0.2nm,0.3s,baz=47,slow=3.3,SNR=1.1
EKA Eskdalemuir Ar 151.10 8 PKPbc **PKiKP 17 49 47.0 +1.5**
comp=Z,0.6nm,0.7s,baz=7.2,slow=5.8,SNR=2.2
MMAI Mount Meron Ar 151.54 290 PKPbc **PKiKP 17 49 48.0 +0.7**
comp=Z,0.5nm,0.4s,baz=88,slow=3.3,SNR=1.9
BRTR Keskin Array B 151.66 305 PKPbc **PKPbc 17 49 47.0 0.0**
comp=Z,0.4nm,0.7s,baz=64,slow=3.4,SNR=1.8

*MDD **23** 17:36:20.6±1.0,35°.87N×0°.63W,h18km±9km,mb_Lg2.5/15, Error ellipse: s-maj=8.1km s-min=3.8km az=172.0*
ISC 23 17:36:17.9±1.8,36°.0N±0°.1×0°.67W±0°.06,h8km±23km,n15, σ1$45/27,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
USTO	**Oran**	**0.25**	**158**	P		**Pg**	**17 36 23.0**	**0.0**
OJBR	**Djebel Berber**	**0.91**	**115**	P		Pn	17 36 45.0	+7.9
ENIJ	**Nijar**	**1.60**	**309**	Pn		**Pn**	**17 36 47.5**	**+1.0**
ENIJ				Sn		**Sn**	**17 37 06.3**	**-1.0**
ENIJ	**Nijar**	**1.60**	**309**	Pn		**Pn**	**17 36 47.7**	**+1.2**
ENIJ				Sn		**Sn**	**17 37 07.1**	**-0.2**
ENIJ				*i*	lVmb_Lg		17 37 07.1	
CART	**Cartagena**	**1.64**	**351**	Pn		**Pn**	**17 36 46.9**	**-0.2**
CART				Sn		**Sn**	**17 37 05.9**	**-2.4**
ELGU	**Los Guajares,**	**2.55**	**292**	Pn		**Pn**	**17 36 59.9**	**+0.3**
ELGU				Sn		**Sn**	**17 37 29.6**	**-1.3**
ELGU				*i*	lVmb_Lg		17 37 32.0	
EQES	**Quesada**	**2.66**	**314**	Pn		**Pb**	**17 37 04.3**	**-1.6**
EQES				Sn		**Sn**	**17 37 35.4**	**+1.8**
EQES				*i*	lVmb_Lg		17 37 40.0	
EBEN2	**Beniarda presa**	**2.73**	**8**	Pn		**Pn**	**17 37 03.6**	**+1.5**
EBEN2				Sn		**Sn**	**17 37 34.8**	**-0.6**
EBEN2				*i*	lVmb_Lg		17 37 36.1	
EMIJ	**Mijas**	**3.37**	**281**	Pn		**Pn**	**17 37 11.7**	**+0.9**
EMIJ				*i*	lVmb_Lg		17 37 49.8	
EMIJ				Sn		**Sn**	**17 37 50.0**	**-1.1**
EIBI	**Ibiza**	**3.45**	**27**	Pn		**Pn**	**17 37 13.0**	**+1.1**
EIBI				Sn		**Sn**	**17 37 51.5**	**-1.5**
EIBI	**Ibiza**	**3.45**	**27**	Pn		**Pn**	**17 37 13.0**	**+1.1**
EIBI				Sn		**Sn**	**17 37 51.8**	**-1.1**
EIBI				*i*	lVmb_Lg		17 37 53.6	
PSIM	**Granatula de C**	**3.76**	**320**	Pn		**Pn**	**17 37 18.1**	**+1.8**
PSIM				Sn		**Sn**	**17 38 01.2**	**+0.4**
ECOL	**Islas Columbre**	**4.07**	**15**	Pn		**Pn**	**17 37 21.6**	**+1.2**
ECOL				Sn		**Sn**	**17 38 08.9**	**+0.7**
ECAB	**El Cabril**	**4.34**	**300**	Pn		**Pn**	**17 37 26.4**	**+2.1**
ECAB				*i*	lVmb_Lg		17 38 13.7	
ECAB				Sn		**Sn**	**17 38 15.3**	**+0.2**
EMOS	**Mosqueruela**	**4.39**	**2**	Pn		**Pn**	**17 37 28.3**	**+3.2**
EMOS				Sn		**Sn**	**17 38 15.6**	**-0.9**
EMOS				*i*	lVmb_Lg		17 38 17.1	

*KRSC **23** 17:39:59.9±1.5,56°.10N×164°.15E,h14km±22km,Ml4.2*
*IDC **23** 17:39:59.5±0.8,56°.27N×163°.90E,h0km,mb3.6/11, mbtmp3.6/13,ML3.4/2,MS2.5/2,Error ellipse: s-maj=29.2km s-min=15.2km az=151.0*
ISC 23 17:40:00.2±1.6,56°.21N±0°.05×164°.15E±0°.04,h7km±10km, n57,σ1$34/59,mb3.7/11,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.74**	**271**	*eP*		**Pg**	**17 40 13.9**	**-0.6**
KBTR				*eS*		**Sg**	**17 40 24.2**	**+0.2**
KBG	**Krutoberegovo**	**0.81**	**274**	*eP*		**Pg**	**17 40 15.5**	**-0.2**
KBG				*eS*		**Sg**	**17 40 26.5**	**+0.4**
BKI	**Bering**	**1.44**	**133**	*eP*		**Pn**	**17 40 26.3**	**-0.4**
BKI				*eS*		**Sn**	**17 40 45.2**	**-0.6**
SMKR	**Semkarok**	**1.54**	**285**	*eP*		**Pn**	**17 40 27.5**	**-0.6**
SMKR				*eS*		**Sn**	**17 40 47.5**	**-0.9**
BDR	**Baidarnaya**	**1.67**	**284**	*eS*		**Sn**	**17 40 51.3**	**-0.5**
ZLN	**Zelenaya**	**1.88**	**266**	*eP*		**Pn**	**17 40 33.5**	**+0.6**
CIRR	**Tsirk**	**1.90**	**269**	*eP*		**Pn**	**17 40 33.8**	**+0.6**
LGNR	**Loginova**	**1.94**	**268**	*eP*		**Pn**	**17 40 34.7**	**+0.9**
KLY	**Klyuchi**	**1.95**	**275**	*eP*		**Pn**	**17 40 32.7**	**-1.0**
KLY				*eS*		**Sn**	**17 40 56.6**	**-1.9**
BZGR	**Bezymyannyi-Gr**	**1.95**	**264**	*eP*		**Pn**	**17 40 34.2**	**+0.3**
BZWR	**Bezymyannyi-We**	**2.06**	**265**	*eP*		**Pn**	**17 40 36.2**	**+0.8**
BZMR	**Bezymyannaya**	**2.07**	**264**	*eP*		**Pn**	**17 40 36.0**	**+0.5**
BZMR				*eS*		**Sn**	**17 41 03.0**	**+1.4**
KIRR	**Kirishev**	**2.15**	**265**	*eP*		**Pn**	**17 40 37.5**	**+0.9**
MKZ	**Mys Kozlova**	**2.15**	**221**	*eP*		**Pn**	**17 40 35.6**	**-0.9**
MKZ				*eS*		**Sn**	**17 40 59.7**	**-3.8**
KPT	**Kopyto**	**2.21**	**265**	*eP*		**Pn**	**17 40 38.3**	**+0.9**
KMNR	**Kamenistaya**	**2.24**	**260**	*eP*		**Pn**	**17 40 38.9**	**+1.1**
TUMD	**Tumrok D**	**2.35**	**246**	*eP*		**Pn**	**17 40 39.7**	**+0.5**
KOZ	**Kozyrevsk**	**2.40**	**268**	*eP*		**Pn**	**17 40 41.3**	**+1.4**
KOZ				*eS*		**Sb**	**17 41 12.4**	**-1.0**
SRDR	**Sredinnyy**	**2.47**	**274**	*eP*		**Pn**	**17 40 42.5**	**+1.5**
ESO	**Esso**	**3.07**	**267**	*eP*		**Pn**	**17 40 50.8**	**+1.7**
OSSR	**Ossora**	**3.11**	**350**	*eP*		**Pn**	**17 40 49.3**	**-0.3**
KII	**Karymskiy**	**3.47**	**233**	*eP*		**Pn**	**17 40 55.7**	**+1.1**
SPN	**Mys Shipunski**	**3.93**	**219**	*eP*		**Pn**	**17 41 00.0**	**-0.9**
SDLR	**Sedlovina**	**4.23**	**228**	*eP*		**Pn**	**17 41 05.9**	**+0.7**
KRER	**Koryakskii**	**4.27**	**229**	*eP*		**Pn**	**17 41 08.0**	**+2.2**
KRX	**Arik**	**4.28**	**230**	*eP*		**Pn**	**17 41 07.9**	**+2.1**
SMAR	**Somma**	**4.28**	**229**	*eP*		**Pn**	**17 41 06.9**	**+1.0**
AVH	**Avacha**	**4.30**	**229**	*eP*		**Pn**	**17 41 07.3**	**+1.2**
UGLR	**Uglovaya**	**4.31**	**228**	*eP*		**Pn**	**17 41 07.1**	**+0.9**
KOK	**Koryaka**	**4.33**	**230**	*eP*		**Pn**	**17 41 07.4**	**+1.0**
GNL	**Ganaly**	**4.37**	**237**	*eP*		**Pn**	**17 41 08.9**	**+1.8**
DALK	**Dalny**	**4.47**	**227**	*eP*		**Pn**	**17 41 09.0**	**+0.8**
PETK	**Petropavlovsk-**	**4.86**	**233**	Pn		**Pn**	**17 41 14.0**	**+0.2**
	1.7nm,0.3s,baz=63,slow=18,SNR=48							
PETK				Sn		**Sn**	**17 42 11.9**	**+1.6**
	1.0nm,0.3s,baz=60,slow=24,SNR=5.3							
	2.9nm,0.5s							
KRMR	**Karymshinskiy**	**4.87**	**229**	*eP*		**Pn**	**17 41 14.6**	**+0.8**
GRL	**Gorelyy**	**5.10**	**227**	*eP*		**Pn**	**17 41 19.2**	**+2.1**
MTVR	**Mutnovka**	**5.11**	**226**	*eP*		**Pn**	**17 41 19.2**	**+1.9**
APC	**Apacha**	**5.23**	**234**	*eP*		**Pn**	**17 41 22.0**	**+3.3**
ASAK	**Asacha**	**5.30**	**226**	*eP*		**Pn**	**17 41 21.9**	**+2.1**
ASAJ	**Asahikawa**	**18.26**	**238**	P		**Pn**	**17 44 13.1**	**-0.8**
	0.5nm,0.3s,baz=73,slow=8.9,SNR=6.7							
	10nm,0.8s							
YAK	**Yakutsk**	**18.46**	**303**	LR		LR	17 51 50.0	
	comp=Z,9.5nm,19.9s,baz=286,slow=39							
ILAR	**Eielson Array**	**24.97**	**50**	P		**P**	**17 45 24.7**	**+0.7**
	0.8nm,0.9s,baz=261,slow=8.6,SNR=7.5							
	0.8nm,0.9s							
MJAR	**Matsushiro Arr**	**26.32**	**233**	P		**P**	**17 45 36.5**	**0.0**
	2.1nm,0.7s,baz=31,slow=7.6,SNR=5.4							
MJAR				LR		LR	17 56 08.3	
	comp=Z,22nm,21.9s,baz=216,slow=37							
	2.1nm,0.7s							
SONM	**Songino Array**	**35.54**	**281**	P		**P**	**17 46 56.7**	**-1.1**
	0.2nm,0.4s,baz=70,slow=4.7,SNR=1.8							
	0.2nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**36.48**	**176**	T		T	18 25 43.3	
	baz=357,slow=76,SNR=522							
H11N3	**WAKE ISLAND Hy**	**36.49**	**176**	T		T	18 25 50.5	
	baz=357,slow=76,SNR=351							
H11N1	**WAKE ISLAND Hy**	**36.49**	**176**	T		T	18 25 45.6	
	baz=357,slow=76,SNR=367							
H11S1	**WAKE ISLAND Hy**	**37.69**	**176**	T		T	18 27 09.3	
	baz=352,slow=27,SNR=13							
H11S3	**WAKE ISLAND Hy**	**37.70**	**176**	T		T	18 27 10.7	
	baz=352,slow=27,SNR=13							
H11S2	**WAKE ISLAND Hy**	**37.70**	**176**	T		T	18 27 11.9	
	baz=352,slow=27,SNR=12							
YKA	**Yellowknife Ar**	**39.29**	**46**	P		**P**	**17 47 29.9**	**+0.8**
	0.3nm,0.6s,baz=303,slow=9.0,SNR=3.1							
	0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**48.20**	**302**	P		**P**	**17 48 40.0**	**-1.0**
	0.3nm,0.3s,baz=53,slow=8.2,SNR=1.2							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**48.93**	**296**	P		**P**	**17 48 45.0**	**-1.7**
	0.2nm,0.6s,baz=57,slow=7.2,SNR=3.8							
	0.2nm,0.6s							
BVAR	**Bovove Array**	**50.30**	**308**	P		**P**	**17 48 56.6**	**-0.4**
	0.2nm,0.4s,baz=90,slow=1.5,SNR=5.0							
	0.2nm,0.4s							
PDAR	**Pinedale Array**	**54.01**	**65**	P		**P**	**17 49 26.4**	**+1.4**
	0.5nm,0.5s,baz=312,slow=3.5,SNR=6.1							
	0.5nm,0.5s							
TXAR	**Lajitas Array**	**67.32**	**71**	P		**P**	**17 50 57.1**	**+1.3**
	0.4nm,0.5s,baz=297,slow=5.5,SNR=3.6							
	0.4nm,0.5s							
WRA	**Warramunga Arr**	**79.92**	**208**	P		**P**	**17 52 08.0**	**-1.6**
	0.9nm,1.0s,baz=12,slow=6.2,SNR=3.0							
	0.9nm,1.0s							
ASAR	**Alice Springs**	**83.59**	**208**	P		**P**	**17 52 29.9**	**+1.0**
	0.6nm,0.8s,baz=8.9,slow=4.1,SNR=4.4							
	0.6nm,0.8s							

*IDC **23** 18:05:25.4±2.2,0°.32N×99°.50E,h0km,mb3.7/7, mbtmp3.7/7,Error ellipse: s-maj=108.6km s-min=23.2km az=54.0*
ISC 23 18:05:30.7±2.1,0°.4N±0°.4×99°.6E±0°.6,h35km,n10,σ1$10/7, mb3.5/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**28.16**	**253**	T		T	18 39 52.4	
	baz=72							
H08S3	**Diego Garcia H**	**28.16**	**253**	T		T	18 39 51.5	
	baz=72							
H08S1	**Diego Garcia H**	**28.18**	**253**	T		T	18 39 46.0	
	baz=72							
WRA	**Warramunga Arr**	**39.59**	**123**	P		**P**	**18 13 00.4**	**+1.3**
	0.2nm,0.4s,baz=301,slow=8.0,SNR=1.3							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**41.01**	**128**	P		**P**	**18 13 09.7**	**-1.1**
	0.2nm,0.8s,baz=303,slow=7.9,SNR=1.0							
	0.2nm,0.8s							
SONM	**Songino Array**	**47.64**	**6**	P		**P**	**18 14 03.2**	**-0.5**
	0.4nm,0.8s,baz=194,slow=8.4,SNR=2.7							
	0.4nm,0.8s							
MKAR	**Makanchi Array**	**48.65**	**344**	P		**P**	**18 14 12.3**	**+1.0**
	1.3nm,0.3s,baz=160,slow=8.4,SNR=30							
	1.3nm,0.3s							
ZALV	**Zalesovo Beam**	**54.77**	**349**	P		**P**	**18 14 56.6**	**-0.3**
	0.9nm,0.3s,baz=166,slow=7.3,SNR=6.0							
	0.9nm,0.3s							
FINES	**FINESS Array B**	**81.83**	**332**	P		**P**	**18 17 46.4**	**+0.3**
	0.3nm,0.5s,baz=104,slow=5.9,SNR=4.4							
	0.3nm,0.5s							
ARCES	**ARCESS Array B**	**84.11**	**340**	P		**P**	**18 17 57.2**	**-0.6**
	0.6nm,0.7s,baz=112,slow=6.5,SNR=1.5							
	0.6nm,0.7s							

DJA 23 18:14:41.1±0.5,0°.S±5°.×9°.9E±°,h10km,M3.9/7,mb5.9/1, mb4.5/1,MLv3.6/7,Mw(mB)5.5/1,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**1.45**	**37**	P		Pn	18 15 06.6	-0.7
PPI	**Padang Panjang**	**1.70**	**93**	P		Pn	18 15 10.6	-0.2
GSI	**Gunungsitoli**	**2.00**	**326**	P		Pn	18 15 15.0	0.0
BKNI	**Bangkinang**	**2.44**	**74**	P		Pn	18 15 20.7	-0.3
KSI	**Kapahiang**	**5.08**	**130**	P		Pn	18 15 57.1	-0.3

*SJA **23** 18:39:58.7±0.6,31°.68S×69°.69W,h126km±3km,ML4.1, MW4.1*
*IDC **23** 18:40:01.0±2.5,31°.64S×69°.58W,h117km±18km,mb3.9/4, mbtmp4.2/6,Error ellipse: s-maj=40.8km s-min=18.8km az=94.0*
*NEIC **23** 18:40:00.2±1.8,31°.65S±0°.01×69°.67W±0°.05,h115km±6km, mb4.7/10,Error ellipse: s-maj=5.9km s-min=1.6km az=90.0*
ISC 23 18:39:60.0±0.6,31°.65S±0°.03×69°.69W±0°.03,h118km±5km, n127,σ1$37/174,mb4.5/9,7C-13D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.36**	**114**	*eP*		**Pn**	**18 40 17.7**	**+0.3**
RTLS				*eS*		**Sn**	**18 40 31.4**	**+0.9**
ZON	**Zonda**	**0.87**	**83**	P		**Pn**	**18 40 20.9**	**+0.2**
ZON				Sn		**Sn**	**18 40 35.2**	**-1.0**
ZON	**Zonda**	**0.87**	**83**	*eP*		**Pn**	**18 40 21.1**	**+0.4**
ZON				*eS*		**Sn**	**18 40 37.0**	**+0.7**
ZON					lAML		18 40 39.2	
	comp=Z,3μm,0.3s							
SJA	**San Juan**	**0.97**	**83**	*eP*		**Pn**	**18 40 19.7**	**-1.9**
SJA				*eS*		**Sn**	**18 40 39.0**	**+1.1**
RTLL	**Cerro Villicun**	**1.08**	**73**	*eP*		**Pn**	**18 40 23.2**	**+0.4**
RTLL				*eS*		**Sn**	**18 40 40.6**	**+0.6**
CO03	**El Pedregal**	**1.18**	**313**			**Pn**	**18 40 24.6**	**+0.8**
CO03				Sn		**Sn**	**18 40 42.5**	**+0.6**
CO03	**El Pedregal**	**1.18**	**313**	⇑	*i*P	**Pn**	**18 40 24.6**	**+0.8**
CO03					*i* S	**Sn**	**18 40 43.0**	**+1.2**
CO03					lAML		18 40 44.2	
	comp=E,13μm,0.2s							
CO03	**El Pedregal**	**1.18**	**313**	*eP*		**Pn**	**18 40 24.1**	**+0.3**
CO03					lAML		18 40 45.1	
	comp=Z,5μm,0.2s							
ACCO	**Cerro Coronel**	**1.19**	**27**	*eP*		**Pn**	**18 40 24.9**	**+0.7**
ACCO				*eS*		**Sn**	**18 40 44.4**	**+2.0**
CO02	**Combarbal**	**1.21**	**291**			**Pn**	**18 40 24.9**	**+0.7**
CO02				Sn		**Sn**	**18 40 43.1**	**+0.7**
CO02	**Combarbal**	**1.21**	**291**	⇑	*i*P	**Pn**	**18 40 24.6**	**+0.5**
CO02					*i* S	**Sn**	**18 40 43.1**	**+0.7**
CO02	**Combarbal**	**1.21**	**291**	*eP*		**Pn**	**18 40 24.6**	**+0.5**
CO02				*eS*		**Sn**	**18 40 43.9**	**+1.5**
CO02					lAML		18 40 44.9	
	comp=Z,6μm,0.2s							
CFA	**Coronel Fontan**	**1.24**	**88**	P		**Pn**	**18 40 24.6**	**+0.3**
	comp=Z,303nm,0.3s,baz=261,slow=9.3,SNR=3600							
CFA				S		**Sn**	**18 40 41.9**	**-1.0**
	comp=Z,2μm,0.2s,baz=123,slow=16,SNR=128							
CFA	**Coronel Fontan**	**1.24**	**88**	*eP*		**Pn**	**18 40 24.7**	**+0.3**
CFA				*eS*		**Sn**	**18 40 43.4**	**+0.5**
VA03	**San Esteban**	**1.33**	**213**			**Pn**	**18 40 26.0**	**+0.6**
VA03				Sn		**Sn**	**18 40 45.9**	**+1.0**
VA03	**San Esteban**	**1.33**	**213**	⇓	*i*P	**Pn**	**18 40 26.2**	**+0.8**
VA03					*i* S	**Sn**	**18 40 45.2**	**+0.4**
VA03					lAML		18 40 47.1	
	comp=E,8μm,0.2s							
VA03	**San Esteban**	**1.33**	**213**	*eP*		**Pn**	**18 40 26.3**	**+0.8**
VA03				*eS*		**Sn**	**18 40 46.1**	**+1.3**
VA03					lAML		18 40 47.8	
	comp=Z,2μm,0.2s							
VA06	**Catapilco**	**1.64**	**236**			**Pn**	**18 40 28.4**	**-0.5**
VA06				Sn		**Sn**	**18 40 49.8**	**-1.2**
VA06	**Catapilco**	**1.64**	**236**	⇑	*i*P	**Pn**	**18 40 28.2**	**-0.7**
VA06					*i* S	**Sn**	**18 40 49.5**	**-1.5**
CO01	**Juntas del Tor**	**1.70**	**348**			**Pn**	**18 40 28.5**	**-1.5**
CO01	**Juntas del Tor**	**1.70**	**348**	*eP*		**Pn**	**18 40 31.8**	**+1.8**
CO01					lAML		18 40 58.1	
	comp=Z,622nm,0.5s							
PEL	**Peldehue**	**1.71**	**209**			**Pn**	**18 40 30.1**	**+0.2**
PEL				Sn		**Sn**	**18 40 52.5**	**-0.2**
PEL	**Peldehue**	**1.71**	**209**	*i*P		**Pn**	**18 40 30.1**	**+0.2**
PEL				*i* S		**Sn**	**18 40 52.6**	**-0.1**
PEL	**Peldehue**	**1.71**	**209**	*eP*		**Pn**	**18 40 26.6**	**-3.3**
PEL				*eS*		**Sn**	**18 40 53.4**	**+0.7**
ROCH	**El Roble**	**1.73**	**220**	⇑	*i*P	**Pn**	**18 40 30.2**	**-0.1**
ROCH				*i* S		**Sn**	**18 40 53.0**	**-0.3**
ROCH					lAML		18 40 55.1	
	comp=N,3μm,0.4s							
ROC1	**El Roble**	**1.74**	**220**	*eP*		**Pn**	**18 40 30.1**	**-0.2**
ROC1				*eS*		**Sn**	**18 40 53.7**	**+0.2**
GO04	**Tololo Observa**	**1.75**	**327**			**Pn**	**18 40 31.2**	**+0.6**
GO04	**Tololo Observa**	**1.75**	**327**	⇑	*i*P	**Pn**	**18 40 30.8**	**+0.2**
GO04					*i* S	**Sn**	**18 40 54.0**	**+0.2**
GO04	**Tololo Observa**	**1.75**	**327**	*eP*		**Pn**	**18 40 31.0**	**+0.4**
MT10	**Hacienda Santa**	**1.77**	**204**	⇓	*i*P	**Pn**	**18 40 31.4**	**+0.7**
MT10					*i* S	**Sn**	**18 40 54.9**	**+0.8**
MT04	**Ro Olivares**	**1.79**	**192**	⇓	*i*P	**Pn**	**18 40 32.2**	**+1.2**
MT04					*i* S	**Sn**	**18 40 56.5**	**+1.9**
MT04	**Ro Olivares**	**1.79**	**192**	*eP*		**Pn**	**18 40 27.2**	**-3.9**
MT04				*eS*		**Sn**	**18 40 53.3**	**-1.4**
MT04					lAML		18 41 07.2	
	comp=Z,474nm,0.2s							
MT08	**Bocatoma Ro**	**1.81**	**189**			**Pn**	**18 40 32.7**	**+1.4**
MT08	**Bocatoma Ro**	**1.81**	**189**	⇓	*i*P	**Pn**	**18 40 32.6**	**+1.4**
MT08					*i* S	**Sn**	**18 40 57.2**	**+2.0**
MT08	**Bocatoma Ro**	**1.81**	**189**	*eP*		**Pn**	**18 40 27.5**	**-3.8**
MT08				*eP*			18 40 32.8	
MT08				*eS*		**Sn**	**18 40 55.0**	**-0.1**
MT14	**Cerro Cal¡n**	**1.88**	**202**	⇓	*i*P	**Pn**	**18 40 32.6**	**+0.6**
MT14					*i* S	**Sn**	**18 40 57.1**	**+0.6**
MT14					lAML		18 41 00.8	
	comp=N,2μm,0.3s							
MT16	**CCHEN**	**1.91**	**201**			**Pn**	**18 40 32.9**	**+0.6**
MT16	**CCHEN**	**1.91**	**201**	⇓	*i*P	**Pn**	**18 40 32.9**	**+0.6**
MT16					*i* S	**Sn**	**18 40 57.5**	**+0.5**
CO06	**Fray Jorge**	**1.93**	**300**			**Pn**	**18 40 31.9**	**-0.6**
MT05	**Renca**	**1.95**	**207**			**Pn**	**18 40 33.3**	**+0.5**
MT05	**Renca**	**1.95**	**207**	⇓	*i*P	**Pn**	**18 40 33.1**	**+0.3**
MT05					*i* S	**Sn**	**18 40 58.0**	**+0.1**
MT05					lAML		18 41 01.6	
	comp=E,4μm,0.2s							
MT05	**Renca**	**1.95**	**207**	*eP*		**Pn**	**18 40 33.2**	**+0.5**
MT05				*eS*		**Sn**	**18 40 59.7**	**+1.8**
MT05					lAML		18 41 02.0	
	comp=Z,937nm,0.2s							
MT02	**Curacav**	**2.02**	**217**			**Pn**	**18 40 32.9**	**-0.7**
MT02	**Curacav**	**2.02**	**217**	⇑	*i*P	**Pn**	**18 40 33.0**	**-0.6**
MT02					*i* S	**Sn**	**18 40 58.2**	**-1.1**
MT02	**Curacav**	**2.02**	**217**	*eP*		**Pn**	**18 40 33.4**	**-0.2**
MT02					lAML		18 41 02.6	
	comp=Z,623nm,0.6s							
MT15	**Las Vizcachas**	**2.06**	**199**	*eP*		**Pn**	**18 40 34.8**	**+0.6**
MT15				*eS*		**Sn**	**18 41 02.0**	**+1.6**
MT15					lAML		18 41 04.3	
	comp=N,3μm,0.3s							
VA01	**Torpederas**	**2.15**	**230**			**Pn**	**18 40 34.7**	**-0.5**
VA01	**Torpederas**	**2.15**	**230**	*eP*		**Pn**	**18 40 34.3**	**-0.9**
VA01				*eS*		**Sn**	**18 41 00.7**	**-1.5**
VA01					lAML		18 41 06.7	

H03S2	**Juan Fernandez**	**8.08**	**252**	P		**Pn**	**18 41 54.1**	**-0.2**
	baz=8.2,slow=71,SNR=4.4							
PB05	**IPOC Station P**	**8.77**	**357**	Pn		**Pn**	**18 42 00.8**	**-3.3**
PB06	**IPOC Station P**	**8.91**	**1**	Pn		**Pn**	**18 42 04.3**	**-1.7**
TRQA	**Tornquist**	**9.00**	**137**			**Pn**	**18 42 05.4**	**-1.5**
PLCA	**Paso Flores**	**9.09**	**184**	Pn		**Pn**	**18 42 05.4**	**-2.8**
PLCA	**Paso Flores**	**9.09**	**184**	P		**Pn**	**18 42 06.3**	**-1.9**
	comp=Z,0.9nm,0.6s,baz=357,slow=14,SNR=4.9							
PB03	**IPOC Station P**	**9.56**	**360**	Pn		Pn	18 42 08.7	-6.1
PB01	**IPOC Station P**	**10.56**	**1**	Pn		**Pn**	**18 42 23.8**	**-4.5**
CPUP	**Villa Florida**	**12.04**	**67**	Pn		**Pn**	**18 42 43.4**	**-4.5**
CPUP	**Villa Florida**	**12.04**	**67**	P		**Pn**	**18 42 44.8**	**-3.0**
	comp=Z,1.2nm,0.8s,baz=98,slow=11,SNR=8.1							
CPUP				S		Sn	18 44 50.1	-10
	comp=Z,0.9nm,0.6s,baz=168,slow=8.8,SNR=3.1							
PLTB	**Pedras Altas**	**13.70**	**95**	Pn		**Pn**	**18 43 06.2**	**-3.2**
COYC	**Coyhaique**	**14.03**	**187**			**Pn**	**18 43 12.4**	**-1.0**
LPAZ	**La Paz**	**15.36**	**6**	P		**Pn**	**18 43 30.4**	**-0.7**
LPAZ	**La Paz**	**15.36**	**6**	P		**Pn**	**18 43 32.0**	**+0.9**
	comp=Z,1.6nm,0.4s,baz=198,slow=5.9,SNR=5.5							
SIV	**San Ignacio**	**17.45**	**29**	P		**P**	**18 43 55.8**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=197,slow=14,SNR=5.5							
EFI	**East Falkland**	**21.76**	**160**	P		**P**	**18 44 40.1**	**-1.8**
EFI				IAmb		IAmb	18 45 23.8	
	comp=Z,48nm,1.2s							
MG03	**Isla Dawson**	**22.19**	**181**	P		**P**	**18 44 46.6**	**+0.2**
ESPZ	**Base Esperanza**	**32.77**	**169**	P		**P**	**18 46 21.2**	**-0.2**
ESPZ				IAmb		IAmb	18 46 39.0	
	comp=Z,14nm,1.5s							
BELA	**Belgrano 2**	**48.86**	**171**	P		**P**	**18 48 33.7**	**+0.7**
VNA3	**Neumayer Olymp**	**50.81**	**159**	⇓P		**P**	**18 48 49.0**	**+1.1**
	comp=Z,3.9nm,0.9s							
VNA1	**Neumayer--Stat**	**51.08**	**158**	⇓P		**P**	**18 48 51.0**	**+1.2**
	comp=Z,4.8nm,0.9s							
SNAA	**Sanae**	**53.03**	**159**	⇓P		**P**	**18 49 05.4**	**+1.0**
	comp=Z,157nm,0.8s							
SNAA	**Sanae**	**53.03**	**159**	P		**P**	**18 49 05.1**	**+0.7**
SNAA				IAmb		IAmb	18 49 06.5	
	comp=Z,9.1nm,0.9s							
SNAA	**Sanae**	**53.03**	**159**	P		**P**	**18 49 05.2**	**+0.8**
	comp=Z,6.4nm,0.8s,baz=287,slow=7.3,SNR=26							
	comp=Z,6.4nm,0.8s							
TROLL	**Troll, Antarti**	**54.74**	**159**	⇓P		**P**	**18 49 18.1**	**+1.1**
	comp=Z,266nm,0.7s							
QSPA	**South Pole Qui**	**58.58**	**180**	P		**P**	**18 49 45.3**	**+1.1**
QSPA				IAmb		IAmb	18 49 47.2	
	comp=Z,16nm,1.3s							
QSPA	**South Pole Qui**	**58.58**	**180**	P		**P**	**18 49 45.8**	**+1.7**
	comp=Z,5.8nm,0.9s,baz=152,slow=3.2,SNR=13							
	comp=Z,5.8nm,0.9s							
SYO	**Syowa Base**	**67.32**	**158**	eP		**P**	**18 50 42.2**	**+0.5**
DBIC	**Dimbokro**	**72.54**	**70**	P		**P**	**18 51 14.7**	**+0.3**
LBTB	**Lobatse**	**81.47**	**114**	P		**P**	**18 52 05.0**	**+0.5**
LBTB				IAmb		IAmb	18 52 07.1	
	comp=Z,30nm,1.5s							
TORD	**Torodi Ar. Bea**	**81.53**	**69**	P		**P**	**18 52 05.5**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=242,slow=3.1,SNR=3.8							
	comp=Z,2.4nm,0.7s							
CASY	**Casey**	**82.39**	**180**	P		**P**	**18 52 09.6**	**+1.2**
CASY				IAmb		IAmb	18 52 10.9	
	comp=Z,3.9nm,0.8s							
PDAR	**Pinedale Array**	**82.60**	**332**	P		**P**	**18 52 11.6**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=170,slow=4.4,SNR=2.2							
	comp=Z,0.3nm,0.5s							
FINES	**FINESS Array B**	**119.94**	**33**	PKP		**PKiKP**	**18 58 36.1**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=245,slow=2.9,SNR=4.8							
ASAR	**Alice Springs**	**120.54**	**205**	PKP		**PKPdf**	**18 58 37.7**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=132,slow=1.8,SNR=2.4							
WRA	**Warramunga Arr**	**123.76**	**207**	PKP		**PKPdf**	**18 58 44.5**	**0.0**
	comp=Z,0.4nm,0.3s,baz=154,slow=2.0,SNR=10							
BVAR	**Borovoye Array**	**144.21**	**42**	PKP		**PKPdf**	**18 59 21.2**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=283,slow=1.0,SNR=5.5							
KURBB	**Kurchatov Arra**	**149.80**	**42**	PKPbc		**PKiKP**	**18 59 36.6**	**+0.1**
	comp=Z,1.5nm,0.4s,baz=299,slow=3.0,SNR=21							
ZALV	**Zalesovo Beam**	**151.19**	**32**	PKPbc		**PKiKP**	**18 59 40.0**	**+0.7**
	comp=Z,10nm,0.5s,baz=310,slow=3.4,SNR=38							
ZALV				pPKPbc		**pPKPbc**	**19 00 12.3**	**+1.0**
	comp=Z,3.7nm,0.7s,baz=298,slow=3.2,SNR=5.1							
MKAR	**Makanchi Array**	**153.72**	**47**	PKPbc		**PKiKP**	**18 59 45.2**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=309,slow=2.3,SNR=12							
MKAR				PKPab		**PKPab**	**18 59 59.1**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=316,slow=5.1,SNR=6.1							
MKAR				pPKPbc		**pPKPbc**	**19 00 18.1**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=9.9,slow=2.8,SNR=3.2							

*IDC **23** 18:50:16.3±1.0,55.27S×25.72W,h0km,mb4.0/5, mbtmp4.0/6,ML3.6/1,Error ellipse: s-maj=36.1km s-min=25.2km az=85.0*
*NEIC **23** 18:50:17.0±1.1,55.41S±0.10×26.0W±0.2,h10km±1km, mb4.3/8,Error ellipse: s-maj=23.7km s-min=7.0km az=131.0*

ISC 23 18:50:20.4±0.7,55.4S±0.1×26.16W±0.09,h32km,n23, σ1s31/24,mb4.2/7,4C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.07**	**276**	Pn	**Pn**	**18 51 48.4**	**+0.7**
HOPE				Sn	**Sn**	**18 52 52.6**	**-3.3**
VNA1	**Neumayer--Stat**	**17.24**	**160**	⇑P	**Pn**	**18 54 18.0**	**-0.3**
	comp=Z,6.0nm,0.8s						
VNA3	**Neumayer Olymp**	**17.47**	**162**	⇑P	**Pn**	**18 54 20.9**	**-0.3**
	comp=Z,1.9nm,0.4s						
SNAA	**Sanae**	**19.16**	**158**	⇑P	**Pn**	**18 54 41.0**	**-0.8**
	comp=Z,52nm,0.9s						
SNAA	**Sanae**	**19.16**	**158**	P	**P**	**18 54 39.7**	**-1.0**
SNAA	**Sanae**	**19.16**	**158**	P	**P**	**18 54 40.5**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=297,slow=14,SNR=8.0						
	comp=Z,2.2nm,0.9s						
TROLL	**Troll, Antarti**	**20.63**	**155**	⇑P	**P**	**18 54 57.0**	**+0.2**
	comp=Z,50nm,0.7s						
BELA	**Belgrano 2**	**22.82**	**185**		**P**	**18 55 18.9**	**-1.1**
BELA				IAmb	IAmb	18 55 34.5	
	comp=Z,5.7nm,1.5s						
QSPA	**South Pole Qui**	**34.90**	**180**	P	**P**	**18 57 07.8**	**-0.9**
QSPA				IAmb	IAmb	18 57 21.6	
	comp=Z,7.8nm,1.5s						
QSPA	**South Pole Qui**	**34.90**	**180**	P	**P**	**18 57 09.5**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=194,slow=18,SNR=2.1						
	comp=Z,0.8nm,0.5s						
BOSA	**Boshof**	**45.23**	**75**	P	**P**	**18 58 33.1**	**-1.4**
BOSA	**Boshof**	**45.23**	**75**	P	**P**	**18 58 33.3**	**-1.2**
	comp=Z,3.9nm,0.9s,baz=202,slow=5.4,SNR=1.9						
	comp=Z,3.9nm,0.9s						
KOOLE	**Kule**	**46.99**	**66**	P	**P**	**18 58 47.3**	**-1.2**
KOOLE				IAmb	IAmb	18 58 53.3	
	comp=Z,7.4nm,1.1s						
VNDA	**Vanda**	**47.30**	**182**	P	**P**	**18 58 52.1**	**+2.1**
VNDA				IAmb	IAmb	18 59 33.7	
	comp=Z,1.7nm,1.1s						
VNDA	**Vanda**	**47.30**	**182**	P	**P**	**18 58 52.1**	**+2.1**
	comp=Z,0.8nm,0.7s,baz=169,slow=5.6,SNR=4.0						
	comp=Z,0.8nm,0.7s						
LBTB	**Lobatse**	**48.24**	**73**	P	**P**	**18 58 57.5**	**-0.7**
QNGWA	**Qangwa**	**50.37**	**64**	P	**P**	**18 59 13.3**	**-1.1**
QNGWA				IAmb	IAmb	18 59 31.2	
	comp=Z,6.0nm,1.1s						
LPAZ	**La Paz**	**50.46**	**304**	P	**P**	**18 59 17.7**	**+2.0**
	comp=Z,0.9nm,0.5s,baz=140,slow=7.4,SNR=2.4						
	comp=Z,0.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**72.16**	**29**	P	**P**	**19 01 41.6**	**0.0**
	comp=Z,0.9nm,0.3s,baz=203,slow=5.2,SNR=2.4						
	comp=Z,0.9nm,0.3s						
N30M	**Aishikik Lake**	**144.88**	**309**	PKPdf	**PKPdf**	**19 09 53.3**	**+0.6**
H31M	**Peel River**	**145.22**	**317**		**PKPab**	**19 09 53.4**	**+0.4**
ILAR	**Eielson Array**	**150.08**	**312**	PKPbc	**PKiKP**	**19 10 07.0**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=106,slow=1.3,SNR=4.2						
SONM	**Songino Array**	**150.09**	**84**	PKPbc	**PKPbc**	**19 10 06.5**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=242,slow=3.1,SNR=3.2						

*JMA **23** 18:55:56.4±0.1,24.0N±0.9×122.3E±0.4,h30km±4km, MV2.3/11,TAIWAN REGION*
*TAP **23** 18:55:56.5,23.99N×122.28E,h29km,ML2.6,C*

ISC 23 18:55:56.3±0.9,23.95N±0.02×122.27E±0.02,h30km±7km, n110, σ0s81/217,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.18**	**16**	*i* P	**Pb**	**18 56 01.7**	**-0.3**
EOS4				*i* S	**Sb**	**18 56 05.6**	**-0.1**
EOS3	**EOS3**	**0.34**	**8**	*i* P	**Pb**	**18 56 04.0**	**-0.2**
EOS3				*i* S	**Sn**	**18 56 10.0**	**-0.8**
EOS2	**EOS2**	**0.47**	**356**	*i* P	**Pb**	**18 56 06.2**	**+0.1**
EOS2				*i* S	**Sn**	**18 56 13.5**	**-0.5**
HWA	**Hwalien**	**0.60**	**273**	*i* P	**Pb**	**18 56 08.6**	**+0.1**
HWA				S	**Sn**	**18 56 18.4**	**+0.8**
EAHA	**Aohua**	**0.61**	**308**	*i* P	**Pb**	**18 56 08.6**	**0.0**
EAHA				S	**Sn**	**18 56 18.3**	**+0.5**
TEYL	**Yanliau Villag**	**0.62**	**263**	*i* P	**Pb**	**18 56 08.8**	**+0.2**
TEYL				*eS*	**Sb**	**18 56 17.3**	**+0.2**
ETL	**Fush Village**	**0.62**	**290**	P	**Pb**	**18 56 08.3**	**-0.5**
ETL				*i* S	**Sb**	**18 56 17.7**	**+0.4**
TWD	**Chiawan**	**0.63**	**282**	*i* P	**Pb**	**18 56 08.3**	**-0.5**
TWD				*i* S	**Sb**	**18 56 17.0**	**-0.4**
NACB	**Ninganchiao**	**0.65**	**290**	*i* P	**Pb**	**18 56 08.8**	**-0.5**
NACB				S	**Sb**	**18 56 18.4**	**+0.3**
SHUL	**Shoufeng**	**0.66**	**256**	*i* P	**Pb**	**18 56 09.4**	**-0.1**
SHUL				*i* S	**Sn**	**18 56 19.3**	**+0.3**
ENA	**Nanau**	**0.68**	**315**	*i* P	**Pb**	**18 56 09.3**	**-0.4**
ENA				*i* S	**Sn**	**18 56 19.0**	**-0.3**
TEGC	**Jichi Village**	**0.71**	**250**	P	**Pb**	**18 56 08.6**	**-1.5**
TEGC				*i* S	**Sb**	**18 56 20.1**	**+0.5**
ETM	**Tongmen**	**0.71**	**271**	*i* P	**Pb**	**18 56 09.6**	**-0.5**
ETM				*i* S	**Sb**	**18 56 19.4**	**-0.3**
ESAO	**Su ao**	**0.73**	**328**	P	**Pb**	**18 56 09.6**	**-1.0**
ESAO				*i* S	**Sb**	**18 56 19.9**	**-0.4**
TWC	**Suao**	**0.76**	**330**	*i* P	**Pb**	**18 56 10.0**	**-1.0**
TWC				*i* S	**Sb**	**18 56 19.7**	**-1.4**
ETLH	**Xiulin Townshi**	**0.76**	**290**	*i* P	**Pb**	**18 56 10.5**	**-0.6**
ETLH				*i* S	**Sb**	**18 56 20.8**	**-0.4**
ESL	**Shilin**	**0.77**	**260**	*i* P	**Pn**	**18 56 10.3**	**-0.9**
ESL				*i* S	**Sb**	**18 56 21.5**	**0.0**
LXIB	**Xiulin Townshi**	**0.78**	**275**	*i* P	**Pn**	**18 56 10.9**	**-0.5**
LXIB				*i* S	**Sb**	**18 56 21.1**	**-0.8**
EGFH	**Guangfu**	**0.82**	**250**	*i* P	**Pn**	**18 56 11.7**	**0.0**
EGFH				*i* S	**Sb**	**18 56 23.1**	**+0.4**
WARBT	**Fenglin Townsh**	**0.84**	**254**	*i* P	**Pn**	**18 56 12.6**	**-0.6**
WARBT				*i* S	**Sb**	**18 56 22.9**	**-0.5**
NDS	**Dongshan**	**0.84**	**324**	*i* P	**Pn**	**18 56 10.8**	**-1.3**
NDS				*i* S	**Sb**	**18 56 22.9**	**-0.7**
YOJ	**Yonaguni jima**	**0.85**	**53**	*eP*	**Pb**	**18 56 12.5**	**0.0**
YOJ				*eS*	**Sn**	**18 56 24.3**	**+0.7**
YOJ	**Yonaguni jima**	**0.85**	**53**	*i* P	**Pn**	**18 56 12.2**	**0.0**
YOJ				*i* S	**Sn**	**18 56 24.0**	**+0.4**
LATG	**Datong**	**0.89**	**311**	*i* P	**Pn**	**18 56 12.6**	**-0.3**
LATG				*i* S	**Sn**	**18 56 25.5**	**+0.7**
WHF	**Hehuan Shan**	**0.94**	**282**	*i* P	**Pn**	**18 56 13.5**	**-0.2**
WHF				*i* S	**Sb**	**18 56 26.2**	**-0.3**
NNSB	**Datong**	**0.94**	**301**	*i* P	**Pn**	**18 56 13.3**	**-0.2**
NNSB				*i* S	**Sn**	**18 56 25.3**	**-0.7**
NNSH	**Datong**	**0.94**	**301**	*eP*	**Pn**	**18 56 12.8**	**-0.7**
NNSH				*eS*	**Sb**	**18 56 26.3**	**0.0**
ENTT	**Nioudou**	**0.94**	**317**	*i* P	**Pn**	**18 56 13.7**	**+0.3**
ENTT				*i* S	**Sb**	**18 56 26.6**	**+0.4**
EGS		**0.94**	**341**	*i* P	**Pn**	**18 56 13.3**	**-0.2**
EGS				*i* S	**Sb**	**18 56 25.9**	**-0.4**
TWE	**Neicheng**	**0.94**	**325**	*i* P	**Pn**	**18 56 13.5**	**+0.1**
TWE				*i* S	**Sb**	**18 56 26.2**	**0.0**
NNS	**Nan Shan**	**0.95**	**301**	*i* P	**Pn**	**18 56 13.4**	**-0.3**
NNS				*i* S	**Sn**	**18 56 25.9**	**-0.4**
EHYH	**Wanrong**	**0.96**	**242**	*i* P	**Pn**	**18 56 13.7**	**0.0**
EHYH				*i* S	**Sb**	**18 56 27.4**	**+0.6**
EHY	**Hungye**	**0.97**	**243**	*i* P	**Pn**	**18 56 13.8**	**0.0**
EHY				*i* S	**Sn**	**18 56 26.9**	**+0.2**
ECBN	**Changbin**	**0.98**	**230**	*i* P	**Pn**	**18 56 14.0**	**+0.1**
ECBN				*i* S	**Sn**	**18 56 26.7**	**-0.1**
FUSS	**Fushou**	**0.98**	**288**	*i* P	**Pn**	**18 56 14.2**	**0.0**
FUSS				S	**Sn**	**18 56 26.1**	**-1.1**
OWD	**Renai**	**1.00**	**270**	*i* P	**Pn**	**18 56 14.5**	**+0.1**
OWD				*i* S	**Sn**	**18 56 26.8**	**-0.7**
FUSB	**Fushanzhiwuyua**	**1.02**	**323**	*i* P	**Pn**	**18 56 14.7**	**+0.1**
FUSB				*eS*	**Sn**	**18 56 27.6**	**-0.2**
TWT	**Tachien**	**1.04**	**287**	*i* P	**Pb**	**18 56 15.8**	**+0.2**
TWT				*i* S	**Sb**	**18 56 30.5**	**+1.2**
YULB	**Yu-li**	**1.05**	**238**	*i* P	**Pn**	**18 56 15.0**	**+0.1**
YULB				*i* S	**Sn**	**18 56 28.9**	**+0.3**
WUSB	**Renai**	**1.05**	**273**	*i* P	**Pn**	**18 56 15.2**	**+0.2**
WUSB				S	**Sb**	**18 56 29.4**	**-0.1**
EYUL	**Yuli**	**1.05**	**236**	*i* P	**Pn**	**18 56 15.5**	**+0.5**
EYUL				*i* S	**Sb**	**18 56 30.2**	**+0.7**
TDCB	**Techi**	**1.06**	**287**	*i* P	**Pn**	**18 56 15.3**	**+0.1**
TDCB				S	**Sb**	**18 56 29.9**	**+0.3**
TWF1	**Yuli**	**1.07**	**236**	*i* P	**Pn**	**18 56 15.6**	**+0.4**
TWF1				*i* S	**Sn**	**18 56 29.5**	**+0.4**
NWLT	**Wulai**	**1.08**	**320**	*i* P	**Pb**	**18 56 15.9**	**-0.5**
NWLT				*i* S	**Sn**	**18 56 29.6**	**+0.2**
YHNB	**Yeheng**	**1.08**	**312**	*i* P	**Pn**	**18 56 15.6**	**+0.1**
YHNB				*eS*	**Sn**	**18 56 29.5**	**0.0**
TIPB	**Shuangxi**	**1.09**	**339**	*i* P	**Pn**	**18 56 15.8**	**+0.2**
TIPB				*i* S	**Sn**	**18 56 29.9**	**+0.2**
CHKH	**Chenggong**	**1.10**	**227**	*i* P	**Pn**	**18 56 16.1**	**-0.5**
CHKH				*i* S	**Sn**	**18 56 28.5**	**-1.2**
NSK	**Sanguang**	**1.10**	**311**	*i* P	**Pn**	**18 56 15.8**	**+0.1**
NSK				*i* S	**Sn**	**18 56 29.1**	**-0.8**
FULB	**Fuli**	**1.16**	**230**	*i* P	**Pn**	**18 56 16.2**	**-0.4**
FULB				*i* S	**Sn**	**18 56 31.4**	**0.0**
CHKT	**Chengkung**	**1.18**	**224**	*i* P	**Pn**	**18 56 16.4**	**-0.4**
CHKT				*i* S	**Sn**	**18 56 30.5**	**-1.4**
SXI1	**Grass Mountain**	**1.19**	**343**	*i* P	**Pn**	**18 56 16.8**	**-0.3**
SXI1				*eS*	**Sn**	**18 56 32.6**	**+0.4**
SSLB	**Suanglung**	**1.21**	**263**	*i* P	**Pn**	**18 56 16.9**	**-0.3**
SSLB				*eS*	**Sb**	**18 56 33.8**	**-0.2**
WCS	**Beigang Elemen**	**1.24**	**275**	*i* P	**Pn**	**18 56 18.1**	**+0.5**
WCS				*eS*	**Sb**	**18 56 34.4**	**-0.5**
NFF	**Wufeng Townshi**	**1.25**	**303**	*i* P	**Pn**	**18 56 18.4**	**+0.7**
NFF				*eS*	**Sb**	**18 56 34.5**	**-0.6**
WHP	**Taichung City**	**1.25**	**285**	*i* P	**Pn**	**18 56 18.9**	**-0.4**
WHP				*i* S	**Sb**	**18 56 36.1**	**+0.9**
SMLT	**Sun Moon Lake**	**1.25**	**267**	*i* P	**Pn**	**18 56 18.3**	**+0.5**
SMLT				*i* S	**Sn**	**18 56 34.0**	**+0.3**
EHD	**Haiduan**	**1.26**	**231**	*i* P	**Pn**	**18 56 17.7**	**-0.1**
EHD				*i* S	**Sn**	**18 56 33.7**	**0.0**
ECS	**Chishang**	**1.28**	**229**	*i* P	**Pn**	**18 56 18.6**	**+0.4**
ECS				S	**Sn**	**18 56 35.7**	**+1.3**
KSHI	**Guanxi Townshi**	**1.29**	**310**	*i* P	**Pb**	**18 56 19.5**	**-0.5**
KSHI				*eS*	**Sb**	**18 56 35.5**	**-0.7**
TYC	**Yuchr**	**1.29**	**268**	*i* P	**Pn**	**18 56 19.1**	**+0.9**
TYC				*eS*	**Sn**	**18 56 35.1**	**+0.6**
EDH	**Donghe**	**1.31**	**222**	*i* P	**Pn**	**18 56 18.1**	**-0.5**
EDH				*i* S	**Sn**	**18 56 34.4**	**-0.7**
WHYT	**Xinyi Township**	**1.32**	**259**	*i* P	**Pn**	**18 56 19.8**	**+1.1**
WHYT				*eS*	**Sb**	**18 56 37.2**	**+0.2**
LIOB	**Emei**	**1.33**	**302**	*i* P	**Pb**	**18 56 20.5**	**-0.2**
LIOB				S	**Sb**	**18 56 37.7**	**+0.2**
NSTT	**Nanjuang**	**1.34**	**301**	*i* P	**Pb**	**18 56 20.6**	**-0.3**
NSTT				*i* S	**Sb**	**18 56 37.3**	**-0.2**
YM01	**YM01**	**1.35**	**332**	*i* P	**Pn**	**18 56 19.5**	**+0.3**
YM01				S	**Sb**	**18 56 38.1**	**+0.1**
ELDTW	**Lidau**	**1.37**	**237**	*i* P	**Pn**	**18 56 19.8**	**+0.3**
ELDTW				*i* S	**Sn**	**18 56 36.5**	**-0.2**
ZUZH	**Zhuzihu**	**1.37**	**332**	*i* P	**Pn**	**18 56 19.7**	**+0.3**
ZUZH				S	**Sn**	**18 56 37.1**	**+0.4**
YM08	**YM08**	**1.38**	**334**	*eP*	**Pn**	**18 56 19.7**	**+0.2**
YM08				*eS*	**Sb**	**18 56 38.8**	**+0.1**
TWS1	**Kuangyinshan**	**1.38**	**326**	*i* P	**Pb**	**18 56 20.6**	**-0.9**
TWS1				S	**Sb**	**18 56 38.7**	**-0.1**
IRIF	**Iriomote-Funau**	**1.39**	**74**	*eP*	**Pn**	**18 56 20.5**	**+0.9**
IRIF				*eS*	**Sn**	**18 56 38.0**	**+1.0**
ALS	**Alishan**	**1.41**	**252**	*i* P	**Pn**	**18 56 21.4**	**+1.2**
ALS				*i* S	**Sb**	**18 56 39.4**	**-0.5**
HATJ	**Hateruma jima**	**1.41**	**85**	*eS*	**Sb**	**18 56 39.3**	**-0.4**
WJS	**Zhushan**	**1.41**	**265**	*eP*	**Pb**	**18 56 21.9**	**-0.1**
WJS				S	**Sb**	**18 56 40.7**	**+1.0**
TWQ1	**Liyutan**	**1.42**	**287**	*i* P	**Pb**	**18 56 22.2**	**+0.1**
TWQ1				*eS*	**Sb**	**18 56 41.8**	**+1.9**
WNT	**Mingjian**	**1.45**	**267**	*i* P	**Pb**	**18 56 22.3**	**-0.3**
WNT				*i* S	**Sb**	**18 56 43.3**	**+2.6**
LDUT	**Ludao**	**1.47**	**210**	*i* P	**Pn**	**18 56 20.8**	**+0.1**
LDUT				*i* S	**Sn**	**18 56 38.1**	**-0.8**
TCU	**Taichung**	**1.47**	**278**	P	**Pb**	**18 56 22.8**	**-0.2**
TCU				*i* S	**Sb**	**18 56 42.3**	**+1.1**
LONT	**Longtian**	**1.47**	**225**	*i* P	**Pn**	**18 56 20.3**	**-0.5**
LONT				*i* S	**Sn**	**18 56 39.7**	**+0.7**
TWGBT	**Beinan**	**1.57**	**224**	*i* P	**Pn**	**18 56 21.6**	**-0.5**
TWGBT				*i* S	**Sn**	**18 56 41.4**	**0.0**
TWG	**Pinlang**	**1.57**	**225**	*i* P	**Pn**	**18 56 21.8**	**-0.3**
TWG				*i* S	**Sn**	**18 56 41.3**	**-0.2**
STYH	**Taoyuan**	**1.57**	**241**	*i* P	**Pn**	**18 56 23.2**	**+1.1**
STYH				*i* S	**Sb**	**18 56 43.5**	**-0.7**
WDLH	**Douliu**	**1.60**	**261**	*i* P	**Pn**	**18 56 24.8**	**-0.5**
WDLH				S	**Sb**	**18 56 45.1**	**0.0**
WCKO	**Fanlu**	**1.60**	**252**	*i* P	**Pb**	**18 56 25.0**	**-0.3**
WCKO				*i* S	**Sb**	**18 56 45.6**	**+0.4**
JKRS	**Kuro-shima**	**1.62**	**79**	*eP*	**Pn**	**18 56 24.1**	**+1.4**
JKRS				*eS*	**Sb**	**18 56 44.5**	**-1.1**
TPUB	**Ta-pu**	**1.63**	**247**	*i* P	**Pb**	**18 56 25.3**	**-0.5**
TPUB				*i* S	**Sb**	**18 56 46.7**	**+0.7**
WTP	**Ta-pu**	**1.67**	**246**	*i* P	**Pn**	**18 56 24.9**	**+1.4**
WTP				*i* S	**Sb**	**18 56 48.2**	**+1.1**
WTK	**Tuku**	**1.74**	**262**	*i* P	**Pb**	**18 56 27.2**	**-0.3**
WTK				*i* S	**Sb**	**18 56 49.9**	**+0.9**
JIJ	**Ishigaki jima**	**1.76**	**76**	*eS*	**Sn**	**18 56 47.6**	**+1.4**
CHN1	**Nanshi**	**1.77**	**245**	*i* P	**Pb**	**18 56 27.2**	**-0.8**
CHN1				*i* S	**Sb**	**18 56 50.0**	**+0.1**
SNST	**Tainan City**	**1.78**	**246**	*i* P	**Pb**	**18 56 27.7**	**-0.6**
SNST				S	**Sb**	**18 56 49.9**	**-0.3**
ECL	**Taimali**	**1.81**	**222**	*i* P	**Pn**	**18 56 25.5**	**+0.2**
ECL				S	**Sn**	**18 56 47.0**	**-0.3**
WSF	**Szhu**	**1.90**	**261**	*i* P	**Pb**	**18 56 29.1**	**-1.1**
WSF				*i* S	**Sb**	**18 56 53.9**	**+0.4**
WSL	**Shuilin Townsh**	**1.92**	**258**	*i* P	**Pn**	**18 56 28.7**	**+1.9**
WSL				S	**Sb**	**18 56 54.1**	**+0.1**
SSD	**Sandimen**	**1.92**	**232**	*i* P	**Pb**	**18 56 29.2**	**-1.4**
SSD				S	**Sn**	**18 56 52.1**	**+2.0**
TSMG	**Majia**	**1.94**	**231**	*i* P	**Pb**	**18 56 29.7**	**-1.3**
TSMG				S	**Sn**	**18 56 52.5**	**+2.1**
SCST	**Cishan**	**1.94**	**237**	*eP*	**Pb**	**18 56 30.9**	**-0.2**
SCST				S	**Sb**	**18 56 55.0**	**+0.1**
JISG	**Ishigakijimahi**	**1.97**	**71**	*eP*	**Pn**	**18 56 28.0**	**+0.4**
JISG				*eS*	**Sn**	**18 56 51.8**	**+0.5**
MASBT	**Mashibuluo**	**2.01**	**229**	*i* P	**Pn**	**18 56 29.1**	**+1.0**
MASBT				*i* S	**Sn**	**18 56 54.8**	**+2.6**
LAY	**Lan-yu**	**2.01**	**199**	*i* P	**Pn**	**18 56 28.5**	**+0.3**
LAY				S	**Sn**	**18 56 50.3**	**-2.1**
TAW	**Tawu**	**2.02**	**219**	*eP*	**Pn**	**18 56 29.5**	**+1.1**
TAW				*i* S	**Sn**	**18 56 53.0**	**+0.7**
EAST	**Anshuo**	**2.03**	**220**	*i* P	**Pn**	**18 56 29.0**	**+0.5**
EAST				*i* S	**Sn**	**18 56 50.6**	**-2.3**
LYUB	**Lan-yu**	**2.04**	**198**	*i* P	**Pn**	**18 56 27.4**	**-1.1**
LYUB				*eS*	**Sn**	**18 56 51.3**	**-1.7**
TAWH	**Dawu Township**	**2.04**	**219**	P	**Pn**	**18 56 29.9**	**+1.3**
TAWH				*eS*	**Sn**	**18 56 53.1**	**0.0**
TSCK	**Chigu Township

HATHI					Sg		19 19 17.5	+0.7
HATHI	**Halema'uma'u T**	**0.41**	**109**	IAML			19 19 21.7	
	comp=N,390nm,0.8s							
HATHI				IAML			19 19 24.0	
	comp=E,395nm,0.7s							
HTC	**Hot Caves**	**0.41**	**141**		Pg		19 19 11.0	-0.3
BYL	**Byron's Ledge**	**0.42**	**110**		Pg		19 19 11.0	-0.4
BYL				IAML			19 19 19.7	
	comp=N,242nm,3.1s							
BYL				IAML			19 19 23.1	
	comp=E,312nm,0.7s							
KKO	**Keanakako'i**	**0.42**	**113**		Pg		19 19 11.4	+0.1
HLP	**Hilina Pali**	**0.44**	**127**		Pg		19 19 11.6	-0.1
HLP					Sg		19 19 17.9	+0.5
HLP	**Hilina Pali**	**0.44**	**127**	IAML			19 19 19.1	
	comp=N,686nm,0.5s							
HLP				IAML			19 19 19.1	
	comp=E,1μm,0.5s							
HPAH	**Hawaii Prepara**	**0.47**	**358**		Pg		19 19 11.2	-1.1
PUH	**Pauahi**	**0.47**	**113**		Pg		19 19 11.6	-0.8
PUH				IAML			19 19 22.9	
	comp=N,303nm,0.7s							
KNHH	**Kane Nui o Ham**	**0.51**	**110**		Pg		19 19 12.4	-0.7
STCH	**Steam Cracks**	**0.55**	**108**		Pg		19 19 12.8	-1.1
STCH	**Steam Cracks**	**0.55**	**108**	IAML			19 19 22.9	
	comp=E,202nm,0.1s							
STCH				IAML			19 19 23.6	
	comp=N,171nm,0.4s							
JOKA	**Jonika Flow**	**0.65**	**101**		Pg		19 19 14.0	-1.7
JOKA	**Jonika Flow**	**0.65**	**101**	IAML			19 19 26.6	
	comp=E,137nm,1.1s							
JOKA				IAML			19 19 32.6	
	comp=N,233nm,1.0s							
MHA	**Mahukona**	**0.66**	**341**	Pg	Pg		19 19 14.2	-1.7

*IDC **23** 19:28:16.5±6.2, 16°.40S×177°.19W, h376km±60km, mb3.5/9, mbtmp4.1/9, Error ellipse: s-maj=24.6km s-min=18.5km az=139.0*
*NEIC **23** 19:28:17.4±1.4, 16°.5S±0°.1×177°.0W±0°.1, h387km±6km, mb4.1/51, Error ellipse: s-maj=17.3km s-min=14.1km az=171.0*
*NOU **23** 19:28:20.7, 16°.36S×177°.06W, h393km, MLv4.4/6, Fiji Islands Region*

ISC 23 19:28:18.5±0.4, 16°.47S±0°.08×176°.98W±0°.08, h400km, n128, σ0°.92/123, mb4.1/37, 4C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
FUTU	**Fugatoga**	**2.42**	**333**			**Pn**		**19 29 17.9**	**+0.6**
FUTU	**Fugatoga**	**2.42**	**333**	P		Pn		19 29 18.0	+0.7
LKBA	**Tubou, Lakemba**	**2.48**	**225**	P		Pn		19 29 19.3	+1.7
TAVE	**Taveuni**	**2.81**	**265**	P		**Pn**		**19 29 21.7**	**+1.5**
DGTI	**Dogotuki**	**3.15**	**273**	P		**Pn**		**19 29 23.8**	**+0.8**
MSVF	**Nonsavu**	**4.91**	**254**			**Pn**		**19 29 41.5**	**+1.8**
MSVF	**Nonsavu**	**4.91**	**254**	P		**Pn**		**19 29 41.6**	**+1.9**
YSA	**Yasawairara**	**5.22**	**267**	P		**Pn**		**19 29 43.5**	**+0.7**
AFI	**Afiamalu**	**5.63**	**64**			**Pn**		**19 29 45.7**	**-1.6**
PINNC	**Pines Island,**	**15.89**	**245**	P		**P**		**19 31 38.7**	**-1.9**
RAR	**Rarotonga**	**16.96**	**109**	P		**P**		**19 31 48.8**	**-3.2**
LBZ	**Lake Benmore**	**29.87**	**199**	P		**P**		**19 33 52.2**	**+1.3**
LBZ				IAmb		IAmb		19 34 10.5	
	comp=Z,22nm,1.5s								
MLZ	**Mavora Lakes**	**31.40**	**200**	P		**P**		**19 34 04.0**	**-0.3**
WR8	**Warramunga Arr**	**46.09**	**258**	P		**P**		**19 36 03.0**	**-1.9**
WB0	**Warramunga Arr**	**46.21**	**258**	P		**P**		**19 36 04.0**	**-1.8**
WRA	**Warramunga Arr**	**46.25**	**258**	P		**P**		**19 36 04.2**	**-1.9**
	comp=Z,0.6nm,0.5s,baz=95,slow=7.8,SNR=14								
WRA				PcP		**PcP**		**19 37 33.5**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=93,slow=3.1,SNR=2.7								
	comp=Z,0.6nm,0.5s								
AS31	**Alice Springs**	**46.50**	**253**	P		**P**		**19 36 07.3**	**-0.8**
ASAR	**Alice Springs**	**46.50**	**253**	P		**P**		**19 36 06.8**	**-1.3**
	comp=Z,1.8nm,0.4s,baz=88,slow=7.9,SNR=27								
ASAR				PcP		**PcP**		**19 37 34.4**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=90,slow=4.9,SNR=5.8								
	comp=Z,1.8nm,0.4s								
MTN	**Manton Dam**	**50.22**	**267**	P		**P**		**19 36 35.2**	**-0.9**
MTN				IAmb		IAmb		19 36 43.3	
	comp=Z,17nm,1.5s								
FORT	**Forrest**	**51.86**	**244**	P		**P**		**19 36 46.5**	**-1.4**
FORT				IAmb		IAmb		19 37 14.9	
	comp=Z,10nm,1.1s								
KNRA	**Kununurra**	**52.00**	**263**	P		**P**		**19 36 48.5**	**-0.6**
KNRA				IAmb		IAmb		19 37 03.3	
	comp=Z,11nm,1.4s								
FITZ	**Fitzroy Crossi**	**54.62**	**259**	P		**P**		**19 37 06.7**	**-1.2**
SOEI	**Soe**	**57.45**	**269**	P		**P**		**19 37 28.3**	**+0.4**
MMRI	**Maumere**	**59.66**	**270**	P		**P**		**19 37 41.8**	**-1.0**
JHJ2	**Mitsune**	**64.29**	**320**	P		**P**		**19 38 12.3**	**-0.6**
GIRL	**Giralia**	**64.62**	**252**	P		**P**		**19 38 14.7**	**-0.6**
JMZ	**Minamidaito 2**	**65.62**	**309**	P		**P**		**19 38 21.5**	**0.0**
CASY	**Casey**	**68.00**	**205**	P		**P**		**19 38 35.5**	**-0.2**
CASY				IAmb		IAmb		19 39 18.9	
	comp=Z,6.0nm,1.4s								
UGM	**Wanagama**	**71.07**	**267**	P		**P**		**19 38 55.2**	**0.0**
QSPA	**South Pole Qui**	**73.58**	**180**			**P**		**19 39 10.1**	**+1.0**
QSPA	**South Pole Qui**	**73.58**	**180**	P		**P**		**19 39 09.9**	**+0.9**
	comp=Z,5.5nm,0.7s,baz=321,slow=0.8,SNR=20								
	comp=Z,5.5nm,0.7s								
KMRM	**Mail Ridge**	**75.05**	**39**	P		**P**		**19 39 19.1**	**+1.4**
NVAR	**Mina Array Bea**	**77.45**	**43**	P		**P**		**19 39 32.3**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=222,slow=9.3,SNR=5.6								
	comp=Z,1.1nm,0.7s								
N15K	**Kwethluk River**	**77.59**	**9**	P		**P**		**19 39 31.2**	**-0.1**
P19K	**Oil Pt**	**78.28**	**12**	P		**P**		**19 39 34.4**	**-0.7**
M16K	**Timber Creek**	**78.57**	**9**	P		**P**		**19 39 37.0**	**+0.4**
M16K				IAmb		IAmb		19 40 12.9	
	comp=Z,6.5nm,1.4s								
M17K	**Holitna River**	**79.16**	**9**	P		**P**		**19 39 40.5**	**+0.8**
M17K				IAmb		IAmb		19 40 01.0	
	comp=Z,8.8nm,1.4s								
K15K	**Wolf Creek Mou**	**79.45**	**7**	P		**P**		**19 39 42.9**	**+1.7**
K15K				IAmb		IAmb		19 39 57.2	
	comp=Z,3.5nm,1.1s								
L18K	**Granite Mounta**	**80.06**	**9**	P		**P**		**19 39 45.2**	**+0.7**
K17K	**Iditarod**	**80.28**	**9**	P		**P**		**19 39 46.7**	**+1.1**
K17K				IAmb		IAmb		19 39 53.1	
	comp=Z,3.8nm,1.1s								
VRDI	**Verde Repeater**	**81.93**	**16**	P		**P**		**19 39 55.1**	**+0.5**
VRDI				IAmb		IAmb		19 40 12.9	
	comp=Z,5.3nm,1.2s								
SMAI	**San Martin Ant**	**82.01**	**159**	P		**P**		**19 39 55.7**	**+1.0**
PLID	**Pearl Lake**	**82.48**	**39**	P		**P**		**19 39 57.6**	**-0.2**
HLID	**Hailey**	**82.66**	**41**			**P**		**19 39 58.8**	**+0.2**
HLID				IAmb		IAmb		19 40 00.9	
	comp=Z,2.3nm,0.8s								
TMUT	**Trail Mountain**	**82.66**	**46**	P		**P**		**19 39 58.9**	**0.0**
HVU	**Hansel Valley**	**82.81**	**43**	P		**P**		**19 39 59.8**	**+0.4**
HVU				IAmb		IAmb		19 40 01.3	
	comp=Z,2.7nm,0.7s								
SRU	**San Rafael Swe**	**83.05**	**46**	P		**P**		**19 40 01.1**	**+0.4**
SRU				IAmb		IAmb		19 40 02.6	
	comp=Z,3.2nm,0.7s								
G18K	**Tagagawik**	**83.27**	**7**	P		**P**		**19 40 00.9**	**-0.1**
BELA	**Belgrano 2**	**83.41**	**173**			**P**		**19 40 01.8**	**0.0**
BELA				IAmb		IAmb		19 40 02.5	
	comp=Z,2.8nm,0.8s								
BSUT	**Blindstream Ca**	**83.55**	**45**			**P**		**19 40 04.0**	**+0.6**
BSUT				IAmb		IAmb		19 40 05.3	
	comp=Z,3.2nm,0.8s								
VHRN	**Van Horn**	**83.59**	**55**			**P**		**19 40 04.9**	**+1.3**
VHRN				IAmb		IAmb		19 40 06.4	
	comp=Z,3.6nm,0.8s								
O30N	**Mendenhall**	**83.66**	**19**	P		**P**		**19 40 03.7**	**+0.6**
WRH	**Wood River Hil**	**83.68**	**12**			**P**		**19 40 02.6**	**-0.5**
WRH				IAmb		IAmb		19 40 03.8	
	comp=Z,3.8nm,1.0s								
H21K	**Melozitna River**	**83.89**	**10**	P		**P**		**19 40 04.9**	**+0.7**
CCB	**Clear Creek Bu**	**83.90**	**12**			**P**		**19 40 03.5**	**-0.6**
CCB				IAmb		IAmb		19 40 04.5	
	comp=Z,3.4nm,0.7s								
IMAR	**Indian Mountai**	**84.05**	**9**	P		**P**		**19 40 04.8**	**-0.1**
TX31	**Lajitas Ar. Si**	**84.08**	**57**			**P**		**19 40 07.3**	**+1.3**
TX31				IAmb		IAmb		19 40 09.2	
	comp=Z,4.2nm,1.0s								
TXAR	**Lajitas Array**	**84.08**	**57**	P		**P**		**19 40 07.6**	**+1.6**
TXAR	**Lajitas Array**	**84.08**	**57**	P		**P**		**19 40 08.0**	**+1.9**
	comp=Z,2.2nm,0.8s,baz=218,slow=6.5,SNR=17								
	comp=Z,2.2nm,0.8s								
ILAR	**Eielson Array**	**84.19**	**12**	P		**P**		**19 40 05.4**	**-0.2**
ILAR	**Eielson Array**	**84.19**	**12**	P		**P**		**19 40 05.0**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=222,slow=6.4,SNR=13								
	comp=Z,1.2nm,0.8s								
J25K	**Salcha River,**	**84.38**	**13**			**P**		**19 40 06.3**	**-0.4**
J25K				IAmb		IAmb		19 40 07.2	
	comp=Z,2.7nm,0.7s								
J26L	**Joseph Creek**	**84.69**	**14**	P		**P**		**19 40 08.5**	**+0.3**
J26L				IAmb		IAmb		19 40 09.3	
	comp=Z,2.6nm,0.9s								
M30M	**Minto, Yukon**	**84.86**	**17**			**P**		**19 40 09.1**	**0.0**
M30M				IAmb		IAmb		19 40 10.7	
	comp=Z,2.9nm,0.9s								
L29M	**L29M**	**84.91**	**17**	P		**P**		**19 40 09.3**	**+0.1**
L29M				IAmb		IAmb		19 40 10.6	
	comp=Z,2.9nm,0.8s								
F21K	**Alatna River**	**85.24**	**9**	P		**P**		**19 40 10.9**	**+0.1**
YHL	**Hebgen Lake**	**85.31**	**41**			**P**		**19 40 12.7**	**+0.7**
YHL				IAmb		IAmb		19 40 14.7	
	comp=Z,3.3nm,0.8s								
PDAR	**Pinedale Array**	**85.38**	**43**	P		**P**		**19 40 12.1**	**-0.2**
PDAR	**Pinedale Array**	**85.38**	**43**	P		**P**		**19 40 12.8**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=180,slow=4.4,SNR=3.9								
	comp=Z,0.3nm,0.5s								
F24K	**Squaw Lake**	**86.43**	**11**	P		**P**		**19 40 17.2**	**+0.6**
F24K				IAmb		IAmb		19 40 30.0	
	comp=Z,4.6nm,1.4s								
BMAR	**Burnt Mountain**	**86.98**	**12**	P		**P**		**19 40 19.4**	**+0.3**
HHC	**Hu-ho-hao-te**	**87.25**	**314**	*eP*		**P**		**19 40 24.0**	**+2.8**
HHC				pmax		pmax			
	comp=Z,7.0nm,1.1s								
HHC				pmax		pmax			
	comp=Z,44nm,4.0s								
PZH	**PanZhiHua**	**89.69**	**298**	P		**P**		**19 40 33.4**	**+0.5**
TROLL	**Troll, Antarti**	**91.74**	**180**	⇑P		**P**		**19 40 41.7**	**+0.1**
	comp=Z,110nm,0.5s								
SNAA	**Sanae**	**91.99**	**178**	⇑P		**P**		**19 40 41.9**	**-0.8**
	comp=Z,29nm,0.8s								
SNAA	**Sanae**	**91.99**	**178**	P		**P**		**19 40 42.5**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=173,slow=4.9,SNR=4.5								
	comp=Z,1.2nm,0.8s								
VNA3	**Neumayer Olymp**	**92.07**	**176**	⇑P		**P**		**19 40 43.3**	**+0.3**
	comp=Z,4.0nm,0.8s								
YKA	**Yellowknife Ar**	**92.47**	**24**	P		**P**		**19 40 44.7**	**0.0**
	comp=Z,0.6nm,0.7s,baz=255,slow=4.9,SNR=5.0								
	comp=Z,0.6nm,0.7s								
VNA1	**Neumayer--Stat**	**92.75**	**176**	⇑P		**P**		**19 40 47.2**	**+1.2**
	comp=Z,3.1nm,0.8s								
MKAR	**Makanchi Array**	**109.11**	**314**	PKiKP		**PKiKP**		**19 46 00.6**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=131,slow=2.5,SNR=3.9								
BVAR	**Borovoye Array**	**116.59**	**321**	PKP		**PKPdf**		**19 46 14.6**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=90,slow=3.0,SNR=7.2								
SPITS	**Spitsbergen Ar**	**117.92**	**357**	PKP		**PKPdf**		**19 46 16.4**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=82,slow=3.1,SNR=1.7								
ARCES	**ARCESS Array B**	**125.14**	**351**	PKP		**PKPdf**		**19 46 30.9**	**-0.7**
	comp=Z,2.8nm,0.7s,baz=14,slow=1.3,SNR=25								
FINES	**FINESS Array B**	**132.17**	**345**	PKP		**PKPdf**		**19 46 44.7**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=57,slow=5.1,SNR=7.0								
NB2	**NORSAR Subarra**	**135.10**	**354**	PKP		**PKiKP**		**19 46 52.0**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**135.10**	**354**	PKP		**PKPdf**		**19 46 51.1**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=14,slow=4.1,SNR=4.6								
HFS	**Hagfors**	**135.71**	**352**	PKP		**PKPdf**		**19 46 52.1**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=20,slow=4.6,SNR=2.3								
STHS	**Stebnicka Huta**	**143.96**	**340**	*e*PKP		PKPbc		19 47 05.8	0.0
KOLS	**Kolonicke sedl**	**144.01**	**338**	*e*PKP		**PKPdf**		**19 47 06.7**	**-0.4**
CLL	**Collm**	**144.34**	**349**	*i* PKPbc		PKPbc		19 47 06.8	-0.1
OSTC	**Ostas**	**144.38**	**346**	*e*PKP		**PKPdf**		**19 47 07.5**	**-0.2**
CHVC	**Chvalec**	**144.39**	**346**	*e*PKP		**PKPab**		**19 47 07.5**	**+0.2**
DPC	**Dobruska-Polom**	**144.54**	**345**	*e*PKP		**PKPdf**		**19 47 08.3**	**+0.2**
STEB	**Steborice**	**144.55**	**344**	*e*PKP		**PKPdf**		**19 47 08.1**	**+0.1**
BRG	**Berggiesshubel**	**144.58**	**348**	*e*PKP		PKPbc		19 47 07.7	0.0
BRG						Amp		19 47 08.9	
	comp=Z,2.3nm,0.8s								
KRLC	**Kraliky**	**144.68**	**345**	*e*PKP		**PKPab**		**19 47 08.4**	**-0.1**
BR131	**Keskin Array S**	**144.70**	**317**			PKPbc		19 47 07.1	-1.6
BRTR	**Keskin Array B**	**144.70**	**317**			PKPbc		19 47 07.2	-1.5
BRTR	**Keskin Array B**	**144.70**	**317**	PKP		PKPbc		19 47 08.3	-0.4
	comp=Z,1.8nm,0.6s,baz=45,slow=1.8,SNR=9.5								
MORC	**Moravsky Berou**	**144.76**	**344**			PKPbc		19 47 07.5	-0.9
MORC	**Moravsky Berou**	**144.76**	**344**	*e*PKP		**PKPdf**		**19 47 08.5**	**+0.1**
LANS	**Liptovska Anna**	**144.76**	**341**	*e*PKP		**PKPab**		**19 47 09.9**	**+1.1**
MAUC	**Maruska**	**145.05**	**343**	*e*PKP		**PKPab**		**19 47 09.9**	**0.0**
PRU	**Pruhonice**	**145.29**	**347**	*e*PKP		**PKPbc**		**19 47 10.3**	**+0.3**
VRAC	**Vranov**	**145.44**	**344**	*e*PKP		**PKPbc**		**19 47 10.3**	**-0.2**
VYHS	**Vyhne**	**145.53**	**341**	*e*PKP		**PKPab**		**19 47 11.7**	**0.0**
JAVC	**Velka Javorina**	**145.55**	**343**	*e*PKP		**PKPab**		**19 47 11.9**	**+0.1**
ASF	**Jabal al Asfar**	**145.57**	**303**	PKPbc		**PKPab**		**19 47 12.2**	**-0.4**
	comp=Z,3.5nm,0.9s,baz=108,slow=3.2,SNR=4.5								
KRUC	**Mosivsky**	**145.71**	**344**	*e*PKP		**PKPbc**		**19 47 11.3**	**0.0**
ZVC	**Zvikov**	**145.89**	**347**	*e*PKP		**PKPbc**		**19 47 12.0**	**+0.2**
KHC	**Kasperske Hory**	**146.31**	**347**	*e*PKP		**PKPbc**		**19 47 13.7**	**+0.7**
CKRC	**Cesky Krumlov**	**146.44**	**346**	*e*PKP		**PKPbc**		**19 47 13.7**	**+0.3**
MMAI	**Mount Meron Ar**	**146.47**	**305**	PKPbc		**PKPbc**		**19 47 14.4**	**+0.4**
	comp=Z,3.9nm,0.5s,baz=71,slow=5.4,SNR=12								
GERES	**GERESS Array B**	**146.55**	**347**	PKPbc		**PKPbc**		**19 47 13.4**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=30,slow=3.7,SNR=16								
CONA	**Conrad Observa**	**146.90**	**344**	*i* PKP		**PKPbc**		**19 47 15.1**	**+0.4**
	comp=Z,3.1nm,0.6s								
RONA	**Rosalia, Austr**	**146.99**	**343**	*e*PKP		**PKPbc**		**19 47 15.2**	**+0.3**
	comp=Z,1.7nm,0.5s								
MOA	**Molln**	**147.37**	**346**	*e*PKP		**PKPbc**		**19 47 15.9**	**0.0**
	comp=Z,0.5nm,0.3s								
ARSA	**Arzberg**	**147.61**	**344**	*i* PKP		**PKPbc**		**19 47 16.6**	**0.0**
	comp=Z,1.3nm,0.5s								
LESA	**Schwarzleotal**	**148.12**	**348**	*e*PKP		**PKPbc**		**19 47 17.8**	**-0.2**
	comp=Z,0.6nm,0.3s								
SOKA	**Soboth**	**148.27**	**344**	*e*PKP		**PKPbc**		**19 47 17.8**	**-0.6**
	comp=Z,1.6nm,0.6s								
KBA	**Konbreinsper**	**148.30**	**347**	*i* PKP		**PKPbc**		**19 47 18.0**	**-0.6**
	comp=Z,1.1nm,0.3s								
WTTA	**Wattenberg**	**148.48**	**349**	*i* PKP		**PKPbc**		**19 47 19.1**	**+0.1**
	comp=Z,1.4nm,0.3s								
MOTA	**Moosalm**	**148.50**	**349**	*e*PKP		**PKPbc**		**19 47 17.9**	**-1.2**
	comp=Z,1.3nm,0.5s								
OBKA	**Obir**	**148.55**	**345**	*i* PKP		**PKPbc**		**19 47 18.2**	**-0.9**
	comp=Z,0.8nm,0.4s								
MYKA	**Terra Mystica**	**148.66**	**346**	*i* PKP		**PKPbc**		**19 47 18.6**	**-0.8**
	comp=Z,0.8nm,0.3s								
DAVA	**Damuels**	**148.75**	**351**	*e*PKiKP		**PKPbc**		**19 47 19.9**	**+0.2**
	comp=Z,4.4nm,0.9s								
ABTA	**Abfaltersbach**	**148.80**	**347**	*i* PKP		**PKPbc**		**19 47 18.4**	**-1.3**
	comp=Z,1.2nm,0.3s								
FETA	**Feichten**	**148.87**	**350**	*e*PKP		**PKPdf**		**19 47 16.5**	**+1.0**
	comp=Z,6.3nm,1.2s								

*MEX **23** 19:37:44.5±0.5, 14°.51N×92°.06W, h78km±10km, MD4.0*
*GCG **23** 19:37:44.4±0.6, 14°.43N×92°.05W, h57km±52km, MD3.3, ML3.5, MW2.9*

ISC 23 19:37:39.9±1.7, 14°.28N±0°.09×92°.00W±0°.06, h84km±10km, n17, σ1°.82/32, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
RTAL	**Retalhuleu**	**0.38**	**50**	*eP*		**Pn**		**19 37 56.0**	**+2.8**
RTAL				*eS*		**Sn**		**19 38 03.8**	**+0.8**
SMCA	**Catarina**	**0.58**	**353**	*i* P		**Pn**		**19 37 55.2**	**+0.3**
SMCA				*i* S		**Sn**		**19 38 03.6**	**-2.2**
SMCA				IAML				19 38 05.1	
	comp=N,876nm,0.2s								
STG2	**El Palmar, Qui**	**0.62**	**75**	*i* P		**Pn**		**19 37 56.7**	**+1.3**
STG2				*i* S		**Sn**		**19 38 06.7**	**-0.1**
STG0	**El Palmar, Qui**	**0.65**	**77**	*i* P		**Pn**		**19 37 57.0**	**+1.3**
STG0				*i* S		**Sn**		**19 38 07.5**	**+0.1**
STG0				IAML				19 38 10.1	
	comp=N,7μm,0.5s								
THIG		**0.68**	**338**	*eP*		**Pn**		**19 37 56.3**	**+0.6**
THIG				*eS*		**Sn**		**19 38 05.8**	**-1.6**
PATR	**El Naranjo**	**0.86**	**345**	*eP*		**Pn**		**19 37 57.8**	**-0.2**
PATR				*eS*		**Sn**		**19 38 08.5**	**-2.8**
PAVE	**Pavencul**	**0.93**	**349**	*eP*		**Pn**		**19 37 58.9**	**+0.2**
PAVE				*eS*		**Sn**		**19 38 10.2**	**-2.3**
HUEH	**Huehuetenango**	**1.14**	**25**	*eP*		**Pn**		**19 38 00.8**	**-0.4**
HUEH				*eS*		**Sn**		**19 38 16.7**	**-0.3**
FG8	**Yepocapa, Chim**	**1.39**	**91**	*i* P		**Pn**		**19 38 04.2**	**0.0**
FG8				*i* S		**Sn**		**19 38 18.4**	**-4.0**
FG16	**Alotenango, Sa**	**1.44**	**90**	*i* P		**Pn**		**19 38 05.3**	**+0.4**
PCIG		**1.84**	**320**	*eP*		**Pn**		**19 38 10.6**	**+0.6**
PCIG				*eS*		**Sn**		**19 38 30.9**	**-1.8**
CCIG	**Comitan**	**2.00**	**356**	*eP*		**Pn**		**19 38 14.9**	**+2.8**
CCIG				*eS*		**Sn**		**19 38 36.6**	**+0.1**
TGIG		**2.71**	**337**	*eP*		**Pn**		**19 38 24.5**	**+3.0**
TGIG				*eS*		**Sn**		**19 38 54.2**	**+0.7**
NILT	**Santiago Nilte**	**3.40**	**312**	*eP*		**Pn**		**19 38 31.7**	**+0.9**
NILT				*eS*		**Sn**		**19 39 07.6**	**-2.4**
UXUV	**UXUV**	**3.66**	**326**	*eP*		**Pn**		**19 38 35.1**	**+0.7**
UXUV				*eS*		**Sn**		**19 39 14.1**	**-2.3**
CMIG	**Matias Romero**	**3.94**	**316**	*eP*		**Pn**		**19 38 40.5**	**+2.3**
CMIG				*eS*		**Sn**		**19 39 21.9**	**-1.4**
PEIG	**Puerto Escondi**	**5.26**	**290**	*eP*		**Pn**		**19 38 57.6**	**+1.5**

*IDC **23** 19:41:52.7±2.6, 28°.27N×51°.42E, h0km, mb3.7/4, mbtmp3.7/5, ML2.6/2, Error ellipse: s-maj=68.8km s-min=30.0km az=37.0*
*TEH **23** 19:41:56.0, 28°.53N×51°.69E, h18km±21km*
*OMAN **23** 19:41:59.9±0.1, 28°.28N×51°.94E, h10km, mb4.3/4, ml3.4/5, Error ellipse: s-maj=1.8km s-min=0.8km az=351.0*
*DSN **23** 19:42:01.2±0.9, 28°.58N×52°.34E, h15km, ML3.0/6, Error ellipse: s-maj=24.8km s-min=8.7km az=53.0*
*NAO **23** 19:42:22.4, 30°.78N×49°.24E, h33km, mb3.3*

ISC 23 19:41:56.6±0.8, 28°.55N±0°.04×51°.83E±0°.04, h15km, n50, σ1°.38/65, mb3.6/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
DSBU	**Dashti - Bushe**	**0.54**	**250**			Pg	Pg	19 42 04.6	-2.7
QIR1	**Qir**	**1.07**	**93**			Pg	**Pn**	**19 42 19.1**	**+1.9**
KAZ2	**Kazeron-Fars-I**	**1.07**	**352**			Pg	Pn	**19 42 16.9**	**-0.4**
SHI	**Shiraz**	**1.24**	**28**			Pg	**Pg**	**19 42 20.8**	**+0.1**
JHRM	**Jahrom**	**1.54**	**91**			Pg	**Pg**	**19 42 26.8**	**+0.6**
LMD1	**Lamerd**	**1.68**	**135**			Pg	**Pb**	**19 42 28.5**	**+1.2**
LAR1	**LAR**	**2.41**	**111**			Pn	**Pb**	**19 42 38.6**	**-1.1**
KLNJ	**Kolanjah**	**2.46**	**355**			Pn	**Pn**	**19 42 37.4**	**+0.8**
SHMA	**Al-Shehemyia**	**2.79**	**196**			P	**Pn**	**19 42 41.5**	**+0.8**
SHMA						S	**Sn**	**19 43 14.5**	**+0.4**
SAKB	**Bahrain**	**2.81**	**205**			P	**Pn**	**19 42 41.9**	**+0.9**
SAKB						S	**Sn**	**19 43 16.8**	**+2.2**
IRAM	**Ramesheh**	**3.29**	**8**			Pn	**Pn**	**19 42 48.7**	**+0.8**
IMEH	**Mehriz**	**3.72**	**40**			Pn	Pb	19 42 56.3	-6.0
TRNA	**Turayna**	**3.83**	**188**			P	**Pn**	**19 42 55.5**	**+0.4**
TRNA						S	**Sn**	**19 43 40.3**	**+0.3**
SMRA	**Abu-Samra**	**3.89**	**194**			P	**Pn**	**19 42 56.8**	**+0.9**
SMRA						S	**Sn**	**19 43 41.4**	**0.0**
NGRK	**Negar Kerman**	**4.42**	**75**			Pn	**Pn**	**19 43 05.8**	**+2.2**
IBAF	**Bafgh**	**4.44**	**46**			Pn	**Pn**	**19 43 06.2**	**+2.6**
KHBB	**Koh Gabri**	**4.44**	**65**			Pn	**Pn**	**19 43 05.7**	**+1.9**
KRBR	**Kerman**	**4.54**	**70**			Pn	**Pn**	**19 43 07.9**	**+2

313nm,0.3s,baz=352,slow=9.0,SNR=9.3
TGY S Sn 20 04 32.0 -0.2
460nm,0.4s,baz=347,slow=3.7,SNR=4.1
CMAR Chiang Mai Arr 21.27 277 P P 20 07 53.8 -0.9
0.6nm,0.5s,baz=90,slow=9.2,SNR=5.7
0.6nm,0.5s
SONM Songino Array 32.94 341 P P 20 09 42.9 +0.5
0.2nm,0.5s,baz=154,slow=8.0,SNR=1.6
0.2nm,0.5s
WRA Warramunga Arr 39.05 160 P P 20 10 32.3 -2.5
0.5nm,0.4s,baz=329,slow=10.0,SNR=9.7
0.5nm,0.4s
ASAR Alice Springs 42.41 163 P P 20 11 00.0 -2.6
0.6nm,0.5s,baz=338,slow=7.4,SNR=13
0.6nm,0.5s
MKAR Makanchi Array 43.63 321 P P 20 11 12.9 +0.7
0.3nm,0.8s,baz=120,slow=8.7,SNR=2.6
0.3nm,0.8s
PETK Petropavlovsk- 45.77 30 P P 20 11 30.8 +1.6
1.4nm,0.5s,baz=264,slow=2.9,SNR=11
1.4nm,0.5s
ZALV Zalesovo Beam 46.28 331 P P 20 11 31.3 -1.8
0.4nm,0.4s,baz=99,slow=7.4,SNR=1.7
0.4nm,0.4s
KURBB **Kurchatov Arra 47.67 324** P P 20 11 44.6 +0.6
0.5nm,0.3s,baz=121,slow=8.7,SNR=1.5
0.5nm,0.3s
BVAR Borovoye Array 53.26 324 P P 20 12 25.3 -0.9
0.3nm,0.5s,baz=96,slow=7.2,SNR=2.3
0.3nm,0.5s

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*IDC **23** 20:07:37.9±1.2,5˚.44N×124˚.60E,h0km,mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=28.4km s-min=15.7km az=108.0*
ISC 23 20:07:43.2±1.2,**5˚.4N**±0˚.1×**124˚.5E**±0˚.2,**h35**km,**n6**,σ1⇕**03**/6, **mb3.8**/5,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W) 1.98 31**			Pg	**Pn**	**20 08 14.3**	**0.0**
	27nm,0.3s,baz=245,slow=4.2,SNR=1.3						
DAV	Lg			Lg		20 08 36.6	
	81nm,0.3s,baz=225,slow=14,SNR=2.5						
WRA	**Warramunga Arr 26.94 159**			P	**P**	**20 13 21.9**	**+0.4**
	0.6nm,0.9s,baz=339,slow=10,SNR=1.5						
	0.6nm,0.9s						
ASAR	**Alice Springs 30.27 163**			P	**P**	**20 13 51.0**	**-0.2**
	0.3nm,0.8s,baz=344,slow=8.7,SNR=2.1						
	0.3nm,0.8s						
MKAR	**Makanchi Array 54.98 326**			P	**P**	**20 17 11.6**	**+0.5**
	0.4nm,0.4s,baz=121,slow=7.4,SNR=13						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra 59.19 328**			P	**P**	**20 17 39.1**	**-1.6**
	0.2nm,0.3s,baz=142,slow=4.9,SNR=1.6						
	0.2nm,0.3s						
BVAR	**Borovoye Array 64.77 327**			P	**P**	**20 18 17.8**	**-0.4**
	0.3nm,0.4s,baz=108,slow=9.3,SNR=2.8						
	0.3nm,0.4s						

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*ATH **23** 20:17:09.0,34˚.63N×23˚.55E,h16km±5km,ML3.5/6, Manual Solution by M.Charalampakis First location: 2019/07/23 20:18:27, This location: 2019/07/24 06:16:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 4 km*
*THE **23** 20:17:11.5,35˚.N±6˚.×2˚.4E±˚,h15km±4km,M2.8/7, MLh2.8/7*
*IDC **23** 20:17:14.0±1.8,34˚.78N×23˚.64E,h78km±12km,mb3.3/12, mbtmp3.5/15,Error ellipse: s-maj=25.9km s-min=17.5km az=170.0*
*AFAD **23** 20:17:19.1,34˚.74N×24˚.73E,h7km±5km,ML3.0*
*ISK **23** 20:17:33.6,35˚.29N×25˚.76E,h8km,ML2.7/16*
ISC 23 20:17:09.8±1.2,**34˚.63N**±0˚.07×**23˚.76E**±0˚.05,**h44**km±9km, **n86**,σ2⇕**51**/104,**mb3.4**/11,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos 0.34 53**			P	**Pn**	**20 17 19.6**	**+0.9**
GVD				S	**Sn**	**20 17 25.8**	**+0.6**
GVD	**Gavdhos 0.34 53**			P	**Pn**	**20 17 19.7**	**+0.9**
GVD				S	**Sn**	**20 17 25.4**	**+0.3**
KNDR	**Palaiochora Ch 0.60 354**			P	**Pn**	**20 17 21.6**	**-0.5**
KNDR				S	**Sn**	**20 17 29.4**	**-1.4**
KNDR	**Palaiochora Ch 0.60 354**			P	**Pn**	**20 17 21.6**	**-0.5**
KNDR				S	**Sn**	**20 17 29.2**	**-1.6**
CHNB	**Souda 0.89 16**			P	**Pn**	**20 17 27.7**	**+1.8**
CHNB				S	**Sn**	**20 17 40.4**	**+2.8**
CHAN	**Chania 0.92 15**			P	**Pn**	**20 17 27.8**	**+1.6**
CHAN				S	**Sn**	**20 17 40.8**	**+2.5**
CHAN	**Chania 0.92 15**			P	**Pn**	**20 17 27.5**	**+1.3**
CHAN				S	**Sn**	**20 17 40.5**	**+2.2**
TMBK	**Timbaki Herakl 0.94 62**			P	**Pn**	**20 17 29.8**	**+3.3**
TMBK	**Timbaki Herakl 0.94 62**			P	**Pn**	**20 17 30.1**	**+3.6**
PRNS	**Prines Rethymn 0.95 40**			P	**Pn**	**20 17 27.9**	**+1.2**
PRNS				S	**Sn**	**20 17 41.8**	**+2.6**
PRNS	**Prines Rethymn 0.95 40**			P	**Pn**	**20 17 28.1**	**+1.4**
PRNS				S	**Sn**	**20 17 41.8**	**+2.6**
IDI	**Anoyia 1.14 55**			P	**Pn**	**20 17 32.4**	**+3.1**
IDI	**Anoyia 1.14 55**			P	**Pn**	**20 17 32.7**	**+3.4**
	96nm,0.4s,baz=242,slow=17,SNR=108						
IDI				S	**Sn**	**20 17 50.7**	**+6.9**
	180nm,0.4s,baz=333,slow=16,SNR=12						
IDI	**Anoyia 1.14 55**			P	**Pn**	**20 17 32.4**	**+3.1**
IACM	**Heraklion 1.27 58**			P	**Pn**	**20 17 35.0**	**+4.0**
IACM	**Heraklion 1.27 58**			P	**Pn**	**20 17 35.3**	**+4.3**
ANKY	**Ankithyhira Is 1.29 343**			P	**Pn**	**20 17 32.5**	**+1.1**
ANKY				S	**Sn**	**20 17 49.8**	**+2.4**
ANKY	**Antikythira Is 1.29 343**			P	**Pn**	**20 17 32.6**	**+1.3**
ANKY				S	**Sn**	**20 17 49.7**	**+2.4**
ZKR	**Zakros 2.08 76**			Pg	Pn	20 17 47.5	+5.3
ZKR	**Zakros 2.08 76**			P	**Pn**	**20 17 46.9**	**+4.8**
MHLO	**Agia Marina, M 2.12 14**			P	**Pn**	**20 17 43.7**	**+1.0**
VLI	**Veliai 2.19 342**			P	**Pn**	**20 17 46.6**	**+2.9**
SAP3	**Santorini-Thir 2.22 35**			P	**Pn**	**20 17 45.9**	**+1.8**
THERA	**Ancient Thera, 2.23 38**			P	**Pn**	**20 17 45.7**	**+1.4**
KARP	**Karpathos 2.94 71**			Pn	**Pn**	**20 17 55.7**	**+1.7**
KARP	**Karpathos 2.94 71**			P	**Pn**	**20 17 57.3**	**+3.3**
KARP	**Karpathos 2.94 71**			P	**Pn**	**20 17 57.2**	**+3.2**
ITM	**Ithomi 2.95 330**			P	**Pn**	**20 17 56.5**	**+2.4**
MET6	**Megalochori,Me 2.97 354**			P	**Pn**	**20 17 55.2**	**+0.8**
MET4	**Agioi Theodoro 3.00 355**			P	**Pn**	**20 17 56.0**	**+1.2**
MET5	**Makryloggos,Me 3.00 354**			P	**Pn**	**20 17 56.1**	**+1.3**
ATHU	**Athens Univers 3.33 0**			P	**Pn**	**20 17 59.6**	**+0.3**
AMT	**Artemida-Makis 3.34 331**			P	**Pn**	**20 18 01.1**	**+1.6**
LTK	**Loutraki 3.44 350**			P	**Pn**	**20 18 01.8**	**+0.8**
MAGU	**Magoula 3.45 357**			P	**Pn**	**20 18 01.4**	**+0.5**
GUR	**Goura 3.49 341**			P	**Pn**	**20 18 03.4**	**+1.7**
VIL2	**Platees 3.59 354**			P	**Pn**	**20 18 02.3**	**-0.8**
KLV	**Kalavryta, Ach 3.64 340**			P	**Pn**	**20 18 05.8**	**+2.0**
DAT	**Datca 3.75 55**			Pn	**Pn**	**20 18 07.5**	**+2.3**
ARG	**Arkhangelos 3.90 65**			Pn	**Pn**	**20 18 08.8**	**+1.6**
ARG	**Arkhangelos 3.90 65**			P	**Pn**	**20 18 10.0**	**+2.8**
KALE	**Kalithea 3.97 341**			P	**Pn**	**20 18 09.1**	**+0.8**
SERG	**Sergoula 4.01 341**			P	**Pn**	**20 18 09.4**	**+0.6**
LKR	**Lokris 4.06 352**			P	**Pn**	**20 18 09.1**	**-0.2**
EFP	**Efpalio 4.07 339**			P	**Pn**	**20 18 10.7**	**+1.2**
AXAR	**Agios Charalam 4.22 348**			P	**Pn**	**20 18 12.6**	**+1.0**
TURN	**Turunc 4.23 58**			Pn	**Pn**	**20 18 13.8**	**+2.1**
DALY	**Dalyan (Mula) 4.54 60**			Pn	**Pn**	**20 18 17.9**	**+2.0**
SABU	**Mula-Dalaman 4.77 61**			P	**Pn**	**20 18 21.9**	**+2.7**
SABU				S	**Sn**	**20 19 08.6**	**-4.6**
FETY	**Fethiye 4.78 64**			Pn	**Pn**	**20 18 20.9**	**+1.7**
FETI	**Fethiye-Mugla 4.81 63**			Pn	**Pn**	**20 18 21.4**	**+1.8**
IZZE	**Mula-Seydike 4.81 66**			P	**Pn**	**20 18 21.6**	**+2.0**
IZZE				S	**Sn**	**20 19 10.1**	**-4.0**
IZZE				*i* IAML		20 19 20.0	
	comp=N,39nm,0.5s						
IZZE				*i* IAML		20 19 20.0	
	comp=E,30nm,0.7s						
ESEN	**Aydn-Nazilli 4.87 48**			P	**Pn**	**20 18 23.8**	**+3.3**
DNZT	**Denizli-Tavas- 5.02 57**			P	**Pn**	**20 18 24.3**	**+1.6**
DNZT				S	**Sn**	**20 19 14.3**	**-5.1**
AKAS	**Kas 5.03 70**			Pn	**Pn**	**20 18 24.3**	**+1.4**
AKAS	**Kas 5.03 70**			P	**Pn**	**20 18 25.0**	**+2.2**
AKAS				S	**Sn**	**20 19 18.0**	**-1.8**
AKAS				*i* IAML		20 19 24.0	
	comp=E,21nm,0.5s						
AKAS				*i* IAML		20 19 47.0	
	comp=N,28nm,0.7s						
TAVA	**DENIZLI_Tavas 5.04 54**			P	**Pn**	**20 18 26.0**	**+3.1**
TAVA				S	Sn	20 19 12.0	-8.0
CAME	**Cameli-Denizli 5.06 61**			Pn	**Pn**	**20 18 24.9**	**+1.6**
CAEL	**Denizli, Camel 5.15 60**			P	**Pn**	**20 18 28.5**	**+3.9**
CAEL				S	**Sn**	**20 19 16.8**	**-6.0**
CAEL				*i* IAML		20 20 02.0	
	comp=N,35nm,1.5s						
CAEL				*i* IAML		20 20 07.0	
	comp=E,39nm,1.5s						
DNIZ	**Denizli-Tavas- 5.21 54**			P	**Pn**	**20 18 26.6**	**+1.3**
DNIZ				S	Sn	20 19 11.9	-12
KNIK	**Mula-Seydike 5.22 63**			P	**Pn**	**20 18 27.4**	**+2.0**
KNIK				S	Sn	20 19 17.3	-7.1
APMY	**Acipayam-Deniz 5.31 56**			Pn	**Pn**	**20 18 28.8**	**+2.2**
GOLH	**Golhisar 5.38 59**			P	**Pn**	**20 18 29.3**	**+1.8**
GOLH				S	Sn	20 19 18.8	-9.5
GOLH				*i* IAML		20 20 14.0	
	comp=N,19nm,1.9s						
GOLH				*i* IAML		20 20 46.0	
	comp=E,14nm,2.5s						
ELL	**Elmali 5.43 65**			Pn	**Pn**	**20 18 29.7**	**+1.4**
AKUM	**Antalya-Kumluc 5.63 71**			P	Pn	20 18 26.0	-5.0
AKUM				S	**Sn**	**20 19 28.1**	**-6.3**
KORT	**Korkueli 5.85 64**			Pn	**Pn**	**20 18 35.4**	**+1.3**
HDMB	**Hadim 7.46 69**			Pn	**Pn**	**20 18 56.9**	**+0.6**
TEKE	**Tekeli-Mersin 7.79 76**			Pn	**Pn**	**20 19 01.5**	**+1.0**
BERE	**Bereket-Mersin 7.91 75**			Pn	**Pn**	**20 19 03.1**	**+0.8**
BRTR	**Keskin Array B 9.38 54**			P	**Pn**	**20 19 25.0**	**+2.6**
	0.3nm,0.3s,baz=243,slow=14,SNR=1.6						
MMAI	**Mount Meron Ar 9.82 96**			P	**Pn**	**20 19 28.9**	**+0.4**
	0.4nm,0.2s,baz=284,slow=11,SNR=6.0						
MMAI				S	**Sn**	**20 21 11.1**	**-6.3**
	0.8nm,0.4s,baz=240,slow=24,SNR=5.7						
EIL	**Elat 10.70 114**			P	**Pn**	**20 19 40.8**	**+0.4**
	1.6nm,0.5s,baz=207,slow=2.6,SNR=8.4						
EIL				S	**Sn**	**20 21 33.1**	**-5.7**
	3.8nm,0.9s,baz=288,slow=13,SNR=2.2						
GERES	**GERESS Array B 16.04 335**			P	**P**	**20 20 54.4**	**-0.7**
	0.5nm,0.6s,baz=147,slow=12,SNR=6.9						
AKASG	**Malin Array Be 16.55 12**			P	**Pn**	**20 20 59.8**	**+1.2**
	0.2nm,0.3s,baz=212,slow=10,SNR=3.0						
ESDC	**Sonseca Array 22.62 291**			P	**P**	**20 22 08.4**	**+1.6**
	0.5nm,0.8s,baz=90,slow=9.0,SNR=2.4						
	0.5nm,0.8s						
HFS	**Hagfors 26.35 349**			P	**P**	**20 22 40.7**	**-0.7**
	1.4nm,0.5s,baz=155,slow=11,SNR=25						
	1.4nm,0.5s						
FINES	**FINESS Array B 26.87 2**			P	**P**	**20 22 44.9**	**-1.2**
	0.2nm,0.3s,baz=130,slow=18,SNR=1.3						
	0.2nm,0.3s						
NOA	**NORSAR Array B 27.63 347**			P	**P**	**20 22 51.9**	**-1.2**
	0.1nm,0.3s,baz=157,slow=9.1,SNR=1.3						
	0.1nm,0.3s						
EKA	**Eskdalemuir Ar 27.82 326**			P	**P**	**20 22 55.0**	**+0.3**
	0.3nm,0.4s,baz=122,slow=9.0,SNR=5.3						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea 29.27 228**			P	**P**	**20 23 09.0**	**+1.0**
	0.9nm,0.3s,baz=30,slow=8.4,SNR=2.7						
	0.9nm,0.3s						
ARCES	**ARCESS Array B 34.97 1**			P	**P**	**20 23 55.9**	**-1.5**
	0.7nm,0.8s,baz=172,slow=9.8,SNR=5.2						
	0.7nm,0.8s						
BVAR	**Borovoye Array 37.54 46**			P	**P**	**20 24 20.4**	**+0.9**
	0.2nm,0.5s,baz=262,slow=2.9,SNR=1.7						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra 42.35 51**			P	**P**	**20 24 60.0**	**+0.6**
	0.4nm,0.5s,baz=272,slow=8.8,SNR=3.6						
	0.4nm,0.5s						
SPITS	**Spitsbergen Ar 43.77 358**			P	**P**	**20 25 09.5**	**-1.0**
	1.6nm,0.6s,baz=129,slow=11,SNR=9.5						
	1.6nm,0.6s						
MKAR	**Makanchi Array 45.02 56**			P	**P**	**20 25 22.2**	**+1.2**
	0.5nm,0.3s,baz=266,slow=7.4,SNR=20						
	0.5nm,0.3s						
ZALV	**Zalesovo Beam 46.20 46**			P	**P**	**20 25 30.5**	**+0.4**
	0.4nm,0.3s,baz=278,slow=10.0,SNR=2.7						
	0.4nm,0.3s						

IDC 23 20:18:18.1±3.0,**6˚.77S×129˚.38E,h0km,mb3.5/1, mbtmp3.3/3,ML3.3/2,MS3.1/1,Error ellipse: s-maj=282.8km s-min=32.1km az=68.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr 13.95 160**			Pn	Pn	20 21 38.2	+0.9
	0.2nm,0.3s,baz=338,slow=14,SNR=10.0						
WRA				Sn	Sn	20 24 00.8	-12
	0.5nm,0.3s,baz=337,slow=22,SNR=8.5						
	0.4nm,0.9s						
ASAR	**Alice Springs 17.35 166**			P	Pn	20 22 21.2	-0.7
	0.1nm,0.3s,baz=349,slow=12,SNR=4.4						
	0.3nm,0.5s						
JNU	**Nakatsue 39.70 2**			LR	LR	20 41 04.4	
	comp=Z,29nm,21.9s,baz=150,slow=34						
MKAR	**Makanchi Array 67.70 327**			P	P	20 29 17.4	0.0
	0.2nm,0.4s,baz=120,slow=7.1,SNR=6.2						
	0.2nm,0.4s						

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*IDC **23** 20:23:12.9±1.2,33˚.92N×104˚.96E,h0km,mb3.6/5, mbtmp3.5/7,ML3.1/1, Error ellipse: s-maj=60.3km s-min=20.8km az=60.0*
ISC 23 20:23:18.2±1.1,**33˚.9N**±0˚.1×**104˚.9E**±0˚.2,**h35**km,**n7**, σ0⇕**72**/7,**mb3.7**/5,**Gansu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array 13.95 4**			Pn	**Pn**	**20 26 33.8**	**+0.4**
	0.1nm,0.3s,baz=185,slow=15,SNR=2.6						
	0.3nm,0.5s						
CMAR	**Chiang Mai Arr 16.28 201**			Pn	**Pn**	**20 27 04.8**	**+0.5**
	0.1nm,0.3s,baz=22,slow=9.5,SNR=2.3						
MKAR	**Makanchi Array 21.40 314**			P	**P**	**20 28 02.2**	**-0.6**
	0.4nm,0.6s,baz=111,slow=12,SNR=4.7						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra 25.47 319**			P	**P**	**20 28 43.6**	**+0.7**
	1.7nm,0.2s,baz=122,slow=10,SNR=4.9						
	1.7nm,0.2s						
WRA	**Warramunga Arr 60.47 148**			P	**P**	**20 33 23.9**	**-0.7**
	0.6nm,0.9s,baz=338,slow=6.2,SNR=5.2						
	0.6nm,0.9s						
HFS	**Hagfors 61.83 325**			P	**P**	**20 33 32.8**	**-0.5**
	0.5nm,0.7s,baz=72,slow=4.7,SNR=1.6						
	0.5nm,0.7s						
ASAR	**Alice Springs 63.57 150**			P	**P**	**20 33 45.6**	**+0.2**
	0.3nm,0.8s,baz=341,slow=8.3,SNR=2.5						
	0.3nm,0.8s						

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*AUST **23** 20:58:40.2±0.7,18˚S±8˚×12˚0E±˚,h10km,mb4.0/7, ML3.1/3,ML3.9/4, Error ellipse: s-maj=18.6km s-min=6.8km az=147.2*
ISC 23 20:58:37.8±1.4,**18˚.3S**±0˚.1×**120˚.37E**±0˚.07,**h10**km,**n21**, σ2⇕**71**/26,**Western Australia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior 1.80 80**			P	**Pg**	**20 59 13.1**	**+0.8**
AUBRM				S	**Sg**	**20 59 37.1**	**+1.4**
PSA00	**Pilbara Seismi 3.30 189**			P	**Pn**	**20 59 31.9**	**+2.3**
PSA00				S	**Sn**	**21 00 11.0**	**+2.0**
PSA00	**Pilbara Seismi 3.30 189**			P	**Pb**	**20 59 36.8**	**+0.3**
FITZ	**Fitzroy Crossi 5.01 89**			P	**Pn**	**20 59 54.8**	**+1.6**
	comp=Z,0.0nmcomp=Z,14μmcomp=Z,1.7nm,1.1s						
FITZ	**Fitzroy Crossi 5.01 89**			S	**Sn**	**21 00 49.4**	**-1.7**
FITZ	**Fitzroy Crossi 5.01 89**			P	**Pn**	**20 59 54.7**	**+1.6**
GIRL	**Giralia 7.20 232**			P	**Pn**	**21 00 25.7**	**+2.5**
	comp=Z,379μmcomp=Z,83nm,2.3s,comp=Z,0.2nm						
GIRL				S	**Sn**	**21 01 41.7**	**-3.4**
KNRA	**Kununurra 8.44 73**			P	**Pn**	**21 00 41.5**	**+1.2**
	comp=Z,6.2nm,1.1s,comp=Z,0.1nm						
KNRA				S	**Sn**	**21 02 09.5**	**-6.1**
MEEK	**Meekatharra 8.46 191**			P	**Pn**	**21 00 43.6**	**+3.0**
MEEK	**Meekatharra 8.46 191**			S	**Sn**	**21 02 12.3**	**-4.0**
MEEK	**Meekatharra 8.46 191**			P	**Pn**	**21 00 43.9**	**+3.3**
CVQOZ	**Cooralya Stati 8.48 223**			P	**Pn**	**21 00 42.7**	**+2.0**
	comp=Z,320nm,1.7s,comp=Z,0.9nm						
CVQOZ				S	**Sn**	**21 02 11.2**	**-5.3**
WRKA	**Warakurna 9.96 134**			P	**Pn**	**21 01 03.6**	**+2.4**
	comp=Z,4.1nm,2.1s,comp=Z,0.0nm						
WRKA				S	**Sn**	**21 02 49.9**	**-3.2**
MORW	**Morawa 11.43 199**			P	**Pn**	**21 01 21.3**	**+0.1**
	comp=Z,20nm,2.9s						
MORW	**Morawa 11.43 199**			P	**Pn**	**21 01 22.3**	**+1.0**
BLDU	**Ballidu 12.71 194**			P	**Pn**	**21 01 40.2**	**+1.5**
	comp=Z,26nm,2.5s						
BLDU	**Ballidu 12.71 194**			P	**Pn**	**21 01 40.0**	**+1.3**
KMBL	**Kambalda 13.09 174**			P	Pn	21 01 39.5	-4.4
MUN	**Mundaring 14.13 195**			P	**Pn**	**21 01 59.5**	**+1.3**
FORT	**Forrest 14.26 152**			P	**Pn**	**21 02 01.3**	**+1.4**
NWAO	**Narrogin (SRO) 14.84 190**			P	**Pn**	**21 02 07.7**	**-0.1**

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*NEIC **23** 21:01:28.4±0.3,19˚.26N±0˚.03×155˚.44W±0˚.02,h36km±3km, Error ellipse: s-maj=4.3km s-min=2.1km az=168.0*
HVO 23 21:01:29.6±1.0,**19˚.23N**±0˚.07×**155˚.41W**±0˚.08,**h32**km±7km, **ML2.4**/20,**ML2.5**/36(NEIC),**Error ellipse: s-maj=13.7km s-min=6.0km az=131.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves 0.02 63**				Pb	21 01 34.5	-0.5
HLP	**Hilina Pali 0.12 57**				Pn	21 01 35.1	-0.3
HLP					Sb	21 01 39.3	-0.2
HLP	**Hilina Pali 0.12 57**			IAML		21 01 39.5	
	comp=N,735nm,0.7s						
HLP				IAML		21 01 43.1	
	comp=E,708nm,0.6s						
AIN	**Ainahou 0.15 343**				Pb	21 01 35.3	-0.5
AIN					Sn	21 01 39.5	-0.1
AIN	**Ainahou 0.15 343**			IAML		21 01 39.9	
	comp=E,1μm,0.3s						
AIN				IAML		21 01 40.3	
	comp=N,1μm,0.4s						
KHU	**Kahuku 0.19 275**				Pb	21 01 35.4	-0.9
KHU					Sn	21 01 39.6	-1.1
HPO	**Honuapo 0.19 224**				Pb	21 01 35.3	-0.7
SDHHI	**Sand Hill 0.20 35**				Pb	21 01 35.4	-0.8
SDHHI					Sb	21 01 39.9	-0.8
WRMHI	**West Rim 0.21 31**				Pb	21 01 35.5	-0.8
WRMHI					Sb	21 01 39.8	-1.0
RIM	**Rim 0.21 39**				Pb	21 01 35.5	-0.8
KKO	**Keanakako'i 0.22 40**				Pb	21 01 35.6	-0.8
KKO					Sb	21 01 40.0	-1.0
UWE	**Uwekahuna 0.22 31**				Pb	21 01 35.6	-0.9
UWE				IAML		21 01 40.6	
	comp=E,649nm,0.3s						
UWE				IAML		21 01 40.6	
	comp=N,582nm,0.5s						
UWE	**Uwekahuna 0.22 31**				Sb	21 01 40.1	-1.0
OBL	**Observatory Le 0.22 33**				Pb	21 01 35.6	-0.9
OBL					Sb	21 01 40.0	-1.1
BYL	**Byron's Ledge 0.23 39**				Pb	21 01 35.6	-0.9
BYL					Sb	21 01 40.2	-1.1
UWB	**Uwekahuna Bluf 0.23 33**				Pb	21 01 35.6	-1.0
PUH	**Pauahi 0.23 52**				Pb	21 01 35.7	-0.9
PUH					Sb	21 01 40.2	-1.1
PUH	**Pauahi 0.23 52**			IAML		21 01 40.4	
	comp=E,424nm,0.2s						
PUH				IAML		21 01 40.4	
	comp=N,335nm,0.3s						
SBLHI	**Steaming Bluff 0.24 35**				Pb	21 01 35.6	-1.0
SBLHI					Sb	21 01 40.0	-1.4
HATHI	**Halema'uma'u T 0.24 37**				Pb	21 01 35.7	-1.0
HATHI	**Halema'uma'u T 0.24 37**			IAML		21 01 40.7	
	comp=E,332nm,0.4s						
HATHI				IAML		21 01 44.9	
	comp=N,321nm,1.1s						
MLH	**Mauna Loa 0.26 6**				Pb	21 01 36.3	-0.8
MLH				IAML		21 01 41.3	
	comp=E,338nm,0.4s						
MLH				IAML		21 01 41.4	
	comp=N,569nm,0.3s						
MLH	**Mauna Loa 0.26 6**				Sb	21 01 41.1	-1.0
RSD	**Rainshed 0.27 29**				Pb	21 01 35.9	-1.0
RSD					Sb	21 01 41.2	-0.8
KNHH	**Kane Nui o Ham 0.27 57**				Pb	21 01 36.1	-0.9
MWH	**Mokuaweoweo 0.31 326**				Pb	21 01 36.6	-1.3
MWH	**Mokuaweoweo 0.31 326**				Sb	21 01 42.0	-1.5
MWH				IAML		21 01 42.1	
	comp=N,335nm,0.3s						
MWH				IAML		21 01 42.4	
	comp=E,344nm,0.8s						
STCH	**Steam Cracks 0.31 60**				Pb	21 01 36.5	-1.0
STCH					Sb	21 01 41.6	-1.2
STCH	**Steam Cracks 0.31 60**			IAML		21 01 42.0	
	comp=E,243nm,0.1s						
STCH				IAML		21 01 42.4	
	comp=N,215nm,0.2s						
NPOC	**North of Pu'u 0.33 60**				Pb	21 01 36.7	-1.0
NPOC					Sb	21 01 42.0	-1.2
JCUZ	**Jacuzzi 0.33 62**				Pb	21 01 36.8	-0.9
JCUZ					Sb	21 01 42.1	-1.2
ALEP	**Alea Permanent 0.38 325**				Pb	21 01 37.1	-1.5
ALEP					Sb	21 01 42.9	-2.0
JOKA	**Jonika Flow 0.44 62**				Sb	21 01 44.1	-1.7
JOKA	**Jonika Flow 0.44 62**				Pb	21 01 37.8	-1.4
JOKA				IAML		21 01 45.5	
	comp=N,250nm,1.1s						
JOKA				IAML		21 01 49.0	
	comp=E,141nm,1.4s						
CPH	**Captain Cook 0.54 298**				Pb	21 01 38.8	-2.0
KHLU	**Kahalu`u 0.58 309**				Pb	21 01 39.5	-2.0
KHLU					Sb	21 01 46.7	-3.0
KHLU	**Kahalu`u 0.58 309**			IAML		21 01 46.9	
	comp=E,198nm,0.3s						
KHLU				IAML		21 01 47.5	
	comp=N,210nm,0.1s						
HUH	**Hualalai 0.60 319**				Sb	21 01 48.4	-2.1
HUH	**Hualalai 0.60 319**				Pb	21 01 40.3	-1.7
HUH				IAML	

AS31	**Alice Springs**	**25.21**	**163**		**P**	**21 11 20.2**	**-0.4**
ASAR	**Alice Springs**	**25.21**	**163**	P	**P**	**21 11 20.1**	**-0.4**
ASAR	**Alice Springs**	**25.21**	**163**	P	**P**	**21 11 19.7**	**-0.8**
	comp=Z,2.0nm,0.3s,baz=345,slow=12,SNR=43						
	comp=Z,2.0nm,0.3s						
JOW	**Kunigami**	**26.21**	**4**	P	**P**	**21 11 27.2**	**-2.4**
JOW				IAmb	IAmb	21 11 37.3	
	comp=Z,11nm,1.0s						
FORT	**Forrest**	**31.20**	**177**	P	**P**	**21 12 12.6**	**-1.4**
NJ2	**Nanjing**	**32.09**	**348**	*e*P	**P**	**21 12 23.5**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
CMAR	**Chiang Mai Arr**	**32.14**	**305**	LR	LR	21 26 37.4	
	comp=Z,23nm,19.4s,baz=135,slow=39						
BBOO	**Buckleboo**	**34.46**	**165**	P	**P**	**21 12 41.2**	**-1.3**
PZH	**PanZhiHua**	**34.93**	**320**	P	**P**	**21 12 47.8**	**+1.0**
STKA	**Stephens Creek**	**35.39**	**157**	P	**P**	**21 12 49.8**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=338,slow=5.6,SNR=7.2						
	comp=Z,1.2nm,0.4s						
KSRS	**Korea Array**	**36.76**	**2**	P	**P**	**21 13 02.4**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=173,slow=9.7,SNR=3.0						
	comp=Z,0.7nm,0.6s						
MJAR	**Matsushiro Arr**	**37.51**	**16**	P	**P**	**21 13 07.9**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=165,slow=11,SNR=2.7						
MJAR				LR	LR	21 27 53.3	
	comp=Z,14nm,19.3s,baz=210,slow=35						
	comp=Z,1.0nm,0.6s						
LZH	**Lanzhou**	**41.00**	**332**	*e*P	**P**	**21 13 38.8**	**+0.8**
LZH				pP	pwP	21 13 48.4	+5.0
LZH				sP	sP	21 13 52.6	+11
LZH				pmax	pmax		
	comp=Z,6.0nm,1.2s						
HHC	**Hu-ho-hao-te**	**42.26**	**343**	*e*P	**P**	**21 13 48.6**	**+0.4**
HHC				pmax	pmax		
	comp=Z,19nm,0.6s						
HHC				pmax	pmax		
	comp=Z,47nm,6.9s						
JTM	**Tenmabayashi**	**42.27**	**17**	P	**P**	**21 13 46.6**	**-1.4**
USRK	**Ussuriysk Ar.**	**43.77**	**6**	P	**P**	**21 13 59.3**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=126,slow=7.3,SNR=2.2						
	comp=Z,1.4nm,0.7s						
GTA	**Gaotai**	**45.58**	**331**	*e*P	**P**	**21 14 15.0**	**+0.1**
GTA				pP	pwP	21 14 19.4	-1.2
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ASAJ	**Asahikawa**	**45.77**	**16**	LR	LR	21 32 40.5	
	comp=Z,19nm,20.9s,baz=150,slow=35						
SONM	**Songino Array**	**50.14**	**343**	P	**P**	**21 14 49.7**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=165,slow=9.2,SNR=6.1						
SONM				LR	LR	21 38 17.2	
	comp=Z,34nm,19.2s,baz=162,slow=39						
	comp=Z,1.2nm,0.7s						
WMQ	**Urumqi**	**55.04**	**327**	*e*P	**P**	**21 15 28.6**	**+2.1**
WMQ				PP	**PP**	**21 17 36.8**	**+7.0**
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				LR	LR		
	comp=Z,140nm,24.2s						
MKAR	**Makanchi Array**	**59.88**	**327**		**P**	**21 15 58.1**	**-2.4**
MKAR	**Makanchi Array**	**59.88**	**327**	P	**P**	**21 15 57.6**	**-2.9**
	comp=Z,1.8nm,0.6s,baz=119,slow=7.9,SNR=18						
	comp=Z,1.8nm,0.6s						
MAKZ	**Makanchi**	**60.06**	**326**		**P**	**21 15 59.2**	**-2.5**
MAKZ				IAmb	IAmb	21 16 06.7	
	comp=Z,5.4nm,1.4s						
ZALV	**Zalesovo Beam**	**63.18**	**334**	P	**P**	**21 16 21.9**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=125,slow=7.4,SNR=4.5						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**64.14**	**328**	P	**P**	**21 16 26.7**	**-2.3**
	comp=Z,1.8nm,0.3s,baz=128,slow=6.2,SNR=11						
	comp=Z,1.8nm,0.3s						
KURK	**Kurchatov**	**64.14**	**329**		**P**	**21 16 26.9**	**-2.1**
KURK				IAmb	IAmb	21 16 30.8	
	comp=Z,3.2nm,0.7s						
BVAR	**Borovoye Array**	**69.70**	**328**	P	**P**	**21 17 03.6**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=162,slow=7.1,SNR=3.8						
	comp=Z,1.0nm,0.6s						
VNDA	**Vanda**	**80.36**	**173**	P	**P**	**21 18 04.1**	**-1.4**
	comp=Z,1.3nm,0.9s,baz=295,slow=2.6,SNR=3.6						
	comp=Z,1.3nm,0.9s						

*IDC **23** 21:07:00.1±7.4, 16°.60S×173°.62W, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=197.2km s-min=43.8km az=29.0*

ISC 23 21:07:09.7±0.8, **16°.63S**±0°.07×**173°.57W**±0°.10, **h66**km, **n39**, σ**2s30/41, mb4.1/5, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.21**	**33**	P	**Pn**	**21 07 59.4**	**+1.6**
AFI				S	**Sn**	**21 08 33.5**	**-1.4**
NIUE	**Niue**	**4.24**	**126**	P	**Pn**	**21 08 13.4**	**+1.6**
NIUE				S	**Sn**	**21 08 56.7**	**-3.3**
HAZ	**Te Kaha**	**22.39**	**198**	P	**P**	**21 12 03.5**	**+1.0**
PKGZ	**Pakihiroa**	**22.40**	**198**	P	**P**	**21 12 06.0**	**+3.3**
PUZ	**Puketiti**	**22.54**	**197**	P	**P**	**21 12 07.9**	**+3.7**
RUGZ	**Raukumara Rang**	**22.61**	**198**	P	**P**	**21 12 05.7**	**+0.6**
TWGZ	**Tauwhareparae**	**22.72**	**197**	P	**P**	**21 12 07.9**	**+1.8**
MWZ	**Matawai**	**23.00**	**198**	P	**P**	**21 12 10.4**	**+1.4**
TKGZ	**Te Karaka**	**23.00**	**197**	P	**P**	**21 12 10.6**	**+1.7**
URZ	**Urewera**	**23.05**	**199**	P	**P**	**21 12 08.8**	**-0.7**
KMRZ	**Kaimai**	**23.07**	**202**	P	**P**	**21 12 12.0**	**+2.3**
TOZ	**Taharoa Road**	**23.12**	**203**	P	**P**	**21 12 11.5**	**+1.3**
RAGZ	**Rawiri**	**23.18**	**198**	P	**P**	**21 12 12.3**	**+1.5**
SNGZ	**Shannon Statio**	**23.47**	**198**	P	**P**	**21 12 15.7**	**+2.3**
KNZ	**Kokohu**	**23.59**	**197**	P	**P**	**21 12 17.6**	**+3.2**
RAHZ	**Arahi**	**23.67**	**198**	P	**P**	**21 12 17.6**	**+2.4**
MTHZ	**Maungataniwha**	**23.68**	**199**	P	**P**	**21 12 17.3**	**+2.0**
NMHZ	**Naumai**	**23.92**	**199**	P	**P**	**21 12 19.3**	**+1.7**
HIZ	**Hauiti**	**24.05**	**203**	P	**P**	**21 12 21.8**	**+3.1**
BKZ	**Black Stump Fm**	**24.08**	**199**	P	**P**	**21 12 19.6**	**+0.6**
MCHZ	**McNeill Hill**	**24.27**	**199**	P	**P**	**21 12 24.0**	**+3.4**
ETVZ	**East Tongariro**	**24.31**	**201**	P	**P**	**21 12 22.2**	**+1.1**
KWHZ	**Kaweka Forest**	**24.34**	**199**	P	**P**	**21 12 23.8**	**+2.5**
OTVZ	**Oturere**	**24.35**	**201**	P	**P**	**21 12 21.2**	**-0.4**
SNVZ	**South Ngauruho**	**24.38**	**201**	P	**P**	**21 12 23.2**	**+1.4**
NGZ	**Ngauruhoe**	**24.38**	**201**	P	**P**	**21 12 23.6**	**+1.8**
WNVZ	**Wahianoa**	**24.52**	**201**	P	**P**	**21 12 24.5**	**+1.4**
KAHZ	**Kahuranaki**	**24.54**	**198**	P	**P**	**21 12 26.4**	**+3.3**
KRHZ	**Kereru**	**24.55**	**199**	P	**P**	**21 12 25.6**	**+2.4**
PKVZ	**Pokaka**	**24.57**	**201**	P	**P**	**21 12 23.2**	**-0.2**
PNHZ	**Pukenui**	**24.85**	**199**	P	**P**	**21 12 25.9**	**-0.1**
DVHZ	**Dannevirke**	**25.21**	**199**	P	**P**	**21 12 32.9**	**+3.6**
BFZ	**Birch Farm**	**25.54**	**198**	P	**P**	**21 12 38.0**	**+5.8**
MRZ	**Mangatainoka R**	**25.73**	**199**	P	**P**	**21 12 35.5**	**+1.6**
STKA	**Stephens Creek**	**43.29**	**241**	P	**P**	**21 15 04.7**	**-0.4**
	0.7nm,0.5s,baz=71,slow=16,SNR=1.0						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**49.42**	**258**	P	**P**	**21 15 51.2**	**-2.1**
	0.3nm,0.3s,baz=97,slow=7.1,SNR=11						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**49.59**	**253**	P	**P**	**21 15 52.5**	**-2.0**
	6.6nm,0.6s,baz=89,slow=8.3,SNR=95						
	6.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**57.81**	**259**	P	**P**	**21 16 53.8**	**-0.9**
	1.4nm,0.9s,baz=117,slow=6.8,SNR=1.9						
	1.4nm,0.9s						
QSPA	**South Pole Qui**	**73.42**	**180**	P	**P**	**21 18 34.3**	**-0.4**
	1.6nm,0.7s,baz=28,slow=1.6,SNR=5.6						
	1.6nm,0.7s						

GCG 23 21:18:48.0±1.4, **14°.14N**×**91°.73W**, **h13**km±346km, **MD3.6, ML2.9, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	**0.45**	**50**	*i* P	Pn	21 18 59.7	-0.7
STG2				*i* S	Sn	21 19 08.2	-0.3
STG0	**El Palmar, Qui**	**0.47**	**53**	*i* P	Pn	21 18 59.8	-0.9
STG0				*i* S	Sn	21 19 09.5	+0.5
STG0				IAML		21 19 12.4	
	comp=E,817nm,0.2s						
FG8	**Yepocapa, Chim**	**1.14**	**84**	*i* P	Pb	21 19 04.0	-5.7
FG16	**Alotenango, Sa**	**1.19**	**84**	*i* P	Pn	21 19 05.1	-5.5

*NOU **23** 21:18:58.9, 18°.27S×120°.40E, h0km, mb4.3/9, Western Australia*

*AUST **23** 21:18:59.3±0.4, 18°.3S×12°.0E±°, h10km, mb4.1/10, ML3.3/5, ML3.8/3, Error ellipse: s-maj=8.6km s-min=5.3km az=122.1*

ISC 23 21:18:59.2±0.9, **18°.25S**±0°.07×**120°.37E**±0°.06, **h10**km, **n30,**
σ**2s00/33, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.79**	**81**	P	**Pg**	**21 19 33.9**	**+0.3**
AUBRM				S	**Sg**	**21 19 58.3**	**+1.4**
PSAC1	**Pilbara Seismi**	**3.31**	**189**	P	**Pn**	**21 19 53.7**	**+2.6**
PSAC1				S	**Sn**	**21 20 31.2**	**+0.7**
PSA00	**Pilbara Seismi**	**3.34**	**188**	P	**Pn**	**21 19 54.5**	**+3.0**
PSA00	**Pilbara Seismi**	**3.34**	**188**	P	**Pn**	**21 19 54.5**	**+3.0**
FITZ	**Fitzroy Crossi**	**5.01**	**89**	P	**Pn**	**21 20 16.6**	**+2.1**
	comp=Z,0.0nmcomp=Z,16μmcomp=Z,2.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**5.01**	**89**	S	**Sn**	**21 21 10.4**	**-2.1**
GIRL	**Giralia**	**7.22**	**232**	P	**Pn**	**21 20 47.4**	**+2.5**
GIRL				S	**Sn**	**21 22 03.4**	**-3.6**
KNRA	**Kununurra**	**8.43**	**74**	P	**Pn**	**21 21 03.4**	**+2.0**
	comp=Z,0.1nmcomp=Z,7.4nm,1.1s						
KNRA				S	**Sn**	**21 22 33.2**	**-3.5**
MEEK	**Meekatharra**	**8.50**	**191**	P	**Pn**	**21 21 04.5**	**+2.0**
MEEK	**Meekatharra**	**8.50**	**191**	S	**Sn**	**21 22 34.1**	**-4.5**
MEEK	**Meekatharra**	**8.50**	**191**	P	**Pn**	**21 21 04.4**	**+1.9**
CVQOZ	**Cooralya Stati**	**8.51**	**222**	P	**Pn**	**21 21 04.1**	**+1.7**
EDFI	**Ende, Flores**	**9.53**	**8**	P	**Pn**	**21 21 15.3**	**-1.5**
	comp=Z,0.0nmcomp=Z,5.4nm,0.9s						
PLAI	**Plampang**	**9.70**	**345**	P	**Pn**	**21 21 18.7**	**-0.3**
	comp=Z,0.1nmcomp=Z,26nm,1.2s						
PLAI	**Plampang**	**9.70**	**345**	P	**Pn**	**21 21 20.3**	**+1.3**
WRKA	**Warakurna**	**9.99**	**134**	P	**Pn**	**21 21 26.0**	**+3.0**
	comp=Z,0.0nmcomp=Z,4.9nm,2.8s						
MORW	**Morawa**	**11.47**	**199**	P	**Pn**	**21 21 42.7**	**-0.5**
	comp=Z,20nm,1.8s						
MORW	**Morawa**	**11.47**	**199**	P	**Pn**	**21 21 43.3**	**+0.1**
MTN	**Manton Dam**	**11.68**	**64**	P	**Pn**	**21 21 46.4**	**+0.3**
BLDU	**Ballidu**	**12.75**	**194**	P	**Pn**	**21 22 00.6**	**-0.1**
	comp=Z,25nm,2.2s						
BLDU	**Ballidu**	**12.75**	**194**	P	**Pn**	**21 22 00.6**	**-0.1**
KDU	**Kakadu**	**12.91**	**66**	P	**Pn**	**21 22 02.7**	**-0.1**
KMBL	**Kambalda**	**13.13**	**174**	P	Pn	21 21 59.6	-6.2
KLBR	**Kellerberin**	**13.49**	**190**	P	**Pn**	**21 22 10.9**	**+0.2**
	comp=Z,23nm,1.6s						
KLBR	**Kellerberrin**	**13.49**	**190**	P	**Pn**	**21 22 11.0**	**+0.2**
MUN	**Mundaring**	**14.17**	**195**	P	**Pn**	**21 22 19.4**	**-0.7**
	comp=Z,28nm,1.6s						
MUN	**Mundaring**	**14.17**	**195**	P	**Pn**	**21 22 20.0**	**-0.1**
FORT	**Forrest**	**14.29**	**152**	P	**Pn**	**21 22 21.5**	**-0.2**
	comp=Z,9.1nm,2.5s						
NWAO	**Narrogin (SRO)**	**14.88**	**190**	P	**Pn**	**21 22 27.9**	**-1.9**
NWAO	**Narrogin (SRO)**	**14.88**	**190**	P	**Pn**	**21 22 29.2**	**-0.6**

*NEIC **23** 21:36:44.6±2.0, 6°.33S±0°.06×130°.04E±0°.08, h157km±6km, mb4.2/6, Error ellipse: s-maj=11.8km s-min=8.8km az=73.0*

*IDC **23** 21:36:45.6±7.3, 6°.52S×130°.01E, h174km±74km, mb3.4/4, mbtmp4.0/8, Error ellipse: s-maj=64.4km s-min=19.3km az=49.0*

ISC 23 21:36:43.4±0.7, **6°.36S**±0°.06×**130°.02E**±0°.07, **h150**km, **n30,**
σ**2s09/33, mb3.9/5, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.06**	**142**	Pn	**Pn**	**21 37 21.5**	**+2.3**
SAUI				Sn	**Sn**	**21 37 50.1**	**+3.4**
SAUI	**Saumlaki**	**2.06**	**142**	P	**Pn**	**21 37 22.3**	**+3.1**
FAKI	**Fak Fak**	**4.07**	**33**		**Pn**	**21 37 45.4**	**+0.7**
FAKI				Sn	**Sn**	**21 38 30.5**	**-1.8**
FAKI	**Fak Fak**	**4.07**	**33**	P	**Pn**	**21 37 45.4**	**+0.7**
MTN	**Manton Dam**	**6.54**	**170**		**Pn**	**21 38 17.7**	**+0.3**
MTN	**Manton Dam**	**6.54**	**170**	P	**Pn**	**21 38 17.8**	**+0.4**
BATI	**Baumata**	**7.36**	**238**	P	**Pn**	**21 38 30.0**	**+1.6**
	13nm,0.6s,baz=66,slow=19,SNR=2.1						
BATI				S	**Sn**	**21 39 51.5**	**+0.8**
	12nm,0.4s,baz=66,slow=20,SNR=3.7						
KNRA	**Kununurra**	**9.35**	**187**		**Pn**	**21 38 54.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**12.43**	**200**	Pn	**Pn**	**21 39 34.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**12.43**	**200**	P	**Pn**	**21 39 33.9**	**-1.5**
	1.1nm,0.3s,baz=20,slow=13,SNR=17						
FITZ				S	Sn	21 41 42.7	-10
	2.9nm,0.3s,baz=338,slow=19,SNR=6.9						
FITZ	**Fitzroy Crossi**	**12.43**	**200**	P	**Pn**	**21 39 34.2**	**-1.1**
WB0	**Warramunga Arr**	**13.99**	**163**		**Pn**	**21 39 52.1**	**-3.2**
WRA	**Warramunga Arr**	**14.14**	**163**	Pn	Pn	21 39 53.4	-3.8
WRA	**Warramunga Arr**	**14.14**	**163**	P	**Pn**	**21 39 55.4**	**-1.8**
	2.1nm,0.3s,baz=345,slow=14,SNR=38						
WRA				S	Sn	21 42 23.5	-11
	3.2nm,0.4s,baz=327,slow=23,SNR=14						
COEN	**Coen**	**14.98**	**121**		**Pn**	**21 40 09.0**	**+1.2**
COEN	**Coen**	**14.98**	**121**	P	**P**	**21 40 10.4**	**+0.8**
QIS	**Mount Isa**	**16.90**	**148**	P	**P**	**21 40 31.7**	**+0.9**
AS31	**Alice Springs**	**17.61**	**168**	P	**P**	**21 40 39.6**	**+1.1**
ASAR	**Alice Springs**	**17.61**	**168**	P	**P**	**21 40 39.5**	**+0.9**
ASAR	**Alice Springs**	**17.61**	**168**	P	**P**	**21 40 39.2**	**+0.7**
	4.4nm,0.5s,baz=347,slow=10,SNR=50						
ASAR				S	**S**	**21 43 45.8**	**-8.3**
	0.7nm,0.3s,baz=352,slow=27,SNR=7.3						
AS01	**Alice Springs**	**17.62**	**168**	P	**P**	**21 40 39.5**	**+0.9**
PSA00	**Pilbara Seismi**	**18.05**	**212**	P	**P**	**21 40 43.1**	**-0.1**
PSA00				IAmb	IAmb	21 41 09.0	
	comp=Z,7.6nm,0.9s						
KKM	**Kota Kinabalu**	**18.48**	**312**	P	**P**	**21 40 48.0**	**-0.2**
KKM				IAmb	IAmb	21 41 10.8	
	comp=Z,26nm,1.2s						
CTAO	**Charters Tower**	**20.85**	**132**	P	**P**	**21 41 13.3**	**-0.3**
CTAO				IAmb	IAmb	21 41 17.7	
	comp=Z,21nm,1.4s						
BBOO	**Buckleboo**	**26.91**	**169**	P	**P**	**21 42 10.4**	**-0.2**
STKA	**Stephens Creek**	**27.60**	**158**	P	**P**	**21 42 15.2**	**-1.5**
	comp=Z,2.5nm,0.7s,baz=342,slow=9.6,SNR=3.9						
	comp=Z,2.5nm,0.7s						
SONM	**Songino Array**	**57.84**	**341**	P	**P**	**21 46 19.9**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=165,slow=6.0,SNR=1.9						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**67.70**	**327**	P	**P**	**21 47 25.3**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=121,slow=7.5,SNR=17						
	comp=Z,1.2nm,0.5s						
MAKZ	**Makanchi**	**67.88**	**327**	P	**P**	**21 47 26.1**	**+0.4**
MAKZ				IAmb	IAmb	21 47 26.6	
	comp=Z,1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**71.97**	**328**	P	**P**	**21 47 50.4**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=125,slow=5.1,SNR=4.2						
	comp=Z,0.3nm,0.5s						

ISC 23 21:56:49.3±1.3, **28°.10N**±0°.04×**112°.24W**±0°.05, **h32**km±20km, **n5**, σ**0s62/10, 1C-2D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFQB	**San Francisqui**	**0.63**	**299**	*e*P	**Pb**	**21 57 01.6**	**-0.4**
SFQB				*e*S	**Sn**	**21 57 10.5**	**-0.5**
SFQB				⇑*e*		21 57 12.2	
SFQB				IAML		21 57 12.2	
	comp=E,387nm,0.2s						
SFQB				IAML		21 57 12.3	
	comp=N,485nm,0.2s						
SFQB				⇓*e*		21 57 12.3	
SRIG	**Santa Rosalia**	**0.78**	**180**	*e*P	**Pb**	**21 57 03.9**	**-0.5**
SRIG				*e*S	**Sb**	**21 57 15.1**	**+0.4**
BKIRB	**Bahia Kino**	**0.78**	**15**	*e*P	**Pb**	**21 57 04.0**	**-0.5**
BKIRB				*e*S	**Sb**	**21 57 14.7**	**-0.1**
GUYB	**Guaymas**	**1.22**	**99**	*e*P	**Pb**	**21 57 12.1**	**+0.2**
GUYB				*e*S	**Sb**	**21 57 27.8**	**+0.5**
BAHB	**Baha de los**	**1.44**	**306**	*e*P	**Pb**	**21 57 16.5**	**+0.9**
BAHB				*e*S	**Sb**	**21 57 33.7**	**+0.2**
BAHB				⇓*e*		21 57 36.7	
BAHB				IAML		21 57 36.7	
	comp=N,120nm,0.2s						

IDC 23 22:04:01.7±2.1, **2°.04S**×**132°.54E**, **h0**km, **mb3.4**/2, **mbtmp3.6/4, ML3.1/2, MS3.1/1, Error ellipse: s-maj=69.3km s-min=21.6km az=90.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.34**	**203**	P	Pn	22 08 05.8	+0.6
	baz=336,slow=9.4,SNR=2.1						
FITZ				S	Sn	22 11 19.3	+0.4
	2.7nm,1.2s,baz=356,slow=20,SNR=1.5						
	2.2nm,0.9s						
WRA	**Warramunga Arr**	**17.88**	**174**	P	Pn	22 08 12.1	0.0
	0.1nm,0.3s,baz=359,slow=12,SNR=6.3						
	1.4nm,0.9s						
ASAR	**Alice Springs**	**21.54**	**177**	P	P	22 08 53.0	+0.3
	1.2nm,0.8s,baz=9.1,slow=12,SNR=8.5						
	1.2nm,0.8s						
JOW	**Kunigami**	**29.00**	**352**	LR	LR	22 21 46.3	
	comp=Z,32nm,18.4s,baz=162,slow=37						
MKAR	**Makanchi Array**	**65.58**	**325**	P	P	22 14 47.4	-0.1
	0.3nm,0.5s,baz=115,slow=7.7,SNR=6.8						
	0.3nm,0.5s						

NOU 23 22:24:45.4, 10°.95S×165°.79E, h0km**, MLv4.6**/12**, Santa Cruz Islands, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**0.31**	**23**	P	Pg	22 24 50.5	-0.9
LUES	**Luesalemba Tem**	**0.31**	**23**	S	Sg	22 24 55.3	-0.1
HURO	**Huro Makira**	**3.85**	**277**	P	Pn	22 25 45.0	-0.9
HURO	**Huro Makira**	**3.85**	**277**	S	Sn	22 26 32.7	+0.8
VLAKA	**Lakatoro**	**5.37**	**163**	P	Pn	22 26 06.8	0.0
NGOA	**Tingoa Renbel**	**5.65**	**263**	P	Pn	22 26 09.2	-1.5
SAVO	**Savo Central**	**6.15**	**286**	P	Pn	22 26 19.1	+1.5
TATA	**Tatamba Isabel**	**6.43**	**293**	P	Pn	22 26 22.0	+0.6
INH	**Isangel**	**9.18**	**159**	P	Pn	22 26 59.8	+0.6
YATNC	**Mamie plateau,**	**11.10**	**175**	P	Pn	22 27 23.5	-2.0
OUENC	**Ouen Island, N**	**11.45**	**175**	P	Pn	22 27 29.7	-0.6

*SKHL **23** 22:52:45.4±0.2, 47°.60N×146°.10E, h537km±2km, mb4.7/4, msha4.5/2*

*IDC **23** 22:52:48.0±1.8, 48°.16N×145°.96E, h470km±25km, mb2.8/12, mbtmp3.6/14, Error ellipse: s-maj=24.1km s-min=16.0km az=171.0*

ISC 23 22:52:47.4±0.7, **47°.58N**±0°.09×**146°.1E**±0°.1, **h500**km, **n19,**
σ**1s34/22, mb3.2/12, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzhno-Sakhali**	**2.38**	**256**	*e*P	**P**	**22 53 54.5**	**0.0**
YSS				AMB	AMB	22 53 55.7	
	110nm,0.2s						
YSS				*e*S	**S**	**22 54 48.6**	**-0.5**
YSS				A	A	22 54 50.5	
	20nm,0.6s						
YSS				A	A	22 54 50.5	
	20nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**3.55**	**183**	*e*P	**P**	**22 54 00.4**	**-1.9**
YUK				AMB	AMB	22 54 04.5	
	150nm,0.6s						
SHO	**Shikotan**	**3.74**	**172**	*e*P	**P**	**22 54 01.9**	**-1.9**
SHO				AMB	AMB	22 54 05.7	
	20nm,0.6s						
SHO				*e*S	**S**	**22 55 05.1**	**-0.9**
SHO				A	A	22 55 10.3	
	60nm,0.4s						
SHO				A	A	22 55 10.3	
	60nm,0.4s						
NMR	**Nemuro--Hokkai**	**4.22**	**184**	*e*P	**P**	**22 54 07.9**	**+0.2**
NMR				*e*S	**S**	**22 55 12.1**	**-0.9**
ASAJ	**Asahikawa**	**4.25**	**217**	P	**P**	**22 54 10.2**	**+2.2**
	5.1nm,0.5s,baz=14,slow=5.4,SNR=7.2						
AKK	**Akkeshi**	**4.65**	**192**	*e*P	**P**	**22 54 12.2**	**+0.9**
AKK				*e*S	**S**	**22 55 17.9**	**-1.8**
USRK	**Ussuriysk Ar.**	**10.42**	**256**	P	**P**	**22 55 10.1**	**+0.9**
	1.1nm,0.6s,baz=83,slow=13,SNR=1.7						
KDAK	**Kodiak Island**	**37.28**	**51**	P	**P**	**22 59 15.5**	**-0.2**
	2.0nm,0.7s,baz=299,slow=4.1,SNR=1.7						
	2.0nm,0.7s						
ILAR	**Eielson Array**	**38.88**	**39**	P	**P**	**22 59 28.4**	**-0.3**
	0.4nm,0.6s,baz=257,slow=7.7,SNR=5.2						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**42.29**	**294**	P	**P**	**22 59 55.6**	**-0.6**
	0.2nm,0.5s,baz=67,slow=7.2,SNR=4.9						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**42.98**	**300**	P	**P**	**23 00 01.0**	**-0.5**
	0.5nm,0.7s,baz=70,slow=8.8,SNR=4.6						
	0.5nm,0.7s						
BVAR	**Borovoye Array**	**46.59**	**306**	P	**P**	**23 00 29.8**	**+0.5**
	1.0nm,0.6s,baz=48,slow=8.4,SNR=6.2						
	1.0nm,0.6s						
RES	**Resolute Bay**	**51.51**	**17**	P	**P**	**23 01 04.1**	**-1.4**
	1.2nm,0.5s,baz=335,slow=8.2,SNR=5.7						
	1.2nm,0.5s						
FINES	**FINESS Array B**	**61.15**	**332**	P	**P**	**23 02 11.2**	**-1.0**
	0.8nm,0.8s,baz=35,slow=7.0,SNR=6.3						
	0.8nm,0.8s						
NOA	**NORSAR Array B**	**65.78**	**338**	P	**P**	**23 02 41.1**	**-0.9**
	0.1nm,0.3s,baz=32,slow=6.6,SNR=4.3						
	0.1nm,0.3s						
HFS	**Hagfors**	**65.89**	**336**	P	**P**	**23 02 41.4**	**-1.2**
	0.3nm,0.4s,baz=46,slow=6.4,SNR=7.4						
	0.3nm,0

0.6nm,0.5s,baz=91,slow=12,SNR=7.1
0.6nm,0.5s

NB2 NORSAR Subarra 44.21 323 P **P** **23 10 03.1 -0.6**
comp=Z,0.5nm,0.7s,baz=96,slow=7.9

NOA NORSAR Array B 44.21 323 P **P** **23 10 03.5 -0.1**
comp=Z,0.8nm,0.9s,baz=97,slow=7.8,SNR=4.6

NOA LR LR 23 30 38.0
comp=Z,22nm,19.5s,baz=100,slow=38
comp=Z,0.8nm,0.9s

SEY Seymchan 54.62 34 LR LR 23 37 49.8
comp=Z,156nm,20.9s,baz=330,slow=39

TORD Torodi Ar. Bea 65.39 268 P **P** **23 12 34.1 -3.0**
comp=Z,0.2nm,0.4s,baz=43,slow=5.8,SNR=7.8
comp=Z,0.2nm,0.4s

CATAC ***23*** *23:04:21.4±0.5, 14°N±4°×9°1W±°, h36km±5km, M3.4/10, MLv3.4/10, Error ellipse: s-maj=9.4km s-min=3.4km az=30.7, confirmed*

GCG ***23*** *23:04:22.3±0.5, 14°.28N×91°.37W, h68km±4km, MD3.6, ML3.9*

ISC 23 23:04:24.3±2.2, 14°.4N±0°.1×91°.19W±0°.09, h71km±14km, n19, σ1§99/23, Guatemala

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
STG0	**El Palmar, Qui**	**0.16 291**	*eP*	**Pn**	**23 04 35.2**	**+0.1**
STG0			*eS*	**Sn**	**23 04 45.5**	**+2.6**
STG0			IAML		23 04 47.2	
	comp=E,11μm,0.2s					
STG2	**El Palmar, Qui**	**0.19 290**	*i* P	**Pn**	**23 04 35.6**	**+0.4**
STG2			*eS*	**Sn**	**23 04 46.0**	**+2.9**
ESSG	**Sabana Grande**	**0.35 88**	*eP*	**Pn**	**23 04 35.5**	**-0.5**
ESSG			*i* S	**Sn**	**23 04 45.6**	**+1.0**
ESSG			IAML		23 04 46.0	
	comp=E,3μm,0.2s					
SOKI	**Kika Raxquin**	**0.49 335**	*i* P	**Pn**	**23 04 36.9**	**-0.7**
SOKI			*eS*	**Sn**	**23 04 48.2**	**+0.9**
SOKI			IAML		23 04 49.4	
	comp=N,3μm,0.3s					
RTAL	**Retalhuleu**	**0.51 288**	P	Pn	23 04 33.9	-3.5
RTAL			S	**Sn**	**23 04 43.2**	**-3.7**
FG8	**Yepocapa, Chim**	**0.62 100**	*i* P	Pn	23 04 35.1	-3.5
FG8			*i* S	**Sn**	**23 04 45.0**	**-4.1**
FG16	**Alotenango, Sa**	**0.67 98**	*eP*	Pn	23 04 35.9	-3.3
FG16			*i* S	**Sn**	**23 04 46.9**	**-3.2**
FG16			IAML		23 04 51.8	
	comp=E,22μm,0.2s					
FAME	**Alcaldia de Sa**	**1.25 115**	P	**Pn**	**23 04 44.9**	**-1.2**
FAME	**Alcaldia de Sa**	**1.25 115**	S	**Sn**	**23 05 01.6**	**-0.9**
SLOZ	**Alcaldia de Sa**	**1.41 104**	S	**Sn**	**23 05 09.1**	**+3.0**
LOAL	**Lomas de Alarc**	**1.42 105**	S	**Sn**	**23 05 08.3**	**+2.0**
LOAL	**Lomas de Alarc**	**1.42 105**	P	**Pn**	**23 04 48.4**	**+0.2**
NUBE	**Las Nubes**	**1.45 109**	*i* P	**Pn**	**23 04 49.1**	**+0.4**
NUBE	**Las Nubes**	**1.45 109**	S	**Sn**	**23 05 07.9**	**+0.8**
NUBE	**Las Nubes**	**1.45 109**	P	**Pn**	**23 04 48.4**	**-0.4**
MTO3	**Montecristo**	**1.77 89**	P	**Pn**	**23 04 53.4**	**+0.3**
JAYA	**Jayaque - finc**	**1.83 113**	*i* P	**Pn**	**23 04 54.2**	**+0.3**
JAYA	**Jayaque - finc**	**1.83 113**	S	**Sn**	**23 05 16.3**	**-0.1**
PMON	**Piamonte**	**1.94 110**	S	**Sn**	**23 05 19.4**	**+0.7**

BGR ***23*** *23:08:46.7, 39°.62S×174°.37W, h33km*
BJI ***23*** *23:08:49.0, 33°.82S×179°.11W, h10km, mB5.6/17, mb5.3/27, Ms5.1/38, Ms7 4.9/40*
MOS ***23*** *23:08:52.5±1.1, 33°.79S×179°.70W, h18km, mb5.5/18, MS5.0/9, Error ellipse: s-maj=12.4km s-min=8.8km az=92.2*
WEL ***23*** *23:08:52.5±0.5, 34°S±4°×17°.9W±°, h12km, M5.8/16, mB6.1/6, ML5.9/16, MLv5.9/16, Mw(mB)5.8/6, Error ellipse: s-maj=12.4km s-min=3.0km az=112.2, confirmed*
IPGP ***23*** *23:08:52.0, 33°.82S×179°.51W, h40km, Mw5.6, Fault plane solution: NP1:φs233.00000°, δ38.00000°, λ113.00000°. NP2:φs24.00000°, δ55.00000°, λ73.00000°.*
NEIC ***23*** *23:08:53.1, 33°.82S×179°.49W, h40km*
NEIC ***23*** *23:08:53.1, 34°.12S×179°.01W, h40km, Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10¹⁷Nm; Mrr1.89; Mθθ0.25; Mϕϕ-2.14; Mrθ0.06; Mθϕ-0.62; Mϕr0.97; Fault plane solution: Mo2.34000×10¹⁷ NP1: φs200.15000°, δ33.01000°, λ99.95000°. NP2:φs8.34000°, δ57.55000°, λ83.60000°. Principal axes: T 2.1209, Plg77.0000°, Azm259.0000°; N 0.3815, Plg5.0000°, Azm12.0000°; P -2.5024, Plg12.0000°, Azm103.0000°;*
WEL ***23*** *23:08:55.0, 34°.00S×178°.96W, h44km, ML5.9, Mw5.6, Moment Tensor Solution. s8 Moment tensor: Scale 10¹⁷ Nm; Mrr2.63; Mθθ-0.35; Mϕϕ-2.28; Mrθ0.73; Mθϕ-0.70; Mϕr1.41; Fault plane solution: Mo3.02000×10¹⁷ NP1: φs23.00000°, δ61.00000°, λ94.00000°. NP2:φs194.00000°, δ29.00000°, λ82.00000°. Principal axes: T -2.9482, Plg73.0000°, Azm304.0000°; N -0.1431, Plg4.0000°, Azm200.0000°; P 3.0913, Plg16.0000°, Azm110.0000°; Stations used: MXZ KUZ URZ OPRZ MKAZ OUZ BKZ HIZ REVERSE FAULTING*
NEIC ***23*** *23:08:56.8±1.9, 33°.80S±0°.07×179°.5W±0°.1, h35km±1km, mb5.4/182, Ms_20 5.2/541, Mww5.5/27 Error ellipse: s-maj=17.5km s-min=10.9km az=105.0*
GCMT ***23*** *23:08:57.8±0.1, 33°.92S±0°.01×179°.19W±0°.01, h41km, MW5.6/149, Moment Tensor Solution. s145, c274; s149, c271; Duration: 1s5 Moment tensor: Scale 10¹⁷ Nm; Mrr2.42±.03; Mθθ0.04±.02; Mϕϕ-2.47±.02; Mrθ0.09±.03; Mθϕ-0.67±.02; Mϕr1.20±.03; Best double couple: Mo2.80200×10¹⁷ NP1:φs199.00000°, δ33.00000°, λ98.00000°. NP2:φs10.00000°, δ58.00000°, λ85.00000°. Principal axes: T 2.7000, Plg77.0000°, Azm263.0000°; N 0.1960, Plg4.0000°, Azm12.0000°; P -2.9040, Plg13.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NOU ***23*** *23:08:57.6, 34°.21S×179°.13W, h69km, mb5.5/81, South of Kermadec Islands*
IDC ***23*** *23:08:57.4±1.1, 33°.78S×179°.89W, h45km±9km, mb4.7/20, mbtmp4.9/22, ML5.3/2, MS4.9/44, Error ellipse: s-maj=11.6km s-min=8.7km az=118.0*

ISC 23 23:08:55.0±0.5, 33°.90S±0°.03×179°.36W±0°.04, h32km±3km, h32km:pP-P, n1213, σ1§88/948, mb5.3/151, MS5.2/336, 43C-31D, South of Kermadec Islands

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.12 207**		**Pn**	**23 09 56.9**	**+1.2**
MXZ	**Matakaoa Point**	**4.12 207**	P	**Pn**	**23 09 56.3**	**+0.6**
MXZ	**Matakaoa Point**	**4.12 207**	P	**Pn**	**23 09 57.7**	**+2.0**
MXZ			S	**Sn**	**23 10 43.3**	**+0.5**
MXZ			T	T	23 13 58.5	
WMGZ	**Waiomatatini S**	**4.31 204**	P	**Pn**	**23 10 00.0**	**+1.7**
WMGZ			S	**Sn**	**23 10 49.9**	**+2.4**
PKGZ	**Pakihiroa**	**4.47 207**	P	**Pn**	**23 10 01.4**	**+0.8**
PKGZ			S	**Sn**	**23 10 53.2**	**+1.6**
HAZ	**Te Kaha**	**4.50 210**	P	**Pn**	**23 10 01.9**	**+1.0**
HAZ			S	**Sn**	**23 10 55.0**	**+2.9**
WIZ	**White Island**	**4.58 217**	P	**Pn**	**23 10 04.1**	**+2.0**
WIZ			S	**Sn**	**23 10 51.7**	**-2.6**
WIZ			T	T	23 14 41.5	
WSRZ	**White Island S**	**4.58 217**	P	**Pn**	**23 10 03.7**	**+1.6**
PUZ	**Puketiti**	**4.59 204**	P	**Pn**	**23 10 02.3**	**+0.1**
PUZ			S	**Sn**	**23 10 55.4**	**+0.9**
RUGZ	**Raukumara Rang**	**4.72 210**	P	**Pn**	**23 10 04.2**	**+0.1**
RUGZ			S	**Sn**	**23 11 01.2**	**+3.5**
GLKZ	**Green Lake**	**4.78 15**	P	**Pn**	**23 10 03.6**	**-1.2**
GLKZ			S	**Sn**	**23 10 57.2**	**-1.9**
TWGZ	**Tauwhareparae**	**4.79 206**	P	**Pn**	**23 10 05.8**	**+0.9**
TWGZ			S	**Sn**	**23 11 02.1**	**+2.8**
RAO	**Raoul Island**	**4.79 15**	Pn	**Pn**	**23 10 04.3**	**-0.6**
RAO	**Raoul Island**	**4.79 15**	P	**Pn**	**23 10 05.5**	**+0.6**
	248nm,0.3s,baz=254,slow=18,SNR=6.4					
RAO			S	**Sn**	**23 11 01.1**	**+1.8**
	2μm,0.4s,baz=255,slow=23,SNR=4.7					
	463nm,0.4s					
RAO	**Raoul Island**	**4.79 15**	P	Pn	23 10 11.3	+6.4
RAO	**Raoul Island**	**4.79 15**	P	**Pn**	**23 10 05.6**	**+0.7**
RAO			S	**Sn**	**23 10 59.2**	**-0.1**
RIZ	**Raoul Island**	**4.79 15**	P	**Pn**	**23 10 03.4**	**-1.6**
RIZ			S	**Sn**	**23 10 59.9**	**+0.4**
GRZ	**Great Barrier**	**4.86 240**	P	**Pn**	**23 10 09.5**	**+3.7**
KUZ	**Kuaotunu**	**4.93 233**	P	**Pn**	**23 10 09.4**	**+2.6**
KUZ	**Kuaotunu**	**4.93 233**	P	**Pn**	**23 10 10.1**	**+3.3**
WHRZ	**Whale Island**	**4.95 216**	P	**Pn**	**23 10 08.7**	**+1.6**
WHRZ			S	**Sn**	**23 11 06.3**	**+3.0**
CNGZ	**Carnagh Statio**	**4.98 203**	P	**Pn**	**23 10 08.1**	**+0.6**
CNGZ			S	**Sn**	**23 11 07.7**	**+3.7**
TKGZ	**Te Karaka**	**5.07 206**	P	**Pn**	**23 10 08.8**	**+0.1**
TKGZ			S	**Sn**	**23 11 05.1**	**-1.0**
MWZ	**Matawai**	**5.10 209**	P	**Pn**	**23 10 08.6**	**-0.6**
MWZ			S	**Sn**	**23 11 08.9**	**+1.9**
OPRZ	**Ohinepanea**	**5.15 219**	P	**Pn**	**23 10 10.7**	**+0.8**
OPRZ			S	**Sn**	**23 11 08.5**	**+0.3**
MARZ	**Manawahe**	**5.20 217**	P	**Pn**	**23 10 11.2**	**+0.6**
URZ	**Urewera**	**5.21 212**	P	**Pn**	**23 10 09.9**	**-0.7**
	52nm,0.3s,baz=261,slow=4.9,SNR=157					
URZ			S	**Sn**	**23 11 09.3**	**-0.4**
	1μm,0.7s,baz=254,slow=12,SNR=9.2					
	219nm,0.3s					
URZ	**Urewera**	**5.21 212**	P	**Pn**	**23 10 11.5**	**+0.8**
URZ	**Urewera**	**5.21 212**	P	**Pn**	**23 10 10.6**	**-0.1**
URZ			S	**Sn**	**23 11 05.8**	**-3.9**
TGRZ	**Tauranga**	**5.22 222**	P	**Pn**	**23 10 12.7**	**+1.8**
EDRZ	**Edgecumbe**	**5.26 216**	P	**Pn**	**23 10 12.9**	**+1.4**
RAGZ	**Rawiri**	**5.28 209**	P	**Pn**	**23 10 11.5**	**-0.2**
RAGZ			S	**Sn**	**23 11 10.8**	**-0.7**
RIGZ	**Rimuhau**	**5.33 205**	P	**Pn**	**23 10 12.6**	**+0.2**
MKRZ	**Makatiti**	**5.42 217**	P	Pn	23 10 18.6	+4.9
OMRZ	**Omania**	**5.44 218**	P	**Pn**	**23 10 18.4**	**+4.5**
KARZ	**Kaharoa**	**5.45 220**	P	**Pn**	**23 10 12.2**	**+3.2**
TARZ	**Mount Tarawera**	**5.47 217**	P	**Pn**	**23 10 17.3**	**+2.9**
KMRZ	**Kaimai**	**5.49 223**	P	**Pn**	**23 10 18.1**	**+3.6**
PRGZ	**Paritu Road**	**5.49 203**	P	**Pn**	**23 10 14.7**	**+0.2**
MUGZ	**Murupara**	**5.54 213**	P	**Pn**	**23 10 17.3**	**+2.1**
RRRZ	**Republican Roa**	**5.55 216**	P	**Pn**	**23 10 18.5**	**+3.1**
SNGZ	**Shannon Statio**	**5.56 208**	P	**Pn**	**23 10 15.4**	**-0.1**
WCZ	**Waipu Caves**	**5.56 247**	P	**Pn**	**23 10 19.7**	**+4.2**
RTZ	**Ruatahuna**	**5.56 211**	Pn	**Pn**	**23 10 14.7**	**-0.9**
RTZ	**Ruatahuna**	**5.56 211**	P	**Pn**	**23 10 15.6**	**0.0**
HLRZ	**Highlands Stat**	**5.56 217**	P	**Pn**	**23 10 18.2**	**+2.6**
UTU	**Utuhina**	**5.59 219**	P	Pn	23 10 21.8	+5.9
KNZ	**Kokohu**	**5.65 204**	P	**Pn**	**23 10 15.7**	**-1.0**
HSRZ	**Hossack Road**	**5.66 218**	P	Pn	23 10 22.6	+5.7
TOZ	**Tahuroa Road**	**5.66 226**	Pn	**Pn**	**23 10 18.7**	**+1.8**
TOZ	**Tahuroa Road**	**5.66 226**	P	**Pn**	**23 10 20.0**	**+3.1**
MHGZ	**Mahia Peninsul**	**5.69 202**	P	**Pn**	**23 10 16.5**	**-0.8**
HRRZ	**Handcock Road**	**5.71 217**	P	**Pn**	**23 10 20.8**	**+3.3**
PRRZ	**Plateau Road**	**5.74 216**	P	**Pn**	**23 10 21.3**	**+3.4**
GRRZ	**Galatos Road**	**5.76 218**	P	**Pn**	**23 10 22.6**	**+4.3**
RAHZ	**Arahi**	**5.77 209**	P	**Pn**	**23 10 19.3**	**+0.9**
ALRZ	**Allen Road**	**5.81 215**	P	**Pn**	**23 10 20.3**	**+1.4**
MTHZ	**Maungataniwha**	**5.82 211**	P	**Pn**	**23 10 19.4**	**+0.3**
WHHZ	**Waihua**	**5.85 207**	P	**Pn**	**23 10 21.3**	**+1.7**
WPRZ	**Whakapapatarin**	**5.87 217**	P	**Pn**	**23 10 22.8**	**+3.1**
OUZ	**Omahuta**	**5.96 255**	P	**Pn**	**23 10 24.2**	**+3.2**
OUZ	**Omahuta**	**5.96 255**	P	**Pn**	**23 10 24.5**	**+3.5**
MRHZ	**Matea Rd**	**5.99 213**	P	**Pn**	**23 10 21.9**	**+0.4**
KUTZ	**Kaahu Road**	**6.02 219**	P	**Pn**	**23 10 25.2**	**+3.4**
NMHZ	**Naumai**	**6.04 210**	P	**Pn**	**23 10 22.1**	**-0.1**
TLZ	**Tolley Road**	**6.05 222**	P	**Pn**	**23 10 24.4**	**+2.1**
WHTZ	**Whakaora**	**6.08 217**	P	**Pn**	**23 10 26.2**	**+3.5**
ARHZ	**Aropaoanui**	**6.11 208**	P	**Pn**	**23 10 22.9**	**-0.1**
WATZ	**Wairara**	**6.23 218**	P	**Pn**	**23 10 27.1**	**+2.5**
BKZ	**Black Stump Fm**	**6.23 211**	Pn	**Pn**	**23 10 24.1**	**-0.7**
BKZ	**Black Stump Fm**	**6.23 211**	P	**Pn**	**23 10 25.0**	**+0.3**
BKZ	**Black Stump Fm**	**6.23 211**	P	**Pn**	**23 10 24.3**	**-0.4**
RATZ	**Rangitukua**	**6.33 217**	P	**Pn**	**23 10 27.3**	**+1.2**
RITZ	**Rihia Road**	**6.37 216**	P	**Pn**	**23 10 28.6**	**+1.9**
MCHZ	**McNeill Hill**	**6.38 209**	P	**Pn**	**23 10 27.3**	**+0.6**
CKHZ	**Cape Kidnapper**	**6.42 205**	P	**Pn**	**23 10 27.1**	**-0.2**
KATZ	**Kakaramea**	**6.45 217**	P	**Pn**	**23 10 31.0**	**+3.2**
KWHZ	**Kaweka Forest**	**6.48 210**	P	**Pn**	**23 10 27.6**	**-0.5**
TMVZ	**Te Maari**	**6.55 216**	P	**Pn**	**23 10 29.8**	**+0.5**
ETVZ	**East Tongariro**	**6.56 216**	P	**Pn**	**23 10 29.5**	**+0.1**
HIZ	**Hauiti**	**6.56 224**	Pn	**Pn**	**23 10 30.2**	**+1.0**
HIZ	**Hauiti**	**6.56 224**	P	**Pn**	**23 10 30.8**	**+1.5**
HIZ	**Hauiti**	**6.56 224**	P	**Pn**	**23 10 31.5**	**+2.2**
NNVZ	**North Ngauruho**	**6.61 216**	P	**Pn**	**23 10 30.9**	**+0.8**
OTVZ	**Oturere**	**6.61 216**	P	**Pn**	**23 10 30.4**	**+0.4**
WTVZ	**West Tongariro**	**6.61 217**	P	**Pn**	**23 10 31.4**	**+1.4**
KAHZ	**Kahuranaki**	**6.62 206**	P	**Pn**	**23 10 28.1**	**-1.9**
SNVZ	**South Ngauruho**	**6.64 216**	P	**Pn**	**23 10 31.2**	**+0.7**
NGZ	**Ngururioe**	**6.65 216**	P	**Pn**	**23 10 31.8**	**+1.2**
TWVZ	**Tauwera**	**6.65 218**	P	**Pn**	**23 10 32.0**	**+1.4**
KRHZ	**Kereru**	**6.68 210**	P	**Pn**	**23 10 29.6**	**-1.3**
TUVZ	**Tukino**	**6.70 215**	P	**Pn**	**23 10 32.1**	**+0.9**
COVZ	**Chateau Observ**	**6.70 216**	P	**Pn**	**23 10 34.4**	**+3.2**
FWVZ	**Far West T-bar**	**6.74 216**	P	**Pn**	**23 10 32.6**	**+0.8**
WHVZ	**Whangaehu Hut**	**6.74 216**	P	**Pn**	**23 10 33.0**	**+1.1**
MAVZ	**Matarangi**	**6.74 216**	P	**Pn**	**23 10 34.3**	**+2.3**
MOVZ	**Moawhango**	**6.76 214**	P	**Pn**	**23 10 31.2**	**-0.9**
WNVZ	**Wahianoa**	**6.77 215**	P	**Pn**	**23 10 32.9**	**+0.7**
TRVZ	**Turoa**	**6.77 216**	P	Pn	23 10 37.3	+5.0
PXZ	**Pawanui**	**6.83 205**	P	**Pn**	**23 10 31.8**	**-1.1**
PKVZ	**Pokaka**	**6.86 217**	P	**Pn**	**23 10 34.1**	**+0.7**
PNHZ	**Pukenui**	**6.98 209**	P	**Pn**	**23 10 32.5**	**-2.5**
WPHZ	**Waipukurau**	**7.01 207**	P	**Pn**	**23 10 34.8**	**-0.7**
VRZ	**Vera Road**	**7.05 221**	P	**Pn**	**23 10 38.0**	**+2.1**
PRHZ	**Porangahau**	**7.12 206**	P	**Pn**	**23 10 35.6**	**-1.3**
TSZ	**Takapari Road**	**7.20 210**	P	**Pn**	**23 10 37.7**	**-0.4**
DVHZ	**Davirke**	**7.32 208**	P	**Pn**	**23 10 37.5**	**-2.4**
WAZ	**Wanganui**	**7.40 216**	P	**Pn**	**23 10 41.5**	**+0.7**
LREZ	**Lake Rotokare**	**7.48 220**	P	**Pn**	**23 10 43.8**	**+1.9**
NEZ	**North Egmont**	**7.51 223**	P	**Pn**	**23 10 47.1**	**+4.7**
PKE	**Pukeiti**	**7.53 223**	P	**Pn**	**23 10 45.8**	**+3.3**
PREZ	**Palmer Road**	**7.53 222**	P	**Pn**	**23 10 47.1**	**+4.5**
POWZ	**Post Office Ro**	**7.56 210**	P	**Pn**	**23 10 42.7**	**-0.3**
KHEZ	**Kahui Hut**	**7.58 223**	P	**Pn**	**23 10 44.5**	**+1.2**
KHEZ	**Kahui Hut**	**7.58 223**	P	**Pn**	**23 10 46.6**	**+3.4**
PRWZ	**Pori Road**	**7.62 208**	P	**Pn**	**23 10 42.4**	**-1.3**
BFZ	**Birch Farm**	**7.62 206**	Pn	**Pn**	**23 10 40.6**	**-3.3**
BFZ	**Birch Farm**	**7.62 206**	P	**Pn**	**23 10 41.1**	**-2.7**
BFZ	**Birch Farm**	**7.62 206**	P	**Pn**	**23 10 41.5**	**-2.4**
TIWZ	**Tintock**	**7.84 207**	P	**Pn**	**23 10 44.7**	**-2.1**
MRZ	**Mangatainoka R**	**7.87 209**	P	**Pn**	**23 10 44.2**	**-3.0**
HOWZ	**Holdsworth Sta**	**8.09 209**	P	**Pn**	**23 10 47.0**	**-3.3**
TMWZ	**Te Maipa**	**8.13 206**	P	**Pn**	**23 10 49.8**	**-0.9**
OGWZ	**Otaki Gorge**	**8.17 211**	P	**Pn**	**23 10 48.3**	**-2.9**
KIW	**Kapiti Island**	**8.31 212**	P	**Pn**	**23 10 49.9**	**-3.4**
MTW	**Mount Morrison**	**8.32 208**	P	**Pn**	**23 10 50.2**	**-3.2**
MSWZ	**Moikau Station**	**8.64 208**	Pn	**Pn**	**23 10 55.1**	**-2.6**
PLWZ	**Palliser**	**8.77 208**	Pn	**Pn**	**23 10 56.8**	**-2.7**
TUWZ	**Tuamarina**	**9.20 213**	Pn	**Pn**	**23 11 02.0**	**-3.5**
NNZ	**Nelson**	**9.31 216**	P	**Pn**	**23 11 04.0**	**-2.9**
QRZ	**Quartz Range**	**9.46 221**	P	**Pn**	**23 11 08.8**	**-0.2**
QRZ	**Quartz Range**	**9.46 221**	P	**Pn**	**23 11 05.5**	**-3.4**
THZ	**Tophouse**	**9.95 216**	P	**Pn**	**23 11 12.4**	**-3.3**
CTZ	**Chatham Island**	**10.05 169**	P	**Pn**	**23 11 14.2**	**-2.9**
CTZ	**Chatham Island**	**10.05 169**	P	**Pn**	**23 11 16.7**	**-0.4**
CTZ			S	Sn	23 12 59.6	-9.2
KHZ	**Kahutara**	**10.18 211**	P	**Pn**	**23 11 17.3**	**-1.5**
KHZ	**Kahutara**	**10.18 211**	P	**Pn**	**23 11 15.4**	**-3.3**
DSZ	**Denniston Nort**	**10.49 219**	P	**Pn**	**23 11 19.2**	**-4.0**
GVZ	**Greta Valley S**	**10.84 211**	P	**Pn**	**23 11 24.0**	**-3.9**
LTZ	**Lake Taylor**	**11.04 214**	P	**Pn**	**23 11 25.7**	**-4.9**
OXZ	**Oxford**	**11.57 213**	P	**Pn**	**23 11 33.6**	**-4.2**
MQZ	**McQueen's Vall**	**11.60 210**	P	Pn	23 11 32.1	-6.2
NFK	**Norfolk Island**	**11.87 291**	P	**Pn**	**23 11 45.5**	**+3.4**
	comp=Z,0.0nmcomp=Z,221nm,0.9s					
WVZ	**Waitaha Valley**	**12.00 217**	P	**Pn**	**23 11 40.7**	**-3.0**
RPZ	**Rata Peaks**	**12.32 214**	P	Pn	23 11 40.2	-8.0
	comp=Z,32nm,0.4s,baz=9.6,slow=1.8,SNR=12					
RPZ			S	Sn	23 13 51.8	-12
	comp=Z,54nm,0.4s,baz=320,slow=21,SNR=8.6					
RPZ	**Rata Peaks**	**12.32 214**	P	Pn	23 11 40.8	-7.4
FOZ	**Fox Glacier**	**12.80 218**	P	**Pn**	**23 11 50.3**	**-4.3**
TMZ	**Timaru**	**12.86 213**	P	Pn	23 11 50.2	-5.3
LBZ	**Lake Benmore**	**13.24 215**	P	Pn	23 11 55.1	-5.6
ODZ	**Otahua Downs**	**13.54 212**	Pn	Pn	23 11 58.7	-6.0
ODZ	**Otahua Downs**	**13.54 212**	P	**Pn**	**23 12 03.9**	**-0.8**
ODZ	**Otahua Downs**	**13.54 212**	P	Pn	23 11 59.3	-5.4
JCZ	**Jackson Bay**	**13.71 219**	P	Pn	23 12 01.8	-5.4
WKZ	**Wanaka**	**14.13 216**	P	**Pn**	**23 12 08.1**	**-4.7**
HHSZ	**Highcliff Hill**	**14.23 210**	P	**Pn**	**23 12 10.4**	**-3.7**
EAZ	**Earnscleugh**	**14.29 214**	P	**Pn**	**23 12 13.0**	**-1.9**
TUZ	**Tuapeka**	**14.69 212**	P	**Pn**	**23 12 18.5**	**-2.0**
MLZ	**Mavora Lakes**	**14.96 216**	Pn	**Pn**	**23 12 20.1**	**-4.0**
MLZ	**Mavora Lakes**	**14.96 216**	P	**Pn**	**23 12 19.4**	**-4.6**
SYZ	**Scrubby Hill**	**15.36 211**	P	**Pn**	**23 12 25.5**	**-3.8**
WHZ	**Wether Hill Ro**	**15.42 215**	P	**Pn**	**23 12 28.0**	**-2.0**
DCZ	**Deep Cove**	**15.51 218**	P	**Pn**	**23 12 27.7**	**-3.5**
APZ	**The Paps**	**16.09 213**	P	**Pn**	**23 12 35.8**	**-3.0**
PINNC	**Pines Island,**	**16.15 311**	Pn	**Pn**	**23 12 39.2**	**-0.5**
PINNC	**Pines Island,**	**16.15 311**	P	**Pn**	**23 12 44.9**	**+2.3**
PYZ	**Puysegur Point**	**16.23 217**	P	**Pn**	**23 12 39.5**	**-1.0**
MSVF	**Nonsavu**	**16.26 351**		**Pn**	**23 12 42.3**	**+1.2**
MSVF	**Nonsavu**	**16.26 351**	P	**P**	**23 12 43.5**	**-0.4**
MSVF	**Nonsavu**	**16.26 351**	P	**Pn**	**23 12 42.3**	**+1.2**
MSVF			pmax	pmax		
	comp=Z,88nm,0.7s					
OUENC	**Ouen Island, N**	**16.68 310**	P	**P**	**23 12 53.0**	**+4.6**
ONTNC	**Ouen Toro**	**17.01 309**		**P**	**23 12 51.5**	**-0.5**
ONTNC	**Ouen Toro**	**17.01 309**	P	**P**	**23 12 56.4**	**+4.3**
TAVE	**Taveuni**	**17.12 358**	P	**P**	**23 12 57.4**	**+4.0**
DZM	**Mont Dzumac**	**17.18 310**	P	**P**	**23 12 54.3**	**+0.1**
DZM	**Mont Dzumac**	**17.18 310**	*eP*n	**P**	**23 12 57.4**	**+3.3**
	comp=Z,274nm,1.5s					
DZM			*e*LR	LR	23 16 46.5	
	comp=Z,22μm,24.1s					
DZM	**Mont Dzumac**	**17.18 310**	P	**P**	**23 12 56.5**	**+2.4**
	comp=Z,35nm,0.8s,baz=138,slow=18,SNR=10					
DZM			LR	LR	23 18 25.1	
	comp=Z,13μm,19.1s,baz=148,slow=34					
DZM	**Mont Dzumac**	**17.18 310**	P	**P**	**23 12 59.2**	**+5.1**
YSA	**Yasawairara**	**17.34 350**	P	**P**	**23 12 57.9**	**+2.1**
DGTI	**Dogotuki**	**17.54 357**	P	**P**	**23 13 00.5**	**+2.5**
KOUNC	**Koumac, New Ca**	**19.67 308**	P	**Pn**	**23 13 25.5**	**+2.6**
AFI	**Afiamalu**	**21.05 21**	P	**P**	**23 13 36.9**	**+0.4**
AFI			IAmb	IAmb	23 13 54.7	
	comp=Z,127nm,1.2s					
AFI	**Afiamalu**	**21.05 21**	P	**P**	**23 13 36.9**	**+0.4**
AFI			pmax	pmax		
	comp=Z,127nm,1.2s					
VLAKA	**Lakatoro**	**21.35 323**	P	**P**	**23 13 44.4**	**+4.9**
RAR	**Rarotonga**	**21.43 59**	LR	LR	23 21 42.4	
	comp=Z,1μm,18.9s,baz=234,slow=35					
RAR	**Rarotonga**	**21.43 59**	P	**P**	**23 13 39.6**	**-0.8**
GC1S	**Gold Coast 1 S**	**23.91 276**	P	**P**	**23 14 07.4**	**+1.5**
ARMA	**Armidale**	**24.77 270**	P	**P**	**23 14 16.2**	**+2.2**
ARMA	**Armidale**	**24.77 270**	P	**P**	**23 14 18.0**	**+4.0**
ARMA	**Armidale**	**24.77 270**	P	**P**	**23 14 13.6**	**-0.4**
CAN	**Canberra**	**26.03 258**	P	**P**	**23 14 27.3**	**+2.0**
CAN			IAMs_20	IAMs_20	23 22 41.7	
	comp=Z,6μm,22.0s					
CAN	**Canberra**	**26.03 258**	P	**P**	**23 14 27.3**	**+2.0**
CAN			pmax	pmax		
	comp=Z,28nm,1.2s					
CAN			MLR	MLR		
	comp=Z,6μm,22.0s					
YNG	**Young**	**26.65 260**	P	**P**	**23 14 33.5**	**+2.6**
	comp=Z,28nm,0.8s					
GLAD	**Gladstone**	**26.75 245**	P	**P**	**23 14 31.6**	**-0.1**
EIDS	**Eidsvold**	**26.99 280**	P	**P**	**23 14 35.4**	**+1.4**
EIDS	**Eidsvold**	**26.99 280**	P	**P**	**23 14 35.3**	**+1.2**
	comp=Z,0.0nmcomp=Z,47nm,0.7s					
EIDS	**Eidsvold**	**26.99 280**	P	**P**	**23 14 36.3**	**+2.3**
TAU	**Tasmania Unive**	**27.48 241**	P	**P**	**23 14 39.2**	**+1.0**
TAU	**Tasmania Unive**	**27.48 241**	P	**P**	**23 14 39.2**	**+1.0**
TAU			pmax	pmax		
	comp=Z,36nm,0.8s					
MOO	**Moorlands**	**27.51 242**	P	**P**	**23 14 39.5**	**+1.0**
	comp=Z,73nm

WRAB pmax pmax
comp=Z,58nm,0.9s
WRA Warramunga Arr 43.21 277 P **P** **23 16 52.5 -0.8**
WRA Warramunga Arr 43.21 277 P **P** **23 16 51.5 -1.9**
comp=Z,34nm,0.5s,baz=117,slow=7.3,SNR=137
WRA PcP **PcP** **23 18 41.1 -1.3**
comp=Z,5.4nm,0.6s,baz=122,slow=3.2,SNR=4.7
WRA ScP **ScP** **23 22 26.5 -4.8**
comp=Z,1.0nm,0.6s,baz=114,slow=4.1,SNR=3.5
WRA S **S** **23 23 12.8 -5.5**
comp=Z,3.7nm,1.0s,baz=118,slow=13,SNR=7.7
WRA LR LR 23 33 46.4
comp=Z,3µm,21.6s,baz=132,slow=35
comp=Z,34nm,0.5s
WB0 Warramunga Arr 43.25 277 P **P** **23 16 53.1 -0.5**
WB0 IAmb IAmb 23 16 56.0
comp=Z,59nm,0.7s
TAOE Nuku Hiva Isla 43.80 65 *e*P **P** **23 16 54.5 -3.6**
comp=Z,179nm,27.0s
TAOE *e*S **S** **23 23 23.5 -3.5**
comp=Z,1µm,26.4s
TAOE *e*SS **SS** **23 26 44.2 +0.6**
comp=Z,1µm,25.3s
TAOE *e*LR LR 23 28 59.5
comp=Z,4µm,26.4s
FORT Forrest 44.14 259 P **P** **23 17 00.6 0.0**
FORT IAmb IAmb 23 17 03.5
comp=Z,33nm,0.6s
MANU Manus Island 44.39 308 P **P** **23 17 02.6 -0.1**
MANU IAmb IAmb 23 17 04.8
comp=Z,133nm,1.1s
SBA Scott Base 44.48 184 P **P** **23 17 05.8 +3.1**
SBA IAmb IAmb 23 17 21.1
comp=Z,41nm,0.9s
SBA Scott Base 44.48 184 P **P** **23 17 05.8 +3.1**
SBA pmax pmax
comp=Z,41nm,0.9s
SBA Scott Base 44.48 184 P **P** **23 17 06.3 +3.6**
VNDA Vanda 44.51 186 P **P** **23 17 05.1 +2.1**
VNDA Vanda 44.51 186 P **P** **23 17 05.2 +2.1**
comp=Z,3.5nm,0.8s,baz=358,slow=7.9,SNR=8.9
VNDA PcP **PP** **23 18 47.6 +0.7**
comp=Z,6.5nm,0.9s,baz=64,slow=0.9,SNR=3.1
VNDA LR LR 23 31 41.8
comp=Z,699nm,22.0s,baz=9.5,slow=31
comp=Z,3.5nm,0.8s
VNDA Vanda 44.51 186 P **P** **23 17 05.1 +2.1**
VNDA pmax pmax
comp=Z,10.0nm,0.9s
VNDA Vanda 44.51 186 P **P** **23 17 05.8 +2.8**
KDU Kakadu 48.51 284 P **P** **23 17 34.9 -0.2**
JAY Jayapura 48.60 301 P **P** **23 17 34.6 -1.2**
comp=Z,68nm,1.0s,baz=154,slow=6.7,SNR=24
JAY LR LR 23 35 42.7
comp=Z,2µm,21.8s,baz=162,slow=33
comp=Z,68nm,1.0s
JAY Jayapura 48.60 301 P **P** **23 17 35.7 -0.1**
comp=Z,1µmcomp=Z,89nm,1.2s
GENI Genyem 48.93 301 P **P** **23 17 39.1 +0.8**
GENI Genyem 48.93 301 P **P** **23 17 39.3 +1.0**
comp=Z,2µmcomp=Z,160nm,1.3s
CCD Concordia, Ant 49.28 197 P **P** **23 17 41.9 +1.1**
MTN Manton Dam 49.51 283 P **P** **23 17 41.7 -1.0**
MTN Manton Dam 49.51 283 P **P** **23 17 42.8 0.0**
KNRA Kununurra 49.93 278 P **P** **23 17 45.4 -0.6**
KNRA IAmb IAmb 23 17 47.4
comp=Z,36nm,0.9s
JOHN Johnston Islan 51.21 12 P **P** **23 17 54.6 -0.9**
FITZ Fitzroy Crossi 51.31 273 P **P** **23 17 55.7 -0.6**
FITZ Fitzroy Crossi 51.31 273 LR LR 23 39 29.0
comp=Z,4µm,19.0s,baz=116,slow=36
CASY Casey 51.53 209 P **P** **23 17 57.3 0.0**
CASY IAmb IAmb 23 18 00.3
comp=Z,39nm,0.8s
CASY Casey 51.53 209 P **P** **23 17 56.8 -0.5**
NWAO Narrogin (SRO) 52.16 252 LR LR 23 39 06.4
comp=Z,2µm,19.8s,baz=94,slow=35
KLBR Kellerberrin 52.20 254 P **P** **23 18 01.3 -1.6**
BAKI Biak 52.83 298 P **P** **23 18 09.4 +1.7**
MUN Mundaring 53.30 253 P **P** **23 18 09.9 -1.1**
MEEK Meekatharra 53.36 260 P **P** **23 18 09.7 -1.9**
BLDU Ballidu 53.39 255 P **P** **23 18 11.2 -0.5**
PSA00 Pilbara Seismi 54.50 266 P **P** **23 18 19.1 -0.8**
PSA00 IAmb IAmb 23 18 19.8
comp=Z,62nm,1.4s
PSA00 Pilbara Seismi 54.50 266 P **P** **23 18 19.5 -0.4**
MORW Morawa 54.51 256 P **P** **23 18 19.1 -0.8**
MORW IAmb IAmb 23 18 20.0
comp=Z,51nm,1.1s
MORW Morawa 54.51 256 P **P** **23 18 18.6 -1.3**
FAKI Fak Fak 54.57 294 IAMs_20 IAMs_20 23 40 04.4
comp=Z,2µm,20.0s
MBWA Marble Bar 54.78 267 IAMs_20 IAMs_20 23 40 50.8
comp=Z,2µm,18.0s
QSPA South Pole Qui 56.22 180 P **P** **23 18 33.6 +1.7**
QSPA South Pole Qui 56.22 180 P **P** **23 18 34.1 +2.3**
comp=Z,44nm,0.8s,baz=44,slow=2.7,SNR=70
QSPA LR LR 23 38 12.4
comp=Z,1µm,21.4s,baz=44,slow=31
QSPA PKPPKP **P'P'df** **23 48 28.3 -7.5**
comp=Z,1.6nm,0.8s,baz=226,slow=3.5,SNR=3.8
comp=Z,44nm,0.8s
QSPA South Pole Qui 56.22 180 P **P** **23 18 34.7 +2.9**
SWI Sorong 56.65 295 P **P** **23 18 34.8 -0.6**
comp=Z,2µmcomp=Z,120nm,1.6s
SOEI Soe 56.81 281 P **P** **23 18 37.1 +0.4**
SOEI IAMs_20 IAMs_20 23 44 50.6
comp=Z,2µm,20.0s
SOEI Soe 56.81 281 P **P** **23 18 36.8 +0.1**
SOEI Soe 56.81 281 P **P** **23 18 37.4 +0.7**
comp=Z,2µmcomp=Z,75nm,0.9s
BATI Baumata 57.05 280 LR LR 23 43 30.2
comp=Z,2µm,19.4s,baz=132,slow=37
HPAH Hawaii Prepara 58.17 26 P **P** **23 18 47.5 +1.5**
GUMO Guam 58.22 318 P **P** **23 18 44.5 -1.9**
comp=Z,64nm,0.3s,baz=170,slow=19,SNR=1.8
GUMO LR LR 23 40 06.4
comp=Z,446nm,21.4s,baz=150,slow=32
NLAI Namlea 58.36 289 P **P** **23 18 47.5 +0.1**
comp=Z,2µmcomp=Z,113nm,1.9s
GIRL Giralia 58.67 262 P **P** **23 18 49.5 0.0**
MMRI Maumere 59.09 281 P **P** **23 18 51.5 -1.0**
MMRI Maumere 59.09 281 P **P** **23 18 52.5 0.0**
MMRI Maumere 59.09 281 P **P** **23 18 52.0 -0.5**
comp=Z,146nm,1.4s
EDFI Ende, Flores 59.47 281 P **P** **23 18 54.8 -0.5**
comp=Z,922nmcomp=Z,30nm,0.9s
SANI Sanana 59.96 290 P **P** **23 18 58.8 +0.3**
SANI Sanana 59.96 290 P **P** **23 18 56.7 -1.8**
PLAI Plampang 62.64 278 P **P** **23 19 16.6 -0.1**
PLAI Plampang 62.64 278 P **P** **23 19 16.0 -0.7**
comp=Z,1µmcomp=Z,80nm,1.0s
BKSI Bulukumba 62.69 283 P **P** **23 19 16.6 -0.4**
comp=Z,785nmcomp=Z,31nm,1.1s
LUWI Luwuk 63.11 288 P **P** **23 19 18.7 -1.1**
KAPI Kappang 63.17 283 P **P** **23 19 19.0 -1.2**
KAPI Kappang 63.17 283 LR LR 23 47 38.5
comp=Z,924nm,19.7s,baz=114,slow=37
KAPI Kappang 63.17 283*ce*P **P** **23 19 19.7 -0.5**
KAPI pmax pmax
comp=Z,17nm,0.9s
KAPI Kappang 63.17 283 P **P** **23 19 19.5 -0.7**
BNSI Bone 63.24 284 P **P** **23 19 20.4 -0.3**
comp=Z,1µmcomp=Z,67nm,2.0s
SRBI Singaraja 65.16 277 P **P** **23 19 32.1 -1.2**
comp=Z,98nm,0.7s
PCI Palu 65.52 286 P **P** **23 19 36.0 +0.4**
comp=Z,123nm,1.4s
JAGI Jajag, Banyuwa 65.83 276 P **P** **23 19 36.2 -1.5**
JAGI Jajag, Banyuwa 65.83 276 P **P** **23 19 36.8 -0.8**
TOLI2 Tolitoli 65.99 289 P **P** **23 19 35.5 -3.1**
TOLI2 IAmb IAmb 23 19 38.3
comp=Z,32nm,1.0s
TOLI2 Tolitoli 65.99 289 P **P** **23 19 37.9 -0.7**
DAV Davao City (W) 66.11 297 P **P** **23 19 39.3 -0.1**
DAV Davao City (W) 66.11 297 LR LR 23 44 34.4
comp=Z,450nm,21.4s,baz=142,slow=32
MPSI Mapaga 66.22 288 P **P** **23 19 39.5 -0.6**
comp=Z,2µmcomp=Z,27nm,0.9s
BELA Belgrano 2 66.48 172 P **P** **23 19 41.4 +0.5**
BELA IAmb IAmb 23 20 00.8
comp=Z,24nm,0.9s
GMJI Gumukmas 66.52 276 P **P** **23 19 40.9 -1.1**
comp=Z,88nm,0.9s
SMAI San Martin Ant 66.63 158 P **P** **23 19 44.8 +2.9**
SMAI IAmb IAmb 23 19 56.5
comp=Z,106nm,2.0s
PCJI Pacitan 68.44 275 P **P** **23 19 54.8 +0.6**
MAW Mawson 68.64 201 P **P** **23 19 54.5 0.0**
comp=Z,27nm,0.8s,baz=131,slow=8.6,SNR=48
MAW LR LR 23 49 25.0
comp=Z,797nm,19.5s,baz=116,slow=35
comp=Z,27nm,0.8s
PMSA Palmer Station 69.56 156 LR LR 23 44 36.2
comp=Z,867nm,20.8s,baz=246,slow=31
LEM Lembang 72.14 274 LR LR 23 51 13.5
comp=Z,1µm,21.4s,baz=129,slow=35
KKM Kota Kinabalu 72.60 290 P **P** **23 20 18.8 -0.8**
KKM IAmb IAmb 23 20 20.1
comp=Z,39nm,1.0s
ESPZ Base Esperanza 72.83 157 P **P** **23 20 21.1 +1.0**
ESPZ IAmb IAmb 23 20 49.0
comp=Z,38nm,1.0s
SYO Syowa Base 73.46 194⇑*i*P **P** **23 20 23.4 -0.3**
SYO Syowa Base 73.46 194⇑*i*sP sP 23 20 40.8 +4.8
SYO Syowa Base 73.46 194⇓*i*PcP **PcP** **23 20 43.0 +3.2**
SBUM Sibu 73.62 284 P **P** **23 20 24.7 -0.8**
SBUM IAmb IAmb 23 20 26.3
comp=Z,97nm,1.9s
TGY Tagaytay City 74.17 299 LR LR 23 51 43.4
comp=Z,326nm,21.7s,baz=118,slow=35
TROLL Troll, Antarti 74.38 181⇑P **P** **23 20 30.2 +0.9**
comp=Z,2µm,0.8s
TROLL ⇑S **S** **23 30 01.0 -0.3**
SNAA Sanae 74.70 179⇑P **P** **23 20 31.8 +0.7**
comp=Z,434nm,0.6s
SNAA ⇑S **S** **23 30 06.2 +1.5**
SNAA Sanae 74.70 179 P **P** **23 20 31.5 +0.4**
SNAA IAmb IAmb 23 20 49.0
comp=Z,29nm,0.8s
SNAA Sanae 74.70 179 P **P** **23 20 31.1 0.0**
comp=Z,18nm,0.9s,baz=200,slow=8.4,SNR=42
SNAA LR LR 23 49 42.8
comp=Z,670nm,21.7s,baz=196,slow=33
comp=Z,18nm,0.9s
SNAA Sanae 74.70 179*ce*P **P** **23 20 31.9 +0.8**
SNAA pmax pmax
comp=Z,91nm,2.4s
VNA3 Neumayer Olymp 74.90 177⇑P **P** **23 20 32.7 +0.5**
comp=Z,68nm,0.7s
VNA1 Neumayer--Stat 75.56 177⇑P **P** **23 20 36.6 +0.7**
comp=Z,72nm,0.9s
VNA1 ⇑S **S** **23 30 07.9 -6.1**
MDSI Maura Dua 76.28 274 P **P** **23 20 38.4 -2.6**
comp=Z,45nm,1.5s
JOW Kunigami 78.19 314 P **P** **23 20 50.1 -1.2**
JOW Kunigami 78.19 314 LR LR 23 51 28.3
comp=Z,739nm,20.8s,baz=142,slow=33
JOW Kunigami 78.19 314 P **P** **23 20 51.1 -0.3**
LL02 Futaleuf 78.72 135 P **P** **23 20 54.9 +0.7**
LL02 IAmb IAmb 23 21 13.0
comp=Z,29nm,0.8s
H03S2 Juan Fernandez 79.50 124 T T 00 49 17.2
baz=234,slow=74,SNR=105
H03S1 Juan Fernandez 79.51 124 T T 00 49 32.4
baz=234,slow=74,SNR=96
H03S3 Juan Fernandez 79.51 124 T T 00 49 31.3
baz=234,slow=74,SNR=106
H03N3 Juan Fernandez 79.71 123 T T 00 49 29.7
baz=238,slow=72,SNR=260
H03N2 Juan Fernandez 79.71 123 T T 00 49 29.6
baz=238,slow=72,SNR=203
H03N1 Juan Fernandez 79.72 123 T T 00 49 24.8
baz=238,slow=72,SNR=216
TWGBT Pinlang 79.94 306 P **P** **23 20 59.2 -1.8**
TWG Pinlang 79.94 306 P **P** **23 20 57.8 -3.3**
INU Inuyama 80.07 325 P **P** **23 21 00.3 -1.1**
INU Inuyama 80.07 325 P **P** **23 21 02.5 +1.1**
JGF Kuroka 80.11 325 P **P** **23 21 00.4 -1.3**
JGF Kuroka 80.11 325 P **P** **23 21 00.7 -1.0**
YULB Yu-li 80.18 307 P **P** **23 21 00.1 -2.2**
MJAR Matsushiro Arr 80.48 327 P **P** **23 21 01.9 -1.7**
MJAR Matsushiro Arr 80.48 327 P **P** **23 21 01.9 -1.7**
comp=Z,6.9nm,0.8s,baz=157,slow=5.3,SNR=14
MJAR LR LR 23 54 14.5
comp=Z,255nm,19.0s,baz=142,slow=34
comp=Z,6.9nm,0.8s
MJAR Matsushiro Arr 80.48 327 P **P** **23 21 02.0 -1.7**
MJAR pmax pmax
comp=Z,5.0nm,0.9s
MAJO Matsushiro 80.48 327 P **P** **23 21 02.8 -0.9**
MAJO Matsushiro 80.48 327 P **P** **23 21 04.2 +0.6**
MAJO Matsushiro 80.48 327⇑*e*P **P** **23 21 03.1 -0.5**
MAJO pmax pmax
comp=Z,11nm,0.8s
MJB9 Matsu-Tunnel 80.49 327 P **P** **23 21 02.9 -0.8**
TPUB Ta-pu 80.57 306 P **P** **23 21 01.4 -3.0**
TPUB IAmb IAmb 23 21 04.0
comp=Z,26nm,0.8s
TPUB IAMs_20 IAMs_20 23 52 30.3
comp=Z,814nm,21.0s
TPUB Ta-pu 80.57 306 P **P** **23 21 02.8 -1.6**
SSLB Suanglung 80.68 307 IAmb IAmb 23 21 04.5
comp=Z,23nm,0.9s
SSLB IAMs_20 IAMs_20 23 54 05.3
comp=Z,797nm,20.0s
SSLB Suanglung 80.68 307 P **P** **23 21 03.4 -1.6**
PLCA Paso Flores 80.97 133 P **P** **23 21 09.0 +2.5**
comp=Z,2.1nm,0.6s,baz=248,slow=3.8,SNR=5.0
PLCA LR LR 23 50 43.1
comp=Z,363nm,19.0s,baz=248,slow=31
comp=Z,2.1nm,0.6s
PLCA Paso Flores 80.97 133 P **P** **23 21 09.0 +2.5**
JNU Nakatsue 81.43 320 LR LR 23 52 42.4
comp=Z,279nm,22.0s,baz=128,slow=32
JNU Nakatsue 81.43 320 P **P** **23 21 08.9 +0.1**
QZH Quanzhou 83.04 306⇑*i*P **P** **23 21 16.6 -0.8**
QZH S **S** **23 31 29.8 -4.9**
QZH pmax pmax
comp=Z,300nm,7.1s
QZH LR LR
comp=Z,310nm,19.2s
QZH LR LR
comp=Z,470nm,18.2s
QZH LR LR
comp=Z,470nm,19.2s
MT01 Popeta 84.68 127 P **P** **23 21 25.9 +0.1**
PSI Prapat 84.68 277 LR LR 00 01 05.6
comp=Z,699nm,19.3s,baz=140,slow=37
GSI Gunungsitoli 84.96 275 P **P** **23 21 25.8 -1.7**
GSI Gunungsitoli 84.96 275 P **P** **23 21 27.5 0.0**
GSI Gunungsitoli 84.96 275 P **P** **23 21 26.8 -0.7**
comp=Z,76nm,1.3s
ASAJ Asahikawa 85.02 334 LR LR 23 53 04.3
comp=Z,1µm,21.5s,baz=164,slow=31
QIZ Qiongzhong 85.48 296 P **P** **23 21 28.6 -1.3**
QIZ S **S** **23 32 01.8 +2.5**
QIZ SS **SS** **23 37 38.3 +2.7**
QIZ pmax pmax
comp=Z,21nm,2.7s
QIZ LR LR
comp=Z,140nm,27.1s
QIZ LR LR
comp=Z,140nm,29.4s
QIZ LR LR
comp=Z,560nm,27.0s
TJN Taejon 85.78 320⇓*e*P **P** **23 21 32.3 +1.4**
TJN pmax pmax
comp=Z,1.0nm,1.1s
ATKA Atka Island 85.85 3 P **P** **23 21 31.1 +0.2**
KSRS Korea Array 86.28 321 P **P** **23 21 32.9 -0.5**
comp=Z,4.2nm,0.7s,baz=140,slow=5.6,SNR=14
KSRS PP **PP** **23 24 51.9 -3.1**
comp=Z,1.7nm,0.9s,baz=155,slow=9.4,SNR=5.4
comp=Z,4.2nm,0.7s
KS19 Wonju Array Si 86.35 321 P **P** **23 21 33.7 -0.1**
KS19 IAmb IAmb 23 24 12.0
comp=Z,66nm,1.9s
SHEM Shemya Is, Ala 86.45 356 LR LR 23 53 58.3
comp=Z,2µm,21.9s,baz=156,slow=31
NIKH Nikolski High 86.99 6 P **P** **23 21 36.9 +0.5**
NIKH IAMs_20 IAMs_20 23 51 34.0
comp=Z,1µm,21.0s
NIKH Nikolski High 86.99 6 P **P** **23 21 37.1 +0.6**
NIKH Nikolski High 86.99 6 P **P** **23 21 37.5 +1.0**
baz=189,SNR=11
LPIG La Paz 87.34 59 LR LR 23 55 51.7
comp=Z,822nm,18.0s,baz=214,slow=32
YSS Yuzhno-Sakhali 87.40 335 P **P** **23 21 38.9 +0.3**
YSS IAmb IAmb 23 21 43.8
comp=Z,31nm,1.1s
YSS IAMs_20 IAMs_20 23 57 07.6
comp=Z,1µm,20.0s
YSS Yuzhno-Sakhali 87.40 335 P **P** **23 21 39.1 +0.5**
YSS Yuzhno-Sakhali 87.40 335*ce*P **P** **23 21 39.5 +0.9**
YSS *e* 23 25 02.8
YSS *e*S **S** **23 32 16.1 -0.7**
YSS *e*SS **SS** **23 38 01.6 -1.4**
YSS pmax pmax
comp=Z,400nm,3.4s
YSS pmax pmax
comp=N,100nm,4.5s
YSS pmax pmax
comp=E,200nm,3.0s
YSS pmax pmax
comp=Z,30nm,1.2s
NJ2 Nanjing 87.67 312 *e*P **P** **23 21 40.3 0.0**
NJ2 pmax pmax
comp=Z,12nm,0.8s
UNV Unalaska Valle 88.09 8 P **P** **23 21 42.6 +0.9**
UNV Unalaska Valle 88.09 8 P **P** **23 21 42.8 +1.1**
baz=191,SNR=6.2
AKUT Akutan 88.45 8 P **P** **23 21 43.9 +0.5**
SAO San Andreas Ge 88.62 43 IAMs_20 IAMs_20 23 53 53.5
comp=Z,770nm,20.0s
ESJX Sierra Juarez 88.65 49 P **P** **23 21 46.7 +1.5**
ESJX IAmb IAmb 23 22 04.0
comp=Z,56nm,1.7s
PET Petropavlovsk 88.65 347 *e*P **P** **23 21 42.7 -1.7**
PET *e*S **S** **23 32 29.2 +0.8**
PET *e*PS **PnS** **23 33 34.2 -1.3**
PET *e*SS **SS** **23 38 21.6 +0.6**
PET pmax pmax
comp=Z,43nm,2.1s
PET pmax pmax
comp=Z,100nm,17.8s
PET MLR MLR
comp=Z,300nm,21.0s
PASC Pasadena Art C 88.73 47 IAMs_20 IAMs_20 23 54 56.6
comp=Z,708nm,20.0s
PSTR Posyet 88.79 326⇓*e*P **P** **23 21 47.8 +2.5**
MCCM Marconi Confer 88.81 41 IAMs_20 IAMs_20 23 55 56.3
comp=Z,864nm,20.0s
PEA0B Petropavlovsk- 88.92 346⇑*e*P **P** **23 21 47.6 +1.9**
PETK Petropavlovsk- 88.92 346 P **P** **23 21 45.5 -0.2**
PETK Petropavlovsk- 88.92 346 P **P** **23 21 44.9 -0.8**
comp=Z,36nm,0.7s,baz=178,slow=6.3,SNR=36
comp=Z,36nm,0.7s
PETK Petropavlovsk- 88.92 346 P **P** **23 21 45.5 -0.2**
BFSC Mount Baldy Ra 89.09 47 IAmb IAmb 23 21 57.5
comp=Z,33nm,0.9s
BORC Borrego Spring 89.20 48 P **P** **23 21 49.8 +2.2**
BORC IAmb IAmb 23 22 06.8
comp=Z,48nm,1.3s
PFO Pinyon Flats O 89.41 48 P **P** **23 21 50.0 +1.4**
PFO IAmb IAmb 23 21 59.5
comp=Z,15nm,0.9s
PFO Pinyon Flats O 89.41 48 IAMs_20 IAMs_20 23 55 05.7
comp=Z,804nm,19.0s
PFO Pinyon Flats O 89.41 48 P **P** **23 21 51.4 +2.7**
comp=Z,7.5nm,1.0s,baz=246,slow=5.6,SNR=10.0
PFO LR LR 23 58 20.4
comp=Z,656nm,18.0s,baz=228,slow=33
comp=Z,7.5nm,1.0s
PFO Pinyon Flats O 89.41 48 P **P** **23 21 50.0 +1.4**
PFO pmax pmax
comp=Z,15nm,0.9s
PFO MLR MLR
comp=Z,800nm,19.0s
FALS False Pass 89.45 9 P **P** **23 21 46.5 -1.6**
FALS False Pass 89.45 9 P **P** **23 21 49.8 +1.7**
baz=193
USA0B Ussuriysk Arra 89.45 327 IAmb IAmb 23 22 13.2
comp=Z,52nm,1.7s
USA0B Ussuriysk Arra 89.45 327*ce*P **P** **23 21 47.6 -0.8**
USRK Ussuriysk Ar. 89.45 327 P **P** **23 21 47.2 -1.1**
comp=Z,7.5nm,0.8s,baz=96,slow=4.3,SNR=13
USRK LR LR 23 57 03.3
comp=Z,342nm,21.2s,baz=140,slow=32
comp=Z,7.5nm,0.8s
PMD Palm Desert 89.48 48 IAmb IAmb 23 21 59.6
comp=Z,14nm,0.8s
WHN Wuhan 89.55 308 P **P** **23 21 48.4 -0.8**
WHN SKS **SKSac** **23 32 18.0 +0.8**
WHN LR LR
comp=Z,2µm,28.5s
ISA Isabella, Lake 89.58 45 P **P** **23 21 51.0 +1.7**
ISA IAmb IAmb 23 22 08.4
comp=Z,26nm,1.1s
ISA Isabella, Lake 89.58 45 P **P** **23 21 51.0 +1.7**
ISA pmax pmax
comp=Z,26nm,1.1s
LRMC Laurel Mtn Rad 89.92 46 IAmb IAmb 23 22 00.8
comp=Z,77nm,0.9s
CNBA Chernabura Isl 89.98 11 IAMs_20 IAMs_20 23 57 24.8
comp=Z,918nm,20.0s
CHNA Chernabura Isl 89.99 11 P **P** **23 21 50.7 +0.1**
CHNA Chernabura Isl 89.99 11 P **P** **23 21 52.1 +1.5**
baz=196,SNR=5.1
CMB Columbia Colle 90.12 43 IAmb IAmb 23 21 55.1
comp=Z,18nm,1.1s
JCC Jacoby Creek, 90.13 39 IAMs_20 IAMs_20 00 02 37.0
comp=Z,834nm,18.0s
O02D Mt. Diablo Mer 90.32 40 IAmb IAmb 23 22 15.7
comp=Z,38nm,1.1s
GSC Goldstone, Bar 90.33 47 IAmb IAmb 23 22 02.8
comp=Z,14nm,0.8s
SDPT Sand Point 90.35 11 P **P** **23 21 52.3 0.0**
SDPT Sand Point 90.35 11 P **P** **23 21 53.4 +1.1**
baz=196
AFDM Forest Hills D 90.43 42 P **P** **23 21 54.5 +1.3**
AFDM IAmb IAmb 23 21 56.4
comp=Z,14nm,1.2s
S12K Black Hills 90.46 10 IAMs_20 IAMs_20 23 57 04.1
comp=Z,796nm,21.0s
S12K Black Hills 90.46 10 P **P** **23 21 53.9 +1.1**
baz=194,SNR=9.1
P08K Saint George I 90.53 5 IAMs_20 IAMs_20 23 54 27.5
comp=Z,963nm,22.0s
BLYC Blythe 90.70 49 IAmb IAmb 23 22 14.1
comp=Z,22nm,1.2s
QSM Queen of Sheba 90.74 46 P **P** **23 21 56.7 +2.0**
QSM IAmb IAmb 23 21 58.5
comp=Z,28nm,1.5s
DL2 Dalian 90.75 318 P **P** **23 21 52.8 -1.8**
DL2 PP **PP** **23 25 29.3 -1.5**
DL2 S **S** **23 32 45.1 -3.5**
DL2 pmax pmax
comp=Z,28nm,1.2s
DL2 pmax pmax
comp=Z,280nm,6.4s
DL2 LR LR
comp=Z,450nm,23.8s
DL2 LR LR
comp=Z,380nm,22.5s
DL2 LR LR
comp=Z,570nm,23.8s
MDJ Mudanjiang 90.87 326 P **P** **23 21 52.3 -2.7**
MDJ S **S** **23 32 49.6 +0.2**
MDJ pmax pmax
comp=Z,8.0nm,1.9s
MDJ pmax pmax
comp=Z,230nm,5.6s
MDJ LR LR
comp=Z,470nm,16.4s
MDJ LR LR
comp=Z,360nm,22.1s
MDJ LR LR
comp=Z,570nm,19.0s
WAKR Walker 90.98 43 IAmb IAmb 23 22 09.7
comp=Z,13nm,1.0s
GWY Greenwater Val 91.01 46 IAmb IAmb 23 22 05.5
comp=Z,7.9nm,0.8s
SPIA Saint Paul Isl 91.05 5 IAMs_20 IAMs_20 23 54 30.2
comp=Z,1µm,22.0s
GRAC Grapevine Rang 91.14 45 P **P** **23 21 58.6 +2.1**
GRAC IAmb IAmb 23 22 06.7
comp=Z,16nm,0.8s
MTPC Mountain Pass 91.21 47 IAmb IAmb 23 22 12.3
comp=Z,40nm,1.7s
NEE2 Needles Airpor 91.31 48 P **P** **23 21 58.8 +1.4**
L02F Cave Junction 91.32 38 IAmb IAmb 23 22 01.1
comp=Z,31nm,1.3s
LHV Little Huntoon 91.33 43 IAmb IAmb 23 22 05.1
comp=Z,16nm,1.1s
S14K Fog Glacier 91.40 11 P **P** **23 21 58.4 +1.1**
baz=196,SNR=9.3
YBH Yreka Blue Hor 91.48 39 P **P** **23 21 59.6 +1.5**

YBH Yreka Blue Hor 91.48 39 P **P** **23 22 00.7 +2.6**
comp=Z,0.3nm,0.8s,baz=163,slow=4.9,SNR=6.9
YBH LR LR 23 58 14.3
comp=Z,33nm,19.1s,baz=248,slow=32
YBH Yreka Blue Hor 91.48 39 P **P** **23 21 59.6 +1.5**
YBH pmax pmax
comp=Z,8.0nm,0.9s
TIA Tai'an 91.52 314 P **P** **23 21 57.5 -0.8**
TIA pmax pmax
comp=Z,12nm,1.1s
TIA pmax pmax
comp=Z,210nm,5.2s
TIA LR LR
comp=Z,290nm,23.0s
TIA LR LR
comp=Z,110nm,20.1s
TIA LR LR
comp=Z,410nm,22.6s
NVAR Mina Array Bea 91.57 43 P **P** **23 21 59.9 +1.2**
NVAR Mina Array Bea 91.57 43 P **P** **23 22 01.3 +2.5**
comp=Z,4.5nm,0.8s,baz=220,slow=7.6,SNR=17
NVAR LR LR 23 55 21.3
comp=Z,757nm,21.5s,baz=226,slow=30
comp=Z,4.5nm,0.8s
CHGN Chignik 91.60 11 P **P** **23 21 59.2 +1.2**
baz=197,SNR=19
CHIR Chirikof Islan 91.64 13 P **P** **23 21 59.7 +1.4**
baz=200
SNY Shenyang 91.77 321 ⇑P P 23 21 53.0 -6.2
TPNV Topopah Spring 91.77 46 IAmb IAmb 23 22 09.7
comp=Z,9.8nm,0.7s
TPNV IAMs_20 IAMs_20 23 57 16.0
comp=Z,745nm,19.0s
Y14A Wickenburg 91.78 50 IAmb IAmb 23 22 10.4
comp=Z,8.8nm,0.8s
V12A Nelson 91.80 47 **P** **23 22 01.9 +2.2**
V12A IAmb IAmb 23 22 14.0
comp=Z,39nm,2.0s
W13A Hualapai Mount 91.98 48 IAmb IAmb 23 22 19.4
comp=Z,22nm,1.6s
L04D Klamath Falls 92.04 39 IAmb IAmb 23 22 24.3
comp=Z,20nm,1.1s
TUC Tucson 92.18 52 P **P** **23 22 03.5 +2.0**
TUC Tucson 92.18 52 P **P** **23 22 03.5 +2.0**
TUC pmax pmax
comp=Z,66nm,1.9s
TUC MLR MLR
comp=Z,500nm,20.0s
CN2 Changchun 92.24 323 P **P** **23 22 01.9 +0.5**
CN2 sP pP 23 22 09.0 -1.6
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,300nm,23.0s
CN2 LR LR
comp=Z,300nm,23.0s
CN2 LR LR
comp=Z,300nm,26.0s
GYA Guiyang 92.30 300 ⇑P **P** **23 22 02.9 +0.6**
GYA S **S** **23 33 03.5 0.0**
GYA pmax pmax
comp=Z,12nm,1.1s
GYA pmax pmax
comp=Z,190nm,11.8s
GYA LR LR
comp=Z,160nm,10.1s
GYA LR LR
comp=Z,200nm,16.3s
GYA LR LR
comp=Z,420nm,22.2s
BBOR Butler Butte 92.33 38 IAmb IAmb 23 22 16.4
comp=Z,12nm,1.1s
I03D Drain, OR 92.57 37 IAmb IAmb 23 22 06.4
comp=Z,14nm,0.9s
SII Sitkinak Islan 92.61 14 P **P** **23 22 03.1 +0.3**
SII Sitkinak Islan 92.61 14 P **P** **23 22 03.7 +0.9**
baz=201
BNX BinXian 92.73 326 ⇑P **P** **23 22 04.5 +0.9**
BNX sP **pP** **23 22 09.1 -3.7**
BNX S **S** **23 33 10.6 +4.5**
BNX pmax pmax
comp=Z,9.0nm,1.1s
BNX pmax pmax
comp=Z,82nm,4.7s
BNX LR LR
comp=Z,270nm,23.8s
BNX LR LR
comp=Z,330nm,21.7s
BNX LR LR
comp=Z,580nm,21.1s
X16A Lo Mia Camp, P 93.08 50 IAmb IAmb 23 22 24.7
comp=Z,11nm,1.2s
BUCK Buck Mountain 93.11 37 IAmb IAmb 23 22 09.1
comp=Z,25nm,1.1s
K05A Summer Lake 93.14 39 IAmb IAmb 23 22 09.3
comp=Z,16nm,0.9s
R17L Mt. Peulik Vol 93.21 12 P **P** **23 22 06.7 +1.1**
baz=199,SNR=23
LYN LuoYang 93.33 310 P **P** **23 22 06.4 -0.3**
LYN pmax pmax
comp=Z,230nm,6.5s
LYN LR LR
comp=Z,550nm,16.8s
LYN LR LR
comp=Z,460nm,20.0s
LYN LR LR
comp=Z,1µm,20.6s
J05D Fort Rock, OR 93.35 38 IAmb IAmb 23 22 10.1
comp=Z,10nm,0.8s
OHAK Old Harbor 93.40 14 IAmb IAmb 23 22 09.5
comp=Z,9.1nm,0.8s
OHAK Old Harbor 93.40 14 P **P** **23 22 06.4 0.0**
OHAK Old Harbor 93.40 14 P **P** **23 22 07.2 +0.9**
baz=202
CMAR Chiang Mai Arr 93.48 290 P **P** **23 22 06.2 -1.5**
CMAR Chiang Mai Arr 93.48 290 P **P** **23 22 07.4 -0.4**
comp=Z,1.5nm,0.7s,baz=154,slow=3.5,SNR=7.9
CMAR PP **PP** **23 25 50.4 -2.3**
comp=Z,1.3nm,0.3s,baz=141,slow=7.9,SNR=4.6
CMAR LR LR 00 03 49.5
comp=Z,193nm,21.6s,baz=130,slow=35
comp=Z,1.5nm,0.7s
R18K Karluk 93.50 13 P **P** **23 22 07.8 +1.0**
baz=201
NNA Nana 93.54 107 LR LR 23 55 03.2
comp=Z,2µm,21.2s,baz=228,slow=29
HNS HongShan 93.76 313 ⇑P **P** **23 22 07.8 -0.8**
HNS S **S** **23 33 13.8 -1.8**
HNS LR LR
comp=Z,250nm,16.8s
HNS LR LR
comp=Z,260nm,17.3s
HNS LR LR
comp=Z,460nm,20.8s
U15A North Rim 93.83 48 IAmb IAmb 23 22 19.9
comp=Z,10nm,0.8s
H04A Detroit Lake 93.86 37 IAmb IAmb 23 22 11.6
comp=Z,11nm,0.9s
PINE Pine Mountain 93.86 38 IAmb IAmb 23 22 12.6
comp=Z,15nm,0.8s
KNB Kanab 93.88 47 IAmb IAmb 23 22 19.9
comp=Z,8.0nm,0.9s
Q17K Contact Creek 93.90 12 P **P** **23 22 09.4 +0.6**
baz=200,SNR=18
O14K Tigyukauivet M 94.01 9 IAMs_20 IAMs_20 00 04 01.0
comp=Z,595nm,19.0s
I05D Terrebonne, OR 94.04 38 P **P** **23 22 10.9 +1.1**
I05D IAmb IAmb 23 22 24.2
comp=Z,11nm,0.8s
KDAK Kodiak Island 94.07 14 P **P** **23 22 10.1 +0.7**
KDAK IAmb IAmb 23 22 12.5
comp=Z,9.6nm,0.8s
KDAK Kodiak Island 94.07 14 IAMs_20 IAMs_20 23 59 33.8
comp=Z,848nm,20.0s
KDAK Kodiak Island 94.07 14 P **P** **23 22 10.7 +1.3**
comp=Z,7.3nm,0.7s,baz=212,slow=3.6,SNR=11
comp=Z,7.3nm,0.7s
KDAK Kodiak Island 94.07 14⇓ *e*P **P** **23 22 10.8 +1.3**
KDAK pmax pmax
comp=Z,14nm,0.8s
KDAK Kodiak Island 94.07 14 P **P** **23 22 10.7 +1.3**
baz=202
WVOR Wild Horse Val 94.13 40 IAMs_20 IAMs_20 23 59 60.0
comp=Z,766nm,20.0s
O15K Ungalikthiuk R 94.14 10 IAMs_20 IAMs_20 23 59 39.4
comp=Z,735nm,20.0s
O15K Ungalikthiuk R 94.14 10 P **P** **23 22 10.9 +1.2**
baz=196
Q16K King Salmon 94.16 12 P **P** **23 22 10.9 +1.1**
baz=199,SNR=5.9
P16K Nushagak River 94.28 11 IAMs_20 IAMs_20 00 08 12.1
comp=Z,534nm,18.0s
P16K Nushagak River 94.28 11 P **P** **23 22 11.1 +0.7**
baz=198
Q18K Katmai Hardscr 94.42 12 P **P** **23 22 12.3 +1.1**
baz=200,SNR=19
M11K Mekoryuk 94.56 7 P **P** **23 22 13.3 +1.6**
baz=191
N14K Kuskokwak Cree 94.61 9 IAMs_20 IAMs_20 00 04 38.7
comp=Z,629nm,20.0s
N14K Kuskokwak Cree 94.61 9 P **P** **23 22 13.4 +1.5**
baz=195
P17K Kvichak River 94.68 12 P **P** **23 22 13.1 +0.8**
baz=199,SNR=8.2
EPT El Paso 94.70 55 IAMs_20 IAMs_20 00 01 53.5
comp=Z,643nm,19.0s
O16K Kokwok River B 94.80 11 P **P** **23 22 13.5 +0.7**
baz=198
J08A Circle Bar Ran 94.85 40 IAmb IAmb 23 22 16.7
comp=Z,14nm,1.2s
Q20K Shuyak Island 94.87 14 P **P** **23 22 13.7 +0.6**
baz=202
SYI Shuyak Island 94.87 14 IAMs_20 IAMs_20 00 00 01.1
comp=Z,780nm,21.0s
ELK Elko 94.88 43 IAMs_20 IAMs_20 23 57 00.1
comp=Z,736nm,21.0s
ELK Elko 94.88 43 P **P** **23 22 15.8 +1.9**
comp=Z,0.5nm,0.4s,baz=178,slow=7.2,SNR=3.8
ELK LR LR 23 57 45.0
comp=Z,779nm,21.2s,baz=208,slow=31
comp=Z,0.5nm,0.4s
M13K Dall Lake 94.89 8 IAMs_20 IAMs_20 00 04 05.9
comp=Z,796nm,20.0s
CMIG Matias Romero 94.91 73 LR LR 23 55 08.1
comp=Z,582nm,21.8s,baz=218,slow=29
Q19K Cape Douglas, 94.93 13 IAMs_20 IAMs_20 23 59 58.5
comp=Z,695nm,20.0s
Q19K Cape Douglas, 94.93 13 P **P** **23 22 14.4 +1.0**
baz=201
G06A Carlson Farm, 95.03 37 IAmb IAmb 23 22 17.4
comp=Z,11nm,1.2s
N15K Kwethluk River 95.06 10 IAMs_20 IAMs_20 00 00 28.6
comp=Z,710nm,20.0s
N15K Kwethluk River 95.06 10 P **P** **23 22 14.4 +0.4**
baz=196,SNR=23
ATAH Atahualpa 95.08 102 LR LR 23 55 41.7
comp=Z,665nm,22.0s,baz=243,slow=29
P18K Big Mountain, 95.08 12 IAmb IAmb 23 22 15.9
comp=Z,12nm,0.8s
P18K IAMs_20 IAMs_20 00 00 02.3
comp=Z,768nm,20.0s
P18K Big Mountain, 95.08 12 P **P** **23 22 15.0 +0.8**
baz=200,SNR=5.9
O17K Koliganek Bris 95.12 11 P **P** **23 22 15.4 +1.2**
baz=199
TXAR Lajitas Array 95.22 58 P **P** **23 22 17.4 +1.7**
TXAR Lajitas Array 95.22 58 P **P** **23 22 18.1 +2.5**
comp=Z,0.5nm,0.8s,baz=239,slow=3.9,SNR=4.7
TXAR PKKPbc **PKKPbc** **23 39 08.3 -0.7**
comp=Z,0.8nm,0.9s,baz=127,slow=4.0,SNR=4.1
TXAR LR LR 00 00 30.8
comp=Z,471nm,18.1s,baz=226,slow=32
comp=Z,0.5nm,0.8s
XAN Xi'an 95.32 308 ⇓P **P** **23 22 16.1 +0.2**
XAN pmax pmax
comp=Z,7.0nm,1.2s
XAN LR LR
comp=Z,290nm,23.4s
XAN LR LR
comp=Z,350nm,19.2s
XAN LR LR
comp=Z,460nm,22.0s
M14K Bethel 95.38 8 P **P** **23 22 16.9 +1.5**
baz=195
MNTX Cornudas Mount 95.42 55 IAMs_20 IAMs_20 00 01 51.7
comp=Z,526nm,18.0s
M15K Kasigluk River 95.49 9 P **P** **23 22 17.5 +1.6**
baz=196,SNR=7.3
O18K Koktuh Hills 95.52 12 IAmb IAmb 23 22 18.2
comp=Z,25nm,0.9s
O18K IAMs_20 IAMs_20 00 00 35.9
comp=Z,673nm,20.0s
O18K Koktuh Hills 95.52 12 P **P** **23 22 17.2 +1.1**
baz=200,SNR=12
N16K Nishlik Lake 95.54 10 P **P** **23 22 17.7 +1.5**
baz=197,SNR=17
P19K Oil Pt 95.68 13 IAMs_20 IAMs_20 00 00 32.4
comp=Z,646nm,20.0s
P19K Oil Pt 95.68 13 P **P** **23 22 18.4 +1.5**
baz=202
Y22D IRIS PASSCAL I 95.81 53 IAMs_20 IAMs_20 00 03 11.6
comp=Z,647nm,18.0s
N17K Nushagak Hills 95.83 11 P **P** **23 22 18.7 +1.2**
baz=198
ALPN Alpine 95.85 57 P **P** **23 22 19.7 +1.1**
L14K Kuka Creek 95.87 8 IAmb IAmb 23 23 44.7
comp=Z,14nm,1.3s
L14K Kuka Creek 95.87 8 P **P** **23 22 18.7 +1.1**
baz=194
PZH PanZhiHua 95.91 298 P **P** **23 22 20.8 +1.9**
G08A Pilot Rock 95.92 38 IAmb IAmb 23 22 21.5
comp=Z,15nm,1.5s
DUG Dugway, Tooele 95.93 45 IAMs_20 IAMs_20 23 57 17.5
comp=Z,668nm,22.0s
O19K Port Alsworth 95.99 12 IAMs_20 IAMs_20 00 00 40.5
comp=Z,796nm,21.0s
O19K Port Alsworth 95.99 12 P **P** **23 22 19.1 +0.9**
baz=201
ILSW Iliamna Southw 96.01 13 IAmb IAmb 23 22 21.4
comp=Z,34nm,1.6s
M16K Timber Creek 96.04 10 IAmb IAmb 23 22 21.6
comp=Z,12nm,0.9s
M16K IAMs_20 IAMs_20 00 00 47.6
comp=Z,761nm,21.0s
M16K Timber Creek 96.04 10 P **P** **23 22 18.9 +0.5**
baz=196,SNR=7.7
N18K Kilae Creek 96.18 11 P **P** **23 22 19.7 +0.6**
baz=200
O20K Slope Mountain 96.20 13 P **P** **23 22 19.9 +0.6**
baz=202
K13K Kusilvak Mount 96.23 7 P **P** **23 22 19.8 +0.5**
baz=192
BRLK Bradley Lake 96.24 14 IAmb IAmb 23 22 22.6
comp=Z,9.7nm,0.9s
MFID Camas Ranch 96.31 41 IAMs_20 IAMs_20 23 56 44.9
comp=Z,640nm,22.0s
L15K Ungalak Mounta 96.34 8 P **P** **23 22 20.5 +0.8**
baz=195
MA2 Magadan 96.36 345 IAMs_20 IAMs_20 00 01 59.6
comp=Z,625nm,20.0s
HAWA Hanford 96.39 37 P **P** **23 22 21.6 +1.2**
HAWA IAmb IAmb 23 22 22.6
comp=Z,22nm,1.8s
HAWA IAMs_20 IAMs_20 23 59 40.4
comp=Z,655nm,20.0s
N19K Bonanza Creek 96.54 12 IAMs_20 IAMs_20 00 00 57.1
comp=Z,660nm,20.0s
N19K Bonanza Creek 96.54 12 P **P** **23 22 21.4 +0.6**
baz=201
M17K Holitna River 96.62 10 IAmb IAmb 23 22 23.8
comp=Z,13nm,0.9s
M17K IAMs_20 IAMs_20 00 01 07.1
comp=Z,657nm,20.0s
M17K Holitna River 96.62 10 P **P** **23 22 22.2 +1.2**
baz=198,SNR=5.7
ANMO Albuquerque 96.64 52 IAMs_20 IAMs_20 00 01 03.5
comp=Z,786nm,20.0s
ANMO Albuquerque 96.64 52 LR LR 00 01 14.3
comp=Z,885nm,18.6s,baz=318,slow=32
ANMO Albuquerque 96.64 52⇓ *e*P **P** **23 22 24.1 +2.0**
ANMO pmax pmax
comp=Z,5.0nm,1.6s
MVCO Mesa Verde 96.69 49 IAMs_20 IAMs_20 00 02 47.6
comp=Z,716nm,19.0s
BBB Bella Bella 96.71 29 LR LR 23 57 42.5
comp=Z,453nm,21.9s,baz=208,slow=30
SEW Seward 96.85 15 IAMs_20 IAMs_20 00 01 46.4
comp=Z,676nm,19.0s
SEW Seward 96.85 15 P **P** **23 22 23.2 +1.1**
baz=205
Q23K Middleton Isla 96.92 16 IAMs_20 IAMs_20 00 04 52.6
comp=Z,642nm,19.0s
Q23K Middleton Isla 96.92 16 P **P** **23 22 24.0 +1.6**
baz=207
K15K Wolf Creek Mou 96.93 8 IAmb IAmb 23 22 33.4
comp=Z,8.9nm,0.8s
K15K IAMs_20 IAMs_20 00 05 08.0
comp=Z,554nm,19.0s
K15K Wolf Creek Mou 96.93 8 P **P** **23 22 24.3 +1.8**
baz=195
M18K Stony River 96.96 11 P **P** **23 22 24.7 +2.1**
baz=200,SNR=8.0
CD2 Chengdu 96.98 303 P **P** **23 22 23.8 +0.3**
CD2 LR LR
comp=Z,480nm,22.8s
CD2 LR LR
comp=Z,480nm,23.6s
CD2 LR LR
comp=Z,470nm,21.5s
J14K Nanvaranak Lak 97.14 7 IAMs_20 IAMs_20 00 05 01.6
comp=Z,595nm,19.0s
D08A Wollman Farm, 97.15 37 IAmb IAmb 23 22 32.4
comp=Z,7.3nm,1.0s
P23K Montague Islan 97.19 16 IAMs_20 IAMs_20 00 01 12.6
comp=Z,796nm,20.0s
P23K Montague Islan 97.19 16 P Pdif 23 22 24.7 +1.0
baz=206
L17K Donlin 97.20 10 P Pdif 23 22 25.1 +1.4
baz=198,SNR=5.8
CRAG Craig 97.39 24 P Pdif 23 22 25.3 +0.6
baz=217
L18K Granite Mounta 97.52 10 IAmb IAmb 23 22 35.9
comp=Z,9.3nm,0.8s
L18K IAMs_20 IAMs_20 00 01 32.7
comp=Z,667nm,20.0s
L18K Granite Mounta 97.52 10 P Pdif 23 22 26.4 +1.3
baz=199,SNR=5.2
GAMB Gambell 97.53 3 IAMs_20 IAMs_20 00 01 28.5
comp=Z,885nm,21.0s
GAMB Gambell 97.53 3 P Pdif 23 22 26.1 +1.0
baz=186
HWUT Hardware Ranch 97.55 44 IAMs_20 IAMs_20 23 58 40.0
comp=Z,821nm,22.0s
M19K Big River Lodg 97.58 12 IAmb IAmb 23 22 27.5
comp=Z,5.2nm,0.7s
M19K IAMs_20 IAMs_20 23 58 39.6
comp=Z,614nm,22.0s
M19K Big River Lodg 97.58 12 P Pdif 23 22 26.8 +1.3
baz=201,SNR=7.0
FIS Fire Island 97.64 14 IAMs_20 IAMs_20 00 02 11.3
comp=Z,798nm,21.0s
STLK Strandline Lak 97.66 13 P **P** **23 22 25.6 -0.2**
STLK IAmb IAmb 23 22 27.2
comp=Z,5.7nm,0.7s
RC01 Rabbit Creek A 97.69 14 IAMs_20 IAMs_20 00 01 48.5
comp=Z,598nm,21.0s
LPAZ La Paz 97.73 115 LR LR 23 56 43.4
comp=Z,374nm,21.5s,baz=200,slow=29
HIN Hinchinbrook I 97.75 16 IAMs_20 IAMs_20 00 02 28.4
comp=Z,677nm,20.0s
K17K Iditarod 97.75 10 IAMs_20 IAMs_20 00 02 11.9
comp=Z,760nm,21.0s
L19K White Mountain 97.77 11 IAmb IAmb 23 22 29.0
comp=Z,13nm,0.9s
L19K White Mountain 97.77 11 P Pdif 23 22 27.3 +1.0
baz=200,SNR=12
PWL Port Wells 97.77 15 IAMs_20 IAMs_20 00 02 12.7
comp=Z,740nm,20.0s
PWL Port Wells 97.77 15 P Pdif 23 22 27.3 +0.9
baz=206
M20K Styx River 97.78 12 IAMs_20 IAMs_20 00 01 57.8
comp=Z,781nm,20.0s
M20K Styx River 97.78 12 P Pdif 23 22 27.2 +0.7
baz=202
HHC Hu-ho-hao-te 97.84 314 *e*P Pdif 23 22 28.3 +1.0
HHC SKS **SKSac** **23 33 00.6 -1.8**
HHC S **ScS** **23 33 52.3 +1.1**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,99nm,5.5s
HHC LR LR
comp=Z,180nm,21.9s
HHC LR LR
comp=Z,230nm,22.7s
HHC LR LR
comp=Z,600nm,24.7s
U33K Whale Pass 97.91 24 IAMs_20 IAMs_20 00 03 36.3
comp=Z,658nm,19.0s
U33K Whale Pass 97.91 24 P Pdif 23 22 27.8 +0.8
baz=217
J16K Anvik River 98.00 8 P Pdif 23 22 28.1 +0.9
baz=196
GLI Glacier Island 98.05 15 IAMs_20 IAMs_20 00 01 50.3
comp=Z,677nm,20.0s
GLI Glacier Island 98.05 15 P Pdif 23 22 28.3 +0.7
baz=207
S22A 4UR Ranch, Cre 98.07 50 IAMs_20 IAMs_20 00 03 08.3
comp=Z,687nm,18.0s
FID Port Fidalgo 98.08 16 IAMs_20 IAMs_20 00 01 48.7
comp=Z,763nm,20.0s
SUCK Suckling Hills 98.11 17 IAMs_20 IAMs_20 23 58 52.9
comp=Z,849nm,20.0s
SKT Skwentna 98.16 13 P **P** **23 22 27.9 -0.2**
SKT IAmb IAmb 23 24 49.6
comp=Z,15nm,1.6s
SKT Skwentna 98.16 13 Pdiff Pdif 23 22 29.2 +1.1
baz=203
L20K Farewell, AK 98.21 12 Pdiff Pdif 23 22 28.6 +0.3
baz=201
M22K Willow 98.22 14 IAMs_20 IAMs_20 00 02 19.5
comp=Z,834nm,20.0s
HMT Hamilton 98.22 17 IAMs_20 IAMs_20 23 59 06.9
comp=Z,861nm,20.0s
J17K VABM Dome 98.30 9 Pdiff Pdif 23 22 30.0 +1.4
baz=197
KVTX Kingsville 98.38 63 IAMs_20 IAMs_20 00 07 36.5
comp=Z,824nm,19.0s
BERG Berg Lake 98.41 17 IAMs_20 IAMs_20 23 59 03.0
comp=Z,916nm,21.0s
WRAK Wrangell Islan 98.42 24 IAMs_20 IAMs_20 00 03 50.7
comp=Z,630nm,19.0s
MSTX Muleshoe 98.53 55 IAMs_20 IAMs_20 00 04 08.9
comp=Z,620nm,19.0s
BTO Baotou 98.61 313 *e*P Pdif 23 22 31.8 +1.1
BTO sP pP 23 22 38.8 -1.2
BTO PP **PP** **23 26 29.1 -3.1**
BTO S **S** **23 33 57.4 -0.2**
BTO pmax pmax
comp=Z,16nm,0.8s
BTO LR LR
comp=Z,420nm,16.2s
BTO LR LR
comp=Z,390nm,17.9s
BTO LR LR
comp=Z,340nm,14.3s
JCT Junction City 98.63 59 IAMs_20 IAMs_20 23 57 05.8
comp=Z,757nm,22.0s
CPUP Villa Florida 98.69 130 LR LR 23 59 00.6
comp=Z,388nm,21.8s,baz=92,slow=30
J18K Innoko River 98.69 10 IAmb IAmb 23 22 32.3
comp=Z,6.9nm,0.8s
J18K IAMs_20 IAMs_20 00 02 30.8
comp=Z,755nm,20.0s
J18K Innoko River 98.69 10 Pdiff Pdif 23 22 31.7 +1.3
baz=199
BMRM Bremner River 98.70 16 IAMs_20 IAMs_20 00 06 11.4
comp=Z,612nm,19.0s
M23K Glacier View 98.74 15 Pdiff Pdif 23 22 32.3 +1.7
baz=206
ANM Nome 98.75 6 IAMs_20 IAMs_20 00 01 48.9
comp=Z,879nm,21.0s
ANM Nome 98.75 6 Pdiff Pdif 23 22 32.6 +2.0
baz=192
CUT Chulitna 98.79 13 Pdiff Pdif 23 22 32.2 +1.4
baz=204
SCM Sheep Creek Mo 98.86 15 IAmb IAmb 23 22 36.4
comp=Z,7.5nm,0.7s
SCM IAMs_20 IAMs_20 00 02 47.5
comp=Z,645nm,20.0s
SCM Sheep Creek Mo 98.86 15 Pdiff Pdif 23 22 33.1 +1.9
baz=207
KLU Klutina 98.86 16 IAMs_20 IAMs_20 00 02 24.7
comp=Z,642nm,20.0s
CRQM Cirque 98.86 17 IAMs_20 IAMs_20 23 59 17.1
comp=Z,920nm,21.0s
NEW Newport 98.86 37 IAMs_20 IAMs_20 00 01 24.9
comp=Z,724nm,20.0s
NEW Newport 98.86 37 LR LR 23 58 18.9
comp=Z,627nm,21.7s,baz=203,slow=30
PPLA Purkeypile 98.89 12 IAMs_20 IAMs_20 00 02 33.1
comp=Z,694nm,21.0s
SDCO Great Sand Dun 98.92 50 IAMs_20 IAMs_20 00 06 02.7

	comp=Z,531nm,19.0s							
TGL	Tana Glacier	98.94	17	IAMs_20	IAMs_20	23 58 58.8		
	comp=Z,937nm,21.0s							
K20K	Telida	99.00	11	Pdiff	Pdif	23 22 33.9	+2.2	
	baz=201							
BCPM	Bancas Point	99.08	19	IAMs_20	IAMs_20	23 59 56.7		
	comp=Z,734nm,20.0s							
H16K	Elim	99.13	7	Pdiff	**Pdif**	**23 22 34.1**	**+1.9**	
	baz=194							
FXWY	Fox Creek	99.13	43	IAMs_20	IAMs_20	00 00 30.7		
	comp=Z,541nm,20.0s							
735A	Kenedy	99.17	62	IAMs_20	IAMs_20	23 59 49.2		
	comp=Z,636nm,22.0s							
SNOW	Snow King Moun	99.18	43	IAMs_20	IAMs_20	00 00 53.9		
	comp=Z,549nm,20.0s							
R32K	Eaglecrest	99.19	22	IAMs_20	IAMs_20	00 02 03.9		
	comp=Z,750nm,20.0s							
R32K	Eaglecrest	99.19	22	Pdiff	**Pdif**	**23 22 34.7**	**+2.0**	
	baz=217							
VRDI	Verde Repeater	99.20	17	IAMs_20	IAMs_20	00 02 51.7		
	comp=Z,576nm,20.0s							
N25K	Chitina, Valde	99.26	16	IAmb	IAmb	23 22 37.5		
	comp=Z,14nm,1.6s							
N25K	Chitina, Valde	99.26	16	Pdiff	**Pdif**	**23 22 35.2**	**+2.2**	
	baz=209							
JTS	Las Juntas de	99.29	84	LR	LR	23 57 04.3		
	comp=Z,488nm,21.7s,baz=249,slow=29							
G15K	Niukluk	99.29	7	Pdiff	**Pdif**	**23 22 35.0**	**+2.0**	
	baz=193							
GLB	Gilahina Butte	99.30	16	IAMs_20	IAMs_20	00 06 21.3		
	comp=Z,536nm,18.0s							
M24K	Tolsona, Glenn	99.35	15	IAMs_20	IAMs_20	00 03 01.6		
	comp=Z,575nm,20.0s							
M24K	Tolsona, Glenn	99.35	15	Pdiff	**Pdif**	**23 22 34.4**	**+1.0**	
	baz=208							
J19K	Poorman	99.36	10	IAMs_20	IAMs_20	00 03 11.3		
	comp=Z,698nm,20.0s							
J19K	Poorman	99.36	10	Pdiff	**Pdif**	**23 22 34.7**	**+1.4**	
	baz=200							
CAST	Castle Rocks	99.39	12	IAMs_20	IAMs_20	00 00 21.4		
	comp=Z,710nm,22.0s							
CAST	Castle Rocks	99.39	12	Pdiff	**Pdif**	**23 22 34.4**	**+0.9**	
	baz=203							
TGUH	Tegucigalpa,Un	99.40	79	IAMs_20	IAMs_20	23 57 37.5		
	comp=Z,619nm,21.0s							
MCARA	McCarthy VSAT	99.44	17	Pdiff	**Pdif**	**23 22 34.8**	**+1.0**	
	baz=210							
BW06	Boulder Array	99.44	44	IAMs_20	IAMs_20	23 59 52.0		
	comp=Z,679nm,22.0s							
PDAR	Pinedale Array	99.44	44	P	**Pdif**	**23 22 36.5**	**+1.9**	
	comp=Z,0.6nm,0.7s,baz=246,slow=4.8,SNR=5.0							
PDAR				PKKPbc	**PKKPbc**	**23 38 57.0**	**-1.2**	
	comp=Z,0.5nm,0.5s,baz=41,slow=2.1,SNR=5.3							
PDAR				LR	LR	00 01 55.1		
	comp=Z,339nm,19.2s,baz=218,slow=32 comp=Z,0.6nm,0.7s							
CTG	Chitna Glacier	99.49	18	Pdiff	**Pdif**	**23 22 35.6**	**+1.4**	
	baz=211							
TNA	Tin City	99.53	5	IAMs_20	IAMs_20	00 00 15.5		
	comp=Z,689nm,22.0s							
TNA	Tin City	99.53	5	Pdiff	**Pdif**	**23 22 35.5**	**+1.5**	
	baz=190							
T35M	Bob Quinn	99.58	25	IAMs_20	IAMs_20	00 04 38.5		
	comp=Z,626nm,20.0s							
O29M	Mount Kennedy	99.66	19	IAMs_20	IAMs_20	00 00 06.1		
	comp=Z,773nm,21.0s							
TRF	Thorofare Moun	99.74	13	IAmb	IAmb	23 22 40.7		
	comp=Z,11nm,0.7s							
TRF	Thorofare Moun	99.74	13	Pdiff	**Pdif**	**23 22 36.8**	**+1.5**	
	baz=204							
J20K	Nowinta River	99.75	11		**Pdif**	**23 22 35.5**	**+0.5**	
J20K	Nowinta River	99.75	11	Pdiff	**Pdif**	**23 22 36.8**	**+1.8**	
	baz=201							
AMTX	Amarillo	99.79	55	IAMs_20	IAMs_20	00 08 23.3		
	comp=Z,694nm,18.0s							
G16K	Koyuk River	99.85	7	IAMs_20	IAMs_20	00 00 08.1		
	comp=Z,681nm,22.0s							
G16K	Koyuk River	99.85	7	Pdiff	**Pdif**	**23 22 36.5**	**+1.1**	
	baz=194							
Q24A	Divide	99.86	50	IAMs_20	IAMs_20	00 04 13.5		
	comp=Z,868nm,21.0s							
LZH	Lanzhou	99.88	307	*eP*	**Pdif**	**23 22 38.8**	**+2.2**	
LZH				pP	pP	23 22 42.8	-3.1	
LZH				pmax	pmax			
	comp=Z,12nm,1.3s							
LZH				LR	LR			
	comp=Z,230nm,17.2s							
LZH				LR	LR			
	comp=Z,290nm,17.5s							
LZH				LR	LR			
	comp=Z,490nm,17.5s							
F15K	North Star Dit	99.94	6	IAMs_20	IAMs_20	00 02 36.3		
	comp=Z,783nm,20.0s							
F15K	North Star Dit	99.94	6	Pdiff	**Pdif**	**23 22 37.8**	**+2.0**	
	baz=192							
RND	Reindeer	99.97	13	IAmb	IAmb	23 22 41.4		
	comp=Z,10nm,0.8s							
RND				IAMs_20	IAMs_20	00 03 15.8		
	comp=Z,847nm,20.0s							
ISCO	Idaho Springs	100.05	49	IAMs_20	IAMs_20	00 01 20.5		
	comp=Z,559nm,20.0s							
H18K	Honhosa River	100.08	9	Pdiff	**Pdif**	**23 22 38.6**	**+2.1**	
	baz=198							
PAX	Paxson	100.27	15	IAMs_20	IAMs_20	00 03 41.9		
	comp=Z,642nm,20.0s							
I20K	Naaghedeneel	100.28	11	IAMs_20	IAMs_20	00 03 29.9		
	comp=Z,555nm,20.0s							
YUK3	Moose Creek	100.41	18	Pdiff	**Pdif**	**23 22 39.8**	**+1.5**	
	baz=212							
Q32M	Nakina River	100.44	23	IAMs_20	IAMs_20	00 03 27.2		
	comp=Z,597nm,20.0s							
P32M	Atlin	100.49	22	IAMs_20	IAMs_20	00 03 42.3		
	comp=Z,711nm,20.0s							
YUK4	Talbot Arm	100.51	19	Pdiff	**Pdif**	**23 22 41.0**	**+2.2**	
	baz=214							
M27K	Edge Creek, AK	100.55	17	IAMs_20	IAMs_20	00 07 20.6		
	comp=Z,573nm,19.0s							
H19K	Roundabout Mou	100.69	9	IAMs_20	IAMs_20	00 03 43.5		
	comp=Z,825nm,21.0s							
H19K	Roundabout Mou	100.69	9	Pdiff	**Pdif**	**23 22 40.9**	**+1.8**	
	baz=199							
G18K	Tagagawik	100.75	8	Pdiff	**Pdif**	**23 22 40.6**	**+1.1**	
	baz=198							
DLBC	Dease Lake	100.78	24	PKiKP	**PKiKP**	**23 27 08.2**	**+2.7**	
	comp=Z,0.1nm,0.5s,baz=214,slow=5.0,SNR=3.4							
L26K	Log Cabin Wild	100.79	16	IAMs_20	IAMs_20	00 03 48.7		
	comp=Z,644nm,20.0s							
H20K	Anotleneega Mo	100.88	10	Pdiff	**Pdif**	**23 22 41.7**	**+1.6**	
	baz=201							
K24K	Donnelly Dome	100.94	14	IAMs_20	IAMs_20	00 08 00.7		
	comp=Z,698nm,19.0s							
K24K	Donnelly Dome	100.94	14	Pdiff	**Pdif**	**23 22 42.3**	**+1.9**	
	baz=208							
NEA2	Nenana	101.01	13	Pdiff	**Pdif**	**23 22 42.4**	**+1.7**	
	baz=205							
N30M	Aishikik Lake	101.03	19	IAMs_20	IAMs_20	00 01 11.3		
	comp=Z,796nm,21.0s							
I21K	Tanana	101.04	11	Pdiff	**Pdif**	**23 22 42.0**	**+1.3**	
	baz=203							
RIDG	Independent Ri	101.08	15	IAMs_20	IAMs_20	00 04 26.4		
	comp=Z,674nm,20.0s							
RIDG	Independent Ri	101.08	15	Pdiff	**Pdif**	**23 22 42.9**	**+1.9**	
	baz=209							
MLY	Manley	101.11	12	Pdif	**Pdif**	**23 22 40.6**	**-0.5**	
MLY	Manley	101.11	12	Pdiff	**Pdif**	**23 22 43.4**	**+2.2**	
	baz=204							
WHTX	Lake Whitney,	101.13	59	IAMs_20	IAMs_20	00 04 14.2		
	comp=Z,830nm,19.0s							
K22A	Casper	101.16	46	IAMs_20	IAMs_20	00 03 01.7		
	comp=Z,846nm,20.0s							
L27K	Beaver Creek,	101.17	16	IAMs_20	IAMs_20	00 01 05.8		
	comp=Z,564nm,21.0s							
L27K	Beaver Creek,	101.17	16	Pdiff	**Pdif**	**23 22 43.3**	**+1.9**	
	baz=211							
DOT	Dot Lake	101.17	15	IAMs_20	IAMs_20	00 04 09.7		
	comp=Z,664nm,21.0s							
HKT	Hockley	101.20	62	IAMs_20	IAMs_20	00 12 27.4		
	comp=Z,553nm,18.0s							
R33M	Jennings River	101.20	23	IAMs_20	IAMs_20	00 04 02.4		
	comp=Z,559nm,20.0s							
HDA	Harding Lake	101.25	14	Pdiff	**Pdif**	**23 22 43.9**	**+2.2**	
	baz=207							
P33M	Teslin, Yukon	101.26	22	IAMs_20	IAMs_20	00 03 08.7		
	comp=Z,614nm,20.0s							
CCB	Clear Creek Bu	101.29	13	IAMs_20	IAMs_20	00 03 57.7		
	comp=Z,860nm,20.0s							
F18K	Selawik	101.31	8	Pdiff	**Pdif**	**23 22 44.3**	**+2.5**	
	baz=197							
H21K	Melozitna River	101.35	11	Pdiff	**Pdif**	**23 22 44.1**	**+1.9**	
	baz=202							
SCRK	Sand Creek	101.48	15	IAMs_20	IAMs_20	00 04 38.8		
	comp=Z,613nm,20.0s							
SCRK	Sand Creek	101.48	15	Pdiff	**Pdif**	**23 22 44.7**	**+1.8**	
	baz=210							
COLA	College	101.49	13	P	**Pdif**	**23 22 43.8**	**+1.1**	
COLA	College	101.49	13	*eP*	**Pdif**	**23 22 44.9**	**+2.2**	
COLA				pmax	pmax			
	comp=Z,8.0nm,0.8s							
KSCO	Kaye Shedlock'	101.49	51	IAMs_20	IAMs_20	00 06 59.9		
	comp=Z,480nm,18.0s							
E17K	Hotham Inlet	101.55	7	Pdiff	**Pdif**	**23 22 45.3**	**+2.3**	
	baz=195							
ILAR	Eielson Array	101.58	14		**Pdif**	**23 22 45.8**	**+2.6**	
ILAR	Eielson Array	101.58	14	P	**Pdif**	**23 22 43.9**	**+0.7**	
	comp=Z,2.0nm,0.7s,baz=230,slow=5.8,SNR=13							
ILAR				PP	**PP**	**23 26 51.9**	**-2.2**	
	comp=Z,1.7nm,0.9s,baz=202,slow=6.3,SNR=5.6							
ILAR				PKiKP	**PKiKP**	**23 27 06.8**	**+0.1**	
	comp=Z,2.0nm,0.7s,baz=297,slow=2.9,SNR=16							
WMOK	Wichita Mounta	101.70	56	IAMs_20	IAMs_20	00 05 55.8		
	comp=Z,687nm,19.0s							
J25K	Salcha River,	101.75	14	Pdiff	**Pdif**	**23 22 45.9**	**+1.8**	
	baz=208							
F19K	Shaleruckik Mo	101.76	9	Pdiff	**Pdif**	**23 22 45.2**	**+1.3**	
	baz=198							
POKR	Poker Flat Res	101.79	13	Pdiff	**Pdif**	**23 22 45.7**	**+1.6**	
	baz=207							
H22K	Ishtalitna Cre	101.80	11	Pdiff	**Pdif**	**23 22 45.8**	**+1.7**	
	baz=204							
N32M	Quiet Lake	101.92	21	IAMs_20	IAMs_20	00 02 50.2		
	comp=Z,673nm,20.0s							
K27K	Chicken	101.95	16	IAMs_20	IAMs_20	00 04 35.3		
	comp=Z,543nm,20.0s							
Z35A	Perchaven, San	102.00	58	IAMs_20	IAMs_20	00 02 57.0		
	comp=Z,749nm,20.0s							
J26L	Joseph Creek	102.03	15	Pdiff	**Pdif**	**23 22 46.9**	**+1.6**	
	baz=210							
G21K	Allakaket	102.04	10	IAMs_20	IAMs_20	00 04 24.2		
	comp=Z,644nm,20.0s							
G21K	Allakaket	102.04	10	Pdiff	**Pdif**	**23 22 47.2**	**+2.0**	
	baz=202							
H23K	Yukon River	102.04	12	IAMs_20	IAMs_20	00 04 56.5		
	comp=Z,654nm,20.0s							
BILL	Bilibino	102.20	355	IAMs_20	IAMs_20	00 02 16.6		
	comp=Z,764nm,22.0s							
F20K	Avaraart Lake	102.23	9	IAMs_20	IAMs_20	00 04 41.1		
	comp=Z,740nm,21.0s							
F20K	Avaraart Lake	102.23	9	Pdiff	**Pdif**	**23 22 47.6**	**+1.6**	
	baz=200							
H24K	Noodor Dome	102.35	13	Pdiff	**Pdif**	**23 22 49.1**	**+2.4**	
	baz=206							
M31M	Drury Creek, Y	102.38	20	IAMs_20	IAMs_20	00 02 37.2		
	comp=Z,706nm,21.0s							
C16K	Liburne Hills	102.40	5	IAMs_20	IAMs_20	00 00 50.4		
	comp=Z,719nm,22.0s							
E19K	Redstone River	102.42	9	Pdiff	**Pdif**	**23 22 48.7**	**+1.8**	
	baz=199							
PRP	Porcupine Dome	102.51	14	Pdiff	**Pdif**	**23 22 49.4**	**+1.9**	
	baz=208							
EGMT	Eagleton	102.52	40	IAMs_20	IAMs_20	00 05 27.0		
	comp=Z,782nm,20.0s							
F21K	Alatna River	102.70	10	IAMs_20	IAMs_20	00 05 05.7		
	comp=Z,701nm,20.0s							
F21K	Alatna River	102.70	10	Pdiff	**Pdif**	**23 22 50.3**	**+2.1**	
	baz=202							
G23K	Bananza Creek	102.77	12	Pdiff	**Pdif**	**23 22 50.2**	**+1.8**	
	baz=205							
C17K	DeLong Mountai	102.77	6	Pdiff	**Pdif**	**23 22 50.8**	**+2.4**	
	baz=194							
I26K	Coal Creek Min	102.81	15	IAMs_20	IAMs_20	00 11 51.1		
	comp=Z,549nm,19.0s							
I26K	Coal Creek Min	102.81	15	Pdiff	**Pdif**	**23 22 51.3**	**+2.6**	
	baz=210							
K29M	Barlow Dome	102.88	18	IAMs_20	IAMs_20	00 01 37.1		
	comp=Z,761nm,21.0s							
K29M	Barlow Dome	102.88	18	Pdiff	**Pdif**	**23 22 50.4**	**+1.3**	
	baz=215							
NATX	Nacogdoches	103.02	61	IAMs_20	IAMs_20	00 02 49.2		
	comp=Z,567nm,20.0s							
COLD	Coldfoot	103.21	11	IAMs_20	IAMs_20	00 02 51.3		
	comp=Z,547nm,21.0s							
COLD	Coldfoot	103.21	11	Pdiff	**Pdif**	**23 22 52.6**	**+2.3**	
	baz=205							
J29N	Klondike Camp	103.21	17	IAMs_20	IAMs_20	00 01 47.9		
	comp=Z,722nm,22.0s							
CBKS	Cedar Bluff	103.26	52	IAMs_20	IAMs_20	00 00 47.9		
	comp=Z,665nm,20.0s							
D19K	Kuna River	103.30	8	IAMs_20	IAMs_20	00 11 36.5		
	comp=Z,602nm,19.0s							
D19K	Kuna River	103.30	8	Pdiff	**Pdif**	**23 22 53.0**	**+2.2**	
	baz=198							
E20K	Nigu River	103.31	9	Pdiff	**Pdif**	**23 22 52.4**	**+1.5**	
	baz=200							
I27K	Kandik River	103.40	15	Pdiff	**Pdif**	**23 22 53.5**	**+2.2**	
	baz=212							
FYU	Fort Yukon	103.50	13	IAMs_20	IAMs_20	00 05 16.0		
	comp=Z,629nm,20.0s							
G25K	Bearman Lake	103.51	13	Pdiff	**Pdif**	**23 22 53.9**	**+2.2**	
	baz=206							
441A	DeRidder	103.56	62	IAMs_20	IAMs_20	00 02 41.8		
	comp=Z,706nm,22.0s							
Z38A	Mt. Pleasant	103.57	59	IAMs_20	IAMs_20	00 06 00.7		
	comp=Z,700nm,19.0s							
MMPY	Sheldon Lake,	103.61	21	Pdiff	**Pdif**	**23 22 54.3**	**+1.9**	
	baz=220							
I28M	Miner Creek	103.64	16	IAMs_20	IAMs_20	00 05 38.1		
	comp=Z,674nm,20.0s							
I28M	Miner Creek	103.64	16	Pdiff	**Pdif**	**23 22 54.6**	**+2.1**	
	baz=213							
D20K	Etivluk River	103.69	8	Pdiff	**Pdif**	**23 22 54.6**	**+2.1**	
	baz=200							
C19K	Lookout Ridge	103.73	7	IAMs_20	IAMs_20	00 02 11.6		
	comp=Z,799nm,22.0s							
C19K	Lookout Ridge	103.73	7	Pdiff	**Pdif**	**23 22 53.9**	**+1.2**	
	baz=197							
B18K	Kokolik River	103.76	6	Pdiff	**Pdif**	**23 22 54.3**	**+1.5**	
	baz=195							
E21K	Killik River	103.77	9	IAMs_20	IAMs_20	00 06 02.0		
	comp=Z,659nm,20.0s							
E21K	Killik River	103.77	9	Pdiff	**Pdif**	**23 22 54.3**	**+1.4**	
	baz=202							
J30M	Hart River	103.78	18	Pdiff	**Pdif**	**23 22 54.3**	**+1.2**	
	baz=216							
E22K	Anaktuvuk Pass	103.79	10	IAMs_20	IAMs_20	00 05 41.6		
	comp=Z,743nm,21.0s							
E22K	Anaktuvuk Pass	103.79	10	Pdiff	**Pdif**	**23 22 54.3**	**+1.3**	
	baz=204							
F24K	Squaw Lake	103.86	12	Pdiff	**Pdif**	**23 22 55.4**	**+2.1**	
	baz=207							
I29M	Ogilvie Camp,	103.95	16	IAMs_20	IAMs_20	00 01 29.2		
	comp=Z,572nm,22.0s							
H27K	Steamboat Moun	103.95	15	IAMs_20	IAMs_20	00 12 27.3		
	comp=Z,591nm,19.0s							
H27K	Steamboat Moun	103.95	15	Pdiff	**Pdif**	**23 22 55.9**	**+2.1**	
	baz=212							
OK051	E0350 and S346	103.98	55	IAMs_20	IAMs_20	00 08 30.2		
	comp=Z,649nm,20.0s							
E23K	Chandalar	104.06	11	IAMs_20	IAMs_20	00 03 17.8		
	comp=Z,564nm,21.0s							
E23K	Chandalar	104.06	11	Pdiff	**Pdif**	**23 22 56.4**	**+2.1**	
	baz=205							
G26K	Porcupine Rive	104.11	14	IAMs_20	IAMs_20	00 01 52.4		
	comp=Z,570nm,22.0s							
G26K	Porcupine Rive	104.11	14	Pdiff	**Pdif**	**23 22 56.9**	**+2.5**	
	baz=210							
E24K	Your Creek	104.26	11	IAMs_20	IAMs_20	00 06 09.0		
	comp=Z,614nm,21.0s							
E24K	Your Creek	104.26	11	Pdiff	**Pdif**	**23 22 57.3**	**+2.2**	
	baz=206							
I30M	Mount Dempster	104.30	17	IAMs_20	IAMs_20	00 02 53.5		
	comp=Z,732nm,21.0s							
I30M	Mount Dempster	104.30	17	Pdiff	**Pdif**	**23 22 57.6**	**+2.2**	
	baz=216							
F25K	Christian Rive	104.33	13	Pdiff	**Pdif**	**23 22 57.5**	**+2.1**	
	baz=209							
C21K	Knifeblade Rid	104.33	9	Pdiff	**Pdif**	**23 22 57.0**	**+1.7**	
	baz=201							
D22K	Ayikyak River	104.36	10	IAMs_20	IAMs_20	00 06 00.5		
	comp=Z,756nm,21.0s							
D22K	Ayikyak River	104.36	10	Pdiff	**Pdif**	**23 22 56.2**	**+0.7**	
	baz=203							
T35A	Sooner Cattle	104.42	55	IAMs_20	IAMs_20	00 11 56.7		
	comp=Z,550nm,18.0s							
G27K	Doyon Strip	104.42	14	IAMs_20	IAMs_20	00 05 54.6		
	comp=Z,651nm,20.0s							
G27K	Doyon Strip	104.42	14	Pdiff	**Pdif**	**23 22 56.7**	**+0.8**	
	baz=212							
TOLK	Toolik Lake Re	104.60	11	IAMs_20	IAMs_20	00 03 46.9		
	comp=Z,702nm,22.0s							
TOLK	Toolik Lake Re	104.60	11	Pdiff	**Pdif**	**23 22 57.1**	**+0.5**	
	baz=205							
H29M	Whitestone	104.64	16	IAMs_20	IAMs_20	00 06 18.6		
	comp=Z,719nm,21.0s							
H29M	Whitestone	104.64	16	Pdiff	**Pdif**	**23 22 59.1**	**+2.3**	
	baz=214							
A19K	Wainwright	104.64	6	Pdiff	**Pdif**	**23 22 58.7**	**+2.1**	
	baz=196							
F26K	Sheenjek River	104.69	13	IAMs_20	IAMs_20	00 06 22.6		
	comp=Z,730nm,20.0s							
D23K	Nanushuk River	104.73	10	IAMs_20	IAMs_20	00 06 23.2		
	comp=Z,829nm,20.0s							
D23K	Nanushuk River	104.73	10	Pdiff	**Pdif**	**23 22 58.9**	**+1.8**	
	baz=204							
B21K	Ikpikpuk River	104.79	9	IAMs_20	IAMs_20	00 06 29.9		
	comp=Z,502nm,20.0s							
B21K	Ikpikpuk River	104.79	9	PKiKP	**PKiKP**	**23 27 14.0**	**+1.6**	
	baz=201							
SONM	Songino Array	104.95	318	PKiKP	**PKiKP**	**23 27 13.7**	**+0.1**	
	comp=Z,0.3nm,0.4s,baz=136,slow=2.4,SNR=3.7							
EPYK	Eagle Plains	105.15	16	PKiKP	**PKiKP**	**23 27 14.5**	**+1.2**	
	baz=216							
D24K	Happy Valley	105.18	11	IAMs_20	IAMs_20	00 04 16.3		
	comp=Z,681nm,22.0s							
MIAR	Mount Ida	105.24	59	IAMs_20	IAMs_20	00 09 36.8		
	comp=Z,476nm,19.0s							
H31M	Peel River	105.27	18		**PKiKP**	**23 27 16.7**	**+3.3**	
H31M				IAMs_20	IAMs_20	00 03 02.4		
	comp=Z,817nm,21.0s							
H31M	Peel River	105.27	18	PKiKP	**PKiKP**	**23 27 15.5**	**+2.0**	
	baz=218							
G29M	Pine Creek	105.30	16	IAMs_20	IAMs_20	00 06 58.8		
	comp=Z,670nm,19.0s							
G29M	Pine Creek	105.30	16	PKiKP	**PKiKP**	**23 27 15.2**	**+1.7**	
	baz=215							
K30B	Basset	105.41	49	IAMs_20	IAMs_20	00 07 11.3		
	comp=Z,709nm,19.0s							
F28M	Old Crow	105.48	15	IAMs_20	IAMs_20	00 06 57.5		
	comp=Z,684nm,20.0s							
F28M	Old Crow	105.48	15	PKiKP	**PKiKP**	**23 27 15.2**	**+1.4**	
	baz=213							
C23K	Itkillik River	105.53	10	PKiKP	**PKiKP**	**23 27 15.5**	**+1.7**	
	baz=205							
E27K	Coleen River	105.61	14	PKiKP	**PKiKP**	**23 27 15.9**	**+1.9**	
	baz=212							
B22K	Teshekpuk Lake	105.62	9	IAMs_20	IAMs_20	00 11 19.6		
	comp=Z,537nm,19.0s							
C24K	Franklin Bluff	105.71	11	IAMs_20	IAMs_20	00 04 44.3		
	comp=Z,561nm,22.0s							
C24K	Franklin Bluff	105.71	11	PKiKP	**PKiKP**	**23 27 16.0**	**+2.0**	
	baz=206							
D25K	Kavik River	105.73	12	IAMs_20	IAMs_20	00 07 24.8		
	comp=Z,768nm,20.0s							
D25K	Kavik River	105.73	12	PKiKP	**PKiKP**	**23 27 15.8**	**+1.6**	
	baz=208							
G30M	tAoh Zraii Nji	105.76	16	IAMs_20	IAMs_20	00 02 45.2		
	comp=Z,530nm,21.0s							
G30M	tAoh Zraii Nji	105.76	16	PKiKP	**PKiKP**	**23 27 16.3**	**+1.9**	
	baz=216							
DGMT	Dagmar	105.82	42	IAMs_20	IAMs_20	00 07 53.4		
	comp=Z,549nm,20.0s							
143A	Socs Landing,	105.87	61	IAMs_20	IAMs_20	00 01 44.8		
	comp=Z,622nm,22.0s							
G31M	Satah River	106.18	17	IAMs_20	IAMs_20	00 02 58.2		
	comp=Z,748nm,22.0s							
G31M	Satah River	106.18	17	PKiKP	**PKiKP**	**23 27 16.7**	**+1.7**	
	baz=218							
F30M	Barrier River	106.37	16	IAMs_20	IAMs_20	00 07 32.3		
	comp=Z,682nm,21.0s							
F30M	Barrier River	106.37	16	PKiKP	**PKiKP**	**23 27 17.0**	**+1.7**	
	baz=217							
E28M	Babbage River	106.38	14	IAMs_20	IAMs_20	00 11 22.2		
	comp=Z,511nm,19.0s							
E28M	Babbage River	106.38	14	PKiKP	**PKiKP**	**23 27 17.4**	**+2.0**	
	baz=214							
C27K	Jago River	106.45	12	IAMs_20	IAMs_20	00 07 24.1		
	comp=Z,812nm,21.0s							
C27K	Jago River	106.45	12	PKiKP	**PKiKP**	**23 27 17.4**	**+1.9**	
	baz=210							
E29M	Blow River	106.54	15	IAMs_20	IAMs_20	00 07 29.6		
	comp=Z,730nm,20.0s							
E29M	Blow River	106.54	15	PKiKP	**PKiKP**	**23 27 17.4**	**+1.7**	
	baz=215							
D27M	Malcolm River	106.63	13	IAMs_20	IAMs_20	00 04 26.9		
	comp=Z,658nm,22.0s							
D27M	Malcolm River	106.63	13	PKiKP	**PKiKP**	**23 27 17.7**	**+1.8**	
	baz=213							
F31M	Tsiigehtchic	106.72	17	IAMs_20	IAMs_20	00 03 47.4		
	comp=Z,668nm,21.0s							
F31M	Tsiigehtchic	106.72	17	PKiKP	**PKiKP**	**23 27 17.5**	**+1.5**	
	baz=218							
N35A	Tabor

I42A	**Draeger Farm,**	**112.84**	**52**	IAMs_20	IAMs_20	00 12 17.3			
	comp=Z,457nm,20.0s								
EYMN	**Ely**	**112.96**	**47**	IAMs_20	IAMs_20	00 06 38.9			
	comp=Z,701nm,22.0s								
TZTN	**Tazewell**	**113.38**	**61**	IAMs_20	IAMs_20	00 12 15.7			
	comp=Z,620nm,19.0s								
V53A	**Saluda**	**113.54**	**62**	IAMs_20	IAMs_20	00 07 35.0			
	comp=Z,690nm,22.0s								
R50A	**Paris**	**113.57**	**59**	IAMs_20	IAMs_20	00 12 42.4			
	comp=Z,654nm,19.0s								
BOSA	**Boshof**	**113.60**	**204**	PKiKP	**PKiKP**	**23 27 31.1**	**+0.6**		
	comp=Z,4.9nm,0.9s,baz=346,slow=1.2,SNR=5.7								
COWI	**Conover**	**113.64**	**49**	IAMs_20	IAMs_20	00 09 29.1			
	comp=Z,738nm,21.0s								
L46A	**Eue Claire**	**113.78**	**54**	IAMs_20	IAMs_20	00 20 33.5			
	comp=Z,589nm,18.0s								
S51A	**Beattyville**	**113.82**	**60**	IAMs_20	IAMs_20	00 13 50.1			
	comp=Z,550nm,20.0s								
H43A	**Windswept, Lux**	**113.83**	**51**	IAMs_20	IAMs_20	00 11 16.5			
	comp=Z,520nm,19.0s								
F42A	**Maple Grove Fa**	**114.13**	**50**	IAMs_20	IAMs_20	00 09 03.2			
	comp=Z,711nm,22.0s								
KMSC	**Kings Mountain**	**114.41**	**63**	IAMs_20	IAMs_20	00 14 47.0			
	comp=Z,426nm,19.0s								
WMQ	**Urumqi**	**114.45**	**307**	*e*PKP	**PKiKP**	**23 27 33.1**	**+1.6**		
WMQ				LR	LR				
	comp=Z,240nm,21.1s								
Q51A	**Peebles**	**114.58**	**58**	IAMs_20	IAMs_20	00 13 31.1			
	comp=Z,569nm,18.0s								
U54A	**Nelsons Funny**	**114.63**	**61**	IAMs_20	IAMs_20	00 13 34.8			
	comp=Z,616nm,19.0s								
I45A	**Fountain**	**114.66**	**52**	IAMs_20	IAMs_20	00 11 30.5			
	comp=Z,587nm,19.0s								
V55A	**Taylorsville**	**114.80**	**62**	IAMs_20	IAMs_20	00 11 41.2			
	comp=Z,553nm,20.0s								
Q52A	**Bidwell**	**115.32**	**59**	IAMs_20	IAMs_20	00 13 54.7			
	comp=Z,585nm,19.0s								
S54A	**Dingess, Beckl**	**115.53**	**60**	IAMs_20	IAMs_20	00 14 56.5			
	comp=Z,492nm,18.0s								
U56A	**King**	**115.61**	**62**	IAMs_20	IAMs_20	00 12 13.9			
	comp=Z,588nm,20.0s								
AAM	**Ann Arbor**	**115.69**	**55**	IAMs_20	IAMs_20	00 21 43.1			
	comp=Z,514nm,18.0s								
BLA	**Blacksburg**	**115.94**	**61**	IAMs_20	IAMs_20	00 13 56.4			
	comp=Z,560nm,19.0s								
GLMI	**Grayling**	**116.03**	**52**	IAMs_20	IAMs_20	00 12 22.9			
	comp=Z,815nm,20.0s								
P53A	**Whipple**	**116.16**	**59**	IAMs_20	IAMs_20	00 08 08.8			
	comp=Z,673nm,22.0s								
V58A	**Windy Hill, Pi**	**116.33**	**63**	IAMs_20	IAMs_20	00 11 13.8			
	comp=Z,470nm,21.0s								
Q54A	**Coxs Mills**	**116.35**	**59**	IAMs_20	IAMs_20	00 08 25.1			
	comp=Z,578nm,22.0s								
E46A	**Sault Ste Mari**	**116.82**	**51**	IAMs_20	IAMs_20	00 08 36.5			
	comp=Z,606nm,22.0s								
I49A	**Point Hope**	**116.89**	**54**	IAMs_20	IAMs_20	00 15 20.6			
	comp=Z,443nm,18.0s								
O54A	**Avella**	**117.14**	**58**	IAMs_20	IAMs_20	00 09 33.9			
	comp=Z,709nm,22.0s								
S57A	**Dark Hollow, R**	**117.23**	**61**	IAMs_20	IAMs_20	00 14 43.5			
	comp=Z,583nm,19.0s								
BLKN	**Baker Lake**	**117.24**	**29**		**PKPdf**	**23 27 36.0**	**-0.1**		
MCWV	**Mont Chateau**	**117.32**	**59**	IAMs_20	IAMs_20	00 15 25.7			
	comp=Z,654nm,19.0s								
T59A	**Double "B" Far**	**117.95**	**63**	IAMs_20	IAMs_20	00 14 55.7			
	comp=Z,535nm,20.0s								
R58B	**Mineral**	**118.09**	**61**	IAMs_20	IAMs_20	00 16 05.3			
	comp=Z,646nm,19.0s								
ERPA	**Erie**	**118.14**	**56**	IAMs_20	IAMs_20	00 18 20.6			
	comp=Z,439nm,18.0s								
CBN	**Corbin Frederi**	**118.55**	**61**	IAMs_20	IAMs_20	00 16 18.5			
	comp=Z,589nm,19.0s								
SJG	**San Juan**	**118.90**	**87**	IAMs_20	IAMs_20	00 08 01.3			
	comp=Z,521nm,22.0s								
SSPA	**Standing Stone**	**119.08**	**59**	IAMs_20	IAMs_20	00 10 33.1			
	comp=Z,734nm,22.0s								
MK31	**Makanchi Array**	**119.10**	**309**	*i* PKiKP	**PKPdf**	**23 27 38.4**	**-1.9**		
MKAR	**Makanchi Array**	**119.10**	**309**	PKPdf	**PKPdf**	**23 27 37.8**	**-2.4**		
MKAR	**Makanchi Array**	**119.10**	**309**	PKP	**PKPdf**	**23 27 38.1**	**-2.2**		
	comp=Z,1.8nm,0.6s,baz=200,slow=1.4,SNR=20								
MKAR				PKKPbc	**PKKPab**	**23 37 56.8**	**+2.3**		
	comp=Z,0.4nm,0.5s,baz=274,slow=4.5,SNR=4.8								
SADO	**Sadowa**	**119.65**	**54**	PKP	**PKiKP**	**23 27 41.4**	**0.0**		
	comp=Z,10.0nm,0.6s,baz=277,slow=2.7,SNR=12								
ZALV	**Zalesovo Beam**	**119.84**	**317**		**PKPdf**	**23 27 39.2**	**-2.2**		
ZALV	**Zalesovo Beam**	**119.84**	**317**	PKP	**PKPdf**	**23 27 39.8**	**-1.6**		
	comp=Z,3.4nm,0.5s,baz=128,slow=1.9,SNR=14								
RES	**Resolute Bay**	**120.92**	**18**	PKPdf	**PKiKP**	**23 27 43.7**	**+0.7**		
RES	**Resolute Bay**	**120.92**	**18**	PKiKP	**PKiKP**	**23 27 43.7**	**+0.7**		
KSH	**Kashi**	**120.98**	**299**	PKP	**PKiKP**	**23 27 44.4**	**0.0**		
GRTLG	**Ghanzi**	**121.66**	**203**	PKPdf	**PKiKP**	**23 27 46.5**	**+0.1**		
N62A	**Caumsett State**	**122.33**	**60**	IAMs_20	IAMs_20	00 15 22.4			
	comp=Z,626nm,20.0s								
KURK	**Kurchatov**	**122.59**	**312**	PKPdf	**PKPdf**	**23 27 44.7**	**-2.1**		
KURK	**Kurchatov**	**122.59**	**312** *c*	*i*PKiKP	**PKPdf**	**23 27 45.5**	**-1.3**		
KURK				pmax	pmax				
	comp=Z,10.0nm,0.7s								
KURBB	**Kurchatov Arra**	**122.62**	**312**	PKP	**PKPdf**	**23 27 45.6**	**-1.2**		
	comp=Z,8.7nm,0.5s,baz=117,slow=1.6,SNR=32								
KURBB				PP	**PP**	**23 29 19.8**	**-5.2**		
	comp=Z,0.9nm,0.7s,baz=104,slow=6.5,SNR=5.8								
KURBB				PKKP	**PKKPdf**	**23 38 24.3**	**+5.6**		
	comp=Z,0.8nm,0.7s,baz=291,slow=2.5,SNR=7.6								
LONY	**Lake Ozonia**	**122.69**	**55**	IAMs_20	IAMs_20	00 18 02.3			
	comp=Z,541nm,19.0s								
QNGWA	**Qangwa**	**123.38**	**203**		**PKiKP**	**23 27 50.1**	**+0.3**		
KBL	**Kabul**	**124.48**	**291**	PKPdf	**PKPdf**	**23 27 50.3**	**-0.9**		
KBL	**Kabul**	**124.48**	**291**	PKiKP	**PKPdf**	**23 27 50.3**	**-0.9**		
LSZ	**Lusaka**	**124.50**	**213**	PKPdf	**PKPdf**	**23 27 51.0**	**-0.7**		
LSZ	**Lusaka**	**124.50**	**213**	PKiKP	**PKPdf**	**23 27 51.1**	**-0.7**		
G62A	**West of Eustis**	**125.62**	**55**	PKPdf	**PKiKP**	**23 27 53.4**	**+0.3**		
LDAQ	**Lac Daran**	**125.79**	**52**	PKPdf	**PKiKP**	**23 27 53.9**	**+0.3**		
SIMJ	**Simiganj**	**125.83**	**296**	PKPdf	**PKPdf**	**23 27 52.4**	**-1.2**		
KKAR	**Karatay Array**	**125.99**	**302**	PKPdf	**PKPdf**	**23 27 52.2**	**-1.4**		
KKAR	**Karatay Array**	**125.99**	**302**	PKiKP	**PKPdf**	**23 27 52.2**	**-1.4**		
LMQ	**La Malbaie**	**126.30**	**53**		**PKiKP**	**23 27 54.5**	**0.0**		
E62A	**Clayton Lake**	**126.64**	**54**	IAMs_20	IAMs_20	00 17 57.6			
	comp=Z,568nm,20.0s								
D62A	**Allapoint, All**	**127.05**	**53**	IAMs_20	IAMs_20	00 17 10.5			
	comp=Z,625nm,21.0s								
BVAR	**Borovoye Array**	**128.05**	**314**	PKP	**PKPdf**	**23 27 56.1**	**-1.0**		
	comp=Z,8.6nm,0.5s,baz=107,slow=1.5,SNR=52								
BVAR				PP	**PP**	**23 29 58.2**	**-2.8**		
	comp=Z,2.8nm,0.9s,baz=88,slow=7.4,SNR=3.7								
BRVK	**Borovoye**	**128.12**	**314**	*i* PKiKP	**PKPdf**	**23 27 57.0**	**-0.3**		
SCHQ	**Schefferville**	**129.58**	**44**	PKP	**PKiKP**	**23 28 00.8**	**0.0**		
	comp=Z,5.6nm,0.8s,baz=262,slow=4.1,SNR=6.4								
SCHQ				SKP		23 31 19.7			
	comp=Z,13nm,1.0s,baz=303,slow=3.5,SNR=7.8								
KULLO	**Kullorsuaq**	**130.79**	**17**	*i* P	**PKiKP**	**23 28 02.6**	**-0.1**		
NEEM	**North Greenlan**	**130.88**	**13**	*i* P	**PKiKP**	**23 28 02.9**	**-0.3**		
UOSS	**Minazif**	**131.29**	**275**	IAMs_20	IAMs_20	00 20 49.4			
	comp=Z,536nm,21.0s								
UPNV	**Upernavik**	**131.73**	**20**	*i* P	**PKiKP**	**23 28 04.8**	**+0.2**		
KBS	**Kingsbay**	**134.61**	**357**	PKPdf	**PKPdf**	**23 28 08.3**	**-0.6**		
KBS				IAMs_20	IAMs_20	00 23 22.1			
	comp=Z,488nm,20.0s								
KBS	**Kingsbay**	**134.61**	**357**	PKiKP	**PKPdf**	**23 28 08.3**	**-0.6**		
KBS	**Kingsbay**	**134.61**	**357**	*e*PKPdf	**PKPdf**	**23 28 09.4**	**+0.5**		
KBS	**Kingsbay**	**134.61**	**357**	*i* P	**PKPdf**	**23 28 07.8**	**-1.2**		
ILULI	**Ilulissat**	**134.62**	**23**	IAMs_20	IAMs_20	00 24 08.4			
	comp=Z,523nm,22.0s								
ILULI	**Ilulissat**	**134.62**	**23**	*i* P	**PKiKP**	**23 28 10.3**	**-0.2**		
ARTI	**Arti**	**135.09**	**318**	IAMs_20	IAMs_20	00 40 07.8			
	comp=Z,519nm,21.0s								
ARTI	**Arti**	**135.09**	**318**	PKhKP	PKPpre	23 28 01.9			
	comp=Z,6.3nm,0.8s,baz=225,slow=1.4,SNR=5.3								
ARTI				PKP	**PKPdf**	**23 28 10.1**	**-0.2**		
	comp=Z,11nm,0.5s,baz=93,slow=2.1,SNR=18								
ARTI				SKPbc	**SKPbc**	**23 31 34.6**	**-4.0**		
	comp=Z,9.2nm,0.9s,baz=234,slow=4.2,SNR=7.9								
ARTI	**Arti**	**135.09**	**318**	*i* PKiKP	**PKPdf**	**23 28 10.4**	**0.0**		
ARTI						23 30 42.4			
ARTI				SS	SS	23 48 31.6	-6.9		
SPA0	**Spitsbergen Ar**	**135.09**	**355**	*e*PKPdf	**PKPdf**	**23 28 10.1**	**+0.2**		
SPITS	**Spitsbergen Ar**	**135.09**	**355**	PKP	**PKPdf**	**23 28 10.2**	**+0.3**		
	comp=Z,41nm,0.7s,baz=87,slow=4.3,SNR=37								
SPITS				SKPbc	**SKPbc**	**23 31 35.9**	**-2.2**		
	comp=Z,7.9nm,0.8s,baz=43,slow=8.7,SNR=4.8								
SPB2	**Spitsbergen Ar**	**135.10**	**355**	PKPdf	**PKPdf**	**23 28 09.5**	**-0.3**		
SFJD	**Kangerlussuaq**	**135.64**	**26**	IAMs_20	IAMs_20	00 19 28.9			
	comp=Z,534nm,21.0s								
DAG	**Danmarks Havn**	**136.13**	**6**	*i* P	**PKPdf**	**23 28 10.7**	**-1.0**		
SUMG	**Summit**	**136.37**	**16**	IAMs_20	IAMs_20	00 20 54.8			
	comp=Z,591nm,22.0s								
SUMG	**Summit**	**136.37**	**16**	*i* P	**PKiKP**	**23 28 15.1**	**+0.6**		

DBG	**Daneborg**	**138.22**	**8**	*i* P	**PKPdf**	**23 28 16.2**	**+0.5**		
IVI	**Ivigtut**	**138.67**	**33**	*i* P	**PKPdf**	**23 28 17.8**	**+1.0**		
KIRV	**Kirov**	**139.46**	**323**	PKP	**PKPdf**	**23 28 17.2**	**-1.1**		
	comp=Z,111nm,0.6s,baz=315,slow=5.8,SNR=4.5								
NRS	**Narsarsuaq**	**139.94**	**33**	*i* P	**PKiKP**	**23 28 21.7**	**+0.1**		
VADS	**Vadso**	**140.46**	**345**	*e*PKPdf	**PKPdf**	**23 28 13.4**	**-6.4**		
LVZ	**Lovozero**	**140.78**	**340**	IAMs_20	IAMs_20	00 31 58.5			
	comp=Z,445nm,22.0s								
LVZ	**Lovozero**	**140.78**	**340** *c*	*i*PKiKP	**PKiKP**	**23 28 23.4**	**+0.2**		
LVZ				pmax	pmax				
	comp=Z,8.0nm,0.7s								
HAMF	**Hammerfest**	**141.13**	**348**	*e*PKPdf	**PKPdf**	**23 28 17.2**	**-3.9**		
SCO	**Scoresbysund**	**141.34**	**12**	IAMs_20	IAMs_20	00 27 48.9			
	comp=Z,440nm,22.0s								
SCO	**Scoresbysund**	**141.34**	**12**	*i* P	**PKiKP**	**23 28 23.9**	**-0.3**		
APA	**Apatity**	**141.35**	**341**	*i* PKiKP	**PKPdf**	**23 28 18.2**	**-3.3**		
APA				MLR	MLR				
	comp=Z,702nm,19.7s								
ARCES	**ARCESS Array B**	**141.73**	**346**	PKhKP	PKPpre	23 28 16.1			
	comp=Z,7.0nm,0.9s,baz=29,slow=2.8,SNR=19								
ARCES				SKPbc	**SKPbc**	**23 31 55.1**	**-2.0**		
	comp=Z,4.9nm,0.9s,baz=225,slow=0.3,SNR=4.9								
BELG	**Belogornoye**	**141.85**	**314**	PKhKP	PKPpre	23 28 16.3			
	comp=Z,22nm,0.7s,baz=159,slow=4.0,SNR=6.8								
BELG				PKP	**PKPdf**	**23 28 22.9**	**+0.1**		
	comp=Z,21nm,0.6s,baz=347,slow=1.7,SNR=8.0								
BELG				SKPbc	**SKPbc**	**23 31 56.3**	**-1.5**		
	comp=Z,14nm,0.6s,baz=331,slow=4.0,SNR=3.6								
MAK	**Makhachkala**	**142.60**	**298**	*e*PKHKP	PKPpre	23 28 19.9			
MAK				*e*		23 31 28.8			
MAK				*e*		23 35 28.4			
MAK				*e*SS	SS	23 50 03.0	-4.9		
MAK				*e*SSS	SSS	23 55 27.4			
MAK				pmax	pmax				
	comp=Z,151nm,1.1s								
KTK1	**Kautokeino**	**142.61**	**347**	*e*PKPdf	**PKPdf**	**23 28 21.4**	**-2.4**		
JETT	**Jettan, Norway**	**142.63**	**349**	*e*PKPdf	**PKPdf**	**23 28 20.6**	**-3.2**		
TRO	**Tromso**	**142.79**	**350**	*e*PKPdf	**PKPdf**	**23 28 19.9**	**-4.1**		
KLMR	**Klimovskoe**	**143.23**	**329**	*e*PKiKP	PKPbc	23 28 23.0	+0.9		
KLMR				*e*		23 31 35.4			
KLMR				pmax	pmax				
	comp=Z,19nm,0.8s								
KLMR				MLR	MLR				
	comp=Z,580nm,22.0s								
GNI	**Garni**	**144.53**	**293**		**PKPab**	**23 28 26.6**	**-0.2**		
GNI	**Garni**	**144.53**	**293**	IAMs_20	IAMs_20	00 37 05.1			
	comp=Z,493nm,22.0s								
GNI	**Garni**	**144.53**	**293** *ce*	PKiKP	PKPbc	23 28 27.3	+0.4		
GNI				pmax	pmax				
	comp=Z,47nm,2.5s								
STEI	**Steigen**	**144.90**	**350**	*e*PKPbc	**PKPab**	**23 28 26.4**	**-0.6**		
LOF	**Lofoten**	**144.93**	**352**	*e*PKPbc	**PKPab**	**23 28 26.7**	**-0.4**		
OZAP	**Van, Ozalp-Mer**	**144.97**	**291**	⇓P	PKPbc	23 28 27.5	-1.0		
FAUS	**Fauske**	**145.40**	**350**	*e*PKPbc	**PKPbc**	**23 28 27.8**	**-0.8**		
GEVA	**Gevas**	**145.67**	**290**		**PKPdf**	**23 28 29.7**	**-0.5**		
VRH	**Novokhopyorsk**	**145.68**	**313**	*e*PKP2	**PKPdf**	**23 28 28.1**	**-1.5**		
VRH				pmax	pmax				
	comp=Z,122nm,0.6s								
GOF	**Gofitskoye**	**145.78**	**302** *ce*	PKP2	**PKPdf**	**23 28 28.9**	**-1.1**		
KBZ	**Khabaz**	**145.96**	**299**	PKPbc	**PKPdf**	**23 28 30.4**	**0.0**		
	comp=Z,19nm,0.9s,baz=108,slow=2.8,SNR=22								
KIV	**Kislovodsk**	**146.10**	**300**	PKPdf	**PKPdf**	**23 28 30.6**	**-0.1**		
KIV	**Kislovodsk**	**146.10**	**300**	*i* PKiKP	**PKPdf**	**23 28 29.3**	**-1.4**		
KIV				*e*SS	SS	23 50 42.3	-5.9		
KIV				pmax	pmax				
	comp=Z,16nm,1.0s								
KIV	**Kislovodsk**	**146.10**	**300**	PKP	**PKPbc**	**23 28 31.3**	**-0.4**		
KIV	**Kislovodsk**	**146.10**	**300**	⇑P	**PKPab**	**23 28 32.7**	**+0.3**		
VAGH	**Vaagaholmen**	**146.29**	**351**	*e*PKPdf	**PKPbc**	**23 28 30.9**	**-0.5**		
BORG	**Borgarnes**	**146.34**	**17**	PKPbc	**PKPab**	**23 28 33.2**	**+0.8**		
	comp=Z,25nm,0.8s,baz=300,slow=3.9,SNR=12								
MOS	**Moscow**	**146.47**	**322**	*i* PKiKP	**PKPdf**	**23 28 29.8**	**-1.0**		
MOS				pmax	pmax				
	comp=Z,67nm,0.6s								
GURO	**Guroymak-BITLI**	**146.49**	**290**	PKPdf	**PKPdf**	**23 28 31.6**	**0.0**		
KONS	**Konsvik**	**146.53**	**351**	*e*PKPdf	**PKPbc**	**23 28 31.7**	**-0.3**		
MOR8	**Moi Rana**	**146.66**	**350**	*e*PKPdf	**PKPdf**	**23 28 31.2**	**+0.3**		
HOMI	**Horasan**	**146.69**	**293**	⇑P	**PKPbc**	**23 28 33.1**	**-0.7**		
STOK	**Stokkvaagen**	**146.70**	**351**	*e*PKPdf	**PKPbc**	**23 28 32.5**	**-0.1**		
LEIR	**Leirfjorden**	**146.90**	**351**	*e*PKPdf	**PKPbc**	**23 28 32.8**	**-0.4**		
LPSR	**Galich'ya Gora**	**146.94**	**316**	*e*PKiKP	**PKPdf**	**23 28 30.5**	**-1.2**		
LPSR				pmax	pmax				
	comp=Z,30nm,0.8s								
VORR	**Voronezh**	**147.07**	**314**	*e*PKiKP	**PKPdf**	**23 28 31.3**	**-0.6**		
VORR				pmax	pmax				
	comp=Z,30nm,0.8s								
VORD	**Divnogorie**	**147.22**	**313**	*e*PKiKP	**PKPdf**	**23 28 31.9**	**-0.3**		
VORD				pmax	pmax				
	comp=Z,30nm,0.8s								
VSR	**Storozhevoye**	**147.23**	**314**	*e*PKiKP	**PKPdf**	**23 28 32.3**	**+0.1**		
VSR				pmax	pmax				
	comp=Z,40nm,0.8s								
OBN	**Obninsk**	**147.28**	**321**		**PKPdf**	**23 28 32.5**	**+0.3**		
OBN	**Obninsk**	**147.28**	**321**	PKPbc	**PKPdf**	**23 28 33.2**	**+1.0**		
	comp=Z,35nm,0.5s,baz=51,slow=1.4,SNR=5.3								
OBN	**Obninsk**	**147.28**	**321** *c*	*i*PKP2	**PKPdf**	**23 28 33.3**	**+1.1**		
OBN				pmax	pmax				
	comp=Z,31nm,0.9s								
OBN	**Obninsk**	**147.28**	**321**	⇓P	**PKPbc**	**23 28 33.7**	**-0.8**		
ERBR	**Yeremizino-Bor**	**147.52**	**303**	*e*PKiKP	**PKPdf**	**23 28 32.3**	**-0.6**		
ERBR				pmax	pmax				
	comp=Z,27nm,0.8s								
FINES	**FINESS Array B**	**147.97**	**337**	PKPdf	**PKPdf**	**23 28 33.1**	**0.0**		
FINES	**FINESS Array B**	**147.97**	**337**	PKPbc	**PKPbc**	**23 28 35.2**	**-1.1**		
	comp=Z,104nm,0.7s,baz=64,slow=3.2,SNR=277								
FINES	**FINESS Array B**	**147.97**	**337**	PKiKP	**PKPdf**	**23 28 33.1**	**0.0**		
SOC	**Sochi**	**148.28**	**299**	*e*PKiKP	**PKPdf**	**23 28 35.1**	**+0.9**		
SOC				*e*		23 32 11.9			
SOC				*e*SSS	SSS	23 56 49.8			
SOC				pmax	pmax				
	comp=Z,24nm,0.7s								
NSS	**Namsos**	**148.56**	**351**	*e*PKPdf	**PKPdf**	**23 28 33.8**	**-0.2**		
EDA	**Edea**	**148.75**	**199**		**PKPdf**	**23 28 36.7**	**+0.8**		
KHAM	**Kharkiv**	**149.37**	**312**	PKP	**PKPbc**	**23 28 39.2**	**-1.1**		
ANN	**Anapa**	**149.77**	**302**	*e*PKiKP	**PKPdf**	**23 28 35.9**	**-0.7**		
ANN				*e*		23 28 39.4			
ANN				*e*		23 32 17.4			
ANN				*e*		23 35 43.8			
ANN				*e*SS	SS	23 51 27.4	-1.7		
ANN				pmax	pmax				
	comp=Z,45nm,0.9s								
ANN				MLR	MLR				
	comp=E,291nm,24.0s								
ANN				MLR	MLR				
	comp=N,789nm,24.0s								
ANN				MLR	MLR				
	comp=Z,416nm,24.0s								
HWQ	**Hawqa**	**150.84**	**281**	*e*P	**PKPbc**	**23 28 43.3**	**-1.2**		
MOL	**Molde**	**150.97**	**353**	*e*	**PKPbc**	**23 28 43.6**	**0.0**		
BHL	**Bhannes**	**151.02**	**280**	*e*P	**PKPbc**	**23 28 43.9**	**-1.0**		
MMAI	**Mount Meron Ar**	**151.06**	**278**	PKPbc	**PKPbc**	**23 28 44.2**	**-0.7**		
	comp=Z,23nm,0.6s,baz=88,slow=4.3,SNR=63								
DOMB	**Dombas**	**151.33**	**352**	*e*	**PKPbc**	**23 28 44.2**	**-0.4**		
AKN	**Aaknes**	**151.41**	**354**	*e*	**PKiKP**	**23 28 45.0**	**-0.2**		
NC204	**NORSAR Array S**	**151.84**	**350**	PKPdf	**PKPdf**	**23 28 39.6**	**+0.3**		
MNK	**Minsk**	**151.91**	**325**	*i* PKiKP	**PKiKP**	**23 28 46.8**	**+0.3**		
	comp=E,8.0nm,0.9s								
MNK				*i* PKiKP	**PKiKP**	**23 28 46.8**	**+0.3**		
	comp=N,7.0nm,0.8s								
MNK				*i* PKiKP	**PKiKP**	**23 28 46.8**	**+0.3**		
	comp=Z,73nm,0.8s,baz=54								
MNK				*i* SKP		23 31 43.3			
MNK				*i* PKS	**PKSdf**	**23 32 12.9**	**-0.9**		
MNK				*i* PP	**PP**	**23 32 29.5**	**+2.4**		
MNK				*i* PPP	PPP	23 35 53.1			
MNK				*i* SKS	SKSdf	23 36 39.3	+55		
MNK				*i* SS	**SS**	**23 51 58.0**	**+6.3**		
MNK				*i* SSS	SSS	23 58 17.7			
MNK	**Minsk**	**151.91**	**325**	*i* PKiKP	**PKiKP**	**23 28 46.7**	**+0.3**		
MNK				*i*		23 32 29.5			
MNK				*i* PPP	PPP	23 35 53.0			
MNK				*i* SS	SS	23 51 57.9	+6.3		
MNK				pmax	pmax				
	comp=N,7.0nm,0.8s								
MNK				pmax	pmax				
	comp=E,8.0nm,0.9s								
MNK				pmax	pmax				
	comp=Z,73nm,0.8s								
NB2	**NORSAR Subarra**	**151.99**	**349**	PKPg		23 28 39.2			
	comp=Z,31nm,1.2s,baz=17,slow=2.6								
NB2				PKP	**PKPbc**	**23 28 46.1**	**0.0**		
	comp=Z,46nm,0.9s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**151.99**	**349**	PKPbc	**PKPbc**	**23 28 45.4**	**-0.8**		
	comp=Z,30nm,0.8s,baz=20,slow=4.7,SNR=134								

SIM	**Simferopol'**	**152.07**	**303**	*e*PKiKP	**PKPbc**	**23 28 45.9**	**-0.9**		
SIM				*e*PPP	PPP	23 35 41.9			
SIM				pmax	pmax				
	comp=Z,26nm,0.8s								
FOO	**Floro**	**152.14**	**355**	*e*	**PKiKP**	**23 28 46.5**	**-0.1**		
NACGM	**Naroch**	**152.18**	**327**	*e*PKP	**PKPdf**	**23 28 39.9**	**0.0**		
	comp=Z,5.0nm,0.9s,baz=52								
NC602	**NORSAR Array S**	**152.23**	**348**	*e*P	**PKPdf**	**23 28 39.5**	**-0.4**		
NC602				*e*		23 28 46.6			
HFS	**Hagfors**	**152.39**	**346**	PKPbc	**PKPbc**	**23 28 45.7**	**-1.2**		
	comp=Z,65nm,0.7s,baz=107,slow=1.5,SNR=108								
DBIC	**Dimbokro**	**152.43**	**168**	PKPbc	**PKPbc**	**23 28 47.4**	**-1.1**		
DBIC	**Dimbokro**	**152.43**	**168**	PKPbc	**PKPbc**	**23 28 46.0**	**-2.5**		
	comp=Z,9.2nm,0.8s,baz=247,slow=3.6,SNR=7.3								
DBIC	**Dimbokro**	**152.43**	**168**	PKiKP	**PKPbc**	**23 28 47.4**	**-1.1**		
HYA	**Hoyanger**	**152.48**	**354**	*e*	**PKiKP**	**23 28 47.6**	**+0.3**		
SUE	**Sulen**	**152.69**	**356**	*e*	**PKiKP**	**23 28 48.4**	**+0.6**		
SKAR	**Skarslia**	**152.74**	**352**	*e*	**PKiKP**	**23 28 48.7**	**+0.7**		
KIRS	**Kirsehir-Merke**	**152.84**	**291**	⇑P	**PKPbc**	**23 28 47.7**	**-1.1**		
BRTR	**Keskin Array B**	**153.05**	**292**	PKPbc	**PKPbc**	**23 28 46.3**	**-3.0**		
BRTR	**Keskin Array B**	**153.05**	**292**	PKP	**PKPdf**	**23 28 41.1**	**-0.8**		
	comp=Z,0.7nm,0.8s,baz=140,slow=2.7,SNR=4.5								
BRTR				PKPbc	**PKPbc**	**23 28 47.2**	**-2.1**		
	comp=Z,5.6nm,0.5s,baz=133,slow=3.2,SNR=36								
OSL	**Oslo**	**153.12**	**349**	*e*	**PKiKP**	**23 28 48.9**	**+0.2**		
ASK	**Askoy**	**153.23**	**355**	*e*	**PKiKP**	**23 28 49.5**	**+0.5**		
AKASG	**Malin Array Be**	**153.24**	**317**	PKPdf	**PKPdf**	**23 28 43.4**	**+1.7**		
AKASG	**Malin Array Be**	**153.24**	**317**	PKP	**PKPdf**	**23 28 42.1**	**+0.5**		
	comp=Z,0.9

baz=20,slow=0.8
BRG Berggiesshubel 160.45 334 *e*PKP **PKPdf 23 28 50.4 -0.5**
BRG Amp 23 28 52.7
comp=Z,6.1nm,1.1s
BRG Berggiesshubel 160.45 334 PP PP 23 33 09.0 -5.2
MDVR Moldovita 160.47 310 ⇑P **PKPab 23 29 31.9 -0.6**
PVCC Panska Ves 160.49 333 AMS AMS 00 43 00.0
comp=Z,500nm,22.3s
VRAC Vranov 160.58 327 *e*PKP **PKPdf 23 28 50.9 -0.2**
VRAC *e* 23 29 13.0
VRAC *e* 23 29 34.5
VRAC Vranov 160.58 327 PKP **PKPdf 23 28 50.9 -0.2**
comp=Z,3.6nm,1.0s,baz=281,slow=1.8,SNR=8.4
VRAC PKPab **PKPab 23 29 31.9 -0.8**
comp=Z,3.9nm,0.9s,baz=42,slow=4.5,SNR=7.2
CLZ Clausthal 160.73 341 *e*PKPdf **PKPdf 23 28 51.2 0.0**
baz=20,slow=0.8
KRUC Moravsky 160.85 327 *e*PKP **PKPdf 23 28 50.3 -1.1**
KRUC *e* 23 29 12.6
NEUB Neuenburg 160.89 338 *e*PKPdf **PKPdf 23 28 51.1 -0.3**
baz=20,slow=0.8
GOPC GO Pecny, Ondr 160.90 331 *e*PKPDF **PKPdf 23 28 48.8 -2.7**
GOPC AMS AMS 00 43 30.0
comp=Z,600nm,20.7s
IBBN Ibbenburen 160.90 347 *e*PKPdf **PKPdf 23 28 51.2 -0.1**
baz=20,slow=0.8
PRA Prague 160.91 332 AMS AMS 00 44 00.0
comp=Z,600nm,20.3s
MODS Modra-Piesok 160.92 324 *e*PKIKP **PKPdf 23 28 50.1 -1.4**
MODS Modra-Piesok 160.92 324 *e*PKP **PKPdf 23 28 50.1 -1.4**
MODS *e* 23 29 34.7
PRU Pruhonice 160.94 332 AMS AMS 00 40 50.0
comp=Z,700nm,21.5s
TREC Trest 161.08 329 AMS AMS 00 38 20.0
comp=Z,400nm,21.8s
TANN Tannenbergstha 161.35 336 *e*PKPdf **PKPdf 23 28 52.1 +0.2**
baz=20,slow=0.8
MOX Moxa 161.43 338 *e*PKPdf **PKPdf 23 28 51.6 -0.3**
baz=20,slow=0.8
ZVC Zvikov 161.51 331 *e*PKPDF **PKPdf 23 28 47.1 -5.0**
ZVC *ex* x 23 29 35.3
MORH Mrgy, Hungar 161.58 317 ⇑P **PKPdf 23 28 52.3 +0.1**
MANZ Manzenberg 161.84 336 *e*PKPdf **PKPdf 23 28 52.7 +0.3**
baz=20,slow=0.8
RONA Rosalia, Austr 161.87 324 *e*PKP **PKPdf 23 28 51.0 -1.6**
comp=Z,9.7nm,1.6s
RONA *e*PKP **PKPab 23 29 39.4 +0.9**
comp=Z,8.1nm,1.1s
CONA Conrad Observa 161.91 325 *e*PKP **PKPdf 23 28 50.9 -1.8**
comp=Z,3.8nm,1.3s
CONA *e*PKP **PKPab 23 29 39.2 +0.5**
comp=Z,11nm,1.1s
CKRC Cesky Krumlov 161.94 330 *e*PKPDF **PKPdf 23 28 51.7 -0.9**
CKRC AMS AMS 00 44 10.0
comp=Z,500nm,20.8s
ROTZ Rotzenmuhle 161.99 335 *e*PKPdf **PKPdf 23 28 52.4 -0.2**
baz=20,slow=0.8
KHC Kasperske Hory 162.00 332 *e*PKPDF **PKPdf 23 28 51.7 -1.0**
KHC *ex* x 23 29 31.9
KHC *e*PP **PP 23 33 21.6 -1.1**
KHC AMS AMS 00 43 40.0
comp=Z,600nm,22.0s
GEC2 GERESS Array S 162.18 331 PKPdf **PKPdf 23 28 51.9 -1.1**
GEC2 GERESS Array S 162.18 331 *e*PKPdf **PKPdf 23 28 52.4 -0.5**
baz=20,slow=0.8
GERES GERESS Array B 162.18 331 PKP **PKPdf 23 28 52.2 -0.8**
comp=Z,2.2nm,0.8s,baz=79,slow=0.7,SNR=19
GERES PKPab **PKPab 23 29 38.5 -1.3**
comp=Z,1.8nm,0.7s,baz=23,slow=4.8,SNR=6.2
WET Wettzell 162.26 333 *e*PKPdf **PKPdf 23 28 52.6 -0.3**
baz=20,slow=0.8
GRF Grafenberg Arr 162.38 337 *e*PKPdf **PKPdf 23 28 51.8 -1.2**
baz=20,slow=0.8
ARSA Arzberg 162.56 324 *e*PKP **PKPdf 23 28 51.4 -1.9**
comp=Z,2.6nm,0.9s
ARSA *e*PKP **PKPab 23 29 41.7 +0.2**
comp=Z,7.0nm,1.5s
TNS Taunus Mts 162.70 343 *e*PKPdf **PKPdf 23 28 52.6 -0.7**
baz=20,slow=0.8
MOA Molln 162.70 328 *e*PKP **PKPdf 23 28 51.7 -1.7**
comp=Z,4.9nm,1.2s
MOA *e*PKP **PKPab 23 29 42.2 +0.1**
comp=Z,6.3nm,1.1s
MEM Membach 162.84 348 *d*PKPdf **PKPdf 23 28 53.9 +0.5**
MEM *d*PKP **PKPab 23 29 43.2 +0.8**
BTNL Ternell 162.84 348 *d*PKPdf **PKPdf 23 28 53.3 -0.1**
BTNL *d*PKP **PKPab 23 29 43.5 +0.9**
UCC Uccle 162.89 352 *d*PKPdf **PKPdf 23 28 53.4 0.0**
BHOU Houvegnez 163.09 348 *d*PKPdf **PKPdf 23 28 54.2 +0.5**
BHOU *d*PKP **PKPab 23 29 44.5 +0.9**
BIOA Bad Ischl, Aus 163.10 328 *e*PKP **PKPdf 23 28 51.8 -2.0**
comp=Z,5.0nm,1.2s
BIOA *e*PKP **PKPab 23 29 44.3 +0.5**
comp=Z,5.9nm,0.9s
BCLA Clavier 163.14 350 *d*PKP **PKPab 23 29 43.2 -0.6**
SOKA Soboth 163.20 324 *e*PKP **PKPdf 23 28 52.2 -1.8**
comp=Z,10nm,1.3s,SNR=10
BLY Banja Luka 163.26 315 ⇑P **PKPab 23 29 44.3 -0.3**
BMRD Maredsous 163.33 351 *d*PKPdf **PKPdf 23 28 53.5 -0.3**
BMRD *d*PKP **PKPab 23 29 44.8 +0.2**
RCHB Rochefort 163.40 350 *d*PKPdf **PKPdf 23 28 54.3 +0.4**
RJOB Jochberg 163.42 330 *e*PKPdf **PKPdf 23 28 53.2 -0.9**
baz=20,slow=0.8
OBKA Obir 163.55 324 *e*PKP **PKPdf 23 28 52.4 -2.0**
comp=Z,3.3nm,1.1s
KBA Koelnbreinsper 163.70 328 *e*PKP **PKPdf 23 28 52.4 -2.2**
comp=Z,6.4nm,1.5s
LESA Schwarzleotal 163.72 330 *e*PKP **PKPdf 23 28 52.6 -1.9**
comp=Z,5.8nm,1.0s,SNR=8.6
MYKA Terra Mystica 163.90 326 *e*PKP **PKPdf 23 28 52.8 -1.8**
comp=Z,2.9nm,1.0s
WATA Walderalm 164.24 332 *e*PKP **PKPdf 23 28 53.5 -1.5**
comp=Z,6.4nm,1.3s
WATA *e*PKP **PKPab 23 29 48.6 -0.4**
comp=Z,3.0nm,0.7s
WTTA Wattenberg 164.27 331 *e*PKP **PKPdf 23 28 53.5 -1.5**
comp=Z,22nm,1.8s,SNR=7.5
WTTA *e*PKP **PKPab 23 29 49.0 -0.2**
comp=Z,9.7nm,1.2s
ABTA Abfaltersbach 164.32 328 *e*PKP **PKPdf 23 28 53.0 -2.1**
comp=Z,4.9nm,1.0s
MOTA Moosalm 164.41 333 *e*PKP **PKPdf 23 28 53.4 -1.8**
comp=Z,4.2nm,0.8s,SNR=8.0
MOTA *e*PKP **PKPab 23 29 49.4 -0.4**
comp=Z,4.8nm,0.9s
RETA Reutte 164.42 334 *e*PKP **PKPdf 23 28 53.8 -1.3**
comp=Z,3.0nm,1.2s
RETA *e*PKP **PKPab 23 29 49.0 -0.7**
comp=Z,7.2nm,1.1s
BFO Black Forest 164.47 341 *e*PKPdf **PKPdf 23 28 53.9 -1.1**
baz=20,slow=0.8
SQTA Sankt Quirin 164.48 332 *e*PKP **PKPdf 23 28 53.6 -1.6**
comp=Z,9.7nm,0.9s,SNR=6.2
FETA Feichten 164.83 333 *e*PKP **PKPdf 23 28 54.2 -1.4**
comp=Z,16nm,1.8s,SNR=8.0
FETA *e*PKP **PKPab 23 29 50.3 -1.3**
comp=Z,2.6nm,0.8s
DAVA Damuels 164.91 335 *e*PKP **PKPdf 23 28 53.9 -1.7**
comp=Z,7.8nm,1.0s
DAVA *e*PKP **PKPab 23 29 51.4 -0.6**
comp=Z,3.8nm,0.7s
PMOZ Porto Moniz, M 165.05 89 *e*LR LR 00 30 04.1
DAVOX Davos/Dischmat 165.34 334 PKP **PKPdf 23 28 55.1 -1.0**
comp=Z,2.7nm,0.6s,baz=9.6,slow=4.5,SNR=8.6
DAVOX PKPab **PKPab 23 29 52.9 -1.0**
comp=Z,2.9nm,0.6s,baz=27,slow=8.3,SNR=4.7
INTR Introdacqua 166.78 312 PKPdf **PKPdf 23 28 56.0 -1.2**
PGAV Gavieira, Arco 169.31 39 *e*SS SS 23 55 13.3 +19
PGAV *e*LR LR 00 32 48.0
PGAV *i* IAMs_20 IAMs_20 00 45 04.6
comp=Z,422nm,20.0s
PCAB Cabril 169.62 39 *e*PKPdf **PKPdf 23 29 01.7 +2.7**
PCAB *e*PKPab **PKPab 23 30 14.2 +1.4**
POLO Lamas de Olo 169.98 39 *e*PKPab **PKPab 23 30 16.6 +2.1**
PVRL Vila Real 170.09 40 *e*PKPab **PKPab 23 30 21.3 +6.4**
PBRG Braganca 170.19 34 *e*PKPab **PKPab 23 30 16.3 +1.0**
PVIS Viseu 170.38 42 *e*PKPdf **PKPdf 23 29 01.2 +1.6**
PVIS *e*PKPab **PKPab 23 30 16.9 +0.7**
MVO Moncorvo 170.53 38 *e*PKPdf **PKPdf 23 29 03.6 +3.9**
MVO *e*PKPab **PKPab 23 30 18.2 +1.4**
MVO *e*SS SS 23 55 26.6 +20
MVO *e*LR LR 00 32 02.4
MVO *i* IAMs_20 IAMs_20 00 53 29.0
comp=Z,323nm,20.0s
PARRA Arraiolos 170.78 55 *e*PKPdf **PKPdf 23 29 03.8 +4.1**
PARRA *e*PKPab **pPKPab 23 30 25.2 -2.0**

MTE Manteigas 170.79 43 *e*PKPdf **PKPdf 23 29 00.3 +0.4**
MTE *e*PKPab **pPKPab 23 30 23.0 -4.2**
MTE *e*SS SS 23 55 24.8 +15
MTE *e*LR LR 00 33 36.5
MTE *i* IAMs_20 IAMs_20 00 49 05.0
comp=Z,511nm,20.0s
PSARD Sardoal 170.93 49 *e*PKPdf **PKPdf 23 29 01.9 +2.1**
PSARD *e*PKPab **PKPab 23 30 22.1 +3.5**
PMTG Montargil 171.19 52 *e*PKPab **PKPab 23 30 26.4 +6.6**
PCBR Castelo Branco 171.20 45 *e*PKPdf **PKPdf 23 29 01.5 +1.6**
PCBR *e*PKPab **pPKPab 23 30 26.4 -2.6**
PMRV Marv??o 171.51 47 *e*PKPab **PKPab 23 30 21.0 -0.3**
PMRV *e*SS SS 23 54 04.7 -72
PMRV *e*LR LR 00 32 05.4
PMRV *i* IAMs_20 IAMs_20 00 53 44.1
comp=Z,382nm,20.0s
MORF Marmelete 171.70 63 *e*PKPdf **PKPdf 23 29 01.6 +1.3**
MORF *e*PP **PP 23 34 14.8 +1.2**
MESJ Messejana 171.80 59 *e*PKPdf **PKPdf 23 29 01.5 +1.2**
MESJ *e*PP **PP 23 34 15.2 +1.3**
MESJ IAMs_20 IAMs_20 00 45 35.6
comp=Z,540nm,21.9s
MESJ Messejana 171.80 59 *e*PKIKP **PKPdf 23 29 01.5 +1.2**
MESJ *e* 23 34 15.2
PBEJ Beja 171.97 57 *e*PKPdf **PKPdf 23 29 06.6 +6.2**
PBDV Barranco-do-Ve 172.26 62 *e*PKPdf **PKPdf 23 29 03.3 +2.8**
PVAQ Vaqueiros 172.35 60 *e*PKPdf **PKPdf 23 28 56.3 -4.3**
PVAQ *e*SS SS 23 55 25.5 -0.2
PVAQ *e*LR LR 00 30 31.0
PVAQ *i* IAMs_20 IAMs_20 00 49 47.0
comp=Z,465nm,20.0s
PBAR Barrancos 172.46 53 *e*PKPdf **PKPdf 23 29 02.9 +2.3**
PBAR *e*PKPab **pPKPab 23 30 32.1 -2.5**
KEST Kesra 172.61 287 PKP **PKPdf 23 29 01.6 +0.8**
comp=Z,4.9nm,1.0s,baz=356,slow=5.4,SNR=7.2
ESDC Sonseca Array 173.15 31 PKP **PKPdf 23 29 01.3 +0.4**
comp=Z,4.7nm,1.1s,baz=334,slow=2.0,SNR=18
ESDC PKPab **PKPab 23 30 29.5 +1.0**
comp=Z,2.5nm,0.8s,baz=338,slow=4.4,SNR=8.8
ESDC PP **PP 23 34 19.9 0.0**
comp=Z,0.4nm,0.7s,baz=344,slow=5.5,SNR=4.8

*NNC **23** 23:15:04.6±1.6,38.77N×70.85E,h0km,mb4.1,mpv3.7, Error ellipse: s-maj=15.0km s-min=10.5km az=142.0*
ISU 23 23:14:44,40.16N×71.68E,h2km,1D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMI	**Chimion**	**0.17**	**313**	P	Pg	23 14 47.6	+0.4
CHMI				S	Sg	23 14 50.6	+1.2
FRG	**Fergana**	**0.23**	**20**	P	Pg	23 14 49.4	+0.9
FRG				S	Sg	23 14 52.8	+1.3
IUG	**Iuzhnay** 37nm,0.2s	**2.35**	**328**	Pg	Sg	23 16 00.3	+0.9
IUG				Lg	Lg	23 17 02.2	
MRKS	**Merke** 3.3nm,0.3s	**2.83**	**24**	Pg	Sg	23 16 12.4	-2.6
MRKS				Lg	Lg	23 17 23.6	
KK31	**Karatay Array** 17nm,0.7s	**3.07**	**344**	Pn	Sg	23 16 11.8	-11
KK31	1.0nm,0.2s,baz=176,slow=16,SNR=32		⇓	Lg	Lg	23 17 22.1	
	3.4nm,0.5s,baz=176,slow=29						

*IDC **23** 23:23:37.2±0.9,0.94S×128.93E,h0km,mb4.0/7, mbtmp4.1/10,ML4.0/3,Error ellipse: s-maj=31.9km s-min=17.1km az=79.0*
*DJA **23** 23:23:41.2±0.2,1.5S±2.2×12.9E±1.1,h10km,M4.7/17,mB5.3/7, mb5.0/12,MLv4.5/17,Mw(mB)4.7/7,MwMwp5.0/1, Mwp5.3/1*
ISC 23 23:23:42.5±0.7,0.94S±0.07×128.80E±0.08,h35km,n31, σ2s31/33,mb4.0/7,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.22**	**320**	P	**Pn**	**23 24 16.9**	**0.0**
MSAI	**Masohi**	**2.40**	**177**	P	**Pn**	**23 24 20.4**	**+1.1**
SWI	**Sorong**	**2.46**	**88**	P	**Pn**	**23 24 24.4**	**+4.2**
AAI	**Ambon**	**2.80**	**192**	P	**Pn**	**23 24 25.2**	**+0.4**
NLAI	**Namlea**	**2.85**	**217**	P	**Pn**	**23 24 24.9**	**-0.6**
SANI	**Sanana**	**3.02**	**248**	P	**Pn**	**23 24 25.5**	**-2.3**
BNDI	**Bandanaira**	**3.73**	**163**	P	**Pn**	**23 24 40.0**	**+2.4**
FAKI	**Fak Fak**	**3.97**	**120**	P	**Pn**	**23 24 44.1**	**+3.1**
LUWI	**Luwuk** 0.7nm2μm154nm,0.7s	**6.03**	**269**	P	**Pn**	**23 25 07.8**	**-1.4**
MRSI	**Marisa** 0.2nm2μm41nm,0.6s	**7.00**	**282**	P	**Pn**	**23 25 21.5**	**-1.1**
APSI	**Ampana** 2μm211nm,1.0s	**7.15**	**270**	P	**Pn**	**23 25 23.0**	**-1.6**
SAUI	**Saumlaki**	**7.43**	**160**	P	**Pn**	**23 25 29.8**	**+1.3**
BBSI	**Bau Bau** 140nm,1.0s	**7.69**	**234**	P	**Pn**	**23 25 34.1**	**+2.1**
PCI	**Palu**	**8.96**	**270**	P	**Pn**	**23 25 50.8**	**+1.3**
MPSI	**Mapaga**	**8.99**	**278**	P	**Pn**	**23 25 47.4**	**-2.5**
TTSI	**Tana Toraja** 72nm50nm,0.6s	**9.21**	**257**	P	**Pn**	**23 25 52.6**	**-0.4**
BNSI	**Bone**	**9.34**	**248**	P	**Pn**	**23 25 53.3**	**-1.4**
SPSI	**Sidrap Palu** 4μm83nm,0.6s	**9.51**	**251**	P	**Pn**	**23 25 58.1**	**+1.1**
BKSI	**Bulukumba**	**9.69**	**243**	P	**Pn**	**23 26 01.5**	**+1.9**
BSSI	**Bau Bau, Buton** 92nm,0.8s	**9.77**	**238**	P	**Pn**	**23 25 57.7**	**-2.9**
KAPI	**Kappang** 2.4nm,0.3s,baz=66,slow=10.0,SNR=14	**9.90**	**246**	Pn	**Pn**	**23 26 04.3**	**+2.0**
KAPI	0.5nm,0.3s,baz=76,slow=18,SNR=1.6			Sn	**Sn**	**23 27 57.4**	**+5.1**
	25nm,0.6s						
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=15,slow=9.4,SNR=6.3	**17.33**	**190**	P	**Pn**	**23 27 40.3**	**-1.6**
	2.5nm,0.6s						
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=349,slow=12,SNR=33	**19.65**	**164**	P	**P**	**23 28 06.6**	**-1.9**
WRA	1.6nm,0.9s,baz=337,slow=23,SNR=4.9			S	S	23 31 34.9	-14
	6.9nm,0.8s						
ASAR	**Alice Springs** 7.7nm,0.8s,baz=345,slow=11,SNR=36	**23.13**	**168**	P	**P**	**23 28 45.2**	**-0.5**
ASAR				S	**S**	**23 32 48.0**	**-6.9**
	0.3nm,0.3s,baz=346,slow=18,SNR=1.4						
	7.7nm,0.8s						
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=110,slow=9.5,SNR=5.2	**35.12**	**305**	P	**P**	**23 30 33.0**	**+0.1**
	0.9nm,0.3s						
MJAR	**Matsushiro Arr** 1.6nm,0.6s,baz=186,slow=9.2,SNR=5.3	**38.30**	**12**	P	**P**	**23 31 00.0**	**+0.2**
	1.6nm,0.6s						
SONM	**Songino Array** 0.4nm,0.3s,baz=168,slow=8.8,SNR=2.9	**52.35**	**341**	P	**P**	**23 32 50.9**	**-0.2**
	0.4nm,0.3s						
MKAR	**Makanchi Array** 0.6nm,0.6s,baz=116,slow=8.5,SNR=5.0	**62.55**	**326**	P	**P**	**23 34 03.7**	**+0.8**
	0.6nm,0.6s						
KURBB	**Kurchatov Arra** 0.8nm,0.7s,baz=126,slow=6.0,SNR=8.0	**66.76**	**328**	P	**P**	**23 34 30.6**	**+0.3**
	0.8nm,0.7s						
QSPA	**South Pole Qui** 1.7nm,0.8s,baz=333,slow=3.2,SNR=5.2	**89.00**	**180**	P	**P**	**23 36 34.3**	**+0.6**
	1.7nm,0.8s						
TORD	**Torodi Ar. Bea** 0.9nm,1.0s,baz=46,slow=4.2,SNR=3.8	**126.25**	**286**	PKP	**PKPdf**	**23 42 42.8**	**+0.3**

*KRNET **23** 23:45:42.9±0.1,41.49N×78.86E,h13km,mb2.7*
*SOME **23** 23:45:42.7,41.20N×78.72E,h15km*
ISC 23 23:45:43.4±2.2,41.36N±0.09×78.76E±0.06,h19km±3km, n9,σ1s25/18,8C-4D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.81**	**298**	⇓*i*P	**Pg**	**23 45 58.9**	**-0.4**
TARG				⇓*i*S	**Sb**	**23 46 10.6**	**+0.9**
PRZ	**Przheval'sk**	**1.16**	**347**	⇓*e*P	**Pb**	**23 46 03.2**	**-1.7**
PRZ				⇓*e*S	**Sb**	**23 46 18.2**	**-1.5**
KDJ	**Kajisay**	**1.41**	**304**	⇑*i*P	**Pb**	**23 46 09.4**	**+0.2**
KDJ				⇑*i*S	**Sg**	**23 46 28.5**	**-0.6**
NRN	**Naryn**	**2.08**	**273**	⇑*i*P	**Pg**	**23 46 22.4**	**-0.9**
NRN				⇑*i*S	**Sg**	**23 46 51.1**	**+0.8**
ULHL	**Ulahol**	**2.08**	**296**	⇑*i*P	**Pb**	**23 46 21.2**	**+0.5**
ULHL				⇑*i*S	**Sg**	**23 46 49.3**	**-1.1**
TNSS	**Tian-Shan** 0.7nm,0.2s	**2.15**	**322**	*e*P	**Pg**	**23 46 24.7**	**-0.1**
TNSS				*e*S	**Sg**	**23 46 54.7**	**+2.0**

2.7nm,0.3s
KOTS Kotyrbulak 2.24 328 *e*P **Pg 23 46 25.5 -0.8**
2.9nm,0.3s
KOTS *e*S **Sg 23 46 56.6 +1.1**
7.9nm,0.4s
BOOM Boomskoye usch 2.39 299 ⇑*e*P **Pb 23 46 25.5 -0.4**
BOOM ⇑*i*S **Sb 23 46 56.6 +1.6**
KTMS Ketmen 2.40 29 *e*P **Pg 23 46 29.3 -0.1**
0.9nm,0.1s
KTMS *e*S **Sg 23 47 02.6 +2.0**
3.2nm,0.1s

*NEIC **23** 23:45:47.6±1.7,35.892N±0.007×117.70W±0.01, h5km±1km,Error ellipse: s-maj=1.9km s-min=1.3km az=29.0*
PAS 23 23:45:48.2±1.6,35.889N±0.008×117.71W±0.01, h8km±6km,Mwr3.7/4,ML3.5/150(NEIC)**,Error ellipse: s-maj=1.3km s-min=1.2km az=58.0,Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOW	**Tower One**	**0.09**	**207**		Pg	23 45 50.9	+0.4
TOW					Sg	23 45 53.4	+1.3
WVPM	**Volcano Peak E**	**0.10**	**306**		Pg	23 45 50.8	0.0
WVPM					Sg	23 45 52.6	+0.1
CLC	**China Lake**	**0.12**	**128**		Pg	23 45 51.0	0.0
CLC				Sg	Sg	23 45 53.0	+0.2
CLC				IAML		23 45 53.3	
	comp=E,10μm,0.3s						
JRC2	**Joshua Ridge**	**0.12**	**320**		Pg	23 45 51.0	0.0
JRC2					Sg	23 45 53.2	+0.1
WCSM	**Coso Springs S**	**0.14**	**343**		Pg	23 45 51.2	-0.1
WCSM					Sg	23 45 53.5	-0.1
WNMM	**Nine Mile Cany**	**0.16**	**253**		Pg	23 45 51.6	0.0
WNMM					Sg	23 45 54.3	+0.4
WRVM	**Rose V. Centra**	**0.18**	**310**		Pg	23 45 52.0	0.0
WRVM					Sg	23 45 54.8	+0.1
SRTC	**Snort**	**0.20**	**188**		Pg	23 45 52.6	+0.3
SRTC					Sg	23 45 56.3	+1.3
MPMC	**Manual Prospec**	**0.25**	**47**	Pg	Pg	23 45 53.0	-0.2
MPMC				Sg	Sg	23 45 56.6	-0.1
MPMC				IAML		23 45 57.0	
	comp=N,13μm,0.5s						
MPMC				IAML		23 45 57.1	
	comp=E,10μm,0.6s						
MFS	**McCloud Flat S**	**0.25**	**333**		Pg	23 45 53.2	-0.2
MFS					Sg	23 45 56.9	0.0
WSHM	**Spangler Hills**	**0.34**	**148**	Pg	Pg	23 45 54.6	-0.3
WSHM				Sg	Sg	23 45 59.5	+0.1
LRMC	**Laurel Mtn Rad**	**0.41**	**176**	Pg	Pg	23 45 55.8	-0.4
LRMC				Sg	Sg	23 46 01.6	-0.1
LRMC				IAML		23 46 02.3	
	comp=E,7μm,0.5s						
LRMC				IAML		23 46 03.2	
	comp=N,7μm,0.2s						
CCCA	**Chr Cany lake**	**0.46**	**142**	Pg	Pg	23 45 57.3	+0.1
CCCA				Sg	Pg	23 46 04.0	+0.7
WORM	**Onyx Ranch**	**0.47**	**246**		Pg	23 45 57.0	-0.4
WORM					Sg	23 46 03.2	-0.3
WBSM	**Bird Springs**	**0.49**	**225**		Pg	23 45 57.5	-0.3
WBSM					Sg	23 46 04.5	+0.2
WHFM	**Hanning Flat**	**0.55**	**250**		Pg	23 45 58.5	-0.3
WHFM					Sg	23 46 05.9	-0.2
CWC	**Cottonwood Cre**	**0.62**	**332**	Pg	Pg	23 45 59.7	-0.6
CWC				Sg	Sg	23 46 08.2	-0.3
CWC				IAML		23 46 09.8	
	comp=E,4μm,0.2s						
CWC				IAML		23 46 10.0	
	comp=N,3μm,0.2s						
DTP	**Desert Tortois**	**0.63**	**190**		Pg	23 45 59.8	-0.6
DTP					Sg	23 46 08.6	0.0
ISA	**Isabella, Lake**	**0.66**	**250**	Pg	Pg	23 46 00.4	-0.5
ISA				Sg	Sg	23 46 08.1	-1.4
ISA				IAML		23 46 09.4	
	comp=N,4μm,0.4s						
ISA				IAML		23 46 10.2	
	comp=E,4μm,0.2s						
CGO	**Cerro Gordo**	**0.66**	**354**		Pg	23 46 00.5	-0.6
CGO					Sg	23 46 09.9	+0.1
QSM	**Queen of Sheba**	**0.69**	**83**	Pg	Pg	23 46 00.9	-0.6
QSM				Sg	Sg	23 46 10.0	-0.5
QSM				IAML		23 46 13.7	
	comp=E,4μm,0.5s						
WASM	**Alta Sierra Ca**	**0.70**	**258**		Pg	23 46 01.3	-0.4
WASM					Sg	23 46 10.7	-0.3
CCAC	**Calif City Air**	**0.78**	**199**		Pg	23 46 02.5	-0.6
CCAC					Sg	23 46 12.9	-0.3
GWY	**Greenwater Val**	**0.90**	**70**	Pg	Pg	23 46 04.7	-0.7
GWY				Sg	Sg	23 46 16.8	-0.4
GWY				IAML		23 46 22.5	
	comp=E,2μm,0.8s						
GWY				IAML		23 46 23.0	
	comp=N,2μm,0.7s						
FURC	**Furnace Creek,**	**0.90**	**50**		Pg	23 46 05.2	-0.2
SPG2	**Springville 2**	**0.91**	**290**		Pg	23 46 04.7	-1.0
SPG2					Sg	23 46 17.0	-0.4
GSC	**Goldstone, Bar**	**0.94**	**128**	Pg	Pg	23 46 05.6	-0.7
GSC				IAML		23 46 21.3	
	comp=E,2μm,1.0s						
GSC				IAML		23 46 22.4	
	comp=N,1μm,0.8s						
GSC	**Goldstone, Bar**	**0.94**	**128**		Sg	23 46 18.3	-0.3
HYS	**Haystack Butte**	**1.03**	**173**		Pg	23 46 07.1	-0.9
HYS					Sg	23 46 20.7	-0.7
EDW2	**Edwards Air Fo**	**1.03**	**193**		Pg	23 46 06.8	-1.2
EDW2					Sg	23 46 20.3	-1.1
TEJ	**El Tejon**	**1.03**	**231**		Pg	23 46 06.9	-1.2
TEJ					Sg	23 46 20.2	-1.3
TPO	**Tropico Hills**	**1.09**	**203**	Pg	Pg	23 46 08.0	-1.1
TPO				IAML		23 46 31.3	
	comp=E,894nm,1.1s						
TPO				IAML		23 46 32.8	
	comp=N,874nm,0.7s						
TPO	**Tropico Hills**	**1.09**	**203**		Sg	23 46 23.4	0.0
VES	**Vestal, Richgr**	**1.11**	**268**		Pg	23 46 08.8	-0.8
VES					Sg	23 46 23.6	-0.4
MAGC	**SCE Magundon P**	**1.12**	**242**		Pg	23 46 09.0	-0.7
MAGC					Sg	23 46 23.2	-0.9
GRAC	**Grapevine Rang**	**1.14**	**14**		Sg	23 46 24.7	-0.2
GRAC	**Grapevine Rang**	**1.14**	**14**	Pg	Pg	23 46 09.2	-0.9
GRAC				IAML		23 46 32.8	
	comp=N,1μm,1.2s						
SHOC	**Shoshone, Teco**	**1.17**	**89**		Sb	23 46 26.0	0.0
RRX	**Edison Barstow**	**1.17**	**150**		Pg	23 46 09.9	-0.7
ARVC	**Arvin**	**1.19**	**230**		Pb	23 46 09.9	-1.0
SBB	**Saddle Back Bu**	**1.20**	**184**		Pb	23 46 10.0	-1.2
TJR	**Tejon Ranch**	**1.20**	**225**		Pb	23 46 09.8	-1.4
TJR					Sg	23 46 25.8	-1.1
SGV	**South Grapevin**	**1.22**	**27**		Pb	23 46 10.7	-0.9
THC	**Tehachapi Micr**	**1.25**	**219**		Pn	23 46 10.7	-1.4
BAKC	**Calstate**	**1.26**	**245**		Sg	23 46 28.7	+0.1
WCT	**Wildcat Mounta**	**1.26**	**44**		Pn	23 46 10.9	-1.3
WCT				IAML		23 46 30.9	
	comp=N,621nm,0.7s						
WCT				IAML		23 46 33.0	
	comp=E,870nm,0.8s						
AMDNV	**Amargosa**	**1.29**	**64**		Pn	23 46 11.0	-1.4
AMDNV					Sb	23 46 29.0	-0.4
LCH	**Last Change Ra**	**1.34**	**2**		Pn	23 46 12.4	-1.0
LCH					Sg	23 46 31.4	-0.1
LEOC	**Leona Valley**	**1.34**	**201**		Pn	23 46 13.4	0.0
VTV	**Victorville**	**1.36**	**167**		Sn	23 46 31.9	+0.1
LRRC	**Littlerock Res**	**1.38**	**191**		Pn	23 46 12.7	-1.0
LRRC					Sg	23 46 32.5	-0.2
CJV	**Casa Juvan**	**1.40**	**195**		Pn	23 46 14.3	+0.2
CJV					Sb	23 46 32.6	-0.1
VOG	**Valley Oaks Go**	**1.42**	**288**		Pn	23 46 14.0	-0.2
VOG

OSI				IAML		23 46 49.4		
	comp=E,500nm,0.8s							
TUQ	**Turquoise Moun**	**1.53**	**107**		Pn	23 46 14.4	-1.5	
BHPR	**Bishop**	**1.54**	**336**		Pn	23 46 15.7	-0.5	
HEC	**Hector,Ludlow**	**1.55**	**133**		Pn	23 46 14.7	-1.4	
CHFC	**Chilao Flat St**	**1.57**	**189**		Pb	23 46 17.8	+0.2	
TPNV	**Topopah Spring**	**1.58**	**48**		Pn	23 46 15.8	-1.0	
TPNV				IAML		23 46 40.0		
	comp=E,783nm,1.0s							
MTUM	**Tungsten Hills**	**1.61**	**335**		Pb	23 46 18.0	-0.3	
BFSC	**Mount Baldy Ra**	**1.65**	**178**		Pn	23 46 16.6	-0.9	
SSK	**Sunset Peak**	**1.68**	**179**		Pn	23 46 17.2	-0.7	
BCW	**Bitter Crk WRg**	**1.68**	**236**		Pb	23 46 19.2	-0.2	
MWC	**Mount Wilson**	**1.69**	**190**		Pn	23 46 17.1	-1.0	
MWC				IAML		23 46 47.9		
	comp=N,362nm,0.7s							
SS2	**San Sevaine**	**1.69**	**174**		Pg	23 46 20.2	-0.3	
SIL	**Silver Peak**	**1.70**	**154**		Pb	23 46 20.1	+0.3	
DECC	**Green Verdugo**	**1.71**	**197**		Pb	23 46 19.9	0.0	
OAT	**Oat Mountain**	**1.71**	**206**		Pb	23 46 20.3	+0.4	
PASC	**Pasadena Art C**	**1.76**	**193**		Pn	23 46 17.9	-1.0	
CRGC	**Crocker Grade**	**1.76**	**249**		Pb	23 46 20.4	-0.4	
PSRC	**Puddingstone R**	**1.79**	**182**		Pg	23 46 22.1	-0.5	
MTPC	**Mountain Pass**	**1.81**	**102**		Pn	23 46 18.1	-1.6	
MTPC				IAML		23 46 46.4		
	comp=N,437nm,0.9s							
MTPC				IAML		23 46 49.2		
	comp=E,341nm,0.7s							
BLCC	**Black Canyon**	**1.82**	**206**		Pn	23 46 19.4	-0.4	
MZP	**Montezuma Peak**	**1.83**	**8**		Pn	23 46 19.6	-0.6	
SVD	**Seven Oaks Dam**	**1.85**	**164**		Pb	23 46 22.9	+0.7	
KCC	**Kaiser Creek**	**1.93**	**318**		Pb	23 46 23.1	-0.5	
GTM	**Goat Mountain**	**1.94**	**145**		Pb	23 46 24.2	+0.3	
BENR	**Benton**	**1.95**	**340**		Pb	23 46 24.1	0.0	
MLAC	**Mammoth, Mammo**	**1.96**	**333**		Pb	23 46 24.3	+0.1	
MCSM	**Casa Diablo Ho**	**2.00**	**332**		Pb	23 46 25.2	+0.1	
GMRC	**Granite Mounta**	**2.01**	**123**		Pn	23 46 20.5	-2.0	
BLAC	**Blackrock camp**	**2.12**	**149**		Pn	23 46 23.6	-0.4	
SHPR	**Sheep Range**	**2.15**	**73**		Pn	23 46 23.9	-0.6	
SBC	**Santa Barbara**	**2.18**	**229**		Pb	23 46 27.9	-0.1	
TPH	**Tonopah**	**2.22**	**10**		Pn	23 46 24.9	-0.5	
TPC	**Twentynine Pal**	**2.24**	**142**		Pn	23 46 24.4	-1.2	
ELS	**Elsinore Mount**	**2.25**	**174**		Pn	23 46 24.9	-0.9	
ELS				IAML		23 47 06.0		
	comp=E,227nm,1.4s							
HMTC	**Hemet**	**2.25**	**165**		Pn	23 46 25.4	-0.4	
DANC	**Danby, Needles**	**2.28**	**123**		Pn	23 46 24.5	-1.7	
POB	**Polly Butte**	**2.29**	**163**		Pn	23 46 26.0	-0.4	
V12A	**Nelson**	**2.33**	**93**		Pn	23 46 25.5	-1.5	
V12A				IAML		23 47 07.3		
	comp=N,179nm,0.8s							
V12A				IAML		23 47 08.1		
	comp=E,180nm,0.5s							
PSMM	**Smith Mountain**	**2.34**	**275**		Pb	23 46 29.0	-1.8	
BELC	**Belle Mtn. Jos**	**2.35**	**143**		Pn	23 46 25.9	-1.3	
BELC				IAML		23 47 06.9		
	comp=N,196nm,0.9s							
BELC				IAML		23 47 13.1		
	comp=E,225nm,1.1s							
S11A	**Rachel**	**2.36**	**41**		Pn	23 46 26.4	-0.9	
LHV	**Little Huntoon**	**2.44**	**345**		Pn	23 46 28.1	-0.2	
LHV				IAML		23 47 13.8		
	comp=N,195nm,0.9s							
LHV				IAML		23 47 13.9		
	comp=E,227nm,0.9s							
CRY	**Cary Ranch**	**2.45**	**161**		Pn	23 46 29.1	+0.5	
PMD	**Palm Desert**	**2.49**	**153**		Pn	23 46 27.6	-1.4	
PMD				IAML		23 47 09.6		
	comp=E,167nm,1.1s							
PFO	**Pinyon Flats O**	**2.50**	**155**		Pn	23 46 28.1	-1.1	
PFO				IAML		23 47 12.3		
	comp=E,200nm,1.1s							
NV11	**Mina Array Sit**	**2.56**	**352**		Pn	23 46 30.0	-0.2	
NVAR	**Mina Array Bea**	**2.58**	**350**		Pn	23 46 30.1	-0.3	
PRN	**Pahroc Range**	**2.62**	**54**		Pn	23 46 30.4	-0.6	
MYLM	**Yosemite Lake**	**2.64**	**305**		Pb	23 46 34.5	-1.2	
NEE2	**Needles Airpor**	**2.77**	**113**		Pn	23 46 31.0	-1.8	
NEE2				IAML		23 47 27.4		
	comp=N,238nm,1.0s							
NEE2				IAML		23 47 31.4		
	comp=E,241nm,0.7s							
BBGB	**Big Mountain B**	**2.77**	**285**		Pn	23 46 32.1	-0.9	
RYN	**Ryan**	**2.81**	**347**		Pn	23 46 33.8	+0.3	
RYN				IAML		23 47 25.4		
	comp=E,101nm,1.5s							
BORC	**Borrego Spring**	**2.83**	**157**		Pn	23 46 33.7	+0.1	
BORC				IAML		23 47 29.9		
	comp=N,132nm,1.4s							
DPP	**Dos Picos Cty**	**2.95**	**167**		Pn	23 46 34.8	-0.6	
DPP				IAML		23 47 20.8		
	comp=E,124nm,0.8s							
Q09A	**Carvers**	**2.97**	**8**		Pn	23 46 36.1	+0.4	
R11B	**Troy Canyon, C**	**2.99**	**34**		Pn	23 46 35.3	-0.7	
W13A	**Hualapai Mount**	**3.22**	**103**		Pn	23 46 37.9	-1.4	
BLYC	**Blythe**	**3.38**	**128**		Pn	23 46 39.2	-2.1	
BLYC				IAML		23 47 50.3		
	comp=E,69nm,0.9s							
YUH	**Yuha Desert**	**3.56**	**155**		Pn	23 46 43.3	-0.4	
YUH				IAML		23 47 42.6		
	comp=E,58nm,1.9s							
CBX	**Cerro Bola**	**3.67**	**166**		Pn	23 46 45.2	-0.1	
GLA	**Glamis**	**3.70**	**139**		Pn	23 46 45.6	-0.1	
GLA				IAML		23 47 55.1		
	comp=N,128nm,0.9s							
LCMT	**Little Creek M**	**3.77**	**71**		Pn	23 46 46.6	-0.2	
CCUT	**Cedar City**	**3.87**	**63**		Pn	23 46 48.6	+0.4	
PSUT	**Pine Spring**	**4.06**	**48**		Pn	23 46 50.8	+0.1	
PSUT				IAML		23 47 60.0		
	comp=N,84nm,0.7s							
PSUT				IAML		23 48 00.2		
	comp=E,59nm,1.1s							
SZCU	**Shurtz Canyon**	**4.09**	**64**		Pn	23 46 51.1	-0.1	
KNB	**Kanab**	**4.10**	**73**		Pn	23 46 51.7	+0.4	
KNB				IAML		23 48 00.0		
	comp=E,64nm,0.8s							
KNB				IAML		23 48 10.5		
	comp=N,68nm,1.2s							
ESJX	**Sierra Juarez**	**4.14**	**159**		Pn	23 46 51.0	-0.9	
ESJX				IAML		23 47 59.5		
	comp=N,34nm,1.3s							
ESJX				IAML		23 47 59.5		
	comp=E,45nm,1.3s							
Y14A	**Wickenburg**	**4.33**	**115**		Pn	23 46 52.8	-1.6	
Y14A				IAML		23 48 13.2		
	comp=E,42nm,0.8s							
Y14A				IAML		23 48 15.6		
	comp=N,46nm,0.8s							
U15A	**North Rim**	**4.42**	**81**		Pn	23 46 56.4	+0.6	
U15A				IAML		23 48 05.6		
	comp=E,82nm,0.8s							
U15A				IAML		23 48 15.2		
	comp=N,70nm,1.1s							
113A	**Mohawk Valley,**	**4.51**	**132**		Pn	23 46 57.8	+1.0	
WUAZ	**Wupatki**	**5.17**	**92**		Pn	23 47 06.5	+0.5	
ELK	**Elko**	**5.22**	**21**		Pn	23 47 06.9	+0.1	
X16A	**Lo Mia Camp, P**	**5.34**	**104**		Pn	23 47 07.8	-0.6	
X16A				IAML		23 49 17.7		
	comp=N,18nm,0.1s							
X16A				IAML		23 49 18.0		
	comp=E,30nm,0.1s							
214A	**Organ Pipe Nat**	**5.66**	**133**		Pn	23 47 10.6	-2.0	
TMUT	**Trail Mountain**	**6.18**	**55**		Pn	23 47 18.1	-1.9	
BGU	**Big Grassy Mou**	**6.23**	**35**		Pn	23 47 20.4	-0.1	
X18A	**Snowflake**	**6.50**	**100**		Pn	23 47 24.5	+0.2	
PV17	**East Wray Mesa**	**7.39**	**69**		Pn	23 47 37.6	+1.0	
PV11	**David Mesa, Pa**	**7.46**	**69**		Pn	23 47 37.0	-0.6	
PV03	**Paradox Valley**	**7.47**	**69**		Pn	23 47 35.8	-1.9	
PV02	**Paradox Valley**	**7.54**	**69**		Pn	23 47 36.8	-1.9	

*JMA **24** 00:02:21.9±0.2, 36°.2N±0'.5×14°.2E±°, h80km, MV3.0/23, FAR E OFF KANTO*
*IDC **24** 00:02:23.1±2.6, 36°.67N×142°.21E, h0km, mb3.7/5, mbtmp3.6/6, ML2.4/1, MS3.0/1, Error ellipse: s-maj=68.5km s-min=32.4km az=64.0*
ISC 24 00:02:22.1±1.6, 36°.22N±0'.08×142°.41E±0'.10, h18km, n20, σ0§91/17, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHYU	**Hitachinakayam**	**1.47**	**275**	P	**Pb**	**00 02 48.1**	**-0.9**
JHYU				*eS*	**Sb**	**00 03 07.2**	**-0.2**
JHO	**Hitachi**	**1.53**	**285**	P	**Pn**	**00 02 48.5**	**0.0**
JHO				*eS*	**Sb**	**00 03 08.6**	**-0.4**
ONAJ	**Iwakimizuishiy**	**1.56**	**305**	P	**Pb**	**00 02 49.1**	**-1.4**
BSO1	**Boso 1**	**1.95**	**217**	P	**Pn**	**00 02 53.6**	**-0.2**
JOTO	**OTAMA OYAMA**	**2.13**	**309**	P	**Pb**	**00 02 58.1**	**-2.2**
JOTO				*eS*	**Sn**	**00 03 24.0**	**+1.1**
JAG	**Ashikaga**	**2.39**	**276**	P	**Pn**	**00 03 01.2**	**+0.7**
JAG				*eS*	**Sn**	**00 03 29.9**	**+0.7**
JMK	**Ichinoseki**	**2.88**	**341**	*eP*	**Pn**	**00 03 07.4**	**+0.2**
JYK	**Kaneyama**	**3.14**	**329**	*eP*	**Pn**	**00 03 11.2**	**+0.5**
MJAR	**Matsushiro Arr**	**3.40**	**277**	Pn	**Pn**	**00 03 14.9**	**+0.6**
	0.5nm,0.3s,baz=101,slow=7.6,SNR=9.8						
MJAR					LR	00 04 54.5	
	comp=Z,247nm,19.9s,baz=172,slow=47 2.5nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**27.05**	**121**	T	T	00 36 17.8	
	baz=313,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**27.06**	**121**	T	T	00 36 16.4	
	baz=313,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**27.07**	**121**	T	T	00 36 09.5	
	baz=313,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**27.75**	**123**	T	T	00 37 09.3	
	baz=315,slow=76,SNR=6.4						
H11S3	**WAKE ISLAND Hy**	**27.77**	**123**	T	T	00 37 07.8	
	baz=315,slow=76,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**27.77**	**123**	T	T	00 37 06.1	
	baz=315,slow=76,SNR=4.6						
SONM	**Songino Array**	**28.90**	**305**	P	**P**	**00 08 20.7**	**+0.7**
	0.8nm,0.6s,baz=116,slow=8.0,SNR=5.0 0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**43.05**	**313**	P	**P**	**00 10 20.5**	**-0.1**
	0.7nm,0.6s,baz=79,slow=7.5,SNR=2.8 0.7nm,0.6s						
MKAR	**Makanchi Array**	**45.23**	**303**	P	**P**	**00 10 38.9**	**+0.7**
	0.7nm,0.6s,baz=83,slow=9.8,SNR=7.0 0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**47.13**	**309**	P	**P**	**00 10 53.4**	**+0.4**
	0.5nm,0.6s,baz=83,slow=8.1,SNR=5.2 0.5nm,0.6s						
WRA	**Warramunga Arr**	**56.38**	**189**	P	P	00 12 09.0	+6.6
	0.4nm,0.6s,baz=2.2,slow=7.4,SNR=1.7 0.4nm,0.6s						

*NNC **24** 00:17:42.6±0.9, 44°.97N×79°.33E, h3km±5km, mb2.8, mpv2.7, Error ellipse: s-maj=7.5km s-min=5.7km az=134.0*
*SOME **24** 00:17:44.0, 44°.90N×79°.42E, h15km*
ISC 24 00:17:42.9±2.1, 44°.92N±0'.05×79°.40E±0'.05, h3km±17km, n12, σ0§61/20, 3C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNOS	**Konyrlen**	**0.58**	**196**	P	**Pb**	**00 17 55.6**	**-0.2**
	8.7nm,0.1s						
KNOS				S	**Sb**	**00 18 03.7**	**-0.8**
	19nm,0.2s						
TDK	**Taldyqorghan**	**0.71**	**277**	*eP*	**Pb**	**00 17 57.7**	**-0.2**
	12nm,0.1s						
TDK				*eS*	**Sb**	**00 18 07.4**	**-0.7**
	26nm,0.1s						
ARXS	**Arharly**	**1.33**	**238**	P	**Pb**	**00 18 08.3**	**-0.2**
	2.1nm,0.3s						
ARXS				S	**Sg**	**00 18 25.9**	**+0.3**
	5.6nm,0.2s						
PDGK	**Podgornoye**	**1.59**	**178**	⇓P	**Pb**	**00 18 12.9**	**-0.1**
	3.7nm,0.5s						
PDGK				⇑S	**Sg**	**00 18 34.4**	**+0.4**
	2.6nm,0.3s						
KTMS	**Ketmen**	**1.62**	**155**	P	**Pn**	**00 18 13.1**	**+0.6**
	0.9nm,0.2s						
KTMS				S	**Sn**	**00 18 33.9**	**-0.1**
	3.8nm,0.2s						
KTMS	**Ketmen**	**1.62**	**155**	*eP*	**Pn**	**00 18 13.1**	**+0.6**
	0.9nm,0.2s						
KTMS				*eS*	**Sn**	**00 18 33.9**	**-0.1**
	3.8nm,0.2s						
SATY	**Saty**	**1.99**	**201**	P	**Pb**	**00 18 19.2**	**-0.6**
	2.8nm,0.1s						
SATY				S	**Sb**	**00 18 44.5**	**-0.6**
	25nm,0.2s						
CHKK	**Chushkaly**	**2.03**	**239**	*eP*	**Pb**	**00 18 20.7**	**+0.3**
	1.0nm,0.1s						
CHKK				*eS*	**Sb**	**00 18 46.8**	**+0.7**
	11nm,0.2s						
KTBS	**Karatobe**	**2.29**	**239**	Pg	**Pb**	**00 18 24.1**	**-0.8**
	2.6nm,0.2s						
KTBS				Lg	Lg	00 18 53.0	
	20nm,0.5s						
KOTS	**Kotyrbulak**	**2.36**	**225**	*eP*	**Pb**	**00 18 27.1**	**+1.0**
	1.3nm,0.1s						
KOTS				*eS*	**Sg**	**00 18 57.8**	**-0.8**
	7.9nm,0.2s						
MAKZ	**Makanchi**	**2.61**	**43**	⇑Lg	Lg	00 19 04.1	
	1.0nm,0.5s						
MK31	**Makanchi Array**	**2.75**	**46**	⇑Pg	**Pb**	**00 18 32.5**	**-0.2**
	0.1nm,0.3s,baz=218,slow=14,SNR=5.8						
MK31				⇓Lg	Lg	00 19 08.9	
	0.6nm,0.4s,baz=222,slow=25,SNR=9.0						

*IDC **24** 00:54:28.9±3.2, 30°.31S×177°.84W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=68.6km s-min=22.1km az=112.0*
ISC 24 00:54:29.3±2.7, 30°.46S±0'.09×177°.3W±0'.3, h33km, n6, σ1§26/7, mb4.2/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.31**	**337**	Pn	**Pn**	**00 54 51.6**	**+0.3**
	63nm,0.3s,baz=75,slow=18,SNR=1.9						
RAO				Sn	**Sn**	**00 55 06.4**	**-1.3**
	453nm,0.3s,baz=114,slow=20,SNR=10						
URZ	**Urewera**	**9.04**	**209**	Pn	Pn	00 56 30.0	-7.3
	0.4nm,0.3s,baz=302,slow=23,SNR=1.0						
URZ				Sn	**Sn**	**00 58 16.7**	**-1.3**
	0.3nm,0.3s,baz=15,slow=22,SNR=1.8						
STKA	**Stephens Creek**	**35.04**	**257**	P	**P**	**01 01 19.4**	**+0.4**
	2.1nm,0.7s,baz=111,slow=8.6,SNR=3.7 2.1nm,0.7s						
ASAR	**Alice Springs**	**43.69**	**267**	P	**P**	**01 02 32.5**	**+1.2**
	0.7nm,0.5s,baz=106,slow=7.4,SNR=8.0 0.7nm,0.5s						
WRA	**Warramunga Arr**	**44.69**	**272**	P	**P**	**01 02 40.0**	**+0.7**
	1.6nm,0.4s,baz=111,slow=8.0,SNR=17 1.6nm,0.4s						
FINES	**FINESS Array B**	**145.40**	**340**	PKPbc	**PKiKP**	**01 14 06.0**	**-1.0**
	0.5nm,0.3s,baz=55,slow=3.4,SNR=11						

*IDC **24** 00:55:55.6±0.7, 66°.22N×19°.51W, h0km, mb3.6/13, mbtmp3.6/18, ML3.3/5, MS3.5/12, Error ellipse: s-maj=16.4km s-min=13.4km az=178.0*
*REY **24** 00:55:56.4, 66°.32N×19°.06W, h8km*
*NEIC **24** 00:55:57.8±1.4, 66°.22N±0'.03×19°.6W±0'.2, h10km±1km, mb4.2/23, Error ellipse: s-maj=12.5km s-min=4.2km az=93.0*
*DNK **24** 00:56:03.5±4.7, 66°.70N×19°.71W, h0km±139km, ML2.8*
ISC 24 00:55:57.1±0.4, 66°.33N±0'.03×19°.04W±0'.02, h10km, n145, σ1§84/179, mb4.0/30, MS3.6/12, 3D, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ISIG	**Siglufjorour**	**0.20**	**165**	P	**Pg**	**00 56 00.4**	**-0.9**
ISIG				S	**Sg**	**00 56 03.1**	**-1.0**
IGRI	**Grimsey**	**0.47**	**62**	P	**Pg**	**00 56 05.2**	**-1.0**
IGRI				S	**Sg**	**00 56 11.5**	**-0.8**
IHLA	**Hella**	**0.47**	**145**	P	**Pg**	**00 56 04.9**	**-1.3**
IHLA				S	**Sg**	**00 56 11.3**	**-1.0**
IHRN	**Hraun**	**0.49**	**244**	P	**Pg**	**00 56 05.1**	**-1.5**
IHRN				S	**Sg**	**00 56 11.6**	**-1.4**
IBRE	**Brettingsstaoi**	**0.50**	**114**	P	**Pg**	**00 56 05.7**	**-1.1**
IBRE				S	**Sg**	**00 56 12.7**	**-0.8**
IGRA	**Granastaoir**	**0.72**	**124**	P	**Pg**	**00 56 09.1**	**-1.9**
IGRA				S	**Sg**	**00 56 18.7**	**-1.7**
IHED	**Heoinshofoi**	**0.74**	**109**	P	**Pg**	**00 56 09.3**	**-2.1**
IHED				S	**Sg**	**00 56 20.3**	**-0.8**
IKVO	**Krokottuvotn**	**1.08**	**124**	P	**Pg**	**00 56 14.8**	**-2.9**
IKVO				S	**Sg**	**00 56 29.5**	**-2.2**
IGHA	**Grjothals**	**1.08**	**115**	P	**Pg**	**00 56 15.0**	**-2.9**
IGIL	**Gilhagi**	**1.12**	**102**	S	**Sb**	**00 56 30.8**	**-2.3**
IGIL				P	**Pb**	**00 56 15.7**	**-2.8**
ISVA	**Svartarkot**	**1.24**	**143**	P	**Pn**	**00 56 17.6**	**-2.8**
ISVA				S	**Sb**	**00 56 33.9**	**-2.5**
IMEL	**Melhnausar**	**1.24**	**127**	P	**Pn**	**00 56 17.4**	**-3.0**
IMEL				S	**Sb**	**00 56 34.0**	**-2.4**
IGRS	**Grimsstaoir**	**1.38**	**119**	P	**Pn**	**00 56 19.6**	**-2.8**
IGRS				S	**Sb**	**00 56 38.1**	**-2.4**
ISTE	**Stelbrattur**	**1.50**	**190**	P	**Pn**	**00 56 21.5**	**-2.5**
ISTE				S	**Sn**	**00 56 41.0**	**-2.5**
IASK	**Askja**	**1.62**	**141**	P	**Pn**	**00 56 23.1**	**-2.6**
IASK				S	**Sn**	**00 56 44.6**	**-2.0**
IURH	**Urdarhals**	**1.71**	**152**	P	**Pn**	**00 56 24.7**	**-2.2**
IURH				S	**Sn**	**00 56 46.9**	**-1.9**
THOR	**Thorvaldshraun**	**1.71**	**144**	P	**Pn**	**00 56 24.3**	**-2.6**
THOR				S	**Sn**	**00 56 46.9**	**-1.9**
IVON	**Vonarskard**	**1.75**	**162**	P	**Pn**	**00 56 25.1**	**-2.3**
IVON				S	**Sn**	**00 56 47.6**	**-2.1**
IKIS	**Kista**	**1.77**	**159**	P	**Pn**	**00 56 25.8**	**-2.0**
IKIS				S	**Sn**	**00 56 49.1**	**-1.4**
ISKR	**Skrokkalda**	**1.80**	**171**	P	**Pn**	**00 56 26.3**	**-1.8**
BORG	**Borgarnes**	**1.85**	**212**	Pn	**Pn**	**00 56 25.9**	**-2.8**
BORG				Sn	**Sn**	**00 56 48.2**	**-4.0**
BORG	**Borgarnes**	**1.85**	**212**	Pn	**Pn**	**00 56 26.0**	**-2.8**
	910nm,0.3s,baz=21,slow=7.3,SNR=1530						
BORG				Sn	**Sn**	**00 56 49.7**	**-2.4**
	1μm,0.3s,baz=248,slow=22,SNR=51						
BORG				LR	LR	00 57 06.7	
	comp=Z,270nm,19.2s,baz=39,slow=43						
IASB	**sbjarnarstai**	**1.85**	**212**	P	**Pn**	**00 56 26.1**	**-2.7**
IASB				S	**Sn**	**00 56 49.9**	**-2.2**
IKRE	**Kreppuhraun**	**1.90**	**143**	P	**Pn**	**00 56 28.0**	**-1.6**
IKRE				S	**Sn**	**00 56 52.0**	**-0.8**
IADA	**Aoalbol**	**1.95**	**131**	P	**Pn**	**00 56 27.5**	**-2.7**
IDJK	**Dyngjujokull**	**1.98**	**157**	P	**Pn**	**00 56 28.9**	**-1.8**
IDJK				S	**Sn**	**00 56 55.6**	**0.0**
IJOK	**Jokulheimar**	**2.05**	**170**	P	**Pn**	**00 56 29.9**	**-1.7**
IJOK				S	**Sn**	**00 56 56.1**	**-1.0**
IVSH	**V-Sauoahnukur**	**2.06**	**136**	P	**Pn**	**00 56 28.9**	**-2.7**
IVSH				S	**Sn**	**00 56 58.3**	**+0.9**
IGRF	**Grimsfjall**	**2.07**	**158**	P	**Pn**	**00 56 30.2**	**-1.7**
IGRF				S	**Sn**	**00 56 58.4**	**+0.6**
IBJK	**Bruarjokull**	**2.10**	**152**	P	**Pn**	**00 56 30.1**	**-2.2**
IBJK				S	**Sn**	**00 56 58.1**	**-0.4**
IGYG	**Gygjarholskot**	**2.11**	**194**	P	**Pn**	**00 56 30.3**	**-2.0**
IGYG				S	**Sn**	**00 56 58.6**	**-0.1**
IVAT	**Vatnsfell**	**2.15**	**179**	P	**Pn**	**00 56 31.6**	**-1.4**
IVAT				S	**Sn**	**00 57 00.4**	**+0.8**
IVOT	**Vottur**	**2.21**	**158**	P	**Pn**	**00 56 32.1**	**-1.7**
IIEY	**Innrieyrar**	**2.27**	**170**	P	**Pn**	**00 56 33.3**	**-1.4**
IIEY				S	**Sn**	**00 57 03.6**	**+0.9**
IHES	**Hestalda**	**2.30**	**186**	P	**Pn**	**00 56 33.4**	**-1.6**
IHEI	**Heioarbar**	**2.33**	**204**	P	**Pn**	**00 56 34.4**	**-0.9**
IHEI				S	**Sn**	**00 57 04.1**	**+0.2**
IFED	**Fedgar**	**2.33**	**187**	P	**Pn**	**00 56 34.2**	**-1.1**
IMOR	**Morastadir**	**2.33**	**210**	P	**Pn**	**00 56 33.2**	**-2.2**
IMOR				S	**Sn**	**00 57 03.1**	**-0.9**
IHAU	**Haukadalur**	**2.40**	**190**	P	**Pn**	**00 56 34.7**	**-1.6**
IHAU				S	**Sb**	**00 57 07.7**	**-2.2**
IKRO	**Krokur**	**2.40**	**202**	P	**Pn**	**00 56 35.4**	**-1.0**
IKRO				S	**Sn**	**00 57 06.3**	**+0.6**
IMJO	**Mjoaskard**	**2.42**	**187**	P	**Pn**	**00 56 35.5**	**-1.1**
IKSK	**Karasker**	**2.43**	**152**	P	**Pn**	**00 56 34.7**	**-2.1**
IKSK				S	**Sn**	**00 57 07.6**	**+1.0**
IKAL	**Kalfafell**	**2.46**	**166**	P	**Pn**	**00 56 36.0**	**-1.1**
IKAL				S	**Sn**	**00 57 08.5**	**+1.4**
IEDA	**Engidalur**	**2.46**	**205**	P	**Pn**	**00 56 35.3**	**-1.9**
IEDA				S	**Sn**	**00 57 07.8**	**+0.6**
IHAE	**Haedir**	**2.47**	**158**	P	**Pn**	**00 56 35.7**	**-1.6**
IHAE				S	**Sn**	**00 57 08.6**	**+1.1**
ISLY	**Slysaalda**	**2.51**	**181**	P	**Pn**	**00 56 38.6**	**+0.6**
ISOL	**Solvholt**	**2.54**	**199**	P	**Pn**	**00 56 37.7**	**-0.5**
ISOL				S	**Sn**	**00 57 10.4**	**+1.3**
IFAL	**Falljokull**	**2.56**	**157**	P	**Pn**	**00 56 37.4**	**-1.1**
IFAL				S	**Sb**	**00 57 11.7**	**-2.7**
IBJA	**Bjarnastaoir**	**2.58**	**203**	P	**Pn**	**00 56 38.3**	**-0.4**
IASM	**Asmuli**	**2.59**	**196**	P	**Pn**	**00 56 37.6**	**-1.3**
IASM				S	**Sn**	**00 57 12.1**	**+1.8**
IKAS	**Kald??rsel**	**2.60**	**208**	P	**Pn**	**00 56 38.8**	**-0.3**
IKAS				S	**Sn**	**00 57 12.2**	**+1.5**
IKVI	**Kvisker**	**2.60**	**154**	P	**Pn**	**00 56 37.4**	**-1.6**
IKVI				S	**Sb**	**00 57 12.7**	**-2.8**
SLET	**Slettubjorg**	**2.61**	**156**	P	**Pn**	**00 56 39.5**	**+0.2**
IFAG	**Fagurholsmyri**	**2.66**	**157**	P	**Pn**	**00 56 39.0**	**-0.9**
IAUS	**Austmannsbunga**	**2.67**	**180**	P	**Pn**	**00 56 41.1**	**+1.0**
IRJU	**Rjupnafell**	**2.73**	**177**	P	**Pn**	**00 56 40.4**	**-0.4**
IVOS	**Vogsosar**	**2.73**	**206**	P	**Pn**	**00 56 40.2**	**-0.6**
IVOG	**Vogar**	**2.76**	**212**	P	**Pn**	**00 56 39.5**	**-1.7**
IKRI	**Krysuvik**	**2.77**	**209**	P	**Pn**	**00 56 39.5**	**-1.9**
IKRI				S	**Sn**	**00 57 16.9**	**+1.9**
SCO	**Scoresbysund**	**4.31**	**347**	Pn	Pn	**00 56 59.6**	**-2.9**
SCO	**Scoresbysund**	**4.31**	**347**	*i* P	**Pn**	**00 57 00.2**	**-2

comp=Z,136nm,18.0s,baz=272,slow=40
comp=Z,1.0nm,0.8s
DAVA Damuels 24.39 127 *i* P **P 01 01 16.6 +1.2**
comp=Z,2.3nm,0.7s
RETA Reutte 24.51 126 *eP* **P 01 01 17.5 +1.2**
comp=Z,4.1nm,1.1s
SSB Saint Sauveur 24.61 137 P **P 01 01 16.5 -0.7**
SSB IAmb IAmb 01 01 19.8
comp=Z,4.5nm,1.0s
MOTA Moosalm 24.74 125 *i* P **P 01 01 19.6 +1.1**
comp=Z,6.3nm,1.2s
RES Resolute Bay 24.75 322 LR LR 01 10 39.7
comp=Z,156nm,19.2s,baz=16,slow=36
DAVOX Davos/Dischmat 24.84 128 LR LR 01 11 21.4
comp=Z,168nm,18.3s,baz=282,slow=37
SQTA Sankt Quirin 24.89 125 *eP* **P 01 01 21.4 +1.6**
comp=Z,2.3nm,0.6s
FETA Feichten 24.90 126 *eP* **P 01 01 20.8 +0.8**
comp=Z,1.2nm,0.9s
WATA Walderalm 24.91 125 *i* P **P 01 01 21.3 +1.3**
comp=Z,3.6nm,0.6s
MORC Moravsky Berou 24.94 114 P **P 01 01 21.5 +1.4**
MORC IAmb IAmb 01 01 23.0
comp=Z,5.2nm,1.2s
MORC Moravsky Berou 24.94 114 *eP* **P 01 01 21.2 +1.1**
VRAC Vranov 24.98 115 *eP* **P 01 01 21.4 +1.0**
VRAC Vranov 24.98 115 LR LR 01 10 15.8
comp=Z,124nm,20.1s,baz=294,slow=34
WTTA Wattenberg 24.99 125 *eP* **P 01 01 22.2 +1.4**
comp=Z,4.9nm,1.1s
FUORN Ofenpass-Fuorn 25.11 127 P **P 01 01 23.3 +1.4**
KRUC Moravsky 25.11 116 *eP* **P 01 01 22.2 +0.6**
LESA Schwarzleotal 25.20 123 *eP* **P 01 01 24.2 +1.7**
comp=Z,5.3nm,1.4s
SCHQ Schefferville 25.43 266 P **P 01 01 22.5 -2.0**
SCHQ Schefferville 25.43 266 P **P 01 01 22.4 -2.1**
comp=Z,5.7nm,0.8s,baz=32,slow=7.3,SNR=6.2
comp=Z,5.7nm,0.8s
CONA Conrad Observa 25.87 118 *eP* **P 01 01 30.1 +1.4**
comp=Z,2.3nm,1.0s
CEST Esterri de Car 26.29 145 P **P 01 01 33.9 +1.4**
CEST IAmb IAmb 01 01 35.9
comp=Z,6.9nm,1.1s
SOKA Soboth 26.65 121 *i* P **P 01 01 36.9 +1.2**
comp=Z,2.3nm,1.1s
ESDC Sonseca Array 28.04 155 P **P 01 01 47.9 -0.2**
comp=Z,0.6nm,0.9s,baz=354,slow=11,SNR=4.4
ESDC LR LR 01 11 39.5
comp=Z,138nm,20.0s,baz=327,slow=34
comp=Z,0.6nm,0.9s
AKASG Malin Array Be 28.72 99 P **P 01 01 56.6 +2.6**
comp=Z,0.2nm,0.3s,baz=327,slow=10.0,SNR=1.6
AKASG LR LR 01 12 50.1
comp=Z,105nm,21.1s,baz=22,slow=35
comp=Z,0.2nm,0.3s
BELG Belogornoye 34.82 80 LR LR 01 17 13.9
comp=Z,94nm,18.3s,baz=274,slow=36
YKA Yellowknife Ar 37.62 311 P **P 01 03 09.4 -2.0**
comp=Z,0.4nm,0.7s,baz=36,slow=9.9,SNR=5.6
comp=Z,0.4nm,0.7s
BRTR Keskin Array B 39.54 106 P **P 01 03 29.6 +1.7**
BRTR Keskin Array B 39.54 106 P **P 01 03 28.6 +0.7**
comp=Z,1.0nm,0.8s,baz=330,slow=6.8,SNR=5.0
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 42.99 62 P **P 01 03 56.7 +0.8**
comp=Z,0.3nm,0.5s,baz=324,slow=9.1,SNR=6.8
comp=Z,0.3nm,0.5s
F20K Avaraart Lake 43.42 337 P **P 01 04 00.5 +1.3**
F20K IAmb IAmb 01 04 09.1
comp=Z,3.5nm,1.0s
G21K Allakaket 43.55 335 P **P 01 04 03.1 +2.8**
ILAR Eielson Array 43.91 331 P **P 01 04 03.5 +0.3**
comp=Z,0.4nm,0.8s,baz=21,slow=8.7,SNR=4.2
comp=Z,0.4nm,0.8s
H21K Melozitna Rive 44.21 335 P **P 01 04 08.7 +3.0**
H21K IAmb IAmb 01 04 10.7
comp=Z,3.4nm,0.9s
BCAR Beaver Creek A 44.35 327 P **P 01 04 06.9 0.0**
KURBB Kurchatov Arra 47.83 58 P **P 01 04 35.5 +1.3**
comp=Z,0.7nm,0.7s,baz=325,slow=7.5,SNR=12
KURBB PP **PP 01 06 27.2 +1.5**
comp=Z,0.5nm,0.9s,baz=331,slow=9.5,SNR=4.3
comp=Z,0.7nm,0.7s
BOZ Bozeman (W) 50.31 294 P **P 01 04 54.0 +0.5**
BW06 Boulder Array 51.96 291 P **P 01 05 05.8 -0.3**
BW06 IAmb IAmb 01 05 07.1
comp=Z,3.2nm,0.8s
PD31 Pinedale Array 51.96 291 P **P 01 05 05.4 -0.6**
PD31 IAmb IAmb 01 05 07.1
comp=Z,3.2nm,0.8s
PDAR Pinedale Array 51.96 291 P **P 01 05 06.2 +0.2**
comp=Z,1.7nm,0.7s,baz=49,slow=5.9,SNR=19
PDAR LR LR 01 26 55.9
comp=Z,111nm,21.1s,baz=16,slow=36
comp=Z,1.7nm,0.7s
MKAR Makanchi Array 52.40 58 P **P 01 05 10.4 +1.4**
MKAR Makanchi Array 52.40 58 P **P 01 05 11.4 +2.4**
comp=Z,1.1nm,0.8s,baz=349,slow=5.6,SNR=6.6
comp=Z,1.1nm,0.8s
TORD Torodi Ar. Bea 54.93 155 P **P 01 05 27.3 -0.5**
comp=Z,0.4nm,0.9s,baz=349,slow=9.2,SNR=2.3
comp=Z,0.4nm,0.9s
PV05 Paradox Valley 55.84 287 P **P 01 05 33.0 -1.5**
WMQ Urumqi 56.83 56 *eP* P 01 05 47.0 +5.7
WMQ LR LR
comp=Z,170nm,16.9s
TEIG Tepich 63.33 259 LR LR 01 33 29.4
comp=Z,4.7nm,19.6s,baz=46,slow=36
HHC Hu-ho-hao-te 66.63 39 *eP* **P 01 06 48.8 +1.4**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,67nm,4.5s
HHC LR LR
comp=N,140nm,20.8s
HHC LR LR
comp=E,140nm,20.4s
HHC LR LR
comp=Z,200nm,22.7s

*NNC **24** 01:04:08.9±1.8,44°.42N×91°.68E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=34.8km s-min=13.5km az=18.0*
ISC 24 01:04:11.4±4.2,44°.7N±0°.2×92°.1E±0°.3,h35km,n5,σ0⁋75/6, 7C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WMQ	**Urumqi**	**3.25**	**257**	P		**Pn**	**01 04 59.5**	**-0.4**
WMQ				smax		smax		
	comp=N,170nm,0.9s							
WMQ				smax		smax		
	comp=E,200nm,0.9s							
MK31	**Makanchi Array**	**7.17**	**291**	⇑Pn		**Pn**	**01 05 52.8**	**-0.9**
	comp=E,1.7nm,0.7s,baz=103,slow=14,SNR=18							
MK31				⇑Sn		**Sn**	**01 07 14.3**	**+0.4**
	comp=E,5.5nm,0.8s,baz=115,slow=27,SNR=4.6							
MK31				⇑Lg		Lg	01 07 50.6	
	comp=E,3.2nm,0.6s,baz=110,slow=13,SNR=4.2							
MAKZ	**Makanchi**	**7.38**	**291**	⇑Pn		**Pn**	**01 05 55.9**	**-0.8**
	comp=E,3.8nm,1.1s							
MAKZ				⇓Lg		Lg	01 07 57.5	
	comp=E,4.1nm,0.8s							
KURK	**Kurchatov**	**10.90**	**309**	⇓Pn		**Pn**	**01 06 44.8**	**0.0**
	comp=E,1.0nm,0.5s							
KURK				⇑Lg		Lg	01 09 53.4	
	comp=E,6.6nm,1.0s							
KURBB	**Kurchatov Arra**	**10.91**	**308**	⇑Pn		**Pn**	**01 06 44.8**	**-0.1**
	comp=E,1.0nm,0.3s							
KURBB				⇑Lg		Lg	01 09 53.7	
	comp=E,8.0nm,0.8s							

*IDC **24** 01:11:49.9±0.8,30°.23N×94°.63E,h0km,mb3.7/12, mbtmp3.7/15,ML3.5/3,MS3.4/1,Error ellipse: s-maj=37.2km s-min=16.7km az=57.0*
ISC 24 01:11:54.8±0.7,30°.35N±0°.09×94°.98E±0°.09,h35km,n19, σ1⁋37/19,mb3.7/11,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LSA	**Lhasa**	**3.38**	**260**	Pn		**Pn**	**01 12 48.3**	**+2.8**
LSA				Sn		Sn	01 13 33.1	+8.4
LSA				smax		smax		
	comp=N,31nm,0.8s							
CMAR	**Chiang Mai Arr**	**12.38**	**162**	Pn		**Pn**	**01 14 47.1**	**-1.5**
	comp=N,0.1nm,0.3s,baz=330,slow=14,SNR=1.4							
	comp=N,0.7nm,0.3s							
BTO	**Baotou**	**15.94**	**46**	*e*P		**Pn**	**01 15 37.0**	**+0.5**
BTO				S		**Sn**	**01 18 33.3**	**+1.1**
BTO				pmax		pmax		
	comp=Z,25nm,0.5s							
BTO				pmax		pmax		
	comp=Z,100nm,7.5s							
BTO				LR		LR		
	comp=N,140nm,5.7s							
BTO				LR		LR		
	comp=E,120nm,6.1s							
BTO				LR		LR		
	comp=Z,120nm,4.9s							
MKAR	**Makanchi Array**	**19.14**	**333**	P		**P**	**01 16 12.8**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=138,slow=13,SNR=8.0							
	comp=Z,1.1nm,0.8s							
SONM	**Songino Array**	**19.54**	**24**	P		**Pn**	**01 16 21.6**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=215,slow=12,SNR=7.0							
	comp=Z,1.1nm,0.8s							
KURBB	**Kurchatov Arra**	**23.70**	**333**	P		**P**	**01 17 03.1**	**-0.1**
	comp=Z,2.1nm,0.2s,baz=143,slow=11,SNR=8.6							
	comp=Z,2.1nm,0.2s							
ZALV	**Zalesovo Beam**	**24.70**	**346**	P		**P**	**01 17 13.3**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=134,slow=12,SNR=5.3							
	comp=Z,1.4nm,0.8s							
BVAR	**Borovoye Array**	**28.90**	**329**	P		**P**	**01 17 51.2**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=128,slow=9.6,SNR=6.0							
	comp=Z,1.3nm,0.8s							
MJAR	**Matsushiro Arr**	**36.37**	**68**	LR		LR	01 34 07.9	
	comp=Z,50nm,18.0s,baz=338,slow=36							
BRTR	**Keskin Array B**	**50.22**	**298**	P		**P**	**01 20 45.5**	**-2.1**
	comp=Z,0.7nm,0.8s,baz=95,slow=7.4,SNR=6.3							
	comp=Z,0.7nm,0.8s							
AKASG	**Malin Array Be**	**52.14**	**313**	P		**P**	**01 20 59.9**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=79,slow=6.7,SNR=7.5							
	comp=Z,0.5nm,0.4s							
FINES	**FINESS Array B**	**53.81**	**326**	P		**P**	**01 21 13.6**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=75,slow=12,SNR=3.6							
	comp=Z,0.3nm,0.5s							
NB2	**NORSAR Subarra**	**60.99**	**326**	P		**P**	**01 22 05.7**	**+1.3**
	comp=Z,1.9nm,1.1s,baz=80,slow=6.9							
NOA	**NORSAR Array B**	**60.99**	**326**	P		**P**	**01 22 04.2**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=79,slow=6.7,SNR=5.1							
	comp=Z,0.5nm,0.8s							
GERES	**GERESS Array B**	**62.35**	**313**	P		**P**	**01 22 13.0**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=126,slow=6.2,SNR=4.3							
	comp=Z,0.6nm,0.8s							
WRA	**Warramunga Arr**	**62.73**	**138**	P		**P**	**01 22 17.2**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=320,slow=7.8,SNR=3.3							
	comp=Z,0.5nm,0.9s							
ASAR	**Alice Springs**	**65.42**	**141**	P		**P**	**01 22 35.5**	**+1.3**
	comp=Z,0.8nm,0.9s,baz=313,slow=5.1,SNR=6.1							
	comp=Z,0.8nm,0.9s							
ESDC	**Sonseca Array**	**77.52**	**309**	P		**P**	**01 23 47.5**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=46,slow=4.8,SNR=4.1							
	comp=Z,0.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**86.25**	**283**	P		**P**	**01 24 33.8**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=66,slow=6.0,SNR=5.3							
	comp=Z,1.0nm,0.9s							

*JMA **24** 01:23:12.2±0.1,36°.1N±0°.2×139°.9E±0°.3,h45km,MV3.4/40, SW IBARAKI PREF*
JMA Felt I J1 at SW IBARAKI PREF .
*IDC **24** 01:23:13.6±1.7,35°.95N×139°.51E,h74km±17km,mb3.3/3, mbtmp3.7/4,Error ellipse: s-maj=34.3km s-min=8.4km az=65.0*
ISC 24 01:23:11.6±0.9,36°.08N±0°.04×139°.91E±0°.04,h48km±8km, n25,σ1⁋69/31,mb3.6/3,7D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JYT	**Yasato**	**0.28**	**57**	⇓*i*P		**Pn**	**01 23 20.9**	**+0.5**
JYT				⇓S		Sn	01 23 27.0	+0.4
JAG	**Ashikaga**	**0.51**	**314**	⇓*i*P		**Pn**	**01 23 23.1**	**+0.2**
JAG				⇓S		Sn	01 23 30.7	-0.3
JRY	**Ryogami san**	**0.82**	**266**	*i* P		**Pn**	**01 23 26.9**	**0.0**
JRY				S		Sn	01 23 37.7	-0.3
JKT	**Katashina**	**0.87**	**323**	⇓*i*P		**Pn**	**01 23 27.6**	**-0.1**
JKT				⇓S		Sn	01 23 39.2	-0.2
JOD2	**Odawara 2**	**1.05**	**220**	*e*P		**Pn**	**01 23 30.6**	**+0.6**
JYN	**Shimob**	**1.25**	**243**	P		**Pn**	**01 23 34.1**	**+1.3**
JUON	**Uonuma**	**1.32**	**329**	*i* P		**Pn**	**01 23 34.0**	**+0.3**
JFY	**Yanaizu**	**1.34**	**353**	⇓*i*P		**Pn**	**01 23 34.5**	**+0.6**
BSO3	**Boso 3**	**1.36**	**159**	*e*P		**Pn**	**01 23 34.5**	**+0.5**
MJAR	**Matsushiro Arr**	**1.45**	**289**	P		**Pn**	**01 23 35.8**	**+0.3**
	12nm,0.3s,baz=94,slow=8.7,SNR=25							
MJAR				S		**Sn**	**01 23 50.1**	**-3.3**
	24nm,0.3s,baz=235,slow=37,SNR=9.0							
MAJO	**Matsushiro**	**1.45**	**289**	P		**Pn**	**01 23 36.4**	**+0.9**
MAJO	**Matsushiro**	**1.45**	**289**	S		**Sn**	**01 23 56.6**	**+3.2**
JMM	**Marumori**	**1.92**	**21**	P		**Pn**	**01 23 42.9**	**+1.0**
JMM	**Marumori**	**1.92**	**21**	S		**Sn**	**01 24 07.3**	**+2.4**
JGF	**Kuroka**	**2.13**	**258**	P		**Pn**	**01 23 47.1**	**+2.4**
JGF	**Kuroka**	**2.13**	**258**	S		**Sn**	**01 24 14.3**	**+4.3**
JSD	**Sado**	**2.36**	**327**	P		**Pn**	**01 23 48.1**	**+0.2**
INU	**Inuyama**	**2.46**	**254**	P		**Pn**	**01 23 51.7**	**+2.4**
JHJ	**Hachijo jima 2**	**2.95**	**182**	P		**Pn**	**01 23 56.2**	**+0.2**
	99nm,0.3s,baz=334,slow=19,SNR=14							
JHJ				S		**Sn**	**01 24 29.9**	**-0.4**
	80nm,0.2s,baz=60,slow=22,SNR=6.2							
JHJ2	**Mitsume**	**2.96**	**181**	P		**Pn**	**01 23 56.3**	**+0.2**
JTM	**Tenmabayashi**	**4.79**	**11**	P		**Pn**	**01 24 23.4**	**+2.2**
ERM	**Erimo**	**6.45**	**22**	P		**Pn**	**01 24 45.7**	**+1.8**
KURBB	**Kurchatov Arra**	**45.64**	**309**	P		**P**	**01 31 24.8**	**-2.3**
	0.3nm,0.3s,baz=79,slow=7.8,SNR=5.3							
	0.3nm,0.3s							
ILAR	**Eielson Array**	**50.95**	**32**	P		**P**	**01 32 08.2**	**+0.3**
	0.4nm,0.7s,baz=275,slow=6.5,SNR=6.4							
	0.4nm,0.7s							
WRA	**Warramunga Arr**	**55.96**	**186**	P		**P**	**01 32 44.1**	**-1.0**
	0.3nm,0.3s,baz=1.3,slow=7.8,SNR=7.6							
	0.3nm,0.3s							

*IDC **24** 01:29:11.2±1.4,8°.55S×114°.41E,h91km±11km,mb4.6/26, mbtmp4.9/29,MS3.4/13,Error ellipse: s-maj=12.4km s-min=7.2km az=56.0*
*NEIC **24** 01:29:12.7±2.1,8°.60S±0°.08×114°.31E±0°.07,h103km±3km, mb5.0/70,Error ellipse: s-maj=11.4km s-min=9.3km az=194.0*
*MOS **24** 01:29:12.6±1.0,8°.56S×114°.32E,h123km,mb4.8/47,Error ellipse: s-maj=11.9km s-min=5.1km az=121.2*
*BJI **24** 01:29:12.0,8°.80S×114°.20E,h112km,mB5.0/13,mb4.9/53*
*DJA **24** 01:29:12.8±0.1,9°.3S±2°×11°.4E±°,h100km±2km,M4.9/58, mb4.9/58,mB5.4/17,MLv5.0/25,Mw(mB)4.9/17*
*GCMT **24** 01:29:13.7±0.4,8°.93S±0°.03×114°.14E±0°.03,h105km±7km, MW4.8/75,Moment Tensor Solution. s8,c9; s75,c94; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}0.69±.11; $M_{\theta\theta}$-0.62±.12; $M_{\phi\phi}$-0.07±.12; $M_{r\theta}$-1.34±.06; $M_{\theta\phi}$-0.69±.12; $M_{\phi r}$0.21±.07; Best double couple: $M_0$1.65500×10¹⁶ NP1:ϕ25.00000°,δ29.00000°,λ29.00000°. NP2: ϕ270.00000°,δ77.00000°,λ116.00000°. Principal axes: T 1.6990, Plg52.0000°, Azm209.0000°; N -0.0900, Plg25.0000°, Azm83.0000°; P -1.6100, Plg27.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 01:29:11.8±0.5,8°.78S±0°.04×114°.21E±0°.04,h99km±3km, n486,σ1⁋64/483,mb4.9/137,10C-20D,Bali region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAGI	**Jajag, Banyuwa**	**0.31**	**349**			**Pn**	**01 29 26.9**	**+0.4**
JAGI				Sn		**Sn**	**01 29 38.0**	**+0.6**
JAGI	**Jajag, Banyuwa**	**0.31**	**349**	P		**Pn**	**01 29 27.3**	**+0.8**
JAGI	**Jajag, Banyuwa**	**0.31**	**349**	P		**Pn**	**01 29 27.2**	**+0.8**
GMJI	**Gumukmas**	**0.91**	**304**	P		**Pn**	**01 29 32.4**	**+1.1**
GMJI				S		**Sn**	**01 29 47.0**	**+1.1**
ABJI	**Asem Bagus**	**0.98**	**1**	P		**Pn**	**01 29 34.9**	**+2.9**
SRBI	**Singaraja**	**1.21**	**55**	P		**Pn**	**01 29 36.9**	**+2.3**
KMMI	**Kalianget**	**1.74**	**352**	P		**Pn**	**01 29 44.8**	**+3.7**
GRJI	**Gresik**	**2.52**	**317**	P		**Pn**	**01 29 54.4**	**+3.1**
TBJI	**Tambak Boyo**	**3.05**	**310**	P		**Pn**	**01 30 00.7**	**+2.5**
PCJI	**Pacitan**	**3.06**	**281**	P		**Pn**	**01 29 59.9**	**+1.6**
NGJI	**Ngawi**	**3.06**	**297**	P		**Pn**	**01 30 01.9**	**+3.5**
BWJI	**Bawean**	**3.29**	**332**	P		**Pn**	**01 30 06.0**	**+4.5**
WOJI	**Wonogiri, Jawa**	**3.38**	**286**	P		**Pn**	**01 30 04.2**	**+1.4**
PLAI	**Plampang**	**3.52**	**91**	P		**Pn**	**01 30 06.9**	**+2.3**
PLAI	**Plampang**	**3.52**	**91**	S		**Sn**	**01 30 49.3**	**+3.8**
PLAI	**Plampang**	**3.52**	**91**	P		**Pn**	**01 30 06.4**	**+1.8**
UGM	**Wanagama**	**3.75**	**283**	Pn		**Pn**	**01 30 09.1**	**+1.4**
UGM	**Wanagama**	**3.75**	**283**	P		**Pn**	**01 30 09.3**	**+1.6**
UGM	**Wanagama**	**3.75**	**283**	P		**Pn**	**01 30 08.8**	**+1.1**
SMRI	**Semarang**	**4.11**	**294**	Pn		**Pn**	**01 30 13.2**	**+0.6**
SMRI	**Semarang**	**4.11**	**294**	P		**Pn**	**01 30 13.9**	**+1.3**
SMRI	**Semarang**	**4.11**	**294**	P		**Pn**	**01 30 13.5**	**+0.9**
WBSI	**Waikabubak, Su**	**5.19**	**100**	P		**Pn**	**01 30 27.6**	**+0.4**
	2.9nm6μm272nm,0.7s							
CMJI	**Cimerak**	**5.79**	**279**	P		**Pn**	**01 30 36.2**	**+0.9**
BASI	**Baing, Sumba**	**6.44**	**103**	P		**Pn**	**01 30 44.7**	**+0.5**
	285nm,0.5s							
BBJI	**Bungbulang**	**6.63**	**281**	P		**Pn**	**01 30 48.4**	**+1.6**
BBJI	**Bungbulang**	**6.63**	**281**	S		**Sn**	**01 32 02.7**	**+1.8**
KAPI	**Kappang**	**6.65**	**56**	Pn		**Pn**	**01 30 49.7**	**+2.6**
KAPI	**Kappang**	**6.65**	**56**	P		**Pn**	**01 30 50.1**	**+3.0**
	38nm,0.3s,baz=203,slow=5.3,SNR=19							
KAPI				S		**Sn**	**01 31 55.9**	**-5.5**
	41nm,0.5s,baz=41,slow=22,SNR=8.2							
KAPI				LR		LR	01 33 49.6	
	comp=Z,230nm,20.8s,baz=218,slow=44							
KAPI	**Kappang**	**6.65**	**56**	P		**Pn**	**01 30 50.8**	**+3.7**
KAPI	**Kappang**	**6.65**	**56**	P		**Pn**	**01 30 49.7**	**+2.6**
BSSI	**Bau Bau, Buton**	**6.76**	**68**	P		**Pn**	**01 30 51.7**	**+3.2**
	1.2nm2μm177nm,1.0s							
LEM	**Lembang**	**6.81**	**286**	P		**Pn**	**01 30 51.5**	**+2.1**
	79nm,0.8s,baz=88,slow=8.3,SNR=8.6							
LEM				S		**Sn**	**01 32 07.5**	**+1.9**
	64nm,0.8s,baz=181,slow=19,SNR=1.9							
LEM				LR		LR	01 34 26.2	
	comp=Z,194nm,20.0s,baz=154,slow=45							
CNJI	**Cibinong**	**7.16**	**281**	P		**Pn**	**01 30 55.5**	**+1.5**
BNSI	**Bone**	**7.29**	**54**	P		**Pn**	**01 31 00.1**	**+4.3**
	0.6nm2μm192nm,0.6s							
SPSI	**Sidrap Palu**	**7.31**	**49**	P		**Pn**	**01 30 58.8**	**+2.8**
EDFI	**Ende, Flores**	**7.39**	**90**	P		**Pn**	**01 30 55.5**	**-1.7**
	0.5nm2μm93nm,0.5s							
DBJI	**Dramaga**	**7.72**	**286**	P		**Pn**	**01 31 02.8**	**+1.2**
	13μm100nm,0.8s							
MMRI	**Maumere**	**7.94**	**90**	Pn		**Pn**	**01 31 03.9**	**-0.6**
MMRI	**Maumere**	**7.94**	**90**	P		**Pn**	**01 31 04.8**	**+0.3**
	3μm122nm,0.6s							
TTSI	**Tana Toraja**	**7.97**	**45**	P		**Pn**	**01 31 09.1**	**+4.1**
	2μm188nm,0.9s							
CGJI	**Cibinong**	**8.71**	**284**	P		**Pn**	**01 31 16.0**	**+0.9**
TPI	**Tanjungpandan**	**8.85**	**312**	P		**Pn**	**01 31 19.3**	**+2.3**
	38nm,1.2s							
STKI	**Sintang**	**9.20**	**343**	P		**Pn**	**01 31 26.2**	**+4.5**
	234nm,1.0s							
BATI	**Baumata**	**9.43**	**99**	P		**Pn**	**01 31 23.1**	**-1.8**
	24nm,0.3s,baz=270,slow=8.1,SNR=2.0							
BATI				S		**Sn**	**01 33 05.2**	**-4.0**
	106nm,0.5s,baz=14,slow=22,SNR=5.7							
PCI	**Palu**	**9.62**	**36**	P		**Pn**	**01 31 31.8**	**+4.3**
	107nm,1.1s							
SOEI	**Soe**	**9.97**	**96**	Pn		**Pn**	**01 31 32.4**	**0.0**
KASI	**Kota Agung**	**10.17**	**288**	P		**Pn**	**01 31 35.7**	**+0.8**
	75nm,0.9s							
MPSI	**Mapaga**	**10.68**	**32**	P		**Pn**	**01 31 46.2**	**+4.3**
MDSI	**Maura Dua**	**10.84**	**293**	P		**Pn**	**01 31 45.4**	**+1.4**
SBUM	**Sibu**	**11.33**	**350**	Pn		**Pn**	**01 31 54.8**	**+4.1**
LHSI	**Lahat**	**11.71**	**294**	P		**Pn**	**01 31 57.8**	**+2.1**
	51nm,0.7s							
TOLI2	**Tolitoli**	**11.81**	**34**	Pn		Pn	01 32 02.1	+5.0
MNAI	**Manna**	**12.01**	**291**	P		**Pn**	**01 31 59.3**	**-0.5**
MNAI	**Manna**	**12.01**	**291**	S		**Sn**	**01 34 15.0**	**+3.1**
MNAI	**Manna**	**12.01**	**291**	P		**Pn**	**01 31 59.5**	**-0.3**
KSI	**Kapahiang**	**12.62**	**293**	P		**Pn**	**01 32 07.4**	**-0.5**
PSAC1	**Pilbara Seismi**	**13.78**	**158**	P		Pn	01 32 17.6	-5.4
GIRL	**Giralia**	**13.78**	**180**	Pn		Pn	01 32 18.4	-4.7
GIRL	**Giralia**	**13.78**	**180**	P		**Pn**	**01 32 18.8**	**-4.3**
PSA00	**Pilbara Seismi**	**13.83**	**158**	Pn		Pn	01 32 18.1	-5.5
PSA00	**Pilbara Seismi**	**13.83**	**158**	P		Pn	01 32 18.5	-5.2
PSA00	**Pilbara Seismi**	**13.83**	**158**	P		Pn	01 32 18.5	-5.2
FITZ	**Fitzroy Crossi**	**14.46**	**131**	Pn		**Pn**	**01 32 28.7**	**-3.1**
FITZ	**Fitzroy Crossi**	**14.46**	**131**	P		**Pn**	**01 32 29.2**	**-2.6**
FITZ	**Fitzroy Crossi**	**14.46**	**131**	P		**Pn**	**01 32 29.2**	**-2.6**
	32nm,0.5s,baz=315,slow=9.3,SNR=77							
FITZ				S		Sn	01 34 54.1	-17
	31nm,0.5s,baz=304,slow=9.7,SNR=4.7							
FITZ				LR		LR	01 39 00.1	
	comp=Z,121nm,18.1s,baz=320,slow=41							
FITZ	**Fitzroy Crossi**	**14.46**	**131**	P		**Pn**	**01 32 29.5**	**-2.3**
KKM	**Kota Kinabalu**	**14.86**	**8**			**P**	**01 32 38.8**	**-1.5**
KNRA	**Kununurra**	**15.78**	**117**	P		**Pn**	**01 32 48.6**	**+0.1**
	comp=Z,76nm,0.9s							
PPI	**Padang Panjang**	**16.05**	**300**	P		**Pn**	**01 32 52.7**	**+0.8**
TNTI	**Ternate**	**16.18**	**55**			**P**	**01 32 55.6**	**+0.7**
MTN	**Manton Dam**	**17.10**	**105**			**Pn**	**01 33 05.0**	**+0.1**
MTN	**Manton Dam**	**17.10**	**105**	P		**P**	**01 33 05.5**	**+0.5**
	comp=Z,55nm,0.4s							
MTN	**Manton Dam**	**17.10**	**105**	P		**P**	**01 33 06.1**	**+1.0**
MEEK	**Meekatharra**	**18.25**	**167**	P		**P**	**01 33 17.7**	**+0.1**
	comp=Z,166nm,0.9s							
MEEK	**Meekatharra**	**18.25**	**167**	P		**P**	**01 33 18.2**	**+0.6**
KDU	**Kakadu**	**18.36**	**104**	P		**P**	**01 33 18.7**	**-0.1**
	comp=Z,27nm,0.9s							
SWI	**Sorong**	**18.71**	**66**	P		**Pn**	**01 33 25.6**	**+1.4**
	comp=Z,41nm,0.6s							
FAKI	**Fak Fak**	**18.86**	**73**	P		**P**	**01 33 23.5**	**-0.9**
	comp=Z,56nm,1.1s							
RPSI	**Rantau Prapat**	**19.03**	**306**	P		**Pn**	**01 33 28.0**	**-0.1**
PSI	**Prapat**	**19.09**	**306**	P		**P**	**01 33 26.1**	**-1.0**
	comp=Z,3.3nm,0.4s,baz=129,slow=8.0,SNR=10							
PSI				LR		LR	01 42 55.0	
	comp=Z,94nm,18.3s,baz=172,slow=43							
PSI	**Prapat**	**

FORT Forrest 25.42 151 P **P** 01 34 30.7 +0.4
FORT IAmb IAmb 01 34 31.7
comp=Z,51nm,0.7s
FORT Forrest 25.42 151 P **P** 01 34 30.7 +0.4
comp=Z,75nm,0.7s
SZP Santa 26.88 13 P **P** 01 34 49.7 +6.2
QIS Mount Isa 27.16 118 P **P** 01 34 46.5 +0.3
comp=Z,25nm,0.8s
QIS Mount Isa 27.16 118 P **P** 01 34 46.9 +0.7
COEN Coen 28.84 103 P **P** 01 35 02.2 +1.1
comp=Z,18nm,1.5s
COEN Coen 28.84 103 P **P** 01 35 03.4 +2.2
MTSU Mount Surprise 30.68 111 P **P** 01 35 18.6 +1.2
comp=Z,13nm,0.8s
CM31 Chiang Mai Arr 30.98 331 P **P** 01 35 20.8 +0.9
CM31 IAmb IAmb 01 35 22.6
comp=Z,34nm,0.9s
CMAR Chiang Mai Arr 30.98 331 P **P** 01 35 20.4 +0.5
CMAR Chiang Mai Arr 30.98 331 P **P** 01 35 20.8 +0.8
comp=Z,22nm,0.9s,baz=162,slow=7.9,SNR=75
CMAR PcP **PcP** 01 38 15.3 +1.3
comp=Z,1.0nm,0.3s,baz=185,slow=2.3,SNR=4.5
CMAR ScP **ScP** 01 41 48.1 +0.1
comp=Z,1.0nm,0.3s,baz=181,slow=3.0,SNR=8.6
CMAR LR LR 01 47 25.1
comp=Z,51nm,19.3s,baz=140,slow=35
comp=Z,22nm,0.9s
CMAR Chiang Mai Arr 30.98 331 *ce*P **P** 01 35 21.3 +1.4
CMAR pmax pmax
comp=Z,29nm,0.9s
CHTO Chiang Mai 31.28 331 P **P** 01 35 23.4 +0.8
CHTO IAmb IAmb 01 35 24.9
comp=Z,20nm,1.0s
CHTO Chiang Mai 31.28 331 P **P** 01 35 23.4 +0.8
CHTO pmax pmax
comp=Z,20nm,1.0s
CHTO Chiang Mai 31.28 331 P **P** 01 35 23.6 +1.0
CHTO pP **pP** 01 35 46.6 +1.5
BBOO Buckleboo 31.31 143 P **P** 01 35 22.5 -0.3
BBOO Buckleboo 31.31 143 P **P** 01 35 22.6 -0.1
comp=Z,68nm,0.9s
BBOO Buckleboo 31.31 143 P **P** 01 35 23.1 +0.3
CTAO Charters Tower 32.94 113 P **P** 01 35 38.4 +1.2
HTT Hallett 33.48 141 P **P** 01 35 42.1 +0.3
HTT Hallett 33.48 141 P **P** 01 35 42.9 +1.1
STKA Stephens Creek 34.27 136 P **P** 01 35 49.1 +0.5
STKA Stephens Creek 34.27 136 P **P** 01 35 49.4 +0.8
comp=Z,210nm,0.8s
STKA Stephens Creek 34.27 136 P **P** 01 35 49.5 +0.9
comp=Z,24nm,0.4s,baz=316,slow=9.2,SNR=64
comp=Z,24nm,0.4s
STKA Stephens Creek 34.27 136 P **P** 01 35 49.6 +1.0
STKA Stephens Creek 34.27 136 P **P** 01 35 49.1 +0.5
STKA pmax pmax
comp=Z,167nm,0.9s
KMI Kunming 35.50 342 P **P** 01 36 01.8 +2.3
KMI pmax pmax
comp=Z,21nm,1.2s
GYA Guiyang 35.79 348 ⇑P **P** 01 36 03.0 +1.2
GYA pmax pmax
comp=Z,21nm,0.7s
TNCH TengChong 36.92 336 ⇓*i*P **P** 01 36 12.9 +1.4
TNCH pP pP 01 36 37.4 +2.9
TNCH sP sP 01 36 47.3 +1.3
TNCH PP **PP** 01 37 37.8 +0.2
TNCH S **S** 01 41 51.5 +2.0
TNCH pmax pmax
comp=Z,55nm,0.8s
TNCH pmax pmax
comp=Z,200nm,3.9s
TNCH LR LR
comp=Z,300nm,5.1s
TNCH LR LR
comp=Z,130nm,6.8s
CMSA Cobar Meteorol 36.99 132 P **P** 01 36 12.5 +0.6
comp=Z,30nm,1.1s
CMSA Cobar Meteorol 36.99 132 P **P** 01 36 13.5 +1.6
PALK Pallekele 37.01 295 LR LR 01 52 16.7
comp=Z,51nm,18.0s,baz=132,slow=37
PALK Pallekele 37.01 295 ⇓*e*P **P** 01 36 10.0 -2.3
PALK pmax pmax
comp=Z,39nm,1.3s
PZH PanZhiHua 37.10 341 P **P** 01 36 13.8 +0.8
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,160nm,5.7s
ARPS Mount Arapiles 37.48 142 P **P** 01 36 16.4 +0.5
comp=Z,24nm,0.8s
EIDS Eidsvold 38.74 120 P **P** 01 36 27.8 +1.1
EIDS IAmb IAmb 01 36 29.1
comp=Z,13nm,0.8s
EIDS Eidsvold 38.74 120 P **P** 01 36 27.5 +0.8
comp=Z,20nm,1.1s
GEXS Deakin Univers 39.89 142 P **P** 01 36 37.2 +1.2
TOO Toolangi 40.24 140 P **P** 01 36 40.7 +1.6
TOO IAmb IAmb 01 36 42.2
comp=Z,18nm,1.1s
TOO Toolangi 40.24 140 P **P** 01 36 40.9 +1.8
comp=Z,19nm,1.1s
TOO Toolangi 40.24 140 P **P** 01 36 40.7 +1.6
TOO pmax pmax
comp=Z,18nm,1.1s
YNG Young 40.36 134 P **P** 01 36 41.4 +1.4
comp=Z,127nm,0.7s
SHL Shillong 40.47 328 P **P** 01 36 41.1 0.0
SHL IAmb IAmb 01 36 42.1
comp=Z,34nm,0.9s
SHL Shillong 40.47 328 P **P** 01 36 41.2 0.0
SHL pmax pmax
comp=Z,34nm,0.9s
CD2 Chengdu 40.72 346 P **P** 01 36 43.3 +0.3
CD2 pmax pmax
comp=Z,100nm,0.7s
NJ2 Nanjing 40.84 6 *e*P **P** 01 36 45.1 +1.2
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
ARMA Armidale 41.02 127 P **P** 01 36 46.1 +0.5
ARMA Armidale 41.02 127 P **P** 01 36 47.8 +2.2
comp=Z,57nm,0.7s
ARMA Armidale 41.02 127 P **P** 01 36 48.4 +2.8
H08S2 Diego Garcia H 41.29 268 T T 02 21 03.7
baz=94,slow=76,SNR=38
H08S3 Diego Garcia H 41.30 268 T T 02 21 04.5
baz=94,slow=76,SNR=44
H08S1 Diego Carcia H 41.31 268 T T 02 21 05.1
baz=94,slow=76,SNR=43
CAN Canberra 41.31 135 P **P** 01 36 48.9 +1.0
CAN IAmb IAmb 01 36 50.3
comp=Z,32nm,0.7s
CAN Canberra 41.31 135 P **P** 01 36 49.2 +1.3
comp=Z,44nm,1.6s
CAN Canberra 41.31 135 P **P** 01 36 49.4 +1.5
CAN Canberra 41.31 135 P **P** 01 36 48.9 +1.0
CAN pmax pmax
comp=Z,31nm,0.7s
CAN Canberra 41.31 135 P **P** 01 36 49.4 +1.5
CNB Canberra Magne 41.56 135 P **P** 01 36 50.8 +0.8
comp=Z,41nm,1.4s
MGCD Mangrove Creek 41.81 131 P **P** 01 36 53.8 +1.8
comp=Z,89nm,0.8s
XAN Xi'an 42.88 354 ⇓P **P** 01 37 00.9 +0.4
XAN pP pP 01 37 22.9 -1.1
XAN pmax pmax
comp=Z,8.0nm,0.8s
HYB Hyderabad 43.81 306 *e*P **P** 01 37 07.2 -1.1
HYB IAmb IAmb 01 37 08.0
comp=Z,34nm,1.0s
LSA Lhasa 44.23 331 P **P** 01 37 12.4 +0.4
LSA pmax pmax
comp=Z,18nm,0.9s
LZH Lanzhou 45.68 348 *e*P **P** 01 37 23.6 +0.6
LZH pmax pmax
comp=Z,18nm,1.3s
LZH LR LR
comp=Z,120nm,14.8s
LZH LR LR
comp=Z,200nm,14.4s
KSAR Wonju Array Be 47.73 15 P **P** 01 37 39.0 +0.3
KSAR Wonju Array Be 47.73 15 P **P** 01 37 39.1 +0.3
KSRS Korea Array 47.75 15 P **P** 01 37 38.0 -0.8
comp=Z,2.0nm,0.7s,baz=205,slow=7.2,SNR=5.7
KSRS PcP **PcP** 01 39 06.7 +0.1
comp=Z,1.3nm,0.5s,baz=172,slow=3.1,SNR=4.1
KSRS LR LR 01 59 19.9
comp=Z,6μm,18.2s,baz=210,slow=38
comp=Z,2.0nm,0.7s
GOMU GeErMu 48.32 339 P **P** 01 37 44.1 +0.3
GOMU pP pP 01 38 08.4 +0.8
GOMU sP sP 01 38 20.8 +2.0
GOMU pmax pmax
comp=Z,6.0nm,0.7s
GOMU pmax pmax
comp=Z,94nm,4.4s
JGF Kuroka 49.25 25 P **P** 01 37 48.0 -2.5
JGF IAmb IAmb 01 39 04.7
comp=Z,46nm,2.0s
BTO Baotou 49.29 356 *e*P **P** 01 37 55.0 +4.2
BTO S **S** 01 44 56.0 +6.3
BTO pmax pmax
comp=Z,9.0nm,0.9s
BTO pmax pmax
comp=Z,170nm,5.3s
BTO LR LR
comp=Z,150nm,4.4s
BTO LR LR
comp=Z,140nm,6.0s
BTO LR LR
comp=Z,180nm,5.5s
HHC Hu-ho-hao-te 49.44 357 *e*P **P** 01 37 55.4 +3.4
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,40nm,3.9s
GTA Gaotai 49.77 345 P **P** 01 37 56.0 +1.5
GTA pP pP 01 38 22.3 +3.9
GTA PcP **PcP** 01 39 15.0 +0.9
GTA ScS ScS 01 47 34.8 -1.7
GTA pmax pmax
comp=Z,13nm,0.9s
MAJO Matsushiro 50.41 25 ⇓*e*P **P** 01 37 55.7 -3.6
MAJO pmax pmax
comp=Z,7.0nm,1.1s
MJAR Matsushiro Arr 50.41 25 P **P** 01 37 56.5 -2.8
MJAR Matsushiro Arr 50.41 25 P **P** 01 37 56.6 -2.6
comp=Z,4.9nm,0.7s,baz=197,slow=7.5,SNR=11
comp=Z,4.9nm,0.7s
MJAR Matsushiro Arr 50.41 25 P **P** 01 37 56.5 -2.8
MJAR pmax pmax
comp=Z,7.0nm,1.4s
JMM Marumori 52.63 26 P **P** 01 38 14.0 -1.8
MDJ Mudanjiang 54.94 13 P **P** 01 38 32.3 -0.1
MDJ pmax pmax
comp=Z,7.0nm,1.1s
USA0B Ussuriysk Arra 55.14 16 P **P** 01 38 31.7 -2.2
USA0B IAmb IAmb 01 38 51.7
comp=Z,12nm,0.9s
USA0B Ussuriysk Arra 55.14 16 P **P** 01 38 31.7 -2.2
USA0B pmax pmax
comp=Z,12nm,0.9s
USRK Ussuriysk Ar. 55.14 16 P **P** 01 38 31.7 -2.2
USRK Ussuriysk Ar. 55.14 16 P **P** 01 38 33.2 -0.7
comp=Z,11nm,0.8s,baz=196,slow=6.3,SNR=18
comp=Z,11nm,0.8s
BNX BinXian 55.55 11 ⇓P **P** 01 38 37.8 +1.0
BNX pmax pmax
comp=Z,8.0nm,2.1s
ULN Ulaanbaatar 56.75 354 P **P** 01 38 43.5 -2.0
ULN Ulaanbaatar 56.75 354 ⇓*e*P **P** 01 38 44.4 -1.1
ULN pmax pmax
comp=Z,7.0nm,1.1s
SONM Songino Array 56.79 354 P **P** 01 38 44.6 -1.1
SONM Songino Array 56.79 354 P **P** 01 38 45.2 -0.6
comp=Z,1.8nm,0.3s,baz=172,slow=9.5,SNR=30
SONM PcP **PcP** 01 39 40.4 -0.1
comp=Z,1.5nm,0.3s,baz=194,slow=3.7,SNR=7.6
SONM LR LR 02 04 19.0
comp=Z,43nm,21.4s,baz=138,slow=37
comp=Z,1.8nm,0.3s
SONM Songino Array 56.79 354 P **P** 01 38 44.7 -1.1
SONM pmax pmax
comp=Z,7.0nm,1.0s
NIL Nilore 57.38 320 **P** 01 38 47.8 -2.4
NIL Nilore 57.38 320 P **P** 01 38 48.8 -1.4
NIL Nilore 57.38 320 P **P** 01 38 47.8 -2.4
NIL pmax pmax
comp=Z,27nm,1.0s
CASY Casey 57.47 182 P **P** 01 38 49.5 -0.7
CASY IAmb IAmb 01 38 50.8
comp=Z,14nm,0.8s
CASY Casey 57.47 182 P **P** 01 38 49.5 -0.7
WMQ Urumqi 57.62 338 *e*P **P** 01 38 53.6 +2.0
JCZ Jackson Bay 58.80 137 P **P** 01 39 01.3 +1.3
MLZ Mavora Lakes 58.80 138 P **P** 01 38 59.9 0.0
WHZ Wether Hill Ro 58.88 139 P **P** 01 39 01.6 +1.1
WHZ Wether Hill Ro 58.88 139 P **P** 01 39 01.5 +1.1
WKZ Wanaka 59.21 137 P **P** 01 39 04.3 +1.6
APZ The Paps 59.25 140 P **P** 01 39 03.9 +0.9
FOZ Fox Glacier 59.33 136 P **P** 01 39 03.3 -0.2
EAZ Earnscleugh 59.54 138 P **P** 01 39 07.0 +2.1
KSH Kashi 59.71 326 P **P** 01 39 05.3 -1.0
KSH pmax pmax
comp=Z,26nm,0.8s
WVZ Waitaha Valley 59.82 135 P **P** 01 39 07.5 +0.5
LBZ Lake Benmore 59.85 137 P **P** 01 39 07.7 +0.6
LBZ Lake Benmore 59.85 137 P **P** 01 39 07.9 +0.8
HEH HeiHe 59.90 10 *e*P **P** 01 39 06.3 -0.9
HEH pmax pmax
comp=Z,6.0nm,0.8s
INZ Inchbonnie 60.22 134 P **P** 01 39 09.9 +0.3
INZ Inchbonnie 60.22 134 P **P** 01 39 10.3 +0.6
RPZ Rata Peaks 60.24 136 P **P** 01 39 10.2 +0.5
RPZ Rata Peaks 60.24 136 P **P** 01 39 10.8 +1.0
ODZ Otahua Downs 60.37 137 P **P** 01 39 11.0 +0.4
TMZ Timaru 60.41 136 P **P** 01 39 11.1 +0.1
DRV Dumont d'Urvil 60.42 169 P **P** 01 39 10.8 +0.3
QRZ Quartz Range 60.48 132 P **P** 01 39 13.2 +1.7
QRZ IAmb IAmb 01 39 14.2
comp=Z,19nm,0.8s
QRZ Quartz Range 60.48 132 P **P** 01 39 13.4 +1.9
KBL Kabul 60.68 318 P **P** 01 39 11.3 -1.8
KBL IAmb IAmb 01 39 12.4
comp=Z,18nm,1.2s
KBL Kabul 60.68 318 P **P** 01 39 11.4 -1.8
KBL pmax pmax
comp=Z,18nm,1.2s
OXZ Oxford 60.81 135 P **P** 01 39 13.4 -0.2
OXZ Oxford 60.81 135 P **P** 01 39 13.8 +0.2
LTZ Lake Taylor 60.82 134 P **P** 01 39 14.7 +0.9
THZ Tophouse 61.00 133 P **P** 01 39 16.0 +1.0
THZ Tophouse 61.00 133 P **P** 01 39 16.1 +1.0
SATY Saty 61.03 331 *e*P **P** 01 39 14.7 -0.5
SATY pmax pmax
comp=Z,12nm,1.0s
SATY Saty 61.03 331 *e*P **P** 01 39 14.8 -0.5
comp=Z,12nm,1.0s
YSS Yuzhno-Sakhali 61.03 22 *e*P **P** 01 39 16.7 +1.8
NRN Naryn 61.05 328 P **P** 01 39 15.0 -0.6
NRN Naryn 61.05 328 P **P** 01 39 15.0 -0.6
NRN pmax pmax
comp=Z,10.0nm,1.0s
NNZ Nelson 61.20 132 P **P** 01 39 17.1 +0.8
MOY Mondy 61.27 351 *e*P **P** 01 39 16.7 0.0
MOY pmax pmax
comp=Z,15nm,1.4s
MQZ McQueen's Vall 61.34 135 P **P** 01 39 18.7 +1.5
GVZ Greta Valley S 61.41 134 P **P** 01 39 18.7 +1.0
KHZ Kahutara 61.62 134 P **P** 01 39 19.2 +0.1
TNSS Tian-Shan 61.73 330 *e*P **P** 01 39 19.4 -0.8
TNSS Tian-Shan 61.73 330 *e*P **P** 01 39 19.4 -0.8
ZSN Zaisan 61.74 338 *e*P **P** 01 39 19.4 -0.4
ZSN Zaisan 61.74 338 *e*P **P** 01 39 19.5 -0.4
BOOM Boomskoye usch 61.84 329 IAmb IAmb 01 39 21.4
comp=Z,20nm,1.0s
AAA Alma-Ata 61.87 330 *e*P **P** 01 39 20.3 -0.5
AAA Alma-Ata 61.87 330 *e*P **P** 01 39 20.4 -0.5
MK31 Makanchi Array 62.21 336 *de*P **P** 01 39 22.2 -0.7
MKAR Makanchi Array 62.21 336 P **P** 01 39 22.1 -0.8
MKAR Makanchi Array 62.21 336 P **P** 01 39 22.3 -0.6
comp=Z,8.4nm,0.6s,baz=149,slow=6.8,SNR=74
MKAR LR LR 02 08 06.3
comp=Z,41nm,19.1s,baz=157,slow=38
comp=Z,8.4nm,0.6s
MKAR Makanchi Array 62.21 336 *ce*P **P** 01 39 22.2 -0.8
MKAR pmax pmax
comp=Z,9.0nm,0.6s
TKM2 Tokmak 2 62.33 329 P **P** 01 39 23.7 -0.4
SNR=18
BHW Baring Head 62.34 132 P **P** 01 39 23.7 -0.2
MAKZ Makanchi 62.35 336 P **P** 01 39 23.2 -0.7
MAKZ Makanchi 62.35 336 P **P** 01 39 23.2 -0.7
MAKZ pmax pmax
comp=Z,6.0nm,1.1s
MAKZ Makanchi 62.35 336 P **P** 01 39 22.6 -1.2
NGZ Ngauruhoe 62.40 130 P **P** 01 39 25.1 +0.5
KBK Karagaybulak 62.47 328 P **P** 01 39 25.3 +0.3
SNR=14
TDK Taldyqorghan 62.49 332 *e*P **P** 01 39 24.3 -0.5
TDK pmax pmax
comp=Z,11nm,0.9s
TDK Taldyqorghan 62.49 332 *e*P **P** 01 39 24.4 -0.5
comp=Z,11nm,0.9s
GAR Garm 62.62 323 P **P** 01 39 24.4 -1.6
GAR IAmb IAmb 01 39 26.5
comp=Z,28nm,1.0s
MSWZ Moikau Station 62.62 132 P **P** 01 39 25.5 -0.4
DQM DQM 62.64 298 P **P** 01 39 26.3 0.0
KUU Kurty 62.66 330 *e*P **P** 01 39 25.3 -0.6
KUU pmax pmax
comp=Z,11nm,1.0s
KUU Kurty 62.66 330 *e*P **P** 01 39 25.4 -0.6
comp=Z,11nm,1.0s
MHTO MHTO 62.66 299 P **P** 01 39 25.7 -0.7
MRZ Mangatainoka R 62.69 131 P **P** 01 39 26.7 +0.3
MRZ IAmb IAmb 01 39 27.7
comp=Z,30nm,1.1s
MRZ Mangatainoka R 62.69 131 P **P** 01 39 27.0 +0.6
AAK Ala-Archa 62.70 328 P **P** 01 39 26.9 +0.4
SNR=5.1
AAK Ala-Archa 62.70 328 LR LR 02 10 45.3
comp=Z,30nm,18.1s,baz=136,slow=40
AAK Ala-Archa 62.70 328 ⇓*e*P **P** 01 39 26.2 -0.2
AAK pmax pmax
comp=Z,19nm,1.0s
AAK Ala-Archa 62.70 328 P **P** 01 39 26.4 0.0
TSZ Takapari Road 62.85 131 P **P** 01 39 28.4 +1.0
WSAR Wadi Sarin 62.97 302 P **P** 01 39 28.6 +0.1
BTK Batken 62.99 324 P **P** 01 39 27.9 -0.5
BTK IAmb IAmb 01 39 29.1
comp=Z,22nm,0.9s
BTK Batken 62.99 324 P **P** 01 39 27.9 -0.5
BTK pmax pmax
comp=Z,22nm,1.0s
BKZ Black Stump Fm 63.08 129 P **P** 01 39 29.8 +0.8
BKZ Black Stump Fm 63.08 129 P **P** 01 39 30.0 +1.0
EKS2 Erkin-Say 63.09 328 P **P** 01 39 29.2 +0.1
SNR=17
USP Ospenovka 63.14 328 P **P** 01 39 28.2 -1.0
SNR=10.0
BFZ Birch Farm 63.20 131 P **P** 01 39 30.4 +0.7
SIMJ Simiganj 63.20 322 P **P** 01 39 27.4 -2.4
SIMJ Simiganj 63.20 322 P **P** 01 39 27.4 -2.4
SGDS Sogindy 63.20 329 *e*P **P** 01 39 28.9 -0.7
RTZ Ruatahuna 63.35 129 P **P** 01 39 31.7 +0.8
URZ Urewera 63.39 128 P **P** 01 39 31.1 +0.1
comp=Z,10nm,0.5s,baz=284,slow=3.6,SNR=10
comp=Z,10nm,0.5s
URZ Urewera 63.39 128 P **P** 01 39 31.1 +0.1
SMDO Samad 63.39 301 P **P** 01 39 31.3 -0.1
BIDO Bidbid 63.51 302 P **P** 01 39 32.5 +0.5
MWZ Matawai 63.72 128 P **P** 01 39 33.7 +0.4
HAZ Te Kaha 63.82 128 P **P** 01 39 34.3 +0.4
BSY Bisya 63.99 301 P **P** 01 39 34.9 -0.3
MXZ Matakaoa Point 64.20 127 P **P** 01 39 37.0 +0.6
HOQ Hoqain 64.22 301 P **P** 01 39 37.1 +0.4
H04N2 CROZET ISLANDS 64.71 223 T T 02 50 32.1
baz=76,slow=76,SNR=23
H04N1 CROZET ISLANDS 64.72 223 T T 02 50 29.9
baz=76,slow=76,SNR=17
H04N3 CROZET ISLANDS 64.72 223 T T 02 50 30.8
baz=76,slow=76,SNR=21
RBK Rabkut 64.77 294 P **P** 01 39 38.0 -2.4
ARQ Araqi 64.79 301 P **P** 01 39 40.0 -0.4
IUG Iuzhnay 64.80 325 *e*P **P** 01 39 39.9 -0.3
IUG pmax pmax
comp=Z,10.0nm,0.7s
IUG Iuzhnay 64.80 325 *e*P **P** 01 39 39.9 -0.3
comp=Z,10nm,0.7s
SOHO SOHO 65.09 302 P **P** 01 39 42.1 -0.2
CHM Chimkent 65.15 325 *e*P **P** 01 39 42.1 -0.3
CHM pmax pmax
comp=Z,9.0nm,0.6s
CHM Chimkent 65.15 325 *e*P **P** 01 39 42.1 -0.3
comp=Z,9.4nm,0.6s
KK31 Karatay Array 65.16 326 P **P** 01 39 41.0 -1.4
KK31 Karatay Array 65.16 326 P **P** 01 39 41.0 -1.4
KK31 pmax pmax
comp=Z,7.0nm,1.3s
KKAR Karatay Array 65.16 326 P **P** 01 39 40.9 -1.5
KKAR Karatay Array 65.16 326 P **P** 01 39 40.9 -1.5
DOK Doka 65.20 295 P **P** 01 39 42.2 -0.9
SNR=16
WHFO Wadi Hawf 65.30 294 P **P** 01 39 43.0 -0.8
SNR=26
ABTO Aybut 65.55 294 P **P** 01 39 45.0 -0.4
SNR=11
UOSS Minazif 65.68 302 P **P** 01 39 45.3 -0.9
UOSS Minazif 65.68 302 P **P** 01 39 45.9 -0.2
HATD Hatta, Dubai 65.70 302 P **P** 01 39 46.4 +0.1
ASHO Ashiyiah 65.70 302 P **P** 01 39 46.0 -0.4
ALNE Al Ain 65.72 301 P **P** 01 39 45.7 -0.7
UMZA Um Al Zommool 65.72 300 P **P** 01 39 45.7 -0.7
MDH Madha 65.74 303 P **P** 01 39 45.7 -0.8
VOI Vohitsoka 65.87 250 P **P** 01 39 49.2 +1.6
VOI IAmb IAmb 01 39 56.8
comp=Z,35nm,1.4s
MASF Masafi 65.89 303 P **P** 01 39 47.5 0.0
FAQ Al Faqa, Dubai 66.12 302 P **P** 01 39 48.8 -0.1
NAZ Nazwa, Dubai 66.15 302 P **P** 01 39 49.1 0.0
ASUD Al Ashush, Dub 66.29 302 P **P** 01 39 50.0 -0.1
CCD Concordia, Ant 66.49 177 P **P** 01 39 51.9 +0.9
KURBB Kurchatov Arra 66.76 336 P **P** 01 39 51.7 -0.8
comp=Z,5.6nm,0.8s,baz=150,slow=4.8,SNR=55
comp=Z,5.6nm,0.8s
KURK Kurchatov 66.80 336 P **P** 01 39 51.9 -0.8
KURK Kurchatov 66.80 336 *de*P **P** 01 39 51.8 -0.9
KURK pmax pmax
comp=Z,9.0nm,0.9s
KURK Kurchatov 66.80 336 P **P** 01 39 51.7 -0.9
KURK pP **pP** 01 40 17.6 -0.2
KRAR Krasnoyarsk 66.95 347 ⇓*e*P **P** 01 39 53.1 -0.4
ZALV Zalesovo Beam 67.25 342 P **P** 01 39 53.3 -2.1
ZALV Zalesovo Beam 67.25 342 P **P** 01 39 54.0 -1.4
comp=Z,7.0nm,0.6s,baz=151,slow=3.4,SNR=28
comp=Z,7.0nm,0.6s
MAW Mawson 67.87 199 P **P** 01 39 59.9 +0.7
comp=Z,1.5nm,1.3s
MAW Mawson 67.87 199 P **P** 01 40 00.1 +0.9
comp=Z,3.5nm,0.5s,baz=63,slow=6.1,SNR=17
comp=Z,3.5nm,0.5s
TRNA Turayna 69.82 300 P **P** 01 40 11.7 -0.4
SMRA Abu-Samra 70.16 300 P **P** 01 40 13.8 -0.3
SHMA Al-Shehemyia 70.42 301 P **P** 01 40 15.4 -0.4
SAKB Bahrain 70.82 301 P **P** 01 40 17.7 -0.5
YAK Yakutsk 71.62 8 *e*P **P** 01 40 19.2 -3.0
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.5s
BVAR Borovoye Array 71.95 334 P **P** 01 40 23.6 -0.9
comp=E,12nm,0.8s,baz=134,slow=8.5,SNR=49
BVAR LR LR 02 14 24.2
comp=E,36nm,18.7s,baz=112,slow=38
comp=E,12nm,0.8s
BRVK Borovoye 72.02 334 P **P** 01 40 23.8 -1.0
BRVK Borovoye 72.02 334 ⇓*e*P **P** 01 40 24.0 -0.8
BRVK pmax pmax
comp=Z,12nm,1.1s
VNDA Vanda 72.97 170 P **P** 01 40 31.6 +1.4
VNDA Vanda 72.97 170 P **P** 01 40 31.2 +1.1
comp=Z,4.3nm,0.4s,baz=316,slow=6.7,SNR=25
comp=Z,4.3nm,0.4s
VNDA Vanda 72.97 170 P **P** 01 40 31.6 +1.4
VNDA pmax pmax
comp=Z,7.0nm,0.7s
SBA Scott Base 74.01 170 P **P** 01 40 37.5 +1.3
SBA Scott Base 74.01 170 P **P** 01 40 37.5 +1.3
SBA pmax pmax
comp=Z,9.0nm,1.1s
MA2 Magadan 74.12 18 LR LR 02 14 57.9
comp=Z,10nm,21.4s,baz=334,slow=37
KBD Kabd 74.28 304 P **P** 01 40 38.6 0.0
RAYN Ar Rayn 74.38 297 P **P** 01 40 38.6 -0.8

RAYN	Ar Rayn	74.38 297	P	P	01 40 39.3	-0.1	
RAYN	Ar Rayn	74.38 297	P	P	01 40 38.6	-0.8	
RAYN			pmax	pmax			
	comp=Z,11nm,1.0s						
SYO	Syowa Base	76.35 201⇑	eP	P	01 40 50.4	+0.6	
SYO	Syowa Base	76.35 201⇓	epP	pP	01 41 19.2	+5.0	
SEY	Seymchan	77.25 17⇓	eP	P	01 40 54.0	-0.8	
SEY			pmax	pmax			
	comp=Z,8.0nm,0.9s						
SVE	Sverdlovsk	78.70 333	eP	P	01 41 02.6	-0.4	
SVE			pmax	pmax			
	comp=Z,30nm,1.0s						
MNGR	Mingechevir, A	78.86 315	P	P	01 41 04.8	+0.6	
SEKA	Sheki	78.95 315	P	P	01 41 05.0	+0.2	
GANJ	Ganja	79.36 314	P	P	01 41 07.5	+0.5	
NAX	Nakhchivan	79.43 313	P	P	01 41 07.4	-0.1	
ARTI	Arti	79.47 332	P	P	01 41 06.2	-0.9	
ARTI			IAmb	IAmb	01 41 07.2		
	comp=Z,34nm,1.0s						
ARTI	Arti	79.47 332	*d iP*	P	01 41 06.3	-0.9	
ARTI					01 44 02.6		
ARTI			S	S	01 51 00.7	+0.4	
ARTI			SS	SS	01 56 07.6	-2.6	
ARTI			pmax	pmax			
	comp=Z,26nm,1.0s						
GNI	Garni	80.31 313⇓	eP	P	01 41 12.5	+0.2	
GNI			pmax	pmax			
	comp=Z,16nm,1.3s						
GEVA	Gevas	80.93 311	P	P	01 41 16.6	+0.9	
GEVA			IAmb	IAmb	01 41 17.1		
	comp=Z,23nm,1.0s						
QSPA	South Pole Qui	81.22 180		P	01 41 17.7	+1.0	
QSPA	South Pole Qui	81.22 180	P	P	01 41 17.8	+1.2	
	comp=Z,10nm,0.8s,baz=304,slow=1.3,SNR=53						
	comp=Z,10nm,0.8s						
KARS	Kars	81.67 313	IAmb	IAmb	01 41 21.6		
	comp=Z,31nm,0.9s						
GURO	Guroymak-BITLI	81.77 311	P	P	01 41 20.8	+0.7	
GURO			IAmb	IAmb	01 41 21.9		
	comp=Z,27nm,1.0s						
NCK	Nalchik	82.26 316⇑	eP	P	01 41 21.4	-1.0	
NCK			pmax	pmax			
	comp=Z,7.0nm,0.6s						
KBZ	Khabaz	82.81 316	P	P	01 41 25.6	+0.4	
	comp=Z,10nm,0.8s,baz=112,slow=3.8,SNR=21						
	comp=Z,10nm,0.8s						
KIV	Kislovodsk	83.03 316	eP	P	01 41 26.9	+0.4	
KIV			pmax	pmax			
	comp=Z,7.0nm,1.0s						
BELG	Belogornoye	83.06 325⇓	eP	P	01 41 25.7	-0.5	
BELG			pmax	pmax			
	comp=Z,4.0nm,0.8s						
KOPT	Kop Dagi	83.35 312	IAmb	IAmb	01 41 34.0		
	comp=Z,21nm,0.8s						
LSZ	Lusaka	83.92 256	P	P	01 41 31.2	-0.5	
LSZ			IAmb	IAmb	01 41 44.3		
	comp=Z,41nm,1.9s						
LSZ	Lusaka	83.92 256	P	P	01 41 31.2	-0.5	
LSZ			pmax	pmax			
	comp=Z,41nm,2.0s						
KIRV	Kirov	84.76 332	*de*P	P	01 41 34.2	-0.6	
GHAJ	Ghor Haditha	84.94 303	P	P	01 41 37.1	+0.8	
GHAJ			IAmb	IAmb	01 42 03.5		
	comp=Z,22nm,0.9s						
BOSA	Boshof	84.95 242	P	P	01 41 37.3	+0.7	
	comp=Z,3.2nm,0.9s,baz=90,slow=5.1,SNR=3.2						
	comp=Z,3.2nm,0.9s						
GAZ	Gaziantep	85.05 309	P	P	01 41 37.5	+0.7	
GAZ			IAmb	IAmb	01 41 38.9		
	comp=Z,19nm,1.2s						
MMAI	Mount Meron Ar	85.47 304	P	P	01 41 39.7	+0.6	
	comp=Z,4.8nm,0.7s,baz=112,slow=9.1,SNR=9.7						
	comp=Z,4.8nm,0.7s						
VRH	Novokhopyorsk	86.03 323	eP	P	01 41 38.3	-3.0	
VRH			pmax	pmax			
	comp=Z,10.0nm,0.9s						
TOKA	Tokat	86.40 312	IAmb	IAmb	01 41 45.4		
	comp=Z,19nm,0.9s						
KSANE	Kasane	86.46 253	P	P	01 41 45.3	+1.0	
KSANE			IAmb	IAmb	01 41 47.2		
	comp=Z,23nm,1.2s						
BNN	Bunyan	86.51 310	P	P	01 41 44.6	+0.5	
BNN			IAmb	IAmb	01 41 45.8		
	comp=Z,9.9nm,1.0s						
VORD	Divnogorie	87.41 322	eP	P	01 41 45.1	-2.9	
VORD			pmax	pmax			
	comp=Z,20nm,1.0s						
VSR	Storozhevoye	87.56 323	eP	P	01 41 45.3	-3.4	
VSR			pmax	pmax			
	comp=Z,40nm,0.9s						
CSS	Mathiatis	87.58 306	P	P	01 41 49.9	+0.6	
	comp=Z,22nm,1.0s						
VORR	Voronezh	87.67 323	eP	P	01 41 46.9	-2.3	
VORR			pmax	pmax			
	comp=Z,30nm,0.9s						
LPSR	Galich'ya Gora	88.11 324	eP	P	01 41 49.3	-2.0	
LPSR			pmax	pmax			
	comp=Z,30nm,0.9s						
TROLL	Troll, Antarti	88.24 197	⇑P	P	01 41 53.6	+1.7	
	comp=Z,491nm,0.7s						
BR104	Keskin Array S	88.37 310	P	P	01 41 53.0	0.0	
	comp=Z,91nmcomp=Z,12nm,1.0s						
BR131	Keskin Array S	88.38 310	P	P	01 41 52.8	-0.3	
BR131			IAmb	IAmb	01 41 54.0		
	comp=Z,14nm,0.9s						
BR131	Keskin Array S	88.38 310	*de*P	P	01 41 52.6	-0.5	
BRTR	Keskin Array B	88.38 310	P	P	01 41 52.8	-0.3	
BRTR	Keskin Array B	88.38 310	P	P	01 41 53.0	-0.1	
	comp=Z,8.1nm,0.8s,baz=129,slow=6.3,SNR=51						
	comp=Z,8.1nm,0.8s						
BRTR	Keskin Array B	88.38 310	*i* P	P	01 41 53.0	-0.1	
BRTR			pmax	pmax			
	comp=Z,8.0nm,0.8s						
BR105	Keskin Array S	88.39 310	P	P	01 41 53.1	0.0	
	comp=Z,96nmcomp=Z,13nm,1.1s						
BR106	Keskin Array S	88.39 310	P	P	01 41 53.0	-0.1	
	comp=Z,88nmcomp=Z,12nm,1.1s						
KHAM	Kharkiv	89.02 321	P	P	01 41 54.3	-1.4	
ANTO	Ankara	89.04 310	P	P	01 41 54.9	-1.2	
	comp=Z,3.4nm,1.1s						
SNAA	Sanae	89.91 196	⇑P	P	01 42 01.2	+1.7	
	comp=Z,236nm,0.8s						
SNAA	Sanae	89.91 196	P	P	01 42 00.6	+1.1	
SNAA	Sanae	89.91 196	P	P	01 42 01.2	+1.7	
	comp=Z,14nm,1.0s,baz=160,slow=5.0,SNR=41						
	comp=Z,14nm,1.0s						
SNAA	Sanae	89.91 196	P	P	01 42 00.6	+1.1	
SNAA			pmax	pmax			
	comp=Z,36nm,1.4s						
KLMR	Klimovskoe	90.26 332	eP	P	01 41 58.3	-2.8	
KLMR			pmax	pmax			
	comp=Z,6.0nm,0.7s						
BELA	Belgrano 2	91.75 186	P	P	01 42 08.8	+0.9	
BELA			IAmb	IAmb	01 42 09.8		
	comp=Z,8.4nm,0.7s						
VNA1	Neumayer--Stat	91.94 196	⇑P	P	01 42 10.6	+1.7	
	comp=Z,5.2nm,0.7s						
VNA3	Neumayer Olymp	91.99 196	⇑P	P	01 42 10.5	+1.3	
	comp=Z,9.1nm,0.8s						
PURM	Purcari	92.43 317	P	P	01 42 11.0	-0.5	
	comp=Z,30nm,0.9s						
BAL3X	Bal3x, Balta	92.85 318	P	P	01 42 12.7	-0.8	
AK09	Malin Array Si	93.51 321	P	P	01 42 15.5	-0.9	
AK10	Malin Array Si	93.53 321	P	P	01 42 15.6	-0.9	
AK08	Malin Array Si	93.53 321	P	P	01 42 15.5	-1.0	
AK06	Malin Array Si	93.56 320	P	P	01 42 15.6	-1.1	
AK05	Malin Array Si	93.56 321	P	P	01 42 15.6	-1.1	
AKASG	Malin Array Be	93.56 321	P	P	01 42 15.6	-1.1	
	comp=Z,3.6nm,0.7s,baz=82,slow=4.7,SNR=15						
	comp=Z,3.6nm,0.7s						
AKASG	Malin Array Be	93.56 321	*i* P	P	01 42 15.6	-1.1	
AKASG			pmax	pmax			
	comp=Z,5.0nm,0.8s						
AKBB	Malin Array Si	93.56 321	IAmb	IAmb	01 42 16.5		
	comp=Z,7.2nm,0.8s						
AKBB	Malin Array Si	93.56 321	P	P	01 42 15.6	-1.1	
AK02	Malin Array Si	93.56 321	P	P	01 42 15.6	-1.1	
AK01	Malin Array Si	93.57 321	P	P	01 42 15.6	-1.1	
KIEV	Kiev	93.57 321	P	P	01 42 15.1	-1.6	
KIEV			IAmb	IAmb	01 42 16.4		
	comp=Z,6.5nm,0.8s						
KIEV	Kiev	93.57 321	P	P	01 42 15.1	-1.6	
KIEV			pmax	pmax			
	comp=Z,7.0nm,0.8s						
KIEV	Kiev	93.57 321	P	P	01 42 15.6	-1.1	
	comp=Z,37nm,0.8s						
AK11	Malin Array Si	93.59 321	P	P	01 42 16.0	-0.8	
AK19	Malin Array Si	93.70 321	P	P	01 42 16.2	-1.1	
AK20	Malin Array Si	93.70 321	P	P	01 42 16.3	-1.0	
LUBAR	Lubar, Ukraine	94.37 320	P	P	01 42 19.4	-1.0	
NDNU	Novodnistrovsk	94.43 318	P	P	01 42 19.7	-1.0	
VRI	Vrincioaia	94.48 316	P	P	01 42 20.5	-0.6	
	comp=Z,7.1nm,1.6s						
APA	Apatity	94.56 338	*e*P	P	01 42 19.5	-1.4	
MI28	Mi28,Pidlybu	94.57 321	P	P	01 42 20.4	-0.9	
TESR	Tescani	94.62 316	P	P	01 42 20.8	-0.9	
	comp=Z,8.2nm,1.3s						
MNK	Minsk	94.95 324	*i* P	P	01 42 20.3	-2.7	
MNK			*i* *SP	sP	01 42 56.4	-3.4	
MNK			*i*		01 46 10.0		
MNK			*i* S	SKSac	01 52 46.1	-3.3	
MNK			*i* SS	SS	01 59 47.5	-8.6	
MNK			pmax	pmax			
	comp=N,5.0nm,0.8s						
MNK			pmax	pmax			
	comp=Z,8.0nm,0.9s						
MNK			pmax	pmax			
	comp=E,5.0nm,1.0s						
KMPD	K-Podol'skiy	95.02 318	P	P	01 42 21.3	-2.1	
RNPP5	Staryi Chortor	95.72 321	P	P	01 42 25.6	-1.0	
RNPP2	Kostyukhnivka	95.73 321	P	P	01 42 25.6	-1.0	
BURAR	Bucovina Array	95.73 317	P	P	01 42 25.1	-1.8	
BUR08	Bucovina Ar. S	95.75 317	P	P	01 42 25.6	-1.3	
RNPP8	Varash	95.76 321	P	P	01 42 25.9	-0.8	
VSU	Vasula	96.09 328⇓	eP	P	01 42 26.2	-1.9	
VSU			pmax	pmax			
	comp=Z,8.0nm,0.8s						
STNU	Starunia	96.33 318	P	P	01 42 28.8	-0.6	
K17K	Iditarod	96.58 28	P	P	01 42 29.2	-1.0	
FINES	FINESS Array B	96.75 331	P	P	01 42 29.6	-1.4	
FINES	FINESS Array B	96.75 331	P	P	01 42 30.3	-0.7	
	comp=Z,4.0nm,0.8s,baz=89,slow=8.2,SNR=16						
	comp=Z,4.0nm,0.8s						
G19K	Purcell Mounta	97.44 24	P	P	01 42 32.7	-1.3	
G19K			IAmb	IAmb	01 42 34.6		
	comp=Z,2.9nm,0.8s						
E19K	Redstone River	97.49 23	P	P	01 42 33.2	-1.1	
E19K			IAmb	IAmb	01 42 34.8		
	comp=Z,3.6nm,0.9s						
H19K	Roundabout Mou	97.65 25	IAmb	IAmb	01 42 35.6		
	comp=Z,4.8nm,0.8s						
ARCES	ARCESS Array B	97.71 339	P	P	01 42 33.3	-1.9	
	comp=Z,2nm,0.9s,baz=82,slow=4.8,SNR=4.4						
	comp=Z,2.2nm,0.9s						
VYHS	Vyhne	100.07 318	*e*PP	PP	01 46 50.9	-1.9	
SPITS	Spitsbergen Ar	100.15 348	P	Pdif	01 42 44.6	-1.4	
	comp=Z,6.7nm,0.8s,baz=105,slow=9.7,SNR=8.7						
	comp=Z,6.7nm,0.8s						
KBS	Kingsbay	100.92 349⇓	eP	Pdif	01 42 46.5	-2.8	
KBS			pmax	pmax			
	comp=Z,24nm,1.8s						
ILAR	Eielson Array	101.69 26	P	Pdif	01 42 51.4	-1.7	
	comp=Z,0.3nm,0.8s,baz=277,slow=5.0,SNR=4.5						
HFS	Hagfors	102.80 330	P	Pdif	01 42 57.4	-0.7	
	comp=Z,1.6nm,0.8s,baz=114,slow=3.7,SNR=5.1						
YKA	Yellowknife Ar	115.88 23	PKP	PKiKP	01 47 41.8	-0.8	
	comp=Z,0.6nm,0.8s,baz=307,slow=3.0,SNR=5.1						
NVAR	Mina Array Bea	124.49 49	PKP	PKiKP	01 48 01.9	+1.4	
	comp=Z,0.5nm,0.5s,baz=299,slow=2.6,SNR=6.7						
PDAR	Pinedale Array	128.92 41	PKP	PKiKP	01 48 09.5	+0.3	
	comp=Z,0.2nm,0.5s,baz=13,slow=1.3,SNR=2.9						
TXAR	Lajitas Array	139.04 55	SKPbc	SKPbc	01 51 52.3	-1.7	
	comp=Z,0.8nm,0.7s,baz=222,slow=1.7,SNR=9.1						
P38A	Dawn	140.53 34		PKPpre	01 48 23.4		
CCM	Cathedral Cave	142.90 34		PKPpre	01 48 29.7		
CCM	Cathedral Cave	142.90 34	PKIKP	PKPpre	01 48 29.7		
MIAR	Mount Ida	143.84 41		PKPbc	01 48 33.9	0.0	
MIAR	Mount Ida	143.84 41	PKIKP	PKPbc	01 48 33.9	-0.1	
CPUP	Villa Florida	144.15 193	PKPdf	PKPdf	01 48 36.4	-0.5	
CPUP	Villa Florida	144.15 193	PKP	PKPbc	01 48 35.7	+0.6	
	comp=Z,3.9nm,0.8s,baz=16,slow=1.6,SNR=29						
CPUP			SKPbc	SKPbc	01 52 06.2	-0.7	
	comp=Z,0.7nm,0.7s,baz=82,slow=1.8,SNR=4.7						
PBMO	Poplar Bluff	144.27 35	PKPdf	PKPab	01 48 34.2	-0.6	
LCAR	Lake Charles	144.34 37	PKPdf	PKPab	01 48 34.7	-0.4	
NATX	Nacogdoches	144.76 45	PKPdf	PKPab	01 48 36.7	-0.1	
HKT	Hockley	144.88 49		PKPab	01 48 37.0	-0.2	
HKT	Hockley	144.88 49	PKIKP	PKPab	01 48 37.0	-0.2	
HBAR	Harrisburg	144.99 37	PKPdf	PKPbc	01 48 36.5	-0.9	
WCI	Wyandotte Cave	145.34 29		PKPbc	01 48 38.1	-0.4	
WCI	Wyandotte Cave	145.34 29	PKIKP	PKPbc	01 48 38.1	-0.4	
WVT	Waverly	146.18 33		PKPbc	01 48 40.7	-0.4	
WVT	Waverly	146.18 33	PKP2	PKPbc	01 48 40.7	-0.4	
R50A	Paris	146.21 27	PKPdf	PKPdf	01 48 39.3	-0.8	
N58A	Sunbury	146.63 15		PKPdf	01 48 40.9	+0.3	
X48A	Hartselle	147.85 34	PKPbc	PKPbc	01 48 44.4	-1.5	
BDFB	Brasilia	150.02 216	PKPbc	PKiKP	01 48 53.3	+0.4	
	comp=Z,12nm,0.8s,baz=105,slow=3.5,SNR=19						
BDFB	Brasilia	150.02 216	PKiKP	PKiKP	01 48 53.4	+0.5	
BIRD	Birdtown, Kers	150.95 25	PKPbc	PKPbc	01 48 53.3	-0.2	
LPAZ	La Paz	154.99 175	PKPab	PKPab	01 49 20.9	+1.6	
	comp=Z,11nm,0.6s,baz=152,slow=2.3,SNR=29						
VILB	Vilhena	157.71 194		PKPab	01 49 31.2	+1.0	

MOS ***24*** *01:57:16.4±1.2,25°.83N×144°.49E,h10km,mb4.9/24, Error ellipse: s-maj=18.2km s-min=6.8km az=119.5*
IDC ***24*** *01:57:16.4±0.6,25°.78N×144°.64E,h0km,mb4.2/22, mbtmp4.2/24,ML3.5/2,MS3.1/10, Error ellipse: s-maj=18.9km s-min=15.8km az=66.0*
NEIC ***24*** *01:57:18.6±1.8,25°.78N±0°.10×144°.4E±0°.1,h10km±1km, mb4.6/29, Error ellipse: s-maj=21.6km s-min=14.8km az=240.0*

ISC 24 01:57:17.9±0.5, 25°.80N±0°.09×144°.5E±0°.1, h10km, n122, σ1s 01/109, mb4.7/52, MS2.9/7, 4C-5D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGF	Kuroka	11.56	329	Pn	Pn	02 00 02.3	-0.8
MJAR	Matsushiro Arr	12.00	335	Pn	Pn	02 00 06.4	-2.7
MJAR	Matsushiro Arr	12.00	335	Pn	Pn	02 00 08.4	-0.8
	0.3nm,0.3s,baz=150,slow=11,SNR=14						
	4.0nm,0.6s						
MAJO	Matsushiro	12.00	335	Pn	Pn	02 00 07.6	-1.5
MAJO	Matsushiro	12.00	335	P	Pn	02 00 07.6	-1.5
MJB9	Matsu-Tunnel	12.01	335	Pn	Pn	02 00 08.0	-1.2
GUMO	Guam	12.15	178	LR	LR	02 03 46.3	
	comp=Z,65nm,19.8s,baz=20,slow=32						
JOW	Kunigami	14.63	278	LR	LR	02 06 27.3	
	comp=Z,45nm,18.2s,baz=62,slow=37						
ERM	Erimo	16.22	356	Pn	Pn	02 01 03.8	-2.1
ERM	Erimo	16.22	356	P	Pn	02 01 03.8	-2.1
ERM				pmax	pmax		
	comp=Z,47nm,1.5s						
KSRS	Korea Array	18.28	313	P	P	02 01 32.6	+0.8
	comp=Z,0.2nm,0.3s,baz=126,slow=14,SNR=4.8						
KSRS				LR	LR	02 08 09.9	
	comp=Z,19μm,19.9s,baz=135,slow=36						
	comp=Z,1.3nm,0.8s						
ASAJ	Asahikawa	18.35	356	LR	LR	02 07 48.6	
	comp=Z,50nm,20.1s,baz=171,slow=34						
USRK	Ussuriysk Ar.	21.00	334	P	P	02 02 02.2	+0.7
USRK	Ussuriysk Ar.	21.00	334	P	Pn	02 02 03.1	-1.0
	comp=Z,2.3nm,0.7s,baz=170,slow=13,SNR=9.9						
	comp=Z,2.3nm,0.7s						
H11N2	WAKE ISLAND Hy	21.47	102	T	T	02 24 39.6	
	baz=291,slow=75,SNR=20						
H11N1	WAKE ISLAND Hy	21.47	102	T	T	02 24 44.6	
	baz=291,slow=75,SNR=18						
H11N3	WAKE ISLAND Hy	21.48	102	T	T	02 24 21.6	
	baz=291,slow=75,SNR=18						
SSLB	Suanglung	21.50	270	P	P	02 02 06.8	-0.4
SSLB				IAmb	IAmb	02 02 13.1	
	comp=Z,20nm,0.7s						
H11S3	WAKE ISLAND Hy	21.74	105	T	T	02 25 03.6	
	baz=294,slow=75,SNR=7.9						
H11S1	WAKE ISLAND Hy	21.75	105	T	T	02 25 14.3	
	baz=294,slow=75,SNR=6.4						
H11S2	WAKE ISLAND Hy	21.76	105	T	T	02 25 06.9	
	baz=294,slow=75,SNR=6.2						
DAV	Davao City (W)	25.96	227	LR	LR	02 14 47.7	
	comp=Z,27nm,18.4s,baz=227,slow=40						
JAY	Jayapura	28.39	188	LR	LR	02 12 20.0	
	comp=Z,63nm,21.1s,baz=217,slow=32						
PETK	Petropavlovsk-	29.01	16	LR	LR	02 14 41.0	
	comp=Z,17nm,20.8s,baz=185,slow=36						
SHEM	Shemya Is, Ala	34.87	32	LR	LR	02 22 08.3	
	comp=Z,22nm,18.1s,baz=252,slow=43						
ULN	Ulaanbaatar	36.71	317	P	P	02 04 24.9	-0.4
ULN				IAmb	IAmb	02 04 28.0	
	comp=Z,8.0nm,1.0s						
ULN	Ulaanbaatar	36.71	317⇑	eP	P	02 04 27.3	+1.9
ULN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SONM	Songino Array	37.11	316	P	P	02 04 29.4	+0.7
SONM	Songino Array	37.11	316	P	P	02 04 29.7	+0.9
	comp=Z,4.2nm,1.0s,baz=125,slow=8.7,SNR=14						
SONM				PcP	PcP	02 06 49.8	+0.7
	comp=Z,1.0nm,0.9s,baz=122,slow=1.9,SNR=3.7						
	comp=Z,4.2nm,1.0s						
SONM	Songino Array	37.11	316	eP	P	02 04 30.4	+1.7
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YAK	Yakutsk	37.58	349	LR	LR	02 19 59.8	
	comp=Z,18nm,21.7s,baz=151,slow=36						
GTA	Gaotai	39.66	301	eP	P	02 04 50.9	+0.6
GTA				pP	pwP	02 04 55.8	-2.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMAR	Chiang Mai Arr	42.70	270	P	P	02 05 16.2	+0.9
	comp=Z,2.0nm,0.6s,baz=60,slow=7.5,SNR=11						
CMAR				LR	LR	02 23 18.9	
	comp=Z,39nm,19.4s,baz=70,slow=36						
	comp=Z,2.0nm,0.6s						
WR8	Warramunga Arr	46.51	193	P	P	02 05 44.5	-1.2
WR8				IAmb	IAmb	02 05 58.1	
	comp=Z,11nm,0.9s						
WRA	Warramunga Arr	46.53	193	P	P	02 05 45.2	-0.7
WRA	Warramunga Arr	46.53	193	P	P	02 05 45.5	-0.3
	comp=Z,6.6nm,0.8s,baz=16,slow=8.8,SNR=27						
	comp=Z,6.6nm,0.8s						
FITZ	Fitzroy Crossi	47.35	205	P	P	02 05 52.2	0.0
ASAR	Alice Springs	50.24	193	P	P	02 06 13.8	-0.7
	comp=Z,1.5nm,0.7s,baz=12,slow=9.0,SNR=15						
	comp=Z,1.5nm,0.7s						
N15K	Kwethluk River	50.88	32	P	P	02 06 19.8	+1.0
N15K				IAmb	IAmb	02 06 21.7	
	comp=Z,9.8nm,1.3s						
ZAA0	Zalesovo Array	51.85	320	P	P	02 06 25.6	-0.6
ZALV	Zalesovo Beam	51.85	320	P	P	02 06 26.2	0.0
	comp=Z,2.0nm,0.7s,baz=76,slow=6.3,SNR=7.5						
ZALV				PcP	PcP	02 07 39.0	0.0
	comp=Z,5.5nm,0.5s,baz=111,slow=2.7,SNR=16						
	comp=Z,2.0nm,0.7s						
ZALV	Zalesovo Beam	51.85	320	eP	P	02 06 26.7	+0.5
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
K17K	Iditarod	52.45	29	P	P	02 06 32.5	+1.9
K17K				IAmb	IAmb	02 07 13.6	
	comp=Z,8.5nm,1.2s						
MK31	Makanchi Array	52.93	310⇓	eP	P	02 06 34.8	+0.4
MKAR	Makanchi Array	52.93	310	P	P	02 06 35.3	+0.9
	comp=Z,0.5nm,0.5s,baz=76,slow=8.8,SNR=4.6						
MKAR				PcP	PcP	02 07 43.5	+0.2
	comp=Z,2.2nm,0.7s,baz=77,slow=7.0,SNR=9.3						
	comp=Z,0.5nm,0.5s						
O18K	Koktuh Hills	53.17	33	P	P	02 06 37.4	+1.4
O18K				IAmb	IAmb	02 06 42.9	
	comp=Z,5.7nm,0.8s						
C19K	Lookout Ridge	54.17	21	P	P	02 06 44.5	+1.3
C19K				IAmb	IAmb	02 07 22.6	
	comp=Z,11nm,1.2s						
IMAR	Indian Mountai	55.27	26	P	P	02 06 52.0	+0.9
KURK	Kurchatov	55.40	315⇓	eP	P	02 06 53.2	+0.9
KURK				pmax	pmax		
	comp=Z,11nm,1.0s						
KURBB	Kurchatov Arra	55.45	315	P	P	02 06 53.6	+1.0
	comp=Z,6.1nm,0.8s,baz=90,slow=7.7,SNR=50						
	comp=Z,6.1nm,0.8s						
D22K	Ayikyak River	56.44	23	P	P	02 07 00.8	+1.3
D22K				IAmb	IAmb	02 07 06.8	
	comp=Z,7.5nm,0.9s						
E22K	Anaktuvuk Pass	56.55	24	P	P	02 07 01.4	+1.0
E22K				IAmb	IAmb	02 07 07.4	
	comp=Z,5.1nm,0.9s						
ILAR	Eielson Array	57.85	28	P	P	02 07 08.9	-0.6
	comp=Z,0.7nm,0.8s,baz=260,slow=5.6,SNR=14						
	comp=Z,0.7nm,0.8s						
ILAR	Eielson Array	57.85	28	eP	P	02 07 13.4	+3.9
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FORT	Forrest	58.42	197	P	P	02 07 13.9	+0.1
BMAR	Burnt Mountain	59.12	25	P	P	02 07 19.8	+1.4
BVAR	Borovoye Array	60.42	318	P	P	02 07 28.3	+0.8
	comp=Z,3.9nm,0.5s,baz=90,slow=8.2,SNR=24						
BVAR				PcP	PcP	02 08 12.1	-0.3
	comp=Z,2.5nm,0.5s,baz=74,slow=4.4,SNR=4.4						
	comp=Z,3.9nm,0.5s						
BRVK	Borovoye	60.48	318⇓	eP	P	02 07 28.2	+0.3
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KK31	Karatay Array	61.55	307	P	P	02 07 35.6	+0.2
KK31				IAmb	IAmb	02 07 36.8	
	comp=Z,3.7nm,0.8s						
KK31	Karatay Array	61.55	307	P	P	02 07 35.6	+0.2
KK31				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KKAR	Karatay Array	61.55	307	P	P	02 07 35.9	+0.5
KKAR	Karatay Array	61.55	307	P	P	02 07 35.9	+0.5
I30M	Mount Dempster	62.33	28	P	P	02 07 40.7	+0.3
G31M	Satah River	63.12	26	P	P	02 07 45.8	+0.4
G31M				IAmb	IAmb	02 07 51.8	
	comp=Z,4.5nm,0.8s						
KBL	Kabul	64.49	298	P	P	02 07 55.1	-0.3
KBL	Kabul	64.49	298	P	P	02 07 55.1	-0.3
KBL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ARTI	Arti	66.84	323	P	P	02 08 09.9	0.0

KIV	**Kislovodsk**	**80.47**	**314**	*e*P		**P**		**02 09 30.3**	**0.0**
KIV				pmax		pmax			
	comp=Z,8.0nm,1.0s								
GNI	**Garni**	**80.77**	**310**	LR		LR		02 47 18.7	
	comp=Z,26nm,20.8s,baz=98,slow=37								
ELK	**Elko**	**80.80**	**49**	P		**P**		**02 09 32.6**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=306,slow=3.3,SNR=2.0								
	comp=Z,0.5nm,0.6s								
VSU	**Vasula**	**81.54**	**332⇑**	*e*P		**P**		**02 09 35.0**	**-0.5**
VSU				pmax		pmax			
	comp=Z,15nm,1.2s								
PDAR	**Pinedale Array**	**83.63**	**45**	P		**P**		**02 09 46.2**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=313,slow=8.0,SNR=2.6								
	comp=Z,0.2nm,0.6s								
AKASG	**Malin Array Be**	**84.90**	**325**	P		**P**		**02 09 52.6**	**-0.5**
	comp=Z,3.4nm,0.6s,baz=52,slow=5.1,SNR=25								
	comp=Z,3.4nm,0.6s								
AKASG	**Malin Array Be**	**84.90**	**325**	*e*P		**P**		**02 09 52.5**	**-0.5**
AKASG				pmax		pmax			
	comp=Z,4.0nm,0.7s								
AKBB	**Malin Array Si**	**84.90**	**325**	P		**P**		**02 09 52.3**	**-0.8**
AKBB	**Malin Array Si**	**84.90**	**325**	P		**P**		**02 09 52.3**	**-0.8**
AKBB				pmax		pmax			
	comp=Z,7.0nm,0.8s								
KIEV	**Kiev**	**84.91**	**325**	P		**P**		**02 09 52.3**	**-0.8**
KIEV	**Kiev**	**84.91**	**325**	P		**P**		**02 09 52.3**	**-0.8**
KIEV				pmax		pmax			
	comp=Z,7.0nm,0.8s								
NC405	**NORSAR Array S**	**85.37**	**339**	P		**P**		**02 09 55.1**	**-0.2**
HFS	**Hagfors**	**85.44**	**338**	P		**P**		**02 09 55.0**	**-0.6**
	comp=Z,3.7nm,0.6s,baz=94,slow=4.5,SNR=34								
	comp=Z,3.7nm,0.6s								
NB2	**NORSAR Subarra**	**85.58**	**339**	P		**P**		**02 09 55.6**	**-0.8**
	comp=Z,4.3nm,0.8s,baz=41,slow=5.1								
NOA	**NORSAR Array B**	**85.58**	**339**	P		**P**		**02 09 55.9**	**-0.5**
	comp=Z,3.5nm,0.7s,baz=42,slow=4.8,SNR=24								
	comp=Z,3.5nm,0.7s								
NOA	**NORSAR Array B**	**85.58**	**339**	*e*P		**P**		**02 09 55.9**	**-0.5**
NOA				pmax		pmax			
	comp=Z,3.0nm,0.8s								
RAYN	**Ar Rayn**	**87.61**	**295**	P		**P**		**02 10 05.8**	**-1.2**
RAYN	**Ar Rayn**	**87.61**	**295**	P		**P**		**02 10 05.8**	**-1.2**
RAYN				pmax		pmax			
	comp=Z,5.0nm,0.7s								
BR131	**Keskin Array S**	**88.43**	**314**	P		**P**		**02 10 09.8**	**-0.9**
BR131				IAmb		IAmb		02 10 11.0	
	comp=Z,3.1nm,0.8s								
BR131	**Keskin Array S**	**88.43**	**314**	P		**P**		**02 10 09.8**	**-0.9**
BR131				pmax		pmax			
	comp=Z,3.0nm,0.9s								
BRTR	**Keskin Array B**	**88.43**	**314**	P		**P**		**02 10 10.2**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=95,slow=3.4,SNR=12								
	comp=Z,1.9nm,0.8s								
BUR08	**Bucovina Ar. S**	**88.85**	**324**	P		**P**		**02 10 11.6**	**-1.0**
BUR08				IAmb		IAmb		02 10 13.3	
	comp=Z,2.3nm,0.8s								
BURAR	**Bucovina Array**	**88.86**	**324**	P		**P**		**02 10 12.2**	**-0.4**
BURAR				IAmb		IAmb		02 10 13.5	
	comp=Z,2.3nm,0.8s								
GERES	**GERESS Array B**	**93.70**	**330**	P		**P**		**02 10 35.0**	**0.0**
	comp=Z,0.3nm,0.6s,baz=62,slow=6.2,SNR=4.1								
	comp=Z,0.3nm,0.6s								
GERES	**GERESS Array B**	**93.70**	**330**	*e*P		**P**		**02 10 35.6**	**+0.6**
QSPA	**South Pole Qui**	**115.57**	**180**	PKPdf		**PKiKP**		**02 15 59.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**127.02**	**313**	PKPdf		**PKPdf**		**02 16 22.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**127.02**	**313**	PKP		**PKPdf**		**02 16 23.1**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=51,slow=2.2,SNR=1.5								
BAUV	**El Baul**	**133.13**	**47**	PKPdf		**PKPdf**		**02 16 34.0**	**-0.8**
COYC	**Coyhaique**	**144.71**	**134**	PKPdf		PKPbc		02 16 55.0	+1.3
PLCA	**Paso Flores**	**147.34**	**126**			**PKPbc**		**02 17 02.7**	**+0.7**
PLCA	**Paso Flores**	**147.34**	**126**	PKPbc		**PKPbc**		**02 17 02.4**	**+0.4**
	comp=Z,4.3nm,0.6s,baz=243,slow=3.0,SNR=15								
BI02	**San Fabin de**	**147.68**	**118**			**PKPbc**		**02 17 03.4**	**+0.3**
LPAZ	**La Paz**	**148.15**	**79**	PKPbc		**PKPbc**		**02 17 05.8**	**+0.2**
	comp=Z,4.0nm,0.8s,baz=256,slow=4.9,SNR=5.3								

IDC 24 02:05:30.2±3.8, **30°.44S**×**177°.69W**, **h0**km, **mb3.6**/2, **mbtmp3.6**/2, **Error ellipse: s-maj=84.7km s-min=35.2km az=117.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.20**	**350**	Pn	Pn	02 05 54.2	0.0
	98nm,0.3s,baz=78,slow=17,SNR=2.1						
RAO				Sn	Sg	02 06 06.3	-2.4
	254nm,0.3s,baz=66,slow=21,SNR=8.5						
ASAR	**Alice Springs**	**43.37**	**267**	P	P	02 13 34.2	-0.4
	0.3nm,0.6s,baz=113,slow=8.5,SNR=1.8						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**44.37**	**272**	P	P	02 13 42.6	0.0
	0.7nm,0.4s,baz=110,slow=8.1,SNR=7.3						
	0.7nm,0.4s						
H03S2	**Juan Fernandez**	**80.22**	**123**	T	T	03 47 00.3	
	baz=238,slow=74,SNR=5.5						
H03S1	**Juan Fernandez**	**80.23**	**123**	T	T	03 47 01.0	
	baz=238,slow=74,SNR=5.9						
H03S3	**Juan Fernandez**	**80.24**	**123**	T	T	03 46 59.7	
	baz=238,slow=74,SNR=3.9						
H03N3	**Juan Fernandez**	**80.41**	**123**	T	T	03 47 10.8	
	baz=242						
H03N2	**Juan Fernandez**	**80.41**	**123**	T	T	03 47 12.0	
	baz=242						
H03N1	**Juan Fernandez**	**80.43**	**123**	T	T	03 47 10.6	
	baz=242						
H10N3	**ASCENSION HYDR**	**38.66**	**154**	T	T	05 00 40.2	
	baz=204,slow=75,SNR=6.8						
H10N1	**ASCENSION HYDR**	**38.66**	**154**	T	T	05 00 49.3	
	baz=204,slow=75,SNR=13						
H10N2	**ASCENSION HYDR**	**38.68**	**154**	T	T	05 00 50.5	
	baz=204,slow=75,SNR=9.8						
FINES	**FINESS Array B**	**145.27**	**340**	PKPbc	PKPbc	02 25 08.0	-0.8
	1.4nm,0.8s,baz=64,slow=3.2,SNR=5.5						

IDC **24** *02:09:44.1±0.8, 41°.14S×88°.31W, h0km, mb3.8/8, mbtmp3.7/10, ML3.6/2, MS4.3/39, Error ellipse: s-maj=30.2km s-min=20.5km az=90.0*
GCMT **24** *02:09:47.6±0.1, 41°.41S±0°.01×88°.85W±0°.01, h13km, MW5.2/138, Moment Tensor Solution. s97,c143; s138,c252; Duration: 1↑0 Moment tensor: Scale 10^16 Nm; Mrr=1.10±.13; Mθθ=1.34±.14; Mϕϕ=0.24±.14; Mrθ=1.38±.30; Mθϕ=-8.11±.13; Mϕr=-2.21±.33; Best double couple: M=8.49200×10^16 NP1:ϕs=86.00000°, δ=76.00000°, λ=175.00000°. NP2:ϕs=178.00000°, δ=85.00000°, λ=14.00000°. Principal axes: T 9.3040, Plg=14.0000°, Azm=43.0000°; N -1.6250, Plg=75.0000°, Azm=196.0000°; P -7.6800, Plg=7.0000°, Azm=311.0000°; nsta1 refers to body waves, cutoff=40s nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC **24** *02:09:47.6±1.5, 41°.25±0°.1×88°.6W±0°.2, h10km±1km, mb4.7/71 Error ellipse: s-maj=22.8km s-min=17.4km az=280.0*

ISC 24 02:09:47.0±0.6, **41°.19S**±0°.08×**88°.48W**±0°.09, **h10**km, **n139, σ1s26/96, mb4.6**/40, **MS4.4**/39, **3C, West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03S2	**Juan Fernandez**	**10.55**	**49**	T	T	02 23 43.8	
	baz=222,slow=73,SNR=2069						
H03S1	**Juan Fernandez**	**10.56**	**49**	T	T	02 23 53.3	
	baz=222,slow=73,SNR=2494						
H03S3	**Juan Fernandez**	**10.57**	**49**	T	T	02 23 44.2	
	baz=222,slow=73,SNR=2935						
H03N3	**Juan Fernandez**	**10.83**	**48**	T	T	02 24 07.7	
	baz=223,slow=72,SNR=1489						
H03N2	**Juan Fernandez**	**10.84**	**48**	T	T	02 24 00.6	
	baz=223,slow=72,SNR=3914						
H03N1	**Juan Fernandez**	**10.85**	**48**	T	T	02 24 03.4	
	baz=223,slow=72,SNR=1503						
COYC	**Coyhaique**	**12.71**	**116**	Pn	**Pn**	**02 12 50.6**	**+2.9**
PLCA	**Paso Flores**	**13.57**	**94**	Pn	**Pn**	**02 13 00.2**	**+0.6**
PLCA	**Paso Flores**	**13.57**	**94**	Pn	**Pn**	**02 12 56.8**	**-2.7**
	0.1nm,0.3s,baz=277,slow=7.3,SNR=3.7						
	0.3nm,0.4s						
PLCA	**Paso Flores**	**13.57**	**94**	*e*P	**P**	**02 13 05.4**	**-3.3**
GO09	**Cerro Castillo**	**15.02**	**138**	Pn	**Pn**	**02 13 19.7**	**+0.5**
MG05	**Puerto Natales**	**15.18**	**139**	Pn	**Pn**	**02 13 22.6**	**+1.3**
MG05				IAmb	IAmb	02 13 39.5	
	comp=Z,34nm,1.2s						
MT09	**Talagante**	**15.72**	**68**	Pn	**P**	**02 13 31.0**	**-1.7**
MT09				IAmb	IAmb	02 13 57.9	
	comp=Z,70nm,1.4s						
BO04	**La Punta**	**15.87**	**69**	Pn	**Pn**	**02 13 32.3**	**+1.7**
LMEL	**Las Melosas**	**16.23**	**69**	Pn	**Pn**	**02 13 36.8**	**+1.5**
VA03	**San Esteban**	**16.59**	**65**	Pn	**Pn**	**02 13 39.9**	**+0.1**
VA03				IAmb	IAmb	02 13 46.2	
	comp=Z,80nm,1.4s						
ZON	**Zonda**	**18.59**	**65**	P	**Pn**	**02 14 05.2**	**+0.6**
CFA	**Coronel Fontan**	**18.86**	**66**	P	**P**	**02 14 05.0**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=241,slow=9.4,SNR=5.7						
CFA				LR	LR	02 20 04.5	
	comp=Z,628nm,18.6s,baz=201,slow=33						
	comp=Z,1.7nm,0.8s						
TRQA	**Tornquist**	**20.63**	**90**	P	**P**	**02 14 26.3**	**-0.2**
TRQA				IAmb	IAmb	02 14 31.1	
	comp=Z,35nm,1.1s						
AC02	**Maricunga**	**21.43**	**54**	P	**P**	**02 14 36.7**	**+0.9**
AC02				IAmb	IAmb	02 14 42.5	
	comp=Z,32nm,1.1s						
PMSA	**Palmer Station**	**27.48**	**157**	LR	LR	02 23 21.2	
	comp=Z,791nm,18.6s,baz=310,slow=30						
CPUP	**Villa Florida**	**29.65**	**70**	LR	LR	02 27 02.7	
	comp=Z,275nm,19.1s,baz=98,slow=35						
LPAZ	**La Paz**	**30.41**	**41**	P	**P**	**02 16 00.8**	**+0.6**
LPAZ	**La Paz**	**30.41**	**41**	P	**P**	**02 15 57.3**	**-2.9**
	comp=Z,1.1nm,0.8s,baz=183,slow=12,SNR=4.4						
LPAZ				LR	LR	02 25 44.2	
	comp=Z,1μm,18.2s,baz=198,slow=32						
	comp=Z,1.1nm,0.8s						
NNA	**Nana**	**30.83**	**23**	LR	LR	02 25 09.4	
	comp=Z,632nm,20.2s,baz=198,slow=30						
AMBA	**Amambai (Brazi**	**33.45**	**67**	*e*P	**P**	**02 16 26.9**	**+0.7**
SIV	**San Ignacio**	**34.51**	**51**	LR	LR	02 29 29.1	
	comp=Z,835nm,20.4s,baz=263,slow=34						
AQDB	**Aquidauana**	**34.61**	**63**	P	**P**	**02 16 36.8**	**+0.6**
AQDB				IAmb	IAmb	02 16 38.9	
	comp=Z,14nm,1.3s						
AQDB	**Aquidauana**	**34.61**	**63**	*e*P	**P**	**02 16 36.1**	**-0.2**
ATAH	**Atahualpa**	**35.08**	**18**	LR	LR	02 27 33.0	
	comp=Z,1μm,21.0s,baz=207,slow=30						
PTLB	**Pontes e Lacer**	**36.09**	**53**	P	**P**	**02 16 49.1**	**+0.1**
PTLB				IAmb	IAmb	02 16 51.5	
	comp=Z,12nm,1.3s						
PTLB	**Pontes e Lacer**	**36.09**	**53**	*e*P	**P**	**02 16 47.7**	**-1.3**
CZSB	**Cruzeiro do Su**	**36.15**	**27**	P	**P**	**02 16 49.1**	**-0.4**
CZSB				IAmb	IAmb	02 17 11.2	
	comp=Z,13nm,1.1s						
CZSB	**Cruzeiro do Su**	**36.15**	**27**	*e*P	**P**	**02 16 50.6**	**+1.0**
SALV	**Santo Antonio**	**37.90**	**58**	*e*P	**P**	**02 17 04.2**	**-0.2**
OTAV	**Otavalo**	**42.23**	**15**	P	**P**	**02 17 40.5**	**-0.3**
OTAV				IAmb	IAmb	02 18 06.8	
	comp=Z,20nm,1.4s						
OTAV	**Otavalo**	**42.23**	**15**	*e*P	P	02 17 48.3	+7.4
BDFB	**Brasilia**	**43.20**	**66**	LR	LR	02 35 28.5	
	comp=Z,833nm,19.3s,baz=228,slow=36						
SNDB	**Serra Nova Dou**	**43.65**	**59**	*e*P	**P**	**02 17 52.3**	**+0.3**
FLOC	**Florencia**	**44.14**	**19**	P	**P**	**02 17 56.3**	**+0.5**
NPGB	**Novo Progresso**	**44.98**	**50**	*e*P	**P**	**02 18 03.5**	**+0.9**
ROSC	**El Rosal**	**47.60**	**19**	LR	LR	02 35 50.3	
	comp=Z,792nm,22.0s,baz=214,slow=33						
VNA3	**Neumayer Olymp**	**48.08**	**155**	⇑P	**P**	**02 18 26.8**	**+0.6**
	comp=Z,2.4nm,0.6s						
SMTB	**Santa Maria do**	**48.38**	**60**	*e*P	**P**	**02 18 31.0**	**+1.8**
VNA1	**Neumayer--Stat**	**48.61**	**154**	⇑P	**P**	**02 18 32.5**	**+2.3**
	comp=Z,5.3nm,0.8s						
RUSC	**La Rusia**	**48.93**	**21**	P	**P**	**02 18 33.3**	**-0.6**
QSPA	**South Pole Qui**	**49.05**	**180**	P	**P**	**02 18 35.4**	**+1.4**
QSPA				IAmb	IAmb	02 18 59.5	
	comp=Z,5.4nm,1.0s						
QSPA	**South Pole Qui**	**49.05**	**180**	P	**P**	**02 18 32.4**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=128,slow=3.4,SNR=5.7						
QSPA				LR	LR	02 36 25.7	
	comp=Z,212nm,20.0s,baz=132,slow=33						
	comp=Z,0.9nm,0.8s						
SNAA	**Sanae**	**50.18**	**156**	P	**P**	**02 18 40.7**	**-1.6**
SNAA	**Sanae**	**50.18**	**156**	P	**P**	**02 18 40.4**	**-1.9**
	comp=Z,0.9nm,0.8s,baz=300,slow=3.1,SNR=3.5						
SNAA				LR	LR	02 35 51.5	
	comp=Z,292nm,21.6s,baz=282,slow=31						
	comp=Z,0.9nm,0.8s						
BOAV	**Boa Vista**	**50.30**	**38**	P	**P**	**02 18 43.9**	**+0.1**
BOAV				IAmb	IAmb	02 18 48.1	
	comp=Z,7.0nm,1.0s						
JTS	**Las Juntas de**	**51.32**	**4**	LR	LR	02 35 34.0	
	comp=Z,557nm,19.6s,baz=181,slow=30						
TROLL	**Troll, Antarti**	**51.73**	**157**	⇑P	**P**	**02 18 52.4**	**-1.7**
	comp=Z,146nm,0.7s						
SDV	**Santo Domingo**	**52.47**	**22**	LR	LR	02 39 05.2	
	comp=Z,710nm,21.3s,baz=221,slow=34						
SBA	**Scott Base**	**53.10**	**195**	P	**P**	**02 19 05.7**	**+1.7**
SBA				IAmb	IAmb	02 19 23.3	
	comp=Z,8.9nm,1.3s						
TBI	**Tubuai**	**53.48**	**270**	*e*S	S	02 25 43.1	-57
	comp=Z,921nm,26.5s						
TBI				eLR	LR	02 33 27.2	
	comp=Z,3μm,26.8s						
VNDA	**Vanda**	**54.19**	**195**	P	**P**	**02 19 11.9**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=152,slow=4.7,SNR=3.8						
VNDA				LR	LR	02 36 59.7	
	comp=Z,481nm,21.7s,baz=119,slow=30						
	comp=Z,0.9nm,0.8s						
PCRV	**Puerto La Cruz**	**55.64**	**29**	LR	LR	02 41 06.5	
	comp=Z,748nm,20.4s,slow=34						
TAOE	**Nuku Hiva Isla**	**55.74**	**290**	*e*S	S	02 26 09.6	-61
	comp=Z,258nm,27.5s						
TAOE				eLR	LR	02 34 23.0	
	comp=Z,618nm,25.7s						
MDP	**Montagnes des**	**56.53**	**44**	LR	LR	02 41 48.3	
	comp=Z,555nm,21.1s,baz=218,slow=34						
PPT2	**Papeete2**	**56.97**	**275**	*e*S	S	02 26 28.2	-59
	comp=Z,100nm,27.0s						
PPT2				*e*SS	**SKiKP**	**02 30 27.6**	**-0.5**
	comp=Z,58nm,24.0s						
PPT2				eLR	LR	02 35 08.6	
	comp=Z,363nm,28.8s						
PPT2				eLR	LR	02 35 19.5	
	comp=Z,520nm,27.5s						
PPT	**Papeete**	**56.98**	**275**	LR	LR	02 37 33.8	
	comp=Z,161nm,20.2s,baz=138,slow=29						
RCBR	**Riachuelo**	**58.51**	**68**	LR	LR	02 45 05.3	
	comp=Z,231nm,18.4s,baz=228,slow=36						
RAR	**Rarotonga**	**62.49**	**265**	LR	LR	02 38 58.3	
	comp=Z,238nm,21.9s,baz=140,slow=28						
SJG	**San Juan**	**62.53**	**24**	LR	LR	02 45 56.7	
	comp=Z,318nm,19.0s,baz=200,slow=35						
URZ	**Urewera**	**68.97**	**237**	LR	LR	02 43 29.5	
	comp=Z,546nm,20.2s,baz=144,slow=29						
MAW	**Mawson**	**69.38**	**169**	LR	LR	02 49 51.3	
	comp=Z,208nm,19.6s,baz=192,slow=35						
RAO	**Raoul Island**	**71.01**	**248**	LR	LR	02 43 52.4	
	comp=Z,455nm,19.8s,baz=318,slow=29						
HNDO	**Hondo**	**71.07**	**350**	P	**P**	**02 21 05.5**	**+0.4**
DRIO	**Del Rio**	**71.15**	**349**	P	**P**	**02 21 05.2**	**-0.4**
TXAR	**Lajitas Array**	**71.56**	**346**	P	**P**	**02 21 08.8**	**+0.6**
TXAR	**Lajitas Array**	**71.56**	**346**	P	**P**	**02 21 06.1**	**-2.2**
	comp=Z,0.9nm,0.8s,baz=169,slow=9.4,SNR=7.1						
	comp=Z,0.9nm,0.8s						
TX31	**Lajitas Ar. Si**	**71.56**	**346**	P	**P**	**02 21 08.2**	**-0.1**
TX31				IAmb	IAmb	02 21 19.4	
	comp=Z,6.1nm,1.1s						
SAND	**Sanderson**	**71.90**	**348**	P	**P**	**02 21 10.8**	**+0.6**
JCT	**Junction City**	**72.07**	**350**	P	**P**	**02 21 12.6**	**+1.3**
JCT				IAmb	IAmb	02 21 22.7	
	comp=Z,6.5nm,0.9s						
ALPN	**Alpine**	**72.57**	**346**	P	**P**	**02 21 14.2**	**-0.1**
ALPN				IAmb	IAmb	02 21 25.2	
	comp=Z,6.5nm,0.9s						
OZNA	**Ozona**	**72.69**	**349**	P	**P**	**02 21 15.0**	**0.0**
MNHN	**Monahans**	**73.36**	**347**	P	**P**	**02 21 18.9**	**+0.1**
MNHN				IAmb	IAmb	02 21 29.7	
	comp=Z,6.6nm,1.0s						
SGCY	**Sterling City**	**73.67**	**349**	P	**P**	**02 21 21.0**	**+0.3**
SGCY				IAmb	IAmb	02 21 35.8	
	comp=Z,8.8nm,1.1s						
PLPT	**Palo Pinto**	**74.19**	**351**	P	**P**	**02 21 24.4**	**+0.7**
SN07	**Snyder 07**	**74.79**	**349**	P	**P**	**02 21 27.6**	**+0.4**
APMT	**Aspermont**	**74.92**	**350**	P	**P**	**02 21 29.9**	**+2.0**
APMT				IAmb	IAmb	02 21 38.0	
	comp=Z,7.6nm,0.8s						
MSTX	**Muleshoe**	**75.94**	**348**	P	**P**	**02 21 35.2**	**+1.3**
TUC	**Tucson**	**75.97**	**341**	P	**P**	**02 21 34.0**	**0.0**
TKL	**Tuckaleechee C**	**76.59**	**4**	LR	LR	02 51 12.3	
	comp=Z,192nm,18.9s,baz=178,slow=32						
AMTX	**Amarillo**	**76.67**	**349**	P	**P**	**02 21 40.2**	**+2.3**
ANMO	**Albuquerque**	**77.54**	**345**	P	**P**	**02 21 44.8**	**+1.8**
ANMO				IAmb	IAmb	02 21 54.1	
	comp=Z,5.6nm,1.1s						
ANMO	**Albuquerque**	**77.54**	**345**	LR	LR	02 49 55.4	
	comp=Z,120nm,19.4s,baz=248,slow=31						
GLA	**Glamis**	**77.76**	**338**	P	**P**	**02 21 42.7**	**-1.4**
GLA				IAmb	IAmb	02 21 55.3	
	comp=Z,6.2nm,1.0s						
X18A	**Snowflake**	**77.89**	**342**	P	**P**	**02 21 44.7**	**-0.2**
X18A				IAmb	IAmb	02 21 57.4	
	comp=Z,13nm,1.5s						
Y14A	**Wickenburg**	**78.09**	**339**	P	**P**	**02 21 46.4**	**+0.5**
Y14A				IAmb	IAmb	02 21 57.4	
	comp=Z,6.0nm,1.1s						
X16A	**Lo Mia Camp, P**	**78.14**	**341**	P	**P**	**02 21 45.9**	**-0.5**
X16A				IAmb	IAmb	02 21 58.6	
	comp=Z,6.0nm,1.1s						
BLYC	**Blythe**	**78.33**	**338**	P	**P**	**02 21 46.0**	**-1.2**
BLYC				IAmb	IAmb	02 21 58.8	
	comp=Z,9.1nm,1.2s						
PFO	**Pinyon Flats O**	**78.77**	**336**	LR	LR	02 49 10.6	
	comp=Z,82nm,18.2s,baz=168,slow=30						
CCM	**Cathedral Cave**	**78.91**	**358**	P	**P**	**02 21 50.8**	**+0.6**
CCM				IAmb	IAmb	02 22 00.7	
	comp=Z,8.6nm,0.9s						
W13A	**Hualapai Mount**	**79.42**	**339**	P	**P**	**02 21 54.1**	**+0.7**
U15A	**North Rim**	**80.27**	**341**	P	**P**	**02 21 57.7**	**-0.4**
U15A				IAmb	IAmb	02 22 09.6	
	comp=Z,6.8nm,1.1s						
V12A	**Nelson**	**80.28**	**338**	P	**P**	**02 21 57.0**	**-0.9**
V12A				IAmb	IAmb	02 22 09.0	
	comp=Z,7.4nm,1.2s						
PV02	**Paradox Valley**	**81.16**	**344**	P	**P**	**02 22 04.2**	**+1.5**
PV12	**Saucer Basin,**	**81.28**	**344**	P	**P**	**02 22 03.7**	**+0.4**
HMU	**Henry Mountain**	**81.33**	**342**	P	**P**	**02 22 05.2**	**+1.5**
SZCU	**Shurtz Canyon**	**81.57**	**340**	P	**P**	**02 22 06.0**	**+1.1**
SZCU				IAmb	IAmb	02 22 16.8	
	comp=Z,9.3nm,1.1s						
CCUT	**Cedar City**	**81.60**	**340**	P	**P**	**02 22 06.0**	**+0.9**
CCUT				IAmb	IAmb	02 22 17.0	
	comp=Z,6.5nm,1.0s						
WCT	**Wildcat Mounta**	**81.78**	**338**	P	**P**	**02 22 06.0**	**+0.1**
PRN	**Pahroc Range**	**81.91**	**339**	P	**P**	**02 22 07.8**	**+1.2**
PRN				IAmb	IAmb	02 22 18.4	
	comp=Z,8.1nm,1.1s						
Q16A	**Castle Valley**	**82.37**	**342**	P	**P**	**02 22 09.5**	**+0.5**
Q16A				IAmb	IAmb	02 22 20.0	
	comp=Z,7.3nm,0.9s						
GMN	**Gold Mountain**	**82.43**	**337**	P	**P**	**02 22 10.3**	**+0.9**
DSP	**Deep Springs**	**82.71**	**337**	P	**P**	**02 22 10.6**	**0.0**
DSP				IAmb	IAmb	02 22 22.0	
	comp=Z,6.8nm,1.1s						
TMUT	**Trail Mountain**	**82.74**	**342**	P	**P**	**02 22 11.6**	**+0.5**
TMUT				IAmb	IAmb	02 22 23.1	
	comp=Z,6.6nm,0.9s						
MZP	**Montezuma Peak**	**82.84**	**337**	P	**P**	**02 22 12.3**	**+0.7**
TPH	**Tonopah**	**83.14**	**338**	P	**P**	**02 22 13.7**	**+0.6**
SPR3	**Spring Creek 3**	**83.22**	**340**	P	**P**	**02 22 15.6**	**+2.0**
SPR3				IAmb	IAmb	02 22 24.4	
	comp=Z,9.0nm,1.2s						
LHV	**Little Huntoon**	**83.68**	**337**	P	**P**	**02 22 17.4**	**+1.9**
NVAR	**Mina Array Bea**	**83.79**	**337**	P	**P**	**02 22 17.3**	**+0.9**
NVAR	**Mina Array Bea**	**83.79**	**337**	P	**P**	**02 22 15.5**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=169,slow=5.9,SNR=9.8						
NVAR				LR	LR	02 53 21.6	
	comp=Z,75nm,20.3s,baz=186,slow=31						
	comp=Z,0.8nm,0.8s						
BSUT	**Blindstream Ca**	**83.82**	**343**	P	**P**	**02 22 17.9**	**+1.1**
DUG	**Dugway, Tooele**	**83.97**	**341**	P	**P**	**02 22 19.2**	**+2.0**
RYN	**Ryan**	**84.03**	**337**	P	**P**	**02 22 19.4**	**+1.8**
CMB	**Columbia Colle**	**84.06**	**335**	P	**P**	**02 22 18.0**	**+0.4**
CMB				IAmb	IAmb	02 22 28.4	
	comp=Z,5.2nm,1.0s						
ELK	**Elko**	**85.09**	**340**	P	**P**	**02 22 22.6**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=45,slow=1.4,SNR=3.7						
ELK				LR	LR	02 53 14.5	
	comp=Z,98nm,21.5s,baz=157,slow=31						
	comp=Z,0.3nm,0.4s						
PDAR	**Pinedale Array**	**85.71**	**345**	P	**P**	**02 22 25.3**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=152,slow=4.2,SNR=6.7						
	comp=Z,0.4nm,0.6s						
SADO	**Sadowa**	**85.98**	**7**	LR	LR	02 56 04.1	
	comp=Z,116nm,19.0s,baz=195,slow=32						
DZM	**Mont Dzumac**	**86.39**	**244**	*e*LR	LR	02 49 04.2	
	comp=Z,930nm,28.2s						
BBTS	**Babate**	**86.48**

baz=205,slow=23
comp=Z,1.9nm,0.3s
FAUS Fauske 6.49 137 Pn **Pn** **02 23 59.8 +1.9**
FAUS Sn **Sn** **02 25 09.2 -2.7**
FAUS Fauske 6.49 137 P **Pn** **02 23 59.7 +1.7**
FAUS S **Sn** **02 25 07.2 -4.7**
FAUS Fauske 6.49 137 *eP* **Pn** **02 23 59.8 +1.9**
FAUS *eS* **Sn** **02 25 10.1 -1.8**
FAUS IAML 02 25 14.0
comp=Z,8.2nm,0.6s
HAMF Hammerfest 6.54 97 Pn **Pn** **02 23 58.9 +0.2**
HAMF Sn **Sn** **02 25 09.5 -3.7**
HAMF Hammerfest 6.54 97 *eP* **Pn** **02 23 59.5 +0.9**
KIF Kilpisjarvi 6.61 114 Pn **Pn** **02 24 01.2 +1.7**
KIF Sn **Sn** **02 25 11.2 -3.6**
KIF Kilpisjarvi 6.61 114 *eP* **Pn** **02 24 01.5 +2.0**
KIF *eS* **Sn** **02 25 13.1 -1.6**
VAGH Vaagaholmen 6.69 146 Pn **Pn** **02 24 02.7 +2.0**
VAGH Sn **Sn** **02 25 13.2 -3.6**
VAGH Vaagaholmen 6.69 146 *eP* **Pn** **02 24 03.1 +2.4**
VAGH *eS* **Sn** **02 25 13.3 -3.4**
VAGH IAML 02 25 17.1
comp=Z,8.0nm,0.4s
KBS Kingsbay 6.71 13 Pn **Pn** **02 23 58.2 -2.7**
KBS Kingsbay 6.71 13 *eP* **Pn** **02 23 58.1 -2.9**
KBS IAML 02 24 06.1
comp=Z,6.5nm,0.6s
KBS Kingsbay 6.71 13 *i* P **Pn** **02 23 57.8 -3.1**
KONS Konsvik 6.87 147 Pn **Pn** **02 24 05.0 +1.8**
KONS Sn **Sn** **02 25 16.6 -4.7**
KONS Konsvik 6.87 147 *eP* **Pn** **02 24 05.3 +2.0**
KONS *eS* **Sn** **02 25 15.4 -6.0**
KONS IAML 02 25 21.7
comp=Z,15nm,0.6s
STOK Stokkvaagen 7.01 148 Pn **Pn** **02 24 07.7 +2.5**
STOK Sn **Sn** **02 25 20.6 -4.2**
STOK Stokkvaagen 7.01 148 *eP* **Pn** **02 24 07.6 +2.5**
STOK *eS* **Sn** **02 25 20.7 -4.1**
STOK IAML 02 25 24.5
comp=Z,7.2nm,0.8s
DBG Daneborg 7.09 296 Pn **Pn** **02 24 01.8 -4.4**
DBG Sn 02 25 13.1 -13
DBG Daneborg 7.09 296 *i* P Pn 02 24 01.5 -4.7
DBG IAML 02 24 18.5
comp=Z,6.9nm,0.7s
LEIR Leirfjorden 7.23 149 Sn **Sn** **02 25 26.2 -3.9**
LEIR Leirfjorden 7.23 149 *eP* **Pn** **02 24 10.5 +2.3**
LEIR *eS* **Sn** **02 25 26.4 -3.7**
LEIR IAML 02 25 30.4
comp=Z,9.2nm,0.5s
DAG Danmarks Havn 7.28 316 *eP* **Pn** **02 24 04.1 -4.7**
DAG Danmarks Havn 7.28 316 *i* P **Pn** **02 24 04.0 -4.8**
DAG *i* S Sn 02 25 12.4 -19
DAG IAML 02 25 19.5
comp=Z,7.5nm,0.4s
KTK1 Kautokeino 7.28 110 *eP* **Pn** **02 24 11.2 +2.3**
MOR8 Moi Rana 7.39 145 Pn **Pn** **02 24 12.5 +2.0**
MOR8 Sn **Sn** **02 25 29.6 -4.7**
MOR8 Moi Rana 7.39 145 *eP* **Pn** **02 24 12.8 +2.3**
MOR8 *eS* **Sn** **02 25 30.6 -3.7**
MOR8 IAML 02 25 33.5
comp=Z,10nm,0.5s
ARA0 ARCESS Array S 7.63 103 Pn **Pn** **02 24 14.9 +1.2**
baz=308,slow=11
ARA0 Sn **Sn** **02 25 37.1 -3.0**
baz=308,slow=28
ARA0 ARCESS Array S 7.63 103 Pn **Pn** **02 24 14.9 +1.2**
baz=308,slow=11
ARA0 Sn **Sn** **02 25 37.1 -3.0**
baz=308,slow=28
ARCES ARCESS Array B 7.63 103 Pn **Pn** **02 24 13.9 +0.2**
comp=Z,0.6nm,0.3s,baz=312,slow=12,SNR=40
ARCES Sn **Sn** **02 25 38.6 -1.5**
comp=Z,0.2nm,0.3s,baz=306,slow=19,SNR=1.9
comp=Z,1.2nm,0.3s
ARCES ARCESS Array B 7.63 103 P **Pn** **02 24 14.8 +1.1**
ARCES S **Sn** **02 25 37.5 -2.6**
HEF Hetta 7.79 112 Pn **Pn** **02 24 17.3 +1.5**
HEF Sn **Sn** **02 25 41.0 -2.9**
HEF Hetta 7.79 112 *eP* **Pn** **02 24 17.8 +2.0**
HEF *eS* **Sn** **02 25 41.3 -2.6**
KEV Kevo 7.96 99 Pn **Pn** **02 24 18.9 +0.8**
KEV Kevo 7.96 99 *eP* **Pn** **02 24 18.9 +0.8**
SCO Scoresbysund 8.42 268 *i* P **Pn** **02 24 22.2 -2.2**
VADS Vadso 8.48 94 Pn **Pn** **02 24 25.1 -0.3**
VADS Vadso 8.48 94 P **Pn** **02 24 26.0 +0.7**
VADS S **Sn** **02 25 57.6 -3.3**
VADS Vadso 8.48 94 *eP* **Pn** **02 24 26.1 +0.7**
NSS Namsos 8.57 156 *eP* **Pn** **02 24 29.9 +3.4**
NSS *eS* **Sn** **02 25 57.2 -5.8**
NSS IAML 02 26 03.8
comp=Z,10nm,0.3s
MOL Molde 10.12 170 Pn **Pn** **02 24 49.5 +1.8**
MOL Sn Sn 02 26 33.6 -7.3
MOL Molde 10.12 170 *eP* **Pn** **02 24 49.5 +1.8**
MOL *eS* Sn 02 26 32.1 -8.9
MOL IAML 02 26 37.9
comp=Z,4.0nm,0.8s
AKN Aaknes 10.48 172 Pn **Pn** **02 24 53.8 +1.1**
AKN Sn Sn 02 26 42.1 -7.9
AKN Aaknes 10.48 172 *eP* **Pn** **02 24 54.2 +1.5**
AKN *eS* Sn 02 26 42.4 -7.6
AKN IAML 02 26 50.7
comp=Z,4.6nm,0.6s
TERR Teriberka 10.68 93 P **Pn** **02 24 54.6 -0.8**
DOMB Dombas 10.73 167 Pn **Pn** **02 24 57.7 +1.6**
DOMB Sn **Sn** **02 26 50.1 -6.0**
DOMB Dombas 10.73 167 *eP* **Pn** **02 24 57.5 +1.4**
DOMB *eS* Sn 02 26 49.4 -6.8
DOMB IAML 02 27 07.8
comp=Z,4.7nm,0.7s
APA0 Apatity Array 11.00 102 Pn **Pn** **02 24 59.9 +0.2**
baz=319,slow=10
APA0 Apatity Array 11.00 102 P **Pn** **02 25 00.1 +0.5**
APA0 Apatity Array 11.00 102 Pn **Pn** **02 24 59.9 +0.2**
baz=319,slow=10
FOO Floro 11.01 177 Pn **Pn** **02 25 02.2 +2.4**
FOO Sn **Sn** **02 26 56.8 -5.9**
FOO Floro 11.01 177 *eP* **Pn** **02 25 03.5 +3.7**
FOO Sn **Sn** **02 26 56.8 -5.9**
KVDA Kovda 11.57 106 P **Pn** **02 25 09.3 +1.8**
NC2 NORSAR Subarra 11.62 163 Pn **Pn** **02 25 10.5 +2.1**
NC2 Sn **Sn** **02 27 12.6 -5.4**
NC2 NORSAR Subarra 11.62 163 Pn **Pn** **02 25 10.5 +2.1**
NC2 Sn **Sn** **02 27 12.6 -5.4**
NC3 NORSAR Subarra 11.70 162 Pn **Pn** **02 25 12.2 +3.0**
NC3 Sn **Sn** **02 27 14.4 -5.3**
NC3 NORSAR Subarra 11.70 162 Pn **Pn** **02 25 12.2 +3.0**
NC3 Sn **Sn** **02 27 14.4 -5.3**
NB2 NORSAR Subarra 11.90 162 Pn **Pn** **02 25 14.6 +2.6**
NB2 Pn Pn 02 25 15.4 +3.3
baz=346,slow=14
NB2 NORSAR Subarra 11.90 162 Pn **Pn** **02 25 14.6 +2.6**
NB2 Pn Pn 02 25 15.4 +3.3
baz=346,slow=14
NOA NORSAR Array B 11.90 162 Pn **Pn** **02 25 13.7 +1.7**
baz=349,slow=14,SNR=7.0
NOA Sn Sn 02 27 15.2 -9.5
baz=331,slow=20,SNR=5.3
NOA LR LR 02 29 55.2
comp=Z,32nm,18.6s,baz=350,slow=38
comp=Z,0.7nm,0.8s
NC4 NORSAR Subarra 11.90 161 Pn **Pn** **02 25 13.4 +1.3**
NC4 Sn Sn 02 27 17.9 -6.9
NC4 NORSAR Subarra 11.90 161 Pn **Pn** **02 25 13.4 +1.3**
NC4 Sn Sn 02 27 17.9 -6.9
NC6 NORSAR Subarra 12.21 162 Pn **Pn** **02 25 18.5 +2.2**
NC6 Sn **Sn** **02 27 27.3 -4.9**
NC6 NORSAR Subarra 12.21 162 Pn **Pn** **02 25 18.5 +2.2**
NC6 Sn **Sn** **02 27 27.3 -4.9**
NRA0 NORESS Array S 12.23 162 Pn **Pn** **02 25 18.4 +1.9**
baz=344,slow=16
NRA0 Sn Sn 02 27 25.6 -7.0
baz=346,slow=22
NRA0 NORESS Array S 12.23 162 Pn **Pn** **02 25 18.4 +1.9**
baz=344,slow=16
NRA0 Sn Sn 02 27 25.6 -7.0
baz=346,slow=22
HFS Hagfors 13.04 158 Pn **Pn** **02 25 29.7 +2.1**
baz=353,slow=14
HFS Sn **Sn** **02 27 46.2 -6.3**
baz=357,slow=28
HFS Hagfors 13.04 158 Pn **Pn** **02 25 29.9 +2.2**
comp=Z,0.6nm,0.3s,baz=356,slow=13,SNR=27
HFS Sn Sn 02 27 44.5 -8.0
comp=Z,0.5nm,0.3s,baz=353,slow=25,SNR=11
comp=Z,1.5nm,0.4s
HFS Hagfors 13.04 158 Pn **Pn** **02 25 29.7 +2.1**
baz=353,slow=14
HFS Sn **Sn** **02 27 46.2 -6.3**
baz=357,slow=28
FIA0 FINESS Array S 13.98 131 P **Pn** **02 25 41.5 +1.1**
baz=329,slow=11
FIA0 FINESS Array S 13.98 131 P **Pn** **02 25 41.5 +1.1**
baz=329,slow=11
FINES FINESS Array B 13.98 131 Pn **Pn** **02 25 41.8 +1.4**
comp=Z,0.3nm,0.3s,baz=337,slow=13,SNR=14
comp=Z,3.2nm,0.7s
EKA Eskdalemuir Ar 17.53 193 P **P** **02 26 30.3 +2.5**
baz=356,slow=11
comp=Z,1.5nm,0.6s
SFJD Kangerlussuaq 19.00 281 LR LR 02 34 09.9
comp=Z,43nm,18.5s,baz=78,slow=37
GERES GERESS Array B 24.19 164 P **P** **02 27 41.9 +2.9**
comp=Z,0.9nm,0.7s,baz=354,slow=9.8,SNR=8.6
comp=Z,0.9nm,0.7s
AKASG Malin Array Be 24.60 139 P **P** **02 27 44.9 +2.4**
comp=Z,1.0nm,0.6s,baz=345,slow=10,SNR=3.3
AKASG LR LR 02 37 06.4
comp=Z,88nm,18.8s,baz=26,slow=36
comp=Z,1.0nm,0.6s
RES Resolute Bay 24.93 321 LR LR 02 37 25.9
comp=Z,42nm,18.1s,baz=15,slow=36
ARTI Arti 27.15 97 LR LR 02 39 09.8
comp=Z,33nm,18.4s,baz=7.5,slow=37
ESDC Sonseca Array 33.18 191 P **P** **02 29 01.4 +2.4**
comp=Z,0.5nm,0.7s,baz=0.3,slow=8.9,SNR=4.7
comp=Z,0.5nm,0.7s
INK Inuvik 36.64 335 LR LR 02 45 02.5
comp=Z,33nm,19.8s,baz=266,slow=37
ILAR Eielson Array 41.54 342 P **P** **02 30 11.2 +1.8**
comp=Z,0.3nm,0.8s,baz=21,slow=8.4,SNR=4.2
comp=Z,0.3nm,0.8s
TORD Torodi Ar. Bea 59.38 182 P **P** **02 32 26.4 +1.5**
comp=Z,0.7nm,0.7s,baz=1.3,slow=7.7,SNR=5.4
comp=Z,0.7nm,0.7s

*IDC **24** 02:41:24.2±1.0,2°.68S×77°.71W,h0km,mb3.6/6, mbtmp3.9/10,ML4.3/3,MS2.9/1,Error ellipse: s-maj=28.9km s-min=16.7km az=78.0*
*IGQ **24** 02:41:26.5±0.5,3°.5S±2°×7°.8W±°,h10km,MLv4.1/10*
*NEIC **24** 02:41:29.0±1.3,2°.81S±0°.07×78°.14W±0°.07,h10km±1km, mb4.3/30,Error ellipse: s-maj=12.9km s-min=10.9km az=239.0*
*VAO **24** 02:41:32.9±1.6,2°.95S×77°.37W,h25km±15km,mb4.5*
ISC 24 02:41:24.9±1.4,2°.87S±0°.03×77°.91W±0°.04,h0km±10km, n162,σ1§65/167,mb4.2/17,8C-6D,Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
BOSC	**San Juan Bosco**	**0.64**	**244**	S		**Sg**	**02 41 44.9**	**-0.7**
BOSC				⇑P		**Pg**	**02 41 37.0**	**-0.4**
AZOG	**Ecuador-Azogue**	**0.94**	**277**	S		**Sg**	**02 41 54.1**	**-1.1**
AZOG				P		**Pg**	**02 41 42.2**	**-0.8**
ACUE	**Ecuador-Cuenca**	**1.04**	**268**	S		**Sg**	**02 41 59.0**	**+0.5**
ACUE				P		**Pg**	**02 41 44.8**	**-0.2**
PUYO	**Puyo, Santa Ro**	**1.37**	**355**	P		**Pn**	**02 41 51.3**	**-0.2**
COHC	**Cochancay**	**1.40**	**287**	Pn		**Pn**	**02 41 50.2**	**-1.5**
COHC	**Cochancay**	**1.40**	**287**	S		**Sb**	**02 42 07.5**	**-2.9**
COHC				⇓P		**Pn**	**02 41 50.2**	**-1.5**
APUY	**Puyo**	**1.41**	**357**	S		**Sb**	**02 42 11.4**	**+0.7**
APUY				P		**Pn**	**02 41 51.7**	**-0.2**
BPAT	**Tungurahua Vol**	**1.45**	**339**	P		**Pn**	**02 41 51.5**	**-1.5**
ARRY	**Arrayan**	**1.46**	**338**	P		**Pn**	**02 41 51.2**	**-1.7**
BULB	**Ulba Tungurahu**	**1.51**	**341**	P		**Pn**	**02 41 52.5**	**-1.1**
POND	**Pondoa**	**1.54**	**340**	P		**Pn**	**02 41 53.0**	**-0.9**
JUI6	**Juive**	**1.54**	**339**	⇓P		**Pn**	**02 41 53.1**	**-0.8**
IGUA	**Igualata**	**1.55**	**332**	P		**Pn**	**02 41 53.8**	**-0.6**
JSCH	**Cashca Totoras**	**1.56**	**317**	P		**Pn**	**02 41 53.3**	**-1.0**
TAMH	**Tambohuasha Ch**	**1.58**	**327**	P		**Pn**	**02 41 54.5**	**-0.1**
TAMH				S		**Sn**	**02 42 14.4**	**-1.5**
AZAM	**Ecuador-Zamora**	**1.58**	**221**	S		**Sg**	**02 41 53.5**	**-0.8**
AZAM				S		**Sn**	**02 42 13.7**	**-1.8**
PORT	**Chimborazo Vol**	**1.64**	**328**	⇓P		**Pn**	**02 41 55.1**	**-0.4**
CHSH	**Refugio Sur-Vo**	**1.67**	**325**	P		**Pn**	**02 41 55.3**	**-0.6**
MONB	**Balzapamba Mon**	**1.69**	**311**	⇓P		**Pn**	**02 41 55.2**	**-0.5**
ALJ1	**Ecuador-Loja-U**	**1.70**	**229**	P		**Pn**	**02 41 55.0**	**-1.0**
ALJ1				S		**Sn**	**02 42 16.6**	**-2.0**
MILO	**Milagro-Astudi**	**1.74**	**290**	⇓P		**Pn**	**02 41 57.4**	**+1.0**
MILO				S		**Sb**	**02 42 21.5**	**+1.3**
PIS1	**Pisayambo**	**1.86**	**345**	P		**Pn**	**02 41 59.3**	**+0.8**
ARDO	**Archidona, Ten**	**1.87**	**3**	⇑P		**Pn**	**02 41 58.9**	**+0.6**
PIAT	**Ana Tenorio**	**1.89**	**349**	⇑P		**Pn**	**02 41 59.5**	**+0.6**
PIAT	**Ana Tenorio**	**1.89**	**349**	P		**Pn**	**02 41 59.4**	**+0.6**
GONZ	**Gonzanam**	**2.01**	**227**	P		**Pn**	**02 42 01.8**	**+1.4**
VCES	**Cotopaxi**	**2.11**	**347**	P		**Pn**	**02 42 03.2**	**+1.2**
BRRN	**Barrancas-Volc**	**2.15**	**345**	P		**Pn**	**02 42 03.9**	**+1.4**
AC07	**Ecuador-Guayaq**	**2.19**	**289**	P		**Pn**	**02 42 03.7**	**+1.1**
SLOR	**San Lorenzo**	**2.21**	**345**	P		**Pn**	**02 42 04.9**	**+1.5**
SRAM	**San Ramn-Vol**	**2.21**	**343**	P		**Pn**	**02 42 05.5**	**+2.4**
TAMB	**Tambo**	**2.21**	**348**	P		**Pn**	**02 42 04.9**	**+1.5**
BTAM	**Cotopaxi Volca**	**2.23**	**348**	⇑P		**Pn**	**02 42 05.5**	**+1.8**
BREF	**Cotopaxi Volca**	**2.25**	**346**	P		**Pn**	**02 42 05.8**	**+1.9**
BVC2	**Cotopaxi Volca**	**2.25**	**347**	⇑P		**Pn**	**02 42 05.9**	**+1.9**
ISPG	**Isla Puna-Puer**	**2.25**	**267**	P		**Pb**	**02 42 06.7**	**+0.1**
ILLI	**Illinizas Sur**	**2.29**	**339**	P		**Pn**	**02 42 06.9**	**+2.4**
SUCR	**Mariscal Sucre**	**2.29**	**345**	P		**Pn**	**02 42 06.9**	**+2.5**
ZUMB	**Zumba**	**2.33**	**212**	⇑P		**Pn**	**02 42 06.3**	**+1.6**
ANTM	**Antisana-La Mi**	**2.34**	**352**	P		**Pn**	**02 42 06.9**	**+1.7**
PITA	**Cotopaxi Volc**	**2.35**	**347**	P		**Pn**	**02 42 07.7**	**+2.4**
ANTS	**Antisana-Sarah**	**2.37**	**354**	P		**Pn**	**02 42 07.4**	**+1.8**
ANTG	**Antisana-Guama**	**2.38**	**352**	⇑P		**Pn**	**02 42 07.7**	**+2.0**
LAMO	**ALAMOR**	**2.39**	**242**	P		**Pb**	**02 42 08.6**	**-0.3**
TOMA	**Boca Toma-Volc**	**2.41**	**348**	P		**Pb**	**02 42 09.4**	**-0.1**
ANTI	**Antisana**	**2.42**	**354**	P		**Pn**	**02 42 08.0**	**+1.7**
MORR	**Payas El Morr**	**2.43**	**275**	⇓P		**Pn**	**02 42 09.4**	**+2.3**
AMCR	**Ecuador-Macara**	**2.52**	**234**	P		**Pn**	**02 42 09.2**	**+1.9**
MCRA	**Macar, Loja**	**2.52**	**234**	⇑P		**Pn**	**02 42 08.6**	**+1.4**
MCRA	**Macar, Loja**	**2.52**	**234**	P		**Pn**	**02 42 08.4**	**+1.2**
GGPT	**Toaza - Volcan**	**2.72**	**345**	P		**Pb**	**02 42 14.9**	**+0.2**
JUA2	**San Juan 2**	**2.73**	**345**	P		**Pb**	**02 42 15.3**	**+0.4**
GGPC	**Guagua Pichinc**	**2.76**	**346**	P		**Pb**	**02 42 17.0**	**+1.4**
REVS	**Reventador Sur**	**2.76**	**6**	P		**Pn**	**02 42 12.8**	**+2.1**
TERV	**Terraza Guagua**	**2.77**	**346**	P		**Pb**	**02 42 15.6**	**0.0**
LAV4	**Lava4-Reventad**	**2.77**	**6**	P		**Pb**	**02 42 14.7**	**-0.9**
PINO	**Pino**	**2.78**	**346**	P		**Pb**	**02 42 15.6**	**-0.4**
REVN	**San Rafael**	**2.79**	**6**	P		**Pn**	**02 42 13.5**	**+2.4**
YANA	**Yana**	**2.81**	**346**	P		**Pb**	**02 42 16.3**	**0.0**
ANGU	**Angureal**	**2.90**	**358**	P		**Pn**	**02 42 16.5**	**+3.5**
PULU	**Pululahua**	**2.93**	**348**	P		**Pb**	**02 42 17.8**	**-0.6**
PECV	**Mancha de Ca P**	**2.98**	**314**	P		**Pb**	**02 42 18.2**	**-0.8**
OTAV	**Otavalo**	**3.13**	**350**	Pn		**Pb**	**02 42 20.7**	**-1.1**
OTAV	**Otavalo**	**3.13**	**350**	P		**Pb**	**02 42 21.0**	**-0.9**
OTAV	**Otavalo**	**3.13**	**350**	P		**Pb**	**02 42 20.9**	**-0.9**
IMBA	**Imbabura, San**	**3.14**	**355**	P		**Pb**	**02 42 23.8**	**+1.9**
PPLP	**Puerto Lpez**	**3.15**	**295**	P		**Pn**	**02 42 15.7**	**-0.1**
PPLP	**Puerto Lpez**	**3.15**	**295**	P		**Pn**	**02 42 15.6**	**-0.2**
SALI	**Salinas**	**3.15**	**282**	P		**Pb**	**02 42 20.6**	**-1.2**
CUIC	**Cuicocha-Domo**	**3.19**	**352**	P		**Pb**	**02 42 23.2**	**+0.5**
CUSE	**Cuicocha Este**	**3.19**	**351**	P		**Pb**	**02 42 24.0**	**+1.2**
CUSE	**Cuicocha Este**	**3.19**	**351**	P		**Pb**	**02 42 24.2**	**+1.4**
PAC1	**Pacto, Paraso**	**3.24**	**344**	P		**Pb**	**02 42 23.0**	**-0.5**
PAC1	**Pacto, Paraso**	**3.24**	**344**	P		**Pb**	**02 42 22.9**	**-0.5**
BV15	**Puerto Quito-O**	**3.28**	**336**	P		**Pb**	**02 42 24.1**	**0.0**
URCU	**Urcuqui**	**3.31**	**354**	P		**Pb**	**02 42 25.4**	**+0.7**
BONI	**La Bonita**	**3.32**	**7**	P		**Pb**	**02 42 24.0**	**-1.0**
BONI	**La Bonita**	**3.32**	**7**	P		**Pb**	**02 42 23.6**	**-1.4**
ISPT	**Isla de la Pla**	**3.54**	**297**	P		**Pn**	**02 42 23.2**	**+2.0**
TULM	**Tulcn-Chalpat**	**3.56**	**2**	P		**Pb**	**02 42 27.9**	**-1.3**
TULM	**Tulcn-Chalpat**	**3.56**	**2**	P		**Pb**	**02 42 29.2**	**0.0**
CHL1	**Volcn Chiles**	**3.64**	**359**	P		**Pb**	**02 42 30.7**	**+0.2**
ECEN	**Cerro Negro**	**3.67**	**359**	P		**Pb**	**02 42 31.5**	**+0.5**
CHMA	**Chilma**	**3.71**	**358**	P		**Pb**	**02 42 32.5**	**+0.9**
CMBC	**Cumbal**	**3.79**	**1**	P		**Pb**	**02 42 34.5**	**+1.6**
CMBC	**Cumbal**	**3.79**	**1**	P		**Pb**	**02 42 32.6**	**-0.4**
ATAH	**Atahualpa**	**4.26**	**186**	Pn		**Pn**	**02 42 34.6**	**+3.1**
	34nm,0.3s,baz=19,slow=9.2,SNR=154							
ATAH				S		**Sn**	**02 43 26.9**	**+4.7**
	20nm,0.3s,baz=108,slow=22,SNR=9.9							
ATAH				LR		LR	02 44 20.0	
	comp=Z,146nm,19.1s,baz=42,slow=39							
	153nm,0.5s							
CRUC	**La Cruz**	**4.51**	**12**	P		**Pb**	**02 42 44.1**	**-1.2**
BBAC	**Balboa, Cauca**	**4.91**	**8**	P		Pb	02 42 47.6	-4.3
BBAC	**Balboa, Cauca**	**4.91**	**8**	P		Pn	02 42 46.6	+6.4
	496nm22nm,0.5s							
FLOC	**Florencia**	**4.97**	**27**	Pn		**Pn**	**02 42 40.4**	**-0.4**
FLOC	**Florencia**	**4.97**	**27**	P		**Pn**	**02 42 40.6**	**-0.2**
FLOC	**Florencia**	**4.97**	**27**	P		**Pn**	**02 42 40.7**	**-0.2**
	2µm154nm,0.9s							
POPC	**Popayan, Colom**	**5.52**	**13**	P		**Pn**	**02 42 53.3**	**+4.7**
	23nm,0.9s							
GARC	**Garzon, Huila**	**5.58**	**26**	P		**Pn**	**02 42 49.7**	**+0.3**
GR1C	**Gorgona, Isla**	**5.84**	**358**	P		Pn	02 43 00.4	+7.6
	6µm152nm,1.2s							
BETC	**Betania**	**6.04**	**24**	P		**Pn**	**02 42 59.2**	**+3.5**
JAMC	**Jamundi, Valle**	**6.17**	**12**	P		Pn	02 43 03.3	+5.7
	15nm,0.9s							
MACC	**Macarena, Meta**	**6.43**	**39**	P		**Pn**	**02 43 01.4**	**+0.4**
	3µm67nm,0.6s							
MALC	**Bahia Malaga**	**6.86**	**5**	P		Pn	02 43 16.2	+9.3
YOTC	**Yotoco, Valle**	**6.99**	**13**	P		Pn	02 43 15.5	+6.8
	11nm,0.7s							
URMC	**La Uribe, Meta**	**7.03**	**30**	P		**Pn**	**02 43 10.9**	**+1.6**
	5µm55nm,0.6s							
CZSB	**Cruzeiro do Su**	**7.08**	**133**	Pn		**Pn**	**02 43 09.4**	**-0.6**
CZSB	**Cruzeiro do Su**	**7.08**	**133**	*eP*		**Pn**	**02 43 09.8**	**-0.2**
CZSB	**Cruzeiro do Su**	**7.08**	**133**	P		**Pn**	**02 43 10.2**	**+0.3**
	3µm193nm,0.6s							
PRAC	**Prado**	**7.21**	**25**	P		**Pn**	**02 43 14.0**	**+2.3**
	22nm,0.6s							
ORTC	**Ortega, Tolima**	**7.24**	**22**	P		**Pn**	**02 43 13.7**	**+1.5**
	25nm,0.7s							
GUVC	**San Jose del G**	**7.54**	**45**	P		**Pn**	**02 43 16.8**	**+0.6**
TBTG	**Tabatinga, AM**	**8.10**	**100**	Pn		**Pn**	**02 43 24.0**	**+0.2**
TBTG	**Tabatinga, AM**	**8.10**	**100**	*eP*		**Pn**	**02 43 21.9**	**-2.0**
TBTG	**Tabatinga, AM**	**8.10**	**100**	P		**Pn**	**02 43 24.3**	**+0.5**
	5µm344nm,0.5s							
VILC	**Villavicencio,**	**8.12**	**31**	P		**Pn**	**02 43 25.8**	**+1.5**
ROSC	**El Rosal**	**8.46**	**25**	Pn		**Pn**	**02 43 25.4**	**-3.8**
	4.9nm,0.3s							
ROSC				Lg		Lg	02 45 49.3	
NNA	**Nana**	**9.12**	**173**	Pn		**Pn**	**02 43 39.8**	**+1.8**
NNA	**Nana**	**9.12**	**173**	Pn		**Pn**	**02 43 40.9**	**+2.9**
	3.8nm,0.3s,baz=352,slow=4.0,SNR=6.3							
NNA				Sn		**Sn**	**02 45 15.0**	**-6.4**
	2.9nm,0.3s,baz=228,slow=13,SNR=1.7							
	9.0nm,0.3s							
RUSC	**La Rusia**	**9.95**	**29**	Pn		**Pn**	**02 43 51.2**	**+1.5**
BAUV	**El Baul**	**15.32**	**40**	Pn		**Pn**	**02 45 02.2**	**-0.4**
BAUV				IAmb		IAmb	02 45 36.9	
	comp=Z,18nm,1.2s							
LPAZ	**La Paz**	**16.44**	**145**	Pn		**Pn**	**02 45 16.7**	**-1.1**
LPAZ	**La Paz**	**16.44**	**145**	Pn		**Pn**	**02 45 18.2**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=296,slow=8.2,SNR=6.8							
	comp=Z,2.2nm,0.6s							
MACA	**Manacapuru-AM**	**17.21**	**91**	Pn		**Pn**	**02 45 23.6**	**-3.3**
MACA				IAmb		IAmb	02 45 46.9	
	comp=Z,22nm,0.9s							
BOAV	**Boa Vista**	**18.16**	**73**	Pn		**Pn**	**02 45 36.6**	**-2.1**
PB11	**IPOC Station P**	**18.62**	**155**	P		**Pn**	**02 45 47.8**	**+3.2**
PB11				IAmb		IAmb	02 46 31.9	
	comp=Z,30nm,1.2s							
GO01	**Chusmiza**	**18.74**	**154**	P		**Pn**	**02 45 48.9**	**+2.6**
MTO3	**Montecristo**	**20.57**	**327**	P		**P**	**02 46 07.2**	**+1.5**
MTO3				IAmb		IAmb	02 46 09.0	
	comp=Z,18nm,0.8s							
SIV	**San Ignacio**	**21.09**	**129**	P		**P**	**02 46 11.1**	**-0.1**
	comp=Z,3.5nm,0.6s,baz=317,slow=12,SNR=20							
	comp=Z,3.5nm,0.6s							
BBSD	**Serra de San D**	**22.16**	**131**	*eP*		**P**	**02 46 22.7**	**0.0**
ITTB	**Itaituba**	**22.18**	**94**	*eP*		**P**	**02 46 20.8**	**-2.1**
PTLB	**Pontes e Lacer**	**22.32**	**125**	P		**P**	**02 46 24.2**	**-0.2**
PTLB	**Pontes e Lacer**	**22.32**	**125**	*eP*		**P**	**02 46 24.3**	**-0.2**
PDRB	**Porto dos Gac**	**22.72**	**114**	*eP*		**P**	**02 46 27.4**	**-1.3**
NPGB	**Novo Progresso**	**22.85**	**101**	*eP*		**P**	**02 46 28.7**	**-1.4**
CLDB	**Colider**	**23.34**	**111**	*eP*		**P**	**02 46 33.9**	**-1.2**
TEIG	**Tepich**	**25.11**	**337**	P		**P**	**02 46 52.8**	**+1.3**
TEIG				IAmb		IAmb	02 46 55.3	
	comp=Z,5.6nm,0.8s							
SALV	**Santo Antonio**	**25.42**	**122**	*eP*		**P**	**02 46 54.3**	**-0.2**
HNDO	**Hondo**	**38.17**	**329**	P		**P**	**02 48 46.8**	**+0.5**
HNDO				IAmb		IAmb	02 48 49.7	
	comp=Z,6.5nm,1.1s							
BRDY	**Brady**	**39.46**	**331**	P		**P**	**02 48 57.8**	**+0.7**
PLPT	**Palo Pinto**	**40.41**	**333**	P		**P**	**02 49 05.3**	**+0.4**
TXAR	**Lajitas Array**	**40.43**	**324**	P		**P**	**02 49 05.0**	**-0.3**
TXAR	**Lajitas Array**	**40.43**	**324**	P		**P**	**02 49 05.1**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=136,slow=5.8,SNR=4.1							
	comp=Z,0.3nm,0.7s							
LCAR	**Lake Charles**	**40.67**	**343**	P		**P**	**02 49 07.6**	**+0.6**
LCAR				IAmb		IAmb	02 49 08.8	
	comp=Z,3.8nm,0.9s							
APMT	**Aspermont**	**41.67**	**332**	P		**P**	**02 49 15.7**	**+0.3**
APMT				IAmb		IAmb	02 49 20.4	
	comp=Z,4.3nm,0.8s							
MGMO	**Mountain Grove**	**42.00**	**343**	P		**P**	**02 49 18.4**	**+0.4**
MGMO				IAmb		IAmb	02 49 21.3	
	comp=Z,4.8nm,0.8s							
WMOK	**Wichita Mounta**	**42.24**	**334**	P		**P**	**02 49 22.1**	**+2.1**
DKNS	**Dickens**	**42.33**	**331**	P		**

0.9nm,0.8s,baz=300,slow=13,SNR=6.0
ASAR Alice Springs 19.72 134 P **Pn** **03 05 09.3 +2.1**
1.3nm,0.6s,baz=313,slow=10,SNR=28
1.3nm,0.6s
SONM Songino Array 58.91 350 P **P** **03 10 35.5 +1.0**
0.5nm,0.6s,baz=164,slow=8.2,SNR=2.6
0.5nm,0.6s
MKAR Makanchi Array 65.46 333 P **P** **03 11 15.2 -3.1**
0.4nm,0.5s,baz=148,slow=6.0,SNR=5.2
MKAR LR LR 03 45 07.1
comp=Z,91nm,19.3s,baz=330,slow=41
0.4nm,0.5s
KURBB Kurchatov Arra 69.98 334 P **P** **03 11 44.7 -2.0**
0.2nm,0.4s,baz=139,slow=6.4,SNR=1.8
0.2nm,0.4s
ZALV Zalesovo Beam 70.14 340 P **P** **03 11 45.4 -2.1**
1.1nm,0.5s,baz=134,slow=6.4,SNR=3.9
1.1nm,0.5s
AKASG Malin Array Be 97.51 320 LR LR 04 05 48.8
comp=Z,34nm,18.1s,baz=58,slow=40
FINES FINESS Array B 100.20 331 LR LR 04 03 51.6
comp=Z,52nm,19.1s,baz=76,slow=38

IDC 24 03:23:47.6±4.2,1°25S×132°57E,h226km±43km,mb3.4/3, mbtmp3.9/5,Error ellipse: s-maj=43.0km s-min=11.1km az=84.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.07**	**202**	P	P	03 27 43.3	+0.7
	3.1nm,0.8s,baz=46,slow=9.8,SNR=6.9						
FITZ				S	S	03 30 57.7	-0.2
	1.7nm,0.8s,baz=141,slow=14,SNR=2.3						
WRA	**Warramunga Arr**	**18.66**	**175**	P	P	03 27 48.2	-0.8
	1.5nm,0.8s,baz=355,slow=11,SNR=7.5						
WRA				S	S	03 31 11.1	+1.5
	1.5nm,1.0s,baz=356,slow=22,SNR=4.6						
ASAR	**Alice Springs**	**22.32**	**177**	P	P	03 28 26.9	+0.1
	1.8nm,0.6s,baz=359,slow=11,SNR=22						
	1.8nm,0.6s						
MKAR	**Makanchi Array**	**64.96**	**324**	P	P	03 34 03.5	+0.1
	1.1nm,0.6s,baz=117,slow=7.7,SNR=11						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**69.07**	**326**	P	P	03 34 28.9	-0.1
	0.9nm,0.7s,baz=119,slow=5.6,SNR=8.2						
	0.9nm,0.7s						

*UCR **24** 03:30:21.0±1.0,8°53N×83°61W,h0km±3km,MW3.6*
*UPA **24** 03:30:23.2±0.8,8°59N×83°56W,h16km±5km,ML3.4, MW3.6*
ISC 24 03:30:21.2±1.4,8°53N±0°04×83°61W±0°04,h9km±11km, n67,σ0°70/87,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANP	**Palmar Norte**	**0.45**	**20**	*eP*	**Pb**	**03 30 31.5**	**+0.2**
PANP				*eS*	**Sb**	**03 30 38.7**	**+0.5**
EDAD	**Golfito**	**0.46**	**75**	*eP*	**Pg**	**03 30 31.1**	**+0.9**
EDAD				*eS*	**Sb**	**03 30 37.9**	**-0.5**
FITO	**Golfito**	**0.46**	**78**	*eP*	**Pg**	**03 30 31.1**	**+0.9**
FITO				*eS*	**Sb**	**03 30 38.0**	**-0.4**
FIMO	**Fila Mora**	**0.52**	**29**	*eP*	**Pb**	**03 30 32.8**	**+0.2**
FIMO				*eS*	**Sb**	**03 30 41.1**	**+0.8**
EDPE	**Pejibaye, P**	**0.63**	**4**	*eP*	**Pb**	**03 30 34.4**	**+0.1**
EDPE				*eS*	**Sb**	**03 30 43.4**	**+0.3**
EDP2	**Potrero Grande**	**0.65**	**42**	*eP*	**Pb**	**03 30 35.0**	**+0.3**
NELY	**Ciudad Neily**	**0.67**	**80**	*eP*	**Pb**	**03 30 35.1**	**0.0**
NELY				*eS*	**Sb**	**03 30 45.0**	**+0.6**
VITO	**San Vito**	**0.70**	**66**	*eP*	**Pb**	**03 30 35.9**	**+0.4**
LPPC	**Paso Canoas**	**0.77**	**90**	*eP*	**Pg**	**03 30 36.5**	**+0.5**
PTPM	**Petroterminale**	**0.80**	**114**	*eP*	**Pg**	**03 30 37.6**	**+1.0**
PTPM				*eS*	**Sb**	**03 30 49.2**	**+1.2**
RSRNO	**Rio Sereno**	**0.80**	**69**	*eP*	**Pb**	**03 30 37.8**	**+0.6**
PTPA	**Petro Terminal**	**0.81**	**114**	*eP*	**Pg**	**03 30 37.6**	**+0.9**
DRK0	**Durika**	**0.81**	**27**	*eP*	**Pg**	**03 30 37.4**	**+0.4**
DRK0				*eS*	**Sb**	**03 30 49.2**	**+0.4**
DRK0	**Durika**	**0.81**	**27**	*eP*	**Pg**	**03 30 37.3**	**+0.4**
DRK0				*eS*	**Sb**	**03 30 48.5**	**-0.2**
SAJE	**San Jernim**	**0.82**	**7**	*eP*	**Pg**	**03 30 37.5**	**+0.5**
SAJE				*eS*	**Sb**	**03 30 49.0**	**+0.4**
MLIR3	**Monte Lirio, C**	**0.82**	**71**	*eP*	**Pb**	**03 30 38.0**	**+0.3**
MLIR3				*eS*	**Sb**	**03 30 48.6**	**-0.3**
SCLRA	**Santa Clara, W**	**0.88**	**70**	*eP*	**Pb**	**03 30 39.3**	**+0.7**
ALCO	**Alturas Coton,**	**0.88**	**62**	*eP*	**Pg**	**03 30 37.8**	**-0.3**
ALCO				*eS*	**Sb**	**03 30 50.9**	**+0.4**
BRU2	**Volcan**	**0.95**	**74**	*eP*	**Pg**	**03 30 40.0**	**+0.5**
BRU2				*eS*	**Sb**	**03 30 52.9**	**+0.3**
TBS2		**0.98**	**74**	*eP*	**Pb**	**03 30 40.9**	**+0.5**
CLLRA	**Cordillera,**	**1.01**	**78**	*eP*	**Pg**	**03 30 40.5**	**-0.2**
BC3P	**Paso Ancho**	**1.03**	**74**	*eP*	**Pg**	**03 30 40.8**	**-0.2**
BC3P				*eS*	**Sg**	**03 30 54.8**	**+0.3**
LLNJ	**Naranjito**	**1.05**	**333**	*eP*	**Pg**	**03 30 41.5**	**0.0**
PIEC	**Cerro El Cedra**	**1.14**	**343**	*eP*	**Pg**	**03 30 42.6**	**-0.5**
DVD	**David**	**1.15**	**95**	*eP*	**Pg**	**03 30 42.7**	**-0.6**
DVD				*eS*	**Sg**	**03 30 58.4**	**0.0**
BQTLY	**Boquete Panama**	**1.16**	**79**	*eP*	**Pg**	**03 30 42.8**	**-0.8**
LNBQ3	**Los Naranjos,**	**1.19**	**77**	*eP*	**Pg**	**03 30 44.2**	**+0.2**
LNBQ3				*eS*	**Sg**	**03 30 56.9**	**-2.5**
PEDE3	**Pedregal, Chir**	**1.19**	**97**	*eP*	**Pg**	**03 30 43.3**	**-0.7**
PEDE3				AMP		03 30 44.7	
	comp=Z,734nm,0.1s						
PEDE3				*eS*	**Sg**	**03 30 59.0**	**-0.5**
PITB	**Pirrs, San**	**1.20**	**340**	*eP*	**Pg**	**03 30 43.6**	**-0.5**
PISJ	**San Jernim**	**1.21**	**335**	*eP*	**Pg**	**03 30 43.7**	**-0.6**
PICV	**PH. Pirrs**	**1.23**	**332**	*eP*	**Pb**	**03 30 44.1**	**-0.6**
PAR1A	**Puntarenas Pro**	**1.23**	**329**	*eP*	**Pb**	**03 30 44.3**	**-0.4**
LCR2	**La Lucha 2**	**1.26**	**342**	*eP*	**Pb**	**03 30 44.8**	**-0.5**
CEUA	**Cerro Uatsi, L**	**1.27**	**31**	*eP*	**Pg**	**03 30 45.9**	**+0.3**
CHIR3	**Chiriqui UPA,**	**1.28**	**96**	*eP*	**Pn**	**03 30 44.9**	**-0.3**
CHIR3				*eS*	**Sb**	**03 31 00.7**	**-1.2**
PSOM3	**Paja de Sombre**	**1.29**	**83**	*eP*	**Pn**	**03 30 45.7**	**+0.3**
PSOM3				*eS*	**Sb**	**03 31 00.7**	**-1.5**
REPA	**Paraso**	**1.31**	**349**	*eP*	**Pn**	**03 30 45.9**	**0.0**
LAES	**El Progreso Va**	**1.34**	**24**	*eP*	**Pn**	**03 30 46.3**	**+0.2**
VINA	**Juan Vinas**	**1.36**	**354**	*eP*	**Pn**	**03 30 46.5**	**+0.1**
PCAYA	**Pacayas**	**1.39**	**352**	*eP*	**Pn**	**03 30 47.2**	**+0.2**
VERB	**Verbena**	**1.41**	**357**	*eP*	**Pn**	**03 30 47.2**	**+0.1**
RAFA	**San Farael, Vo**	**1.43**	**352**	*eP*	**Pn**	**03 30 48.0**	**+0.4**
RVSTA	**Santa Teresita**	**1.44**	**359**	*eP*	**Pn**	**03 30 47.9**	**+0.4**
VTCV	**VTCV, Calle Va**	**1.45**	**356**	*eP*	**Pn**	**03 30 48.2**	**+0.5**
PBNVO	**Pueblo Nuevo,**	**1.45**	**76**	*eP*	**Pn**	**03 30 46.8**	**-0.8**
VICA	**Volcano Irazu**	**1.46**	**351**	*eP*	**Pn**	**03 30 48.4**	**+0.3**
SJS3	**Mercedes San J**	**1.46**	**343**	*eP*	**Pn**	**03 30 48.3**	**+0.4**
ABRB	**Las Abras (San**	**1.47**	**356**	*eP*	**Pn**	**03 30 48.7**	**+0.6**
CVTV	**Tajo**	**1.47**	**355**	*eP*	**Pn**	**03 30 48.4**	**+0.2**
VTLA	**Turrialba Volc**	**1.47**	**354**	*eP*	**Pn**	**03 30 48.7**	**+0.5**
CORON	**Coronado**	**1.48**	**345**	*eP*	**Pn**	**03 30 48.9**	**+0.7**
RBALA	**Bur**	**1.48**	**76**	*eP*	**Pn**	**03 30 47.1**	**-0.9**
VTR0	**Volcan Turrial**	**1.48**	**354**	*eP*	**Pn**	**03 30 49.0**	**+0.6**
CVIMO	**Finca Echandi**	**1.52**	**348**	*eP*	**Pn**	**03 30 49.3**	**+0.6**
BELE	**Belen**	**1.54**	**338**	*eP*	**Pn**	**03 30 49.0**	**0.0**
LCOCO	**El Coco**	**1.54**	**2**	*eP*	**Pn**	**03 30 49.6**	**+0.8**
IRES	**Siquirres**	**1.56**	**4**	*eP*	**Pn**	**03 30 49.7**	**+0.6**
ATEO	**Atenas**	**1.63**	**332**	*eP*	**Pn**	**03 30 50.9**	**+0.8**
PILE	**Guapiles**	**1.68**	**354**	*eP*	**Pn**	**03 30 51.9**	**+1.1**
SRA1	**San Ramn**	**1.77**	**331**	*eP*	**Pn**	**03 30 53.0**	**+0.9**
VPL2	**V. Platanar**	**1.92**	**337**	*eP*	**Pn**	**03 30 55.8**	**+1.6**
TRT2	**Tortugero**	**2.02**	**357**	*eP*	**Pn**	**03 30 56.3**	**+1.0**
JTS	**Las Juntas de**	**2.19**	**323**	*eP*	**Pn**	**03 30 59.2**	**+1.4**
JTS	**Las Juntas de**	**2.19**	**323**	*eP*	**Pn**	**03 30 58.2**	**+0.4**
JTS				*eS*	**Sn**	**03 31 25.0**	**-0.1**
VACR	**Volcan Arenal**	**2.20**	**332**	*eP*	**Pb**	**03 31 00.4**	**-0.7**
VARE2	**V. Arenal**	**2.21**	**330**	*eP*	**Pb**	**03 31 00.8**	**-0.5**
CEDE	**Laguna Cedeo**	**2.22**	**331**	*eP*	**Pn**	**03 30 59.7**	**+1.5**

*GII **24** 03:55:44.3±0.0,34°594N±0°001×33°347E±0°001,h18km, Mws3.0,confirmed*
*NIC **24** 03:55:44.2,34°62N×33°36E,h15km±1km,Ml2.5/11*
*AFAD **24** 03:55:47.1,34°68N×33°24E,h29km±2km,ML2.7*
*ISK **24** 03:55:49.5,34°99N×33°35E,h6km,ML2.7/16*
ISC 24 03:55:44.2±1.0,34°61N±0°02×33°33E±0°02,h18km±3km, n83,σ1°40/106,1D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASGA	**Asgata**	**0.19**	**339**	*iP*	**Pb**	**03 55 48.9**	**+0.1**
ASGA				S	**Sg**	**03 55 52.7**	**+0.3**
ASGA				AML	AML	03 55 54.8	
	14nm,0.4s						
ASGA				AML	AML	03 55 55.5	
	8.0nm,0.4s						
CSS	**Mathiatis**	**0.36**	**0**	Pg	**Pg**	**03 55 51.0**	**-0.7**
CSS	**Mathiatis**	**0.36**	**0**	P	**Pb**	**03 55 52.1**	**0.0**
CSS	**Mathiatis**	**0.36**	**0**	P	**Pg**	**03 55 51.4**	**-0.4**
CSS				S	**Sb**	**03 55 57.1**	**-0.3**
CSS				AML	AML	03 56 01.6	
	2.4nm,0.3s						
CSS				AML	AML	03 56 03.9	
	2.1nm,0.4s						
APOL	**The Sanctuary**	**0.39**	**280**	P	**Pg**	**03 55 52.6**	**+0.4**
APOL				S	**Sb**	**03 55 59.1**	**+0.8**
APOL				AML	AML	03 56 01.2	
	2.4nm,0.3s						
APOL				AML	AML	03 56 02.6	
	2.1nm,0.3s						
AKIN	**Akıncılar- Kıb**	**0.42**	**15**	**Pg**	**Pg**	**03 55 52.2**	**-0.7**
XYLS	**Xyliatos**	**0.47**	**330**	P	**Pg**	**03 55 53.7**	**0.0**
XYLS				S	**Sb**	**03 56 00.8**	**+0.3**
XYLS				AML	AML	03 56 02.2	
	3.3nm,0.2s						
XYLS				AML	AML	03 56 03.9	
	3.5nm,0.3s						
MVOU	**Mavrovouni**	**0.48**	**31**	P	**Pg**	**03 55 53.2**	**-0.7**
MVOU				S	**Sb**	**03 56 01.4**	**+0.6**
MVOU				AML	AML	03 56 06.7	
	1.1nm,0.5s						
MVOU				AML	AML	03 56 08.0	
	0.8nm,0.6s						
TROD	**Troodos**	**0.51**	**312**	P	**Pg**	**03 55 54.6**	**0.0**
TROD				S	**Sb**	**03 56 02.5**	**+0.6**
TROD				AML	AML	03 56 07.8	
	1.1nm,0.4s						
TROD				AML	AML	03 56 08.9	
	1.5nm,0.5s						
ATHAL	**Athalassa**	**0.54**	**6**	S	**Sg**	**03 56 03.1**	**+0.9**
ATHAL				AML	AML	03 56 12.7	
	2.2nm,0.9s						
ATHAL				AML	AML	03 56 22.6	
	2.0nm,0.8s						
NATA	**Nata**	**0.65**	**286**	P	**Pb**	**03 55 57.2**	**+0.3**
NATA				S	**Sg**	**03 56 07.5**	**+1.7**
NATA				AML	AML	03 56 10.5	
	1.8nm,0.6s						
NATA				AML	AML	03 56 12.9	
	1.8nm,0.4s						
LFK	**Lefkose**	**0.69**	**14**	Pg	**Pb**	**03 55 56.9**	**-0.8**
PARAL	**Paralimni**	**0.70**	**56**	P	**Pg**	**03 55 58.6**	**+0.6**
PARAL				S	**Sn**	**03 56 09.1**	**-0.5**
PARAL				AML	AML	03 56 13.6	
	1.5nm,0.5s						
PARAL				AML	AML	03 56 15.2	
	1.1nm,0.5s						
AKDN	**Akdeniz- Kıbrı**	**0.75**	**337**	Pg	**Pb**	**03 55 58.8**	**+0.1**
ALFC	**Alefka**	**0.81**	**313**	P	**Pg**	**03 56 00.3**	**+0.2**
ALFC				S	**Sn**	**03 56 12.9**	**+0.5**
ALFC				AML	AML	03 56 15.1	
	4.1nm,0.6s						
ALFC				AML	AML	03 56 15.2	
	3.5nm,0.4s						
AKMS	**Akamas**	**0.92**	**297**	P	**Pg**	**03 56 02.5**	**+0.5**
AKMS				S	**Sn**	**03 56 15.7**	**+0.8**
AKMS				AML	AML	03 56 22.0	
	0.5nm,0.3s						
AKMS				AML	AML	03 56 23.4	
	0.5nm,0.3s						
EREN	**Erenkoy**	**1.15**	**37**	Pg	**Pg**	**03 56 06.7**	**+0.2**
EREN	**Erenkoy**	**1.15**	**37**	P	**Pg**	**03 56 06.6**	**+0.2**
EREN				S	**Sg**	**03 56 22.4**	**+0.8**
EREN				*i* IAML		03 56 29.0	
	comp=N,155nm,0.6s						
BOZY	**Bozyazi-Mersin**	**1.52**	**349**	Pn	**Pb**	**03 56 11.9**	**0.0**
AKK1	**Akkuyu-Mersin**	**1.54**	**6**	Pn	**Pb**	**03 56 11.9**	**-0.3**
GULN	**MERSIN_Gulnar**	**1.58**	**6**	P	**Pn**	**03 56 11.2**	**-0.2**
GULN				S	**Sb**	**03 56 31.9**	**-0.7**
TEPK	**Tepekoy-MERSIN**	**1.62**	**6**	Pn	**Pb**	**03 56 13.5**	**-0.1**
IKL	**Isikli**	**1.66**	**10**	Pn	**Pb**	**03 56 14.3**	**+0.2**
BERE	**Bereket-Mersin**	**1.74**	**357**	Pn	**Pb**	**03 56 15.5**	**-0.2**
SILI	**Silifke-Mersin**	**1.82**	**15**	Pn	**Pb**	**03 56 16.9**	**-0.1**
GAZI	**Gazipasa**	**1.82**	**333**	Pn	**Pb**	**03 56 16.1**	**-0.9**
GAZI				Sn	**Sn**	**03 56 38.2**	**+0.9**
GAZI	**Gazipasa**	**1.82**	**333**	P	**Pn**	**03 56 15.4**	**+0.7**
GAZI				S	**Sn**	**03 56 37.1**	**-0.2**
GAZI				*i* IAML		03 56 40.0	
	comp=E,88nm,0.5s						
TEVE	**Tevekalti-Mers**	**1.83**	**3**	Pn	**Pb**	**03 56 16.9**	**-0.2**
KEBE	**Keben-Mersin**	**1.86**	**10**	Pn	**Pb**	**03 56 16.9**	**-0.8**
KIZK	**Mersin**	**1.98**	**19**	Pn	**Pb**	**03 56 19.1**	**-0.6**
KIZK	**Mersin**	**1.98**	**19**	P	**Pb**	**03 56 19.4**	**-0.4**
ERMK	**Ermenek**	**2.06**	**351**	P	**Pn**	**03 56 19.7**	**+1.6**
ERMK				S	**Sn**	**03 56 39.8**	**-3.7**
ERMK				*i* IAML		03 56 52.0	
	comp=E,53nm,0.3s						
ERMK				*i* IAML		03 56 58.0	
	comp=N,61nm,0.8s						
MMA0B	**Mount Meron ar**	**2.34**	**132**	S	**Sn**	**03 56 50.3**	**+0.1**
MMA0B	**Mount Meron ar**	**2.34**	**132**	P	**Pn**	**03 56 21.9**	**+0.1**
GEM	**Giv'at Ha'Em**	**2.39**	**125**	P	**Pn**	**03 56 23.7**	**+1.3**
GEM	**Giv'at Ha'Em**	**2.39**	**125**	S	**Sn**	**03 56 51.1**	**0.0**
GEM	**Giv'at Ha'Em**	**2.39**	**125**	P	**Pn**	**03 56 21.9**	**-0.4**
NATI	**Neve Ativ**	**2.41**	**123**	S	**Sn**	**03 56 51.8**	**+0.1**
NATI	**Neve Ativ**	**2.41**	**123**	P	**Pn**	**03 56 22.6**	**-0.1**
OFRI	**`Ofer**	**2.41**	**145**	S	**Sn**	**03 56 51.3**	**-0.5**
OFRI	**`Ofer**	**2.41**	**145**	P	**Pn**	**03 56 22.4**	**-0.4**
HDMB	**Hadim**	**2.45**	**344**	Pn	**Pb**	**03 56 26.3**	**-1.5**
MERS	**Mersin**	**2.46**	**23**	Pn	**Pb**	**03 56 25.9**	**-1.9**
DED	**Mersin**	**2.64**	**27**	P	**Pn**	**03 56 26.6**	**+0.7**
DED				S	**Sn**	**03 56 57.5**	**+0.1**
MMLI	**Mount Malkishu**	**2.78**	**140**	P	**Pn**	**03 56 29.4**	**+1.6**
MMLI	**Mount Malkishu**	**2.78**	**140**	S	**Sn**	**03 57 00.5**	**-0.5**
MMLI	**Mount Malkishu**	**2.78**	**140**	P	**Pn**	**03 56 28.0**	**+0.2**
KERG	**Konya-Eregli**	**2.88**	**13**	P	**Pb**	**03 56 32.5**	**-2.5**
KERG				S	**Sn**	**03 57 06.3**	**+2.9**
KERG				*i* IAML		03 57 13.0	
	comp=E,33nm,0.4s						
KERG				*i* IAML		03 57 15.0	
	comp=N,31nm,0.3s						
GULE	**Gulek**	**2.92**	**23**	P	**Pn**	**03 56 32.7**	**+2.8**
GULE				S	**Sn**	**03 57 04.2**	**-0.3**
GULE				*i* IAML		03 57 16.0	
	comp=N,32nm,0.9s						
GULE				*i* IAML		03 57 22.0	
	comp=E,33nm,0.9s						
QRNJ	**Al-Qirein**	**2.94**	**140**	P	**Pn**	**03 56 30.7**	**+0.8**
SALP	**Salfit**	**2.97**	**148**	P	**Pn**	**03 56 31.0**	**+0.6**
HMDT	**Nahal Hemdat**	**2.98**	**141**	P	**Pn**	**03 56 30.5**	**0.0**
HMDT	**Nahal Hemdat**	**2.98**	**141**	S	**Sn**	**03 57 05.3**	**-0.5**
HMDT	**Nahal Hemdat**	**2.98**	**141**	P	**Pn**	**03 56 30.7**	**+0.2**
AKUM	**Antalya-Kumluc**	**2.98**	**306**	S	**Sn**	**03 57 07.6**	**+1.8**
SEDI	**Konya, Seydise**	**3.11**	**336**	P	**Pb**	**03 56 36.2**	**-2.9**
SEDI				S	**Sn**	**03 57 12.4**	**+3.2**
AKAS	**Kas**	**3.45**	**299**	P	**Pn**	**03 56 38.2**	**+1.1**
AKAS				S	**Sn**	**03 57 11.3**	**-6.2**
AKAS				*i* IAML		03 57 19.0	
	comp=E,21nm,1.6s						
AKAS				*i* IAML		03 58 30.0	
	comp=N,28nm,2.3s						
DSI	**Dead Sea**	**3.48**	**150**	P	**Pn**	**03 56 37.4**	**0.0**
DSI	**Dead Sea**	**3.48**	**150**	S	**Sn**	**03 57 17.4**	**-0.8**
DSI	**Dead Sea**	**3.48**	**150**	P	**Pn**	**03 56 37.4**	**0.0**
YTIR	**Yattir**	**3.56**	**155**	S	**Sn**	**03 57 21.0**	**+0.6**
YTIR	**Yattir**	**3.56**	**155**	P	**Pn**	**03 56 38.8**	**+0.2**
MSBI	**Mazada**	**3.70**	**152**	P	**Pn**	**03 56 42.3**	**+1.9**
KNIK	**Mula-Seydike**	**3.79**	**307**	P	**Pn**	**03 56 43.3**	**+1.6**
KNIK				S	**Sn**	**03 57 21.1**	**-4.8**
GHAJ	**Ghor Haditha**	**3.79**	**150**	S	**Sn**	**03 57 25.5**	**-0.3**
GHAJ	**Ghor Haditha**	**3.79**	**150**	P	**Pn**	**03 56 41.8**	**+0.1**
FETY	**Fethiye**	**4.01**	**302**	P	**Pn**	**03 56 46.5**	**+1.8**
FETY				S	**Sn**	**03 57 27.3**	**-3.9**
YVAC	**Isparta, Yalva**	**4.03**	**336**	P	**Pn**	**03 56 46.5**	**+1.5**
GOLH	**Golhisar**	**4.03**	**312**	P	**Pn**	**03 56 46.8**	**+1.8**
GOLH				S	**Sn**	**03 57 27.9**	**-4.0**
GOLH				*i* IAML		03 57 33.0	
	comp=E,13nm,1.7s						
GOLH				*i* IAML		03 58 10.0	
	comp=N,16nm,1.7s						
PRNI	**Paran**	**4.47**	**161**	P	**Pn**	**03 56 51.5**	**+0.4**
PRNI	**Paran**	**4.47**	**161**	S	**Sn**	**03 57 42.9**	**+0.2**
PRNI	**Paran**	**4.47**	**161**	P	**Pn**	**03 56 51.3**	**+0.3**
KRMI	**Paran Flat**	**4.63**	**165**	P	**Pn**	**03 56 53.5**	**+0.3**
KRMI	**Paran Flat**	**4.63**	**165**	S	**Sn**	**03 57 46.6**	**+0.1**
KRMI	**Paran Flat**	**4.63**	**165**	P	**Pn**	**03 56 53.2**	**0.0**
HRFI	**Mount Harif**	**4.78**	**162**	P	**Pn**	**03 56 55.4**	**+0.1**
HRFI	**Mount Harif**	**4.78**	**162**	S	**Sn**	**03 57 50.6**	**+0.3**
HRFI	**Mount Harif**	**4.78**	**162**	P	**Pn**	**03 56 55.7**	**+0.4**
MBRI	**Mt Berech**	**4.98**	**164**	P	**Pn**	**03 56 58.6**	**+0.5**
MBRI	**Mt Berech**	**4.98**	**164**	S	**Sn**	**03 57 55.6**	**+0.2**
MBRI	**Mt Berech**	**4.98**	**164**	P	**Pn**	**03 56 58.4**	**+0.3**
EIL	**Elat**	**5.11**	**164**	S	**Sn**	**03 57 58.3**	**-0.1**
EIL	**Elat**	**5.11**	**164**	P	**Pn**	**03 57 00.1**	**+0.3**

*NEIC **24** 04:06:58.6±1.1,12°31N±0°07×145°63E±0°07,h10km±1km, mb4.4/12,Error ellipse: s-maj=12.7km s-min=10.7km az=113.0*
*IDC **24** 04:07:08.7±1.9,12°55N×145°14E,h75km±13km,mb3.5/8, mbtmp3.8/8,MS3.2/2,Error ellipse: s-maj=40.9km s-min=18.5km az=90.0*
ISC 24 04:07:01.7±0.6,12°29N±0°07×145°5E±0°1,h35km,n31, σ1°72/27,mb4.3/14,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.44**	**333**		**Pn**	**04 07 25.1**	**-0.3**
GUMO				Sn	**Sn**	**04 07 44.3**	**+1.2**
GUMO	**Guam**	**1.44**	**333**	P	**Pn**	**04 07 27.9**	**+2.5**
	185nm,0.3s,baz=175,slow=12,SNR=7.8						
GUMO				S	**Sn**	**04 07 43.2**	**0.0**
	436nm,0.4s,baz=198,slow=22,SNR=14						
GUMO				LR	LR	04 08 36.0	
	comp=Z,397nm,18.2s,baz=239,slow=82						
H11S3	**WAKE ISLAND Hy**	**21.30**	**71**	T	T	04 35 54.0	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**21.31**	**71**	T	T	04 35 31.9	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**21.31**	**71**	T	T	04 36 00.4	
	baz=253						
H11N1	**WAKE ISLAND Hy**	**21.80**	**67**	T	T	04 36 19.1	
	baz=255						
H11N2	**WAKE ISLAND Hy**	**21.81**	**67**	T	T	04 35 55.6	
	baz=255						
H11N3	**WAKE ISLAND Hy**	**21.82**	**67**	T	T	04 35 58.3	
	baz=255						
COEN	**Coen**	**26.18**	**185**	P	**P**	**04 12 32.1**	**-1.1**
COEN				IAmb	IAmb	04 12 45.3	
	comp=Z,10nm,0.9s						
WB0	**Warramunga Arr**	**33.69**	**199**	P	**P**	**04 13 40.6**	**+0.9**
WR8	**Warramunga Arr**	**33.84**	**199**	P	**P**	**04 13 40.8**	**-0.1**
WR8				IAmb	IAmb	04 13 58.9	
	comp=Z,4.2nm,1.1s						
USA0B	**Ussuriysk Arra**	**33.86**	**342**	P	**P**	**04 13 38.4**	**-2.6**
USA0B				IAmb	IAmb	04 13 51.7	
	comp=Z,4.2nm,0.9s						
WB2	**Warramunga Arr**	**33.87**	**199**	P	**P**	**04 13 41.0**	**-0.2**
WB2				IAmb	IAmb	04 13 59.5	
	comp=Z,4.1nm,0.8s						
WRA	**Warramunga Arr**	**33.87**	**199**	P	**P**	**04 13 39.1**	**-2.2**
WRA	**Warramunga Arr**	**33.87**	**199**	P	**P**	**04 13 45.2**	**+3.9**
	comp=Z,2.0nm,0.7s,baz=21,slow=9.8,SNR=14						
	comp=Z,2.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**36.02**	**213**	P	**P**	**04 14 00.6**	**+0.8**
ASAR	**Alice Springs**	**37.50**	**198**	P	**P**	**04 14 16.5**	**+4.0**
	comp=Z,0.4nm,0.6s,baz=8.5,slow=7.3,SNR=2.6						
	comp=Z,0.4nm,0.6s						
DZM	**Mont Dzumac**	**39.84**	**149**	P	**P**	**04 14 32.2**	**+0.1**
DZM				IAmb	IAmb	04 14 44.7	
	comp=Z,13nm,1.2s						
CMAR	**Chiang Mai Arr**	**45.24**	**284**	P	**P**	**04 15 16.4**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=87,slow=8.1,SNR=4.1						
CMAR				LR	LR	04 32 57.0	
	comp=Z,17nm,20.1s,baz=210,slow=35						
	comp=Z,1.2nm,0.3s						
AMKA	**Amchitka**	**47.62**	**28**	P	**P**	**04 15 33.7**	**-0.6**
MORW	**Morawa**	**50.02**	**214**	P	**P**	**04 15 52.7**	**-0.2**
LVA	**Lava Point**	**56.46**	**32**	P	**P**	**04 16 39.6**	**-0.4**
TCW	**Tory Channel**	**59.49**	**155**	P	**P**	**04 17 01.2**	**-0.1**
TIXI	**Tiksi**	**60.19**	**354**	P	**P**	**04 17 05.2**	**-0.5**
O16K	**Kokwok River B**	**62.78**	**28**	P	**P**	**04 17 22.9**	**-0.6**
O16K				IAmb	IAmb	04 17 26.9	
	comp=Z,5.7nm,1.1s						
MKAR	**Makanchi Array**	**62.87**	**316**	P	**P**	**04 17 22.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.58**	**351**	Pg	**Pn**	**04 29 43.8**	**+0.6**
	22nm,0.2s						
IUG				Lg	Lg	04 30 45.2	
	50nm,0.3s						
MRKS	**Merke**	**6.30**	**14**	Pg	**Pn**	**04 29 53.6**	**+0.6**
	15nm,0.4s						
MRKS				Lg	Lg	04 31 02.9	
	11nm,0.4s						
BRLS	**Boroldaу**	**6.47**	**351**	Pg	**Pn**	**04 29 52.7**	**-2.5**
	5.9nm,0.1s						
BRLS				Lg	Lg	04 31 01.4	
	0.4nm,0.2s						
KK31	**Karatay Array**	**6.48**	**356**	⇑P	**Pn**	**04 29 56.4**	**+1.1**
	4.4nm,0.3s,baz=178,slow=12,SNR=165						
KK31				⇓S	**Sn**	**04 31 07.7**	**-0.2**
	3.2nm,0.2s,baz=187,slow=27,SNR=8.9						
AAK	**Ala-Archa**	**6.52**	**22**	⇓P	**Pn**	**04 29 56.7**	**+0.7**
	8.1nm,0.8s						
AAK				⇓S	**Sn**	**04 31 09.3**	**+0.3**
	3.7nm,0.7s						
AAK	**Ala-Archa**	**6.52**	**22**	P	**Pn**	**04 29 55.7**	**-0.3**
	8.7nm,0.5s,baz=219,slow=8.5,SNR=10						
AAK				S	**Sn**	**04 31 08.2**	**-0.7**
	2.9nm,0.4s,baz=342,slow=22,SNR=1.4						
KST	**Kastek**	**7.38**	**28**	P	**Pn**	**04 30 08.6**	**+0.9**
	5.3nm,0.6s						
DGS	**Degeres**	**7.48**	**27**	P	**Pn**	**04 30 09.9**	**+0.9**
	6.6nm,0.6s						
MK31	**Makanchi Array**	**13.10**	**36**	⇑P	**P**	**04 31 31.6**	**+0.5**
	0.5nm,0.5s,baz=205,slow=11,SNR=4.5						
MKAR	**Makanchi Array**	**13.10**	**36**	P	**Pn**	**04 31 23.0**	**-1.6**
	1.1nm,0.9s,baz=207,slow=12,SNR=6.0						
KURBB	**Kurchatov Arra**	**14.95**	**18**	P	**Pn**	**04 31 48.7**	**+0.2**
	0.3nm,0.4s,baz=206,slow=9.9,SNR=2.4						
BVA0	**Borovoye Array**	**16.40**	**358**	P	**P**	**04 32 08.6**	**+1.0**
	baz=181,slow=14,SNR=4.6						
BVAR	**Borovoye Array**	**16.40**	**358**	P	**Pn**	**04 32 06.7**	**+0.2**
	0.6nm,0.4s,baz=179,slow=13,SNR=4.0						
AKTO	**Aktyubinsk**	**16.74**	**330**	P	**P**	**04 32 11.7**	**+0.3**
	2.5nm,0.4s,baz=138,slow=14,SNR=6.3						
ZALV	**Zalesovo Beam**	**19.73**	**24**	P	**P**	**04 32 42.6**	**-1.5**
	2.5nm,0.3s,baz=205,slow=10,SNR=10						
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**04 35 26.3**	**+0.5**
	0.8nm,0.7s,baz=111,slow=8.5,SNR=2.0						
	0.8nm,0.7s						
ARCES	**ARCESS Array B**	**41.08**	**337**	P	**P**	**04 35 56.2**	**+0.3**
	4.7nm,1.2s,baz=106,slow=8.9,SNR=4.7						
	4.7nm,1.2s						
HFS	**Hagfors**	**43.05**	**322**	P	**P**	**04 36 11.9**	**-0.2**
	1.4nm,0.5s,baz=108,slow=9.5,SNR=15						
	1.4nm,0.5s						
NB2	**NORSAR Subarra**	**44.36**	**323**	P	**P**	**04 36 22.0**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.36**	**323**	P	**P**	**04 36 22.3**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=97,slow=7.7,SNR=7.3						
	comp=Z,0.6nm,0.5s						

IDC 24 04:54:35.0±8.1, 21°.52S×147°.15E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=79.2km s-min=61.9km az=170.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**11.45**	**205**	Lg	Lg	05 00 43.9	
	baz=118,slow=23						
WRA	**Warramunga Arr**	**12.09**	**275**	Pn	Pn	04 57 27.7	-1.0
	0.1nm,0.3s,baz=96,slow=14,SNR=1.2						
WRA				Lg	Lg	05 00 59.0	
	0.1nm,0.3s,baz=104,slow=26,SNR=6.2						
	0.3nm,1.0s						
ASAR	**Alice Springs**	**12.42**	**258**	Pn	Pn	04 57 34.3	+1.1
	baz=80,slow=11,SNR=1.9						
ASAR				Lg	Lg	05 01 09.6	
	baz=81,slow=24						
	0.1nm,0.3s						
I22FR	**PORTLAGUERRE I**	**18.30**	**96**	I	I	06 41 10.0	
	baz=267,slow=311,SNR=1.6						

*NEIC **24** 05:48:47.4±1.4, 35°.82N±0°.02×120°.30W±0°.02, h10km±1km, Error ellipse: s-maj=3.3km s-min=3.3km az=189.0*

NCEDC 24 05:48:47.7±1.9, 35°.79N±0°.02×120°.35W±0°.02, h9km±4km, ML3.1/76, ML2.7/83(NEIC), Error ellipse: s-maj=3.0km s-min=1.9km az=217.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKLM	**Kerr Lake**	**0.02**	**169**		Pg	05 48 49.8	+0.3
GHC	**Gold Hill**	**0.04**	**350**		Pg	05 48 49.2	+0.2
PHAM	**Harlan Ranch**	**0.06**	**315**		Pg	05 48 50.2	+0.4
PMRM	**Maxey Ranch**	**0.09**	**95**		Pg	05 48 50.5	+0.3
PAGB	**Antelope Grade**	**0.10**	**129**		Pg	05 48 50.6	+0.3
PAGB					Sg	05 48 53.1	+1.0
PHFM	**Heflinger Ranc**	**0.10**	**332**		Pg	05 48 50.7	+0.4
TCHL	**Shandon**	**0.11**	**204**		Pg	05 48 51.2	+0.7
THIS	**South End of C**	**0.12**	**126**		Pg	05 48 51.0	+0.4
THIS					Sg	05 48 53.9	+1.4
TRAM	**Private Proper**	**0.13**	**153**		Pg	05 48 51.1	+0.4
TRAM	**Private Proper**	**0.13**	**153**	IAML		05 48 54.2	
	comp=N,7μm,0.5s						
CTM	**Castle Mountai**	**0.14**	**3**		Pg	05 48 51.9	+0.9
PVCM	**Vineyard Canyo**	**0.20**	**310**		Pg	05 48 52.3	+0.3
PKD	**Bear Valley Ra**	**0.22**	**314**		Pg	05 48 52.5	+0.2
PKD					Sg	05 48 56.3	+0.7
PPO	**Portuguese Can**	**0.23**	**288**		Pg	05 48 53.3	+0.8
TRAY	**Twisselman Ran**	**0.30**	**143**		Pg	05 48 54.0	+0.2
PBPM	**Bitterwater Pu**	**0.30**	**134**		Pg	05 48 54.5	+0.6
PSMM	**Smith Mountain**	**0.34**	**324**		Pb	05 48 55.4	-0.7
LCUV	**Le Cuvier**	**0.34**	**246**		Pg	05 48 54.7	+0.1
LCUV					Sg	05 48 59.8	+0.6
RAMR	**Ramage Ranch**	**0.46**	**250**	Pg	Pg	05 48 56.9	+0.2
PANM	**San Antonio Re**	**0.46**	**268**		Pg	05 48 56.9	+0.2
PSAM	**San Ardo**	**0.50**	**298**		Pg	05 48 57.5	0.0
PTAM	**Tassajara Cree**	**0.50**	**217**		Pg	05 48 57.6	+0.2
SMMC	**Simmler**	**0.56**	**149**		Pg	05 48 58.7	+0.2
PMPB	**Monarch Peak**	**0.56**	**319**		Pg	05 48 58.9	+0.2
PMPB	**Monarch Peak**	**0.56**	**319**	IAML		05 49 11.4	
	comp=E,766nm,0.7s						
PMPB				IAML		05 49 15.4	
	comp=N,848nm,0.5s						
EFD	**Emergency Oper**	**0.56**	**213**		Pg	05 48 58.7	0.0
WSRE	**Westside REC,**	**0.57**	**18**		Pb	05 49 00.3	+0.4
CARC	**Carrizo Plain**	**0.63**	**140**		Pg	05 49 00.4	+0.4
LSDC	**Los Osos Digit**	**0.64**	**220**		Pg	05 49 00.5	+0.3
PCBM	**Cambria**	**0.64**	**245**		Pg	05 49 00.3	+0.1
DPD	**Davis Peak**	**0.66**	**213**		Pg	05 49 00.9	+0.4
DCD	**Diablo Creek**	**0.71**	**215**		Pg	05 49 01.5	+0.1
PCCM	**Crazy Canyon**	**0.73**	**294**		Pg	05 49 01.6	-0.2
CRGC	**Crocker Grade**	**0.75**	**137**		Pg	05 49 02.2	0.0
HULI	**Fort Hunter Li**	**0.76**	**288**	Pg	Pg	05 49 02.1	-0.3
LRV	**Little Rabbit**	**0.83**	**319**		Pg	05 49 03.9	+0.1
BMSM	**Mercy Hot Spri**	**0.94**	**337**		Pg	05 49 05.8	0.0
VOG	**Valley Oaks Go**	**0.94**	**56**		Pg	05 49 05.1	-0.7
BSGM	**Shirttail Gulc**	**0.96**	**310**		Pg	05 49 05.4	-0.9
BBGB	**Big Mountain B**	**0.96**	**325**		Pg	05 49 06.4	+0.1
PKM	**Mcpherson Peak**	**1.00**	**154**		Pg	05 49 06.7	-0.3
VES	**Vestal, Richgr**	**1.02**	**87**		Pg	05 49 06.4	-1.1
BSMM	**Soledad Missio**	**1.06**	**304**		Pg	05 49 07.0	-1.1
FIGC	**Figueroa Mtn.**	**1.10**	**165**		Pg	05 49 08.7	-0.2
BAKC	**Calstate**	**1.11**	**114**		Pg	05 49 07.6	-1.4
BJCM	**Johnson Can.**	**1.13**	**312**		Pb	05 49 07.9	-1.5
BCW	**Bitter Crk WRg**	**1.14**	**138**		Pb	05 49 08.3	-1.4
BJOM	**Mount Johnson**	**1.14**	**317**		Pb	05 49 08.2	-1.5
SCZ	**Santa Cruz**	**1.17**	**313**		Pb	05 49 09.1	-1.1
SCZ				IAML		05 49 26.9	
	comp=E,265nm,0.3s						
SCZ	**Santa Cruz**	**1.17**	**313**		Pb	05 49 08.5	-1.7
GATR	**Gnd/Air Tx Cnt**	**1.25**	**186**		Pn	05 49 10.3	-1.0
NJQ	**Nojoqui County**	**1.26**	**174**		Pn	05 49 10.5	-1.0
BPRM	**Ponciano Ridge**	**1.28**	**299**		Pn	05 49 09.8	-1.9
BSRM	**Salinas Radio**	**1.29**	**313**		Pn	05 49 10.1	-1.8
SAO	**San Andreas Ge**	**1.32**	**318**		Pn	05 49 10.8	-1.5
SAO	**San Andreas Ge**	**1.32**	**318**	Pn	Pn	05 49 11.4	-0.8
FRP	**Fremont Peak**	**1.33**	**316**		Pn	05 49 11.2	-1.4
SPG2	**Springville 2**	**1.34**	**72**		Pn	05 49 11.1	-1.5
MHDM	**Hidden Dam**	**1.37**	**15**		Pn	05 49 11.3	-1.7
ARVC	**Arvin**	**1.40**	**118**		Pn	05 49 11.7	-1.7
WASM	**Alta Sierra Ca**	**1.46**	**92**		Pn	05 49 12.9	-1.5
TEJ	**El Tejon**	**1.46**	**112**		Pn	05 49 12.0	-2.3
HTUM	**Tustin Road**	**1.47**	**315**		Pn	05 49 13.0	-1.4
HERM	**Elkhorn Road**	**1.49**	**313**		Pn	05 49 13.7	-1.0
HMOM	**Monterey**	**1.51**	**303**		Pn	05 49 13.0	-1.9
ISA	**Isabella, Lake**	**1.53**	**94**		Pn	05 49 13.9	-1.4
ISA	**Isabella, Lake**	**1.53**	**94**	Pn	Pn	05 49 14.3	-1.0
ISA				IAML		05 49 35.7	
	comp=N,140nm,0.4s						
ISA				IAML		05 49 35.8	
	comp=E,148nm,0.3s						
HCOM	**Corn Cob Canyo**	**1.55**	**315**		Pn	05 49 14.4	-1.0
HCBM	**Chamberlain**	**1.56**	**317**		Pn	05 49 15.5	-0.1
GHS	**Gilroy Hot Spr**	**1.57**	**326**		Pn	05 49 15.3	-0.5
MYLM	**Yosemite Lake**	**1.59**	**358**		Pn	05 49 14.1	-1.9
THC	**Tehachapi Micr**	**1.63**	**122**		Pn	05 49 15.1	-1.7
JELB	**Ellicott, Sant**	**1.65**	**314**		Pn	05 49 16.0	-0.8
MMIM	**Miami Mountain**	**1.69**	**16**		Pn	05 49 16.7	-0.9
WORM	**Onyx Ranch**	**1.71**	**93**		Pn	05 49 17.3	-0.5
JLAB	**Laurel Hill**	**1.76**	**321**		Pn	05 49 16.8	-1.6
OSI	**Osito Audit: C**	**1.77**	**131**		Pn	05 49 18.3	-0.3
OSI				IAML		05 49 44.7	
	comp=E,90nm,0.7s						
OSI				IAML		05 49 47.3	
	comp=N,114nm,0.6s						
CCOB	**Coe Ranch Numb**	**1.81**	**324**		Pn	05 49 18.5	-0.6
MHC	**Mount Hamilton**	**1.86**	**326**		Pn	05 49 19.0	-0.9
BUCR	**Buckhorn Ranch**	**1.88**	**5**	Pn	Pn	05 49 18.9	-1.2
BUCR	**Buckhorn Ranch**	**1.88**	**5**		Pn	05 49 19.2	-1.0
MTOS	**Mt Oso, Westle**	**1.88**	**335**	Pn	Pn	05 49 20.0	0.0
MTOS				IAML		05 49 57.8	
	comp=E,36nm,0.5s						
MTOS				IAML		05 50 03.2	
	comp=N,38nm,0.6s						
JJOM	**Saint Joseph's**	**1.93**	**317**		Pn	05 49 19.7	-1.0
CWC	**Cottonwood Cre**	**1.94**	**70**		Pn	05 49 21.5	+0.4
TPO	**Tropico Hills**	**1.96**	**117**		Pn	05 49 21.3	+0.1
TPO				IAML		05 49 48.8	
	comp=N,84nm,0.9s						
JBMM	**Black Mountain**	**2.11**	**317**		Pn	05 49 22.0	-1.2
MINS	**Minaret Summit**	**2.12**	**29**		Pn	05 49 23.6	-0.1
JPSM		**2.14**	**312**		Pn	05 49 21.7	-1.8
JFP	**Foothills Park**	**2.16**	**317**		Pn	05 49 22.6	-1.2
MDCM	**Deadman Creek**	**2.18**	**28**		Pn	05 49 24.8	+0.4
JSFB	**Stanford Teles**	**2.18**	**318**		Pn	05 49 23.2	-0.9
MEMM	**East Mammoth H**	**2.18**	**31**		Pn	05 49 25.1	+0.7
LRMC	**Laurel Mtn Rad**	**2.19**	**97**		Pn	05 49 24.4	-0.1
LRMC				IAML		05 49 57.9	
	comp=N,43nm,0.4s						
LRMC				IAML		05 49 59.8	
	comp=E,36nm,0.3s						
JRSC	**Jasper Ridge**	**2.21**	**317**		Pn	05 49 23.1	-1.4
CLC	**China Lake**	**2.23**	**89**		Pn	05 49 24.9	0.0
CMB	**Columbia Colle**	**2.24**	**359**		Pn	05 49 25.4	+0.4
WSHM	**Spangler Hills**	**2.33**	**94**		Pn	05 49 24.6	-1.6
WSHM				IAML		05 50 56.9	
	comp=E,50nm,0.1s						
WSHM				IAML		05 50 58.4	
	comp=E,45nm,0.2s						
PASC	**Pasadena Art C**	**2.40**	**132**	Pn	Pn	05 49 26.9	-0.2
PASC				IAML		05 50 09.1	
	comp=E,22nm,0.8s						
CCCA	**Chr Cany lake**	**2.44**	**95**		Pn	05 49 27.4	-0.4
CCCA				IAML		05 50 20.8	
	comp=E,48nm,0.9s						
MWC	**Mount Wilson**	**2.44**	**129**		Pn	05 49 27.6	-0.3
MWC				IAML		05 50 03.4	
	comp=E,39nm,0.6s						
MWC				IAML		05 50 10.9	
	comp=N,36nm,0.7s						
DSP	**Deep Springs**	**2.48**	**50**		Pn	05 49 30.1	+1.9
DSP				IAML		05 50 15.8	
	comp=E,34nm,1.0s						
DSP				IAML		05 50 16.7	
	comp=N,18nm,0.7s						
WELL	**Weller Preserv**	**2.66**	**354**	Pn	Pn	05 49 31.0	+0.3
WELL				IAML		05 50 07.6	
	comp=N,17nm,0.8s						
WELL				IAML		05 50 27.1	
	comp=E,16nm,0.4s						
GRAC	**Grapevine Rang**	**2.69**	**63**		Pn	05 49 31.1	0.0
GRAC				IAML		05 50 15.1	
	comp=N,45nm,0.7s						
GRAC				IAML		05 50 20.6	
	comp=E,44nm,0.6s						
BFSC	**Mount Baldy Ra**	**2.69**	**124**		Pn	05 49 30.9	-0.4
BFSC				IAML		05 50 21.5	
	comp=E,21nm,0.5s						
WAKR	**Walker**	**2.80**	**15**		Pn	05 49 34.2	+1.3
WAKR				IAML		05 50 21.9	
	comp=E,35nm,0.7s						
WAKR				IAML		05 50 28.3	
	comp=N,29nm,0.7s						
LHV	**Little Huntoon**	**2.86**	**30**	Pn	Pn	05 49 35.7	+2.2
LHV				IAML		05 50 30.4	
	comp=E,39nm,1.3s						
LHV				IAML		05 50 37.8	
	comp=N,28nm,1.0s						
GMN	**Gold Mountain**	**2.90**	**58**	Pn	Pn	05 49 35.2	+0.9
GMN				IAML		05 50 22.9	
	comp=N,22nm,0.7s						
MZP	**Montezuma Peak**	**3.05**	**50**	Pn	Pn	05 49 38.7	+2.4
AFDM	**Forest Hills D**	**3.19**	**351**		Pn	05 49 38.7	+0.7
TPNV	**Topopah Spring**	**3.50**	**70**		Pn	05 49 43.0	+0.6
TPNV				IAML		05 50 46.5	
	comp=N,11nm,1.4s						
TPNV				IAML		05 50 55.1	
	comp=N,10nm,1.3s						
PFO	**Pinyon Flats O**	**3.87**	**123**		Pn	05 49 47.1	-0.4
PFO				IAML		05 50 49.2	
	comp=N,5.7nm,1.6s						

IDC 24 06:04:21.2±1.5, 9°.74S×160°.17E, h0km, mb3.9/4, mbtmp3.9/4, MS4.0/1, Error ellipse: s-maj=30.5km s-min=15.7km az=70.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.38**	**324**	Pn	Pn	06 04 34.3	+0.3
	319nm,0.3s,baz=184,slow=12,SNR=32						
HNR				Sn	Sb	06 04 41.6	+4.4
	2μm,0.3s,baz=169,slow=22,SNR=26						
WRA	**Warramunga Arr**	**26.91**	**245**	P	P	06 10 04.5	+0.2
	2.3nm,0.9s,baz=75,slow=9.7,SNR=10.0						
	2.3nm,0.9s						
ASAR	**Alice Springs**	**28.65**	**238**	P	P	06 10 19.3	-0.6
	0.6nm,0.6s,baz=68,slow=9.9,SNR=5.6						
	0.6nm,0.6s						
URZ	**Urewera**	**32.22**	**155**	LR	LR	06 21 25.9	
	comp=Z,251nm,18.0s,baz=53,slow=32						
SONM	**Songino Array**	**74.44**	**326**	P	P	06 16 02.4	+1.0
	0.5nm,0.6s,baz=154,slow=7.3,SNR=3.6						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**84.10**	**20**	P	P	06 16 53.0	-0.7
	0.6nm,0.5s,baz=246,slow=4.9,SNR=14						
	0.6nm,0.5s						

*IDC **24** 06:12:16.1±0.6, 26°.01S×176°.68W, h0km, mb4.2/14, mbtmp4.3/16, ML4.6/2, MS3.4/12, Error ellipse: s-maj=25.1km s-min=15.5km az=92.0*

*NEIC **24** 06:12:21.8±2.9, 26°.11S±0°.08×176°.3W±0°.1, h43km±4km, mb4.6/15, Error ellipse: s-maj=17.6km s-min=10.4km az=109.0*

ISC 24 06:12:21.2±0.5, 26°.01S±0°.06×176°.5W±0°.1, h35km, n63, σ1s30/48, mb4.5/23, MS3.4/11, 4C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.48**	**201**	Pn	**Pn**	**06 13 13.1**	**+0.3**
RAO					**Sn**	**06 13 53.3**	**+0.5**
RAO	**Raoul Island**	**3.48**	**201**	Pn	**Pn**	**06 13 11.9**	**-0.9**
	110nm,0.3s,baz=27,slow=22,SNR=8.4						
RAO				Sn	**Sn**	**06 13 52.8**	**0.0**
	270nm,0.3s,baz=107,slow=22,SNR=10.0						
RAO				LR	LR	06 14 22.8	
	comp=Z,356nm,20.2s,baz=133,slow=37						
	364nm,0.3s						
NIUE	**Niue**	**9.17**	**43**		**Pn**	**06 14 29.4**	**-1.7**
MSVF	**Nonsavu**	**9.68**	**327**	Pn	**Pn**	**06 14 40.6**	**+2.4**
AFI	**Afiamalu**	**12.82**	**21**	Pn	**Pn**	**06 15 17.4**	**-3.8**
URZ	**Urewera**	**13.36**	**202**	Pn	**Pn**	**06 15 27.8**	**-0.6**
	1.7nm,0.3s,baz=34,slow=7.3,SNR=10						
URZ				Sn	Sn	06 17 41.8	-14
	0.8nm,0.3s,baz=98,slow=22,SNR=7.5						
	10nm,1.0s						
BKZ	**Black Stump Fm**	**14.39**	**203**	Pn	**Pn**	**06 15 43.1**	**+0.6**
DZM	**Mont Dzumac**	**16.09**	**281**	eLR	LR	06 20 08.7	
	287nm,25.8s						
TBI	**Tubuai**	**24.67**	**90**	eLR	LR	06 23 29.9	
	658nm,30.8s						
PPT2	**Papeete2**	**26.30**	**77**	eLR	LR	06 24 00.5	
	82nm,26.2s						
PPT2				eLR	LR	06 24 05.3	
	111nm,26.0s						
PPT	**Papeete**	**26.30**	**77**	LR	LR	06 28 24.8	
	comp=Z,270nm,18.1s,baz=235,slow=37						
HNR	**Honiara**	**27.79**	**302**	LR	LR	06 27 20.0	
	comp=Z,83nm,21.0s,baz=60,slow=33						
EIDS	**Eidsvold**	**29.21**	**264**	P	**P**	**06 18 19.9**	**+0.1**
EIDS				IAmb	IAmb	06 18 41.6	
	comp=Z,10nm,1.4s						
CTAO	**Charters Tower**	**34.72**	**272**	P	**P**	**06 19 08.5**	**+0.3**
CTAO				IAmb	IAmb	06 19 13.9	
	comp=Z,8.2nm,0.8s						
ASAR	**Alice Springs**	**44.88**	**262**	P	**P**	**06 20 32.7**	**0.0**
ASAR	**Alice Springs**	**44.88**	**262**	P	**P**	**06 20 31.0**	**-1.7**
	comp=Z,1.0nm,0.5s,baz=90,slow=7.0,SNR=14						
	comp=Z,1.0nm,0.5s						
WR8	**Warramunga Arr**	**45.34**	**267**	P	**P**	**06 20 35.5**	**-0.8**
WR8				IAmb	IAmb	06 20 52.1	
	comp=Z,11nm,1.2s						
WB2	**Warramunga Arr**	**45.47**	**267**	P	**P**	**06 20 36.6**	**-0.7**
WB2				IAmb	IAmb	06 21 05.0	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**45.48**	**267**	P	**P**	**06 20 36.3**	**-1.2**
WRA	**Warramunga Arr**	**45.48**	**267**	P	**P**	**06 20 35.1**	**-2.4**
	comp=Z,2.8nm,0.6s,baz=104,slow=8.1,SNR=15						
	comp=Z,2.8nm,0.6s						
WB0	**Warramunga Arr**	**45.49**	**267**	P	**P**	**06 20 36.1**	**-1.3**
WB0				IAmb	IAmb	06 20 39.1	
	comp=Z,4.3nm,0.7s						
FORT	**Forrest**	**48.62**	**251**	P	**P**	**06 20 59.2**	**-2.5**
FORT				IAmb	IAmb	06 21 20.4	
	comp=Z,9.0nm,1.1s						
KNRA	**Kununurra**	**51.89**	**270**	P	**P**	**06 21 25.7**	**-1.0**
SBA	**Scott Base**	**52.50**	**184**	P	**P**	**06 21 32.1**	**+1.8**
SBA				IAmb	IAmb	06 21 33.5	
	comp=Z,12nm,0.9s						
VNDA	**Vanda**	**52.58**	**186**	P	**P**	**06 21 32.1**	**+1.2**
VNDA				IAmb	IAmb	06 21 35.7	
	comp=Z,3.2nm,0.8s						
VNDA	**Vanda**	**52.58**	**186**	P	**P**	**06 21 31.2**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=5.0,slow=7.4,SNR=10						
	comp=Z,2.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.87**	**266**	P	**P**	**06 21 40.8**	**-0.5**
GUMO	**Guam**	**54.45**	**312**	LR	LR	06 43 18.6	
	comp=Z,24nm,19.0s,baz=118,slow=34						
QSPA	**South Pole Qui**	**64.08**	**180**	P	**P**	**06 22 52.2**	**+0.6**
QSPA				IAmb	IAmb	06 22 53.3	
	comp=Z,7.9nm,0.8s						
QSPA	**South Pole Qui**	**64.08**	**180**	P	**P**	**06 22 52.1**	**+0.5**
	comp=Z,8.2nm,0.9s,baz=3.6,slow=1.1,SNR=33						
	comp=Z,8.2nm,0.9s						
BELA	**Belgrano 2**	**73.93**	**172**	P	**P**	**06 23 51.9**	**-0.5**
JOW	**Kunigami**	**74.79**	**310**	LR	LR	06 52 04.5	
	comp=Z,19nm,19.3s,baz=112,slow=32						
MJAR	**Matsushiro Arr**	**75.47**	**324**	P	**P**	**06 24 00.8**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=177,slow=4.7,SNR=2.8						
MJAR				LR	LR	06 49 47.5	
	comp=Z,32nm,21.5s,baz=162,slow=30						
	comp=Z,1.0nm,0.6s						
MAW	**Mawson**	**76.88**	**200**	P	**P**	**06 24 08.9**	**-0.4**
	comp=Z,6.7nm,0.9s,baz=132,slow=6.2,SNR=16						
	comp=Z,6.7nm,0.9s						
KIWB	**Kanaga Island**	**77.53**	**360**	P	**P**	**06 24 15.9**	**+2.9**
ADK	**Adak**	**77.56**	**360**	P	**P**	**06 24 15.6**	**+2.5**
H03S2	**Juan Fernandez**	**81.75**	**124**	T	T	07 55 10.2	
	baz=243,slow=74,SNR=39						
H03S1	**Juan Fernandez**	**81.77**	**124**	T	T	07 55 09.3	
	baz=243,slow=74,SNR=33						
H03S3	**Juan Fernandez**	**81.77**	**124**	T	T	07 55 09.3	
	baz=243,slow=74,SNR=41						
H03N2	**Juan Fernandez**	**81.92**	**123**	T	T	07 55 01.9	
	baz=250,slow=72,SNR=21						
H03N3	**Juan Fernandez**	**81.92**	**123**	T	T	07 55 09.7	
	baz=250,slow=72,SNR=17						
KSRS	**Korea Array**	**81.93**	**318**	P	**P**	**06 24 36.6**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=129,slow=6.2,SNR=7.2						
	comp=Z,1.3nm,0.5s						
H03N1	**Juan Fernandez**	**81.93**	**123**	T	T	07 55 13.9	
	baz=250,slow=72,SNR=15						
PETK	**Petropavlovsk-**	**81.94**	**345**	P	**P**	**06 24 37.5**	**+0.6**
	comp=Z,5.3nm,0.7s,baz=140,slow=5.8,SNR=4.5						
	comp=Z,5.3nm,0.7s						
TROLL	**Troll, Antarti**	**82.24**	**180**	⇑P	**P**	**06 24 38.1**	**-0.6**
	comp=Z,202nm,0.5s						
SNAA	**Sanae**	**82.48**	**178**	⇑P	**P**	**06 24 38.9**	**-0.9**
	comp=Z,37nm,0.6s						
SNAA	**Sanae**	**82.48**	**178**	P	**P**	**06 24 38.9**	**-0.9**
	comp=Z,3.9nm,0.9s,baz=231,slow=5.9,SNR=16						
SNAA				LR	LR	07 01 47.1

*OSPL **24** 06:36:46.0±0.7, 18.°91N×66.°84W, h35km±25km, ML1.7*
ISC 24 06:36:42.9±1.9, **18.°99N**±0.°08×**66.°78W**±0.°03, **h23**km±14km, **n41**, σ0**949**/48, **5C-13D**, **Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.56**	**155**	⇑*eP*	**Pn**	**06 36 55.7**	**+0.2**
EMPR	**Esperanza - Ma**	**0.56**	**155**	*eS*	**Sn**	**06 37 04.4**	**+0.3**
AGPR	**Aguadilla, PR**	**0.61**	**212**	⇓*eP*	**Pn**	**06 36 55.7**	**-0.5**
AGPR	**Aguadilla, PR**	**0.61**	**212**	*eS*	**Sn**	**06 37 05.0**	**-0.3**
AGPR	**Aguadilla, PR**	**0.61**	**212**	*e*Pg	**Pn**	**06 36 55.9**	**-0.3**
AGPR				*e*Sg	**Sn**	**06 37 05.4**	**0.0**
AGPR				IAML		06 37 17.2	
	comp=N,54nm,1.4s						
AGPR	**Aguadilla, PR**	**0.61**	**212**	*i* P	**Pn**	**06 36 55.7**	**-0.5**
AGPR				*e*S	**Sb**	**06 37 03.1**	**0.0**
AGPR				IAML		06 37 13.4	
	comp=Z,40nm,0.9s						
AOPR	**Arecibo Observ**	**0.64**	**178**	⇑*eP*	**Pn**	**06 36 56.7**	**0.0**
AOPR	**Arecibo Observ**	**0.64**	**178**	*eS*	**Sn**	**06 37 06.8**	**+0.7**
AOPR	**Arecibo Observ**	**0.64**	**178**	*e*Pg	**Pn**	**06 36 56.7**	**0.0**
AOPR				*e*Sg	**Sn**	**06 37 06.3**	**+0.1**
AOPR				IAML		06 37 13.4	
	comp=N,66nm,0.2s						
UUPR	**Utuado, UPR, P**	**0.73**	**176**	⇑*eP*	**Pn**	**06 36 57.9**	**0.0**
UUPR	**Utuado, UPR, P**	**0.73**	**176**	*eS*	**Sn**	**06 37 08.4**	**-0.1**
ECPR	**Experimental S**	**0.77**	**150**	⇓*eP*	**Pn**	**06 36 58.7**	**+0.2**
ECPR	**Experimental S**	**0.77**	**150**	*eS*	**Sn**	**06 37 08.9**	**-0.5**
PRSN	**Puerto Rico Se**	**0.84**	**205**	⇓*eP*	**Pn**	**06 36 59.3**	**-0.2**
PRSN	**Puerto Rico Se**	**0.84**	**205**	*eS*	**Sb**	**06 37 10.7**	**+0.9**
LSP	**Las Mesas**	**0.86**	**200**	⇓*eP*	**Pn**	**06 36 59.8**	**+0.1**
LSP	**Las Mesas**	**0.86**	**200**	*eS*	**Sn**	**06 37 11.3**	**-0.3**
IDE	**Isla Desecheo**	**0.89**	**228**	⇓*eP*	**Pn**	**06 37 00.3**	**+0.1**
IDE	**Isla Desecheo**	**0.89**	**228**	*eS*	**Sn**	**06 37 12.7**	**+0.3**
CELP	**Cerrillos**	**0.93**	**168**	⇑*eP*	**Pn**	**06 37 01.1**	**+0.4**
CELP	**Cerrillos**	**0.93**	**168**	*eS*	**Sn**	**06 37 13.5**	**+0.2**
CELP	**Cerrillos**	**0.93**	**168**	*e*Pg	**Pn**	**06 37 01.0**	**+0.4**
CELP				*e*Sg	**Sn**	**06 37 14.0**	**+0.7**
CELP				IAML		06 37 17.8	
	comp=N,34nm,0.2s						
GCPR	**Guaynabo City**	**0.94**	**136**	⇓*eP*	**Pn**	**06 37 01.2**	**+0.4**
GCPR	**Guaynabo City**	**0.94**	**136**	*eS*	**Sb**	**06 37 12.8**	**+0.2**
OBIP	**Obispado Ponce**	**0.96**	**170**	⇓*eP*	**Pn**	**06 37 01.5**	**+0.6**
OBIP	**Obispado Ponce**	**0.96**	**170**	*eS*	**Sb**	**06 37 13.4**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.01**	**186**	⇓*eP*	**Pb**	**06 37 02.5**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.03**	**198**	⇓*eP*	**Pb**	**06 37 02.1**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.03**	**198**	*eS*	**Sn**	**06 37 16.1**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.03**	**198**	*e*Pg	**Pb**	**06 37 02.1**	**0.0**
CRPR				*e*Sg	**Sn**	**06 37 15.7**	**0.0**
CRPR				IAML		06 37 16.1	
	comp=N,24nm,1.0s						
CRPR	**Cabo Rojo, PR**	**1.03**	**198**	⇓*i*P	**Pb**	**06 37 02.1**	**0.0**
CRPR				*e*S	**Sb**	**06 37 12.9**	**-2.2**
CRPR				IAML		06 37 15.8	
	comp=Z,36nm,2.2s						
SJG	**San Juan**	**1.06**	**146**	⇑*eP*	**Pb**	**06 37 02.6**	**+0.1**
SJG	**San Juan**	**1.06**	**146**	*eS*	**Sn**	**06 37 16.1**	**-0.2**
SJG	**San Juan**	**1.06**	**146**	*i* P	**Pb**	**06 37 02.6**	**+0.1**
SJG				*e*S	**Sb**	**06 37 15.7**	**-0.2**
SJG				IAML		06 37 16.3	
	comp=Z,15nm,0.8s						
IGPR	**InterUniversit**	**1.20**	**148**	⇓*eP*	**Pn**	**06 37 04.0**	**-0.4**
IGPR	**InterUniversit**	**1.20**	**148**	*eS*	**Sn**	**06 37 19.4**	**-0.6**
PDPR	**Patillas Dam,**	**1.20**	**143**	⇓*eP*	**Pb**	**06 37 04.7**	**-0.3**
PDPR	**Patillas Dam,**	**1.20**	**143**	*eS*	**Sn**	**06 37 19.7**	**-0.3**
HUMP	**Col San Antoni**	**1.22**	**134**	⇓*eP*	**Pb**	**06 37 04.7**	**+0.1**
HUMP	**Col San Antoni**	**1.22**	**134**	*eS*	**Sn**	**06 37 19.8**	**-0.6**
HATOM	**Hato Mayor del**	**2.48**	**266**	*e*Pg	**Pb**	**06 37 27.0**	**+0.3**
HATOM				IAML		06 38 09.2	
	comp=N,20nm,3.4s						

*ASRS **24** 06:55:10.0±0.6, 54.°35N×86.°90E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **24** 06:55:11.5±2.8, 54.°41N×86.°98E, h0km, mbtmp3.3/2, ML2.7/2, Error ellipse: s-maj=22.8km s-min=17.9km az=52.0*
NNC 24 06:55:08.5±1.9, **54.°40N×87.°14E**, **h0**km, **mb2.9, mpv2.7, 8C-1D, Error ellipse: s-maj=20.2km s-min=11.2km az=177.0, Suspected Mining explosion., Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**253**	I	I	07 03 15.0	
	0.1nm,1.1s,baz=71,slow=314,SNR=8.6						
ZAA0	**Zalesovo Array**	**1.44**	**253**	⇑P	Pn	06 55 35.3	-0.5
	0.4nm,0.3s						
ZAA0				⇑S	Sg	06 55 54.6	0.0
	8.0nm,1.0s						
ZALV	**Zalesovo Beam**	**1.44**	**253**	Pg	Pn	06 55 35.6	-0.2
	2.2nm,0.3s,baz=68,slow=16,SNR=22						
ZALV				Lg	Lg	06 55 54.0	
	4.2nm,0.3s,baz=76,slow=28,SNR=13						
KURK	**Kurchatov**	**6.37**	**238**	⇑Lg	Lg	06 58 30.1	
	7.2nm,1.1s						
KURBB	**Kurchatov Arra**	**6.47**	**238**	⇓Pn	Pn	06 56 43.5	-1.5
	2.5nm,0.6s						
KURBB				⇑Sn	Sn	06 58 00.5	+1.1
	4.7nm,0.5s						
KURBB				⇑Lg	Lg	06 58 33.4	
	9.0nm,0.6s						
KURBB	**Kurchatov Arra**	**6.47**	**238**	Pn	Pn	06 56 47.7	+2.7
	0.1nm,0.3s,baz=55,slow=14,SNR=11						
KURBB				Sn	Sn	06 58 01.1	+1.6
	0.1nm,0.3s,baz=230,slow=36,SNR=2.1						
KURBB				Lg	Lg	06 58 35.0	
	0.1nm,0.3s,baz=59,slow=33,SNR=6.6						
	1.3nm,0.5s						
MK31	**Makanchi Array**	**8.21**	**204**	⇑Pn	Pn	06 57 07.8	-1.1
	0.1nm,0.3s,baz=26,slow=14,SNR=11						
MK31				⇑Sn	Sn	06 58 45.1	+2.8
	0.4nm,0.5s,baz=30,slow=28,SNR=2.5						
MK31				⇑Lg	Lg	06 59 30.5	
	1.8nm,0.7s,baz=87,slow=2.4,SNR=2.8						
MKAR	**Makanchi Array**	**8.21**	**204**	Pn	Pn	06 57 12.7	+3.9
	0.1nm,0.3s,baz=26,slow=14,SNR=7.4						
MKAR				Sn	Sn	06 58 44.6	+2.3
	0.2nm,0.3s,baz=27,slow=29,SNR=5.9						
MKAR				Lg	Lg	06 59 29.6	
	0.1nm,0.3s,baz=24,slow=28,SNR=5.5						
	0.4nm,0.2s						

*KRNET **24** 07:01:06.5±0.1, 40.°51N×72.°59E, h11km, mb2.8*
*ISU **24** 07:01:07, 40.°60N×72.°55E, h2km*
*SOME **24** 07:01:07.5, 40.°53N×72.°58E, h5km*
*NNC **24** 07:01:08.3±1.9, 40.°51N×72.°54E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=15.9km s-min=7.2km az=172.0*
ISC 24 07:01:04.6±1.0, **40.°47N**±0.°03×**72.°60E**±0.°03, **h13**km±6km, **n19**, σ0**88**/32, **10C-9D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSTA	**Tashata**	**0.14**	**321**	P	**Pg**	**07 01 08.5**	**+0.2**
TSTA				S	**Sg**	**07 01 10.3**	**-0.5**
OHH	**Osh**	**0.15**	**68**	⇑*i*P	**Pb**	**07 01 09.3**	**-0.1**
OHH				⇑*i*S	**Sg**	**07 01 11.8**	**+0.6**
FRG	**Fergana**	**0.63**	**262**	P	**Pn**	**07 01 20.9**	**+1.7**
FRG				S	**Sn**	**07 01 30.0**	**+0.9**
SFK	**Sufi-Kurgan**	**0.83**	**123**	⇓*i*P	**Pn**	**07 01 22.8**	**+0.6**
SFK				⇓*i*S	**Sn**	**07 01 34.8**	**+0.4**
ARSB	**Arslanbob**	**0.91**	**19**	⇓*i*P	**Pn**	**07 01 23.0**	**-0.2**
ARSB				⇓*i*S	**Sn**	**07 01 35.3**	**-0.9**
SALK	**Salom-Alik**	**1.02**	**66**	⇑*i*P	**Pn**	**07 01 25.6**	**+0.8**
SALK				⇑*i*S	**Sn**	**07 01 39.6**	**+0.6**
ARK	**Arkit**	**1.41**	**340**	⇓*i*P	**Pg**	**07 01 32.5**	**+0.7**
ARK				⇓*i*S	**Sg**	**07 01 51.5**	**+1.3**
TRKS	**Terek-Say**	**1.53**	**314**	*e*P	**Pg**	**07 01 33.8**	**-0.2**
TRKS				*e*S	**Sg**	**07 01 53.4**	**-0.6**
MNAS	**Manas**	**2.02**	**358**	⇑*i*P	**Pg**	**07 01 43.0**	**-0.4**
MNAS				⇑*i*S	**Sg**	**07 02 09.8**	**+0.2**
GAR	**Garm**	**2.29**	**231**	⇓*i*P	**Pg**	**07 01 47.5**	**-1.0**
GAR				⇓*i*S	**Sg**	**07 02 17.6**	**-0.6**
MRKS	**Merke**	**2.33**	**12**	Pg	**Pg**	**07 01 49.7**	**+0.5**
	13nm,0.4s						
MRKS				Lg	Lg	07 02 20.0	
	38nm,0.4s						
MRKS	**Merke**	**2.33**	**12**	*e*P	**Pg**	**07 01 49.7**	**+0.5**
	13nm,0.4s						
MRKS				*e*S	**Sg**	**07 02 20.1**	**+0.7**
	38nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**2.56**	**312**	Pg	**Pg**	**07 01 54.4**	**+0.7**
	9.2nm,0.2s						
IUG				Lg	Lg	07 02 28.1	
	18nm,0.6s						
AAK	**Ala-Archa**	**2.59**	**33**	⇑Pn	**Pb**	**07 01 51.2**	**+0.1**
	2.6nm,0.5s						
AAK				⇑Sn	**Sg**	**07 02 25.9**	**-2.1**
	8.2nm,0.8s						
KK31	**Karatay Array**	**3.06**	**330**	⇓Pn	**Pb**	**07 01 56.9**	**-2.1**
	0.7nm,0.5s,baz=141,slow=13,SNR=6.7						
KK31				Lg	Lg	07 02 42.5	
	2.6nm,0.5s,baz=140,slow=31,SNR=7.0						
KST	**Kastek**	**3.60**	**43**	Pg	**Pg**	**07 02 13.2**	**-0.4**
	1.8nm,0.3s						
KST				Lg	Lg	07 03 00.7	
	2.4nm,0.6s						
KST	**Kastek**	**3.60**	**43**	*e*P	**Pg**	**07 02 13.2**	**-0.4**
	1.8nm,0.3s						
KST				*e*S	**Sg**	**07 03 00.7**	**+0.4**
	2.4nm,0.6s						
DGS	**Degeres**	**3.65**	**40**	Pg	**Pg**	**07 02 13.9**	**-0.7**
	2.9nm,0.4s						
DGS				Lg	Lg	07 03 01.5	
	3.5nm,0.6s						
KTBS	**Karatobe**	**4.45**	**42**	Pg	**Pg**	**07 02 29.3**	**-0.4**
	1.4nm,0.5s						
KTBS				Lg	Lg	07 03 28.3	
	3.0nm,0.3s						

*NEIC **24** 07:24:56.5±1.4, 19.°47ON±0.°01×155.°88W±0.°02, h5km±2km, Error ellipse: s-maj=3.3km s-min=3.0km az=260.0*
HVO 24 07:24:56.4±1.2, **19.°46N**±0.°01×**155.°88W**±0.°02, **h8**km±5km, **ML2.2**/11, **ML2.3**/42(NEIC), **Error ellipse: s-maj=3.6km s-min=1.3km az=72.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPH	**Captain Cook**	**0.05**	**305**		Pg	07 24 58.6	+0.6
KHLU	**Kahalu`u**	**0.13**	**353**		Pg	07 24 59.5	+0.2
KHLU					Sg	07 25 01.2	-0.2
HUH	**Hualalai**	**0.23**	**10**	Pg	Pg	07 25 01.4	+0.3
HUH				Sg	Sg	07 25 04.6	+0.4
HUH				IAML		07 25 08.4	
	comp=E,387nm,0.2s						
ALEP	**Alea Permanent**	**0.23**	**70**		Pg	07 25 01.8	+0.6
MWH	**Mokuaweoweo**	**0.26**	**85**	Pg	Pg	07 25 01.9	0.0
MWH				Sg	Sg	07 25 05.5	+0.1
MWH				IAML		07 25 10.3	
	comp=N,486nm,0.2s						
MWH				IAML		07 25 10.4	
	comp=E,378nm,0.6s						
KHU	**Kahuku**	**0.33**	**131**		Pg	07 25 03.0	+0.1
HMH	**Humu`ula Sheep**	**0.40**	**69**	Pg	Pg	07 25 04.2	0.0
HMH				IAML		07 25 10.9	
	comp=N,370nm,0.3s						
HMH				IAML		07 25 11.0	
	comp=E,320nm,0.3s						
AIN	**Ainahou**	**0.40**	**102**	Pg	Pg	07 25 04.0	-0.3
AIN				IAML		07 25 11.3	
	comp=E,397nm,0.4s						
POHA	**Pohakuloa**	**0.44**	**47**	Pg	Pg	07 25 04.8	-0.2
POHA				Sg	Sg	07 25 10.9	+0.1
POHA	**Pohakuloa**	**0.44**	**47**	IAML		07 25 18.5	
	comp=E,168nm,1.3s						
POHA				IAML		07 25 20.6	
	comp=E,188nm,0.6s						
MLH	**Mauna Loa**	**0.46**	**86**	Pg	Pg	07 25 05.0	-0.5
MLH				Sg	Sg	07 25 11.1	-0.4
MLH				IAML		07 25 16.6	
	comp=N,195nm,1.1s						
HTC	**Hot Caves**	**0.50**	**116**		Pg	07 25 05.8	-0.4
WRMHI	**West Rim**	**0.55**	**95**		Pg	07 25 06.2	-0.7
WRMHI					Sg	07 25 13.8	-0.4
UWE	**Uwekahuna**	**0.55**	**94**	Pg	Pg	07 25 06.3	-0.8
UWE				Sg	Sg	07 25 14.3	0.0
SDHHI	**Sand Hill**	**0.55**	**97**		Pg	07 25 06.2	-0.9
SDHHI					Sg	07 25 14.1	-0.3
HLP	**Hilina Pali**	**0.56**	**107**	Pg	Pg	07 25 06.8	-0.4
OBL	**Observatory Le**	**0.56**	**94**		Pg	07 25 06.4	-0.9
OBL					Sg	07 25 13.9	-0.7
RSD	**Rainshed**	**0.56**	**90**		Sg	07 25 14.7	0.0
UWB	**Uwekahuna Bluf**	**0.56**	**93**		Pg	07 25 06.3	-1.1
UWB					Sg	07 25 14.1	-0.7
RIM	**Rim**	**0.57**	**96**		Pg	07 25 06.6	-0.9
RIM					Sg	07 25 14.8	-0.2
SBLHI	**Steaming Bluff**	**0.57**	**93**		Pg	07 25 06.5	-1.0
SBLHI					Sg	07 25 14.4	-0.7
KKO	**Keanakako'i**	**0.58**	**96**		Pg	07 25 06.8	-0.9
HATHI	**Halema`uma`u T**	**0.58**	**94**	Pg	Pg	07 25 06.7	-1.0
HATHI				Sg	Sg	07 25 14.8	-0.5
HATHI				IAML		07 25 17.0	
	comp=E,208nm,1.4s						
HATHI				IAML		07 25 28.2	
	comp=N,206nm,1.8s						
BYL	**Byron's Ledge**	**0.58**	**95**	Pg	Pg	07 25 06.8	-0.9
BYL				IAML		07 25 27.4	
	comp=E,203nm,1.8s						
BYL				IAML		07 25 28.1	
	comp=N,152nm,1.6s						
HPAH	**Hawaii Prepara**	**0.59**	**16**	Pg	Pg	07 25 07.0	-0.9
PUH	**Pauahi**	**0.63**	**98**	Pg	Pg	07 25 07.1	-1.4
PUH				Sg	Sg	07 25 16.2	-0.6
PUH				IAML		07 25 22.7	
	comp=E,123nm,2.4s						
KNHH	**Kane Nui o Ham**	**0.67**	**97**	Pg	Pg	07 25 07.9	-1.5
STCH	**Steam Cracks**	**0.71**	**96**	Pg	Pg	07 25 08.5	-1.6
STCH				IAML		07 25 17.0	
	comp=E,96nm,3.6s						
STCH				IAML		07 25 22.8	
	comp=N,104nm,1.9s						
NPOC	**North of Pu'u**	**0.73**	**95**		Pg	07 25 08.8	-1.6
NPOC					Sg	07 25 18.7	-1.1
JOKA	**Jonika Flow**	**0.82**	**92**	Pg	Pg	07 25 10.2	-2.0
JOKA				IAML		07 25 23.6	
	comp=E,142nm,2.2s						

*IDC **24** 07:37:31.7±0.6, 12.°37N×144.°09E, h0km, mb4.2/20, mbtmp4.2/20, MS3.6/34, Error ellipse: s-maj=18.3km s-min=15.5km az=98.0*
*NEIC **24** 07:37:44.9±1.4, 13.°4N±0.°1×145.°55E±0.°07, h21km±3km, mb4.8/59, Error ellipse: s-maj=18.1km s-min=9.2km az=161.0*
ISC 24 07:37:32.8±0.6, **12.°30N**±0.°08×**144.°34E**±0.°09, **h10**km, **n108**, σ1**935**/59, **mb4.7**/52, **MS3.6**/35, **1C-1D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.39**	**22**		**Pg**	**07 37 59.1**	**-0.4**
GUMO	**Guam**	**1.39**	**22**	Pn	**Pg**	**07 37 58.9**	**-0.5**
	184nm,0.3s,baz=15,slow=7.8,SNR=62						
GUMO				Sn	**Sn**	**07 38 15.7**	**-0.9**
	207nm,0.3s,baz=19,slow=20,SNR=14						
PATS	**Pohnpei**	**14.81**	**110**	Pn	**Pn**	**07 41 03.1**	**+0.7**
JAY	**Jayapura**	**15.15**	**194**	LR	LR	07 46 04.7	
	comp=Z,194nm,18.7s,baz=15,slow=34						
DAV	**Davao City (W)**	**19.20**	**256**	LR	LR	07 48 23.4	
	comp=Z,43nm,21.9s,baz=242,slow=34						
JOW	**Kunigami**	**20.90**	**316**	P	Pn	07 42 15.1	-2.8
	3.5nm,0.5s,baz=151,slow=10,SNR=4.9						
JOW				LR	LR	07 48 27.2	
	comp=Z,160nm,21.6s,baz=30,slow=32						
	3.5nm,0.5s						
JHJ	**Hachijo jima 2**	**21.14**	**349**	LR	LR	07 49 34.4	
	comp=Z,168nm,18.4s,baz=112,slow=34						
H11S3	**WAKE ISLAND Hy**	**22.40**	**71**	T	T	08 06 09.4	
	baz=258,slow=72,SNR=28						
H11S1	**WAKE ISLAND Hy**	**22.42**	**71**	T	T	08 06 00.9	
	baz=258,slow=72,SNR=33						
H11S2	**WAKE ISLAND Hy**	**22.42**	**71**	T	T	08 06 07.5	
	baz=258,slow=72,SNR=31						
H11N1	**WAKE ISLAND Hy**	**22.88**	**68**	T	T	08 06 35.9	
	baz=254,slow=75,SNR=64						
H11N2	**WAKE ISLAND Hy**	**22.89**	**68**	T	T	08 06 34.1	
	baz=254,slow=75,SNR=66						
H11N3	**WAKE ISLAND Hy**	**22.90**	**68**	T	T	08 06 38.8	
	baz=254,slow=75,SNR=43						
JNU	**Nakatsue**	**24.11**	**331**	LR	LR	07 51 10.5	
	comp=Z,40nm,20.0s,baz=154,slow=34						
MJAR	**Matsushiro Arr**	**24.76**	**348**	P	**P**	**07 42 55.0**	**+0.2**
	2.6nm,0.8s,baz=173,slow=10.0,SNR=7.6						
MJAR				LR	LR	07 51 50.3	
	comp=Z,293nm,18.1s,baz=162,slow=35						
	2.6nm,0.8s						
HNR	**Honiara**	**26.58**	**144**	LR	LR	07 52 43.5	
	comp=Z,58nm,21.1s,baz=348,slow=34						
KSRS	**Korea Array**	**29.05**	**332**	P	**P**	**07 43 33.5**	**+0.3**
	1.1nm,0.8s,baz=147,slow=9.6,SNR=5.6						
	1.1nm,0.8s						
NJ2	**Nanjing**	**30.58**	**314**	*e*P	P	07 43 57.8	+11
NJ2				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ASAJ	**Asahikawa**	**31.74**	**358**	LR	LR	07 56 04.1	
	comp=Z,55nm,21.5s,baz=180,slow=35						
WRA	**Warramunga Arr**	**33.51**	**197**	P	**P**	**07 44 12.4**	**-0.3**
	comp=Z,3.9nm,0.9s,baz=15,slow=9.0,SNR=11						
	comp=Z,3.9nm,0.9s						
BNX	**BinXian**	**36.31**	**340**	⇓P	P	07 44 41.5	+4.9
BNX				pmax	pmax		
	comp=Z,12nm,1.0s						
HNS	**HongShan**	**36.43**	**318**	⇑P	**P**	**07 44 38.8**	**+1.0**
HNS				pmax	pmax		
	comp=Z,11nm,1.1s						
ASAR	**Alice Springs**	**37.17**	**196**	P	**P**	**07 44 44.2**	**0.0**
	comp=Z,1.8nm,0.8s,baz=17,slow=6.5,SNR=14						
ASAR				PcP	**PcP**	**07 47 06.3**	**+2.0**
	comp=Z,1.2nm,0.8s,baz=42,slow=2.5,SNR=6.5						
ASAR				LR	LR	08 00 09.4	
	comp=Z,64nm,19.1s,baz=54,slow=36						
	comp=Z,1.8nm,0.8s						
HHC	**Hu-ho-hao-te**	**40.42**	**321**	*e*P	P	07 45 22.6	+11
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,63nm,4.3s						
HHC				LR	LR		
	comp=N,100nm,16.8s						
HHC				LR	LR		
	comp=E,130nm,16.8s						
HHC				LR	LR		
	comp=Z,180nm,19.4s						
DZM	**Mont Dzumac**	**40.46**	**147**	*e*LR	LR	07 56 35.6	
	comp=Z,153nm,32.2s						
DZM	**Mont Dzumac**	**40.46**	**147**	LR	LR	08 01 36.3	
	comp=Z,116nm,18.1s,baz=12,slow=36						
PETK	**Petropavlovsk-**	**42.09**	**12**	LR	LR	07 59 59.1	
	comp=Z,38nm,20.8s,baz=190,slow=32						
PZH	**PanZhiHua**	**42.38**	**296**	P	P	07 45 43.6	+16
LZH	**Lanzhou**	**43.44**	**310**	*e*P	P	07 45 40.6	+4.3
LZH				pP	pwP	07 45 47.4	+1.2
LZH				pmax	pmax		
	comp=Z,11nm,1.2s						
LZH				LR	LR		
	comp=N,140nm,13.7s						
LZH				LR	LR		
	comp=E,130nm,14.1s						
LZH				LR	LR		
	comp=Z,150nm,14.1s						
CMAR	**Chiang Mai Arr**	**44.11**	**284**	P	**P**	**07 45 41.1**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=89,slow=6.8,SNR=12						
CMAR				LR	LR	08 03 57.1	
	comp=Z,38nm,18.9s,baz=115,slow=36						
	comp=Z,2.6nm,0.7s						
MA2	**Magadan**	**47.43**	**4**	LR	LR	08 05 28.6	
	comp=Z,34nm,20.6s,baz=140,slow=35						
SONM	**Songino Array**	**47.49**	**326**	P	**P**	**07 46 07.3**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=137,slow=6.5,SNR=3.9						
SONM				LR	LR	08 06 09.8	
	comp=Z,101nm,19.7s,baz=120,slow=36						
	comp=Z,0.6nm,0.4s						
GTA	**Gaotai**	**47.65**	**313**	*e*P	**P**	**07 46 10.8**	**+1.2**
GTA				pP	pwP	07 46 15.0	-4.5
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
WMQ	**Urumqi**	**57.66**	**314**	*e*P	P	07 47 36.5	+13
WMQ				LR	LR		
	comp=Z,150nm,19.7s						
TIXI	**Tiksi**	**60.06**	**354**	LR	LR	08 15 56.6	
	comp=Z,23nm,18.1s,baz=190,slow=38						
MKAR	**Makanchi Array**	**62.06**	**317**	P	**P**	**07 47 52.6**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=90,slow=9.1,SNR=11						
MKAR				LR	LR	08 15 21.1	
	comp=Z,44nm,20.1s,baz=10.0,slow=37						
	comp=Z,1.7nm,0.5s						
ZAA0	**Zalesovo Array**	**62.37**	**325**		S	07 56 29.4	+7.2
ZALV	**Zalesovo Beam**	**62.37**	**325**		S	07 56 28.8	+6.6
ZALV	**Zalesovo Beam**	**62.37**	**325**	P	**P**	**07 47 54.6**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=116,slow=5.0,SNR=1.3						
ZALV				PcP	**PcP**	**07 48 34.1**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=114,slow=3.6,SNR=4.3						
ZALV				LR	LR	08 14 41.7	
	comp=Z,62nm,19.7s,baz=100,slow=36						
	comp=Z,0.9nm,0.4s						
RAR	**Rarotonga**	**64.20**	**121**	LR	LR	08 11 56.9	
	comp=Z,40nm,20.7s,baz=272,slow=32						
KURBB	**Kurchatov Arra**	**65.28**	**320**	P	**P**	**07 48 13.4**	**-1.4**
	comp=Z,2.3nm,0.6s,baz=106,slow=6.7,SNR=12						
KURBB				LR	LR	08 17 11.0	
	comp=Z,97nm,19.2s,baz=176,slow=37						
	comp=Z,2.3nm,0.6s						
KDAK	**Kodiak Island**	**65.44**	**32**	LR	LR	08 13 13.7	
	comp=Z,22nm,21.6s,baz=235,slow=33						
AAK	**Ala-Archa**	**66.96**	**311**	LR	LR	08 19 26.5	
	comp=Z,49nm,19.8s,baz=126,slow=38						
CAST	**Castle Rocks**	**67.38**	**26**	P	**P**	**07 48 28.1**	**0.0**
CAST				IAmb	IAmb	07 48 29.3	
	comp=Z,5.7

comp=Z,1.4nm,0.9s,baz=296,slow=5.7,SNR=11
YKA LR LR 08 27 52.9
comp=Z,38nm,19.1s,baz=357,slow=36
comp=Z,1.4nm,0.9s
YKAW1 Yellowknife Wh 84.30 27 IAmb IAmb 07 50 06.3
comp=Z,11nm,1.4s
BELG Belogornoye 84.42 322 LR LR 08 28 58.8
comp=Z,75nm,19.6s,baz=71,slow=37
J05D Fort Rock, OR 84.87 47 P 07 50 10.2 +1.9
J05D IAmb IAmb 07 50 13.0
comp=Z,5.8nm,1.0s
PINE Pine Mountain 84.97 46 P 07 50 10.5 +1.6
B08A Colville Reser 85.08 42 P 07 50 10.1 +1.0
C09A Chrisman Ranch 85.90 42 IAmb IAmb 07 50 15.6
comp=Z,7.7nm,1.1s
BEKR Beckworth 86.24 50 P 07 50 17.1 +1.9
BEKR IAmb IAmb 07 50 17.3
comp=Z,3.5nm,0.9s
NEW Newport 86.53 41 P 07 50 17.3 +1.0
NEW Newport 86.53 41 P **P 07 50 17.3 +1.0**
comp=Z,8.4nm,1.0s,baz=284,slow=3.7,SNR=13
comp=Z,8.4nm,1.0s
PAHR Pah Rah Range 87.01 50 P 07 50 19.7 +0.7
PAHR IAmb IAmb 07 50 26.3
comp=Z,9.3nm,1.4s
RYN Ryan 87.91 51 IAmb IAmb 07 50 28.9
comp=Z,8.1nm,1.3s
LHV Little Huntoon 88.02 51 IAmb IAmb 07 50 27.4
comp=Z,11nm,1.4s
PLID Pearl Lake 88.10 44 P 07 50 25.1 +0.9
PLID IAmb IAmb 07 50 26.2
comp=Z,7.0nm,1.2s
NVAR Mina Array Bea 88.13 51 P 07 50 26.4 +1.9
NVAR Mina Array Bea 88.13 51 P **P 07 50 26.5 +2.0**
comp=Z,3.6nm,0.8s,baz=262,slow=5.3,SNR=17
comp=Z,3.6nm,0.8s
ARCES ARCESS Array B 88.15 342 P **P 07 50 24.1 +0.5**
comp=Z,1.1nm,0.7s,baz=78,slow=7.6,SNR=5.2
ARCES LR LR 08 32 56.1
comp=Z,23nm,19.5s,baz=79,slow=38
comp=Z,1.1nm,0.7s
NV11 Mina Array Sit 88.24 51 IAmb IAmb 07 50 30.5
comp=Z,7.9nm,1.4s
MFID Camas Ranch 88.67 46 IAmb IAmb 07 50 29.1
comp=Z,6.2nm,0.9s
HLID Hailey 89.62 45 P P 07 50 32.8 +1.5
HLID IAmb IAmb 07 50 36.4
comp=Z,7.7nm,1.4s
ELK Elko 89.82 48 IAmb IAmb 07 50 37.7
comp=Z,6.1nm,1.2s
ELK Elko 89.82 48 P P 07 50 34.3 +2.0
comp=Z,4.3nm,1.1s,baz=290,slow=5.7,SNR=10
comp=Z,4.3nm,1.1s
WCT Wildcat Mounta 89.83 52 IAmb IAmb 07 50 35.1
comp=Z,3.3nm,0.9s
GWY Greenwater Val 89.96 53 IAmb IAmb 07 50 50.1
comp=Z,5.5nm,1.1s
DLMT Dillon 90.33 43 IAmb IAmb 07 50 37.1
comp=Z,6.0nm,1.1s
PFO Pinyon Flats O 90.80 55 P P 07 50 38.6 +1.6
PFO IAmb IAmb 07 50 40.4
comp=Z,8.0nm,1.4s
PRN Pahroc Range 90.88 52 IAmb IAmb 07 51 00.8
comp=Z,4.3nm,1.0s
SPR3 Spring Creek 3 90.97 50 IAmb IAmb 07 50 51.9
comp=Z,5.9nm,1.4s
YHL Hebgen Lake 91.44 44 IAmb IAmb 07 50 46.2
comp=Z,7.7nm,1.1s
V12A Nelson 91.50 53 IAmb IAmb 07 50 48.2
comp=Z,9.1nm,1.2s
YMP Mirror Lake Pl 92.17 43 P P 07 50 46.2 +2.9
RLMT Red Lodge 92.63 43 IAmb IAmb 07 50 50.8
comp=Z,6.0nm,1.0s
Q16A Castle Valley 93.35 49 P P 07 50 49.4 +0.7
AKASG Malin Array Be 95.77 325 LR LR 08 37 50.2
comp=Z,42nm,18.1s,baz=55,slow=38
HFS Hagfors 97.78 337 LR LR 08 38 37.3
comp=Z,31nm,18.9s,baz=44,slow=38
NOA NORSAR Array B 98.06 339 LR LR 08 39 31.1
comp=Z,13nm,18.2s,baz=45,slow=38
MMAI Mount Meron Ar 98.72 306 LR LR 08 41 23.9
comp=Z,29nm,19.5s,baz=145,slow=39
MLR Muntele Rosu 100.17 321 LR LR 08 38 39.2
comp=Z,58nm,20.6s,baz=70,slow=37
PLCA Paso Flores 138.31 139 PKP **PKiKP 07 57 00.1 -0.8**
comp=Z,1.5nm,1.0s,baz=270,slow=3.0,SNR=3.8
LPAZ La Paz 148.31 101 PKPbc **PKPab 07 57 23.2 -1.0**
comp=Z,2.0nm,0.7s,baz=247,slow=2.6,SNR=5.4

*ASRS **24** 07:39:28.0±0.4,53.91N×86.62E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 24 07:39:30.9±3.0,54.00N×86.67E,h0km,mbtmp2.9/2, ML2.5/2,Error ellipse: s-maj=24.4km s-min=14.2km az=60.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.10**	**268**	I	I	07 46 44.7	
	baz=88,slow=320,SNR=4.5						
ZALV	**Zalesovo Beam**	**1.10**	**268**	Pg	Pg	07 39 50.8	-1.1
	0.9nm,0.3s,baz=82,slow=15,SNR=9.0						
ZALV				Lg	Lg	07 40 07.3	
	2.1nm,0.3s,baz=87,slow=29,SNR=14						
KURBB	**Kurchatov Arra**	**6.03**	**239**	Pn	Pn	07 41 02.2	+1.0
	0.1nm,0.3s,baz=57,slow=14,SNR=1.8						
	0.5nm,0.2s						
MKAR	**Makanchi Array**	**7.73**	**203**	Pn	Pn	07 41 26.0	+1.3
	0.1nm,0.3s,baz=25,slow=14,SNR=4.5						
MKAR				Lg	Lg	07 43 36.5	
	0.1nm,0.3s,baz=24,slow=32,SNR=5.4						
	0.3nm,0.4s						

NEIC 24 07:48:22.5±0.7,37.66N±0.02×105.49W±0.02,h6km±3km, mb_Lg2.6/86,ML2.8/52,Error ellipse: s-maj=2.7km s-min=1.8km az=224.0,Colorado

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDCO	**Great Sand Dun**	**0.09**	**355**		Pg	07 48 25.0	+0.3
SDCO				Sg	Sg	07 48 26.7	+0.5
SDCO				IAML		07 48 27.6	
	8µm,0.1s						
T25A	**Trinidad**	**1.01**	**121**		Pg	07 48 41.3	-0.5
T25A				Sg	Sg	07 48 54.3	-0.5
S22A	**4UR Ranch, Cre**	**1.06**	**275**		Pg	07 48 42.3	-0.6
S22A				IAML		07 49 01.0	
	comp=E,247nm,0.1s						
Q24A	**Divide**	**1.33**	**12**		Pn	07 48 47.3	-0.6
Q24A					Sg	07 49 04.6	-0.6
Q24A				IAML		07 49 05.8	
	comp=E,204nm,0.3s						
ISCO	**Idaho Springs**	**2.14**	**357**		Pb	07 49 00.8	-1.0
MVCO	**Mesa Verde**	**2.44**	**260**		Pn	07 49 04.3	+1.2
MVCO				IAML		07 49 47.3	
	comp=E,46nm,0.7s						
PV15	**Paradox Valley**	**2.46**	**287**		Pn	07 49 03.7	+0.3
PV15				IAML		07 49 46.3	
	comp=E,31nm,0.9s						
PV15				IAML		07 49 48.4	
	comp=N,32nm,0.9s						
RTBA	**Rita Blanca**	**2.52**	**118**		Pn	07 49 05.8	+1.8
RTBA				IAmb_Lg		07 49 45.7	
	comp=Z,18nm,1.0s						
KSCO	**Kaye Shedlock'**	**2.62**	**58**		Pb	07 49 07.9	-2.1
PV02	**Paradox Valley**	**2.62**	**283**		Pn	07 49 07.3	+1.7
PV02				IAML		07 49 52.8	
	comp=N,76nm,1.0s						
PV03	**Paradox Valley**	**2.72**	**284**		Pn	07 49 08.2	+1.3
PV03				IAML		07 49 54.6	
	comp=N,42nm,1.4s						
ANMO	**Albuquerque**	**2.82**	**196**		Pn	07 49 09.2	+1.0
HAYD	**Hayden**	**3.17**	**335**		Pn	07 49 14.4	+1.2
HAYD				IAML		07 50 06.1	
	comp=E,19nm,0.6s						
HAYD				IAML		07 50 08.7	
	comp=N,18nm,0.6s						
O20A	**White River Ci**	**3.27**	**320**		Pn	07 49 15.9	+1.4
O20A				IAML		07 50 09.7	
	comp=N,14nm,0.6s						
Y22A	**Socorro**	**3.90**	**198**		Pn	07 49 24.3	+1.1
Y22A				IAML		07 50 33.3	
	comp=E,9.4nm,0.6s						
P18A	**Preston Nutter**	**4.21**	**299**		Pn	07 49 28.0	+0.5
P18A				IAML		07 50 38.5	
	comp=N,8.6nm,0.6s						
P18A				IAML		07 50 41.5	
	comp=E,9.5nm,1.2s						
SRU	**San Rafael Swe**	**4.21**	**292**		Pn	07 49 28.2	+0.8
SRU				IAML		07 50 49.3	
	comp=E,14nm,0.7s						
SRU				IAML		07 50 49.5	
	comp=N,11nm,0.8s						
MSTX	**Muleshoe**	**4.29**	**148**	IAmb_Lg		07 50 44.6	
	comp=Z,11nm,0.9s						
Q16A	**Castle Valley**	**4.64**	**287**	IAmb_Lg		07 50 54.6	
	comp=Z,9.0nm,1.0s						
CBKS	**Cedar Bluff**	**4.67**	**74**	IAmb_Lg		07 50 54.0	
	comp=Z,13nm,0.8s						
TMUT	**Trail Mountain**	**4.77**	**292**		Pn	07 49 36.1	+0.9
SMWD	**Samnorwood**	**4.94**	**119**	IAmb_Lg		07 51 00.3	
	comp=Z,14nm,0.9s						
WUAZ	**Wupatki**	**5.20**	**247**		Pn	07 49 43.7	+2.8
R32A	**Long Quarter,**	**5.41**	**80**	IAmb_Lg		07 51 27.2	
	comp=Z,11nm,0.8s						
DKNS	**Dickens**	**5.45**	**136**	IAmb_Lg		07 51 16.7	
	comp=Z,12nm,1.0s						
OK038	**West end E0370**	**5.52**	**100**	IAmb_Lg		07 51 22.4	
	comp=Z,11nm,0.9s						
U15A	**North Rim**	**5.58**	**259**		Pn	07 49 48.6	+2.4
POST	**Post**	**5.62**	**143**	IAmb_Lg		07 51 27.9	
	comp=Z,7.3nm,1.0s						
X16A	**Lo Mia Camp, P**	**5.81**	**238**	Pn	Pn	07 49 48.3	-1.0
KAN12	**Harper NE Stat**	**5.97**	**91**	IAmb_Lg		07 51 39.5	
	comp=Z,11nm,0.7s						
SN05	**Snyder 5**	**6.08**	**140**	IAmb_Lg		07 51 41.8	
	comp=Z,6.2nm,0.8s						
APMT	**Aspermont**	**6.16**	**133**	IAmb_Lg		07 51 38.5	
	comp=Z,10.0nm,0.9s						
WMOK	**Wichita Mounta**	**6.16**	**116**	IAmb_Lg		07 51 54.9	
	comp=Z,6.1nm,1.0s						
KAN13	**South Haven SW**	**6.42**	**93**	IAmb_Lg		07 51 48.8	
	comp=Z,7.8nm,0.8s						
RSSD	**Black Hills**	**6.55**	**9**	IAmb_Lg		07 52 05.1	
	comp=Z,7.1nm,1.1s						
OK029	**Liberty Lake**	**6.72**	**104**	IAmb_Lg		07 52 03.3	
	comp=Z,8.6nm,0.7s						
ABTX	**Abilene, Hawle**	**6.94**	**135**	IAmb_Lg		07 52 03.4	
	comp=Z,9.3nm,1.1s						
FNO	**Franklin**	**6.95**	**108**	IAmb_Lg		07 52 10.4	
	comp=Z,5.2nm,1.1s						
TUL3	**Lenard**	**7.98**	**100**	IAmb_Lg		07 52 37.3	
	comp=Z,6.6nm,0.9s						
JCT	**Junction City**	**8.58**	**145**	IAmb_Lg		07 53 05.4	
	comp=Z,4.5nm,0.7s						

*HEL **24** 07:49:44.3±0.1,63.96N×28.08E,h0km,ML1.8,Explosion Hypocentre not reviewed by the ISC*
*IDC **24** 07:49:58.8±1.4,63.94N×28.23E,h0km,mbtmp2.8/4, ML2.3/4,Error ellipse: s-maj=21.5km s-min=8.9km az=103.0*
*UPP **24** 07:49:59.9±3.1,63.85N×27.69E,h0km,ML2.2*

ISC 24 07:49:57.9±1.9,63.86N±0.06×28.1E±0.2,h10km,n13, σ1s62/16,Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIF	**Nilsia**	**0.49**	**196**	PG		07 49 55.2	
NIF				SG		07 50 02.6	
RMF	**Romuvaara**	**0.88**	**65**	PG		07 49 59.9	
RMF				SG		07 50 10.4	
RMF				MSG		07 50 10.8	
	comp=Z,45nm,0.2s						
SUF	**Sumiainen**	**1.45**	**219**	PN		07 50 12.3	
SUF				MSG		07 50 29.9	
	comp=Z,4.6nm,0.2s						
OUL	**Oulu**	**1.56**	**323**	PN		07 50 11.8	
OUF	**Merijarvi**	**1.57**	**291**	PN		07 50 12.0	
OUF				MSG		07 50 29.9	
	comp=Z,7.6nm,0.2s						
OBF4	**Vikkela, Lumij**	**1.62**	**308**	PN		07 50 13.0	
	baz=120						
OBF4				MSG		07 50 30.7	
	comp=Z,4.5nm,0.2s						
JOF	**Joensuu**	**1.72**	**122**	PG		07 50 16.2	
	baz=308						
OBF0	**Syolatti, Pyha**	**1.81**	**292**	PG		07 50 16.7	
OBF0				MSG		07 50 36.9	
	comp=Z,6.3nm,0.2s						
KU1	**Kurvinen**	**1.82**	**19**	PG		07 50 15.4	
KU2	**Taivalkoski**	**1.86**	**1**	PG		07 50 15.7	
KAF	**Kangasniemi**	**1.94**	**206**	PG		07 50 20.7	
KAF				MSG		07 50 44.4	
	comp=Z,4.2nm,0.2s						
MSF	**Maaselka**	**2.10**	**10**	PG		07 50 19.8	
OBF8	**Ulkokalla**	**2.10**	**285**	PG		07 50 21.3	
OBF8				MSG		07 50 45.5	
	comp=Z,4.1nm,0.2s						
RANF	**Ranua**	**2.24**	**346**	PG		07 50 22.8	
	baz=163						
RANF				SG		07 50 50.4	
KEF	**Keuruu**	**2.25**	**223**	PG		07 50 25.7	
KEF				MSG		07 50 53.0	
	comp=Z,4.7nm,0.2s						
KU6	**Riekki**	**2.31**	**18**	PG		07 50 23.6	
	baz=201						
KU6				MSG		07 50 49.6	
	comp=Z,3.4nm,0.2s						
RUF	**Ruokolahti**	**2.47**	**171**	PG		07 50 30.1	
RUF				MSG		07 51 00.5	
	comp=Z,3.7nm,0.2s						
OLKF	**Oulanka, Finla**	**2.53**	**12**	PG		07 50 28.4	
OLKF				MSG		07 50 56.1	
	comp=Z,3.1nm,0.2s						
FINES	**FINESS Array B**	**2.60**	**202**	Pn	**Pb**	**07 50 44.8**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=22,slow=16,SNR=17						
FINES				Sn	**Sg**	**07 51 20.1**	**-1.1**
	comp=Z,1.7nm,0.3s,baz=22,slow=26,SNR=8.6						
	comp=Z,2.5nm,0.3s						
SJUU	**Sjulsmark**	**3.25**	**304**	P	**Pn**	**07 50 49.8**	**+0.9**
ERTU	**Ertsjaerv**	**3.68**	**320**	P	**Pn**	**07 50 56.2**	**+1.4**
ERTU				S	**Sn**	**07 51 38.7**	**+0.6**
PAJU	**Pajala**	**3.80**	**329**	P	**Pn**	**07 50 57.6**	**+1.2**
HARU	**Harads**	**3.81**	**311**	P	**Pn**	**07 50 57.6**	**+1.1**
MASU	**Masugnsbyn**	**4.41**	**328**	P	**Pn**	**07 51 05.9**	**+1.1**
RAJF	**Raja-Jooseppi**	**4.64**	**1**	SG		07 52 01.3	
KUA	**Kurravaara**	**5.20**	**326**	P	**Pn**	**07 51 17.3**	**+1.7**
RATU	**Laukkuluspa**	**5.30**	**322**	P	**Pn**	**07 51 18.7**	**+1.7**
SALU	**Saltoluokta**	**5.32**	**316**	P	**Pn**	**07 51 18.2**	**+0.9**
ARCES	**ARCESS Array B**	**5.80**	**351**	Pn	**Pn**	**07 51 24.3**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=166,slow=13,SNR=26						
ARCES				Sn	**Sn**	**07 52 26.6**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=170,slow=22,SNR=8.4						
	comp=Z,0.3nm,0.3s						
I37NO	**I37NO**	**6.47**	**328**	I	I	08 25 43.6	
	baz=142,slow=312,SNR=6.4						
HFS	**Hagfors**	**7.74**	**248**	Pn	**Pn**	**07 51 52.3**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=60,slow=12,SNR=10						
HFS				Sn	**Sn**	**07 53 17.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=62,slow=30,SNR=1.7						
	comp=Z,0.3nm,0.2s						
NOA	**NORSAR Array B**	**8.32**	**258**	Pn	**Pn**	**07 51 56.8**	**-1.7**
	baz=65,slow=11,SNR=5.7						
	comp=Z,0.2nm,0.7s						

IDC 24 07:55:18.9±3.5,54.33N×87.26E,h0km,mbtmp2.5/2, ML2.3/2,Error ellipse: s-maj=31.0km s-min=19.8km az=52.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**256**	I	I	08 04 08.8	
	baz=77,slow=320,SNR=13						
ZALV	**Zalesovo Beam**	**1.49**	**256**	Pg	Pn	07 55 44.5	-2.4
	1.2nm,0.3s,baz=78,slow=17,SNR=13						
ZALV				Lg	Lg	07 56 06.8	
	1.7nm,0.3s,baz=73,slow=26,SNR=7.9						
KURBB	**Kurchatov Arra**	**6.50**	**239**	Pn	Pn	07 56 56.0	+0.3
	baz=55,slow=13,SNR=4.0						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**8.18**	**205**	Pn	Pn	07 57 20.7	+1.9
	0.1nm,0.3s,baz=25,slow=13,SNR=2.2						
	0.1nm,0.3s						

*ASRS **24** 08:00:18.0±0.6,54.63N×83.74E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

*IDC **24** 08:00:20.8±1.7,54.62N×83.73E,h0km,mbtmp3.0/3, ML2.7/3,Error ellipse: s-maj=17.4km s-min=8.9km az=15.0.*
*NNC **24** 08:00:44.8±1.8,53.95N×83.47E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=29.8km s-min=15.6km az=125.0, Suspected Mining explosion.*

ISC 24 08:00:04.4±10.0,55.8N±0.7×84.3E±0.3,h0km,n8,σ0s54/5, 2C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**171**	I	I	08 06 32.2	
	baz=317,slow=318,SNR=20						
ZALV	**Zalesovo Beam**	**1.91**	**171**	Pg	**Pn**	**08 00 38.2**	**+0.1**
	2.8nm,0.3s,baz=321,slow=16,SNR=13						
ZALV				Lg	Lg	08 00 52.4	
	13nm,0.3s,baz=319,slow=22,SNR=11						
KURK	**Kurchatov**	**6.17**	**216**	⇑Pn	**Pb**	**08 01 52.8**	**+0.2**
	4.1nm,1.1s						
KURK				⇓Lg	Lg	08 03 04.7	
	13nm,1.3s						
KURBB	**Kurchatov Arra**	**6.28**	**216**	⇓Lg	Lg	08 03 07.9	
	12nm,0.7s						
KURBB	**Kurchatov Arra**	**6.28**	**216**	Pn	**Pn**	**08 01 37.6**	**-0.4**
	0.1nm,0.3s,baz=40,slow=13,SNR=6.4						
KURBB				Lg	Lg	08 03 03.6	
	0.1nm,0.3s,baz=39,slow=28,SNR=6.5						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**8.61**	**257**	Pn	Pn	08 02 19.2	+9.2
	0.1nm,0.3s,baz=68,slow=13,SNR=3.7						
BVAR				Sn	**Sn**	**08 03 48.0**	**+0.3**
	baz=70,slow=25,SNR=2.0						
BVAR				Lg	Lg	08 04 32.8	
	baz=70,slow=22,SNR=1.5						
	0.9nm,0.4s						
MK31	**Makanchi Array**	**9.14**	**189**	⇑Lg	Lg	08 04 33.8	
	1.4nm,0.7s,baz=219,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**9.14**	**189**	Pn	**Pn**	**08 02 16.9**	**-0.5**
	0.2nm,0.3s,baz=10,slow=11,SNR=4.9						
	0.3nm,0.4s						

*CATAC **24** 08:00:17.1±0.5,7.7N±2.7×7.3W±.,h156km±4km,M3.5/11, mb3.3/2,MLv3.7/11,Error ellipse: s-maj=7.8km s-min=4.6km az=96.1,confirmed*
*RSNC **24** 08:00:18.3±0.0,7.7N±1.7×7.7W±.,h152km±2km,M3.1, mB4.6,mb3.7,ML3.0,Mw(mB)3.8*

ISC 24 08:00:16.3±1.0,6.86N±0.03×73.10W±0.04,h160km±7km, n52,σ1s17/94,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.27**	**197**	P	**Pn**	**08 00 38.7**	**+0.4**
BARC				S	**Sn**	**08 00 53.6**	**-1.5**
PAMC	**Pamplona, Colo**	**0.63**	**40**	P	**Pn**	**08 00 41.3**	**+1.2**
PAMC				S	**Sn**	**08 00 58.5**	**+0.3**
BRJC	**Barrancabermej**	**0.65**	**280**	P	**Pn**	**08 00 40.4**	**+0.8**
BRJC				S	**Sn**	**08 00 57.8**	**+0.5**
RUSC	**La Rusia**	**0.96**	**179**	P	**Pn**	**08 00 42.5**	**+0.2**
RUSC				S	**Sn**	**08 01 01.4**	**-0.8**
RUSC	**La Rusia**	**0.96**	**179**	P	**Pn**	**08 00 42.4**	**+0.1**
RUSC				S	**Sn**	**08 01 01.3**	**-0.8**
TAMC	**Tame, Arauca**	**1.37**	**108**	P	**Pn**	**08 00 46.7**	**+1.3**
TAMC				S	**Sn**	**08 01 08.3**	**+0.6**
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	P	**Pn**	**08 00 45.2**	**-0.3**
PTBC				S	**Sn**	**08 01 06.9**	**-0.9**
OCAC	**Ocana**	**1.39**	**351**	P	**Pn**	**08 00 46.9**	**+1.1**
OCAC				S	**Sn**	**08 01 09.4**	**+1.0**
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	P	**Pn**	**08 00 51.1**	**+0.7**
ZARC				S	**Sn**	**08 01 17.0**	**+0.3**
NORC	**Norcasia**	**2.17**	**234**	P	**Pn**	**08 00 54.5**	**+0.3**
NORC				S	**Sn**	**08 01 23.5**	**+0.2**
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**08 00 58.0**	**+1.6**
ROSC				S	**Sn**	**08 01 27.7**	**+0.3**
HELC	**Santa Helena**	**2.50**	**255**	P	**Pn**	**08 00 59.9**	**+1.6**
HELC				S	**Sn**	**08 01 30.2**	**-0.4**
HELC	**Santa Helena**	**2.50**	**255**	P	**Pn**	**08 00 58.5**	**+0.2**
HELC				S	**Sn**	**08 01 30.6**	**0.0**
CVER	**Cruz Verde, Cu**	**2.51**	**203**	P	**Pn**	**08 00 59.5**	**+0.9**
MEDEC	**Medellin, Ant**	**2.54**	**257**	P	**Pn**	**08 01 00.1**	**+1.5**
MEDEC				S	**Sn**	**08 01 33.2**	**+2.0**
UREC	**San Jos de Ur**	**2.57**	**290**	P	**Pn**	**08 00 58.7**	**-0.1**
UREC				S	**Sn**	**08 01 30.2**	**-1.4**
GUY2C	**Guyana, Caldas**	**2.77**	**234**	P	**Pn**	**08 01 02.9**	**+1.2**
GUY2C				S	**Sn**	**08 01 37.9**	**+1.1**
VILC	**Villavicencio,**	**2.79**	**192**	P	**Pn**	**08 01 02.1**	**+0.5**
VILC				S	**Sn**	**08 01 37.5**	**+0.8**
NIZA	**Niza - Manizal**	**2.96**	**233**	P	**Pn**	**08 01 06.2**	**+2.4**
NIZA				S	**Sn**	**08 01 43.3**	**+2.7**
CBOC	**Ciudad Bolivar**	**3.05**	**251**	P	**Pn**	**08 01 06.2**	**+1.2**
CBOC				S	**Sn**	**08 01 41.6**	**-1.0**
DBBC	**Dabeiba**	**3.09**	**273**	P	**Pn**	**08 01 06.2**	**+0.9**
DBBC				S	**Sn**	**08 01 40.8**	**-2.4**
SDV	**Santo Domingo**	**3.17**	**50**	P	**Pn**	**08 01 07.2**	**+0.7**
SDV				S	**Sn**	**08 01 45.1**	**-0.2**
ARGC	**Ariguani, Magd**	**3.19**	**339**	P	**Pn**	**08 01 08.3**	**+1.8**
ARGC				S	**Sn**	**08 01 47.2**	**+1.7**
ANIL	**Santa Ana**	**3.28**	**224**	P	**Pn**	**08 01 09.4**	**+1.5**
ANIL				S	**Sn**	**08 01 50.2**	**+2.3**
PRAC	**Prado**	**3.59**	**210**	P	**Pn**	**08 01 12.3**	**+0.6**
PRAC				S	**Sn**	**08 01 54.3**	**-0.3**
PRAC	**Prado**	**3.59**	**210**	P	**Pn**	**08 01 11.8**	**+0.1**
PRAC				S	**Sn**	**08 01 54.7**	**0.0**
APAC	**Apartado, Choc**	**3.60**	**287**	P	**Pn**	**08 01 12.3**	**+0.6**
APAC				S	**Sn**	**08 01 54.9**	**+0.1**
ORTC	**Ortega, Tolima**	**3.62**	**216**	P	**Pn**	**08 01 12.5**	**+0.4**
ORTC				S	**Sn**	**08 01 56.1**	**+0.7**
SJCC	**San Jacinto, C**	**3.65**	**326**	P	**Pn**	**08 01 12.3**	**-0.1**
SJCC				S	**Sn**	**08 01 54.3**	**-1.9**
SJCC	**San Jacinto, C**	**3.65**	**326**	P	**Pn**	**08 01 12.4**	**-0.1**
SJCC				S	**Sn**	**08 01 54.4**	**-1.8**
PLMC	**San Jos del P**	**3.71**	**239**	P	**Pn**	**08 01 14.2**	**+1.0**
PLMC				S	**Sn**	**08 01 58.2**	**+0.8**
URMC	**La Uribe, Meta**	**3.80**	**200**	P	**Pn**	**08 01 15.1**	**+0.7**
URMC				S	**Sn**	**08 02 00.4**	**+0.7**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P	**Pn**	**08 01 18.6**	**-0.3**
CRJC				S	**Sn**	**08 02 06.3**	**-1.3**
YOTC	**Yotoco, Valle**	**4.31**	**229**	P	**Pn**	**08 01 21.2**	**+0.2**
YOTC				S	**Sn**	**08 02 12.0**	**+0.6**
GUVC	**San Jose del G**	**4.31**	**174**	P	**Pn**	**08 01 20.0**	**-0.9**
GUVC				S	**Sn**	**08 02 09.2**	**-2.1**
SMRC	**Santa Marta, M**	**4.42**	**346**	P	**Pn**	**08 01 23.8**	**+1.4**
SMRC				S	**Sn**	**08 02 12.4**	**-1.5**
MACC	**Macarena, Meta**	**4.74**	**189**	P	**Pn**	**08 01 25.2**	**-1.4**
MACC				S	**Sn**	**08 02 19.4**	**-2.0**
URI	**Uribia**	**4.94**	**13**	P	**Pn**	**08 01 28.6**	**-0.6**
URIC	**Uribia, Colomb**	**4.94**	**13**	P	**Pn**	**08 01 28.1**	**-1.1**
URIC				S	**Sn**	**08 02 28.3**	**+2.2**
JAMC	**Jamundi, Valle**	**5.07**	**225**	P	**Pn**	**08 01 31.4**	**+0.3**
JAMC				S	**Sn**	**08 02 29.6**	**+0.1**
GARC	**Garzon, Huila**	**5.21**	**207**	P	**Pn**	**08 01 32.4**	**-0.6**
GARC				S	**Sn**	**08 02 29.8**	**-3.2**
POPC	**Popayan, Colom**	**5.57**	**220**	P	**Pn**	**08 01 38.0**	**+0.3**
	7.6nm,0.9s						
POPC				S	**Sn**	**08 02 40.4**	**-1.0**
	7.6nm,0.9s						
FLOC	**Florencia**	**5.82**	**206**	P	**Pn**	**08

GSC				IAML		08 16 50.6		
	comp=N,716nm,0.5s							
GSC	**Goldstone, Bar**	**0.42**	**318**		Sg	08 16 50.2	+0.9	
RRX	**Edison Barstow**	**0.46**	**255**		Pg	08 16 44.8	+0.3	
RRX					Sg	08 16 50.7	+0.3	
TUQ	**Turquoise Moun**	**0.62**	**45**		Pg	08 16 47.8	0.0	
TUQ					Sg	08 16 56.4	+0.5	
GMRC	**Granite Mounta**	**0.69**	**107**		Pg	08 16 48.9	-0.1	
GMRC					Sg	08 16 58.0	0.0	
GTM	**Goat Mountain**	**0.70**	**173**		Pg	08 16 49.0	-0.2	
GTM					Sg	08 16 58.7	+0.4	
SIL	**Silver Peak**	**0.71**	**205**		Pg	08 16 59.4	+0.8	
BBRC	**Big Bear Solar**	**0.82**	**208**		Pg	08 16 51.3	-0.2	
VTV	**Victorville**	**0.83**	**239**		Pg	08 16 51.4	-0.4	
VTV					Sg	08 17 02.7	+0.1	
MTPC	**Mountain Pass**	**0.89**	**56**		Pg	08 16 52.5	-0.4	
MTPC					Sg	08 17 04.3	-0.1	
MTPC	**Mountain Pass**	**0.89**	**56**	IAML		08 17 07.3		
	comp=N,269nm,0.2s							
MTPC				IAML		08 17 08.4		
	comp=E,435nm,0.1s							
CCCA	**Chr Cany lake**	**0.91**	**306**		Pg	08 16 52.9	-0.4	
CCCA					Sg	08 17 05.2	+0.1	
CCCA	**Chr Cany lake**	**0.91**	**306**	IAML		08 17 08.9		
	comp=E,521nm,0.2s							
ADO	**Adelanto Recei**	**0.91**	**242**		Pg	08 16 53.4	+0.1	
ADO					Sg	08 17 05.8	+0.7	
HYS	**Haystack Butte**	**0.92**	**262**		Pg	08 16 52.8	-0.7	
HYS					Sg	08 17 04.9	-0.4	
SHOC	**Shoshone, Teco**	**0.92**	**9**		Pg	08 16 53.0	-0.4	
BLAC	**Blackrock camp**	**0.92**	**176**		Pg	08 16 53.0	-0.4	
BLAC					Sg	08 17 05.7	+0.3	
DANC	**Danby, Needles**	**0.96**	**111**		Sg	08 17 07.2	+0.7	
QSM	**Queen of Sheba**	**1.03**	**341**		Pg	08 16 55.0	-0.5	
QSM					Sg	08 17 08.9	0.0	
SVD	**Seven Oaks Dam**	**1.03**	**211**		Pg	08 16 54.8	-0.7	
SVD					Sg	08 17 08.6	-0.2	
WSHM	**Spangler Hills**	**1.04**	**306**		Pg	08 16 55.1	-0.6	
WSHM					Sg	08 17 09.4	+0.2	
WSHM	**Spangler Hills**	**1.04**	**306**	IAML		08 17 11.7		
	comp=E,259nm,0.1s							
EW2	**E Wide Canyon**	**1.05**	**178**		Sg	08 17 10.1	+0.6	
BELC	**Belle Mtn. Jos**	**1.06**	**159**		Pg	08 16 55.7	-0.4	
BELC					Sb	08 17 10.8	-0.5	
BELC	**Belle Mtn. Jos**	**1.06**	**159**	IAML		08 17 13.2		
	comp=N,390nm,0.3s							
CFT	**Crafton Hills**	**1.09**	**210**		Pg	08 16 56.6	-0.2	
LRMC	**Laurel Mtn Rad**	**1.11**	**296**		Pg	08 16 56.6	-0.5	
LRMC					Sg	08 17 11.2	-0.4	
LRMC	**Laurel Mtn Rad**	**1.11**	**296**	IAML		08 17 13.9		
	comp=N,334nm,0.4s							
GWY	**Greenwater Val**	**1.21**	**352**		Pg	08 16 58.6	-0.3	
BFSC	**Mount Baldy Ra**	**1.24**	**233**		Pg	08 16 59.1	-0.5	
BFSC				IAML		08 17 17.1		
	comp=E,219nm,0.4s							
BFSC				IAML		08 17 17.8		
	comp=N,154nm,0.4s							
CLC	**China Lake**	**1.24**	**312**		Pg	08 16 58.5	-1.1	
CLC				IAML		08 17 16.4		
	comp=E,110nm,0.5s							
CLC				IAML		08 17 17.5		
	comp=N,100nm,0.2s							
PMD	**Palm Desert**	**1.34**	**177**		Pg	08 16 59.9	-1.6	
MPMC	**Manual Prospec**	**1.35**	**322**	IAML		08 17 21.3		
	comp=N,103nm,0.5s							
MPMC				IAML		08 17 21.6		
	comp=E,186nm,0.5s							
IRM	**Iron Mountain**	**1.37**	**127**		Pn	08 16 59.8	-2.2	
PFO	**Pinyon Flats O**	**1.38**	**180**		Pg	08 17 00.6	-1.6	
TPO	**Tropico Hills**	**1.46**	**266**		Pn	08 17 03.1	-0.1	
TPO				IAML		08 17 23.3		
	comp=E,256nm,0.5s							
AMDNV	**Amargosa**	**1.47**	**6**		Pn	08 17 01.6	-1.7	
V12A	**Nelson**	**1.51**	**60**		Pn	08 17 02.3	-1.7	
V12A				IAML		08 17 25.5		
	comp=E,109nm,0.3s							
V12A				IAML		08 17 26.6		
	comp=N,115nm,0.4s							
MWC	**Mount Wilson**	**1.52**	**240**		Pn	08 17 03.6	-0.7	
MWC				IAML		08 17 26.3		
	comp=N,146nm,0.3s							
MWC				IAML		08 17 27.3		
	comp=E,139nm,0.3s							
NEE2	**Needles Airpor**	**1.53**	**98**		Pn	08 17 04.1	-0.1	
ELS	**Elsinore Mount**	**1.56**	**211**		Pn	08 17 03.6	-1.0	
ELS				IAML		08 17 25.9		
	comp=E,100nm,0.4s							
PASC	**Pasadena Art C**	**1.64**	**241**	IAML		08 17 29.5		
	comp=N,78nm,0.7s							
PASC				IAML		08 17 30.2		
	comp=E,68nm,0.6s							
BORC	**Borrego Spring**	**1.72**	**179**		Pn	08 17 05.7	-1.0	
ISA	**Isabella, Lake**	**1.78**	**293**	IAML		08 17 33.0		
	comp=E,94nm,0.5s							
WCT	**Wildcat Mounta**	**1.80**	**356**		Pn	08 17 08.5	+0.5	
WCT				IAML		08 17 37.0		
	comp=E,77nm,0.6s							
SHPR	**Sheep Range**	**1.84**	**35**		Pn	08 17 09.4	+0.8	
ARVC	**Arvin**	**1.95**	**275**		Pb	08 17 12.1	+0.1	
CWC	**Cottonwood Cre**	**1.96**	**318**		Pn	08 17 10.4	+0.2	
TPNV	**Topopah Spring**	**1.96**	**5**		Pn	08 17 09.6	-0.7	
TPNV				IAML		08 17 41.5		
	comp=E,128nm,0.4s							
TPNV				IAML		08 17 42.7		
	comp=E,108nm,0.4s							
SLVP	**Salvation Pass**	**1.99**	**151**		Pg	08 17 13.4	-0.6	
BLYC	**Blythe**	**2.02**	**127**		Pn	08 17 09.2	-1.8	
BLYC				IAML		08 17 41.6		
	comp=N,106nm,0.5s							
DPP	**Dos Picos Cty**	**2.03**	**191**		Pn	08 17 10.4	-0.6	
DPP				IAML		08 17 39.1		
	comp=N,40nm,0.3s							
DPP				IAML		08 17 39.8		
	comp=E,51nm,0.6s							
W13A	**Hualapai Mount**	**2.12**	**86**		Pn	08 17 10.5	-1.9	
W13A				IAML		08 17 43.9		
	comp=E,39nm,0.5s							
W13A				IAML		08 17 43.9		
	comp=N,46nm,0.3s							
GRAC	**Grapevine Rang**	**2.13**	**340**		Pn	08 17 12.0	-0.5	
GRAC				IAML		08 17 52.3		
	comp=N,120nm,0.6s							
IKP	**In-Ko-Pah, Jac**	**2.35**	**173**		Pn	08 17 13.7	-1.9	
GMN	**Gold Mountain**	**2.39**	**345**		Pn	08 17 15.7	-0.6	
GMN				IAML		08 17 53.4		
	comp=N,35nm,0.4s							
COA	**Coachella**	**2.40**	**152**		Pn	08 17 14.0	-2.0	
PRN	**Pahroc Range**	**2.67**	**25**		Pn	08 17 19.5	-0.4	
PRN				IAML		08 18 04.4		
	comp=N,59nm,0.4s							
PRN				IAML		08 18 06.4		
	comp=E,60nm,0.8s							
DSP	**Deep Springs**	**2.67**	**333**		Pn	08 17 19.3	-0.5	
Y14A	**Wickenburg**	**3.04**	**109**		Pn	08 17 23.1	-1.9	
LCMT	**Little Creek M**	**3.30**	**51**		Pn	08 17 28.0	-0.6	
KNB	**Kanab**	**3.58**	**55**		Pn	08 17 31.8	-0.7	
KNB				IAML		08 18 30.8		
	comp=N,10nm,0.9s							
CCUT	**Cedar City**	**3.58**	**44**		Pn	08 17 32.6	+0.1	
U15A	**North Rim**	**3.68**	**66**	IAML		08 18 52.2		
	comp=E,14nm,1.0s							
U15A				IAML		08 18 55.8		
	comp=N,9.2nm,2.6s							
NVAR	**Mina Array Bea**	**3.74**	**337**	Pn	Pn	08 17 34.8	+0.1	

*ASRS **24** 08:23:50.0±0.8,53˚.78N×91˚.09E,h0km,M3.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*NNC **24** 08:23:52.2±1.6,53˚.68N×90˚.85E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=11.9km s-min=8.9km az=60.0, Suspected Mining explosion.*
*IDC **24** 08:23:53.7±3.2,53˚.75N×90˚.85E,h0km,mbtmp3.2/3, ML2.9/3,Error ellipse: s-maj=26.7km s-min=22.1km az=53.0*

ISC 24 08:23:53.2±4.0,53˚.7N±0˚.1×90˚.9E±0˚.2,h0km,n9,σ1s13/15, 8C-6D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.60**	**277**	I	I	08 45 20.1	
	0.1nm,1.1s,baz=91,slow=319,SNR=8.1						
ZAA0	**Zalesovo Array**	**3.60**	**277**	⇑Pg	**Pb**	**08 24 57.1**	**-0.6**
	4.4nm,1.0s						
ZAA0				⇑Lg	Lg	08 25 46.9	
	24nm,0.9s						
ZALV	**Zalesovo Beam**	**3.60**	**277**	Pn	**Pn**	**08 24 50.9**	**+0.8**
	1.6nm,0.3s,baz=91,slow=14,SNR=18						
ZALV				Sn	**Sn**	**08 25 34.1**	**+0.8**
	1.0nm,0.3s,baz=95,slow=16,SNR=4.2						
ZALV				Lg	Lg	08 25 46.9	
	1.3nm,0.3s,baz=92,slow=23,SNR=4.6						
	0.9nm,0.4s						
KURK	**Kurchatov**	**8.08**	**253**	⇓Pn	**Pn**	**08 25 51.7**	**0.0**
	6.7nm,1.1s						
KURK				⇓Sn	**Sn**	**08 27 23.4**	**-0.4**
	19nm,1.0s						
KURK				⇑Lg	Lg	08 28 09.3	
	53nm,1.0s						
KURBB	**Kurchatov Arra**	**8.18**	**253**	⇓Pn	**Pn**	**08 25 52.4**	**-0.7**
	4.7nm,0.5s						
KURBB				⇑Sn	**Sn**	**08 27 26.1**	**+0.1**
	48nm,1.0s						
KURBB				⇑Lg	Lg	08 28 12.2	
	86nm,0.9s						
KURBB	**Kurchatov Arra**	**8.18**	**253**	Pn	**Pn**	**08 25 53.2**	**+0.2**
	0.2nm,0.3s,baz=64,slow=14,SNR=8.1						
KURBB				Sn	**Sn**	**08 27 25.7**	**-0.3**
	baz=67,slow=27,SNR=4.8						
KURBB				Lg	Lg	08 28 11.5	
	baz=68,slow=33						
	2.3nm,0.6s						
MK31	**Makanchi Array**	**8.80**	**222**	⇓Pn	**Pn**	**08 26 01.2**	**-0.5**
	2.8nm,1.0s,baz=43,slow=12,SNR=5.3						
MK31				⇑Sn	**Sn**	**08 27 42.7**	**+1.2**
	3.2nm,0.7s,baz=40,slow=17,SNR=3.7						
MK31				⇓Lg	Lg	08 28 32.8	
	29nm,1.1s,baz=56,slow=29,SNR=5.9						
MKAR	**Makanchi Array**	**8.80**	**222**	Pn	**Pn**	**08 26 03.5**	**+1.9**
	0.3nm,0.3s,baz=41,slow=14,SNR=13						
MKAR				Sn	**Sn**	**08 27 43.3**	**+1.8**
	0.2nm,0.3s,baz=34,slow=26,SNR=6.6						
MKAR				Lg	Lg	08 28 33.4	
	0.1nm,0.3s,baz=37,slow=23,SNR=3.9						
	0.8nm,0.5s						
MAKZ	**Makanchi**	**8.92**	**223**	⇑Pn	**Pn**	**08 26 01.2**	**-2.0**
	1.4nm,0.9s						
MAKZ				⇓Sn	**Sn**	**08 27 43.8**	**-0.5**
	5.2nm,0.8s						
MAKZ				⇑Lg	Lg	08 28 35.2	
	29nm,1.1s						

*ASRS **24** 08:52:21.0±0.9,53˚.75N×91˚.13E,h0km,M3.2,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **24** 08:52:26.2±3.3,53˚.66N×90˚.78E,h0km,mbtmp3.2/3, ML2.7/3,Error ellipse: s-maj=27.1km s-min=21.7km az=62.0*
*NNC **24** 08:52:34.3±3.2,57˚.20N×85˚.45E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=35.2km s-min=24.3km az=127.0*

ISC 24 08:52:28.7±4.0,53˚.5N±0˚.1×90˚.6E±0˚.2,h0km,n9,σ1s84/12, 6C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.48**	**280**	I	I	09 14 05.0	
	0.1nm,1.2s,baz=91,slow=312,SNR=2.2						
ZAA0	**Zalesovo Array**	**3.48**	**280**	⇑Pn	**Pn**	**08 53 26.3**	**+2.2**
	0.7nm,0.6s						
ZAA0				⇑Lg	Lg	08 54 19.5	
	7.1nm,0.9s						
ZALV	**Zalesovo Beam**	**3.48**	**280**	Pn	**Pn**	**08 53 23.5**	**-0.6**
	1.3nm,0.3s,baz=95,slow=14,SNR=9.4						
ZALV				Pg	**Pb**	**08 53 29.1**	**-2.1**
	1.0nm,0.3s,baz=90,slow=16,SNR=7.6						
ZALV				Sn	**Sn**	**08 54 07.7**	**+1.6**
	0.7nm,0.3s,baz=96,slow=14,SNR=3.9						
ZALV				Lg	Lg	08 54 16.9	
	0.6nm,0.3s,baz=92,slow=28,SNR=3.7						
	1.0nm,0.5s						
KURK	**Kurchatov**	**7.91**	**254**	⇑Pn	**Pn**	**08 54 28.2**	**+3.4**
	2.6nm,0.7s						
KURK				⇑Sn	**Sn**	**08 55 55.1**	**+0.1**
	7.2nm,0.8s						
KURK				⇓Lg	Lg	08 56 38.5	
	13nm,0.8s						
KURBB	**Kurchatov Arra**	**8.00**	**254**	⇓Pn	**Pn**	**08 54 28.2**	**+2.1**
	4.4nm,0.7s						
KURBB				⇑Sn	**Sn**	**08 55 56.4**	**-0.9**
	14nm,0.6s						
KURBB				⇑Lg	Lg	08 56 41.2	
	16nm,0.8s						
KURBB	**Kurchatov Arra**	**8.00**	**254**	Pn	**Pn**	**08 54 25.4**	**-0.7**
	0.1nm,0.3s,baz=65,slow=15,SNR=10.0						
KURBB				Sn	**Sn**	**08 55 56.8**	**-0.4**
	0.1nm,0.3s,baz=67,slow=25,SNR=8.3						
KURBB				Lg	Lg	08 56 42.6	
	baz=66,slow=33,SNR=1.6						
	2.2nm,0.6s						
MKAR	**Makanchi Array**	**8.60**	**222**	Pn	**Pn**	**08 54 34.3**	**0.0**
	0.2nm,0.3s,baz=36,slow=14,SNR=5.1						
MKAR				Sn	**Sn**	**08 56 12.8**	**+0.9**
	0.2nm,0.3s,baz=30,slow=15,SNR=4.0						
MKAR				Lg	Lg	08 57 04.1	
	0.5nm,0.3s,baz=42,slow=33,SNR=6.3						
	0.6nm,0.5s						
SONM	**Songino Array**	**11.49**	**113**	Lg	Lg	08 58 21.6	
	0.2nm,0.3s,baz=303,slow=25,SNR=7.7						
BVAR	**Borovoye Array**	**12.13**	**276**	Lg	Lg	08 58 55.8	
	0.2nm,0.3s,baz=52,slow=32,SNR=5.2						

*IDC **24** 09:02:54.2±2.5,5˚.36S×145˚.93E,h81km±20km,mb3.6/13, mbtmp4.0/15,MS3.2/6,Error ellipse: s-maj=24.6km s-min=12.5km az=86.0*
*NEIC **24** 09:02:57.7±1.2,5˚.37S±0˚.07×145˚.67E±0˚.07,h103km±7km, mb4.5/34,Error ellipse: s-maj=11.4km s-min=8.6km az=128.0*

ISC 24 09:02:56.8±0.4,5˚.48S±0˚.06×145˚.63E±0˚.06,h100km,n287, σ0s81/276,mb4.4/29,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.83**	**27**		**Pn**	**09 03 53.2**	**-0.6**
JAY	**Jayapura**	**5.73**	**301**	P	**Pn**	**09 04 20.7**	**+1.3**
	15nm,0.3s,baz=122,slow=6.9,SNR=14						
JAY				S	**Sn**	**09 05 27.5**	**+3.6**
	20nm,0.5s,baz=170,slow=18,SNR=1.6						
RABL	**Rabaul**	**6.64**	**79**	Pn	**Pn**	**09 04 32.3**	**+0.4**
COEN	**Coen**	**8.76**	**196**		Pn	09 05 03.5	+2.9
CTAO	**Charters Tower**	**14.53**	**178**	Pn	**P**	**09 06 20.7**	**-0.7**
MTN	**Manton Dam**	**16.06**	**242**	P	**P**	**09 06 38.6**	**+0.2**
MTN				IAmb	IAmb	09 07 00.3	
	comp=Z,34nm,0.8s						
WB0	**Warramunga Arr**	**17.92**	**217**	P	**Pn**	**09 06 59.9**	**+0.3**
WR8	**Warramunga Arr**	**18.00**	**216**		**Pn**	**09 07 00.5**	**-0.2**
WR8				IAmb	IAmb	09 07 34.6	
	comp=Z,18nm,1.2s						
WRA	**Warramunga Arr**	**18.09**	**216**	P	**Pn**	**09 07 01.4**	**-0.3**
WRA	**Warramunga Arr**	**18.09**	**216**	P	**Pn**	**09 07 01.6**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=36,slow=11,SNR=24						
WRA				S	**S**	**09 10 15.9**	**-7.0**
	comp=Z,0.3nm,0.5s,baz=40,slow=23,SNR=2.4						
WRA				PcP	**PcP**	**09 11 31.6**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=21,slow=1.7,SNR=7.9						
WRA				ScP	**ScP**	**09 14 58.8**	**+1.6**
	comp=Z,1.2nm,1.1s,baz=38,slow=2.5,SNR=4.9						
GUMO	**Guam**	**18.96**	**358**	LR	LR	09 14 50.5	
	comp=Z,37nm,18.2s,baz=136,slow=38						
KNRA	**Kununurra**	**19.41**	**237**		**Pn**	**09 07 15.7**	**-1.6**
KNRA				IAmb	IAmb	09 07 25.6	
	comp=Z,19nm,0.7s						
EIDS	**Eidsvold**	**20.45**	**166**	P	Pn	09 07 26.6	-2.8
EIDS				IAmb	IAmb	09 07 31.6	
	comp=Z,18nm,0.7s						
AS31	**Alice Springs**	**21.31**	**211**		**P**	**09 07 38.0**	**+2.2**
ASAR	**Alice Springs**	**21.31**	**211**	P	**P**	**09 07 36.6**	**+0.9**
ASAR	**Alice Springs**	**21.31**	**211**	P	**P**	**09 07 36.9**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=42,slow=6.9,SNR=21						
ASAR				PcP	**PcP**	**09 11 37.4**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=35,slow=2.5,SNR=7.1						
ASAR				ScP	**ScP**	**09 15 06.7**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=22,slow=2.4,SNR=3.0						
	comp=Z,1.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**23.20**	**236**		**P**	**09 07 55.7**	**+0.5**
ARMA	**Armidale**	**25.44**	**168**	P	**P**	**09 08 16.3**	**+0.9**
ARMA				IAmb	IAmb	09 08 21.7	
	comp=Z,8.4nm,0.6s						

TOLI2	**Tolitoli**	**25.66**	**284**		P	**P**	**09 08 17.5**	**-0.1**
TOLI2					IAmb	IAmb	09 08 35.9	
	comp=Z,14nm,0.8s							
DZM	**Mont Dzumac**	**26.03**	**131**		P	**P**	**09 08 20.7**	**-0.2**
DZM					IAmb	IAmb	09 08 27.1	
	comp=Z,8.9nm,0.8s							
STKA	**Stephens Creek**	**26.53**	**188**		P	**P**	**09 08 25.8**	**+0.6**
STKA	**Stephens Creek**	**26.53**	**188**		P	**P**	**09 08 25.2**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=11,slow=11,SNR=10.0							
	comp=Z,2.1nm,0.5s							
CAN	**Canberra**	**29.85**	**174**		P	**P**	**09 08 56.0**	**+1.2**
FORT	**Forrest**	**30.10**	**211**		P	**P**	**09 08 57.6**	**+0.6**
FORT					IAmb	IAmb	09 09 40.2	
	comp=Z,10.0nm,1.2s							
H11S3	**WAKE ISLAND Hy**	**31.61**	**41**		T	T	09 42 40.0	
	baz=222,slow=74,SNR=7.2							
H11S2	**WAKE ISLAND Hy**	**31.62**	**41**		T	T	09 42 47.1	
	baz=222,slow=74,SNR=4.8							
H11S1	**WAKE ISLAND Hy**	**31.63**	**41**		T	T	09 42 41.8	
	baz=222,slow=74,SNR=3.5							
H11N1	**WAKE ISLAND Hy**	**32.63**	**39**		T	T	09 43 58.9	
	baz=220,slow=76,SNR=2.9							
H11N3	**WAKE ISLAND Hy**	**32.65**	**39**		T	T	09 44 00.6	
	baz=220,slow=76,SNR=5.7							
H11N2	**WAKE ISLAND Hy**	**32.65**	**39**		T	T	09 43 56.3	
	baz=220,slow=76,SNR=4.6							
MSVF	**Nonsavu**	**33.94**	**114**		P	**P**	**09 09 31.5**	**+0.6**
KSM	**Kuching**	**35.94**	**280**		P	**P**	**09 09 48.0**	**-0.1**
JOW	**Kunigami**	**36.25**	**333**		P	**P**	**09 09 49.1**	**-1.3**
JOW					IAmb	IAmb	09 10 19.8	
	comp=Z,7.0nm,1.1s							
JOW	**Kunigami**	**36.25**	**333**		LR	LR	09 21 52.9	
	comp=Z,25nm,21.0s,baz=88,slow=31							
YULB	**Yu-li**	**37.26**	**321**		P	**P**	**09 09 59.4**	**+0.4**
YULB					IAmb	IAmb	09 10 27.6	
	comp=Z,6.0nm,0.9s							
JNU	**Nakatsue**	**40.87**	**341**		LR	LR	09 27 37.9	
	comp=Z,22nm,18.5s,baz=173,slow=36							
MJAR	**Matsushiro Arr**	**42.38**	**351**		P	**P**	**09 10 40.9**	**-0.3**
MJAR	**Matsushiro Arr**	**42.38**	**351**		P	**P**	**09 10 39.6**	**-1.7**
	comp=Z,1.1nm,0.5s,baz=174,slow=7.5,SNR=4.9							
	comp=Z,1.1nm,0.5s							
QRZ	**Quartz Range**	**42.65**	**150**		P	**P**	**09 10 43.4**	**-0.1**
MRNZ	**Matariki Terra**	**43.19**	**150**		P	**P**	**09 10 48.6**	**+0.7**
NJ2	**Nanjing**	**45.20**	**327**	*eP*	P	P	09 11 06.3	+2.3
NJ2					pmax	pmax		
	comp=Z,18nm,0.6s							
KSRS	**Korea Array**	**45.80**	**340**		P	**P**	**09 11 07.3**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=159,slow=9.0,SNR=6.1							
	comp=Z,1.2nm,0.7s							
JTM	**Tenmabayashi**	**46.23**	**355**		P	**P**	**09 11 11.5**	**-0.4**
USRK	**Ussuriysk Ar.**	**50.96**	**347**		P	**P**	**09 11 48.6**	**+0.5**
USRK	**Ussuriysk Ar.**	**50.96**	**347**		P	**P**	**09 11 46.9**	**-1.2**
	comp=Z,2.6nm,0.6s,baz=141,slow=5.6,SNR=7.1							
	comp=Z,2.6nm,0.6s							
USA0B	**Ussuriysk Arra**	**50.96**	**347**		P	**P**	**09 11 47.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**51.80**	**299**		P	**P**	**09 11 53.1**	**-1.7**
CMAR	**Chiang Mai Arr**	**51.80**	**299**		P	**P**	**09 11 55.4**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=119,slow=5.2,SNR=4.8							
	comp=Z,0.8nm,0.5s							
PZH	**PanZhiHua**	**53.07**	**309**		P	P	09 12 06.8	+2.5
HHC	**Hu-ho-hao-te**	**55.68**	**329**	*eP*	P	P	09 12 26.0	+3.1
HHC					pmax	pmax		
	comp=Z,13nm,0.6s							
HHC					pmax	pmax		
	comp=Z,32nm,5.1s							
PETK	**Petropavlovsk-**	**59.26**	**8**		P	**P**	**09 12 47.1**	**-0.6**
PETK	**Petropavlovsk-**	**59.26**	**8**		P	**P**	**09 12 46.4**	**-1.3**
	comp=Z,3.1nm,0.9s,baz=172,slow=8.4,SNR=5.7							
	comp=Z,3.1nm,0.9s							
SONM	**Songino Array**	**63.30**	**332**		P	**P**	**09 13 15.4**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=174,slow=4.2,SNR=2.2							
SONM					LR	LR	09 42 42.2	
	comp=Z,19nm,18.2s,baz=166,slow=38							
	comp=Z,0.3nm,0.4s							
CASY	**Casey**	**65.39**	**195**		P	**P**	**09 13 29.2**	**+0.9**
CASY					IAmb	IAmb	09 13 30.4	
	comp=Z,3.3nm,0.9s							
NIKH	**Nikolski High**	**69.74**	**27**		P	**P**	**09 13 56.0**	**+0.1**
	baz=229							
UNV	**Unalaska Valle**	**71.38**	**28**		P	**P**	**09 14 06.4**	**+0.5**
	baz=231							
SPIA	**Saint Paul Isl**	**71.97**	**24**		P	**P**	**09 14 10.1**	**+0.9**
	baz=227							
VNDA	**Vanda**	**72.51**	**176**		P	**P**	**09 14 13.4**	**+1.2**
VNDA	**Vanda**	**72.51**	**176**		P	**P**	**09 14 13.0**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=327,slow=6.9,SNR=11							
	comp=Z,1.9nm,0.7s							
S12K	**Black Hills**	**74.56**	**28**		P	**P**	**09 14 25.4**	**+0.8**
	baz=235							
SDPT	**Sand Point**	**75.10**	**29**		P	**P**	**09 14 27.5**	**-0.2**
	baz=236							
CHNA	**Chernabura Isl**	**75.25**	**29**		P	**P**	**09 14 28.5**	**0.0**
	baz=237							
M11K	**Mekoryuk**	**75.68**	**22**		P	**P**	**09 14 30.9**	**+0.1**
	baz=230							
S14K	**Fog Glacier**	**76.05**	**28**		P	**P**	**09 14 33.1**	**-0.1**
	baz=237							
GAMB	**Gambell**	**76.11**	**18**		P	**P**	**09 14 33.7**	**+0.5**
	baz=224							
MKAR	**Makanchi Array**	**76.23**	**321**		P	**P**	**09 14 32.5**	**-1.9**
MKAR	**Makanchi Array**	**76.23**	**321**		P	**P**	**09 14 34.7**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=96,sl

	baz=238								
G15K	**Niukluk**	79.39	19	P		P	09 14 51.4	-0.1	
	baz=231								
OHAK	**Old Harbor**	79.51	29	P		P	09 14 52.1	-0.2	
	baz=242								
J16K	**Anvik River**	79.56	22	P		P	09 14 52.1	-0.3	
	baz=235								
F15K	**North Star Dit**	79.64	19	P		P	09 14 52.5	-0.3	
	baz=230								
P18K	**Big Mountain,**	79.65	27	P		P	09 14 53.2	+0.1	
	baz=240								
M17K	**Holitna River**	79.74	24	P		P	09 14 54.1	+0.7	
	baz=238								
H16K	**Elim**	79.78	20	P		P	09 14 53.6	0.0	
	baz=233								
L17K	**Donlin**	79.79	23	P		P	09 14 53.6	-0.1	
	baz=237								
O18K	**Koktuh Hills**	79.89	26	P		P	09 14 54.2	-0.1	
	baz=240								
KURBB	**Kurchatov Arra**	80.00	323	P		P	09 14 53.7	-1.3	
	comp=Z,0.3nm,0.4s,baz=96,slow=3.7,SNR=2.5								
	comp=Z,0.3nm,0.4s								
N18K	**Kilae Creek**	80.01	25	P		P	09 14 54.9	-0.1	
	baz=240								
K17K	**Iditarod**	80.11	23			P	09 14 55.2	-0.2	
K17K				IAmb		IAmb	09 14 56.7		
	comp=Z,6.3nm,0.8s								
K17K	**Iditarod**	80.11	23	P		P	09 14 55.5	+0.1	
	baz=237								
J17K	**VABM Dome**	80.19	22	P		P	09 14 55.6	-0.2	
	baz=236								
G16K	**Koyuk River**	80.20	20	P		P	09 14 56.0	+0.2	
	baz=233								
M18K	**Stony River**	80.45	25	P		P	09 14 57.5	+0.2	
	baz=239								
L18K	**Granite Mounta**	80.48	24	P		P	09 14 57.5	+0.1	
	baz=238								
Q20K	**Shuyak Island**	80.57	28	P		P	09 14 58.1	+0.2	
	baz=243								
N19K	**Bonanza Creek**	80.67	25	P		P	09 14 58.9	+0.3	
	baz=241								
H17K	**Granite Mounta**	80.76	21	P		P	09 14 59.0	+0.2	
H17K				IAmb		IAmb	09 14 60.0		
	comp=Z,5.4nm,0.7s								
H17K	**Granite Mounta**	80.76	21	P		P	09 14 59.0	+0.2	
	baz=235,SNR=5.1								
G17K	**Kiwalik Mounta**	80.83	20	P		P	09 14 59.5	+0.3	
	baz=234								
C16K	**Lisburne Hills**	81.09	17	P		P	09 15 00.9	+0.4	
	baz=230								
J18K	**Innoko River**	81.12	23	P		P	09 15 00.5	-0.4	
	baz=238								
O20K	**Slope Mountain**	81.14	27	P		P	09 15 00.9	-0.2	
	baz=243								
F17K	**Baldwin Pennin**	81.19	19	P		P	09 15 01.5	+0.5	
	baz=234								
L19K	**White Mountain**	81.20	24	P		P	09 15 01.4	+0.2	
	baz=240								
M19K	**Big River Lodg**	81.25	25	P		P	09 15 01.7	+0.2	
	baz=241								
D17K	**Noatak River**	81.38	18	P		P	09 15 02.0	-0.1	
	baz=232								
HOM	**Homer**	81.39	27	P		P	09 15 02.2	-0.1	
	baz=244								
E17K	**Hotham Inlet**	81.39	18	P		P	09 15 02.0	-0.1	
	baz=233								
G18K	**Tagagawik**	81.74	20	P		P	09 15 03.6	-0.4	
	baz=236,SNR=8.1								
GCSA	**Galena City Sc**	81.74	21	P		P	09 15 03.8	-0.2	
	baz=238								
L20K	**Farewell, AK**	81.74	24	P		P	09 15 03.8	-0.3	
	baz=241								
M20K	**Styx River**	81.76	25	P		P	09 15 03.6	-0.7	
	baz=242								
F18K	**Selawik**	81.80	19	P		P	09 15 03.6	-0.7	
	baz=235								
J19K	**Poorman**	81.81	22			P	09 15 04.0	-0.4	
J19K	**Poorman**	81.81	22	P		P	09 15 04.2	-0.2	
	baz=239								
C17K	**DeLong Mountai**	81.84	17	P		P	09 15 04.2	-0.3	
	baz=232								
E18K	**Tukpahlearik C**	81.97	18	P		P	09 15 04.8	-0.4	
	baz=234								
K20K	**Telida**	82.09	23	P		P	09 15 05.5	-0.4	
	baz=241								
H19K	**Roundabout Mou**	82.31	21	P		P	09 15 06.5	-0.4	
	baz=238,SNR=6.0								
G19K	**Purcell Mounta**	82.41	20	P		P	09 15 07.1	-0.4	
	baz=238								
J20K	**Nowinta River**	82.46	23	P		P	09 15 07.5	-0.4	
	baz=241								
SKT	**Skwentna**	82.48	25	P		P	09 15 07.2	-0.8	
	baz=243								
C18K	**Utukok River**	82.52	17	P		P	09 15 07.7	-0.5	
	baz=234								
F19K	**Shaleruckik Mo**	82.55	19	P		P	09 15 08.0	-0.2	
	baz=237								
SEW	**Seward**	82.58	27	P		P	09 15 07.9	-0.5	
	baz=245								
PPLA	**Purkeypile**	82.62	24	P		P	09 15 07.4	-1.5	
	baz=243								
I20K	**Naaghedeneel**	82.65	22	P		P	09 15 07.9	-0.8	
	baz=240								
H20K	**Anotleneega Mo**	82.85	21	P		P	09 15 09.3	-0.5	
	baz=240,SNR=5.2								
RC01	**Rabbit Creek A**	82.86	26	P		P	09 15 08.9	-1.0	
	baz=245								
CAST	**Castle Rocks**	82.91	24	P		P	09 15 08.8	-1.4	
	baz=243								
CHUM	**Lake Minchumin**	83.03	23	P		P	09 15 10.2	-0.6	
	baz=242								
E19K	**Redstone River**	83.07	19	P		P	09 15 10.5	-0.5	
	baz=237								
CUT	**Chulitna**	83.20	25	P		P	09 15 11.5	-0.2	
	baz=244								
C19K	**Lookout Ridge**	83.26	17	P		P	09 15 11.8	-0.1	
	baz=235								
PMR	**Palmer**	83.34	26	P		P	09 15 11.7	-0.6	
	baz=246								
F20K	**Avaraart Lake**	83.35	20	P		P	09 15 11.9	-0.4	
	baz=239								
D19K	**Kuna River**	83.36	18	P		P	09 15 12.2	-0.3	
	baz=236								
PWL	**Port Wells**	83.39	27	P		P	09 15 11.6	-1.1	
	baz=246								
P23K	**Montague Islan**	83.48	28	P		P	09 15 12.4	-0.7	
	baz=247								
A19K	**Wainwright**	83.49	16	P		P	09 15 12.7	-0.2	
	baz=233								
TRF	**Thorofare Moun**	83.64	24	P		P	09 15 13.2	-1.0	
	baz=244								
BPAW	**Bear Paw Mtn.**	83.65	23	P		P	09 15 13.4	-0.6	
	baz=244								
H21K	**Melozitna Rive**	83.68	22	P		P	09 15 13.8	-0.3	
	baz=242								
I21K	**Tanana**	83.76	22	P		P	09 15 14.2	-0.3	
	baz=243								
E20K	**Nigu River**	83.83	19	P		P	09 15 14.6	-0.3	
	baz=238								
G21K	**Allakaket**	83.84	21	P		P	09 15 14.7	-0.2	
	baz=241								
D20K	**Etivluk River**	83.94	18	P		P	09 15 14.8	-0.6	
	baz=238								
GLI	**Glacier Island**	83.96	27	P		P	09 15 15.3	-0.3	
	baz=247								
MLY	**Manley**	84.16	22	P		P	09 15 16.1	-0.5	
	baz=244,SNR=8.8								
SCM	**Sheep Creek Mo**	84.22	26	P		P	09 15 16.1	-0.9	
	baz=247								
MCK	**McKinley**	84.31	24	P		P	09 15 16.3	-1.1	
	baz=246								
H22K	**Ishtalitna Cre**	84.31	22	P		P	09 15 16.3	-1.0	
	baz=243								
EYAK	**Cordova Ski Ar**	84.45	28	P		P	09 15 17.2	-0.8	
	baz=249								
QSPA	**South Pole Qui**	84.48	180	P		P	09 15 18.7	+0.3	
	comp=Z,2.6nm,0.7s,baz=294,slow=1.3,SNR=25								
	comp=Z,2.6nm,0.7s								
NEA2	**Nenana**	84.62	23	P		P	09 15 17.5	-1.4	
	baz=245,SNR=5.8								
E21K	**Killik River**	84.64	19	P		P	09 15 18.0	-0.9	
	baz=240								
KLU	**Klutina**	84.72	27	P		P	09 15 18.3	-1.2	
	baz=248								
G22K	**Bettles**	84.74	21	P		P	09 15 18.7	-0.7	
	baz=243								
C21K	**Knifeblade Rid**	84.74	18	P		P	09 15 18.7	-0.7	
	baz=240								
I23K	**Minto, Yukon-K**	84.74	23	P		P	09 15 18.4	-1.0	
I23K				IAmb		IAmb	09 15 19.1		
	comp=Z,2.7nm,0.5s								
I23K	**Minto, Yukon-K**	84.74	23	P		P	09 15 18.7	-0.7	
	baz=245,SNR=5.2								
F22K	**John River**	84.78	20	P		P	09 15 19.0	-0.6	
	baz=242								
M24K	**Tolsona, Glenn**	84.83	26	P		P	09 15 19.6	-0.5	
	baz=248								
H23K	**Yukon River**	84.96	22	P		P	09 15 20.0	-0.6	
	baz=245,SNR=5.5								
B21K	**Ikpikpuk River**	85.03	18	P		P	09 15 20.1	-0.7	
	baz=240								
BMRM	**Bremner River**	85.12	27	P		P	09 15 21.5	-0.1	
	baz=250								
G23K	**Bananza Creek**	85.17	21	P		P	09 15 21.5	-0.1	
	baz=244								
E22K	**Anaktuvuk Pass**	85.19	19	P		P	09 15 21.7	0.0	
	baz=242								
COLA	**College**	85.21	23	P		P	09 15 20.3	-1.5	
	baz=246								
D22K	**Ayikyak River**	85.26	19	P		P	09 15 21.6	-0.4	
	baz=242								
COLD	**Coldfoot**	85.33	21	P		P	09 15 22.1	-0.3	
	baz=244								
N25K	**Chitina, Valde**	85.35	27	P		P	09 15 22.0	-0.7	
	baz=250								
HDA	**Harding Lake**	85.39	24	P		P	09 15 22.1	-0.6	
	baz=247								
POKR	**Poker Plat Res**	85.47	23	P		P	09 15 22.2	-0.9	
	baz=247								
ILAR	**Eielson Array**	85.55	23	P		P	09 15 21.4	-2.2	
	comp=Z,5.4nm,0.7s,baz=251,slow=5.1,SNR=69								
H24K	**Noodor Dome**	85.59	22	P		P	09 15 23.4	-0.3	
	baz=246								
K24K	**Donnelly Dome**	85.63	24	P		P	09 15 23.4	-0.6	
	baz=248								
VRDI	**Verde Repeater**	85.74	27	P		P	09 15 24.5	-0.3	
VRDI				IAmb		IAmb	09 15 33.0		
	comp=Z,4.2nm,1.1s								
B22K	**Teshekpuk Lake**	85.74	17	P		P	09 15 23.9	-0.4	
	baz=241								
CRQE	**Cirque**	85.75	28	P		P	09 15 24.1	-0.6	
	baz=251								
E23K	**Chandalar**	85.90	20	P		P	09 15 24.5	-0.8	
	baz=244								
D23K	**Nanushuk River**	85.94	19	P		P	09 15 25.5	+0.2	
	baz=244								
MCARA	**McCarthy VSAT**	85.98	27	P		P	09 15 25.1	-0.6	
	baz=251								
RIDG	**Independent Ri**	86.00	25	P		P	09 15 25.3	-0.5	
	baz=249								
G24K	**Hadweenzic Riv**	86.09	22	P		P	09 15 25.4	-0.7	
	baz=247								
J25K	**Salcha River,**	86.10	24	P		P	09 15 24.9	-1.4	
	baz=249,SNR=13								
TOLK	**Toolik Lake Re**	86.16	19	P		P	09 15 26.7	+0.2	
	baz=244								
F24K	**Squaw Lake**	86.27	21	P		P	09 15 26.9	-0.2	
	baz=246								
E24K	**Your Creek**	86.29	20	P		P	09 15 27.0	-0.2	
	baz=246								
C23K	**Itkillik River**	86.36	18	P		P	09 15 27.2	-0.1	
	baz=244								
PRP	**Porcupine Dome**	86.37	23	P		P	09 15 27.6	-0.1	
	baz=248								
L26K	**Log Cabin Wild**	86.38	26	P		P	09 15 27.4	-0.2	
	baz=251								
SCRK	**Sand Creek**	86.44	25	P		P	09 15 27.2	-0.8	
	baz=250								
H25L	**Birch Creek**	86.53	22	P		P	09 15 28.2	-0.1	
	baz=248								
G25K	**Bearman Lake**	86.61	22	P		P	09 15 28.3	-0.3	
	baz=248								
CTG	**Chitna Glacier**	86.63	28	P		P	09 15 28.1	-1.0	
	baz=252								
D24K	**Happy Valley**	86.63	19	P		P	09 15 28.5	-0.2	
	baz=245								
J26L	**Joseph Creek**	86.79	24	P		P	09 15 29.2	-0.5	
	baz=250								
M27K	**Edge Creek, AK**	86.81	26	P		P	09 15 29.8	-0.1	
M27K	**Edge Creek, AK**	86.81	26	P		P	09 15 29.4	-0.5	
	baz=252,SNR=8.6								
PINM	**Pinnacle**	86.89	29	P		P	09 15 29.9	-0.4	
	baz=254								
C24K	**Franklin Bluff**	86.91	19	P		P	09 15 29.7	-0.3	
	baz=245								
L27K	**Beaver Creek,**	87.05	26	P		P	09 15 30.4	-0.5	
	baz=252								
F25K	**Christian Rive**	87.09	21	P		P	09 15 31.3	+0.2	
	baz=248								
O28M	**Mount Upton**	87.11	28	P		P	09 15 31.3	-0.3	
	baz=254								
PNL	**Peninsula**	87.18	29	P		P	09 15 31.9	+0.2	
	baz=254								
I26K	**Coal Creek Min**	87.22	23	P		P	09 15 31.9	+0.3	
	baz=251								
K27K	**Chicken**	87.25	25	P		P	09 15 32.1	+0.3	
	baz=252,SNR=6.7								
YUK3	**Moose Creek**	87.27	27	P		P	09 15 31.5	-0.8	
	baz=253								
BVCY	**Beaver Creek**	87.28	27	P		P	09 15 31.1	-1.0	
	baz=253								
E25K	**Arctic Village**	87.31	20	P		P	09 15 32.4	+0.3	
	baz=248								
YUK8	**Steele Glacier**	87.45	28	P		P	09 15 32.7	-0.5	
	baz=254								
D25K	**Kavik River**	87.50	19	P		P	09 15 32.9	-0.1	
	baz=248								
G26K	**Porcupine Rive**	87.53	22	P		P	09 15 33.3	+0.2	
	baz=250								
F26K	**Sheenjek River**	87.66	21	P		P	09 15 34.3	+0.5	
	baz=250								
O29M	**Mount Kennedy**	87.75	29	P		P	09 15 34.2	-0.3	
	baz=255								
I27K	**Kandik River**	87.93	23	P		P	09 15 34.8	-0.3	
	baz=252								
P29M	**Windy Craggy**	87.99	30	P		P	09 15 35.6	+0.1	
	baz=256								
YUK4	**Talbot Arm**	87.99	28	P		P	09 15 36.3	+0.7	
	baz=255,SNR=5.4								
H27K	**Steamboat Moun**	88.15	23	P		P	09 15 36.2	+0.1	
	baz=252								
G27K	**Doyon Strip**	88.28	22	P		P	09 15 36.8	+0.1	
	baz=252								
M29M	**Somme Creek**	88.36	27	P		P	09 15 37.3	0.0	
	baz=255								
DAWY	**Dawson**	88.39	25	P		P	09 15 37.5	+0.2	
	baz=254								
HYT	**Haines Junctio**	88.39	29	P		P	09 15 37.7	+0.2	
	baz=256								
I28M	**Miner Creek**	88.55	24	P		P	09 15 37.6	-0.5	
	baz=254								
PLBC	**Pleasant Camp**	88.62	30	P		P	09 15 38.7	+0.2	
	baz=257								
L29M	**L29M**	88.68	26	P		P	09 15 39.0	+0.3	
	baz=255								
E27K	**Colleen River**	88.73	21	P		P	09 15 39.2	+0.3	
	baz=252								
N30M	**Aishikik Lake**	88.74	28	P		P	09 15 39.1	0.0	
	baz=256								
O30N	**Mendenhall**	89.06	29	P		P	09 15 39.9	-0.6	
	baz=257								
S32K	**Killisnoo**	89.12	32	P		P	09 15 40.9	+0.1	
	baz=258								
K29M	**Barlow Dome**	89.13	26	P		P	09 15 40.9	0.0	
	baz=256								
M30M	**Minto, Yukon**	89.14	27	P		P	09 15 40.8	0.0	
	baz=256								
SKAG	**Skagway**	89.14	30	P		P	09 15 40.6	-0.2	
	baz=258								
I29M	**Ogilvie Camp,**	89.18	24	P		P	09 15 40.6	-0.4	
	baz=255								
F28M	**Old Crow**	89.19	22	P		P	09 15 40.7	-0.2	
	baz=254								
D27M	**Malcolm River**	89.28	20	P		P	09 15 41.1	-0.3	
	baz=253								
N31M	**Braeburn, Yuko**	89.36	28	P		P	09 15 41.7	-0.2	
	baz=257								
CRAG	**Craig**	89.53	34	P		P	09 15 41.9	-0.9	
	baz=260								
E28M	**Babbage River**	89.59	21	P		P	09 15 41.9	-0.9	
	baz=254								
WHY	**Whitehorse**	89.61	29	P		P	09 15 42.5	-0.7	
	baz=258								
U33K	**Whale Pass**	89.65	34	P		P	09 15 43.1	-0.2	
	baz=260								
G29M	**Pine Creek**	89.69	23	P		P	09 15 43.5	+0.2	
	baz=255								
J30M	**Hart River**	89.81	25	P		P	09 15 43.8	-0.2	
	baz=257								
I30M	**Mount Dempster**	89.94	24	P		P	09 15 44.0	-0.7	
	baz=257								
P32M	**Atlin**	89.97	30	P		P	09 15 43.6	-1.3	
	baz=259								
D28M	**Stokes Point**	90.06	20	P		P	09 15 44.5	-0.4	
	baz=255								
EPYK	**Eagle Plains**	90.06	23	P		P	09 15 44.7	-0.4	
	baz=256								
E29M	**Blow River**	90.11	21	P		P	09 15 45.2	0.0	
	baz=256								
WRAK	**Wrangell Islan**	90.13	33	P		P	09 15 44.7	-0.8	
	baz=260								
M31M	**Drury Creek, Y**	90.15	27	P		P	09 15 45.3	-0.3	
	baz=259								
P33M	**Teslin, Yukon**	90.53	30	P		P	09 15 46.8	-0.6	
	baz=260								
N32M	**Quiet Lake**	90.57	29	P		P	09 15 47.0	-0.6	
	baz=260								
Q32M	**Nakina River**	90.59	31	P		P	09 15 47.2	-0.7	
	baz=260								
F30M	**Barrier River**	90.70	22	P		P	09 15 47.5	-0.5	
	baz=257								
H31M	**Peel River**	90.89	24	P		P	09 15 48.6	-0.3	
	baz=259								
S34M	**Telegraph Cree**	91.02	32	P		P	09 15 49.8	+0.1	
	baz=261								
G31M	**Satah River**	91.14	23	P		P	09 15 49.8	-0.1	
	baz=259								
R33M	**Jennings River**	91.32	31	P		P	09 15 50.7	-0.5	
	baz=262								
T35M	**Bob Quinn**	91.36	33	P		P	09 15 51.0	-0.3	
	baz=262								
F31M	**Tsiigehtchic**	91.44	22	P		P	09 15 51.3	0.0	
	baz=259								
MMPY	**Sheldon Lake,**	91.66	27	P		P	09 15 52.7	+0.1	
	baz=261								
INK	**Inuvik**	91.68	22	P		P	09 15 52.0	-0.5	
	baz=260								
BBB	**Bella Bella**	92.00	38	LR		LR	09 49 43.0		
	comp=Z,15nm,20.4s,baz=212,slow=31								
NVAR	**Mina Array Bea**	98.13	52	P		Pdif	09 16 21.5	-1.5	
	comp=Z,0.1nm,0.5s,baz=281,slow=9.0,SNR=2.3								
	comp=Z,0.1nm,0.5s								
DBIC	**Dimbokro**	150.63	274	PKPbc		PKiKP	09 22 38.4	-0.5	
	comp=Z,2.1nm,0.5s,baz=60,slow=4.0,SNR=5.7								

IDC ***24*** *09:11:43.9±7.4,21°.60N×143°.11E,h328km±75km, mb3.0/13,mbtmp3.7/13,Error ellipse: s-maj=32.8km s-min=18.6km az=75.0*

ISC 24 09:11:42.2±1.0,21°.6N±0°.2×143°.2E±0°.2,h311km,n13, σ0.76/13,mb3.2/12,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	20.58	324	P	P	09 15 57.9	-0.2
	0.7nm,0.5s,baz=150,slow=8.6,SNR=4.9						
	0.7nm,0.5s						
SONM	**Songino Array**	39.40	321	P	P	09 18 43.9	+1.3
	0.4nm,0.3s,baz=133,slow=14,SNR=2.4						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	42.17	192	P	P	09 19 05.3	0.0
	0.6nm,0.6s,baz=13,slow=8.7,SNR=7.8						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	54.27	322	P	P	09 20 35.7	-0.9
	0.4nm,0.4s,baz=87,slow=7.4,SNR=1.7						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	54.74	313	P	P	09 20 40.4	+0.2
	0.3nm,0.6s,baz=90,slow=8.6,SNR=2.8						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	57.58	317	P	P	09 20 59.6	-0.3
	0.6nm,0.5s,baz=94,slow=6.7,SNR=4.8						
	0.6nm,0.5s						
ILAR	**Eielson Array**	62.14	27	P	P	09 21 30.4	-0.2
	0.2nm,0.6s,baz=270,slow=5.9,SNR=2.9						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	62.73	320	P	P	09 21 34.5	-0.2
	1.4nm,0.4s,baz=94,slow=8.4,SNR=7.8						
	1.4nm,0.4s						
YKA	**Yellowknife Ar**	76.56	28	P	P	09 22 58.2	-0.1
	0.4nm,0.7s,baz=290,slow=5.3,SNR=3.2						
	0.4nm,0.7s						
ARCES	**ARCESS Array B**	79.01	341	P	P	09 23 12.2	+0.5
	1.1nm,0.6s,baz=64,slow=8.2,SNR=7.8						
	1.1nm,0.6s						
NVAR	**Mina Array Bea**	83.23	51	P	P	09 23 35.3	+0.7
	0.2nm,0.6s,baz=310,slow=5.7,SNR=2.1						
	0.2nm,0.6s						
FINES	**FINESS Array B**	83.26	334	P	P	09 23 33.4	-0.6
	0.7nm,0.5s,baz=64,slow=4.4,SNR=8.4						
	0.7nm,0.5s						
HFS	**Hagfors**	88.81	337	P	P	09 23 59.6	-1.4
	0.4nm,0.4s,baz=56,slow=2.6,SNR=4.2						
	0.4nm,0.4s						

GUC ***24*** *09:12:52.9±0.8,30°.07S×71°.26W,h68km±2km,ML3.5*
SJA ***24*** *09:12:53.5±0.4,30°.20S×71°.32W,h48km±6km,ML3.4, MW3.5*

ISC 24 09:12:53.3±1.5,30°.07S±0°.04×71°.32W±0°.06,h59km±10km, n15,σ0.67/25,4C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	0.17	24	⇓*i* P	Pn	09 13 02.4	0.0
CO05				*e* S	Sn	09 13 09.8	+0.7
CO05				IAML		09 13 12.2	
	comp=N,2μm,0.2s						
GO04	**Tololo Observa**	0.46	102	*e* P	Pn	09 13 04.4	-0.6
GO04				*e* S	Sn	09 13 13.1	-0.4
GO04				IAML		09 13 14.6	
	comp=N,9μm,0.2s						
GO04	**Tololo Observa**	0.46	102	*i* P	Pn	09 13 05.4	+0.3
GO04				*i* S	Sn	09 13 13.7	+0.1
CO06	**Fray Jorge**	0.66	205	⇑*i* P	Pn	09 13 07.3	+0.3
CO06				*e* S	Sn	09 13 17.9	+0.9
CO03	**El Pedregal**	0.94	145	⇑*i* P	Pn	09 13 10.1	-0.5
CO03				*e* S	Sn	09 13 22.8	-0.5
CO03				IAML		09 13 23.1	
	comp=N,4μm,0.2s						
CO03	**El Pedregal**	0.94	145	*i* P	Pn	09 13 10.1	-0.5
CO03				*i* S	Sn	09 13 22.7	-0.6
CO03				IAML		09 13 23.6	
	comp=Z,928nm,0.1s						
CO01	**Juntas del Tor**	1.07	85	⇑*i* P	Pn	09 13 12.3	0.0
CO01				*e* S	Sn	09 13 26.4	-0.1
CO01				IAML		09 13 26.8	
	comp=E,2μm,0.2s						
CO02	**Combarbal**	1.16	166	⇑*i* P	Pn	09 13 13.2	-0.3
CO02				*e* S	Sn	09 13 28.7	+0.1
CO02				IAML		09 13 29.5	
	comp=N,3μm,0.2s						
CO02	**Combarbal**	1.16	166	*i* P	Pn	09 13 13.0	-0.5
CO02				*i* S	Sn	09 13 27.4	-1.2
CO02				IAML		09 13 30.2	
	comp=Z,851nm,0.2s						
LCO	**Las Campanas**	1.19	27	*e* P	Pn	09 13 13.6	-0.4
LCO				*e* S	Sn	09 13 29.2	-0.2
LCO				IAML		09 13 31.5	
	comp=Z,4μ

ASAR	**Alice Springs**	**45.91**	**260**	P	P	09 28 30.8	-0.4
	0.3nm,0.3s,baz=96,slow=7.3,SNR=8.0						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**46.32**	**265**	P	P	09 28 34.5	+0.1
	1.1nm,0.5s,baz=104,slow=7.8,SNR=7.5						
	1.1nm,0.5s						
PDAR	**Pinedale Array**	**89.98**	**42**	P	P	09 33 08.0	0.0
	0.2nm,0.5s,baz=217,slow=8.3,SNR=1.8						
	0.2nm,0.5s						

*IDC **24** 09:33:24.9±5.7,36°.60N×141°.02E,h0km,mb3.9/3, mbtmp3.9/3,ML2.1/1,MS3.2/1,Error ellipse: s-maj=117.9km s-min=36.0km az=155.0*
*JMA **24** 09:33:26.8±0.2,35°.8N±0°.5×14°1E±°,h25km±1km, MV3.2/35,NEAR CHOSHI CITY .*
JMA Felt I J1 at NEAR CHOSHI CITY .
ISC 24 09:33:25.4±2.2,35°.88N±0°.06×141°.1E±0°.1,h26km±13km, n12,σ0s87/16,mb4.3/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.44**	**281**	*i* P	**Pn**	**09 33 35.5**	**-0.5**
JIHU				S	**Sb**	**09 33 41.7**	**+0.8**
JSMT	**Sammumatsuo**	**0.55**	**245**	P	**Pb**	**09 33 36.4**	**0.0**
JSMT				S	**Sb**	**09 33 43.4**	**-0.5**
JHYU	**Hitachinakayam**	**0.60**	**321**	*i* P	**Pn**	**09 33 38.9**	**+0.7**
JHYU				S	**Sn**	**09 33 47.2**	**+0.2**
JYT	**Yasato**	**0.78**	**297**	*i* P	**Pb**	**09 33 40.2**	**-0.1**
JYT				S	**Sb**	**09 33 49.1**	**-1.3**
JHO	**Hitachi**	**0.83**	**332**	*i* P	**Pn**	**09 33 42.2**	**+0.8**
BSO3	**Boso 3**	**1.17**	**203**	P	**Pn**	**09 33 46.3**	**+0.6**
BSO1	**Boso 1**	**1.23**	**183**	P	**Pn**	**09 33 46.8**	**+0.5**
MJAR	**Matsushiro Arr**	**2.40**	**287**	Pn	**Pn**	**09 34 03.4**	**+0.5**
	0.5nm,0.3s,baz=88,slow=13,SNR=22						
MJAR				Sn	**Sn**	**09 34 33.2**	**+1.8**
	0.2nm,0.3s,baz=133,slow=12,SNR=4.1						
TGY	**Tagaytay City**	**28.22**	**225**	LR	LR	09 51 21.7	
	comp=Z,39nm,18.6s,baz=58,slow=38						
MKAR	**Makanchi Array**	**44.49**	**303**	P	**P**	**09 41 34.1**	**-0.4**
	0.1nm,0.4s,baz=74,slow=8.0,SNR=2.1						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**46.49**	**309**	P	**P**	**09 41 49.3**	**-0.9**
	1.0nm,0.3s,baz=78,slow=8.6,SNR=6.5						
	1.0nm,0.3s						
ARCES	**ARCESS Array B**	**64.97**	**340**	P	**P**	**09 44 02.1**	**-0.3**
	4.0nm,1.2s,baz=39,slow=7.8,SNR=4.2						
	4.0nm,1.2s						

*HEL **24** 09:47:16.3±0.3,60°.98N×29°.37E,h0km,ML1.5,Explosion Hypocentre not reviewed by the ISC*
IDC 24 09:47:19.8±3.0,60°.96N×28°.99E,h0km,mbtmp3.2/1, ML2.3/1,Error ellipse: s-maj=26.8km s-min=14.1km az=173.0,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.47**	**358**	PG		09 47 25.1	
RUF				SG		09 47 31.1	
RUF				MSG		09 47 32.1	
	comp=Z,4.6nm,0.2s						
VJF	**Virojoki**	**0.82**	**240**	PG		09 47 34.2	
VJF				MSG		09 47 46.6	
	comp=Z,9.7nm,0.2s						
VJF				SG		09 47 47.5	
FINES	**FINESS Array B**	**1.49**	**290**	Pg	Pn	09 47 45.5	-2.3
	comp=Z,0.3nm,0.3s,baz=108,slow=15,SNR=8.3						
FINES				Lg	Lg	09 48 06.8	
	comp=Z,1.6nm,0.3s,baz=103,slow=28,SNR=20						
PVF	**Pernaja**	**1.59**	**256**	PG		09 47 47.7	
PVF				MSG		09 48 09.2	
	comp=Z,4.5nm,0.2s						
PVF				SN		09 48 12.2	
KAF	**Kangasniemi**	**1.73**	**313**	PG		09 47 50.1	
KAF				MSG		09 48 11.5	
	comp=Z,3.5nm,0.2s						
KAF				SG		09 48 12.8	
SUF	**Sumiainen**	**2.22**	**324**	PG		09 47 58.1	
SUF				MSG		09 48 24.7	
	comp=Z,1.3nm,0.2s						
SUF				SG		09 48 27.5	
JOF	**Joensuu**	**2.25**	**28**	PG		09 47 55.0	
	baz=203						
JOF				SG		09 48 22.4	
KEF	**Keuruu**	**2.31**	**303**	PG		09 47 59.9	
KEF				MSG		09 48 28.9	
	comp=Z,1.2nm,0.2s						
KEF				SG		09 48 30.6	
MEF	**Metsahovi**	**2.39**	**254**	MSG		09 48 32.0	
	comp=Z,1.5nm,0.2s						
MEF				SG		09 48 36.0	
NIF	**Nilsia**	**2.50**	**348**	SG		09 48 33.2	
RAF	**Rauma**	**3.52**	**274**	SG		09 49 12.2	
OBF0	**Syolatti, Pyha**	**4.17**	**330**	SN		09 49 08.1	
ARCES	**ARCESS Array B**	**8.73**	**352**	Pn	Pn	09 49 25.8	-1.4
	baz=165,slow=15,SNR=2.0						
	comp=Z,1.4nm,1.0s						
I37NO	**I37NO**	**9.24**	**336**	I	I	10 40 00.0	
	baz=148,slow=315,SNR=2.5						

GCG 24 10:03:24.2±0.4,16°.03N×91°.65W,h309km±14km,MD4.4, ML3.4,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.53**	**299**	*i* P	Pn	10 04 05.2	+1.1
CCIG				IAML		10 04 45.1	
	120nm,0.3s						
SMCA	**Catarina**	**1.23**	**199**	IAML		10 04 33.4	
	60nm,0.2s						
STG2	**El Palmar, Qui**	**1.60**	**170**	*i* S	S	10 04 42.1	-2.9
STG0	**El Palmar, Qui**	**1.62**	**169**	*i* P	Pn	10 04 08.5	-0.8
STG0				*e*S	S	10 04 43.5	-1.7
STG0				IAML		10 04 53.7	
	333nm,0.2s						

*IDC **24** 10:06:45.0±2.7,25°.83S×68°.84W,h90km±23km,mb3.5/3, mbtmp3.7/7,Error ellipse: s-maj=42.7km s-min=17.7km az=91.0*
*SJA **24** 10:06:45.1±1.3,25°.82S×69°.18W,h120km,ML3.7,MW3.7*
*GUC **24** 10:06:45.5±0.8,25°.85S×69°.11W,h113km±5km,ML3.9*
*NEIC **24** 10:06:46.8±1.4,25°.84S±0°.02×69°.09W±0°.09,h108km±6km, mb4.1/8,ML3.9(GUC),Error ellipse: s-maj=11.2km s-min=2.5km az=84.0*
ISC 24 10:06:46.2±0.7,25°.78S±0°.03×69°.05W±0°.04,h107km±6km, n84,σ1s78/107,mb4.1/7,11C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.79**	**321**		**Pn**	**10 07 06.3**	**+0.8**
GO02				Sn	**Sn**	**10 07 21.6**	**+1.8**
GO02	**Mina Guanaco**	**0.79**	**321**	⇑*i* P	**Pn**	**10 07 06.3**	**+0.8**
GO02				*e*S	**Sn**	**10 07 21.7**	**+1.8**
GO02				IAML		10 07 22.5	
	comp=E,13μm,0.5s						
GO02	**Mina Guanaco**	**0.79**	**321**	*e*P	Pn	10 07 01.2	-4.3
AC02	**Maricunga**	**1.05**	**184**		**Pn**	**10 07 08.2**	**0.0**
AC02				Sn	**Sn**	**10 07 24.5**	**-0.3**
AC02	**Maricunga**	**1.05**	**184**	⇑*i* P	**Pn**	**10 07 08.4**	**+0.1**
AC02				*e*S	**Sn**	**10 07 24.9**	**+0.1**
AC02				IAML		10 07 27.4	
	comp=N,4μm,0.2s						
AC02	**Maricunga**	**1.05**	**184**	*e*P	**Pn**	**10 07 03.5**	**-4.8**
AC02				*e*S	**Sn**	**10 07 25.3**	**+0.5**
AC02				IAML		10 07 27.8	
	comp=Z,1μm,0.2s						
AC01	**Pan de Azucar**	**1.44**	**255**		**Pn**	**10 07 12.2**	**0.0**
AC01				Sn	**Sn**	**10 07 31.2**	**-0.7**
AC01	**Pan de Azucar**	**1.44**	**255**	⇑*i* P	**Pn**	**10 07 11.9**	**-0.3**
AC01				*e*S	**Sn**	**10 07 31.2**	**-0.7**
AC01				IAML		10 07 34.7	
	comp=E,1μm,0.2s						
AC01	**Pan de Azucar**	**1.44**	**255**	*e*P	**Pn**	**10 07 11.8**	**-0.4**
AC01				*e*S	**Sn**	**10 07 32.0**	**+0.1**
AC01				IAML		10 07 36.2	
	comp=Z,317nm,0.1s						
PB14	**IPOC Station P**	**1.68**	**313**		**Pn**	**10 07 16.3**	**+0.8**
PB14				Sn	**Sn**	**10 07 38.4**	**+0.8**
PB14	**IPOC Station P**	**1.68**	**313**	*e*P	**Pn**	**10 07 16.4**	**+1.0**
PB14				*e*S	**Sn**	**10 07 38.8**	**+1.2**
PB14	**IPOC Station P**	**1.68**	**313**	*e*P	**Pn**	**10 07 16.9**	**+1.4**
PB14				*e*S	**Sn**	**10 07 40.0**	**+2.5**
PB14				IAML		10 07 43.0	
	comp=Z,697nm,0.8s						
AC06	**Mina Casimiro**	**1.96**	**216**		**Pn**	**10 07 17.9**	**-0.6**
AC06	**Mina Casimiro**	**1.96**	**216**	⇑*i* P	**Pn**	**10 07 17.8**	**-0.8**
AC06				*e*S	**Sn**	**10 07 42.1**	**-1.2**
AC06				IAML		10 07 44.2	
	comp=E,964nm,0.5s						
GO03	**Copiapo**	**2.09**	**210**		**Pn**	**10 07 19.6**	**-0.7**
GO03	**Copiapo**	**2.09**	**210**	⇑*i* P	**Pn**	**10 07 19.4**	**-0.9**
GO03				*e*S	**Sn**	**10 07 45.7**	**-0.8**
GO03				IAML		10 07 47.2	
	comp=N,874nm,0.4s						
GO03	**Copiapo**	**2.09**	**210**	*e*P	**Pn**	**10 07 19.5**	**-0.9**
GO03				*e*S	**Sn**	**10 07 46.0**	**-0.5**
PB10	**IPOC Station P**	**2.64**	**328**		**Pn**	**10 07 28.2**	**+0.8**
PB10	**IPOC Station P**	**2.64**	**328**	*e*P	**Pn**	**10 07 27.8**	**+0.3**
PB10	**IPOC Station P**	**2.64**	**328**	*e*P	**Pn**	**10 07 27.7**	**+0.2**
PB10				*e*S	**Sn**	**10 07 57.3**	**-1.8**
PB10				IAML		10 08 11.7	
	comp=Z,164nm,0.8s						
FSA	**Cafayete**	**2.78**	**97**	*e*P	**Pn**	**10 07 30.5**	**+1.0**
AF01	**San Pedro de A**	**2.93**	**16**		**Pn**	**10 07 32.6**	**+1.1**
AF01	**San Pedro de A**	**2.93**	**16**	*e*P	**Pn**	**10 07 33.3**	**+1.8**
AF01				IAML		10 08 56.7	
	comp=N,407nm,0.3s						
AF01	**San Pedro de A**	**2.93**	**16**	*e*P	**Pn**	**10 07 33.5**	**+1.9**
AF01				*e*S	**Sn**	**10 08 01.7**	**-4.6**
AF01				IAML		10 08 32.5	
	comp=Z,257nm,0.6s						
AC04	**Llanos de Chal**	**3.01**	**216**		**Pn**	**10 07 30.5**	**-1.9**
AC04	**Llanos de Chal**	**3.01**	**216**	*e*P	**Pn**	**10 07 30.4**	**-1.9**
AC04				*e*S	**Sn**	**10 08 05.3**	**-2.5**
AC04				IAML		10 08 16.9	
	comp=Z,218nm,0.9s						
VCA	**Vinchina**	**3.04**	**166**	*e*P	**Pn**	**10 07 34.2**	**+1.4**
VCA				*e*S	**Sn**	**10 08 11.8**	**+3.1**
VCA				IAML		10 08 12.6	
	comp=Z,77nm,0.7s						
PB05	**IPOC Station P**	**3.10**	**340**		**Pn**	**10 07 33.3**	**-0.3**
PB05	**IPOC Station P**	**3.10**	**340**	⇑*e*P	**Pn**	**10 07 33.7**	**0.0**
PB05				IAML		10 08 21.6	
	comp=E,234nm,0.5s						
PB05	**IPOC Station P**	**3.10**	**340**	*e*P	**Pn**	**10 07 33.5**	**-0.1**
PB05				*e*S	Sn	10 08 20.8	+11
PB05				IAML		10 08 39.9	
	comp=Z,152nm,0.6s						
PB06	**IPOC Station P**	**3.10**	**351**		**Pn**	**10 07 33.4**	**-0.3**
PB06	**IPOC Station P**	**3.10**	**351**	⇑*e*P	**Pn**	**10 07 34.4**	**+0.7**
PB06	**IPOC Station P**	**3.10**	**351**	*e*P	**Pn**	**10 07 34.2**	**+0.5**
PB06				*e*S	**Sn**	**10 08 05.0**	**-5.2**
PB06				IAML		10 08 05.8	
	comp=Z,178nm,0.7s						
LCO	**Las Campanas**	**3.54**	**204**		**Pn**	**10 07 37.8**	**-1.8**
LCO	**Las Campanas**	**3.54**	**204**	*e*P	**Pn**	**10 07 38.2**	**-1.3**
LCO				*e*S	Sn	10 08 04.2	-17
LCO				IAML		10 08 43.5	
	comp=Z,322nm,1.4s						
PB03	**IPOC Station P**	**3.77**	**350**		**Pn**	**10 07 42.6**	**-0.1**
PB03	**IPOC Station P**	**3.77**	**350**	*e*P	**Pn**	**10 07 42.3**	**-0.4**
PB03				*e*S	**Sn**	**10 08 19.3**	**-7.0**
PB03				IAML		10 08 58.5	
	comp=Z,130nm,0.6s						
CYA	**Choya**	**3.92**	**133**	*e*P	Pn	10 07 31.1	-13
CYA				*e*S	**Sn**	**10 08 31.7**	**+2.0**
PB09	**IPOC Station P**	**3.97**	**357**		**Pn**	**10 07 45.7**	**+0.4**
PB09	**IPOC Station P**	**3.97**	**357**	*e*P	**Pn**	**10 07 46.3**	**+0.9**
PB09				*e*S	Sn	10 08 16.3	-15
PB09				IAML		10 09 03.4	
	comp=Z,149nm,0.7s						
ACLC	**CERRO LA CRUZ**	**4.08**	**153**	*e*P	**Pn**	**10 07 46.5**	**-0.2**
ACLC				*e*S	**Sn**	**10 08 32.3**	**-1.4**
ACLC				IAML		10 08 32.3	
	comp=Z,36nm,0.4s						
CO01	**Juntas del Tor**	**4.28**	**192**		**Pn**	**10 07 48.5**	**-1.0**
CO01	**Juntas del Tor**	**4.28**	**192**	*e*P	**Pn**	**10 07 49.3**	**-0.2**
CO01				*e*S	Sn	10 08 21.4	-17
CO01				*e*S		10 08 25.3	
CO01				IAML		10 09 05.6	
	comp=Z,40nm,0.4s						
PB02	**IPOC Station P**	**4.51**	**350**		**Pn**	**10 07 51.7**	**-0.9**
PB02	**IPOC Station P**	**4.51**	**350**	*e*P	**Pn**	**10 07 51.7**	**-0.9**
PB02				IAML		10 09 12.6	
	comp=Z,93nm,0.3s						
CO05	**La Serena**	**4.55**	**205**	Pn	**Pn**	**10 07 50.5**	**-2.4**
GO04	**Tololo Observa**	**4.64**	**199**		**Pn**	**10 07 52.6**	**-1.7**
GO04	**Tololo Observa**	**4.64**	**199**	*e*P	**Pn**	**10 07 52.1**	**-2.3**
GO04				*e*S	**Sn**	**10 08 47.0**	**-0.3**
PB01	**IPOC Station P**	**4.73**	**355**		**Pn**	**10 07 55.0**	**-0.6**
PB01	**IPOC Station P**	**4.73**	**355**	*e*P	**Pn**	**10 07 55.0**	**-0.6**
PB01				IAML		10 09 17.6	
	comp=Z,45nm,0.5s						
ACCO	**Cerro Coronel**	**4.79**	**180**	*e*P	**Pn**	**10 07 56.4**	**-0.1**
ACCO				*e*S	**Sn**	**10 08 52.1**	**+1.1**
PATCX	**Punta Patache**	**5.04**	**348**	*e*P	**Pn**	**10 07 58.1**	**-1.6**
PATCX				IAML		10 09 12.2	
	comp=Z,53nm,0.8s						
AVFE	**Valle Fertil**	**5.06**	**164**	*e*P	**Pn**	**10 07 58.9**	**-0.9**
AVFE				*e*S	**Sn**	**10 08 55.3**	**-1.9**
AVFE				IAML		10 08 56.9	
	comp=Z,28nm,0.6s						
APLL	**PUNTA DE LOS L**	**5.11**	**155**	*e*P	**Pn**	**10 07 59.1**	**-1.4**
APLL				*e*S	**Sn**	**10 08 56.2**	**-2.1**
CO03	**El Pedregal**	**5.24**	**196**		**Pn**	**10 08 00.1**	**-2.4**
CO03	**El Pedregal**	**5.24**	**196**	*e*P	**Pn**	**10 07 60.0**	**-2.4**
CO03				*e*S	Sn	10 08 51.5	-10
CO03				IAML		10 09 33.1	
	comp=Z,43nm,0.8s						
CO02	**Combarbal**	**5.67**	**197**	Pn	**Pn**	**10 08 05.4**	**-2.8**
CFA	**Coronel Fontan**	**5.84**	**173**	P	**Pn**	**10 08 09.1**	**-1.4**
	comp=Z,2.4nm,0.3s,baz=347,slow=13,SNR=40						
CFA				S	**Sn**	**10 09 11.5**	**-4.7**
	comp=Z,3.0nm,0.3s,baz=37,slow=20,SNR=6.6						
VA06	**Catapilco**	**7.04**	**196**	Pn	**Pn**	**10 08 21.8**	**-4.7**
LPAZ	**La Paz**	**9.49**	**5**	Pn	**Pn**	**10 08 59.3**	**-1.2**
LPAZ	**La Paz**	**9.49**	**5**	P	**Pn**	**10 09 00.1**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=198,slow=3.1,SNR=3.7						
CPUP	**Villa Florida**	**10.55**	**96**	P	**Pn**	**10 09 10.8**	**-3.6**
	comp=Z,0.4nm,0.8s,baz=260,slow=16,SNR=2.0						
SIV	**San Ignacio**	**12.26**	**39**	P	Pn	10 09 33.5	-3.8
	comp=Z,3.7nm,0.4s,baz=236,slow=9.7,SNR=18						
ITAB	**Concordia**	**15.22**	**99**	P	**Pn**	**10 10 16.4**	**+1.0**
TEIG	**Tepich**	**49.40**	**336**	P	**P**	**10 15 26.2**	**+1.0**
BELA	**Belgrano 2**	**54.55**	**172**	P	**P**	**10 16 02.6**	**-0.1**
VNA3	**Neumayer Olymp**	**56.09**	**160**	⇑P	**P**	**10 16 13.7**	**-0.2**
	comp=Z,2.1nm,0.7s						
VNA1	**Neumayer--Stat**	**56.32**	**160**	⇑P	**P**	**10 16 13.6**	**-1.9**
	comp=Z,2.9nm,1.0s						
SNAA	**Sanae**	**58.30**	**160**	⇑P	**P**	**10 16 29.4**	**-0.1**
	comp=Z,17nm,0.4s						
SNAA	**Sanae**	**58.30**	**160**	P	**P**	**10 16 29.3**	**-0.2**
SNAA	**Sanae**	**58.30**	**160**	P	**P**	**10 16 28.9**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=286,slow=9.3,SNR=14						
	comp=Z,1.2nm,0.7s						
TROLL	**Troll, Antarti**	**60.02**	**160**	⇑P	**P**	**10 16 41.6**	**+0.2**
	comp=Z,55nm,0.4s						
SAND	**Sanderson**	**63.85**	**328**	P	**P**	**10 17 08.9**	**+1.5**
SAND				IAmb	IAmb	10 17 10.3	
	comp=Z,3.5nm,0.9s						
OZNA	**Ozona**	**64.19**	**330**	P	**P**	**10 17 10.9**	**+1.2**
QSPA	**South Pole Qui**	**64.43**	**180**	P	**P**	**10 17 11.7**	**+0.7**
QSPA				IAmb	IAmb	10 17 13.5	
	comp=Z,1.9nm,0.9s						
QSPA	**South Pole Qui**	**64.43**	**180**	P	**P**	**10 17 11.4**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=164,slow=0.5,SNR=16						
	comp=Z,1.4nm,0.6s						
APMT	**Aspermont**	**65.80**	**332**	P	**P**	**10 17 20.7**	**+0.7**
VHRN	**Van Horn**	**65.93**	**326**	P	**P**	**10 17 22.0**	**+0.9**
VHRN				IAmb	IAmb	10 17 23.0	
	comp=Z,1.4nm,0.6s						
PDAR	**Pinedale Array**	**77.75**	**331**	P	**P**	**10 18 33.0**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=141,slow=7.0,SNR=2.4						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**126.05**	**206**	PKP	**PKPdf**	**10 25 36.6**	**0.0**
	comp=Z,0.6nm,0.6s,baz=138,slow=1.9,SNR=10						
WRA	**Warramunga Arr**	**129.19**	**209**	PKP	**PKPdf**	**10 25 42.3**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=160,slow=1.3,SNR=8.8						
KURBB	**Kurchatov Arra**	**144.91**	**36**	PKP	PKPbc	10 26 10.6	+0.7
	comp=Z,1.4nm,0.7s,baz=309,slow=3.4,SNR=11						
ZALV	**Zalesovo Beam**	**145.83**	**28**	PKPbc	**PKPbc**	**10 26 13.3**	**+0.6**
	comp=Z,3.3nm,0.6s,baz=309,slow=5.0,SNR=13						
MKAR	**Makanchi Array**	**149.08**	**40**	PKPbc	**PKPbc**	**10 26 22.5**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=296,slow=3.3,SNR=12						

*NNC **24** 10:10:35.6±2.5,43°.71N×69°.75E,h0km,mb3.8,mpv3.2, Error ellipse: s-maj=14.2km s-min=7.5km az=144.0, Suspected Mining explosion.*
*SOME **24** 10:10:35.6,43°.67N×69°.70E*
*KRNET **24** 10:10:37.1±0.1,43°.88N×69°.61E,mb3.0*
ISC 24 10:10:39.0±1.7,43°.62N±0°.07×70°.06E±0°.07,h0km,n12, σ1s60/17,7C-6D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.61**	**195**	P	**Pb**	**10 10 52.6**	**+0.1**
	1.8nm,0.1s						
BRLS				S	**Sn**	**10 11 04.8**	**-0.6**
	46nm,0.4s						
KK31	**Karatay Array**	**0.61**	**147**	⇑P	**Pg**	**10 10 50.9**	**+0.2**
	1.9nm,0.3s,baz=320,slow=18,SNR=158						
KK31				S	**Sn**	**10 11 03.1**	**-2.5**
	54nm,0.7s,baz=318,slow=34,SNR=47						
IUG	**luzhnay**	**1.47**	**181**	P	**Pn**	**10 11 06.0**	**-0.9**
	38nm,0.3s						
IUG				S	**Sn**	**10 11 27.9**	**+1.0**
	82nm,0.4s						
MNAS	**Manas**	**2.12**	**121**	⇓*e*P	**Pg**	**10 11 19.4**	**-0.2**
MNAS				⇓*e*S	**Sg**	**10 11 50.3**	**+3.2**
TRKS	**Terek-Say**	**2.24**	**159**	⇓*e*P	**Pg**	**10 11 21.6**	**-0.2**
TRKS				⇓*e*S	**Sg**	**10 11 53.6**	**+2.8**
ARK	**Arkit**	**2.30**	**142**	⇑*e*P	**Pb**	**10 11 21.6**	**+0.2**
ARK				⇑*e*S	**Sg**	**10 11 54.4**	**+1.6**
MRKS	**Merke**	**2.48**	**110**	Pg	**Pg**	**10 11 26.9**	**+0.4**
	5.6nm,0.6s						
MRKS				Lg	Lg	10 12 03.6	
	17nm,0.3s						
ARSB	**Arslanbob**	**3.15**	**136**	⇓*e*P	**Pb**	**10 11 33.7**	**-2.3**
ARSB				⇓*e*S	**Sb**	**10 12 14.6**	**-0.4**
BTLS	**Baital**	**3.20**	**62**	Pg	**Pg**	**10 11 41.2**	**+1.0**
	17nm,0.5s						
BTLS				Lg	Lg	10 12 29.0	
	10nm,0.5s						
KST	**Kastek**	**4.35**	**96**	Pg	**Pg**	**10 12 01.7**	**-0.6**
	4.3nm,0.6s						
KST				Lg	Lg	10 13 03.2	
	9.3nm,0.7s						
KURBB	**Kurchatov Arra**	**9.08**	**37**	⇑Pg	Pn	10 12 37.9	-13
	3.0nm,0.5s,baz=295,slow=15						
KURBB				⇑Lg	Lg	10 13 07.0	
	16nm,0.7s						
KURK	**Kurchatov**	**9.18**	**36**	⇑Pg	Pn	10 12 38.2	-14
	3.6nm,0.9s						
KURK				⇑Lg	Lg	10 13 05.0	
	9.1nm,0.9s						

IDC 24 10:10:44.4±3.3,11°.58N×124°.80E,h0km,mb3.6/5, mbtmp3.6/5,MS2.9/3,Error ellipse: s-maj=339.0km s-min=21.9km az=64.0,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.54**	**170**	LR	LR	10 34 27.3	
	comp=Z,178nm,18.6s,baz=350,slow=49						
JOW	**Kunigami**	**15.53**	**12**	LR	LR	10 39 39.2	
	comp=Z,27nm,20.4s,baz=90,slow=34						
MJAR	**Matsushiro Arr**	**27.64**	**24**	LR	LR	10 45 16.8	
	comp=Z,28nm,21.9s,baz=194,slow=32						
WRA	**Warramunga Arr**	**32.70**	**163**	P	P	10 37 17.8	-1.0
	0.3nm,0.7s,baz=344,slow=7.7,SNR=5.1						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**36.14**	**166**	P	P	10 37 49.0	+0.4
	0.9nm,0.6s,baz=344,slow=7.1,SNR=15						
	0.9nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**40.96**	**75**	T	T	11 21 25.7	
	baz=275,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.97**	**75**	T	T	11 21 19.6	
	baz=275						
H11S2	**WAKE ISLAND Hy**	**40.98**	**75**	T	T	11 21 22.2	
	baz=275,slow=74						
H11N1	**WAKE ISLAND Hy**	**41.24**	**73**	T	T	11 21 36.3	
	baz=266,slow=74,SNR=20						
H11N2	**WAKE ISLAND Hy**	**41.25**	**73**	T	T	11 21 34.6	
	baz=266,slow=74,SNR=16						
H11N3	**WAKE ISLAND Hy**	**41.26**	**73**	T	T	11 21 37.7	
	baz=266,slow=74,SNR=17						
STKA	**Stephens Creek**	**46.10**	**160**	P	P	10 39 10.4	0.0
	1.2nm,0.6s,baz=333,slow=11,SNR=4.5						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**50.12**	**323**	P	P	10 39 41.5	+0.1
	0.3nm,0.7s,baz=117,slow=8.6,SNR=2.6						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**54.18**	**325**	P	P	10 40 11.3	-0.2
	0.4nm,0.5s,baz=124,slow=7.3,SNR=3.5						
	0.4nm,0.5s						

*NDI **24** 10:31:08.7±2.9,24°.80N×95°.16E,h114km±22km,ML3.9, MW3.9*
*NEIC **24** 10:31:13.5±2.0,24°.86N±0°.04×95°.11E±0°.09, h121km±13km,mb4.0/4,Error ellipse: s-maj=12.0km s-min=5.5km az=101.0*
*IDC **24** 10:31:13.1±2.3,24°.83N×95°.20E,h119km±24km,mb3.8/14, mbtmp4.1/16,MS3.3/1,Error ellipse: s-maj=20.4km s-min=11.9km az=46.0*
ISC 24 10:31:11.6±0.9,24°.89N±0°.06×95°.01E±0°.06,h103km±9km, n56,σ2s12/84,mb4.1/16,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.97**	**267**	*e*P	**Pn**	**10 31 31.5**	**-0.5**
IMP				*e*S	**Sn**	**10 31 47.9**	**+0.5**
IMP				IAML		10 31 53.7	
	comp=N,617nm,0.2s						
IMP				IAML		10 31 53.8	
	comp=

GTK eS Sn 10 33 48.0 -3.5
GTK IAML 10 33 56.0
comp=E,67nm,0.4s
GTK IAML 10 33 56.5
comp=N,83nm,0.3s
ODAN Odare 7.14 288 Pn Pn 10 32 56.5 +2.9
baz=272,slow=0.0
ODAN Sn Sn 10 34 14.5 +1.2
baz=272,slow=0.0
ODAN Odare 7.14 288 Sn Sn 10 34 15.2 +1.9
baz=274,slow=0.0
CM31 Chiang Mai Arr 7.37 150 Pn Pn 10 32 58.4 +1.8
CMAR Chiang Mai Arr 7.37 150 P Pn 10 32 58.0 +1.4
comp=N,0.9nm,0.4s,baz=331,slow=13,SNR=5.8
RAMN Ramite 7.85 287 Pn Pn 10 33 05.4 +2.2
baz=273,slow=0.0
RAMN Ramite 7.85 287 Pn Pn 10 33 06.3 +3.1
comp=N,49nm,0.3s,baz=274,slow=0.0
RAMN Sn Sn 10 34 32.4 +1.8
baz=274,slow=0.0
GUN Gumba 8.72 292 Pn Pn 10 33 17.3 +2.1
comp=N,87nm,0.4s,baz=281,slow=0.0
PKI Pulchoki 9.03 289 Pn Pn 10 33 20.6 +1.3
baz=277,slow=0.0
PKI Sn Sn 10 34 57.3 -2.1
comp=N,24nm,0.4s,baz=277,slow=0.0
PKI Pulchoki 9.03 289 Pn Pn 10 33 20.6 +1.3
comp=N,18nm,0.2s,baz=278,slow=0.0
PKI Sn Sn 10 34 57.2 -2.1
baz=278,slow=0.0
PKIN Phulchoki 9.04 289 Pn Pn 10 33 20.7 +1.2
baz=277,slow=0.0
PKIN Sn Sn 10 34 57.4 -2.2
comp=N,38nm,0.4s,baz=277,slow=0.0
PKIN Phulchoki 9.04 289 Pn Pn 10 33 20.7 +1.2
comp=N,35nm,0.2s,baz=278,slow=0.0
PKIN Sn Sn 10 34 57.7 -1.9
baz=278,slow=0.0
KKN Kakani 9.19 290 Pn Pn 10 33 22.4 +0.9
baz=279,slow=0.0
KKN Kakani 9.19 290 Pn Pn 10 33 22.9 +1.4
baz=280,slow=0.0
KKN Sn Sn 10 35 01.7 -1.6
baz=280,slow=0.0
DMN Daman 9.29 289 Pn Pn 10 33 24.1 +1.2
baz=277,slow=0.0
DMN Sn Sn 10 35 03.6 -2.2
comp=N,34nm,0.5s,baz=277,slow=0.0
DMN Daman 9.29 289 Pn Pn 10 33 24.1 +1.2
comp=N,19nm,0.2s,baz=278,slow=0.0
DMN Sn Sn 10 35 03.6 -2.2
baz=278,slow=0.0
GKN Gorkha 9.80 291 Pn Pn 10 33 30.9 +1.2
baz=280,slow=0.0
GKN Sn Sn 10 35 14.2 -3.8
comp=N,32nm,0.3s,baz=280,slow=0.0
GKN Gorkha 9.80 291 Pn Pn 10 33 31.2 +1.5
comp=N,62nm,0.3s,baz=280,slow=0.0
GKN Sn Sn 10 35 14.9 -3.1
baz=280,slow=0.0
KOLN Koldanda 10.63 288 Pn Pn 10 33 41.5 +0.5
baz=278,slow=0.0
KOLN Sn Sn 10 35 35.4 -2.8
baz=278,slow=0.0
KOLN Koldanda 10.63 288 Pn Pn 10 33 41.5 +0.5
baz=279,slow=0.0
KOLN Sn Sn 10 35 36.1 -2.1
baz=279,slow=0.0
DANN Dangsing 10.64 291 Pn Pn 10 33 40.7 -0.6
baz=281,slow=0.0
DANN Sn Sn 10 35 33.5 -5.1
comp=N,34nm,0.5s,baz=281,slow=0.0
DANN Dangsing 10.64 291 Pn Pn 10 33 40.7 -0.6
comp=N,16nm,0.3s,baz=282,slow=0.0
DANN Sn Sn 10 35 35.7 -2.9
baz=282,slow=0.0
PYUN Piuthan 11.23 289 Pn Pn 10 33 49.5 +0.3
baz=280,slow=0.0
PYUN Sn Sn 10 35 49.7 -3.1
baz=280,slow=0.0
PYUN Piuthan 11.23 289 Pn Pn 10 33 49.2 0.0
comp=N,12nm,0.2s,baz=280,slow=0.0
PYUN Sn Sn 10 35 49.9 -2.9
baz=280,slow=0.0
ENH Enshi 13.91 64 P P 10 34 28.5 -0.5
MKAR Makanchi Array 24.11 338 P P 10 36 19.4 +1.9
comp=N,8.3nm,0.5s,baz=148,slow=9.9,SNR=80
comp=N,8.3nm,0.5s
MAKZ Makanchi 24.22 338 P P 10 36 20.3 +1.6
MAKZ IAmb IAmb 10 36 21.2
comp=Z,4.0nm,0.7s
SONM Songino Array 24.61 19 P P 10 36 22.1 -0.1
SONM Songino Array 24.61 19 P P 10 36 22.0 -0.3
comp=Z,1.4nm,0.8s,baz=202,slow=10,SNR=5.4
comp=Z,1.4nm,0.8s
KURBB Kurchatov Arra 28.67 338 P P 10 36 59.7 +1.2
comp=Z,1.8nm,0.6s,baz=146,slow=9.6,SNR=14
comp=Z,1.8nm,0.6s
KURK Kurchatov 28.72 338 P P 10 37 00.3 +1.3
KURK IAmb IAmb 10 37 00.9
comp=Z,2.4nm,0.8s
JOW Kunigami 29.95 79 P P 10 37 08.3 -1.9
JOW Kunigami 29.95 79 P P 10 37 07.7 -2.5
comp=Z,2.1nm,0.5s,baz=293,slow=13,SNR=5.0
comp=Z,2.1nm,0.5s
ZALV Zalesovo Beam 30.00 348 P P 10 37 11.4 +1.1
ZALV Zalesovo Beam 30.00 348 P P 10 37 10.9 +0.6
comp=Z,0.9nm,0.4s,baz=156,slow=8.8,SNR=3.9
comp=Z,0.9nm,0.4s
BVAR Borovoye Array 33.67 333 P P 10 37 44.0 +1.6
comp=Z,1.5nm,0.5s,baz=134,slow=11,SNR=6.9
comp=Z,1.5nm,0.5s
AKTO Aktyubinsk 38.22 322 P P 10 38 23.1 +1.8
comp=Z,1.4nm,0.5s,baz=115,slow=4.0,SNR=4.4
AKTO LR LR 10 55 06.1
comp=Z,38nm,19.4s,baz=84,slow=37
comp=Z,1.4nm,0.5s
FINES FINESS Array B 58.40 328 P P 10 40 56.9 +0.8
comp=Z,1.2nm,0.5s,baz=91,slow=7.8,SNR=8.8
comp=Z,1.2nm,0.5s
WRA Warramunga Arr 58.74 136 P P 10 40 57.6 -1.3
comp=Z,0.5nm,0.3s,baz=321,slow=7.4,SNR=25
comp=Z,0.5nm,0.3s
ARCES ARCESS Array B 59.76 338 P P 10 41 06.0 +0.7
comp=Z,1.1nm,0.6s,baz=104,slow=5.0,SNR=7.5
comp=Z,1.1nm,0.6s
ASAR Alice Springs 61.25 139 P P 10 41 15.0 -1.1
comp=Z,0.3nm,0.6s,baz=318,slow=7.0,SNR=6.0
comp=Z,0.3nm,0.6s
HFS Hagfors 64.47 327 P P 10 41 37.5 +0.6
comp=Z,5.5nm,0.5s,baz=122,slow=5.4,SNR=34
comp=Z,5.5nm,0.5s
NB2 NORSAR Subarra 65.58 328 P P 10 41 44.4 +0.3
comp=Z,1.1nm,0.5s,baz=83,slow=6.5
NOA NORSAR Array B 65.58 326 P P 10 41 44.4 +0.3
comp=Z,2.1nm,0.6s,baz=83,slow=6.3,SNR=13
comp=Z,2.1nm,0.6s
GERES GERESS Array B 66.12 314 P P 10 41 48.6 +0.8
comp=Z,1.0nm,0.5s,baz=73,slow=4.5,SNR=6.3
comp=Z,1.0nm,0.5s

*IDC **24** 10:52:57.4±1.9, 9°.57S×113°.49E, h0km, mb3.9/5, mbtmp4.0/6, ML3.9/1, Error ellipse: s-maj=108.1km s-min=18.2km az=49.0*
*DJA **24** 10:53:12.1±0.7, 9°S±6'×11°5E±', h38km±15km, M3.9/9, MLv3.9/9*
ISC 24 10:53:08.9±0.9, **9°.25S**±0°.07×**114°.72E**±0°.07, **h31**km, **n14, σ1§37/15, mb4.0/5, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**0.95**	**324**	P	**Pn**	**10 53 26.2**	**-0.1**
JAGI				S	**Sn**	**10 53 37.2**	**-1.6**
SRBI	**Singaraja**	**1.26**	**23**	P	**Pb**	**10 53 32.9**	**+0.8**
SRBI				S	**Sb**	**10 53 48.6**	**+0.6**
GMJI	**Gumukmas**	**1.59**	**308**	P	**Pn**	**10 53 34.2**	**-0.7**
TWSI	**Taliwang, Sumb**	**2.20**	**77**	P	**Pb**	**10 53 48.9**	**+0.8**
KMMI	**Kalianget**	**2.31**	**341**	P	**Pn**	**10 53 43.9**	**-1.0**
PLAI	**Plampang**	**3.05**	**82**	P	**Pb**	**10 54 00.0**	**-2.6**
PCJI	**Pacitan**	**3.65**	**286**	P	**Pn**	**10 54 03.4**	**+0.1**
WOJI	**Wonogiri, Jawa**	**4.00**	**290**	P	**Pn**	**10 54 07.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**13.78**	**131**	Pn	**Pn**	**10 56 24.7**	**+2.5**
FITZ	0.4nm,0.3s,baz=300,slow=9.1,SNR=37			Sn	**Sn**	**10 58 52.5**	**-1.7**
	0.5nm,0.3s,baz=37,slow=5.1,SNR=11 4.8nm,0.9s						
WRA	**Warramunga Arr**	**21.74**	**121**	P	**P**	**10 57 58.1**	**+0.1**
	1.1nm,0.5s,baz=291,slow=12,SNR=25 1.1nm,0.5s						
ASAR	**Alice Springs**	**23.28**	**130**	P	**P**	**10 58 14.7**	**+0.4**
	2.5nm,0.5s,baz=303,slow=9.4,SNR=67 2.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**31.63**	**331**	P	P	10 59 21.2	-8.2
	0.4nm,0.3s,baz=149,slow=9.5,SNR=4.7 0.4nm,0.3s						
STKA	**Stephens Creek**	**33.59**	**136**	P	**P**	**10 59 46.5**	**+0.1**
	1.3nm,0.4s,baz=307,slow=10,SNR=5.5 1.3nm,0.4s						
MKAR	**Makanchi Array**	**62.84**	**336**	P	P	11 03 22.4	-9.4
	0.5nm,0.4s,baz=148,slow=7.2,SNR=9.1 0.5nm,0.4s						

*SDD **24** 10:53:57.7±2.0, 19°.58N×70°.06W, h13km±18km, MD3.2, ML2.7, MW3.4*
*OSPL **24** 10:53:57.6±2.3, 19°.59N×70°.15W, h4km±9km, ML2.6*
ISC 24 10:53:55.0±1.0, **19°.64N**±0°.04×**70°.04W**±0°.04, **h27**km±5km, **n15, σ1§11/30, 13C-3D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CADR	**Cabrera**	**0.10**	**75**	⇑eP	**Pn**	**10 54 00.4**	**+0.6**
CADR				⇓eSg	**Sb**	**10 54 04.0**	**+0.8**
CADR				IAML		10 54 10.5	
	comp=N,1μm,0.6s						
LONA1	**Toro Cenizo, N**	**0.31**	**148**	*i* P	**Pn**	**10 54 03.2**	**-0.6**
LONA1				IAML	**Sn**	**10 54 08.8**	**-0.7**
	comp=Z,2μm,2.1s						
LONA1				eS	**Sn**	**10 54 08.8**	**-0.7**
SFDR	**San Fco. de Ma**	**0.40**	**209**	⇑eP	**Pb**	**10 54 03.5**	**-0.2**
SFDR				⇑eSg	**Sb**	**10 54 07.8**	**-1.9**
SFDR				IAML		10 54 16.4	
	comp=N,1μm,0.2s						
DR08	**Loma La Naviza**	**0.68**	**179**	⇑eP	**Pn**	**10 54 09.1**	**+0.1**
DR08				⇑eSg	**Sb**	**10 54 16.9**	**-0.4**
DR08				IAML		10 54 18.7	
	comp=N,3μm,0.1s						
SC01	**Santiago de lo**	**0.68**	**252**	*i* P	**Pb**	**10 54 07.3**	**-1.1**
SC01				eS	**Sb**	**10 54 15.8**	**-1.6**
LUDR	**Luperon**	**0.90**	**286**	⇑eP	**Pn**	**10 54 13.7**	**+1.8**
LUDR				⇓eSg	**Sn**	**10 54 25.6**	**+1.6**
ABDR	**Alto Bandera**	**0.99**	**214**	⇑eP	**Pn**	**10 54 14.3**	**+0.7**
ABDR				⇑eSg	**Sn**	**10 54 27.3**	**+0.4**
ABDR				IAML		10 54 28.6	
	comp=N,116nm,0.2s						
HATOM	**Hato Mayor del**	**1.05**	**144**	⇑eP	**Pb**	**10 54 14.6**	**0.0**
HATOM				⇑eSg	**Sn**	**10 54 29.2**	**+1.3**
HATOM				IAML		10 54 35.7	
	comp=N,38nm,0.4s						
LOPP1	**Punta Rusia, P**	**1.11**	**281**	*i* P	**Pb**	**10 54 14.9**	**-0.7**
LOPP1				eS	**Sn**	**10 54 30.8**	**+1.5**
LOPP1				IAML		10 54 39.0	
	comp=Z,85nm,0.4s						
BANI	**BANI**	**1.28**	**194**	⇑eP	**Pb**	**10 54 19.8**	**+1.3**
BANI				⇓eSg	**Sb**	**10 54 35.0**	**+0.4**
BANI				IAML		10 54 36.5	
	comp=N,210nm,0.2s						
SDDR	**Presa de Saban**	**1.35**	**241**	*i* P	**Pb**	**10 54 19.0**	**-0.7**
SDDR				eS	**Sn**	**10 54 35.5**	**+0.2**
LODU1	**El Espartillar**	**1.87**	**227**	*i* P	**Pb**	**10 54 27.9**	**-0.6**
LODU1				eS	**Sn**	**10 54 47.8**	**-0.2**
LODU1				IAML		10 54 53.2	
	comp=Z,64nm,1.2s						
PODR	**Polo**	**1.88**	**219**	⇑eP	**Pb**	**10 54 27.5**	**-1.3**
PODR				⇑eSg	**Sb**	**10 54 53.3**	**+1.3**
PODR				IAML		10 55 06.0	
	comp=N,55nm,1.6s						
GRTK	**Grand Turk**	**2.12**	**331**	*i* P	**Pb**	**10 54 31.2**	**-1.6**
GRTK				eS	**Sb**	**10 54 58.0**	**-0.7**
GRTK				IAML		10 55 05.4	
	comp=Z,60nm,1.6s						
LOBH	**Bahia de las A**	**2.33**	**221**	*i* P	**Pb**	**10 54 35.0**	**-1.3**
LOBH				IAML		10 55 08.2	
	comp=Z,32nm,1.1s						

*CATAC **24** 11:48:16.7±0.4, 13°N±3°×8°8W±°, h37km±5km, M3.0/13, MLv3.0/13, Error ellipse: s-maj=6.8km s-min=2.5km az=29.4, confirmed*
*SNET **24** 11:48:18.9±1.0, 12°.69N×88°.09W, h26km±6km, ML2.4*
ISC 24 11:48:16.6±1.5, **12°.54N**±0°.07×**87°.95W**±0°.04, **h50**km, **n37, σ0§65/47, 5C-2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POTN	**Potosi Cosigui**	**0.63**	**43**	⇑P	**Pn**	**11 48 29.5**	**0.0**
POTN				S	**Sn**	**11 48 39.1**	**+0.3**
CNCH	**Conchagua**	**0.74**	**8**	*e*P	**Pn**	**11 48 31.0**	**-0.1**
CNCH				eS	**Sn**	**11 48 41.3**	**-0.3**
CNCH	**Conchagua**	**0.74**	**8**	S	**Sn**	**11 48 42.2**	**+0.6**
CNCH	**Conchagua**	**0.74**	**8**	⇓P	**Pn**	**11 48 31.2**	**+0.1**
LCND	**La Caada**	**0.77**	**4**	*e*P	**Pn**	**11 48 31.2**	**-0.1**
LCND				IAML		11 48 45.6	
	comp=Z,591nm,0.4s						
LCND	**La Caada**	**0.77**	**4**	P	**Pn**	**11 48 31.0**	**-0.3**
CRIN	**San Cristobal**	**0.89**	**79**	⇑P	**Pn**	**11 48 33.9**	**+0.9**
CRIN	**San Cristobal**	**0.89**	**79**	S	**Sn**	**11 48 46.5**	**+1.6**
ALJI	**Alcalda de J**	**0.99**	**322**	S	**Sn**	**11 48 48.3**	**+1.0**
ALJI	**Alcalda de J**	**0.99**	**322**	P	**Pn**	**11 48 34.2**	**-0.1**
PACA	**Pacayal**	**1.00**	**338**	*e*P	**Pn**	**11 48 34.6**	**+0.2**
PACA				eS	**Sn**	**11 48 46.8**	**-0.8**
PACA	**Pacayal**	**1.00**	**338**	⇑P	**Pn**	**11 48 35.1**	**+0.6**
PACA	**Pacayal**	**1.00**	**338**	S	**Sn**	**11 48 47.5**	**-0.1**
TECA	**Tecapa**	**1.10**	**330**	*e*P	**Pn**	**11 48 36.2**	**+0.4**
TECA				eS	**Sn**	**11 48 48.5**	**-1.6**
POLN	**Al Sur del Vol**	**1.11**	**84**	⇑P	**Pn**	**11 48 36.0**	**+0.1**
POLN				S	**Sn**	**11 48 50.3**	**+0.2**
PLRN	**Geotermica Pol**	**1.15**	**87**	P	**Pn**	**11 48 35.7**	**-0.7**
PLRN				S	**Sn**	**11 48 50.4**	**-0.7**
CHOHN	**Orocuina**	**1.21**	**39**	⇓P	**Pn**	**11 48 37.0**	**-0.3**
CHOHN	**Orocuina**	**1.21**	**39**	S	**Sn**	**11 48 52.8**	**0.0**
CNGA	**Al SSO del Vol**	**1.22**	**92**	P	**Pn**	**11 48 37.3**	**0.0**
CNGA				S	**Sn**	**11 48 52.0**	**-0.7**
CNGN	**Cerro Negro**	**1.22**	**91**	S	**Sn**	**11 48 52.9**	**+0.2**
CNGN	**Cerro Negro**	**1.22**	**91**	⇑P	**Pn**	**11 48 37.6**	**+0.3**
PQSS	**Presa 15 de Se**	**1.24**	**331**	P	**Pn**	**11 48 37.4**	**-0.1**
PQSS	**Presa 15 de Se**	**1.24**	**331**	S	**Sn**	**11 48 53.6**	**+0.4**
TECO	**Alcaldia de Te**	**1.29**	**321**	S	**Sn**	**11 48 53.0**	**-1.4**
TECO	**Alcaldia de Te**	**1.29**	**321**	P	**Pn**	**11 48 38.5**	**+0.2**
UESV	**Universidad de**	**1.37**	**323**	S	**Sn**	**11 48 56.2**	**-0.2**
COPN	**Copaltepe**	**1.37**	**105**	P	**Pn**	**11 48 39.2**	**-0.2**
MOMN	**Momotombo**	**1.38**	**95**	P	**Pn**	**11 48 39.6**	**+0.1**
MOMN				S	**Sn**	**11 48 55.9**	**-0.8**
SCLA	**Alcaldia de Sa**	**1.39**	**327**	*e*P	**Pn**	**11 48 40.2**	**+0.6**
SCLA				eS	**Sn**	**11 48 57.0**	**+0.1**
SCLA				IAML		11 48 59.2	
	comp=Z,20nm,0.1s						
SCLA	**Alcaldia de Sa**	**1.39**	**327**	S	**Sn**	**11 48 57.9**	**+1.0**
SCLA	**Alcaldia de Sa**	**1.39**	**327**	P	**Pn**	**11 48 40.5**	**+0.8**
COEG	**Centro de Oper**	**1.41**	**320**	S	**Sn**	**11 48 56.3**	**-1.2**
MOM2	**El Cardon**	**1.43**	**94**	S	**Sn**	**11 48 57.8**	**0.0**
MARCA	**Marcala la Paz**	**1.62**	**357**	S	**Sn**	**11 49 03.4**	**+0.8**
TGUH	**Tegucigalpa,Un**	**1.65**	**23**	P	**Pn**	**11 48 43.3**	**0.0**
TGUH				S	**Sn**	**11 49 02.5**	**-0.9**
YUSH	**Yuscaran**	**1.77**	**37**	P	**Pn**	**11 48 44.8**	**-0.1**
YUSH	**Yuscaran**	**1.77**	**37**	S	**Sn**	**11 49 06.1**	**-0.3**

*SNET **24** 12:04:12.9±4.7, 13°.12N×88°.77W, h107km, ML3.1*
*CATAC **24** 12:04:15.6±0.9, 13°N±5°×8°9W±°, h27km±6km, M3.1/11, MLv3.1/11, Error ellipse: s-maj=11.3km s-min=4.9km az=10.2, confirmed*
*GCG **24** 12:04:22.1±3.2, 13°.55N×88°.97W, h98km±62km, MD3.7*
ISC 24 12:04:17.4±1.9, **13°.0N**±0°.1×**88°.68W**±0°.04, **h58**km±19km, **n31, σ1§16/36, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TECO	**Alcaldia de Te**	**0.55**	**350**	P	**Pn**	**12 04 29.4**	**-0.4**
PACA	**Pacayal**	**0.59**	**36**	P	**Pn**	**12 04 30.2**	**-0.1**
PACA	**Pacayal**	**0.59**	**36**	S	**Sn**	**12 04 40.8**	**+1.0**
PQSS	**Presa 15 de Se**	**0.64**	**11**	P	**Pn**	**12 04 30.8**	**0.0**
PQSS	**Presa 15 de Se**	**0.64**	**11**	S	**Sn**	**12 04 42.1**	**+1.4**
UESV	**Universidad de**	**0.65**	**351**	P	**Pn**	**12 04 29.2**	**-1.8**
COEG	**Centro de Oper**	**0.66**	**343**	*e*P	**Pn**	**12 04 29.8**	**-1.3**
COEG				eS	**Sn**	**12 04 40.9**	**-0.2**
COEG	**Centro de Oper**	**0.66**	**343**	P	**Pn**	**12 04 29.9**	**-1.1**
SCLA	**Alcaldia de Sa**	**0.71**	**356**	P	**Pn**	**12 04 31.7**	**0.0**
SCLA	**Alcaldia de Sa**	**0.71**	**356**	S	**Sn**	**12 04 44.1**	**+2.0**
PAVA	**Las Pavas**	**0.76**	**341**	P	**Pn**	**12 04 31.3**	**-1.1**
PAVA	**Las Pavas**	**0.76**	**341**	S	**Sn**	**12 04 44.0**	**+0.6**
LOMA	**Loma Larga**	**0.81**	**324**	P	**Pn**	**12 04 31.7**	**-1.3**
LOMA	**Loma Larga**	**0.81**	**324**	S	**Sn**	**12 04 44.0**	**-0.4**
LCND	**La Caada**	**0.83**	**67**	P	**Pn**	**12 04 32.8**	**-0.3**
LCND	**La Caada**	**0.83**	**67**	S	**Sn**	**12 04 45.3**	**+0.5**
CNCH	**Conchagua**	**0.87**	**71**	*e*P	**Pn**	**12 04 33.0**	**-0.8**
CNCH				eS	**Sn**	**12 04 46.0**	**0.0**
CNCH	**Conchagua**	**0.87**	**71**	P	**Pn**	**12 04 32.8**	**-1.0**
CNCH	**Conchagua**	**0.87**	**71**	S	**Sn**	**12 04 46.4**	**+0.5**
BOQS	**Boqueron**	**0.94**	**322**	*e*P	**Pn**	**12 04 35.2**	**+0.4**
PMON	**Piamonte**	**0.95**	**319**	P	**Pn**	**12 04 34.0**	**-0.8**
JAYA	**Jayaque - finc**	**1.00**	**312**	*e*P	**Pn**	**12 04 34.7**	**-0.8**
JAYA				eS	**Sn**	**12 04 49.0**	**+0.1**
JAYA	**Jayaque - finc**	**1.00**	**312**	*i* P	**Pn**	**12 04 39.3**	**+3.8**
JAYA				*i* S	**Sn**	**12 04 47.9**	**-1.0**
MARCA	**Marcala la Paz**	**1.32**	**28**	P	**Pn**	**12 04 39.3**	**-0.4**
NUBE	**Las Nubes**	**1.40**	**310**	*i* P	**Pn**	**12 04 39.9**	**-1.0**
NUBE				*i* S	**Sn**	**12 04 57.8**	**-0.7**
INTHN	**La Esperanza I**	**1.43**	**23**	P	**Pn**	**12 04 41.6**	**+0.2**
MTO3	**Montecristo**	**1.55**	**335**	*i* P	**Pn**	**12 04 42.5**	**-0.4**
MTO3	**Montecristo**	**1.55**	**335**	P	**Pn**	**12 04 41.7**	**-1.2**
FAME	**Alcaldia de Sa**	**1.55**	**303**	P	**Pn**	**12 04 44.0**	**+1.3**
CHOHN	**Orocuina**	**1.56**	**72**	S	**Sn**	**12 05 03.4**	**+1.2**
CHOHN	**Orocuina**	**1.56**	**72**	P	**Pn**	**12 04 42.0**	**-0.9**

*IDC **24** 12:13:20.9±1.3, 27°.71N×86°.06E, h0km, mb3.5/7, mbtmp3.5/8, ML3.7/1, MS3.5/2, Error ellipse: s-maj=52.2km s-min=19.6km az=62.0*
*DMN **24** 12:13:23.4±0.0, 27°.81N×86°.15E, h10km, Ml4.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 24 12:13:23.5±1.0, **27°.80N**±0°.04×**86°.15E**±0°.03, **h13**km±7km, **n40, σ0§78/63, mb3.5/7, Nepal**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUN	**Gumba**	**0.27**	**295**	Pg	**Pg**	**12 13 29.1**	**-0.2**
	baz=278,slow=0.0						
GUN				Sg	**Sg**	**12 13 33.3**	**+0.1**
	baz=278,slow=0.0						
GUN	**Gumba**	**0.27**	**295**	Pg	**Pn**	**12 13 28.9**	**-0.4**
	baz=285,slow=0.0						
GUN				Sg	**Sg**	**12 13 32.9**	**-0.3**
	4μm,0.3s,baz=285,slow=0.0						
GUN	**Gumba**	**0.27**	**295**	Pg	**Pg**	**12 13 29.3**	**0.0**
	baz=292,slow=0.0						
GUN				Sg	**Sg**	**12 13 33.2**	**+0.1**
	baz=292,slow=0.0						
PKI	**Pulchoki**	**0.70**	**251**	Pg	**Pg**	**12 13 37.1**	**-0.1**
	baz=245,slow=0.0						
PKI				Sg	**Sg**	**12 13 46.6**	**+0.1**
	1μm,0.4s,baz=245,slow=0.0						
PKI	**Pulchoki**	**0.70**	**251**	Pg	**Pg**	**12 13 37.1**	**-0.1**
	baz=247,slow=0.0						
PKI				Sg	**Sg**	**12 13 46.5**	**+0.1**
	1μm,0.4s,baz=247,slow=0.0						
PKI	**Pulchoki**	**0.70**	**251**	Pg	**Pg**	**12 13 37.2**	**0.0**
	baz=250,slow=0.0						
PKI				Sg	**Sg**	**12 13 46.6**	**+0.1**
	1μm,0.4s,baz=250,slow=0.0						
PKIN	**Phulchoki**	**0.71**	**252**	Pg	**Pg**	**12 13 37.2**	**-0.1**
	baz=251,slow=0.0						
PKIN				Sg	**Sg**	**12 13 46.6**	**-0.1**
	2μm,0.4s,baz=251,slow=0.0						
KKN	**Kakani**	**0.77**	**269**	Pg	**Pg**	**12 13 38.2**	**-0.4**
	baz=264,slow=0.0						
KKN				Sg	**Sg**	**12 13 47.7**	**-1.1**
	732nm,0.2s,baz=264,slow=0.0						
KKN	**Kakani**	**0.77**	**269**	Pg	**Pg**	**12 13 38.1**	**-0.5**
	baz=267,slow=0.0						
RAMN	**Ramite**	**0.94**	**155**	Pg	**Pg**	**12 13 41.2**	**-0.4**
	baz=156,slow=0.0						
RAMN				Sg	**Sb**	**12 13 54.7**	**+0.5**
	1μm,0.4s,baz=156,slow=0.0						
RAMN	**Ramite**	**0.94**	**155**	Pg	**Pg**	**12 13 41.3**	**-0.4**
	baz=155,slow=0.0						
RAMN				Sg	**Sb**	**12 13 54.1**	**-0.1**
	1μm,0.5s,baz=155,slow=0.0						
RAMN	**Ramite**	**0.94**	**155**	Pg	**Pg**	**12 13 41.1**	**-0.5**
	baz=155,slow=0.0						
RAMN				Sg	**Sg**	**12 13 53.6**	**-0.3**
	1μm,0.4s,baz=155,slow=0.0						
DMN	**Daman**	**0.95**	**259**	Pg	**Pg**	**12 13 41.6**	**-0.3**
	baz=254,slow=0.0						
DMN				Sg	**Sg**	**12 13 54.3**	**0.0**
	baz=254,slow=0.0						
DMN	**Daman**	**0.95**	**259**	Pg	**Pg**	**12 13 41.5**	**-0.3**
	baz=256,slow=0.0						
DMN				Sg	**Sg**	**12 13 53.8**	**-0.5**
	454nm,0.3s,baz=256,slow=0.0						
DMN	**Daman**	**0.95**	**259**	Pg	**Pg**	**12 13 41.8**	**-0.1**
	baz=258,slow=0.0						
DMN				Sg	**Sb**	**12 13 54.8**	**+0.2**
	703nm,0.4s,baz=258,slow=0.0						
GKN	**Gorkha**	**1.36**	**279**	Pg	**Pn**	**12 13 48.7**	**+0.4**
	baz=276,slow=0.0						
GKN				Sg	**Sb**	**12 14 06.5**	**+0.2**
	698nm,0.3s,baz=276,slow=0.0						
GKN	**Gorkha**	**1.36**	**279**	Pg	**Pn**	**12 13 48.8**	**+0.4**
	baz=277,slow=0.0						
GKN				Sg	**Sb**	**12 14 05.8**	**-0.5**
	698nm,0.3s,baz=277,slow=0.0						
GKN	**Gorkha**	**1.36**	**279**	Pg	**Pn**	**12 13 48.8**	**+0.4**
	baz=278,slow=0.0						
GKN				Sg	**Sg**	**12 14 07.7**	**+0.4**
	698nm,0.3s,baz=278,slow=0.0						
ODAN	**Odare**	**1.45**	**130**	Pg	**Pg**	**12 13 51.1**	**-0.2**
	baz=132,slow=0.0						
ODAN				Sg	**Sg**	**12 14 10.6**	**+0.5**
	1μm,0.6s,baz=132,slow=0.0						
ODAN	**Odare**	**1.45**	**130**	Pg	**Pg**	**12 13 50.9**	**-0.4**
	baz=131,slow=0.0						
ODAN				Sg	**Sg**	**12 14 09.8**	**-0.3**
	1μm,0.6s,baz=131,slow=0.0						
ODAN	**Odare**	**1.45**	**130**	Pg	**Pg**	**12 13 51.8**	**+0.5**
	baz=130,slow=0.0						
ODAN				Sg	**Sg**	**12 14 09.9**	**-0.2**
	1μm,0.6s,baz=130,slow=0.0						
DANN	**Dangsing**	**2.19**	**285**	Pg	**Pb**	**12 14 02.7**	**-0.4**
	baz=283,slow=0.0						
DANN				Sg	**Sb**	**12 14 30.2**	**0.0**
	276nm,0.4s,baz=283,slow=0.0						
DANN	**Dangsing**	**2.19**	**285**	Pg	**Pn**	**12 14 00.9**	**+1.0**
	baz=284,slow=0.0						
DANN				Sg	**Sb**	**12 14 30.2**	**0.0**
	230nm,0.3s,baz=284,slow=0.0						
DANN	**Dangsing**	**2.19**	**285**	Sg	**Sb**	**12 14 30.9**	**+0.7**
	198nm,0.3s,baz=285,slow=0.0						
KOLN	**Koldanda**	**2.26**	**270**	Pg	**Pb**	**12 14

0.2nm,0.5s,baz=70,slow=5.2,SNR=2.3
0.2nm,0.5s
WRA Warramunga Arr 66.53 130 P **P** **12 24 13.2 -0.2**
0.3nm,0.4s,baz=322,slow=6.3,SNR=14
0.3nm,0.4s
ASAR Alice Springs 68.84 133 P **P** **12 24 27.0 -1.0**
0.1nm,0.3s,baz=317,slow=6.6,SNR=1.5
0.1nm,0.3s

AUST 24 12:13:30.4±0.5, 18°S±4°×12°1E±°, h10km, mb4.1/5, ML3.1/6, ML3.2/3, Error ellipse: s-maj=10.9km s-min=4.8km az=142.3, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.64**	**74**	P	Pn	12 13 59.0	-0.2
PSAC1	**Pilbara Seismi**	**3.18**	**193**	P	Pn	12 14 22.1	+1.6
PSAC1				S	Sn	12 14 58.9	+0.4
PSA00	**Pilbara Seismi**	**3.21**	**192**	P	Pn	12 14 22.7	+1.9
PSA00				S	Sn	12 15 00.2	+0.9
FITZ	**Fitzroy Crossi**	**4.82**	**87**	S	Sn	12 15 39.4	+0.4
FITZ	**Fitzroy Crossi**	**4.82**	**87**	P	Pn	12 14 43.1	+0.1
GIRL	**Giralia**	**7.28**	**234**	P	Pn	12 15 15.2	-1.7
	comp=Z,35nm,1.7s,comp=Z,282µmcomp=Z,0.2nm						
GIRL				S	Sn	12 16 32.6	-7.0
KNRA	**Kununurra**	**8.29**	**72**	P	Pn	12 15 30.6	-0.1
	comp=Z,11nm,2.0s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.38**	**192**	P	Pn	12 15 33.0	+1.0
MEEK	**Meekatharra**	**8.38**	**192**	S	Sn	12 17 03.4	-3.3
WRKA	**Warakurna**	**9.73**	**134**	P	Pn	12 15 52.7	+2.1
	comp=Z,4.3nm,2.8s,comp=Z,0.0nm						
WRKA				S	Sn	12 17 39.5	-0.5
MORW	**Morawa**	**11.38**	**201**	P	Pn	12 16 11.4	-1.7
	comp=Z,19nm,2.4s						
BLDU	**Ballidu**	**12.64**	**195**	P	Pn	12 16 29.0	-1.2
	comp=Z,18nm,1.5s						
WC2	**Warramunga Arr**	**13.11**	**99**	P	Pn	12 16 36.9	+0.1

IDC 24 12:33:05.6±331.0, 47°84N×49°24E, h0km, Error ellipse: s-maj=146.1km s-min=116.4km az=20.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.32**	**63**	I	I	13 09 20.0	
	baz=251,slow=317,SNR=0.6						
I43RU	**DUBNA INFRASONI**	**1.53**	**325**	I	I	13 46 40.0	
	baz=134,slow=317,SNR=2.5						
I26DE	**FREYUNG INFRAS**	**23.51**	**286**	I	I	14 56 00.0	
	baz=80,slow=300,SNR=0.6						
I37NO	**I37NO**	**26.11**	**335**	I	I	15 24 35.1	
	baz=132,slow=320,SNR=2.8						

IDC 24 12:42:35.4±2.4, 1°41S×128°57E, h0km, mb3.3/3, mbtmp3.2/4, ML3.0/1, Error ellipse: s-maj=117.4km s-min=24.7km az=63.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.26**	**163**	P	P	12 47 01.4	-0.4
	0.1nm,0.3s,baz=340,slow=11,SNR=5.3						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**22.72**	**167**	P	P	12 47 39.5	+0.3
	0.3nm,0.7s,baz=347,slow=11,SNR=4.6						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**35.20**	**306**	P	P	12 49 32.5	+0.9
	0.4nm,0.3s,baz=109,slow=9.4,SNR=1.7						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**62.81**	**326**	P	P	12 53 02.1	-0.8
	0.1nm,0.4s,baz=109,slow=6.7,SNR=2.0						
	0.1nm,0.4s						

*NOU **24** 12:55:45.0, 40°67S×175°21E, h75km, MLv4.1/13, North Island, New Zealand*
*WEL **24** 12:55:46.6±0.2, 41°S±2°×17°5E±°, h28km±3km, M4.1/50, ML4.3/50, MLv4.1/50, Error ellipse: s-maj=3.3km s-min=2.3km az=122.2, confirmed*

ISC 24 12:55:47.1±1.2, 40°59S±0°02×175°12E±0°03, h44km±8km, n117, σ1°22/134, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGWZ	**Otaki Gorge**	**0.23**	**169**	P	**Pn**	**12 55 54.9**	**-0.2**
OGWZ				S	**Sn**	**12 56 00.6**	**-0.1**
KIW	**Kapiti Island**	**0.31**	**210**	P	**Pn**	**12 55 55.4**	**-0.5**
KIW				S	**Sn**	**12 56 01.7**	**-0.3**
MRZ	**Mangatainoka R**	**0.36**	**102**	P	**Pn**	**12 56 03.4**	**+0.5**
MRZ				S	**Sn**	**12 56 03.4**	**+0.5**
OHWZ	**Ohakea**	**0.41**	**22**	P	**Pn**	**12 55 56.1**	**-0.8**
OHWZ				S	**Sn**	**12 56 03.7**	**-0.1**
HOWZ	**Holdsworth Sta**	**0.43**	**136**	P	**Pn**	**12 55 57.5**	**+0.3**
HOWZ				S	**Sn**	**12 56 05.9**	**+1.5**
POWZ	**Post Office Ro**	**0.54**	**69**	P	**Pn**	**12 55 58.1**	**-0.3**
TIWZ	**Tintock**	**0.62**	**108**	P	**Pn**	**12 55 59.7**	**+0.2**
TIWZ				S	**Sn**	**12 56 10.5**	**+2.1**
MTW	**Mount Morrison**	**0.64**	**153**	P	**Pn**	**12 55 60.0**	**+0.1**
MTW				S	**Sn**	**12 56 10.8**	**+1.9**
PRWZ	**Pori Road**	**0.65**	**87**	P	**Pn**	**12 56 00.3**	**+0.3**
PRWZ				S	**Sn**	**12 56 11.7**	**+2.4**
WEL	**Wellington**	**0.74**	**201**	P	**Pn**	**12 56 01.6**	**+0.4**
WEL				S	**Sn**	**12 56 13.4**	**+2.1**
TMWZ	**Te Maipa**	**0.78**	**132**	P	**Pn**	**12 56 01.8**	**0.0**
SNZO	**South Karori**	**0.79**	**203**	P	**Pn**	**12 56 01.8**	**+0.1**
SNZO	**South Karori**	**0.79**	**203**	S	**Sn**	**12 56 13.7**	**+1.3**
PAWZ	**Paruwai Farm**	**0.83**	**163**	P	**Pn**	**12 56 02.2**	**-0.2**
MSWZ	**Moikau Station**	**0.83**	**173**	P	**Pn**	**12 56 02.4**	**0.0**
TSZ	**Takapari Road**	**0.84**	**51**	P	**Pn**	**12 56 02.4**	**-0.1**
WAZ	**Wanganui**	**0.84**	**353**	P	**Pn**	**12 56 02.2**	**-0.3**
BHW	**Baring Head**	**0.84**	**193**	P	**Pn**	**12 56 02.7**	**+0.2**
BHW				S	**Sn**	**12 56 15.0**	**+1.3**
DVHZ	**Dannevirke**	**0.85**	**71**	P	**Pn**	**12 56 02.3**	**-0.4**
DVHZ				S	**Sn**	**12 56 15.2**	**+1.1**
BFZ	**Birch Farm**	**0.87**	**97**	P	**Pn**	**12 56 02.5**	**-0.3**
BFZ	**Birch Farm**	**0.87**	**97**	P	**Sn**	**12 56 15.3**	**+0.9**
BFZ	**Birch Farm**	**0.87**	**97**	P	**Pn**	**12 56 02.5**	**-0.3**
CPWZ	**Castlepoint**	**0.89**	**112**	P	**Pn**	**12 56 03.6**	**+0.5**
TCW	**Tory Channel**	**0.89**	**225**	P	**Pn**	**12 56 03.0**	**-0.1**
TCW				S	**Sn**	**12 56 15.9**	**+1.0**
TRWZ	**Traveller**	**0.92**	**152**	P	**Pn**	**12 56 04.5**	**+0.9**
DUWZ	**D'Urville Isla**	**0.93**	**256**	P	**Pn**	**12 56 03.2**	**-0.6**
PLWZ	**Palliser**	**0.99**	**174**	P	**Pn**	**12 56 04.2**	**-0.3**
ANWZ	**Angora Road**	**1.04**	**83**	P	**Pn**	**12 56 04.8**	**-0.5**
PNHZ	**Pukenui**	**1.07**	**51**	P	**Pn**	**12 56 05.2**	**-0.5**
WPHZ	**Waipukurau**	**1.14**	**63**	P	**Pn**	**12 56 06.1**	**-0.5**
PRHZ	**Porangahau**	**1.20**	**75**	P	**Pn**	**12 56 06.9**	**-0.6**
TUWZ	**Tuamarina**	**1.22**	**226**	P	**Pn**	**12 56 08.5**	**+0.8**
MTVZ	**Mangateitei**	**1.23**	**13**	P	**Pn**	**12 56 07.7**	**-0.3**
MTVZ				S	**Sn**	**12 56 24.7**	**+1.3**
LREZ	**Lake Rotokare**	**1.25**	**334**	P	**Pn**	**12 56 07.9**	**-0.2**
LREZ				S	**Sn**	**12 56 24.6**	**+0.8**
MOVZ	**Moawhango**	**1.28**	**23**	P	**Pn**	**12 56 08.0**	**-0.5**
PKVZ	**Pokaka**	**1.31**	**8**	P	**Pn**	**12 56 08.5**	**-0.4**
WNVZ	**Wahianoa**	**1.31**	**17**	P	**Pn**	**12 56 08.9**	**-0.2**
TRVZ	**Turoa**	**1.33**	**15**	P	**Pn**	**12 56 09.3**	**-0.1**
CMWZ	**Cape Campbell**	**1.34**	**210**	P	**Pn**	**12 56 10.0**	**+0.6**
KRHZ	**Kereru**	**1.35**	**46**	P	**Pn**	**12 56 08.7**	**-0.8**
WHVZ	**Whangaehu Hut**	**1.35**	**16**	P	**Pn**	**12 56 09.6**	**-0.1**
MAVZ	**Matarangi**	**1.36**	**15**	P	**Pn**	**12 56 09.8**	**-0.1**
FWVZ	**Far West T-bar**	**1.37**	**14**	P	**Pn**	**12 56 09.8**	**-0.2**
TUVZ	**Tukino**	**1.38**	**18**	P	**Pn**	**12 56 10.1**	**+0.1**
COVZ	**Chateau Observ**	**1.43**	**13**	P	**Pn**	**12 56 10.5**	**-0.1**
PREZ	**Palmer Road**	**1.45**	**329**	P	**Pn**	**12 56 11.0**	**+0.2**
PREZ				S	**Sn**	**12 56 30.5**	**+1.9**
PXZ	**Pawanui**	**1.45**	**68**	P	**Pn**	**12 56 10.7**	**-0.1**
SNVZ	**South Ngauruho**	**1.46**	**16**	P	**Pn**	**12 56 11.2**	**+0.1**
NNZ	**Nelson**	**1.46**	**244**	P	**Pn**	**12 56 10.5**	**-0.4**
NNZ				S	**Sn**	**12 56 29.5**	**+0.7**
NGZ	**Ngauruhoe**	**1.46**	**15**	P	**Pn**	**12 56 11.2**	**+0.1**
BSWZ	**Blackbirch Sta**	**1.46**	**219**	P	**Pn**	**12 56 10.9**	**-0.1**
OTVZ	**Oturere**	**1.48**	**17**	P	**Pn**	**12 56 11.5**	**0.0**
VRZ	**Vera Road**	**1.49**	**349**	P	**Pn**	**12 56 10.9**	**-0.4**
VRZ				S	**Sn**	**12 56 30.4**	**+0.8**
NNVZ	**North Ngauruho**	**1.50**	**15**	P	**Pn**	**12 56 12.0**	**+0.2**
NMEZ	**Namu Road**	**1.51**	**321**	P	**Pn**	**12 56 11.9**	**+0.3**
WTVZ	**West Tongariro**	**1.52**	**14**	P	**Pn**	**12 56 11.9**	**+0.1**
ETVZ	**East Tongariro**	**1.52**	**18**	P	**Pn**	**12 56 11.9**	**0.0**
NEZ	**North Egmont**	**1.53**	**329**	P	**Pn**	**12 56 12.0**	**0.0**
TWVZ	**Taurewa**	**1.54**	**9**	P	**Pn**	**12 56 11.6**	**-0.5**
KWHZ	**Kaweka Forest**	**1.54**	**41**	P	**Pn**	**12 56 11.2**	**-0.8**
TMVZ	**Te Maari**	**1.54**	**17**	P	**Pn**	**12 56 12.2**	**0.0**
KHEZ	**Kahui Hut**	**1.54**	**326**	P	**Pn**	**12 56 12.1**	**-0.1**
KHEZ	**Kahui Hut**	**1.54**	**326**	S	**Sn**	**12 56 33.6**	**+2.5**
KHEZ	**Kahui Hut**	**1.54**	**326**	P	**Pn**	**12 56 12.3**	**+0.1**
KRVZ	**Karewarewa**	**1.55**	**15**	P	**Pn**	**12 56 12.4**	**+0.1**
DREZ	**Durham Road**	**1.56**	**333**	P	**Pn**	**12 56 12.6**	**+0.2**
KAHZ	**Kahuranaki**	**1.56**	**60**	P	**Pn**	**12 56 11.7**	**-0.8**
NBEZ	**Newall Road No**	**1.63**	**324**	P	**Pn**	**12 56 13.4**	**+0.1**
PKE	**Pukeiti**	**1.64**	**328**	P	**Pn**	**12 56 13.6**	**+0.2**
MCHZ	**McNeill Hill**	**1.67**	**47**	P	**Pn**	**12 56 13.0**	**-0.8**
KATZ	**Kakaramea**	**1.67**	**16**	P	**Pn**	**12 56 14.3**	**+0.3**
TKNZ	**Takaka Hill**	**1.69**	**254**	P	**Pn**	**12 56 14.0**	**-0.2**
RITZ	**Rihia Road**	**1.71**	**20**	P	**Pn**	**12 56 14.3**	**-0.1**
BKZ	**Black Stump Fm**	**1.77**	**37**	P	**Pn**	**12 56 14.3**	**-1.0**
BKZ	**Black Stump Fm**	**1.77**	**37**	P	**Pn**	**12 56 14.3**	**-1.0**
RATZ	**Rangitukua**	**1.79**	**17**	P	**Pn**	**12 56 15.6**	**+0.1**
WATZ	**Wairara**	**1.94**	**14**	P	**Pn**	**12 56 17.3**	**-0.2**
MRNZ	**Matariki Terra**	**1.96**	**245**	P	**Pn**	**12 56 17.7**	**-0.1**
NMHZ	**Naumai**	**1.98**	**42**	P	**Pn**	**12 56 17.1**	**-1.0**
QRZ	**Quartz Range**	**1.98**	**262**	P	**Pn**	**12 56 16.9**	**-1.2**
QRZ	**Quartz Range**	**1.98**	**262**	P	**Pn**	**12 56 17.2**	**-0.8**
MRHZ	**Matea Rd**	**2.02**	**30**	P	**Pn**	**12 56 17.4**	**-1.3**
WHTZ	**Whakaora**	**2.03**	**19**	P	**Pn**	**12 56 18.9**	**0.0**
THZ	**Tophouse**	**2.04**	**234**	P	**Pn**	**12 56 18.2**	**-0.8**
HIZ	**Hauiti**	**2.08**	**354**	P	**Pn**	**12 56 19.2**	**-0.3**
HIZ	**Hauiti**	**2.08**	**354**	P	**Pn**	**12 56 19.1**	**-0.4**
KUTZ	**Kaahu Road**	**2.17**	**15**	P	**Pn**	**12 56 21.0**	**+0.3**
KHZ	**Kahutara**	**2.18**	**212**	P	**Pn**	**12 56 19.8**	**-0.9**
KHZ	**Kahutara**	**2.18**	**212**	P	**Pn**	**12 56 20.0**	**-0.7**
MTHZ	**Maungataniwha**	**2.19**	**38**	P	**Pn**	**12 56 19.6**	**-1.3**
WPRZ	**Whakapapatarin**	**2.22**	**22**	P	**Pn**	**12 56 20.4**	**-1.0**
ALRZ	**Allen Road**	**2.23**	**26**	P	**Pn**	**12 56 20.2**	**-1.4**
RAHZ	**Arahi**	**2.26**	**43**	P	**Pn**	**12 56 20.4**	**-1.6**
TLZ	**Tolley Road**	**2.28**	**8**	P	**Pn**	**12 56 21.6**	**-0.7**
PRRZ	**Plateau Road**	**2.31**	**26**	P	**Pn**	**12 56 21.2**	**-1.4**
HRRZ	**Handcock Road**	**2.37**	**23**	P	**Pn**	**12 56 22.8**	**-0.8**
RTZ	**Ruatahuna**	**2.44**	**37**	P	**Pn**	**12 56 22.6**	**-1.9**
MUGZ	**Murupara**	**2.47**	**32**	P	**Pn**	**12 56 22.9**	**-1.9**
SNGZ	**Shannon Statio**	**2.49**	**44**	P	**Pn**	**12 56 23.0**	**-2.1**
TARZ	**Mount Tarawera**	**2.58**	**25**	P	**Pn**	**12 56 25.8**	**-0.6**
NGRZ	**Ngongotaha**	**2.62**	**19**	P	**Pn**	**12 56 31.5**	**+4.6**
OMRZ	**Omania**	**2.66**	**22**	P	**Pn**	**12 56 32.0**	**+4.5**
RAGZ	**Rawiri**	**2.74**	**41**	P	**Pn**	**12 56 26.2**	**-2.5**
DSZ	**Denniston Nort**	**2.75**	**244**	P	**Pn**	**12 56 27.6**	**-1.1**
RIGZ	**Rimuhau**	**2.78**	**48**	P	**Pn**	**12 56 26.6**	**-2.4**
URZ	**Urewera**	**2.79**	**34**	P	**Pn**	**12 56 26.5**	**-2.7**
URZ	**Urewera**	**2.79**	**34**	P	**Pn**	**12 56 26.7**	**-2.5**
GVZ	**Greta Valley S**	**2.84**	**213**	P	**Pn**	**12 56 28.5**	**-1.4**
TOZ	**Tahuroa Road**	**2.87**	**6**	P	**Pn**	**12 56 29.6**	**-0.6**
MWZ	**Matawai**	**2.92**	**40**	P	**Pn**	**12 56 28.7**	**-2.4**
TGRZ	**Tauranga**	**2.99**	**18**	P	**Pn**	**12 56 31.1**	**-0.8**
TWGZ	**Tauwhareparae**	**3.28**	**44**	P	**Pn**	**12 56 33.7**	**-2.3**
RUGZ	**Raukumara Rang**	**3.29**	**38**	P	**Pn**	**12 56 33.4**	**-2.8**
INZ	**Inchbonnie**	**3.48**	**231**	P	**Pn**	**12 56 37.0**	**-1.7**
OKCZ	**Okains Bay**	**3.49**	**205**	P	**Pn**	**12 56 36.9**	**-1.8**
RPZ	**Rata Peaks**	**4.34**	**223**	P	**Pn**	**12 56 48.5**	**-2.0**
ODZ	**Otahua Downs**	**5.53**	**215**	P	**Pn**	**12 57 03.9**	**-3.0**

*IDC **24** 12:56:19.8±0.7, 12°75N×144°28E, h0km, mb3.9/16, mbtmp3.9/16, MS3.6/10, Error ellipse: s-maj=20.7km s-min=14.1km az=88.0*
*GCMT **24** 12:56:21.8±0.4, 12°70N±0°02×144°16E±0°03, h12km, MW4.7/70, Moment Tensor Solution. s12,c13; s70,c91; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.05±.07; Mθθ=0.44±.06; Mφφ=0.48±.06; Mrθ=0.90±.19; Mθφ=1.09±.05; Mφr=0.04±.16; Best double couple: M0=1.48800×10^16 NP1:φs=102.00000°,δ87.00000°,λ=143.00000°. NP2: φs=102.00000°,δ87.00000°,λ=-143.00000°. Principal axes: T 1.4320, Plg23.0000°, Azm230.0000°; N 0.1110, Plg53.0000°, Azm106.0000°; P -1.5440, Plg28.0000°, Azm332.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **24** 12:56:23.8±1.0, 12°73N±0°03×144°6E±0°1, h11km±4km, mb4.5/23 Error ellipse: s-maj=18.7km s-min=3.4km az=97.0*

ISC 24 12:56:25.0±0.5, 12°67N±0°06×144°66E±0°09, h30km, n75, σ1°88/61, mb4.4/32, MS3.6/12, 1C, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.94**	**13**		**Pn**	**12 56 40.9**	**-1.3**
GUMO					**Sb**	**12 56 54.9**	**+0.1**
GUMO	**Guam**	**0.94**	**13**	Pn	**Pn**	**12 56 40.9**	**-1.3**
	2µm,0.3s,baz=272,slow=4.8,SNR=752						
GUMO				Sn	**Sn**	**12 56 54.3**	**-0.3**
	3µm,0.3s,baz=95,slow=20,SNR=12						
GUMO				LR	LR	12 57 18.3	
	comp=Z,3µm,21.4s,baz=14,slow=58						
PATS	**Pohnpei**	**14.65**	**112**		**Pn**	**12 59 50.8**	**+0.5**
DAV	**Davao City (W)**	**19.60**	**255**	LR	LR	13 06 53.3	
	comp=Z,188nm,21.4s,baz=70,slow=33						
JHJ	**Hachijo jima 2**	**20.84**	**348**	LR	LR	13 08 33.0	
	comp=Z,240nm,18.3s,baz=123,slow=36						
JOW	**Kunigami**	**20.85**	**315**	P	**P**	**13 01 03.8**	**-0.7**
JOW				IAmb	IAmb	13 01 11.5	
	comp=Z,44nm,1.3s						
JOW	**Kunigami**	**20.85**	**315**	P	**P**	**13 00 59.1**	**-5.4**
	comp=Z,2.5nm,0.5s,baz=147,slow=9.5,SNR=6.3						
JOW				LR	LR	13 07 09.4	
	comp=Z,248nm,21.4s,baz=128,slow=32						
	comp=Z,2.5nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**21.98**	**72**	T	T	13 24 16.9	
	baz=258,slow=75						
H11S1	**WAKE ISLAND Hy**	**22.00**	**72**	T	T	13 24 16.8	
	baz=258,slow=75						
H11S2	**WAKE ISLAND Hy**	**22.00**	**72**	T	T	13 24 17.2	
	baz=258,slow=75						
H11N1	**WAKE ISLAND Hy**	**22.45**	**69**	T	T	13 24 46.3	
	baz=255,slow=75						
H11N2	**WAKE ISLAND Hy**	**22.46**	**69**	T	T	13 24 56.9	
	baz=255,slow=75						
H11N3	**WAKE ISLAND Hy**	**22.47**	**69**	T	T	13 24 48.4	
	baz=255,slow=75						
TGY	**Tagaytay City**	**23.12**	**276**	LR	LR	13 09 32.6	
	comp=Z,106nm,21.3s,baz=60,slow=35						
INU	**Inuyama**	**23.61**	**344**	P	**P**	**13 01 33.8**	**+0.3**
INU				IAmb	IAmb	13 01 39.9	
	comp=Z,24nm,1.3s						
JNU	**Nakatsue**	**23.94**	**330**	LR	LR	13 09 57.2	
	comp=Z,108nm,18.4s,baz=164,slow=34						
MJAR	**Matsushiro Arr**	**24.47**	**347**		**P**	**13 01 39.7**	**-1.8**
MJAR	**Matsushiro Arr**	**24.47**	**347**	P	**P**	**13 01 38.5**	**-3.0**
	comp=Z,1.4nm,0.6s,baz=171,slow=9.6,SNR=5.7						
MJAR				LR	LR	13 10 37.8	
	comp=Z,394nm,18.2s,baz=157,slow=35						
	comp=Z,1.4nm,0.6s						
MAJO	**Matsushiro**	**24.47**	**347**	P	**P**	**13 01 41.1**	**-0.4**
MAJO				IAmb	IAmb	13 01 56.5	
	comp=Z,12nm,0.8s						
MJB9	**Matsu-Tunnel**	**24.47**	**347**	P	**P**	**13 01 42.2**	**+0.6**
MJB9				IAmb	IAmb	13 01 57.4	
	comp=Z,12nm,0.8s						
YULB	**Yu-li**	**24.60**	**299**		**P**	**13 01 43.1**	**+0.3**
YULB				IAmb	IAmb	13 01 54.1	
	comp=Z,19nm,1.2s						
SSLB	**Suanglung**	**25.04**	**300**	P	**P**	**13 01 46.8**	**0.0**
HNR	**Honiara**	**26.70**	**145**	LR	LR	13 12 58.2	
	comp=Z,98nm,18.5s,baz=350,slow=37						
KSRS	**Korea Array**	**28.87**	**332**	P	**P**	**13 02 18.6**	**-2.4**
	comp=Z,1.0nm,0.7s,baz=141,slow=10,SNR=6.8						
	comp=Z,1.0nm,0.7s						
KSAR	**Wonju Array Be**	**28.87**	**332**	P	**P**	**13 02 21.0**	**-0.1**
KS19	**Wonju Array Si**	**28.93**	**332**	P	**P**	**13 02 21.2**	**-0.5**
KS19				IAmb	IAmb	13 02 43.0	
	comp=Z,9.1nm,1.1s						
ERM	**Erimo**	**29.27**	**358**	P	**P**	**13 02 24.9**	**+0.5**
NJ2	**Nanjing**	**30.55**	**313**	eP	**P**	**13 02 36.8**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
ASAJ	**Asahikawa**	**31.39**	**357**	LR	LR	13 13 05.1	
	comp=Z,90nm,22.0s,baz=181,slow=32						
WB0	**Warramunga Arr**	**33.78**	**198**	P	**P**	**13 03 05.5**	**+1.0**
WB0				IAmb	IAmb	13 03 14.7	
	comp=Z,6.7nm,1.1s						
WR8	**Warramunga Arr**	**33.93**	**197**	P	**P**	**13 03 05.7**	**0.0**
WR8				IAmb	IAmb	13 03 19.0	
	comp=Z,8.5nm,1.2s						
WRAB	**Tennant Creek**	**33.95**	**198**	P	**P**	**13 03 07.0**	**+1.1**
WRAB				IAmb	IAmb	13 03 11.7	
	comp=Z,6.1nm,0.9s						
WRA	**Warramunga Arr**	**33.96**	**198**		**P**	**13 03 06.8**	**+0.8**
WRA	**Warramunga Arr**	**33.96**	**198**	P	**P**	**13 03 04.8**	**-1.2**
	comp=Z,2.8nm,0.9s,baz=16,slow=9.2,SNR=8.4						
	comp=Z,2.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**35.87**	**212**	P	**P**	**13 03 23.4**	**+0.9**
HNS	**HongShan**	**36.37**	**318**	⇑P	P	13 03 31.1	+4.5
HNS				S	**S**	**13 09 10.3**	**+4.3**
HNS				pmax	pmax		
	comp=Z,19nm,1.2s						
HNS				LR	LR		
	comp=N,210nm,17.9s						
HNS				LR	LR		
	comp=E,230nm,16.3s						
HNS				LR	LR		
	comp=Z,320nm,17.9s						
BJT	**Baijiatuan**	**37.03**	**323**	P	**P**	**13 03 32.6**	**+0.4**
BJT				IAmb	IAmb	13 03 58.8	
	comp=Z,5.3nm,0.5s						
AS31	**Alice Springs**	**37.61**	**196**	P	**P**	**13 03 37.9**	**+0.5**
ASAR	**Alice Springs**	**37.61**	**196**	P	**P**	**13 03 38.0**	**+0.6**
ASAR	**Alice Springs**	**37.61**	**196**	P	**P**	**13 03 36.3**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=20,slow=12,SNR=11						
	comp=Z,1.3nm,0.7s						
HEH	**HeiHe**	**40.05**	**343**	eP	**P**	**13 03 57.4**	**-0.1**
HEH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
HEH				pmax	pmax		
	comp=Z,100nm,5.1s						
HHC	**Hu-ho-hao-te**	**40.34**	**320**	eP	**P**	**13 04 03.6**	**+3.5**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,61nm,4.1s						
HHC				LR	LR		
	comp=N,270nm,21.0s						
HHC				LR	LR		
	comp=E,230nm,18.5s						
HHC				LR	LR		
	comp=Z,310nm,19.3s						
DZM	**Mont Dzumac**	**40.60**	**148**	eS	**S**	**13 10 08.2**	**-2.2**
	comp=Z,73nm,27.8s						
DZM				eLR	LR	13 15 08.9	
	comp=Z,287nm,27.1s						
DZM	**Mont Dzumac**	**40.60**	**148**	P	**P**	**13 04 04.4**	**+2.0**
	comp=Z,6.4nm,0.9s,baz=267,slow=20,SNR=2.0						
	comp=Z,6.4nm,0.9s						
PZH	**PanZhiHua**	**42.51**	**295**	P	**P**	**13 04 19.8**	**+1.7**
LZH	**Lanzhou**	**43.44**	**310**	eP	P	13 04 30.5	+4.9
LZH				sP	sP	13 04 40.1	+2.7
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
CMAR	**Chiang Mai Arr**	**44.33**	**283**	P	**P**	**13 04 34.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**44.33**	**283**	P	**P**	**13 04 28.3**	**-4.5**
	comp=Z,0.5nm,0.5s,baz=84,slow=6.4,SNR=5.6						
	comp=Z,0.5nm,0.5s						
STKA	**Stephens Creek**	**44.39**	**184**	P	**P**	**13 04 31.1**	**-1.9**
	comp=Z,2.3nm,0.9s,baz=341,slow=12,SNR=3.0						
	comp=Z,2.3nm,0.9s						
BBOO	**Buckleboo**	**45.96**	**190**	P	**P**	**13 04 44.7**	**-0.8**
SONM	**Songino Array**	**47.36**	**325**	P	**P**	**13 04 57.6**	**+1.1**
SONM				IAmb	IAmb	13 05 04.3	
	comp=Z,5.8nm,1.4s						
SONM	**Songino Array**	**47.36**	**325**	P	**P**	**13 04 55.0**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=142,slow=7.0,SNR=4.2						
	comp=Z,0.6nm,0.6s						
GTA	**Gaotai**	**47.63**	**312**	eP	**P**	**13 05 03.1**	**+4.4**
GTA				pP	pP	13 05 08.8	+1.6
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				LR	LR		
	comp=N,120nm,11.9s						
GTA				LR	LR		
	comp=E,200nm,17.9s						
GTA				LR	LR		
	comp=Z,200nm,18.3s						
MKAR	**Makanchi Array**	**62.01**	**316**	P	**P**	**13 06 40.3**	**-2.3**
MKAR	**Makanchi Array**	**62.01**	**316**	P	**P**	**13 06 39.8**	**-2.8**
	comp=Z,0.5nm,0.6s,baz=96,slow=8.1,SNR=5.6						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**62.25**	**325**	P	**P**	**13 06 44.2**	**+0.2**
ZALV	**Zalesovo Beam**	**62.25**	**325**	P	**P**	**13 06 42.9**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=100,slow=6.2,SNR=3.6						
	comp=Z,0.5nm,0.4s						
KURK	**Kurchatov**	**65.15**	**320**	P	**P**	**13 07 04.8**	**+1.6**
KURK				IAmb	IAmb	13 07 33.4	
	comp=Z,3.2nm,0.8s						
KURBB	**Kurchatov Arra**	**65.19**	**320**	P	**P**	**13 07 00.8**	**-2.7**
	comp=Z,0.4nm,0.4s,baz=103,slow=7.0,SNR=6.2						
	comp=Z,0.4nm,0.4s						
CNPM	**China Poot**	**66.12**	**30**	P	**P**	**13 07 10.7**	**+1.3**
D20K	**Etivluk River**	**67.18**	**20**	P	**P**	**

s-maj=17.9km s-min=11.1km az=72.0
MOS ***24*** *13:17:18.7±0.9, 10°.54S×115°.09E, h19km, mb5.5/55, MS5.0/7, Error ellipse: s-maj=10.5km s-min=5.0km az=111.2*
BJI ***24*** *13:17:18.0, 10°.70S×114°.90E, h10km, mB5.5/73, mb5.0/87, Ms5.4/89, Ms7 5.1/87*
NEIC ***24*** *13:17:19.2, 10°.68S×114°.97E, h12km*
NEIC ***24*** *13:17:19.2, 10°.88S×114°.97E, h12km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^16 Nm; Mrr=5.44; Mθθ=-5.84; Mφφ=0.40; Mrθ=-3.40; Mrφ=0.68; Mθφ=-4.23; Fault plane solution: M0=7.87000×10^16 NP1: φs=117.56000°, δs=35.55000°, λ=136.48000°. NP2: φs=245.25000°, δs=66.40000°, λ=62.61000°. Principal axes: T 8.6053, Plg59.0000°, Azm116.0000°; N -1.7756, Plg25.0000°, Azm257.0000°; P -6.8297, Plg17.0000°, Azm355.0000°;*
NEIC ***24*** *13:17:19.2±1.7, 10°.68S±0°.08×114°.97E±0°.07, h10km±1km, mb5.4/88, Mww5.2/17 Error ellipse: s-maj=14.5km s-min=10.8km az=216.0*
DJA ***24*** *13:17:20.7±0.2, 11°S±2°×11°E±°, h16km±2km, M5.3/102, mb5.3/102, mB5.8/75, MLv5.6/24, Mw(mB)5.4/75, MwMwp5.3/49, Mwp5.5/49*
GCMT ***24*** *13:17:22.2±0.1, 11°.22S±0°.01×114°.97E±0°.01, h20km, MW5.3/122, Moment Tensor Solution. s100,c166; s122,c225; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.82±.02; Mθθ-0.86±.01; Mφφ0.04±.01; Mrθ0.74±.03; Mθφ0.09±.01; Mφr-0.10±.03; Best double couple: Mo1.12600×10^17 NP1:φs274.00000°, δ24.00000°, λ88.00000°. NP2:φs97.00000°, δ66.00000°, λ91.00000°. Principal axes: T 1.1010, Plg69.0000°, Azm9.0000°; N 0.0500, Plg1.0000°, Azm276.0000°; P -1.1510, Plg21.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC ***24*** **13:17:20.7±0.5, 10°.74S±0°.03×115°.02E±0°.04, h23km±3km, h23km:pP-P, n483, σ2s01/511, mb5.3/144, MS5.0/87, 22C-4D, South of Bali**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**2.41**	**339**			**Pn**	**13 17 58.8**	**+0.1**
JAGI	**Jajag, Banyuwa**	**2.41**	**339**	P		**Pn**	**13 17 59.2**	**+0.5**
JAGI	**Jajag, Banyuwa**	**2.41**	**339**	P		**Pn**	**13 17 59.0**	**+0.3**
SRBI	**Singaraja**	**2.65**	**4**	P		**Pn**	**13 18 03.8**	**+1.9**
TWSI	**Taliwang, Sumb**	**2.71**	**43**	P		**Pn**	**13 18 04.1**	**+1.3**
GMJI	**Gumukmas**	**2.90**	**328**	P		**Pn**	**13 18 05.3**	**-0.1**
PLAI	**Plampang**	**3.32**	**55**	P		**Pn**	**13 18 12.3**	**+1.1**
PLAI	**Plampang**	**3.32**	**55**	P		**Pn**	**13 18 11.4**	**+0.2**
KMMI	**Kalianget**	**3.81**	**344**	P		**Pn**	**13 18 20.2**	**+2.3**
WBSI	**Waikabubak, Su**	**4.44**	**76**	P		**Pn**	**13 18 25.3**	**-1.4**
GRJI	**Gresik**	**4.55**	**326**	P		**Pn**	**13 18 29.0**	**+0.8**
PCJI	**Pacitan**	**4.55**	**303**	P		**Pn**	**13 18 29.1**	**+0.9**
NGJI	**Ngawi**	**4.85**	**313**	P		**Pn**	**13 18 34.2**	**+1.9**
WOJI	**Wonogiri, Jawa**	**4.96**	**305**	P		**Pn**	**13 18 34.2**	**+0.4**
TBJI	**Tambak Boyo**	**5.00**	**321**	P		**Pn**	**13 18 35.1**	**+0.8**
UGM	**Wanagama**	**5.25**	**302**			**Pn**	**13 18 38.3**	**+0.6**
UGM	**Wanagama**	**5.25**	**302**	P		**Pn**	**13 18 38.2**	**+0.4**
UGM	**Wanagama**	**5.25**	**302**	P		**Pn**	**13 18 38.4**	**+0.6**
	5.6nm23µm11µm419nm,0.8s							
WSI	**Waingapu**	**5.31**	**79**	P		**Pn**	**13 18 39.6**	**+1.1**
BWJI	**Bawean**	**5.39**	**334**	P		**Pn**	**13 18 42.1**	**+2.4**
BASI	**Baing, Sumba**	**5.50**	**85**	P		**Pn**	**13 18 44.5**	**+3.4**
	16µm14µm498nm,1.0s							
SMRI	**Semarang**	**5.82**	**309**	Pn		**Pn**	**13 18 45.5**	**-0.1**
SMRI	**Semarang**	**5.82**	**309**	P		**Pn**	**13 18 46.6**	**+1.0**
	6.8nm26µm13µm220nm,0.8s							
EDFI	**Ende, Flores**	**6.87**	**74**	P		**Pn**	**13 19 02.6**	**+2.5**
	1.6nm4µm192nm,0.8s							
BSSI	**Bau Bau, Buton**	**7.08**	**50**	P		**Pn**	**13 19 06.4**	**+3.4**
CMJI	**Cimerak**	**7.12**	**294**	P		**Pn**	**13 19 02.5**	**-0.9**
	1.3nm9µm6µm418nm,1.2s							
KAPI	**Kappang**	**7.37**	**40**	Pn		**Pn**	**13 19 08.9**	**+2.0**
	42nm,0.3s,baz=213,slow=7.5,SNR=45							
KAPI				Sn		**Sn**	**13 20 25.3**	**-4.6**
	7.1nm,0.3s,baz=16,slow=22,SNR=6.1							
KAPI				LR		LR	13 21 50.8	
	comp=Z,6µm,20.7s,baz=194,slow=38							
KAPI	**Kappang**	**7.37**	**40**	P		**Pn**	**13 19 09.6**	**+2.7**
KAPI	**Kappang**	**7.37**	**40**	*i* P		**Pn**	**13 19 08.6**	**+1.7**
BKSI	**Bulukumba**	**7.38**	**44**	P		**Pn**	**13 19 09.3**	**+2.2**
MMRI	**Maumere**	**7.42**	**74**			**Pn**	**13 19 10.7**	**+3.1**
MMRI	**Maumere**	**7.42**	**74**	P		**Pn**	**13 19 10.4**	**+2.8**
	10µm676nm,1.6s							
BBJI	**Bungbulang**	**7.97**	**294**	P		**Pn**	**13 19 15.2**	**0.0**
BNSI	**Bone**	**8.07**	**39**	P		**Pn**	**13 19 20.0**	**+3.5**
	12µm6µm310nm,0.8s							
SPSI	**Sidrap Palu**	**8.22**	**35**	P		**Pn**	**13 19 21.6**	**+3.1**
	13µm3µm232nm,1.0s							
LEM	**Lembang**	**8.28**	**297**	Pn		Pn	13 19 14.2	-5.3
	4.9nm,0.3s,baz=334,slow=18,SNR=4.7							
LEM				LR		LR	13 23 16.1	
	comp=Z,18µm,19.0s,baz=115,slow=44							
LEM	**Lembang**	**8.28**	**297**	P		**Pn**	**13 19 20.8**	**+1.2**
	5µm162nm,1.0s							
CNJI	**Cibinong**	**8.50**	**293**	P		**Pn**	**13 19 22.0**	**-0.4**
	164nm,1.2s							
BATI	**Baumata**	**8.52**	**87**	Pn		**Pn**	**13 19 24.1**	**+1.4**
	18nm,0.3s,baz=14,slow=1.6,SNR=11							
BATI				Sn		**Sn**	**13 20 54.1**	**-4.2**
	21nm,0.3s,baz=31,slow=22,SNR=9.0							
	53nm,0.5s							
BATI	**Baumata**	**8.52**	**87**	P		**Pn**	**13 19 24.8**	**+2.0**
	3µm223nm,0.6s							
TTSI	**Tana Toraja**	**9.01**	**32**	P		Pn	13 19 34.2	+4.8
BBSI	**Bau Bau**	**9.12**	**56**	P		**Pn**	**13 19 34.3**	**+3.4**
	7µm5µm184nm,1.3s							
SKJI	**Sukabumi**	**9.14**	**293**	P		**Pn**	**13 19 32.2**	**+0.9**
SOEI	**Soe**	**9.16**	**85**			**Pn**	**13 19 31.0**	**-0.6**
SOEI	**Soe**	**9.16**	**85**	P		**Pn**	**13 19 32.0**	**+0.4**
SOEI	**Soe**	**9.16**	**85**	P		**Pn**	**13 19 34.8**	**+3.2**
	3µm238nm,1.0s							
DBJI	**Dramaga**	**9.17**	**296**	P		**Pn**	**13 19 32.8**	**+1.2**
	241nm,1.1s							
SBJI	**Serang**	**9.91**	**297**	P		**Pn**	**13 19 42.9**	**+1.1**
	204nm,1.2s							
CGJI	**Cibinong**	**10.09**	**293**	P		**Pn**	**13 19 44.0**	**-0.2**
SMKI	**Samarinda**	**10.46**	**12**	P		**Pn**	**13 19 52.5**	**+3.2**
TPI	**Tanjungpandan**	**10.78**	**317**	P		**Pn**	**13 19 54.6**	**+0.9**
	2µm60nm,0.9s							
PCI	**Palu**	**10.88**	**26**	P		Pn	13 20 00.0	+4.9
	10µm6µm328nm,1.4s							
STKI	**Sintang**	**11.30**	**342**	P		**Pn**	**13 20 03.4**	**+2.6**
	8µm142nm,1.8s							
KASI	**Kota Agung**	**11.63**	**296**	P		**Pn**	**13 20 05.9**	**+0.6**
	88nm,1.0s							
KLI	**Kotabumi**	**11.63**	**299**	P		**Pn**	**13 20 05.6**	**+0.2**
	4µm139nm,0.8s							
PSAC1	**Pilbara Seismi**	**11.68**	**157**	P		Pn	13 19 59.9	-6.1
PSA00	**Pilbara Seismi**	**11.73**	**157**			Pn	13 20 00.2	-6.4
PSA00	**Pilbara Seismi**	**11.73**	**157**	P		Pn	13 20 01.7	-4.9
APSI	**Ampana**	**11.78**	**34**	P		**Pn**	**13 20 11.6**	**+4.2**
	4µm188nm,1.6s							
GIRL	**Giralia**	**11.86**	**184**			Pn	13 20 03.2	-5.2
GIRL	**Giralia**	**11.86**	**184**	P		**Pn**	**13 20 03.9**	**-4.6**
MPSI	**Mapaga**	**12.03**	**24**	P		**Pn**	**13 20 13.9**	**+3.1**
	8µm4µm69nm,0.8s							
LWLI	**Liwa**	**12.25**	**297**	P		**Pn**	**13 20 14.1**	**+0.2**
	269nm,0.9s							
LUWI	**Luwuk**	**12.34**	**39**	P		**Pn**	**13 20 18.2**	**+3.2**
	5µm347nm,1.4s							
MDSI	**Maura Dua**	**12.40**	**299**	P		**Pn**	**13 20 15.7**	**-0.2**
	2µm67nm,1.0s							
FITZ	**Fitzroy Crossi**	**12.62**	**127**			**Pn**	**13 20 15.9**	**-3.0**
FITZ	**Fitzroy Crossi**	**12.62**	**127**	P		**Pn**	**13 20 15.5**	**-3.4**
FITZ	**Fitzroy Crossi**	**12.62**	**127**	Pn		**Pn**	**13 20 15.6**	**-3.3**
	2.9nm,0.3s,baz=302,slow=9.7,SNR=74							
FITZ				Sn		Sn	13 22 27.0	-12
	3.6nm,0.3s,baz=284,slow=14,SNR=7.6							
FITZ				LR		LR	13 25 36.1	
	comp=Z,2µm,19.0s,baz=317,slow=39							
FITZ	**Fitzroy Crossi**	**12.62**	**127**	P		**Pn**	**13 20 16.5**	**-2.4**
MRSI	**Marisa**	**13.10**	**32**	P		**Pn**	**13 20 29.5**	**+4.1**
	6µm2µm93nm,1.2s							
LHSI	**Lahat**	**13.30**	**300**	P		**Pn**	**13 20 29.0**	**+0.8**
	3µm198nm,1.0s							
SBUM	**Sibu**	**13.39**	**348**	Pn		**Pn**	**13 20 30.0**	**+0.5**
SBUM	**Sibu**	**13.39**	**348**	P		**Pn**	**13 20 31.6**	**+2.1**
MNAI	**Manna**	**13.53**	**297**	P		**Pn**	**13 20 31.5**	**+0.2**
MNAI	**Manna**	**13.53**	**297**	P		**Pn**	**13 20 30.8**	**-0.5**
SANI	**Sanana**	**13.90**	**52**	P		**Pn**	**13 20 38.3**	**+1.9**
	5µm2µm146nm,1.1s							
NLAI	**Namlea**	**14.11**	**59**	P		**Pn**	**13 20 43.5**	**-3.2**
	5µm3µm153nm,1.5s							
KSI	**Kapahiang**	**14.19**	**299**	P		**Pn**	**13 20 39.6**	**-0.8**
KNRA	**Kununurra**	**14.25**	**112**	Pn		**Pn**	**13 20 39.4**	**-1.8**
KNRA	**Kununurra**	**14.25**	**112**	P		**Pn**	**13 20 39.9**	**-1.3**
KMSI	**Cibinong**	**14.35**	**39**	P		**Pn**	**13 20 44.3**	**+1.8**
AAI	**Ambon**	**14.83**	**63**	P		**Pn**	**13 20 50.9**	**+1.9**
	6µm4µm203nm,1.2s							
MSAI	**Masohi**	**15.63**	**63**	P		**P**	**13 21 02.2**	**-1.4**
	5µm149nm,0.8s							
MTN	**Manton Dam**	**15.92**	**99**	Pn		**Pn**	**13 21 02.4**	**-0.9**
MTN	**Manton Dam**	**15.92**	**99**	P		**Pn**	**13 21 04.6**	**+1.2**
	comp=Z,89nm,1.2s							
BNDI	**Bandanaira**	**15.99**	**68**	P		**P**	**13 21 06.4**	**-1.2**
BNDI	**Bandanaira**	**15.99**	**68**	P		**P**	**13 21 08.4**	**+0.8**
MEEK	**Meekatharra**	**16.18**	**168**	P		**Pn**	**13 21 02.4**	**-4.2**
MEEK	**Meekatharra**	**16.18**	**168**	P		**Pn**	**13 21 01.6**	**-5.0**
MYLDM	**Lahad Datu**	**16.19**	**13**	P		**P**	**13 21 09.6**	**-0.2**
SAUI	**Saumlaki**	**16.30**	**82**	P		**Pn**	**13 21 08.5**	**+0.3**
KKM	**Kota Kinabalu**	**16.72**	**4**			**Pn**	**13 21 14.3**	**+0.7**
TNTI	**Ternate**	**16.78**	**48**			**Pn**	**13 21 14.9**	**+0.5**
TNTI	**Ternate**	**16.78**	**48**	P		**P**	**13 21 15.9**	**-0.5**
	comp=Z,3µmcomp=Z,165nm,1.2s							
PPSI	**Pulau Pagai**	**16.87**	**297**	P		**Pn**	**13 21 15.9**	**+0.5**
	comp=Z,5µmcomp=Z,372nm,1.2s							
KDU	**Kakadu**	**17.20**	**98**	P		**P**	**13 21 22.2**	**+1.2**
	comp=Z,56nm,2.1s							
KDU	**Kakadu**	**17.20**	**98**	P		**P**	**13 21 20.4**	**-0.7**
BKNI	**Bangkinang**	**17.72**	**307**	Pn		**Pn**	**13 21 23.2**	**-2.8**
BKNI				IAmb		IAmb	13 21 29.2	
	comp=Z,198nm,0.4s							
BKNI	**Bangkinang**	**17.72**	**307**	P		**P**	**13 21 27.4**	**+0.6**
SGSI	**Sangihe**	**17.75**	**37**	P		**P**	**13 21 30.2**	**+3.1**
	comp=Z,388nm,1.0s							
PPI	**Padang Panjang**	**17.76**	**304**	P		**Pn**	**13 21 25.3**	**-1.3**
MORW	**Morawa**	**18.26**	**177**	P		**Pn**	**13 21 26.6**	**-6.0**
MORW				IAmb		IAmb	13 21 35.5	
	comp=Z,468nm,1.9s							
MORW	**Morawa**	**18.26**	**177**	P		**Pn**	**13 21 28.1**	**-4.5**
MORW	**Morawa**	**18.26**	**177**	P		**Pn**	**13 21 28.1**	**-4.5**
SISI	**Saibi**	**18.38**	**300**	P		**P**	**13 21 33.1**	**-0.9**
	comp=Z,140nm,1.2s							
FAKI	**Fak Fak**	**18.78**	**67**	P		**P**	**13 21 37.0**	**-1.5**
FAKI				IAmb		IAmb	13 21 41.1	
	comp=Z,179nm,0.7s							
FAKI	**Fak Fak**	**18.78**	**67**	P		**P**	**13 21 37.7**	**-0.8**
SWI	**Sorong**	**18.89**	**60**	P		**P**	**13 21 39.2**	**-0.5**
	comp=Z,4µmcomp=Z,5µmcomp=Z,387nm,0.9s							
WRKA	**Warakurna**	**19.00**	**140**	P		**P**	**13 21 39.4**	**-1.5**
BLDU	**Ballidu**	**19.84**	**176**	P		**P**	**13 21 49.8**	**-0.1**
	comp=Z,139nm,1.2s							
BLDU	**Ballidu**	**19.84**	**176**	P		**P**	**13 21 48.9**	**-1.1**
IPM	**Ipoh**	**20.56**	**317**	P		**P**	**13 21 57.5**	**-0.4**
IPM				IAmb		IAmb	13 22 10.5	
	comp=Z,269nm,1.4s							
IPM	**Ipoh**	**20.56**	**317**	P		Pn	13 21 59.5	-0.7
DAV	**Davao City (W)**	**20.58**	**31**	P		**P**	**13 21 59.0**	**+0.9**
DAV	**Davao City (W)**	**20.58**	**31**	LR		LR	13 31 00.2	
	comp=Z,4µm,20.6s,baz=198,slow=40							
WRA	**Warramunga Arr**	**20.74**	**118**	P		**P**	**13 21 59.9**	**0.0**
WRA	**Warramunga Arr**	**20.74**	**118**	P		Pn	13 22 01.5	-0.9
	comp=Z,52nm,0.9s,baz=288,slow=9.1,SNR=52							
WRA				S		S	13 25 39.3	-11
	comp=Z,3.3nm,0.5s,baz=294,slow=23,SNR=7.9							
WRA				LR		LR	13 31 05.7	
	comp=Z,2µm,19.1s,baz=300,slow=40							
	comp=Z,52nm,0.9s							
WRA	**Warramunga Arr**	**20.74**	**118**	P		**P**	**13 21 59.9**	**0.0**
WRA				pmax		pmax		
	comp=Z,26nm,1.6s							
WRAB	**Tennant Creek**	**20.75**	**118**	P		**P**	**13 22 00.1**	**+0.2**
WRAB				IAmb		IAmb	13 22 08.7	
	comp=Z,359nm,1.6s							
WRAB	**Tennant Creek**	**20.75**	**118**	*i* P		Pn	13 22 01.4	-1.0
WRAB				pmax		pmax		
	comp=Z,248nm,1.6s							
RPSI	**Rantau Prapat**	**20.85**	**309**	P		**P**	**13 21 59.3**	**-1.7**
RPSI	**Rantau Prapat**	**20.85**	**309**	P		**P**	**13 22 01.4**	**+0.4**
KLBR	**Kellerberrin**	**20.91**	**173**	P		Pn	13 22 03.8	-0.4
	comp=Z,159nm,1.0s							
PSI	**Prapat**	**20.91**	**309**	P		**P**	**13 22 01.4**	**-0.5**
	comp=Z,32nm,0.3s,baz=239,slow=14,SNR=52							
	comp=Z,32nm,0.3s							
PSI	**Prapat**	**20.91**	**309**	P		**P**	**13 21 59.3**	**-2.6**
PSI				pmax		pmax		
	comp=Z,170nm,1.4s							
GSI	**Gunungsitoli**	**21.07**	**304**	P		**P**	**13 22 04.3**	**+0.8**
GSI	**Gunungsitoli**	**21.07**	**304**	P		**P**	**13 22 03.2**	**-0.3**
RKPI	**Ransiki, Papua**	**21.12**	**66**	P		**P**	**13 22 05.1**	**+1.0**
MUN	**Mundaring**	**21.16**	**177**	P		**P**	**13 22 05.4**	**+1.1**
	comp=Z,0.0nmcomp=Z,89nm,1.9s							
KMBL	**Kambalda**	**21.49**	**164**	P		**P**	**13 22 00.9**	**-7.0**
TSI	**Tuntungan**	**21.64**	**310**	P		**P**	**13 22 10.5**	**+1.0**
	comp=Z,5µmcomp=Z,5µmcomp=Z,357nm,1.2s							
AS13	**Alice Springs**	**22.10**	**128**	P		**P**	**13 22 16.5**	**+2.0**
	comp=Z,90nm,1.4s							
ASAR	**Alice Springs**	**22.12**	**128**	P		**P**	**13 22 15.9**	**+1.2**
ASAR	**Alice Springs**	**22.12**	**128**	P		**P**	**13 22 16.4**	**+1.6**
	comp=Z,15nm,0.6s,baz=302,slow=9.6,SNR=46							
ASAR				S		**S**	**13 26 12.6**	**-4.9**
	comp=Z,23nm,0.9s,baz=299,slow=22,SNR=10							
	comp=Z,15nm,0.6s							
ASAR	**Alice Springs**	**22.12**	**128**	P		**P**	**13 22 15.9**	**+1.2**
AS31	**Alice Springs**	**22.12**	**128**	P		**P**	**13 22 15.7**	**+1.0**
AS31	**Alice Springs**	**22.12**	**128**	P		**P**	**13 22 16.9**	**+2.2**
	comp=Z,26nm,1.2s							
AS01	**Alice Springs**	**22.15**	**128**	P		**P**	**13 22 13.7**	**-1.4**
NWAO	**Narrogin (SRO)**	**22.18**	**175**	P		**P**	**13 22 16.4**	**+1.2**
	comp=Z,306nm,1.9s							
NWAO	**Narrogin (SRO)**	**22.18**	**175**	LR		LR	13 31 14.7	
	comp=Z,2µm,20.0s,baz=342,slow=37							
SRPI	**Serui, Papua**	**22.84**	**69**	P		**P**	**13 22 24.4**	**+1.9**
	comp=Z,2µmcomp=Z,158nm,0.8s							
BAKI	**Biak**	**23.00**	**67**	P		**P**	**13 22 26.1**	**+2.0**
	comp=Z,4µmcomp=Z,6µmcomp=Z,479nm,1.9s							
FORT	**Forrest**	**23.33**	**151**	P		**P**	**13 22 27.3**	**+0.1**
FORT				IAmb		IAmb	13 22 36.1	
	comp=Z,150nm,1.1s							
FORT	**Forrest**	**23.33**	**151**	P		**P**	**13 22 28.2**	**+1.0**
	comp=Z,107nm,1.0s							
DLV	**Lat**	**23.45**	**344**	P		**P**	**13 22 29.1**	**+0.4**
DLV				IAmb		IAmb	13 22 47.5	
	comp=Z,89nm,1.0s							
MLSI	**Meulaboh, Aceh**	**23.78**	**308**	P		**P**	**13 22 32.1**	**+0.3**
	comp=Z,158nm,1.1s							
WAMI	**Wamena**	**24.46**	**76**	P		**P**	**13 22 41.3**	**+3.2**
	comp=Z,3µmcomp=Z,4µmcomp=Z,166nm,0.8s							
SRIT	**Nakonsritamara**	**24.58**	**321**	P		**P**	**13 22 39.0**	**-0.2**
SMPI	**Sarmi**	**25.08**	**71**	P		**P**	**13 22 44.3**	**+0.6**
	comp=Z,4µmcomp=Z,3µmcomp=Z,111nm,1.3s							
TGY	**Tagaytay City**	**25.37**	**14**	P		**P**	**13 22 46.7**	**+0.4**
	comp=Z,118nm,0.4s,baz=190,slow=11,SNR=4.0							
TGY				LR		LR	13 34 39.7	
	comp=Z,2µm,19.8s,baz=212,slow=41							
QIS	**Mount Isa**	**25.58**	**115**	P		**P**	**13 22 50.2**	**+2.0**
	comp=Z,59nm,1.5s							
QIS	**Mount Isa**	**25.58**	**115**	P		**P**	**13 22 47.7**	**-0.5**
GENI	**Genyem**	**26.24**	**74**	P		**P**	**13 22 56.2**	**+1.9**
	comp=Z,3µmcomp=Z,2µmcomp=Z,135nm,1.2s							
JAY	**Jayapura**	**26.77**	**74**	P		**P**	**13 23 01.0**	**+1.9**
	comp=Z,43nm,1.2s							
COEN	**Coen**	**27.68**	**100**	P		**P**	**13 23 09.0**	**+1.7**
	comp=Z,42nm,0.8s							
BBOO	**Buckleboo**	**29.28**	**142**	P		**P**	**13 23 22.7**	**+1.4**
	comp=Z,47nm,1.0s							
BBOO	**Buckleboo**	**29.28**	**142**	P		**P**	**13 23 20.3**	**-1.0**
MTSU	**Mount Surprise**	**29.28**	**108**	P		**P**	**13 23 24.4**	**+2.9**
QIZ	**Qiongzhong**	**30.02**	**350**	P		**P**	**13 23 24.3**	**-3.6**
QIZ				PP		**PnPn**	**13 24 28.4**	**+3.3**
QIZ				S		**S**	**13 28 21.8**	**-3.0**
QIZ				pmax		pmax		
	comp=Z,33nm,1.9s							
QIZ				pmax		pmax		
	comp=Z,590nm,6.3s							
QIZ				LR		LR		
	comp=Z,1µm,16.7s							
QIZ				LR		LR		
	comp=Z,1µm,17.3s							
QIZ				LR		LR		
	comp=Z,3µm,16.6s							
HTT	**Hallett**	**31.48**	**140**	P		**P**	**13 23 43.3**	**+2.5**
	comp=Z,20nm,1.6s							
HTT	**Hallett**	**31.48**	**140**	P		**P**	**13 23 39.8**	**-1.0**
QLP	**Quilpie**	**31.74**	**124**	P		P	13 23 48.2	+5.0
STKA	**Stephens Creek**	**32.33**	**135**	P		**P**	**13 23 49.8**	**+1.6**
	comp=Z,324nm,1.1s							
STKA	**Stephens Creek**	**32.33**	**135**	P		**P**	**13 23 50.4**	**+2.2**
	comp=Z,38nm,1.0s,baz=312,slow=10,SNR=24							
STKA				LR		LR	13 38 49.8	
	comp=Z,2µm,18.6s,baz=299,slow=40							
	comp=Z,38nm,1.0s							
STKA	**Stephens Creek**	**32.33**	**135**	P		**P**	**13 23 47.0**	**-1.2**
STKA	**Stephens Creek**	**32.33**	**135**	*i* P		**P**	**13 23 48.3**	**+0.1**
CM31	**Chiang Mai Arr**	**33.06**	**331**	P		**P**	**13 23 54.5**	**-0.3**
CM31				IAmb		IAmb	13 24 18.2	
	comp=Z,81nm,1.1s							
CMAR	**Chiang Mai Arr**	**33.06**	**331**	P		**P**	**13 23 54.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**33.06**	**331**	P		**P**	**13 23 55.6**	**+0.9**
	comp=Z,9.2nm,1.0s,baz=162,slow=8.0,SNR=42							
CMAR				LR		LR	13 39 25.4	
	comp=Z,4µm,18.1s,baz=150,slow=40							
	comp=Z,9.2nm,1.0s							
CMAR	**Chiang Mai Arr**	**33.06**	**331**	P		**P**	**13 23 54.9**	**+0.2**
MANU	**Manus Island**	**33.26**	**77**	P		**P**	**13 23 58.2**	**+1.7**
CHTO	**Chiang Mai**	**33.37**	**332**	P		**P**	**13 23 57.2**	**-0.2**
CHTO				IAmb		IAmb	13 24 19.0	
	comp=Z,56nm,1.2s							
CHTO	**Chiang Mai**	**33.37**	**332**	P		**P**	**13 23 57.2**	**-0.2**
CHTO				pmax		pmax		
	comp=Z,56nm,1.2s							
GZH	**Guangzhou**	**33.66**	**357**	P		**P**	**13 24 03.9**	**+4.1**
GZH				PP		**PP**	**13 25 18.3**	**+2.0**
GZH				S		S	13 29 36.0	+14
GZH				LR		LR		
	comp=Z,2µm,20.2s							
GZH				LR		LR		
	comp=Z,2µm,15.5s							
GZH				LR		LR		
	comp=Z,3µm,14.9s							
SLVN	**Son La**	**33.69**	**341**	P		**P**	**13 24 00.4**	**+0.2**
SLVN				IAmb		IAmb	13 24 15.3	
	comp=Z,41nm,1.2s							
TPUB	**Ta-pu**	**34.27**	**9**	P		**P**	**13 24 03.9**	**-1.4**
YULB	**Yu-li**	**34.47**	**10**	P		**P**	**13 24 06.0**	**-0.9**
SSLB	**Suanglung**	**34.80**	**10**	P		**P**	**13 24 09.1**	**-0.7**
SSLB				IAmb		IAmb	13 24 19.3	
	comp=Z,63nm,1.5s							
CMSA	**Cobar Meteorol**	**35.11**	**131**	P		**P**	**13 24 14.9**	**+2.5**
	comp=Z,52nm,2.2s							
CMSA	**Cobar Meteorol**	**35.11**	**131**	P		**P**	**13 24 12.5**	**+0.1**
NACB	**Ninganchiao**	**35.29**	**10**	P		**P**	**13 24 12.2**	**-1.7**
ARPS	**Mount Arapiles**	**35.46**	**141**	P		**P**	**13 24 17.4**	**+2.1**
	comp=Z,14nm,1.0s							
QZH	**Quanzhou**	**35.64**	**6**	P		**P**	**13 24 15.6**	**-1.3**
QZH				S		**S**	**13 29 52.8**	**+0.8**
QZH				pmax		pmax		
	comp=Z,380nm,5.8s							
QZH				LR		LR		
	comp=Z,1µm,20.3s							
QZH				LR		LR		
	comp=Z,1µm,15.8s							
QZH				LR		LR		
	comp=Z,2µm,18.9s							
YHNB	**Yeheng**	**35.74**	**10**	P		**P**	**13 24 19.4**	**+1.5**
EIDS	**Eidsvold**	**37.11**	**118**	P		**P**	**13 24 29.9**	**+0.3**
KMI	**Kunming**	**37.60**	**342**	⇑P		**P**	**13 24 36.0**	**+2.0**
KMI				sP		pwP	13 24 44.9	+0.9
KMI				PP		**PnPn**	**13 26 06.4**	**+5.3**
KMI				S		**S**	**13 30 22.3**	**-0.2**
KMI				pmax		pmax		
	comp=Z,46nm,1.8s							
KMI				pmax		pmax		
	comp=Z,790nm,5.8s							
KMI				LR		LR		
	comp=Z,3µm,14.5s							
KMI				LR		LR		
	comp=Z,4µm,16.3s	

baz=97,slow=75,SNR=12
SHL Shillong 42.54 328 P P 13 25 13.9 -1.0
SHL Shillong 42.54 328 P P **13 25 13.9 -1.0**
SHL pmax pmax
comp=Z,206nm,1.4s
NJ2 Nanjing 42.71 5 ⇑P **P 13 25 16.0 +0.1**
NJ2 pP **pP 13 25 20.3 -1.9**
NJ2 S **S 13 31 37.0 -1.2**
NJ2 pmax pmax
comp=Z,35nm,1.5s
NJ2 pmax pmax
comp=Z,630nm,7.1s
NJ2 LR LR
comp=Z,1μm,15.2s
NJ2 LR LR
comp=Z,450nm,14.2s
NJ2 LR LR
comp=Z,2μm,22.7s
HNR Honiara 44.23 93 LR LR 13 44 51.3
comp=Z,2μm,20.8s,baz=254,slow=37
XAN Xi'an 44.91 353 ⇑P **P 13 25 32.9 -0.8**
XAN pP pP 13 25 37.8 -2.1
XAN S **S 13 32 08.3 -2.1**
XAN sS sS 13 32 21.0 0.0
XAN pmax pmax
comp=Z,56nm,1.6s
XAN pmax pmax
comp=Z,570nm,6.3s
XAN LR LR
comp=Z,1μm,19.2s
XAN LR LR
comp=Z,4μm,17.9s
XAN LR LR
comp=Z,3μm,13.1s
LYN LuoYang 45.10 357 P **P 13 25 34.8 -0.4**
LYN sP sP 13 25 43.5 -0.4
LYN S **S 13 32 12.0 -1.2**
LYN sS sS 13 32 28.8 +5.2
LYN SS **ScS 13 35 31.9 +0.9**
LYN pmax pmax
comp=Z,44nm,1.4s
LYN pmax pmax
comp=Z,790nm,7.8s
LYN LR LR
comp=Z,2μm,18.2s
LYN LR LR
comp=Z,2μm,15.5s
LYN LR LR
comp=Z,3μm,16.1s
HYB Hyderabad 45.61 307 *e*P **P 13 25 39.0 -0.6**
JNU Nakatsue 46.16 19 P **P 13 25 41.9 -1.8**
JNU Nakatsue 46.16 19 LR LR 13 49 58.5
comp=Z,742nm,18.1s,baz=193,slow=43
LSA Lhasa 46.32 331 P **P 13 25 44.6 -0.8**
LSA IAmb IAmb 13 25 59.2
comp=Z,62nm,1.2s
LSA Lhasa 46.32 331 P **P 13 25 45.4 0.0**
LSA S **S 13 32 28.8 -3.0**
LSA pmax pmax
comp=Z,37nm,1.8s
LSA LR LR
comp=Z,1μm,18.7s
LSA LR LR
comp=Z,1μm,19.4s
LSA Lhasa 46.32 331 P **P 13 25 44.6 -0.8**
LSA pmax pmax
comp=Z,62nm,1.2s
TIA Tai'an 46.74 2 P **P 13 25 46.5 -1.6**
TIA PcP **PcP 13 27 23.4 +2.1**
TIA S **S 13 32 29.8 -6.9**
TIA pmax pmax
comp=Z,16nm,1.2s
TIA pmax pmax
comp=Z,400nm,9.8s
TIA LR LR
comp=Z,2μm,16.5s
TIA LR LR
comp=Z,740nm,12.7s
TIA LR LR
comp=Z,2μm,19.1s
EVN Everest 47.17 325 P **P 13 25 51.8 -0.6**
JMN Monobe 47.73 21 P **P 13 25 54.8 -1.0**
JMN IAmb IAmb 13 26 10.3
comp=Z,41nm,1.0s
LZH Lanzhou 47.75 348 ⇑P **P 13 25 56.8 +0.6**
LZH sP pP 13 26 02.4 -0.1
LZH S **S 13 32 48.4 -3.0**
LZH pmax pmax
comp=Z,44nm,1.3s
LZH pmax pmax
comp=Z,630nm,3.8s
LZH LR LR
comp=Z,2μm,14.4s
LZH LR LR
comp=Z,4μm,15.1s
LZH LR LR
comp=Z,3μm,15.1s
HNS HongShan 47.88 360 ⇑P **P 13 25 56.0 -0.9**
HNS PP **PP 13 27 53.1 +4.0**
HNS S **S 13 32 45.8 -7.1**
HNS pmax pmax
comp=Z,23nm,1.5s
HNS LR LR
comp=Z,1μm,18.1s
HNS LR LR
comp=Z,2μm,16.8s
HNS LR LR
comp=Z,2μm,16.1s
TIY Taiyuan 48.26 357 P **P 13 25 59.0 -0.9**
TIY S **S 13 32 55.3 -3.1**
TIY SS **SS 13 36 22.8 -5.5**
TIY pmax pmax
comp=Z,410nm,7.8s
TIY LR LR
comp=Z,550nm,13.9s
TIY LR LR
comp=Z,2μm,17.0s
TIY LR LR
comp=Z,1μm,17.1s
TJN Taejon 48.29 13 *i*P **P 13 25 59.0 -1.1**
KSAR Wonju Array Be 49.42 13 P **P 13 26 08.2 -0.6**
KSAR Wonju Array Be 49.42 13 P **P 13 26 08.2 -0.6**
KSRS Korea Array 49.45 14 P **P 13 26 08.3 -0.6**
comp=Z,17nm,0.9s,baz=193,slow=7.7,SNR=74
comp=Z,17nm,0.9s
KS19 Wonju Array Si 49.48 13 P **P 13 26 08.2 -1.1**
KS19 IAmb IAmb 13 26 14.2
comp=Z,42nm,1.1s
DL2 Dalian 49.77 7 P **P 13 26 09.8 -1.6**
DL2 S **S 13 33 10.8 -8.6**
DL2 pmax pmax
comp=Z,24nm,0.9s
DL2 pmax pmax
comp=Z,530nm,6.5s
DL2 LR LR
comp=Z,860nm,19.9s
DL2 LR LR
comp=Z,970nm,17.1s
DL2 LR LR
comp=Z,2μm,18.1s
INU Inuyama 50.34 23 P **P 13 26 14.2 -1.6**
DZM Mont Dzumac 50.39 110 *e*P **P 13 26 16.1 -0.6**
comp=Z,62nm,1.5s
DZM Mont Dzumac 50.39 110 *e*PP **PP 13 28 10.6 -1.8**
comp=Z,79nm,24.6s
DZM *e*S **S 13 33 24.6 -4.4**
comp=Z,370nm,28.5s
DZM *e*SS **SS 13 37 01.1 -2.0**
comp=Z,484nm,21.8s
DZM *e*LR LR 13 40 38.2
comp=Z,5μm,23.0s
GOMU GeErMu 50.42 339 P **P 13 26 16.8 -0.1**
GOMU pP pP 13 26 21.3 -1.9
GOMU PP **PP 13 28 13.8 +1.0**
GOMU S **S 13 33 31.8 +2.4**
GOMU pmax pmax
comp=Z,11nm,0.9s
GOMU pmax pmax
comp=Z,370nm,7.5s
GOMU LR LR
comp=Z,1μm,18.0s
GOMU LR LR
comp=Z,2μm,17.3s
GOMU LR LR
comp=Z,2μm,17.2s
BJT Baijiatuao 50.51 1 P **P 13 26 16.0 -1.0**
BJT IAmb IAmb 13 26 28.0
comp=Z,91nm,1.8s
BJT Baijiatuao 50.51 1 P **P 13 26 16.0 -1.0**
BJT pmax pmax
comp=Z,91nm,1.8s
BJI Beijing 50.53 1 P **P 13 26 16.0 -1.1**
BJI S **S 13 33 26.9 -3.1**
BJI pmax pmax
comp=Z,8.0nm,0.9s
BJI pmax pmax
comp=Z,220nm,4.0s
BJI LR LR
comp=Z,560nm,15.1s
BJI LR LR
comp=Z,540nm,14.9s
BJI LR LR
comp=Z,650nm,15.7s
JGF Kuroka 50.70 24 P **P 13 26 16.3 -2.3**
BTO Baotou 51.29 355 *e*P **P 13 26 23.3 +0.3**
BTO pP **pP 13 26 28.9 -0.5**
BTO S **S 13 33 42.5 +1.7**
BTO SS **SS 13 37 16.0 -0.9**
BTO pmax pmax
comp=Z,95nm,0.9s
BTO pmax pmax
comp=Z,1μm,7.6s
BTO LR LR
comp=Z,2μm,16.1s
BTO LR LR
comp=Z,2μm,17.9s
BTO LR LR
comp=Z,2μm,15.2s
HHC Hu-ho-hao-te 51.43 357 *e*P **P 13 26 23.3 -0.7**
HHC sP sP 13 26 32.3 -0.5
HHC S **S 13 33 40.5 -2.1**
HHC sS sS 13 33 52.3 -0.8
HHC pmax pmax
comp=Z,31nm,1.5s
HHC pmax pmax
comp=Z,170nm,5.1s
HHC LR LR
comp=Z,830nm,18.6s
HHC LR LR
comp=Z,1μm,20.2s
HHC LR LR
comp=Z,750nm,16.8s
MAJO Matsushiro 51.85 24 P **P 13 26 25.4 -1.8**
MAJO IAmb IAmb 13 26 31.8
comp=Z,46nm,0.9s
MAJO Matsushiro 51.85 24 *i*P **P 13 26 24.0 -3.2**
MAJO pmax pmax
comp=Z,55nm,0.9s
MJAR Matsushiro Arr 51.85 24 P **P 13 26 25.1 -2.0**
MJAR IAmb IAmb 13 26 38.6
comp=Z,49nm,1.2s
MJAR Matsushiro Arr 51.85 24 P **P 13 26 25.2 -2.0**
comp=Z,29nm,0.9s,baz=196,slow=7.2,SNR=68
MJAR LR LR 13 49 33.6
comp=Z,614nm,20.3s,baz=202,slow=38
comp=Z,29nm,0.9s
MJAR Matsushiro Arr 51.85 24 P **P 13 26 25.1 -2.0**
MJAR pmax pmax
comp=Z,49nm,1.3s
MJB9 Matsu-Tunnel 51.85 24 P **P 13 26 26.1 -1.1**
MJB9 IAmb IAmb 13 26 32.8
comp=Z,44nm,0.9s
GTA Gaotai 51.86 345 ⇑P **P 13 26 28.4 +1.1**
GTA sP pwP 13 26 37.3 -0.1
GTA PcP **PcP 13 27 42.5 +2.5**
GTA S **S 13 33 50.0 +1.3**
GTA ScS **ScS 13 36 16.9 +0.6**
GTA pmax pmax
comp=Z,18nm,2.5s
GTA pmax pmax
comp=Z,730nm,8.4s
GTA LR LR
comp=Z,2μm,17.5s
GTA LR LR
comp=Z,1μm,19.1s
GTA LR LR
comp=Z,1μm,15.9s
JMM Marumori 54.04 25 P **P 13 26 42.0 -1.3**
XLT XiLinHaoTe 54.38 1 *e*P **P 13 26 44.8 -1.0**
XLT pP pP 13 26 49.4 -2.8
XLT PcP **PcP 13 27 49.8 +0.4**
XLT S **S 13 34 19.3 -3.5**
XLT SS **SS 13 38 06.3 +0.7**
XLT pmax pmax
comp=Z,22nm,1.2s
XLT pmax pmax
comp=Z,480nm,7.9s
XLT LR LR
comp=Z,110nm,17.5s
XLT LR LR
comp=Z,950nm,16.7s
XLT LR LR
comp=Z,2μm,17.1s
PSTR Posyet 55.06 14 *i*P **P 13 26 50.1 -0.5**
MSHR Mys Shultsa 55.08 15 *i*P **P 13 26 52.2 +1.5**
CN2 Changchun 55.10 9 *e*P **P 13 26 48.8 -2.1**
CN2 PcP **PcP 13 27 52.9 +0.8**
CN2 ScS ScS 13 36 41.6 +2.9
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,600nm,19.1s
CASY Casey 55.55 182 P **P 13 26 54.2 +0.4**
VLA Vladivostok 55.77 15 *i*P **P 13 26 54.8 -0.9**
VLA pmax pmax
comp=Z,93nm,2.1s
DCZ Deep Cove 56.22 138 P **P 13 26 59.3 +0.3**
JTM Tenmabayashi 56.64 24 P **P 13 27 00.7 -1.2**
MDJ Mudanjiang 56.66 12 P **P 13 27 01.0 -1.0**
MDJ IAmb IAmb 13 27 06.8
comp=Z,45nm,0.9s
MDJ Mudanjiang 56.66 12 P **P 13 27 00.8 -1.2**
MDJ PP **PP 13 29 15.3 +6.9**
MDJ S **S 13 34 54.8 +1.8**
MDJ SS **SS 13 38 41.1 -0.1**
MDJ pmax pmax
comp=Z,57nm,1.0s
MDJ pmax pmax
comp=Z,450nm,11.4s
MDJ LR LR
comp=Z,710nm,16.5s
MDJ LR LR
comp=Z,760nm,16.5s
MDJ LR LR
comp=Z,890nm,21.2s
USA0B Ussuriysk Arra 56.81 15 P **P 13 27 02.2 -0.9**
USA0B IAmb IAmb 13 27 02.9
comp=Z,64nm,1.2s
USA0B Ussuriysk Arra 56.81 15 *i*P **P 13 27 02.1 -1.0**
USRK Ussuriysk Ar. 56.81 15 P **P 13 27 02.5 -0.5**
comp=Z,24nm,0.9s,baz=194,slow=6.8,SNR=42
USRK LR LR 13 53 24.7
comp=Z,327nm,18.3s,baz=213,slow=38
comp=Z,24nm,0.9s
BNX BinXian 57.31 10 ⇑P **P 13 27 05.3 -1.3**
BNX S **S 13 35 01.3 -0.3**
BNX pmax pmax
comp=Z,25nm,1.9s
BNX pmax pmax
comp=Z,480nm,7.6s
BNX LR LR
comp=Z,440nm,15.7s
BNX LR LR
comp=Z,390nm,14.7s
BNX LR LR
comp=Z,520nm,15.7s
RPZ Rata Peaks 58.29 135 LR LR 13 52 57.6
comp=Z,2μm,20.6s,baz=294,slow=37
ERM Erimo 58.51 24 *i*P **P 13 27 13.7 -1.4**
ERM pmax pmax
comp=Z,51nm,1.1s
ULN Ulaanbaatar 58.77 354 P **P 13 27 16.1 -0.9**
ULN IAmb IAmb 13 27 30.5
comp=Z,26nm,0.9s
ULN Ulaanbaatar 58.77 354 *ce*P **P 13 27 16.7 -0.3**
ULN pmax pmax
comp=Z,22nm,1.0s
SONM Songino Array 58.81 353 P **P 13 27 16.8 -0.5**
SONM Songino Array 58.81 353 P **P 13 27 17.0 -0.3**
comp=Z,19nm,0.9s,baz=171,slow=8.1,SNR=68
SONM LR LR 13 55 31.2
comp=Z,1μm,18.2s,baz=182,slow=39
comp=Z,19nm,0.9s
SONM Songino Array 58.81 353 P **P 13 27 16.8 -0.5**
SONM pmax pmax
comp=Z,20nm,0.9s
NIL Nilore 59.38 320 **P 13 27 20.1 -1.3**
NIL IAmb IAmb 13 27 34.5
comp=Z,35nm,0.9s
NIL Nilore 59.38 320 P **P 13 27 20.1 -1.3**
NIL pmax pmax
comp=Z,35nm,1.0s
WMQ Urumqi 59.72 337 *e*P **P 13 27 23.8 +0.2**
WMQ PcP **PcP 13 28 11.0 +0.7**
WMQ S **S 13 35 32.1 -1.1**
WMQ pmax pmax
comp=Z,39nm,1.3s
WMQ pmax pmax
comp=Z,740nm,4.9s
WMQ LR LR
comp=Z,1μm,18.1s
WMQ LR LR
comp=Z,1μm,18.1s
WMQ LR LR
comp=Z,1μm,18.1s
ASAJ Asahikawa 60.07 23 LR LR 13 55 07.5
comp=Z,747nm,19.8s,baz=214,slow=38
ASAJ Asahikawa 60.07 23 P **P 13 27 24.8 -1.1**
ASAJ pmax pmax
comp=Z,73nm,1.3s
JKA Kamikawa-asahi 60.07 23 P **P 13 27 24.8 -1.0**
RTZ Ruatahuna 61.52 128 P **P 13 27 36.4 +0.3**
RTZ IAmb IAmb 13 27 42.5
comp=Z,47nm,1.0s
URZ Urewera 61.56 128 LR LR 13 56 19.8
comp=Z,1μm,18.2s,baz=294,slow=38
HEH HeiHe 61.70 9 *e*P **P 13 27 35.8 -1.0**
HEH pP **pP 13 27 40.6 -2.6**
HEH sP **sP 13 27 42.8 -2.8**
HEH S **S 13 35 59.0 +1.0**
HEH ScS **SKKSac 13 37 21.8 -5.0**
HEH SS **SS 13 40 02.8 +2.7**
HEH pmax pmax
comp=Z,42nm,1.6s
HEH pmax pmax
comp=Z,590nm,6.8s
HEH LR LR
comp=Z,1μm,19.0s
HEH LR LR
comp=Z,920nm,19.2s
HEH LR LR
comp=Z,1μm,19.8s
ZAK Zakamensk 61.72 351 *e*P **P 13 27 36.2 -0.9**
ZAK pmax pmax
comp=Z,13nm,1.5s
KSH Kashi 61.77 326 P **P 13 27 37.3 -0.4**
KSH sP sP 13 27 47.3 +0.9
KSH S **S 13 35 56.0 -3.6**
KSH pmax pmax
comp=Z,31nm,1.6s
KSH pmax pmax
comp=Z,610nm,5.1s
KSH LR LR
comp=Z,1μm,20.6s
KSH LR LR
comp=Z,990nm,17.9s
KSH LR LR
comp=Z,2μm,21.0s
TARG Taragay, Kyrgy 62.41 329 P **P 13 27 42.6 +0.2**
TARG IAmb IAmb 13 28 16.2
comp=Z,31nm,1.1s
TARG Taragay, Kyrgy 62.41 329 P **P 13 27 42.6 +0.2**
TARG pmax pmax
comp=Z,31nm,1.1s
YSS Yuzhno-Sakhali 62.55 21 *e*P **P 13 27 43.3 +0.7**
YSS *e*S **S 13 36 09.1 +0.2**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS pmax pmax
comp=Z,500nm,7.1s
KBL Kabul 62.66 318 P **P 13 27 43.4 -0.4**
KBL IAmb IAmb 13 27 57.4
comp=Z,33nm,1.0s
KBL Kabul 62.66 318 P **P 13 27 43.4 -0.4**
KBL pmax pmax
comp=Z,33nm,1.0s
UZB Uzynbulak 62.88 331 *e*P **P 13 27 45.4 +0.3**
UZB pmax pmax
comp=Z,46nm,1.4s
UZB Uzynbulak 62.88 331 *e*P **P 13 27 45.4 +0.3**
comp=Z,46nm,1.4s
KDJ Kajisay 63.02 329 **P 13 27 45.3 -0.8**
KDJ Kajisay 63.02 329 P **P 13 27 45.3 -0.8**
SATY Saty 63.11 331 *e*P **P 13 27 46.9 +0.3**
SATY *e*S **S 13 36 18.1 +1.6**
SATY pmax pmax
comp=Z,56nm,1.5s
SATY Saty 63.11 331 *e*P **P 13 27 46.9 +0.3**
comp=Z,56nm,1.5s
SATY *e*S **S 13 36 18.2 +1.7**
NRN Naryn 63.12 328 **P 13 27 46.5 -0.5**
NRN Naryn 63.12 328 P **P 13 27 46.5 -0.5**
KPKS Kokpek 63.29 331 *e*P **P 13 27 47.9 +0.2**
KPKS Kokpek 63.29 331 *e*P **P 13 27 47.9 +0.2**
TNSS Tian-Shan 63.81 330 *e*P **P 13 27 51.5 -0.1**
TNSS Tian-Shan 63.81 330 *e*P **P 13 27 51.5 -0.1**
ZSN Zaisan 63.85 338 *e*P **P 13 27 51.5 +0.3**
ZSN *e*S **S 13 36 27.0 +1.8**
ZSN pmax pmax
comp=Z,48nm,1.9s
ZSN Zaisan 63.85 338 *e*P **P 13 27 51.5 +0.3**
comp=Z,48nm,1.9s
ZSN *e*S **S 13 36 27.1 +1.8**
GRNR Gornyy 64.03 15 *e*P **P 13 27 51.7 -0.6**
DRK Karamyk 64.08 324 P **P 13 27 52.6 -0.7**
DRK Karamyk 64.08 324 P **P 13 27 52.6 -0.7**
MK31 Makanchi Array 64.31 336 *i*P **P 13 27 53.4 -0.9**
MKAR Makanchi Array 64.31 336 P **P 13 27 53.6 -0.7**
MKAR Makanchi Array 64.31 336 P **P 13 27 54.2 -0.1**
comp=Z,3.6nm,0.5s,baz=152,slow=7.4,SNR=39
comp=Z,3.6nm,0.5s
TKM2 Tokmak 2 64.40 329 P **P 13 27 55.8 +0.5**
SNR=14
MAKZ Makanchi 64.45 335 P **P 13 27 55.3 +0.1**
MAKZ IAmb IAmb 13 28 06.1
comp=Z,29nm,1.5s
MAKZ Makanchi 64.45 335 P **P 13 27 55.3 +0.1**
MAKZ pmax pmax
comp=Z,29nm,1.5s
KBK Karagaybulak 64.55 328 P **P 13 27 57.3 +1.2**
SNR=8.6
TDK Taldyqorghan 64.58 332 *e*P **P 13 27 56.5 +0.4**
TDK Taldyqorghan 64.58 332 *e*P **P 13 27 56.5 +0.4**
GAR Garm 64.64 323 P **P 13 27 56.4 -0.3**
ARSB Arslanbob 64.66 326 P **P 13 27 57.0 +0.1**
ARSB Arslanbob 64.66 326 P **P 13 27 57.0 +0.1**
WSAR Wadi Sarin 64.67 302 LR LR 13 53 49.1
comp=Z,9.8nm,21.8s,baz=132,slow=34
AAK Ala-Archa 64.77 328 P **P 13 27 58.5 +1.0**
SNR=7.5
AAK Ala-Archa 64.77 328 P **P 13 27 57.1 -0.4**
AAK Ala-Archa 64.77 328 LR LR 14 00 02.9
comp=Z,1μm,19.5s,baz=149,slow=40
AAK Ala-Archa 64.77 328 *ce*P **P 13 27 58.5 +1.0**
AAK pmax pmax
comp=Z,69nm,1.7s
RAO Raoul Island 64.87 117 LR LR 13 57 35.1
comp=Z,1μm,18.2s,baz=254,slow=37
BTK Batken 65.03 324 **P 13 27 58.9 -0.4**
BTK Batken 65.03 324 P **P 13 27 58.9 -0.4**
EKS2 Erkin-Say 65.16 328 P **P 13 28 01.0 +0.9**
SNR=15
USP Ospenovka 65.21 328 P **P 13 28 00.7 +0.4**
SNR=18
SIMJ Simiganj 65.21 322 P **P 13 27 59.3 -1.2**
SGDS Sogindy 65.28 329 *e*P **P 13 28 01.0 +0.3**
comp=Z,39nm,1.6s
MAW Mawson 66.29 199 P **P 13 28 09.1 +2.3**
comp=Z,7.4nm,1.7s
MAW Mawson 66.29 199 P **P 13 28 09.1 +2.3**
comp=Z,13nm,0.9s,baz=46,slow=11,SNR=7.8

MAW					LR	LR	13 50 51.4		
	comp=Z,838nm,21.7s,baz=36,slow=30								
	comp=Z,13nm,0.9s								
DZA	**Taraz**	**66.63**	**326**	*e*P	**P**	**13 28 09.7**	**+0.3**		
DZA				pmax	pmax				
	comp=Z,24nm,1.8s								
DZA	**Taraz**	**66.63**	**326**	*e*P	**P**	**13 28 09.7**	**+0.3**		
	comp=Z,24nm,1.8s								
IUG	**luzhnay**	**66.85**	**325**	*e*P	**P**	**13 28 11.2**	**+0.3**		
IUG	**luzhnay**	**66.85**	**325**	*e*P	**P**	**13 28 11.3**	**+0.3**		
CHM	**Chimkent**	**67.20**	**325**	*e*P	**P**	**13 28 13.5**	**+0.5**		
CHM	**Chimkent**	**67.20**	**325**	*e*P	**P**	**13 28 13.6**	**+0.5**		
KK31	**Karatay Array**	**67.22**	**326**	P	**P**	**13 28 12.5**	**-0.6**		
KK31				IAmb	IAmb	13 28 27.5			
	comp=Z,66nm,1.8s								
KK31	**Karatay Array**	**67.22**	**326**	P	**P**	**13 28 12.5**	**-0.6**		
KK31				pmax	pmax				
	comp=Z,66nm,1.8s								
KKAR	**Karatay Array**	**67.22**	**326**	P	**P**	**13 28 12.8**	**-0.3**		
KKAR	**Karatay Array**	**67.22**	**326**	P	**P**	**13 28 12.8**	**-0.3**		
BRLS	**Boroldaу**	**67.54**	**326**	*e*P	**P**	**13 28 15.1**	**-0.1**		
BRLS				pmax	pmax				
	comp=Z,27nm,1.7s								
BRLS	**Boroldaу**	**67.54**	**326**	*e*P	**P**	**13 28 15.1**	**-0.1**		
	comp=Z,27nm,1.7s								
BOD	**Bodaibo**	**68.32**	**359**	*e*P	**P**	**13 28 18.9**	**-0.8**		
BOD				pmax	pmax				
	comp=Z,66nm,1.6s								
KURBB	**Kurchatov Arra**	**68.86**	**336**	P	**P**	**13 28 23.3**	**+0.1**		
	comp=Z,5.1nm,0.7s,baz=150,slow=5.1,SNR=50								
	comp=Z,5.1nm,0.7s								
KURBB	**Kurchatov Arra**	**68.86**	**336**	P	**P**	**13 28 22.5**	**-0.8**		
KURK	**Kurchatov**	**68.90**	**336**	P	**P**	**13 28 23.2**	**-0.3**		
KURK				IAmb	IAmb	13 28 35.7			
	comp=Z,25nm,1.0s								
KURK	**Kurchatov**	**68.90**	**336**	*ce*P	**P**	**13 28 23.6**	**+0.1**		
KURK				pmax	pmax				
	comp=Z,64nm,1.7s								
ZAA0	**Zalesovo Array**	**69.34**	**341**		**P**	**13 28 25.1**	**-1.0**		
ZAA0				IAmb	IAmb	13 28 26.2			
	comp=Z,34nm,1.4s								
ZALV	**Zalesovo Beam**	**69.34**	**341**		**P**	**13 28 25.1**	**-1.0**		
ZALV	**Zalesovo Beam**	**69.34**	**341**	P	**P**	**13 28 25.4**	**-0.7**		
	comp=Z,8.0nm,0.5s,baz=151,slow=3.4,SNR=33								
	comp=Z,8.0nm,0.5s								
SKR	**Severo-Kuril's**	**70.84**	**26**	*e*P	**P**	**13 28 39.8**	**+4.4**		
SKR				*e*		13 31 08.4			
SKR				*e*S	**S**	**13 37 47.7**	**-1.3**		
SKR				pmax	pmax				
	comp=Z,116nm,1.1s								
SKR				pmax	pmax				
	comp=Z,400nm,7.7s								
BRZS	**Berezniki**	**70.88**	**333**	*e*P	**P**	**13 28 36.2**	**+0.5**		
BRZS	**Berezniki**	**70.88**	**333**	*e*P	**P**	**13 28 36.2**	**+0.5**		
VNDA	**Vanda**	**70.92**	**170**	P	**P**	**13 28 36.4**	**+0.8**		
VNDA	**Vanda**	**70.92**	**170**	P	**P**	**13 28 38.1**	**+2.6**		
	comp=Z,6.0nm,0.8s,baz=301,slow=6.5,SNR=15								
VNDA				LR	LR	13 56 44.6			
	comp=Z,1μm,21.2s,baz=326,slow=33								
	comp=Z,6.0nm,0.8s								
VNDA	**Vanda**	**70.92**	**170**	P	**P**	**13 28 36.4**	**+0.8**		
VNDA				pmax	pmax				
	comp=Z,16nm,1.1s								
SBA	**Scott Base**	**71.95**	**170**	P	**P**	**13 28 42.2**	**+0.4**		
SBA				IAmb	IAmb	13 29 00.3			
	comp=Z,81nm,2.0s								
SBA	**Scott Base**	**71.95**	**170**	P	**P**	**13 28 42.2**	**+0.4**		
SBA				pmax	pmax				
	comp=Z,81nm,2.0s								
PEA0B	**Petropavlovsk-**	**73.27**	**25**	*i* P	**P**	**13 28 50.0**	**0.0**		
PETK	**Petropavlovsk-**	**73.27**	**25**	P	**P**	**13 28 50.3**	**+0.3**		
PETK	**Petropavlovsk-**	**73.27**	**25**	P	**P**	**13 28 51.5**	**+1.5**		
	comp=Z,15nm,1.0s,baz=197,slow=4.6,SNR=10								
PETK				LR	LR	14 00 40.6			
	comp=Z,278nm,21.9s,baz=217,slow=36								
	comp=Z,15nm,1.0s								
PETK	**Petropavlovsk-**	**73.27**	**25**	P	**P**	**13 28 50.3**	**+0.3**		
YAK	**Yakutsk**	**73.44**	**7**	P	**P**	**13 28 49.9**	**-0.9**		
YAK				IAmb	IAmb	13 29 06.6			
	comp=Z,44nm,0.9s								
YAK	**Yakutsk**	**73.44**	**7**	LR	LR	14 04 42.0			
	comp=Z,659nm,18.4s,baz=218,slow=39								
YAK	**Yakutsk**	**73.44**	**7**	*c i*P	**P**	**13 28 49.7**	**-1.0**		
YAK				*e*PP	**pP**	**13 28 58.4**	**+1.1**		
YAK				*e*		13 29 03.3			
YAK				*e*		13 31 33.1			
YAK				*e*PPP	PPP	13 33 16.8			
YAK				*e*S	**S**	**13 38 16.8**	**-1.7**		
YAK				*e*		13 38 54.6			
YAK				*e*SS	**SS**	**13 43 00.2**	**-1.4**		
YAK				pmax	pmax				
	comp=Z,37nm,1.6s								
YAK				pmax	pmax				
	comp=N,13nm,1.4s								
YAK				pmax	pmax				
	comp=E,5.0nm,1.6s								
YAK				pmax	pmax				
	comp=Z,155nm,4.4s								
YAK				pmax	pmax				
	comp=N,194nm,4.9s								
YAK				pmax	pmax				
	comp=E,125nm,3.8s								
YAK				smax	smax				
	comp=N,587nm,4.4s								
YAK				smax	smax				
	comp=E,124nm,3.9s								
YAK				MLR	MLR				
	comp=Z,1μm,23.0s								
YAK				MLR	MLR				
	comp=N,548nm,21.0s								
PET	**Petropavlovsk**	**73.62**	**26**	*e*P	**P**	**13 28 51.5**	**-0.4**		
PET				*e*S	**SKiKP**	**13 38 23.6**	**+2.8**		
PET				*e*PS	**PnS**	**13 39 07.6**	**+12**		
PET				*e*SS	**SS**	**13 43 00.7**	**-3.9**		
PET				pmax	pmax				
	comp=Z,400nm,18.0s								
BVA0	**Borovoye Array**	**74.04**	**334**	*i* P	**P**	**13 28 54.6**	**+0.1**		
BVAR	**Borovoye Array**	**74.04**	**334**	P	**P**	**13 28 54.7**	**+0.2**		
	comp=Z,15nm,0.8s,baz=140,slow=7.7,SNR=60								
BVAR				LR	LR	14 05 06.4			
	comp=Z,1μm,21.2s,baz=146,slow=39								
	comp=Z,15nm,0.8s								
BRVK	**Borovoye**	**74.11**	**334**	P	**P**	**13 28 54.6**	**-0.3**		
BRVK	**Borovoye**	**74.11**	**334**	*ce*P	**P**	**13 28 55.2**	**+0.3**		
BRVK				pmax	pmax				
	comp=Z,74nm,2.5s								
SYO	**Syowa Base**	**74.82**	**201**	⇑*e*P	**P**	**13 29 01.0**	**+2.2**		
SYO	**Syowa Base**	**74.82**	**201**	⇓*e*pP	pP	13 29 03.2	-1.9		
ATD	**Arta Tunnel**	**75.04**	**285**	LR	LR	13 59 42.9			
	comp=Z,11nm,18.2s,baz=68,slow=34								
MA2	**Magadan**	**75.73**	**18**	LR	LR	14 06 15.1			
	comp=Z,355nm,19.1s,baz=234,slow=39								
MA2	**Magadan**	**75.73**	**18**	*i* P	**P**	**13 29 03.8**	**-0.3**		
MA2				pmax	pmax				
	comp=Z,18nm,1.0s								
RAYN	**Ar Rayn**	**75.98**	**298**	P	**P**	**13 29 05.9**	**-0.5**		
RAYN	**Ar Rayn**	**75.98**	**298**	P	**P**	**13 29 05.9**	**-0.5**		
RAYN				pmax	pmax				
	comp=Z,11nm,0.9s								
AKTO	**Aktyubinsk**	**78.47**	**327**	LR	LR	14 10 10.1			
	comp=Z,715nm,20.4s,baz=96,slow=40								
SEY	**Seymchan**	**78.89**	**16**	*i* P	**P**	**13 29 21.2**	**-0.5**		
SEY				pmax	pmax				
	comp=Z,57nm,2.1s								
QSPA	**South Pole Qui**	**79.27**	**180**	P	**P**	**13 29 25.5**	**+1.4**		
QSPA	**South Pole Qui**	**79.27**	**180**	P	**P**	**13 29 26.5**	**+2.4**		
	comp=Z,37nm,1.2s,baz=318,slow=2.4,SNR=13								
QSPA				LR	LR	14 00 29.1			
	comp=Z,666nm,21.6s,baz=336,slow=33								
	comp=Z,37nm,1.2s								
AKT	**Akhty**	**80.62**	**315**	*e*P	**P**	**13 29 29.7**	**-2.1**		
AKT				*e*		13 32 33.5			
AKT				*e*S	**S**	**13 39 42.4**	**+4.5**		
AKT				pmax	pmax				
	comp=Z,57nm,1.3s								
AKT				MLR	MLR				
	comp=Z,591nm,19.0s								
SVE	**Sverdlovsk**	**80.79**	**333**	*de*P	**P**	**13 29 33.0**	**+0.8**		
SVE				*e*S	**S**	**13 39 36.9**	**-1.9**		
SVE				pmax	pmax				
	comp=Z,81nm,1.7s								
SVE				MLR	MLR				
	comp=Z,1μm,21.0s								
MAK	**Makhachkala**	**81.36**	**317**	*e*P	P	13 29 30.4	-5.1		
MAK				*e*S	**S**	**13 39 38.8**	**-6.4**		
MAK				*e*SSS	SSS	13 48 28.1			
MAK				pmax	pmax				
	comp=Z,307nm,1.2s								
ARTI	**Arti**	**81.56**	**332**	P	**P**	**13 29 36.4**	**+0.1**		
ARTI				IAmb	IAmb	13 29 51.3			
	comp=Z,41nm,1.0s								
ARTI	**Arti**	**81.56**	**332**	LR	LR	14 09 59.8			
	comp=Z,787nm,21.3s,baz=130,slow=39								
ARTI	**Arti**	**81.56**	**332**	*c i*P	**P**	**13 29 36.6**	**+0.3**		
ARTI						13 32 40.9			
ARTI				PPP	PPP	13 34 32.7			
ARTI				S	**S**	**13 39 49.3**	**+2.5**		
ARTI				SS	**SS**	**13 45 01.0**	**-3.3**		
ARTI				pmax	pmax				
	comp=Z,83nm,2.0s								
ARTI				MLR	MLR				
	comp=Z,1μm,23.0s								
RAR	**Rarotonga**	**81.77**	**110**	LR	LR	14 05 15.6			
	comp=Z,570nm,20.9s,baz=268,slow=35								
GNI	**Garni**	**82.22**	**313**	LR	LR	14 11 25.3			
	comp=Z,360nm,19.9s,baz=104,slow=40								
GNI	**Garni**	**82.22**	**313**	*ce*P	**P**	**13 29 40.4**	**0.0**		
GNI				pmax	pmax				
	comp=Z,32nm,1.7s								
TIXI	**Tiksi**	**82.73**	**4**	P	**P**	**13 29 41.5**	**-0.5**		
TIXI				IAmb	IAmb	13 30 05.3			
	comp=Z,38nm,0.9s								
TIXI	**Tiksi**	**82.73**	**4**	LR	LR	14 11 31.8			
	comp=Z,451nm,18.6s,baz=224,slow=39								
TIXI	**Tiksi**	**82.73**	**4**	*ce*P	**P**	**13 29 41.2**	**-0.8**		
TIXI				pmax	pmax				
	comp=Z,69nm,1.7s								
MATP	**Matopo**	**83.09**	**251**	LR	LR	14 03 22.3			
	comp=Z,228nm,18.1s,baz=94,slow=33								
GURO	**Guroymak-BITLI**	**83.65**	**311**	P	**P**	**13 29 48.1**	**+0.4**		
LSZ	**Lusaka**	**84.20**	**256**	P	**P**	**13 29 50.6**	**-0.5**		
LSZ				IAmb	IAmb	13 29 57.2			
	comp=Z,41nm,1.8s								
LSZ	**Lusaka**	**84.20**	**256**	LR	LR	14 02 22.1			
	comp=Z,501nm,21.5s,baz=118,slow=32								
LSZ	**Lusaka**	**84.20**	**256**	P	**P**	**13 29 50.6**	**-0.5**		
LSZ				pmax	pmax				
	comp=Z,41nm,1.8s								
NCK	**Nalchik**	**84.21**	**316**	*i* P	**P**	**13 29 51.2**	**+0.8**		
BOSA	**Boshof**	**84.73**	**242**	P	**P**	**13 29 55.0**	**+1.5**		
	comp=Z,8.6nm,0.9s,baz=88,slow=4.5,SNR=8.5								
BOSA				LR	LR	14 02 38.1			
	comp=Z,342nm,19.4s,baz=92,slow=32								
	comp=Z,8.6nm,0.9s								
KBZ	**Khabaz**	**84.77**	**316**	P	**P**	**13 29 53.6**	**+0.5**		
	comp=Z,3.1nm,0.7s,baz=118,slow=4.7,SNR=9.2								
KBZ				LR	LR	14 12 31.1			
	comp=Z,340nm,19.9s,baz=114,slow=39								
	comp=Z,3.1nm,0.7s								
KBZ	**Khabaz**	**84.77**	**316**	*i* P	**P**	**13 29 54.6**	**+1.5**		
KBZ				pmax	pmax				
	comp=Z,29nm,1.3s								
KIV	**Kislovodsk**	**84.99**	**316**	*e*P	**P**	**13 29 55.5**	**+1.1**		
KIV				*e*		13 40 19.1			
KIV				*e*SS	SS	13 45 58.2	+2.4		
KIV				pmax	pmax				
	comp=Z,14nm,1.1s								
LBTB	**Lobatse**	**85.01**	**246**	LR	LR	14 03 21.2			
	comp=Z,418nm,18.2s,baz=92,slow=32								
BELG	**Belogornoye**	**85.11**	**325**	LR	LR	14 15 08.3			
	comp=Z,346nm,18.2s,baz=126,slow=41								
BELG	**Belogornoye**	**85.11**	**325**	*i* P	**P**	**13 29 54.4**	**-0.2**		
BELG				pmax	pmax				
	comp=Z,19nm,1.3s								
GOF	**Gofitskoye**	**85.13**	**317**	*ce*P	**P**	**13 29 56.5**	**+1.6**		
KOPT	**Kop Dagi**	**85.25**	**312**	P	**P**	**13 29 56.3**	**+0.3**		
ADK	**Adak**	**85.42**	**35**	P	**P**	**13 29 56.8**	**+0.6**		
ADK	**Adak**	**85.42**	**35**	P	**P**	**13 29 56.8**	**+0.6**		
ADK				pmax	pmax				
	comp=Z,99nm,1.6s								
ASF	**Jabal al Asfar**	**85.78**	**304**	LR	LR	14 11 10.4			
	comp=Z,1μm,19.6s,baz=134,slow=38								
ARPR	**Arapgir-MALATY**	**86.56**	**311**	P	**P**	**13 30 02.5**	**+0.1**		
BILL	**Bilibino**	**86.57**	**17**	*i* P	**P**	**13 30 01.8**	**+0.2**		
BILL				pmax	pmax				
	comp=Z,11nm,1.5s								
TROLL	**Troll, Antarti**	**86.61**	**197**	⇑P	**P**	**13 30 04.8**	**+2.8**		
	comp=Z,224nm,0.9s								
VSLR	**Vesyoloye**	**86.65**	**315**	*i* P	**P**	**13 30 03.4**	**+0.9**		
VSLR				pmax	pmax				
	comp=Z,119nm,1.3s								
EIL	**Elat**	**86.77**	**301**	LR	LR	14 09 59.3			
	comp=Z,589nm,19.3s,baz=74,slow=36								
KIRV	**Kirov**	**86.85**	**331**	LR	LR	14 15 24.4			
	comp=Z,465nm,18.5s,baz=131,slow=40								
KIRV	**Kirov**	**86.85**	**331**	*i* P	**P**	**13 30 02.7**	**-0.4**		
MMAI	**Mount Meron Ar**	**87.22**	**304**	P	**P**	**13 30 06.8**	**+1.2**		
	comp=Z,2.8nm,0.7s,baz=116,slow=9.4,SNR=7.8								
MMAI				LR	LR	14 12 29.0			
	comp=Z,1μm,20.5s,baz=106,slow=38								
	comp=Z,2.8nm,0.7s								
VRH	**Novokhopyorsk**	**88.06**	**323**	*e*P	**P**	**13 30 07.0**	**-2.1**		
VRH				pmax	pmax				
	comp=Z,110nm,1.8s								
SNAA	**Sanae**	**88.26**	**196**	⇑P	**P**	**13 30 11.9**	**+2.0**		
	comp=Z,384nm,0.8s								
SNAA	**Sanae**	**88.26**	**196**	P	**P**	**13 30 11.5**	**+1.6**		
SNAA	**Sanae**	**88.26**	**196**	P	**P**	**13 30 11.7**	**+1.8**		
	comp=Z,14nm,0.9s,baz=151,slow=3.8,SNR=20								
SNAA				LR	LR	14 04 30.6			
	comp=Z,1μm,21.6s,baz=120,slow=32								
	comp=Z,14nm,0.9s								
SNAA	**Sanae**	**88.26**	**196**	*i* P	**P**	**13 30 12.2**	**+2.3**		
SNAA				pmax	pmax				
	comp=Z,76nm,1.9s								
BNN	**Bunyan**	**88.36**	**310**	P	**P**	**13 30 10.9**	**-0.1**		
VORD	**Divnogorie**	**89.44**	**322**	*e*P	**P**	**13 30 14.6**	**-1.0**		
VORD				pmax	pmax				
	comp=Z,40nm,1.6s								
VSR	**Storozhevoye**	**89.59**	**322**	*e*P	**P**	**13 30 14.5**	**-1.8**		
VSR				pmax	pmax				
	comp=Z,60nm,1.8s								
VORR	**Voronezh**	**89.70**	**323**	*e*P	**P**	**13 30 17.3**	**+0.5**		
VORR				pmax	pmax				
	comp=Z,60nm,1.4s								
BELA	**Belgrano 2**	**89.90**	**186**		**P**	**13 30 18.3**	**+0.8**		
BELA				IAmb	IAmb	13 30 24.0			
	comp=Z,28nm,1.0s								
LPSR	**Galich'ya Gora**	**90.15**	**324**	*e*P	**P**	**13 30 18.0**	**-0.9**		
LPSR				pmax	pmax				
	comp=Z,50nm,2.0s								
BR104	**Keskin Array S**	**90.23**	**310**	P	**P**	**13 30 20.6**	**+0.8**		
	comp=Z,81nmcomp=Z,8.2nm,1.3s								
BR131	**Keskin Array S**	**90.24**	**310**	*i* P	**P**	**13 30 20.5**	**+0.7**		
BRTR	**Keskin Array B**	**90.24**	**310**		**P**	**13 30 18.9**	**-0.9**		
BRTR	**Keskin Array B**	**90.24**	**310**	P	**P**	**13 30 20.6**	**+0.7**		
	comp=Z,1.0nm,0.7s,baz=66,slow=3.0,SNR=10								
BRTR				LR	LR	14 15 24.2			
	comp=Z,514nm,19.4s,baz=116,slow=39								
	comp=Z,1.0nm,0.7s								
BRTR	**Keskin Array B**	**90.24**	**310**	P	**P**	**13 30 18.9**	**-0.9**		
VNA1	**Neumayer--Stat**	**90.30**	**196**	⇑P	**P**	**13 30 22.6**	**+3.3**		
	comp=Z,14nm,1.0s								
VNA3	**Neumayer Olymp**	**90.33**	**195**	⇑P	**P**	**13 30 22.4**	**+2.9**		
	comp=Z,6.7nm,0.8s								
TBI	**Tubuai**	**90.80**	**114**	*e*S	**S**	**13 41 18.3**	**-0.1**		
	comp=Z,720nm,26.0s								
TBI				*e*SS	**SS**	**13 47 22.1**	**+1.2**		
	comp=Z,2μm,32.8s								
TBI				*e*LQ	LQ	13 55 19.9			
	comp=Z,4μm,30.5s								
TBI				*e*LR	LR	13 59 26.7			
	comp=Z,5μm,23.2s								
TBI				*e*LR	LR	13 59 28.7			
	comp=Z,2μm,24.8s								
PPT2	**Papeete2**	**91.88**	**108**	*e*PKIKP	**P**	**13 30 28.2**	**+0.3**		
	comp=Z,76nm,24.5s								
PPT2	**Papeete2**	**91.88**	**108**	*e*S	**S**	**13 41 24.9**	**-3.6**		
	comp=Z,154nm,24.5s								
PPT2				*e*SS	**SS**	**13 47 35.8**	**-1.1**		
	comp=Z,505nm,26.0s								
PPT2				*e*LQ	LQ	13 55 55.0			
	comp=Z,1μm,31.8s								
PPT2				*e*LR	LR	13 59 54.0			
	comp=Z,1μm,22.5s								
PPT2				*e*LR	LR	13 59 56.6			
	comp=Z,1μm,28.2s								
PPT	**Papeete**	**91.88**	**108**	LR	LR	14 07 39.9			
	comp=Z,662nm,22.0s,baz=257,slow=33								
OBN	**Obninsk**	**92.20**	**326**	LR	LR	14 18 56.9			
	comp=Z,602nm,18.6s,baz=44,slow=40								
KLMR	**Klimovskoe**	**92.35**	**332**	*e*P	**P**	**13 30 27.3**	**-1.6**		
KLMR				S	**SKSac**	**13 41 00.4**	**-0.2**		
KLMR				pmax	pmax				
	comp=Z,49nm,1.5s								
TSUM	**Tsumeb**	**93.42**	**250**	LR	LR	14 08 47.6			
	comp=Z,582nm,19.1s,baz=144,slow=33								
AK06	**Malin Array Si**	**95.56**	**320**	P	**P**	**13 30 44.1**	**+0.2**		
AKASG	**Malin Array Be**	**95.57**	**320**	P	**P**	**13 30 44.3**	**+0.3**		
	comp=Z,0.6nm,0.5s,baz=86,slow=3.6,SNR=8.7								
AKASG				LR	LR	14 21 36.2			
	comp=Z,495nm,18.9s,baz=86,slow=40								
	comp=Z,0.6nm,0.5s								
AKBB	**Malin Array Si**	**95.57**	**320**		**P**	**13 30 43.0**	**-1.0**		
AKBB	**Malin Array Si**	**95.57**	**320**	*i* P	**P**	**13 30 43.8**	**-0.1**		
AKBB				pmax	pmax				
	comp=Z,9.0nm,1.1s								
AKBB	**Malin Array Si**	**95.57**	**320**	P	**P**	**13 30 44.1**	**+0.2**		
KIEV	**Kiev**	**95.58**	**320**		**P**	**13 30 43.5**	**-0.5**		
KIEV	**Kiev**	**95.58**	**320**	P	**P**	**13 30 43.5**	**-0.5**		
KIEV				pmax	pmax				
	comp=Z,7.0nm,1.1s								
KIEV	**Kiev**	**95.58**	**320**	P	**P**	**13 30 44.1**	**+0.1**		
IDI	**Anoyia**	**96.21**	**305**	LR	LR	14 19 32.9			
	comp=Z,425nm,20.9s,baz=102,slow=39								
G16K	**Koyuk River**	**96.62**	**25**	P	**P**	**13 30 49.3**	**+0.9**		
G16K				IAmb	IAmb	13 30 52.0			
	comp=Z,10nm,1.1s								
APA	**Apatity**	**96.66**	**338**	*e*P	**P**	**13 30 47.6**	**-0.9**		
APA				*e*PS	**PS**	**13 43 26.2**	**-5.6**		
APA				pmax	pmax				
	comp=Z,5.0nm,1.0s								
APA				MLR	MLR				
	comp=Z,1μm,23.6s								
MLR	**Muntele Rosu**	**96.91**	**315**	P	**P**	**13 30 50.5**	**+0.1**		
MLR				IAmb	IAmb	13 30 57.2			
	comp=Z,14nm,1.2s								
MLR	**Muntele Rosu**	**96.91**	**315**	LR	LR	14 19 07.7			
	comp=Z,397nm,21.7s,baz=80,slow=38								
MLR	**Muntele Rosu**	**96.91**	**315**	P	**P**	**13 30 50.5**	**+0.1**		
MLR				pmax	pmax				
	comp=Z,14nm,1.2s								
J16K	**Anvik River**	**96.99**	**27**	P	**P**	**13 30 51.0**	**+0.9**		
J16K				IAmb	IAmb	13 30 56.9			
	comp=Z,18nm,1.3s								
MNK	**Minsk**	**96.99**	**324**	*i* P	**P**	**13 30 47.1**	**-3.2**		
MNK				*i* S	**SKSac**	**13 41 23.9**	**-2.0**		
MNK				*i* PS	**PS**	**13 43 32.0**	**-3.9**		
MNK				*i* SS	**SS**	**13 48 46.2**	**-2.0**		
MNK				*i* SSS	SSS	13 52 31.3			
MNK				pmax	pmax				
	comp=Z,14nm,0.6s								
MNK				MLR	MLR				
	comp=E,827nm,18.0s								
MNK				MLR	MLR				
	comp=N,437nm,24.0s								
H17K	**Granite Mounta**	**97.56**	**25**		Pdif	13 30 53.1	+0.4		
H17K				IAmb	IAmb	13 30 56.6			
	comp=Z,7.8nm,0.9s								
J17K	**VABM Dome**	**97.69**	**27**	P	Pdif	13 30 54.0	+0.7		
J17K				IAmb	IAmb	13 31 22.8			
	comp=Z,11nm,1.2s								
J18K	**Innoko River**	**98.75**	**27**		**P**	**13 30 58.0**	**-0.1**		
J18K				IAmb	IAmb	13 30 59.7			
	comp=Z,8.1nm,1.2s								
FINES	**FINESS Array B**	**98.84**	**331**		Pdif	13 30 58.6	+0.2		
FINES	**FINESS Array B**	**98.84**	**331**	P	Pdif	13 30 59.6	+1.1		
	comp=Z,2.0nm,0.8s,baz=163,slow=8.0,SNR=6.3								
FINES				LR	LR	14 20 55.3			
	comp=Z,532nm,20.1s,baz=105,slow=39								
	comp=Z,2.0nm,0.8s								
FINES	**FINESS Array B**	**98.84**	**331**	P	Pdif	13 30 58.6	+0.1		
ARCES	**ARCESS Array B**	**99.81**	**339**	P	**Pdif**	**13 31 03.6**	**+1.0**		
	comp=Z,5.1nm,1.0s,baz=55,slow=4.6,SNR=5.3								
	comp=Z,5.5nm,1.0s								
TAOE	**Nuku Hiva Isla**	**102.73**	**102**	*e*S	**Sdif**	**13 43 02.8**	**+1.0**		
	comp=Z,199nm,28.7s								
TAOE				*e*SS	**SS**	**13 50 15.4**	**+5.1**		
	comp=Z,179nm,27.4s								
TAOE	**Nuku Hiva Isla**	**102.73**	**102**	*e*LR	LR	14 04 53.1			
	comp=Z,719nm,24.7s								
JAVC	**Velka Javorina**	**102.83**	**318**	*e*PP	**PP**	**13 35 29.1**	**-1.7**		
MORC	**Moravsky Berou**	**102.93**	**319**	*e*PP	**PP**	**13 35 29.7**	**-1.8**		
BRG	**Berggiesshubel**	**105.24**	**320**	⇓*e*Pif	sPdif	13 31 37.0	+0.9		
BRG	**Berggiesshubel**	**105.24**	**320**	PP	**PP**	**13 35 41.0**	**-7.6**		
BRG	**Berggiesshubel**	**105.24**	**320**	PS	PS	13 45 08.0	+4.0		
BRG	**Berggiesshubel**	**105.24**	**320**	SS	SS	13 50 42.0	-0.9		
CLL	**Collm**	**105.81**	**320**	*e*P	**Pdif**	**13 31 30.0**	**+0.2**		
CLL				*e*		13 42 10.0			
CLL				*e*S	**Sdif**	**13 43 26.0**	**+0.3**		
CLL				MLR	MLR				
	comp=Z,500nm,20.7s								
TORD	**Torodi Ar. Bea**	**114.89**	**280**	PKP	PKPdf	13 36 00.5	-0.1		
	comp=Z,0.9nm,0.4s,baz=304,slow=0.5,

1.4nm,0.3s
BTLS Baital 3.45 18 *e*P Pb 13 26 06.6 +2.0
0.2nm,0.1s
BTLS *e*S **Sg 13 26 51.4 -2.3**
1.4nm,0.3s

AUST 24 13:40:38.8±0.7, 18°S±8°×12°0E±°, h10km, mb4.3/3, ML3.0/2, ML3.5/4, Error ellipse: s-maj=20.5km s-min=6.1km az=149.1, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.97**	**79**	P	Pn	13 41 13.0	+0.6
AUBRM				S	Sb	13 41 38.8	-0.8
PSAC1	**Pilbara Seismi**	**3.19**	**187**	P	Pn	13 41 28.2	-0.8
PSAC1				S	Sn	13 42 06.3	-0.9
PSAA1	**Pilbara Seismi**	**3.23**	**186**	P	Pn	13 41 31.0	+1.4
PSAA1				S	Sn	13 42 08.2	+0.1
FITZ	**Fitzroy Crossi**	**5.18**	**88**	P	Pn	13 41 54.6	-1.9
GIRL	**Giralia**	**7.03**	**232**	P	Pn	13 42 23.0	+1.1
	comp=Z,331µmcomp=Z,43nm,2.0s,comp=Z,0.2nm						
GIRL				S	Sn	13 43 38.1	-3.9
CVQOZ	**Cooralya Stati**	**8.32**	**222**	P	Pn	13 42 38.4	-1.2
	comp=Z,251nm,1.7s,comp=Z,1.0nm						
MEEK	**Meekatharra**	**8.37**	**190**	P	Pn	13 42 40.6	+0.2
KNRA	**Kununurra**	**8.61**	**73**	P	Pn	13 42 42.3	-1.3
WRKA	**Warakurna**	**10.04**	**133**	P	Pn	13 43 02.2	-1.1
	comp=Z,4.5nm,2.8s,comp=Z,0.1nm						

IDC 24 13:42:14.4±1.3, 5.67S×150.93E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=41.1km s-min=28.4km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.48**	**227**	P	P	13 47 05.9	+1.0
	1.0nm,0.5s,baz=53,slow=11,SNR=14						
	1.0nm,0.5s						
DZM	**Mont Dzumac**	**22.16**	**139**	P	P	13 47 11.9	-0.3
	4.4nm,0.8s,baz=321,slow=14,SNR=1.7						
	4.4nm,0.8s						
ASAR	**Alice Springs**	**24.26**	**221**	P	P	13 47 33.4	-0.1
	1.1nm,0.7s,baz=54,slow=8.9,SNR=12						
	1.1nm,0.7s						
ILAR	**Eielson Array**	**83.67**	**22**	P	P	13 54 45.5	+0.8
	0.3nm,0.6s,baz=256,slow=5.2,SNR=6.6						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**148.78**	**286**	PKPbc	PKPdf	14 02 02.6	+1.5
	1.1nm,0.4s,baz=94,slow=1.9,SNR=2.3						

*IDC **24** 13:50:56.0±1.0, 54.52S×159.15E, h0km, mb4.2/7, mbtmp4.3/8, ML4.2/1, MS4.2/4, Error ellipse: s-maj=48.2km s-min=16.9km az=71.0*
*NEIC **24** 13:50:58.4±1.6, 54.57S±0.06×158.8E±0.2, h10km±1km, mb4.5/10, Error ellipse: s-maj=23.2km s-min=6.2km az=70.0*
ISC 24 13:51:00.5±0.9, 54.47S±0.07×159.13E±0.09, h29km±6km, n68, σ1ş78/53, mb4.4/14, MS4.2/4, 4C, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**0.11**	**252**	P	Pb	13 51 06.0	+0.4
MCQ				S	Sb	13 51 08.0	-1.2
APZ	**The Paps**	**9.48**	**40**	P	Pn	13 53 15.9	+0.9
APZ				S	Sn	13 54 56.8	-3.8
PYZ	**Puysegur Point**	**9.60**	**33**	Pn	Pn	13 53 19.4	+2.7
SYZ	**Scrubby Hill**	**10.17**	**43**	P	Pn	13 53 26.3	+1.9
SYZ				S	Sn	13 55 12.7	-4.7
WHZ	**Wether Hill Ro**	**10.27**	**37**		Pn	13 53 27.7	+1.9
WHZ	**Wether Hill Ro**	**10.27**	**37**	P	Pn	13 53 27.1	+1.3
WHZ				S	Sn	13 55 17.3	-2.6
DCZ	**Deep Cove**	**10.38**	**33**		Pn	13 53 29.4	+2.2
DCZ	**Deep Cove**	**10.38**	**33**	P	Pn	13 53 33.3	+6.0
BDCS	**Balclutha Dist**	**10.64**	**44**	P	Pn	13 53 33.4	+2.6
MLZ	**Mavora Lakes**	**10.79**	**36**		Pn	13 53 35.2	+2.4
MLZ	**Mavora Lakes**	**10.79**	**36**	P	Pn	13 53 36.0	+3.1
TUZ	**Tuapeka**	**10.85**	**43**	P	Pn	13 53 36.4	+2.7
TUZ				S	Sn	13 55 31.6	-2.3
EAZ	**Earnscleugh**	**11.33**	**39**	P	Pn	13 53 43.3	+3.0
MSZ	**Milford Sound**	**11.33**	**34**	P	Pn	13 53 45.8	+5.5
WKZ	**Wanaka**	**11.57**	**38**	P	Pn	13 53 48.4	+4.8
ODZ	**Otahua Downs**	**12.00**	**43**	Pn	Pn	13 53 50.8	+1.4
ODZ	**Otahua Downs**	**12.00**	**43**	P	Pn	13 53 52.1	+2.7
JCZ	**Jackson Bay**	**12.15**	**35**	P	Pn	13 53 56.0	+4.5
RPZ	**Rata Peaks**	**13.28**	**41**	Pn	Pn	13 54 06.3	-0.6
	1.2nm,0.3s,baz=127,slow=0.9,SNR=5.9						
	7.6nm,0.9s						
TAU	**Tasmania Unive**	**13.92**	**321**	Pn	Pn	13 54 13.3	-2.4
MOO	**Moorlands**	**14.38**	**322**	P	Pn	13 54 22.0	+0.1
	comp=Z,56nm,1.4s						
MOO	**Moorlands**	**14.38**	**322**	P	Pn	13 54 22.0	+0.1
LHI	**Lord Howe Isla**	**22.93**	**360**	P	P	13 56 04.0	+2.0
VNDA	**Vanda**	**23.17**	**178**	P	P	13 56 03.2	-0.9
VNDA	**Vanda**	**23.17**	**178**	P	P	13 56 03.4	-0.8
	comp=Z,0.7nm,1.0s,baz=352,slow=11,SNR=1.5						
STKA	**Stephens Creek**	**25.80**	**324**	P	P	13 56 30.9	+1.9
	comp=Z,2.8nm,0.7s,baz=147,slow=17,SNR=5.5						
	comp=Z,2.8nm,0.7s						
FORT	**Forrest**	**32.46**	**304**	P	P	13 57 25.8	-2.2
FORT				IAmb	IAmb	13 58 06.4	
	comp=Z,7.6nm,1.1s						
QSPA	**South Pole Qui**	**35.65**	**180**	P	P	13 57 55.7	+0.1
QSPA				IAmb	IAmb	13 58 32.2	
	comp=Z,8.5nm,1.4s						
QSPA	**South Pole Qui**	**35.65**	**180**	P	P	13 57 56.8	+1.2
	comp=Z,1.2nm,0.9s,baz=342,slow=3.6,SNR=5.8						
QSPA				PcP	PcP	14 00 23.8	+0.4
	comp=Z,1.9nm,1.1s,baz=315,slow=2.9,SNR=6.3						
	comp=Z,1.2nm,0.9s						
ASAR	**Alice Springs**	**36.07**	**318**	P	P	13 57 59.0	-0.5
ASAR	**Alice Springs**	**36.07**	**318**	P	P	13 58 00.5	+1.0
	comp=Z,8.8nm,0.8s,baz=154,slow=8.3,SNR=88						
ASAR				PcP	PcP	14 00 25.1	0.0
	comp=Z,0.9nm,0.7s,baz=142,slow=4.0,SNR=8.9						
	comp=Z,8.8nm,0.8s						
AS31	**Alice Springs**	**36.07**	**318**	P	P	13 57 59.7	+0.2
AS31				IAmb	IAmb	13 58 01.4	
	comp=Z,3.8nm,0.8s						
H01W1	**Cape Leeuwin H**	**36.70**	**284**	T	T	14 36 45.1	
	baz=136,slow=75,SNR=2857						
H01W2	**Cape Leeuwin H**	**36.70**	**283**	T	T	14 36 45.7	
	baz=136,slow=75,SNR=2568						
H01W3	**Cape Leeuwin H**	**36.71**	**284**	T	T	14 36 46.4	
	baz=136,slow=75,SNR=2156						
WR8	**Warramunga Arr**	**39.23**	**322**	P	P	13 58 25.8	-0.4
WR8				IAmb	IAmb	13 58 27.4	
	comp=Z,9.1nm,0.8s						
WRA	**Warramunga Arr**	**39.30**	**321**	P	P	13 58 26.9	+0.1
	comp=Z,5.7nm,0.8s,baz=157,slow=7.1,SNR=28						
WRA				LR	LR	14 13 47.6	
	comp=Z,621nm,18.2s,baz=246,slow=35						
	comp=Z,5.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**44.46**	**311**	P	P	13 59 08.9	+0.1
FITZ	**Fitzroy Crossi**	**44.46**	**311**	P	P	13 59 07.2	-1.6
	comp=Z,5.6nm,0.7s,baz=167,slow=10,SNR=12						
	comp=Z,5.6nm,0.7s						
MBWA	**Marble Bar**	**44.57**	**302**	P	P	13 59 09.6	-0.1
MBWA				IAmb	IAmb	13 59 31.6	
	comp=Z,14nm,1.3s						
KNRA	**Kununurra**	**45.31**	**317**	P	P	13 59 16.0	+0.3
TROLL	**Troll, Antarti**	**52.76**	**189**	⇑P	P	14 00 11.8	-0.4
	comp=Z,42nm,0.7s						
SNAA	**Sanae**	**53.52**	**187**	⇑P	P	14 00 17.8	0.0
	comp=Z,24nm,0.8s						
SNAA	**Sanae**	**53.52**	**187**	P	P	14 00 17.2	-0.5
SNAA				IAmb	IAmb	14 00 33.9	
	comp=Z,5.5nm,1.3s						
SNAA	**Sanae**	**53.52**	**187**	P	P	14 00 15.7	-2.0
	comp=Z,2.1nm,1.1s,baz=180,slow=11,SNR=4.0						
	comp=Z,2.1nm,1.1s						
VNA3	**Neumayer Olymp**	**54.34**	**184**	⇑P	P	14 00 23.8	+0.1
	comp=Z,1.8nm,0.7s						
VNA1	**Neumayer--Stat**	**54.86**	**185**	⇑P	P	14 00 27.9	+0.5
	comp=Z,5.7nm,1.1s						
KAPI	**Kappang**	**58.66**	**312**	LR	LR	14 24 40.2	
	comp=Z,201nm,20.0s,baz=303,slow=34						
H04S2	**CROZET ISLANDS**	**61.85**	**228**	T	T	15 08 59.7	
	baz=140,slow=75,SNR=74						
H04S1	**CROZET ISLANDS**	**61.85**	**228**	T	T	15 09 00.7	
	baz=140,slow=75,SNR=130						
H04S3	**CROZET ISLANDS**	**61.87**	**228**	T	T	15 08 55.3	
	baz=140,slow=75,SNR=115						
LEM	**Lembang**	**62.83**	**299**	LR	LR	14 28 35.9	
	comp=Z,145nm,18.1s,baz=186,slow=36						
TGY	**Tagaytay City**	**75.61**	**322**	LR	LR	14 40 40.3	
	comp=Z,65nm,18.2s,baz=82,slow=39						
H03S2	**Juan Fernandez**	**78.88**	**134**	T	T	15 30 29.3	
	baz=208,slow=74,SNR=700						
H03S1	**Juan Fernandez**	**78.88**	**134**	T	T	15 30 31.5	
	baz=208,slow=74,SNR=716						
H03S3	**Juan Fernandez**	**78.89**	**134**	T	T	15 30 30.0	
	baz=208,slow=74,SNR=265						
H03N3	**Juan Fernandez**	**79.21**	**134**	T	T	15 30 52.6	
	baz=212,slow=72,SNR=470						
H03N2	**Juan Fernandez**	**79.22**	**134**	T	T	15 30 56.1	
	baz=212,slow=72,SNR=722						
H03N1	**Juan Fernandez**	**79.22**	**134**	T	T	15 30 51.1	
	baz=212,slow=72,SNR=380						
H08S2	**Diego Garcia H**	**81.88**	**268**	T	T	15 33 14.1	
	baz=144,slow=76,SNR=453						
H08S1	**Diego Carcia H**	**81.89**	**268**	T	T	15 33 18.7	
	baz=144,slow=76,SNR=356						
H08S3	**Diego Garcia H**	**81.90**	**268**	T	T	15 33 15.6	
	baz=144,slow=76,SNR=587						
CMAR	**Chiang Mai Arr**	**88.85**	**305**	P	**P**	**14 03 53.0**	**+1.4**
	comp=Z,1.3nm,1.0s,baz=178,slow=3.6,SNR=6.3						
	comp=Z,1.3nm,1.0s						
MKAR	**Makanchi Array**	**119.91**	**309**	PKP	**PKPdf**	**14 09 44.9**	**-2.2**
	comp=Z,0.5nm,0.8s,baz=180,slow=1.0,SNR=4.2						
KURBB	**Kurchatov Arra**	**124.41**	**310**	PKP	**PKPdf**	**14 09 55.1**	**-0.4**
	comp=Z,1.2nm,1.1s,baz=146,slow=1.8,SNR=3.7						
AKASG	**Malin Array Be**	**149.85**	**284**	PKPbc	**PKPbc**	**14 10 46.7**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=85,slow=2.4,SNR=9.3						
FINES	**FINESS Array B**	**154.63**	**305**	PKPbc	**PKPbc**	**14 10 57.6**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=263,slow=3.3,SNR=4.2						
HFS	**Hagfors**	**160.65**	**301**	PKPab	**PKPab**	**14 11 37.7**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=73,slow=5.0,SNR=4.5						

*NEIC **24** 14:05:19.4±1.3, 2.03S±0.04×122.66E±0.08, h10km±1km, mb4.3/6, Error ellipse: s-maj=13.3km s-min=6.8km az=80.0*
*DJA **24** 14:05:20.3±0.8, 2°S±2°×12°3E±°, h12km±7km, M4.6/24, mB4.8/1, mb4.7/9, MLv4.5/24, Mw(mB)4.0/1*
*IDC **24** 14:05:22.2±3.2, 1.87S×122.40E, h49km±37km, mb3.4/8, mbtmp3.7/10, ML3.0/2, Error ellipse: s-maj=27.7km s-min=18.9km az=66.0*
ISC 24 14:05:21.0±0.6, 1.96S±0.05×122.60E±0.06, h35km, n45, σ1ş48/48, mb4.0/12, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.93**	**11**	P	Pn	14 05 39.1	+1.5
LUWI				S	Sn	14 05 51.6	+1.9
APSI	**Ampana**	**1.41**	**318**	P	Pn	14 05 44.3	+0.1
KDI	**Kendari**	**1.98**	**179**	P	Pn	14 05 53.6	+1.5
MRSI	**Marisa**	**2.51**	**345**	P	Pn	14 06 00.1	+0.8
KMSI	**Cibinong**	**2.87**	**29**	P	Pn	14 06 06.3	+2.0
PCI	**Palu**	**2.96**	**291**	P	Pn	14 06 05.8	+0.4
TTSI	**Tana Toraja**	**2.98**	**249**	P	Pn	14 06 05.4	-0.4
SANI	**Sanana**	**3.39**	**92**	P	Pn	14 06 13.1	+1.7
SPSI	**Sidrap Palu**	**3.46**	**235**	P	Pn	14 06 13.7	+1.4
SPSI				S	Sn	14 06 52.9	+0.8
BNSI	**Bone**	**3.47**	**226**	P	Pn	14 06 13.0	+0.4
BBSI	**Bau Bau**	**3.50**	**180**	P	Pn	14 06 14.0	+1.0
MPSI	**Mapaga**	**3.54**	**310**	P	Pn	14 06 14.1	+0.6
TOLI2	**Tolitoli**	**3.55**	**329**	Pn	Pn	14 06 15.4	+1.8
BKSI	**Bulukumba**	**4.15**	**216**	P	Pn	14 06 23.0	+1.1
KAPI	**Kappang**	**4.16**	**223**	Pn	Pn	14 06 22.7	+0.7
KAPI	**Kappang**	**4.16**	**223**	P	Pn	14 06 23.4	+1.4
	160nm,0.5s,baz=2.7,slow=3.4,SNR=50						
KAPI				S	Sn	14 07 08.9	-0.5
	114nm,0.6s,baz=52,slow=23,SNR=13						
BSSI	**Bau Bau, Buton**	**4.66**	**207**	P	Pn	14 06 29.4	+0.6
TNTI	**Ternate**	**5.49**	**60**	Pn	Pn	14 06 41.9	+1.6
TNTI	**Ternate**	**5.49**	**60**	P	Pn	14 06 42.3	+2.0
	0.2nm39nm,0.4s						
BKB	**Balikpapan**	**5.74**	**277**	P	Pn	14 06 44.8	+1.0
MMRI	**Maumere**	**6.64**	**183**	Pn	Pn	14 06 57.3	+1.2
EDFI	**Ende, Flores**	**6.80**	**188**	P	Pn	14 06 59.9	+1.4
	0.1nm28nm,0.6s						
SOEI	**Soe**	**7.92**	**168**	P	Pn	14 07 15.2	+1.4
	67nm,0.9s						
MYLDM	**Lahad Datu**	**8.19**	**330**		Pn	14 07 20.7	+3.3
BATI	**Baumata**	**8.26**	**173**	P	Pn	14 07 21.6	+3.2
	0.3nm,0.3s,baz=280,slow=18,SNR=1.4						
	8.9nm,0.5s						
FAKI	**Fak Fak**	**9.69**	**96**	Pn	Pn	14 07 37.5	-0.5
JAGI	**Jajag, Banyuwa**	**10.61**	**232**	Pn	Pn	14 07 51.5	+0.9
MTN	**Manton Dam**	**13.72**	**142**	Pn	Pn	14 08 30.8	-2.3
KNRA	**Kununurra**	**14.92**	**156**	Pn	Pn	14 08 48.4	-1.1
FITZ	**Fitzroy Crossi**	**16.31**	**170**	P	Pn	14 09 09.9	+2.4
	baz=356,slow=13,SNR=1.6						
	2.0nm,0.9s						
WB0	**Warramunga Arr**	**21.12**	**148**	P	**P**	**14 10 03.2**	**+0.3**
WB0				IAmb	IAmb	14 10 17.3	
	comp=Z,7.3nm,0.9s						
WRA	**Warramunga Arr**	**21.24**	**148**	P	**P**	**14 10 05.8**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=326,slow=11,SNR=5.3						
	comp=Z,0.3nm,0.6s						
WR8	**Warramunga Arr**	**21.33**	**148**	P	**P**	**14 10 04.3**	**-0.9**
WR8				IAmb	IAmb	14 10 32.9	
	comp=Z,22nm,1.5s						
RPSI	**Rantau Prapat**	**24.12**	**281**	P	**P**	**14 10 33.8**	**0.0**
RPSI				IAmb	IAmb	14 11 01.9	
	comp=Z,8.5nm,0.8s						
AS31	**Alice Springs**	**24.20**	**154**	P	**P**	**14 10 35.6**	**+1.2**
ASAR	**Alice Springs**	**24.20**	**154**	P	**P**	**14 10 34.6**	**+0.2**
ASAR	**Alice Springs**	**24.20**	**154**	P	**P**	**14 10 36.4**	**+2.0**
	comp=Z,0.6nm,0.6s,baz=334,slow=8.3,SNR=12						
	comp=Z,0.6nm,0.6s						
YULB	**Yu-li**	**25.23**	**357**	P	**P**	**14 10 45.1**	**+1.3**
YULB				IAmb	IAmb	14 10 48.8	
	comp=Z,8.3nm,1.0s						
SSLB	**Suanglung**	**25.64**	**357**	P	**P**	**14 10 49.6**	**+2.1**
MJAR	**Matsushiro Arr**	**40.97**	**19**	P	**P**	**14 12 59.8**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=204,slow=8.7,SNR=4.4						
	comp=Z,2.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**46.72**	**9**	P	**P**	**14 13 44.3**	**-2.2**
	comp=Z,1.9nm,0.7s,baz=193,slow=5.9,SNR=3.7						
	comp=Z,1.9nm,0.7s						
SONM	**Songino Array**	**51.58**	**346**	P	**P**	**14 14 23.0**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=178,slow=8.7,SNR=1.9						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**60.07**	**329**	P	**P**	**14 15 23.9**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=133,slow=6.3,SNR=2.3						
	comp=Z,0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**64.46**	**331**	P	**P**	**14 15 52.5**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=140,slow=5.8,SNR=2.4						
	comp=Z,0.2nm,0.5s						
QSPA	**South Pole Qui**	**87.98**	**180**	P	**P**	**14 18 06.7**	**-0.6**
	comp=Z,1.8nm,1.2s,baz=315,slow=2.9,SNR=2.5						
	comp=Z,1.8nm,1.2s						

*SJA **24** 14:16:36.2±0.8, 31.31S×68.73W, h110km±3km, ML3.8, MW3.9*
*IDC **24** 14:16:37.4±0.9, 31.34S×68.60W, h102km±6km, mb3.5/5, mbtmp3.8/9, MS4.2/1, Error ellipse: s-maj=31.3km s-min=18.0km az=94.0*
*NEIC **24** 14:16:37.6±1.4, 31.26S±0.06×68.71W±0.09, h107km±5km, mb4.6/7, Error ellipse: s-maj=13.0km s-min=7.7km az=58.0*
ISC 24 14:16:36.9±0.6, 31.30S±0.04×68.71W±0.03, h105km±5km, n81, σ1ş47/100, mb4.3/7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.20**	**99**	*e*P	Pn	14 16 52.0	+0.2
RTLL				*e*S	Sn	14 17 02.4	-0.5
ZON	**Zonda**	**0.25**	**174**	Pn	Pn	14 16 52.3	+0.3
ZON				Sn	Sn	14 17 03.9	+0.6
ZON	**Zonda**	**0.25**	**174**	*e*P	Pn	14 16 52.4	+0.4
ZON				*e*S	Sn	14 17 04.2	+0.9
ZON				IAML		14 17 04.6	
	comp=Z,2µm,0.6s						
SJA	**San Juan**	**0.26**	**151**	*e*P	Pn	14 16 52.7	+0.7
SJA				*e*S	Sn	14 17 05.4	+2.1
SJA				IAML		14 17 06.3	
	comp=Z,2µm,0.2s						
CFA	**Coronel Fontan**	**0.51**	**127**	P	Pn	14 16 53.9	+0.5
	comp=Z,678nm,0.3s,baz=291,slow=8.6,SNR=3763						
CFA				S	Sn	14 17 06.1	+0.5
	comp=Z,890nm,0.3s,baz=154,slow=21,SNR=22						
RTLS	**Leoncito**	**0.71**	**225**	*e*P	Pn	14 16 55.8	+0.6
RTLS				*e*S	Sn	14 17 10.0	+1.0
RTLS				IAML		14 17 10.6	
	comp=Z,6µm,0.2s						
ACCO	**Cerro Coronel**	**0.77**	**336**	*e*P	Pn	14 16 56.4	+0.6
ACCO				*e*S	Sn	14 17 10.3	+0.3
AUSP	**Uspallata**	**1.09**	**212**	*e*P	Pn	14 16 54.5	-4.5
AVFE	**Valle Fertil**	**1.25**	**60**	*e*P	Pn	14 17 01.4	+0.9
AVFE				*e*S	Sn	14 17 19.8	+1.4
AVFE				*e*S		14 17 20.0	
AVFE				IAML		14 17 20.1	
	comp=Z,2µm,0.3s						
ACHE	**Chepes**	**1.76**	**86**	*e*P	Pn	14 17 08.0	+1.3
ACHE				*e*S	Sn	14 17 24.5	-5.0
CO03	**El Pedregal**	**1.76**	**285**		Pn	14 17 07.9	+1.2
CO03				Sn	Sn	14 17 30.4	+1.0
CO01	**Juntas del Tor**	**1.78**	**317**		Pn	14 17 08.6	+1.5
CO01				Sn	Sn	14 17 31.6	+1.6
CO02	**Combarbal**	**1.96**	**272**		Pn	14 17 10.0	+0.6
CO02				Sn	Sn	14 17 34.4	+0.3
CO02	**Combarbal**	**1.96**	**272**	*e*P	Pn	14 17 10.3	+1.0
CO02				*e*S	Sn	14 17 27.0	-7.1
CO02				IAML		14 17 37.3	
	comp=Z,760nm,0.8s						
APLL	**PUNTA DE LOS L**	**2.08**	**65**	*e*P	Pn	14 17 11.8	+1.1
APLL				*e*S	Sn	14 17 37.0	+0.4
APLL				IAML		14 17 40.9	
	comp=Z,213nm,1.5s						
GO04	**Tololo Observa**	**2.12**	**301**		Pn	14 17 11.5	0.0
GO04				Sn	Sn	14 17 38.1	+0.3
GO04	**Tololo Observa**	**2.12**	**301**	*e*P	Pn	14 17 06.5	-4.9
GO04				*e*S	Sn	14 17 39.8	+2.0
VA03	**San Esteban**	**2.14**	**226**		Pn	14 17 12.8	+1.2
VA03				Sn	Sn	14 17 39.8	+1.7
ACLC	**CERRO LA CRUZ**	**2.41**	**40**	*e*P	Pn	14 17 15.9	+0.8
ACLC				*e*S	Sn	14 17 45.9	+1.5
ACLC				IAML		14 17 47.3	
	comp=Z,411nm,0.6s						
MT08	**Bocatoma Ro**	**2.41**	**207**		Pn	14 17 16.8	+1.6
MT08				Sn	Sn	14 17 48.4	+3.8
PEL	**Peldehue**	**2.49**	**222**		Pn	14 17 16.5	+0.5
VA06	**Catapilco**	**2.54**	**240**		Pn	14 17 16.1	-0.5
CO05	**La Serena**	**2.58**	**302**		Pn	14 17 16.9	-0.2
CO06	**Fray Jorge**	**2.59**	**283**		Pn	14 17 16.6	-0.7
VCA	**Vinchina**	**2.59**	**10**	*e*P	Pn	14 17 18.8	+1.3
VCA				*e*S	Sn	14 17 51.1	+2.5
VCA				*e*S		14 17 52.4	
VCA				IAML		14 17 53.8	
	comp=Z,600nm,0.2s						
MT16	**CCHEN**	**2.62**	**215**		Pn	14 17 19.0	+1.2
MT05	**Renca**	**2.71**	**219**		Pn	14 17 19.2	+0.3
MRA	**San Martin**	**2.78**	**115**	*e*P	Pn	14 17 21.2	+1.3
MRA				*e*S	Sn	14 17 53.2	+0.1
MRA				IAML		14 18 25.5	
	comp=Z,230nm,0.9s						
LMEL	**Las Melosas**	**2.84**	**206**		Pn	14 17 21.9	+1.1
MT02	**Curacav**	**2.84**	**226**		Pn	14 17 20.4	-0.2
LCO	**Las Campanas**	**2.86**	**322**		Pn	14 17 21.5	+0.4
VA01	**Torpederas**	**3.03**	**235**		Pn	14 17 22.1	-1.0
BO04	**La Punta**	**3.13**	**210**		Pn	14 17 24.8	+0.4
MT09	**Talagante**	**3.13**	**217**		Pn	14 17 24.1	-0.6
MT01	**Popeta**	**3.34**	**219**		Pn	14 17 26.1	-1.2
VA05	**Santo Domingo**	**3.40**	**225**		Pn	14 17 27.9	-0.2
TCA	**Tanti**	**3.52**	**92**	*e*P	Pn	14 17 30.6	+0.8
TCA				*e*S	Sn	14 18 00.5	-10
TCA				IAML		14 18 12.1	
	comp=Z,183nm,0.7s						
BO01	**Tunca**	**3.68**	**212**		Pn	14 17 30.9	-0.9
AC04	**Llanos de Chal**	**3.71**	**326**		Pn	14 17 31.8	-0.4
CYA	**Choya**	**3.80**	**42**	*e*P	Pn	14 17 33.6	0.0
CYA				*e*S	Sn	14 18 17.6	+0.2
CYA				IAML		14 18 18.7	
	comp=Z,140nm,0.6s						
BO02	**Sierra Bellavi**	**3.90**	**206**		Pn	14 17 35.5	+0.7
GO03	**Copiapo**	**3.92**	**340**		Pn	14 17 34.9	-0.3
GO03	**Copiapo**	**3.92**	**340**	*e*P	Pn	14 17 35.7	+0.5
GO03				*e*S	Sn	14 18 20.0	-0.4
AC06	**Mina Casimiro**	**4.18**	**339**		Pn	14 17 38.3	-0.3
AC02	**Maricunga**	**4.46**	**355**		Pn	14 17 44.2	+1.4
AC02	**Maricunga**	**4.46**	**355**	*e*P	Pn	14 17 44.5	+1.6
AC02				*e*S	Sn	14 18 35.9	+1.9
AC02				IAML		14 18 38.9	
	comp=Z,86nm,0.3s						
AC01	**Pan de Azucar**	**5.39**	**342**		Pn	14 17 54.4	-0.6
FSA	**Cafayete**	**5.70**	**26**	*e*P	Pn	14 17 54.0	-5.3
BI02	**San Fabin de**	**5.76**	**201**		Pn	14 17 58.6	-1.4
GO02	**Mina Guanaco**	**6.16**	**353**		Pn	14 18 05.0	-0.7
GO02	**Mina Guanaco**	**6.16**	**353**	*e*P	Pn	14 18 05.4	-0.3
GO02				*e*S	Sn	14 19 11.4	-3.5
SLA	**San Lorenzo**	**7.14**	**24**	*e*P	Pn	14 18 14.0	-4.8

n38,σ1923/49,mb3.6/16,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
JHG	**Hegura jima**	**1.54**	**84**	P	**Pn**	**14 26 49.5**	**+1.2**
JHG				*e*S	**S**	**14 27 31.8**	**+1.2**
JKG	**Kaga**	**1.79**	**143**	P	**Pn**	**14 26 50.3**	**+0.5**
JSZ	**Suzu**	**1.91**	**97**	*i* P	**Pn**	**14 26 51.7**	**+1.2**
JSZ				*e*S	**S**	**14 27 36.7**	**+2.3**
JWT	**Wachi**	**2.45**	**172**	*i* P	**Pn**	**14 26 54.7**	**+0.5**
JWT				S	**S**	**14 27 40.5**	**-0.7**
JYTA	**Yamagatataniai**	**2.54**	**146**	*i* P	**Pn**	**14 26 54.9**	**0.0**
JYTA				S	**S**	**14 27 41.4**	**-1.0**
JSD	**Sado**	**2.62**	**82**	P	**Pn**	**14 26 56.2**	**+0.9**
MAT	**Matsushiro**	**2.83**	**113**	P	**Pn**	**14 26 57.8**	**+0.6**
MAT				*e*S	**S**	**14 27 47.5**	**+1.0**
MJAR	**Matsushiro Arr**	**2.83**	**113**	P	**Pn**	**14 26 58.2**	**+1.1**
	136nm,0.7s,baz=293,slow=9.4,SNR=375						
JHS	**Saijyo**	**3.10**	**210**	P	**Pn**	**14 26 59.5**	**+0.1**
JWY	**Kouya**	**3.52**	**172**	P	**Pn**	**14 27 03.1**	**-0.1**
JWY				*e*S	**S**	**14 27 55.4**	**-2.1**
JRY	**Ryogami san**	**3.57**	**117**	P	**Pn**	**14 27 04.8**	**+1.2**
JIE	**Ise**	**3.59**	**157**	P	**Pn**	**14 27 04.3**	**+0.6**
JIE				*e*S	**S**	**14 27 58.0**	**-0.6**
JTNC	**Tanabenakahech**	**3.92**	**172**	*e*S	**S**	**14 28 02.0**	**-2.1**
JOD2	**Odawara 2**	**4.11**	**125**	*e*P	**Pn**	**14 27 09.4**	**+0.7**
JOD2				*e*S	**S**	**14 28 07.5**	**0.0**
JMK	**Ichinoseki**	**5.06**	**74**	P	**Pn**	**14 27 18.7**	**+0.6**
KSRS	**Korea Array**	**5.61**	**270**	P	**Pn**	**14 27 24.8**	**+0.8**
	17nm,0.7s,baz=92,slow=12,SNR=88						
JNU	**Nakatsue**	**5.67**	**217**	P	**Pn**	**14 27 24.8**	**0.0**
	5.8nm,0.8s,baz=29,slow=10,SNR=7.6						
BSO1	**Boso 1**	**5.73**	**120**	*i* P	**Pn**	**14 27 24.1**	**-0.6**
BSO1				*e*S	**S**	**14 28 34.4**	**-2.7**
JHJ	**Hachijo jima 2**	**6.03**	**138**	P	**Pn**	**14 27 29.6**	**+0.9**
	32nm,0.6s,baz=102,slow=13,SNR=0.9						
JHJ				S	**S**	**14 28 43.9**	**-0.2**
	52nm,0.3s,baz=254,slow=23,SNR=6.5						
USRK	**Ussuriysk Ar.**	**6.87**	**342**	P	**P**	**14 27 39.1**	**+0.6**
	22nm,0.5s,baz=170,slow=11,SNR=57						
ASAJ	**Asahikawa**	**8.61**	**40**	P	**Pn**	**14 27 57.5**	**-0.1**
	6.2nm,0.4s,baz=236,slow=11,SNR=29						
ASAJ				S	**S**	**14 29 32.2**	**-5.3**
	5.0nm,0.4s,baz=294,slow=32,SNR=13						
SONM	**Songino Array**	**23.17**	**305**	P	**P**	**14 30 29.2**	**-0.6**
	0.8nm,0.5s,baz=119,slow=9.2,SNR=5.5						
	0.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**36.83**	**249**	P	**P**	**14 32 28.4**	**-0.4**
	0.6nm,0.4s,baz=49,slow=8.0,SNR=5.4						
	0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**37.66**	**312**	P	**P**	**14 32 34.4**	**-0.9**
	0.8nm,0.3s,baz=103,slow=8.7,SNR=4.0						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**39.39**	**301**	P	**P**	**14 32 49.0**	**-0.6**
	0.7nm,0.5s,baz=89,slow=10,SNR=9.7						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**41.52**	**307**	P	**P**	**14 33 06.0**	**-0.7**
	1.8nm,0.6s,baz=86,slow=8.4,SNR=26						
	1.8nm,0.6s						
BVAR	**Borovoye Array**	**46.29**	**311**	P	**P**	**14 33 43.6**	**-0.5**
	1.2nm,0.4s,baz=83,slow=6.9,SNR=9.9						
	1.2nm,0.4s						
AKTO	**Aktyubinsk**	**54.36**	**310**	P	**P**	**14 34 44.1**	**+0.3**
	1.5nm,0.5s,baz=83,slow=11,SNR=7.1						
	1.5nm,0.5s						
WRA	**Warramunga Arr**	**57.35**	**181**	P	**P**	**14 35 04.7**	**-0.3**
	1.8nm,0.4s,baz=356,slow=7.6,SNR=51						
	1.8nm,0.4s						
ASAR	**Alice Springs**	**61.06**	**181**	P	**P**	**14 35 30.2**	**+0.1**
	0.7nm,0.4s,baz=1.7,slow=6.0,SNR=28						
	0.7nm,0.4s						
ARCES	**ARCESS Array B**	**61.50**	**338**	P	**P**	**14 35 32.7**	**+0.3**
	0.5nm,0.5s,baz=64,slow=8.2,SNR=4.8						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**65.75**	**330**	P	**P**	**14 36 00.2**	**+0.3**
	1.8nm,0.8s,baz=85,slow=4.6,SNR=9.4						
	1.8nm,0.8s						
STKA	**Stephens Creek**	**69.50**	**174**	P	**P**	**14 36 23.9**	**+0.5**
	0.9nm,0.5s,baz=346,slow=12,SNR=1.5						
	0.9nm,0.5s						
AKASG	**Malin Array Be**	**70.54**	**320**	P	**P**	**14 36 29.5**	**0.0**
	0.7nm,0.3s,baz=51,slow=6.2,SNR=8.3						
	0.7nm,0.3s						
HFS	**Hagfors**	**71.27**	**333**	P	**P**	**14 36 33.9**	**+0.3**
	1.5nm,0.5s,baz=72,slow=4.8,SNR=11						
	1.5nm,0.5s						
NB2	**NORSAR Subarra**	**71.48**	**335**	P	**P**	**14 36 35.0**	**0.0**
	comp=Z,0.4nm,0.5s,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**71.48**	**335**	P	**P**	**14 36 35.3**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=42,slow=6.2,SNR=5.0						
	comp=Z,0.7nm,0.6s						
EKA	**Eskdalemuir Ar**	**80.66**	**337**	P	**P**	**14 37 26.5**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=35,slow=6.1,SNR=1.6						
	comp=Z,0.3nm,0.4s						

*SOF **24** 14:29:31.8,41.19N±0.01×24.21E±0.01,h20km±1km, MD2.7/4*
*ATH **24** 14:29:31.0,41.20N×24.19E,h9km±1km,ML2.3/7,Manual Solution by E.Daskalaki First location: 2019/07/24 14:30:30, This location: 2019/07/24 14:33:19 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*SKO **24** 14:29:31.6,41.19N×24.28E,h0km,ML2.3*
*BEO **24** 14:29:32.0±0.9,41.05N×24.04E,h1km±8km,ML2.5/8*

ISC 24 14:29:31.9±1.0,41.14N±0.02×24.19E±0.02,h5km±9km, n40,σ0969/69,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
KVLA	**Kavala**	**0.25**	**144**	P	**Pg**	**14 29 37.2**	**+0.4**
KVLA				S	**Sg**	**14 29 40.9**	**+0.8**
KAVA	**Kavala**	**0.28**	**121**	P	**Pg**	**14 29 37.4**	**0.0**
KAVA				S	**Sg**	**14 29 41.5**	**+0.4**
SRS	**Serrai**	**0.46**	**267**	*i* Pg	**Pg**	**14 29 40.0**	**-0.7**
SRS				*i* Sg	**Sg**	**14 29 46.9**	**+0.3**
SRS	**Serrai**	**0.46**	**267**	P	**Pg**	**14 29 39.7**	**-1.0**
SRS				S	**Sg**	**14 29 46.0**	**-0.6**
MMB	**Musomishta**	**0.53**	**321**	Sg	**Sg**	**14 29 48.8**	**-0.1**
MMB				*i* Pg	**Pg**	**14 29 42.6**	**+0.6**
MMB	**Musomishta**	**0.53**	**321**	*i* Pg	**Pg**	**14 29 41.3**	**-0.7**
MMB				*i* Sg	**Sg**	**14 29 49.4**	**+0.5**
THAS	**Thassos island**	**0.67**	**143**	P	**Pg**	**14 29 44.7**	**0.0**
THAS				S	**Sg**	**14 29 53.6**	**+0.2**
RZN	**Rozhen**	**0.69**	**36**	Pg	**Pg**	**14 29 45.0**	**-0.2**
RZN				Sg	**Sg**	**14 29 54.2**	**+0.1**
SOH	**Sokhos**	**0.71**	**244**	*i* Pg	**Pg**	**14 29 45.8**	**+0.3**
SOH				*i* Sg	**Sb**	**14 29 56.4**	**-0.6**
SOH	**Sokhos**	**0.71**	**244**	P	**Pg**	**14 29 45.6**	**0.0**
SOH				S	**Sg**	**14 29 55.3**	**+0.5**
OUR	**Ouranopolis**	**0.82**	**191**	P	**Pg**	**14 29 47.8**	**+0.1**
OUR				S	**Sg**	**14 29 59.2**	**+0.9**
PLG	**Polygyros**	**0.95**	**217**	P	**Pb**	**14 29 50.8**	**-0.2**
KNT	**Kendrikon**	**0.98**	**272**	*i* Pg	**Pb**	**14 29 52.0**	**+0.6**
KNT				*i* Sg	**Sb**	**14 30 05.0**	**+0.4**
KNT	**Kendrikon**	**0.98**	**272**	P	**Pg**	**14 29 49.1**	**-1.6**
HORT	**Hortiatis**	**0.99**	**237**	P	**Pg**	**14 29 50.3**	**-0.6**
KDZ	**Kurdzhali**	**0.99**	**60**	P	**Pg**	**14 29 50.3**	**-0.6**
KDZ				Sg	**Sg**	**14 30 03.4**	**-0.4**
RDO	**Rodhopi**	**1.01**	**89**	P	**Pg**	**14 29 50.1**	**-1.2**
RDO				S	**Sg**	**14 30 04.6**	**+0.1**
THE	**Thessaloniki**	**1.06**	**242**	*i* Pg	**Pb**	**14 29 53.0**	**+0.3**
THE				*i* Sg	**Sb**	**14 30 06.8**	**-0.1**
KKB	**Krupnik**	**1.06**	**312**	*i* P	**Pg**	**14 29 51.5**	**-0.4**
KKB				S	**Sg**	**14 30 05.7**	**-0.4**
KKB	**Krupnik**	**1.06**	**312**	*i* Pg	**Pg**	**14 29 51.6**	**-0.8**
KKB				*i* Sg	**Sg**	**14 30 06.1**	**0.0**
PLD	**Plovdiv**	**1.09**	**22**	*i* Pg	**Pg**	**14 29 52.1**	**-0.7**
PLD	**Plovdiv**	**1.09**	**22**	*e*Pg	**Pg**	**14 29 52.9**	**+0.1**
PLD				*e*Sg	**Sn**	**14 30 09.1**	**-0.2**
SMTH	**Samothraki Isl**	**1.22**	**123**	P	**Pg**	**14 29 54.5**	**-0.7**
SMTH				S	**Sb**	**14 30 11.2**	**-0.3**
VAY	**Valandovo**	**1.24**	**279**	*i* Pg	**Pn**	**14 29 56.6**	**+0.7**
VAY				*i* Sg	**Sn**	**14 30 13.8**	**+0.9**
VAY				*e*Lg	Lg	14 30 15.1	
	comp=N,53nm,0.6s						
VAY				*e*Lg	Lg	14 30 16.5	
	comp=E,38nm,0.7s						
PGB	**Panagyurishte**	**1.37**	**359**	P	**Pn**	**14 29 57.0**	**-0.8**
PGB				Sg	**Sn**	**14 30 16.7**	**+0.3**
PLNA	**Plana**	**1.45**	**337**	*i* Pg	**Pn**	**14 29 59.5**	**+0.5**
PLNA				Sg	**Sn**	**14 30 19.3**	**+0.8**
LIA	**Limnos Island**	**1.45**	**148**	P	**Pn**	**14 29 57.8**	**-1.1**
VTS	**Vitosha**	**1.64**	**334**	P	**Pn**	**14 30 01.6**	**0.0**
VTS				S	**Sb**	**14 30 24.6**	**+0.8**
VTS	**Vitosha**	**1.64**	**334**	*e*Pn	**Pn**	**14 30 02.2**	**+0.6**
BOSS	**Bosilegrad**	**1.86**	**317**	*e*Pn	**Pb**	**14 30 06.3**	**-0.2**
BOSS				*e*Sn	**Sb**	**14 30 30.2**	**+0.1**
MPEP	**Malo Peshtene**	**2.24**	**352**	P	**Pn**	**14 30 11.3**	**+1.6**
THL	**Klokotos Trika**	**2.29**	**227**	P	**Pn**	**14 30 09.8**	**-0.6**
ZAPS	**Zavoj**	**2.43**	**332**	*e*Pn	**Pn**	**14 30 12.8**	**+0.5**
BARS	**Barje**	**2.44**	**314**	*e*Pn	**Pn**	**14 30 12.5**	**+0.1**
BARS				*e*Sn	**Sn**	**14 30 42.5**	**-0.2**
ZAGS	**Zajecar**	**3.04**	**332**	*e*Pn	**Pn**	**14 30 21.8**	**+1.1**
ZAGS				*e*Sn	**Sn**	**14 30 59.0**	**+1.6**
SELS	**Selova**	**3.09**	**313**	*e*Pn	**Pn**	**14 30 22.0**	**+0.6**
SELS				*e*Sn	**Sn**	**14 30 57.2**	**-1.5**
BOVS	**Bovan**	**3.10**	**324**	*e*Pn	**Pn**	**14 30 21.7**	**+0.2**
BORS2	**Bor- Borsko je**	**3.36**	**332**	*e*Sn	**Sn**	**14 31 05.0**	**-0.3**
GOCS	**Kraljevo Serbi**	**3.45**	**316**	*e*Pn	**Pn**	**14 30 25.3**	**-1.1**
GOCS				*e*Sn	**Sn**	**14 31 07.3**	**-0.5**
GRUS	**Gruza**	**3.76**	**318**	*e*Pn	**Pn**	**14 30 30.5**	**-0.1**
GRUS				*e*Sn	**Sn**	**14 31 16.2**	**+0.9**

*IDC **24** 14:35:18.0±2.1,35.60N×117.56W,h0km,mb3.4/1, mbtmp3.4/4,ML3.8/3, Error ellipse: s-maj=34.2km s-min=12.3km az=56.0*
*NEIC **24** 14:35:18.1±1.3,35.614N±0.007×117.592W±0.005, h5km±1km, Error ellipse: s-maj=1.1km s-min=0.5km az=205.0*
*PAS **24** 14:35:18.6±1.2,35.607N±0.008×117.604W±0.009, h4km±1km, Mwr3.8/4,ML3.8/152(NEIC), Error ellipse: s-maj=1.2km s-min=1.0km az=208.0*

ISC 24 14:35:18.7±0.8,35.60N±0.01×117.60W±0.02,h8km±5km, n150,σ080/176,Central California

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
GPO	**China Lake**	**0.07**	**314**		**Pg**	**14 35 20.3**	**-0.6**
GPO					**Sg**	**14 35 21.9**	**-0.4**
WSHM	**Spangler Hills**	**0.09**	**89**		**Pg**	**14 35 20.6**	**-0.4**
WSHM					**Sg**	**14 35 22.2**	**-0.4**
WSHM	**Spangler Hills**	**0.09**	**89**	IAML		14 35 22.4	
	49μm,0.6s						
WSHM				IAML		14 35 22.6	
	55μm,0.6s						
LRMC	**Laurel Mtn Rad**	**0.14**	**211**	Pg	**Pg**	**14 35 21.4**	**-0.4**
LRMC				IAML		14 35 24.3	
	comp=N,50μm,0.2s						
LRMC				IAML		14 35 25.1	
	comp=E,45μm,0.2s						
SRTC	**Snort**	**0.16**	**307**		**Pg**	**14 35 22.1**	**0.0**
SRTC					**Sg**	**14 35 25.2**	**+0.8**
CCCA	**Chr Cany lake**	**0.20**	**111**	Pg	**Pg**	**14 35 23.2**	**+0.4**
CLC	**China Lake**	**0.22**	**360**	Pg	**Pg**	**14 35 22.8**	**-0.4**
CLC				IAML		14 35 26.4	
	comp=E,20μm,0.5s						
TOW	**Tower One**	**0.25**	**327**		**Pg**	**14 35 23.8**	**+0.1**
WNMM	**Nine Mile Cany**	**0.35**	**314**		**Pg**	**14 35 25.3**	**-0.3**
DTP	**Desert Tortois**	**0.39**	**212**		**Pg**	**14 35 26.0**	**-0.3**
DTP					**Sg**	**14 35 31.2**	**-0.2**
WVPM	**Volcano Peak E**	**0.39**	**333**		**Pg**	**14 35 26.0**	**-0.5**
WVPM					**Sb**	**14 35 32.4**	**-1.9**
JRC2	**Joshua Ridge**	**0.42**	**336**		**Pg**	**14 35 26.5**	**-0.5**
JRC2					**Sg**	**14 35 32.7**	**+0.1**
WBSM	**Bird Springs**	**0.45**	**262**		**Pg**	**14 35 27.1**	**-0.3**
WBSM					**Sg**	**14 35 33.4**	**0.0**
WCSM	**Coso Springs S**	**0.45**	**342**		**Pg**	**14 35 27.0**	**-0.5**
WCSM					**Sg**	**14 35 33.4**	**0.0**
MPMC	**Manual Prospec**	**0.47**	**11**		**Pg**	**14 35 27.4**	**-0.4**
MPMC					**Sg**	**14 35 33.9**	**-0.1**
MPMC	**Manual Prospec**	**0.47**	**11**	IAML		14 35 36.0	
	comp=E,6μm,0.7s						
MPMC				IAML		14 35 36.1	
	comp=N,5μm,0.6s						
WRVM	**Rose V. Centra**	**0.47**	**330**		**Pg**	**14 35 27.4**	**-0.5**
WRVM					**Sg**	**14 35 34.0**	**-0.2**
WORM	**Onyx Ranch**	**0.54**	**281**		**Pg**	**14 35 28.5**	**-0.5**
WORM					**Sg**	**14 35 35.6**	**-0.5**
MFS	**McCloud Flat S**	**0.56**	**338**		**Pg**	**14 35 29.0**	**-0.6**
MFS					**Sg**	**14 35 36.6**	**-0.3**
CCAC	**Calif City Air**	**0.56**	**218**		**Pg**	**14 35 29.4**	**-0.2**
CCAC					**Sg**	**14 35 37.3**	**+0.4**
WHFM	**Hanning Flat**	**0.62**	**279**		**Pg**	**14 35 30.2**	**-0.5**
WHFM					**Sg**	**14 35 38.2**	**-0.7**
QSM	**Queen of Sheba**	**0.70**	**58**		**Pg**	**14 35 31.8**	**-0.3**
QSM					**Sg**	**14 35 41.3**	**+0.1**
QSM	**Queen of Sheba**	**0.70**	**58**	IAML		14 35 41.6	
	comp=E,8μm,0.5s						
QSM				IAML		14 35 45.2	
	comp=N,7μm,0.5s						
GSC	**Goldstone, Bar**	**0.71**	**114**		**Pg**	**14 35 32.3**	**-0.1**
GSC					**Sg**	**14 35 42.1**	**+0.4**
GSC	**Goldstone, Bar**	**0.71**	**114**	IAML		14 35 46.5	
	comp=E,8μm,0.5s						
ISA	**Isabella, Lake**	**0.72**	**275**		**Sg**	**14 35 41.5**	**-0.4**
ISA	**Isabella, Lake**	**0.72**	**275**		**Pg**	**14 35 31.9**	**-0.6**
HYS	**Haystack Butte**	**0.73**	**178**		**Pg**	**14 35 32.4**	**-0.4**
HYS					**Sg**	**14 35 42.2**	**-0.2**
EDW2	**Edwards Air Fo**	**0.79**	**205**		**Pg**	**14 35 33.2**	**-0.6**
EDW2					**Sg**	**14 35 43.4**	**-0.6**
WASM	**Alta Sierra Ca**	**0.80**	**280**		**Pg**	**14 35 33.4**	**-0.6**
WASM					**Sg**	**14 35 43.8**	**-0.6**
RRX	**Edison Barstow**	**0.87**	**146**		**Pg**	**14 35 35.4**	**-0.1**
TPO	**Tropico Hills**	**0.88**	**216**		**Sg**	**14 35 47.4**	**+0.2**
TPO	**Tropico Hills**	**0.88**	**216**		**Pg**	**14 35 35.1**	**-0.6**
CWC	**Cottonwood Cre**	**0.93**	**335**		**Sg**	**14 35 48.1**	**-0.6**
CWC	**Cottonwood Cre**	**0.93**	**335**		**Pg**	**14 35 35.7**	**-0.8**
SBB	**Saddle Back Bu**	**0.93**	**192**		**Pg**	**14 35 35.8**	**-0.7**
SBB					**Sg**	**14 35 47.8**	**-0.7**
GWY	**Greenwater Val**	**0.95**	**52**		**Pg**	**14 35 36.3**	**-0.7**
GWY					**Sg**	**14 35 49.3**	**-0.2**
GWY	**Greenwater Val**	**0.95**	**52**	IAML		14 35 52.6	
	comp=N,4μm,0.4s						
GWY				IAML		14 35 55.0	
	comp=E,4μm,0.5s						
CGO	**Cerro Gordo**	**0.96**	**350**		**Pg**	**14 35 36.3**	**-1.0**
TEJ	**El Tejon**	**0.96**	**248**		**Pg**	**14 35 36.2**	**-1.1**
FURC	**Furnace Creek,**	**1.05**	**34**		**Pb**	**14 35 38.4**	**-0.7**
FURC					**Sb**	**14 35 52.8**	**-0.2**
ADO	**Adelanto Recei**	**1.05**	**173**		**Pg**	**14 35 38.6**	**-0.3**
ADO					**Sn**	**14 35 55.0**	**+0.4**
VTV	**Victorville**	**1.06**	**168**		**Pg**	**14 35 38.4**	**-0.6**
VTV					**Sg**	**14 35 52.6**	**-0.2**
ALPC	**Antelope**	**1.08**	**213**		**Pg**	**14 35 38.5**	**-0.9**
ALPC					**Sb**	**14 35 54.3**	**+0.6**
TJR	**Tejon Ranch**	**1.10**	**239**		**Pg**	**14 35 38.4**	**-1.3**
TJR					**Sg**	**14 35 53.0**	**-1.0**
MAGC	**SCE Magundon P**	**1.11**	**258**		**Pg**	**14 35 39.3**	**-0.7**
MAGC					**Sb**	**14 35 54.5**	**-0.1**
THC	**Tehachapi Micr**	**1.11**	**232**		**Pg**	**14 35 38.8**	**-1.2**
ARVC	**Arvin**	**1.11**	**245**		**Pg**	**14 35 39.1**	**-0.9**
ARVC					**Sg**	**14 35 53.3**	**-1.2**
SHOC	**Shoshone, Teco**	**1.12**	**74**		**Sb**	**14 35 54.7**	**-0.1**
SPG2	**Springville 2**	**1.12**	**303**		**Pg**	**14 35 39.2**	**-1.1**
SPG2					**Sg**	**14 35 53.7**	**-1.2**
LEOC	**Leona Valley**	**1.12**	**211**		**Pg**	**14 35 39.2**	**-1.1**
LRRC	**Littlerock Res**	**1.13**	**198**		**Pg**	**14 35 39.5**	**-0.8**
LRRC					**Sn**	**14 35 56.2**	**-0.1**
HOLC	**Holcomb Ridge**	**1.16**	**190**		**Pg**	**14 35 40.1**	**-0.8**
CJV	**Casa Juvan**	**1.16**	**203**		**Pg**	**14 35 40.0**	**-0.9**
CJV					**Sb**	**14 35 57.0**	**+0.8**
JNH	**Juniper Hills**	**1.19**	**194**		**Pg**	**14 35 40.6**	**-0.8**
VES	**Vestal, Richgr**	**1.23**	**282**		**Pg**	**14 35 41.7**	**-0.7**
HEC	**Hector,Ludlow**	**1.29**	**126**		**Pg**	**14 35 42.2**	**-1.2**
DSCC	**Desert Studies**	**1.30**	**110**		**Pg**	**14 35 41.9**	**-1.8**
CHFC	**Chilao Flat St**	**1.31**	**196**		**Pg**	**14 35 42.7**	**-1.1**
OSI	**Osito Audit: C**	**1.35**	**224**		**Pn**	**14 35 43.3**	**-0.5**
OSI				IAML		14 36 03.9	
	comp=E,3μm,0.9s						
OSI				IAML		14 36 04.7	
	comp=N,2μm,0.7s						
BFSC	**Mount Baldy Ra**	**1.36**	**182**		**Pn**	**14 35 43.4**	**-0.6**
BFSC				IAML		14 36 03.8	
	comp=E,3μm,0.6s						
BFSC				IAML		14 36 04.0	
	comp=N,2μm,0.7s						
AMDNV	**Amargosa**	**1.37**	**51**		**Pn**	**14 35 43.0**	**-1.0**
TUQ	**Turquoise Moun**	**1.37**	**96**		**Pn**	**14 35 43.1**	**-1.1**
SSK	**Sunset Peak**	**1.39**	**183**		**Pn**	**14 35 44.2**	**-0.2**
SIL	**Silver Peak**	**1.40**	**153**		**Pn**	**14 35 44.0**	**-0.6**
GRAC	**Grapevine Rang**	**1.41**	**8**		**Pn**	**14 35 44.4**	**-0.2**
GRAC				IAML		14 35 51.8	
	comp=E,2μm,0.4s						
GRAC				IAML		14 35 52.0	
	comp=N,2μm,0.5s						
MWC	**Mount Wilson**	**1.42**	**196**		**Pn**	**14 35 44.9**	**0.0**
WCT	**Wildcat Mounta**	**1.43**	**33**		**Pn**	**14 35 44.2**	**-0.8**
WCT				IAML		14 36 08.7	
	comp=N,927nm,0.6s						
BBRC	**Big Bear Solar**	**1.44**	**157**		**Pg**	**14 35 46.2**	**-0.2**
SGV	**South Grapevin**	**1.45**	**18**		**Pn**	**14 35 44.9**	**-0.5**
DECC	**Green Verdugo**	**1.47**	**205**		**Pn**	**14 35 45.5**	**0.0**
PASC	**Pasadena Art C**	**1.50**	**199**		**Pn**	**14 35 45.6**	**-0.3**
PASC				IAML		14 36 09.4	
	comp=E,2μm,0.3s						
PASC				IAML		14 36 10.6	
	comp=N,2μm,0.5s						
OAT	**Oat Mountain**	**1.50**	**214**		**Pn**	**14 35 46.1**	**+0.1**
PSRC	**Puddingstone R**	**1.51**	**187**		**Pn**	**14 35 46.2**	**+0.2**
TIN	**Tinemaha, Big**	**1.54**	**341**		**Pg**	**14 35 47.6**	**-0.6**
GR2C	**Griffith Obs.**	**1.59**	**202**		**Pn**	**14 35 47.1**	**+0.1**
RVR	**Riverside**	**1.61**	**173**		**Pg**	**14 35 49.2**	**-0.4**
BLCC	**Black Canyon**	**1.61**	**214**		**Pn**	**14 35 47.6**	**+0.2**
VOG	**Valley Oaks Go**	**1.62**	**297**		**Pg**	**14 35 49.1**	**-0.7**
BCW	**Bitter Crk WRg**	**1.62**	**247**		**Pn**	**14 35 47.0**	**-0.7**
LCH	**Last Change Ra**	**1.63**	**359**		**Pn**	**14 35 47.6**	**-0.2**
DJJ	**Donna J Jenkin**	**1.65**	**206**		**Pn**	**14 35 47.6**	**-0.3**
GTM	**Goat Mountain**	**1.65**	**142**		**Pg**	**14 35 49.6**	**-0.8**
MTPC	**Mountain Pass**	**1.67**	**93**		**Pn**	**14 35 47.3**	**-1.0**
MTPC				IAML		14 36 12.4	
	comp=N,943nm,0.6s						
MTPC				IAML		14 36 12.6	
	comp=E,1μm,0.5s						
GMN	**Gold Mountain**	**1.72**	**9**		**Pn**	**14 35 48.7**	**-0.4**
CRGC	**Crocker Grade**	**1.77**	**259**		**Pg**	**14 35 51.8**	**-0.9**
GMRC	**Granite Mounta**	**1.78**	**117**		**Pn**	**14 35 48.4**	**-1.4**
DSP	**Deep Springs**	**1.79**	**350**		**Pn**	**14 35 49.8**	**-0.1**
BLAC	**Blackrock camp**	**1.82**	**147**		**Pn**	**14 35 49.4**	**-0.5**
BHPR	**Bishop**	**1.84**	**337**		**Pn**	**14 35 50.9**	**+0.1**
EW2	**E Wide Canyon**	**1.92**	**149**		**Pn**	**14 35 51.3**	**-0.4**
HMTC	**Hemet**	**1.95**	**165**		**Pn**	**14 35 51.8**	**-0.2**
PKM	**Mcpherson Peak**	**1.95**	**249**		**Pb**	**14 35 54.2**	**-0.3**
ELS	**Elsinore Mount**	**1.95**	**176**		**Pn**	**14 35 51.9**	**-0.2**
ELS				IAML		14 36 29.4	
	comp=N,1μm,0.6s						
ELS				IAML		14 36 29.5	
	comp=E,674nm,0.5s						
TPC	**Twentynine Pal**	**1.96**	**139**		**Pn**	**14 35 51.5**	**-0.7**
RPV	**Rancho Palos V**	**1.97**	**200**		**Pn**	**14 35 52.7**	**+0.4**
POB	**Polly Butte**	**1.99**	**164**		**Pn**	**14 35 52.5**	**-0.1**
DGR	**Domenigoni Val**	**2.00**	**166**		**Pn**	**14 35 52.6**	**-0.2**
MURC	**Murrieta**	**2.02**	**170**		**Pn**	**14 35 53.2**	**+0.2**
BACC	**Bachelor Mtn.**	**2.03**	**167**		**Pn**	**14 35 53.0**	**-0.2**
DANC	**Danby, Needles**	**2.05**	**117**		**Pn**	**14 35 52.4**	**-1.1**
BELC	**Belle Mtn. Jos**	**2.07**	**140**		**Pn**	**14 35 52.8**	**-0.9**
BELC				IAML		14 36 35.0	
	comp=N,971nm,0.7s						
BELC				IAML		14 36 35.7	
	comp=E,842nm,0.6s						
MZP	**Montezuma Peak**	**2.11**	**5**		**Pn**	**14 35 54.4**	**0.0**
CRY	**Cary Ranch**	**2.15**	**160**		**Pn**	**14 35 54.9**	**+0.1**
PMD	**Palm Desert**	**2.19**	**152**		**Pn**	**14 35 53.8**	**-1.5**
PMD				IAML		14 36 30.3	
	comp=E,425nm,0.7s						
PFO	**Pinyon Flats O**	**2.19**	**154**		**Pn**	**14 35 54.7**	**-0.8**
PFO				IAML		14 36 31.6	
	comp=E,536nm,0.9s						
SNDA	**J Saunders Pla**	**2.20**	**158**		**Pn**	**14 35 55.5**	**0.0**
V12A	**Nelson**	**2.24**	**86**		**Pn**	**14 35 55.0**	**-1.1**
V12

comp=E,101nm,1.0s
WUAZ Wupatki 5.07 89 Pn 14 36 35.7 +0.6
WUAZ IAML 14 38 10.7
comp=E,101nm,0.7s
WUAZ IAML 14 38 12.2
comp=E,112nm,1.1s
X16A Lo Mia Camp, P 5.19 101 Pn 14 36 36.5 -0.2
X16A IAML 14 38 05.7
comp=E,42nm,1.1s
214A Organ Pipe Nat 5.39 131 Pn 14 36 37.3 -2.1
ELK Elko 5.46 19 Pn 14 36 40.9 +0.4
HVU Hansel Valley 7.23 30 Pn **Pn 14 37 05.5 +0.7**
BSUT Blindstream Ca 7.30 46 Pn **Pn 14 37 08.4 +2.5**
PDAR Pinedale Array 9.49 39 Pn **Pn 14 37 38.9 +3.1**
comp=E,0.1nm,0.3s,baz=222,slow=18,SNR=6.6
PDAR Lg Lg 14 40 11.1
baz=223,slow=30
comp=E,1.0nm,0.9s
TXAR Lajitas Array 13.31 114 Pn **Pn 14 38 29.7 +1.7**
comp=E,0.5nm,0.3s,baz=292,slow=13,SNR=20
comp=E,0.7nm,0.3s
ILAR Eielson Array 34.09 338 P **P 14 42 05.0 +1.7**
comp=E,0.5nm,0.8s,baz=141,slow=10,SNR=5.7
comp=E,0.5nm,0.8s

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*IDC **24** 14:36:49.5±0.6,20˚.95N×119˚.90E, h0km, mb4.1/20, mbtmp4.1/24, ML3.8/4, MS3.5/9, Error ellipse: s-maj=18.5km s-min=13.2km az=73.0*
*JMA **24** 14:36:51.6±0.3,21˚N±1˚×12˚0E±˚, h34km, MV4.5/21, TAIWAN REGION*
*NEIC **24** 14:36:52.5±2.1,21˚.08N±0˚.08×120˚.05E±0˚.09, h10km±1km, mb4.6/46, Error ellipse: s-maj=14.7km s-min=13.8km az=120.0*
*TAP **24** 14:36:53.3,21˚.16N×120˚.01E, h83km, ML4.2, D*
*BJI **24** 14:36:54.7,21˚.54N×119˚.92E, h10km, mB4.5/6, mb4.3/13, ML3.9/3, Ms4.1/10, Ms7 4.0/10*
ISC 24 14:36:50.6±1.7,**21˚.10N**±0˚.04×**119˚.92E**±0˚.03,**h5**km±10km, **n239**,σ1**§46**/321,**mb4.4**/43,**MS3.6**/9,**12C**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s ISC
HEN	**Hengchun**	**1.18**	**40**	P		**Pn**	**14 37 14.4 +0.7**
HEN				S		**Sn**	**14 37 29.3 -0.8**
TWKBT	**Hengchun**	**1.18**	**45**	⇑*i*P		**Pn**	**14 37 13.8 +0.1**
TWKBT				S		**Sn**	**14 37 29.1 -1.0**
TSEB	**Hengchuen, Pin**	**1.21**	**49**	⇑*i*P		**Pn**	**14 37 14.1 0.0**
TSEB				S		**Sn**	**14 37 29.6 -1.3**
SMST	**Manzhou Townsh**	**1.25**	**43**	P		**Pn**	**14 37 15.1 +0.4**
TWP	**Hsiaoliuchiu**	**1.30**	**18**	P		**Pg**	**14 37 16.4 +0.9**
TWP				S		**Sn**	**14 37 33.7 +0.4**
WLCH	**Liuqiu**	**1.31**	**19**	S		**Sn**	**14 37 34.6 +1.1**
SLIU	**Shizi**	**1.38**	**36**	*i* P		**Pg**	**14 37 16.4 -0.6**
SLIU				S		**Sn**	**14 37 33.8 -1.3**
SCZT	**Fangliau**	**1.42**	**27**	⇑*i*P		**Pb**	**14 37 17.0 -0.5**
SCZT				S		**Sg**	**14 37 35.3 -0.9**
TAWH	**Dawu Township**	**1.52**	**36**	P		**Pb**	**14 37 18.5 -0.8**
EAST	**Anshuo**	**1.54**	**34**	⇑*i*P		**Pb**	**14 37 18.5 -0.8**
EAST				S		**Sb**	**14 37 37.9 -1.5**
TAW	**Tawu**	**1.54**	**36**	⇑*i*P		**Pb**	**14 37 18.9 -0.7**
TAW				S		**Sn**	**14 37 37.3 -1.9**
WSSB	**Gushan**	**1.56**	**12**	*e*P		**Pb**	**14 37 20.1 +0.1**
WSSB				S		**Sb**	**14 37 39.9 -0.2**
MASBT	**Mashibuluo**	**1.64**	**24**	⇑*i*P		**Pn**	**14 37 19.9 -0.2**
MASBT				*i* S		**Sn**	**14 37 39.7 -1.9**
SNJT	**Kaohsiung City**	**1.69**	**13**	P		**Pb**	**14 37 21.8 -0.3**
SNJT				S		**Sn**	**14 37 42.1 -0.7**
SGLT	**Jiouru**	**1.70**	**18**	P		**Pb**	**14 37 21.8 -0.5**
SGLT				S		**Sb**	**14 37 43.5 -0.5**
TSMG	**Majia**	**1.73**	**23**	P		**Pn**	**14 37 21.5 +0.2**
TSMG				S		**Sn**	**14 37 42.1 -1.7**
SSD	**Sandimen**	**1.76**	**22**	⇑*i*P		**Pn**	**14 37 21.8 0.0**
SSD				S		**Sn**	**14 37 42.6 -2.0**
ECL	**Taimali**	**1.77**	**33**	⇑*i*P		**Pn**	**14 37 21.9 0.0**
ECL				S		**Sn**	**14 37 42.1 -2.7**
TWM1	**Shoushan**	**1.77**	**15**	P		**Pb**	**14 37 23.1 -0.5**
LAY	**Lan-yu**	**1.78**	**58**	P		**Pn**	**14 37 21.2 -0.9**
LYUB	**Lan-yu**	**1.79**	**60**	⇑*i*P		**Pn**	**14 37 20.4 -1.7**
SCST	**Cishan**	**1.85**	**17**	P		**Pn**	**14 37 23.7 +0.7**
TTN	**Taitung**	**2.00**	**34**	P		**Pb**	**14 37 25.9 -1.5**
CHN3	**Shinhua**	**2.00**	**12**	S		**Sn**	**14 37 50.9 +0.2**
TWG	**Pinlang**	**2.01**	**32**			**Pn**	**14 37 25.0 -0.3**
TWG	**Pinlang**	**2.01**	**32**	⇑*i*P		**Pn**	**14 37 25.2 0.0**
TWG				S		**Sn**	**14 37 49.5 -1.4**
TWGBT	**Beinan**	**2.02**	**32**	P		**Pn**	**14 37 24.9 -0.4**
TWGBT	**Beinan**	**2.02**	**32**	*i* P		**Pn**	**14 37 25.3 0.0**
TWGBT				S		**Sn**	**14 37 49.7 -1.3**
TSCK	**Chigu Township**	**2.04**	**4**	*e*P		**Pn**	**14 37 26.0 +0.4**
TSCK				S		**Sn**	**14 37 50.0 -1.5**
SSHA	**Shanhua**	**2.05**	**9**	S		**Sn**	**14 37 51.1 -0.6**
SCLT	**Jiali**	**2.08**	**7**	S		**Sn**	**14 37 50.6 -1.8**
LONT	**Longtian**	**2.12**	**32**	*e*P		**Pn**	**14 37 27.0 +0.4**
LONT				*e*S		**Sn**	**14 37 52.1 -1.2**
LDUT	**Ludao**	**2.12**	**42**	*e*P		**Pn**	**14 37 25.9 -0.8**
LDUT				*e*S		**Sn**	**14 37 51.9 -1.6**
VCHM	**Qimei**	**2.14**	**348**	P		**Pn**	**14 37 26.1 -0.9**
CHN1	**Nanshi**	**2.15**	**15**	⇑P		**Pn**	**14 37 27.2 +0.1**
CHN1				*e*S		**Sn**	**14 37 51.8 -2.4**
WDGT	**Dungji**	**2.16**	**354**	*e*P		**Pn**	**14 37 27.8 +0.5**
WDGT				*e*S		**Sn**	**14 37 51.5 -2.9**
SNST	**Tainan City**	**2.17**	**14**	*e*P		**Pn**	**14 37 27.6 +0.1**
STYH	**Taoyuan**	**2.20**	**21**	*e*P		**Pn**	**14 37 28.3 +0.4**
STYH				*e*S		**Sn**	**14 37 53.8 -1.7**
TWK	**Hsinying**	**2.21**	**14**	*e*P		**Pn**	**14 37 28.2 +0.1**
TWK				*e*S		**Sn**	**14 37 53.9 -2.0**
WTP	**Ta-pu**	**2.23**	**17**	*e*P		**Pn**	**14 37 28.3 0.0**
WTP				*e*S		**Sn**	**14 37 54.4 -1.8**
CHN8	**Yiju**	**2.25**	**7**	*e*P		**Pn**	**14 37 28.1 -0.3**
CHN8				*e*S		**Sn**	**14 37 55.0 -1.6**
EDH	**Donghe**	**2.26**	**34**	P		**Pn**	**14 37 28.9 +0.3**
ICHU	**Yijhu**	**2.27**	**8**	*e*S		**Sn**	**14 37 55.6 -1.6**
TPUB	**Ta-pu**	**2.28**	**17**			**Pn**	**14 37 28.4 -0.6**
TPUB	**Ta-pu**	**2.28**	**17**	P		**Pn**	**14 37 28.9 -0.1**
TPUB	**Ta-pu**	**2.28**	**17**	*e*P		**Pn**	**14 37 28.9 -0.1**
TPUB				*e*S		**Sn**	**14 37 55.1 -2.4**
ELDTW	**Lidau**	**2.31**	**26**	*e*P		**Pn**	**14 37 29.8 +0.3**
ECS	**Chishang**	**2.32**	**31**	*e*P		**Pn**	**14 37 29.8 +0.4**
EHD	**Haiduan**	**2.36**	**30**	*e*P		**Pn**	**14 37 30.3 +0.3**
CHKT	**Chengkung**	**2.39**	**34**	*i* P		**Pn**	**14 37 31.1 +0.6**
CHKT				*e*S		**Sn**	**14 37 58.8 -1.4**
WCKO	**Fanlu**	**2.41**	**15**	*e*P		**Pn**	**14 37 30.5 -0.2**
WCKO				*e*S		**Sn**	**14 37 58.5 -2.1**
PHUB	**P'eng-hu**	**2.42**	**352**	*e*P		**Pn**	**14 37 30.1 -0.8**
PHUB				*e*S		**Sn**	**14 37 58.1 -2.7**
WSL	**Shuilin Townsh**	**2.42**	**7**	*e*P		**Pn**	**14 37 30.7 -0.2**
WSL				*e*S		**Sn**	**14 37 59.8 -1.1**
CHY	**Chiayi**	**2.43**	**11**	*e*S		**Sn**	**14 37 58.9 -2.2**
FULB	**Fuli**	**2.44**	**31**	*e*P		**Pn**	**14 37 32.2 +1.0**
FULB				*e*S		**Sn**	**14 38 01.6 +0.1**
PNG	**Penghu**	**2.48**	**352**	*e*P		**Pn**	**14 37 30.8 -0.8**
PNG				*e*S		**Sn**	**14 37 59.4 -2.9**
CHKH	**Chenggong**	**2.49**	**33**	*i* P		**Pn**	**14 37 32.3 +0.6**
CHKH				*i* S		**Sn**	**14 38 02.2 -0.3**
ALS	**Alishan**	**2.53**	**19**	*e*P		**Pn**	**14 37 32.8 +0.1**
ALS				*e*S		**Sn**	**14 38 02.2 -1.8**
WSF	**Szhu**	**2.54**	**6**	*e*P		**Pn**	**14 37 33.1 +0.7**
WSF				*e*S		**Sn**	**14 38 01.2 -2.5**
TWF1	**Yuli**	**2.57**	**29**	*e*P		**Pn**	**14 37 33.4 +0.4**
TWF1				*e*S		**Sn**	**14 38 03.6 -1.1**
WTK	**Tuku**	**2.61**	**9**	*e*P		**Pn**	**14 37 33.4 0.0**
WTK				S		**Sn**	**14 38 03.1 -2.4**
YULB	**Yu-li**	**2.61**	**29**			**Pn**	**14 37 33.5 0.0**
YULB	**Yu-li**	**2.61**	**29**	P		**Pn**	**14 37 34.3 +0.8**
YULB	**Yu-li**	**2.61**	**29**	*e*P		**Pn**	**14 37 33.7 +0.2**
YULB				*e*S		**Sn**	**14 38 04.5 -1.1**
ECBN	**Changbin**	**2.62**	**32**	*e*P		**Pn**	**14 37 33.5 -0.1**
ECBN				*e*S		**Sn**	**14 38 05.3 -0.4**
WDLH	**Douliu**	**2.63**	**12**	*e*P		**Pn**	**14 37 33.6 -0.2**
WDLH				*e*S		**Sn**	**14 38 04.3 -1.9**
WGK	**Gukeng**	**2.64**	**13**	*e*P		**Pn**	**14 37 34.1 +0.3**
WGK				*e*S		**Sn**	**14 38 04.6 -1.6**
EHY	**Hungye**	**2.72**	**28**	*e*P		**Pn**	**14 37 35.7 +0.8**
EHYH	**Wanrong**	**2.72**	**29**	*e*P		**Pn**	**14 37 35.8 +0.8**
WHYT	**Xinyi Township**	**2.72**	**18**	*e*P		**Pn**	**14 37 35.0 0.0**
WHYT				*e*S		**Sn**	**14 38 06.0 -2.4**
WJS	**Zhushan**	**2.81**	**15**	*e*P		**Pn**	**14 37 36.9 +0.7**
WJS				*e*S		**Sn**	**14 38 09.1 -1.3**
SSLB	**Suanglung**	**2.84**	**19**			**Pn**	**14 37 36.6 0.0**
SSLB	**Suanglung**	**2.84**	**19**	P		**Pn**	**14 37 36.9 +0.3**
SSLB	**Suanglung**	**2.84**	**19**	*e*P		**Pn**	**14 37 37.1 +0.5**
SSLB				*e*S		**Sn**	**14 38 09.3 -1.9**
WNT	**Mingjian**	**2.85**	**14**	*e*P		**Pn**	**14 37 36.5 -0.2**
WNT				*e*S		**Sn**	**14 38 09.1 -2.4**
VWDT	**VWDT**	**2.87**	**23**	*e*P		**Pn**	**14 37 37.9 +0.9**
EGFH	**Guangfu**	**2.91**	**28**	*e*P		**Pn**	**14 37 39.3 +1.7**
EGFH				*e*S		**Sn**	**14 38 11.5 -1.4**
SMLT	**Sun Moon Lake**	**2.91**	**18**	P		**Pn**	**14 37 38.0 +0.3**
SMLT				*e*S		**Sn**	**14 38 12.3 -0.9**
WARBT	**Fenglin Townsh**	**2.93**	**27**	*e*P		**Pn**	**14 37 38.3 +0.4**
WCHH	**Zhanghua**	**3.02**	**11**	*e*P		**Pn**	**14 37 39.2 +0.2**
WCHH				*e*S		**Sn**	**14 38 14.5 -1.2**
ESL	**Shilin**	**3.04**	**27**	*e*P		**Pn**	**14 37 40.3 +1.0**
ESL				*e*S		**Sn**	**14 38 13.5 -2.7**
OWD	**Renai**	**3.06**	**22**	*e*P		**Pn**	**14 37 40.6 +0.7**
SHUL	**Shoufeng**	**3.07**	**29**	*e*P		**Pn**	**14 37 40.6 +0.8**
WCS	**Beigang Elemen**	**3.08**	**17**	*e*P		**Pn**	**14 37 40.6 +0.7**
WCS				*e*S		**Sn**	**14 38 14.5 -2.6**
WUSB	**Renai**	**3.08**	**21**	*e*P		**Pn**	**14 37 40.4 +0.4**
WUSB				*e*S		**Sn**	**14 38 14.9 -2.4**
TCU	**Taichung**	**3.11**	**13**	*e*P		**Pn**	**14 37 41.1 +0.8**
TCU				*e*S		**Sn**	**14 38 16.3 -1.6**
TEYL	**Yanliau Villag**	**3.16**	**29**	*e*S		**Sn**	**14 38 19.1 +0.1**
ETM	**Tongmen**	**3.20**	**27**	*e*P		**Pn**	**14 37 42.4 +0.9**
LXIB	**Xiulin Townshi**	**3.21**	**25**	*e*P		**Pn**	**14 37 42.7 +0.8**
LXIB				*e*S		**Sn**	**14 38 18.6 -2.1**
WHF	**Hehuan Shan**	**3.27**	**22**	*e*P		**Pn**	**14 37 43.5 +0.6**
WHF				*e*S		**Sn**	**14 38 22.8 +0.3**
WHP	**Taichung City**	**3.30**	**16**	*e*P		**Pn**	**14 37 43.6 +0.6**
WHP				*e*S		**Sn**	**14 38 20.8 -1.8**
TWQ1	**Liyutan**	**3.32**	**14**	*e*P		**Pn**	**14 37 44.7 +1.4**
TWQ1				*e*S		**Sn**	**14 38 21.2 -2.0**
TDCB	**Techi**	**3.34**	**20**	*e*P		**Pn**	**14 37 44.1 +0.5**
TDCB				*e*S		**Sn**	**14 38 21.6 -2.1**
TWD	**Chiawan**	**3.34**	**27**	*e*P		**Pn**	**14 37 44.0 +0.5**
TWT	**Tachien**	**3.34**	**20**	*e*P		**Pn**	**14 37 44.2 +0.6**
TWT				*e*S		**Sn**	**14 38 21.3 -2.6**
NSY	**Sanyi**	**3.39**	**13**	*e*P		**Pn**	**14 37 45.2 +1.0**
ETLH	**Xiulin Townshi**	**3.41**	**25**	*e*P		**Pn**	**14 37 45.4 +0.8**
NACB	**Ninganchiao**	**3.42**	**27**			**Pn**	**14 37 44.5 -0.2**
NACB	**Ninganchiao**	**3.42**	**27**	P		**Pn**	**14 37 44.6 0.0**
NACB	**Ninganchiao**	**3.42**	**27**	*e*P		**Pn**	**14 37 44.5 -0.2**
ZPLA	**Ao Xicun**	**3.46**	**325**	*e*P		**Pn**	**14 37 44.8 -0.3**
ZPLA				*e*S		**Sn**	**14 38 23.0 -3.4**
DSXP	**Dongshan**	**3.47**	**319**	*e*P		**Pn**	**14 37 45.0 -0.3**
DSXP				*e*S		**Sn**	**14 38 23.9 -3.0**
KNM	**Kinmen**	**3.57**	**338**	*e*P		**Pn**	**14 37 47.1 +0.5**
KNM				*e*S		**Sn**	**14 38 26.8 -2.5**
NNSB	**Datong**	**3.57**	**22**	*e*P		**Pn**	**14 37 48.0 +1.2**
NNSB				*e*S		**Sn**	**14 38 28.2 -1.3**
NNS	**Nan Shan**	**3.58**	**22**	*e*P		**Pn**	**14 37 48.2 +1.3**
KNMB	**Chin-men Tao**	**3.63**	**337**	Pn		**Pn**	**14 37 49.0 +1.5**
KNMB	**Chin-men Tao**	**3.63**	**337**	*e*P		**Pn**	**14 37 46.9 -0.6**
KNMB				*e*S		**Sn**	**14 38 26.7 -4.1**
NSTT	**Nanjuang**	**3.65**	**16**	*e*P		**Pn**	**14 37 48.3 +0.5**
NSTT				*e*S		**Sn**	**14 38 28.5 -2.7**
LIOB	**Emei**	**3.67**	**16**	*e*P		**Pn**	**14 37 48.7 +0.7**
LIOB				*e*S		**Sn**	**14 38 28.2 -3.5**
NFF	**Wufeng Townshi**	**3.68**	**17**	*e*P		**Pn**	**14 37 48.5 +0.2**
ENA	**Nanau**	**3.71**	**27**	*e*P		**Pn**	**14 37 48.6 0.0**
EOS4	**EOS4**	**3.73**	**36**	*e*P		**Pn**	**14 37 50.3 +1.7**
EOS4				*e*S		**Sn**	**14 38 30.4 -2.3**
EWUT	**Wuta**	**3.74**	**27**	*e*P		**Pn**	**14 37 50.3 +1.3**
YHNB	**Yeheng**	**3.79**	**20**			**Pn**	**14 37 50.4 +0.6**
YHNB	**Yeheng**	**3.79**	**20**	P		**Pn**	**14 37 51.1 +1.3**
YHNB	**Yeheng**	**3.79**	**20**	*e*P		**Pn**	**14 37 50.6 +0.8**
NSK	**Sanguang**	**3.79**	**20**	*e*P		**Pn**	**14 37 50.1 +0.3**
ENTT	**Nioudou**	**3.83**	**23**	*e*P		**Pn**	**14 37 51.6 +1.3**
KSHI	**Guanxi Townshi**	**3.83**	**17**	*e*P		**Pn**	**14 37 51.0 +0.7**
KSHI				*e*S		**Sn**	**14 38 34.0 -1.7**
EOS3	**EOS3**	**3.86**	**34**	*e*P		**Pn**	**14 37 51.9 +1.3**
VWUC	**VWUC**	**3.89**	**354**	*e*P		**Pn**	**14 37 51.0 -0.1**
VWUC				*e*S		**Sn**	**14 38 33.0 -4.3**
TWC	**Suao**	**3.92**	**27**	*e*P		**Pn**	**14 37 52.6 +1.2**
EOS2	**EOS2**	**3.93**	**32**	*e*P		**Pn**	**14 37 53.3 +1.8**
NWLT	**Wulai**	**3.94**	**21**	*e*P		**Pn**	**14 37 52.6 +0.8**
NWLT				*e*S		**Sn**	**14 38 35.8 -2.5**
TWE	**Neicheng**	**3.94**	**24**	*e*P		**Pn**	**14 37 53.5 +1.7**
FUSB	**Fushanzhiwuyua**	**3.95**	**23**	*e*P		**Pn**	**14 37 53.0 +1.1**
PTMZ	**Houxiangcun**	**3.99**	**349**	*e*P		**Pn**	**14 37 52.8 +0.4**
PTMZ				*e*S		**Sn**	**14 38 35.4 -4.1**
TATO	**Taipei**	**4.11**	**20**			**Pn**	**14 37 55.4 +1.2**
AXDP	**Jialang**	**4.18**	**335**	*e*P		**Pn**	**14 37 54.6 -0.5**
AXDP				*e*S		**Sn**	**14 38 40.2 -4.2**
TIPB	**Shuangxi**	**4.23**	**24**	*e*P		**Pn**	**14 37 56.8 +1.0**
ZUZH	**Zhuzihu**	**4.31**	**20**	*e*P		**Pn**	**14 37 56.1 -0.4**
SXI1	**Grass Mountain**	**4.36**	**24**	*e*P		**Pn**	**14 37 58.7 +1.1**
YOJ	**Yonaguni jima**	**4.39**	**40**			**Pn**	**14 37 58.6 +0.7**
YOJ	**Yonaguni jima**	**4.39**	**40**	P		**Pn**	**14 37 59.4 +1.4**
YOJ	**Yonaguni jima**	**4.39**	**40**	*e*P		**Pn**	**14 37 59.5 +1.6**
YOJ				*e*S		**Sn**	**14 38 49.1 -0.4**
YOJ	**Yonaguni jima**	**4.39**	**40**	*e*P		**Pn**	**14 37 58.7 +0.7**
YOJ				*e*S		**Sn**	**14 38 48.6 -0.9**
HATJ	**Hateruma jima**	**4.64**	**50**	*e*P		**Pn**	**14 38 01.6 +0.2**
HATJ				*e*S		**Sn**	**14 38 51.2 -4.4**
IRIF	**Iriomote-Funau**	**4.76**	**47**	P		**Pn**	**14 38 03.9 +0.9**
JKRS	**Kuro-shima**	**4.90**	**50**	*i* P		**Pn**	**14 38 05.5 +0.6**
MATB	**Ma-tsu**	**5.02**	**0**	*e*P		**Pn**	**14 38 06.7 0.0**
MATB				*e*S		**Sn**	**14 39 00.2 -4.9**
MHZQ	**Yeshan**	**5.04**	**351**	*e*P		**Pn**	**14 38 07.3 +0.4**
JIJ	**Ishigaki jima**	**5.07**	**49**	P		**Pn**	**14 38 07.6 +0.3**
JIJ				*e*S		**Sn**	**14 39 03.0 -3.3**
JISG	**Ishigakijimahi**	**5.33**	**49**	P		**Pn**	**14 38 10.7 -0.1**
JISG				*e*S		**Sn**	**14 39 08.9 -3.8**
JTJ	**Tarama**	**5.64**	**50**	P		**Pn**	**14 38 15.5 +0.4**
JTJ				*e*S		**Sn**	**14 39 18.2 -2.1**
XPSS	**Dashiqiu**	**5.80**	**2**	*e*P		**Pn**	**14 38 17.5 +0.1**
XPSS				*e*S		**Sn**	**14 39 18.5 -5.8**
JIRB	**Irabujima**	**6.09**	**52**	P		**Pn**	**14 38 21.1 -0.3**
JIRB				*e*S		**Sn**	**14 39 28.8 -2.8**
JMJ2	**Miyako jima3**	**6.16**	**53**	*e*P		**Pn**	**14 38 22.4 +0.2**
JMJ2				*e*S		**Sn**	**14 39 30.3 -2.8**
JIKM	**Ikemajima**	**6.21**	**51**	*e*P		**Pn**	**14 38 22.9 0.0**
JIKM				*e*S		**Sn**	**14 39 32.1 -2.2**
JOGS	**Gusukube**	**6.23**	**53**	*e*P		**Pn**	**14 38 23.7 +0.5**
JOW	**Kunigami**	**9.53**	**52**	Pn		**Pn**	**14 39 07.6 -0.9**
	1.6nm,0.3s,baz=211,slow=11,SNR=11 4.1nm,0.4s						
JOW	**Kunigami**	**9.53**	**52**	*e*P		**Pn**	**14 39 07.7 -0.9**
QIZ	**Qiongzhong**	**9.70**	**259**	P		Pn	14 39 22.6 +12
QIZ					pmax	pmax	
	comp=Z,160nm,4.2s						
QIZ					LR	LR	
	comp=N,190nm,11.0s						
QIZ					LR	LR	
	comp=E,130nm,8.6s						
QIZ					LR	LR	
	comp=Z,490nm,10.2s						
JYRO	**Yoronjima**	**9.77**	**51**	*e*P		**Pn**	**14 39 10.9 -0.9**
JTK	**Tokunoshima**	**10.57**	**49**	*e*P		**Pn**	**14 39 20.6 -2.3**
JMZ	**Minamidaito 2**	**11.38**	**63**	*e*P		**Pn**	**14 39 31.3 -2.6**
JAM	**Amami Oshima**	**11.41**	**48**	*e*P		**Pn**	**14 39 31.1 -3.2**
TIA	**Tai'an**	**15.25**	**351**	P		**P**	**14 40 29.8 -1.9**
TIA					pmax	pmax	
	comp=Z,4.0nm,0.5s						
TIA					LR	LR	
	comp=N,270nm,12.8s						
TIA					LR	LR	
	comp=Z,540nm,11.8s						
JNU	**Nakatsue**	**15.43**	**37**			**Pn**	**14 40 30.0 +1.0**
JNU	**Nakatsue**	**15.43**	**37**	Pn		**Pn**	**14 40 30.6 +1.5**
	0.5nm,0.3s,baz=202,slow=3.7,SNR=6.8						
JNU					LR	LR	14 46 45.9
	comp=Z,63nm,21.3s,baz=200,slow=38 5.0nm,0.9s						
PZH	**PanZhiHua**	**17.48**	**291**	P		**P**	**14 40 59.4 +2.8**
KSRS	**Korea Array**	**17.71**	**21**	P		**P**	**14 40 58.4 -0.5**
	0.2nm,0.3s,baz=200,slow=11,SNR=8.1 1.4nm,0.6s						
TOLI2	**Tolitoli**	**19.89**	**177**	P		**P**	**14 41 22.8 -0.2**
CMAR	**Chiang Mai Arr**	**19.92**	**266**	P		**P**	**14 41 22.5 -0.8**
	0.1nm,0.3s,baz=74,slow=9.2,SNR=9.9						
CMAR					LR	LR	14 49 51.6
	comp=Z,190nm,18.2s,baz=90,slow=39 1.3nm,0.7s						
SBUM	**Sibu**	**20.00**	**203**			**P**	**14 41 24.4 +0.1**
SBUM					IAmb	IAmb	14 41 25.8
	comp=Z,31nm,0.9s						
TNCH	**TengChong**	**20.07**	**285**	*e*P		Pn	14 41 29.8 +2.9
TNCH					sP	pwP	14 41 35.6 +5.5
TNCH					S	**S**	**14 45 12.0 +0.6**
TNCH					pmax	pmax	
	comp=Z,17nm,0.5s						
TNCH					pmax	pmax	
	comp=Z,310nm,4.1s						
TNCH					LR	LR	
	comp=Z,370nm,11.8s						
TNCH					LR	LR	
	comp=Z,240nm,11.5s						
TNCH					LR	LR	
	comp=Z,300nm,13.9s						
INU	**Inuyama**	**20.65**	**43**			**P**	**14 41 31.2 +0.1**
INU					IAmb	IAmb	14 41 37.1
	comp=Z,40nm,1.1s						
JGF	**Kuroka**	**21.02**	**43**				14 41 36.0
JGF					IAmb	IAmb	14 41 49.4
	comp=Z,18nm,0.8s						
KSM	**Kuching**	**21.65**	**207**			**P**	**14 41 43.2 +1.1**
KSM					IAmb	IAmb	14 41 44.6
	comp=Z,20nm,1.0s						
MAJO	**Matsushiro**	**22.15**	**42**	P		**P**	**14 41 47.2 -0.2**
MJB9	**Matsu-Tunnel**	**22.15**	**42**	P		**P**	**14 41 47.0 -0.3**
MJAR	**Matsushiro Arr**	**22.15**	**42**			**P**	**14 41 48.8 +1.5**
MJAR	**Matsushiro Arr**	**22.15**	**42**	P		**P**	**14 41 48.5 +1.1**
	comp=Z,4.1nm,0.7s,baz=245,slow=8.9,SNR=16						
MJAR					LR	LR	14 50 46.1
	comp=Z,110nm,18.7s,baz=260,slow=38 comp=Z,4.1nm,0.7s						
JMM	**Marumori**	**24.59**	**43**	P		**P**	**14 42 11.4 -0.2**
JMM					IAmb	IAmb	14 42 13.3
	comp=Z,20nm,0.9s						
MDJ	**Mudanjiang**	**24.78**	**17**			**P**	**14 42 14.5 +1.2**
MDJ					IAmb	IAmb	14 42 25.1
	comp=Z,15nm,1.0s						
MDJ	**Mudanjiang**	**24.78**	**17**	P		**P**	**14 42 14.8 +1.5**
MDJ					pmax	pmax	
	comp=Z,12nm,1.1s						
GUMO	**Guam**	**24.93**	**103**		LR	LR	14 50 07.6
	comp=Z,44nm,21.1s,baz=286,slow=32						
GTA	**Gaotai**	**25.09**	**321**	*e*P		**P**	**14 42 18.3 +1.9**
GTA					sP	pwP	14 42 28.3 +7.0
GTA					pmax	pmax	
	comp=Z,4.0nm,1.2s						
GTA					pmax	pmax	
	comp=Z,120nm,8.8s						
GTA					LR	LR	
	comp=Z,220nm,13.5s						
GTA					LR	LR	
	comp=Z,210nm,13.1s						
GTA					LR	LR	
	comp=Z,230nm,12.3s						
USRK	**Ussuriysk Ar.**	**25.12**	**21**	P		**P**	**14 42 18.7 +2.4**
	comp=Z,3.6nm,0.8s,baz=214,slow=12,SNR=8.3 comp=Z,3.6nm,0.8s						
JTM	**Tenmabayashi**	**26.59**	**38**	P		**P**	**14 42 30.7 +0.9**
FAKI	**Fak Fak**	**26.76**	**152**	P		**P**	**14 42 30.7 -0.8**
PSI	**Prapat**	**27.37**	**231**	LR		LR	14 51 42.2
	comp=Z,166nm,19.6s,baz=105,slow=33						
ERM	**Erimo**	**28.59**	**38**	P		**P**	**14 42 47.5 -0.1**
SONM	**Songino Array**	**28.82**	**341**	P		**P**	**14 42 50.3 +0.5**
	comp=Z,1.0nm,0.6s,baz=167,slow=8.5,SNR=4.9 comp=Z,1.0nm,0.6s						
ASAJ	**Asahikawa**	**29.67**	**34**	P		**P**	**14 42 58.9 +1.6**
	comp=Z,6.0nm,0.9s,baz=218,slow=13,SNR=7.9						
ASAJ					LR	LR	14 56 11.2
	comp=Z,85nm,18.9s,baz=320,slow=39 comp=Z,6.0nm,0.9s						
JKA	**Kamikawa-asahi**	**29.67**	**34**	P		**P**	**14 42 60.0 +2.7**
MKAR	**Makanchi Array**

comp=Z,4.5nm,0.8s
ILAR Eielson Array 72.47 27 P **P** **14 48 18.1 +0.1**
comp=Z,0.4nm,0.7s,baz=262,slow=4.9,SNR=5.2
comp=Z,0.4nm,0.7s
PWL Port Wells 72.65 31 P **P** **14 48 20.0 +0.9**
SCM Sheep Creek Mo 72.91 30 P **P** **14 48 22.0 +1.3**
SCM IAmb IAmb 14 48 34.1
comp=Z,4.9nm,1.0s
FINES FINESS Array B 73.51 330 P **P** **14 48 24.4 +0.2**
comp=Z,1.3nm,0.6s,baz=39,slow=7.3,SNR=6.9
comp=Z,1.3nm,0.6s
BRTR Keskin Array B 74.06 307 P **P** **14 48 28.8 +0.7**
comp=Z,0.5nm,0.6s,baz=64,slow=6.6,SNR=2.3
comp=Z,0.5nm,0.6s
AKASG Malin Array Be 74.39 319 P **P** **14 48 28.4 -1.2**
comp=Z,0.9nm,0.7s,baz=70,slow=3.8,SNR=4.6
comp=Z,0.9nm,0.7s
K27K Chicken 74.68 27 P **P** **14 48 32.3 +1.3**
L27K Beaver Creek, 75.07 28 P **P** **14 48 34.9 +1.6**
HFS Hagfors 79.67 331 P **P** **14 48 59.2 +0.1**
comp=Z,1.8nm,0.7s,baz=90,slow=3.0,SNR=6.5
HFS LR LR 15 24 51.7
comp=Z,39nm,18.1s,baz=236,slow=36
comp=Z,1.8nm,0.7s
NB2 NORSAR Subarra 80.39 332 P **P** **14 49 02.7 -0.3**
comp=Z,0.5nm,0.6s,baz=59,slow=5.9
NOA NORSAR Array B 80.39 332 P **P** **14 49 02.5 -0.5**
comp=Z,0.8nm,0.6s,baz=64,slow=5.3,SNR=4.7
NOA LR LR 15 27 35.7
comp=Z,25nm,19.7s,baz=215,slow=38
comp=Z,0.8nm,0.6s
CLL Collm 83.80 323⇑ *iP* **P** **14 49 21.7 +0.7**
comp=Z,7.0nm,1.1s
GERES GERESS Array B 84.47 320 P **P** **14 49 25.0 +0.4**
comp=Z,1.5nm,0.8s,baz=64,slow=6.1,SNR=10
comp=Z,1.5nm,0.8s

ATH 24 14:41:43.4, 37°26N×21°69E, h13km±2km, ML2.0/3, Manual Solution by S.Liakopoulos First location: 2019/07/24 14:43:07, This location: 2019/07/24 15:46:56 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
ZARO	**Zacharo**	**0.23**	**351**	P		Pg	14 41 48.5			+0.1
ZARO				S		Sg	14 41 51.7			0.0
AMT	**Artemida-Makis**	**0.27**	**3**	P		Pg	14 41 49.3			+0.2
AMT				S		Sg	14 41 53.2			+0.2
RLS	**Riolos of Patr**	**0.82**	**347**	P		Pb	14 41 59.5			0.0
RLS				S		Sg	14 42 09.8			-0.1
GUR	**Goura**	**0.85**	**37**	P		Pg	14 41 59.9			0.0
GUR				S		Sb	14 42 11.5			+0.1
KLV	**Kalavryta, Ach**	**0.86**	**25**	P		Pg	14 42 00.2			+0.1
KLV				S		Sb	14 42 11.9			+0.2
YRMI	**Loutra Irminis**	**0.88**	**342**	P		Pg	14 42 00.5			0.0
YRMI				S		Sb	14 42 12.3			0.0
AXS	**Araxos**	**0.97**	**345**	P		Pb	14 42 01.0			-1.0
EFP	**Efpalio**	**1.18**	**8**	P		Pg	14 42 06.4			+0.3
EFP				S		Sg	14 42 21.4			0.0
KALE	**Kalithea**	**1.18**	**17**	P		Pn	14 42 05.5			-0.2
KALE				S		Sn	14 42 21.8			+0.1
SERG	**Sergoula**	**1.19**	**14**	P		Pn	14 42 05.8			0.0
SERG				S		Sn	14 42 22.4			+0.7

*NAO **24** 14:42:02.5, 38°61N×21°62E, h33km, mb3.5*
*IDC **24** 14:42:11.4±5.7, 39°90N×19°65E, h0km, mb3.2/5, mbtmp3.3/6, ML2.6/1, MS3.2/1, Error ellipse: s-maj=100.9km s-min=31.9km az=29.0*
*THE **24** 14:42:15.9, 40°N±2°×2°0E±°, h0km±4km, M3.1/19, MLh3.1/19*
*BEO **24** 14:42:16.4±0.9, 39°97N×19°78E, h20km, ML3.2/2*
*TIR **24** 14:42:16.8, 40°16N×19°93E, h27km±1km, Ml3.5/8*
*PDG **24** 14:42:17.2±0.6, 40°19N×19°95E, h14km±2km, ML3.2/8, Error ellipse: s-maj=1.5km s-min=1.9km az=0.0*
*ATH **24** 14:42:21.0, 39°97N×20°07E, h11km±2km, ML3.0/11, Manual Solution by S.Liakopoulos First location: 2019/07/24 14:43:27, This location: 2019/07/24 15:39:32 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

ISC 24 14:42:17.1±1.0, 40°12N±0°02×19°86E±0°02, h18km±4km, n77, σ1°s33/117, mb3.4/4, 3C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
SRN	**Sarande**	**0.26**	**155**	Pg		**Pg**	**14 42 22.0**			**-0.9**
SRN				Sg		**Sg**	**14 42 26.8**			**-0.1**
SRN				AML		AML	14 42 30.5			
	7.0nm,0.5s									
KEK	**Kerkira**	**0.40**	**187**	Pg		**Pn**	**14 42 27.7**			**-0.3**
KEK				Sg		**Sn**	**14 42 34.3**			**-0.8**
KEK	**Kerkira**	**0.40**	**187**	P		**Pn**	**14 42 27.8**			**-0.2**
KEK				S		**Sn**	**14 42 34.5**			**-0.6**
KEK	**Kerkira**	**0.40**	**187**	P		**Pn**	**14 42 27.7**			**-0.2**
KEK				S		**Sb**	**14 42 32.6**			**+1.1**
VLO	**Vlora**	**0.45**	**322**	Pg		**Pg**	**14 42 26.1**			**-0.2**
VLO				Sg		**Sb**	**14 42 32.9**			**+0.1**
VLO				AML		AML	14 42 39.3			
	36nm,0.6s									
IGT	**Igoumenitsa**	**0.69**	**148**	Pg		**Pg**	**14 42 30.0**			**-0.6**
IGT				Sg		**Sn**	**14 42 41.6**			**-0.4**
IGT	**Igoumenitsa**	**0.69**	**148**	P		**Pg**	**14 42 29.9**			**-0.7**
IGT				S		**Sn**	**14 42 43.2**			**+1.2**
IGT	**Igoumenitsa**	**0.69**	**148**	P		**Pg**	**14 42 29.9**			**-0.7**
IGT				S		**Sg**	**14 42 37.0**			**-2.7**
KBN	**Korca**	**0.87**	**54**	Pg		**Pb**	**14 42 31.5**			**-2.2**
KBN				Sg		**Sb**	**14 42 44.3**			**-0.8**
KBN				AML		AML	14 42 52.0			
	2.9nm,0.4s									
JAN	**Janina**	**0.89**	**121**	P		**Pn**	**14 42 34.6**			**-0.1**
JAN				S		**Sn**	**14 42 49.5**			**+2.4**
JAN	**Janina**	**0.89**	**121**	P		**Pg**	**14 42 34.4**			**0.0**
NEST	**Nestorio**	**0.96**	**71**	Pg		**Pb**	**14 42 33.0**			**-2.2**
NEST				Sg		**Sg**	**14 42 47.8**			**-0.5**
NEST				AML		AML	14 42 53.0			
	2.1nm,0.8s									
NEST	**Nestorio**	**0.96**	**71**	P		**Pb**	**14 42 34.2**			**-1.0**
NEST				S		**Sn**	**14 42 48.4**			**-0.5**
SCTE	**Santa Cesarea**	**1.07**	**268**	Pn		**Pg**	**14 42 37.8**			**0.0**
SCTE				Sn		**Sg**	**14 42 54.5**			**+2.7**
SCTE				AML		AML	14 42 56.3			
	9.8nm,0.3s									
MSVA	**Metsovo**	**1.07**	**108**	P		**Pg**	**14 42 38.5**			**+0.6**
MSVA				S		**Sb**	**14 42 50.4**			**-0.5**
OHR	**Ohrid**	**1.23**	**35**	*i* Pn		**Pg**	**14 42 40.0**			**-0.7**
OHR				*i* Sn		**Sg**	**14 43 01.1**			**+4.2**
TETR	**Tetrakomo, Epi**	**1.33**	**125**	P		**Pg**	**14 42 42.5**			**-0.4**
FNA	**Florina**	**1.34**	**60**	Pn		**Pn**	**14 42 40.7**			**-0.2**
FNA	**Florina**	**1.34**	**60**	P		**Pn**	**14 42 40.4**			**-0.5**
TSLK	**Tsoukalades, L**	**1.43**	**154**	P		**Pg**	**14 42 46.0**			**+1.4**
TSLK				S		**Sg**	**14 43 06.3**			**+3.1**
TSLK	**Tsoukalades, L**	**1.43**	**154**	P		**Pb**	**14 42 43.8**			**+0.6**
TSLK				S		**Sn**	**14 43 00.3**			**0.0**
LKD2	**Lefkada island**	**1.46**	**155**	Pn		**Pb**	**14 42 44.2**			**+0.5**
LKD2				Sn		**Sg**	**14 43 05.5**			**+1.2**
LKD2				AML		AML	14 43 11.5			
	2.2nm,0.5s									
LKD2	**Lefkada island**	**1.46**	**155**	P		**Pb**	**14 42 44.4**			**+0.7**
LKD2				S		**Sg**	**14 43 06.8**			**+2.6**
LKD2	**Lefkada island**	**1.46**	**155**	P		**Pg**	**14 42 44.0**			**+0.3**
LKD2				S		**Sn**	**14 43 01.3**			**+0.1**
KZN	**Kozani**	**1.48**	**82**	P		**Pb**	**14 42 44.2**			**+0.2**
KZN	**Kozani**	**1.48**	**82**	P		**Pg**	**14 42 45.5**			**0.0**
NYDR	**Nydri-Lefkada**	**1.54**	**155**	P		**Pb**	**14 42 45.3**			**+0.2**
NYDR				S		**Sg**	**14 43 09.1**			**+2.2**
NYDR	**Nydri-Lefkada**	**1.54**	**155**	P		**Pg**	**14 42 46.1**			**-0.7**
EVGl	**Lefkada island**	**1.61**	**157**	P		**Pg**	**14 42 48.0**			**-0.1**
EVGl	**Lefkada island**	**1.61**	**157**	P		**Pb**	**14 42 47.2**			**+0.9**
PHP	**Peshkopia**	**1.63**	**16**	Pn		**Pb**	**14 42 46.9**			**+0.3**
PHP				AML		AML	14 43 18.7			
	2.9nm,0.8s									
FSK	**Fiskardo**	**1.74**	**162**	P		**Pb**	**14 42 49.1**			**+0.6**
THL	**Klokotos Trika**	**1.75**	**108**	P		**Pb**	**14 42 49.0**			**+0.5**
THL				S		**Sg**	**14 43 13.2**			**-0.2**
THL	**Klokotos Trika**	**1.75**	**108**	P		**Pb**	**14 42 48.9**			**+0.3**
TYRN	**Tyrnavos**	**1.87**	**102**	P		**Pb**	**14 42 50.6**			**-0.1**
TYRN				S		**Sg**	**14 43 16.6**			**-0.6**
TYRN	**Tyrnavos**	**1.87**	**102**	P		**Pb**	**14 42 50.5**			**-0.1**
ULC	**Ulcinj**	**1.91**	**346**⇓ *iPn*			**Pn**	**14 42 49.3**			**+0.6**
ULC				*i* Sn		**Sb**	**14 43 15.0**			**+0.3**
DMLN	**Damoulianata-K**	**1.92**	**168**	P		**Pb**	**14 42 52.1**			**+0.6**
EVR	**Evrytania**	**1.93**	**128**	P		**Pg**	**14 42 53.2**			**-0.9**
EVR				S		**Sg**	**14 43 18.9**			**-0.1**
EVR	**Evrytania**	**1.93**	**128**	P		**Pb**	**14 42 52.1**			**+0.5**
PUK	**Puka**	**1.93**	**1**	Pn		**Pb**	**14 42 50.6**			**-1.1**
PUK				Sn		**Sb**	**14 43 16.0**			**+0.6**
PUK				AML		AML	14 43 22.4			
	1.3nm,0.8s									
PVO	**Paravola**	**1.98**	**139**	P		**Pb**	**14 42 52.3**			**-0.2**
VLS	**Valsamata**	**2.02**	**163**	P		**Pb**	**14 42 52.3**			**-0.9**
MAKR	**Makrakomi, Fth**	**2.07**	**121**	P		**Pb**	**14 42 54.3**			**+0.2**
DRME	**Dracevica, Mon**	**2.13**	**346**⇓ *iPn*			**Pn**	**14 42 52.7**			**+1.0**
DRME				*i* Sn		**Sb**	**14 43 21.0**			**-0.2**
AGG	**Agios Georgios**	**2.20**	**119**	P		**Pb**	**14 42 55.8**			**-0.5**
SKO	**Skopje**	**2.21**	**32**	*i* Pn		**Pb**	**14 42 55.5**			**-1.0**
SKO				*i* Sn		**Sb**	**14 43 24.7**			**+1.3**
BUM	**Brajici-Budva**	**2.30**	**342**⇑ *iPn*			**Pn**	**14 42 54.8**			**+0.6**
BUM				*i* Sn		**Sb**	**14 43 25.3**			**-0.9**
PDG	**Podgorica**	**2.36**	**349**⇑ *iPn*			**Pn**	**14 42 56.0**			**+1.2**
PDG				*i* Sn		**Sb**	**14 43 26.2**			**-1.5**
VAY	**Valandovo**	**2.39**	**59**	*i* Pn		**Pn**	**14 42 56.5**			**+1.3**
CEME	**Cevo**	**2.53**	**344**⇓ *iPn*			**Pn**	**14 42 57.7**			**+0.4**
CEME				*e*Sn		**Sb**	**14 43 31.0**			**-1.8**
KNT	**Kendrikon**	**2.54**	**65**	P		**Pb**	**14 42 59.9**			**-2.1**
HCY	**Herceg Novi**	**2.55**	**337**⇑ *iPn*			**Pn**	**14 42 58.9**			**+1.4**
HCY				*i* Sn		**Sn**	**14 43 30.5**			**+2.5**
KOME	**Kolasin**	**2.75**	**355**⇓ *iPn*			**Pn**	**14 43 01.7**			**+1.4**
KOME				*e*Sn		**Sn**	**14 43 34.7**			**+1.7**
IVA	**Berane**	**2.75**	**1**	*e*Pn		**Pn**	**14 43 02.3**			**+1.9**
IVA				*i* Sn		**Sn**	**14 43 35.8**			**+2.6**
GUR	**Goura**	**2.91**	**138**	P		**Pn**	**14 43 04.9**			**+2.3**
BRY	**Bratogost**	**2.96**	**341**	*e*Pn		**Pn**	**14 43 03.9**			**+0.7**
SRS	**Serrai**	**3.01**	**69**	P		**Pn**	**14 43 06.4**			**+2.6**
BARS	**Barje**	**3.07**	**28**	*e*Pn		**Pn**	**14 43 06.1**			**+1.4**
BOSS	**Bosilegrad**	**3.09**	**39**	*e*Pn		**Pn**	**14 43 06.3**			**+1.4**
STON	**Ston**	**3.20**	**330**	*e*Pn		**Pn**	**14 43 06.0**			**-0.3**
STON				*e*Sn		**Sn**	**14 43 43.8**			**-0.2**
SELS	**Selova**	**3.24**	**17**	*e*Pn		**Pn**	**14 43 08.7**			**+1.7**
SELS				*e*Sn		**Sn**	**14 43 47.6**			**+2.4**
BBLS	**Lazi&#263i**	**3.76**	**355**	*e*Pn		**Pn**	**14 43 16.4**			**+2.2**
BOVS	**Bovan**	**3.78**	**21**	*e*Pn		**Pn**	**14 43 15.1**			**+0.7**
BOVS				*e*Sn		**Sn**	**14 44 00.3**			**+2.0**
ZAPS	**Zavoj**	**3.78**	**32**	*e*Pn		**Pn**	**14 43 16.0**			**+1.6**
GRUS	**Gruza**	**3.83**	**9**	*e*Pn		**Pn**	**14 43 17.2**			**+2.2**
ZAGS	**Zajecar**	**4.10**	**25**	*e*Pn		**Pn**	**14 43 20.7**			**+2.0**
ZAGS				*e*Sn		**Sn**	**14 44 08.6**			**+2.4**
KUBS	**Kucevo**	**4.50**	**17**	*e*Pn		**Pn**	**14 43 23.8**			**-0.5**
BOJS	**Bojanci**	**6.36**	**329**	*e*Pn		**Pn**	**14 43 50.8**			**+1.0**
BOJS				*e*Sn		**Sn**	**14 45 01.6**			**-0.4**
SKDS	**Skadanscina**	**6.92**	**324**	*e*Pn		**Pn**	**14 43 57.3**			**-0.3**
SKDS				*e*Sn		**Sn**	**14 45 13.1**			**-2.7**
GERES	**GERESS Array B**	**9.77**	**335**	Pn		**Pn**	**14 44 35.5**			**-1.2**
	baz=165,slow=13,SNR=1.3									
GERES				LR		LR	14 49 23.8			
	comp=Z,138nm,21.5s,baz=316,slow=44									
	0.2nm,0.3s									
HFS	**Hagfors**	**20.41**	**351**	P		**P**	**14 46 52.4**			**-0.4**
	0.5nm,0.5s,baz=165,slow=12,SNR=5.8									
	0.5nm,0.5s									
EKA	**Eskdalemuir Ar**	**21.57**	**323**	P		**P**	**14 47 03.4**			**-2.0**
	1.3nm,0.8s,baz=131,slow=10,SNR=4.2									
	1.3nm,0.8s									
NB2	**NORSAR Subarra**	**21.62**	**349**	P		**P**	**14 47 07.1**			**+1.2**
	comp=Z,1.5nm,0.8s,baz=159,slow=10									
NOA	**NORSAR Array B**	**21.62**	**349**	P		**P**	**14 47 05.3**			**-0.6**
	comp=Z,0.3nm,0.6s,baz=160,slow=9.7,SNR=3.6									
	comp=Z,0.3nm,0.6s									
FINES	**FINESS Array B**	**21.70**	**8**	P		**P**	**14 47 06.5**			**-0.1**
	comp=Z,0.8nm,0.5s,baz=193,slow=11,SNR=4.4									
	comp=Z,0.8nm,0.5s									
MKAR	**Makanchi Array**	**44.75**	**60**	P		**P**	**14 50 28.0**			**-1.3**
	comp=Z,0.4nm,0.5s,baz=281,slow=8.4,SNR=4.0									
	comp=Z,0.4nm,0.5s									

*IPEC **24** 14:52:50.8±0.2, 50°23N×19°00E, h1km, ML2.4/4, Error ellipse: s-maj=1.9km s-min=0.9km az=180.0*
*VIE **24** 14:52:50.1±0.7, 50°33N×18°96E, h0km, mb2.4/2, ml2.5/3, Error ellipse: s-maj=8.0km s-min=3.5km az=168.0 9 km N of Katowice Suspected Mining induced.*
*PRU **24** 14:52:51.2, 50°26N×18°94E, h0km*
*IDC **24** 14:52:53.4±1.1, 50°39N×18°46E, h0km, mbtmp2.8/3, ML2.5/3, Error ellipse: s-maj=24.9km s-min=8.8km az=144.0*

ISC 24 14:52:50.0±0.8, 50°26N±0°03×18°93E±0°02, h0km, n35, σ1°s45/62, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
OJC	**Ojcow**	**0.56**	**94**	*e*Pg		**Pg**	**14 53 00.9**			**+0.3**
OJC				*e*Sg		**Sg**	**14 53 08.6**			**+0.7**
OKC	**Ostrava-Krasne**	**0.66**	**231**	*e*PG		**Pb**	**14 53 04.4**			**0.0**
OKC				*e*SG		**Sb**	**14 53 13.0**			**-1.1**
	comp=Z,63nm,0.6s									
STEB	**Steborice**	**0.82**	**247**	*e*PG		**Pb**	**14 53 07.3**			**+0.2**
STEB				*e*SG		**Sb**	**14 53 18.8**			**+0.2**
	comp=Z,116nm,0.3s									
MORC	**Moravsky Berou**	**1.02**	**242**	*e*Pg		**Pb**	**14 53 10.6**			**0.0**
	baz=64									
MORC				*e*Sg		**Sg**	**14 53 23.7**			**+1.0**
	42nm,0.2s,baz=64									
LANS	**Liptovska Anna**	**1.16**	**162**	*e*PG		**Pb**	**14 53 13.2**			**+0.2**
LANS				*e*SG		**Sb**	**14 53 28.2**			**-0.4**
LANS				*e*LG		Lg	14 53 28.9			
NIE	**Niedzica**	**1.22**	**133**	*e*Pg		**Pg**	**14 53 13.3**			**0.0**
NIE				*e*Sg		**Sb**	**14 53 30.2**			**-0.1**
KRLC	**Kraliky**	**1.40**	**263**	*e*PG		**Pg**	**14 53 16.9**			**+0.1**
KRLC				*e*SG		**Sn**	**14 53 36.3**			**+0.3**
	comp=Z,28nm,0.4s									
JAVC	**Velka Javorina**	**1.62**	**211**	*e*PN		**Pn**	**14 53 20.5**			**+0.5**
JAVC	**Velka Javorina**	**1.62**	**211**	*e*Pn		**Pn**	**14 53 20.4**			**+0.5**
	baz=32									
DPC	**Dobruska-Polom**	**1.68**	**274**	*e*PG		**Pb**	**14 53 21.8**			**0.0**
DPC				*e*SG		**Sg**	**14 53 44.8**			**+0.9**
	comp=Z,28nm,0.3s									
STHS	**Stebnicka Huta**	**1.72**	**119**	*e*PN		**Pn**	**14 53 22.0**			**+0.8**
STHS				*e*SN		**Sn**	**14 53 44.0**			**+0.2**
STHS				*e*LG		Lg	14 53 47.8			
OSTC	**Ostas**	**1.77**	**281**	*e*PG		**Pn**	**14 53 22.9**			**+1.1**
OSTC				*e*SG		**Sg**	**14 53 47.7**			**+1.0**
	comp=Z,32nm,0.8s									
VYHS	**Vyhne**	**1.77**	**182**	*e*PN		**Pn**	**14 53 21.7**			**-0.2**
VYHS				*e*SN		**Sn**	**14 53 44.0**			**-1.1**
KSP	**Ksiaz**	**1.78**	**290**	*e*Pg		**Pg**	**14 53 25.6**			**+1.4**
KSP				*e*Sg		**Sg**	**14 53 49.8**			**+2.5**
VRAC	**Vranov**	**1.79**	**239**	*e*PN		**Pn**	**14 53 23.0**			**+0.8**
VRAC				*e*SG		**Sg**	**14 53 47.3**			**-0.3**
VRAC	**Vranov**	**1.79**	**239**	Pg		**Pb**	**14 53 23.4**			**-0.2**
	4.2nm,0.3s,baz=77,slow=11,SNR=17									
VRAC				Lg		Lg	14 53 44.7			
	5.5nm,0.3s,baz=333,slow=22,SNR=11									
VRAC	**Vranov**	**1.79**	**239**	*e*Pn		**Pn**	**14 53 22.9**			**+0.8**
	baz=59									
VRAC				*e*Sg		**Sg**	**14 53 47.2**			**-0.3**
	21nm,0.3s,baz=59									
CHVC	**Chvalec**	**1.87**	**281**	*e*PG		**Pn**	**14 53 24.1**			**+0.8**
KRUC	**Moravsky**	**2.04**	**235**	*e*SG		**Sg**	**14 53 55.4**			**-0.1**
KRUC	**Moravsky**	**2.04**	**235**	*e*Sg		**Sg**	**14 53 55.3**			**-0.2**
	22nm,0.4s,baz=54									
MODS	**Modra-Piesok**	**2.18**	**210**	*e*SN		**Sn**	**14 53 55.1**			**-0.1**
KOLS	**Kolonicke sedl**	**2.55**	**120**	*e*PN		**Pn**	**14 53 33.1**			**+0.5**
KOLS				*e*PG		**Pb**	**14 53 58.1**			**+1.5**
KOLS				*e*SN		**Sn**	**14 54 03.0**			**-1.3**
KOLS				*e*LG		Lg	14 54 19.1			
GOPC	**GO Pecny, Ondr**	**2.69**	**264**	*e*PG		**Pb**	**14 53 39.4**			**+0.3**
GOPC				*e*SG		**Sg**	**14 54 15.3**			**-1.2**
	comp=Z,70nm,2.6s									
PRU	**Pruhonice**	**2.84**	**266**	*e*PG		**Pb**	**14 53 42.2**			**+0.6**
PRU				*e*SG		**Sg**	**14 54 21.3**			**+0.1**
	comp=Z,15nm,0.7s									
CONA	**Conrad Observa**	**3.09**	**222**	*e*Pn		**Pn**	**14 53 40.8**			**+0.7**
	0.3nm,0.1s									
CONA				*e*Pg		**Pg**	**14 53 51.6**			**+2.5**
	1.0nm,0.2s									
CONA				*e*Sn		**Sn**	**14 54 17.1**			**-0.6**
	2.3nm,0.3s									
CONA				Sg		**Sg**	**14 54 34.3**			**+5.2**
	5.0nm,0.4s									

RONA Rosalia, Austr 3.10 215 *i* Pn **Pn** **14 53 40.9 +0.8**
1.2nm,0.3s
RONA *e*Sn **Sn** **14 54 18.1 +0.2**
1.8nm,0.2s
BRG Berggiesshubel 3.24 283 Pg **Pg** **14 53 52.8 +0.7**
BRG Sg **Sg** **14 54 35.4 +1.3**
BRG Amp 14 54 38.0
comp=Z,9.9nm,0.5s
CKRC Cesky Krumlov 3.34 246 *e*SG **Sg** **14 54 35.8 -1.4**
comp=Z,15nm,0.9s
KHC Kasperske Hory 3.66 254 *e*PN **Pn** **14 53 48.8 +1.0**
KHC *e*PG **Pb** **14 53 54.4 -1.1**
KHC *e*SG **Sg** **14 54 47.5 +0.1**
comp=Z,8.4nm,0.4s
GERES GERESS Array B 3.69 249 Pn **Pn** **14 53 49.4 +1.1**
comp=Z,0.1nm,0.3s,baz=65,slow=15,SNR=7.7
GERES Pg **Pb** **14 53 57.1 +1.0**
comp=Z,0.1nm,0.3s,baz=60,slow=18,SNR=7.9
GERES Sn **Sn** **14 54 28.2 -4.4**
comp=Z,0.1nm,0.3s,baz=64,slow=27,SNR=2.9
GERES Lg Lg 14 54 44.1
comp=Z,0.3nm,0.3s,baz=81,slow=32,SNR=7.4
comp=Z,0.4nm,0.3s
MOA Molln 3.90 234 Pg **Pg** **14 54 05.0 +0.3**
comp=Z,0.6nm,0.2s
CLL Collm 3.91 288 *e*Pg **Pg** **14 54 07.0 +2.1**
CLL *e*Sg **Sg** **14 54 56.0 +0.5**
comp=Z,8.0nm,0.6s
AKASG Malin Array Be 6.58 82 Pn **Pn** **14 54 32.1 +4.1**
comp=Z,0.5nm,0.3s,baz=273,slow=14,SNR=1.3
AKASG Lg Lg 14 56 23.5
comp=Z,0.7nm,0.3s,baz=269,slow=26,SNR=4.2
comp=Z,0.2nm,0.4s
DAVOX Davos/Dischmat 6.95 243 Lg Lg 14 56 21.7
comp=Z,0.2nm,0.3s,baz=331,slow=21,SNR=1.5
FINES FINESS Array B 11.90 17 Pn **Pn** **14 55 37.0 -3.6**
comp=Z,0.2nm,0.3s,baz=204,slow=13,SNR=5.0
comp=Z,0.5nm,0.4s

*IDC **24** 15:01:23.3±1.5, 0°97S×99°97E, h0km, mb3.8/10, mbtmp3.8/10, Error ellipse: s-maj=95.7km s-min=17.4km az=51.0*
*NEIC **24** 15:01:36.4±1.4, 0°78S±0°05×100°23E±0°08, h101km±9km, mb4.0/8, Error ellipse: s-maj=11.3km s-min=7.9km az=88.0*
*DJA **24** 15:01:37.0±0.4, 1°S±3°×10°0E±°, h76km±6km, M3.9/10, MLv3.9/10*

ISC 24 15:01:35.9±0.7, 0°79S±0°05×100°21E±0°06, h100km, n35, σ0°74/36, mb3.8/15, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
PPI	**Padang Panjang**	**0.38**	**29**	P		**Pn**	**15 01 50.6**			**-0.4**
PPI				S		**Sn**	**15 02 00.6**			**-1.5**
SISI	**Saibi**	**1.25**	**245**	P		**Pn**	**15 01 59.5**			**+0.4**
SISI				S		**Sn**	**15 02 16.3**			**-1.4**
BKNI	**Bangkinang**	**1.38**	**37**	Pn		**Pn**	**15 02 01.3**			**+0.5**
BKNI				Sn		**Sn**	**15 02 20.5**			**+0.9**
BKNI	**Bangkinang**	**1.38**	**37**	P		**Pn**	**15 02 00.8**			**0.0**
MNSI	**Mandailing Nat**	**1.69**	**338**	P		**Pn**	**15 02 05.0**			**+0.3**
PPSI	**Pulau Pagai**	**1.97**	**186**	P		**Pn**	**15 02 08.4**			**+0.2**
GSI	**Gunungsitoli**	**3.36**	**308**	Pn		**Pn**	**15 02 26.9**			**+0.3**
GSI	**Gunungsitoli**	**3.36**	**308**	P		**Pn**	**15 02 26.4**			**-0.1**
RPSI	**Rantau Prapat**	**3.69**	**340**	Pn		**Pn**	**15 02 30.9**			**-0.1**
MNAI	**Manna**	**4.48**	**142**	Pn		**Pn**	**15 02 42.6**			**+0.9**
MNAI				Sn		**Sn**	**15 03 32.4**			**-0.4**
MNAI	**Manna**	**4.48**	**142**	P		**Pn**	**15 02 42.0**			**+0.3**
KASI	**Kota Agung**	**6.36**	**138**	P		**Pn**	**15 03 07.3**			**+0.2**
WB0	**Warramunga Arr**	**38.40**	**122**	P		**P**	**15 08 47.0**			**-1.0**
WRA	**Warramunga Arr**	**38.43**	**122**	P		**P**	**15 08 47.1**			**-1.2**
WRA	**Warramunga Arr**	**38.43**	**122**	P		**P**	**15 08 47.3**			**-0.9**
	0.6nm,0.6s,baz=306,slow=8.7,SNR=6.8									
	0.6nm,0.6s									
WB2	**Warramunga Arr**	**38.44**	**122**	P		**P**	**15 08 46.9**			**-1.4**
WB2				IAmb		IAmb	15 09 12.7			
	comp=Z,1.2nm,0.9s									
WR8	**Warramunga Arr**	**38.58**	**122**	P		**P**	**15 08 47.9**			**-1.5**
WR8				IAmb		IAmb	15 09 03.6			
	comp=Z,3.7n

GUY2C				S		**Sn**	**15 05 05.6**	**+1.8**
VILC	**Villavicencio,**	**2.81**	**192**	P		**Pn**	**15 04 28.8**	**+0.2**
VILC				S		**Sn**	**15 05 02.8**	**-0.9**
PTGC	**Puerto Gaitan,**	**2.82**	**160**	P		**Pn**	**15 04 28.0**	**-0.6**
PTGC				S		**Sn**	**15 05 02.0**	**-1.8**
CBOC	**Ciudad Bolivar**	**3.07**	**251**	P		**Pn**	**15 04 33.5**	**+1.6**
CBOC				S		**Sn**	**15 05 08.6**	**-1.0**
DBBC	**Dabeiba**	**3.10**	**273**	P		**Pn**	**15 04 32.9**	**+0.8**
DBBC				S		**Sn**	**15 05 08.3**	**-1.8**
SDV	**Santo Domingo**	**3.15**	**50**	P		**Pn**	**15 04 34.4**	**+1.5**
SDV				S		**Sn**	**15 05 11.7**	**+0.3**
ARGC	**Ariguani, Magd**	**3.18**	**339**	P		**Pn**	**15 04 33.3**	**+0.2**
ARGC				S		**Sn**	**15 05 12.6**	**+0.8**
ANIL	**Santa Ana**	**3.30**	**224**	P		**Pn**	**15 04 36.4**	**+1.5**
ANIL				S		**Sn**	**15 05 15.6**	**+0.6**
APAC	**Apartado, Choc**	**3.61**	**287**	P		**Pn**	**15 04 40.2**	**+1.7**
APAC				S		**Sn**	**15 05 20.6**	**-1.0**
PRAC	**Prado**	**3.61**	**210**	P		**Pn**	**15 04 38.8**	**+0.1**
PRAC				S		**Sn**	**15 05 20.5**	**-1.3**
PRAC	**Prado**	**3.61**	**210**	P		**Pn**	**15 04 39.0**	**+0.3**
PRAC				S		**Sn**	**15 05 20.3**	**-1.5**
ORTC	**Ortega, Tolima**	**3.64**	**216**	P		**Pn**	**15 04 39.4**	**+0.3**
ORTC				S		**Sn**	**15 05 22.8**	**+0.3**
SJCC	**San Jacinto, C**	**3.65**	**326**	P		**Pn**	**15 04 38.9**	**-0.2**
SJCC	**San Jacinto, C**	**3.65**	**326**	P		**Pn**	**15 04 39.1**	**0.0**
SJCC				S		**Sn**	**15 05 20.1**	**-2.5**
PLMC	**San Jos del P**	**3.73**	**239**	P		**Pn**	**15 04 40.7**	**+0.5**
PLMC				S		**Sn**	**15 05 23.5**	**-1.0**
LCBC	**Los crdobas,**	**3.80**	**301**	P		**Pn**	**15 04 41.1**	**+0.1**
LCBC				S		**Sn**	**15 05 27.0**	**+1.0**
URMC	**La Uribe, Meta**	**3.82**	**200**	P		**Pn**	**15 04 42.0**	**+0.6**
URMC				S		**Sn**	**15 05 26.5**	**-0.3**
CRJC	**Cerrejon, Guaj**	**4.13**	**3**	P		**Pn**	**15 04 45.1**	**-0.3**
CRJC				S		**Sn**	**15 05 32.0**	**-1.8**
YOTC	**Yotoco, Valle**	**4.33**	**229**	P		**Pn**	**15 04 47.8**	**-0.2**

*IDC **24** 15:12:44.4±0.8,41˚.70N×65˚.98E,h0^{km},mb3.9/10,*
mbtmp3.9/18,ML3.5/8,Error ellipse: s-maj=12.9km
s-min=7.9km az=176.0
*MOS **24** 15:12:45.3±1.1,41˚.96N×66˚.13E,h13^{km},mb4.2/7,Error*
ellipse: s-maj=7.7km s-min=6.6km az=50.6
*SOME **24** 15:12:48.2,41˚.77N×66˚.23E,h10^{km},MS3.6*
*ISU **24** 15:12:50,42˚.07N×66˚.01E,h28^{km}*
*NNC **24** 15:12:50.5±1.2,42˚.06N×66˚.21E,h26^{km}±7^{km},mb4.5,*
mpv4.3,Error ellipse: s-maj=10.0km s-min=6.7km az=22.0

ISC 24 15:12:45.4±1.2,**41˚.89N**±0˚.03×**66˚.17E**±0˚.03,**h9**^{km}±8^{km},
n107,σ1§**93**/138,**mb4.0**/14,**18C-4D,Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TMD	**Tamdy-Bulak**	**1.15**	**264**	P			**Pn**	**15 13 06.9**	**-0.9**
TMD				S			**Sb**	**15 13 21.2**	**-1.4**
NUT	**Nurota**	**1.38**	**196**	P			**Pn**	**15 13 08.7**	**-2.3**
DZI	**Dzhizak**	**2.17**	**144**	P			**Pn**	**15 13 23.1**	**+1.4**
DZI				S			**Sn**	**15 13 50.1**	**+1.4**
NZBK	**Nazarbek**	**2.31**	**106**	S			Sg	15 14 24.8	+25
AGL	**Agalyk**	**2.43**	**167**	P			**Pb**	**15 13 28.4**	**-0.9**
AGL				S			**Sn**	**15 13 57.5**	**+2.2**
TGS	**TashGRES**	**2.55**	**99**	P			**Pb**	**15 13 30.3**	**-1.1**
TGS				S			**Sn**	**15 13 59.3**	**+1.1**
CHM	**Chimkent**	**2.59**	**79**	*e*PN			**Pn**	**15 13 28.7**	**+1.2**
CHM				*e*S			**Sb**	**15 14 01.6**	**-2.4**
CHM	**Chimkent**	**2.59**	**79**	*e*P			**Pg**	**15 13 35.4**	**+0.3**
CHM	227nm,0.3s			*e*S			**Sg**	**15 14 09.4**	**+0.8**
CHM	2µm,0.4s **Chimkent**	**2.59**	**79**	*e*P			**Pn**	**15 13 28.8**	**+1.2**
CHM				*e*S			**Sb**	**15 14 01.6**	**-2.4**
BXML	**Bakhmal**	**2.61**	**147**	P			**Pn**	**15 13 29.0**	**+1.0**
BXML				S			**Sn**	**15 13 59.2**	**-0.7**
GZLY	**Gazly**	**2.71**	**230**	P			**Pb**	**15 13 34.6**	**+0.5**
CHRV	**Charvak**	**2.84**	**94**	P			**Pb**	**15 13 35.8**	**-0.5**
IUG	**Iuzhnay**	**2.89**	**84**	Pg			**Pg**	**15 13 40.8**	**0.0**
IUG	275nm,0.4s			Lg			Lg	15 14 19.0	
IUG	634nm,0.5s **Iuzhnay**	**2.89**	**84**	*e*PN			**Pn**	**15 13 33.1**	**+1.4**
IUG				*e*S			**Sn**	**15 14 09.2**	**+2.5**
IUG	**Iuzhnay**	**2.89**	**84**	*e*P			**Pn**	**15 13 33.1**	**+1.4**
IUG				*e*S			**Sn**	**15 14 09.2**	**+2.5**
CHMG	**Chimgan**	**2.89**	**95**	P			**Pg**	**15 13 40.5**	**-0.4**
BRLS	**Borolday**	**2.94**	**66**	Pg			**Pb**	**15 13 39.1**	**+1.0**
BRLS	91nm,0.4s			Lg			Lg	15 14 16.2	
BRLS	302nm,0.6s **Boroldaу**	**2.94**	**66**	*e*PN			**Pn**	**15 13 31.3**	**-1.1**
BRLS	**Borolday**	**2.94**	**66**	*e*P			**Pb**	**15 13 39.1**	**+1.0**
BRLS	91nm,0.4s			*e*S			**Sb**	**15 14 16.2**	**+2.1**
BRLS	302nm,0.6s **Borolday**	**2.94**	**66**	*e*P			**Pn**	**15 13 31.4**	**-1.1**
PKMR	**Pachkamar**	**3.34**	**177**	S			**Sb**	**15 14 29.1**	**+3.4**
KK31	**Karatay Array**	**3.43**	**68**	Pn			**Pn**	**15 13 40.9**	**+1.7**
KK31	2.6nm,0.2s,baz=239,slow=16,SNR=305			Pg			**Pg**	**15 13 51.3**	**+0.1**
KK31	45nm,0.4s,baz=247,slow=18,SNR=60			⇑Lg			Lg	15 14 35.7	
KK31	89nm,0.4s,baz=255,slow=29,SNR=3.7 **Karatay Array**	**3.43**	**68**	PN			**Pn**	**15 13 40.8**	**+1.7**
KK31				*e*				15 13 51.3	
KK31								15 14 36.8	
BAYS	**Baysun**	**3.76**	**167**	S			**Sb**	**15 14 40.0**	**+2.3**
MINT	**Mingtut**	**3.89**	**110**	P			**Pb**	**15 13 51.0**	**-3.3**
MINT				S			**Sn**	**15 14 34.3**	**+3.0**
DZA	**Taraz**	**3.95**	**74**	Pg			**Pg**	**15 14 00.3**	**-0.8**
DZA	73nm,0.2s			Lg			Lg	15 14 52.2	
DZA	387nm,0.4s **Taraz**	**3.95**	**74**	*e*PN			**Pn**	**15 13 47.5**	**+1.2**
DZA				*e*S			**Sn**	**15 14 35.2**	**+2.4**
DZA	**Taraz**	**3.95**	**74**	*e*P			**Pg**	**15 14 00.3**	**-0.8**
DZA	73nm,0.2s			*e*S			**Sg**	**15 14 52.2**	**-0.1**
DZA	387nm,0.4s **Taraz**	**3.95**	**74**	*e*P			**Pn**	**15 13 47.5**	**+1.2**
DZA				*e*S			**Sn**	**15 14 35.3**	**+2.4**
KSNS	**Kasansay**	**4.08**	**98**	P			**Pg**	**15 14 04.2**	**+0.6**
FRG	**Fergana**	**4.50**	**108**	P			**Pg**	**15 14 10.4**	**-1.2**
TSTA	**Tashata**	**4.93**	**103**	P			**Pg**	**15 14 17.3**	**-2.6**
MRKS	**Merke**	**5.30**	**78**	Pg			**Pg**	**15 14 25.3**	**-1.6**
MRKS	26nm,0.7s			Lg			Lg	15 15 35.1	
MRKS	84nm,0.6s **Merke**	**5.30**	**78**	*e*P			**Pg**	**15 14 25.3**	**-1.6**
MRKS	26nm,0.7s			*e*S			**Sg**	**15 15 35.1**	**-0.5**
AAK	84nm,0.6s **Ala-Archa**	**6.22**	**80**	⇓Pn			**Pn**	**15 14 20.5**	**+2.9**
AAK	2.8nm,0.7s			⇑Pg			**Pg**	**15 14 42.7**	**-1.8**
AAK	26nm,0.9s			⇑Lg			Lg	15 16 06.5	
AAK	20nm,0.6s **Ala-Archa**	**6.22**	**80**	Pn			**Pn**	**15 14 21.5**	**+3.9**
AAK	0.7nm,0.3s,baz=223,slow=10,SNR=4.9			Pg			Pg	15 14 39.9	-4.7
AAK	2.9nm,0.3s,baz=231,slow=12,SNR=9.7			Sn			**Sn**	**15 15 32.5**	**+3.6**
AAK	2.0nm,0.3s,baz=199,slow=12,SNR=1.9			Lg			Lg	15 16 06.5	
SGDS	5.0nm,0.3s,baz=13,slow=19,SNR=3.9 **Sogindy**	**6.43**	**73**	Pg			**Pg**	**15 14 47.4**	**-1.1**
SGDS	3.3nm,0.4s 18nm,0.6s			Lg			Lg	15 16 13.1	
SGDS	40nm,0.7s **Sogindy**	**6.43**	**73**	*e*P			**Pn**	**15 14 21.6**	**+1.3**
BTLS	**Baital**	**6.54**	**59**	Pg			**Pg**	**15 14 50.1**	**-0.5**
BTLS	12nm,0.6s			Lg			Lg	15 16 18.1	
BTLS	21nm,0.8s **Baital**	**6.54**	**59**	*e*PN			**Pn**	**15 14 23.2**	**+1.4**
BTLS	**Baital**	**6.54**	**59**	*e*P			**Pg**	**15 14 50.1**	**-0.5**
BTLS	12nm,0.6s			*e*S			**Sg**	**15 16 18.1**	**+2.9**
BTLS	21nm,0.8s **Baital**	**6.54**	**59**	*e*P			**Pn**	**15 14 23.3**	**+1.4**
DGS	**Degeres**	**7.22**	**76**	Pg			**Pg**	**15 15 01.9**	**-1.7**
DGS	19nm,0.6s			Lg			Lg	15 16 37.9	
KST	50nm,0.6s **Kastek**	**7.33**	**78**	Pg			**Pg**	**15 15 04.1**	**-1.7**
KST	18nm,1.0s			Lg			Lg	15 16 41.9	
KST	46nm,0.8s **Kastek**	**7.33**	**78**	*e*P			**Pg**	**15 15 04.1**	**-1.7**
KST	18nm,1.0s			*e*S			**Sg**	**15 16 41.9**	**+1.2**
KUU	46nm,0.8s **Kurty**	**7.73**	**72**	Pg			**Pg**	**15 15 11.4**	**-2.0**
KUU	16nm,0.3s			Lg			Lg	15 16 54.3	
KUU	78nm,0.8s **Kurty**	**7.73**	**72**	*e*P			**Pg**	**15 15 11.4**	**-2.0**
KUU	16nm,0.3s			*e*S			**Sg**	**15 16 54.3**	**+0.8**
IZV	78nm,0.8s **Izvestkoviy**	**7.81**	**78**	Pg			**Pg**	**15 15 13.0**	**-1.9**
IZV	12nm,0.6s			Lg			Lg	15 16 57.3	
IZV	42nm,0.8s **Izvestkoviy**	**7.81**	**78**	*e*P			**Pg**	**15 15 13.0**	**-1.9**
IZV	12nm,0.6s			*e*S			**Sg**	**15 16 57.3**	**+1.4**
KSH	42nm,0.8s **Kashi**	**7.81**	**104**	P			**Pn**	**15 14 40.1**	**+0.7**
KSH				S			**Sn**	**15 16 02.3**	**-5.8**
KSH	comp=Z,6.0nm,0.5s			pmax			pmax		
KSH	comp=N,120nm,4.5s			LR			LR		
KSH	comp=E,230nm,6.5s			LR			LR		
KSH	comp=Z,220nm,6.5s			LR			LR		
KTBS	**Karatobe**	**7.94**	**73**	Pg			**Pg**	**15 15 15.4**	**-2.1**
KTBS	comp=Z,9.3nm,0.7s			Lg			Lg	15 17 01.3	
TNSS	comp=Z,41nm,0.6s **Tian-Shan**	**8.05**	**78**	Pg			**Pg**	**15 15 17.3**	**-2.3**
TNSS	comp=Z,4.0nm,0.7s			Lg			Lg	15 17 04.1	
TNSS	comp=Z,11nm,0.7s **Tian-Shan**	**8.05**	**78**	*e*P			**Pg**	**15 15 17.2**	**-2.3**
TNSS	comp=Z,4.0nm,0.7s			*e*S			**Sg**	**15 17 04.1**	**+0.3**
KOTS	comp=Z,11nm,0.7s **Kotyrbulak**	**8.19**	**77**	Pg			**Pg**	**15 15 19.9**	**-2.3**
KOTS	comp=Z,13nm,0.7s			Lg			Lg	15 17 09.1	
KOTS	comp=Z,44nm,1.0s **Kotyrbulak**	**8.19**	**77**	*e*P			**Pg**	**15 15 19.9**	**-2.3**
KOTS	comp=Z,13nm,0.7s			*e*S			**Sg**	**15 17 09.1**	**+1.0**
ARXS	comp=Z,44nm,1.0s **Arharly**	**8.85**	**171**	Pg			**Pg**	**15 15 32.0**	**-2.7**
ARXS	comp=Z,6.1nm,0.7s			Lg			Lg	15 17 29.9	
SATY	comp=Z,20nm,0.9s **Saty**	**9.12**	**79**	Pg			Pn	15 15 36.7	+39
SATY	comp=Z,7.3nm,0.9s			Lg			Lg	15 17 38.1	
KPKS	comp=Z,21nm,0.7s **Kokpek**	**9.35**	**76**	Pg			Pn	15 15 40.9	+40
KPKS	comp=Z,0.9nm,0.4s			Lg			Lg	15 17 45.1	
KPKS	comp=Z,32nm,0.5s **Kokpek**	**9.35**	**76**	*e*P			**Pn**	**15 15 01.6**	**+1.1**
KPKS	**Kokpek**	**9.35**	**76**	*e*P			**Pn**	**15 15 01.6**	**+1.1**
TDK	**Taldyqorghan**	**9.43**	**67**	*e*P			**Pn**	**15 15 02.9**	**+1.5**
TDK	**Taldyqorghan**	**9.43**	**67**	*e*P			**Pn**	**15 15 02.9**	**+1.5**
AKTO	**Aktyubinsk**	**10.24**	**329**	⇓Pn			**Pn**	**15 15 13.8**	**+1.2**
AKTO	comp=Z,2.9nm,1.1s			⇑Sn			**Sn**	**15 17 06.4**	**-1.2**
AKTO	comp=Z,8.7nm,0.8s			⇑Lg			Lg	15 18 09.6	
AKTO	comp=Z,22nm,0.8s **Aktyubinsk**	**10.24**	**329**	Pn			**Pn**	**15 15 11.6**	**-1.0**
AKTO	comp=Z,0.8nm,0.3s,baz=130,slow=15,SNR=6.0			Sn			**Sn**	**15 17 04.2**	**-3.3**
AKTO	comp=Z,0.8nm,0.3s,baz=211,slow=23,SNR=4.1			Lg			Lg	15 18 07.2	
KTMS	comp=Z,0.5nm,0.3s,baz=216,slow=17,SNR=1.4 **Ketmen**	**10.56**	**77**	Pg			Pn	15 16 03.9	+47
KTMS	comp=Z,1.4nm,0.3s			Lg			Lg	15 18 24.5	
KTMS	comp=Z,2.4nm,0.2s **Ketmen**	**10.56**	**77**	*e*P			Pn	15 16 03.9	+47
KTMS	comp=Z,1.4nm,0.3s			*e*S				15 18 24.5	
BVA0	comp=Z,2.4nm,0.2s **Borovoye Array**	**11.50**	**13**	Pn			**Pn**	**15 15 30.5**	**+0.7**
BVA0	comp=Z,3.5nm,0.7s,baz=207,slow=16,SNR=18			⇑Sn			**Sn**	**15 17 36.7**	**-1.6**
BVA0	comp=Z,15nm,1.3s,baz=202,slow=16,SNR=7.3			⇑Lg			Lg	15 18 48.1	
BVA0	comp=Z,17nm,1.0s,baz=193,slow=31,SNR=4.5 **Borovoye Array**	**11.50**	**13**	P			**Pn**	**15 15 30.5**	**+0.7**
BVAR	**Borovoye Array**	**11.50**	**13**	Pn			**Pn**	**15 15 30.4**	**+0.6**
BVAR	comp=Z,0.2nm,0.3s,baz=187,slow=12,SNR=17			Sn			**Sn**	**15 17 35.3**	**-3.0**
BVAR	comp=Z,0.3nm,0.3s,baz=188,slow=20,SNR=8.3			Lg			Lg	15 18 51.3	
BRVK	baz=199,slow=22 comp=Z,3.1nm,0.4s **Borovoye**	**11.52**	**13**	⇑Pn			**Pn**	**15 15 30.5**	**+0.5**
BRVK	comp=Z,7.0nm,0.9s			⇓Sn			**Sn**	**15 17 35.9**	**-2.8**
BRVK	comp=Z,10nm,0.6s			⇑Lg			Lg	15 18 48.1	
BRVK	comp=Z,23nm,1.1s **Borovoye**	**11.52**	**13**	⇓*i*P			**Pn**	**15 15 30.9**	**+1.0**
BRVK	comp=Z,5.0nm,0.7s			pmax			pmax		
KURBB	**Kurchatov Arra**	**12.21**	**40**	Pn			**Pn**	**15 15 39.3**	**-0.2**
KURBB	comp=Z,0.1nm,0.3s,baz=242,slow=14,SNR=5.6			Sn			**Sn**	**15 17 49.4**	**-6.3**
KURBB	comp=Z,0.1nm,0.3s,baz=225,slow=12,SNR=4.6			Lg			Lg	15 19 16.4	
KURK	comp=Z,0.1nm,0.3s,baz=247,slow=29,SNR=4.9 comp=Z,0.4nm,0.3s **Kurchatov**	**12.32**	**40**	*e*P			**Pn**	**15 15 42.5**	**+1.6**
MAKZ	**Makanchi**	**12.33**	**61**	⇑Pn			**Pn**	**15 15 41.9**	**+0.8**
MAKZ	comp=Z,2.4nm,0.8s			Lg			Lg	15 19 18.3	
MK31	comp=Z,17nm,0.9s **Makanchi Array**	**12.53**	**62**	⇑Pn			**Pn**	**15 15 46.8**	**+2.9**
MK31	comp=Z,2.2nm,0.5s,baz=242,slow=16,SNR=18			⇑Lg			Lg	15 19 24.6	
MK31	comp=Z,21nm,1.1s,baz=240,slow=23,SNR=4.9 **Makanchi Array**	**12.53**	**62**	*e*P			**Pn**	**15 15 47.0**	**+3.1**
MK31	comp=Z,2.0nm,0.5s			pmax			pmax		
MKAR	**Makanchi Array**	**12.53**	**62**	Pn			**Pn**	**15 15 44.8**	**+0.8**
MKAR	comp=Z,0.4nm,0.3s,baz=244,slow=15,SNR=20			Sn			**Sn**	**15 18 00.9**	**-2.7**
MKAR	baz=314,slow=20,SNR=1.4			Lg			Lg	15 19 26.6	
MKAR	comp=Z,0.3nm,0.3s,baz=259,slow=17,SNR=3.8 comp=Z,2.1nm,0.6s **Makanchi Array**	**12.53**	**62**	*i*P			**Pn**	**15 15 45.0**	**+1.1**
MKAR				pmax			pmax		
ARTI	comp=Z,2.0nm,0.6s **Arti**	**15.37**	**343**	Pn			**Pn**	**15 16 22.9**	**+0.6**
ARTI	comp=Z,0.7nm,0.3s,baz=162,slow=8.6,SNR=3.2			Sn			**Sn**	**15 19 07.4**	**-5.2**
ARTI	comp=Z,0.5nm,0.3s,baz=182,slow=22,SNR=3.0			Lg			Lg	15 20 54.0	
ARTI	comp=Z,0.4nm,0.3s,baz=324,slow=21,SNR=1.4 comp=Z,2.5nm,0.4s **Arti**	**15.37**	**343**	P			**Pn**	**15 16 22.5**	**+0.2**
ARTI				S			**Sn**	**15 19 15.9**	**+3.4**
GNI	**Garni**	**16.27**	**271**	*e*P			**P**	**15 16 36.3**	**-1.0**
BELG	**Belogornoye**	**16.37**	**316**	*i*P			**P**	**15 16 35.7**	**-2.5**
KBZ	**Khabaz**	**17.17**	**284**	Pn			**Pn**	**15 16 42.0**	**-3.5**
KBZ	comp=Z,0.2nm,0.3s,baz=230,slow=10,SNR=1.7			Sn			Sn	15 19 43.0	-13
	comp=Z,0.1nm,0.3s,baz=160,slow=8.7,SNR=1.8 comp=Z,1.1nm,0.5s								
KBZ	**Khabaz**	**17.17**	**284**	P			**Pn**	**15 16 42.0**	**-3.5**
ZALV	**Zalesovo Beam**	**17.31**	**39**	P			**P**	**15 16 50.1**	**+1.6**
ZALV	comp=Z,0.8nm,0.3s,baz=239,slow=11,SNR=11			S			**S**	**15 20 07.3**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=260,slow=14,SNR=2.0 comp=Z,3.0nm,0.4s								
KVAR	**Kislovodsk Arr** baz=155,slow=22	**17.31**	**285**	Sn			Sn	15 19 45.6	-14
KIV	**Kislovodsk**	**17.32**	**285**	*e*P			**P**	**15 16 48.4**	**-0.5**
KIV				*e*S			**Sn**	**15 20 01.7**	**+1.5**
KIV	comp=Z,6.0nm,1.0s			pmax			pmax		
BR131	**Keskin Array S**	**24.64**	**276**	⇑*i*P			**P**	**15 18 06.5**	**0.0**
BRTR	**Keskin Array B** comp=Z,2.0nm,0.6s,baz=82,slow=7.9,SNR=11	**24.64**	**276**	P			**P**	**15 18 07.4**	**+0.9**
AKBB	comp=Z,2.0nm,0.6s **Malin Array Si**	**26.77**	**302**	⇑*i*P			**P**	**15 18 25.7**	**+0.3**
AKBB	comp=Z,6.0nm,2.3s			pmax			pmax		
ULN	**Ulaanbaatar**	**29.32**	**64**	⇑*i*P			**P**	**15 18 50.2**	**+1.8**
ULN	comp=Z,3.0nm,1.0s			pmax			pmax		
VSU	**Vasula**	**29.66**	**318**	*i*P			**P**	**15 18 52.7**	**+1.6**
VSU	comp=Z,5.0nm,1.0s			pmax			pmax		
FINES	**FINESS Array B** comp=Z,1.3nm,0.5s,baz=110,slow=9.1,SNR=11 comp=Z,1.3nm,0.5s	**30.93**	**323**	P			**P**	**15 19 03.4**	**+1.2**
ARCES	**ARCESS Array B** comp=Z,0.8nm,0.5s,baz=122,slow=9.3,SNR=10 comp=Z,0.8nm,0.5s	**34.73**	**336**	P			**P**	**15 19 36.9**	**+1.5**
HFS	**Hagfors** comp=Z,1.4nm,0.6s,baz=99,slow=9.2,SNR=10 comp=Z,1.4nm,0.6s	**36.54**	**318**	P			**P**	**15 19 51.8**	**+0.8**
KHC	**Kasperske Hory**	**36.92**	**300**	*i*P			**P**	**15 19 54.3**	**-0.2**
KHC	comp=Z,2.0nm,1.3s			pmax			pmax		
CLL	**Collm**	**36.99**	**303**	*e*P			**P**	**15 19 55.0**	**0.0**
NB2	**NORSAR Subarra** comp=Z,1.1nm,0.6s,baz=95,slow=8.6	**37.84**	**319**	P			**P**	**15 20 02.6**	**+0.4**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.5s,baz=97,slow=8.4,SNR=6.0 comp=Z,0.7nm,0.5s	**37.84**	**319**	P			**P**	**15 20 02.5**	**+0.4**
YAK	**Yakutsk**	**41.96**	**39**	⇑*i*P			**P**	**15 20 38.4**	**+2.1**
YAK	comp=Z,4.0nm,0.5s			pmax			pmax		
EKA	**Eskdalemuir Ar** comp=Z,1.1nm,0.6s,baz=89,slow=8.5,SNR=4.5 comp=Z,1.1nm,0.6s	**45.85**	**312**	P			**P**	**15 21 08.1**	**+0.4**
BORG	**Borgarnes**	**52.06**	**327**	*ce*P			**P**	**15 21 57.0**	**+1.9**
TORD	**Torodi Ar. Bea** comp=Z,2.7nm,0.4s,baz=41,slow=8.2,SNR=1.6 comp=Z,2.7nm,0.4s	**62.37**	**263**	P			**P**	**15 23 06.9**	**-1.8**
ILAR	**Eielson Array** comp=Z,0.3nm,0.8s,baz=335,slow=4.4,SNR=4.5 comp=Z,0.3nm,0.8s	**70.56**	**14**	P			**P**	**15 24 00.1**	**-0.3**
YKA	**Yellowknife Ar**	**75.97**	**0**	*i*P			**P**	**15 24 32.7**	**+0.4**
WRA	**Warramunga Arr** comp=Z,0.6nm,0.7s,baz=317,slow=4.4,SNR=3.1 comp=Z,0.6nm,0.7s	**87.95**	**119**	P			**P**	**15 25 34.5**	**-1.4**
ASAR	**Alice Springs** comp=Z,0.5nm,0.6s,baz=311,slow=4.7,SNR=3.1 comp=Z,0.5nm,0.6s	**90.35**	**122**	P			**P**	**15 25 45.8**	**-1.3**

*IDC **24** 15:16:21.8±2.4,19˚.61S×177˚.53W,h569^{km}±28^{km},*
mb3.3/11,mbtmp4.2/13,Error ellipse: s-maj=19.8km
s-min=13.8km az=152.0
*NEIC **24** 15:16:21.9±1.9,19˚.65S±0˚.1×177˚.5W±0˚.1,h564^{km}±8^{km},*
mb4.3/49,Error ellipse: s-maj=19.7km s-min=16.1km
az=145.0
*NOU **24** 15:16:21.0,19˚.78S×177˚.16W,h565^{km},mb4.3/18,Fiji*
Islands Region

ISC 24 15:16:20.3±0.5,**19˚.79S**±0˚.08×**177˚.34W**±0˚.08,**h550**^{km},
n104,σ1§**83**/106,**mb4.2**/35,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**2.08**	**318**	P			**P**	**15 17 33.9**	**+3.4**
LKBA	**Tubou, Lakemba**	**2.08**	**318**	S			**S**	**15 18 32.0**	**+4.6**
TAVE	**Taveuni**	**3.92**	**321**	P			**P**	**15 17 44.2**	**+2.5**
TAVE	**Taveuni**	**3.92**	**321**	S			**S**	**15 18 52.2**	**+4.4**
DGTI	**Dogotuki**	**4.45**	**321**	P			**P**	**15 17 47.7**	**+1.9**
DGTI	**Dogotuki**	**4.45**	**321**	S			**S**	**15 18 59.4**	**+4.1**
MSVF	**Nonsavu**	**4.82**	**294**	P			**P**	**15 17 51.6**	**+2.7**
MSVF	**Nonsavu**	**4.82**	**294**	P			**P**	**15 17 51.6**	**+2.7**
MSVF	**Nonsavu**	**4.82**	**294**	S			**S**	**15 19 06.3**	**+5.3**
FUTU	**Fugatoga**	**5.50**	**352**	P			**P**	**15 17 56.3**	**+1.7**
FUTU	**Fugatoga**	**5.50**	**352**	P			**P**	**15 17 57.3**	**+2.7**
YSA	**Yasawairara**	**5.72**	**302**	P			**P**	**15 17 58.3**	**+1.8**
NIUE	**Niue**	**7.03**	**85**	P			**P**	**15 18 10.6**	**+2.0**
AFI	**Afiamalu**	**7.90**	**43**	P			**P**	**15 18 16.1**	**-1.2**
AFI	**Afiamalu**	**7.90**	**43**	P			**P**	**15 18 17.0**	**-0.3**
PINNC	**Pines Island,**	**14.47**	**256**	P			**P**	**15 19 24.4**	**+0.1**
PINNC	**Pines Island,**	**14.47**	**256**	P			**P**	**15 19 24.4**	**+0.1**
YATNC	**Mamie plateau,**	**14.91**	**259**	P			**P**	**15 19 32.3**	**+3.4**
DZM	**Mont Dzumac**	**15.32**	**259**	P			**P**	**15 19 34.4**	**+1.1**
DZM	**Mont Dzumac** 11nm,0.5s,baz=112,slow=20,SNR=23	**15.32**	**259**	P			**P**	**15 19 32.7**	**-0.5**
DZM	**Mont Dzumac**	**15.32**	**259**	P			**P**	**15 19 35.7**	**+2.4**
ONTNC	**Quen Toro**	**15.34**	**258**	P			**P**	**15 19 34.7**	**+1.4**
KOUNC	**Koumac, New Ca**	**17.27**	**264**	P			**P**	**15 19 52.9**	**+1.3**
TOZ	**Tahuroa Road**	**18.94**	**198**	P			**P**	**15 20 09.1**	**+2.5**
TOZ				IAmb			IAmb	15 20 13.7	
URZ	comp=Z,18nm,1.3s **Urewera**	**19.03**	**194**	P			**P**	**15 20 08.0**	**+0.6**
URZ	comp=Z,3.1nm,0.3s,baz=100,slow=0.6,SNR=7.9			S			**S**	**15 23 07.2**	**-4.7**
URZ	comp=Z,12nm,1.1s,baz=2.2,slow=14,SNR=6.3 **Urewera**	**19.03**	**194**	P			**P**	**15 20 08.2**	**+0.8**
HIZ	**Hauiti**	**19.85**	**198**	P			**P**	**15 20 14.9**	**0.0**
BKZ	**Black Stump Fm**	**20.04**	**194**	P			**P**	**15 20 16.4**	**-0.2**
TUWZ	**Tuamarina**	**22.82**	**197**	P			**P**	**15 20 44.4**	**+2.9**
THZ	**Tophouse**	**23.42**	**199**	P			**P**	**15 20 48.8**	**+1.8**
LTZ	**Lake Taylor**	**24.55**	**199**	P			**P**	**15 20 58.1**	**+1.2**
MLZ	**Mavora Lakes**	**28.21**	**202**	P			**P**	**15 21 31.1**	**+2.0**
MLZ	comp=Z,

MBWA					IAmb	IAmb	15 25 24.6		
	comp=Z,5.4nm,0.5s								
SBA	**Scott Base**	**58.62**	**184**		P	**P**	**15 25 28.2**	**+3.9**	
MORW	**Morawa**	**60.67**	**247**		P	**P**	**15 25 38.0**	**-0.9**	
MORW					IAmb	IAmb	15 25 57.6		
	comp=Z,24nm,1.5s								
TOLI2	**Tolitoli**	**64.07**	**281**		P	**P**	**15 26 00.5**	**-0.6**	
TOLI2					IAmb	IAmb	15 26 04.2		
	comp=Z,9.7nm,0.9s								
MYLDM	**Lahad Datu**	**67.75**	**284**		P	**P**	**15 26 21.3**	**-2.7**	
MYLDM					IAmb	IAmb	15 26 30.3		
	comp=Z,31nm,1.4s								
MJAR	**Matsushiro Arr**	**70.01**	**323**		P	**P**	**15 26 34.8**	**-2.3**	
	comp=Z,0.9nm,0.6s,baz=161,slow=5.2,SNR=2.7								
	comp=Z,0.9nm,0.6s								
QSPA	**South Pole Qui**	**70.28**	**180**		P	**P**	**15 26 40.4**	**+2.0**	
QSPA	**South Pole Qui**	**70.28**	**180**		P	**P**	**15 26 39.7**	**+1.3**	
	comp=Z,1.1nm,0.8s,baz=314,slow=1.8,SNR=10								
	comp=Z,1.1nm,0.8s								
PETK	**Petropavlovsk-**	**75.75**	**345**		P	**P**	**15 27 07.8**	**-1.8**	
	comp=Z,2.0nm,0.8s,baz=174,slow=6.9,SNR=2.0								
	comp=Z,2.0nm,0.8s								
NVAR	**Mina Array Bea**	**80.08**	**43**		P	**P**	**15 27 32.7**	**-0.8**	
	comp=Z,0.4nm,0.6s,baz=243,slow=4.7,SNR=2.7								
	comp=Z,0.4nm,0.6s								
O16K	**Kokwok River B**	**80.65**	**10**		P	**P**	**15 27 34.0**	**-1.7**	
M16K	**Timber Creek**	**81.88**	**9**		P	**P**	**15 27 42.4**	**+0.4**	
M16K					IAmb	IAmb	15 27 43.3		
	comp=Z,8.0nm,1.2s								
N19K	**Bonanza Creek**	**82.41**	**11**		P	**P**	**15 27 43.6**	**-1.2**	
M17K	**Holitna River**	**82.47**	**10**		P	**P**	**15 27 44.7**	**-0.2**	
M17K					IAmb	IAmb	15 28 28.2		
	comp=Z,9.4nm,1.4s								
K15K	**Wolf Creek Mou**	**82.76**	**7**		P	**P**	**15 27 46.4**	**0.0**	
K15K					IAmb	IAmb	15 27 47.0		
	comp=Z,3.9nm,0.7s								
U15A	**North Rim**	**83.02**	**47**		P	**P**	**15 27 49.9**	**+1.2**	
L18K	**Granite Mounta**	**83.36**	**10**		P	**P**	**15 27 48.9**	**-0.5**	
K17K	**Iditarod**	**83.59**	**9**		P	**P**	**15 27 50.2**	**-0.3**	
K17K					IAmb	IAmb	15 28 04.2		
	comp=Z,8.1nm,1.5s								
J16K	**Anvik River**	**83.83**	**8**		P	**P**	**15 27 51.4**	**-0.3**	
J16K					IAmb	IAmb	15 27 52.4		
	comp=Z,6.2nm,1.1s								
GHO	**Glory Hole Cre**	**84.39**	**13**		P	**P**	**15 27 53.9**	**-0.7**	
GHO					IAmb	IAmb	15 27 54.2		
	comp=Z,4.0nm,0.6s								
J18K	**Innoko River**	**84.54**	**9**		P	**P**	**15 27 55.3**	**+0.1**	
J20K	**Nowinta River**	**85.61**	**10**		P	**P**	**15 27 59.7**	**-0.7**	
O28M	**Mount Upton**	**85.69**	**17**		P	**P**	**15 27 59.2**	**-2.0**	
TXAR	**Lajitas Array**	**86.15**	**57**		P	**P**	**15 28 05.4**	**+1.5**	
TXAR	**Lajitas Array**	**86.15**	**57**		P	**P**	**15 28 04.2**	**+0.2**	
	comp=Z,0.6nm,0.7s,baz=222,slow=5.9,SNR=8.3								
	comp=Z,0.6nm,0.7s								
CCB	**Clear Creek Bu**	**87.19**	**12**		P	**P**	**15 28 05.9**	**-1.9**	
I23K	**Minto, Yukon-K**	**87.34**	**11**		P	**P**	**15 28 06.9**	**-1.6**	
IMAR	**Indian Mountai**	**87.35**	**9**		P	**P**	**15 28 07.4**	**-1.2**	
ILAR	**Eielson Array**	**87.48**	**13**		P	**P**	**15 28 07.7**	**-1.5**	
	comp=Z,0.5nm,0.7s,baz=225,slow=5.9,SNR=7.0								
	comp=Z,0.5nm,0.7s								
M29M	**Somme Creek**	**87.53**	**17**		P	**P**	**15 28 09.2**	**-0.5**	
M29M					IAmb	IAmb	15 28 41.7		
	comp=Z,4.2nm,1.1s								
G21K	**Allakaket**	**87.89**	**9**		P	**P**	**15 28 09.6**	**-1.4**	
G21K					IAmb	IAmb	15 28 22.6		
	comp=Z,5.5nm,1.4s								
PDAR	**Pinedale Array**	**88.02**	**43**		P	**P**	**15 28 12.4**	**-0.1**	
	comp=Z,0.5nm,0.6s,baz=209,slow=4.9,SNR=5.7								
	comp=Z,0.5nm,0.6s								
M30M	**Minto, Yukon**	**88.11**	**18**		P	**P**	**15 28 11.4**	**-0.8**	
M30M					IAmb	IAmb	15 28 43.7		
	comp=Z,3.6nm,1.2s								
CMAR	**Chiang Mai Arr**	**90.46**	**289**		P	**P**	**15 28 22.9**	**-1.3**	
	comp=Z,1.2nm,0.9s,baz=118,slow=2.9,SNR=7.2								
	comp=Z,1.2nm,0.9s								
BVAR	**Borovoye Array**	**118.93**	**320**		PKP	**PKPdf**	**15 34 04.4**	**-2.0**	
	comp=Z,1.0nm,0.4s,baz=90,slow=1.9,SNR=5.3								
ARCES	**ARCESS Array B**	**128.33**	**350**		PKP	**PKPdf**	**15 34 22.4**	**-1.5**	
	comp=Z,0.7nm,0.4s,baz=9.9,slow=0.8,SNR=14								
FINES	**FINESS Array B**	**135.26**	**344**		PKhKP	PKPpre	15 34 33.0		
	comp=Z,1.3nm,0.8s,baz=64,slow=3.2,SNR=4.7								
HFS	**Hagfors**	**138.93**	**352**		PKhKP	PKPpre	15 34 31.4		
	comp=Z,0.9nm,0.8s,baz=67,slow=12,SNR=2.4								
AKASG	**Malin Array Be**	**142.69**	**332**		PKhKP	PKPpre	15 34 46.2		
	comp=Z,1.1nm,0.5s,baz=45,slow=3.6,SNR=10								
BUR08	**Bucovina Ar. S**	**146.72**	**332**		PKPbc	**PKPbc**	**15 35 01.2**	**+0.2**	
BURAR	**Bucovina Array**	**146.74**	**332**			**PKPdf**	**15 35 00.3**	**+2.1**	
BR131	**Keskin Array S**	**146.81**	**314**		PKPbc	**PKPdf**	**15 35 00.1**	**+1.5**	
BRTR	**Keskin Array B**	**146.81**	**314**		PKPbc	**PKPdf**	**15 34 59.7**	**+1.0**	
BRTR	**Keskin Array B**	**146.81**	**314**		PKPbc	**PKPdf**	**15 34 60.0**	**+1.3**	
	comp=Z,1.8nm,0.7s,baz=353,slow=3.5,SNR=8.2								
MLR	**Muntele Rosu**	**147.96**	**328**		PKPbc	**PKPdf**	**15 35 02.7**	**+2.4**	
	comp=Z,3.3nm,0.7s,baz=153,slow=2.3,SNR=3.1								
MMAI	**Mount Meron Ar**	**147.99**	**301**		PKP	**PKPdf**	**15 34 57.5**	**-3.2**	
	comp=Z,0.8nm,0.3s,baz=127,slow=3.8,SNR=2.2								
MMAI					PKPbc	**PKPbc**	**15 35 03.4**	**-1.2**	
	comp=Z,1.7nm,0.5s,baz=132,slow=2.5,SNR=4.1								
GERES	**GERESS Array B**	**149.68**	**345**		PKPbc	**PKPbc**	**15 35 07.6**	**-0.6**	
	comp=Z,1.9nm,0.6s,baz=18,slow=1.7,SNR=12								
RDO	**Rodhopi**	**151.14**	**323**		PKPbc	**PKPbc**	**15 35 10.6**	**-1.2**	
DAVOX	**Davos/Dischmat**	**152.43**	**349**		PKPbc	**PKPbc**	**15 35 13.7**	**-1.0**	
	comp=Z,1.1nm,0.3s,baz=306,slow=14,SNR=3.7								

AUST 24 15:31:04.9±0.8, 18°S±9°, 112°E±°, h10km, mb3.7/3, ML2.8/2, ML3.1/3, Error ellipse: s-maj=23.0km s-min=8.7km az=144.8, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.71**	**77**	P	Pn	15 31 35.1	+0.4
AUBRM				S	Sg	15 32 00.9	+1.0
PSAC1	**Pilbara Seismi**	**3.22**	**191**	P	Pn	15 31 56.5	+1.0
GIRL	**Giralia**	**7.24**	**233**	P	Pn	15 32 50.6	-0.2
	comp=Z,239µcomp=Z,0.2nmcomp=Z,54nm,2.1s						
KNRA	**Kununurra**	**8.36**	**73**	P	Pn	15 33 05.8	-0.4
	comp=Z,0.0nmcomp=Z,8.7nm,1.8s						
MEEK	**Meekatharra**	**8.41**	**192**	P	Pn	15 33 06.2	-0.7
WRKA	**Warakurna**	**9.84**	**134**	P	Pn	15 33 26.0	-0.5
	comp=Z,0.0nmcomp=Z,4.1nm,2.1s						

WEL 24 15:38:09.0±0.9, 31°S±7°, 177°W±1°, h326km±14km, mB4.8/12, ML5.0/4, MLv4.8/7, Mw(mB)4.0/12, Error ellipse: s-maj=23.8km s-min=5.4km az=108.9, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.17**	**12**	P	Pn	15 38 58.4	-1.1
RIZ	**Raoul Island**	**2.18**	**12**	P	Pn	15 38 59.0	-0.5
WMGZ	**Waiomatatini S**	**6.92**	**201**	P	Pn	15 39 51.8	+2.1
WMGZ				S	S	15 41 12.4	+0.9
PKGZ	**Pakihiroa**	**7.07**	**203**	P	Pn	15 39 52.0	+0.4
PKGZ				S	S	15 41 15.6	+0.8
HAZ	**Te Kaha**	**7.08**	**205**	P	Pn	15 39 52.7	+1.1
HAZ				S	S	15 41 16.2	+1.3
PUZ	**Puketiti**	**7.20**	**201**	P	Pn	15 39 54.3	+1.1
PUZ				S	S	15 41 18.4	+0.7
RUGZ	**Raukumara Rang**	**7.30**	**205**	P	Pn	15 39 54.8	+0.4
RUGZ				S	S	15 41 20.1	+0.1
TWGZ	**Tauwhareparae**	**7.39**	**203**	P	Pn	15 39 57.7	+2.4
TWGZ				S	S	15 41 23.1	+1.4
WCZ	**Waipu Caves**	**7.54**	**231**	P	Pn	15 39 56.6	-0.6
WIAZ	**Waiheke Island**	**7.58**	**223**	P	Pn	15 39 58.9	+1.2
CNGZ	**Carnagh Statio**	**7.60**	**200**	P	Pn	15 39 58.9	+1.1
TKGZ	**Te Karaka**	**7.67**	**202**	P	Pn	15 39 57.3	-1.4
MWZ	**Matawai**	**7.68**	**205**	P	Pn	15 39 59.0	+0.1
MBAZ	**Motutapu North**	**7.71**	**224**	P	Pn	15 40 00.5	+1.3
URZ	**Urewera**	**7.77**	**207**	P	Pn	15 39 59.7	-0.2
URZ				S	S	15 41 29.2	-0.9
MKAZ	**Moumakai**	**7.79**	**221**	P	Pn	15 40 01.4	+1.3
ETAZ	**East Tamaki Re**	**7.82**	**223**	P	Pn	15 40 01.8	+1.4
RAGZ	**Rawiri**	**7.87**	**205**	P	Pn	15 40 00.0	-1.1
RAGZ				S	S	15 41 32.4	0.0
RIGZ	**Rimuhau**	**7.94**	**202**	P	Pn	15 40 01.8	-0.2
RIGZ				S	S	15 41 34.3	+0.4
AWAZ	**Awhitu Peninsu**	**8.06**	**224**	P	Pn	15 40 04.2	+0.8
TOZ	**Tahuroa Road**	**8.06**	**217**	P	Pn	15 40 04.0	+0.6
MUGZ	**Murupara**	**8.09**	**208**	P	Pn	15 40 03.3	-0.6
MUGZ				S	S	15 41 37.5	+0.2
SNGZ	**Shannon Statio**	**8.15**	**204**	P	Pn	15 40 02.1	-2.4
SNGZ				S	S	15 41 38.3	-0.2
MHGZ	**Mahia Peninsul**	**8.30**	**200**	P	Pn	15 40 07.0	+0.6
NGZ	**Ngauruhoe**	**9.17**	**210**	P	Pn	15 40 15.9	-1.1
WAZ	**Wanganui**	**9.92**	**211**	P	Pn	15 40 24.1	-1.8
WAZ				S	S	15 42 16.3	-1.6

*GCMT **24** 15:38:25.4±0.3, 5.6°N±0.0°, 32.7°E, 76W±0.0, h12km, MW4.9/104, Moment Tensor Solution. s57, c70; s104, c137; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.62±.08; Mθθ=-0.03±.09; Mφφ=2.65±.08; Mrθ=1.34±.28; Mθφ=0.64±.07; Mφr=0.96±.24; Best double couple: M=3.14100×10^16 NP1=φs145.00000°, δ43.00000°, λ-127.00000°. NP2=φs12.00000°, δ57.00000°, λ-61.00000°. Principal axes: T 2.8810, Plg8.0000°, Azm81.0000°; N 0.5220, Plg24.0000°, Azm174.0000°; P -3.4000, Plg64.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **24** 15:38:28.5±0.5, 5.66N×32.93W, h0km, mb4.1/28, mbtmp4.1/31, ML3.7/3 Error ellipse: s-maj=16.9km s-min=12.3km az=131.0*

*BGR **24** 15:38:29.9, 4.38N×32.17W, h12km, mb5.0*

*NEIC **24** 15:38:31.4±1.3, 5.6N±0.1×32.90W±0.09, h10km±1km, mb4.9/78, Error ellipse: s-maj=18.3km s-min=15.4km az=156.0*

ISC 24 15:38:30.7±0.3, 5.60N±0.06×32.91W±0.06, h12km, n171, σ1 s24/153, mb4.8/60, 3D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBCL	**Cascavel-CE**	**11.14**	**209**	*e*P	**Pn**	**15 41 07.7**	**-2.2**
RCBR	**Riachuelo**	**11.74**	**195**	Pn	**Pn**	**15 41 17.3**	**-0.9**
RCBR	**Riachuelo**	**11.74**	**195**	Pn	**Pn**	**15 41 17.4**	**-0.7**
	0.2nm,0.3s,baz=60,slow=20,SNR=2.0						
	2.4nm,0.8s						
RCBR	**Riachuelo**	**11.74**	**195**	*e*P	**Pn**	**15 41 21.7**	**+3.6**
SACV	**Santiago Islan**	**13.05**	**44**	Pn	**Pn**	**15 41 34.0**	**-2.1**
BBTS	**Babate**	**18.45**	**60**	P	**Pn**	**15 42 46.5**	**+0.1**
	1.6nm,0.3s,baz=183,slow=7.3,SNR=2.1						
	14nm,0.6s						
MDP	**Montagnes des**	**19.66**	**269**	P	**P**	**15 42 58.6**	**-1.1**
	0.1nm,0.3s,baz=140,slow=4.6,SNR=4.2						
	5.8nm,0.8s						
GDU01	**Guandu, BA**	**20.30**	**199**	*e*P	Pn	15 43 08.1	-0.6
SMTB	**Santa Maria do**	**20.51**	**226**	*e*P	**P**	**15 43 08.4**	**-0.6**
PRPB	**Parauapebas**	**20.53**	**236**	*e*P	**P**	**15 43 07.1**	**-2.2**
SDBA	**SAO DESIDERIO**	**21.50**	**214**	*e*P	**P**	**15 43 19.8**	**+0.1**
CMC01	**Camacan, BA**	**21.83**	**197**	*e*P	**P**	**15 43 24.0**	**+0.9**
MAL2	**Monte Alegre,**	**22.55**	**251**	P	**P**	**15 43 32.2**	**+1.2**
MAL2				IAmb	IAmb	15 43 39.8	
	comp=Z,49nm,0.9s						
H10N3	**ASCENSION HYDR**	**22.70**	**126**	T	T	16 07 08.8	
	baz=308,slow=75						
H10N2	**ASCENSION HYDR**	**22.70**	**126**	T	T	16 07 08.5	
	baz=308,slow=75						
H10N1	**ASCENSION HYDR**	**22.72**	**126**	T	T	16 07 10.3	
	baz=308,slow=75						
GUA01	**Guaratinga, BA**	**23.07**	**197**	*e*P	**P**	**15 43 36.8**	**+0.5**
H10S3	**ASCENSION HYDR**	**23.23**	**128**	T	T	16 07 47.4	
	baz=272,slow=74						
H10S2	**ASCENSION HYDR**	**23.25**	**128**	T	T	16 07 48.6	
	baz=308,slow=74						
JANB	**Januaria**	**23.43**	**209**	*e*P	**P**	**15 43 39.8**	**-0.2**
ITTB	**Itaituba**	**24.85**	**247**	*e*P	**P**	**15 43 51.3**	**-2.1**
SNDB	**Serra Nova Dou**	**25.28**	**226**	*e*P	**P**	**15 43 56.6**	**-0.6**
SJMB	**Sao Joao De Ma**	**25.49**	**198**	*e*P	**P**	**15 44 00.2**	**+1.2**
NPGB	**Novo Progresso**	**25.68**	**241**	*e*P	**P**	**15 44 00.0**	**-0.9**
RIB01	**Linhares ES**	**25.83**	**196**	*e*P	**P**	**15 44 03.2**	**+1.1**
BDFB	**Brasilia**	**25.87**	**215**	P	**P**	**15 44 01.7**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=31,slow=20,SNR=1.8						
	comp=Z,1.4nm,0.4s						
DIAM	**Diamantina, MG**	**26.01**	**204**	*e*P	**P**	**15 44 04.5**	**+0.6**
PMNB	**Patos De Minas**	**27.44**	**209**	*e*P	**P**	**15 44 17.3**	**+0.5**
BOAV	**Boa Vista**	**27.73**	**265**	P	**P**	**15 44 19.5**	**+0.2**
BOAV	**Boa Vista**	**27.73**	**265**	*e*P	**P**	**15 44 16.2**	**-3.1**
IPMB	**Ipameri, GO**	**27.88**	**212**	*e*P	**P**	**15 44 21.1**	**+0.4**
DBIC	**Dimbokro**	**27.91**	**86**	P	**P**	**15 44 21.6**	**+0.6**
DBIC				IAmb	IAmb	15 44 27.5	
	comp=Z,24nm,1.2s						
DBIC	**Dimbokro**	**27.91**	**86**	P	**P**	**15 44 21.3**	**+0.4**
	comp=Z,15nm,1.2s,baz=297,slow=6.6,SNR=4.8						
	comp=Z,15nm,1.2s						
CLDB	**Colider**	**28.05**	**234**	*e*P	**P**	**15 44 20.6**	**-1.6**
ARAG	**Araguaiana, MT**	**28.26**	**221**	*e*P	**P**	**15 44 23.6**	**-0.5**
CBE	**Ff, Capester**	**30.00**	**293**	P	**P**	**15 44 40.7**	**+1.1**
PTLB	**Pontes e Lacer**	**33.35**	**231**	*e*P	**P**	**15 45 07.8**	**-1.2**
LDASE	**Londrina, Braz**	**33.86**	**211**	*e*P	**P**	**15 45 13.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**34.92**	**75**	P	**P**	**15 45 22.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**34.92**	**75**	P	**P**	**15 45 21.1**	**-1.6**
	comp=Z,1.7nm,0.3s,baz=274,slow=8.5,SNR=2.1						
	comp=Z,1.7nm,0.3s						
BAUV	**El Baul**	**35.00**	**278**	P	**P**	**15 45 23.6**	**+0.2**
CNLB	**Canela**	**38.76**	**205**	*e*P	**P**	**15 45 54.4**	**-0.8**
CPUP	**Villa Florida**	**39.60**	**216**	P	**P**	**15 46 02.4**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=108,slow=0.6,SNR=2.9						
	comp=Z,0.4nm,0.6s						
RUSC	**La Rusia**	**39.97**	**272**	P	**P**	**15 46 07.0**	**+1.0**
PESTR	**Estremoz**	**40.28**	**31**	P	P	15 46 17.5	+10
PMRV	**Marv??o**	**40.80**	**31**	P	**P**	**15 46 14.6**	**+2.5**
TAM	**Tamanrasset**	**40.81**	**61**	P	**P**	**15 46 13.0**	**+0.4**
LPAZ	**La Paz**	**41.08**	**237**	P	**P**	**15 46 16.2**	**+0.9**
LPAZ	**La Paz**	**41.08**	**237**	P	**P**	**15 46 15.2**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=76,slow=5.8,SNR=6.2						
	comp=Z,2.3nm,0.8s						
LPAZ	**La Paz**	**41.08**	**237**	*e*P	**P**	**15 46 12.9**	**-2.4**
CZSB	**Cruzeiro do Su**	**41.85**	**252**	P	**P**	**15 46 20.6**	**-0.4**
CZSB				IAmb	IAmb	15 46 27.9	
	comp=Z,33nm,1.1s						
ESDC	**Sonseca Array**	**42.79**	**33**	P	**P**	**15 46 29.2**	**+0.8**
ESDC	**Sonseca Array**	**42.79**	**33**	P	**P**	**15 46 25.8**	**-2.6**
	comp=Z,1.6nm,1.1s,baz=213,slow=8.4,SNR=7.2						
	comp=Z,1.6nm,1.1s						
COHC	**Cochancay**	**46.98**	**261**	P	**P**	**15 47 01.6**	**-0.5**
BATG	**Bathurst New B**	**50.33**	**331**	P	**P**	**15 47 28.4**	**+1.0**
MSSA	**Maissana**	**53.50**	**37**	P	**P**	**15 47 51.6**	**+0.4**
MSSA				IAmb	IAmb	15 48 36.5	
	comp=Z,12nm,1.1s						
OSSC	**Osservatorio P**	**54.13**	**39**	P	**P**	**15 47 57.1**	**+1.4**
OSSC				IAmb	IAmb	15 48 04.8	
	comp=Z,15nm,1.3s						
ECH	**Echery**	**54.45**	**32**	P	**P**	**15 47 59.2**	**+1.3**
ECH				IAmb	IAmb	15 48 06.0	
	comp=Z,22nm,1.7s						
EKA	**Eskdalemuir Ar**	**55.02**	**20**	P	**P**	**15 48 01.1**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=215,slow=7.4,SNR=5.4						
	comp=Z,1.0nm,0.6s						
DAVOX	**Davos/Dischmat**	**55.08**	**35**	P	**P**	**15 48 02.3**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=181,slow=6.3,SNR=3.1						
	comp=Z,1.0nm,0.3s						
BFO	**Black Forest**	**55.14**	**32**	P	**P**	**15 48 04.2**	**+1.3**
BFO				IAmb	IAmb	15 48 10.4	
	comp=Z,13nm,1.3s						
TSUM	**Tsumeb**	**55.48**	**118**	P	**P**	**15 48 06.2**	**+0.2**
TSUM				IAmb	IAmb	15 48 13.9	
	comp=Z,21nm,1.2s						
SCHQ	**Schefferville**	**56.16**	**337**	P	**P**	**15 48 09.7**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=107,slow=10,SNR=4.1						
	comp=Z,3.3nm,0.8s						
GRA1	**Grafenberg Arr**	**57.48**	**32**	P	**P**	**15 48 19.6**	**-0.1**
GRA1				IAmb	IAmb	15 48 27.8	
	comp=Z,18nm,1.3s						
GRF	**Grafenberg Arr**	**57.48**	**32**	*e*P	**P**	**15 48 21.1**	**+1.4**
	comp=Z,37nm,2.2s,baz=228,slow=6.7						
GRF				*es*P	**pwP**	**15 48 25.9**	**-1.1**
GEC2	**GERESS Array S**	**58.37**	**34**	P	**P**	**15 48 26.9**	**+0.9**
GEC2				IAmb	IAmb	15 48 32.9	
	comp=Z,15nm,1.5s						
GERES	**GERESS Array B**	**58.37**	**34**	P	**P**	**15 48 26.1**	**+0.1**
GERES	**GERESS Array B**	**58.37**	**34**	P	**P**	**15 48 25.7**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=243,slow=5.8,SNR=11						
	comp=Z,1.8nm,0.9s						
KHC	**Kasperske Hory**	**58.45**	**34**	*e*P	**P**	**15 48 31.0**	**+4.5**
CLL	**Collm**	**59.33**	**32**	*i* P	**P**	**15 48 33.7**	**+1.2**
CLL				*e*S	**S**	**15 56 38.0**	**-2.8**
CLL				AMS	AMS	16 10 00.0	
	comp=Z,300nm,20.4s						
BRG	**Berggiesshubel**	**59.59**	**32**	*e*P	**P**	**15 48 35.6**	**+1.3**
BRG				Amp		15 48 37.5	
	comp=Z,6.1nm,1.3s						
BRG	**Berggiesshubel**	**59.59**	**32**	P	P	15 48 40.7	+6.4
BRG				Amp		15 48 42.6	
	comp=Z,2.5nm,0.8s						
BRG	**Berggiesshubel**	**59.59**	**32**	S	S	15 56 55.0	+11
KRUC	**Moravsky**	**60.01**	**35**	*e*P	**P**	**15 48 37.0**	**-0.3**
S44A	**Carbondale**	**60.23**	**310**	P	**P**	**15 48 40.8**	**+1.8**
S44A				IAmb	IAmb	15 48 52.2	
	comp=Z,8.0nm,0.9s						
VRAC	**Vranov**	**60.24**	**35**	*e*P	**P**	**15 48 39.8**	**+0.9**
VRAC	**Vranov**	**60.24**	**35**	P	**P**	**15 48 39.5**	**+0.7**
	comp=Z,1.5nm,0.4s,baz=237,slow=6.8,SNR=7.3						
	comp=Z,1.5nm,0.4s						
KSP	**Ksiaz**	**60.84**	**33**	*e*P	**P**	**15 48 42.6**	**-0.3**
MORC	**Moravsky Berou**	**61.01**	**35**	P	**P**	**15 48 45.1**	**+1.0**
MORC				IAmb	IAmb	15 48 46.7	
	comp=Z,11nm,1.3s						
MORC	**Moravsky Berou**	**61.01**	**35**	*e*P	**P**	**15 48 44.7**	**+0.5**
PSZ	**Piszkesteto**	**61.55**	**38**	P	**P**	**15 48 48.3**	**+0.4**
NIE	**Niedzica**	**62.44**	**36**	*e*P	**P**	**15 48 55.0**	**+1.2**
OJC	**Ojcow**	**62.51**	**35**	*e*P	**P**	**15 48 54.8**	**+0.6**
OJC	**Ojcow**	**62.51**	**35**	P	**P**	**15 48 54.2**	**0.0**
NB2	**NORSAR Subarra**	**64.38**	**22**	P	**P**	**15 49 06.0**	**-0.4**
	comp=Z,19nm,1.2s,baz=230,slow=6.5						
NB2				PCP	**PcP**	**15 49 48.4**	**+7.6**
	comp=Z,0.6nm,0.6s,baz=230,slow=6.9						
NOA	**NORSAR Array B**	**64.38**	**22**	P	**P**	**15 49 05.2**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=230,slow=6.4,SNR=7.0						
	comp=Z,0.9nm,0.7s						
NB201	**NORSAR Array S**	**64.42**	**22**	P	**P**	**15 49 07.4**	**+0.8**
MLR	**Muntele Rosu**	**64.47**	**42**	P	**P**	**15 49 07.9**	**+0.5**
MLR	**Muntele Rosu**	**64.47**	**42**	P	**P**	**15 49 07.4**	**0.0**
	comp=Z,2.9nm,0.7s,baz=58,slow=1.1,SNR=5.8						
	comp=Z,2.9nm,0.7s						
BUR08	**Bucovina Ar. S**	**64.72**	**39**	P	**P**	**15 49 09.8**	**+0.8**
BUR08				IAmb	IAmb	15 49 25.3	
	comp=Z,13nm,1.8s						
BURAR	**Bucovina Array**	**64.72**	**39**	P	**P**	**15 49 09.5**	**+0.5**
HFS	**Hagfors**	**64.78**	**24**	P	**P**	**15 49 08.4**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=207,slow=6.2,SNR=6.3						
	comp=Z,1.5nm,0.6s						
BOSA	**Boshof**	**65.45**	**125**	P	**P**	**15 49 13.6**	**-0.5**
	comp=Z,8.4nm,1.0s,baz=317,slow=7.0,SNR=7.0						
	comp=Z,8.4nm,1.0s						
SUW	**Suwalki**	**66.05**	**32**	P	**P**	**15 49 18.7**	**+1.4**
KAN13	**South Haven SW**	**66.41**	**308**	P	**P**	**15 49 20.7**	**+0.7**
KAN13				IAmb	IAmb	15 49 22.0	
	comp=Z,16nm,1.1s						
CROK	**Carrier**	**66.71**	**307**	P	**P**	**15 49 22.0**	**+0.1**
CROK				IAmb	IAmb	15 49 29.3	
	comp=Z,12nm,1.0s						
KAN14	**Manchester OK**	**66.78**	**308**	P	**P**	**15 49 23.1**	**+0.7**
KAN08	**Anthony NE Sta**	**66.84**	**308**	P	**P**	**15 49 23.4**	**+0.7**
SUMG	**Summit**	**66.99**	**358**	P	**P**	**15 49 24.3**	**+0.8**
SUMG				IAmb	IAmb	15 49 31.1	
	comp=Z,22nm,1.4s						
LODK	**Lodwar**	**68.06**	**89**	P	**P**	**15 49 30.9**	**0.0**
KIEV	**Kiev**	**68.23**	**37**	P	**P**	**15 49 31.3**	**+0.1**
KIEV				IAmb	IAmb	15 49 38.1	
	comp=Z,23nm,1.6s						
AKASG	**Malin Array Be**	**68.25**	**37**	P	**P**	**15 49 31.5**	**+0.2**
AKASG				IAmb	IAmb	15 49 32.8	
	comp=Z,16nm,1.6

	comp=Z,0.5nm,0.7s								
RC01	**Rabbit Creek A**	**97.68**	**334**		P	Pdif	15 52 05.5	+0.2	
WMQ	**Urumqi**	**107.45**	**41**		Pdif	**Pdif**	**15 52 51.0**	**+1.7**	
WMQ					LR	LR			
	comp=Z,120nm,19.3s								
TAOE	**Nuku Hiva Isla**	**107.84**	**263**		*e*SS	SS	16 12 27.5	-5.9	
	comp=Z,118nm,29.1s								
TAOE	**Nuku Hiva Isla**	**107.84**	**263**		*e*LR	LR	16 28 23.0		
	comp=Z,234nm,23.6s								
TBI	**Tubuai**	**116.56**	**247**		*e*SS	SS	16 14 30.4	+1.7	
	comp=Z,738nm,33.8s								
TBI	**Tubuai**	**116.56**	**247**		*e*LR	LR	16 32 27.7		
	comp=Z,872nm,38.8s								
PPT2	**Papeete2**	**117.08**	**253**		*e*SS	SS	16 14 40.9	+5.0	
	comp=Z,149nm,28.0s								
PPT2	**Papeete2**	**117.08**	**253**		*e*LR	LR	16 32 39.9		
	comp=Z,220nm,21.8s								
PPT2					*e*LR	LR	16 32 45.0		
	comp=Z,273nm,39.8s								
CMAR	**Chiang Mai Arr**	**126.86**	**62**		PKPdf	**PKPdf**	**15 57 35.3**	**-0.2**	
CMAR	**Chiang Mai Arr**	**126.86**	**62**		PKP	**PKPdf**	**15 57 35.2**	**-0.3**	
	comp=Z,3.5nm,1.0s,baz=294,slow=3.5,SNR=9.9								
SBUM	**Sibu**	**144.26**	**78**		PKPdf	**PKPdf**	**15 58 07.5**	**-0.3**	
PSA00	**Pilbara Seismi**	**149.21**	**124**		PKPbc	**PKPbc**	**15 58 19.2**	**-1.0**	
DZM	**Mont Dzumac**	**155.13**	**227**		*e*SS	SS	16 22 12.5	+3.4	
	comp=Z,413nm,34.1s								
DZM	**Mont Dzumac**	**155.13**	**227**		*e*LR	LR	16 50 13.9		
	comp=Z,81nm,23.1s								
ASAR	**Alice Springs**	**158.00**	**146**		PKP	**PKPdf**	**15 58 29.0**	**+0.5**	
	comp=Z,1.8nm,1.0s,baz=136,slow=0.6,SNR=8.2								
ASAR					PKPab	**PKPab**	**15 59 01.9**	**+0.4**	
	comp=Z,0.8nm,0.8s,baz=202,slow=3.7,SNR=4.5								
WRA	**Warramunga Arr**	**161.10**	**140**		PKP	**PKPdf**	**15 58 31.9**	**-0.2**	
	comp=Z,0.3nm,0.8s,baz=238,slow=0.8,SNR=4.1								
WRA					PKPab	**PKPab**	**15 59 14.5**	**-0.6**	
	comp=Z,0.5nm,0.9s,baz=219,slow=3.1,SNR=1.9								

*IDC **24** 15:39:09.9±0.9,5°.66N×32°.81W, h0km, mb4.1/17, mbtmp4.1/18, ML3.8/1, Error ellipse: s-maj=28.4km s-min=19.0km az=162.0*
*NEIC **24** 15:39:12.1±1.8,5°.63N±0°.09×32°.9W±0°.1, h10km±1km, mb4.6/15, Error ellipse: s-maj=20.7km s-min=13.7km az=300.0*
ISC 24 15:39:11.6±0.5,5°.64N±0°.10×32°.86W±0°.09, h12km, n43, σ0s92/37, mb4.3/22, 1D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RCBR	**Riachuelo**	**11.78**	**195**	Pn		**Pn**	**15 41 59.1**	**-0.6**
MDP	**Montagnes des**	**19.70**	**269**	P		**P**	**15 43 40.1**	**-1.0**
	0.2nm,0.3s,baz=102,slow=4.4,SNR=4.2							
	6.9nm,0.7s							
MAL2	**Monte Alegre,**	**22.61**	**251**	P		**P**	**15 44 13.2**	**+0.8**
MAL2				IAmb		IAmb	15 44 18.2	
	comp=Z,32nm,0.9s							
H10N3	**ASCENSION HYDR**	**22.69**	**126**	T		T	16 07 51.2	
	baz=305							
H10N2	**ASCENSION HYDR**	**22.69**	**126**	T		T	16 07 50.2	
	baz=305							
H10N1	**ASCENSION HYDR**	**22.71**	**126**	T		T	16 07 52.5	
	baz=305							
H10S3	**ASCENSION HYDR**	**23.22**	**128**	T		T	16 08 32.9	
	baz=308,slow=74							
H10S2	**ASCENSION HYDR**	**23.24**	**128**	T		T	16 08 34.5	
	baz=272,slow=74							
BOAV	**Boa Vista**	**27.77**	**264**	P		**P**	**15 45 00.8**	**+0.1**
BOAV				IAmb		IAmb	15 45 26.4	
	comp=Z,14nm,1.4s							
DBIC	**Dimbokro**	**27.86**	**86**	P		**P**	**15 45 02.4**	**+0.8**
DBIC				IAmb		IAmb	15 45 12.6	
	comp=Z,17nm,1.3s							
DBIC	**Dimbokro**	**27.86**	**86**	P		**P**	**15 45 01.7**	**+0.2**
	comp=Z,7.0nm,0.8s,baz=296,slow=8.1,SNR=3.7							
	comp=Z,7.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**34.87**	**75**	P		**P**	**15 46 03.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**34.87**	**75**	P		**P**	**15 46 03.3**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=266,slow=10.0,SNR=1.6							
	comp=Z,1.5nm,0.3s							
BAUV	**El Baul**	**35.04**	**278**	P		**P**	**15 46 04.1**	**-0.6**
LPAZ	**La Paz**	**41.13**	**237**	P		**P**	**15 46 58.3**	**+1.5**
	comp=Z,1.9nm,0.7s,baz=40,slow=12,SNR=2.0							
	comp=Z,1.9nm,0.7s							
CZSB	**Cruzeiro do Su**	**41.90**	**252**	P		**P**	**15 47 01.4**	**-1.0**
CZSB				IAmb		IAmb	15 47 03.1	
	comp=Z,13nm,0.8s							
ESDC	**Sonseca Array**	**42.74**	**33**	P		**P**	**15 47 08.4**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=222,slow=7.7,SNR=2.2							
	comp=Z,1.0nm,0.9s							
COHC	**Cochancay**	**47.03**	**261**	P		**P**	**15 47 42.5**	**-0.9**
ECH	**Echery**	**54.39**	**32**	P		**P**	**15 48 39.1**	**+0.6**
EKA	**Eskdalemuir Ar**	**54.97**	**20**	P		**P**	**15 48 42.1**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=210,slow=6.9,SNR=5.7							
	comp=Z,0.8nm,0.5s							
DAVOX	**Davos/Dischmat**	**55.03**	**35**	P		**P**	**15 48 42.7**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=300,slow=14,SNR=1.5							
	comp=Z,3.0nm,0.9s							
SCHQ	**Schefferville**	**56.15**	**337**	P		**P**	**15 48 51.5**	**+0.4**
SCHQ				IAmb		IAmb	15 48 53.1	
	comp=Z,7.5nm,1.1s							
GEC2	**GERESS Array S**	**58.32**	**34**	P		**P**	**15 49 07.0**	**+0.4**
GEC2				IAmb		IAmb	15 49 09.9	
	comp=Z,4.2nm,1.0s							
GERES	**GERESS Array B**	**58.32**	**34**	P		**P**	**15 49 04.1**	**-2.5**
GERES	**GERESS Array B**	**58.32**	**34**	P		**P**	**15 49 06.6**	**0.0**
	comp=Z,1.5nm,0.8s,baz=250,slow=6.7,SNR=5.8							
	comp=Z,1.5nm,0.8s							
QNGWA	**Qangwa**	**58.75**	**117**	P		**P**	**15 49 10.9**	**+0.8**
QNGWA				IAmb		IAmb	15 49 22.5	
	comp=Z,5.3nm,1.1s							
BRG	**Berggiesshubel**	**59.53**	**32**	P		P	15 49 20.0	+5.1
BRG				Amp			15 49 23.1	
	comp=Z,2.3nm,0.9s							
NOA	**NORSAR Array B**	**64.33**	**22**	P		**P**	**15 49 47.6**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=230,slow=6.4,SNR=4.3							
	comp=Z,1.2nm,0.8s							
MLR	**Muntele Rosu**	**64.41**	**42**	P		**P**	**15 49 47.1**	**-0.9**
MLR	**Muntele Rosu**	**64.41**	**42**	P		**P**	**15 49 47.9**	**-0.1**
	comp=Z,2.5nm,0.5s,baz=222,slow=9.4,SNR=3.7							
	comp=Z,2.5nm,0.5s							
NC405	**NORSAR Array S**	**64.56**	**22**	P		**P**	**15 49 49.0**	**+0.5**
NC405				IAmb		IAmb	15 49 51.1	
	comp=Z,6.9nm,0.9s							
HFS	**Hagfors**	**64.73**	**24**	P		**P**	**15 49 49.1**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=248,slow=6.2,SNR=3.6							
	comp=Z,1.4nm,0.7s							
BOSA	**Boshof**	**65.44**	**125**	P		**P**	**15 49 53.5**	**-1.5**
BOSA	**Boshof**	**65.44**	**125**	P		**P**	**15 49 54.8**	**-0.1**
	comp=Z,5.3nm,0.9s,baz=288,slow=4.4,SNR=3.2							
	comp=Z,5.3nm,0.9s							
AKASG	**Malin Array Be**	**68.19**	**37**	P		**P**	**15 50 12.1**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=255,slow=5.9,SNR=4.1							
	comp=Z,2.2nm,0.7s							
BRTR	**Keskin Array B**	**68.40**	**50**	P		**P**	**15 50 13.4**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=248,slow=7.3,SNR=2.3							
	comp=Z,0.7nm,0.8s							
FINES	**FINESS Array B**	**70.59**	**26**	P		**P**	**15 50 27.4**	**+0.9**
FINES	**FINESS Array B**	**70.59**	**26**	P		**P**	**15 50 26.4**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=232,slow=2.2,SNR=4.8							
	comp=Z,2.2nm,0.8s							
PDAR	**Pinedale Array**	**76.43**	**313**	P		**P**	**15 51 03.4**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=75,slow=36,SNR=2.2							
	comp=Z,0.6nm,0.8s							
YKA	**Yellowknife Ar**	**81.21**	**332**	P		**P**	**15 51 27.4**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=80,slow=4.6,SNR=2.0							
	comp=Z,0.9nm,0.8s							
NVAR	**Mina Array Bea**	**82.96**	**308**	P		**P**	**15 51 37.6**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=52,slow=4.6,SNR=1.7							
	comp=Z,0.2nm,0.3s							
SYO	**Syowa Base**	**89.02**	**160**	‖*e*P		**P**	**15 52 07.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**126.80**	**62**	PKP		**PKPdf**	**15 58 14.2**	**-2.1**
	comp=Z,1.4nm,0.3s,baz=276,slow=4.0,SNR=4.5							

*IDC **24** 15:57:36.6±2.3,33°.17N×141°.09E, h0km, mb3.3/2, mbtmp3.2/3, ML2.3/1, Error ellipse: s-maj=42.4km s-min=22.5km az=32.0*
*JMA **24** 15:57:42.0±0.2,33°.5N±0°.6×14°.1E±°, h54km, MV3.0/29, E OFF HACHIJOJIMA ISLAND*
ISC 24 15:57:41.7±1.5,33°.40N±0°.07×141°.0E±0°.1, h48km, n17, σ0s36/18, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JHJ2	**Mitsune**	**1.02**	**254**	*i* P		**Pn**	**15 58 00.1**	**+0.5**
JHJ2				*e*S		**Sn**	**15 58 13.3**	**+0.4**
JHJ	**Hachijo jima 2**	**1.04**	**255**	Pn		**Pn**	**15 58 00.1**	**+0.1**
	98nm,0.3s,baz=90,slow=20,SNR=66							
JHJ				Sn		**Sn**	**15 58 13.5**	**0.0**
	71nm,0.3s,baz=67,slow=23,SNR=22							
JHCJ	**Hachijojimakas**	**1.05**	**252**	P		**Pn**	**15 58 00.3**	**+0.3**
JHCJ				*e*S		**Sn**	**15 58 13.3**	**-0.3**
BSO1	**Boso 1**	**1.25**	**360**	P		**Pn**	**15 58 02.7**	**+0.4**
JMKN	**Mikurajimanish**	**1.26**	**293**	P		**Pn**	**15 58 02.9**	**0.0**
JMYK	**Miyake Tsubota**	**1.37**	**299**	*e*P		**Pn**	**15 58 04.5**	**+0.1**
JKO	**Kozu shima**	**1.73**	**298**	P		**Pn**	**15 58 09.5**	**+0.2**
JTHY	**Toshimahigashi**	**1.80**	**309**	P		**Pn**	**15 58 10.7**	**+0.4**
JIM2	**Oshima 3**	**1.84**	**316**	P		**Pn**	**15 58 10.6**	**-0.4**
JIZS	**Izushimoda**	**2.19**	**308**	P		**Pn**	**15 58 16.1**	**+0.5**
JOD2	**Odawara 2**	**2.43**	**320**	P		**Pn**	**15 58 19.0**	**0.0**
MJAR	**Matsushiro Arr**	**3.88**	**325**	Pn		**Pn**	**15 58 39.4**	**+0.6**
	0.2nm,0.3s,baz=150,slow=11,SNR=9.1							
MJAR				Sn		**Sn**	**15 59 22.7**	**-0.3**
	0.1nm,0.3s,baz=149,slow=25,SNR=1.5							
	1.3nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**26.79**	**114**	T		T	16 32 15.7	
	baz=309							
H11N1	**WAKE ISLAND Hy**	**26.80**	**114**	T		T	16 32 13.1	
	baz=309							
H11N3	**WAKE ISLAND Hy**	**26.81**	**114**	T		T	16 32 14.4	
	baz=309							
WRA	**Warramunga Arr**	**53.42**	**188**	P		**P**	**16 06 56.4**	**-0.4**
	0.2nm,0.4s,baz=4.4,slow=7.3,SNR=6.8							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**57.15**	**188**	P		**P**	**16 07 23.5**	**-0.1**
	0.1nm,0.4s,baz=6.9,slow=7.0,SNR=6.5							
	0.1nm,0.4s							

*TEH **24** 16:28:38.8,34°.50N×45°.55E, h16km±13km*
*ISN **24** 16:28:38.9±1.2,34°.47N×45°.55E, h12km±28km, ML2.8*
ISC 24 16:28:39.3±0.9,34°.47N±0°.04×45°.57E±0°.04, h15km±6km, n12, σ0s99/19, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.04**	**19**	Pg		**Pg**	**16 28 41.6**	**-0.4**
KGS1				Sg		**Sg**	**16 28 44.3**	**+0.4**
GLG1	**Gilan-e-Gharb**	**0.45**	**142**	Pg		**Pg**	**16 28 48.3**	**0.0**
IDHR	**Dehrash**	**0.71**	**71**	Pg		**Pg**	**16 28 52.3**	**-0.9**
IDHR				Sg		**Sb**	**16 29 03.3**	**+0.2**
IGHG	**Ghaleghazi**	**0.83**	**100**	Pg		**Pg**	**16 28 55.4**	**-0.1**
IGHG				Sg		**Sn**	**16 29 08.4**	**-0.5**
ILBA	**Ilam Banvizeh**	**0.99**	**148**	Pg		**Pb**	**16 28 58.1**	**-0.2**
IKRK	**Kirkuk**	**1.37**	**313**	*e*Pg		**Pg**	**16 29 05.0**	**-0.7**
IKRK				*e*Sg		**Sg**	**16 29 24.0**	**+0.4**
IKRK				AML		AML	16 29 29.4	
	comp=E,161nm,0.2s							
IKRK				AML		AML	16 29 33.2	
	comp=N,166nm,0.4s							
IBDR	**Badra**	**1.39**	**168**	*e*Pn		**Pg**	**16 29 06.0**	**0.0**
IBDR				*e*Sn		**Sg**	**16 29 25.0**	**+0.9**
BHD	**Baghdad**	**1.56**	**220**	*e*Pn		**Pb**	**16 29 08.0**	**+0.2**
BHD				*e*Sn		**Sg**	**16 29 29.0**	**-0.5**
SNQR	**Sonqor, Kerman**	**1.74**	**77**	Pg		**Pb**	**16 29 11.8**	**+0.7**
IBZA	**Bozab**	**1.89**	**89**	Pn		**Pb**	**16 29 13.3**	**-0.4**
IKFM	**Kafar-mosalman**	**2.11**	**116**	Pn		**Pb**	**16 29 15.9**	**-1.3**
RAFI	**Al-Rafai**	**2.78**	**170**	*e*Pn		**Pn**	**16 29 25.0**	**+1.8**
RAFI				*e*Sn		**Sb**	**16 30 00.0**	**-2.5**

*NNC **24** 16:39:16.1±0.4,43°.23N×75°.12E, h3km±4km, mb2.7, mpv2.7, Error ellipse: s-maj=7.0km s-min=2.2km az=7.0*
*KNET **24** 16:39:16.3±0.3,43°.12N×75°.13E, h19km±1km, ml1.5, Error ellipse: s-maj=3.1km s-min=1.6km az=13.0*
*KRNET **24** 16:39:16.6±0.1,43°.16N×75°.12E, h16km, mb2.4*
*SOME **24** 16:39:16.8,43°.17N×75°.10E, h15km*
ISC 24 16:39:16.3±0.9,43°.17N±0°.03×75°.11E±0°.02, h14km±7km, n38, σ0s39/73, 18C-19D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CHMS	**Chumysh**	**0.32**	**237**	⇑P		**Pg**	**16 39 23.0**	**+0.1**
	4.9nm,0.1s							
CHMS				⇑S		**Sg**	**16 39 27.5**	**+0.1**
	44nm,0.1s							
CHMS	**Chumysh**	**0.32**	**237**	⇑*i*P		**Pg**	**16 39 22.8**	**-0.1**
CHMS				⇑*i*S		**Sg**	**16 39 27.2**	**-0.2**
TKM2	**Tokmak 2**	**0.43**	**125**	⇑P		**Pg**	**16 39 24.9**	**-0.2**
	7.2nm,0.1s							
TKM2				⇑S		**Sg**	**16 39 30.9**	**-0.1**
	56nm,0.1s							
TKM2	**Tokmak 2**	**0.43**	**125**	⇓*i*P		**Pg**	**16 39 24.8**	**-0.2**
TKM2				⇓*i*S		**Sg**	**16 39 30.7**	**-0.3**
SGDS	**Sogindy**	**0.45**	**309**	P		**Pg**	**16 39 25.1**	**-0.3**
	7.5nm,0.1s							
SGDS				S		**Sg**	**16 39 30.9**	**-0.6**
	39nm,0.1s							
DGS	**Degeres**	**0.49**	**81**	P		**Pg**	**16 39 26.1**	**+0.1**
	1.9nm,0.1s							
DGS				S		**Sg**	**16 39 32.6**	**0.0**
	16nm,0.2s							
DGS	**Degeres**	**0.49**	**81**	*e*P		**Pg**	**16 39 26.1**	**+0.1**
DGS				*e*S		**Sg**	**16 39 32.6**	**0.0**
FRU1	**Bishkek**	**0.51**	**225**	⇓*i*P		**Pg**	**16 39 26.2**	**-0.2**
FRU1				⇓*i*S		**Sg**	**16 39 33.1**	**0.0**
KBK	**Karagaybulak**	**0.53**	**193**	⇓P		**Pg**	**16 39 27.1**	**+0.3**
	9.8nm,0.1s							
KBK				⇓S		**Sg**	**16 39 34.5**	**+0.6**
	34nm,0.2s							
KBK	**Karagaybulak**	**0.53**	**193**	⇑*i*P		**Pg**	**16 39 26.7**	**-0.1**
KBK				⇑*i*S		**Sg**	**16 39 34.0**	**+0.1**
KST	**Kastek**	**0.64**	**101**	P		**Pg**	**16 39 28.9**	**+0.1**
	2.2nm,0.2s							
KST				S		**Sb**	**16 39 37.7**	**-0.3**
	24nm,0.3s							
KST	**Kastek**	**0.64**	**101**	*e*P		**Pg**	**16 39 28.9**	**+0.1**
KST				*e*S		**Sb**	**16 39 37.7**	**-0.3**
KST	**Kastek**	**0.64**	**101**	*e*P		**Pg**	**16 39 28.9**	**+0.1**
	2.2nm,0.2s							
KST				*e*S		**Sb**	**16 39 37.7**	**-0.3**
	24nm,0.3s							
AAK	**Ala-Archa**	**0.70**	**221**	⇑P		**Pg**	**16 39 29.5**	**-0.5**
	2.9nm,0.1s							
AAK				⇑S		**Sg**	**16 39 39.6**	**+0.3**
	13nm,0.3s							
AAK	**Ala-Archa**	**0.70**	**221**	⇓*i*P		**Pg**	**16 39 29.9**	**-0.1**
AAK				⇓*i*S		**Sg**	**16 39 39.5**	**+0.2**
BOOM	**Boomskoye usch**	**0.91**	**138**	⇓*i*P		**Pb**	**16 39 33.6**	**-0.4**
BOOM				⇓*i*S		**Sb**	**16 39 45.9**	**-0.1**
UCH	**Uchtor**	**1.04**	**205**	⇑P		**Pb**	**16 39 36.1**	**-0.3**
	1.5nm,0.1s							
UCH				⇓S		**Sb**	**16 39 50.3**	**+0.2**
	30nm,0.3s							
UCH	**Uchtor**	**1.04**	**205**	⇑*i*P		**Pb**	**16 39 35.9**	**-0.5**
UCH				⇑*i*S		**Sb**	**16 39 50.1**	**+0.1**
EKS2	**Erkin-Say**	**1.11**	**243**	⇓P		**Pb**	**16 39 37.4**	**+0.1**
	1.0nm,0.1s							
EKS2				⇑S		**Sb**	**16 39 52.1**	**+0.5**
	2.7nm,0.1s							
IZV	**Izvestkoviy**	**1.11**	**96**	P		**Pg**	**16 39 37.8**	**+0.1**
	2.4nm,0.1s							
IZV				S		**Sn**	**16 39 52.6**	**-0.1**
	11nm,0.1s							
IZV	**Izvestkoviy**	**1.11**	**96**	*e*P		**Pg**	**16 39 37.8**	**+0.1**
IZV				*e*S		**Sn**	**16 39 52.6**	**-0.1**
IZV	**Izvestkoviy**	**1.11**	**96**	*e*P		**Pg**	**16 39 37.8**	**+0.1**
	2.4nm,0.1s							
IZV				*e*S		**Sn**	**16 39 52.6**	**-0.1**
	11nm,0.1s							
ULHL	**Ulahol**	**1.24**	**138**	⇑P		**Pn**	**16 39 38.9**	**-0.5**
	5.5nm,0.7s							
ULHL				⇓S		**Sn**	**16 39 55.8**	**-0.3**
	7.2nm,0.2s							
ULHL	**Ulahol**	**1.24**	**138**	⇑*i*P		**Pn**	**16 39 39.3**	**-0.1**
ULHL				⇑*i*S		**Sn**	**16 39 55.9**	**-0.2**
KTBS	**Karatobe**	**1.26**	**64**	P		**Pb**	**16 39 39.9**	**0.0**
	5.2nm,0.2s							
KTBS				S		**Sn**	**16 39 56.4**	**0.0**
	12nm,0.3s							
KTBS	**Karatobe**	**1.26**	**64**	*e*P		**Pb**	**16 39 39.9**	**0.0**
KTBS				*e*S		**Sn**	**16 39 56.4**	**0.0**
TNSS	**Tian-Shan**	**1.35**	**95**	P		**Pb**	**16 39 41.8**	**+0.2**
	0.5nm,0.1s							
TNSS				S		**Sg**	**16 39 59.7**	**-0.2**
	1.2nm,0.2s							
TNSS	**Tian-Shan**	**1.35**	**95**	*e*P		**Pb**	**16 39 41.8**	**+0.2**
TNSS				*e*S		**Sg**	**16 39 59.7**	**-0.2**
TNSS	**Tian-Shan**	**1.35**	**95**	*e*P		**Pb**	**16 39 41.8**	**+0.2**
	0.5nm,0.1s							
TNSS				*e*S		**Sg**	**16 39 59.7**	**-0.2**
	1.2nm,0.2s							
MRKS	**Merke**	**1.45**	**254**	P		**Pb**	**16 39 43.5**	**+0.4**
	0.7nm,0.1s							
MRKS				S		**Sg**	**16 40 02.6**	**-0.4**
	5.7nm,0.2s							
MRKS	**Merke**	**1.45**	**254**	*e*P		**Pb**	**16 39 43.5**	**+0.4**
MRKS				*e*S		**Sg**	**16 40 02.7**	**-0.4**
MRKS	**Merke**	**1.45**	**254**	*e*P		**Pb**	**16 39 43.5**	**+0.4**
	0.7nm,0.1s							
MRKS				*e*S		**Sg**	**16 40 02.6**	**-0.4**
	5.7nm,0.2s							
KDJ	**Kajisay**	**1.84**	**124**	‖*e*P		**Pb**	**16 39 50.6**	**+0.7**
KDJ				‖*e*S		**Sg**	**16 40 14.7**	**-1.0**
NRN	**Naryn**	**1.86**	**159**	‖*e*P		**Pb**	**16 39 50.6**	**+0.4**
NRN				‖*e*S		**Sb**	**16 40 14.4**	**+1.0**
MNAS	**Manas**	**2.04**	**251**	‖*e*P		**Pb**	**16 39 53.5**	**+0.3**
MNAS				‖*e*S		**Sb**	**16 40 19.3**	**+0.9**
SATY	**Saty**	**2.41**	**92**	Pg		**Pb**	**16 40 01.0**	**+1.4**
	0.9nm,0.1s							
SATY				Lg		Lg	16 40 32.5	
	9.7nm,0.1s							
KPKS	**Kokpek**	**2.62**	**82**	Pg		**Pb**	**16 40 03.8**	**+0.7**
	0.5nm,0.4s							
KPKS				Lg		Lg	16 40 37.3	
	2.0nm,0.2s							
KK31	**Karatay Array**	**3.37**	**270**	⇑Pg		**Pb**	**16 40 16.1**	**+0.3**
	0.4nm,0.5s,baz=84,slow=17,SNR=3.7							
KK31				Lg		Lg	16 41 04.9	
	0.3nm,0.3s,baz=82,slow=28,SNR=5.9							

*IDC **24** 16:42:13.5±2.6,22°.52S×68°.89W, h89km±23km, mb3.8/3, mbtmp3.9/7, Error ellipse: s-maj=44.2km s-min=19.9km az=111.0*
*SJA **24** 16:42:13.3±0.5,22°.48S×69°.07W, h115km±3km, ML3.7, MW3.7*
*GUC **24** 16:42:14.4±0.8,22°.46S×69°.04W, h114km±4km, ML4.1*
*NEIC **24** 16:42:14.5±0.7,22°.47S±0°.02×69°.05W±0°.04, h109km±5km, mb4.3/7, ML4.1(GUC), Error ellipse: s-maj=6.1km s-min=1.9km az=79.0*
*VAO **24** 16:42:17.7±2.3,22°.29S×68°.61W, h103km±10km, mb4.2*
ISC 24 16:42:14.4±0.6,22°.46S±0°.03×69°.08W±0°.04, h110km±5km, n80, σ1s48/105, mb4.2/4, 5C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PB06	**IPOC Station P**	**0.52**	**241**			**Pn**	**16 42 31.6**	**+0.1**
PB06				Sn		**Sn**	**16 42 44.9**	**+0.5**
PB06	**IPOC Station P**	**0.52**	**241**	⇑*i*P		**Pn**	**16 42 31.7**	**+0.1**
PB06				*i* S		**Sn**	**16 42 45.0**	**+0.6**
PB06				IAML			16 42 45.9	
	comp=E,8μm,0.2s							
PB06	**IPOC Station P**	**0.52**	**241**	*e*P		**Pn**	**16 42 31.6**	**+0.1**
PB06				*e*S		**Sn**	**16 42 45.4**	**+1.0**
PB06				IAML			16 42 49.2	
	comp=Z,2μm,0.4s							
PB09	**IPOC Station P**	**0.67**	**347**	Pn		**Pn**	**16 42 33.1**	**+0.4**
PB09				Sn		**Sn**	**16 42 46.7**	**+0.2**
PB09	**IPOC Station P**	**0.67**	**347**	⇓*i*P		**Pn**	**16 42 33.3**	**+0.5**
PB09				*i* S		**Sn**	**16 42 46.9**	**+0.3**
PB09	**IPOC Station P**	**0.67**	**347**	*e*P		**Pn**	**16 42 33.2**	**+0.5**
PB09				*e*S		**Sn**	**16 42 47.4**	**+0.9**
PB09				IAML			16 42 48.0	
	comp=Z,2μm,0.4s							
PB03	**IPOC Station P**	**0.74**	**303**	Pn		**Pn**	**16 42 33.9**	**+0.6**
PB03				Sn		**Sn**	**16 42 47.9**	**+0.4**
PB03	**IPOC Station P**	**0.74**	**303**	⇑*i*P		**Pn**	**16 42 33.9**	**+0.6**
PB03				*i* S		**Sn**	**16 42 48.1**	**+0.6**
PB03				IAML			16 42 49.0	
	comp=N,12μm,0.1s							
PB03	**IPOC Station P**	**0.74**	**303**	*e*P		**Pn**	**16 42 33.8**	**+0.6**
PB03				*e*S		**Sn**	**16 42 48.3**	**+0.8**
AF01	**San Pedro de A**	**0.97**	**121**	Pn		**Pn**	**16 42 35.2**	**-0.4**
AF01				Sn		**Sn**	**16 42 50.9**	**-0.6**
AF01	**San Pedro de A**	**0.97**	**121**	*e*P		**Pn**	**16 42 35.2**	**-0.4**
AF01				*i* S		**Sn

SIV	**San Ignacio**	**9.93**	**51**	P	**Pn**	**16 44 30.2**	**-3.9**
	comp=Z,3.2nm,0.5s,baz=219,slow=13,SNR=16						
SIV				S	Sn	16 46 11.7	-12
	comp=Z,1.1nm,0.7s,baz=259,slow=16,SNR=1.6						
BDQN	**Bodoquena, MS**	**11.66**	**82**	*e*P	**Pn**	**16 44 55.7**	**-1.6**
PDRB	**Porto dos Gac**	**15.98**	**50**	*e*P	**Pn**	**16 45 52.2**	**-0.8**
CLDB	**Colider**	**17.15**	**50**	*e*P	**P**	**16 46 06.2**	**-1.1**
PLCA	**Paso Flores**	**18.26**	**184**	P	**P**	**16 46 20.0**	**+0.5**
PLCA	**Paso Flores**	**18.26**	**184**	P	**P**	**16 46 19.9**	**+0.5**
	comp=Z,1.8nm,1.1s,baz=5.3,slow=13,SNR=3.1						
SNDB	**Serra Nova Dou**	**19.91**	**61**	*e*P	**P**	**16 46 34.7**	**-2.8**
IPMB	**Ipameri, GO**	**20.08**	**81**	*e*P	**P**	**16 46 38.9**	**-0.4**
NPGB	**Novo Progresso**	**20.24**	**43**	*e*P	**P**	**16 46 41.6**	**+0.5**
VAO	**Valinhos**	**20.41**	**96**	P	**P**	**16 46 41.0**	**-1.9**
VAO				IAmb	IAmb	16 46 42.1	
	comp=Z,14nm,0.7s						
VAO	**Valinhos**	**20.41**	**96**	*e*P	**P**	**16 46 41.7**	**-1.1**
MACA	**Manacapuru-AM**	**20.84**	**24**	P	**P**	**16 46 47.1**	**-0.4**
MACA	**Manacapuru-AM**	**20.84**	**24**	*e*P	**P**	**16 46 48.4**	**+0.9**
BDFB	**Brasilia**	**21.02**	**75**	P	**P**	**16 46 48.4**	**-1.2**
BDFB				IAmb	IAmb	16 46 50.9	
	comp=Z,16nm,1.4s						
BDFB	**Brasilia**	**21.02**	**75**	P	**P**	**16 46 48.1**	**-1.4**
	comp=Z,3.3nm,0.5s,baz=241,slow=10,SNR=4.5						
	comp=Z,3.3nm,0.5s						
ITTB	**Itaituba**	**22.14**	**38**	*e*P	**P**	**16 46 59.8**	**-1.5**
JANB	**Januaria**	**24.56**	**77**	*e*P	**P**	**16 47 24.2**	**0.0**
PRPB	**Parauapebas**	**24.66**	**52**	*e*P	**P**	**16 47 25.0**	**-0.1**
SMTB	**Santa Maria do**	**24.67**	**60**	*e*P	**P**	**16 47 24.2**	**-0.9**
BELA	**Belgrano 2**	**57.83**	**172**	P	**P**	**16 51 54.3**	**+0.4**
BELA				IAmb	IAmb	16 52 23.1	
	comp=Z,7.3nm,1.5s						
SNAA	**Sanae**	**61.43**	**161**		**P**	**16 52 19.1**	**+0.3**
SNAA				IAmb	IAmb	16 52 46.8	
	comp=Z,5.2nm,1.5s						
QSPA	**South Pole Qui**	**67.74**	**180**	P	**P**	**16 53 01.2**	**+1.3**
QSPA				IAmb	IAmb	16 53 23.1	
	comp=Z,3.5nm,1.3s						
QSPA	**South Pole Qui**	**67.74**	**180**	P	**P**	**16 53 01.5**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=308,slow=2.0,SNR=19						
	comp=Z,0.7nm,0.4s						
TORD	**Torodi Ar. Bea**	**77.83**	**70**	P	**P**	**16 54 02.7**	**+2.5**
	comp=Z,1.3nm,0.3s,baz=245,slow=5.3,SNR=2.7						
	comp=Z,1.3nm,0.3s						
ASAR	**Alice Springs**	**128.99**	**207**	PKP	**PKPdf**	**17 01 10.4**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=132,slow=1.4,SNR=4.6						
WRA	**Warramunga Arr**	**132.05**	**210**	PKP	**PKiKP**	**17 01 16.6**	**-0.3**
	comp=Z,0.6nm,1.0s,baz=126,slow=1.6,SNR=2.1						
MKAR	**Makanchi Array**	**146.50**	**37**	PKPbc	**PKPbc**	**17 01 42.2**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=312,slow=4.1,SNR=2.2						

IDC 24 16:44:25.8±3.8, 13°.93N×121°.83E, h0km, mb3.4/3, mbtmp3.4/3, MS3.7/1, Error ellipse: s-maj=95.3km s-min=11.3km az=24.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.89**	**281**	Pg	Pg	16 44 43.2	+0.4
	241nm,0.3s,baz=32,slow=15,SNR=11						
TGY				Lg	Lg	16 44 55.0	
	390nm,0.3s,baz=19,slow=9.4,SNR=14						
TGY				LR	LR	16 45 14.9	
	comp=Z,273nm,19.4s,baz=360,slow=56						
CMAR	**Chiang Mai Arr**	**22.43**	**285**	P	P	16 49 26.1	-0.4
	0.3nm,0.4s,baz=89,slow=8.2,SNR=1.2						
	0.3nm,0.4s						
PSI	**Prapat**	**25.18**	**246**	LR	LR	17 00 49.0	
	comp=Z,176nm,18.7s,baz=283,slow=39						
WRA	**Warramunga Arr**	**35.84**	**160**	P	P	16 51 27.1	-0.4
	0.5nm,0.5s,baz=341,slow=9.2,SNR=5.1						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**39.19**	**162**	P	P	16 51 55.9	+0.1
	0.5nm,0.8s,baz=340,slow=7.3,SNR=12						
	0.5nm,0.8s						

IDC 24 17:06:29.5±65.0, 21°.20S×179°.40E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=1160.0km s-min=160.4km az=83.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.30**	**244**	P	P	17 13 26.6	+0.2
	0.8nm,0.5s,baz=81,slow=13,SNR=3.5						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**41.99**	**258**	P	P	17 14 22.4	-0.4
	1.6nm,0.7s,baz=98,slow=7.9,SNR=21						
	1.6nm,0.7s						
WRA	**Warramunga Arr**	**42.10**	**263**	P	P	17 14 23.6	-0.1
	0.5nm,0.4s,baz=99,slow=7.7,SNR=25						
	0.5nm,0.4s						

KRSC 24 17:11:23.7±2.1, 48°.50N×156°.46E, h31km±30km, MI3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.20**	**354**	*e*P	Pn	17 11 59.0	+0.9
SKR				*e*S	Sn	17 12 26.1	+1.9
PAU	**Pauzhetka**	**2.98**	**4**	*e*S	Sb	17 12 48.5	-3.5
ASAK	**Asacha**	**4.00**	**13**	*e*P	Pn	17 12 27.5	+4.6
MTVR	**Mutnovka**	**4.14**	**15**	*e*P	Pn	17 12 29.5	+4.7
GRL	**Gorelyy**	**4.19**	**14**	*e*P	Pn	17 12 30.4	+4.9
DALK	**Dalny**	**4.77**	**17**	*e*P	Pn	17 12 38.3	+5.0
UGLR	**Uglovaya**	**4.95**	**17**	*e*P	Pn	17 12 40.7	+4.8
KOK	**Koryaka**	**4.99**	**15**	*e*P	Pn	17 12 42.1	+5.5
SPN	**Mys Shipunski**	**5.13**	**25**	*e*P	Pn	17 12 43.8	+5.5
MKZ	**Mys Kozlova**	**6.90**	**26**	*e*P	Pn	17 13 06.5	+4.0

*JMA **24** 17:16:03.7±0.8, 47°.N-6°.×15°.3E±°, h30km, MV4.1/11, KURILE ISLANDS REGION*
*IDC **24** 17:16:08.6±2.9, 46°.98N×152°.70E, h80km±25km, mb3.2/4, mbtmp3.7/9, MS2.6/1, Error ellipse: s-maj=40.0km s-min=19.6km az=123.0*
ISC 24 17:16:02.8±1.2, 46°.6N±0°.2×153°.1E±0°.1, h35km, n25, σ2°52/23, mb3.6/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**6.13**	**241**	*e*P	**Pn**	**17 17 31.4**	**+0.6**
NEM2				*e*S	**Sn**	**17 18 36.5**	**-3.2**
JRA	**Rausu**	**6.22**	**248**	*e*P	**Pn**	**17 17 35.5**	**+3.4**
JRA				*e*S	**Sn**	**17 18 46.1**	**+4.2**
JNK	**Nakash**	**6.65**	**246**	*e*P	**Pn**	**17 17 40.1**	**+2.2**
JNK				*e*S	**Sn**	**17 18 50.6**	**-1.8**
JAK	**Akkeshi**	**6.97**	**242**	*e*P	**Pn**	**17 17 42.9**	**+0.5**
JAK				*e*S	**Sn**	**17 18 56.3**	**-4.1**
JTKR	**Abashiri--Toko**	**6.99**	**251**	*e*P	**Pn**	**17 17 45.5**	**+2.9**
PETK	**Petropavlovsk-**	**7.18**	**23**	P	Pn	17 17 46.7	+1.4
	2.4nm,0.6s,baz=187,slow=10,SNR=14						
PETK				S	Sn	17 19 11.0	+5.5
	2.3nm,1.0s,baz=266,slow=32,SNR=1.1						
PETK				LR	LR	17 20 50.5	
	comp=Z,46nm,18.0s,baz=277,slow=41						
JAR	**Ashorobuto**	**7.39**	**247**	*e*P	**Pn**	**17 17 48.8**	**+0.7**
JAR				*e*S	**Sn**	**17 19 10.3**	**-0.4**
JOB	**Onbets**	**7.55**	**244**	*e*P	**Pn**	**17 17 51.3**	**+1.0**
JKK2	**Kamakawa 2**	**7.79**	**253**	*e*P	**Pn**	**17 17 56.6**	**+2.9**
ASAJ	**Asahikawa**	**7.80**	**255**	P	**Pn**	**17 17 57.4**	**+3.6**
	7.8nm,0.9s,baz=64,slow=14,SNR=11						
JCH	**Churui**	**8.00**	**244**	*e*P	**Pn**	**17 17 57.5**	**+1.0**
JCH				*e*S	**Sn**	**17 19 22.3**	**-3.4**
JNBK	**Urakawa-nobuka**	**8.56**	**244**	*e*P	**Pn**	**17 18 05.0**	**+0.8**
MA2	**Magadan**	**13.10**	**355**	P	P	17 19 06.2	-10
	3.0nm,0.3s,baz=162,slow=14,SNR=10						
MJAR	**Matsushiro Arr**	**14.97**	**233**	P	**P**	**17 19 36.7**	**-0.2**
	0.9nm,0.7s,baz=20,slow=9.8,SNR=3.0						
USRK	**Ussuriysk Ar.**	**15.02**	**269**	P	**Pn**	**17 19 31.8**	**-0.6**
	1.7nm,0.6s,baz=71,slow=15,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**29.06**	**152**	T	T	17 53 43.8	
	baz=340,slow=76,SNR=84						
H11N1	**WAKE ISLAND Hy**	**29.08**	**152**	T	T	17 53 43.2	
	baz=340,slow=76,SNR=77						
H11N3	**WAKE ISLAND Hy**	**29.08**	**152**	T	T	17 53 43.3	
	baz=340,slow=76,SNR=64						
H11S1	**WAKE ISLAND Hy**	**30.15**	**154**	T	T	17 55 06.3	
	baz=341,slow=76,SNR=43						
H11S3	**WAKE ISLAND Hy**	**30.16**	**154**	T	T	17 54 51.2	
	baz=341,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**30.17**	**154**	T	T	17 54 47.8	
	baz=341,slow=76,SNR=30						
ILAR	**Eielson Array**	**36.69**	**38**	P	**P**	**17 23 06.0**	**+0.1**
	0.4nm,0.9s,baz=268,slow=8.3,SNR=2.7						
	0.4nm,0.9s						
FINES	**FINESS Array B**	**64.20**	**335**	P	**P**	**17 26 30.9**	**-2.6**
	0.8nm,0.9s,baz=356,slow=2.1,SNR=4.3						
	0.8nm,0.9s						
HFS	**Hagfors**	**68.62**	**340**	P	**P**	**17 26 59.5**	**-2.3**
	0.5nm,0.4s,baz=38,slow=7.3,SNR=9.1						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**72.04**	**198**	P	**P**	**17 27 25.5**	**+2.4**
	0.2nm,0.6s,baz=8.3,slow=4.6,SNR=4.6						
	0.2nm,0.6s						

*IDC **24** 17:47:12.9±0.7, 13°.70N×120°.96E, h118km±4km, mb3.6/15, mbtmp4.0/16, MS2.3/1, Error ellipse: s-maj=28.4km s-min=12.9km az=64.0*
*NEIC **24** 17:47:14.1±1.1, 13°.8N±0°.1×120°.90E±0°.09, h122km±6km, mb4.4/17, Error ellipse: s-maj=19.2km s-min=8.7km az=145.0*
ISC 24 17:47:11.5±0.7, 13°.65N±0°.09×120°.9E±0°.1, h100km, n35, σ1°83/38, mb4.2/22, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.46**	**9**	P	**Pn**	**17 47 31.1**	**+4.1**
	3µm,0.3s,baz=171,slow=7.9,SNR=79						
TGY				S	**Sn**	**17 47 44.8**	**+6.1**
	4µm,0.3s,baz=345,slow=20,SNR=5.7						
SBUM	**Sibu**	**14.03**	**218**	P	**P**	**17 50 32.7**	**+2.1**
JOW	**Kunigami**	**14.84**	**27**	P	**Pn**	**17 50 36.4**	**+0.2**
	3.1nm,0.8s,baz=206,slow=13,SNR=3.7						
JOW				LR	LR	17 56 36.4	
	comp=Z,12nm,19.4s,baz=237,slow=38						
KSM	**Kuching**	**15.98**	**222**		**P**	**17 50 57.4**	**+5.2**
CM31	**Chiang Mai Arr**	**21.59**	**286**	P	**P**	**17 51 53.4**	**-0.1**
CM31				IAmb	IAmb	17 51 56.0	
	comp=Z,13nm,0.9s						
CMAR	**Chiang Mai Arr**	**21.59**	**286**		**P**	**17 51 53.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**21.59**	**286**	P	**P**	**17 51 53.8**	**+0.3**
	comp=Z,6.0nm,0.8s,baz=93,slow=7.3,SNR=37						
	comp=Z,6.0nm,0.8s						
CHTO	**Chiang Mai**	**21.66**	**287**		**P**	**17 51 53.8**	**-0.3**
JSG	**Sagara**	**26.15**	**34**	P	**P**	**17 52 35.3**	**-1.1**
SHL	**Shillong**	**29.69**	**298**		**P**	**17 53 07.1**	**-1.2**
LSA	**Lhasa**	**31.77**	**305**	P	**P**	**17 53 27.1**	**+0.1**
LSA				IAmb	IAmb	17 53 29.1	
	comp=Z,6.3nm,0.5s						
WRA	**Warramunga Arr**	**35.92**	**158**	P	**P**	**17 54 01.8**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=332,slow=10,SNR=8.7						
WRA				ScP	**ScP**	**18 00 01.0**	**-3.7**
	comp=Z,0.6nm,0.8s,baz=346,slow=2.8,SNR=3.8						
	comp=Z,0.3nm,0.4s						
SONM	**Songino Array**	**36.15**	**343**	P	**P**	**17 54 03.8**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=161,slow=9.2,SNR=3.8						
	comp=Z,0.7nm,0.4s						
ASAR	**Alice Springs**	**39.22**	**161**	P	**P**	**17 54 30.1**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=336,slow=6.8,SNR=25						
ASAR				PcP	**PcP**	**17 56 37.2**	**-0.4**
	comp=Z,0.7nm,1.1s,baz=341,slow=3.4,SNR=1.7						
	comp=Z,0.5nm,0.4s						
MKAR	**Makanchi Array**	**46.17**	**324**		**P**	**17 55 25.9**	**-0.3**
MKAR	**Makanchi Array**	**46.17**	**324**	P	**P**	**17 55 26.3**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=131,slow=8.9,SNR=31						
	comp=Z,4.5nm,0.8s						
MAKZ	**Makanchi**	**46.36**	**323**		**P**	**17 55 27.7**	**+0.1**
PETK	**Petropavlovsk-**	**48.99**	**29**	P	**P**	**17 55 46.5**	**-1.3**
	comp=Z,2.5nm,1.0s,baz=224,slow=5.9,SNR=1.6						
	comp=Z,2.5nm,1.0s						
ZALV	**Zalesovo Beam**	**49.17**	**333**	P	**P**	**17 55 48.5**	**-0.8**
	comp=Z,1.5nm,0.3s,baz=125,slow=7.0,SNR=8.8						
	comp=Z,1.5nm,0.3s						
ARSB	**Arslanbob**	**49.81**	**313**	P	**P**	**17 55 53.6**	**-0.8**
ARSB				IAmb	IAmb	17 55 55.3	
	comp=Z,5.0nm,0.7s						
KURBB	**Kurchatov Arra**	**50.32**	**326**	P	**P**	**17 55 58.0**	**+0.1**
	comp=Z,3.6nm,0.2s,baz=127,slow=7.7,SNR=14						
	comp=Z,3.6nm,0.2s						
KURK	**Kurchatov**	**50.32**	**326**		**P**	**17 55 57.9**	**-0.1**
KK31	**Karatay Array**	**52.12**	**314**	P	**P**	**17 56 11.2**	**-0.5**
KK31				IAmb	IAmb	17 56 12.1	
	comp=Z,3.7nm,0.8s						
KKAR	**Karatay Array**	**52.12**	**314**	P	**P**	**17 56 11.1**	**-0.6**
BVAR	**Borovoye Array**	**55.90**	**326**	P	**P**	**17 56 38.8**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=124,slow=8.9,SNR=13						
	comp=Z,1.4nm,0.5s						
BRVK	**Borovoye**	**55.98**	**326**		**P**	**17 56 39.0**	**-0.4**
BRVK				IAmb	IAmb	17 56 40.1	
	comp=Z,6.6nm,1.1s						
RAYN	**Ar Rayn**	**71.42**	**290**	P	**P**	**17 58 20.8**	**-0.7**
RAYN				IAmb	IAmb	17 58 21.7	
	comp=Z,5.3nm,0.9s						
KIV	**Kislovodsk**	**72.18**	**312**	P	**P**	**17 58 25.2**	**-0.6**
GURO	**Guroymak-BITLI**	**72.95**	**306**	P	**P**	**17 58 29.7**	**-0.8**
GURO				IAmb	IAmb	17 58 31.6	
	comp=Z,5.6nm,0.9s						
MMAI	**Mount Meron Ar**	**78.94**	**301**	P	**P**	**17 59 04.3**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=76,slow=6.1,SNR=1.8						
	comp=Z,0.8nm,0.4s						
ARCES	**ARCESS Array B**	**79.19**	**339**	P	**P**	**17 59 03.9**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=81,slow=7.5,SNR=8.9						
	comp=Z,0.5nm,0.5s						
BRTR	**Keskin Array B**	**79.31**	**308**	P	**P**	**17 59 06.1**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=44,slow=5.2,SNR=3.0						
	comp=Z,0.6nm,0.7s						
FINES	**FINESS Array B**	**80.41**	**331**	P	**P**	**17 59 10.9**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=70,slow=9.0,SNR=3.5						
	comp=Z,0.7nm,0.8s						
HFS	**Hagfors**	**86.59**	**331**	P	**P**	**17 59 41.7**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=96,slow=2.9,SNR=1.7						
	comp=Z,0.5nm,0.6s						
NOA	**NORSAR Array B**	**87.38**	**333**	P	**P**	**17 59 45.5**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=68,slow=4.8,SNR=3.3						
	comp=Z,0.5nm,0.7s						

IDC 24 18:02:33.0±3.4, 23°.61S×179°.82W, h502km±34km, mb3.3/4, mbtmp4.2/5, Error ellipse: s-maj=44.0km s-min=28.1km az=169.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.84**	**189**	P	P	18 05 41.4	+0.1
	6.3nm,0.8s,baz=10,slow=11,SNR=2.2						
URZ				S	S	18 08 13.2	-3.3
	7.4nm,1.1s,baz=12,slow=20,SNR=1.4						
STKA	**Stephens Creek**	**34.99**	**248**	P	P	18 08 43.1	+0.4
	1.9nm,0.7s,baz=86,slow=9.1,SNR=4.9						
	1.9nm,0.7s						
ASAR	**Alice Springs**	**42.25**	**260**	P	P	18 09 41.8	-0.2
	2.7nm,0.6s,baz=97,slow=7.5,SNR=106						
ASAR				ScP	ScP	18 14 26.5	-0.6
	0.4nm,0.8s,baz=96,slow=3.6,SNR=4.4						
	2.7nm,0.6s						
WRA	**Warramunga Arr**	**42.59**	**266**	P	P	18 09 44.4	-0.3
	4.1nm,0.5s,baz=96,slow=8.4,SNR=89						
	4.1nm,0.5s						
TXAR	**Lajitas Array**	**90.14**	**58**	P	P	18 14 39.6	0.0
	0.5nm,0.7s,baz=238,slow=5.2,SNR=4.8						
	0.5nm,0.7s						

*IDC **24** 18:25:43.1±1.0, 9.°42N×40.°65W, h0km, mb3.8/8, mbtmp3.8/8, MS3.3/13, Error ellipse: s-maj=41.5km s-min=23.2km az=124.0*
ISC 24 18:25:44.6±0.9, 9°.4N±0°.2×40°.6W±0°.2, h10km, n24, σ0°83/8, mb3.8/7, MS3.3/12, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.65**	**251**	LR	LR	18 32 46.4	
	comp=Z,148nm,21.7s,baz=101,slow=34						
PCRV	**Puerto La Cruz**	**23.66**	**274**	LR	LR	18 40 37.6	
	comp=Z,55nm,19.9s,slow=38						
BBTS	**Babate**	**24.14**	**75**	LR	LR	18 38 19.9	
	comp=Z,114nm,20.7s,baz=266,slow=31						
SJG	**San Juan**	**26.22**	**292**	LR	LR	18 39 32.7	
	comp=Z,83nm,22.0s,baz=105,slow=32						
H10N3	**ASCENSION HYDR**	**31.17**	**123**	T	T	19 04 44.0	
	baz=303,slow=75						
H10N2	**ASCENSION HYDR**	**31.17**	**122**	T	T	19 04 43.3	
	baz=303,slow=75						
H10N1	**ASCENSION HYDR**	**31.19**	**122**	T	T	19 04 45.5	
	baz=303,slow=75						
H10S3	**ASCENSION HYDR**	**31.65**	**124**	T	T	19 05 29.2	
	baz=301,slow=74,SNR=12						
H10S2	**ASCENSION HYDR**	**31.67**	**124**	T	T	19 05 33.7	
	baz=279,slow=74,SNR=13						
ROSC	**El Rosal**	**33.71**	**265**	LR	LR	18 46 30.6	
	comp=Z,119nm,19.0s,baz=70,slow=37						

DBIC	**Dimbokro**	**35.53**	**92**	LR	LR	18 44 35.6		
	comp=Z,54nm,19.7s,baz=283,slow=32							
LPAZ	**La Paz**	**37.31**	**227**	P	**P**	**18 32 57.6**	**-0.4**	
	1.3nm,0.7s,baz=42,slow=7.7,SNR=3.9							
LPAZ				LR	LR	18 47 24.9		
	comp=Z,41nm,21.0s,baz=40,slow=35							
	1.3nm,0.7s							
CPUP	**Villa Florida**	**39.05**	**204**	LR	LR	18 48 27.7		
	comp=Z,9.0nm,20.2s,baz=278,slow=35							
MDT	**Midelt**	**40.58**	**50**	LR	LR	18 46 10.8		
	comp=Z,56nm,20.5s,baz=222,slow=30							
ATAH	**Atahualpa**	**41.05**	**248**	LR	LR	18 49 56.6		
	comp=Z,62nm,21.1s,baz=88,slow=35							
TORD	**Torodi Ar. Bea**	**41.65**	**81**	P	**P**	**18 33 33.4**	**-0.2**	
	1.8nm,0.8s,baz=287,slow=8.4,SNR=6.1							
	1.8nm,0.8s							
ESDC	**Sonseca Array**	**44.44**	**41**	P	**P**	**18 33 55.0**	**-0.9**	
	0.5nm,0.9s,baz=243,slow=8.4,SNR=1.6							
ESDC				LR	LR	18 48 36.9		
	comp=Z,47nm,20.2s,baz=232,slow=31							
	0.5nm,0.9s							
SADO	**Sadowa**	**48.40**	**324**	LR	LR	18 50 44.3		
	comp=Z,23nm,20.4s,baz=92,slow=31							
SCHQ	**Schefferville**	**49.86**	**340**	LR	LR	18 52 12.7		
	comp=Z,44nm,19.7s,baz=109,slow=32							
EKA	**Eskdalemuir Ar**	**54.51**	**25**	P	**P**	**18 35 13.8**	**+1.3**	
	0.5nm,0.7s,baz=210,slow=6.3,SNR=3.7							
	0.5nm,0.7s							
NOA	**NORSAR Array B**	**64.00**	**25**	P	**P**	**18 36 17.8**	**-0.4**	
	0.9nm,0.8s,baz=226,slow=8.4,SNR=2.7							
	0.9nm,0.8s							
HFS	**Hagfors**	**64.63**	**27**	P	**P**	**18 36 22.3**	**+0.1**	
	2.4nm,0.8s,baz=238,slow=8.3,SNR=6.3							
	2.4nm,0.8s							
SNAA	**Sanae**	**84.68**	**169**	P	**P**	**18 38 18.9**	**+0.6**	
	1.4nm,0.9s,baz=328,slow=6.7,SNR=9.1							
	1.4nm,0.9s							
ILAR	**Eielson Array**	**88.38**	**336**	P	**P**	**18 38 36.5**	**-0.1**	
	0.4nm,0.8s,baz=64,slow=6.1,SNR=4.0							
	0.4nm,0.8s							

*NEIC **24** 18:42:51.4±1.0, 39°.46N±0°.01×112°.05W±0°.02, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.7km az=243.0*
UUSS 24 18:42:51.5±0.9, 39°.44N±0°.01×112°.01W±0°.02, h5km±4km, ML2.3/12, ML2.5/100(NEIC), Error ellipse: s-maj=2.3km s-min=1.6km az=108.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FLU	**Fool Peak**	**0.14**	**243**		Pg	18 42 54.8	+0.3
LEVU	**Levan**	**0.16**	**67**		Pg	18 42 55.5	+0.6
LEVU	**Levan**	**0.16**	**67**		Sg	18 42 58.5	+1.4
SUU	**Santaquin Cany**	**0.47**	**20**		Pg	18 43 01.2	+0.4
WCU	**Willow Creek**	**0.48**	**188**		Pg	18 43 01.6	+0.7
NLU	**North Lily Min**	**0.51**	**354**		Pg	18 43 01.5	0.0
NLU	**North Lily Min**	**0.51**	**354**	IAML		18 43 09.0	
	comp=N,83nm,0.3s						
NLU				IAML		18 43 13.2	
	comp=E,79nm,0.4s						
TMUT	**Trail Mountain**	**0.64**	**103**		Pg	18 43 04.4	+0.6
TMUT					Sb	18 43 13.6	-1.1
TMUT	**Trail Mountain**	**0.64**	**103**	IAML		18 43 14.0	
	comp=E,332nm,0.2s						
TMUT				IAML		18 43 14.1	
	comp=N,349nm,0.2s						
MPU	**Maple Canyon**	**0.64**	**27**		Pg	18 43 04.0	+0.1
WMUT	**West Mountain**	**0.65**	**12**		Pg	18 43 04.5	+0.5
DBD	**Des Bee Dove**	**0.72**	**100**		Pg	18 43 05.9	+0.5
OWUT	**Old Woman Plat**	**0.80**	**145**		Pb	18 43 07.8	-0.4
Q16A	**Castle Valley**	**0.83**	**129**		Pg	18 43 07.8	+0.3
Q16A	**Castle Valley**	**0.83**	**129**	IAML		18 43 19.4	
	comp=E,284nm,0.4s						
Q16A				IAML		18 43 19.4	
	comp=N,134nm,0.2s						
DUG	**Dugway, Tooele**	**0.97**	**321**		Pg	18 43 10.1	-0.1
DUG	**Dugway, Tooele**	**0.97**	**321**	IAML		18 43 26.1	
	comp=N,72nm,0.3s						
EMUT	**Emma Park**	**0.99**	**68**		Pg	18 43 10.8	+0.2
CWU	**Camp Williams**	**1.00**	**356**		Pb	18 43 11.3	-0.3
FSU	**Fish Springs**	**1.10**	**285**		Pg	18 43 12.5	-0.3
DAU	**Daniels Canyon**	**1.13**	**31**		Pb	18 43 13.9	+0.2
DCM	**Dugout Coal Mi**	**1.13**	**77**		Pg	18 43 13.3	+0.1
NMUT	**North Mineral**	**1.14**	**216**		Pg	18 43 13.2	-0.1
GMU	**Granite Mounta**	**1.15**	**9**		Pb	18 43 13.8	-0.1
ARGU	**Argyle Ridge**	**1.19**	**71**		Pb	18 43 14.7	-0.1
SRU	**San Rafael Swe**	**1.20**	**106**		Pg	18 43 14

	comp=N,19nm,0.6s							
O20A	**White River Ci**	**2.98**	**75**			Pb	18 43 45.7	+0.4
PV01	**Paradox Valley**	**2.99**	**115**		IAML		18 44 27.6	
	comp=N,18nm,0.5s							
PV01					IAML		18 44 33.9	
	comp=E,20nm,0.6s							
R11B	**Troy Canyon, C**	**3.00**	**250**			Pb	18 43 44.5	-1.0
R11B					IAML		18 44 27.4	
	comp=E,8.2nm,0.5s							
U15A	**North Rim**	**3.02**	**184**			Pb	18 43 45.2	-0.7
PRN	**Pahroc Range**	**3.14**	**231**			Pb	18 43 47.1	-0.7
PRN					IAML		18 44 35.2	
	comp=N,23nm,0.7s							
PRN					IAML		18 44 39.0	
	comp=E,20nm,0.7s							
MVCO	**Mesa Verde**	**3.55**	**128**			Pn	18 43 47.1	-0.4
MVCO					IAML		18 44 57.2	
	comp=E,14nm,0.6s							
S22A	**4UR Ranch, Cre**	**4.40**	**111**		IAML		18 44 42.8	
	comp=E,8.5nm,0.1s							
S22A					IAML		18 45 33.3	
	comp=N,6.1nm,0.1s							
ISCO	**Idaho Springs**	**4.95**	**84**		IAML		18 45 54.0	
	comp=N,4.8nm,3.4s							
ISCO					IAML		18 45 59.4	
	comp=N,3.0nm,3.0s							

*KRNET **24** 18:43:20.7±0.1,39°.84N×70°.14E,h14km,mb3.4*
*ISU **24** 18:43:22,39°.78N×70°.06E,h30km*
*SOME **24** 18:43:23.9,40°.02N×70°.18E,h5km*
*NNC **24** 18:43:25.6±1.1,40°.03N×70°.25E,h7.7km±6km,mb3.8, mpv3.4,Error ellipse: s-maj=7.9km s-min=4.5km az=26.0*

ISC 24 18:43:20.8±1.2,39°.86N±0°.03×70°.19E±0°.02,h1km±10km, n38,σ2°.22/61,16C-12D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.52**	**68**	⇑*i*P	**Pg**	**18 43 31.5**	**+0.8**
BTK				⇑*i*S	**Sg**	**18 43 39.7**	**+2.3**
MINT	**Mingtut**	**0.85**	**45**	S	**Sn**	**18 43 51.4**	**-1.5**
GAR	**Garm**	**0.87**	**174**	⇑*i*P	**Pg**	**18 43 37.0**	**-0.4**
GAR				⇑*i*S	**Sb**	**18 43 48.8**	**-2.0**
CHMI	**Chimion**	**1.10**	**68**	P	**Pn**	**18 43 42.5**	**-0.8**
CHMI				S	**Sn**	**18 44 00.2**	**+1.1**
DRK	**Karamyk**	**1.30**	**107**	⇓*i*P	**Pb**	**18 43 46.0**	**-0.1**
DRK				⇓*i*S	**Sn**	**18 44 04.3**	**+1.8**
FRG	**Fergana**	**1.32**	**67**	P	**Pg**	**18 43 45.7**	**-0.7**
FRG				S	**Sg**	**18 44 06.8**	**+3.6**
NAM	**Namangan**	**1.59**	**44**	P	**Pg**	**18 43 53.2**	**+2.0**
NAM				S	**Sg**	**18 44 17.0**	**+5.2**
TGS	**TashGRES**	**1.64**	**342**	S	**Sg**	**18 44 16.6**	**+3.2**
BXML	**Bakhmal**	**1.68**	**265**	P	**Pg**	**18 43 56.4**	**+3.5**
CHMG	**Chimgan**	**1.69**	**355**	P	**Pg**	**18 43 53.0**	**-0.2**
CHMG				S	**Sg**	**18 44 17.8**	**+2.7**
CHRV	**Charvak**	**1.79**	**354**	P	**Pg**	**18 43 55.2**	**+0.2**
CHRV				S	**Sg**	**18 44 21.0**	**+2.9**
TRKS	**Terek-Say**	**1.81**	**23**	⇑*i*P	**Pb**	**18 43 54.3**	**-0.5**
TRKS				⇑*i*S	**Sb**	**18 44 18.6**	**+0.5**
DZI	**Dzhizak**	**1.84**	**279**	P	**Pg**	**18 43 55.6**	**-0.4**
OHH	**Osh**	**2.09**	**71**	⇑*i*P	**Pb**	**18 43 59.3**	**-0.2**
OHH				⇑*i*S	**Sb**	**18 44 27.6**	**+1.6**
IUG	**Iuzhnay**	**2.28**	**357**	Pg	**Pg**	**18 44 03.6**	**-0.9**
	84nm,0.3s						
IUG				Lg	Lg	18 44 32.6	
	131nm,0.3s						
ARK	**Arkit**	**2.35**	**34**	⇓*i*P	**Pb**	**18 44 03.1**	**-0.9**
ARK				⇓*i*S	**Sb**	**18 44 34.0**	**+0.4**
ARSB	**Arslanbob**	**2.58**	**55**	⇑*i*P	**Pb**	**18 44 06.2**	**-1.6**
ARSB				⇑*i*S	**Sb**	**18 44 39.4**	**-0.6**
AGL	**Agalyk**	**2.58**	**263**	P	**Pg**	**18 44 09.4**	**-0.8**
BAYS	**Baysun**	**2.85**	**236**	P	**Pg**	**18 44 14.6**	**-0.8**
BAYS				S	**Sg**	**18 44 50.6**	**-1.8**
SALK	**Salom-Alik**	**2.95**	**69**	⇑*i*P	**Pb**	**18 44 11.5**	**-2.8**
SALK				⇑*i*S	**Sb**	**18 44 48.6**	**-2.3**
MNAS	**Manas**	**3.15**	**33**	⇓*i*P	**Pb**	**18 44 14.1**	**-3.5**
MNAS				⇓*i*S	**Sb**	**18 44 53.3**	**-3.2**
BRLS	**Boroldoy**	**3.17**	**355**	Pg	**Pb**	**18 44 16.6**	**-1.3**
	3.8nm,0.2s						
BRLS				Lg	Lg	18 44 54.6	
	42nm,0.2s						
BRLS	**Boroldoy**	**3.17**	**355**	*e*P	**Pb**	**18 44 16.6**	**-1.3**
	3.8nm,0.2s						
BRLS				*e*S	**Sb**	**18 44 54.6**	**-2.5**
	42nm,0.2s						
PKMR	**Pachkamar**	**3.23**	**247**	S	**Sg**	**18 45 08.0**	**+3.3**
KK31	**Karatay Array**	**3.25**	**4**	⇑Pn	**Pn**	**18 44 14.6**	**+1.8**
	1.4nm,0.4s,baz=178,slow=10,SNR=66						
KK31				⇓Pg	**Pg**	**18 44 22.3**	**-0.7**
	3.2nm,0.3s,baz=186,slow=16,SNR=15						
KK31				Lg	Lg	18 45 04.0	
	6.3nm,0.3s,baz=185,slow=32,SNR=8.1						
NUT	**Nurota**	**3.52**	**283**	P	**Pg**	**18 44 25.1**	**-3.2**
MRKS	**Merke**	**3.67**	**37**	Pg	**Pg**	**18 44 30.2**	**-1.0**
	10nm,0.5s						
MRKS				Lg	Lg	18 45 17.9	
	39nm,0.4s						
MRKS	**Merke**	**3.67**	**37**	*e*P	**Pg**	**18 44 30.2**	**-1.0**
	10nm,0.5s						
MRKS				*e*S	**Sg**	**18 45 17.9**	**-0.9**
	39nm,0.4s						
EKS2	**Erkin-Say**	**3.89**	**43**	⇓*i*P	**Pn**	**18 44 24.4**	**+2.7**
EKS2				⇓*i*S	**Sn**	**18 45 10.9**	**+2.9**
AAK	**Ala-Archa**	**4.26**	**48**	⇓Pg	**Pg**	**18 44 40.2**	**-2.2**
	1.0nm,0.4s						
AAK				⇑Lg	Lg	18 45 35.8	
	5.8nm,0.6s						
AAK	**Ala-Archa**	**4.26**	**48**	⇑*i*P	**Pn**	**18 44 29.8**	**+2.9**
AAK				⇑*i*S	**Sn**	**18 45 20.0**	**+2.6**
KBK	**Karagaybulak**	**4.54**	**51**	⇓*i*P	**Pn**	**18 44 33.5**	**+2.7**
KBK				⇓*i*S	**Sn**	**18 45 26.8**	**+2.5**
TMD	**Tamdy-Bulak**	**4.62**	**296**	S	**Sn**	**18 45 25.7**	**-0.1**
KST	**Kastek**	**5.37**	**52**	Pg	**Pg**	**18 45 01.4**	**-2.3**
	2.0nm,0.3s						
KST				Lg	Lg	18 46 11.4	
	16nm,0.7s						
KST	**Kastek**	**5.37**	**52**	*e*P	**Pg**	**18 45 01.4**	**-2.3**
	2.0nm,0.3s						
KST				*e*S	**Sg**	**18 46 11.4**	**-2.0**
	16nm,0.7s						
DGS	**Degeres**	**5.38**	**49**	Pg	**Pg**	**18 45 01.3**	**-2.5**
	4.9nm,0.5s						
DGS				Lg	Lg	18 46 11.3	
	6.2nm,0.7s						
BTLS	**Baital**	**5.91**	**28**	Pg	**Pg**	**18 45 10.8**	**-3.0**
	1.8nm,0.6s						
BTLS				Lg	Lg	18 46 27.6	
	1.5nm,0.4s						
BTLS	**Baital**	**5.91**	**28**	*e*P	**Pg**	**18 45 10.8**	**-3.0**
	1.8nm,0.6s						
BTLS				*e*S	**Sg**	**18 46 27.6**	**-2.8**
	1.5nm,0.4s						

*IDC **24** 18:54:11.9±1.0,1°.87N×126°.50E,h0km,mb3.6/6, mbtmp3.6/7,ML3.4/1,MS2.4/2,Error ellipse: s-maj=97.7km s-min=16.6km az=69.0*
*DJA **24** 18:54:16.9±0.3,2°.N±3°×12°.6E±°,h10km,M3.9/12,mb4.0/3, MLv3.8/12*

ISC 24 18:54:18.3±0.8,1°.88N±0°.07×126°.59E±0°.09,h47km,n16, σ1°.03/16,mb3.8/6,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.35**	**145**	P	**Pn**	**18 54 41.1**	**+0.4**
SGSI	**Sangihe**	**2.08**	**329**	P	**Pn**	**18 54 51.2**	**+0.3**
KMSI	**Cibinong**	**2.91**	**244**	P	**Pn**	**18 55 01.6**	**-0.6**
SANI	**Sanana**	**3.95**	**189**	P	**Pn**	**18 55 16.0**	**-0.5**
LUWI	**Luwuk**	**4.79**	**233**	P	**Pn**	**18 55 28.1**	**0.0**
MRSI	**Marisa**	**4.85**	**253**	P	**Pn**	**18 55 30.6**	**+1.8**
NLAI	**Namlea**	**5.11**	**174**	P	**Pn**	**18 55 33.2**	**+0.8**
	0.1nm20nm,0.8s						
DAV	**Davao City (W)**	**5.25**	**349**	LR	LR	18 57 35.3	
	comp=Z,21nm,19.8s,baz=156,slow=39						
FITZ	**Fitzroy Crossi**	**19.87**	**183**	P	**P**	**18 58 45.3**	**-0.5**
	0.1nm,0.3s,baz=15,slow=12,SNR=2.0						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**22.98**	**161**	P	**P**	**18 59 18.2**	**-1.0**
	1.7nm,0.4s,baz=339,slow=11,SNR=43						
WRA				PcP	**PcP**	**19 03 09.3**	**+1.3**
	0.5nm,1.0s,baz=358,slow=1.8,SNR=1.3						
	1.7nm,0.4s						
ASAR	**Alice Springs**	**26.37**	**165**	P	**P**	**18 59 49.0**	**-1.4**
	0.3nm,0.6s,baz=345,slow=8.3,SNR=18						
ASAR				PcP	**PcP**	**19 03 16.3**	**+0.9**
	0.3nm,0.7s,baz=344,slow=1.3,SNR=4.4						
	0.3nm,0.6s						
JHJ	**Hachijo jima 2**	**33.45**	**20**	LR	LR	19 12 08.8	
	comp=Z,12nm,20.4s,baz=284,slow=32						
STKA	**Stephens Creek**	**36.47**	**158**	P	**P**	**19 01 20.2**	**+1.3**
	0.7nm,0.5s,baz=338,slow=11,SNR=3.6						
	0.7nm,0.5s						
SONM	**Songino Array**	**49.00**	**342**	P	**P**	**19 02 59.0**	**-1.5**
	0.3nm,0.6s,baz=169,slow=8.7,SNR=2.3						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**58.99**	**326**	P	**P**	**19 04 13.5**	**+0.2**
	0.4nm,0.4s,baz=122,slow=8.1,SNR=9.8						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**63.22**	**328**	P	**P**	**19 04 41.7**	**-0.1**
	0.7nm,0.6s,baz=128,slow=6.2,SNR=7.9						
	0.7nm,0.6s						

*IDC **24** 18:57:32.5±0.5,9°.45N×40°.58W,h0km,mb4.3/26, mbtmp4.3/27,ML4.5/1,MS4.3/65,Error ellipse: s-maj=15.9km s-min=12.0km az=143.0*
*MOS **24** 18:57:32.7±1.1,9°.46N×40°.55W,h10km,mb5.0/36, MS4.5/6,Error ellipse: s-maj=9.6km s-min=6.8km az=54.6*
*NEIC **24** 18:57:34.8,9°.59N×40°.52W,h12km,Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10¹⁶Nm; Mrr=5.56; Mθθ=0.04; Mϕϕ=5.60; Mrθ=0.67; Mθϕ=0.50; Mϕr=4.07; Fault plane solution: M0=6.96000×10¹⁶ NP1: ϕs=166.65000°,δ=27.74000°,λ=-104.94000°. NP2:ϕs=3.42000°, δ=63.28000°,λ=-82.28000°. Principal axes: T 6.9353, Plg=18.0000°, Azm=88.0000°; N 0.0421, Plg=7.0000°, Azm=180.0000°; P -6.9774, Plg=71.0000°, Azm=290.0000°;*
*NEIC **24** 18:57:34.8,9°.41N×40°.51W,h10km*
*NEIC **24** 18:57:34.9±1.9,9°.40N±0°.08×40°.53W±0°.09,h10km±1km, mb5.2/308,Mwb5.1/24,Mww5.2/25,Error ellipse: s-maj=15.8km s-min=12.0km az=312.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=5.04; Mθθ=0.45; Mϕϕ=5.49; Mrθ=0.44; Mθϕ=-0.10; Mϕr=0.91; Fault plane solution: M0=5.38000×10¹⁶ NP1:ϕs=184.51000°, δ=50.15000°,λ=-82.84000°. NP2:ϕs=353.41000°,δ=40.38000°, λ=-98.50000°. Principal axes: T 5.5676, Plg=5.0000°, Azm=269.0000°; N -0.4076, Plg=5.0000°, Azm=360.0000°; P -5.1601, Plg=83.0000°, Azm=138.0000°;*
*NEIC **24** 18:57:34.8,9°.39N×40°.52W,h12km*
*INMG **24** 18:57:35.0±4.4,9°.21N×40°.54W,h10km,mb4.8,Ms4.4, MW5.0,#DIST_RANGE: DISTANT*
*GCMT **24** 18:57:36.8±0.1,9°.54N±0°.01×40°.56W±0°.01,h12km, MW5.2/140,Moment Tensor Solution. s83,c114; s140,c261; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=6.75±.10; Mθθ=0.11±.10; Mϕϕ6.86±.08; Mrθ0.29±.34; Mθϕ=0.56±.09; Mϕr=1.54±.27; Best double couple: M07.00500×10¹⁶ NP1:ϕs177.00000°,δ39.00000°, λ=-88.00000°. NP2:ϕs354.00000°,δ51.00000°, λ=92.00000°. Principal axes: T 7.0800, Plg6.0000°, Azm85.0000°; N -0.1480, Plg1.0000°, Azm355.0000°; P -6.9300, Plg83.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 18:57:34.4±0.3,9°.41N±0°.05×40°.62W±0°.05,h10km,n655, σ1°.21/482,mb5.1/229,MS4.4/79,10C-9D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.67**	**251**	Pn	**Pn**	**19 00 34.3**	**-0.6**
	2.9nm,0.3s,baz=303,slow=13,SNR=20						
MDP				Sn	Sn	19 02 41.9	-14
	1.6nm,0.3s,baz=219,slow=4.9,SNR=4.6						
MDP				LR	LR	19 04 34.9	
	comp=Z,3μm,21.9s,baz=78,slow=33						
	13nm,0.5s						
NBCL	**Cascavel-CE**	**13.74**	**170**	*e*P	**Pn**	**19 00 52.0**	**+2.4**
TMAB	**Tom-Au,PA,Br**	**13.88**	**213**	*e*P	**Pn**	**19 00 51.8**	**+0.4**
NBPB	**Pedra_Branca-C**	**14.89**	**176**	*e*P	**Pn**	**19 01 06.6**	**+1.3**
RCBR	**Riachuelo**	**15.85**	**163**	Pn	**Pn**	**19 01 17.9**	**0.0**
RCBR	**Riachuelo**	**15.85**	**163**	P	**Pn**	**19 01 17.9**	**0.0**
RCBR				pmax	pmax		
	comp=Z,75nm,1.6s						
RCBR	**Riachuelo**	**15.85**	**163**	*e*P	**Pn**	**19 01 18.7**	**+0.8**
MAL2	**Monte Alegre,**	**17.65**	**231**		**P**	**19 01 42.6**	**+0.9**
PRPB	**Parauapebas**	**17.99**	**211**	*e*P	**P**	**19 01 45.4**	**0.0**
SMTB	**Santa Maria do**	**19.44**	**201**	*e*P	**P**	**19 02 00.3**	**-0.9**
NBAN	**Anadia - AL**	**19.44**	**167**	*e*P	**Pn**	**19 02 02.2**	**-0.3**
ITTB	**Itaituba**	**20.36**	**228**	*e*P	**P**	**19 02 12.2**	**+0.9**
H05S1	**Guadeloupe/Mar**	**20.39**	**286**	T	T	19 23 08.8	
	SNR=57						
MPOM	**Morne Pois Mar**	**20.42**	**286**	P	Pn	19 02 13.9	-0.2
ILAM	**Ilet Lapin Mar**	**20.50**	**287**	P	Pn	19 02 15.6	+0.5
ILAM				IAmb	IAmb	19 02 24.9	
	comp=Z,161nm,1.0s						
FDF	**Fort de France**	**20.75**	**287**	P	Pn	19 02 17.9	-0.2
FDF				IAmb	IAmb	19 02 20.6	
	comp=Z,93nm,1.0s						
FDF	**Fort de France**	**20.75**	**287**	P	Pn	19 02 17.9	-0.2
FDF				pmax	pmax		
	comp=Z,93nm,1.0s						
BOAV	**Boa Vista**	**20.98**	**252**		**P**	**19 02 19.1**	**+1.0**
BOAV	**Boa Vista**	**20.98**	**252**	*e*P	**P**	**19 02 17.6**	**-0.5**
H05N1	**Guadeloupe/Mar**	**21.06**	**291**	T	T	19 24 03.5	
	SNR=34						
CBE	**Ff, Capester**	**21.50**	**290**	P	**P**	**19 02 25.8**	**+2.1**
NPGB	**Novo Progresso**	**21.98**	**222**	*e*P	**P**	**19 02 29.5**	**+0.7**
SDBA	**SAO DESIDERIO**	**22.09**	**191**	*e*P	**P**	**19 02 30.3**	**+0.3**
PCRV	**Puerto La Cruz**	**23.68**	**274**	LR	LR	19 12 26.6	
	comp=Z,1μm,20.0s,slow=38						
SNDB	**Serra Nova Dou**	**23.75**	**207**	*e*P	**P**	**19 02 48.3**	**+1.1**
BBTS	**Babate**	**24.12**	**75**	LR	LR	19 10 01.0	
	comp=Z,2μm,20.6s,baz=251,slow=31						
JANB	**Januaria**	**24.59**	**189**	*e*P	**P**	**19 02 56.6**	**+1.6**
CLDB	**Colider**	**25.18**	**217**	*e*P	**P**	**19 03 01.3**	**+0.9**
BDFB	**Brasilia**	**25.95**	**196**	P	**P**	**19 03 06.3**	**-1.1**
BDFB	**Brasilia**	**25.95**	**196**	P	**P**	**19 03 07.5**	**+0.1**
	comp=Z,6.3nm,0.7s,baz=34,slow=8.8,SNR=6.9						
BDFB				LR	LR	19 13 03.8	
	comp=Z,759nm,19.1s,baz=11,slow=36						
	comp=Z,6.3nm,0.7s						
BDFB	**Brasilia**	**25.95**	**196**	P	**P**	**19 03 06.3**	**-1.1**
BDFB				pmax	pmax		
	comp=Z,11nm,0.9s						
HUMP	**Col San Antoni**	**25.97**	**292**		**P**	**19 03 07.8**	**+0.3**
HUMP				IAmb	IAmb	19 03 12.2	
	comp=Z,88nm,1.4s						
SJG	**San Juan**	**26.23**	**292**	P	**P**	**19 03 10.0**	**+0.1**
SJG				IAmb	IAmb	19 03 20.9	
	comp=Z,40nm,0.8s						
SJG	**San Juan**	**26.23**	**292**	LR	LR	19 11 31.7	
	comp=Z,1μm,21.4s,baz=126,slow=32						
SJG	**San Juan**	**26.23**	**292**	P	**P**	**19 03 10.0**	**+0.1**
SJG				pmax	pmax		
	comp=Z,40nm,0.9s						
PDRB	**Porto dos Gac**	**26.32**	**218**	*e*P	**P**	**19 03 11.3**	**+0.6**
CELP	**Cerrillos**	**26.62**	**292**	P	**P**	**19 03 13.7**	**+0.3**
OBIP	**Obispado Ponce**	**26.63**	**292**		**P**	**19 03 13.4**	**-0.1**
OBIP				IAmb	IAmb	19 03 24.0	
	comp=Z,64nm,1.1s						
UUPR	**Utuado, UPR, P**	**26.79**	**292**	P	**P**	**19 03 14.6**	**-0.4**
UUPR				IAmb	IAmb	19 03 17.3	
	comp=Z,49nm,0.9s						
BAUV	**El Baul**	**27.07**	**271**		**P**	**19 03 17.6**	**+0.1**
ARAG	**Araguaiana, MT**	**27.31**	**204**	*e*P	**P**	**19 03 19.5**	**-0.1**
SJMB	**Sao Joao De Ma**	**27.94**	**181**	*e*P	**P**	**19 03 26.0**	**+0.8**
SDV	**Santo Domingo**	**29.63**	**271**	P	**P**	**19 03 41.0**	**+0.4**
SDV				IAmb	IAmb	19 03 49.5	
	comp=Z,88nm,1.9s						
SDV	**Santo Domingo**	**29.63**	**271**	LR	LR	19 15 17.5	
	comp=Z,802nm,22.0s,baz=80,slow=36						
BANI	**BANI**	**30.18**	**290**	P	**P**	**19 03 46.2**	**+0.9**
PSMA	**Santa Maria**	**30.84**	**25**	*e*T	T	19 35 37.9	
H10N3	**ASCENSION HYDR**	**31.16**	**123**	T	T	19 36 32.7	
	baz=303,slow=75,SNR=214						
H10N2	**ASCENSION HYDR**	**31.16**	**123**	T	T	19 36 33.1	
	baz=303,slow=75,SNR=234						
SDDR	**Pres.de Saban**	**31.17**	**291**		**P**	**19 03 55.2**	**+1.2**
H10N1	**ASCENSION HYDR**	**31.18**	**123**	T	T	19 36 34.3	
	baz=303,slow=75,SNR=189						
H10S3	**ASCENSION HYDR**	**31.64**	**124**	T	T	19 37 29.7	
	baz=302,slow=74,SNR=59						
H10S2	**ASCENSION HYDR**	**31.66**	**124**	T	T	19 37 31.1	
	baz=278,slow=74,SNR=63						
PMOZ	**Porto Moniz, M**	**31.79**	**39**	P	**P**	**19 03 56.4**	**-2.9**
PMOZ	**Porto Moniz, M**	**31.79**	**39**	*e*P	**P**	**19 04 02.4**	**+3.0**
PMOZ				*i* IAmb	IAmb	19 04 10.0	
	comp=Z,71nm,1.6s						
PMOZ				*e*LR	LR	19 11 57.4	
PMOZ				*i* IAMs_20	IAMs_20	19 13 43.4	
	comp=Z,343nm,20.0s						
PMOZ				*e*T	T	19 36 38.6	
FUL	**Funchal**	**31.86**	**40**	*e*T	T	19 36 46.2	
PMAR	**Madeira**	**31.90**	**40**	*e*T	T	19 36 41.6	
RUSC	**La Rusia**	**32.35**	**266**	P	**P**	**19 04 06.3**	**+1.3**
RUSC				IAmb	IAmb	19 04 21.2	
	comp=Z,33nm,1.2s						
SIV	**San Ignacio**	**32.36**	**219**	LR	LR	19 17 08.3	
	comp=Z,1μm,18.4s,baz=98,slow=36						
BBSD	**Serra de San D**	**33.00**	**217**	*e*P	**P**	**19 04 12.0**	**+2.0**
FRTB	**Fartura**	**33.71**	**195**	*e*P	**P**	**19 04 17.6**	**+1.4**
ROSC	**El Rosal**	**33.73**	**265**	P	**P**	**19 04 16.3**	**-0.6**
	comp=Z,7.8nm,0.3s,baz=60,slow=9.7,SNR=4.6						
ROSC				LR	LR	19 18 28.3	
	comp=Z,2μm,18.2s,baz=67,slow=37						
	comp=Z,7.8nm,0.3s						
PET01	**Itanhaem-SP**	**34.12**	**191**	*e*P	**P**	**19 04 19.6**	**-0.1**
NMDO	**Nuevo Mundo**	**34.92**	**292**		**P**	**19 04 26.3**	**-0.3**
NMDO				IAmb	IAmb	19 04 29.2	
	comp=Z,73nm,1.5s						
AMBA	**Amambai (Brazi**	**35.09**	**203**	*e*P	**P**	**19 04 28.8**	**+0.7**
DBIC	**Dimbokro**	**35.51**	**92**		**P**	**19 04 30.0**	**-1.8**
DBIC				IAmb	IAmb	19 04 31.3	
	comp=Z,36nm,0.8s						
DBIC	**Dimbokro**	**35.51**	**92**	P	**P**	**19 04 30.4**	**-1.5**
	comp=Z,35nm,0.7s,baz=300,slow=9.4,SNR=42						
DBIC				LR	LR	19 16 27.2	
	comp=Z,948nm,18.4s,baz=301,slow=32						
DBIC	**Dimbokro**	**35.51**	**92**	P	**P**	**19 04 30.0**	**-1.8**
DBIC				pmax	pmax		
	comp=Z,36nm,0.8s						
CZSB	**Cruzeiro do Su**	**36.22**	**243**	IAmb	IAmb	19 04 47.6	
	comp=Z,36nm,0.8s						
CZSB	**Cruzeiro do Su**	**36.22**	**243**	*e*P	**P**	**19 04 38.3**	**+0.4**
LPAZ	**La Paz**	**37.33**	**227**		**P**	**19 04 49.2**	**+1.2**
LPAZ	**La Paz**	**37.33**	**227**	P	**P**	**19 04 49.0**	**+0.9**
	comp=Z,7.6nm,0.9s,baz=31,slow=9.1,SNR=11						
LPAZ				LR	LR	19 21 37.1	
	comp=Z,538nm,18.3s,baz=50,slow=39						
	comp=Z,7.6nm,0.9s						
LPAZ	**La Paz**	**37.33**	**227**	P	**P**	**19 04 49.2**	**+1.2**
LPAZ				pmax	pmax		
	comp=Z,12nm,1.0s						
LPAZ	**La Paz**	**37.33**	**227**	*e*P	**P**	**19 04 46.4**	**-1.6**
OTAV	**Otavalo**	**38.74**	**259**		**P**	**19 05 01.8**	**+2.0**
OTAV	**Otavalo**	**38.74**	**259**	P	**P**	**19 05 01.8**	**+2.0**
OTAV				pmax	pmax		
	comp=Z,30nm,1.6s						
OTAV	**Otavalo**	**38.74**	**259**	*e*P	**P**	**19 04 58.6**	**-1.2**
CPUP	**Villa Florida**	**39.07**	**204**	LR	LR	19 21 12.2	
	comp=Z,278nm,18.5s,baz=240,slow=36						
COHC	**Cochancay**	**40.26**	**255**	P	**P**	**19 05 11.7**	**-0.3**
MDT	**Midelt**	**40.56**	**50**	LR	LR	19 20 22.4	
	comp=Z,562nm,18.6s,baz=235,slow=34						
PCVE	**Castro Verde**	**40.63**	**41**	*e*P	**P**	**19 05 16.4**	**+1.7**
MESJ	**Messejana**	**40.64**	**41**	*e*P	**P**	**19 05 14.0**	**-0.8**
MESJ				IAmb	IAmb	19 05 17.5	
	comp=Z,47nm,1.7s						
MESJ				*e*S	**S**	**19 11 24.8**	**0.0**
MESJ	**Messejana**	**40.64**	**41**	*e*P	**P**	**19 05 15.5**	**+0.7**
MESJ				*i* IAmb	IAmb	19 05 17.5	
	comp=Z,34nm,1.9s						
PARRA	**Arraiolos**	**40.70**	**39**	*e*P	P	19 05 21.8	+6.5
PARRA				*i* IAmb	IAmb	19 05 56.6	
	comp=Z,19nm,1.8s						
PVAQ	**Vaqueiros**	**40.71**	**42**	*e*P	**P**	**19 05 17.0**	**+1.5**
PVAQ				*e*S	S	19 11 35.1	+9.2
PVAQ				*e*LR	LR	19 15 43.5	
PVAQ				*i* IAMs_20	IAMs_20	19 18 28.9	
	comp=Z,639nm,20.0s						
PBEJ	**Beja**	**40.97**	**41**	*e*P	**P**	**19 05 17.5**	**-0.1**
ATAH	**Atahualpa**	**41.07**	**248**	LR	LR	19 22 07.9	
	comp=Z,721nm,21.4s,baz=76,slow=36						
EVO	**Evora**	**41.17**	**40**	*e*P	**P**	**19 05 19.9**	**+0.7**
EVO				*i* IAmb	IAmb	19 05 37.1	
	comp=Z,23nm,2.1s						
CAMR	**Camarioca**	**41.26**	**294**	IAmb	IAmb	19 05 23.3	
	comp=Z,211nm,1.6s						
PMTG	**Montargil**	**41.36**	**39**	*e*P	**P**	**19 05 21.3**	**+0.5**
PMTG				*i* IAmb	IAmb	19 05 23.3	
	comp=Z,24nm,1.9s						
M65A	**Busby, Falmout**	**41.54**	**326**	P	**P**	**19 05 21.7**	**-0.5**
	baz=132						
PBAR	**Barrancos**	**41.59**	**41**	*e*P	**P**	**19 05 23.2**	**+0.6**
PBAR				*i* IAmb	IAmb	19 05 38.6	
	comp=Z,24nm,1.6s						
TORD	**Torodi Ar. Bea**	**41.63**	**81**		**P**	**19 05 21.6**	**-1.7**
TORD	**Torodi Ar. Bea**	**41.63**	**81**	P	**P**	**19 05 22.1**	**-1.2**
	comp=Z,17nm,0.8s,baz=285,slow=8.0,SNR=92						
TORD				LR	LR	19 21 09.2	
	comp=Z,1μm,18.9s,

comp=Z,49nm,1.4s
S57A Dark Hollow, R 44.56 316 P **P** **19 05 47.3 +0.6**
J59A Piesco 44.94 325 IAmb IAmb 19 05 51.3
comp=Z,46nm,1.5s
FRNY Flat Rock 45.32 327 IAmb IAmb 19 05 54.3
comp=Z,60nm,1.6s
L56A Greenwood 45.96 322 IAmb IAmb 19 06 05.7
comp=Z,25nm,1.1s
LDAQ Lac Daran 46.29 332 IAmb IAmb 19 06 01.5
comp=Z,54nm,1.6s
WBO Williamsburg 46.34 326 IAmb IAmb 19 06 09.3
comp=Z,16nm,0.8s
TRQ Mont Tremblant 46.74 328 IAmb IAmb 19 06 05.7
comp=Z,20nm,1.1s
TKL Tuckaleechee C 47.12 311 LR LR 19 21 46.6
comp=Z,981nm,21.9s,baz=108,slow=31
TEIG Tepich 47.16 289 P **P** **19 06 07.6 +0.1**
TEIG IAmb IAmb 19 06 15.6
comp=Z,16nm,0.8s
O53A New Philadelph 47.31 317 IAmb IAmb 19 06 16.6
comp=Z,22nm,1.1s
DELO Deloro Mine 47.37 324 IAmb IAmb 19 06 11.2
comp=Z,41nm,1.4s
O52A Adamsville 47.66 317 IAmb IAmb 19 06 19.4
comp=Z,23nm,1.0s
MTO3 Montecristo 47.88 281 IAmb IAmb 19 06 33.4
comp=Z,18nm,1.0s
W50A Signal Mountai 48.11 309 IAmb IAmb 19 06 17.2
comp=Z,40nm,1.5s
Q51A Peebles 48.20 315 IAmb IAmb 19 06 29.4
comp=Z,30nm,1.2s
SADO Sadowa 48.40 324 LR LR 19 22 11.9
comp=Z,362nm,21.5s,baz=162,slow=31
T50A Nancy 48.44 312 IAmb IAmb 19 06 19.5
comp=Z,43nm,1.6s
ACSO Alum Creek Sta 48.49 316 IAmb IAmb 19 06 19.4
comp=Z,40nm,1.4s
SWET Sewanee 48.59 309 IAmb IAmb 19 06 27.8
comp=Z,26nm,1.4s
BUKO Buck Lake 48.93 324 IAmb IAmb 19 06 22.3
comp=Z,33nm,1.3s
X48A Hartselle 49.19 308 IAmb IAmb 19 06 35.3
comp=Z,16nm,0.7s
SCHQ Schefferville 49.86 340 IAmb IAmb 19 06 28.1
comp=Z,25nm,1.2s
SCHQ Schefferville 49.86 340 P **P** **19 06 27.3 -0.5**
comp=Z,14nm,1.1s,baz=119,slow=6.9,SNR=7.3
SCHQ LR LR 19 23 50.7
comp=Z,424nm,21.7s,baz=136,slow=32
comp=Z,14nm,1.1s
T47A Sharon Grove 50.11 311 IAmb IAmb 19 06 32.6
comp=Z,30nm,1.3s
WVT Waverly 50.35 310 **P** **19 06 32.3 +0.5**
WVT **Waverly 50.35 310** P **P** **19 06 32.3 +0.5**
WVT pmax pmax
comp=Z,13nm,1.1s
CCIG Comitan 50.58 283 IAmb IAmb 19 06 36.0
comp=Z,53nm,1.3s
EDA Edea 50.71 93 P **P** **19 06 34.3 -0.5**
TRQA Tornquist 51.27 202 *e*P **P** **19 06 38.3 -0.4**
SFIN Lafayette 51.40 315 IAmb IAmb 19 06 41.4
comp=Z,48nm,1.5s
OLIL Olney 51.48 313 IAmb IAmb 19 06 42.3
comp=Z,45nm,1.1s
SIUC Southern Illin 51.94 311 IAmb IAmb 19 06 45.6
comp=Z,68nm,1.6s
S44A Carbondale 51.96 311 IAmb IAmb 19 06 45.5
comp=Z,60nm,1.6s
KEST Kesra 52.35 52 P **P** **19 06 46.8 -0.1**
comp=Z,6.1nm,0.8s,baz=272,slow=3.6,SNR=8.5
KEST LR LR 19 29 03.9
comp=Z,586nm,19.2s,baz=240,slow=36
comp=Z,6.1nm,0.8s
SSB Saint Sauveur 52.68 39 **P** **19 06 49.9 +0.8**
SSB Saint Sauveur 52.68 39 P **P** **19 06 49.9 +0.8**
SSB pmax pmax
comp=Z,11nm,1.2s
KUQ Kuujjuuaa 53.05 342 IAmb IAmb 19 06 52.5
comp=Z,31nm,1.3s
CCM Cathedral Cave 53.57 311 P **P** **19 06 55.9 +0.1**
CCM IAmb IAmb 19 06 56.8
comp=Z,57nm,1.9s
CCM Cathedral Cave 53.57 311 P **P** **19 06 55.9 +0.1**
CCM pmax pmax
comp=Z,57nm,1.9s
BNI Bardonecchia 53.92 40 **P** **19 06 57.5 -0.9**
BNI Bardonecchia 53.92 40 P **P** **19 06 57.5 -0.9**
BNI pmax pmax
comp=Z,17nm,1.4s
R40A Maddies Statio 54.41 311 IAmb IAmb 19 07 02.8
comp=Z,35nm,1.6s
EKA Eskdalemuir Ar 54.49 25 P **P** **19 07 02.2 +0.1**
comp=Z,1.6nm,0.7s,baz=222,slow=5.2,SNR=7.5
comp=Z,1.6nm,0.7s
S39A Bolivar 55.02 310 IAmb IAmb 19 07 07.3
comp=Z,53nm,1.6s
HKT Hockley 55.30 300*d* *i*P **P** **19 07 08.4 0.0**
HKT pmax pmax
comp=Z,35nm,1.5s
G40A Rib Lake 55.47 319 IAmb IAmb 19 07 11.0
comp=Z,72nm,2.0s
ECH Echery 55.65 37 P **P** **19 07 10.4 -0.4**
ECH Echery 55.65 37 P **P** **19 07 10.4 -0.4**
ECH pmax pmax
comp=Z,5.0nm,1.0s
OSSC Osservatorio P 56.31 43 IAmb IAmb 19 07 33.4
comp=Z,28nm,1.3s
BFO Black Forest 56.40 37 **P** **19 07 16.1 0.0**
BFO Black Forest 56.40 37 P **P** **19 07 16.1 0.0**
BFO pmax pmax
comp=Z,11nm,1.1s
TBO Thunder Bay 56.44 323 IAmb IAmb 19 07 17.3
comp=Z,33nm,1.4s
DAVOX Davos/Dischmat 56.68 39 LR LR 19 28 07.4
comp=Z,468nm,21.5s,baz=262,slow=32
VAE Valgurnera 56.75 51 LR LR 19 33 17.2
comp=Z,464nm,18.1s,baz=305,slow=38
TLIG Tlapa 56.75 285 IAmb IAmb 19 07 28.8
comp=Z,45nm,1.7s
FUORN Ofenpass-Fuorn 56.85 40 P **P** **19 07 19.6 -0.1**
DAVA Damuels 56.89 39 *e*P **P** **19 07 19.9 +0.1**
comp=Z,14nm,1.2s
BORG Borgarnes 56.89 10 LR LR 19 25 59.3
comp=Z,230nm,19.3s,baz=206,slow=30
PLCA Paso Flores 57.03 207 **P** **19 07 20.8 +0.1**
PLCA IAmb IAmb 19 07 21.7
comp=Z,32nm,1.7s
PLCA Paso Flores 57.03 207 P **P** **19 07 20.9 +0.2**
comp=Z,2.2nm,0.9s,baz=28,slow=6.1,SNR=5.5
PLCA LR LR 19 32 58.5
comp=Z,318nm,18.1s,baz=33,slow=37
comp=Z,2.2nm,0.9s
PLCA Paso Flores 57.03 207 P **P** **19 07 20.8 +0.1**
PLCA pmax pmax
comp=Z,32nm,1.7s
PLCA Paso Flores 57.03 207 *e*P **P** **19 07 19.1 -1.6**
SPMN Marine on St. 57.15 318 IAmb IAmb 19 07 22.3
comp=Z,50nm,1.6s
FETA Feichten 57.31 39 *e*P **P** **19 07 23.1 +0.3**
comp=Z,5.5nm,1.0s
CTI Castel Tesino 57.51 41 P **P** **19 07 23.6 -0.5**
CTI Castel Tesino 57.51 41 P **P** **19 07 23.7 -0.5**
CTI pmax pmax
comp=Z,10.0nm,1.0s
RETA Reutte 57.52 39 *e*P **P** **19 07 24.1 0.0**
comp=Z,9.1nm,1.2s
MOTA Moosalm 57.67 39 *e*P **P** **19 07 24.8 -0.6**
comp=Z,5.6nm,0.7s
SQTA Sankt Quirin 57.69 39 *e*P **P** **19 07 25.0 -0.4**
comp=Z,4.6nm,0.6s
FRB Frobisher Bay 57.77 346 LR LR 19 28 21.9
comp=Z,377nm,21.9s,baz=124,slow=32
BLOK Blackwell 57.79 308 IAmb IAmb 19 07 27.2
comp=Z,38nm,1.3s
PLPT Palo Pinto 57.88 303 IAmb IAmb 19 07 27.6
comp=Z,65nm,1.9s
SFJD Kangerlussuaq 57.91 355 LR LR 19 26 40.9
comp=Z,177nm,21.3s,baz=167,slow=30
WATA Walderalm 57.96 39 *e*P **P** **19 07 27.4 +0.1**
comp=Z,4.4nm,0.9s
WTTA Wattenberg 57.97 39 *e*P **P** **19 07 26.3 -1.1**
comp=Z,7.6nm,0.7s
KAN09 Caldwell North 58.19 308 IAmb IAmb 19 07 29.9
comp=Z,30nm,1.2s
ABTA Abfaltersbach 58.33 40 *e*P **P** **19 07 30.2 +0.3**
comp=Z,5.2nm,0.9s
LESA Schwarzleotal 58.69 40 *i* P **P** **19 07 31.4 -0.9**
comp=Z,6.4nm,0.7s
SABO M.te Sabotino 58.75 41 **P** **19 07 32.2 -0.6**
SABO IAmb IAmb 19 07 50.5
comp=Z,32nm,1.5s
TIP Timpagrande 58.96 50 P **P** **19 07 31.8 -2.6**
KBA Koelnbreinsper 58.98 40 *i* P **P** **19 07 34.0 -0.5**
comp=Z,7.3nm,0.9s
MYKA Terra Mystica 59.01 41 *i* P **P** **19 07 34.2 -0.4**
comp=Z,5.9nm,0.7s
ECSD EROS Data Cent 59.21 316 IAmb IAmb 19 07 36.3
comp=Z,33nm,1.6s
BIOA Bad Ischl, Aus 59.39 40 *e*P **P** **19 07 36.7 -0.5**
comp=Z,6.9nm,0.7s
OBKA Obir 59.55 41 *e*P **P** **19 07 37.7 -0.7**
comp=Z,13nm,1.2s
GERES GERESS Array B 59.86 38 P **P** **19 07 39.7 -0.7**
comp=Z,0.8nm,0.8s,baz=260,slow=6.6,SNR=6.0
comp=Z,0.8nm,0.8s
KHC Kasperske Hory 59.89 38 *e*P **P** **19 07 39.8 -0.8**
KHC *e*S **S** **19 15 50.9 -1.7**
KHC AMS AMS 19 30 20.0
comp=Z,300nm,17.4s
KHC Kasperske Hory 59.89 38*c* *i*P **P** **19 07 40.4 -0.2**
KHC *i* *PP **sP** **19 07 44.6 +1.3**
KHC pmax pmax
comp=Z,8.0nm,1.7s
SOKA Soboth 59.92 41 *e*P **P** **19 07 41.0 +0.1**
comp=Z,3.6nm,1.0s
OZNA Ozona 59.96 300 IAmb IAmb 19 07 42.6
comp=Z,27nm,1.5s
DKNS Dickens 60.18 303 IAmb IAmb 19 07 43.8
comp=Z,35nm,1.5s
CKRC Cesky Krumlov 60.22 39 *e*P P 19 15 54.3
CKRC AMS AMS 19 35 10.0
comp=Z,200nm,19.0s
ZVC Zvikov 60.38 38 *e*P **P** **19 07 43.4 -0.5**
ZVC AMS AMS 19 30 40.0
comp=Z,200nm,22.5s
CLL Collm 60.41 36 *e*P **P** **19 07 44.0 0.0**
CLL *e*S **S** **19 15 59.0 0.0**
CLL MLR MLR
comp=Z,400nm,20.2s
CLL Collm 60.41 36 *e*P **P** **19 07 44.0 0.0**
CLL *ex* x 19 07 54.0
CLL *e*S **S** **19 15 59.0 0.0**
CLL *e*SS **SS** **19 19 51.0 -5.7**
CLL *e*(SSS) 19 22 42.0
CLL AMS AMS 19 31 00.0
comp=N,100nm,20.8s
CLL AMS AMS 19 31 00.0
comp=E,300nm,20.4s
CLL AMS AMS 19 31 00.0
comp=Z,400nm,20.2s
ARSA Arzberg 60.43 41 *e*P **P** **19 07 44.8 +0.4**
comp=Z,2.9nm,1.1s
SAND Sanderson 60.71 299 IAmb IAmb 19 07 47.8
comp=Z,43nm,1.7s
MUD Monsted U'grnd 60.74 29 *i* P **P** **19 07 50.4 +4.3**
MUD IAmb IAmb 19 07 56.5
comp=Z,35nm,1.2s
BRG Berggiesshubel 60.78 36 *e*P P 19 07 54.4 +7.8
BRG Amp 19 08 01.4
comp=Z,4.5nm,1.2s
BRG Berggiesshubel 60.78 36 S S 19 16 13.0 +9.2
PRU Pruhonice 60.79 37 *e*P **S** **19 16 05.9 +1.9**
PRU AMS AMS 19 28 30.0
comp=Z,200nm,22.0s
CONA Conrad Observa 60.88 40 *e*P **P** **19 07 46.7 -0.7**
comp=Z,8.3nm,1.3s
ULM Lac du Bonnet 60.95 323 IAmb IAmb 19 07 53.7
comp=Z,16nm,1.1s
ULM Lac du Bonnet 60.95 323*d* *i*P **P** **19 07 45.8 -1.9**
RONA Rosalia, Austr 61.08 40 *e*P **P** **19 07 48.8 +0.1**
comp=Z,8.1nm,1.3s
KRUC Moravsky 61.59 39 *e*P **P** **19 07 51.3 -0.8**
VRAC Vranov 61.80 39 *e*P **P** **19 07 53.6 +0.1**
VRAC Vranov 61.80 39 LR LR 19 31 42.3
comp=Z,154nm,20.2s,baz=252,slow=33
UPC Upice 61.86 37 *e*P **P** **19 07 54.2 +0.3**
UPC *e*S **S** **19 16 19.5 +1.9**
UPC AMS AMS 19 31 00.0
comp=Z,200nm,19.1s
CHVC Chvalec 61.92 37 AMS AMS 19 33 00.0
comp=Z,200nm,23.9s
MODS Modra-Piesok 61.92 40 *e*P P 19 07 59.8 +5.4
TXAR Lajitas Array 61.98 298 **P** **19 07 55.1 -0.1**
TXAR Lajitas Array 61.98 298 P **P** **19 07 55.4 +0.1**
comp=Z,0.7nm,0.6s,baz=112,slow=5.6,SNR=11
TXAR LR LR 19 36 49.9
comp=Z,33nm,19.2s,baz=72,slow=38
comp=Z,0.7nm,0.6s
TX31 Lajitas Ar. Si 61.98 298 IAmb IAmb 19 08 09.1
comp=Z,35nm,1.8s
DPC Dobruska-Polom 61.99 37 *e*P **S** **19 16 22.3 +2.9**
DPC AMS AMS 19 31 40.0
comp=Z,200nm,13.6s
OSTC Ostas 62.00 37 *e*P **P** **19 07 55.2 +0.3**
OSTC AMS AMS 19 31 10.0
comp=Z,200nm,21.7s
ALPN Alpine 62.05 299 IAmb IAmb 19 07 57.2
comp=Z,24nm,1.4s
RTBA Rita Blanca 62.08 306 IAmb IAmb 19 07 56.8
comp=Z,39nm,1.7s
KSP Ksiaz 62.15 37 *e*P **P** **19 07 55.3 -0.6**
KRLC Kraliky 62.17 38 *e*P **S** **19 16 24.1 +2.4**
KRLC AMS AMS 19 30 20.0
comp=Z,200nm,18.1s
MORC Moravsky Berou 62.54 38 *e*P **P** **19 07 59.8 +1.3**
KONO Kongsberg 62.57 26*d* *i*P **P** **19 07 59.3 +0.8**
KONO pmax pmax
comp=Z,12nm,1.8s
MAUC Maruska 62.58 39 *e*P **P** **19 07 59.7 +0.9**
VYHS Vyhne 62.94 40 *e*P **P** **19 08 01.8 +0.6**
VYHS Vyhne 62.94 40 *e*P **P** **19 08 01.8 +0.6**
SUMG Summit 63.13 1 **P** **19 08 02.1 -0.4**
SUMG Summit 63.13 1 P **P** **19 08 02.1 -0.4**
SUMG pmax pmax
comp=Z,72nm,2.0s
SUMG Summit 63.13 1 *i* P **P** **19 08 01.7 -0.8**
SUMG IAmb IAmb 19 08 05.8
comp=Z,258nm,3.0s
T25A Trinidad 63.52 307 IAmb IAmb 19 08 07.5
comp=Z,28nm,1.5s
MNTX Cornudas Mount 63.67 301 IAmb IAmb 19 08 07.5
comp=Z,37nm,1.9s
NB2 NORAR Subarra 63.98 25 P **P** **19 08 07.8 -0.1**
comp=Z,28nm,2.0s,baz=240,slow=6.9
NOA NORSAR Array B 63.98 25 P **P** **19 08 08.2 +0.3**
comp=Z,1.8nm,0.8s,baz=240,slow=6.8,SNR=8.0
NOA LR LR 19 30 30.7
comp=Z,226nm,21.8s,baz=235,slow=31
comp=Z,1.8nm,0.8s
TSUM Tsumeb 64.01 117 LR LR 19 29 49.7
comp=Z,654nm,21.5s,baz=293,slow=30
OJC Ojcow 64.06 38 *e*P **P** **19 08 10.0 +1.5**
NIE Niedzica 64.14 39 *e*P **P** **19 08 11.4 +2.3**
SDCO Great Sand Dun 64.46 307 IAmb IAmb 19 08 13.8
comp=Z,34nm,1.9s
HFS Hagfors 64.61 27 P **P** **19 08 11.8 -0.1**
comp=Z,5.4nm,0.8s,baz=226,slow=6.0,SNR=15
HFS LR LR 19 33 39.5
comp=Z,109nm,19.4s,baz=253,slow=34
comp=Z,5.4nm,0.8s
IDI Anoyia 64.66 55 LR LR 19 37 22.7
comp=Z,181nm,19.4s,baz=292,slow=37
ISCO Idaho Springs 64.85 310 IAmb IAmb 19 08 16.5
comp=Z,37nm,1.8s
ANMO Albuquerque 64.88 304 **P** **19 08 14.6 +0.1**
ANMO IAmb IAmb 19 08 16.7
comp=Z,25nm,1.8s
ANMO Albuquerque 64.88 304 LR LR 19 33 14.0
comp=Z,699nm,21.3s,baz=186,slow=33
ANMO Albuquerque 64.88 304*ce* P **P** **19 08 14.8 +0.3**
ANMO pmax pmax
comp=Z,13nm,1.8s
Y22D IRIS PASSCAL I 65.18 303 P **P** **19 08 16.8 +0.4**
baz=95
S22A 4UR Ranch, Cre 65.51 307 IAmb IAmb 19 08 21.7
comp=Z,22nm,1.6s
BRIU Brid 65.58 41 P **P** **19 08 19.7 +1.2**
121A Cookes Peak, D 65.77 301 IAmb IAmb 19 08 22.8
comp=Z,32nm,1.6s
DBG Daneborg 65.92 6 *i* P **P** **19 08 20.5 +0.3**
DBG IAmb IAmb 19 08 21.7
comp=Z,23nm,1.5s
FFC Flin Flon 66.00 326 **P** **19 08 20.3 -0.8**
FFC Flin Flon 66.00 326 P **P** **19 08 20.3 -0.8**
FFC pmax pmax
comp=Z,56nm,1.6s
MVCO Mesa Verde 66.77 306 IAmb IAmb 19 08 29.0
comp=Z,46nm,1.9s
BURAR Bucovina Array 66.86 42 **P** **19 08 27.2 +0.3**
O20A White River Ci 66.90 310 IAmb IAmb 19 08 57.2
comp=Z,18nm,1.4s
PV01 Paradox Valley 66.92 307 IAmb IAmb 19 08 29.8
comp=Z,41nm,1.9s
MLR Muntele Rosu 66.95 45 **P** **19 08 26.7 -0.8**
MLR IAmb IAmb 19 08 43.5
comp=Z,31nm,1.4s
MLR Muntele Rosu 66.95 45 LR LR 19 34 22.4
comp=Z,262nm,21.9s,baz=256,slow=33
MLR Muntele Rosu 66.95 45 P **P** **19 08 26.7 -0.8**
MLR pmax pmax
comp=Z,31nm,1.4s
BLKN Baker Lake 67.01 337 **P** **19 08 26.1 -1.3**
PV12 Saucer Basin, 67.12 308 IAmb IAmb 19 08 42.4
comp=Z,45nm,1.8s
PV03 Paradox Valley 67.15 307 IAmb IAmb 19 08 31.0
comp=Z,28nm,1.8s
PV18 Skein Mesa, Pa 67.20 307 IAmb IAmb 19 08 43.5
comp=Z,28nm,1.4s
PV16 Nyswonger Mesa 67.21 308 IAmb IAmb 19 08 31.4
comp=Z,21nm,1.5s
PV17 East Wray Mesa 67.24 308 IAmb IAmb 19 08 31.6
comp=Z,39nm,1.8s
PV05 Paradox Valley 67.33 307 IAmb IAmb 19 08 52.8
comp=Z,29nm,1.8s
LPIG La Paz 67.73 292 LR LR 19 40 22.9
comp=Z,89nm,18.1s,baz=60,slow=38
RNPP5 Staryi Chortor 68.06 38 P **P** **19 08 35.2 +1.0**
RNPP8 Varash 68.06 38 P **P** **19 08 35.4 +1.2**
RNPP9 Sopachiv 68.10 38 P **P** **19 08 35.6 +1.1**
PDAR Pinedale Array 68.22 312 **P** **19 08 34.9 -0.9**
PDAR Pinedale Array 68.22 312 P **P** **19 08 35.1 -0.6**
comp=Z,1.8nm,1.1s,baz=92,slow=8.0,SNR=6.9
PDAR LR LR 19 34 44.6
comp=Z,517nm,21.8s,baz=116,slow=33
comp=Z,1.8nm,1.1s
NEEM North Greenlan 68.23 358 *i* P **P** **19 08 35.5 +0.3**
NEEM IAmb IAmb 19 08 47.8
comp=Z,180nm,2.4s
DAG Danmarks Havn 68.35 5 *i* P **P** **19 08 35.4 -0.3**
DAG IAmb IAmb 19 08 36.0
comp=Z,13nm,1.3s
SRU San Rafael Swe 68.54 308 IAmb IAmb 19 08 39.6
comp=Z,27nm,1.6s
HMU Henry Mountain 68.61 307 IAmb IAmb 19 08 40.3
comp=Z,38nm,1.7s
BSUT Blindstream Ca 68.86 310 IAmb IAmb 19 08 41.6
comp=Z,27nm,1.8s
X16A Lo Mia Camp, P 68.94 303 IAmb IAmb 19 08 42.9
comp=Z,26nm,1.7s
MILM Milestii Mici 69.15 43 *e*P **P** **19 08 38.0 -3.1**
MILM *e*L L 19 31 04.0
MILM LRM MLR 19 43 13.0
comp=Z,200nm,16.0s
MILM Milestii Mici 69.15 43 *e*P **P** **19 08 38.0 -3.1**
TPAW Teton Pass 69.32 313 IAmb IAmb 19 08 44.0
comp=Z,35nm,1.9s
U15A North Rim 69.74 305 IAmb IAmb 19 08 48.1
comp=Z,31nm,1.7s
MNK Minsk 69.95 35 *i* P **P** **19 08 45.2 -0.7**
MNK *i* 19 11 19.6
MNK *i* S **S** **19 17 55.9 -0.1**
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK MLR MLR
comp=Z,277nm,18.0s
MNK MLR MLR
comp=N,109nm,15.0s
MNK MLR MLR
comp=E,71nm,16.0s
AK15 Malin Array Si 69.96 39 P **P** **19 08 46.6 +0.5**
AKASG Malin Array Be 70.02 39 P **P** **19 08 44.6 -1.8**
comp=E,0.3nm,0.3s,baz=255,slow=7.9,SNR=7.8
AKASG LR LR 19 36 32.7
comp=E,217nm,21.8s,baz=253,slow=33
comp=E,0.3nm,0.3s
AKASG Malin Array Be 70.02 39 *i* P **P** **19 08 48.4 +1.9**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKBB Malin Array Si 70.02 39*d* *i*P **P** **19 08 48.0 +1.5**
AKBB pmax pmax
comp=Z,9.0nm,1.9s
AKBB Malin Array Si 70.02 39 P **P** **19 08 47.5 +1.0**
VSU Vasula 70.25 31 *e*P **P** **19 08 48.4 +0.7**
VSU pmax pmax
comp=Z,8.0nm,0.8s
SZCU Shurtz Canyon 70.44 307 IAmb IAmb 19 08 51.5
comp=Z,34nm,1.8s
CCUT Cedar City 70.66 306 IAmb IAmb 19 08 53.4
comp=Z,39nm,1.9s
FINES FINESS Array B 70.73 28 P **P** **19 08 49.9 -0.6**
comp=Z,1.0nm,0.6s,baz=305,slow=6.7,SNR=8.3
FINES LR LR 19 38 18.4
comp=Z,152nm,18.5s,baz=254,slow=35
comp=Z,1.0nm,0.6s
PSUT Pine Spring 71.09 307 IAmb IAmb 19 08 56.0
comp=Z,40nm,2.0s
BR106 Keskin Array S 71.93 51 P **P** **19 08 58.6 +0.1**
comp=Z,4.0nm,0.9s
BR131 Keskin Array S 71.95 51 **P** **19 08 57.8 -0.8**
BR131 Keskin Array S 71.95 51 ⇑ *i*P **P** **19 08 58.1 -0.5**
BRTR Keskin Array B 71.95 51 P **P** **19 08 57.8 -0.8**
BRTR Keskin Array B 71.95 51 P **P** **19 08 58.2 -0.3**
comp=Z,2.7nm,0.8s,baz=254,slow=4.0,SNR=13
BRTR LR LR 19 42 28.6
comp=Z,115nm,18.0s,baz=269,slow=38
comp=Z,2.7nm,0.8s
BR104 Keskin Array S 71.95 51 P **P** **19 08 58.6 0.0**
RES Resolute Bay 71.96 347 IAmb IAmb 19 08 59.9
comp=Z,25nm,1.5s
RES Resolute Bay 71.96 347 LR LR 19 36 41.5
comp=Z,207nm,21.1s,baz=61,slow=33
PRN Pahroc Range 71.99 306 IAmb IAmb 19 09 01.7
comp=Z,42nm,1.9s
ELK Elko 72.27 310 IAmb IAmb 19 10 58.0
comp=Z,8.4nm,0.4s
LSZ Lusaka 72.44 109 **P** **19 09 02.4 +0.5**
LSZ IAmb IAmb 19 09 21.5
comp=Z,29nm,1.8s
LSZ Lusaka 72.44 109 LR LR 19 35 00.7
comp=Z,203nm,19.7s,baz=320,slow=31
LSZ Lusaka 72.44 109 P **P** **19 09 02.4 +0.5**
LSZ pmax pmax
comp=Z,29nm,1.8s
S11A Rachel 72.55 306 IAmb IAmb 19 09 05.2
comp=Z,49nm,1.7s
YUH Yuha Desert 72.64 301 IAmb IAmb 19 09 05.3
comp=Z,41nm,1.8s
MFID Camas Ranch 72.85 312 IAmb IAmb 19 09 05.7
comp=Z,47nm,1.9s
EIL Elat 72.90 62 LR LR 19 42 41.3
comp=Z,370nm,18.7s,baz=247,slow=37
NOR Nord 72.94 4 *i* P **P** **19 09 00.4 -3.2**
NOR IAmb IAmb 19 09 27.6
comp=Z,22nm,1.5s
LBTB Lobatse 72.98 120 LR LR 19 34 56.8
comp=Z,734nm,19.3s,baz=284,slow=31
ARCES ARCESS Array B 72.99 20 P **P** **19 09 03.5 -0.5**
ARCES IAmb IAmb 19 09 13.6
comp=Z,42nm,1.6s
ARCES ARCESS Array B 72.99 20 P **P** **19 09 03.5 -0.5**
comp=Z,2.6nm,0.7s,baz=235,slow=5.8,SNR=8.8
ARCES LR LR 19 35 49.4
comp=Z,68nm,20.3s,baz=188,slow=32
comp=Z,2.6nm,0.7s
PMD Palm Desert 73.02 302 IAmb IAmb 19 09 07.3
comp=Z,33nm,1.7s
BORC Borrego Spring 73.05 302 IAmb IAmb 19 09 07.6
comp=Z,31nm,1.7s
PFO Pinyon Flats O 73.08 302 **P** **19 09 06.0 +0.6**
PFO IAmb IAmb 19 09 08.1
comp=Z,32nm,1.7s
PFO Pinyon Flats O 73.08 302 LR LR 19 39 53.9
comp=Z,230nm,19.5s,baz=96,slow=35
PFO Pinyon Flats O 73.08 302*d* *i*P **P** **19 09 05.8 +0.3**
PFO *i* *PP **pwP** **19 09 10.6 -2.1**
PFO pmax pmax
comp=Z,28nm,1.6s
WCT Wildcat Mounta 73.23 306 IAmb IAmb 19 09 08.9
comp=Z,30nm,1.8s
MMAI Mount Meron Ar 73.24 58 P **P** **19 09 06.3 0.0**

comp=Z,1.0nm,0.5s,baz=251,slow=9.0,SNR=2.5
MMAI LR LR 19 41 37.9
comp=Z,159nm,21.5s,baz=261,slow=36
comp=Z,1.0nm,0.5s
ESPZ Base Esperanza 73.67 188 P **P** **19 09 07.9 -0.1**
ESPZ IAmb IAmb 19 09 21.3
comp=Z,20nm,1.0s
BOSA Boshof 73.91 123 P **P** **19 09 09.5 -0.9**
comp=Z,8.5nm,0.9s,baz=296,slow=2.7,SNR=7.2
BOSA LR LR 19 35 13.9
comp=Z,571nm,21.3s,baz=296,slow=31
comp=Z,8.5nm,0.9s
KBS Kingsbay 74.01 9*d i* P **P** **19 09 10.7 +0.8**
KBS pmax pmax
comp=Z,28nm,1.4s
NEW Newport 74.05 317 LR LR 19 39 33.6
comp=Z,534nm,19.2s,baz=98,slow=34
MATP Matopo 74.13 114 LR LR 19 38 12.8
comp=Z,117nm,21.3s,baz=277,slow=33
YKA Yellowknife Ar 74.32 332 P **P** **19 09 10.4 -1.5**
YKA Yellowknife Ar 74.32 332 P **P** **19 09 10.0 -1.9**
comp=Z,2.5nm,1.1s,baz=96,slow=5.7,SNR=11
YKA LR LR 19 39 28.9
comp=Z,196nm,19.1s,baz=113,slow=34
comp=Z,2.5nm,1.1s
YKA Yellowknife Ar 74.32 332 *i* P **P** **19 09 10.6 -1.3**
YKA pmax pmax
comp=Z,5.0nm,1.2s
YKAW3 Yellowknife Wh 74.33 332 **P** **19 09 10.4 -1.6**
YKAW3 IAmb IAmb 19 09 12.1
comp=Z,24nm,1.6s
SPITS Spitsbergen Ar 74.34 10 LR LR 19 35 38.5
comp=Z,104nm,18.5s,baz=210,slow=31
NVAR Mina Array Bea 74.58 307 **P** **19 09 13.6 -0.6**
NVAR Mina Array Bea 74.58 307 P **P** **19 09 14.3 +0.1**
comp=Z,0.2nm,0.4s,baz=116,slow=3.4,SNR=5.7
NVAR LR LR 19 38 53.3
comp=Z,166nm,21.3s,baz=94,slow=33
comp=Z,0.2nm,0.4s
GAZ Gaziantep 74.70 54 IAmb IAmb 19 09 17.8
comp=Z,26nm,1.2s
LHV Little Huntoon 74.74 307 IAmb IAmb 19 09 17.3
comp=Z,39nm,1.7s
OBN Obninsk 75.01 35 LR LR 19 38 55.2
comp=Z,248nm,21.8s,baz=160,slow=33
APA Apatity 75.27 22 *eP* **P** **19 09 17.5 +0.2**
APA *eS* **S** **19 18 57.6 +1.2**
APA pmax pmax
comp=Z,7.0nm,1.0s
APA MLR MLR
comp=Z,210nm,13.9s
WAKR Walker 75.47 307 IAmb IAmb 19 09 22.1
comp=Z,34nm,1.7s
PMSA Palmer Station 76.05 190 LR LR 19 45 05.0
comp=Z,47nm,18.2s,baz=9.0,slow=38
BEKR Beckworth 76.17 309 IAmb IAmb 19 09 37.4
comp=Z,36nm,2.0s
LPSR Galich'ya Gora 76.23 38 *eP* **P** **19 09 25.3 +2.2**
LPSR pmax pmax
comp=Z,20nm,1.7s
VSR Storozhevoye 76.33 40 *eP* **P** **19 09 22.2 -1.5**
VSR pmax pmax
comp=Z,10.0nm,1.8s
VORR Voronezh 76.37 39 *eP* **P** **19 09 22.9 -1.0**
VORR pmax pmax
comp=Z,10.0nm,1.4s
VORD Divnogorie 76.40 40 *eP* **P** **19 09 21.9 -2.2**
VORD pmax pmax
comp=Z,8.0nm,1.4s
J05D Fort Rock, OR 76.79 312 IAmb IAmb 19 09 29.1
comp=Z,32nm,1.9s
I05D Terrebonne, OR 76.86 313 IAmb IAmb 19 09 29.5
comp=Z,31nm,1.6s
KLMR Klimovskoe 77.03 30 *eP* **P** **19 09 26.0 -1.5**
KLMR pmax pmax
comp=Z,26nm,1.2s
KLMR MLR MLR
comp=Z,208nm,13.0s
YBH Yreka Blue Hor 77.91 311 LR LR 19 40 50.3
comp=Z,26nm,21.7s,baz=90,slow=33
WRGLY Wrigley 78.43 333 IAmb IAmb 19 09 47.9
comp=Z,26nm,1.4s
WRGLY Wrigley 78.43 333 P **P** **19 09 34.5 -0.8**
baz=92
NLWA Neilton Lookou 78.58 316 IAmb IAmb 19 09 38.1
comp=Z,33nm,1.6s
KOTAN Kotaneelee Air 78.63 330 P **P** **19 09 36.1 -0.3**
baz=91
KIV Kislovodsk 78.73 47 *eP* **P** **19 09 34.6 -2.8**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KVAR Kislovodsk Arr 78.73 47 LR LR 19 43 29.3
comp=Z,40nm,20.2s,baz=38,slow=35
KBZ Khabaz 78.89 47 P **P** **19 09 37.5 -0.6**
comp=Z,5.0nm,0.9s,baz=323,slow=2.0,SNR=7.6
KBZ LR LR 19 45 15.1
comp=Z,81nm,19.2s,baz=268,slow=36
comp=Z,5.0nm,0.9s
KBZ Khabaz 78.89 47⇑ *i* P **P** **19 09 36.2 -2.0**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
NCK Nalchik 79.41 47⇑ *i* P **P** **19 09 40.2 -0.9**
NCK pmax pmax
comp=Z,4.0nm,0.3s
A36M Sachs Harbour 79.44 342 IAmb IAmb 19 09 52.6
comp=Z,19nm,0.8s
A36M Sachs Harbour 79.44 342 P **P** **19 09 40.5 -0.1**
baz=92
GNI Garni 80.47 51 *eP* **P** **19 09 45.7 -1.4**
GNI pmax pmax
comp=Z,11nm,1.7s
TGTN Hyland Airport 80.68 331 P **P** **19 09 47.2 -0.4**
baz=88
WTLY Watson Lake, Y 81.00 330 P **P** **19 09 49.4 0.0**
baz=87
BBB Bella Bella 81.11 321 LR LR 19 42 29.7
comp=Z,248nm,21.2s,baz=70,slow=33
BELG Belogornoye 81.55 38*d i* P **P** **19 09 52.2 -0.1**
BELG pmax pmax
comp=Z,3.0nm,1.2s
DLBC Dease Lake 81.75 328 LR LR 19 42 13.9
comp=Z,21nm,21.9s,baz=82,slow=33
DLBC Dease Lake 81.75 328 P **P** **19 09 53.9 +0.6**
baz=86,SNR=7.0
T35M Bob Quinn 81.98 326 P **P** **19 09 53.7 -0.9**
baz=85
MMPY Sheldon Lake, 82.01 332 P **P** **19 09 54.2 -0.5**
baz=85
KIRV Kirov 82.06 32 *eP* **P** **19 09 53.9 -1.0**
R33M Jennings River 82.15 329 P **P** **19 09 56.0 +0.4**
baz=85,SNR=6.7
S34M Telegraph Cree 82.37 327 IAmb IAmb 19 09 58.7
comp=Z,32nm,1.6s
S34M Telegraph Cree 82.37 327 P **P** **19 09 57.0 +0.4**
baz=84
INK Inuvik 82.40 338 IAmb IAmb 19 09 57.9
comp=Z,46nm,1.6s
INK Inuvik 82.40 338 LR LR 19 44 51.9
comp=Z,281nm,18.3s,baz=78,slow=34
INK Inuvik 82.40 338 P **P** **19 09 56.2 -0.2**
baz=84
F31M Tsiigehtchic 82.58 337 IAmb IAmb 19 09 58.7
comp=Z,25nm,1.6s
F31M Tsiigehtchic 82.58 337 P **P** **19 09 57.1 -0.4**
baz=83
VNA1 Neumayer--Stat 82.84 170 ⇑P **P** **19 09 59.7 +1.0**
comp=Z,5.6nm,0.8s
G31M Satah River 82.84 337 P **P** **19 09 58.4 -0.4**
baz=83
Q32M Nakina River 82.86 329 P **P** **19 09 59.9 +0.6**
baz=84
V35K Ketchikan 82.90 325 P **P** **19 09 59.2 -0.2**
baz=84
P33M Teslin, Yukon 83.00 330 IAmb IAmb 19 10 01.7
comp=Z,29nm,1.6s
P33M Teslin, Yukon 83.00 330 P **P** **19 10 00.0 +0.1**
baz=83,SNR=9.4
H31M Peel River 83.01 336 IAmb IAmb 19 10 01.1
comp=Z,30nm,1.5s
H31M Peel River 83.01 336 P **P** **19 09 59.7 -0.1**
baz=83
N32M Quiet Lake 83.02 331 P **P** **19 09 59.9 0.0**
baz=83
VNA3 Neumayer Olymp 83.11 170 ⇑P **P** **19 10 00.9 +0.9**
comp=Z,9.1nm,0.8s
WRAK Wrangell Islan 83.19 326 P **P** **19 10 00.4 -0.4**
baz=83
F30M Barrier River 83.33 337 IAmb IAmb 19 10 16.8
comp=Z,15nm,1.1s
F30M Barrier River 83.33 337 P **P** **19 10 01.5 +0.1**
baz=82
M31M Drury Creek, Y 83.50 332 IAmb IAmb 19 10 22.9
comp=Z,24nm,1.4s
M31M Drury Creek, Y 83.50 332 P **P** **19 10 02.8 +0.4**
baz=82
P32M Atlin 83.52 329 P **P** **19 10 02.2 -0.4**
baz=82
G30M tAoh Zraii Nji 83.60 337 P **P** **19 10 02.7 -0.1**
baz=81
U33K Whale Pass 83.66 326 P **P** **19 10 03.9 +0.7**
baz=83
CRAG Craig 83.74 325 P **P** **19 10 04.4 +0.7**
baz=82
EPYK Eagle Plains 83.89 336 P **P** **19 10 04.5 +0.1**
baz=81
I30M Mount Dempster 83.94 335 P **P** **19 10 04.3 -0.4**
baz=81,SNR=5.7
WHY Whitehorse 83.95 330 P **P** **19 10 04.3 -0.6**
baz=82
MAYO Mayo, Yukon 83.98 333 P **P** **19 10 05.0 +0.1**
baz=81
E29M Blow River 83.99 338 IAmb IAmb 19 10 06.2
comp=Z,30nm,1.6s
E29M Blow River 83.99 338 P **P** **19 10 04.9 +0.1**
baz=80
J30M Hart River 84.02 334 IAmb IAmb 19 10 06.8
comp=Z,19nm,1.6s
J30M Hart River 84.02 334 P **P** **19 10 05.4 +0.3**
baz=81,SNR=5.9
R32K Eaglecrest 84.12 328 P **P** **19 10 07.1 +1.5**
baz=82
D28M Stokes Point 84.12 339 P **P** **19 10 05.5 +0.1**
baz=79
N31M Braeburn, Yuko 84.26 331 P **P** **19 10 06.3 0.0**
baz=81
S32K Killisnoo 84.26 327 P **P** **19 10 06.6 +0.3**
baz=82
G29M Pine Creek 84.31 337 P **P** **19 10 06.5 0.0**
baz=79
SKAG Skagway 84.36 329 P **P** **19 10 07.3 +0.6**
baz=81
O30N Mendenhall 84.53 331 IAmb IAmb 19 10 09.6
comp=Z,23nm,1.7s
O30N Mendenhall 84.53 331 P **P** **19 10 08.0 +0.3**
baz=81
E28M Babbage River 84.55 339 P **P** **19 10 06.4 -1.2**
baz=78
M30M Minto, Yukon 84.56 332 IAmb IAmb 19 10 09.3
comp=Z,27nm,1.6s
M30M Minto, Yukon 84.56 332 P **P** **19 10 07.8 0.0**
baz=80,SNR=12
H29M Whitestone 84.57 336 P **P** **19 10 08.0 +0.2**
baz=79,SNR=9.1
K29M Barlow Dome 84.66 334 IAmb IAmb 19 10 10.1
comp=Z,31nm,1.8s
K29M Barlow Dome 84.66 334 P **P** **19 10 08.4 0.0**
baz=80,SNR=12
SNAA Sanae 84.69 169 ⇑P **P** **19 10 09.4 +1.2**
comp=Z,129nm,0.9s
SNAA Sanae 84.69 169 P **P** **19 10 06.8 -1.3**
SNAA Sanae 84.69 169 P **P** **19 10 08.0 -0.1**
comp=Z,1.8nm,0.6s,baz=304,slow=5.9,SNR=25
SNAA LR LR 19 39 38.2
comp=Z,99nm,21.9s,baz=334,slow=30
comp=Z,1.8nm,0.6s
SNAA Sanae 84.69 169 *eP* **P** **19 10 07.2 -1.0**
SNAA pmax pmax
comp=Z,20nm,3.5s
I29M Ogilvie Camp, 84.71 335 P **P** **19 10 08.4 -0.1**
baz=79
SIT Sitka 84.73 327 P **P** **19 10 08.4 -0.2**
baz=81
R31K City Hall, Gus 84.73 328 P **P** **19 10 08.9 +0.3**
baz=81
J29N Klondike Camp 84.84 334 P **P** **19 10 09.3 0.0**
baz=79
F28M Old Crow 84.87 338 IAmb IAmb 19 10 10.9
comp=Z,33nm,1.7s
F28M Old Crow 84.87 338 P **P** **19 10 09.3 0.0**
baz=78
PLBC Pleasant Camp 84.88 329 P **P** **19 10 10.3 +0.9**
baz=80
N30M Aishikik Lake 84.89 331 IAmb IAmb 19 10 11.3
comp=Z,22nm,1.6s
N30M Aishikik Lake 84.89 331 P **P** **19 10 09.7 +0.2**
baz=80
D27M Malcolm River 84.91 339 P **P** **19 10 09.9 +0.4**
baz=77
P30M Million Dollar 85.06 330 P **P** **19 10 11.5 +1.1**
baz=80
L29M L29M 85.06 333 IAmb IAmb 19 10 11.9
comp=Z,27nm,1.6s
L29M L29M 85.06 333 P **P** **19 10 10.4 +0.1**
baz=79,SNR=10
HYT Haines Junctio 85.20 331 P **P** **19 10 11.9 +0.7**
baz=79
M29M Somme Creek 85.34 332 IAmb IAmb 19 10 13.5
comp=Z,19nm,1.6s
M29M Somme Creek 85.34 332 P **P** **19 10 11.9 0.0**
baz=79,SNR=7.1
I28M Miner Creek 85.36 336 IAmb IAmb 19 10 13.2
comp=Z,32nm,1.9s
I28M Miner Creek 85.36 336 P **P** **19 10 11.6 -0.2**
baz=78,SNR=5.2
E27K Coleen River 85.38 338 IAmb IAmb 19 10 13.5
comp=Z,26nm,1.4s
E27K Coleen River 85.38 338 P **P** **19 10 12.0 +0.2**
baz=76,SNR=5.7
DAWY Dawson 85.42 334 P **P** **19 10 12.3 +0.1**
baz=78,SNR=11
P29M Windy Craggy 85.54 330 P **P** **19 10 13.5 +0.7**
baz=79
YUK6 Outpost Mounta 85.59 331 P **P** **19 10 13.8 +0.6**
baz=79,SNR=8.6
YUK4 Talbot Arm 85.64 331 P **P** **19 10 13.9 +0.4**
baz=78,SNR=6.1
G27K Doyon Strip 85.73 337 IAmb IAmb 19 10 15.3
comp=Z,28nm,1.6s
G27K Doyon Strip 85.73 337 P **P** **19 10 13.8 +0.2**
baz=76,SNR=8.5
C27K Jago River 85.76 340 P **P** **19 10 14.6 +0.9**
baz=74
O29M Mount Kennedy 85.82 330 P **P** **19 10 15.2 +0.9**
baz=78
H27K Steamboat Moun 85.82 336 P **P** **19 10 14.2 +0.1**
baz=76,SNR=10
I27K Kandik River 86.01 336 P **P** **19 10 15.0 0.0**
baz=76,SNR=8.0
TROLL Troll, Antarti 86.03 168 ⇑P **P** **19 10 14.7 -0.3**
comp=Z,69nm,0.8s
C26K Camden Bay 86.08 340 P **P** **19 10 14.9 -0.3**
baz=73
YUK8 Steele Glacier 86.18 331 P **P** **19 10 16.6 +0.4**
baz=77
PNL Peninsula 86.35 330 P **P** **19 10 17.4 +0.6**
baz=78
YUK3 Moose Creek 86.40 332 P **P** **19 10 17.5 +0.3**
baz=77,SNR=11
BVCY Beaver Creek 86.44 333 P **P** **19 10 17.5 +0.4**
baz=76
F26K Sheenjek River 86.44 338 P **P** **19 10 18.0 +0.9**
baz=74
O28M Mount Upton 86.50 331 P **P** **19 10 18.5 +0.7**
baz=77,SNR=9.0
G26K Porcupine Rive 86.51 337 IAmb IAmb 19 10 36.3
comp=Z,18nm,1.3s
G26K Porcupine Rive 86.51 337 P **P** **19 10 17.8 +0.4**
baz=74,SNR=5.8
K27K Chicken 86.58 334 P **P** **19 10 18.1 +0.3**
baz=76
BMAR Burnt Mountain 86.67 338 P **P** **19 10 18.4 +0.2**
PINM Pinnacle 86.68 330 P **P** **19 10 19.0 +0.5**
baz=77
BCAR Beaver Creek A 86.69 333 P **P** **19 10 18.4 0.0**
I26K Coal Creek Min 86.70 336 P **P** **19 10 18.6 +0.3**
baz=75
L27K Beaver Creek, 86.71 333 P **P** **19 10 18.6 +0.1**
baz=76,SNR=14
D25K Kavik River 86.75 340 IAmb IAmb 19 10 39.0
comp=Z,25nm,1.2s
D25K Kavik River 86.75 340 P **P** **19 10 19.1 +0.5**
baz=72
E25K Arctic Village 86.83 339 P **P** **19 10 18.6 -0.4**
baz=73
M27K Edge Creek, AK 86.91 333 P **P** **19 10 20.0 +0.4**
baz=76,SNR=14
CTG Chitna Glacier 87.00 331 P **P** **19 10 21.0 +0.9**
baz=76,SNR=6.3
F25K Christian Rive 87.02 338 IAmb IAmb 19 10 22.4
comp=Z,26nm,1.7s
F25K Christian Rive 87.02 338 P **P** **19 10 20.8 +0.8**
baz=72
J26L Joseph Creek 87.09 335 IAmb IAmb 19 10 21.8
comp=Z,19nm,1.5s
J26L Joseph Creek 87.09 335 P **P** **19 10 20.3 -0.1**
baz=74,SNR=9.3
ARTI Arti 87.18 33 P **P** **19 10 21.1 +0.3**
ARTI IAmb IAmb 19 10 29.9
comp=Z,32nm,1.7s
ARTI Arti 87.18 33*d i* P **P** **19 10 21.2 +0.3**
ARTI 19 13 40.3
ARTI S **SKSac** **19 20 47.9 -0.5**
ARTI SS **SS** **19 26 44.9 +1.2**
ARTI pmax pmax
comp=Z,10.0nm,1.8s
ARTI MLR MLR
comp=Z,307nm,18.0s
C24K Franklin Bluff 87.39 341 P **P** **19 10 21.6 0.0**
baz=70
L26K Log Cabin Wild 87.39 334 P **P** **19 10 22.3 +0.5**
baz=74
M26K Nabesna, AK 87.40 333 P **P** **19 10 21.7 -0.2**
baz=75
SCRK Sand Creek 87.41 335 IAmb IAmb 19 10 23.5
comp=Z,30nm,1.6s
SCRK Sand Creek 87.41 335 P **P** **19 10 22.0 0.0**
baz=74,SNR=11
G25K Bearman Lake 87.44 337 P **P** **19 10 22.5 +0.6**
baz=72
H25L Birch Creek 87.48 337 P **P** **19 10 22.4 +0.3**
baz=72
MESA MESA 87.49 331 P **P** **19 10 22.9 +0.4**
baz=76
PRP Porcupine Dome 87.60 336 IAmb IAmb 19 10 24.8
comp=Z,30nm,1.8s
PRP Porcupine Dome 87.60 336 P **P** **19 10 23.1 +0.2**
baz=72,SNR=6.1
D24K Happy Valley 87.63 340 P **P** **19 10 23.5 +0.7**
baz=70
MCARA McCarthy VSAT 87.69 332 P **P** **19 10 23.7 +0.5**
baz=75
J25K Salcha River, 87.80 335 IAmb IAmb 19 13 47.3
comp=Z,7.7nm,0.8s
J25K Salcha River, 87.80 335 P **P** **19 10 23.9 +0.1**
baz=73,SNR=8.8
RIDG Independent Ri 87.84 334 P **P** **19 10 24.3 +0.3**
baz=73
F24K Squaw Lake 87.86 338 P **P** **19 10 24.2 +0.2**
baz=70
CRQE Cirque 87.89 331 P **P** **19 10 24.1 -0.3**
baz=74
E24K Your Creek 87.89 339 P **P** **19 10 24.2 +0.1**
baz=70
C23K Itkillik River 87.97 341 P **P** **19 10 24.2 -0.1**
baz=68
G24K Hadweenzic Riv 87.98 338 P **P** **19 10 24.4 -0.1**
baz=71
TOLK Toolik Lake Re 88.06 340 IAmb IAmb 19 10 41.5
comp=Z,13nm,0.9s
TOLK Toolik Lake Re 88.06 340 P **P** **19 10 25.2 +0.2**
baz=69
K24K Donnelly Dome 88.22 335 P **P** **19 10 25.5 -0.2**
baz=72
AKTO Aktyubinsk 88.27 39 LR LR 19 47 31.9
comp=Z,153nm,21.6s,baz=238,slow=34
E23K Chandalar 88.29 339 P **P** **19 10 25.9 -0.2**
baz=69
D23K Nanushuk River 88.32 340 P **P** **19 10 26.2 +0.2**
baz=68
PAX Paxson 88.34 334 P **P** **19 10 26.1 -0.3**
baz=72,SNR=5.1
N25K Chitina, Valde 88.35 332 IAmb IAmb 19 10 28.1
comp=Z,16nm,1.4s
N25K Chitina, Valde 88.35 332 P **P** **19 10 26.3 -0.2**
baz=73
HARP HAARP 88.37 333 P **P** **19 10 26.6 +0.1**
baz=73
ILAR Eielson Array 88.38 336 P **P** **19 10 26.1 -0.3**
ILAR Eielson Array 88.38 336 P **P** **19 10 25.9 -0.5**
comp=Z,1.6nm,1.1s,baz=64,slow=2.9,SNR=9.8
ILAR LR LR 19 49 25.4
comp=Z,115nm,18.2s,baz=56,slow=35
comp=Z,1.6nm,1.1s
ILAR Eielson Array 88.38 336 P **P** **19 10 26.1 -0.3**
H24K Noodor Dome 88.42 337 P **P** **19 10 26.7 +0.1**
baz=70
POKR Poker Plat Res 88.48 336 P **P** **19 10 27.2 +0.2**
baz=71
HDA Harding Lake 88.52 335 P **P** **19 10 27.1 0.0**
baz=71
BMRM Bremner River 88.54 332 IAmb IAmb 19 10 28.7
comp=Z,32nm,1.9s
BMRM Bremner River 88.54 332 P **P** **19 10 27.0 -0.3**
baz=73
COLA College 88.73 336 P **P** **19 10 28.1 +0.1**
baz=70
COLD Coldfoot 88.80 338 P **P** **19 10 27.7 -0.7**
baz=68
A22K Sinclair Lake 88.84 343 P **P** **19 10 27.8 -0.7**
baz=64
M24K Tolsona, Glenn 88.91 333 P **P** **19 10 29.1 0.0**
baz=72
G23K Bananza Creek 88.92 338 P **P** **19 10 29.1 +0.1**
baz=68
WRH Wood River Hil 88.96 336 IAmb IAmb 19 13 05.8
comp=Z,8.6nm,0.5s
KLU Klutina 88.99 332 P **P** **19 10 29.2 -0.3**
baz=72
D22K Ayikyak River 89.02 340 P **P** **19 10 29.6 +0.2**
baz=66
E22K Anaktuvuk Pass 89.02 340 P **P** **19 10 29.2 -0.3**
baz=67
H23K Yukon River 89.07 337 IAmb IAmb 19 10 31.4
comp=Z,19nm,1.6s
H23K Yukon River 89.07 337 P **P** **19 10 29.8 +0.1**
baz=69,SNR=5.6
I23K Minto, Yukon-K 89.24 336 P **P** **19 10 30.5 +0.1**
baz=69
G22K Bettles 89.39 338 P **P** **19 10 30.8 -0.4**
baz=67
F22K John River 89.40 339 P **P** **19 10 31.0 -0.3**
baz=66
SCM Sheep Creek Mo 89.52 333 P **P** **19 10 31.7 -0.3**
baz=71
C21K Knifeblade Rid 89.59 341 P **P** **19 10 31.4 -0.6**
baz=64
M23K Glacier View 89.71 333 P **P** **19 10 31.9 -0.9**
baz=70
GLI Glacier Island 89.72 332 P **P** **19 10 32.2 -0.6**
baz=71
H22K Ishtalitna Cre 89.74 337 P **P** **19 10 32.8 0.0**
baz=67
MLY Manley 89.82 337 P **P** **19 10 33.0 -0.3**
baz=68
Q23K Middleton Isla 89.83 331 P **P** **19 10 32.9 -0.4**
baz=72
B20K Meade River 89.94 342 P **P** **19 10 33.0 -0.6**
baz=62
F21K Alatna River 89.98 339 P **P** **19 10 33.5 -0.4**
baz=65
P23K Montague Islan 90.16 331 P **P** **19 10 34.6 -0.2**
baz=71
KNK Knik Glacier 90.17 333 P **P** **19 10 34.9 0.0**
baz=70
TRF Thorofare Moun 90.23 335 P **P** **19 10 34.8 -0.6**
baz=68
I21K Tanana 90.25 337 P **P** **19 10 34.8 -0.4**
baz=67
BPAW Bear Paw Mtn. 90.28 336 P **P** **19 10 34.7 -0.7**
baz=68
G21K Allakaket 90.28 338 IAmb IAmb 19 10 36.9
comp=Z,31nm,1.9s
G21K Allakaket 90.28 338 P **P** **19 10 34.9 -0.4**
baz=65
PWL Port Wells 90.30 332 P **P** **19 10 34.9 -0.6**
baz=70
H21K Melozitna Rive 90.38 337 P **P** **19 10 35.1 -0.8**
baz=66
PMR Palmer 90.41 333 P **P** **19 10 35.1 -0.8**
baz=69
E20K Nigu River 90.45 340 P **P** **19 10 35.3 -0.9**
baz=63
IMAR Indian Mountai 90.59 338 P **P** **19 10 36.0 -0.8**
F20K Avaraart Lake 90.84 339 P **P** **19 10 37.5 -0.4**

	baz=63							
RC01	**Rabbit Creek A**	**90.86**	**333**	P		**P**	**19 10 37.9**	**-0.2**
	baz=69							
D19K	**Kuna River**	**90.97**	**341**	P		**P**	**19 10 38.2**	**-0.3**
	baz=61							
CAST	**Castle Rocks**	**90.99**	**335**	P		**P**	**19 10 38.5**	**-0.3**
	baz=67							
E19K	**Redstone River**	**91.17**	**340**	P		**P**	**19 10 39.2**	**-0.3**
	baz=62							
H20K	**Anotleneega Mo**	**91.23**	**338**	P		**P**	**19 10 39.2**	**-0.6**
	baz=64							
PPLA	**Purkeypile**	**91.24**	**335**	P		**P**	**19 10 39.3**	**-0.7**
	baz=66							
SKT	**Skwentna**	**91.32**	**334**	P		**P**	**19 10 39.6**	**-0.7**
	baz=67							
J20K	**Nowinta River**	**91.51**	**336**	P		**P**	**19 10 40.3**	**-0.8**
	baz=65							
F19K	**Shaleruckik Mo**	**91.66**	**339**	P		**P**	**19 10 41.1**	**-0.6**
	baz=61							
B18K	**Kokolik River**	**91.67**	**342**	P		**P**	**19 10 40.4**	**-1.3**
	baz=58							
G19K	**Purcell Mounta**	**91.74**	**339**	P		**P**	**19 10 41.7**	**-0.4**
	baz=62							
H19K	**Roundabout Mou**	**91.80**	**338**	P		**P**	**19 10 41.6**	**-0.7**
	baz=63							
K20K	**Telida**	**91.83**	**336**	P		**P**	**19 10 41.6**	**-1.1**
	baz=65							
C18K	**Utukok River**	**91.87**	**342**	P		**P**	**19 10 42.1**	**-0.6**
	baz=58							
L20K	**Farewell, AK**	**92.13**	**335**	P		**P**	**19 10 43.2**	**-0.9**
	baz=65							
J19K	**Poorman**	**92.18**	**336**	P		**P**	**19 10 43.6**	**-0.6**
	baz=63							
GCSA	**Galena City Sc**	**92.32**	**337**	P		**P**	**19 10 44.1**	**-0.6**
	baz=62							
E18K	**Tukpahlearik C**	**92.32**	**340**	P		**P**	**19 10 44.4**	**-0.3**
	baz=59							
F18K	**Selawik**	**92.42**	**340**	P		**P**	**19 10 44.5**	**-0.7**
	baz=60							
G18K	**Tagagawik**	**92.42**	**339**	P		**P**	**19 10 44.5**	**-0.8**
	baz=60							
O20K	**Slope Mountain**	**92.56**	**332**	P		**P**	**19 10 45.8**	**-0.3**
	baz=66							
C17K	**DeLong Mountai**	**92.58**	**342**	P		**P**	**19 10 45.1**	**-0.8**
	baz=56							
M19K	**Big River Lodg**	**92.59**	**334**	P		**P**	**19 10 44.8**	**-1.3**
	baz=65							
H18K	**Honhosa River**	**92.68**	**338**	P		**P**	**19 10 45.8**	**-0.7**
	baz=61							
J18K	**Innoko River**	**92.85**	**336**	IAmb		IAmb	19 11 00.8	
	comp=Z,186nm,1.9s							
J18K	**Innoko River**	**92.85**	**336**	P		**P**	**19 10 46.2**	**-1.1**
	baz=62							
E17K	**Hotham Inlet**	**92.91**	**340**	P		**P**	**19 10 46.2**	**-1.2**
	baz=58							
D17K	**Noatak River**	**92.98**	**341**	P		**P**	**19 10 46.8**	**-1.0**
	baz=56							
P19K	**Oil Pt**	**93.02**	**332**	P		**P**	**19 10 47.7**	**-0.5**
	baz=66							
Q20K	**Shuyak Island**	**93.05**	**331**	P		**P**	**19 10 47.9**	**-0.4**
	baz=66							
F17K	**Baldwin Pennin**	**93.05**	**340**	P		**P**	**19 10 47.8**	**-0.3**
	baz=58							
N19K	**Bonanza Creek**	**93.10**	**333**	P		**P**	**19 10 47.9**	**-0.7**
	baz=64							
G17K	**Kiwalik Mounta**	**93.34**	**339**	P		**P**	**19 10 49.2**	**-0.3**
	baz=59							
C16K	**Lisburne Hills**	**93.35**	**342**	P		**P**	**19 10 49.2**	**-0.3**
	baz=54							
H17K	**Granite Mounta**	**93.36**	**338**	P		**P**	**19 10 49.6**	**-0.1**
	baz=59							
M18K	**Stony River**	**93.38**	**334**	P		**P**	**19 10 49.7**	**-0.1**
	baz=63							
L18K	**Granite Mounta**	**93.42**	**335**	P		**P**	**19 10 49.4**	**-0.5**
	baz=62							
KDAK	**Kodiak Island**	**93.47**	**330**	P		**P**	**19 10 50.1**	**-0.1**
	baz=66							
Q19K	**Cape Douglas,**	**93.51**	**331**	P		**P**	**19 10 50.0**	**-0.5**
	baz=65							
N18K	**Kilae Creek**	**93.78**	**334**	P		**P**	**19 10 50.7**	**-0.9**
	baz=63							
J17K	**VABM Dome**	**93.82**	**337**	P		**P**	**19 10 51.8**	**+0.1**
	baz=60							
O18K	**Koktuh Hills**	**93.84**	**333**	P		**P**	**19 10 51.6**	**-0.3**
	baz=64							
K17K	**Iditarod**	**93.84**	**336**	P		**P**	**19 10 51.6**	**-0.2**
	baz=61							
G16K	**Koyuk River**	**94.00**	**339**	P		**P**	**19 10 52.8**	**+0.3**
	baz=57							
OHAK	**Old Harbor**	**94.04**	**330**	P		**P**	**19 10 52.9**	**+0.1**
	baz=66							
M17K	**Holitna River**	**94.11**	**334**	P		**P**	**19 10 53.2**	**0.0**
	baz=62							
L17K	**Donlin**	**94.12**	**335**	P		**P**	**19 10 53.3**	**+0.1**
	baz=61							
I17K	**Unalakleet**	**94.19**	**337**	P		**P**	**19 10 53.4**	**-0.1**
	baz=59							
Q18K	**Katmai Hardscr**	**94.27**	**331**	P		**P**	**19 10 53.3**	**-0.7**
	baz=64							
H16K	**Elim**	**94.37**	**338**	P		**P**	**19 10 53.9**	**-0.3**
	baz=57							
N17K	**Nushagak Hills**	**94.42**	**334**	P		**P**	**19 10 54.0**	**-0.6**
	baz=62							
J16K	**Anvik River**	**94.47**	**337**	P		**P**	**19 10 54.3**	**-0.4**
	baz=59							
F15K	**North Star Dit**	**94.62**	**340**	P		**P**	**19 10 55.3**	**-0.1**
	baz=55							
BRVK	**Borovoye**	**94.76**	**34**	*i* P		**P**	**19 10 56.1**	**-0.2**
BRVK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
G15K	**Niukluk**	**94.81**	**339**	P		**P**	**19 10 55.9**	**-0.3**
	baz=56							
BVAR	**Borovoye Array**	**94.83**	**34**	P		**P**	**19 10 55.9**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=293,slow=7.7,SNR=3.8							
BVAR				LR		LR	19 52 18.0	
	comp=Z,305nm,19.8s,baz=235,slow=35							
	comp=Z,0.2nm,0.4s							
Q17K	**Contact Creek**	**94.86**	**331**	P		**P**	**19 10 56.3**	**-0.4**
	baz=64							
M16K	**Timber Creek**	**94.94**	**335**	P		**P**	**19 10 56.7**	**-0.3**
	baz=60							
SYO	**Syowa Base**	**95.23**	**159**	⇓*e*P		**P**	**19 10 57.0**	**-0.9**
O16K	**Kokwok River B**	**95.26**	**333**	P		**P**	**19 10 57.6**	**-0.8**
	baz=61							
F14K	**Arctic Creek**	**95.32**	**340**	P		**P**	**19 10 57.8**	**-0.8**
	baz=54							
K15K	**Wolf Creek Mou**	**95.35**	**336**	P		**P**	**19 10 57.9**	**-0.8**
	baz=58							
R17L	**Mt. Peulik Vol**	**95.37**	**331**	P		**P**	**19 10 58.5**	**-0.5**
	baz=63							
P16K	**Nushagak River**	**95.48**	**333**	P		**P**	**19 10 58.6**	**-0.8**
	baz=62							
TNA	**Tin City**	**95.80**	**341**	P		**P**	**19 11 00.3**	**-0.5**
	baz=52							
CHIR	**Chirikof Islan**	**95.81**	**329**	P		**P**	**19 10 60.0**	**-1.0**
	baz=64							
N15K	**Kwethluk River**	**95.85**	**334**	P		**P**	**19 11 00.8**	**-0.3**
	baz=60							
BILL	**Bilibino**	**100.40**	**350**	*i* P		**Pdif**	**19 11 21.2**	**-0.2**
TAOE	**Nuku Hiva Isla**	**100.73**	**263**	*e*SS		SS	19 29 57.6	-2.4
	comp=Z,387nm,26.1s							
TAOE	**Nuku Hiva Isla**	**100.73**	**263**	*e*LR		LR	19 44 18.1	
	comp=Z,264nm,35.7s							
WMQ	**Urumqi**	**109.31**	**37**	Pdif		**Pdif**	**19 12 02.5**	**+0.8**
WMQ				LR		LR		
	comp=N,270nm,17.7s							
WMQ				LR		LR		
	comp=E,310nm,16.5s							
WMQ				LR		LR		
	comp=Z,210nm,20.3s							
PPT2	**Papeete2**	**110.77**	**255**	*e*SS		SS	19 32 16.9	+0.1
	comp=Z,73nm,28.5s							
PPT2	**Papeete2**	**110.77**	**255**	*e*LR		LR	19 48 50.9	
	comp=Z,271nm,28.0s							
PPT2				*e*LR		LR	19 48 57.3	
	comp=Z,409nm,27.0s							
TBI	**Tubuai**	**110.91**	**249**	*e*SS		SS	19 32 23.3	+5.0
	comp=Z,541nm,29.8s							
TBI	**Tubuai**	**110.91**	**249**	*e*LR		LR	19 48 53.3	
	comp=Z,830nm,26.0s							
HHC	**Hu-ho-hao-te**	**123.79**	**25**	*e*P		**PKPdf**	**19 16 28.4**	**-4.8**
MDJ	**Mudanjiang**	**125.50**	**9**	P		**PKiKP**	**19 16 40.4**	**+3.8**
MDJ				pmax		pmax		
	comp=Z,8.0nm,2.1s							
CD2	**Chengdu**	**127.32**	**39**	PKP		**PKPdf**	**19 16 38.0**	**-2.2**
PZH	**PanZhiHua**	**128.91**	**45**	PKP		**PKiKP**	**19 16 49.8**	**+5.7**
CMAR	**Chiang Mai Arr**	**131.43**	**55**	PKP		**PKPdf**	**19 16 48.3**	**0.0**
	comp=Z,0.5nm,0.4s,baz=283,slow=4.5,SNR=4.5							

MJAR	**Matsushiro Arr**	**134.28**	**1**	PKP		**PKPdf**	**19 16 53.7**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=9.5,slow=1.5,SNR=1.9							
NJ2	**Nanjing**	**134.34**	**25**	*e*P		**PKPdf**	**19 16 52.3**	**-1.1**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
QIZ	**Qiongzhong**	**139.42**	**46**	PKP		**PKPdf**	**19 17 00.4**	**-2.7**
QIZ				PP		**PP**	**19 19 54.6**	**-1.8**
DZM	**Mont Dzumac**	**151.13**	**241**	*e*SS		SS	19 40 21.4	-9.2
	comp=Z,88nm,27.4s							
DZM	**Mont Dzumac**	**151.13**	**241**	*e*LR		LR	20 07 33.4	
	comp=Z,279nm,24.8s							
ASAR	**Alice Springs**	**164.89**	**160**	PKP		**PKPdf**	**19 17 39.1**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=126,slow=1.3,SNR=5.5							
WRA	**Warramunga Arr**	**168.46**	**156**	PKP		**PKPdf**	**19 17 41.6**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=224,slow=1.0,SNR=4.0							

AUST 24 19:01:31.1±0.4, 22°S±3°×12°6E±°, h10km, mb3.7/4, ML2.7/4, ML3.2/2, Error ellipse: s-maj=10.0km s-min=7.0km az=77.7, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRKA	**Warakurna**	**3.39**	**151**	P	Pn		19 02 25.6	+1.5
WRKA				S	Sn		19 03 04.9	+0.5
FITZ	**Fitzroy Crossi**	**4.04**	**349**	P	Pn		19 02 33.6	+0.6
KNRA	**Kununurra**	**6.72**	**19**	P	Pn		19 03 09.2	-0.8
	comp=Z,0.0nmcomp=Z,31µmcomp=Z,8.3nm,1.9s							
KNRA				S	Sn		19 04 21.2	-5.5
AS08	**Alice Springs**	**7.08**	**104**	P	Pn		19 03 14.3	-0.6
AS06	**Alice Springs**	**7.08**	**104**	P	Pn		19 03 14.6	-0.4
	comp=Z,2.5nm,1.1s,comp=Z,0.0nm							
WB10	**Warramunga Arr**	**7.75**	**74**	P	Pn		19 03 24.5	+0.5
MEEK	**Meekatharra**	**8.49**	**236**	P	Pn		19 03 33.8	-0.4
	comp=Z,28nm,2.5s,comp=Z,0.1nm							
MEEK				S	Sn		19 05 04.8	-5.3
FORT	**Forrest**	**8.78**	**171**	P	Pn		19 03 37.7	-0.5
	comp=Z,0.0nmcomp=Z,11nm,2.0s							
FORT				S	Sn		19 05 10.9	-6.3

IDC 24 19:09:56.7±1.3, 41°15N×112°71W, h0km, mbtmp2.2/1, ML2.7/1, Error ellipse: s-maj=88.4km s-min=7.6km az=147.0, Utah

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PDAR	**Pinedale Array**	**2.85**	**54**	Pn	Pn		19 10 44.5	+0.8
	0.2nm,0.3s,baz=256,slow=16,SNR=2.0							
PDAR				Pg	Pb		19 10 49.1	+0.6
	1.4nm,0.3s,baz=244,slow=16,SNR=15							
PDAR				Lg	Lg		19 11 28.4	
	1.1nm,0.3s,baz=229,slow=21,SNR=2.1							
	0.8nm,0.3s							
NVAR	**Mina Array Bea**	**5.09**	**240**	Pg	Pb		19 11 27.5	+0.7
	0.2nm,0.3s,baz=44,slow=17,SNR=2.3							
NVAR				Sn	Sn		19 12 13.1	-0.9
	0.2nm,0.3s,baz=47,slow=22,SNR=2.6							
NVAR				Lg	Lg		19 12 36.6	
	0.3nm,0.3s,baz=87,slow=26,SNR=4.6							
I56US	**NEWPORT INFRAS**	**7.78**	**338**	I	I		19 54 20.0	
	0.1nm,1.0s,baz=158,slow=316,SNR=3.7							

*MDD **24** 19:15:15.8±1.6, 40°60N×15°45W, h0km, Mb4.3/6, M_mb3.7/6, Error ellipse: s-maj=12.1km s-min=7.7km az=80.0*

*INMG **24** 19:15:19.3±1.0, 40°57N×15°75W, h10km, ML2.4, Error ellipse: s-maj=7.3km s-min=4.4km az=83.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Abissal Iberica*

ISC 24 19:15:17.5±3.4, 40°55N±0°07×15°2W±0°2, h10km, n26, σ1§37/39, 6C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PMAFR	**Mafra**	**4.81**	**107**	*e*S	**Sn**		**19 17 25.6**	**-0.2**
PARRA	**Arraiolos**	**5.04**	**108**	*e*P	**Pb**		**19 16 44.7**	**-1.1**
PARRA				*e*S	**Sb**		**19 17 48.6**	**+2.2**
PARRA				*i* IAML			19 17 50.6	
PARRA				*i* IAML			19 17 51.0	
PARRA				*i* IAML			19 17 53.0	
PCAS	**Casmilo, Conde**	**5.13**	**93**	*e*S	**Sn**		**19 17 33.4**	**-0.3**
PCAS				*i* IAML			19 17 36.7	
PCAS				*i* IAML			19 17 39.0	
PCAS				*i* IAML			19 17 41.8	
PGAV	**Gavieira, Arco**	**5.39**	**73**	*e*P	**Pn**		**19 16 39.5**	**+1.4**
PGAV				*e*S	**Sn**		**19 17 39.5**	**-0.8**
PGAV				*i* IAML			19 17 42.1	
PGAV				*i* IAML			19 17 42.1	
PGAV				*i* IAML			19 17 42.9	
PSARD	**Sardoal**	**5.46**	**98**	*e*P	**Pn**		**19 16 41.1**	**+2.1**
PSARD				*e*S	**Sn**		**19 17 41.4**	**-0.5**
PSARD				*i* IAML			19 17 43.5	
PSARD				*i* IAML			19 17 44.4	
PSARD				*i* IAML			19 17 44.7	
PCAB	**Cabril**	**5.52**	**76**	*e*P	**Pn**		**19 16 41.3**	**+1.4**
PCAB				*e*S	**Sn**		**19 17 42.5**	**-0.9**
PCAB				*i* IAML			19 17 43.9	
PCAB				*i* IAML			19 17 44.2	
PCAB				*i* IAML			19 17 45.0	
ELOB	**Lobios**	**5.53**	**74**	Pn	**Pn**		**19 16 41.2**	**+1.3**
ELOB				⇑*i*Vmb_VC			19 16 42.5	
	197nm,SNR=2.5							
ELOB				Sn	**Sn**		**19 17 42.9**	**-0.6**
PVIS	**Viseu**	**5.54**	**86**	*e*S	**Sn**		**19 17 43.4**	**-0.5**
PMTG	**Montargil**	**5.55**	**103**	*e*P	**Pn**		**19 16 42.0**	**+1.8**
PMTG				*e*S	**Sn**		**19 17 43.3**	**-0.8**
PMTG				*i* IAML			19 17 48.4	
PMTG				*i* IAML			19 17 49.8	
PMTG				*i* IAML			19 17 50.5	
POLO	**Lamas de Olo**	**5.65**	**79**	*e*P	**Pn**		**19 16 43.0**	**+1.4**
POLO				*e*S	**Sn**		**19 17 45.6**	**-1.0**
POLO				*i* IAML			19 17 46.7	
POLO				*i* IAML			19 17 50.4	
POLO				*i* IAML			19 17 58.6	
EAGO	**Agolada(Pontev**	**5.77**	**65**	Pn	**Pn**		**19 16 43.3**	**+0.2**
EAGO				⇑*i*Vmb_VC			19 16 45.9	
	218nm,SNR=2.2							
EAGO				Sn	**Sn**		**19 17 47.7**	**-1.7**
PTEO	**Sao Teotonio**	**5.85**	**119**	*e*P	**Pn**		**19 16 45.0**	**+0.8**
PTEO				*e*S	**Sn**		**19 17 48.9**	**-2.4**
PTEO				*i* IAML			19 17 52.0	
PTEO				*i* IAML			19 17 54.0	
PTEO				*i* IAML			19 17 54.3	
PCBR	**Castelo Branco**	**5.94**	**94**	*e*S	**Sn**		**19 17 53.1**	**-0.4**
PCBR				*i* IAML			19 17 54.6	
PCBR				*i* IAML			19 17 55.5	
PCBR				*i* IAML			19 17 56.3	
MORF	**Marmelete**	**6.03**	**120**	*e*S	**Sn**		**19 17 53.9**	**-2.0**
MORF				*i* IAML			19 17 55.9	
MORF				*i* IAML			19 17 55.9	
MORF				*i* IAML			19 17 58.6	
MESJ	**Messejana**	**6.04**	**114**	*e*S	**Sn**		**19 17 54.3**	**-1.8**
MESJ				*i* IAML			19 17 59.9	
MESJ				*i* IAML			19 18 00.2	
MESJ				*i* IAML			19 18 00.6	
PMRV	**Marv??o**	**6.08**	**98**	*e*S	**Sn**		**19 17 55.9**	**-1.3**
PMRV				*i* IAML			19 17 58.8	
PMRV				*i* IAML			19 17 59.1	
PMRV				*i* IAML			19 18 00.9	
MVO	**Moncorvo**	**6.21**	**82**	*e*S	**Sn**		**19 17 58.3**	**-2.1**
MVO				*i* IAML			19 17 59.3	
MVO				*i* IAML			19 17 59.6	
MVO				*i* IAML			19 18 01.3	
PCVE	**Castro Verde**	**6.27**	**115**	*e*S	**Sn**		**19 18 01.6**	**-0.1**
PBRG	**Braganca**	**6.49**	**76**	*e*S	**Sn**		**19 18 05.3**	**-1.8**
ECAL	**Calabor**	**6.51**	**75**	Pn	**Pn**		**19 16 54.5**	**+1.1**
ECAL				⇑*i*Vmb_VC			19 17 02.2	
	105nm,SNR=1.3							
ECAL				Sn	**Sn**		**19 18 05.9**	**-1.9**
EBAD	**Badajoz**	**6.55**	**103**	Pn	**Pn**		**19 16 54.5**	**+0.6**
EBAD				⇑*i*Vmb_VC			19 17 04.4	
	72nm,SNR=1.2							
EBAD				Sn	**Sn**		**19 18 07.1**	**-1.5**
EPON	**Pontenova**	**6.60**	**62**	Pn	**Pn**		**19 16 55.6**	**+1.0**
EPON				⇑*i*Vmb_VC			19 17 05.3	
	197nm,SNR=1.6							
EPON				Sn	**Sn**		**19 18 08.8**	**-1.1**
PVAQ	**Vaqueiros**	**6.60**	**116**	*e*S	**Sn**		**19 18 08.2**	**-1.7**
PVAQ				*i* IAML			19 18 12.7	
PVAQ				*i* IAML			19 18 13.9	
PVAQ				*i* IAML			19 18 17.5	
EGRO	**El Granado**	**6.70**	**114**	Sn	**Sn**		**19 18 11.1**	**-1.2**
PBAR	**Barrancos**	**6.74**	**108**	*e*S	**Sn**		**19 18 11.7**	**-1.5**
PBAR				*i* IAML			19 18 17.8	
PBAR				*i* IAML			19 18 25.9	
PBAR				*i* IAML			19 18 29.9	
EPLA	**Plasencia**	**6.97**	**91**	Pn	**Pn**		**19 17 00.4**	**+0.7**
EPLA				⇑*i*Vmb_VC			19 17 01.8	
	82nm,SNR=1.4							
EPLA				Sn	**Sn**		**19 18 18.2**	**-0.8**

*IDC **24** 19:17:08.8±0.7, 32°50N×76°20E, h0km, mb3.9/19, mbtmp3.9/22, ML3.6/3, MS3.9/3, Error ellipse: s-maj=19.4km s-min=13.8km az=54.0*

*NEIC **24** 19:17:11.8±1.7, 32°7N±0°1×76°4E±0°1, h10km±1km, mb4.2/6, Error ellipse: s-maj=20.8km s-min=16.0km az=203.0*

*NNC **24** 19:17:26.7±6.1, 33°47N×76°10E, h76km±35km, mb3.9, Error ellipse: s-maj=69.7km s-min=32.5km az=31.0*

*NDI **24** 19:17:28.6±2.1, 32°77N×76°36E, h17km±10km, ML4.0, MW4.1*

ISC 24 19:17:11.8±0.4, 32°76N±0°04×76°46E±0°05, h15km, n74, σ2§31/85, mb4.0/20, MS3.9/3, 2C-3D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
DDI	**Dehra Dun**	**2.79**	**150**	*e*S	**Sg**		**19 18 46.1**	**+4.7**
NIL	**Nilore**	**2.83**	**289**		**Pn**		**19 17 56.8**	**+0.2**
NDI	**New Delhi**	**4.12**	**171**	*e*P	**Pg**		**19 18 30.8**	**+0.1**
NDI				IAML			19 19 16.1	
	comp=E,430nm,0.5s							
NDI				*e*S	**Sb**		**19 19 17.1**	**+3.5**
NDI				IAML			19 19 26.2	
	comp=N,302nm,0.4s							
NPLP	**NPLP New Delhi**	**4.16**	**171**	*e*P	**Pg**		**19 18 31.2**	**-0.3**
NPLP				*e*S	**Sb**		**19 19 17.9**	**+3.2**
NPLP				IAML			19 19 18.3	
	comp=E,223nm,0.0s							
NPLP				IAML			19 19 18.9	
	comp=N,343nm,0.1s							
SONA	**Sohna**	**4.53**	**173**	*e*P	**Pg**		**19 18 38.3**	**-0.3**
SONA				*e*S	**Sb**		**19 19 24.6**	**-0.8**
SONA				IAML			19 19 32.6	
	comp=E,288nm,0.4s							
SONA				IAML			19 19 34.6	
	comp=N,397nm,0.2s							
PTH	**Pithoragarh**	**4.54**	**134**	*e*P	**Pg**		**19 18 36.3**	**-2.5**
PTH				IAML			19 19 15.5	
	comp=N,246nm,0.2s							
PTH				IAML			19 19 20.4	
	comp=E,145nm,0.1s							
PTH				*e*S	**Sb**		**19 19 26.7**	**+0.8**
KUDL	**Kundal**	**4.60**	**180**	IAML			19 18 33.9	
	comp=E,324nm,0.5s							
KUDL				IAML			19 18 36.5	
	comp=N,254nm,0.5s							
KUDL				*e*P	**Pg**		**19 18 37.2**	**-2.8**
KUDL				*e*S	**Sb**		**19 19 28.4**	**+0.8**
LGTI	**Lohaghat**	**4.63**	**135**	*e*P	**Pg**		**19 18 39.3**	**-1.2**
LGTI				IAML			19 19 15.7	
	comp=E,355nm,0.3s							
LGTI				IAML			19 19 16.5	
	comp=N,241nm,0.2s							
LGTI				*e*S	**Sb**		**19 19 28.4**	**+0.1**
KBL	**Kabul**	**6.44**	**288**		**Pn**		**19 18 46.5**	**+0.2**
KSH	**Kashi**	**6.75**	**357**	P	**Pn**		**19 18 53.3**	**+2.8**
KSH				S	**Sn**		**19 20 07.3**	**+0.1**
KSH				pmax	pmax			
	comp=Z,18nm,0.7s							
KSH				LR	LR			
	comp=N,85nm,1.6s							
KSH				LR	LR			
	comp=E,170nm,1.9s							
KSH				LR	LR			
	comp=Z,280nm,9.3s							
PYUN	**Piuthan**	**7.30**	**128**	Pn	**Pn**		**19 18 59.6**	**+1.4**
	baz=131,slow=0.0							
PYUN				Sn	**Sn**		**19 20 19.1**	**-1.8**
	comp=Z,33nm,0.3s,baz=131,slow=0.0							
DANN	**Dangsing**	**7.67**	**123**	Pn	**Pn**		**19 19 05.2**	**+1.8**
	baz=126,slow=0.0							
DRK	**Karamyk**	**7.69**	**332**	Pn	**Pn**		**19 19 03.9**	**+0.3**
KOLN	**Koldanda**	**7.92**	**127**	Pn	**Pn**		**19 19 08.2**	**+1.5**
	baz=130,slow=0.0							
KOLN				Sn	**Sn**		**19 20 33.8**	**-2.5**
	baz=130,slow=0.0							
GAR	**Garm**	**7.97**	**323**		**Pn**		**19 19 06.7**	**-0.6**
SIMJ	**Simiganj**	**8.45**	**316**		**Pn**		**19 19 13.7**	**-0.1**
GKN	**Gorkha**	**8.50**	**122**	Pn	**Pn**		**19 19 15.5**	**+0.9**
	baz=124,slow=0.0							
GKN				Sn	**Sn**		**19 20 46.7**	**-3.7**
	comp=Z,27nm,0.3s,baz=124,slow=0.0							
BTK	**Batken**	**8.58**	**330**	Pn	**Pn**		**19 19 16.7**	**+1.0**
NRN	**Naryn**	**8.66**	**358**		Pn		19 19 21.9	+4.9
ARSB	**Arslanbob**	**8.99**	**343**		**Pn**		**19 19 22.5**	**+1.3**
TARG	**Taragay, Kyrgy**	**9.02**	**6**		Pn		19 19 29.5	+7.6
DMN	**Daman**	**9.07**	**122**	Pn	**Pn**		**19 19 23.3**	**+0.8**
	baz=125,slow=0.0							
DMN				Sn	**Sn**		**19 21 00.3**	**-4.2**
	comp=Z,22nm,0.4s,baz=125,slow=0.0							
KKN	**Kakani**	**9.09**	**121**	Pn	**Pn**		**19 19 23.3**	**+0.6**
	baz=123,slow=0.0							
KKN				Sn	**Sn**		**19 21 01.5**	**-3.4**
	comp=Z,24nm,0.4s,baz=123,slow=0.0							
PKIN	**Phulchoki**	**9.30**	**121**	Pn	**Pn**		**19 19 26.2**	**+0.6**
	baz=124,slow=0.0							
PKIN				Sn	**Sn**		**19 21 05.5**	**-4.6**
	comp=Z,14nm,0.3s,baz=124,slow=0.0							
PKI	**Pulchoki**	**9.31**	**121**	Pn	**Pn**		**19 19 26.4**	**+0.6**
	baz=124,slow=0.0							
PKI				Sn	**Sn**		**19 21 05.4**	**-5.1**
	comp=Z,23nm,0.4s,baz=124,slow=0.0							
BOOM	**Boomskoye usch**	**9.72**	**358**	Pn	**Pn**		**19 19 34.8**	**+3.5**
AAK	**Ala-Archa**	**9.98**	**352**	⇓P	**Pn**		**19 19 38.7**	**+3.9**
	comp=Z,3.7nm,0.8s			

ZAA0					IAmb	IAmb	19 22 09.7			
	comp=Z,4.4nm,0.8s									
ZALV	**Zalesovo Beam**	**22.00**	**13**		**P**	**P**	**19 22 06.1**	**+0.8**		
ZALV	**Zalesovo Beam**	**22.00**	**13**	P	**P**	**P**	**19 22 05.8**	**+0.5**		
	comp=Z,4.0nm,0.7s,baz=214,slow=10,SNR=13									
	comp=Z,4.0nm,0.7s									
AKTO	**Aktyubinsk**	**22.30**	**328**	P	**P**	**P**	**19 22 09.6**	**+1.0**		
	comp=Z,11nm,0.5s,baz=122,slow=8.1,SNR=19									
	comp=Z,11nm,0.5s									
CHTO	**Chiang Mai**	**24.48**	**119**	P	**P**	**P**	**19 22 30.1**	**-0.4**		
CHTO					IAmb	IAmb	19 22 39.3			
	comp=Z,4.2nm,0.8s									
CM31	**Chiang Mai Arr**	**24.70**	**120**	P	**P**		**19 22 33.2**	**+0.7**		
CMAR	**Chiang Mai Arr**	**24.70**	**120**	P	**P**		**19 22 33.6**	**+1.1**		
CMAR	**Chiang Mai Arr**	**24.70**	**120**	P	**P**		**19 22 33.7**	**+1.2**		
	comp=Z,2.9nm,1.0s,baz=311,slow=9.1,SNR=15									
	comp=Z,2.9nm,1.0s									
SONM	**Songino Array**	**27.13**	**47**	P	**P**		**19 22 57.4**	**+3.0**		
	comp=Z,1.1nm,0.7s,baz=247,slow=9.9,SNR=6.9									
	comp=Z,1.1nm,0.7s									
BRTR	**Keskin Array B**	**34.97**	**294**	P	**P**		**19 24 03.9**	**+0.3**		
	comp=Z,0.9nm,0.8s,baz=122,slow=11,SNR=4.3									
	comp=Z,0.9nm,0.8s									
AKASG	**Malin Array Be**	**38.79**	**312**	P	**P**		**19 24 34.7**	**-1.1**		
	comp=Z,0.2nm,0.3s,baz=83,slow=7.1,SNR=4.2									
	comp=Z,0.2nm,0.3s									
MLR	**Muntele Rosu**	**40.57**	**303**	P	**P**		**19 24 51.9**	**+1.2**		
MLR					IAmb	IAmb	19 25 11.9			
	comp=Z,6.0nm,1.1s									
FINES	**FINESS Array B**	**43.07**	**327**	P	**P**		**19 25 11.8**	**+0.9**		
	comp=Z,2.9nm,1.0s,baz=126,slow=9.7,SNR=5.7									
	comp=Z,2.9nm,1.0s									
ARCES	**ARCESS Array B**	**46.30**	**338**	P	**P**		**19 25 37.7**	**+1.1**		
	comp=Z,4.0nm,1.0s,baz=111,slow=7.5,SNR=15									
	comp=Z,4.0nm,1.0s									
HFS	**Hagfors**	**48.76**	**324**	P	**P**		**19 25 55.5**	**-0.3**		
	comp=Z,0.6nm,0.5s,baz=95,slow=9.1,SNR=5.4									
	comp=Z,0.6nm,0.5s									
NB2	**NORSAR Subarra**	**50.05**	**325**	P	**P**		**19 26 05.4**	**-0.3**		
	comp=Z,1.0nm,0.8s,baz=94,slow=7.9									
NOA	**NORSAR Array B**	**50.05**	**325**	P	**P**		**19 26 05.3**	**-0.3**		
	comp=Z,0.7nm,0.8s,baz=94,slow=7.7,SNR=3.8									
	comp=Z,0.7nm,0.8s									
KEST	**Kesra**	**54.57**	**293**	P	**P**		**19 26 38.7**	**-1.0**		
	comp=Z,2.4nm,0.8s,baz=100,slow=11,SNR=2.8									
	comp=Z,2.4nm,0.8s									
EKA	**Eskdalemuir Ar**	**58.08**	**319**	P	**P**		**19 27 03.5**	**-0.8**		
	comp=Z,1.6nm,1.0s,baz=81,slow=7.2,SNR=3.7									
	comp=Z,1.6nm,1.0s									
OPO	**Ambohidratompo**	**58.22**	**213**	LR	LR		19 49 58.1			
	comp=Z,88nm,18.4s,baz=196,slow=34									
MDT	**Midelt**	**66.38**	**295**	LR	LR		20 02 34.5			
	comp=Z,66nm,18.8s,baz=226,slow=41									
SHEM	**Shemya Is, Ala**	**68.93**	**40**	LR	LR		20 01 10.3			
	comp=Z,117nm,20.6s,baz=104,slow=38									
TORD	**Torodi Ar. Bea**	**70.28**	**273**	P	**P**		**19 28 21.2**	**-3.8**		
	comp=Z,0.5nm,0.6s,baz=42,slow=4.7,SNR=4.8									
	comp=Z,0.5nm,0.6s									
WRA	**Warramunga Arr**	**76.18**	**125**	P	**P**		**19 28 59.0**	**-0.6**		
	comp=Z,0.5nm,0.9s,baz=315,slow=6.3,SNR=6.3									
	comp=Z,0.5nm,0.9s									
ILAR	**Eielson Array**	**77.06**	**18**	P	**P**		**19 29 04.9**	**+0.9**		
	comp=Z,0.9nm,0.9s,baz=311,slow=4.4,SNR=9.5									
	comp=Z,0.9nm,0.9s									
BOSA	**Boshof**	**78.02**	**224**	P	**P**		**19 29 07.3**	**-2.7**		
	comp=Z,2.2nm,0.9s,baz=117,slow=2.3,SNR=1.2									
	comp=Z,2.2nm,0.9s									
ASAR	**Alice Springs**	**78.42**	**128**	P	**P**		**19 29 11.6**	**-0.5**		
	comp=Z,0.6nm,0.8s,baz=320,slow=6.7,SNR=5.8									
	comp=Z,0.6nm,0.8s									
YKA	**Yellowknife Ar**	**84.66**	**5**	P	**P**		**19 29 45.3**	**+0.8**		
	comp=Z,0.7nm,0.7s,baz=351,slow=4.9,SNR=4.6									
	comp=Z,0.7nm,0.7s									
QSPA	**South Pole Qui**	**122.56**	**180**	PKP	**PKPdf**		**19 36 03.8**	**-2.1**		
	comp=Z,1.2nm,0.9s,baz=191,slow=2.6,SNR=2.1									

IDC ***24*** *19:21:24.6±0.7, 32˚.23N×66˚.66E, h0km, mb4.0/23, mbtmp4.1/26, ML4.3/3, MS3.9/21, Error ellipse: s-maj=16.6km s-min=12.6km az=12.0*

MOS ***24*** *19:21:26.2±1.2, 32˚.38N×66˚.69E, h12km, mb4.5/17, Error ellipse: s-maj=7.6km s-min=4.8km az=74.8*

NEIC ***24*** *19:21:27.7±2.2, 32˚.32N±0˚.08×66˚.62E±0˚.09, h13km±4km, mb4.5/55, Error ellipse: s-maj=13.6km s-min=9.5km az=138.0*

BJI ***24*** *19:21:29.7, 32˚.48N×67˚.10E, h10km, mB4.8/6, mb4.5/30, Ms4.3/18, Ms7 3.9/16*

ISC 24 19:21:26.8±0.4, 32˚27N±0˚.05×66˚74E±0˚.04, h10km, n180, σ1§69/157, mb4.4/65, MS3.9/23, 4C-3D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
KBL	**Kabul**	**2.97**	**40**			**Pn**	**19 22 16.0**		**+1.7**
KBL	**Kabul**	**2.97**	**40**	P		**Pn**	**19 22 16.0**		**+1.7**
NIL	**Nilore**	**5.64**	**74**	Pn		**Pn**	**19 22 52.1**		**+1.3**
NIL	**Nilore**	**5.64**	**74**	P		**Pn**	**19 22 52.1**		**+1.3**
SIMJ	**Simiganj**	**6.64**	**16**	Pn		**Pn**	**19 23 04.6**		**0.0**
JMU	**Jammu**	**6.91**	**84**	*e*P		**Pn**	**19 23 09.1**		**+1.0**
JMU				*e*S		**Sn**	**19 24 21.5**		**-5.2**
JMU				IAML			19 24 28.8		
	comp=E,838nm,0.6s								
JMU				IAML			19 24 31.9		
	comp=N,713nm,1.0s								
SRNI	**Srinagar**	**7.04**	**73**	*e*P		Pn	19 23 05.7		-4.2
SRNI				*e*S		**Sn**	**19 24 24.3**		**-5.6**
SRNI				IAML			19 24 46.6		
	comp=N,416nm,0.8s								
SRNI				IAML			19 24 50.3		
	comp=E,413nm,1.0s								
GAR	**Garm**	**7.32**	**22**			**Pn**	**19 23 15.4**		**+1.5**
BHK	**Bhakra**	**8.27**	**93**	*e*P		Pn	19 23 33.6		+6.7
BHK				IAML			19 25 02.3		
	comp=N,237nm,0.5s								
BHK				IAML			19 25 03.4		
	comp=E,274nm,0.6s								
BHK				*e*S		**Sn**	**19 25 03.7**		**+3.2**
BTK	**Batken**	**8.44**	**22**	Pn		**Pn**	**19 23 30.2**		**+0.9**
BTK	**Batken**	**8.44**	**22**	P		**Pn**	**19 23 30.2**		**+0.9**
SMLA	**Simla**	**8.95**	**95**	*e*P		**Pn**	**19 23 34.9**		**-1.3**
SMLA				*e*S		Sn	19 25 09.3		-7.8
SMLA				IAML			19 25 18.9		
	comp=N,176nm,0.6s								
SMLA				IAML			19 25 24.4		
	comp=E,141nm,0.4s								
BHUJ	**Bhuj**	**9.34**	**163**	*e*P		**Pn**	**19 23 42.6**		**+1.1**
BHUJ				*e*S		Sn	19 25 19.2		-7.4
BHUJ				IAML			19 25 30.8		
	comp=E,218nm,0.5s								
BHUJ				IAML			19 25 34.1		
	comp=N,216nm,0.8s								
KUDL	**Kundal**	**9.38**	**113**	*e*P		**Pn**	**19 23 41.0**		**-1.0**
KUDL				*e*S		Sn	19 25 19.9		-7.7
KUDL				IAML			19 25 30.1		
	comp=N,100nm,0.5s								
KUDL				IAML			19 25 37.2		
	comp=E,107nm,0.3s								
SONA	**Sohna**	**9.80**	**111**	*e*P		**Pn**	**19 23 46.9**		**-0.8**
SONA				*e*S		Sn	19 25 29.1		-8.7
SONA				IAML			19 25 37.7		
	comp=N,162nm,1.1s								
SONA				IAML			19 25 40.3		
	comp=E,313nm,0.6s								
KLP	**Kalpa**	**9.81**	**91**	*e*P		**Pn**	**19 23 46.5**		**-1.7**
KLP				*e*S		Sn	19 25 29.4		-9.3
KLP				IAML			19 25 46.7		
	comp=N,198nm,1.1s								
KLP				IAML			19 26 02.4		
	comp=E,149nm,1.0s								
DDI	**Dehra Dun**	**9.87**	**98**	*e*P		**Pn**	**19 23 47.3**		**-1.5**
DDI				*e*S		Sn	19 25 30.8		-9.0
DDI				IAML			19 25 45.0		
	comp=E,106nm,0.7s								
DDI				IAML			19 25 49.7		
	comp=N,144nm,0.8s								
ARSB	**Arslanbob**	**10.33**	**27**			**Pn**	**19 23 57.4**		**+2.2**
ARSB	**Arslanbob**	**10.33**	**27**	P		**Pn**	**19 23 57.4**		**+2.2**
KSH	**Kashi**	**10.41**	**43**	P		Pn	19 23 52.6		-3.6
KSH				LR		LR			
	comp=N,1μm,8.6s								
KSH				LR		LR			
	comp=N,890nm,8.2s								
KSH				LR		LR			
	comp=N,530nm,10.1s								
JOSI	**Joshimath**	**11.08**	**95**	*e*P		**Pn**	**19 24 03.7**		**-1.9**
JOSI				*e*S		Sn	19 25 59.3		-10
JOSI				IAML			19 26 10.8		
	comp=N,87nm,1.0s								
JOSI				IAML			19 26 11.7		
	comp=E,99nm,0.7s								
KK31	**Karatay Array**	**11.22**	**14**			**Pn**	**19 24 06.8**		**-0.4**
KK31	**Karatay Array**	**11.22**	**14**	*i* P		**Pn**	**19 24 07.6**		**+0.4**
KKAR	**Karatay Array**	**11.22**	**14**			**Pn**	**19 24 07.0**		**-0.2**
KKAR	**Karatay Array**	**11.22**	**14**	P		**Pn**	**19 24 07.0**		**-0.2**
WSAR	**Wadi Sarin**	**11.51**	**221**	Pn		**Pn**	**19 24 10.3**		**-0.9**
	baz=72,slow=20,SNR=11								
WSAR				Sn		**Sn**	**19 26 12.8**		**-7.0**
	baz=336,slow=24,SNR=1.8								
NRN	**Naryn**	**11.77**	**36**			**Pn**	**19 24 15.9**		**+1.0**
NRN	**Naryn**	**11.77**	**36**	P		**Pn**	**19 24 16.0**		**+1.0**
UOSS	**Minazif**	**11.78**	**234**	Pn		**Pn**	**19 24 15.4**		**+0.4**
PTH	**Pithoragarh**	**11.88**	**100**	*e*P		**Pn**	**19 24 14.4**		**-2.1**
PTH				*e*S		Sn	19 26 17.8		-12
PTH				IAML			19 26 27.4		
	comp=N,74nm,0.8s								
PTH				IAML			19 26 33.0		
	comp=E,72nm,0.8s								
LGTI	**Lohaghat**	**11.94**	**100**	*e*P		Pn	19 24 13.9		-3.2
LGTI				*e*S		Sn	19 26 16.9		-13
LGTI				IAML			19 26 45.2		
	comp=N,80nm,1.4s								
LGTI				IAML			19 26 48.0		
	comp=E,83nm,0.3s								
AAK	**Ala-Archa**	**12.04**	**29**			**Pn**	**19 24 19.1**		**+0.5**
AAK	**Ala-Archa**	**12.04**	**29**	Pn		**Pn**	**19 24 20.2**		**+1.7**
	comp=E,4.0nm,0.3s,baz=253,slow=10,SNR=11								
AAK				Sn		**Sn**	**19 26 27.4**		**-5.5**
	comp=E,0.9nm,0.3s,baz=358,slow=21,SNR=1.8								
AAK				LR		LR	19 29 28.8		
	comp=E,449nm,20.9s,baz=221,slow=40								
	comp=E,13nm,0.5s								
AAK	**Ala-Archa**	**12.04**	**29**	*e*P		**Pn**	**19 24 18.8**		**+0.2**
AAK				pmax		pmax			
	comp=Z,15nm,0.6s								
FRU1	**Bishkek**	**12.24**	**28**	Pn		**Pn**	**19 24 20.5**		**-0.7**
FRU1	**Bishkek**	**12.24**	**28**	P		**Pn**	**19 24 20.5**		**-0.7**
BOOM	**Boomskoye usch**	**12.54**	**33**			**Pn**	**19 24 27.1**		**+1.6**
BOOM	**Boomskoye usch**	**12.54**	**33**	P		**Pn**	**19 24 27.1**		**+1.6**
KDJ	**Kajisay**	**12.88**	**37**	Pn		**Pn**	**19 24 31.1**		**+1.0**
KDJ	**Kajisay**	**12.88**	**37**	P		**Pn**	**19 24 31.1**		**+1.0**
TARG	**Taragay, Kyrgy**	**12.93**	**40**			**Pn**	**19 24 31.6**		**+0.7**
TARG	**Taragay, Kyrgy**	**12.93**	**40**	P		**Pn**	**19 24 31.6**		**+0.7**
LKRN	**Lenkeran, Azer**	**15.97**	**299**	P		**P**	**19 25 17.1**		**+2.0**
AKT	**Akhty**	**17.75**	**307**	*e*P		**P**	**19 25 34.7**		**-0.2**
AKT				pmax		pmax			
	comp=Z,13nm,1.0s								
AKT				MLR		MLR			
	comp=Z,187nm,14.0s								
MNGR	**Mingechevir, A**	**17.91**	**304**	P		**P**	**19 25 41.9**		**+5.4**
SEKA	**Sheki**	**18.00**	**305**	P		**P**	**19 25 42.2**		**+4.6**
NAX	**Nakhchivan**	**18.56**	**298**	P		**Pn**	**19 25 49.6**		**+5.6**
MAKZ	**Makanchi**	**18.63**	**34**	P		**P**	**19 25 43.0**		**-1.5**
MAKZ				IAmb		IAmb	19 25 50.0		
	comp=Z,23nm,0.8s								
MAKZ	**Makanchi**	**18.63**	**34**	P		**P**	**19 25 43.0**		**-1.5**
MAKZ				pmax		pmax			
	comp=Z,23nm,0.9s								
GNBR	**Gunib**	**18.65**	**308**	*e*P		**Pn**	**19 25 48.6**		**+3.5**
MK31	**Makanchi Array**	**18.77**	**35**	*c i*P		**P**	**19 25 45.7**		**-0.3**
MKAR	**Makanchi Array**	**18.77**	**35**			**P**	**19 25 45.5**		**-0.6**
MKAR	**Makanchi Array**	**18.77**	**35**	P		**P**	**19 25 45.6**		**-0.5**
	comp=Z,1.1nm,0.3s,baz=213,slow=9.8,SNR=38								
MKAR				LR		LR	19 33 02.9		
	comp=Z,188nm,18.7s,baz=222,slow=37								
	comp=Z,6.5nm,0.7s								
MKAR	**Makanchi Array**	**18.77**	**35**	*i* P		**P**	**19 25 46.0**		**0.0**
MKAR				pmax		pmax			
	comp=Z,7.0nm,0.7s								
AKTO	**Aktyubinsk**	**19.27**	**343**	P		**P**	**19 25 51.6**		**+0.1**
	comp=Z,0.3nm,0.3s,baz=162,slow=10,SNR=9.8								
AKTO				LR		LR	19 33 56.1		
	comp=Z,192nm,19.4s,baz=241,slow=39								
	comp=Z,6.0nm,0.7s								
GNI	**Garni**	**19.39**	**300**	*ce*P		**Pn**	**19 25 55.6**		**+1.5**
GNI				pmax		pmax			
	comp=Z,7.0nm,0.8s								
DVE	**Vedeno**	**19.46**	**309**	*i* P		**Pn**	**19 25 55.5**		**+0.6**
DVE				pmax		pmax			
	comp=Z,7.0nm,0.7s								
WMQ	**Urumqi**	**20.07**	**49**	*e*P		Pn	19 26 04.1		+1.9
WMQ				LR		LR			
	comp=Z,750nm,12.7s								
WMQ				LR		LR			
	comp=Z,490nm,14.3s								
WMQ				LR		LR			
	comp=Z,270nm,17.9s								
KURBB	**Kurchatov Arra**	**20.31**	**22**	P		**P**	**19 26 02.8**		**0.0**
	comp=Z,5.4nm,0.7s,baz=210,slow=11,SNR=21								
	comp=Z,5.4nm,0.7s								
KURK	**Kurchatov**	**20.42**	**22**			**P**	**19 26 04.7**		**+0.8**
KURK	**Kurchatov**	**20.42**	**22**	*d i*P		Pn	19 26 05.9		-0.2
KURK				pmax		pmax			
	comp=Z,7.0nm,0.8s								
RAYN	**Ar Rayn**	**20.67**	**250**			**P**	**19 26 07.9**		**+1.0**
RAYN				IAmb		IAmb	19 26 27.8		
	comp=Z,18nm,0.9s								
RAYN	**Ar Rayn**	**20.67**	**250**	P		**P**	**19 26 07.9**		**+1.0**
RAYN				pmax		pmax			
	comp=Z,18nm,0.9s								
BVA0	**Borovoye Array**	**20.91**	**6**	*i* P		**P**	**19 26 08.8**		**-0.5**
BVAR	**Borovoye Array**	**20.91**	**6**	P		**P**	**19 26 09.4**		**+0.1**
	comp=Z,8.6nm,0.6s,baz=178,slow=8.4,SNR=43								
BVAR				LR		LR	19 34 52.9		
	comp=Z,337nm,20.0s,baz=187,slow=39								
	comp=Z,8.6nm,0.6s								
BRVK	**Borovoye**	**20.94**	**6**			**P**	**19 26 09.9**		**+0.3**
BRVK				IAmb		IAmb	19 26 10.7		
	comp=Z,27nm,0.9s								
BRVK	**Borovoye**	**20.94**	**6**	*d i*P		**P**	**19 26 09.8**		**+0.3**
BRVK				pmax		pmax			
	comp=Z,30nm,0.9s								
LSA	**Lhasa**	**21.07**	**91**	P		**P**	**19 26 13.4**		**+1.7**
LSA	**Lhasa**	**21.07**	**91**	P		**P**	**19 26 12.8**		**+1.1**
LSA				pmax		pmax			
	comp=Z,20nm,0.8s								
LSA	**Lhasa**	**21.07**	**91**	P		**P**	**19 26 13.5**		**+1.7**
LSA				pmax		pmax			
	comp=Z,49nm,1.2s								
KBZ	**Khabaz**	**21.92**	**308**	P		**P**	**19 26 19.1**		**-1.0**
	comp=Z,3.3nm,0.8s,baz=145,slow=10.0,SNR=4.8								
	comp=Z,3.3nm,0.8s								
KBZ	**Khabaz**	**21.92**	**308**	*i* P		**P**	**19 26 22.8**		**+2.6**
KBZ				pmax		pmax			
	comp=Z,5.0nm,1.0s								
KIV	**Kislovodsk**	**22.15**	**309**	*e*P		**P**	**19 26 22.4**		**-0.4**
KIV				*e*S		**S**	**19 30 26.6**		**-0.3**
KIV				pmax		pmax			
	comp=Z,8.0nm,1.1s								
SHL	**Shillong**	**22.97**	**100**			**P**	**19 26 31.2**		**-0.5**
SHL	**Shillong**	**22.97**	**100**	P		**P**	**19 26 31.2**		**-0.5**
SHL				pmax		pmax			
	comp=Z,130nm,1.2s								
GOMU	**GeErMu**	**23.50**	**73**	P		**P**	**19 26 38.4**		**+1.1**
GOMU				pmax		pmax			
	comp=Z,21nm,0.9s								
BRDH	**Bariadhala**	**24.02**	**107**	LR		LR	19 38 01.2		
	comp=Z,193nm,20.7s,baz=311,slow=41								
BELG	**Belogornoye**	**24.44**	**331**	*i* P		**P**	**19 26 44.9**		**-0.6**
BELG				pmax		pmax			
	comp=Z,3.0nm,1.1s								
ARTI	**Arti**	**24.81**	**349**			**P**	**19 26 49.0**		**+0.2**
ARTI	**Arti**	**24.81**	**349**	*d i*P		**P**	**19 26 49.1**		**+0.2**
ARTI							19 27 17.3		
ARTI				S		**S**	**19 31 12.3**		**+1.1**
ARTI				SS		**SnSn**	**19 31 58.7**		**+0.6**
ARTI				pmax		pmax			
	comp=Z,21nm,0.9s								
ARTI				MLR		MLR			
	comp=Z,118nm,12.0s								
SVE	**Sverdlovsk**	**24.92**	**352**	*e*P		**P**	**19 26 50.7**		**+0.9**
ZAA0	**Zalesovo Array**	**25.23**	**25**			**P**	**19 26 52.3**		**-0.3**
ZAA0				IAmb		IAmb	19 27 29.3		
	comp=Z,13nm,0.8s								
ZALV	**Zalesovo Beam**	**25.23**	**25**			**P**	**19 26 52.1**		**-0.6**
ZALV	**Zalesovo Beam**	**25.23**	**25**	P		**P**	**19 26 52.4**		**-0.3**
	comp=Z,5.9nm,0.5s,baz=230,slow=11,SNR=19								
	comp=Z,5.9nm,0.5s								
GTA	**Gaotai**	**27.63**	**66**	*e*P		**P**	**19 27 16.5**		**+1.8**
GTA				pP		pP	19 27 20.4		+2.1
GTA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
GTA				LR		LR			
	comp=Z,310nm,13.9s								
GTA				LR		LR			
	comp=Z,130nm,14.3s								
GTA				LR		LR			
	comp=Z,160nm,13.9s								
BRTR	**Keskin Array B**	**27.68**	**295**	P		**P**	**19 27 14.9**		**-0.2**
	comp=Z,0.7nm,0.7s,baz=99,slow=8.1,SNR=3.6								
	comp=Z,0.7nm,0.7s								
BRTR	**Keskin Array B**	**27.68**	**295**	*i* P		**P**	**19 27 15.0**		**-0.2**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
PALK	**Pallekele**	**28.06**	**149**	LR		LR	19 38 13.4		
	comp=Z,190nm,20.4s,baz=328,slow=36								
MOY	**Mondy**	**31.59**	**42**	*e*P		**P**	**19 27 51.6**		**+2.0**
MOY				pmax		pmax			
	comp=Z,16nm,1.8s								
CMAR	**Chiang Mai Arr**	**32.04**	**108**	P		**P**	**19 27 54.2**		**+0.4**
	comp=Z,2.2nm,0.6s,baz=296,slow=9.2,SNR=11								
CMAR				LR		LR	19 43 40.2		
	comp=Z,117nm,19.6s,baz=295,slow=42								
	comp=Z,2.2nm,0.6s								
CMAR	**Chiang Mai Arr**	**32.04**	**108**	*i* P		**P**	**19 27 56.5**		**+2.7**
CMAR				pmax		pmax			
	comp=Z,3.0nm,0.7s								
ZAK	**Zakamensk**	**32.44**	**45**	*e*P		**P**	**19 28 00.0**		**+2.9**
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.1s								
AKASG	**Malin Array Be**	**33.14**	**315**	P		**P**	**19 28 02.2**		**-0.8**
	comp=Z,1.3nm,0.7s,baz=102,slow=7.6,SNR=6.4								
	comp=Z,1.3nm,0.7s								
AKASG	**Malin Array Be**	**33.14**	**315**	*i* P		**P**	**19 28 02.2**		**-0.8**
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.7s								
SONM	**Songino Array**	**33.69**	**51**	P		**P**	**19 28 07.9**		**-0.2**
	comp=Z,1.7nm,0.7s,baz=253,slow=9.3,SNR=10								
SONM				LR		LR	19 43 33.1		
	comp=Z,143nm,21.2s,baz=252,slow=39								
	comp=Z,1.7nm,0.7s								
KLMR	**Klimovskoe**	**33.69**	**336**	*e*P		**P**	**19 28 05.3**		**-2.4**
KLMR				*e*			19 29 17.0		
KLMR				*e*			19 30 47.4		
KLMR				pmax		pmax			
	comp=Z,6.0nm,1.1s								
MLR	**Muntele Rosu**	**34.03**	**305**			**P**	**19 28 11.9**		**+0.9**
MLR				IAmb		IAmb	19 28 29.0		
	comp=Z,7.2nm,0.9s								
MLR	**Muntele Rosu**	**34.03**	**305**	P		**P**	**19 28 11.9**		**+0.9**
MLR				pmax		pmax			
	comp=Z,7.0nm,0.9s								
SLVN	**Son La**	**34.76**	**99**			**P**	**19 28 19.9**		**+2.4**
XAN	**Xi'an**	**35.18**	**75**	⇑P		**P**	**19 28 21.6**		**+0.6**
XAN				LR		LR			
	comp=Z,250nm,15.1s								
XAN				LR		LR			
	comp=Z,200nm,13.7s								
XAN				LR		LR			
	comp=Z,130nm,11.7s								
ENH	**Enshi**	**36.42**	**82**	IAmb		IAmb	19 28 48.1		
	comp=Z,8.8nm,0.7s								
FINES	**FINESS Array B**	**39.22**	**330**	P		**P**	**19 28 53.8**		**-1.1**
	comp=Z,0.8nm,0.7s,baz=128,slow=16,SNR=1.8								
FINES				LR		LR	19 47 54.4		
	comp=Z,255nm,18.7s,baz=134,slow=40								
	comp=Z,0.8nm,0.7s								
QIZ	**Qiongzhong**	**40.77**	**98**	SS		SS	19 38 13.5		-6.4
QIZ				LR		LR			
	comp=N,130nm,13.1s								
QIZ				LR		LR			
	comp=E,69nm,11.4s								
QIZ				LR		LR			
	comp=Z,180nm,17.0s								
RONA	**Rosalia, Austr**	**40.87**	**307**	*e*P		**P**	**19 29 09.3**		**+0.4**
	comp=Z,2.3nm,1.1s								
ARSA	**Arzberg**	**41.37**	**307**	*e*P		**P**	**19 29 12.2**		**-0.8**
	comp=Z,5.0nm,0.8s								
CUC	**Castrocucco**	**41.38**	**296**			**P**	**19 29 12.1**		**-1.0**
CUC				IAmb		IAmb	19 29 21.6		
	comp=Z,9.7nm,0.8s								
OBKA	**Obir**	**42.02**	**305**	*e*P		**P**	**19 29 18.2**		**-0.2**
	comp=Z,5.0nm,1.5s								
PSI	**Prapat**	**42.10**	**127**	LR		LR	19 49 25.5		
	comp=Z,248nm,18.2s,baz=262,slow=40								
GERES	**GERESS Array B**	**42.66**	**309**	P		**P**	**19 29 23.3**		**-0.3**
	comp=Z,0.5nm,0.6s,baz=97,slow=6.9,SNR=5.1								
	comp=Z,0.5nm,0.6s								
LESA	**Schwarzleotal**	**43.31**	**307**	*e*

comp=Z,59nm,20.0s,baz=54,slow=39
D19K Kuna River 74.19 16 P 19 33 02.4 -1.0
D19K IAmb IAmb 19 33 18.8
comp=Z,6.0nm,0.9s
TOLK Toolik Lake Re 75.86 13 P **P 19 33 13.4 +0.4**
TOLK IAmb IAmb 19 33 22.4
comp=Z,5.7nm,0.8s
F21K Alatna River 76.26 15 P 19 33 14.9 -0.4
F21K IAmb IAmb 19 33 23.9
comp=Z,3.1nm,0.9s
G23K Bananza Creek 77.43 14 P 19 33 21.7 -0.2
G23K IAmb IAmb 19 33 30.9
comp=Z,3.3nm,0.9s
H21K Melozitna Rive 77.72 16 IAmb IAmb 19 33 30.4
comp=Z,4.2nm,1.1s
G24K Hadweenzic Riv 77.95 13 P 19 33 25.4 +0.6
G24K IAmb IAmb 19 33 40.8
comp=Z,5.5nm,1.0s
J19K Poorman 78.41 18 P 19 33 27.4 +0.1
J19K IAmb IAmb 19 33 34.9
comp=Z,4.0nm,1.1s
F28M Old Crow 78.42 10 P **P 19 33 28.1 +0.8**
H24K Noodor Dome 78.62 14 P 19 33 27.5 -1.0
J20K Nowinta River 78.63 17 IAmb IAmb 19 33 35.5
comp=Z,3.7nm,1.0s
MLY Manley 78.71 15 P 19 33 30.6 +1.6
K20K Telida 79.33 17 IAmb IAmb 19 33 39.5
comp=Z,5.7nm,1.1s
F31M Tsiigehtchic 79.40 8 IAmb IAmb 19 33 39.3
comp=Z,7.4nm,0.9s
H27K Steamboat Moun 79.44 11 IAmb IAmb 19 33 49.0
comp=Z,3.9nm,0.9s
NEA2 Nenana 79.46 15 IAmb IAmb 19 33 40.1
comp=Z,5.2nm,0.9s
G30M tAoh Zraii Nji 79.53 9 P P 19 33 32.6 -0.9
G30M IAmb IAmb 19 33 40.9
comp=Z,5.8nm,1.0s
ILAR Eielson Array 79.76 14 P 19 33 33.6 -1.0
ILAR Eielson Array 79.76 14 P **P 19 33 34.0 -0.7**
comp=Z,0.4nm,0.6s,baz=308,slow=4.7,SNR=4.6
comp=Z,0.4nm,0.6s
ILAR Eielson Array 79.76 14 P P 19 33 33.7 -1.0
CAST Castle Rocks 79.77 17 IAmb IAmb 19 33 41.1
comp=Z,6.1nm,0.9s
G31M Satah River 79.83 8 P 19 33 34.4 -0.6
H29M Whitestone 79.94 10 P **P 19 33 35.7 0.0**
I28M Miner Creek 80.42 11 P 19 33 37.9 -0.5
I28M IAmb IAmb 19 33 44.6
comp=Z,4.2nm,0.7s
J26L Joseph Creek 80.66 13 IAmb IAmb 19 33 45.9
comp=Z,5.0nm,1.1s
I30M Mount Dempster 81.17 10 IAmb IAmb 19 33 48.0
comp=Z,3.2nm,0.7s
BCAR Beaver Creek A 82.30 13 P P 19 33 47.8 -0.5
K29M Barlow Dome 82.30 11 IAmb IAmb 19 33 55.1
comp=Z,4.7nm,0.8s
L29M L29M 82.89 11 IAmb IAmb 19 33 58.8
comp=Z,6.0nm,1.1s
WRA Warramunga Arr 82.90 119 P **P 19 33 50.8 -1.3**
comp=Z,0.6nm,0.5s,baz=314,slow=5.0,SNR=12
comp=Z,0.6nm,0.5s
WRA Warramunga Arr 82.90 119 *i* P **P 19 33 55.7 +3.7**
WRA pmax pmax
comp=Z,4.0nm,0.7s
ASAR Alice Springs 84.87 122 P **P 19 34 02.0 -0.1**
comp=Z,2.7nm,0.8s,baz=311,slow=4.8,SNR=19
comp=Z,2.7nm,0.8s
ASAR Alice Springs 84.87 122 P **P 19 34 02.0 -0.1**
YKA Yellowknife Ar 85.56 1 P **P 19 34 04.2 -0.7**
comp=Z,1.6nm,0.9s,baz=350,slow=5.4,SNR=8.8
YKA LR LR 20 17 44.6
comp=Z,51nm,18.1s,baz=5.0,slow=40
comp=Z,1.6nm,0.9s
YKA Yellowknife Ar 85.56 1 *i* P **P 19 34 05.0 +0.1**
YKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 95.22 124 LR LR 20 24 21.0
comp=Z,61nm,18.0s,baz=203,slow=40
QSPA South Pole Qui 122.08 180 PKP **PKPdf 19 40 20.5 -0.3**
comp=Z,1.6nm,1.0s,baz=188,slow=2.0,SNR=3.9

IDC 24 19:26:39.2±2.1,2°66'N×127°77'E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=164.2km s-min=26.0km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**23.37**	**164**	P	P		19 31 49.9	+0.2
	0.2nm,0.3s,baz=341,slow=10.0,SNR=7.9							
	0.2nm,0.3s							
ASAR	**Alice Springs**	**26.84**	**167**	P	P		19 32 21.9	+0.1
	0.2nm,0.4s,baz=350,slow=7.5,SNR=11							
	0.2nm,0.4s							
STKA	**Stephens Creek**	**36.78**	**160**	P	P		19 33 46.7	-2.1
	0.8nm,0.5s,baz=336,slow=10.0,SNR=2.9							
	0.8nm,0.5s							
MKAR	**Makanchi Array**	**59.02**	**325**	P	P		19 36 42.3	+1.3
	0.2nm,0.4s,baz=109,slow=8.1,SNR=2.2							
	0.2nm,0.4s							

AUST 24 19:30:00.2±0.7,18°S±8°×12°0E±°, h10km, mb4.0/6, ML3.2/3, ML3.6/4, Error ellipse: s-maj=19.6km s-min=6.5km az=143.7, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AUBRM	**Broome Senior**	**1.90**	**88**	P	Pb		19 30 34.1	-0.9
AUBRM				S	Sb		19 30 59.6	+0.8
PSAC1	**Pilbara Seismi**	**3.51**	**187**	P	Pn		19 30 55.5	+0.6
PSAC1				S	Sn		19 31 34.2	-2.2
PSA00	**Pilbara Seismi**	**3.54**	**186**	P	Pn		19 30 55.9	+0.6
FITZ	**Fitzroy Crossi**	**5.14**	**92**	P	Pn		19 31 17.0	-0.3
	comp=Z,1.7nm,1.6s							
GIRL	**Giralia**	**7.26**	**230**	P	Pn		19 31 47.3	+0.9
	comp=Z,0.2nmcomp=Z,210µmcomp=Z,53nm,2.8s							
GIRL				S	Sn		19 33 03.5	-5.5
KNRA	**Kununurra**	**8.49**	**75**	P	Pn		19 32 03.2	-0.1
	comp=Z,0.1nmcomp=Z,8.4nm,1.5s							
CVQOZ	**Cooralya Stati**	**8.59**	**221**	P	Pn		19 32 03.9	-0.7
	comp=Z,184nm,1.7s,comp=Z,0.8nm							
MEEK	**Meekatharra**	**8.70**	**190**	P	Pn		19 32 06.1	-0.1
WRKA	**Warakurna**	**10.24**	**134**	P	Pn		19 32 26.7	-0.6
	comp=Z,5.1nm,2.4s,comp=Z,0.0nm							
MORW	**Morawa**	**11.64**	**199**	P	Pn		19 32 43.6	-2.9
MTN	**Manton Dam**	**11.70**	**65**	P	Pn		19 32 46.6	-0.7
	comp=Z,13nm,1.5s							
BLDU	**Ballidu**	**12.93**	**194**	P	Pn		19 33 02.8	-1.4

*IDC **24** 19:32:42.5±9.0,2°82N×123°05E, h495km±121km, mb2.8/6, mbtmp3.8/7, Error ellipse: s-maj=147.2km s-min=27.4km az=59.0*
*NEIC **24** 19:32:44.4±2.4,2°6N±0°1×122°5E±0°1, h509km±7km, mb4.4/11, Error ellipse: s-maj=23.9km s-min=13.8km az=46.0*
ISC 24 19:32:44.1±0.7,2°65N±0°10×122°5E±0°1, h500km, n25, σ1§62/27, mb3.7/10, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
TOLI2	**Tolitoli**	**2.27**	**228**	P	**P**		**19 33 53.2**	**+2.6**
TOLI2				S	**S**		**19 34 46.1**	**+1.5**
TNTI	**Ternate**	**5.24**	**111**	P	**P**		**19 34 15.1**	**+1.9**
TNTI				S	**S**		**19 35 28.3**	**+2.2**
KKM	**Kota Kinabalu**	**7.09**	**299**	P	**P**		**19 34 33.5**	**+2.2**
FAKI	**Fak Fak**	**11.23**	**119**	P	**P**		**19 35 13.9**	**-0.6**
SOEI	**Soe**	**12.45**	**172**	P	**P**		**19 35 25.7**	**-1.9**
BATI	**Baumata**	**12.82**	**175**	P	**P**		**19 35 31.1**	**-0.4**
	9.9nm,0.3s,baz=53,slow=5.1,SNR=5.1							
MTN	**Manton Dam**	**17.63**	**151**	P	**P**		**19 36 20.4**	**-0.8**
MTN				IAmb	IAmb		19 36 43.9	
	comp=Z,25nm,1.4s							
KNRA	**Kununurra**	**19.24**	**161**	P	**P**		**19 36 35.9**	**0.0**
KNRA				IAmb	IAmb		19 36 49.9	
	comp=Z,21nm,1.4s							
FITZ	**Fitzroy Crossi**	**20.85**	**171**	P	**P**		**19 36 50.0**	**-0.5**
	comp=Z,1.8nm,0.9s,baz=333,slow=9.0,SNR=1.6							
	comp=Z,1.8nm,0.9s							
WB0	**Warramunga Arr**	**25.16**	**153**	P	**P**		**19 37 27.3**	**-1.8**
WB0				IAmb	IAmb		19 37 42.0	
	comp=Z,9.6nm,1.4s							
WRA	**Warramunga Arr**	**25.29**	**153**	P	**P**		**19 37 28.3**	**-2.0**
	comp=Z,0.5nm,0.4s,baz=334,slow=8.9,SNR=3.9							
	comp=Z,0.5nm,0.4s							
WR8	**Warramunga Arr**	**25.38**	**153**	P	**P**		**19 37 29.7**	**-1.3**
WR8				IAmb	IAmb		19 38 06.9	
	comp=Z,14nm,1.5s							
ASAR	**Alice Springs**	**28.43**	**158**	P	**P**		**19 37 55.7**	**-2.1**
	comp=Z,0.3nm,0.5s,baz=336,slow=10,SNR=2.1							
	comp=Z,0.3nm,0.5s							
INKA	**Innaminka**	**34.96**	**151**	P	**P**		**19 38 53.6**	**-0.1**
KSAR	**Wonju Array Be**	**34.99**	**8**	P	**P**		**19 38 52.0**	**-1.7**
KS19	**Wonju Array Si**	**35.04**	**7**	P	**P**		**19 38 52.7**	**-1.5**
KS19				IAmb	IAmb		19 38 57.9	
	comp=Z,20nm,1.4s							
STKA	**Stephens Creek**	**38.84**	**154**	P	**P**		**19 39 24.9**	**-0.7**
ARMA	**Armidale**	**43.08**	**142**	P	**P**		**19 39 58.2**	**-1.4**
ARMA				IAmb	IAmb		19 40 05.1	
	comp=Z,20nm,1.4s							
MKAR	**Makanchi Array**	**56.10**	**328**	P	**P**		**19 41 34.8**	**-0.5**
MKAR	**Makanchi Array**	**56.10**	**328**	P	**P**		**19 41 35.6**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=121,slow=8.8,SNR=6.4							
	comp=Z,0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**60.43**	**329**	P	**P**		**19 42 04.0**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=137,slow=6.3,SNR=5.4							
	comp=Z,0.4nm,0.3s							
KURK	**Kurchatov**	**60.44**	**330**	P	**P**		**19 42 04.0**	**-0.6**
BVAR	**Borovoye Array**	**65.96**	**329**	P	**P**		**19 42 39.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=125,slow=7.2,SNR=2.8							
	comp=Z,0.2nm,0.3s							
TIXI	**Tiksi**	**69.03**	**2**	P	**P**		**19 42 57.9**	**-0.7**
TIXI				IAmb	IAmb		19 43 19.2	
	comp=Z,5.7nm,1.1s							
NIUE	**Niue**	**69.82**	**111**	P	**P**		**19 43 08.0**	**+3.7**

*NEIC **24** 19:33:09.9±2.8, 19°58N±0°08×72°5E±0°2, h10km±2km, mb4.1/13, Error ellipse: s-maj=25.5km s-min=14.2km az=266.0*
*IDC **24** 19:33:11.4±1.0, 19°88N×72°85E, h0km, mb3.7/8, mbtmp3.7/8, ML1.5/1, Error ellipse: s-maj=32.1km s-min=21.6km az=26.0*
*HYB **24** 19:33:11.9, 20°11N×72°91E, h11km, ML4.4*
*NDI **24** 19:33:27.0±1.6, 20°04N×72°92E, h11km±8km, ML3.8, MW3.9*
ISC 24 19:33:10.8±0.5, 19°61N±0°05×72°79E±0°05, h10km, n34, σ2§12/40, mb3.9/10, 1C, Southern India

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BHV	**Bhavnagar**	**2.21**	**344**	*e*P	Pg		19 33 59.2	+5.9
BHV				IAML			19 34 10.3	
	comp=N,461nm,0.3s							
BHV				IAML			19 34 12.7	
	comp=Z,488nm,0.5s							
BHV				*e*S	**Sg**		**19 34 22.8**	**+0.8**
LATR	**Latur**	**3.76**	**108**	*e*P	**Pg**		**19 34 25.9**	**+3.1**
LATR				*e*S	**Sg**		**19 35 09.4**	**-2.2**
LATR				IAML			19 35 11.6	
	comp=N,253nm,0.3s							
LATR				IAML			19 35 11.6	
	comp=E,340nm,0.3s							
HYB	**Hyderabad**	**5.89**	**111**	*e*P	**Pn**		**19 34 39.6**	**+1.4**
HYB				*e*S	**Sn**		**19 35 41.8**	**-4.0**
MNGI	**Mangalore**	**6.91**	**163**	*e*P	**Pb**		**19 35 13.5**	**+2.4**
MNGI				*e*S	**Sb**		**19 36 32.5**	**-1.2**
MNGI				IAML			19 37 04.1	
	comp=N,84nm,0.3s							
MNGI				IAML			19 37 05.6	
	comp=E,91nm,0.5s							
BLSP	**Bilaspur**	**9.09**	**72**	*e*P	Pn		19 35 35.9	+14
BLSP				*e*S	**Sn**		**19 37 07.4**	**+2.8**
BLSP				IAML			19 37 49.4	
	comp=E,66nm,0.6s							
BLSP				IAML			19 37 50.8	
	comp=N,77nm,0.6s							
HMDM	**Hanimaadhoo**	**12.77**	**178**	Pn	**Pn**		**19 36 09.8**	**-2.7**
BOK	**Bokaro**	**12.87**	**69**	*e*P	Pn		19 36 24.8	+11
BOK				*e*S	**Sn**		**19 38 34.9**	**-2.3**
BOK				IAML			19 39 48.6	
	comp=E,21nm,1.1s							
BOK				IAML			19 39 51.6	
	comp=N,38nm,1.3s							
WSAR	**Wadi Sarin**	**13.67**	**288**	Pn	**Pn**		**19 36 25.6**	**+0.8**
	baz=107,slow=19,SNR=1.3							
NIL	**Nilore**	**13.99**	**2**	Pn	**Pn**		**19 36 26.3**	**-2.9**
PALK	**Pallekele**	**14.47**	**147**	Pn	**Pn**		**19 36 36.0**	**+0.1**
PALK					**P**		**19 36 42.8**	**+0.1**
PALK					**Sn**		**19 39 15.5**	**-1.0**
PALK	**Pallekele**	**14.47**	**147**	Pn	**Pn**		**19 36 37.2**	**+1.4**
	comp=N,0.6nm,0.3s,baz=340,slow=14,SNR=4.2							
PALK				Sn	**Sn**		**19 39 11.7**	**-4.8**
	comp=N,1.1nm,0.3s,baz=13,slow=3.3,SNR=6.0							
PALK				Lg	Lg		19 40 49.6	
	comp=N,2.1nm,0.3s,baz=68,slow=19,SNR=4.1							
SIMJ	**Simiganj**	**19.26**	**351**		**P**		**19 37 35.2**	**-0.5**
GAR	**Garm**	**19.44**	**354**	P	**Pn**		**19 37 37.6**	**-1.2**
GAR				IAmb	IAmb		19 38 07.2	
	comp=Z,5.3nm,0.8s							
LSA	**Lhasa**	**19.45**	**55**		**P**		**19 37 38.2**	**0.0**
KSH	**Kashi**	**20.03**	**7**	P	**P**		**19 37 40.8**	**-3.2**
KSH				pmax	pmax			
	comp=Z,4.0nm,1.1s							
BTK	**Batken**	**20.45**	**356**		**P**		**19 37 48.2**	**-0.3**
BTK				IAmb	IAmb		19 37 51.0	
	comp=Z,9.7nm,1.0s							
KK31	**Karatay Array**	**23.50**	**356**		**P**		**19 38 18.1**	**-2.8**
KK31				IAmb	IAmb		19 38 27.7	
	comp=Z,3.1nm,0.8s							
KKAR	**Karatay Array**	**23.50**	**356**		**P**		**19 38 18.9**	**-2.0**
CHTO	**Chiang Mai**	**24.70**	**87**	P	**P**		**19 38 33.9**	**+1.5**
CHTO				IAmb	IAmb		19 38 35.3	
	comp=Z,3.1nm,0.9s							
CMAR	**Chiang Mai Arr**	**24.74**	**88**		**P**		**19 38 33.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**24.74**	**88**	P	**P**		**19 38 34.7**	**+2.0**
	comp=Z,2.2nm,0.8s,baz=280,slow=8.7,SNR=18							
	comp=Z,2.2nm,0.8s							
LHMI	**Lhok Sumawe**	**27.52**	**118**	P	**P**		**19 38 57.9**	**0.0**
KURK	**Kurchatov**	**31.38**	**7**	P	**P**		**19 39 30.7**	**-1.0**
KURK				IAmb	IAmb		19 39 58.5	
	comp=Z,2.5nm,1.2s							
ZALV	**Zalesovo Beam**	**35.50**	**12**	P	**P**		**19 40 07.5**	**-0.1**
ZALV	**Zalesovo Beam**	**35.50**	**12**	P	**P**		**19 40 07.6**	**0.0**
	comp=Z,0.4nm,0.5s,baz=202,slow=6.2,SNR=2.1							
	comp=Z,0.4nm,0.5s							
SONM	**Songino Array**	**39.15**	**36**	P	**P**		**19 40 38.9**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=234,slow=8.8,SNR=3.3							
	comp=Z,0.8nm,0.7s							
ROCAM	**Rodrigues Isla**	**40.20**	**194**	P	**P**		**19 40 46.2**	**-1.4**
AKASG	**Malin Array Be**	**46.22**	**323**	P	**P**		**19 41 36.9**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=117,slow=5.8,SNR=2.2							
	comp=Z,0.2nm,0.4s							
KSRS	**Korea Array**	**50.88**	**57**	P	**P**		**19 42 11.6**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=260,slow=6.6,SNR=2.4							
	comp=Z,0.5nm,0.6s							
BNX	**BinXian**	**51.65**	**47**	⇑P	**P**		**19 42 18.8**	**+1.0**
BNX				pmax	pmax			
	comp=Z,4.0nm,3.2s							
CLL	**Collm**	**56.12**	**319**	*e*P	**P**		**19 42 47.0**	**-3.3**
TORD	**Torodi Ar. Bea**	**68.10**	**277**	P	**P**		**19 44 14.0**	**+2.6**
	comp=Z,0.4nm,0.6s,baz=71,slow=5.5,SNR=2.0							
	comp=Z,0.4nm,0.6s							
WRA	**Warramunga Arr**	**71.98**	**120**	P	**P**		**19 44 38.2**	**+3.1**
	comp=Z,1.5nm,1.1s,baz=308,slow=5.7,SNR=6.5							
	comp=Z,1.5nm,1.1s							
ASAR	**Alice Springs**	**73.48**	**123**	P	**P**		**19 44 46.6**	**+2.6**
	comp=Z,0.7nm,0.4s,baz=303,slow=5.7,SNR=21							
	comp=Z,0.7nm,0.4s							

*JMA **24** 19:40:20.8±0.9, 46°N±4°×150°0E±°, h30km, MV4.6/14, KURILE ISLANDS REGION*
*SKHL **24** 19:40:20.6±0.8, 45°40N×150°10E, h102km±2km, mb5.1/4, msha6.1/4*
*MOS **24** 19:40:22.0±1.2, 45°54N×149°85E, h107km, mb4.1/5, Error ellipse: s-maj=11.7km s-min=7.9km az=51.5*
*IDC **24** 19:40:25.1±2.5, 45°75N×149°68E, h121km±23km, mb3.2/12, mbtmp3.6/15, Error ellipse: s-maj=20.5km s-min=14.3km az=131.0*
ISC 24 19:40:22.2±0.6, 45°44N±0°06×149°94E±0°07, h100km, n71, σ1§89/78, mb3.6/16, 5C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KUR	**Kuril'sk**	**1.48**	**263**	*c i*P	**Pn**		**19 40 46.9**	**-1.2**
KUR				*e*S	**Sn**		**19 41 07.0**	**-0.8**
KUR				pmax	pmax			
	comp=N,92nm,0.2s							
KUR				pmax	pmax			
	comp=E,144nm,0.2s							
KUR				pmax	pmax			
	comp=Z,659nm,0.2s							
KUR				smax	smax			
	comp=E,5µm,1.4s							
KUR				smax	smax			
	comp=N,3µm,2.1s							
KUR				smax	smax			
	comp=E,2µm,0.3s							
KUR				smax	smax			
	comp=N,2µm,0.2s							
KUR	**Kuril'sk**	**1.48**	**263**	*i* P	**Pn**		**19 40 47.8**	**-0.3**
KUR				AMB	AMB		19 40 48.1	
	comp=N,460nm,0.2s							
KUR				*i* S	**Sn**		**19 41 08.1**	**+0.3**
KUR				A	A		19 41 08.9	
	comp=N,3µm,0.3s							
KUR				A	A		19 41 08.9	
	comp=N,2µm,0.3s							
SHO	**Shikotan**	**2.72**	**236**	*e*PN	**Pn**		**19 41 05.8**	**+1.6**
SHO				*e*S	**Sn**		**19 41 38.5**	**+2.1**
SHO				pmax	pmax			
	comp=Z,76nm,0.4s							
SHO				pmax	pmax			
	comp=N,35nm,0.2s							
SHO				pmax	pmax			
	comp=E,33nm,0.2s							
SHO				smax	smax			
	comp=N,279nm,0.2s							
SHO				smax	smax			
	comp=E,600nm,0.2s							
SHO	**Shikotan**	**2.72**	**236**	*e*P	**Pn**		**19 41 04.2**	**0.0**
SHO				AMB	AMB		19 41 09.1	
	comp=E,30nm,0.3s							
SHO				*e*S	**Sn**		**19 41 37.5**	**+1.1**
SHO				A	A		19 41 46.0	
	comp=E,420nm,0.3s							
SHO				A	A		19 41 46.0	
	comp=E,440nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**3.23**	**246**	*e*PN	**Pn**		**19 41 13.5**	**+2.6**
YUK				*e*S	**Sn**		**19 41 53.6**	**+5.0**
YUK				pmax	pmax			
	comp=Z,219nm,0.1s							
YUK				pmax	pmax			
	comp=N,50nm,0.2s							
YUK				smax	smax			
	comp=N,609nm,0.3s							
YUK				smax	smax			
	comp=E,882nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**3.23**	**246**	*e*P	**Pn**		**19 41 11.8**	**+0.9**
YUK				AMB	AMB		19 41 15.5	
	comp=E,130nm,0.2s							
YUK				*e*S	**Sn**		**19 41 49.6**	**+1.0**
YUK				A	A		19 41 58.1	
	comp=E,1µm,0.7s							
YUK				A	A		19 41 58.1	
	comp=E,1µm,0.7s							
GLVR	**Golovnino**	**3.58**	**243**	*e*PN	**Pn**		**19 41 16.7**	**+0.9**
GLVR				pmax	pmax			
	comp=Z,136nm,0.4s							
GLVR				pmax	pmax			
	comp=N,24nm,0.2s							
GLVR				pmax	pmax			
	comp=E,85nm,0.4s							
GLVR	**Golovnino**	**3.58**	**243**	*e*P	**Pn**		**19 41 16.7**	**+0.9**
GLVR				AMB	AMB		19 41 21.2	
	comp=E,140nm,0.4s							
GLVR				*i* S	**Sn**		**19 42 02.7**	**+5.5**
GLVR				A	A		19 42 11.0	
	comp=E,630nm,0.2s							
GLVR				A	A		19 42 11.0	
	comp=E,930nm,0.2s							
RUSJ	**Misakicho**	**3.60**	**250**	*e*PN	**Pn**		**19 41 17.3**	**+1.4**
NEM2	**Nemuro 2**	**3.65**	**237**	P	**Pn**		**19 41 16.4**	**-0.3**
NEM2				*e*S	**Sn**		**19 41 56.7**	**-2.1**
NMR	**Nemuro--Hokkai**	**3.66**	**237**	*e*PN	**Pn**		**19 41 16.3**	**-0.4**
NMR				*e*S	**Sn**		**19 41 58.4**	**-0.5**
NMR	**Nemuro--Hokkai**	**3.66**	**237**	*e*P	**Pn**		**19 41 16.5**	**-0.2**
NMR				*e*S	**Sn**		**19 41 58.4**	**-0.5**
JRA	**Rausu**	**3.75**	**248**	*e*P	**Pn**		**19 41 19.2**	**+1.2**
AKK	**Akkeshi**	**4.39**	**238**	*e*P	**Pn**		**19 41 26.2**	**-0.4**
JAK	**Akkeshi**	**4.49**	**239**	*e*P	**Pn**		**19 41 27.6**	**-0.4**
JAK				*e*S	**Sn**		**19 42 17.1**	**-1.9**
JTKR	**Abashiri--Toko**	**4.54**	**253**	*e*P	**Pn**		**19 41 30.2**	**+1.5**
JAR	**Ashorobuto**	**4.91**	**246**	*e*P	**Pn**		**19 41 35.4**	**+1.7**
JAR				*e*S	**Sn**		**19 42 31.3**	**+1.9**
JOB	**Onbets**	**5.07**	**242**	*e*P	**Pn**		**19 41 36.3**	**+0.5**
JOB				*e*S	**Sn**		**19 42 32.8**	**-0.3**
YSS	**Yuzhno-Sakhali**	**5.21**	**289**	*e*PN	**Pn**		**19 41 37.7**	**0.0**
YSS				*e*S	**Sn**		**19 42 36.0**	**-0.5**
YSS				pmax	pmax			
	comp=Z,20nm,1.0s							
YSS				smax	smax			
	comp=E,30nm,1.1s							
YSS	**Yuzhno-Sakhali**	**5.21**	**289**	*e*P	**Pn**		**19 41 38.2**	**+0.5**
ASAJ	**Asahikawa**	**5.39**	**258**	P	**Pn**		**19 41 41.9**	**+1.7**
	comp=E,5.4nm,0.5s,baz=166,slow=33,SNR=14							
JCH	**Churui**	**5.52**	**242**	*e*P	**Pn**		**19 41 41.3**	**-0.6**
JCH				*e*S	**Sn**		**19 42 41.4**	**-2.6**
ERM	**Erimo**	**5.99**	**238**	*i* PN	**Pn**		**19 41 49.7**	**+1.4**
JNBK	**Urakawa-nobuka**	**6.08**	**241**	*e*P	**Pn**		**19 41 48.5**	**-1.0**
SKR	**Severo-Kuril's**	**6.68**	**36**	*e*P	**Pn**		**19 41 56.3**	**-1.4**
TYV	**Tymovskoe**	**7.29**	**321**	*e*P	**Pn**		**19 42 05.7**	**-0.2**
JANG	**Nango**	**7.99**	**234**	*e*P	**Pn**		**19 42 12.8**	**-2.8**
JANG				*e*S	**Sn**		**19 43 36.3**	**-7.9**
PETK	**Petropavlovsk-**	**9.20**	**31**	P	**Pn**		**19 42 30.9**	**-0.9**
	comp=E,3.0nm,0.8s,baz=206,slow=19,SNR=4.2							
NKL	**Nikolayevsk**	**9.80**	**325**	*e*P	**Pn**		**19 42 40.2**	**+0.2**
USA0B	**Ussuriysk Arra**	**12.81**	**271**	⇑*i*PN	**Pn**		**19 43 19.6**	**-0.8**
MSHR	**Mys Shultsa**	**13.81**	**265**	⇑*i*P	**Pn**		**19 43 31.8**	**-1.8**
MSHR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
MA2	**Magadan**	**14.17**	**2**	*i* P	**Pn**		**19 43 37.8**	**-0.3**
BNX	**BinXian**	**15.77**	**279**	⇑P	**Pn**		**19 43 56.1**	**-2.4**
BNX				pmax	pmax			
	comp=Z,6.0nm,2.1s							
SEY	**Seymchan**	**17.59**	**4**	⇑*i*P	**Pn**		**19 44 21.4**	**+0.8**
SEY				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KSRS	**Korea Array**	**18.29**	**252**	P	**Pn**		**19 44 29.1**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=56,slow=12,SNR=6.7							
KSRS	**Korea Array**	**18.29**	**252**	*e*P	**Pn**		**19 44 31.8**	**+2.5**
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.8s							
JCJ	**Chichijima**	**19.33**	**201**	P	**Pn**		**19 44 44.5**	**+2.9**
	comp=Z,0.2nm,0.4s,baz=32,slow=6.7,SNR=4.9							
YAK	**Yakutsk**	**20.34**	**332**	*e*P	Pn		19 44 51.7	-1.3
YAK				*e**PP	pwP		19 45 09.7	-2.9
YAK				*e*S	**S**		**19 48 33.7**	**+1.4**
YAK				*e**SS	sS		19 49 03.8	+0.2
YAK				pmax	pmax			
	comp=Z,28nm,1.2s

ILAR	**Eielson Array**	**38.94**	**37**	P		**P**	**19 47 37.6**	**-0.3**	
	comp=Z,0.2nm,0.6s,baz=270,slow=7.7,SNR=4.1								
	comp=Z,0.2nm,0.6s								
ILAR	**Eielson Array**	**38.94**	**37**	*e*P		**P**	**19 47 38.7**	**+0.8**	
MKAR	**Makanchi Array**	**45.58**	**297**	P		**P**	**19 48 31.7**	**-0.3**	
	comp=Z,0.2nm,0.6s,baz=79,slow=7.5,SNR=2.2								
MKAR				PcP		**PcP**	**19 50 08.5**	**-0.3**	
	comp=Z,0.3nm,0.6s,baz=83,slow=3.3,SNR=2.7								
	comp=Z,0.2nm,0.6s								
KURK	**Kurchatov**	**46.25**	**304**	P		**P**	**19 48 35.2**	**-1.9**	
KURBB	**Kurchatov Arra**	**46.34**	**303**	P		**P**	**19 48 35.2**	**-2.7**	
	comp=Z,0.2nm,0.3s,baz=73,slow=8.4,SNR=1.7								
	comp=Z,0.2nm,0.3s								
YKA	**Yellowknife Ar**	**53.28**	**35**	P		**P**	**19 49 30.1**	**-0.2**	
	comp=Z,0.4nm,0.7s,baz=298,slow=7.4,SNR=2.5								
	comp=Z,0.4nm,0.7s								
FINES	**FINESS Array B**	**64.26**	**334**	P		**P**	**19 50 44.3**	**-1.9**	
	comp=Z,1.0nm,0.7s,baz=53,slow=7.4,SNR=11								
	comp=Z,1.0nm,0.7s								
FINES	**FINESS Array B**	**64.26**	**334**	*e*P		**P**	**19 50 43.2**	**-3.0**	
FINES				pmax	pmax				
	comp=Z,1.0nm,0.6s								
NVAR	**Mina Array Bea**	**65.00**	**60**	P		**P**	**19 50 52.6**	**+0.9**	
	comp=Z,0.3nm,0.4s,baz=301,slow=6.1,SNR=2.5								
	comp=Z,0.3nm,0.4s								
WRA	**Warramunga Arr**	**66.60**	**196**	P		**P**	**19 51 02.9**	**+1.2**	
	comp=Z,0.3nm,0.7s,baz=8.8,slow=6.6,SNR=2.0								
	comp=Z,0.3nm,0.7s								
PDAR	**Pinedale Array**	**67.30**	**52**	P		**P**	**19 51 06.9**	**+0.5**	
	comp=Z,0.4nm,0.6s,baz=290,slow=2.9,SNR=4.8								
	comp=Z,0.4nm,0.6s								
NOA	**NORSAR Array B**	**68.72**	**340**	P		**P**	**19 51 12.1**	**-2.6**	
	comp=Z,0.4nm,0.6s,baz=31,slow=6.6,SNR=2.0								
	comp=Z,0.4nm,0.6s								
HFS	**Hagfors**	**68.88**	**338**	P		**P**	**19 51 14.0**	**-1.7**	
	comp=Z,0.6nm,0.6s,baz=46,slow=8.4,SNR=2.1								
	comp=Z,0.6nm,0.6s								
HFS	**Hagfors**	**68.88**	**338**	P		**P**	**19 51 14.0**	**-1.7**	
KIV	**Kislovodsk**	**70.10**	**313**	*e*P		**P**	**19 51 22.8**	**-0.8**	
KIV				pmax	pmax				
	comp=Z,3.0nm,1.0s								
ASAR	**Alice Springs**	**70.31**	**196**	P		**P**	**19 51 26.9**	**+2.1**	
	comp=Z,0.2nm,0.6s,baz=18,slow=5.2,SNR=4.4								
	comp=Z,0.2nm,0.6s								
TXAR	**Lajitas Array**	**80.06**	**58**	P		**P**	**19 52 21.8**	**+0.7**	
	comp=Z,0.7nm,0.5s,baz=294,slow=4.1,SNR=15								
	comp=Z,0.7nm,0.5s								
H03N2	**Juan Fernandez**	**140.96**	**90**	T		T	22 37 06.4		
	baz=306,slow=77,SNR=4.4								
H03N3	**Juan Fernandez**	**140.98**	**90**	T		T	22 36 58.1		
	baz=306,slow=77,SNR=5.0								
H03N1	**Juan Fernandez**	**140.98**	**90**	T		T	22 37 08.1		
	baz=306,slow=77,SNR=4.6								
SNAA	**Sanae**	**150.66**	**197**	PKPbc		**PKPbc**	**20 00 00.2**	**-1.1**	
	comp=Z,0.5nm,0.8s,baz=170,slow=3.1,SNR=1.7								

IDC 24 19:41:15.9±1.8, 9°.41N×40°.48W, h0km, mb4.0/5, mbtmp4.0/5, MS3.3/10, Error ellipse: s-maj=51.5km s-min=34.7km az=98.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.79**	**251**	LR	LR	19 48 20.0	
	comp=Z,109nm,20.8s,baz=80,slow=33						
SJG	**San Juan**	**26.36**	**292**	LR	LR	19 55 15.7	
	comp=Z,53nm,20.9s,baz=144,slow=32						
SDV	**Santo Domingo**	**29.77**	**271**	LR	LR	19 59 12.4	
	comp=Z,31nm,20.9s,baz=73,slow=36						
H10N3	**ASCENSION HYDR**	**31.04**	**123**	T	T	20 20 25.3	
	baz=302						
H10N2	**ASCENSION HYDR**	**31.04**	**123**	T	T	20 20 24.6	
	baz=302						
H10N1	**ASCENSION HYDR**	**31.06**	**123**	T	T	20 20 24.2	
	baz=302						
ROSC	**El Rosal**	**33.87**	**265**	LR	LR	20 02 12.0	
	comp=Z,104nm,18.2s,baz=62,slow=37						
DBIC	**Dimbokro**	**35.37**	**92**	P	P	19 48 14.3	+0.7
	2.6nm,0.8s,baz=291,slow=8.6,SNR=2.0						
	2.6nm,0.8s						
LPAZ	**La Paz**	**37.42**	**227**	LR	LR	20 03 09.3	
	comp=Z,42nm,18.8s,baz=58,slow=35						
ATAH	**Atahualpa**	**41.19**	**248**	LR	LR	20 05 40.9	
	comp=Z,36nm,19.2s,baz=73,slow=36						
TORD	**Torodi Ar. Bea**	**41.50**	**81**	P	P	19 49 04.5	-0.7
	1.3nm,0.9s,baz=277,slow=9.5,SNR=6.7						
	1.3nm,0.9s						
CMIG	**Matias Romero**	**53.36**	**284**	LR	LR	20 13 21.9	
	comp=Z,17nm,18.9s,baz=50,slow=36						
DAVOX	**Davos/Dischmat**	**56.60**	**39**	LR	LR	20 11 13.5	
	comp=Z,26nm,20.5s,baz=263,slow=32						
NOA	**NORSAR Array B**	**63.93**	**25**	P	P	19 51 50.6	0.0
	0.9nm,0.9s,baz=250,slow=6.8,SNR=3.3						
NOA				LR	LR	20 14 22.1	
	comp=Z,8.8nm,20.9s,baz=315,slow=31						
	0.9nm,0.9s						
HFS	**Hagfors**	**64.56**	**27**	P	P	19 51 54.9	+0.1
	2.9nm,0.9s,baz=232,slow=11,SNR=6.5						
	2.9nm,0.9s						
BOSA	**Boshof**	**73.79**	**123**	LR	LR	20 17 06.4	
	comp=Z,59nm,20.2s,baz=32,slow=29						
SNAA	**Sanae**	**84.65**	**169**	P	P	19 53 51.1	0.0
	1.6nm,0.8s,baz=329,slow=6.1,SNR=11						
	1.6nm,0.8s						

*NDI **24** 19:45:25.4±2.4, 20°.04N×72°.20E, h4km±15km, ML3.6, MW3.6*
*IDC **24** 19:45:29.1±1.3, 20°.01N×72°.89E, h0km, mb3.5/5, mbtmp3.5/5, MS3.0/1, Error ellipse: s-maj=45.1km s-min=31.3km az=10.0*
ISC 24 19:45:25.9±1.1, 19°.99N±0°.05×72°.37E±0°.09, h10km, n15, σ2s74/21, mb3.6/4, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHV	**Bhavnagar**	**1.76**	**353**	*e*P	**Pn**	**19 45 56.1**	**-0.4**
BHV				*e*S	**Sn**	**19 46 19.0**	**+0.1**
BHV				IAML		19 46 29.9	
	comp=N,795nm,0.4s						
POO	**Poona**	**2.02**	**136**	*e*P	**Pb**	**19 46 02.9**	**+0.2**
POO				IAML		19 46 25.2	
	comp=E,628nm,0.3s						
POO				IAML		19 46 25.9	
	comp=N,570nm,0.2s						
POO				*e*S	**Sb**	**19 46 28.0**	**+0.1**
KAD	**Karad**	**3.18**	**147**	*e*P	**Pn**	**19 46 16.7**	**+0.7**
KAD				*e*S	**Sb**	**19 46 58.6**	**-2.6**
KAD				IAML		19 47 03.2	
	comp=E,403nm,0.2s						
KAD				IAML		19 47 05.0	
	comp=N,251nm,0.5s						
LATR	**Latur**	**4.26**	**111**	*e*P	**Pn**	**19 46 32.8**	**+2.0**
LATR				*e*S	**Sn**	**19 47 21.9**	**+1.3**
LATR				IAML		19 47 28.6	
	comp=N,112nm,0.2s						
LATR				IAML		19 47 36.4	
	comp=E,180nm,0.6s						
AKL	**Akola**	**4.42**	**80**	*e*P	**Pn**	**19 46 36.1**	**+3.1**
AKL				*e*S	**Sn**	**19 47 26.8**	**+2.3**
AKL				IAML		19 47 30.0	
	comp=E,115nm,0.3s						
MNGI	**Mangalore**	**7.39**	**161**	*e*P	**Pn**	**19 47 16.3**	**+2.4**
MNGI				*e*S	**Sn**	**19 48 36.4**	**-1.5**
MNGI				IAML		19 49 21.3	
	comp=N,39nm,0.4s						
MNGI				IAML		19 49 22.2	
	comp=E,48nm,0.1s						
BLSP	**Bilaspur**	**9.36**	**75**	*e*P	**Pn**	**19 47 42.6**	**+1.6**
BLSP				*e*S	**Sn**	**19 49 22.6**	**-3.7**
BLSP				IAML		19 50 06.3	
	comp=E,22nm,0.6s						
BLSP				IAML		19 50 07.9	
	comp=N,19nm,0.8s						
BOK	**Bokaro**	**13.11**	**71**	*e*P	**Pn**	**19 48 34.0**	**+1.8**
BOK				*e*S	**Sn**	**19 50 50.8**	**-7.3**
BOK				IAML		19 52 14.0	
	comp=N,9.4nm,1.6s						
BOK				IAML		19 52 17.8	
	comp=E,2.0nm,0.4s						
PALK	**Pallekele**	**15.01**	**146**	Pn	**Pn**	**19 48 55.2**	**-3.0**
	comp=E,0.3nm,0.3s,baz=348,slow=9.3,SNR=1.9						
PALK				Sn	Sn	19 51 29.4	-15
	comp=E,0.2nm,0.3s,baz=27,slow=14,SNR=1.9						
PALK				Lg	Lg	19 53 05.2	
	comp=E,0.8nm,0.3s,baz=229,slow=21,SNR=2.4						
CMAR	**Chiang Mai Arr**	**25.13**	**89**	P	**P**	**19 50 51.9**	**+0.6**
	comp=E,0.9nm,0.7s,baz=277,slow=8.7,SNR=8.8						
	comp=E,0.9nm,0.7s						
SONM	**Songino Array**	**39.08**	**37**	P	**P**	**19 52 55.2**	**+1.9**
	comp=E,0.5nm,0.7s,baz=222,slow=8.7,SNR=2.6						
	comp=E,0.5nm,0.7s						
NOA	**NORSAR Array B**	**58.82**	**330**	LR	LR	20 23 19.5	
	comp=E,12nm,18.5s,baz=315,slow=38						
TORD	**Torodi Ar. Bea**	**67.67**	**276**	P	P	19 56 31.9	+8.1
	comp=E,0.3nm,0.8s,baz=88,slow=4.9,SNR=1.4						
	comp=E,0.3nm,0.8s						
WRA	**Warramunga Arr**	**72.51**	**119**	P	**P**	**19 56 55.9**	**+2.5**
	comp=E,0.4nm,0.7s,baz=298,slow=6.5,SNR=6.6						
	comp=E,0.4nm,0.7s						
ASAR	**Alice Springs**	**74.02**	**123**	P	**P**	**19 57 04.8**	**+2.5**
	comp=E,0.3nm,0.4s,baz=304,slow=5.7,SNR=10						
	comp=E,0.3nm,0.4s						

IDC 24 19:50:06.8±2.9, 22°.63S×178°.77W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=158.2km s-min=38.9km az=151.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.25**	**247**	P	P	19 57 10.8	-1.0
	1.9nm,0.5s,baz=92,slow=10,SNR=7.8						
	1.9nm,0.5s						
ASAR	**Alice Springs**	**43.37**	**259**	P	P	19 58 11.1	-0.2
	0.7nm,0.4s,baz=92,slow=6.6,SNR=24						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**43.64**	**264**	P	P	19 58 13.9	+0.5
	2.8nm,0.5s,baz=99,slow=8.2,SNR=29						
	2.8nm,0.5s						
BVAR	**Borovoye Array**	**120.23**	**319**	PKP	PKPdf	20 08 58.9	-0.7
	0.2nm,0.3s,baz=111,slow=2.0,SNR=2.1						
HFS	**Hagfors**	**141.52**	**350**	PKP	PKPdf	20 09 37.8	-1.6
	1.5nm,0.4s,baz=23,slow=4.7,SNR=25						
AKASG	**Malin Array Be**	**144.50**	**329**	PKP	PKPdf	20 09 45.4	+0.4
	0.5nm,0.4s,baz=50,slow=3.5,SNR=4.4						
BRTR	**Keskin Array B**	**147.68**	**309**	PKPbc	PKPbc	20 09 53.1	-0.6
	0.6nm,0.6s,baz=65,slow=1.7,SNR=3.7						
MMAI	**Mount Meron Ar**	**148.18**	**296**	PKPbc	PKPbc	20 09 54.6	-0.6
	0.9nm,0.5s,baz=64,slow=3.4,SNR=2.0						

IDC 24 20:04:34.2±6.9, 10°.51N×126°.28E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=171.7km s-min=66.5km az=166.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**27.60**	**290**	P	P	20 10 23.4	-0.1
	0.7nm,0.4s,baz=89,slow=8.8,SNR=7.0						
	0.7nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**39.84**	**74**	T	T	20 55 05.9	
	baz=265,slow=74						
H11S1	**WAKE ISLAND Hy**	**39.85**	**74**	T	T	20 55 06.9	
	baz=265						
H11S2	**WAKE ISLAND Hy**	**39.86**	**74**	T	T	20 55 06.1	
	baz=265,slow=74						
H11N1	**WAKE ISLAND Hy**	**40.17**	**72**	T	T	20 55 30.5	
	baz=266,slow=75						
H11N2	**WAKE ISLAND Hy**	**40.17**	**72**	T	T	20 55 30.3	
	baz=266,slow=75						
H11N3	**WAKE ISLAND Hy**	**40.19**	**72**	T	T	20 55 31.5	
	baz=266,slow=75						
MKAR	**Makanchi Array**	**51.85**	**323**	P	P	20 13 44.6	+0.3
	0.7nm,0.7s,baz=118,slow=9.0,SNR=6.4						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**55.89**	**325**	P	P	20 14 13.4	-0.3
	0.5nm,0.7s,baz=122,slow=7.4,SNR=3.1						
	0.5nm,0.7s						
ARCES	**ARCESS Array B**	**83.98**	**340**	P	P	20 17 06.4	+0.3
	2.0nm,0.9s,baz=68,slow=5.5,SNR=3.8						
	2.0nm,0.9s						
FINES	**FINESS Array B**	**85.69**	**332**	P	P	20 17 14.4	-0.4
	0.3nm,0.3s,baz=72,slow=4.6,SNR=9.5						
	0.3nm,0.3s						

*AUST **24** 20:06:47.1±0.6, 18°.5S×6°.12°.0E±°, h10km, mb4.4/6, ML3.5/4, ML4.2/4, Error ellipse: s-maj=17.9km s-min=5.8km az=136.2*
*NOU **24** 20:06:52.2, 18°.82S×120°.71E, h0km, mb4.2/11, Western Australia*
ISC 24 20:06:46.9±1.6, 18°.3S±0°.1×120°.5E±0°.1, h10km, n30, σ1s62/31, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.73**	**78**	P	**Pb**	**20 07 19.1**	**+0.3**
AUBRM				S	**Sg**	**20 07 44.4**	**+1.9**
PSAC1	**Pilbara Seismi**	**3.25**	**191**	P	**Pn**	**20 07 39.5**	**+1.5**
PSAC1				S	**Sn**	**20 08 16.4**	**-0.5**
PSA00	**Pilbara Seismi**	**3.28**	**190**	P	**Pn**	**20 07 40.0**	**+1.5**
PSA00				S	**Sn**	**20 08 17.5**	**-0.2**
PSA00	**Pilbara Seismi**	**3.28**	**190**	P	**Pn**	**20 07 40.0**	**+1.5**
FITZ	**Fitzroy Crossi**	**4.93**	**88**	P	**Pn**	**20 08 01.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**4.93**	**88**	S	**Sn**	**20 08 55.2**	**-3.1**
FITZ	**Fitzroy Crossi**	**4.93**	**88**	P	**Pn**	**20 08 04.9**	**+3.8**
GIRL	**Giralia**	**7.25**	**233**	P	**Pn**	**20 08 32.9**	**-0.1**
	comp=Z,0.1nmcomp=Z,234µmcomp=Z,31nm,1.2s						
GIRL				S	Sn	20 09 47.7	-7.6
KNRA	**Kununurra**	**8.37**	**73**	P	**Pn**	**20 08 47.9**	**-0.5**
MEEK	**Meekatharra**	**8.45**	**191**	P	**Pn**	**20 08 50.0**	**+0.5**
	comp=Z,0.2nmcomp=Z,18nm,1.1s						
MEEK	**Meekatharra**	**8.45**	**191**	P	**Pn**	**20 08 50.2**	**+0.7**
CVQOZ	**Cooralya Stati**	**8.51**	**223**	P	**Pn**	**20 08 50.1**	**-0.2**
	comp=Z,144nm,1.1s,comp=Z,0.7nm						
WRKA	**Warakurna**	**9.88**	**134**	P	**Pn**	**20 09 09.9**	**+0.7**
MORW	**Morawa**	**11.43**	**200**	P	**Pn**	**20 09 29.1**	**-1.3**
	comp=Z,17nm,1.8s						
MORW	**Morawa**	**11.43**	**200**	P	**Pn**	**20 09 31.8**	**+1.4**
BLDU	**Ballidu**	**12.70**	**195**	P	**Pn**	**20 09 46.3**	**-1.4**
	comp=Z,38nm,2.1s						
BLDU	**Ballidu**	**12.70**	**195**	P	**Pn**	**20 09 47.7**	**0.0**
KDU	**Kakadu**	**12.86**	**66**	P	**Pn**	**20 09 49.3**	**-0.7**
	comp=Z,14nm,1.0s						
KDU	**Kakadu**	**12.86**	**66**	P	Pn	20 09 56.2	+6.3
KMBL	**Kambalda**	**13.05**	**175**	P	Pn	20 09 43.5	-9.1
KLBR	**Kellerberrin**	**13.44**	**190**	P	**Pn**	**20 09 57.1**	**-0.6**
KLBR	**Kellerberrin**	**13.44**	**190**	P	**Pn**	**20 09 57.4**	**-0.3**
AS01	**Alice Springs**	**13.67**	**115**	P	**Pn**	**20 10 01.4**	**+0.3**
MUN	**Mundaring**	**14.13**	**195**	P	**Pn**	**20 10 05.3**	**-1.9**
MUN	**Mundaring**	**14.13**	**195**	P	**Pn**	**20 10 07.1**	**-0.1**
FORT	**Forrest**	**14.19**	**152**	P	**Pn**	**20 10 05.7**	**-2.3**
NWAO	**Narrogin (SRO)**	**14.83**	**191**	P	**Pn**	**20 10 12.6**	**-4.2**
MULG	**Mulgathing**	**17.17**	**136**	P	**Pn**	**20 10 46.8**	**-0.2**
QIS	**Mount Isa**	**18.20**	**100**	P	**P**	**20 11 02.1**	**+2.0**
BBOO	**Buckleboo**	**20.12**	**139**	P	**Pn**	**20 11 22.4**	**-0.5**

*IDC **24** 20:29:21.1±1.5, 34°.34N×24°.14E, h0km, mb3.6/7, mbtmp3.5/10, ML3.2/3, Error ellipse: s-maj=28.4km s-min=26.7km az=171.0*
*ATH **24** 20:29:24.3, 34°.15N×24°.19E, h13km±4km, ML3.2/4, Manual Solution by M.Kolligri First location: 2019/07/24 20:31:09, This location: 2020/07/04 22:11:57 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 4 km*
*THE **24** 20:29:30.8, 35°.N±22°.×2°.4E±°, h6km±11km, MLh3.1/3*
ISC 24 20:29:21.8±0.9, 34°.08N±0°.06×24°.21E±0°.06, h10km, n23, σ2s19/28, mb3.6/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.77**	**353**	P	**Pg**	**20 29 37.3**	**+0.7**
GVD				S	**Sg**	**20 29 42.4**	**-4.2**
GVD	**Gavdhos**	**0.77**	**353**	P	**Pg**	**20 29 37.4**	**+0.9**
GVD				S	**Sg**	**20 29 47.2**	**+0.7**
KNDR	**Palaiochora Ch**	**1.23**	**340**	P	**Pb**	**20 29 45.8**	**+0.7**
IDI	**Anoyia**	**1.33**	**25**	P	**Pg**	**20 29 51.0**	**+3.6**
IDI				S	**Sg**	**20 30 05.4**	**+0.7**
IDI	**Anoyia**	**1.33**	**25**	P	**Pn**	**20 29 46.5**	**0.0**
IDI				S	**Sb**	**20 30 04.5**	**+0.4**
IACM	**Heraklion**	**1.42**	**30**	P	**Pg**	**20 29 52.8**	**+3.8**
IACM	**Heraklion**	**1.42**	**30**	P	**Pn**	**20 29 49.1**	**+1.6**
CHAN	**Chania**	**1.45**	**355**	P	**Pn**	**20 29 49.7**	**+1.7**
ANKY	**Antikythira Is**	**1.93**	**338**	P	**Pn**	**20 29 56.0**	**+1.3**
KARP	**Karpathos**	**2.84**	**58**	P	**Pn**	**20 30 09.2**	**+2.0**
MET5	**Makryloggos,Me**	**3.60**	**349**	P	**Pn**	**20 30 17.9**	**+0.2**
VLX	**Vlachokerasia**	**3.61**	**336**	P	**Pn**	**20 30 18.6**	**+0.8**
ITM	**Ithomi**	**3.61**	**330**	P	**Pn**	**20 30 18.9**	**+1.1**
MMAI	**Mount Meron Ar**	**9.40**	**93**	Pn	**Pn**	**20 31 36.8**	**-0.6**
	1.3nm,0.3s,baz=266,slow=14,SNR=5.8						
MMAI				Sn	**Sn**	**20 33 17.9**	**-5.3**
	1.0nm,0.3s,baz=269,slow=23,SNR=1.8						
	1.0nm,0.4s						
GERES	**GERESS Array B**	**16.70**	**335**	Pn	**Pn**	**20 33 17.1**	**+1.3**
	baz=161,slow=10,SNR=1.7						
	0.2nm,0.4s						
AKASG	**Malin Array Be**	**17.01**	**11**	Pn	**Pn**	**20 33 17.5**	**-2.2**
	0.7nm,0.3s,baz=203,slow=9.9,SNR=4.4						
	0.2nm,0.3s						
HFS	**Hagfors**	**26.96**	**348**	P	**P**	**20 35 00.4**	**-2.8**
	0.7nm,0.5s,baz=153,slow=9.7,SNR=5.8						
	0.7nm,0.5s						
NOA	**NORSAR Array B**	**28.26**	**347**	P	**P**	**20 35 12.3**	**-2.5**
	0.3nm,0.6s,baz=143,slow=10,SNR=2.2						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.19**	**230**	P	**P**	**20 35 25.9**	**+2.3**
	0.5nm,0.9s,baz=43,slow=9.9,SNR=2.3						
	0.5nm,0.9s						
ARCES	**ARCESS Array B**	**35.52**	**1**	P	**P**	**20 36 16.8**	**-1.6**
	1.1nm,0.9s,baz=187,slow=8.9,SNR=1.7						
	1.1nm,0.9s						
MKAR	**Makanchi Array**	**45.03**	**56**	P	**P**	**20 37 38.7**	**+1.2**
	0.3nm,0.5s,baz=265,slow=7.7,SNR=6.5						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**46.32**	**45**	P	**P**	**20 37 47.0**	**-0.6**
	0.3nm,0.3s,baz=269,slow=6.6,SNR=2.2						
	0.3nm,0.3s						
SONM	**Songino Array**	**60.78**	**50**	P	**P**	**20 39 34.2**	**+0.2**
	0.3nm,0.5s,baz=273,slow=11,SNR=2.5						
	0.3nm,0.5s						

GCG 24 20:38:17.0±0.4, 14°.32N×91°.49W, h62km±3km, ML3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	**0.16**	**43**	*i* P	Pn	20 38 28.8	+2.1
STG2				*i* S	Sn	20 38 38.5	+4.8
STG0	**El Palmar, Qui**	**0.18**	**53**	*i* P	Pn	20 38 28.8	+2.0
STG0				*i* S	Sn	20 38 38.0	+4.1
STG0				IAML		20 38 40.6	
	comp=N,4µm,0.2s						
STG8	**El Palmar, Qui**	**0.19**	**45**	*i* P	Pn	20 38 29.3	+2.4
STG8				*i* S	Sn	20 38 38.9	+4.8
STG8				IAML		20 38 40.4	
	comp=E,2µm,0.2s						
ESSG	**Sabana Grande**	**0.64**	**84**	*i* P	Pn	20 38 30.5	-0.2
ESSG				*i* S	Sn	20 38 41.6	+0.7
ESSG				IAML		20 38 42.3	
	comp=N,614nm,0.3s						
SMCA	**Catarina**	**0.78**	**313**	*i* P	Pn	20 38 32.5	+0.1
SMCA				*i* S	Sn	20 38 44.0	+0.4
SMCA				IAML		20 38 44.7	
	comp=N,408nm,0.6s						
FG8	**Yepocapa, Chim**	**0.90**	**94**	*i* P	Pn	20 38 30.2	-3.8
FG8				*i* S	Sn	20 38 40.6	-5.9
FG16	**Alotenango, Sa**	**0.95**	**93**	*i* P	Pn	20 38 31.3	-3.4
FG16				*i* S	Sn	20 38 42.8	-5.0
FG16				IAML		20 38 44.6	
	comp=N,5µm,0.4s						

*SDD **24** 20:50:21.2±0.9, 17°.97N×71°.40W, h28km±5km, MD2.7, ML1.8, MW2.6*
*OSPL **24** 20:50:21.9±0.9, 18°.17N×71°.46W, h37km±9km, ML2.1*
ISC 24 20:50:23.1±1.1, 18°.10N±0°.03×71°.49W±0°.07, h12km±10km, n8, σ1s12/15, 2C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PODR	**Polo**	**0.21**	**72**	*e*Pg	**Pg**	**20 50 27.4**	**-0.4**
PODR				*e*Sg	**Sg**	**20 50 31.8**	**+0.8**
PODR				IAML		20 50 34.3	
	comp=N,189nm,0.2s						
PODR				IAML		20 50 34.5	
	comp=E,268nm,0.2s						
PODR	**Polo**	**0.21**	**72**	*i* P	**Pg**	**20 50 27.3**	**-0.4**
PODR				*e*S	**Sg**	**20 50 31.2**	**+0.2**
LODU1	**El Espartillar**	**0.25**	**4**	*i* P	**Pg**	**20 50 28.2**	**-0.2**
LODU1				*e*S	**Sb**	**20 50 33.0**	**-1.0**
LODU1				IAML		20 50 33.4	
	comp=Z,463nm,0.3s						
LOBH	**Bahia de las A**	**0.28**	**211**	*i* P	**Pb**	**20 50 29.8**	**-0.2**
LOBH				*e*S	**Sb**	**20 50 35.4**	**+0.8**
LOBH				IAML		20 50 36.1	
	comp=Z,62nm,0.2s						
LOVI	**El Cajuil, Ovi**	**0.32**	**159**	*i* P	**Pb**	**20 50 30.2**	**-0.6**
LOVI				*e*S	**Sb**	**20 50 36.4**	**+0.4**
LOVI				IAML		20 50 37.5	
	comp=Z,129nm,1.4s						
JIDR	**Jimani**	**0.52**	**319**	*e*Sg	**Sb**	**20 50 42.8**	**+1.2**
JIDR				IAML		20 50 46.3	
	comp=E,73nm,0.6s						
JIDR				IAML		20 50 46.3	
	comp=N,45nm,0.4s						
SDDR	**Presa de Saban**	**0.90**	**12**	*e*Pg	**Pg**	**20 50 38.0**	**-2.4**
SDDR				*e*S	**Sg**	**20 50 51.2**	**-1.0**
SDDR				IAML		20 51 04.5	
	comp=N,14nm,2.8s						
REDR	**Restauracion**	**1.06**	**5**	*e*Pg	**Pb**	**20 50 43.8**	**+0.3**
REDR				*e*Sg	**Sn**	**20 51 00.0**	**+1.4**
REDR				IAML		20 51 01.0	
	comp=E,9.8nm,0.3s						
REDR				IAML		20 51 09.9	
	comp=N,9.0nm,1.1s						

*IDC **24** 21:03:21.2±0.9, 37°.28N×35°.89E, h0km, mb3.7/10

comp=N,2µm,0.3s
DED Mersin 1.01 252 P **Pg** **21 03 41.1 -0.8**
RHAN Hatay/Reyhanl 1.13 154 P **Pb** **21 03 43.0 -1.2**
RHAN S **Sb** **21 03 58.4 -0.6**
RHAN *i* IAML 21 04 00.0
comp=N,3µm,0.4s
SARI SarD1z-Kayseri 1.17 17 Pn **Pb** **21 03 44.1 -0.8**
NIDE Nigde/Merkez-G 1.20 307 P **Pb** **21 03 45.2 -0.3**
MERS Mersin 1.25 251 Pn **Pn** **21 03 45.4 -0.7**
GZT Gaziantep 1.25 86 P **Pn** **21 03 46.0 -0.2**
GZT S **Sb** **21 04 02.5 -0.1**
GZT *i* IAML 21 04 06.0
comp=N,3µm,0.3s
GZT *i* IAML 21 04 06.0
comp=E,3µm,0.3s
NZIP Nizip/Gaziante 1.36 100 P **Pn** **21 03 47.5 -0.2**
NZIP S **Sb** **21 04 04.3 -1.4**
NZIP *i* IAML 21 04 07.0
comp=N,3µm,0.5s
NIG Nigde 1.37 307 Pn **Pn** **21 03 46.9 -1.1**
AKCA Adyaman/G¶l 1.44 69 P **Pg** **21 03 49.8 -0.3**
AKCA S **Sg** **21 04 09.5 +0.8**
AKCA *i* IAML 21 04 12.0
comp=E,6µm,0.7s
KERG Konya-Eregli 1.50 276 P **Pn** **21 03 48.9 -0.7**
BNN Bunyan 1.57 356 **Pn** **21 03 51.0 +0.4**
BNN Sg **Sg** **21 04 12.3 -0.6**
BSIR Belisirma, Guz 1.67 307 P **Pb** **21 03 52.8 -0.6**
KIZK Mersin 1.69 242 Pn **Pn** **21 03 51.5 -0.6**
KIZK Mersin 1.69 242 P **Pn** **21 03 50.9 -1.2**
CUGUR Gurin_SVAS 1.75 35 P **Pb** **21 03 55.3 +0.4**
AVNS Nevsehir-Avano 1.77 330 P **Pn** **21 03 53.6 +0.3**
AKCD Akcadag 1.83 56 P **Pg** **21 03 57.9 +0.4**
AKCD S **Sb** **21 04 19.4 +0.2**
AKCD *i* IAML 21 04 26.0
comp=N,2µm,0.5s
ATAB Bozova 1.84 84 P **Pg** **21 03 57.8 +0.1**
ATAB S **Sg** **21 04 20.5 -1.1**
ATAB *i* IAML 21 04 23.0
comp=N,3µm,0.6s
ATAB *i* IAML 21 04 23.0
comp=E,5µm,0.5s
AZEY Adyaman-Merk 1.87 73 P **Pg** **21 03 59.7 +1.5**
SLFK Silifke-Mersin 1.87 242 Pn **Pn** **21 03 54.2 -0.4**
SILI Silifke-Mersin 1.90 242 Pn **Pn** **21 03 54.7 -0.3**
KEBE Keben-Mersin 2.01 246 Pn **Pn** **21 03 56.5 -0.1**
CUAYA Sivas-Altinyay 2.06 16 P **Pn** **21 03 58.6 +1.2**
IKL Isikli 2.13 241 Pn **Pn** **21 03 57.8 -0.3**
KARG Kargicak-Mersi 2.13 240 Pn **Pn** **21 03 58.1 -0.1**
SURC SANLIURFA_SURC 2.13 100 P **Pn** **21 04 02.7 -0.6**
TISA Tisan-Mersin 2.17 240 Pn **Pn** **21 03 58.6 -0.1**
YESI Yesilovacik-Me 2.18 241 Pn **Pn** **21 03 57.8 -1.0**
MAYA Malatya/Merkez 2.19 61 P **Pg** **21 04 03.4 -0.9**
MCUR KIREHR 2.20 329 P **Pn** **21 04 00.2 +1.0**
TEVE Tevekalti-Mers 2.21 248 Pn **Pn** **21 03 59.5 +0.1**
HEKM Malatya_Hekimh 2.22 44 P **Pg** **21 04 04.0 -1.0**
AKK1 Akkuyu-Mersin 2.28 241 Pn **Pn** **21 04 00.1 -0.1**
SANL SANLIURFA_Merk 2.39 92 P **Pb** **21 04 05.7 +0.1**
SANL S **Sg** **21 04 38.2 -1.1**
SANL *i* IAML 21 04 43.0
comp=N,1µm,0.5s
HACI Hacifakili, Ak 2.42 355 P **Pn** **21 04 02.4 +0.1**
ARPR Arapgir-MALATY 2.58 45 **Pn** **21 04 05.5 +1.0**
BEIL Beino 2.74 177 *e*P **Pn** **21 04 06.7 +0.1**
BEIL *e*S **Sn** **21 04 39.4 -0.4**
HWQ Hawqa 3.00 181 *e*P **Pn** **21 04 10.5 +0.2**
HWQ *e*S **Sn** **21 04 46.6 +0.2**
FKH Fakeheh 3.05 174 *e*P **Pn** **21 04 10.7 -0.2**
TOKA Tokat 3.06 7 **Pn** **21 04 11.8 +0.8**
BR131 Keskin Array S 3.06 324 **Pn** **21 04 12.3 +1.2**
BRTR Keskin Array B 3.06 324 **Pn** **21 04 12.3 +1.2**
BRTR Keskin Array B 3.06 324 Pn **Pn** **21 04 12.6 +1.5**
2.8nm,0.3s,baz=151,slow=14,SNR=81
BRTR Lg Lg 21 04 57.3
2.4nm,0.3s,baz=160,slow=29,SNR=5.4
BRTR LR LR 21 05 32.3
comp=Z,143nm,18.0s,baz=146,slow=44
20nm,0.8s
CSS Mathiatis 3.17 224 **Pn** **21 04 12.0 -0.4**
CSS Mathiatis 3.17 224 P **Pn** **21 04 10.1 -2.3**
BHL Bhannes 3.38 185 *e*P **Pn** **21 04 15.8 +0.3**
ZAHL Zahle 3.42 182 *e*P **Pn** **21 04 16.5 +0.4**
DQRL Deir Qamar 3.59 186 *e*P **Pn** **21 04 18.3 0.0**
ANTO Ankara 3.60 317 **Pn** **21 04 18.2 -0.2**
QRWL Qaraoun 3.74 184 *e*P **Pn** **21 04 20.7 +0.3**
RCY Rachaya 3.78 182 *e*P **Pn** **21 04 21.1 +0.1**
SHBL Chebaa 3.93 183 *e*P **Pn** **21 04 23.8 +0.7**
NATI Neve Ativ 4.02 183 S **Sn** **21 05 12.2 +0.9**
NATI Neve Ativ 4.02 183 P **Pn** **21 04 24.5 +0.4**
GEM Giv'at Ha'Em 4.07 184 S **Sn** **21 05 13.0 +0.3**
GEM Giv'at Ha'Em 4.07 184 P **Pn** **21 04 24.8 -0.1**
ILGA Ilgaz 4.16 335 **Pn** **21 04 28.0 +1.7**
MMC7 Mount Meron ar 4.28 187 P **Pn** **21 04 28.2 +0.4**
MMA0B Mount Meron ar 4.29 187 S **Sn** **21 05 17.8 -0.2**
MA0B Mount Meron ar 4.29 187 P **Pn** **21 04 29.4 +0.5**
MMAI Mount Meron Ar 4.29 187 **Pn** **21 04 27.4 -0.5**
4.4nm,0.2s,baz=12,slow=13,SNR=61
MMAI Sn **Sn** **21 05 15.3 -2.8**
22nm,0.3s,baz=4.3,slow=22,SNR=9.8
ISP Isparta 4.38 279 P **Pn** **21 04 25.7 -3.5**
KOPT Kop Dagi 4.46 51 **Pn** **21 04 30.3 -0.1**
BLGI Bet Lehem HaGe 4.59 188 S **Sn** **21 05 25.3 -0.1**
BLGI Bet Lehem HaGe 4.59 188 P **Pn** **21 04 32.6 +0.6**
OFRI `Ofer 4.73 190 S **Sn** **21 05 28.0 -0.8**
OFRI `Ofer 4.73 190 P **Pn** **21 04 33.4 -0.5**
MMLI Mount Malkishu 4.86 186 S **Sn** **21 05 32.0 -0.1**
MMLI Mount Malkishu 4.86 186 P **Pn** **21 04 36.3 +0.6**
ELL Elmali 4.90 266 Pn **Pn** **21 04 36.9 +0.6**
BZK Bozkurt 4.92 342 Pn **Pn** **21 04 37.0 +0.6**
GURO Guroymak-BITLI 4.94 73 Pn **Pn** **21 04 36.4 -0.5**
HMDT Nahal Hemdat 5.04 185 S **Sn** **21 05 37.0 +0.6**
HMDT Nahal Hemdat 5.04 185 P **Pn** **21 04 38.9 +0.8**
SLTI Sal'it 5.09 189 S **Sn** **21 05 37.4 -0.4**
SLTI Sal'it 5.09 189 P **Pn** **21 04 39.5 +0.6**
ASF Jabal al Asfar 5.15 171 Pn **Pn** **21 04 39.5 -0.3**
0.8nm,0.3s,baz=26,slow=14,SNR=8.5
ASF Lg Lg 21 06 02.3
2.4nm,0.3s,baz=220,slow=20,SNR=3.6
1.8nm,0.3s
AKAS Kas 5.24 260 Pn **Pn** **21 04 41.4 +0.4**
DSI Dead Sea 5.72 185 S **Sn** **21 05 53.5 +0.1**
DSI Dead Sea 5.72 185 P **Pn** **21 04 48.0 +0.4**
AMAZ Amatzia 5.81 189 S **Sn** **21 05 55.6 +0.1**
AMAZ Amatzia 5.81 189 P **Pn** **21 04 49.5 +0.7**
YTIR Yattir 5.95 187 S **Sn** **21 05 59.5 +0.4**
YTIR Yattir 5.95 187 P **Pn** **21 04 51.6 +0.8**
GHAJ Ghor Haditha 5.98 184 Pn **Pn** **21 04 51.9 +0.9**
GHAJ Ghor Haditha 5.98 184 P **Pn** **21 04 52.2 +1.1**
MSBI Mazada 5.98 185 S **Sn** **21 05 59.5 -0.1**
MSBI Mazada 5.98 185 P **Pn** **21 04 52.0 +1.0**
ARG Arkhangelos 6.41 263 Pn **Pn** **21 04 55.8 -1.2**
KZIT Kziot 6.50 192 S **Sn** **21 06 11.6 -0.9**
KZIT Kziot 6.50 192 P **Pn** **21 04 58.6 +0.4**
ZFRI Zfri 6.75 186 S **Sn** **21 06 18.5 -0.1**
ZFRI Zfri 6.75 186 P **Pn** **21 05 02.4 +0.8**
PRNI Paran 6.96 187 S **Sn** **21 06 24.6 +0.6**
PRNI Paran 6.96 187 P **Pn** **21 05 05.5 +0.9**
HRFI Mount Harif 7.27 187 S **Sn** **21 06 32.1 +0.5**
HRFI Mount Harif 7.27 187 P **Pn** **21 05 10.1 +1.2**
MBRI Mt Berech 7.53 187 S **Sn** **21 06 38.5 +0.6**
MBRI Mt Berech 7.53 187 P **Pn** **21 05 13.2 +0.8**
EIL Elat 7.64 187 Pn **Pn** **21 05 14.5 +0.6**
0.2nm,0.3s,baz=25,slow=7.6,SNR=2.1
EIL Sn **Sn** **21 06 39.2 -1.5**
0.7nm,0.3s,baz=216,slow=19,SNR=3.7
EIL LR LR 21 08 41.1
comp=Z,49nm,19.3s,baz=64,slow=42
2.7nm,0.6s
EIL Elat 7.64 187 S **Sn** **21 06 41.2 +0.5**
EIL Elat 7.64 187 P **Pn** **21 05 14.9 +0.9**
IDI Anoyia 9.19 261 Pn **Pn** **21 05 33.2 -1.9**
IDI Anoyia 9.19 261 Pn **Pn** **21 05 33.6 -1.5**
2.6nm,0.3s,baz=49,slow=9.3,SNR=17
6.5nm,0.3s
BURAR Bucovina Array 13.02 326 Pn **Pn** **21 06 28.9 +1.4**
BUR08 Bucovina Ar. S 13.05 326 Pn **Pn** **21 06 29.2 +1.2**
AKASG Malin Array Be 14.26 342 Pn **Pn** **21 06 46.1 +1.8**
0.2nm,0.3s,baz=170,slow=13,SNR=2.1
BELG Belogornoye 17.18 25 P **P** **21 07 23.3 -0.7**
0.2nm,0.3s,baz=234,slow=15,SNR=1.8
5.5nm,1.0s
RONA Rosalia, Austr 17.82 312 *e*P **P** **21 07 37.2 +5.9**
1.9nm,1.0s
MYKA Terra Mystica 19.01 306 *e*P **Pn** **21 07 47.8 +2.6**
7.0nm,1.2s
KBA Koelnbreinsper 19.37 307 *e*Pn **Pn** **21 07 49.4 -0.2**
3.3nm,1.3s
GERES GERESS Array B 19.89 313 P **P** **21 07 54.0 0.0**
baz=103,slow=12,SNR=6.1
0.4nm,0.5s
LESA Schwarzleotal 19.92 308 *e*Pn **P** **21 07 54.9 +0.5**
3.8nm,1.0s
CTI Castel Tesino 20.12 303 P **P** **21 07 55.4 -1.2**
CTI IAmb IAmb 21 07 57.5
comp=Z,12nm,1.4s
WTTA Wattenberg 20.52 307 *e*Pn **P** **21 08 01.9 +0.8**
comp=Z,5.1nm,1.1s
BRG Berggiesshubel 20.76 318 *e*P Pn 21 08 07.2 +1.4
BRG Amp 21 08 08.3
comp=Z,2.7nm,0.9s
BFO Black Forest 22.98 307 P **P** **21 08 26.0 -1.2**
BFO IAmb IAmb 21 08 27.6
comp=Z,5.6nm,0.9s
KIRV Kirov 23.05 18 P **P** **21 08 27.8 +0.1**
comp=Z,2.5nm,0.5s,baz=277,slow=16,SNR=2.3
comp=Z,2.5nm,0.5s
BNI Bardonecchia 23.30 299 P **P** **21 08 30.4 -0.3**
ECH Echery 23.69 307 P **P** **21 08 32.5 -1.8**
ECH IAmb IAmb 21 08 34.8
comp=Z,9.2nm,1.1s
FINES FINESS Array B 24.97 349 P **P** **21 08 45.4 -0.6**
FINES FINESS Array B 24.97 349 P **P** **21 08 45.7 -0.3**
comp=Z,1.4nm,0.5s,baz=152,slow=10,SNR=16
comp=Z,1.4nm,0.5s
FIA1 FINESS Array S 24.97 349 P **P** **21 08 45.4 -0.6**
HFS Hagfors 26.93 335 P **P** **21 09 03.7 -0.1**
comp=Z,0.7nm,0.5s,baz=145,slow=11,SNR=7.6
comp=Z,0.7nm,0.5s
NOA NORSAR Array B 28.43 335 P **P** **21 09 16.4 -0.8**
comp=Z,0.4nm,0.8s,baz=126,slow=9.8,SNR=3.5
NOA LR LR 21 22 06.2
comp=Z,12nm,21.5s,baz=280,slow=40
comp=Z,0.4nm,0.8s
EKA Eskdalemuir Ar 31.96 317 P **P** **21 09 47.4 -1.0**
comp=Z,0.6nm,0.6s,baz=119,slow=10.0,SNR=3.2
comp=Z,0.6nm,0.6s
ARCES ARCESS Array B 32.81 353 P **P** **21 09 55.5 -0.3**
comp=Z,1.1nm,0.7s,baz=144,slow=7.9,SNR=5.4
comp=Z,1.1nm,0.7s
KURBB Kurchatov Arra 32.93 52 P **P** **21 09 58.3 +1.4**
comp=Z,0.3nm,0.6s,baz=245,slow=10,SNR=1.5
comp=Z,0.3nm,0.6s
MKAR Makanchi Array 35.22 59 P **P** **21 10 16.8 -0.2**
MKAR Makanchi Array 35.22 59 P **P** **21 10 17.9 +0.9**
comp=Z,0.2nm,0.5s,baz=261,slow=8.8,SNR=4.4
comp=Z,0.2nm,0.5s
ZALV Zalesovo Beam 37.16 47 P **P** **21 10 33.9 +0.5**
comp=Z,0.4nm,0.3s,baz=264,slow=12,SNR=2.6
comp=Z,0.4nm,0.3s
TORD Torodi Ar. Bea 38.91 241 P **P** **21 10 48.1 -0.4**
comp=Z,1.2nm,0.8s,baz=34,slow=9.3,SNR=7.9
comp=Z,1.2nm,0.8s

*IDC **24** 21:09:36.9±3.2, 12°.00N×91°.73W, h0km, mb3.5/2, mbtmp3.7/4, ML3.7/2, MS3.4/2, Error ellipse: s-maj=127.9km s-min=29.9km az=36.0*
*CATAC **24** 21:09:43.5±0.4, 13°.N±2°×9°1W±°, h7km±2km, M4.2/23, MLv4.2/23, Error ellipse: s-maj=5.5km s-min=2.7km az=21.4, confirmed*
*GCG **24** 21:09:45.3±1.9, 13°.43N×90°.65W, h37km±48km, MD4.0, ML4.1, MW3.4*
*SNET **24** 21:09:48.0±2.4, 13°.75N×90°.48W, h49km, ML3.9*
ISC 24 21:09:48.3±1.1, 13°.53N±0°.07×90°.51W±0°.04, h58km±9km, n82, σ1°87/88, 3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	**0.03**	**21**	*i* P		**Pn**	**21 09 58.0**	**+0.9**
FAME	**Alcaldia de Sa**	**0.57**	**57**	P		**Pn**	**21 09 58.6**	**-2.4**
FG8	**Yepocapa, Chim**	**0.72**	**356**	*i* P		**Pn**	**21 10 03.6**	**+0.7**
FG8				*i* S		**Sn**	**21 10 17.0**	**+3.4**
FG16	**Alotenango, Sa**	**0.73**	**0**	*i* P		**Pn**	**21 10 03.6**	**+0.4**
FG16				IAML			21 10 24.3	
	comp=N,20µm,0.7s							
NUBE	**Las Nubes**	**0.80**	**63**	⇓*i* P		**Pn**	**21 10 02.0**	**-1.9**
NUBE	**Las Nubes**	**0.80**	**63**	*i* P		**Pn**	**21 10 02.0**	**-1.9**
NUBE				*i* S		**Sn**	**21 10 14.5**	**-0.8**
NUBE	**Las Nubes**	**0.80**	**63**	P		**Pn**	**21 10 01.9**	**-1.9**
LOAL	**Lomas de Alarc**	**0.85**	**57**	*i* P		**Pn**	**21 10 03.0**	**-1.4**
LOAL				*e*S		**Sn**	**21 10 16.6**	**+0.4**
LOAL	**Lomas de Alarc**	**0.85**	**57**	P		**Pn**	**21 10 03.0**	**-1.4**
SLOZ	**Alcaldia de Sa**	**0.86**	**55**	*i* P		**Pn**	**21 10 03.1**	**-1.5**
SLOZ	**Alcaldia de Sa**	**0.86**	**55**	P		**Pn**	**21 10 03.1**	**-1.5**
SLOZ	**Alcaldia de Sa**	**0.86**	**55**	S		**Sn**	**21 10 16.7**	**+0.2**
ESSG	**Sabana Grande**	**0.90**	**340**	*i* P		**Pn**	**21 10 02.1**	**-3.0**
ESSG				*i* S		**Sn**	**21 10 14.7**	**-2.8**
ESSG				IAML			21 10 21.0	
	comp=E,2µm,0.5s							
CEVE	**Cerro Verde**	**0.91**	**71**	*i* P		**Pn**	**21 10 03.9**	**-1.6**
CEVE	**Cerro Verde**	**0.91**	**71**	P		**Pn**	**21 10 03.8**	**-1.6**
CEVE	**Cerro Verde**	**0.91**	**71**	S		**Sn**	**21 10 18.1**	**+0.1**
RTR	**El Retiro**	**0.92**	**67**	*i* P		**Pn**	**21 10 04.1**	**-1.3**
SBLS	**San Blas**	**0.92**	**71**	*i* P		**Pn**	**21 10 03.8**	**-1.7**
SBLS				⇓*i* P			21 10 03.8	
SNJE	**San Jose**	**0.94**	**69**	*i* P		**Pn**	**21 10 04.2**	**-1.5**
SNJE				⇓*i* P			21 10 04.3	
UNIC	**Universidad Ca**	**1.04**	**64**	*e*P		**Pn**	**21 10 05.6**	**-1.2**
UNIC	**Universidad Ca**	**1.04**	**64**	P		**Pn**	**21 10 05.7**	**-1.2**
UNIC	**Universidad Ca**	**1.04**	**64**	S		**Sn**	**21 10 20.8**	**+0.2**
JAYA	**Jayaque - finc**	**1.04**	**83**	*e*P		**Pn**	**21 10 05.1**	**-2.0**
JAYA	**Jayaque - finc**	**1.04**	**83**	*i* P		**Pn**	**21 10 05.0**	**-2.0**
JAYA				*i* S		**Sn**	**21 10 20.1**	**-0.7**
JAYA	**Jayaque - finc**	**1.04**	**83**	P		**Pn**	**21 10 04.9**	**-2.0**
CEDA	**San Andres**	**1.12**	**76**	*e*P		**Pn**	**21 10 06.4**	**-1.5**
CEDA	**San Andres**	**1.12**	**76**	P		**Pn**	**21 10 06.6**	**-1.3**
CEDA	**San Andres**	**1.12**	**76**	S		**Sn**	**21 10 23.2**	**+0.7**
LALI	**Alcalda de L**	**1.16**	**92**	*i* P		**Pn**	**21 10 06.7**	**-1.7**
LALI				IAML			21 10 28.1	
	comp=E,427nm,0.4s							
LALI	**Alcalda de L**	**1.16**	**92**	P		**Pn**	**21 10 06.7**	**-1.7**
PMON	**Piamonte**	**1.18**	**81**	*e*P		**Pn**	**21 10 07.2**	**-1.5**
PMON	**Piamonte**	**1.18**	**81**	P		**Pn**	**21 10 07.2**	**-1.5**
PMON	**Piamonte**	**1.18**	**81**	S		**Sn**	**21 10 25.4**	**+1.4**
BOQS	**Boqueron**	**1.21**	**80**	*e*P		**Pn**	**21 10 08.0**	**-1.4**
STG8	**El Palmar, Qui**	**1.22**	**318**	*i* P		Pn	21 10 11.3	+1.8
STG8				*i* S		**Sn**	**21 10 30.1**	**+4.9**
STG8				IAML			21 10 33.7	
	comp=N,3µm,0.4s							
STG2	**El Palmar, Qui**	**1.23**	**317**	*i* P		Pn	21 10 11.5	+2.0
STG2				*i* S		**Sn**	**21 10 30.1**	**+4.9**
PIC2	**El Picacho**	**1.24**	**80**	*e*P		**Pn**	**21 10 08.6**	**-1.1**
UEES	**Universidad Ev**	**1.25**	**82**	P		**Pn**	**21 10 08.4**	**-1.3**
UEES	**Universidad Ev**	**1.25**	**82**	S		**Sn**	**21 10 27.7**	**+2.0**
PANCS	**Alcalda de**	**1.30**	**86**	P		**Pn**	**21 10 09.0**	**-1.4**
LOMA	**Loma Larga**	**1.31**	**85**	*e*P		**Pn**	**21 10 09.2**	**-1.4**
LOMA	**Loma Larga**	**1.31**	**85**	P		**Pn**	**21 10 09.1**	**-1.5**
LFU	**La Fuente**	**1.38**	**81**	*e*P		**Pn**	**21 10 10.7**	**-0.7**
MTO3	**Montecristo**	**1.41**	**52**	*i* P		**Pn**	**21 10 11.6**	**-0.4**
MTO3	**Montecristo**	**1.41**	**52**	*i* P		**Pn**	**21 10 11.6**	**-0.4**
MTO3	**Montecristo**	**1.41**	**52**	P		**Pn**	**21 10 11.5**	**-0.4**
MTO3	**Montecristo**	**1.41**	**52**	S		**Sn**	**21 10 32.4**	**+2.7**
LFRS	**El Faro**	**1.41**	**86**	*e*P		**Pn**	**21 10 10.9**	**-1.0**
LBRS	**Las Brisas**	**1.44**	**82**	*e*P		**Pn**	**21 10 11.7**	**-0.6**
RTAL	**Retalhuleu**	**1.51**	**311**	P		**Pn**	**21 10 09.8**	**-3.3**
ESQI	**Esquipulas**	**1.53**	**48**	*e*P		**Pn**	**21 10 13.4**	**0.0**
ESQI	**Esquipulas**	**1.53**	**48**	P		**Pn**	**21 10 13.4**	**0.0**
ESQI	**Esquipulas**	**1.53**	**48**	S		**Sn**	**21 10 35.7**	**+3.3**
PAVA	**Las Pavas**	**1.54**	**83**	*e*P		**Pn**	**21 10 13.4**	**-0.2**
PAVA	**Las Pavas**	**1.54**	**83**	P		**Pn**	**21 10 13.3**	**-0.3**
PAVA	**Las Pavas**	**1.54**	**83**	S		**Sn**	**21 10 35.6**	**+2.8**
COEG	**Centro de Oper**	**1.59**	**87**	*e*P		**Pn**	**21 10 13.2**	**-1.0**
COEG	**Centro de Oper**	**1.59**	**87**	P		**Pn**	**21 10 13.3**	**-1.0**
COEG	**Centro de Oper**	**1.59**	**87**	S		**Sn**	**21 10 35.6**	**+1.8**
UESV	**Universidad de**	**1.68**	**86**	P		**Pn**	**21 10 13.8**	**-1.6**
UESV	**Universidad de**	**1.68**	**86**	S		**Sn**	**21 10 38.7**	**+2.7**
SCLA	**Alcaldia de Sa**	**1.74**	**84**	*e*P		**Pn**	**21 10 15.6**	**-0.7**
SCLA	**Alcaldia de Sa**	**1.74**	**84**	P		**Pn**	**21 10 15.7**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.74**	**84**	S		**Sn**	**21 10 41.4**	**+3.9**
QUIS	**Sacapulas**	**1.83**	**342**	*i* P		**Pn**	**21 10 18.3**	**+0.6**
QUIS				*i* S		**Sn**	**21 10 42.2**	**+2.3**
QUIS				IAML			21 10 44.7	
	comp=E,2µm,0.8s							
TECA	**Tecapa**	**1.96**	**91**	*e*P		**Pn**	**21 10 18.3**	**-1.0**
TECA				*e*P			21 10 18.4	
SARH Santa Rosa de 2.10 54 *i* P **Pn** **21 10 21.6 +0.4**
PACA Pacayal 2.13 91 P **Pn** **21 10 22.2 +0.5**
PACA Pacayal 2.13 91 S **Sn** **21 10 50.9 +3.8**
LCY Lacayo 2.16 93 *e*P **Pn** **21 10 20.9 -1.1**
VSM San Miguel 2.18 92 *e*P **Pn** **21 10 22.1 -0.4**
LCND La Caada 2.56 95 *e*P **Pn** **21 10 26.4 -1.0**
LCND La Caada 2.56 95 P **Pn** **21 10 26.2 -1.3**
MOMN Momotombo 4.03 106 P **Pn** **21 10 47.0 -0.6**
COPN Copaltepe 4.05 109 P **Pn** **21 10 46.9 -1.0**
CMIG Matias Romero 5.50 311 Pn **Pn** **21 11 05.9 -1.9**
comp=E,2.2nm,0.3s,baz=128,slow=12,SNR=28
CMIG Sn **Sn** **21 12 05.1 -4.7**
comp=E,2.9nm,0.3s,baz=347,slow=19,SNR=5.0
comp=E,9.6nm,0.3s
JTS Las Juntas de 6.32 120 Pn **Pn** **21 11 19.2 +0.2**
comp=E,1.1nm,0.3s,baz=290,slow=15,SNR=5.6
JTS Sn **Sn** **21 12 27.6 -2.3**
comp=E,0.4nm,0.3s,baz=160,slow=24,SNR=1.1
comp=E,2.2nm,0.3s
TXAR Lajitas Array 19.90 324 P **Pn** **21 14 16.2 -1.1**
comp=E,0.4nm,0.4s,baz=156,slow=13,SNR=5.7
comp=E,0.4nm,0.4s
SDV Santo Domingo 20.03 101 LR LR 21 22 09.2
comp=E,46nm,20.7s,baz=247,slow=36
NVAR Mina Array Bea 34.95 320 P **P** **21 16 35.5 +0.4**
comp=E,1.4nm,0.7s,baz=136,slow=8.7,SNR=8.0
comp=E,1.4nm,0.7s
BORG Borgarnes 69.00 25 LR LR 21 49 24.9
comp=E,55nm,21.7s,baz=312,slow=34
CMAR Chiang Mai Arr 146.87 343 PKPbc **PKPbc** **21 29 23.9 -1.1**
comp=E,0.8nm,0.5s,baz=350,slow=2.9,SNR=6.6

*JMA **24** 22:10:42.2±0.1, 38°.8N±0°.2×142°.0E±0°.5, h54km, MV3.7/40, KINKAZAN REGION*
JMA Felt I J1 at KINKAZAN REGION .
*IDC **24** 22:10:43.0±3.0, 38°.86N×142°.30E, h77km±25km, mb3.3/6, mbtmp3.6/9, Error ellipse: s-maj=42.9km s-min=19.6km az=79.0*
ISC 24 22:10:41.0±1.6, 38°.78N±0°.07×142°.2E±0°.1, h53km±11km, n25, σ1°25/27, mb3.6/6, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.49**	**308**	*i* P		**Pn**	**22 10 52.8**	**+0.5**
OFUJ				S		**Sn**	**22 11 00.5**	**0.0**
JKMT	**Kesennumamotoy**	**0.54**	**273**	*i* P		**Pn**	**22 10 53.1**	**+0.3**
JKMT				S		**Sn**	**22 11 00.8**	**-0.7**
JIO	**Ouri**	**0.72**	**243**	*i* P		**Pn**	**22 10 55.2**	**+0.2**
JIO				*e*S		**Sn**	**22 11 04.4**	**-0.9**
JMK	**Ichinoseki**	**0.76**	**283**	*i* P		**Pn**	**22 10 55.7**	**+0.2**
JMK				S		**Sn**	**22 11 05.4**	**-0.7**
JOM	**Ohasama**	**0.97**	**316**	⇓*i* P		**Pn**	**22 10 58.8**	**+0.4**
JOM				⇓*e*S		**Sn**	**22 11 10.9**	**-0.2**
JOU	**Okura**	**1.25**	**251**	*i* P		**Pn**	**22 11 02.3**	**+0.2**
JOU				S		**Sn**	**22 11 17.0**	**-0.8**
JRG	**Rokugo**	**1.34**	**298**	*i* P		**Pn**	**22 11 03.4**	**0.0**
JMM	**Marumori**	**1.41**	**230**	*i* P		**Pn**	**22 11 04.4**	**0.0**
JYK	**Kaneyama**	**1.41**	**276**	⇓*i* P		**Pn**	**22 11 04.4**	**+0.1**
JYK				⇓S		**Sn**	**22 11 20.4**	**-1.4**
JANG	**Nango**	**1.67**	**343**	*i* P		**Pn**	**22 11 08.1**	**+0.3**
MJAR	**Matsushiro Arr**	**3.85**	**236**	P		**Pn**	**22 11 41.1**	**+3.4**
	2.6nm,0.5s,baz=39,slow=12,SNR=15							
ASAJ	**Asahikawa**	**5.34**	**3**	P		**Pn**	**22 11 58.7**	**+0.7**
	2.8nm,0.3s,baz=180,slow=16,SNR=8.1							
ASAJ				S		**Sn**	**22 12 55.9**	**-2.3**
	8.8nm,0.8s,baz=16,slow=20,SNR=3.6							
USRK	**Ussuriysk Ar.**	**9.35**	**309**	P		**Pn**	**22 12 56.6**	**+3.6**
	4.0nm,0.6s,baz=117,slow=15,SNR=5.7							
H11N2	**WAKE ISLAND Hy**	**28.59**	**125**	T		T	22 47 08.2	
	baz=317,slow=75,SNR=5.3							
H11N1	**WAKE ISLAND Hy**	**28.60**	**125**	T		T	22 46 39.5	
	baz=317,slow=75,SNR=0.6							
H11N3	**WAKE ISLAND Hy**	**28.61**	**125**	T		T	22 47 08.6	
	baz=317,slow=75,SNR=5.5							
H11S1	**WAKE ISLAND Hy**	**29.37**	**127**	T		T	22 47 59.7	
	baz=318,slow=74							
H11S3	**WAKE ISLAND Hy**	**29.37**	**127**	T		T	22 48 00.0	
	baz=318							
H11S2	**WAKE ISLAND Hy**	**29.38**	**127**	T		T	22 48 02.0	
	baz=318,slow=74							
ZALV	**Zalesovo Beam**	**41.20**	**311**	P		**P**	**22 18 20.5**	**+0.4**
	0.7nm,0.5s,baz=95,slow=8.7,SNR=2.6							
	0.7nm,0.5s							
MKAR	**Makanchi Array**	**43.72**	**301**	P		**P**	**22 18 40.3**	**-0.4**
	0.2nm,0.4s,baz=80,slow=11,SNR=3.6							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**45.41**	**307**	P		**P**	**22 18 53.9**	**-0.2**
	0.8nm,0.3s,baz=79,slow=8.4,SNR=1.2							
	0.8nm,0.3s							
BVAR	**Borovoye Array**	**49.85**	**311**	P		**P**	**22 19 27.9**	**-0.6**
	0.3nm,0.5s,baz=72,slow=9.3,SNR=2.6							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**58.87**	**189**	P		**P**	**22 20 34.5**	**+0.2**
	0.7nm,0.5s,baz=7.0,slow=7.0,SNR=11							
	0.7nm,0.5s							
ASAR	**Alice Springs**	**62.60**	**189**	P		**P**	**22 20 59.9**	**+0.2**
	0.3nm,0.6s,baz=15,slow=3.8,SNR=2.0							
	0.3nm,0.6s							

*BJI **24** 22:14:15.6, 35°.02N×141°.18E, h43km, mB5.0/35, mb4.9/81, Ms4.3/73, Ms7 4.0/72*
*MOS **24** 22:14:19.3±1.0, 35°.02N×140°.67E, h38km, mb5.2/74, MS4.0/7, Error ellipse: s-maj=7.4km s-min=4.0km az=126.4*
*IDC **24** 22:14:22.9±0.6, 35°.08N×140°.53E, h52km±4km, mb4.5/32, mbtmp4.8/38, MS3.9/55, Error ellipse: s-maj=10.9km s-min=5.4km az=86.0*
*NEIC **24** 22:14:22.4±1.6, 35°.13N±0°.04×140°.

JKUC ⇓S Sn 22 14 40.4 +1.1
JKUC kamogawauchiur 0.38 282 A A 22 14 32.8
comp=N,285nm,0.5s,comp=E,885nm,1.3s
BSO1 Boso 1 0.50 148 ⇓*i*P Pn 22 14 35.3 +2.2
JSMT Sammumatsuo 0.59 344 *i* P Pn 22 14 35.0 +0.4
JSMT Sammumatsuo 0.59 344 A A 22 14 35.0
comp=N,404nm,1.7s,comp=E,520nm,0.8s
TATJ Tateyama 2 0.63 266 A A 22 14 35.4
comp=N,414nm,1.3s,comp=E,237nm,2.3s
JYO Yokosk 0.82 280 A A 22 14 37.5
comp=N,235nm,1.4s,comp=E,198nm,1.5s
JIHU Itakohorinouch 0.89 353 A A 22 14 38.4
comp=N,284nm,2.2s,comp=E,398nm,1.2s
TOK Tokyo 0.95 310 A A 22 14 38.9
comp=N,194nm,0.9s,comp=E,308nm,2.4s
JIM2 Oshima 3 1.07 251 P Pn 22 14 40.5 -0.5
JIM2 S Sn 22 14 53.7 -1.1
JIM2 Oshima 3 1.07 251 A A 22 14 40.5
comp=N,194nm,1.8s,comp=E,162nm,1.0s
JYT Yasato 1.21 342 A A 22 14 42.6
comp=N,73nm,1.2s,comp=E,81nm,1.2s
JTHY Toshimahigashi 1.25 244 A A 22 14 43.9
comp=N,234nm,0.8s,comp=E,171nm,2.3s
JHYU Hitachinakayam 1.26 358 A A 22 14 43.5
comp=N,67nm,3.6s,comp=E,48nm,2.0s
JSGW Sagamiharawaka 1.29 294 A A 22 14 43.6
comp=N,30nm,1.1s,comp=E,28nm,3.2s
JOD2 Odawara 2 1.29 279 ⇓*i*P Pn 22 14 43.4 -0.6
JOD2 ⇓S Sn 22 14 58.5 -1.8
JOD2 Odawara 2 1.29 279 A A 22 14 43.4
comp=N,72nm,1.1s,comp=E,49nm,0.6s
JNIO Niijimaoohara 1.34 238 A A 22 14 45.4
comp=N,211nm,1.6s,comp=E,215nm,1.2s
JHTM Izuhatsuma 1.35 265 A A 22 14 44.9
comp=N,227nm,0.4s,comp=E,250nm,1.0s
JMYK Miyake Tsubota 1.36 222 P Pn 22 14 45.5 +0.5
JMYK S Sn 22 15 02.6 +0.7
JMYK Miyake Tsubota 1.36 222 A A 22 14 45.5
comp=N,243nm,1.0s,comp=E,143nm,1.3s
JSKK Shikinejimakit 1.40 238 A A 22 14 46.2
comp=N,89nm,0.7s,comp=E,127nm,1.6s
JMKN Mikurajimanish 1.47 217 A A 22 14 47.7
comp=N,61nm,2.2s,comp=E,81nm,0.8s
JIZS Izushimoda 1.50 257 ⇓*i*P Pn 22 14 46.5 -0.4
JIZS Izushimoda 1.50 257 A A 22 14 46.5
comp=N,64nm,1.5s,comp=E,57nm,1.1s
JHO Hitachi 1.53 357 A A 22 14 47.3
comp=N,30nm,2.5s,comp=E,39nm,2.6s
JKO Kozu shima 1.53 235 A A 22 14 48.1
comp=N,142nm,1.7s,comp=E,147nm,0.7s
JFNN Fujinakano 1.62 275 A A 22 14 48.4
comp=N,42nm,1.1s,comp=E,37nm,1.0s
JAG Ashikaga 1.66 324 A A 22 14 48.8
comp=N,51nm,3.5s,comp=E,35nm,2.0s
JRY Ryogami san 1.71 304 A A 22 14 49.4
comp=N,31nm,3.9s,comp=E,28nm,1.4s
JYN Shimob 1.77 284 A A 22 14 50.6
comp=N,23nm,1.0s,comp=E,23nm,0.6s
JSB Shiboa 1.98 343 A A 22 14 53.4
comp=N,64nm,2.6s,comp=E,85nm,3.2s
SHZ3 Shizuoka 3 2.00 270 A A 22 14 54.0
comp=N,35nm,2.4s,comp=E,26nm,1.6s
JFFD Fukushimafurud 2.01 358 A A 22 14 54.0
comp=N,17nm,2.7s,comp=E,33nm,3.2s
ONAJ Iwakimizuishiy 2.02 3 A A 22 14 54.3
comp=N,20nm,2.6s,comp=E,30nm,2.5s
JKT Katashina 2.03 326 A A 22 14 54.0
comp=N,33nm,0.8s,comp=E,43nm,1.9s
JSG Sagara 2.07 259 Pn 22 14 55.5 +0.9
JSG Sn Sn 22 15 20.0 +0.8
JSG Sagara 2.07 259 P Pn 22 14 55.5 +0.9
JSG Sagara 2.07 259 S Sn 22 15 22.4 +3.2
JSG Sagara 2.07 259 A A 22 14 55.1
comp=N,62nm,0.9s,comp=E,49nm,1.5s
JHJ2 Mitsune 2.08 200 Pn 22 14 55.5 +0.7
JHJ2 Sn Sn 22 15 18.9 -0.6
JHJ2 Mitsune 2.08 200 P Pn 22 14 55.2 +0.4
JHJ2 Mitsune 2.08 200 A A 22 14 56.6
comp=N,23nm,0.6s,comp=E,39nm,1.3s
JHJ Hachijo jima 2 2.08 200 P Pn 22 14 55.6 +0.8
comp=E,6μm,0.4s,baz=82,slow=19,SNR=462
JHJ S Sn 22 15 20.6 +1.0
comp=E,7μm,0.3s,baz=114,slow=21,SNR=8.5
JHCJ Hachijojimakas 2.12 200 A A 22 14 57.2
comp=N,22nm,4.7s,comp=E,18nm,3.7s
JNT Takato 2.20 292 A A 22 14 56.5
comp=N,12nm,1.1s,comp=E,14nm,3.4s
JGK Kuni 2.21 313 A A 22 14 56.5
comp=N,37nm,2.3s,comp=E,26nm,1.5s
JKKS Kakegawashinom 2.22 262 A A 22 14 57.1
comp=N,44nm,2.1s,comp=E,30nm,4.8s
JFK Kawauchi 2.29 4 A A 22 14 58.1
comp=N,15nm,1.8s,comp=E,17nm,3.9s
JNY Yasuok 2.30 278 A A 22 14 58.1
comp=N,80nm,1.1s,comp=E,20nm,1.1s
HMMJ Hamamatsu 2 2.42 266 A A 22 14 59.9
comp=N,10.0nm,3.0s,comp=E,8.0nm,2.1s
JFY Yanaizu 2.45 342 A A 22 14 60.0
comp=N,17nm,4.2s,comp=E,34nm,2.4s
JNG Nsakai 2.46 303 A A 22 15 00.1
comp=N,16nm,2.4s,comp=E,17nm,1.3s
MJAR Matsushiro Arr 2.46 307 Pn 22 14 59.1 -1.0
MJAR Matsushiro Arr 2.46 307 P Pn 22 14 59.6 -0.5
comp=E,410nm,0.5s,baz=127,slow=15,SNR=738
MJAR S Sn 22 15 29.7 +0.7
comp=E,310nm,0.4s,baz=114,slow=25,SNR=3.0
MJAR LR LR 22 16 18.0
comp=E,3μm,21.7s,baz=112,slow=48
MAJO Matsushiro 2.47 307 Pn 22 15 00.1 0.0
MAJO Matsushiro 2.47 307 P Pn 22 14 59.8 -0.3
MAJO Matsushiro 2.47 307 *i* P Pn 22 15 00.1 0.0
MJB9 Matsu-Tunnel 2.47 307 Pn 22 15 01.1 +0.9
JUON Uonuma 2.49 329 A A 22 15 00.4
comp=N,15nm,6.9s,comp=E,23nm,4.7s
JOTO OTAMA OYAMA 2.49 354 A A 22 15 00.7
comp=N,38nm,1.9s,comp=E,74nm,1.8s
TTO5 TONANKAI O.B.S 2.56 252 A A 22 15 02.1
comp=N,58nm,2.7s,comp=E,60nm,3.5s
JMST Minamisoumatoc 2.65 4 A A 22 15 03.1
comp=N,9.0nm,8.1s,comp=E,26nm,2.6s
JAOM Aogashimamukai 2.71 196 A A 22 15 05.6
comp=N,37nm,1.3s,comp=E,34nm,2.5s
JGF Kuroka 2.74 282 Pn 22 15 04.9 +1.0
JGF Kuroka 2.74 282 P Pn 22 15 04.7 +0.8
TTO4 TONANKAI O.B.S 2.78 248 A A 22 15 05.4
comp=N,21nm,2.7s,comp=E,26nm,2.6s
JMM Marumori 2.79 2 Pn 22 15 03.9 -0.6
JMM Marumori 2.79 2 P Pn 22 15 03.7 -0.7
JMM Marumori 2.79 2 A A 22 15 05.0
comp=N,13nm,2.7s,comp=E,19nm,1.8s
JAO Obara 2.79 275 A A 22 15 05.0
comp=N,12nm,2.9s,comp=E,8.0nm,3.6s
JJN Nakama 2.85 316 A A 22 15 05.6
comp=N,35nm,2.5s,comp=E,24nm,2.4s
JYAR Yonezawaarcadi 2.86 352 A A 22 15 05.9
comp=N,28nm,1.1s,comp=E,40nm,1.2s
JIZZ Izumozaki 2.91 328 A A 22 15 06.4
comp=N,51nm,3.4s,comp=E,57nm,3.6s
JAA Atsumi 2.92 262 A A 22 15 07.1
comp=N,8.0nm,4.1s,comp=E,4.0nm,3.2s
JNS Sasagawa 2.94 339 A A 22 15 06.9
comp=N,15nm,7.4s,comp=E,16nm,5.5s
JGN Niukaw 2.95 294 A A 22 15 07.0
comp=N,6.0nm,4.9s,comp=E,5.0nm,5.9s
TTO3 TONANKAI O.B.S 2.95 247 A A 22 15 07.8
comp=N,34nm,7.2s,comp=E,24nm,4.2s
INU Inuyama 2.99 276 Pn 22 15 07.6 +0.4
INU Inuyama 2.99 276 P Pn 22 15 07.5 +0.3
JTT Ttatey 3.10 300 A A 22 15 09.1
comp=N,16nm,1.8s,comp=E,24nm,3.3s
JICN Ichinomiyachia 3.13 275 A A 22 15 09.7
comp=N,22nm,3.2s,comp=E,16nm,1.5s
JYS Shirataka 3.17 352 A A 22 15 10.3
comp=N,22nm,1.7s,comp=E,40nm,1.8s
JYTA Yamagatataniai 3.24 280 A A 22 15 11.3
comp=N,7.0nm,3.6s,comp=E,5.0nm,6.2s
JOU Okura 3.28 0 A A 22 15 12.0
comp=N,21nm,2.1s,comp=E,16nm,1.7s
TTO2 TONANKAI O.B.S 3.28 247 A A 22 15 12.5
comp=N,21nm,2.7s,comp=E,28nm,5.2s
JIE Ise 3.32 259 A A 22 15 12.8
comp=N,4.0nm,2.3s,comp=E,3.0nm,2.3s
JEG Eigenji 3.49 272 A A 22 15 15.0
comp=N,7.0nm,4.1s,comp=E,4.0nm,3.4s
TTO1 TONANKAI O.B.S 3.51 247 A A 22 15 15.7
comp=N,26nm,4.9s,comp=E,24nm,3.2s
JOFO Osakifurukawao 3.52 3 A A 22 15 15.4
comp=N,57nm,3.9s,comp=E,77nm,1.8s
JSD Sado 3.52 328 P Pn 22 15 14.7 +0.1
JAW Awa shima 3.56 342 A A 22 15 15.6
comp=N,6.0nm,4.3s,comp=E,12nm,4.2s
JSZ Suzu 3.56 313 A A 22 15 15.5
comp=N,7.0nm,4.8s,comp=E,6.0nm,1.9s
JYA Atsumi 3.59 348 A A 22 15 16.1
comp=N,13nm,1.4s,comp=E,24nm,4.7s
JJH Hakui 3.64 302 A A 22 15 16.7
comp=N,7.0nm,3.8s,comp=E,7.0nm,4.0s
JYK Kaneyama 3.84 357 A A 22 15 19.8
comp=N,12nm,3.3s,comp=E,13nm,3.5s
JFM Mihama 3.84 278 A A 22 15 19.8
comp=N,7.0nm,2.7s,comp=E,5.0nm,5.9s
JMK Ichinoseki 3.89 7 A A 22 15 20.7
comp=N,5.0nm,8.2s,comp=E,8.0nm,3.3s
JYYZ Yamagatayuza 3.97 352 A A 22 15 21.5
comp=N,44nm,2.3s,comp=E,42nm,5.7s
OFUJ Ofunato 4.08 11 A A 22 15 23.3
comp=N,5.0nm,2.7s,comp=E,6.0nm,6.5s
JHG Hegura jima 4.08 314 A A 22 15 22.9
comp=N,6.0nm,5.1s,comp=E,4.0nm,5.3s
JRG Rokugo 4.31 360 A A 22 15 26.4
comp=N,12nm,3.1s,comp=E,13nm,3.8s
JOM Ohasama 4.42 6 A A 22 15 28.0
comp=N,4.0nm,2.9s,comp=E,6.0nm,5.4s
JYW Yuwa 4.47 356 A A 22 15 28.6
comp=N,19nm,1.6s,comp=E,18nm,2.4s
JKY Yasaka 4.57 278 A A 22 15 29.9
comp=N,5.0nm,1.9s,comp=E,3.0nm,1.8s
JMIK Miki 4.61 268 A A 22 15 30.6
comp=N,4.0nm,1.3s,comp=E,4.0nm,1.3s
JSZI Iwateshizukuis 4.66 3 A A 22 15 31.3
comp=N,16nm,2.5s,comp=E,17nm,2.4s
JOG3 Oga3 4.99 346 A A 22 15 34.2
comp=N,9.0nm,4.2s,comp=E,14nm,5.6s
JAH Hinai 5.10 360 A A 22 15 37.5
comp=N,6.0nm,6.4s,comp=E,9.0nm,3.2s
JKEN Kujiedanarisaw 5.19 9 A A 22 15 38.8
comp=N,8.0nm,1.2s,comp=E,9.0nm,1.4s
JNTW Noshirotokiwa 5.20 356 A A 22 15 38.7
comp=N,22nm,2.9s,comp=E,21nm,2.9s
JHHS Hirosakihyakuz 5.57 358 A A 22 15 43.9
comp=N,17nm,4.9s,comp=E,23nm,4.6s
JKR Kurayoshi 5.60 275 A A 22 15 44.4
comp=N,4.0nm,2.4s,comp=E,2.0nm,5.3s
JTM Tenmabayashi 5.71 3 Pn 22 15 43.5 -0.9
JTM Tenmabayashi 5.71 3 P Pn 22 15 43.6 -0.9
JTM Tenmabayashi 5.71 3 A A 22 15 46.0
comp=N,5.0nm,7.6s,comp=E,6.0nm,3.9s
JMN Monobe 5.76 258 Pn 22 15 46.1 +0.9
JMN Monobe 5.76 258 P Pn 22 15 46.4 +1.1
JSI2 Shiura 2 5.97 358 A A 22 15 49.6
comp=N,4.0nm,5.5s,comp=E,4.0nm,2.7s
ERM Erimo 7.20 15 Pn 22 16 02.0 -2.9
ERM Erimo 7.20 15 P Pn 22 16 01.8 -3.1
ERM Erimo 7.20 15 *i* P Pn 22 16 02.3 -2.6
JCJ Chichijima 8.06 170 P Pn 22 16 10.9 -6.0
comp=E,3.2nm,0.3s,baz=49,slow=8.4,SNR=50
JCJ S Sn 22 17 35.9 -11
comp=E,1.7nm,0.3s,baz=109,slow=18,SNR=6.6
JNU Nakatsue 8.34 259 Pn 22 16 21.9 +1.3
JNU Nakatsue 8.34 259 P Pn 22 16 21.7 +1.1
comp=E,54nm,0.9s,baz=74,slow=8.8,SNR=20
JNU LR LR 22 19 55.4
comp=E,746nm,20.5s,baz=70,slow=40
JNU Nakatsue 8.34 259 P Pn 22 16 21.3 +0.7
ASAJ Asahikawa 9.15 9 P Pn 22 16 27.7 -3.9
comp=E,56nm,0.3s,baz=210,slow=12,SNR=49
ASAJ S Sn 22 18 06.9 -6.3
comp=E,69nm,0.6s,baz=357,slow=27,SNR=4.5
ASAJ LR LR 22 21 12.3
comp=E,680nm,18.9s,baz=178,slow=45
ASAJ Asahikawa 9.15 9 P Pn 22 16 27.9 -3.7
JKA Kamikawa-asahi 9.15 9 Pn 22 16 27.9 -3.7
NMR Nemuro--Hokkai 9.17 24 *e*P Pn 22 16 27.8 -4.0
JTU Tsushima 9.27 270 P Pn 22 16 34.4 +1.0
GLVR Golovnino 9.43 22 *e*P Pn 22 16 33.3 -2.2
GLVR pmax pmax
comp=Z,182nm,0.5s
GLVR pmax pmax
comp=N,149nm,0.4s
GLVR pmax pmax
comp=E,152nm,0.2s
RUSJ Misakicho 9.68 20 ⇓*i*P Pn 22 16 35.6 -3.3
YUK Yuzh-Kuril'sk 9.80 23 *e*P Pn 22 16 38.1 -2.5
YUK pmax pmax
comp=Z,309nm,0.3s
YUK pmax pmax
comp=N,130nm,0.4s
YUK pmax pmax
comp=E,165nm,0.3s
SHO Shikotan 9.99 27 *e*P Pn 22 16 41.4 -1.7
SHO pmax pmax
comp=Z,33nm,0.7s
SHO pmax pmax
comp=N,32nm,0.3s
SHO pmax pmax
comp=E,25nm,0.2s
TEY Ternei 10.42 344 *e*P Pn 22 16 47.6 -1.3
VLA Vladivostok 10.52 322 *i* P Pn 22 16 48.6 -1.8
MSHR Mys Shultsa 10.53 318 *i* P Pn 22 16 47.8 -2.7
KSRS Korea Array 10.55 287 P Pn 22 16 52.1 +1.4
comp=E,76nm,0.9s,baz=102,slow=13,SNR=77
KSAR Wonju Array Be 10.58 287 Pn 22 16 52.6 +1.4
KSAR Wonju Array Be 10.58 287 P Pn 22 16 52.6 +1.4
KS19 Wonju Array Si 10.60 287 Pn 22 16 52.6 +1.1
PSTR Posyet 10.77 318 *i* P Pn 22 16 53.4 -0.4
TJN Taejon 10.88 281 Pn 22 16 57.3 +1.9
TJN Taejon 10.88 281 *i* P Pn 22 16 56.2 +0.9
USA0B Ussuriysk Arra 11.29 326 Pn 22 17 00.6 -0.3
USA0B Ussuriysk Arra 11.29 326 *i* P Pn 22 17 01.5 +0.6
USRK Ussuriysk Ar. 11.29 326 Pn 22 17 01.2 +0.3
USRK Ussuriysk Ar. 11.29 326 P Pn 22 17 01.3 +0.5
comp=E,16nm,0.8s,baz=134,slow=12,SNR=19
USRK LR LR 22 20 20.1
comp=E,346nm,18.6s,baz=141,slow=32
USRK Ussuriysk Ar. 11.29 326 P Pn 22 17 01.2 +0.3
KUR Kuril'sk 11.54 26 P Pn 22 17 01.8 -2.5
KUR pmax pmax
comp=Z,77nm,0.5s
INCN Inchon 11.57 286 Pn 22 17 06.2 +1.5
INCN Inchon 11.57 286 P Pn 22 17 08.8 +4.1
INCN Inchon 11.57 286 P Pn 22 17 06.3 +1.5
YSS Yuzhno-Sakhali 11.97 7 Pn 22 17 07.1 -3.1
YSS Yuzhno-Sakhali 11.97 7 *e*P Pn 22 17 07.0 -3.1
YSS pmax pmax
comp=Z,100nm,3.0s
YSS pmax pmax
comp=Z,50nm,0.6s
JMZ Minamidaito 2 12.29 224 Pn 22 17 15.9 +1.1
JMZ Minamidaito 2 12.29 224 P Pn 22 17 15.8 +1.1
MDJ Mudanjiang 12.75 322 Pn 22 17 21.4 +0.5
MDJ Mudanjiang 12.75 322 P Pn 22 17 22.1 +1.2
MDJ S Sn 22 19 38.1 -3.2
MDJ pmax pmax
comp=Z,37nm,1.6s
MDJ pmax pmax
comp=Z,270nm,3.5s
MDJ LR LR
comp=Z,1μm,19.9s
MDJ LR LR
comp=Z,1μm,17.9s
MDJ LR LR
comp=Z,890nm,22.7s
JOW Kunigami 13.42 236 Pn 22 17 30.7 +0.5
JOW Kunigami 13.42 236 P Pn 22 17 30.5 +0.4
comp=Z,8nm,1.0s,baz=60,slow=9.1,SNR=12
CN2 Changchun 14.61 311 *e*P Pn 22 17 47.3 +1.4
CN2 *es*P P 22 18 01.6 +10
CN2 *e*S Sn 22 20 28.0 +1.6
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,800nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,200nm,21.0s
BNX BinXian 14.65 321 ⇑P Pn 22 17 46.1 -0.4
BNX S Sn 22 20 28.8 +1.4
BNX pmax pmax
comp=Z,17nm,1.2s
BNX LR LR
comp=Z,220nm,11.4s
BNX LR LR
comp=Z,190nm,11.6s
BNX LR LR
comp=Z,280nm,11.4s
SNY Shenyang 14.97 302 ⇓P P 22 17 53.5 -1.7
SNY S S 22 20 44.1 -6.6
SNY pmax pmax
comp=Z,35nm,0.9s
SNY LR LR
comp=Z,710nm,11.5s
SNY LR LR
comp=Z,310nm,17.0s
SNY LR LR
comp=Z,500nm,20.6s
DL2 Dalian 15.67 290 P P 22 18 02.8 -0.2
DL2 pP pP 22 18 12.3 -2.1
DL2 S S 22 20 58.8 -6.4
DL2 pmax pmax
comp=Z,62nm,0.7s
DL2 pmax pmax
comp=Z,700nm,4.8s
DL2 LR LR
comp=Z,440nm,10.0s
DL2 LR LR
comp=Z,680nm,12.0s
DL2 LR LR
comp=Z,610nm,16.7s
TYV Tymovskoe 15.84 5 *e*P P 22 18 05.7 +0.8
TYV *e*S S 22 21 06.2 -2.4
TYV pmax pmax
comp=Z,117nm,1.0s
TYV pmax pmax
comp=Z,300nm,3.1s
TYV smax smax
comp=E,27nm,1.7s
TYV smax smax
comp=N,400nm,3.4s
TYV smax smax
comp=E,700nm,3.4s
GRNR Gornyy 15.98 350 ⇓*i*P Pn 22 17 57.7 -6.0
GRNR pmax pmax
comp=Z,3.0nm,0.7s
GRNR MLR MLR
comp=N,190nm,15.0s
SSE Sheshan 16.79 262 P Pn 22 18 14.4 +0.5
SSE S Sn 22 21 21.8 +2.3
SSE pmax pmax
comp=N,11nm,0.6s
SSE pmax pmax
comp=N,86nm,8.1s
SSE LR LR
comp=N,560nm,22.0s
SSE LR LR
comp=N,240nm,22.0s
NJ2 Nanjing 18.41 267 ⇓P Pn 22 18 34.5 +0.6
NJ2 pP pP 22 18 40.3 -4.4
NJ2 S S 22 22 02.8 +1.8
NJ2 pmax pmax
comp=N,26nm,0.8s
NJ2 pmax pmax
comp=N,170nm,3.8s
NJ2 LR LR
comp=N,700nm,10.9s
NJ2 LR LR
comp=N,190nm,6.6s
NJ2 LR LR
comp=N,130nm,8.1s
YOJ Yonaguni jima 18.59 240 P P 22 18 34.2 -1.1
YOJ Yonaguni jima 18.59 240 P Pn 22 18 35.7 -0.3
YOJ Yonaguni jima 18.59 240 P P 22 18 34.2 -1.1
YOJ pmax pmax
comp=Z,35nm,0.9s
TIA Tai'an 19.15 280 P P 22 18 40.3 -1.2
TIA pP pP 22 18 51.9 -1.0
TIA PP PnPn 22 18 57.0 +0.4
TIA S Sn 22 22 24.5 +8.0
TIA pmax pmax
comp=Z,22nm,1.0s
TIA LR LR
comp=Z,620nm,18.6s
TIA LR LR
comp=Z,250nm,9.8s
TIA LR LR
comp=Z,560nm,14.6s
TATO Taipei 19.38 244 P P 22 18 43.0 -1.1
YHNB Yeheng 19.64 243 P Pn 22 18 48.2 -0.5
NACB Ninganchiao 19.78 242 P P 22 18 46.1 -2.3
NACB Ninganchiao 19.78 242 P Pn 22 18 49.3 -1.0
BJI Beijing 20.00 292 P P 22 18 49.8 -0.9
BJI S S 22 22 27.3 -5.5
BJI pmax pmax
comp=Z,22nm,0.9s
BJT Baijiatuau 20.01 292 P 22 18 49.4 -1.4
BJT Baijiatuau 20.01 292 P P 22 18 49.4 -1.4
BJT pmax pmax
comp=Z,37nm,0.9s
YULB Yu-li 20.47 241 P P 22 18 56.5 +0.5
SSLB Suanglung 20.48 242 P P 22 18 53.8 -2.3
XLT XiLinHaoTe 20.85 302 *e*P P 22 18 57.4 -2.6
XLT pP Pn 22 19 06.0 +3.1
XLT pmax pmax
comp=Z,38nm,1.2s
XLT LR LR
comp=Z,43nm,12.7s
XLT LR LR
comp=Z,340nm,19.2s
XLT LR LR
comp=Z,440nm,21.8s
HIA Hailar 20.91 319 P P 22 18 57.6 -2.9
HIA Hailar 20.91 319 P P 22 18 57.6 -2.9
HIA pmax pmax
comp=Z,18nm,0.9s
TPUB Ta-pu 21.01 241 P P 22 19 03.5 +1.7
HNS HongShan 21.04 284 ⇑P P 22 18 58.8 -3.1
HNS sP sP 22 19 21.4 +1.6
HNS S S 22 22 46.0 -7.3
HNS pmax pmax
comp=Z,13nm,0.7s
HNS LR LR
comp=Z,580nm,18.0s
HNS LR LR
comp=Z,230nm,19.1s
HNS LR LR
comp=Z,360nm,22.5s
QZH Quanzhou 21.57 248 *e*P P 22 19 13.0 +5.3
QZH S S 22 23 07.0 +3.0
QZH LR LR
comp=N,280nm,12.0s
QZH LR LR
comp=E,370nm,14.4s
QZH LR LR
comp=Z,420nm,16.5s
PEA0B Petropavlovsk- 21.69 29 P P 22 19 07.5 -1.3
PEA0B IAmb IAmb 22 19 28.5
comp=Z,107nm,1.2s
PEA0B Petropavlovsk- 21.69 29 *i* P P 22 19 07.8 -1.0
PETK Petropavlovsk- 21.69 29 P P 22 19 08.1 -0.7
PETK Petropavlovsk- 21.69 29 P P 22 19 10.0 +1.2
comp=Z,18nm,0.9s,baz=220,slow=8.9,SNR=15
PETK LR LR 22 28 14.1
comp=Z,173nm,19.8s,baz=219,slow=38
comp=Z,18nm,0.9s
PETK Petropavlovsk- 21.69 29 P P 22 19 08.1 -0.7
GUMO Guam 21.73 169 P P 22 19 09.4 -0.1
GUMO Guam 21.73 169 P P 22 19 10.1 +0.6
comp=Z,103nm,0.3s,baz=324,slow=14,SNR=5.5
GUMO LR LR 22 26 10.7
comp=Z,347nm,20.0s,baz=13,slow=32
GUMO Guam 21.73 169 P P 22 19 09.4 -0.1
GUMO pmax pmax
comp=Z,642nm,1.4s
PET Petropavlovsk 22.01 30 P P 22 19 11.4 -0.8
PET IAmb IAmb 22 19 29.6
comp=Z,114nm,1.3s
PET Petropavlovsk 22.01 30 *e*P P 22 19 12.5 +0.3
PET *e**SP pP 22 19 25.9 +2.1
PET *e*S S 22 23 14.2 +2.2
PET pmax pmax
comp=Z,400nm,8.7s
PET pmax pmax
comp=Z,200nm,8.9s
PET pmax pmax
comp=Z,13nm,0.5s
PET MLR MLR
comp=Z,400nm,20.0s

WHN	**Wuhan**	**22.54**	**266**	P	**P**	**22**	**19**	**17.3**	**-0.8**
WHN				S	**S**	**22**	**23**	**22.3**	**+0.5**
WHN				pmax	pmax				
	comp=Z,56nm,0.7s								
WHN				LR	LR				
	comp=Z,1μm,8.8s								
LYN	**LuoYang**	**23.12**	**277**	P	**P**	**22**	**19**	**22.3**	**-1.7**
LYN				pP	pP	22	19	33.0	-2.9
LYN				S	**S**	**22**	**23**	**28.3**	**-3.3**
LYN				pmax	pmax				
	comp=Z,37nm,0.7s								
LYN				LR	LR				
	comp=Z,490nm,16.2s								
LYN				LR	LR				
	comp=Z,320nm,17.2s								
LYN				LR	LR				
	comp=Z,690nm,14.4s								
HHC	**Hu-ho-hao-te**	**23.58**	**293**⇑	*i*P	**P**	**22**	**19**	**27.3**	**-1.3**
HHC				pP	pP	22	19	39.6	-1.4
HHC				PP	**PnPn**	**22**	**20**	**00.0**	**+2.7**
HHC				S	**S**	**22**	**23**	**36.8**	**-2.5**
HHC				pmax	pmax				
	comp=Z,33nm,1.2s								
HHC				pmax	pmax				
	comp=Z,88nm,3.7s								
HHC				LR	LR				
	comp=Z,250nm,17.2s								
HHC				LR	LR				
	comp=Z,210nm,20.5s								
HHC				LR	LR				
	comp=Z,290nm,20.6s								
CNSH	**ChangSha**	**24.54**	**261**	P	**P**	**22**	**19**	**36.5**	**-0.8**
CNSH				S	**S**	**22**	**23**	**53.8**	**-0.7**
CNSH				pmax	pmax				
	comp=Z,26nm,0.9s								
CNSH				LR	LR				
	comp=Z,750nm,25.2s								
CNSH				LR	LR				
	comp=Z,310nm,22.4s								
CNSH				LR	LR				
	comp=Z,360nm,17.9s								
BTO	**Baotou**	**24.74**	**292**	*e*P	**P**	**22**	**19**	**35.8**	**-3.3**
BTO				sP	**pP**	**22**	**19**	**54.0**	**+2.0**
BTO				PP	**PnPn**	**22**	**20**	**13.8**	**+0.8**
BTO				S	**S**	**22**	**23**	**53.3**	**-4.5**
BTO				SS	**SnSn**	**22**	**24**	**55.8**	**+7.9**
BTO				pmax	pmax				
	comp=Z,16nm,0.5s								
BTO				LR	LR				
	comp=Z,720nm,9.2s								
BTO				LR	LR				
	comp=Z,570nm,13.3s								
BTO				LR	LR				
	comp=Z,410nm,10.2s								
MA2	**Magadan**	**25.39**	**12**		**P**	**22**	**19**	**44.5**	**-0.2**
MA2	**Magadan**	**25.39**	**12**	P	**P**	**22**	**19**	**45.3**	**+0.6**
	comp=Z,82nm,0.8s,baz=198,slow=8.2,SNR=38								
MA2				LR	LR	22	29	28.8	
	comp=Z,313nm,21.7s,baz=196,slow=36								
	comp=Z,82nm,0.8s								
MA2	**Magadan**	**25.39**	**12**	*i* P	**P**	**22**	**19**	**45.0**	**+0.3**
MA2				pmax	pmax				
	comp=Z,112nm,0.9s								
XAN	**Xi'an**	**26.10**	**277**	⇑P	**P**	**22**	**19**	**49.8**	**-1.7**
XAN				pP	pP	22	20	01.4	-2.9
XAN				sP	sP	22	20	07.4	-2.9
XAN				pmax	pmax				
	comp=Z,47nm,1.5s								
XAN				LR	LR				
	comp=Z,520nm,16.5s								
XAN				LR	LR				
	comp=Z,200nm,14.4s								
XAN				LR	LR				
	comp=Z,310nm,17.9s								
ENH	**Enshi**	**26.61**	**268**		**P**	**22**	**19**	**54.2**	**-1.9**
ENH				IAmb	IAmb	22	19	57.1	
	comp=Z,63nm,1.0s								
H11N2	**WAKE ISLAND Hy**	**27.75**	**117**	T	T	22	49	22.2	
	baz=309,slow=75,SNR=907								
H11N1	**WAKE ISLAND Hy**	**27.76**	**117**	T	T	22	49	24.8	
	baz=309,slow=75,SNR=209								
H11N3	**WAKE ISLAND Hy**	**27.77**	**117**	T	T	22	49	34.6	
	baz=309,slow=75,SNR=1131								
YAK	**Yakutsk**	**27.85**	**349**		**P**	**22**	**20**	**05.5**	**-1.3**
YAK	**Yakutsk**	**27.85**	**349**	LR	LR	22	32	24.8	
	comp=Z,234nm,18.7s,baz=138,slow=39								
YAK	**Yakutsk**	**27.85**	**349**	*e*P	**P**	**22**	**20**	**06.2**	**-0.6**
YAK				*e**PP	**pP**	**22**	**20**	**21.1**	**+1.4**
YAK				*e*		22	20	54.6	
YAK				*e*		22	23	20.8	
YAK				*e*S	**S**	**22**	**24**	**45.5**	**-0.9**
YAK				*e*SS	**SnSn**	**22**	**26**	**04.9**	**+1.6**
YAK				*e*		22	30	48.6	
YAK				pmax	pmax				
	comp=Z,119nm,1.4s								
YAK				pmax	pmax				
	comp=N,44nm,1.4s								
YAK				pmax	pmax				
	comp=E,14nm,1.3s								
YAK				pmax	pmax				
	comp=Z,53nm,2.0s								
YAK				pmax	pmax				
	comp=N,76nm,1.9s								
YAK				pmax	pmax				
	comp=E,38nm,2.4s								
YAK				smax	smax				
	comp=E,194nm,4.3s								
YAK				smax	smax				
	comp=N,150nm,4.3s								
ULN	**Ulaanbaatar**	**28.00**	**307**		**P**	**22**	**20**	**06.9**	**-1.6**
ULN	**Ulaanbaatar**	**28.00**	**307**	P	**P**	**22**	**20**	**09.2**	**+0.7**
ULN				S	**S**	**22**	**24**	**52.7**	**+3.4**
ULN	**Ulaanbaatar**	**28.00**	**307**	*ce*P	**P**	**22**	**20**	**07.8**	**-0.7**
ULN				pmax	pmax				
	comp=Z,31nm,1.7s								
H11S1	**WAKE ISLAND Hy**	**28.39**	**119**	T	T	22	50	06.1	
	baz=311,slow=76,SNR=194								
H11S3	**WAKE ISLAND Hy**	**28.39**	**119**	T	T	22	50	14.5	
	baz=311,slow=76,SNR=68								
H11S2	**WAKE ISLAND Hy**	**28.40**	**119**	T	T	22	50	17.3	
	baz=311,slow=76,SNR=59								
SONM	**Songino Array**	**28.42**	**307**	P	**P**	**22**	**20**	**10.6**	**-1.7**
SONM	**Songino Array**	**28.42**	**307**	P	**P**	**22**	**20**	**11.2**	**-1.0**
	comp=Z,8.3nm,0.6s,baz=111,slow=8.0,SNR=26								
SONM				LR	LR	22	31	48.4	
	comp=Z,405nm,21.9s,baz=104,slow=37								
	comp=Z,8.3nm,0.6s								
SONM	**Songino Array**	**28.42**	**307**	P	**P**	**22**	**20**	**10.6**	**-1.7**
SONM				pmax	pmax				
	comp=Z,18nm,1.1s								
SEY	**Seymchan**	**28.82**	**11**	LR	LR	22	32	32.4	
	comp=Z,306nm,20.1s,baz=186,slow=38								
SEY	**Seymchan**	**28.82**	**11**	*i* P	**P**	**22**	**20**	**14.7**	**-0.8**
SEY				pmax	pmax				
	comp=Z,23nm,0.9s								
BOD	**Bodaibo**	**28.89**	**330**	*e*P	**P**	**22**	**20**	**16.2**	**+0.1**
BOD				pmax	pmax				
	comp=Z,48nm,1.3s								
LZH	**Lanzhou**	**29.84**	**283**	*e*P	**P**	**22**	**20**	**25.0**	**0.0**
LZH				pP	pP	22	20	36.3	-1.6
LZH				S	**S**	**22**	**25**	**17.9**	**-0.7**
LZH				pmax	pmax				
	comp=Z,28nm,1.3s								
LZH				pmax	pmax				
	comp=Z,160nm,3.8s								
LZH				LR	LR				
	comp=Z,400nm,14.8s								
LZH				LR	LR				
	comp=Z,230nm,14.8s								
LZH				LR	LR				
	comp=Z,310nm,15.8s								
GYA	**Guiyang**	**30.33**	**263**	⇓P	**P**	**22**	**20**	**28.5**	**-0.8**
GYA				pP	pP	22	20	39.9	-2.2
GYA				S	**S**	**22**	**25**	**26.3**	**+0.1**
GYA				pmax	pmax				
	comp=Z,29nm,1.2s								
GYA				pmax	pmax				
	comp=Z,97nm,3.1s								
GYA				LR	LR				
	comp=Z,210nm,17.0s								
GYA				LR	LR				
	comp=Z,170nm,11.3s								
GYA				LR	LR				
	comp=Z,240nm,13.8s								
ZAK	**Zakamensk**	**31.04**	**311**	*e*P	**P**	**22**	**20**	**33.7**	**-1.7**
ZAK				pmax	pmax				
	comp=Z,9.0nm,1.5s								
CD2	**Chengdu**	**31.11**	**273**	P	**P**	**22**	**20**	**34.4**	**-1.7**
CD2				pmax	pmax				
	comp=Z,50nm,0.8s								
CD2				LR	LR				
	comp=Z,490nm,13.2s								
CD2				LR	LR				
	comp=Z,330nm,10.0s								
QIZ	**Qiongzhong**	**31.59**	**248**	P	**P**	**22**	**20**	**41.8**	**+1.4**
QIZ				S	**S**	**22**	**25**	**49.0**	**+3.2**
QIZ				LR	LR				
	comp=Z,88nm,13.9s								
QIZ				LR	LR				
	comp=Z,96nm,15.9s								
QIZ				LR	LR				
	comp=Z,200nm,18.8s								
GTA	**Gaotai**	**32.60**	**290**	*e*P	**P**	**22**	**20**	**48.8**	**-0.4**
GTA				pP	pP	22	20	56.6	-5.6
GTA				PP	**PP**	**22**	**22**	**04.4**	**+0.9**
GTA				S	**S**	**22**	**25**	**57.8**	**-3.7**
GTA				pmax	pmax				
	comp=Z,25nm,1.4s								
GTA				pmax	pmax				
	comp=Z,100nm,7.6s								
GTA				LR	LR				
	comp=Z,360nm,20.7s								
GTA				LR	LR				
	comp=Z,300nm,18.3s								
GTA				LR	LR				
	comp=Z,400nm,24.3s								
MOY	**Mondy**	**32.77**	**313**	*e*P	**P**	**22**	**20**	**50.2**	**-0.4**
MOY				pmax	pmax				
	comp=Z,13nm,1.7s								
KMI	**Kunming**	**34.09**	**264**	P	**P**	**22**	**21**	**02.3**	**-0.2**
KMI				pP	pP	22	21	18.1	+2.8
KMI				pmax	pmax				
	comp=Z,14nm,0.8s								
KMI				LR	LR				
	comp=Z,200nm,15.6s								
KMI				LR	LR				
	comp=Z,250nm,15.5s								
KMI				LR	LR				
	comp=Z,260nm,14.1s								
PZH	**PanZhiHua**	**34.33**	**266**	P	**P**	**22**	**21**	**03.8**	**-0.6**
PZH				PP	**PP**	**22**	**22**	**21.8**	**-1.0**
PZH				S	**S**	**22**	**26**	**28.6**	**+0.1**
PZH				pmax	pmax				
	comp=Z,30nm,0.8s								
PZH				pmax	pmax				
	comp=Z,110nm,5.7s								
PZH				LR	LR				
	comp=Z,430nm,21.8s								
PZH				LR	LR				
	comp=Z,270nm,23.1s								
PZH				LR	LR				
	comp=Z,270nm,17.1s								
SLVN	**Son La**	**34.95**	**257**		**P**	**22**	**21**	**08.5**	**-1.3**
GOMU	**GeErMu**	**37.00**	**285**	P	**P**	**22**	**21**	**27.3**	**-0.2**
GOMU				pP	pP	22	21	38.3	-2.3
GOMU				sP	sP	22	21	43.5	-3.0
GOMU				PP	**PP**	**22**	**22**	**53.3**	**+0.9**
GOMU				PcP	**PcP**	**22**	**23**	**48.6**	**+0.9**
GOMU				S	**S**	**22**	**27**	**12.1**	**+2.3**
GOMU				pmax	pmax				
	comp=Z,41nm,1.4s								
GOMU				pmax	pmax				
	comp=Z,120nm,4.7s								
GOMU				LR	LR				
	comp=Z,120nm,14.8s								
GOMU				LR	LR				
	comp=Z,160nm,17.6s								
GOMU				LR	LR				
	comp=Z,220nm,16.4s								
TIXI	**Tiksi**	**37.16**	**354**	P	**P**	**22**	**21**	**26.8**	**-1.1**
TIXI				IAmb	IAmb	22	21	32.1	
	comp=Z,11nm,0.7s								
TIXI	**Tiksi**	**37.16**	**354**	LR	LR	22	38	52.7	
	comp=Z,190nm,19.6s,baz=169,slow=40								
TIXI	**Tiksi**	**37.16**	**354**	*ce*P	**P**	**22**	**21**	**28.2**	**+0.3**
TIXI				pmax	pmax				
	comp=Z,16nm,1.0s								
TIXI	**Tiksi**	**37.16**	**354**	P	**P**	**22**	**21**	**27.2**	**-0.7**
JAY	**Jayapura**	**37.40**	**180**	P	**P**	**22**	**21**	**30.9**	**+0.3**
	comp=Z,23nm,0.9s,baz=303,slow=5.3,SNR=7.1								
JAY				LR	LR	22	34	19.5	
	comp=Z,133nm,20.6s,baz=294,slow=32								
	comp=Z,23nm,0.9s								
TNCH	**TengChong**	**37.58**	**266**	P	**P**	**22**	**21**	**31.9**	**-0.4**
TNCH				sP	sP	22	21	49.0	-2.0
TNCH				S	**S**	**22**	**27**	**17.1**	**-1.3**
TNCH				pmax	pmax				
	comp=Z,33nm,1.4s								
TNCH				pmax	pmax				
	comp=Z,100nm,3.6s								
TNCH				LR	LR				
	comp=Z,290nm,15.1s								
TNCH				LR	LR				
	comp=Z,190nm,13.7s								
TNCH				LR	LR				
	comp=Z,260nm,22.8s								
MRSI	**Marisa**	**38.60**	**211**	P	**P**	**22**	**21**	**39.6**	**-1.1**
	comp=Z,32nm,1.2s								
FAKI	**Fak Fak**	**38.61**	**194**	P	**P**	**22**	**21**	**39.8**	**-1.0**
NIKH	**Nikolski High**	**39.54**	**47**	P	**P**	**22**	**21**	**47.9**	**-0.3**
NIKH				IAmb	IAmb	22	21	58.5	
	comp=Z,29nm,0.8s								
NIKH	**Nikolski High**	**39.54**	**47**	P	**P**	**22**	**21**	**47.3**	**-0.9**
P08K	**Saint George I**	**39.70**	**41**	P	**P**	**22**	**21**	**51.1**	**+1.7**
	baz=259								
CHTO	**Chiang Mai**	**40.24**	**257**	P	**P**	**22**	**21**	**53.5**	**-0.8**
CHTO	**Chiang Mai**	**40.24**	**257**	P	**P**	**22**	**21**	**53.4**	**-1.0**
CHTO	**Chiang Mai**	**40.24**	**257**	P	**P**	**22**	**21**	**53.6**	**-0.8**
CHTO				pmax	pmax				
	comp=Z,12nm,1.1s								
CHTO	**Chiang Mai**	**40.24**	**257**	P	**P**	**22**	**21**	**52.6**	**-1.8**
CHTO				pP	**pP**	**22**	**22**	**04.6**	**-3.0**
CMAR	**Chiang Mai Arr**	**40.43**	**257**	P	**P**	**22**	**21**	**55.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**40.43**	**257**	P	**P**	**22**	**21**	**54.3**	**-1.7**
	comp=Z,4.4nm,0.8s,baz=47,slow=7.4,SNR=20								
CMAR				PcP	**PcP**	**22**	**23**	**58.0**	**-0.2**
	comp=Z,2.2nm,0.3s,baz=20,slow=2.3,SNR=6.8								
CMAR				LR	LR	22	39	36.2	
	comp=Z,134nm,20.1s,baz=60,slow=38								
	comp=Z,4.4nm,0.8s								
CMAR	**Chiang Mai Arr**	**40.43**	**257**	*i* P	**P**	**22**	**21**	**54.2**	**-1.7**
CMAR				pmax	pmax				
	comp=Z,5.0nm,0.9s								
WMQ	**Urumqi**	**41.20**	**299**	*e*P	**P**	**22**	**22**	**04.1**	**+1.9**
WMQ				pP	pP	22	22	12.5	-2.9
WMQ				S	**S**	**22**	**28**	**11.3**	**-0.9**
WMQ				pmax	pmax				
	comp=Z,95nm,0.9s								
WMQ				pmax	pmax				
	comp=Z,290nm,3.7s								
WMQ				LR	LR				
	comp=Z,350nm,17.5s								
WMQ				LR	LR				
	comp=Z,330nm,24.7s								
WMQ				LR	LR				
	comp=Z,190nm,19.5s								
LSA	**Lhasa**	**41.80**	**277**	P	**P**	**22**	**22**	**06.7**	**-1.0**
LSA	**Lhasa**	**41.80**	**277**	P	**P**	**22**	**22**	**07.3**	**-0.4**
LSA				pmax	pmax				
	comp=Z,4.0nm,0.6s								
LSA	**Lhasa**	**41.80**	**277**	P	**P**	**22**	**22**	**06.7**	**-1.0**
LSA				pmax	pmax				
	comp=Z,15nm,1.1s								
SBUM	**Sibu**	**41.85**	**225**	P	**P**	**22**	**22**	**05.4**	**-2.2**
SHL	**Shillong**	**42.79**	**271**	P	**P**	**22**	**22**	**13.7**	**-1.8**
SHL	**Shillong**	**42.79**	**271**	P	**P**	**22**	**22**	**15.9**	**+0.5**
SHL	**Shillong**	**42.79**	**271**	P	**P**	**22**	**22**	**13.7**	**-1.8**
SHL				pmax	pmax				
	comp=Z,11nm,0.8s								
ZAA0	**Zalesovo Array**	**42.80**	**314**		**P**	**22**	**22**	**15.2**	**+0.3**
ZAA0				IAmb	IAmb	22	22	17.9	
	comp=Z,38nm,0.8s								
ZALV	**Zalesovo Beam**	**42.80**	**314**		**P**	**22**	**22**	**15.0**	**+0.1**
ZALV	**Zalesovo Beam**	**42.80**	**314**	P	**P**	**22**	**22**	**14.4**	**-0.5**
	comp=Z,38nm,0.8s,baz=101,slow=7.7,SNR=93								
ZALV				PcP	**PcP**	**22**	**24**	**05.2**	**-0.2**
	comp=Z,4.2nm,0.5s,baz=102,slow=4.1,SNR=5.2								
ZALV				LR	LR	22	41	05.9	
	comp=Z,79nm,18.2s,baz=85,slow=38								
	comp=Z,38nm,0.8s								
ZSN	**Zaisan**	**42.85**	**304**	*e*P	**P**	**22**	**22**	**16.3**	**+0.9**
ZSN				pmax	pmax				
	comp=Z,34nm,1.1s								
ZSN	**Zaisan**	**42.85**	**304**	*e*P	**P**	**22**	**22**	**16.4**	**+0.9**
	comp=Z,34nm,1.1s								
K13K	**Kusilvak Mount**	**43.26**	**34**	P	**P**	**22**	**22**	**17.6**	**-0.9**
K13K	**Kusilvak Mount**	**43.26**	**34**	P	**P**	**22**	**22**	**19.3**	**+0.8**
	baz=258								
F14K	**Arctic Creek**	**43.46**	**29**	P	**P**	**22**	**22**	**21.2**	**+1.1**
	baz=252								
ANM	**Nome**	**43.59**	**30**	P	**P**	**22**	**22**	**21.1**	**-0.1**
	baz=254								
M13K	**Dall Lake**	**43.59**	**37**	P	**P**	**22**	**22**	**22.5**	**+1.3**
	baz=260								
KSM	**Kuching**	**43.76**	**227**	P	**P**	**22**	**22**	**21.4**	**-1.7**
J14K	**Nanvaranak Lak**	**43.93**	**33**	P	**P**	**22**	**22**	**25.6**	**+1.7**
	baz=258								
L14K	**Kuka Creek**	**44.07**	**35**	P	**P**	**22**	**22**	**24.9**	**-0.1**
	baz=260								
F15K	**North Star Dit**	**44.20**	**29**	P	**P**	**22**	**22**	**26.5**	**+0.5**
F15K	**North Star Dit**	**44.20**	**29**	P	**P**	**22**	**22**	**26.9**	**+0.8**
	baz=254								
G15K	**Niukluk**	**44.25**	**30**	P	**P**	**22**	**22**	**26.0**	**-0.4**
	baz=255								
BRDH	**Bariadhala**	**44.26**	**267**	LR	LR	22	43	16.1	
	comp=Z,161nm,18.5s,baz=106,slow=39								
M14K	**Bethel**	**44.32**	**36**	P	**P**	**22**	**22**	**26.5**	**-0.5**
	baz=261								
N14K	**Kuskokwak Cree**	**44.34**	**38**	P	**P**	**22**	**22**	**26.9**	**-0.3**
	baz=262								
KAPI	**Kappang**	**44.47**	**210**	P	**P**	**22**	**22**	**27.6**	**-1.1**
	comp=Z,7.9nm,0.8s,baz=32,slow=12,SNR=4.1								
	comp=Z,7.9nm,0.8s								
KAPI	**Kappang**	**44.47**	**210**	P	**P**	**22**	**22**	**26.9**	**-1.8**
O14K	**Tigyukauivet M**	**44.47**	**39**	P	**P**	**22**	**22**	**28.4**	**+0.2**
	baz=264								
MK31	**Makanchi Array**	**44.66**	**304**	*i* P	**P**	**22**	**22**	**29.2**	**-0.8**
MKAR	**Makanchi Array**	**44.66**	**304**		**P**	**22**	**22**	**29.3**	**-0.7**
MKAR	**Makanchi Array**	**44.66**	**304**	P	**P**	**22**	**22**	**29.8**	**-0.3**
	comp=Z,11nm,0.7s,baz=85,slow=9.4,SNR=52								
MKAR				LR	LR	22	41	42.4	
	comp=Z,241nm,20.3s,baz=82,slow=37								
	comp=Z,11nm,0.7s								
C16K	**Lisburne Hills**	**44.73**	**25**		**P**	**22**	**22**	**31.3**	**+1.1**
C16K				IAmb	IAmb	22	22	48.0	
	comp=Z,51nm,1.1s								
C16K	**Lisburne Hills**	**44.73**	**25**	P	**P**	**22**	**22**	**30.8**	**+0.6**
	baz=250								
K15K	**Wolf Creek Mou**	**44.77**	**34**	P	**P**	**22**	**22**	**30.8**	**+0.2**
	baz=260								
MAKZ	**Makanchi**	**44.87**	**304**	P	**P**	**22**	**22**	**31.5**	**-0.2**
H16K	**Elim**	**44.91**	**31**	P	**P**	**22**	**22**	**32.7**	**+1.0**
	baz=257								
M15K	**Kasigluk River**	**44.93**	**37**	P	**P**	**22**	**22**	**32.3**	**+0.4**
	baz=263								
CHNA	**Chernabura Isl**	**45.12**	**45**	P	**P**	**22**	**22**	**33.2**	**-0.3**
	baz=270								
CNBA	**Chernabura Isl**	**45.12**	**45**	P	**P**	**22**	**22**	**33.6**	**+0.1**
N15K	**Kwethluk River**	**45.16**	**37**	P	**P**	**22**	**22**	**33.9**	**+0.1**
	baz=264								
S14K	**Fog Glacier**	**45.17**	**43**	P	**P**	**22**	**22**	**33.6**	**-0.4**
	baz=268								
O15K	**Ugalikthiuk R**	**45.20**	**39**	P	**P**	**22**	**22**	**34.0**	**0.0**
	baz=265								
J16K	**Anvik River**	**45.36**	**33**	P	**P**	**22**	**22**	**35.4**	**+0.1**
	baz=260								
D17K	**Noatak River**	**45.36**	**26**	P	**P**	**22**	**22**	**35.7**	**+0.5**
	baz=253								
I17K	**Unalakleet**	**45.42**	**32**	P	**P**	**22**	**22**	**36.2**	**+0.5**
	baz=260								
C17K	**DeLong Mountai**	**45.55**	**25**	P	**P**	**22**	**22**	**36.9**	**+0.1**
	baz=253								
E17K	**Hotham Inlet**	**45.66**	**28**	P	**P**	**22**	**22**	**37.9**	**+0.3**
	baz=255								
F17K	**Baldwin Pennin**	**45.73**	**28**	P	**P**	**22**	**22**	**37.9**	**-0.3**
	baz=256								
G17K	**Kiwalik Mounta**	**45.76**	**30**	P	**P**	**22**	**22**	**38.6**	**+0.2**
	baz=258								
M16K	**Timber Creek**	**45.81**	**36**	P	**P**	**22**	**22**	**38.2**	**-0.7**
	baz=264								
N16K	**Nishlik Lake**	**45.85**	**37**	P	**P**	**22**	**22**	**39.3**	**+0.1**
	baz=265								
H17K	**Granite Mounta**	**45.95**	**31**	P	**P**	**22**	**22**	**40.0**	**+0.1**
	baz=259								
J17K	**VABM Dome**	**46.05**	**33**	P	**P**	**22**	**22**	**40.8**	**0.0**
	baz=262								
O16K	**Kokwok River B**	**46.12**	**38**	P	**P**	**22**	**22**	**42.0**	**+0.7**
	baz=266								
E18K	**Tukpahlearik C**	**46.21**	**27**	P	**P**	**22**	**22**	**42.6**	**+0.7**
	baz=256								
L17K	**Donlin**	**46.25**	**35**	P	**P**	**22**	**22**	**42.5**	**+0.2**
	baz=264								
B18K	**Kokolik River**	**46.29**	**24**	P	**P**	**22**	**22**	**43.4**	**+0.9**
	baz=253								
C18K	**Utukok River**	**46.30**	**25**	P	**P**	**22**	**22**	**41.9**	**-0.8**
	baz=254								
K17K	**Iditarod**	**46.31**	**34**	P	**P**	**22**	**22**	**42.6**	**-0.2**
	baz=263,SNR=7.1								
F18K	**Selawik**	**46.39**	**28**	P	**P**	**22**	**22**	**43.6**	**+0.3**
	baz=258,SNR=8.2								
M17K	**Holitna River**	**46.58**	**36**	P	**P**	**22**	**22**	**46.0**	**+1.0**
	baz=265,SNR=9.6								
O17K	**Koliganek Bris**	**46.63**	**38**	P	**P**	**22**	**22**	**46.2**	**+0.9**
	baz=267								
N17K	**Nushagak Hills**	**46.63**	**37**	P	**P**	**22**	**22**	**45.3**	**0.0**
	baz=266								
H18K	**Honhosa River**	**46.64**	**31**	P	**P**	**22**	**22**	**45.9**	**+0.6**
	baz=261								
G18K	**Tagagawik**	**46.65**	**30**		**P**	**22**	**22**	**46.0**	**+0.6**
G18K				IAmb	IAmb	22	23	12.3	
	comp=Z,13nm,0.8s								
G18K	**Tagagawik**	**46.65**	**30**	P	**P**	**22**	**22**	**46.0**	**+0.6**
	baz=260,SNR=8.4								
KURK	**Kurchatov**	**46.67**	**309**		**P**	**22**	**22**	**45.4**	**-0.4**
KURK	**Kurchatov**	**46.67**	**309**	P	**P**	**22**	**22**	**47.6**	**+1.8**
KURK				S	**S**	**22**	**29**	**27.7**	**-3.8**
KURK	**Kurchatov**	**46.67**	**309**	*ce*P	**P**	**22**	**22**	**45.7**	**-0.1**
KURK				pmax	pmax				
	comp=Z,99nm,1.0s								
KURK	**Kurchatov**	**46.67**	**309**	P	**P**	**22**	**22**	**46.2**	**+0.5**
KURK				pP	**pP**	**22**	**22**	**58.4**	**-0.9**
KURBB	**Kurchatov Arra**	**46.74**	**309**	P	**P**	**22**	**22**	**45.9**	**-0.5**
	comp=Z,33nm,0.5s,baz=85,slow=7.6,SNR=100								
KURBB				S	**S**	**22**	**29**	**29.8**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=77,slow=14,SNR=8.0								
	comp=Z,33nm,0.5s								
TATA	**Tatamba Isabel**	**46.87**	**154**	P	**P**	**22**	**22**	**46.8**	**-0.8**
P17K	**Kvichak River**	**46.94**	**39**	P	**P**	**22**	**22**	**47.2**	**-0.6**
	baz=268								
C19K	**Lookout Ridge**	**46.98**	**25**	P	**P**	**22**	**22**	**48.3**	**+0.2**
	baz=256								
L18K	**Granite Mounta**	**47.01**	**35**	P	**P**	**22**	**22**	**48.6**	**+0.3**
	baz=265,SNR=5.2

TDK pmax pmax
comp=Z,14nm,0.8s
TDK Taldygorghan 47.61 302 *eP* **P 22 22 54.4 +1.2**
comp=Z,14nm,0.8s
J19K Poorman 47.66 32 **P 22 22 54.0 +0.7**
J19K IAmb IAmb 22 23 11.8
comp=Z,18nm,1.1s
J19K Poorman 47.66 32 P **P 22 22 53.8 +0.5**
baz=264,SNR=12
Q18K Katmai Hardscr 47.67 40 P **P 22 22 53.7 +0.1**
baz=270
KPKS Kokpek 47.72 300 *eP* **P 22 22 54.9 +0.8**
KPKS Kokpek 47.72 300 *eP* **P 22 22 55.0 +0.8**
BATI Baumata 47.82 203 P **P 22 22 55.7 +0.6**
comp=Z,39nm,0.6s,baz=283,slow=1.9,SNR=3.8
comp=Z,39nm,0.6s
L19K White Mountain 47.86 35 P **P 22 22 55.4 +0.5**
baz=267
HNR Honiara 47.88 154 LR LR 22 41 25.3
comp=Z,126nm,22.0s,baz=349,slow=34
D20K Etivluk River 47.95 26 P **P 22 22 56.4 +0.9**
baz=259
R18K Karluk 47.98 41 P **P 22 22 56.2 +0.5**
baz=271
N19K Bonanza Creek 47.98 37 P **P 22 22 56.4 +0.5**
baz=268
F20K Avaraart Lake 48.00 28 P **P 22 22 56.3 +0.4**
baz=261
SATY Saty 48.00 299 *eP* **P 22 22 57.4 +1.0**
SATY pmax pmax
comp=Z,17nm,1.3s
SATY Saty 48.00 299 *eP* **P 22 22 57.5 +1.0**
comp=Z,16nm,1.3s
E20K Nigu River 48.02 27 P **P 22 22 57.0 +0.9**
baz=260
B20K Meade River 48.02 24 P **P 22 22 56.7 +0.7**
baz=257
M19K Big River Lodg 48.06 35 P **P 22 22 57.3 +0.8**
baz=267
H20K Anotleneega Mo 48.13 30 P **P 22 22 57.8 +0.9**
baz=264,SNR=6.6
SII Sitkinak Islan 48.15 42 P **P 22 22 57.6 +0.4**
baz=272
I20K Naaghedeneel 48.23 31 P **P 22 22 57.9 +0.2**
baz=265
K20K Telida 48.29 33 P **P 22 22 58.5 +0.3**
baz=266
J20K Nowinta River 48.32 32 **P 22 22 59.2 +0.9**
J20K IAmb IAmb 22 23 17.5
comp=Z,17nm,1.1s
J20K Nowinta River 48.32 32 P **P 22 22 58.2 -0.2**
baz=265,SNR=14
L20K Farewell, AK 48.33 34 P **P 22 22 58.5 -0.1**
baz=267
Q19K Cape Douglas, 48.38 39 P **P 22 22 58.7 -0.3**
baz=271
P19K Oil Pt 48.59 38 P **P 22 23 00.2 -0.3**
baz=270
OHAK Old Harbor 48.62 41 P **P 22 23 00.5 -0.3**
baz=272
IMAR Indian Mountai 48.65 30 P **P 22 23 01.9 +1.0**
M20K Styx River 48.66 35 P **P 22 23 01.3 +0.2**
baz=268
C21K Knifeblade Rid 48.68 25 P **P 22 23 02.4 +1.3**
baz=260
TARG Taragay, Kyrgy 48.73 298 P **P 22 23 03.1 +0.7**
TARG Taragay, Kyrgy 48.73 298 P **P 22 23 03.1 +0.7**
TARG pmax pmax
comp=Z,104nm,1.5s
G21K Allakaket 48.80 29 P **P 22 23 03.0 +0.9**
baz=264,SNR=6.7
B21K Ikpikpuk River 48.82 25 P **P 22 23 01.6 -0.5**
B21K IAmb IAmb 22 23 24.2
comp=Z,22nm,0.8s
B21K Ikpikpuk River 48.82 25 P **P 22 23 02.6 +0.5**
baz=260
COEN Coen 48.82 177 P **P 22 23 02.8 0.0**
COEN Coen 48.82 177 P **P 22 23 01.8 -0.9**
F21K Alatna River 48.89 28 P **P 22 23 02.9 +0.2**
baz=263
A22K Sinclair Lake 48.95 23 P **P 22 23 04.1 +1.1**
baz=259
KDAK Kodiak Island 48.97 41 **P 22 23 03.8 +0.3**
KDAK IAmb IAmb 22 23 32.1
comp=Z,26nm,1.0s
KDAK Kodiak Island 48.97 41 P **P 22 23 03.8 +0.3**
KDAK pmax pmax
comp=Z,27nm,1.0s
KDAK Kodiak Island 48.97 41 P **P 22 23 04.2 +0.8**
baz=272
H21K Melozitna Rive 49.01 30 P **P 22 23 04.9 +1.2**
baz=265,SNR=9.3
AAA Alma-Ata 49.03 300 *eP* **P 22 23 05.3 +1.1**
AAA Alma-Ata 49.03 300 *eP* **P 22 23 05.4 +1.1**
Q20K Shuyak Island 49.04 40 P **P 22 23 05.3 +1.3**
baz=272
SYI Shuyak Island 49.04 40 P **P 22 23 04.2 +0.3**
SYI IAmb IAmb 22 23 22.1
comp=Z,38nm,1.1s
TNSS Tian-Shan 49.05 300 *eP* **P 22 23 05.5 +0.7**
TNSS Tian-Shan 49.05 300 *eP* **P 22 23 05.5 +0.7**
N20K Mount Spurr 49.09 36 P **P 22 23 05.4 +0.9**
baz=270
KDJ Kajisay 49.09 298 P **P 22 23 05.3 +0.4**
KDJ Kajisay 49.09 298 P **P 22 23 05.3 +0.4**
KDJ pmax pmax
comp=Z,220nm,1.7s
PPLA Purkeypile 49.13 34 P **P 22 23 06.0 +1.2**
baz=268,SNR=5.5
SPU Mount Spurr 49.17 36 P **P 22 23 05.9 +0.9**
SPU IAmb IAmb 22 23 23.3
comp=Z,16nm,1.0s
CAST Castle Rocks 49.19 33 **P 22 23 05.0 -0.1**
CAST Castle Rocks 49.19 33 P **P 22 23 05.9 +0.8**
baz=268
KUU Kurty 49.29 301 *eP* **P 22 23 07.1 +1.0**
KUU pmax pmax
comp=Z,25nm,1.3s
KUU Kurty 49.29 301 *eP* **P 22 23 07.2 +1.0**
comp=Z,25nm,1.3s
I21K Tanana 49.32 31 P **P 22 23 07.1 +1.1**
baz=267,SNR=6.5
B22K Teshekpuk Lake 49.34 24 P **P 22 23 06.4 +0.3**
baz=261
D22K Ayikyak River 49.39 26 P **P 22 23 08.2 +1.7**
baz=263
SKT Skwentna 49.42 35 P **P 22 23 06.3 -0.5**
SKT IAmb IAmb 22 23 24.7
comp=Z,17nm,1.2s
SKT Skwentna 49.42 35 P **P 22 23 07.6 +0.8**
baz=270
F22K John River 49.42 28 P **P 22 23 07.3 +0.5**
baz=264,SNR=6.6
H22K Ishtalitna Cre 49.61 30 P **P 22 23 09.0 +0.7**
baz=266,SNR=10.0
E22K Anaktuvuk Pass 49.62 27 P **P 22 23 09.2 +0.9**
baz=264,SNR=9.2
G22K Bettles 49.63 29 P **P 22 23 08.9 +0.6**
baz=266
BPAW Bear Paw Mtn. 49.70 32 **P 22 23 09.9 +0.9**
BPAW Bear Paw Mtn. 49.70 32 P **P 22 23 10.1 +1.1**
baz=268,SNR=6.4
SUA Susitna One 49.80 36 P **P 22 23 11.0 +1.2**
baz=271
MLY Manley 49.84 31 **P 22 23 10.5 +0.4**
MLY IAmb IAmb 22 23 29.1
comp=Z,18nm,1.0s
MLY Manley 49.84 31 P **P 22 23 10.8 +0.8**
baz=268,SNR=17
BOOM Boomskoye usch 49.90 299 P **P 22 23 11.9 +0.9**
BOOM Boomskoye usch 49.90 299 P **P 22 23 11.9 +0.9**
TRF Thorofare Moun 50.00 33 P **P 22 23 12.8 +1.3**
baz=270
NRN Naryn 50.12 298 **P 22 23 13.7 +0.8**
NRN IAmb IAmb 22 23 48.8
comp=Z,11nm,0.8s
NRN Naryn 50.12 298 P **P 22 23 13.7 +0.8**
NRN pmax pmax
comp=Z,11nm,0.8s
COLD Coldfoot 50.16 28 P **P 22 23 13.8 +1.4**
baz=266
G23K Bananza Creek 50.20 29 P **P 22 23 13.4 +0.7**
baz=267
C23K Itkillik River 50.23 25 P **P 22 23 14.3 +1.5**
baz=264
RC01 Rabbit Creek A 50.29 36 P **P 22 23 14.3 +0.8**
baz=272

H23K Yukon River 50.36 30 P **P 22 23 13.9 -0.1**
baz=268,SNR=18
I23K Minto, Yukon-K 50.42 31 P **P 22 23 14.9 +0.5**
baz=269,SNR=5.2
E23K Chandalar 50.44 27 P **P 22 23 14.7 +0.1**
baz=266,SNR=14
SEW Seward 50.48 38 P **P 22 23 14.8 -0.1**
SEW IAmb IAmb 22 23 34.5
comp=Z,27nm,1.0s
SEW Seward 50.48 38 P **P 22 23 15.3 +0.5**
baz=273
TOLK Toolik Lake Re 50.49 26 P **P 22 23 15.1 +0.1**
baz=266
NEA2 Nenana 50.54 32 P **P 22 23 15.8 +0.5**
baz=270,SNR=14
BRZS Berezniki 50.54 309 *eP* **P 22 23 16.0 +0.5**
BRZS Berezniki 50.54 309 *eP* **P 22 23 16.1 +0.5**
PMR Palmer 50.56 36 P **P 22 23 16.8 +1.3**
baz=272
BKNI Bangkinang 50.58 236 P **P 22 23 14.9 -1.3**
SGDS Sogindy 50.59 301 *eP* **P 22 23 17.1 +1.0**
comp=Z,8.6nm,1.0s
MCK McKinley 50.60 33 P **P 22 23 16.6 +0.8**
baz=271
BTLS Baital 50.63 303 *eP* **P 22 23 17.1 +0.9**
BTLS pmax pmax
comp=Z,21nm,1.4s
BTLS Baital 50.63 303 *eP* **P 22 23 17.2 +0.9**
comp=Z,21nm,1.4s
GHO Glory Hole Cre 50.66 35 P **P 22 23 16.5 +0.2**
GHO IAmb IAmb 22 23 34.1
comp=Z,29nm,1.1s
KSH Kashi 50.66 295 P P 22 23 21.8 +5.0
KSH pmax pmax
comp=Z,12nm,0.8s
FRU1 Bishkek 50.75 300 P **P 22 23 17.4 +0.1**
FRU1 Bishkek 50.75 300 P **P 22 23 17.4 +0.1**
FRU1 pmax pmax
comp=Z,45nm,1.2s
D24K Happy Valley 50.80 26 P **P 22 23 17.4 +0.2**
baz=266
E24K Your Creek 50.86 27 P **P 22 23 18.4 +0.7**
baz=267,SNR=8.3
C24K Franklin Bluff 50.88 25 P **P 22 23 18.7 +1.0**
baz=266
AAK Ala-Archa 50.89 300 **P 22 23 18.6 +0.1**
AAK IAmb IAmb 22 23 55.9
comp=Z,17nm,1.0s
AAK Ala-Archa 50.89 300 LR LR 22 45 59.9
comp=Z,192nm,20.6s,baz=75,slow=37
AAK Ala-Archa 50.89 300 P **P 22 23 20.2 +1.7**
AAK Ala-Archa 50.89 300 *ce* P **P 22 23 20.7 +2.2**
AAK pmax pmax
comp=Z,27nm,1.7s
KNK Knik Glacier 50.90 36 P **P 22 23 18.8 +0.8**
baz=273
PWL Port Wells 50.99 37 P **P 22 23 19.2 +0.4**
PWL IAmb IAmb 22 23 36.1
comp=Z,22nm,1.0s
PWL Port Wells 50.99 37 P **P 22 23 18.3 -0.5**
baz=274,SNR=5.6
H24K Noodor Dome 51.05 30 P **P 22 23 20.1 +1.0**
baz=270,SNR=14
COLA College 51.06 31 *i* P **P 22 23 20.2 +1.0**
COLA pmax pmax
comp=Z,11nm,0.7s
COLA College 51.06 31 P **P 22 23 19.9 +0.7**
baz=271
COLA College 51.06 31 P **P 22 23 20.6 +1.4**
COLA pP **pP 22 23 33.0 +0.2**
F24K Squaw Lake 51.07 28 P **P 22 23 19.8 +0.5**
baz=268
G24K Hadweenzic Riv 51.21 29 P **P 22 23 21.0 +0.7**
baz=270,SNR=9.5
M23K Glacier View 51.22 35 P **P 22 23 21.3 +0.8**
baz=273
POKR Poker Plat Res 51.24 31 P **P 22 23 22.1 +1.5**
baz=271,SNR=8.5
SCM Sheep Creek Mo 51.41 35 P **P 22 23 22.0 0.0**
baz=274
BVA0 Borovoye Array 51.45 313 P **P 22 23 24.0 +1.7**
BVAR Borovoye Array 51.45 313 P **P 22 23 23.0 +0.7**
comp=Z,6.0nm,0.4s,baz=95,slow=7.5,SNR=50
BVAR LR LR 22 46 01.7
comp=Z,163nm,20.1s,baz=74,slow=37
comp=Z,6.0nm,0.4s
BVAR Borovoye Array 51.45 313 P **P 22 23 23.0 +0.7**
HDA Harding Lake 51.46 32 P **P 22 23 23.3 +1.0**
baz=272,SNR=12
ILAR Eielson Array 51.48 31 P **P 22 23 22.6 +0.2**
ILAR Eielson Array 51.48 31 P **P 22 23 23.3 +1.0**
comp=Z,8.8nm,0.8s,baz=269,slow=6.1,SNR=53
comp=Z,8.8nm,0.8s
ILAR Eielson Array 51.48 31 P **P 22 23 22.6 +0.2**
BRVK Borovoye 51.50 313 **P 22 23 22.4 -0.3**
BRVK IAmb IAmb 22 23 56.7
comp=Z,12nm,0.8s
BRVK Borovoye 51.50 313 P **P 22 23 25.0 +2.3**
BRVK Borovoye 51.50 313 *ce* P **P 22 23 23.9 +1.2**
BRVK pmax pmax
comp=Z,23nm,1.7s
P23K Montague Islan 51.51 38 P **P 22 23 23.9 +1.3**
baz=275,SNR=5.4
GLI Glacier Island 51.59 36 P **P 22 23 24.5 +1.3**
baz=274
D25K Kavik River 51.68 26 P **P 22 23 25.2 +1.3**
baz=268
KNRA Kununurra 51.72 195 P **P 22 23 24.4 -0.2**
G25K Bearman Lake 51.76 29 P **P 22 23 25.3 +0.9**
baz=271
H25L Birch Creek 51.88 30 P **P 22 23 25.8 +0.5**
baz=271
F25K Christian Rive 51.93 28 P **P 22 23 26.0 +0.3**
baz=270,SNR=7.8
M24K Tolsona, Glenn 51.94 35 P **P 22 23 26.6 +0.7**
baz=274
E25K Arctic Village 51.96 27 P **P 22 23 26.2 +0.3**
baz=270,SNR=6.6
K24K Donnelly Dome 52.00 33 P **P 22 23 27.3 +1.0**
baz=273
PRP Porcupine Dome 52.03 31 P **P 22 23 27.6 +1.0**
baz=272
LEM Lembang 52.03 223 P **P 22 23 25.7 -1.5**
comp=Z,21nm,0.6s,baz=16,slow=18,SNR=4.8
comp=Z,21nm,0.6s
Q23K Middleton Isla 52.10 38 P **P 22 23 27.5 +0.6**
baz=276
KLU Klutina 52.10 36 P **P 22 23 27.3 +0.1**
baz=275
J25K Salcha River, 52.13 32 P **P 22 23 28.3 +1.0**
baz=273
MDSI Maura Dua 52.19 229 P **P 22 23 26.2 -2.0**
comp=Z,2µmcomp=Z,35nm,1.1s
PAX Paxson 52.20 34 P **P 22 23 28.2 +0.4**
baz=274
GSI Gunungsitoli 52.27 240 **P 22 23 27.2 -1.7**
GSI Gunungsitoli 52.27 240 P **P 22 23 27.8 -1.1**
GSI Gunungsitoli 52.27 240 P **P 22 23 29.1 +0.2**
comp=Z,40nm,1.8s
EYAK Cordova Ski Ar 52.28 37 P **P 22 23 28.9 +0.6**
baz=276
BMAR Burnt Mountain 52.34 28 **P 22 23 30.0 +1.2**
HARP HAARP 52.39 34 P **P 22 23 29.7 +0.6**
baz=275
RIDG Independent Ri 52.42 33 P **P 22 23 29.8 +0.4**
baz=274
F26K Sheenjek River 52.50 28 P **P 22 23 30.6 +0.6**
baz=272,SNR=13
C27K Jago River 52.62 25 P **P 22 23 31.9 +1.1**
baz=271
G26K Porcupine Rive 52.67 29 P **P 22 23 31.7 +0.5**
baz=273,SNR=8.5
N25K Chitina, Valde 52.73 35 P **P 22 23 31.9 +0.1**
baz=276
SCRK Sand Creek 52.78 32 P **P 22 23 31.9 -0.3**
baz=275,SNR=20
BMRM Bremner River 52.79 36 P **P 22 23 32.7 +0.5**
baz=276,SNR=9.3
J26L Joseph Creek 52.92 32 P **P 22 23 33.7 +0.5**
baz=275
KAIM Kayak Island 53.01 38 P **P 22 23 34.3 +0.6**
baz=278
I26K Coal Creek Min 53.03 31 P **P 22 23 34.0 +0.1**
baz=274
DZA Taraz 53.07 301 *eP* **P 22 23 35.6 +1.1**
DZA pmax pmax
comp=Z,12nm,0.7s

DZA Taraz 53.07 301 *eP* **P 22 23 35.6 +1.1**
comp=Z,12nm,0.7s
E27K Coleen River 53.44 27 P **P 22 23 37.9 +1.0**
baz=274
MCARA McCarthy VSAT 53.50 36 P **P 22 23 38.4 +1.0**
baz=278
G27K Doyon Strip 53.52 29 P **P 22 23 38.2 +0.8**
baz=275
CRQM Cirque 53.53 36 P **P 22 23 38.8 +0.9**
CRQE Cirque 53.55 36 P **P 22 23 39.0 +1.1**
baz=278
KK31 Karatay Array 53.59 301 **P 22 23 38.5 +0.2**
KK31 IAmb IAmb 22 23 45.2
comp=Z,26nm,1.0s
KK31 Karatay Array 53.59 301 P **P 22 23 38.5 +0.2**
KK31 pmax pmax
comp=Z,26nm,1.0s
KKAR Karatay Array 53.59 301 **P 22 23 38.5 +0.2**
KKAR Karatay Array 53.59 301 P **P 22 23 38.5 +0.2**
D27M Malcolm River 53.60 26 P **P 22 23 39.1 +1.0**
baz=274
K27K Chicken 53.61 32 P **P 22 23 38.9 +0.8**
baz=276
H27K Steamboat Moun 53.62 29 P **P 22 23 38.6 +0.4**
baz=275,SNR=13
I27K Kandik River 53.64 30 P **P 22 23 38.6 +0.2**
baz=276
DRK Karamyk 53.75 296 P **P 22 23 39.8 -0.1**
DRK IAmb IAmb 22 23 46.3
comp=Z,24nm,0.7s
DRK Karamyk 53.75 296 P **P 22 23 39.8 -0.1**
DRK pmax pmax
comp=Z,24nm,0.7s
L27K Beaver Creek, 53.84 33 P **P 22 23 40.6 +0.7**
baz=277,SNR=20
M27K Edge Creek, AK 53.91 34 P **P 22 23 41.3 +0.8**
baz=278,SNR=18
BRLS Boroldav 54.08 301 *eP* **P 22 23 44.1 +2.2**
BRLS pmax pmax
comp=Z,8.0nm,0.8s
BRLS Boroldav 54.08 301 *eP* **P 22 23 44.1 +2.2**
comp=Z,8.5nm,0.8s
F28M Old Crow 54.14 28 P **P 22 23 43.1 +1.2**
baz=276,SNR=6.7
E28M Babbage River 54.17 26 P **P 22 23 42.8 +0.7**
baz=275
MESA MESA 54.20 37 P **P 22 23 43.4 +0.7**
baz=279
IUG Iuzhnay 54.21 300 *eP* **P 22 23 43.9 +1.0**
IUG pmax pmax
comp=Z,16nm,0.9s
IUG Iuzhnay 54.21 300 *eP* **P 22 23 44.0 +1.0**
comp=Z,16nm,0.9s
BTK Batken 54.28 297 **P 22 23 43.6 +0.1**
BTK IAmb IAmb 22 24 31.4
comp=Z,15nm,1.1s
BTK Batken 54.28 297 P **P 22 23 43.6 +0.1**
BTK pmax pmax
comp=Z,15nm,1.1s
I28M Miner Creek 54.36 30 P **P 22 23 44.0 +0.3**
baz=277,SNR=20
BVCY Beaver Creek 54.37 34 P **P 22 23 45.2 +1.4**
baz=279,SNR=6.1
CTG Chitna Glacier 54.37 36 P **P 22 23 44.6 +0.7**
baz=279
D28M Stokes Point 54.38 26 P **P 22 23 45.1 +1.4**
baz=276
CHM Chimkent 54.46 300 *eP* **P 22 23 45.7 +1.1**
CHM pmax pmax
comp=Z,8.0nm,0.8s
CHM Chimkent 54.46 300 *eP* **P 22 23 45.8 +1.1**
comp=Z,8.5nm,0.8s
YUK3 Moose Creek 54.66 35 P **P 22 23 47.3 +1.2**
baz=279,SNR=7.5
NIL Nilore 54.66 289 **P 22 23 46.0 -0.3**
NIL Nilore 54.66 289 P **P 22 23 47.3 +1.0**
NIL Nilore 54.66 289 P **P 22 23 46.0 -0.3**
NIL pmax pmax
comp=Z,31nm,0.9s
FITZ Fitzroy Crossi 54.77 198 **P 22 23 46.3 -0.6**
FITZ Fitzroy Crossi 54.77 198 P **P 22 23 46.4 -0.6**
comp=Z,20nm,0.7s,baz=20,slow=7.3,SNR=20
comp=Z,20nm,0.7s
FITZ Fitzroy Crossi 54.77 198 P **P 22 23 46.9 -0.1**
DAWY Dawson 54.78 32 P **P 22 23 48.4 +1.7**
baz=279
E29M Blow River 54.79 27 P **P 22 23 48.5 +1.9**
baz=277
WB0 Warramunga Arr 54.87 187 **P 22 23 47.1 -0.6**
H29M Whitestone 54.89 29 P **P 22 23 49.3 +1.9**
baz=278,SNR=10.0
G29M Pine Creek 54.93 28 P **P 22 23 49.4 +1.7**
baz=278,SNR=13
GAR Garm 55.00 296 **P 22 23 48.9 +0.1**
WRAB Tennant Creek 55.03 187 *i* P **P 22 23 48.0 -0.9**
WRAB pmax pmax
comp=Z,50nm,0.7s
I29M Ogilvie Camp, 55.04 30 P **P 22 23 49.5 +0.9**
baz=279,SNR=18
WRA Warramunga Arr 55.05 187 **P 22 23 47.4 -1.6**
WRA Warramunga Arr 55.05 187 P **P 22 23 48.1 -0.9**
comp=Z,29nm,0.6s,baz=3.5,slow=7.4,SNR=71
WRA S **S 22 31 23.6 -4.3**
comp=Z,1.6nm,0.9s,baz=4.9,slow=13,SNR=5.2
comp=Z,29nm,0.6s
WRA Warramunga Arr 55.05 187 *i* P **P 22 23 48.5 -0.5**
WRA pmax pmax
comp=Z,30nm,0.6s
PINM Pinnacle 55.05 37 P **P 22 23 49.9 +1.1**
baz=281
YUK8 Steele Glacier 55.07 35 P **P 22 23 49.5 +0.4**
baz=280
CTAO Charters Tower 55.12 174 P **P 22 23 49.7 +0.2**
CTAO IAmb IAmb 22 24 11.5
comp=Z,35nm,1.6s
CTAO Charters Tower 55.12 174 P **P 22 23 49.7 +0.2**
CTAO pmax pmax
comp=Z,35nm,1.6s
QIS Mount Isa 55.34 181 P **P 22 23 50.2 -0.9**
M29M Somme Creek 55.47 34 P **P 22 23 52.5 +0.8**
baz=281,SNR=28
L29M L29M 55.49 33 P **P 22 23 52.5 +0.7**
baz=280,SNR=26
EPYK Eagle Plains 55.53 29 P **P 22 23 53.2 +1.1**
baz=279,SNR=8.2
PNL Peninsula 55.56 37 P **P 22 23 52.6 +0.3**
baz=282
YUK4 Talbot Arm 55.59 35 P **P 22 23 53.7 +0.9**
baz=281
G30M tAoh Zraii Nji 55.62 28 P **P 22 23 53.5 +0.8**
baz=279,SNR=9.6
K29M Barlow Dome 55.63 32 P **P 22 23 53.5 +0.6**
baz=280,SNR=12
F30M Barrier River 55.69 27 P **P 22 23 54.3 +1.2**
baz=279,SNR=8.7
YUK6 Outpost Mounta 55.80 36 P **P 22 23 54.8 +0.4**
baz=282,SNR=5.4
O29M Mount Kennedy 55.83 36 P **P 22 23 55.1 +0.7**
baz=282,SNR=6.3
I30M Mount Dempster 55.87 30 P **P 22 23 55.2 +0.6**
baz=280,SNR=35
J30M Hart River 56.01 31 P **P 22 23 56.0 +0.4**
baz=281,SNR=5.7
SIMJ Simiganj 56.07 296 **P 22 23 56.1 -0.4**
SIMJ IAmb IAmb 22 24 30.5
comp=Z,26nm,0.9s
M30M Minto, Yukon 56.20 34 P **P 22 23 58.7 +1.7**
baz=282,SNR=15
SVE Sverdlovsk 56.22 319 *eP* **P 22 23 58.2 +1.2**
SVE pmax pmax
comp=Z,41nm,1.1s
HYT Haines Junctio 56.24 36 **P 22 23 57.2 -0.1**
HYT IAmb IAmb 22 24 17.4
comp=Z,15nm,0.9s
HYT Haines Junctio 56.24 36 P **P 22 23 58.9 +1.6**
baz=282,SNR=10.0
N30M Aishikik Lake 56.30 35 P **P 22 23 59.2 +1.5**
baz=282
P29M Windy Craggy 56.39 37 P **P 22 23 59.9 +1.6**
baz=283
G31M Satah River 56.39 28 P **P 22 23 59.4 +1.3**
baz=281
INK Inuvik 56.41 26 LR LR 22 49 35.5
comp=Z,28nm,20.9s,baz=258,slow=37
INK Inuvik 56.41 26 P **P 22 23 59.5 +1.4**
baz=281
F31M Tsiigehtchic 56.49 27 P **P 22 23 59.4 +0.6**

H31M **Peel River** 56.59 29 P P 22 24 00.7 +1.1
baz=282,SNR=14
P30M **Million Dollar** 56.66 36 P P 22 24 01.1 +0.9
baz=283
N31M **Braeburn, Yuko** 56.91 35 P P 22 24 04.0 +2.1
baz=283,SNR=6.7
O30N **Mendenhall** 56.93 36 P P 22 24 03.6 +1.5
baz=284
PLBC **Pleasant Camp** 57.11 37 P P 22 24 05.2 +1.9
baz=284,SNR=9.7
M31M **Drury Creek, Y** 57.38 34 P P 22 24 06.3 +1.0
baz=284
WHY **Whitehorse** 57.53 36 P 22 24 06.8 +0.3
WHY **Whitehorse** 57.53 36 P P 22 24 08.2 +1.8
baz=285,SNR=8.3
ARTI **Arti** 57.53 319 P 22 24 05.8 -0.6
ARTI **Arti** 57.53 319 *d iP P 22 24 07.1 +0.7
ARTI 22 24 58.2
ARTI 22 26 15.1
ARTI S S 22 32 04.3 +4.2
ARTI SS SS 22 35 47.4 -2.6
ARTI pmax pmax
comp=Z,25nm,0.7s
ARTI **Arti** 57.53 319 P P 22 24 05.9 -0.4
HYB **Hyderabad** 57.55 269 *eP P 22 24 07.7 +0.7
KBL **Kabul** 57.55 292 P 22 24 06.7 -0.4
KBL IAmb IAmb 22 24 32.3
comp=Z,12nm,0.9s
KBL **Kabul** 57.55 292 P P 22 24 08.3 +1.2
KBL **Kabul** 57.55 292 P P 22 24 06.7 -0.4
KBL pmax pmax
comp=Z,12nm,0.9s
S31K **Pelican** 57.56 39 P P 22 24 07.7 +1.3
baz=285
SIT **Sitka** 58.28 40 P P 22 24 09.9 -1.6
A36M **Sachs Harbour** 58.30 21 P P 22 24 13.1 +1.6
baz=286
P32M **Atlin** 58.38 37 P P 22 24 13.8 +1.5
baz=286,SNR=5.3
P33M **Teslin, Yukon** 58.64 36 P P 22 24 15.6 +1.4
baz=286,SNR=8.7
MMPY **Sheldon Lake,** 58.67 33 P P 22 24 16.1 +1.7
baz=286,SNR=12
AS01 **Alice Springs** 58.77 187 P P 22 24 15.1 -0.2
AS31 **Alice Springs** 58.77 187 P 22 24 14.7 -0.6
AS31 IAmb IAmb 22 24 23.1
comp=Z,9.2nm,0.6s
ASAR **Alice Springs** 58.77 187 P 22 24 14.7 -0.7
ASAR **Alice Springs** 58.77 187 P P 22 24 15.2 -0.2
comp=Z,8.7nm,0.9s,baz=7.7,slow=6.6,SNR=33
ASAR S S 22 32 11.8 -5.1
comp=Z,0.4nm,0.7s,baz=18,slow=16,SNR=2.4
ASAR LR LR 22 47 02.5
comp=Z,110nm,21.3s,baz=12,slow=33
comp=Z,8.7nm,0.9s
Q32M **Nakina River** 59.27 37 P P 22 24 20.1 +1.4
baz=288
MBWA **Marble Bar** 59.35 203 P P 22 24 18.8 -0.6
MBWA **Marble Bar** 59.35 203 P P 22 24 18.8 -0.6
AKTO **Aktyubinsk** 59.53 313 LR LR 22 51 50.3
comp=Z,127nm,18.3s,baz=114,slow=38
PSA00 **Pilbara Seismi** 59.70 203 P 22 24 20.6 -1.2
PSA00 IAmb IAmb 22 24 22.3
comp=Z,18nm,1.1s
PSA00 **Pilbara Seismi** 59.70 203 P P 22 24 21.7 -0.1
U33K **Whale Pass** 59.72 40 P P 22 24 22.4 +0.9
baz=289
R33M **Jennings River** 59.77 36 P P 22 24 22.6 +0.5
baz=288
CRAG **Craig** 59.93 41 P P 22 24 23.9 +0.9
baz=289
S34M **Telegraph Cree** 60.17 38 P P 22 24 26.1 +1.4
baz=289
TGTN **Hyland Airport** 60.35 33 P P 22 24 27.2 +1.4
baz=289
DLBC **Dease Lake** 60.55 37 P P 22 24 28.6 +1.3
baz=290
EIDS **Eidsvold** 60.92 169 P P 22 24 30.5 +0.4
EIDS IAmb IAmb 22 24 34.1
comp=Z,10.0nm,0.8s
EIDS **Eidsvold** 60.92 169 P P 22 24 27.6 -2.5
T35M **Bob Quinn** 60.93 39 P P 22 24 30.5 +0.6
baz=290
PALK **Pallekele** 61.35 258 LR LR 22 54 31.5
comp=Z,65nm,18.0s,baz=54,slow=39
KIRV **Kirov** 61.44 323 LR LR 22 53 51.8
comp=Z,152nm,18.8s,baz=66,slow=39
KIRV **Kirov** 61.44 323 *i P P 22 24 32.5 -0.7
DZM **Mont Dzumac** 61.88 153 *eP P 22 24 38.7 +2.0
comp=Z,37nm,1.3s
DZM *eS S 22 32 43.0 -14
comp=Z,75nm,21.4s
DZM **Mont Dzumac** 61.88 153 *eLR LR 22 42 57.6
comp=Z,292nm,24.6s
DZM **Mont Dzumac** 61.88 153 P P 22 24 37.8 +1.1
comp=Z,7.6nm,0.9s,baz=6.0,slow=14,SNR=4.3
comp=Z,7.6nm,0.9s
EUNU **Eureka** 62.21 8 P 22 24 38.5 +0.2
EUNU IAmb IAmb 22 24 43.4
comp=Z,9.6nm,0.8s
SPITS **Spitsbergen Ar** 62.32 349 LR LR 22 55 09.2
comp=Z,83nm,18.2s,baz=42,slow=39
KBS **Kingsbay** 62.47 350 P P 22 24 40.5 +0.6
KBS IAmb IAmb 22 25 00.1
comp=Z,20nm,1.0s
KBS **Kingsbay** 62.47 350 P P 22 24 40.5 +0.6
KBS pmax pmax
comp=Z,20nm,1.0s
KBS **Kingsbay** 62.47 350 *eP P 22 24 42.0 +2.1
KBS **Kingsbay** 62.47 350 *i P P 22 24 43.0 +3.2
TOAD **Toad River Com** 62.73 36 P P 22 24 42.8 +0.8
baz=293
BBB **Bella Bella** 63.90 43 LR LR 22 50 05.0
comp=Z,55nm,20.3s,baz=328,slow=34
VADS **Vadso** 64.17 339 *eP P 22 24 51.0 -0.2
APA **Apatity** 64.22 336 *eP P 22 24 52.0 +0.5
APA pmax pmax
comp=Z,9.0nm,1.1s
APA MLR MLR
comp=Z,292nm,22.6s
RES **Resolute Bay** 64.64 14 P 22 24 54.1 -0.1
RES IAmb IAmb 22 24 59.0
comp=Z,19nm,1.1s
RES **Resolute Bay** 64.64 14 LR LR 22 56 43.5
comp=Z,53nm,18.2s,baz=340,slow=39
RES **Resolute Bay** 64.64 14 P P 22 24 54.1 -0.1
RES pmax pmax
comp=Z,19nm,1.1s
BELG **Belogornoye** 64.81 317 LR LR 22 55 24.5
comp=Z,106nm,18.5s,baz=64,slow=38
BELG **Belogornoye** 64.81 317 *i P P 22 24 56.2 +0.5
BELG pmax pmax
comp=Z,13nm,1.1s
MEEK **Meekatharra** 64.83 202 P P 22 24 55.4 -0.6
KLMR **Klimovskoe** 65.08 328 *eP P 22 24 55.7 -1.6
KLMR *e*PP pP 22 25 04.9 -6.4
KLMR *e* 22 27 18.7
KLMR pmax pmax
comp=Z,36nm,1.6s
ARA0 **ARCESS Array S** 65.61 340 *eP P 22 25 01.5 +0.9
ARCES **ARCESS Array B** 65.61 340 P P 22 25 00.9 +0.3
ARCES IAmb IAmb 22 25 06.9
comp=Z,53nm,1.9s
ARCES **ARCESS Array B** 65.61 340 P P 22 25 00.6 0.0
comp=Z,5.0nm,0.7s,baz=53,slow=7.6,SNR=17
comp=Z,5.0nm,0.7s
ARCES **ARCESS Array B** 65.61 340 P P 22 25 00.9 +0.3
ARCES pmax pmax
comp=Z,53nm,1.9s
YKA **Yellowknife Ar** 65.81 29 P P 22 25 02.2 +0.3
comp=Z,3.6nm,0.8s,baz=305,slow=7.0,SNR=14
YKA LR LR 22 54 25.5
comp=Z,34nm,21.1s,baz=303,slow=36
comp=Z,3.6nm,0.8s
CMSA **Cobar Meteorol** 66.43 175 P P 22 25 06.7 +0.5
KTK1 **Kautokeino** 66.57 340 *eP P 22 25 06.7 -0.1
FORT **Forrest** 66.57 192 P 22 25 07.4 +0.3
STKA **Stephens Creek** 66.61 179 P 22 25 07.2 -0.1
STKA **Stephens Creek** 66.61 179 P P 22 25 07.0 -0.4
comp=Z,3.8nm,0.6s,baz=338,slow=9.0,SNR=9.0
comp=Z,3.8nm,0.6s
STKA **Stephens Creek** 66.61 179 P P 22 25 07.2 -0.1
STKA pmax pmax
comp=Z,50nm,0.9s
JETT **Jettan, Norway** 67.02 341 *eP P 22 25 10.7 +1.1

TRO **Tromso** 67.36 341 *eP P 22 25 13.1 +1.4
JOF **Joensuu** 67.40 332 *eP P 22 25 11.9 -0.1
NEEM **North Greenlan** 67.51 3 *i P P 22 25 14.6 +1.6
NEEM IAmb IAmb 22 25 42.2
comp=Z,20nm,0.9s
DAG **Danmarks Havn** 67.66 355 *i P P 22 25 16.0 +2.4
DAG IAmb IAmb 22 25 32.6
comp=Z,8.7nm,0.9s
BBOO **Buckleboo** 67.67 184 P P 22 25 13.5 -0.6
BBOO **Buckleboo** 67.67 184 P P 22 25 13.4 -0.6
MORW **Morawa** 67.90 203 P P 22 25 14.2 -1.4
MORW IAmb IAmb 22 25 17.3
comp=Z,37nm,1.2s
MORW **Morawa** 67.90 203 P P 22 25 15.3 -0.3
HTT **Hallett** 68.17 182 P P 22 25 17.5 +0.2
VRH **Novokhopyorsk** 68.62 318 *eP P 22 25 18.3 -1.6
VRH pmax pmax
comp=Z,10.0nm,1.0s
BLDU **Ballidu** 69.12 202 P P 22 25 23.3 +0.1
OBN **Obninsk** 69.29 323 P P 22 25 23.9 -0.1
LPSR **Galich'ya Gora** 69.41 320 *eP P 22 25 23.4 -1.4
LPSR pmax pmax
comp=Z,20nm,1.0s
STEI **Steigen** 69.51 341 *eP P 22 25 25.9 +0.8
KLBR **Kellerberrin** 69.73 201 P P 22 25 27.0 +0.1
VORR **Voronezh** 69.74 319 *eP P 22 25 25.7 -1.2
VORR pmax pmax
comp=Z,10.0nm,1.0s
AKT **Akhty** 69.75 307 *eP P 22 25 27.8 +0.5
AKT *e*SP sP 22 25 47.9 +0.8
AKT *e* 22 25 51.3
AKT *e* 22 28 01.0
AKT *eS S 22 34 32.1 -0.6
AKT pmax pmax
comp=Z,24nm,1.0s
AKT MLR MLR
comp=Z,259nm,20.0s
FAUS **Fauske** 69.88 340 *eP P 22 25 28.2 +0.8
VSR **Storozhevoye** 70.00 319 *eP P 22 25 26.3 -2.2
VSR pmax pmax
comp=Z,10.0nm,1.1s
VORD **Divnogorie** 70.06 319 *eP P 22 25 26.4 -2.4
VORD pmax pmax
comp=Z,10.0nm,1.2s
FIA1 **FINESS Array S** 70.25 332 P 22 25 29.5 -0.3
FINES **FINESS Array B** 70.25 332 P 22 25 29.4 -0.4
FINES **FINESS Array B** 70.25 332 P P 22 25 29.6 -0.3
comp=Z,4.9nm,0.3s,baz=52,slow=5.8,SNR=66
FINES LR LR 22 58 18.2
comp=Z,63nm,20.4s,baz=52,slow=38
comp=Z,4.9nm,0.3s
KEF **Keuruu** 70.26 333 *eP P 22 25 29.5 -0.4
B08A **Colville Reser** 70.66 44 P P 22 25 32.9 +0.2
JLN **Jalan Bani Buh** 70.72 284 P P 22 25 34.8 +1.5
VAGH **Vaagaholmen** 70.90 340 *eP P 22 25 34.2 +0.5
GOF **Gofitskoye** 70.94 312 *ceP P 22 25 35.1 +0.8
MOR8 **Moi Rana** 70.98 340 *eP P 22 25 33.3 -1.0
BIDO **Bidbid** 71.04 286 P P 22 25 35.9 +0.6
NWAO **Narrogin (SRO)** 71.13 201 P P 22 25 35.3 -0.1
NWAO **Narrogin (SRO)** 71.13 201 P P 22 25 35.3 -0.1
NWAO pmax pmax
comp=Z,45nm,1.1s
STOK **Stokkvaagen** 71.26 340 *eP P 22 25 36.9 +1.0
SHME **Shamm** 71.31 289 P P 22 25 37.6 +0.7
SMDO **Samad** 71.33 285 P P 22 25 37.7 +0.4
LEIR **Leirfjorden** 71.40 340 *eP P 22 25 35.6 -1.1
ARBE **Arbavere** 71.53 331 *eP P 22 25 38.4 +0.7
MDH **Madha** 71.57 288 P P 22 25 39.1 +0.6
JMDO **Jabal Madar** 71.64 285 P P 22 25 38.9 -0.1
HOQ **Hoqain** 71.65 286 P P 22 25 40.7 +1.7
MEF **Metsahovi** 71.67 332 *eP P 22 25 39.8 +1.4
KBZ **Khabaz** 71.71 311 P P 22 25 39.1 +0.1
comp=Z,22nm,1.0s,baz=63,slow=5.3,SNR=24
comp=Z,22nm,1.0s
KBZ **Khabaz** 71.71 311 *i P P 22 25 39.1 +0.1
KBZ pmax pmax
comp=Z,38nm,1.0s
KIV **Kislovodsk** 71.72 311 P 22 25 39.3 +0.1
KIV **Kislovodsk** 71.72 311 P P 22 25 40.6 +1.3
KIV **Kislovodsk** 71.72 311 *eP P 22 25 39.5 +0.3
KIV pmax pmax
comp=Z,50nm,1.1s
KIV MLR MLR
comp=Z,62nm,18.0s
KIV **Kislovodsk** 71.72 311 P P 22 25 40.1 +1.0
KIV **Kislovodsk** 71.72 311 ⇑P P 22 25 40.2 +1.0
VSU **Vasula** 71.83 330 *ceP P 22 25 40.3 +0.9
VSU pmax pmax
comp=Z,30nm,1.0s
VSU **Vasula** 71.83 330 *eP P 22 25 40.8 +1.4
NEW **Newport** 71.97 43 P 22 25 41.2 +0.6
NEW **Newport** 71.97 43 P P 22 25 41.2 +0.6
NEW pmax pmax
comp=Z,6.0nm,0.8s
SOHO **SOHO** 71.98 287 P P 22 25 41.8 +0.9
ASHO **Ashiyiah** 72.07 288 P P 22 25 42.4 +0.8
PINE **Pine Mountain** 72.08 49 P 22 25 42.0 +0.5
PINE IAmb IAmb 22 25 47.8
comp=Z,14nm,0.8s
RAF **Rauma** 72.14 333 *eP P 22 25 42.4 +1.1
GNI **Garni** 72.38 307 P 22 25 44.6 +1.2
GNI **Garni** 72.38 307 LR LR 22 59 56.5
comp=Z,138nm,21.2s,baz=69,slow=38
GNI **Garni** 72.38 307 P P 22 25 45.4 +2.1
GNI **Garni** 72.38 307 *ceP P 22 25 45.1 +1.8
GNI pmax pmax
comp=Z,39nm,1.3s
MHTO **MHTO** 72.47 284 P P 22 25 44.4 +0.5
SNR=7.3
SUMG **Summit** 72.64 360 P 22 25 44.3 -0.2
SUMG IAmb IAmb 22 26 09.2
comp=Z,18nm,1.1s
SUMG **Summit** 72.64 360 P P 22 25 44.3 -0.2
SUMG **Summit** 72.64 360 *iP P 22 25 47.0 +2.4
SUMG IAmb IAmb 22 26 39.6
comp=Z,14nm,1.0s
ASUD **Al Ashush, Dub** 72.67 288 P P 22 25 46.0 +0.9
NSS **Namsos** 72.89 339 *eP P 22 25 46.8 +1.1
KARS **Kars** 73.21 308 P 22 25 48.4 +0.1
KARS IAmb IAmb 22 25 51.8
comp=Z,32nm,1.3s
KARS **Kars** 73.21 308 P P 22 25 48.4 +0.1
KARS pmax pmax
comp=Z,32nm,1.3s
OZAP **Van, Ozalp-Mer** 73.65 306 ⇑P P 22 25 53.1 +2.1
MNK **Minsk** 73.77 326 *iP P 22 25 51.5 +0.5
MNK *i* 22 28 36.3
MNK *i* PPP PPP 22 30 21.6
MNK *iS S 22 35 19.4 +1.2
MNK *i* SS SS 22 40 06.8 +5.2
MNK pmax pmax
comp=N,17nm,1.3s
MNK pmax pmax
comp=Z,29nm,0.9s
MNK pmax pmax
comp=E,22nm,1.1s
MNK MLR MLR
comp=Z,140nm,21.0s
MNK MLR MLR
comp=N,97nm,15.0s
MNK MLR MLR
comp=E,71nm,18.0s
HOMI **Horasan** 74.28 308 ⇑P P 22 25 57.1 +2.4
PABE **Paberze** 74.87 328 P 22 25 57.9 +0.5
PABE IAmb IAmb 22 26 27.0
comp=Z,31nm,0.9s
PABE **Paberze** 74.87 328 *eP P 22 25 59.1 +1.7
GURO **Guroymak-BITLI** 75.01 307 P P 22 25 59.8 +1.1
GURO IAmb IAmb 22 26 02.2
comp=Z,39nm,1.2s
KOPT **Kop Dagi** 75.20 309 P 22 26 00.7 +0.7
KOPT IAmb IAmb 22 26 44.1
comp=Z,18nm,1.1s
AKASG **Malin Array Be** 75.46 322 P P 22 26 00.9 0.0
AKASG IAmb IAmb 22 26 03.4
comp=Z,27nm,1.5s
AKASG **Malin Array Be** 75.46 322 P P 22 26 00.8 -0.2
comp=Z,2.4nm,0.4s,baz=46,slow=5.6,SNR=40
AKASG LR LR 23 02 29.9
comp=Z,177nm,18.2s,baz=50,slow=38
comp=Z,2.4nm,0.4s
AKBB **Malin Array Si** 75.46 322 P P 22 26 01.1 +0.2
AKBB IAmb IAmb 22 26 03.0
comp=Z,17nm,0.9s

AKBB **Malin Array Si** 75.46 322 *i P P 22 26 00.2 -0.7
AKBB pmax pmax
comp=Z,22nm,0.9s
KIEV **Kiev** 75.48 322 P 22 26 01.0 0.0
KIEV IAmb IAmb 22 26 03.0
comp=Z,15nm,0.9s
KIEV **Kiev** 75.48 322 P P 22 26 01.0 0.0
KIEV pmax pmax
comp=Z,15nm,0.9s
KIEV **Kiev** 75.48 322 ⇑P P 22 26 02.0 +1.1
NC405 **NORSAR Array S** 75.53 337 P 22 26 00.9 -0.3
NC405 IAmb IAmb 22 26 03.9
comp=Z,30nm,1.1s
HFS **Hagfors** 75.61 336 P P 22 26 01.3 -0.3
comp=Z,4.1nm,0.5s,baz=66,slow=3.6,SNR=39
HFS LR LR 23 00 40.2
comp=Z,74nm,21.5s,baz=46,slow=37
comp=Z,4.1nm,0.5s
DOMB **Dombas** 75.64 339 *eP P 22 26 03.2 +1.4
MOL **Molde** 75.67 340 *eP P 22 26 03.1 +1.3
FFC **Flin Flon** 75.68 32 P 22 26 02.7 +0.6
FFC **Flin Flon** 75.68 32 P P 22 26 02.7 +0.6
FFC pmax pmax
comp=Z,12nm,1.2s
NB2 **NORSAR Subarra** 75.75 337 P P 22 26 02.3 -0.1
comp=Z,25nm,1.2s,baz=41,slow=5.9
NB2 **NORSAR Subarra** 75.75 337 P P 22 26 02.3 -0.1
baz=41,slow=5.9
NOA **NORSAR Array B** 75.75 337 P P 22 26 02.2 -0.1
comp=Z,10.0nm,0.9s,baz=40,slow=5.7,SNR=37
NOA LR LR 23 02 29.0
comp=Z,97nm,21.4s,baz=35,slow=38
comp=Z,10.0nm,0.9s
SLWR **Sila** 75.78 289 P P 22 26 03.3 +0.1
NC602 **NORSAR Array S** 75.87 337 *eP P 22 26 04.0 +0.9
AKN **Aaknes** 76.14 340 *eP P 22 26 05.8 +1.2
SUW **Suwalki** 76.20 327 *eP P 22 26 06.5 +1.4
SUW **Suwalki** 76.20 327 P P 22 26 05.7 +0.6
SUW **Suwalki** 76.20 327 P P 22 26 05.7 +0.6
NVAR **Mina Array Bea** 76.66 52 LR LR 22 56 12.6
comp=Z,46nm,19.9s,baz=349,slow=33
SKAR **Skarsla** 76.93 338 *eP P 22 26 09.2 +0.1
KONO **Kongsberg** 77.33 337 *i P P 22 26 11.1 -0.2
KONO pmax pmax
comp=Z,7.0nm,1.1s
KONO **Kongsberg** 77.33 337 *eP P 22 26 11.3 0.0
WHFO **Wadi Hawf** 77.44 283 P P 22 26 12.4 -0.3
SNR=5.3
SORM **Soroca** 77.51 321 P P 22 26 13.2 +0.7
SORM **Soroca** 77.51 321 ⇑P P 22 26 13.3 +0.7
TOKA **Tokat** 77.57 311 P P 22 26 13.3 +0.2
TOKA IAmb IAmb 22 26 16.4
comp=Z,34nm,1.4s
SFJD **Kangerlussuaq** 77.88 5 LR LR 23 02 53.1
comp=Z,47nm,20.7s,baz=344,slow=37
BEL **Belsk** 78.74 327 *eP P 22 26 22.1 +2.8
FRB **Frobisher Bay** 78.81 13 LR LR 23 03 13.9
comp=Z,50nm,20.9s,baz=298,slow=37
BNN **Bunyan** 78.83 310 P 22 26 21.1 +0.9
BNN IAmb IAmb 22 26 45.9
comp=Z,28nm,1.1s
ILGA **Ilgaz** 78.84 312 P P 22 26 20.6 +0.3
ILGA IAmb IAmb 22 26 53.6
comp=Z,23nm,1.0s
BSD **Bornholm Skovb** 78.87 332 *eP P 22 26 21.3 +1.4
BSD **Bornholm Skovb** 78.87 332 *i P P 22 26 20.2 +0.3
BSD IAmb IAmb 22 26 21.8
comp=Z,17nm,1.0s
GAZ **Gaziantep** 78.94 308 P 22 26 21.5 +0.8
GAZ IAmb IAmb 22 26 45.6
comp=Z,24nm,1.0s
VLDR **Vladesti** 79.10 319 ⇑P P 22 26 23.5 +2.1
KWP **Kalwaria Pacla** 79.35 324 *eP P 22 26 24.5 +1.8
TESR **Tescani** 79.44 320 ⇑P P 22 26 25.0 +1.8
BUR08 **Bucovina Ar. S** 79.45 322 P 22 26 23.5 +0.1
BURAR **Bucovina Array** 79.46 322 P 22 26 23.2 -0.3
BURAR **Bucovina Array** 79.46 322 P P 22 26 24.2 +0.8
BURAR **Bucovina Array** 79.46 322 ⇑P P 22 26 24.3 +0.8
PD31 **Pinedale Array** 79.48 45 P P 22 26 24.1 +0.2
PDAR **Pinedale Array** 79.48 45 P 22 26 24.0 +0.2
PDAR **Pinedale Array** 79.48 45 P P 22 26 25.2 +1.3
comp=Z,1.2nm,0.6s,baz=296,slow=2.4,SNR=13
comp=Z,1.2nm,0.6s
CFR **Carcaliu** 79.50 318 P P 22 26 25.1 +1.6
CFR **Carcaliu** 79.50 318 ⇑P P 22 26 25.1 +1.6
BORG **Borgarnes** 79.50 352 LR LR 23 05 15.1
comp=Z,14nm,18.0s,baz=23,slow=38
RAR **Rarotonga** 79.53 125 LR LR 23 00 21.4
comp=Z,67nm,19.5s,baz=286,slow=35
TPGR **Topolog** 79.55 318 ⇓P P 22 26 26.1 +2.3
BR131 **Keskin Array S** 79.68 311 P 22 26 25.2 +0.3
BR131 **Keskin Array S** 79.68 311 P P 22 26 25.7 +0.8
SNR=5.4
BR131 **Keskin Array S** 79.68 311 *i P P 22 26 25.3 +0.4
BRTR **Keskin Array B** 79.68 311 P 22 26 25.2 +0.3
BRTR **Keskin Array B** 79.68 311 P P 22 26 25.1 +0.3
comp=Z,4.4nm,0.9s,baz=113,slow=4.2,SNR=16
BRTR PP PP 22 29 31.1 +5.3
comp=Z,3.9nm,1.1s,baz=79,slow=6.4,SNR=4.8
comp=Z,4.4nm,0.9s
BRTR **Keskin Array B** 79.68 311 *i P P 22 26 25.6 +0.8
BRTR pmax pmax
comp=Z,5.0nm,0.9s
ODBI **Odobesti** 79.70 319 ⇓P P 22 26 27.5 +2.9
VRI **Vrincioaia** 79.81 320 P P 22 26 28.6 +3.3
VRI **Vrincioaia** 79.81 320 ⇓P P 22 26 28.6 +3.3
MUD **Monsted U'grnd** 79.97 335 *i P P 22 26 26.7 +0.9
MUD IAmb IAmb 22 26 40.6
comp=Z,23nm,1.4s
BISRR **Bisoca** 80.03 319 ⇑P P 22 26 28.4 +1.9
KOLS **Kolonicke sedl** 80.04 324 *eP P 22 26 28.4 +2.0
KOLS pmax pmax
comp=Z,5.0nm,1.0s
KOLS **Kolonicke sedl** 80.04 324 *eP P 22 26 28.3 +1.9
KOLS *ePP PP 22 29 32.5 +4.3
KOLS *e* 22 36 11.4
TURR **Turia** 80.07 320 ⇑P P 22 26 29.4 +2.7
COVR **Voineasa-Covas** 80.10 320 ⇓P P 22 26 29.4 +2.5
OZUR 80.16 320 ⇑P P 22 26 29.7 +2.5
STHS **Stebnicka Huta** 80.20 325 *eP P 22 26 29.1 +1.8
STHS pmax pmax
comp=Z,7.0nm,1.1s
STHS **Stebnicka Huta** 80.20 325 *eP P 22 26 29.1 +1.8
ARCR **ARCALIA** 80.25 322 ⇑P P 22 26 30.4 +2.7
OJC **Ojcow** 80.31 326 *eP P 22 26 29.4 +1.5
OJC **Ojcow** 80.31 326 P P 22 26 28.6 +0.7
OJC **Ojcow** 80.31 326 P P 22 26 28.6 +0.7
ISR **Istrita** 80.40 319 P P 22 26 31.0 +2.5
ISR **Istrita** 80.40 319 ⇑P P 22 26 31.0 +2.5
DOPR **Dopca** 80.45 320 ⇑P P 22 26 30.9 +2.2
MLR **Muntele Rosu** 80.47 320 P 22 26 29.1 +0.1
MLR **Muntele Rosu** 80.47 320 LR LR 23 04 49.7
comp=Z,144nm,21.1s,baz=50,slow=38
MLR **Muntele Rosu** 80.47 320 P P 22 26 29.1 +0.1
MLR pmax pmax
comp=Z,22nm,1.5s
MLR **Muntele Rosu** 80.47 320 ⇑P P 22 26 30.3 +1.3
NIE **Niedzica** 80.64 325 *eP P 22 26 31.3 +1.5
PFO **Pinyon Flats O** 80.64 56 LR LR 22 55 43.1
comp=Z,94nm,19.9s,baz=248,slow=31
RAYN **Ar Rayn** 80.82 292 P 22 26 30.8 -0.3
RAYN **Ar Rayn** 80.82 292 P P 22 26 30.8 -0.3
RAYN pmax pmax
comp=Z,12nm,1.0s
MESR **Meseseni** 80.92 322 ⇑P P 22 26 33.7 +2.5
VOIR 80.98 320 P P 22 26 33.7 +2.1
VOIR 80.98 320 ⇑P P 22 26 33.8 +2.1
MARR **Marisel-Cluj** 81.15 322 ⇑P P 22 26 34.5 +1.9
LANS **Liptovska Anna** 81.22 325 *eP P 22 26 35.7 +2.9
LANS pmax pmax
comp=Z,11nm,1.6s
LANS **Liptovska Anna** 81.22 325 *eP P 22 26 35.7 +2.9
ARR **Arges** 81.25 320 ⇓P P 22 26 35.2 +2.1
DRGR 81.28 322 P P 22 26 34.6 +1.4
DRGR 81.28 322 ⇓P P 22 26 34.7 +1.4
OKC **Ostrava-Krasne** 81.34 326 AMS AMS 23 06 00.0
comp=Z,100nm,17.7s
KSP **Ksiaz** 81.43 328 *eP P 22 26 35.4 +1.5
STEB **Steborice** 81.44 327 *eP P 22 26 36.0 +2.1
LOZB **Loznitsa** 81.51 318 ⇓P P 22 26 35.8 +1.4
BSEG **Bad Segeberg** 81.52 333 *eP P 22 26 35.1 +0.9
comp=Z,5.5nm,0.8s,baz=41,slow=5.3
LOT **Lotru** 81.65 321 ⇓P P 22 26 36.4 +1.2
MORC **Moravsky Berou** 81.65 327 P 22 26 35.6 +0.6

MORC	**Moravsky Berou**	**81.65**	**327**	*e*P	**P**	**22 26 36.8**	**+1.7**
MORC	**Moravsky Berou**	**81.65**	**327**	P	**P**	**22 26 35.7**	**+0.6**
MORC				pmax	pmax		
	comp=Z,111nm,1.1s						
MORC	**Moravsky Berou**	**81.65**	**327**	⇑P	**P**	**22 26 37.2**	**+2.1**
CHVC	**Chvalec**	**81.72**	**328**	*e*P	**P**	**22 26 38.3**	**+2.9**
KRLC	**Kraliky**	**81.78**	**327**	*e*P	**P**	**22 26 38.2**	**+2.5**
DPC	**Dobruska-Polom**	**81.78**	**328**	*e*P	**P**	**22 26 38.7**	**+2.9**
DPC				AMS	AMS	23 06 40.0	
	comp=Z,200nm,18.7s						
PSZ	**Piszkesteto**	**81.88**	**324**		**P**	**22 26 37.1**	**+0.7**
PSZ				IAmb	IAmb	22 26 39.7	
	comp=Z,59nm,1.9s						
PSZ	**Piszkesteto**	**81.88**	**324**	P	**P**	**22 26 37.1**	**+0.7**
PSZ				pmax	pmax		
	comp=Z,59nm,1.9s						
PSZ	**Piszkesteto**	**81.88**	**324**	*e*P	**P**	**22 26 39.0**	**+2.6**
PSZ	**Piszkesteto**	**81.88**	**324**	⇑P	**P**	**22 26 38.5**	**+2.1**
ESJX	**Sierra Juarez**	**81.94**	**57**	P	**P**	**22 26 37.0**	**0.0**
ESJX				IAmb	IAmb	22 26 42.4	
	comp=Z,16nm,0.9s						
VYHS	**Vyhne**	**81.98**	**325**	*e*P	**P**	**22 26 38.3**	**+1.5**
VYHS				pmax	pmax		
	comp=Z,36nm,2.2s						
VYHS	**Vyhne**	**81.98**	**325**	*e*P	**P**	**22 26 38.2**	**+1.5**
VYHS				*e*PP	**PP**	**22 29 47.5**	**+3.3**
ASF	**Jabal al Asfar**	**82.08**	**304**	LR	LR	23 06 57.1	
	comp=Z,76nm,18.0s,baz=68,slow=38						
ELND	**Elena**	**82.20**	**318**	⇑P	**P**	**22 26 39.9**	**+1.9**
GZR	**Gura Zlata**	**82.20**	**321**	P	**P**	**22 26 39.7**	**+1.7**
GZR	**Gura Zlata**	**82.20**	**321**	⇑P	**P**	**22 26 39.8**	**+1.7**
JAVC	**Velka Javorina**	**82.26**	**326**	*e*P	**P**	**22 26 41.6**	**+3.3**
SURR	**Surduc**	**82.28**	**322**	⇑P	**P**	**22 26 39.4**	**+1.0**
FLTG	**Flechtingen**	**82.41**	**331**	*e*P	**P**	**22 26 39.8**	**+0.9**
	comp=Z,5.8nm,0.9s,baz=41,slow=5.3						
BRG	**Berggiesshubel**	**82.42**	**329**	*e*P	**P**	**22 26 39.5**	**+0.5**
	baz=41,slow=5.3						
BRG	**Berggiesshubel**	**82.42**	**329**	*e*P	**P**	**22 26 40.4**	**+1.4**
BRG				Amp		22 26 43.1	
	comp=Z,13nm,1.4s						
BRG				pP	**pP**	**22 26 53.9**	**+0.4**
BRG				Amp		22 26 56.7	
	comp=Z,7.9nm,1.2s						
VRAC	**Vranov**	**82.42**	**327**	*e*P	**P**	**22 26 41.2**	**+2.2**
VRAC	**Vranov**	**82.42**	**327**	LR	LR	23 07 13.8	
	comp=Z,103nm,18.0s,baz=39,slow=38						
VRAC	**Vranov**	**82.42**	**327**	P	**P**	**22 26 41.3**	**+2.2**
VRAC	**Vranov**	**82.42**	**327**	⇑P	**P**	**22 26 41.4**	**+2.3**
CLL	**Collm**	**82.48**	**330**		**P**	**22 26 39.2**	**-0.1**
CLL				IAmb	IAmb	22 26 41.9	
	comp=Z,13nm,1.0s						
CLL	**Collm**	**82.48**	**330**	*i* P	**P**	**22 26 39.2**	**-0.1**
CLL				*i*		22 26 53.3	
CLL				pmax	pmax		
	comp=Z,15nm,1.0s						
CLL	**Collm**	**82.48**	**330**	*i* P	**P**	**22 26 39.2**	**-0.1**
	comp=Z,15nm,1.0s						
CLL				*i* pP	**pP**	**22 26 53.3**	**-0.5**
CLL				*ex*	x	22 29 39.0	
CLL				*e*PP	**PP**	**22 29 49.0**	**+0.8**
CLL				*e*pPP		22 30 03.0	
CLL				AMS	AMS	23 06 00.0	
	comp=Z,100nm,19.1s						
CLL	**Collm**	**82.48**	**330**	*e*P	**P**	**22 26 39.6**	**+0.3**
	comp=Z,7.4nm,0.9s,baz=41,slow=5.3						
PLVB	**Pleven**	**82.58**	**319**	⇑P	**P**	**22 26 40.7**	**+0.7**
MMAI	**Mount Meron Ar**	**82.59**	**305**	P	**P**	**22 26 40.1**	**-0.3**
	comp=Z,6.4nm,0.9s,baz=67,slow=4.8,SNR=10						
MMAI				LR	LR	23 06 46.3	
	comp=Z,114nm,20.4s,baz=42,slow=38						
	comp=Z,6.4nm,0.9s						
SMOL	**Smolenice**	**82.62**	**326**	*e*P	**P**	**22 26 42.8**	**+2.7**
SMOL				pmax	pmax		
	comp=Z,11nm,1.4s						
KRUC	**Moravsky**	**82.69**	**327**	*e*P	**P**	**22 26 42.3**	**+1.8**
SRO	**Srobarova**	**82.71**	**325**	*e*P	**P**	**22 26 43.1**	**+2.5**
SRO	**Srobarova**	**82.71**	**325**	*e*P	**P**	**22 26 43.1**	**+2.5**
NRDL	**Niedersach Rie**	**82.72**	**332**	*e*P	**P**	**22 26 40.9**	**+0.5**
	comp=Z,3.9nm,0.8s,baz=41,slow=5.3						
MODS	**Modra-Piesok**	**82.79**	**326**	*e*P	**P**	**22 26 41.8**	**+0.8**
MODS				pmax	pmax		
	comp=Z,32nm,1.3s						
MODS	**Modra-Piesok**	**82.79**	**326**	*e*P	**P**	**22 26 41.8**	**+0.8**
EPLO	**Experimental L**	**82.84**	**32**		**P**	**22 26 41.7**	**+0.4**
NEUB	**Neuenburg**	**83.06**	**330**	*e*P	**P**	**22 26 42.8**	**+0.5**
	comp=Z,9.1nm,0.8s,baz=41,slow=5.3						
CLZ	**Clausthal**	**83.12**	**332**	*e*P	**P**	**22 26 43.3**	**+0.6**
	baz=41,slow=5.3						
MDVR	**Moldovita**	**83.17**	**321**	⇑P	**P**	**22 26 43.6**	**+0.5**
TANN	**Tannenbergstha**	**83.38**	**330**	*e*P	**P**	**22 26 44.3**	**+0.2**
	baz=41,slow=5.3						
ZVC	**Zvikov**	**83.38**	**328**	*e*P	**P**	**22 26 46.0**	**+1.9**
GHAJ	**Ghor Haditha**	**83.51**	**304**		**P**	**22 26 45.4**	**+0.4**
GTTG	**Gottingen**	**83.52**	**332**	*e*P	**P**	**22 26 45.6**	**+0.9**
	baz=41,slow=5.3						
MOX	**Moxa**	**83.55**	**330**	*e*P	**P**	**22 26 45.5**	**+0.6**
	comp=Z,2.6nm,1.0s,baz=41,slow=5.3						
RDO	**Rodhopi**	**83.56**	**317**	P	**P**	**22 26 46.1**	**+1.0**
RDO				IAmb	IAmb	22 26 48.1	
	comp=Z,24nm,1.1s						
MORH	**Mrgy, Hungar**	**83.69**	**324**	⇑P	**P**	**22 26 47.1**	**+1.4**
RONA	**Rosalia, Austr**	**83.73**	**326**	*i* P	**P**	**22 26 48.1**	**+2.2**
	comp=Z,22nm,1.6s,SNR=12						
IBBN	**Ibbenburen**	**83.75**	**333**	*e*P	**P**	**22 26 47.0**	**+1.2**
	comp=Z,5.9nm,0.9s,baz=41,slow=5.3						
CONA	**Conrad Observa**	**83.76**	**326**	*i* P	**P**	**22 26 47.9**	**+1.8**
	comp=Z,18nm,1.5s,SNR=11						
CKRC	**Cesky Krumlov**	**83.80**	**328**	*e*P	**P**	**22 26 47.6**	**+1.4**
CKRC				*ex*	x	22 26 56.0	
CKRC				AMS	AMS	23 07 00.0	
	comp=Z,100nm,23.1s						
ELL	**Elmali**	**83.83**	**311**	P	**P**	**22 26 47.5**	**+0.8**
ELL	**Elmali**	**83.83**	**311**	P	**P**	**22 26 47.5**	**+0.8**
ELL				pmax	pmax		
	comp=Z,64nm,1.6s						
MANZ	**Manzenberg**	**83.85**	**329**	*e*P	**P**	**22 26 46.6**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=41,slow=5.3						
KHC	**Kasperske Hory**	**83.88**	**328**	*e*P	**P**	**22 26 44.8**	**-1.9**
KHC				AMS	AMS	23 00 50.0	
	comp=Z,100nm,23.0s						
KHC	**Kasperske Hory**	**83.88**	**328**	*i* P	**P**	**22 26 46.9**	**+0.2**
KHC				pmax	pmax		
	comp=Z,13nm,1.2s						
BOVS	**Bovan**	**83.96**	**320**	⇑P	**P**	**22 26 48.4**	**+1.3**
ROTZ	**Rotzenmuhle**	**83.98**	**329**	*e*P	**P**	**22 26 47.8**	**+0.7**
	comp=Z,1.9nm,1.2s,baz=41,slow=5.3						
GEC2	**GERESS Array S**	**84.04**	**328**		**P**	**22 26 46.8**	**-0.8**
GEC2	**GERESS Array S**	**84.04**	**328**	*e*P	**P**	**22 26 46.9**	**-0.6**
	comp=Z,3.9nm,1.0s,baz=41,slow=5.3						
GERES	**GERESS Array B**	**84.04**	**328**	P	**P**	**22 26 47.6**	**0.0**
	comp=Z,2.5nm,0.9s,baz=54,slow=3.4,SNR=19						
GERES				PP	**PP**	**22 30 03.1**	**+1.9**
	comp=Z,1.0nm,0.9s,baz=47,slow=9.7,SNR=4.1						
GERES				LR	LR	23 09 04.7	
	comp=Z,71nm,18.9s,baz=308,slow=39						
	comp=Z,2.5nm,0.9s						
UBBA	**Unterbreizbach**	**84.07**	**331**	*e*P	**P**	**22 26 48.4**	**+1.0**
	baz=41,slow=5.3						
WET	**Wettzell**	**84.17**	**329**	*e*P	**P**	**22 26 48.3**	**+0.2**
	comp=Z,3.7nm,1.1s,baz=41,slow=5.3						
PPT	**Papeete**	**84.33**	**116**	LR	LR	22 54 41.9	
	comp=Z,81nm,21.3s,baz=322,slow=29						
PPT2	**Papeete2**	**84.34**	**116**	*e*LR	LR	22 53 15.7	
PPT2	comp=Z,138nm,24.5s			*e*LR	LR	22 53 23.9	
	comp=Z,178nm,31.0s						
KASTN	**Kahler Asten**	**84.38**	**332**	*e*P	**P**	**22 26 50.1**	**+1.0**
	baz=41,slow=5.3						
ARSA	**Arzberg**	**84.42**	**326**		**P**	**22 26 50.3**	**+0.9**
ARSA				IAmb	IAmb	22 26 52.5	
	comp=Z,26nm,1.8s						
ARSA	**Arzberg**	**84.42**	**326**	*i* P	**P**	**22 26 51.2**	**+1.8**
	comp=Z,12nm,1.8s,SNR=5.2						
GRA1	**Grafenberg Arr**	**84.45**	**330**	P	**P**	**22 26 49.7**	**+0.2**
GRA1				IAmb	IAmb	22 26 52.8	
	comp=Z,27nm,1.2s						
GRF	**Grafenberg Arr**	**84.45**	**330**	P	**P**	**22 26 49.7**	**+0.2**
GRF				pmax	pmax		
	comp=Z,27nm,1.2s						
GRF	**Grafenberg Arr**	**84.45**	**330**	*e*P	**P**	**22 26 50.1**	**+0.6**
	comp=Z,13nm,1.1s,baz=41,slow=5.3						
GRFO	**Grafenberg**	**84.45**	**330**	P	**P**	**22 26 49.9**	**+0.4**
GRFO				IAmb	IAmb	22 26 54.6	
	comp=Z,24nm,1.1s						
GRFO	**Grafenberg**	**84.45**	**330**	P	**P**	**22 26 49.9**	**+0.4**
GRFO				pmax	pmax		
	comp=Z,24nm,1.1s						
MOA	**Molln**	**84.54**	**327**	*i* P	**P**	**22 26 51.7**	**+1.7**
	comp=Z,12nm,1.2s,SNR=7.5						
EKA	**Eskdalemuir Ar**	**84.76**	**340**	P	**P**	**22 26 51.9**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=39,slow=4.9,SNR=6.2						
	comp=Z,0.5nm,0.5s						
EIL	**Elat**	**84.92**	**303**	LR	LR	23 08 50.8	
	comp=Z,66nm,19.1s,baz=65,slow=38						
BIOA	**Bad Ischl, Aus**	**84.94**	**327**	*i* P	**P**	**22 26 53.5**	**+1.5**
	comp=Z,14nm,1.2s,SNR=8.2						
GROS	**Grobnik**	**85.01**	**325**	*e*P	**P**	**22 26 52.8**	**+0.3**
SOKA	**Soboth**	**85.07**	**326**	*i* P	**P**	**22 26 54.1**	**+1.4**
	comp=Z,20nm,1.2s,SNR=18						
RJOB	**Jochberg**	**85.28**	**328**	*e*P	**P**	**22 26 54.6**	**+0.8**
	comp=Z,3.8nm,0.9s,baz=41,slow=5.3						
OBKA	**Obir**	**85.42**	**326**	*e*P	**P**	**22 26 56.2**	**+1.7**
	comp=Z,2.3nm,0.7s						
CRES	**Cresnjevec Ost**	**85.50**	**325**	*e*P	**P**	**22 26 55.4**	**+0.5**
KBA	**Koelnbreinsper**	**85.53**	**327**	*e*P	**P**	**22 26 57.0**	**+1.8**
	comp=Z,5.3nm,0.8s						
LESA	**Schwarzleotal**	**85.57**	**328**	*e*P	**P**	**22 26 56.8**	**+1.5**
	comp=Z,8.2nm,0.9s,SNR=5.9						
MYKA	**Terra Mystica**	**85.74**	**327**	*e*P	**P**	**22 26 57.3**	**+1.2**
	comp=Z,6.1nm,1.0s						
BTNL	**Ternell**	**85.75**	**333**	*d*P	**P**	**22 26 57.6**	**+1.7**
MEM	**Membach**	**85.77**	**333**	*d*P	**P**	**22 26 56.3**	**+0.2**
BOJS	**Bojanci**	**85.84**	**325**	*e*P	**P**	**22 26 57.1**	**+0.6**
BSTI	**Sart Tilman**	**85.96**	**333**	*d*P	**P**	**22 26 59.4**	**+2.4**
BHOU	**Houvegnez**	**85.98**	**333**	*d*P	**P**	**22 26 58.1**	**+1.0**
WTTA	**Wattenberg**	**86.14**	**328**	*e*P	**P**	**22 26 59.5**	**+1.3**
	comp=Z,4.8nm,1.3s						
ABTA	**Abfaltersbach**	**86.16**	**327**	*e*P	**P**	**22 26 58.2**	**0.0**
	comp=Z,5.2nm,1.0s						
BCLA	**Clavier**	**86.19**	**333**	*d*P	**P**	**22 26 57.8**	**-0.3**
UCC	**Uccle**	**86.22**	**334**	*d*P	**P**	**22 26 59.7**	**+1.5**
BGES	**Gesves**	**86.30**	**333**	*d*P	**P**	**22 26 58.7**	**+0.1**
MOTA	**Moosalm**	**86.31**	**328**	*i* P	**P**	**22 26 59.8**	**+0.7**
	comp=Z,8.9nm,1.3s						
ANMO	**Albuquerque**	**86.32**	**49**	P	**P**	**22 27 00.1**	**+0.8**
ANMO	**Albuquerque**	**86.32**	**49**	LR	LR	23 00 12.4	
	comp=Z,35nm,21.5s,baz=41,slow=32						
ANMO	**Albuquerque**	**86.32**	**49**	*i* P	**P**	**22 26 57.9**	**-1.5**
ANMO				pmax	pmax		
	comp=Z,8.0nm,2.5s						
RETA	**Reutte**	**86.35**	**329**	*i* P	**P**	**22 27 00.5**	**+1.4**
	comp=Z,10nm,1.1s,SNR=5.2						
SQTA	**Sankt Quirin**	**86.36**	**328**	*e*P	**P**	**22 27 00.9**	**+1.6**
	comp=Z,6.0nm,1.3s						
TRI	**Trieste**	**86.38**	**326**	P	**P**	**22 26 58.2**	**-0.9**
TRI				IAmb	IAmb	22 26 59.7	
	comp=Z,8.3nm,1.0s						
TRI	**Trieste**	**86.38**	**326**	P	**P**	**22 26 58.3**	**-0.9**
TRI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
RCHB	**Rochefort**	**86.43**	**333**	*d*P	**P**	**22 27 00.5**	**+1.1**
STAL	**STALIGIAL**	**86.44**	**327**		**P**	**22 26 59.1**	**-0.4**
STAL				IAmb	IAmb	22 27 25.3	
	comp=Z,9.3nm,0.8s						
BMRD	**Maredsous**	**86.48**	**333**	*d*P	**P**	**22 27 00.3**	**+0.8**
WLF	**Walferdange**	**86.48**	**332**	*d*P	**P**	**22 27 00.8**	**+1.2**
WLF	**Walferdange**	**86.48**	**332**	*e*P	**P**	**22 27 01.5**	**+1.9**
	comp=Z,5.2nm,0.9s,baz=41,slow=5.3						
BFO	**Black Forest**	**86.70**	**330**		**P**	**22 27 00.6**	**-0.1**
BFO				IAmb	IAmb	22 27 03.1	
	comp=Z,14nm,1.1s						
BFO	**Black Forest**	**86.70**	**330**	P	**P**	**22 27 00.6**	**-0.1**
BFO				pmax	pmax		
	comp=Z,14nm,1.1s						
BFO	**Black Forest**	**86.70**	**330**	*e*P	**P**	**22 27 01.9**	**+1.2**
	comp=Z,7.0nm,0.9s,baz=41,slow=5.3						
DOU	**Dourbes**	**86.71**	**333**	*d*P	**P**	**22 27 02.3**	**+1.6**
FETA	**Feichten**	**86.72**	**328**	*i* P	**P**	**22 27 02.8**	**+1.7**
	comp=Z,5.6nm,1.2s						
DAVA	**Damuels**	**86.88**	**329**	*i* P	**P**	**22 27 03.3**	**+1.5**
	comp=Z,13nm,1.5s						
FUORN	**Ofenpass-Fuorn**	**87.24**	**328**		**P**	**22 27 03.8**	**+0.1**
FUORN				IAmb	IAmb	22 27 14.3	
	comp=Z,11nm,1.0s						
DAVOX	**Davos/Dischmat**	**87.28**	**329**	LR	LR	23 08 24.4	
	comp=Z,43nm,18.3s,baz=36,slow=37						
SCHQ	**Schefferville**	**87.38**	**16**	P	**P**	**22 27 04.8**	**+0.9**
	comp=Z,5.0nm,1.0s,baz=340,slow=2.5,SNR=3.8						
SCHQ				LR	LR	23 07 26.5	
	comp=Z,71nm,21.4s,baz=317,slow=36						
	comp=Z,5.0nm,1.0s						
TUE	**Stuetta**	**87.75**	**329**	P	**P**	**22 27 05.6**	**-0.5**
TUE				IAmb	IAmb	22 27 31.6	
	comp=Z,17nm,1.6s						
TBI	**Tubuai**	**88.07**	**120**	*e*LR	LR	22 55 05.5	
	comp=Z,474nm,27.0s						
ITM	**Ithomi**	**88.31**	**316**	P	**P**	**22 27 08.8**	**+0.1**
ITM				IAmb	IAmb	22 27 37.8	
	comp=Z,13nm,0.7s						
FDMO	**Fiordimonte**	**88.72**	**324**		**P**	**22 27 10.5**	**0.0**
INTR	**Introdacqua**	**89.10**	**323**		**P**	**22 27 11.7**	**-0.7**
INTR				IAmb	IAmb	22 27 38.8	
	comp=Z,7.8nm,0.9s						
LPIG	**La Paz**	**90.70**	**60**	LR	LR	23 06 04.5	
	comp=Z,22nm,18.3s,baz=225,slow=34						
TXAR	**Lajitas Array**	**91.81**	**52**	P	**P**	**22 27 24.9**	**-0.3**
TXAR	**Lajitas Array**	**91.81**	**52**	P	**P**	**22 27 26.6**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=308,slow=3.1,SNR=9.2						
TXAR				LR	LR	23 06 30.5	
	comp=Z,30nm,18.3s,baz=299,slow=34						
	comp=Z,0.5nm,0.7s						
TXAR	**Lajitas Array**	**91.81**	**52**	P	**P**	**22 27 25.0**	**-0.3**
VAE	**Valguarnera**	**92.24**	**320**	LR	LR	23 12 32.0	
	comp=Z,75nm,18.5s,baz=327,slow=38						
SADO	**Sadowa**	**92.71**	**27**	LR	LR	23 11 31.3	
	comp=Z,44nm,20.3s,baz=180,slow=37						
Z35A	**Perchaven, San**	**92.98**	**45**		**P**	**22 27 31.5**	**+1.1**
BRDY	**Brady**	**93.39**	**48**	P	**P**	**22 27 33.3**	**+0.9**
BRDY				IAmb	IAmb	22 27 51.6	
	comp=Z,8.4nm,1.2s						
ESDC	**Sonseca Array**	**98.76**	**333**	PP	**PP**	**22 32 00.9**	**+3.6**
	comp=Z,0.4nm,0.7s,baz=20,slow=7.8,SNR=5.0						
ESDC				LR	LR	23 17 16.7	
	comp=Z,65nm,18.1s,baz=14,slow=38						
TORD	**Torodi Ar. Bea**	**118.25**	**313**	PKP	**PKPdf**	**22 33 04.1**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=18,slow=1.8,SNR=25						
QSPA	**South Pole Qui**	**124.83**	**180**		**PKiKP**	**22 33 16.5**	**+0.5**
QSPA	**South Pole Qui**	**124.83**	**180**	PKP	**PKPdf**	**22 33 15.6**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=15,slow=11,SNR=18						
BOSA	**Boshof**	**125.58**	**258**	PKP	**PKiKP**	**22 33 19.3**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=86,slow=12,SNR=3.7						
SYO	**Syowa Base**	**126.18**	**206**	||*e*sPdiff	sPdif	22 30 18.4	+1.2
DBIC	**Dimbokro**	**127.26**	**315**	PKP	**PKiKP**	**22 33 22.4**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=56,slow=7.3,SNR=2.1						
TROLL	**Troll, Antarti**	**137.19**	**198**	⇑P	**PKPdf**	**22 33 38.6**	**-0.4**
	comp=Z,260nm,0.6s						
SNAA	**Sanae**	**138.70**	**197**	⇑P	PKPpre	22 33 36.4	
	comp=Z,40nm,0.7s						
SNAA	**Sanae**	**138.70**	**197**	PKhKP	PKPpre	22 33 31.8	
	comp=Z,1.2nm,0.6s,baz=199,slow=4.5,SNR=11						
VNA3	**Neumayer Olymp**	**140.52**	**195**	⇑P	PKPpre	22 33 37.9	
	comp=Z,3.3nm,0.7s						
VNA1	**Neumayer--Stat**	**140.67**	**196**	⇑P	PKPpre	22 33 38.8	
	comp=Z,6.7nm,1.0s						
H03N2	**Juan Fernandez**	**147.39**	**99**	T	T	01 18 47.3	
	baz=289,slow=76,SNR=68						
H03N3	**Juan Fernandez**	**147.40**	**99**	T	T	01 18 55.9	
	baz=289,slow=76,SNR=96						
H03N1	**Juan Fernandez**	**147.40**	**99**	T	T	01 18 46.0	
	baz=289,slow=76,SNR=90						
LPAZ	**La Paz**	**148.19**	**61**		**PKPbc**	**22 34 02.5**	**-1.5**
LPAZ	**La Paz**	**148.19**	**61**	PKPbc	**PKPbc**	**22 34 04.7**	**+0.7**
	comp=Z,6.1nm,0.8s,baz=324,slow=8.7,SNR=11						
LPAZ	**La Paz**	**148.19**	**61**	PKP2	**PKPbc**	**22 34 02.5**	**-1.5**
ESPZ	**Base Esperanza**	**149.62**	**164**	PKPbc	**PKiKP**	**22 34 06.3**	**0.0**
MAN01	**Angra dos Reis**	**167.18**	**20**	*e*P	**PKPdf**	**22 34 25.7**	**+2.7**

SKHL ***24*** *22:15:27.6±0.1, 43.°00N×145.°80E, h36km±5km, mb3.8/2*
JMA ***24*** *22:15:27.2±0.1, 43.°0N±0.°5×145.°7E±0.°6, h41km, MV2.6/33, OFF NEMURO PENINSULA*

ISC 24 22:15:25.8±1.9, 42.°96N±0.°08×145.°76E±0.°06, h26km±13km, n12, σ0°41/23, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.41**	**358**	*i* P		**Pn**	**22 15 36.4**	**+0.4**
NEM2				S		**Sn**	**22 15 43.2**	**+0.5**
NMR	**Nemuro--Hokkai**	**0.41**	**357**	*e*P		**Pn**	**22 15 36.4**	**+0.4**
NMR				*e*S		**Sn**	**22 15 43.1**	**+0.3**
JKHN	**Kushirohamanak**	**0.46**	**286**	*i* P		**Pn**	**22 15 36.9**	**+0.2**
JKHN				S		**Sn**	**22 15 43.7**	**-0.3**
AKK	**Akkeshi**	**0.68**	**275**	*e*P		**Pn**	**22 15 39.6**	**-0.1**
AKK				*e*S		**Sb**	**22 15 48.5**	**+0.5**
JAK	**Akkeshi**	**0.78**	**273**	*i* P		**Pb**	**22 15 41.1**	**+0.3**
JAK				S		**Sn**	**22 15 51.7**	**-0.3**
JNK	**Nakash**	**0.98**	**310**	*i* P		**Pn**	**22 15 44.0**	**+0.1**
JNK				*e*S		**Sb**	**22 15 56.2**	**-0.7**
JNSB	**Nemuroshibetsu**	**0.98**	**326**	P		**Pb**	**22 15 44.4**	**+0.2**
JNSB				S		**Sn**	**22 15 56.9**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**1.08**	**4**	*e*P		**Pb**	**22 15 45.6**	**-0.2**
YUK				AMB	AMB	22 15 46.5		
	60nm,0.3s							
YUK				*e*S		**Sb**	**22 15 58.6**	**-0.8**
YUK				A	A	22 16 00.6		
	150nm,0.5s							
YUK				A	A	22 16 00.6		
	110nm,0.5s							
JRA	**Rausu**	**1.08**	**335**	S		**Sn**	**22 15 59.6**	**+0.2**
SHO	**Shikotan**	**1.20**	**40**	*e*P		**Pn**	**22 15 47.1**	**+0.3**
SHO				AMB	AMB	22 15 47.5		
	20nm,0.4s							
SHO				*e*S		**Sn**	**22 16 01.8**	**-0.4**
SHO				A	A	22 16 09.0		
	50nm,0.2s							
SHO				A	A	22 16 09.0		
	30nm,0.2s							
JOB	**Onbets**	**1.42**	**268**	*e*P		**Pn**	**22 15 49.9**	**0.0**
JOB				*e*S		**Sn**	**22 16 07.1**	**-0.5**
JAR	**Ashorobuto**	**1.50**	**284**	*i* P		**Pn**	**22 15 51.4**	**+0.4**
JAR				*e*S		**Sn**	**22 16 09.4**	**-0.3**

IDC 24 22:22:42.0±3.4, 25.°28N×141.°34E, h64km±33km, mb3.4/4, mbtmp3.7/4, Error ellipse: s-maj=54.9km s-min=21.6km az=97.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.96**	**23**	P		Pn	22 23 11.7	-1.3
	0.1nm,0.3s,baz=115,slow=20,SNR=2.8							
JCJ				S		Sn	22 23 37.3	+0.8
	0.3nm,0.3s,baz=114,slow=20,SNR=6.2							
WRA	**Warramunga Arr**	**45.47**	**189**	P		P	22 30 55.1	+0.1
	0.7nm,0.4s,baz=7.4,slow=8.6,SNR=16							
	0.7nm,0.4s							
BVAR	**Borovoye Array**	**58.87**	**318**	P		P	22 32 34.6	+0.5
	0.4nm,0.5s,baz=81,slow=6.7,SNR=2.3							
	0.4nm,0.5s							
ILAR	**Eielson Array**	**59.66**	**28**	P		P	22 32 39.2	-0.2
	0.6nm,0.8s,baz=262,slow=5.5,SNR=5.8							
	0.6nm,0.8s							
FINES	**FINESS Array B**	**79.23**	**334**	P		P	22 34 39.6	-0.4
	0.3nm,0.4s,baz=70,slow=6.0,SNR=7.8							
	0.3nm,0.4s							

NEIC ***24*** *22:24:17.6±1.0, 36.°194N±0.°009×117.°88W±0.°02, h1km±2km, Error ellipse: s-maj=1.8km s-min=1.4km az=100.0*

PAS 24 22:24:18.2±0.8, 36.°195N±0.°009×117.°89W±0.°01, h1km±1km, ML3.5/285, ML3.2/132(NEIC), Error ellipse: s-maj=1.7km s-min=1.3km az=86.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.08**	**161**			Pg	22 24 20.2	+0.3
MFS						Sg	22 24 21.7	+0.7
WRVM	**Rose V. Centra**	**0.19**	**181**			Pg	22 24 22.1	+0.3
WRVM						Sg	22 24 25.0	+0.8
WCSM	**Coso Springs S**	**0.19**	**150**			Pg	22 24 22.4	+0.4
WCSM						Sg	22 24 25.4	+0.8
JRC2	**Joshua Ridge**	**0.22**	**163**			Pg	22 24 22.8	+0.3
JRC2						Sg	22 24 26.2	+0.8
WVPM	**Volcano Peak E**	**0.25**	**167**			Pg	22 24 23.3	+0.3
WVPM						Sg	22 24 26.9	+0.6
CWC	**Cottonwood Cre**	**0.29**

MZP	**Montezuma Peak**	**1.56**	**15**			Pn	22 24 46.8	-0.6
KCC	**Kaiser Creek**	**1.61**	**315**			Pn	22 24 47.8	0.0
OSI	**Osito Audit: C**	**1.72**	**204**			Pn	22 24 49.4	+0.1
OSI					IAML		22 25 17.1	
	comp=E,265nm,0.6s							
OSI					IAML		22 25 19.9	
	comp=N,273nm,0.6s							
SMMC	**Simmler**	**1.93**	**243**			Pn	22 24 53.0	+0.9
TPH	**Tonopah**	**1.95**	**16**			Pn	22 24 52.3	-0.4
BFSC	**Mount Baldy Ra**	**1.96**	**174**			Pn	22 24 52.1	-0.6
BFSC					IAML		22 25 21.3	
	comp=N,202nm,0.3s							
BFSC					IAML		22 25 21.7	
	comp=E,233nm,0.5s							
MTPC	**Mountain Pass**	**2.02**	**110**			Pn	22 24 52.5	-1.1
MTPC					IAML		22 25 23.5	
	comp=N,288nm,0.7s							
PASC	**Pasadena Art C**	**2.03**	**187**			Pn	22 24 54.0	+0.4
PASC					IAML		22 25 26.6	
	comp=E,164nm,0.6s							
LHV	**Little Huntoon**	**2.11**	**347**			Pn	22 24 54.9	+0.2
LHV					IAML		22 25 30.1	
	comp=N,146nm,1.0s							
LHV					IAML		22 25 32.0	
	comp=E,224nm,0.7s							
SHPR	**Sheep Range**	**2.22**	**81**			Pn	22 24 56.0	-0.3
NV11	**Mina Array Sit**	**2.24**	**355**			Pn	22 24 56.3	-0.3
NVAR	**Mina Array Bea**	**2.26**	**352**			Pn	22 24 56.1	-0.8
MYLM	**Yosemite Lake**	**2.35**	**301**			Pb	22 25 00.2	-1.2
PMPB	**Monarch Peak**	**2.36**	**271**			Pn	22 24 58.5	+0.4
RYN	**Ryan**	**2.48**	**348**			Pn	22 24 59.8	-0.1
V12A	**Nelson**	**2.51**	**100**			Pn	22 24 59.2	-1.0
V12A					IAML		22 25 41.3	
	comp=N,90nm,1.1s							
V12A					IAML		22 25 47.2	
	comp=E,87nm,0.7s							
ELS	**Elsinore Mount**	**2.57**	**171**			Pn	22 25 00.4	-0.6
ELS					IAML		22 25 45.5	
	comp=E,82nm,1.6s							
BBGB	**Big Mountain B**	**2.57**	**279**			Pn	22 25 01.6	+0.5
PRN	**Pahroc Range**	**2.58**	**61**			Pn	22 25 00.6	-0.7
PRN					IAML		22 25 47.7	
	comp=N,158nm,1.0s							
PRN					IAML		22 25 54.5	
	comp=E,150nm,0.9s							
POB	**Polly Butte**	**2.62**	**162**			Pn	22 25 01.7	-0.1
BELC	**Belle Mtn. Jos**	**2.68**	**144**	Pn		Pn	22 25 01.6	-1.1
BELC					IAML		22 25 46.4	
	comp=N,67nm,0.6s							
BELC					IAML		22 25 53.7	
	comp=E,63nm,1.1s							
CMB	**Columbia Colle**	**2.71**	**313**			Pn	22 25 02.4	-0.6
PMD	**Palm Desert**	**2.83**	**154**			Pn	22 25 03.2	-1.3
R11B	**Troy Canyon, C**	**2.83**	**40**			Pn	22 25 03.7	-1.0
PFO	**Pinyon Flats O**	**2.83**	**155**			Pn	22 25 03.6	-1.1
BORC	**Borrego Spring**	**3.16**	**157**			Pn	22 25 08.0	-1.1
BORC					IAML		22 26 03.2	
	comp=E,48nm,0.9s							
DPP	**Dos Picos Cty**	**3.28**	**166**			Pn	22 25 10.0	-0.8
DPP					IAML		22 26 08.7	
	comp=E,37nm,1.4s							
W13A	**Hualapai Mount**	**3.44**	**107**			Pn	22 25 12.2	-1.0
W13A					IAML		22 26 08.3	
	comp=N,36nm,0.8s							
W13A					IAML		22 26 11.8	
	comp=E,47nm,0.5s							
BLYC	**Blythe**	**3.68**	**130**			Pn	22 25 14.2	-2.1
BLYC					IAML		22 26 27.4	
	comp=N,28nm,0.7s							
BLYC					IAML		22 26 30.1	
	comp=E,31nm,0.8s							
PAHR	**Pah Rah Range**	**3.70**	**342**			Pn	22 25 16.5	-0.2
LCMT	**Little Creek M**	**3.82**	**76**			Pn	22 25 18.7	+0.3
CCUT	**Cedar City**	**3.87**	**68**			Pn	22 25 19.2	+0.1
PSUT	**Pine Spring**	**3.97**	**53**			Pn	22 25 20.3	-0.1
PSUT					IAML		22 26 27.4	
	comp=E,29nm,0.7s							
PSUT					IAML		22 26 39.0	
	comp=N,23nm,1.0s							
CBX	**Cerro Bola**	**4.00**	**165**			Pn	22 25 20.1	-0.7
GLA	**Glamis**	**4.03**	**140**			Pn	22 25 18.9	-2.1
GLA					IAML		22 26 42.0	
	comp=N,32nm,1.4s							
GLA					IAML		22 26 54.9	
	comp=E,40nm,0.8s							
KNB	**Kanab**	**4.16**	**77**			Pn	22 25 21.7	-1.3
KNB					IAML		22 26 35.2	
	comp=E,32nm,1.2s							
KNB					IAML		22 26 35.4	
	comp=N,26nm,1.5s							
U15A	**North Rim**	**4.53**	**85**			Pn	22 25 27.3	-0.9
U15A					IAML		22 26 46.8	
	comp=E,35nm,1.0s							
U15A					IAML		22 26 53.8	
	comp=N,23nm,1.7s							
Y14A	**Wickenburg**	**4.59**	**118**			Pn	22 25 27.5	-1.4
Y14A					IAML		22 26 50.4	
	comp=E,20nm,0.7s							
Y14A					IAML		22 26 52.7	
	comp=N,25nm,0.8s							
ELK	**Elko**	**5.00**	**24**			Pn	22 25 35.0	+0.5
X16A	**Lo Mia Camp, P**	**5.56**	**107**			Pn	22 25 40.9	-1.4
HMU	**Henry Mountain**	**5.97**	**71**			Pn	22 25 47.0	-1.0

*SDD **24** 22:43:36.1±0.8, 19°.01N×68°.71W, h28km±11km, MD2.5, ML2.4*
*NEIC **24** 22:43:36.9±1.9, 18°.99N±0°.09×68°.77W±0°.03, h10km±2km, ML2.5/16, Md2.6/8(RSPR), Error ellipse: s-maj=16.0km s-min=4.8km az=358.0*
*RSPR **24** 22:43:36.9, 18°.98N×68°.74W, h14km±3km, MD2.6/8*
ISC 24 22:43:33.1±1.3, **19°.05N**±0°.06×**68°.70W**±0°.02, **h15**km±10km, **n36**, σ0°.75/41, **6C-6D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MIDR	**Miches**	**0.34**	**259**	⇓*eP*	**Pn**		**22 43 42.7**	**-0.8**
MIDR				IAML			22 43 48.3	
	comp=E,259nm,0.2s							
MIDR				IAML			22 43 49.1	
	comp=N,256nm,0.3s							
HIDR	**Higuey Centro**	**0.46**	**182**	⇓*eP*	**Pn**		**22 43 44.3**	**-0.8**
HIDR	**Higuey Centro**	**0.46**	**182**	*eS*	**Sb**		**22 43 50.0**	**+0.6**
HIDR	**Higuey Centro**	**0.46**	**182**	*ePg*	**Pn**		**22 43 44.5**	**-0.6**
HIDR				⇑*eSg*	**Sb**		**22 43 50.4**	**+1.0**
HIDR				IAML			22 43 50.6	
	comp=E,570nm,0.2s							
HIDR				IAML			22 43 50.6	
	comp=N,678nm,0.3s							
SMDR	**Samana, DR**	**0.52**	**297**	⇓*eP*	**Pn**		**22 43 45.8**	**-0.2**
SMDR	**Samana, DR**	**0.52**	**297**	*eS*	**Sn**		**22 43 54.3**	**-0.4**
SMDR	**Samana, DR**	**0.52**	**297**	*ePg*	**Pn**		**22 43 45.8**	**-0.2**
SMDR				*eSg*	**Sn**		**22 43 54.2**	**-0.4**
SMDR				IAML			22 43 56.2	
	comp=N,124nm,0.3s							
SMDR				IAML			22 43 57.2	
	comp=E,165nm,0.2s							
PCDR	**Punta Cana, DR**	**0.61**	**151**	*ePg*	**Pn**		**22 43 46.9**	**-0.3**
PCDR				IAML			22 43 58.5	
	comp=N,96nm,1.3s							
PCDR				IAML			22 44 01.8	
	comp=E,108nm,1.2s							
DR12	**Loma Pena Alta**	**0.70**	**248**		**Pn**		**22 43 48.2**	**-0.3**
DR12					**Sb**		**22 43 57.4**	**+0.9**
HATOM	**Hato Mayor del**	**0.70**	**248**	⇓*ePg*	**Pn**		**22 43 48.2**	**-0.3**
HATOM				⇑*eSg*	**Sb**		**22 43 57.4**	**+0.9**
HATOM				IAML			22 43 57.8	
	comp=E,38nm,0.1s							
HATOM				IAML			22 44 00.6	
	comp=N,50nm,0.3s							
SADR	**Isla Saona**	**0.86**	**185**	*ePg*	**Pn**		**22 43 50.6**	**0.0**
SADR				IAML			22 44 04.7	
	comp=N,168nm,2.3s							
SADR				IAML			22 44 06.5	
	comp=E,96nm,0.9s							
IDE	**Isla Desecheo**	**1.33**	**119**		**Pg**		**22 43 58.6**	**-0.2**
IDE					**Sb**		**22 44 14.3**	**-0.5**
IDE	**Isla Desecheo**	**1.33**	**119**	⇑*eP*	**Pg**		**22 43 58.6**	**-0.2**
IDE	**Isla Desecheo**	**1.33**	**119**	*eS*	**Sb**		**22 44 14.3**	**-0.5**
BANI	**BANI**	**1.70**	**248**	Pn	**Pg**		**22 44 06.5**	**+0.7**
BANI				Sn	**Sg**		**22 44 27.2**	**-0.8**
BANI	**BANI**	**1.70**	**248**	IAML			22 44 39.0	
	comp=E,35nm,0.1s							
BANI				IAML			22 44 39.2	
	comp=N,76nm,0.4s							
CRPR	**Cabo Rojo, PR**	**1.83**	**124**		**Pg**		**22 44 08.3**	**+0.1**
CRPR				IAML			22 44 41.9	
	comp=N,28nm,1.5s							
CRPR	**Cabo Rojo, PR**	**1.83**	**124**	⇓*eP*	**Pn**		**22 44 04.4**	**+0.3**
ABDR	**Alto Bandera**	**1.84**	**263**	IAML			22 44 38.3	
	comp=E,42nm,0.3s							
ABDR				IAML			22 44 42.0	
	comp=N,38nm,0.7s							
MLPR	**Magueyes Islan**	**1.90**	**124**	⇑*eP*	**Pb**		**22 44 06.8**	**-0.7**
MLPR	**Magueyes Islan**	**1.90**	**124**	*eS*	**Sn**		**22 44 27.8**	**-1.0**
AOPR	**Arecibo Observ**	**1.97**	**110**		**Pb**		**22 44 08.4**	**-0.4**
AOPR	**Arecibo Observ**	**1.97**	**110**		**Sg**		**22 44 35.8**	**-0.7**
AOPR				IAML			22 44 42.4	
	comp=N,54nm,0.4s							
AOPR	**Arecibo Observ**	**1.97**	**110**	⇑*eP*	**Pb**		**22 44 08.4**	**-0.4**
AOPR	**Arecibo Observ**	**1.97**	**110**	*eS*	**Sb**		**22 44 32.1**	**-1.0**
UUPR	**Utuado, UPR, P**	**2.04**	**113**		**Pb**		**22 44 10.3**	**+0.5**
UUPR					**Sg**		**22 44 39.6**	**+1.0**
UUPR	**Utuado, UPR, P**	**2.04**	**113**	⇓*eP*	**Pn**		**22 44 07.3**	**+0.5**
UUPR	**Utuado, UPR, P**	**2.04**	**113**	*eS*	**Sn**		**22 44 32.3**	**+0.2**
OBIP	**Obispado Ponce**	**2.22**	**116**	Pn	**Pb**		**22 44 14.0**	**+1.0**
OBIP				IAML			22 44 49.5	
	comp=N,21nm,1.0s							
CELP	**Cerrillos**	**2.23**	**115**		**Pb**		**22 44 12.9**	**-0.2**
CELP					**Sb**		**22 44 42.8**	**+2.2**
CELP				IAML			22 44 46.3	
	comp=E,18nm,0.6s							
CELP				IAML			22 44 49.7	
	comp=N,25nm,0.4s							
CELP	**Cerrillos**	**2.23**	**115**	⇑*eP*	**Pn**		**22 44 11.0**	**+1.4**
CELP	**Cerrillos**	**2.23**	**115**	*eS*	**Sn**		**22 44 36.8**	**-0.1**
SDDR	**Presa de Saban**	**2.45**	**269**	Pn	**Pb**		**22 44 17.1**	**+0.2**
SDDR				IAML			22 44 57.2	
	comp=N,39nm,0.6s							
REDR	**Restauracion**	**2.55**	**273**	IAML			22 45 03.7	
	comp=E,24nm,0.1s							
REDR				IAML			22 45 08.8	
	comp=N,26nm,0.2s							
PDPR	**Patillas Dam,**	**2.74**	**112**	Pn	**Pb**		**22 44 21.3**	**-0.5**
HUMP	**Col San Antoni**	**2.85**	**108**	Pn	**Pb**		**22 44 22.9**	**-0.8**
HUMP				IAML			22 45 03.9	
	comp=N,13nm,0.8s							
HUMP				IAML			22 45 12.4	
	comp=E,12nm,1.2s							

IDC 24 23:22:09.8±25.0, **21°.21S×178°.72W, h538**km±217km, **mb2.6/3, mbtmp3.5/3, Error ellipse: s-maj=347.8km s-min=68.3km az=138.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.70**	**258**	P	P		23 29 28.2	+0.6
	0.4nm,0.5s,baz=100,slow=7.5,SNR=2.3							
	0.4nm,0.5s							
WRA	**Warramunga Arr**	**43.84**	**263**	P	P		23 29 28.0	-0.7
	0.6nm,0.8s,baz=95,slow=8.1,SNR=6.0							
	0.6nm,0.8s							
ILAR	**Eielson Array**	**89.15**	**13**	P	P		23 34 07.6	0.0
	0.2nm,0.4s,baz=230,slow=4.9,SNR=2.3							
	0.2nm,0.4s							
ARCES	**ARCESS Array B**	**129.49**	**349**	PKP	PKiKP		23 40 17.4	-0.3
	4.9nm,1.1s,baz=12,slow=2.4,SNR=2.9							
FINES	**FINESS Array B**	**136.26**	**343**	PKP	PKiKP		23 40 31.0	-0.5
	0.7nm,0.9s,baz=47,slow=2.5,SNR=1.4							
HFS	**Hagfors**	**140.13**	**350**	PKhKP	PKPpre		23 40 30.5	
	0.3nm,0.3s,baz=56,slow=2.7,SNR=7.8							
AKASG	**Malin Array Be**	**143.30**	**330**	PKP	PKPab		23 40 40.7	-0.1
	1.2nm,0.4s,baz=45,slow=4.2,SNR=8.8							
BRTR	**Keskin Array B**	**146.81**	**311**	PKPbc	PKPbc		23 40 52.2	+0.1
	0.5nm,0.6s,baz=42,slow=2.9,SNR=2.3							
GERES	**GERESS Array B**	**150.69**	**343**	PKPbc	PKPbc		23 41 00.5	-0.8
	0.3nm,0.5s,baz=15,slow=4.8,SNR=4.1							

*NEIC **24** 23:25:51.2, 35°.84N×98°.07W, h5km*
*NEIC **24** 23:25:52.8±0.9, 35°.815N±0°.010×98°.09W±0°.01, h7km±1km, Error ellipse: s-maj=2.9km s-min=1.8km az=332.0*
NEIC 24 23:25:51.2±0.9, **35°.840N**±0°.010×**98°.072W**±0°.009, **h5**km±1km, **mb_Lg3.3**/127, **ML3.4**/59, **ML3.2**/9, **Mwr3.2**/19, **Error ellipse: s-maj=2.9km s-min=1.7km az=304.0, Moment Tensor Solution. Moment tensor: Scale** 10^{13} **Nm;** Mrr=1.90; Mθθ=9.11; Mφφ=-7.22; Mrθ=0.85; Mθφ=-1.60; Mφr=2.51; **Fault plane solution:** M0=8.88000×10^{13} **NP1:** φs=138.53000°, δ79.51000°, λ=-19.10000°. **NP2:** φs=232.14000°, δ71.23000°, λ=-168.92000°. **Principal axes:** T 9.3753, Plg6.0000°, Azm186.0000°; N -1.0837, Plg68.0000°, Azm291.0000°; P -8.2916, Plg21.0000°, Azm94.0000°; **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.50**	**95**			Pg	23 26 01.4	+0.4
OK029					Sg	Sg	23 26 08.8	+1.3
CSTR	**Hydro, Custer**	**0.54**	**249**			Pg	23 26 01.8	+0.2
OK004	**Okla Sci Mus**	**0.58**	**123**			Pb	23 26 04.0	+0.1
ADOK	**Arcadia Dam**	**0.60**	**108**			Pg	23 26 02.9	+0.1
CROK	**Carrier**	**0.67**	**6**			Pg	23 26 04.3	+0.3
CROK						Sg	23 26 13.5	+0.7
CROK				IAML			23 26 23.3	
	comp=E,1μm,0.3s							
CROK				IAML			23 26 26.2	
	comp=N,2μm,0.4s							
OKCSW	**OKLAHOMA CITY**	**0.68**	**130**			Pg	23 26 04.1	-0.1
OKCSW						Sg	23 26 13.7	+0.7
OKCSW				IAML			23 26 16.6	
	comp=E,2μm,0.6s							
OKCSW				IAML			23 26 16.7	
	comp=N,3μm,0.6s							
FNO	**Franklin**	**0.80**	**137**			Pg	23 26 06.7	+0.1
FNO						Sg	23 26 17.7	+0.7
FNO				IAML			23 26 20.9	
	comp=E,1μm,0.7s							
OK038	**West end E0370**	**0.84**	**320**			Pg	23 26 07.4	+0.1
GC02	**Grant County #**	**1.02**	**10**			Pg	23 26 10.6	-0.3
GC02						Sg	23 26 24.7	+0.5
OK052	**Battle Ridge R**	**1.04**	**81**			Pg	23 26 11.0	-0.2
OK052						Sb	23 26 25.7	-0.1
OK052				IAML			23 26 30.8	
	comp=E,729nm,0.4s							
OK052				IAML			23 26 31.7	
	comp=E,914nm,0.2s							
ELIS	**Ellis County**	**1.11**	**282**			Pg	23 26 12.2	-0.4
ELIS				IAML			23 26 34.4	
	comp=E,589nm,0.2s							
ELIS				IAML			23 26 50.0	
	comp=N,780nm,1.1s							
KAN14	**Manchester OK**	**1.12**	**4**			Pg	23 26 12.1	-0.6
KAN14				IAML			23 26 33.7	
	comp=N,652nm,0.1s							
KAN14				IAML			23 26 33.9	
	comp=E,629nm,0.2s							
BLOK	**Blackwell**	**1.15**	**37**			Pg	23 26 13.0	-0.3
QUOK	**Quay**	**1.15**	**73**			Pg	23 26 12.9	-0.4
OK051	**E0350 and S346**	**1.20**	**56**			Pg	23 26 14.0	-0.2
KAN17	**Caldwell West**	**1.23**	**12**			Pg	23 26 14.2	-0.6
WMOK	**Wichita Mounta**	**1.24**	**208**			Pg	23 26 14.2	-0.9
X34A	**Smith Ranch, M**	**1.25**	**171**			Pg	23 26 15.1	-0.1
X34A				IAML			23 26 34.3	
	comp=E,454nm,0.4s							
X34A				IAML			23 26 58.5	
	comp=N,505nm,0.8s							
KAN13	**South Haven SW**	**1.26**	**22**			Pg	23 26 14.9	-0.6
DEOK	**Depew**	**1.28**	**89**			Pg	23 26 15.0	-0.8
DEOK				IAML			23 26 36.0	
	comp=E,892nm,0.3s							
DEOK				IAML			23 26 37.9	
	comp=N,754nm,0.3s							
KAN10	**Anthony SW Sta**	**1.28**	**359**			Pg	23 26 15.4	-0.5
KAN01	**Argonia South**	**1.33**	**11**			Pn	23 26 16.1	-0.5
KAN09	**Caldwell North**	**1.34**	**16**			Pn	23 26 16.2	-0.5
KAN08	**Anthony NE Sta**	**1.39**	**3**			Pn	23 26 16.9	-0.4
KAN12	**Harper NE Stat**	**1.46**	**2**			Pn	23 26 18.1	-0.2
KAN12				IAmb_Lg			23 26 38.8	
	comp=Z,144nm,1.0s							
T35A	**Sooner Cattle**	**1.65**	**49**			Pn	23 26 21.5	+0.6
TUL3	**Leonard**	**1.85**	**87**			Pn	23 26 24.1	+0.4
DRZT	**Darrouzett**	**1.90**	**289**	P		Pb	23 26 26.0	-0.5
SMWD	**Samnorwood**	**1.92**	**248**			Pn	23 26 25.2	+0.6
SMWD				IAmb_Lg			23 26 55.0	
	comp=Z,188nm,0.9s							
SMWD	**Samnorwood**	**1.92**	**248**	P	Pn		23 26 25.3	+0.7
SMWD	**Samnorwood**	**1.92**	**248**	P	Pn		23 26 25.3	+0.7
LOOK	**Love County**	**1.98**	**158**		Pb		23 26 26.9	-0.9
LOOK				IAmb_Lg			23 26 58.2	
	comp=Z,240nm,0.8s							
WTFS	**Witchita Falls**	**2.09**	**189**		Pb		23 26 28.4	-1.3
RLO	**Rose Lookout**	**2.49**	**82**		Pn		23 26 33.0	+0.6
Z35A	**Perchaven, San**	**2.59**	**165**		Pn		23 26 34.7	+0.9
Z35A				IAmb_Lg			23 27 15.0	
	comp=Z,112nm,1.3s							
R32A	**Long Quarter,**	**2.63**	**349**		Pn		23 26 34.4	0.0
PH03	**Pantex**	**2.88**	**261**	P	Pb		23 26 43.9	+0.7
FW06	**Azle**	**2.89**	**171**		Pn		23 26 38.8	+0.9
APMT	**Aspermont**	**3.03**	**215**		Pn		23 26 41.0	+1.2
APMT				IAmb_Lg			23 27 29.5	
	comp=Z,88nm,1.3s							
PLPT	**Palo Pinto**	**3.03**	**184**		Pn		23 26 40.9	+1.1
U38A	**Gravette**	**3.04**	**78**		Pn		23 26 40.8	+0.7
AMTX	**Amarillo**	**3.10**	**253**		Pn		23 26 41.6	+0.7
AMTX				IAmb_Lg			23 27 27.4	
	comp=Z,99nm,0.8s							
FW07	**Weatherford**	**3.14**	**176**		Pn		23 26 42.6	+1.2
PH02	**Texas Public H**	**3.19**	**263**	P	Pb		23 26 45.6	-2.8
PH02				S	Sn		23 27 23.1	+2.5
DKNS	**Dickens**	**3.20**	**228**		Pn		23 26 42.6	+0.4
DKNS				IAmb_Lg			23 27 34.6	
	comp=Z,58nm,0.7s							
CBKS	**Cedar Bluff**	**3.25**	**336**		Pn		23 26 43.3	+0.4
CBKS				IAmb_Lg			23 27 42.8	
	comp=Z,139nm,0.9s							
HHAR	**Hobbs**	**3.38**	**81**		Pn		23 26 44.8	+0.1
HHAR				IAmb_Lg			23 27 38.9	
	comp=Z,97nm,0.8s							
KSU1	**Kansas State U**	**3.46**	**19**		Pn		23 26 46.0	+0.3
KSU1	**Kansas State U**	**3.46**	**19**	IAmb_Lg			23 27 43.6	
	comp=Z,61nm,0.8s							
ABTX	**Abilene, Hawle**	**3.46**	**203**		Pn		23 26 46.4	+0.5
TREL	**Terrell**	**3.51**	**152**		Pn		23 26 47.5	+1.0
TREL				IAmb_Lg			23 27 52.1	
	comp=Z,76nm,0.9s							
SN07	**Snyder 07**	**3.60**	**221**		Pn		23 26 48.3	+0.6
SN07				IAmb_Lg			23 27 52.9	
	comp=Z,55nm,0.9s							
Z38A	**Mt. Pleasant**	**3.62**	**134**		Pn		23 26 48.7	+0.7
Z38A				IAmb_Lg			23 27 50.6	
	comp=Z,144nm,0.8s							
SN05	**Snyder 5**	**3.76**	**219**		Pn		23 26 49.0	-0.9
SN05				IAmb_Lg			23 27 55.5	
	comp=Z,84nm,0.8s							
RTBA	**Rita Blanca**	**3.82**	**280**		Pn		23 26 51.6	+0.7
RTBA	**Rita Blanca**	**3.82**	**280**	P	Pn		23 26 52.3	+1.4
WHTX	**Lake Whitney,**	**3.87**	**172**		Pn		23 26 51.8	+0.3
MIAR	**Mount Ida**	**3.90**	**108**		Pn		23 26 51.5	-0.3
MIAR				IAmb_Lg			23 27 57.5	
	comp=Z,88nm,1.0s							
POST	**Post**	**3.96**	**227**	IAmb_Lg			23 28 03.1	
	comp=Z,75nm,0.8s							
S39A	**Bolivar**	**4.24**	**63**	IAmb_Lg			23 28 44.4	
	comp=Z,31nm,1.1s							
237A	**Washetta, Mont**	**4.27**	**153**		Pn		23 26 56.2	-0.7
MSTX	**Muleshoe**	**4.29**	**246**	IAmb_Lg			23 28 12.2	
	comp=Z,37nm,1.0s							
X40A	**Basin Creek Fa**	**4.50**	**106**		Pn		23 27 00.5	+0.5
X40A				IAmb_Lg			23 28 18.7	
	comp=Z,82nm,0.7s							
BRDY	**Brady**	**4.61**	**190**		Pn		23 27 01.7	+0.1
WLAR	**White Oak Lake**	**4.61**	**116**	IAmb_Lg			23 28 20.4	
	comp=Z,68nm,0.7s							
SGCY	**Sterling City**	**4.67**	**214**		Pn		23 27 02.4	0.0
SGCY				IAmb_Lg			23 28 26.6	
	comp=Z,106nm,1.1s							
WHAR	**Wooly Hollow**	**4.75**	**95**		Pn		23 27 03.2	-0.2
WHAR				IAmb_Lg			23 28 30.9	
	comp=Z,52nm,0.7s							
UALR	**University of**	**4.80**	**101**		Pn		23 27 04.0	-0.3
UALR				IAmb_Lg			23 28 31.8	
	comp=Z,35nm,0.8s							
KSCO	**Kaye Shedlock'**	**4.81**	**312**	IAmb_Lg			23 28 27.6	
	comp=Z,66nm,0.7s							
FCAR	**Ozark Folk Cen**	**4.83**	**88**		Pn		23 27 04.0	-0.6
FCAR				IAmb_Lg			23 28 29.3	
	comp=Z,43nm,0.8s							
MGMO	**Mountain Grove**	**4.86**	**73**	IAmb_Lg			23 28 26.0	
	comp=Z,71nm,0.8s							
NATX	**Nacogdoches**	**4.96**	**144**	IAmb_Lg			23 28 43.1	
	comp=Z,39nm,0.7s							
Z41A	**Richland Creek**	**5.05**	**119**	IAmb_Lg			23 28 40.3	
	comp=Z,55nm,0.9s							
435B	**Jarrell**	**5.06**	**175**	IAmb_Lg			23 28 40.2	
	comp=Z,58nm,0.9s							
P38A	**Dawn**	**5.22**	**42**		Pn		23 27 10.3	+0.4
P38A				IAmb_Lg			23 28 43.1	
	comp=Z,54nm,0.8s							
R40A	**Maddies Statio**	**5.25**	**60**	IAmb_Lg			23 28 45.1	
	comp=Z,71nm,0.9s							
T25A	**Trinidad**	**5.27**	**286**	IAmb_Lg			23 28 44.8	
	comp=Z,52nm,0.8s							
CCAR	**Cane Creek**	**5.52**	**109**	IAmb_Lg			23 28 52.1	
	comp=Z,64nm,0.8s							
OZNA	**Ozona**	**5.53**	**208**	IAmb_Lg			23 28 50.1	
	comp=Z,43nm,0.9s							
BGNE	**Belgrade**	**5.56**	**359**		Pn		23 27 14.0	-0.6
BGNE				IAmb_Lg			23 28 52.0	
	comp=Z,42nm,0.8s							
LCAR	**Lake Charles**	**5.62**	**86**	IAmb_Lg			23 28 56.0	
	comp=Z,38nm,0.7s							
CCM	**Cathedral Cave**	**5.90**	**66**	Pn	Pn		23 27 18.9	-0.3

BORG				LR	LR	23 41 59.9		
	comp=Z,91nm,19.0s,baz=325,slow=40							
	17nm,0.3s							
SCO	**Scoresbysund**	**4.16**	**345**	*i* P	Pn	23 41 36.0	-6.1	
SOEG	**Soedalen**	**5.17**	**295**	*eP*	**Pn**	**23 41 58.7**	**+2.8**	
DBG	**Daneborg**	**7.85**	**357**	*i* P	**Pn**	**23 42 31.4**	**-1.3**	
SUMG	**Summit**	**9.15**	**320**	*i* P	**Pn**	**23 42 48.4**	**-2.5**	
SFJD	**Kangerlussuaq**	**12.53**	**287**	LR	LR	23 47 57.7		
	comp=Z,95nm,19.1s,baz=68,slow=35							
NOA	**NORSAR Array B**	**14.22**	**98**	LR	LR	23 48 55.1		
	comp=Z,31nm,21.1s,baz=305,slow=35							
HFS	**Hagfors**	**15.74**	**98**	LR	LR	23 49 17.6		
	comp=Z,54nm,19.9s,baz=279,slow=33							
ARCES	**ARCESS Array B**	**16.54**	**60**	Pn	**Pn**	**23 44 32.2**	**+1.9**	
	baz=287,slow=12,SNR=4.1							
ARCES				LR	LR	23 49 24.1		
	comp=Z,58nm,19.1s,baz=272,slow=32							
	2.8nm,1.0s							
FINES	**FINESS Array B**	**19.93**	**83**	P	**P**	**23 45 11.1**	**+0.9**	
	2.4nm,0.8s,baz=312,slow=11,SNR=8.4							
FINES				LR	LR	23 51 34.5		
	comp=Z,55nm,21.1s,baz=311,slow=33							
	2.4nm,0.8s							
CLL	**Collm**	**22.00**	**118**	*i* Px	Px	23 45 35.7		
	comp=Z,11nm,1.6s							
GERES	**GERESS Array B**	**24.32**	**121**	P	**P**	**23 45 58.1**	**+1.9**	
	comp=Z,0.7nm,0.9s,baz=334,slow=8.9,SNR=7.1							
	comp=Z,0.7nm,0.9s							
DAVOX	**Davos/Dischmat**	**24.86**	**128**	LR	LR	23 55 39.7		
	comp=Z,30nm,18.1s,baz=286,slow=36							
VRAC	**Vranov**	**24.95**	**116**	LR	LR	23 55 57.8		
	comp=Z,10nm,21.4s,baz=299,slow=37							
SCHQ	**Schefferville**	**25.56**	**266**	LR	LR	23 55 02.0		
	comp=Z,45nm,19.7s,baz=65,slow=34							
AKASG	**Malin Array Be**	**28.63**	**100**	LR	LR	23 57 11.9		
	comp=Z,48nm,20.9s,baz=330,slow=35							
MLR	**Muntele Rosu**	**31.61**	**109**	LR	LR	00 01 25.6		
	comp=Z,28nm,21.0s,baz=290,slow=39							
BELG	**Belogornoye**	**34.67**	**81**	LR	LR	00 00 55.8		
	comp=Z,44nm,18.7s,baz=284,slow=35							
ARTI	**Arti**	**35.80**	**68**	LR	LR	00 01 16.0		
	comp=Z,50nm,19.0s,baz=332,slow=34							
YKA	**Yellowknife Ar**	**37.59**	**311**	LR	LR	00 04 15.4		
	comp=Z,24nm,19.4s,baz=348,slow=38							
SADO	**Sadowa**	**38.37**	**266**	LR	LR	00 02 22.5		
	comp=Z,43nm,19.1s,baz=208,slow=34							
AKTO	**Aktyubinsk**	**40.26**	**74**	LR	LR	00 04 14.5		
	comp=Z,38nm,18.2s,baz=58,slow=35							
GNI	**Garni**	**43.48**	**95**	LR	LR	00 07 15.4		
	comp=Z,24nm,18.2s,baz=300,slow=37							
ILAR	**Eielson Array**	**43.81**	**331**	P	**P**	**23 48 44.0**	**0.0**	
	comp=Z,0.5nm,1.0s,baz=26,slow=6.0,SNR=5.0							
ILAR				LR	LR	00 08 33.4		
	comp=Z,20nm,18.2s,baz=137,slow=38							
	comp=Z,0.5nm,1.0s							
ZALV	**Zalesovo Beam**	**46.88**	**52**	LR	LR	00 11 19.1		
	comp=Z,17nm,19.2s,baz=122,slow=39							
ANMO	**Albuquerque**	**57.62**	**284**	LR	LR	00 14 43.1		
	comp=Z,45nm,18.4s,baz=98,slow=36							
TXAR	**Lajitas Array**	**61.48**	**278**	LR	LR	00 17 51.3		
	comp=Z,20nm,20.1s,baz=46,slow=36							

*IDC **24** 23:42:27.7±3.4, 28°.81S×136°.81E, h0km, mbtmp3.4/4, ML3.4/4, Error ellipse: s-maj=104.6km s-min=20.2km az=46.0*
*AUST **24** 23:42:30.0±0.3, 29°.3S×13°.7E±°, h10km, mb3.5/7, ML3.1/9, ML3.3/9, Error ellipse: s-maj=5.7km s-min=5.2km az=151.9*

ISC 24 23:42:28.1±0.8, 28°.67S±0°.05×136°.97E±0°.05, h10km, n22, σ2s50/32, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LCRK	**Leigh Creek**	**2.08**	**149**	S		**Sb**		**23 43 32.3**	**+0.5**
MULG	**Mulgathing**	**3.00**	**237**	P		**Pn**		**23 43 17.9**	**+2.2**
MULG				S		**Sn**		**23 43 53.6**	**+1.8**
YAPP	**Yappala Statio**	**3.39**	**160**	P		**Pn**		**23 43 24.1**	**+3.0**
YAPP				S		**Sn**		**23 44 03.6**	**+2.2**
INKA	**Innaminka**	**3.46**	**75**	P		**Pn**		**23 43 24.6**	**+2.6**
INKA				S		**Sn**		**23 44 04.2**	**+1.2**
BBOO	**Buckleboo**	**4.20**	**191**	P		**Pn**		**23 43 34.0**	**+1.8**
BBOO	**Buckleboo**	**4.20**	**191**	S		**Sn**		**23 44 20.5**	**-0.9**
NAPP	**Napperby**	**4.61**	**168**	P		**Pn**		**23 43 40.7**	**+2.8**
HTT	**Hallett**	**5.03**	**161**	P		**Pn**		**23 43 46.4**	**+2.7**
	comp=Z,21μcomp=Z,2.3nm,2.0s,comp=Z,0.0nm								
HTT				S		**Sn**		**23 44 41.1**	**-0.8**
STKA	**Stephens Creek**	**5.12**	**130**	P		**Pn**		**23 43 46.7**	**+1.8**
	comp=Z,58μcomp=Z,29nm,0.6s,comp=Z,0.3nm								
STKA	**Stephens Creek**	**5.12**	**130**	S		**Sn**		**23 44 41.6**	**-2.4**
STKA	**Stephens Creek**	**5.12**	**130**	Pn		**Pn**		**23 43 46.4**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=309,slow=15,SNR=3.4								
STKA				Sn		**Sn**		**23 44 41.7**	**-2.4**
	comp=Z,2.2nm,0.3s,baz=311,slow=20,SNR=6.5								
STKA				Lg		Lg		23 45 10.8	
	comp=Z,2.3nm,0.3s,baz=216,slow=18,SNR=3.2								
	comp=Z,1.2nm,0.3s								
ASAR	**Alice Springs**	**5.69**	**330**	Pn		**Pn**		**23 43 55.2**	**+2.4**
	comp=Z,0.6nm,0.3s,baz=153,slow=13,SNR=24								
ASAR				Sn		**Sn**		**23 44 56.3**	**-2.0**
	comp=Z,1.1nm,0.3s,baz=148,slow=22,SNR=6.7								
	comp=Z,1.7nm,0.4s								
AS31	**Alice Springs**	**5.70**	**330**	P		**Pn**		**23 43 55.7**	**+2.9**
	comp=Z,20μcomp=Z,2.1nm,0.9s,comp=Z,0.0nm								
AS31	**Alice Springs**	**5.70**	**330**	S		**Sn**		**23 44 57.3**	**-1.0**
SDAN	**Sedan**	**6.16**	**161**	P		**Pn**		**23 44 00.7**	**+1.6**
	comp=Z,0.0nmcomp=Z,23μcomp=Z,4.3nm,1.3s								
SDAN				S		**Sn**		**23 45 07.4**	**-2.2**
KELC	**Kelly Hill Cav**	**7.29**	**180**	P		**Pn**		**23 44 17.3**	**+2.7**
	comp=Z,0.1nmcomp=Z,73μcomp=Z,31nm,2.0s								
KELC				S		**Sn**		**23 45 34.0**	**-3.3**
FORT	**Forrest**	**8.03**	**253**	P		**Pn**		**23 44 26.0**	**+1.2**
	comp=Z,0.0nmcomp=Z,11nm,2.2s								
FORT				S		**Sn**		**23 45 51.2**	**-4.5**
CMSA	**Cobar Meteorol**	**8.08**	**113**	P		**Pn**		**23 44 26.6**	**+1.2**
CMSA	**Cobar Meteorol**	**8.08**	**113**	S		**Sn**		**23 45 51.0**	**-5.9**
QIS	**Mount Isa**	**8.43**	**17**	P		**Pn**		**23 44 31.7**	**+1.4**
	comp=Z,5.2nm,1.7s,comp=Z,0.0nm								
WRA	**Warramunga Arr**	**9.01**	**344**	Pn		**Pn**		**23 44 39.6**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=168,slow=13,SNR=16								
WRA				Sn		**Sn**		**23 46 17.4**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=168,slow=24,SNR=1.6								
	comp=Z,0.4nm,0.3s								
FITZ	**Fitzroy Crossi**	**14.79**	**313**	Pn		**Pn**		**23 45 57.4**	**0.0**
	comp=Z,0.3nm,0.3s,baz=135,slow=10.0,SNR=6.5								
FITZ				Sn		Sn		23 48 32.1	-9.2
	comp=Z,0.1nm,0.3s,baz=299,slow=23,SNR=1.3								
	comp=Z,2.4nm,1.0s								

*IDC **25** 00:00:16.6±7.7, 10°.47N×126°.35E, h75km±68km, mb3.7/14, mbtmp4.0/14, MS3.2/2, Error ellipse: s-maj=46.5km s-min=15.5km az=66.0*

ISC 25 00:00:12.9±0.8, 10°.5N±0°.2×126°.4E±0°.3, h44km, n17, σ0s73/18, mb4.2/14, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CMAR	**Chiang Mai Arr**	**27.72**	**290**	P		**P**		**00 05 56.6**	**-0.9**
	1.3nm,0.5s,baz=98,slow=7.5,SNR=7.9								
CMAR				LR		LR		00 17 59.6	
	comp=Z,27nm,18.6s,baz=190,slow=38								
	1.3nm,0.5s								
WRA	**Warramunga Arr**	**31.25**	**166**	P		**P**		**00 06 28.4**	**-0.2**
	0.4nm,0.6s,baz=347,slow=8.6,SNR=2.1								
	0.4nm,0.6s								
ASAR	**Alice Springs**	**34.74**	**168**	P		**P**		**00 07 00.1**	**+0.9**
	0.6nm,0.6s,baz=338,slow=6.8,SNR=8.2								
	0.6nm,0.6s								
SONM	**Songino Array**	**40.85**	**339**	P		**P**		**00 07 51.6**	**+1.0**
	1.2nm,0.8s,baz=151,slow=6.4,SNR=5.1								
	1.2nm,0.8s								
PALK	**Pallekele**	**45.25**	**270**	LR		LR		00 27 47.7	
	comp=Z,41nm,19.4s,baz=116,slow=36								
MKAR	**Makanchi Array**	**51.93**	**323**	P		**P**		**00 09 17.8**	**+0.4**
	1.8nm,0.7s,baz=120,slow=8.3,SNR=16								
MKAR				PcP		**PcP**		**00 10 30.5**	**+0.9**
	1.8nm,0.6s,baz=103,slow=5.8,SNR=8.1								
	1.8nm,0.7s								
ZALV	**Zalesovo Beam**	**54.49**	**331**	P		**P**		**00 09 36.5**	**+0.5**
	3.6nm,0.6s,baz=117,slow=5.3,SNR=16								
	3.6nm,0.6s								
KURBB	**Kurchatov Arra**	**55.96**	**325**	P		**P**		**00 09 47.4**	**+0.7**
	1.5nm,0.5s,baz=126,slow=7.1,SNR=16								
	1.5nm,0.5s								
BVAR	**Borovoye Array**	**61.55**	**325**	P		**P**		**00 10 26.2**	**+0.6**
	0.8nm,0.6s,baz=128,slow=9.3,SNR=5.7								

BVAR				PcP		**PcP**	**00 11 06.2**	**-0.8**
	2.6nm,0.8s,baz=108,slow=4.7,SNR=7.1							
	0.8nm,0.6s							
ILAR	**Eielson Array**	**79.17**	**26**	P		**P**	**00 12 12.4**	**-0.5**
	0.1nm,0.5s,baz=266,slow=3.6,SNR=1.8							
	0.1nm,0.5s							
ARCES	**ARCESS Array B**	**84.02**	**340**	P		**P**	**00 12 38.0**	**-0.5**
	2.2nm,0.7s,baz=87,slow=6.4,SNR=5.7							
	2.2nm,0.7s							
FINES	**FINESS Array B**	**85.75**	**332**	P		**P**	**00 12 47.7**	**+0.4**
	3.0nm,0.9s,baz=90,slow=4.9,SNR=13							
	3.0nm,0.9s							
VNDA	**Vanda**	**90.14**	**173**	P		**P**	**00 13 07.9**	**0.0**
	0.8nm,0.6s,baz=322,slow=7.9,SNR=7.7							
	0.8nm,0.6s							
HFS	**Hagfors**	**91.91**	**332**	P		**P**	**00 13 15.8**	**-0.7**
	1.3nm,0.6s,baz=95,slow=3.4,SNR=20							
	1.3nm,0.6s							
NB2	**NORSAR Subarra**	**92.61**	**334**	P		**P**	**00 13 19.1**	**-0.7**
	comp=Z,2.8nm,1.1s,baz=66,slow=4.8							
NOA	**NORSAR Array B**	**92.61**	**334**	P		**P**	**00 13 19.0**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=64,slow=4.7,SNR=5.4							
	comp=Z,0.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**120.31**	**292**	PKP		**PKPdf**	**00 18 59.9**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=64,slow=3.2,SNR=5.5							

*SOME **25** 00:01:02.7, 42°.37N×82°.73E, h10km*
*NNC **25** 00:01:05.7±3.7, 41°.86N×82°.19E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=27.5km s-min=16.2km az=155.0*

ISC 25 00:01:06.5±4.7, 41°.8N±0°.2×82°.5E±0°.2, h10km, n4, σ0s79/7, 5C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KTMS	**Ketmen**	**2.29**	**318**	*eP*		**Pn**		**00 01 44.3**	**-0.3**
	5.3nm,0.4s								
KTMS				*eS*		**Sn**		**00 02 13.9**	**+0.9**
	11nm,0.3s								
PDGK	**Podgornoye**	**2.70**	**306**	⇑Pg		**Pn**		**00 01 49.8**	**-0.3**
	1.0nm,0.3s								
PDGK				⇑Lg		Lg		00 02 26.4	
	23nm,0.7s								
MK31	**Makanchi Array**	**5.03**	**359**	⇑Pn		**Pn**		**00 02 22.7**	**+0.7**
	0.1nm,0.2s,baz=187,slow=12,SNR=8.0								
MK31				⇑Sn		**Sn**		**00 03 20.0**	**-0.1**
	0.4nm,0.3s,baz=180,slow=26,SNR=5.0								
MK31				Lg		Lg		00 03 40.9	
	0.2nm,0.3s,baz=176,slow=27,SNR=4.1								
MAKZ	**Makanchi**	**5.05**	**356**	⇓Pn		**Pn**		**00 02 22.4**	**0.0**
	0.9nm,0.6s								
MAKZ				⇓Sn		**Sn**		**00 03 19.8**	**-1.0**
	0.7nm,0.6s								
MAKZ				⇑Lg		Lg		00 03 43.6	
	3.0nm,1.1s								

DJA 25 00:09:56.1±0.8, 0°.S±3°.×12°.3E±°, h16km±7km, M3.8/13, mb3.9/2, MLv3.7/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LUWI	**Luwuk**	**0.74**	**200**	P		P	Pb	00 10 11.2	+0.6
LUWI				S		Sb		00 10 20.6	+0.1
KMSI	**Cibinong**	**1.32**	**47**	P		Pn		00 10 19.9	0.0
MRSI	**Marisa**	**1.35**	**307**	P		Pn		00 10 19.6	-0.7
APSI	**Ampana**	**1.48**	**248**	P		Pb		00 10 23.4	+0.1
MPSI	**Mapaga**	**3.19**	**282**	P		Pn		00 10 46.2	+0.5
MPSI				S		Sn		00 11 25.2	+1.7
PCI	**Palu**	**3.23**	**260**	P		Pn		00 10 45.8	-0.4
SANI	**Sanana**	**3.42**	**120**	P		Pn		00 10 48.5	-0.3
KDI	**Kendari**	**3.62**	**186**	P		Pn		00 10 51.4	-0.1
TTSI	**Tana Toraja**	**4.18**	**230**	P		Pn		00 10 59.4	+0.2
SPSI	**Sidrap Palu**	**4.85**	**222**	P		Pn		00 11 09.2	+0.7
BNSI	**Bone**	**4.97**	**216**	P		Pn		00 11 10.9	+0.7
BKSI	**Bulukumba**	**5.73**	**210**	P		Pn		00 11 20.2	-0.4

*TEH **25** 00:10:57.4, 39°.12N×44°.31E, h10km±39km*
*AZER **25** 00:11:05.5, 38°.39N×44°.24E, h60km, ml2.5*

ISC 25 00:11:02.5±2.0, 38°.43N±0°.05×44°.24E±0°.06, h4km±17km, n16, σ1s37/27, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
HAKT	**HAKKARI**	**0.97**	**206**	P		**Pg**		**00 11 21.1**	**+0.1**
HAKT				S		**Sn**		**00 11 36.8**	**-0.5**
ISHB	**Shabestar**	**1.09**	**97**	Pg		**Pb**		**00 11 22.6**	**-1.5**
NAX	**Nakhchivan**	**1.23**	**52**	P		**Pn**		**00 11 26.1**	**-0.4**
NAX				S		**Sb**		**00 11 45.1**	**+2.5**
HYR	**Heyderabad**	**1.37**	**20**	P		**Pn**		**00 11 29.2**	**+0.7**
HYR				S		**Sn**		**00 11 47.8**	**+0.6**
SBZ	**Shahbuz**	**1.41**	**46**	P		**Pn**		**00 11 29.1**	**+0.1**
SBZ				S		**Sn**		**00 11 49.0**	**+0.9**
IGDI	**IGDIR**	**1.44**	**355**	S		**Sn**		**00 11 48.5**	**-0.4**
ORD	**Ordubad**	**1.46**	**70**	P		**Pn**		**00 11 29.1**	**-0.6**
ORD				S		**Sn**		**00 11 50.2**	**+0.8**
ITBZ	**Tabriz**	**1.51**	**97**	Pg		**Pn**		**00 11 29.7**	**-0.8**
ITBZ				Sg		**Sb**		**00 11 54.3**	**+3.5**
IAZR	**Azarshahr**	**1.57**	**118**	Pn		**Pn**		**00 11 33.0**	**+1.7**
KARS	**Kars**	**2.37**	**338**	Pg		Pn		00 11 30.2	-12
GDB	**GEDABAY**	**2.57**	**27**	P		**Pn**		**00 11 45.6**	**+0.5**
GDB				S		**Sn**		**00 12 15.7**	**-1.1**
GANJ	**Ganja**	**2.74**	**35**	P		**Pn**		**00 11 46.7**	**-0.5**
GANJ				S		**Sn**		**00 12 19.8**	**-0.9**
QZX	**Qazax, Azerbai**	**2.77**	**18**	P		**Pn**		**00 11 47.4**	**-0.2**
QZX				S		**Sn**		**00 12 19.6**	**-1.9**
YRD	**Yardimli**	**3.17**	**80**	P		**Pn**		**00 11 52.6**	**-0.6**
YRD				S		**Sn**		**00 12 30.0**	**-1.7**
LRK	**Lerik**	**3.22**	**85**	P		**Pn**		**00 11 53.3**	**-0.7**
LRK				S		**Sn**		**00 12 31.2**	**-1.7**
LKRN	**Lenkeran, Azer**	**3.57**	**84**	P		**Pn**		**00 11 58.7**	**+0.1**
LKRN				S		**Sn**		**00 12 39.5**	**-1.7**

*SJA **25** 00:51:36.7±0.6, 19°.29S×67°.12W, h262km±7km, ML3.6, MW3.6*
*SCB **25** 00:51:37.8±1.4, 19°.30S×67°.20W, h252km±14km, ML3.3/3, MW3.1, Error ellipse: s-maj=6.1km s-min=4.1km az=1.0*

ISC 25 00:51:37.0±2.1, 19°.28S±0°.05×67°.19W±0°.06, h253km±18km, n33, σ1s48/47, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SOEO	**Opoqueri**	**0.97**	**317**	Pg		**Pn**		**00 52 13.6**	**+0.8**
GO01	**Chusmiza**	**1.93**	**258**	*eP*		**Pn**		**00 52 20.8**	**+1.1**
GO01	**Chusmiza**	**1.93**	**258**	Pg		**Pn**		**00 52 20.7**	**+1.0**
PB08	**IPOC Station P**	**2.04**	**245**	*eP*		**Pn**		**00 52 22.1**	**+1.5**
PB08				*eS*		**S**		**00 52 53.5**	**-1.4**
PB08	**IPOC Station P**	**2.04**	**245**	Pg		**Pn**		**00 52 21.9**	**+1.4**
PB11	**IPOC Station P**	**2.38**	**258**	*eP*		**Pn**		**00 52 23.7**	**+0.3**
PB11				*eS*		**S**		**00 53 00.2**	**+0.1**
PB11				IAML				00 53 04.1	
	comp=Z,55nm,0.1s								
PB11	**IPOC Station P**	**2.38**	**258**	Pg		**Pn**		**00 52 24.1**	**+0.6**
MOCB	**Mochara**	**2.44**	**144**	Pg		**Pn**		**00 52 24.7**	**+0.3**
MOCB				Sg		**S**		**00 53 02.2**	**+0.4**
MOCB				IAML				00 53 03.7	
	comp=Z,10nm,0.5s								
BBOJ	**La Paz, Jacaqu**	**2.48**	**337**	Pg		**Pn**		**00 52 27.0**	**+2.1**
SOEJ	**Jacaque**	**2.48**	**337**	Pg		**Pn**		**00 52 26.5**	**+1.6**
BBOE	**La Paz, Chanca**	**2.56**	**343**	Pg		**Pn**		**00 52 27.4**	**+1.6**
PB01	**IPOC Station P**	**2.79**	**230**	*eP*		**Pn**		**00 52 28.3**	**+0.8**
PB01				*eS*		**S**		**00 53 06.7**	**-0.7**
PB01				IAML				00 53 07.7	
	comp=Z,73nm,0.2s								
PB01	**IPOC Station P**	**2.79**	**230**	Pg		**Pn**		**00 52 28.9**	**+1.4**
PB01				Sg		**S**		**00 53 06.0**	**-1.5**
PB01				IAML				00 53 06.9	
	comp=Z,102nm,0.2s								
TA02	**Huaiquique**	**2.94**	**250**	*eP*		**Pn**		**00 52 30.4**	**+1.3**
TA02				IAML				00 53 15.2	
	comp=Z,140nm,0.1s								
BBOD	**La Paz, Gloria**	**2.95**	**333**	Pg		**Pn**		**00 52 31.4**	**+1.6**
TA01	**Diego Aracena**	**3.10**	**245**	*eP*		**Pn**		**00 52 30.6**	**0.0**
TA01				*eS*		**S**		**00 53 11.2**	**-2.0**
LPAZ	**La Paz**	**3.10**	**343**	*eP*		**Pn**		**00 52 32.5**	**+0.9**
LPAZ				*eS*		**S**		**00 53 10.8**	**-3.9**
LPAZ	**La Paz**	**3.10**	**343**	Pg		**Pn**		**00 52 32.6**	**+1.0**
AP01	**Chacalluta**	**3.12**	**286**	*eP*		**Pn**		**00 52 31.8**	**+0.7**
AP01				*eS*		**S**		**00 53 14.4**	**+0.7**
AP01				IAML				00 53 23.2	
	comp=Z,158nm,0.6s								
PB09	**IPOC Station P**	**3.16**	**217**	*eP*		**Pn**		**00 52 33.8**	**+2.2**

PB09				*eS*		**S**	**00 53 15.2**	**+0.3**
PB09				IAML			00 53 16.3	
	comp=Z,30nm,0.5s							
PB09	**IPOC Station P**	**3.16**	**217**	Pg		**Pn**	**00 52 33.8**	**+2.2**
PATCX	**Punta Patache**	**3.18**	**241**	*eP*		**Pn**	**00 52 32.8**	**+1.0**
PATCX				*eS*		**S**	**00 53 13.9**	**-1.3**
PATCX				IAML			00 53 19.9	
	comp=Z,49nm,0.7s							
BBOB	**La Paz, Bander**	**3.25**	**344**	Pg		**Pn**	**00 52 34.0**	**+1.0**
PB02	**IPOC Station P**	**3.26**	**231**	*eP*		**Pn**	**00 52 34.0**	**+1.4**
PB02				*eS*		**S**	**00 53 15.6**	**-1.0**
PB02				IAML			00 53 15.9	
	comp=Z,177nm,0.4s							
PB02	**IPOC Station P**	**3.26**	**231**	Pg		**Pn**	**00 52 34.3**	**+1.7**
PB02				Sg		**S**	**00 53 15.2**	**-1.4**
PB02				IAML			00 53 20.1	
	comp=Z,138nm,0.2s							
YJA	**Yavi**	**3.28**	**152**	*eP*		**Pn**	**00 52 34.0**	**+0.8**
YJA				*eS*		**S**	**00 53 16.4**	**-1.4**
YJA	**Yavi**	**3.28**	**152**	Pg		**Pn**	**00 52 34.0**	**+0.8**
PB03	**IPOC Station P**	**3.66**	**221**	*eP*		**Pn**	**00 52 38.4**	**+1.2**
PB03				IAML			00 53 28.0	
	comp=Z,67nm,0.2s							
PB03	**IPOC Station P**	**3.66**	**221**	Pg		**Pn**	**00 52 38.8**	**+1.6**
PB06	**IPOC Station P**	**4.08**	**213**	*eP*		**Pn**	**00 52 42.9**	**+0.9**
PB06				IAML			00 53 35.1	
	comp=Z,70nm,0.1s							
PB06	**IPOC Station P**	**4.08**	**213**	Pg		**Pn**	**00 52 43.3**	**+1.3**
PB05	**IPOC Station P**	**4.54**	**218**	*eP*		**Pn**	**00 52 48.2**	**+0.7**
PB05				*eS*		**S**	**00 53 40.0**	**-3.6**
PB05				IAML			00 53 43.9	
	comp=Z,24nm,0.5s							
PB05	**IPOC Station P**	**4.54**	**218**	Pg		**Pn**	**00 52 48.2**	**+0.7**

*IDC **25** 01:00:09.0±3.6, 10°.24N×126°.66E, h0km, mb4.1/8, mbtmp4.1/8, MS3.3/1, Error ellipse: s-maj=232.7km s-min=81.3km az=49.0*
*NEIC **25** 01:00:12.5±1.0, 10°.6N±0°.1×126°.6E±0°.2, h10km±1km, mb4.7/19, Error ellipse: s-maj=25.3km s-min=19.8km az=99.0*

ISC 25 01:00:16.8±0.7, 10°.51N±0°.10×126°.6E±0°.2, h44km, n33, σ0s61/35, mb4.4/18, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
UGM	**Wanagama**	**24.29**	**222**	P		**P**		**01 05 29.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**28.44**	**182**	P		**P**		**01 06 06.9**	**-0.7**
WR8	**Warramunga Arr**	**31.27**	**166**	P		**P**		**01 06 32.9**	**+0.3**
MBWA	**Marble Bar**	**32.18**	**192**	P		**P**		**01 06 39.8**	**-0.9**
MBWA				IAmb		IAmb		01 06 48.5	
	comp=Z,19nm,1.5s								
ASAJ	**Asahikawa**	**36.24**	**20**	LR		LR		01 20 58.5	
	comp=Z,48nm,21.8s,baz=324,slow=34								
MORW	**Morawa**	**40.64**	**194**	P		**P**		**01 07 52.3**	**-0.4**
MORW				IAmb		IAmb		01 07 52.4	
	comp=Z,9.7nm,1.0s								
FORT	**Forrest**	**41.08**	**178**	P		**P**		**01 07 57.9**	**+1.6**
FORT				IAmb		IAmb		01 08 03.3	
	comp=Z,8.8nm,1.1s								
BBOO	**Buckleboo**	**44.02**	**168**	P		**P**		**01 08 19.7**	**-0.4**
NWAO	**Narrogin (SRO)**	**44.10**	**191**	P		**P**		**01 08 21.1**	**+0.3**
NWAO				IAmb		IAmb		01 08 30.4	
	comp=Z,39nm,1.3s								
MKAR	**Makanchi Array**	**52.02**	**323**	P		**P**		**01 09 22.0**	**+0.1**
MKAR				PcP		**PcP**		**01 10 34.5**	**+0.7**
MKAR	**Makanchi Array**	**52.02**	**323**	P		**P**		**01 09 22.1**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=123,slow=7.5,SNR=8.2								
MKAR				PcP		**PcP**		**01 10 33.7**	**0.0**
	comp=Z,0.9nm,0.6s,baz=105,slow=5.4,SNR=5.2			

mbtmp3.8/20,ML3.0/1,MS3.2/18,Error ellipse: s-maj=18.6km s-min=14.7km az=141.0

ISC 25 01:11:21.9±0.9, 55°05′N±0°03′×162°27′E±0°03, h43km±8km, n181, σ1§91/206, mb4.0/46, MS3.3/14, 7C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MKZ	**Mys Kozlova**	**0.58**	**213**	PN	**Pn**		**01 11 32.8**	**-1.0**
MKZ				S	**Sn**		**01 11 41.1**	**-1.2**
MKZ	**Mys Kozlova**	**0.58**	**213**	*e*P	**Pn**		**01 11 33.0**	**-0.9**
MKZ				*e*S	**Sn**		**01 11 41.1**	**-1.2**
TUMD	**Tumrok D**	**1.09**	**279**	PN	**Pn**		**01 11 40.5**	**-0.2**
TUMD	**Tumrok D**	**1.09**	**279**	*e*P	**Pn**		**01 11 40.6**	**-0.2**
TUMD				*e*S	**Sn**		**01 11 53.8**	**-0.8**
KBTR	**Krutoberegovo**	**1.20**	**15**	PN	**Pn**		**01 11 42.4**	**+0.1**
KBTR				S	**Sn**		**01 11 59.5**	**+2.1**
KBTR	**Krutoberegovo**	**1.20**	**15**	*e*P	**Pn**		**01 11 42.4**	**+0.1**
KBTR				*e*S	**Sn**		**01 11 57.0**	**-0.4**
KBG	**Krutoberegovo**	**1.23**	**11**	PN	**Pn**		**01 11 43.7**	**+1.0**
KBG				S	**Sn**		**01 12 01.6**	**+3.5**
KBG	**Krutoberegovo**	**1.23**	**11**	*e*P	**Pn**		**01 11 43.8**	**+1.2**
KBG				*e*S	**Sn**		**01 11 59.5**	**+1.4**
ZLN	**Zelenaya**	**1.28**	**320**	PN	**Pn**		**01 11 44.5**	**+0.9**
ZLN	**Zelenaya**	**1.28**	**320**	*e*P	**Pn**		**01 11 44.5**	**+1.0**
ZLN				*e*S	**Sn**		**01 12 00.9**	**+1.5**
BZMR	**Bezymyannaya**	**1.35**	**312**	PN	**Pn**		**01 11 45.0**	**+0.5**
BZMR	**Bezymyannaya**	**1.35**	**312**	*e*P	**Pn**		**01 11 44.9**	**+0.5**
KMNR	**Kamenistaya**	**1.36**	**302**	PN	**Pn**		**01 11 45.1**	**+0.6**
KMNR	**Kamenistaya**	**1.36**	**302**	*e*P	**Pn**		**01 11 45.1**	**+0.6**
KMNR				*e*S	**Sn**		**01 12 01.9**	**+0.5**
BZWR	**Bezymyannyi-We**	**1.37**	**313**	PN	**Pn**		**01 11 45.1**	**+0.5**
BZWR	**Bezymyannyi-We**	**1.37**	**313**	*e*P	**Pn**		**01 11 45.2**	**+0.5**
LGNR	**Loginova**	**1.37**	**320**	PN	**Pn**		**01 11 46.1**	**+1.2**
LGNR	**Loginova**	**1.37**	**320**	*e*P	**Pn**		**01 11 46.2**	**+1.4**
LGNR				*e*S	**Sn**		**01 12 04.1**	**+2.2**
CIRR	**Tsirk**	**1.38**	**322**	PN	**Pn**		**01 11 45.6**	**+0.8**
CIRR	**Tsirk**	**1.38**	**322**	*e*P	**Pn**		**01 11 45.2**	**+0.4**
KIRR	**Kirishev**	**1.43**	**310**	PN	**Pn**		**01 11 45.7**	**+0.3**
KIRR	**Kirishev**	**1.43**	**310**	*e*P	**Pn**		**01 11 46.2**	**+0.8**
KPT	**Kopyto**	**1.49**	**309**	PN	**Pn**		**01 11 47.0**	**+0.8**
KPT	**Kopyto**	**1.49**	**309**	*e*P	**Pn**		**01 11 47.2**	**+1.0**
KLY	**Klyuchi**	**1.57**	**325**	PN	**Pn**		**01 11 46.2**	**-0.6**
KLY	**Klyuchi**	**1.57**	**325**	*e*P	**Pn**		**01 11 46.7**	**-0.6**
SMKR	**Semkarok**	**1.60**	**344**	PN	**Pn**		**01 11 48.7**	**+0.9**
SMKR	**Semkarok**	**1.60**	**344**	*e*P	**Pn**		**01 11 48.9**	**+1.0**
KOZ	**Kozyrevsk**	**1.70**	**308**	PN	**Pn**		**01 11 49.9**	**+0.9**
KOZ				S	**Sn**		**01 12 14.1**	**+4.5**
KOZ	**Kozyrevsk**	**1.70**	**308**	*e*P	**Pn**		**01 11 50.0**	**+0.9**
SRKR	**Sorokina**	**1.73**	**339**	PN	**Pn**		**01 11 50.9**	**+1.4**
SRKR	**Sorokina**	**1.73**	**339**	*e*P	**Pn**		**01 11 50.9**	**+1.4**
SRDR	**Sredinnyy**	**1.93**	**312**	PN	**Pn**		**01 11 53.1**	**+0.9**
SRDR	**Sredinnyy**	**1.93**	**312**	*e*P	**Pn**		**01 11 53.2**	**+0.9**
KII	**Karymskiy**	**1.93**	**240**	PN	**Pn**		**01 11 53.0**	**+0.7**
KII				S	**Sn**		**01 12 19.0**	**+3.6**
KII	**Karymskiy**	**1.93**	**240**	*e*P	**Pn**		**01 11 52.8**	**+0.5**
KII				*e*S	**Sn**		**01 12 16.0**	**+0.6**
BKI	**Bering**	**2.13**	**84**	PN	**Pn**		**01 11 55.0**	**+0.1**
BKI				S	**Sn**		**01 12 19.7**	**-0.4**
BKI	**Bering**	**2.13**	**84**	*e*P	**Pn**		**01 11 55.1**	**+0.2**
BKI				*e*S	**Sn**		**01 12 19.6**	**-0.4**
ESO	**Esso**	**2.22**	**295**	PN	**Pn**		**01 11 56.6**	**+0.4**
ESO	**Esso**	**2.22**	**295**	*e*P	**Pn**		**01 11 56.6**	**+0.4**
SPN	**Mys Shipunski**	**2.36**	**215**	PN	**Pn**		**01 11 57.2**	**-0.9**
SPN				S	**Sn**		**01 12 23.7**	**-2.1**
SPN	**Mys Shipunski**	**2.36**	**215**	*e*P	**Pn**		**01 11 57.3**	**-0.9**
SPN				*e*S	**Sn**		**01 12 23.2**	**-2.7**
NLC	**Nalytchevo**	**2.55**	**224**	PN	**Pn**		**01 12 01.3**	**+0.6**
NLC				S	**Sn**		**01 12 31.9**	**+1.4**
NLC	**Nalytchevo**	**2.55**	**224**	*e*P	**Pn**		**01 12 01.4**	**+0.6**
NLC				*e*S	**Sn**		**01 12 30.6**	**+0.2**
SDLR	**Sedlovina**	**2.67**	**230**	PN	**Pn**		**01 12 03.7**	**+1.3**
SDLR				S	**Sn**		**01 12 37.5**	**+3.9**
SDLR	**Sedlovina**	**2.67**	**230**	*e*P	**Pn**		**01 12 03.8**	**+1.3**
SDLR				*e*S	**Sn**		**01 12 34.1**	**+0.5**
KRER	**Koryakskii**	**2.71**	**231**	PN	**Pn**		**01 12 05.7**	**+2.6**
KRER	**Koryakskii**	**2.71**	**231**	*e*P	**Pn**		**01 12 05.6**	**+2.5**
KRER				*e*S	**Sn**		**01 12 37.8**	**+3.1**
KRX	**Arik**	**2.72**	**233**	PN	**Pn**		**01 12 05.5**	**+2.3**
KRX				S	**Sn**		**01 12 38.0**	**+3.1**
KRX	**Arik**	**2.72**	**233**	*e*P	**Pn**		**01 12 05.5**	**+2.3**
KRX				*e*S	**Sn**		**01 12 37.5**	**+2.6**
AVH	**Avacha**	**2.74**	**231**	PN	**Pn**		**01 12 04.8**	**+1.4**
AVH				S	**Sn**		**01 12 40.3**	**+5.0**
AVH	**Avacha**	**2.74**	**231**	*e*P	**Pn**		**01 12 05.2**	**+1.7**
AVH				*e*S	**Sn**		**01 12 37.6**	**+2.3**
UGLR	**Uglovaya**	**2.74**	**229**	PN	**Pn**		**01 12 04.6**	**+1.1**
UGLR	**Uglovaya**	**2.74**	**229**	*e*P	**Pn**		**01 12 04.8**	**+1.4**
UGLR				*e*S	**Sn**		**01 12 37.1**	**+1.7**
KOK	**Koryaka**	**2.77**	**232**	PN	**Pn**		**01 12 06.1**	**+2.3**
KOK				S	**Sn**		**01 12 38.7**	**+2.7**
KOK	**Koryaka**	**2.77**	**232**	*e*P	**Pn**		**01 12 05.6**	**+1.8**
KOK				*e*S	**Sn**		**01 12 38.3**	**+2.2**
GNL	**Ganaly**	**2.87**	**244**	PN	**Pn**		**01 12 06.6**	**+1.3**
GNL				S	**Sn**		**01 12 46.2**	**+7.6**
GNL	**Ganaly**	**2.87**	**244**	*e*P	**Pn**		**01 12 06.8**	**+1.5**
DALK	**Dalny**	**2.90**	**227**	PN	**Pn**		**01 12 06.8**	**+1.3**
DALK				S	**Sn**		**01 12 41.9**	**+2.9**
DALK	**Dalny**	**2.90**	**227**	*e*P	**Pn**		**01 12 06.6**	**+1.2**
DALK				*e*S	**Sn**		**01 12 39.7**	**+0.7**
INSR	**Institute**	**2.94**	**229**	PN	**Pn**		**01 12 08.8**	**+2.8**
INSR				S	**Sn**		**01 12 45.2**	**+5.2**
PET	**Petropavlovsk**	**2.94**	**228**		**Pn**		**01 12 07.5**	**+1.4**
PET	**Petropavlovsk**	**2.94**	**228**	*e*PN	**Pn**		**01 12 07.6**	**+1.5**
PET				*e*S	**Sn**		**01 12 42.0**	**+1.8**
PET				pmax	pmax			
	comp=Z,148nm,0.4s							
PET				smax	smax			
	comp=E,732nm,0.5s							
PET				smax	smax			
	comp=N,533nm,0.4s							
PET	**Petropavlovsk**	**2.94**	**228**	*e*P	**Pn**		**01 12 07.3**	**+1.2**
PET				*e*S	**Sn**		**01 12 41.0**	**+0.8**
PEA0B	**Petropavlovsk-**	**3.32**	**236**		**Pn**		**01 12 12.9**	**+1.6**
PEA0B	**Petropavlovsk-**	**3.32**	**236**	PN	**Pn**		**01 12 13.7**	**+2.4**
PEA0B				S	**Sn**		**01 12 53.3**	**+3.8**
PETK	**Petropavlovsk-**	**3.32**	**236**		**Pn**		**01 12 12.9**	**+1.6**
PETK	**Petropavlovsk-**	**3.32**	**236**	P	**Pn**		**01 12 12.8**	**+1.4**
	comp=N,7.4nm,0.3s,baz=65,slow=18,SNR=64							
PETK				S	**Sn**		**01 12 51.0**	**+1.5**
	comp=N,29nm,0.5s,baz=91,slow=20,SNR=5.6							
PETK				LR	LR		01 13 41.3	
	comp=N,142nm,20.9s,baz=49,slow=42							
	comp=N,9.4nm,0.3s							
RUS	**Russkaya**	**3.44**	**222**	PN	Pn		01 12 18.0	+5.1
GRL	**Gorelyy**	**3.53**	**227**	PN	**Pn**		**01 12 16.3**	**+2.0**
GRL				S	**Sn**		**01 12 58.8**	**+4.0**
GRL	**Gorelyy**	**3.53**	**227**	*e*P	**Pn**		**01 12 16.4**	**+2.2**
GRL				*e*S	**Sn**		**01 12 56.9**	**+2.1**
MTVR	**Mutnovka**	**3.54**	**225**	PN	**Pn**		**01 12 16.0**	**+1.6**
MTVR	**Mutnovka**	**3.54**	**225**	*e*P	**Pn**		**01 12 16.0**	**+1.6**
MTVR				*e*S	**Sn**		**01 12 55.5**	**+0.5**
APC	**Apacha**	**3.69**	**237**	PN	**Pn**		**01 12 19.8**	**+3.4**
APC	**Apacha**	**3.69**	**237**	*e*P	**Pn**		**01 12 20.0**	**+3.6**
ASAK	**Asacha**	**3.73**	**226**	PN	**Pn**		**01 12 19.5**	**+2.6**
ASAK				S	**Sn**		**01 13 04.3**	**+4.7**
ASAK	**Asacha**	**3.73**	**226**	*e*P	**Pn**		**01 12 19.3**	**+2.3**
ASAK				*e*S	**Sn**		**01 13 01.7**	**+2.2**
OSSR	**Ossora**	**4.24**	**5**	PN	**Pn**		**01 12 25.2**	**+1.4**
OSSR	**Ossora**	**4.24**	**5**	*e*P	**Pn**		**01 12 25.9**	**+2.1**
PALN	**Palana**	**4.24**	**344**	PN	Pn		01 12 32.3	+8.4
PALN	**Palana**	**4.24**	**344**	*e*P	Pn		01 12 32.1	+8.2
MIPR	**Malaya Ipel'ka**	**4.30**	**232**	*e*P	**Pn**		**01 12 27.7**	**+3.0**
PAU	**Pauzhetka**	**4.86**	**225**	PN	Pn		01 12 37.7	+5.3
SKR	**Severo-Kuril's**	**5.75**	**223**	*e*PN	**Pn**		**01 12 45.0**	**+0.5**
SHEM	**Shemya Is, Ala**	**7.37**	**104**	LR	LR		01 16 05.8	
	comp=N,83nm,21.4s,baz=277,slow=36							
MA2	**Magadan**	**7.70**	**311**	LR	LR		01 16 34.1	
	comp=N,86nm,21.4s,baz=126,slow=42							
MA2	**Magadan**	**7.70**	**311**	*e*PN	**Pn**		**01 13 10.0**	**-1.4**
SEY	**Seymchan**	**9.40**	**331**	*e*PN	**Pn**		**01 13 31.4**	**-3.2**
BILL	**Bilibino**	**13.17**	**7⇑**	*i*PN	**Pn**		**01 14 23.3**	**-2.7**
ERM	**Erimo**	**18.09**	**232**	P	**P**		**01 15 29.4**	**-0.4**
ERM	**Erimo**	**18.09**	**232**	P	**P**		**01 15 29.4**	**-0.4**
ERM				pmax	pmax			
	comp=Z,51nm,1.5s							
YAK	**Yakutsk**	**18.23**	**306**	LR	LR		01 22 26.6	
	comp=Z,48nm,20.8s,baz=108,slow=37							
LVA	**Lava Point**	**18.30**	**80**	P	**Pn**		**01 15 35.6**	**+3.3**
L14K	**Kuka Creek**	**19.33**	**57**	P	**Pn**		**01 15 45.2**	**+0.7**
L14K				IAmb	IAmb		01 16 21.2	
	comp=Z,12nm,1.4s							
K15K	**Wolf Creek Mou**	**19.94**	**54**	P	**Pn**		**01 15 51.5**	**-0.3**
C16K	**Lisburne Hills**	**19.95**	**36**	P	**Pn**		**01 15 51.0**	**-0.9**
C16K				IAmb	IAmb		01 15 57.7	
	comp=Z,11nm,1.1s							
JTM	**Tenmabayashi**	**20.02**	**233**	P	**P**		**01 15 49.5**	**-1.4**
N15K	**Kwethluk River**	**20.59**	**60**	P	Pn		01 15 59.2	-0.3
N15K				IAmb	IAmb		01 16 14.3	
	comp=Z,7.1nm,0.8s							
F17K	**Baldwin Pennin**	**20.80**	**42**	P	Pn		01 16 00.5	-1.3
F17K				IAmb	IAmb		01 16 03.2	
	comp=Z,8.9nm,1.1s							
M16K	**Timber Creek**	**21.12**	**58**	P	**P**		**01 16 05.5**	**+2.8**
E18K	**Tukpahlearik C**	**21.32**	**40**	P	**P**		**01 16 06.4**	**+1.7**
E18K				IAmb	IAmb		01 16 38.0	
	comp=Z,9.3nm,1.5s							
K17K	**Iditarod**	**21.46**	**53**	P	**P**		**01 16 08.7**	**+2.4**
K17K				IAmb	IAmb		01 16 23.6	
	comp=Z,7.5nm,1.1s							
C18K	**Utukok River**	**21.51**	**36**	P	**P**		**01 16 08.8**	**+2.0**
C18K				IAmb	IAmb		01 16 09.3	
	comp=Z,20nm,1.4s							
H18K	**Honhosa River**	**21.69**	**46**	P	**P**		**01 16 11.3**	**+2.6**
H18K				IAmb	IAmb		01 16 14.7	
	comp=Z,8.1nm,1.4s							
G18K	**Tagagawik**	**21.70**	**44**	P	**P**		**01 16 09.7**	**+0.9**
CNBA	**Chernabura Isl**	**21.74**	**75**	P	**P**		**01 16 13.5**	**+4.2**
CNBA				IAmb	IAmb		01 16 47.6	
	comp=Z,9.4nm,1.0s							
M17K	**Holitna River**	**21.85**	**57**	P	**P**		**01 16 11.7**	**+1.2**
M17K				IAmb	IAmb		01 16 26.4	
	comp=Z,6.3nm,1.0s							
TIXI	**Tiksi**	**21.89**	**332**	LR	LR		01 24 41.8	
	comp=Z,38nm,20.5s,baz=180,slow=37							
TIXI	**Tiksi**	**21.89**	**332**	*i* P	**P**		**01 16 09.2**	**-1.6**
TIXI				pmax	pmax			
	comp=Z,1.0nm,0.6s							
L18K	**Granite Mounta**	**22.20**	**55**	P	**P**		**01 16 17.7**	**+3.5**
C19K	**Lookout Ridge**	**22.22**	**36**	P	**P**		**01 16 13.9**	**-0.5**
F19K	**Shaleruckik Mo**	**22.24**	**42**	P	**P**		**01 16 16.0**	**+1.5**
USRK	**Ussuriysk Ar.**	**22.24**	**253**	LR	LR		01 24 29.9	
	comp=Z,48nm,19.3s,baz=249,slow=36							
D19K	**Kuna River**	**22.53**	**38**	P	**P**		**01 16 19.8**	**+2.1**
D19K				IAmb	IAmb		01 16 22.4	
	comp=Z,12nm,1.2s							
H19K	**Roundabout Mou**	**22.54**	**46**	P	**P**		**01 16 18.9**	**+1.2**
E19K	**Redstone River**	**22.58**	**41**	P	**P**		**01 16 20.1**	**+1.8**
E19K				IAmb	IAmb		01 16 41.1	
	comp=Z,10nm,1.4s							
J19K	**Poorman**	**22.74**	**50**	P	**P**		**01 16 22.1**	**+2.2**
D20K	**Etivluk River**	**23.12**	**38**	P	**P**		**01 16 25.3**	**+1.5**
D20K				IAmb	IAmb		01 16 26.1	
	comp=Z,12nm,1.4s							
B20K	**Meade River**	**23.32**	**34**	P	**P**		**01 16 26.9**	**+1.1**
K20K	**Telida**	**23.41**	**52**	P	**P**		**01 16 28.0**	**+1.3**
IMAR	**Indian Mountai**	**23.70**	**45**	P	**P**		**01 16 30.6**	**+1.2**
MSHR	**Mys Shultsa**	**23.76**	**251⇑**	*i* P	**P**		**01 16 31.2**	**+1.1**
MSHR				pmax	pmax			
	comp=Z,12nm,1.0s							
G21K	**Allakaket**	**23.86**	**44**	P	**P**		**01 16 32.1**	**+1.2**
G21K				IAmb	IAmb		01 16 34.6	
	comp=Z,5.2nm,1.0s							
F21K	**Alatna River**	**23.96**	**42**	P	**P**		**01 16 34.1**	**+2.2**
F21K				IAmb	IAmb		01 16 34.8	
	comp=Z,5.1nm,0.9s							
B21K	**Ikpikpuk River**	**24.05**	**36**	P	**P**		**01 16 33.8**	**+1.2**
ILSW	**Iliamna Southw**	**24.08**	**60**	P	**P**		**01 16 35.9**	**+2.8**
ILSW				IAmb	IAmb		01 17 12.2	
	comp=Z,5.5nm,0.6s							
CAST	**Castle Rocks**	**24.30**	**51**	P	**P**		**01 16 37.5**	**+2.5**
MJA0	**Matsu Arr-Jizo**	**24.75**	**232**	*e*P	**P**		**01 16 40.7**	**+1.4**
MJA0				pmax	pmax			
	comp=Z,2.0nm,0.5s							
KDAK	**Kodiak Island**	**24.77**	**65**	LR	LR		01 25 59.9	
	comp=Z,52nm,19.3s,baz=220,slow=35							
KDAK	**Kodiak Island**	**24.77**	**65⇑**	*i* P	**P**		**01 16 38.2**	**-1.0**
KDAK				pmax	pmax			
	comp=Z,8.0nm,1.1s							
MAJO	**Matsushiro**	**24.77**	**232**	*d i* P	**P**		**01 16 40.3**	**+0.9**
MAJO				pmax	pmax			
	comp=Z,5.0nm,1.0s							
MJAR	**Matsushiro Arr**	**24.77**	**232**	P	**P**		**01 16 39.8**	**+0.4**
	comp=Z,2.1nm,0.5s,baz=26,slow=7.9,SNR=6.0							
MJAR				LR	LR		01 27 56.0	
	comp=Z,24nm,19.2s,baz=68,slow=40							
	comp=Z,2.1nm,0.5s							
COLA	**College**	**26.12**	**48**	*e*P	**P**		**01 16 51.5**	**+0.1**
COLA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
G24K	**Hadweenzic Riv**	**26.27**	**44**	P	**P**		**01 16 53.5**	**+0.7**
G24K				IAmb	IAmb		01 16 55.7	
	comp=Z,9.1nm,1.4s							
HIA	**Hailar**	**26.40**	**275**	*e*P	**P**		**01 16 54.4**	**+0.3**
HIA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ILAR	**Eielson Array**	**26.54**	**48**	P	**P**		**01 16 55.9**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=268,slow=7.3,SNR=5.4							
	comp=Z,0.4nm,0.8s							
ULN	**Ulaanbaatar**	**34.34**	**281⇑**	*i* P	**P**		**01 18 02.5**	**-1.9**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**35.43**	**172**	T	T		01 55 37.0	
	baz=355,slow=76,SNR=214							
H11N3	**WAKE ISLAND Hy**	**35.45**	**172**	T	T		01 55 36.8	
	baz=355,slow=76,SNR=152							
H11N1	**WAKE ISLAND Hy**	**35.45**	**172**	T	T		01 55 37.1	
	baz=355,slow=76,SNR=161							
BBB	**Bella Bella**	**39.84**	**64**	LR	LR		01 33 46.2	
	comp=Z,32nm,19.6s,baz=172,slow=34							
ZALV	**Zalesovo Beam**	**42.82**	**302**	LR	LR		01 38 07.3	
	comp=Z,35nm,18.4s,baz=100,slow=38							
KBS	**Kingsbay**	**45.11**	**352⇑**	*i* P	**P**		**01 19 31.7**	**-1.5**
KBS				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KURK	**Kurchatov**	**47.80**	**301⇑**	*i* P	**P**		**01 19 54.1**	**-0.5**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.9s							
KURBB	**Kurchatov Arra**	**47.90**	**301**	P	**P**		**01 19 53.2**	**-2.2**
	comp=Z,1.1nm,0.7s,baz=57,slow=8.2,SNR=12							
KURBB				PcP	**PcP**		**01 21 22.6**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=47,slow=3.2,SNR=5.7							
KURBB				LR	LR		01 42 02.1	
	comp=Z,33nm,18.9s,baz=174,slow=39							
	comp=Z,1.1nm,0.7s							
MKAR	**Makanchi Array**	**48.47**	**295**	P	**P**		**01 19 58.5**	**-1.4**
MKAR	**Makanchi Array**	**48.47**	**295**	P	**P**		**01 19 58.3**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=58,slow=8.2,SNR=2.6							
MKAR				LR	LR		01 40 54.2	
	comp=Z,42nm,20.4s,baz=102,slow=37							
	comp=Z,0.2nm,0.4s							
MKAR	**Makanchi Array**	**48.47**	**295**	P	**P**		**01 19 58.5**	**-1.4**
BVAR	**Borovoye Array**	**50.18**	**308**	P	**P**		**01 20 10.8**	**-2.1**
	comp=Z,0.9nm,0.5s,baz=51,slow=7.9,SNR=7.2							
BVAR				LR	LR		01 43 34.6	
	comp=Z,32nm,19.1s,baz=91,slow=39							
	comp=Z,0.9nm,0.5s							
BRVK	**Borovoye**	**50.21**	**308⇓**	*i* P	**P**		**01 20 11.2**	**-1.9**
BRVK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ARCES	**ARCESS Array B**	**51.82**	**342**	P	**P**		**01 20 24.0**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=10,slow=12,SNR=5.0							
	comp=Z,1.2nm,0.8s							
ARCES	**ARCESS Array B**	**51.82**	**342**	P	**P**		**01 20 24.0**	**-1.0**
ARTI	**Arti**	**52.93**	**317**	LR	LR		01 45 44.0	
	comp=Z,40nm,20.0s,baz=72,slow=39							
ARTI	**Arti**	**52.93**	**317**	*c i* P	**P**		**01 20 31.2**	**-2.1**
ARTI							01 21 39.5	
ARTI							01 22 28.1	
ARTI				S	**S**		**01 27 57.9**	**-1.1**
ARTI				SS	**SS**		**01 31 34.4**	**-3.2**
ARTI				pmax	pmax			
	comp=Z,5.0nm,2.1s							
NVAR	**Mina Array Bea**	**53.90**	**73**	P	**P**		**01 20 44.4**	**+3.5**
	comp=Z,0.3nm,0.7s,baz=330,slow=7.2,SNR=2.2							
	comp=Z,0.3nm,0.7s							
AAK	**Ala-Archa**	**55.36**	**296**	*e*P	**P**		**01 20 51.1**	**-0.3**
AAK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
PDAR	**Pinedale Array**	**55.47**	**63**	P	**P**		**01 20 54.6**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=300,slow=2.9,SNR=5.9							
	comp=Z,0.5nm,0.7s							
PFO	**Pinyon Flats O**	**58.43**	**75**	*e*P	**P**		**01 21 12.5**	**-0.7**
PFO				pmax	pmax			
	comp=Z,3.0nm,1.0s							
FINES	**FINESS Array B**	**58.83**	**337**	P	**P**		**01 21 14.3**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=40,slow=6.8,SNR=12							
FINES				LR	LR		01 52 33.8	
	comp=Z,29nm,19.4s,baz=64,slow=42							
	comp=Z,0.7nm,0.5s							
FINES	**FINESS Array B**	**58.83**	**337**	*e*P	**P**		**01 21 14.9**	**-0.5**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
CMAR	**Chiang Mai Arr**	**59.83**	**259**	P	**P**		**01 21 22.9**	**0.0**
	comp=Z,0.5nm,0.4s,baz=39,slow=7.3,SNR=1.9							
CMAR				LR	LR		01 51 45.9	
	comp=Z,19nm,18.0s,baz=240,slow=41							
	comp=Z,0.5nm,0.4s							
BELG	**Belogornoye**	**60.05**	**320**	LR	LR		01 49 23.6	
	comp=Z,33nm,20.9s,baz=103,slow=38							
NC204	**NORSAR Array S**	**61.85**	**345**	P	**P**		**01 21 35.5**	**-0.7**
NB201	**NORSAR Array S**	**61.99**	**344**	P	**P**		**01 21 36.7**	**-0.3**
NB2	**NORSAR Subarra**	**62.01**	**345**	P	**P**		**01 21 34.4**	**-2.8**
	comp=Z,0.7nm,0.6s,baz=19,slow=6.9							
NOA	**NORSAR Array B**	**62.01**	**345**	P	**P**		**01 21 35.5**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=19,slow=6.9,SNR=5.0							
	comp=Z,0.4nm,0.6s							
NOA	**NORSAR Array B**	**62.01**	**345**	*e*P	**P**		**01 21 36.2**	**-1.0**
HFS	**Hagfors**	**62.47**	**343**	P	**P**		**01 21 39.0**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=2.9,slow=3.0,SNR=9.5							
	comp=Z,0.9nm,0.6s							
HFS	**Hagfors**	**62.47**	**343**	P	**P**		**01 21 39.0**	**-1.2**
NIL	**Nilore**	**62.66**	**290**	P	**P**		**01 21 40.5**	**-1.5**
NIL	**Nilore**	**62.66**	**290**	P	**P**		**01 21 40.5**	**-1.5**
NIL				pmax	pmax			
	comp=Z,4.0nm,0.7s							
AKASG	**Malin Array Be**	**67.58**	**330**	P	**P**		**01 22 12.7**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=32,slow=6.6,SNR=4.0							
	comp=Z,0.5nm,0.5s							
TX31	**Lajitas Ar. Si**	**68.71**	**69**	P	**P**		**01 22 23.0**	**+1.9**
TX31				IAmb	IAmb		01 22 59.4	
	comp=Z,3.2nm,1.4s							
TXAR	**Lajitas Array**	**68.71**	**69**	P	**P**		**01 22 23.2**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=288,slow=3.9,SNR=6.4							
	comp=Z,0.6nm,0.7s							
EKA	**Eskdalemuir Ar**	**69.33**	**351**	P	**P**		**01 22 23.6**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=22,slow=6.1,SNR=4.1							
	comp=Z,0.7nm,0.7s							
GNI	**Garni**	**71.26**	**314**	LR	LR		01 58 29.4	
	comp=Z,18nm,18.1s,baz=63,slow=40							
GERES	**GERESS Array B**	**73.17**	**339**	P	**P**		**01 22 48.0**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=29,slow=7.2,SNR=2.5							
	comp=Z,0.3nm,0.5s							
GERES	**GERESS Array B**	**73.17**	**339**	P	**P**		**01 22 48.0**	**+0.2**
WRA	**Warramunga Arr**	**78.40**	**207**	P	**P**		**01 23 18.6**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=19,slow=5.8,SNR=3.6							
	comp=Z,0.8nm,0.8s							
ASAR	**Alice Springs**	**82.08**	**206**	P	**P**		**01 23 39.0**	**+1.5**

S32K	**Killisnoo**	**1.77**	**105**	IAML			02 35 33.5	
	comp=N,262nm,0.7s							
S32K				IAML			02 35 33.8	
	comp=E,273nm,0.5s							
S32K	**Killisnoo**	**1.77**	**105**	P	**Pn**		**02 35 04.4**	**+0.3**
S32K				Sn	**Sn**		**02 35 26.7**	**0.0**
S32K	**Killisnoo**	**1.77**	**105**	P	**Pn**		**02 35 03.9**	**-0.1**
	baz=288,SNR=11							
S32K				S	**Sn**		**02 35 26.2**	**-0.4**
	baz=288							
JIS	**Juneau Island**	**1.81**	**79**		**Pn**		**02 35 04.3**	**-0.3**
JIS					**Pb**		**02 35 05.1**	**-1.5**
JIS					**Sn**		**02 35 27.6**	**0.0**
PNL	**Peninsula**	**1.92**	**334**		**Pn**		**02 35 05.8**	**-0.2**
PNL	**Peninsula**	**1.92**	**334**	P	**Pn**		**02 35 05.9**	**-0.2**
PNL	**Peninsula**	**1.92**	**334**	P	**Pn**		**02 35 05.9**	**-0.2**
	baz=152,SNR=21							
SKAG	**Skagway**	**1.96**	**39**		**Pn**		**02 35 07.2**	**+0.5**
SKAG	**Skagway**	**1.96**	**39**	Sb	**Sb**		**02 35 33.1**	**-0.6**
	baz=220							
P30M	**Million Dollar**	**2.21**	**10**		**Pn**		**02 35 10.2**	**0.0**
P30M				IAML			02 35 40.5	
	comp=N,264nm,0.3s							
P30M				IAML			02 35 44.0	
	comp=E,161nm,0.5s							
P30M	**Million Dollar**	**2.21**	**10**		**Sn**		**02 35 38.8**	**+1.3**
P30M	**Million Dollar**	**2.21**	**10**	P	**Pn**		**02 35 10.1**	**0.0**
P30M				Sn	**Sn**		**02 35 36.2**	**-1.3**
P30M	**Million Dollar**	**2.21**	**10**	P	**Pn**		**02 35 10.1**	**0.0**
	baz=190,SNR=18							
P30M				S	**Sn**		**02 35 38.6**	**+1.1**
	baz=190							
BCPM	**Bancas Point**	**2.23**	**335**		**Pn**		**02 35 10.6**	**+0.2**
BCPM				IAML			02 35 45.8	
	comp=N,274nm,0.3s							
BCPM				IAML			02 35 46.8	
	comp=E,257nm,0.3s							
O29M	**Mount Kennedy**	**2.39**	**350**		**Pn**		**02 35 12.9**	**+0.1**
O29M				IAML			02 35 47.2	
	comp=N,183nm,0.2s							
O29M	**Mount Kennedy**	**2.39**	**350**	P	**Pn**		**02 35 12.8**	**+0.1**
O29M	**Mount Kennedy**	**2.39**	**350**	P	**Pn**		**02 35 12.2**	**-0.5**
	baz=168,SNR=21							
O29M				S	**Sn**		**02 35 42.8**	**+0.7**
	baz=168							
PINM	**Pinnacle**	**2.50**	**330**	P	**Pn**		**02 35 14.2**	**0.0**
	baz=147,SNR=12							
PCA	**Pinnacle**	**2.50**	**330**		**Pn**		**02 35 14.4**	**+0.2**
PCA					**Sb**		**02 35 47.7**	**-1.7**
PCA	**Pinnacle**	**2.50**	**330**	P	**Pn**		**02 35 14.8**	**+0.5**
P32M	**Atlin**	**2.66**	**50**		**Pn**		**02 35 16.3**	**-0.1**
P32M	**Atlin**	**2.66**	**50**	IAML			02 35 55.6	
	comp=N,90nm,0.4s							
P32M	**Atlin**	**2.66**	**50**	P	**Pn**		**02 35 16.3**	**-0.1**
P32M				Sn	**Sn**		**02 35 47.1**	**-1.6**
P32M				Sg	**Sb**		**02 35 55.2**	**+1.4**
P32M	**Atlin**	**2.66**	**50**	P	**Pn**		**02 35 16.2**	**-0.1**
	baz=233,SNR=11							
P32M				Sb	**Sb**		**02 35 54.6**	**+0.8**
	baz=233							
SAMH	**Samovar Hills**	**2.68**	**325**		**Pn**		**02 35 18.1**	**+1.4**
SAMH	**Samovar Hills**	**2.68**	**325**	Pn	**Pn**		**02 35 17.5**	**+0.8**
CHX	**Chaix Hills**	**2.74**	**322**		**Pn**		**02 35 18.5**	**+1.1**
HYT	**Haines Junctio**	**2.88**	**2**		**Pn**		**02 35 19.7**	**+0.3**
HYT				IAML			02 36 00.4	
	comp=E,98nm,0.8s							
HYT				IAML			02 36 02.7	
	comp=N,87nm,0.8s							
HYT	**Haines Junctio**	**2.88**	**2**	Pn	**Pn**		**02 35 19.6**	**+0.3**
HYT				Sn	**Sn**		**02 35 52.0**	**-2.1**
HYT				Sg	**Sb**		**02 35 59.2**	**-0.9**
HYT	**Haines Junctio**	**2.88**	**2**	P	**Pn**		**02 35 19.3**	**-0.1**
	baz=182,SNR=19							
HYT				S	**Sn**		**02 35 53.7**	**-0.4**
	baz=182							
O30N	**Mendenhall**	**2.94**	**16**		**Pn**		**02 35 20.4**	**+0.2**
O30N				IAML			02 36 02.7	
	comp=E,139nm,0.4s							
O30N				IAML			02 36 03.0	
	comp=N,132nm,0.7s							
O30N	**Mendenhall**	**2.94**	**16**	Pn	**Pn**		**02 35 20.5**	**+0.2**
O30N				Sn	**Sn**		**02 35 53.8**	**-1.9**
O30N				Sg	**Sb**		**02 36 02.3**	**+0.4**
O30N	**Mendenhall**	**2.94**	**16**	P	**Pn**		**02 35 20.4**	**+0.2**
	baz=196,SNR=14							
RKAV	**Rock Avalanche**	**2.99**	**323**	Pn	**Pn**		**02 35 21.8**	**+0.8**
YUK6	**Outpost Mounta**	**3.01**	**354**	Pn	**Pn**		**02 35 21.7**	**+0.4**
YUK6	**Outpost Mounta**	**3.01**	**354**	P	**Pn**		**02 35 21.6**	**+0.3**
	baz=173							
TABL	**Table Mountain**	**3.04**	**326**		**Pn**		**02 35 22.7**	**+1.0**
TABL	**Table Mountain**	**3.04**	**326**	IAML			02 36 11.0	
	comp=N,116nm,0.6s							
TABL				IAML			02 36 21.1	
	comp=E,93nm,0.7s							
TABL	**Table Mountain**	**3.04**	**326**	Pn	**Pn**		**02 35 22.1**	**+0.4**
TABL				Sn	**Sn**		**02 35 57.8**	**-0.5**
TABL				Sg	**Sb**		**02 36 08.2**	**+3.3**
Q32M	**Nakina River**	**3.05**	**68**		**Pn**		**02 35 22.3**	**+0.5**
Q32M				IAML			02 36 14.3	
	comp=N,76nm,1.2s							
Q32M				IAML			02 36 15.4	
	comp=E,86nm,1.3s							
Q32M	**Nakina River**	**3.05**	**68**	Pn	**Pn**		**02 35 22.1**	**+0.3**
Q32M				Sg	**Sb**		**02 36 07.2**	**+2.2**
Q32M	**Nakina River**	**3.05**	**68**	P	**Pn**		**02 35 21.8**	**0.0**
	baz=253							
WHY	**Whitehorse**	**3.08**	**27**		**Pn**		**02 35 22.4**	**+0.2**
WHY	**Whitehorse**	**3.08**	**27**	Pn	**Pn**		**02 35 22.3**	**+0.2**
WHY				Sg	**Sb**		**02 36 06.8**	**+0.9**
WHY	**Whitehorse**	**3.08**	**27**	P	**Pn**		**02 35 22.2**	**0.0**
	baz=209,SNR=22							
WHY				Sb	**Sb**		**02 36 06.9**	**+0.9**
	baz=209							
O28M	**Mount Upton**	**3.08**	**337**		**Pn**		**02 35 22.8**	**+0.4**
O28M	**Mount Upton**	**3.08**	**337**	IAML			02 36 17.1	
	comp=N,69nm,0.8s							
O28M				IAML			02 36 19.2	
	comp=E,68nm,0.7s							
O28M	**Mount Upton**	**3.08**	**337**	Pn	**Pn**		**02 35 22.8**	**+0.4**
O28M	**Mount Upton**	**3.08**	**337**	P	**Pn**		**02 35 22.8**	**+0.4**
	baz=154,SNR=14							
MESA	**MESA**	**3.11**	**317**		**Pn**		**02 35 21.6**	**-1.1**
MESA	**MESA**	**3.11**	**317**	Pn	**Pn**		**02 35 23.3**	**+0.6**
MESA	**MESA**	**3.11**	**317**	P	**Pn**		**02 35 21.8**	**-0.9**
	baz=133							
U33K	**Whale Pass**	**3.13**	**124**		**Pn**		**02 35 22.7**	**0.0**
U33K	**Whale Pass**	**3.13**	**124**	Pn	**Pn**		**02 35 23.4**	**+0.7**
U33K				Sn	**Sn**		**02 35 59.8**	**-0.4**
U33K	**Whale Pass**	**3.13**	**124**	P	**Pn**		**02 35 22.6**	**-0.1**
	baz=308							
YAH	**Yahtse**	**3.17**	**321**		**Pn**		**02 35 24.8**	**+1.3**
YAH	**Yahtse**	**3.17**	**321**	IAML			02 36 27.3	
	comp=E,67nm,0.6s							
YAH				IAML			02 36 39.2	
	comp=N,75nm,0.9s							
YUK5	**Granite Creek**	**3.18**	**359**	Pn	**Pn**		**02 35 24.3**	**+0.7**
LOGN	**Logan Glacier**	**3.32**	**331**		**Pn**		**02 35 27.0**	**+1.4**
LOGN				IAML			02 36 22.4	
	comp=N,73nm,0.6s							
LOGN	**Logan Glacier**	**3.32**	**331**	Pn	**Pn**		**02 35 26.2**	**+0.6**
P33M	**Teslin, Yukon**	**3.40**	**46**		**Pn**		**02 35 26.5**	**-0.1**
P33M	**Teslin, Yukon**	**3.40**	**46**	Pn	**Pn**		**02 35 26.7**	**+0.1**
P33M	**Teslin, Yukon**	**3.40**	**46**	P	**Pn**		**02 35 26.4**	**-0.1**
	baz=230							
P33M				Sb	**Sb**		**02 36 16.9**	**+1.8**
	baz=230							
YUK4	**Talbot Arm**	**3.42**	**353**	Pn	**Pn**		**02 35 28.6**	**+1.5**
YUK4	**Talbot Arm**	**3.42**	**353**	P	**Pn**		**02 35 29.1**	**+2.0**
	baz=172							
GRNC	**Granite Creek**	**3.46**	**325**		**Pn**		**02 35 27.8**	**+0.4**
GRNC				IAML			02 36 30.8	
	comp=N,51nm,0.9s							
GRNC	**Granite Creek**	**3.46**	**325**	Pn	**Pn**		**02 35 28.3**	**+0.9**
BARK	**Barkley Ridge**	**3.46**	**317**		**Pn**		**02 35 27.0**	**-0.3**
YUK8	**Steele Glacier**	**3.49**	**344**	Pn	**Pn**		**02 35 28.6**	**+0.7**
N30M	**Aishikik Lake**	**3.52**	**5**		**Pn**		**02 35 28.7**	**+0.5**
N30M				IAML			02 36 21.1	
	comp=E,66nm,0.5s							
N30M				IAML			02 36 22.0	
	comp=N,44nm,0.6s							
N30M	**Aishikik Lake**	**3.52**	**5**	Pn	**Pn**		**02 35 28.6**	**+0.3**
N30M	**Aishikik Lake**	**3.52**	**5**	P	**Pn**		**02 35 28.6**	**+0.3**
	baz=185							
N30M				Sb	**Sb**		**02 36 20.0**	**+1.3**
	baz=185							

CTGM	**Chitina Glacie**	**3.53**	**330**		**Pn**		**02 35 29.7**	**+1.3**
S34M	**Telegraph Cree**	**3.53**	**88**	Pn	**Pn**		**02 35 29.5**	**+1.3**
S34M				IAML			02 36 25.5	
	comp=N,67nm,0.8s							
S34M				IAML			02 36 27.0	
	comp=E,67nm,0.4s							
CTG	**Chitna Glacier**	**3.53**	**330**	P	**Pn**		**02 35 29.1**	**+0.8**
	baz=147							
ISLE	**Juniper Island**	**3.55**	**320**	Pn	**Pn**		**02 35 29.6**	**+1.0**
ISLE				IAML			02 36 35.0	
	comp=N,79nm,0.8s							
ISLE				IAML			02 36 35.7	
	comp=E,98nm,0.8s							
WAX	**Waxell Ridge**	**3.62**	**316**		**Pn**		**02 35 29.1**	**-0.6**
WAX	**Waxell Ridge**	**3.62**	**316**	IAML			02 36 31.7	
	comp=E,98nm,0.5s							
N31M	**Braeburn, Yuko**	**3.67**	**15**		**Pn**		**02 35 30.8**	**+0.5**
N31M	**Braeburn, Yuko**	**3.67**	**15**	Pn	**Pn**		**02 35 30.9**	**+0.6**
N31M	**Braeburn, Yuko**	**3.67**	**15**	Sb	**Sb**		**02 36 24.7**	**+1.7**
	baz=196							
BARN	**Barnard Glacie**	**3.69**	**329**		**Pn**		**02 35 30.4**	**-0.2**
BARN	**Barnard Glacie**	**3.69**	**329**	IAML			02 36 39.0	
	comp=E,45nm,0.7s							
SUCK	**Suckling Hills**	**3.77**	**307**		**Pn**		**02 35 32.7**	**+1.2**
SUCK				IAML			02 36 44.6	
	comp=N,37nm,1.0s							
SUCK				IAML			02 37 00.1	
	comp=E,38nm,0.9s							
KIAG	**Kiagna River**	**3.79**	**324**		**Pn**		**02 35 32.0**	**0.0**
KIAG	**Kiagna River**	**3.79**	**324**	Pn	**Pn**		**02 35 32.9**	**+0.9**
R33M	**Jennings River**	**3.82**	**65**		**Pn**		**02 35 33.0**	**+0.6**
R33M				IAML			02 36 39.3	
	comp=N,52nm,0.7s							
R33M	**Jennings River**	**3.82**	**65**	Pn	**Pn**		**02 35 32.9**	**+0.6**
R33M	**Jennings River**	**3.82**	**65**	P	**Pn**		**02 35 32.8**	**+0.5**
	baz=250,SNR=9.5							
TGL	**Tana Glacier**	**3.83**	**319**		**Pn**		**02 35 34.6**	**+2.2**
BALM	**Baldy**	**3.87**	**325**	Pn	**Pn**		**02 35 34.0**	**+0.9**
CRQE	**Cirque**	**3.92**	**318**	P	**Pn**		**02 35 34.8**	**+1.2**
	baz=133							
BERG	**Berg Lake**	**3.92**	**311**		**Pn**		**02 35 33.3**	**-0.3**
CRQM	**Cirque**	**3.94**	**318**		**Pn**		**02 35 35.0**	**+1.0**
CRQM				IAML			02 36 41.1	
	comp=E,76nm,1.1s							
NICHA	**Nichawak Mount**	**3.94**	**308**		**Pn**		**02 35 33.7**	**-0.2**
NICHA					**Pn**		**02 35 34.0**	**+0.1**
KAIM	**Kayak Island**	**3.98**	**303**	Pn	**Pn**		**02 35 35.0**	**+0.6**
KAIM				IAML			02 36 47.3	
	comp=E,36nm,0.8s							
KAIM				IAML			02 36 56.7	
	comp=N,29nm,0.7s							
N32M	**Quiet Lake**	**3.98**	**35**	P	**Pn**		**02 35 35.5**	**+1.0**
	baz=218							
N32M				Sb	**Sb**		**02 36 35.0**	**+3.1**
	baz=218							
PTPK	**Patty Peak**	**4.03**	**325**	Pn	**Pn**		**02 35 36.2**	**+1.0**
YUK3	**Moose Creek**	**4.06**	**341**	Pn	**Pn**		**02 35 36.7**	**+0.9**
HMT	**Hamilton**	**4.12**	**308**		**Pn**		**02 35 35.7**	**-0.6**
YUK2	**White River**	**4.14**	**339**	Pn	**Pn**		**02 35 37.6**	**+0.8**
RAGM	**Ragged Mountai**	**4.32**	**307**	Pn	**Pn**		**02 35 40.3**	**+1.2**
MCARA	**McCarthy VSAT**	**4.35**	**324**	Pn	**Pn**		**02 35 41.0**	**+1.4**
MCARA				IAML			02 37 01.5	
	comp=N,42nm,1.1s							
MCARA				IAML			02 37 06.3	
	comp=E,51nm,0.8s							
MCARA	**McCarthy VSAT**	**4.35**	**324**	Pn	**Pn**		**02 35 40.7**	**+1.1**
MCARA	**McCarthy VSAT**	**4.35**	**324**	P	**Pn**		**02 35 40.6**	**+1.0**
	baz=139							
VRDI	**Verde Repeater**	**4.38**	**321**		**Pn**		**02 35 40.8**	**+0.8**
M29M	**Somme Creek**	**4.51**	**356**		**Pn**		**02 35 42.8**	**+1.0**
M29M	**Somme Creek**	**4.51**	**356**	IAML			02 36 53.2	
	comp=N,25nm,0.7s							
M29M				IAML			02 36 58.3	
	comp=E,20nm,0.8s							
M29M	**Somme Creek**	**4.51**	**356**	Pn	**Pn**		**02 35 42.6**	**+0.8**
M29M	**Somme Creek**	**4.51**	**356**	P	**Pn**		**02 35 42.9**	**+1.0**
	baz=174							
M31M	**Drury Creek, Y**	**4.57**	**20**		**Pn**		**02 35 43.7**	**+1.0**
M31M				IAML			02 36 58.6	
	comp=N,20nm,0.6s							
M31M				IAML			02 37 05.7	
	comp=E,38nm,0.8s							
M31M	**Drury Creek, Y**	**4.57**	**20**	Pn	**Pn**		**02 35 42.9**	**+0.3**
BMRM	**Bremner River**	**4.62**	**314**		**Pn**		**02 35 44.5**	**+1.2**
BMRM				IAML			02 37 04.1	
	comp=E,30nm,0.6s							
BMRM				IAML			02 37 16.7	
	comp=N,28nm,0.6s							
BMRM	**Bremner River**	**4.62**	**314**	P	**Pn**		**02 35 44.3**	**+1.0**
	baz=128							
GLB	**Gilahina Butte**	**4.65**	**321**		**Pn**		**02 35 44.0**	**+0.3**
GLB				IAML			02 37 16.0	
	comp=E,19nm,1.0s							
M30M	**Minto, Yukon**	**4.66**	**5**		**Pn**		**02 35 44.3**	**+0.5**
M30M				IAML			02 37 10.2	
	comp=E,23nm,1.1s							
M30M	**Minto, Yukon**	**4.66**	**5**	Pn	**Pn**		**02 35 44.0**	**+0.3**
M30M	**Minto, Yukon**	**4.66**	**5**	P	**Pn**		**02 35 44.2**	**+0.5**
	baz=186							
U35K	**Hyder**	**4.70**	**113**	Pn	**Pn**		**02 35 45.6**	**+1.3**
M27K	**Edge Creek, AK**	**4.87**	**337**	Pn	**Pn**		**02 35 48.4**	**+1.6**
M27K	**Edge Creek, AK**	**4.87**	**337**	Pn	**Pn**		**02 35 47.6**	**+0.8**
M27K	**Edge Creek, AK**	**4.87**	**337**	P	**Pn**		**02 35 47.6**	**+0.8**
	baz=153							
N25K	**Chitina, Valde**	**5.03**	**319**		**Pn**		**02 35 50.0**	**+1.0**
N25K	**Chitina, Valde**	**5.03**	**319**	Pn	**Pn**		**02 35 50.0**	**+1.0**
N25K	**Chitina, Valde**	**5.03**	**319**	P	**Pn**		**02 35 50.0**	**+1.0**
	baz=133							
M26K	**Nabesna, AK**	**5.17**	**332**	Pn	**Pn**		**02 35 52.1**	**+1.3**
M26K	**Nabesna, AK**	**5.17**	**332**	Pn	**Pn**		**02 35 52.0**	**+1.3**
M26K	**Nabesna, AK**	**5.17**	**332**	P	**Pn**		**02 35 51.2**	**+0.4**
	baz=147							
L29M	**L29M**	**5.17**	**358**		**Pn**		**02 35 51.6**	**+0.8**
L29M	**L29M**	**5.17**	**358**	Pn	**Pn**		**02 35 51.6**	**+0.8**
L29M	**L29M**	**5.17**	**358**	P	**Pn**		**02 35 51.8**	**+1.0**
	baz=177							
P23K	**Montague Islan**	**5.40**	**296**	P	**Pn**		**02 35 54.0**	**+0.2**
	baz=108							
KLU	**Klutina**	**5.45**	**314**		**Pn**		**02 35 55.8**	**+1.2**
KLU	**Klutina**	**5.45**	**314**	P	**Pn**		**02 35 55.4**	**+0.8**
	baz=127							
BCAR	**Beaver Creek A**	**5.50**	**340**	Pn	**Pn**		**02 35 55.2**	**-0.1**
L27K	**Beaver Creek,**	**5.50**	**340**	Pn	**Pn**		**02 35 56.4**	**+1.0**
GLI	**Glacier Island**	**5.60**	**305**		**Pn**		**02 35 57.0**	**+0.4**
GLI	**Glacier Island**	**5.60**	**305**	P	**Pn**		**02 35 57.4**	**+0.7**
	baz=117							
MMPY	**Sheldon Lake,**	**5.67**	**32**		**Pn**		**02 35 58.6**	**+0.9**
MMPY	**Sheldon Lake,**	**5.67**	**32**	Pn	**Pn**		**02 35 58.4**	**+0.7**
MMPY	**Sheldon Lake,**	**5.67**	**32**	P	**Pn**		**02 35 58.5**	**+0.8**
	baz=217,SNR=7.5							
HARP	**HAARP**	**5.79**	**323**	P	**Pn**		**02 36 00.3**	**+1.1**
	baz=137							
K29M	**Barlow Dome**	**5.90**	**1**		**Pn**		**02 36 02.0**	**+1.1**
K29M	**Barlow Dome**	**5.90**	**1**	Pn	**Pn**		**02 36 01.6**	**+0.6**
K29M	**Barlow Dome**	**5.90**	**1**	P	**Pn**		**02 36 02.1**	**+1.1**
	baz=181							
M24K	**Tolsona, Glenn**	**5.92**	**318**	P	**Pn**		**02 36 02.0**	**+0.8**
	baz=131							
PWL	**Port Wells**	**6.14**	**303**	P	**Pn**		**02 36 04.1**	**+0.1**
	baz=114							
DAWY	**Dawson**	**6.18**	**353**		**Pn**		**02 36 05.6**	**+1.0**
DAWY	**Dawson**	**6.18**	**353**	Pn	**Pn**		**02 36 05.4**	**+0.7**
DAWY	**Dawson**	**6.18**	**353**	P	**Pn**		**02 36 05.2**	**+0.6**
	baz=171							
SCM	**Sheep Creek Mo**	**6.19**	**313**	P	**Pn**		**02 36 05.6**	**+0.8**
	baz=124							
PAX	**Paxson**	**6.31**	**326**	P	**Pn**		**02 36 07.9**	**+1.5**
	baz=139							
J30M	**Hart River**	**6.67**	**5**		**Pn**		**02 36 13.1**	**+1.6**
J30M	**Hart River**	**6.67**	**5**	Pn	**Pn**		**02 36 12.4**	**+0.9**
J30M	**Hart River**	**6.67**	**5**	P	**Pn**		**02 36 12.1**	**+0.6**
	baz=186							
I30M	**Mount Dempster**	**7.32**	**5**		**Pn**		**02 36 21.9**	**+1.6**
I30M	**Mount Dempster**	**7.32**	**5**	Pn	**Pn**		**02 36 21.5**	**+1.2**
I30M	**Mount Dempster**	**7.32**	**5**	P	**Pn**		**02 36 21.6**	**+1.2**
	baz=185							
I28M	**Miner Creek**	**7.59**	**353**		**Pn**		**02 36 25.1**	**+1.1**
I28M	**Miner Creek**	**7.59**	**353**	Pn	**Pn**		**02 36 25.0**	**+1.1**
J25K	**Salcha River,**	**7.61**	**334**	P	**Pn**		**02 36 24.8**	**+0.4**
	baz=148							
I26K	**Coal Creek Min**	**7.80**	**343**	Pn	**Pn**		**02 36 27.9**	**+1.0**
KDAK	**Kodiak Island**	**7.92**	**275**	P	**Pn**		**02 36 28.6**	**+0.2**
	baz=82							
SKT	**Skwentna**	**8.00**	**306**	P	**Pn**		**02 36 30.1**	**+0.5**
	baz=114							

H31M	**Peel River**	**8.03**	**10**	Pn	**Pn**		**02 36 30.9**	**+0.8**
TRF	**Thorofare Moun**	**8.24**	**317**		**Pn**		**02 36 35.0**	**+1.9**
H29M	**Whitestone**	**8.29**	**358**	Pn	**Pn**		**02 36 34.2**	**+0.6**
BPAW	**Bear Paw Mtn.**	**8.88**	**319**	P	**Pn**		**02 36 42.3**	**+0.6**
	baz=128							
CAST	**Castle Rocks**	**8.90**	**314**	P	**Pn**		**02 36 42.6**	**+0.7**
	baz=121							
G31M	**Satah River**	**9.14**	**9**	Pn	**Pn**		**02 36 45.7**	**+0.6**
L19K	**White Mountain**	**9.53**	**304**	P	**Pn**		**02 36 50.9**	**+0.4**
	baz=109							
J20K	**Nowinta River**	**10.07**	**315**	P	**Pn**		**02 36 58.4**	**+0.4**
	baz=120							
H19K	**Roundabout Mou**	**11.62**	**318**	P	**Pn**		**02 37 19.7**	**+0.6**
	baz=122							

NEIC ***25*** *02:36:32.5±1.4,36.028N±0.008,98.09W±0.01,h6km±3km, Error ellipse: s-maj=1.5km s-min=1.2km az=80.0*
NEIC ***25*** *02:36:32.6±1.3,36.029N±0.006,98.09W±0.01,h5km±1km, mb_Lg2.9/107,ML3.3/14,ML3.3/49, Error ellipse: s-maj=2.5km s-min=1.6km az=343.0*
NEIC ***25*** *02:36:33.6±1.2,36.036N±0.009,98.077W±0.008, h7km±2km, Error ellipse: s-maj=1.4km s-min=0.9km az=163.0*

NEIC 25 02:36:32.4±1.0, 36.027N±0.010, 98.07W±0.01, h3km±3km, mb_Lg2.9/106, ML3.2/57, ML3.0/10, Error ellipse: s-maj=1.5km s-min=1.0km az=208.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CROK	**Carrier**	**0.48**	**8**			Pg	02 36 42.2	+0.5
CROK						Sg	02 36 49.1	+1.1
CROK				IAML			02 36 49.5	
	comp=E,2μm,0.3s							
CROK				IAML			02 36 54.8	
	comp=N,1μm,0.2s							
CROK	**Carrier**	**0.48**	**8**	Pg		Pg	02 36 42.3	+0.6
CROK				Sg		Sg	02 36 49.1	+1.1
CROK				IAML			02 36 49.5	
	comp=E,2μm,0.3s							
CROK				IAML			02 36 54.8	
	comp=N,1μm,0.2s							
BCOK	**Bluff Creek, N**	**0.52**	**135**			Pb	02 36 44.1	-0.1
BCOK	**Bluff Creek, N**	**0.52**	**135**			Pg	02 36 43.1	+0.7
BCOK						Sb	02 36 50.8	-1.5
OK029	**Liberty Lake**	**0.55**	**115**			Pg	02 36 43.6	+0.7
OK029				Sg		Sb	02 36 51.5	-1.4
OK029				IAML			02 36 51.9	
	comp=N,1μm,0.2s							
OK029	**Liberty Lake**	**0.55**	**115**	Pg		Pg	02 36 43.7	+0.8
OK029				IAmb_Lg			02 36 49.9	
	comp=Z,50nm,0.7s							
OK029				Sg		Sb	02 36 51.6	-1.3
OK029				IAML			02 36 51.9	
	comp=Z,1μm,0.2s							
OK029				IAML			02 36 51.9	
	comp=Z,3μm,0.3s							
CSTR	**Hydro, Custer**	**0.63**	**233**			Pg	02 36 44.8	+0.2
CSTR						Sg	02 36 53.4	+0.6
CSTR	**Hydro, Custer**	**0.63**	**233**	Pg		Pg	02 36 44.8	+0.2
CSTR				Sg		Sg	02 36 53.3	+0.6
CSTR				IAML			02 37 03.2	
	comp=N,118nm,0.8s							
CSTR				IAML			02 37 05.5	
	comp=E,110nm,0.5s							
ADOK	**Arcadia Dam**	**0.68**	**123**			Pg	02 36 46.1	+0.7
ADOK				Sg		Sb	02 36 55.5	-1.1
OK004	**Okla Sci Mus**	**0.69**	**136**			Pb	02 36 47.0	-0.2
OK004	**Okla Sci Mus**	**0.69**	**136**			Pg	02 36 46.2	+0.5
OK004						Sb	02 36 56.1	-1.1
OK038	**West end E0370**	**0.71**	**310**			Pg	02 36 46.6	+0.6
OK038						Sg	02 36 56.3	+1.1
OK038	**West end E0370**	**0.71**	**310**			Pg	02 36 45.9	-0.1
OK038				IAML			02 36 55.9	
	comp=E,6μm,0.3s							
OK038				IAML			02 36 58.6	
	comp=E,4μm,0.3s							
OKCSW	**OKLAHOMA CITY**	**0.80**	**140**			Pg	02 36 48.0	+0.1
OKCSW				IAML			02 37 00.8	
	comp=E,628nm,0.2s							
OKCSW				IAML			02 37 02.0	
	comp=N,982nm,0.6s							
OKCSW	**OKLAHOMA CITY**	**0.80**	**140**	Pg		Pg	02 36 47.9	+0.1
OKCSW				Sg		Sg	02 36 59.1	+0.8
OKCSW				IAML			02 37 00.8	
	comp=E,628nm,0.2s							
OKCSW				IAML			02 37 02.0	
	comp=N,982nm,0.6s							
GC02	**Grant County #**	**0.84**	**11**			Pg	02 36 48.6	0.0
GC02	**

comp=E,511nm,0.3s
QUOK IAML 02 37 13.9
comp=N,559nm,0.2s
KAN01 Argonia South 1.15 12 Pg 02 36 53.9 -0.6
KAN01 IAML 02 37 10.1
comp=N,439nm,0.3s
KAN01 IAML 02 37 10.6
comp=E,520nm,0.2s
KAN01 Argonia South 1.15 12 Pg 02 36 54.1 -0.4
KAN01 Sg 02 37 09.8 +0.3
KAN09 Caldwell North 1.17 18 Pg 02 36 54.4 -0.3
KAN09 Caldwell North 1.17 18 Pg 02 36 54.4 -0.3
KAN09 Sg 02 37 10.2 +0.4
KAN09 IAML 02 37 12.1
comp=E,3µm,0.3s
KAN09 IAML 02 37 18.8
comp=N,1µm,0.2s
KAN08 Anthony NE Sta 1.20 4 Pg 02 36 54.8 -0.7
KAN08 Sg 02 37 11.2 +0.2
KAN12 Harper NE Stat 1.27 2 Pg 02 36 56.0 -0.7
DEOK Depew 1.28 98 Pg 02 36 56.4 -0.7
DEOK IAML 02 37 17.8
comp=N,535nm,0.4s
DEOK IAML 02 37 19.6
comp=E,477nm,0.2s
DEOK Depew 1.28 98 Pg 02 36 56.4 -0.7
DEOK Sb 02 37 14.5 +0.3
DEOK IAML 02 37 17.8
comp=N,535nm,0.4s
DEOK IAML 02 37 19.6
comp=E,477nm,0.2s
WMOK Wichita Mounta 1.41 205 Pn 02 36 57.6 -1.5
WMOK Sg 02 37 15.3 -2.4
X34A Smith Ranch, M 1.44 172 Pn 02 36 59.5 +0.1
X34A Smith Ranch, M 1.44 172 Pn 02 36 59.2 -0.2
X34A Sb 02 37 16.8 -1.7
T35A Sooner Cattle 1.54 54 Pn 02 37 00.8 0.0
TUL3 Leonard 1.85 93 Pn 02 37 05.1 0.0
TUL3 Leonard 1.85 93 Pn Pn 02 37 04.6 -0.5
TUL3 IAmb_Lg 02 37 34.8
comp=Z,114nm,0.9s
DRZT Darrouzett 1.85 284 Pb 02 37 06.2 -0.8
DRZT Darrouzett 1.85 284 Sg 02 37 31.5 -0.4
DRZT Darrouzett 1.85 284 P Pb 02 37 06.3 -0.7
SMWD Samnorwood 2.00 243 Pn 02 37 07.2 0.0
SMWD Samnorwood 2.00 243 P Pn 02 37 07.7 +0.5
LOOK Love County 2.16 160 Pn 02 37 09.6 +0.4
LOOK IAmb_Lg 02 37 41.1
comp=E,58nm,0.9s
WTFS Witchita Falls 2.28 188 Pn 02 37 11.2 +0.3
R32A Long Quarter, 2.45 348 Pn 02 37 11.8 -1.5
R32A IAmb_Lg 02 37 52.3
comp=Z,40nm,0.7s
RLO Rose Lookout 2.47 86 Pn 02 37 13.4 -0.2
RLO Rose Lookout 2.47 86 Pn Pn 02 37 14.0 +0.4
Z35A Perchaven, San 2.77 166 Pn 02 37 17.8 +0.1
FW03 Perrin-Whitt E 2.98 180 Pn 02 37 20.1 -0.5
U38A Gravette 3.00 81 Pn Pn 02 37 20.9 -0.1
FW06 Azle 3.08 172 Pn Pn 02 37 22.0 +0.1
CBKS Cedar Bluff 3.08 335 Pn Pn 02 37 21.0 -1.1
AMTX Amarillo 3.16 250 Pn 02 37 23.0 -0.2
AMTX IAmb_Lg 02 38 16.1
comp=Z,28nm,1.0s
AMTX Amarillo 3.16 250 IAmb_Lg 02 38 10.4
comp=Z,36nm,0.8s
APMT Aspermont 3.18 213 Pn 02 37 23.5 0.0
PLPT Palo Pinto 3.21 184 Pn 02 37 23.1 -0.7
FW04 University of 3.31 163 Pn 02 37 24.2 -0.9
FW07 Weatherford 3.32 176 Pn 02 37 25.3 0.0
DKNS Dickens 3.33 226 Pn 02 37 25.2 -0.3
HHAR Hobbs 3.35 84 Pn 02 37 25.9 +0.2
ABTX Abilene, Hawle 3.64 201 Pn 02 37 28.8 -0.9
TREL Terrell 3.67 153 Pn Pn 02 37 29.3 -0.8
TREL IAmb_Lg 02 38 37.5
comp=Z,38nm,0.8s
SN07 Snyder 07 3.74 219 Pn Pn 02 37 29.6 -1.5
SN07 IAmb_Lg 02 38 34.3
comp=Z,38nm,0.8s
RTBA Rita Blanca 3.80 278 IAmb_Lg 02 38 40.5
comp=Z,19nm,0.9s
RTBA Rita Blanca 3.80 278 IAmb_Lg 02 38 40.5
comp=Z,19nm,0.9s
RTBA Rita Blanca 3.80 278 P Pn 02 37 33.1 +1.1
SN03 Snyder 3 3.90 218 Pn 02 37 34.1 +0.8
SN05 Snyder 5 3.91 217 Pn Pn 02 37 33.2 -0.3
SN05 IAmb_Lg 02 38 37.6
comp=Z,41nm,0.8s
MIAR Mount Ida 3.96 111 Pn 02 37 33.8 -0.3
MIAR IAmb_Lg 02 38 39.6
comp=Z,21nm,0.7s
WHTX Lake Whitney, 4.06 173 Pn Pn 02 37 35.8 +0.4
POST Post 4.09 225 Pn 02 37 36.4 +0.4
POST IAmb_Lg 02 38 41.9
comp=Z,25nm,0.7s
POST Post 4.09 225 Pn Pn 02 37 34.2 -1.8
POST IAmb_Lg 02 38 41.9
comp=Z,25nm,0.7s
MSTX Muleshoe 4.37 243 Pn 02 37 39.5 -0.4
237A Washetta, Mont 4.43 154 IAmb_Lg 02 39 04.5
comp=Z,18nm,0.8s
X40A Basin Creek Fa 4.55 108 Pn Pn 02 37 42.3 +0.2
X40A IAmb_Lg 02 39 05.5
comp=Z,30nm,0.9s
WLAR White Oak Lake 4.69 118 IAmb_Lg 02 39 14.4
comp=Z,25nm,0.8s
WLAR White Oak Lake 4.69 118 IAmb_Lg 02 39 14.4
comp=Z,25nm,0.8s
WHAR Wooly Hollow 4.76 97 IAmb_Lg 02 39 10.4
comp=Z,18nm,0.9s
WHAR Wooly Hollow 4.76 97 IAmb_Lg 02 39 10.4
comp=Z,18nm,0.9s
BRDY Brady 4.79 190 IAmb_Lg 02 39 14.2
comp=Z,17nm,0.8s
MGMO Mountain Grove 4.80 75 IAmb_Lg 02 39 05.0
comp=Z,31nm,0.8s
MGMO Mountain Grove 4.80 75 IAmb_Lg 02 39 05.0
comp=Z,31nm,0.8s
FCAR Ozark Folk Cen 4.82 90 IAmb_Lg 02 39 09.1
comp=Z,23nm,0.7s
FCAR Ozark Folk Cen 4.82 90 IAmb_Lg 02 39 09.1
comp=Z,23nm,0.7s
SGCY Sterling City 4.83 213 Pn Pn 02 37 44.1 -1.9
UALR University of 4.84 103 IAmb_Lg 02 39 16.7
comp=Z,29nm,1.1s
UALR University of 4.84 103 IAmb_Lg 02 39 16.7
comp=Z,29nm,1.1s
P38A Dawn 5.08 44 IAmb_Lg 02 39 25.5
comp=Z,22nm,0.9s
Z41A Richland Creek 5.14 121 IAmb_Lg 02 39 25.2
comp=Z,28nm,0.8s
Z41A Richland Creek 5.14 121 IAmb_Lg 02 39 25.2
comp=Z,28nm,0.8s
R40A Maddies Statio 5.15 62 Pn Pn 02 37 50.4 0.0
R40A IAmb_Lg 02 39 24.1
comp=Z,24nm,0.9s
T25A Trinidad 5.22 284 IAmb_Lg 02 39 25.5
comp=Z,25nm,0.9s
T25A Trinidad 5.22 284 IAmb_Lg 02 39 25.5
comp=Z,25nm,0.9s
435B Jarrell 5.25 175 IAmb_Lg 02 39 31.9
comp=Z,13nm,0.8s
BGNE Belgrade 5.37 359 IAmb_Lg 02 39 33.7
comp=Z,28nm,0.7s
CCAR Cane Creek 5.58 110 IAmb_Lg 02 39 33.6
comp=Z,36nm,1.1s
LCAR Lake Charles 5.60 88 Pn Pn 02 37 55.5 -1.1
LCAR IAmb_Lg 02 39 33.8
comp=Z,14nm,1.1s
OZNA Ozona 5.70 208 IAmb_Lg 02 39 37.6
comp=Z,27nm,1.0s
JCT Junction City 5.72 195 IAmb_Lg 02 39 43.7
comp=Z,28nm,0.8s
CCM Cathedral Cave 5.82 68 IAmb_Lg 02 39 47.3
comp=Z,19nm,0.8s
CCM Cathedral Cave 5.82 68 IAmb_Lg 02 39 47.3
comp=Z,19nm,0.8s
P40A Paris 5.91 52 IAmb_Lg 02 39 42.7
comp=Z,49nm,0.7s
HBAR Harrisburg 6.04 92 IAmb_Lg 02 39 44.7
comp=Z,74nm,1.0s
MNHN Monahans 6.09 221 IAmb_Lg 02 39 44.5
comp=Z,12nm,0.8s
SDCO Great Sand Dun 6.20 288 IAmb_Lg 02 39 51.4
comp=Z,13nm,1.2s
SDCO Great Sand Dun 6.20 288 IAmb_Lg 02 39 51.4
comp=Z,13nm,1.2s
PBMO Poplar Bluff 6.21 81 IAmb_Lg 02 39 54.6
comp=Z,26nm,0.8s
Q24A Divide 6.35 300 IAmb_Lg 02 39 56.2
comp=Z,13nm,0.9s
Q24A Divide 6.35 300 IAmb_Lg 02 39 56.2
comp=Z,13nm,0.9s
FVM French Village 6.42 70 IAmb_Lg 02 40 04.8
comp=Z,24nm,1.0s
143A Socs Landing, 6.43 119 IAmb_Lg 02 40 10.1
comp=Z,19nm,1.0s
143A Socs Landing, 6.43 119 IAmb_Lg 02 40 10.1
comp=Z,19nm,1.0s
HNDO Hondo 6.56 189 IAmb_Lg 02 40 11.4
comp=Z,13nm,0.8s
PECS Pecos 6.70 228 IAmb_Lg 02 40 08.1
comp=Z,13nm,0.8s
PARMO Parma 6.74 82 IAmb_Lg 02 40 12.9
comp=Z,31nm,0.7s
SLM Saint Louis 6.76 65 IAmb_Lg 02 40 06.1
comp=Z,38nm,0.9s
CGM3 Cape Girardeau 6.88 77 IAmb_Lg 02 40 09.7
comp=Z,18nm,1.1s
DRIO Del Rio 6.93 199 IAmb_Lg 02 40 11.6
comp=Z,18nm,0.8s
ANMO Albuquerque 6.93 263 IAmb_Lg 02 40 16.8
comp=Z,4.9nm,0.9s
SAND Sanderson 6.95 211 IAmb_Lg 02 40 14.9
comp=Z,14nm,0.7s
ISCO Idaho Springs 7.05 305 IAmb_Lg 02 40 28.8
comp=Z,9.3nm,0.7s
ISCO Idaho Springs 7.05 305 IAmb_Lg 02 40 28.8
comp=Z,9.3nm,0.7s
GLAT Glass 7.11 85 IAmb_Lg 02 40 35.9
comp=Z,61nm,0.9s
OXF Oxford 7.24 100 IAmb_Lg 02 40 34.7
comp=Z,16nm,0.8s
OXF Oxford 7.24 100 IAmb_Lg 02 40 34.7
comp=Z,16nm,0.8s
S44A Carbondale 7.26 74 IAmb_Lg 02 40 24.2
comp=Z,20nm,0.9s
S44A Carbondale 7.26 74 IAmb_Lg 02 40 24.2
comp=Z,20nm,0.9s
SIUC Southern Illin 7.29 74 IAmb_Lg 02 40 22.3
comp=Z,23nm,0.9s
ALPN Alpine 7.32 221 IAmb_Lg 02 40 34.9
comp=Z,16nm,1.2s
N41A Harden Midland 7.34 48 IAmb_Lg 02 40 26.1
comp=Z,30nm,0.8s
Y22A Socorro 7.60 257 IAmb_Lg 02 40 51.2
comp=Z,7.2nm,0.8s
T45A Paducah 7.65 80 IAmb_Lg 02 40 43.6
comp=Z,28nm,0.7s
Q44A Meyer Farm, Va 7.75 66 IAmb_Lg 02 40 53.4
comp=Z,23nm,0.9s
833A Chaparral WMA, 7.76 189 IAmb_Lg 02 40 46.3
comp=Z,14nm,1.1s
VHRN Van Horn 7.79 230 IAmb_Lg 02 40 45.7
comp=Z,14nm,1.1s
L40A Anamosa 8.04 39 IAmb_Lg 02 41 02.0
comp=Z,14nm,0.8s
HDIL Hopedale 8.25 54 IAmb_Lg 02 40 59.8
comp=Z,36nm,0.7s
OLIL Olney 8.38 68 IAmb_Lg 02 40 58.8
comp=Z,14nm,0.8s
OLIL Olney 8.38 68 IAmb_Lg 02 40 58.9
comp=Z,14nm,0.8s
SUSD Miller 8.43 356 IAmb_Lg 02 41 02.6
comp=Z,8.1nm,0.8s
I37A Lemond, Waseca 8.74 23 IAmb_Lg 02 41 30.1
comp=Z,12nm,0.8s
L42A Oliver, Polo 8.85 45 IAmb_Lg 02 41 16.1
comp=Z,19nm,0.7s
RSSD Black Hills 9.29 332 IAmb_Lg 02 41 37.2
comp=Z,9.3nm,1.0s
K22A Casper 9.31 318 IAmb_Lg 02 41 45.5
comp=Z,19nm,1.1s
I40A Norwalk 9.71 34 IAmb_Lg 02 41 43.5
comp=Z,8.5nm,0.8s
F33A 5 Mile Ranch, 9.89 7 IAmb_Lg 02 41 53.2
comp=Z,5.6nm,1.0s

*IDC **25** 02:40:07.8±1.4, 10˚48S×118˚93E, h0km, mb4.2/4, mbtmp4.0/9, ML3.6/5, MS3.2/3, Error ellipse: s-maj=44.1km s-min=19.2km az=55.0*
*DJA **25** 02:40:13.6±0.5, 10˚S±5˚×11˚9E±˚, h10km, M4.2/13, mB4.9/1, mb4.5/6, MLv4.1/13, Mw(mB)4.2/1*
ISC 25 02:40:13.4±0.8, 10.57S±0.06×119.13E±0.05, h41km, n25, σ2$49/30, mb4.2/4, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.95**	**15**	**P**	**Pn**	**02 40 28.3**	**-2.1**
WSI	**Waingapu**	**1.45**	**52**	**P**	**Pn**	**02 40 38.1**	**+0.9**
WSI				S	**Sn**	**02 40 57.9**	**+2.9**
BASI	**Baing, Sumba**	**1.46**	**76**	**P**	**Pn**	**02 40 39.1**	**+1.8**
BASI				S	**Sn**	**02 40 59.7**	**+4.5**
PLAI	**Plampang**	**2.19**	**322**	**P**	**Pn**	**02 40 47.3**	**0.0**
PLAI				S	**Sn**	**02 41 14.7**	**+1.6**
TWSI	**Taliwang, Sumb**	**2.87**	**309**	**P**	**Pn**	**02 40 57.7**	**+1.0**
EDFI	**Ende, Flores**	**3.10**	**55**	**P**	**Pn**	**02 41 00.1**	**+0.2**
MMRI	**Maumere**	**3.61**	**58**	**P**	**Pn**	**02 41 07.0**	**+0.1**
BATI	**Baumata**	**4.47**	**86**	Pn	**Pn**	**02 41 20.2**	**+1.5**
	9.9nm,0.3s,baz=270,slow=5.9,SNR=4.4						
BATI				Sn	**Sn**	**02 42 10.8**	**+1.2**
	13nm,0.3s,baz=180,slow=21,SNR=2.0						
	33nm,0.4s						
BATI	**Baumata**	**4.47**	**86**	P	**Pn**	**02 41 21.4**	**+2.7**
SRBI	**Singaraja**	**4.59**	**302**	P	**Pn**	**02 41 22.6**	**+2.3**
BSSI	**Bau Bau, Buton**	**4.60**	**17**	P	**Pn**	**02 41 22.1**	**+1.7**
SOEI	**Soe**	**5.12**	**81**	P	**Pn**	**02 41 29.2**	**+1.5**
	0.3nm73nm,0.8s						
BKSI	**Bulukumba**	**5.30**	**11**	P	**Pn**	**02 41 31.1**	**+1.0**
JAGI	**Jajag, Banyuwa**	**5.34**	**293**	P	**Pn**	**02 41 33.6**	**+3.0**
	0.3nm39nm,1.2s						
KAPI	**Kappang**	**5.55**	**6**	Pn	**Pn**	**02 41 32.5**	**-1.0**
	3.4nm,0.3s,baz=177,slow=10,SNR=5.9						
KAPI				Sn	**Sn**	**02 42 34.3**	**-1.8**
	baz=356,slow=23						
KAPI				LR	LR	02 43 59.6	
	comp=Z,92nm,18.8s,baz=191,slow=42						
	8.0nm,0.3s						
GMJI	**Gumukmas**	**6.06**	**292**	P	**Pn**	**02 41 43.0**	**+2.5**
FITZ	**Fitzroy Crossi**	**9.79**	**141**	Pn	**Pn**	**02 42 32.3**	**+0.7**
	0.4nm,0.3s,baz=352,slow=17,SNR=9.4						
FITZ				Sn	**Sn**	**02 44 17.7**	**-2.6**
	0.6nm,0.3s,baz=188,slow=21,SNR=8.2						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**17.37**	**124**	P	**Pn**	**02 44 13.5**	**+0.6**
	0.1nm,0.3s,baz=301,slow=13,SNR=4.6						
WRA				S	Sn	02 47 12.9	-12
	0.5nm,0.4s,baz=294,slow=21,SNR=5.6						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**19.18**	**135**	P	**Pn**	**02 44 36.4**	**+1.4**
	0.1nm,0.3s,baz=321,slow=14,SNR=17						
ASAR				S	**Sn**	**02 48 00.6**	**-8.6**
	0.3nm,0.6s,baz=306,slow=22,SNR=4.2						
	1.7nm,0.9s						
USRK	**Ussuriysk Ar.**	**55.74**	**11**	P	**P**	**02 49 45.1**	**-0.8**
	1.5nm,0.5s,baz=203,slow=5.4,SNR=2.7						
	1.5nm,0.5s						
SONM	**Songino Array**	**59.23**	**350**	P	**P**	**02 50 10.3**	**-0.3**
	1.7nm,0.5s,baz=169,slow=8.0,SNR=9.2						
	1.7nm,0.5s						
MKAR	**Makanchi Array**	**65.90**	**333**	P	**P**	**02 50 55.0**	**-0.1**
	1.2nm,0.6s,baz=150,slow=6.9,SNR=11						
	1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**70.54**	**339**	P	**P**	**02 51 22.9**	**-1.0**
	0.9nm,0.4s,baz=151,slow=6.2,SNR=5.3						
	0.9nm,0.4s						
AKASG	**Malin Array Be**	**98.03**	**320**	LR	LR	03 45 09.3	
	comp=Z,16nm,18.3s,baz=9.5,slow=40						
MLR	**Mumele Rosu**	**99.67**	**315**	LR	LR	03 47 18.7	
	comp=Z,19nm,18.1s,baz=319,slow=40						

*IDC **25** 02:41:46.9±3.1, 3.00S×136.33E, h0km, mb3.4/2, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=116.0km s-min=32.4km az=80.0*
*DJA **25** 02:41:49.6±0.6, 3˚S±5˚×13˚6E±˚, h14km±4km, M3.7/6, MLv3.7/6*
ISC 25 02:41:49.6±1.2, 3.30S±0.08×135.81E±0.06, h10km, n10, σ0$90/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**1.49**	**17**	P	**Pn**	**02 42 17.1**	**+0.7**
SRPI				S	**Sn**	**02 42 35.7**	**-0.2**
BAKI	**Biak**	**2.12**	**8**	P	**Pn**	**02 42 24.9**	**-0.2**
KMPI	**Kaimana, Papua**	**2.13**	**260**	P	**Pn**	**02 42 24.6**	**-0.6**
RKPI	**Ransiki, Papua**	**2.41**	**318**	P	**Pn**	**02 42 29.3**	**+0.1**
SMPI	**Sarmi**	**3.18**	**66**	P	**Pn**	**02 42 38.5**	**-1.2**
FAKI	**Fak Fak**	**3.57**	**276**	P	**Pn**	**02 42 44.8**	**-0.3**
JAY	**Jayapura**	**4.95**	**81**	P	**Pn**	**02 43 04.2**	**+0.1**
WRA	**Warramunga Arr**	**16.60**	**185**	Pn	**P**	**02 45 46.8**	**+1.7**
	0.3nm,0.3s,baz=8.1,slow=12,SNR=14						
	2.7nm,0.6s						
ASAR	**Alice Springs**	**20.33**	**185**	P	Pn	02 46 28.1	-0.1
	1.6nm,0.8s,baz=8.1,slow=12,SNR=8.7						
	1.6nm,0.8s						
MKAR	**Makanchi Array**	**68.52**	**324**	P	**P**	**02 52 51.7**	**-0.6**
	0.2nm,0.5s,baz=103,slow=7.0,SNR=2.3						
	0.2nm,0.5s						

*IDC **25** 02:46:48.6±5.0, 22.26N×143.31E, h189km±46km, mb3.5/16, mbtmp4.0/17, Error ellipse: s-maj=24.3km s-min=11.2km az=87.0*
*NEIC **25** 02:46:51.4±1.3, 22.56N±0.09×142.6E±0.2, h212km±9km, mb4.3/20, Error ellipse: s-maj=20.4km s-min=13.6km az=83.0*
ISC 25 02:46:49.8±0.6, 22.37N±0.08×143.0E±0.1, h200km, n45, σ1$54/44, mb4.0/25, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JGF	**Kuroka**	**14.08**	**341**		**Pn**	**02 49 57.5**	**-3.2**
JOW	**Kunigami**	**14.12**	**291**	P	**P**	**02 50 05.2**	**+2.2**
	5.4nm,0.5s,baz=94,slow=16,SNR=5.5						
MJAR	**Matsushiro Arr**	**14.73**	**345**	P	**Pn**	**02 50 08.7**	**0.0**
MJAR	**Matsushiro Arr**	**14.73**	**345**	P	**Pn**	**02 50 05.9**	**-2.8**
	2.0nm,0.6s,baz=159,slow=9.4,SNR=7.1						
JMM	**Marumori**	**15.56**	**353**	P	**Pn**	**02 50 16.5**	**-2.3**
KSRS	**Korea Array**	**19.89**	**322**	P	**Pn**	**02 51 09.2**	**-0.9**
	2.7nm,0.7s,baz=141,slow=9.3,SNR=9.7						
	2.7nm,0.7s						
KSAR	**Wonju Array Be**	**19.90**	**322**	P	**P**	**02 51 02.8**	**-3.3**
KS19	**Wonju Array Si**	**19.95**	**322**	P	**P**	**02 51 03.1**	**-3.5**
H11S3	**WAKE ISLAND Hy**	**22.51**	**96**	T	T	03 14 24.3	
	baz=283,slow=74,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**22.52**	**96**	T	T	03 14 48.1	
	baz=283,slow=74,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**22.53**	**96**	T	T	03 14 27.0	
	baz=283,slow=74,SNR=6.7						
USRK	**Ussuriysk Ar.**	**23.60**	**340**	P	**P**	**02 51 44.4**	**+2.0**
	3.1nm,0.7s,baz=165,slow=12,SNR=4.3						
	3.1nm,0.7s						
COEN	**Coen**	**36.10**	**180**	P	**P**	**02 53 31.7**	**-1.1**
COEN				IAmb	IAmb	02 53 41.0	
	comp=Z,17nm,1.3s						
MTN	**Manton Dam**	**36.88**	**200**	P	**P**	**02 53 38.8**	**-0.5**
SONM	**Songino Array**	**38.72**	**320**	P	**P**	**02 53 56.6**	**+2.0**
	comp=Z,0.7nm,0.5s,baz=141,slow=7.6,SNR=4.1						
	comp=Z,0.7nm,0.5s						
KNRA	**Kununurra**	**40.31**	**202**	P	**P**	**02 54 08.3**	**+0.5**
KNRA				IAmb	IAmb	02 54 20.5	
	comp=Z,22nm,1.3s						
WB0	**Warramunga Arr**	**42.72**	**192**	P	**P**	**02 54 27.0**	**-0.4**
WB0				IAmb	IAmb	02 54 50.9	
	comp=Z,13nm,1.4s						
WR8	**Warramunga Arr**	**42.88**	**192**	P	**P**	**02 54 28.8**	**+0.1**
WR8				IAmb	IAmb	02 55 07.2	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**42.90**	**192**	P	**P**	**02 54 27.9**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=16,slow=9.2,SNR=15						
WRA				PcP	**PcP**	**02 56 16.0**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=2.9,slow=3.1,SNR=7.0						
	comp=Z,1.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**43.66**	**204**	P	**P**	**02 54 34.3**	**-0.6**
	comp=Z,5.0nm,1.2s,baz=15,slow=6.5,SNR=6.9						
	comp=Z,5.0nm,1.2s						
KULM	**Kulim**	**44.30**	**254**	P	**P**	**02 54 37.9**	**-2.2**
ASAR	**Alice Springs**	**46.61**	**192**	P	**P**	**02 54 57.6**	**-0.5**
ASAR	**Alice Springs**	**46.61**	**192**	P	**P**	**02 54 57.0**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=13,slow=9.0,SNR=8.2						
ASAR				PcP	**PcP**	**02 56 29.4**	**+0.7**
	comp=Z,0.9nm,1.1s,baz=22,slow=3.0,SNR=4.9						
	comp=Z,0.3nm,0.4s						
NIKH	**Nikolski High**	**47.55**	**38**	P	**P**	**02 55 06.2**	**+1.2**
NIKH				IAmb	IAmb	02 55 13.3	
	comp=Z,26nm,1.0s						
ZALV	**Zalesovo Beam**	**53.59**	**321**	P	**P**	**02 55 51.0**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=110,slow=9.0,SNR=4.0						
	comp=Z,1.3nm,0.5s						
MKAR	**Makanchi Array**	**54.13**	**312**	P	**P**	**02 55 56.7**	**+2.5**
	comp=Z,0.3nm,0.4s,baz=81,slow=8.9,SNR=5.5						
	comp=Z,0.3nm,0.4s						
FORT	**Forrest**	**54.76**	**196**	P	**P**	**02 56 00.2**	**+1.5**
FORT				IAmb	IAmb	02 56 40.8	
	comp=Z,14nm,1.4s						
M16K	**Timber Creek**	**55.31**	**30**	P	**P**	**02 56 02.9**	**+0.6**
M16K				IAmb	IAmb	02 56 47.1	
	comp=Z,8.5nm,1.4s						
J17K	**VABM Dome**	**55.99**	**27**	P	**P**	**02 56 06.9**	**-0.3**
H18K	**Honhosa River**	**56.87**	**26**	P	**P**	**02 56 13.4**	**+0.1**
H18K				IAmb	IAmb	02 56 28.9	
	comp=Z,7.9nm,1.4s						
KURBB	**Kurchatov Arra**	**56.93**	**317**	P	**P**	**02 56 15.9**	**+1.9**
	comp=Z,2.2nm,0.2s,baz=93,slow=7.4,SNR=5.6						
	comp=Z,2.2nm,0.2s						
G18K	**Tagagawik**	**57.00**	**25**	P	**P**	**02 56 14.7**	**+0.4**
J19K	**Poorman**	**57.64**	**27**	P	**P**	**02 56 18.9**	**+0.2**
H19K	**Roundabout Mou**	**57.75**	**25**	P	**P**	**02 56 20.2**	**+0.7**
ILSW	**Iliamna Southw**	**57.84**	**32**	P	**P**	**02 56 20.7**	**+0.3**
ILAR	**Eielson Array**	**61.52**	**27**	P	**P**	**02 56 43.8**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=255,slow=5.5,SNR=6.6						
	comp=Z,0.4nm,0.6s						
BVAR	**Borovoye Array**	**62.06**	**319**	P	**P**	**02 56 51.0**	**+1.9**
	comp=Z,1.1nm,0.5s,baz=81,slow=9.2,SNR=5.0						
	comp=Z,1.1nm,0.5s						
N30M	**Aishikik Lake**	**65.80**	**31**	P	**P**	**02 57 10.8**	**-2.5**
N30M				IAmb	IAmb	02 57 14.1	
	comp=Z,3.7nm,0.8s						
YKA	**Yellowknife Ar**	**75.94**	**28**	P	**P**	**02 58 14.1**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=300,slow=11,SNR=11						
	comp=Z,0.8nm,0.7s						
ARCES	**ARCESS Array B**	**78.24**	**341**	P	**P**	**02 58 27.2**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=60,slow=7.2,SNR=7.9						
	comp=Z,1.4nm,0.6s						
FINES	**FINESS Array B**	**82.51**	**334**	P	**P**	**02 58 50.1**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=60,slow=4.9,SNR=5.9						
	comp=Z,0.4nm,0.3s						
NVAR	**Mina Array Bea**	**82.85**	**51**	P	**P**	**02 58 52.9**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=268,slow=6.1,SNR=8.6						
	comp=Z,1.2nm,0.8s						
KNB	**Kanab**	**87.39**	**51**	P	**P**	**02 59 14.4**	**-0.5**
KNB				IAmb	IAmb	02 59 16.9	
	comp=Z,3.0nm,0.8s						
HFS	**Hagfors**	**88.05**	**337**	P	**P**	**02 59 16.5**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=134,slow=4.3,SNR=4.1						
	comp=Z,1.4nm,0.9s						
PLCA	**Paso Flores**	**146.31**	**131**	PKPbc	**PKPbc**	**03 06 06.9**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=232,slow=5.4,SNR=6.4						

*NAO **25** 02:52:29.0, 39.21N×24.42E, h33km, mb3.1*
*IDC **25** 02:52:29.7±1.7, 39.25N×19.95E, h0km, mb3.4/7, mbtmp3.5/13, ML3.2/4, MS2.9/5, Error ellipse: s-maj=27.8km s-min=16.2km az=35.0*
*ATH **25** 02:52:32.5, 39.48N×20.20E, h6km±1km, ML3.5/20, Manual Solution by M.Kolligri First location: 2019/07/25 02:53:34, This location: 2019/07/25 03:03:29 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **25** 02:52:33.9, 39.5N±0.7×2.0E±˚, h0km±1km, M3.3/21, MLh3.3/21*
*TIR **25** 02:52:33.3, 39.43N×20.30E, h8km±1km, ML3.7/10*
*AFAD **25** 02:52:34.0, 39.44N×20.32E, h19km, ML3.0*
*PDG **25** 02:52:35.7±0.5, 39.40N×20.39E, h10km±1km, ML3.4/6, Error ellipse: s-maj=0.9km s-min=1.4km az=0.0*
ISC 25 02:52:33.2±0.8, 39.44N±0.01×20.30E±0.02, h6km±5km, n126, σ2$07/166, mb3.2/7, MS3.5/3, 27C-12D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.09**	**15**	⇓Pg	**Pg**	**02 52 35.4**	**+0.2**
IGT				Sg	**Sg**	**02 52 36.4**	**-0.3**
IGT				AML	AML	02 52 37.0	

114nm,0.2s
IGT Igoumenitsa 0.09 15 P **Pg** 02 52 35.5 +0.2
IGT S **Sg** 02 52 36.9 +0.2
IGT Igoumenitsa 0.09 15 P **Pg** 02 52 35.3 0.0
IGT S **Sg** 02 52 36.6 -0.1
PRGA Parga 0.17 154 P **Pg** 02 52 37.5 +0.8
PRGA S **Sg** 02 52 40.9 +1.8
LFKM Lefkimmi 0.19 271 P **Pg** 02 52 38.9 +2.0
KEK Kerkira 0.47 305 ⇑Pg **Pn** 02 52 46.6 +0.1
KEK Sg **Sb** 02 52 55.0 +3.9
KEK AML AML 02 53 03.5
37µm,0.5s
JAN Janina 0.47 63 P **Pg** 02 52 42.2 -0.1
JAN S **Sg** 02 52 49.2 +0.6
JAN Janina 0.47 63 P **Pg** 02 52 42.1 -0.2
JAN S **Sg** 02 52 49.3 +0.8
SRN Sarande 0.49 332 ⇓Pg **Pb** 02 52 43.8 -0.5
SRN ⇑P **Pb** 02 52 43.8 -0.5
SRN Sn **Sb** 02 52 52.3 +0.5
SRN Sg **Sg** 02 52 52.9 +3.7
ARTB Arta 0.60 118 P **Pg** 02 52 45.2 +0.6
ARTB S **Sb** 02 52 54.5 -0.2
PRMD Pramanda 0.62 82 P **Pg** 02 52 45.5 +0.3
PRMD S **Sb** 02 52 55.4 -0.1
TSLK Tsoukalades, L 0.68 156 P **Pb** 02 52 47.0 -0.4
TSLK Tsoukalades, L 0.68 156 P **Pb** 02 52 46.9 -0.4
TSLK S **Sb** 02 52 57.8 +0.8
LKD2 Lefkada island 0.71 157 ⇑Pg **Pb** 02 52 47.6 -0.3
LKD2 Sg **Sb** 02 52 59.1 +1.2
LKD2 Lefkada island 0.71 157 P **Pg** 02 52 47.4 +0.6
LKD2 Lefkada island 0.71 157 P **Pg** 02 52 47.5 +0.6
LKD2 S **Sb** 02 52 58.8 +0.9
MSVA Metsovo 0.75 64 P **Pg** 02 52 48.1 +0.4
MSVA S **Sb** 02 52 59.0 -0.4
TETR Tetrakomo, Epi 0.76 97 P **Pg** 02 52 47.5 -0.2
TETR Tetrakomo, Epi 0.76 97 P **Pg** 02 52 47.2 -0.5
TETR S **Sb** 02 52 59.5 +0.1
DRAG Dragano-Lefkad 0.79 164 P **Pb** 02 52 49.8 +0.5
NYDR Nydri-Lefkada 0.79 157 P **Pg** 02 52 48.7 +0.4
NYDR S **Sb** 02 53 00.9 +0.6
NYDR Nydri-Lefkada 0.79 157 P **Pg** 02 52 48.5 +0.2
EVGI Lefkada island 0.87 161 P **Pb** 02 52 50.6 0.0
EVGI Lefkada island 0.87 161 P **Pg** 02 52 49.7 -0.1
AMPL Ampelaki 0.88 126 P **Pb** 02 52 50.5 -0.3
FSK Fiskardo 1.00 168 P **Pg** 02 52 52.0 -0.4
FSK S **Sn** 02 53 08.0 -0.2
AST1 Astakos 1.09 145 P **Pn** 02 52 54.8 -0.1
NEST Nestorio 1.13 30 ⇑Pg **Pg** 02 52 54.4 -0.4
NEST Sg **Sn** 02 53 13.4 +2.0
NEST AML AML 02 53 24.2
2.0nm,0.5s
NEST Nestorio 1.13 30 P **Pg** 02 52 54.5 -0.3
NEST Nestorio 1.13 30 P **Pg** 02 52 54.5 -0.3
VLO Vlora 1.20 329 ⇑Pn **Pn** 02 52 58.8 +2.3
VLO Sn **Sn** 02 53 16.8 +3.9
VLO AML AML 02 53 39.4
4.5nm,0.6s
DMLN Damoulianata-K 1.20 177 P **Pn** 02 52 56.7 +0.2
DMLN S **Sn** 02 53 15.4 +2.3
DMLN Damoulianata-K 1.20 177 P **Pn** 02 52 56.7 +0.2
KBN Korca 1.24 17 ⇑Pn **Pn** 02 52 57.9 +0.8
KBN Sn **Sn** 02 53 18.3 +4.2
PVO Paravola 1.26 131 P **Pn** 02 52 57.3 +0.1
PVO Paravola 1.26 131 P **Pn** 02 52 57.6 +0.4
EVR Evrytania 1.28 114 P **Pb** 02 52 58.5 +0.7
VLS Valsamata 1.28 170 P **Pn** 02 52 57.5 -0.1
VLS S **Sn** 02 53 17.1 +2.0
THL Klokotos Trika 1.33 84 P **Pn** 02 52 58.0 -0.2
THL Klokotos Trika 1.33 84 P **Pn** 02 52 58.3 +0.1
PSDA Pessada-Kefalo 1.34 170 P **Pg** 02 52 59.0 +0.1
RTZL Ratzakli, Kefa 1.41 165 P **Pb** 02 52 59.9 0.0
RTZL S **Sg** 02 53 20.4 +1.8
KZN Kozani 1.42 52 P **Pn** 02 52 59.8 +0.2
KZN Kozani 1.42 52 P **Pb** 02 52 59.9 -0.2
MAKR Makrakomi, Fth 1.48 106 P **Pb** 02 53 01.0 -0.1
MAKR Makrakomi, Fth 1.48 106 P **Pb** 02 53 01.0 -0.1
AXS Araxos 1.50 146 P **Pb** 02 53 01.2 -0.2
TYRN Tyrnavos 1.52 79 P **Pn** 02 53 00.8 0.0
TYRN Tyrnavos 1.52 79 P **Pn** 02 53 01.1 +0.3
ANX Ano Chora 1.52 123 P **Pb** 02 53 01.9 +0.1
ANX Ano Chora 1.52 123 P **Pg** 02 53 02.2 -0.1
YRMI Loutra Irminis 1.57 148 P **Pb** 02 53 02.5 -0.1
FNA Florina 1.57 31 ⇑Pn **Pg** 02 53 03.3 0.0
FNA Sn **Sg** 02 53 27.2 +3.5
FNA Florina 1.57 31 P **Pb** 02 53 02.3 -0.4
FNA Florina 1.57 31 P **Pg** 02 53 04.0 +0.7
FNA S **Sg** 02 53 25.8 +2.1
FNA *i* IAML 02 53 33.0
comp=E,174nm,0.6s
FNA Florina 1.57 31 P **Pb** 02 53 02.8 +0.2
EFP Efpalio 1.61 129 P **Pg** 02 53 04.4 +0.3
AGG Agios Georgios 1.63 104 P **Pb** 02 53 03.1 -0.6
AGG Agios Georgios 1.63 104 P **Pg** 02 53 04.0 -0.4
AGG S **Sg** 02 53 28.5 +3.0
AGG *i* IAML 02 53 36.0
comp=N,175nm,0.5s
AGG Agios Georgios 1.63 104 P **Pb** 02 53 03.3 -0.4
RLS Riolos of Patr 1.66 146 P **Pb** 02 53 03.6 -0.4
OHR Ohrid 1.71 13 *i* Pn **Pg** 02 53 06.9 +1.0
OHR *i* Sn **Sg** 02 53 34.9 +6.8
LTHK Lithakia 1.78 166 P **Pb** 02 53 05.7 -0.4
TIR Tirane 1.93 350 ⇑Pn **Pg** 02 53 12.8 +2.6
TIR Sn **Sg** 02 53 37.3 +2.1
TIR AML AML 02 53 55.1
0.6nm,1.1s
TIR Tirane 1.93 350 P **Pg** 02 53 13.4 +3.2
PHP Peshkopia 2.24 3 ⇑Pn **Pb** 02 53 14.2 +0.1
PHP Sn **Sg** 02 53 44.8 -0.4
PHP AML AML 02 54 07.4
1.0nm,1.6s
VAY Valandovo 2.55 42 *i* Pn **Pb** 02 53 18.9 -0.5
ITM Ithomi 2.60 150 ⇑Pn **Pb** 02 53 18.8 -1.3
ITM Sn **Sb** 02 53 53.6 +1.4
ITM AML AML 02 54 11.3
2µm,1.6s
PUK Puka 2.62 353 ⇑Pn **Pb** 02 53 19.5 -1.0
PUK Sn **Sg** 02 53 55.4 -1.8
PUK AML AML 02 54 08.5
0.5nm,0.5s
ULC Ulcinj 2.64 343 *i* Pn **Pb** 02 53 19.6 -1.3
TIP Timpagrande 2.76 266 ⇑P **Pn** 02 53 19.5 +1.5
TIP ⇓S **Sb** 02 53 56.0 -1.1
NOCI Noci 2.82 299 ⇑Pn **Pn** 02 53 21.0 +2.2
NOCI Sn **Sn** 02 53 54.3 +1.1
NOCI AML AML 02 54 20.4
0.9nm,0.4s
DRME Dracevica, Mon 2.87 343 ⇓*i* Pn **Pn** 02 53 20.8 +1.4
DRME *i* Sn **Sb** 02 53 58.9 -1.2
BCI Bajram Curri 2.93 357 ⇓Pn **Pb** 02 53 24.7 -1.1
BCI Sn **Sb** 02 54 03.1 +1.4
BCI AML AML 02 54 23.6
0.7nm,1.2s
MATE Matera 3.01 295 ⇑P **Pb** 02 53 26.3 -0.8
MATE ⇑S **Sg** 02 54 09.3 -0.6
BUM Brajici-Budva 3.05 340 ⇓*i* Pn **Pb** 02 53 24.8 +2.8
PDG Podgorica 3.09 345 ⇓*i* Pn **Pb** 02 53 26.4 -2.1
PDG *i* Sn **Sb** 02 54 05.6 -0.8
PDG Podgorica 3.09 345 ⇑P **Pb** 02 53 28.6 +0.1
CEME Cevo 3.27 342 ⇑*i* Pn **Pn** 02 53 26.9 +1.9
CEME *i* Sn **Sb** 02 54 10.1 -1.7
IVA Berane 3.44 355 ⇓*i* Pn **Pb** 02 53 32.2 -2.3
IVA *i* Sn **Sb** 02 54 13.5 -3.1
KOME Kolasin 3.46 350 ⇑*i* Pn **Pb** 02 53 32.0 -2.8
BRY Bratogost 3.70 340 *e*Pn **Pn** 02 53 35.1 +4.1
BRY *e*Sn **Sn** 02 54 19.7 +4.7
PLE Pljevlja 3.94 350 ⇑*i* Pn **Pb** 02 53 39.1 -4.0
PLE *e*Sn **Sn** 02 54 25.2 +4.3
BOVS Bovan 4.32 14 ⇑P **Pb** 02 53 45.5 -3.9
ALN Alexandroupoli 4.63 70 P **Pn** 02 53 40.5 -3.2
BAYC CANAKKALE_Bayr 4.83 84 P **Pn** 02 53 49.2 +2.7
MDVR Moldovita 5.44 11 ⇑P **Pn** 02 54 01.1 +6.4
ELND Elena 5.46 49 ⇑P **Pn** 02 53 57.4 +2.4
IDI Anoyia 5.53 137 Pn **Pn** 02 53 55.9 -0.1
13nm,1.1s,baz=222,slow=6.9,SNR=6.7
IDI Sn **Sn** 02 54 58.4 -1.5
0.8nm,0.3s,baz=296,slow=17,SNR=1.8
HERR Herculane 5.66 15 ⇑P Pn 02 54 03.7 +6.0
BANR Banloc 5.97 6 ⇑P Pn 02 54 08.6 +6.7
GZR Gura Zlata 6.22 16 ⇑P Pn 02 54 11.4 +5.9
BZS Buzias 6.25 9 ⇓P Pn 02 54 12.5 +6.7
VOIR 6.94 29 ⇓P **Pn** 02 54 19.9 +4.4

CRES Cresnjevec Ost 7.31 332 *i* Pn **Pn** 02 54 20.5 +0.1
GBRS Gornja Briga 7.31 328 *i* Pn **Pn** 02 54 21.2 +0.7
MLR Muntele Rosu 7.34 33 Pn **Pn** 02 54 25.4 +4.4
0.3nm,0.3s,baz=231,slow=10,SNR=8.3
MLR LR LR 02 58 01.5
comp=Z,46nm,19.4s,baz=252,slow=43
3.9nm,0.7s
MLR Muntele Rosu 7.34 33 ⇓P **Pn** 02 54 25.4 +4.5
VNDS Vrh nad Dolski 7.82 330 *e*Pn **Pn** 02 54 27.5 0.0
PLOR Plostina 7.93 34 ⇓P **Pn** 02 54 33.6 +4.7
VRI Vrincioaia 7.97 34 ⇑P **Pn** 02 54 33.8 +4.2
SOKA Soboth 8.19 334 *i* Pn **Pn** 02 54 32.5 -0.2
1.0nm,0.6s
SOKA *e*Sn **Sn** 02 56 01.8 -3.7
0.4nm,0.3s
OBKA Obir 8.22 331 *i* Pn **Pn** 02 54 33.5 +0.5
0.8nm,0.4s
OBKA *e*Sn **Sn** 02 56 06.2 0.0
3.7nm,0.5s
VYHS Vyhne 9.11 354 *e*PN **Pn** 02 54 47.4 +2.3
VYHS *e*SN Sn 02 56 10.0 -18
MODS Modra-Piesok 9.19 347 *e*PN **Pn** 02 54 44.4 -1.8
MODS *e*SN Sn 02 56 17.5 -12
BIOA Bad Ischl, Aus 9.55 332 *e*Pn **Pn** 02 54 56.0 +4.8
1.4nm,0.3s
LESA Schwarzleotal 9.71 328 *e*Pn **Pn** 02 54 57.4 +4.0
1.4nm,0.4s
WTTA Wattenberg 10.04 324 *e*Pn **Pn** 02 55 02.4 +4.4
0.9nm,0.3s
WTTA *e*Sn **Sn** 02 56 58.5 +7.5
5.4nm,0.7s
WATA Walderalm 10.12 324 *i* Pn Pn 02 55 04.6 +5.5
0.7nm,0.3s
SQTA Sankt Quirin 10.21 323 *e*Pn **Pn** 02 55 03.6 +3.4
0.9nm,0.2s
VRAC Vranov 10.21 346 Pn **Pn** 02 55 01.3 +1.1
1.6nm,0.3s,baz=147,slow=18,SNR=2.6
MOTA Moosalm 10.35 323 *e*Pn **Pn** 02 55 03.9 +1.7
1.0nm,0.5s
MOTA *e*Sn **Sn** 02 57 00.2 +1.7
4.1nm,0.7s
GERES GERESS Array B 10.52 335 Pn **Pn** 02 55 02.9 -1.6
baz=170,slow=12,SNR=3.9
0.3nm,0.4s
DAVOX Davos/Dischmat 10.57 317 Pn **Pn** 02 55 03.7 -1.6
0.1nm,0.3s,baz=154,slow=15,SNR=1.5
DAVOX Sn **Sn** 02 57 00.2 -3.7
0.1nm,0.3s,baz=147,slow=20,SNR=1.4
0.3nm,0.3s
KBZ Khabaz 17.42 68 LR LR 03 04 49.7
comp=Z,23nm,19.8s,baz=16,slow=42
ESDC Sonseca Array 18.70 278 P **P** 02 56 47.9 -4.4
0.1nm,0.3s,baz=88,slow=11,SNR=5.9
0.1nm,0.6s
HFS Hagfors 21.13 351 P **P** 02 57 16.8 -1.6
0.7nm,0.5s,baz=160,slow=9.1,SNR=8.6
0.7nm,0.5s
EKA Eskdalemuir Ar 22.31 323 P **P** 02 57 28.1 -3.0
0.4nm,0.6s,baz=120,slow=12,SNR=3.6
0.4nm,0.6s
FINES FINESS Array B 22.31 7 P **P** 02 57 29.9 -1.2
0.5nm,0.6s,baz=172,slow=15,SNR=3.9
0.5nm,0.6s
NB2 NORSAR Subarra 22.35 348 P **P** 02 57 33.2 +1.7
comp=Z,0.3nm,0.5s,baz=153,slow=10
NOA NORSAR Array B 22.35 348 P **P** 02 57 29.9 -1.6
comp=Z,0.7nm,0.9s,baz=166,slow=10,SNR=6.0
NOA LR LR 03 07 22.3
comp=Z,10nm,20.2s,baz=275,slow=40
comp=Z,0.7nm,0.9s
BBTS Babate 40.63 243 LR LR 03 19 27.2
comp=Z,62nm,19.4s,baz=158,slow=40
KURBB Kurchatov Arra 41.63 55 P **P** **03 00 21.8 0.0**
comp=Z,0.5nm,0.3s,baz=278,slow=9.3,SNR=2.4
comp=Z,0.5nm,0.3s
MKAR Makanchi Array 44.80 59 P **P** **03 00 46.7 -0.9**
comp=Z,1.1nm,0.7s,baz=281,slow=5.9,SNR=8.4
comp=Z,1.1nm,0.7s
ZALV Zalesovo Beam 44.98 49 P **P** **03 00 48.6 -0.4**
comp=Z,0.6nm,0.3s,baz=269,slow=5.8,SNR=2.8
comp=Z,0.6nm,0.3s
RES Resolute Bay 58.51 344 LR LR 03 28 21.4
comp=Z,33nm,18.6s,baz=10.0,slow=37

*NEIC **25** 03:00:47.1±1.1, 19.˚33N±0.˚01×155.˚142W±0.˚006, h5km±1km, Error ellipse: s-maj=2.5km s-min=2.1km az=332.0*
HVO 25 03:00:46.7±1.1, 19.˚34N±0.˚01×155.˚145W±0.˚008, h6km±2km, ML3.0/37, ML3.2/46(NEIC), Error ellipse: s-maj=1.7km s-min=1.0km az=160.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHH	**Kane Nui o Ham**	**0.04**	**330**		Pg	03 00 48.7	+0.5
STCH	**Steam Cracks**	**0.05**	**23**		Pg	03 00 48.6	+0.4
STCH					Sg	03 00 50.1	+0.8
STCH	**Steam Cracks**	**0.05**	**23**	IAML		03 00 50.3	
	comp=N,16µm,0.3s						
STCH				IAML		03 00 50.5	
	comp=E,21µm,0.4s						
JCUZ	**Jacuzzi**	**0.06**	**43**		Pg	03 00 48.8	+0.4
JCUZ					Sg	03 00 50.3	+0.7
NPOC	**North of Pu'u**	**0.06**	**33**		Pg	03 00 48.8	+0.4
NPOC					Sg	03 00 50.5	+0.9
PUH	**Pauahi**	**0.07**	**297**		Pg	03 00 49.0	+0.4
PUH					Sg	03 00 50.8	+0.8
PUH	**Pauahi**	**0.07**	**297**	IAML		03 00 51.1	
	comp=E,13µm,0.5s						
PUH				IAML		03 00 51.1	
	comp=N,9µm,0.5s						
KKO	**Keanakako'i**	**0.13**	**297**		Pg	03 00 49.9	+0.4
KKO					Sg	03 00 52.1	+0.8
BYL	**Byron's Ledge**	**0.13**	**303**		Pg	03 00 49.9	+0.4
BYL					Sg	03 00 52.4	+1.0
BYL	**Byron's Ledge**	**0.13**	**303**	IAML		03 00 52.8	
	comp=N,11µm,0.6s						
BYL				IAML		03 00 52.8	
	comp=E,12µm,0.6s						
RIM	**Rim**	**0.13**	**294**		Pg	03 00 50.0	+0.4
RIM					Sg	03 00 52.4	+0.9
HATHI	**Halema'uma'u T**	**0.14**	**307**		Pg	03 00 50.0	+0.4
HATHI					Sg	03 00 52.3	+0.7
HATHI	**Halema'uma'u T**	**0.14**	**307**	IAML		03 00 52.8	
	comp=N,7µm,0.4s						
HATHI				IAML		03 00 52.9	
	comp=E,5µm,0.9s						
SBLHI	**Steaming Bluff**	**0.14**	**307**		Pg	03 00 50.0	+0.3
SBLHI					Sg	03 00 52.8	+1.0
SDHHI	**Sand Hill**	**0.15**	**289**		Pg	03 00 50.2	+0.4
SDHHI					Sg	03 00 52.8	+0.8
UWB	**Uwekahuna Bluf**	**0.15**	**304**		Pg	03 00 50.1	+0.3
UWB					Sg	03 00 52.7	+0.7
OBL	**Observatory Le**	**0.15**	**300**		Pg	03 00 50.3	+0.4
OBL					Sg	03 00 53.2	+1.2
HLP	**Hilina Pali**	**0.16**	**254**		Pg	03 00 50.6	+0.6
HLP					Sg	03 00 53.5	+1.3
HLP	**Hilina Pali**	**0.16**	**254**	IAML		03 00 54.5	
	comp=E,4µm,0.3s						
HLP				IAML		03 00 54.9	
	comp=N,4µm,0.3s						
WRMHI	**West Rim**	**0.16**	**294**		Pg	03 00 50.3	+0.3
WRMHI					Sg	03 00 53.1	+0.8
UWE	**Uwekahuna**	**0.16**	**300**		Pg	03 00 50.4	+0.4
UWE					Sg	03 00 53.3	+1.0
UWE	**Uwekahuna**	**0.16**	**300**	IAML		03 00 53.7	
	comp=N,4µm,0.8s						
UWE				IAML		03 00 54.2	
	comp=E,4µm,0.8s						
JOKA	**Jonika Flow**	**0.16**	**55**		Pg	03 00 50.1	+0.1
JOKA					Sg	03 00 52.8	+0.5
JOKA	**Jonika Flow**	**0.16**	**55**	IAML		03 00 53.6	
	comp=E,2µm,0.5s						
JOKA				IAML		03 00 55.0	
	comp=N,4µm,0.6s						
HTC	**Hot Caves**	**0.26**	**247**		Pg	03 00 52.3	+0.5
MLH	**Mauna Loa**	**0.27**	**304**		Pg	03 00 52.4	+0.2
MLH					Sg	03 00 56.4	+0.5
MLH	**Mauna Loa**	**0.27**	**304**	IAML		03 01 01.7	
	comp=E,2µm,0.3s						
MLH				IAML		03 01 01.8	
	comp=N,2µm,0.4s						
AIN	**Ainahou**	**0.30**	**276**		Pg	03 00 52.9	+0.3
AIN	**Ainahou**	**0.30**	**276**	IAML		03 00 59.3	
	comp=E,14µm,0.3s						
AIN				IAML		03 00 59.7	
	comp=N,14µm,0.4s						
HMH	**Humu'ula Sheep**	**0.41**	**309**		Pg	03 00 54.7	-0.1
HMH					Sg	03 01 01.2	+0.9
HMH	**Humu'ula Sheep**	**0.41**	**309**	IAML		03 01 02.4	
	comp=N,10µm,0.3s						
HMH				IAML		03 01 02.4	
	comp=E,8µm,0.3s						
MWH	**Mokuaweoweo**	**0.45**	**289**		Pg	03 00 55.4	-0.1
MWH					Sg	03 01 02.0	+0.5
MWH	**Mokuaweoweo**	**0.45**	**289**	IAML		03 01 04.1	
	comp=E,5µm,0.8s						
MWH				IAML		03 01 05.2	
	comp=N,3µm,0.6s						
KHU	**Kahuku**	**0.45**	**258**		Pg	03 00 55.3	-0.2
KHU					Sg	03 01 02.0	+0.5
HPO	**Honuapo**	**0.46**	**237**		Pg	03 00 55.1	-0.5
HPO					Sg	03 01 02.0	+0.4
ALEP	**Alea Permanent**	**0.51**	**293**		Pg	03 00 56.2	-0.4
ALEP					Sg	03 01 03.4	+0.1
POHA	**Pohakuloa**	**0.55**	**319**		Pg	03 00 56.9	-0.5
POHA					Sg	03 01 04.6	-0.1
POHA	**Pohakuloa**	**0.55**	**319**	IAML		03 01 05.7	
	comp=N,3µm,0.6s						
POHA				IAML		03 01 06.1	
	comp=N,4µm,0.6s						
HUH	**Hualalai**	**0.74**	**298**		Pg	03 00 59.8	-1.1
HUH					Sg	03 01 09.4	-1.1
CPH	**Captain Cook**	**0.74**	**282**		Pg	03 00 59.2	-1.9
KHLU	**Kahalu`u**	**0.75**	**290**		Pg	03 00 59.5	-1.6
KHLU					Sg	03 01 09.8	-1.1
KHLU	**Kahalu`u**	**0.75**	**290**	IAML		03 01 12.9	
	comp=E,1µm,0.4s						
KHLU				IAML		03 01 23.6	
	comp=N,832nm,0.4s						
HPAH	**Hawaii Prepara**	**0.86**	**323**		Pg	03 01 01.1	-2.2
HPAH	**Hawaii Prepara**	**0.86**	**323**	IAML		03 01 14.8	
	comp=E,781nm,0.4s						
HPAH				IAML		03 01 21.8	
	comp=N,613nm,0.6s						
MHA	**Mahukona**	**1.10**	**320**		Pg	03 01 04.6	-3.3
HLK	**Haleakala**	**1.75**	**324**		Pn	03 01 13.5	-4.4
HLK					Sn	03 01 34.1	-6.5
WMR	**Waimanalo Ridg**	**3.09**	**310**		Pn	03 01 32.1	-3.9
KIP	**Kipapa**	**3.40**	**308**		Pn	03 01 35.6	-4.7
KIP					Sn	03 02 13.7	-7.2
KIP	**Kipapa**	**3.40**	**308**	IAML		03 02 19.5	
	comp=N,71nm,3.0s						
KIP				IAML		03 02 32.0	
	comp=N,76nm,2.9s						

*NEIC **25** 03:03:16.3±0.9, 35.˚840N±0.˚008×98.˚075W±0.˚007, h5km±1km, mb_Lg2.1/6, ML2.1/51, ML2.0/23, Error ellipse: s-maj=2.9km s-min=1.6km az=247.0*
NEIC 25 03:03:16.5±1.2, 35.˚840N±0.˚010×98.˚08W±0.˚01, h7km±5km, Error ellipse: s-maj=1.5km s-min=1.4km az=127.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.42**	**115**		Pg	03 03 24.9	+0.2
BCOK					Sg	03 03 31.1	+0.7
OK029	**Liberty Lake**	**0.51**	**95**		Pg	03 03 26.4	0.0
OK029					Sg	03 03 33.8	+0.8
CSTR	**Hydro, Custer**	**0.53**	**249**		Pg	03 03 26.9	+0.2
CSTR					Sg	03 03 34.5	+0.8
CROK	**Carrier**	**0.67**	**7**		Pg	03 03 29.3	0.0
CROK					Sg	03 03 38.9	+0.9
CROK				IAML		03 03 46.6	
	comp=N,78nm,0.2s						
CROK				IAML		03 03 52.3	
	comp=E,78nm,0.2s						
OK038	**West end E0370**	**0.83**	**320**		Pg	03 03 32.5	0.0
OK038					Sg	03 03 43.7	+0.4
GC02	**Grant County #**	**1.02**	**10**		Pg	03 03 35.6	-0.6
GC02					Sg	03 03 49.8	+0.3
OK052	**Battle Ridge R**	**1.05**	**81**		Pg	03 03 36.0	-0.6
OK052					Sb	03 03 51.0	0.0
OK052				IAML		03 03 53.9	
	comp=E,46nm,0.3s						
OK052				IAML		03 03 56.7	
	comp=E,57nm,0.2s						
KAN14	**Manchester OK**	**1.12**	**5**		Pg	03 03 37.0	-1.0
KAN14				IAML		03 03 57.4	
	comp=N,40nm,0.1s						
KAN14				IAML		03 04 01.2	
	comp=E,51nm,0.1s						
BLOK	**Blackwell**	**1.16**	**37**		Pg	03 03 38.2	-0.4
BLOK					Sb	03 03 53.8	-0.1
QUOK	**Quay**	**1.16**	**73**		Pg	03 03 37.9	-0.8
QUOK					Sb	03 03 54.0	-0.2
OK051	**E0350 and S346**	**1.21**	**56**		Pg	03 03 39.0	-0.7
OK051					Sg	03 03 55.1	-0.2
KAN17	**Caldwell West**	**1.23**	**12**		Pb	03 03 39.1	-0.9
KAN17					Sg	03 03 55.7	-0.3
WMOK	**Wichita Mounta**	**1.24**	**208**		Pb	03 03 39.0	-1.3
WMOK					Sg	03 03 55.4	-0.9
X34A	**Smith Ranch, M**	**1.25**	**171**		Pn	03 03 40.0	-0.4
X34A				IAML		03 03 59.0	
	comp=E,41nm,0.4s						
X34A				IAML		03 03 59.2	
	comp=N,31nm,0.3s						
KAN13	**South Haven SW**	**1.27**	**22**		Pn	03 03 39.9	-0.8
KAN13				Sg	Sb	03 03 56.6	-0.6
DEOK	**Depew**	**1.29**	**89**		Pn	03 03 40.2	-0.7
DEOK				IAML		03 04 02.5	
	comp=N,35nm,0.2s						
DEOK				IAML		03 04 05.5	
	comp=E,35nm,0.1s						
KAN01	**Argonia South**	**1.34**	**11**		Pn	03 03 40.9	-0.7
KAN09	**Caldwell North**	**1.35**	**16**		Pn	03 03 41.1	-0.6
KAN08	**Anthony NE Sta**	**1.39**	**4**		Pn	03 03 42.3	0.0
T35A	**Sooner Cattle**	**1.66**	**49**		Pn	03 03 46.5	+0.4
TUL3	**Leonard**	**1.86**	**87**		Pn	03 03 48.9	+0.1
TUL3				IAmb_Lg		03 04 19.2	
	comp=Z,12nm,1.1s						
SMWD	**Samnorwood**	**1.91**	**248**		Pn	03 03 49.9	+0.3
WTFS	**Witchita Falls**	**2.09**	**189**		Pn	03 03 53.3	+1.3
RLO	**Rose Lookout**	**2.50**	**82**		Pn	03 03 57.5	-0.1
U38A	**Gravette**	**3.05**	**78**	Pn	Pn	03 04 05.4	+0.3
AMTX	**Amarillo**	**3.09**	**253**	IAmb_Lg		03 04 54.9	
	comp=Z,4.9nm,0.8s						
HHAR	**Hobbs**	**3.38**	**81**	Pn	Pn	03 04 11.1	+1.3
SN07	**Snyder 07**	**3.59**	**221**	IAmb_Lg		03 05 18.6	
	comp=Z,3.9nm,1.0s						
X40A	**Basin Creek Fa**	**4.50**	**106**	Pn	Pn	03 04 25.5	+0.4
P38A	**Dawn**	**5.22**	**42**	IAmb_Lg		03 06 07.7	
	comp=Z,5.1nm,1.2s						

*IDC **25** 03:39:55.7±3.6, 23.˚72S×179.˚82W, h491km±33km, mb3.4/7, mbtmp4.3/8, Error ellipse: s-maj=32.9km s-min=18.0km az=50.0*
ISC 25 03:39:56.4±1.0, 23.˚80S±0.˚10×179.˚9W±0.˚2, h500km, n42, σ1s58/46, mb3.9/8, 3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.72**	**163**	S	**S**	**03 42 47.8**	**+1.5**
HAZ	**Te Kaha**	**14.06**	**188**	P	**P**	**03 43 00.2**	**+3.7**
HAZ				S	**S**	**03 45 22.6**	**-2.5**
URZ	**Urewera**	**14.64**	**189**	P	**P**	**03 43 03.0**	**+0.4**
	5.0nm,0.4s,baz=183,slow=1.5,SNR=11						
URZ				S	**S**	**03 45 33.3**	**-3.0**
	6.9nm,0.6s,baz=160,slow=22,SNR=6.3						
URZ	**Urewera**	**14.64**	**189**	P	**P**	**03 43 03.9**	**+1.2**
URZ				S	**S**	**03 45 34.5**	**-1.8**
MWZ	**Matawai**	**14.66**	**188**	P	**P**	**03 43 06.2**	**+3.3**
MWZ				S	**S**	**03 45 36.1**	**-0.6**
MUGZ	**Murupara**	**14.91**	**190**	P	**P**	**03 43 08.0**	**+2.5**
MRHZ	**Matea Rd**	**15.32**	**191**	P	**P**	**03 43 12.2**	**+2.5**
BKZ	**Black Stump Fm**	**15.63**	**191**	P	**P**	**03 43 12.4**	**-0.6**
BKZ				S	**S**	**03 45 51.9**	**-3.3**
TMVZ	**Te Maari**	**15.72**	**193**	P	**P**	**03 43 14.7**	**+0.5**
ETVZ	**East Tongariro**	**15.74**	**193**	P	**P**	**03 43 15.4**	**+1.1**
OTVZ	**Oturere**	**15.78**	**193**	P	**P**	**03 43 14.3**	**-0.4**
SNVZ	**South Ngauruho**	**15.80**	**193**	P	**P**	**03 43 15.7**	**+0.7**
TUVZ	**Tukino**	**15.88**	**193**	P	**P**	**03 43 17.2**	**+1.5**
VRZ	**Vera Road**	**15.94**	**195**	P	**P**	**03 43 20.1**	**+3.9**
WNVZ	**Wahianoa**	**15.95**	**193**	P	**P**	**03 43 16.0**	**-0.5**
KRHZ	**K

NNZ	**Nelson**	**18.26**	**196**	P	**P**	03 43 38.7	**-0.3**
THZ	**Tophouse**	**18.90**	**197**	P	**P**	03 43 45.0	**+0.1**
DSZ	**Denniston Nort**	**19.20**	**199**	P	**P**	03 43 48.1	**+0.6**
GVZ	**Greta Valley S**	**20.00**	**195**	P	**P**	03 43 54.8	**0.0**
LTZ	**Lake Taylor**	**20.02**	**197**	P	**P**	03 43 53.9	**-1.2**
FOZ	**Fox Glacier**	**21.44**	**201**	P	**P**	03 44 07.8	**0.0**
JCZ	**Jackson Bay**	**22.26**	**202**	P	**P**	03 44 15.5	**+0.1**
WHZ	**Wether Hill Ro**	**24.14**	**201**	P	**P**	03 44 33.7	**+1.6**
STKA	**Stephens Creek**	**34.86**	**248**	P	**P**	03 46 06.1	**+0.9**
	2.0nm,0.5s,baz=101,slow=10,SNR=4.0						
	2.0nm,0.5s						
ASAR	**Alice Springs**	**42.16**	**260**	P	**P**	03 47 05.2	**+0.5**
	8.2nm,1.0s,baz=96,slow=7.8,SNR=40						
ASAR				ScP	**ScP**	03 51 51.5	**+1.0**
	1.2nm,0.9s,baz=112,slow=3.9,SNR=5.6						
	8.2nm,1.0s						
WRA	**Warramunga Arr**	**42.52**	**266**	P	**P**	03 47 07.5	**-0.1**
	5.1nm,0.5s,baz=100,slow=8.4,SNR=67						
	5.1nm,0.5s						
VNDA	**Vanda**	**54.49**	**185**	P	**P**	03 48 37.0	**+1.1**
	0.8nm,0.7s,baz=19,slow=4.8,SNR=5.8						
	0.8nm,0.7s						
QSPA	**South Pole Qui**	**66.28**	**180**	P	**P**	03 49 55.6	**+1.2**
	2.9nm,0.7s,baz=330,slow=0.6,SNR=16						
	2.9nm,0.7s						
MAW	**Mawson**	**77.88**	**200**	P	**P**	03 51 01.8	**+0.3**
	2.5nm,0.6s,baz=136,slow=7.7,SNR=6.9						
	2.5nm,0.6s						
TROLL	**Troll, Antarti**	**84.43**	**181**	⇓P	**P**	03 51 35.0	**-0.5**
	comp=Z,75nm,0.3s						
SNAA	**Sanae**	**84.77**	**179**	⇓P	**P**	03 51 35.8	**-1.2**
	comp=Z,20nm,0.6s						
SNAA	**Sanae**	**84.77**	**179**	P	**P**	03 51 36.3	**-0.8**
	comp=Z,0.5nm,0.5s,baz=198,slow=13,SNR=10						
	comp=Z,0.5nm,0.5s						
VNA3	**Neumayer Olymp**	**84.97**	**177**	⇓P	**P**	03 51 37.3	**-0.7**
	comp=Z,0.5nm,0.4s						
ARCES	**ARCESS Array B**	**131.81**	**348**	PKP	**PKiKP**	03 58 11.6	**-1.1**
	comp=Z,2.5nm,1.1s,baz=20,slow=3.9,SNR=4.9						
HFS	**Hagfors**	**142.47**	**349**	PKhKP	PKPpre	03 58 27.3	
	comp=Z,1.3nm,0.4s,baz=67,slow=3.9,SNR=27						
AKASG	**Malin Array Be**	**144.95**	**327**	PKP	PKPbc	03 58 35.5	-1.0
	comp=Z,1.0nm,0.5s,baz=45,slow=4.0,SNR=6.8						
BRTR	**Keskin Array B**	**147.61**	**307**	PKPbc	**PKPbc**	03 58 43.6	**-0.9**
	comp=Z,0.5nm,0.8s,baz=126,slow=3.2,SNR=5.2						
MMAI	**Mount Meron Ar**	**147.76**	**295**	PKPbc	**PKiKP**	03 58 45.5	**-1.0**
	comp=Z,1.0nm,0.4s,baz=64,slow=6.6,SNR=6.9						
EKA	**Eskdalemuir Ar**	**148.41**	**4**	PKPbc	**PKPbc**	03 58 44.9	**-0.9**
	comp=Z,0.2nm,0.3s,baz=332,slow=2.8,SNR=3.9						

*NEIC **25** 03:46:34.9±0.9,36.029N±0.009×98.09W±0.01,h3km±2km, mb_Lg2.4/35,ML2.6/32,ML2.7/47,Error ellipse: s-maj=1.4km s-min=1.1km az=201.0*

NEIC 25 03:46:35.1±1.2,36.030N±0.009×98.090W±0.004, h6km±4km,Error ellipse: s-maj=1.4km s-min=0.2km az=197.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.48**	**10**		Pg	03 46 44.8	+0.4
CROK					Sg	03 46 51.9	+1.1
CROK				IAML		03 46 52.0	
	comp=E,370nm,0.2s						
CROK				IAML		03 46 57.3	
	comp=N,384nm,0.3s						
BCOK	**Bluff Creek, N**	**0.54**	**134**		Pg	03 46 45.7	+0.2
BCOK					Sg	03 46 53.2	+0.6
OK029	**Liberty Lake**	**0.57**	**114**		Pg	03 46 46.1	+0.1
OK029					Sg	03 46 54.1	+0.7
OK029				IAML		03 46 54.4	
	comp=N,555nm,0.3s						
OK029				IAML		03 46 54.5	
	comp=N,282nm,0.2s						
CSTR	**Hydro, Custer**	**0.62**	**232**		Pg	03 46 47.6	+0.5
CSTR					Sg	03 46 55.3	+0.2
OK038	**West end E0370**	**0.69**	**310**		Pg	03 46 48.4	0.0
OK038					Sg	03 46 58.3	+0.8
ADOK	**Arcadia Dam**	**0.69**	**123**	Pg	Pg	03 46 48.2	-0.3
ADOK				Sg	Sg	03 46 58.1	+0.6
OK004	**Okla Sci Mus**	**0.71**	**135**		Pg	03 46 48.9	+0.1
OK004					Sg	03 46 58.7	+0.7
OKCSW	**OKLAHOMA CITY**	**0.82**	**139**		Pg	03 46 50.6	-0.3
OKCSW				Sg	Sg	03 47 01.7	+0.2
OKCSW				IAML		03 47 02.1	
	comp=N,326nm,0.2s						
OKCSW				IAML		03 47 08.0	
	comp=E,224nm,0.1s						
GC02	**Grant County #**	**0.84**	**13**		Pg	03 46 51.2	-0.1
GC02					Sg	03 47 02.8	+0.6
KAN14	**Manchester OK**	**0.93**	**6**		Pg	03 46 52.8	-0.2
KAN14				Sg	Sg	03 47 05.2	+0.1
FNO	**Franklin**	**0.95**	**144**		Pg	03 46 53.1	-0.3
FNO				Sg	Sg	03 47 05.4	-0.4
FNO				IAML		03 47 07.2	
	comp=E,223nm,0.1s						
BLOK	**Blackwell**	**1.01**	**44**		Pg	03 46 54.4	-0.3
BLOK					Sg	03 47 08.0	+0.2
OK052	**Battle Ridge R**	**1.04**	**92**		Pg	03 46 54.8	-0.4
OK052					Sb	03 47 09.7	+0.1
OK052				IAML		03 47 10.1	
	comp=E,178nm,0.3s						
OK052				IAML		03 47 14.4	
	comp=E,180nm,0.3s						
KAN17	**Caldwell West**	**1.04**	**14**		Pg	03 46 54.8	-0.4
KAN17					Sg	03 47 09.2	+0.4
ELIS	**Ellis County**	**1.08**	**272**		Pg	03 46 55.6	-0.2
ELIS				IAML		03 47 15.9	
	comp=N,184nm,0.3s						
ELIS				IAML		03 47 16.1	
	comp=E,183nm,0.2s						
KAN10	**Anthony SW Sta**	**1.09**	**360**		Pg	03 46 55.7	-0.4
KAN10					Sb	03 47 10.7	-0.2
KAN13	**South Haven SW**	**1.10**	**27**		Pg	03 46 55.9	-0.3
KAN13					Sg	03 47 10.6	+0.1
OK051	**E0350 and S346**	**1.12**	**65**		Pg	03 46 56.2	-0.4
OK051					Sg	03 47 11.1	0.0
QUOK	**Quay**	**1.13**	**82**		Pg	03 46 56.3	-0.4
QUOK					Sb	03 47 12.0	0.0
QUOK				IAML		03 47 13.9	
	comp=E,190nm,0.2s						
KAN01	**Argonia South**	**1.15**	**13**		Pg	03 46 56.8	-0.4
KAN01					Sg	03 47 12.4	+0.2
KAN09	**Caldwell North**	**1.17**	**19**		Pg	03 46 57.0	-0.5
KAN08	**Anthony NE Sta**	**1.20**	**5**		Pg	03 46 57.8	-0.3
KAN12	**Harper NE Stat**	**1.27**	**3**		Pn	03 46 59.0	-0.4
DEOK	**Depew**	**1.30**	**98**		Pn	03 46 59.1	-0.8
DEOK				IAML		03 47 18.0	
	comp=E,130nm,0.2s						
DEOK				IAML		03 47 20.3	
	comp=N,117nm,0.5s						
WMOK	**Wichita Mounta**	**1.41**	**204**		Pn	03 47 00.8	-0.5
WMOK	**Wichita Mounta**	**1.41**	**204**	Pn	Pn	03 47 00.9	-0.4
X34A	**Smith Ranch, M**	**1.44**	**172**		Pb	03 47 02.1	-0.2
T35A	**Sooner Cattle**	**1.55**	**55**		Pn	03 47 03.5	+0.2
TUL3	**Leonard**	**1.87**	**93**	Pn	Pn	03 47 07.8	+0.1
SMWD	**Samnorwood**	**1.98**	**243**		Pn	03 47 09.7	+0.5
LOOK	**Love County**	**2.17**	**160**	Pn	Pn	03 47 11.6	-0.1
LOOK				IAmb_Lg		03 47 43.8	
	comp=Z,19nm,0.9s						
WTFS	**Witchita Falls**	**2.28**	**188**		Pn	03 47 13.9	+0.6
R32A	**Long Quarter,**	**2.44**	**348**		Pn	03 47 15.9	+0.4
R32A				IAmb_Lg		03 47 55.6	
	comp=Z,13nm,0.9s						
RLO	**Rose Lookout**	**2.49**	**86**		Pn	03 47 16.0	-0.1
Z35A	**Perchaven, San**	**2.78**	**165**	Pn	Pn	03 47 20.7	+0.5
FW03	**Perrin-Whitt E**	**2.98**	**180**		Pn	03 47 23.0	0.0
U38A	**Gravette**	**3.02**	**81**		Pn	03 47 24.8	+1.2
CBKS	**Cedar Bluff**	**3.07**	**335**	Pn	Pn	03 47 23.8	-0.4
CBKS				IAmb_Lg		03 48 10.1	
	comp=Z,8.4nm,0.8s						
FW06	**Azle**	**3.08**	**172**	Pn	Pn	03 47 23.5	-0.9
AMTX	**Amarillo**	**3.15**	**250**	Pn	Pn	03 47 26.0	+0.7
AMTX				IAmb_Lg		03 48 12.5	
	comp=Z,8.2nm,0.8s						
APMT	**Aspermont**	**3.18**	**212**	Pn	Pn	03 47 25.9	+0.3
PLPT	**Palo Pinto**	**3.21**	**183**		Pn	03 47 25.8	-0.4
ABTX	**Abilene, Hawle**	**3.63**	**201**	Pn	Pn	03 47 32.1	+0.2
SN07	**Snyder 07**	**3.73**	**219**	IAmb_Lg		03 48 36.9	
	comp=Z,9.1nm,0.8s						
RTBA	**Rita Blanca**	**3.78**	**278**	Pn	Pn	03 47 34.9	+0.8
SN05	**Snyder 5**	**3.90**	**217**	IAmb_Lg		03 48 50.4	
	comp=Z,8.4nm,0.8s						
MIAR	**Mount Ida**	**3.98**	**111**	Pn	Pn	03 47 37.2	+0.5
MIAR				IAmb_Lg		03 48 44.0	
	comp=Z,6.3nm,0.8s						
POST	**Post**	**4.08**	**225**	Pn	Pn	03 47 38.2	+0.1
POST				IAmb_Lg		03 48 53.0	
	comp=Z,6.8nm,0.8s						
MSTX	**Muleshoe**	**4.36**	**243**	Pn	Pn	03 47 41.8	-0.2
X40A	**Basin Creek Fa**	**4.57**	**108**	Pn	Pn	03 47 45.2	+0.5
X40A				IAmb_Lg		03 49 08.0	
	comp=Z,7.2nm,0.9s						
WHAR	**Wooly Hollow**	**4.78**	**97**	Pn	Pn	03 47 47.6	-0.1
MGMO	**Mountain Grove**	**4.82**	**75**	IAmb_Lg		03 49 05.3	
	comp=Z,8.0nm,0.7s						
SGCY	**Sterling City**	**4.82**	**212**	IAmb_Lg		03 49 15.6	
	comp=Z,9.0nm,1.0s						
FCAR	**Ozark Folk Cen**	**4.84**	**90**	IAmb_Lg		03 49 18.0	
	comp=Z,5.9nm,0.8s						
P38A	**Dawn**	**5.09**	**44**	IAmb_Lg		03 49 16.1	
	comp=Z,5.5nm,0.7s						
R40A	**Maddies Statio**	**5.17**	**62**	IAmb_Lg		03 49 17.8	
	comp=Z,8.4nm,1.0s						
T25A	**Trinidad**	**5.21**	**284**	IAmb_Lg		03 49 24.1	
	comp=Z,6.2nm,1.0s						
CCM	**Cathedral Cave**	**5.84**	**68**	IAmb_Lg		03 49 48.1	
	comp=Z,5.3nm,0.7s						
SDCO	**Great Sand Dun**	**6.18**	**288**	IAmb_Lg		03 49 55.8	
	comp=Z,3.6nm,1.1s						
FVM	**French Village**	**6.43**	**70**	IAmb_Lg		03 50 02.0	
	comp=Z,7.0nm,1.1s						

*NOU **25** 03:47:43.5,38.578S×175.88E,h174km,MLv3.8/16,North Island, New Zealand*
*WEL **25** 03:47:46.8±0.8,38.5S±5.5×17.6E±.,h144km±6km,M3.1/57, ML2.8/7,MLv3.1/57,Error ellipse: s-maj=7.0km s-min=6.2km az=35.0,confirmed*

ISC 25 03:47:41.6±1.7,38.49S±0.05×175.87E±0.05,h188km±9km, n119,σ1s59/129,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUTZ	**Kaahu Road**	**0.04**	**271**	P	**Pn**	**03 48 07.3**	**+0.9**
WATZ	**Wairara**	**0.24**	**207**	P	**Pn**	**03 48 07.7**	**+1.1**
TLZ	**Tolley Road**	**0.31**	**301**	P	**Pn**	**03 48 07.8**	**+1.0**
ALRZ	**Allen Road**	**0.38**	**101**	P	**Pn**	**03 48 07.8**	**+0.9**
RAZ	**Rangitukua**	**0.38**	**192**	P	**Pn**	**03 48 08.2**	**+1.1**
RITZ	**Rihia Road**	**0.49**	**181**	P	**Pn**	**03 48 08.6**	**+1.4**
KATZ	**Kakaramea**	**0.50**	**196**	P	**Pn**	**03 48 08.7**	**+1.2**
MRHZ	**Matea Rd**	**0.55**	**129**	P	**Pn**	**03 48 08.4**	**+0.8**
MRHZ				S	**Sn**	**03 48 25.0**	**-2.7**
KRVZ	**Karewarewa**	**0.63**	**197**	P	**Pn**	**03 48 09.5**	**+1.4**
TMVZ	**Te Maari**	**0.64**	**192**	P	**Pn**	**03 48 09.6**	**+1.5**
TMVZ				S	**Sn**	**03 48 27.1**	**-1.7**
ETVZ	**East Tongariro**	**0.66**	**191**	P	**Pn**	**03 48 09.7**	**+1.6**
ETVZ				S	**Sn**	**03 48 28.0**	**-0.9**
WTVZ	**West Tongariro**	**0.66**	**199**	P	**Pn**	**03 48 09.6**	**+1.4**
NNVZ	**North Ngauruho**	**0.67**	**197**	P	**Pn**	**03 48 09.9**	**+1.6**
TWVZ	**Taurewa**	**0.67**	**210**	P	**Pn**	**03 48 09.6**	**+1.4**
OTVZ	**Oturere**	**0.69**	**193**	P	**Pn**	**03 48 09.9**	**+1.5**
OTVZ				S	**Sn**	**03 48 28.2**	**-1.1**
MUGZ	**Murupara**	**0.70**	**89**	P	**Pn**	**03 48 08.8**	**+0.5**
NGZ	**Ngauruhoe**	**0.72**	**197**	P	**Pn**	**03 48 10.1**	**+1.6**
SNVZ	**South Ngauruho**	**0.72**	**195**	P	**Pn**	**03 48 10.0**	**+1.4**
COVZ	**Chateau Observ**	**0.76**	**200**	P	**Pn**	**03 48 10.2**	**+1.5**
TUVZ	**Tukino**	**0.80**	**192**	P	**Pn**	**03 48 10.6**	**+1.6**
HIZ	**Hauiti**	**0.80**	**268**	P	**Pn**	**03 48 10.1**	**+1.4**
HIZ	**Hauiti**	**0.80**	**268**	P	**Sn**	**03 48 29.8**	**0.0**
HIZ	**Hauiti**	**0.80**	**268**	P	**Pn**	**03 48 10.2**	**+1.4**
FWVZ	**Far West T-bar**	**0.80**	**198**	P	**Pn**	**03 48 10.4**	**+1.3**
TOZ	**Tahuroa Road**	**0.81**	**339**	P	**Pn**	**03 48 09.9**	**+1.0**
TOZ				S	**Sn**	**03 48 28.8**	**-1.2**
MAVZ	**Matarangi**	**0.81**	**197**	P	**Pn**	**03 48 10.9**	**+1.6**
WHVZ	**Whangaehu Hut**	**0.82**	**196**	P	**Pn**	**03 48 10.8**	**+1.6**
BKZ	**Black Stump Fm**	**0.83**	**145**	P	**Pn**	**03 48 10.2**	**+1.2**
BKZ	**Black Stump Fm**	**0.83**	**145**	P	**Pn**	**03 48 10.4**	**+1.3**
BKZ				S	**Sn**	**03 48 28.3**	**-2.2**
MTHZ	**Maungataniwha**	**0.84**	**116**	P	**Pn**	**03 48 10.4**	**+1.3**
MTHZ				S	**Sn**	**03 48 28.4**	**-2.0**
WNVZ	**Wahianoa**	**0.86**	**194**	P	**Pn**	**03 48 11.0**	**+1.6**
RTZ	**Ruatahuna**	**0.88**	**99**	P	**Pn**	**03 48 10.4**	**+1.0**
PKVZ	**Pokaka**	**0.90**	**207**	P	**Pn**	**03 48 11.2**	**+1.7**
MOVZ	**Moawhango**	**0.92**	**186**	P	**Pn**	**03 48 11.0**	**+1.4**
MOVZ				S	**Sn**	**03 48 29.3**	**-2.3**
MTVZ	**Mangateitei**	**0.95**	**199**	P	**Pn**	**03 48 11.5**	**+1.7**
NMHZ	**Naumai**	**0.95**	**130**	P	**Pn**	**03 48 12.1**	**+2.3**
URZ	**Urewera**	**1.00**	**77**	P	**Pn**	**03 48 10.5**	**+0.4**
URZ	**Urewera**	**1.00**	**77**	P	**Pn**	**03 48 10.5**	**+0.4**
URZ				S	**Sn**	**03 48 28.9**	**-3.2**
KWHZ	**Kaweka Forest**	**1.03**	**155**	P	**Pn**	**03 48 12.2**	**+1.9**
RAHZ	**Arahi**	**1.04**	**115**	P	**Pn**	**03 48 12.3**	**+1.9**
RAHZ				S	**Sn**	**03 48 32.0**	**-0.7**
VRZ	**Vera Road**	**1.08**	**234**	P	**Pn**	**03 48 12.6**	**+1.9**
MCHZ	**McNeill Hill**	**1.15**	**146**	P	**Pn**	**03 48 13.7**	**+2.5**
ARHZ	**Aropaoanui**	**1.17**	**132**	P	**Pn**	**03 48 13.6**	**+2.2**
SNGZ	**Shannon Statio**	**1.19**	**105**	P	**Pn**	**03 48 13.2**	**+1.7**
RAGZ	**Rawiri**	**1.21**	**91**	P	**Pn**	**03 48 13.3**	**+1.5**
KRHZ	**Kereru**	**1.22**	**162**	P	**Pn**	**03 48 13.7**	**+2.0**
WHHZ	**Waihua**	**1.22**	**119**	P	**Pn**	**03 48 13.9**	**+2.2**
MWZ	**Matawai**	**1.31**	**84**	P	**Pn**	**03 48 14.6**	**+1.1**
WAZ	**Waingaui**	**1.44**	**208**	P	**Pn**	**03 48 15.9**	**+2.2**
PNHZ	**Pukenui**	**1.44**	**170**	P	**Pn**	**03 48 15.6**	**+1.9**
MKAZ	**Moumakai**	**1.49**	**338**	P	**Pn**	**03 48 15.5**	**+1.3**
RIGZ	**Rimuhau**	**1.50**	**99**	P	**Pn**	**03 48 15.9**	**+1.7**
LREZ	**Lake Rotokare**	**1.50**	**229**	P	**Pn**	**03 48 16.9**	**+2.7**
KNZ	**Kokohu**	**1.50**	**111**	P	**Pn**	**03 48 16.1**	**+1.8**
RUGZ	**Raukumara Rang**	**1.52**	**70**	P	**Pn**	**03 48 14.6**	**+0.1**
KAHZ	**Kahuranaki**	**1.52**	**149**	P	**Pn**	**03 48 16.8**	**+2.4**
TKGZ	**Te Karaka**	**1.55**	**89**	P	**Pn**	**03 48 16.3**	**+1.6**
TSZ	**Takapari Road**	**1.57**	**178**	P	**Pn**	**03 48 16.9**	**+2.0**
PREZ	**Palmer Road**	**1.58**	**237**	P	**Pn**	**03 48 17.8**	**+2.7**
NEZ	**North Egmont**	**1.59**	**240**	P	**Pn**	**03 48 17.8**	**+2.6**
PKE	**Pukeiti**	**1.63**	**244**	P	**Pn**	**03 48 17.9**	**+2.4**
WPHZ	**Waipukarau**	**1.63**	**165**	P	**Pn**	**03 48 17.6**	**+2.1**
KHEZ	**Kahui Hut**	**1.66**	**240**	P	**Pn**	**03 48 18.3**	**+2.5**
KHEZ	**Kahui Hut**	**1.66**	**240**	P	**Pn**	**03 48 18.4**	**+2.6**
HAZ	**Te Kaha**	**1.68**	**65**	P	**Pn**	**03 48 16.4**	**+0.6**
TWGZ	**Tauwhareparae**	**1.69**	**80**	P	**Pn**	**03 48 17.6**	**+1.5**
PXZ	**Puwanui**	**1.72**	**154**	P	**Pn**	**03 48 18.6**	**+2.3**
MHGZ	**Mahia Peninsul**	**1.72**	**113**	P	**Pn**	**03 48 18.5**	**+2.2**
WIAZ	**Waiheke Island**	**1.79**	**341**	P	**Pn**	**03 48 18.5**	**+1.4**
DVHZ	**Dannevirke**	**1.82**	**173**	P	**Pn**	**03 48 19.1**	**+1.8**
CNGZ	**Carnagh Statio**	**1.83**	**91**	P	**Pn**	**03 48 19.5**	**+2.1**
WTAZ	**Waiatarua**	**1.86**	**326**	P	**Pn**	**03 48 19.7**	**+1.8**
PRHZ	**Porangahau**	**1.87**	**162**	P	**Pn**	**03 48 20.0**	**+2.2**
MBAZ	**Motutapu North**	**1.88**	**335**	P	**Pn**	**03 48 19.4**	**+1.4**
POWZ	**Post Office Ro**	**1.90**	**182**	P	**Pn**	**03 48 20.0**	**+1.9**
PRWZ	**Pori Road**	**2.06**	**178**	P	**Pn**	**03 48 21.9**	**+2.1**
WMGZ	**Waiomatatini S**	**2.11**	**72**	P	**Pn**	**03 48 23.7**	**+3.3**
MRZ	**Mangatainoka R**	**2.18**	**186**	P	**Pn**	**03 48 22.7**	**+1.6**
BFZ	**Birch Farm**	**2.21**	**173**	P	**Pn**	**03 48 23.1**	**+1.7**
BFZ	**Birch Farm**	**2.21**	**173**	P	**Pn**	**03 48 23.2**	**+1.8**
TIWZ	**Tintock**	**2.28**	**180**	P	**Pn**	**03 48 24.0**	**+1.7**
OGWZ	**Otaki Gorge**	**2.39**	**193**	P	**Pn**	**03 48 25.1**	**+1.7**
HOWZ	**Holdsworth Sta**	**2.42**	**186**	P	**Pn**	**03 48 25.2**	**+1.4**
KIW	**Kapiti Island**	**2.48**	**197**	P	**Pn**	**03 48 25.8**	**+1.3**
TMWZ	**Te Maipa**	**2.61**	**180**	P	**Pn**	**03 48 27.5**	**+1.5**
MTW	**Mount Morrison**	**2.68**	**186**	P	**Pn**	**03 48 27.9**	**+1.2**
CAW	**Cannon Point**	**2.69**	**193**	P	**Pn**	**03 48 28.2**	**+1.4**
DUWZ	**D'Urville Isla**	**2.76**	**213**	P	**Pn**	**03 48 28.9**	**+1.2**
TRWZ	**Traveller**	**2.91**	**183**	P	**Pn**	**03 48 31.0**	**+1.5**
PAWZ	**Paruwai Farm**	**2.91**	**187**	P	**Pn**	**03 48 30.7**	**+1.2**
WEL	**Wellington**	**2.92**	**197**	P	**Pn**	**03 48 30.7**	**+1.2**
SNZO	**South Karori**	**2.96**	**197**	P	**Pn**	**03 48 30.9**	**+0.9**
SNZO	**South Karori**	**2.96**	**197**	S	**Sn**	**03 49 07.6**	**-0.4**
TCW	**Tory Channel**	**2.98**	**204**	P	**Pn**	**03 48 31.4**	**+1.1**
BHW	**Baring Head**	**3.02**	**194**	P	**Pn**	**03 48 31.7**	**+1.0**
PLWZ	**Palliser**	**3.11**	**189**	P	**Pn**	**03 48 32.8**	**+0.9**
TUWZ	**Tuamarina**	**3.29**	**206**	P	**Pn**	**03 48 35.2**	**+1.1**
NNZ	**Nelson**	**3.33**	**214**	P	**Pn**	**03 48 35.4**	**+0.9**
TKNZ	**Takaka Hill**	**3.39**	**221**	P	**Pn**	**03 48 35.9**	**+0.6**
QRZ	**Quartz Range**	**3.48**	**227**	P	**Pn**	**03 48 36.8**	**+0.5**
QRZ	**Quartz Range**	**3.48**	**227**	P	**Pn**	**03 48 36.8**	**+0.5**
BSWZ	**Blackbirch Sta**	**3.57**	**205**	P	**Pn**	**03 48 38.7**	**+1.3**
MRNZ	**Matariki Terra**	**3.77**	**219**	P	**Pn**	**03 48 40.5**	**+0.5**
THZ	**Tophouse**	**3.98**	**214**	P	**Pn**	**03 48 43.3**	**+0.6**
KHZ	**Kahutara**	**4.31**	**204**	P	**Pn**	**03 48 48.0**	**+1.3**
KHZ	**Kahutara**	**4.31**	**204**	S	**Sn**	**03 49 37.8**	**-0.2**
KHZ	**Kahutara**	**4.31**	**204**	P	**Pn**	**03 48 47.9**	**+1.2**
DSZ	**Denniston Nort**	**4.50**	**223**	P	**Pn**	**03 48 49.5**	**+0.2**
GVZ	**Greta Valley S**	**4.96**	**205**	P	**Pn**	**03 48 55.9**	**+0.8**
LTZ	**Lake Taylor**	**5.09**	**211**	P	**Pn**	**03 48 56.7**	**0.0**
OXZ	**Oxford**	**5.64**	**210**	P	**Pn**	**03 49 03.3**	**-0.6**
OKCZ	**Okains Bay**	**5.64**	**201**	P	**Pn**	**03 49 04.5**	**+0.6**
MQZ	**McQueen's Vall**	**5.75**	**204**	P	**Pn**	**03 49 04.7**	**-0.5**
AKCZ	**Akaroa Harbour**	**5.82**	**202**	P	**Pn**	**03 49 06.4**	**+0.1**
RACZ	**Rakaia**	**5.94**	**207**	P	**Pn**	**03 49 06.8**	**-0.9**
RPZ	**Rata Peaks**	**6.36**	**213**	P	**Pn**	**03 49 13.8**	**+0.5**
ODZ	**Otahua Downs**	**7.62**	**209**	P	**Pn**	**03 49 30.3**	**+0.5**
JCZ	**Jackson Bay**	**7.72**	**221**	P	**Pn**	**03 49 31.7**	**+0.6**
SYZ	**Scrubby Hill**	**9.45**	**210**	P	**Pn**	**03 49 53.2**	**-0.4**

CATAC 25 03:50:25.5±0.6,12.7N±3.3×88.8W±.,h13km±3km,M2.9/11, MLv2.9/11,Error ellipse: s-maj=7.3km s-min=3.9km az=35.2,confirmed,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.96**	**46**	P	Pn	03 50 44.4	-0.3
CRIN	**San Cristobal**	**0.96**	**46**	S	Sn	03 50 57.7	-0.5
POTN	**Potosi Cosigui**	**1.00**	**14**	P	Pb	03 50 44.6	-0.1
POTN				S	Sg	03 50 58.4	+0.6
POLN	**Al Sur del Vol**	**1.10**	**56**	P	Pb	03 50 44.9	-1.6
POLN				S	Sb	03 51 00.1	-0.8
PLRN	**Geotermica Pol**	**1.11**	**60**	P	Pb	03 50 46.0	-0.5
PLRN				S	Sg	03 51 01.3	0.0
CNGA	**Al SSO del Vol**	**1.12**	**65**	P	Pb	03 50 46.2	-0.6
CNGA				S	Sn	03 51 02.9	+0.6
CNGN	**Cerro Negro**	**1.13**	**65**	P	Pg	03 50 47.3	-0.1
CNGN	**Cerro Negro**	**1.13**	**65**	S	Sn	03 51 03.0	+0.5
COPN	**Copaltepe**	**1.14**	**82**	P	Pb	03 50 46.7	-0.5
MOMN	**Momotombo**	**1.24**	**72**	P	Pn	03 50 48.1	-0.4
MOMN				S	Sb	03 51 04.7	0.0
CNCH	**Conchagua**	**1.25**	**356**	P	Pn	03 50 48.2	-0.5
CNCH	**Conchagua**	**1.25**	**356**	S	Sn	03 51 05.2	-0.2
LCND	**La Caada**	**1.28**	**354**	P	Pn	03 50 48.5	-0.6
MOM2	**El Cardon**	**1.30**	**72**	P	Pn	03 50 49.1	-0.3
MOM2				S	Sb	03 51 06.1	-0.4
UNAN	**Cigeo UNAN**	**1.45**	**87**	S	Sb	03 51 10.6	-0.1
WILN	**Americas 2**	**1.53**	**85**	S	Sn	03 51 12.6	+0.2
PACA	**Pacayal**	**1.54**	**339**	S	Sn	03 51 13.0	+0.4
CHOHN	**Orocuina**	**1.56**	**22**	P	Pn	03 50 52.9	-0.1
CHOHN	**Orocuina**	**1.56**	**22**	S	Sn	03 51 13.5	+0.4
NANN	**Nandasmo**	**1.60**	**93**	P	Pn	03 50 53.1	-0.4
YUSH	**Yuscaran**	**2.11**	**25**	S	Sn	03 51 27.2	+0.5
YUSH	**Yuscaran**	**2.11**	**25**	P	Pn	03 51 00.7	+0.1

*IGIL **25** 03:52:54.9,37.49N×7.66W,h18km,ML2.1*
*MDD **25** 03:52:54.5±0.3,37.51N×7.64W,h20km,mb_Lg2.6/6, Error ellipse: s-maj=3.0km s-min=

INMG 25 03:53:02.1±1.2, 37.48N×7.65W, h18km±2km, ML2.0, Error ellipse: s-maj=2.8km s-min=1.8km az=126.0, #DIST_RANGE: LOCAL #IPMA_REGION: W Alcoutim, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVAQ	**Vaqueiros**	**0.10**	**214**	*e*Pg	Pg	03 53 05.8	+0.1
PVAQ				*e*Sg	Sg	03 53 08.2	+0.1
PVAQ				*i* IAML		03 53 08.6	
PVAQ				*i* IAML		03 53 09.0	
PVAQ				*i* IAML		03 53 09.1	
PBDV	**Barranco-do-Ve**	**0.33**	**223**	*e*Sg	Sg	03 53 13.3	-0.6
PBDV				*i* IAML		03 53 13.4	
PBDV				*i* IAML		03 53 13.6	
PBDV				*i* IAML		03 53 14.6	
PCVE	**Castro Verde**	**0.34**	**296**	*e*Pg	Pg	03 53 09.0	-0.4
PCVE				*e*Sg	Sg	03 53 13.5	-0.8
PCVE				*i* IAML		03 53 13.8	
PCVE				*i* IAML		03 53 14.4	
PCVE				*i* IAML		03 53 14.4	
PBEJ	**Beja**	**0.57**	**342**	*e*Pg	Pg	03 53 12.7	-0.7
PBEJ				*e*Sg	Sg	03 53 20.3	-0.8
PBEJ				*i* IAML		03 53 21.4	
PBEJ				*i* IAML		03 53 22.1	
PBEJ				*i* IAML		03 53 22.4	
MESJ	**Messejana**	**0.58**	**308**	*e*Sg	Sg	03 53 20.6	-0.7
MESJ				*i* IAML		03 53 21.4	
MESJ				*i* IAML		03 53 22.5	
MESJ				*i* IAML		03 53 22.7	
MORF	**Marmelete**	**0.82**	**258**	*e*P	Pb	03 53 16.9	-1.0
MORF				*e*S	Sb	03 53 28.2	-0.4
MORF				*i* IAML		03 53 28.6	
MORF				*i* IAML		03 53 31.6	
MORF				*i* IAML		03 53 31.7	
PBAR	**Barrancos**	**0.84**	**35**	*e*S	Sb	03 53 28.9	-0.4
PBAR				*i* IAML		03 53 29.1	
PBAR				*i* IAML		03 53 29.4	
PBAR				*i* IAML		03 53 30.1	
PTEO	**Sao Teotonio**	**0.86**	**274**	*e*P	Pb	03 53 17.6	-0.9
PTEO				*e*S	Sb	03 53 29.1	-0.6
PTEO				*i* IAML		03 53 29.4	
PTEO				*i* IAML		03 53 30.3	
PTEO				*i* IAML		03 53 31.0	
PFVI	**Vila Bisbo**	**1.00**	**250**	*e*P	Pb	03 53 19.9	-1.0
PFVI				*e*S	Sb	03 53 33.3	-0.5
PFVI				*i* IAML		03 53 35.4	
PFVI				*i* IAML		03 53 38.5	
PFVI				*i* IAML		03 53 38.5	
EVO	**Evora**	**1.08**	**345**	*e*P	Pb	03 53 21.5	-0.9
PESTR	**Estremoz**	**1.38**	**2**	*e*Sg	Sg	03 53 45.9	-0.9
PESTR				*i* IAML		03 53 46.0	
PESTR				*i* IAML		03 53 50.7	
PESTR				*i* IAML		03 53 51.5	
PMTG	**Montargil**	**1.65**	**344**	*e*Pg	Pn	03 53 30.9	+0.7
PMTG				*e*Sg	Sg	03 53 54.8	-0.5
PMTG				*i* IAML		03 53 55.9	
PMTG				*i* IAML		03 53 58.1	
PMTG				*i* IAML		03 54 01.3	
PARRA	**Arraiolos**	**1.72**	**321**	*e*Pg	Pn	03 53 27.0	-4.2
PARRA				*e*Sg	Sn	03 53 44.9	-7.9
PARRA				*i* IAML		03 53 46.5	
PARRA				*i* IAML		03 53 46.6	
PARRA				*i* IAML		03 53 49.6	
PMRV	**Marv??o**	**1.95**	**6**	*e*Pg	Pb	03 53 37.4	+0.2
PMAFR	**Mafra**	**1.95**	**319**	*e*Sg	Sg	03 54 04.6	-0.4
PMAFR				*i* IAML		03 54 06.2	
PMAFR				*i* IAML		03 54 06.7	
PMAFR				*i* IAML		03 54 12.5	
PSARD	**Sardoal**	**2.15**	**349**	*e*Pg	Pb	03 53 40.2	-0.4
PCBR	**Castelo Branco**	**2.36**	**3**	*e*Pn	Pn	03 53 38.2	-1.7
PVIS	**Viseu**	**3.23**	**357**	*e*Pn	Pn	03 53 50.2	-1.8
MVO	**Moncorvo**	**3.71**	**7**	*e*Pn	Pn	03 53 57.0	-1.5
POLO	**Lamas de Olo**	**3.89**	**358**	*e*Pn	Pn	03 53 59.1	-2.0

*IDC **25** 04:27:13.0±1.2, 20.63S×173.10E, h0km, mb3.8/4, mbtmp3.8/4, MS3.2/11, Error ellipse: s-maj=40.7km s-min=34.0km az=143.0*

ISC 25 04:27:17.8±1.2, 20.5S±0.3×173.1E±0.3, h35km, n19, σ0§43/6, mb3.7/4, MS3.3/9, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.39**	**255**	LR	LR	04 30 54.0	
	comp=Z,80nm,18.5s,baz=148,slow=35						
HNR	**Honiara**	**16.79**	**309**	LR	LR	04 37 18.6	
	comp=Z,64nm,19.1s,baz=132,slow=36						
RAR	**Rarotonga**	**25.36**	**96**	LR	LR	04 40 05.6	
	comp=Z,45nm,20.9s,baz=276,slow=30						
PMG	**Port Moresby**	**27.32**	**290**	LR	LR	04 42 05.9	
	comp=Z,39nm,20.9s,baz=168,slow=33						
STKA	**Stephens Creek**	**30.34**	**242**	LR	LR	04 44 30.7	
	comp=Z,30nm,19.1s,baz=36,slow=34						
PPT	**Papeete**	**35.37**	**92**	LR	LR	04 44 41.9	
	comp=Z,62nm,20.2s,baz=308,slow=30						
WRA	**Warramunga Arr**	**36.31**	**264**	P	**P**	**04 34 18.6**	**+0.1**
	0.9nm,0.7s,baz=98,slow=8.8,SNR=6.0						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**36.37**	**258**	P	**P**	**04 34 18.9**	**-0.1**
	0.6nm,0.7s,baz=91,slow=8.7,SNR=7.6						
	0.6nm,0.7s						
GUMO	**Guam**	**43.79**	**318**	LR	LR	04 52 14.8	
	comp=Z,36nm,21.0s,baz=108,slow=34						
NWAO	**Narrogin (SRO)**	**50.88**	**244**	LR	LR	04 56 02.6	
	comp=Z,117nm,20.1s,baz=124,slow=34						
KAPI	**Kappang**	**53.99**	**279**	LR	LR	04 59 40.6	
	comp=Z,25nm,18.4s,baz=200,slow=36						
DAV	**Davao City (W)**	**54.13**	**295**	LR	LR	04 59 08.7	
	comp=Z,30nm,18.1s,baz=67,slow=35						
JOW	**Kunigami**	**64.03**	**316**	LR	LR	05 02 11.4	
	comp=Z,26nm,21.9s,baz=296,slow=33						
QSPA	**South Pole Qui**	**69.56**	**180**	P	**P**	**04 38 23.0**	**-0.1**
	2.3nm,0.9s,baz=79,slow=5.1,SNR=7.2						
	2.3nm,0.9s						
ILAR	**Eielson Array**	**90.40**	**16**	P	**P**	**04 40 15.0**	**-0.1**
	0.2nm,0.6s,baz=206,slow=5.2,SNR=2.4						
	0.2nm,0.6s						
HFS	**Hagfors**	**137.78**	**345**		PKPpre	04 46 37.4	
HFS	**Hagfors**	**137.78**	**345**	PKhKP	PKPpre	04 46 37.4	
	0.4nm,0.4s,baz=96,slow=4.5,SNR=8.3						
EKA	**Eskdalemuir Ar**	**145.11**	**356**	PKPbc	**PKPdf**	**04 46 51.9**	**+0.6**
	0.9nm,0.7s,baz=339,slow=1.8,SNR=3.5						
GERES	**GERESS Array B**	**147.25**	**335**	PKPbc	**PKPab**	**04 46 59.0**	**-0.4**
	0.9nm,0.8s,baz=16,slow=5.8,SNR=7.0						

*IDC **25** 04:27:11.9±3.7, 20.81S×177.20W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=167.9km s-min=59.1km az=150.0*

*NEIC **25** 04:28:09.3±0.7, 21.7S±0.2×178.2W±0.1, h514km±14km, mb4.2/23, Error ellipse: s-maj=23.9km s-min=16.4km az=163.0*

ISC 25 04:28:09.2±1.2, 21.9S±0.1×178.3W±0.2, h500km, n35, σ1§23/35, mb4.2/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.36**	**319**		**P**	**04 29 39.8**	**+0.1**
RTZ	**Ruatahuna**	**17.19**	**193**	P	**P**	**04 31 42.6**	**+0.6**
RTZ				IAmb	IAmb	04 31 46.8	
	comp=Z,14nm,1.3s						
BKZ	**Black Stump Fm**	**17.82**	**193**	P	**P**	**04 31 48.4**	**+0.5**
MRZ	**Mangatainoka R**	**19.45**	**194**	P	**P**	**04 32 03.0**	**+0.3**
MRZ				IAmb	IAmb	04 32 03.3	
	comp=Z,15nm,1.3s						
BHW	**Baring Head**	**20.33**	**195**	P	**P**	**04 32 11.4**	**+0.8**
QRZ	**Quartz Range**	**20.45**	**200**	P	**P**	**04 32 12.0**	**+0.3**
TUWZ	**Tuamarina**	**20.59**	**197**	P	**P**	**04 32 14.2**	**+1.3**
BSWZ	**Blackbirch Sta**	**20.87**	**197**	P	**P**	**04 32 17.6**	**+2.1**
THZ	**Tophouse**	**21.19**	**198**	P	**P**	**04 32 19.6**	**+1.1**
THZ				IAmb	IAmb	04 32 25.9	
	comp=Z,6.2nm,0.8s						
DSZ	**Denniston Nort**	**21.51**	**201**	P	**P**	**04 32 21.8**	**+0.4**
LTZ	**Lake Taylor**	**22.31**	**199**	P	**P**	**04 32 31.9**	**+3.4**
EIDS	**Eidsvold**	**28.26**	**257**	P	**P**	**04 33 21.4**	**-0.1**
EIDS				IAmb	IAmb	04 33 24.8	
	comp=Z,13nm,1.4s						
ARMA	**Armidale**	**28.26**	**246**	P	**P**	**04 33 21.6**	**+0.1**
ARMA				IAmb	IAmb	04 33 23.2	
	comp=Z,19nm,1.4s						
TOO	**Toolangi**	**34.90**	**235**	P	**P**	**04 34 19.0**	**+0.8**
COEN	**Coen**	**37.43**	**276**	P	**P**	**04 34 38.4**	**-1.1**
BBOO	**Buckleboo**	**41.72**	**245**	P	**P**	**04 35 13.4**	**-0.5**
BBOO				IAmb	IAmb	04 35 16.8	
	comp=Z,3.9nm,1.1s						
AS31	**Alice Springs**	**43.97**	**258**	P	**P**	**04 35 31.1**	**-0.6**
ASAR	**Alice Springs**	**43.97**	**258**	P	**P**	**04 35 30.8**	**-0.9**
ASAR	**Alice Springs**	**43.97**	**258**	P	**P**	**04 35 31.6**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=93,slow=8.4,SNR=11						
ASAR				PcP	**pwP**	**04 37 09.3**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=110,slow=3.6,SNR=5.3						
	comp=Z,1.3nm,0.6s						
WR8	**Warramunga Arr**	**44.02**	**263**	P	**P**	**04 35 30.9**	**-1.1**
WR8				IAmb	IAmb	04 35 34.7	
	comp=Z,10nm,1.4s						
WB0	**Warramunga Arr**	**44.15**	**264**	P	**P**	**04 35 32.3**	**-0.8**
WB0				IAmb	IAmb	04 35 34.3	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**44.17**	**263**	P	**P**	**04 35 31.7**	**-1.6**
WRA	**Warramunga Arr**	**44.17**	**263**	P	**P**	**04 35 30.9**	**-2.3**
	comp=Z,0.5nm,0.4s,baz=95,slow=7.8,SNR=18						
	comp=Z,0.5nm,0.4s						
KNRA	**Kununurra**	**50.32**	**267**	P	**P**	**04 36 18.9**	**-0.7**
KNRA				IAmb	IAmb	04 36 23.2	
	comp=Z,18nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.60**	**263**	P	**P**	**04 36 35.6**	**-0.6**
VNDA	**Vanda**	**56.54**	**185**	P	**P**	**04 37 03.4**	**+0.5**
PSA00	**Pilbara Seismi**	**57.12**	**258**	P	**P**	**04 37 07.4**	**-0.4**
MBWA	**Marble Bar**	**57.31**	**258**	P	**P**	**04 37 09.0**	**-0.1**
MBWA				IAmb	IAmb	04 37 11.3	
	comp=Z,4.3nm,1.0s						
GIRL	**Giralia**	**61.94**	**255**	P	**P**	**04 37 40.4**	**+0.2**
QSPA	**South Pole Qui**	**68.22**	**180**	P	**P**	**04 38 17.2**	**-1.9**
QSPA				IAmb	IAmb	04 38 25.0	
	comp=Z,5.8nm,1.3s						
SMAI	**San Martin Ant**	**77.44**	**159**	P	**P**	**04 39 11.6**	**-0.3**
SMAI				IAmb	IAmb	04 39 12.2	
	comp=Z,3.9nm,0.7s						
BELA	**Belgrano 2**	**78.25**	**173**	P	**P**	**04 39 16.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**90.32**	**290**	P	**P**	**04 40 19.9**	**+3.0**
	comp=Z,1.1nm,0.3s,baz=106,slow=4.7,SNR=4.3						
	comp=Z,1.1nm,0.3s						
AKASG	**Malin Array Be**	**144.06**	**330**	PKhKP	PKPpre	04 46 47.4	
	comp=Z,2.2nm,0.5s,baz=44,slow=4.2,SNR=15						
BRTR	**Keskin Array B**	**147.54**	**311**	PKPbc	**PKiKP**	**04 46 58.0**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=101,slow=4.9,SNR=3.8						

*FUNV **25** 04:45:31.8, 10.64N×62.33W, h26km, MW3.5*
*TRN **25** 04:45:32.4, 10.67N×62.39W, h54km, MD3.4, Paria peninsula.*

ISC 25 04:45:31.8±1.8, 10.63N±0.07×62.41W±0.08, h64km±39km, n18, σ1§29/33, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**0.85**	**86**	*e*P	**Pn**	**04 45 48.6**	**+0.5**
DMDM				*e*S	**Sn**	**04 45 59.5**	**-0.5**
PSMG	**Mucurapo Girls**	**0.87**	**87**	*e*P	**Pn**	**04 45 48.7**	**+0.4**
PSMG				*e*S	**Sn**	**04 46 00.0**	**-0.4**
PSQC	**Port of Spain**	**0.88**	**88**	*e*P	**Pn**	**04 45 48.8**	**+0.4**
PSQC				*e*S	**Sn**	**04 45 60.0**	**-0.8**
TRN	**Trinidad (W)**	**0.99**	**89**	*e*P	**Pn**	**04 45 50.0**	**+0.1**
TRN				*e*S	**Sn**	**04 46 02.1**	**-1.2**
TPP	**Pointe-a-Pierr**	**1.00**	**108**	*e*P	**Pn**	**04 45 51.0**	**+1.1**
TPP				*e*S	**Sn**	**04 46 03.3**	**-0.1**
GRFF	**Grenada Fort F**	**1.56**	**25**	*e*P	**Pn**	**04 45 56.8**	**-0.5**
GRFF				*e*S	**Sn**	**04 46 15.0**	**-1.6**
GRGR	**Grenville**	**1.67**	**26**	*e*P	**Pn**	**04 45 58.4**	**-0.5**
GRGR				*e*S	**Sn**	**04 46 18.4**	**-0.9**
GRW	**Mount Saint Ca**	**1.69**	**26**	*e*P	**Pn**	**04 45 58.9**	**-0.3**
GRW				*e*S	**Sn**	**04 46 19.5**	**-0.4**
GRSS	**Sisters**	**1.83**	**25**	*e*P	**Pn**	**04 46 01.3**	**+0.2**
GRSS				*e*S	**Sn**	**04 46 22.4**	**-0.9**
PCRV	**Puerto La Cruz**	**2.23**	**259**	*e*P	**Pn**	**04 46 08.0**	**+1.5**
PCRV				*e*S	**Sn**	**04 46 33.9**	**+0.9**
PCRV	**Puerto La Cruz**	**2.23**	**259**	*e*P	**Pn**	**04 46 08.2**	**+1.6**
PCRV				*e*S	**Sn**	**04 46 34.5**	**+1.4**
SVT	**Saint Vincent**	**2.77**	**24**	*e*S	**Sn**	**04 46 49.1**	**+3.0**
SVB	**Belmont**	**2.86**	**23**	*e*P	**Pn**	**04 46 16.7**	**+1.7**
SVB				*e*S	**Sn**	**04 46 48.2**	**-0.1**
TACV	**Tcata**	**4.57**	**264**	*e*P	**Pn**	**04 46 38.5**	**+0.1**
TACV				*e*S	**Sn**	**04 47 29.7**	**-0.5**
CACV	**CAICARA DEL OR**	**5.09**	**234**	*e*P	Pn	04 46 40.0	-5.6
CACV				*e*S	Sn	04 47 31.2	-12
BENV	**Beln**	**5.15**	**263**	*e*P	**Pn**	**04 46 46.7**	**+0.3**
BENV				*e*S	**Sn**	**04 47 43.1**	**-1.5**
BAUV	**El Baul**	**5.80**	**254**	*e*P	**Pn**	**04 46 55.4**	**+0.2**
BAUV				*e*S	**Sn**	**04 47 56.6**	**-3.8**
BAUV	**El Baul**	**5.80**	**254**	*e*P	**Pn**	**04 46 55.6**	**+0.4**
BAUV				*e*S	**Sn**	**04 47 58.7**	**-1.7**

*NEIC **25** 04:52:15.9±1.5, 5.2N±0.1×32.4W±0.1, h10km±1km, mb4.6/19, Error ellipse: s-maj=24.3km s-min=17.7km az=146.0*

*IDC **25** 04:52:16.9±0.7, 5.87N×32.77W, h0km, mb4.0/19, mbtmp4.0/20, ML4.6/1, MS3.7/60, Error ellipse: s-maj=21.1km s-min=16.8km az=159.0*

*GCMT **25** 04:52:20.9±0.4, 5.70N±0.04×32.87W±0.02, h13km±1km, MW4.7/83, Moment Tensor Solution. s9,c9; s83,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.41±.14; $M_{\theta\theta}$0.03±.07; $M_{\phi\phi}$1.38±.10; $M_{r\theta}$-0.01±.25; $M_{\theta\phi}$-0.28±.05; $M_{\phi r}$0.62±.22; Best double couple: $M_0$1.55200×10^{16} NP1:ϕ_s173.00000°, δ54.00000°, λ-97.00000°. NP2: ϕ_s173.00000°, δ57.00000°, λ-85.00000°. Principal axes: T 1.5610, Plg12.0000°, Azm260.0000°; N -0.0130, Plg4.0000°, Azm350.0000°; P -1.5430, Plg78.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 04:52:18.2±0.5, 5.7N±0.1×32.78W±0.08, h10km, n118, σ1§41/55, mb4.3/31, MS3.8/58, 4C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**11.86**	**195**	LR	LR	04 58 37.0	
	comp=Z,130nm,19.8s,baz=49,slow=32						
SACV	**Santiago Islan**	**12.90**	**44**		**Pn**	**04 55 21.1**	**-0.6**
TMAB	**Tom-Au,PA,Br**	**17.27**	**243**	*e*P	**Pn**	**04 56 19.2**	**-0.4**
BBTS	**Babate**	**18.29**	**60**	P	**Pn**	**04 56 30.6**	**-1.7**
	1.7nm,0.3s,baz=218,slow=7.7,SNR=11						
BBTS				LR	LR	05 02 10.9	
	comp=Z,362nm,19.1s,baz=236,slow=33						
	21nm,1.0s						
MDP	**Montagnes des**	**19.79**	**269**	LR	LR	05 02 57.9	
	comp=Z,188nm,21.0s,baz=102,slow=32						
SMTB	**Santa Maria do**	**20.66**	**226**	*e*P	**P**	**04 56 58.1**	**-0.3**
PRPB	**Parauapebas**	**20.69**	**236**	*e*P	**P**	**04 56 57.9**	**-0.9**
H10N3	**ASCENSION HYDR**	**22.65**	**126**	T	T	05 20 51.2	
	baz=305,slow=75,SNR=91						
H10N2	**ASCENSION HYDR**	**22.65**	**126**	T	T	05 20 55.1	
	baz=305,slow=75,SNR=103						
H10N1	**ASCENSION HYDR**	**22.67**	**126**	T	T	05 20 52.7	
	baz=305,slow=75,SNR=109						
MAL2	**Monte Alegre,**	**22.70**	**251**	P	**P**	**04 57 18.0**	**-2.4**
MAL2				IAmb	IAmb	04 57 26.1	
	comp=Z,32nm,0.9s						
H10S3	**ASCENSION HYDR**	**23.19**	**129**	T	T	05 21 33.9	
	baz=276,slow=74,SNR=71						
H10S2	**ASCENSION HYDR**	**23.20**	**129**	T	T	05 21 32.0	
	baz=304,slow=74,SNR=79						
ITTB	**Itaituba**	**25.01**	**247**	*e*P	**P**	**04 57 41.5**	**-1.0**
SNDB	**Serra Nova Dou**	**25.44**	**226**	*e*P	**P**	**04 57 46.3**	**-0.1**
NPGB	**Novo Progresso**	**25.84**	**241**	*e*P	**P**	**04 57 49.0**	**-1.1**
BDFB	**Brasília**	**26.02**	**215**	LR	LR	05 07 02.5	
	comp=Z,346nm,19.9s,baz=24,slow=34						
DBIC	**Dimbokro**	**27.77**	**87**	P	**P**	**04 58 08.5**	**+0.9**
	comp=Z,6.9nm,1.1s,baz=280,slow=12,SNR=4.2						
DBIC				LR	LR	05 06 46.8	
	comp=Z,272nm,21.6s,baz=308,slow=31						
	comp=Z,6.9nm,1.1s						
BOAV	**Boa Vista**	**27.86**	**264**	P	**P**	**04 58 06.8**	**-1.6**
BOAV				IAmb	IAmb	04 58 13.7	
	comp=Z,14nm,1.4s						
FUL	**Funchal**	**30.65**	**27**	*e*T	T	05 30 11.6	
PMOZ	**Porto Moniz, M**	**30.66**	**26**	*e*P	P	04 58 24.3	-8.8
PMOZ				*e*T	T	05 30 12.3	
PMAR	**Madeira**	**30.70**	**27**	*e*T	T	05 30 14.6	
PCRV	**Puerto La Cruz**	**31.86**	**280**	LR	LR	05 11 11.2	
	comp=Z,168nm,20.2s,slow=36						
SABA	**Saba**	**32.05**	**294**	P	**P**	**04 58 47.9**	**+2.5**
SPB	**Sao Paulo**	**32.43**	**206**	P	P	04 58 42.7	-5.9
SPB				IAmb	IAmb	04 58 43.2	
	comp=Z,8.6nm,0.7s						
TEFE	**Tefe**	**33.10**	**255**	*e*P	P	04 58 51.7	-3.0
PTLB	**Pontes e Lacer**	**33.51**	**231**	*e*P	P	**04 58 57.7**	**-0.4**
AQDB	**Aquidauana**	**34.40**	**220**	P	P	04 59 01.0	-4.9
TORD	**Torodi Ar. Bea**	**34.77**	**75**	P	**P**	**04 59 10.0**	**+0.7**
	comp=Z,1.3nm,0.4s,baz=276,slow=7.9,SNR=3.0						
TORD				LR	LR	05 11 45.0	
	comp=Z,267nm,21.0s,baz=283,slow=34						
	comp=Z,1.3nm,0.4s						
SJG	**San Juan**	**34.83**	**294**	P	**P**	**04 59 11.6**	**+1.9**
SJG	**San Juan**	**34.83**	**294**	LR	LR	05 10 29.6	
	comp=Z,179nm,20.7s,baz=109,slow=31						
BAUV	**El Baul**	**35.12**	**277**		**P**	**04 59 13.0**	**+0.8**
EMPR	**Esperanza - Ma**	**35.28**	**294**	P	**P**	**04 59 16.1**	**+2.6**
SIV	**San Ignacio**	**35.33**	**232**	LR	LR	05 12 36.2	
	comp=Z,226nm,21.3s,baz=114,slow=34						
BBSD	**Serra de San D**	**35.68**	**230**	*e*P	**P**	**04 59 16.6**	**-0.4**
AGPR	**Aguadilla, PR**	**35.81**	**294**	P	**P**	**04 59 19.7**	**+1.6**
MDT	**Midelt**	**37.64**	**41**	LR	LR	05 14 16.6	
	comp=Z,209nm,18.3s,baz=240,slow=35						
SDV	**Santo Domingo**	**37.67**	**277**	LR	LR	05 14 41.6	
	comp=Z,114nm,20.7s,baz=72,slow=36						
TBTG	**Tabatinga, AM**	**38.36**	**256**	P	**P**	**04 59 39.3**	**-0.6**
TBTG				IAmb	IAmb	04 59 46.7	
	comp=Z,12nm,0.8s						
PVAQ	**Vaqueiros**	**38.98**	**32**	*i* IAMs_20	IAMs_20	05 12 38.2	
	comp=Z,123nm,20.0s						
CPUP	**Villa Florida**	**39.74**	**216**	LR	LR	05 15 37.8	
	comp=Z,170nm,19.2s,baz=260,slow=35						
RUSC	**La Rusia**	**40.09**	**272**	P	**P**	**04 59 55.1**	**+0.1**
RUSC				IAmb	IAmb	04 59 59.8	
	comp=Z,8.8nm,1.0s						
PMRV	**Marv??o**	**40.66**	**31**	*e*P	**P**	**05 00 02.5**	**+3.8**
PMRV				*i* IAMs_20	IAMs_20	05 13 15.9	
	comp=Z,120nm,22.0s						
LPAZ	**La Paz**	**41.23**	**237**	P	**P**	**05 00 04.7**	**+0.3**
	comp=Z,2.1nm,0.9s,baz=56,slow=7.3,SNR=4.5						
LPAZ				LR	LR	05 16 37.4	
	comp=Z,268nm,19.0s,baz=54,slow=35						
	comp=Z,2.1nm,0.9s						
LPAZ	**La Paz**	**41.23**	**237**	*e*P	P	05 00 01.6	-2.8
MTE	**Manteigas**	**41.32**	**30**	*i* IAMs_20	IAMs_20	05 13 35.2	
	comp=Z,128nm,22.0s						
ROSC	**El Rosal**	**41.37**	**271**	P	**P**	**05 00 05.7**	**+0.3**
	comp=Z,5.0nm,0.7s,baz=325,slow=2.7,SNR=4.2						
ROSC				LR	LR	05 15 54.6	
	comp=Z,177nm,21.9s,baz=69,slow=34						
	comp=Z,5.0nm,0.7s						
CZSB	**Cruzeiro do Su**	**42.00**	**252**	*e*P	P	05 00 05.7	-4.4
MVO	**Moncorvo**	**42.16**	**29**	*i* IAMs_20	IAMs_20	05 14 21.3	
	comp=Z,122nm,20.0s						
PGAV	**Gavieira, Arco**	**42.19**	**27**	*i* IAMs_20	IAMs_20	05 13 56.3	
	comp=Z,98nm,20.0s						
ESDC	**Sonseca Array**	**42.65**	**33**	P	**P**	**05 00 13.6**	**-1.5**
	comp=Z,0.5nm,1.0s,baz=240,slow=6.3,SNR=1.6						
ESDC				LR	LR	05 15 27.4	
	comp=Z,73nm,18.7s,baz=208,slow=33						
	comp=Z,0.5nm,1.0s						
FLOC	**Florencia**	**42.97**	**266**	P	**P**	**05 00 16.8**	**-1.2**
FLOC				IAmb	IAmb	05 00 22.6	
	comp=Z,14nm,1.2s						
COHC	**Cochancay**	**47.12**	**261**	P	**P**	**05 00 50.2**	**-0.8**
COHC				IAmb	IAmb	05 00 51.7	
	comp=Z,3.8nm,1.1s						
NNA	**Nana**	**47.21**	**248**	LR	LR	05 20 43.1	
	comp=Z,163nm,18.1s,baz=82,slow=36						
ATAH	**Atahualpa**	**47.27**	**255**	LR	LR	05 21 07.7	
	comp=Z,296nm,18.4s,baz=91,slow=37						
KEST	**Kesra**	**48.87**	**46**	LR	LR	05 21 53.0	
	comp=Z,228nm,19.0s,baz=241,slow=36						
JTS	**Las Juntas de**	**51.83**	**279**	LR	LR	05 24 32.9	
	comp=Z,53nm,20.6s,baz=90,slow=37						
VAE	**Valguarnera**	**53.30**	**47**	LR	LR	05 24 00.6	
	comp=Z,208nm,20.8s,baz=313,slow=36						
EKA	**Eskdalemuir Ar**	**54.89**	**20**	P	**P**	**05 01 47.4**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=220,slow=6.5,SNR=2.1						
	comp=Z,0.6nm,0.6s						
DAVOX	**Davos/Dischmat**	**54.94**	**35**	LR	LR	05 22 16.4	
	comp=Z,79nm,20.4s,baz=258,slow=33						
FUORN	**Ofenpass-Fuorn**	**55.07**	**35**	P	**P**	**05 01 47.7**	**-2.9**
TSUM	**Tsumeb**	**55.41**	**118**	LR	LR	05 20 09.5	
	comp=Z,167nm,21.6s,baz=327,slow=30						
TKL	**Tuckaleechee C**	**55.45**	**310**	LR	LR	05 20 26.2	
	comp=Z,64nm,21.9s,baz=120,slow=30						
SADO	**Sadowa**	**56.06**	**322**	LR	LR	05 21 07.5	
	comp=Z,51nm,20.0s,baz=126,slow=31						
SCHQ	**Schefferville**	**56.13**	**337**	P	**P**	**05 01 56.4**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=164,slow=7.4						
SCHQ				LR	LR	05 23 35.6	
	comp=Z,35nm,18.1s,baz=76,slow=34						
	comp=Z

comp=Z,24nm,21.6s,baz=35,slow=33
ANMO Albuquerque 73.39 305 LR LR 05 32 00.2
comp=Z,105nm,21.9s,baz=194,slow=32
ARCES ARCESS Array B 73.97 18 LR LR 05 32 56.5
comp=Z,27nm,20.0s,baz=265,slow=33
PMSA Palmer Station 74.00 193 LR LR 05 37 33.3
comp=Z,25nm,18.2s,baz=31,slow=37
LPIG La Paz 76.33 293 LR LR 05 39 06.0
comp=Z,27nm,18.1s,baz=116,slow=37
PDAR Pinedale Array 76.46 312 P **P** **05 04 09.0 +0.3**
comp=Z,0.7nm,0.8s,baz=89,slow=6.2,SNR=5.2
PDAR LR LR 05 33 55.1
comp=Z,37nm,21.1s,baz=110,slow=33
comp=Z,0.7nm,0.8s
SPITS Spitsbergen Ar 76.67 9 LR LR 05 30 11.6
comp=Z,27nm,20.2s,baz=38,slow=30
GNI Garni 76.82 50 LR LR 05 39 25.6
comp=Z,34nm,20.9s,baz=245,slow=37
VNA1 Neumayer--Stat 77.94 172 ⇑P **P** **05 04 17.2 +1.2**
comp=Z,3.4nm,0.8s
VNA3 Neumayer Olymp 78.29 173 ⇑P **P** **05 04 19.0 +0.9**
comp=Z,2.2nm,0.8s
BELG Belogornoye 79.66 38 LR LR 05 40 12.4
comp=Z,30nm,18.1s,baz=295,slow=36
SNAA Sanae 79.66 171 ⇑P **P** **05 04 26.1 +0.5**
comp=Z,31nm,0.9s
SNAA Sanae 79.66 171 P **P** **05 04 26.6 +1.0**
comp=Z,2.3nm,1.1s,baz=283,slow=6.7,SNR=5.3
comp=Z,2.3nm,1.1s
TROLL Troll, Antarti 80.86 170 ⇑P **P** **05 04 33.4 +1.2**
comp=Z,38nm,0.7s
KIRV Kirov 81.10 32 LR LR 05 39 16.8
comp=Z,33nm,19.4s,baz=260,slow=35
YKA Yellowknife Ar 81.21 332 P **P** **05 04 33.7 -0.3**
comp=Z,0.7nm,0.8s,baz=96,slow=5.7,SNR=3.5
YKA LR LR 05 37 40.3
comp=Z,46nm,19.5s,baz=69,slow=34
comp=Z,0.7nm,0.8s
PFO Pinyon Flats O 81.63 303 LR LR 05 38 50.0
comp=Z,42nm,19.1s,baz=99,slow=34
NEW Newport 82.02 318 LR LR 05 39 24.5
comp=Z,28nm,18.1s,baz=103,slow=34
NVAR Mina Array Bea 83.00 308 P **P** **05 04 45.6 +1.3**
comp=Z,0.7nm,0.8s,baz=92,slow=8.1,SNR=4.9
comp=Z,0.7nm,0.8s
ARTI Arti 85.95 34 LR LR 05 42 49.6
comp=Z,57nm,19.3s,baz=251,slow=35
AKTO Aktyubinsk 86.17 40 LR LR 05 42 00.2
comp=Z,27nm,21.8s,baz=265,slow=35
BBB Bella Bella 88.82 322 LR LR 05 43 24.1
comp=Z,33nm,18.1s,baz=42,slow=35
BVAR Borovoye Array 93.35 36 LR LR 05 44 49.4
comp=Z,37nm,21.3s,baz=281,slow=34
ILAR Eielson Array 94.89 337 P **P** **05 05 40.3 -0.1**
comp=Z,0.5nm,0.8s,baz=53,slow=3.0,SNR=4.0
ILAR LR LR 05 45 51.5
comp=Z,37nm,20.1s,baz=54,slow=34
comp=Z,0.5nm,0.8s
AAK Ala-Archa 98.72 45 LR LR 05 54 21.4
comp=Z,28nm,19.5s,baz=279,slow=38
CMAR Chiang Mai Arr 126.70 62 PKP **PKPdf** **05 11 23.6 +0.6**
comp=Z,1.1nm,0.3s,baz=293,slow=3.2,SNR=6.0
ASAR Alice Springs 158.00 146 PKP **PKPdf** **05 12 16.6 +0.2**
comp=Z,1.7nm,1.1s,baz=315,slow=0.5,SNR=5.1

ASRS ***25*** *05:00:53.0±0.8, 53.58N×87.95E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC ***25*** *05:00:56.6±3.1, 53.58N×87.94E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=27.9km s-min=18.3km az=58.0*
NNC ***25*** *05:00:57.0±1.4, 53.65N×87.94E, h0km, mb1.9, mpv1.6, Error ellipse: s-maj=10.6km s-min=4.6km az=102.0, Suspected Mining explosion.*
ISC 25 05:00:56.7±4.0, 53.7N±0.2×87.9E±0.2, h0km, n7, σ0s76/5, 3C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**280**		I	I	05 12 40.0	
	0.2nm,1.0s,baz=98,slow=318,SNR=3.9							
ZAA0	**Zalesovo Array**	**1.83**	**280**	⇓Pn		**Pb**	**05 01 30.3**	**-0.7**
ZAA0	0.4nm,0.8s,baz=98,slow=16			⇑Sn		**Sg**	**05 01 55.7**	**+0.2**
	1.6nm,0.7s,baz=98,slow=26							
ZALV	**Zalesovo Beam**	**1.83**	**280**	Pn		**Pn**	**05 01 30.0**	**+0.6**
ZALV	0.6nm,0.3s,baz=99,slow=14,SNR=8.1			Lg		Lg	05 01 57.0	
	1.4nm,0.3s,baz=97,slow=26,SNR=13							
KURK	**Kurchatov**	**6.42**	**246**	⇑Lg		Lg	05 04 20.9	
	0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**6.51**	**246**	⇑Lg		Lg	05 04 23.5	
	3.3nm,1.1s							
KURBB	**Kurchatov Arra**	**6.51**	**246**	Pn		**Pn**	**05 02 34.0**	**+0.3**
KURBB	0.1nm,0.3s,baz=60,slow=14,SNR=4.8			Lg		Lg	05 04 20.8	
	baz=61,slow=31,SNR=5.2							
	0.5nm,0.4s							
MKAR	**Makanchi Array**	**7.77**	**210**	Pn		**Pn**	**05 02 51.2**	**+0.3**
MKAR	0.1nm,0.3s,baz=34,slow=16,SNR=2.3			Lg		Lg	05 04 59.1	
	baz=34,slow=30,SNR=4.2							
	0.1nm,0.4s							

IDC ***25*** *05:22:43.3±12.0, 39.43N×141.18E, h0km, mb3.8/3, mbtmp3.7/4, ML2.5/1, MS3.4/1, Error ellipse: s-maj=242.5km s-min=41.2km az=97.0*
JMA ***25*** *05:22:45.5±0.1, 38.8N±0.2×141.8E±0.5, h65km, MV3.7/39, KINKAZAN REGION*
JMA Felt I J1 at KINKAZAN REGION .
ISC 25 05:22:45.2±1.5, 38.82N±0.05×141.86E±0.10, h64km±8km, n16, σ0s63/27, mb3.9/3, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JKMT	**Kesennumamotoy**	**0.30**	**269**	P		**Pn**	**05 22 56.0**	**+0.3**
JKMT				S		**Sn**	**05 23 03.3**	**-0.1**
OFUJ	**Ofunato**	**0.30**	**330**	P		**Pn**	**05 22 56.2**	**+0.5**
OFUJ				S		**Sn**	**05 23 03.7**	**+0.3**
JMK	**Ichinoseki**	**0.52**	**285**	P		**Pn**	**05 22 57.7**	**+0.1**
JMK				S		**Sn**	**05 23 06.6**	**-0.1**
JIO	**Ouri**	**0.54**	**228**	*i* P		**Pn**	**05 22 58.0**	**+0.1**
JIO				S		**Sn**	**05 23 06.7**	**-0.5**
JOM	**Ohasama**	**0.79**	**326**	P		**Pn**	**05 23 01.1**	**+0.3**
JOM				S		**Sn**	**05 23 12.2**	**0.0**
JOU	**Okura**	**1.04**	**245**	P		**Pn**	**05 23 03.7**	**-0.2**
JOU				S		**Sn**	**05 23 17.5**	**-0.3**
JRG	**Rokugo**	**1.12**	**302**	⇓P		**Pn**	**05 23 04.8**	**-0.1**
JRG				⇓S		**Sn**	**05 23 19.3**	**-0.2**
JYK	**Kaneyama**	**1.18**	**275**	P		**Pn**	**05 23 05.6**	**0.0**
JYK				*e*S		**Sn**	**05 23 20.3**	**-0.7**
JMM	**Marumori**	**1.27**	**222**	P		**Pn**	**05 23 06.4**	**-0.5**
JMM				S		**Sn**	**05 23 22.5**	**-0.5**
JYS	**Shirataka**	**1.53**	**248**	⇓*i*P		**Pn**	**05 23 10.7**	**+0.3**
JYS				⇓S		**Sn**	**05 23 29.9**	**+0.5**
JANG	**Nango**	**1.58**	**350**	P		**Pn**	**05 23 11.0**	**0.0**
JFK	**Kawauchi**	**1.64**	**209**	P		**Pn**	**05 23 11.9**	**0.0**
JFK				S		**Sn**	**05 23 31.5**	**-0.6**
MJAR	**Matsushiro Arr**	**3.68**	**233**	Pn		**Pn**	**05 23 42.1**	**+2.5**
	0.4nm,0.3s,baz=40,slow=11,SNR=17							
	4.0nm,0.4s							
ZALV	**Zalesovo Beam**	**41.00**	**311**	P		**P**	**05 30 21.7**	**+0.1**
	0.8nm,0.4s,baz=89,slow=9.6,SNR=2.1							
	0.8nm,0.4s							
MKAR	**Makanchi Array**	**43.49**	**301**	P		**P**	**05 30 41.5**	**-0.6**
	0.5nm,0.6s,baz=82,slow=10.0,SNR=3.6							
MKAR				LR		LR	05 51 00.3	
	comp=Z,48nm,19.1s,baz=281,slow=40							
	0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**45.20**	**307**	P		**P**	**05 30 55.2**	**-0.4**
	0.7nm,0.4s,baz=81,slow=8.1,SNR=10							
	0.7nm,0.4s							

SNET ***25*** *05:37:15.0±0.7, 13.48N×89.49W, h94km±2km, ML3.3*
GCG ***25*** *05:37:16.5±0.9, 13.50N×89.49W, h90km±4km, MD3.8, ML3.6, MW3.1*
CATAC ***25*** *05:37:16.5±0.3, 13°N±4.°×9.°0W±.°, h72km±2km, M3.4/23, MLv3.4/23, Error ellipse: s-maj=8.6km s-min=3.4km az=23.6, confirmed*
ISC 25 05:37:16.8±1.9, 13.47N±0.06×89.52W±0.06, h87km±8km, n86, σ0s68/94, 3C-7D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAYA	**Jayaque - finc**	**0.20**	**21**	⇑*e*P		**Pn**	**05 37 29.4**	**-0.3**
JAYA				*e*S		**Sn**	**05 37 39.2**	**0.0**
JAYA	**Jayaque - finc**	**0.20**	**21**	*i* P		**Pn**	**05 37 29.4**	**-0.3**
JAYA				*i* S		**Sn**	**05 37 39.3**	**+0.1**
JAYA	**Jayaque - finc**	**0.20**	**21**	P		**Pn**	**05 37 29.4**	**-0.3**
JAYA	**Jayaque - finc**	**0.20**	**21**	S		**Sn**	**05 37 38.4**	**-0.8**
LALI	**Alcalda de L**	**0.20**	**85**	*e*P		**Pn**	**05 37 29.4**	**-0.1**
LALI				*e*S		**Sn**	**05 37 39.2**	**+0.4**
LALI	**Alcalda de L**	**0.20**	**85**	*i* P		**Pn**	**05 37 29.4**	**-0.1**
LALI				*i* S		**Sn**	**05 37 39.5**	**+0.6**
LALI				IAML			05 37 40.1	
	comp=N,1μm,0.3s							
LALI	**Alcalda de L**	**0.20**	**85**	P		**Pn**	**05 37 29.4**	**-0.1**
PMON	**Piamonte**	**0.31**	**40**	⇓*e*P		**Pn**	**05 37 29.8**	**-0.4**
PMON	**Piamonte**	**0.31**	**40**	P		**Pn**	**05 37 29.9**	**-0.4**
PMON	**Piamonte**	**0.31**	**40**	S		**Sn**	**05 37 40.4**	**+0.3**
BOQS	**Boqueron**	**0.35**	**42**	*e*P		**Pn**	**05 37 30.3**	**-0.3**
CEDA	**San Andres**	**0.35**	**20**	*e*P		**Pn**	**05 37 29.9**	**-0.4**
CEDA	**San Andres**	**0.35**	**20**	P		**Pn**	**05 37 29.8**	**-0.5**
CEDA	**San Andres**	**0.35**	**20**	S		**Sn**	**05 37 40.7**	**+0.4**
PANCS	**Alcalda de**	**0.36**	**67**	*e*P		**Pn**	**05 37 30.0**	**-0.4**
PANCS	**Alcalda de**	**0.36**	**67**	S		**Sn**	**05 37 40.2**	**-0.2**
PANCS	**Alcalda de**	**0.36**	**67**	P		**Pn**	**05 37 30.1**	**-0.3**
UEES	**Universidad Ev**	**0.37**	**48**	*e*P		**Pn**	**05 37 30.5**	**0.0**
UEES	**Universidad Ev**	**0.37**	**48**	P		**Pn**	**05 37 29.9**	**-0.6**
UEES	**Universidad Ev**	**0.37**	**48**	S		**Sn**	**05 37 41.5**	**+1.0**
CEVE	**Cerro Verde**	**0.37**	**344**	*e*P		**Pn**	**05 37 30.7**	**0.0**
CEVE				*e*S		**Sn**	**05 37 41.3**	**+0.4**
CEVE	**Cerro Verde**	**0.37**	**344**	P		**Pn**	**05 37 30.5**	**-0.2**
SBLS	**San Blas**	**0.38**	**345**	*e*P		**Pn**	**05 37 30.5**	**-0.2**
LOMA	**Loma Larga**	**0.38**	**63**	*e*P		**Pn**	**05 37 30.2**	**-0.4**
LOMA				*e*S		**Sn**	**05 37 40.6**	**-0.2**
LOMA	**Loma Larga**	**0.38**	**63**	P		**Pn**	**05 37 30.1**	**-0.5**
UTEC	**Universidad Te**	**0.39**	**54**	P		**Pn**	**05 37 30.3**	**-0.2**
UTEC	**Universidad Te**	**0.39**	**54**	S		**Sn**	**05 37 41.3**	**+0.5**
SNJE	**San Jose**	**0.40**	**348**	*e*P		**Pn**	**05 37 30.7**	**-0.2**
UDBS	**Universidad Do**	**0.43**	**56**	P		**Pn**	**05 37 30.7**	**-0.1**
UDBS	**Universidad Do**	**0.43**	**56**	S		**Sn**	**05 37 42.4**	**+1.1**
RTR	**El Retiro**	**0.44**	**344**	*e*P		**Pn**	**05 37 31.2**	**+0.1**
LFRS	**El Faro**	**0.47**	**71**	⇑*i*P		**Pn**	**05 37 30.7**	**-0.5**
LFRS				*e*S		**Sn**	**05 37 41.7**	**-0.2**
LFU	**La Fuente**	**0.48**	**55**	*e*P		**Pn**	**05 37 30.8**	**-0.4**
NUBE	**Las Nubes**	**0.50**	**330**	*e*P		**Pn**	**05 37 31.2**	**-0.3**
NUBE	**Las Nubes**	**0.50**	**330**	*i* P		**Pn**	**05 37 31.2**	**-0.3**
NUBE	**Las Nubes**	**0.50**	**330**	P		**Pn**	**05 37 31.2**	**-0.3**
UNIC	**Universidad Ca**	**0.51**	**357**	S		**Sn**	**05 37 42.4**	**0.0**
UNIC	**Universidad Ca**	**0.51**	**357**	P		**Pn**	**05 37 30.9**	**-0.5**
LBRS	**Las Brisas**	**0.54**	**60**	*e*P		**Pn**	**05 37 31.1**	**-0.6**
LOAL	**Lomas de Alarc**	**0.58**	**334**	*e*P		**Pn**	**05 37 32.2**	**+0.1**
LOAL	**Lomas de Alarc**	**0.58**	**334**	P		**Pn**	**05 37 31.9**	**-0.2**
FAME	**Alcaldia de Sa**	**0.61**	**308**	P		**Pn**	**05 37 32.0**	**-0.2**
FAME	**Alcaldia de Sa**	**0.61**	**308**	S		**Sn**	**05 37 43.8**	**+0.1**
SLOZ	**Alcaldia de Sa**	**0.61**	**335**	*e*P		**Pn**	**05 37 32.0**	**-0.3**
SLOZ	**Alcaldia de Sa**	**0.61**	**335**	P		**Pn**	**05 37 32.1**	**-0.3**
PAVA	**Las Pavas**	**0.62**	**67**	⇓*e*P		**Pn**	**05 37 31.9**	**-0.6**
PAVA	**Las Pavas**	**0.62**	**67**	P		**Pn**	**05 37 31.9**	**-0.6**
PAVA	**Las Pavas**	**0.62**	**67**	S		**Sn**	**05 37 44.7**	**+0.6**
TECO	**Alcaldia de Te**	**0.72**	**85**	⇓*i*P		**Pn**	**05 37 32.7**	**-0.7**
TECO	**Alcaldia de Te**	**0.72**	**85**	S		**Sn**	**05 37 45.2**	**-0.4**
TECO	**Alcaldia de Te**	**0.72**	**85**	P		**Pn**	**05 37 32.7**	**-0.7**
UESV	**Universidad de**	**0.73**	**77**	P		**Pn**	**05 37 32.8**	**-0.7**
UESV	**Universidad de**	**0.73**	**77**	S		**Sn**	**05 37 46.1**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.80**	**73**	⇓*e*P		**Pn**	**05 37 33.7**	**-0.6**
SCLA	**Alcaldia de Sa**	**0.80**	**73**	P		**Pn**	**05 37 33.6**	**-0.6**
MTO3	**Montecristo**	**0.94**	**10**	⇓*i*P		**Pn**	**05 37 35.4**	**-0.5**
MTO3	**Montecristo**	**0.94**	**10**	*i* P		**Pn**	**05 37 35.4**	**-0.5**
MTO3	**Montecristo**	**0.94**	**10**	P		**Pn**	**05 37 35.3**	**-0.5**
ALJI	**Alcalda de J**	**0.94**	**99**	P		**Pn**	**05 37 36.6**	**+1.0**
ALJI	**Alcalda de J**	**0.94**	**99**	S		**Sn**	**05 37 51.5**	**+1.8**
PQSS	**Presa 15 de Se**	**0.95**	**81**	⇑*e*P		**Pn**	**05 37 35.0**	**-0.8**
PQSS	**Presa 15 de Se**	**0.95**	**81**	P		**Pn**	**05 37 34.9**	**-0.8**
PQSS	**Presa 15 de Se**	**0.95**	**81**	S		**Sn**	**05 37 50.0**	**+0.1**
TECA	**Tecapa**	**0.99**	**89**	*e*P		**Pn**	**05 37 35.9**	**-0.5**
TECA				*e*P			05 37 36.2	
ESQI	**Esquipulas**	**1.10**	**9**	⇓*i*P		**Pn**	**05 37 37.5**	**-0.2**
ESQI	**Esquipulas**	**1.10**	**9**	P		**Pn**	**05 37 37.4**	**-0.2**
PACA	**Pacayal**	**1.17**	**90**	*e*P		**Pn**	**05 37 37.9**	**-0.6**
SARH	**Santa Rosa de**	**1.49**	**30**	*i* P		**Pn**	**05 37 42.4**	**0.0**
SARH				*i* S		**Sn**	**05 38 02.6**	**+0.8**
SARH	**Santa Rosa de**	**1.49**	**30**	S		**Sn**	**05 38 03.0**	**+1.2**
SARH	**Santa Rosa de**	**1.49**	**30**	P		**Pn**	**05 37 42.3**	**-0.2**
LCND	**La Caada**	**1.59**	**96**	*e*P		**Pn**	**05 37 42.5**	**-0.8**
LCND	**La Caada**	**1.59**	**96**	P		**Pn**	**05 37 43.3**	**-0.3**
MARCA	**Marcala la Paz**	**1.60**	**65**	*i* P		**Pn**	**05 37 43.2**	**-0.7**
MARCA	**Marcala la Paz**	**1.60**	**65**	P		**Pn**	**05 37 43.2**	**-0.7**
INTHN	**La Esperanza I**	**1.61**	**59**	P		**Pn**	**05 37 43.7**	**-0.5**
CNCH	**Conchagua**	**1.65**	**97**	⇓*i*P		**Pn**	**05 37 43.9**	**-0.7**
CNCH	**Conchagua**	**1.65**	**97**	P		**Pn**	**05 37 43.9**	**-0.7**
CNCH	**Conchagua**	**1.65**	**97**	S		**Sn**	**05 38 08.1**	**+2.5**
STG0	**El Palmar, Qui**	**2.01**	**298**	*i* P		Pn	05 37 54.8	+5.5
STG0				*i* S		Sn	05 38 23.7	+10
STG0				IAML			05 38 27.3	
	comp=E,665nm,0.2s							
POTN	**Potosi Cosigui**	**2.02**	**103**	P		**Pn**	**05 37 49.7**	**+0.6**
POTN				S		**Sn**	**05 38 16.4**	**+2.5**
STG8	**El Palmar, Qui**	**2.03**	**299**	*i* S		Sn	05 38 24.6	+10
STG8				IAML			05 38 32.9	
	comp=N,327nm,0.3s							
TGUH	**Tegucigalpa,Un**	**2.26**	**75**	P		**Pn**	**05 37 51.9**	**-0.6**
CHOHN	**Orocuina**	**2.30**	**90**	P		**Pn**	**05 37 52.2**	**-0.8**
YUSH	**Yuscaran**	**2.65**	**79**	P		**Pn**	**05 37 57.1**	**-0.6**
POLN	**Al Sur del Vol**	**2.76**	**107**	P		**Pn**	**05 37 58.2**	**-1.0**
POLN				S		**Sn**	**05 38 30.3**	**-1.4**
PLRN	**Geotermica Pol**	**2.82**	**108**	S		**Sn**	**05 38 32.5**	**-0.7**

IDC ***25*** *05:48:17.4±0.9, 36.02N×98.20W, h0km, mbtmp3.5/7, ML3.8/7, Error ellipse: s-maj=12.9km s-min=8.7km az=158.0*
NEIC ***25*** *05:48:18.3±0.6, 35.843N±0.002×98.07W±0.01, h2km±3km, mb_Lg3.9/129, ML4.0/59, ML3.9/41, Mwr3.6/42, Error ellipse: s-maj=1.3km s-min=0.3km az=85.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-0.35; Mθθ3.63; Mφφ-3.28; Mrθ-0.16; Mθφ0.20; Mrφ0.66; Fault plane solution: M₀3.54000×10¹⁴ NP1: φs132.70000°, δ82.88000°, λ-10.12000°. NP2: φs223.97000°, δ79.96000°, λ-172.77000°. Principal axes: T 3.6402, Plg2.0000°, Azm179.0000°; N -0.2092, Plg78.0000°, Azm278.0000°; P -3.4310, Plg12.0000°, Azm88.0000°;*
NEIC ***25*** *05:48:18.7±0.8, 35.843N±0.009×98.08W±0.01, h6km±4km Error ellipse: s-maj=1.4km s-min=1.2km az=218.0*
NEIC ***25*** *05:48:18.4, 35.84N×98.07W, h2km*
ISC 25 05:48:18.8±1.0, 35.89N±0.02×98.05W±0.02, h18km±5km, n175, σ1s49/172, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BCOK	**Bluff Creek, N**	**0.43**	**123**			**Pg**	**05 48 27.1**	**-0.4**
BCOK						**Sg**	**05 48 33.3**	**-0.1**
OK029	**Liberty Lake**	**0.49**	**101**			**Pg**	**05 48 28.7**	**0.0**
OK029						**Sg**	**05 48 35.9**	**+0.5**
CSTR	**Hydro, Custer**	**0.58**	**245**			**Pg**	**05 48 29.2**	**-1.1**
CSTR						**Sg**	**05 48 37.2**	**-0.9**
OK004	**Okla Sci Mus**	**0.59**	**128**			**Pg**	**05 48 30.0**	**-0.6**
OK004						**Sg**	**05 48 38.4**	**-0.1**
ADOK	**Arcadia Dam**	**0.60**	**113**			**Pg**	**05 48 30.3**	**-0.4**
CROK	**Carrier**	**0.61**	**5**			**Pb**	**05 48 31.4**	**+0.4**
CROK						**Sn**	**05 48 40.9**	**-1.2**
CROK				IAML			05 48 41.1	
	comp=E,7μm,0.5s							
CROK				IAML			05 48 49.3	
	comp=N,7μm,0.3s							
OKCSW	**OKLAHOMA CITY**	**0.69**	**134**			**Pg**	**05 48 31.7**	**-0.8**
OKCSW						**Sg**	**05 48 40.9**	**-0.8**
OKCSW				IAML			05 48 41.4	
	comp=N,12μm,0.5s							
OKCSW				IAML			05 48 41.6	
	comp=E,8μm,0.4s							
OK038	**West end E0370**	**0.81**	**316**			**Pb**	**05 48 34.4**	**0.0**
OK038						**Sn**	**05 48 46.0**	**-1.0**
FNO	**Franklin**	**0.82**	**140**			**Pg**	**05 48 33.8**	**-1.1**
FNO				IAML			05 48 47.9	
	comp=E,6μm,0.6s							
GC02	**Grant County #**	**0.97**	**9**			**Pn**	**05 48 37.9**	**+0.4**
GC02						**Sn**	**05 48 50.8**	**-0.1**

OK052	**Battle Ridge R**	**1.01**	**84**			**Pb**	**05 48 38.3**	**+0.5**
OK052						**Sb**	**05 48 52.0**	**+1.2**
OK052				IAML			05 48 57.7	
	comp=E,3μm,0.4s							
OK052				IAML			05 49 05.5	
	comp=E,3μm,0.3s							
KAN14	**Manchester OK**	**1.06**	**4**			**Pn**	**05 48 39.4**	**+0.6**
KAN14						**Sn**	**05 48 54.5**	**+1.2**
KAN14				IAML			05 49 01.6	
	comp=N,3μm,0.2s							
KAN14				IAML			05 49 01.9	
	comp=E,3μm,0.3s							
BLOK	**Blackwell**	**1.10**	**38**			**Pg**	**05 48 40.2**	**+0.2**
BLOK				IAML			05 49 00.9	
	comp=E,7μm,0.2s							
QUOK	**Quay**	**1.12**	**75**			**Pb**	**05 48 40.2**	**+0.5**
QUOK				IAML			05 49 00.5	
	comp=N,4μm,0.3s							
QUOK				IAML			05 49 03.2	
	comp=E,3μm,0.2s							
ELIS	**Ellis County**	**1.13**	**279**			**Pb**	**05 48 39.5**	**-0.2**
ELIS						**Sn**	**05 48 55.2**	**+0.4**
ELIS				IAML			05 49 02.2	
	comp=E,5μm,0.2s							
ELIS				IAML			05 49 09.8	
	comp=N,6μm,0.3s							
OK051	**E0350 and S346**	**1.15**	**58**			**Pn**	**05 48 41.1**	**+1.0**
KAN17	**Caldwell West**	**1.17**	**11**			**Pg**	**05 48 41.3**	**-0.2**
KAN17				IAML			05 49 03.5	
	comp=N,6μm,0.3s							
KAN13	**South Haven SW**	**1.21**	**22**			**Pg**	**05 48 42.0**	**-0.2**
KAN10	**Anthony SW Sta**	**1.23**	**358**			**Pg**	**05 48 42.4**	**-0.2**
DEOK	**Depew**	**1.26**	**92**			**Pn**	**05 48 41.9**	**+0.4**
DEOK				IAML			05 49 05.1	
	comp=E,4μm,0.4s							
DEOK				IAML			05 49 05.4	
	comp=N,3μm,0.3s							
KAN01	**Argonia South**	**1.28**	**10**			**Pg**	**05 48 43.1**	**-0.5**
KAN09	**Caldwell North**	**1.29**	**15**			**Pg**	**05 48 43.3**	**-0.4**
WMOK	**Wichita Mounta**	**1.30**	**208**			**Pn**	**05 48 41.3**	**-0.8**
WMOK	**Wichita Mounta**	**1.30**	**208**			**Pn**	**05 48 41.4**	**-0.7**
WMOK				IAML			05 48 58.5	
	comp=N,2μm,0.3s							
WMOK				IAML			05 49 03.8	
	comp=N,1μm,0.5s							
X34A	**Smith Ranch, M**	**1.30**	**172**			**Pn**	**05 48 42.5**	**+0.4**
X34A				IAML			05 49 01.6	
	comp=E,4μm,0.3s							
X34A				IAML			05 49 05.5	
	comp=N,3μm,0.3s							
KAN08	**Anthony NE Sta**	**1.33**	**3**			**Pg**	**05 48 44.0**	**-0.5**
KAN12	**Harper NE Stat**	**1.40**	**2**			**Pg**	**05 48 45.0**	**-0.9**
T35A	**Sooner Cattle**	**1.60**	**50**			**Pb**	**05 48 48.5**	**+0.5**
TUL3	**Leonard**	**1.83**	**89**			**Pn**	**05 48 51.1**	**+1.7**
TUL3				IAmb_Lg			05 49 20.9	
	comp=Z,592nm,0.8s							
DRZT	**Darrouzett**	**1.90**	**287**			**Pb**	**05 48 53.2**	**+0.2**
DRZT	**Darrouzett**	**1.90**	**287**	P		**Pb**	**05 48 53.2**	**+0.2**
SMWD	**Samnorwood**	**1.96**	**247**			**Pn**	**05 48 52.2**	**+1.1**
SMWD				IAmb_Lg			05 49 19.0	
	comp=Z,616nm,0.7s							
SMWD	**Samnorwood**	**1.96**	**247**	P		**Pn**	**05 48 52.5**	**+1.3**
LOOK	**Love County**	**2.02**	**159**			**Pn**	**05 48 54.0**	**+2.0**
LOOK				IAmb_Lg			05 49 25.6	
	comp=Z,1μm,0.9s							
WTFS	**Witchita Falls**	**2.15**	**189**			**Pn**	**05 48 55.5**	**+1.8**
WTFS	**Witchita Falls**	**2.15**	**189**	P		**Pn**	**05 48 55.7**	**+1.9**
RLO	**Rose Lookout**	**2.47**	**83**			**Pn**	**05 48 59.6**	**+1.5**
RLO				IAmb_Lg			05 49 39.4	
	comp=Z,322nm,0.8s							
R32A	**Long Quarter,**	**2.58**	**348**			**Pb**	**05 49 02.1**	**-2.5**
R32A				IAmb_Lg			05 49 41.9	
	comp=Z,315nm,0.7s							
Z35A	**Perchaven, San**	**2.64**	**165**			**Pn**	**05 49 01.7**	**+1.2**
FW03	**Perrin-Whitt E**	**2.85**	**180**	IAmb_Lg			05 49 45.2	
	comp=Z,335nm,0.7s							
FW03	**Perrin-Whitt E**	**2.85**	**180**	P		**Pn**	**05 49 05.5**	**+2.2**
FW06	**Azle**	**2.94**	**172**	Pn		**Pn**	**05 49 06.6**	**+1.9**
FW06	**Azle**	**2.94**	**172**	P		**Pn**	**05 49 06.6**	**+1.9**
FW02	**City of Haslet**	**2.99**	**169**	P		**Pn**	**05 49 08.2**	**+2.8**
U38A	**Gravette**	**3.01**	**78**			**Pn**	**05 49 07.6**	**+1.9**
U38A				IAmb_Lg			05 50 01.9	
	comp=Z,319nm,0.8s							
APMT	**Aspermont**	**3.08**	**214**			**Pn**	**05 49 08.4**	**+1.9**
APMT				IAmb_Lg			05 49 58.1	
	comp=Z,338nm,0.8s							
APMT	**Aspermont**	**3.08**	**214**	P

comp=Z,268nm,0.8s
P38A Dawn 5.16 42 Pn Pn 05 49 37.2 +2.0
P38A IAmb_Lg 05 51 14.6
comp=Z,190nm,0.8s
R40A Maddies Statio 5.20 61 Pn 05 49 37.3 +1.6
R40A IAmb_Lg 05 51 17.7
comp=Z,213nm,0.8s
T25A Trinidad 5.28 286 Pn 05 49 38.5 +1.6
T25A IAmb_Lg 05 51 13.5
comp=Z,279nm,0.8s
N35A Tabor 5.31 20 Pn 05 49 38.6 +1.4
BGNE Belgrade 5.51 359 Pn 05 49 41.2 +1.2
BGNE IAmb_Lg 05 51 23.0
comp=Z,229nm,0.7s
CCAR Cane Creek 5.52 109 IAmb_Lg 05 51 19.7
comp=Z,233nm,0.8s
OZNA Ozona 5.59 208 Pn 05 49 40.9 -0.2
CPRX Cap Rock 5.59 241 Pn 05 49 42.6 +1.3
LCAR Lake Charles 5.59 86 Pn 05 49 41.9 +0.8
LCAR IAmb_Lg 05 51 18.1
comp=Z,200nm,1.1s
JCT Junction City 5.59 196 Pn 05 49 41.3 +0.1
HTMS Hat Mesa 5.75 235 Pn 05 49 44.0 +0.6
CCM Cathedral Cave 5.86 66 Pn Pn **05 49 45.7 +1.0**
CCM IAmb_Lg 05 51 27.7
comp=Z,304nm,0.9s
CLN7 Carlsbad 7 5.90 236 Pn 05 49 46.3 +0.8
OGNE Ogallala 5.94 329 Pn Pn **05 49 48.0 +2.1**
MNHN Monahans 6.01 222 Pn 05 49 46.9 +0.1
CLNB Carlsbad 6.04 235 Pn 05 49 48.9 +1.5
N38A Joes South For 6.18 36 Pn 05 49 50.8 +1.6
SDCO Great Sand Dun 6.26 289 Pn 05 49 53.1 +2.5
143A Socs Landing, 6.35 118 IAmb_Lg 05 51 50.6
comp=Z,275nm,1.2s
HNDO Hondo 6.43 190 Pn 05 49 52.4 -0.3
Q24A Divide 6.43 301 IAmb_Lg 05 51 48.4
comp=Z,264nm,0.9s
FVM French Village 6.45 69 Pn 05 49 53.7 +0.8
FVM IAmb_Lg 05 51 58.2
comp=Z,181nm,0.7s
PECS Pecos 6.62 229 Pn 05 49 56.0 +0.6
MET Memphis--Engin 6.66 94 IAmb_Lg 05 52 00.6
comp=Z,198nm,0.8s
PVMO Portageville 6.77 83 IAmb_Lg 05 52 00.2
comp=Z,288nm,0.8s
SLM Saint Louis 6.80 64 IAmb_Lg 05 51 55.5
comp=Z,202nm,0.7s
DRIO Del Rio 6.81 199 Pn 05 49 57.1 -0.7
SAND Sanderson 6.84 211 Pn 05 49 57.8 -0.5
K30B Basset 6.88 350 Pn 05 50 00.8 +2.0
K30B IAmb_Lg 05 51 56.9
comp=Z,261nm,0.8s
CGM3 Cape Girardeau 6.89 76 Pn Pn **05 49 60.0 +1.1**
CGM3 IAmb_Lg 05 51 55.1
comp=Z,105nm,0.9s
ANMO Albuquerque 6.93 265 Pn Pn **05 50 01.3 +1.6**
ANMO Albuquerque 6.93 265 Pn Pn **05 50 01.1 +1.4**
comp=Z,0.3nm,0.3s,baz=177,slow=17,SNR=8.1
ANMO Lg Lg 05 51 49.8
comp=Z,8.0nm,0.3s,baz=250,slow=11,SNR=9.3
comp=Z,0.8nm,0.4s
735A Kenedy 7.02 178 IAmb_Lg 05 52 18.2
comp=Z,177nm,1.0s
GLAT Glass 7.10 84 IAmb_Lg 05 52 07.6
comp=Z,217nm,0.8s
ISCO Idaho Springs 7.14 305 Pn 05 50 05.0 +2.4
ISCO IAmb_Lg 05 52 10.9
comp=Z,118nm,0.7s
HICK Hickman 7.16 82 Pn 05 50 05.0 +2.4
OXF Oxford 7.20 99 Pn 05 50 04.1 +0.9
OXF IAmb_Lg 05 52 13.3
comp=Z,98nm,0.9s
ALPN Alpine 7.23 222 Pn 05 50 04.8 +1.0
BNM Barren Site 7.25 259 Pn 05 50 05.4 +1.2
Y45A Yeager Farm, C 7.27 104 Pn 05 50 05.1 +0.9
Y45A IAmb_Lg 05 52 18.2
comp=Z,95nm,0.8s
S44A Carbondale 7.28 73 Pn 05 50 05.5 +1.3
S44A IAmb_Lg 05 52 13.8
comp=Z,198nm,0.8s
SIUC Southern Illin 7.31 73 Pn 05 50 05.6 +0.9
CRNM Carthage 7.39 257 Pn 05 50 07.8 +1.8
MNTX Cornudas Mount 7.40 238 Pn 05 50 06.7 +0.7
MNTX IAmb_Lg 05 52 27.4
comp=Z,103nm,0.8s
N41A Harden Midland 7.42 47 Pn Pn **05 50 08.5 +2.3**
Y22D IRIS PASSCAL I 7.51 259 IAmb_Lg 05 52 34.2
comp=Z,169nm,0.8s
833A Chaparral WMA, 7.63 189 Pn 05 50 08.9 -0.2
833A IAmb_Lg 05 52 38.6
comp=Z,160nm,0.9s
VHRN Van Horn 7.72 231 Pn 05 50 11.7 +1.2
Q44A Meyer Farm, Va 7.79 65 Pn 05 50 12.5 +1.2
TXAR Lajitas Array 8.08 218 Pn 05 50 15.7 +0.4
TXAR Lajitas Array 8.08 218 Pn Pn **05 50 15.4 +0.1**
comp=Z,0.6nm,0.3s,baz=39,slow=11,SNR=13
TXAR Sn Sn **05 51 45.8 -0.4**
comp=Z,3.3nm,0.3s,baz=45,slow=13,SNR=3.5
TXAR Lg Lg 05 52 25.6
comp=Z,12nm,0.3s,baz=50,slow=28,SNR=9.7
comp=Z,0.9nm,0.4s
L40A Anamosa 8.13 39 Pn 05 50 16.8 +0.9
HDIL Hopedale 8.31 53 Pn Pn **05 50 18.9 +0.5**
SUSD Miller 8.57 356 IAmb_Lg 05 53 00.4
comp=Z,81nm,0.8s
Z47A Carrollton 8.66 105 Pn 05 50 24.4 +1.2
121A Cookes Peak, D 8.73 250 Pn Pn **05 50 24.8 +0.4**
T47A Sharon Grove 8.88 80 Pn 05 50 26.7 +0.4
JFWS Jewell Farm 9.25 38 Pn 05 50 32.6 +1.4
RSSD Black Hills 9.41 333 Pn 05 50 35.5 +1.8
RSSD IAmb_Lg 05 53 29.1
comp=Z,78nm,0.8s
K22A Casper 9.42 318 Pn 05 50 34.7 +1.0
M44A Midewin, Midew 9.55 52 Pn Pn **05 50 36.4 +0.9**
LRAL Lakeview Retre 9.56 104 Pn Pn **05 50 36.0 +0.5**
WCI Wyandotte Cave 9.68 73 Pn 05 50 38.2 +1.0
SFIN Lafayette 9.72 59 Pn 05 50 39.2 +1.6
BLO Bloomington 9.72 67 Pn 05 50 38.5 +0.8
Y49A Blount Mountai 9.77 99 Pn 05 50 38.9 +0.4
I40A Norwalk 9.81 33 Pn 05 50 39.9 +0.9
I40A IAmb_Lg 05 53 44.1
comp=Z,123nm,1.1s
SWET Sewanee 9.89 90 Pn 05 50 41.4 +1.2
P48A Milroy 10.62 67 Pn Pn **05 50 50.0 0.0**
T50A Nancy 10.70 80 Pn Pn **05 50 51.5 +0.4**
CPCT Cooper Cave 11.01 88 Pn 05 50 56.3 +0.8
PDAR Pinedale Array 11.24 311 Pn Pn **05 50 58.4 -0.5**
comp=Z,0.2nm,0.3s,baz=110,slow=14,SNR=9.0
PDAR Lg Lg 05 54 02.8
comp=Z,0.7nm,0.3s,baz=98,slow=15,SNR=1.6
comp=Z,0.5nm,0.5s
TKL Tuckaleechee C 11.60 87 Pn Pn **05 51 04.3 +0.9**
comp=Z,0.4nm,0.3s,baz=237,slow=7.7,SNR=6.8
TKL Sn Sn **05 53 13.2 +0.7**
comp=Z,0.6nm,0.3s,baz=188,slow=17,SNR=2.2
TKL Lg Lg 05 54 21.4
comp=Z,1.2nm,0.3s,baz=354,slow=20,SNR=4.3
comp=Z,2.6nm,0.5s
S51A Beattyville 11.72 77 Pn 05 51 06.3 +1.1
TZTN Tazewell 11.73 83 Pn Pn **05 51 06.4 +1.1**
N51A Ashland 13.27 63 Pn 05 51 26.7 +0.4
O52A Adamsville 13.46 67 Pn Pn **05 51 29.5 +0.7**
P53A Whipple 13.67 70 Pn Pn **05 51 30.8 -1.0**
Q54A Coxs Mills 14.02 72 Pn 05 51 36.8 +0.2
R55A Marlinton 14.51 75 Pn Pn **05 51 43.1 -0.2**
NVAR Mina Array Bea 16.35 285 Pn Pn **05 52 06.7 -0.9**
comp=Z,0.2nm,0.3s,baz=74,slow=10,SNR=1.8
comp=Z,0.1nm,0.3s
SADO Sadowa 16.89 53 Pn 05 52 13.6 -0.7
comp=Z,0.3nm,0.3s,baz=244,slow=6.8,SNR=3.9
SADO Sn Sn **05 55 12.0 -9.5**
comp=Z,0.4nm,0.3s,baz=258,slow=8.2,SNR=2.1
SADO Lg Lg 05 56 59.5
comp=Z,0.4nm,0.3s,baz=298,slow=15,SNR=4.2
comp=Z,3.2nm,0.8s
CMIG Matias Romero 18.94 171 P P **05 52 40.4 +1.5**
comp=Z,0.3nm,0.3s,baz=8.8,slow=13,SNR=4.8
comp=Z,1.5nm,0.6s

*GCG **25** 05:58:30.3±2.4, 15°.64N×91°.08W, h1km±9km, MD4.1, ML3.6, MW3.6*
*CATAC **25** 05:58:30.5±0.2, 16°.N±2°×.9°1W±°, h1km, M3.7/12, MLv3.7/12, Error ellipse: s-maj=3.9km s-min=3.0km az=121.7, confirmed*
ISC 25 05:58:29.6±1.4, 15°.69N±0°.03×91°.05W±0°.03, h1km±12km, n26, σ1843/32, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QUIS	**Sacapulas**	**0.39**	**185**	*i* P	**Pg**	**05 58 37.7**	**+0.5**
QUIS				*i* S	**Sb**	**05 58 44.2**	**-1.9**
QUIS				IAML		05 58 45.9	
	comp=N,9μm,0.4s						
HUEH	**Huehuetenango**	**0.57**	**230**	*i* P	**Pg**	**05 58 41.1**	**+0.6**
HUEH				*i* S	**Sb**	**05 58 50.0**	**-1.2**
HUEH	**Huehuetenango**	**0.57**	**230**	P	**Pg**	**05 58 41.2**	**+0.7**
HUEH				S	**Sb**	**05 58 49.9**	**-1.2**
QUEO	**Labor Ovalle**	**0.92**	**209**	*i* P	**Pb**	**05 58 48.0**	**-0.7**
SOKI	**Kika Raxquin**	**0.92**	**201**	*e*P	**Pb**	**05 58 48.2**	**-0.5**
CCIG	**Comitan**	**1.20**	**300**	*e*P	**Pg**	**05 58 53.0**	**+0.4**
CCIG				*i* P	**Pb**	**05 58 53.3**	**+0.1**
CCIG				*e*S	**Sn**	**05 59 11.8**	**+1.1**
CCIG				IAML		05 59 14.1	
	comp=N,698nm,0.6s						
CCIG	**Comitan**	**1.20**	**300**	P	**Pg**	**05 58 53.2**	**+0.6**
STG8	**El Palmar, Qui**	**1.26**	**193**	*e*P	**Pg**	**05 58 50.0**	**-3.9**
RTAL	**Retalhuleu**	**1.31**	**208**	P	**Pn**	**05 58 55.8**	**+0.7**
RTAL	**Retalhuleu**	**1.31**	**208**	S	**Sn**	**05 59 13.0**	**-0.2**
PETF	**Flores**	**1.67**	**43**	*i* P	**Pn**	**05 58 59.1**	**-0.9**
PETF				IAML		05 59 26.9	
	comp=E,2μm,0.5s						
PETF	**Flores**	**1.67**	**43**	P	**Pn**	**05 58 59.2**	**-0.9**
PETF	**Flores**	**1.67**	**43**	S	**Sn**	**05 59 22.5**	**+0.4**
ESQI	**Esquipulas**	**2.00**	**124**	P	**Pn**	**05 59 05.7**	**+1.1**
ESQI	**Esquipulas**	**2.00**	**124**	S	**Sg**	**05 59 34.2**	**+0.3**
MTO3	**Montecristo**	**2.08**	**128**	*e*P	**Pn**	**05 59 06.5**	**+0.6**
MTO3				*i* S	**Sb**	**05 59 35.4**	**+0.7**
MTO3	**Montecristo**	**2.08**	**128**	P	**Sn**	**05 59 07.5**	**+1.7**
FAME	**Alcaldia de Sa**	**2.09**	**151**	P	**Pb**	**05 59 08.6**	**+0.3**
TGIG		**2.26**	**299**	*i* P	**Pn**	**05 59 09.7**	**+1.4**
TGIG				IAML		05 59 51.9	
	comp=Z,178nm,0.6s						
SARH	**Santa Rosa de**	**2.39**	**112**	*i* P	**Pn**	**05 59 09.9**	**-0.2**
PMON	**Piamonte**	**2.58**	**139**	P	**Pn**	**05 59 13.6**	**+0.9**
PMON	**Piamonte**	**2.58**	**139**	S	**Sg**	**05 59 53.3**	**+0.5**
SCLA	**Alcaldia de Sa**	**2.99**	**131**	P	**Pb**	**05 59 23.5**	**-0.3**
SCIG	**Sabancuy**	**3.27**	**358**	P	**Pn**	**05 59 21.2**	**-0.8**
SCIG	**Sabancuy**	**3.27**	**358**	S	**Sn**	**06 00 00.4**	**-1.1**
POTN	**Potosi Cosigui**	**4.35**	**127**	P	**Pn**	**05 59 41.4**	**+4.4**

*NEIC **25** 06:02:34.8±0.8, 35°.845N±0°.008×98°.07W±0°.01, h5km±1km, mb_Lg2.4/39, ML2.7/59, ML2.7/28, Error ellipse: s-maj=2.5km s-min=1.5km az=327.0*
NEIC 25 06:02:34.8±1.0, 35°.842N±0°.010×98°.078W±0°.002, h7km±4km, Error ellipse: s-maj=1.5km s-min=0.2km az=183.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCOK	**Bluff Creek, N**	**0.42**	**116**		Pg	06 02 43.1	+0.2
BCOK					Sg	06 02 49.3	+0.8
OK029	**Liberty Lake**	**0.51**	**95**		Pg	06 02 44.7	+0.1
OK029					Sg	06 02 52.0	+0.8
CSTR	**Hydro, Custer**	**0.54**	**249**		Pg	06 02 45.5	+0.4
CSTR					Sg	06 02 53.1	+1.0
OK004	**Okla Sci Mus**	**0.58**	**123**		Pg	06 02 46.0	0.0
OK004					Sg	06 02 54.4	+0.7
ADOK	**Arcadia Dam**	**0.60**	**108**		Pg	06 02 46.4	0.0
CROK	**Carrier**	**0.67**	**7**		Pg	06 02 47.4	-0.2
CROK				IAML		06 03 07.6	
	comp=E,268nm,0.2s						
CROK				IAML		06 03 07.9	
	comp=N,268nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.68**	**130**		Pg	06 02 47.6	-0.2
FNO	**Franklin**	**0.80**	**136**		Pg	06 02 49.7	-0.5
FNO				IAML		06 03 03.8	
	comp=E,238nm,0.5s						
OK038	**West end E0370**	**0.83**	**320**		Pg	06 02 50.5	-0.2
OK038					Sg	06 03 02.0	+0.4
GC02	**Grant County #**	**1.02**	**10**		Pg	06 02 53.9	-0.6
OK052	**Battle Ridge R**	**1.05**	**81**		Pg	06 02 54.3	-0.6
OK052					Sg	06 03 08.0	-0.4
OK052				IAML		06 03 09.8	
	comp=E,134nm,0.2s						
OK052				IAML		06 03 17.8	
	comp=E,142nm,0.2s						
ELIS	**Ellis County**	**1.11**	**282**		Pg	06 02 55.7	-0.4
ELIS				IAML		06 03 19.2	
	comp=N,175nm,0.2s						
ELIS				IAML		06 03 21.4	
	comp=E,173nm,0.2s						
KAN14	**Manchester OK**	**1.12**	**5**		Pg	06 02 55.3	-0.9
KAN14					Sg	06 03 10.8	+0.1
KAN14				IAML		06 03 14.8	
	comp=E,179nm,0.1s						
KAN14				IAML		06 03 16.6	
	comp=N,133nm,0.1s						
BLOK	**Blackwell**	**1.15**	**37**		Pg	06 02 56.0	-0.9
BLOK					Sg	06 03 11.9	+0.1
QUOK	**Quay**	**1.16**	**73**	Pg	Pg	06 02 56.0	-1.0
QUOK					Sg	06 03 12.1	+0.1
QUOK				IAML		06 03 12.8	
	comp=N,244nm,0.2s						
QUOK				IAML		06 03 16.6	
	comp=E,252nm,0.2s						
OK051	**E0350 and S346**	**1.20**	**56**		Pg	06 02 57.2	-0.7
KAN17	**Caldwell West**	**1.23**	**12**		Pb	06 02 57.6	-0.7
KAN17				IAML		06 03 21.0	
	comp=E,203nm,0.3s						
WMOK	**Wichita Mounta**	**1.24**	**208**	Pg	Pb	06 02 57.1	-1.4
X34A	**Smith Ranch, M**	**1.25**	**171**		Pn	06 02 58.5	-0.2
X34A				IAML		06 03 17.4	
	comp=E,167nm,0.3s						
X34A				IAML		06 03 17.6	
	comp=N,106nm,0.3s						
KAN13	**South Haven SW**	**1.27**	**22**		Pn	06 02 58.1	-0.8
KAN10	**Anthony SW Sta**	**1.28**	**359**		Pn	06 02 58.5	-0.6
KAN10					Sn	06 03 17.4	+0.9
DEOK	**Depew**	**1.28**	**90**		Pn	06 02 58.5	-0.6
DEOK				IAML		06 03 20.6	
	comp=N,106nm,0.2s						
DEOK				IAML		06 03 22.2	
	comp=E,104nm,0.2s						
KAN01	**Argonia South**	**1.33**	**11**		Pn	06 02 59.1	-0.8
KAN09	**Caldwell North**	**1.34**	**16**		Pn	06 02 59.3	-0.6
KAN12	**Harper NE Stat**	**1.45**	**3**		Pn	06 03 01.3	-0.6
T35A	**Sooner Cattle**	**1.66**	**49**		Pn	06 03 04.8	+0.5
TUL3	**Leonard**	**1.86**	**87**		Pn	06 03 07.4	+0.4
TUL3				IAmb_Lg		06 03 36.9	
	comp=Z,21nm,0.8s						
DRZT	**Darrouzett**	**1.89**	**289**		Pb	06 03 09.4	-0.3
DRZT					Sg	06 03 35.4	-0.2
SMWD	**Samnorwood**	**1.91**	**248**		Pn	06 03 08.6	+0.8
LOOK	**Love County**	**1.99**	**158**		Pb	06 03 10.1	-1.2
WTFS	**Witchita Falls**	**2.10**	**189**		Pb	06 03 11.9	-1.2
RLO	**Rose Lookout**	**2.50**	**82**		Pn	06 03 17.8	+2.0
APMT	**Aspermont**	**3.02**	**214**	IAmb_Lg		06 04 13.6	
	comp=Z,9.5nm,0.9s						
AMTX	**Amarillo**	**3.10**	**253**	IAmb_Lg		06 04 17.4	
	comp=Z,11nm,0.8s						
CBKS	**Cedar Bluff**	**3.25**	**336**	IAmb_Lg		06 04 22.1	
	comp=Z,16nm,0.7s						
HHAR	**Hobbs**	**3.38**	**81**	IAmb_Lg		06 04 24.3	
	comp=Z,8.8nm,0.8s						
SN07	**Snyder 07**	**3.60**	**221**	IAmb_Lg		06 04 32.7	
	comp=Z,7.6nm,0.8s						
SN05	**Snyder 5**	**3.76**	**219**	IAmb_Lg		06 04 38.2	
	comp=Z,15nm,0.9s						
RTBA	**Rita Blanca**	**3.82**	**280**	Pn	Pn	06 03 34.9	+0.8
WHTX	**Lake Whitney,**	**3.88**	**172**	Pn	Pn	06 03 35.1	+0.4
MIAR	**Mount Ida**	**3.91**	**108**	Pn	Pn	06 03 36.2	+1.0
MIAR				IAmb_Lg		06 04 43.7	
	comp=Z,7.6nm,0.8s						
POST	**Post**	**3.96**	**227**	IAmb_Lg		06 04 46.3	
	comp=Z,12nm,0.8s						
MSTX	**Muleshoe**	**4.29**	**246**	IAmb_Lg		06 04 53.6	
	comp=Z,8.4nm,1.0s						
X40A	**Basin Creek Fa**	**4.50**	**106**	Pn	Pn	06 03 43.7	+0.3
X40A				IAmb_Lg		06 05 00.2	
	comp=Z,9.3nm,0.8s						
BRDY	**Brady**	**4.61**	**190**	Pn	Pn	06 03 43.9	-0.9
SGCY	**Sterling City**	**4.67**	**214**	IAmb_Lg		06 05 09.4	
	comp=Z,12nm,1.0s						
WHAR	**Wooly Hollow**	**4.75**	**95**	Pn	Pn	06 03 46.1	-0.7
KSCO	**Kaye Shedlock'**	**4.81**	**312**	IAmb_Lg		06 05 05.6	
	comp=Z,7.6nm,0.7s						
MGMO	**Mountain Grove**	**4.86**	**73**	IAmb_Lg		06 05 05.9	
	comp=Z,9.9nm,1.1s						
P38A	**Dawn**	**5.22**	**42**	IAmb_Lg		06 05 22.1	
	comp=Z,5.1nm,0.9s						
R40A	**Maddies Statio**	**5.25**	**61**	Pn	Pn	06 03 53.5	-0.1
R40A				IAmb_Lg		06 05 34.1	
	comp=Z,5.2nm,0.7s						
T25A	**Trinidad**	**5.26**	**286**	IAmb_Lg		06 05 29.5	
	comp=Z,6.2nm,0.9s						
JCT	**Junction City**	**5.54**	**196**	IAmb_Lg		06 05 44.6	
	comp=Z,8.2nm,0.8s						
CCM	**Cathedral Cave**	**5.90**	**66**	IAmb_Lg		06 05 43.6	
	comp=Z,8.4nm,0.8s						
SDCO	**Great Sand Dun**	**6.25**	**290**	IAmb_Lg		06 06 10.4	
	comp=Z,4.8nm,1.3s						
DRIO	**Del Rio**	**6.75**	**199**	IAmb_Lg		06 06 22.9	
	comp=Z,4.2nm,0.7s						

*NEIC **25** 06:03:58.8±1.3, 35°.958N±0°.009×117°.68W±0°.01, h6km±1km, Error ellipse: s-maj=1.3km s-min=1.3km az=98.0*
PAS 25 06:03:59.1±1.1, 35°.965N±0°.008×117°.69W±0°.01, h4km±1km, ML3.3/259, ML3.0/98(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=69.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WCSM	**Coso Springs S**	**0.09**	**314**		Pg	06 04 01.1	0.0
WCSM					Sg	06 04 02.6	+0.2
JRC2	**Joshua Ridge**	**0.10**	**281**		Pg	06 04 03.1	+1.9
WVPM	**Volcano Peak E**	**0.10**	**262**		Pg	06 04 01.5	+0.2
WVPM					Sg	06 04 03.1	+0.2
CLC	**China Lake**	**0.17**	**153**		Pg	06 04 02.3	-0.1
CLC				IAML		06 04 05.4	
	comp=N,4μm,0.2s						
CLC				IAML		06 04 05.4	
	comp=E,5μm,0.1s						
TOW	**Tower One**	**0.17**	**201**		Pg	06 04 02.9	+0.5
TOW					Sg	06 04 06.3	+1.7
WRVM	**Rose V. Centra**	**0.17**	**285**		Pg	06 04 02.5	0.0
WRVM					Sg	06 04 04.9	+0.2
MPMC	**Manual Prospec**	**0.19**	**60**		Pg	06 04 02.9	+0.1
MPMC				IAML		06 04 06.0	
	comp=N,6μm,0.5s						
MPMC				IAML		06 04 06.2	
	comp=E,4μm,0.2s						
MFS	**McCloud Flat S**	**0.20**	**319**		Pg	06 04 03.1	0.0
MFS					Sg	06 04 06.3	+0.5
WNMM	**Nine Mile Cany**	**0.21**	**235**		Pg	06 04 06.5	+3.3
SRTC	**Snort**	**0.28**	**190**		Pg	06 04 04.9	+0.4
SRTC					Sg	06 04 09.4	+1.3
GPO	**China Lake**	**0.32**	**176**		Pg	06 04 05.3	+0.1
GPO					Sg	06 04 10.4	+1.0
WSHM	**Spangler Hills**	**0.40**	**156**		Sg	06 04 12.3	+0.3
LRMC	**Laurel Mtn Rad**	**0.48**	**179**		Pg	06 04 08.1	-0.3
LRMC					Sg	06 04 15.1	+0.4
LRMC				IAML		06 04 15.4	
	comp=E,2μm,0.5s						
LRMC				IAML		06 04 15.5	
	comp=N,2μm,0.2s						
CCCA	**Chr Cany lake**	**0.51**	**149**		Pg	06 04 09.0	+0.1
CCCA					Sg	06 04 16.7	+1.2
WORM	**Onyx Ranch**	**0.52**	**239**		Pg	06 04 08.8	-0.3
WORM					Sg	06 04 15.8	-0.2
WBSM	**Bird Springs**	**0.56**	**221**		Pg	06 04 09.7	-0.2
WBSM					Sg	06 04 17.1	-0.1
CWC	**Cottonwood Cre**	**0.57**	**326**		Pg	06 04 10.3	+0.2
CWC					Sg	06 04 18.0	+0.5
CWC				IAML		06 04 18.7	
	comp=N,736nm,0.2s						
CWC				IAML		06 04 19.4	
	comp=E,606nm,0.2s						
CGO	**Cerro Gordo**	**0.59**	**351**		Pg	06 04 10.1	-0.4
CGO					Sg	06 04 18.3	0.0
WHFM	**Hanning Flat**	**0.60**	**244**		Pg	06 04 10.4	-0.2
WHFM					Sg	06 04 18.4	0.0
QSM	**Queen of Sheba**	**0.67**	**90**		Pg	06 04 11.7	-0.2
QSM					Sg	06 04 20.6	+0.1
QSM				IAML		06 04 25.2	
	comp=E,1μm,0.5s						
QSM				IAML		06 04 26.3	
	comp=N,816nm,0.4s						
ISA	**Isabella, Lake**	**0.70**	**245**		Pg	06 04 12.4	-0.3
ISA				IAML		06 04 21.9	
	comp=N,1μm,0.4s						
ISA	**Isabella, Lake**	**0.70**	**245**		Sg	06 04 21.6	-0.2
DTP	**Desert Tortois**	**0.71**	**190**		Pg	06 04 12.2	-0.5
DTP					Sg	06 04 21.8	0.0
WASM	**Alta Sierra Ca**	**0.74**	**252**		Pg	06 04 13.1	-0.2
WASM					Sg	06 04 22.9	0.0
FURC	**Furnace Creek,**	**0.83**	**53**		Pg	06 04 15.1	0.0
FURC					Sg	06 04 26.6	+0.7
CCAC	**Calif City Air**	**0.85**	**198**		Pg	06 04 14.9	-0.5
CCAC					Sg	06 04 26.6	+0.1
GWY	**Greenwater Val**	**0.86**	**75**		Pg	06 04 15.2	-0.3
GWY				IAML		06 04 33.5	
	comp=E,683nm,0.3s						
GWY				IAML		06 04 33.6	
	comp=N,610nm,0.4s						
SPG2	**Springville 2**	**0.90**	**285**		Pg	06 04 15.6	-0.8
SPG2					Sg	06 04 27.2	-0.9
GSC	**Goldstone, Bar**	**0.98**	**132**		Pg	06 04 17.3	-0.5
GSC				IAML		06 04 32.6	
	comp=N,524nm,0.5s						
GSC				IAML		06 04 36.3	
	comp=E,616nm,0.5s						
GSC	**Goldstone, Bar**	**0.98**	**132**		Sg	06 04 30.5	0.0
GRAC	**Grapevine Rang**	**1.06**	**14**		Pg	06 04 18.9	-0.5
GRAC				IAML		06 04 39.3	
	comp=E,501nm,0.5s						
GRAC				IAML		06 04 39.4	
	comp=N,474nm,0.8s						
GRAC	**Grapevine Rang**	**1.06**	**14**		Sg	06 04 33.2	-0.1
TEJ	**El Tejon**	**1.10**	**228**		Pg	06 04 19.0	-1.1
TEJ					Sg	06 04 33.1	-1.2
HYS	**Haystack Butte**	**1.10**	**175**		Pg	06 04 19.4	-0.9
HYS					Sg	06 04 34.1	-0.4
EDW2	**Edwards Air Fo**	**1.11**	**193**		Pg	06 04 19.1	-1.2
EDW2					Sg	06 04 33.9	-0.9
VES	**Vestal, Richgr**	**1.14**	**264**		Pg	06 04 20.3	-0.6
VES					Sg	06 04 34.6	-1.1
SGV	**South Grapevin**	**1.14**	**27**		Pg	06 04 20.4	-0.6
SGV					Sg	06 04 35.6	-0.2
SHOC	**Shoshone, Teco**	**1.15**	**93**		Pg	06 04 20.0	-1.1
SHOC					Sg	06 04 36.3	+0.3
TPO	**Tropico Hills**	**1.17**	**202**		Pg	06 04 20.4	-1.1
TPO				IAML		06 04 43.0	
	comp=N,296nm,0.8s						
TPO				IAML		06 04 43.9	
	comp=E,253nm,0.9s						
WCT	**Wildcat Mounta**	**1.19**	**46**		Pg	06 04 21.3	-0.7
WCT				IAML		06 04 39.6	
	comp=N,205nm,0.6s						
RRX	**Edison Barstow**	**1.23**	**152**		Pg	06 04 21.9	-0.6
ARVC	**Arvin**	**1.25**	**228**		Pg	06 04 22.4	-0.6
TJR	**Tejon Ranch**	**1.27**	**223**		Pg	06 04 22.5	-0.9
TJR					Sg	06 04 39.3	-0.6
SBB	**Saddle Back Bu**	**1.28**	**185**		Pg	06 04 22.3	-1.3
BAKC	**Calstate**	**1.31**	**242**		Sb	06 04 41.5	+0.2
THC	**Tehachapi Micr**	**1.32**	**217**		Pg	06 04 23.0	-1.4
GMN	**Gold Mountain**	**1.38**	**14**		Pn	06 04 24.6	-0.7
VOG	**Valley Oaks Go**	**1.42**	**285**		Pn	06 04 25.2	-0.3
DSP	**Deep Springs**	**

MWC	**Mount Wilson**	**1.76**	**190**		Pn	06 04 29.7	-0.8
MWC				IAML		06 04 56.9	
	comp=N,144nm,0.5s						
MWC				IAML		06 04 57.5	
	comp=E,128nm,0.7s						
MTPC	**Mountain Pass**	**1.80**	**105**		Pn	06 04 29.6	-1.4
MTPC				IAML		06 04 58.9	
	comp=E,128nm,0.2s						
MTPC				IAML		06 04 59.4	
	comp=N,103nm,0.6s						
CRGC	**Crocker Grade**	**1.81**	**247**		Pb	06 04 32.2	-0.6
PASC	**Pasadena Art C**	**1.83**	**193**		Pn	06 04 30.9	-0.5
SMMC	**Simmler**	**1.99**	**252**		Pb	06 04 35.2	-0.6
GMRC	**Granite Mounta**	**2.03**	**125**		Pn	06 04 32.2	-2.0
SHPR	**Sheep Range**	**2.12**	**74**		Pn	06 04 34.8	-0.6
BLAC	**Blackrock camp**	**2.17**	**150**		Pn	06 04 35.3	-0.8
EW2	**E Wide Canyon**	**2.28**	**152**		Pn	06 04 36.6	-0.8
TPC	**Twentynine Pal**	**2.29**	**144**		Pn	06 04 33.9	-3.8
V12A	**Nelson**	**2.32**	**95**		Pn	06 04 37.0	-1.1
V12A				IAML		06 05 15.9	
	comp=N,59nm,1.0s						
HMTC	**Hemet**	**2.32**	**166**		Pn	06 04 37.5	-0.5
ELS	**Elsinore Mount**	**2.32**	**175**		Pn	06 04 37.5	-0.6
ELS				IAML		06 05 14.7	
	comp=N,57nm,0.7s						
ELS				IAML		06 05 17.4	
	comp=E,57nm,0.4s						
POB	**Polly Butte**	**2.36**	**164**		Pn	06 04 38.1	-0.5
BELC	**Belle Mtn. Jos**	**2.40**	**144**	Pn	Pn	06 04 38.1	-1.2
BELC				IAML		06 05 17.8	
	comp=N,69nm,0.7s						
BELC				IAML		06 05 18.6	
	comp=E,96nm,0.4s						
PMD	**Palm Desert**	**2.55**	**155**		Pn	06 04 40.2	-1.0
PMD				IAML		06 05 24.1	
	comp=E,57nm,0.6s						
PFO	**Pinyon Flats O**	**2.56**	**156**		Pn	06 04 40.7	-0.7
PRN	**Pahroc Range**	**2.56**	**55**		Pn	06 04 41.4	0.0
PRN				IAML		06 05 31.2	
	comp=E,63nm,0.7s						
PRN				IAML		06 05 31.3	
	comp=N,64nm,0.8s						
DPP	**Dos Picos Cty**	**3.02**	**168**	Pn	Pn	06 04 47.0	-0.6
DPP				IAML		06 05 34.4	
	comp=E,58nm,0.8s						
W13A	**Hualapai Mount**	**3.22**	**104**		Pn	06 04 49.3	-1.3
LCMT	**Little Creek M**	**3.73**	**72**		Pn	06 04 57.6	+0.1
CBX	**Cerro Bola**	**3.74**	**167**		Pn	06 04 57.7	+0.1
GLA	**Glamis**	**3.75**	**140**	Pn	Pn	06 04 55.8	-1.9
GLA				IAML		06 06 05.7	
	comp=E,40nm,0.6s						
GLA				IAML		06 06 07.7	
	comp=N,34nm,0.7s						
CCUT	**Cedar City**	**3.82**	**64**	Pn	Pn	06 04 59.2	+0.4
KNB	**Kanab**	**4.06**	**74**		Pn	06 05 02.8	+0.7
KNB				IAML		06 06 18.9	
	comp=N,12nm,1.0s						
Y14A	**Wickenburg**	**4.35**	**116**		Pn	06 05 04.7	-1.2
Y14A				IAML		06 06 19.7	
	comp=N,19nm,0.5s						
Y14A				IAML		06 06 23.3	
	comp=E,15nm,0.8s						

IDC ***25*** *06:12:48.6±0.6,30°.85S×178°.12W,h0km,mb4.2/9, mbtmp4.2/11,ML3.9/2,MS3.0/2,Error ellipse: s-maj=23.3km s-min=16.7km az=99.0*

NEIC ***25*** *06:12:53.1±0.5,30°.96S±0°.07×178°.17W±0°.2,h24km±7km, mb4.4/15,Error ellipse: s-maj=26.5km s-min=8.7km az=101.0*

ISC 25 06:12:50.1±0.5,30°.96S±0°.05×178°.2W±0°.1,h10km,n86, σ2s31/96,mb4.4/20,5C,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.71**	**9**	P	**Pn**	**06 13 20.5**	**+0.5**
GLKZ				S	**Sn**	**06 13 38.3**	**-3.7**
RAO	**Raoul Island**	**1.72**	**9**		**Pn**	**06 13 21.2**	**+1.0**
RAO				Sn	**Sn**	**06 13 39.9**	**-2.3**
RAO	**Raoul Island**	**1.72**	**9**	Pn	**Pn**	**06 13 19.7**	**-0.4**
	428nm,0.3s,baz=231,slow=5.4,SNR=17						
RAO				Sn	**Sn**	**06 13 38.2**	**-4.0**
	260nm,0.3s,baz=88,slow=16,SNR=6.8						
RAO	**Raoul Island**	**1.72**	**9**	P	**Pn**	**06 13 21.0**	**+0.8**
RIZ	**Raoul Island**	**1.73**	**9**	P	**Pn**	**06 13 20.9**	**+0.7**
RIZ				S	**Sn**	**06 13 40.0**	**-2.3**
HAZ	**Te Kaha**	**7.54**	**205**	P	**Pn**	**06 14 40.7**	**+0.6**
HAZ				S	**Sn**	**06 16 08.5**	**+3.0**
RUGZ	**Raukumara Rang**	**7.76**	**205**	P	**Pn**	**06 14 42.7**	**-0.5**
RUGZ				S	**Sn**	**06 16 08.5**	**-2.7**
TWGZ	**Tauwhareparae**	**7.85**	**202**	P	**Pn**	**06 14 44.9**	**+0.6**
TWGZ				S	**Sn**	**06 16 14.6**	**+1.4**
WCZ	**Waipu Caves**	**7.94**	**229**	P	Pn	06 14 55.3	+10
CNGZ	**Carnagh Statio**	**8.06**	**200**	P	**Pn**	**06 14 44.6**	**-2.5**
CNGZ				S	**Sn**	**06 16 19.3**	**+1.0**
OUZ	**Omahuta**	**8.06**	**236**	P	Pn	06 14 56.3	+9.1
TKGZ	**Te Karaka**	**8.13**	**202**	P	**Pn**	**06 14 48.5**	**+0.3**
MWZ	**Matawai**	**8.14**	**204**	P	**Pn**	**06 14 48.1**	**-0.3**
MWZ				S	**Sn**	**06 16 21.6**	**+1.2**
URZ	**Urewera**	**8.23**	**207**	Pn	**Pn**	**06 14 49.6**	**0.0**
	1.8nm,0.3s,baz=266,slow=4.4,SNR=9.4						
URZ				Sn	**Sn**	**06 16 23.3**	**+0.7**
	3.7nm,0.3s,baz=56,slow=24,SNR=9.7 5.2nm,0.5s						
RAGZ	**Rawiri**	**8.32**	**204**	P	**Pn**	**06 14 49.7**	**-1.2**
RAGZ				S	**Sn**	**06 16 17.4**	**-7.7**
RIGZ	**Rimuhau**	**8.40**	**202**	P	**Pn**	**06 14 51.4**	**-0.5**
RIGZ				S	**Sn**	**06 16 24.4**	**-2.4**
MUGZ	**Murupara**	**8.55**	**207**	P	**Pn**	**06 14 51.0**	**-3.0**
MUGZ				S	**Sn**	**06 16 25.6**	**-4.9**
RTZ	**Ruatahuna**	**8.59**	**206**	Pn	**Pn**	**06 14 56.1**	**+1.5**
SNGZ	**Shannon Statio**	**8.61**	**204**	P	**Pn**	**06 14 56.1**	**+1.3**
SNGZ				S	**Sn**	**06 16 30.7**	**-1.2**
MHGZ	**Mahia Peninsul**	**8.76**	**200**	S	**Sn**	**06 16 27.5**	**-8.2**
RAHZ	**Arahi**	**8.82**	**205**	P	**Pn**	**06 14 56.7**	**-0.9**
RAHZ				S	**Sn**	**06 16 33.3**	**-3.8**
MTHZ	**Maungataniwha**	**8.85**	**206**	P	**Pn**	**06 14 56.1**	**-2.0**
MTHZ				S	**Sn**	**06 16 37.1**	**-0.8**
WHHZ	**Waihua**	**8.91**	**203**	P	**Pn**	**06 14 58.0**	**-0.9**
WHHZ				S	**Sn**	**06 16 37.1**	**-2.2**
MRHZ	**Matea Rd**	**9.00**	**208**	S	**Sn**	**06 16 39.6**	**-1.9**
NMHZ	**Naumai**	**9.08**	**205**	P	**Pn**	**06 14 59.9**	**-1.4**
NMHZ				S	**Sn**	**06 16 43.4**	**-0.1**
BKZ	**Black Stump Fm**	**9.26**	**206**	Pn	**Pn**	**06 15 04.2**	**+0.6**
MCHZ	**McNeill Hill**	**9.42**	**205**	P	**Pn**	**06 15 05.0**	**-1.0**
MCHZ				S	**Sn**	**06 16 50.4**	**-1.5**
KWHZ	**Kaweka Forest**	**9.51**	**206**	P	**Pn**	**06 15 05.0**	**-2.2**
KWHZ				S	**Sn**	**06 16 50.4**	**-3.7**
KAHZ	**Kahuranaki**	**9.67**	**203**	P	**Pn**	**06 15 08.1**	**-1.2**
KRHZ	**Kereru**	**9.72**	**205**	P	Pn	06 15 05.0	-5.0
KRHZ				S	**Sn**	**06 16 53.0**	**-6.3**
PNHZ	**Pukenui**	**10.02**	**205**	P	Pn	06 15 07.0	-7.9
PNHZ				S	**Sn**	**06 17 00.6**	**-6.0**
WPHZ	**Waipukurau**	**10.06**	**204**	P	**Pn**	**06 15 13.2**	**-1.5**
WPHZ				S	**Sn**	**06 17 05.0**	**-2.7**
PRHZ	**Porangahau**	**10.18**	**203**	S	**Sn**	**06 17 05.0**	**-5.5**
DVHZ	**Dannevirke**	**10.37**	**204**	S	**Sn**	**06 17 10.7**	**-4.4**
WAZ	**Wanganui**	**10.37**	**210**	S	**Sn**	**06 17 15.2**	**0.0**
THZ	**Tophouse**	**12.92**	**211**	P	**Pn**	**06 15 49.8**	**-4.0**
RPZ	**Rata Peaks**	**15.30**	**211**	Pn	**Pn**	**06 16 27.0**	**+0.9**
	0.4nm,0.3s,baz=45,slow=14,SNR=1.3						
RPZ				Sn	Sn	06 19 03.1	-13
	0.3nm,0.3s,baz=80,slow=14,SNR=2.0 4.7nm,0.7s						
DZM	**Mont Dzumac**	**16.31**	**299**	LR	LR	06 20 36.0	
	comp=Z,80nm,20.9s,baz=138,slow=29						
WHZ	**Wether Hill Ro**	**18.38**	**212**	P	**P**	**06 17 05.7**	**+0.6**
PPT	**Papeete**	**29.23**	**70**	LR	LR	06 27 36.7	
	comp=Z,17nm,19.8s,baz=174,slow=30						
STKA	**Stephens Creek**	**34.16**	**258**	P	**P**	**06 19 37.8**	**+2.3**
	5.2nm,0.6s,baz=100,slow=9.9,SNR=13 5.2nm,0.6s						
BBOO	**Buckleboo**	**38.62**	**255**	P	**P**	**06 20 14.6**	**+0.9**
BBOO				IAmb	IAmb	06 20 22.9	
	comp=Z,8.9nm,1.1s						
COEN	**Coen**	**39.23**	**287**	P	**P**	**06 20 19.6**	**+0.7**
COEN				IAmb	IAmb	06 20 27.1	
	comp=Z,8.4nm,1.1s						
AS31	**Alice Springs**	**42.88**	**268**	P	**P**	**06 20 50.1**	**+1.2**
ASAR	**Alice Springs**	**42.88**	**268**	P	**P**	**06 20 49.9**	**+0.9**
	comp=Z,3.4nm,0.7s,baz=108,slow=7.8,SNR=30 comp=Z,3.4nm,0.7s						
WR8	**Warramunga Arr**	**43.78**	**273**	P	**P**	**06 20 56.8**	**+0.6**
WR8				IAmb	IAmb	06 20 58.3	
	comp=Z,4.6nm,0.8s						
WRAB	**Tennant Creek**	**43.91**	**273**	P	**P**	**06 20 57.9**	**+0.6**
WRAB				IAmb	IAmb	06 20 59.3	
	comp=Z,5.6nm,0.7s						
WRA	**Warramunga Arr**	**43.92**	**273**	P	**P**	**06 20 58.1**	**+0.8**
WRA	**Warramunga Arr**	**43.92**	**273**	P	**P**	**06 20 57.8**	**+0.4**
	comp=Z,5.0nm,0.6s,baz=111,slow=8.1,SNR=55 comp=Z,5.0nm,0.6s						
WB0	**Warramunga Arr**	**43.95**	**273**	P	**P**	**06 20 58.1**	**+0.6**
FORT	**Forrest**	**45.71**	**256**	P	**P**	**06 21 12.1**	**+0.7**
SBA	**Scott Base**	**47.47**	**184**	P	**P**	**06 21 25.5**	**+0.9**
SBA				IAmb	IAmb	06 21 30.0	
	comp=Z,3.7nm,1.1s						
VNDA	**Vanda**	**47.52**	**186**	P	**P**	**06 21 26.1**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=6.3,slow=4.0,SNR=3.7 comp=Z,0.3nm,0.7s						
MTN	**Manton Dam**	**49.87**	**280**	P	**P**	**06 21 44.1**	**+0.1**
MTN				IAmb	IAmb	06 22 03.7	
	comp=Z,2.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.16**	**270**	P	**P**	**06 22 01.5**	**+0.4**
CASY	**Casey**	**54.55**	**208**	P	**P**	**06 22 18.5**	**+0.5**
CASY				IAmb	IAmb	06 22 18.7	
	comp=Z,3.8nm,0.9s						
QSPA	**South Pole Qui**	**59.15**	**180**	P	**P**	**06 22 53.3**	**+2.5**
QSPA	**South Pole Qui**	**59.15**	**180**	P	**P**	**06 22 53.5**	**+2.6**
	comp=Z,3.7nm,0.8s,baz=28,slow=3.6,SNR=19 comp=Z,3.7nm,0.8s						
BELA	**Belgrano 2**	**69.26**	**172**	P	**P**	**06 23 56.1**	**-0.7**
BELA				IAmb	IAmb	06 23 58.3	
	comp=Z,2.7nm,0.9s						
TROLL	**Troll, Antarti**	**77.31**	**180**	⇑P	**P**	**06 24 45.4**	**+0.8**
	comp=Z,158nm,0.8s						
SNAA	**Sanae**	**77.60**	**179**	⇑P	**P**	**06 24 46.4**	**+0.2**
	comp=Z,30nm,0.9s						
SNAA	**Sanae**	**77.60**	**179**	P	**P**	**06 24 47.0**	**+0.9**
SNAA				IAmb	IAmb	06 24 52.3	
	comp=Z,3.5nm,0.9s						
SNAA	**Sanae**	**77.60**	**179**	P	**P**	**06 24 46.2**	**0.0**
	comp=Z,1.3nm,0.8s,baz=181,slow=4.7,SNR=12 comp=Z,1.3nm,0.8s						
VNA3	**Neumayer Olymp**	**77.76**	**176**	⇑P	**P**	**06 24 47.3**	**+0.4**
	comp=Z,4.5nm,0.6s						
VNA2	**Neumayer--Watz**	**78.19**	**177**	⇑P	**P**	**06 24 49.8**	**+0.5**
	comp=Z,3.0nm,0.4s,baz=168,slow=4.7						
VNA1	**Neumayer--Stat**	**78.42**	**177**	⇑P	**P**	**06 24 51.5**	**+0.9**
	comp=Z,2.5nm,0.6s						
H03S2	**Juan Fernandez**	**80.33**	**124**	T	T	07 54 07.9	
	baz=238,slow=74,SNR=91						
H03S1	**Juan Fernandez**	**80.34**	**124**	T	T	07 54 05.2	
	baz=238,slow=74,SNR=77						
H03S3	**Juan Fernandez**	**80.34**	**124**	T	T	07 54 08.4	
	baz=238,slow=74,SNR=98						
H03N3	**Juan Fernandez**	**80.52**	**123**	T	T	07 54 21.5	
	baz=242,slow=72,SNR=27						
H03N2	**Juan Fernandez**	**80.52**	**123**	T	T	07 54 20.6	
	baz=242,slow=72,SNR=40						
H03N1	**Juan Fernandez**	**80.54**	**123**	T	T	07 54 23.3	
	baz=242,slow=72,SNR=56						
PLCA	**Paso Flores**	**82.27**	**133**	P	**P**	**06 25 12.2**	**+0.2**
	comp=Z,2.0nm,1.1s,baz=209,slow=5.0,SNR=3.8 comp=Z,2.0nm,1.1s						
PETK	**Petropavlovsk-**	**86.30**	**346**	P	**P**	**06 25 33.0**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=120,slow=8.7,SNR=3.6 comp=Z,1.5nm,0.6s						
NVAR	**Mina Array Bea**	**88.79**	**43**	P	**P**	**06 25 44.8**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=231,slow=4.2,SNR=2.1 comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**117.98**	**310**	PKP	**PKPdf**	**06 31 35.7**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=125,slow=0.7,SNR=2.6						
KURBB	**Kurchatov Arra**	**121.33**	**313**	PKP	**PKiKP**	**06 31 43.6**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=113,slow=2.1,SNR=7.6						
BVAR	**Borovoye Array**	**126.66**	**315**	PKP	**PKiKP**	**06 31 54.1**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=119,slow=1.9,SNR=6.3						
ARCES	**ARCESS Array B**	**139.09**	**348**	PKhKP	PKPpre	06 32 07.3	
	comp=Z,1.1nm,0.8s,baz=39,slow=2.7,SNR=4.3						
FINES	**FINESS Array B**	**145.60**	**340**	PKPbc	**PKPdf**	**06 32 26.5**	**-1.4**
	comp=Z,7.9nm,0.5s,baz=55,slow=4.1,SNR=31						
NB2	**NORSAR Subarra**	**149.27**	**351**	PKP	**PKPbc**	**06 32 37.2**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.27**	**351**	PKPbc	**PKPbc**	**06 32 36.7**	**-1.7**
	comp=Z,1.6nm,0.5s,baz=14,slow=4.2,SNR=14						
HFS	**Hagfors**	**149.75**	**348**	PKPbc	**PKPbc**	**06 32 37.8**	**-1.7**
	comp=Z,3.3nm,0.7s,baz=11,slow=1.5,SNR=10						
MMAI	**Mount Meron Ar**	**151.46**	**283**	PKPbc	**PKPbc**	**06 32 43.6**	**-1.0**
	comp=Z,2.2nm,0.5s,baz=151,slow=1.9,SNR=4.6						
AKASG	**Malin Array Be**	**151.62**	**322**	PKPbc	**PKPbc**	**06 32 43.1**	**-1.1**
	comp=Z,2.8nm,0.6s,baz=55,slow=2.6,SNR=14						
BRTR	**Keskin Array B**	**152.68**	**297**	PKPbc	**PKiKP**	**06 32 48.8**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=162,slow=3.7,SNR=5.5						

GCG 25 06:15:16.5±2.2,15°.65N×91°.02W,h8km±41km,MD3.7, ML2.6,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUIS	**Sacapulas**	**0.37**	**191**	*i* S	Sg	06 15 29.7	+1.1
CCIG	**Comitan**	**1.24**	**300**	*i* P	Pb	06 15 39.9	-0.4
CCIG				*e*S	Sn	06 15 57.3	-0.2
PETF	**Flores**	**1.68**	**41**	*i* P	Pn	06 15 45.0	-1.2
PETF				*e*S	Sn	06 16 07.7	-0.2
PETF				IAML		06 16 10.4	
	comp=E,68nm,0.5s						
MTO3	**Montecristo**	**2.03**	**128**	*i* P	Pb	06 15 53.5	-0.3

IDC 25 06:15:19.0±1.7,51°.59N×82°.47E,h0km,mbtmp2.8/2, ML2.4/2,Error ellipse: s-maj=17.2km s-min=15.1km az=158.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.66**	**250**	Pg	Pb	06 16 06.7	-0.8
	0.1nm,0.3s,baz=71,slow=19,SNR=4.8						
KURBB				Lg	Lg	06 16 43.1	
	0.2nm,0.3s,baz=70,slow=32,SNR=9.3						
ZALV	**Zalesovo Beam**	**2.76**	**30**	Pn	Pn	06 16 03.8	-0.7
	2.1nm,0.3s,baz=213,slow=16,SNR=23						
ZALV				Sn	Sn	06 16 37.6	-0.9
	1.3nm,0.3s,baz=213,slow=24,SNR=8.3 3.6nm,0.3s						
I46RU	**ZALESOVO INFRA**	**2.76**	**30**	I	I	06 36 45.0	
	baz=212,slow=306,SNR=9.1						
MKAR	**Makanchi Array**	**4.80**	**181**	Pn	Pn	06 16 33.9	+1.4
	0.3nm,0.3s,baz=3.8,slow=12,SNR=9.1						
MKAR				Lg	Lg	06 17 49.6	
	0.5nm,0.3s,baz=358,slow=28,SNR=12 0.7nm,0.4s						

NNC ***25*** *06:29:49.4±3.8,53°.43N×87°.46E,h0km,mb3.2,mpv2.9, Error ellipse: s-maj=31.1km s-min=19.7km az=54.0, Suspected Mining explosion.*

ASRS ***25*** *06:29:54.0±1.0,54°.40N×86°.79E,h0km,M2.8,The earthquakes of Russia in 2019. Obninsk,GS RAS,214 p + CD-ROM, 2021.*

IDC ***25*** *06:29:56.2±3.0,54°.41N×86°.84E,h0km,mbtmp3.1/2, ML2.6/2,Error ellipse: s-maj=25.9km s-min=15.7km az=63.0*

ISC 25 06:29:44.8±3.5,52°.86N±0°.08×87°.5E±0°.2,h0km,n7, σ1s36/8,3C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.95**	**305**	I	I	06 37 50.0	
	0.1nm,1.0s,baz=69,slow=319,SNR=20						
ZAA0	**Zalesovo Array**	**1.95**	**305**	⇑P	**Pn**	**06 30 19.5**	**+0.4**
	0.9nm,0.8s						
ZAA0				⇑S	**Sn**	**06 30 41.9**	**-2.4**
	4.4nm,0.8s						
ZALV	**Zalesovo Beam**	**1.95**	**305**	Pg	**Pn**	**06 30 19.1**	**+0.1**
	1.6nm,0.3s,baz=66,slow=16,SNR=14						
ZALV				Lg	Lg	06 30 38.0	
	1.3nm,0.3s,baz=65,slow=27,SNR=6.8						
KURK	**Kurchatov**	**5.92**	**252**	⇑Pg	**Pg**	**06 31 38.9**	**+0.7**
	2.3nm,0.9s						
KURK				⇓Lg	Lg	06 33 03.7	
	8.7nm,1.2s						
KURBB	**Kurchatov Arra**	**6.01**	**252**	⇓Pg	**Pg**	**06 31 40.5**	**+0.6**
	6.5nm,1.2s,baz=56,slow=14						
KURBB				⇓Lg	Lg	06 33 07.6	
	4.0nm,0.8s,baz=59,slow=30						
KURBB	**Kurchatov Arra**	**6.01**	**252**	Pn	**Pb**	**06 31 31.4**	**+1.0**
	0.1nm,0.3s,baz=53,slow=14,SNR=12						
KURBB				Lg	Lg	06 33 18.0	
	baz=61,slow=33,SNR=5.9						
	2.9nm,0.8s						
MKAR	**Makanchi Array**	**6.95**	**211**	Pn	**Pg**	**06 31 57.7**	**-0.1**
	0.1nm,0.3s,baz=25,slow=13,SNR=4.0						
MKAR				Sn	**Sg**	**06 33 26.5**	**-1.2**
	0.1nm,0.3s,baz=26,slow=27,SNR=4.2						
MKAR				Lg	Lg	06 34 15.0	
	baz=27,slow=32,SNR=5.2 0.2nm,0.3s						

IDC 25 06:31:13.9±1.9,4°.57S×151°.13E,h0km,mb3.9/3, mbtmp4.0/4,ML2.4/1,MS3.3/2,Error ellipse: s-maj=128.6km s-min=24.1km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.21**	**219**	Pn	Pn	06 32 49.2	+2.2
	6.2nm,0.3s,baz=45,slow=9.3,SNR=8.9						
PMG				Sn	Sn	06 33 59.1	+0.3
	1.2nm,0.3s,baz=37,slow=20,SNR=1.1 20nm,0.5s						
WRA	**Warramunga Arr**	**22.38**	**226**	P	P	06 36 13.2	-0.9
	3.3nm,0.7s,baz=50,slow=9.9,SNR=15 3.3nm,0.7s						
ASAR	**Alice Springs**	**25.23**	**220**	P	P	06 36 41.9	0.0
	3.6nm,0.7s,baz=54,slow=9.0,SNR=31 3.6nm,0.7s						
JHJ	**Hachijo jima 2**	**38.99**	**345**	LR	LR	06 52 05.4	
	comp=Z,44nm,21.4s,baz=58,slow=32						
ZALV	**Zalesovo Beam**	**80.04**	**327**	LR	LR	07 21 31.1	
	comp=Z,16nm,18.4s,baz=144,slow=38						
ILAR	**Eielson Array**	**82.58**	**22**	P	P	06 43 38.7	+0.1
	0.4nm,0.7s,baz=246,slow=5.6,SNR=6.7 0.4nm,0.7s						

ASRS ***25*** *06:59:28.0±0.9,54°.10N×86°.48E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk,GS RAS,214 p + CD-ROM, 2021.*

IDC 25 06:59:30.9±2.7,54°.14N×86°.47E,h0km,mbtmp2.9/2, ML2.7/1,Error ellipse: s-maj=22.6km s-min=13.5km az=52.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**259**	I	I	07 05 50.0	
	baz=80,slow=315,SNR=3.0						
ZALV	**Zalesovo Beam**	**0.99**	**259**	Pg	Pg	06 59 49.3	-0.6
	1.3nm,0.3s,baz=81,slow=17,SNR=9.9						
ZALV				Lg	Lg	07 00 04.3	
	1.8nm,0.3s,baz=76,slow=27,SNR=8.8						
KURBB	**Kurchatov Arra**	**6.00**	**237**	Pn	Pn	07 01 00.7	-0.2
	0.4nm,0.3s,baz=56,slow=14,SNR=4.1						
MKAR	**Makanchi Array**	**7.82**	**202**	Pn	Pn	07 01 27.4	+1.5
	0.1nm,0.3s,baz=25,slow=14,SNR=16 0.2nm,0.2s						

NEIC ***25*** *07:35:57.1±1.1,35°.841N±0°.010×98°.08W±0°.01,h8km±4km, mb_Lg2.3/30,ML2.6/55,ML2.5/31,Error ellipse: s-maj=1.4km s-min=1.3km az=204.0*

NEIC 25 07:35:57.0±1.1,35°.842N±0°.009×98°.08W±0°.01,h8km±4km, Error ellipse: s-maj=1.4km s-min=1.1km az=220.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.42**	**116**		Pg	07 36 05.3	+0.1
BCOK					Sg	07 36 11.5	+0.7
OK029	**Liberty Lake**	**0.51**	**95**		Pg	07 36 06.7	-0.2
OK029				Sg	Sg	07 36 13.9	+0.5
CSTR	**Hydr, Custer**	**0.53**	**249**		Pg	07 36 07.5	+0.2
CSTR					Sg	07 36 15.2	+0.9
OK004	**Okla Sci Mus**	**0.58**	**123**		Pg	07 36 08.2	-0.1
OK004					Sg	07 36 16.5	+0.6
ADOK	**Arcadia Dam**	**0.60**	**108**	Pg	Pg	07 36 08.6	-0.1
CROK	**Carrier**	**0.67**	**7**		Pg	07 36 09.7	-0.2
CROK					Sg	07 36 19.1	+0.6
CROK				IAML		07 36 28.5	
	comp=E,225nm,0.3s						
CROK				IAML		07 36 30.1	
	comp=N,243nm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.68**	**130**		Pg	07 36 09.8	-0.3
OKCSW					Sg	07 36 19.2	+0.3
OKCSW				IAML		07 36 19.6	
	comp=E,408nm,0.1s						
FNO	**Franklin**	**0.80**	**136**		Pg	07 36 12.0	-0.4
FNO					Sg	07 36 23.1	+0.3
FNO				IAML		07 36 26.0	
	comp=E,166nm,0.4s						
OK038	**West end E0370**	**0.83**	**320**		Pg	07 36 12.6	-0.4
OK038					Sg	07 36 24.1	+0.3
GC02	**Grant County #**	**1.02**	**10**		Pg	07 36 15.9	-0.7
GC02					Sg	07 36 30.0	+0.1
OK052	**Battle Ridge R**	**1.05**	**81**		Pg	07 36 16.4	-0.7
OK052				IAML		07 36 33.0	
	comp=E,114nm,0.2s						
OK052				IAML		07 36 35.6	
	comp=E,106nm,0.3s						
KAN14	**Manchester OK**	**1.12**	**5**		Pg	07 36 17.6	-0.9
KAN14					Sg	07 36 33.0	+0.1
KAN14				IAML		07 36 37.8	
	comp=E,167nm,0.1s						
KAN14				IAML		07 36 39.7	
	comp=N,141nm,0.1s						
BLOK	**Blackwell**	**1.15**	**37**		Pg	07 36 18.3	-0.7
QUOK	**Quay**	**1.16**	**73**		Pg	07 36 18.2	-1.0
QUOK				IAML		07 36

ML3.4/7, Error ellipse: s-maj=16.6km s-min=5.1km az=141.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior**	**1.85**	**79**	P		Pn 08 24 44.4	+0.8
AUBRM				S		Sb 08 25 09.7	+0.6
MBWA	**Marble Bar**	**2.89**	**191**	P		Pn 08 24 59.4	+1.5
PSA00	**Pilbara Seismi**	**3.28**	**188**	P		Pn 08 25 04.6	+1.4
PSA00				S		Sn 08 25 43.3	+1.0
FITZ	**Fitzroy Crossi**	**5.06**	**88**	P		Pn 08 25 26.7	-1.1
FITZ	**Fitzroy Crossi**	**5.06**	**88**	S		Sn 08 26 22.8	-3.6
GIRL	**Giralia**	**7.15**	**232**	P		Pn 08 25 57.2	+0.8
	comp=Z,41nm,1.8s,comp=Z,0.1nm						
GIRL				S		Sn 08 27 13.4	-4.3
MEEK	**Meekatharra**	**8.44**	**190**	P		Pn 08 26 14.5	+0.4
	comp=Z,6.5nm,1.2s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.44**	**190**	S		Sn 08 27 46.7	-2.8
KNRA	**Kununurra**	**8.49**	**73**	P		Pn 08 26 14.4	-0.5
	comp=Z,11nm,2.8s,comp=Z,0.0nm						
KNRA				S		Sn 08 27 43.4	-7.5
WRKA	**Warakurna**	**9.99**	**133**	P		Pn 08 26 35.1	-0.4
	comp=Z,3.4nm,2.7s,comp=Z,0.0nm						
WRKA				S		Sn 08 28 23.3	-4.5
MORW	**Morawa**	**11.40**	**199**	P		Pn 08 26 53.5	-1.3
	comp=Z,22nm,2.2s						
MORW	**Morawa**	**11.40**	**199**	S		Sn 08 28 54.4	-7.9
BLDU	**Ballidu**	**12.68**	**194**	P		Pn 08 27 11.4	-0.9
	comp=Z,25nm,2.5s						
BLDU	**Ballidu**	**12.68**	**194**	S		Sn 08 29 24.2	-9.4
WB2	**Warramunga Arr**	**13.36**	**99**	P		Pn 08 27 19.4	-2.3
WB2	**Warramunga Arr**	**13.36**	**99**	S		Sn 08 29 39.8	-11
KLBR	**Kellerberrin**	**13.43**	**189**	P		Pn 08 27 21.5	-1.0
	comp=Z,21nm,1.2s						
KLBR	**Kellerberrin**	**13.43**	**189**	S		Sn 08 29 42.4	-9.5

STR 25 08:24:12.1±0.5, 46°N±3°×±°, h0km, MLv1.5/6, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OGSM	**Saint Maurice**	**0.24**	**131**	Pg	Pg	08 24 16.5	-0.2
OGSM				Sg	Sg	08 24 20.3	+0.4
OG35	**Corcelles**	**0.29**	**19**	Pg	Pg	08 24 17.8	+0.1
OG35				Sg	Sg	08 24 22.4	+0.9
OGMY	**Moye**	**0.34**	**70**	Pg	Pg	08 24 18.4	-0.2
OGMY				Sg	Sg	08 24 24.0	+1.0
SSB	**Saint Sauveur**	**0.80**	**232**	Pg	Pg	08 24 27.0	-0.3
SSB				Sg	Sg	08 24 37.8	+0.2
ORIF	**Oris-en-Rattie**	**0.91**	**159**	Pg	Pg	08 24 30.5	-0.2
ORIF				Sg	Sb	08 24 42.7	-0.7

STR 25 08:24:43.0±0.6, 46°N±3°×±°, h0km, MLv1.3/4, LOCSAT earthModelID auvergne_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VERF	**Verneugheol**	**0.22**	**301**	Pg	Pg	08 24 46.9	-0.2
VERF				Sg	Sg	08 24 49.6	-0.3
FRNF	**Fournols**	**0.28**	**207**	Pg	Pg	08 24 48.9	+0.4
FRNF				Sg	Sg	08 24 52.6	+0.5
AGO	**Saint Agoulin**	**0.49**	**33**	Pg	Pg	08 24 52.3	-0.2
AGO				Sg	Sg	08 24 59.3	+0.4
LBL	**Lubilhac**	**0.54**	**139**	Pg	Pg	08 24 52.6	-0.7
LBL				Sg	Sg	08 25 00.2	-0.1

*IDC **25** 08:24:57.2±1.5, 50.°61N×103.°51E, h0km, mb3.5/3, mbtmp3.3/5, ML2.7/2, MS2.9/12, Error ellipse: s-maj=41.0km s-min=14.8km az=40.0*
*BYKL **25** 08:24:58.6±0.2, 50.°46N×103.°22E, h8km±8km, FELT I=III-IV MSK at Zakamensk.*
*MOS **25** 08:25:02.3±1.0, 50.°69N×103.°22E, h10km, mb4.3/2, Error ellipse: s-maj=13.6km s-min=7.8km az=83.2*
MOS Felt (III) at Zakamensk.

ISC 25 08:25:00.2±0.5, 50°48N±0.°03×103°05E±0.°02, h10km, n67, σ2s58/92, mb3.8/5, MS2.8/10, 7C-4D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLY	**Talaya**	**1.26**	**17**	⇑*i*Pg	**Pn**	**08 25 21.7**	**-2.2**
TLY				Pmax		08 25 22.2	
	230nm,0.1s						
TLY				*e*Sg	**Sb**	**08 25 37.9**	**-2.4**
TLY				Smax		08 25 41.9	
	1μm,0.2s						
TLY	**Talaya**	**1.26**	**17**	⇑*i*PG	**Pn**	**08 25 21.7**	**-2.2**
TLY				*e*		08 25 36.7	
TLY				pmax	pmax		
	comp=Z,231nm,0.1s						
TLY				smax	smax		
	comp=N,1μm,0.1s						
ARS	**Arshan**	**1.50**	**345**	*e*Pg	**Pn**	**08 25 26.5**	**-0.6**
ARS				*e*		08 25 34.2	
ARS				Pmax		08 25 35.3	
	comp=N,1μm,0.6s						
ARS				*e*Sg	**Sg**	**08 25 47.6**	**-0.7**
ARS				Smax		08 25 51.4	
	comp=N,4μm,1.2s						
ARS				*e*		08 25 54.6	
ARS	**Arshan**	**1.50**	**345**	*e*PG	**Pn**	**08 25 26.6**	**-0.6**
ARS				*e*		08 25 47.3	
ARS				pmax	pmax		
	comp=Z,522nm,0.6s						
ARS				smax	smax		
	comp=N,4μm,1.1s						
IVK	**Ivanovka**	**1.58**	**32**	*e*Pg	**Pn**	**08 25 27.0**	**-1.2**
IVK				*e*Pb	**Pb**	**08 25 27.8**	**-1.6**
IVK				*e*		08 25 31.7	
IVK				*e*		08 25 34.6	
IVK				max		08 25 34.9	
	comp=N,399nm,0.5s						
IVK				*e*Sg	**Sn**	**08 25 46.9**	**-1.8**
IVK				Smax		08 25 50.7	
	comp=N,1μm,1.0s						
IVK				*e*		08 25 55.7	
IVK	**Ivanovka**	**1.58**	**32**	*e*PG	**Pn**	**08 25 27.0**	**-1.2**
IVK				*e*		08 25 46.7	
IVK				pmax	pmax		
	comp=Z,100nm,0.3s						
IVK				smax	smax		
	comp=E,1μm,0.7s						
MOY	**Mondy**	**1.76**	**313**	⇑*i*Pg	**Pb**	**08 25 32.2**	**-0.4**
	comp=E,428nm,1.1s						
MOY				⇓*i*Pg	**Pb**	**08 25 32.2**	**-0.4**
	comp=E,492nm,1.1s						
MOY				⇑*i*Pg	**Pb**	**08 25 32.2**	**-0.4**
	comp=E,501nm,1.1s						
MOY				Pmax		08 25 33.0	
	comp=E,1μm,0.8s						
MOY				*e*		08 25 38.0	
MOY				*e*Sg	**Sg**	**08 25 57.5**	**+0.7**
MOY				Smax		08 26 01.0	
	comp=E,3μm,1.0s						
MOY	**Mondy**	**1.76**	**313**	*e*PN	**Pb**	**08 25 32.2**	**-0.4**
MOY				*i*		08 25 32.6	
MOY				*e*		08 25 58.1	
LSTR	**Listvyanka**	**1.79**	**38**	*e*Pg	**Pn**	**08 25 30.0**	**-1.1**
LSTR				*e*		08 25 33.8	
LSTR				max		08 25 37.8	
	comp=E,212nm,0.7s						
LSTR				*e*Sg	**Sn**	**08 25 52.2**	**-1.6**
LSTR				*e*		08 25 59.9	
LSTR				max		08 26 01.8	
	comp=E,699nm,1.1s						
LSTR	**Listvyanka**	**1.79**	**38**	*e*PG	**Pn**	**08 25 30.7**	**-0.4**
LSTR				*e*		08 25 52.2	
LSTR				pmax	pmax		
	comp=Z,217nm,1.1s						
LSTR				smax	smax		
	comp=E,699nm,1.1s						
IRK	**Irkutsk**	**1.93**	**23**	*e*Pg	**Pn**	**08 25 32.6**	**-0.4**
IRK				Pmax		08 25 33.8	
	comp=E,402nm,0.4s						
IRK				*e*Sg	**Sb**	**08 25 57.4**	**-2.0**
IRK				Smax		08 25 59.5	
	comp=E,3μm,0.7s						
IRK	**Irkutsk**	**1.93**	**23**	*e*PN	**Pn**	**08 25 31.6**	**-1.4**
IRK				*e*		08 25 56.6	
IRK				pmax	pmax		
	comp=Z,404nm,0.3s						
IRK				smax	smax		
	comp=N,3μm,0.6s						
BGT	**Bolshoye Golou**	**2.16**	**42**	*e*Pg	**Pb**	**08 25 37.0**	**-2.3**
BGT				*e*		08 25 42.0	
BGT				Pmax		08 25 43.6	
	comp=N,119nm,0.3s						
BGT				*e*Sg	**Sb**	**08 26 03.6**	**-2.5**
BGT				Smax		08 26 12.7	
	comp=N,1μm,0.7s						
BGT	**Bolshoye Golou**	**2.16**	**42**	*e*PN	**Pb**	**08 25 37.0**	**-2.3**
BGT				*e*		08 26 04.0	
BGT				pmax	pmax		
	comp=Z,58nm,0.2s						
BGT				smax	smax		
	comp=E,687nm,0.6s						
HRMR	**Khuramsha**	**2.72**	**63**	*e*Pg	**Pb**	**08 25 45.8**	**-3.1**
HRMR				Pmax		08 25 51.8	
	comp=E,129nm,0.8s						
HRMR				*e*Sg	**Sb**	**08 26 20.7**	**-1.6**
HRMR				Smax		08 26 26.4	
	comp=E,967nm,0.8s						
HRMR				*e*SgSg	**SnSn**	**08 26 30.3**	**+2.6**
KAB	**Kabansk**	**2.76**	**54**	*e*Pn	**Pn**	**08 25 42.6**	**-1.8**
KAB				*e*Pg	**Pb**	**08 25 46.4**	**-3.1**
KAB				Pmax		08 25 53.8	
	comp=E,313nm,1.0s						
KAB				*e*Sn	**Sn**	**08 26 14.2**	**-3.5**
KAB				*e*Sg	**Sb**	**08 26 22.1**	**-1.2**
KAB				Smax		08 26 45.1	
	comp=E,2μm,0.8s						
KAB				*e*SgSg	SnSn	08 26 51.0	+22
ORL	**Orlik**	**2.89**	**317**	*e*Pg	**Pb**	**08 25 52.5**	**+0.6**
ORL				Pmax		08 25 58.2	
	comp=E,290nm,0.6s						
ORL				*e*Sg	**Sg**	**08 26 30.9**	**-2.1**
ORL				Smax		08 26 33.3	
	comp=E,636nm,0.8s						
ORL	**Orlik**	**2.89**	**317**	*e*PN	**Pb**	**08 25 51.9**	**0.0**
ORL				*e*		08 26 31.1	
ORL				pmax	pmax		
	comp=Z,300nm,0.6s						
ORL				smax	smax		
	comp=N,636nm,0.9s						
TRG	**Tyrgan**	**3.07**	**41**	*e*Pn	**Pn**	**08 25 47.2**	**-1.6**
TRG				*e*Pg	**Pb**	**08 25 53.2**	**-1.7**
TRG				Pmax		08 26 07.0	
	comp=N,83nm,0.7s						
TRG				*e*Sn	**Sn**	**08 26 23.6**	**-2.0**
TRG				*e*Sg	**Sb**	**08 26 31.2**	**-1.2**
TRG				Smax		08 26 34.9	
	comp=N,691nm,0.8s						
TRG	**Tyrgan**	**3.07**	**41**	*e*PN	**Pn**	**08 25 47.9**	**-0.9**
TRG				*e*		08 25 53.5	
TRG				*e*S	**Sn**	**08 26 23.2**	**-2.4**
TRG				*e*		08 26 31.3	
TRG				pmax	pmax		
	comp=Z,83nm,0.5s						
TRG				smax	smax		
	comp=E,702nm,0.8s						
UUDB	**Ulan-Yde**	**3.22**	**63**	*e*Pn	**Pn**	**08 25 48.0**	**-2.8**
UUDB				*e*Pg	**Pb**	**08 25 54.8**	**-2.6**
UUDB				Pmax		08 26 04.3	
	comp=E,43nm,0.6s						
UUDB				*e*		08 26 28.8	
UUDB				*e*Sg	**Sb**	**08 26 35.2**	**-1.4**
UUDB				Smax		08 26 44.6	
	comp=E,480nm,1.3s						
UUDB				*e*SgSg	**Sg**	**08 26 47.0**	**+3.6**
ZRHB	**Zarechye**	**3.30**	**49**	*e*Pg	**Pb**	**08 25 57.0**	**-1.7**
ZRHB				*e*PgPg	**Pg**	**08 26 01.9**	**-1.4**
ZRHB				max		08 26 04.0	
	comp=E,285nm,0.9s						
ZRHB				*e*Sg	**Sb**	**08 26 39.5**	**+0.6**
ZRHB				Smax		08 27 05.9	
	comp=E,2μm,1.0s						
SONM	**Songino Array**	**3.44**	**139**	Pn	**Pn**	**08 25 51.6**	**-2.3**
	comp=E,0.6nm,0.3s,baz=326,slow=13,SNR=3.8						
SONM				Pg	**Pb**	**08 25 58.3**	**-2.9**
	comp=E,39nm,0.3s,baz=329,slow=17,SNR=117						
SONM				Lg	Lg	08 26 44.2	
	comp=E,84nm,0.3s,baz=326,slow=28,SNR=12						
	comp=E,1.0nm,0.4s						
SONM	**Songino Array**	**3.44**	**139**	*e*PN	**Pb**	**08 25 58.5**	**-2.7**
SONM				pmax	pmax		
	comp=Z,39nm,0.3s						
ULN	**Ulaanbaatar**	**3.71**	**133**	*e*Pg	**Pb**	**08 26 03.1**	**-2.7**
ULN				Pmax		08 26 04.8	
	comp=Z,313nm,1.0s						
ULN				*e*		08 26 12.1	
ULN				*e*Sg	**Sb**	**08 26 50.6**	**-0.2**
ULN				Smax		08 26 54.9	
	comp=Z,447nm,0.7s						
ULN	**Ulaanbaatar**	**3.71**	**133**	*d*PN	**Pb**	**08 26 03.2**	**-2.6**
KELR	**Kotokel**	**3.88**	**52**	*e*	Pg	08 26 52.3	+38
KELR				*e*Sg	**Sb**	**08 26 56.2**	**+0.6**
GORB	**Goryachinsk**	**4.11**	**50**	*e*	**Pb**	**08 26 13.3**	**+0.8**
GORB				*e*Sg	**Sb**	**08 27 03.5**	**+1.3**
OGRR	**Ongureny**	**4.23**	**40**	*e*Pn	**Pn**	**08 26 03.5**	**-1.2**
OGRR				*e*Pg	**Pb**	**08 26 13.9**	**-0.7**
OGRR				Pmax		08 26 30.3	
	comp=Z,37nm,0.7s						
OGRR				*e*Sg	**Sb**	**08 27 07.2**	**+1.5**
OGRR				Smax		08 27 13.0	
	comp=Z,351nm,1.0s						
SYVR	**Suvo**	**5.34**	**51**	*e*Pn	**Pn**	**08 26 18.3**	**-1.6**
SYVR				*e*Pg	**Pb**	**08 26 33.5**	**0.0**
SYVR				*e*		08 26 39.1	
SYVR				max		08 26 42.1	
	comp=Z,20nm,0.9s						
SYVR				*e*Sg	**Sb**	**08 27 41.4**	**+3.9**
SYVR				Smax		08 27 57.5	
	comp=Z,122nm,1.2s						
KZLR	**Kyzyl**	**5.56**	**286**	*e*Sg	**Sg**	**08 27 53.4**	**-5.0**
KPC	**Khapcheranga**	**6.05**	**94**	*e*Pn	**Pn**	**08 28.0**	**-1.8**
KPC				*e*Pg	**Pb**	**08 26 45.7**	**0.0**
KPC				Pmax		08 27 11.5	
	comp=Z,15nm,0.8s						
KPC				*e*Sn	**Sn**	**08 27 34.2**	**-4.9**
KPC				*e*Sg	**Sb**	**08 28 02.5**	**+4.3**
KPC				*e*		08 28 18.7	
KPC				max		08 28 20.1	
	comp=Z,363nm,1.1s						
ARDR	**Aradan**	**6.36**	**293**	*e*Pg	**Pb**	**08 26 54.8**	**+3.8**
ARDR				*e*		08 26 59.9	
ARDR				*e*Sn	**Sn**	**08 27 45.8**	**-0.9**
ARDR				*e*Sg	**Sg**	**08 28 18.0**	**-6.2**
NIZB	**Nizh Angarsk**	**6.58**	**34**	*e*Pn	**Pn**	**08 26 35.8**	**-1.1**
NIZB				*e*		08 27 01.4	
NIZB				max		08 27 05.5	
	comp=Z,16nm,0.8s						
NIZB				*e*Sg	Sg	08 28 20.7	-11
NIZB				Smax		08 28 29.7	
	comp=Z,246nm,1.4s						
YLYR	**Ulyunkhan**	**6.61**	**45**	*e*Pn	**Pn**	**08 26 35.4**	**-1.9**
YLYR				*e*		08 26 58.9	
YLYR				max		08 27 04.0	
	comp=Z,6.0nm,0.8s						
YLYR				*e*Sg	Sg	08 28 21.9	-10
YLYR				Smax		08 28 36.4	
	comp=Z,83nm,1.4s						
MINR	**Mina**	**6.97**	**313**	*e*Pg	Pb	08 27 06.7	+5.5
MINR				*e*Sg	**Sg**	**08 28 39.1**	**-4.5**
KMO	**Kumora**	**7.30**	**39**	*e*Pg	**Pb**	**08 27 09.1**	**+2.3**
KMO				*e*		08 27 15.8	
KMO				max		08 27 23.0	
	comp=Z,14nm,0.8s						
KMO				*e*Sg	Sg	08 28 42.3	-12
KMO				Smax		08 28 54.6	
	comp=Z,183nm,1.1s						
UKT	**Uakit**	**8.11**	**48**	*e*Pn	**Pn**	**08 26 56.5**	**-1.5**
UKT				*e*Pg	Pb	08 27 24.3	+3.5
UKT				Pmax		08 27 40.8	
	comp=Z,7.0nm,0.7s						
UKT				*e*Sn	**Sn**	**08 28 22.5**	**-7.3**
UKT				*e*Sg	Sg	08 29 07.7	-13
UKT				Smax		08 29 25.2	
	comp=Z,74nm,1.6s						
NLYR	**Nelyaty**	**9.64**	**46**	*e*Pn	**Pn**	**08 27 18.5**	**-0.4**
NLYR				*e*		08 27 57.6	
NLYR				max		08 28 23.4	
	comp=Z,12nm,1.5s						
NLYR				*e*Sn	**Sn**	**08 29 00.4**	**-6.8**
NLYR				*e*Sg		08 29 54.9	
NLYR				Smax		08 30 24.4	
	comp=Z,82nm,1.5s						
HIA	**Hailar**	**10.84**	**90**	*e*Sg	Sn	08 30 30.0	+53
HIA				Smax		08 30 55.1	
	comp=Z,139nm,1.7s						
HIA				*e*		08 31 08.0	
BTO	**Baotou**	**11.01**	**151**	*e*P	Pn	08 27 42.3	+4.6
BTO				pP		08 27 44.5	
BTO				sP		08 27 48.0	
BTO				PP	**PnPn**	**08 27 52.0**	**+6.7**
BTO				S	**Sn**	**08 29 47.5**	**+6.6**
BTO				pmax	pmax		
	comp=Z,15nm,0.8s						
BTO				pmax	pmax		
	comp=Z,89nm,6.6s						
BTO				LR	LR		
	comp=N,240nm,2.4s						
BTO				LR	LR		
	comp=E,190nm,2.4s						
BTO				LR	LR		
	comp=Z,320nm,7.7s						
CRS	**Chara**	**11.06**	**49**	*e*Sg	Sn	08 30 38.5	+56
CRS				Smax		08 31 13.1	
	comp=Z,60nm,1.9s						
GTA	**Gaotai**	**11.30**	**193**	*e*P	Pn	08 27 49.8	+8.0
GTA				pP		08 27 54.0	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
GTA				LR	LR		
	comp=N,130nm,11.2s						
GTA				LR	LR		
	comp=E,270nm,10.8s						
GTA				LR	LR		
	comp=Z,140nm,13.5s						
ZALV	**Zalesovo Beam**	**11.71**	**294**	LR	LR	08 31 37.3	
	comp=Z,13nm,21.8s,baz=117,slow=34						
MK31	**Makanchi Array**	**14.21**	**263**	⇓*e*P	**P**	**08 28 28.9**	**+0.1**
MKAR	**Makanchi Array**	**14.21**	**263**	Pn	**Pn**	**08 28 24.2**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=69,slow=4,SNR=5.7						
MKAR				Lg	Lg	08 32 28.2	
	comp=Z,0.1nm,0.3s,baz=70,slow=30,SNR=7.3						
MKAR				LR	LR	08 33 55.4	
	comp=Z,54nm,18.7s,baz=30,slow=37						
	comp=Z,0.3nm,0.8s						
MKAR	**Makanchi Array**	**14.21**	**263**	*e*P	**P**	**08 28 28.3**	**-0.5**
LZH	**Lanzhou**	**14.40**	**177**	*e*P	**P**	**08 28 32.5**	**+1.4**
LZH				pP	Pn	08 28 41.8	+18
LZH				pmax	pmax		
	comp=Z,19nm,1.4s						
KURBB	**Kurchatov Arra**	**15.57**	**280**	Lg	Lg	08 33 10.3	
	baz=75,slow=29						
BNX	**BinXian**	**16.91**	**97**	⇑P	**P**	**08 28 57.0**	**-1.7**
BNX				pmax	pmax		
	comp=Z,6.0nm,2.6s						
YAK	**Yakutsk**	**18.61**	**41**	⇓*e*P	**Pn**	**08 29 19.6**	**+2.0**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BVAR	**Borovoye Array**	**20.29**	**290**	P	**P**	**08 29 36.6**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=83,slow=12,SNR=4.2						
	comp=Z,0.4nm,0.6s						
PSTR	**Posyet**	**20.54**	**102**	⇑*e*P	Pn	08 29 42.6	+1.9
AAK	**Ala-Archa**	**21.05**	**259**	LR	LR	08 39 14.3	
	comp=Z,21nm,20.4s,baz=32,slow=40						
KSRS	**Korea Array**	**22.01**	**117**	P	**P**	**08 29 56.4**	**+2.0**
	comp=Z,0.4nm,0.4s,baz=311,slow=9.2,SNR=1.1						
TIXI	**Tiksi**	**24.24**	**20**	LR	LR	08 40 00.9	
	comp=Z,27nm,19.0s,baz=346,slow=38						
ARTI	**Arti**	**26.87**	**300**	LR	LR	08 41 57.2	
	comp=Z,27nm,18.8s,baz=111,slow=38						
AKTO	**Aktyubinsk**	**28.34**	**288**	LR	LR	08 43 15.9	
	comp=Z,13nm,20.2s,baz=260,slow=38						
MJAR	**Matsushiro Arr**	**28.75**	**105**	LR	LR	08 43 00.1	
	comp=Z,26nm,19.1s,baz=171,slow=38						
SEY	**Seymchan**	**29.01**	**46**	⇑*e*P	**P**	**08 31 02.7**	**+3.0**
SEY				pmax	pmax		
	comp=Z,4.0nm,1.4s						
OBN	**Obninsk**	**39.09**	**303**	*e*P	**P**	**08 32 28.7**	**+1.6**
OBN				*e*		08 34 39.2	
OBN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	**FINESS Array B**	**41.94**	**316**	P	**P**	**08 32 50.2**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=74,slow=10,SNR=5.0						
	comp=Z,0.6nm,0.5s						
AKASG	**Malin Array Be**	**45.02**	**300**	LR	LR	08 54 53.9	
	comp=Z,11nm,18.2s,baz=56,slow=40						
HFS	**Hagfors**	**47.97**	**318**	LR	LR	08 55 23.8	
	comp=Z,29nm,18.7s,baz=20,slow=38						
NOA	**NORSAR Array B**	**48.54**	**320**	LR	LR	08 54 56.4	
	comp=Z,5.8nm,19.0s,baz=300,slow=37						
ILAR	**Eielson Array**	**53.05**	**30**	LR	LR	08 57 32.8	
	comp=Z,13nm,19.5s,baz=208,slow=37						
ASAR	**Alice Springs**	**78.71**	**151**	P	**P**	**08 37 00.8**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=354,slow=6.2,SNR=9.0						
ASAR				LR	LR	09 15 41.3	
	comp=Z,37nm,19.9s,baz=112,slow=39						
	comp=Z,0.7nm,0.6s						

*IDC **25** 08:38:54.9±1.4, 30.°31S×178.°07W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=36.3km s-min=19.1km az=109.0*

ISC 25 08:39:00.1±1.3, 30.°3S±0.°1×178.°1W±0.°2, h35km, n7, σ0s88/8, mb3.8/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.06**	**8**	Pn	**Pn**	**08 39 18.9**	**+0.5**
	28nm,0.3s,baz=90,slow=20,SNR=1.5						
RAO				Sn	**Sn**	**08 39 32.1**	**+0.2**
	306nm,0.3s,baz=197,slow=19,SNR=11						
STKA	**Stephens Creek**	**34.43**	**257**	P	**P**	**08 45 44.8**	**+0.5**
	2.7nm,1.0s,baz=108,slow=18,SNR=4.0						
	2.7nm,1.0s						
ASAR	**Alice Springs**	**43.05**	**267**	P	**P**	**08 46 56.8**	**+0.2**
	0.4nm,0.6s,baz=109,slow=8.4,SNR=6.8						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**44.03**	**272**	P	**P**	**08 47 04.1**	**-0.5**
	1.0nm,0.5s,baz=112,slow=8.2,SNR=16						
	1.0nm,0.5s						
QSPA	**South Pole Qui**	**59.80**	**180**	P	**P**	**08 49 02.2**	**+0.6**
	0.7nm,0.9s,baz=45,slow=1.4,SNR=5.7						
	0.7nm,0.9s						
FINES	**FINESS Array B**	**145.03**	**340**	PKPbc	**PKPab**	**08 58 31.1**	**-1.3**
	1.9nm,0.8s,baz=31,slow=3.2,SNR=6.0						
HFS	**Hagfors**	**149.14**	**349**	PKPbc	**PKPbc**	**08 58 42.9**	**-1.1**
	0.9nm,0.8s,baz=19,slow=4.9,SNR=2.4						

*NEIC **25** 08:49:18.8±1.8, 21.°56S±0.°07×174.°3W±0.°1, h10km±1km, mb4.4/13, Error ellipse: s-maj=20.2km s-min=11.2km az=91.0*
*IDC **25** 08:49:20.3±0.7, 21.°56S×175.°05W, h0km, mb4.0/11, mbtmp4.0/11, MS3.5/14, Error ellipse: s-maj=26.5km s-min=22.2km az=132.0*

ISC 25 08:49:21.3±0.6, 21.°6S±0.°1×174.°7W±0.°1, h10km, n52, σ1s53/35, mb4.3/17, MS3.5/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.17**	**61**	Pn	Pn	08 50 29.9	-8.8
MSVF	**Nonsavu**	**7.83**	**298**		**Pn**	**08 51 18.8**	**+3.4**
FUNA	**Funafuti**	**14.28**	**335**	Pn	**Pn**	**08 52 43.1**	**-0.5**
PINNC	**Pines Island,**	**16.55**	**263**		**P**	**08 53 18.0**	**+1.8**
PINNC				IAmb	IAmb	08 53 45.7	
	comp=Z,27nm,1.1s						
DZM	**Mont Dzumac**	**17.49**	**265**	P	**P**	**08 53 27.4**	**+0.7**
DZM	**Mont Dzumac**	**17.49**	**265**	LR	LR	08 58 50.7	
	comp=Z,90nm,19.1s,baz=103,slow=33						
LTZ	**Lake Taylor**	**23.74**	**204**	P	**P**	**08 54 33.1**	**-0.5**
LTZ				IAmb	IAmb	08 54 54.5	
	comp=Z,15nm,1.2s						
PPT	**Papeete**	**24.02**	**85**	LR	LR	09 01 31.1	
	comp=Z,46nm

ASAR			PcP	**PcP**	**08 59 26.9**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=97,slow=3.6,SNR=2.9						
	comp=Z,1.1nm,0.8s						
WR8	**Warramunga Arr**	**47.33 262**	P	**P**	**08 57 55.2**	**-0.4**
WR8			IAmb	IAmb	08 57 55.8		
	comp=Z,4.8nm,1.1s						
WRA	**Warramunga Arr**	**47.48 262**	P	**P**	**08 57 55.3**	**-1.5**
WRA	**Warramunga Arr**	**47.48 262**	P	**P**	**08 57 53.0**	**-3.7**
	comp=Z,0.9nm,0.8s,baz=99,slow=7.9,SNR=14						
WRA			PcP	**PcP**	**08 59 27.5**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=103,slow=2.7,SNR=1.9						
WRA			LR	LR	09 17 00.3		
	comp=Z,85nm,19.2s,baz=354,slow=35						
	comp=Z,0.9nm,0.8s						
FORT	**Forrest**	**51.67 247**	P	**P**	**08 58 27.4**	**-1.2**
GUMO	**Guam**	**52.89 308**	LR	LR	09 18 34.0		
	comp=Z,23nm,21.8s,baz=137,slow=33						
KNRA	**Kununurra**	**53.64 266**	P	**P**	**08 58 41.8**	**-1.5**
KNRA			IAmb	IAmb	08 59 04.4		
	comp=Z,3.7nm,0.9s						
CASY	**Casey**	**64.27 206**	P	**P**	**08 59 55.7**	**-0.7**
CASY			IAmb	IAmb	09 00 01.5		
	comp=Z,2.6nm,1.1s						
QSPA	**South Pole Qui**	**68.45 180**	P	**P**	**09 00 23.6**	**+0.3**
QSPA	**South Pole Qui**	**68.45 180**	P	**P**	**09 00 24.5**	**+1.1**
	comp=Z,2.0nm,0.8s,baz=53,slow=0.6,SNR=11						
	comp=Z,2.0nm,0.8s						
MJAR	**Matsushiro Arr**	**72.95 322**	P	**P**	**09 00 49.2**	**-1.8**
	comp=Z,2.2nm,0.7s,baz=152,slow=6.0,SNR=7.3						
	comp=Z,2.2nm,0.7s						
SHEM	**Shemya Is, Ala**	**74.67 353**	LR	LR	09 28 32.7		
	comp=Z,46nm,20.2s,baz=276,slow=32						
JNU	**Nakatsue**	**75.21 315**	LR	LR	09 30 28.7		
	comp=Z,21nm,20.7s,baz=135,slow=33						
ASAJ	**Asahikawa**	**76.20 330**	LR	LR	09 33 42.9		
	comp=Z,35nm,18.3s,baz=172,slow=35						
PEA0B	**Petropavlovsk-**	**78.17 343**	P	**P**	**09 01 17.8**	**-2.7**
PETK	**Petropavlovsk-**	**78.17 343**	P	**P**	**09 01 17.3**	**-3.3**
PETK	**Petropavlovsk-**	**78.17 343**	P	**P**	**09 01 21.5**	**+0.9**
	comp=Z,5.2nm,0.6s,baz=154,slow=5.4,SNR=5.4						
	comp=Z,5.2nm,0.6s						
KSRS	**Korea Array**	**79.77 317**	P	**P**	**09 01 31.0**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=126,slow=6.7,SNR=4.9						
	comp=Z,0.9nm,0.6s						
NVAR	**Mina Array Bea**	**79.78 42**	P	**P**	**09 01 30.6**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=243,slow=4.8,SNR=5.0						
	comp=Z,1.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**81.63 324**	P	**P**	**09 01 39.2**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=128,slow=9.5,SNR=2.4						
	comp=Z,2.1nm,0.7s						
H03S2	**Juan Fernandez**	**82.83 123**	T	T	10 33 50.0		
	baz=247						
H03S1	**Juan Fernandez**	**82.84 123**	T	T	10 33 40.0		
	baz=247						
H03S3	**Juan Fernandez**	**82.85 123**	T	T	10 33 40.2		
	baz=247						
H03N2	**Juan Fernandez**	**82.97 123**	T	T	10 33 53.2		
	baz=242						
H03N3	**Juan Fernandez**	**82.97 123**	T	T	10 34 07.2		
	baz=242						
H03N1	**Juan Fernandez**	**82.98 123**	T	T	10 33 57.5		
	baz=242						
TXAR	**Lajitas Array**	**85.11 56**	P	**P**	**09 01 59.2**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=252,slow=4.5,SNR=4.1						
TXAR			LR	LR	09 33 46.1		
	comp=Z,12nm,19.0s,baz=144,slow=31						
	comp=Z,0.1nm,0.3s						
ANMO	**Albuquerque**	**85.75 50**	LR	LR	09 33 23.4		
	comp=Z,31nm,19.1s,baz=322,slow=31						
PLCA	**Paso Flores**	**86.27 132**	LR	LR	09 34 10.2		
	comp=Z,20nm,19.2s,baz=244,slow=31						
PSI	**Prapat**	**87.63 272**	LR	LR	09 41 44.9		
	comp=Z,75nm,19.4s,baz=282,slow=36						
PDAR	**Pinedale Array**	**87.71 42**	P	**P**	**09 02 12.1**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=234,slow=4.4,SNR=2.4						
	comp=Z,0.3nm,0.8s						
ILAR	**Eielson Array**	**88.76 12**	P	**P**	**09 02 13.9**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=207,slow=5.1,SNR=5.2						
	comp=Z,0.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.37 288**	LR	LR	09 44 33.7		
	comp=Z,13nm,18.6s,baz=260,slow=36						
AKASG	**Malin Array Be**	**145.44 333**	PKPbc	**PKPbc**	**09 08 59.1**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=41,slow=5.3,SNR=11						
EKA	**Eskdalemuir Ar**	**145.75 9**	PKPbc	**PKPbc**	**09 09 00.4**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=336,slow=1.6,SNR=3.6						
BRTR	**Keskin Array B**	**149.85 313**	PKPbc	**PKPbc**	**09 09 12.0**	**0.0**
	comp=Z,0.6nm,0.4s,baz=62,slow=3.4,SNR=4.6						
GERES	**GERESS Array B**	**152.02 348**	PKPbc	**PKiKP**	**09 09 17.7**	**+0.6**
	comp=Z,0.2nm,0.2s,baz=360,slow=4.1,SNR=1.8						
TORD	**Torodi Ar. Bea**	**170.90 157**	PKPab	**PKPab**	**09 10 50.9**	**+2.0**
	comp=Z,1.0nm,0.3s,baz=181,slow=3.3,SNR=2.0						

*ASRS **25** 08:50:16.0±1.0,54°.11N×87°.23E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 25 08:50:20.4±3.3,54°.16N×87°.28E,h0km,mbtmp2.9/2, ML2.5/2,Error ellipse: s-maj=28.6km s-min=18.1km az=60.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.47 263**		I	I	08 59 30.0	
	baz=81,slow=319,SNR=4.0						
ZALV	**Zalesovo Beam**	**1.47 263**		Pg	Pn	08 50 46.9	-1.2
	2.6nm,0.3s,baz=80,slow=15,SNR=14						
ZALV				Lg	Lg	08 51 06.5	
	6.9nm,0.3s,baz=82,slow=31,SNR=17						
KURBB	**Kurchatov Arra**	**6.42 240**		Pn	Pn	08 51 57.4	+1.4
	0.1nm,0.3s,baz=56,slow=14,SNR=2.0						
	0.6nm,0.2s						
MKAR	**Makanchi Array**	**8.03 205**		Pn	Pn	08 52 18.8	+0.6
	0.1nm,0.3s,baz=25,slow=14,SNR=2.0						
MKAR				Lg	Lg	08 54 36.9	
	baz=25,slow=27,SNR=2.6						
	0.1nm,0.4s						

*NNC **25** 09:15:13.1±0.5,44°.28N×80°.14E,h0km,mb4.2,mpv4.0, Error ellipse: s-maj=3.8km s-min=2.8km az=84.0*
*SOME **25** 09:15:14.8,44°.25N×80°.15E,h25km*

ISC 25 09:15:10.5±1.3,44°.26N±0°.03×80°.44E±0°.03,h8km±11km, n39,σ1°62/60,7C-5D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**0.81 185**		P	**Pn**	**09 15 29.4**	**+1.0**
	148nm,0.1s						
KTMS				S	**Sn**	**09 15 40.6**	**-0.2**
	443nm,0.1s						
KTMS	**Ketmen**	**0.81 185**		*eP*	**Pn**	**09 15 29.4**	**+1.0**
	148nm,0.1s						
KTMS				*eS*	**Sn**	**09 15 40.6**	**-0.2**
	443nm,0.1s						
KNOS	**Konyrlen**	**0.91 277**		P	**Pg**	**09 15 27.6**	**-0.5**
	294nm,0.1s						
KNOS				S	**Sg**	**09 15 37.0**	**-2.9**
	373nm,0.2s						
PDGK	**Podgornoye**	**1.16 217**		⇓P	**Pn**	**09 15 33.5**	**+0.4**
	105nm,0.3s						
PDGK				⇓S	**Sb**	**09 15 48.2**	**+0.2**
	258nm,0.2s						
SHLS	**Shalkode**	**1.31 213**		P	**Pn**	**09 15 34.7**	**-0.6**
	253nm,0.2s						
SHLS				S	**Sb**	**09 15 49.0**	**-3.5**
	485nm,0.2s						
SHLS	**Shalkode**	**1.31 213**		*eP*	**Pn**	**09 15 34.7**	**-0.6**
	253nm,0.2s						
SHLS				*eS*	**Sb**	**09 15 49.0**	**-3.5**
	485nm,0.2s						
KPKS	**Kokpek**	**1.50 239**		P	**Pb**	**09 15 38.5**	**-0.2**
	7.6nm,0.2s						
KPKS				S	**Sn**	**09 15 55.4**	**-2.2**
	959nm,0.2s						
UZB	**Uzynbulak**	**1.51 223**		*eP*	**Pg**	**09 15 39.6**	**+0.1**
	102nm,0.1s						
UZB				*eS*	**Sn**	**09 15 57.2**	**-0.9**
	912nm,0.2s						
TDK	**Taldyqorghan**	**1.63 298**		P	**Pb**	**09 15 40.4**	**-0.5**
	250nm,0.3s						
TDK				S	**Sn**	**09 15 58.8**	**-2.1**
	542nm,0.3s						
TDK	**Taldyqorghan**	**1.63 298**		*eP*	**Pb**	**09 15 40.5**	**-0.5**
	250nm,0.3s						
TDK				*eS*	**Sn**	**09 15 58.8**	**-2.1**
	542nm,0.3s						
ARXS	**Arharly**	**1.88 270**		P	**Pb**	**09 15 45.0**	**-0.1**
	60nm,0.1s						
ARXS				S	**Sn**	**09 16 06.7**	**-0.4**
	928nm,0.3s						
SATY	**Saty**	**1.90 232**		P	**Pg**	**09 15 46.9**	**-0.1**
	106nm,0.1s						
SATY				S	**Sb**	**09 16 10.2**	**+0.7**
	1μm,0.2s						
CHKK	**Chushkaly**	**2.52 262**		*eP*	**Pb**	**09 15 56.0**	**-0.1**
	41nm,0.2s						
CHKK				*eS*	**Sb**	**09 16 25.4**	**-1.9**
	468nm,0.2s						
KOTS	**Kotyrbulak**	**2.62 248**		Pg	**Pb**	**09 15 58.4**	**+0.6**
	29nm,0.2s						
KOTS				Lg	Lg	09 16 29.6	
	504nm,0.5s						
KOTS	**Kotyrbulak**	**2.62 248**		*eP*	**Pb**	**09 15 58.4**	**+0.6**
	29nm,0.2s						
KOTS				*eS*	**Sb**	**09 16 29.6**	**-0.7**
	504nm,0.5s						
KNDC	**Almaty**	**2.73 249**		⇑Pg	**Pn**	**09 15 56.9**	**+2.3**
	31nm,0.3s						
KNDC				⇑Lg	Lg	09 16 32.6	
	472nm,0.7s						
AAA	**Alma-Ata**	**2.76 249**		Pg	**Pb**	**09 16 00.9**	**+0.7**
AAA				Lg	Lg	09 16 33.8	
	5.8nm,0.0s						
AAA	**Alma-Ata**	**2.76 249**		*eP*	**Pb**	**09 16 00.8**	**+0.7**
AAA				*eS*	**Sb**	**09 16 33.8**	**-0.4**
	5.8nm,0.0s						
KTBS	**Karatobe**	**2.77 260**		Pg	**Pb**	**09 16 00.1**	**-0.1**
	28nm,0.3s						
KTBS				Lg	Lg	09 16 32.5	
	660nm,0.5s						
MAKZ	**Makanchi**	**2.77 22**		Pg	**Pg**	**09 16 04.8**	**+1.2**
	4.8nm,0.3s						
MAKZ				Lg	Lg	09 16 39.6	
	18nm,0.3s						
TNSS	**Tian-Shan**	**2.81 246**		Pg	**Pb**	**09 16 02.3**	**+1.1**
	10nm,0.3s						
TNSS				Lg	Lg	09 16 36.0	
	38nm,0.3s						
TNSS	**Tian-Shan**	**2.81 246**		*eP*	**Pb**	**09 16 02.4**	**+1.1**
	10nm,0.3s						
TNSS				*eS*	**Sb**	**09 16 36.0**	**-0.1**
	38nm,0.3s						
MK31	**Makanchi Array**	**2.85 26**		⇑Pn	**Pb**	**09 16 00.7**	**-1.0**
	0.3nm,0.1s,baz=206,slow=12,SNR=139						
MK31				⇑Pg	**Pg**	**09 16 06.0**	**+0.9**
	0.9nm,0.1s,baz=216,slow=18,SNR=10						
MK31				⇓Lg	Lg	09 16 41.6	
	5.6nm,0.2s,baz=209,slow=28,SNR=10						
KUU	**Kurty**	**2.98 264**		Pg	**Pb**	**09 16 03.6**	**-0.2**
	32nm,0.3s						
KUU				Lg	Lg	09 16 38.5	
	319nm,0.6s						
KUU	**Kurty**	**2.98 264**		*eP*	**Pb**	**09 16 03.6**	**-0.2**
	32nm,0.3s						
KUU				*eS*	**Sb**	**09 16 38.5**	**-1.9**
	319nm,0.6s						
IZV	**Izvestkoviy**	**3.04 248**		Pg	**Pb**	**09 16 05.4**	**+0.6**
	13nm,0.2s						
IZV				Lg	Lg	09 16 42.6	
	80nm,0.2s						
IZV	**Izvestkoviy**	**3.04 248**		*eP*	**Pb**	**09 16 05.5**	**+0.6**
	13nm,0.2s						
IZV				*eS*	**Sb**	**09 16 42.2**	**0.0**
	80nm,0.2s						
KST	**Kastek**	**3.47 251**		Pg	**Pb**	**09 16 13.2**	**+0.9**
	15nm,0.4s						
KST				Lg	Lg	09 16 54.9	
	64nm,0.6s						
KST	**Kastek**	**3.47 251**		*eP*	**Pb**	**09 16 13.2**	**+0.9**
	15nm,0.4s						
KST				*eS*	**Sb**	**09 16 54.9**	**+0.2**
	64nm,0.6s						
DGS	**Degeres**	**3.53 255**		Pg	**Pb**	**09 16 13.6**	**+0.3**
	18nm,0.4s						
DGS				Lg	Lg	09 16 55.2	
	130nm,0.5s						
ZSN	**Zaisan**	**4.45 43**		Pg	**Pg**	**09 16 34.8**	**-0.8**
	5.9nm,0.3s						
ZSN				Lg	Lg	09 17 32.3	
	41nm,0.4s						
ZSN	**Zaisan**	**4.45 43**		*eP*	**Pg**	**09 16 35.6**	**0.0**
	5.9nm,0.2s						
ZSN				*eS*	**Sg**	**09 17 33.6**	**+0.5**
	41nm,0.4s						
AAK	**Ala-Archa**	**4.62 252**		⇑Pg	**Pb**	**09 16 34.4**	**+2.4**
	31nm,0.4s						
AAK				⇑Lg	Lg	09 17 35.3	
	146nm,0.5s						
BTLS	**Baital**	**4.63 282**		Pg	**Pb**	**09 16 33.5**	**+1.5**
	6.3nm,0.2s						
BTLS				Lg	Lg	09 17 29.8	
	10nm,0.5s						
BTLS	**Baital**	**4.63 282**		*eP*	**Pb**	**09 16 33.5**	**+1.5**
	6.3nm,0.2s						
BTLS				*eS*	**Sb**	**09 17 29.8**	**+1.9**
	10nm,0.5s						
MRKS	**Merke**	**5.46 256**		Pg	**Pb**	**09 16 49.8**	**+3.6**
	3.5nm,0.5s						
MRKS				Lg	Lg	09 17 57.6	
	24nm,0.5s						
MRKS	**Merke**	**5.46 256**		*eP*	**Pb**	**09 16 49.8**	**+3.6**
	3.3nm,0.4s						
MRKS				*eS*	**Sb**	**09 17 57.6**	**+5.7**
	24nm,0.5s						
KURK	**Kurchatov**	**6.58 350**		⇓Lg	Lg	09 18 39.7	
	23nm,0.9s						
KK31	**Karatay Array**	**7.29 264**		⇓Pg	Pb	09 17 23.8	+6.5
	3.0nm,0.7s,baz=75,slow=16,SNR=5.8						
KK31				⇑Lg	Lg	09 18 56.0	
	7.3nm,0.5s,baz=75,slow=26,SNR=17						

*ASRS **25** 09:20:20.0±1.2,53°.58N×87°.84E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 25 09:20:23.4±3.5,53°.62N×87°.73E,h0km,mbtmp2.6/2, ML2.2/1,Error ellipse: s-maj=33.0km s-min=19.2km az=55.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.76 282**		I	I	09 31 52.7	
	0.1nm,0.9s,baz=99,slow=323,SNR=8.1						
ZALV	**Zalesovo Beam**	**1.76 282**		Pn	Pb	09 20 56.2	-0.3
	0.4nm,0.3s,baz=96,slow=13,SNR=3.9						
ZALV				Lg	Lg	09 21 18.9	
	1.5nm,0.3s,baz=98,slow=26,SNR=4.9						
KURBB	**Kurchatov Arra**	**6.41 246**		Pn	Pn	09 21 59.1	+0.1
	0.2nm,0.4s,baz=61,slow=13,SNR=1.6						
MKAR	**Makanchi Array**	**7.67 209**		Pn	Pn	09 22 17.6	+1.2
	baz=28,slow=14,SNR=1.7						
	0.1nm,0.3s						

*IDC **25** 09:31:19.8±1.7,2°.58N×126°.25E,h0km,mb3.8/5, mbtmp3.8/5,Error ellipse: s-maj=135.1km s-min=18.6km az=69.0*
*DJA **25** 09:31:40.4±0.7,2°.N±4°×12°.5E±°,h178km±8km,M4.0/10, mb4.4/1,MLv3.8/10*

ISC 25 09:31:41.4±1.0,1°.61N±0°.08×124°.87E±0°.09,h200km,n11, σ2°56/12,mb3.8/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.36 221**		P	**Pn**	**09 32 10.7**	**-3.2**
SGSI	**Sangihe**	**2.16 18**		P	**Pn**	**09 32 19.6**	**-2.0**
TNTI	**Ternate**	**2.64 108**		P	**Pn**	**09 32 25.4**	**-1.4**
TNTI				S	**Sn**	**09 32 58.9**	**-3.3**
LUWI	**Luwuk**	**3.37 218**		P	**Pn**	**09 32 32.8**	**-2.7**
SANI	**Sanana**	**3.81 163**		P	**Pn**	**09 32 39.6**	**-1.2**
NLAI	**Namlea**	**5.31 155**		P	**Pn**	**09 32 57.7**	**-2.1**
FITZ	**Fitzroy Crossi**	**19.60 178**		P	**Pn**	**09 36 01.1**	**+2.6**
	0.8nm,0.4s,baz=0.1,slow=6.4,SNR=8.1						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**23.35 157**		P	**P**	**09 36 34.0**	**+1.9**
	2.8nm,0.6s,baz=335,slow=9.8,SNR=22						
	2.8nm,0.6s						
ASAR	**Alice Springs**	**26.62 161**		P	**P**	**09 37 04.0**	**+2.3**
	0.9nm,0.6s,baz=341,slow=8.6,SNR=20						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**58.26 327**		P	**P**	**09 41 16.1**	**+1.1**
	0.6nm,0.3s,baz=126,slow=8.0,SNR=11						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**62.54 329**		P	**P**	**09 41 44.9**	**+1.0**
	0.8nm,0.6s,baz=127,slow=6.8,SNR=6.5						
	0.8nm,0.6s						

*NEIC **25** 09:39:49.2±0.3,35°.844N±0°.008×98°.065W±0°.005, h5km±1km,mb_Lg3.1/112,ML3.3/32,ML3.4/45,Error ellipse: s-maj=2.5km s-min=1.5km az=322.0*

NEIC 25 09:39:49.4±0.5,35°.843N±0°.009×98°.08W±0°.01,h7km±1km, Error ellipse: s-maj=1.4km s-min=1.3km az=126.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCOK	**Bluff Creek, N**	**0.42 116**			Pg	09 39 57.8	+0.1
BCOK					Sg	09 40 04.0	+0.8
OK029	**Liberty Lake**	**0.51 95**			Pg	09 39 59.3	0.0
OK029					Sg	09 40 06.6	+0.8
OK029				IAML		09 40 06.8	
	3μm,0.2s						
CSTR	**Hydro, Custer**	**0.54 249**			Pg	09 40 00.1	+0.2
CSTR					Sg	09 40 07.9	+1.0
OK004	**Okla Sci Mus**	**0.58 123**			Pg	09 40 00.8	0.0
OK004					Sg	09 40 09.1	+0.8
ADOK	**Arcadia Dam**	**0.60 108**			Pg	09 40 01.2	+0.1
CROK	**Carrier**	**0.67 6**			Pg	09 40 02.2	0.0
CROK					Sg	09 40 11.6	+0.7
CROK				IAML		09 40 11.8	
	comp=E,2μm,0.3s						
CROK				IAML		09 40 24.7	
	comp=N,2μm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.68 130**			Pg	09 40 02.3	-0.2
OKCSW					Sg	09 40 11.8	+0.4
FNO	**Franklin**	**0.80 137**			Pg	09 40 04.5	-0.3
FNO					Sg	09 40 15.7	+0.4
FNO				IAML		09 40 18.6	
	comp=E,1μm,0.5s						
OK038	**West end E0370**	**0.83 320**			Pg	09 40 05.3	-0.2
OK038					Sg	09 40 16.8	+0.5
GC02	**Grant County #**	**1.02 10**			Pg	09 40 08.5	-0.6
GC02					Sg	09 40 22.5	+0.2
OK052	**Battle Ridge R**	**1.04 81**			Pg	09 40 09.0	-0.5
OK052					Sg	09 40 23.3	+0.3
OK052				IAML		09 40 31.3	
	comp=E,839nm,0.2s						
ELIS	**Ellis County**	**1.11 282**			Pg	09 40 10.3	-0.5
ELIS				IAML		09 40 32.4	
	comp=E,900nm,0.3s						
ELIS				IAML		09 40 33.9	
	comp=N,1μm,0.2s						
KAN14	**Manchester OK**	**1.12 5**		IAML		09 40 30.0	
	comp=N,1μm,0.1s						
KAN14				IAML		09 40 32.6	
	comp=E,1μm,0.2s						
BLOK	**Blackwell**	**1.15 37**			Pg	09 40 11.0	-0.5
QUOK	**Quay**	**1.16 73**			Pg	09 40 10.8	-0.9
QUOK				IAML		09 40 31.4	
	comp=E,996nm,0.2s						
QUOK				IAML		09 40 33.2	
	comp=N,1μm,0.2s						
KAN08	**Anthony NE Sta**	**1.38 3**			Pn	09 40 14.8	-0.4
TUL3	**Leonard**	**1.86 87**		IAmb_Lg		09 40 48.5	
	comp=Z,89nm,0.8s						
DRZT	**Darrouzett**	**1.90 289**		P	Pb	09 40 24.0	-0.4
DRZT				S	Sg	09 40 50.1	-0.2
SMWD	**Samnorwood**	**1.92 248**			Pn	09 40 23.2	+0.7
SMWD	**Samnorwood**	**1.92 248**		P	Pn	09 40 23.4	+0.9
LOOK	**Love County**	**1.99 158**			Pn	09 40 24.6	+1.2
LOOK				IAmb_Lg		09 40 53.6	
	comp=Z,126nm,0.7s						
WTFS	**Witchita Falls**	**2.10 189**			Pb	09 40 26.6	-1.2
RLO	**Rose Lookout**	**2.50 82**			Pn	09 40 30.7	+0.2
R32A	**Long Quarter,**	**2.62 349**			Pn	09 40 33.5	+1.2
FW03	**Perrin-Whitt E**	**2.80 180**		IAmb_Lg		09 41 18.6	
	comp=Z,60nm,0.8s						
FW06	**Azle**	**2.90 171**			Pn	09 40 37.7	+1.8
APMT	**Aspermont**	**3.03 214**			Pn	09 40 39.2	+1.5
PLPT	**Palo Pinto**	**3.03 184**			Pn	09 40 38.7	+1.0
U38A	**Gravette**	**3.04 78**			Pn	09 40 38.3	+0.3
AMTX	**Amarillo**	**3.10 253**			Pn	09 40 40.3	+1.5
AMTX				IAmb_Lg		09 41 25.9	
	comp=Z,56nm,0.8s						
DKNS	**Dickens**	**3.19 228**			Pn	09 40 42.2	+2.1
HHAR	**Hobbs**	**3.38 81**			Pn	09 40 43.2	+0.6
HHAR				IAmb_Lg		09 41 41.6	
	comp=Z,45nm,0.7s						
KSU1	**Kansas State U**	**3.46 19**		IAmb_Lg		09 41 41.8	
	comp=Z,58nm,0.8s						
ABTX	**Abilene, Hawle**	**3.46 202**			Pn	09 40 44.3	+0.6
TREL	**Terrell**	**3.51 152**		IAmb_Lg		09 41 44.3	
	comp=Z,37nm,0.7s						
SN05	**Snyder 5**	**3.76 219**		IAmb_Lg		09 41 54.3	
	comp=Z,70nm,0.8s						
RTBA	**Rita Blanca**	**3.82 280**			Pn	09 40 49.7	+0.9
RTBA	**Rita Blanca**	**3.82 280**		P	Pn	09 40 50.0	+1.3
RTBA				S	Sg	09 41 48.7	-3.4
MIAR	**Mount Ida**	**3.91 108**			Pn	09 40 51.0	+1.2
MIAR				IAmb_Lg		09 42 01.8	
	comp=Z,67nm,0.9s						
POST	**Post**	**3.96 227**		IAmb_Lg		09 42 01.2	
	comp=Z,64nm,0.8s						
MSTX	**Muleshoe**	**4.29 246**			Pn	09 40 56.2	+1.0
X40A	**Basin Creek Fa**	**4.50 106**		IAmb_Lg		09 42 14.9	
	comp=Z,55nm,0.9s						
WLAR	**White Oak Lake**	**4.62 116**		IAmb_Lg		09 42 19.0	
	comp=Z,50nm,1.0s						
WHAR	**Wooly Hollow**	**4.75 95**		IAmb_Lg		09 42 16.6	
	comp=Z,26nm,0.8s						
UALR	**University of**	**4.81 101**		IAmb_Lg		09 42 28.5	
	comp=Z,31nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.83 88**		IAmb_Lg		09 42 21.3	
	comp=Z,25nm,0.8s						
MGMO	**Mountain Grove**	**4.86 73**		IAmb_Lg		09 42 29.0	
	comp=Z,31nm,0.7s						
Z41A	**Richland Creek**	**5.06 119**		IAmb_Lg		09 42 42.9	
	comp=Z,34nm,0.8s						
435B	**Jarrell**	**5.06 175**		IAmb_Lg		09 42 44.4	
	comp=Z,29nm,0.8s						
P38A	**Dawn**	**5.22 42**		IAmb_Lg		09 42 40.6	
	comp=Z,28nm,0.8s						
R40A	**Maddies Statio**	**5.25 61**			Pn	09 41 08.3	+0.1
R40A				IAmb_Lg		09 42 43.1	
	comp=Z,30nm,1.0s						
T25A	**Trinidad**	**5.26 286**		IAmb_Lg		09 42 48.2	
	comp=Z,35nm,0.8s						
CCAR	**Cane Creek**	**5.53 109**		IAmb_Lg		09 42 49.9	
	comp=Z,38nm,0.9s						
OZNA	**Ozona**	**5.53 208**		IAm

ALPN	**Alpine** comp=Z,15nm,0.8s	**7.18**	**222**	IAmb_Lg		09 43 54.8
OXF	**Oxford** comp=Z,18nm,1.0s	**7.22**	**98**	IAmb_Lg		09 43 49.3
S44A	**Carbondale** comp=Z,26nm,0.7s	**7.32**	**73**	IAmb_Lg		09 43 51.0
VHRN	**Van Horn** comp=Z,14nm,0.8s	**7.67**	**231**	IAmb_Lg		09 44 05.5
I37A	**Lemond, Waseca** comp=Z,25nm,1.1s	**8.91**	**22**	IAmb_Lg		09 44 41.2
K22A	**Casper** comp=Z,16nm,0.9s	**9.44**	**319**	IAmb_Lg		09 45 02.0
I40A	**Norwalk** comp=Z,14nm,0.7s	**9.87**	**33**	IAmb_Lg		09 45 00.3

*SNET **25** 09:46:32.0±1.0, 13°.55N×88°.72W, h166^{km}±6^{km}, ML2.4*
*CATAC **25** 09:46:33.0±0.6, 14°.N±6°×8°.9W±°, h156^{km}±4^{km}, M2.2/11, MLv2.2/11, Error ellipse: s-maj=12.4km s-min=6.3km az=20.2, confirmed*
*GCG **25** 09:46:33.0±2.3, 13°.50N×88°.75W, h157^{km}±25^{km}, MD3.9*

ISC 25 09:46:33.1±2.6, 13°.47N±0°.10×88°.80W±0°.06, h162^{km}±15^{km}, n38, σ1§13/45, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TECO	**Alcaldia de Te**	**0.07**	**16**	*e*P	**Pn**	**09 46 54.1**	**-0.5**
TECO				*e*S	**Sn**	**09 47 10.4**	**-0.8**
TECO	**Alcaldia de Te**	**0.07**	**16**	P	**Pn**	**09 46 53.9**	**-0.7**
SCLA	**Alcaldia de Sa**	**0.25**	**17**	*e*P	**Pn**	**09 46 54.6**	**-0.3**
SCLA				*e*S	**Sn**	**09 47 12.1**	**+0.4**
SCLA	**Alcaldia de Sa**	**0.25**	**17**	S	**Sn**	**09 47 11.6**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.25**	**17**	P	**Pn**	**09 46 54.4**	**-0.6**
ALJI	**Alcalda de J**	**0.26**	**121**	P	**Pn**	**09 46 56.3**	**+1.5**
ALJI	**Alcalda de J**	**0.26**	**121**	S	**Sn**	**09 47 12.5**	**+1.1**
PAVA	**Las Pavas**	**0.28**	**332**	*i* P	**Pn**	**09 46 54.7**	**-0.3**
PAVA				*i* S	**Sn**	**09 47 11.6**	**-0.4**
PAVA	**Las Pavas**	**0.28**	**332**	S	**Sn**	**09 47 11.0**	**-1.0**
PAVA	**Las Pavas**	**0.28**	**332**	P	**Pn**	**09 46 53.7**	**-1.4**
TECA	**Tecapa**	**0.29**	**84**	*e*P	**Pn**	**09 46 55.2**	**0.0**
TECA				*e*S	**Sn**	**09 47 13.8**	**+1.7**
PACA	**Pacayal**	**0.47**	**90**	*e*P	**Pn**	**09 46 55.4**	**-0.4**
PACA	**Pacayal**	**0.47**	**90**	*i* P	**Pn**	**09 46 55.2**	**-0.5**
PACA	**Pacayal**	**0.47**	**90**	P	**Pn**	**09 46 55.5**	**-0.2**
CAHU	**Cacacuatique**	**0.65**	**62**	*e*P	**Pn**	**09 46 56.2**	**-0.5**
JAYA	**Jayaque - finc**	**0.66**	**287**	*e*P	**Pn**	**09 46 54.8**	**-1.9**
JAYA	**Jayaque - finc**	**0.66**	**287**	*i* P	**Pn**	**09 46 54.0**	**-2.7**
JAYA				*i* S	**Sn**	**09 47 15.3**	**+0.5**
JAYA	**Jayaque - finc**	**0.66**	**287**	P	**Pn**	**09 46 54.2**	**-2.5**
LCND	**La Caada**	**0.90**	**100**	*e*P	**Pn**	**09 46 58.0**	**-0.2**
LCND	**La Caada**	**0.90**	**100**	P	**Pn**	**09 46 57.7**	**-0.4**
CNCH	**Conchagua**	**0.96**	**101**	*e*P	**Pn**	**09 46 58.3**	**-0.5**
CNCH	**Conchagua**	**0.96**	**101**	P	**Pn**	**09 46 58.3**	**-0.5**
NUBE	**Las Nubes**	**1.04**	**295**	*e*P	**Pn**	**09 46 59.6**	**+0.1**
NUBE				*i* S	**Sn**	**09 47 23.6**	**+3.8**
NUBE	**Las Nubes**	**1.04**	**295**	P	**Pn**	**09 46 59.9**	**+0.4**
MTO3	**Montecristo**	**1.07**	**330**	*e*P	**Pn**	**09 46 59.5**	**-0.4**
MTO3	**Montecristo**	**1.07**	**330**	P	**Pn**	**09 46 59.4**	**-0.4**
INTHN	**La Esperanza I**	**1.08**	**39**	*i* P	**Pn**	**09 46 59.3**	**-0.6**
INTHN	**La Esperanza I**	**1.08**	**39**	P	**Pn**	**09 46 59.0**	**-0.9**
FAME	**Alcaldia de Sa**	**1.24**	**288**	S	**Sn**	**09 47 22.7**	**+0.3**
FAME	**Alcaldia de Sa**	**1.24**	**288**	P	**Pn**	**09 47 00.6**	**-0.4**
SARH	**Santa Rosa de**	**1.30**	**2**	*i* P	**Pn**	**09 47 01.4**	**-0.3**
SARH	**Santa Rosa de**	**1.30**	**2**	P	**Pn**	**09 47 01.7**	**0.0**
POTN	**Potosi Cosigui**	**1.34**	**110**	P	**Pn**	**09 47 01.3**	**-0.7**
POTN				S	**Sn**	**09 47 25.5**	**+1.3**
TGUH	**Tegucigalpa,Un**	**1.60**	**68**	P	**Pn**	**09 47 03.9**	**-0.8**
CHOHN	**Orocuina**	**1.60**	**89**	*i* P	**Pn**	**09 47 04.0**	**-0.7**
CHOHN	**Orocuina**	**1.60**	**89**	P	**Pn**	**09 47 03.9**	**-0.7**
CHIHN	**Chmisales**	**1.74**	**15**	*i* P	**Pn**	**09 47 05.8**	**-0.5**
YUSH	**Yuscaran**	**1.96**	**75**	*i* P	**Pn**	**09 47 07.7**	**-0.9**

DJA 25 09:50:59.2±0.5, 8°S±4°×10°8E±°, h32^{km}±7^{km}, M4.0/17, mb4.3/5, MLv3.9/17, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**0.51**	**34**	P	Pn	09 51 10.9	+0.6
CMJI				S	Sn	09 51 19.8	+1.9
CNJI	**Cibinong**	**1.36**	**311**	P	Pn	09 51 21.5	-0.4
LEM	**Lembang**	**1.48**	**339**	P	Pn	09 51 24.7	+1.0
SKJI	**Sukabumi**	**1.99**	**307**	P	Pn	09 51 31.2	+0.5
UGM	**Wanagama**	**2.36**	**83**	P	Pn	09 51 35.8	0.0
SMRI	**Semarang**	**2.54**	**63**	P	Pn	09 51 38.7	+0.5
WOJI	**Wonogiri, Jawa**	**2.76**	**82**	P	Pn	09 51 40.8	-0.5
CGJI	**Cibinong**	**2.92**	**303**	P	Pn	09 51 43.3	-0.1
PCJI	**Pacitan**	**2.99**	**90**	P	Pn	09 51 44.5	+0.1
GRJI	**Gresik**	**4.47**	**74**	P	Pn	09 52 05.0	+0.2
GMJI	**Gumukmas**	**5.23**	**91**	P	Pn	09 52 15.6	+0.4
JAGI	**Jajag, Banyuwa** 25nm,0.9s	**5.94**	**93**	P	Pn	09 52 25.2	+0.3
TWSI	**Taliwang, Sumb** 23nm,1.3s	**8.64**	**94**	P	Pn	09 53 02.6	+0.5
PLAI	**Plampang**	**9.53**	**94**	P	Pn	09 53 14.4	+0.1

*HEL **25** 10:00:12.4±0.2, 64°.79N×30°.91E, h0^{km}, ML1.7, Suspected explosion Hypocentre not reviewed by the ISC*
*KOLA **25** 10:00:13.5, 64°.69N×30°.48E, h0^{km}, ML1.9, Error ellipse: s-maj=21.8km s-min=15.1km az=160.0, Kostomuksha, Karelia*
*IDC **25** 10:00:15.4±2.0, 64°.74N×30°.39E, h0^{km}, mbtmp2.8/3, ML1.8/3, Error ellipse: s-maj=27.0km s-min=7.5km az=100.0*

ISC 25 10:00:13.5±1.2, 64°.83N±0°.05×30°.10E±0°.09, h0^{km}, n8, σ1§66/14, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara** baz=32	**0.62**	**187**	PB		10 00 25.8	
RMF				SG		10 00 34.6	
RMF				MSG		10 00 34.7	
	comp=Z,9.7nm,0.2s						
KU1	**Kurvinen**	**0.77**	**343**	PG		10 00 29.5	
MSF	**Maaselka**	**1.17**	**338**	PN		10 00 38.6	
MSF				SN		10 00 57.6	
KU2	**Taivalkoski**	**1.18**	**319**	PN		10 00 39.8	
KU2				SG		10 00 58.5	
KU6	**Riekki** baz=165	**1.21**	**356**	PN		10 00 37.8	
KU6				MSG		10 00 52.1	
	comp=Z,4.7nm,0.2s						
KU6				SN		10 00 55.7	
OLKF	**Oulanka, Finla**	**1.53**	**349**	PN		10 00 44.0	
OLKF				MSG		10 01 01.9	
	comp=Z,3.1nm,0.2s						
OLKF				SN		10 01 06.7	
NIF	**Nilsia**	**1.76**	**216**	PG		10 00 47.7	
NIF				SG		10 01 12.4	
OUL	**Oulu**	**1.81**	**280**	PG		10 00 51.0	
OUL				SG		10 01 17.3	
RANF	**Ranua** baz=124	**1.82**	**312**	PG		10 00 50.9	
RANF				SG		10 01 17.2	
OBF4	**Vikkela, Lumij** baz=91	**2.13**	**272**	PG		10 00 56.2	
OBF4				MSG		10 01 25.7	
	comp=Z,9.6nm,0.2s						
OBF4				SG		10 01 27.1	
KVDA	**Kovda**	**2.19**	**30**	P	**Pn**	**10 00 51.0**	**-0.2**
KVDA				S	**Sn**	**10 01 19.9**	**+1.0**
OUF	**Merijarvi**	**2.36**	**261**	PB		10 00 58.4	
OUF				MSG		10 01 31.9	
	comp=Z,7.1nm,0.2s						
OUF				SB		10 01 32.9	
RNF	**Rovaniemi**	**2.46**	**319**	PG		10 01 00.3	
RNF				SG		10 01 35.3	
OBF0	**Syolatti, Pyha**	**2.54**	**265**	PG		10 01 02.5	
OBF0				MSG		10 01 37.4	
	comp=Z,3.2nm,0.2s						
OBF0				SG		10 01 38.9	
TOF	**Tornio** comp=Z,1.2nm,0.2s	**2.72**	**300**	MSG		10 01 41.5	
TOF				SG		10 01 45.4	
SUF	**Sumiainen**	**2.75**	**221**	PB		10 01 03.8	
SUF				MSG		10 01 39.7	
	comp=Z,1.9nm,0.2s						
OBF8	**Ulkokalla** baz=78	**2.91**	**263**	PB		10 01 05.5	
OBF8				SG		10 01 49.7	

VRF	**Varrio**	**2.94**	**356**	PB		10 01 04.0
VRF				MSG		10 01 41.0
	comp=Z,1.2nm,0.2s					
APA0	**Apatity Array**	**3.03**	**22**	P	**Pn**	**10 01 03.0** **+0.4**
APA0				S	**Sn**	**10 01 39.9** **+0.4**
KLF	**Kolari** baz=127	**3.48**	**317**	PG		10 01 20.7
KLF				SG		10 02 08.1
KEF	**Keuruu**	**3.55**	**224**	PB		10 01 15.4
KEF				SN		10 01 57.1
PAJU	**Pajala**	**3.61**	**311**	SG		10 02 14.0
ERTU	**Ertsjaerv** baz=110	**3.70**	**301**	PB		10 01 19.2
ERTU				SG		10 02 16.6
RAJF	**Raja-Jooseppi**	**3.73**	**350**	PG		10 01 20.8
RAJF				SN		10 01 59.6
FINES	**FINESS Array B**	**3.86**	**210**	Pn	**Pn**	**10 01 15.2** **+1.2**
	comp=Z,0.1nm,0.3s,baz=31,slow=16,SNR=1.4					
FINES				Pg	**Pb**	**10 01 21.4** **-0.9**
	comp=Z,0.1nm,0.3s,baz=29,slow=14,SNR=5.2					
FINES				Sn	**Sn**	**10 02 01.9** **+2.0**
	comp=Z,0.2nm,0.3s,baz=30,slow=23,SNR=2.4					
FINES				Lg		10 02 15.4
	comp=Z,1.0nm,0.3s,baz=30,slow=29,SNR=12 comp=Z,0.2nm,0.4s					
UMAU	**Umeaa**	**4.20**	**261**	SN		10 02 12.6
HEF	**Hetta**	**4.41**	**327**	PB		10 01 32.2
HEF				SG		10 02 35.0
VJF	**Virojoki**	**4.46**	**196**	PG		10 01 31.6
VJF				SG		10 02 32.9
ARCES	**ARCESS Array B**	**5.05**	**341**	Pn	**Pn**	**10 01 33.0** **+2.5**
	comp=Z,0.2nm,0.3s,baz=153,slow=12,SNR=24					
ARCES				Sn	**Sn**	**10 02 29.4** **-0.1**
	comp=Z,0.2nm,0.3s,baz=152,slow=25,SNR=7.4					
ARCES				Lg	Lg	10 02 54.1
	comp=Z,0.3nm,0.3s,baz=153,slow=30,SNR=6.8 comp=Z,0.5nm,0.4s					
ARCES	**ARCESS Array B**	**5.05**	**341**	P	**Pn**	**10 01 32.6** **+2.2**
ARCES				S	**Sn**	**10 02 29.9** **+0.5**
VADS	**Vadso**	**5.32**	**357**	S	**Sn**	**10 02 36.3** **+0.3**
I37NO	**I37NO** baz=128,slow=316,SNR=3.5	**6.20**	**319**	I	I	10 36 50.0
HFS	**Hagfors**	**8.92**	**246**	Pn	**Pn**	**10 02 23.6** **+0.2**
	comp=Z,0.1nm,0.3s,baz=55,slow=12,SNR=2.3					
HFS				Sn	**Sn**	**10 04 01.1** **-3.3**
	comp=Z,0.1nm,0.3s,baz=55,slow=25,SNR=2.2 comp=Z,1.2nm,0.9s					

*IDC **25** 10:15:07.1±0.5, 15°.91N×61°.19W, h0^{km}, mb4.1/21, mbtmp4.2/23, ML4.7/2, MS3.3/35, Error ellipse: s-maj=14.6km s-min=7.4km az=106.0*
*TRN **25** 10:15:08.7, 16°.03N×61°.15W, h18^{km}, MD5.0, East of Guadeloupe. Felt in Dominica, MMI IV, V, VI; Guadeloupe MMI IV, V, VI; Martinique MMI IV, V, VI*
*NEIC **25** 10:15:09.1±1.8, 16°.05N±0°.05×60°.98W±0°.06, h10^{km}±1^{km}, mb4.6/182, Error ellipse: s-maj=11.3km s-min=6.1km az=233.0*
*CATAC **25** 10:15:10.2±0.9, 16°.N±3°×61°.W±°, h13^{km}±4^{km}, M4.9/8, mb5.2/7, mB5.3/7, MLv4.9/8, Mw(mB)4.7/7, Error ellipse: s-maj=12.2km s-min=5.7km az=68.0, confirmed*

ISC 25 10:15:10.7±0.5, 16°.07N±0°.02×61°.08W±0°.03, h20^{km}±3^{km}, n262, σ1§41/194, mb4.6/117, MS3.3/30, 6C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAGL	**Barre de l'ile**	**0.23**	**239**		**Pb**	**10 15 16.7**	**+0.3**
DSDZ	**La Disearde, G**	**0.24**	**3**	↑*i* P	**Pb**	**10 15 16.6**	**0.0**
DSDZ				*e*S	**Sb**	**10 15 20.6**	**-0.1**
GDSD	**La Dsirade Is**	**0.24**	**3**		**Pb**	**10 15 16.5**	**-0.2**
H05N1	**Guadeloupe/Mar**	**0.25**	**5**	Pg	**Pb**	**10 15 16.6**	**-0.1**
H05N1				Lg	Lg	10 15 20.2	
CBE	**Ff, Capester**	**0.51**	**270**		**Pb**	**10 15 21.5**	**+0.5**
CBE	**Ff, Capester**	**0.51**	**270**	P	**Pb**	**10 15 21.4**	**+0.5**
CBE				S	**Sb**	**10 15 29.3**	**+1.3**
DWS	**Wesley**	**0.54**	**204**	↑*i* P	**Pb**	**10 15 22.1**	**+0.5**
DWS				*e*S	**Pb**	**10 15 22.1**	**+0.5**
ABD	**La Joyeuse, An**	**0.56**	**316**		**Pb**	**10 15 21.6**	**-0.4**
MMLZ	**Guadeloupe Bro**	**0.57**	**268**	↓*i* P	**Pb**	**10 15 22.2**	**+0.2**
MMLZ				*e*S	**Sb**	**10 15 30.0**	**+0.3**
TBG	**Guadaloupe-3**	**0.58**	**249**	↓*i* P	**Pb**	**10 15 22.3**	**0.0**
ATGZ	**Broadband at L**	**0.62**	**273**	↓*i* P	**Pb**	**10 15 23.1**	**+0.1**
DHSZ	**Broadband at M**	**0.69**	**287**	*e*P	**Pb**	**10 15 23.8**	**-0.3**
DHSZ				*e*S	**Sb**	**10 15 33.9**	**+0.7**
GDHS	**Morne Mazeau,**	**0.69**	**287**		**Pb**	**10 15 24.1**	**0.0**
DLPL	**La Plaine**	**0.75**	**192**	↑*i* P	**Pb**	**10 15 24.9**	**-0.2**
DLPL				*e*S	**Sb**	**10 15 35.4**	**+0.7**
DLDT	**Laudat, Domini**	**0.78**	**199**	↑*e*P	**Pb**	**10 15 25.4**	**-0.2**
DLDT				*e*S	**Sb**	**10 15 36.5**	**+0.8**
DRTD	**Roseau, Domini**	**0.82**	**201**	*e*P	**Pb**	**10 15 26.4**	**+0.1**
SVN	**Savane Anatole**	**1.22**	**184**		**Pn**	**10 15 31.6**	**-1.1**
MBWH		**1.26**	**302**	*e*P	**Pn**	**10 15 33.0**	**-0.2**
MBWH				*e*S	**Sb**	**10 15 49.6**	**0.0**
MBFL	**Flemmings, Mon**	**1.28**	**302**	*e*P	**Pn**	**10 15 33.3**	**-0.2**
MBFL				*e*S	**Sb**	**10 15 50.3**	**0.0**
ILAM	**Ilet Lapin Mar**	**1.30**	**171**		**Pn**	**10 15 32.8**	**-0.9**
ILAM	**Ilet Lapin Mar**	**1.30**	**171**	*e*P	**Pn**	**10 15 32.8**	**-0.9**
ILAM				*e*S	**Sn**	**10 15 49.3**	**-1.3**
FDF	**Fort de France**	**1.33**	**183**		**Pn**	**10 15 33.1**	**-1.1**
FDF	**Fort de France**	**1.33**	**183**	P	**Pn**	**10 15 32.9**	**-1.3**
FDF				S	**Sn**	**10 15 49.4**	**-1.9**
BIM	**Bigot**	**1.54**	**180**		**Pn**	**10 15 36.5**	**-0.6**
BIM	**Bigot**	**1.54**	**180**	*e*P	**Pn**	**10 15 36.6**	**-0.6**
BIM				*e*S	**Sn**	**10 15 55.6**	**-1.0**
MPOM	**Morne Pois Mar**	**1.63**	**172**		**Pn**	**10 15 37.5**	**-0.7**
H05S1	**Guadeloupe/Mar**	**1.65**	**172**	Pg	**Pn**	**10 15 38.2**	**-0.4**
H05S1				Lg	Lg	10 15 58.0	
ANWB	**Willy Bob**	**1.73**	**337**		**Pn**	**10 15 39.0**	**-0.7**
ANWB	**Willy Bob**	**1.73**	**337**	↑*i* P	**Pn**	**10 15 38.9**	**-0.7**
ANWB				*e*S	**Sn**	**10 16 02.0**	**+0.8**
ANWB	**Willy Bob**	**1.73**	**337**	P	**Pn**	**10 15 38.9**	**-0.7**
ANWB				S	**Sn**	**10 15 59.4**	**-1.8**
SKOC	**St. Kitts, UWI**	**2.00**	**308**	*e*P	**Pn**	**10 15 42.3**	**-1.1**
SKOC				*e*S	**Sn**	**10 16 07.3**	**-0.4**
SKI	**Saint Kitts**	**2.03**	**309**	*e*P	**Pn**	**10 15 44.3**	**+0.5**
SKI				*e*S	**Sn**	**10 16 09.3**	**+0.7**
SLBI	**Saint Lucia, B**	**2.04**	**177**	↑*i* P	**Pn**	**10 15 43.5**	**-0.4**
SLBI				*e*S	**Sn**	**10 16 08.2**	**-0.4**
SEUS	**St. Eustatius**	**2.31**	**308**		**Pn**	**10 15 48.0**	**+0.4**
SEUS	**St. Eustatius**	**2.31**	**308**	P	**Pn**	**10 15 47.8**	**+0.2**
SEUS	**St. Eustatius**	**2.31**	**308**	S	**Sn**	**10 16 14.1**	**-1.4**
SABA	**Saba**	**2.58**	**307**		**Pn**	**10 15 52.1**	**+0.7**
SABA	**Saba**	**2.58**	**307**	P	**Pn**	**10 15 51.7**	**+0.3**
SVB	**Belmont**	**2.78**	**183**	*e*P	**Pn**	**10 15 54.5**	**+0.3**
SVB				*e*S	**Sn**	**10 16 27.7**	**+0.4**
SVT	**Saint Vincent**	**2.88**	**183**	*e*P	**Pn**	**10 15 55.5**	**-0.1**
SVT				*e*S	**Sn**	**10 16 29.4**	**-0.3**
BBGH	**Gun Hill**	**3.26**	**153**	P	**Pn**	**10 16 02.0**	**+1.3**
GRSS	**Sisters**	**3.78**	**188**	*e*P	**Pn**	**10 16 08.1**	**+0.2**
GRSS				*e*S	**Sn**	**10 16 52.6**	**+0.8**
GRW	**Mount Saint Ca**	**3.92**	**188**	*e*P	**Pn**	**10 16 11.6**	**+1.6**
GRW				*e*S	**Sn**	**10 16 53.3**	**-2.2**
GRGR	**Grenville**	**3.95**	**188**		**Pn**	**10 16 10.8**	**+0.5**
GRGR	**Grenville**	**3.95**	**188**	*e*P	**Pn**	**10 16 10.9**	**+0.7**
GRGR				*e*S	**Sn**	**10 16 54.2**	**-1.9**
GRGR	**Grenville**	**3.95**	**188**	P	**Pn**	**10 16 10.6**	**+0.3**
GRGR				S	**Sn**	**10 16 56.6**	**+0.6**
GRFF	**Grenada Fort F**	**4.04**	**189**	*e*P	**Pn**	**10 16 12.2**	**+0.6**
GRFF				*e*S	**Sn**	**10 16 58.4**	**0.0**
TPR	**Prospect**	**4.86**	**176**	*e*P	**Pn**	**10 16 23.7**	**+0.9**
HUMP	**Col San Antoni**	**5.01**	**295**		**Pn**	**10 16 25.9**	**+1.2**
PDPR	**Patillas Dam,**	**5.11**	**293**		**Pn**	**10 16 26.7**	**+0.5**
IGPR	**InterUniversit**	**5.17**	**292**	P	**Pn**	**10 16 27.2**	**+0.2**
SJG	**San Juan**	**5.26**	**293**		**Pn**	**10 16 28.9**	**+0.7**
SJG	**San Juan** 82nm,0.3s,baz=113,slow=13,SNR=60	**5.26**	**293**	Pn	**Pn**	**10 16 28.2**	**0.0**
SJG				Sn	**Sn**	**10 17 25.4**	**-2.9**
	22nm,0.3s,baz=12,slow=19,SNR=1.3						
SJG				LR	LR	10 18 51.2	
	comp=Z,695nm,18.2s,baz=121,slow=43 134nm,0.3s						
SJG	**San Juan**	**5.26**	**293**	*e*P	**Pn**	**10 16 29.3**	**+1.1**
SJG	**San Juan**	**5.26**	**293**	P	**Pn**	**10 16 28.6**	**+0.4**
GCPR	**Guaynabo City**	**5.28**	**296**		**Pn**	**10 16 29.9**	**+1.5**
DMDM	**Guralp CMG5TDE**	**5.36**	**185**	*e*P	**Pn**	**10 16 30.5**	**+0.9**
DMDM				*e*S	**Sn**	**10 17 29.1**	**-1.7**
PSKH	**Kent House, Po**	**5.37**	**185**	*e*P	**Pn**	**10 16 31.7**	**+1.9**
PSKH				*e*S	**Sn**	**10 17 30.7**	**-0.4**
PSMG	**Mucurapo Girls**	**5.38**	**185**	*e*P	**Pn**	**10 16 29.0**	**-0.9**

PSGH	**Port of Spain**	**5.39**	**184**	*e*P	**Pn**	**10 16 29.1** **-0.9**
PSGH				*e*S	**Sn**	**10 17 29.9** **-1.7**
TRN	**Trinidad (W)**	**5.40**	**183**	*e*P	**Pn**	**10 16 31.4** **+1.3**
TRN				*e*S	**Sn**	**10 17 28.1** **-3.6**
TBH	**Brigand Hill**	**5.55**	**180**	*e*P	**Pn**	**10 16 34.3** **+2.1**
CELP	**Cerrillos**	**5.62**	**292**		**Pn**	**10 16 33.6** **+0.4**
OBIP	**Obispado Ponce**	**5.64**	**291**		**Pn**	**10 16 33.7** **+0.3**
TPP	**Pointe-a-Pierr**	**5.73**	**184**	*e*P	**Pn**	**10 16 38.5** **+3.8**
EMPR	**Esperanza - Ma**	**5.73**	**296**		**Pn**	**10 16 36.7** **+2.0**
AOPR	**Arecibo Observ**	**5.88**	**294**		**Pn**	**10 16 37.4** **+0.6**
AOPR	**Arecibo Observ**	**5.88**	**294**	*e*P	**Pn**	**10 16 37.6** **+0.8**
CRPR	**Cabo Rojo, PR**	**6.08**	**289**		**Pn**	**10 16 39.5** **-0.1**
AGPR	**Aguadilla, PR**	**6.24**	**293**		**Pn**	**10 16 42.5** **+0.8**
AGPR	**Aguadilla, PR**	**6.24**	**293**	P	**Pn**	**10 16 42.3** **+0.7**
PCRV	**Puerto La Cruz**	**6.80**	**211**	Pn	**Pn**	**10 16 50.2** **+0.7**
	10nm,0.3s,baz=28,slow=5.3,SNR=44					
PCRV				Sn	**Sn**	**10 18 03.8** **-2.7**
	1.9nm,0.3s,baz=117,slow=4.5,SNR=1.1					
PCRV				LR	LR	10 19 43.3
	comp=Z,502nm,18.9s,slow=42					
PCRV	**Puerto La Cruz**	**6.80**	**211**	*e*P	**Pn**	**10 16 50.2** **+0.7**
PCRV				*e*S	**Sn**	**10 18 06.1** **-0.4**
BAUV	**El Baul**	**9.81**	**225**		**Pn**	**10 17 29.4** **-1.3**
BAUV	**El Baul**	**9.81**	**225**	*e*P	**Pn**	**10 17 29.6** **-1.2**
SDDR	**Presa de Saban**	**10.16**	**288**		**Pn**	**10 17 37.7** **+2.1**
SDDR	**Presa de Saban**	**10.16**	**288**	P	**Pn**	**10 17 37.4** **+1.9**
PAPH	**Port-au-Prince**	**10.99**	**284**	P	**Pn**	**10 17 48.3** **+1.4**
LGNH	**Logne**	**11.27**	**284**	P	**Pn**	**10 17 53.6** **+2.8**
SDV	**Santo Domingo**	**11.74**	**234**	Pn	**Pn**	**10 17 57.5** **+0.1**
	6.2nm,0.3s,baz=42,slow=10,SNR=5.5					
SDV				LR	LR	10 23 05.6
	comp=Z,301nm,19.2s,baz=73,slow=41					
SDV	**Santo Domingo**	**11.74**	**234**	*e*P	Pn	10 18 02.0 +4.6
BOAV	**Boa Vista**	**13.60**	**178**	Pn	**Pn**	**10 18 19.8** **-2.7**
BOAV	**Boa Vista**	**13.60**	**178**	*e*P	**Pn**	**10 18 19.1** **-3.5**
MDP	**Montagnes des**	**13.69**	**142**	Pn	**Pn**	**10 18 20.6** **-3.2**
	1.1nm,0.3s,baz=350,slow=14,SNR=7.2					
MDP				Sn	Sn	10 20 44.5 -11
	3.3nm,0.3s,baz=311,slow=9.3,SNR=11					
MDP				LR	LR	10 23 59.5
	comp=Z,87nm,21.1s,baz=348,slow=39 1.8nm,0.3s					
SJCC	**San Jacinto, C**	**15.04**	**248**	P	**Pn**	**10 18 42.0** **-0.3**
RUSC	**La Rusia**	**15.52**	**231**	P	**Pn**	**10 18 49.3** **+0.3**
ROSC	**El Rosal**	**17.13**	**231**	Pn	**P**	**10 19 10.6** **-0.5**
	1.5nm,0.3s,baz=80,slow=18,SNR=5.5					
ROSC				LR	LR	10 27 04.1
	comp=Z,187nm,18.6s,baz=338,slow=42					
MACA	**Manacapuru-AM**	**19.11**	**179**		**P**	**10 19 32.1** **-0.4**
MACA				IAmb	IAmb	10 19 36.6
	comp=Z,20nm,0.7s					
MACA	**Manacapuru-AM**	**19.11**	**179**	*e*P	**P**	**10 19 32.8** **+0.3**
TEFE	**Tefe**	**19.77**	**191**	*e*P	**Pn**	**10 19 41.0** **-0.2**
FLOC	**Florencia**	**20.33**	**226**		**P**	**10 19 44.7** **-1.2**
FLOC				IAmb	IAmb	10 20 10.0
	comp=Z,38nm,1.2s					
ITTB	**Itaituba**	**20.98**	**165**	*e*P	Pn	10 19 54.4 -1.1
OTAV	**Otavalo**	**23.26**	**229**	*e*P	**P**	**10 20 24.1** **+6.4**
SOCE	**Pocosol**	**23.59**	**259**	P	**P**	**10 20 17.1** **-3.4**
NPGB	**Novo Progresso**	**23.65**	**166**	*e*P	**P**	**10 20 22.0** **+1.0**
JTS	**Las Juntas de**	**23.93**	**259**	LR	LR	10 29 04.7
	comp=Z,29nm,20.3s,baz=86,slow=35					
PRPB	**Parauapebas**	**24.75**	**152**	*e*P	**P**	**10 20 34.5** **+3.3**
BIRD	**Birdtown, Kers**	**25.39**	**320**	P	**P**	**10 20 37.8** **+1.0**
BIRD				IAmb	IAmb	10 20 46.6
	comp=Z,14nm,0.8s					
V58A	**Windy Hill, Pi**	**25.39**	**324**	IAmb	IAmb	10 20 46.6
	comp=Z,21nm,1.2s					
W57A	**Gilead**	**25.45**	**322**	P	**P**	**10 20 38.6** **+1.3**
CZSB	**Cruzeiro do Su**	**26.30**	**207**	*e*P	**P**	**10 20 49.3** **+4.1**
152A	**Waverly Hall**	**27.05**	**312**	IAmb	IAmb	10 20 59.7
	comp=Z,11nm,1.0s					
TKL	**Tuckaleechee C**	**28.12**	**318**	LR	LR	10 34 07.3

AGMN	**Agassiz Nation**	**42.94**	326			**P**	**10 23 08.2 0.0**
AGMN				lAmb		lAmb	10 23 16.0
	comp=Z,9.1nm,0.6s						
MNTX	**Cornudas Mount**	**43.09**	299	lAmb		lAmb	10 23 10.7
	comp=Z,6.7nm,0.5s						
T25A	**Trinidad**	**43.60**	307	lAmb		lAmb	10 23 21.5
	comp=Z,8.0nm,0.9s						
ANMO	**Albuquerque**	**44.63**	304	P		**P**	**10 23 21.9 -0.4**
ANMO	**Albuquerque**	**44.63**	304	LR		LR	10 43 18.6
	comp=Z,45nm,21.9s,baz=198,slow=38						
Y22A	**Socorro**	**44.83**	302	lAmb		lAmb	10 23 35.5
	comp=Z,5.5nm,0.8s						
121A	**Cookes Peak, D**	**45.24**	300	lAmb		lAmb	10 23 35.6
	comp=Z,9.0nm,0.9s						
PV01	**Paradox Valley**	**47.04**	307	lAmb		lAmb	10 23 50.1
	comp=Z,6.8nm,1.0s						
PV07	**Paradox Valley**	**47.18**	308	lAmb		lAmb	10 23 50.7
	comp=Z,6.8nm,0.9s						
PV11	**David Mesa, Pa**	**47.31**	308	lAmb		lAmb	10 23 51.7
	comp=Z,8.1nm,0.9s						
PV16	**Nyswonger Mesa**	**47.35**	308	lAmb		lAmb	10 23 52.0
	comp=Z,7.7nm,0.9s						
PV17	**East Wray Mesa**	**47.38**	308	lAmb		lAmb	10 23 58.2
	comp=Z,9.5nm,1.2s						
PV19	**Morning Glory**	**47.40**	308	lAmb		lAmb	10 23 52.4
	comp=Z,7.5nm,0.9s						
PV05	**Paradox Valley**	**47.43**	307	lAmb		lAmb	10 23 53.8
	comp=Z,5.4nm,1.0s						
PV10	**Paradox Valley**	**47.46**	308	lAmb		lAmb	10 24 01.3
	comp=Z,9.5nm,1.1s						
TUC	**Tucson**	**47.71**	299	P		**P**	**10 23 46.7 +0.2**
TUC				lAmb		lAmb	10 23 55.6
	comp=Z,4.9nm,0.8s						
FRB	**Frobisher Bay**	**47.91**	356	LR		LR	10 42 26.3
	comp=Z,18nm,19.1s,baz=133,slow=34						
LAO	**LASA Array**	**48.22**	319	lAmb		lAmb	10 23 59.1
	comp=Z,6.2nm,0.8s						
P18A	**Preston Nutter**	**48.68**	309	lAmb		lAmb	10 24 02.0
	comp=Z,4.1nm,0.8s						
SRU	**San Rafael Swe**	**48.77**	308	lAmb		lAmb	10 24 05.1
	comp=Z,3.6nm,0.7s						
PDAR	**Pinedale Array**	**49.05**	313	P		**P**	**10 23 56.5 -0.2**
	comp=Z,3.5nm,0.6s,baz=118,slow=7.6,SNR=50						
PDAR				LR		LR	10 46 17.1
	comp=Z,22nm,20.8s,baz=102,slow=38						
	comp=Z,3.5nm,0.6s						
TMUT	**Trail Mountain**	**49.33**	308	lAmb		lAmb	10 24 09.9
	comp=Z,6.6nm,0.8s						
U15A	**North Rim**	**49.58**	304	lAmb		lAmb	10 24 09.6
	comp=Z,4.7nm,0.8s						
RLMT	**Red Lodge**	**49.60**	316	lAmb		lAmb	10 24 09.8
	comp=Z,9.0nm,0.9s						
Y14A	**Wickenburg**	**49.78**	301	lAmb		lAmb	10 24 09.3
	comp=Z,4.5nm,0.8s						
JLU	**Jordanelle**	**49.82**	310	lAmb		lAmb	10 24 11.4
	comp=Z,10.0nm,0.9s						
LOHW	**Long Hollow**	**50.03**	314	lAmb		lAmb	10 24 12.6
	comp=Z,6.6nm,0.9s						
SNOW	**Snow King Moun**	**50.09**	314	lAmb		lAmb	10 24 21.0
	comp=Z,17nm,1.4s						
KNB	**Kanab**	**50.10**	305	lAmb		lAmb	10 24 14.0
	comp=Z,5.8nm,0.9s						
AHID	**Auburn Hatcher**	**50.13**	313	lAmb		lAmb	10 24 13.7
	comp=Z,8.7nm,0.8s						
TPAW	**Teton Pass**	**50.24**	314	lAmb		lAmb	10 24 14.3
	comp=Z,7.2nm,0.8s						
SZCU	**Shurtz Canyon**	**50.42**	306	lAmb		lAmb	10 24 15.5
	comp=Z,8.0nm,1.1s						
DUG	**Dugway, Tooele**	**50.73**	309	lAmb		lAmb	10 24 18.2
	comp=Z,12nm,1.1s						
HVU	**Hansel Valley**	**51.08**	311	lAmb		lAmb	10 24 20.2
	comp=Z,6.8nm,0.9s						
PSUT	**Pine Spring**	**51.19**	307	lAmb		lAmb	10 24 22.8
	comp=Z,8.5nm,0.8s						
SPR3	**Spring Creek 3**	**51.64**	307	lAmb		lAmb	10 24 25.0
	comp=Z,7.6nm,0.9s						
VTX	**Valle De La Tr**	**51.86**	297	lAmb		lAmb	10 24 27.3
	comp=Z,6.3nm,0.9s						
H10N3	**ASCENSION HYDR**	**51.87**	114	T		T	11 20 12.3
	baz=297,slow=75,SNR=3490						
H10N2	**ASCENSION HYDR**	**51.88**	114	T		T	11 20 12.8
	baz=297,slow=75,SNR=4781						
H10N1	**ASCENSION HYDR**	**51.89**	114	T		T	11 20 13.9
	baz=297,slow=75,SNR=3937						
DLMT	**Dillon**	**51.91**	315	lAmb		lAmb	10 24 27.0
	comp=Z,5.7nm,0.8s						
H10S3	**ASCENSION HYDR**	**52.24**	115	T		T	11 20 43.5
	baz=288,slow=74,SNR=2021						
H10S2	**ASCENSION HYDR**	**52.26**	115	T		T	11 20 41.0
	baz=292,slow=74,SNR=1700						
ELK	**Elko**	**52.66**	309	LR		LR	10 47 55.6
	comp=Z,41nm,20.9s,baz=113,slow=37						
TPNV	**Topopah Spring**	**52.80**	304	lAmb		lAmb	10 24 33.0
	comp=Z,8.5nm,1.1s						
WCT	**Wildcat Mounta**	**53.08**	304	lAmb		lAmb	10 24 36.1
	comp=Z,7.1nm,1.0s						
MDT	**Midelt**	**53.45**	61	LR		LR	10 42 08.9
	comp=Z,37nm,19.2s,baz=246,slow=30						
PLID	**Pearl Lake**	**54.16**	314	lAmb		lAmb	10 24 42.9
	comp=Z,5.1nm,0.9s						
NVAR	**Mina Array Bea**	**54.62**	306			**P**	**10 24 38.2 -0.2**
NVAR	**Mina Array Bea**	**54.62**	306	P		**P**	**10 24 37.7 -0.7**
	comp=Z,1.3nm,0.7s,baz=71,slow=6.5,SNR=12						
NVAR				LR		LR	10 49 48.8
	comp=Z,38nm,21.7s,baz=130,slow=38						
	comp=Z,1.3nm,0.7s						
ESDC	**Sonseca Array**	**54.71**	53	P		**P**	**10 24 39.8 +1.0**
	comp=Z,0.8nm,0.7s,baz=253,slow=6.6,SNR=7.5						
ESDC				LR		LR	10 42 52.2
	comp=Z,32nm,21.0s,baz=268,slow=30						
	comp=Z,0.8nm,0.7s						
J08A	**Circle Bar Ran**	**55.53**	312	lAmb		lAmb	10 24 52.8
	comp=Z,5.9nm,0.9s						
BORG	**Borgarnes**	**55.56**	19	LR		LR	10 47 57.6
	comp=Z,18nm,18.0s,baz=269,slow=35						
NEW	**Newport**	**55.70**	318	LR		LR	10 51 56.4
	comp=Z,19nm,18.4s,baz=114,slow=40						
DBIC	**Dimbokro**	**55.76**	93	P		**P**	**10 24 47.5 +0.8**
	comp=Z,5.4nm,0.5s,baz=297,slow=5.1,SNR=10						
DBIC				LR		LR	10 46 48.2
	comp=Z,26nm,18.7s,baz=332,slow=34						
	comp=Z,5.4nm,0.5s						
J05D	**Fort Rock, OR**	**57.50**	311	lAmb		lAmb	10 25 07.2
	comp=Z,10nm,1.3s						
SUMG	**Summit**	**58.02**	8	P		**P**	**10 25 01.1 -1.2**
SUMG				lAmb		lAmb	10 25 12.5
	comp=Z,11nm,1.1s						
SUMG	**Summit**	**58.02**	8	*i* P		**P**	**10 25 02.0 -0.3**
YKA	**Yellowknife Ar**	**59.40**	334	P		**P**	**10 25 10.7 -0.9**
YKA	**Yellowknife Ar**	**59.40**	334	P		**P**	**10 25 11.2 -0.4**
	comp=Z,1.9nm,0.7s,baz=114,slow=6.4,SNR=12						
	comp=Z,1.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**60.62**	84	P		**P**	**10 25 20.9 +0.2**
	comp=Z,0.9nm,0.3s,baz=278,slow=6.9,SNR=4.0						
	comp=Z,0.9nm,0.3s						
RES	**Resolute Bay**	**61.48**	350	LR		LR	10 51 53.9
	comp=Z,15nm,19.7s,baz=7.5,slow=36						
KEST	**Kesra**	**65.04**	58	P		**P**	**10 25 51.3 +1.4**
	comp=Z,6.9nm,0.7s,baz=246,slow=1.9,SNR=12						
	comp=Z,6.9nm,0.7s						
DAVA	**Damuels**	**65.48**	45	*eP*		**P**	**10 25 54.1 +1.4**
	comp=Z,5.8nm,1.1s						
FETA	**Feichten**	**66.05**	45	*i* P		**P**	**10 25 57.3 +0.9**
	comp=Z,4.3nm,0.6s						
RETA	**Reutte**	**66.09**	45	*eP*		**P**	**10 25 59.3 +2.7**
	comp=Z,3.9nm,1.0s						
MOTA	**Moosalm**	**66.31**	45	*eP*		**P**	**10 26 00.3 +2.3**
	comp=Z,4.7nm,0.9s						
SQTA	**Sankt Quirin**	**66.38**	45	*eP*		**P**	**10 26 01.0 +2.5**
	comp=Z,3.6nm,0.8s						
WATA	**Walderalm**	**66.64**	45	*eP*		**P**	**10 26 03.1 +3.0**
	comp=Z,2.4nm,0.5s						
WTTA	**Wattenberg**	**66.67**	45	*eP*		**P**	**10 26 03.4 +3.0**
	comp=Z,3.1nm,0.7s						
LESA	**Schwarzleotal**	**67.39**	45	*eP*		**P**	**10 26 05.5 +0.7**
	comp=Z,2.4nm,0.7s						
NB2	**NORSAR Subarra**	**67.51**	30	P		**P**	**10 26 05.7 +0.4**
	comp=Z,1.6nm,0.6s,baz=262,slow=6.5						
NOA	**NORSAR Array B**	**67.51**	30	P		**P**	**10 26 05.5 +0.2**
	comp=Z,1.5nm,0.7s,baz=262,slow=6.3,SNR=10						
NOA				LR		LR	10 49 07.5
	comp=Z,9.2nm,21.3s,baz=290,slow=30						
	comp=Z,1.5nm,0.7s						
CLL	**Collm**	**67.69**	41	*eP*		**P**	**10 26 08.0 +1.5**
MYKA	**Terra Mystica**	**68.04**	46	*eP*		**P**	**10 26 10.0 +1.0**
	comp=Z,3.2nm,0.8s						
GERES	**GERESS Array B**	**68.09**	43	P		**P**	**10 26 09.2 0.0**
	comp=Z,0.7nm,0.6s,baz=260,slow=6.6,SNR=7.0						
	comp=Z,0.7nm,0.6s						

M31M	**Drury Creek, Y**	**68.14**	331	lAmb		lAmb	10 26 18.8
	comp=Z,4.6nm,0.7s						
BRG	**Berggiesshubel**	**68.27**	41	*eP*		**P**	**10 26 10.9 +0.7**
BRG				Amp			10 26 12.8
	comp=Z,2.9nm,0.7s						
BRG	**Berggiesshubel**	**68.27**	41	P		P	10 26 19.6 +9.4
BRG				Amp			10 26 20.9
	comp=Z,4.3nm,0.9s						
H31M	**Peel River**	**68.61**	335	lAmb		lAmb	10 26 28.9
	comp=Z,6.5nm,1.1s						
HFS	**Hagfors**	**68.62**	31	P		**P**	**10 26 13.5 +1.3**
	comp=Z,2.2nm,0.6s,baz=242,slow=3.1,SNR=8.9						
HFS				LR		LR	10 51 25.8
	comp=Z,14nm,20.7s,baz=236,slow=32						
	comp=Z,2.2nm,0.6s						
OBKA	**Obir**	**68.67**	46	*eP*		**P**	**10 26 13.2 +0.3**
	comp=Z,6.1nm,0.9s						
G31M	**Saint River**	**68.75**	336	lAmb		lAmb	10 26 21.3
	comp=Z,4.7nm,0.7s						
SOKA	**Soboth**	**69.00**	46	*eP*		**P**	**10 26 16.3 +1.3**
	comp=Z,1.7nm,0.7s						
M30M	**Minto, Yukon**	**69.29**	331	lAmb		lAmb	10 26 25.5
	comp=Z,3.5nm,0.8s						
ARSA	**Arzberg**	**69.32**	45	*eP*		**P**	**10 26 17.3 +0.4**
	comp=Z,4.2nm,1.0s						
CONA	**Conrad Observa**	**69.53**	44	*eP*		**P**	**10 26 20.6 +2.3**
	comp=Z,1.7nm,0.6s						
K29M	**Barlow Dome**	**69.73**	333	lAmb		lAmb	10 26 29.7
	comp=Z,4.2nm,0.8s						
L29M	**L29M**	**69.94**	332	lAmb		lAmb	10 26 31.1
	comp=Z,4.6nm,1.0s						
DAWY	**Dawson**	**70.57**	333	lAmb		lAmb	10 26 33.0
	comp=Z,2.8nm,0.7s						
BCAR	**Beaver Creek A**	**71.60**	332	P		**P**	**10 26 31.0 +0.4**
L27K	**Beaver Creek,**	**71.62**	332	lAmb		lAmb	10 26 40.0
	comp=Z,3.7nm,0.7s						
K27K	**Chicken**	**71.75**	333	lAmb		lAmb	10 26 43.1
	comp=Z,5.1nm,0.9s						
L26K	**Log Cabin Wild**	**72.31**	332	lAmb		lAmb	10 26 44.2
	comp=Z,4.2nm,0.8s						
ILAR	**Eielson Array**	**73.82**	334			**P**	**10 26 43.0 -0.6**
ILAR	**Eielson Array**	**73.82**	334	P		**P**	**10 26 43.4 -0.2**
	comp=Z,1.0nm,0.5s,baz=89,slow=5.6,SNR=18						
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**73.88**	21	P		**P**	**10 26 44.2 +0.3**
	comp=Z,2.1nm,0.8s,baz=264,slow=7.9,SNR=7.6						
	comp=Z,3.1nm,0.8s						
H24K	**Noodor Dome**	**74.17**	335	lAmb		lAmb	10 26 55.0
	comp=Z,8.5nm,1.2s						
FINES	**FINESS Array B**	**74.69**	30	P		**P**	**10 26 49.3 +0.6**
	comp=Z,1.3nm,0.5s,baz=270,slow=2.8,SNR=9.8						
FINES				LR		LR	10 55 27.3
	comp=Z,17nm,20.6s,baz=188,slow=32						
	comp=Z,1.3nm,0.5s						
NEA2	**Nenana**	**74.77**	333	lAmb		lAmb	10 27 00.2
	comp=Z,5.6nm,1.0s						
MLY	**Manley**	**75.44**	334	P		**P**	**10 26 52.6 -0.4**
BPAW	**Bear Paw Mtn.**	**75.65**	333	lAmb		lAmb	10 27 08.6
	comp=Z,9.5nm,1.3s						
BURAR	**Bucovina Array**	**75.84**	44			**P**	**10 26 56.8 +1.0**
G21K	**Allakaket**	**76.37**	336	lAmb		lAmb	10 27 07.9
	comp=Z,6.7nm,1.1s						
MLR	**Muntele Rosu**	**76.67**	46	P		**P**	**10 26 59.7 -0.9**
MLR	**Muntele Rosu**	**76.67**	46	LR		LR	10 55 40.8
	comp=Z,26nm,21.6s,baz=258,slow=32						
K20K	**Telida**	**77.12**	332	lAmb		lAmb	10 27 18.3
	comp=Z,10.0nm,1.5s						
KDAK	**Kodiak Island**	**77.36**	327	LR		LR	11 01 26.6
	comp=Z,29nm,20.6s,baz=78,slow=36						
AKASG	**Malin Array Be**	**77.94**	41	P		**P**	**10 27 07.6 +0.3**
	comp=Z,0.7nm,0.6s,baz=285,slow=4.1,SNR=2.4						
AKASG				LR		LR	10 58 36.7
	comp=Z,20nm,19.7s,baz=262,slow=33						
	comp=Z,0.7nm,0.6s						
BRTR	**Keskin Array B**	**83.45**	51	P		**P**	**10 27 36.6 -0.7**
	comp=Z,1.2nm,0.8s,baz=260,slow=5.3,SNR=5.6						
	comp=Z,1.2nm,0.8s						
KIRV	**Kirov**	**86.68**	29	LR		LR	11 03 05.6
	comp=Z,23nm,21.1s,baz=290,slow=33						
EIL	**Elat**	**87.28**	60	LR		LR	11 06 02.7
	comp=Z,37nm,18.6s,baz=250,slow=35						
BELG	**Belogornoye**	**88.37**	35	LR		LR	11 03 47.1
	comp=Z,26nm,21.7s,baz=267,slow=33						
KBZ	**Khabaz**	**88.79**	45	P		**P**	**10 28 04.7 +1.3**
	comp=Z,2.4nm,0.8s,baz=238,slow=2.2,SNR=4.2						
	comp=Z,2.4nm,0.8s						
BVAR	**Borovoye Array**	**99.52**	27	LR		LR	11 10 08.2
	comp=Z,18nm,21.6s,baz=293,slow=33						
HHC	**Hu-ho-hao-te**	**122.97**	7	*eP*		**PKPdf**	**10 34 00.8 -5.3**
NJ2	**Nanjing**	**132.16**	0	*eP*		**PKPdf**	**10 34 22.3 -1.4**
NJ2				pmax		pmax	
	comp=Z,7.0nm,0.5s						
PZH	**PanZhiHua**	**134.51**	22	PKP		**PKPdf**	**10 34 26.3 -2.2**
ASAR	**Alice Springs**	**164.01**	239	PKP		**PKPdf**	**10 35 13.4 0.0**
	comp=Z,0.4nm,0.9s,baz=90,slow=0.9,SNR=2.6						
ASAR				PKPab		**PKPab**	**10 36 05.0 -1.5**
	comp=Z,0.4nm,0.6s,baz=121,slow=4.3,SNR=8.0						
WRA	**Warramunga Arr**	**164.84**	253	PKP		**PKPdf**	**10 35 13.7 -0.5**
	comp=Z,0.5nm,0.7s,baz=106,slow=0.4,SNR=6.0						

MLv4.5/52, Error ellipse: s-maj=3.7km s-min=1.4km az=28.4, confirmed
GCG ***25*** *10:45:03.9±1.3, 12°.41N×87°.87W, h75km±87km, ML3.6*

ISC 25 10:45:02.3±1.2, 12°.31N±0°.04×87°.74W±0°.03, h50km±22km, n128, σ0s.55/147, 25C-12D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POTN	**Potosi Cosigui**	**0.72**	**18**	⇓P	**Pn**	**10 45 16.3**	**-0.1**
POTN				S	**Sn**	**10 45 26.6**	**+0.2**
CRIN	**San Cristobal**	**0.77**	**60**	⇑P	**Pn**	**10 45 17.6**	**+0.4**
CRIN	**San Cristobal**	**0.77**	**60**	S	**Sn**	**10 45 29.6**	**+1.7**
CNCH	**Conchagua**	**0.96**	**354**	⇓*i*P	**Pn**	**10 45 19.5**	**-0.2**
CNCH				*e*S	**Sn**	**10 45 32.6**	**+0.2**
CNCH	**Conchagua**	**0.96**	**354**	⇓P	**Pn**	**10 45 19.5**	**-0.2**
POLN	**Al Sur del Vol**	**0.96**	**70**	⇑P	**Pn**	**10 45 18.2**	**-1.4**
POLN				S	**Sn**	**10 45 31.4**	**-1.0**
PLRN	**Geotermica Pol**	**0.98**	**74**	⇑P	**Pn**	**10 45 19.3**	**-0.6**
PLRN				S	**Sn**	**10 45 32.3**	**-0.5**
LCND	**La Caada**	**1.00**	**351**	⇓*e*P	**Pn**	**10 45 19.9**	**-0.2**
LCND				*e*S	**Sn**	**10 45 32.6**	**-0.5**
LCND	**La Caada**	**1.00**	**351**	⇓P	**Pn**	**10 45 19.9**	**-0.2**
CNGA	**Al SSO del Vol**	**1.03**	**80**	⇑P	**Pn**	**10 45 20.2**	**-0.3**
CNGN	**Cerro Negro**	**1.03**	**80**	⇑P	**Pn**	**10 45 20.1**	**-0.4**
CNGN	**Cerro Negro**	**1.03**	**80**	S	**Sn**	**10 45 33.9**	**-0.1**
COPN	**Copaltepe**	**1.13**	**97**	⇑P	**Pn**	**10 45 21.3**	**-0.5**
BC84	**Volcan Momotom**	**1.17**	**86**	P	**Pn**	**10 45 22.7**	**+0.2**
BC84	**Volcan Momotom**	**1.17**	**86**	S	**Sn**	**10 45 37.4**	**+0.1**
MOMN	**Momotombo**	**1.18**	**85**	⇑P	**Pn**	**10 45 22.2**	**-0.2**
MOMN				S	**Sn**	**10 45 37.3**	**-0.2**
BLLM	**Bellamira**	**1.22**	**337**	*eP*	**Pn**	**10 45 22.9**	**-0.3**
CNRM	**Centro Naciona**	**1.23**	**340**	*eP*	**Pn**	**10 45 23.2**	**0.0**
CNRM	**Centro Naciona**	**1.23**	**340**	P	**Pn**	**10 45 23.2**	**0.0**
CNRM	**Centro Naciona**	**1.23**	**340**	S	**Sn**	**10 45 38.8**	**+0.1**
LCY	**Lacayo**	**1.23**	**334**	*eP*	**Pn**	**10 45 23.3**	**0.0**
MOM2	**El Cardon**	**1.23**	**84**	⇑P	**Pn**	**10 45 23.2**	**0.0**
MOM2				S	**Sn**	**10 45 39.0**	**+0.3**
AMTN	**Mateare**	**1.28**	**93**	P	**Pn**	**10 45 23.8**	**-0.1**
AMTN	**Mateare**	**1.28**	**93**	S	**Sn**	**10 45 40.2**	**+0.3**
PACA	**Pacayal**	**1.28**	**334**	*eP*	**Pn**	**10 45 23.9**	**-0.2**
PACA	**Pacayal**	**1.28**	**334**	P	**Pn**	**10 45 23.8**	**-0.2**
CHOHN	**Orocuina**	**1.29**	**26**	⇑P	**Pn**	**10 45 23.9**	**-0.2**
CHOHN	**Orocuina**	**1.29**	**26**	S	**Sn**	**10 45 39.6**	**+0.2**
ALJI	**Alcalda de J**	**1.29**	**321**	⇓P	**Pn**	**10 45 25.4**	**+1.3**
ALJI	**Alcalda de J**	**1.29**	**321**	S	**Sn**	**10 45 40.7**	**+0.5**
AESN	**El Sauce Leon**	**1.30**	**64**	⇑P	**Pn**	**10 45 23.7**	**-0.5**
AESN	**El Sauce Leon**	**1.30**	**64**	S	**Sn**	**10 45 40.5**	**0.0**
SAPS	**Ciudad Sandino**	**1.31**	**96**	⇑P	**Pn**	**10 45 24.0**	**-0.3**
SAPS	**Ciudad Sandino**	**1.31**	**96**	S	**Sn**	**10 45 41.0**	**+0.2**
APQ3	**Volcan Apoyequ**	**1.34**	**92**	⇑P	**Pn**	**10 45 24.6**	**-0.1**
APQ3				S	**Sn**	**10 45 41.8**	**+0.4**
APQ2	**Apoyeque**	**1.39**	**95**	P	**Pn**	**10 45 25.4**	**+0.1**
APQ2				S	**Sn**	**10 45 42.5**	**0.0**
TECA	**Tecapa**	**1.39**	**328**	*eP*	**Pn**	**10 45 25.2**	**-0.3**
TECA				*eP*	**Pn**	**10 45 25.2**	**-0.3**
ABCN	**Banco Central**	**1.41**	**98**	P	**Pn**	**10 45 25.5**	**-0.2**
ABCN	**Banco Central**	**1.41**	**98**	S	**Sn**	**10 45 43.4**	**+0.3**
ALLN	**Telcor Managua**	**1.44**	**96**	⇓P	**Pn**	**10 45 26.2**	**+0.1**
ALLN	**Telcor Managua**	**1.44**	**96**	S	**Sn**	**10 45 44.3**	**+0.4**
TISN	**Laguna Tiscapa**	**1.45**	**97**	⇑P	**Pn**	**10 45 25.1**	**-1.0**
UNAN	**Cigeo UNAN**	**1.45**	**98**	⇑P	**Pn**	**10 45 26.0**	**-0.2**
UNAN				S	**Sn**	**10 45 44.0**	**-0.1**
MGAN	**Managua**	**1.47**	**96**	⇑P	**Pn**	**10 45 26.4**	**0.0**
MGAN	**Managua**	**1.47**	**96**	S	**Sn**	**10 45 44.1**	**-0.4**
CAHU	**Cacacuatique**	**1.52**	**342**	*eP*	**Pn**	**10 45 27.6**	**+0.3**
WILN	**Americas 2**	**1.52**	**96**	⇓P	**Pn**	**10 45 26.9**	**-0.3**
WILN				S	**Sn**	**10 45 45.9**	**+0.1**
PQSS	**Presa 15 de Se**	**1.53**	**328**	*eP*	**Pn**	**10 45 27.6**	**+0.3**
PQSS	**Presa 15 de Se**	**1.53**	**328**	P	**Pn**	**10 45 27.5**	**+0.3**
PQSS	**Presa 15 de Se**	**1.53**	**328**	S	**Sn**	**10 45 45.3**	**-0.7**
AERN	**Aeropuerto Man**	**1.54**	**96**	S	**Sn**	**10 45 46.7**	**+0.3**
AERN	**Aeropuerto Man**	**1.54**	**96**	P	**Pn**	**10 45 27.3**	**-0.1**
SABN	**Sabanita**	**1.58**	**103**	⇑P	**Pn**	**10 45 27.8**	**-0.2**
TECO	**Alcaldia de Te**	**1.58**	**320**	*eP*	**Pn**	**10 45 27.5**	**-0.5**
TECO	**Alcaldia de Te**	**1.58**	**320**	⇑P	**Pn**	**10 45 27.6**	**-0.4**
TECO	**Alcaldia de Te**	**1.58**	**320**	S	**Sn**	**10 45 46.0**	**-1.4**
NANN	**Nandasmo**	**1.62**	**103**	⇑P	**Pn**	**10 45 29.5**	**+0.9**
NANN	**Nandasmo**	**1.62**	**103**	S	**Sn**	**10 45 49.4**	**+1.0**
UESV	**Universidad de**	**1.67**	**322**	*eP*	**Pn**	**10 45 29.0**	**-0.1**
UESV	**Universidad de**	**1.67**	**322**	⇑P	**Pn**	**10 45 29.1**	**-0.1**
UESV	**Universidad de**	**1.67**	**322**	S	**Sn**	**10 45 48.8**	**-0.7**
SCLA	**Alcaldia de Sa**	**1.68**	**325**	*eP*	**Pn**	**10 45 29.6**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.68**	**325**	⇓P	**Pn**	**10 45 29.6**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.68**	**325**	S	**Sn**	**10 45 50.5**	**+0.6**
NADN	**Granada**	**1.76**	**108**	P	**Pn**	**10 45 29.5**	**-0.9**
TGUH	**Tegucigalpa,Un**	**1.79**	**15**	P	**Pn**	**10 45 31.3**	**+0.3**
TGUH				S	**Sn**	**10 45 52.8**	**+0.1**
OCON	**Estacion meteo**	**1.79**	**43**	⇑P	**Pn**	**10 45 31.2**	**+0.2**
OCON				S	**Sn**	**10 45 52.7**	**0.0**
PAVA	**Las Pavas**	**1.82**	**320**	*eP*	**Pn**	**10 45 31.6**	**+0.3**
PAVA	**Las Pavas**	**1.82**	**320**	P	**Pn**	**10 45 31.4**	**+0.1**
PAVA	**Las Pavas**	**1.82**	**320**	S	**Sn**	**10 45 52.9**	**-0.3**
LFRS	**El Faro**	**1.83**	**315**	*eP*	**Pn**	**10 45 31.4**	**-0.1**
YUSH	**Yuscaran**	**1.85**	**28**	S	**Sn**	**10 45 54.4**	**+0.4**
YUSH	**Yuscaran**	**1.85**	**28**	⇑P	**Pn**	**10 45 31.9**	**+0.1**
MARCA	**Marcala la Paz**	**1.85**	**351**	*i* P	**Pn**	**10 45 32.4**	**+0.5**
MARCA				*i* S	**Sn**	**10 45 55.5**	**+1.3**
MARCA	**Marcala la Paz**	**1.85**	**351**	⇓P	**Pn**	**10 45 32.2**	**+0.4**
MATN	**Matagalpa**	**1.87**	**71**	⇑P	**Pn**	**10 45 30.9**	**-1.1**
MATN	**Matagalpa**	**1.87**	**71**	S	**Sn**	**10 45 53.9**	**-0.7**
LBRS	**Las Brisas**	**1.90**	**318**	*eP*	**Pn**	**10 45 33.0**	**+0.6**
PANCS	**Alcalda de**	**1.91**	**313**	S	**Sn**	**10 45 53.9**	**-1.5**
PANCS	**Alcalda de**	**1.91**	**313**	P	**Pn**	**10 45 32.1**	**-0.4**
LOMA	**Loma Larga**	**1.92**	**314**	*eP*	**Pn**	**10 45 32.7**	**-0.1**
LOMA	**Loma Larga**	**1.92**	**314**	⇑P	**Pn**	**10 45 32.6**	**-0.2**
LOMA	**Loma Larga**	**1.92**	**314**	S	**Sn**	**10 45 55.2**	**-0.7**
LALI	**Alcalda de L**	**1.94**	**307**	S	**Sn**	**10 45 54.7**	**-1.3**
LALI	**Alcalda de L**	**1.94**	**307**	P	**Pn**	**10 45 33.0**	**+0.2**
UDBS	**Universidad Do**	**1.96**	**315**	S	**Sn**	**10 45 56.8**	**+0.1**
UDBS	**Universidad Do**	**1.96**	**315**	P	**Pn**	**10 45 33.4**	**+0.1**
RCVN	**Varillal2**	**1.96**	**50**	⇓P	**Pn**	**10 45 33.9**	**+0.5**
RCVN	**Varillal2**	**1.96**	**50**	S	**Sn**	**10 45 56.7**	**-0.2**
UTEC	**Universidad Te**	**1.98**	**314**	P	**Pn**	**10 45

*CATAC **25** 10:55:59.4±0.2, 16°N±1°×9°1W±°, h1km, M3.8/14, MLv3.8/14, Error ellipse: s-maj=3.2km s-min=3.0km az=135.7, confirmed*
ISC 25 10:55:58.7±1.1, **15°69N**±0°03×**91°03W**±0°03, **h10**km±11km, **n31**, σ1⁰38/39, **Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUIS	**Sacapulas**	**0.40**	**188**	*i* P	**Pg**	**10 56 07.1**	**+0.3**
QUIS				*i* S	**Sg**	**10 56 13.4**	**+1.3**
QUIS				IAML		10 56 15.7	
	comp=N,8μm,0.5s						
HUEH	**Huehuetenango**	**0.59**	**231**	*i* P	**Pg**	**10 56 10.4**	**+0.2**
HUEH				IAML		10 56 31.4	
	comp=E,7μm,1.0s						
HUEH	**Huehuetenango**	**0.59**	**231**	P	**Pg**	**10 56 10.1**	**-0.1**
HUEH				S	**Sg**	**10 56 19.3**	**+1.4**
AVCB	**Coban**	**0.64**	**110**	*i* P	**Pg**	**10 56 10.8**	**-0.4**
AVCB				IAML		10 56 34.9	
	comp=E,16μm,0.6s						
SOKI	**Kika Raxquin**	**0.94**	**202**	*i* P	**Pg**	**10 56 17.3**	**+0.4**
CCIG	**Comitan**	**1.21**	**299**	*i* P	**Pg**	**10 56 23.1**	**+1.0**
CCIG				*i* S	**Sn**	**10 56 42.3**	**+3.7**
CCIG				IAML		10 56 43.4	
	comp=N,745nm,0.8s						
CCIG	**Comitan**	**1.21**	**299**	P	**Pg**	**10 56 22.7**	**+0.6**
STG8	**El Palmar, Qui**	**1.27**	**194**	*i* P	**Pn**	**10 56 19.6**	**-3.3**
STG2	**El Palmar, Qui**	**1.29**	**195**	*i* P	**Pn**	**10 56 20.2**	**-2.8**
STG0	**El Palmar, Qui**	**1.29**	**193**	*i* P	**Pn**	**10 56 20.1**	**-3.0**
ESSG	**Sabana Grande**	**1.32**	**171**	*i* P	**Pg**	**10 56 24.7**	**+0.6**
RTAL	**Retalhuleu**	**1.33**	**209**	P	**Pg**	**10 56 25.0**	**+0.8**
RTAL	**Retalhuleu**	**1.33**	**209**	S	**Sg**	**10 56 42.8**	**+1.4**
PETF	**Flores**	**1.65**	**42**	*i* P	**Pb**	**10 56 28.4**	**-1.0**
PETF				*i* S	**Sg**	**10 56 50.9**	**-1.0**
PETF				IAML		10 56 52.7	
	comp=E,2μm,0.5s						
PETF	**Flores**	**1.65**	**42**	P	**Pb**	**10 56 28.1**	**-1.2**
ESQI	**Esquipulas**	**1.98**	**124**	P	**Pb**	**10 56 35.1**	**0.0**
ESQI	**Esquipulas**	**1.98**	**124**	S	**Sg**	**10 57 03.0**	**+0.4**
MTO3	**Montecristo**	**2.06**	**128**	*i* P	**Pb**	**10 56 36.1**	**-0.4**
MTO3				*i* S	**Sg**	**10 57 05.2**	**0.0**
MTO3	**Montecristo**	**2.06**	**128**	P	**Pb**	**10 56 36.1**	**-0.4**
MTO3	**Montecristo**	**2.06**	**128**	S	**Sg**	**10 57 04.8**	**-0.4**
FAME	**Alcaldia de Sa**	**2.09**	**152**	P	**Pb**	**10 56 37.3**	**+0.6**
FAME	**Alcaldia de Sa**	**2.09**	**152**	S	**Sg**	**10 57 06.2**	**+0.3**
NUBE	**Las Nubes**	**2.15**	**146**	*i* P	**Pb**	**10 56 37.4**	**-0.6**
NUBE				*i* S	**Sg**	**10 57 08.3**	**+0.3**
NUBE	**Las Nubes**	**2.15**	**146**	P	**Pb**	**10 56 37.0**	**-1.0**
NUBE	**Las Nubes**	**2.15**	**146**	S	**Sg**	**10 57 07.6**	**-0.4**
TGIG		**2.28**	**299**	*i* P	**Pb**	**10 56 38.7**	**-1.4**
TGIG				*i* S	**Sg**	**10 57 10.6**	**-1.5**
TGIG				IAML		10 57 12.4	
	comp=E,149nm,0.5s						
SARH	**Santa Rosa de**	**2.38**	**112**	P	**Pn**	**10 56 39.8**	**+1.8**
SARH	**Santa Rosa de**	**2.38**	**112**	S	**Sb**	**10 57 11.8**	**+0.7**
JAYA	**Jayaque - finc**	**2.54**	**143**	P	**Pb**	**10 56 43.0**	**-1.6**
SCIG	**Sabancuy**	**3.26**	**357**	*i* P	**Pn**	**10 56 50.4**	**+0.4**
SCIG				*i* S	**Sn**	**10 57 28.6**	**-0.3**
SCIG				IAML		10 57 29.8	
	comp=E,188nm,0.8s						
SCIG	**Sabancuy**	**3.26**	**357**	P	**Pn**	**10 56 50.1**	**+0.1**

*SJA **25** 11:06:01.2±0.6, 22°29S×69°96W, h50km±3km, ML3.3, MW3.5*
*GUC **25** 11:06:03.3±0.7, 22°28S×69°96W, h45km±2km, ML3.3*
ISC 25 11:06:03.9±1.8, **22°31S**±0°02×**69°97W**±0°04, **h35**km±3km, **n29**, σ1⁰52/49, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB03	**IPOC Station P**	**0.33**	**37**	*eP*	**Pn**	**11 06 11.9**	**-0.5**
PB03				*i* S	**Sn**	**11 06 18.6**	**-0.1**
PB03				IAML		11 06 19.1	
	comp=E,7μm,0.1s						
PB03	**IPOC Station P**	**0.33**	**37**	*eP*	**Pn**	**11 06 11.6**	**-0.7**
PB03				*eS*	**Sn**	**11 06 18.6**	**-0.1**
PB03				IAML		11 06 19.2	
	comp=Z,5μm,0.1s						
PB06	**IPOC Station P**	**0.54**	**137**	*eP*	**Pn**	**11 06 14.5**	**-0.7**
PB06				*i* S	**Sn**	**11 06 23.5**	**+0.5**
PB06				IAML		11 06 24.1	
	comp=N,7μm,0.3s						
PB06	**IPOC Station P**	**0.54**	**137**	*eP*	**Pn**	**11 06 13.9**	**-1.4**
PB06				*eS*	**Sn**	**11 06 23.6**	**+0.5**
PB06				IAML		11 06 23.8	
	comp=Z,3μm,0.2s						
PB05	**IPOC Station P**	**0.58**	**202**	*eP*	**Pn**	**11 06 15.2**	**-0.6**
PB05				*i* S	**Sn**	**11 06 24.6**	**+0.3**
PB05				IAML		11 06 25.3	
	comp=E,2μm,0.3s						
PB05	**IPOC Station P**	**0.58**	**202**	*eP*	**Pn**	**11 06 14.9**	**-1.0**
PB05				*eS*	**Sn**	**11 06 24.9**	**+0.6**
PB05				IAML		11 06 27.3	
	comp=Z,1μm,0.3s						
PB09	**IPOC Station P**	**0.84**	**53**	*eP*	**Pn**	**11 06 18.8**	**-0.6**
PB09				*i* S	**Sn**	**11 06 29.8**	**-0.9**
PB09				IAML		11 06 31.1	
	comp=N,1μm,0.2s						
PB09	**IPOC Station P**	**0.84**	**53**	*eP*	**Pn**	**11 06 18.6**	**-0.8**
PB09				IAML		11 06 31.0	
	comp=Z,1μm,0.3s						
PB09				*eS*	**Sn**	**11 06 31.3**	**+0.6**
PB02	**IPOC Station P**	**0.99**	**4**	*eP*	**Pn**	**11 06 19.8**	**-1.6**
PB02				*i* S	**Sn**	**11 06 32.5**	**-1.6**
PB02				IAML		11 06 35.9	
	comp=N,2μm,0.1s						
PB02	**IPOC Station P**	**0.99**	**4**	*eP*	**Pn**	**11 06 19.8**	**-1.6**
PB02				*eS*	**Sn**	**11 06 33.5**	**-0.7**
PB02				IAML		11 06 34.9	
	comp=Z,2μm,0.2s						
PB10	**IPOC Station P**	**1.31**	**204**	*eP*	**Pn**	**11 06 24.6**	**-1.1**
PB10				*i* S	**Sn**	**11 06 42.7**	**+0.6**
PB10	**IPOC Station P**	**1.31**	**204**	*eP*	**Pn**	**11 06 24.8**	**-1.0**
PB10				*eS*	**Sn**	**11 06 44.6**	**+2.5**
PB10				IAML		11 06 47.3	
	comp=Z,210nm,0.3s						
PB01	**IPOC Station P**	**1.34**	**19**	*eP*	**Pn**	**11 06 24.6**	**-1.6**
PB01				*i* S	**Sn**	**11 06 41.9**	**-0.8**
PB01				IAML		11 06 44.4	
	comp=E,1μm,0.2s						
PB01	**IPOC Station P**	**1.34**	**19**	*eP*	**Pn**	**11 06 24.9**	**-1.3**
PB01				*eS*	**Sn**	**11 06 43.9**	**+1.1**
PB01				IAML		11 06 44.2	
	comp=Z,456nm,0.1s						
PATCX	**Punta Patache**	**1.49**	**353**	*eP*	**Pn**	**11 06 26.9**	**-1.3**
PATCX				*i* S	**Sn**	**11 06 45.5**	**-1.1**
PATCX				IAML		11 06 50.1	
	comp=E,484nm,0.5s						
PATCX	**Punta Patache**	**1.49**	**353**	*eP*	**Pn**	**11 06 27.0**	**-1.3**
PATCX				*eS*	**Sn**	**11 06 47.9**	**+1.3**
PATCX				IAML		11 06 49.9	
	comp=Z,258nm,0.4s						
TA01	**Diego Aracena**	**1.75**	**353**	*eP*	**Pn**	**11 06 29.9**	**-1.8**
TA01				*i* S	**Sn**	**11 06 51.3**	**-1.4**
TA01				IAML		11 06 57.0	
	comp=N,324nm,0.5s						
TA01	**Diego Aracena**	**1.75**	**353**	*eP*	**Pn**	**11 06 29.9**	**-1.8**
TA01				IAML		11 06 59.0	
	comp=Z,170nm,0.4s						
AF01	**San Pedro de A**	**1.77**	**111**	*eP*	**Pn**	**11 06 30.8**	**-1.5**
AF01				*eS*	**Sn**	**11 06 53.8**	**+0.1**
AF01				IAML		11 07 11.2	
	comp=Z,393nm,0.9s						
HMBC	**Humberstone**	**2.02**	**2**	*eP*	**Pn**	**11 06 34.4**	**-1.2**
HMBC				*eS*	**Sn**	**11 07 04.3**	**+4.5**
HMBC				IAML		11 07 04.9	
	comp=Z,236nm,0.3s						
TA02	**Huaiquique**	**2.04**	**356**	*eP*	**Pn**	**11 06 36.3**	**+0.6**
TA02				IAML		11 07 17.7	
	comp=Z,136nm,0.1s						
PB08	**IPOC Station P**	**2.29**	**19**	*eP*	**Pn**	**11 06 39.3**	**-0.1**
PB08				*eS*	**Sn**	**11 07 09.8**	**+3.2**
PB08				IAML		11 07 12.4	
	comp=Z,97nm,0.2s						
PB14	**IPOC Station P**	**2.34**	**190**	*eP*	**Pn**	**11 06 38.9**	**-1.3**
PB14				*eS*	Sn	11 06 57.4	-10
PB14				IAML		11 07 25.1	
	comp=Z,81nm,0.6s						
PB11	**IPOC Station P**	**2.55**	**7**	IAML		11 07 19.4	
	comp=N,224nm,0.3s						
PB11	**IPOC Station P**	**2.55**	**7**	*eP*	**Pn**	**11 06 41.7**	**-1.2**
PB11				*eS*	**Sn**	**11 07 16.7**	**+3.8**
PB11				IAML		11 07 18.6	
	comp=Z,102nm,0.2s						
GO01	**Chusmiza**	**2.73**	**15**	*eP*	**Pn**	**11 06 46.7**	**+1.1**
GO02	**Mina Guanaco**	**2.86**	**173**	*eP*	**Pn**	**11 06 46.9**	**-0.4**
AC01	**Pan de Azucar**	**3.86**	**188**	*eP*	**Pn**	**11 06 58.7**	**-2.1**
AC01				IAML		11 08 05.9	
	comp=Z,26nm,0.5s						
AC02	**Maricunga**	**4.57**	**171**	*eP*	**Pn**	**11 07 11.7**	**+0.7**
AC02				*eS*	Sn	11 08 20.6	+17
AC02				IAML		11 08 34.7	
	comp=Z,27nm,0.7s						

*SNET **25** 11:18:24.9±0.7, 13°44N×90°49W, h26km±4km, ML3.1*
*CATAC **25** 11:18:24.5±0.7, 13°N±4°×9°0W±°, h19km±3km, M3.1/13, MLv3.1/13, Error ellipse: s-maj=8.0km s-min=4.2km az=22.4, confirmed*
*GCG **25** 11:18:26.0±0.6, 13°58N×90°47W, h31km±3km, MD3.7, ML3.4, MW2.6*
ISC 25 11:18:28.5±1.8, **13°53N**±0°09×**90°37W**±0°05, **h38**km, **n45**, σ1⁰33/50, **1D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.47**	**48**	P	**Pn**	**11 18 37.4**	**-1.3**
NUBE	**Las Nubes**	**0.69**	**57**	⇓*iP*	**Pn**	**11 18 40.6**	**-1.3**
NUBE				*eS*	**Sn**	**11 18 51.7**	**+0.3**
NUBE	**Las Nubes**	**0.69**	**57**	*iP*	**Pn**	**11 18 40.6**	**-1.3**
NUBE				*i* S	**Sn**	**11 18 51.8**	**+0.3**
NUBE	**Las Nubes**	**0.69**	**57**	P	**Pn**	**11 18 40.6**	**-1.3**
LOAL	**Lomas de Alarc**	**0.74**	**51**	*eP*	**Pn**	**11 18 41.8**	**-0.8**
LOAL	**Lomas de Alarc**	**0.74**	**51**	P	**Pn**	**11 18 41.8**	**-0.8**
LOAL	**Lomas de Alarc**	**0.74**	**51**	S	**Sn**	**11 18 53.7**	**+1.1**
SLOZ	**Alcaldia de Sa**	**0.76**	**49**	*eP*	**Pn**	**11 18 41.8**	**-0.9**
SLOZ				*eS*	**Sn**	**11 18 54.1**	**+1.1**
SLOZ	**Alcaldia de Sa**	**0.76**	**49**	P	**Pn**	**11 18 41.8**	**-0.9**
CEVE	**Cerro Verde**	**0.79**	**68**	*eP*	**Pn**	**11 18 42.3**	**-1.0**
CEVE	**Cerro Verde**	**0.79**	**68**	P	**Pn**	**11 18 42.5**	**-0.9**
CEVE	**Cerro Verde**	**0.79**	**68**	S	**Sn**	**11 18 54.4**	**+0.3**
SBLS	**San Blas**	**0.79**	**67**	*eP*	**Pn**	**11 18 42.4**	**-1.0**
RTR	**El Retiro**	**0.80**	**63**	*eP*	**Pn**	**11 18 42.6**	**-0.8**
SNJE	**San Jose**	**0.82**	**66**	*eP*	**Pn**	**11 18 42.7**	**-1.0**
JAYA	**Jayaque - finc**	**0.91**	**82**	*eP*	**Pn**	**11 18 43.5**	**-1.4**
JAYA	**Jayaque - finc**	**0.91**	**82**	*iP*	**Pn**	**11 18 43.6**	**-1.4**
JAYA				*i* S	**Sn**	**11 18 57.4**	**+0.5**
JAYA	**Jayaque - finc**	**0.91**	**82**	P	**Pn**	**11 18 43.7**	**-1.2**
UNIC	**Universidad Ca**	**0.92**	**61**	*eP*	**Pn**	**11 18 44.0**	**-1.0**
UNIC	**Universidad Ca**	**0.92**	**61**	S	**Sn**	**11 18 58.0**	**+0.9**
UNIC	**Universidad Ca**	**0.92**	**61**	P	**Pn**	**11 18 43.7**	**-1.2**
ESSG	**Sabana Grande**	**0.96**	**332**	*iP*	**Pn**	**11 18 42.4**	**-3.1**
ESSG				*i* S	**Sn**	**11 18 54.7**	**-3.3**
PMON	**Piamonte**	**1.04**	**80**	*eP*	**Pn**	**11 18 45.7**	**-1.1**
PMON	**Piamonte**	**1.04**	**80**	P	**Pn**	**11 18 45.7**	**-1.1**
PMON	**Piamonte**	**1.04**	**80**	S	**Sn**	**11 19 01.4**	**+1.2**
BOQS	**Boqueron**	**1.08**	**79**	*eP*	**Pn**	**11 18 47.1**	**-0.3**
UEES	**Universidad Ev**	**1.12**	**80**	S	**Sn**	**11 19 03.0**	**+1.0**
UEES	**Universidad Ev**	**1.12**	**80**	P	**Pn**	**11 18 46.8**	**-1.0**
PANCS	**Alcalda de**	**1.16**	**86**	P	**Pn**	**11 18 47.0**	**-1.4**
PANCS	**Alcalda de**	**1.16**	**86**	S	**Sn**	**11 19 03.8**	**+0.7**
LOMA	**Loma Larga**	**1.18**	**84**	*eP*	**Pn**	**11 18 47.4**	**-1.1**
LOMA	**Loma Larga**	**1.18**	**84**	S	**Sn**	**11 19 04.3**	**+0.9**
LOMA	**Loma Larga**	**1.18**	**84**	P	**Pn**	**11 18 46.8**	**-1.8**
LFRS	**El Faro**	**1.28**	**86**	*eP*	**Pn**	**11 18 49.3**	**-0.7**
STG0	**El Palmar, Qui**	**1.29**	**314**	*iP*	**Pn**	**11 18 52.0**	**+1.8**
STG0				IAML		11 19 13.8	
	comp=E,806nm,0.2s						
MTO3	**Montecristo**	**1.31**	**49**	*eP*	**Pn**	**11 18 49.9**	**-0.6**
MTO3	**Montecristo**	**1.31**	**49**	*iP*	**Pn**	**11 18 49.9**	**-0.6**
MTO3	**Montecristo**	**1.31**	**49**	S	**Sn**	**11 19 08.9**	**+2.1**
MTO3	**Montecristo**	**1.31**	**49**	P	**Pn**	**11 18 49.8**	**-0.7**
STG8	**El Palmar, Qui**	**1.32**	**314**	*iP*	**Pn**	**11 18 52.5**	**+1.9**
STG8				IAML		11 19 19.0	
	comp=N,488nm,0.2s						
ESQI	**Esquipulas**	**1.43**	**44**	*eP*	**Pn**	**11 18 51.7**	**-0.4**
ESQI	**Esquipulas**	**1.43**	**44**	P	**Pn**	**11 18 51.9**	**-0.1**
ESQI	**Esquipulas**	**1.43**	**44**	S	**Sn**	**11 19 12.7**	**+2.9**
PQSS	**Presa 15 de Se**	**1.77**	**87**	S	**Sn**	**11 19 19.1**	**+1.3**
PQSS	**Presa 15 de Se**	**1.77**	**87**	P	**Pn**	**11 18 55.9**	**-0.7**

*SOME **25** 11:21:07.6, 41°90N×82°47E, h20km*
*NNC **25** 11:21:08.8±3.3, 42°10N×82°42E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=24.7km s-min=16.4km az=162.0*
ISC 25 11:21:18.3±2.5, **42°0N**±0°1×**81°86E**±0°07, **h14**km, **n19**, σ1⁰95/26, **4C-1D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.82**	**323**	Pg	**Pn**	**11 21 48.2**	**-1.2**
	19nm,0.4s						
KTMS				Lg	Lg	11 22 17.1	
	58nm,0.3s						
KTMS	**Ketmen**	**1.82**	**323**	*eP*	**Pn**	**11 21 48.1**	**-1.2**
	19nm,0.4s						
KTMS				*eS*	**Sg**	**11 22 17.1**	**+0.2**
	58nm,0.3s						
SHLS	**Shalkode**	**2.11**	**304**	Pg	**Pn**	**11 21 49.8**	**-3.6**
	16nm,0.2s						
SHLS				Lg	Lg	11 22 19.9	
	87nm,0.3s						
SHLS	**Shalkode**	**2.11**	**304**	*eP*	**Pn**	**11 21 49.8**	**-3.6**
	16nm,0.2s						
SHLS				*eS*	**Sn**	**11 22 19.9**	**+0.4**
	87nm,0.3s						
PDGK	**Podgornoye**	**2.19**	**308**	⇑Pg	**Pn**	**11 21 52.6**	**-1.8**
	5.1nm,0.3s						
PDGK				⇓Lg	Lg	11 22 26.9	
	112nm,0.9s						
UZB	**Uzynbulak**	**2.39**	**300**	*eP*	**Pb**	**11 21 59.0**	**-2.1**
	11nm,0.2s						
UZB				*eS*	**Sg**	**11 22 35.3**	**+0.3**
	151nm,0.5s						
SATY	**Saty**	**2.76**	**294**	Pg	**Pn**	**11 22 03.0**	**+0.7**
	5.6nm,0.3s						
SATY				Lg	Lg	11 22 42.2	
	23nm,0.2s						
ARXS	**Arharly**	**3.69**	**308**	Pg	**Pb**	**11 22 21.6**	**-1.7**
	3.4nm,0.4s						
ARXS				Lg	Lg	11 23 14.5	
	10nm,0.7s						
TNSS	**Tian-Shan**	**3.78**	**288**	Pg	**Pb**	**11 22 23.8**	**-1.2**
	0.8nm,0.4s						
TNSS				Lg	Lg	11 23 17.8	
	2.5nm,0.6s						
TNSS	**Tian-Shan**	**3.78**	**288**	*eP*	**Pb**	**11 22 24.1**	**-0.9**
	0.8nm,0.4s						
TNSS				*eS*	**Sg**	**11 23 18.4**	**-1.2**
	2.5nm,0.6s						
IZV	**Izvestkoviy**	**4.01**	**287**	Pg	**Pb**	**11 22 30.4**	**+1.5**
	5.0nm,0.6s						
IZV				Lg	Lg	11 23 29.3	
	10nm,0.3s						
IZV	**Izvestkoviy**	**4.01**	**287**	*eP*	**Pb**	**11 22 30.4**	**+1.5**
	5.0nm,0.6s						
IZV				*eS*	**Sg**	**11 23 29.3**	**+2.1**
	10nm,0.3s						
KTBS	**Karatobe**	**4.17**	**296**	Pg	**Pb**	**11 22 30.9**	**-0.6**
	4.3nm,0.6s						
KTBS				Lg	Lg	11 23 30.2	
	23nm,0.8s						
KST	**Kastek**	**4.48**	**285**	Pg	**Pb**	**11 22 37.5**	**+0.7**
	4.2nm,0.8s						
KST				Lg	Lg	11 23 42.2	
	10nm,0.5s						
KST	**Kastek**	**4.48**	**285**	*eP*	**Pb**	**11 22 37.5**	**+0.7**
	4.2nm,0.8s						
KST				*eS*	**Sg**	**11 23 42.2**	**+0.1**
	10nm,0.5s						
DGS	**Degeres**	**4.66**	**287**	Pg	**Pb**	**11 22 39.7**	**-0.2**
	2.5nm,0.8s						
DGS				Lg	Lg	11 23 45.5	
	7.5nm,0.6s						
MK31	**Makanchi Array**	**4.80**	**4**	⇑Pg	**Pn**	**11 22 31.9**	**+1.8**
	0.3nm,0.2s,baz=189,slow=11,SNR=40						
MK31				⇑Lg	Lg	11 23 36.9	
	7.3nm,0.5s,baz=183,slow=29						
MAKZ	**Makanchi**	**4.80**	**1**	Pg	**Pn**	**11 22 31.9**	**+1.7**
	0.8nm,0.2s						
MAKZ				⇑Lg	Lg	11 23 37.9	
	3.3nm,0.7s						
ZSN	**Zaisan**	**5.85**	**20**	*eP*	**Pb**	**11 22 56.5**	**-3.6**
	3.4nm,0.3s						
ZSN				*eS*	**Sb**	**11 24 13.8**	**+3.9**
	9.6nm,0.3s						

*NOU **25** 11:39:57.7, 30°885S×175°67W, h14km, mb4.8/19, Kermadec Islands Region*
*IDC **25** 11:40:00.8±0.4, 30°38S×176°70W, h0km, mb4.6/17, mbtmp4.6/18, ML3.3/1, MS4.0/35, Error ellipse: s-maj=15.5km s-min=14.0km az=65.0*
*NEIC **25** 11:40:03.2±1.6, 30°48S±0°08×176°8W±0°1, h10km±1km, mb4.9/94, Error ellipse: s-maj=17.7km s-min=12.6km az=82.0*
*GCMT **25** 11:40:07.2±0.4, 30°49S±0°04×176°44W±0°02, h18km±1km, MW4.9/73, Moment Tensor Solution. s23,c24; s73,c96; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr~2.52±.21; Mθθ0.23±.13; Mϕϕ2.29±.13; Mrθ~1.55±.39; Mϕθ0.10±.08; Mϕr~0.82±.25; Best double couple: M₀2.90100×10¹⁶ NP1:φs166.00000°, δ37.00000°, λ-126.00000°. NP2: φs28.00000°, δ61.00000°, λ-66.00000°. Principal axes: T 2.4950, Plg12.0000°, Azm101.0000°; N 0.8090, Plg21.0000°, Azm196.0000°; P -3.3070, Plg65.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 11:40:02.8±0.3, **30°67S**±0°04×**176°73W**±0°05, **h10**km, **n226**, σ2⁰50/202, **mb4.9**/72, **MS4.0**/35, **7C, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.74**	**323**	P	Pn	11 40 30.5	-2.6
GLKZ				S	**Sn**	**11 40 50.9**	**-4.4**
RAO	**Raoul Island**	**1.75**	**324**	Pn	Pn	11 40 30.9	-2.3
	657nm,0.3s,baz=228,slow=3.7,SNR=32						
RAO				Sn	**Sn**	**11 40 51.1**	**-4.4**
	5μm,0.3s,baz=60,slow=20,SNR=19						
RIZ	**Raoul Island**	**1.76**	**323**	P	Pn	11 40 29.9	-3.4
RIZ				S	**Sn**	**11 40 51.4**	**-4.4**
WMGZ	**Waiomatatini S**	**8.19**	**208**	P	**Pn**	**11 42 02.3**	**+0.6**
PKGZ	**Pakihiroa**	**8.37**	**209**	P	**Pn**	**11 42 02.6**	**-1.5**
PKGZ				S	**Sn**	**11 42 38.2**	**-0.6**
HAZ	**Te Kaha**	**8.40**	**211**	P	**Pn**	**11 42 04.1**	**-0.5**
PUZ	**Puketiti**	**8.47**	**208**	P	**Pn**	**11 42 03.4**	**-2.1**
PUZ				S	**Sn**	**11 43 41.6**	**+0.5**
RUGZ	**Raukumara Rang**	**8.62**	**211**	P	**Pn**	**11 42 06.5**	**-1.3**
RUGZ				S	**Sn**	**11 43 45.9**	**+0.7**
TWGZ	**Tauwhareparae**	**8.67**	**209**	P	**Pn**	**11 42 06.4**	**-2.0**
TWGZ				S	**Sn**	**11 43 46.8**	**+0.6**
CNGZ	**Carnagh Statio**	**8.84**	**207**	P	**Pn**	**11 42 09.0**	**-1.6**
CNGZ				S	**Sn**	**11 43 47.6**	**-2.7**
MWZ	**Matawai**	**8.99**	**210**	P	**Pn**	**11 42 10.4**	**-2.3**
MWZ				S	**Sn**	**11 43 53.9**	**-0.2**
URZ	**Urewera**	**9.12**	**212**	Pn	**Pn**	**11 42 12.2**	**-2.2**
	1.7nm,0.3s,baz=267,slow=4.5,SNR=20						
URZ				Sn	**Sn**	**11 43 55.0**	**-2.1**
	7.9nm,0.3s,baz=144,slow=19,SNR=8.5						
URZ	**Urewera**	**9.12**	**212**	P	**Pn**	**11 42 12.2**	**-2.2**
URZ				S	**Sn**	**11 43 54.1**	**-3.0**
WCZ	**Waipu Caves**	**9.13**	**232**	P	**Pn**	**11 42 16.4**	**+1.8**
RAGZ	**Rawiri**	**9.18**	**210**	P	**Pn**	**11 42 12.2**	**-3.1**
RAGZ				S	**Sn**	**11 43 57.6**	**-1.1**
RIGZ	**Rimuhau**	**9.21**	**208**	P	**Pn**	**11 42 13.8**	**-2.0**
RIGZ				S	**Sn**	**11 43 58.4**	**-1.0**
OUZ	**Omahuta**	**9.31**	**238**	P	**Pn**	**11 42 21.0**	**+4.0**
OUZ	**Omahuta**	**9.31**	**238**	P	Pn	11 42 22.3	+5.2
SNGZ	**Shannon Statio**	**9.45**	**209**	P	**Pn**	**11 42 19.0**	**0.0**
SNGZ				S	**Sn**	**11 44 01.6**	**-3.7**
MUGZ	**Murupara**	**9.45**	**213**	P	**Pn**	**11 42 17.6**	**-1.4**
MUGZ				S	**Sn**	**11 44 01.4**	**-3.9**
RTZ	**Ruatahuna**	**9.47**	**211**		**Pn**	**11 42 20.1**	**+0.8**
RTZ	**Ruatahuna**	**9.47**	**211**	P	**Pn**	**11 42 17.5**	**-1.8**
RTZ				S	**Sn**	**11 44 05.2**	**-0.6**
RAHZ	**Arahi**	**9.67**	**210**	P	**Pn**	**11 42 20.5**	**-1.5**
RAHZ				S	**Sn**	**11 44 10.8**	**+0.1**
MTHZ	**Maungataniwha**	**9.72**	**211**	P	**Pn**	**11 42 22.0**	**-0.8**
MTHZ				S	**Sn**	**11 44 09.1**	**-3.0**
MRHZ	**Matea Rd**	**9.90**	**213**	P	**Pn**	**11 42 23.5**	**-1.7**
MRHZ				S	**Sn**	**11 44 11.9**	**-4.6**
NMHZ	**Naumai**	**9.94**	**210**	P	**Pn**	**11 42 24.5**	**-1.3**
NMHZ				S	**Sn**	**11 44 12.9**	**-4.6**
BKZ	**Black Stump Fm**	**10.14**	**211**	P	**Pn**	**11 42 26.1**	**-2.3**
BKZ				S	**Sn**	**11 44 20.3**	**-1.9**
MCHZ	**McNeill Hill**	**10.28**	**210**	P	**Pn**	**11 42 30.4**	**0.0**
MCHZ				S	**Sn**	**11 44 22.6**	**-2.9**
HIZ	**Hauiti**	**10.45**	**219**	P	Pn	11 42 38.2	+5.5
TMVZ	**Te Maari**	**10.46**	**214**	P	Pn	11 42 28.6	-4.5
TMVZ				S	**Sn**	**11 44 24.7**	**-5.7**
KAHZ	**Kahuranaki**	**10.49**	**208**	P	**Pn**	**11 42 32.0**	**-1.3**
KAHZ				S	**Sn**	**11 44 26.9**	**-4.1**
OTVZ	**Oturere**	**10.52**	**214**	P	**Pn**	**11 42 32.8**	**-1.0**
KRHZ	**Kereru**	**10.58**	**210**	P	**Pn**	**11 42 31.7**	**-2.9**
FWVZ	**Far West T-bar**	**10.65**	**214**	P	**Pn**	**11 42 37.3**	**+1.7**
WNVZ

comp=Z,328nm,26.5s
PPT2 eLR LR 11 52 51.8
comp=Z,270nm,30.0s
PPT Papeete 27.92 68 P **P** **11 45 51.3 -2.1**
comp=Z,52nm,0.6s,baz=58,slow=20,SNR=5.9
PPT LR LR 11 54 54.5
comp=Z,200nm,18.8s,baz=255,slow=32
EIDS Eidsvold 28.84 273 **P** **11 46 02.2 +0.8**
EIDS IAmb IAmb 11 46 03.9
comp=Z,12nm,0.8s
EIDS Eidsvold 28.84 273 P **P** **11 46 03.7 +2.2**
CAN Canberra 29.03 252 P **P** **11 46 04.6 +1.4**
CAN IAmb IAmb 11 46 13.3
comp=Z,28nm,1.4s
HNR Honiara 30.31 309 LR LR 11 57 47.8
comp=Z,187nm,18.2s,baz=213,slow=35
CMSA Cobar Meteorol 32.09 259 P **P** **11 46 30.0 -0.1**
QLP Quilpie 34.39 267 P **P** **11 46 52.4 +2.1**
CTAO Charters Tower 34.92 279 P **P** **11 46 55.1 +0.2**
CTAO IAmb IAmb 11 46 57.3
comp=Z,15nm,0.8s
CTAO Charters Tower 34.92 279 P **P** **11 46 57.7 +2.8**
STKA Stephens Creek 35.48 257 **P** **11 46 59.4 -0.2**
STKA Stephens Creek 35.48 257 P **P** **11 46 59.7 0.0**
comp=Z,23nm,0.8s,baz=98,slow=9.6,SNR=31
STKA LR LR 12 01 09.2
comp=Z,404nm,18.5s,baz=59,slow=36
comp=Z,23nm,0.8s
STKA Stephens Creek 35.48 257 P **P** **11 47 01.4 +1.7**
MTSU Mount Surprise 37.42 280 P **P** **11 47 19.1 +2.7**
HTT Hallett 37.48 254 P **P** **11 47 18.5 +1.7**
WHYH Whyalla 38.66 254 P **P** **11 47 27.9 +1.3**
PMG Port Moresby 39.71 294 LR LR 12 01 42.0
comp=Z,212nm,18.3s,baz=116,slow=33
BBOO Buckleboo 39.95 254 **P** **11 47 37.0 -0.5**
BBOO IAmb IAmb 11 47 38.4
comp=Z,42nm,0.9s
BBOO Buckleboo 39.95 254 P **P** **11 47 39.0 +1.5**
TAOE Nuku Hiva Isla 40.41 65 eLR LR 11 58 28.4
comp=Z,230nm,30.6s
AS01 Alice Springs 44.15 267 P **P** **11 48 12.8 +0.9**
AS31 Alice Springs 44.19 267 **P** **11 48 11.5 -0.7**
ASAR Alice Springs 44.19 267 P **P** **11 48 10.7 -1.5**
ASAR Alice Springs 44.19 267 P **P** **11 48 10.9 -1.3**
comp=Z,4.8nm,0.8s,baz=102,slow=6.9,SNR=54
ASAR PcP **PP** **11 49 57.4 +2.3**
comp=Z,2.4nm,0.7s,baz=109,slow=3.2,SNR=8.5
ASAR LR LR 12 07 02.6
comp=Z,723nm,18.0s,baz=92,slow=37
comp=Z,4.8nm,0.8s
WR8 Warramunga Arr 45.06 272 **P** **11 48 18.3 -0.9**
WRAB Tennant Creek 45.20 272 P **P** **11 48 18.9 -1.3**
WRA Warramunga Arr 45.20 272 P **P** **11 48 19.4 -0.9**
WRA Warramunga Arr 45.20 272 P **P** **11 48 18.6 -1.7**
comp=Z,37nm,0.7s,baz=112,slow=7.6,SNR=209
WRA PcP **PcP** **11 49 59.9 -0.6**
comp=Z,2.1nm,0.9s,baz=117,slow=3.5,SNR=3.2
WRA LR LR 12 07 03.9
comp=Z,397nm,18.1s,baz=69,slow=36
comp=Z,37nm,0.7s
WB0 Warramunga Arr 45.23 272 **P** **11 48 19.1 -1.4**
FORT Forrest 47.04 255 P **P** **11 48 34.1 -0.6**
SBA Scott Base 47.86 185 P P 11 48 45.1 +4.8
SBA IAmb IAmb 11 49 03.0
comp=Z,16nm,1.4s
VNDA Vanda 47.94 186 **P** **11 48 45.0 +4.0**
VNDA Vanda 47.94 186 P **P** **11 48 44.0 +3.0**
comp=Z,1.7nm,0.6s,baz=28,slow=7.3,SNR=12
VNDA LR LR 12 08 26.3
comp=Z,70nm,18.9s,baz=0.5,slow=35
comp=Z,1.7nm,0.6s
JAY Jayapura 48.99 296 LR LR 12 07 23.7
comp=Z,103nm,21.6s,baz=180,slow=34
MTN Manton Dam 51.10 278 P **P** **11 49 04.4 -1.6**
MTN IAmb IAmb 11 49 21.4
comp=Z,20nm,1.4s
KNRA Kununurra 51.82 274 P **P** **11 49 10.9 -0.4**
KNRA IAmb IAmb 11 49 11.3
comp=Z,14nm,1.1s
FITZ Fitzroy Crossi 53.45 269 **P** **11 49 22.9 -0.5**
FITZ Fitzroy Crossi 53.45 269 LR LR 12 11 54.4
comp=Z,345nm,18.6s,baz=114,slow=36
FITZ Fitzroy Crossi 53.45 269 P **P** **11 49 23.4 0.0**
CASY Casey 55.42 208 P **P** **11 49 38.6 +1.7**
CASY IAmb IAmb 11 49 39.5
comp=Z,12nm,1.1s
GUMO Guam 57.45 314 LR LR 12 12 09.1
comp=Z,67nm,19.3s,baz=130,slow=34
BATI Baumata 58.77 277 LR LR 12 16 17.8
comp=Z,884nm,18.0s,baz=127,slow=37
QSPA South Pole Qui 59.44 180 P **P** **11 50 08.2 +2.6**
comp=Z,9.6nm,0.6s,baz=13,slow=1.3,SNR=91
QSPA LR LR 12 13 51.4
comp=Z,245nm,18.8s,baz=36,slow=34
comp=Z,9.6nm,0.6s
KAPI Kappang 64.73 280 LR LR 12 17 15.7
comp=Z,57nm,21.1s,baz=107,slow=34
BELA Belgrano 2 69.37 172 P **P** **11 51 11.0 +0.8**
BELA IAmb IAmb 11 51 11.9
comp=Z,9.0nm,1.2s
PMSA Palmer Station 71.57 155 LR LR 12 17 38.6
comp=Z,156nm,19.0s,baz=254,slow=31
MAW Mawson 72.44 200 P **P** **11 51 30.8 +1.8**
comp=Z,5.2nm,0.7s,baz=118,slow=6.1,SNR=7.8
comp=Z,5.2nm,0.7s
LEM Lembang 74.22 271 LR LR 12 26 38.5
comp=Z,200nm,18.7s,baz=20,slow=38
SYO Syowa Base 77.10 193⇑ *e*P **P** **11 51 57.2 +1.3**
TROLL Troll, Antarti 77.60 180 ⇑P **P** **11 52 00.0 +1.1**
comp=Z,307nm,0.9s
JOW Kunigami 77.66 311 P **P** **11 51 58.3 -1.4**
JOW IAmb IAmb 11 51 59.2
comp=Z,13nm,0.8s
JOW Kunigami 77.66 311 LR LR 12 20 52.9
comp=Z,52nm,21.5s,baz=150,slow=32
SNAA Sanae 77.85 178 ⇑P **P** **11 52 00.9 +0.7**
comp=Z,77nm,0.8s
SNAA Sanae 77.85 178 P **P** **11 52 01.3 +1.0**
SNAA IAmb IAmb 11 52 02.3
comp=Z,8.6nm,1.1s
SNAA Sanae 77.85 178 P **P** **11 52 00.8 +0.6**
comp=Z,4.2nm,0.9s,baz=196,slow=4.1,SNR=15
SNAA LR LR 12 22 49.7
comp=Z,86nm,21.5s,baz=58,slow=33
comp=Z,4.2nm,0.9s
VNA3 Neumayer Olymp 77.96 176 ⇑P **P** **11 52 01.3 +0.5**
comp=Z,30nm,0.8s
VNA2 Neumayer--Watz 78.41 176 ⇑P **P** **11 52 04.2 +0.9**
comp=Z,14nm,0.6s,baz=168,slow=4.7
VNA1 Neumayer--Stat 78.63 176 ⇑P **P** **11 52 05.4 +1.0**
comp=Z,13nm,0.8s
MJAR Matsushiro Arr 79.09 325 P **P** **11 52 06.0 -1.4**
MJAR Matsushiro Arr 79.09 325 P **P** **11 52 05.9 -1.5**
comp=Z,4.9nm,0.8s,baz=155,slow=4.7,SNR=9.3
MJAR LR LR 12 21 50.7
comp=Z,36nm,21.0s,baz=146,slow=32
comp=Z,4.9nm,0.8s
JNU Nakatsue 80.49 318 LR LR 12 23 28.5
comp=Z,40nm,19.7s,baz=150,slow=32
PLCA Paso Flores 81.52 132 P **P** **11 52 20.6 -0.2**
comp=Z,2.4nm,0.9s,baz=236,slow=7.3,SNR=4.2
PLCA LR LR 12 21 15.2
comp=Z,114nm,18.7s,baz=240,slow=30
comp=Z,2.4nm,0.9s
ASAJ Asahikawa 83.19 332 LR LR 12 25 23.6
comp=Z,124nm,19.9s,baz=176,slow=33
SHEM Shemya Is, Ala 83.43 354 LR LR 12 23 18.5
comp=Z,97nm,21.9s,baz=113,slow=31
LPIG La Paz 83.75 57 LR LR 12 22 20.5
comp=Z,138nm,18.2s,baz=209,slow=30
ESJX Sierra Juarez 84.86 48 IAmb IAmb 11 52 39.0
comp=Z,7.2nm,1.2s
KSRS Korea Array 85.26 319 P **P** **11 52 39.9 +0.2**
comp=Z,1.6nm,0.8s,baz=153,slow=5.8,SNR=7.6
comp=Z,1.6nm,0.8s
KSAR Wonju Array Be 85.28 319 P **P** **11 52 38.7 -1.0**
YSS Yuzhno-Sakhali 85.47 333 P **P** **11 52 40.9 +0.4**
PFO Pinyon Flats O 85.59 47 LR LR 12 25 48.0
comp=Z,74nm,18.1s,baz=236,slow=32
IPM Ipoh 85.61 278 P **P** **11 52 40.1 -2.0**
PETK Petropavlovsk- 86.35 345 P **P** **11 52 44.2 -0.5**
comp=Z,4.6nm,0.8s,baz=134,slow=6.4,SNR=11
comp=Z,4.6nm,0.8s
CLC China Lake 86.35 44 IAmb IAmb 11 53 15.6
comp=Z,8.6nm,0.6s
O02D Mt. Diablo Mer 86.42 38 IAmb IAmb 11 52 46.9
comp=Z,14nm,0.9s

GSC Goldstone, Bar 86.49 45 IAmb IAmb 11 52 46.8
comp=Z,6.5nm,1.1s
RPSI Rantau Prapat 86.50 275 P **P** **11 52 44.5 -1.9**
RPSI IAmb IAmb 11 52 46.0
comp=Z,15nm,1.0s
AFDM Forest Hills D 86.54 40 P **P** **11 52 45.6 -0.4**
AFDM IAmb IAmb 11 52 47.1
comp=Z,9.6nm,1.4s
QSM Queen of Sheba 86.89 45 IAmb IAmb 11 52 48.5
comp=Z,4.4nm,0.9s
GSI Gunungsitoli 86.95 273 P **P** **11 52 47.7 -0.9**
WAKR Walker 87.10 41 P **P** **11 52 48.7 -0.3**
WAKR IAmb IAmb 11 52 49.8
comp=Z,14nm,1.2s
NJ2 Nanjing 87.25 310 *e*P **P** **11 52 50.0 +0.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
GRAC Grapevine Rang 87.28 44 IAmb IAmb 11 52 50.8
comp=Z,8.2nm,0.9s
MPK Martis Peak 87.31 40 IAmb IAmb 11 52 51.5
comp=Z,16nm,1.4s
NVAR Mina Array Bea 87.70 42 P **P** **11 52 50.9 -1.1**
NVAR Mina Array Bea 87.70 42 P **P** **11 52 51.1 -0.8**
comp=Z,3.3nm,0.8s,baz=221,slow=8.3,SNR=22
NVAR LR LR 12 25 41.5
comp=Z,76nm,18.8s,baz=192,slow=31
comp=Z,3.3nm,0.8s
NV11 Mina Array Sit 87.78 42 IAmb IAmb 11 52 52.8
TPNV Topopah Spring 87.92 44 IAmb IAmb 11 52 53.9
comp=Z,4.8nm,0.8s
USRK Ussuriysk Ar. 87.99 326 P **P** **11 52 51.5 -1.4**
comp=Z,3.2nm,0.7s,baz=108,slow=4.7,SNR=5.7
USRK LR LR 12 29 30.1
comp=Z,30nm,18.7s,baz=177,slow=34
comp=Z,3.2nm,0.7s
SHPR Sheep Range 88.29 45 P **P** **11 52 54.9 +0.2**
PRN Pahroc Range 88.94 45 IAmb IAmb 11 52 59.1
comp=Z,9.1nm,1.1s
PLK4 Peulik 4 89.62 11 P **P** **11 53 00.1 -0.2**
OHAK Old Harbor 89.76 12 IAmb IAmb 11 53 02.1
comp=Z,12nm,1.1s
PINE Pine Mountain 89.95 37 P **P** **11 53 02.4 0.0**
PINE IAmb IAmb 11 53 04.1
comp=Z,21nm,1.5s
U15A North Rim 90.01 47 IAmb IAmb 11 53 04.4
comp=Z,11nm,0.9s
WUAZ Wupatki 90.03 48 IAmb IAmb 11 53 04.2
comp=Z,8.0nm,1.0s
KNB Kanab 90.05 46 IAmb IAmb 11 53 04.4
comp=Z,7.4nm,0.9s
CCUT Cedar City 90.06 45 IAmb IAmb 11 53 04.0
comp=Z,18nm,2.0s
KDAK Kodiak Island 90.42 13 LR LR 12 26 26.2
comp=Z,55nm,20.9s,baz=192,slow=31
J08A Circle Bar Ran 90.95 38 IAmb IAmb 11 53 07.5
comp=Z,6.3nm,1.2s
TIA Tai'an 90.96 312 P **P** **11 53 06.5 -0.5**
TIA pmax pmax
comp=Z,15nm,1.0s
CN2 Changchun 91.02 322 P **P** **11 53 07.3 +0.2**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
BNX BinXian 91.36 325 ⇑P **P** **11 53 08.0 -0.6**
BNX pmax pmax
comp=Z,9.0nm,0.9s
TXAR Lajitas Array 91.62 57 P **P** **11 53 09.4 -1.0**
TXAR Lajitas Array 91.62 57 P **P** **11 53 09.8 -0.5**
comp=Z,1.4nm,0.9s,baz=207,slow=8.0,SNR=10.0
TXAR LR LR 12 27 08.6
comp=Z,61nm,19.1s,baz=224,slow=31
comp=Z,1.4nm,0.9s
GNW Green Mountain 91.70 33 IAmb IAmb 11 53 10.9
comp=Z,5.2nm,0.9s
CMIG Matias Romero 91.80 71 LR LR 12 26 21.9
comp=Z,37nm,18.8s,baz=196,slow=30
G08A Pilot Rock 92.01 37 IAmb IAmb 11 53 12.4
comp=Z,5.6nm,1.0s
ALPN Alpine 92.22 56 IAmb IAmb 11 53 16.7
comp=Z,15nm,1.8s
MXC Moxie City 92.23 35 IAmb IAmb 11 53 13.3
comp=Z,5.2nm,0.9s
NNA Nana 92.30 105 LR LR 12 27 14.3
comp=Z,40nm,19.4s,baz=282,slow=31
CNPM China Poot 92.31 13 P **P** **11 53 12.8 +0.1**
ILSW Iliamna Southw 92.39 12 P **P** **11 53 12.4 -0.8**
ILSW IAmb IAmb 11 53 16.0
comp=Z,11nm,1.1s
MFID Camas Ranch 92.42 40 IAmb IAmb 11 53 14.7
comp=Z,4.7nm,0.9s
TMUT Trail Mountain 92.47 45 IAmb IAmb 11 53 15.4
comp=Z,4.0nm,0.9s
SRU San Rafael Swe 92.78 45 IAmb IAmb 11 53 16.5
comp=Z,4.4nm,0.9s
ANMO Albuquerque 92.89 51 LR LR 12 28 05.2
comp=Z,96nm,19.4s,baz=321,slow=31
HVU Hansel Valley 93.09 42 IAmb IAmb 11 53 17.4
comp=Z,4.1nm,0.9s
D08A Wollman Farm, 93.24 35 IAmb IAmb 11 53 17.9
comp=Z,6.5nm,0.9s
HLID Hailey 93.30 40 IAmb IAmb 11 53 18.5
comp=Z,3.1nm,0.8s
PLID Pearl Lake 93.43 38 IAmb IAmb 11 53 18.6
comp=Z,5.1nm,0.8s
L19K White Mountain 94.19 10 P **P** **11 53 21.8 +0.4**
L19K IAmb IAmb 11 53 22.3
comp=Z,8.2nm,1.2s
CMAR Chiang Mai Arr 94.52 289 P **P** **11 53 25.0 +1.1**
comp=Z,1.2nm,0.7s,baz=144,slow=3.1,SNR=7.0
CMAR LR LR 12 38 34.8
comp=Z,20nm,19.1s,baz=125,slow=37
comp=Z,1.2nm,0.7s
KMI Kunming 94.92 296 P **P** **11 53 27.0 +1.1**
KMI pmax pmax
comp=Z,7.0nm,1.0s
NEW Newport 94.95 35 LR LR 12 31 42.5
comp=Z,52nm,18.4s,baz=217,slow=33
PDAR Pinedale Array 95.58 43 P **P** **11 53 26.9 -1.6**
comp=Z,0.7nm,0.8s,baz=189,slow=3.9,SNR=6.4
PDAR LR LR 12 30 54.5
comp=Z,54nm,18.5s,baz=239,slow=32
comp=Z,0.7nm,0.8s
YHL Hebgen Lake 95.91 41 IAmb IAmb 11 53 32.3
comp=Z,5.5nm,1.0s
PZH PanZhiHua 96.40 297 P **P** **11 53 33.5 +1.0**
YNE Yellowstone No 96.67 41 P **P** **11 53 33.3 -0.1**
YNE IAmb IAmb 11 53 34.1
comp=Z,2.5nm,0.9s
HHC Hu-ho-hao-te 97.21 313 *e*P **P** **11 53 36.8 +1.0**
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,76nm,5.5s
ILAR Eielson Array 97.95 12 P **P** **11 53 36.1 -2.2**
comp=Z,0.8nm,0.8s,baz=205,slow=4.7,SNR=7.1
comp=Z,0.8nm,0.8s
CPUP Villa Florida 98.96 128 LR LR 12 32 40.5
comp=Z,23nm,18.1s,baz=111,slow=32
MKAR Makanchi Array 118.78 310 PKP **PKPdf** **11 58 49.3 -1.8**
comp=Z,0.9nm,0.6s,baz=80,slow=0.8,SNR=6.4
ZALV Zalesovo Beam 118.96 318 PKP **PKPdf** **11 58 49.0 -2.1**
comp=Z,1.3nm,0.7s,baz=108,slow=4.8,SNR=4.7
KURK Kurchatov 122.03 313 **PKPdf** **11 58 56.2 -1.0**
KURBB Kurchatov Arra 122.06 313 PKP **PKPdf** **11 58 56.0 -1.3**
comp=Z,3.5nm,0.8s,baz=103,slow=2.0,SNR=20
KKAR Karatay Array 126.14 303 **PKPdf** **11 59 04.4 -0.9**
BVAR Borovoye Array 127.36 316 PKP **PKPdf** **11 59 06.7 -0.6**
comp=Z,4.4nm,0.7s,baz=93,slow=3.0,SNR=23
ARCES ARCESS Array B 139.08 348 PKP **PKPdf** **11 59 27.1 -1.8**
comp=Z,2.2nm,0.8s,baz=54,slow=6.2,SNR=5.4
GNI Garni 145.17 297 **PKPbc** **11 59 40.5 +0.1**
FINES FINESS Array B 145.77 341 PKPbc **PKPdf** **11 59 39.8 -1.2**
comp=Z,25nm,0.8s,baz=45,slow=2.8,SNR=83
KBZ Khabaz 146.17 304 PKPbc **PKPdf** **11 59 41.9 -0.2**
comp=Z,5.3nm,0.8s,baz=135,slow=2.9,SNR=7.3
NB2 NORSAR Subarra 149.17 352 PKP **PKPdf** **11 59 49.4 +2.7**
comp=Z,13nm,0.9s,baz=12,slow=2.8
NOA NORSAR Array B 149.17 352 PKPbc **PKPdf** **11 59 49.4 +2.7**
comp=Z,5.7nm,0.9s,baz=14,slow=4.3,SNR=18
HFS Hagfors 149.71 350 PKPbc **PKPdf** **11 59 50.3 +2.8**
comp=Z,8.7nm,0.8s,baz=58,slow=3.6,SNR=24
MNK Minsk 150.36 331 *i* PKiKP **PKPbc** **11 59 54.0 +0.1**
MNK *i* PKiKP **PKPbc** **11 59 54.0 +0.1**
MNK *i* PKiKP **PKPbc** **11 59 54.0 +0.1**
baz=46
MNK *i* SS SS 12 22 48.1 +0.5
NACGM Naroch 150.53 332 *e*PKiKP **PKPbc** **11 59 54.2 -0.1**
comp=Z,28nm,0.9s,baz=44
PABE Paberze 151.16 335 **PKPbc** **11 59 54.7 -1.0**
GAZ Gaziantep 151.20 292 **PKPbc** **11 59 57.0 +0.4**
BNN Bunyan 152.13 296 **PKPbc** **11 59 58.9 +0.2**
AKASG Malin Array Be 152.17 323 PKPbc **PKPdf** **11 59 56.4 +4.8**
comp=Z,12nm,0.7s,baz=48,slow=2.7,SNR=38
AKBB Malin Array Si 152.17 323 **PKPbc** **11 59 57.3 -1.0**
KIEV Kiev 152.18 323 **PKPbc** **11 59 57.2 -1.0**
MMAI Mount Meron Ar 152.66 283 PKPbc **PKPbc** **11 59 59.6 -0.4**
comp=Z,6.0nm,0.6s,baz=96,slow=4.5,SNR=9.0
BRTR Keskin Array B 153.69 298 PKPbc **PKPbc** **12 00 01.1 -1.1**
comp=Z,2.0nm,0.8s,baz=101,slow=3.9,SNR=8.0
EKA Eskdalemuir Ar 154.93 9 PKPab **PKPab** **12 00 16.7 -2.7**
comp=Z,1.6nm,0.8s,baz=349,slow=5.5,SNR=3.5
STHS Stebnicka Huta 156.87 329 *e*PKP **PKPdf** **11 59 56.8 -1.4**
VYHS Vyhne 158.60 331 *e*PKP **PKPdf** **12 00 00.4 0.0**
GERES GERESS Array B 160.19 339 PKPab **PKPab** **12 00 40.7 -1.8**
comp=Z,0.4nm,0.2s,baz=58,slow=5.5,SNR=4.8
TORD Torodi Ar. Bea 162.50 175 PKPab **PKPab** **12 00 53.5 +0.3**
comp=Z,1.8nm,0.7s,baz=169,slow=2.4,SNR=7.5

*SDD **25** 12:09:29.8±1.3, 18°.20N×72°.04W, h20km±15km, MD2.7, ML2.1, MW2.8*
*OSPL **25** 12:09:29.6±0.9, 18°.25N×71°.97W, h10km±7km, ML1.9*
ISC 25 12:09:28.7±2.1, 18°.22N±0°.04×71°.99W±0°.09, h12km±11km, n11, σ0°59/22, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIDR	**Jimani**	**0.30**	**25**	*e*Pg	**Pb**		**Pb**	**12 09 36.6**	**+0.4**
JIDR				*e*Sg	**Sb**		**Sb**	**12 09 41.9**	**+0.8**
JIDR				IAML				12 09 42.4	
comp=N,149nm,0.9s									
LOBH	**Bahia de las A**	**0.48**	**137**	*i* P	**Pb**		**Pb**	**12 09 39.0**	**-0.3**
LOBH				*e*S	**Sg**		**Sg**	**12 09 45.1**	**+0.4**
LOBH				IAML				12 09 46.0	
comp=Z,64nm,0.5s									
LODU1	**El Espartillar**	**0.51**	**74**	*i* P	**Pg**		**Pg**	**12 09 38.6**	**-0.1**
LODU1				*e*S	**Sg**		**Sg**	**12 09 44.6**	**-0.7**
LODU1				IAML				12 09 48.4	
comp=Z,225nm,0.4s									
NEDR	**Neiba UASD**	**0.60**	**64**	*e*Pg	**Pg**		**Pg**	**12 09 40.4**	**-0.1**
NEDR				*e*Sg	**Sb**		**Sb**	**12 09 49.1**	**-0.7**
NEDR				IAML				12 09 60.0	
comp=N,55nm,0.7s									
LONE3	**El Aguacate, B**	**0.63**	**52**	*i* P	**Pb**		**Pb**	**12 09 42.3**	**+0.5**
LONE3				*e*S	**Sb**		**Sb**	**12 09 50.1**	**-0.7**
LONE3				IAML				12 09 56.8	
comp=Z,38nm,0.3s									
PODR	**Polo**	**0.67**	**94**	*e*Pg	**Pb**		**Pb**	**12 09 42.6**	**0.0**
PODR				*e*Sg	**Sb**		**Sb**	**12 09 53.5**	**+1.5**
PODR				IAML				12 09 58.0	
comp=N,108nm,0.7s									
PODR	**Polo**	**0.67**	**94**	*i* P	**Pg**		**Pg**	**12 09 41.6**	**-0.2**
PODR				*e*S	**Sg**		**Sg**	**12 09 51.2**	**+0.4**
LOVI	**El Cajuil, Ovi**	**0.72**	**125**	*i* P	**Pg**		**Pg**	**12 09 42.4**	**-0.4**
LOVI				*e*S	**Sg**		**Sg**	**12 09 52.2**	**0.0**
LOVI				IAML				12 10 03.1	
comp=Z,57nm,0.5s									
SDDR	**Presa de Saban**	**1.01**	**41**	*e*Pg	**Pn**		**Pn**	**12 09 49.0**	**+0.2**
SDDR				*e*Sg	**Sn**		**Sn**	**12 10 02.3**	**-0.7**
SDDR				IAML				12 10 14.4	
comp=N,14nm,1.3s									
REDR	**Restauracion**	**1.10**	**31**	*e*Pg	**Pb**		**Pb**	**12 09 49.6**	**-0.1**
REDR				*e*Sg	**Sb**		**Sb**	**12 10 03.9**	**-0.2**
REDR				IAML				12 10 04.0	
comp=N,115nm,0.2s									
BANI	**BANI**	**1.56**	**83**	*e*Pg	**Pb**		**Pb**	**12 09 58.1**	**+0.4**
BANI				*e*Sg	**Sb**		**Sb**	**12 10 17.6**	**+0.2**
BANI				IAML				12 10 20.6	
comp=N,53nm,0.8s									

IDC 25 12:16:38.3±3.3, 17°.64S×175°.21W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=181.0km s-min=61.0km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.68**	**259**	P	P		P	12 25 16.7	-0.3
0.4nm,0.3s,baz=95,slow=7.3,SNR=20									
WRA				PcP	PcP		PcP	12 26 45.8	-0.8
0.3nm,0.8s,baz=88,slow=3.5,SNR=1.7									
0.4nm,0.3s									
ASAR	**Alice Springs**	**47.79**	**254**	P	P		P	12 25 18.2	+0.3
1.7nm,0.5s,baz=88,slow=8.6,SNR=50									
ASAR				PcP	PcP		PcP	12 26 46.0	-1.0
0.3nm,0.6s,baz=101,slow=3.5,SNR=6.0									
1.7nm,0.5s									
BRTR	**Keskin Array B**	**146.71**	**317**	PKPbc	PKPbc		PKPbc	12 36 22.6	-0.1
0.5nm,0.5s,baz=45,slow=2.2,SNR=1.9									

*IDC **25** 12:19:27.0±1.6, 28°.51N×55°.48E, h0km, mb3.7/5, mbtmp3.7/5, MS2.5/1, Error ellipse: s-maj=46.1km s-min=27.0km az=164.0*
*TEH **25** 12:19:28.0, 28°.28N×55°.71E, h8km*
ISC 25 12:19:28.5±0.8, 28°.25N±0°.05×55°.69E±0°.04, h10km, n33, σ1°56/32, mb3.6/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.95**	**153**	Pg	**Pg**		**Pg**	**12 19 46.4**	**-0.4**
IBND	**Bandar-abas**	**1.10**	**137**	Pg	**Pg**		**Pg**	**12 19 49.4**	**-0.2**
LAR1	**LAR**	**1.30**	**244**	Pg	**Pn**		**Pn**	**12 19 53.7**	**+0.8**
NGRK	**Negar Kerman**	**1.66**	**33**	Pg	**Pn**		**Pn**	**12 19 58.0**	**0.0**
KHNJ	**Kahnooj**	**1.80**	**99**	Pg	**Pn**		**Pn**	**12 20 00.9**	**+1.2**
JHRM	**Jahrom**	**1.88**	**278**	Pn	**Pn**		**Pn**	**12 20 02.4**	**+1.5**
KRBR	**Kerman**	**1.96**	**28**	Pn	**Pn**		**Pn**	**12 20 02.6**	**+0.4**
KHGB	**Koh Gabri**	**2.22**	**18**	Pn	**Pn**		**Pn**	**12 20 07.2**	**+1.5**
CHMN	**Cheshme madani**	**2.28**	**45**	Pn	**Pn**		**Pn**	**12 20 07.9**	**+1.4**
QIR1	**Qir**	**2.35**	**276**	Pn	**Pn**		**Pn**	**12 20 08.9**	**+1.7**
KBAM	**BAM**	**2.58**	**69**	Pn	**Pn**		**Pn**	**12 20 11.8**	**+1.4**
KRM1	**Kerman Provinc**	**2.63**	**31**	Pn	**Pn**		**Pn**	**12 20 12.2**	**+0.9**
ZRDN	**Zarand Kerman**	**2.80**	**15**	Pn	**Pn**		**Pn**	**12 20 15.0**	**+1.4**
JASK	**Jask - Hormozg**	**3.06**	**140**	Pn	**Pn**		**Pn**	**12 20 18.7**	**+1.7**
IBAF	**Bafgh**	**3.33**	**358**	Pn	**Pn**		**Pn**	**12 20 22.4**	**+1.7**
IRAM	**Ramesheh**	**4.56**	**322**	Pn	**Pn**		**Pn**	**12 20 39.1**	**+1.2**
TPRV	**Parvadeh(Tabas**	**4.84**	**10**	Pn	**Pn**		**Pn**	**12 20 42.9**	**+1.4**
NHDN	**Nehbandan**	**4.91**	**49**	Pn	**Pn**		**Pn**	**12 20 44.3**	**+1.7**
IKOO	**Kooshah**	**5.05**	**34**	Pn	**Pn**		**Pn**	**12 20 45.8**	**+1.3**
ANAR	**Anarak**	**5.20**	**342**	Pn	**Pn**		**Pn**	**12 20 47.8**	**+1.2**
IGAR	**Gharneh**	**5.20**	**324**	Pn	**Pn**		**Pn**	**12 20 48.4**	**+1.8**
IBRJ	**Brojen**	**5.29**	**315**	Pn	**Pn**		**Pn**	**12 20 49.8**	**+1.9**
IZEF	**Zefreh**	**5.46**	**329**	Pn	**Pn**		**Pn**	**12 20 51.4**	**+1.1**
JHBN	**Jahan bin**	**5.89**	**314**	Pn	**Pn**		**Pn**	**12 20 57.7**	**+1.6**
IPIR	**Pirpir**	**6.06**	**318**	Pn	**Pn**		**Pn**	**12 21 00.1**	**+1.7**
IKLH	**Kolahrood**	**6.17**	**326**	Pn	**Pn**		**Pn**	**12 21 01.2**	**+1.3**
TAPT	**Tabas- Tapeh t**	**6.73**	**10**	Pn	**Pn**		**Pn**	**12 21 09.2**	**+1.7**
MMAI	**Mount Meron Ar**	**18.09**	**290**	LR	LR			12 32 06.2	
comp=Z,14nm,19.6s,baz=104,slow=43									
BRTR	**Keskin Array B**	**21.51**	**308**	P	**P**		**P**	**12 24 16.2**	**-1.6**
1.5nm,0.8s,baz=129,slow=14,SNR=7.9									
1.5nm,0.8s									
MKAR	**Makanchi Array**	**27.86**	**41**	P	**P**		**P**	**12 25 16.9**	**-1.4**
0.4nm,0.6s,baz=232,slow=7.1,SNR=3.0									
0.4nm,0.6s									
ZALV	**Zalesovo Beam**	**33.35**	**32**	P	**P**		**P**	**12 26 05.1**	**-1.5**
0.7nm,0.5s,baz=232,slow=9.0,SNR=3.6									
0.7nm,0.5s									
TORD	**Torodi Ar. Bea**	**52.30**	**265**	P	**P**		**P**	**12 28 38.3**	**-2.3**
1.6nm,0.7s,baz=61,slow=7.2,SNR=9.6									
1.6nm,0.7s									
ASAR	**Alice Springs**	**91.30**	**116**	P	**P**		**P**	**12 32 37.5**	**+2.8**
0.3nm,0.9s,baz=310,slow=4.6,SNR=1.9									
0.3nm,0.9s									

*GCG **25** 12:22:45.0±0.3, 11°.82N×89°.38W, h3km, MD3.8*
*CATAC **25** 12:22:54.1±0.8, 12°.N±4°×8°.9W±°, h16km±6km, M3.3/13, MLv3.3/13, Error ellipse: s-maj=9.7km s-min=4.3km az=37.7, confirmed*
*SNET **25** 12:22:58.0±1.0, 12°.76N×89°.10W, h80km±5km, ML3.1*
ISC 25 12:22:55.7±2.1, 12°.4N±0°.1×89°.17W±0°.06, h40km, n48, σ0°84/51, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**1.20**	**19**	*e*P	**Pn**		**Pn**	**12 23 14.5**	**-1.5**
TECO				*e*S	**Sn**		**Sn**	**12 23 28.8**	**-2.3**
LFRS	**El Faro**	**1.22**	**5**	*e*P	**Pn**		**Pn**	**12 23 15.6**	**-0.8**
LOMA	**Loma Lar

JAYA	Jayaque - finc	1.28	348	*e*P		Pn	12 23 17.0	-0.2
JAYA	Jayaque - finc	1.28	348	*i* P		Pn	12 23 16.8	-0.5
JAYA	Jayaque - finc	1.28	348	P		Pn	12 23 16.5	-0.8
JAYA	Jayaque - finc	1.28	348	S		Sn	12 23 34.1	+0.8
UESV	Universidad de	1.29	17	P		Pn	12 23 16.3	-1.0
UESV	Universidad de	1.29	17	S		Sn	12 23 32.7	-0.6
PMON	Piamonte	1.31	354	*e*P		Pn	12 23 17.3	-0.4
PMON	Piamonte	1.31	354	P		Pn	12 23 16.9	-0.8
PMON	Piamonte	1.31	354	S		Sn	12 23 35.2	+1.1
PAVA	Las Pavas	1.33	10	S		Sn	12 23 34.4	0.0
PAVA	Las Pavas	1.33	10	P		Pn	12 23 17.4	-0.5
LCY	Lacayo	1.33	40	*e*P		Pn	12 23 17.6	-0.3
BOQS	Boqueron	1.33	355	*e*P		Pn	12 23 17.9	-0.1
LFU	La Fuente	1.34	2	*e*P		Pn	12 23 18.5	+0.4
PACA	Pacayal	1.35	38	*e*P		Pn	12 23 18.1	-0.1
PACA				*e*S		Sn	12 23 33.5	-1.5
PACA	Pacayal	1.35	38	P		Pn	12 23 17.3	-0.9
PQSS	Presa 15 de Se	1.36	26	*e*P		Pn	12 23 18.0	-0.2
PQSS	Presa 15 de Se	1.36	26	P		Pn	12 23 17.6	-0.6
PQSS	Presa 15 de Se	1.36	26	S		Sn	12 23 34.6	-0.3
SCLA	Alcaldia de Sa	1.37	18	*e*P		Pn	12 23 17.9	-0.5
SCLA	Alcaldia de Sa	1.37	18	P		Pn	12 23 17.7	-0.7
BLLM	Bellamira	1.38	41	*e*P		Pn	12 23 18.1	-0.4
CEVE	Cerro Verde	1.49	343	P		Pn	12 23 20.5	+0.3
SNJE	San Jose	1.52	344	*e*P		Pn	12 23 20.7	+0.1
LCND	La Caada	1.54	54	*e*P		Pn	12 23 20.4	-0.3
CNCH	Conchagua	1.57	56	*e*P		Pn	12 23 21.9	+0.6
CNCH	Conchagua	1.57	56	P		Pn	12 23 21.1	-0.1
CNCH	Conchagua	1.57	56	S		Sn	12 23 41.9	+1.5
NUBE	Las Nubes	1.61	338	*e*P		Pn	12 23 21.4	-0.4
NUBE	Las Nubes	1.61	338	*i* P		Pn	12 23 21.4	-0.4
NUBE	Las Nubes	1.61	338	P		Pn	12 23 21.4	-0.4
NUBE	Las Nubes	1.61	338	S		Sn	12 23 40.9	-0.5
FAME	Alcaldia de Sa	1.65	330	P		Pn	12 23 21.7	-0.6
FAME	Alcaldia de Sa	1.65	330	S		Sn	12 23 41.5	-0.9
MTO3	Montecristo	2.00	355	*i* P		Pn	12 23 28.0	+0.8
MTO3	Montecristo	2.00	355	P		Pn	12 23 27.2	+0.1
MTO3	Montecristo	2.00	355	S		Sn	12 23 53.2	+2.1
MARCA	Marcala la Paz	2.07	32	*i* P		Pn	12 23 29.1	+1.0
MARCA	Marcala la Paz	2.07	32	P		Pn	12 23 28.7	+0.6
ESQI	Esquipulas	2.15	356	P		Pn	12 23 30.3	+1.1
ESQI	Esquipulas	2.15	356	S		Sn	12 23 56.3	+1.4
CHOHN	Orocuina	2.24	61	P		Pn	12 23 30.4	0.0
POLN	Al Sur del Vol	2.32	84	P		Pn	12 23 30.7	-0.7
POLN				S		Sn	12 23 58.7	0.0
MOMN	Momotombo	2.57	89	S		Sn	12 24 05.7	+0.7

IDC 25 12:30:33.8±2.2, 6°02S×130°43E, h0km, mb3.8/1, mbtmp3.9/4, ML3.8/3, Error ellipse: s-maj=92.0km s-min=28.0km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.89**	**201**	Pn	Pn	12 33 39.5	+1.1
	0.4nm,0.3s,baz=20,slow=9.8,SNR=33						
FITZ				Sn	Sn	12 35 47.4	-15
	0.5nm,0.3s,baz=94,slow=13,SNR=5.8 1.0nm,0.2s						
WRA	**Warramunga Arr**	**14.36**	**165**	Pn	Pn	12 33 56.6	-1.9
	0.5nm,0.3s,baz=347,slow=13,SNR=25						
WRA				Sn	Sn	12 36 25.1	-14
	0.5nm,0.3s,baz=346,slow=21,SNR=8.8 1.0nm,0.4s						
ASAR	**Alice Springs**	**17.86**	**170**	P	P	12 34 44.5	-0.3
	0.4nm,0.3s,baz=343,slow=9.3,SNR=46						
ASAR				S	Sn	12 37 50.3	-14
	0.4nm,0.8s,baz=4.0,slow=28,SNR=2.3 1.3nm,0.5s						
MKAR	**Makanchi Array**	**67.64**	**326**	P	P	12 41 32.7	0.0
	0.4nm,0.4s,baz=112,slow=7.9,SNR=7.0 0.4nm,0.4s						

*RSNC **25** 12:38:46.2±0.0, 1°N±1°×7°78W±°, h4km±2km, M3.5, mB4.4, mb4.2, ML3.1, Mw(mB)3.6*
*IDC **25** 12:38:49.5±1.1, 0.79N×78.09W, h0km, mb3.6/4, mbtmp3.8/8, ML3.4/3, MS3.0/14, Error ellipse: s-maj=34.3km s-min=20.0km az=77.0*
ISC 25 12:38:49.2±0.6, 0.79N±0.03×77.94W±0.03, h10km, n53, σ2s57/49, mb3.5/4, MS3.0/9, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TULM	**Tulcn-Chalpat**	**0.17**	**116**	P	**Pg**	**12 38 49.9**	**-3.2**
TULM				S	**Sg**	**12 38 52.6**	**-3.3**
CMBC	**Cumbal**	**0.19**	**37**	P	**Pg**	**12 38 50.6**	**-2.9**
CMBC				S	**Sg**	**12 38 53.8**	**-2.6**
BONI	**La Bonita**	**0.53**	**129**	P	**Pg**	**12 38 56.6**	**-3.0**
BONI				S	**Sg**	**12 39 03.1**	**-3.5**
CUSE	**Cuicocha Este**	**0.67**	**224**	P	**Pg**	**12 38 59.7**	**-2.5**
CUSE				S	**Sg**	**12 39 09.9**	**-1.1**
OTAV	**Otavalo**	**0.75**	**223**	P	**Pg**	**12 39 00.7**	**-3.1**
OTAV				S	**Sg**	**12 39 12.0**	**-1.7**
PAC1	**Pacto, Paraso**	**1.00**	**239**	P	**Pg**	**12 39 05.0**	**-3.5**
PAC1				S	**Sg**	**12 39 18.7**	**-2.8**
CRUC	**La Cruz**	**1.25**	**52**	P	**Pn**	**12 39 10.6**	**-2.5**
CRUC				S	**Sb**	**12 39 27.5**	**-2.0**
BBAC	**Balboa, Cauca**	**1.41**	**29**	P	**Pn**	**12 39 12.1**	**-3.0**
BBAC				S	**Sn**	**12 39 33.1**	**-0.7**
PIAT	**Ana Tenorio**	**1.80**	**190**	P	**Pn**	**12 39 19.0**	**-1.7**
POPC	**Popayan, Colom**	**2.15**	**36**	P	**Pn**	**12 39 24.8**	**-0.5**
GR1C	**Gorgona, Isla**	**2.21**	**354**	P	**Pn**	**12 39 22.8**	**-3.2**
FLOC	**Florencia**	**2.42**	**71**	P	**Pn**	**12 39 30.5**	**+1.6**
FLOC				S	**Sb**	**12 40 02.7**	**0.0**
JAMC	**Jamundi, Valle**	**2.72**	**28**	P	**Pb**	**12 39 36.7**	**-1.4**
GARC	**Garzon, Huila**	**2.81**	**60**	P	**Pn**	**12 39 37.6**	**+3.1**
MALC	**Bahia Malaga**	**3.26**	**11**	P	**Pn**	**12 39 43.5**	**+3.1**
COHC	**Cochancay**	**3.49**	**202**	P	**Pb**	**12 39 50.2**	**-0.9**
YOTC	**Yotoco, Valle**	**3.55**	**27**	P	**Pn**	**12 39 44.8**	**+0.3**
PPLP	**Puerto Lpez**	**3.66**	**231**	P	**Pn**	**12 39 45.9**	**-0.1**
ORTC	**Ortega, Tolima**	**4.10**	**41**	P	**Pn**	**12 39 54.6**	**+2.5**
PRAC	**Prado**	**4.21**	**46**	P	**Pn**	**12 39 57.4**	**+3.8**
MACC	**Macarena, Meta**	**4.30**	**72**	P	Pn	12 39 59.7	+4.9
URMC	**La Uribe, Meta**	**4.31**	**55**	P	**Pn**	**12 39 59.5**	**+4.5**
PLMC	**San Jos del P**	**4.41**	**22**	P	**Pn**	**12 39 55.8**	**-0.5**
GUY2C	**Guyana, Caldas**	**5.10**	**30**	P	**Pn**	**12 40 08.4**	**+2.2**
VILC	**Villavicencio,**	**5.37**	**52**	P	Pn	12 40 15.3	+5.7
CBOC	**Ciudad Bolivar**	**5.39**	**21**	P	**Pn**	**12 40 11.7**	**+1.7**
ROSC	**El Rosal**	**5.41**	**42**	Pn	**Pn**	**12 40 14.6**	**+4.3**
	3.9nm,0.3s,baz=225,slow=12,SNR=12 28nm,0.6s						
ROSC	**El Rosal**	**5.41**	**42**	P	Pn	12 40 15.5	+5.2
MCRA	**Macar, Loja**	**5.51**	**201**	P	**Pn**	**12 40 11.6**	**+0.2**
NORC	**Norcasia**	**5.65**	**33**	P	**Pn**	**12 40 14.7**	**+1.4**
HELC	**Santa Helena**	**5.88**	**24**	P	**Pn**	**12 40 20.3**	**+3.5**
DBBC	**Dabeiba**	**6.42**	**16**	P	**Pn**	**12 40 28.0**	**+4.0**
PTBC	**PUERTO BERRIO,**	**6.69**	**31**	P	**Pn**	**12 40 26.6**	**-1.0**
	266nm22nm,0.8s						
RUSC	**La Rusia**	**7.01**	**44**	P	**Pn**	**12 40 36.5**	**+4.0**
ZARC	**Zaragoza, Cauc**	**7.33**	**25**	P	**Pn**	**12 40 37.8**	**+1.3**
BARC	**Barichara**	**7.47**	**39**	P	**Pn**	**12 40 41.7**	**+3.2**
ATAH	**Atahualpa**	**7.88**	**183**	Pn	**Pn**	**12 40 47.0**	**+2.6**
	1.5nm,0.3s,baz=25,slow=4.7,SNR=12						
ATAH				LR	LR	12 44 09.0	
	comp=Z,167nm,18.3s,baz=16,slow=40 16nm,0.6s						
SDV	**Santo Domingo**	**10.84**	**42**	Pn	**Pn**	**12 41 27.1**	**+2.3**
	0.3nm,0.3s,baz=197,slow=12,SNR=6.1						
SDV				LR	LR	12 46 49.8	
	comp=Z,95nm,19.5s,baz=245,slow=44 3.4nm,0.7s						
JTS	**Las Juntas de**	**11.74**	**324**	LR	LR	12 44 26.5	
	comp=Z,14nm,18.9s,baz=148,slow=29						
PCRV	**Puerto La Cruz**	**16.18**	**54**	LR	LR	12 50 52.9	
	comp=Z,34nm,18.5s,slow=44						
LPAZ	**La Paz**	**19.54**	**151**	P	**Pn**	**12 43 19.7**	**+0.7**
	0.3nm,0.3s,baz=349,slow=11,SNR=3.6						
LPAZ				LR	LR	12 51 45.2	
	comp=Z,58nm,21.2s,baz=68,slow=40 2.6nm,0.9s						
SJG	**San Juan**	**20.75**	**33**	LR	LR	12 52 18.5	
	comp=Z,29nm,19.5s,baz=150,slow=39						
CMIG	**Matias Romero**	**22.25**	**315**	LR	LR	12 51 25.0	
	comp=Z,49nm,19.7s,baz=171,slow=33						
SIV	**San Ignacio**	**23.57**	**136**	LR	LR	12 53 39.5	
	comp=Z,105nm,19.6s,baz=87,slow=38						
MDP	**Montagnes des**	**25.62**	**80**	LR	LR	12 55 44.2	
	comp=Z,49nm,19.4s,baz=204,slow=39						
CPUP	**Villa Florida**	**33.50**	**145**	LR	LR	12 59 39.2	
	comp=Z,8.5nm,21.9s,baz=180,slow=37						
BDFB	**Brasilia**	**33.77**	**120**	LR	LR	13 00 51.1	
	comp=Z,32nm,18.5s,baz=121,slow=39						
TXAR	**Lajitas Array**	**37.51**	**322**	P	**P**	**12 46 05.0**	**+1.3**
	0.4nm,0.6s,baz=125,slow=11,SNR=5.9						
TXAR				LR	LR	13 01 16.1	
	comp=Z,23nm,18.1s,baz=110,slow=36 0.4nm,0.6s						
PLCA	**Paso Flores**	**41.87**	**172**	P	**P**	**12 46 41.7**	**+2.0**
	1.9nm,1.0s,baz=342,slow=9.4,SNR=4.6 1.9nm,1.0s						
RCBR	**Riachuelo**	**42.48**	**99**	LR	LR	13 04 26.6	
	comp=Z,17nm,18.7s,baz=240,slow=36						
PDAR	**Pinedale Array**	**50.49**	**330**	LR	LR	13 10 21.7	
	comp=Z,7.7nm,18.6s,baz=172,slow=38						
NVAR	**Mina Array Bea**	**52.64**	**320**	P	**P**	**12 48 05.0**	**+1.1**
	0.5nm,0.6s,baz=114,slow=6.7,SNR=5.9 0.5nm,0.6s						
ILAR	**Eielson Array**	**80.43**	**336**	P	**P**	**12 51 01.9**	**+1.0**
	0.4nm,0.8s,baz=104,slow=6.2,SNR=3.6 0.4nm,0.8s						

*HVO **25** 12:38:50.1±0.7, 19°.426N±0°.006×155°.607W±0°.007, h-1km±5km, ML2.9/41, ML3.0/32(NEIC), Error ellipse: s-maj=1.0km s-min=0.9km az=76.0*
NEIC 25 12:38:50.6±0.7, 19°.419N±0°.007×155°.590W±0°.009, h5km±1km, Error ellipse: s-maj=3.0km s-min=1.3km az=118.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Mokuaweoweo**	**0.07**	**354**		Pg	12 38 52.1	-0.5
MWH	**Mokuaweoweo**	**0.07**	**354**		Sg	12 38 53.6	-0.4
MWH	**Mokuaweoweo**	**0.07**	**354**	IAML		12 38 52.9	
	comp=N,3µm,0.3s						
MWH				IAML		12 38 53.4	
	comp=E,4µm,0.6s						
ALEP	**Alea Permanent**	**0.13**	**337**		Pg	12 38 53.3	-0.2
ALEP					Sg	12 38 55.6	+0.2
AIN	**Ainahou**	**0.13**	**111**		Pg	12 38 54.1	+0.7
AIN	**Ainahou**	**0.13**	**111**	IAML		12 38 57.5	
	comp=E,6µm,0.4s						
AIN				IAML		12 38 57.6	
	comp=N,6µm,0.5s						
KHU	**Kahuku**	**0.17**	**188**		Pg	12 38 54.2	0.0
KHU					Sg	12 38 57.0	+0.5
MLH	**Mauna Loa**	**0.21**	**69**		Pg	12 38 55.2	+0.5
MLH	**Mauna Loa**	**0.21**	**69**	IAML		12 38 59.7	
	comp=N,4µm,0.6s						
MLH				IAML		12 38 59.7	
	comp=E,3µm,0.4s						
HMH	**Humu'ula Sheep**	**0.21**	**29**		Pg	12 38 55.0	+0.1
HMH					Sg	12 38 58.5	+0.9
HMH	**Humu'ula Sheep**	**0.21**	**29**	IAML		12 38 58.9	
	comp=E,2µm,0.7s						
HMH				IAML		12 38 59.0	
	comp=N,2µm,0.5s						
HTC	**Hot Caves**	**0.26**	**135**		Pg	12 38 55.8	+0.2
WRMHI	**West Rim**	**0.27**	**93**		Pg	12 38 56.3	+0.3
WRMHI					Sg	12 39 01.2	+1.6
UWE	**Uwekahuna**	**0.28**	**90**		Pg	12 38 56.4	+0.3
UWE	**Uwekahuna**	**0.28**	**90**	IAML		12 39 04.8	
	comp=E,3µm,0.4s						
UWE				IAML		12 39 04.9	
	comp=N,3µm,0.3s						
SDHHI	**Sand Hill**	**0.28**	**96**		Pg	12 38 56.4	+0.2
OBL	**Observatory Le**	**0.29**	**90**		Pg	12 38 56.4	+0.2
OBL					Sg	12 39 01.5	+1.4
HLP	**Hilina Pali**	**0.29**	**115**		Pg	12 38 56.7	+0.4
HLP	**Hilina Pali**	**0.29**	**115**	IAML		12 39 04.0	
	comp=N,3µm,0.6s						
HLP				IAML		12 39 04.1	
	comp=E,4µm,0.6s						
UWB	**Uwekahuna Bluf**	**0.29**	**89**		Pg	12 38 56.5	+0.2
UWB					Sg	12 39 01.1	+0.7
RSD	**Rainshed**	**0.30**	**82**		Pg	12 38 56.8	+0.4
RSD					Sg	12 39 01.8	+1.3
RIM	**Rim**	**0.30**	**95**		Pg	12 38 56.7	+0.2
RIM					Sg	12 39 01.2	+0.8
SBLHI	**Steaming Bluff**	**0.30**	**89**		Pg	12 38 56.6	+0.1
SBLHI					Sg	12 39 01.0	+0.4
KKO	**Keanakako'i**	**0.31**	**94**		Pg	12 38 56.8	+0.2
KKO					Sg	12 39 02.0	+1.3
HATHI	**Halema'uma'u T**	**0.31**	**89**		Pg	12 38 56.8	+0.1
HATHI					Sg	12 39 01.9	+1.1
HATHI	**Halema'uma'u T**	**0.31**	**89**	IAML		12 39 07.9	
	comp=N,2µm,0.7s						
HATHI				IAML		12 39 08.0	
	comp=E,2µm,0.5s						
BYL	**Byron's Ledge**	**0.31**	**91**	IAML		12 39 04.9	
	comp=N,1µm,0.6s						
BYL				IAML		12 39 08.2	
	comp=E,2µm,0.5s						
CPH	**Captain Cook**	**0.32**	**283**		Pg	12 38 56.8	0.0
KHLU	**Kahalu`u**	**0.33**	**301**		Pg	12 38 57.2	0.0
KHLU					Sg	12 39 03.1	+1.5
KHLU	**Kahalu`u**	**0.33**	**301**	IAML		12 39 04.0	
	comp=N,3µm,0.2s						
KHLU				IAML		12 39 07.5	
	comp=E,6µm,0.5s						
POHA	**Pohakuloa**	**0.34**	**9**		Pg	12 38 57.2	-0.2
POHA					Sb	12 39 03.9	-1.3
POHA	**Pohakuloa**	**0.34**	**9**	IAML		12 39 06.8	
	comp=E,881nm,0.5s						
POHA				IAML		12 39 08.6	
	comp=E,2µm,0.8s						
HUH	**Hualalai**	**0.35**	**319**		Pg	12 38 58.1	+0.6
HUH	**Hualalai**	**0.35**	**319**	IAML		12 39 05.2	
	comp=N,3µm,0.6s						
HUH				IAML		12 39 08.6	
	comp=E,3µm,0.5s						
PUH	**Pauahi**	**0.36**	**97**		Pg	12 38 57.4	-0.1
PUH					Sg	12 39 02.9	+0.7
PUH	**Pauahi**	**0.36**	**97**	IAML		12 39 04.3	
	comp=N,997nm,0.6s						
PUH				IAML		12 39 10.0	
	comp=E,1µm,0.8s						
KNHH	**Kane Nui o Ham**	**0.40**	**96**		Pg	12 38 58.1	-0.3
STCH	**Steam Cracks**	**0.44**	**94**		Pg	12 38 58.7	-0.5
NPOC	**North of Pu'u**	**0.45**	**93**		Pg	12 38 59.0	-0.5
NPOC					Sb	12 39 06.8	-1.5
JCUZ	**Jacuzzi**	**0.46**	**94**		Pg	12 38 59.6	+0.1
JCUZ					Sg	12 39 06.8	+1.2
JOKA	**Jonika Flow**	**0.55**	**88**		Pg	12 39 00.5	-0.7
JOKA					Sg	12 39 08.8	+0.3
HPAH	**Hawaii Prepara**	**0.62**	**351**		Pg	12 39 01.4	-1.1
HPAH					Sg	12 39 09.5	-1.1

IDC 25 12:44:08.4±3.7, 4°35S×153°15E, h0km, mb3.3/2, mbtmp3.3/2, MS3.2/1, Error ellipse: s-maj=168.5km s-min=48.7km az=121.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.00**	**228**	P	P	12 49 25.0	-0.1
	0.6nm,0.5s,baz=53,slow=10.0,SNR=14 0.6nm,0.5s						
ASAR	**Alice Springs**	**26.71**	**222**	P	P	12 49 50.1	+0.4
	0.3nm,0.8s,baz=59,slow=9.1,SNR=8.0						
ASAR				LR	LR	12 59 51.2	
	comp=Z,54nm,21.2s,baz=3.5,slow=35 0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.50**	**289**	PKPbc	PKPbc	13 04 02.5	-0.7
	0.2nm,0.4s,baz=60,slow=3.0,SNR=4.7						

IDC 25 12:45:36.4±2.4, 9°68S×154°38E, h0km, mb3.7/5, mbtmp3.7/5, MS2.9/6, Error ellipse: s-maj=85.4km s-min=25.0km az=114.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.50**	**88**	LR	LR	12 48 47.2	
	comp=Z,63nm,18.1s,baz=77,slow=35						
PMG	**Port Moresby**	**7.12**	**272**	LR	LR	12 49 24.7	
	comp=Z,35nm,19.1s,baz=143,slow=32						
DZM	**Mont Dzumac**	**16.91**	**138**	LR	LR	12 54 12.6	
	comp=Z,96nm,19.6s,baz=285,slow=30						
WRA	**Warramunga Arr**	**21.87**	**240**	P	P	12 50 31.6	+0.6
	0.8nm,0.8s,baz=64,slow=10,SNR=3.1 0.8nm,0.8s						
ASAR	**Alice Springs**	**24.00**	**232**	P	P	12 50 52.2	-0.7
	0.7nm,0.8s,baz=60,slow=9.2,SNR=5.1 0.7nm,0.8s						
GUMO	**Guam**	**24.97**	**338**	LR	LR	12 59 19.0	
	comp=Z,16nm,20.5s,baz=142,slow=33						
STKA	**Stephens Creek**	**25.07**	**206**	P	P	12 51 02.7	+0.1
	3.0nm,0.9s,baz=36,slow=12,SNR=3.8						
STKA				LR	LR	13 00 05.3	
	comp=Z,78nm,18.4s,baz=28,slow=35 3.0nm,0.9s						
ASAJ	**Asahikawa**	**54.59**	**350**	LR	LR	13 17 02.5	
	comp=Z,13nm,18.9s,baz=172,slow=34						
PETK	**Petropavlovsk-**	**62.60**	**2**	P	P	12 56 01.9	-0.3
	2.5nm,0.9s,baz=177,slow=8.5,SNR=4.5 2.5nm,0.9s						
SONM	**Songino Array**	**71.26**	**328**	P	P	12 56 58.2	+0.5
	0.7nm,0.6s,baz=129,slow=6.1,SNR=3.9 0.7nm,0.6s						

IDC 25 12:54:23.5±9.5, 21°.91N×142°.13E, h370km±83km, mb3.1/5, mbtmp3.7/6, Error ellipse: s-maj=134.8km s-min=24.2km az=77.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**19.77**	**325**	P	P	12 58 27.3	-0.3
	0.6nm,0.5s,baz=147,slow=8.4,SNR=4.7						
WRA	**Warramunga Arr**	**42.29**	**191**	P	P	13 01 42.2	-0.3
	0.3nm,0.7s,baz=8.6,slow=7.7,SNR=2.9 0.3nm,0.7s						
MKAR	**Makanchi Array**	**53.83**	**313**	P	P	13 03 09.5	0.0
	0.3nm,0.7s,baz=82,slow=10,SNR=2.0 0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**56.70**	**317**	P	P	13 03 29.5	-0.1
	0.7nm,0.2s,baz=97,slow=8.1,SNR=4.0 0.7nm,0.2s						
BVAR	**Borovoye Array**	**61.87**	**319**	P	P	13 04 05.0	+0.4
	1.0nm,0.3s,baz=99,slow=8.3,SNR=5.9 1.0nm,0.3s						
FINES	**FINESS Array B**	**82.56**	**334**	P	P	13 06 05.4	-0.2
	0.4nm,0.3s,baz=50,slow=7.2,SNR=6.0 0.4nm,0.3s						

*SJA **25** 12:55:19.9±0.7, 21°.08S×67°.15W, h212km±6km, ML3.8, MW3.7*
*SCB **25** 12:55:22.8±1.1, 21°.16S×67°.23W, h186km±8km, ML3.9/3, MW3.3, Error ellipse: s-maj=3.6km s-min=3.1km az=0.0*
*IDC **25** 12:55:24.0±1.9, 20°.93S×66°.84W, h211km±20km, mb3.5/5, mbtmp3.9/8, Error ellipse: s-maj=29.0km s-min=15.6km az=109.0*
ISC 25 12:55:21.5±0.7, 21°.06S±0°.04×67°.18W±0°.04, h195km±7km, n58, σ1s60/81, mb3.7/4, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.45**	**98**	Pg	**Pn**	**12 55 56.3**	**+1.4**
MOCB				Sg	**Sn**	**12 56 20.8**	**+0.2**
YJA	**Yavi**	**1.91**	**126**	*e*P	**Pn**	**12 56 00.3**	**+1.1**
YJA				*e*S	**Sn**	**12 56 28.8**	**+0.4**
YJA	**Yavi**	**1.91**	**126**	Pg	**Pn**	**12 56 00.6**	**+1.4**
PB09	**IPOC Station P**	**2.06**	**249**	*e*P	**Pn**	**12 56 01.9**	**+1.5**
PB09	**IPOC Station P**	**2.06**	**249**	*e*P	**Pn**	**12 56 01.6**	**+1.2**
PB09	**IPOC Station P**	**2.06**	**249**	Pg	**Pn**	**12 56 01.4**	**+1.0**
AF01	**San Pedro de A**	**2.10**	**206**	*e*P	Pn	12 56 12.7	+12
PB01	**IPOC Station P**	**2.16**	**270**	*e*P	**Pn**	**12 56 02.1**	**+0.7**
PB01				*i* S	**Sn**	**12 56 32.3**	**-0.1**
PB01				IAML		12 56 34.5	
	comp=E,290nm,0.2s						
PB01	**IPOC Station P**	**2.16**	**270**	*e*P	**Pn**	**12 56 01.7**	**+0.3**
PB01				*e*S	**Sn**	**12 56 33.3**	**+0.9**
PB01				IAML		12 56 36.2	
	comp=Z,168nm,0.2s						
PB01	**IPOC Station P**	**2.16**	**270**	Pg	**Pn**	**12 56 01.7**	**+0.3**
PB01				Sg	**Sn**	**12 56 31.8**	**-0.6**
PB01				IAML		12 56 34.6	
	comp=Z,302nm,0.2s						
GO01	**Chusmiza**	**2.34**	**306**	*e*P	**Pn**	**12 56 05.3**	**+1.4**
GO01	**Chusmiza**	**2.34**	**306**	Pg	**Pn**	**12 56 05.7**	**+1.8**
PB02	**IPOC Station P**	**2.55**	**264**	*e*P	**Pn**	**12 56 06.1**	**+0.3**
PB02				*i* S	**Sn**	**12 56 38.9**	**-1.4**
PB02				IAML		12 56 41.5	
	comp=N,451nm,0.4s						
PB02	**IPOC Station P**	**2.55**	**264**	*e*P	**Pn**	**12 56 06.2**	**+0.5**
PB02				*e*S	**Sn**	**12 56 39.9**	**-0.3**
PB02				IAML		12 56 41.6	
	comp=Z,575nm,0.4s						
PB02	**IPOC Station P**	**2.55**	**264**	Pg	**Pn**	**12 56 06.3**	**+0.5**
PB02				Sg	**Sn**	**12 56 39.6**	**-0.6**
PB02				IAML		12 56 44.1	
	comp=Z,327nm,0.4s						
SOEO	**Opoqueri**	**2.57**	**345**	Pg	**Pn**	**12 56 08.7**	**+2.2**
PB03	**IPOC Station P**	**2.59**	**247**	*e*P	**Pn**	**12 56 06.8**	**+0.5**
PB03				*i* S	**Sn**	**12 56 40.0**	**-1.1**
PB03				IAML		12 56 40.9	
	comp=E,200nm,0.3s						
PB03	**IPOC Station P**	**2.59**	**247**	*e*P	**Pn**	**12 56 06.8**	**+0.5**
PB03				IAML		12 56 43.7	
	comp=Z,128nm,0.3s						
PB03	**IPOC Station P**	**2.59**	**247**	Pg	**Pn**	**12 56 07.2**	**+0.9**
HMBC	**Humberstone**	**2.65**	**287**	*e*P	**Pn**	**12 56 07.2**	**+0.2**
HMBC				*i* S	**Sn**	**12 56 41.7**	**-0.7**
HMBC	**Humberstone**	**2.65**	**287**	*e*P	**Sn**	**12 56 07.2**	**+0.2**
HMBC				*e*S	**Sn**	**12 56 42.1**	**-0.3**
HMBC				IAML		12 56 43.1	
	comp=Z,246nm,0.3s						
HMBC	**Humberstone**	**2.65**	**287**	Pg	**Pn**	**12 56 07.3**	**+0.2**
PB11	**IPOC Station P**	**2

comp=Z,1.5nm,0.3s,baz=123,slow=4.5,SNR=6.9
LPAZ S **Sn** **12 57 31.4 -0.1**
comp=Z,7.9nm,1.2s,baz=343,slow=11,SNR=3.9
LPAZ La Paz 4.83 349 Pg **Pn** **12 56 36.4 +2.1**
BBOB La Paz, Bander 4.98 349 Pg **Pn** **12 56 38.2 +2.1**
SIV San Ignacio 7.68 50 P **Pn** **12 57 09.0 -1.7**
comp=Z,5.9nm,0.4s,baz=245,slow=9.5,SNR=20
SIV S **Sn** **12 58 30.5 -6.9**
comp=Z,1.8nm,0.4s,baz=144,slow=21,SNR=7.2
PLCA Paso Flores 19.82 188 P **Pn** **12 59 40.8 -0.6**
comp=Z,1.5nm,0.7s,baz=346,slow=9.8,SNR=7.1
SNAA Sanae 62.17 161 P **P** **13 05 22.1 +0.3**
comp=Z,1.0nm,1.0s,baz=311,slow=9.3,SNR=5.3
comp=Z,1.0nm,1.0s
DBIC Dimbokro 67.06 73 P **P** **13 05 53.0 -1.3**
comp=Z,3.0nm,0.6s,baz=304,slow=7.3,SNR=4.6
comp=Z,3.0nm,0.6s
QSPA South Pole Qui 69.13 180 P **P** **13 06 08.3 +1.8**
comp=Z,2.1nm,1.0s,baz=162,slow=20,SNR=7.2
comp=Z,2.1nm,1.0s
PDAR Pinedale Array 74.55 329 P **P** **13 06 40.3 +1.2**
comp=Z,0.2nm,0.4s,baz=111,slow=4.6,SNR=2.7
comp=Z,0.2nm,0.4s
TORD Torodi Ar. Bea 75.69 70 P **P** **13 06 44.8 -1.1**
comp=Z,1.3nm,0.4s,baz=250,slow=5.3,SNR=20
comp=Z,1.3nm,0.4s
MKAR Makanchi Array 144.33 37 PKP **PKPdf** **13 14 33.5 -0.9**
comp=Z,0.2nm,0.4s,baz=279,slow=2.8,SNR=2.3

NEIC ***25*** *12:56:20.6±0.6,35°.842N±0°.009×98°.08W±0°.01,h7km±4km, Error ellipse: s-maj=1.5km s-min=1.0km az=220.0*

NEIC 25 12:56:20.6±0.5,35°.847N±0°.010×98°.07W±0°.01,h5km±1km, mb_Lg2.3/24,ML2.5/53,ML2.4/29, Error ellipse: s-maj=2.7km s-min=1.7km az=317.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BCOK	**Bluff Creek, N**	**0.42**	**117**			Pg		12 56 28.9	+0.3
BCOK						Sg		12 56 35.1	+1.0
OK029	**Liberty Lake**	**0.50**	**96**			Pg		12 56 30.6	+0.4
OK029						Sg		12 56 37.8	+1.0
CSTR	**Hydro, Custer**	**0.54**	**248**			Pg		12 56 31.4	+0.4
CSTR						Sg		12 56 38.9	+0.9
OK004	**Okla Sci Mus**	**0.58**	**124**			Pg		12 56 32.0	+0.3
OK004						Sg		12 56 40.3	+0.9
CROK	**Carrier**	**0.66**	**6**			Pg		12 56 33.5	+0.3
CROK						Sg		12 56 42.4	+0.6
CROK				IAML				12 56 43.1	
	comp=E,200nm,0.3s								
CROK				IAML				12 56 45.6	
	comp=N,202nm,0.3s								
OKCSW	**OKLAHOMA CITY**	**0.68**	**130**	Sg		Sg		12 56 42.8	+0.4
FNO	**Franklin**	**0.80**	**137**			Pg		12 56 35.7	-0.3
FNO				IAML				12 56 52.6	
	comp=E,165nm,0.6s								
OK038	**West end E0370**	**0.83**	**319**			Pg		12 56 36.6	+0.1
OK038						Sg		12 56 47.9	+0.5
GC02	**Grant County #**	**1.02**	**10**			Pg		12 56 39.6	-0.4
OK052	**Battle Ridge R**	**1.04**	**82**			Pg		12 56 40.1	-0.4
OK052				IAML				12 57 01.2	
	comp=E,114nm,0.3s								
OK052				IAML				12 57 01.6	
	comp=E,108nm,0.2s								
KAN14	**Manchester OK**	**1.11**	**4**			Pg		12 56 41.4	-0.5
KAN14						Sg		12 56 56.6	+0.3
KAN14				IAML				12 57 02.4	
	comp=N,114nm,0.1s								
KAN14				IAML				12 57 04.9	
	comp=E,108nm,0.2s								
ELIS	**Ellis County**	**1.11**	**282**			Pg		12 56 41.7	-0.2
ELIS						Sb		12 56 56.9	-0.3
ELIS				IAML				12 57 01.3	
	comp=E,154nm,0.2s								
BLOK	**Blackwell**	**1.14**	**37**			Pg		12 56 42.2	-0.3
BLOK						Sb		12 56 57.8	-0.2
QUOK	**Quay**	**1.15**	**73**			Pg		12 56 42.1	-0.5
QUOK						Sb		12 56 58.1	-0.1
QUOK				IAML				12 57 01.9	
	comp=N,116nm,0.4s								
QUOK				IAML				12 57 01.9	
	comp=E,144nm,0.2s								
KAN17	**Caldwell West**	**1.22**	**12**			Pg		12 56 43.4	-0.5
WMOK	**Wichita Mounta**	**1.25**	**208**			Pg		12 56 43.2	-1.4
X34A	**Smith Ranch, M**	**1.26**	**171**			Pg		12 56 44.5	-0.2
X34A				IAML				12 57 03.3	
	comp=E,109nm,0.2s								
X34A				IAML				12 57 10.5	
	comp=N,66nm,0.3s								
DEOK	**Depew**	**1.28**	**90**			Pg		12 56 44.0	-1.1
DEOK				IAML				12 57 05.2	
	comp=N,81nm,0.2s								
DEOK				IAML				12 57 07.3	
	comp=E,114nm,0.2s								
KAN01	**Argonia South**	**1.33**	**11**			Pn		12 56 45.1	-0.7
T35A	**Sooner Cattle**	**1.65**	**49**			Pn		12 56 50.6	+0.4
SMWD	**Samonrwood**	**1.92**	**248**			Pn		12 56 54.3	+0.3
LOOK	**Love County**	**1.99**	**158**			Pn		12 56 55.1	+0.2
WTFS	**Witchita Falls**	**2.10**	**189**			Pn		12 56 57.2	+0.8
RLO	**Rose Lookout**	**2.49**	**82**			Pn		12 57 03.3	+1.5
Z35A	**Perchaven, San**	**2.60**	**165**	IAmb_Lg				12 57 45.3	
	comp=Z,8.1nm,0.7s								
AMTX	**Amarillo**	**3.10**	**253**	IAmb_Lg				12 57 59.4	
	comp=Z,10nm,0.8s								
DKNS	**Dickens**	**3.20**	**228**	IAmb_Lg				12 58 09.1	
	comp=Z,7.3nm,0.8s								
CBKS	**Cedar Bluff**	**3.25**	**336**	IAmb_Lg				12 58 07.1	
	comp=Z,12nm,0.8s								
HHAR	**Hobbs**	**3.37**	**81**	IAmb_Lg				12 58 10.7	
	comp=Z,8.0nm,0.9s								
MIAR	**Mount Ida**	**3.90**	**108**	IAmb_Lg				12 58 30.0	
	comp=Z,6.5nm,0.7s								
POST	**Post**	**3.97**	**227**	IAmb_Lg				12 58 32.2	
	comp=Z,8.6nm,0.8s								
X40A	**Basin Creek Fa**	**4.50**	**106**	IAmb_Lg				12 58 47.7	
	comp=Z,6.9nm,0.8s								
MGMO	**Mountain Grove**	**4.85**	**73**	IAmb_Lg				12 58 54.4	
	comp=Z,5.1nm,0.8s								
R40A	**Maddies Statio**	**5.24**	**61**	IAmb_Lg				12 59 14.4	
	comp=Z,5.4nm,0.9s								
T25A	**Trinidad**	**5.27**	**286**	IAmb_Lg				12 59 18.9	
	comp=Z,5.9nm,1.0s								
CCM	**Cathedral Cave**	**5.89**	**66**	IAmb_Lg				12 59 30.6	
	comp=Z,5.7nm,0.8s								

IDC ***25*** *13:25:43.3±2.8, 13°.15S×167°.00E, h206km±24km, mb3.8/9, mbtmp4.3/10, MS3.7/3, Error ellipse: s-maj=21.5km s-min=15.8km az=97.0*

NOU ***25*** *13:25:43.3, 13°.05S×167°.23E, h211km, mb4.4/19, Vanuatu Islands*

NEIC ***25*** *13:25:43.2±2.4, 13°.1S±0°.1×167°.0E±0°.2, h212km±9km, mb4.4/26, Error ellipse: s-maj=23.9km s-min=18.4km az=94.0*

ISC 25 13:25:42.2±0.6,13°.14S±0°.07×167°.1E±0°.1,h200km,n118, σ1§35/117,mb4.3/23,3D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
LUES	**Luesalemba Tem**	**2.70**	**336**	P		**Pn**		**13 26 28.4**	**-0.1**
VLAKA	**Lakatoro**	**2.97**	**173**	P		**Pn**		**13 26 32.7**	**+1.2**
HURO	**Huro Makira**	**5.70**	**297**	P		Pn		13 27 08.8	+3.2
NGOA	**Tingoa Renbel**	**7.00**	**282**	P		Pn		13 27 27.6	+5.0
ALEG	**Aligegeo Malai**	**7.61**	**304**	P		Pn		13 27 33.5	+3.0
SAVO	**Savo Central**	**8.13**	**298**	P		**Pn**		**13 27 39.9**	**+2.6**
YATNC	**Mamie plateau,**	**8.87**	**181**	P		**Pn**		**13 27 49.7**	**+2.9**
DZM	**Mont Dzumac**	**8.90**	**184**	Pn		**Pn**		**13 27 48.4**	**+1.1**
DZM	**Mont Dzumac**	**8.90**	**184**	P		**Pn**		**13 27 49.2**	**+1.9**
	3.4nm,0.3s,baz=53,slow=15,SNR=15								
DZM				S		**Sn**		**13 29 26.1**	**-1.1**
	3.5nm,0.6s,baz=324,slow=19,SNR=1.2								
DZM				LR		LR		13 31 06.7	
	comp=Z,136nm,18.1s,baz=195,slow=36								
DZM	**Mont Dzumac**	**8.90**	**184**	P		**Pn**		**13 27 49.6**	**+2.3**
ONTNC	**Ouen Toro**	**9.13**	**183**	Pn		**Pn**		**13 27 50.6**	**+0.4**
EIDS	**Eidsvold**	**19.34**	**229**	P		**P**		**13 29 53.1**	**+0.5**
CTAO	**Charters Tower**	**21.07**	**248**	P		**P**		**13 30 08.0**	**-3.2**
CTAO				IAmb		IAmb		13 30 22.5	
	comp=Z,18nm,1.4s								
ARMA	**Armidale**	**22.33**	**217**	P		**P**		**13 30 21.6**	**-2.1**
ARMA				IAmb		IAmb		13 30 25.0	
	comp=Z,7.3nm,0.8s								
ARMA	**Armidale**	**22.33**	**217**	P		**P**		**13 30 24.7**	**+1.0**
OUZ	**Omahuta**	**22.77**	**166**	P		**P**		**13 30 29.1**	**+1.7**
OUZ	**Omahuta**	**22.77**	**166**	P		**P**		**13 30 29.1**	**+1.7**
WCZ	**Waipu Caves**	**23.63**	**165**	P		**P**		**13 30 36.5**	**+1.2**
TOZ	**Tahuroa Road**	**25.62**	**164**	P		**P**		**13 30 54.6**	**+1.3**
TOZ				IAmb		IAmb		13 30 55.1	
	comp=Z,12nm,0.9s								
TOZ	**Tahuroa Road**	**25.62**	**164**	P		**P**		**13 30 55.1**	**+1.8**
OPRZ	**Ohinepanea**	**26.02**	**163**	P		**P**		**13 30 58.0**	**+1.1**
NGRZ	**Ngongotaha**	**26.16**	**163**	P		**P**		**13 31 01.2**	**+3.1**
TLZ	**Tolley Road**	**26.20**	**165**	P		**P**		**13 31 00.6**	**+2.1**
HIZ	**Hauiti**	**26.20**	**166**	P		**P**		**13 31 00.2**	**+1.7**
HIZ	**Hauiti**	**26.20**	**166**	P		**P**		**13 31 00.5**	**+2.0**
OMRZ	**Omania**	**26.21**	**163**	P		**P**		**13 31 00.3**	**+1.7**
HAZ	**Te Kaha**	**26.32**	**161**	P		**P**		**13 31 00.2**	**+0.7**
RUGZ	**Raukumara Rang**	**26.47**	**161**	P		**P**		**13 31 01.2**	**+0.1**
URZ	**Urewera**	**26.57**	**162**	P		**P**		**13 31 02.2**	**+0.4**
URZ	**Urewera**	**26.57**	**162**	P		**P**		**13 31 01.5**	**-0.3**
MUGZ	**Murupara**	**26.67**	**163**	P		**P**		**13 31 03.7**	**+1.0**
PUZ	**Puketiti**	**26.76**	**160**	P		**P**		**13 31 02.4**	**-1.1**
TWGZ	**Tauwhareparae**	**26.76**	**161**	P		**P**		**13 31 03.0**	**-0.6**
MWZ	**Matawai**	**26.77**	**161**	P		**P**		**13 31 03.6**	**0.0**
VRZ	**Vera Road**	**26.77**	**167**	P		**P**		**13 31 05.6**	**+2.1**
CMSA	**Cobar Meteorol**	**26.84**	**224**	P		**P**		**13 31 04.5**	**+0.2**
RTZ	**Ruatahuna**	**26.86**	**163**	P		**P**		**13 31 04.5**	**+0.1**
RTZ	**Ruatahuna**	**26.86**	**163**	P		**P**		**13 31 04.8**	**+0.3**
TMVZ	**Te Maari**	**26.98**	**165**	P		**P**		**13 31 07.8**	**+2.2**
NGZ	**Ngauruhoe**	**27.01**	**165**	P		**P**		**13 31 09.1**	**+3.2**
MTHZ	**Maungataniwha**	**27.04**	**163**	P		**P**		**13 31 06.6**	**+0.6**
TUVZ	**Tukino**	**27.11**	**165**	P		**P**		**13 31 09.3**	**+2.5**
RAHZ	**Arahi**	**27.17**	**163**	P		**P**		**13 31 07.7**	**+0.5**
BKZ	**Black Stump Fm**	**27.23**	**164**	P		**P**		**13 31 07.7**	**-0.1**
BKZ	**Black Stump Fm**	**27.23**	**164**	P		**P**		**13 31 07.8**	**0.0**
BKZ	**Black Stump Fm**	**27.23**	**164**	P		**P**		**13 31 07.8**	**0.0**
CNB	**Canberra Magne**	**27.25**	**213**	P		**P**		**13 31 08.5**	**+0.5**
WAZ	**Wanganui**	**27.42**	**167**	P		**P**		**13 31 11.9**	**+2.5**
CAN	**Canberra**	**27.45**	**213**	P		**P**		**13 31 10.3**	**+0.6**
TSZ	**Takapari Road**	**27.94**	**165**	P		**P**		**13 31 13.9**	**-0.1**
QRZ	**Quartz Range**	**27.99**	**171**	P		**P**		**13 31 16.8**	**+2.4**
QRZ	**Quartz Range**	**27.99**	**171**	P		**P**		**13 31 16.9**	**+2.5**
PXZ	**Pawanui**	**28.14**	**164**	P		**P**		**13 31 15.7**	**-0.1**
MRZ	**Mangatainoka R**	**28.42**	**166**	P		**P**		**13 31 18.1**	**-0.1**
NNZ	**Nelson**	**28.51**	**170**	P		**P**		**13 31 20.5**	**+1.5**
BFZ	**Birch Farm**	**28.60**	**165**	P		**P**		**13 31 19.5**	**-0.3**
BFZ	**Birch Farm**	**28.60**	**165**	P		**P**		**13 31 19.0**	**-0.8**
DSZ	**Denniston Nort**	**28.80**	**173**	P		**P**		**13 31 25.2**	**+3.6**
SNZO	**South Karori**	**28.85**	**168**	P		**P**		**13 31 22.0**	**0.0**
THZ	**Tophouse**	**28.97**	**171**	P		**P**		**13 31 24.0**	**+0.9**
MSWZ	**Moikau Station**	**29.07**	**167**	P		**P**		**13 31 23.1**	**-0.9**
KHZ	**Kahutara**	**29.71**	**170**	P		**P**		**13 31 29.2**	**-0.3**
INZ	**Inchbonnie**	**29.72**	**173**	P		**P**		**13 31 30.4**	**+0.8**
LTZ	**Lake Taylor**	**29.88**	**172**	P		**P**		**13 31 31.4**	**+0.3**
STKA	**Stephens Creek**	**29.88**	**227**	P		**P**		**13 31 31.9**	**+0.6**
	comp=Z,7.0nm,0.5s,baz=52,slow=9.9,SNR=33								
STKA				PcP		**PcP**		**13 34 28.5**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=49,slow=3.1,SNR=6.6								
	comp=Z,7.0nm,0.5s								
WVZ	**Waitaha Valley**	**30.00**	**175**	P		**P**		**13 31 33.2**	**+1.2**
GVZ	**Greta Valley S**	**30.17**	**171**	P		**P**		**13 31 31.9**	**-1.7**
GVZ	**Greta Valley S**	**30.17**	**171**	P		**P**		**13 31 32.4**	**-1.2**
FOZ	**Fox Glacier**	**30.38**	**176**	P		**P**		**13 31 36.2**	**+0.8**
OXZ	**Oxford**	**30.38**	**173**	P		**P**		**13 31 37.0**	**+1.5**
RPZ	**Rata Peaks**	**30.66**	**174**	P		**P**		**13 31 38.8**	**+0.9**
MQZ	**McQueen's Vall**	**30.84**	**172**	P		**P**		**13 31 39.7**	**+0.2**
JCZ	**Jackson Bay**	**30.86**	**178**	P		**P**		**13 31 41.2**	**+1.4**
TOO	**Toolangi**	**31.01**	**215**	P		**P**		**13 31 37.7**	**-3.4**
TOO				IAmb		IAmb		13 31 42.4	
	comp=Z,4.1nm,0.8s								
LBZ	**Lake Benmore**	**31.25**	**176**	P		**P**		**13 31 43.5**	**+0.4**
TMZ	**Timaru**	**31.32**	**175**	P		**P**		**13 31 42.3**	**-1.4**
WKZ	**Wanaka**	**31.62**	**177**	P		**P**		**13 31 48.7**	**+2.3**
WR8	**Warramunga Arr**	**31.89**	**253**	P		**P**		**13 31 47.3**	**-1.7**
WR8				IAmb		IAmb		13 32 16.8	
	comp=Z,8.7nm,1.4s								
ODZ	**Otahua Downs**	**31.94**	**175**	P		**P**		**13 31 50.4**	**+1.3**
WB0	**Warramunga Arr**	**31.96**	**254**	P		**P**		**13 31 49.1**	**-0.6**
WRA	**Warramunga Arr**	**32.03**	**253**	P		P		13 31 44.6	-5.8
WRA	**Warramunga Arr**	**32.03**	**253**	P		**P**		**13 31 49.6**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=85,slow=9.3,SNR=8.4								
	comp=Z,0.7nm,0.5s								
EAZ	**Earnscleugh**	**32.04**	**177**	P		**P**		**13 31 50.3**	**+0.3**
WHZ	**Wether Hill Ro**	**32.65**	**179**	P		**P**		**13 31 55.5**	**+0.2**
TUZ	**Tuapeka**	**32.78**	**177**	P		**P**		**13 31 57.3**	**+0.9**
ASAR	**Alice Springs**	**33.06**	**247**	P		**P**		**13 31 58.6**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=77,slow=9.4,SNR=16								
ASAR				PcP		**PcP**		**13 34 37.8**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=84,slow=2.8,SNR=5.6								
ASAR				ScP		**ScP**		**13 38 03.9**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=88,slow=3.8,SNR=4.3								
	comp=Z,1.4nm,0.6s								
BBOO	**Buckleboo**	**34.40**	**230**	P		**P**		**13 32 10.8**	**+0.1**
BBOO				IAmb		IAmb		13 32 42.9	
	comp=Z,27nm,1.4s								
KNRA	**Kununurra**	**37.13**	**261**	P		**P**		**13 32 34.0**	**0.0**
KNRA				IAmb		IAmb		13 32 35.8	
	comp=Z,20nm,1.4s								
FORT	**Forrest**	**39.94**	**238**	P		**P**		**13 32 57.3**	**0.0**
FORT				IAmb		IAmb		13 32 58.0	
	comp=Z,14nm,0.7s								
BATI	**Baumata**	**42.55**	**269**	LR		LR		13 50 03.7	
	comp=Z,232nm,18.4s,baz=96,slow=34								
MBWA	**Marble Bar**	**45.77**	**253**	P		**P**		**13 33 43.7**	**-0.5**
NWAO	**Narrogin (SRO)**	**49.39**	**238**	P		**P**		**13 34 10.1**	**-1.7**
MORW	**Morawa**	**49.77**	**243**	P		**P**		**13 34 14.6**	**-0.2**
MORW				IAmb		IAmb		13 34 41.9	
	comp=Z,25nm,1.4s								
LEM	**Lembang**	**58.76**	**270**	LR		LR		14 01 41.1	
	comp=Z,58nm,18.3s,baz=220,slow=37								
VNDA	**Vanda**	**64.43**	**181**	P		**P**		**13 35 57.1**	**+0.4**
VNDA				IAmb		IAmb		13 35 58.4	
	comp=Z,2.6nm,0.7s								
VNDA	**Vanda**	**64.43**	**181**	P		**P**		**13 35 56.9**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=351,slow=8.3,SNR=23								
	comp=Z,1.8nm,0.6s								
SBA	**Scott Base**	**64.71**	**180**	P		**P**		**13 35 59.2**	**+0.8**
SBA				IAmb		IAmb		13 36 01.6	
	comp=Z,3.7nm,0.8s								
CASY	**Casey**	**64.91**	**202**	P		**P**		**13 35 59.4**	**-0.5**
CASY				IAmb		IAmb		13 36 00.1	
	comp=Z,3.6nm,0.5s								
PETK	**Petropavlovsk-**	**66.47**	**354**	P		**P**		**13 36 11.4**	**+1.4**
	comp=Z,2.4nm,0.8s,baz=159,slow=8.9,SNR=5.0								
	comp=Z,2.4nm,0.8s								
CMAR	**Chiang Mai Arr**	**74.11**	**294**	P		**P**		**13 36 58.5**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=117,slow=4.6,SNR=4.7								
	comp=Z,0.5nm,0.3s								
QSPA	**South Pole Qui**	**76.88**	**180**	P		**P**		**13 37 12.9**	**+0.8**
QSPA	**South Pole Qui**	**76.88**	**180**	P		**P**		**13 37 12.8**	**+0.7**
	comp=Z,11nm,0.6s,baz=237,slow=0.4,SNR=131								
	comp=Z,11nm,0.6s								
CAST	**Castle Rocks**	**82.55**	**17**	P		**P**		**13 37 41.0**	**-1.3**
HDA	**Harding Lake**	**84.82**	**18**	P		**P**		**13 37 53.5**	**-0.3**
HDA				IAmb		IAmb		13 37 54.9	
	comp=Z,7.2nm,1.1s								
IL31		**85.09**	**18**	P		**P**		**13 37 53.2**	**-1.9**
ILAR	**Eielson Array**	**85.09**	**18**	P		**P**		**13 37 54.9**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=240,slow=5.2,SNR=25								
	comp=Z,1.5nm,0.6s								
J25K	**Salcha River,**	**85.45**	**19**			**P**		**13 37 56.4**	**-0.7**
J25K				IAmb		IAmb		13 37 58.3	
	comp=Z,2.6nm,0.6s								
TROLL	**Troll, Antarti**	**94.42**	**185**	⇓P		**P**		**13 38 38.4**	**-0.8**
	comp=Z,64nm,0.5s								
SNAA	**Sanae**	**95.11**	**183**	⇓P		**P**		**13 38 41.4**	**-0.9**
	comp=Z,16nm,0.5s								
VNA3	**Neumayer Olymp**	**95.79**	**181**	⇓P		**P**		**13 38 43.9**	**-1.4**
	comp=Z,1.0nm,0.4s								
MKAR	**Makanchi Array**	**95.91**	**317**	P		**P**		**13 38 46.7**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=90,slow=6.1,SNR=7.0								
	comp=Z,0.9nm,0.7s								
ARCES	**ARCESS Array B**	**118.67**	**346**	PKP		**PKiKP**		**13 44 05.8**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=78,slow=2.0,SNR=33								
FINES	**FINESS Array B**	**124.18**	**339**	PKP		**PKPdf**		**13 44 15.8**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=87,slow=2.6,SNR=8.1								
NB2	**NORSAR Subarra**	**129.04**	**345**	PKPdf		**PKiKP**		**13 44 26.0**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=31,slow=1.9								
NOA	**NORSAR Array B**	**129.04**	**345**	PKP		**PKPdf**		**13 44 25.5**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=34,slow=2.1,SNR=5.5								
HFS	**Hagfors**	**129.15**	**343**	PKP		**PKPdf**		**13 44 25.6**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=61,slow=6.8,SNR=2.4								
GERES	**GERESS Array B**	**138.14**	**334**	PKP		**PKiKP**		**13 44 45.2**	**-0.4**
	comp=Z,0.3nm,0.2s,baz=55,slow=7.3,SNR=2.1								
ESDC	**Sonseca Array**	**152.41**	**345**	PKPbc		**PKPbc**		**13 45 14.4**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=9.8,slow=2.7,SNR=10.0								
ESDC				PKPab		**PKPab**		**13 45 26.0**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=4.1,slow=5.3,SNR=4.5								

IDC ***25*** *13:36:54.9±0.6,2°.65S×138°.38E,h0km,mb4.1/13, mbtmp4.1/16,ML4.0/3,MS3.5/12,Error ellipse: s-maj=20.8km s-min=14.5km az=79.0*

DJA ***25*** *13:36:58.1±0.3,3°.3S±3°.×13°.8E±°,h10km,M4.5/12, mb4.6/12,mB5.1/2,MLv4.5/8,Mw(mB)4.4/2*

NEIC ***25*** *13:37:02.6±2.1,2°.86S±0°.06×138°.4E±0°.1, h58km±8km, mb4.4/16, Error ellipse: s-maj=16.5km s-min=8.1km az=102.0*

ISC 25 13:36:60.0±0.5,2°.66S±0°.05×138°.44E±0°.04,h32km,n74, σ1§50/68,mb4.3/21,MS3.5/10,2C,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SMPI	**Sarmi**	**0.71**	**22**	P		**Pn**		**13 37 10.3**	**-3.6**
GENI	**Genyem**	**1.73**	**88**	P		**Pn**		**13 37 28.8**	**+0.9**
JAY	**Jayapura**	**2.27**	**87**	Pn		**Pn**		**13 37 35.3**	**-0.1**
	24nm,0.3s,baz=231,slow=10,SNR=112								
JAY				Sn		**Sn**		**13 38 03.0**	**+0.7**
	21nm,0.3s,baz=42,slow=14,SNR=4.3								
JAY				LR		LR		13 38 33.3	
	comp=Z,459nm,20.1s,baz=226,slow=42								
	208nm,0.5s								
JAY	**Jayapura**	**2.27**	**87**	P		**Pn**		**13 37 35.2**	**-0.1**
SRPI	**Serui, Papua**	**2.33**	**290**	P		**Pn**		**13 37 34.5**	**-1.6**
SRPI				S		**Sn**		**13 38 05.8**	**+2.1**
BAKI	**Biak**	**2.75**	**302**	P		**Pn**		**13 37 42.5**	**+0.7**
RKPI	**Ransiki, Papua**	**4.41**	**285**	P		**Pn**		**13 38 04.2**	**-0.5**
FAKI	**Fak Fak**	**6.19**	**267**	Pn		**Pn**		**13 38 29.4**	**+0.2**
FAKI	**Fak Fak**	**6.19**	**267**	P		**Pn**		**13 38 30.5**	**+1.3**
	0.2nm52nm,1.1s								
PMG	**Port Moresby**	**10.96**	**128**	Pn		**Pn**		**13 39 36.8**	**+2.1**
	0.8nm,0.3s,baz=318,slow=15,SNR=4.6								
KDU	**Kakadu**	**11.58**	**210**	P		**Pn**		**13 39 41.8**	**-1.4**
COEN	**Coen**	**12.17**	**158**			**Pn**		**13 39 50.7**	**-0.5**
COEN	**Coen**	**12.17**	**158**	P		**Pn**		**13 39 51.1**	**-0.1**
MTN	**Manton Dam**	**12.44**	**215**	Pn		**Pn**		**13 39 54.4**	**-0.6**
MTN	**Manton Dam**	**12.44**	**215**	P		**Pn**		**13 39 54.1**	**-0.8**
SANI	**Sanana**	**12.45**	**273**	P		**Pn**		**13 39 55.7**	**+0.6**
	19nm,1.0s								
SOEI	**Soe**	**15.75**	**243**			**P**		**13 40 44.7**	**+1.3**
SOEI	**Soe**	**15.75**	**243**	P		**P**		**13 40 44.7**	**+1.3**
SOEI	**Soe**	**15.75**	**243**	P		**P**		**13 40 42.5**	**-0.9**
KNRA	**Kununurra**	**16.07**	**216**			**Pn**		**13 40 40.8**	**-2.9**
KNRA				IAmb		IAmb		13 41 03.0	
	comp=Z,19nm,0.7s								
MTSU	**Mount Surprise**	**16.43**	**160**	P		**P**		**13 40 50.1**	**-0.7**
BATI	**Baumata**	**16.48**	**242**	Pn		**P**		**13 40 51.9**	**+0.5**
	comp=Z,6.6nm,0.3s,baz=118,slow=5.1,SNR=6.6								
BATI	**Baumata**	**16.48**	**242**	P		**P**		**13 40 51.7**	**+0.3**
	comp=Z,65nm,1.0s								
GUMO	**Guam**	**17.36**	**21**	LR		LR		13 47 29.9	
	comp=Z,104nm,18.0s,baz=192,slow=37								
WB0	**Warramunga Arr**	**17.46**	**193**			**Pn**		**13 40 59.5**	**-1.8**
WB0				IAmb		IAmb	

VNDA	**Vanda**	**75.86**	**175**	P	P	13 48 37.6	-5.1
VNDA	**Vanda**	**75.86**	**175**	P	**P**	**13 48 42.2**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=338,slow=7.4,SNR=3.9						
	comp=Z,1.1nm,0.8s						
KKAR	**Karatay Array**	**75.90**	**316**		**P**	**13 48 43.1**	**-0.5**
BVAR	**Borovoye Array**	**79.11**	**325**	P	**P**	**13 49 00.6**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=113,slow=7.4,SNR=5.9						
	comp=Z,1.9nm,0.6s						
E23K	**Chandalar**	**85.77**	**21**	P	**P**	**13 49 37.9**	**+2.0**
ILAR	**Eielson Array**	**85.90**	**24**	P	**P**	**13 49 35.2**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=266,slow=4.6,SNR=12						
ILAR				LR	LR	14 30 31.2	
	comp=Z,24nm,18.2s,baz=174,slow=37						
	comp=Z,1.4nm,0.8s						
QSPA	**South Pole Qui**	**87.29**	**180**	P	**P**	**13 49 43.2**	**-0.2**
QSPA				IAmb	IAmb	13 49 55.1	
	comp=Z,4.4nm,0.9s						
QSPA	**South Pole Qui**	**87.29**	**180**	P	**P**	**13 49 43.2**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=337,slow=5.4,SNR=15						
	comp=Z,1.7nm,0.7s						
BCAR	**Beaver Creek A**	**87.72**	**27**	P	**P**	**13 49 46.3**	**+0.8**
STHS	**Stebnicka Huta**	**109.45**	**322**	*e*PDIFF	**Pdif**	**13 51 17.5**	**-6.6**
STHS				*e*PP	**PP**	**13 55 59.0**	**+1.6**
LPAZ	**La Paz**	**147.70**	**127**	PKPbc	**PKPbc**	**13 56 43.5**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=282,slow=3.3,SNR=8.0						

NEIC ***25*** *14:13:21.9±2.4,20˙3S±0˙.1×173˙28W±0˙.07,h10km±1km, mb5.0/97, Error ellipse: s-maj=17.8km s-min=11.5km az=174.0*

MOS ***25*** *14:13:22.8±1.1,20˙50S×173˙66W,h10km,mb5.1/20, Error ellipse: s-maj=12.8km s-min=11.7km az=52.0*

IDC ***25*** *14:13:23.1±0.5,20˙31S×173˙70W,h0km,mb4.6/17, mbtmp4.6/19,ML4.7/2,MS4.2/40, Error ellipse: s-maj=19.9km s-min=14.3km az=118.0*

GCMT ***25*** *14:13:26.9±0.4,20˙54S±0˙.03×173˙15W±0˙.03,h20km±1km, MW4.9/81,Moment Tensor Solution. s20,c24; s81,c109; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.79±.20; Mθθ-0.91±.13; Mφφ-1.88±.12; Mrθ0.68±.29; Mrφ-1.08±.07; Mθφ1.05±.21; Best double couple: Mo2.96000×10^16^ NP1:ϕ213.00000°,δ33.00000°,λ90.00000°. NP2: ϕ33.00000°,δ57.00000°,λ90.00000°. Principal axes: T 3.0670, Plg78.0000°, Azm303.0000°; N -0.2080, Plg0.0000°, Azm33.0000°; P -2.8540, Plg12.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***25*** *14:13:26.0,20˙10S×173˙10W,h50km,mB5.3/12, mb5.1/31,Ms4.8/12,Ms7 4.6/12*

NOU ***25*** *14:13:26.3,20˙37S×173˙03W,h35km,mb5.1/54, Tonga Islands*

BGR ***25*** *14:13:29.0,20˙07S×172˙31W,h57km±2km*

ISC 25 14:13:27.3±0.5,20˙43S±0˙.06×173˙17W±0˙.05,h40km±4km, h40km:pP-P,n633,σ1§68/563,mb5.0/96,MS4.3/49, 39C-17D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.34**	**67**		**Pn**	**14 14 13.8**	**-3.3**
NIUE				Sn	**Sn**	**14 14 55.0**	**-0.6**
NIUE	**Niue**	**3.34**	**67**	P	Pn	14 14 13.4	-3.7
NIUE	**Niue**	**3.34**	**67**	S	**Sn**	**14 14 51.6**	**-3.9**
NIUE	**Niue**	**3.34**	**67**	P	**Pn**	**14 14 14.0**	**-3.1**
NIUE				S	**Sn**	**14 14 51.3**	**-4.2**
AFI	**Afiamalu**	**6.62**	**12**		Pn	14 14 57.9	-4.4
AFI	**Afiamalu**	**6.62**	**12**	P	**Pn**	**14 15 01.2**	**-1.0**
AFI	**Afiamalu**	**6.62**	**12**	P	Pn	14 14 57.9	-4.3
AFI	**Afiamalu**	**6.62**	**12**	P	Pn	14 14 57.4	-4.8
TAVE	**Taveuni**	**7.38**	**299**	P	**Pn**	**14 15 12.8**	**+0.2**
DGTI	**Dogotuki**	**7.88**	**300**	P	**Pn**	**14 15 19.6**	**+0.1**
MSVF	**Nonsavu**	**8.72**	**286**		Pn	14 15 24.9	-6.2
MSVF	**Nonsavu**	**8.72**	**286**	P	**Pn**	**14 15 31.9**	**+0.8**
MSVF	**Nonsavu**	**8.72**	**286**	*c* P	**Pn**	**14 15 31.6**	**+0.5**
RAO	**Raoul Island**	**9.78**	**205**	LR	LR	14 19 40.0	
	comp=Z,538nm,18.7s,baz=64,slow=39						
GLKZ	**Green Lake**	**9.79**	**205**	P	**Pn**	**14 15 44.0**	**-1.6**
GLKZ				S	Sn	14 17 24.3	-10
RAR	**Rarotonga**	**12.56**	**96**		**Pn**	**14 16 20.6**	**-2.9**
RAR	**Rarotonga**	**12.56**	**96**	Pn	**Pn**	**14 16 20.7**	**-2.8**
	19nm,0.3s,baz=249,slow=8.0,SNR=37						
RAR				Sn	Sn	14 18 31.1	-11
	1.3nm,0.3s,baz=135,slow=20,SNR=1.0						
RAR	**Rarotonga**	**12.56**	**96**	P	**Pn**	**14 16 21.6**	**-1.9**
PINNC	**Pines Island,**	**18.16**	**260**	P	**P**	**14 17 33.4**	**-3.1**
PINNC				IAmb	IAmb	14 17 40.5	
	comp=Z,185nm,2.0s						
PINNC	**Pines Island,**	**18.16**	**260**	P	**Pn**	**14 17 38.0**	**+1.5**
YATNC	**Mamie plateau,**	**18.66**	**261**	P	**P**	**14 17 42.2**	**+0.3**
OUENC	**Ouen Island, N**	**18.71**	**260**	P	**P**	**14 17 42.7**	**+0.1**
OUZ	**Omahuta**	**18.79**	**216**	P	**P**	**14 17 43.6**	**+0.3**
WCZ	**Waipu Caves**	**18.94**	**213**	P	**P**	**14 17 45.4**	**+0.5**
HAZ	**Te Kaha**	**18.97**	**203**	P	**P**	**14 17 42.9**	**-2.4**
HAZ				S	Sn	14 21 04.3	-13
ONTNC	**Ouen Toro**	**19.07**	**261**		**P**	**14 17 42.6**	**-3.8**
DZM	**Mont Dzumac**	**19.07**	**261**		**P**	**14 17 43.3**	**-3.3**
DZM	**Mont Dzumac**	**19.07**	**261**	*e*P	**P**	**14 17 43.1**	**-3.5**
	comp=Z,194nm,1.4s						
DZM				*e*S	Sn	14 21 10.5	-10
	comp=Z,310nm,22.8s						
DZM	**Mont Dzumac**	**19.07**	**261**	P	**P**	**14 17 43.7**	**-2.9**
	comp=Z,1.8nm,0.3s,baz=229,slow=21,SNR=20						
DZM				LR	LR	14 24 12.8	
	comp=Z,1μm,18.7s,baz=97,slow=35						
	comp=Z,13nm,0.5s						
DZM	**Mont Dzumac**	**19.07**	**261**	P	**Pn**	**14 17 48.1**	**+0.5**
PUZ	**Puketiti**	**19.09**	**201**	P	**Pn**	**14 17 47.8**	**+0.2**
PUZ				S	Sn	14 21 02.5	-18
RUGZ	**Raukumara Rang**	**19.19**	**202**	P	**Pn**	**14 17 49.5**	**+0.5**
RUGZ				S	Sn	14 21 07.5	-16
MWZ	**Matawai**	**19.57**	**202**	P	**Pn**	**14 17 53.9**	**+0.4**
MWZ				S	S	14 21 16.5	-14
URZ	**Urewera**	**19.66**	**203**	P	**P**	**14 17 53.1**	**+0.3**
	comp=Z,3.5nm,0.3s,baz=29,slow=4.3,SNR=16						
URZ				S	S	14 21 16.6	-16
	comp=Z,8.1nm,0.6s,baz=348,slow=20,SNR=2.8						
	comp=Z,44nm,0.8s						
URZ	**Urewera**	**19.66**	**203**	P	**Pn**	**14 17 54.1**	**-0.3**
URZ	**Urewera**	**19.66**	**203**	P	**P**	**14 17 53.4**	**+0.6**
URZ				S	S	14 21 16.9	-16
RAGZ	**Rawiri**	**19.76**	**202**	P	**Pn**	**14 17 56.6**	**+0.9**
RAGZ				S	S	14 21 21.3	-13
OMRZ	**Omania**	**19.81**	**205**	P	**Pn**	**14 17 57.1**	**+0.8**
TOZ	**Tahuroa Road**	**19.85**	**207**		**P**	**14 17 55.0**	**+0.2**
TOZ				IAmb	IAmb	14 18 01.0	
	comp=Z,158nm,2.0s						
TOZ	**Tahuroa Road**	**19.85**	**207**	P	**Pn**	**14 17 57.4**	**+0.8**
RTZ	**Ruatahuna**	**20.02**	**203**		**P**	**14 17 57.3**	**+0.5**
RTZ				IAmb	IAmb	14 18 09.8	
	comp=Z,74nm,1.1s						
RTZ	**Ruatahuna**	**20.02**	**203**	P	**P**	**14 17 54.4**	**-2.4**
SNGZ	**Shannon Statio**	**20.04**	**202**	P	**Pn**	**14 17 59.3**	**+0.3**
KNZ	**Kokohu**	**20.14**	**201**	P	Pn	14 18 00.6	+0.5
RAHZ	**Arahi**	**20.25**	**202**	P	Pn	14 18 00.7	-0.7
RAHZ				S	S	14 21 31.6	-13
MTHZ	**Maungataniwha**	**20.28**	**203**	P	Pn	14 18 00.9	-0.9
MTHZ				S	S	14 21 32.2	-13
TLZ	**Tolley Road**	**20.34**	**206**	P	Pn	14 18 02.0	-0.5
NMHZ	**Naumai**	**20.51**	**203**	P	Pn	14 18 04.5	0.0
BKZ	**Black Stump Fm**	**20.69**	**203**		**P**	**14 18 05.0**	**+1.0**
BKZ	**Black Stump Fm**	**20.69**	**203**	P	**P**	**14 18 04.0**	**0.0**
BKZ	**Black Stump Fm**	**20.69**	**203**	P	**P**	**14 18 04.2**	**+0.2**
HIZ	**Hauiti**	**20.78**	**207**	P	**P**	**14 18 05.7**	**+0.7**
HIZ				IAmb	IAmb	14 18 10.1	
	comp=Z,71nm,0.8s						
HIZ	**Hauiti**	**20.78**	**207**	P	**P**	**14 18 05.6**	**+0.7**
HIZ	**Hauiti**	**20.78**	**207**	P	Pn	14 18 07.5	-0.1
OTVZ	**Oturere**	**21.00**	**205**	P	**P**	**14 18 06.1**	**-1.4**
NGZ	**Ngauruhoe**	**21.04**	**205**	P	**P**	**14 18 10.2**	**+2.3**
VRZ	**Vera Road**	**21.34**	**207**	P	**P**	**14 18 13.3**	**+2.4**
TSZ	**Takapari Road**	**21.67**	**203**	P	**P**	**14 18 15.1**	**+0.6**
NEZ	**North Egmont**	**21.74**	**208**	P	**P**	**14 18 18.3**	**+3.0**
BFZ	**Birch Farm**	**22.11**	**202**	P	**P**	**14 18 20.3**	**+1.0**
BFZ	**Birch Farm**	**22.11**	**202**	P	**P**	**14 18 20.1**	**+0.8**
BFZ	**Birch Farm**	**22.11**	**202**	P	**P**	**14 18 21.1**	**+1.8**
TBI	**Tubuai**	**22.19**	**102**	*e*P	**P**	**14 18 17.0**	**-3.2**
	comp=Z,476nm,30.2s						
TBI				*e*S	S	14 22 10.8	-12
	comp=Z,1μm,27.2s						
TBI				*e*LR	LR	14 23 26.2	
	comp=Z,1μm,43.0s						
TBI				*e*LR	LR	14 23 33.7	
	comp=Z,4μm,32.0s						
MRZ	**Mangatainoka R**	**22.33**	**203**	P	**P**	**14 18 22.1**	**+0.4**
PPT2	**Papeete2**	**22.48**	**87**	*e*P	**P**	**14 18 23.1**	**-0.4**
	comp=Z,53nm,23.2s						
PPT2				*e*S	S	14 22 15.9	-12
	comp=Z,885nm,26.0s						
PPT2				*e*LR	LR	14 23 38.8	
	comp=Z,1μm,27.8s						
PPT2				*e*LR	LR	14 23 38.9	
	comp=Z,508nm,29.8s						
PPT	**Papeete**	**22.49**	**87**	LR	LR	14 25 40.1	
	comp=Z,592nm,19.1s,baz=264,slow=32						
SNZO	**South Karori**	**23.22**	**204**	P	**P**	**14 18 31.4**	**+0.6**
PLWZ	**Palliser**	**23.25**	**202**	P	**P**	**14 18 30.9**	**-0.2**
NNZ	**Nelson**	**23.67**	**206**	P	**P**	**14 18 33.1**	**-2.1**
QRZ	**Quartz Range**	**23.70**	**208**	P	**P**	**14 18 36.1**	**+0.6**
THZ	**Tophouse**	**24.32**	**206**		**P**	**14 18 42.0**	**+0.8**
THZ				IAmb	IAmb	14 19 01.0	
	comp=Z,27nm,0.8s						
KHZ	**Kahutara**	**24.62**	**204**	P	**P**	**14 18 44.1**	**+0.2**
LTZ	**Lake Taylor**	**25.43**	**206**	P	**P**	**14 18 52.0**	**+0.7**
LTZ				IAmb	IAmb	14 19 04.0	
	comp=Z,32nm,0.7s						
RPZ	**Rata Peaks**	**26.70**	**206**		**P**	**14 19 03.2**	**+0.5**
RPZ	**Rata Peaks**	**26.70**	**206**	P	**P**	**14 19 03.9**	**+1.2**
JCZ	**Jackson Bay**	**27.96**	**208**	P	**P**	**14 19 14.7**	**+0.6**
ODZ	**Otahua Downs**	**27.96**	**205**	P	**P**	**14 19 14.5**	**+0.5**
HNR	**Honiara**	**28.13**	**289**	LR	LR	14 29 39.7	
	comp=Z,564nm,18.5s,baz=166,slow=35						
TATA	**Tatamba Isabel**	**28.72**	**291**	P	**P**	**14 19 21.4**	**+0.3**
SYZ	**Scrubby Hill**	**29.79**	**205**	P	**P**	**14 19 30.5**	**+0.3**
ARMA	**Armidale**	**33.19**	**245**	P	**P**	**14 19 56.9**	**-3.6**
ARMA				IAmb	IAmb	14 20 59.9	
	comp=Z,49nm,1.9s						
ARMA	**Armidale**	**33.19**	**245**	P	**P**	**14 20 01.5**	**+1.0**
EIDS	**Eidsvold**	**33.23**	**255**		P	14 19 57.0	-3.8
TAOE	**Nuku Hiva Isla**	**33.89**	**75**	*e*LR	LR	14 28 50.2	
	comp=Z,465nm,21.8s						
CNB	**Canberra Magne**	**36.05**	**238**	P	**P**	**14 20 24.1**	**-1.1**
CAN	**Canberra**	**36.34**	**238**	P	**P**	**14 20 25.9**	**-1.7**
CAN				IAmb	IAmb	14 20 43.3	
	comp=Z,22nm,1.1s						
CAN	**Canberra**	**36.34**	**238**	P	**P**	**14 20 28.3**	**+0.7**
CAN	**Canberra**	**36.34**	**238**	P	**P**	**14 20 25.9**	**-1.7**
CAN				pmax	pmax		
	comp=Z,22nm,1.1s						
JOHN	**Johnston Islan**	**37.10**	**6**	P	**P**	**14 20 33.5**	**-0.5**
CTAO	**Charters Tower**	**38.00**	**263**	P	**P**	**14 20 38.4**	**-3.4**
CTAO				IAmb	IAmb	14 20 53.3	
	comp=Z,81nm,1.9s						
CTAO	**Charters Tower**	**38.00**	**263**	P	**P**	**14 20 38.4**	**-3.4**
CTAO				pmax	pmax		
	comp=Z,81nm,2.0s						
CMSA	**Cobar Meteorol**	**38.40**	**245**	P	**P**	**14 20 45.6**	**+0.6**
QLP	**Quilpie**	**39.40**	**253**	P	**P**	**14 20 54.0**	**+0.5**
TOO	**Toolangi**	**39.63**	**235**	P	**P**	**14 20 53.2**	**-2.1**
TOO	**Toolangi**	**39.63**	**235**	P	**P**	**14 20 53.2**	**-2.1**
TOO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PMG	**Port Moresby**	**39.76**	**280**	P	**P**	**14 20 53.2**	**-3.4**
PMG				IAmb	IAmb	14 21 08.8	
	comp=Z,48nm,1.1s						
PMG	**Port Moresby**	**39.76**	**280**	LR	LR	14 35 09.2	
	comp=Z,322nm,19.6s,baz=150,slow=33						
PMG	**Port Moresby**	**39.76**	**280**	*c*eP	**P**	**14 20 53.3**	**-3.3**
PMG				pmax	pmax		
	comp=Z,52nm,1.1s						
TAU	**Tasmania Unive**	**39.91**	**227**	P	**P**	**14 20 58.4**	**+0.9**
STKA	**Stephens Creek**	**41.90**	**245**	P	**P**	**14 21 10.6**	**-3.4**
STKA	**Stephens Creek**	**41.90**	**245**	P	**P**	**14 21 10.8**	**-3.3**
	comp=Z,7.3nm,0.7s,baz=100,slow=10,SNR=12						
STKA				LR	LR	14 37 08.4	
	comp=Z,478nm,18.9s,baz=56,slow=34						
	comp=Z,7.3nm,0.7s						
STKA	**Stephens Creek**	**41.90**	**245**	P	**P**	**14 21 14.8**	**+0.7**
STKA	**Stephens Creek**	**41.90**	**245**	*e*P	**P**	**14 21 11.9**	**-2.2**
STKA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
COEN	**Coen**	**42.10**	**272**	P	P	14 21 12.3	-3.6
COEN				IAmb	IAmb	14 21 15.6	
	comp=Z,56nm,1.7s						
COEN	**Coen**	**42.10**	**272**	P	**P**	**14 21 16.9**	**+1.0**
HTT	**Hallett**	**44.27**	**243**	P	**P**	**14 21 34.5**	**+1.2**
BBOO	**Buckleboo**	**46.63**	**244**	P	**P**	**14 21 52.5**	**+0.6**
JAY	**Jayapura**	**48.35**	**285**	LR	LR	14 42 30.6	
	comp=Z,146nm,18.0s,baz=99,slow=36						
JAY	**Jayapura**	**48.35**	**285**	P	**P**	**14 22 03.0**	**-2.5**
GENI	**Genyem**	**48.80**	**285**	P	**P**	**14 22 08.1**	**-0.8**
GENI	**Genyem**	**48.80**	**285**	P	**P**	**14 22 07.3**	**-1.6**
AS01	**Alice Springs**	**48.89**	**256**	P	**P**	**14 22 10.3**	**+0.7**
AS31	**Alice Springs**	**48.93**	**256**	P	P	14 22 06.3	-3.6
ASAR	**Alice Springs**	**48.93**	**256**	P	P	14 22 06.3	-3.6
ASAR	**Alice Springs**	**48.93**	**256**	P	P	14 22 06.2	-3.8
	comp=Z,6.8nm,0.6s,baz=91,slow=8.5,SNR=97						
ASAR				PcP	**PcP**	**14 23 34.6**	**+0.8**
	comp=Z,6.9nm,0.8s,baz=96,slow=3.4,SNR=12						
ASAR				LR	LR	14 42 04.3	
	comp=Z,500nm,18.7s,baz=98,slow=36						
	comp=Z,6.8nm,0.6s						
WR8	**Warramunga Arr**	**48.94**	**261**	P	P	14 22 06.3	-3.6
WR8				IAmb	IAmb	14 23 36.3	
	comp=Z,13nm,0.9s						
WB0	**Warramunga Arr**	**49.07**	**261**	P	P	14 22 07.1	-3.8
WB0				IAmb	IAmb	14 22 22.8	
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**49.08**	**261**	P	**P**	**14 22 07.9**	**-3.1**
WRAB				IAmb	IAmb	14 22 08.4	
	comp=Z,17nm,1.2s						
WRAB	**Tennant Creek**	**49.08**	**261**	*e*P	**P**	**14 22 07.7**	**-3.3**
WRAB				pmax	pmax		
	comp=Z,18nm,1.3s						
WRA	**Warramunga Arr**	**49.09**	**261**	P	P	14 22 07.2	-4.0
	comp=Z,3.4nm,0.4s,baz=98,slow=7.3,SNR=55						
WRA				PcP	**PcP**	**14 23 35.4**	**+1.0**
	comp=Z,6.7nm,0.8s,baz=96,slow=3.5,SNR=11						
WRA				LR	LR	14 42 03.5	
	comp=Z,248nm,18.4s,baz=331,slow=35						
	comp=Z,3.4nm,0.4s						
SMPI	**Sarmi**	**50.38**	**285**	P	**P**	**14 22 18.2**	**-2.7**
BAKI	**Biak**	**53.07**	**285**	P	**P**	**14 22 39.5**	**-1.6**
FORT	**Forrest**	**53.47**	**246**	P	**P**	**14 22 40.8**	**-3.1**
FORT				IAmb	IAmb	14 22 46.0	
	comp=Z,12nm,0.7s						
MTN	**Manton Dam**	**53.69**	**269**	P	P	14 22 41.4	-4.2
MTN				IAmb	IAmb	14 22 43.4	
	comp=Z,16nm,0.8s						
MTN	**Manton Dam**	**53.69**	**269**	P	**P**	**14 22 45.1**	**-0.5**
KNRA	**Kununurra**	**55.18**	**265**	P	**P**	**14 22 53.2**	**-3.2**
KNRA				IAmb	IAmb	14 22 58.7	
	comp=Z,8.9nm,0.7s						
FAKI	**Fak Fak**	**55.91**	**281**	P	**P**	**14 23 01.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**57.52**	**261**	P	**P**	**14 23 10.0**	**-3.0**
FITZ	**Fitzroy Crossi**	**57.52**	**261**	P	**P**	**14 23 14.3**	**+1.3**
SWI	**Sorong**	**57.63**	**282**	P	**P**	**14 23 11.4**	**-2.5**
SBA	**Scott Base**	**58.28**	**185**	P	**P**	**14 23 16.8**	**-0.7**
SBA				IAmb	IAmb	14 23 23.1	
	comp=Z,18nm,0.9s						
SBA	**Scott Base**	**58.28**	**185**	P	**P**	**14 23 16.8**	**-0.7**
SBA				pmax	pmax		
	comp=Z,18nm,1.0s						
VNDA	**Vanda**	**58.42**	**186**	P	**P**	**14 23 19.7**	**+1.2**
VNDA	**Vanda**	**58.42**	**186**	P	**P**	**14 23 21.7**	**+3.2**
	comp=Z,6.4nm,0.9s,baz=1.9,slow=7.0,SNR=36						
	comp=Z,6.4nm,0.9s						
VNDA	**Vanda**	**58.42**	**186**	P	**P**	**14 23 19.7**	**+1.2**
VNDA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SOEI	**Soe**	**61.02**	**270**	P	**P**	**14 23 37.1**	**-0.4**
	comp=Z,62nm,0.9s						
BATI	**Baumata**	**61.45**	**269**	LR	LR	14 50 08.6	
	comp=Z,391nm,18.6s,baz=113,slow=36						
TNTI	**Ternate**	**61.84**	**282**	P	**P**	**14 23 41.1**	**-1.8**
	comp=Z,60nm,0.8s						
SANI	**Sanana**	**62.03**	**279**	P	**P**	**14 23 40.9**	**-3.2**
	comp=Z,14nm,0.7s						
PSA00	**Pilbara Seismi**	**62.08**	**256**	P	**P**	**14 23 41.9**	**-2.5**
KLBR	**Kellerberrin**	**62.17**	**244**	P	**P**	**14 23 45.8**	**+0.9**
MEEK	**Meekatharra**	**62.20**	**250**	P	**P**	**14 23 45.4**	**+0.2**
MBWA	**Marble Bar**	**62.27**	**256**	P	**P**	**14 23 42.4**	**-3.4**
MBWA	**Marble Bar**	**62.27**	**256**	P	**P**	**14 23 45.9**	**+0.2**
BLDU	**Ballidu**	**63.20**	**245**	P	**P**	**14 23 52.6**	**+0.8**
MUN	**Mundaring**	**63.42**	**244**	P	**P**	**14 23 53.7**	**+0.5**
EDFI	**Ende, Flores**	**63.75**	**270**	P	**P**	**14 23 55.0**	**-0.8**
	comp=Z,18nm,0.7s						
MORW	**Morawa**	**64.03**	**247**	P	**P**	**14 23 55.6**	**-1.6**
MORW	**Morawa**	**64.03**	**247**	P	**P**	**14 23 58.3**	**+1.0**
CASY	**Casey**	**65.97**	**205**	P	**P**	**14 24 08.8**	**-0.4**
CASY				IAmb	IAmb	14 24 22.8	
	comp=Z,15nm,1.0s						
BKSI	**Bulukumba**	**66.34**	**273**	P	**P**	**14 24 10.7**	**-1.7**
KAPI	**Kappang**	**66.79**	**273**	LR	LR	14 53 13.4	
	comp=Z,66nm,19.7s,baz=96,slow=36						
PLAI	**Plampang**	**67.40**	**269**	P	**P**	**14 24 19.6**	**+0.4**
PLAI	**Plampang**	**67.40**	**269**	P	**P**	**14 24 17.2**	**-2.0**
	comp=Z,31nm,1.2s						
PCI	**Palu**	**68.16**	**277**	P	**P**	**14 24 23.6**	**-0.4**
	comp=Z,40nm,1.0s						
MPSI	**Mapaga**	**68.56**	**279**	P	**P**	**14 24 25.4**	**-1.1**
	comp=Z,21nm,0.7s						
JHJ2	**Mitsune**	**69.63**	**319**	P	**P**	**14 24 32.8**	**+0.1**
QSPA	**South Pole Qui**	**69.64**	**180**	P	**P**	**14 24 33.9**	**+1.4**
QSPA	**South Pole Qui**	**69.64**	**180**	P	**P**	**14 24 35.5**	**+3.0**
	comp=Z,13nm,0.9s,baz=44,slow=1.8,SNR=31						
QSPA				LR	LR	14 52 44.5	
	comp=Z,167nm,18.8s,baz=40,slow=34						
	comp=Z,13nm,0.9s						
JHJ	**Hachijo jima 2**	**69.66**	**319**	LR	LR	14 56 11.4	
	comp=Z,47nm,18.2s,baz=84,slow=37						
MJA0	**Matsu Arr-Jizo**	**72.90**	**321**	*e*P	**P**	**14 24 52.7**	**+0.2**
MJA0				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MJAR	**Matsushiro Arr**	**72.93**	**321**	P	**P**	**14 24 52.2**	**-0.4**
	comp=Z,4.5nm,0.7s,baz=158,slow=5.8,SNR=16						
	comp=Z,4.5nm,0.7s						
MAJO	**Matsushiro**	**72.93**	**321**	↓*e*P	**P**	**14 24 52.7**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NIKH	**Nikolski High**	**73.19**	**3**	P	**P**	**14 24 53.9**	**+0.2**
	baz=184						
JOW	**Kunigami**	**73.65**	**307**		**P**	**14 24 56.0**	**-1.1**
JOW				IAmb	IAmb	14 25 11.7	
	comp=Z,29nm,1.3s						
JOW	**Kunigami**	**73.65**	**307**	LR	LR	14 51 18.8	
	comp=Z,83nm,20.6s,baz=118,slow=31						
JOW	**Kunigami**	**73.65**	**307**	P	**P**	**14 24 57.9**	**+0.9**
PCJI	**Pacitan**	**73.78**	**267**	P	**P**	**14 24 57.1**	**-1.0**
	comp=Z,53nm,1.7s						
JNU	**Nakatsue**	**75.41**	**314**	IAmb	IAmb	14 25 21.9	
	comp=Z,16nm,1.0s						
JNU	**Nakatsue**	**75.41**	**314**	P	**P**	**14 25 07.3**	**+0.2**
LPIG	**La Paz**	**75.52**	**57**	LR	LR	14 51 47.6	
	comp=Z,341nm,19.6s,baz=216,slow=30						
CHNA	**Chernabura Isl**	**75.85**	**8**	P	**P**	**14 25 09.7**	**+0.6**
	baz=193						
PFO	**Pinyon Flats O**	**76.21**	**46**	LR	LR	14 56 48.2	
	comp=Z,123nm,18.0s,baz=248,slow=34						
PFO	**Pinyon Flats O**	**76.21**	**46**	*i* P	**P**	**14 25 14.3**	**+2.5**
SDPT	**Sand Point**	**76.25**	**7**	P	**P**	**14 25 11.9**	**+0.6**
	baz=192						
S12K	**Black Hills**	**76.41**	**6**	P	**P**	**14 25 13.0**	**+0.7**
	baz=191						
YOJ	**Yonaguni jima**	**76.45**	**303**	P	**P**	**14 25 13.5**	**+0.3**
S14K	**Fog Glacier**	**77.28**	**8**	P	**P**	**14 25 17.6**	**+0.3**
	baz=193						
YULB	**Yu-li**	**77.29**	**301**	P	**P**	**14 25 16.7**	**-1.4**
YULB				IAmb	IAmb	14 25 32.2	
	comp=Z,17nm,0.9s						
YULB	**Yu-li**	**77.29**	**301**	P	**P**	**14 25 17.8**	**-0.2**
SPIA	**Saint Paul Isl**	**77.34**	**2**	P	**P**	**14 25 18.4**	**+0.9**
	baz=183						
CHIR	**Chirikof Islan**	**77.40**	**10**	P	**P**	**14 25 18.7**	**+0.9**
	baz=197						
NACB	**Ninganchiao**	**77.43**	**302**		**P**	**14 25 17.9**	**-0.9**
CHGN	**Chignik**	**77.44**	**8**	P	**P**	**14 25 19.2**	**+1.2**
	baz=194						
PEA0B	**Petropavlovsk-**	**77.46**	**343**	↑*e*P	**P**	**14 25 19.7**	**+1.4**
PETK	**Petropavlovsk-**	**77.46**	**343**	P	**P**	**14 25 19.1**	**+0.8**
	comp=Z,11nm,0.8s,baz=248,slow=8.6,SNR=22						
PETK				LR	LR	14 55 24.3	
	comp=Z,48nm,20.7s,baz=170,slow=33						
	comp=Z,11nm,0.8s						
YBH	**Yreka Blue Hor**	**77.48**	**36**	LR	LR	14 52 53.3	
	comp=Z,17nm,20.4s,baz=248,slow=30						
LEM	**Lembang**	**77.56**	**267**	LR	LR	15 00 13.7	
	comp=Z,77nm,18.1s,baz=132,slow=36						
SSLB	**Suanglung**	**77.76**	**301**	P	**P**	**14 25 21.2**	**+0.6**
TPUB	**Ta-pu**	**77.79**	**301**		**P**	**14 25 19.4**	**-1.4**
TPUB	**Ta-pu**	**77.79**	**301**	P	**P**	**14 25 20.5**	**-0.3**
NVAR	**Mina Array Bea**	**77.93**	**41**		**P**	**14 25 23.7**	**+2.1**
NVAR	**Mina Array Bea**	**77.93**	**41**	P	**P**	**14 25 24.9**	**+3.4**

USRK Ussuriysk Ar. 81.52 324 P **P** **14 25 42.0 +1.5**
comp=Z,1.5nm,0.7s,baz=151,slow=6.3,SNR=2.2
USRK LR LR 14 58 02.8
comp=Z,335nm,19.5s,baz=130,slow=33
comp=Z,1.5nm,0.7s
MDSI Maura Dua 81.57 268 P **P** **14 25 40.3 -1.2**
comp=Z,17nm,0.8s
N17K Nushagak Hills 81.70 8 P **P** **14 25 41.8 +0.7**
baz=195
O19K Port Alsworth 81.79 9 P **P** **14 25 42.1 +0.6**
baz=198
M16K Timber Creek 81.97 7 P **P** **14 25 42.4 -0.2**
M16K Timber Creek 81.97 7 P **P** **14 25 43.2 +0.7**
baz=193
N18K Kilae Creek 82.03 8 P **P** **14 25 43.5 +0.6**
baz=196
H03S2 Juan Fernandez 82.27 123 T T 15 57 22.4
baz=242,slow=74,SNR=4.6
H03S1 Juan Fernandez 82.28 123 T T 15 57 23.2
baz=242,slow=74,SNR=5.6
H03S3 Juan Fernandez 82.29 123 T T 15 57 22.5
baz=242,slow=74,SNR=3.8
N19K Bonanza Creek 82.36 9 P **P** **14 25 45.1 +0.4**
baz=198
L15K Ungalak Mounta 82.36 6 P **P** **14 25 45.6 +1.1**
baz=191
K13K Kisilvak Mount 82.36 4 P **P** **14 25 44.7 +0.2**
baz=188
H03N2 Juan Fernandez 82.40 123 T T 15 57 32.9
baz=248,slow=73
H03N3 Juan Fernandez 82.40 123 T T 15 57 33.8
baz=248,slow=73
H03N1 Juan Fernandez 82.41 123 T T 15 57 31.8
baz=248,slow=73
M17K Holitna River 82.52 8 P **P** **14 25 46.1 +0.7**
baz=195
SEW Seward 82.54 12 P **P** **14 25 46.2 +0.7**
baz=202
M18K Stony River 82.82 8 P **P** **14 25 47.7 +0.8**
baz=196
P23K Montague Islan 82.85 13 P **P** **14 25 48.1 +1.0**
baz=204
K15K Wolf Creek Mou 82.96 5 P **P** **14 25 48.5 +0.9**
K15K Wolf Creek Mou 82.96 5 P **P** **14 25 49.0 +1.4**
baz=191
MAW Mawson 83.12 199 P **P** **14 25 50.6 +2.0**
comp=Z,7.0nm,0.9s,baz=99,slow=6.3,SNR=11
MAW LR LR 15 02 35.4
comp=Z,258nm,18.8s,baz=112,slow=36
comp=Z,7.0nm,0.9s
MDJ Mudanjiang 83.13 323 P **P** **14 25 52.0 +3.1**
MDJ pmax pmax
comp=Z,13nm,1.4s
MDJ pmax pmax
comp=Z,130nm,4.1s
MDJ LR LR
comp=Z,240nm,22.7s
MDJ LR LR
comp=Z,210nm,21.6s
MDJ LR LR
comp=Z,380nm,19.8s
L17K Donlin 83.13 7 P **P** **14 25 49.6 +1.1**
baz=194
TXAR Lajitas Array 83.25 55 **P** **14 25 52.7 +2.6**
TXAR Lajitas Array 83.25 55 P **P** **14 25 53.3 +3.2**
comp=Z,4.6nm,1.0s,baz=211,slow=7.0,SNR=18
comp=Z,4.6nm,1.0s
V35K Ketchikan 83.32 22 P **P** **14 25 50.4 +0.8**
baz=219
NJ2 Nanjing 83.37 308 *e*P **P** **14 25 47.5 -3.0**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
RC01 Rabbit Creek A 83.40 11 P **P** **14 25 51.1 +1.2**
baz=202
L18K Granite Mounta 83.41 8 P **P** **14 25 51.3 +1.3**
baz=196
M19K Big River Lodg 83.41 9 P **P** **14 25 49.9 -0.1**
baz=198
KAIM Kayak Island 83.44 14 P **P** **14 25 51.7 +1.5**
baz=207
SIT Sitka 83.45 20 P **P** **14 25 51.1 +0.8**
baz=215
PWL Port Wells 83.45 12 P **P** **14 25 49.1 -1.2**
PWL IAmb IAmb 14 25 53.2
comp=Z,9.2nm,1.0s
PWL Port Wells 83.45 12 P **P** **14 25 51.0 +0.7**
baz=203
SUA Susitna One 83.57 11 IAmb IAmb 14 25 53.2
comp=Z,8.6nm,0.8s
SUA Susitna One 83.57 11 P **P** **14 25 51.5 +0.5**
baz=201
M20K Styx River 83.58 9 P **P** **14 25 52.0 +1.1**
baz=199
L19K White Mountain 83.61 9 P **P** **14 25 52.0 +0.9**
baz=197
B08A Colville Reser 83.65 33 IAmb IAmb 14 25 54.8
comp=Z,6.6nm,0.8s
K17K Iditarod 83.70 7 P **P** **14 25 52.5 +1.1**
baz=194
EYAK Cordova Ski Ar 83.70 13 P **P** **14 25 52.5 +1.0**
baz=206
GLI Glacier Island 83.72 12 IAmb IAmb 14 25 54.5
comp=Z,9.4nm,0.8s
GLI Glacier Island 83.72 12 P **P** **14 25 52.5 +0.9**
baz=204
BGLC Bering Glacier 83.87 15 P **P** **14 25 53.0 +0.6**
baz=208
ANMO Albuquerque 83.88 49 LR LR 14 56 53.0
comp=Z,157nm,19.2s,baz=329,slow=31
ANMO Albuquerque 83.88 49⇓ *e*P **P** **14 25 56.4 +3.1**
S31K Pelican 83.92 19 P **P** **14 25 53.0 +0.4**
baz=214
SKT Skwentna 83.93 10 P **P** **14 25 53.4 +0.7**
baz=200
KNK Knik Glacier 83.94 12 P **P** **14 25 53.3 +0.6**
baz=203
M22K Willow 83.95 11 P **P** **14 25 53.7 +0.9**
baz=202
PMR Palmer 83.98 11 P **P** **14 25 53.9 +1.1**
baz=203
J16K Anvik River 84.02 6 P **P** **14 25 54.2 +1.1**
baz=192
S32K Killisnoo 84.03 20 P **P** **14 25 54.0 +0.8**
baz=216
L20K Farewell, AK 84.03 9 P **P** **14 25 54.4 +1.1**
baz=198
MESA MESA 84.24 15 P **P** **14 25 55.0 +0.4**
baz=209
J17K VARM Dome 84.28 6 P **P** **14 25 55.3 +1.0**
baz=193
BMRM Bremner River 84.33 14 P **P** **14 25 55.4 +0.6**
baz=207
PNL Peninsula 84.45 16 P **P** **14 25 56.5 +1.2**
baz=212
CRQE Cirque 84.47 14 P **P** **14 25 56.7 +1.1**
baz=208
KLU Klutina 84.52 13 P **P** **14 25 56.0 +0.2**
baz=206
CUT Chulitna 84.53 10 P **P** **14 25 56.4 +0.7**
baz=202
SCM Sheep Creek Mo 84.55 12 IAmb IAmb 14 25 59.0
comp=Z,13nm,0.9s
SCM Sheep Creek Mo 84.55 12 P **P** **14 25 55.9 0.0**
baz=204
PINM Pinnacle 84.59 16 P **P** **14 25 56.6 +0.5**
baz=211
I17K Unalakleet 84.60 6 P **P** **14 25 56.3 +0.3**
baz=192
J18K Innoko River 84.61 7 P **P** **14 25 56.3 +0.2**
baz=195
PPLA Purkeypile 84.69 9 P **P** **14 25 58.4 +1.8**
baz=200
NEW Newport 84.73 34 LR LR 14 59 28.8
comp=Z,400nm,18.5s,baz=220,slow=33
P29M Windy Craggy 84.87 17 P **P** **14 25 58.9 +1.4**
baz=213
N25K Chitina, Valde 84.90 13 P **P** **14 25 59.1 +1.4**
baz=207
QIZ Qiongzhong 84.99 292 P P 14 25 55.5 -3.5
QIZ S **SKSac** **14 36 23.0 +2.2**
QIZ LR LR
comp=Z,65nm,9.8s
QIZ LR LR
comp=Z,62nm,6.9s
QIZ LR LR
comp=Z,140nm,12.7s
MA2 Magadan 85.00 342 LR LR 15 03 46.0
comp=Z,93nm,18.4s,baz=156,slow=36

MA2 Magadan 85.00 342⇓ *e*P **P** **14 26 01.5 +3.4**
MA2 pmax pmax
comp=Z,26nm,1.3s
M24K Tolsona, Glenn 85.02 12 P **P** **14 25 59.3 +1.0**
baz=205
BNX BinXian 85.04 323⇓ P **P** **14 25 55.5 -3.1**
BNX S **S** **14 36 24.0 -0.9**
BNX sS ScS 14 36 47.8 +12
BNX pmax pmax
comp=Z,5.0nm,2.8s
BNX pmax pmax
comp=Z,75nm,3.1s
BNX LR LR
comp=Z,120nm,17.9s
BNX LR LR
comp=Z,190nm,18.4s
BNX LR LR
comp=Z,260nm,20.1s
MCARA McCarthy VSAT 85.05 14 P **P** **14 25 59.6 +1.2**
baz=208
CN2 Changchun 85.07 320 *e*P **P** **14 25 59.8 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 pmax pmax
comp=Z,140nm,4.0s
CN2 LR LR
comp=Z,90nm,17.0s
CN2 LR LR
comp=Z,140nm,17.0s
CN2 LR LR
comp=Z,70nm,17.0s
CTG Chitna Glacier 85.08 15 P **P** **14 25 59.3 +0.6**
baz=210
O28M Mount Upton 85.19 16 P **P** **14 26 00.0 +0.6**
baz=211
CAST Castle Rocks 85.19 9 P **P** **14 25 59.1 0.0**
baz=200
H16K Elim 85.21 5 P **P** **14 26 00.4 +1.3**
baz=190
J19K Poorman 85.25 8 P **P** **14 26 00.1 +0.8**
baz=196
CMIG Matias Romero 85.37 70 LR LR 14 55 57.6
comp=Z,181nm,19.7s,baz=183,slow=30
SKAG Skagway 85.42 18 P **P** **14 26 01.5 +1.4**
baz=215
G15K Niukluk 85.44 4 P **P** **14 26 01.6 +1.4**
baz=198
HARP HAARP 85.49 13 P **P** **14 26 01.4 +0.8**
baz=206
P30M Million Dollar 85.50 17 P **P** **14 26 01.4 +0.7**
baz=214
S34M Telegraph Cree 85.51 21 P **P** **14 26 01.4 +0.7**
baz=219
TRF Thorofare Moun 85.51 10 P **P** **14 26 01.2 +0.4**
baz=201,SNR=16
CHUM Lake Minchumin 85.60 9 P **P** **14 26 02.2 +1.2**
baz=200
J20K Nowinta River 85.62 8 IAmb IAmb 14 26 04.2
comp=Z,9.2nm,0.8s
J20K Nowinta River 85.62 8 P **P** **14 26 01.8 +0.7**
baz=198,SNR=7.4
H17K Granite Mounta 85.70 6 P **P** **14 26 02.6 +1.1**
baz=192
YUK8 Steele Glacier 85.74 15 P **P** **14 26 02.7 +0.6**
baz=211
F14K Arctic Creek 85.79 3 P **P** **14 26 02.9 +1.0**
baz=186
YUK6 Outpost Mounta 85.81 16 P **P** **14 26 03.6 +1.1**
baz=212
TNA Tin City 85.81 2 P **P** **14 26 03.1 +1.1**
baz=185
GCSA Galena City Sc 85.83 7 P **P** **14 26 03.2 +1.1**
baz=195
PDAR Pinedale Array 85.86 41 **P** **14 26 03.6 +0.5**
PDAR Pinedale Array 85.86 41 P **P** **14 26 05.0 +1.8**
comp=Z,2.4nm,0.8s,baz=216,slow=2.4,SNR=19
PDAR LR LR 15 00 33.2
comp=Z,87nm,18.6s,baz=250,slow=33
comp=Z,2.4nm,0.8s
HYT Haines Junctio 85.94 17 P **P** **14 26 03.7 +0.7**
baz=213
PAX Paxson 85.94 12 P **P** **14 26 04.3 +1.4**
baz=206
G16K Koyuk River 85.95 5 P **P** **14 26 04.1 +1.4**
baz=190
Q32M Nakina River 85.95 20 P **P** **14 26 02.8 -0.4**
baz=218
M26K Nabesna, AK 85.96 14 P **P** **14 26 04.2 +1.3**
baz=208
PLCA Paso Flores 86.00 132 LR LR 14 56 48.8
comp=Z,135nm,20.0s,baz=225,slow=30
MCK McKinley 86.00 11 P **P** **14 26 04.1 +1.1**
baz=203,SNR=14
BPAW Bear Paw Mtn. 86.00 10 P **P** **14 26 03.8 +0.7**
baz=201
P32M Atlin 86.01 19 P **P** **14 26 03.6 +0.4**
baz=217
H18K Honhosa River 86.06 6 P **P** **14 26 04.5 +1.2**
baz=194
YUK4 Talbot Arm 86.08 16 P **P** **14 26 04.9 +1.2**
baz=212
F15K North Star Dit 86.11 4 P **P** **14 26 03.6 +0.1**
baz=188
BKNI Bangkinang 86.16 272 P **P** **14 26 04.4 -0.6**
M27K Edge Creek, AK 86.17 14 IAmb IAmb 14 26 08.2
comp=Z,12nm,0.9s
M27K Edge Creek, AK 86.17 14 P **P** **14 26 05.0 +0.9**
baz=209,SNR=8.9
I20K Naaghedeneel 86.17 8 P **P** **14 26 04.9 +1.1**
baz=198
G17K Kiwalik Mounta 86.19 5 P **P** **14 26 04.7 +0.8**
baz=192
O30N Mendenhall 86.28 17 P **P** **14 26 05.6 +1.1**
baz=214
DLBC Dease Lake 86.28 21 LR LR 14 58 57.6
comp=Z,10.0nm,19.5s,baz=200,slow=32
DLBC Dease Lake 86.28 21 P **P** **14 26 05.6 +1.0**
baz=220
L26K Log Cabin Wild 86.43 13 P **P** **14 26 05.9 +0.7**
baz=208,SNR=6.7
BVCY Beaver Creek 86.45 14 P **P** **14 26 06.1 +0.8**
baz=210,SNR=7.6
WHY Whitehorse 86.53 18 P **P** **14 26 06.0 +0.2**
baz=216
TIA Tai'an 86.62 311 P **P** **14 26 08.0 +1.3**
TIA pP **sP** **14 26 19.5 -0.3**
TIA S **S** **14 36 37.8 -3.0**
TIA pmax pmax
comp=Z,18nm,0.9s
TIA pmax pmax
comp=Z,79nm,3.7s
TIA LR LR
comp=Z,130nm,18.1s
TIA LR LR
comp=Z,130nm,23.0s
TIA LR LR
comp=Z,110nm,25.0s
H19K Roundabout Mou 86.63 7 IAmb IAmb 14 26 38.6
comp=Z,12nm,1.2s
H19K Roundabout Mou 86.63 7 P **P** **14 26 07.5 +1.5**
baz=196,SNR=5.9
K24K Donnelly Dome 86.64 12 P **P** **14 26 07.3 +1.1**
baz=206,SNR=6.1
R33M Jennings River 86.71 20 P **P** **14 26 08.0 +1.2**
baz=219
G18K Tagagawik 86.76 6 IAmb IAmb 14 26 09.5
comp=Z,7.5nm,0.8s
G18K Tagagawik 86.76 6 P **P** **14 26 07.9 +1.2**
baz=194
NEA2 Nenana 86.77 10 P **P** **14 26 07.3 +0.5**
baz=202
P33M Teslin, Yukon 86.78 19 P **P** **14 26 07.5 +0.5**
baz=218
H20K Anotleneega Mo 86.78 8 P **P** **14 26 07.6 +0.8**
baz=197
L27K Beaver Creek, 86.80 14 P **P** **14 26 07.9 +0.9**
baz=209
BCAR Beaver Creek A 86.81 14 **P** **14 26 08.1 +1.0**
I21K Tanana 86.87 9 IAmb IAmb 14 26 49.5
comp=Z,15nm,1.3s
I21K Tanana 86.87 9 P **P** **14 26 08.4 +1.2**
baz=200
MLY Manley 86.92 9 P **P** **14 26 08.6 +1.1**
baz=201,SNR=8.0
N31M Braeburn, Yuko 86.95 17 P **P** **14 26 08.5 +0.7**
baz=215
HDA Harding Lake 86.97 11 P **P** **14 26 09.1 +1.3**
baz=204,SNR=13

CCB Clear Creek Bu 87.04 11 IAmb IAmb 14 26 10.9
comp=Z,13nm,0.9s
M29M Somme Creek 87.06 15 IAmb IAmb 14 26 12.2
comp=Z,7.3nm,0.9s
M29M Somme Creek 87.06 15 P **P** **14 26 08.9 +0.5**
baz=212,SNR=7.2
SCRK Sand Creek 87.15 12 IAmb IAmb 14 26 12.2
comp=Z,6.9nm,1.0s
SCRK Sand Creek 87.15 12 P **P** **14 26 09.5 +0.7**
baz=207,SNR=8.0
G19K Purcell Mounta 87.16 6 P **P** **14 26 09.8 +1.2**
baz=195
H21K Melozitna Rive 87.21 8 IAmb IAmb 14 26 38.4
comp=Z,9.7nm,1.1s
H21K Melozitna Rive 87.21 8 P **P** **14 26 10.1 +1.1**
baz=199
COLA College 87.24 11 P **P** **14 26 10.2 +1.2**
COLA College 87.24 11 *d i*P **P** **14 26 10.5 +1.5**
COLA pmax pmax
comp=Z,20nm,0.8s
COLA College 87.24 11 P **P** **14 26 10.0 +1.0**
baz=204
I23K Minto, Yukon-K 87.24 10 P **P** **14 26 10.6 +1.6**
baz=202
IL31 87.31 11 IAmb IAmb 14 26 52.2
comp=Z,19nm,1.6s
ILAR Eielson Array 87.31 11 **P** **14 26 09.0 -0.4**
ILAR Eielson Array 87.31 11 P **P** **14 26 10.4 +1.0**
comp=Z,3.2nm,0.8s,baz=214,slow=5.9,SNR=40
comp=Z,3.2nm,0.8s
ILAR Eielson Array 87.31 11 *e*P **P** **14 26 10.8 +1.4**
ILAR pmax pmax
comp=Z,3.0nm,0.8s
F18K Selawik 87.36 5 P **P** **14 26 10.8 +1.2**
baz=193
IMAR Indian Mountai 87.40 8 P **P** **14 26 11.4 +1.6**
SEY Seymchan 87.41 345 *d e*P **P** **14 26 11.2 +1.3**
SEY pmax pmax
comp=Z,14nm,0.9s
J25K Salcha River, 87.45 12 IAmb IAmb 14 26 13.5
comp=Z,8.2nm,0.8s
J25K Salcha River, 87.45 12 P **P** **14 26 11.7 +1.6**
baz=206,SNR=14
N32M Quiet Lake 87.45 18 P **P** **14 26 11.3 +1.1**
baz=217
POKR Poker Plat Res 87.53 11 P **P** **14 26 12.1 +1.6**
baz=204
K27K Chicken 87.59 13 IAmb IAmb 14 26 36.0
comp=Z,10nm,1.4s
K27K Chicken 87.59 13 P **P** **14 26 13.2 +2.4**
baz=209
M30M Minto, Yukon 87.59 16 IAmb IAmb 14 28 41.4
comp=Z,20nm,1.9s
M30M Minto, Yukon 87.59 16 P **P** **14 26 12.0 +1.1**
baz=214
H22K Ishtalitna Cre 87.63 9 P **P** **14 26 12.3 +1.3**
baz=200,SNR=5.4
E17K Hotham Inlet 87.66 4 P **P** **14 26 12.3 +1.3**
baz=191
HEH HeiHe 87.69 326 *e*P **P** **14 26 12.5 +1.0**
HEH pmax pmax
comp=Z,9.0nm,1.5s
HEH LR LR
comp=Z,200nm,15.9s
HEH LR LR
comp=Z,200nm,18.0s
HEH LR LR
comp=Z,340nm,18.0s
J26L Joseph Creek 87.70 12 P **P** **14 26 12.8 +1.4**
baz=208,SNR=20
L29M L29M 87.70 15 IAmb IAmb 14 26 15.6
comp=Z,9.0nm,0.8s
L29M L29M 87.70 15 P **P** **14 26 12.5 +1.1**
baz=213,SNR=10
SYO Syowa Base 87.74 191⇑ *e*PcP **P** **14 26 13.2 +1.6**
TROLL Troll, Antarti 87.75 179⇓ P **P** **14 26 13.7 +1.8**
comp=Z,166nm,0.8s
F19K Shaleruckik Mo 87.76 6 IAmb IAmb 14 26 14.5
comp=Z,8.1nm,0.9s
F19K Shaleruckik Mo 87.76 6 P **P** **14 26 13.3 +1.8**
baz=194
H23K Yukon River 87.84 10 P **P** **14 26 12.9 +1.0**
baz=202
VNA3 Neumayer Olymp 87.86 175⇓ P **P** **14 26 13.7 +1.5**
comp=Z,5.1nm,0.8s
SNAA Sanae 87.90 177⇓ P **P** **14 26 14.1 +1.7**
comp=Z,60nm,0.8s
SNAA Sanae 87.90 177 P **P** **14 26 13.7 +1.3**
SNAA Sanae 87.90 177 P **P** **14 26 14.2 +1.8**
comp=Z,3.0nm,0.9s,baz=194,slow=8.0,SNR=10
SNAA LR LR 15 02 20.3
comp=Z,178nm,20.0s,baz=164,slow=33
comp=Z,3.0nm,0.9s
SNAA Sanae 87.90 177⇑ *i*P **P** **14 26 14.4 +1.9**
SNAA pmax pmax
comp=Z,19nm,3.2s
M31M Drury Creek, Y 87.92 17 P **P** **14 26 14.1 +1.6**
baz=216
G21K Allakaket 87.94 8 P **P** **14 26 13.7 +1.3**
baz=198
WTLY Watson Lake, Y 87.97 21 P **P** **14 26 13.6 +0.9**
baz=221
E18K Tukpahlearik C 88.09 5 P **P** **14 26 14.7 +1.7**
baz=192
H24K Noodor Dome 88.12 10 P **P** **14 26 14.6 +1.3**
baz=204
F20K Avaraart Lake 88.18 7 P **P** **14 26 14.9 +1.5**
baz=196
DAWY Dawson 88.22 14 IAmb IAmb 14 26 17.8
comp=Z,7.2nm,0.9s
DAWY Dawson 88.22 14 P **P** **14 26 14.5 +0.7**
baz=211,SNR=9.1
PRP Porcupine Dome 88.24 11 P **P** **14 26 16.1 +2.2**
PRP IAmb IAmb 14 26 56.7
comp=Z,14nm,1.2s
PRP Porcupine Dome 88.24 11 P **P** **14 26 14.8 +0.8**
baz=206,SNR=9.0
TOAD Toad River Com 88.27 23 P **P** **14 26 14.9 +0.7**
baz=224
VNA2 Neumayer--Watz 88.35 175⇓ P **P** **14 26 16.6 +2.1**
comp=Z,3.3nm,0.8s,baz=182,slow=2.7
E19K Redstone River 88.42 6 P **P** **14 26 16.3 +1.7**
baz=195
K29M Barlow Dome 88.47 15 IAmb IAmb 14 26 19.3
comp=Z,5.3nm,0.8s
K29M Barlow Dome 88.47 15 P **P** **14 26 16.2 +1.1**
baz=213,SNR=8.9
I26K Coal Creek Min 88.50 12 IAmb IAmb 14 27 09.6
comp=Z,18nm,1.7s
I26K Coal Creek Min 88.50 12 P **P** **14 26 16.0 +1.0**
baz=208
VNA1 Neumayer--Stat 88.55 175⇓ P **P** **14 26 17.5 +2.1**
comp=Z,6.0nm,1.0s
G22K Bettles 88.58 8 P **P** **14 26 16.3 +0.9**
baz=200
F21K Alatna River 88.61 8 P **P** **14 26 16.5 +1.0**
baz=198
H25L Birch Creek 88.86 11 P **P** **14 26 19.0 +2.3**
baz=206
HNS HongShan 88.88 311⇓ P **P** **14 26 20.0 +2.5**
HNS S S 14 36 51.5 -11
HNS pmax pmax
comp=Z,10.0nm,0.9s
HNS LR LR
comp=Z,130nm,15.1s
HNS LR LR
comp=Z,160nm,19.8s
C17K DeLong Mountai 88.95 4 P **P** **14 26 19.8 +2.7**
baz=189
G24K Hadweenzic Riv 88.98 10 P **P** **14 26 19.9 +2.6**
baz=204
PSI Prapat 89.00 273 LR LR 15 06 39.3
comp=Z,77nm,20.2s,baz=112,slow=36
F22K John River 89.05 8 P **P** **14 26 20.3 +2.6**
baz=200
COLD Coldfoot 89.05 9 P **P** **14 26 20.3 +2.7**
baz=201
I27K Kandik River 89.07 13 P **P** **14 26 19.7 +1.9**
baz=209
MMPY Sheldon Lake, 89.14 18 P **P** **14 26 20.0 +1.8**
baz=219
C18K Utukok River 89.25 4 P **P** **14 26 20.8 +2.2**
baz=191
G25K Bearman Lake 89.27 10 P **P** **14 26 20.4 +1.8**
baz=205
I28M Miner Creek 89.28 13 P **P** **14 26 20.8 +1.9**
baz=211
E20K Nigu River 89.30 6 P **P** **14 26 20.7 +1.9**

baz=196
D19K Kuna River 89.35 5 P P 14 26 20.6 +1.6
baz=194
J30M Hart River 89.37 15 P P 14 26 20.2 +0.9
baz=214
BILL Bilibino 89.50 352↓ *e*P P 14 26 20.0 +0.3
BILL pmax pmax
comp=Z,14nm,1.2s
H27K Steamboat Moun 89.63 12 P P 14 26 23.0 +2.5
baz=210
F24K Squaw Lake 89.67 9 P P 14 26 22.5 +2.0
baz=204
E22K Anaktuvuk Pass 89.69 8 IAmb IAmb 14 26 44.2
comp=Z,13nm,1.4s
E22K Anaktuvuk Pass 89.69 8 P P 14 26 22.9 +2.3
baz=200
D20K Etivluk River 89.70 6 P P 14 26 21.6 +1.0
baz=196
E21K Killik River 89.72 7 P P 14 26 23.0 +2.3
baz=198
C19K Lookout Ridge 89.82 5 P P 14 26 22.8 +1.6
baz=193
G26K Porcupine Rive 89.84 11 P P 14 26 24.4 +3.1
baz=207
I30M Mount Dempster 89.90 15 IAmb IAmb 14 26 38.6
comp=Z,11nm,1.3s
I30M Mount Dempster 89.90 15 P P 14 26 24.6 +2.9
baz=214
E23K Chandalar 89.91 9 P P 14 26 24.7 +3.0
baz=202
RSSD Black Hills 90.01 42 P 14 26 23.5 +0.6
RSSD Black Hills 90.01 42 P P 14 26 23.5 +0.6
RSSD pmax pmax
comp=Z,6.0nm,0.8s
E24K Your Creek 90.09 9 P P 14 26 25.5 +3.0
baz=203
F25K Christian Rive 90.09 10 P P 14 26 25.1 +2.5
baz=206
G27K Doyon Strip 90.11 12 P P 14 26 25.2 +2.6
baz=209
BMAR Burnt Mountain 90.13 11 P P 14 26 24.1 +1.4
H29M Whitestone 90.28 13 P P 14 26 25.7 +2.3
baz=212
D22K Ayikyak River 90.29 7 P P 14 26 25.8 +2.4
baz=199
C21K Knifeblade Rid 90.31 6 P P 14 26 25.9 +2.4
baz=197
F26K Sheenjek River 90.44 11 P P 14 26 26.4 +2.2
baz=207
E25K Arctic Village 90.58 10 P P 14 26 26.4 +1.6
baz=206
D23K Nanushuk River 90.61 8 P P 14 26 26.5 +1.6
baz=201
EPYK Eagle Plains 90.77 14 P P 14 26 27.5 +1.8
baz=214
B21K Ikpikpuk River 90.78 6 P P 14 26 27.9 +2.4
baz=197
H31M Peel River 90.86 15 P P 14 26 27.8 +1.6
baz=216
B20K Meade River 90.90 5 P P 14 26 28.2 +2.0
baz=195
XLT XiLinHaoTe 90.93 317 *e*P P 14 26 28.5 +1.5
XLT pmax pmax
comp=Z,6.0nm,1.0s
G29M Pine Creek 90.94 13 P P 14 26 28.5 +2.0
baz=213
D24K Happy Valley 91.04 8 P P 14 26 28.9 +2.1
baz=203
E27K Coleen River 91.33 11 P P 14 26 30.6 +2.3
baz=209
G30M tAoh Zraii Nji 91.39 14 P P 14 26 30.6 +2.0
baz=214
D25K Kavik River 91.55 9 P P 14 26 31.3 +2.0
baz=205
C24K Franklin Bluff 91.58 8 P P 14 26 31.6 +2.3
baz=203
B22K Teshekpuk Lake 91.59 7 P P 14 26 30.6 +1.3
baz=198
NNA Nana 91.70 103 LR LR 15 00 30.7
comp=Z,113nm,18.6s,baz=216,slow=31
XAN Xi'an 91.73 306 ⇑P P 14 26 32.8 +1.9
XAN pP sP 14 26 44.8 +0.7
XAN pmax pmax
comp=Z,14nm,1.0s
G31M Satah River 91.79 14 P P 14 26 32.6 +2.3
baz=216
JTS Las Juntas de 91.89 80 LR LR 14 58 56.2
comp=Z,133nm,20.2s,baz=239,slow=30
ATAH Atahualpa 91.99 98 LR LR 14 58 58.2
comp=Z,118nm,20.0s,baz=239,slow=30
A22K Sinclair Lake 92.07 6 P P 14 26 34.0 +2.5
baz=197
E28M Babbage River 92.08 12 P P 14 26 34.0 +2.3
baz=211
E29M Blow River 92.22 12 P P 14 26 34.5 +2.2
baz=213
A21K Barrow 92.23 5 P P 14 26 34.6 +2.4
baz=196
C27K Jago River 92.24 10 P P 14 26 34.7 +2.2
baz=208
C26K Camden Bay 92.31 9 P P 14 26 34.9 +2.2
baz=206
F31M Tsiigehtchic 92.33 14 P P 14 26 35.1 +2.2
baz=217
D27M Malcolm River 92.37 11 P P 14 26 35.5 +2.4
baz=210
HHC Hu-ho-hao-te 92.58 313 *e*P P 14 26 32.8 -2.0
HHC SKS **SKSac 14 37 01.3 -4.1**
HHC S **S 14 37 31.0 -5.4**
HHC sS pS 14 37 49.8 +0.2
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,71nm,4.9s
D28M Stokes Point 92.85 12 P P 14 26 37.8 +2.6
baz=212
YAK Yakutsk 93.79 337 LR LR 15 05 52.0
comp=Z,41nm,19.0s,baz=126,slow=34
CMAR Chiang Mai Arr 94.38 288 P 14 26 42.7 -0.8
CMAR Chiang Mai Arr 94.38 288 P P 14 26 43.5 +0.1
comp=Z,2.5nm,1.0s,baz=120,slow=3.4,SNR=11
CMAR LR LR 15 06 47.5
comp=Z,49nm,20.4s,baz=125,slow=34
comp=Z,2.5nm,1.0s
YKA Yellowknife Ar 94.60 23 P P 14 26 44.7 +1.3
comp=Z,1.2nm,0.8s,baz=237,slow=5.1,SNR=4.8
comp=Z,1.2nm,0.8s
PZH PanZhiHua 94.70 296 P P 14 26 42.3 -2.6
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
LZH Lanzhou 96.35 306 *e*P P 14 26 51.3 -1.0
LZH pmax pmax
comp=Z,8.0nm,1.2s
LPAZ La Paz 97.88 111 LR LR 15 02 44.8
comp=Z,126nm,20.4s,baz=244,slow=30
SONM Songino Array 98.71 318 LR LR 15 09 31.7
comp=Z,78nm,18.9s,baz=86,slow=34
MOY Mondy 103.24 320 *e*P Pdif 14 27 34.6 +12
WMQ Urumqi 110.31 310 *e*PKP PKiKP 14 31 50.8 -4.4
MK31 Makanchi Array 114.45 313 *c*PKIKP PKPdf 14 32 03.3 +0.4
MKAR Makanchi Array 114.45 313 PKiKP PKiKP 14 32 03.5 +0.6
comp=Z,1.2nm,0.7s,baz=66,slow=4.1,SNR=9.6
KURK Kurchatov 117.01 317 ↓*j*PKIKP PKPdf 14 32 07.6 0.0
KURBB Kurchatov Arra 117.07 317 PKP PKiKP 14 32 08.3 +0.5
comp=Z,1.4nm,0.2s,baz=94,slow=2.1,SNR=7.5
BVAR Borovoye Array 121.92 320 PKP PKiKP 14 32 18.1 +0.9
comp=Z,2.7nm,0.6s,baz=60,slow=0.9,SNR=11
ARTI Arti 127.78 327 *i* PKIKP PKiKP 14 32 30.1 +1.4
ARTI 14 34 31.1
ARTI 14 39 36.6
ARTI SS SS 14 51 39.5 0.0
ARCES ARCESS Array B 129.59 352 PKP PKiKP 14 32 33.2 +1.2
comp=Z,0.9nm,0.5s,baz=27,slow=3.3,SNR=18
FINES FINESS Array B 136.87 347 PKP PKiKP 14 32 46.8 -0.1
comp=Z,2.1nm,0.8s,baz=56,slow=2.5,SNR=6.5
FINES FINESS Array B 136.87 347 *e*PKIKP PKiKP 14 32 47.6 +0.7
FINES pmax pmax
comp=Z,2.0nm,0.8s
OBN Obninsk 138.75 334 *e*PKIKP PKPdf 14 32 45.2 -3.6
OBN pmax pmax
comp=Z,4.0nm,0.7s
HFS Hagfors 140.03 355 PKhKP PKPpre 14 32 45.8
comp=Z,0.9nm,0.6s,baz=113,slow=3.4,SNR=4.4
KIV Kislovodsk 142.09 316 *i* PKIKP PKiKP 14 33 01.8 +3.5
KIV pmax pmax
comp=Z,6.0nm,1.0s
SOC Sochi 144.16 318 *e*PKIKP PKPbc 14 32 58.2 +1.2
SOC *e* 14 36 13.8
SOC *e*PPP PPP 14 39 22.9
AKASG Malin Array Be 145.00 335 PKPab 14 32 59.9 +0.4
AKASG Malin Array Be 145.00 335 PKP PKPab 14 33 00.1 +0.7
comp=Z,15nm,0.6s,baz=42,slow=4.3,SNR=84
AKASG Malin Array Be 145.00 335 PKIKP PKPab 14 32 59.9 +0.4
AKBB Malin Array Si 145.00 335 PKPab 14 33 00.0 +0.5
AKBB Malin Array Si 145.00 335 PKIKP PKPab 14 33 00.0 +0.5
KIEV Kiev 145.02 335 PKPab 14 33 00.2 +0.7
KIEV Kiev 145.02 335 PKIKP PKPab 14 33 00.2 +0.7
KIEV Kiev 145.02 335 ⇑P PKPab 14 33 00.1 +0.7
BSEG Bad Segeberg 146.44 356 *e*PKPbc PKPab 14 33 06.1 +1.4
baz=6.7,slow=2.5
SORM Soroca 147.36 333 ⇑P PKPab 14 33 08.1 -0.4
RUE Ruedersdorf 147.56 352 *e*PKPbc PKiKP 14 33 09.2 +0.1
baz=6.7,slow=2.5
NRDL Niedersach Rie 147.89 356 *e*PKPbc PKiKP 14 33 09.8 +0.1
baz=6.7,slow=2.5
NRDL *e*pPKPbc **sPKPab 14 33 26.9 +3.7**
FLTG Flechtingen 147.97 355 *e*PKPbc PKiKP 14 33 10.1 +0.1
baz=6.7,slow=2.5
FLTG *e*pPKPbc **sPKPab 14 33 26.9 +3.3**
IBBN Ibbenburen 148.17 359 *e*PKPbc PKiKP 14 33 10.5 +0.1
baz=6.7,slow=2.5
IBBN *e*pPKPbc **sPKPab 14 33 27.8 +3.4**
ASSE Asse, Remlinge 148.22 355 *e*PKPbc PKiKP 14 33 11.1 +0.7
baz=6.7,slow=2.5
ASSE *e*pPKPbc **sPKPab 14 33 27.3 +2.8**
CLZ Clausthal 148.53 356 *e*PKPbc PKiKP 14 33 11.9 +0.7
baz=6.7,slow=2.5
OJC Ojcow 148.54 344 *e*PKP PKPbc 14 33 08.3 -1.4
KSP Ksiaz 148.74 348 *e*PKP PKiKP 14 33 12.4 +0.7
CLL Collm 148.80 353 *i* PKP2 PKiKP 14 33 12.2 +0.5
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 148.80 353 *e*PKPdf PKPdf 14 33 07.0 +0.5
CLL *i* PKPbc PKiKP 14 33 12.2 +0.5
comp=Z,12nm,1.0s
CLL *i* PKPab **pPKPdf 14 33 15.7 -0.3**
comp=Z,9.0nm,1.0s
CLL *i* x x 14 33 17.6
comp=Z,11nm,0.9s
CLL *i* x x 14 33 23.4
CLL *e*PKPlp 14 33 33.0
CLL *ex* x 14 46 00.0
CLL AMS AMS 15 45 00.0
comp=Z,100nm,19.5s
CLL Collm 148.80 353 *e*PKPbc PKiKP 14 33 12.4 +0.7
baz=6.7,slow=2.5
STHS Stebnicka Huta 148.87 342 *e*PKP2 PKPab 14 33 16.2 +1.6
STHS Stebnicka Huta 148.87 342 *e*PKP PKPab 14 33 16.2 +1.6
KOLS Kolonicke sedl 148.98 340 *e*PKP2 PKPab 14 33 16.7 +1.7
KOLS Kolonicke sedl 148.98 340 *e*PKP PKPab 14 33 16.7 +1.7
OSTC Ostas 149.03 348 *e*PKP PKiKP 14 33 13.9 +1.6
OSTC Ostas 149.03 348 *e*PKP2 PKiKP 14 33 13.9 +1.6
BURAR Bucovina Array 149.05 335 ⇑P PKiKP 14 33 13.7 +1.1
BRG Berggiesshubel 149.10 351 *e*PKPbc PKiKP 14 33 13.2 +0.8
baz=6.7,slow=2.5
BRG Berggiesshubel 149.10 351 *e*PKP PKiKP 14 33 13.2 +0.8
BRG Amp 14 33 17.4
comp=Z,5.1nm,0.8s
BRG Berggiesshubel 149.10 351 P PKPab 14 33 23.4 +7.9
BRG Amp 14 33 25.5
comp=Z,7.7nm,1.0s
NIE Niedzica 149.14 343 *e*PKP PKiKP 14 33 14.0 +1.5
DPC Dobruska-Polom 149.21 348 *e*PKP PKiKP 14 33 13.6 +0.9
DPC AMS AMS 15 41 10.0
comp=Z,100nm,22.6s
DPC Dobruska-Polom 149.21 348 *e*PKP2 PKiKP 14 33 13.6 +0.9
DPC MLR MLR
comp=Z,100nm,22.6s
KASTN Kahler Asten 149.26 358 *e*PKPbc PKiKP 14 33 13.4 +0.7
baz=6.7,slow=2.5
STEB Steborice 149.30 346 *e*PKP PKPbc 14 33 11.2 -0.5
TESR Tescani 149.35 333 ⇑P PKPbc 14 33 11.2 -0.7
TLCR 149.35 329 ⇑P PKiKP 14 33 12.9 -0.1
KRLC Kraliky 149.38 347 *e*PKP PKiKP 14 33 14.6 +1.5
KRLC Kraliky 149.38 347 *e*PKP2 PKiKP 14 33 14.6 +1.5
MORC Moravsky Berou 149.50 346 *e*PKP PKiKP 14 33 13.6 +0.3
ONER Baraj Valea Uz 149.60 333 ⇑P PKiKP 14 33 15.1 +1.5
LANS Liptovska Anna 149.61 344 *e*PKP2 PKPab 14 33 16.5 -1.1
LANS Liptovska Anna 149.61 344 *e*PKP PKPab 14 33 16.5 -1.1
MOX Moxa 149.61 354 *e*PKPbc PKiKP 14 33 14.5 +1.0
baz=6.7,slow=2.5
CFR Carcaliu 149.69 329 ⇑P PKiKP 14 33 14.7 +1.0
TANN Tannenbergstha 149.75 353 *e*PKPbc PKiKP 14 33 14.9 +1.1
baz=6.7,slow=2.5
TPGR Topolog 149.79 329 ⇑P PKiKP 14 33 15.3 +1.3
VRI Vrincioaia 149.82 332 ⇑P PKiKP 14 33 14.9 +0.9
MAUC Maruska 149.82 346 *e*PKP PKiKP 14 33 15.6 +1.6
PLOR Plostina 149.86 332 ⇑P PKiKP 14 33 15.1 +0.9
BRTR Keskin Array B 150.05 316 PKPbc PKiKP 14 33 15.2 +0.3
comp=Z,3.6nm,0.8s,baz=140,slow=4.3,SNR=17
OZUR 150.05 333 ⇑P PKiKP 14 33 15.1 +0.5
COVR Voineasa-Covas 150.06 332 ⇑P PKiKP 14 33 15.6 +1.0
TIRR Tirgusor 150.08 328 ⇑P PKiKP 14 33 15.8 +1.2
HARR Harsova 150.15 329 ⇑P PKiKP 14 33 15.5 +0.8
VRAC Vranov 150.15 347 *e*PKP PKiKP 14 33 16.1 +1.5
KIRS Kirsehir-Merke 150.17 315 ⇑P PKiKP 14 33 16.0 +0.9
MANZ Manzenberg 150.21 353 *e*PKPbc PKiKP 14 33 16.2 +1.4
baz=6.7,slow=2.5
TNS Taunus Mts 150.24 358 *e*PKPbc PKiKP 14 33 16.1 +1.3
baz=6.7,slow=2.5
DOPR Dopca 150.32 333 ⇑P PKiKP 14 33 16.9 +1.8
JAVC Velka Javorina 150.33 345 *e*PKP PKiKP 14 33 16.4 +0.3
NEHR Nehoiu 150.35 332 ⇑P PKiKP 14 33 17.6 +2.5
VYHS Vyhne 150.38 344 *e*PKIKP PKiKP 14 33 16.7 +1.6
VYHS Vyhne 150.38 344 *e*PKP PKiKP 14 33 16.7 +1.6
ROTZ Rotzenmuhle 150.41 353 *e*PKPbc PKiKP 14 33 16.7 +1.6
baz=6.7,slow=2.5
KRUC Moravsky 150.42 347 *e*PKP PKiKP 14 33 16.2 +1.0
MLR Muntele Rosu 150.45 332 PKPbc PKiKP 14 33 16.1 +0.6
comp=Z,14nm,1.0s,baz=45,slow=4.3,SNR=12
MLR Muntele Rosu 150.45 332 ⇑P PKiKP 14 33 16.7 +1.2
ZVC Zvikov 150.46 350 *e*PKP PKiKP 14 33 16.5 +1.3
ISR Istrita 150.47 331 ⇑P PKiKP 14 33 16.9 +1.4
ANTO Ankara 150.52 317 ⇑P PKiKP 14 33 17.3 +1.5
PSZ Piszkesteto 150.61 342 ⇑P PKPbc 14 33 15.4 +0.4
MARR Marisel-Cluj 150.63 337 ⇑P PKiKP 14 33 16.2 +0.3
DRGR 150.68 337 ⇑P PKiKP 14 33 17.2 +1.3
WLF Walferdange 150.82 1 *e*PKPbc PKiKP 14 33 17.9 +2.0
baz=6.7,slow=2.5
KHC Kasperske Hory 150.86 351 *e*PKP PKiKP 14 33 17.5 +1.4
KHC Kasperske Hory 150.86 351 *e*PKIKP PKiKP 14 33 17.5 +1.4
MODS Modra-Piesok 150.88 346 *e*PKIKP PKPdf 14 33 11.0 +1.1
MODS *e* 14 33 16.3
MODS Modra-Piesok 150.88 346 *e*PKP PKPdf 14 33 11.0 +1.1
MODS *e* 14 33 16.3
VOIR 150.88 333 ⇑P PKiKP 14 33 17.8 +1.4
WET Wettzell 150.94 352 *e*PKPbc PKiKP 14 33 17.8 +1.5
baz=6.7,slow=2.5
CKRC Cesky Krumlov 151.04 350 *e*PKP PKiKP 14 33 18.3 +1.8
CKRC Cesky Krumlov 151.04 350 *e*PKIKP PKiKP 14 33 18.3 +1.8
ARR Arges 151.11 333 ⇑P PKiKP 14 33 19.1 +2.3
GEC2 GERESS Array S 151.12 351 *e*PKPbc PKiKP 14 33 18.3 +1.6
baz=6.7,slow=2.5
GERES GERESS Array B 151.12 351 PKPbc PKiKP 14 33 17.9 +1.2
comp=Z,3.1nm,0.9s,baz=20,slow=1.6,SNR=17
LOT Lotru 151.40 335 ⇑P PKiKP 14 33 17.7 +0.2
SIRR Siria 151.50 338 ⇑P PKiKP 14 33 19.3 +1.8
CONA Conrad Observa 151.61 347 *e*PKP PKiKP 14 33 19.6 +1.8
comp=Z,6.8nm,0.8s
MMAI Mount Meron Ar 151.66 302 PKPbc PKiKP 14 33 19.3 +0.9
comp=Z,4.2nm,0.7s,baz=100,slow=4.4,SNR=6.5
RONA Rosalia, Austr 151.73 346 *e*PKP PKiKP 14 33 19.9 +1.9
comp=Z,10nm,0.9s
SURR Surduc 151.78 337 ↓⇑P PKiKP 14 33 19.4 +1.3
GZR Gura Zlata 151.84 336 ⇑P PKiKP 14 33 18.9 +0.6
BZS Buzias 152.08 338 ⇑P PKiKP 14 33 20.2 +1.5
BFO Black Forest 152.14 358 *e*PKPbc PKiKP 14 33 20.9 +2.1
baz=6.7,slow=2.5
ARSA Arzberg 152.32 347 *e*pPKP PKiKP 14 33 21.3 +2.1
comp=Z,3.2nm,1.0s
RJOB Jochberg 152.33 351 *e*PKPbc PKiKP 14 33 20.9 +1.6
baz=6.7,slow=2.5
HERR Herculane 152.41 336 ⇑P PKiKP 14 33 20.9 +1.5
MORH Mrgy, Hungar 152.51 342 ⇑P PKiKP 14 33 21.2 +1.7
LESA Schwarzleotal 152.65 351 *e*pPKP PKiKP 14 33 21.6 +1.6
comp=Z,4.8nm,1.1s
MDVR Moldovita 152.76 336 ⇑P PKiKP 14 33 21.3 +1.1
MOTA Moosalm 152.93 354 *e*pPKP PKPbc 14 33 20.9 +0.4
comp=Z,4.6nm,1.0s
WTTA Wattenberg 152.95 353 *e*pPKP PKiKP 14 33 22.5 +1.8
comp=Z,6.9nm,0.9s
SOKA Soboth 152.97 348 *e*pPKP PKiKP 14 33 21.8 +1.1
comp=Z,5.5nm,1.1s
DAVA Damuels 153.09 355 PKiKP PKPdf 14 33 17.4 +3.9
comp=Z,5.9nm,1.0s
OBKA Obir 153.23 348 pPKP PKiKP 14 33 22.4 +1.2
comp=Z,3.8nm,0.9s
MYKA Terra Mystica 153.28 350 *e*PKP PKPab 14 33 28.0 -5.0
comp=Z,3.3nm,0.7s
ABTA Abfaltersbach 153.34 351 *e*pPKP PKPbc 14 33 21.4 +0.2
comp=Z,5.7nm,1.0s

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*IDC **25** 14:16:48.1±16.0,34°.51N×71°.65E,h97km±86km,mb3.5/5, mbtmp3.8/10,ML3.7/5,MS3.0/2,Error ellipse: s-maj=161.9km s-min=50.1km az=170.0*
ISC 25 14:16:37.4±4.6,33°.9N±0°.5×71°.5E±0°.3,h35km,n12, σ1°17/11,mb3.7/5,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**9.07**	**14**	P		**Pn 14 18 47.5**	**+1.7**
	1.3nm,0.3s,baz=195,slow=16,SNR=3.8						
AAK				LR	LR	14 21 55.5	
	comp=Z,15nm,21.2s,baz=200,slow=36						
	3.9nm,0.5s						
MKAR	**Makanchi Array**	**15.28**	**29**	P		**Pn 14 20 10.8**	**+0.4**
	0.3nm,0.3s,baz=216,slow=12,SNR=9.6						
MKAR				LR	LR	14 26 37.4	
	comp=Z,69nm,19.4s,baz=159,slow=40						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**17.52**	**15**	P		**Pn 14 20 37.0**	**-1.7**
	0.2nm,0.3s,baz=207,slow=11,SNR=12						
	2.4nm,0.7s						
BVAR	**Borovoye Array**	**19.17**	**358**	P		**P 14 20 55.9**	**-1.8**
	0.1nm,0.3s,baz=166,slow=7.1,SNR=5.1						
	1.4nm,0.5s						
AKTO	**Aktyubinsk**	**19.30**	**333**	P		**Pn 14 21 00.1**	**-0.3**
	0.8nm,0.3s,baz=153,slow=7.6,SNR=9.5						
	3.6nm,0.5s						
ZALV	**Zalesovo Beam**	**22.18**	**21**	P		**P 14 21 29.3**	**-0.9**
	5.3nm,0.6s,baz=223,slow=10,SNR=26						
	5.3nm,0.6s						
MMAI	**Mount Meron Ar**	**30.06**	**279**	LR	LR	14 36 09.5	
	comp=Z,20nm,20.5s,baz=157,slow=39						
FINES	**FINESS Array B**	**39.92**	**328**	P		**P 14 24 07.8**	**0.0**
	0.9nm,0.7s,baz=113,slow=6.5,SNR=2.4						
	0.9nm,0.7s						
ARCES	**ARCESS Array B**	**43.74**	**339**	P		**P 14 24 39.5**	**+0.6**
	0.7nm,0.5s,baz=119,slow=7.8,SNR=7.1						
	0.7nm,0.5s						
HFS	**Hagfors**	**45.42**	**324**	P		**P 14 24 52.9**	**+0.5**
	1.1nm,0.5s,baz=99,slow=8.9,SNR=4.9						
	1.1nm,0.5s						
NB2	**NORSAR Subarra**	**46.76**	**325**	P		**P 14 25 02.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=101,slow=7.9						
NOA	**NORSAR Array B**	**46.76**	**325**	P		**P 14 25 03.2**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=96,slow=7.9,SNR=3.6						
	comp=Z,0.4nm,0.5s						

IDC 25 14:24:57.9±6.7,51°.30N×91°.19E,h0km,mbtmp2.6/2, ML2.2/2,Error ellipse: s-maj=72.8km s-min=28.6km az=72.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**4.70**	**307**	Pn	Pn	14 26 09.9	-0.1
	0.3nm,0.3s,baz=130,slow=12,SNR=2.2						
ZALV				Lg	Lg	14 27 27.3	
	0.3nm,0.3s,baz=124,slow=27,SNR=10						
	0.4nm,0.2s						
I46RU	**ZALESOVO INFRA**	**4.70**	**307**	I	I	14 53 30.0	
	baz=121,slow=321,SNR=2.2						
MKAR	**Makanchi Array**	**7.38**	**236**	Pn	Pn	14 26 47.7	+0.8
	0.1nm,0.3s,baz=53,slow=14,SNR=1.8						
	0.1nm,0.4s						

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*IDC **25** 14:40:07.8±0.5,31°.22S×177°.41W,h0km,mb4.5/14, mbtmp4.5/15,ML4.9/1,MS3.9/29,Error ellipse: s-maj=22.3km s-min=14.3km az=81.0*
*NEIC **25** 14:40:09.9±1.8,31°.2S±0°.1×177°.5W±0°.2,h10km±1km, mb4.8/33,Error ellipse: s-maj=25.9km s-min=16.6km az=76.0*
*GCMT **25** 14:40:14.9±0.6,31°.29S±0°.05×177°.24W±0°.05,h22km±1km, MW4.9/66,Moment Tensor Solution. s22,c25; s66,c86; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.61±.22; Mθθ0.80±.16; Mφφ 1.81±.14; Mrθ 0.05±.27; Mrφ 0.82±.08; Mθφ-0.18±.21; Best double couple: M◎2.44800×10^16^ NP1:ϕ◎212.00000°,δ43.00000°,λ-86.00000°. NP2: ϕ◎27.00000°,δ47.00000°,λ-94.00000°. Principal axes: T 2.2770, Plg2.0000°, Azm119.0000°; N 0.3450, Plg3.0000°, Azm29.0000°; P -2.6200, Plg87.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NOU **25** 14:40:14.6,32°.12S×176°.60W,h83km,mb4.6/20,South of Kermadec Islands*
ISC 25 14:40:08.8±0.4,31°.38S±0°.05×177°.38W±0°.08,h10km, n178,σ2°12/174,mb4.8/33,MS3.9/28,6D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.16**	**347**	P	Pn	**14 40 43.2**	**-1.6**
GLKZ				S	Sn	**14 41 09.2**	**-2.5**
RAO	**Raoul Island**	**2.17**	**347**		Pn	**14 40 42.8**	**-2.2**
RAO	**Raoul Island**	**2.17**	**347**	Pn	Pn	**14 40 43.3**	**-1.6**
	426nm,0.3s,baz=100,slow=6.7,SNR=18						
RAO				Sn	Sn	**14 41 09.6**	**-2.3**
	756nm,0.3s,baz=104,slow=22,SNR=6.0						
	1μm,0.2s						
RIZ	**Raoul Island**	**2.18**	**347**	P	Pn	**14 40 43.4**	**-1.7**
RIZ				S	Sn	**14 41 10.6**	**-1.5**
WMGZ	**Waiomatatini S**	**7.30**	**207**	P	Pn	**14 41 53.4**	**-2.1**
WMGZ				S	Sn	**14 43 19.2**	**+0.8**
PKGZ	**Pakihiroa**	**7.48**	**209**	P	Pn	14 41 50.7	-7.2
PKGZ				S	Sn	**14 43 20.6**	**-2.2**
HAZ	**Te Kaha**	**7.51**	**211**	P	Pn	**14 41 57.1**	**-1.2**
HAZ				S	Sn	**14 43 24.7**	**+1.2**
PUZ	**Puketiti**	**7.58**	**207**	P	Pn	**14 41 57.3**	**-2.0**
PUZ				S	Sn	**14 43 24.6**	**-0.8**
RUGZ	**Raukumara Rang**	**7.73**	**210**	P	Pn	**14 41 59.8**	**-1.7**
RUGZ				S	Sn	**14 43 28.0**	**-1.1**
TWGZ	**Tauwhareparae**	**7.78**	**208**	P	Pn	**14 41 59.9**	**-2.2**
TWGZ				S	Sn	**14 43 29.7**	**-0.7**
CNGZ	**Carnagh Statio**	**7.96**	**206**	P	Pn	**14 42 02.0**	**-2.5**
CNGZ				S	Sn	**14 43 34.3**	**-0.4**
TKGZ	**Te Karaka**	**8.06**	**208**	P	Pn	**14 42 03.7**	**-2.2**
TKGZ				S	Sn	**14 43 35.2**	**-1.9**
MWZ	**Matawai**	**8.11**	**210**	P	Pn	**14 42 03.9**	**-2.6**
MWZ				S	Sn	**14 43 34.8**	**-3.5**
URZ	**Urewera**	**8.22**	**212**	Pn	Pn	**14 42 06.0**	**-2.1**
	2.6nm,0.3s,baz=274,slow=2.2,SNR=16						
URZ				Sn	Sn	**14 43 37.7**	**-3.4**
	6.9nm,0.3s,baz=312,slow=22,SNR=8.7						
URZ	**Urewera**	**8.22**	**212**	P	Pn	**14 42 07.2**	**-0.9**
URZ	**Urewera**	**8.22**	**212**	S	Sn	**14 43 37.7**	**-3.4**
URZ	**Urewera**	**8.22**	**212**	P	Pn	**14 42 06.4**	**-1.7**
URZ				S	Sn	**14 43 39.0**	**-2.1**
WCZ	**Waipu Caves**	**8.27**	**234**	P	Pn	14 42 14.2	+5.5
RAGZ	**Rawiri**	**8.29**	**210**	P	Pn	**14 42 06.4**	**-2.7**
RAGZ				S	Sn	**14 43 40.0**	**-2.8**
RIGZ	**Rimuhau**	**8.33**	**207**	P	Pn	**14 42 06.4**	**-3.2**
RIGZ				S	Sn	**14 43 42.5**	**-1.2**
MKAZ	**Moumakai**	**8.41**	**225**	P	Pn	14 42 14.5	+3.7
PRGZ	**Paritu Road**	**8.47**	**206**	S	Sn	**14 43 44.8**	**-2.4**
OUZ	**Omahuta**	**8.47**	**241**	P	Pn	14 42 17.7	+6.2
OUZ	**Omahuta**	**8.47**	**241**	P	Pn	14 42 17.2	+5.7
MUGZ	**Murupara**	**8.56**	**213**	S	Sn	**14 43 46.5**	**-2.9**
SNGZ	**Shannon Statio**	**8.56**	**209**	P	Pn	**14 42 11.3**	**-1.4**
SNGZ				S	Sn	**14 43 46.8**	**-2.6**
RTZ	**Ruatahuna**	**8.58**	**211**		Pn	**14 42 13.0**	**-0.1**
RTZ	**Ruatahuna**	**8.58**	**211**	P	Pn	**14 42 09.5**	**-3.5**
RTZ				S	Sn	**14 43 45.9**	**-3.9**
MHGZ	**Mahia Peninsul**	**8.66**	**205**	P	Pn	**14 42 11.4**	**-2.7**
MHGZ				S	Sn	**14 43 47.4**	**-4.5**
RAHZ	**Arahi**	**8.78**	**210**	P	Pn	**14 42 15.9**	**+0.1**
RAHZ				S	Sn	**14 43 53.0**	**-1.9**
MTHZ	**Maungataniwha**	**8.83**	**211**	P	Pn	**14 42 15.5**	**-1.1**
MTHZ				S	Sn	**14 43 56.4**	**+0.2**

NMHZ	**Naumai**	**9.05 210**	P		**Pn**	**14 42 18.3**	**-1.3**	
NMHZ			S		**Sn**	**14 43 59.6**	**-1.9**	
BKZ	**Black Stump Fm**	**9.24 211**	P		**Pn**	**14 42 19.8**	**-2.4**	
BKZ	**Black Stump Fm**	**9.24 211**	S		**Sn**	**14 44 01.6**	**-4.7**	
BKZ	**Black Stump Fm**	**9.24 211**	P		**Pn**	**14 42 20.1**	**-2.1**	
BKZ			S		**Sn**	**14 44 01.4**	**-4.8**	
KWHZ	**Kaweka Forest**	**9.49 211**	P		**Pn**	**14 42 23.5**	**-2.0**	
KWHZ			S		**Sn**	**14 44 07.5**	**-4.8**	
HIZ	**Hauiti**	**9.55 220**	P		**Pn**	**14 42 28.6**	**+2.2**	
TMVZ	**Te Maari**	**9.57 214**	P		**Pn**	**14 42 26.1**	**-0.6**	
TMVZ			S		**Sn**	**14 44 13.2**	**-1.2**	
KAHZ	**Kahuranaki**	**9.61 208**	P		**Pn**	**14 42 22.7**	**-4.5**	
KAHZ			S		**Sn**	**14 44 10.6**	**-4.7**	
OTVZ	**Oturere**	**9.62 214**	P		**Pn**	**14 42 26.1**	**-1.4**	
SNVZ	**South Ngauruho**	**9.65 214**	P		**Pn**	**14 42 28.7**	**+0.8**	
KRHZ	**Kereru**	**9.69 210**	P		**Pn**	**14 42 26.3**	**-2.0**	
WNVZ	**Wahianoa**	**9.79 214**	P		**Pn**	**14 42 31.4**	**+1.7**	
PNHZ	**Pukenui**	**9.99 210**	P		**Pn**	**14 42 29.0**	**-3.4**	
BFZ	**Birch Farm**	**10.62 207**	P		**Pn**	**14 42 40.6**	**-0.4**	
BFZ	**Birch Farm**	**10.62 207**	S		**Sn**	**14 44 34.2**	**-5.8**	
BFZ	**Birch Farm**	**10.62 207**	P		**Pn**	**14 42 37.0**	**-4.0**	
DUWZ	**D'Urville Isla**	**11.74 214**	P		**Pn**	**14 42 53.8**	**-2.5**	
SNZO	**South Karori**	**11.78 211**	P		**Pn**	**14 42 56.7**	**-0.2**	
TUWZ	**Tuamarina**	**12.22 212**			Pn	14 43 06.5	+3.6	
TUWZ	**Tuamarina**	**12.22 212**	P		**Pn**	**14 43 01.9**	**-0.9**	
NNZ	**Nelson**	**12.32 215**	P		**Pn**	**14 43 01.5**	**-2.8**	
QRZ	**Quartz Range**	**12.46 218**	P		**Pn**	**14 43 08.1**	**+1.9**	
QRZ	**Quartz Range**	**12.46 218**	P		**Pn**	**14 43 07.5**	**+1.3**	
BSWZ	**Blackbirch Sta**	**12.48 212**	P		**Pn**	**14 43 08.8**	**+2.4**	
MRNZ	**Matariki Terra**	**12.77 216**	P		**Pn**	**14 43 09.4**	**-0.9**	
THZ	**Tophouse**	**12.97 214**			**Pn**	**14 43 15.6**	**+2.5**	
THZ	**Tophouse**	**12.97 214**	P		**Pn**	**14 43 11.3**	**-1.8**	
KHZ	**Kahutara**	**13.19 211**	P		**Pn**	**14 43 14.9**	**-1.2**	
KHZ	**Kahutara**	**13.19 211**	P		**Pn**	**14 43 13.9**	**-2.2**	
GVZ	**Greta Valley S**	**13.85 211**	P		**Pn**	**14 43 24.0**	**-1.2**	
LTZ	**Lake Taylor**	**14.05 213**	P		**Pn**	**14 43 24.5**	**-3.4**	
INZ	**Inchbonnie**	**14.40 215**			**Pn**	**14 43 31.8**	**-0.9**	
INZ	**Inchbonnie**	**14.40 215**	P		**Pn**	**14 43 29.8**	**-2.9**	
OXZ	**Oxford**	**14.58 212**	P		**Pn**	**14 43 32.2**	**-3.0**	
RACZ	**Rakaia**	**14.85 211**	P		**Pn**	**14 43 34.8**	**-4.0**	
MHCZ	**Mount Hutt**	**14.96 213**	P		**Pn**	**14 43 37.8**	**-2.5**	
WVZ	**Waitaha Valley**	**15.01 216**	P		**Pn**	**14 43 38.2**	**-2.8**	
WACZ	**Wakanui South**	**15.16 211**	P		**Pn**	**14 43 40.7**	**-2.2**	
RPZ	**Rata Peaks**	**15.34 213**			**Pn**	**14 43 43.1**	**-2.2**	
RPZ	**Rata Peaks**	**15.34 213**	Pn		**Pn**	**14 43 41.3**	**-4.0**	
	1.5nm,0.3s,baz=266,slow=2.5,SNR=13							
RPZ			Sn		Sn	14 46 20.7	-14	
	0.3nm,0.3s,baz=342,slow=20,SNR=1.5							
RPZ	**Rata Peaks**	**15.34 213**	P		**Pn**	**14 43 43.3**	**-2.0**	
ARCZ	**Arundel**	**15.46 213**	P		**Pn**	**14 43 43.3**	**-3.5**	
ODZ	**Otahua Downs**	**16.55 211**	P		**Pn**	**14 43 59.0**	**-1.9**	
OUENC	**Ouen Island, N**	**16.65 299**	P		P	14 44 14.9	+10	
JCZ	**Jackson Bay**	**16.72 217**	P		**Pn**	**14 43 59.4**	**-3.7**	
DZM	**Mont Dzumac**	**17.15 299**			**P**	**14 44 12.1**	**+1.7**	
DZM	**Mont Dzumac**	**17.15 299**	*e*Pn		**P**	**14 44 10.9**	**+0.5**	
	107nm,1.3s							
DZM			*e*LR		LR	14 47 55.8		
	1µm,26.6s							
DZM	**Mont Dzumac**	**17.15 299**	P		**P**	**14 44 13.4**	**+3.0**	
	33nm,1.1s,baz=169,slow=13,SNR=7.4							
DZM			LR		LR	14 49 35.3		
	comp=Z,468nm,18.6s,baz=156,slow=33							
RAR	**Rarotonga**	**18.73 62**	LR		LR	14 49 23.0		
	comp=Z,160nm,20.5s,baz=254,slow=30							
TBI	**Tubuai**	**26.00 79**	*e*P		P	14 45 27.0	-15	
	276nm,28.5s							
TBI			*e*S		**S**	**14 50 07.4**	**-5.3**	
	2µm,26.5s							
TBI			*e*LR		LR	14 52 01.0		
	2µm,30.0s							
TBI			*e*LR		LR	14 52 07.0		
	809nm,32.0s							
ARMA	**Armidale**	**26.57 264**	P		**P**	**14 45 44.9**	**-2.3**	
ARMA			IAmb		IAmb	14 45 52.2		
	comp=Z,30nm,1.7s							
CNB	**Canberra Magne**	**27.99 253**	P		**P**	**14 46 02.5**	**+2.7**	
CAN	**Canberra**	**28.28 253**	P		**P**	**14 45 59.6**	**-2.8**	
CAN			IAmb		IAmb	14 46 13.8		
	comp=Z,32nm,1.4s							
CAN	**Canberra**	**28.28 253**	P		**P**	**14 46 04.5**	**+2.0**	
EIDS	**Eidsvold**	**28.33 274**			**P**	**14 45 59.9**	**-3.0**	
PPT2	**Papeete2**	**28.68 68**	*e*S		**S**	**14 50 55.1**	**-0.1**	
	comp=Z,67nm,24.2s							
PPT2			*e*LR		LR	14 53 11.5		
	comp=Z,184nm,21.0s							
PPT2			*e*LR		LR	14 53 19.7		
	comp=Z,179nm,39.0s							
PPT	**Papeete**	**28.70 68**	LR		LR	14 55 41.2		
	comp=Z,214nm,18.9s,baz=254,slow=33							
CMSA	**Cobar Meteorol**	**31.41 260**	P		**P**	**14 46 32.6**	**+2.5**	
QLP	**Quilpie**	**33.81 268**	P		**P**	**14 46 53.9**	**+2.8**	
CTAO	**Charters Tower**	**34.49 280**			**P**	**14 46 56.9**	**-0.3**	
CTAO	**Charters Tower**	**34.49 280**	P		**P**	**14 46 59.7**	**+2.5**	
STKA	**Stephens Creek**	**34.79 258**			**P**	**14 47 01.1**	**+1.4**	
STKA	**Stephens Creek**	**34.79 258**	P		**P**	**14 47 01.4**	**+1.8**	
	comp=Z,18nm,0.7s,baz=98,slow=11,SNR=32							
STKA			LR		LR	14 59 57.5		
	comp=Z,195nm,18.9s,baz=66,slow=34							
	comp=Z,18nm,0.7s							
BBOO	**Buckleboo**	**39.23 255**			**P**	**14 47 37.6**	**+0.2**	
COEN	**Coen**	**40.06 287**	P		**P**	**14 47 43.6**	**-0.8**	
COEN			IAmb		IAmb	14 48 45.9		
	comp=Z,20nm,1.2s							
TAOE	**Nuku Hiva Isla**	**41.21 65**	*e*LR		LR	14 59 10.1		
	comp=Z,235nm,23.8s							
AS31	**Alice Springs**	**43.60 268**	P		**P**	**14 48 13.4**	**-0.1**	
ASAR	**Alice Springs**	**43.60 268**	P		**P**	**14 48 13.6**	**+0.1**	
	comp=Z,16nm,0.7s,baz=104,slow=7.5,SNR=144							
ASAR			PcP		**PcP**	**14 50 01.3**	**+0.3**	
	comp=Z,1.3nm,0.6s,baz=123,slow=3.9,SNR=3.0							
ASAR			ScP		**ScP**	**14 53 54.0**	**+1.4**	
	comp=Z,0.6nm,0.8s,baz=131,slow=5.4,SNR=2.9							
ASAR			LR		LR	15 06 03.6		
	comp=Z,95nm,19.0s,baz=113,slow=36							
	comp=Z,16nm,0.7s							
WR8	**Warramunga Arr**	**44.53 273**	P		**P**	**14 48 21.4**	**+0.5**	
WR8			IAmb		IAmb	14 48 22.5		
	comp=Z,12nm,0.8s							
WRAB	**Tennant Creek**	**44.67 273**	P		**P**	**14 48 21.8**	**-0.3**	
WRAB			IAmb		IAmb	14 48 23.4		
	comp=Z,14nm,0.7s							
WRA	**Warramunga Arr**	**44.68 273**	P		**P**	**14 48 21.0**	**-1.0**	
WRA	**Warramunga Arr**	**44.68 273**	P		**P**	**14 48 21.6**	**-0.5**	
	comp=Z,13nm,0.6s,baz=112,slow=7.9,SNR=116							
WRA			PcP		**PcP**	**14 50 04.2**	**-0.4**	
	comp=Z,2.7nm,0.9s,baz=118,slow=3.0,SNR=3.8							
WRA			LR		LR	15 07 16.2		
	comp=Z,248nm,18.5s,baz=54,slow=36							
	comp=Z,13nm,0.6s							
WB0	**Warramunga Arr**	**44.70 273**	P		**P**	**14 48 21.8**	**-0.5**	
FORT	**Forrest**	**46.32 256**	P		**P**	**14 48 34.8**	**-0.2**	
FORT			IAmb		IAmb	14 48 36.0		
	comp=Z,11nm,0.8s							
VNDA	**Vanda**	**47.18 186**	P		**P**	**14 48 44.2**	**+3.2**	
	comp=Z,0.8nm,0.6s,baz=9.8,slow=6.9,SNR=14							
VNDA			LR		LR	15 06 38.8		
	comp=Z,92nm,19.3s,baz=5.0,slow=34							
	comp=Z,0.8nm,0.6s							
MTN	**Manton Dam**	**50.67 279**	P		**P**	**14 49 07.6**	**-1.0**	
MTN			IAmb		IAmb	14 50 27.1		
	comp=Z,8.9nm,0.8s							
KNRA	**Kununurra**	**51.32 275**	P		**P**	**14 49 12.2**	**-1.2**	
KNRA			IAmb		IAmb	14 49 32.1		
	comp=Z,13nm,1.2s							
FITZ	**Fitzroy Crossi**	**52.90 270**	P		**P**	**14 49 24.6**	**-0.6**	
FITZ	**Fitzroy Crossi**	**52.90 270**	LR		LR	15 10 56.1		
	comp=Z,218nm,19.6s,baz=127,slow=35							
CASY	**Casey**	**54.53 208**	P		**P**	**14 49 37.7**	**+1.2**	
CASY			IAmb		IAmb	14 49 38.7		
	comp=Z,6.1nm,0.7s							
GUMO	**Guam**	**57.55 315**	LR		LR	15 10 44.1		
	comp=Z,60nm,21.9s,baz=124,slow=32							
BATI	**Baumata**	**58.31 278**	LR		LR	15 14 35.0		
	comp=Z,221nm,20.4s,baz=132,slow=36							
QSPA	**South Pole Qui**	**58.74 180**	P		**P**	**14 50 09.4**	**+2.8**	
QSPA	**South Pole Qui**	**58.74 180**	P		**P**	**14 50 09.3**	**+2.6**	
	comp=Z,6.9nm,0.6s,baz=26,slow=0.7,SNR=60							
	comp=Z,6.9nm,0.6s							
KAPI	**Kappang**	**64.31 280**	LR		LR	15 19 14.9		
	comp=Z,64nm,18.1s,baz=86,slow=36							
PMSA	**Palmer Station**	**71.16 155**	LR		LR	15 16 33.5		
	comp=Z,187nm,18.4s,baz=55,slow=31							
MAW	**Mawson**	**71.58 201**	P		**P**	**14 51 30.0**	**+0.2**	
	comp=Z,4.8nm,1.0s,baz=144,slow=19,SNR=12							
	comp=Z,4.8nm,1.0s							

LEM	**Lembang**	**73.69 272**	LR		LR	15 24 49.3		
	comp=Z,83nm,18.6s,baz=114,slow=36							
SYO	**Syowa Base**	**76.29 193**	⇓*e*P		**P**	**14 51 57.8**	**+0.5**	
TROLL	**Troll, Antarti**	**76.90 180**	⇓P		**P**	**14 52 02.0**	**+1.1**	
	comp=Z,350nm,0.8s							
SNAA	**Sanae**	**77.17 178**	⇓P		**P**	**14 52 02.9**	**+0.6**	
	comp=Z,76nm,0.6s							
SNAA	**Sanae**	**77.17 178**	P		**P**	**14 52 03.2**	**+0.9**	
SNAA			IAmb		IAmb	14 52 18.6		
	comp=Z,8.4nm,1.1s							
SNAA	**Sanae**	**77.17 178**	P		**P**	**14 52 02.9**	**+0.6**	
	comp=Z,4.4nm,0.8s,baz=197,slow=12,SNR=18							
	comp=Z,4.4nm,0.8s							
VNA3	**Neumayer Olymp**	**77.30 176**	⇓P		**P**	**14 52 03.5**	**+0.5**	
	comp=Z,17nm,0.7s							
VNA1	**Neumayer--Stat**	**77.96 176**	⇓P		**P**	**14 52 07.8**	**+1.1**	
	comp=Z,11nm,0.8s							
MJAR	**Matsushiro Arr**	**79.35 325**	P		**P**	**14 52 13.3**	**-1.4**	
MJAR	**Matsushiro Arr**	**79.35 325**	P		**P**	**14 52 13.6**	**-1.1**	
	comp=Z,3.4nm,1.0s,baz=164,slow=5.4,SNR=8.1							
	comp=Z,3.4nm,1.0s							
H03S2	**Juan Fernandez**	**79.48 123**	T		T	16 19 54.7		
	baz=242,slow=74							
H03S1	**Juan Fernandez**	**79.49 123**	T		T	16 19 56.0		
	baz=242,slow=74							
H03S3	**Juan Fernandez**	**79.50 123**	T		T	16 19 55.2		
	baz=242,slow=74							
JNU	**Nakatsue**	**80.64 318**	LR		LR	15 21 41.8		
	comp=Z,49nm,20.8s,baz=156,slow=31							
PLCA	**Paso Flores**	**81.45 133**	P		**P**	**14 52 27.3**	**+1.0**	
	comp=Z,2.2nm,0.9s,baz=185,slow=6.0,SNR=4.7							
PLCA			LR		LR	15 21 05.0		
	comp=Z,136nm,18.7s,baz=240,slow=30							
	comp=Z,2.2nm,0.9s							
ASAJ	**Asahikawa**	**83.55 332**	LR		LR	15 25 23.5		
	comp=Z,54nm,20.1s,baz=168,slow=33							
SHEM	**Shemya Is, Ala**	**84.08 355**	LR		LR	15 25 42.9		
	comp=Z,50nm,18.6s,baz=110,slow=33							
LPIG	**La Paz**	**84.60 58**	LR		LR	15 23 00.4		
	comp=Z,108nm,18.9s,baz=209,slow=30							
KSRS	**Korea Array**	**85.44 319**	P		**P**	**14 52 47.0**	**+0.5**	
	comp=Z,1.5nm,0.8s,baz=139,slow=5.3,SNR=6.7							
KSRS			LR		LR	15 28 20.3		
	comp=Z,12µm,18.8s,baz=160,slow=34							
	comp=Z,1.5nm,0.8s							
PSI	**Prapat**	**86.07 276**	LR		LR	15 33 56.9		
	comp=Z,106nm,18.2s,baz=112,slow=38							
PETK	**Petropavlovsk-**	**86.89 345**	P		**P**	**14 52 53.5**	**+0.2**	
	comp=Z,4.0nm,0.9s,baz=123,slow=7.3,SNR=7.1							
	comp=Z,4.0nm,0.9s							
NJ2	**Nanjing**	**87.28 310**	*e*P		**P**	**14 52 57.0**	**+1.3**	
NJ2			pmax		pmax			
	comp=Z,9.0nm,0.5s							
USRK	**Usurisyk Ar.**	**88.27 326**	P		**P**	**14 53 00.5**	**+0.4**	
	comp=Z,3.2nm,0.9s,baz=191,slow=5.1,SNR=4.7							
	comp=Z,3.2nm,0.9s							
NVAR	**Mina Array Bea**	**88.59 42**	P		**P**	**14 53 01.7**	**-0.4**	
NVAR	**Mina Array Bea**	**88.59 42**	P		**P**	**14 53 03.3**	**+1.2**	
	comp=Z,2.0nm,0.8s,baz=222,slow=8.5,SNR=10.0							
	comp=Z,2.0nm,0.8s							
NV11	**Mina Array Sit**	**88.68 42**	IAmb		IAmb	14 53 17.9		
	comp=Z,18nm,2.0s							
TPH	**Topoh**	**88.98 43**	P		**P**	**14 53 04.5**	**+0.6**	
W13A	**Hualapai Mount**	**89.06 47**			**P**	**14 53 04.9**	**+0.5**	
PRN	**Pahroc Range**	**89.83 45**	IAmb		IAmb	14 53 10.9		
	comp=Z,8.5nm,1.2s							
X16A	**Lo Mia Camp, P**	**90.18 49**	IAmb		IAmb	14 53 12.6		
	comp=Z,5.9nm,1.3s							
U15A	**North Rim**	**90.90 47**			**P**	**14 53 12.9**	**-0.1**	
U15A			IAmb		IAmb	14 53 16.5		
	comp=Z,5.3nm,1.1s							
CN2	**Changchun**	**91.24 323**	P		**P**	**14 53 14.8**	**+0.8**	
CN2			pmax		pmax			
	comp=Z,10.0nm,1.0s							
BNX	**BinXian**	**91.61 325**	⇓P		**P**	**14 53 16.3**	**+0.6**	
BNX			pmax		pmax			
	comp=Z,11nm,1.1s							
ELK	**Elko**	**91.90 42**	LR		LR	15 27 10.2		
	comp=Z,74nm,20.2s,baz=256,slow=31							
CMIG	**Matias Romero**	**92.55 72**	LR		LR	15 26 21.7		
	comp=Z,37nm,19.9s,baz=184,slow=30							
NNA	**Nana**	**92.64 106**	LR		LR	15 26 41.7		
	comp=Z,68nm,20.2s,baz=198,slow=30							
ANMO	**Albuquerque**	**93.77 51**	LR		LR	15 29 51.4		
	comp=Z,84nm,18.1s,baz=320,slow=32							
ATAH	**Atahualpa**	**93.93 101**	LR		LR	15 27 34.4		
	comp=Z,45nm,21.1s,baz=208,slow=30							
CMAR	**Chiang Mai Arr**	**94.23 289**	P		**P**	**14 53 29.8**	**+1.3**	
	comp=Z,0.4nm,0.3s,baz=147,slow=4.0,SNR=4.7							
CMAR			LR		LR	15 39 16.1		
	comp=Z,15nm,18.2s,baz=205,slow=38							
	comp=Z,0.4nm,0.3s							
MA2	**Magadan**	**94.37 344**	LR		LR	15 41 20.7		
	comp=Z,32nm,18.2s,baz=170,slow=39							
PZH	**PanZhiHua**	**96.23 297**	P		**P**	**14 53 39.0**	**+1.4**	
PDAR	**Pinedale Array**	**96.47 43**	LR		LR	15 32 14.5		
	comp=Z,41nm,19.0s,baz=244,slow=32							
HHC	**Hu-ho-hao-te**	**97.30 314**	*e*P		Pdif	14 53 43.5	+1.3	
HHC			pmax		pmax			
	comp=Z,24nm,0.7s							
JTS	**Las Juntas de**	**97.33 82**	LR		LR	15 29 06.0		
	comp=Z,43nm,19.0s,baz=266,slow=30							
CPUP	**Villa Florida**	**98.96 128**	LR		LR	15 33 09.0		
	comp=Z,14nm,19.4s,baz=82,slow=32							
MKAR	**Makanchi Array**	**118.81 310**	PKP		**PKPdf**	**14 58 56.4**	**-0.7**	
	comp=Z,0.8nm,0.8s,baz=195,slow=1.4,SNR=5.1							
KURBB	**Kurchatov Arra**	**122.15 313**	PKP		**PKPdf**	**14 59 03.1**	**-0.2**	
	comp=Z,1.0nm,0.2s,baz=102,slow=1.9,SNR=7.8							
BVAR	**Borovoye Array**	**127.48 315**	PKP		**PKiKP**	**14 59 13.9**	**-0.1**	
	comp=Z,1.9nm,0.8s,baz=90,slow=3.0,SNR=5.3							
ARCES	**ARCESS Array B**	**139.66 348**	PKiKP		PKPpre	14 59 27.0		
	comp=Z,1.3nm,0.9s,baz=12,slow=2.5,SNR=4.6							
ARCES			PKP		pPKPdf	14 59 36.7	-0.4	
	comp=Z,0.6nm,0.5s,baz=12,slow=2.4,SNR=5.9							
KBZ	**Khabaz**	**146.10 303**	PKPbc		**PKPab**	**14 59 49.2**	**-0.3**	
	comp=Z,4.2nm,0.8s,baz=129,slow=7.8,SNR=4.0							
FINES	**FINESS Array B**	**146.25 340**	PKPbc		**PKPdf**	**14 59 48.2**	**+0.5**	
	comp=Z,10nm,0.8s,baz=49,slow=3.4,SNR=62							
NB2	**NORSAR Subarra**	**149.79 352**	PKP		**PKPbc**	**14 59 57.9**	**-0.4**	
	comp=Z,4.4nm,0.8s,baz=12,slow=3.4							
NOA	**NORSAR Array B**	**149.79 352**	PKPbc		**PKPbc**	**14 59 58.2**	**-0.1**	
	comp=Z,2.6nm,0.8s,baz=14,slow=4.1,SNR=8.9							
HFS	**Hagfors**	**150.31 349**	PKPbc		**PKPbc**	**14 59 58.7**	**-0.8**	
	comp=Z,4.7nm,0.8s,baz=48,slow=2.2,SNR=14							
HFS			PKPab		**PKPab**	**15 00 06.3**	**+0.5**	
	comp=Z,2.3nm,0.5s,baz=73,slow=5.1,SNR=11							
MMAI	**Mount Meron Ar**	**152.27 282**	PKPbc		**PKiKP**	**15 00 06.2**	**+0.8**	
	comp=Z,1.9nm,0.4s,baz=99,slow=5.2,SNR=8.1							
AKASG	**Malin Array Be**	**152.40 322**	PKPbc		**PKPbc**	**15 00 04.3**	**-0.3**	
	comp=Z,2.1nm,0.6s,baz=53,slow=2.6,SNR=13							
AKASG			PKPab		**PKPab**	**15 00 13.7**	**-1.1**	
	comp=Z,3.6nm,0.6s,baz=48,slow=4.6,SNR=12							
BRTR	**Keskin Array B**	**153.53 297**	PKPbc		**PKiKP**	**15 00 08.4**	**+0.5**	
	comp=Z,0.8nm,0.5s,baz=163,slow=4.7,SNR=5.2							
BRTR			PKPab		**PKPab**	**15 00 19.6**	**-0.6**	
	comp=Z,2.2nm,0.7s,baz=135,slow=4.4,SNR=8.5							
CLL	**Collm**	**158.66 342**	*i* PKPab		**pPKPab**	**15 00 38.9**	**-2.6**	
CLL			*i* pPKPab		**pPKPab**	**15 00 42.3**	**-0.4**	
CLL			*e*PP		**PP**	**15 04 20.0**	**-1.5**	
VYHS	**Vyhne**	**158.94 329**	*e*PKP		**PKPab**	**15 00 44.4**	**+1.5**	
MODS	**Modra-Piesok**	**159.70 331**	*e*PKP		**PKPab**	**15 00 44.9**	**-1.3**	

AUST 25 14:55:46.7±0.7,18°S±6°×12°0E±°,h10km,mb3.9/3,
ML2.9/4,Error ellipse: s-maj=16.6km s-min=5.5km
az=137.3,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.81**	**79**	S	Sb	14 56 43.7	+0.8
MBWA	**Marble Bar**	**2.89**	**192**	P	Pn	14 56 32.8	+1.0
MBWA				S	Sn	14 57 09.5	+1.9
PSAC1	**Pilbara Seismi**	**3.24**	**189**	P	Pn	14 56 37.4	-0.2
PSA00	**Pilbara Seismi**	**3.27**	**188**	S	Sn	14 57 17.4	+0.2
FITZ	**Fitzroy Crossi**	**5.02**	**88**	P	Pn	14 57 00.9	-1.3
FITZ	**Fitzroy Crossi**	**5.02**	**88**	S	Sn	14 57 56.2	-4.1
GIRL	**Giralia**	**7.17**	**232**	P	Pn	14 57 33.2	+1.5
	comp=Z,40nm,1.9s						
GIRL				S	Sn	14 58 48.0	-5.3
MEEK	**Meekatharra**	**8.44**	**191**	P	Pn	14 57 47.8	-1.3
	comp=Z,14nm,1.9s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.44**	**191**	S	Sn	14 59 19.1	-5.3
KNRA	**Kununurra**	**8.46**	**73**	P	Pn	14 57 48.1	-1.3
	comp=Z,13nm,2.4s,comp=Z,0.0nm						
KNRA				S	Sn	14 59 19.7	-5.2
WRKA	**Warakurna**	**9.95**	**134**	P	Pn	14 58 11.8	+1.9
WRKA				S	Sn	14 59 57.3	-4.5

*IDC **25** 15:37:53.5±4.2,24°03S×179°84E,h494km±35km,mb3.3/4,*
mbtmp4.3/5,Error ellipse: s-maj=48.2km s-min=25.0km
az=42.0
*NEIC **25** 15:37:53.5±1.2,24°1S±0°1×180°0E±0°1,h496km±12km,*
mb4.4/20,Error ellipse: s-maj=24.7km s-min=10.0km
az=46.0

ISC 25 15:37:53.2±0.9,23°98S±0°08×179°9E±0°1,h500km,n46,
σ1°65/51,mb4.3/13,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.45**	**344**	P	**P**	**15 39 34.6**	**+0.5**
OUZ	**Omahuta**	**12.47**	**205**	P	**P**	**15 40 40.1**	**+3.5**
HAZ	**Te Kaha**	**13.86**	**187**	P	**P**	**15 40 52.9**	**+1.7**
RUGZ	**Raukumara Rang**	**14.07**	**187**	P	**P**	**15 40 55.8**	**+2.2**
TWGZ	**Tauwhareparae**	**14.25**	**186**	P	**P**	**15 40 57.8**	**+2.4**
URZ	**Urewera**	**14.44**	**189**	P	**P**	**15 40 56.9**	**-0.4**
	3.0nm,0.3s,baz=4.6,slow=17,SNR=8.9						
URZ				S	**S**	**15 43 28.0**	**-1.1**
	8.2nm,1.0s,baz=7.9,slow=20,SNR=5.7						
URZ	**Urewera**	**14.44**	**189**	P	**P**	**15 40 53.7**	**-3.5**
URZ				S	**S**	**15 43 31.0**	**+1.9**
MWZ	**Matawai**	**14.46**	**187**	P	**P**	**15 40 58.6**	**+1.1**
MWZ				S	**S**	**15 43 32.4**	**+2.8**
BKZ	**Black Stump Fm**	**15.42**	**190**	P	**P**	**15 41 06.2**	**-1.4**
BKZ	**Black Stump Fm**	**15.42**	**190**	P	**P**	**15 41 07.2**	**-0.4**
BKZ				S	**S**	**15 43 44.5**	**-3.6**
OTVZ	**Oturere**	**15.56**	**192**	P	**P**	**15 41 08.6**	**-0.6**
SNVZ	**South Ngauruho**	**15.59**	**192**	P	**P**	**15 41 11.3**	**+1.8**
VRZ	**Vera Road**	**15.72**	**195**	P	**P**	**15 41 13.9**	**+3.2**
WNVZ	**Wahianoa**	**15.73**	**192**	P	**P**	**15 41 11.4**	**+0.4**
NEZ	**North Egmont**	**16.02**	**197**	P	**P**	**15 41 16.9**	**+3.0**
PNHZ	**Pukenui**	**16.20**	**190**	P	**P**	**15 41 15.7**	**0.0**
DVHZ	**Dannevirke**	**16.58**	**190**	P	**P**	**15 41 19.7**	**0.0**
MRZ	**Mangatainoka R**	**17.03**	**191**	P	**P**	**15 41 22.1**	**-2.1**
TKNZ	**Takaka Hill**	**17.98**	**197**	P	**P**	**15 41 32.2**	**-0.9**
THZ	**Tophouse**	**18.67**	**197**	P	**P**	**15 41 38.9**	**-0.7**
THZ				IAmb	IAmb	15 42 19.4	
	comp=Z,18nm,1.2s						
LTZ	**Lake Taylor**	**19.79**	**197**	P	**P**	**15 41 48.8**	**-0.9**
ARMA	**Armidale**	**25.91**	**249**	P	**P**	**15 42 45.8**	**+0.9**
ARMA				IAmb	IAmb	15 42 49.4	
	comp=Z,11nm,1.1s						
EIDS	**Eidsvold**	**26.21**	**261**	P	**P**	**15 42 47.3**	**-0.1**
EIDS				IAmb	IAmb	15 43 29.8	
	comp=Z,11nm,1.4s						
CAN	**Canberra**	**29.03**	**240**	P	**P**	**15 43 12.5**	**+0.4**
CAN				IAmb	IAmb	15 43 14.7	
	comp=Z,30nm,1.5s						
CTAO	**Charters Tower**	**31.39**	**270**	P	**P

	comp=N,60nm,0.3s							
KAN09	**Caldwell North**	**1.32**	**16**		Pn		15 40 55.4	-1.9
KAN09					Sn		15 41 15.8	+0.6
T35A	**Sooner Cattle**	**1.63**	**50**		Pn		15 41 01.4	-0.2
T35A					Sg		15 41 25.1	+0.3
TUL3	**Leonard**	**1.84**	**88**		Pn		15 41 04.2	-0.3
TUL3				IAmb_Lg			15 41 32.5	
	comp=Z,12nm,0.8s							
SMWD	**Samnorwood**	**1.94**	**248**		Pn		15 41 05.7	-0.1
SMWD					Sg		15 41 34.2	-0.3
LOOK	**Love County**	**2.00**	**159**		Pn		15 41 06.2	-0.5
LOOK					LR		15 41 37.0	
LOOK				IAmb_Lg			15 41 37.9	
	comp=Z,18nm,0.8s							
WTFS	**Witchita Falls**	**2.12**	**189**		Pn		15 41 07.4	-0.9
WTFS					Sb		15 41 38.4	+0.7
RLO	**Rose Lookout**	**2.48**	**82**		Pn		15 41 11.5	-1.8
R32A	**Long Quarter,**	**2.60**	**349**	Pn	Pn		15 41 13.7	-1.3
R32A				IAmb_Lg			15 41 56.9	
	comp=Z,8.1nm,0.8s							
FW03	**Perrin-Whitt E**	**2.82**	**180**	IAmb_Lg			15 42 07.8	
	comp=Z,10.0nm,1.0s							
APMT	**Aspermont**	**3.05**	**214**		Pn		15 41 21.3	+0.1
PLPT	**Palo Pinto**	**3.05**	**184**	Pn	Pn		15 41 21.0	-0.1
AMTX	**Amarillo**	**3.12**	**253**	Pn	Pn		15 41 21.2	-0.8
AMTX				IAmb_Lg			15 42 09.4	
	comp=Z,12nm,0.9s							
DKNS	**Dickens**	**3.22**	**228**	Pn	Pn		15 41 23.4	-0.1
HHAR	**Hobbs**	**3.37**	**82**		Pn		15 41 25.1	-0.4
HHAR				IAmb_Lg			15 42 22.9	
	comp=Z,8.2nm,0.7s							
ABTX	**Abilene, Hawle**	**3.49**	**202**	Pn	Pn		15 41 27.3	+0.1
Z38A	**Mt. Pleasant**	**3.63**	**135**	Pn	Pn		15 41 28.2	-0.9
MIAR	**Mount Ida**	**3.90**	**108**	Pn	Pn		15 41 31.2	-1.5
POST	**Post**	**3.98**	**226**	Pn	Pn		15 41 35.1	+1.1
POST				IAmb_Lg			15 42 41.4	
	comp=Z,10nm,0.8s							
MSTX	**Muleshoe**	**4.31**	**245**	IAmb_Lg			15 42 54.8	
	comp=Z,6.8nm,1.1s							
X40A	**Basin Creek Fa**	**4.50**	**106**	IAmb_Lg			15 42 57.8	
	comp=Z,7.8nm,0.8s							
WLAR	**White Oak Lake**	**4.62**	**117**	Pn	Pn		15 41 42.0	-0.6
BRDY	**Brady**	**4.63**	**190**		Pn		15 41 43.8	+0.9
SGCY	**Sterling City**	**4.69**	**214**	IAmb_Lg			15 43 05.6	
	comp=Z,11nm,0.9s							
WHAR	**Wooly Hollow**	**4.74**	**95**	Pn	Pn		15 41 44.0	-0.4
FCAR	**Ozark Folk Cen**	**4.82**	**88**	Pn	Pn		15 41 45.1	-0.3
P38A	**Dawn**	**5.19**	**42**	Pn	Pn		15 41 50.3	-0.2
R40A	**Maddies Statio**	**5.23**	**61**	Pn	Pn		15 41 50.1	-0.9
R40A				IAmb_Lg			15 43 29.4	
	comp=Z,8.9nm,1.2s							
T25A	**Trinidad**	**5.27**	**286**	Pn	Pn		15 41 50.9	-0.9
T25A				IAmb_Lg			15 43 26.3	
	comp=Z,6.1nm,0.8s							
OZNA	**Ozona**	**5.56**	**208**	IAmb_Lg			15 43 41.8	
	comp=Z,6.3nm,0.9s							
LCAR	**Lake Charles**	**5.61**	**86**	Pn	Pn		15 41 53.9	-2.3
CCM	**Cathedral Cave**	**5.88**	**66**	Pn	Pn		15 41 58.1	-1.9
PBMO	**Poplar Bluff**	**6.23**	**79**	IAmb_Lg			15 43 53.3	
	comp=Z,7.8nm,0.8s							
DRIO	**Del Rio**	**6.78**	**199**	IAmb_Lg			15 44 07.6	
	comp=Z,4.3nm,0.8s							
SAND	**Sanderson**	**6.81**	**211**	IAmb_Lg			15 44 16.9	
	comp=Z,3.6nm,0.8s							
ISCO	**Idaho Springs**	**7.15**	**306**	IAmb_Lg			15 44 24.7	
	comp=Z,2.6nm,0.9s							

*THE **25** 15:44:53.4, 38°N±1°×2°1E±°, h14km±1km, M2.4/10, MLh2.4/10*
*ATH **25** 15:44:53.3, 37°.68N×20°.58E, h14km±1km, ML2.5/10, Manual Solution by N.Liadopoulou First location: 2019/07/25 15:45:53, This location: 2019/07/25 15:52:09 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*

ISC 25 15:44:53.3±1.3, 37°.69N±0°.05×20°.59E±0°.05, h15km±6km, n37, σ0°28/50, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.18**	**97**	P	**Pg**	**15 44 57.7**	**0.0**
KRI1				S	**Sg**	**15 45 00.8**	**+0.1**
ORTH	**Orthonies,Zaky**	**0.19**	**27**	P	**Pg**	**15 44 57.8**	**0.0**
ORTH				S	**Sg**	**15 45 00.1**	**-0.7**
LTHK	**Lithakia**	**0.20**	**83**	P	**Pg**	**15 44 57.8**	**-0.1**
LTHK				S	**Sg**	**15 45 01.0**	**0.0**
LTHK	**Lithakia**	**0.20**	**83**	P	**Pg**	**15 44 57.9**	**0.0**
LTHK				S	**Sg**	**15 45 00.9**	**-0.2**
KYPS	**Kipseli, Zakin**	**0.23**	**54**	P	**Pg**	**15 44 58.7**	**+0.2**
KYPS				S	**Sg**	**15 45 02.2**	**+0.3**
RTZL	**Ratzakli, Kefa**	**0.42**	**20**	P	**Pg**	**15 45 01.9**	**+0.2**
RTZL				S	**Sb**	**15 45 08.6**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.43**	**359**	P	**Pg**	**15 45 02.1**	**+0.2**
PSDA				S	**Sb**	**15 45 08.8**	**0.0**
PSDA	**Pessada-Kefalo**	**0.43**	**359**	P	**Pg**	**15 45 02.2**	**+0.3**
PSDA				S	**Sg**	**15 45 07.5**	**-0.3**
CLEM	**Kyllini,Ilia,G**	**0.48**	**64**	P	**Pg**	**15 45 03.1**	**+0.3**
CLEM				S	**Sg**	**15 45 09.5**	**+0.2**
VLS	**Valsamata**	**0.49**	**0**	P	**Pg**	**15 45 03.2**	**+0.1**
VLS				S	**Sb**	**15 45 10.8**	**+0.1**
VLS	**Valsamata**	**0.49**	**0**	P	**Pg**	**15 45 03.2**	**+0.1**
VLS				S	**Sg**	**15 45 09.5**	**-0.2**
ARG2	**Argostoli**	**0.50**	**351**	S	**Sb**	**15 45 11.4**	**+0.5**
SMHA	**Samh**	**0.57**	**5**	P	**Pg**	**15 45 04.7**	**+0.2**
DMLN	**Damoulianata-K**	**0.58**	**343**	P	**Pg**	**15 45 04.7**	**0.0**
DMLN				S	**Sb**	**15 45 13.7**	**+0.5**
DMLN	**Damoulianata-K**	**0.58**	**343**	P	**Pg**	**15 45 05.0**	**+0.2**
DMLN				S	**Sb**	**15 45 13.2**	**0.0**
YRMI	**Loutra Irminis**	**0.73**	**55**	P	**Pg**	**15 45 07.2**	**-0.4**
FSK	**Fiskardo**	**0.77**	**358**	P	**Pg**	**15 45 08.0**	**-0.4**
FSK	**Fiskardo**	**0.77**	**358**	P	**Pg**	**15 45 08.2**	**-0.1**
RLS	**Riolos of Patr**	**0.79**	**62**	P	**Pg**	**15 45 08.3**	**-0.4**
RLS	**Riolos of Patr**	**0.79**	**62**	P	**Pg**	**15 45 08.5**	**-0.1**
AXS	**Araxos**	**0.81**	**50**	P	**Pg**	**15 45 08.5**	**-0.5**
EVGI	**Lefkada island**	**0.94**	**3**	P	**Pb**	**15 45 11.1**	**-0.2**
EVGI	**Lefkada island**	**0.94**	**3**	P	**Pb**	**15 45 11.0**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.03**	**5**	P	**Pb**	**15 45 12.5**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.03**	**5**	P	**Pb**	**15 45 12.6**	**-0.3**
LKD2	**Lefkada island**	**1.10**	**3**	P	**Pb**	**15 45 13.7**	**-0.4**
LKD2	**Lefkada island**	**1.10**	**3**	P	**Pb**	**15 45 13.8**	**-0.4**
TSLK	**Tsoukalades, L**	**1.14**	**3**	P	**Pb**	**15 45 14.8**	**+0.1**
ITM	**Ithomi**	**1.18**	**115**	P	**Pn**	**15 45 15.4**	**+0.1**
PVO	**Paravola**	**1.19**	**38**	P	**Pb**	**15 45 15.8**	**+0.3**
PYL2	**Kinigos**	**1.20**	**130**	P	**Pb**	**15 45 15.7**	**0.0**
PYL	**PYLOS**	**1.21**	**130**	P	**Pn**	**15 45 15.6**	**-0.1**
EFP	**Efpalio**	**1.28**	**54**	P	**Pn**	**15 45 17.0**	**+0.4**
KLV	**Kalavryta, Ach**	**1.29**	**73**	P	**Pn**	**15 45 16.3**	**-0.5**
KLV	**Kalavryta, Ach**	**1.29**	**73**	P	**Pn**	**15 45 16.8**	**0.0**
ANX	**Ano Chora**	**1.39**	**49**	P	**Pn**	**15 45 18.7**	**+0.5**
GUR	**Goura**	**1.41**	**79**	P	**Pb**	**15 45 19.4**	**0.0**

*IDC **25** 15:51:19.8±1.3, 0°.69N×126°.48E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=154.4km s-min=18.7km az=65.0*
*DJA **25** 15:51:24.3±1.7, 1°N±4°×12°6E±°, h15km±16km, M3.6/9, mb3.6/1, MLv3.5/9*
*NEIC **25** 15:51:24.4±1.7, 0°.5N±0°.1×126°.27E±0°.06, h21km±7km, mb4.2/13, Error ellipse: s-maj=15.6km s-min=8.7km az=175.0*

ISC 25 15:51:22.3±0.6, 0°.52N±0°.07×126°.28E±0°.05, h10km, n28, σ1§18/30, mb4.1/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.12**	**77**		**Pn**	**15 51 44.8**	**+0.8**
TNTI				Sn	**Sn**	**15 52 00.0**	**+0.5**
TNTI	**Ternate**	**1.12**	**77**	P	**Pn**	**15 51 45.0**	**+1.0**
KMSI	**Cibinong**	**2.30**	**271**	P	**Pn**	**15 52 00.2**	**0.0**
SANI	**Sanana**	**2.56**	**186**	P	**Pn**	**15 52 04.9**	**+1.0**
APSI	**Ampana**	**4.84**	**253**	P	**Pn**	**15 52 38.0**	**+2.8**
TOLI2	**Tolitoli**	**5.53**	**276**	Pn	**Pn**	**15 52 45.0**	**+0.4**
KNRA	**Kununurra**	**16.27**	**171**	Pn	**Pn**	**15 55 11.4**	**+0.3**
WB0	**Warramunga Arr**	**21.67**	**159**	P	**P**	**15 56 12.4**	**-0.9**
WB0				IAmb	IAmb	15 56 19.2	
	comp=Z,14nm,1.3s						
WRA	**Warramunga Arr**	**21.81**	**159**	P	**P**	**15 56 12.1**	**-2.7**
WRA	**Warramunga Arr**	**21.81**	**159**	P	**P**	**15 56 14.2**	**-0.7**
	comp=Z,2.5nm,0.5s,baz=338,slow=11,SNR=41						
	comp=Z,2.5nm,0.5s						
WR8	**Warramunga Arr**	**21.88**	**159**	P	**P**	**15 56 14.4**	**-1.1**
WR8				IAmb	IAmb	15 56 54.2	
	comp=Z,13nm,1.2s						
COEN	**Coen**	**22.07**	**131**	P	**P**	**15 56 18.1**	**+0.6**
COEN				IAmb	IAmb	15 56 34.6	
	comp=Z,24nm,1.2s						
AS31	**Alice Springs**	**25.15**	**163**	P	**P**	**15 56 46.9**	**-1.0**
AS31				IAmb	IAmb	15 56 59.5	
	comp=Z,2.9nm,1.4s						
ASAR	**Alice Springs**	**25.15**	**163**	P	**P**	**15 56 47.7**	**-0.2**
ASAR	**Alice Springs**	**25.15**	**163**	P	**P**	**15 56 48.3**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=342,slow=11,SNR=40						
ASAR				PcP	**PcP**	**16 00 21.2**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=337,slow=2.3,SNR=2.7						
	comp=Z,2.2nm,0.7s						
FORT	**Forest**	**31.17**	**177**	P	**P**	**15 57 41.1**	**-0.4**
STKA	**Stephens Creek**	**35.33**	**157**	P	**P**	**15 58 17.5**	**-0.3**
STKA	**Stephens Creek**	**35.33**	**157**	P	**P**	**15 58 17.6**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=333,slow=13,SNR=3.6						
	comp=Z,1.7nm,0.8s						
KSAR	**Wonju Array Be**	**36.77**	**2**	P	**P**	**15 58 30.6**	**+0.5**
PEA0B	**Petropavlovsk-**	**58.56**	**22**	P	**P**	**16 01 18.1**	**-1.0**
PETK	**Petropavlovsk-**	**58.56**	**22**	P	**P**	**16 01 17.8**	**-1.2**
MKAR	**Makanchi Array**	**59.95**	**327**	P	**P**	**16 01 27.9**	**-0.9**
MKAR	**Makanchi Array**	**59.95**	**327**	P	**P**	**16 01 27.4**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=122,slow=7.6,SNR=13						
	comp=Z,0.7nm,0.4s						
MAKZ	**Makanchi**	**60.13**	**326**	P	**P**	**16 01 29.7**	**-0.3**
MAKZ				IAmb	IAmb	16 01 30.1	
	comp=Z,2.7nm,1.2s						
KURBB	**Kurchatov Arra**	**64.20**	**328**	P	**P**	**16 01 56.5**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=132,slow=6.1,SNR=7.6						
	comp=Z,0.4nm,0.5s						
KURK	**Kurchatov**	**64.21**	**329**	P	**P**	**16 01 56.4**	**-0.9**
KURK				IAmb	IAmb	16 02 02.5	
	comp=Z,4.4nm,1.4s						
L18K	**Granite Mounta**	**83.51**	**27**	P	**P**	**16 03 52.0**	**+1.8**
B22K	**Teshekpuk Lake**	**86.25**	**20**	P	**P**	**16 04 05.8**	**+2.0**

*BER **25** 15:52:20.9±2.1, 67°.54N×34°.42E, h0km, ML1.9, Suspected explosion*
*HEL **25** 15:52:20.8±0.3, 67°.61N×34°.00E, h0km, ML2.2, Suspected explosion Hypocentre not reviewed by the ISC*
*KOLA **25** 15:52:21.8, 67°.63N×34°.06E, h0km, ML2.4, Error ellipse: s-maj=3.4km s-min=1.8km az=120.0, Khibiny, mines Koashva, Nyurkpakh*
*IDC **25** 15:52:22.9±1.9, 67°.61N×33°.44E, h0km, mbtmp3.3/4, ML2.4/4, Error ellipse: s-maj=20.6km s-min=10.1km az=83.0*

ISC 25 15:52:18.1±1.1, 67°.56N±0°.04×34°.33E±0°.06, h0km, n20, σ1§82/32, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.36**	**273**	S	**Sg**	**15 52 29.7**	**+0.2**
LVZ	**Lovozero**	**0.37**	**19**	P	**Pb**	**15 52 28.1**	**+0.6**
LVZ				S	**Sb**	**15 52 33.2**	**-0.6**
LVZ	**Lovozero**	**0.37**	**19**	PG		15 52 27.0	
	baz=225						
LVZ				SG		15 52 33.9	
APA0	**Apatity Array**	**0.52**	**276**	P	**Pg**	**15 52 28.7**	**+0.8**
APA0				S	**Sg**	**15 52 34.4**	**-0.2**
KVDA	**Kovda**	**1.04**	**214**	P	**Pb**	**15 52 40.5**	**+1.7**
KVDA				S	**Sb**	**15 52 54.5**	**+1.5**
TERR	**Teriberka**	**1.68**	**9**	P	**Pn**	**15 52 49.4**	**+0.7**
TERR				S	**Sg**	**15 53 11.7**	**-0.2**
VRF	**Varrio**	**1.82**	**278**	PG		15 52 50.5	
VRF				MSG		15 53 11.1	
	comp=Z,30nm,0.2s						
VRF				SG		15 53 12.4	
OLKF	**Oulanka, Finla**	**2.30**	**240**	PG		15 53 00.3	
OLKF				MSG		15 53 26.6	
	comp=Z,16nm,0.2s						
OLKF				SG		15 53 30.2	
KU6	**Riekki**	**2.34**	**231**	PG		15 53 00.9	
	baz=45						
KU6				MSG		15 53 27.9	
	comp=Z,8.9nm,0.2s						
KU6				SG		15 53 31.9	
RAJF	**Raja-Jooseppi**	**2.45**	**295**	PG		15 53 00.6	
RAJF				SG		15 53 30.6	
MSF	**Maaselka**	**2.67**	**234**	PG		15 53 06.1	
MSF				SG		15 53 42.0	
KU1	**Kurvinen**	**2.76**	**226**	PB		15 53 07.2	
KU2	**Taivalkoski**	**3.06**	**236**	PG		15 53 14.6	
KU2				SG		15 53 54.2	
VADS	**Vadso**	**3.15**	**327**	P	**Pn**	**15 53 10.9**	**+2.1**
VADS				S	**Sn**	**15 53 47.1**	**+0.3**
VADS	**Vadso**	**3.15**	**327**	*eP*	**Pn**	**15 53 10.4**	**+1.6**
VADS				*eS*	**Sn**	**15 53 47.2**	**+0.3**
VADS				IAML		15 53 56.3	
	comp=Z,10nm,0.3s						
RANF	**Ranua**	**3.36**	**246**	PB		15 53 15.3	
RANF				SG		15 54 01.4	
RNF	**Rovaniemi**	**3.39**	**258**	PN		15 53 13.5	
	baz=66						
RNF				SB		15 53 57.0	
KEV	**Kevo**	**3.47**	**313**	*eP*	**Pn**	**15 53 13.7**	**+0.5**
KEV				*eS*	**Sn**	**15 53 55.5**	**+0.5**
KEV	**Kevo**	**3.47**	**313**	PN		15 53 14.0	
	baz=126						
KEV				SB		15 53 55.8	
ARA0	**ARCESS Array S**	**3.80**	**306**	*eP*	**Pn**	**15 53 18.1**	**+0.3**
ARA0				*eS*	**Sn**	**15 54 01.2**	**-2.0**
ARA0				IAML		15 54 19.8	
	comp=Z,7.8nm,0.5s						
ARA0	**ARCESS Array S**	**3.80**	**306**	PN		15 53 17.9	
ARCES	**ARCESS Array B**	**3.80**	**306**	Pn	**Pn**	**15 53 18.1**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=121,slow=15,SNR=91						
ARCES				Sn	**Sn**	**15 53 59.1**	**-4.1**
	comp=Z,0.6nm,0.3s,baz=120,slow=26,SNR=10.0						
ARCES				Lg	Lg	15 54 12.4	
	comp=Z,1.0nm,0.3s,baz=124,slow=32,SNR=7.1						
	comp=Z,1.4nm,0.2s						
ARCES	**ARCESS Array B**	**3.80**	**306**	P	**Pn**	**15 53 17.9**	**+0.1**
ARCES				S	**Sn**	**15 54 02.1**	**-1.1**
RMF	**Romuvaara**	**3.81**	**210**	PN		15 53 20.3	
KLF	**Kolari**	**4.02**	**270**	PN		15 53 22.7	
HEF	**Hetta**	**4.11**	**287**	*eP*	**Pn**	**15 53 25.4**	**+3.3**
HEF				*eS*	**Sn**	**15 54 09.8**	**-1.0**
HEF	**Hetta**	**4.11**	**287**	PN		15 53 23.7	
HEF				SN		15 54 09.8	
TOF	**Tornio**	**4.22**	**254**	PG		15 53 34.2	
KTK1	**Kautokeino**	**4.37**	**295**	*eP*	**Pn**	**15 53 26.7**	**+1.0**
KTK1				*eS*	**Sn**	**15 54 15.9**	**-1.3**
KTK1				IAML		15 54 36.2	
	comp=Z,3.3nm,0.2s						
KTK1	**Kautokeino**	**4.37**	**295**	SG		15 54 32.0	
LANU	**Lannavaara**	**4.71**	**282**	PN		15 53 29.8	
LANU				SN		15 54 24.9	
ERTU	**Ertsjaerv**	**4.86**	**264**	PN		15 53 33.5	
KIF	**Kilpisjarvi**	**5.23**	**292**	*eP*	**Pn**	**15 53 38.3**	**+1.0**
I37NO	**I37NO**	**6.02**	**292**	I	I	16 26 00.0	
	baz=98,slow=316,SNR=6.3						
SALU	**Saltoluokta**	**6.08**	**276**	*eP*	**Pn**	**15 53 50.3**	**+1.1**
FINES	**FINESS Array B**	**7.09**	**214**	Pn	**Pn**	**15 54 03.9**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=24,slow=14,SNR=4.2						
FINES				Sn	**Sn**	**15 55 19.9**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=29,slow=18,SNR=1.8						
FINES				Lg	Lg	15 55 55.1	
	comp=Z,0.3nm,0.3s,baz=29,slow=30,SNR=5.1						
	comp=Z,0.2nm,0.3s						
FAUS	**Fauske**	**7.31**	**277**	S	**Sn**	**15 55 25.6**	**-3.9**
HFS	**Hagfors**	**11.70**	**240**	Pn	**Pn**	**15 55 03.2**	**-2.8**
	baz=45,slow=14,SNR=1.9						
HFS				Sn	Sn	15 57 06.4	-11
	baz=43,slow=28,SNR=1.8						
	comp=Z,0.6nm,0.7s						
SPITS	**Spitsbergen Ar**	**11.81**	**342**	Pn	**Pn**	**15 55 06.6**	**-0.9**
	baz=149,slow=18						
	comp=Z,3.4nm,0.9s						

*FUNV **25** 15:52:56.1, 8°.93N×73°.56W, h32km, MW3.1*

RSNC 25 15:52:55.9±0.0, 7°N±1°×7°3W±°, h121km±2km, M2.5, ML2.1, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMM09	**Lebrija**	**0.23**	**355**	P	Pn	15 53 12.2	-0.7
VMM09				S	Sn	15 53 25.1	-0.6
BARC	**Barichara**	**0.32**	**164**	P	Pn	15 53 12.5	-0.9
BARC				S	Sn	15 53 25.4	-1.1
VMM10	**El Carmen**	**0.47**	**254**	P	Pn	15 53 12.8	-1.0
VMM10				S	Sn	15 53 26.2	-1.1
BRJC	**Barrancabermej**	**0.48**	**279**	P	Pn	15 53 12.8	-1.0
BRJC				S	Sn	15 53 26.7	-0.6
PAMC	**Pamplona, Colo**	**0.71**	**52**	P	Pn	15 53 16.0	0.0
PAMC				S	Sn	15 53 31.0	-0.2
EZNC	**La Esperanza**	**0.72**	**356**	P	Pn	15 53 14.8	-0.8
EZNC				S	Sn	15 53 28.8	-1.7
VMM07	**Puerto Wilches**	**0.74**	**308**	P	Pn	15 53 15.0	-0.6
VMM07				S	Sn	15 53 31.6	+1.0
RUSC	**La Rusia**	**1.02**	**169**	P	Pn	15 53 17.5	-1.3
RUSC				S	Sn	15 53 34.7	-1.3
PTBC	**PUERTO BERRIO,**	**1.23**	**253**	P	Pn	15 53 17.8	-2.6
PTBC				S	Sn	15 53 35.8	-3.2
OCAC	**Ocana**	**1.33**	**358**	P	Pn	15 53 20.7	-1.0
OCAC				S	Sn	15 53 40.3	-0.9
CAPV	**Capacho**	**1.35**	**45**	*eP*	Pn	15 53 21.9	0.0
CAPV				*eS*	Sn	15 53 41.8	+0.1
TAMC	**Tame, Arauca**	**1.54**	**107**	P	Pn	15 53 23.3	-0.6
TAMC				S	Sn	15 53 43.5	-1.7
AGCC	**Aguachica**	**1.63**	**349**	P	Pn	15 53 23.7	-1.3
AGCC				S	Sn	15 53 45.8	-1.4
NORC	**Norcasia**	**2.07**	**230**	P	Pn	15 53 29.7	-0.7
NORC				S	Sn	15 53 54.8	-1.9
ROSC	**El Rosal**	**2.30**	**207**	P	Pn	15 53 35.4	+1.8
HELC	**Santa Helena**	**2.35**	**253**	P	Pn	15 53 33.4	-0.8
HELC				S	Sn	15 54 04.0	+0.5
UREC	**San Jos de Ur**	**2.40**	**291**	P	Pn	15 53 31.6	-2.9
UREC				S	Sn	15 54 00.5	-3.6
GUY2C	**Guyana, Caldas**	**2.67**	**231**	P	Pn	15 53 37.5	-0.9
GUY2C				S	Sn	15 54 06.7	-4.2
SOCV	**Socops**	**2.76**	**60**	*eP*	Pn	15 53 38.0	-1.1
SOCV				*eS*	Sn	15 54 07.6	-4.8
CBOC	**Ciudad Bolivar**	**2.91**	**249**	P	Pn	15 53 40.4	-0.9
CBOC				S	Sn	15 54 13.7	-2.5
DBBC	**Dabeiba**	**2.92**	**272**	P	Pn	15 53 40.1	-1.2
DBBC				S	Sn	15 54 13.4	-2.8
SDV	**Santo Domingo**	**3.27**	**53**	P	Pn	15 53 45.2	-0.8
SDV				S	Sn	15 54 22.4	-2.3
PRAC	**Prado**	**3.55**	**207**	P	Pn	15 53 48.3	-1.3
PRAC				S	Sn	15 54 30.1	-1.0
PLMC	**San Jos del P**	**3.59**	**237**	P	Pn	15 53 48.9	-1.2
PLMC				S	Sn	15 54 30.8	-1.3
CRJC	**Cerrejon, Guaj**	**4.11**	**5**	P	Pn	15 53 56.4	-0.7
CRJC				S	Sn	15 54 42.9	-1.6
BAUV	**El Baul**	**5.56**	**68**	*eP*	Pn	15 54 13.0	-3.5
BAUV				*eS*	Sn	15 55 10.6	-8.7

JMA 25 15:57:22.2±0.1, 26°.8N±0°.4×127°.7E±0°.3, h7km, MV0.6/7, NEAR OKINAWAJIMA ISLAND, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.32**	**41**	P	Pg	15 57 28.5	+0.1
JIH				S	Sg	15 57 32.8	+0.2
JNTH	**Nagotoyohara**	**0.38**	**137**	*eS*	Sg	15 57 34.9	+0.4
JAGN	**Aguni-jima**	**0.48**	**245**	P	Pg	15 57 31.9	+0.3
JOW	**Kunigami**	**0.48**	**86**	P	Pg	15 57 31.8	+0.2
JOW				*eS*	Sg	15 57 38.3	+0.4
JYRO	**Yoronjima**	**0.68**	**70**	P	Pg	15 57 35.6	+0.3
JYRO				S	Sg	15 57 44.4	+0.2

*JMA **25** 15:58:39.6±0.3, 23°.8N±0°.8×122°.5E±0°.4, h20km±4km, MV3.1/15, NEAR ISHIGAKIJIMA ISLAND*
*ASIES **25** 15:58:40.4, 23°.77N×122°.55E, h43km, ML3.8, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; Mrr=1.20; Mθθ=0.63; Mφφ=0.56; Mrθ=1.89; Mθφ=0.25; Mrφ=1.07; Fault plane solution: M0=2.41478×10^{14} NP1:ϕs=49.14000°, δ=12.73000°, λ=-100.02000°. NP2:ϕs=239.40000°, δ=77.46000°, λ=-87.75000°. Principal axes: T Plg=32.4310°, Azm=327.5220°; N Plg=2.1970°, Azm=58.9190°; P Plg=57.4760°, Azm=152.3680°;*
*TAP **25** 15:58:40.4, 23°.77N×122°.55E, h43km, ML3.8, C*

ISC 25 15:58:38.7±1.0, 23°.72N±0°.02×122°.52E±0°.02, h15km±8km, n194, σ1§78/334, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.44**	**336**	*eP*	**Pg**	**15 58 48.2**	**+0.9**
EOS4				*eS*	**Sg**	**15 58 54.4**	**+1.2**
EOS3	**EOS3**	**0.59**	**342**	*eP*	**Pg**	**15 58 51.3**	**+0.9**
EOS2	**EOS2**	**0.74**	**340**	*i P*	**Pg**	**15 58 54.4**	**+1.2**
EOS2				*eS*	**Sg**	**15 59 04.4**	**+1.4**
TEYL	**Yanliau Villag**	**0.85**	**280**	*eP*	**Pg**	**15 58 55.6**	**+0.3**
TEYL				*i S*	**Sg**	**15 59 07.3**	**+0.8**
YOJ	**Yonaguni jima**	**0.86**	**31**	P	**Pg**	**15 58 55.4**	**-0.1**
YOJ	**Yonaguni jima**	**0.86**	**31**	P	**Pg**	**15 58 55.5**	**0.0**
YOJ				S	**Sg**	**15 59 06.5**	**-0.4**
YOJ	**Yonaguni jima**	**0.86**	**31**	*i P*

EGS		1.24 335	*e*P	Pg	15 59 03.3 +0.6	**WGK**	**Gukeng**	1.79 269	*e*P	Pn	15 59 12.2 +3.1
EGS			*e*S	Sg	15 59 18.2 -0.6	WGK			*e*S	Sn	15 59 33.7 +2.2
OWD	**Renai**	1.25 281	P	Pg	15 59 01.4 -1.4	**WTP**	**Ta-pu**	1.81 255	*e*P	Pn	15 59 11.4 +2.0
OWD			S	Sg	15 59 16.8 -2.4	WTP			*e*S	Sn	15 59 34.5 +2.4
NNSB	**Datong**	1.25 304	*i* P	Pg	15 59 01.7 -1.3	**WDLH**	**Douliu**	1.81 269	*e*P	Pn	15 59 13.0 +3.7
NNSB			S	Sg	15 59 17.9 -1.4	WDLH			*e*S	Sn	15 59 36.6 +4.6
NNSH	**Datong**	1.25 304	P	Pg	15 59 01.3 -1.6	**ECL**	**Taimali**	1.82 232	*e*P	Pn	15 59 09.6 +0.2
NNSH			*e*S	Sg	15 59 19.1 -0.2	ECL			*i* S	Sn	15 59 30.7 -1.5
VWDT	**VWDT**	1.26 272	*i* P	Pg	15 59 02.1 -1.0	**WDJ**	**Dajia District**	1.83 290	*e*P	Pn	15 59 11.6 +2.1
VWDT			S	Sg	15 59 17.8 -1.7	WDJ			S	Sn	15 59 34.7 +2.4
ENTT	**Nioudou**	1.26 317	*e*P	Pg	15 59 02.0 -1.0	**WCHH**	**Zhanghua**	1.83 282	*e*P	Pn	15 59 12.0 +2.5
ENTT			S	Sg	15 59 17.9 -1.6	WCHH			*i* S	Sn	15 59 34.9 +2.5
TWE	**Neicheng**	1.26 322	*i* P	Pg	15 59 02.1 -1.0	**WCH1**	**Changhua City**	1.84 281	*e*P	Pn	15 59 12.3 +2.7
TWE			*e*S	Sg	15 59 19.4 -0.1	WCH1			*e*S	Sn	15 59 35.6 +3.0
IRIF	**Iriomote-Funau**	1.27 61	P	Pg	15 59 02.6 -0.5	**JISG**	**Ishigakijimahi**	1.85 62	P	Pn	15 59 10.0 +0.2
NNS	**Nan Shan**	1.27 305	*e*P	Pg	15 59 01.5 -1.7	**NHW**	**Xinwu Township**	1.85 314	P	Pn	15 59 09.9 0.0
NNS			*i* S	Sg	15 59 17.6 -2.1	NHW			*e*S	Sn	15 59 33.0 0.0
FUSS	**Fushou**	1.28 295	P	Pg	15 59 02.3 -1.1	**CHN2**	**Minshiung**	1.88 265	*e*S	Sn	15 59 37.6 +3.9
FUSS			S	Sg	15 59 18.8 -1.3	**SGST**	**Jiashian**	1.89 251	P	Pn	15 59 11.6 +1.3
WUSB	**Renai**	1.31 282	P	Pg	15 59 02.6 -1.3	SGST			S	Sn	15 59 35.7 +1.8
WUSB			*e*S	Sg	15 59 19.8 -1.2	**LAY**	**Lan-yu**	1.90 208	*e*P	Pn	15 59 10.2 -0.3
EHD	**Haiduan**	1.33 245	*i* P	Pg	15 59 02.8 -1.6	**CHN1**	**Nanshi**	1.90 254	*e*P	Pn	15 59 14.9 +4.3
EHD			*e*S	Sg	15 59 18.8 -2.9	CHN1			*e*S	Sn	15 59 38.1 +3.8
TWT	**Tachien**	1.34 294	P	Pg	15 59 03.2 -1.3	**LYUB**	**Lan-yu**	1.92 207	*e*P	Pn	15 59 10.4 -0.3
TWT			*e*S	Sg	15 59 20.1 -1.8	LYUB			S	Sn	15 59 33.5 -1.1
FUSB	**Fushanzhiwuyua**	1.34 321	*e*P	Pg	15 59 04.4 -0.1	**TWK**	**Hsinying**	1.92 257	P	Pn	15 59 13.2 +2.4
FUSB			*e*S	Sg	15 59 23.0 +1.0	TWK			*e*S	Sn	15 59 38.3 +3.7
EDH	**Donghe**	1.34 237	*i* P	Pg	15 59 02.5 -2.0	**SNST**	**Tainan City**	1.92 255	*e*P	Pn	15 59 10.6 -0.3
EDH			S	Sg	15 59 18.7 -3.3	SNST			*e*S	Sn	15 59 38.9 +4.2
ECS	**Chishang**	1.34 243	P	Pg	15 59 03.7 -1.0	**CHY**	**Chiayi**	1.93 264	*e*S	Sn	15 59 38.1 +3.1
ECS			*e*S	Sg	15 59 21.5 -0.7	**PCYT**	**Pengchaiyu**	1.94 348	P	Pn	15 59 11.6 +0.5
TDCB	**Techi**	1.35 293	*i* P	Pg	15 59 02.8 -1.4	PCYT			S	Sn	15 59 34.1 -1.2
TDCB			*e*S	Sg	15 59 20.2 -2.2	**WTK**	**Tuku**	1.95 269	*e*P	Pn	15 59 14.4 +3.1
TWB1	**Santiao Chiao**	1.37 340	*e*P	Pg	15 59 04.4 -0.7	WTK			*e*S	Sn	15 59 38.7 +3.3
TWB1			*e*S	Sg	15 59 22.5 -0.4	**RLNB**	**Erlin**	1.98 275	P	Pn	15 59 13.7 +2.0
TIPB	**Shuangxi**	1.40 333	*e*P	Pg	15 59 05.3 -0.3	RLNB			*e*S	Sn	15 59 39.0 +2.7
TIPB			*e*S	Sg	15 59 22.6 -1.2	**SSD**	**Sandimen**	1.99 241	*e*P	Pn	15 59 14.4 +2.7
NWLT	**Wulai**	1.40 319	*e*P	Pn	15 59 04.4 +0.7	**TSMG**	**Majia**	2.00 240	*e*P	Pn	15 59 14.3 +2.4
NWLT			S	Sg	15 59 21.8 -2.2	TSMG			*e*S	Sn	15 59 37.4 +0.8
YHNB	**Yeheng**	1.41 312	P	Pg	15 59 04.0 -1.8	**TAW**	**Tawu**	2.02 228	P	Pn	15 59 12.7 +0.6
YHNB	**Yeheng**	1.41 312	S	Sg	15 59 22.2 -2.0	TAW			*e*S	Sn	15 59 35.5 -1.6
YHNB	**Yeheng**	1.41 312	*i* P	Pg	15 59 04.2 -1.6	**EAST**	**Anshuo**	2.03 229	*e*P	Pn	15 59 13.1 +0.6
YHNB			*e*S	Sg	15 59 21.7 -2.5	EAST			*e*S	Sn	15 59 37.4 -0.2
LDUT	**Ludao**	1.42 223	P	Pn	15 59 03.5 -0.4	**TAWH**	**Dawu Township**	2.04 228	P	Pn	15 59 13.1 +0.7
LDUT			S	Sg	15 59 20.1 -4.5	TAWH			*e*S	Sn	15 59 36.8 -0.7
NSK	**Sanguang**	1.42 312	*e*P	Pn	15 59 04.4 +0.3	**SCST**	**Cishan**	2.04 246	*e*P	Pn	15 59 17.3 +4.8
NSK			S	Sg	15 59 22.4 -2.3	SCST			*e*S	Sn	15 59 42.4 +4.8
SSLB	**Suanglung**	1.43 273	P	Pn	15 59 04.5 +0.3	**WTCT**	**Ta-ch'eng**	2.05 274	*e*P	Pn	15 59 15.4 +2.7
SSLB	**Suanglung**	1.43 273	*e*P	Pn	15 59 05.7 +1.5	WTCT			*i* S	Sn	15 59 41.7 +3.8
SSLB			*e*S	Sg	15 59 24.0 -1.0	**MASBT**	**Mashibuluo**	2.06 238	*e*P	Pn	15 59 14.0 +1.3
YUS	**Yu-Shan**	1.45 261	*e*P	Pg	15 59 08.7 -1.1	**CHN3**	**Shinhua**	2.08 252	P	Pn	15 59 14.9 +1.9
YUS			*e*S	Sg	15 59 23.6 -2.1	**ICHU**	**Yijhu**	2.08 261	P	Pn	15 59 14.9 +1.9
WPL	**Puli Township**	1.46 282	*e*P	Pn	15 59 04.5 0.0	ICHU			*e*S	Sn	15 59 41.1 +2.3
WPL			*e*S	Sg	15 59 23.6 -2.1	**WSF**	**Szhu**	2.10 268	P	Pn	15 59 14.9 +1.6
JKRS	**Kuro-shima**	1.46 69	P	Pn	15 59 05.5 +1.0	WSF			*e*S	Sn	15 59 42.5 +3.3
ELDTW	**Lidau**	1.48 249	*e*P	Pn	15 59 05.3 +0.5	**WSL**	**Shuilin Townsh**	2.11 265	*e*P	Pn	15 59 15.9 +2.5
ELDTW			*e*S	Sg	15 59 23.5 -2.8	WSL			*i* S	Sn	15 59 41.3 +2.0
SXI1	**Grass Mountain**	1.49 337	*i* P	Pn	15 59 05.0 0.0	**SHHT**	**Tainan City**	2.11 251	*e*P	Pn	15 59 16.3 +2.8
SXI1			*e*S	Sg	15 59 25.3 -1.4	SHHT			*e*S	Sn	15 59 43.4 +4.0
DPDB	**Guoxing**	1.49 282	P	Pn	15 59 05.2 +0.3	**TWM1**	**Shoushan**	2.12 246	*e*P	Pn	15 59 19.3 +5.7
SMLT	**Sun Moon Lake**	1.49 277	P	Pn	15 59 05.7 +0.7	**CHN8**	**Yiju**	2.15 260	*e*S	Sn	15 59 43.1 +2.8
SMLT			*e*S	Sg	15 59 23.8 -3.0	**SLIU**	**Shizi**	2.18 227	P	Pn	15 59 15.4 +1.0
NWF	**Wu-fen Shan**	1.50 334	P	Pn	15 59 05.4 +0.2	SLIU			S	Sn	15 59 41.9 +0.8
NWF			*e*S	Sg	15 59 26.3 -0.9	**JTJ**	**Tarama**	2.20 65	P	Pn	15 59 16.6 +2.0
WCS	**Beigang Elemen**	1.51 283	*e*P	Pn	15 59 08.4 +3.2	JTJ			*e*S	Sn	15 59 43.6 +2.1
WCS			*e*S	Sg	15 59 25.5 -1.8	**SCLT**	**Jiali**	2.20 256	*e*S	Sn	15 59 45.0 +3.4
LONT	**Longtian**	1.51 238	P	Pn	15 59 05.8 +0.6	**SCLT**	**Fangliau**	2.20 233	*e*P	Pn	15 59 17.1 +2.3
LONT			*e*S	Sg	15 59 24.6 -2.8	**SMST**	**Manzhou Townsh**	2.29 223	*e*P	Pn	15 59 18.2 +2.2
TWA	**Mucha**	1.52 326	P	Pn	15 59 06.0 +0.8	SMST			*e*S	Sn	15 59 45.2 +1.3
TWA			*e*S	Sg	15 59 25.9 -1.8	**TSCK**	**Chigu Township**	2.30 256	P	Pn	15 59 18.7 +2.6
WHYT	**Xinyi Township**	1.52 269	*e*P	Pn	15 59 06.5 +1.1	TSCK			*e*S	Sn	15 59 47.2 +3.0
WHYT			S	Sg	15 59 25.8 -2.1	**TSEB**	**Hengchuen, Pin**	2.35 220	*e*P	Pn	15 59 19.3 +2.6
TYC	**Yuchr**	1.53 277	P	Pn	15 59 07.0 +1.5	TSEB			*e*S	Sn	15 59 49.2 +4.0
TYC			*e*S	Sn	15 59 24.8 -0.2	**HEN**	**Hengchun**	2.37 224	*e*P	Pn	15 59 19.7 +2.7
NHDH	**Xindian Distri**	1.53 324	P	Pn	15 59 06.3 +0.8	HEN			S	Sn	15 59 46.6 +0.9
NHDH			S	Sb	15 59 25.5 -0.5	**TWKBT**	**Hengchun**	2.37 222	*e*P	Pn	15 59 19.1 +2.1
WHP	**Taichung City**	1.54 291	*e*P	Pn	15 59 07.2 +1.5	TWKBT			*e*S	Sn	15 59 47.6 +1.9
TATO	**Taipei**	1.56 323	P	Pn	15 59 06.8 +0.9	**WLCH**	**Liuqiu**	2.40 236	*e*P	Pn	15 59 21.4 +4.0
TATO	**Taipei**	1.56 323	||P	Pn	15 59 06.6 +0.7	**WDGT**	**Dungji**	2.66 261	*e*P	Pn	15 59 22.8 +1.7
TATO			*e*S	Sn	15 59 27.6 +1.7	WDGT			S	Sn	15 59 53.3 +0.3
NFF	**Wufeng Townshi**	1.57 306	*e*P	Pn	15 59 07.1 +1.1	**JIRB**	**Irabujima**	2.66 65	P	Pn	15 59 21.8 +0.8
NFF			*e*S	Sn	15 59 24.6 -1.5	**PHUB**	**P'eng-hu**	2.71 266	*e*P	Pn	15 59 23.6 +1.9
TNOU	**National Taiwa**	1.58 335	*e*P	Pn	15 59 07.0 +0.9	PHUB			S	Sn	15 59 54.6 +0.5
TNOU			S	Sn	15 59 25.5 -0.7	**PNG**	**Penghu**	2.72 267	*e*P	Pn	15 59 23.7 +1.9
ALS	**Alishan**	1.58 263	*e*P	Pn	15 59 08.3 +1.5	PNG			*i* S	Sn	15 59 55.1 +0.7
ALS			S	Sn	15 59 26.8 0.0	**JMJ**	**Miyako jima 2**	2.76 66	P	Pn	15 59 25.3 +3.0
TTN	**Taitung**	1.58 233	*e*P	Pn	15 59 07.1 +0.9	**JMJ**	**Miyako jima 2**	2.76 66	*e*P	Pn	15 59 24.0 +1.6
TTN			*e*S	Sn	15 59 27.9 +1.5	JMJ			*e*S	Sn	15 59 53.6 -1.8
TWGBT	**Beinan**	1.60 236	P	Pn	15 59 06.7 +0.3	**JMJ2**	**Miyako jima3**	2.76 68	*e*P	Pn	15 59 24.4 +2.0
TWGBT	**Beinan**	1.60 236	*e*P	Pn	15 59 06.8 +0.3	**VCHM**	**Qimei**	2.88 260	*e*P	Pn	15 59 25.2 +1.2
TWGBT			S	Sn	15 59 26.1 -0.7	VCHM			*e*S	Sn	15 59 58.8 +0.4
TWG	**Pinlang**	1.60 236	*i* P	Pn	15 59 06.7 +0.3	**VWUC**	**VWUC**	3.07 295	*i* P	Pn	15 59 27.0 +0.4
TWG			S	Sn	15 59 26.4 -0.5	VWUC			*e*S	Sn	16 00 01.0 -2.1
TAP	**Taipei**	1.60 325	P	Pn	15 59 07.3 +0.8	**MATB**	**Ma-tsu**	3.36 317	*e*P	Pn	15 59 30.2 -0.4
TAP			*e*S	Sn	15 59 26.8 -0.1	MATB			*e*S	Sn	16 00 07.8 -2.5
BACT	**New Taipei Cit**	1.60 323	P	Pn	15 59 07.1 +0.6	**PTMZ**	**Houxiangcun**	3.36 294	*i* P	Pn	15 59 31.1 +0.5
BACT			S	Sn	15 59 26.6 -0.3	PTMZ			*e*S	Sn	16 00 08.0 -2.3
KSHI	**Guanxi Townshi**	1.61 311	*e*P	Pn	15 59 08.3 +1.7	**KNM**	**Kinmen**	3.80 281	P	Pn	15 59 39.1 +2.5
KSHI			*e*S	Sn	15 59 28.9 +1.7	KNM			S	Sn	16 00 22.8 +1.8
JIJ	**Ishigaki jima**	1.62 66	P	Pn	15 59 07.0 +0.3	**XPSS**	**Dashiqiu**	3.83 327	*e*P	Pn	15 59 36.3 -0.7
WJS	**Zhushan**	1.64 274	*e*P	Pn	15 59 10.0 +3.0	XPSS			S	Sn	16 00 20.1 -1.6
WJS			*e*S	Sn	15 59 29.7 +1.9	**KNMB**	**Chin-men Tao**	3.84 282	P	Pn	15 59 37.9 +0.6
NJD	**Zhudong**	1.65 308	P	Pn	15 59 08.4 +1.2	KNMB			*e*S	Sn	16 00 19.7 -2.5
NJD			*e*S	Sn	15 59 29.4 +1.4	**MHZQ**	**Yeshan**	3.95 308	*e*P	Pn	15 59 38.9 +0.1
LIOB	**Emei**	1.65 304	*e*P	Pn	15 59 08.9 +1.8	MHZQ			*e*S	Sn	16 00 22.1 -2.8
LIOB			*e*S	Sn	15 59 29.4 +1.3	**AXDP**	**Jialang**	4.31 287	*e*P	Pn	15 59 44.4 +0.7
NSTT	**Nanjuang**	1.66 304	*i* P	Pn	15 59 08.9 +1.7	AXDP			*e*S	Sn	16 00 31.0 -2.7
NSTT			*e*S	Sn	15 59 29.2 +1.1	**ZPLA**	**Ao Xicun**	4.37 274	*e*P	Pn	15 59 45.5 +1.0
YM01	**YM01**	1.66 329	*e*P	Pn	15 59 08.5 +1.2	ZPLA			S	Sn	16 00 33.8 -1.3
YM01			*e*S	Sn	15 59 29.0 +0.6	**DSXP**	**Dongshan**	4.67 271	P	Pn	15 59 49.7 +1.1
WNT	**Mingjian**	1.69 276	*e*P	Pn	15 59 10.0 +2.4	DSXP			S	Sn	16 00 41.7 -0.8
WNT			*e*S	Sn	15 59 30.9 +2.0	**SXFK**	**Yanhouchang**	5.16 302	*e*P	Pn	15 59 55.2 -0.2
ZUZH	**Zhuzihu**	1.69 329	*e*P	Pn	15 59 08.0 +0.3	SXFK			*e*S	Sn	16 00 51.8 -2.9
ZUZH			*e*S	Sn	15 59 29.5 +0.5	**JOW**	**Kunigami**	6.06 58	P	Pn	16 00 08.6 +0.8
YM08	**YM08**	1.69 330	*e*P	Pn	15 59 08.6 +0.9	JOW			*e*S	Sn	16 01 13.4 -3.6
YM08			*e*S	Sn	15 59 28.5 -0.5	**VDOS**	**Pratas Island**	6.14 242	*e*P	Pn	16 00 12.2 +3.3
CHN5	**Tsauling**	1.69 266	*e*P	Pn	15 59 09.7 +1.9	VDOS			*e*S	Sn	16 01 17.1 -1.9
CHN5			*e*S	Sn	15 59 30.9 +1.7						
STYH	**Taoyuan**	1.69 251	*i* P	Pn	15 59 08.8 +1.2						
STYH			*e*S	Sn	15 59 29.8 +0.9						
NTY	**Taoyuan**	1.69 319	P	Pn	15 59 09.0 +1.3						
NTY			*e*S	Sn	15 59 27.9 -1.2						
WNT1	**Nantou City**	1.69 277	P	Pn	15 59 10.6 +2.9						
WNT1			*e*S	Sn	15 59 32.4 +3.3						
WWF	**Wufeng**	1.69 281	P	Pn	15 59 10.2 +2.5						
WWF			*e*S	Sn	15 59 33.0 +3.9						
TWS1	**Kuangyinshan**	1.70 324	P	Pn	15 59 08.4 +0.6						
TWS1			S	Sn	15 59 28.5 -0.8						
STYT	**Tauyuan**	1.71 251	P	Pn	15 59 09.3 +1.3						
STYT			*e*S	Sn	15 59 30.5 +1.0						
TWQ1	**Liyutan**	1.71 292	*e*P	Pn	15 59 09.9 +2.0						
TWQ1			S	Sn	15 59 31.8 +2.2						
ANP	**Anpu**	1.72 328	*e*P	Pn	15 59 09.2 +1.0						
ANP			*e*S	Sn	15 59 30.1 +0.2						
HSN1	**Hsinchu**	1.73 308	P	Pn	15 59 09.1 +1.0						
HSN1			S	Sn	15 59 30.2 +0.3						
NTST	**Danshui**	1.74 326	P	Pn	15 59 08.5 +0.2						
NTST			S	Sn	15 59 29.9 -0.2						
NCUH	**Zhongli**	1.74 316	P	Pn	15 59 09.3 +1.0						
NCUH			*e*S	Sn	15 59 32.4 +2.2						
TCU	**Taichung**	1.74 285	P	Pn	15 59 10.4 +2.1						
TCU			*e*S	Sn	15 59 32.2 +2.0						
NSY	**Sanyi**	1.75 294	*e*P	Pn	15 59 10.8 +2.3						
NSY			*e*S	Sn	15 59 33.1 +2.6						
SBCB	**Hsinchu**	1.76 308	*e*P	Pn	15 59 10.7 +2.1						
SBCB			S	Sn	15 59 31.1 +0.4						
TWY	**Chenhua**	1.76 332	*e*P	Pn	15 59 09.9 +1.3						
TWY			*e*S	Sn	15 59 30.4 -0.4						
NMLH	**Miaoli**	1.77 298	*e*P	Pn	15 59 10.9 +2.1						
NMLH			*e*S	Sn	15 59 33.1 +2.0						
HSN	**Hsinchu**	1.78 308	P	Pn	15 59 09.9 +1.1						
HSN			*e*S	Sn	15 59 32.4 +1.3						
WCKO	**Fanlu**	1.78 261	*e*P	Pn	15 59 12.0 +3.2						
WCKO			S	Sn	15 59 33.3 +2.1						
TPUB	**Ta-pu**	1.78 257	P	Pn	15 59 11.1 +2.2						
TPUB	**Ta-pu**	1.78 257	*e*P	Pn	15 59 11.2 +2.2						
TPUB			*e*S	Sn	15 59 33.7 +2.3						
NJN	**Zhunan**	1.78 303	P	Pn	15 59 09.9 +1.0						
NJN			S	Sn	15 59 31.9 +0.6						

IDC 25 16:11:55.5±31.0, 35°63′N×71°37′E, h185km±167km, mb3.3/2, mbtmp3.6/5, ML3.3/3, MS3.7/1, Error ellipse: s-maj=315.5km s-min=59.8km az=178.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.84**	**33**	P	P	Pn	16 15 04.2	+0.3
	0.1nm,0.3s,baz=215,slow=12,SNR=4.0 0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**15.86**	**17**	P	P	Pn	16 15 28.3	-0.3
	0.1nm,0.3s,baz=206,slow=11,SNR=7.9 1.2nm,0.8s							
AKTO	**Aktyubinsk**	**17.69**	**331**	P	P	P	16 15 48.6	-0.1
	0.2nm,0.3s,baz=151,slow=10,SNR=3.8 0.7nm,0.3s							
ZALV	**Zalesovo Beam**	**20.59**	**23**	P	P	P	16 16 19.9	-0.1
	2.2nm,0.6s,baz=225,slow=10,SNR=9.0 2.2nm,0.6s							
ARCES	**ARCESS Array B**	**42.06**	**338**	P	P	P	16 19 28.6	0.0
	1.6nm,1.0s,baz=110,slow=7.9,SNR=4.5 1.6nm,1.0s							
JOW	**Kunigami**	**48.87**	**84**	LR	LR	LR	16 43 35.1	
	comp=Z,70nm,19.1s,baz=250,slow=39							

*NEIC **25** 16:16:44.0±1.0, 35°.842N±0°.009×98°.08W±0°.01, h8km±4km, Error ellipse: s-maj=1.4km s-min=1.3km az=173.0*

NEIC 25 16:16:43.8±0.9, 35°.842N±0°.009×98°.07W±0°.01, h5km±1km, mb_Lg2.2/16, ML2.5/62, ML2.4/27, Error ellipse: s-maj=2.7km s-min=1.6km az=282.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.42**	**116**			Pg	16 16 52.3	+0.4
BCOK						Sg	16 16 58.5	+1.1
OK029	**Liberty Lake**	**0.51**	**95**			Pg	16 16 53.9	+0.3
OK029						Sg	16 17 01.2	+1.1
CSTR	**Hydro, Custer**	**0.54**	**249**			Pg	16 16 54.5	+0.4
CSTR						Sg	16 17 02.0	+0.9
OK004	**Okla Sci Mus**	**0.58**	**123**			Pg	16 16 55.3	+0.3
OK004						Sg	16 17 03.6	+1.0
ADOK	**Arcadia Dam**	**0.60**	**108**	Pg		Pg	16 16 55.6	+0.2

CROK	**Carrier**	0.67	6		Pg	16 16 56.8	+0.2				
CROK					Sg	16 17 05.8	+0.5				
CROK				IAML		16 17 15.5					
	comp=E,214nm,0.3s										
CROK				IAML		16 17 17.1					
	comp=N,208nm,0.3s										
FNO	**Franklin**	0.80	137		Pg	16 16 59.2	0.0				
FNO					Sg	16 17 10.2	+0.6				
FNO				IAML		16 17 11.5					
	comp=E,158nm,0.1s										
OK038	**West end E0370**	0.83	320		Pg	16 16 59.7	-0.1				
OK038					Sg	16 17 11.2	+0.5				
GC02	**Grant County #**	1.02	10		Pg	16 17 03.0	-0.4				
GC02					Sg	16 17 17.1	+0.4				
OK052	**Battle Ridge R**	1.04	81		Pg	16 17 03.5	-0.3				
OK052					Sg	16 17 16.7	-0.7				
OK052				IAML		16 17 23.1					
	comp=E,83nm,0.2s										
OK052				IAML		16 17 23.6					
	comp=E,81nm,0.2s										
ELIS	**Ellis County**	1.11	282	Pg	Pg	16 17 04.4	-0.8				
ELIS				IAML		16 17 21.4					
	comp=E,122nm,0.2s										
ELIS				IAML		16 17 27.9					
	comp=N,135nm,0.2s										
KAN14	**Manchester OK**	1.12	5		Pg	16 17 04.5	-0.7				
KAN14				IAML		16 17 25.1					
	comp=N,105nm,0.1s										
KAN14				IAML		16 17 29.7					
	comp=E,110nm,0.1s										
BLOK	**Blackwell**	1.15	37		Pg	16 17 04.9	-1.0				
QUOK	**Quay**	1.16	73		Pg	16 17 05.0	-0.9				
QUOK				IAML		16 17 25.8					
	comp=E,132nm,0.2s										
QUOK				IAML		16 17 26.9					
	comp=N,123nm,0.2s										
OK051	**E0350 and S346**	1.20	56		Pg	16 17 06.2	-0.6				
OK051					Sb	16 17 23.2	+0.3				
KAN17	**Caldwell West**	1.23	12		Pg	16 17 06.2	-1.1				
WMOK	**Wichita Mounta**	1.24	208		Pg	16 17 06.7	-1.0				
X34A	**Smith Ranch, M**	1.25	171		Pg	16 17 07.5	-0.3				
X34A					Sn	16 17 25.6	+0.4				
X34A				IAML		16 17 26.3					
	comp=N,63nm,0.2s										
X34A				IAML		16 17 26.6					
	comp=E,92nm,0.3s										
KAN13	**South Haven SW**	1.26	22		Pg	16 17 07.3	-0.7				
KAN13					Sg	16 17 24.0	-0.4				
DEOK	**Depew**	1.28	90		Pg	16 17 07.4	-0.9				
DEOK					Sn	16 17 25.7	-0.2				
DEOK				IAML		16 17 28.4					
	comp=N,69nm,0.2s										
DEOK				IAML		16 17 28.9					
	comp=E,57nm,0.2s										
KAN01	**Argonia South**	1.33	11		Pn	16 17 08.4	-0.7				
KAN09	**Caldwell North**	1.34	16		Pn	16 17 08.1	-1.2				
KAN09					Sb	16 17 21.0	0.0				
T35A	**Sooner Cattle**	1.66	49		Pn	16 17 12.7	-0.8				
T35A					Sn	16 17 34.6	-0.5				
TUL3	**Leonard**	1.85	87		Pn	16 17 15.6	-0.7				
SMWD	**Samnorwood**	1.92	248		Pn	16 17 17.0	-0.2				
LOOK	**Love County**	1.99	158		Pn	16 17 18.6	+0.5				
WTFS	**Witchita Falls**	2.10	189		Pn	16 17 19.7	+0.1				
WTFS					LR	16 17 49.7					
RLO	**Rose Lookout**	2.50	82		Pn	16 17 26.3	+1.2				
Z35A	**Perchaven, San**	2.59	165	Pn	Pn	16 17 27.7	+1.3				
R32A	**Long Quarter,**	2.62	349	Pn	Pn	16 17 27.4	+0.5				
FW06	**Azle**	2.89	171	Pn	Pn	16 17 29.1	-1.5				
APMT	**Aspermont**	3.03	215	Pn	Pn	16 17 31.1	-1.3				
PLPT	**Palo Pinto**	3.03	184	Pn	Pn	16 17 31.8	-0.6				
AMTX	**Amarillo**	3.10	253		Pn	16 17 31.8	-1.6				
AMTX				IAmb_Lg		16 18 20.0					
	comp=Z,7.7nm,0.8s										
DKNS	**Dickens**	3.20	228	Pn	Pn	16 17 33.4	-1.4				
SN07	**Snyder 07**	3.60	221		Pn	16 17 38.2	-2.1				
SN07				IAmb_Lg		16 18 47.1					
	comp=Z,5.0nm,0.8s										
SN05	**Snyder 5**	3.76	219		Pn	16 17 40.7	-1.8				
SN05				IAmb_Lg		16 18 47.4					
	comp=Z,8.2nm,0.9s										
RTBA	**Rita Blanca**	3.82	280	Pn	Pn	16 17 41.7	-1.7				

NUBE	**Las Nubes**	**3.00**	**103**	*eP*	**Pn**	**16 38 59.7**	**+0.3**
NUBE				*eS*	**Sn**	**16 39 34.8**	**+0.5**
NUBE	**Las Nubes**	**3.00**	**103**	*i* P	**Pn**	**16 39 00.6**	**+1.2**
NUBE	**Las Nubes**	**3.00**	**103**	S	**Sn**	**16 39 33.2**	**-1.0**
NUBE	**Las Nubes**	**3.00**	**103**	P	**Pn**	**16 39 00.4**	**+1.0**
CEVE	**Cerro Verde**	**3.16**	**104**	*eP*	**Pn**	**16 39 02.7**	**+0.9**
CEVE				*eS*	**Sn**	**16 39 39.8**	**+1.4**
CEVE	**Cerro Verde**	**3.16**	**104**	S	**Sn**	**16 39 40.3**	**+1.9**
CEVE	**Cerro Verde**	**3.16**	**104**	P	**Pn**	**16 39 03.1**	**+1.4**
SNJE	**San Jose**	**3.17**	**103**	*eP*	**Pn**	**16 39 02.7**	**+0.9**
CMIG	**Matias Romero**	**3.19**	**321**	*eP*	**Pn**	**16 39 03.0**	**+1.1**
CMIG				*eS*	**Sn**	**16 39 39.7**	**+1.0**
MTO3	**Montecristo**	**3.32**	**93**	P	**Pn**	**16 39 02.7**	**-1.3**
JAYA	**Jayaque - finc**	**3.37**	**106**	*eP*	**Pn**	**16 39 05.1**	**+0.5**
JAYA	**Jayaque - finc**	**3.37**	**106**	S	**Sn**	**16 39 43.2**	**-0.2**
JAYA	**Jayaque - finc**	**3.37**	**106**	P	**Pn**	**16 39 05.3**	**+0.7**
HUIG	**Huatulco**	**3.41**	**290**	*eP*	**Pn**	**16 39 06.0**	**+1.1**
HUIG				*eS*	**Sn**	**16 39 40.1**	**-4.0**
HUIG	**Huatulco**	**3.41**	**290**	*i* P	**Pn**	**16 39 05.1**	**+0.2**
PMON	**Piamonte**	**3.48**	**104**	*eP*	**Pn**	**16 39 07.1**	**+1.1**
PMON	**Piamonte**	**3.48**	**104**	P	**Pn**	**16 39 07.7**	**+1.7**
LALI	**Alcalda de L**	**3.54**	**108**	P	**Pn**	**16 39 08.2**	**+1.5**
UEES	**Universidad Ev**	**3.55**	**104**	P	**Pn**	**16 39 08.7**	**+1.8**
PETF	**Flores**	**3.62**	**50**	*eP*	**Pn**	**16 39 07.8**	**-0.1**
PETF				*eS*	**Sn**	**16 39 46.1**	**-3.3**
PETF	**Flores**	**3.62**	**50**	*eP*	**Pn**	**16 39 07.8**	**-0.1**
PETF	**Flores**	**3.62**	**50**	*i* P	**Pn**	**16 39 07.8**	**-0.1**
PETF	**Flores**	**3.62**	**50**	P	**Pn**	**16 39 07.8**	**-0.1**
LOMA	**Loma Larga**	**3.63**	**105**	*eP*	**Pn**	**16 39 08.8**	**+0.7**
LOMA	**Loma Larga**	**3.63**	**105**	P	**Pn**	**16 39 10.1**	**+2.0**
PANCS	**Alcalda de**	**3.64**	**105**	P	**Pn**	**16 39 09.0**	**+1.0**
SCLA	**Alcaldia de Sa**	**4.04**	**102**	*eP*	**Pn**	**16 39 14.8**	**+1.2**
SCLA	**Alcaldia de Sa**	**4.04**	**102**	P	**Pn**	**16 39 14.2**	**+0.6**
PEIG	**Puerto Escondi**	**4.43**	**289**	*eP*	**Pn**	**16 39 20.3**	**+1.4**
PEIG				*eS*	**Sn**	**16 40 04.1**	**-5.1**
VHO	**Vista Hermosa**	**4.52**	**303**	*eS*	**Sn**	**16 40 13.0**	**+1.3**
SCIG	**Sabancuy**	**4.59**	**19**	*eP*	**Pn**	**16 39 21.1**	**0.0**
SCIG				*eS*	**Sn**	**16 40 06.2**	**-7.0**
SCIG	**Sabancuy**	**4.59**	**19**	P	**Pn**	**16 39 20.4**	**-0.8**
YOIG	**Yosondua**	**5.10**	**297**	*eP*	**Pn**	**16 39 30.7**	**+2.4**
YOIG				*eS*	**Sn**	**16 40 26.1**	**0.0**
TOIG	**Toxpalan**	**5.37**	**311**	*eP*	**Pn**	**16 39 34.8**	**+2.8**
TOIG				*eS*	**Sn**	**16 40 30.7**	**-1.9**
PNIG	**Pinotepa**	**5.45**	**290**	*eP*	**Pn**	**16 39 35.2**	**+2.3**
PNIG				*eS*	**Sn**	**16 40 31.1**	**-3.1**
TXIG	**Tlaxiaco**	**5.47**	**299**	*eP*	**Pn**	**16 39 36.1**	**+2.7**
TXIG				*eS*	**Sn**	**16 40 34.4**	**-0.7**
HLIG	**Huajuapan de L**	**5.79**	**304**	*eP*	**Pn**	**16 39 41.7**	**+4.0**
HLIG				*eS*	**Sn**	**16 40 43.1**	**+0.2**
DAIG	**Los Arroyos**	**7.03**	**291**	*eP*	**Pn**	**16 39 56.2**	**+1.6**
DAIG				*eS*	**Sn**	**16 41 11.2**	**-2.0**
PPM	**Popocatepetl**	**7.13**	**309**	*e*	Pn	16 39 42.9	-14
PPM				*e*		16 40 39.5	
PLIG	**Platanillo**	**7.46**	**301**	*eP*	**Pn**	**16 40 01.8**	**+1.2**
PLIG				*eS*	**Sn**	**16 41 23.9**	**0.0**

*UPP **25** 17:01:11.7±0.1,67.°06N×20.°94E, h0km, ML2.4, Unknown*
*HEL **25** 17:01:11.9±0.3,67.°07N×20.°83E, h0km, ML2.2, Explosion Hypocentre not reviewed by the ISC*
*IDC **25** 17:01:12.9±0.8,67.°07N×21.°19E, h0km, mbtmp3.0/5, ML2.1/5, Error ellipse: s-maj=14.3km s-min=7.2km az=109.0*

ISC 25 17:01:11.7±1.2,**67.°06N**±0.°03×**20.°94E**±0.°03,**h4**km±10km, **n20**,σ1§**02**/**27**,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.16**	**293**	P	**Pg**	**17 01 15.0**	**+0.1**
DUNU				S	**Sg**	**17 01 17.5**	**+0.6**
MASU	**Masugnsbyn**	**0.57**	**45**	P	**Pg**	**17 01 22.7**	**0.0**
MASU				S	**Sg**	**17 01 30.6**	**+0.5**
ERTU	**Ertsjaerv**	**0.71**	**135**	P	**Pg**	**17 01 25.1**	**-0.2**
ERTU				S	**Sg**	**17 01 34.6**	**+0.2**
ERTU	**Ertsjaerv**	**0.71**	**135**	PG		17 01 24.9	
ERTU				SB		17 01 34.4	
PAJU	**Pajala**	**0.85**	**92**	P	**Pg**	**17 01 27.7**	**-0.3**
PAJU				S	**Sb**	**17 01 39.4**	**-1.5**
HARU	**Harads**	**0.90**	**179**	P	**Pg**	**17 01 28.6**	**-0.4**
KUA	**Kurravaara**	**0.93**	**346**	P	**Pg**	**17 01 28.7**	**-0.7**
RATU	**Laukkuluspa**	**0.93**	**326**	P	**Pg**	**17 01 28.9**	**-0.6**
SALU	**Saltoluokta**	**1.00**	**290**	P	**Pg**	**17 01 30.3**	**-0.6**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**	**17 01 31.5**	**-0.7**
LANU	**Lannavaara**	**1.07**	**22**	PG		17 01 31.2	
LANU				SB		17 01 48.6	
KLF	**Kolari**	**1.19**	**80**	PG		17 01 33.8	
KLF				MSG		17 01 49.2	
	comp=Z,18nm,0.2s						
KLF				SB		17 01 50.8	
KOVU	**Salmi**	**1.21**	**346**	P	**Pg**	**17 01 33.9**	**-0.9**
KALU	**Kalix**	**1.55**	**140**	P	**Pn**	**17 01 40.0**	**+0.1**
SJUU	**Sjulsmark**	**1.58**	**170**	P	**Pn**	**17 01 40.8**	**+0.3**
TOF	**Tornio**	**1.67**	**125**	PG		17 01 42.2	
	baz=307						
TOF				MSG		17 02 03.2	
	comp=Z,19nm,0.2s						
TOF				SN		17 02 06.0	
HEF	**Hetta**	**1.70**	**36**	*eP*	**Pn**	**17 01 43.1**	**+0.9**
HEF	**Hetta**	**1.70**	**36**	PG		17 01 42.2	
HEF				MSG		17 02 03.5	
	comp=Z,26nm,0.2s						
HEF				SN		17 02 07.7	
KIF	**Kilpisjarvi**	**1.95**	**359**	*eP*	**Pb**	**17 01 48.0**	**+0.3**
KIF	**Kilpisjarvi**	**1.95**	**359**	PG		17 01 47.3	
KIF				MSG		17 02 11.0	
	comp=Z,36nm,0.2s						
KIF				SG		17 02 15.3	
RNF	**Rovaniemi**	**2.06**	**100**	PB		17 01 48.5	
RNF				SG		17 02 17.9	
KTK1	**Kautokeino**	**2.14**	**23**	PG		17 01 50.3	
KTK1				SG		17 02 18.4	
I37NO	**I37NO**	**2.21**	**338**	I	I	17 14 59.1	
	baz=156,slow=319,SNR=5.7						
RANF	**Ranua**	**2.56**	**111**	PN		17 01 55.4	
	baz=298						
RANF				SG		17 02 32.3	
TRO	**Tromso**	**2.69**	**345**	PB		17 01 58.9	
TRO				SG		17 02 35.8	
OBF4	**Vikkela, Lumij**	**2.83**	**141**	PN		17 01 59.0	
	baz=327						
OBF4				MSG		17 02 36.1	
	comp=Z,4.8nm,0.2s						
OUL	**Oulu**	**2.83**	**132**	PB		17 01 59.4	
OBF0	**Syolatti, Pyha**	**2.91**	**151**	PN		17 02 00.4	
OBF0				MSG		17 02 38.4	
	comp=Z,5.3nm,0.2s						
OBF8	**Ulkokalla**	**2.93**	**158**	PB		17 02 01.0	
OBF8				MSG		17 02 38.7	
	comp=Z,7.6nm,0.2s						
ARA0	**ARCESS Array S**	**3.01**	**32**	PN		17 02 00.9	
ARA0				SB		17 02 39.6	
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**17 02 00.9**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=216,slow=13,SNR=79						
ARCES				Sn	**Sn**	**17 02 38.8**	**+2.3**
	comp=Z,0.6nm,0.3s,baz=222,slow=22,SNR=8.2 comp=Z,1.3nm,0.2s						
OUF	**Merijarvi**	**3.12**	**148**	PN		17 02 03.5	
	baz=330						
OUF				SG		17 02 47.9	
RAJF	**Raja-Jooseppi**	**3.14**	**60**	PN		17 02 02.4	
UMAU	**Umeaa**	**3.19**	**182**	PN		17 02 03.8	
UMAU				SB		17 02 43.4	
KU2	**Taivalkoski**	**3.23**	**111**	PN		17 02 04.6	
	baz=299						
VRF	**Varrio**	**3.42**	**74**	PN		17 02 07.2	
VRF				SG		17 02 57.5	
OLKF	**Oulanka, Finla**	**3.44**	**99**	PN		17 02 07.8	
OLKF				SN		17 02 49.6	
MSF	**Maaselka**	**3.44**	**106**	PN		17 02 07.6	
KEV	**Kevo**	**3.51**	**37**	PN		17 02 07.5	
KU6	**Riekki**	**3.73**	**102**	PN		17 02 11.5	
	baz=291						
KU6				SG		17 03 06.9	
KU1	**Kurvinen**	**3.79**	**109**	PN		17 02 12.5	
HUSU	**Husum**	**3.81**	**192**	PN		17 02 12.7	
NIF	**Nilsia**	**4.68**	**139**	PN		17 02 24.8	
RMF	**Romuvaara**	**4.69**	**123**	PN		17 02 25.3	
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**17 02 43.7**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=348,slow=14,SNR=20						
FINES				Sn	**Sn**	**17 03 51.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=345,slow=22,SNR=7.0						
FINES				Lg	Lg	17 04 23.9	
	comp=Z,0.2nm,0.3s,baz=341,slow=26,SNR=2.4 comp=Z,0.8nm,0.7s						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**17 03 02.2**	**+2.0**
	baz=33,slow=14,SNR=2.2						
NOA				Sn	**Sn**	**17 04 24.7**	**+0.2**
	baz=132,slow=22,SNR=4.5 comp=Z,0.2nm,0.5s						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**17 03 03.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=29,slow=14,SNR=7.7						
HFS				Sn	**Sn**	**17 04 29.6**	**-1.5**
	baz=6.1,slow=20,SNR=5.3 comp=Z,0.2nm,0.4s						
SPITS	**Spitsbergen Ar**	**11.25**	**355**	Pn	**Pn**	**17 03 51.6**	**-1.4**
	baz=166,slow=15 comp=Z,6.2nm,1.0s						

IDC 25 17:01:32.1±5.8,**18.°84S**×**175.°43W**,**h0**km,**mb3.8**/4, **mbtmp3.8**/4,**ML6.0**/1,**Error ellipse: s-maj=118.7km s-min=41.4km az=48.0**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**10.62**	**192**	Pn	Pn	17 04 06.5	+0.9
	124nm,0.3s,baz=43,slow=19,SNR=5.1						
STKA	**Stephens Creek**	**40.70**	**243**	P	P	17 09 13.3	-1.3
	0.7nm,0.3s,baz=69,slow=17,SNR=1.5 0.7nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**41.03**	**334**	T	T	17 53 08.3	
	baz=149,slow=76,SNR=9.2						
H11S3	**WAKE ISLAND Hy**	**41.05**	**334**	T	T	17 53 05.5	
	baz=149,slow=76,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**41.05**	**334**	T	T	17 53 08.7	
	baz=149,slow=76,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**42.05**	**335**	T	T	17 54 19.1	
	baz=152,slow=76,SNR=36						
H11N1	**WAKE ISLAND Hy**	**42.05**	**335**	T	T	17 54 16.7	
	baz=152,slow=76,SNR=59						
H11N2	**WAKE ISLAND Hy**	**42.07**	**335**	T	T	17 54 20.5	
	baz=152,slow=76,SNR=46						
WRA	**Warramunga Arr**	**47.25**	**260**	P	P	17 10 08.3	+0.8
	0.3nm,0.3s,baz=96,slow=7.6,SNR=12 0.3nm,0.3s						
ASAR	**Alice Springs**	**47.27**	**255**	P	P	17 10 07.3	-0.3
	0.7nm,0.5s,baz=94,slow=7.7,SNR=18 0.7nm,0.5s						
VNDA	**Vanda**	**59.78**	**186**	P	P	17 11 38.4	-0.2
	0.7nm,0.9s,baz=18,slow=9.6,SNR=3.5 0.7nm,0.9s						

*IDC **25** 17:31:41.3±1.4,0.°64S×127.°30E, h0km, mb3.6/5, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=114.5km s-min=19.8km az=71.0*
*DJA **25** 17:31:46.1±0.2,1.°5±3.°×12.°8E±.°, h10km, M3.9/15, mb4.3/6, MLv3.7/15*

ISC 25 17:31:47.2±0.9,**0.°68S**±0.°07×**127.°51E**±0.°09,**h41**km,**n17**, σ1§**63**/**17**,**mb3.8**/4,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.45**	**354**	P	**Pn**	**17 32 12.2**	**+1.2**
SANI	**Sanana**	**2.04**	**228**	P	**Pn**	**17 32 19.1**	**+0.1**
NLAI	**Namlea**	**2.57**	**189**	P	**Pn**	**17 32 28.2**	**+1.9**
AAI	**Ambon**	**3.06**	**167**	P	**Pn**	**17 32 34.5**	**+1.5**
KMSI	**Cibinong**	**3.75**	**289**	P	**Pn**	**17 32 44.7**	**+2.2**
SWI	**Serong**	**3.75**	**93**	P	**Pn**	**17 32 43.6**	**+1.1**
LUWI	**Luwuk**	**4.75**	**266**	P	**Pn**	**17 32 57.6**	**+1.2**
FAKI	**Fak Fak**	**5.23**	**115**	P	**Pn**	**17 33 04.1**	**+1.2**
APSI	**Ampana**	**5.87**	**268**	P	**Pn**	**17 33 12.9**	**+1.2**
SPSI	**Sidrap Palu**	**8.40**	**247**	P	**Pn**	**17 33 48.0**	**+1.6**
	26nm,0.6s						
BKSI	**Bulukumba**	**8.70**	**238**	P	**Pn**	**17 33 52.5**	**+2.0**
FITZ	**Fitzroy Crossi**	**17.40**	**186**	P	**Pn**	**17 35 44.1**	**-2.9**
	0.1nm,0.3s,baz=9.5,slow=12,SNR=1.8 2.1nm,1.1s						
WRA	**Warramunga Arr**	**20.27**	**161**	P	**P**	**17 36 19.9**	**+0.5**
	1.4nm,0.8s,baz=344,slow=11,SNR=5.1 1.4nm,0.8s						
ASAR	**Alice Springs**	**23.67**	**165**	P	**P**	**17 36 56.3**	**+1.1**
	3.4nm,0.7s,baz=341,slow=10,SNR=36 3.4nm,0.7s						
SONM	**Songino Array**	**51.71**	**342**	P	**P**	**17 40 49.8**	**-0.5**
	0.2nm,0.3s,baz=142,slow=7.3,SNR=1.9 0.2nm,0.3s						
MKAR	**Makanchi Array**	**61.62**	**326**	P	**P**	**17 41 59.1**	**-1.6**
	0.4nm,0.5s,baz=118,slow=8.6,SNR=6.6 0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**65.87**	**328**	P	**P**	**17 42 28.2**	**-0.3**
	0.4nm,0.4s,baz=134,slow=6.4,SNR=4.5 0.4nm,0.4s						

IDC 25 17:36:17.9±3.5,**28.°32S**×**177.°74W**,**h0**km,**mb4.0**/3, **mbtmp4.0**/3,**Error ellipse: s-maj=184.2km s-min=47.0km az=160.0**,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.48**	**265**	P	P	17 44 23.6	+0.4
	0.7nm,0.4s,baz=98,slow=7.2,SNR=34						
ASAR				PcP	PcP	17 46 09.4	-2.0
	0.2nm,0.8s,baz=103,slow=3.5,SNR=1.7 0.7nm,0.4s						
WRA	**Warramunga Arr**	**44.28**	**270**	P	P	17 44 29.2	-0.4
	0.9nm,0.3s,baz=108,slow=6.3,SNR=43 0.9nm,0.3s						
FITZ	**Fitzroy Crossi**	**52.62**	**268**	P	P	17 45 33.3	-0.6
	2.7nm,1.0s,baz=121,slow=5.9,SNR=1.7 2.7nm,1.0s						
FINES	**FINESS Array B**	**143.26**	**341**	PKhKP	PKPpre	17 55 49.8	
	1.1nm,0.9s,baz=64,slow=4.4,SNR=5.0						
FINES				PKP	PKiKP	17 55 55.2	-1.6
	0.7nm,0.9s,baz=32,slow=2.6,SNR=1.5						
HFS	**Hagfors**	**147.25**	**349**	PKPbc	PKPbc	17 56 02.8	+0.2
	0.8nm,0.7s,baz=32,slow=4.3,SNR=4.8						

AUST 25 18:05:25.3±0.6,**18.°S**±5.°×**12.°0E**±.°,**h10**km,**mb3.8**/6, **ML3.0**/8,**Error ellipse: s-maj=14.0km s-min=4.6km az=135.6**,**Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.83**	**78**	P	Pn	18 05 57.0	+0.2
AUBRM				S	Sb	18 06 21.9	+0.2
PSAC1	**Pilbara Seismi**	**3.20**	**189**	P	Pn	18 06 16.9	+1.2
PSAC1				S	Sn	18 06 53.8	-0.1
PSAB2	**Pilbara Seismi**	**3.21**	**188**	P	Pn	18 06 17.0	+1.1
PSAB2				S	Sn	18 06 54.9	+0.6
PSA00	**Pilbara Seismi**	**3.23**	**188**	P	Pn	18 06 17.4	+1.2
PSA00				S	Sn	18 06 54.9	+0.1
FITZ	**Fitzroy Crossi**	**5.03**	**88**	P	Pn	18 06 39.4	-1.4
	comp=Z,2.2nm,3.0s,comp=Z,0.0nm						
FITZ	**Fitzroy Crossi**	**5.03**	**88**	S	Sn	18 07 34.0	-5.0
GIRL	**Giralia**	**7.15**	**232**	P	Pn	18 07 10.1	+0.2
	comp=Z,43nm,1.5s						
GIRL				S	Sn	18 08 26.1	-5.2
MEEK	**Meekatharra**	**8.40**	**191**	P	Pn	18 07 27.8	+0.7
MEEK	**Meekatharra**	**8.40**	**191**	S	Sn	18 08 58.1	-3.9
KNRA	**Kununurra**	**8.47**	**73**	P	Pn	18 07 25.8	-2.3
	comp=Z,7.5nm,1.9s,comp=Z,0.0nm						
WRKA	**Warakurna**	**9.93**	**133**	P	Pn	18 07 48.3	+0.1
	comp=Z,3.1nm,1.3s,comp=Z,0.0nm						
MORW	**Morawa**	**11.37**	**200**	P	Pn	18 08 07.0	-0.8
	comp=Z,15nm,2.3s						
MORW	**Morawa**	**11.37**	**200**	S	Sn	18 10 05.1	-10
BLDU	**Ballidu**	**12.64**	**195**	P	Pn	18 08 24.6	-0.7
	comp=Z,23nm,0.4s						
WB2	**Warramunga Arr**	**13.32**	**99**	P	Pn	18 08 35.0	+0.5

*NEIC **25** 18:10:23.2±0.4,35.°842N±0.°004×98.°08W±0.°01, h7km±2km, Error ellipse: s-maj=1.3km s-min=0.7km az=86.0*

NEIC 25 18:10:23.0±0.4,**35.°844N**±0.°009×**98.°072W**±0.°003, **h5**km±1km,**mb_Lg3.1**/102,**ML3.4**/32,**ML3.4**/66,**Error ellipse: s-maj=2.5km s-min=1.5km az=6.0**,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.42**	**116**		Pg	18 10 31.6	+0.5
BCOK					Sg	18 10 37.8	+1.2
OK029	**Liberty Lake**	**0.50**	**95**		Pg	18 10 33.1	+0.4
OK029					Sg	18 10 40.2	+1.0
CSTR	**Hydro, Custer**	**0.54**	**249**	Pg	Pg	18 10 33.6	+0.2
CSTR					Sg	18 10 41.5	+1.1
OK004	**Okla Sci Mus**	**0.58**	**123**		Pg	18 10 34.5	+0.3
OK004					Sg	18 10 42.9	+1.1
ADOK	**Arcadia Dam**	**0.60**	**108**		Pg	18 10 34.9	+0.3
CROK	**Carrier**	**0.66**	**6**		Pg	18 10 36.1	+0.3
CROK					Sg	18 10 45.4	+1.0
CROK				IAML		18 10 54.8	
	comp=E,2μm,0.3s						
CROK				IAML		18 10 56.5	
	comp=N,1μm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.68**	**130**		Pg	18 10 36.1	+0.1
OKCSW					Sg	18 10 45.5	+0.7
OKCSW				IAML		18 10 45.8	
	comp=E,2μm,0.3s						
FNO	**Franklin**	**0.80**	**137**		Pg	18 10 38.4	0.0
FNO					Sg	18 10 49.4	+0.6
FNO				IAML		18 10 52.3	
	comp=E,2μm,0.4s						
OK038	**West end E0370**	**0.83**	**320**		Pg	18 10 38.9	-0.2
OK038					Sg	18 10 50.5	+0.6
GC02	**Grant County #**	**1.02**	**10**		Pg	18 10 42.3	-0.3
GC02					Sg	18 10 56.4	+0.5
OK052	**Battle Ridge R**	**1.04**	**81**		Pg	18 10 42.8	-0.2
OK052					Sb	18 10 57.5	+0.1
OK052				IAML		18 10 59.6	
	comp=E,556nm,0.3s						
OK052				IAML		18 11 05.9	
	comp=E,829nm,0.3s						
KAN14	**Manchester OK**	**1.11**	**4**		Pg	18 10 43.8	-0.6
KAN14				IAML		18 11 04.1	
	comp=E,1μm,0.2s						
KAN14				IAML		18 11 05.9	
	comp=N,646nm,0.1s						
ELIS	**Ellis County**	**1.11**	**282**		Pg	18 10 44.0	-0.4
ELIS				IAML		18 11 00.7	
	comp=E,752nm,0.2s						
ELIS				IAML		18 11 01.4	
	comp=N,922nm,0.2s						
BLOK	**Blackwell**	**1.15**	**37**		Pg	18 10 44.7	-0.3
QUOK	**Quay**	**1.15**	**73**		Pg	18 10 44.6	-0.5
QUOK				IAML		18 11 02.8	
	comp=E,811nm,0.2s						
QUOK				IAML		18 11 07.8	
	comp=N,1μm,0.3s						
OK051	**E0350 and S346**	**1.20**	**56**		Pg	18 10 45.6	-0.3
KAN17	**Caldwell West**	**1.22**	**12**		Pg	18 10 45.8	-0.7
KAN17				IAML		18 11 06.9	
	comp=E,984nm,0.3s						
KAN17				IAML		18 11 08.1	
	comp=N,1μm,0.2s						
WMOK	**Wichita Mounta**	**1.25**	**208**		Pg	18 10 45.5	-1.4
X34A	**Smith Ranch, M**	**1.26**	**171**		Pg	18 10 47.0	-0.1
X34A				IAML		18 11 05.6	
	comp=N,556nm,0.4s						
X34A				IAML		18 11 06.1	
	comp=E,916nm,0.3s						
KAN13	**South Haven SW**	**1.26**	**22**		Pg	18 10 46.5	-0.7
DEOK	**Depew**	**1.28**	**90**	IAML		18 11 07.6	
	comp=E,524nm,0.1s						
DEOK				IAML		18 11 10.2	
	comp=N,546nm,0.2s						
KAN01	**Argonia South**	**1.33**	**11**		Pn	18 10 47.6	-0.7
KAN01				IAML		18 11 08.7	
	comp=N,707nm,0.2s						
KAN01				IAML		18 11 09.4	
	comp=E,495nm,0.2s						
T35A	**Sooner Cattle**	**1.65**	**49**		Pb	18 10 53.3	-0.6
TUL3	**Leonard**	**1.85**	**87**		Pn	18 10 56.2	+0.7
DRZT	**Darrouzett**	**1.90**	**289**	P	Pb	18 10 57.5	-0.7
SMWD	**Samnorwood**	**1.92**	**248**		Pn	18 10 57.0	+0.6
SMWD	**Samnorwood**	**1.92**	**248**	P	Pn	18 10 57.2	+0.8
LOOK	**Love County**	**1.99**	**158**		Pn	18 10 58.3	+1.0
LOOK				IAmb_Lg		18 11 29.5	
	comp=Z,150nm,0.9s						
WTFS	**Witchita Falls**	**2.10**	**189**		Pn	18 11 00.0	+1.2
RLO	**Rose Lookout**	**2.49**	**82**		Pn	18 11 04.3	+0.1
R32A	**Long Quarter,**	**2.62**	**349**	IAmb_Lg		18 11 53.1	
	comp=Z,59nm,0.7s						
AMTX	**Amarillo**	**3.10**	**253**	IAmb_Lg		18 11 59.3	
	comp=Z,83nm,0.8s						
HHAR	**Hobbs**	**3.38**	**81**	IAmb_Lg		18 12 11.0	
	comp=Z,36nm,0.7s						
KSU1	**Kansas State U**	**3.45**	**19**	IAmb_Lg		18 12 18.4	
	comp=Z,64nm,0.7s						
TREL	**Terrell**	**3.51**	**152**	IAmb_Lg		18 12 22.7	
	comp=Z,54nm,0.8s						
SN05	**Snyder 5**	**3.76**	**219**	IAmb_Lg		18 12 26.7	
	comp=Z,80nm,0.9s						
RTBA	**Rita Blanca**	**3.82**	**280**	P	Pn	18 11 24.2	+1.6
MIAR	**Mount Ida**	**3.90**	**108**	IAmb_Lg		18 12 36.7	
	comp=Z,44nm,0.8s						
POST	**Post**	**3.96**	**227**	IAmb_Lg		18 12 34.8	
	comp=Z,73nm,0.8s						
237A	**Washetta, Mont**	**4.27**	**153**	IAmb_Lg		18 12 45.7	
	comp=Z,30nm,0.7s						
X40A	**Basin Creek Fa**	**4.50**	**106**	IAmb_Lg		18 12 48.7	
	comp=Z,67nm,0.9s						
WLAR	**White Oak Lake**	**4.61**	**116**	IAmb_Lg		18 12 58.9	
	comp=Z,38nm,0.8s						
SGCY	**Sterling City**	**4.67**	**214**	IAmb_Lg		18 12 58.3	
	comp=Z,64nm,0.9s						
WHAR	**Wooly Hollow**	**4.75**	**95**	IAmb_Lg		18 12 53.9	
	comp=Z,46nm,1.0s						
UALR	**University of**	**4.80**	**101**	IAmb_Lg		18 13 05.5	
	comp=Z,39nm,1.1s						
KSCO	**Kaye Shedlock'**	**4.81**	**312**	IAmb_Lg		18 13 02.8	
	comp=Z,57nm,0.8s						
MGMO	**Mountain Grove**	**4.85**	**73**	IAmb_Lg		18

*NEIC **25** 18:11:08.3±1.2,24.0°S±0.1°×179.9°W±0.1°,1,h531km±4km, mb4.7/186, Error ellipse: s-maj=15.8km s-min=12.5km az=145.0*

*NOU **25** 18:11:08.7,23.87°S×179.76°W,h550km,mb5.0/69,South of Fiji Islands*

ISC 25 18:11:06.5±0.3,23.94°S±0.05°×179.85°W±0.04,h518km, n328,σ1§61/300,mb4.7/128,3C-4D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
RIZ	**Raoul Island**	**5.56**	**162**	P	**P**	**18**	**12 41.2**	**+1.7**
RIZ				S	**S**	**18**	**13 54.1**	**-1.3**
RAO	**Raoul Island**	**5.57**	**162**	P	**P**	**18**	**12 40.5**	**+0.9**
RAO				S	**S**	**18**	**13 56.1**	**+0.5**
RAO	**Raoul Island**	**5.57**	**162**	P	**P**	**18**	**12 40.7**	**+1.1**
	495nm,0.2s,baz=75,slow=9.1,SNR=14							
RAO				S	**S**	**18**	**13 55.6**	**-0.1**
	546nm,0.3s,baz=66,slow=20,SNR=7.5							
RAO	**Raoul Island**	**5.57**	**162**	P	**P**	**18**	**12 43.9**	**+4.4**
GLKZ	**Green Lake**	**5.58**	**162**	P	**P**	**18**	**12 41.5**	**+1.8**
GLKZ				S	**S**	**18**	**13 55.0**	**-0.8**
LKBA	**Tubou, Lakemba**	**5.76**	**10**	P	**P**	**18**	**12 44.4**	**+2.9**
MSVF	**Nonsavu**	**6.47**	**342**		**P**	**18**	**12 49.9**	**+1.5**
MSVF	**Nonsavu**	**6.47**	**342**	P	**P**	**18**	**12 50.8**	**+2.4**
DGTI	**Dogotuki**	**7.61**	**357**	P	**P**	**18**	**13 02.4**	**+2.9**
NIUE	**Niue**	**10.43**	**64**	P	**P**	**18**	**13 32.3**	**+3.7**
NIUE					**S**	**18**	**15 27.8**	**+2.4**
NIUE	**Niue**	**10.43**	**64**	P	P	18	13 34.4	+5.8
NIUE				S	**S**	**18**	**15 28.5**	**+3.0**
INH	**Isangel**	**11.01**	**291**	P	**P**	**18**	**13 38.2**	**+3.5**
PINNC	**Pines Island,**	**11.75**	**274**		**P**	**18**	**13 44.6**	**+2.1**
PINNC	**Pines Island,**	**11.75**	**274**	P	**P**	**18**	**13 45.8**	**+3.3**
PINNC	**Pines Island,**	**11.75**	**274**	S	**S**	**18**	**15 56.4**	**+5.6**
OUENC	**Ouen Island, N**	**12.33**	**274**	P	**P**	**18**	**13 51.8**	**+3.2**
YATNC	**Mamie plateau,**	**12.35**	**276**	P	**P**	**18**	**13 51.5**	**+2.7**
OUZ	**Omahuta**	**12.60**	**205**	P	**P**	**18**	**13 54.2**	**+3.0**
ONTNC	**Ouen Toro**	**12.71**	**275**		**P**	**18**	**13 53.9**	**+1.4**
ONTNC	**Ouen Toro**	**12.71**	**275**	P	**P**	**18**	**13 55.3**	**+2.8**
DZM	**Mont Dzumac**	**12.76**	**276**		**P**	**18**	**13 54.2**	**+1.1**
DZM	**Mont Dzumac**	**12.76**	**276**	*e*P	**P**	**18**	**13 55.7**	**+2.5**
	215nm,1.2s							
DZM				*e*S	**S**	**18**	**16 09.3**	**-1.1**
	61nm,1.4s							
DZM	**Mont Dzumac**	**12.76**	**276**	P	**P**	**18**	**13 53.0**	**-0.2**
	85nm,1.1s,baz=87,slow=16,SNR=22							
DZM	**Mont Dzumac**	**12.76**	**276**	P	**P**	**18**	**13 56.3**	**+3.1**
WCZ	**Waipu Caves**	**12.97**	**201**	P	**P**	18	14 00.0	+4.9
WIAZ	**Waiheke Island**	**13.52**	**197**	P	**P**	**18**	**14 04.7**	**+3.8**
MXZ	**Matakaoa Point**	**13.68**	**186**	P	**P**	**18**	**14 04.7**	**+2.3**
MKAZ	**Moumakai**	**13.81**	**197**	P	**P**	**18**	**14 07.6**	**+3.8**
HAZ	**Te Kaha**	**13.93**	**188**	P	**P**	**18**	**14 08.0**	**+2.9**
HAZ				S	**S**	**18**	**16 33.2**	**+1.0**
RUGZ	**Raukumara Rang**	**14.14**	**188**	P	**P**	**18**	**14 09.9**	**+2.4**
RUGZ				S	**S**	**18**	**16 37.5**	**+0.8**
PUZ	**Puketiti**	**14.18**	**186**	P	**P**	**18**	**14 11.6**	**+3.8**
PUZ				S	**S**	**18**	**16 36.5**	**-0.8**
TOZ	**Tahuroa Road**	**14.31**	**195**	P	**P**	**18**	**14 09.2**	**0.0**
TOZ	**Tahuroa Road**	**14.31**	**195**	P	P	18	14 14.3	+5.2
TWGZ	**Tauwhareparae**	**14.32**	**187**	P	**P**	**18**	**14 12.2**	**+2.9**
TWGZ				P	**S**	**18**	**16 39.7**	**-0.2**
URZ	**Urewera**	**14.51**	**190**	P	**P**	**18**	**14 11.2**	**+0.1**
	38nm,0.7s,baz=53,slow=1.3,SNR=24							
URZ				S	**S**	**18**	**16 38.8**	**-4.7**
	21nm,0.6s,baz=28,slow=22,SNR=14							
URZ	**Urewera**	**14.51**	**190**	P	**P**	**18**	**14 13.3**	**+2.1**
URZ	**Urewera**	**14.51**	**190**	P	**P**	**18**	**14 11.3**	**+0.1**
URZ				S	**S**	**18**	**16 38.2**	**-5.3**
MWZ	**Matawai**	**14.53**	**188**	P	**P**	**18**	**14 12.8**	**+1.4**
MWZ				S	**S**	**18**	**16 40.8**	**-3.0**
CNGZ	**Carnagh Statio**	**14.60**	**186**	P	**P**	**18**	**14 14.9**	**+2.8**
CNGZ				S	**S**	**18**	**16 45.7**	**+0.6**
RAGZ	**Rawiri**	**14.70**	**188**	P	**P**	**18**	**14 14.1**	**+0.8**
RAGZ				S	**S**	**18**	**16 46.0**	**-1.3**
RTZ	**Ruatahuna**	**14.88**	**190**	P	**P**	**18**	**14 15.3**	**+0.1**
RTZ				S	**S**	**18**	**16 46.3**	**-4.4**
SNGZ	**Shannon Statio**	**14.99**	**189**	P	**P**	**18**	**14 17.7**	**+1.4**
SNGZ				S	**S**	**18**	**16 49.9**	**-2.8**
BKZ	**Black Stump Fm**	**15.50**	**191**		**P**	**18**	**14 20.9**	**-0.7**
BKZ				IAmb	IAmb	18	14 25.8	
	comp=Z,20nm,0.8s							
BKZ					**S**	**18**	**16 60.0**	**-2.2**
BKZ	**Black Stump Fm**	**15.50**	**191**	P	**P**	**18**	**14 23.8**	**+2.2**
MRZ	**Mangatainoka R**	**17.11**	**192**	P	**P**	**18**	**14 35.3**	**-2.4**
MRZ				IAmb	IAmb	18	14 48.7	
	comp=Z,15nm,0.8s							
MRZ					**S**	**18**	**17 26.7**	**-3.5**
TCW	**Tory Channel**	**17.91**	**195**	P	**P**	**18**	**14 44.6**	**-0.4**
QRZ	**Quartz Range**	**18.02**	**199**	P	**P**	**18**	**14 45.5**	**-0.4**
QRZ	**Quartz Range**	**18.02**	**199**	P	**P**	**18**	**14 46.8**	**+0.8**
QRZ	**Quartz Range**	**18.02**	**199**	S	**S**	**18**	**17 45.5**	**+0.7**
TUWZ	**Tuamarina**	**18.20**	**195**	P	**P**	**18**	**14 46.8**	**-0.9**
RAR	**Rarotonga**	**18.74**	**86**	P	**P**	**18**	**14 53.1**	**+0.2**
	comp=Z,16nm,0.7s,baz=231,slow=9.4,SNR=4.9							
THZ	**Tophouse**	**18.78**	**197**	P	**P**	**18**	**14 52.5**	**-0.4**
THZ				IAmb	IAmb	18	15 12.6	
	comp=Z,32nm,1.2s							
KHZ	**Kahutara**	**19.23**	**195**	P	**P**	**18**	**14 58.5**	**+1.5**
KHZ	**Kahutara**	**19.23**	**195**	S	**S**	**18**	**18 06.3**	**+1.9**
LTZ	**Lake Taylor**	**19.90**	**197**	P	**P**	**18**	**15 01.8**	**-1.4**
INZ	**Inchbonnie**	**20.08**	**199**	P	**P**	**18**	**15 03.8**	**-1.0**
OXZ	**Oxford**	**20.46**	**197**	P	**P**	**18**	**15 07.3**	**-1.0**
RPZ	**Rata Peaks**	**21.10**	**199**	P	**P**	**18**	**15 14.8**	**+0.8**
	comp=Z,6.2nm,0.5s,baz=336,slow=2.0,SNR=10							
	comp=Z,6.2nm,0.5s							
ALEG	**Aligegeo Malai**	**23.95**	**306**	P	**P**	**18**	**15 39.9**	**0.0**
WHZ	**Wether Hill Ro**	**24.03**	**201**	P	**P**	**18**	**15 40.3**	**+0.1**
GC1S	**Gold Coast 1 S**	**24.28**	**254**	P	**P**	**18**	**15 43.8**	**+1.2**
ARMA	**Armidale**	**26.14**	**249**		**P**	**18**	**16 00.6**	**+1.3**
ARMA	**Armidale**	**26.14**	**249**	P	**P**	**18**	**16 00.9**	**+1.7**
EIDS	**Eidsvold**	**26.43**	**261**		**P**	**18**	**16 02.0**	**+0.2**
EIDS	**Eidsvold**	**26.43**	**261**	P	**P**	**18**	**16 02.8**	**+1.0**
TBI	**Tubuai**	**27.82**	**95**	*e*S	**S**	**18**	**20 17.2**	**-3.4**
	comp=Z,247nm,29.8s							
TBI				*e*S	sS	18	22 46.0	-15
	comp=Z,391nm,39.5s							
CNB	**Canberra Magne**	**28.95**	**240**	P	**P**	**18**	**16 25.3**	**+1.5**
PPT2	**Papeete2**	**28.97**	**83**	*e*S	**S**	**18**	**20 30.7**	**-7.9**
	comp=Z,26nm,23.8s							
PPT2				*e*sS	sS	18	23 22.9	+3.3
	comp=Z,222nm,26.5s							
PPT	**Papeete**	**28.98**	**83**	P	**P**	**18**	**16 23.2**	**-1.0**
	comp=Z,31nm,0.6s,baz=76,slow=20,SNR=4.0							
	comp=Z,31nm,0.6s							
TVO	**Taravao**	**29.20**	**84**	*e*P	**P**	**18**	**16 26.7**	**+0.5**
	comp=Z,21nm,0.8s							
CAN	**Canberra**	**29.24**	**240**		**P**	**18**	**16 27.3**	**+1.0**
CAN	**Canberra**	**29.24**	**240**	P	**P**	**18**	**16 27.8**	**+1.5**
CMSA	**Cobar Meteorol**	**31.33**	**248**	P	**P**	**18**	**16 45.0**	**+0.7**
CTAO	**Charters Tower**	**31.61**	**270**		**P**	**18**	**16 47.9**	**+1.0**
CTAO	**Charters Tower**	**31.61**	**270**	P	**P**	**18**	**16 47.8**	**+1.0**
QLP	**Quilpie**	**32.52**	**258**	P	**P**	**18**	**16 55.1**	**+0.6**
TOO	**Toolangi**	**32.54**	**237**		**P**	**18**	**16 55.4**	**+0.8**
TOO				IAmb	IAmb	18	16 56.2	
	comp=Z,11nm,0.6s							
CORO	**Coronation Par**	**32.55**	**230**	P	**P**	**18**	**16 56.0**	**+1.5**
BRAT	**Ballarat**	**33.74**	**238**	P	**P**	**18**	**17 06.3**	**+1.7**
MTSU	**Mount Surprise**	**33.87**	**273**	P	**P**	**18**	**17 06.8**	**+0.7**
PMG	**Port Moresby**	**34.63**	**289**	P	**P**	**18**	**17 12.7**	**+0.2**
PMG	**Port Moresby**	**34.63**	**289**	P	**P**	**18**	**17 10.7**	**-1.7**
	comp=Z,95nm,0.8s,baz=66,slow=5.8,SNR=16							
	comp=Z,95nm,0.8s							
PMG	**Port Moresby**	**34.63**	**289**	P	**P**	**18**	**17 13.0**	**+0.5**
STKA	**Stephens Creek**	**34.83**	**248**		**P**	**18**	**17 14.2**	**+0.3**
STKA	**Stephens Creek**	**34.83**	**248**	P	**P**	**18**	**17 13.1**	**-0.9**
	comp=Z,25nm,0.8s,baz=95,slow=10,SNR=41							
	comp=Z,25nm,0.8s							
STKA	**Stephens Creek**	**34.83**	**248**	P	**P**	**18**	**17 14.7**	**+0.7**
COEN	**Coen**	**36.25**	**279**		**P**	**18**	**17 26.3**	**+0.3**
COEN	**Coen**	**36.25**	**279**	P	**P**	**18**	**17 26.9**	**+0.9**
HTT	**Hallett**	**37.18**	**246**	P	**P**	**18**	**17 33.8**	**+0.3**
QIS	**Mount Isa**	**37.59**	**267**	P	**P**	**18**	**17 37.0**	**+0.1**
WHYH	**Whyalla**	**38.29**	**247**	P	**P**	**18**	**17 42.9**	**+0.5**
BBOO	**Buckleboo**	**39.55**	**247**		**P**	**18**	**17 52.6**	**-0.2**
BBOO	**Buckleboo**	**39.55**	**247**	P	**P**	**18**	**17 52.5**	**-0.2**
AS01	**Alice Springs**	**42.12**	**261**	P	**P**	**18**	**18 13.4**	**+0.1**
AS31	**Alice Springs**	**42.16**	**261**	P	**P**	**18**	**18 13.8**	**+0.1**
AS31				IAmb	IAmb	18	18 15.1	
	comp=Z,31nm,1.2s							
ASAR	**Alice Springs**	**42.16**	**261**	P	**P**	**18**	**18 13.4**	**-0.3**
ASAR	**Alice Springs**	**42.16**	**261**	P	**P**	**18**	**18 13.2**	**-0.5**
	comp=Z,67nm,0.8s,baz=96,slow=7.2,SNR=605							
ASAR				ScP	**ScP**	**18**	**22 58.0**	**+0.6**
	comp=Z,12nm,0.9s,baz=108,slow=4.0,SNR=27							
ASAR				S	**S**	**18**	**23 52.3**	**-3.8**
	comp=Z,1.3nm,0.8s,baz=102,slow=16,SNR=4.9							
ASAR				ScS	**ScS**	**18**	**27 17.5**	**-0.1**
	comp=Z,1.6nm,1.0s,baz=90,slow=6.9,SNR=6.1							
	comp=Z,67nm,0.8s							
WR8	**Warramunga Ar**	**42.39**	**266**	P	**P**	**18**	**18 15.2**	**-0.3**
WB1	**Warramunga Ar.**	**42.53**	**266**	P	**P**	**18**	**18 16.5**	**0.0**
WRAB	**Tennant Creek**	**42.53**	**266**	P	**P**	**18**	**18 16.1**	**-0.4**
WB0	**Warramunga Arr**	**42.53**	**266**	P	**P**	**18**	**18 16.3**	**-0.3**
WRA	**Warramunga Arr**	**42.54**	**266**	P	**P**	**18**	**18 16.2**	**-0.4**
WRA	**Warramunga Arr**	**42.54**	**266**	P	**P**	**18**	**18 16.1**	**-0.5**
	comp=Z,84nm,0.7s,baz=103,slow=8.1,SNR=490							
WRA				ScP	**ScP**	**18**	**23 00.3**	**+1.4**
	comp=Z,9.7nm,1.0s,baz=102,slow=4.2,SNR=16							
WRA				S	**S**	**18**	**23 57.5**	**-4.1**
	comp=Z,2.3nm,1.0s,baz=96,slow=14,SNR=5.6							
	comp=Z,84nm,0.7s							
JAY	**Jayapura**	**43.65**	**293**	P	**P**	**18**	**18 24.9**	**-0.6**
	comp=Z,30nm,0.5s,baz=146,slow=4.3,SNR=41							
	comp=Z,30nm,0.5s							
JAY	**Jayapura**	**43.65**	**293**	P	**P**	**18**	**18 25.5**	**+0.1**
	comp=Z,844nmcomp=Z,67nm,1.2s							
GENI	**Genyem**	**44.06**	**293**	P	**P**	**18**	**18 29.0**	**+0.5**
SMPI	**Sarmi**	**45.62**	**292**	P	**P**	**18**	**18 40.2**	**-0.3**
	comp=Z,47nm,1.2s							
FORT	**Forrest**	**46.42**	**250**	P	**P**	**18**	**18 46.3**	**-0.2**
KDU	**Kakadu**	**46.42**	**275**	P	**P**	**18**	**18 46.1**	**-0.5**
MTN	**Manton Dam**	**47.59**	**274**	P	**P**	**18**	**18 54.8**	**-0.7**
MTN	**Manton Dam**	**47.59**	**274**	P	**P**	**18**	**18 54.8**	**-0.7**
SRPI	**Serui, Papua**	**47.78**	**291**	P	**P**	**18**	**18 57.1**	**+0.2**
	comp=Z,952nmcomp=Z,84nm,1.0s							
BAKI	**Biak**	**48.24**	**291**	P	**P**	**18**	**19 01.8**	**+1.4**
KNRA	**Kununurra**	**48.82**	**270**	P	**P**	**18**	**19 04.6**	**0.0**
RKPI	**Ransiki, Papua**	**49.74**	**290**	P	**P**	**18**	**19 11.3**	**-0.1**
	comp=Z,2µmcomp=Z,47nm,0.8s							
FAKI	**Fak Fak**	**50.72**	**287**	P	**P**	**18**	**19 17.8**	**-0.9**
	comp=Z,43nm,1.0s							
GUMO	**Guam**	**50.79**	**314**	P	**P**	**18**	**19 19.1**	**+0.1**
GUMO	**Guam**	**50.79**	**314**	P	**P**	**18**	**19 19.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**50.96**	**266**	P	**P**	**18**	**19 20.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**50.96**	**266**	P	**P**	**18**	**19 20.5**	**+0.2**
	comp=Z,46nm,0.6s,baz=113,slow=5.4,SNR=129							
	comp=Z,46nm,0.6s							
FITZ	**Fitzroy Crossi**	**50.96**	**266**	P	**P**	**18**	**19 20.5**	**+0.2**
SWI	**Sorong**	**52.58**	**288**	P	**P**	**18**	**19 31.8**	**-0.3**
VNDA	**Vanda**	**54.35**	**185**	P	**P**	**18**	**19 44.8**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=11,slow=6.5,SNR=12							
SOEI	**Soe**	**54.98**	**275**	P	**P**	**18**	**19 50.2**	**+0.9**
SOEI	**Soe**	**54.98**	**275**	P	**P**	**18**	**19 49.9**	**+0.7**
SOEI	**Soe**	**54.98**	**275**	P	**P**	**18**	**19 50.4**	**+1.2**
KLBR	**Kellerberrin**	**55.10**	**247**	P	**P**	**18**	**19 49.4**	**-0.3**
NLAI	**Namlea**	**55.12**	**283**	P	**P**	**18**	**19 50.1**	**0.0**
	comp=Z,843nmcomp=Z,63nm,1.2s							
MEEK	**Meekatharra**	**55.23**	**253**	P	**P**	**18**	**19 50.0**	**-0.7**
PSA00	**Pilbara Seismi**	**55.29**	**260**	P	**P**	**18**	**19 50.5**	**-0.7**
PSA00				IAmb	IAmb	18	19 51.8	
	comp=Z,28nm,1.0s							
PSA00	**Pilbara Seismi**	**55.29**	**260**	P	**P**	**18**	**19 50.5**	**-0.7**
PSA00				IAmb	IAmb	18	19 51.8	
	comp=Z,19nm,1.1s							
PSA00	**Pilbara Seismi**	**55.29**	**260**	P	**P**	**18**	**19 50.8**	**-0.4**
BATI	**Baumata**	**55.36**	**274**	P	**P**	**18**	**19 52.2**	**+0.4**
	comp=Z,58nm,0.6s,baz=186,slow=3.0,SNR=13							
	comp=Z,58nm,0.6s							
BATI	**Baumata**	**55.36**	**274**	P	**P**	**18**	**19 53.0**	**+1.2**
	comp=Z,87nm,0.7s							
MBWA	**Marble Bar**	**55.50**	**260**	P	**P**	**18**	**19 52.1**	**-0.6**
MBWA	**Marble Bar**	**55.50**	**260**	P	**P**	**18**	**19 52.4**	**-0.2**
BLDU	**Ballidu**	**56.14**	**248**	P	**P**	**18**	**19 56.6**	**-0.3**
MUN	**Mundaring**	**56.34**	**247**	P	**P**	**18**	**19 58.5**	**+0.2**
SANI	**Sanana**	**56.65**	**284**	P	**P**	**18**	**20 00.2**	**-0.5**
SANI	**Sanana**	**56.65**	**284**	P	**P**	**18**	**19 59.8**	**-0.9**
	comp=Z,42nm,0.9s							
MORW	**Morawa**	**56.99**	**250**	P	**P**	**18**	**20 02.6**	**-0.2**
MORW				IAmb	IAmb	18	20 03.5	
	comp=Z,34nm,0.7s							
MORW	**Morawa**	**56.99**	**250**	P	**P**	**18**	**20 02.6**	**-0.2**
MMRI	**Maumere**	**57.26**	**275**	P	**P**	**18**	**20 04.5**	**-0.3**
MMRI	**Maumere**	**57.26**	**275**	P	**P**	**18**	**20 04.8**	**-0.1**
MMRI	**Maumere**	**57.26**	**275**	P	**P**	**18**	**20 04.4**	**-0.5**
	comp=Z,73nm,1.0s							
EDFI	**Ende, Flores**	**57.71**	**275**	P	**P**	**18**	**20 07.8**	**-0.3**
	comp=Z,844nmcomp=Z,93nm,0.9s							
BBSI	**Bau Bau**	**58.22**	**279**	P	**P**	**18**	**20 11.0**	**-0.4**
	comp=Z,59nm,1.0s							
WSI	**Waingapu**	**58.64**	**273**	P	**P**	**18**	**20 14.1**	**-0.1**
WBSI	**Waikabubak, Su**	**59.48**	**273**	P	**P**	**18**	**20 19.4**	**-0.5**
	comp=Z,2µmcomp=Z,93nm,0.7s							
BSSI	**Bau Bau, Buton**	**59.83**	**277**	P	**P**	**18**	**20 21.6**	**-0.6**
	comp=Z,31nm,1.4s							
LUWI	**Luwuk**	**59.97**	**283**	P	**P**	**18**	**20 23.0**	**-0.1**
	comp=Z,882nmcomp=Z,92nm,1.1s							
CASY	**Casey**	**60.14**	**206**	P	**P**	**18**	**20 23.2**	**-0.2**
BKSI	**Bulukumba**	**60.50**	**278**	P	**P**	**18**	**20 25.9**	**-0.8**
	comp=Z,68nm,0.8s							
BNSI	**Bone**	**60.90**	**279**	P	**P**	**18**	**20 29.3**	**0.0**
	comp=Z,39nm,0.9s							
APSI	**Ampana**	**61.02**	**283**	P	**P**	**18**	**20 29.7**	**-0.4**
	comp=Z,49nm,0.9s							
PLAI	**Plampang**	**61.26**	**273**	P	**P**	**18**	**20 31.5**	**-0.1**
PLAI	**Plampang**	**61.26**	**273**	P	**P**	**18**	**20 31.2**	**-0.4**
TTSI	**Tana Toraja**	**61.73**	**280**	P	**P**	**18**	**20 34.6**	**-0.1**
PCI	**Palu**	**62.65**	**282**	P	**P**	**18**	**20 41.3**	**+0.6**
	comp=Z,64nm,1.2s							
TOLI2	**Tolitoli**	**62.72**	**285**	P	**P**	**18**	**20 40.2**	**-1.0**
TOLI2	**Tolitoli**	**62.72**	**285**	P	**P**	**18**	**20 40.3**	**-0.8**
MPSI	**Mapaga**	**63.15**	**283**	P	**P**	**18**	**20 43.1**	**-0.8**
QSPA	**South Pole Qui**	**66.15**	**180**	P	**P**	**18**	**21 03.9**	**+1.7**
QSPA	**South Pole Qui**	**66.15**	**180**	P	**P**	**18**	**21 03.4**	**+1.2**
	comp=Z,6.7nm,0.7s,baz=11,slow=0.9,SNR=54							
	comp=Z,6.7nm,0.7s							
JOW	**Kunigami**	**71.11**	**312**	IAmb	IAmb	18	21 34.5	
	comp=Z,24nm,1.0s							
JOW	**Kunigami**	**71.11**	**312**	P	**P**	**18**	**21 33.4**	**+0.7**
MJAR	**Matsushiro Arr**	**72.00**	**326**	P	**P**	**18**	**21 37.4**	**-0.2**
MJAR	**Matsushiro Arr**	**72.00**	**326**	P	**P**	**18**	**21 37.6**	**0.0**
	comp=Z,4.0nm,0.7s,baz=161,slow=5.6,SNR=11							
	comp=Z,4.0nm,0.7s							
KSM	**Kuching**	**72.24**	**280**	P	**P**	**18**	**21 39.7**	**+0.1**
TPUB	**Ta-pu**	**74.45**	**305**	IAmb	IAmb	18	21 52.1	
	comp=Z,29nm,1.2s							
TPUB	**Ta-pu**	**74.45**	**305**	P	**P**	**18**	**21 51.7**	**-0.3**
SSLB	**Suanglung**	**74.49**	**305**	IAmb	IAmb	18	21 51.8	
	comp=Z,14nm,0.8s							
SSLB	**Suanglung**	**74.49**	**305**	P	**P**	**18**	**21 51.5**	**-0.7**
BELA	**Belgrano 2**	**76.38**	**173**	P	**P**	**18**	**22 01.6**	**-0.2**
MYKOM	**Kota Tinggi**	**78.22**	**277**	P	**P**	**18**	**22 12.4**	**-0.5**
KSRS	**Korea Array**	**78.36**	**320**	P	**P**	**18**	**22 13.3**	**+0.2**
	comp=Z,3.4nm,0.7s,baz=135,slow=5.7,SNR=19							
	comp=Z,3.4nm,0.7s							
KSAR	**Wonju Array Be**	**78.38**	**320**	P	**P**	**18**	**22 13.6**	**+0.4**
NJ2	**Nanjing**	**80.78**	**311**	*e*P	**P**	**18**	**22 27.5**	**+1.5**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**80.87**	**327**	P	**P**	**18**	**22 27.3**	**+1.1**
	comp=Z,3.3nm,0.6s,baz=158,slow=4.5,SNR=6.9							
	comp=Z,3.3nm,0.6s							
IPM	**Ipoh**	**81.90**	**279**	P	**P**	**18**	**22 31.8**	**-0.4**
IPM				IAmb	IAmb	18	22 33.2	
	comp=Z,15nm,0.7s							
IPM	**Ipoh**	**81.90**	**279**	P	**P**	**18**	**22 32.5**	**+0.2**
ESPZ	**Base Esperanza**	**82.14**	**158**	P	**P**	**18**	**22 33.2**	**+0.7**
ESPZ				IAmb	IAmb	18	22 34.2	
	comp=Z,22nm,1.0s							
CBX	**Cerro Bola**	**82.25**	**50**	IAmb	IAmb	18	22 35.7	
	comp=Z,12nm,0.8s							
MDJ	**Mudanjiang**	**82.37**	**326**	P	**P**	**18**	**22 34.7**	**+0.9**
MDJ	**Mudanjiang**	**82.37**	**326**	P	**P**	**18**	**22 35.0**	**+1.1**
MDJ				pmax	pmax			
	comp=Z,12nm,0.9s							
DPP	**Dos Picos Cty**	**82.45**	**49**	IAmb	IAmb	18	22 36.8	
	comp=Z,19nm,1.0s							
ESJX	**Sierra Juarez**	**82.58**	**50**	IAmb	IAmb	18	22 38.4	
	comp=Z,20nm,1.3s							
SLBS	**Sierra La Lagu**	**82.70**	**60**	P	**P**	**18**	**22 37.2**	**+1.0**
SLBS				IAmb	IAmb	18	22 38.8	
	comp=Z,23nm,0.9s							
YUH	**Yuha Desert**	**82.96**	**50**	IAmb	IAmb	18	22 39.8	
	comp=Z,22nm,1.2s							
BORC	**Borrego Spring**	**82.96**	**49**	IAmb	IAmb	18	22 39.7	
	comp=Z,29nm,1.2s							
O02D	**Mt. Diablo Mer**	**83.00**	**40**	IAmb	IAmb	18	22 40.4	
	comp=Z,31nm,1.1s							
PSI	**Prapat**	**83.11**	**276**	P	**P**	**18**	**22 38.1**	**-0.4**
PFO	**Pinyon Flats O**	**83.12**	**49**	P	**P**	**18**	**22 39.1**	**+0.9**
CMB	**Columbia Colle**	**83.13**	**43**	IAmb	IAmb	18	22 40.0	
	comp=Z,17nm,1.0s							
AFDM	**Forest Hills D**	**83.33**	**42**	IAmb	IAmb	18	22 40.9	
	comp=Z,16nm,1.0s							
ORV	**Oroville**	**83.38**	**41**	IAmb	IAmb	18	22 41.2	
	comp=Z,15nm,1.0s							
WSHM	**Spangler Hills**	**83.56**	**47**	IAmb	IAmb	18	22 42.3	
	comp=Z,12nm,0.9s							
CLC	**China Lake**	**83.62**	**46**	IAmb	IAmb	18	22 42.6	
	comp=Z,16nm,1.0s							
BELC	**Belle Mtn. Jos**	**83.66**	**49**	IAmb	IAmb	18	22 43.3	
	comp=Z,19nm,1.1s							
GSI	**Gunungsitoli**	**83.73**	**274**	P	**P**	**18**	**22 41.1**	**-0.3**
GSC	**Goldstone, Bar**	**83.85**	**47**	IAmb	IAmb	18	22 43.8	
	comp=Z,12nm,1.0s							
CN2	**Changchun**	**84.00**	**324**	P	**P**	**18**	**22 43.0**	**+1.0**
CN2				*e*pP	pwP	18	24 41.5	+2.5
CN2				*e*S	**S**	**18**	**32 23.0**	**+0.1**
CN2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
WAKR	**Walker**	**84.01**	**43**	IAmb	IAmb	18	22 45.0	
	comp=Z,24nm,1.2s							
PIX	**Pinacate**	**84.11**	**52**	IAmb	IAmb	18	22 45.3	
	comp=Z,13nm,1.0s							
HATC	**Hat Creek Radi**	**84.19**	**41**	IAmb	IAmb	18	22 45.6	
	comp=Z,26nm,0.9s							
BNX	**BinXian**	**84.26**	**326**	⇑P	**P**	**18**	**22 43.8**	**+0.5**
BNX				pmax	pmax			
	comp=Z,6.0nm,1.0s							
TROLL	**Troll, Antarti**	**84.30**	**181**	⇓P	**P**	**18**	**22 43.4**	**+0.1**
	comp=Z,195nm,0.4s							
TIA	**Tai'an**	**84.35**	**314**	P	**P**	**18**	**22 45.5**	**+1.5**
TIA				pmax	pmax			
	comp=Z,20nm,0.8s							
113A	**Mohawk Valley,**	**84.54**	**51**	IAmb	IAmb	18	22 47.7	
	comp=Z,18nm,1.1s							
BLYC	**Blythe**	**84.54**	**50**	P	**P**	**18**	**22 46.4**	**+1.4**
BLYC				IAmb	IAmb	18	22 47.1	
	comp=Z,13nm,1.0s							
L04D	**Klamath Falls

	comp=Z,5.0nm,0.8s								
TXAR	**Lajitas Array**	**90.34**	**58**	P		**P**		**18 23 13.6**	**+1.1**
TXAR	**Lajitas Array**	**90.34**	**58**	P		**P**		**18 23 14.1**	**+1.6**
	comp=Z,6.2nm,0.7s,baz=214,slow=5.6,SNR=24								
	comp=Z,6.2nm,0.7s								
RND	**Reindeer**	**90.42**	**13**	IAmb		IAmb		18 23 12.7	
	comp=Z,13nm,1.4s								
HHC	**Hu-ho-hao-te**	**90.54**	**315**	*e*P		**P**		**18 23 15.5**	**+2.3**
HHC				pmax		pmax			
	comp=Z,9.0nm,0.7s								
HHC				pmax		pmax			
	comp=Z,86nm,5.6s								
P18A	**Preston Nutter**	**90.58**	**46**	IAmb		IAmb		18 23 21.2	
	comp=Z,7.8nm,0.7s								
HWUT	**Hardware Ranch**	**90.75**	**44**	IAmb		IAmb		18 23 15.7	
	comp=Z,6.0nm,0.7s								
PV23	**Carpenter Ridg**	**90.81**	**48**	IAmb		IAmb		18 23 16.8	
	comp=Z,8.9nm,0.8s								
ANMO	**Albuquerque**	**90.87**	**52**	P		**P**		**18 23 15.5**	**+0.5**
ANMO				IAmb		IAmb		18 23 17.0	
	comp=Z,7.8nm,1.2s								
VA01	**Torpederas**	**91.22**	**127**	P		**P**		**18 23 16.2**	**-0.4**
S22A	**4UR Ranch, Cre**	**91.96**	**49**	IAmb		IAmb		18 23 22.2	
	comp=Z,8.3nm,1.0s								
ILAR	**Eielson Array**	**92.03**	**13**	P		**P**		**18 23 17.9**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=225,slow=5.4,SNR=6.0								
	comp=Z,0.7nm,0.7s								
J26L	**Joseph Creek**	**92.55**	**15**	IAmb		IAmb		18 23 23.4	
	comp=Z,4.9nm,1.0s								
PDAR	**Pinedale Array**	**92.62**	**44**	P		**P**		**18 23 23.3**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=216,slow=3.5,SNR=13								
	comp=Z,2.3nm,0.8s								
L29M	**L29M**	**92.80**	**18**	IAmb		IAmb		18 23 24.7	
	comp=Z,4.5nm,0.9s								
I30M	**Mount Dempster**	**94.94**	**17**	P		**P**		**18 23 32.5**	**-0.3**
SONM	**Songino Array**	**97.22**	**319**	PP		**PP**		**18 27 44.8**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=108,slow=4.8,SNR=4.1								
MKAR	**Makanchi Array**	**112.28**	**313**	PKiKP		**PKiKP**		**18 28 42.5**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=96,slow=2.9,SNR=5.6								
MKAR				PP		**PP**		**18 29 36.5**	**-2.2**
	comp=Z,1.0nm,0.9s,baz=86,slow=7.9,SNR=4.8								
MKAR				PKKPab		**PKKPab**		**18 39 44.9**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=269,slow=6.7,SNR=5.6								
KURBB	**Kurchatov Arra**	**115.36**	**316**	PKP		**PKPdf**		**18 28 47.4**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=110,slow=1.9,SNR=8.8								
KURBB				PP		**PP**		**18 29 56.6**	**-3.3**
	comp=Z,0.3nm,0.7s,baz=91,slow=7.1,SNR=4.7								
KURBB				SKP				18 31 34.3	
	comp=Z,0.8nm,0.9s,baz=98,slow=2.0,SNR=5.0								
GAR	**Garm**	**119.65**	**302**			**PKPdf**		**18 28 55.5**	**-2.2**
BVAR	**Borovoye Array**	**120.56**	**319**	PKP		**PKPdf**		**18 28 58.3**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=99,slow=1.6,SNR=12								
BVAR				PP		**PP**		**18 30 31.5**	**-3.8**
	comp=Z,0.6nm,0.7s,baz=74,slow=11,SNR=4.0								
BVAR				SKP				18 31 45.3	
	comp=Z,0.2nm,0.5s,baz=72,slow=4.8,SNR=3.7								
SPITS	**Spitsbergen Ar**	**125.16**	**356**	PKP		**PKiKP**		**18 29 07.2**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=56,slow=15,SNR=4.3								
ARCES	**ARCESS Array B**	**131.95**	**348**	PKP		**PKPdf**		**18 29 19.5**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=30,slow=2.1,SNR=20								
ARCES				SKPbc		**SKPbc**		**18 31 57.5**	**-0.3**
	comp=Z,6.0nm,0.8s,baz=57,slow=4.5,SNR=15								
FINES	**FINESS Array B**	**138.52**	**342**	PKhKP		PKPpre		18 29 23.7	
	comp=Z,0.3nm,0.4s,baz=14,slow=2.4,SNR=5.9								
FINES				PKP		sPdif		18 29 33.5	+0.9
	comp=Z,1.1nm,0.9s,baz=52,slow=3.1,SNR=4.3								
FINES				SKPbc		**SKPbc**		**18 32 17.5**	**-0.7**
	comp=Z,6.5nm,0.8s,baz=64,slow=4.4,SNR=24								
NB2	**NORSAR Subarra**	**142.14**	**351**	PKP		PKPpre		18 29 35.2	
	comp=Z,0.6nm,0.6s,baz=10,slow=4.1								
NB2				pPKP		**SKPbc**		**18 32 27.5**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=16,slow=2.7								
NOA	**NORSAR Array B**	**142.14**	**351**	PKhKP		PKPpre		18 29 34.2	
	comp=Z,0.5nm,0.5s,baz=9.0,slow=2.6,SNR=4.1								
NOA				SKPbc		**SKPbc**		**18 32 27.2**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=14,slow=4.2,SNR=6.4								
HFS	**Hagfors**	**142.61**	**349**	PKhKP		PKPpre		18 29 36.3	
	comp=Z,3.4nm,0.4s,baz=72,slow=4.8,SNR=75								
HFS				SKPbc		**SKPbc**		**18 32 28.2**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=349,slow=1.5,SNR=7.5								
KONO	**Kongsberg**	**143.70**	**352**			PKPab		18 29 39.8	-0.8
AK03	**Malin Array Si**	**145.06**	**327**	PKP		**PKPdf**		**18 29 44.4**	**-0.1**
AKASG	**Malin Array Be**	**145.07**	**327**	PKPbc		**PKPdf**		**18 29 43.7**	**-0.8**
	comp=Z,1.5nm,0.3s,baz=45,slow=4.1,SNR=15								
AKASG				SKPbc		**SKPbc**		**18 32 34.6**	**-0.4**
	comp=Z,4.8nm,0.6s,baz=47,slow=2.8,SNR=14								
AKBB	**Malin Array Si**	**145.07**	**327**			**PKPdf**		**18 29 43.8**	**-0.6**
AKBB	**Malin Array Si**	**145.07**	**327**	PKP		**PKPdf**		**18 29 44.4**	**-0.1**
AK01	**Malin Array Si**	**145.09**	**327**	PKP		**PKPdf**		**18 29 44.4**	**-0.1**
KIEV	**Kiev**	**145.09**	**327**			**PKPdf**		**18 29 44.0**	**-0.5**
KIEV	**Kiev**	**145.09**	**327**	PKP		**PKPdf**		**18 29 44.4**	**-0.1**
AK04	**Malin Array Si**	**145.09**	**327**	PKP		**PKPdf**		**18 29 44.4**	**-0.1**
AK08	**Malin Array Si**	**145.10**	**327**	PKP		**PKPdf**		**18 29 44.5**	**0.0**
AK02	**Malin Array Si**	**145.11**	**327**	PKP		**PKPdf**		**18 29 44.5**	**0.0**
AK22	**Malin Array Si**	**145.11**	**328**	PKP		**PKPdf**		**18 29 44.5**	**0.0**
AK21	**Malin Array Si**	**145.12**	**328**	PKP		**PKPdf**		**18 29 44.5**	**-0.1**
MI28	**MI28,Pidlybu**	**145.68**	**329**	PKP		**PKPdf**		**18 29 45.4**	**-0.1**
LUBAR	**Lubar, Ukraine**	**146.30**	**327**	PKP		**PKPdf**		**18 29 47.1**	**+0.5**
BR131	**Keskin Array B**	**147.71**	**307**			**PKPdf**		**18 29 47.0**	**-2.5**
BRTR	**Keskin Array B**	**147.71**	**307**			**PKPdf**		**18 29 47.9**	**-1.5**
BRTR	**Keskin Array B**	**147.71**	**307**	PKP		**PKPdf**		**18 29 48.2**	**-1.3**
	comp=Z,1.2nm,0.4s,baz=45,slow=0.4,SNR=8.8								
BRTR				PKPbc		**PKPbc**		**18 29 52.7**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=67,slow=2.2,SNR=7.4								
MMAI	**Mount Meron Ar**	**147.84**	**294**	PKPbc		**PKPbc**		**18 29 54.0**	**+0.5**
	comp=Z,7.8nm,0.5s,baz=82,slow=6.0,SNR=26								
EKA	**Eskdalemuir Ar**	**148.54**	**4**	PKPbc		**PKPbc**		**18 29 53.8**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=350,slow=2.9,SNR=15								
KOLS	**Kolonicke sedl**	**149.57**	**331**	*e*PKP		**PKiKP**		**18 29 57.7**	**-0.3**
KOLS				*e*PP		**PP**		**18 33 30.7**	**-4.6**
STHS	**Stebnicka Huta**	**149.66**	**332**	*e*PKP		**PKPbc**		**18 29 57.3**	**-0.1**
STHS				*e*PP		**PP**		**18 33 29.4**	**-6.4**
LANS	**Liptovska Anna**	**150.60**	**334**	*e*PKP		**PKiKP**		**18 30 01.0**	**+0.9**
MORC	**Moravsky Berou**	**150.84**	**337**	*e*PKP		**PKiKP**		**18 30 00.8**	**+0.2**
CLL	**Collm**	**150.93**	**343**			**PKPbc**		**18 30 00.0**	**-0.2**
CLL	**Collm**	**150.93**	**343**	*i*PKPbc		**PKPbc**		**18 30 00.3**	**+0.1**
	comp=Z,12nm,1.3s								
CLL				*i* PKPab		**PKPab**		**18 30 10.0**	**0.0**
CLL				*e*PKPab		**pPKPab**		**18 32 08.0**	**+2.4**
CLL				*i* x		x		18 32 15.9	
BRG	**Berggiesshubel**	**151.06**	**342**	*e*PKP		**PKiKP**		**18 30 01.0**	**+0.1**
BRG				Amp				18 30 01.5	
	comp=Z,3.7nm,0.5s								
BRG				pPKP		**pPKPab**		**18 32 09.2**	**+3.1**
BRG				Amp				18 32 10.0	
	comp=Z,5.4nm,1.1s								
VRAC	**Vranov**	**151.57**	**337**	*e*PKP		**PKPab**		**18 30 12.6**	**-0.2**
ESDC	**Sonseca Array**	**163.93**	**12**			**PKPab**		**18 31 05.8**	**-0.9**
ESDC	**Sonseca Array**	**163.93**	**12**	PKPab		**PKPab**		**18 31 04.3**	**-2.3**
	comp=Z,2.6nm,1.1s,baz=338,slow=3.7,SNR=8.3								
TORD	**Torodi Ar. Bea**	**169.17**	**188**	PKPab		**PKPab**		**18 31 29.2**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=176,slow=2.6,SNR=5.6								

*NEIC **25** 18:14:40.6±2.3, 43°.86N±0°.04×105°.25W±0°.07, h0km±1km, ML3.7/70, Error ellipse: s-maj=10.4km s-min=4.0km az=124.0*
*IDC **25** 18:14:43.5±1.8, 44°.03N×105°.57W, h0km, mb3.9/1, mbtmp3.7/2, ML4.4/1, MS2.8/9, Error ellipse: s-maj=41.9km s-min=12.8km az=149.0*

ISC 25 18:14:40.6±1.1, 43°.79N±0°.05×105°.76W±0°.08, h0km, n36, σ1°54/18, MS3.0/4, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.27**	**206**		**Pn**	**18 15 08.1**	**+2.3**
K22A				IAML		18 15 31.0	
	972nm,0.3s						
K22A				IAML		18 15 31.3	
	786nm,0.3s						
RLMT	**Red Lodge**	**2.84**	**299**		**Pg**	**18 15 35.1**	**0.0**
LAO	**LASA Array**	**2.92**	**354**		**Pn**	**18 15 28.4**	**+0.1**
LAO				IAML		18 16 36.2	
	151nm,0.7s						
LAO				IAML		18 16 41.5	
	170nm,0.8s						
BW06	**Boulder Array**	**2.96**	**251**		**Pb**	**18 15 35.2**	**+0.9**
BW06				IAML		18 16 30.7	
	100nm,0.9s						
PD31	**Pinedale Array**	**2.96**	**251**		**Pg**	**18 15 36.0**	**-1.3**
PDAR	**Pinedale Array**	**2.96**	**251**	Pn	**Pg**	**18 15 36.4**	**-0.9**
	5.6nm,0.3s,baz=71,slow=16,SNR=34						
PDAR				Pg	Pb	18 15 45.1	+11
	14nm,0.3s,baz=69,slow=19,SNR=25						
PDAR				Lg	Lg	18 16 22.6	
	26nm,0.3s,baz=66,slow=32,SNR=7.0						
PDAR				LR	LR	18 16 32.9	
	comp=Z,44nm,18.1s,baz=100,slow=35						
	9.9nm,0.4s						
YNE	**Yellowstone No**	**3.28**	**293**		**Pb**	**18 15 39.9**	**+0.1**
YNE				IAML		18 17 01.3	
	comp=E,86nm,0.9s						
YMP	**Mirror Lake Pl**	**3.30**	**288**		**Pb**	**18 15 38.5**	**-1.7**
YMP				IAML		18 16 47.9	
	comp=N,144nm,0.9s						
YMP				IAML		18 16 56.7	
	comp=E,158nm,0.9s						
HAYD	**Hayden**	**3.45**	**199**		**Pb**	**18 15 41.8**	**-1.0**
HAYD				IAML		18 16 43.3	
	comp=N,171nm,1.1s						
HAYD				IAML		18 17 23.1	
	comp=E,116nm,1.1s						
LOHW	**Long Hollow**	**3.52**	**269**		**Pb**	**18 15 41.8**	**-2.0**
H17A	**Grant Village**	**3.52**	**282**		**Pb**	**18 15 43.4**	**-0.6**
SNOW	**Snow King Moun**	**3.64**	**267**		**Pb**	**18 15 43.6**	**-2.4**
SNOW				IAML		18 17 01.7	
	comp=E,128nm,1.2s						
SNOW				IAML		18 17 02.4	
	comp=E,136nm,1.1s						
YNR	**Norris Junctio**	**3.65**	**286**	Pn	**Pb**	**18 15 44.0**	**-2.2**
TPAW	**Teton Pass**	**3.78**	**267**		**Pb**	**18 15 46.6**	**-1.7**
TPAW				IAML		18 17 12.1	
	comp=E,82nm,1.1s						
YHH	**Holmes Hill**	**3.79**	**287**	Pn	**Pb**	**18 15 48.3**	**-0.3**
FXWY	**Fox Creek**	**3.82**	**270**		**Pb**	**18 15 48.6**	**-0.4**
OGNE	**Ogallala**	**3.96**	**135**	Pn	**Pn**	**18 15 41.7**	**-1.1**
AHID	**Auburn Hatcher**	**4.03**	**257**	IAML		18 17 04.4	
	comp=E,86nm,1.4s						
AHID				IAML		18 17 05.9	
	comp=E,69nm,1.0s						
YHL	**Hebgen Lake**	**4.03**	**287**	IAML		18 17 13.8	
	comp=E,46nm,1.6s						
YHL				IAML		18 17 38.4	
	comp=N,52nm,1.1s						
E28A	**Huff**	**4.54**	**50**	IAML		18 17 12.6	
	comp=N,131nm,0.7s						
E28A				IAML		18 17 16.5	
	comp=N,130nm,0.7s						
HWUT	**Hardware Ranch**	**4.80**	**245**	IAML		18 18 15.5	
	comp=N,64nm,1.1s						
DGMT	**Dagmar**	**4.80**	**13**	IAML		18 17 21.7	
	comp=N,96nm,0.8s						
Q24A	**Divide**	**4.84**	**174**	IAML		18 17 12.8	
	comp=E,41nm,0.9s						
Q24A				IAML		18 17 17.9	
	comp=N,38nm,0.9s						
BSUT	**Blindstream Ca**	**4.94**	**231**	IAML		18 17 39.6	
	comp=E,34nm,1.2s						
BSUT				IAML		18 17 53.0	
	comp=N,27nm,1.9s						
EGMT	**Eagleton**	**5.07**	**328**	IAML		18 17 39.6	
	comp=N,62nm,1.3s						
EGMT				IAML		18 18 08.1	
	comp=N,57nm,1.2s						
NEW	**Newport**	**9.08**	**303**	LR	LR	18 21 16.9	
	comp=N,32nm,21.5s,baz=127,slow=43						
I56US	**NEWPORT INFRAS**	**9.08**	**303**	I	I	19 12 40.0	
	comp=N,0.1nm,2.0s,baz=117,slow=316,SNR=5.3						
TXAR	**Lajitas Array**	**14.53**	**173**	Pg	Pg	18 19 13.2	
	baz=358,slow=11						
BBB	**Bella Bella**	**17.11**	**307**	LR	LR	18 26 03.5	
	comp=N,83nm,20.2s,baz=136,slow=40						
SADO	**Sadowa**	**19.06**	**78**	LR	LR	18 26 28.7	
	comp=N,48nm,18.6s,baz=151,slow=37						
YKA	**Yellowknife Ar**	**19.44**	**348**	LR	LR	18 27 28.5	
	comp=N,30nm,18.3s,baz=46,slow=40						
DLBC	**Dease Lake**	**20.97**	**323**	LR	LR	18 28 17.8	
	comp=N,6.5nm,19.1s,baz=178,slow=39						
SFJD	**Kangerlussuaq**	**37.17**	**32**	LR	LR	18 37 09.9	
	comp=N,64nm,18.4s,baz=278,slow=36						
JTS	**Las Juntas de**	**37.95**	**145**	LR	LR	18 39 32.1	
	comp=N,12nm,18.9s,baz=260,slow=39						
MA2	**Magadan**	**59.49**	**325**	LR	LR	18 53 22.4	
	comp=N,17nm,18.9s,baz=192,slow=39						
ARCES	**ARCESS Array B**	**61.47**	**18**	P	**P**	**18 25 00.4**	**+2.0**
	comp=N,1.0nm,0.7s,baz=328,slow=6.4,SNR=6.2						
	comp=N,1.0nm,0.7s						

*DNK **25** 18:16:05.4±3.2, 78°.30N×6°.97E, h10km, ML2.5*
*NAO **25** 18:16:06.2±0.7, 78°.25N×7°.11E, h15km, ML3.0*
*BER **25** 18:16:06.7±3.3, 78°.32N×7°.00E, h10km, mb(Pn)3.8, ML3.0(NAO), Confirmed Earthquake*
*KOLA **25** 18:16:07.8, 78°.23N×8°.32E, h0km, ML2.7, Error ellipse: s-maj=13.5km s-min=8.1km az=90.0, Greenland sea,Knipovich ridge, middle*
*FCIAR **25** 18:16:10.0, 78°.11N×7°.90E, h10km, station ZFI2 has station magnitude of 3.80 station OMEGA has station magnitude of 3.90*

ISC 25 18:16:05.6±1.5, 78°.29N±0°.05×7°.16E±0°.05, h26km±15km, n31, σ1°55/53, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.14**	**54**	Pb	**Pn**	**18 16 27.5**	**+1.7**
KBS				Sb	**Sn**	**18 16 40.9**	**+0.3**
KBS	**Kingsbay**	**1.14**	**54**	P	**Pn**	**18 16 27.1**	**+1.3**
KBS				S	**Sn**	**18 16 40.3**	**-0.3**
KBS	**Kingsbay**	**1.14**	**54**	*e*P	**Pn**	**18 16 27.6**	**+1.7**
KBS				*e*S	**Sn**	**18 16 40.5**	**-0.1**
KBS				IAML		18 16 42.2	
	comp=Z,245nm,0.8s						
KBS	**Kingsbay**	**1.14**	**54**	*i* P	**Pn**	**18 16 27.6**	**+1.7**
KBS				*i* S	**Sn**	**18 16 40.2**	**-0.3**
BRBB	**Barentsburg B**	**1.46**	**94**	Pn	**Pb**	**18 16 32.4**	**+0.4**
BRBB				Sn	**Sb**	**18 16 49.3**	**-0.9**
BRBB	**Barentsburg B**	**1.46**	**94**	P	**Pb**	**18 16 32.9**	**+0.8**
BRBB				S	**Sn**	**18 16 46.7**	**-1.8**
BRBB	**Barentsburg B**	**1.46**	**94**	Pn	**Pb**	**18 16 32.4**	**+0.4**
BRBB				Sn	**Sb**	**18 16 49.3**	**-0.9**
BRBA	**Barentsburg A**	**1.47**	**96**	Pn	**Pb**	**18 16 32.1**	**-0.1**
BRBA				Sn	**Sn**	**18 16 49.1**	**+0.4**
BRBA	**Barentsburg A**	**1.47**	**96**	Pn	**Pb**	**18 16 32.1**	**-0.1**
BRBA				Sn	**Sn**	**18 16 49.1**	**+0.4**
BRBA				IAML		18 16 53.7	
	comp=Z,89nm,0.2s						
SPA0	**Spitsbergen Ar**	**1.89**	**89**	Pn	**Pb**	**18 16 39.3**	**-0.1**
	baz=272,slow=14						
SPA0				Sn	**Sb**	**18 17 02.4**	**-0.1**
	baz=272,slow=18						
SPA0	**Spitsbergen Ar**	**1.89**	**89**	*e*P	**Pb**	**18 16 39.2**	**-0.1**
SPA0				*e*S	**Sb**	**18 17 01.2**	**-1.3**
SPA0	**Spitsbergen Ar**	**1.89**	**89**	Pn	**Pb**	**18 16 39.3**	**-0.1**
	baz=272,slow=14						
SPA0				Sn	**Sb**	**18 17 02.4**	**-0.1**
	baz=272,slow=18						
SPA0				IAML		18 17 03.8	
	comp=Z,78nm,0.2s						
SPITS	**Spitsbergen Ar**	**1.89**	**89**	P	**Pb**	**18 16 39.1**	**-0.3**
SPITS				S	**Sb**	**18 17 00.9**	**-1.6**
HSPB	**Hornsund (broa**	**2.22**	**122**	Pn	**Pn**	**18 16 41.5**	**+0.9**
HSPB	**Hornsund (broa**	**2.22**	**122**	P	**Pn**	**18 16 42.2**	**+1.7**
HSPB				S	**Sn**	**18 17 07.1**	**+0.1**
HSPB	**Hornsund (broa**	**2.22**	**122**	*e*P	**Pn**	**18 16 42.0**	**+1.5**
HSPB				*e*S	**Sn**	**18 17 06.7**	**-0.4**
HSPB	**Hornsund (broa**	**2.22**	**122**	Pn	**Pn**	**18 16 41.5**	**+0.9**
HSPB				IAML		18 17 08.8	
	comp=Z,20nm,0.3s						
HOPEN	**Hopen**	**4.29**	**106**	Pn	**Pn**	**18 17 11.1**	**+2.1**
HOPEN				Sn	**Sn**	**18 17 57.8**	**-0.1**
HOPEN	**Hopen**	**4.29**	**106**	*e*P	**Pn**	**18 17 10.0**	**+1.0**
HOPEN				*e*S	**Sn**	**18 17 55.7**	**-2.3**
HOPEN	**Hopen**	**4.29**	**106**	Pn	**Pn**	**18 17 11.1**	**+2.1**
HOPEN				Sn	**Sn**	**18 17 57.8**	**-0.1**
HOPEN				IAML		18 17 58.8	
	comp=Z,17nm,0.3s						
NOR	**Nord**	**5.29**	**320**	Pn	**Pn**	**18 17 23.8**	**+1.2**
NOR	**Nord**	**5.29**	**320**	Pn	**Pn**	**18 17 23.8**	**+1.2**
NOR	**Nord**	**5.29**	**320**	*i* P	**Pn**	**18 17 23.0**	**+0.3**
NOR				*i* S	**Sn**	**18 18 21.5**	**-1.1**
NOR				IAML		18 18 26.2	
	comp=Z,0.9nm,0.2s						
DAG	**Danmarks Havn**	**5.76**	**268**	*i* P	**Pn**	**18 17 30.0**	**+0.8**
DAG				*i* S	**Sn**	**18 18 29.5**	**-4.8**
DAG				IAML		18 18 32.8	
	comp=Z,7.7nm,0.4s						
DBG	**Daneborg**	**7.55**	**252**	Pn	**Pn**	**18 17 54.5**	**+0.7**
DBG				Sn	Sn	18 19 11.4	-6.9
DBG	**Daneborg**	**7.55**	**252**	Pn	**Pn**	**18 17 54.5**	**+0.7**
DBG				Sn	Sn	18 19 11.4	-6.9
DBG	**Daneborg**	**7.55**	**252**	*i* P	**Pn**	**18 17 54.8**	**+1.0**
DBG				*i* S	Sn	18 19 10.6	-7.8
DBG				IAML		18 19 17.2	
	comp=Z,1.3nm,0.2s						
ZFI2	**Zemlya Franca-**	**7.62**	**52**	*e*P	**Pn**	**18 17 56.9**	**+2.2**
ZFI2				*e*S	**Sn**	**18 19 16.3**	**-3.8**
	comp=Z,27nm,1.6s						
OMEGA	**Omega**	**7.64**	**52**	*e*P	**Pn**	**18 17 57.5**	**+2.6**
OMEGA				*e*S	**Sn**	**18 19 16.1**	**-4.3**
	comp=Z,31nm,1.8s						
NEEM	**North Greenlan**	**11.84**	**295**	*i* P	**Pn**	**18 18 51.6**	**-1.0**
NEEM				*i* S	Sn	18 20 51.9	-12
SUMG	**Summit**	**12.45**	**267**	*i* P	**Pn**	**18 19 01.0**	**-0.1**
SUMG				*i* S	Sn	18 21 09.8	-9.0

*IDC **25** 18:28:31.6±6.8, 18°.20S×178°.13W, h547km±75km, mb3.1/6, mbtmp4.0/6, Error ellipse: s-maj=42.0km s-min=25.7km az=26.0*

ISC 25 18:28:31.8±1.3, 18°.2S±0°.2×178°.1W±0°.2, h550km, n6, σ0°.94/8, mb3.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.39**	**191**	P	**P**	**18 32 30.2**	**-1.0**
	19nm,1.2s,baz=232,slow=4.9,SNR=2.1						
	19nm,1.2s						
STKA	**Stephens Creek**	**38.71**	**242**	P	**P**	**18 35 10.2**	**+1.1**
	3.9nm,0.8s,baz=66,slow=10.0,SNR=5.4						
	3.9nm,0.8s						
WRA	**Warramunga Arr**	**44.84**	**260**	P	**P**	**18 35 57.0**	**-0.5**
	0.4nm,0.3s,baz=96,slow=7.3,SNR=22						
WRA				PcP	**PcP**	**18 37 26.8**	**-0.7**
	0.5nm,1.0s,baz=76,slow=3.3,SNR=1.6						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**44.96**	**255**	P	**P**	**18 35 58.5**	**0.0**
	2.4nm,0.6s,baz=89,slow=8.5,SNR=65						
ASAR				PcP	**PcP**	**18 37 27.0**	**-1.0**
	0.4nm,0.9s,baz=101,slow=3.5,SNR=2.3						
	2.4nm,0.6s						
QSPA	**South Pole Qui**	**71.83**	**180**	P	**P**	**18 38 59.5**	**+0.6**
	0.5nm,0.5s,baz=359,slow=5.7,SNR=6.1						
	0.5nm,0.5s						
TXAR	**Lajitas Array**	**85.94**	**57**	P	**P**	**18 40 14.6**	**+0.2**
	0.4nm,0.7s,baz=208,slow=4.8,SNR=5.3						
	0.4nm,0.7s						

*NEIC **25** 18:39:04, 66°.31N×157°.32W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.00; $M_{\theta\theta}$-0.85; $M_{\phi\phi}$0.85; $M_{r\theta}$0.72; $M_{\theta\phi}$-1.02; $M_{\phi r}$-0.26; Fault plane solution: M_o1.53000×10^{14} NP1:ϕ_s290.00000°, δ90.00000°,λ-150.00000°. NP2:ϕ_s200.00000°, δ60.00000°,λ0.00000°. Principal axes: T 1.5341, Plg21.0000°, Azm61.0000°; N -0.0010, Plg60.0000°, Azm290.0000°; P -1.5351, Plg21.0000°, Azm159.0000°;*
*NEIC **25** 18:39:05.0±1.6, 66°.31N±0°.01×157°.33W±0°.05, h6km±8km Error ellipse: s-maj=2.7km s-min=2.1km az=92.0*

AEIC 25 18:39:04.8±1.5, 66°.31N±0°.01×157°.33W±0°.05, h5km±6km, ML3.3, ML3.5/150(NEIC), Mwr3.4/36(SLM), Error ellipse: s-maj=2.7km s-min=2.1km az=91.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.20**	**149**		Pg	18 39 09.1	+0.5
G19K					Sg	18 39 12.4	+1.3
G19K	**Purcell Mounta**	**0.20**	**149**	IAML		18 39 12.8	
	comp=E,22μm,0.2s						
G19K				IAML		18 39 12.9	
	comp=N,21μm,0.3s						
F19K	**Shaleruckik Mo**	**0.55**	**342**		Sg	18 39 22.3	-0.3
F19K	**Shaleruckik Mo**	**0.55**	**342**		Pg	18 39 15.3	-0.1
F19K				IAML		18 39 29.9	
	comp=E,392nm,0.5s						
F19K				IAML		18 39 33.7	
	comp=N,539nm,0.8s						
G18K	**Tagagawik**	**0.68**	**233**		Sb	18 39 27.7	-1.1
G18K	**Tagagawik**	**0.68**	**233**		Pg	18 39 18.0	+0.1
H19K	**Roundabout Mou**	**0.86**	**155**		Sg	18

comp=E,146nm,1.1s
F15K North Star Dit 3.05 262 Pb 18 40 00.7 +1.3
F15K IAML 18 40 58.1
comp=E,87nm,0.8s
C17K DeLong Mountai 3.13 317 Pn 18 39 55.2 +0.5
D22K Ayikyak River 3.14 32 Pn 18 39 55.4 +0.7
D22K IAML 18 40 55.5
comp=E,166nm,0.8s
H23K Yukon River 3.21 95 Pn 18 39 55.8 0.0
J16K Anvik River 3.34 206 Pn 18 39 57.9 +0.3
BPAW Bear Paw Mtn. 3.47 127 Pn 18 40 00.6 +1.1
BPAW IAML 18 40 57.2
comp=N,127nm,0.7s
BPAW IAML 18 40 57.9
comp=E,128nm,1.2s
B21K Ikpikpuk River 3.48 16 Pn 18 39 59.1 -0.4
B21K Ikpikpuk River 3.48 16 IAML 18 41 04.3
comp=N,109nm,0.8s
B21K IAML 18 41 07.4
comp=E,131nm,0.9s
E23K Chandalar 3.48 56 Pn 18 40 00.1 +0.5
E23K IAML 18 41 03.4
comp=N,95nm,0.7s
E23K IAML 18 41 05.4
comp=E,85nm,0.7s
I23K Minto, Yukon-K 3.49 106 Pn 18 39 59.2 -0.4
K17K Iditarod 3.63 187 Pn 18 40 01.5 -0.1
K17K IAML 18 41 08.5
comp=N,82nm,1.0s
K17K IAML 18 41 08.0
comp=E,74nm,0.8s
CAST Castle Rocks 3.67 140 IAML 18 41 04.4
comp=N,52nm,0.5s
C16K Lisburne Hills 3.68 306 Pn Pn 18 40 02.5 +0.3
D23K Nanushuk River 3.68 41 Pn 18 40 02.7 +0.4
D23K IAML 18 41 09.2
comp=E,90nm,0.9s
D23K IAML 18 41 14.2
comp=N,66nm,1.0s
B20K Meade River 3.72 1 Pn 18 40 03.0 +0.3
B20K IAML 18 41 07.5
comp=N,56nm,0.6s
B20K IAML 18 41 17.0
comp=E,59nm,0.9s
TOLK Toolik Lake Re 3.79 48 Pn 18 40 04.5 +0.7
TOLK Toolik Lake Re 3.79 48 IAML 18 41 12.6
comp=E,105nm,1.1s
TOLK IAML 18 41 17.1
comp=N,77nm,0.7s
NEA2 Nenana 3.85 113 Pn 18 40 04.7 +0.1
NEA2 IAML 18 41 07.9
comp=N,82nm,1.0s
NEA2 IAML 18 41 10.8
comp=E,71nm,1.0s
E24K Your Creek 3.87 59 Pn 18 40 04.8 -0.1
E24K Your Creek 3.87 59 IAML 18 41 14.2
comp=N,49nm,0.8s
E24K IAML 18 41 15.8
comp=E,51nm,1.1s
H24K Noodor Dome 3.88 93 Pn 18 40 04.7 -0.3
H24K Noodor Dome 3.88 93 IAML 18 41 09.3
comp=E,88nm,0.8s
KTH Kantishna Hill 3.88 132 Pn 18 40 05.7 +0.6
KTH Kantishna Hill 3.88 132 IAML 18 41 15.7
comp=N,75nm,1.0s
KTH IAML 18 41 18.8
comp=E,68nm,1.0s
F24K Squaw Lake 3.91 68 Pn 18 40 04.8 -0.7
F24K Squaw Lake 3.91 68 IAML 18 41 15.2
comp=N,70nm,0.6s
F24K IAML 18 41 19.1
comp=E,83nm,0.8s
G24K Hadweenzic Riv 3.97 80 Pn 18 40 05.3 -0.9
PPLA Purkeypile 4.08 145 Pn 18 40 09.3 +1.5
PPLA IAML 18 41 31.4
comp=N,39nm,0.8s
PPLA IAML 18 41 31.6
comp=E,44nm,1.0s
L18K Granite Mounta 4.12 176 Pn 18 40 08.8 +0.6
L18K IAML 18 41 22.5
comp=N,51nm,0.9s
TRF Thorofare Moun 4.15 130 IAML 18 41 21.1
comp=N,79nm,1.0s
COLA College 4.19 106 Pn 18 40 09.4 +0.2
POKR Poker Plat Res 4.26 102 Pn 18 40 10.1 -0.1
POKR Poker Plat Res 4.26 102 IAML 18 41 24.9
comp=E,59nm,0.7s
WRH Wood River Hil 4.28 111 Pn 18 40 10.2 -0.3
WRH Wood River Hil 4.28 111 IAML 18 41 27.6
comp=N,48nm,0.7s
B22K Teshekpuk Lake 4.30 18 Pn 18 40 11.2 +0.5
B22K Teshekpuk Lake 4.30 18 IAML 18 41 26.8
comp=E,70nm,1.1s
B22K IAML 18 41 35.7
comp=N,64nm,1.2s
CCB Clear Creek Bu 4.31 108 Pn 18 40 10.8 0.0
CCB Clear Creek Bu 4.31 108 IAML 18 41 20.2
comp=N,60nm,0.6s
CCB IAML 18 41 22.9
comp=E,53nm,0.8s
D24K Happy Valley 4.32 45 IAML 18 41 49.3
comp=E,59nm,0.9s
MCK McKinley 4.40 122 IAML 18 41 31.4
comp=N,32nm,0.9s
MCK IAML 18 41 37.6
comp=E,33nm,1.0s
K15K Wolf Creek Mou 4.43 206 Pn 18 40 13.1 +0.6
K15K IAML 18 41 35.8
comp=N,38nm,1.1s
K15K IAML 18 41 36.1
comp=E,50nm,0.8s
J14K Nanvaranak Lak 4.47 220 Pb 18 40 26.4 +2.8
ILAR Eielson Array 4.61 105 Pn 18 40 14.8 -0.2
RND Reindeer 4.64 125 Pn 18 40 15.9 +0.4
RND IAML 18 41 38.5
comp=N,30nm,1.1s
HDA Harding Lake 4.75 109 Pn 18 40 17.4 +0.5
HDA IAML 18 41 34.6
comp=E,37nm,0.8s
A22K Sinclair Lake 4.79 9 Pn 18 40 17.4 -0.1
PRP Porcupine Dome 4.90 94 Pn 18 40 19.2 +0.1
E25K Arctic Village 4.92 63 Pn 18 40 18.9 -0.3
E25K Arctic Village 4.92 63 IAML 18 41 51.5
comp=N,35nm,1.2s
E25K IAML 18 41 51.9
comp=E,34nm,0.8s
M17K Holitna River 4.93 181 Pn 18 40 19.8 +0.4
M17K Holitna River 4.93 181 IAML 18 41 56.6
comp=N,36nm,0.8s
D25K Kavik River 5.13 49 IAML 18 41 53.2
comp=E,23nm,0.9s
D25K IAML 18 42 03.6
comp=N,23nm,1.1s
BMAR Burnt Mountain 5.15 72 Pb 18 40 38.5 +3.3
J25K Salcha River, 5.27 103 IAML 18 41 51.9
comp=N,35nm,1.0s
J25K IAML 18 41 59.9
comp=E,30nm,0.9s
M16K Timber Creek 5.36 189 Pn 18 40 25.1 -0.1
M16K Timber Creek 5.36 189 IAML 18 42 00.7
comp=N,25nm,0.9s
M16K IAML 18 42 05.6
comp=E,18nm,1.1s
SUA Susitna One 5.67 146 Pn 18 40 30.6 +1.0
N17K Nushagak Hills 5.81 179 Pn 18 40 32.6 +1.2
M15K Kasigluk River 5.83 196 Pn 18 40 32.1 +0.3
DFR Drift River 6.11 158 Pn 18 40 36.5 +0.9
RDWB Redoubt West 6.18 159 Pn 18 40 37.6 +0.9
O17K Koliganek Bris 6.56 179 Pn 18 40 42.2 +0.4
O16K Kokwok River B 6.75 183 Pn 18 40 44.7 +0.4

*DJA **25** 18:43:35.1±0.3,8˚S±3˚×11˚9E±˚, h10km, M3.6/13, mb3.9/1, MLv3.5/13*
*IDC **25** 18:43:40.6±2.1,7.˚45S×120˚27E, h0km, mb3.4/2, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=105.5km s-min=21.3km az=63.0*
ISC 25 18:43:37.7±1.2, 7.80S±0.05×118.92E±0.06, h35km, n16, σ0.65/16, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.52**	**228**	P		**Pn 18 44 01.8**	**-0.7**
WBSI	**Waikabubak, Su**	**1.89**	**166**	P		**Pn 18 44 07.7**	**+0.1**
BSSI	**Bau Bau, Buton**	**2.27**	**44**	P		**Pn 18 44 11.8**	**-0.9**
WSI	**Waingapu**	**2.31**	**144**	P		**Pn 18 44 14.1**	**+0.8**
BKSI	**Bulukumba**	**2.73**	**26**	P		**Pn 18 44 19.0**	**-0.1**
KAPI	**Kappang**	**2.88**	**17**	Pn		**Pn 18 44 20.7**	**-0.5**
KAPI	2.0nm,0.3s,baz=165,slow=16,SNR=4.2			Sn		**Sn 18 44 54.4**	**-0.3**
	4.9nm,0.3s,baz=171,slow=19,SNR=4.0 5.2nm,0.3s						
EDFI	**Ende, Flores**	**2.91**	**109**	P		**Pn 18 44 21.5**	**-0.1**
MMRI	**Maumere**	**3.39**	**104**	P		**Pn 18 44 27.9**	**-0.3**
BNSI	**Bone**	**3.58**	**19**	P		**Pn 18 44 31.5**	**+0.8**
SPSI	**Sidrap Palu**	**3.90**	**13**	P		**Pn 18 44 35.3**	**+0.1**
JAGI	**Jajag, Banyuwa**	**4.76**	**262**	P		**Pn 18 44 46.4**	**-0.7**
TTSI	**Tana Toraja**	**4.80**	**11**	P		**Pn 18 44 48.3**	**+0.7**
KMMI	**Kalianget**	**4.96**	**278**	P		**Pn 18 44 50.7**	**+0.9**
WRA	**Warramunga Arr**	**19.21**	**131**	P		**P 18 47 58.4**	**-0.5**
	0.1nm,0.3s,baz=307,slow=11,SNR=4.9 0.2nm,0.4s						
ASAR	**Alice Springs**	**21.35**	**139**	P		**P 18 48 22.6**	**+0.6**
	0.4nm,0.4s,baz=313,slow=9.5,SNR=20 0.4nm,0.4s						
MKAR	**Makanchi Array**	**63.35**	**333**	P		P 18 54 14.6	+11
	0.5nm,0.8s,baz=137,slow=6.6,SNR=2.8 0.5nm,0.8s						

IDC 25 18:53:05.2±11.0, 0.81S×14.58W, h0km, mb3.7/2, mbtmp3.8/3, ML3.8/1, MS3.2/13, Error ellipse: s-maj=374.0km s-min=55.5km az=160.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**6.97**	**179**	T	T	19 01 02.2	
	baz=351,slow=74,SNR=78						
H10N3	**ASCENSION HYDR**	**6.98**	**179**	T	T	19 01 06.2	
	baz=351,slow=74,SNR=99						
H10N1	**ASCENSION HYDR**	**6.99**	**179**	T	T	19 01 06.8	
	baz=351,slow=74,SNR=94						
DBIC	**Dimbokro**	**12.22**	**52**	Pn	Pn	18 56 00.9	+0.2
	0.6nm,0.3s,baz=250,slow=13,SNR=5.6						
DBIC				Sn	Sn	18 58 19.2	+1.3
	1.0nm,0.3s,baz=190,slow=18,SNR=6.3						
DBIC				LR	LR	19 00 10.6	
	comp=Z,125nm,18.6s,baz=203,slow=35 1.7nm,0.4s						
TORD	**Torodi Ar. Bea**	**21.28**	**49**	P	P	18 57 53.4	-0.1
	4.4nm,1.1s,baz=233,slow=11,SNR=8.8 4.4nm,1.1s						
MDT	**Midelt**	**34.75**	**15**	LR	LR	19 13 52.5	
	comp=Z,43nm,20.5s,baz=220,slow=36						
MDP	**Montagnes des**	**38.47**	**279**	LR	LR	19 12 58.2	
	comp=Z,24nm,18.7s,baz=109,slow=31						
ESDC	**Sonseca Array**	**41.45**	**12**	LR	LR	19 18 31.8	
	comp=Z,54nm,18.9s,baz=164,slow=37						
MATP	**Matopo**	**46.38**	**118**	LR	LR	19 18 06.4	
	comp=Z,22nm,21.3s,baz=242,slow=32						
VAE	**Valguarnera**	**46.59**	**32**	LR	LR	19 23 03.3	
	comp=Z,72nm,18.8s,baz=298,slow=39						
SIV	**San Ignacio**	**48.25**	**249**	LR	LR	19 19 43.9	
	comp=Z,23nm,21.7s,baz=330,slow=33						
CPUP	**Villa Florida**	**48.31**	**235**	LR	LR	19 17 52.4	
	comp=Z,7.3nm,22.0s,baz=285,slow=31						
LPAZ	**La Paz**	**54.94**	**251**	LR	LR	19 24 43.2	
	comp=Z,25nm,19.6s,baz=98,slow=34						
MLR	**Muntele Rosu**	**58.36**	**32**	LR	LR	19 29 02.4	
	comp=Z,28nm,19.3s,baz=208,slow=37						
HFS	**Hagfors**	**64.62**	**15**	LR	LR	19 31 59.3	
	comp=Z,26nm,18.7s,baz=234,slow=36						
NOA	**NORSAR Array B**	**64.80**	**14**	LR	LR	19 32 24.7	
	comp=Z,16nm,19.8s,baz=215,slow=36						
FINES	**FINESS Array B**	**69.38**	**20**	P	P	19 04 14.7	0.0
	0.6nm,0.8s,baz=217,slow=6.0,SNR=4.2 0.6nm,0.8s						
ARCES	**ARCESS Array B**	**75.17**	**14**	LR	LR	19 39 11.6	
	comp=Z,20nm,18.7s,baz=208,slow=37						

*IDC **25** 18:53:32.0±1.3, 13.08S×45.68E, h0km, mb3.8/4, mbtmp3.8/7, ML3.9/3, Error ellipse: s-maj=41.2km s-min=26.3km az=157.0*
ISC 25 18:53:33.7±1.2, 13.25S±0.1×45.6E±0.1, h10km, n7, σ1s31/8, mb3.8/4, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.54**	**165**	Pn	**Pn**	**18 54 57.7**	**+1.3**
	0.4nm,0.3s,baz=339,slow=14,SNR=15						
OPO				Sn	**Sn**	**18 55 58.6**	**-1.7**
	2.8nm,0.3s,baz=264,slow=20,SNR=23 9.5nm,0.4s						
LSZ	**Lusaka**	**17.04**	**261**	P	**Pn**	**18 57 31.0**	**-1.4**
	0.4nm,0.3s,baz=104,slow=11,SNR=5.7 1.2nm,0.3s						
MATP	**Matopo**	**17.90**	**244**	P	**P**	**18 57 44.5**	**+0.8**
	0.1nm,0.3s,baz=54,slow=12,SNR=5.3 0.8nm,0.6s						
BOSA	**Boshof**	**24.38**	**228**	P	**P**	**18 58 53.6**	**+1.2**
	1.9nm,0.8s,baz=60,slow=8.1,SNR=1.5 1.9nm,0.8s						
SONM	**Songino Array**	**81.21**	**37**	P	**P**	**19 05 49.8**	**-0.2**
	0.3nm,0.3s,baz=238,slow=5.4,SNR=1.4 0.3nm,0.3s						
ASAR	**Alice Springs**	**83.25**	**113**	P	**P**	**19 06 00.8**	**-0.4**
	0.4nm,0.8s,baz=268,slow=4.5,SNR=8.0 0.4nm,0.7s						
WRA	**Warramunga Arr**	**84.39**	**109**	P	**P**	**19 06 06.9**	**-0.1**
	1.0nm,0.9s,baz=266,slow=4.5,SNR=4.7 1.0nm,0.9s						

*AUST **25** 19:06:13.5±0.2, 18˚S±2˚×12˚0E±˚, h10km, mb5.0/34, ML4.5/9, ML5.3/4, Error ellipse: s-maj=4.8km s-min=3.4km az=119.2*
*IDC **25** 19:06:13.5±0.6, 18˚.35S×120˚.43E, h0km, mb3.9/12, mbtmp4.0/16, ML4.3/4, MS3.4/6, Error ellipse: s-maj=23.4km s-min=14.4km az=66.0*
*NEIC **25** 19:06:15.5±1.9, 18˚.22S±0˚.06×120˚.38E±0˚.08, h10km±1km, mb_Lg4.0/8, Error ellipse: s-maj=12.6km s-min=9.6km az=93.0*
*NOU **25** 19:06:16.3, 18˚.64S×120˚.62E, h0km, mb5.1/25, Western Australia*
ISC 25 19:06:14.2±0.4, 18.28S±0.04×120.41E±0.04, h10km, n141, σ2s04/133, mb4.4/19, MS3.1/3, 16C-8D, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior**	**1.77**	**80**	P	**Pg**	**19 06 47.7**	**-0.4**
AUBRM				S	**Sg**	**19 07 13.2**	**+2.2**
MBWA	**Marble Bar**	**2.94**	**192**		**Pn**	**19 07 02.6**	**+1.7**
MBWA				IAmb_Lg		19 07 53.8	
	comp=Z,640nm,0.8s						
MBWA	**Marble Bar**	**2.94**	**192**	↑P	**Pn**	**19 07 02.4**	**+1.5**
MBWA	**Marble Bar**	**2.94**	**192**	P	**Pn**	**19 07 02.6**	**+1.7**
PSAC1	**Pilbara Seismi**	**3.29**	**190**	↑P	**Pn**	**19 07 07.3**	**+1.5**
PSAC1				S	**Sn**	**19 07 45.1**	**+0.1**
PSA00	**Pilbara Seismi**	**3.32**	**189**		**Pn**	**19 07 07.8**	**+1.5**
PSA00	**Pilbara Seismi**	**3.32**	**189**		**Pn**	**19 07 07.3**	**+1.1**
PSA00				IAmb_Lg		19 08 02.7	
	comp=Z,131nm,0.8s						
PSA00	**Pilbara Seismi**	**3.32**	**189**	↑P	**Pn**	**19 07 07.8**	**+1.5**
PSA00				S	**Sn**	**19 07 45.3**	**-0.5**
PSA00	**Pilbara Seismi**	**3.32**	**189**	P	**Pn**	**19 07 07.7**	**+1.5**
FITZ	**Fitzroy Crossi**	**4.98**	**89**		**Pn**	**19 07 30.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**4.98**	**89**	P	**Pn**	**19 07 30.0**	**+1.0**
	comp=Z,55nm,0.7s						
FITZ	**Fitzroy Crossi**	**4.98**	**89**	S	**Sn**	**19 08 26.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**4.98**	**89**	Pn	**Pn**	**19 07 28.6**	**-0.4**
	comp=Z,9.9nm,0.3s,baz=264,slow=11,SNR=242						
FITZ				Sn	**Sn**	**19 08 25.6**	**-1.1**
	comp=Z,52nm,0.3s,baz=323,slow=20,SNR=6.6 comp=Z,22nm,0.3s						
FITZ	**Fitzroy Crossi**	**4.98**	**89**	P	**Pn**	**19 07 30.1**	**+1.1**
FITZ	**Fitzroy Crossi**	**4.98**	**89**	S	**Sn**	**19 08 26.4**	**-0.3**
GIRL	**Giralia**	**7.23**	**232**		**Pn**	**19 08 00.3**	**+0.3**
GIRL				IAmb_Lg		19 10 26.4	
	comp=Z,258nm,0.9s						
GIRL	**Giralia**	**7.23**	**232**	↑P	**Pn**	**19 08 00.6**	**+0.6**
	comp=Z,63nm,0.7s,comp=Z,0.7nmcomp=Z,1556µm						
GIRL				S	**Sn**	**19 09 17.0**	**-5.2**
KNRA	**Kununurra**	**8.40**	**73**		**Pn**	**19 08 16.4**	**+0.3**
KNRA	**Kununurra**	**8.40**	**73**	↑P	**Pn**	**19 08 16.6**	**+0.5**
	comp=Z,82nm,0.6s,comp=Z,0.7nm						
MEEK	**Meekatharra**	**8.48**	**191**	↓P	**Pn**	**19 08 17.6**	**+0.5**
	comp=Z,183nm,0.5s,comp=Z,2.0nm						
MEEK	**Meekatharra**	**8.48**	**191**	P	**Pn**	**19 08 17.7**	**+0.5**
MEEK	**Meekatharra**	**8.48**	**191**	S	**Sn**	**19 09 48.4**	**-4.7**
CVQOZ	**Cooralya Stati**	**8.51**	**223**	↑P	**Pn**	**19 08 18.0**	**+0.5**
	comp=Z,463nm,0.9s,comp=Z,3.2nm						
WSI	**Waingapu**	**8.56**	**359**	P	**Pn**	**19 08 16.6**	**-1.6**
	comp=Z,125nm,0.9s						
BATI	**Baumata**	**8.62**	**22**	Pn	**Pn**	**19 08 19.2**	**+0.1**
	comp=Z,4.3nm,0.3s,baz=139,slow=3.0,SNR=5.9						
BATI				Sn	**Sn**	**19 09 53.4**	**-3.1**
	comp=Z,8.8nm,0.3s,baz=200,slow=23,SNR=5.6 comp=Z,15nm,0.5s						
BATI	**Baumata**	**8.62**	**22**	P	**Pn**	**19 08 20.4**	**+1.3**
WBSI	**Waikabubak, Su**	**8.64**	**353**	P	**Pn**	**19 08 18.1**	**-1.3**
	comp=Z,108nm,0.9s						
SOEI	**Soe**	**9.26**	**24**		**Pn**	**19 08 28.0**	**0.0**
SOEI				IAmb_Lg		19 11 23.6	
	comp=Z,171nm,1.1s						
SOEI	**Soe**	**9.26**	**24**	P	**Pn**	**19 08 32.0**	**+4.0**
SOEI	**Soe**	**9.26**	**24**	P	Pn	19 08 34.9	+6.9
SOEI	**Soe**	**9.26**	**24**	P	**Pn**	**19 08 27.7**	**-0.3**
	comp=Z,66nm,1.1s						
EDFI	**Ende, Flores**	**9.55**	**8**	P	**Pn**	**19 08 30.4**	**-1.5**
	comp=Z,17nm,0.5s,comp=Z,0.1nm						
EDFI	**Ende, Flores**	**9.55**	**8**	S	**Sn**	**19 10 11.9**	**-7.6**
EDFI	**Ende, Flores**	**9.55**	**8**	P	**Pn**	**19 08 29.3**	**-2.7**
	comp=Z,18nm,0.5s						
PLAI	**Plampang**	**9.73**	**344**	P	**Pn**	**19 08 32.6**	**-1.7**
	comp=Z,45nm,0.7s,comp=Z,0.2nm						
PLAI	**Plampang**	**9.73**	**344**	P	**Pn**	**19 08 32.2**	**-2.2**
	comp=Z,35nm,0.6s						
MMRI	**Maumere**	**9.75**	**11**	Pn	**Pn**	**19 08 34.5**	**-0.1**
MMRI				IAmb_Lg		19 11 48.3	
	comp=Z,57nm,1.0s						
MMRI	**Maumere**	**9.75**	**11**	P	**Pn**	**19 08 35.2**	**+0.6**
	comp=Z,29nm,0.6s,comp=Z,0.2nm						
MMRI	**Maumere**	**9.75**	**11**	P	**Pn**	**19 08 36.6**	**+2.0**
	comp=Z,28nm,0.6s						
WRKA	**Warakurna**	**9.95**	**134**	↑P	**Pn**	**19 08 38.8**	**+1.4**
	comp=Z,17nm,0.8s,comp=Z,0.2nm						
MORW	**Morawa**	**11.46**	**200**		**Pn**	**19 08 55.7**	**-2.3**
MORW	**Morawa**	**11.46**	**200**	↑P	**Pn**	**19 08 55.6**	**-2.3**
	comp=Z,57nm,0.6s						
MORW	**Morawa**	**11.46**	**200**	S	Sn	19 10 54.6	-12
MORW	**Morawa**	**11.46**	**200**	P	**Pn**	**19 08 55.4**	**-2.6**
JAGI	**Jajag, Banyuwa**	**11.49**	**327**		**Pn**	**19 08 54.9**	**-3.5**
JAGI	**Jajag, Banyuwa**	**11.49**	**327**	P	**Pn**	**19 08 55.2**	**-3.2**
	comp=Z,79nm,0.7s						
JAGI	**Jajag, Banyuwa**	**11.49**	**327**	P	Pn	19 09 08.5	+10
JAGI	**Jajag, Banyuwa**	**11.49**	**327**	P	**Pn**	**19 08 55.1**	**-3.3**
	comp=Z,77nm,0.6s						
DPH	**Darwin Parliam**	**11.60**	**62**	P	**Pn**	**19 09 00.2**	**+0.2**
	comp=Z,35nm,0.6s						
MTN	**Manton Dam**	**11.66**	**64**		**Pn**	**19 09 00.1**	**-0.7**
MTN	**Manton Dam**	**11.66**	**64**	↓P	**Pn**	**19 09 00.2**	**-0.5**
	comp=Z,110nm,0.5s						
MTN	**Manton Dam**	**11.66**	**64**	P	**Pn**	**19 09 00.4**	**-0.4**
GMJI	**Gumukmas**	**12.03**	**325**	P	**Pn**	**19 09 01.8**	**-4.0**
	comp=Z,36nm,1.0s						
BSSI	**Bau Bau, Buton**	**12.06**	**0**	P	**Pn**	**19 09 04.6**	**-1.6**
	comp=Z,35nm,0.8s						
BLDU	**Ballidu**	**12.73**	**195**	P	**Pn**	**19 09 13.6**	**-1.8**
	comp=Z,90nm,0.6s						
BLDU	**Ballidu**	**12.73**	**195**	S	Sn	19 11 24.5	-13
BLDU	**Ballidu**	**12.73**	**195**	P	**Pn**	**19 09 13.6**	**-1.8**
BKSI	**Bulukumba**	**12.88**	**359**	P	**Pn**	**19 09 16.9**	**-0.5**
	comp=Z,23nm,0.8s						
KDU	**Kakadu**	**12.89**	**66**	↑P	**Pn**	**19 09 16.4**	**-1.1**
	comp=Z,27nm,0.7s						
KDU	**Kakadu**	**12.89**	**66**	P	**Pn**	**19 09 17.0**	**-0.5**
KMBL	**Kambalda**	**13.10**	**174**	P	Pn	19 09 09.7	-11
KAPI	**Kappang**	**13.20**	**357**	LR	LR	19 14 21.0	
	comp=Z,82nm,20.5s,baz=166,slow=37						
WRA	**Warramunga Arr**	**13.28**	**99**		**Pn**	**19 09 22.2**	**-0.7**
WRA	**Warramunga Arr**	**13.28**	**99**	Pn	**Pn**	**19 09 21.5**	**-1.4**
	comp=Z,1.8nm,0.3s,baz=281,slow=14,SNR=55						
WRA				Sn	Sn	19 11 39.3	-11
	comp=Z,5.0nm,0.3s,baz=274,slow=25,SNR=7.1						
WRA				Lg	Lg	19 13 10.0	
	baz=232,slow=39						
WRA				LR	LR	19 15 01.1	
	comp=Z,197nm,18.3s,baz=15,slow=40 comp=Z,3.4nm,0.4s						
WRAB	**Tennant Creek**	**13.29**	**99**			**19 09 21.9**	**-1.1**
WB2	**Warramunga Arr**	**13.29**	**99**	P	Pn	**19 09 22.6**	**-0.4**
WB3	**Warramunga Arr**	**13.29**	**99**	P	Pn	**19 09 23.1**	**+0.1**
WB0	**Warramunga Arr**	**13.31**	**99**		**Pn**	**19 09 22.3**	**-1.1**
WR8	**Warramunga Arr**	**13.43**	**99**		**Pn**	**19 09 23.9**	**-1.0**
KLBR	**Kellerberrin**	**13.47**	**190**	P	Pn	**19 09 24.2**	**-1.2**
	comp=Z,334nm,0.6s						
KLBR	**Kellerberrin**	**13.47**	**190**	P	**Pn**	**19 09 24.2**	**-1.2**
ASAR	**Alice Springs**	**13.70**	**115**		**Pn**	**19 09 27.8**	**-0.9**
ASAR	**Alice Springs**	**13.70**	**115**	Pn	**Pn**	**19 09 27.4**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=294,slow=12,SNR=47						
ASAR				Sn	**Sn**	**19 11 57.1**	**-3.9**
	comp=Z,7.6nm,0.3s,baz=297,slow=22,SNR=12 comp=Z,2.0nm,0.3s						
AS31	**Alice Springs**	**13.70**	**115**		**Pn**	**19 09 27.6**	**-1.0**
AS31	**Alice Springs**	**13.70**	**115**	↓P	**Pn**	**19 09 28.1**	**-0.6**
	comp=Z,16nm,0.5s						
AS31	**Alice Springs**	**13.70**	**115**	S	**Sn**	**19 11 54.7**	**-6.3**
AS01	**Alice Springs**	**13.74**	**115**	P	**Pn**	**19 09 28.0**	**-1.2**
UGM	**Wanagama**	**14.09**	**316**	Pn	**Pn**	**19 09 31.2**	**-2.8**
UGM	**Wanagama**	**14.09**	**316**	P	**Pn**	**19 09 31.8**	**-2.2**
	comp=Z,72nm,1.9s						
MUN	**Mundaring**	**14.16**	**195**	↑P	**Pn**	**19 09 32.4**	**-2.5**
	comp=Z,87nm,0.5s						
MUN	**Mundaring**	**14.16**	**195**	P	**Pn**	**19 09 32.2**	**-2.6**
MTKN	**Mount Kenneth**	**14.23**	**196**	P	**Pn**	**19 09 35.3**	**-0.4**
CARL	**Carlisle**	**14.23**	**196**	P	**Pn**	**19 09 35.1**	**-0.8**
	comp=Z,185nm,0.6s						
FORT	**Forrest**	**14.26**	**152**		**Pn**	**19 09 32.3**	**-3.9**
FORT	**Forrest**	**14.26**	**152**	↑P	**Pn**	**19 09 35.0**	**-1.1**
DNDOZ	**Balladonia**	**14.46**	**168**	P	**Pn**	**19 09 36.5**	**-2.5**
	comp=Z,370nm,0.6s						
NWAO	**Narrogin (SRO)**	**14.86**	**190**		**Pn**	**19 09 41.2**	**-3.2**
NWAO	**Narrogin (SRO)**	**14.86**	**190**	P	**Pn**	**19 09 41.5**	**-2.9**
	comp=Z,152nm,0.6s						
NWAO	**Narrogin (SRO)**	**14.86**	**190**	Pn	**Pn**	**19 09 41.1**	**-3.4**
	comp=Z,20nm,0.3s,baz=14,slow=12,SNR=105						
NWAO				Sn	Sn	19 12 12.8	-16
	comp=Z,27nm,0.3s,baz=131,slow=20,SNR=7.9						
NWAO				Lg	Lg	19 13 54.0	
	baz=101,slow=19						
NWAO				LR	LR	19 15 34.2	
	comp=Z,252nm,18.0s,baz=35,slow=38						
NWAO	**Narrogin (SRO)**	**14.86**	**190**	P	**Pn**	**19 09 41.6**	**-2.9**
NWAO	**Narrogin (SRO)**	**14.86**	**190**	P	**Pn**	**19 09 41.5**	**-2.9**
RKGY	**Rocky Gully**	**16.55**	**190**	↑P	**Pn**	**19 10 04.2**	**-2.2**
	comp=Z,130nm,0.6s						
MULG	**Mulgathing**	**17.23**	**136**	P	**P**	**19 10 15.5**	**-1.1**
	comp=Z,67nm,1.1s						
QIS	**Mount Isa**	**18.25**	**100**	↑P	**P**	**19 10 29.2**	**+1.3**
	comp=Z,37nm,0.9s						
QIS	**Mount Isa**	**18.25**	**100**	P	**P**	**19 10 29.0**	**+1.0**
FAKI	**Fak Fak**	**19.18**	**39**		**Pn**	**19 10 40.5**	**+1.6**
TOLI2	**Tolitoli**	**19.27**	**1**		**Pn**	**19 10 40.5**	**+0.4**
TOLI2	**Tolitoli**	**19.27**	**1**	P	Pn	19 10 46.8	+6.7
BBOO	**Buckleboo**	**20.18**	**139**		Pn	19 10 50.3	-0.5
BBOO	**Buckleboo**	**20.18**	**139**	↑P	Pn	19 10 50.7	-0.2
	comp=Z,64nm,0.6s						
BBOO	**Buckleboo**	**20.18**	**139**	P	Pn	19 10 50.4	-0.5
LCRK	**Leigh Creek**	**20.22**	**130**	↑P	Pn	19 10 51.6	+0.3
	comp=Z,20nm,0.8s						
INKA	**Innaminka**	**20.93**	**120**	P	Pn	19 11 00.4	+0.7
	comp=Z,12nm,0.7s						
YAPP	**

CMSA	Cobar Meteorol	26.39	125	P	P	19 11 51.4	+0.6
PMG	Port Moresby	27.40	75	LR	LR	19 24 45.0	
	comp=Z,58nm,20.3s,baz=196,slow=41						
TOO	Toolangi	29.19	136	P	P	19 12 18.4	+2.5
CMAR	Chiang Mai Arr	42.16	329	P	P	19 14 08.4	+1.2
	comp=Z,0.7nm,0.6s,baz=148,slow=8.6,SNR=6.2						
	comp=Z,0.7nm,0.6s						
WKZ	Wanaka	48.24	134	P	P	19 14 57.7	+2.4
CASY	Casey	48.41	185	P	P	19 14 58.0	+1.9
RPZ	Rata Peaks	49.34	132	P	P	19 15 05.3	+1.6
XAN	Xi'an	53.16	348	⇓P	P	19 15 38.8	+6.4
XAN				pmax	pmax		
	comp=Z,16nm,0.7s						
LSA	Lhasa	55.42	329	P	P	19 15 56.3	+6.8
LSA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KSRS	Korea Array	55.88	7	P	P	19 15 55.0	+2.9
	comp=Z,1.3nm,0.8s,baz=180,slow=8.4,SNR=5.7						
	comp=Z,1.3nm,0.8s						
VNDA	Vanda	62.66	171	P	P	19 16 40.8	+2.3
VNDA	Vanda	62.66	171	P	P	19 16 40.0	+1.4
	comp=Z,2.5nm,0.9s,baz=303,slow=6.5,SNR=16						
	comp=Z,2.5nm,0.9s						
USRK	Ussuriysk Ar.	63.07	9	P	P	19 16 44.6	+3.0
	comp=Z,0.8nm,0.5s,baz=193,slow=7.6,SNR=1.8						
	comp=Z,0.8nm,0.5s						
SONM	Songino Array	67.00	350	P	P	19 17 08.2	+1.0
	comp=Z,0.4nm,0.6s,baz=173,slow=7.6,SNR=5.2						
	comp=Z,0.4nm,0.6s						
QSPA	South Pole Qui	71.77	180	P	P	19 17 37.2	+0.6
	comp=Z,4.5nm,0.9s,baz=323,slow=1.8,SNR=17						
	comp=Z,4.5nm,0.9s						
MKAR	Makanchi Array	73.31	334	P	P	19 17 44.6	-1.3
MKAR	Makanchi Array	73.31	334	P	P	19 17 47.2	+1.4
	comp=Z,0.4nm,0.7s,baz=133,slow=8.1,SNR=6.8						
	comp=Z,0.4nm,0.7s						
KURBB	Kurchatov Arra	77.86	334	P	P	19 18 12.8	+1.0
	comp=Z,0.2nm,0.3s,baz=145,slow=4.7,SNR=6.1						
	comp=Z,0.2nm,0.3s						
ZALV	Zalesovo Beam	78.15	339	P	P	19 18 13.8	+0.5
	comp=Z,0.3nm,0.3s,baz=148,slow=3.3,SNR=3.6						
	comp=Z,0.3nm,0.3s						
TROLL	Troll, Antarti	80.89	196	⇓P	P	19 18 30.5	+2.1
	comp=Z,66nm,0.7s						
SNAA	Sanae	82.48	195	⇓P	P	19 18 36.6	0.0
	comp=Z,27nm,0.7s						
SNAA	Sanae	82.48	195	P	P	19 18 38.8	+2.1
SNAA	Sanae	82.48	195	P	P	19 18 35.7	-0.9
	comp=Z,1.7nm,0.9s,baz=173,slow=8.1,SNR=5.4						
	comp=Z,1.7nm,0.9s						
BVAR	Borovoye Array	83.09	332	P	P	19 18 41.5	+1.6
	comp=Z,0.3nm,0.6s,baz=72,slow=6.2,SNR=1.7						
	comp=Z,0.3nm,0.6s						
VNA3	Neumayer Olymp	84.43	194	⇓P	P	19 18 48.4	+1.7
	comp=Z,2.3nm,0.8s						
VNA1	Neumayer--Stat	84.49	195	⇓P	P	19 18 48.1	+1.2
	comp=Z,2.7nm,0.9s						
LPAZ	La Paz	144.64	166	PKP	PKPdf	19 25 53.5	+0.7
	comp=Z,4.9nm,0.8s,baz=210,slow=2.8,SNR=12						

*KRSC **25** 19:14:24.5±1.7, 56.24N×164.28E, h52km±22km, Ml4.3*
*MOS **25** 19:14:25.8±0.7, 56.25N×164.35E, h48km, mb3.9/1, Error ellipse: s-maj=10.6km s-min=5.2km az=51.0*
*IDC **25** 19:14:38.1±3.5, 56.09N×162.92E, h92km±35km, mb3.2/9, mbtmp3.5/10, MS2.9/1, Error ellipse: s-maj=33.5km s-min=16.7km az=157.0*
ISC 25 19:14:24.8±3.0, **56.24N**±0.04×**164.26E**±0.03, **h16**km±20km, **n91**, σ1°**56**/115, **mb3.5/9, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	Krutoberegovo	0.81	268	PN	Pb	19 14 39.5	-0.9
KBTR	Krutoberegovo	0.81	268	eP	Pb	19 14 39.5	-0.9
KBG	Krutoberegovo	0.87	271	PN	Pb	19 14 40.4	-1.0
KBG				S	Sb	19 14 51.6	-1.2
KBG	Krutoberegovo	0.87	271	eP	Pb	19 14 40.5	-1.0
KBG				eS	Sb	19 14 51.7	-1.2
BKI	Bering	1.42	136	PN	Pb	19 14 50.8	-0.1
BKI				S	Sb	19 15 08.6	-0.1
BKI	Bering	1.42	136	eP	Pb	19 14 50.8	-0.1
BKI				eS	Sb	19 15 08.7	-0.1
SMKR	Semkarok	1.59	283	PN	Pn	19 14 52.6	+0.3
SMKR				S	Sn	19 15 12.0	-0.5
SMKR	Semkarok	1.59	283	eP	Pn	19 14 52.6	+0.3
SMKR				eS	Sn	19 15 12.0	-0.5
BDR	Baidarnaya	1.73	282	eS	Sn	19 15 16.5	+0.6
SRKR	Sorokina	1.77	285	eS	Sn	19 15 16.4	-0.5
ZLN	Zelenaya	1.95	265	PN	Pn	19 14 58.5	+1.3
ZLN				S	Sn	19 15 22.8	+1.4
ZLN	Zelenaya	1.95	265	eP	Pn	19 14 58.6	+1.3
ZLN				eS	Sn	19 15 22.9	+1.4
CIRR	Tsirk	1.97	268	PN	Pn	19 14 58.6	+1.0
CIRR				S	Sb	19 15 23.7	-0.9
CIRR	Tsirk	1.97	268	eP	Pn	19 14 58.6	+1.0
CIRR				eS	Sb	19 15 23.8	-0.9
LGNR	Loginova	2.00	267	PN	Pn	19 14 59.4	+1.2
LGNR				S	Sn	19 15 23.5	+0.5
LGNR	Loginova	2.00	267	eP	Pn	19 14 59.5	+1.2
LGNR				eS	Sn	19 15 23.5	+0.5
KLY	Klyuchi	2.02	273	eS	Sn	19 15 20.4	-2.5
BZGR	Bezymyannyi-Gr	2.02	263	PN	Pn	19 14 59.3	+1.1
BZGR				S	Sn	19 15 24.0	+0.8
BZGR	Bezymyannyi-Gr	2.02	263	eP	Pn	19 14 59.3	+1.1
BZGR				eS	Sn	19 15 24.1	+0.8
BZWR	Bezymyannyi-We	2.13	264	PN	Pn	19 15 01.0	+1.2
BZWR	Bezymyannyi-We	2.13	264	eP	Pn	19 15 01.1	+1.2
BZMR	Bezymyannaya	2.14	263	PN	Pn	19 15 01.0	+1.1
BZMR				S	Sb	19 15 28.4	-1.0
BZMR	Bezymyannaya	2.14	263	eP	Pn	19 15 01.0	+1.1
BZMR				eS	Sb	19 15 28.5	-1.0
KIRR	Kirishev	2.22	264	PN	Pn	19 15 02.3	+1.4
KIRR				S	Sn	19 15 28.5	+0.5
KIRR	Kirishev	2.22	264	eP	Pn	19 15 02.4	+1.4
KIRR				eS	Sn	19 15 28.5	+0.5
MKZ	Mys Kozlova	2.22	222	PN	Pn	19 15 00.6	-0.3
MKZ				S	Sn	19 15 25.6	-2.3
MKZ	Mys Kozlova	2.22	222	eP	Pn	19 15 00.6	-0.3
MKZ				eS	Sn	19 15 25.7	-2.3
KPT	Kopyto	2.28	265	PN	Pn	19 15 03.0	+1.2
KPT	Kopyto	2.28	265	eP	Pn	19 15 03.1	+1.2
KMNR	Kamenistaya	2.31	259	PN	Pn	19 15 03.8	+1.6
KMNR	Kamenistaya	2.31	259	eP	Pn	19 15 03.9	+1.6
TUMD	Tumrok D	2.42	246	PN	Pn	19 15 04.8	+1.2
TUMD	Tumrok D	2.42	246	eP	Pn	19 15 04.9	+1.2
KOZ	Kozyrevsk	2.46	267	PN	Pn	19 15 06.1	+1.9
KOZ				S	Sn	19 15 36.1	+2.2
KOZ	Kozyrevsk	2.46	267	eP	Pn	19 15 06.2	+1.9
KOZ				eS	Sn	19 15 36.1	+2.2
SRDR	Sredinnyy	2.54	274	PN	Pn	19 15 06.9	+1.6
SRDR				S	Sn	19 15 37.2	+1.4
SRDR	Sredinnyy	2.54	274	eP	Pn	19 15 06.9	+1.6
SRDR				eS	Sn	19 15 37.3	+1.4
OSSR	Ossora	3.08	348	PN	Pn	19 15 13.3	+0.6
OSSR				S	Sn	19 15 46.8	-2.3
OSSR	Ossora	3.08	348	eP	Pn	19 15 13.4	+0.6
OSSR				eS	Sn	19 15 46.8	-2.3
ESO	Esso	3.13	266	PN	Pn	19 15 14.8	+1.4
ESO	Esso	3.13	266	eP	Pn	19 15 14.9	+1.4
SPN	Mys Shipunski	4.00	220	PN	Pn	19 15 25.1	-0.2
SPN	Mys Shipunski	4.00	220	eP	Pn	19 15 25.1	-0.2
SPN				eS	Sn	19 16 07.9	-3.9
NLC	Nalytchevo	4.20	225	PN	Pn	19 15 28.2	+0.2
NLC	Nalytchevo	4.20	225	eP	Pn	19 15 28.3	+0.2
SDLR	Sedlovina	4.30	229	PN	Pn	19 15 30.9	+1.3
SDLR	Sedlovina	4.30	229	eP	Pn	19 15 31.0	+1.3
KRER	Koryakskii	4.34	230	PN	Pn	19 15 32.7	+2.5
KRER	Koryakskii	4.34	230	eP	Pn	19 15 32.8	+2.5
KRX	Arik	4.35	231	PN	Pn	19 15 32.1	+1.9
KRX	Arik	4.35	231	eP	Pn	19 15 32.1	+1.9
SMAR	Somma	4.35	229	PN	Pn	19 15 31.6	+1.3
SMAR	Somma	4.35	229	eP	Pn	19 15 31.7	+1.3
AVH	Avacha	4.38	229	PN	Pn	19 15 32.3	+1.7
AVH	Avacha	4.38	229	eP	Pn	19 15 32.3	+1.7
UGLR	Uglovaya	4.38	228	PN	Pn	19 15 32.0	+1.4
UGLR	Uglovaya	4.38	228	eP	Pn	19 15 32.0	+1.4
KOK	Koryaka	4.40	230	PN	Pn	19 15 32.6	+1.7
KOK	Koryaka	4.40	230	eP	Pn	19 15 32.6	+1.7
GNL	Ganaly	4.45	238	PN	Pn	19 15 33.6	+2.0
GNL	Ganaly	4.45	238	eP	Pn	19 15 33.7	+2.0
DALK	Dalny	4.54	227	PN	Pn	19 15 34.0	+1.3
DALK	Dalny	4.54	227	eP	Pn	19 15 34.0	+1.3
PET	Petropavlovsk	4.58	228	ePN	Pn	19 15 34.8	+1.4
PET				pmax	pmax		
	comp=Z,40nm,0.4s						
PEA0B	Petropavlovsk-	4.94	233	PN	Pn	19 15 41.1	+2.9
PETK	Petropavlovsk-	4.94	233	P	Pn	19 15 39.8	+1.6
	comp=Z,6.6nm,0.5s,baz=72,slow=16,SNR=85						
PETK				S	Sn	19 16 33.2	-1.7
	comp=Z,2.2nm,0.4s,baz=54,slow=22,SNR=5.1						
KRMR	Karymshinskiy	4.94	229	PN	Pn	19 15 40.6	+2.3
KRMR	Karymshinskiy	4.94	229	eP	Pn	19 15 40.6	+2.3
GRL	Gorelyy	5.17	227	PN	Pn	19 15 44.1	+2.6
GRL	Gorelyy	5.17	227	eP	Pn	19 15 44.2	+2.6
MTVR	Mutnovka	5.18	226	PN	Pn	19 15 43.0	+1.3
MTVR	Mutnovka	5.18	226	eP	Pn	19 15 43.0	+1.3
APC	Apacha	5.30	234	PN	Pn	19 15 46.2	+3.0
APC	Apacha	5.30	234	eP	Pn	19 15 46.3	+3.0
ASAK	Asacha	5.37	227	PN	Pn	19 15 46.6	+2.4
ASAK	Asacha	5.37	227	eP	Pn	19 15 46.6	+2.4
PAU	Pauzhetka	6.50	226	PN	Pn	19 16 01.9	+2.2
PAU	Pauzhetka	6.50	226	eP	Pn	19 16 02.0	+2.2
SKR	Severo-Kuril's	7.39	224	PN	Pn	19 16 12.9	+1.1
SKR	Severo-Kuril's	7.39	224	eP	Pn	19 16 13.0	+1.1
ASAJ	Asahikawa	18.34	238	LR	LR	19 26 11.9	
	comp=Z,38nm,18.2s,baz=344,slow=39						
ILAR	Eielson Array	24.90	50	P	P	19 19 59.6	+13
	comp=Z,1.1nm,0.5s,baz=267,slow=9.5,SNR=11						
	comp=Z,1.1nm,0.5s						
MJAR	Matsushiro Arr	26.40	233	P	P	19 20 00.5	+0.2
	comp=Z,3.1nm,0.7s,baz=28,slow=8.0,SNR=9.0						
	comp=Z,3.1nm,0.7s						
KSRS	Korea Array	30.65	248	P	P	19 20 37.0	-1.1
	comp=Z,0.6nm,0.5s,baz=43,slow=9.3,SNR=1.9						
	comp=Z,0.6nm,0.5s						
SONM	Songino Array	35.59	281	P	P	19 21 20.8	-0.5
	comp=Z,0.2nm,0.5s,baz=108,slow=4.7,SNR=1.8						
	comp=Z,0.2nm,0.5s						
KURK	Kurchatov	48.13	302	P	P	19 23 04.8	+1.3
KURBB	Kurchatov Arra	48.24	302	P	P	19 23 04.8	+0.5
	comp=Z,0.1nm,0.5s,baz=56,slow=7.5,SNR=2.2						
	comp=Z,0.1nm,0.5s						
MKAR	Makanchi Array	48.97	296	P	P	19 23 08.7	-1.4
	comp=Z,0.3nm,0.7s,baz=56,slow=6.8,SNR=1.7						
	comp=Z,0.3nm,0.7s						
NVAR	Mina Array Bea	52.49	75	P	P	19 23 45.7	+8.8
	comp=Z,0.3nm,0.5s,baz=293,slow=8.5,SNR=1.8						
	comp=Z,0.3nm,0.5s						
TXAR	Lajitas Array	67.25	71	P	P	19 25 26.7	+8.4
	comp=Z,0.2nm,0.7s,baz=323,slow=3.8,SNR=3.8						
	comp=Z,0.2nm,0.7s						
ASAR	Alice Springs	83.66	208	P	P	19 26 53.9	+1.7
	comp=Z,0.2nm,0.8s,baz=9.8,slow=6.8,SNR=1.6						
	comp=Z,0.2nm,0.8s						

*ASIES **25** 19:29:59.5, 24.93N×122.47E, h17km, ML3.6, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr-0.24; Mθθ0.64; Mφφ-0.36; Mrθ-1.31; Mθφ-0.45; Mφr-0.19; Fault plane solution: M0 1.50250×10^14^ NP1: φs334.43000°, δ24.29000°, λ-16.36000°. NP2: φs79.41000°, δ83.34000°, λ-113.42000°. Principal axes: T Plg34.2340°, Azm189.2790°; N Plg23.2470°, Azm82.2820°; P Plg46.5890°, Azm325.2760°;*
*TAP **25** 19:29:59.5, 24.93N×122.47E, h17km, ML3.6, C*
*JMA **25** 19:30:00.4±0.2, 25.1°N×122.5E±0.6, h36km±3km, MV2.7/9, NW OFF ISHIGAKIJIMA IS*
ISC 25 19:29:59.5±1.1, **24.92N**±0.03×**122.49E**±0.03, **h19**km±3km, **n105**, σ0°**86**/161, **1C-6D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	Santiao Chiao	0.46	281	*i* P	Pb	19 30 09.0	-0.2
TWB1				*i* S	Sb	19 30 15.6	-0.1
EGS		0.51	261	P	Pb	19 30 09.8	-0.1
EOS2	EOS2	0.55	205	P	Pb	19 30 11.1	+0.6
EOS2				S	Sb	19 30 18.9	+1.0
SXI1	Grass Mountain	0.58	287	P	Pb	19 30 11.7	+0.6
SXI1				S	Sb	19 30 20.1	+1.2
TIPB	Shuangxi	0.60	275	P	Pb	19 30 12.0	+0.6
TIPB				S	Sb	19 30 20.2	+0.7
EOS3	EOS3	0.65	194	P	Pg	19 30 12.8	+0.4
EOS3				S	Sn	19 30 23.2	-0.1
NWF	Wu-fen Shan	0.66	283	P	Pb	19 30 13.0	+0.6
NWF				S	Sb	19 30 21.8	+0.6
TWC	Suao	0.66	242	P	Pg	19 30 12.1	-0.5
TWC				S	Sb	19 30 21.5	+0.3
WFSB	Wu-fen Shan	0.66	283	P	Pn	19 30 13.2	-0.7
WFSB				S	Sb	19 30 22.1	+1.0
YOJ	Yonaguni jima	0.66	134	P	Pb	19 30 12.8	+0.4
YOJ	Yonaguni jima	0.66	134	P	Pb	19 30 12.8	+0.4
YOJ				eS	Sg	19 30 21.3	-0.1
YOJ	Yonaguni jima	0.66	134	⇑P	Pb	19 30 14.3	0.0
YOJ				*i* S	Sg	19 30 21.3	-0.1
ESAO	Su ao	0.68	240	*i* P	Pb	19 30 13.1	+0.4
ESAO				S	Sg	19 30 20.7	-1.4
TNOU	National Taiwa	0.69	289	P	Pb	19 30 13.2	+0.3
TNOU				eS	Sn	19 30 23.1	-1.3
ILA	Ilan	0.69	257	P	Pg	19 30 13.6	+0.4
ILA				S	Sn	19 30 24.1	-0.4
NDS	Dongshan	0.76	248	P	Pb	19 30 13.2	-0.9
NDS				S	Sb	19 30 23.1	-1.0
TWE	Neicheng	0.77	255	P	Pb	19 30 14.3	-0.1
TWE				S	Sb	19 30 24.3	-0.2
PCYT	Pengchaiyu	0.80	332	P	Pg	19 30 15.1	-0.1
EWUT	Wuta	0.80	234	P	Pb	19 30 14.9	+0.1
EWUT				S	Sb	19 30 24.9	-0.4
EOS4	EOS4	0.81	191	eP	Pn	19 30 15.7	+0.1
EOS4				eS	Sg	19 30 26.4	+0.3
TWA	Mucha	0.82	274	eP	Pn	19 30 15.8	-0.4
TWA				eS	Sn	19 30 28.4	+0.6
FUSB	Fushanzhiwuyua	0.83	259	⇓P	Pb	19 30 15.4	-0.1
FUSB				S	Sg	19 30 27.3	+0.4
ENA	Nanau	0.84	234	eP	Pb	19 30 15.7	+0.2
ENA				eS	Sb	19 30 26.1	-0.3
YM08	YM08	0.86	288	⇓P	Pg	19 30 16.0	-0.3
YM01	YM01	0.86	285	P	Pn	19 30 16.4	-0.3
NHDH	Xindian Distri	0.88	273	eP	Pn	19 30 16.8	-0.1
TWY	Chenhua	0.88	294	⇓P	Pg	19 30 16.5	-0.2
TWY				S	Sn	19 30 29.8	+0.6
ENTT	Nioudou	0.88	252	P	Pb	19 30 16.3	0.0
ENTT				S	Sg	19 30 28.2	-0.3
ZUZH	Zhuzihu	0.89	286	eP	Pg	19 30 16.6	-0.3
EAHA	Aohua	0.90	229	eP	Pb	19 30 16.7	+0.1
EAHA				eS	Sb	19 30 27.4	-0.8
NWLT	Wulai	0.91	261	eP	Pg	19 30 16.9	-0.4
TATO	Taipei	0.91	274	P	Pn	19 30 17.2	-0.1
ANP	Anpu	0.92	287	eP	Pg	19 30 17.1	-0.4
LATG	Datong	0.96	246	⇓P	Pb	19 30 17.7	+0.1
LATG				S	Sb	19 30 30.0	+0.1
NTST	Danshui	0.97	285	eP	Pn	19 30 18.5	+0.3
TWS1	Kuangyinshan	0.99	281	P	Pg	19 30 18.5	-0.2
YHNB	Yeheng	1.04	256	P	Pg	19 30 19.5	-0.3
YHNB	Yeheng	1.04	256	P	Pb	19 30 19.0	0.0
YHNB				eS	Sb	19 30 32.3	-0.1
NSK	Sanguang	1.06	257	eP	Pn	19 30 19.4	0.0
NSK				eS	Sb	19 30 32.4	-0.4
ETL	Fush Village	1.09	226	eP	Pb	19 30 19.7	-0.2
ETL				eS	Sb	19 30 33.5	-0.4
NACB	Ninganchiao	1.10	228	P	Pb	19 30 19.9	-0.1
NACB	Ninganchiao	1.10	228	eP	Pb	19 30 19.7	-0.3
NACB				eS	Sb	19 30 34.2	+0.2
NNSB	Datong	1.12	244	⇓P	Pb	19 30 20.3	0.0
NNSB				eS	Sb	19 30 34.4	-0.2
NNS	Nan Shan	1.12	245	eP	Pn	19 30 20.6	+0.3
NNS				eS	Sb	19 30 34.7	0.0
ETLH	Xiulin Townshi	1.16	232	eP	Pb	19 30 21.1	+0.1
ETLH				eS	Sb	19 30 35.2	-0.5
TWD	Chiawan	1.17	224	P	Pg	19 30 21.8	-0.4
TWD				S	Sb	19 30 36.1	+0.2
NCUH	Zhongli	1.18	272	eP	Pg	19 30 23.2	+0.7
KSHI	Guanxi Townshi	1.20	263	eP	Pn	19 30 21.1	-0.2
IRIF	Iriomote-Funau	1.27	117	eP	Pn	19 30 22.1	-0.3
NFF	Wufeng Townshi	1.28	257	eP	Pb	19 30 23.0	-0.1
NFF				eS	Sg	19 30 41.5	+0.4
ETM	Tongmen	1.31	224	eP	Pb	19 30 24.2	+0.5
FUSS	Fushou	1.32	240	eP	Pb	19 30 24.2	+0.3
FUSS				eS	Sn	19 30 40.6	+0.3
TEYL	Yanliau Villag	1.33	218	eS	Sg	19 30 44.8	+2.3
LXIB	Xiulin Townshi	1.33	228	eP	Pb	19 30 23.9	-0.1
WHF	Hehuan Shan	1.36	235	eP	Pb	19 30 24.7	+0.1
WHF				eS	Sn	19 30 41.3	-0.3
LIOB	Emei	1.37	259	eP	Pb	19 30 24.4	-0.1
TWT	Tachien	1.37	241	P	Pg	19 30 25.4	-0.6
TWT				eS	Sb	19 30 42.4	+0.5
TDCB	Techi	1.38	241	eS	Sb	19 30 43.0	+0.7
NSTT	Nanjuang	1.38	258	eP	Pb	19 30 24.5	-0.3
SHUL	Shoufeng	1.41	217	eP	Pb	19 30 25.1	-0.2
SHUL				eS	Sg	19 30 48.3	+3.1
ESL	Shilin	1.46	221	eP	Pb	19 30 26.1	-0.1
HATJ	Hateruma jima	1.48	125	eP	Pn	19 30 24.6	-0.5
OWD	Renai	1.54	231	eP	Pb	19 30 27.6	+0.1
OWD				eS	Sg	19 30 48.2	-1.0
JKRS	Kuro-shima	1.54	116	eP	Pn	19 30 26.2	+0.2
WHP	Taichung City	1.54	246	eP	Pb	19 30 28.1	+0.5
WHP				eS	Sb	19 30 46.5	-0.4
WUSB	Renai	1.56	234	⇓P	Pb	19 30 27.8	0.0
WUSB				eS	Sb	19 30 47.8	+0.6
WARBT	Fenglin Townsh	1.56	220	eP	Pn	19 30 27.2	+0.8
WARBT				eS	Sn	19 30 46.1	-0.1
NSY	Sanyi	1.65	253	eP	Pb	19 30 28.9	-0.4
NSY				eS	Sg	19 30 53.3	+0.4
TWQ1	Liyutan	1.66	250	eP	Pg	19 30 31.7	+0.1
TWQ1				eS	Sb	19 30 51.0	+0.8
WCS	Beigang Elemen	1.68	239	eP	Pb	19 30 30.5	+0.7
VWDT	VWDT	1.69	227	eP	Pb	19 30 29.7	-0.4
HGSD	Ruisui	1.72	215	eP	Pb	19 30 29.8	-0.8
EHYH	Wanrong	1.76	217	eP	Pn	19 30 28.7	-0.4
EHY	Hungye	1.77	217	eP	Pb	19 30 30.6	-0.7
SMLT	Sun Moon Lake	1.78	235	eP	Pb	19 30 31.6	-0.1
SMLT				eS	Sg	19 30 56.2	-0.8
SSLB	Suanglung	1.80	231	P	Pb	19 30 31.8	-0.1
SSLB	Suanglung	1.80	231	eP	Pb	19 30 31.6	-0.3
SSLB				eS	Sb	19 30 53.8	-0.3
TYC	Yuchr	1.80	236	eP	Pb	19 30 31.9	0.0
TYC				eS	Sb	19 30 55.3	+1.3
YULB	Yu-li	1.87	216	eP	Pn	19 30 30.4	-0.2
TWF1	Yuli	1.90	215	eP	Pn	19 30 30.9	-0.1
WHYT	Xinyi Township	1.93	231	eP	Pb	19 30 33.9	-0.3
WJS	Zhushan	1.94	236	eP	Pb	19 30 35.2	+0.8
WJS				eS	Sg	19 31 00.8	-1.4
CHKH	Chenggong	1.99	210	eP	Pn	19 30 31.2	-1.0
CHKH				eS	Sn	19 30 54.9	-1.7
FULB	Fuli	2.03	213	eP	Pn	19 30 33.7	+0.9
ALS	Alishan	2.08	228	eP	Pb	19 30 35.9	-1.0
ALS				eS	Sg	19 31 05.4	-1.3
CHN5	Tsauling	2.11	232	eP	Pb	19 30 36.8	-0.5
EHD	Haiduan	2.12	214	eP	Pn	19 30 34.3	+0.3
WGK	Gukeng	2.15	235	eP	Pb	19 30 39.0	+1.2
WGK				eS	Sb	19 31 05.8	+1.8
WDLH	Douliu	2.16	236	eP	Pb	19 30 37.2	-0.8
ELDTW	Lidau	2.19	218	eP	Pn	19 30 35.8	+0.8
EDH	Donghe	2.22	209	eP	Pn	19 30 37.0	+1.6
EDH				eS	Sn	19 30 59.6	-2.8
WCKO	Fanlu	2.27	230	eP	Pb	19 30 39.2	-0.7
WCKO				eS	Sb	19 31 07.8	+0.2
STYH	Taoyuan	2.34	222	eP	Pb	19 30 39.4	-1.8
STYH				eS	Sn	19 31 07.6	+2.3
TPUB	Ta-pu	2.34	227	P	Pb	19 30 40.2	-1.0
TPUB	Ta-pu	2.34	227	eP	Pb	19 30 39.5	-1.7
TPUB				eS	Sb	19 31 10.4	+0.6
WTP	Ta-pu	2.39	226	eP	Pb	19 30 40.1	-2.0
WTP				eS	Sb	19 31 12.3	+1.2
TWGBT	Beinan	2.46	212	eP	Pb	19 30 45.0	+1.8
TWK	Hsinying	2.46	228	eP	Pb	19 30 42.0	-1.2
SNST	Tainan City	2.49	227	eP	Pb	19 30 43.5	-0.1
CHN1	Nanshi	2.49	226	eP	Pb	19 30 42.5	-1.3
WSL	Shuilin Townsh	2.49	236	eP	Pn	19 30 40.9	+1.8
WSL				eS	Sb	19 31 16.6	+2.6
SGST	Jiashian	2.53	224	eP	Pn	19 30 41.4	+1.7
MATB	Ma-tsu	2.60	299	eP	Pn	19 30 40.1	-0.6
ECL	Taimali	2.71	212	eP	Pb	19 30 45.3	-2.1
SSD	Sandimen	2.75	219	eP	Pb	19 30 46.1	-2.1

*IDC **25** 19:30:35.2±1.3, 12.89S×167.56E, h0km, mb3.9/3, mbtmp3.9/3, MS3.6/1, Error ellipse: s-maj=55.0km s-min=35.8km az=125.0*
ISC 25 19:30:40.7±1

YHNB				eS		Sb	19 31 43.1	-1.8
NSK	**Sanguang**	**1.03**	**258**	eP		Pn	19 31 32.6	+0.3
NSK				eS		Sb	19 31 45.0	-0.4
NACB	**Ninganchiao**	**1.08**	**228**	eP		Pb	19 31 32.9	+0.3
NACB				eS		Sb	19 31 46.2	-0.3
NNSB	**Datong**	**1.09**	**245**	eP		Pb	19 31 31.4	-1.6
NNSB				eS		Sb	19 31 47.7	+0.6
NNS	**Nan Shan**	**1.10**	**245**	eP		Pb	19 31 30.6	-2.5
NNS				eS		Sb	19 31 47.1	-0.2
ETLH	**Xiulin Townshi**	**1.13**	**232**	eP		Pb	19 31 32.6	-1.1
ETLH				eS		Sb	19 31 48.3	0.0
TWD	**Chiawan**	**1.14**	**224**	eP		Pb	19 31 32.7	-1.0
TWD				eS		Sb	19 31 48.9	+0.5
KSHI	**Guanxi Townshi**	**1.18**	**264**	eP		Pn	19 31 33.8	-0.5
ETM	**Tongmen**	**1.29**	**224**	eP		Pn	19 31 36.3	+0.5
FUSS	**Fushou**	**1.29**	**240**	eP		Pg	19 31 37.2	0.0
FUSS				eS		Sn	19 31 53.5	+0.3
LXIB	**Xiulin Townshi**	**1.30**	**228**	eP		Pb	19 31 37.0	+0.4
LXIB				eS		Sb	19 31 52.0	-1.2
WHF	**Hehuan Shan**	**1.33**	**236**	eP		Pb	19 31 37.6	+0.3
WHF				eS		Sb	19 31 54.0	-0.3
TWT	**Tachien**	**1.34**	**241**	eS		Sb	19 31 54.3	-0.1
LIOB	**Emei**	**1.34**	**259**	eP		Pb	19 31 37.2	0.0
TDCB	**Techi**	**1.36**	**242**	eP		Pn	19 31 37.1	+0.3
TDCB				eS		Sn	19 31 54.8	0.0
NSTT	**Nanjuang**	**1.36**	**259**	eP		Pb	19 31 38.0	+0.5
NSTT				eS		Sg	19 31 57.2	+1.1
OWD	**Renai**	**1.51**	**231**	eP		Pb	19 31 40.1	0.0
OWD				eS		Sn	19 31 58.8	+0.3
WUSB	**Renai**	**1.53**	**234**	eP		Pb	19 31 40.9	+0.5
WUSB				eS		Sb	19 32 00.4	+0.7

KRSC 25 19:53:33.8±2.3, 48°.17N×156°.33E, h31km±33km, MI4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.52**	**357**	eP	Pn	19 54 13.6	+1.0
SKR				eS	Sn	19 54 43.7	+1.6
PAU	**Pauzhetka**	**3.31**	**5**	eP	Pn	19 54 27.2	+3.7
PAU				eS	Sb	19 55 07.1	-4.5
MIPR	**Malaya Ipel'ka**	**4.12**	**4**	eP	Pn	19 54 37.7	+3.2
ASAK	**Asacha**	**4.33**	**13**	eP	Pn	19 54 42.0	+4.4
MTVR	**Mutnovka**	**4.47**	**15**	eP	Pn	19 54 44.2	+4.6
MTVR				eS	Sn	19 55 35.8	+5.1
GRL	**Gorelyy**	**4.52**	**14**	eP	Pn	19 54 45.3	+5.1
APC	**Apacha**	**4.79**	**6**	eP	Pn	19 54 47.9	+4.1
UGLR	**Uglovaya**	**5.28**	**16**	eP	Pn	19 54 56.0	+5.3
AVH	**Avacha**	**5.32**	**16**	eP	Pn	19 54 55.7	+4.5
KOK	**Koryaka**	**5.33**	**15**	eP	Pn	19 54 56.8	+5.5
SMAR	**Somma**	**5.33**	**16**	eP	Pn	19 54 57.6	+6.2
KRER	**Koryakskii**	**5.36**	**16**	eP	Pn	19 54 57.1	+5.3
SDLR	**Sedlovina**	**5.36**	**17**	eP	Pn	19 54 56.5	+4.7
KRX	**Arik**	**5.40**	**15**	eP	Pn	19 54 57.4	+5.1
SPN	**Mys Shipunski**	**5.46**	**24**	eP	Pn	19 54 57.8	+4.8
GNL	**Ganaly**	**5.62**	**10**	eP	Pn	19 54 59.8	+4.4
MKZ	**Mys Kozlova**	**7.23**	**26**	eP	Pn	19 55 21.0	+3.8

*JMA **25** 19:57:36.7±0.2, 25°.1N×122°.5E±0°.6, h27km, MV2.3/7, NW OFF ISHIGAKIJIMA IS*
*TAP **25** 19:57:36.5, 24°.88N×122°.42E, h8km±1km, ML3.1, C*
ISC 25 19:57:36.3±1.1, 24°.88N±0°.03×122°.46E±0°.03, h12km±9km, n66, σ0.957/105, 1C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.45**	**287**	*i* P	**Pg**	**19 57 45.3**	**+0.1**
TWB1				*i* S	**Sb**	**19 57 51.5**	**-1.3**
EOS2	**EOS2**	**0.51**	**205**	⇓*i* P	**Pb**	**19 57 47.2**	**+0.2**
EOS2				*i* S	**Sb**	**19 57 55.9**	**+1.7**
SXI1	**Grass Mountain**	**0.57**	**292**	⇓*i* P	**Pb**	**19 57 48.1**	**-0.2**
SXI1				*i* S	**Sb**	**19 57 57.2**	**+0.7**
TIPB	**Shuangxi**	**0.59**	**279**	P	**Pb**	**19 57 48.3**	**-0.2**
TIPB				S	**Sb**	**19 57 56.6**	**-0.1**
EOS3	**EOS3**	**0.61**	**193**	*i* P	**Pb**	**19 57 49.2**	**+0.4**
EOS3				*i* S	**Sn**	**19 57 59.5**	**-0.7**
TWC	**Suao**	**0.62**	**244**	*i* P	**Pb**	**19 57 48.4**	**-0.6**
TWC				*i* S	**Sb**	**19 57 57.6**	**-0.1**
ESAO	**Su ao**	**0.64**	**242**	eP	**Pb**	**19 57 49.3**	**-0.1**
ESAO				S	**Sb**	**19 57 57.5**	**-0.8**
NWF	**Wu-fen Shan**	**0.65**	**287**	*i* P	**Pb**	**19 57 49.7**	**+0.1**
NWF				*i* S	**Sb**	**19 57 59.0**	**+0.4**
WFSB	**Wu-fen Shan**	**0.65**	**287**	*i* P	**Pb**	**19 57 49.7**	**+0.1**
WFSB				*i* S	**Sb**	**19 57 59.0**	**+0.5**
YOJ	**Yonaguni jima**	**0.65**	**130**	P	**Pg**	**19 57 48.9**	**-0.1**
YOJ	**Yonaguni jima**	**0.65**	**130**	S	**Sg**	**19 57 57.5**	**-0.1**
YOJ	**Yonaguni jima**	**0.65**	**130**	eP	**Pg**	**19 57 48.8**	**-0.2**
YOJ				eS	**Sg**	**19 57 57.0**	**-0.6**
YOJ	**Yonaguni jima**	**0.65**	**130**	*i* P	**Pg**	**19 57 48.8**	**-0.2**
YOJ				S	**Sg**	**19 57 59.0**	**+1.5**
TNOU	**National Taiwa**	**0.68**	**293**	P	**Pb**	**19 57 50.3**	**+0.2**
TNOU				S	**Sb**	**19 57 59.6**	**+0.2**
NDS	**Dongshan**	**0.72**	**250**	eP	**Pg**	**19 57 49.5**	**-0.8**
NDS				eS	**Sb**	**19 58 00.5**	**-0.2**
TWE	**Neicheng**	**0.74**	**258**	*i* P	**Pb**	**19 57 51.0**	**-0.2**
TWE				*i* S	**Sb**	**19 58 01.1**	**0.0**
EWUT	**Wuta**	**0.76**	**235**	P	**Pb**	**19 57 51.2**	**-0.2**
EWUT				S	**Sb**	**19 58 02.2**	**+0.5**
EOS4	**EOS4**	**0.77**	**190**	P	**Pb**	**19 57 52.0**	**+0.7**
EOS4				eS	**Sb**	**19 58 02.3**	**+0.7**
ENA	**Nanau**	**0.80**	**236**	P	**Pg**	**19 57 51.3**	**-0.4**
ENA				S	**Sb**	**19 58 03.7**	**+0.9**
TWA	**Mucha**	**0.80**	**277**	*i* P	**Pb**	**19 57 51.8**	**-0.4**
TWA				*i* S	**Sb**	**19 58 03.2**	**+0.2**
FUSB	**Fushanzhiwuyua**	**0.81**	**262**	*i* P	**Pb**	**19 57 52.4**	**+0.1**
FUSB				S	**Sn**	**19 58 04.2**	**-1.2**
PCYT	**Pengchaiyu**	**0.83**	**335**	*i* P	**Pb**	**19 57 52.7**	**+0.1**
PCYT				S	**Sb**	**19 58 05.3**	**+1.6**
YM08	**YM08**	**0.85**	**291**	P	**Pb**	**19 57 53.0**	**0.0**
YM08				eS	**Sn**	**19 58 05.6**	**-0.8**
ENTT	**Nioudou**	**0.85**	**254**	*i* P	**Pb**	**19 57 53.2**	**+0.2**
ENTT				*i* S	**Sb**	**19 58 04.5**	**+0.1**
YM01	**YM01**	**0.85**	**288**	P	**Pb**	**19 57 52.7**	**-0.4**
YM01				eS	**Sn**	**19 58 05.7**	**-0.8**
EAHA	**Aohua**	**0.86**	**230**	P	**Pb**	**19 57 53.0**	**-0.1**
EAHA				S	**Sb**	**19 58 05.1**	**+0.6**
TWY	**Chenhua**	**0.88**	**297**	*i* P	**Pb**	**19 57 53.5**	**+0.1**
TWY				*i* S	**Sb**	**19 58 05.1**	**0.0**
NWLT	**Wulai**	**0.88**	**263**	eP	**Pb**	**19 57 53.5**	**0.0**
NWLT				eS	**Sb**	**19 58 05.8**	**+0.6**
ZUZH	**Zhuzihu**	**0.88**	**289**	eP	**Pb**	**19 57 53.9**	**+0.3**
ZUZH				eS	**Sn**	**19 58 06.6**	**-0.6**
TAP	**Taipei**	**0.88**	**280**	S	**Sb**	**19 58 05.8**	**+0.5**
TATO	**Taipei**	**0.89**	**276**	P	**Pb**	**19 57 54.1**	**+0.4**
TATO	**Taipei**	**0.89**	**276**	S	**Sn**	**19 58 06.9**	**-0.5**
ANP	**Anpu**	**0.91**	**290**	eP	**Pb**	**19 57 54.3**	**+0.3**
LATG	**Datong**	**0.92**	**248**	P	**Pg**	**19 57 53.8**	**-0.3**
LATG				S	**Sb**	**19 58 06.8**	**+0.4**
YHNB	**Yeheng**	**1.01**	**258**	P	**Pb**	**19 57 56.1**	**+0.3**
YHNB	**Yeheng**	**1.01**	**258**	eP	**Pb**	**19 57 55.8**	**0.0**
YHNB				eS	**Sn**	**19 58 10.2**	**-0.3**
NSK	**Sanguang**	**1.02**	**259**	*i* P	**Pb**	**19 57 55.9**	**-0.1**
NSK				S	**Sn**	**19 58 10.5**	**-0.4**
ETL	**Fush Village**	**1.05**	**227**	eP	**Pn**	**19 57 57.2**	**+0.3**
NACB	**Ninganchiao**	**1.06**	**229**	P	**Pb**	**19 57 56.6**	**0.0**
NACB	**Ninganchiao**	**1.06**	**229**	P	**Pg**	**19 57 56.0**	**-0.8**
NACB				S	**Sb**	**19 58 10.6**	**+0.2**
NNSB	**Datong**	**1.08**	**246**	*i* P	**Pb**	**19 57 56.8**	**-0.2**
NNSB				*i* S	**Sb**	**19 58 11.2**	**+0.1**
NNS	**Nan Shan**	**1.08**	**246**	*i* P	**Pb**	**19 57 57.1**	**0.0**
NNS				*i* S	**Sb**	**19 58 10.9**	**-0.3**
ETLH	**Xiulin Townshi**	**1.12**	**233**	P	**Pg**	**19 57 57.3**	**-0.6**
ETLH				S	**Sn**	**19 58 13.8**	**+0.6**
TWD	**Chiawan**	**1.12**	**225**	*i* P	**Pg**	**19 57 57.4**	**-0.6**
TWD				*i* S	**Sn**	**19 58 13.3**	**+0.1**
KSHI	**Guanxi Townshi**	**1.17**	**265**	eP	**Pn**	**19 57 59.9**	**+1.3**
NFF	**Wufeng Townshi**	**1.25**	**259**	eP	**Pn**	**19 58 00.6**	**+1.0**
ETM	**Tongmen**	**1.27**	**224**	eP	**Pn**	**19 58 00.1**	**+0.3**
IRIF	**Iriomote-Funau**	**1.27**	**115**	eP	**Pn**	**19 57 58.6**	**-1.3**
FUSS	**Fushou**	**1.28**	**241**	eP	**Pn**	**19 58 00.8**	**+0.6**
FUSS				S	**Sn**	**19 58 18.7**	**+1.4**
LXIB	**Xiulin Townshi**	**1.28**	**228**	eP	**Pb**	**19 58 00.5**	**0.0**
LXIB				eS	**Sn**	**19 58 17.8**	**+0.4**
WHF	**Hehuan Shan**	**1.31**	**236**	*i* P	**Pb**	**19 58 01.3**	**+0.2**
WHF				S	**Sb**	**19 58 18.0**	**-0.1**
TWT	**Tachien**	**1.33**	**242**	eP	**Pg**	**19 58 02.3**	**+0.4**
LIOB	**Emei**	**1.34**	**260**	eP	**Pn**	**19 58 00.1**	**-0.7**
TDCB	**Techi**	**1.34**	**243**	eP	**Pn**	**19 58 00.9**	**0.0**
NSTT	**Nanjuang**	**1.35**	**260**	P	**Pg**	**19 58 02.7**	**+0.4**
SHUL	**Shoufeng**	**1.36**	**217**	eP	**Pn**	**19 58 00.8**	**-0.3**
ESL	**Shilin**	**1.42**	**222**	eP	**Pb**	**19 58 02.9**	**+0.2**
OWD	**Renai**	**1.49**	**232**	P	**Pb**	**19 58 03.7**	**-0.3**
WHP	**Taichung City**	**1.51**	**247**	eP	**Pg**	**19 58 05.4**	**+0.1**
WHP				eS	**Sg**	**19 58 24.9**	**0.0**
WUSB	**Renai**	**1.51**	**234**	⇑P	**Pb**	**19 58 04.3**	**-0.1**
WARBT	**Fenglin Townsh**	**1.52**	**221**	eP	**Pn**	**19 58 03.3**	**0.0**
WCS	**Beigang Elemen**	**1.63**	**240**	eP	**Pb**	**19 58 06.2**	**-0.2**
VWDT	**VWDT**	**1.65**	**227**	eP	**Pn**	**19 58 05.8**	**+0.7**
HGSD	**Ruisui**	**1.68**	**215**	eP	**Pn**	**19 58 05.1**	**-0.3**
SSLB	**Suanglung**	**1.75**	**232**	P	**Pg**	**19 58 09.6**	**-0.4**
TPUB	**Ta-pu**	**2.30**	**227**	P	**Pb**	**19 58 16.8**	**-0.9**

*TAP **25** 19:59:16.2, 24°.82N×122°.69E, h96km, ML3.7, D*
*JMA **25** 19:59:22.6±0.1, 24°.9N±0°.7×122°.6E±0°.4, h43km±2km, MV2.2/8, NW OFF ISHIGAKIJIMA IS*
ISC 25 19:59:23.1±1.2, 24°.88N±0°.03×122°.57E±0°.03, h25km±13km, n63, σ2°.34/92, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.54**	**284**	P	**Pb**	19 59 30.6	-3.5
TWB1				S	**Sn**	**19 59 48.8**	**+5.2**
EOS2	**EOS2**	**0.55**	**214**	P	**Pb**	19 59 28.8	-5.2
EOS2				S	**Sn**	**19 59 44.5**	**+1.0**
YOJ	**Yonaguni jima**	**0.58**	**136**	eP	**Pb**	**19 59 34.8**	**+0.2**
YOJ				eS	**Sb**	**19 59 43.2**	**+0.8**
YOJ	**Yonaguni jima**	**0.58**	**136**	P	**Pb**	19 59 31.5	-3.1
YOJ				S	**Sb**	**19 59 43.2**	**+0.8**
EOS3	**EOS3**	**0.63**	**201**	P	**Pb**	19 59 32.3	-3.1
EOS3				S	**Sb**	**19 59 45.8**	**+2.0**
SXI1	**Grass Mountain**	**0.67**	**289**	P	**Pb**	19 59 31.3	-4.9
SXI1				S	**Sb**	**19 59 44.9**	**-0.2**
TIPB	**Shuangxi**	**0.68**	**278**	P	**Pb**	19 59 31.4	-5.0
TIPB				S	**Sb**	**19 59 45.0**	**-0.5**
TWC	**Suao**	**0.71**	**248**	P	**Pb**	**19 59 34.5**	**-2.3**
TWC				S	**Sb**	**19 59 45.4**	**-0.7**
ESAO	**Su ao**	**0.72**	**246**	P	**Pb**	**19 59 37.5**	**+0.4**
ESAO				S	**Sn**	**19 59 54.4**	**+6.4**
NWF	**Wu-fen Shan**	**0.74**	**285**	P	**Pb**	19 59 34.0	-3.5
NWF				S	**Sb**	**19 59 46.9**	**-0.3**
WFSB	**Wu-fen Shan**	**0.74**	**285**	P	**Pb**	19 59 33.8	-3.6
WFSB				S	**Sb**	**19 59 46.1**	**-1.0**
TNOU	**National Taiwa**	**0.77**	**291**	P	**Pb**	19 59 35.4	-3.0
TNOU				S	**Sb**	**19 59 45.1**	**-2.9**
EOS4	**EOS4**	**0.79**	**197**	P	**Pn**	**19 59 38.0**	**-0.3**
EOS4				S	**Sn**	**19 59 50.4**	**+1.4**
NDS	**Dongshan**	**0.81**	**253**	P	**Pn**	19 59 35.0	-3.9
NDS				eS	**Sb**	**19 59 47.7**	**-1.5**
TWE	**Neicheng**	**0.83**	**260**	P	**Pn**	19 59 34.4	-4.9
TWE				eS	**Sb**	**19 59 48.1**	**-1.7**
EWUT	**Wuta**	**0.84**	**239**	P	**Pn**	19 59 34.5	-4.8
EWUT				eS	**Sb**	**19 59 48.6**	**-1.2**
ENA	**Nanau**	**0.88**	**240**	P	**Pn**	**19 59 38.3**	**-1.6**
ENA				eS	**Sb**	**19 59 49.3**	**-1.6**
PCYT	**Pengchaiyu**	**0.88**	**329**	P	**Pn**	19 59 37.0	-2.8
PCYT				S	**Sn**	**19 59 53.6**	**+1.9**
FUSB	**Fushanzhiwuyua**	**0.90**	**263**	P	**Pn**	19 59 35.6	-4.6
FUSB				S	**Sb**	**19 59 55.1**	**+3.4**
TWA	**Mucha**	**0.90**	**277**	P	**Pn**	**19 59 37.7**	**-2.5**
TWA				S	**Sn**	**19 59 49.7**	**-2.7**
EAHA	**Aohua**	**0.93**	**234**	P	**Pn**	**19 59 38.7**	**-1.9**
EAHA				S	**Sn**	**19 59 49.6**	**-3.5**
ENTT	**Nioudou**	**0.94**	**256**	P	**Pn**	19 59 37.0	-3.7
ENTT				S	**Sn**	**19 59 53.0**	**-0.5**
YM08	**YM08**	**0.94**	**290**	P	**Pn**	19 59 37.9	-2.9
YM08				S	**Sn**	**19 59 54.2**	**+0.7**
YM01	**YM01**	**0.94**	**287**	P	**Pn**	19 59 36.8	-4.0
YM01				S	**Sn**	**19 59 54.4**	**+0.9**
NHDH	**Xindian Distri**	**0.95**	**275**	P	**Pn**	**19 59 38.3**	**-2.6**
NHDH				S	**Sn**	**19 59 54.2**	**+0.5**
TWY	**Chenhua**	**0.96**	**295**	P	**Pn**	**19 59 38.8**	**-2.2**
TWY				eS	**Sn**	**19 59 54.2**	**+0.2**
ZUZH	**Zhuzihu**	**0.97**	**287**	P	**Pn**	19 59 37.5	-3.7
ZUZH				eS	**Sn**	**19 59 54.6**	**+0.4**
NWLT	**Wulai**	**0.97**	**264**	P	**Pn**	**19 59 38.7**	**-2.5**
NWLT				S	**Sn**	**19 59 53.0**	**-1.3**
TAP	**Taipei**	**0.98**	**280**	P	**Pn**	19 59 38.1	-3.1
TAP				S	**Sb**	**19 59 56.5**	**+2.6**
NSM	**Shimen**	**0.98**	**295**	P	**Pn**	19 59 37.0	-4.2
NSM				S	**Sn**	**19 59 53.9**	**-0.4**
TATO	**Taipei**	**0.99**	**276**	P	**Pn**	**19 59 40.1**	**-1.2**
TATO				eS	**Sn**	**19 59 54.6**	**+0.1**
ANP	**Anpu**	**1.00**	**288**	P	**Pn**	**19 59 40.0**	**-1.6**
ANP				S	**Sn**	**19 59 55.6**	**+0.7**
LATG	**Datong**	**1.01**	**251**	P	**Pn**	19 59 37.3	-4.4
LATG				S	**Sn**	**19 59 54.6**	**-0.6**
NTST	**Danshui**	**1.05**	**286**	P	**Pn**	**19 59 44.2**	**+1.9**
NTST				S	**Sb**	**20 00 01.8**	**+5.7**
TWS1	**Kuangyinshan**	**1.07**	**282**	P	**Pn**	**19 59 41.1**	**-1.4**
TWS1				S	**Sn**	**19 59 55.9**	**-0.6**
YHNB	**Yeheng**	**1.10**	**260**	P	**Pn**	19 59 38.8	-4.2
YHNB				S	**Sn**	**19 59 56.7**	**-0.8**
ETL	**Fush Village**	**1.12**	**231**	P	**Pn**	19 59 38.4	-4.8
ETL				S	**Sn**	**19 59 53.5**	**-4.3**
NSK	**Sanguang**	**1.12**	**260**	P	**Pn**	**19 59 41.8**	**-1.5**
NSK				S	**Sn**	**19 59 56.1**	**-1.4**
NACB	**Ninganchiao**	**1.13**	**232**	P	**Pn**	19 59 39.8	-3.9
NACB				S	**Sn**	**19 59 56.3**	**-1.7**
NNSB	**Datong**	**1.17**	**248**	P	**Pn**	19 59 40.7	-3.3
NNSB				S	**Sn**	**19 59 60.0**	**+0.8**
NNSH	**Datong**	**1.17**	**248**	P	**Pn**	**19 59 43.4**	**-0.6**
NNSH				S	**Sn**	**19 59 58.6**	**-0.5**
NNS	**Nan Shan**	**1.17**	**249**	P	**Pn**	19 59 40.7	-3.3
NNS				S	**Sn**	**19 59 58.9**	**-0.4**
IRIF	**Iriomote-Funau**	**1.19**	**117**	eS	**Sn**	**19 59 58.2**	**-1.2**
TWD	**Chiawan**	**1.19**	**228**	P	**Pn**	19 59 40.6	-3.6
TWD				S	**Sn**	**19 59 56.6**	**-2.9**
ETLH	**Xiulin Townshi**	**1.19**	**236**	P	**Pn**	19 59 39.9	-4.4
ETLH				S	**Sn**	**19 59 58.6**	**-1.1**
ETM	**Tongmen**	**1.33**	**227**	P	**Pn**	19 59 40.7	-5.5
ETM				S	**Sn**	**19 59 58.1**	**-5.0**
NFF	**Wufeng Townshi**	**1.34**	**260**	P	**Pn**	**19 59 45.5**	**-0.8**
NFF				S	**Sn**	**20 00 02.9**	**+0.5**
LXIB	**Xiulin Townshi**	**1.35**	**231**	P	**Pn**	19 59 43.4	-3.2
LXIB				S	**Sn**	**20 00 03.9**	**+0.1**
FUSS	**Fushou**	**1.36**	**243**	P	**Pn**	**19 59 43.8**	**-2.9**
FUSS				S	**Sn**	**19 59 58.6**	**-5.4**
WHF	**Hehuan Shan**	**1.39**	**239**	P	**Pn**	**19 59 44.6**	**-2.7**
WHF				S	**Sn**	**20 00 03.5**	**-1.7**
TWT	**Tachien**	**1.41**	**244**	P	**Pn**	**19 59 47.0**	**-0.3**
TWT				S	**Sb**	**20 00 11.0**	**+4.5**
TDCB	**Techi**	**1.43**	**245**	P	**Pn**	**19 59 46.2**	**-1.3**
TDCB				S	**Sb**	**20 00 13.2**	**+6.2**
LIOB	**Emei**	**1.43**	**261**	P	**Pn**	**19 59 46.5**	**-1.0**
LIOB				S	**Sb**	**20 00 10.5**	**+3.5**
ESL	**Shilin**	**1.48**	**225**	P	**Pn**	**19 59 46.8**	**-1.4**
ESL				S	**Sn**	**20 00 07.1**	**+0.4**
OWD	**Renai**	**1.57**	**234**	P	**Pn**	**19 59 47.0**	**-2.4**
OWD				S	**Sn**	**20 00 05.5**	**-3.5**
WARBT	**Fenglin Townsh**	**1.58**	**223**	P	**Pn**	**19 59 51.2**	**+1.7**
WARBT				eS	**Sn**	**20 00 11.0**	**+1.8**
WUSB	**Renai**	**1.59**	**237**	P	**Pn**	**19 59 48.6**	**-1.1**
WUSB				S	**Sn**	**20 00 04.8**	**-4.7**
WHP	**Taichung City**	**1.59**	**248**	P	**Pb**	**19 59 53.1**	**+1.2**
WHP				S	**Sn**	**20 00 11.7**	**+2.1**
JISG	**Ishigakijimahi**	**1.61**	**100**	eS	**Sn**	**20 00 08.5**	**-1.4**
DPDB	**Guoxing**	**1.71**	**241**	P	**Pn**	**19 59 53.4**	**+1.9**
VWDT	**VWDT**	**1.71**	**230**	P	**Pn**	**19 59 52.0**	**+0.6**
VWDT				S	**Sb**	**20 00 16.8**	**+1.7**
HGSD	**Ruisui**	**1.73**	**217**	P	**Pn**	**19 59 53.6**	**+2.0**
HGSD				S	**Sn**	**20 00 14.8**	**+1.9**
EHY	**Hungye**	**1.78**	**220**	P	**Pn**	**19 59 53.5**	**+1.2**

*IDC **25** 20:04:18.6±0.9, 17°.97S×174°.09W, h0km, mb3.6/7, mbtmp3.6/7, MS3.4/8, Error ellipse: s-maj=43.6km s-min=24.5km az=145.0*
ISC 25 20:04:30.1±0.8, 18°.0S±0°.2×174°.2W±0°.2, h90km, n20, σ1°.26/12, mb3.5/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.68**	**254**	LR	LR	20 14 20.7	
	comp=Z,259nm,19.6s,baz=66,slow=32						
PPT	**Papeete**	**23.41**	**93**	LR	LR	20 16 37.1	
	comp=Z,41nm,20.7s,baz=255,slow=32						
HNR	**Honiara**	**26.53**	**285**	LR	LR	20 18 25.8	
	comp=Z,151nm,21.9s,baz=94,slow=32						
STKA	**Stephens Creek**	**42.16**	**242**	LR	LR	20 27 05.7	
	comp=Z,34nm,18.7s,baz=204,slow=32						
WRA	**Warramunga Arr**	**48.60**	**259**	P	**P**	**20 13 04.2**	**-0.8**
	0.8nm,0.8s,baz=97,slow=6.2,SNR=5.3						
WRA				LR	LR	20 31 52.3	
	comp=Z,86nm,19.7s,baz=20,slow=34						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**48.67**	**254**	P	**P**	**20 13 05.2**	**-0.4**
	2.4nm,0.7s,baz=85,slow=8.6,SNR=24						
ASAR				PcP	**PcP**	**20 14 32.4**	**+2.7**
	0.6nm,0.9s,baz=104,slow=3.3,SNR=2.1						
ASAR				LR	LR	20 32 13.8	
	comp=Z,52nm,18.2s,baz=101,slow=34						
	2.4nm,0.7s						
GUMO	**Guam**	**51.16**	**305**	LR	LR	20 32 01.4	
	comp=Z,13nm,21.7s,baz=82,slow=32						
QSPA	**South Pole Qui**	**72.08**	**180**	P	**P**	**20 15 44.6**	**+0.1**
	0.4nm,0.7s,baz=358,slow=4.8,SNR=3.5						
	0.4nm,0.7s						
PETK	**Petropavlovsk-**	**74.86**	**343**	P	**P**	**20 16 01.5**	**+0.9**
	1.5nm,0.9s,baz=169,slow=6.2,SNR=2.5						
	1.5nm,0.9s						
NVAR	**Mina Array Bea**	**76.72**	**42**	P	**P**	**20 16 12.0**	**+0.1**
	0.2nm,0.5s,baz=242,slow=7.9,SNR=2.4						
	0.2nm,0.5s						
MA2	**Magadan**	**82.39**	**343**	LR	LR	20 49 01.7	
	comp=Z,11nm,19.3s,baz=130,slow=33						
TXAR	**Lajitas Array**	**82.64**	**56**	P	**P**	**20 16 44.6**	**+0.6**
	0.1nm,0.5s,baz=260,slow=4.0,SNR=1.8						
	0.1nm,0.5s						
H03S2	**Juan Fernandez**	**84.39**	**124**	T	T	21 50 40.5	
	baz=250,slow=75,SNR=36						
H03S1	**Juan Fernandez**	**84.40**	**124**	T	T	21 50 41.5	
	baz=250,slow=75,SNR=39						
H03S3	**Juan Fernandez**	**84.40**	**124**	T	T	21 50 40.3	
	baz=250,slow=75,SNR=26						
PDAR	**Pinedale Array**	**84.66**	**42**	P	**P**	**20 16 53.2**	**-1.0**
	0.2nm,0.3s,baz=241,slow=4.3,SNR=1.9						
	0.2nm,0.3s						
EKA	**Eskdalemuir Ar**	**142.08**	**8**	PKP	**PKPdf**	**20 23 49.9**	**-1.6**
	1.1nm,0.8s,baz=299,slow=2.9,SNR=1.7						
BRTR	**Keskin Array B**	**147.63**	**318**	PKPbc	**PKPbc**	**20 24 04.8**	**+0.1**
	0.9nm,0.8s,baz=81,slow=4.1,SNR=4.6						
GERES	**GERESS Array B**	**148.56**	**350**	PKPbc	**PKiKP**	**20 24 07.4**	**-0.7**
	0.2nm,0.3s,baz=34,slow=5.3,SNR=4.0						
MMAI	**Mount Meron Ar**	**149.54**	**305**	PKPbc	**PKPbc**	**20 24 08.8**	**-0.8**
	1.7nm,0.9s,baz=63,slow=3.2,SNR=1.5						

*STR **25** 20:31:47.1±0.7, 46°.N±6°.×°.±°, h5km, MLv0.8/4, LOCSAT earthModelID alpes_taup-2.11 preliminary*
LDG 25 20:31:44.0±0.1, 45°.41N×6°.35E, h2km, Md1.6/3, MI1.4/2, Error ellipse: s-maj=2.6km s-min=1.4km az=118.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	**La Plagne**	**0.29**	**68**	*e*Pg	Pg	20 31 49.7	+0.1
LPL				*e*Sg	Sg	20 31 53.0	-0.4
	1.1nm,0.2s						
RSL	**Roselend**	**0.34**	**35**	Pg	Pg	20 31 51.0	+0.4
RSL				Sg	Sg	20 31 55.4	+0.3
RSL	**Roselend**	**0.34**

comp=E,8µm,0.1s
BERNI AML AML
comp=N,8µm,0.1s
FETA Feichten 0.52 22 *e*Sg Sg 20 32 43.0 0.0
comp=N,0.3nm,0.1s

IDC ***25*** *20:32:25.3±1.8, 44°.63N×129°.78W, h0km, mb3.2/3, mbtmp3.4/8, ML2.7/4, MS3.2/11, Error ellipse: s-maj=37.8km s-min=17.4km az=41.0*
PGC ***25*** *20:32:27.4±0.9, 44°.31N×129°.73W, h10km, MLSn4.0/1, Mw4.6/1, 531km west of Eugene, Oregon, Usa Off Coast Of Oregon*
NEIC ***25*** *20:32:31.6±1.9, 44°.52N±0°.06×129°.3W±0°.2, h10km±2km, ML3.3/46, Error ellipse: s-maj=20.2km s-min=10.2km az=261.0*
ISC 25 20:32:27.1±1.3**, 44°41N**±0°.06×**129°75W**±0°.09**, h10**km**, n98,** σ1§**50**/96**, mb3.3**/3**, MS3.1**/9**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NC27	**ODP1027**	**3.63**	**22**	Pn	**Pn**	**20 33 22.1**	**-0.9**
KEBM	**Edson Butte**	**4.22**	**109**	Pn	**Pn**	**20 33 33.5**	**+2.0**
KEBM				IAML		20 34 53.6	
	comp=N,58nm,2.5s						
KEBM				IAML		20 34 57.6	
	comp=E,50nm,2.1s						
I02E	**Swisshome, OR**	**4.25**	**92**	Pn	**Pn**	**20 33 31.8**	**-0.1**
I02E				IAML		20 34 03.0	
	comp=E,35nm,2.5s						
I02E				Sn	**Sn**	**20 34 19.1**	**-2.4**
COR	**Corvallis**	**4.62**	**86**		**Pn**	**20 33 35.0**	**-1.9**
COR				IAML		20 34 35.6	
	comp=E,34nm,2.1s						
COR				IAML		20 34 41.4	
	comp=E,27nm,2.3s						
F03A	**Seaside**	**4.64**	**69**		**Pn**	**20 33 37.3**	**+0.1**
RADR	**Rader Ridge**	**4.65**	**62**		**Pn**	**20 33 37.7**	**+0.3**
RADR				IAML		20 35 38.9	
	comp=E,23nm,1.8s						
I03D	**Drain, OR**	**4.67**	**97**		**Pn**	**20 33 36.9**	**-0.8**
E03A	**Lebam**	**4.85**	**62**		**Pn**	**20 33 40.0**	**-0.1**
E03A				IAML		20 34 11.4	
	comp=N,22nm,0.4s						
E03A				IAML		20 34 16.7	
	comp=E,23nm,0.6s						
E03A	**Lebam**	**4.85**	**62**	Pn	**Pn**	**20 33 40.6**	**+0.5**
BUCK	**Buck Mountain**	**4.86**	**90**		**Pn**	**20 33 40.5**	**+0.1**
BUCK				IAML		20 34 46.9	
	comp=N,21nm,2.2s						
BUCK				IAML		20 35 42.4	
	comp=E,26nm,2.9s						
WISH	**Wishkah**	**4.99**	**55**		**Pn**	**20 33 42.7**	**+0.7**
WISH				IAML		20 34 34.0	
	comp=N,23nm,2.7s						
WISH				IAML		20 35 20.2	
	comp=E,23nm,0.1s						
WISH	**Wishkah**	**4.99**	**55**	Pn	**Pn**	**20 33 43.3**	**+1.3**
H04D	**Lebanon**	**5.02**	**86**		**Pn**	**20 33 41.4**	**-1.1**
H04D				IAML		20 34 16.7	
	comp=E,21nm,0.8s						
H04D				IAML		20 35 23.0	
	comp=N,25nm,2.3s						
F04D	**Rainier, OR**	**5.05**	**68**		**Pn**	**20 33 42.2**	**-0.6**
C03A	**Quillayute Air**	**5.05**	**44**		**Pn**	**20 33 44.4**	**+1.5**
L02F	**Cave Junction**	**5.06**	**115**	Pn	**Pn**	**20 33 44.6**	**+1.6**
L02F				IAML		20 34 51.1	
	comp=E,17nm,3.0s						
NLWA	**Neilton Lookou**	**5.08**	**52**		**Pn**	**20 33 43.8**	**+0.6**
G04A	**Mulino**	**5.24**	**79**		**Pn**	**20 33 44.4**	**-1.0**
G04A				IAML		20 35 03.7	
	comp=E,29nm,1.6s						
CPW	**Capitol Peak**	**5.30**	**59**	Pn	**Pn**	**20 33 47.3**	**+1.0**
SMW	**South Mountain**	**5.34**	**55**	Pn	**Pn**	**20 33 47.2**	**+0.3**
BBOR	**Butler Butte**	**5.35**	**104**		**Pn**	**20 33 46.0**	**-1.2**
B012	**Ucluelet**	**5.37**	**31**	P	**Pn**	**20 33 48.1**	**+0.9**
B012				Pn	**Pn**	**20 33 48.1**	**+0.9**
H04A	**Detroit Lake**	**5.42**	**84**		**Pn**	**20 33 44.3**	**-3.7**
H04A				IAML		20 34 37.9	
	comp=N,14nm,0.8s						
OZB	**Mount Ozzard**	**5.42**	**31**	Pn	**Pn**	**20 33 49.0**	**+1.1**
OZB	**Mount Ozzard**	**5.42**	**31**	Pn	**Pn**	**20 33 48.7**	**+0.8**
OZB				Sn	**Sn**	**20 34 51.5**	**+1.2**
OSD	**Olympics--Snow**	**5.42**	**49**	Pn	**Pn**	**20 33 49.0**	**+0.8**
ETB	**Estevan Point**	**5.44**	**23**	Pn	**Pn**	**20 33 49.9**	**+1.8**
B928	**Bamfield**	**5.45**	**34**	Pn	**Pn**	**20 33 49.1**	**+0.8**
BFSB	**Bamfield**	**5.45**	**34**	Pn	**Pn**	**20 33 49.0**	**+0.7**
BFSB				Sn	**Sn**	**20 34 51.5**	**+0.5**
PTRF	**Port Renfrew**	**5.54**	**40**	Pn	**Pn**	**20 33 50.4**	**+0.8**
PTRF				Sn	**Sn**	**20 34 52.0**	**-1.4**
NTKA	**Nootka**	**5.61**	**21**	Pn	**Pn**	**20 33 51.9**	**+1.4**
STW	**Striped Peak**	**5.64**	**46**	Pn	**Pn**	**20 33 52.1**	**+1.2**
J04A	**Umpqua Nationa**	**5.65**	**99**		**Pn**	**20 33 53.4**	**+2.1**
HDW	**Hoodsport**	**5.68**	**53**	Pn	**Pn**	**20 33 52.8**	**+1.3**
EDB	**Eliza Dome**	**5.76**	**17**	Pn	**Pn**	**20 33 54.5**	**+2.0**
MGRB	**Mount Grey**	**5.76**	**35**	Pn	**Pn**	**20 33 53.6**	**+0.9**
MGRB				Sn	**Sn**	**20 35 00.0**	**+1.1**
GNW	**Green Mountain**	**5.77**	**54**	Pn	**Pn**	**20 33 53.5**	**+0.8**
YBH	**Yreka Blue Hor**	**5.81**	**115**		Pn	20 33 58.9	+5.5
YBH	**Yreka Blue Hor**	**5.81**	**115**	Pn	**Pn**	**20 33 55.3**	**+1.9**
	baz=283,slow=5.4,SNR=4.5						
SYMB	**Survey Mountai**	**5.84**	**43**	Pn	**Pn**	**20 33 54.6**	**+0.8**
SYMB				Sn	**Sn**	**20 35 00.2**	**-0.7**
L04D	**Klamath Falls**	**5.86**	**109**		**Pn**	**20 33 56.9**	**+2.8**
B926	**Mesachie Lake**	**5.87**	**39**	Pn	**Pn**	**20 33 55.5**	**+1.4**
B926				Sn	**Sn**	**20 35 00.8**	**-0.6**
CLRS	**Cowichan Lake**	**5.87**	**39**		**Pn**	**20 33 55.7**	**+1.6**
CLRS	**Cowichan Lake**	**5.87**	**39**	Pn	**Pn**	**20 33 55.4**	**+1.3**
CLRS				Sn	**Sn**	**20 35 00.8**	**-0.7**
B927	**Port Alberni**	**5.89**	**33**	Pn	**Pn**	**20 33 55.6**	**+1.3**
MYRA	**Myra Falls**	**5.89**	**28**	Pn	**Pn**	**20 33 55.6**	**+1.2**
PABB	**Port Alberni**	**5.89**	**33**	Pn	**Pn**	**20 33 55.4**	**+1.1**
BPEB	**Brooks Peninsu**	**5.91**	**12**	Pn	**Pn**	**20 33 55.6**	**+1.0**
VGZ	**Gonzales**	**5.98**	**46**	Pn	**Pn**	**20 33 56.4**	**+0.7**
LON	**Longmire**	**6.05**	**64**	Pn	**Pn**	**20 33 57.4**	**+0.8**
B009	**North Saanich**	**6.07**	**43**	Pn	**Pn**	**20 33 57.6**	**+0.7**
B009				Sn	**Sn**	**20 35 07.5**	**+1.2**
B010	**North Saanich**	**6.07**	**43**	Pn	**Pn**	**20 33 57.8**	**+0.9**
B010				Sn	**Sn**	**20 35 07.8**	**+1.4**
PGC	**Sidney**	**6.07**	**43**	Pn	**Pn**	**20 33 57.7**	**+0.8**
PGC				Sn	**Sn**	**20 35 07.5**	**+1.1**
B011	**North Saanich**	**6.08**	**43**	Pn	**Pn**	**20 33 57.9**	**+1.0**
D05A	**Enumclaw**	**6.10**	**60**	Pn	**Pn**	**20 33 57.7**	**+0.5**
FMW	**Mount Fremont**	**6.20**	**63**	Pn	**Pn**	**20 34 00.2**	**+1.3**
NLLB	**Nanaimo Lost L**	**6.24**	**37**	Pn	**Pn**	**20 34 00.7**	**+1.6**
NLLB				Sn	**Sn**	**20 35 11.9**	**+1.5**
MAYB	**Maynard**	**6.25**	**15**	Pn	**Pn**	**20 34 01.6**	**+2.2**
GOBB	**Galiano Island**	**6.25**	**41**	Pn	**Pn**	**20 34 00.7**	**+1.4**
J05D	**Fort Rock, OR**	**6.26**	**97**		**Pn**	**20 33 58.9**	**-0.8**
SNB	**Saturna Island**	**6.30**	**44**	Pn	**Pn**	**20 34 01.4**	**+1.4**
SNB				Sn	**Sn**	**20 35 13.3**	**+1.4**
CBB	**Campbell River**	**6.37**	**26**	Pn	**Pn**	**20 34 01.8**	**+0.8**
PINE	**Pine Mountain**	**6.38**	**92**		**Pn**	**20 34 02.4**	**+1.1**
TXB	**Texada**	**6.42**	**33**	Pn	**Pn**	**20 34 03.8**	**+2.2**
A04D	**Lummi Island**	**6.50**	**46**		**Pn**	**20 34 03.6**	**+1.0**
NCSB	**Newcastle Ridg**	**6.50**	**21**	Pn	**Pn**	**20 34 05.5**	**+2.6**
JCW	**Jim Creek**	**6.61**	**52**	Pn	**Pn**	**20 34 06.0**	**+1.7**
WPB	**Watts Point**	**6.89**	**38**	Pn	**Pn**	**20 34 10.3**	**+2.2**
LTY	**Liberty**	**6.96**	**63**	Pn	**Pn**	**20 34 10.7**	**+1.6**
WSLR	**Whistler**	**7.37**	**37**	Pn	**Pn**	**20 34 17.2**	**+2.5**
BBB	**Bella Bella**	**7.86**	**7**	LR	LR	20 36 23.7	
	comp=N,13nm,20.3s,baz=102,slow=31						
LLLB	**Lillooet**	**8.18**	**38**		**Pn**	**20 34 27.7**	**+1.9**
LLLB	**Lillooet**	**8.18**	**38**	Pn	**Pn**	**20 34 28.2**	**+2.4**
B08A	**Colville Reser**	**8.21**	**58**	Pn	**Pn**	**20 34 27.3**	**+1.0**
NEW	**Newport**	**9.55**	**62**	Pn	**Pn**	**20 34 44.5**	**-0.1**
NEW	**Newport**	**9.55**	**62**	Pn	**Pn**	**20 34 45.0**	**+0.3**
	comp=N,2.9nm,0.4s,baz=259,slow=12,SNR=8.5						
NEW				LR	LR	20 38 18.3	
	comp=N,157nm,20.5s,baz=288,slow=37						
PLID	**Pearl Lake**	**9.81**	**81**	Pn	**Pn**	**20 34 47.7**	**-0.7**
NVAR	**Mina Array Bea**	**10.46**	**121**	Pn	**Pn**	**20 35 00.3**	**+3.0**
	baz=290,slow=13,SNR=5.5						
	comp=N,0.9nm,0.9s						
ELK	**Elko**	**11.31**	**104**	Pn	**Pn**	**20 35 10.3**	**+1.3**
	comp=N,0.1nm,0.3s,baz=333,slow=7.0,SNR=5.8						
	comp=N,1.8nm,0.9s						
DLBC	**Dease Lake**	**14.05**	**359**	LR	LR	20 40 33.2	
	comp=N,4.8nm,19.8s,baz=60,slow=35						
PDAR	**Pinedale Array**	**14.73**	**89**	Pn	**Pn**	**20 35 59.0**	**+3.4**
	comp=N,0.3nm,0.3s,baz=287,slow=9.7,SNR=0.9						
PDAR				LR	LR	20 41 33.5	
	comp=N,50nm,21.4s,baz=266,slow=37						
YKA	**Yellowknife Ar**	**20.14**	**21**	P	**P**	**20 36 58.7**	**-2.4**
	comp=N,0.1nm,0.3s,baz=213,slow=14,SNR=2.0						
YKA				LR	LR	20 44 16.8	
	comp=N,23nm,18.7s,baz=338,slow=36						
	comp=N,0.2nm,0.4s						
ILAR	**Eielson Array**	**22.54**	**341**	P	**P**	**20 37 23.5**	**-3.4**
	comp=N,0.1nm,0.4s,baz=143,slow=9.1,SNR=6.5						
ILAR				LR	LR	20 44 42.4	
	comp=N,39nm,19.8s,baz=274,slow=33						
	comp=N,0.1nm,0.4s						
INK	**Inuvik**	**24.04**	**357**	LR	LR	20 46 36.7	
	comp=N,30nm,18.6s,baz=40,slow=36						
TXAR	**Lajitas Array**	**25.58**	**117**	P	**P**	**20 37 58.5**	**+2.1**
	comp=N,0.5nm,0.7s,baz=297,slow=6.4,SNR=5.8						
	comp=N,0.5nm,0.7s						
LPIG	**La Paz**	**25.74**	**136**	LR	LR	20 46 55.1	
	comp=N,38nm,18.2s,baz=8.0,slow=34						
SADO	**Sadowa**	**35.57**	**71**	LR	LR	20 54 18.1	
	comp=N,51nm,20.3s,baz=320,slow=37						
TKL	**Tuckaleechee C**	**35.87**	**88**	LR	LR	20 54 37.8	
	comp=N,96nm,19.1s,baz=164,slow=37						
CMIG	**Matias Romero**	**39.99**	**122**	LR	LR	20 59 13.9	
	comp=N,24nm,19.5s,baz=5.0,slow=40						
SCHQ	**Schefferville**	**40.75**	**52**	LR	LR	20 56 34.6	
	comp=N,58nm,21.3s,baz=302,slow=36						
SFJD	**Kangerlussuaq**	**46.02**	**32**	LR	LR	20 59 38.1	
	comp=N,45nm,18.6s,baz=282,slow=36						
H11N3	**WAKE ISLAND Hy**	**57.53**	**266**	T	T	21 44 22.0	
	baz=49,slow=75,SNR=1151						
H11N2	**WAKE ISLAND Hy**	**57.53**	**266**	T	T	21 44 20.7	
	baz=49,slow=75,SNR=590						
H11N1	**WAKE ISLAND Hy**	**57.55**	**266**	T	T	21 44 21.4	
	baz=49,slow=75,SNR=586						
H11S1	**WAKE ISLAND Hy**	**58.47**	**265**	T	T	21 45 29.3	
	baz=48,slow=75,SNR=111						
H11S2	**WAKE ISLAND Hy**	**58.47**	**265**	T	T	21 45 32.1	
	baz=48,slow=75,SNR=88						
H11S3	**WAKE ISLAND Hy**	**58.48**	**265**	T	T	21 45 38.9	
	baz=48,slow=75,SNR=69						
SONM	**Songino Array**	**75.74**	**325**	P	**P**	**20 44 11.7**	**-1.2**
	comp=N,0.3nm,0.6s,baz=39,slow=9.3,SNR=2.0						
	comp=N,0.3nm,0.6s						

IDC ***25*** *20:42:36.5±0.6, 26°.03S×71°.13E, h0km, mb4.2/15, mbtmp4.2/15, Error ellipse: s-maj=25.0km s-min=14.3km az=92.0*
NEIC ***25*** *20:42:39.0±1.1, 26°.26S±0°.06×71°.1E±0°.2, h10km±1km, mb4.6/19, Error ellipse: s-maj=26.5km s-min=10.4km az=278.0*
ISC 25 20:42:38.8±0.5**, 26°12S**±0°.10×**71°1E**±0°.1**, h11**km**, n53,** σ0§**91**/41**, mb4.5**/26**, 4C, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**18.42**	**4**	T	T	21 05 54.4	
	baz=185,slow=76,SNR=132						
H08S2	**Diego Carcia H**	**18.43**	**4**	T	T	21 05 52.9	
	baz=185,slow=76,SNR=101						
H08S3	**Diego Garcia H**	**18.44**	**4**	T	T	21 05 55.9	
	baz=185,slow=76,SNR=143						
H04N2	**CROZET ISLANDS**	**25.22**	**213**	T	T	21 14 12.1	
	baz=44,slow=74,SNR=1490						
H04N1	**CROZET ISLANDS**	**25.23**	**213**	T	T	21 14 18.8	
	baz=44,slow=74,SNR=1236						
H04N3	**CROZET ISLANDS**	**25.24**	**213**	T	T	21 14 17.6	
	baz=44,slow=74,SNR=1433						
H04S1	**CROZET ISLANDS**	**25.66**	**211**	T	T	21 14 51.2	
	baz=52,slow=80						
H04S3	**CROZET ISLANDS**	**25.67**	**211**	T	T	21 14 48.6	
	baz=52,slow=80						
H04S2	**CROZET ISLANDS**	**25.68**	**211**	T	T	21 14 50.1	
	baz=52,slow=80						
H01W2	**Cape Leeuwin H**	**37.87**	**114**	T	T	21 29 52.9	
	baz=271,slow=75,SNR=65						
H01W3	**Cape Leeuwin H**	**37.87**	**114**	T	T	21 29 53.1	
	baz=271,slow=75,SNR=87						
H01W1	**Cape Leeuwin H**	**37.89**	**114**	T	T	21 29 55.9	
	baz=271,slow=75,SNR=84						
LSZ	**Lusaka**	**41.38**	**276**	P	**P**	**20 50 25.6**	**+0.1**
MAW	**Mawson**	**41.80**	**185**	P	**P**	**20 50 29.9**	**+1.8**
	1.3nm,0.3s,baz=329,slow=14,SNR=14						
	1.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**50.87**	**93**	P	**P**	**20 51 40.6**	**+0.5**
CM31	**Chiang Mai Arr**	**51.93**	**34**	P	**P**	**20 51 48.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**51.93**	**34**		**P**	**20 51 48.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**51.93**	**34**	P	**P**	**20 51 46.6**	**-1.3**
	4.3nm,0.9s,baz=223,slow=7.1,SNR=19						
	4.3nm,0.9s						
CHTO	**Chiang Mai**	**52.23**	**34**		**P**	**20 51 50.3**	**+0.2**
CHTO				IAmb	IAmb	20 51 53.0	
	comp=Z,5.9nm,1.0s						
ASAR	**Alice Springs**	**56.55**	**102**	P	**P**	**20 52 20.6**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=257,slow=6.5,SNR=10.0						
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Ar**	**58.06**	**98**	P	**P**	**20 52 32.3**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=251,slow=7.1,SNR=6.1						
	comp=Z,1.2nm,0.9s						
LSA	**Lhasa**	**58.75**	**20**	P	**P**	**20 52 37.9**	**+0.5**
LSA				IAmb	IAmb	20 52 40.5	
	comp=Z,2.9nm,0.7s						
TROLL	**Troll, Antarti**	**58.77**	**200**	⇑P	**P**	**20 52 36.5**	**-0.2**
	comp=Z,104nm,0.7s						
KBL	**Kabul**	**60.36**	**358**	P	**P**	**20 52 49.4**	**+1.2**
KBL				IAmb	IAmb	20 52 51.3	
	comp=Z,6.6nm,1.0s						
SNAA	**Sanae**	**60.38**	**200**	⇑P	**P**	**20 52 47.5**	**-0.2**
	comp=Z,59nm,0.7s						
SNAA	**Sanae**	**60.38**	**200**	P	**P**	**20 52 47.2**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=109,slow=8.5,SNR=18						
	comp=Z,2.7nm,0.8s						
VNA1	**Neumayer--Stat**	**62.08**	**202**	⇑P	**P**	**20 52 59.8**	**+0.8**
	comp=Z,5.7nm,1.0s						
VNA3	**Neumayer Otpp**	**62.54**	**201**	⇑P	**P**	**20 53 01.9**	**-0.3**
	comp=Z,3.7nm,0.8s						
QSPA	**South Pole Qui**	**64.01**	**180**	P	**P**	**20 53 11.5**	**-0.7**
QSPA	**South Pole Qui**	**64.01**	**180**	P	**P**	**20 53 11.9**	**-0.3**
	comp=Z,5.6nm,0.8s,baz=262,slow=1.0,SNR=31						
	comp=Z,5.6nm,0.8s						
VNDA	**Vanda**	**64.86**	**166**	P	**P**	**20 53 16.7**	**-0.8**
VNDA	**Vanda**	**64.86**	**166**	P	**P**	**20 53 17.1**	**-0.4**
	comp=Z,5.5nm,0.9s,baz=271,slow=7.8,SNR=29						
	comp=Z,5.5nm,0.9s						
BTK	**Batken**	**65.84**	**360**	P	**P**	**20 53 25.6**	**+1.3**
BTK				IAmb	IAmb	20 53 26.4	
	comp=Z,6.6nm,1.4s						
SBA	**Scott Base**	**65.85**	**167**	P	**P**	**20 53 23.9**	**+0.1**
SBA				IAmb	IAmb	20 53 28.9	
	comp=Z,5.0nm,0.9s						
ARSB	**Arslanbob**	**67.13**	**2**	P	**P**	**20 53 33.0**	**+0.4**
ARSB				IAmb	IAmb	20 53 46.3	
	comp=Z,5.3nm,1.1s						
NRN	**Naryn**	**67.37**	**4**	P	**P**	**20 53 35.0**	**+0.7**
NRN				IAmb	IAmb	20 53 36.8	
	comp=Z,4.0nm,0.9s						
KK31	**Karatay Array**	**68.88**	**360**	P	**P**	**20 53 44.5**	**+1.1**
KK31				IAmb	IAmb	20 53 46.5	
	comp=Z,4.2nm,0.8s						
KKAR	**Karatay Array**	**68.88**	**360**	P	**P**	**20 53 44.2**	**+0.8**
GURO	**Guroymak-BITLI**	**69.85**	**336**	P	**P**	**20 53 50.6**	**+1.0**
GURO				IAmb	IAmb	20 53 53.0	
	comp=Z,4.6nm,1.0s						
MKAR	**Makanchi Array**	**73.28**	**8**	P	**P**	**20 54 10.0**	**0.0**
MKAR	**Makanchi Array**	**73.28**	**8**	P	**P**	**20 54 09.6**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=197,slow=6.9,SNR=9.8						
	comp=Z,2.7nm,0.8s						
BRTR	**Keskin Array B**	**74.23**	**331**	P	**P**	**20 54 15.9**	**+0.1**
BRTR	**Keskin Array B**	**74.23**	**331**	P	**P**	**20 54 15.8**	**0.0**
	comp=Z,1.1nm,0.8s,baz=146,slow=6.9,SNR=5.0						
	comp=Z,1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**76.69**	**5**	P	**P**	**20 54 29.4**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=202,slow=6.1,SNR=10						
	comp=Z,2.0nm,0.9s						
KURK	**Kurchatov**	**76.79**	**5**	P	**P**	**20 54 31.7**	**+1.7**
KURK				IAmb	IAmb	20 54 32.5	
	comp=Z,6.3nm,1.1s						
TORD	**Torodi Ar. Bea**	**77.92**	**291**	P	**P**	**20 54 36.5**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=109,slow=3.6,SNR=4.1						
	comp=Z,1.3nm,0.9s						
BVAR	**Borovoye Array**	**78.81**	**360**	P	**P**	**20 54 41.1**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=198,slow=8.9,SNR=4.4						
	comp=Z,0.8nm,0.8s						
SONM	**Songino Array**	**80.17**	**23**	P	**P**	**20 54 49.8**	**+0.8**
SONM	**Songino Array**	**80.17**	**23**	P	**P**	**20 54 46.6**	**-2.5**
	comp=Z,2.1nm,1.0s,baz=208,slow=5.1,SNR=12						
	comp=Z,2.1nm,1.0s						
ULN	**Ulaanbaatar**	**80.44**	**24**	P	**P**	**20 54 50.5**	**0.0**
ZALV	**Zalesovo Beam**	**80.62**	**8**	P	**P**	**20 54 50.5**	**-0.6**
ZALV	**Zalesovo Beam**	**80.62**	**8**	P	**P**	**20 54 49.4**	**-1.7**
	comp=Z,1.3nm,0.7s,baz=194,slow=5.6,SNR=6.4						
	comp=Z,1.3nm,0.7s						
AKASG	**Malin Array Be**	**84.96**	**335**	P	**P**	**20 55 12.4**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=134,slow=4.1,SNR=4.4						
	comp=Z,0.7nm,0.6s						

BGR ***25*** *20:47:20.8, 6°.61S×68°.11E, h35km±2km, mb4.3*
IDC ***25*** *20:47:21.4±0.5, 5°.40S×68°.64E, h0km, mb4.4/29, mbtmp4.4/30, ML4.9/1, MS4.3/58, Error ellipse: s-maj=15.2km s-min=12.2km az=46.0*
MOS ***25*** *20:47:21.8±1.3, 5°.40S×68°.66E, h14km, mb5.0/47, MS4.2/6, Error ellipse: s-maj=8.4km s-min=6.0km az=99.6*
BJI ***25*** *20:47:22.2, 5°.37S×68°.80E, h10km, mB5.1/23, mb4.8/65, Ms4.7/55, Ms7 4.4/55*
NEIC ***25*** *20:47:24.0±2.5, 5°.48S±0°.05×68°.79E±0°.07, h10km±1km, mb5.0/79, Error ellipse: s-maj=13.6km s-min=5.6km az=240.0*
GCMT ***25*** *20:47:26.0±0.1, 5°.51S±0°.01×68°.60E±0°.01, h14km, MW5.2/143, Moment Tensor Solution. s66,c84; s143,c250; Duration: 0 Moment tensor: Scale 10^17Nm; Mrr-0.13±.01; Mθθ-0.64±.01; Mϕϕ0.76±.01; Mrθ-0.09±.03; Mθϕ-0.07±.01; Mϕr0.03±.02; Best double couple: M=0.71200×10^17 NP1:ϕs42.00000°, δ82.00000°, λ-5.00000° NP2:ϕs132.00000°, δ85.00000°, λ-172.00000°. Principal axes: T 0.7720, Plg2.0000°, Azm267.0000°; N -0.1180, Plg81.0000°, Azm165.0000°; P -0.6520, Plg9.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 20:47:23.4±0.6**, 5°43S**±0°.05×**68°72E**±0°.04**, h11**km±2km**,**
h12km**:pP-P, n356,** σ1§**65**/346**, mb4.9**/158**, MS4.4**/86**,**
10C-17D, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGAR	**Diego Garcia**	**4.20**	**118**		**Pn**	**20 48 26.8**	**-0.7**
DGAR	**Diego Garcia**	**4.20**	**118**	P	**Pn**	**20 48 26.8**	**-0.7**
H08S3	**Diego Garcia H**	**4.33**	**121**	Pn	**Pn**	**20 48 28.3**	**-0.7**
	baz=320,slow=19						
H08S3				Sn	**Sn**	**20 49 18.9**	**-0.5**
H08S3				T	T	20 53 09.8	
	baz=312,slow=74,SNR=34						
H08S1	**Diego Carcia H**	**4.33**	**121**	Pn	**Pn**	**20 48 28.1**	**-0.9**
	baz=320,slow=19						
H08S1				T	T	20 53 13.2	
	baz=312,slow=74,SNR=42						
H08S2	**Diego Garcia H**	**4.35**	**121**	Pn	**Pn**	**20 48 28.4**	**-0.8**
	baz=320,slow=19						
H08S2				T	T	20 53 14.4	
	baz=312,slow=74,SNR=35						
KAAM	**Kaadhehdhoo**	**7.26**	**36**		**Pn**	**20 49 09.9**	**+0.4**
MSEY	**Mahe Island**	**13.21**	**273**		**Pn**	**20 50 33.4**	**+2.2**
MSEY	**Mahe Island**	**13.21**	**273**	P	**Pn**	**20 50 33.4**	**+2.2**
PALK	**Pallekele**	**17.38**	**44**	P	**P**	**20 51 27.7**	**+0.2**
PALK	**Pallekele**	**17.38**	**44**	P	**P**	**20 51 27.4**	**-0.1**
	3.7nm,0.3s,baz=234,slow=12,SNR=14						
PALK				S	**Sn**	**20 54 33.4**	**-6.3**
	11nm,0.7s,baz=26,slow=18,SNR=6.2						
PALK				LR	LR	20 56 38.5	
	comp=Z,1µm,19.8s,baz=220,slow=32						
	12nm,0.5s						
PALK	**Pallekele**	**17.38**	**44**	P	**P**	**20 51 27.7**	**+0.2**
PALK				pmax	pmax		
	comp=Z,39nm,1.2s						
HYB	**Hyderabad**	**24.69**	**23**	*e*P	**P**	**20 52 44.9**	**+0.2**
HYB				*e*pP	**sP**	**20 52 48.6**	**+1.1**
ATD	**Arta Tunnel**	**30.77**	**303**	LR	LR	21 03 24.9	
	comp=Z,38nm,21.8s,baz=114,slow=31						
PSI	**Prapat**	**31.25**	**76**	LR	LR	21 05 04.6	
	comp=Z,2µm,18.4s,baz=268,slow=34						
UOSS	**Minazif**	**32.55**	**339**		**P**	**20 53 54.8**	**0.0**
UOSS				IAmb	IAmb	20 53 56.1	
	comp=Z,32nm,1.2s						
KULM	**Kulim**	**33.61**	**72**		**P**	**20 54 04.4**	**+0.2**
KULM				IAmb	IAmb	20 54 07.1	
	comp=Z,20nm,0.9s						
KULM	**Kulim**	**33.61**	**72**	P	**P**	**20 54 06.1**	**+1.9**
IPM	**Ipoh**	**33.73**	**74**	P	**P**	**20 54 06.2**	**+0.9**
IPM				IAmb	IAmb	20 54 16.8	
	comp=Z,27nm,1.4s				

comp=Z,500nm,17.8s
KSM Kuching 42.10 82 P 20 55 16.6 +0.7
KSM Kuching 42.10 82 P **P 20 55 17.8 +1.8**
DLV Lat 43.15 66 P **P 20 55 26.1 +1.4**
H04N2 CROZET ISLANDS 43.16 197 T T 21 41 40.3
baz=26,slow=75,SNR=6.7
H04N1 CROZET ISLANDS 43.16 197 T T 21 41 29.3
baz=26,slow=75,SNR=5.5
H04N3 CROZET ISLANDS 43.17 197 T T 21 41 41.7
baz=26,slow=75,SNR=5.5
SLVN Son La 43.56 51 P 20 55 28.4 +0.6
SLVN Son La 43.56 51 P **P 20 55 29.3 +1.5**
SBUM Sibu 44.15 81 P 20 55 32.7 +0.2
SBUM Sibu 44.15 81 P **P 20 55 34.4 +1.8**
KMI Kunming 44.90 46 ⇑P **P 20 55 39.5 +0.9**
KMI pP pwP 20 55 48.3 +3.7
KMI S **S 21 02 14.0 -2.8**
KMI SS **ScS 21 05 29.0 -7.9**
KMI pmax pmax
comp=Z,11nm,0.8s
KMI LR LR
comp=Z,330nm,14.7s
KMI LR LR
comp=Z,200nm,13.2s
KMI LR LR
comp=Z,390nm,27.8s
PZH PanZhiHua 45.06 44 P **P 20 55 40.8 +1.0**
PZH PP **PP 20 57 24.0 -1.3**
PZH S **S 21 02 21.8 +2.8**
PZH pmax pmax
comp=Z,50nm,1.3s
PZH pmax pmax
comp=Z,150nm,4.5s
PZH LR LR
comp=Z,290nm,17.3s
PZH LR LR
comp=Z,280nm,16.9s
PZH LR LR
comp=Z,260nm,20.4s
KSH Kashi 45.22 8 P **P 20 55 38.5 -2.3**
KSH pmax pmax
comp=Z,13nm,1.2s
KSH LR LR
comp=Z,690nm,17.2s
KSH LR LR
comp=Z,500nm,14.4s
KSH LR LR
comp=Z,790nm,18.9s
BTK Batken 45.30 2 IAmb IAmb 20 55 53.1
comp=Z,13nm,0.8s
LBTB Lobatse 45.67 240 LR LR 21 12 16.8
comp=Z,512nm,21.4s,baz=74,slow=33
NRN Naryn 47.10 7 IAmb IAmb 20 56 20.1
comp=Z,13nm,1.2s
BOSA Boshof 47.15 236 P **P 20 55 54.9 -1.5**
comp=Z,7.7nm,1.1s,baz=105,slow=8.0,SNR=7.3
BOSA LR LR 21 13 52.7
comp=Z,474nm,19.1s,baz=74,slow=34
comp=Z,7.7nm,1.1s
QIZ Qiongzhong 47.23 58 P **P 20 55 57.3 +0.4**
QIZ S **S 21 02 52.8 +2.7**
QIZ LR LR
comp=Z,130nm,13.7s
QIZ LR LR
comp=Z,120nm,14.4s
QIZ LR LR
comp=Z,410nm,16.2s
EIL Elat 47.62 319 LR LR 21 12 53.7
comp=Z,303nm,18.8s,baz=65,slow=32
GOMU GeErMu 48.09 29 P **P 20 56 04.8 +1.1**
GOMU pP pwP 20 56 11.8 +0.1
GOMU S **S 21 03 02.8 +0.3**
GOMU pmax pmax
comp=Z,4.0nm,0.9s
GOMU pmax pmax
comp=Z,100nm,5.6s
GOMU LR LR
comp=Z,260nm,16.0s
GOMU LR LR
comp=Z,200nm,18.9s
GOMU LR LR
comp=Z,410nm,18.6s
ASF Jabal al Asfar 48.12 323 LR LR 21 13 47.6
comp=Z,297nm,20.1s,baz=163,slow=33
AAK Ala-Archa 48.12 6 **P 20 56 04.3 +0.7**
AAK IAmb IAmb 20 56 15.4
comp=Z,20nm,1.2s
AAK Ala-Archa 48.12 6 LR LR 21 15 50.9
comp=Z,195nm,20.7s,baz=190,slow=36
AAK Ala-Archa 48.12 6*d* *i*P **P 20 56 05.2 +1.6**
AAK pmax pmax
comp=Z,22nm,1.7s
QNGWA Qangwa 48.32 249 P **P 20 56 05.5 +0.1**
KK31 Karatay Array 48.33 2 **P 20 56 05.1 +0.1**
KK31 Karatay Array 48.33 2 P **P 20 56 05.1 +0.1**
KK31 pmax pmax
comp=Z,8.0nm,1.1s
KKAR Karatay Array 48.33 2 **P 20 56 05.1 +0.1**
KKAR Karatay Array 48.33 2 P **P 20 56 05.1 +0.1**
GYA Guiyang 48.53 47 ⇑P **P 20 56 07.0 0.0**
GYA pP pwP 20 56 13.5 +0.5
GYA S **S 21 03 06.5 -2.1**
GYA pmax pmax
comp=Z,25nm,1.1s
GYA LR LR
comp=Z,230nm,22.5s
CD2 Chengdu 49.26 41 P **P 20 56 13.0 +0.6**
CD2 pP pwP 20 56 20.0 +1.6
CD2 sP pP 20 56 26.0 +11
CD2 S **S 21 03 19.5 +0.9**
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,180nm,4.5s
CD2 LR LR
comp=Z,410nm,16.9s
CD2 LR LR
comp=Z,490nm,18.8s
CD2 LR LR
comp=Z,550nm,18.0s
MMAI Mount Meron Ar 49.60 323 P **P 20 56 16.0 +1.0**
comp=Z,2.7nm,0.9s,baz=90,slow=5.8,SNR=2.0
MMAI LR LR 21 14 03.1
comp=Z,176nm,19.8s,baz=138,slow=32
comp=Z,2.7nm,0.9s
KOOLE Kule 49.91 244 P **P 20 56 16.4 -1.2**
GNI Garni 50.44 336 **P 20 56 21.8 +0.5**
GNI IAmb IAmb 20 56 23.5
comp=Z,30nm,1.1s
GNI Garni 50.44 336 LR LR 21 18 20.8
comp=Z,195nm,18.6s,baz=147,slow=37
GNI Garni 50.44 336*ce*P **P 20 56 21.6 +0.2**
GNI pmax pmax
comp=Z,32nm,1.2s
GNI Garni 50.44 336 P **P 20 56 21.9 +0.5**
comp=Z,21nm,1.2s
AKT Akhty 50.47 340 *e*P **P 20 56 22.1 +0.6**
AKT *e* 20 57 36.5
AKT *e*PPP PPP 20 59 13.9
AKT pmax pmax
comp=Z,20nm,1.2s
KAPI Kappang 50.81 92 LR LR 21 15 53.4
comp=Z,777nm,21.3s,baz=254,slow=34
KAPI Kappang 50.81 92⇓*e*P **P 20 56 22.9 -1.5**
H01W3 Cape Leeuwin H 51.09 131 T T 21 51 30.6
baz=295,slow=75,SNR=35
H01W2 Cape Leeuwin H 51.10 131 T T 21 51 30.8
baz=295,slow=75,SNR=31
H01W1 Cape Leeuwin H 51.11 131 T T 21 51 31.9
baz=295,slow=75,SNR=37
BKSI Bulukumba 51.16 92 P **P 20 56 26.8 -0.3**
comp=Z,20nm,1.4s
PCI Palu 51.22 87 P **P 20 56 28.2 +0.7**
comp=Z,1μmcomp=Z,33nm,1.8s
MPSI Mapaga 51.42 85 P **P 20 56 29.9 +0.9**
comp=Z,13nm,1.4s
TSUM Tsumeb 51.61 250 LR LR 21 16 29.5
comp=Z,473nm,19.2s,baz=80,slow=34
WMQ Urumqi 51.93 17 *e*P **P 20 56 35.0 +2.6**
WMQ LR LR
comp=Z,640nm,18.9s
WMQ LR LR
comp=Z,510nm,14.9s
WMQ LR LR
comp=Z,390nm,21.5s
TOLI2 Tolitoli 52.40 84 **P 20 56 35.4 -0.9**
TOLI2 IAmb IAmb 20 56 37.7
comp=Z,40nm,1.4s
TOLI2 Tolitoli 52.40 84 P **P 20 56 36.9 +0.6**
EDFI Ende, Flores 52.63 97 P **P 20 56 38.0 -0.2**
comp=Z,10nm,1.1s
NWAO Narrogin (SRO) 52.73 128 LR LR 21 16 46.5
comp=Z,245nm,18.2s,baz=283,slow=33
ENH Enshi 52.75 45 IAmb IAmb 20 56 47.2
comp=Z,23nm,0.9s
LZH Lanzhou 52.80 36 *e*P **P 20 56 39.3 +0.1**
LZH pP pwP 20 56 48.5 +1.2
LZH S **S 21 04 08.8 +1.0**
LZH pmax pmax
comp=Z,17nm,1.3s
LZH LR LR
comp=Z,320nm,14.1s
LZH LR LR
comp=Z,280nm,14.4s
LZH LR LR
comp=Z,430nm,14.1s
GTA Gaotai 53.05 30 *e*P **P 20 56 41.8 +0.9**
GTA pP pwP 20 56 50.0 +1.1
GTA S **S 21 04 13.3 +2.3**
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA LR LR
comp=Z,190nm,15.5s
GTA LR LR
comp=Z,270nm,15.5s
GTA LR LR
comp=Z,340nm,15.9s
MK31 Makanchi Array 53.37 12*de*P **P 20 56 42.6 -0.3**
MKAR Makanchi Array 53.37 12 **P 20 56 41.7 -1.2**
MKAR PcP **PcP 20 57 50.7 +0.5**
MKAR Makanchi Array 53.37 12 P **P 20 56 42.1 -0.8**
comp=Z,2.3nm,0.6s,baz=196,slow=7.5,SNR=34
MKAR PcP **PcP 20 57 50.9 +0.7**
comp=Z,1.2nm,0.9s,baz=242,slow=2.5,SNR=2.3
MKAR LR LR 21 20 13.8
comp=Z,271nm,19.1s,baz=190,slow=37
comp=Z,2.3nm,0.6s
MKAR Makanchi Array 53.37 12 *i* P **P 20 56 42.5 -0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
BNN Bunyan 53.55 328 IAmb IAmb 20 57 14.8
comp=Z,18nm,1.2s
KBZ Khabaz 54.20 337 P **P 20 56 48.8 -0.2**
comp=Z,13nm,1.0s,baz=149,slow=4.0,SNR=10.0
KBZ LR LR 21 20 42.3
comp=Z,149nm,21.5s,baz=162,slow=37
comp=Z,13nm,1.0s
KVAR Kislovodsk Arr 54.47 337 LR LR 21 17 26.3
comp=Z,193nm,20.6s,baz=92,slow=33
KIV Kislovodsk 54.47 337 *e*P **P 20 56 51.6 +0.4**
KIV *e*S **S 21 04 31.1 +1.1**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,121nm,16.0s
KIV Kislovodsk 54.47 337 P **P 20 56 51.1 -0.1**
comp=Z,8.4nm,1.0s
BATI Baumata 54.59 99 P **P 20 56 53.8 +1.4**
comp=Z,32nm,1.1s,baz=237,slow=16,SNR=4.0
comp=Z,32nm,1.1s
XAN Xi'an 54.61 41 ⇑P **P 20 56 51.8 -0.5**
XAN S **S 21 04 31.3 -0.8**
XAN pmax pmax
comp=Z,26nm,1.0s
XAN LR LR
comp=Z,290nm,17.2s
XAN LR LR
comp=Z,320nm,17.9s
XAN LR LR
comp=Z,400nm,23.4s
BR104 Keskin Array S 55.34 327 P **P 20 56 57.5 -0.1**
comp=Z,56nmcomp=Z,5.8nm,1.2s
BR131 Keskin Array S 55.35 327*c* *i*P **P 20 56 57.8 +0.1**
BRTR Keskin Array B 55.35 327 **P 20 56 56.6 -1.1**
BRTR Keskin Array B 55.35 327 P **P 20 56 57.5 -0.2**
comp=Z,3.3nm,0.9s,baz=144,slow=9.2,SNR=13
comp=Z,3.3nm,0.9s
BRTR Keskin Array B 55.35 327 *i* P **P 20 56 57.7 +0.1**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BR105 Keskin Array S 55.36 327 P **P 20 56 57.6 -0.1**
comp=Z,65nmcomp=Z,6.0nm,1.4s
BR106 Keskin Array S 55.37 327 P **P 20 56 57.7 -0.1**
comp=Z,72nmcomp=Z,6.7nm,1.2s
SOC Sochi 55.38 335 *i* P **P 20 56 54.7 -2.9**
SOC *e* 20 58 58.3
SOC *e*PPP PPP 21 00 12.6
SOC *e*S **S 21 04 39.8 -2.1**
SOC *e*SS **SS 21 08 24.6 -2.2**
SOC MLR MLR
comp=Z,116nm,16.0s
ELL Elmali 55.45 322 IAmb IAmb 20 57 14.0
comp=Z,11nm,0.9s
ANTO Ankara 55.91 327 P **P 20 57 01.6 0.0**
comp=Z,6.3nm,1.4s
AKTO Aktyubinsk 56.40 352 LR LR 21 21 46.2
comp=Z,172nm,19.0s,baz=3.0,slow=37
WHN Wuhan 56.41 48 P **P 20 57 06.0 +0.7**
WHN S **S 21 04 59.8 +3.6**
WHN LR LR
comp=Z,1μm,16.9s
WHN LR LR
comp=Z,1μm,20.0s
WHN LR LR
comp=Z,1μm,21.6s
KURBB Kurchatov Arra 56.46 7 P **P 20 57 04.3 -0.9**
comp=Z,4.9nm,0.9s,baz=201,slow=7.3,SNR=18
KURBB PcP **PcP 20 58 03.1 +1.1**
comp=Z,0.4nm,0.3s,baz=196,slow=4.2,SNR=2.1
KURBB LR LR 21 20 34.2
comp=Z,329nm,18.9s,baz=172,slow=35
comp=Z,4.9nm,0.9s
KURK Kurchatov 56.56 8 **P 20 57 05.1 -0.8**
KURK Kurchatov 56.56 8*d* *i*P **P 20 57 06.0 +0.1**
KURK pmax pmax
comp=Z,10.0nm,0.8s
ERBR Yeremizino-Bor 56.80 337 *e*P **P 20 57 04.5 -3.3**
ERBR *e**PP **pP 20 57 07.0 -3.0**
ERBR *e*S **S 21 04 57.4 -3.5**
ERBR pmax pmax
comp=Z,6.0nm,0.9s
FITZ Fitzroy Crossi 56.91 108 P **P 20 57 10.3 +1.3**
comp=Z,5.4nm,0.9s,baz=261,slow=9.0,SNR=6.5
FITZ LR LR 21 20 03.5
comp=Z,637nm,19.2s,baz=281,slow=34
comp=Z,5.4nm,0.9s
LYN LuoYang 57.27 43 *e*P P 20 57 20.0 +8.7
LYN pmax pmax
comp=Z,23nm,0.7s
LYN LR LR
comp=N,260nm,16.1s
LYN LR LR
comp=E,180nm,14.1s
LYN LR LR
comp=Z,310nm,19.6s
ANN Anapa 57.33 334 *e*P **P 20 57 09.8 -1.7**
ANN *e**PP **pP 20 57 12.8 -0.9**
ANN *e*S **S 21 05 07.3 -0.5**
ANN pmax pmax
comp=Z,15nm,0.9s
DAV Davao City (W) 58.08 78 LR LR 21 20 53.0
comp=Z,379nm,22.0s,baz=238,slow=35
BVAR Borovoye Array 58.25 1 P **P 20 57 17.3 -0.5**
comp=Z,2.5nm,0.5s,baz=165,slow=6.2,SNR=20
BVAR LR LR 21 22 44.7
comp=Z,176nm,19.5s,baz=186,slow=36
comp=Z,2.5nm,0.5s
BRVK Borovoye 58.28 1 **P 20 57 17.8 -0.2**
BRVK Borovoye 58.28 1*d* *i*P **P 20 57 17.9 -0.1**
BRVK pmax pmax
comp=Z,11nm,1.1s
YLV Yalova 58.29 325 P **P 20 57 18.3 -0.1**
comp=Z,13nm,1.3s
SSLB Suanglung 58.61 58 **P 20 57 20.6 -0.3**
SSLB IAmb IAmb 20 57 31.4
comp=Z,16nm,1.0s
YULB Yu-li 58.75 59 P **P 20 57 22.3 +0.4**
BTO Baotou 59.43 36 *e*P **P 20 57 26.0 -0.4**
BTO pP **pwP 20 57 34.8 +0.3**
BTO S **S 21 05 32.8 -2.8**
BTO SS **SS 21 09 29.0 -2.0**
BTO pmax pmax
comp=Z,15nm,0.7s
BTO pmax pmax
comp=Z,180nm,3.8s
BTO LR LR
comp=Z,250nm,7.5s
BTO LR LR
comp=Z,270nm,8.9s
BTO LR LR
comp=Z,430nm,14.3s
EZN Ezine 59.58 323 P **P 20 57 28.0 +0.7**
comp=Z,15nm,1.5s
KNRA Kununurra 59.73 105 **P 20 57 28.2 -0.5**
KNRA IAmb IAmb 20 57 42.6
comp=Z,16nm,1.1s
BELG Belogornoye 60.33 345 LR LR 21 24 53.7
comp=Z,251nm,19.8s,baz=124,slow=37
HNS HongShan 60.39 41 ⇓P **P 20 57 34.3 +1.4**
HNS pP **pwP 20 57 41.5 +0.4**
HNS S **S 21 05 48.8 +1.0**
HNS pmax pmax
comp=Z,21nm,1.0s
HNS LR LR
comp=Z,250nm,14.9s
HNS LR LR
comp=Z,160nm,15.7s
HNS LR LR
comp=Z,240nm,15.7s
HHC Hu-ho-hao-te 60.49 36 *e*P **P 20 57 35.5 +1.8**
HHC pP pwP 20 57 41.5 -0.3
HHC PP **PP 20 59 54.3 +7.1**
HHC S **S 21 05 49.0 -0.3**
HHC sS sS 21 05 56.8 +3.0
HHC ScS SKKSac 21 07 19.8 -4.8
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,75nm,4.0s
HHC LR LR
comp=Z,140nm,16.8s
HHC LR LR
comp=Z,200nm,16.8s
HHC LR LR
comp=Z,200nm,16.2s
NJ2 Nanjing 60.51 48 ⇓P **P 20 57 34.3 +0.5**
NJ2 pP **pwP 20 57 39.0 -0.8**
NJ2 pmax pmax
comp=Z,15nm,1.1s
NJ2 LR LR
comp=Z,250nm,18.6s
NJ2 LR LR
comp=Z,340nm,15.9s
NJ2 LR LR
comp=Z,550nm,19.9s
ZAA0 Zalesovo Array 60.68 11 **P 20 57 33.3 -1.2**
ZALV Zalesovo Beam 60.68 11 **P 20 57 33.4 -1.1**
ZALV Zalesovo Beam 60.68 11 P **P 20 57 34.1 -0.5**
comp=Z,9.0nm,0.8s,baz=205,slow=6.6,SNR=27
ZALV LR LR 21 23 53.9
comp=Z,197nm,20.4s,baz=215,slow=36
comp=Z,9.0nm,0.8s
VRH Novokhopyorsk 60.98 341 *e*P **P 20 57 34.0 -2.7**
VRH pmax pmax
comp=Z,7.0nm,0.6s
TIA Tai'an 61.36 44 P **P 20 57 39.5 -0.1**
TIA S **S 21 05 53.5 -6.8**
TIA pmax pmax
comp=Z,14nm,1.1s
TIA LR LR
comp=Z,200nm,17.3s
TIA LR LR
comp=Z,360nm,21.0s
TIA LR LR
comp=Z,290nm,17.9s
VORD Divnogorie 61.60 339 *e*P **P 20 57 39.1 -1.8**
VORD pmax pmax
comp=Z,8.0nm,1.0s
VSR Storozhevoye 61.86 339 *e*P **P 20 57 39.9 -2.7**
VSR pmax pmax
comp=Z,6.0nm,1.1s
ARTI Arti 62.18 354 **P 20 57 44.2 -0.5**
ARTI IAmb IAmb 20 57 52.4
comp=Z,18nm,1.0s
ARTI Arti 62.18 354 LR LR 21 25 34.3
comp=Z,149nm,18.1s,baz=160,slow=37
ARTI Arti 62.18 354*d* *i*P **P 20 57 43.5 -1.2**
ARTI 20 59 59.2
ARTI S **S 21 06 09.7 -0.3**
ARTI SS **SS 21 10 07.2 -6.1**
ARTI pmax pmax
comp=Z,21nm,1.3s
MAW Mawson 62.21 183 LR LR 21 18 32.0
comp=Z,252nm,20.9s,baz=354,slow=30
SVE Sverdlovsk 62.39 355⇓*e*P **P 20 57 46.8 +0.7**
SVE *e*S **S 21 06 13.9 +1.3**
SVE pmax pmax
comp=Z,27nm,1.5s
SONM Songino Array 62.51 28 **P 20 57 47.3 0.0**
SONM Songino Array 62.51 28 P **P 20 57 47.7 +0.4**
comp=Z,5.1nm,0.9s,baz=222,slow=6.5,SNR=29
SONM LR LR 21 24 42.4
comp=Z,584nm,21.8s,baz=222,slow=36
comp=Z,5.1nm,0.9s
SONM Songino Array 62.51 28 P **P 20 57 47.3 0.0**
SONM pmax pmax
comp=Z,38nm,1.4s
ULN Ulaanbaatar 62.84 28*d* *i*P **P 20 57 50.4 +0.9**
ULN pmax pmax
comp=Z,19nm,2.5s
BISRR Bisoca 63.06 328 P **P 20 57 51.4 +0.5**
comp=Z,35nm,1.2s
ZAK Zakamensk 63.08 24 *e*P **P 20 57 51.1 +0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.6s
LPSR Galich'ya Gora 63.09 340 *e*P **P 20 57 48.7 -2.1**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
MOY Mondy 63.20 22 *e*P **P 20 57 53.2 +1.4**
MOY pmax pmax
comp=Z,19nm,3.0s
VRI Vrincioaia 63.27 328 P **P 20 57 52.4 +0.2**
comp=Z,19nm,1.5s
PLOR5 Plostina Array 63.29 328 P **P 20 57 52.5 +0.2**
comp=Z,405nmcomp=Z,23nm,1.3s
MLR Muntele Rosu 63.43 328 IAmb IAmb 20 58 15.1
comp=Z,30nm,1.7s
MLR Muntele Rosu 63.43 328 LR LR 21 25 19.8
comp=Z,111nm,19.2s,baz=140,slow=36
MLR Muntele Rosu 63.43 328 P **P 20 57 53.5 +0.1**
comp=Z,1nm,1.7s
VOIR 63.88 327 P **P 20 57 56.2 -0.1**
comp=Z,4.9nm,1.3s
NDNU Novodnistrovsk 64.79 331 P **P 20 58 00.9 -1.2**
IRK Irkutsk 64.91 23 *e*P **P 20 58 03.1 +0.3**
IRK pmax pmax
comp=Z,25nm,2.8s
XLT XiLinHaoTe 65.00 36 *e*P **P 20 58 06.0 +2.3**
XLT S **S 21 06 52.0 +6.2**
XLT pmax pmax
comp=Z,6.0nm,0.5s
XLT LR LR
comp=Z,190nm,16.3s
XLT LR LR
comp=Z,170nm,14.2s
ASAR Alice Springs 65.12 113 **P 20 58 04.0 -0.9**
ASAR Alice Springs 65.12 113 P **P 20 58 04.1 -0.8**
comp=Z,3.9nm,0.7s,baz=280,slow=6.1,SNR=50
ASAR LR LR 21 25 04.5
comp=Z,437nm,19.4s,baz=276,slow=35
comp=Z,3.9nm,0.7s
KMPD K-Podol'skiy 65.21 331 P **P 20 58 03.9 -0.9**
WRA Warramunga Arr 65.26 109 **P 20 58 05.1 -0.7**
WRA Warramunga Arr 65.26 109 P **P 20 58 04.8 -1.0**
comp=Z,12nm,0.9s,baz=284,slow=6.2,SNR=48
WRA LR LR 21 22 48.2
comp=Z,407nm,21.4s,baz=308,slow=32
comp=Z,12nm,0.9s
WRA Warramunga Arr 65.26 109 P **P 20 58 05.1 -0.7**
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRAB Tennant Creek 65.27 109 P **P 20 58 04.8 -1.0**
WRAB Tennant Creek 65.27 109*c* *i*P **P 20 58 06.5 +0.7**
WRAB pmax pmax
comp=Z,27nm,0.9s
WB0 Warramunga Arr 65.30 109 IAmb IAmb 20 58 21.7
comp=Z,16nm,0.9s
AK07 Malin Array Si 65.32 333 P **P 20 58 04.6 -0.9**

AK09 Malin Array Si 65.33 334 P **P** **20 58 04.7 -0.8**
AK10 Malin Array Si 65.33 334 P **P** **20 58 04.7 -0.8**
AK06 Malin Array Si 65.34 333 P **P** **20 58 04.8 -0.8**
AK08 Malin Array Si 65.35 334 P **P** **20 58 04.7 -1.0**
AK02 Malin Array Si 65.39 334 P **P** **20 58 05.1 -0.8**
AK12 Malin Array Si 65.40 334 P **P** **20 58 05.2 -0.8**
AK01 Malin Array Si 65.41 334 P **P** **20 58 05.2 -0.9**
AKASG Malin Array Be 65.42 334 P **P** **20 58 04.0 -2.1**
comp=Z,2.1nm,0.7s,baz=127,slow=5.1,SNR=15
AKASG LR LR 21 29 49.0
comp=Z,122nm,18.8s,baz=150,slow=39
comp=Z,2.1nm,0.7s
AKASG Malin Array Be 65.42 334 *i* P **P** **20 58 05.0 -1.1**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 65.42 334 IAmb IAmb 20 58 13.9
comp=Z,7.5nm,0.7s
AKBB Malin Array Si 65.42 334 *de*P **P** **20 58 04.8 -1.3**
AKBB pmax pmax
comp=Z,8.0nm,0.7s
AKBB Malin Array Si 65.42 334 P **P** **20 58 05.2 -0.9**
AK14 Malin Array Si 65.42 333 P **P** **20 58 05.2 -0.9**
KIEV Kiev 65.42 334 **P** **20 58 03.7 -2.4**
KIEV IAmb IAmb 20 58 13.9
comp=Z,6.8nm,0.7s
KIEV Kiev 65.42 334 P **P** **20 58 03.7 -2.4**
KIEV pmax pmax
comp=Z,7.0nm,0.7s
KIEV Kiev 65.42 334 P **P** **20 58 05.2 -0.9**
comp=Z,41nm,1.4s
AK16 Malin Array Si 65.44 334 P **P** **20 58 05.4 -0.9**
AK19 Malin Array Si 65.52 333 P **P** **20 58 05.9 -0.9**
AK22 Malin Array Si 65.53 334 P **P** **20 58 05.9 -0.9**
LUBAR Lubar, Ukraine 65.53 332 P **P** **20 58 05.9 -0.9**
AK20 Malin Array Si 65.54 334 P **P** **20 58 06.0 -0.9**
AK21 Malin Array Si 65.55 334 P **P** **20 58 06.1 -0.9**
KIRV Kirov 65.66 349 LR LR 21 27 38.1
comp=Z,159nm,19.8s,baz=163,slow=37
KIRV Kirov 65.66 349 *d* *i*P **P** **20 58 06.9 -0.6**
OBN Obninsk 65.96 340 *ce*P **P** **20 58 09.3 -0.2**
OBN *e* 20 58 41.7
OBN *e* 21 00 35.6
OBN pmax pmax
comp=Z,32nm,2.1s
OBN MLR MLR
comp=Z,130nm,17.0s
VAE Valguarnera 66.10 315 LR LR 21 24 16.1
comp=Z,70nm,21.7s,baz=126,slow=34
MOS Moscow 66.13 341 *e*P **P** **20 58 09.6 -1.0**
MOS *e* 20 58 39.5
MOS *e*S **S** **21 07 00.9 +2.0**
MOS pmax pmax
comp=Z,29nm,0.8s
MI28 Mi28,Pidlybu 66.27 333 P **P** **20 58 10.7 -0.9**
STNU Starunia 66.28 330 P **P** **20 58 10.8 -1.0**
SYO Syowa Base 66.36 191⇓*e*P **P** **20 58 14.0 +2.1**
BRIU Brid 66.80 329 P **P** **20 58 14.9 -0.1**
BERU Beregovo 66.93 328 P **P** **20 58 15.7 -0.2**
HOLU Holmets 67.25 329 P **P** **20 58 17.8 -0.1**
RNPP5 Staryi Chortor 67.29 332 P **P** **20 58 18.0 -0.1**
RNPP9 Sopachiv 67.42 333 P **P** **20 58 19.2 +0.3**
MORH Mrgy, Hungar 67.91 325 P **P** **20 58 21.7 -0.4**
comp=Z,4.5nm,1.3s
INTR Introdacqua 68.60 319 P **P** **20 58 25.3 -1.4**
MNK Minsk 68.71 336 *i* P **P** **20 58 26.4 -0.6**
MNK *i* 21 00 59.0
MNK *i* PPP PPP 21 02 39.1
MNK *i* S **S** **21 07 30.7 +0.7**
MNK *i* SS **SS** **21 11 57.9 +2.9**
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=E,11nm,0.7s
MNK MLR MLR
comp=N,150nm,19.0s
MNK MLR MLR
comp=Z,113nm,20.0s
MNK MLR MLR
comp=E,115nm,17.0s
KEST Kesra 69.02 311 LR LR 21 25 59.8
comp=E,127nm,21.5s,baz=28,slow=34
TORD Torodi Ar. Bea 69.07 286 **P** **20 58 29.3 -0.7**
TORD IAmb IAmb 20 58 46.3
comp=Z,11nm,1.4s
TORD Torodi Ar. Bea 69.07 286 P **P** **20 58 28.6 -1.4**
comp=Z,0.6nm,0.3s,baz=84,slow=6.2,SNR=5.7
comp=Z,0.6nm,0.3s
MPLH Magyarpolny 69.08 325 P **P** **20 58 29.1 -0.3**
comp=Z,26nm,1.2s
VYHS Vyhne 69.11 327 *e*P **P** **20 58 28.7 -0.9**
VYHS pmax pmax
comp=Z,6.0nm,1.3s
VYHS Vyhne 69.11 327 *e*P **P** **20 58 28.7 -0.9**
LANS Liptovska Anna 69.16 328 *e*P **P** **20 58 30.2 +0.3**
LANS pmax pmax
comp=Z,3.0nm,0.7s
LANS Liptovska Anna 69.16 328 *e*P **P** **20 58 30.2 +0.3**
KSAR Wonju Array Be 69.55 47 **P** **20 58 31.8 -0.8**
KSAR Wonju Array Be 69.55 47 P **P** **20 58 31.8 -0.8**
KSRS Korea Array 69.58 47 P **P** **20 58 32.4 -0.4**
comp=Z,0.9nm,0.5s,baz=250,slow=6.9,SNR=5.5
comp=Z,0.9nm,0.5s
FDMO Fiordimonte 69.62 320 **P** **20 58 31.9 -1.1**
FDMO IAmb IAmb 20 58 49.1
comp=Z,8.4nm,0.9s
MODS Modra-Piesok 69.89 326 *e*P **P** **20 58 30.9 -3.6**
MODS pmax pmax
comp=Z,17nm,1.5s
MODS Modra-Piesok 69.89 326 *e*P **P** **20 58 30.9 -3.6**
KLMR Klimovskoe 69.91 345 *e*P **P** **20 58 32.6 -1.6**
KLMR pmax pmax
comp=Z,46nm,1.3s
KLMR MLR MLR
comp=Z,277nm,20.0s
JAVC Velka Javorina 69.95 327 *e*P **P** **20 58 34.6 -0.3**
RONA Rosalia, Austr 70.07 325 *e*P **P** **20 58 35.3 -0.3**
comp=Z,3.5nm,1.0s
SOKA Soboth 70.26 324 *e*P **P** **20 58 36.5 -0.3**
comp=Z,3.8nm,1.5s
ARSA Arzberg 70.27 325 *e*P **P** **20 58 36.7 -0.1**
comp=Z,6.4nm,1.7s
CONA Conrad Observa 70.44 325 *e*P **P** **20 58 37.3 -0.7**
comp=Z,8.7nm,1.5s
MORC Moravsky Berou 70.54 328 *e*P **P** **20 58 36.3 -2.2**
CN2 Changchun 70.69 40 P **P** **20 58 39.8 +0.4**
CN2 *e*S **S** **21 07 54.0 +0.3**
CN2 LR LR
comp=Z,130nm,15.0s
CN2 LR LR
comp=Z,190nm,15.0s
CN2 LR LR
comp=Z,150nm,17.0s
KRUC Moravsky 70.76 327 *e*P **P** **20 58 38.7 -1.1**
VRAC Vranov 70.79 327 *e*P **P** **20 58 41.0 +1.0**
VRAC Vranov 70.79 327 LR LR 21 30 14.6
comp=Z,72nm,19.8s,baz=122,slow=36
MYKA Terra Mystica 71.05 323 *e*P **P** **20 58 42.6 +0.9**
comp=Z,6.6nm,1.6s
MOA Molln 71.31 325 *e*P **P** **20 58 42.5 -0.7**
comp=Z,7.9nm,1.2s
BIOA Bad Ischl, Aus 71.59 324 *e*P **P** **20 58 43.1 -1.8**
comp=Z,6.4nm,1.3s
ABTA Abfaltersbach 71.79 323 *i* P **P** **20 58 45.7 -0.4**
comp=Z,7.3nm,1.2s,SNR=6.5
JAY Jayapura 71.83 91 LR LR 21 31 24.9
comp=Z,79nm,20.4s,baz=2.5,slow=37
VSU Vasula 72.00 338⇓*e*P **P** **20 58 46.6 -0.4**
VSU pmax pmax
comp=Z,22nm,1.9s
LESA Schwarzleotal 72.02 324 *e*P **P** **20 58 46.8 -0.7**
comp=Z,6.7nm,1.2s
RJOB Jochberg 72.11 324 *e*P **P** **20 58 47.4 -0.6**
comp=Z,1.7nm,0.7s,baz=120,slow=5.8
GERES GERESS Array B 72.15 325 P **P** **20 58 46.7 -1.6**
comp=Z,0.1nm,0.3s,baz=83,slow=4.2,SNR=3.8
comp=Z,0.1nm,0.3s
WTTA Wattenberg 72.56 323 *i* P **P** **20 58 50.1 -0.8**
comp=Z,5.8nm,0.7s,SNR=5.6
STKA Stephens Creek 72.61 122 P **P** **20 58 51.3 -0.1**
comp=Z,2.3nm,0.6s,baz=303,slow=8.3,SNR=7.7
STKA LR LR 21 27 30.3
comp=Z,390nm,19.9s,baz=255,slow=33
comp=Z,2.3nm,0.6s

WATA Walderalm 72.63 323 P **P** **20 58 50.5 -0.7**
comp=Z,12nm,1.3s
SQTA Sankt Quirin 72.80 323 *i* P **P** **20 58 51.6 -0.7**
comp=Z,9.9nm,1.1s
BNX BinXian 72.82 39 ⇑P **P** **20 58 51.0 -1.2**
BNX pP **pwP** **20 59 00.5 +0.1**
BNX sP **PcP** **20 59 04.0 -5.4**
BNX S **S** **21 08 18.3 +0.1**
BNX pmax pmax
comp=Z,5.0nm,2.0s
BNX pmax pmax
comp=Z,37nm,3.9s
BNX LR LR
comp=Z,110nm,15.7s
BNX LR LR
comp=Z,110nm,15.2s
BNX LR LR
comp=Z,170nm,19.0s
MOTA Moosalm 72.92 323 *i* P **P** **20 58 52.1 -0.8**
comp=Z,10nm,0.8s,SNR=7.3
BRG Berggiesshubel 73.08 327 *e*P **P** **20 58 52.8 -0.8**
comp=Z,1.7nm,0.9s,baz=120,slow=5.8
BRG *es*P **PcP** **20 59 07.1 -3.2**
BRG Berggiesshubel 73.08 327 *e*P **P** **20 58 53.6 0.0**
BRG Amp 20 58 54.8
comp=Z,4.0nm,1.1s
BRG Berggiesshubel 73.08 327 P P 20 59 03.0 +9.4
BRG Amp 20 59 04.0
comp=Z,3.1nm,0.8s
BRG Berggiesshubel 73.08 327 S **SKiKP** **21 08 26.0 -0.4**
FUR Furstenfeldbru 73.21 324 *e*P **P** **20 58 53.2 -1.3**
comp=Z,13nm,0.8s,baz=120,slow=5.8
DAVOX Davos/Dischmat 73.39 322 LR LR 21 31 04.7
comp=Z,94nm,20.8s,baz=106,slow=36
ROTZ Rotzenmuhle 73.46 326 *e*P **P** **20 58 55.6 -0.4**
comp=Z,0.6nm,1.0s,baz=120,slow=5.8
ROTZ *es*P **PcP** **20 59 08.5 -3.5**
TUE Stuetta 73.58 322 IAmb IAmb 20 59 17.2
comp=Z,27nm,1.6s
MANZ Manzenberg 73.63 326 *e*P **P** **20 58 56.0 -0.9**
comp=Z,0.5nm,0.9s,baz=120,slow=5.8
DAVA Damuels 73.63 323 *i* P **P** **20 58 57.0 -0.2**
comp=Z,10nm,0.7s,SNR=9.4
TANN Tannenbergstha 73.65 326 *e*P **P** **20 58 56.4 -0.7**
comp=Z,1.6nm,0.9s,baz=120,slow=5.8
MDJ Mudanjiang 73.72 41 P **P** **20 58 57.1 -0.5**
MDJ IAmb IAmb 20 59 07.2
comp=Z,28nm,1.2s
MDJ Mudanjiang 73.72 41 P **P** **20 58 58.8 +1.3**
MDJ pP pwP 20 59 05.0 -0.7
MDJ S **S** **21 08 36.5 +8.1**
MDJ pmax pmax
comp=Z,17nm,1.9s
MDJ LR LR
comp=Z,210nm,16.5s
MDJ LR LR
comp=Z,240nm,16.5s
MDJ LR LR
comp=Z,240nm,19.2s
CLL Collm 73.81 327 *i* P **P** **20 58 58.2 +0.3**
CLL *es* **SKiKP** **21 08 24.0 -3.5**
CLL pmax pmax
comp=Z,12nm,1.3s
CLL Collm 73.81 327 *e*P **P** **20 58 57.4 -0.5**
comp=Z,4.2nm,0.9s,baz=120,slow=5.8
GRA1 Grafenberg Arr 73.98 325 IAmb IAmb 20 59 13.7
comp=Z,23nm,1.0s
GRF Grafenberg Arr 73.98 325 *e*P **P** **20 58 57.8 -1.2**
comp=Z,13nm,1.0s,baz=120,slow=5.8
GRFO **Grafenberg 73.98 325** P **P** **20 58 58.2 -0.8**
GRFO IAmb IAmb 20 59 13.7
comp=Z,24nm,1.0s
GRFO Grafenberg 73.98 325 P **P** **20 58 58.2 -0.8**
GRFO pmax pmax
comp=Z,24nm,1.0s
MOX Moxa 74.23 326 *e*P **P** **20 58 59.8 -0.7**
comp=Z,3.7nm,1.0s,baz=120,slow=5.8
MOX *es*P **PcP** **20 59 13.9 -1.4**
FIA1 FINESS Array S 74.36 340 IAmb IAmb 20 59 09.7
comp=Z,24nm,1.0s
FINES FINESS Array B 74.36 340 **P** **20 58 59.7 -1.2**
FINES FINESS Array B 74.36 340 P **P** **20 58 58.6 -2.3**
comp=Z,5.5nm,0.9s,baz=123,slow=7.0,SNR=14
FINES LR LR 21 33 33.5
comp=Z,126nm,20.5s,baz=138,slow=37
comp=Z,5.5nm,0.9s
FINES FINESS Array B 74.36 340 *i* P **P** **20 59 00.9 0.0**
FINES pmax pmax
comp=Z,5.0nm,0.9s
DBIC Dimbokro 74.41 278 P **P** **20 59 01.4 -0.8**
comp=Z,3.4nm,0.8s,baz=172,slow=7.5,SNR=3.7
comp=Z,3.4nm,0.8s
BNI Bardonecchia 74.66 320 P **P** **20 59 02.6 -0.6**
BNI IAmb IAmb 20 59 17.9
comp=Z,20nm,1.7s
BNI Bardonecchia 74.66 320 P **P** **20 59 02.6 -0.6**
BNI pmax pmax
comp=Z,20nm,1.7s
SENIN Lac Senin/Sane 74.81 321 IAmb IAmb 20 59 18.5
comp=Z,17nm,0.8s
BFO Black Forest 75.03 323 *e*P **P** **20 59 03.8 -1.3**
comp=Z,2.9nm,0.9s,baz=120,slow=5.8
CLZ Clausthal 75.50 327 *e*P **P** **20 59 07.0 -0.8**
comp=Z,2.8nm,0.8s,baz=120,slow=5.8
CLZ *es*P **PcP** **20 59 21.7 +0.9**
GTTG Gottingen 75.58 327 *e*P **P** **20 59 07.4 -0.7**
comp=Z,7.3nm,1.1s,baz=120,slow=5.8
GTTG *es*P **PcP** **20 59 22.1 +1.1**
TNS Taunus Mts 75.81 325 *e*P **P** **20 59 08.6 -1.0**
baz=120,slow=5.8
SSB Saint Sauveur 76.14 319 IAmb IAmb 20 59 33.5
comp=Z,40nm,1.9s
CTAO Charters Tower 76.46 109 P **P** **20 59 14.1 +0.2**
CTAO Charters Tower 76.46 109 P **P** **20 59 14.1 +0.2**
CTAO pmax pmax
comp=Z,27nm,1.2s
MAJO Matsushiro 76.98 51⇑*e*P **P** **20 59 19.0 +2.5**
MAJO pmax pmax
comp=Z,8.0nm,1.1s
MJAR Matsushiro Arr 76.98 51 **P** **20 59 14.3 -2.2**
MJAR IAmb IAmb 20 59 26.9
comp=Z,31nm,1.9s
MJAR Matsushiro Arr 76.98 51 P **P** **20 59 15.5 -1.0**
comp=Z,2.1nm,0.8s,baz=246,slow=5.7,SNR=5.4
comp=Z,2.1nm,0.8s
MJAR Matsushiro Arr 76.98 51 P **P** **20 59 14.3 -2.2**
MJAR pmax pmax
comp=Z,31nm,1.9s
APA Apatity 77.00 347 *e*P **P** **20 59 19.3 +3.4**
APA *e*S S 21 08 54.4 -10
APA *e*SS **SS** **21 14 06.6 +5.6**
APA MLR MLR
comp=Z,295nm,3.9s
BUG Bochum--Univer 77.03 326 *e*P **P** **20 59 16.0 -0.4**
baz=120,slow=5.8
BUG *es*P **PcP** **20 59 29.8 +2.5**
TROLL Troll, Antarti 77.63 197 ⇓P **P** **20 59 17.6 -2.1**
comp=Z,77nm,0.9s
PMG Port Moresby 77.75 98 LR LR 21 32 27.3
comp=Z,151nm,21.9s,baz=310,slow=35
GUMO Guam 77.89 75 LR LR 21 31 34.2
comp=Z,118nm,21.0s,baz=270,slow=34
HFS Hagfors 78.21 335 P **P** **20 59 22.6 -0.2**
comp=Z,7.6nm,0.7s,baz=132,slow=6.6,SNR=26
HFS LR LR 21 35 40.3
comp=Z,163nm,18.7s,baz=130,slow=37
comp=Z,7.6nm,0.7s
SNAA Sanae 79.12 198 ⇓P **P** **20 59 30.2 +2.3**
comp=Z,20nm,0.9s
SNAA Sanae 79.12 198 P **P** **20 59 28.4 +0.6**
comp=Z,2.0nm,1.2s,baz=105,slow=8.8,SNR=12
SNAA LR LR 21 26 23.9
comp=Z,240nm,21.6s,baz=81,slow=30
comp=Z,2.0nm,1.2s
KONO Kongsberg 79.72 334 P **P** **20 59 30.5 -0.6**
KONO Kongsberg 79.72 334 P **P** **20 59 30.5 -0.6**
KONO pmax pmax
comp=Z,8.0nm,0.9s
NB2 NORSAR Subarra 79.73 335 P **P** **20 59 30.7 -0.5**
comp=Z,7.9nm,1.4s,baz=122,slow=5.6
NOA NORSAR Array B 79.73 335 P **P** **20 59 30.8 -0.5**
comp=Z,1.3nm,0.9s,baz=112,slow=5.7,SNR=9.7
NOA LR LR 21 36 45.1
comp=Z,109nm,18.6s,baz=115,slow=37
comp=Z,1.3nm,0.9s
ESDC Sonseca Array 80.27 312 **P** **20 59 34.5 -0.2**
ESDC Sonseca Array 80.27 312 P **P** **20 59 34.4 -0.2**
comp=Z,2.4nm,0.9s,baz=87,slow=4.4,SNR=11
comp=Z,2.4nm,0.9s
ARCES ARCESS Array B 80.37 346 P **P** **20 59 34.6 +0.1**
ARCES IAmb IAmb 21 00 17.1
comp=Z,27nm,1.6s
ARCES ARCESS Array B 80.37 346 P **P** **20 59 33.9 -0.6**
comp=Z,3.8nm,0.8s,baz=98,slow=2.6,SNR=11
ARCES LR LR 21 35 47.2
comp=Z,210nm,21.6s,baz=124,slow=36
comp=Z,3.8nm,0.8s
ARCES ARCESS Array B 80.37 346 P **P** **20 59 34.6 +0.1**
ARCES pmax pmax
comp=Z,27nm,1.6s
VNA1 Neumayer--Stat 80.60 199 P **P** **20 59 38.0 +2.3**
comp=Z,2.8nm,0.9s
VNA3 Neumayer Olymp 81.16 199 P **P** **20 59 39.2 +0.4**
comp=Z,1.6nm,0.6s
YAK Yakutsk 81.66 25 LR LR 21 36 51.4
comp=Z,281nm,19.0s,baz=240,slow=36
YSS Yuzhno-Sakhali 83.15 42 *e*P **P** **20 59 50.8 +1.2**
YSS *e*S **S** **21 10 07.8 -1.8**
YSS *e*SS **SS** **21 15 37.1 +3.0**
YSS pmax pmax
comp=Z,10.0nm,0.8s
EKA Eskdalemuir Ar 84.27 327 P **P** **20 59 55.1 -0.1**
comp=Z,0.4nm,0.5s,baz=38,slow=15,SNR=3.5
comp=Z,0.4nm,0.5s
QSPA South Pole Qui 84.59 180 P **P** **20 59 58.0 +1.2**
comp=Z,1.9nm,0.7s,baz=257,slow=1.5,SNR=12
QSPA LR LR 21 33 57.6
comp=Z,230nm,18.2s,baz=279,slow=33
comp=Z,1.9nm,0.7s
VNDA Vanda 85.42 167 LR LR 21 34 42.9
comp=Z,243nm,18.1s,baz=263,slow=33
TIXI Tiksi 86.11 16 LR LR 21 40 01.1
comp=Z,326nm,19.4s,baz=236,slow=37
BELA Belgrano 2 87.52 192 P **P** **21 00 10.8 -0.1**
BELA IAmb IAmb 21 00 20.8
comp=Z,5.2nm,0.8s
HNR Honiara 90.33 99 LR LR 21 36 18.6
comp=Z,139nm,20.2s,baz=228,slow=32
MA2 Magadan 90.61 30 LR LR 21 43 46.9
comp=Z,85nm,18.6s,baz=262,slow=37
JMIC Jan Mayen 90.95 341 LR LR 21 42 47.9
comp=Z,149nm,19.3s,baz=88,slow=37
SEY Seymchan 91.90 27 LR LR 21 42 58.4
comp=Z,335nm,18.9s,baz=326,slow=36
SEY Seymchan 91.90 27⇓*e*P **P** **21 00 31.5 -0.1**
SEY pmax pmax
comp=Z,5.0nm,1.0s
PETK Petropavlovsk- 93.68 37 LR LR 21 47 18.0
comp=Z,137nm,18.5s,baz=267,slow=38
BORG Borgarnes 94.89 334 LR LR 21 46 24.2
comp=Z,57nm,19.2s,baz=101,slow=37
DZM Mont Dzumac 95.11 113 *e*SS SS 21 18 24.2 -4.7
comp=Z,162nm,24.9s
DZM Mont Dzumac 95.11 113 *e*LR LR 21 31 26.3
comp=Z,972nm,22.1s
YKA Yellowknife Ar 123.00 2 PKP **PKPdf** **21 06 19.1 -0.5**
comp=Z,1.1nm,0.8s,baz=4.2,slow=2.3,SNR=5.6
TBI Tubuai 133.02 129 *e*SS SS 21 26 50.6 +2.7
comp=Z,2μm,42.8s
TBI Tubuai 133.02 129 *e*LR LR 21 48 54.8
comp=Z,838nm,33.5s
TBI *e*LR LR 21 48 55.2
comp=Z,939nm,29.0s
PPT2 Papeete2 135.81 122 *e*SS SS 21 27 17.6 -4.7
comp=Z,54nm,24.5s
PPT2 Papeete2 135.81 122 *e*LR LR 21 50 21.6
comp=Z,242nm,23.8s
PPT2 *e*LR LR 21 50 22.1
comp=Z,216nm,26.2s
U54A Nelsons Funny 138.93 323 **PKPdf** **21 06 50.3 -0.3**
PDAR Pinedale Array 142.78 358 PKP **PKPdf** **21 06 54.6 -3.0**
comp=Z,0.4nm,0.4s,baz=28,slow=2.7,SNR=1.4
ELK Elko 144.66 5 PKPbc 21 07 00.0 +0.3
ELK Elko 144.66 5 PKIKP PKPbc 21 07 00.0 +0.3
BEKR Beckworth 144.75 12 PKPbc 21 06 59.9 0.0
DUG Dugway, Tooele 145.36 2 **PKPbc** **21 07 01.8 0.0**
DUG Dugway, Tooele 145.36 2 PKIKP **PKPbc** **21 07 01.8 0.0**
T35A Sooner Cattle 145.87 339 **PKPdf** **21 07 02.4 -0.5**
NVAR Mina Array Bea 146.53 10 PKPbc **PKPab** **21 07 06.2 -0.3**
comp=Z,9.3nm,1.1s,baz=4.2,slow=2.7,SNR=15
PV18 Skein Mesa, Pa 147.26 357 **PKPdf** **21 07 04.7 -0.8**
TAOE Nuku Hiva Isla 147.91 116 *e*SS SS 21 29 24.1 -19
comp=Z,4μm,32.1s
TAOE Nuku Hiva Isla 147.91 116 *e*LR LR 21 55 45.5
comp=Z,282nm,30.5s
LCMT Little Creek M 148.51 3 **PKPbc** **21 07 11.6 +0.6**
SHPR Sheep Range 148.86 6 **PKPbc** **21 07 12.4 +0.4**
TXAR Lajitas Array 155.15 344 **PKPdf** **21 07 15.5 -2.1**
TXAR Lajitas Array 155.15 344 PKP **PKPdf** **21 07 17.4 -0.3**
comp=Z,0.2nm,0.5s,baz=23,slow=1.4,SNR=2.8
TXAR PKPab **PKPab** **21 07 41.8 -0.3**
comp=Z,3.2nm,0.9s,baz=72,slow=2.3,SNR=10

DJA ***25*** *20:58:45.8±0.5, 10°S±6°×11°9E±°, h10km, M4.4/16, mB5.0/3, mb4.6/8, MLv4.3/16, Mw(mB)4.3/3*
IDC ***25*** *20:58:48.9±3.8, 10°.26S×118°.89E, h61km±37km, mb3.2/2, mbtmp3.8/7, ML3.7/5, Error ellipse: s-maj=35.7km s-min=14.2km az=62.0*
ISC 25 20:58:46.5±0.9, 10°.44S±0°.07×118°.72E±0°.05, h51km, n23, σ2ˢ23/26, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.04**	**40**	P		**Pn**	**20 59 03.6**	**-1.2**
WSI	**Waingapu**	**1.73**	**64**	P		**Pn**	**20 59 15.5**	**+1.3**
BASI	**Baing, Sumba**	**1.84**	**83**	P		**Pn**	**20 59 19.5**	**+3.8**
PLAI	**Plampang**	**1.86**	**330**	P		**Pn**	**20 59 17.3**	**+1.4**
EDFI	**Ende, Flores**	**3.38**	**60**	P		**Pn**	**20 59 37.5**	**+0.6**
MMRI	**Maumere**	**3.91**	**63**	P		**Pn**	**20 59 47.2**	**+3.2**
SRBI	**Singaraja**	**4.18**	**304**	P		**Pn**	**20 59 48.8**	**+1.0**
BSSI	**Bau Bau, Buton**	**4.62**	**22**	P		**Pn**	**20 59 55.5**	**+1.7**
BATI	**Baumata**	**4.87**	**88**	P		**Pn**	**20 59 58.6**	**+1.3**
	2.8nm,0.3s,baz=355,slow=0.8,SNR=6.1							
BATI				S		**Sn**	**21 00 50.8**	**-1.7**
	20nm,0.5s,baz=261,slow=13,SNR=6.0							
	27nm,0.7s							
BATI	**Baumata**	**4.87**	**88**	P		**Pn**	**20 59 59.6**	**+2.3**
JAGI	**Jajag, Banyuwa**	**4.92**	**293**	P		**Pn**	**20 59 58.2**	**+0.3**
BKSI	**Bulukumba**	**5.28**	**15**	P		**Pn**	**21 00 04.1**	**+1.3**
KAPI	**Kappang**	**5.49**	**11**	P		**Pn**	**21 00 07.1**	**+1.3**
	2.2nm,0.3s,baz=195,slow=16,SNR=12							
KAPI				S		**Sn**	**21 01 05.2**	**-2.4**
	22nm,0.4s,baz=158,slow=19,SNR=8.5							
	18nm,0.5s							
GMJI	**Gumukmas**	**5.64**	**292**	P		**Pn**	**21 00 08.2**	**+0.4**
	0.3nm43nm,1.2s							
BNSI	**Bone**	**6.16**	**13**	P		**Pn**	**21 00 18.0**	**+3.0**
	0.1nm32nm,0.7s							
SPSI	**Sidrap Palu**	**6.52**	**9**	P		**Pn**	**21 00 22.3**	**+2.4**
	0.1nm23nm,0.9s							
TTSI	**Tana Toraja**	**7.43**	**9**	P		**Pn**	**21 00 35.1**	**+2.7**
	733nm41nm,1.0s							
FITZ	**Fitzroy Crossi**	**10.14**	**139**	P		**Pn**	**21 01 11.4**	**+2.0**
	0.9nm,0.3s,baz=337,slow=14,SNR=30							
FITZ				S		**Sn**	**21 02 58.0**	**-3.8**
	4.0nm,0.6s,baz=220,slow=17,SNR=7.9							
	4.2nm,0.5s							
MPSI	**Mapaga**	**10.78**	**6**	P		Pn	21 01 07.5	-11
WRA	**Warramunga Arr**	**17.77**	**124**	P		**Pn**	**21 02 50.2**	**-0.2**
	0.2nm,0.3s,baz=300,slow=13,SNR=6.9							
	0.7nm,0.5s							
ASAR	**Alice Springs**	**19.56**	**134**	P		**Pn**	**21 03 13.7**	**+1.8**
	0.2nm,0.3s,baz=318,slow=11,SNR=18							
ASAR				S		**S**	**21 06 44.3**	**-4.3**
	0.6nm,0.7s,baz=310,slow=23,SNR=4.0							
	1.9nm,0.7s							
SONM	**Songino Array**	**59.05**	**350**	P		**P**	**21 08 41.3**	**-0.1**
	0.3nm,0.6s,baz=185,slow=8.7,SNR=1.3							
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**65.61**	**333**	P		**P**	**21 09 25.4**	**+0.2**
	0.6nm,0.8s,baz=142,slow=5.1,SNR=2.0							
	0.6nm,0.8s							

IDC ***25*** *21:03:23.1±0.6, 27°.64S×176°.46W, h0km, mb4.1/10, mbtmp4.1/11, ML4.5/1, Error ellipse: s-maj=25.4km s-min=17.9km az=114.0*
NEIC ***25*** *21:03:25.7±1.9, 27°.64S±0°.05×176°.4W±0°.2, h10km±1km, mb4.5/8, Error ellipse: s-maj=23.6km s-min=7.9km az=78.0*
ISC 25 21:03:28.5±0.6, 27°.70S±0°.09×176°.4W±0°.1, h34km, n46,

σ1⁸34/45, **mb4.3**/15, **5C, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.07**	**221**		**Pn**	**21 04 01.2**	**+0.3**
RAO	**Raoul Island**	**2.07**	**221**	Pn	**Pn**	**21 04 01.0**	**+0.1**
	168nm,0.3s,baz=53,slow=21,SNR=6.6						
RAO				Sn	**Sn**	**21 04 26.5**	**+0.9**
	478nm,0.3s,baz=47,slow=20,SNR=9.7						
	278nm,0.3s						
RIZ	**Raoul Island**	**2.07**	**222**	P	**Pn**	**21 04 00.7**	**-0.3**
RIZ				S	**Sb**	**21 04 28.3**	**-2.6**
GLKZ	**Green Lake**	**2.08**	**221**	P	**Pn**	**21 04 01.1**	**0.0**
GLKZ				S	**Sn**	**21 04 26.6**	**+0.8**
PKGZ	**Pakihiroa**	**11.17**	**203**	P	Pn	21 05 58.3	-7.5
HAZ	**Te Kaha**	**11.18**	**205**	P	Pn	21 05 57.6	-8.3
MWZ	**Matawai**	**11.78**	**204**	P	Pn	21 06 05.0	-9.2
RAGZ	**Rawiri**	**11.96**	**204**	P	Pn	21 06 09.2	-7.5
MSWZ	**Moikau Station**	**15.32**	**205**	Pn	**Pn**	**21 07 03.1**	**+0.8**
DZM	**Mont Dzumac**	**16.57**	**286**	Pn	**P**	**21 07 26.2**	**+5.4**
	0.2nm,0.3s,baz=108,slow=20,SNR=2.4						
STKA	**Stephens Creek**	**36.57**	**253**	P	**P**	**21 10 30.3**	**-1.0**
	0.7nm,0.5s,baz=95,slow=11,SNR=3.7						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**44.77**	**263**	P	**P**	**21 11 37.6**	**-1.6**
	1.0nm,0.6s,baz=105,slow=7.8,SNR=11						
	1.0nm,0.6s						
WR8	**Warramunga Arr**	**45.37**	**269**	P	**P**	**21 11 42.8**	**-1.2**
WR8				IAmb	IAmb	21 12 15.7	
	comp=Z,8.9nm,1.4s						
WRA	**Warramunga Arr**	**45.52**	**269**	P	**P**	**21 11 43.7**	**-1.4**
WRA	**Warramunga Arr**	**45.52**	**269**	P	**P**	**21 11 43.6**	**-1.6**
	comp=Z,1.4nm,0.7s,baz=108,slow=6.1,SNR=14						
	comp=Z,1.4nm,0.7s						
WB0	**Warramunga Arr**	**45.53**	**269**	P	**P**	**21 11 44.1**	**-1.1**
WB0				IAmb	IAmb	21 12 05.4	
	comp=Z,5.6nm,1.1s						
VNDA	**Vanda**	**50.92**	**186**	P	**P**	**21 12 29.1**	**+3.1**
KNRA	**Kununurra**	**52.01**	**271**	P	**P**	**21 12 34.8**	**-0.2**
CASY	**Casey**	**58.19**	**207**	P	**P**	**21 13 18.6**	**-0.3**
QSPA	**South Pole Qui**	**62.41**	**180**	P	**P**	**21 13 48.5**	**+0.6**
QSPA				IAmb	IAmb	21 13 49.6	
	comp=Z,3.9nm,0.8s						
QSPA	**South Pole Qui**	**62.41**	**180**	P	**P**	**21 13 48.9**	**+1.0**
	comp=Z,3.4nm,0.8s,baz=61,slow=2.2,SNR=11						
	comp=Z,3.4nm,0.8s						
MJAR	**Matsushiro Arr**	**76.88**	**324**	P	**P**	**21 15 16.6**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=154,slow=5.0,SNR=4.7						
	comp=Z,1.4nm,0.6s						
TROLL	**Troll, Antarti**	**80.56**	**180**	⇑P	**P**	**21 15 37.0**	**-0.2**
	comp=Z,179nm,0.8s						
SNAA	**Sanae**	**80.80**	**178**	⇑P	**P**	**21 15 37.8**	**-0.6**
	comp=Z,55nm,0.9s						
SNAA	**Sanae**	**80.80**	**178**	P	**P**	**21 15 37.7**	**-0.7**
SNAA				IAmb	IAmb	21 15 57.0	
	comp=Z,8.0nm,1.5s						
SNAA	**Sanae**	**80.80**	**178**	P	**P**	**21 15 37.9**	**-0.5**
	comp=Z,2.6nm,0.9s,baz=184,slow=5.2,SNR=8.6						
	comp=Z,2.6nm,0.9s						
VNA3	**Neumayer Olymp**	**80.89**	**176**	⇑P	**P**	**21 15 37.7**	**-1.1**
	comp=Z,7.1nm,0.7s						
VNA2	**Neumayer--Watz**	**81.34**	**176**	⇑P	**P**	**21 15 40.7**	**-0.5**
	comp=Z,4.9nm,0.7s,baz=183,slow=4.1						
VNA1	**Neumayer--Stat**	**81.56**	**176**	⇑P	**P**	**21 15 42.0**	**-0.3**
	comp=Z,6.3nm,0.9s						
KSRS	**Korea Array**	**83.25**	**319**	P	**P**	**21 15 52.0**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=124,slow=6.1,SNR=3.0						
	comp=Z,0.7nm,0.6s						
PETK	**Petropavlovsk-**	**83.58**	**345**	P	**P**	**21 15 53.4**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=141,slow=9.3,SNR=1.4						
	comp=Z,0.8nm,0.6s						
NVAR	**Mina Array Bea**	**85.28**	**42**	P	**P**	**21 16 02.8**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=205,slow=6.6,SNR=5.0						
	comp=Z,1.3nm,0.7s						
ILAR	**Eielson Array**	**94.98**	**12**	P	**P**	**21 16 46.9**	**0.0**
	comp=Z,0.5nm,0.7s,baz=213,slow=6.5,SNR=4.8						
	comp=Z,0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**116.96**	**319**	PKP	**PKPdf**	**21 22 08.4**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=131,slow=4.1,SNR=3.6						
MKAR	**Makanchi Array**	**117.12**	**311**	PKP	**PKPdf**	**21 22 08.9**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=72,slow=4.7,SNR=4.9						
KURBB	**Kurchatov Arra**	**120.24**	**315**	PKP	**PKPdf**	**21 22 14.3**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=89,slow=2.3,SNR=4.2						
BVAR	**Borovoye Array**	**125.44**	**317**	PKP	**PKPdf**	**21 22 25.2**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=122,slow=1.9,SNR=6.0						
ARCES	**ARCESS Array B**	**136.24**	**349**	PKP	**PKPdf**	**21 22 43.2**	**-2.4**
	comp=Z,1.1nm,0.8s,baz=40,slow=2.1,SNR=6.6						
FINES	**FINESS Array B**	**143.06**	**342**	PKhKP	PKPpre	21 22 54.8	
	comp=Z,0.4nm,0.4s,baz=42,slow=4.5,SNR=7.7						
NB2	**NORSAR Subarra**	**146.27**	**353**	PKP	**PKPbc**	**21 23 04.5**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=9.3,slow=2.9						
NOA	**NORSAR Array B**	**146.27**	**353**	PKPbc	**PKPbc**	**21 23 04.6**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=10,slow=4.1,SNR=15						
HFS	**Hagfors**	**146.85**	**351**	PKPbc	**PKPbc**	**21 23 06.0**	**-0.7**
	comp=Z,2.8nm,0.7s,baz=42,slow=2.3,SNR=12						
AKASG	**Malin Array Be**	**149.93**	**327**	PKPbc	**PKPbc**	**21 23 13.9**	**-1.1**
	comp=Z,1.9nm,0.7s,baz=46,slow=3.1,SNR=9.6						
MMAI	**Mount Meron Ar**	**152.15**	**289**	PKPbc	**PKPbc**	**21 23 20.4**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=64,slow=7.0,SNR=4.5						
BRTR	**Keskin Array B**	**152.44**	**304**	PKPbc	**PKPbc**	**21 23 21.4**	**0.0**
	comp=Z,0.6nm,0.8s,baz=50,slow=4.5,SNR=2.2						
BRTR				PKPab	**PKPab**	**21 23 31.4**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=76,slow=3.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**165.41**	**172**	PKPab	**PKPab**	**21 24 27.6**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=178,slow=2.8,SNR=6.4						

*IDC **25** 21:04:44.0±0.9, 9.°42N×85.°88W, h0km, mb4.0/5, mbtmp4.0/7, ML4.1/2, MS3.1/4, Error ellipse: s-maj=20.4km s-min=14.3km az=143.0*

*UCR **25** 21:04:44.2±1.2, 9.°57N×86.°01W, h0km±5km, MW4.1*

*CATAC **25** 21:04:45.0±0.3, 10.°N±2.°×8.°6W±.°, h1km, M4.4/37, MLv4.4/37, Error ellipse: s-maj=4.4km s-min=2.3km az=38.3, confirmed*

*NEIC **25** 21:04:45.1±1.5, 9.°50N±0.°08×85.°84W±0.°07, h10km±2km, mb4.2/3, Error ellipse: s-maj=15.8km s-min=10.0km az=217.0*

*SNET **25** 21:04:52.8±1.6, 9.°94N×86.°06W, h60km, ML4.2*

ISC 25 21:04:44.2±1.7, **9.°53N**±0.°04×**85.°97W**±0.°03, **h6**km±10km, **n205,** σ1⁸**36**/221, **mb4.2**/7, **MS3.0**/4, **Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INDI	**Punta indio, G**	**0.57**	**54**	P	**Pn**	**21 04 57.9**	**-1.0**
CMARA	**Lajas Hojancha**	**0.73**	**48**	*eP*	**Pn**	**21 04 59.9**	**-1.2**
CMARA	**Lajas Hojancha**	**0.73**	**48**	P	**Pn**	**21 04 59.9**	**-1.2**
JUD3	**Juan Diaz 3**	**0.76**	**34**	*eP*	**Pn**	**21 05 00.5**	**-1.1**
JUD3				*eS*	**Sn**	**21 05 11.9**	**-1.6**
SACU	**Santa Cruz**	**0.82**	**28**	*eP*	**Pn**	**21 05 01.2**	**-1.2**
CBL1	**Cabuya**	**0.87**	**86**	*eP*	**Pn**	**21 05 02.4**	**-0.6**
CBL1				*eS*	**Sn**	**21 05 14.5**	**-1.5**
PLVR	**Palo Verde**	**1.02**	**37**	*eP*	**Pn**	**21 05 04.3**	**-0.9**
PLVR				*eS*	**Sn**	**21 05 18.8**	**-1.1**
ELVJ	**El Viejo (Barb**	**1.12**	**35**	*eP*	**Pg**	**21 05 04.0**	**-2.0**
ALIBA	**Liberia Airpor**	**1.14**	**22**	*eP*	**Pg**	**21 05 06.7**	**+0.6**
ELI1	**Hacienda Flor**	**1.14**	**22**	*eP*	**Pg**	**21 05 07.4**	**+0.5**
ELI1	**Hacienda Flor**	**1.18**	**20**	P	**Pg**	**21 05 07.5**	**+0.5**
BAGA	**Bagaces**	**1.22**	**35**	*eP*	**Pg**	**21 05 07.5**	**0.0**
JUNT	**Juntas**	**1.25**	**53**	*eP*	**Pb**	**21 05 07.8**	**-0.4**
JTS	**Las Juntas de**	**1.26**	**53**	Pg	**Pb**	**21 05 07.8**	**-0.5**
	96nm,0.3s,baz=244,slow=23,SNR=131						
JTS				Lg	Lg	21 05 25.2	
	153nm,0.3s,baz=219,slow=21,SNR=8.3						
JTS	**Las Juntas de**	**1.26**	**53**	*eP*	**Pb**	**21 05 07.9**	**-0.5**
JTS	**Las Juntas de**	**1.26**	**53**	P	**Pb**	**21 05 07.9**	**-0.4**
JTS				S	**Sb**	**21 05 24.5**	**-0.4**
INVE	**Universidad In**	**1.30**	**44**	*eP*	**Pb**	**21 05 08.8**	**-0.3**
LAPC	**Finca la Perla**	**1.34**	**23**	*eP*	**Pb**	**21 05 09.1**	**-0.7**
GPS3	**Bodega del ICE**	**1.36**	**26**	*eP*	**Pg**	**21 05 10.1**	**-0.1**
COLC	**Colonia**	**1.36**	**34**	*eP*	**Pb**	**21 05 09.6**	**-0.5**
TILA	**Tilaran**	**1.36**	**47**	*eP*	**Pb**	**21 05 09.5**	**-0.6**
GPS2	**Hotel Rincn d**	**1.36**	**27**	*eP*	**Pb**	**21 05 09.6**	**-0.5**
CUI	**Cuipilapa**	**1.38**	**35**	*eP*	**Pb**	**21 05 09.9**	**-0.5**
MTEVE	**Monteverde**	**1.38**	**55**	*eP*	**Pb**	**21 05 09.9**	**-0.5**
GPS1	**Guardaparques**	**1.38**	**26**	*eP*	**Pb**	**21 05 09.9**	**-0.6**
VRLE	**La Escondida,**	**1.39**	**26**	*eP*	**Pb**	**21 05 09.9**	**-0.7**
TIMP	**Tierras Morena**	**1.41**	**42**	*eP*	**Pb**	**21 05 10.2**	**-0.8**
HORNC	**Hornillas**	**1.41**	**34**	*eP*	**Pb**	**21 05 10.3**	**-0.7**
PG27	**Guanacaste Pro**	**1.42**	**24**	*eP*	**Pb**	**21 05 10.6**	**-0.6**
VORI	**VORI**	**1.42**	**26**	*eP*	**Pb**	**21 05 10.4**	**-0.8**
MESS	**Mesas**	**1.43**	**32**	*eP*	**Pb**	**21 05 10.6**	**-0.6**
MOTZ	**Rio Naranjo**	**1.45**	**38**	*eP*	**Pb**	**21 05 11.1**	**-0.6**
BUAI	**Buenos Aires**	**1.48**	**25**	*eP*	**Pb**	**21 05 11.3**	**-0.8**
PEJA	**Penjamo Buenos**	**1.50**	**26**	*eP*	**Pb**	**21 05 12.0**	**-0.5**
CASO	**Castillo**	**1.52**	**54**	*eP*	**Pb**	**21 05 12.3**	**-0.5**
QUEB	**Quebradon, Cot**	**1.52**	**44**	*eP*	**Pb**	**21 05 11.9**	**-0.9**
TENO	**El Achiote**	**1.52**	**40**	*eP*	**Pn**	**21 05 11.1**	**-1.0**
TABAC	**Tabacon**	**1.53**	**51**	*eP*	**Pb**	**21 05 12.8**	**-0.3**
VARE2	**V. Arenal**	**1.54**	**53**	*eP*	**Pb**	**21 05 13.1**	**-0.2**
CEDE	**Laguna Cedeo**	**1.57**	**53**	*eP*	**Pb**	**21 05 13.3**	**-0.4**
SRA1	**San Ramn**	**1.57**	**69**	*eP*	**Pb**	**21 05 13.1**	**-0.6**
LCRUZ	**La Cruz**	**1.57**	**12**	*eP*	**Pb**	**21 05 13.2**	**-0.6**
SOCE	**Pocosol**	**1.58**	**57**	Pn	**Pb**	**21 05 13.1**	**-0.8**
SOCE	**Pocosol**	**1.58**	**57**	*eP*	**Pb**	**21 05 13.2**	**-0.6**
SOCE	**Pocosol**	**1.58**	**57**	S	**Sb**	**21 05 34.2**	**0.0**
SOCE	**Pocosol**	**1.58**	**57**	P	**Pb**	**21 05 13.3**	**-0.6**
VACR	**Volcan Arenal**	**1.58**	**54**	*eP*	**Pb**	**21 05 13.5**	**-0.4**
RAMO	**San Ramon**	**1.58**	**69**	*eP*	**Pb**	**21 05 13.6**	**-0.4**
UPAL	**Upala**	**1.66**	**35**	*eP*	**Pb**	**21 05 14.5**	**-0.6**
UPAL	**Upala**	**1.66**	**35**	S	**Sg**	**21 05 37.3**	**-0.2**
UPAL	**Upala**	**1.66**	**35**	P	**Pb**	**21 05 14.2**	**-1.0**
PAR1A	**Puntarenas Pro**	**1.70**	**88**	*eP*	**Pb**	**21 05 14.8**	**-1.0**
CARN	**Rivas**	**1.71**	**15**	*eP*	**Pb**	**21 05 15.3**	**-0.7**
CARN	**Rivas**	**1.71**	**15**	P	**Pb**	**21 05 15.3**	**-0.7**
CARN				S	**Sb**	**21 05 37.6**	**-0.1**
TCS1	**Tacares**	**1.73**	**73**	*eP*	**Pb**	**21 05 15.9**	**-0.5**
TCS1	**Tacares**	**1.73**	**73**	P	**Pb**	**21 05 16.2**	**-0.2**
VPL2	**V. Platanar**	**1.75**	**64**	*eP*	**Pb**	**21 05 16.5**	**-0.3**
PICV	**PH. Pirrs**	**1.76**	**87**	*eP*	**Pb**	**21 05 15.5**	**-1.3**
QUEP	**Quepos**	**1.79**	**93**	S	**Sn**	**21 05 36.4**	**-2.3**
QUEP	**Quepos**	**1.79**	**93**	P	**Pn**	**21 05 14.8**	**-0.8**
ACOS	**Acosta**	**1.80**	**81**	*eP*	**Pb**	**21 05 16.2**	**-1.5**
SANTA	**Santa Ana**	**1.81**	**77**	*eP*	**Pb**	**21 05 16.8**	**-1.0**
BELE	**Belen**	**1.81**	**76**	*eP*	**Pb**	**21 05 17.0**	**-0.9**
VPS8	**V Poas**	**1.82**	**69**	*eP*	**Pb**	**21 05 17.7**	**-0.5**
PISJ	**San Jernim**	**1.83**	**87**	*eP*	**Pn**	**21 05 16.5**	**+0.2**
VPS5	**V. Poas**	**1.84**	**69**	*eP*	**Pb**	**21 05 17.6**	**-0.8**
HEME	**Heredia, Merce**	**1.87**	**76**	*eP*	**Pb**	**21 05 18.0**	**-0.8**
HDC	**Heredia**	**1.89**	**76**		**Pn**	**21 05 16.9**	**-0.3**
HDC	**Heredia**	**1.89**	**76**	*eP*	**Pb**	**21 05 18.5**	**-0.7**
CENT	**San Jose**	**1.91**	**78**	*eP*	**Pb**	**21 05 18.3**	**-1.2**
ITAL	**Pital**	**1.91**	**61**	*eP*	**Pb**	**21 05 18.7**	**-0.7**
LUJA	**Lujan**	**1.92**	**78**	*eP*	**Pb**	**21 05 18.4**	**-1.2**
ARIN	**Rivas**	**1.92**	**4**	P	**Pb**	**21 05 18.0**	**-1.6**
ARIN	**Rivas**	**1.92**	**4**	S	**Sn**	**21 05 41.8**	**0.0**
TIBA	**Tibas**	**1.92**	**77**	*eP*	**Pb**	**21 05 19.3**	**-0.5**
PITB	**Pirrs, San**	**1.93**	**86**	*eP*	**Pn**	**21 05 18.0**	**+0.3**
SJS	**Escuela Geolog**	**1.94**	**78**	*eP*	**Pb**	**21 05 19.0**	**-1.0**
LUPE	**Guadalupe**	**1.94**	**77**	*eP*	**Pb**	**21 05 18.8**	**-1.2**
ECI	**Escuela Centro**	**1.94**	**78**	*eP*	**Pb**	**21 05 18.8**	**-1.2**
SJS3	**Mercedes San J**	**1.94**	**78**	*eP*	**Pb**	**21 05 19.0**	**-1.0**
COVE	**Coope Vega, Sa**	**1.95**	**53**	S	**Sb**	**21 05 45.5**	**+0.8**
COVE	**Coope Vega, Sa**	**1.95**	**53**	P	**Pb**	**21 05 18.4**	**-1.7**
LCR2	**La Lucha 2**	**1.95**	**84**		**Pn**	**21 05 17.9**	**-0.1**
LCR2	**La Lucha 2**	**1.95**	**84**	*eP*	**Pn**	**21 05 18.1**	**0.0**
LCR2	**La Lucha 2**	**1.95**	**84**	P	**Pn**	**21 05 18.1**	**0.0**
PIEC	**Cerro El Cedra**	**1.99**	**87**	*eP*	**Pn**	**21 05 19.0**	**+0.3**
JAPN	**Al SSO del Vol**	**2.00**	**8**	*eP*	**Pb**	**21 05 20.2**	**-0.9**
JAPN	**Al SSO del Vol**	**2.00**	**8**	P	**Pb**	**21 05 20.2**	**-0.9**
MORN	**Al O del Volca**	**2.03**	**9**	P	**Pb**	**21 05 19.8**	**-1.7**
MORN				S	**Sb**	**21 05 46.7**	**-0.3**
CVIMO	**Finca Echandi**	**2.06**	**76**	*eP*	**Pb**	**21 05 21.3**	**-0.9**
REPA	**Paraso**	**2.10**	**82**	*eP*	**Pn**	**21 05 20.7**	**+0.7**
VICA	**Volcano Irazu**	**2.15**	**78**	*eP*	**Pb**	**21 05 22.3**	**-1.4**
PCAYA	**Pacayas**	**2.17**	**80**	*eP*	**Pb**	**21 05 22.7**	**-1.2**
NADN	**Granada**	**2.21**	**359**	P	**Pb**	**21 05 23.3**	**-1.2**
NADN				S	**Sn**	**21 05 49.1**	**+0.1**
VINA	**Juan Vinas**	**2.23**	**80**	*eP*	**Pb**	**21 05 23.3**	**-1.7**
VTR0	**Volcan Turrial**	**2.23**	**77**	*eP*	**Pb**	**21 05 23.8**	**-1.5**
CVTV	**Tajo**	**2.24**	**78**	*eP*	**Pb**	**21 05 23.9**	**-1.4**
PILS	**Guapiles**	**2.26**	**72**	*eP*	**Pb**	**21 05 23.9**	**-1.5**
VTCV	**VTCV, Calle Va**	**2.26**	**78**	*eP*	**Pb**	**21 05 24.2**	**-1.4**
ABRB	**Las Abras (San**	**2.27**	**78**	*eP*	**Pb**	**21 05 24.6**	**-1.3**
VERB	**Verbena**	**2.28**	**79**	*eP*	**Pb**	**21 05 23.9**	**-2.0**
RVSTA	**Santa Teresita**	**2.33**	**79**	*eP*	**Pb**	**21 05 25.2**	**-1.5**
OCHAL	**Ojochal**	**2.34**	**100**	S	**Sn**	**21 05 50.5**	**-1.8**
OCHAL	**Ojochal**	**2.34**	**100**	P	**Pn**	**21 05 23.4**	**+0.2**
RESJ	**San Isidro (Tu**	**2.35**	**78**	*eP*	**Pb**	**21 05 25.6**	**-1.4**
CARI	**Cariari**	**2.35**	**69**	*eP*	**Pb**	**21 05 25.3**	**-1.8**
NANN	**Nandasmo**	**2.40**	**357**	P	**Pb**	**21 05 26.2**	**-1.6**
EDPE	**Pejibaye, P**	**2.40**	**99**	*eP*	**Pn**	**21 05 24.4**	**+0.4**
SABN	**Sabanita**	**2.42**	**356**	P	**Pn**	**21 05 24.8**	**+0.4**
RVLA	**Villa Bonita**	**2.42**	**76**	*eP*	**Pb**	**21 05 26.5**	**-1.7**
TRT2	**Tortugero**	**2.43**	**65**	*eP*	**Pn**	**21 05 25.5**	**+1.1**
TRT2	**Tortugero**	**2.43**	**65**	P	**Pn**	**21 05 25.5**	**+1.1**
SAJE	**San Jernim**	**2.44**	**94**	*eP*	**Pn**	**21 05 25.0**	**+0.3**
LCOCO	**El Coco**	**2.44**	**77**	*eP*	**Pb**	**21 05 26.7**	**-1.9**
CRUN	**El Crucero**	**2.46**	**353**	P	**Pb**	**21 05 26.7**	**-2.2**
IRES	**Siquirres**	**2.50**	**77**	*eP*	**Pb**	**21 05 26.0**	**-1.9**
ACON	**Acoyapa**	**2.55**	**18**		**Pn**	**21 05 26.0**	**0.0**
ACON	**Acoyapa**	**2.55**	**18**	*eP*	**Pn**	**21 05 26.1**	**0.0**
ACON	**Acoyapa**	**2.55**	**18**	S	**Sn**	**21 05 57.1**	**-0.3**
ACON	**Acoyapa**	**2.55**	**18**	P	**Pn**	**21 05 26.1**	**0.0**
UNAN	**Cigeo UNAN**	**2.58**	**354**	P	**Pb**	**21 05 28.1**	**-2.9**
UNAN				S	**Sn**	**21 05 57.2**	**-1.1**
TISN	**Laguna Tiscapa**	**2.61**	**354**	P	**Pn**	**21 05 27.9**	**+1.0**
WILN	**Americas 2**	**2.62**	**355**	P	**Pn**	**21 05 28.7**	**-2.9**
WILN				S	**Sn**	**21 05 58.7**	**-0.6**
FIMO	**Fila Mora**	**2.64**	**102**	*eP*	**Pn**	**21 05 28.6**	**+1.1**
SAPS	**Ciudad Sandino**	**2.66**	**351**	P	**Pn**	**21 05 28.2**	**+0.6**
SAPS	**Ciudad Sandino**	**2.66**	**351**	S	**Sn**	**21 06 00.6**	**+0.5**
APQ2	**Apoyeque**	**2.67**	**353**	P	**Pn**	**21 05 28.9**	**+1.1**
APQ2				S	**Sn**	**21 05 59.8**	**-0.7**
COPN	**Copaltepe**	**2.70**	**347**	*eP*	**Pn**	**21 05 29.2**	**+0.9**
COPN	**Copaltepe**	**2.70**	**347**	P	**Pn**	**21 05 29.1**	**+0.9**
DRK0	**Durika**	**2.71**	**95**	*eP*	**Pn**	**21 05 29.1**	**+0.7**
DRK0	**Durika**	**2.71**	**95**	S	**Sn**	**21 06 00.5**	**-1.1**
DRK0	**Durika**	**2.71**	**95**	P	**Pn**	**21 05 29.3**	**+0.9**
AMTN	**Mateare**	**2.73**	**351**	S	**Sn**	**21 06 01.9**	**0.0**
EDP2	**Potrero Grande**	**2.81**	**100**	*eP*	**Pn**	**21 05 31.0**	**+1.3**
LAES	**El Progreso Va**	**2.89**	**85**	*eP*	**Pn**	**21 05 32.7**	**+1.8**
EDAD	**Golfito**	**2.91**	**107**	*eP*	**Pn**	**21 05 31.9**	**+0.8**
MOMN	**Momotombo**	**2.91**	**349**	P	**Pn**	**21 05 32.2**	**+1.1**
MOMN				S	**Sn**	**21 06 04.7**	**-1.8**
BOAB	**BOACO BROADBAN**	**2.92**	**6**		**Pn**	**21 05 31.7**	**+0.6**
BOAB	**BOACO BROADBAN**	**2.92**	**6**	S	**Sn**	**21 06 05.9**	**-0.7**
BOAB	**BOACO BROADBAN**	**2.92**	**6**	P	**Pn**	**21 05 31.9**	**+0.7**
MOM2	**El Cardon**	**2.93**	**350**	P	**Pn**	**21 05 32.6**	**+1.2**
CEUA	**Cerro Uatsi, L**	**2.99**	**88**	*eP*	**Pb**	**21 05 34.6**	**-3.3**
CNGA	**Al SSO del Vol**	**3.03**	**346**	P	**Pn**	**21 05 33.8**	**+1.0**
CNGN	**Cerro Negro**	**3.04**	**347**		**Pn**	**21 05 33.4**	**+0.6**
CNGN	**Cerro Negro**	**3.04**	**347**	P	**Pn**	**21 05 36.5**	**-2.2**
PACN	**Al O del Volca**	**3.06**	**345**	P	**Pn**	**21 05 34.4**	**+1.2**
PACN				S	**Sn**	**21 06 09.3**	**-0.8**
ESPN	**Las Esperanzas**	**3.12**	**32**	Pn	**Pn**	**21 05 34.7**	**+0.2**
ESPN	**Las Esperanzas**	**3.12**	**32**	*eP*	**Pn**	**21 05 34.2**	**+0.3**
ESPN	**Las Esperanzas**	**3.12**	**32**	P	**Pn**	**21 05 34.7**	**+0.8**
ESPN	**Las Esperanzas**	**3.12**	**32**	S	**Sn**	**21 06 12.4**	**+0.9**
PLRN	**Geotermica Pol**	**3.13**	**346**	P	**Pn**	**21 05 34.9**	**+0.7**
PLRN				S	**Sn**	**21 06 09.3**	**-2.6**
ALCO	**Alturas Coton,**	**3.15**	**100**	*eP*	**Pn**	**21 05 35.5**	**+0.9**
HERN	**Volcan Telica**	**3.17**	**345**	Pn	**Pn**	**21 05 35.3**	**+0.5**
CDITO	**Canoas**	**3.21**	**107**	P	**Pn**	**21 05 36.8**	**+1.6**
CDITO	**Canoas**	**3.21**	**107**	S	**Sn**	**21 06 13.3**	**-0.4**
POLN	**Al Sur del Vol**	**3.21**	**345**	P	**Pn**	**21 05 36.6**	**+1.4**
POLN				S	**Sn**	**21 06 11.2**	**-2.6**
RGM0	**Gandoca**	**3.32**	**89**	Pn	**Pn**	**21 05 35.8**	**-0.9**
CRIN	**San Cristobal**	**3.32**	**342**	Pn	**Pn**	**21 05 37.8**	**+1.0**
CRIN	**San Cristobal**	**3.32**	**342**	P	**Pn**	**21 05 38.0**	**+1.2**
CRIN	**San Cristobal**	**3.32**	**342**	S	**Sn**	**21 06 15.8**	**-0.9**
BRU2	**Volcan**	**3.32**	**102**	Pn	**Pn**	**21 05 35.0**	**-1.9**
MATN	**Matagalpa**	**3.38**	**1**	P	**Pn**	**21 05 37.7**	**+0.1**
MATN	**Matagalpa**	**3.38**	**1**	S	**Sn**	**21 06 17.0**	**-1.1**
CLLRA	**Cordillera,**	**3.41**	**103**	*eP*	**Pn**	**21 05 39.6**	**+1.6**
CSGN	**Cosiguina Volc**	**3.76**	**336**	*eP*	**Pn**	**21 05 44.0**	**+1.2**
CSGN	**Cosiguina Volc**	**3.76**	**336**	P	**Pn**	**21 05 44.0**	**+1.2**
CSGN				S	**Sn**	**21 06 25.6**	**-2.0**
POTN	**Potosi Cosigui**	**3.76**	**337**	P	**Pn**	**21 05 44.2**	**+1.4**
POTN				S	**Sn**	**21 06 24.6**	**-2.8**
RBALA	**Bur**	**3.83**	**99**	*eP*	**Pn**	**21 05 44.5**	**+0.8**
RCPN	**Sur Rio San Ju**	**3.97**	**358**	P	**Pn**	**21 05 47.1**	**+1.3**
RCVN	**Varillal2**	**4.03**	**357**	P	**Pn**	**21 05 48.6**	**+1.9**
RCVN	**Varillal2**	**4.03**	**357**	S	**Sn**	**21 06 34.5**	**+0.1**
CHOHN	**Orocuina**	**4.09**	**344**	S	**Sn**	**21 06 34.1**	**-1.7**
CHOHN	**Orocuina**	**4.09**	**344**	P	**Pn**	**21 05 49.0**	**+1.5**
CNCH	**Conchagua**	**4.14**	**334**	*eP*	**Pn**	**21 05 49.4**	**+1.2**
CNCH				*eS*	**Sn**	**21 06 31.9**	**-5.2**
CNCH	**Conchagua**	**4.14**	**334**	P	**Pn**	**21 05 49.5**	**+1.3**
CNCH	**Conchagua**	**4.14**	**334**	S	**Sn**	**21 06 35.7**	**-1.3**
LCND	**La Caada**	**4.20**	**334**	*eP*	**Pn**	**21 05 49.8**	**+1.0**
LCND				*eS*	**Sn**	**21 06 32.3**	**-6.0**
LCND	**La Caada**	**4.20**	**334**	P	**Pn**	**21 05 50.1**	**+1.3**
SIUN	**Universidad Ur**	**4.32**	**16**	Pn	**Pn**	**21 05 49.5**	**-1.0**
BLLM	**Bellamira**	**4.48**	**330**	*eP*	**Pn**	**21 05 53.7**	**+1.0**
PACA	**Pacayal**	**4.54**	**330**	*eP*	**Pn**	**21 05 55.2**	**+1.6**
PACA				*eS*	**Sn**	**21 06 41.2**	**-5.7**
PACA	**Pacayal**	**4.54**	**330**	P	**Pn**	**21 05 55.2**	**+1.6**
PACA	**Pacayal**	**4.54**	**330**	S	**Sn**	**21 06 44.3**	**-2.6**
TECA	**Tecapa**	**4.65**	**328**	*eP*	**Pn**	**21 05 57.2**

QSPA	**South Pole Qui**	**58.77**	**180**	P		**P**	21 14 43.4	+4.5
	comp=Z,8.8nm,0.7s,baz=22,slow=0.5,SNR=11							
	comp=Z,8.8nm,0.7s							
TROLL	**Troll, Antarti**	**76.93**	**180**	⇓P		**P**	**21 16 34.9**	**+2.3**
	comp=Z,161nm,0.8s							
SNAA	**Sanae**	**77.22**	**179**	⇓P		P	21 16 37.7	+3.5
	comp=Z,17nm,0.3s							
SNAA	**Sanae**	**77.22**	**179**	P		P	21 16 37.0	+2.8
	comp=Z,1.2nm,0.5s,baz=200,slow=12,SNR=12							
	comp=Z,1.2nm,0.5s							
VNA3	**Neumayer Olymp**	**77.39**	**176**	⇓P		**P**	**21 16 37.2**	**+2.1**
	comp=Z,13nm,0.6s							
VNA2	**Neumayer--Watz**	**77.82**	**177**	⇓P		P	21 16 40.3	+2.8
	comp=Z,10nm,0.7s,baz=181,slow=4.9							
VNA1	**Neumayer--Stat**	**78.05**	**177**	⇓P		P	21 16 41.6	+2.9
	comp=Z,5.5nm,0.6s							
H03S2	**Juan Fernandez**	**80.25**	**124**	T		T	22 46 16.6	
	baz=239							
H03S1	**Juan Fernandez**	**80.26**	**124**	T		T	22 46 01.9	
	baz=239							
H03S3	**Juan Fernandez**	**80.26**	**124**	T		T	22 46 16.5	
	baz=239							
FINES	**FINESS Array B**	**145.90**	**339**	PKPbc		**PKPab**	**21 24 18.3**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=46,slow=4.0,SNR=5.9							
TORD	**Torodi Ar. Bea**	**161.88**	**180**	PKPab		**PKPab**	**21 25 29.5**	**+1.9**
	comp=Z,0.8nm,0.5s,baz=178,slow=2.7,SNR=3.1							

*TAP **25** 21:05:08.4,24˝.90N×122˝.45E,h19km,ML2.8,C*
*JMA **25** 21:05:09.2±0.2,24˝.8N±1˝.0×122˝.5E±0˝.2,h1km±1km,NW OFF ISHIGAKIJIMA IS*
ISC 25 21:05:08.8±1.1**,24˝87N**±0˝.03×**122˝45E**±0˝.03**,h14**km±9km**,**n36**,**σ0°42/61**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.45**	**289**	P	**Pg**	**21 05 17.7**	**0.0**
TWB1				S	**Sg**	**21 05 23.8**	**+0.1**
EGS		**0.47**	**268**	P	**Pg**	**21 05 18.5**	**+0.3**
EGS				*e*S	**Sg**	**21 05 25.0**	**+0.5**
EOS2	**EOS2**	**0.49**	**204**	P	**Pb**	**21 05 19.4**	**+0.2**
EOS2				*e*S	**Sb**	**21 05 27.9**	**+1.8**
SXI1	**Grass Mountain**	**0.57**	**294**	*e*P	**Pg**	**21 05 20.0**	**0.0**
SXI1				*e*S	**Sb**	**21 05 28.8**	**+0.1**
TIPB	**Shuangxi**	**0.58**	**281**	*e*P	**Pg**	**21 05 20.3**	**+0.1**
TIPB				*e*S	**Sb**	**21 05 28.8**	**-0.1**
EOS3	**EOS3**	**0.59**	**192**	*e*P	**Pb**	**21 05 21.3**	**+0.4**
EOS3				*e*S	**Sn**	**21 05 30.8**	**-1.2**
TWC	**Suao**	**0.61**	**245**	*e*P	**Pg**	**21 05 20.6**	**-0.1**
TWC				*e*S	**Sb**	**21 05 29.1**	**-0.5**
ESAO	**Su ao**	**0.62**	**243**	*e*P	**Pg**	**21 05 20.7**	**-0.4**
ESAO				*e*S	**Sb**	**21 05 30.3**	**+0.1**
YOJ	**Yonaguni jima**	**0.65**	**128**	*e*P	**Pg**	**21 05 21.3**	**-0.2**
YOJ				*e*S	**Sg**	**21 05 29.8**	**-0.3**
YOJ	**Yonaguni jima**	**0.65**	**128**	P	**Pg**	**21 05 21.2**	**-0.2**
YOJ				S	**Sg**	**21 05 30.0**	**-0.1**
TNOU	**National Taiwa**	**0.68**	**295**	*e*P	**Pg**	**21 05 21.4**	**-0.7**
TNOU				*e*S	**Sg**	**21 05 31.0**	**0.0**
NDS	**Dongshan**	**0.71**	**251**	*e*P	**Pg**	**21 05 21.9**	**-0.8**
TWE	**Neicheng**	**0.73**	**259**	*e*P	**Pg**	**21 05 22.6**	**-0.4**
TWE				*e*S	**Sb**	**21 05 33.0**	**-0.1**
EWUT	**Wuta**	**0.74**	**236**	*e*P	**Pb**	**21 05 23.4**	**-0.1**
EWUT				*e*S	**Sb**	**21 05 33.3**	**-0.2**
ENA	**Nanau**	**0.78**	**236**	*e*P	**Pg**	**21 05 23.9**	**-0.1**
ENA				*e*S	**Sg**	**21 05 34.2**	**-0.1**
FUSB	**Fushanzhiwuyua**	**0.79**	**262**	*e*P	**Pg**	**21 05 23.9**	**-0.3**
FUSB				*e*S	**Sb**	**21 05 35.3**	**+0.2**
PCYT	**Pengchaiyu**	**0.83**	**336**	*e*P	**Pg**	**21 05 24.6**	**-0.5**
ENTT	**Nioudou**	**0.84**	**255**	*e*P	**Pb**	**21 05 25.2**	**0.0**
ENTT				*e*S	**Sb**	**21 05 36.6**	**+0.3**
EAHA	**Aohua**	**0.84**	**231**	*e*P	**Pb**	**21 05 25.3**	**+0.1**
EAHA				*e*S	**Sb**	**21 05 36.6**	**+0.2**
YM08	**YM08**	**0.85**	**292**	*e*P	**Pg**	**21 05 25.1**	**-0.2**
YM01	**YM01**	**0.85**	**289**	*e*P	**Pg**	**21 05 25.4**	**+0.1**
NWLT	**Wulai**	**0.87**	**264**	*e*P	**Pg**	**21 05 25.6**	**-0.1**
TWY	**Chenhua**	**0.88**	**298**	*e*S	**Sb**	**21 05 37.9**	**+0.5**
LATG	**Datong**	**0.91**	**249**	P	**Pg**	**21 05 26.1**	**-0.2**
LATG				S	**Sg**	**21 05 38.1**	**-0.1**
YHNB	**Yeheng**	**1.00**	**259**	*e*P	**Pb**	**21 05 28.1**	**+0.2**
ETL	**Fush Village**	**1.03**	**227**	*e*P	**Pb**	**21 05 28.7**	**+0.2**
NACB	**Ninganchiao**	**1.04**	**229**	*e*P	**Pg**	**21 05 28.6**	**-0.4**
NACB				S	**Sg**	**21 05 42.0**	**-0.6**
NNSB	**Datong**	**1.07**	**246**	*e*P	**Pg**	**21 05 29.1**	**-0.3**
NNSB				*e*S	**Sb**	**21 05 43.5**	**+0.4**
NNS	**Nan Shan**	**1.07**	**247**	*e*S	**Sb**	**21 05 43.4**	**+0.3**
ETLH	**Xiulin Townshi**	**1.10**	**234**	*e*P	**Pb**	**21 05 30.0**	**+0.3**
ETLH				*e*S	**Sb**	**21 05 44.3**	**+0.3**
TWD	**Chiawan**	**1.11**	**225**	*e*P	**Pn**	**21 05 30.0**	**+0.1**
LXIB	**Xiulin Townshi**	**1.27**	**229**	*e*P	**Pn**	**21 05 32.2**	**0.0**
LXIB				*e*S	**Sb**	**21 05 48.6**	**-0.2**
IRIF	**Iriomote-Funau**	**1.28**	**114**	*e*P	**Pg**	**21 05 33.4**	**0.0**
WHF	**Hehuan Shan**	**1.30**	**237**	*e*P	**Pn**	**21 05 33.3**	**+0.4**
WHF				*e*S	**Sn**	**21 05 50.6**	**+0.3**
OWD	**Renai**	**1.48**	**232**	*e*P	**Pg**	**21 05 36.8**	**-0.4**
OWD				*e*S	**Sg**	**21 05 56.2**	**-0.3**
WUSB	**Renai**	**1.50**	**235**	P	**Pg**	**21 05 37.3**	**-0.3**
WUSB				*e*S	**Sg**	**21 05 57.5**	**+0.4**

IDC 25 21:22:55.2±9.5**,7˝18S×129˝58E,h322**km±109km**,mb2.7/1,**
mbtmp3.4/4,Error ellipse: s-maj=83.0km s-min=39.7km
az=51.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.52**	**199**	P	P	21 25 32.3	-0.5
	2.4nm,1.0s,baz=18,slow=9.6,SNR=1.7						
FITZ				S	S	21 27 33.5	-6.8
	2.4nm,1.1s,baz=43,slow=7.3,SNR=2.2						
WRA	**Warramunga Arr**	**13.51**	**160**	P	P	21 25 54.4	-0.5
	0.4nm,0.6s,baz=339,slow=11,SNR=6.1						
WRA				S	S	21 28 28.4	+4.7
	0.5nm,0.8s,baz=337,slow=24,SNR=1.9						
ASAR	**Alice Springs**	**16.92**	**166**	P	P	21 26 30.1	-2.0
	0.3nm,0.4s,baz=344,slow=11,SNR=6.6						
MKAR	**Makanchi Array**	**68.14**	**327**	P	P	21 33 21.5	+0.2
	0.2nm,0.7s,baz=111,slow=7.3,SNR=1.4						
	0.2nm,0.7s						

*SJA **25** 21:35:27.5±0.7,23˝.51S×68˝.61W,h126km±10km,ML3.5, MW3.5*
*GUC **25** 21:35:30.7±0.9,23˝.49S×68˝.74W,h111km±4km,ML3.7*
ISC 25 21:35:29.1±1.6**,23˝50S**±0˝.03×**68˝70W**±0˝.06**,**
h124km±12km**,n32,σ0°78/49,2C-1D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.72**	**41**	*e*P	**Pn**	**21 35 49.6**	**+0.2**
AF01				*e*S	**Sn**	**21 36 03.3**	**-1.4**
PB06	**IPOC Station P**	**1.13**	**314**	⇓*i*P	**Pn**	**21 35 53.3**	**+0.4**
PB06				*i* S	**Sn**	**21 36 10.2**	**-0.8**
PB06				IAML		21 36 11.2	
	comp=E,1μm,0.1s						
PB06	**IPOC Station P**	**1.13**	**314**	*i* P	**Pn**	**21 35 53.4**	**+0.4**
PB06				IAML		21 36 14.8	
	comp=Z,784nm,0.1s						
PB05	**IPOC Station P**	**1.53**	**295**	*e*P	**Pn**	**21 35 57.5**	**+0.3**
PB05				*i* S	**Sn**	**21 36 17.3**	**-1.3**
PB05	**IPOC Station P**	**1.53**	**295**	*i* P	**Pn**	**21 35 57.6**	**+0.4**
PB05				*i* S	**Sn**	**21 36 20.2**	**+1.6**
PB05				IAML		21 36 25.6	
	comp=Z,240nm,0.4s						
PB10	**IPOC Station P**	**1.71**	**269**	*e*P	**Pn**	**21 35 59.6**	**+0.5**
PB10				*i* S	**Sn**	**21 36 21.1**	**-1.0**
PB10				IAML		21 36 24.9	
	comp=E,385nm,0.2s						
PB10	**IPOC Station P**	**1.71**	**269**	*i* P	**Pn**	**21 35 59.3**	**+0.1**
PB10				*i* S	**Sn**	**21 36 23.4**	**+1.3**
PB10				IAML		21 36 26.3	
	comp=Z,237nm,0.3s						
PB03	**IPOC Station P**	**1.74**	**326**	*e*P	**Pn**	**21 36 00.5**	**+0.6**
PB03				*i* S	**Sn**	**21 36 22.6**	**-0.6**
PB03				IAML		21 36 23.7	
	comp=E,1μm,0.3s						
PB03	**IPOC Station P**	**1.74**	**326**	*i* P	**Pn**	**21 35 59.9**	**+0.1**
PB03				*i* S	**Sn**	**21 36 23.4**	**+0.2**
PB03				IAML		21 36 25.7	
	comp=Z,406nm,0.3s						
PB09	**IPOC Station P**	**1.77**	**343**	⇑*i*P	**Pn**	**21 36 01.5**	**+1.4**
PB09				*i* S	**Sn**	**21 36 24.0**	**+0.3**
PB09				IAML		21 36 25.6	
	comp=E,386nm,0.6s						
PB09	**IPOC Station P**	**1.77**	**343**	*i* P	**Pn**	**21 36 00.0**	**-0.1**
PB09				*i* S	**Sn**	**21 36 24.1**	**+0.4**
PB09				IAML		21 36 37.9	
	comp=Z,290nm,0.6s						
GO02	**Mina Guanaco**	**1.85**	**206**	⇑*i*P	**Pn**	**21 36 02.4**	**+1.2**
GO02				*i* S	**Sn**	**21 36 26.4**	**+0.7**
GO02				IAML		21 36 32.2	
	comp=N,813nm,0.1s						
GO02	**Mina Guanaco**	**1.85**	**206**	*i* P	**Pn**	**21 36 01.1**	**-0.1**
GO02				*i* S	**Sn**	**21 36 25.4**	**-0.3**
GO02				IAML		21 36 30.0	
	comp=Z,410nm,0.1s						
PB14	**IPOC Station P**	**1.92**	**234**	*e*P	**Pn**	**21 36 02.7**	**+0.6**
PB14				*e*S	**Sn**	**21 36 25.4**	**-1.9**
PB14	**IPOC Station P**	**1.92**	**234**	*i* P	**Pn**	**21 36 02.3**	**+0.1**
PB14				IAML		21 36 31.9	
	comp=Z,231nm,0.2s						
PB02	**IPOC Station P**	**2.44**	**333**	*e*P	**Pn**	**21 36 08.9**	**+0.6**
PB02				*i* S	**Sn**	**21 36 38.0**	**-0.5**
PB02				IAML		21 36 41.9	
	comp=E,552nm,0.5s						
PB02	**IPOC Station P**	**2.44**	**333**	*i* P	**Pn**	**21 36 08.5**	**+0.1**
PB02				*i* S	**Sn**	**21 36 38.5**	**+0.1**
PB02				IAML		21 36 51.3	
	comp=Z,498nm,0.3s						
PB01	**IPOC Station P**	**2.55**	**343**	*e*P	**Pn**	**21 36 10.3**	**+0.5**
PB01				*e*S	**Sn**	**21 36 40.6**	**-0.5**
PB01				IAML		21 36 45.9	
	comp=E,299nm,0.3s						
PB01	**IPOC Station P**	**2.55**	**343**	*i* P	**Pn**	**21 36 09.9**	**+0.1**
PB01				*i* S	**Sn**	**21 36 40.7**	**-0.5**
PB01				IAML		21 36 49.6	
	comp=Z,200nm,0.2s						
AC01	**Pan de Azucar**	**3.15**	**213**	*e*P	**Pn**	**21 36 17.2**	**-0.4**
AC01	**Pan de Azucar**	**3.15**	**213**	*i* P	**Pn**	**21 36 17.4**	**-0.2**
AC01				IAML		21 37 15.2	
	comp=Z,79nm,0.2s						
TA01	**Diego Aracena**	**3.23**	**334**	*e*P	**Pn**	**21 36 19.0**	**+0.5**
AC02	**Maricunga**	**3.35**	**187**	*e*P	**Pn**	**21 36 22.3**	**+1.8**
PB08	**IPOC Station P**	**3.37**	**353**	*e*P	**Pn**	**21 36 21.7**	**+0.9**
PB08	**IPOC Station P**	**3.37**	**353**	*i* P	**Pn**	**21 36 21.1**	**+0.4**
PB08				IAML		21 37 30.8	
	comp=Z,29nm,0.3s						
HMBC	**Humberstone**	**3.39**	**341**	*e*P	**Pn**	**21 36 20.1**	**-0.7**
HMBC	**Humberstone**	**3.39**	**341**	*i* P	**Pn**	**21 36 20.3**	**-0.5**
HMBC				IAML		21 37 30.9	
	comp=Z,132nm,0.5s						
PB11	**IPOC Station P**	**3.82**	**346**	*e*P	**Pn**	**21 36 25.9**	**-0.7**
GO01	**Chusmiza**	**3.84**	**353**	*e*P	**Pn**	**21 36 27.7**	**+0.6**
GO01	**Chusmiza**	**3.84**	**353**	*i* P	**Pn**	**21 36 27.3**	**+0.2**
GO01				IAML		21 37 44.3	
	comp=Z,30nm,0.2s						
AC06	**Mina Casimiro**	**4.12**	**201**	*e*P	**Pn**	**21 36 30.1**	**-0.3**
GO03	**Copiapo**	**4.31**	**198**	*i* P	**Pn**	**21 36 32.4**	**-0.5**
GO03				IAML		21 37 28.5	
	comp=Z,33nm,0.3s						

*IDC **25** 21:44:53.3±2.9,6˝.80S×129˝.40E,h198km±30km,mb3.5/10, mbtmp4.2/14,MS3.0/1,Error ellipse: s-maj=26.2km s-min=13.8km az=65.0*
*NEIC **25** 21:44:54.7±1.4,6˝.73S±0˝.08×129˝.39E±0˝.09,h203km±16km, mb4.3/6,Error ellipse: s-maj=15.1km s-min=10.0km az=124.0*
*DJA **25** 21:44:55.3±0.4,7˚S±3˝×12˚9E±˚,h235km±11km,M4.5/16, mB5.0/5,mb4.4/9,MLv4.7/16,Mw(mB)4.3/5*
ISC 25 21:44:54.3±0.5**,6˝87S**±0˝.04×**129˝42E**±0˝.06**,h200**km**,n62,**
σ1°71/69,mb3.9/13,1D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.17**	**121**	Pn	**Pn**	**21 45 36.4**	**+1.8**
SAUI					**Sn**	**21 46 07.0**	**+1.1**
SAUI	**Saumlaki**	**2.17**	**121**	P	**Pn**	**21 45 38.9**	**+4.3**
BNDI	**Bandanaira**	**2.38**	**12**	P	**Pn**	**21 45 38.8**	**+1.9**
AAI	**Ambon**	**3.39**	**339**	P	**Pn**	**21 45 49.5**	**+0.9**
MSAI	**Masohi**	**3.54**	**352**	P	**Pn**	**21 45 53.2**	**+2.8**
NLAI	**Namlea**	**4.28**	**327**	P	**Pn**	**21 46 02.7**	**+3.0**
FAKI	**Fak Fak**	**4.83**	**36**		**Pn**	**21 46 06.2**	**-0.3**
FAKI				Sn	**Sn**	**21 47 00.8**	**-2.8**
FAKI	**Fak Fak**	**4.83**	**36**	P	**Pn**	**21 46 06.3**	**-0.3**
FAKI	**Fak Fak**	**4.83**	**36**	P	**Pn**	**21 46 06.4**	**-0.2**
KMPI	**Kaimana, Papua**	**5.32**	**53**	P	**Pn**	**21 46 14.6**	**+1.7**
SOEI	**Soe**	**5.85**	**240**		**Pn**	**21 46 21.2**	**+1.4**
SOEI	**Soe**	**5.85**	**240**	P	**Pn**	**21 46 21.5**	**+1.7**
	59nm,0.9s						
SOEI	**Soe**	**5.85**	**240**	P	**Pn**	**21 46 21.2**	**+1.4**
	0.3nm59nm,0.9s						
SANI	**Sanana**	**5.88**	**324**	P	**Pn**	**21 46 21.9**	**+1.8**
	16nm,0.6s						
SANI	**Sanana**	**5.88**	**324**	P	**Pn**	**21 46 21.2**	**+1.1**
	15nm,0.9s						
MTN	**Manton Dam**	**6.17**	**164**		**Pn**	**21 46 25.6**	**+1.8**
MTN				Sn	**Sn**	**21 47 34.4**	**-0.3**
SWI	**Sorong**	**6.24**	**17**	P	**Pn**	**21 46 24.4**	**-0.3**
	1.6nm2μm29nm,0.6s						
KDU	**Kakadu**	**6.51**	**153**	P	**Pn**	**21 46 30.0**	**+1.7**
BATI	**Baumata**	**6.59**	**239**	P	**Pn**	**21 46 30.3**	**+1.1**
	66nm,0.3s,baz=122,slow=3.3,SNR=17						
BATI				S	**Sn**	**21 47 43.3**	**-1.2**
	46nm,0.3s,baz=187,slow=23,SNR=7.6						
BATI	**Baumata**	**6.59**	**239**	P	**Pn**	**21 46 30.5**	**+1.2**
	0.6nm2μm133nm,1.0s						
RKPI	**Ransiki, Papua**	**7.13**	**42**	P	**Pn**	**21 46 37.0**	**+0.7**
	4μm241nm,0.6s						
EDFI	**Ende, Flores**	**7.88**	**256**	P	**Pn**	**21 46 47.2**	**+1.0**
BAKI	**Biak**	**8.73**	**50**	P	**Pn**	**21 46 59.6**	**+2.4**
KNRA	**Kununurra**	**8.78**	**184**		**Pn**	**21 46 59.1**	**+1.4**
PLAI	**Plampang**	**11.70**	**260**	P	**Pn**	**21 47 35.3**	**-0.2**
	32nm,1.2s						
TOLI2	**Tolitoli**	**11.71**	**312**		**Pn**	**21 47 37.5**	**+1.9**
FITZ	**Fitzroy Crossi**	**11.75**	**198**		**Pn**	**21 47 36.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**11.75**	**198**	P	**Pn**	**21 47 35.4**	**-0.7**
	5.1nm,0.3s,baz=33,slow=9.5,SNR=54						
FITZ				S	**Sn**	**21 49 43.6**	**-3.6**
	13nm,0.8s,baz=144,slow=8.6,SNR=7.8						
FITZ	**Fitzroy Crossi**	**11.75**	**198**	P	**Pn**	**21 47 37.2**	**+1.1**
	19nm,0.8s						
WB0	**Warramunga Arr**	**13.70**	**160**		**Pn**	**21 48 00.7**	**+0.1**
WRAB	**Tennant Creek**	**13.84**	**160**	P	**P**	**21 48 04.5**	**+0.1**
WRA	**Warramunga Arr**	**13.84**	**160**		**Pn**	**21 48 03.3**	**+0.9**
WRA	**Warramunga Arr**	**13.84**	**160**	P	**Pn**	**21 48 01.5**	**-0.9**
	4.3nm,0.3s,baz=342,slow=12,SNR=13						
WRA				S	**S**	**21 50 30.2**	**-6.5**
	3.2nm,0.9s,baz=331,slow=23,SNR=5.3						
WR8	**Warramunga Arr**	**13.91**	**160**		**Pn**	**21 48 03.3**	**+0.1**
JAGI	**Jajag, Banyuwa**	**15.22**	**263**	P	**P**	**21 48 22.5**	**+2.8**
	30nm,1.5s						
COEN	**Coen**	**15.24**	**119**	P	**P**	**21 48 21.5**	**+1.5**
COEN				IAmb	IAmb	21 49 05.0	
	comp=Z,15nm,1.1s						
COEN	**Coen**	**15.24**	**119**	P	**P**	**21 48 21.7**	**+1.7**
	comp=Z,14nm,0.9s						
QIS	**Mount Isa**	**16.81**	**145**	P	**Pn**	**21 48 39.3**	**+0.9**
	comp=Z,19nm,0.7s						
MBWA	**Marble Bar**	**17.02**	**212**	P	**P**	**21 48 40.0**	**+0.5**
MBWA				IAmb	IAmb	21 48 49.3	
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**17.25**	**166**		**Pn**	**21 48 44.2**	**+0.6**
AS31				IAmb	IAmb	21 48 45.5	
	comp=Z,12nm,0.7s						
ASAR	**Alice Springs**	**17.25**	**166**	P	**Pn**	**21 48 43.5**	**-0.1**
ASAR	**Alice Springs**	**17.25**	**166**	P	**Pn**	**21 48 43.9**	**+0.3**
	comp=Z,19nm,0.6s,baz=346,slow=10,SNR=209						
ASAR				S	**S**	**21 51 51.0**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=340,slow=20,SNR=8.1						
AS01	**Alice Springs**	**17.26**	**166**	P	**Pn**	**21 48 44.1**	**+0.4**
	comp=Z,37nm,0.7s						
PSA00	**Pilbara Seismi**	**17.30**	**211**	P	**P**	**21 48 43.3**	**+0.7**
PSA00	**Pilbara Seismi**	**17.30**	**211**	P	**P**	**21 48 44.2**	**+1.6**
	comp=Z,10nm,0.6s						
MTSU	**Mount Surprise**	**18.33**	**129**	P	**Pn**	**21 48 56.2**	**-0.2**
	comp=Z,16nm,0.7s						
FORT	**Forrest**	**23.82**	**183**	P	**P**	**21 49 50.0**	**+0.9**
FORT				IAmb	IAmb	21 50 29.8	
	comp=Z,8.0nm,0.9s						
BBOO	**Buckleboo**	**26.54**	**167**	P	**P**	**21 50 13.4**	**-0.3**
STKA	**Stephens Creek**	**27.35**	**157**	P	**P**	**21 50 21.6**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=341,slow=11,SNR=3.7						
	comp=Z,1.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**39.21**	**310**	P	**P**	**21 52 02.7**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=112,slow=8.1,SNR=2.6						
	comp=Z,0.7nm,0.6s						
PZH	**PanZhiHua**	**42.68**	**322**	P	**P**	**21 52 32.0**	**+0.3**
MJAR	**Matsushiro Arr**	**43.96**	**10**	P	**P**	**21 52 39.2**	**-2.5**
	comp=Z,2.6nm,0.9s,baz=181,slow=8.6,SNR=5.6						
MJAR				LR	LR	22 10 38.7	
	comp=Z,20nm,21.1s,baz=326,slow=35						
	comp=Z,2.6nm,0.9s						
KSRS	**Korea Array**	**44.12**	**358**	P	**P**	**21 52 41.5**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=172,slow=9.4,SNR=2.4						
	comp=Z,0.7nm,0.5s						
HHC	**Hu-ho-hao-te**	**50.24**	**342**	*e*P	**P**	**21 53 32.5**	**+2.2**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,54nm,4.5s						
BNX	**BinXian**	**52.40**	**358**	⇓P	**P**	**21 53 47.0**	**+1.0**
BNX				pmax	pmax		
	comp=Z,7.0nm,2.5s						
SONM	**Songino Array**	**58.14**	**342**	P	**P**	**21 54 26.6**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=147,slow=6.0,SNR=4.2						
	comp=Z,0.6nm,0.5s						
WMQ	**Urumqi**	**62.97**	**327**	*e*P	**P**	**21 55 00.8**	**+1.0**
WMQ				LR	LR		
	comp=Z,150nm,23.9s						
PETK	**Petropavlovsk-**	**64.38**	**18**	P	**P**	**21 55 08.1**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=197,slow=4.6,SNR=4.9						
	comp=Z,1.7nm,0.7s						
MKAR	**Makanchi Array**	**67.80**	**327**	P	**P**	**21 55 29.9**	**-0.8**
	comp=Z,2.2nm,0.5s,baz=115,slow=8.4,SNR=33						
	comp=Z,2.2nm,0.5s						
ZALV	**Zalesovo Beam**	**71.21**	**334**	P	**P**	**21 55 49.5**	**-1.8**
	comp=Z,1.3nm,0.6s,baz=123,slow=5.5,SNR=5.9						
	comp=Z,1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**72.10**	**329**	P	**P**	**21 55 55.5**	**-1.2**
	comp=Z,1.4nm,0.5s,baz=129,slow=4.9,SNR=11						
	comp=Z,1.4nm,0.5s						
BVAR	**Borovoye Array**	**77.65**	**328**	P	**P**	**21 56 27.0**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=123,slow=5.3,SNR=5.0						
	comp=Z,1.0nm,0.8s						

*NEIC **25** 22:30:59.4±1.6,11˚.78N±0˚.07×144˚.4E±0˚.2,h10km±2km, mb4.4/10,Error ellipse: s-maj=36.0km s-min=11.0km az=95.0*
*IDC **25** 22:31:13.5±23.0,11˚.89N×144˚.32E,h133km±180km, mb3.5/6,mbtmp3.9/6,MS3.0/1,Error ellipse: s-maj=130.9km s-min=40.9km az=153.0*
ISC 25 22:31:01.0±1.1**,11˚8N**±0˚.1×**144˚4E**±0˚.2**,h29**km**,n24,**
σ0°79/18,mb4.3/12,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.86**	**14**	Pn	**Pn**	**22 31 31.3**	**+0.4**
GUMO				Sn	**Sn**	**22 31 52.5**	**-1.0**
GUMO	**Guam**	**1.86**	**14**	LR	LR	22 32 33.6	
	comp=Z,88nm,19.9s,baz=178,slow=45						
H11S3	**WAKE ISLAND Hy**	**22.50**	**70**	T	T	23 00 30.0	
	baz=252,slow=74						
H11S1	**WAKE ISLAND Hy**	**22.51**	**70**	T	T	23 00 05.0	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**22.51**	**70**	T	T	23 00 07.7	
	baz=252,slow=74						
H11N1	**WAKE ISLAND Hy**	**23.01**	**67**	T	T	23 00 22.5	
	baz=255,slow=75,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**23.02**	**67**	T	T	23 00 38.9	
	baz=255,slow=75,SNR=5.3						
H11N3	**WAKE ISLAND Hy**	**23.02**	**67**	T	T	23 00 29.9	
	baz=255,slow=75,SNR=4.4						
MJAR	**Matsushiro Arr**	**25.29**	**348**	P	**P**	**22 36 26.1**	**+1.1**
	0.4nm,0.3s,baz=173,slow=11,SNR=1.9						
MJAR				LR	LR	22 45 57.1	
	comp=Z,34nm,18.3s,baz=160,slow=35						
	0.4nm,0.3s						
SOEI	**Soe**	**29.30**	**224**	P	**P**	**22 37 01.2**	**-0.2**
ERM	**Erimo**	**30.15**	**358**	P	**P**	**22 37 09.1**	**+0.7**
KNRA	**Kununurra**	**31.37**	**210**	P	**P**	**22 37 18.9**	**-0.6**
KNRA				IAmb	IAmb	22 37 20.2	
	comp=Z,5.2nm,0.6s						
WB0	**Warramunga Arr**	**32.86**	**198**	P	**P**	**22 37 32.8**	**+0.2**
WB0				IAmb	IAmb	22 37 46.5	
	comp=Z,5.5nm,1.1s						
WR0	**Warramunga Arr**	**33.00**	**197**	P	**P**	**22 37 34.5**	**+0.8**
WR0				IAmb	IAmb	22 37 39.0	
	comp=Z,3.6nm

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	1.6nm,0.7s						
MORW	**Morawa**	**18.79**	**187**	P	**Pn**	**22 37 49.7**	**+4.7**
ASAR	**Alice Springs**	**19.58**	**134**	P	**Pn**	**22 37 54.5**	**0.0**
	0.3nm,0.3s,baz=304,slow=10,SNR=29						
ASAR				S	**S**	**22 41 25.9**	**-6.5**
	0.8nm,0.8s,baz=306,slow=23,SNR=4.4						
	4.5nm,0.8s						
SONM	**Songino Array**	**58.97**	**350**	P	**P**	**22 43 22.6**	**-1.2**
	0.2nm,0.4s,baz=164,slow=5.9,SNR=3.7						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**65.56**	**333**	P	**P**	**22 44 07.0**	**-1.0**
	0.5nm,0.8s,baz=151,slow=5.2,SNR=2.7						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**70.08**	**334**	P	**P**	**22 44 36.2**	**0.0**
	0.3nm,0.6s,baz=146,slow=5.9,SNR=1.8						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**70.22**	**339**	P	**P**	**22 44 37.2**	**+0.1**
	0.6nm,0.5s,baz=164,slow=7.5,SNR=6.0						
	0.6nm,0.5s						

*IDC **25** 22:37:34.2±2.4,6.56N×73.01W,h175km±20km, mbtmp4.1/2, Error ellipse: s-maj=78.4km s-min=23.3km az=145.0*
*RSNC **25** 22:37:34.7±0.0,7.1N±1.1×7.3W±.1,h144km±2km,M3.1, mB6.2,ML2.9,Mw(mB)5.8*
ISC 25 22:37:32.6±1.1,6.85N±0.03×73.07W±0.04,h155km±7km, n31,σ1°42/57,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**203**	P	**Pn**	**22 37 54.1**	**+0.1**
BARC				S	**Sn**	**22 38 09.0**	**-1.3**
PAMC	**Pamplona, Colo**	**0.61**	**37**	P	**Pn**	**22 37 56.9**	**+1.2**
PAMC				S	**Sn**	**22 38 13.9**	**+0.6**
BRJC	**Barrancabermej**	**0.68**	**281**	P	**Pn**	**22 37 55.8**	**+0.3**
BRJC				S	**Sn**	**22 38 12.6**	**-0.3**
RUSC	**La Rusia**	**0.95**	**181**	P	**Pn**	**22 37 58.0**	**0.0**
RUSC				S	**Sn**	**22 38 16.5**	**-0.9**
TAMC	**Tame, Arauca**	**1.34**	**108**	P	**Pn**	**22 38 02.2**	**+1.2**
TAMC				S	**Sn**	**22 38 23.7**	**+1.0**
OCAC	**Ocana**	**1.40**	**350**	P	**Pn**	**22 38 02.3**	**+0.5**
OCAC				S	**Sn**	**22 38 23.9**	**-0.2**
PTBC	**PUERTO BERRIO,**	**1.41**	**258**	P	**Pn**	**22 38 00.7**	**-0.9**
PTBC				S	**Sn**	**22 38 21.7**	**-2.1**
ZARC	**Zaragoza, Cauc**	**1.88**	**290**	P	**Pn**	**22 38 07.0**	**+0.3**
ZARC				S	**Sn**	**22 38 32.8**	**-0.1**
NORC	**Norcasia**	**2.19**	**235**	P	**Pn**	**22 38 10.1**	**-0.3**
NORC				S	**Sn**	**22 38 37.8**	**-1.7**
ROSC	**El Rosal**	**2.35**	**212**	P	**Pn**	**22 38 14.2**	**+1.6**
	34nm,0.3s,baz=41,slow=20,SNR=38						
ROSC				S	**Sn**	**22 38 43.2**	**-0.1**
	121nm,0.3s,baz=36,slow=21,SNR=15						
ROSC	**El Rosal**	**2.35**	**212**	P	**Pn**	**22 38 14.2**	**+1.6**
ROSC				S	**Sn**	**22 38 45.4**	**+2.1**
CVER	**Cruz Verde, Cu**	**2.52**	**203**	P	**Pn**	**22 38 15.8**	**+1.1**
CVER				S	**Sn**	**22 38 48.2**	**+1.1**
HELC	**Santa Helena**	**2.53**	**255**	P	**Pn**	**22 38 15.3**	**+0.6**
HELC				S	**Sn**	**22 38 46.5**	**-0.5**
UREC	**San Jos de Ur**	**2.60**	**290**	P	**Pn**	**22 38 15.1**	**-0.1**
UREC				S	**Sn**	**22 38 46.6**	**-1.5**
VILC	**Villavicencio,**	**2.79**	**193**	P	**Pn**	**22 38 18.0**	**+0.3**
VILC				S	**Sn**	**22 38 51.1**	**-1.5**
GUY2C	**Guyana, Caldas**	**2.79**	**235**	P	**Pn**	**22 38 18.6**	**+0.5**
GUY2C				S	**Sn**	**22 38 53.5**	**+0.4**
PTGC	**Puerto Gaitan,**	**2.79**	**160**	P	**Pn**	**22 38 17.3**	**-0.3**
PTGC				S	**Sn**	**22 38 50.7**	**-1.8**
NIZA	**Niza - Manizal**	**2.98**	**233**	P	**Pn**	**22 38 24.3**	**+4.1**
NIZA				S	**Sn**	**22 39 00.2**	**+3.3**
DBBC	**Dabeiba**	**3.12**	**273**	P	**Pn**	**22 38 22.8**	**+1.0**
DBBC				S	**Sn**	**22 38 58.7**	**-1.1**
ARGC	**Ariguani, Magd**	**3.21**	**339**	P	**Pn**	**22 38 25.3**	**+2.5**
ARGC				S	**Sn**	**22 39 00.8**	**-1.0**
PRAC	**Prado**	**3.60**	**210**	P	**Pn**	**22 38 28.7**	**+0.8**
PRAC				S	**Sn**	**22 39 11.0**	**+0.2**
APAC	**Apartado, Choc**	**3.63**	**287**	P	**Pn**	**22 38 29.6**	**+1.3**
APAC				S	**Sn**	**22 39 11.5**	**+0.1**
ORTC	**Ortega, Tolima**	**3.63**	**217**	P	**Pn**	**22 38 28.8**	**+0.5**
ORTC				S	**Sn**	**22 39 12.3**	**+0.7**
SJCC	**San Jacinto, C**	**3.68**	**326**	P	**Pn**	**22 38 28.8**	**-0.1**
SJCC				S	**Sn**	**22 39 10.1**	**-2.5**
PLMC	**San Jos del P**	**3.73**	**239**	P	**Pn**	**22 38 30.1**	**+0.5**
PLMC				S	**Sn**	**22 39 13.3**	**-0.6**
YOTC	**Yotoco, Valle**	**4.33**	**229**	P	**Pn**	**22 38 37.1**	**-0.3**
MACC	**Macarena, Meta**	**4.74**	**189**	P	**Pn**	**22 38 41.8**	**-0.9**
MACC				S	**Sn**	**22 39 34.5**	**-2.9**
MALC	**Bahia Malaga**	**5.09**	**237**	P	**Pn**	**22 38 49.4**	**+2.0**
PCRV	**Puerto La Cruz**	**8.97**	**68**	P	**Pn**	**22 39 41.1**	**+2.0**
	14nm,1.0s,baz=243,slow=11,SNR=2.0						
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	**PKPbc**	**22 57 02.7**	**-1.0**
	0.3nm,0.5s,baz=122,slow=3.7,SNR=4.9						
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc	**PKPbc**	**22 57 04.7**	**-2.0**
	0.7nm,0.6s,baz=109,slow=2.3,SNR=7.9						

*IDC **25** 22:44:58.3±0.9,12.14N×144.09E,h0km,mb3.8/12, mbtmp3.8/12,MS3.3/3,Error ellipse: s-maj=31.6km s-min=16.7km az=107.0*
ISC 25 22:45:02.2±0.9,12.1N±0.1×144.1E±0.2,h26km,n20, σ0°56/14,mb3.8/12,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.63**	**27**	Pn	**Pn**	**22 45 30.1**	**+0.8**
	63nm,0.3s,baz=194,slow=7.9,SNR=16						
GUMO				Sn	**Sb**	**22 45 51.9**	**0.0**
	46nm,0.3s,baz=165,slow=22,SNR=3.7						
JAY	**Jayapura**	**14.93**	**193**	LR	LR	22 54 28.2	
	comp=Z,129nm,19.0s,baz=339,slow=38						
H11S3	**WAKE ISLAND Hy**	**22.67**	**71**	T	T	23 13 45.7	
	baz=254						
H11S1	**WAKE ISLAND Hy**	**22.68**	**71**	T	T	23 13 59.4	
	baz=254						
H11S2	**WAKE ISLAND Hy**	**22.68**	**71**	T	T	23 13 37.8	
	baz=254						
H11N1	**WAKE ISLAND Hy**	**23.15**	**68**	T	T	23 14 10.2	
	baz=254						
H11N2	**WAKE ISLAND Hy**	**23.16**	**68**	T	T	23 14 23.2	
	baz=254						
H11N3	**WAKE ISLAND Hy**	**23.17**	**68**	T	T	23 14 31.9	
	baz=254						
MJAR	**Matsushiro Arr**	**24.89**	**349**	P	**P**	**22 50 23.0**	**+0.1**
	1.2nm,0.6s,baz=177,slow=10,SNR=5.0						
MJAR				LR	LR	22 59 33.0	
	comp=Z,55nm,18.0s,baz=168,slow=35						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**33.29**	**197**	P	**P**	**22 51 38.3**	**+0.5**
	1.3nm,0.8s,baz=19,slow=9.6,SNR=5.2						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**36.95**	**196**	P	**P**	**22 52 09.8**	**+0.4**
	0.9nm,0.7s,baz=20,slow=11,SNR=10						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**62.03**	**317**	P	**P**	**22 55 21.2**	**+0.7**
	0.5nm,0.7s,baz=92,slow=8.4,SNR=5.6						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**62.38**	**325**	P	**P**	**22 55 22.6**	**0.0**
	0.4nm,0.4s,baz=97,slow=3.3,SNR=2.1						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**65.26**	**320**	P	**P**	**22 55 41.6**	**0.0**
	0.5nm,0.4s,baz=106,slow=6.5,SNR=6.7						
	0.5nm,0.4s						
ILAR	**Eielson Array**	**70.20**	**25**	P	**P**	**22 56 12.0**	**-0.5**
	0.5nm,0.8s,baz=256,slow=6.3,SNR=4.2						
ILAR				LR	LR	23 28 07.7	
	comp=Z,15nm,18.4s,baz=294,slow=37						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**70.61**	**322**	P	**P**	**22 56 15.2**	**-0.1**
	1.5nm,0.3s,baz=98,slow=7.9,SNR=11						
	1.5nm,0.3s						
YKA	**Yellowknife Ar**	**84.49**	**27**	P	**P**	**22 57 31.9**	**-0.7**
	0.4nm,0.7s,baz=299,slow=6.5,SNR=3.7						
	0.4nm,0.7s						
ARCES	**ARCESS Array B**	**88.24**	**342**	P	**P**	**22 57 51.3**	**+0.4**
	0.6nm,0.7s,baz=75,slow=5.3,SNR=1.1						
	0.6nm,0.7s						
NVAR	**Mina Array Bea**	**88.41**	**51**	P	**P**	**22 57 52.4**	**-0.2**
	0.3nm,0.6s,baz=298,slow=5.6,SNR=2.3						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**92.17**	**335**	P	**P**	**22 58 08.3**	**-1.0**
	0.6nm,0.5s,baz=68,slow=4.2,SNR=12						
	0.6nm,0.5s						

TRN 25 22:53:38.7,10.92N×61.22W,h47km,MD3.5,North of Trinidad. Felt in Trinidad, MMI IV, V.,Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.33**	**214**	*eP*	Pn	22 53 47.8	-0.1
TRN				*eS*	Sn	22 53 53.9	-0.3
PSGH	**Port of Spain**	**0.39**	**228**	*eP*	Pn	22 53 48.9	+0.4
PSGH				*eS*	Sn	22 53 55.7	+0.4
PSKH	**Kent House, Po**	**0.39**	**232**	*eP*	Pn	22 53 49.0	+0.5
PSKH				*eS*	Sn	22 53 56.0	+0.6
PSQC	**Port of Spain**	**0.39**	**230**	*eP*	Pn	22 53 49.1	+0.6
PSQC				*eS*	Sn	22 53 55.8	+0.3
DMDM	**Guralp CMG5TDE**	**0.40**	**236**	*eP*	Pn	22 53 48.9	+0.4
DMDM				*eS*	Sn	22 53 56.3	+0.7
TBH	**Brigand Hill**	**0.46**	**161**	*eP*	Pn	22 53 49.3	0.0
TPR	**Prospect**	**0.50**	**58**	*eP*	Pn	22 53 48.9	-0.9
TPR				*eS*	Sn	22 53 57.8	0.0
TPP	**Pointe-a-Pierr**	**0.64**	**201**	*eP*	Pn	22 53 52.2	+0.6
TPP				*eS*	Sn	22 54 01.2	+0.3
GRFF	**Grenada Fort F**	**1.23**	**335**	*eP*	Pn	22 53 59.7	+0.1
GRFF				*eS*	Sn	22 54 14.0	-1.1
GRGR	**Grenville**	**1.28**	**340**	*eP*	Pn	22 54 00.0	-0.2
GRGR				*eS*	Sn	22 54 15.6	-0.6
GRW	**Mount Saint Ca**	**1.31**	**340**	*eP*	Pn	22 54 01.8	+1.1
GRW				*eS*	Sn	22 54 17.5	+0.5
GRSS	**Sisters**	**1.42**	**344**	*eP*	Pn	22 54 01.9	-0.3
GRSS				*eS*	Sn	22 54 20.8	+1.1
SVT	**Saint Vincent**	**2.23**	**359**	*eP*	Pn	22 54 13.8	+0.5
SVT				*eS*	Sn	22 54 39.4	-0.3
SLBI	**Saint Lucia, B**	**3.09**	**4**	*eP*	Pn	22 54 25.6	+0.6
SLBI				*eS*	Sn	22 54 59.9	-0.9
PCRV	**Puerto La Cruz**	**3.44**	**258**	*eP*	Pn	22 54 30.7	+0.8
PCRV				*eS*	Sn	22 55 08.3	-1.3
BIM	**Bigot**	**3.58**	**2**	*eP*	Pn	22 54 32.1	+0.3
BIM				*eS*	Sn	22 55 12.1	-0.7
TBG	**Guadaloupe-3**	**4.92**	**355**	*eP*	Pn	22 54 51.0	+0.8
ATGZ	**Broadband at L**	**5.17**	**355**	*eP*	Pn	22 54 55.3	+1.7
DHSZ	**Broadband at M**	**5.35**	**354**	*eP*	Pn	22 54 57.6	+1.5
BAUV	**El Baul**	**7.01**	**254**	*eP*	Pn	22 55 18.4	-0.4
BAUV				*eS*	Sn	22 56 33.2	-4.1

*IDC **25** 22:57:27.1±3.0,1.80S×99.82E,h0km,mb3.6/6, mbtmp3.6/7,ML2.4/1,Error ellipse: s-maj=132.3km s-min=20.6km az=57.0*
*DJA **25** 22:57:30.5±0.3,2.2S±3.3×10.0E±.1,h10km,M3.8/10, MLv3.8/10*
ISC 25 22:57:32.2±0.9,1.77S±0.06×99.68E±0.07,h35km,n21, σ1°04/17,mb3.6/6,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.73**	**307**	P	**Pn**	**22 57 45.1**	**-1.0**
SISI				S	**Sn**	**22 57 56.7**	**+0.7**
PPSI	**Pulau Pagai**	**1.04**	**161**	P	**Pn**	**22 57 51.2**	**+0.8**
PPI	**Padang Panjang**	**1.49**	**29**	P	**Pn**	**22 57 55.9**	**-0.6**
PPI				S	**Sn**	**22 58 15.1**	**+0.4**
BKNI	**Bangkinang**	**2.49**	**33**	P	**Pn**	**22 58 10.5**	**+0.3**
MNSI	**Mandailing Nat**	**2.55**	**358**	P	**Pn**	**22 58 13.7**	**+2.6**
GSI	**Gunungsitoli**	**3.71**	**325**	P	**Pn**	**22 58 28.1**	**+1.1**
MNAI	**Manna**	**4.17**	**128**	P	**Pn**	**22 58 34.0**	**+0.7**
PSI	**Prapat**	**4.60**	**351**	Pn	**Pn**	**22 58 39.0**	**-0.5**
	0.2nm,0.3s,baz=167,slow=14,SNR=1.2						
	1.6nm,0.4s						
H08S2	**Diego Garcia H**	**27.70**	**257**	T	T	23 31 42.4	
	baz=79,slow=76,SNR=26						
H08S3	**Diego Garcia H**	**27.71**	**257**	T	T	23 31 58.2	
	baz=79,slow=76,SNR=20						
H08S1	**Diego Garcia H**	**27.72**	**257**	T	T	23 31 48.4	
	baz=79,slow=76,SNR=10						
WRA	**Warramunga Arr**	**38.39**	**121**	P	**P**	**23 04 49.0**	**-1.5**
	0.5nm,0.6s,baz=303,slow=8.9,SNR=5.9						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**39.65**	**126**	P	**P**	**23 05 00.4**	**-0.7**
	0.5nm,0.8s,baz=301,slow=8.0,SNR=5.0						
	0.5nm,0.8s						
SONM	**Songino Array**	**49.75**	**6**	P	**P**	**23 06 21.0**	**-0.3**
	0.3nm,0.6s,baz=181,slow=7.1,SNR=6.7						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**50.72**	**345**	P	**P**	**23 06 29.1**	**+0.6**
	0.7nm,0.6s,baz=141,slow=7.8,SNR=4.3						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**55.24**	**344**	P	**P**	**23 07 02.5**	**+0.8**
	0.6nm,0.8s,baz=160,slow=7.6,SNR=3.4						
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**56.88**	**350**	P	**P**	**23 07 13.5**	**0.0**
	1.2nm,0.5s,baz=170,slow=8.8,SNR=1.9						
	1.2nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.79**	**216**	T	T	00 13 16.6	
	baz=57,slow=75,SNR=36						
H04N1	**CROZET ISLANDS**	**60.80**	**216**	T	T	00 13 16.8	
	baz=57,slow=75,SNR=27						
H04N3	**CROZET ISLANDS**	**60.81**	**216**	T	T	00 13 17.6	
	baz=57,slow=75,SNR=28						
TXAR	**Lajitas Array**	**144.71**	**37**	PKP	**PKPdf**	**23 17 05.9**	**-0.3**
	0.2nm,0.6s,baz=297,slow=1.8,SNR=3.9						

*IDC **25** 23:00:40.2±1.0,33.80N×71.68E,h0km,mb3.8/11, mbtmp3.9/16,ML3.8/5,MS3.3/5,Error ellipse: s-maj=22.4km s-min=19.9km az=56.0*
*NDI **25** 23:00:43.6±3.8,34.00N×71.57E,h35km±151km,ML4.2, MW4.2*
*NEIC **25** 23:00:44.2±1.7,33.99N±0.09×71.76E±0.08,h10km±2km, mb4.2/3,Error ellipse: s-maj=16.3km s-min=7.7km az=210.0*
ISC 25 23:00:41.8±0.6,33.79N±0.06×71.79E±0.05,h10km,n41, σ1°80/48,mb3.8/12,MS3.4/4,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**1.23**	**96**		**Pg**	**23 01 08.9**	**+3.6**
KBL	**Kabul**	**2.40**	**289**		**Pb**	**23 01 24.4**	**-0.8**
SRNI	**Srinagar**	**2.56**	**82**	*eP*	**Pb**	**23 01 25.9**	**-1.9**
SRNI				*eS*	**Sn**	**23 01 53.5**	**-1.1**
SRNI				IAML		23 02 05.4	
	comp=N,2μm,0.6s						
SRNI				IAML		23 02 13.2	
	comp=E,2μm,0.3s						
JMU	**Jammu**	**2.82**	**111**	*eP*	**Pn**	**23 01 28.9**	**+2.1**
JMU				*eS*	**Sn**	**23 02 00.6**	**-0.3**
JMU				IAML		23 02 16.8	
	comp=N,791nm,0.5s						
JMU				IAML		23 02 21.5	
	comp=E,609nm,0.6s						
BHK	**Bhakra**	**4.56**	**120**	*eP*	Pb	23 01 56.3	-5.7
BHK				IAML		23 02 52.2	
	comp=N,429nm,0.3s						
BHK				IAML		23 02 52.4	
	comp=E,550nm,0.3s						
BHK				*eS*	**Sb**	**23 02 56.0**	**-1.1**
SMLA	**Simla**	**5.26**	**119**	*eP*	**Pn**	**23 02 02.5**	**+2.0**
SMLA				*eS*	**Sn**	**23 03 01.2**	**0.0**
SMLA				IAML		23 03 35.0	
	comp=E,349nm,0.8s						
SMLA				IAML		23 03 43.8	
	comp=N,358nm,1.1s						
GAR	**Garm**	**5.34**	**348**		**Pn**	**23 02 02.0**	**+0.4**
SIMJ	**Simiganj**	**5.36**	**336**		**Pn**	**23 02 02.9**	**+1.0**
KLP	**Kalpa**	**5.89**	**111**	*eP*	Pn	23 02 15.8	+6.3
KLP				*eS*	**Sn**	**23 03 15.6**	**-1.7**
KLP				IAML		23 03 26.4	
	comp=E,202nm,0.3s						
KLP				IAML		23 03 27.7	
	comp=N,365nm,0.5s						
DDI	**Dehra Dun**	**6.34**	**121**	*eP*	**Pn**	**23 02 17.1**	**+1.7**
DDI				*eS*	**Sn**	**23 03 26.6**	**-1.3**
DDI				IAML		23 04 11.9	
	comp=N,136nm,0.1s						
DDI				IAML		23 04 14.4	
	comp=E,171nm,0.0s						
KUDL	**Kundal**	**6.92**	**143**	*eP*	**Pn**	**23 02 25.6**	**+2.3**
KUDL				*i P*	**Pn**	**23 02 26.4**	**+3.1**
KUDL				*eS*	**Sn**	**23 03 41.2**	**-1.0**
KUDL				IAML		23 03 48.8	
	comp=N,324nm,0.5s						
KUDL				IAML		23 03 50.9	
	comp=E,334nm,0.7s						
PTH	**Pithoragarh**	**8.33**	**118**	*eP*	**Pn**	**23 02 43.7**	**+0.9**
PTH				*eS*	**Sn**	**23 04 12.5**	**-4.6**
PTH				IAML		23 04 18.3	
	comp=N,219nm,0.4s						
PTH				IAML		23 04 20.1	
	comp=E,444nm,0.6s						
LGTI	**Lohaghat**	**8.41**	**119**	*eP*	**Pn**	**23 02 44.1**	**+0.4**
LGTI				*eS*	**Sn**	**23 04 13.1**	**-5.5**
LGTI				IAML		23 04 19.9	
	comp=E,217nm,0.4s						
LGTI				IAML		23 04 20.5	
	comp=N,216nm,0.3s						
AAK	**Ala-Archa**	**9.09**	**13**		**Pn**	**23 02 52.7**	**-0.5**
AAK	**Ala-Archa**	**9.09**	**13**	Pn	**Pn**	**23 02 56.2**	**+3.0**
	comp=N,1.9nm,0.3s,baz=139,slow=3.0,SNR=4.4						
AAK				Sn	**Sn**	**23 04 38.3**	**+2.7**
	comp=N,0.8nm,0.3s,baz=3.4,slow=21,SNR=4.1						
AAK				LR	LR	23 06 51.1	
	comp=N,90nm,21.4s,baz=205,slow=41						
	comp=N,5.3nm,0.4s						
TARG	**Taragay, Kyrgy**	**9.25**	**29**		**Pn**	**23 02 55.0**	**-0.6**
BOOM	**Boomskoye usch**	**9.28**	**19**	Pn	**Pn**	**23 02 53.9**	**-1.9**
KK31	**Karatay Array**	**9.36**	**354**		**Pn**	**23 02 56.1**	**-0.6**
KKAR	**Karatay Array**	**9.36**	**354**		**Pn**	**23 02 56.0**	**-0.7**
MKAR	**Makanchi Array**	**15.24**	**28**	Pn	**Pn**	**23 04 18.8**	**+1.7**
	comp=N,0.4nm,0.3s,baz=211,slow=11,SNR=14						
	comp=N,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**17.54**	**14**	P	**Pn**	**23 04 44.3**	**-2.0**
	comp=N,0.2nm,0.3s,baz=207,slow=10,SNR=29						
	comp=N,4.3nm,0.8s						
KURK	**Kurchatov**	**17.64**	**14**		**Pn**	**23 04 46.3**	**-1.3**
KURK				IAmb	IAmb	23 04 50.2	
	comp=Z,7.3nm,0.9s						
BVAR	**Borovoye Array**	**19.26**	**357**	P	**P**	**23 05 05.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=171,slow=13,SNR=13						
	comp=Z,2.2nm,0.6s						
AKTO	**Aktyubinsk**	**19.47**	**333**	P	**P**	**23 05 07.0**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=154,slow=9.1,SNR=9.5						
	comp=Z,2.4nm,0.4s						
ZAA0	**Zalesovo Array**	**22.17**	**21**	P	**P**	**23 05 37.5**	**-0.2**
ZAA0				IAmb	IAmb	23 05 38.9	
	comp=Z,14nm,1.0s						
ZALV	**Zalesovo Beam**	**22.17**	**21**	P	**P**	**23 05 37.4**	**-0.4**
ZALV	**Zalesovo Beam**	**22.17**	**21**	P	**P**	**23 05 37.6**	**-0.2**
	comp=Z,7.9nm,0.6s,baz=218,slow=9.4,SNR=43						
	comp=Z,7.9nm,0.6s						
ARTI	**Arti**	**24.41**	**342**	P	**P**	**23 05 59.7**	**-0.6**
ARTI				IAmb	IAmb	23 06 06.1	
	comp=Z,7.1nm,0.9s						
SONM	**Songino Array**	**29.44**	**51**	P	**P**	**23 06 47.6**	**+1.9**
	comp=Z,0.8nm,0.8s,baz=248,slow=7.8,SNR=3.8						
	comp=Z,0.8nm,0.8s						
AKASG	**Malin Array Be**	**35.19**	**312**	P	**P**	**23 07 36.0**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=85,slow=6.7,SNR=4.6						
AKASG				LR	LR	23 24 17.0	
	comp=Z,30nm,19.5s,baz=348,slow=40						
	comp=Z,0.8nm,0.6s						
IDI	**Anoyia**	**38.38**	**286**	LR	LR	23 28 08.0	
	comp=Z,82nm,21.1s,baz=138,slow=43						
FINES	**FINESS Array B**	**40.10**	**328**	P	**P**	**23 08 16.7**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=96,slow=8.4,SNR=6.9						
	comp=Z,0.9nm,0.6s						
ARCES	**ARCESS Array B**	**43.90**	**338**	P	**P**	**23 08 47.9**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=115,slow=7.9,SNR=16						
ARCES				LR	LR	23 28 27.3	
	comp=Z,47nm,18.5s,baz=131,slow=38						
	comp=Z,1.1nm,0.6s						
HFS	**Hagfors**	**45.61**	**324**	P	**P**	**23 09 01.6**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=108,slow=9.7,SNR=14						
	comp=Z,1.6nm,0.5s						
NB2	**NORSAR Subarra**	**46.95**	**325**	P	**P**	**23 09 11.6**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**46.95**	**325**	P	**P**	**23 09 11.8**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=104,slow=7.3,SNR=9.4						
	comp=Z,0.7nm,0.5s						
DAVOX	**Davos/Dischmat**	**47.81**	**305**	LR	LR	23 34 52.6	
	comp=Z,33nm,18.7s,baz=72,slow=43						
TORD	**Torodi Ar. Bea**	**66.34**	**270**	P	**P**	**23 11 30.6**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=34,slow=5.2,SNR=1.6						
	comp=Z,0.6nm,0.3s						
ILAR	**Eielson Array**	**77.20**	**16**	P	**P**	**23 12 34.2**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=312,slow=7.4,SNR=2.2						
	comp=Z,1.0nm,0.3s						
WRA	**Warramunga Arr**	**80.01**	**122**	P	**P**	**23 12 52.5**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=314,slow=5.4,SNR=4.8						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**82.17**	**125**	P	**P**	**23 13 03.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=314,slow=5.1,SNR=2.2						
	comp=Z,0.1nm,0.3s						

*IDC **25** 23:04:10.1±4.8,7.38S×127.05E,h365km±55km,mb3.2/3, mbtmp3.7/6,Error ellipse: s-maj=81.0km s-min=18.7km az=52.0*
ISC 25 23:04:08.5±1.3,7.3S±0.1×127.2E±0.1,h350km,n7, σ0°80/9,mb3.6/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.56**	**231**	P	**Pn**	**23 05 23.3**	**-0.1**
	71nm,0.3s,baz=55,slow=3.0,SNR=14						
BATI				S	**S**	**23 06 23.9**	**-0.1**
	82nm,0.5s,baz=63,slow=18,SNR=11						
FITZ	**Fitzroy Crossi**	**10.84**	**188**	P	**Pn**	**23 06 36.3**	**-0.2**
	1.0nm,0.6s,baz=14,slow=9.6,SNR=18						
WRA	**Warramunga Arr**	**14.32**	**152

PAMC				S		Sn	23 31 54.3	+1.3	
BRJC	**Barrancabermej**	**0.64**	**280**	P		Pn	23 31 35.2	+0.3	
BRJC				S		Sn	23 31 52.5	+0.3	
RUSC	**La Rusia**	**0.97**	**179**	P		Pn	23 31 37.6	-0.2	
RUSC	**La Rusia**	**0.97**	**179**	P		Pn	23 31 37.6	-0.2	
RUSC				S		Sn	23 31 57.2	-0.1	
TAMC	**Tame, Arauca**	**1.38**	**108**	P		Pn	23 31 42.1	+1.1	
TAMC				S		Sn	23 32 04.0	+1.1	
PTBC	**PUERTO BERRIO,**	**1.38**	**256**	P		Pn	23 31 40.2	-0.8	
PTBC				S		Sn	23 32 01.6	-1.4	
OCAC	**Ocana**	**1.38**	**351**	P		Pn	23 31 41.8	+0.6	
OCAC				S		Sn	23 32 03.4	0.0	
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	P		Pn	23 31 46.0	+0.1	
ZARC				S		Sn	23 32 11.9	+0.1	
NORC	**Norcasia**	**2.18**	**234**	P		Pn	23 31 49.5	-0.3	
NORC				S		Sn	23 32 17.2	-1.6	
ROSC	**El Rosal**	**2.35**	**211**	P		Pn	23 31 53.4	+1.2	
	227nm,0.3s,baz=30,slow=20,SNR=250								
ROSC				S		Sn	23 32 24.0	+1.1	
	226nm,0.3s,baz=29,slow=19,SNR=16								
ROSC	**El Rosal**	**2.35**	**211**	P		Pn	23 31 53.4	+1.2	
ROSC				S		Sn	23 32 25.1	+2.2	
HELC	**Santa Helena**	**2.50**	**255**	P		Pn	23 31 55.3	+1.4	
HELC	**Santa Helena**	**2.50**	**255**	P		Pn	23 31 54.0	0.0	
HELC				S		Sn	23 32 25.1	-1.0	
CVER	**Cruz Verde, Cu**	**2.52**	**202**	P		Pn	23 31 55.1	+0.7	
CVER				S		Sn	23 32 27.2	+0.4	
UREC	**San Jos de Ur**	**2.56**	**290**	P		Pn	23 31 53.5	-0.9	
UREC				S		Sn	23 32 24.5	-2.4	
GUY2C	**Guyana, Caldas**	**2.78**	**234**	P		Pn	23 31 58.8	+1.3	
GUY2C				S		Sn	23 32 34.2	+1.8	
VILC	**Villavicencio,**	**2.80**	**192**	P		Pn	23 31 57.5	+0.1	
VILC				S		Sn	23 32 31.9	-0.5	
PTGC	**Puerto Gaitan,**	**2.82**	**160**	P		Pn	23 31 56.8	-0.8	
PTGC				S		Sn	23 32 30.5	-2.2	
NIZA	**Niza - Manizal**	**2.96**	**233**	P		Pn	23 32 03.3	+3.7	
CBOC	**Ciudad Bolivar**	**3.05**	**251**	P		Pn	23 32 01.3	+0.6	
CBOC				S		Sn	23 32 38.4	+0.3	
DBBC	**Dabeiba**	**3.08**	**273**	P		Pn	23 32 01.1	+0.1	
DBBC				S		Sn	23 32 37.1	-1.6	
ARGC	**Ariguani, Magd**	**3.18**	**339**	P		Pn	23 32 03.8	+1.7	
ARGC				S		Sn	23 32 42.0	+1.2	
APAC	**Apartado, Choc**	**3.59**	**287**	P		Pn	23 32 07.5	+0.1	
APAC				S		Sn	23 32 50.6	+0.4	
PRAC	**Prado**	**3.60**	**210**	P		Pn	23 32 07.6	+0.1	
PRAC	**Prado**	**3.60**	**210**	P		Pn	23 32 07.3	-0.2	
PRAC				S		Sn	23 32 49.2	-0.7	
ORTC	**Ortega, Tolima**	**3.63**	**216**	P		Pn	23 32 08.7	+0.8	
ORTC				S		Sn	23 32 52.3	+1.2	
SJCC	**San Jacinto, C**	**3.64**	**326**	P		Pn	23 32 07.3	-0.8	
SJCC	**San Jacinto, C**	**3.64**	**326**	P		Pn	23 32 07.3	-0.8	
SJCC				S		Sn	23 32 49.3	-2.2	
PLMC	**San Jos del P**	**3.71**	**239**	P		Pn	23 32 09.3	+0.3	
PLMC				S		Sn	23 32 52.5	-0.6	
URMC	**La Uribe, Meta**	**3.81**	**199**	P		Pn	23 32 11.0	+0.7	
URMC				S		Sn	23 32 54.7	-0.8	
CRJC	**Cerrejon, Guaj**	**4.13**	**3**	P		Pn	23 32 14.2	-0.3	
CRJC				S		Sn	23 33 02.8	-0.2	
YOTC	**Yotoco, Valle**	**4.31**	**229**	P		Pn	23 32 16.8	-0.1	
YOTC				S		Sn	23 33 10.4	+3.2	
GUVC	**San Jose del G**	**4.32**	**174**	P		Pn	23 32 16.4	-0.5	
GUVC				S		Sn	23 33 03.8	-3.4	
SMRC	**Santa Marta, M**	**4.41**	**346**	P		Pn	23 32 19.3	+1.3	
SMRC				S		Sn	23 33 06.8	-2.5	
PTAC	**Punta Ardita,**	**4.67**	**274**	P		Pn	23 32 21.1	-0.4	
PTAC				S		Sn	23 33 14.3	-1.2	
MACC	**Macarena, Meta**	**4.75**	**189**	P		Pn	23 32 20.6	-1.9	
MACC				S		Sn	23 33 12.7	-4.6	
URIC	**Uribia, Colomb**	**4.93**	**13**	P		Pn	23 32 24.1	-0.7	
URIC				S		Sn	23 33 21.1	-0.4	
MALC	**Bahia Malaga**	**5.08**	**236**	P		Pn	23 32 28.3	+1.5	
	9µm68nm,2.2s								
MALC				S		Sn	23 33 28.7	+3.7	
	9µm68nm,2.2s								
JAMC	**Jamundi, Valle**	**5.08**	**225**	P		Pn	23 32 28.5	+1.5	
	880nm10nm,0.5s								
JAMC				S		Sn	23 33 24.8	-0.6	
	880nm10nm,0.5s								
GARC	**Garzon, Huila**	**5.22**	**207**	P		Pn	23 32 28.0	-1.0	
GARC				S		Sn	23 33 25.3	-3.6	
POPC	**Popayan, Colom**	**5.58**	**220**	P		Pn	23 32 35.2	+1.5	
	8.4nm,0.7s								
POPC				S		Sn	23 33 38.1	+0.8	
	8.4nm,0.7s								
FLOC	**Florencia**	**5.83**	**206**	P		Pn	23 32 36.6	-0.2	
FLOC	**Florencia**	**5.83**	**206**	P		Pn	23 32 36.6	-0.2	
	600nm19nm,0.6s								
BCIP	**Isla Barro Col**	**7.05**	**289**	P		Pn	23 32 51.0	-2.0	
TXAR	**Lajitas Array**	**36.44**	**312**	P		P	23 38 03.4	+1.0	
	0.2nm,0.4s,baz=121,slow=7.9,SNR=3.7								
	0.2nm,0.4s								
PDAR	**Pinedale Array**	**48.05**	**324**	P		P	23 39 35.8	-0.5	
	0.2nm,0.4s,baz=119,slow=7.5,SNR=2.9								
	0.2nm,0.4s								
YKA	**Yellowknife Ar**	**63.23**	**340**	P		P	23 41 24.2	+0.4	
	0.5nm,0.6s,baz=126,slow=4.7,SNR=4.7								
	0.5nm,0.6s								
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc		**PKPbc**	23 50 43.4	+0.1	
	0.2nm,0.5s,baz=139,slow=4.8,SNR=1.4								
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc		**PKPbc**	23 50 45.2	-1.1	
	0.3nm,0.6s,baz=104,slow=2.6,SNR=2.0								

IDC ***25*** *23:56:14.7±0.8,26˚.20N×128˚.65E,h0km,mb4.0/16, mbtmp4.0/20,ML3.5/4,MS3.5/22,Error ellipse: s-maj=26.0km s-min=13.2km az=74.0*

NEIC ***25*** *23:56:17.0±2.3,26˚.07N±0˚.05×128˚.66E±0˚.06,h20km±4km, mb4.5/27,Error ellipse: s-maj=9.4km s-min=6.3km az=51.0*

NIED ***25*** *23:56:17.7,26˚.14N×128˚.71E,h37km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.88; Mθθ-1.11; Mφφ-1.77; Mrθ1.06; Mθφ-2.52; Mφr0.79; Fault plane solution: M₀3.69000×10¹⁵ NP1: φs213.00000°,δ35.00000°,λ77.00000°. NP2:φs48.00000°, δ56.00000°,λ99.00000°.*

JMA ***25*** *23:56:17.7±0.3,26˚.1N±0˚.9×129˚.9E±˚,h37km,MV3.7/24, NEAR OKINAWAJIMA ISLAND*

ISC 25 23:56:15.9±1.5,26˚.10N±0˚.04×128˚.70E±0˚.04,h13km±9km, n113,σ1$39/112,mb4.4/34,MS3.7/23,1C-1D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.74**	**304**	P	**Pn**	23 56 31.1	-0.9
JOW	**Kunigami**	**0.82**	**332**	Pn	**Pn**	23 56 32.5	-0.6
	1µm,0.3s,baz=140,slow=17,SNR=1260						
JOW				Sn	**Sn**	23 56 43.2	-2.0
	716nm,0.3s,baz=150,slow=20,SNR=9.5						
JOW	**Kunigami**	**0.82**	**332**	P	**Pn**	23 56 32.6	-0.6
JOW	**Kunigami**	**0.82**	**332**	P	**Pn**	23 56 32.5	-0.6
JOW				*eS*	**Sg**	23 56 42.9	+0.3
JJT3	**Tamagusuku3**	**0.82**	**273**	P	**Pn**	23 56 33.3	+0.1
JJT3				*eS*	**Sn**	23 56 44.0	-1.2
JYRO	**Yoronjima**	**0.95**	**346**	P	**Pg**	23 56 34.4	+0.2
JYRO				*eS*	**Sb**	23 56 45.6	-0.9
JIH	**Iheya**	**1.14**	**325**	P	**Pn**	23 56 37.5	0.0
JOKE	**Okinoerabujima**	**1.26**	**355**	*i* P	**Pn**	23 56 39.1	-0.1
JOKE				*eS*	**Sb**	23 56 54.6	-1.1
JAGN	**Aguni-jima**	**1.39**	**291**	*i* P	**Pn**	23 56 41.5	-0.3
JTK	**Tokunoshima**	**1.69**	**8**	P	**Pn**	23 56 45.0	-0.1
JTK				S	**Sn**	23 57 04.4	-2.2
JKE	**Kume jima 2**	**1.73**	**278**	P	**Pn**	23 56 45.4	-0.3
JAMN	**Amaminishikomi**	**2.17**	**11**	P	**Pn**	23 56 51.5	-0.2
JMZ	**Minamidaito 2**	**2.29**	**96**		**Pn**	23 56 53.2	-0.1
JMZ				Sn	**Sn**	23 57 18.7	-2.8
JMZ	**Minamidaito 2**	**2.29**	**96**	P	**Pn**	23 56 53.0	-0.3
JMZ	**Minamidaito 2**	**2.29**	**96**	P	**Pn**	23 56 52.8	-0.5
JKDJ	**Kitadaitoujima**	**2.34**	**93**	P	**Pn**	23 56 53.8	-0.3
JKDJ				*eS*	**Sn**	23 57 20.7	-2.0
JAM	**Amami Oshima**	**2.44**	**19**	P	**Pn**	23 56 55.1	-0.3
JAM				S	**Sn**	23 57 24.1	-0.9
JZK	**Kikaishima**	**2.48**	**27**	*eP*	**Pn**	23 56 56.3	+0.4
JZK				*eS*	**Sn**	23 57 25.9	-0.2
JTAJ	**Takarajima**	**3.07**	**8**	*eP*	**Pn**	23 57 04.2	+0.1
JTAJ				*eS*	**Sn**	23 57 39.5	-1.2
JNN	**Nakanoshima**	**3.87**	**15**	*eP*	**Pn**	23 57 16.2	+1.1
JMTN	**Minamitane**	**4.70**	**24**	*eS*	**Sn**	23 58 18.5	-2.3
YOJ	**Yonaguni jima**	**5.40**	**254**	Pn	**Pn**	23 57 34.0	-2.1
NACB	**Ninganchiao**	**6.72**	**255**	Pn	**Pn**	23 57 52.6	-1.7
NACB	**Ninganchiao**	**6.72**	**255**	P	**Pn**	23 57 53.2	-1.0

YHNB	**Yeheng**	**6.78**	**259**	Pn		**Pn**	23 57 54.1	-1.0	
JNU	**Nakatsue**	**7.25**	**15**			**Pn**	23 58 02.6	+1.1	
JNU	**Nakatsue**	**7.25**	**15**	Pn		**Pn**	23 58 02.2	+0.7	
	2.0nm,0.3s,baz=196,slow=5.6,SNR=12								
JNU				Sn		**Sn**	23 59 18.8	-5.0	
	0.3nm,0.3s,baz=196,slow=13,SNR=1.1								
JNU				LR		LR	00 01 17.4		
	comp=Z,359nm,18.1s,baz=194,slow=42								
	4.4nm,0.3s								
JNU	**Nakatsue**	**7.25**	**15**	P		**Pn**	23 58 04.7	+3.2	
YULB	**Yu-li**	**7.25**	**250**			**Pn**	23 57 58.5	-3.1	
YULB	**Yu-li**	**7.25**	**250**	P		**Pn**	23 57 58.5	-3.1	
SSLB	**Suanglung**	**7.40**	**254**			**Pn**	23 58 01.7	-1.9	
SSLB	**Suanglung**	**7.40**	**254**	P		**Pn**	23 58 02.1	-1.5	
TPUB	**Ta-pu**	**7.85**	**251**			**Pn**	23 58 08.9	-0.9	
TPUB	**Ta-pu**	**7.85**	**251**	P		**Pn**	23 58 08.9	-0.9	
JMN	**Monobe**	**8.83**	**29**	Pn		**Pn**	23 58 23.3	+0.1	
JMN	**Monobe**	**8.83**	**29**	P		**Pn**	23 58 26.2	+3.0	
KSRS	**Korea Array**	**11.34**	**357**	Pn		**Pn**	23 58 55.2	-2.3	
	0.1nm,0.3s,baz=174,slow=14,SNR=4.6								
	1.0nm,0.8s								
MJAR	**Matsushiro Arr**	**13.20**	**36**	Pn		**Pn**	23 59 24.7	+1.7	
	0.1nm,0.3s,baz=223,slow=10,SNR=1.6								
MJAR				LR		LR	00 03 13.8		
	comp=Z,24nm,21.4s,baz=208,slow=32								
	1.0nm,0.2s								
HNS	**HongShan**	**16.36**	**317**	⇓P		**P**	**00 00 09.3**	**+1.2**	
HNS				pmax		pmax			
	comp=Z,15nm,0.9s								
HNS				LR		LR			
	comp=N,650nm,11.7s								
HNS				LR		LR			
	comp=E,690nm,11.9s								
HNS				LR		LR			
	comp=Z,930nm,12.3s								
USRK	**Ussuriysk Ar.**	**18.25**	**8**	P		**P**	**00 00 29.9**	**+0.9**	
	comp=Z,0.2nm,0.3s,baz=195,slow=10,SNR=3.3								
	comp=Z,1.8nm,0.8s								
QIZ	**Qiongzhong**	**18.77**	**252**	P		**P**	**00 00 34.3**	**-0.6**	
QIZ				S		**Sn**	**00 04 05.0**	**-0.3**	
QIZ				pmax		pmax			
	comp=Z,250nm,7.2s								
QIZ				LR		LR			
	comp=N,170nm,17.9s								
QIZ				LR		LR			
	comp=E,100nm,16.8s								
QIZ				LR		LR			
	comp=Z,280nm,16.6s								
XAN	**Xi'an**	**18.84**	**300**	⇑P		**Pn**	**00 00 37.0**	**+0.9**	
XAN				pmax		pmax			
	comp=Z,9.0nm,1.3s								
XAN				LR		LR			
	comp=N,190nm,14.4s								
XAN				LR		LR			
	comp=E,460nm,11.7s								
XAN				LR		LR			
	comp=Z,530nm,11.7s								
DAV	**Davao City (W)**	**19.16**	**189**	LR		LR	00 07 19.2		
	comp=Z,41nm,21.2s,baz=338,slow=34								
GYA	**Guiyang**	**19.76**	**276**	P		**Pn**	**00 00 48.3**	**+0.9**	
GYA				pmax		pmax			
	comp=Z,15nm,0.7s								
GYA				LR		LR			
	comp=Z,490nm,14.7s								
ASAJ	**Asahikawa**	**21.21**	**29**	LR		LR	00 09 32.2		
	comp=Z,138nm,21.0s,baz=224,slow=38								
SLVN	**Son La**	**23.18**	**263**			**P**	**00 01 20.5**	**-1.9**	
KMI	**Kunming**	**23.42**	**273**	P		**P**	**00 01 26.0**	**+0.9**	
KMI				S		**S**	**00 05 40.0**	**+1.7**	
KMI				pmax		pmax			
	comp=Z,10.0nm,0.6s								
KMI				LR		LR			
	comp=N,140nm,10.3s								
KMI				LR		LR			
	comp=E,300nm,11.2s								
KMI				LR		LR			
	comp=Z,280nm,12.7s								
LZH	**Lanzhou**	**23.44**	**301**	*e*P		**P**	**00 01 25.3**	**+0.2**	
LZH				sP		pwP	00 01 39.0	+7.4	
LZH				sS		sS	00 05 43.8	+0.3	
LZH				pmax		pmax			
	comp=Z,16nm,1.2s								
LZH				LR		LR			
	comp=N,310nm,13.4s								
LZH				LR		LR			
	comp=E,400nm,13.4s								
LZH				LR		LR			
	comp=Z,370nm,13.1s								
PZH	**PanZhiHua**	**24.16**	**277**	P		**P**	**00 01 31.0**	**-1.0**	
GTA	**Gaotai**	**27.55**	**306**	P		**P**	**00 02 02.3**	**-0.3**	
GTA				sP		pwP	00 02 11.3	+2.1	
GTA				pmax		pmax			
	comp=Z,9.0nm,1.2s								
GTA				LR		LR			
	comp=N,180nm,13.1s								
GTA				LR		LR			
	comp=E,310nm,15.3s								
GTA				LR		LR			
	comp=Z,450nm,13.4s								
ULN	**Ulaanbaatar**	**27.59**	**328**	P		**P**	**00 02 01.8**	**-1.1**	
ULN				IAmb		IAmb	00 02 06.0		
	comp=Z,7.0nm,0.9s								
SONM	**Songino Array**	**27.89**	**327**			**P**	**00 02 04.9**	**-0.7**	
SONM	**Songino Array**	**27.89**	**327**	P		**P**	**00 02 05.9**	**+0.4**	
	comp=Z,5.9nm,1.0s,baz=135,slow=10,SNR=21								
SONM				LR		LR	00 14 59.9		
	comp=Z,83nm,18.5s,baz=142,slow=40								
	comp=Z,5.9nm,1.0s								
CMAR	**Chiang Mai Arr**	**28.52**	**261**	P		**P**	**00 02 13.5**	**+2.2**	
	comp=Z,0.7nm,0.4s,baz=68,slow=8.3,SNR=5.4								
	comp=Z,0.7nm,0.4s								
PETK	**Petropavlovsk-**	**34.59**	**31**	LR		LR	00 19 23.7		
	comp=Z,31nm,18.9s,baz=258,slow=40								
MA2	**Magadan**	**36.80**	**19**	LR		LR	00 19 37.8		
	comp=Z,40nm,18.0s,baz=226,slow=38								
WMQ	**Urumqi**	**37.52**	**309**	*e*P		**P**	**00 03 31.3**	**+1.6**	
WMQ				LR		LR			
	comp=Z,150nm,23.9s								
PMG	**Port Moresby**	**39.60**	**151**	LR		LR	00 17 20.3		
	comp=Z,52nm,21.7s,baz=10.0,slow=32								
KNRA	**Kununurra**	**41.53**	**180**	P		**P**	**00 04 03.5**	**+0.5**	
KNRA				IAmb		IAmb	00 04 13.6		
	comp=Z,9.7nm,0.9s								
MKAR	**Makanchi Array**	**41.93**	**312**	P		**P**	**00 04 05.9**	**-0.4**	
	comp=Z,1.1nm,0.6s,baz=98,slow=10,SNR=11								
	comp=Z,1.1nm,0.6s								
COEN	**Coen**	**42.24**	**159**	P		**P**	**00 04 08.8**	**-0.2**	
ZALV	**Zalesovo Beam**	**42.60**	**323**	P		**P**	**00 04 10.3**	**-1.3**	
	comp=Z,0.6nm,0.4s,baz=100,slow=6.5,SNR=4.3								
	comp=Z,0.6nm,0.4s								
SHEM	**Shemya Is, Ala**	**43.00**	**39**	LR		LR	00 21 59.2		
	comp=Z,18nm,20.7s,baz=200,slow=36								
KURK	**Kurchatov**	**45.20**	**317**			**P**	**00 04 31.0**	**-1.5**	
KURBB	**Kurchatov Arra**	**45.23**	**316**	P		**P**	**00 04 32.6**	**-0.2**	
	comp=Z,1.0nm,0.6s,baz=105,slow=8.3,SNR=10								
	comp=Z,1.0nm,0.6s								
TIXI	**Tiksi**	**45.58**	**0**	LR		LR	00 24 29.7		
	comp=Z,80nm,18.6s,baz=169,slow=37								
KSH	**Kashi**	**45.69**	**301**	P		**P**	**00 04 41.0**	**+4.3**	
KSH				pmax		pmax			
	comp=Z,3.0nm,1.0s								
NRN	**Naryn**	**45.72**	**303**	P		**P**	**00 04 37.3**	**+0.1**	
WB0	**Warramunga Arr**	**45.93**	**173**	P		**P**	**00 04 37.4**	**-1.2**	
WB0				IAmb		IAmb	00 04 49.0		
	comp=Z,4.7nm,0.8s								
WRAB	**Tennant Creek**	**46.09**	**173**	P		**P**	**00 04 38.3**	**-1.5**	
WRA	**Warramunga Arr**	**46.10**	**173**	P		**P**	**00 04 38.7**	**-1.1**	
WRA	**Warramunga Arr**	**46.10**	**173**	P		**P**	**00 04 40.8**	**+1.0**	
	comp=Z,1.4nm,0.7s,baz=353,slow=8.4,SNR=9.7								
	comp=Z,1.4nm,0.7s								
WR8	**Warramunga Arr**	**46.13**	**172**	P		**P**	**00 04 40.9**	**+0.8**	
WR8				IAmb		IAmb	00 05 15.0		
	comp=Z,12nm,1.4s								
AAK	**Ala-Archa**	**46.89**	**305**	LR		LR	00 27 10.1		
	comp=Z,44nm,18.4s,baz=90,slow=40								
ASAR	**Alice Springs**	**49.73**	**174**	P		**P**	**00 05 09.3**	**+1.3**	
	comp=Z,1.3nm,0.8s,baz=3.6,slow=8.1,SNR=13								
	comp=Z,1.3nm,0.8s								
KKAR	**Karatay Array**	**49.83**	**305**	P		**P**	**00 05 08.9**	**+0.3**	
BVAR	**Borovoye Array**	**50.65**	**318**	P		**P**	**00 05 14.7**	**0.0**	
	comp=Z,0.8nm,0.4s,baz=90,slow=7.2,SNR=3.7								
BVAR				LR		LR	00 28 29.8		
	comp=Z,88nm,18.3s,baz=92,slow=38								
	comp=Z,0.8nm,0.4s								
ARTI	**Arti**	**57.85**	**322**	P		**P**	**00 06 06.5**	**-0.6**	
ARTI				IAmb		IAmb	00 06 08.1		
	comp=Z,3.5nm,0.5s								

ARTI	**Arti**	**57.85**	**322**	LR		LR	00 33 01.1		
	comp=Z,102nm,18.5s,baz=90,slow=38								
KIRV	**Kirov**	**62.59**	**325**	LR		LR	00 37 17.5		
	comp=Z,106nm,19.1s,baz=80,slow=39								
NEA2	**Nenana**	**63.44**	**29**	P		**P**	**00 06 46.0**	**+1.0**	
RND	**Reindeer**	**63.64**	**30**			**P**	**00 06 46.2**	**-0.3**	
ILAR	**Eielson Array**	**64.35**	**28**	P		**P**	**00 06 51.6**	**+0.5**	
	comp=Z,0.3nm,0.3s,baz=269,slow=6.3,SNR=2.8								
ILAR				LR		LR	00 37 36.7		
	comp=Z,28nm,18.6s,baz=300,slow=39								
	comp=Z,0.3nm,0.3s								
BMAR	**Burnt Mountain**	**64.94**	**25**	P		**P**	**00 06 55.9**	**+0.9**	
F26K	**Sheenjek River**	**65.07**	**25**	P		**P**	**00 06 58.3**	**+2.5**	
SCRK	**Sand Creek**	**65.71**	**29**	P		**P**	**00 07 01.7**	**+1.6**	
SCRK				IAmb		IAmb	00 07 07.3		
	comp=Z,5.3nm,1.4s								
J26L	**Joseph Creek**	**65.81**	**28**	P		**P**	**00 07 01.2**	**+0.6**	
J26L				IAmb		IAmb	00 07 02.8		
	comp=Z,2.6nm,0.8s								
L29M	**L29M**	**68.46**	**29**	P		**P**	**00 07 19.0**	**+1.5**	
L29M				IAmb		IAmb	00 07 30.0		
	comp=Z,4.2nm,1.1s								
M29M	**Somme Creek**	**68.49**	**30**	P		**P**	**00 07 20.1**	**+2.4**	
M29M				IAmb		IAmb	00 07 40.1		
	comp=Z,6.0nm,1.4s								
BCPM	**Bancas Point**	**68.59**	**33**	P		**P**	**00 07 16.9**	**-1.4**	
I30M	**Mount Dempster**	**68.64**	**27**	P		**P**	**00 07 18.9**	**+0.3**	
I30M				IAmb		IAmb	00 07 22.1		
	comp=Z,5.1nm,1.4s								
F31M	**Tsiigehtchic**	**69.02**	**24**			pwP	00 07 33.0	+5.0	
GNI	**Garni**	**69.29**	**305**	LR		LR	00 42 00.0		
	comp=Z,35nm,20.0s,baz=4.0,slow=40								
ARCES	**ARCESS Array B**	**70.28**	**339**	P		**P**	**00 07 28.9**	**+0.4**	
	comp=Z,2.7nm,1.1s,baz=60,slow=5.8,SNR=5.2								
ARCES				LR		LR	00 45 08.1		
	comp=Z,58nm,18.2s,baz=80,slow=42								
	comp=Z,2.7nm,1.1s								
FINES	**FINESS Array B**	**73.18**	**331**	P		**P**	**00 07 46.5**	**+0.4**	
	comp=Z,3.3nm,1.0s,baz=66,slow=4.8,SNR=7.3								
FINES				LR		LR	00 46 19.4		
	comp=Z,28nm,19.3s,baz=86,slow=41								
	comp=Z,3.3nm,1.0s								
AKASG	**Malin Array Be**	**75.90**	**320**	P		**P**	**00 08 02.0**	**-0.1**	
	comp=Z,1.1nm,0.5s,baz=63,slow=4.0,SNR=6.6								
AKASG				LR		LR	00 44 10.0		
	comp=Z,90nm,18.4s,baz=60,slow=38								
	comp=Z,1.1nm,0.5s								
BR131	**Keskin Array S**	**77.44**	**308**			**P**	**00 08 10.7**	**-0.6**	
BR131				IAmb		IAmb	00 08 13.2		
	comp=Z,5.6nm,1.0s								
BRTR	**Keskin Array B**	**77.44**	**308**			**P**	**00 08 10.7**	**-0.6**	
BRTR	**Keskin Array B**	**77.44**	**308**	P		**P**	**00 08 12.6**	**+1.3**	
	comp=Z,3.1nm,0.9s,baz=88,slow=5.1,SNR=14								
	comp=Z,3.1nm,0.9s								
SUW	**Suwalki**	**77.80**	**324**	P		**P**	**00 08 11.6**	**-1.2**	
ANTO	**Ankara**	**77.98**	**308**	P		**P**	**00 08 13.5**	**-0.7**	
ANTO				IAmb		IAmb	00 08 44.5		
	comp=Z,3.9nm,0.7s								
MMAI	**Mount Meron Ar**	**78.82**	**301**	LR		LR	00 51 16.3		
	comp=Z,25nm,21.3s,baz=130,slow=42								
HFS	**Hagfors**	**79.13**	**332**	P		**P**	**00 08 19.6**	**-0.4**	
	comp=Z,1.4nm,0.7s,baz=46,slow=4.2,SNR=6.3								
	comp=Z,1.4nm,0.7s								
NC405	**NORSAR Array S**	**79.37**	**334**			**P**	**00 08 21.4**	**0.0**	
NC405				IAmb		IAmb	00 08 32.6		
	comp=Z,4.8nm,1.0s								
NC303	**NORSAR Array S**	**79.44**	**334**	P		**P**	**00 08 22.1**	**+0.4**	
NC303				IAmb		IAmb	00 08 23.0		
	comp=Z,8.6nm,1.3s								
BUR08	**Bucovina Ar. S**	**79.60**	**318**	P		**P**	**00 08 23.7**	**+0.7**	
BUR08				IAmb		IAmb	00 08 36.6		
	comp=Z,5.9nm,1.2s								
BURAR	**Bucovina Array**	**79.61**	**318**	P		**P**	**00 08 24.0**	**+1.0**	
NB2	**NORSAR Subarra**	**79.61**	**334**	P		**P**	**00 08 22.3**	**-0.4**	
	comp=Z,0.6n

0.7nm,0.9s
WRA Warramunga Arr 44.11 274 P P 00 43 09.0 -0.3
0.6nm,0.4s,baz=113,slow=7.9,SNR=9.8
0.6nm,0.4s
FINES FINESS Array B 146.36 339 PKPbc PKPdf 00 54 40.2 +0.4
0.9nm,0.7s,baz=35,slow=5.1,SNR=5.8

IDC 26 00:37:39.0±1.4, 33°07'S×77°58'E, h0km, mb3.9/6, mbtmp3.9/6, MS3.5/15, Error ellipse: s-maj=37.5km s-min=30.6km az=118.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**23.65**	**229**	T	T	01 07 25.2	
baz=66,slow=74,SNR=506							
H04N1	**CROZET ISLANDS**	**23.66**	**229**	T	T	01 07 27.5	
baz=66,slow=74,SNR=389							
H04N3	**CROZET ISLANDS**	**23.67**	**229**	T	T	01 07 22.5	
baz=66,slow=74,SNR=442							
H04S1	**CROZET ISLANDS**	**23.87**	**227**	T	T	01 07 39.7	
baz=66,slow=75,SNR=210							
H04S3	**CROZET ISLANDS**	**23.89**	**227**	T	T	01 07 39.2	
baz=66,slow=75,SNR=120							
H04S2	**CROZET ISLANDS**	**23.89**	**227**	T	T	01 07 40.7	
baz=66,slow=75,SNR=166							
H08S2	**Diego Garcia H**	**25.73**	**348**	T	T	01 10 23.0	
baz=170,slow=76,SNR=555							
H08S1	**Diego Carcia H**	**25.74**	**348**	T	T	01 10 22.2	
baz=170,slow=76,SNR=227							
H08S3	**Diego Garcia H**	**25.75**	**348**	T	T	01 10 27.1	
baz=170,slow=76,SNR=900							
H01W2	**Cape Leeuwin H**	**30.27**	**104**	T	T	01 15 12.4	
baz=263,slow=74,SNR=22							
H01W3	**Cape Leeuwin H**	**30.27**	**104**	T	T	01 15 11.3	
baz=263,slow=74,SNR=24							
H01W1	**Cape Leeuwin H**	**30.28**	**104**	T	T	01 15 12.4	
baz=263,slow=74,SNR=26							
MAW	**Mawson**	**35.62**	**190**	P	P	00 44 36.9	-1.1
2.0nm,0.8s,baz=45,slow=5.7,SNR=3.6							
MAW				LR	LR	00 56 07.8	
comp=Z,37nm,19.5s,baz=40,slow=31							
2.0nm,0.8s							
PALK	**Pallekele**	**40.23**	**5**	LR	LR	00 58 14.8	
comp=Z,66nm,18.5s,baz=162,slow=31							
BOSA	**Boshof**	**44.77**	**261**	LR	LR	01 00 23.0	
comp=Z,93nm,18.1s,baz=132,slow=30							
MATP	**Matopo**	**45.23**	**273**	LR	LR	01 01 12.2	
comp=Z,57nm,21.7s,baz=110,slow=31							
LBTB	**Lobatse**	**45.76**	**266**	LR	LR	01 00 56.8	
comp=Z,58nm,19.8s,baz=109,slow=30							
LSZ	**Lusaka**	**47.95**	**279**	LR	LR	01 02 45.9	
comp=Z,29nm,21.8s,baz=131,slow=31							
KAPI	**Kappang**	**48.16**	**64**	LR	LR	01 06 47.0	
comp=Z,33nm,18.2s,baz=278,slow=36							
ASAR	**Alice Springs**	**49.94**	**94**	P	P	00 46 34.9	+0.1
1.3nm,0.8s,baz=253,slow=7.0,SNR=4.5							
1.3nm,0.8s							
WRA	**Warramunga Arr**	**51.90**	**90**	P	P	00 46 49.1	-0.4
2.7nm,0.8s,baz=244,slow=7.4,SNR=7.9							
WRA				LR	LR	01 05 42.3	
comp=Z,80nm,21.9s,baz=342,slow=32							
2.7nm,0.8s							
STKA	**Stephens Creek**	**53.25**	**107**	LR	LR	01 06 01.0	
comp=Z,47nm,19.3s,baz=212,slow=32							
TSUM	**Tsumeb**	**54.94**	**269**	LR	LR	01 07 28.5	
comp=Z,47nm,18.9s,baz=152,slow=33							
CMAR	**Chiang Mai Arr**	**55.16**	**25**	LR	LR	01 07 13.2	
comp=Z,21nm,19.7s,baz=310,slow=32							
VNDA	**Vanda**	**56.75**	**165**	P	P	00 47 24.5	+0.4
0.6nm,0.8s,baz=265,slow=7.3,SNR=3.8							
VNDA				LR	LR	01 09 02.5	
comp=Z,56nm,19.1s,baz=279,slow=33							
0.6nm,0.8s							
QSPA	**South Pole Qui**	**57.08**	**180**	P	P	00 47 27.3	+0.5
1.8nm,1.0s,baz=318,slow=2.4,SNR=3.8							
QSPA				LR	LR	01 09 30.0	
comp=Z,62nm,18.4s,baz=294,slow=34							
1.8nm,1.0s							
BRTR	**Keskin Array B**	**83.07**	**327**	P	P	00 50 06.5	+0.1
0.5nm,0.9s,baz=156,slow=8.0,SNR=4.4							
0.5nm,0.9s							
JHJ	**Hachijo jima 2**	**88.09**	**48**	LR	LR	01 31 21.1	
comp=Z,26nm,18.3s,baz=288,slow=37							
USRK	**Ussuriysk Ar.**	**91.48**	**36**	LR	LR	01 32 23.7	
comp=Z,35nm,18.2s,baz=61,slow=36							

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*IDC **26** 00:39:57.9±13.0, 3°36S×103°85E, h242km±130km, mb3.3/11, mbtmp3.9/11, Error ellipse: s-maj=72.2km s-min=13.2km az=64.0*

*NEIC **26** 00:40:08.5±0.7, 3°19S±0°09×103°9E±0°1, h345km±8km, mb4.0/8, Error ellipse: s-maj=19.1km s-min=10.8km az=63.0*

*DJA **26** 00:40:08.1±0.6, 3°S±8°×10°4E±°, h340km±6km, M3.9/12, mb3.9/3, MLv3.9/12*

ISC 26 00:40:07.4±0.6, 3°29S±0°07×103°96E±0°08, h350km, n39, σ2°39/42, mb3.6/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHSI	**Lahat**	**0.68**	**219**	P	**Pn**	**00 40 52.3**	**+0.2**
MDSI	**Maura Dua**	**1.20**	**169**	P	**Pn**	**00 40 53.2**	**-0.9**
MDSI				S	**S**	**00 41 28.3**	**-3.1**
KSI	**Kapahiang**	**1.41**	**255**	P	**S**	**00 41 26.1**	**-7.3**
MNAI	**Manna**	**1.46**	**223**	Pn	**Pn**	**00 40 56.0**	**+0.7**
MNAI				Sn	**S**	**00 41 31.0**	**-2.7**
MNAI	**Manna**	**1.46**	**223**	P	**Pn**	**00 40 56.2**	**+0.9**
LWLI	**Liwa**	**1.71**	**177**	P	**Pn**	**00 40 56.4**	**-0.6**
KLI	**Kotabumi**	**1.80**	**150**	P	**Pn**	**00 40 55.8**	**-1.6**
KASI	**Kota Agung**	**2.28**	**166**	P	**Pn**	**00 40 58.9**	**-1.9**
BLSI	**Bandar Lampung**	**2.43**	**148**	P	**Pn**	**00 41 00.6**	**-1.4**
CGJI	**Cibinong**	**3.72**	**152**	P	**Pn**	**00 41 10.3**	**-3.4**
TPI	**Tanjungpandan**	**3.73**	**82**	P	**Pn**	**00 41 11.9**	**-1.8**
PPSI	**Pulau Pagai**	**3.98**	**278**	P	**Pn**	**00 41 19.5**	**+3.3**
MYKOM	**Kota Tinggi**	**5.05**	**359**	Pn	**Pn**	**00 41 27.2**	**-0.5**
CNJI	**Cibinong**	**5.09**	**142**	P	**Pn**	**00 41 23.8**	**-4.2**
GSI	**Gunungsitoli**	**7.84**	**306**	Pn	**Pn**	**00 41 59.9**	**+0.1**
GSI					**S**	**00 43 25.7**	**-5.7**
UGM	**Wanagama**	**7.98**	**125**	P	**Pn**	**00 41 59.0**	**-2.5**
PCJI	**Pacitan**	**8.68**	**124**	P	**Pn**	**00 42 06.7**	**-2.9**
KULM	**Kulim**	**9.14**	**339**		**P**	**00 42 15.9**	**-1.5**
CMAR	**Chiang Mai Arr**	**22.17**	**347**	P	**P**	**00 44 35.0**	**-0.3**
1.5nm,0.4s,baz=180,slow=8.8,SNR=7.5							
1.5nm,0.4s							
WRA	**Warramunga Arr**	**33.94**	**122**	P	**P**	**00 46 18.2**	**-1.0**
0.5nm,0.7s,baz=289,slow=9.8,SNR=3.0							
0.5nm,0.7s							
ASAR	**Alice Springs**	**35.32**	**128**	P	**P**	**00 46 30.2**	**-0.7**
0.4nm,0.5s,baz=299,slow=8.6,SNR=2.8							
0.4nm,0.5s							
SONM	**Songino Array**	**50.96**	**2**	P	**P**	**00 48 35.5**	**+1.0**
SONM	**Songino Array**	**50.96**	**2**	P	**P**	**00 48 36.8**	**+2.3**
2.5nm,0.7s,baz=179,slow=9.2,SNR=12							
2.5nm,0.7s							
MKAR	**Makanchi Array**	**53.41**	**342**	P	**P**	**00 48 53.3**	**+1.0**
1.0nm,0.5s,baz=156,slow=8.2,SNR=15							
1.0nm,0.5s							
KURBB	**Kurchatov Arra**	**57.97**	**341**	P	**P**	**00 49 24.8**	**+0.5**
0.9nm,0.7s,baz=156,slow=6.5,SNR=6.0							
0.9nm,0.7s							
KURK	**Kurchatov**	**58.02**	**341**	P	**P**	**00 49 25.2**	**+0.6**
ZAA0	**Zalesovo Array**	**59.24**	**347**	P	**P**	**00 49 33.2**	**+0.4**
ZAA0				IAmb	IAmb	00 49 34.7	
comp=Z,2.6nm,0.9s							
ZALV	**Zalesovo Beam**	**59.24**	**347**	P	**P**	**00 49 33.2**	**+0.4**
ZALV	**Zalesovo Beam**	**59.24**	**347**	P	**P**	**00 49 33.4**	**+0.6**
comp=Z,1.6nm,0.3s,baz=116,slow=3.4,SNR=12							
comp=Z,1.6nm,0.3s							
ATD	**Arta Tunnel**	**62.52**	**285**		**P**	**00 49 55.7**	**+0.1**
BVAR	**Borovoye Array**	**62.81**	**338**	P	**P**	**00 49 56.9**	**+0.2**
comp=Z,0.8nm,0.4s,baz=146,slow=8.7,SNR=5.9							
comp=Z,0.8nm,0.4s							
PINNC	**Pines Island,**	**64.30**	**113**	P	**P**	**00 50 08.2**	**+1.3**
CSS	**Mathiatis**	**76.15**	**307**	P	**P**	**00 51 16.8**	**-1.2**
CSS				IAmb	IAmb	00 51 51.9	
comp=Z,9.9nm,1.2s							
VNDA	**Vanda**	**80.15**	**169**	P	**P**	**00 51 41.2**	**+2.4**
VNDA				IAmb	IAmb	00 51 50.8	
comp=Z,1.5nm,1.4s							
VNDA	**Vanda**	**80.15**	**169**	P	**P**	**00 51 41.2**	**+2.4**
comp=Z,0.4nm,0.5s,baz=304,slow=6.1,SNR=8.8							
comp=Z,0.4nm,0.5s							
SBA	**Scott Base**	**81.23**	**169**	P	**P**	**00 51 48.1**	**+3.6**
QSPA	**South Pole Qui**	**86.67**	**180**	P	**P**	**00 52 14.5**	**+2.4**
QSPA				IAmb	IAmb	00 52 51.9	
comp=Z,6.0nm,1.5s							
QSPA	**South Pole Qui**	**86.67**	**180**	P	**P**	**00 52 14.8**	**+2.7**
comp=Z,0.7nm,0.9s,baz=174,slow=1.8,SNR=1.5							
comp=Z,0.7nm,0.9s							
FINES	**FINESS Array B**	**87.10**	**332**	P	**P**	**00 52 14.7**	**+0.7**
comp=Z,0.3nm,0.4s,baz=92,slow=6.3,SNR=2.2							
comp=Z,0.3nm,0.4s							

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*NEIC **26** 00:42:47.2, 35°.92N×117°.70W, h12km*

*PAS **26** 00:42:47.8±1.4, 35°.926N±0°.008×117°.71W±0°.01, h4km±1km, Mwr4.7/6, mb4.6/152(NEIC), ML4.6/202(NEIC), Mwr4.6/52(NEIC), Mww4.8/42(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=54.0*

*NEIC **26** 00:42:47.2, 35°.92N×117°.70W, h12km, Moment Tensor Solution. Duration: 1ŝ3 Moment tensor: Scale 10^16 Nm; Mrr~1.10; Mθθ~0.79; Mϕϕ 1.89; Mrθ 0.26; Mθϕ~0.04; Mϕr~0.78; Fault plane solution: M0 1.84000×10^16 NP1: ϕs 204.17000°, δ36.02000°, λ~52.55000°. NP2: ϕs 340.72000°, δ62.17000°, λ~113.85000°. Principal axes: T 2.0825, Plg14.0000°, Azm88.0000°; N -0.6941, Plg21.0000°, Azm352.0000°; P -1.3884, Plg64.0000°, Azm209.0000°;*

*NEIC **26** 00:42:47.1±1.3, 35°.926N±0°.002×117°.70W±0°.01, h4km±1km Error ellipse: s-maj=1.3km s-min=0.2km az=83.0, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr~0.73; Mθθ~0.34; Mϕϕ 1.08; Mrθ 0.35; Mθϕ~0.04; Mϕr~0.01; Fault plane solution: M0 1.02000×10^16 NP1: ϕs 331.44000°, δ53.15000°, λ~129.44000°. NP2: ϕs 205.34000°, δ51.83000°, λ~49.72000°. Principal axes: T 1.0777, Plg1.0000°, Azm88.0000°; N -0.1369, Plg31.0000°, Azm358.0000°; P -0.9409, Plg59.0000°, Azm179.0000°;*

*NEIC **26** 00:42:47.1, 35°.92N×117°.71W, h4km*

*IDC **26** 00:42:48.6±0.5, 35°.93N×117°.60W, h0km, mb4.2/14, mbtmp4.1/21, ML3.8/7, MS4.0/64, Error ellipse: s-maj=12.0km s-min=5.3km az=72.0*

*NEIC **26** 00:42:48, 35°.92N×117°.71W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr~1.17; Mθθ~0.69; Mϕϕ 1.86; Mrθ 0.33; Mθϕ~0.10; Mϕr 0.28; Fault plane solution: M0 1.62000×10^16 NP1: ϕs 201.00000°, δ56.00000°, λ~57.00000°. NP2: ϕs 332.00000°, δ46.00000°, λ~128.00000°. Principal axes: T 1.8879, Plg5.0000°, Azm269.0000°; N -0.5277, Plg27.0000°, Azm1.0000°; P -1.3602, Plg63.0000°, Azm168.0000°;*

*GCMT **26** 00:42:49.8±0.3, 36°.02N±0°.03×117°.70W±0°.02, h12km±1km, MW4.8/93, Moment Tensor Solution. s23,c24; s93,c130; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~1.55±.14; Mθθ~0.63±.09; Mϕϕ 2.17±.09; Mrθ 0.59±.29; Mθϕ~0.04±.05; Mϕr 0.15±.19; Best double couple: M0 2.01000×10^16 NP1: ϕs 335.00000°, δ48.00000°, λ~126.00000°. NP2: ϕs 203.00000°, δ53.00000°, λ~57.00000°. Principal axes: T 2.1760, Plg2.0000°, Azm270.0000°; N -0.3390, Plg26.0000°, Azm1.0000°; P -1.8430, Plg64.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 00:42:48.3±0.9, 35°.93N±0°.02×117°.68W±0°.02, h4km±6km, n540, σ1°15/484, mb4.6/51, MS4.1/60, 1C, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.11**	**281**		**Pg**	**00 42 49.9**	**-0.7**
WVPM					**Sg**	**00 42 51.9**	**-0.2**
JRC2	**Joshua Ridge**	**0.12**	**298**		**Pg**	**00 42 51.8**	**+1.2**
WCSM	**Coso Springs S**	**0.12**	**325**		**Pg**	**00 42 50.1**	**-0.6**
WCSM					**Sg**	**00 42 51.9**	**-0.5**
CLC	**China Lake**	**0.13**	**148**	Pg	**Pg**	**00 42 50.7**	**-0.2**
CLC				Sg	**Sg**	**00 42 52.9**	**+0.3**
TOW	**Tower One**	**0.14**	**209**		**Pg**	**00 42 50.8**	**-0.2**
TOW					**Sg**	**00 42 53.6**	**+0.8**
WRVM	**Rose V. Centra**	**0.19**	**295**		**Pg**	**00 42 51.2**	**-0.8**
WRVM					**Sg**	**00 42 53.9**	**-0.5**
WNMM	**Nine Mile Cany**	**0.20**	**245**		**Pg**	**00 42 54.3**	**+2.1**
MPMC	**Manual Prospec**	**0.20**	**50**	Pg	**Pg**	**00 42 52.0**	**-0.3**
MPMC				Sg	**Sg**	**00 42 55.4**	**+0.3**
MPMC				IAML		00 42 57.2	
comp=N,116μm,0.9s							
MPMC				IAML		00 42 58.1	
comp=E,92μm,0.7s							
MFS	**McCloud Flat S**	**0.23**	**323**		**Pg**	**00 42 52.3**	**-0.6**
MFS					**Sg**	**00 42 55.8**	**-0.2**
SRC	**Snort**	**0.24**	**193**		**Pg**	**00 42 52.9**	**-0.1**
SRTC					**Sg**	**00 42 57.2**	**+1.1**
GPO	**China Lake**	**0.28**	**177**		**Pg**	**00 42 53.3**	**-0.4**
GPO					**Sg**	**00 42 58.0**	**+0.7**
WSHM	**Spangler Hills**	**0.36**	**155**		**Pg**	**00 42 54.8**	**-0.5**
WSHM				Sg	**Sg**	**00 43 00.1**	**+0.1**
WSHM				IAML		00 43 01.2	
comp=E,51μm,0.6s							
LRMC	**Laurel Mtn Rad**	**0.45**	**180**	Pg	**Pg**	**00 42 56.2**	**-0.7**
LRMC				Sg	**Sg**	**00 43 02.6**	**-0.1**
LRMC				IAML		00 43 05.7	
comp=N,37μm,0.6s							
CCCA	**Chr Cany lake**	**0.48**	**147**	Pg	**Pg**	**00 42 57.5**	**+0.1**
CCCA				Sg	**Sg**	**00 43 04.7**	**+1.0**
CCCA				IAML		00 43 08.4	
comp=E,86μm,0.9s							
WORM	**Onyx Ranch**	**0.51**	**243**		**Pg**	**00 42 57.0**	**-1.1**
WORM					**Sg**	**00 43 03.7**	**-1.1**
WBSM	**Bird Springs**	**0.54**	**224**		**Pg**	**00 42 57.7**	**-0.9**
WBSM					**Sg**	**00 43 05.5**	**-0.2**
WHFM	**Hanning Flat**	**0.59**	**247**		**Pg**	**00 42 58.6**	**-1.0**
WHFM					**Sg**	**00 43 05.9**	**-1.4**
CWC	**Cottonwood Cre**	**0.60**	**328**		**Pg**	**00 42 59.4**	**-0.6**
CWC				Sg	**Sg**	**00 43 07.8**	**0.0**
CGO	**Cerro Gordo**	**0.63**	**351**		**Pg**	**00 42 59.4**	**-1.0**
CGO					**Sg**	**00 43 08.0**	**-0.6**
QSM	**Queen of Sheba**	**0.66**	**87**		**Pg**	**00 43 00.6**	**-0.4**
QSM	**Queen of Sheba**	**0.66**	**87**	Sg	**Sg**	**00 43 07.8**	**-1.7**
QSM				IAML		00 43 13.4	
comp=N,26μm,0.7s							
QSM				IAML		00 43 16.5	
comp=E,20μm,0.9s							
DTP	**Desert Tortois**	**0.67**	**191**		**Pg**	**00 43 00.2**	**-1.0**
DTP					**Sg**	**00 43 09.7**	**-0.2**
ISA	**Isabella, Lake**	**0.70**	**248**		**Pg**	**00 43 00.6**	**-1.1**
ISA				Sg	**Sg**	**00 43 09.8**	**-0.8**
WASM	**Alta Sierra Ca**	**0.74**	**255**		**Pg**	**00 43 01.3**	**-1.1**
WASM					**Sg**	**00 43 11.0**	**-1.0**
CCAC	**Calif City Air**	**0.82**	**199**		**Pg**	**00 43 02.9**	**-1.1**
CCAC					**Sg**	**00 43 14.2**	**-0.5**
FURC	**Furnace Creek,**	**0.85**	**51**		**Pg**	**00 43 04.6**	**0.0**
FURC	**Furnace Creek,**	**0.85**	**51**	Sg	**Sb**	**00 43 17.3**	**-0.2**
GWY	**Greenwater Val**	**0.86**	**72**		**Pg**	**00 43 04.6**	**-0.2**
GWY				Sg	**Sg**	**00 43 15.0**	**-1.0**
GWY				IAML		00 43 22.3	
comp=N,22μm,1.0s							
GWY				IAML		00 43 22.5	
comp=E,25μm,1.0s							
SPG2	**Springville 2**	**0.92**	**288**		**Pg**	**00 43 04.3**	**-1.6**
GSC	**Goldstone, Bar**	**0.95**	**131**		**Pg**	**00 43 05.7**	**-0.8**
GSC				Sg	**Sb**	**00 43 20.0**	**-0.4**
GSC				IAML		00 43 23.5	
comp=N,15μm,0.8s							
HYS	**Haystack Butte**	**1.07**	**175**		**Pg**	**00 43 07.5**	**-1.3**
EDW2	**Edwards Air Fo**	**1.07**	**194**		**Sg**	**00 43 21.2**	**-1.7**
GRAC	**Grapevine Rang**	**1.10**	**13**		**Pg**	**00 43 08.5**	**-0.8**
GRAC	**Grapevine Rang**	**1.10**	**13**	IAML		00 43 30.6	
comp=N,22μm,1.0s							
GRAC				IAML		00 43 31.3	
comp=E,17μm,1.2s							
TPO	**Tropico Hills**	**1.14**	**203**		**Pg**	**00 43 08.6**	**-1.5**
VES	**Vestal, Richgr**	**1.14**	**266**	IAML		00 43 32.8	
comp=N,24μm,0.8s							
VES				IAML		00 43 35.7	
comp=E,22μm,2.6s							
SHOC	**Shoshone, Teco**	**1.14**	**91**		**Pg**	**00 43 09.9**	**-0.3**
SHOC					**Sb**	**00 43 25.8**	**-0.1**
MAGC	**SCE Magundon P**	**1.16**	**241**		**Pg**	**00 43 09.3**	**-1.2**
SGV	**South Grapevin**	**1.17**	**26**		**Pg**	**00 43 10.0**	**-0.8**
RRX	**Edison Barstow**	**1.19**	**152**		**Pg**	**00 43 10.2**	**-1.0**
TIN	**Tinemaha, Big**	**1.21**	**339**		**Pg**	**00 43 09.9**	**-1.5**
TIN	**Tinemaha, Big**	**1.21**	**339**	IAML		00 43 32.0	
comp=E,10μm,0.8s							
TIN				IAML		00 43 48.8	
comp=N,14μm,2.2s							
WCT	**Wildcat Mounta**	**1.21**	**44**		**Pg**	**00 43 10.7**	**-0.9**
WCT	**Wildcat Mounta**	**1.21**	**44**	IAML		00 43 32.0	
comp=N,9μm,2.1s							
WCT				IAML		00 43 33.6	
comp=E,11μm,1.7s							
SBB	**Saddle Back Bu**	**1.24**	**185**		**Pg**	**00 43 10.4**	**-1.7**
TJR	**Tejon Ranch**	**1.25**	**224**		**Pg**	**00 43 10.0**	**-2.2**
LCH	**Last Change Ra**	**1.30**	**1**		**Pg**	**00 43 13.0**	**-0.3**
ALPC	**Antelope**	**1.34**	**202**		**Pn**	**00 43 12.1**	**-1.8**
GMN	**Gold Mountain**	**1.41**	**14**		**Pn**	**00 43 14.1**	**-1.0**
DSP	**Deep Springs**	**1.46**	**351**		**Pn**	**00 43 14.1**	**-1.4**
TPNV	**Topopah Spring**	**1.54**	**48**		**Pn**	**00 43 15.9**	**-0.9**
TPNV				IAML		00 43 43.4	
comp=E,9μm,1.1s							
TPNV				IAML		00 43 44.2	
comp=E,9μm,1.2s							
BFSC	**Mount Baldy Ra**	**1.69**	**179**		**Pn**	**00 43 17.2**	**-1.5**
MWC	**Mount Wilson**	**1.73**	**190**		**Pn**	**00 43 18.0**	**-1.4**
MWC				IAML		00 43 45.5	
comp=E,5μm,0.7s							
MWC				IAML		00 43 53.0	
comp=N,5μm,1.1s							
MZP	**Montezuma Peak**	**1.79**	**8**		**Pn**	**00 43 19.8**	**-0.4**
MTPC	**Mountain Pass**	**1.79**	**104**		**Pn**	**00 43 18.6**	**-1.6**
MTPC				IAML		00 43 47.7	
comp=N,6μm,1.0s							
MTPC				IAML		00 43 48.2	
comp=E,5μm,0.8s							
CRGC	**Crocker Grade**	**1.80**	**248**		**Pn**	**00 43 19.7**	**-0.5**
KCC	**Kaiser Creek**	**1.92**	**317**		**Pn**	**00 43 22.5**	**+0.7**
SHPR	**Sheep Range**	**2.12**	**73**		**Pn**	**00 43 23.9**	**-0.8**
TPH	**Tonopah**	**2.17**	**10**		**Pn**	**00 43 25.4**	**-0.1**
ELS	**Elsinore Mount**	**2.29**	**175**		**Pn**	**00 43 25.6**	**-1.3**
ELS				IAML		00 44 11.3	
comp=E,2μm,1.4s							
V12A	**Nelson**	**2.31**	**94**		**Pn**	**00 43 25.8**	**-1.5**
V12A				IAML		00 44 09.6	
comp=N,5μm,1.5s							
V12A				IAML		00 44 10.7	
comp=E,2μm,0.7s							
PKD	**Bear Valley Ra**	**2.32**	**271**		**Pn**	**00 43 26.5**	**-0.8**
BELC	**Belle Mtn. Jos**	**2.37**	**144**	IAML		00 44 07.3	
comp=E,2μm,0.5s							
BELC				IAML		00 44 14.6	
comp=N,2μm,0.8s							
PMD	**Palm Desert**	**2.52**	**154**		**Pn**	**00 43 28.3**	**-1.7**
PFO	**Pinyon Flats O**	**2.52**	**156**		**Pn**	**00 43 28.6**	**-1.6**
PFO				IAML		00 44 17.1	
comp=N,2μm,1.9s							
PFO	**Pinyon Flats O**	**2.52**	**156**	Pn	**Pn**	**00 43 28.7**	**-1.5**
comp=N,17nm,0.3s,baz=343,slow=13,SNR=126							
PFO				Pg	**Pb**	**00 43 34.9**	**+0.6**
comp=N,117nm,0.3s,baz=335,slow=13,SNR=57							
PFO				LR	LR	00 44 02.5	
comp=N,162nm,19.3s,baz=319,slow=30							
PFO				Lg	Lg	00 44 08.2	
comp=N,57nm,0.3s,baz=205,slow=9.9,SNR=4.0							
comp=N,50nm,0.3s							
NV11	**Mina Array Sit**	**2.53**	**352**		**Pn**	**00 43 30.2**	**-0.2**
PMPB	**Monarch Peak**	**2.54**	**277**		**Pn**	**00 43 30.9**	**+0.5**
PMPB				IAML		00 44 33.0	
comp=E,5μm,1.2s							
NVAR	**Mina Array Bea**	**2.55**	**349**	Pn	**Pn**	**00 43 30.1**	**-0.5**
comp=E,8.1nm,0.3s,baz=172,slow=15,SNR=133							
NVAR				Pg	**Pb**	**00 43 35.2**	**+0.5**
comp=E,58nm,0.3s,baz=174,slow=18,SNR=99							
NVAR				Lg	Lg	00 44 11.2	
comp=E,44nm,0.3s,baz=157,slow=30,SNR=5.3							
NVAR				LR	LR	00 44 43.2	
comp=E,4μm,18.1s,baz=125,slow=45							
comp=E,44nm,0.6s							
PRN	**Pahroc Range**	**2.58**	**54**		**Pn**	**00 43 30.6**	**-0.4**
PRN				IAML		00 44 17.9	
comp=E,4μm,1.2s							
PRN				IAML		00 44 19.7	
comp=N,3μm,1.0s							
IRM	**Iron Mountain**	**2.73**	**130**	IAML		00 44 22.5	
comp=N,1μm,1.1s							
IRM				IAML		00 44 22.6	
comp=E,2μm,1.5s							
NEE2	**Needles Airpor**	**2.76**	**114**		**Pn**	**00 43 32.0**	**-1.3**
NEE2				IAML		00 44 20.9	
comp=N,4μm,1.0s							
BBGB	**Big Mountain B**	**2.79**	**284**		**Pn**	**00 43 35.1**	**+1.2**
BORC	**Borrego Spring**	**2.85**	**158**		**Pn**	**00 43 33.4**	**-1.2**
BORC				IAML		00 44 39.2	
comp=E,1μm,1.1s							
Q09A	**Carvers**	**2.93**	**8**		**Pn**	**00 43 37.1**	**+1.2**
Q09A				IAML		00 44 35.7	
comp=N,3μm,1.3s							
WAKR	**Walker**	**2.93**	**332**		**Pn**	**00 43 37.9**	**+2.0**
R11B	**Troy Canyon, C**	**2.94**	**34**		**Pn**	**00 43 35.3**	**-0.7**
R11B				IAML		00 44 28.0	
comp=E,1μm,1.5s							
DPP	**Dos Picos Cty**	**2.99**	**168**		**Pn**	**00 43 35.4**	**-1.1**
DPP				IAML		00 44 26.2	
comp=E,1μm,1.6s							
CMB	**Columbia Colle**	**3.02**	**315**		**Pn**	**00 43 37.5**	**+0.5**
SAO	**San Andreas Ge**	**3.15**	**286**		**Pn**	**00 43 38.0**	**-0.8**
W13A	**Hualapai Mount**	**3.21**	**104**	IAML		00 44 36.1	
comp=E,1μm,1.4s							
W13A				IAML		00 44 44.3	
comp=N,1μm,0.9s							
BLYC	**Blythe**	**3.39**	**129**		**Pn**	**00 43 39.0**	**-3.0**
BLYC				IAML		00 44 41.4	
comp=N,1μm,1.2s							
BLYC				IAML		00 44 54.2	
comp=E,1μm,0.9s							
TKX	**Tecate**	**3.47**	**165**		**Pn**	**00 43 42.5**	**-0.6**
TKX				IAML		00 44 40.

113A IAML 00 45 26.6
comp=N,431nm,1.4s
MCCM Marconi Confer 4.71 300 IAML 00 45 13.7
comp=N,331nm,1.2s
ORV Oroville 4.72 321 IAML 00 45 40.7
comp=E,334nm,4.2s
ORV IAML 00 45 47.9
comp=N,349nm,3.2s
VTX Valle De La Tr 4.79 160 IAML 00 45 28.7
comp=N,410nm,1.5s
VTX IAML 00 45 38.3
comp=E,505nm,2.7s
MTPU Mount Pierson 4.88 63 IAML 00 45 56.8
comp=N,462nm,2.0s
MTPU IAML 00 46 07.9
comp=E,428nm,2.9s
TCRU Three Creeks R 4.96 56 IAML 00 45 49.6
comp=E,702nm,2.1s
ELK Elko 5.18 21 Pn **Pn** **00 44 07.5 +0.7**
comp=E,2.8nm,0.3s,baz=199,slow=8.4,SNR=39
ELK Pg **Pg** **00 44 24.6 -3.0**
comp=E,5.5nm,0.3s,baz=217,slow=14,SNR=14
ELK Lg Lg 00 45 30.6
comp=E,22nm,0.3s,baz=60,slow=3.7,SNR=15
comp=E,7.3nm,0.4s
X16A Lo Mia Camp, P 5.33 105 IAML 00 45 53.1
comp=N,322nm,1.0s
X16A IAML 00 45 55.8
comp=E,318nm,2.8s
YBH Yreka Blue Hor 7.00 327 Pn **Pn** **00 44 34.9 +3.2**
baz=175,slow=7.0
YBH Lg Lg 00 46 28.4
baz=23,slow=8.4,SNR=6.5
ANMO Albuquerque 9.21 93 Pn **Pn** **00 45 03.9 +1.7**
comp=E,0.3nm,0.3s,baz=353,slow=10,SNR=6.5
ANMO Lg Lg 00 47 36.7
comp=E,0.4nm,0.3s,baz=145,slow=11,SNR=5.8
comp=E,2.1nm,0.6s
PDAR Pinedale Array 9.28 40 Pn **Pn** **00 45 04.7 +1.5**
comp=E,0.1nm,0.3s,baz=228,slow=13,SNR=26
PDAR Lg Lg 00 47 40.3
comp=E,0.2nm,0.3s,baz=225,slow=31,SNR=5.6
comp=E,6.4nm,1.0s
HAYD Hayden 9.39 58 Pn **Pn** **00 45 05.8 +1.1**
LOHW Long Hollow 9.41 33 Pn **Pn** **00 45 06.0 +1.1**
G06A Carlson Farm, 9.56 347 Pn **Pn** **00 45 04.5 -2.4**
MCMT McKenzie Canyo 9.62 21 Pn **Pn** **00 45 11.3 +3.4**
SRIG Santa Rosalia 9.75 150 Pn **Pn** **00 45 11.3 +1.9**
HOOD Mount Hood Mea 9.86 343 Pn **Pn** **00 45 13.8 +2.9**
SDCO Great Sand Dun 9.93 76 Pn **Pn** **00 45 14.9 +2.8**
LNOR Lincton Mounta 9.94 358 Pn **Pn** **00 45 11.9 -0.1**
QLMT Earthquake Lak 10.09 26 Pn **Pn** **00 45 16.0 +1.8**
F07A Phinny Hill Vi 10.10 351 Pn **Pn** **00 45 15.2 +1.1**
YHB Horse Butte 10.10 27 Pn **Pn** **00 45 15.7 +1.3**
YPT Yellepit 10.16 355 Pn **Pn** **00 45 16.0 +1.1**
DLMT Dillon 10.18 21 Pn **Pn** **00 45 15.8 +0.4**
YHL Hebgen Lake 10.19 27 Pn **Pn** **00 45 17.2 +1.5**
YHH Holmes Hill 10.27 28 Pn **Pn** **00 45 17.7 +1.0**
YNR Norris Junctio 10.27 29 Pn **Pn** **00 45 17.8 +1.1**
ISCO Idaho Springs 10.29 64 Pn **Pn** **00 45 19.4 +2.3**
Q24A Divide 10.41 69 Pn **Pn** **00 45 21.1 +2.3**
YMP Mirror Lake Pl 10.51 31 Pn **Pn** **00 45 19.8 -0.2**
HAWA Hanford 10.55 353 Pn **Pn** **00 45 19.6 -0.6**
E09A Wood Farm, Sta 10.58 358 Pn **Pn** **00 45 19.9 -0.8**
LRM Limekiln Ridge 10.64 20 Pn **Pn** **00 45 23.6 +1.7**
BOZ Bozeman (W) 10.69 24 Pn **Pn** **00 45 22.5 +0.2**
E07A Sunnyside 10.74 352 Pn **Pn** **00 45 23.1 +0.1**
MXC Moxie City 10.82 350 Pn **Pn** **00 45 23.1 -0.9**
WAH2 Wahluke Slope 10.91 353 Pn **Pn** **00 45 27.3 +2.1**
K22A Casper 10.94 49 Pn **Pn** **00 45 27.5 +1.7**
BPMT Black Pine Rid 10.97 16 Pn **Pn** **00 45 25.6 -0.7**
MNTX Cornudas Mount 11.06 109 Pn **Pn** **00 45 29.9 +2.5**
D08A Wollman Farm, 11.16 356 Pn **Pn** **00 45 29.5 +0.9**
RLMT Red Lodge 11.19 32 Pn **Pn** **00 45 29.6 +0.4**
LON Longmire 11.25 345 Pn **Pn** **00 45 32.8 +3.0**
MSO Missoula 11.25 13 Pn **Pn** **00 45 32.0 +2.1**
E03A Lebam 11.49 339 Pn **Pn** **00 45 35.1 +2.0**
OVMT Ovando 11.66 16 Pn **Pn** **00 45 36.0 +0.4**
D05A Emumclaw 11.70 345 Pn **Pn** **00 45 37.1 +1.1**
LYMT Lyon Mountain 11.75 18 Pn **Pn** **00 45 38.4 +1.5**
VHRN Van Horn 11.79 112 Pn **Pn** **00 45 37.8 +0.4**
CLN7 Carlsbad 7 12.01 103 Pn **Pn** **00 45 41.2 +0.7**
RTBA Rita Blanca 12.09 83 Pn **Pn** **00 45 44.2 +2.7**
HTMS Hat Mesa 12.13 102 Pn Pn 00 45 46.9 +4.9
NEW Newport 12.33 2 Pn **Pn** **00 45 48.0 +3.3**
comp=E,0.1nm,0.3s,baz=173,slow=16,SNR=3.7
NEW LR LR 00 50 56.8
comp=E,475nm,18.8s,baz=194,slow=40
comp=E,1.4nm,0.8s
KSCO Kaye Shedlock' 12.35 71 Pn **Pn** **00 45 47.5 +2.5**
PECS Pecos 12.37 108 Pn **Pn** **00 45 48.1 +2.7**
MSTX Muleshoe 12.39 95 Pn **Pn** **00 45 48.8 +3.2**
B08A Colville Reser 12.48 355 Pn **Pn** **00 45 51.2 +4.5**
ALPN Alpine 13.00 111 Pn **Pn** **00 45 55.9 +1.9**
C03A Quillayute Air 13.05 339 Pn **Pn** **00 45 53.5 -0.9**
AMTX Amarillo 13.10 90 Pn **Pn** **00 45 58.2 +3.0**
ODSA Odessa 13.11 102 Pn **Pn** **00 45 55.5 0.0**
MNHN Monahans 13.25 106 Pn **Pn** **00 45 58.0 +0.8**
RSSD Black Hills 13.27 48 Pn **Pn** **00 45 56.4 -1.3**
A04D Lummi Island 13.31 345 Pn **Pn** **00 45 58.6 +0.7**
LPIG La Paz 13.40 150 LR LR 00 50 31.4
comp=E,130nm,19.0s,baz=30,slow=35
TX31 Lajitas Ar. Si 13.51 115 Pn **Pn** **00 46 02.1 +1.2**
TXAR Lajitas Array 13.51 115 Pn **Pn** **00 46 01.9 +1.0**
TXAR Lajitas Array 13.51 115 Pn **Pn** **00 46 02.9 +2.0**
comp=E,0.3nm,0.3s,baz=293,slow=10,SNR=21
TXAR Lg Lg 00 49 53.7
comp=E,0.1nm,0.3s,baz=297,slow=30,SNR=7.4
comp=E,4.1nm,1.0s
HPIG 13.61 128 Pn **Pn** **00 46 02.3 -0.2**
DKNS Dickens 13.96 94 Pn **Pn** **00 46 07.8 +0.8**
SGCY Sterling City 14.32 101 P **P** **00 46 16.6 -2.6**
SAND Sanderson 14.35 110 **P** **00 46 17.5 -2.1**
CBKS Cedar Bluff 14.56 73 P **Pn** **00 46 17.4 +2.2**
ELIS Ellis County 14.79 84 P **P** **00 46 21.4 -3.0**
LLLB Lillooet 14.98 350 P **P** **00 46 25.8 -0.8**
CBB Campbell River 15.16 341 Pn **Pn** **00 46 23.3 +0.1**
CBB IAmb IAmb 00 46 34.7
comp=Z,16nm,1.1s
ABTX Abilene, Hawle 15.27 97 IAmb IAmb 00 46 36.0
comp=Z,38nm,1.5s
OK038 West end E0370 15.30 82 Pn **Pn** **00 46 24.2 -1.0**
OK038 IAmb IAmb 00 46 36.0
comp=Z,31nm,1.3s
R32A Long Quarter, 15.33 75 Pn **Pn** **00 46 24.5 -1.0**
CSTR Hydro, Custer 15.42 85 Pn **Pn** **00 46 24.1 -2.7**
WMOK Wichita Mounta 15.48 89 **Pn** **00 46 28.8 +1.3**
K30B Basset 15.51 59 P **P** **00 46 30.4 -2.0**
DRIO Del Rio 15.76 109 **Pn** **00 46 30.0 -0.2**
KAN12 Harper NE Stat 15.87 79 Pn **Pn** **00 46 33.4 +0.8**
KAN14 Manchester OK 15.91 80 Pn **Pn** **00 46 32.4 -0.7**
KAN14 IAmb IAmb 00 46 40.2
comp=Z,55nm,1.5s
JCT Junction City 15.92 105 **Pn** **00 46 33.2 -0.1**
WTFS Witchita Falls 15.93 92 Pn **Pn** **00 46 34.0 +0.7**
WTFS IAmb IAmb 00 46 42.5
comp=Z,33nm,1.0s
DGMT Dagmar 16.00 34 Pn **Pn** **00 46 34.5 +0.3**
DGMT IAmb IAmb 00 46 50.2
comp=Z,41nm,1.3s
KAN17 Caldwell West 16.06 80 Pn **Pn** **00 46 33.6 -1.4**
KAN01 Argonia South 16.06 80 Pn **Pn** **00 46 36.0 +1.0**
KAN01 IAmb IAmb 00 46 43.4
comp=Z,67nm,1.3s
BGNE Belgrade 16.20 64 Pn **Pn** **00 46 35.6 -1.2**
BGNE IAmb IAmb 00 46 44.8
comp=Z,66nm,1.3s
BRDY Brady 16.23 101 **Pn** **00 46 36.7 -0.6**
X34A Smith Ranch, M 16.27 89 **Pn** **00 46 37.1 -0.6**
X34A IAmb IAmb 00 46 46.5
comp=Z,41nm,1.1s
PLPT Palo Pinto 16.29 95 **Pn** **00 46 37.8 -0.2**
PLPT IAmb IAmb 00 46 46.5
comp=Z,33nm,1.0s
KAN13 South Haven SW 16.29 80 Pn **Pn** **00 46 36.9 -1.1**
KAN13 IAmb IAmb 00 46 46.4
comp=Z,47nm,1.2s
OK029 Liberty Lake 16.40 85 Pn **Pn** **00 46 38.4 -1.1**
OK029 IAmb IAmb 00 46 47.2
comp=Z,56nm,1.3s
OKCSW OKLAHOMA CITY 16.46 86 Pn **Pn** **00 46 39.5 -0.7**
BLOK Blackwell 16.51 81 Pn **Pn** **00 46 40.6 -0.3**
FNO Franklin 16.51 86 **P** **00 46 43.5 -0.1**
E28A Huff 16.59 45 Pn **Pn** **00 46 40.6 -1.1**
E28A IAmb IAmb 00 46 49.6
comp=Z,43nm,1.1s
SUSD Miller 16.62 54 **P** **00 46 43.6 -1.0**
HNDO Hondo 16.74 107 Pn **Pn** **00 46 42.0 -1.7**
OK051 E0350 and S346 16.84 82 Pn **Pn** **00 46 43.4 -1.5**
OK051 IAmb IAmb 00 47 20.6
comp=Z,43nm,1.4s
FW06 Azle 16.86 94 Pn **Pn** **00 46 44.9 -0.4**
FW06 IAmb IAmb 00 46 52.1
comp=Z,46nm,0.9s
OK052 Battle Ridge R 16.91 84 **P** **00 46 47.1 -0.8**
OK052 IAmb IAmb 00 46 53.5
comp=Z,62nm,1.1s
LOOK Love County 16.92 91 **P** **00 46 48.0 -0.1**
QUOK Quay 16.97 83 **Pn** **00 46 47.3 +0.7**
Z35A Perchaven, San 17.01 93 **Pn** **00 46 47.8 +0.6**
Z35A IAmb IAmb 00 46 53.7
comp=Z,62nm,1.2s
T35A Sooner Cattle 17.07 80 P **Pn** **00 46 48.4 +0.5**
DEOK Depew 17.17 84 P **Pn** **00 46 49.5 +0.4**
DEOK IAmb IAmb 00 46 56.6
comp=Z,48nm,1.1s
WHTX Lake Whitney, 17.23 97 Pn **Pn** **00 46 49.5 -0.4**
WHTX IAmb IAmb 00 46 57.2
comp=Z,26nm,0.8s
833A Chaparral WMA, 17.23 111 Pn **Pn** **00 46 49.0 -1.0**
833A IAmb IAmb 00 46 56.7
comp=Z,69nm,1.1s
435B Jarrell 17.55 101 Pn **Pn** **00 46 53.5 -0.4**
TUL3 Leonard 17.73 84 P **P** **00 46 57.3 +0.3**
TUL3 IAmb IAmb 00 47 01.8
comp=Z,67nm,1.1s
BBB Bella Bella 17.87 339 LR LR 00 53 44.8
comp=Z,154nm,18.6s,baz=149,slow=37
MDND Maddock 17.92 43 **Pn** **00 46 58.3 -0.1**
ECSD EROS Data Cent 17.93 58 **Pn** **00 46 58.2 -0.4**
N35A Tabor 17.95 67 **Pn** **00 46 58.4 -0.4**
TREL Terrell 18.11 94 Pn **Pn** **00 46 58.0 -2.8**
TREL IAmb IAmb 00 47 06.4
comp=Z,42nm,1.0s
RLO Rose Lookout 18.32 83 **Pn** **00 47 01.3 -2.2**
HBVL Hebbronville 18.44 113 P **Pn** **00 47 06.9 +2.0**
HBVL IAmb IAmb 00 47 11.7
comp=Z,72nm,1.3s
237A Washetta, Mont 18.55 96 P **P** **00 47 04.8 -1.3**
ZAIG Zacatecas 18.56 131 P **Pn** **00 47 07.4 +0.8**
U38A Gravette 18.81 82 P **P** **00 47 09.1 +0.2**
U38A IAmb IAmb 00 47 13.4
comp=Z,33nm,1.2s
Z38A Mt. Pleasant 18.87 92 P **Pn** **00 47 10.0 -0.1**
F33A 5 Mile Ranch, 18.91 52 P **P** **00 47 08.4 -1.5**
HHAR Hobbs 19.18 82 P **Pn** **00 47 13.4 -0.5**
HKT Hockley 19.27 102 P **P** **00 47 13.5 -0.4**
P38A Dawn 19.43 72 P **P** **00 47 15.6 -0.1**
NATX Nacogdoches 19.56 96 P **P** **00 47 17.5 +0.4**
NATX IAmb IAmb 00 47 44.8
comp=Z,20nm,0.8s
S39A Bolivar 19.57 78 P **P** **00 47 17.6 +0.4**
MIAR Mount Ida 19.73 87 **Pn** **00 47 20.1 -0.3**
N38A Joes South For 19.75 68 P **P** **00 47 19.6 +0.4**
N38A IAmb IAmb 00 47 25.8
comp=Z,40nm,1.0s
AGMN Agassiz Nation 20.28 46 P **P** **00 47 24.2 -0.8**
AGMN IAmb IAmb 00 47 33.7
comp=Z,25nm,1.1s
WLAR White Oak Lake 20.29 89 P **P** **00 47 25.0 -0.1**
WLAR IAmb IAmb 00 47 33.7
comp=Z,48nm,1.1s
X40A Basin Creek Fa 20.34 87 P **P** **00 47 25.8 +0.2**
R40A Maddies Statio 20.39 76 P **P** **00 47 26.6 +0.4**
MGMO Mountain Grove 20.44 79 P Pn 00 47 29.9 -1.0
P40A Paris 20.57 72 P **P** **00 47 28.3 +0.2**
Z41A Richland Creek 20.64 90 P **P** **00 47 29.3 +0.4**
Z41A IAmb IAmb 00 47 55.6
comp=Z,41nm,1.4s
WHAR Wooly Hollow 20.64 84 P **P** **00 47 29.1 +0.2**
WHAR IAmb IAmb 00 47 35.7
comp=Z,26nm,1.1s
UALR University of 20.69 86 P **P** **00 47 29.1 -0.3**
FCAR Ozark Folk Cen 20.69 83 P **P** **00 47 29.6 +0.2**
FCAR IAmb IAmb 00 47 36.1
comp=Z,56nm,1.3s
SPMN Marine on St. 20.99 56 P Pn 00 47 34.0 -1.1
SPMN IAmb IAmb 00 47 40.0
comp=Z,21nm,1.1s
441A DeRidder 21.08 97 P **P** **00 47 34.8 +1.1**
CCM Cathedral Cave 21.20 76 P **P** **00 47 35.1 +0.2**
CCAR Cane Creek 21.32 88 P **P** **00 47 37.2 +0.9**
L40A Anamosa 21.41 65 P **P** **00 47 37.9 +0.7**
L40A IAmb IAmb 00 47 41.6
comp=Z,26nm,0.9s
LCAR Lake Charles 21.45 82 P **P** **00 47 37.8 +0.2**
N41A Harden Midland 21.55 69 P **P** **00 47 38.6 0.0**
N41A IAmb IAmb 00 47 47.0
comp=Z,38nm,1.0s
V35K Ketchikan 21.63 338 P **P** **00 47 39.4 0.0**
baz=148
FFC Flin Flon 21.71 25 IAmb IAmb 00 47 46.9
comp=Z,19nm,1.1s
FVM French Village 21.85 76 P **P** **00 47 42.1 +0.2**
FVM IAmb IAmb 00 47 47.5
comp=Z,32nm,1.4s
143A Socs Landing, 21.92 91 P **P** **00 47 44.8 +2.1**
PBMO Poplar Bluff 21.94 80 P **P** **00 47 43.1 +0.2**
PBMO IAmb IAmb 00 47 47.4
comp=Z,35nm,1.1s
SLM Saint Louis 21.98 75 P **P** **00 47 43.7 +0.4**
SLM IAmb IAmb 00 47 48.8
comp=Z,46nm,1.4s
CRAG Craig 22.23 336 P **P** **00 47 45.8 0.0**
baz=145
JFWS Jewell Farm 22.25 63 P **P** **00 47 46.6 +0.4**
JFWS IAmb IAmb 00 47 50.3
comp=Z,19nm,0.9s
E38A The Farm, Brul 22.25 53 P **P** **00 47 45.9 -0.3**
PARMO Parma 22.50 80 P **P** **00 47 49.2 +0.4**
CGM3 Cape Girardeau 22.51 78 P **P** **00 47 49.1 +0.1**
P43A Skaggs, Pawnee 22.52 72 P **P** **00 47 51.2 +2.1**
L42A Oliver, Polo 22.55 66 P **P** **00 47 49.6 +0.2**
L42A IAmb IAmb 00 47 52.8
comp=Z,18nm,1.0s
T35M Bob Quinn 22.70 342 P **P** **00 47 50.9 +0.1**
baz=153
HDIL Hopedale 22.72 70 P **P** **00 47 52.1 +0.9**
HDIL IAmb IAmb 00 47 55.9
comp=Z,28nm,1.1s
U33K Whale Pass 22.76 337 P **P** **00 47 51.5 +0.1**
baz=146
EYMN Ely 22.76 50 P **P** **00 47 50.6 -1.0**
EYMN IAmb IAmb 00 47 55.5
comp=Z,34nm,1.5s
G40A Rib Lake 22.77 57 P **P** **00 47 51.6 -0.1**
VBMS Vicksburg 22.77 91 P **P** **00 47 52.2 +0.4**
WRAK Wrangell Islan 22.78 339 P **P** **00 47 50.7 -0.9**
WRAK IAmb IAmb 00 47 58.1
comp=Z,27nm,1.1s
WRAK Wrangell Islan 22.78 339 P **P** **00 47 51.2 -0.4**
baz=148
S44A Carbondale 22.80 77 P **P** **00 47 51.4 -0.6**
S44A IAmb IAmb 00 48 06.8
comp=Z,14nm,1.1s
SIUC Southern Illin 22.82 77 P **P** **00 47 52.7 +0.4**
SIUC IAmb IAmb 00 47 57.8
comp=Z,15nm,1.2s
Q44A Meyer Farm, Va 22.92 74 P **P** **00 47 54.5 +1.1**
HALT Halls 22.93 82 P **P** **00 47 55.0 +1.6**
OXF Oxford 23.11 85 **P** **00 47 56.0 +0.7**
Y45A Yeager Farm, C 23.14 87 P **P** **00 47 54.6 -1.0**
Y45A IAmb IAmb 00 47 59.8
comp=Z,18nm,1.0s
I42A Draeger Farm, 23.37 61 P **P** **00 47 57.2 -0.7**
I42A IAmb IAmb 00 48 01.4
comp=Z,17nm,1.0s
TOAD Toad River Com 23.47 350 P **P** **00 47 59.7 +1.0**
baz=164
K43A Burlington 23.62 64 P **P** **00 48 00.0 -0.4**
OLIL Olney 23.64 74 P **P** **00 48 00.5 -0.1**
OLIL IAmb IAmb 00 48 17.1
comp=Z,18nm,1.0s
COWI Conover 23.70 56 P **P** **00 48 00.5 -0.7**
COWI IAmb IAmb 00 48 06.3
comp=Z,28nm,1.4s
M44A Midewin, Midew 23.71 68 P **P** **00 48 01.4 +0.1**
S34M Telegraph Cree 23.75 342 P **P** **00 48 02.4 +0.9**
baz=152
L44A Lake County Fo 23.87 66 P **P** **00 48 02.1 -0.7**
HQIL Hanson Quary C 23.88 67 P **P** **00 48 01.7 -1.2**
DLBC Dease Lake 23.95 344 LR LR 00 58 39.4
comp=Z,134nm,18.3s,baz=138,slow=40
DLBC Dease Lake 23.95 344 P **P** **00 48 03.9 +0.4**
baz=155
USIN University of 24.03 76 P **P** **00 48 03.3 -1.1**
PLAL Pickwick Lake 24.10 84 P **P** **00 48 05.4 +0.3**
PLAL IAmb IAmb 00 48 10.3
comp=Z,17nm,0.8s
SIT Sitka 24.23 336 P **P** **00 48 06.1 0.0**
baz=143
H43A Windswept, Lux 24.28 60 P **P** **00 48 04.6 -2.0**
H43A IAmb IAmb 00 48 16.4
comp=Z,18nm,0.8s
F42A Maple Grove Fa 24.29 57 P **P** **00 48 07.4 +0.6**
P46A Rosedale 24.31 72 P **P** **00 48 05.6 -1.4**
TBO Thunder Bay 24.32 50 P **P** **00 48 05.7 -1.3**
SFIN Lafayette 24.39 70 P **P** **00 48 07.8 +0.1**
Z47A Carrollton 24.50 88 P **P** **00 48 09.3 +0.6**
KOTAN Kotanelee Air 24.57 352 P **P** **00 48 08.1 -1.0**
baz=168
T47A Sharon Grove 24.57 78 P **P** **00 48 10.2 +0.8**
BLO Bloomington 24.85 73 P **P** **00 48 12.8 +0.9**
TLIG Tlapa 24.94 132 P **P** **00 48 11.2 -1.7**
TLIG IAmb IAmb 00 48 18.9
comp=Z,24nm,1.4s
Q32M Nakina River 24.95 342 P **P** **00 48 13.5 +0.6**
baz=151
R33M Jennings River 25.03 344 P **P** **00 48 12.7 -0.8**
R33M IAmb IAmb 00 48 20.5
comp=Z,12nm,1.2s
R33M Jennings River 25.03 344 P **P** **00 48 14.2 +0.7**
baz=154
WCI Wyandotte Cave 25.09 75 P **P** **00 48 13.2 -0.8**
WCI IAmb IAmb 00 48 20.1
comp=Z,18nm,1.0s
WTLY Watson Lake, Y 25.25 347 P **P** **00 48 14.2 -1.1**
WTLY IAmb IAmb 00 48 23.2
comp=Z,16nm,1.3s
S31K Pelican 25.25 337 P **P** **00 48 16.0 +0.8**
baz=143
CLTN Cedars of Leba 25.31 80 P **P** **00 48 15.9 -0.1**
CLTN IAmb IAmb 00 48 22.1
comp=Z,7.5nm,0.9s
Y49A Blount Mountai 25.68 85 P **P** **00 48 18.3 -1.1**
Y49A IAmb IAmb 00 48 25.1
comp=Z,9.9nm,1.0s
P48A Milroy 25.69 72 P **P** **00 48 18.7 -0.8**
P48A IAmb IAmb 00 48 25.4
comp=Z,19nm,1.2s
P32M Atlin 25.87 341 P **P** **00 48 21.2 +0.2**
baz=149
O48B Farmland 25.88 71 P **P** **00 48 19.1 -2.0**
O48B IAmb IAmb 00 48 24.4
comp=Z,18nm,1.2s
FPAL Fort Paine 26.17 84 P **P** **00 48 22.8 -1.2**
FPAL IAmb IAmb 00 48 27.6
comp=Z,9.8nm,1.0s
P33M Teslin, Yukon 26.19 343 P **P** **00 48 23.4 -0.5**
baz=151
W50A Signal Mountai 26.28 82 P **P** **00 48 23.3 -1.6**
T50A Nancy 26.36 78 P **P** **00 48 24.8 -0.9**
TGTN Hyland Airport 26.48 349 P **P** **00 48 27.0 +0.5**
baz=160
YKAW1 Yellowknife Wh 26.65 3 P **P** **00 48 27.2 -0.7**
YKAW1 IAmb IAmb 00 48 33.8
comp=Z,11nm,1.0s
YKA Yellowknife Ar 26.66 3 P **P** **00 48 26.5 -1.4**
YKA Yellowknife Ar 26.66 3 P **P** **00 48 30.1 +2.1**
comp=Z,1.9nm,0.8s,baz=190,slow=8.7,SNR=9.8
YKA LR LR 00 59 27.1
comp=Z,151nm,20.2s,baz=184,slow=38
comp=Z,1.9nm,0.8s
YKAW3 Yellowknife Wh 26.73 3 P **P** **00 48 27.4 -1.2**
YKAW3 IAmb IAmb 00 48 35.4
comp=Z,2.9nm,0.8s
X51A Calhoun 26.78 83 P **P** **00 48 27.5 -1.8**
X51A IAmb IAmb 00 48 32.9
comp=Z,19nm,1.0s
CPCT Cooper Cave 26.87 81 P **P** **00 48 28.8 -1.4**
CPCT IAmb IAmb 00 48 35.1
comp=Z,11nm,1.1s
P29M Windy Craggy 27.06 337 P **P** **00 48 32.1 +0.4**
baz=142
WHY Whitehorse 27.09 341 P **P** **00 48 31.6 -0.5**
WHY IAmb IAmb 00 48 39.7
comp=Z,13nm,1.4s
WHY Whitehorse 27.09 341 P **P** **00 48 33.0 +1.0**
baz=148
P30M Million Dollar 27.22 339 P **P** **00 48 33.1 -0.1**
baz=144
S51A Beattyville 27.27 76 P **P** **00 48 31.5 -2.3**
S51A IAmb IAmb 00 48 38.0
comp=Z,13nm,0.9s
152A Waverly Hall 27.35 87 P **P** **00 48 32.9 -1.6**
152A IAmb IAmb 00 48 38.1
comp=Z,18nm,1.3s
TKL Tuckaleechee C 27.43 80 P **P** **00 48 34.1 -1.1**
TKL Tuckaleechee C 27.43 80 LR LR 01 00 01.6
comp=Z,752nm,21.5s,baz=264,slow=38
M50A Fremont 27.47 68 P **P** **00 48 32.0 -3.5**
O30N Mendenhall 27.51 340 P **P** **00 48 34.5 -1.2**
CMIG Matias Romero 27.60 127 LR LR 01 00 44.6
comp=Z,438nm,19.3s,baz=279,slow=39
PNL Peninsula 27.62 336 P **P** **00 48 36.3 -0.4**
baz=140
O29M Mount Kennedy 27.85 338 P **P** **00 48 38.6 -0.3**
baz=142
HYT Haines Junctio 27.95 339 P **P** **00 48 39.2 -0.5**
baz=144
MMPY Sheldon Lake, 28.02 347 P **P** **00 48 40.3 0.0**
baz=156
PINM Pinnacle 28.23 336 P **P** **00 48 42.2 +0.1**
baz=139
YUK6 Outpost Mounta 28.29 339 P **P** **00 48 42.9 -0.1**
baz=143
N30M Aishikik Lake 28.35 340 P **P** **00 48 42.6 -0.7**
baz=146
YUK4 Talbot Arm 28.70 339 P **P** **00 48 44.9 -1.6**
baz=143
O28M Mount Upton 28.72 337 P **P** **00 48 45.6 -1.2**
baz=140
M30M Minto, Yukon 29.21 342 P **P** **00 48 50.1 -0.8**
baz=147
CTG Chitna Glacier 29.23 336 P **P** **00 48 49.8 -1.4**
baz=138
M29M Somme Creek 29.53 340 P **P** **00 48 53.6 -0.2**
baz=144
CRQE Cirque 29.67 335 P **P** **00 48 54.2 -0.8**
baz=135
L29M L29M 29.99 341 P **P** **00 48 57.0 -0.8**
baz=146
MCARA McCarthy VSAT 30.10 336 P **P** **00 48 57.8 -0.9**
baz=136
BMRM Bremner River 30.35 334 P **P** **00 48 59.5 -1.5**
baz=133
SADO Sadowa 30.43 61 LR LR 01 01 58.0
comp=Z,1µm,20.8s,baz=280,slow=38
K29M Barlow Dome 30.45 343 P **P** **00 49 01.3 -0.6**
baz=147
M27K Edge Creek, AK 30.45 338 P **P** **00 49 01.5 -0.5**
baz=139
EYAK Cordova Ski Ar 30.48 333 P **P** **00 49 02.5 +0.4**
baz=131
N25K Chitina, Valde 30.79 335 P **P** **00 49 04.9 0.0**
baz=134
J30M Hart River 30.80 344 P **P** **00 49 05.2 +0.2**
baz=150,SNR=6.4
DAWY Dawson 31.10 342 P **P** **00 49 07.3 -0.2**
baz=144
KLU Klutina 31.17 334 P **P** **00 49 07.5 -0.7**
baz=132
GLI Glacier Island 31.20 332 P **P** **00 49 08.0 -0.4**
baz=130
I30M Mount Dempster 31.38 345 P **P** **00 49 10.3 +0.3**
baz=150
L26K Log Cabin Wild 31.41 338 P **P** **00 49 11.0 +0.7**
baz=138
H31M Peel River 31.49 347 P **P** **00 49 11.2 +0.3**
baz=154
HARP HAARP 31.53 336 P **P** **00 49 10.7 -0.7**
baz=134
PWL Port Wells 31.66 332 P **P** **00 49 12.4 0.0**
baz=128
M24K Tolsona, Glenn 31.68 335 P **P** **00 49 12.4 -0.3**

baz=133
K27K **Chicken** 31.79 340 P P 00 49 14.3 +0.7
baz=141
KDAK **Kodiak Island** 31.80 324 LR LR 01 00 39.2
comp=Z,386nm,18.2s,baz=116,slow=34
KDAK **Kodiak Island** 31.80 324 P P 00 49 12.8 -0.9
baz=118
OHAK **Old Harbor** 31.88 323 P P 00 49 13.5 -0.9
baz=117
SCM **Sheep Creek Mo** 31.90 334 P P 00 49 14.5 -0.2
baz=131
M23K **Glacier View** 32.02 333 P P 00 49 15.5 -0.1
baz=130
PAX **Paxson** 32.04 336 P P 00 49 15.6 -0.3
baz=135
SII **Sitkinak Islan** 32.04 322 P P 00 49 15.5 -0.3
baz=115
KNK **Knik Glacier** 32.05 332 P P 00 49 15.5 -0.4
baz=129
SCRK **Sand Creek** 32.30 339 P P 00 49 17.6 -0.6
baz=138,SNR=6.4
I28M **Miner Creek** 32.37 343 P P 00 49 19.4 +0.7
baz=145
PMR **Palmer** 32.42 332 P P 00 49 20.1 +1.0
baz=128
EPYK **Eagle Plains** 32.45 346 P P 00 49 19.8 +0.4
baz=150
G31M **Satah River** 32.49 348 P P 00 49 19.9 +0.3
baz=154
J26L **Joseph Creek** 32.57 339 P P 00 49 20.4 -0.2
baz=139
H29M **Whitestone** 32.66 345 P P 00 49 21.4 +0.2
baz=148
Q19K **Cape Douglas,** 32.84 326 P P 00 49 23.0 +0.2
baz=119
F31M **Tsiigehtchic** 32.87 349 P P 00 49 23.1 +0.1
baz=156
G30M **tAoh Zraii Nji** 32.89 347 P P 00 49 23.5 +0.3
baz=152
I27K **Kandik River** 32.91 342 P P 00 49 23.3 -0.1
baz=143
SUA **Susitna One** 32.96 331 P P 00 49 24.2 +0.2
baz=126
O20K **Slope Mountain** 32.97 328 P P 00 49 24.1 +0.1
baz=121
I26K **Coal Creek Min** 33.08 341 P P 00 49 24.9 +0.1
baz=140
G29M **Pine Creek** 33.18 345 P P 00 49 26.0 +0.3
baz=149
J25K **Salcha River,** 33.18 339 P P 00 49 24.6 -1.2
baz=136
F30M **Barrier River** 33.37 348 P P 00 49 27.0 -0.3
baz=153
H27K **Steamboat Moun** 33.39 343 P P 00 49 26.7 -0.9
baz=144
R17L **Mt. Peulik Vol** 33.56 323 P P 00 49 28.4 -0.7
baz=114
SKT **Skwentna** 33.56 332 P P 00 49 28.8 -0.4
baz=125
Q17K **Contact Creek** 33.59 324 P P 00 49 28.6 -0.9
baz=115
INK **Inuvik** 33.63 349 LR LR 01 04 53.3
comp=Z,432nm,20.1s,baz=166,slow=39
INK **Inuvik** 33.63 349 P P 00 49 29.3 -0.3
baz=156
MCK **McKinley** 33.71 335 P P 00 49 29.7 -0.6
baz=131
ILAR **Eielson Array** 33.75 338 P P 00 49 32.2 +1.5
comp=Z,2.4nm,0.9s,baz=152,slow=7.4,SNR=21
ILAR PcP PcP 00 52 10.9 +1.0
comp=Z,0.9nm,0.6s,baz=160,slow=1.2,SNR=9.2
ILAR LR LR 01 04 01.6
comp=Z,192nm,18.9s,baz=110,slow=38
comp=Z,2.4nm,0.9s
P18K **Big Mountain,** 33.78 326 P P 00 49 30.5 -0.6
baz=117
G27K **Doyon Strip** 33.89 343 P P 00 49 31.7 -0.2
baz=144
PRP **Porcupine Dome** 33.89 340 P P 00 49 31.9 -0.2
baz=137
O18K **Koktuh Hills** 33.98 327 P P 00 49 31.7 -1.1
baz=118
TRF **Thorofare Moun** 33.99 334 P P 00 49 33.0 -0.1
baz=129
N19K **Bonanza Creek** 34.13 328 P P 00 49 33.2 -1.0
baz=120
M20K **Styx River** 34.14 331 P P 00 49 33.7 -0.5
baz=123
F28M **Old Crow** 34.16 345 P P 00 49 33.1 -1.1
baz=147
POKR **Poker Plat Res** 34.16 338 P P 00 49 34.5 +0.2
baz=134
CHNA **Chernabura Isl** 34.31 317 P P 00 49 34.8 -0.9
baz=106
PPLA **Purkeypile** 34.35 333 P P 00 49 35.3 -0.7
baz=126
E29M **Blow River** 34.44 347 P P 00 49 36.6 0.0
baz=150
G26K **Porcupine Rive** 34.51 342 P P 00 49 37.3 0.0
baz=141,SNR=5.8
H25L **Birch Creek** 34.52 340 P P 00 49 37.5 +0.1
baz=138
CAST **Castle Rocks** 34.61 333 P P 00 49 38.4 +0.2
baz=126,SNR=5.8
BPAW **Bear Paw Mtn.** 34.64 335 P P 00 49 38.0 -0.5
baz=128,SNR=7.3
M19K **Big River Lodg** 34.65 330 P P 00 49 38.4 -0.2
baz=122
N18K **Kilae Creek** 34.67 328 P P 00 49 38.3 -0.5
baz=118
S14K **Fog Glacier** 34.72 319 P P 00 49 38.3 -1.0
baz=108
L20K **Farewell, AK** 34.76 331 P P 00 49 38.4 -1.1
baz=123
I23K **Minto, Yukon-K** 34.78 337 P P 00 49 39.2 -0.4
baz=132
O17K **Koliganek Bris** 34.80 326 P P 00 49 39.7 -0.1
baz=116
H24K **Noodor Dome** 34.80 339 P P 00 49 39.5 -0.3
baz=134
E28M **Babbage River** 34.93 346 P P 00 49 40.7 -0.2
baz=148
SDPT **Sand Point** 34.95 317 P P 00 49 40.0 -1.1
baz=106
G25K **Bearman Lake** 34.97 341 P P 00 49 41.3 +0.1
baz=138
CHUM **Lake Minchumin** 34.97 334 P P 00 49 41.1 -0.2
baz=126
L19K **White Mountain** 34.98 330 P P 00 49 42.0 +0.6
baz=121
E27K **Coleen River** 35.00 345 P P 00 49 41.9 +0.3
baz=145
M18K **Stony River** 35.03 329 P P 00 49 41.9 0.0
baz=119
MLY **Manley** 35.15 336 P P 00 49 43.2 +0.3
baz=130
N17K **Nushagak Hills** 35.17 327 P P 00 49 42.6 -0.5
baz=116
F26K **Sheenjek River** 35.18 343 P P 00 49 43.4 +0.3
baz=141
O16K **Kokwok River B** 35.18 325 P P 00 49 42.8 -0.4
baz=114
H23K **Yukon River** 35.29 338 P P 00 49 43.5 -0.6
baz=132,SNR=5.6
G24K **Hadweenzic Riv** 35.30 340 P P 00 49 43.6 -0.5
baz=136
K20K **Telida** 35.31 332 P P 00 49 43.9 -0.4
baz=124,SNR=6.9
F25K **Christian Rive** 35.47 342 P P 00 49 44.9 -0.8
baz=139
I21K **Tanana** 35.65 336 P P 00 49 46.2 -0.9
baz=128
M17K **Holitna River** 35.67 328 P P 00 49 46.3 -1.0
baz=117
L18K **Granite Mounta** 35.75 330 P P 00 49 47.3 -0.7
baz=119
D27M **Malcolm River** 35.75 346 P P 00 49 47.0 -1.0
baz=147
J20K **Nowinta River** 35.80 334 P P 00 49 46.9 -1.5
baz=124
O15K **Ungalikthiuk R** 35.84 324 P P 00 49 47.4 -1.4
baz=112
H22K **Ishtalitna Cre** 35.91 337 P P 00 49 48.4 -0.9
baz=130,SNR=6.1
F24K **Squaw Lake** 36.00 341 P P 00 49 49.3 -0.8
baz=136
G23K **Bananza Creek** 36.03 339 P P 00 49 49.8 -0.6
baz=132
M16K **Timber Creek** 36.17 327 P P 00 49 51.2 -0.4
baz=115
H21K **Melozitna Rive** 36.22 336 P P 00 49 50.9 -1.1
baz=128,SNR=8.6
J19K **Poorman** 36.24 333 P P 00 49 51.7 -0.5
baz=122
N15K **Kwethluk River** 36.34 325 P P 00 49 51.7 -1.3
baz=113
L17K **Donlin** 36.37 329 P P 00 49 52.9 -0.5
baz=117
J18K **Innoko River** 36.38 332 P P 00 49 52.0 -1.4
baz=120
COLD **Coldfoot** 36.44 339 P P 00 49 53.4 -0.4
baz=133
FALS **False Pass** 36.47 316 P P 00 49 53.5 -0.8
baz=102
E24K **Your Creek** 36.56 341 P P 00 49 54.6 -0.4
baz=136
G22K **Bettles** 36.61 338 P P 00 49 55.8 +0.5
baz=131
K17K **Iditarod** 36.64 330 P P 00 49 55.1 -0.6
baz=118
H20K **Anotleneega Mo** 36.81 335 P P 00 49 56.3 -0.8
baz=125
G21K **Allakaket** 36.97 337 P P 00 49 57.5 -0.8
baz=128
H19K **Roundabout Mou** 37.37 335 P P 00 50 00.9 -0.8
baz=123,SNR=5.1
K15K **Wolf Creek Mou** 37.81 328 P P 00 50 05.5 -0.1
baz=114
H18K **Honhosa River** 37.86 333 P P 00 50 06.4 +0.4
baz=120
M13K **Dall Lake** 37.94 325 P P 00 50 06.4 -0.2
baz=109
L14K **Kuka Creek** 37.96 326 P P 00 50 06.1 -0.6
baz=111
D22K **Ayikyak River** 38.24 340 P P 00 50 08.5 -0.6
baz=131
E21K **Killik River** 38.32 339 P P 00 50 09.3 -0.4
baz=129
H17K **Granite Mounta** 38.32 333 P P 00 50 09.5 -0.4
baz=118
F19K **Shaleruckik Mo** 38.54 336 P P 00 50 11.2 -0.4
baz=123
E19K **Redstone River** 38.71 337 P P 00 50 12.5 -0.6
baz=124
E20K **Nigu River** 38.85 338 P P 00 50 13.6 -0.7
baz=126
G17K **Kiwalik Mounta** 38.87 333 P P 00 50 13.7 -0.7
baz=118
C21K **Knifeblade Rid** 39.00 340 P P 00 50 14.0 -1.4
baz=129
JTS **Las Juntas de** 39.14 123 LR LR 01 07 35.1
comp=Z,331nm,20.6s,baz=306,slow=38
NIKH **Nikolski High** 39.38 312 P P 00 50 16.1 -2.7
baz=95
SCHQ **Schefferville** 39.38 45 P P 00 50 19.5 +0.6
comp=Z,4.3nm,1.1s,baz=274,slow=8.4,SNR=4.5
SCHQ LR LR 01 08 03.9
comp=Z,88nm,18.5s,baz=263,slow=38
comp=Z,4.3nm,1.1s
B22K **Teshekpuk Lake** 39.41 342 P P 00 50 18.8 0.0
baz=132
G16K **Koyuk River** 39.45 332 P P 00 50 18.5 -0.7
baz=116
E18K **Tukpahlearik C** 39.79 336 P P 00 50 21.0 -1.1
baz=120
G15K **Niukluk** 39.92 331 P P 00 50 22.1 -1.1
baz=114
E17K **Hotham Inlet** 40.04 335 P P 00 50 22.2 -2.0
baz=119
B20K **Meade River** 40.18 340 P P 00 50 24.2 -1.1
baz=127
RES **Resolute Bay** 40.36 9 LR LR 01 08 14.9
comp=Z,171nm,19.4s,baz=229,slow=38
FRB **Frobisher Bay** 40.59 31 LR LR 01 08 36.5
comp=Z,258nm,20.1s,baz=260,slow=38
D17K **Noatak River** 40.76 335 P P 00 50 29.7 -0.4
baz=118
SFJD **Kangerlussuaq** 48.59 29 LR LR 01 12 54.6
comp=Z,199nm,19.6s,baz=263,slow=37
SJG **San Juan** 48.65 97 LR LR 01 15 35.3
comp=Z,153nm,18.4s,baz=295,slow=40
SHEM **Shemya Is, Ala** 49.69 312 LR LR 01 08 36.5
comp=Z,104nm,21.6s,baz=96,slow=31
ROSC **El Rosal** 50.44 117 LR LR 01 16 10.8
comp=Z,186nm,20.2s,baz=146,slow=40
SDV **Santo Domingo** 50.50 110 LR LR 01 14 47.4
comp=Z,239nm,21.9s,baz=284,slow=38
PCRV **Puerto La Cruz** 54.35 104 LR LR 01 19 08.4
comp=Z,114nm,18.2s,slow=30
PETK **Petropavlovsk-** 59.20 316 P P 00 52 52.7 +2.3
comp=Z,3.4nm,0.6s,baz=72,slow=14,SNR=5.5
PETK LR LR 01 13 22.8
comp=Z,59nm,22.0s,baz=84,slow=31
comp=Z,3.4nm,0.6s
MA2 **Magadan** 60.55 324 LR LR 01 18 55.1
comp=Z,71nm,18.4s,baz=326,slow=36
BORG **Borgarnes** 60.71 29 LR LR 01 17 42.1
comp=Z,205nm,18.6s,baz=293,slow=34
PPT **Papeete** 61.18 215 LR LR 01 11 35.4
comp=Z,56nm,21.9s,baz=352,slow=28
PPT2 **Papeete2** 61.20 215 *e*LR LR 01 11 00.3
comp=Z,145nm,27.2s
PPT2 *e*LR LR 01 11 03.7
comp=Z,127nm,26.0s
JMIC **Jan Mayen** 62.32 20 LR LR 01 22 31.0
comp=Z,126nm,19.3s,baz=322,slow=38
SPITS **Spitsbergen Ar** 62.92 10 LR LR 01 21 42.6
comp=Z,246nm,18.6s,baz=318,slow=37
MDP **Montagnes des** 66.88 101 LR LR 01 25 11.7
comp=Z,101nm,20.6s,baz=314,slow=38
YAK **Yakutsk** 68.41 332 LR LR 01 23 00.0
comp=Z,80nm,21.0s,baz=29,slow=35
RAR **Rarotonga** 69.40 222 LR LR 01 18 36.7
comp=Z,121nm,21.2s,baz=80,slow=31
LPAZ **La Paz** 69.95 129 LR LR 01 24 01.4
comp=Z,95nm,19.5s,baz=338,slow=35
ARCES **ARCESS Array B** 71.44 13 LR LR 01 27 23.5
comp=Z,115nm,19.2s,baz=324,slow=38
ASAJ **Asahikawa** 72.15 312 LR LR 01 26 49.7
comp=Z,31nm,18.0s,baz=149,slow=37
NOA **NORSAR Array B** 74.79 23 LR LR 01 27 42.9
comp=Z,83nm,18.8s,baz=290,slow=36
HFS **Hagfors** 76.28 23 P P 00 54 40.2 +2.3
comp=Z,1.5nm,1.0s,baz=260,slow=0.9,SNR=3.6
HFS LR LR 01 28 28.9
comp=Z,134nm,20.7s,baz=310,slow=36
comp=Z,1.5nm,1.0s
USRK **Ussuriysk Ar.** 78.28 316 P P 00 54 50.4 +1.0
comp=Z,3.7nm,0.9s,baz=31,slow=5.6,SNR=6.9
comp=Z,3.7nm,0.9s
FINES **FINESS Array B** 78.59 17 LR LR 01 28 58.7
comp=Z,122nm,20.0s,baz=328,slow=35
MJAR **Matsushiro Arr** 79.22 307 P P 00 54 54.6 -0.2
comp=Z,1.4nm,0.9s,baz=28,slow=4.8,SNR=5.7
MJAR LR LR 01 23 58.1
comp=Z,50nm,21.4s,baz=73,slow=31
comp=Z,1.4nm,0.9s
BNX **BinXian** 79.77 320 ⇑P P 00 54 58.5 +0.9
BNX pmax pmax
comp=Z,8.0nm,1.0s
ESDC **Sonseca Array** 83.14 45 P P 00 55 17.6 +1.9
comp=Z,0.5nm,0.6s,baz=290,slow=4.7,SNR=3.0
ESDC LR LR 01 31 10.9
comp=Z,80nm,18.4s,baz=302,slow=35
comp=Z,0.5nm,0.6s
BDFB **Brasilia** 83.39 115 LR LR 01 35 22.6
comp=Z,43nm,21.3s,baz=205,slow=38
BRG **Berggiesshubel** 83.66 28 *e*P P 00 55 20.6 +2.5
BRG Amp 00 55 22.5
comp=Z,9.7nm,1.6s
CPUP **Villa Florida** 84.11 128 LR LR 01 34 10.0
comp=Z,18nm,18.0s,baz=206,slow=37
KSRS **Korea Array** 85.01 313 P P 00 55 25.8 +0.6
comp=Z,1.3nm,0.6s,baz=62,slow=3.9,SNR=7.1
comp=Z,1.3nm,0.6s
DAVOX **Davos/Dischmat** 85.16 33 LR LR 01 32 52.5
comp=Z,98nm,18.9s,baz=302,slow=35
JNU **Nakatsue** 86.06 308 LR LR 01 30 36.8
comp=Z,45nm,20.0s,baz=82,slow=33
RCBR **Riachuelo** 86.76 100 LR LR 01 39 57.7
comp=Z,21nm,19.6s,baz=291,slow=40
MDT **Midelt** 87.30 51 LR LR 01 33 22.4
comp=Z,92nm,18.8s,baz=306,slow=35
SONM **Songino Array** 87.77 332 P P 00 55 39.7 +1.0
comp=Z,1.2nm,0.7s,baz=20,slow=4.5,SNR=7.0
SONM LR LR 01 34 54.6
comp=Z,87nm,21.4s,baz=56,slow=36
comp=Z,1.2nm,0.7s
ARTI **Arti** 87.98 2 LR LR 01 38 53.8
comp=Z,42nm,19.4s,baz=346,slow=38
GUMO **Guam** 88.05 285 LR LR 01 27 03.2
comp=Z,49nm,21.2s,baz=108,slow=30
ZALV **Zalesovo Beam** 88.40 347 P P 00 55 42.1 +0.7
comp=Z,0.6nm,0.4s,baz=30,slow=6.8,SNR=5.3
ZALV LR LR 01 42 05.1
comp=Z,53nm,19.4s,baz=7.5,slow=40
comp=Z,0.6nm,0.4s
AKASG **Malin Array Be** 88.94 20 P P 00 55 43.9 -0.1
comp=Z,0.1nm,0.3s,baz=332,slow=3.9,SNR=5.2
AKASG LR LR 01 38 05.5
comp=Z,85nm,19.0s,baz=338,slow=37
comp=Z,0.1nm,0.3s
HNR **Honiara** 89.36 258 LR LR 01 32 17.5
comp=Z,199nm,18.0s,baz=57,slow=33
BBTS **Babate** 90.28 72 LR LR 01 32 11.7
comp=Z,128nm,20.1s,baz=268,slow=33
BELG **Belogornoye** 91.11 9 LR LR 01 39 15.0
comp=Z,46nm,19.2s,baz=313,slow=37
BVAR **Borovoye Array** 91.14 355 P P 00 55 55.4 +1.2
comp=Z,2.6nm,0.7s,baz=348,slow=3.6,SNR=10
BVAR LR LR 01 41 41.9
comp=Z,96nm,19.6s,baz=0.2,slow=39
comp=Z,2.6nm,0.7s
HHC **Hu-ho-hao-te** 91.22 325 *e*P P 00 55 51.3 -3.7
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,48nm,4.3s
JOW **Kunigami** 91.90 305 LR LR 01 29 40.1
comp=Z,44nm,21.5s,baz=52,slow=31
DZM **Mont Dzumac** 91.98 244 *e*LR LR 01 25 23.1
comp=Z,147nm,26.2s
MLR **Muntele Rosu** 92.55 25 LR LR 01 41 55.6
comp=Z,179nm,18.0s,baz=320,slow=38
KURBB **Kurchatov Arra** 92.64 350 P P 00 56 00.8 -0.3
comp=Z,0.8nm,0.9s,baz=14,slow=3.9,SNR=7.9
KURBB LR LR 01 43 17.4
comp=Z,39nm,18.2s,baz=160,slow=39
comp=Z,0.8nm,0.9s
KEST **Kesra** 93.33 41 LR LR 01 36 32.2
comp=Z,70nm,18.2s,baz=265,slow=35
AKTO **Aktyubinsk** 93.92 3 LR LR 01 42 13.8
comp=Z,71nm,19.7s,baz=263,slow=38
NJ2 **Nanjing** 94.10 315 *e*P P 00 56 07.5 -0.8
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
VAE **Valguarnera** 94.53 36 LR LR 01 41 41.5
comp=Z,103nm,18.2s,baz=314,slow=37
URZ **Urewera** 95.30 226 LR LR 01 33 53.7
comp=Z,94nm,18.4s,baz=52,slow=32
MKAR **Makanchi Array** 95.72 346 LR LR 01 46 47.7
comp=Z,56nm,18.1s,baz=326,slow=40
KBZ **Khabaz** 98.77 14 LR LR 01 44 12.1
comp=Z,97nm,18.5s,baz=342,slow=37
PMG **Port Moresby** 99.61 265 LR LR 01 34 11.5
comp=Z,125nm,21.3s,baz=19,slow=31
WRA **Warramunga Arr** 115.71 263 PKP PKiKP 01 01 33.5 +1.1
comp=Z,0.6nm,0.7s,baz=57,slow=1.8,SNR=5.3
BOSA **Boshof** 147.97 87 PKPbc PKPbc 01 02 35.4 +0.1
comp=Z,2.9nm,0.9s,baz=0.0,slow=6.1,SNR=3.1
MAW **Mawson** 148.28 180 PKPbc PKiKP 01 02 35.9 -0.5
comp=Z,10nm,1.0s,baz=239,slow=2.4,SNR=11

*NEIC **26** 00:44:24.4±0.5, 35°.94N±0°.01×117°.71W±0°.01, h6km±1km, Error ellipse: s-maj=1.7km s-min=1.2km az=203.0*

PAS 26 00:44:24.9±0.7, 35°.926N±0°.010×117°.707W±0°.008, h4km±2km, ML2.8/16, ML3.0/22(NEIC), Error ellipse: s-maj=1.5km s-min=0.8km az=199.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WVPM	**Volcano Peak E**	**0.09**	**285**		Pg	00 44 28.4	+1.6
JRC2	**Joshua Ridge**	**0.10**	**304**		Pg	00 44 28.8	+1.9
WCSM	**Coso Springs S**	**0.11**	**334**		Pg	00 44 27.2	0.0
WCSM					Sg	00 44 28.9	+0.2
TOW	**Tower One**	**0.12**	**202**		Pg	00 44 27.7	+0.3
TOW					Sg	00 44 29.9	+0.8
CLC	**China Lake**	**0.14**	**141**		Pg	00 44 27.6	0.0
CLC				Sg	Sg	00 44 30.0	+0.4
WRVM	**Rose V. Centra**	**0.17**	**299**		Pg	00 44 30.8	+2.6
WNMM	**Nine Mile Cany**	**0.18**	**243**		Pg	00 44 28.6	+0.2
MPMC	**Manual Prospec**	**0.22**	**53**	Pg	Pg	00 44 29.3	+0.1
MPMC				Sg	Sg	00 44 32.5	+0.4
MFS	**McCloud Flat S**	**0.23**	**328**		Pg	00 44 29.3	+0.1
MFS					Sg	00 44 32.8	+0.5
SRTC	**Snort**	**0.24**	**188**		Pg	00 44 29.9	+0.5
GPO	**China Lake**	**0.28**	**172**		Pg	00 44 30.4	+0.1
GPO					Sg	00 44 34.9	+1.0
WSHM	**Spangler Hills**	**0.37**	**152**		Sg	00 44 37.4	+0.6
WSHM	**Spangler Hills**	**0.37**	**152**		Pg	00 44 32.0	0.0
WSHM					IAML	00 44 37.9	
	1μm,0.3s						
WSHM	**Spangler Hills**	**0.37**	**152**		IAML	00 44 33.5	
	1μm,2.9s						
LRMC	**Laurel Mtn Rad**	**0.45**	**177**		Pg	00 44 33.3	-0.1
LRMC					IAML	00 44 39.9	
	comp=E,1μm,1.5s						
LRMC	**Laurel Mtn Rad**	**0.45**	**177**		Sg	00 44 39.8	+0.6
LRMC	**Laurel Mtn Rad**	**0.45**	**177**		IAML	00 44 38.6	
	comp=N,1μm,1.7s						
CCCA	**Chr Cany lake**	**0.49**	**145**		Pb	00 44 35.3	-0.7
CCCA	**Chr Cany lake**	**0.49**	**145**		IAML	00 44 35.8	
	comp=E,6μm,2.1s						
CCCA					IAML	00 44 47.4	
	comp=N,5μm,2.0s						
WORM	**Onyx Ranch**	**0.49**	**242**		Pg	00 44 34.1	-0.2
WORM					Sg	00 44 40.6	-0.1
WBSM	**Bird Springs**	**0.52**	**222**		Pg	00 44 34.7	-0.2
WBSM					Sg	00 44 41.9	+0.2
WHFM	**Hanning Flat**	**0.57**	**247**		Pg	00 44 35.6	-0.2
WHFM					Sg	00 44 43.3	+0.1
DTP	**Desert Tortois**	**0.67**	**190**		Pg	00 44 37.4	-0.2
DTP					Sg	00 44 47.0	+0.7
ISA	**Isabella, Lake**	**0.68**	**247**		Sg	00 44 47.0	+0.4
ISA	**Isabella, Lake**	**0.68**	**247**		Pg	00 44 37.6	-0.2
ISA	**Isabella, Lake**	**0.68**	**247**	IAML		00 44 44.5	
	comp=N,719nm,2.5s						
ISA					IAML	00 44 45.6	
	comp=E,589nm,2.3s						
WASM	**Alta Sierra Ca**	**0.72**	**255**		Pg	00 44 38.4	-0.2
WASM					Sg	00 44 48.1	+0.2
SPG2	**Springville 2**	**0.90**	**288**		Pg	00 44 41.5	-0.6

*NEIC **26** 00:45:33.6±1.1, 35°.931N±0°.008×117°.69W±0°.02, h5km±4km, Error ellipse: s-maj=1.9km s-min=1.1km az=69.0*

PAS 26 00:45:34.0±1.4, 35°.94N±0°.01×117°.70W±0°.01, h3km±3km, ML3.5/61, ML3.4/92(NEIC), Error ellipse: s-maj=1.9km s-min=1.6km az=203.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WVPM	**Volcano Peak E**	**0.10**	**278**		Pg	00 45 36.3	+0.2
WVPM					Sg	00 45 37.7	+0.3
JRC2	**Joshua Ridge**	**0.10**	**297**		Pg	00 45 38.2	+2.0
WCSM	**Coso Springs S**	**0.11**	**328**		Pg	00 45 36.2	0.0
WCSM					Sg	00 45 37.9	+0.2
TOW	**Tower One**	**0.14**	**204**		Pg	00 45 37.0	+0.2
TOW					Sg	00 45 40.2	+1.6
CLC	**China Lake**	**0.14**	**146**		Sg	00 45 39.2	+0.4
CLC	**China Lake**	**0.14**	**146**		Pg	00 45 36.7	-0.1
CLC					IAML	00 45 39.6	
	comp=E,3μm,1.5s						
CLC					IAML	00 45 39.6	
	comp=N,4μm,0.7s						
WRVM	**Rose V. Centra**	**0.17**	**295**		Pg	00 45 37.6	+0.1
WRVM					Sg	00 45 40.4	+0.6
WNMM	**Nine Mile Cany**	**0.19**	**242**		Pg	00 45 38.1	+0.3
WNMM					Sg	00 45 40.9	+0.6
MPMC	**Manual Prospec**	**0.21**	**54**		Pg	00 45 37.9	-0.2
MPMC					Sg	00 45 41.3	+0.5
MPMC					IAML	00 45 41.7	
	comp=N,8μm,0.6s						
MFS	**McCloud Flat S**	**0.22**	**325**		Pg	00 45 38.4	0.0
MFS					Sg	00 45 41.9	+0.5
SRTC	**Snort**	**0.25**	**190**		Pg	00 45 39.3	+0.5
SRTC					Sg	00 45 43.7	+1.7
GPO	**China Lake**	**0.29**	**174**		Pg	00 45 39.8	+0.2
GPO					Sg	00 45 44.3	+1.1
WSHM	**Spangler Hills**	**0.37**	**154**	Pg	Pg	00 45 40.8	-0.5

WSHM				IAML		00 45 47.2		
	comp=N,6μm,0.4s							
WSHM				IAML		00 45 47.7		
	comp=N,4μm,0.3s							
WSHM	**Spangler Hills**	**0.37**	**154**		Sg	00 45 46.6	+0.5	
LRMC	**Laurel Mtn Rad**	**0.46**	**179**		Pg	00 45 42.3	-0.4	
LRMC				IAML		00 45 49.8		
	comp=E,3μm,0.6s							
CCCA	**Chr Cany lake**	**0.49**	**147**		Pg	00 45 43.7	+0.3	
CCCA					Sg	00 45 51.3	+1.5	
CCCA	**Chr Cany lake**	**0.49**	**147**	IAML		00 45 51.6		
	comp=N,7μm,0.6s							
CCCA				IAML		00 45 52.8		
	comp=E,4μm,0.4s							
WORM	**Onyx Ranch**	**0.51**	**242**		Pg	00 45 43.5	-0.2	
WORM					Sg	00 45 50.4	+0.1	
WBSM	**Bird Springs**	**0.54**	**222**		Sg	00 45 52.0	+0.7	
WHFM	**Hanning Flat**	**0.58**	**246**		Pg	00 45 45.0	-0.2	
WHFM					Sg	00 45 53.0	+0.2	
CWC	**Cottonwood Cre**	**0.59**	**328**	Pg	Pg	00 45 45.1	-0.3	
CWC	**Cottonwood Cre**	**0.59**	**328**		Sg	00 45 53.7	+0.6	
CGO	**Cerro Gordo**	**0.62**	**352**		Pg	00 45 45.9	-0.1	
CGO					Sg	00 45 55.2	+1.2	
QSM	**Queen of Sheba**	**0.67**	**87**		Sg	00 45 55.6	0.0	
QSM	**Queen of Sheba**	**0.67**	**87**	Pg	Pg	00 45 46.4	-0.5	
QSM				IAML		00 46 00.5		
	comp=E,1μm,0.6s							
QSM				IAML		00 46 01.8		
	comp=N,743nm,0.7s							
DTP	**Desert Tortois**	**0.68**	**190**		Pg	00 45 46.8	-0.2	
ISA	**Isabella, Lake**	**0.69**	**247**		Sg	00 45 56.3	+0.1	
ISA	**Isabella, Lake**	**0.69**	**247**	Pg	Pg	00 45 47.0	-0.2	
ISA				IAML		00 45 56.8		
	comp=N,3μm,0.3s							
ISA				IAML		00 45 57.4		
	comp=E,4μm,0.3s							
WASM	**Alta Sierra Ca**	**0.73**	**255**		Pg	00 45 47.7	-0.2	
WASM					Sg	00 45 57.6	+0.2	
CCAC	**Calif City Air**	**0.82**	**199**		Pg	00 45 49.5	-0.3	
CCAC					Sg	00 46 01.4	+0.9	
FURC	**Furnace Creek,**	**0.86**	**51**		Sg	00 46 02.3	+0.7	
FURC	**Furnace Creek,**	**0.86**	**51**	Pg	Pg	00 45 50.7	+0.2	
FURC				IAML		00 46 06.0		
	comp=E,1μm,1.6s							
FURC				IAML		00 46 08.3		
	comp=N,1μm,0.6s							
GWY	**Greenwater Val**	**0.87**	**73**	Pg	Pg	00 45 50.7	0.0	
GWY				IAML		00 46 08.8		
	comp=N,1μm,0.5s							
GWY				IAML		00 46 08.8		
	comp=E,1μm,0.5s							
SPG2	**Springville 2**	**0.91**	**287**		Pg	00 45 50.8	-0.7	
SPG2					Sg	00 46 02.8	-0.4	
GSC	**Goldstone, Bar**	**0.96**	**131**		Sg	00 46 05.6	+0.6	
GSC	**Goldstone, Bar**	**0.96**	**131**	Pg	Pg	00 45 52.0	-0.5	
GSC				IAML		00 46 07.9		
	comp=E,2μm,0.7s							
GSC				IAML		00 46 08.5		
	comp=N,691nm,0.9s							
EDW2	**Edwards Air Fo**	**1.08**	**193**		Sg	00 46 08.3	-0.4	
GRAC	**Grapevine Rang**	**1.09**	**14**	Pg	Pg	00 45 53.5	-1.5	
GRAC				IAML		00 46 09.1		
	comp=N,956nm,2.2s							
GRAC				IAML		00 46 17.8		
	comp=E,1μm,2.6s							
VES	**Vestal, Richgr**	**1.13**	**266**	Pg	Pb	00 45 56.0	-0.3	
TPO	**Tropico Hills**	**1.14**	**203**	Pg	Pg	00 45 54.8	-1.1	
TPO				IAML		00 46 17.1		
	comp=N,843nm,0.8s							
TPO				IAML		00 46 17.5		
	comp=E,777nm,0.7s							
SHOC	**Shoshone, Teco**	**1.15**	**91**	Pg	Pg	00 45 54.9	-1.2	
SHOC				IAML		00 46 18.5		
	comp=E,1μm,0.5s							
TIN	**Tinemaha, Big**	**1.20**	**339**	Pg	Pg	00 45 56.7	-0.3	
TIN				IAML		00 46 05.4		
	comp=N,961nm,2.3s							
TIN				IAML		00 46 20.9		
	comp=E,1μm,1.8s							
WCT	**Wildcat Mounta**	**1.22**	**45**	Pg	Pg	00 45 57.0	-0.4	
WCT				IAML		00 46 18.1		
	comp=E,413nm,1.3s							
THC	**Tehachapi Micr**	**1.29**	**218**		Pg	00 45 57.8	-1.1	
GMN	**Gold Mountain**	**1.41**	**14**		Pg	00 46 01.1	0.0	
GMN				IAML		00 46 07.0		
	comp=N,335nm,1.2s							
DSP	**Deep Springs**	**1.45**	**351**		Pn	00 46 00.9	-0.3	
TPNV	**Topopah Spring**	**1.54**	**49**		Pn	00 46 02.0	-0.7	
TPNV				IAML		00 46 17.5		
	comp=N,458nm,2.8s							
TPNV				IAML		00 46 28.6		
	comp=N,422nm,1.2s							
BFSC	**Mount Baldy Ra**	**1.69**	**179**		Pn	00 46 03.9	-0.8	
MWC	**Mount Wilson**	**1.73**	**190**		Pn	00 46 04.4	-0.9	
MWC				IAML		00 46 14.1		
	comp=E,324nm,2.4s							
MWC				IAML		00 46 37.8		
	comp=N,234nm,0.9s							
MZP	**Montezuma Peak**	**1.78**	**8**	Pn	Pn	00 46 05.5	-0.5	
MTPC	**Mountain Pass**	**1.80**	**104**	Pn	Pn	00 46 05.8	-0.4	
MTPC				IAML		00 46 34.1		
	comp=N,211nm,1.8s							
MTPC				IAML		00 46 34.7		
	comp=E,207nm,1.0s							
PASC	**Pasadena Art C**	**1.81**	**193**	Pn	Pn	00 46 06.1	0.0	
SHPR	**Sheep Range**	**2.13**	**74**	Pn	Pb	00 46 12.5	-0.9	
TPH	**Tonopah**	**2.17**	**10**	Pn	Pb	00 46 13.5	-0.6	
ELS	**Elsinore Mount**	**2.29**	**174**	Pn	Pn	00 46 14.0	+1.2	
ELS				IAML		00 46 55.0		
	comp=E,143nm,3.7s							
ELS				IAML		00 46 57.8		
	comp=N,163nm,5.0s							
PFO	**Pinyon Flats O**	**2.53**	**156**	Pg	Pg	00 46 21.7	-0.8	
PFO				IAML		00 46 30.5		
	comp=N,127nm,2.7s							
PFO				IAML		00 46 59.5		
	comp=N,144nm,2.2s							
PMPB	**Monarch Peak**	**2.53**	**277**	Pn	Pn	00 46 18.0	+1.9	
NVAR	**Mina Array Bea**	**2.54**	**349**	Pn	Pb	00 46 19.8	-0.6	
PRN	**Pahroc Range**	**2.58**	**55**	Pg	Pg	00 46 23.3	-0.2	
PRN				IAML		00 46 33.1		
	comp=N,258nm,2.2s							
MYLM	**Yosemite Lake**	**2.62**	**304**		Pb	00 46 21.1	-0.6	
WAKR	**Walker**	**2.92**	**332**	Pg	Pb	00 46 27.7	+0.8	
R11B	**Troy Canyon, C**	**2.94**	**34**	Pg	Pb	00 46 28.7	+1.5	
DPP	**Dos Picos Cty**	**3.00**	**168**	Pg	Pb	00 46 28.6	+0.5	
CMB	**Columbia Colle**	**3.00**	**315**	Pg	Pb	00 46 26.7	-1.6	
CMB				IAML		00 46 42.0		
	comp=N,77nm,3.0s							
CMB				IAML		00 46 56.5		
	comp=E,63nm,2.7s							

*NEIC **26** 00:45:54.5±0.4,35°.937N±0°.010×117°.686W±0°.009, h4km±2km, Error ellipse: s-maj=1.5km s-min=1.0km az=163.0*

PAS 26 00:45:55±0.7,**35°.940N**±0°.010×**117°.70W**±0°.01,**h3**km±6km, **ML3.0**/11,**ML2.9**/14(NEIC),**Error ellipse: s-maj=1.6km s-min=1.4km az=48.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.10**	**275**		Pg	00 45 57.2	+0.2
JRC2	**Joshua Ridge**	**0.10**	**295**		Pg	00 45 57.3	+0.2
TOW	**Tower One**	**0.14**	**203**		Pg	00 45 58.3	+0.5
CLC	**China Lake**	**0.15**	**147**	Pg	Pg	00 45 57.8	-0.1
CLC				Sg	Sg	00 45 59.8	0.0
WRVM	**Rose V. Centra**	**0.17**	**293**		Pg	00 45 58.5	+0.1
WNMM	**Nine Mile Cany**	**0.20**	**240**		Pg	00 45 59.0	+0.2
WNMM					Sg	00 46 02.2	+0.9
MPMC	**Manual Prospec**	**0.20**	**55**	Pg	Pg	00 45 59.2	+0.2
MPMC				Sg	Sg	00 46 01.7	0.0
MPMC				IAML		00 46 03.9	
	comp=N,2μm,0.7s						
MFS	**McCloud Flat S**	**0.22**	**324**		Pg	00 45 59.4	+0.2
MFS					Sg	00 46 02.7	+0.6
SRTC	**Snort**	**0.25**	**190**		Pg	00 46 00.3	+0.5
WSHM	**Spangler Hills**	**0.38**	**154**	Pg	Pg	00 46 02.2	0.0
WSHM				Sg	Sg	00 46 07.6	+0.4
WSHM				IAML		00 46 08.3	
	comp=N,2μm,0.3s						
WSHM				IAML		00 46 08.3	
	comp=N,2μm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.46**	**179**	Pg	Pg	00 46 03.7	-0.1
LRMC						00 46 06.4	
	comp=E,588nm,0.8s			IAML			
LRMC				IAML		00 46 10.8	
	comp=N,626nm,0.4s						
WORM	**Onyx Ranch**	**0.51**	**241**		Pg	00 46 04.5	-0.2
WBSM	**Bird Springs**	**0.54**	**222**		Pg	00 46 05.6	+0.2
WHFM	**Hanning Flat**	**0.58**	**246**		Pg	00 46 06.1	-0.1

*NEIC **26** 00:57:39.7±1.1,35°.920N±0°.009×117°.70W±0°.01, h6km±1km, Error ellipse: s-maj=1.4km s-min=1.2km az=53.0*

PAS 26 00:57:40.1±1.2,**35°.921N**±0°.004×**117°.71W**±0°.01, **h2**km±3km,**ML3.2**/249,**ML3.0**/166(NEIC),**Error ellipse: s-maj=1.4km s-min=0.4km az=68.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**288**		Pg	00 57 42.3	+0.3
WVPM					Sg	00 57 43.7	+0.4
JRC2	**Joshua Ridge**	**0.10**	**307**		Pg	00 57 42.5	+0.3
JRC2					Sg	00 57 44.1	+0.6
WCSM	**Coso Springs S**	**0.12**	**336**		Pg	00 57 42.5	+0.1
WCSM					Sg	00 57 44.4	+0.4
TOW	**Tower One**	**0.12**	**202**		Pg	00 57 43.0	+0.6
TOW					Sg	00 57 45.7	+1.7
CLC	**China Lake**	**0.14**	**139**		Pg	00 57 42.9	+0.1
CLC				Sg	Sg	00 57 45.1	+0.4
CLC				IAML		00 57 45.4	
	comp=N,5μm,0.3s						
CLC				IAML		00 57 46.0	
	comp=E,4μm,0.3s						
WRVM	**Rose V. Centra**	**0.17**	**301**		Pg	00 57 43.7	+0.2
WRVM					Sg	00 57 46.3	+0.6
WNMM	**Nine Mile Cany**	**0.18**	**244**		Pg	00 57 46.6	+3.0
MPMC	**Manual Prospec**	**0.23**	**52**		Pg	00 57 44.6	+0.1
MPMC				Sg	Sg	00 57 47.9	+0.4
MPMC				IAML		00 57 48.4	
	comp=N,3μm,0.4s						
MPMC				IAML		00 57 49.4	
	comp=E,3μm,0.6s						
MFS	**McCloud Flat S**	**0.23**	**329**		Pg	00 57 44.8	+0.2
MFS					Sg	00 57 48.3	+0.7
SRTC	**Snort**	**0.23**	**188**		Pg	00 57 45.1	+0.6
SRTC					Sg	00 57 49.2	+1.7
WSHM	**Spangler Hills**	**0.36**	**151**		Pg	00 57 47.3	+0.1
WSHM	**Spangler Hills**	**0.36**	**151**	Sg	Sg	00 57 52.6	+0.7
WSHM				IAML		00 57 53.1	
	comp=E,7μm,0.4s						
WSHM				IAML		00 57 53.1	
	comp=E,5μm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.44**	**177**		Pg	00 57 48.5	-0.1
LRMC					Sg	00 57 54.9	+0.6
LRMC				IAML		00 57 55.5	
	comp=N,2μm,0.2s						
LRMC				IAML		00 57 56.2	
	comp=E,2μm,0.2s						
CCCA	**Chr Cany lake**	**0.48**	**145**		Pg	00 57 50.0	+0.6
CCCA	**Chr Cany lake**	**0.48**	**145**	Sg	Sg	00 57 56.9	+1.2
CCCA				IAML		00 57 57.7	
	comp=E,3μm,0.6s						
CCCA				IAML		00 58 00.1	
	comp=N,4μm,0.4s						
WORM	**Onyx Ranch**	**0.49**	**243**		Pg	00 57 49.4	-0.1
WORM					Sg	00 57 56.1	+0.2
WBSM	**Bird Springs**	**0.52**	**223**		Sg	00 57 57.6	+0.8
WHFM	**Hanning Flat**	**0.57**	**247**		Pg	00 57 51.0	0.0
WHFM					Sg	00 57 58.7	+0.4
CWC	**Cottonwood Cre**	**0.60**	**330**		Pg	00 57 52.0	+0.4
CWC	**Cottonwood Cre**	**0.60**	**330**	Sg	Sg	00 57 59.7	+0.3
CWC				IAML		00 58 02.1	
	comp=E,516nm,0.2s						
CWC				IAML		00 58 03.7	
	comp=N,481nm,0.2s						
CGO	**Cerro Gordo**	**0.63**	**353**		Pg	00 57 52.0	-0.3
CGO					Sg	00 58 01.0	+0.5
DTP	**Desert Tortois**	**0.66**	**190**		Pg	00 57 52.5	-0.3
DTP					Sg	00 58 02.0	+0.6
ISA	**Isabella, Lake**	**0.67**	**248**		Pg	00 57 53.0	0.0
ISA				IAML		00 58 02.5	
	comp=N,606nm,0.4s						
ISA				IAML		00 58 03.1	
	comp=E,915nm,0.3s						
ISA	**Isabella, Lake**	**0.67**	**248**		Sg	00 58 01.8	0.0
QSM	**Queen of Sheba**	**0.68**	**86**		Pg	00 57 53.1	-0.1
QSM				IAML		00 58 08.5	
	comp=N,831nm,0.6s						
QSM	**Queen of Sheba**	**0.68**	**86**		Sg	00 58 03.1	+1.0
QSM	**Queen of Sheba**	**0.68**	**86**	IAML		00 57 55.5	
	comp=E,486nm,0.2s						
WASM	**Alta Sierra Ca**	**0.71**	**255**		Pg	00 57 53.7	-0.1
WASM					Sg	00 58 03.4	+0.3
CCAC	**Calif City Air**	**0.81**	**198**		Pg	00 57 55.3	-0.3
CCAC					Sg	00 58 06.5	+0.5
FURC	**Furnace Creek,**	**0.88**	**51**		Sb	00 58 09.3	-0.8
FURC	**Furnace Creek,**	**0.88**	**51**	Pg	Pg	00 57 57.1	+0.2
FURC				IAML		00 58 19.6	
	comp=N,667nm,0.8s						
GWY	**Greenwater Val**	**0.88**	**72**		Pg	00 57 57.1	0.0
GWY					Sg	00 58 09.2	+0.7
GWY	**Greenwater Val**	**0.88**	**72**	IAML		00 58 14.6	
	comp=N,407nm,0.4s						
GWY				IAML		00 58 15.6	
	comp=E,434nm,0.6s						
SPG2	**Springville 2**	**0.90**	**288**		Pg	00 57 56.8	-0.6
SPG2					Sg	00 58 08.2	-1.0
GSC	**Goldstone, Bar**	**0.96**	**130**		Pg	00 57 58.1	-0.5
GSC					Sg	00 58 10.8	-0.2
GSC	**Goldstone, Bar**	**0.96**	**130**	IAML		00 58 14.7	
	comp=N,446nm,0.7s						
TEJ	**El Tejon**	**1.05**	**230**		Pg	00 57 59.5	-0.8
EDW2	**Edwards Air Fo**	**1.06**	**193**		Pg	00 57 59.6	-0.9
GRAC	**Grapevine Rang**	**1.11**	**14**		Pg	00 58 01.0	-0.4
GRAC				IAML		00 58 20.9	
	comp=E,478nm,0.5s						
GRAC				IAML		00 58 23.8	
	comp=N,391nm,0.9s						
VES	**Vestal, Richgr**	**1.12**	**266**		Pg	00 58 01.3	-0.3
TPO	**Tropico Hills**	**1.12**	**202**		Pg	00 58 01.0	-0.7
TPO				IAML		00 58 22.8	
	comp=N,450nm,0.6s						
TPO				IAML		00 58 23.0	
	comp=E,340nm,0.7s						
SHOC	**Shoshone, Teco**	**1.16**	**91**		Pg	00 58 01.6	-0.8
TIN	**Tinemaha, Big**	**1.21**	**340**	Pg	Pg	00 58 03.3	0.0
TIN				IAML		00 58 21.7	
	comp=N,237nm,0.4s						
TIN				IAML		00 58 24.3	
	comp=E,283nm,0.4s						
WCT	**Wildcat Mounta**	**1.23**	**45**		Pg	00 58 03.5	-0.3
WCT				IAML		00 58 22.3	
	comp=N,176nm,0.9s						
WCT				IAML		00 58 24.5	
	comp=E,272nm,0.7s						
VOG	**Valley Oaks Go**	**1.41**	**287**		Pn	00 58 06.4	-0.5
GMN	**Gold Mountain**	**1.42**	**15**		Pn	00 58 06.8	-0.4
DSP	**Deep Springs**	**1.46**	**352**		Pn	00 58 07.2	-0.3
TPNV	**Topopah Spring**	**1.56**	**48**		Pn	00 58 08.3	-0.7
TPNV				IAML		00 58 33.1	
	comp=E,140nm,0.5s						
TPNV				IAML		00 58 34.1	
	comp=E,176nm,0.9s						
BFSC	**Mount Baldy Ra**	**1.68**	**179**		Pn	00 58 09.8	-0.8
MWC	**Mount Wilson**	**1.72**	**190**		Pn	00 58 10.7	-0.5
MWC				IAML		00 58 40.0	
	comp=E,85nm,0.7s						
MWC				IAML		00 58 44.1	
	comp=N,90nm,0.6s						
MZP	**Montezuma Peak**	**1.80**	**8**		Pn	00 58 12.5	+0.2
MTPC	**Mountain Pass**	**1.81**	**103**		Pn	00 58 11.3	-1.1
MTPC				IAML		00 58 38.6	
	comp=N,122nm,0.4s						
MTPC				IAML		00 58 40.5	
	comp=E,120nm,0.5s						
SHPR	**Sheep Range**	**2.14**	**73**		Pn	00 58 16.8	-0.3
TPH	**Tonopah**	**2.19**	**10**		Pn	00 58 18.8	+1.1
ELS	**Elsinore Mount**	**2.28**	**174**		Pn	00 58 18.1	-0.8
POB	**Polly Butte**	**2.32**	**164**		Pn	00 58 19.0	-0.4
V12A	**Nelson**	**2.33**	**94**		Pn	00 58 18.6	-1.0
V12A				IAML		00 59 03.0	
	comp=N,49nm,0.8s						
S11A	**Rachel**	**2.33**	**42**		Pg	00 58 24.0	-0.9
S11A				IAML		00 58 57.2	
	comp=N,138nm,0.7s						
BELC	**Belle Mtn. Jos**	**2.38**	**143**	IAML		00 58 57.9	
	comp=N,91nm,0.5s						
BELC				IAML		00 58 58.4	
	comp=E,78nm,0.6s						
PMD	**Palm Desert**	**2.52**	**154**		Pn	00 58 20.6	-1.4
PMD				IAML		00 59 02.0	
	comp=N,37nm,0.5s						
PMD				IAML		00 59 07.2	
	comp=E,45nm,0.7s						
PFO	**Pinyon Flats O**	**2.52**	**156**		Pn	00 58 21.0	-1.3
PFO				IAML		00 59 06.2	
	comp=E,41nm,1.5s						
PMPB	**Monarch Peak**	**2.52**	**278**		Pn	00 58 22.6	+0.4
NV11	**Mina Array Sit**	**2.53**	**352**		Pn	00 58 20.6	-1.8
NVAR	**Mina Array Bea**	**2.55**	**349**		Pg	00 58 28.1	-0.9
PRN	**Pahroc Range**	**2.60**	**54**		Pn	00 58 23.4	0.0
PRN				IAML		00 59 06.8	
	comp=N,57nm,0.7s						
PRN				IAML		00 59 18.9	
	comp=E,60nm,0.8s						
IRM	**Iron Mountain**	**2.74**	**129**	Pn	Pn	00 58 23.2	-1.9
IRM				IAML		00 59 13.4	
	comp=E,42nm,1.2s						
BBGB	**Big Mountain B**	**2.77**	**285**		Pn	00 58 25.1	-0.6
NEE2	**Needles Airpor**	**2.77**	**114**		Pn	00 58 23.5	-2.1
NEE2				IAML		00 59 12.6	
	comp=E,90nm,0.7s						
NEE2				IAML		00 59 15.7	
	comp=N,92nm,0.7s						
BORC	**Borrego Spring**	**2.85**	**158**		Pn	00 58 26.0	-0.7
BORC				IAML		00 59 16.0	
	comp=E,66nm,0.7s						
BORC				IAML		00 59 17.4	
	comp=N,37nm,0.7s						
BC3	**Big Chuckawall**	**2.92**	**140**	Pn	Pn	00 58 25.8	-2.0
BC3				IAML		00 59 14.2	
	comp=E,35nm,0.7s						
BC3				IAML		00 59 15.7	
	comp=N,48nm,0.5s						
WAKR	**Walker**	**2.92**	**332**		Pb	00 58 34.7	+1.5
Q09A	**Carvers**	**2.94**	**8**		Pg	00 58 37.9	+1.5
Q09A				IAML		00 59 22.1	
	comp=E,71nm,0.7s						
Q09A				IAML		00 59 26.8	
	comp=N,69nm,0.9s						
R11B	**Troy Canyon, C**	**2.96**	**34**		Pb	00 58 34.8	+1.1
R11B				IAML		00 59 14.4	
	comp=E,29nm,0.7s						
DPP	**Dos Picos Cty**	**2.98**	**168**		Pn	00 58 28.0	-0.5
DPP					Pg	00 58 34.3	+0.3
DPP				IAML		00 59 14.6	
	comp=E,28nm,0.8s						
CMB	**Columbia Colle**	**3.01**	**315**	IAML		00 59 22.3	
	comp=N,26nm,0.8s						
BLYC	**Blythe**	**3.40**	**129**	IAML		00 59 32.1	
	comp=E,29nm,0.8s						
BLYC				IAML		00 59 32.5	
	comp=N,36nm,0.8s						
GLA	**Glamis**	**3.72**	**139**	IAML		00 59 46.6	
	comp=N,37nm,1.1s						
AFDM	**Forest Hills D**	**3.98**	**320**	IAML		00 59 46.8	
	comp=N,12nm,0.5s						
AFDM				IAML		00 59 57.7	
	comp=E,22nm,0.9s						
PSUT	**Pine Spring**	**4.03**	**49**	IAML		00 59 51.7	
	comp=N,13nm,0.9s						
PSUT				IAML		00 59 55.7	
	comp=E,16nm,1.0s						
SPR3	**Spring Creek 3**	**4.08**	**40**	IAML		00 59 49.7	
	comp=E,15nm,1.2s						
SPR3				IAML		00 59 50.9	
	comp=N,16nm,0.9s						
ESJX	**Sierra Juarez**	**4.17**	**159**	IAML		00 59 51.7	
	comp=E,16nm,0.6s						
ESJX				IAML		00 59 51.7	
	comp=N,12nm,0.7s						
Y14A	**Wickenburg**	**4.34**	**116**	IAML		01 00 01.2	
	comp=N,22nm,0.7s						
Y14A				IAML		01 00 08.8	
	comp=E,11nm,0.9s						
U15A	**North Rim**	**4.41**	**82**	IAML		01 00 01.1	
	comp=N,8.2nm,3.4s						
U15A				IAML		01 00 15.5	
	comp=E,12nm,1.0s						
BEKR	**Beckworth**	**4.46**	**333**	IAML		01 00 20.6	
	comp=E,14nm,0.7s						
PKCU	**Pink Cliffs**	**4.60**	**69**	IAML		00 59 26.9	
	comp=E,20nm,4.5s						
MTPU	**Mount Pierson**	**4.90**	**63**	IAML		00 59 48.2	
	comp=E,6.7nm,4.2s						
MTPU				IAML		01 00 38.7	
	comp=N,7.8nm,5.0s						
WUAZ	**Wupatki**	**5.17**	**93**	IAML		01 00 25.9	
	comp=N,9.7nm,1.4s						
WUAZ				IAML		01 00 34.1	
	comp=N,8.7nm,1.4s						
ELK	**Elko**	**5.19**	**21**	IAML		01 00 25.2	
	comp=N,5.6nm,0.9s						

IDC 26 01:02:01.9±2.8,**9°.44S**×**159°.20E**,**h0**km,**mb3.7**/4, **mbtmp3.7**/4,**Error ellipse: s-maj=90.4km s-min=14.6km az=167.0,Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.74**	**89**	LR	LR	01 02 13.5	
	comp=Z,54nm,18.9s,baz=225,slow=16						
HNR					Pn	01 02 19.9	+0.3
	515nm,0.3s,baz=240,slow=4.3,SNR=64						
HNR					Sn	01 02 31.5	0.0
	2μm,0.3s,baz=78,slow=23,SNR=20						
WRA	**Warramunga Arr**	**26.18**	**244**	P	P	01 07 37.0	-1.4
	0.6nm,0.7s,baz=70,slow=10,SNR=7.1						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**28.00**	**237**	P	P	01 07 56.1	+1.4
	0.3nm,0.5s,baz=78,slow=10,SNR=4.3						
	0.3nm,0.5s						
VNDA	**Vanda**	**68.07**	**179**	P	P	01 13 02.8	-0.1
	1.1nm,0.7s,baz=338,slow=6.3,SNR=10						
	1.1nm,0.7s						
QSPA	**South Pole Qui**	**80.55**	**180**	P	P	01 14 16.2	+0.2
	1.0nm,1.0s,baz=4.8,slow=1.1,SNR=5.4						
	1.0nm,1.0s						

*IDC **26** 01:14:11.7±0.8,25°.29N×96°.36E,h0km,mb3.7/12, mbtmp3.7/12,MS3.5/4,Error ellipse: s-maj=53.5km s-min=14.5km az=62.0*

ISC 26 01:14:16.2±0.8,**25°.5N**±0°.1×**96°.5E**±0°.3,**h25**km,**n17**, **σ1°08**/14,**mb3.8**/12,**MS3.9**/3,**Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.35**	**161**	Pg	**Pb**	**01 16 24.2**	**+1.2**
	0.8nm,0.3s,baz=341,slow=16,SNR=9.8						
CMAR				Lg	Lg	01 18 02.7	
	0.9nm,0.3s,baz=346,slow=23,SNR=5.9						
CMAR				LR	LR	01 19 05.8	
	comp=Z,77nm,20.6s,baz=305,slow=41						
PSI	**Prapat**	**22.67**	**174**	LR	LR	01 27 13.9	

	1.6nm,1.0s							
ASAR	**Alice Springs**	**60.84**	**140**	P	**P**	**01 24 25.0**	**-1.6**	
	0.6nm,0.7s,baz=321,slow=7.1,SNR=7.5							
	0.6nm,0.7s							
HFS	**Hagfors**	**64.71**	**327**	P	**P**	**01 24 51.9**	**0.0**	
	0.4nm,0.6s,baz=111,slow=7.9,SNR=1.9							
	0.4nm,0.6s							
NB2	**NORSAR Subarra**	**65.79**	**328**	P	**P**	**01 24 58.1**	**-0.9**	
	comp=Z,1.8nm,1.1s,baz=83,slow=6.5							
NOA	**NORSAR Array B**	**65.79**	**328**	P	**P**	**01 24 58.5**	**-0.5**	
	comp=Z,0.3nm,0.7s,baz=83,slow=6.3,SNR=4.4							
	comp=Z,0.3nm,0.7s							
GERES	**GERESS Array B**	**66.65**	**314**	P	**P**	**01 25 03.6**	**-1.2**	
	comp=Z,0.5nm,0.8s,baz=44,slow=4.1,SNR=4.6							
	comp=Z,0.5nm,0.8s							
LBTB	**Lobatse**	**84.90**	**239**	LR	LR	02 04 18.0		
	comp=Z,63nm,18.8s,baz=304,slow=36							

KRNET ***26*** *01:30:03.9±0.1, 42.°08N×77.°24E, h25km, mb2.3*
NNC ***26*** *01:30:04.7±0.8, 42.°09N×77.°20E, h0km, mb3.7, mpv3.0,*
Error ellipse: s-maj=6.1km s-min=3.0km az=12.0
SOME ***26*** *01:30:04.5, 42.°03N×77.°22E, h15km*
ISC 26 01:30:04.7±0.9, 42°06N±0′03×77°20E±0′02, h15km±6km, n24, σ1§30/46, 16C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**0.07**	**349**	⇑*iP*	**Pg**	**01 30 08.0**	**+0.2**
KDJ				⇑*iS*	**Sg**	**01 30 10.5**	**+0.5**
TARG	**Taragay, Kyrgy**	**0.56**	**126**	⇑*iP*	**Pg**	**01 30 14.7**	**-1.1**
TARG				⇑*iS*	**Sg**	**01 30 22.5**	**-0.9**
ULHL	**Ulahol**	**0.73**	**285**	⇑*iP*	**Pg**	**01 30 18.7**	**-0.3**
ULHL				⇑*iS*	**Sb**	**01 30 29.2**	**-0.1**
PRZ	**Przheval'sk**	**0.99**	**64**	⇓*iP*	**Pb**	**01 30 21.9**	**-1.7**
PRZ				⇓*iS*	**Sb**	**01 30 35.2**	**-1.3**
TNSS	**Tian-Shan**	**0.99**	**349**	P	**Pb**	**01 30 23.2**	**-0.6**
	4.0nm,0.1s						
TNSS				S	**Sg**	**01 30 36.6**	**-0.3**
	3.9nm,0.1s						
TNSS	**Tian-Shan**	**0.99**	**349**	*eP*	**Pb**	**01 30 23.3**	**-0.6**
	4.0nm,0.1s						
TNSS				*eS*	**Sg**	**01 30 36.7**	**-0.3**
	3.1nm,0.1s						
BOOM	**Boomskoye usch**	**1.03**	**295**	⇑*eP*	**Pb**	**01 30 23.5**	**-0.8**
BOOM				⇑*iS*	**Sb**	**01 30 37.6**	**-0.1**
IZV	**Izvestkoviy**	**1.07**	**336**	P	**Pb**	**01 30 24.5**	**-0.5**
	9.5nm,0.1s						
IZV				S	**Sn**	**01 30 39.7**	**-0.3**
	34nm,0.1s						
IZV	**Izvestkoviy**	**1.07**	**336**	*eP*	**Pg**	**01 30 25.2**	**-0.1**
	5.1nm,0.1s						
IZV				*eS*	**Sn**	**01 30 39.9**	**-0.1**
	34nm,0.1s						
NRN	**Naryn**	**1.09**	**235**	⇑*iP*	**Pb**	**01 30 25.3**	**-0.2**
NRN				⇑*iS*	**Sg**	**01 30 40.7**	**+0.6**
SATY	**Saty**	**1.34**	**41**	P	**Pn**	**01 30 28.4**	**-0.6**
	1.2nm,0.1s						
SATY				S	**Sn**	**01 30 46.4**	**-0.3**
	18nm,0.1s						
KST	**Kastek**	**1.34**	**318**	P	**Pn**	**01 30 29.0**	**0.0**
	3.1nm,0.1s						
KST				S	**Sg**	**01 30 47.5**	**-0.4**
	14nm,0.5s						
KST	**Kastek**	**1.34**	**318**	*eP*	**Pb**	**01 30 29.8**	**+0.2**
	3.1nm,0.1s						
KST				*eS*	**Sg**	**01 30 47.7**	**-0.2**
	10nm,0.1s						
TKM2	**Tokmak 2**	**1.46**	**307**	⇑*iP*	**Pn**	**01 30 31.1**	**+0.3**
TKM2				⇑*iS*	**Sb**	**01 30 50.5**	**+0.2**
DGS	**Degeres**	**1.58**	**319**	P	**Pb**	**01 30 33.7**	**0.0**
	2.0nm,0.1s						
DGS				S	**Sb**	**01 30 54.3**	**+0.7**
	12nm,0.3s						
KTBS	**Karatobe**	**1.69**	**347**	P	**Pb**	**01 30 35.4**	**-0.2**
	1.3nm,0.2s						
KTBS				S	**Sg**	**01 30 57.8**	**-1.4**
	30nm,0.2s						
KBK	**Karagaybulak**	**1.77**	**290**	⇑*eP*	**Pn**	**01 30 35.7**	**+0.7**
KBK				⇑*iS*	**Sb**	**01 30 59.1**	**0.0**
CHKK	**Chushkaly**	**1.80**	**355**	P	**Pb**	**01 30 36.9**	**-0.4**
	9.4nm,0.2s						
CHKK				S	**Sg**	**01 31 01.0**	**-1.6**
	32nm,0.2s						
CHKK	**Chushkaly**	**1.80**	**355**	*eP*	**Pb**	**01 30 37.6**	**+0.2**
	1.9nm,0.1s						
CHKK				*eS*	**Sg**	**01 31 01.1**	**-1.5**
	32nm,0.2s						
SHLS	**Shalkode**	**2.00**	**56**	*eP*	**Pg**	**01 30 45.7**	**+2.7**
	3.8nm,0.1s						
SHLS				*eS*	**Sg**	**01 31 14.9**	**+6.0**
	4.5nm,0.1s						
ARXS	**Arharly**	**2.20**	**12**	Pg	**Pb**	**01 30 43.5**	**-0.7**
	1.0nm,0.2s						
ARXS				Lg	Lg	01 31 12.5	
	7.0nm,0.3s						
ARXS	**Arharly**	**2.20**	**12**	*eP*	**Pb**	**01 30 44.3**	**+0.1**
ARXS				*eS*	**Sg**	**01 31 12.7**	**-2.7**
USP	**Ospenovka**	**2.33**	**302**	⇑*iP*	**Pn**	**01 30 43.5**	**+1.0**
USP				⇑*iS*	**Sn**	**01 31 12.0**	**+1.1**
SGDS	**Sogindy**	**2.35**	**307**	Pg	**Pb**	**01 30 46.5**	**-0.2**
	0.6nm,0.1s						
SGDS				Lg	Lg	01 31 17.5	
	8.0nm,0.3s						

JMA ***26*** *01:39:52.6±0.2, 24.°1N×122.°4E±0.′4, h19km±3km,*
MV2.5/10, NW OFF ISHIGAKIJIMA IS
TAP ***26*** *01:39:53.4, 24.°15N×122.°42E, h27km, ML2.9, C*
ISC 26 01:39:53.1±0.9, 24°06N±0′02×122°42E±0′02, h29km±7km, n66, σ0§74/111, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.11**	**306**	*iP*	**Pn**	**01 39 58.1**	**-0.5**
EOS4				*iS*	**Sb**	**01 40 01.7**	**+0.5**
EOS3	**EOS3**	**0.25**	**338**	||P	**Pb**	**01 39 59.6**	**0.0**
EOS3				S	**Sb**	**01 40 04.1**	**+0.1**
EOS2	**EOS2**	**0.40**	**335**	P	**Pb**	**01 40 02.0**	**+0.2**
EOS2				S	**Sn**	**01 40 08.4**	**-0.9**
EAHA	**Aohua**	**0.68**	**294**	*eS*	**Sn**	**01 40 17.2**	**+1.0**
YOJ	**Yonaguni jima**	**0.68**	**53**	*eP*	**Pb**	**01 40 05.9**	**-0.5**
YOJ				*eS*	**Sb**	**01 40 14.6**	**-0.8**
YOJ	**Yonaguni jima**	**0.68**	**53**	||P	**Pb**	**01 40 05.9**	**-0.5**
YOJ				S	**Sb**	**01 40 14.8**	**-0.6**
EWUT	**Wuta**	**0.70**	**304**	*eP*	**Pb**	**01 40 06.3**	**-0.5**
EWUT				S	**Sb**	**01 40 15.9**	**-0.2**
ENA	**Nanau**	**0.72**	**301**	*eP*	**Pb**	**01 40 06.7**	**-0.4**
ENA				*eS*	**Sb**	**01 40 16.4**	**-0.3**
ETL	**Fush Village**	**0.73**	**278**	*eS*	**Sn**	**01 40 18.0**	**+0.3**
ESAO	**Su ao**	**0.74**	**315**	*eS*	**Sb**	**01 40 16.1**	**-1.0**
TWC	**Suao**	**0.76**	**317**	P	**Pb**	**01 40 06.8**	**-0.9**
TWC				S	**Sb**	**01 40 15.7**	**-1.9**
NACB	**Ninganchiao**	**0.76**	**279**	*eP*	**Pb**	**01 40 07.3**	**-0.5**
NACB				*eS*	**Sb**	**01 40 18.1**	**+0.3**
ETM	**Tongmen**	**0.85**	**264**	*eP*	**Pb**	**01 40 08.3**	**-1.0**
ETM				*eS*	**Sb**	**01 40 19.9**	**-0.5**
ETLH	**Xiulin Townshi**	**0.87**	**280**	*eP*	**Pb**	**01 40 09.4**	**-0.3**
ETLH				*eS*	**Sb**	**01 40 20.9**	**-0.1**
EGS		**0.90**	**331**	*eP*	**Pb**	**01 40 09.8**	**-0.3**
EGS				*eS*	**Sn**	**01 40 22.2**	**+0.3**
LXIB	**Xiulin Townshi**	**0.92**	**268**	P	**Pb**	**01 40 09.7**	**-0.8**
LXIB				S	**Sb**	**01 40 21.2**	**-1.2**
LATG	**Datong**	**0.94**	**301**	*eP*	**Pb**	**01 40 10.7**	**-0.2**
TWE	**Neicheng**	**0.95**	**314**	*eP*	**Pb**	**01 40 10.6**	**-0.4**
TWE				*eS*	**Sn**	**01 40 23.7**	**+0.6**
ENTT	**Nioudou**	**0.97**	**307**	*eP*	**Pn**	**01 40 11.2**	**+0.4**
ENTT				*eS*	**Sn**	**01 40 24.1**	**+0.5**
WARBT	**Fenglin Townsh**	**1.00**	**251**	*eP*	**Pn**	**01 40 10.4**	**-0.8**
NNSB	**Datong**	**1.01**	**292**	P	**Pb**	**01 40 11.7**	**-0.4**
NNSB				S	**Sb**	**01 40 24.9**	**-0.2**
TWB1	**Santiao Chiao**	**1.03**	**338**	*eP*	**Pn**	**01 40 11.4**	**-0.1**
TWB1				*eS*	**Sb**	**01 40 23.9**	**-1.5**
NNS	**Nan Shan**	**1.03**	**292**	P	**Pn**	**01 40 11.7**	**+0.1**
NNS				S	**Sb**	**01 40 24.9**	**-0.6**
FUSB	**Fushanzhiwuyua**	**1.03**	**313**	P	**Pb**	**01 40 12.2**	**-0.1**
FUSB				S	**Sn**	**01 40 25.4**	**+0.3**
WHF	**Hehuan Shan**	**1.06**	**275**	*eP*	**Pn**	**01 40 12.2**	**-0.1**
TIPB	**Shuangxi**	**1.06**	**330**	*eP*	**Pn**	**01 40 12.2**	**+0.2**
TIPB				*eS*	**Sb**	**01 40 25.0**	**-1.4**
HGSD	**Ruisui**	**1.07**	**239**	*eP*	**Pn**	**01 40 11.5**	**-0.6**
FUSS	**Fushou**	**1.09**	**280**	*eP*	**Pn**	**01 40 13.0**	**+0.4**
FUSS				*eS*	**Sn**	**01 40 27.7**	**+0.9**
NWLT	**Wulai**	**1.10**	**311**	P	**Pb**	**01 40 13.9**	**+0.4**
NWLT				S	**Sn**	**01 40 27.3**	**+0.5**
YHNB	**Yeheng**	**1.13**	**303**	*eP*	**Pn**	**01 40 13.5**	**+0.5**
YHNB				*eS*	**Sb**	**01 40 27.9**	**-0.5**
EHYH	**Wanrong**	**1.13**	**241**	*eP*	**Pn**	**01 40 13.3**	**+0.4**
EHYH				*eS*	**Sb**	**01 40 28.1**	**-0.2**
OWD	**Renai**	**1.14**	**265**	*eP*	**Pn**	**01 40 13.3**	**+0.1**
OWD				*eS*	**Sb**	**01 40 28.2**	**-0.5**
EHY	**Hungye**	**1.14**	**242**	*eP*	**Pn**	**01 40 13.3**	**+0.2**
NSK	**Sanguang**	**1.15**	**303**	*eP*	**Pn**	**01 40 13.6**	**+0.4**
NSK				*eS*	**Sb**	**01 40 28.4**	**-0.5**
SXI1	**Grass Mountain**	**1.15**	**335**	P	**Pn**	**01 40 13.0**	**-0.2**
SXI1				S	**Sb**	**01 40 27.7**	**-1.2**
TWT	**Tachien**	**1.15**	**280**	*eS*	**Sn**	**01 40 29.4**	**+1.1**
WFSB	**Wu-fen Shan**	**1.17**	**330**	*eS*	**Sn**	**01 40 29.0**	**+0.7**
WUSB	**Renai**	**1.19**	**267**	*eP*	**Pn**	**01 40 14.3**	**+0.4**
TWA	**Mucha**	**1.19**	**321**	*eP*	**Pb**	**01 40 15.6**	**+0.5**
TWA				*eS*	**Sb**	**01 40 29.9**	**-0.2**
VWDT	**VWDT**	**1.21**	**256**	*eP*	**Pn**	**01 40 13.8**	**-0.1**
YULB	**Yu-li**	**1.22**	**237**	*eP*	**Pn**	**01 40 13.9**	**-0.2**
YULB				*eS*	**Sn**	**01 40 29.4**	**-0.3**
IRIF	**Iriomote-Funau**	**1.23**	**77**	*eP*	**Pb**	**01 40 15.3**	**-0.4**
IRIF				*eS*	**Sb**	**01 40 31.0**	**-0.2**
TWF1	**Yuli**	**1.24**	**236**	*eP*	**Pn**	**01 40 14.4**	**0.0**
HATJ	**Hateruma jima**	**1.27**	**90**	*eS*	**Sb**	**01 40 32.4**	**+0.2**
NFF	**Wufeng Townshi**	**1.32**	**296**	*eP*	**Pb**	**01 40 17.3**	**+0.1**
NFF				*eS*	**Sb**	**01 40 34.1**	**+0.4**
YM01	**YM01**	**1.33**	**325**	*eP*	**Pb**	**01 40 17.1**	**-0.3**
YM01				*eS*	**Sn**	**01 40 32.9**	**+0.3**
FULB	**Fuli**	**1.34**	**231**	*eP*	**Pn**	**01 40 15.3**	**-0.5**
WHP	**Taichung City**	**1.36**	**280**	*eP*	**Pb**	**01 40 18.3**	**+0.3**
WHP				*eS*	**Sb**	**01 40 35.2**	**+0.2**
SSLB	**Suanglung**	**1.36**	**259**	*eP*	**Pn**	**01 40 17.1**	**+0.9**
SSLB				*eS*	**Sb**	**01 40 35.2**	**+0.2**
WCS	**Beigang Elemen**	**1.38**	**270**	*eP*	**Pb**	**01 40 17.8**	**-0.3**
SMLT	**Sun Moon Lake**	**1.40**	**263**	*eP*	**Pn**	**01 40 17.3**	**+0.6**
LIOB	**Emei**	**1.41**	**295**	*eP*	**Pn**	**01 40 17.6**	**+0.8**
LIOB				*eS*	**Sb**	**01 40 36.1**	**-0.2**
NSTT	**Nanjuang**	**1.41**	**294**	*eS*	**Sn**	**01 40 35.3**	**+0.8**
EHD	**Haiduan**	**1.43**	**231**	*eP*	**Pn**	**01 40 16.6**	**-0.4**
EHD				*eS*	**Sn**	**01 40 34.6**	**-0.4**
TYC	**Yuchr**	**1.44**	**264**	*eP*	**Pn**	**01 40 17.9**	**+0.8**
TYC				*eS*	**Sb**	**01 40 36.8**	**-0.3**
JKRS	**Kuro-shima**	**1.47**	**83**	*eP*	**Pb**	**01 40 20.3**	**+0.6**
JKRS				*eS*	**Sb**	**01 40 38.1**	**+0.2**
WHYT	**Xinyi Township**	**1.48**	**256**	*eP*	**Pn**	**01 40 18.4**	**+0.6**
WHYT				*eS*	**Sb**	**01 40 41.7**	**+3.5**
ALS	**Alishan**	**1.57**	**250**	*eP*	**Pn**	**01 40 20.3**	**+1.0**
PCYT	**Pengchaiyu**	**1.60**	**349**	*eP*	**Pn**	**01 40 19.2**	**-0.1**
JIJ	**Ishigaki jima**	**1.60**	**79**	*eP*	**Pn**	**01 40 20.2**	**+0.7**
JIJ				*eS*	**Sn**	**01 40 39.7**	**+0.5**
LDUT	**Ludao**	**1.63**	**213**	*eP*	**Pn**	**01 40 19.0**	**-0.7**
LDUT				*eS*	**Sn**	**01 40 38.1**	**-1.7**
LONT	**Longtian**	**1.65**	**226**	*eP*	**Pn**	**01 40 19.6**	**-0.4**
CHN5	**Tsauling**	**1.66**	**254**	*eP*	**Pb**	**01 40 22.1**	**-0.8**
CHN5				*eS*	**Sb**	**01 40 43.7**	**+0.2**
TPUB	**Ta-pu**	**1.80**	**246**	*eP*	**Pn**	**01 40 24.0**	**+1.8**
TPUB				*eS*	**Sb**	**01 40 47.1**	**-0.6**
CHN1	**Nanshi**	**1.94**	**244**	*eP*	**Pn**	**01 40 26.2**	**+2.1**
CHN1				*eS*	**Sb**	**01 40 51.1**	**-0.3**
MASBT	**Mashibuluo**	**2.18**	**229**	*eP*	**Pb**	**01 40 31.4**	**-0.4**
MASBT				S	**Sb**	**01 40 58.4**	**0.0**

NEIC ***26*** *01:42:08.5±1.6, 35.°64N±0.′02×117.°43W±0.′02, h10km±2km,*
Error ellipse: s-maj=3.3km s-min=3.1km az=190.0
PAS 26 01:42:09.2±1.0, 35°65N±0′02×117°45W±0′02, h10km±8km, ML3.1/92, ML2.8/120(NEIC), Error ellipse: s-maj=3.1km s-min=2.5km az=190.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.06**	**215**		Pg	01 42 11.3	0.0
CCCA	**Chr Cany lake**	**0.14**	**149**		Pg	01 42 12.7	+0.3
CLC	**China Lake**	**0.21**	**325**		Pg	01 42 13.4	-0.1
CLC				IAML		01 42 16.9	
	comp=N,5μm,0.3s						
CLC	**China Lake**	**0.21**	**325**		Sg	01 42 16.7	+0.1
SRTC	**Snort**	**0.24**	**281**		Pg	01 42 14.4	+0.2
SRTC					Sg	01 42 18.3	+0.7
LRMC	**Laurel Mtn Rad**	**0.25**	**228**		Pg	01 42 14.1	-0.3
LRMC				IAML		01 42 18.7	
	comp=N,4μm,0.3s						
TOW	**Tower One**	**0.30**	**303**		Pg	01 42 15.4	+0.2
TOW					Sb	01 42 20.8	-1.0
MPMC	**Manual Prospec**	**0.41**	**356**		Sg	01 42 22.8	-0.1
MPMC	**Manual Prospec**	**0.41**	**356**	IAML		01 42 23.4	
	comp=N,570nm,0.6s						
MPMC				IAML		01 42 24.6	
	comp=E,505nm,0.3s						
WNMM	**Nine Mile Cany**	**0.42**	**298**		Pg	01 42 17.2	-0.2
WNMM					Sg	01 42 23.1	+0.2
WVPM	**Volcano Peak E**	**0.42**	**316**		Pg	01 42 17.2	-0.4
WVPM					Sg	01 42 23.6	+0.4
JRC2	**Joshua Ridge**	**0.44**	**319**		Pg	01 42 17.7	-0.2
JRC2					Sg	01 42 24.3	+0.5
WCSM	**Coso Springs S**	**0.46**	**326**		Pg	01 42 17.7	-0.4
WCSM					Sg	01 42 24.0	-0.2
DTP	**Desert Tortois**	**0.49**	**220**		Pg	01 42 18.2	-0.6
DTP					Sg	01 42 25.1	-0.2
WRVM	**Rose V. Centra**	**0.51**	**316**		Pg	01 42 18.7	-0.4
WRVM					Sg	01 42 25.9	+0.1
QSM	**Queen of Sheba**	**0.57**	**56**		Pg	01 42 20.0	-0.3
QSM	**Queen of Sheba**	**0.57**	**56**		Sg	01 42 27.8	-0.1
MFS	**McCloud Flat S**	**0.57**	**325**		Pg	01 42 20.0	-0.4
MFS					Sg	01 42 28.0	0.0
GSC	**Goldstone, Bar**	**0.63**	**123**		Pg	01 42 20.9	-0.5
GSC				IAML		01 42 32.8	
	comp=N,598nm,0.2s						
GSC				IAML		01 42 33.2	
	comp=E,777nm,0.2s						
GSC	**Goldstone, Bar**	**0.63**	**123**		Sg	01 42 29.3	-0.4
WORM	**Onyx Ranch**	**0.65**	**275**		Pg	01 42 21.1	-0.6
WORM					Sg	01 42 29.5	-0.7
CCAC	**Calif City Air**	**0.67**	**223**		Pg	01 42 21.7	-0.6
CCAC					Sg	01 42 31.1	0.0
WHFM	**Hanning Flat**	**0.73**	**274**		Pg	01 42 22.6	-0.7
WHFM					Sg	01 42 32.2	-0.7
HYS	**Haystack Butte**	**0.79**	**187**		Pg	01 42 23.6	-0.8
HYS					Sg	01 42 34.2	-0.4
ISA	**Isabella, Lake**	**0.83**	**271**		Pg	01 42 24.4	-0.8
ISA				IAML		01 42 38.3	
	comp=E,339nm,0.5s						
ISA	**Isabella, Lake**	**0.83**	**271**		Sg	01 42 35.4	-0.7
GWY	**Greenwater Val**	**0.83**	**50**		Pg	01 42 24.7	-0.6
GWY				IAML		01 42 38.7	
	comp=N,724nm,0.4s						
GWY				IAML		01 42 38.9	
	comp=E,699nm,0.4s						
GWY	**Greenwater Val**	**0.83**	**50**		Sg	01 42 35.7	-0.5
RRX	**Edison Barstow**	**0.85**	**154**		Sg	01 42 36.2	-0.6
EDW2	**Edwards Air Fo**	**0.88**	**210**		Sg	01 42 25.4	-0.8
EDW2					Sg	01 42 36.8	-0.9
WASM	**Alta Sierra Ca**	**0.90**	**276**		Pg	01 42 25.8	-0.8
WASM					Sg	01 42 37.7	-0.7
CWC	**Cottonwood Cre**	**0.94**	**328**		Pg	01 42 27.2	-0.1
CWC				IAML		01 42 40.4	
	comp=N,166nm,0.2s						
CWC				IAML		01 42 42.2	
	comp=E,151nm,0.2s						
CWC	**Cottonwood Cre**	**0.94**	**328**		Sg	01 42 39.3	-0.3
CGO	**Cerro Gordo**	**0.95**	**343**		Pg	01 42 26.6	-0.9
CGO					Sg	01 42 39.1	-0.7
FURC	**Furnace Creek,**	**0.95**	**30**		Pg	01 42 27.2	-0.3
FURC					Sg	01 42 40.1	+0.3
FURC	**Furnace Creek,**	**0.95**	**30**	IAML		01 42 40.6	
	comp=E,520nm,0.6s						
FURC				IAML		01 42 43.3	
	comp=N,290nm,0.8s						
SHOC	**Shoshone, Teco**	**0.99**	**75**		Pg	01 42 27.6	-0.6
SHOC					Sg	01 42 41.1	-0.1
TPO	**Tropico Hills**	**0.99**	**220**	IAML		01 42 43.1	
	comp=E,531nm,0.6s						
TPO				IAML		01 42 43.5	
	comp=N,438nm,0.6s						
SBB	**Saddle Back Bu**	**1.00**	**198**		Pg	01 42 27.5	-1.0
DSCC	**Desert Studies**	**1.21**	**114**		Pn	01 42 31.1	-1.1
TUQ	**Turquoise Moun**	**1.27**	**99**		Pn	01 42 31.8	-1.3
WCT	**Wildcat Mounta**	**1.33**	**30**		Pn	01 42 32.8	-1.0
VES	**Vestal, Richgr**	**1.34**	**279**	IAML		01 42 54.6	
	comp=E,175nm,0.7s						
VES				IAML		01 42 56.3	

	comp=N,214nm,0.7s							
GRAC	**Grapevine Rang**	**1.35**	**3**		Pn	01 42 33.6	-0.5	
GRAC				IAML		01 42 56.4		
	comp=E,137nm,0.3s							
GRAC				IAML		01 42 59.1		
	comp=N,142nm,0.9s							
MWC	**Mount Wilson**	**1.50**	**199**		Pn	01 42 35.4	-1.0	
MWC				IAML		01 42 58.5		
	comp=E,126nm,0.6s							
MWC				IAML		01 42 58.9		
	comp=N,158nm,0.6s							
TPNV	**Topopah Spring**	**1.62**	**36**		Pn	01 42 37.1	-0.9	
TPNV				IAML		01 43 03.2		
	comp=N,85nm,0.5s							
TPNV				IAML		01 43 08.3		
	comp=N,68nm,0.6s							
DSP	**Deep Springs**	**1.77**	**347**		Pn	01 42 39.2	-0.6	
POB	**Polly Butte**	**2.00**	**167**		Pn	01 42 42.5	-0.6	
BELC	**Belle Mtn. Jos**	**2.03**	**143**		Pn	01 42 42.4	-1.2	
BELC				IAML		01 43 14.8		
	comp=N,70nm,0.5s							
BELC				IAML		01 43 20.9		
	comp=E,77nm,0.6s							
SHPR	**Sheep Range**	**2.05**	**65**		Pn	01 42 43.2	-0.7	
MZP	**Montezuma Peak**	**2.05**	**2**		Pn	01 42 43.6	-0.4	
V12A	**Nelson**	**2.12**	**87**		Pn	01 42 43.4	-1.4	
V12A				IAML		01 43 19.0		
	comp=N,32nm,0.5s							
V12A				IAML		01 43 19.6		
	comp=E,36nm,0.5s							
PMD	**Palm Desert**	**2.18**	**156**		Pn	01 42 44.1	-1.4	
PMD				IAML		01 43 26.8		
	comp=E,39nm,0.5s							
PFO	**Pinyon Flats O**	**2.19**	**158**		Pn	01 42 44.5	-1.2	
PFO				IAML		01 43 21.0		
	comp=E,31nm,0.8s							
NEE2	**Needles Airpor**	**2.48**	**110**		Pn	01 42 49.4	-0.2	
NEE2				IAML		01 43 30.3		
	comp=N,80nm,0.2s							
NEE2				IAML		01 43 34.1		
	comp=E,76nm,0.5s							
DPP	**Dos Picos Cty**	**2.67**	**171**		Pn	01 42 51.6	-0.8	
DPP				IAML		01 43 33.3		
	comp=E,36nm,0.4s							
DPP				IAML		01 43 37.6		
	comp=N,32nm,0.1s							
NV11	**Mina Array Sit**	**2.84**	**349**		Pn	01 42 54.5	-0.2	
W13A	**Hualapai Mount**	**2.97**	**100**		Pn	01 42 55.4	-1.2	
BLYC	**Blythe**	**3.07**	**127**	IAML		01 43 47.2		
	comp=E,30nm,0.6s							
BLYC				IAML		01 43 51.0		
	comp=N,29nm,0.5s							
CMB	**Columbia Colle**	**3.35**	**316**	IAML		01 44 00.1		
	comp=N,12nm,0.7s							
CMB				IAML		01 44 00.1		
	comp=E,10nm,0.8s							
CBX	**Cerro Bola**	**3.39**	**169**	IAML		01 43 59.6		
	comp=N,48nm,0.6s							
KNB	**Kanab**	**3.98**	**69**	IAML		01 44 25.1		
	comp=N,6.8nm,2.9s							
Y14A	**Wickenburg**	**4.04**	**114**	IAML		01 44 19.6		
	comp=E,14nm,0.4s							
Y14A				IAML		01 44 21.7		
	comp=N,14nm,0.7s							
PSUT	**Pine Spring**	**4.07**	**44**	IAML		01 44 25.1		
	comp=E,7.6nm,0.9s							
PSUT				IAML		01 44 28.3		
	comp=N,6.9nm,0.7s							
U15A	**North Rim**	**4.25**	**78**	IAML		01 44 24.0		
	comp=N,6.8nm,2.4s							
U15A				IAML		01 44 27.1		
	comp=E,10.0nm,1.0s							
PKCU	**Pink Cliffs**	**4.51**	**65**	IAML		01 45 09.5		
	comp=E,14nm,3.5s							
PKCU				IAML		01 45 18.4		
	comp=N,12nm,3.7s							
WUAZ	**Wupatki**	**4.96**	**90**	IAML		01 44 45.8		
	comp=N,5.9nm,0.6s							
WUAZ				IAML		01 44 48.0		
	comp=N,6.2nm,1.1s							
X16A	**Lo Mia Camp, P**	**5.08**	**102**	IAML		01 44 57.6		
	comp=E,3.1nm,1.0s							
X16A				IAML		01 45 30.6		
	comp=N,4.5nm,4.0s							

IDC 26 01:53:41.4±4.1, 6°01S×132°27E, h0km, mb3.4/1, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=253.4km s-min=33.5km az=74.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.00**	**172**

comp=E,477nm,18.0s,baz=237,slow=43
comp=E,6.8nm,0.3s

LPAZ	**La Paz**	**3.62**	**53**	*eP*		**Pn**	**01 57 46.9**	**+0.7**
PB09	**IPOC Station P**	**3.71**	**152**			**Pn**	**01 57 47.7**	**+0.7**
PB09	**IPOC Station P**	**3.71**	**152**	⇑*iP*		**Pn**	**01 57 47.6**	**+0.7**
PB03	**IPOC Station P**	**3.74**	**160**			**Pn**	**01 57 46.8**	**-0.6**
PB03	**IPOC Station P**	**3.74**	**160**	⇑*iP*		**Pn**	**01 57 46.8**	**-0.6**
PB05	**IPOC Station P**	**4.40**	**169**			**Pn**	**01 57 54.5**	**-1.9**
PB05	**IPOC Station P**	**4.40**	**169**	⇑*iP*		**Pn**	**01 57 54.4**	**-1.9**
PB06	**IPOC Station P**	**4.41**	**161**			**Pn**	**01 57 55.4**	**-1.2**
PB06	**IPOC Station P**	**4.41**	**161**	⇑*iP*		**Pn**	**01 57 55.4**	**-1.2**
PB10	**IPOC Station P**	**5.00**	**174**	⇑*iP*		**Pn**	**01 58 02.1**	**-2.4**
PB14	**IPOC Station P**	**6.12**	**174**			**Pn**	**01 58 17.3**	**-2.8**
GO02	**Mina Guanaco**	**6.76**	**168**			**Pn**	**01 58 27.2**	**-1.8**
AC02	**Maricunga**	**8.48**	**168**			**Pn**	**01 58 51.4**	**-1.3**
SIV	**San Ignacio**	**9.93**	**77**	P		**Pn**	**01 59 12.6**	**+0.3**

comp=E,0.1nm,0.3s,baz=267,slow=9.6,SNR=27

SIV				LR		LR	02 03 34.1	

comp=E,397nm,18.2s,baz=294,slow=41
comp=E,5.5nm,0.3s

BBSD	**Serra de San D**	**10.11**	**84**	*eP*		**Pn**	**01 59 14.9**	**+0.3**
PTLB	**Pontes e Lacer**	**11.87**	**77**			**Pn**	**01 59 40.1**	**+1.2**
PTLB	**Pontes e Lacer**	**11.87**	**77**	*eP*		**Pn**	**01 59 40.3**	**+1.5**
VILB	**Vilhena**	**11.89**	**64**			**Pn**	**01 59 39.9**	**+0.8**
VILB	**Vilhena**	**11.89**	**64**	*eP*		**Pn**	**01 59 39.7**	**+0.7**
ATAH	**Atahualpa**	**13.34**	**327**	LR		LR	02 05 37.1	

comp=E,148nm,21.3s,baz=163,slow=39

BDQN	**Bodoquena, MS**	**13.70**	**100**	*eP*		**Pn**	**02 00 04.7**	**+1.0**
MT08	**Bocatoma Ro**	**14.90**	**176**	P		**Pn**	**02 00 21.9**	**+1.7**
CPUP	**Villa Florida**	**14.94**	**124**	LR		LR	02 06 53.4	

comp=E,17nm,19.0s,baz=174,slow=40

SALV	**Santo Antonio**	**14.98**	**82**	*eP*		**Pn**	**02 00 22.4**	**+1.2**
PDRB	**Porto dos Gac**	**15.50**	**66**	*eP*		**Pn**	**02 00 28.8**	**+0.7**
BO02	**Sierra Bellavi**	**16.21**	**179**	P		**P**	**02 00 41.5**	**+1.5**
TEFE	**Tefe**	**16.22**	**24**	*eP*		**Pn**	**02 00 37.9**	**+0.7**
H03N1	**Juan Fernandez**	**16.41**	**204**	T		T	02 17 47.0	

baz=28,slow=72,SNR=54

H03N2	**Juan Fernandez**	**16.42**	**204**	T		T	02 17 48.1	

baz=28,slow=72,SNR=137

H03N3	**Juan Fernandez**	**16.43**	**204**	T		T	02 17 42.5	

baz=28,slow=72,SNR=76

CLDB	**Colider**	**16.66**	**65**	*eP*		**Pn**	**02 00 43.7**	**+0.9**
MACA	**Manacapuru-AM**	**18.37**	**35**	P		**P**	**02 01 03.1**	**-0.7**
MACA				IAmb		IAmb	02 01 03.7	

comp=Z,25nm,0.7s

MACA	**Manacapuru-AM**	**18.37**	**35**	*eP*		**P**	**02 01 02.7**	**-1.2**
LDASE	**Londrina, Braz**	**19.30**	**108**	*eP*		**P**	**02 01 14.9**	**+0.8**
ITAB	**Concordia**	**19.52**	**120**	*eP*		**P**	**02 01 16.1**	**-0.3**
CPSB	**Cacapava Do Su**	**19.95**	**130**	*eP*		**P**	**02 01 19.6**	**-1.5**
OTAV	**Otavalo**	**19.98**	**338**	*eP*		**P**	**02 01 20.5**	**-1.4**
PLTB	**Pedras Altas**	**20.59**	**133**	*eP*		**P**	**02 01 27.2**	**-0.8**
FRTB	**Fartura**	**20.70**	**107**	*eP*		**P**	**02 01 30.5**	**+1.2**
TRQA	**Tornquist**	**21.05**	**160**	P		**P**	**02 01 32.8**	**0.0**
TRQA				IAmb		IAmb	02 01 33.9	

comp=Z,6.8nm,0.7s

BB19B	**Bebedouro**	**21.42**	**101**	*eP*		**P**	**02 01 38.3**	**+1.3**
PLCA	**Paso Flores**	**22.14**	**179**	P		**P**	**02 01 45.0**	**+0.3**
PLCA				IAmb		IAmb	02 01 48.0	

comp=Z,11nm,0.8s

PLCA	**Paso Flores**	**22.14**	**179**	P		**P**	**02 01 45.4**	**+0.7**

comp=Z,11nm,0.9s,baz=349,slow=10,SNR=19
comp=Z,11nm,0.9s

PLCA	**Paso Flores**	**22.14**	**179**	*eP*		**P**	**02 01 44.8**	**+0.1**
BDFB	**Brasilia**	**22.28**	**86**	P		**P**	**02 01 44.9**	**-1.5**
BDFB	**Brasilia**	**22.28**	**86**	P		**P**	**02 01 44.9**	**-1.5**

comp=Z,2.8nm,0.7s,baz=269,slow=12,SNR=5.5

BDFB				LR		LR	02 11 14.7	

comp=Z,52nm,20.7s,baz=39,slow=39
comp=Z,2.8nm,0.7s

RUSC	**La Rusia**	**24.33**	**355**	P		**P**	**02 02 07.5**	**+0.3**
RUSC				IAmb		IAmb	02 02 45.2	

comp=Z,8.1nm,1.0s

MDP	**Montagnes des**	**29.72**	**40**	LR		LR	02 15 25.0	

comp=Z,114nm,18.5s,baz=212,slow=38

JTS	**Las Juntas de**	**31.71**	**333**	LR		LR	02 14 29.1	

comp=Z,66nm,18.6s,baz=154,slow=33

CMIG	**Matias Romero**	**42.41**	**325**	LR		LR	02 21 34.7	

comp=Z,35nm,19.8s,baz=172,slow=35

G62A	**West of Eustis**	**63.43**	**0**	P		**P**	**02 07 18.8**	**+0.8**
D62A	**Allapoint, All**	**65.32**	**2**	P		**P**	**02 07 31.3**	**+1.0**
D62A				IAmb		IAmb	02 07 32.1	

comp=Z,5.4nm,1.1s

SNAA	**Sanae**	**65.76**	**161**	P		**P**	**02 07 33.7**	**+0.6**
SNAA				IAmb		IAmb	02 07 34.6	

comp=Z,4.2nm,0.8s

SNAA	**Sanae**	**65.76**	**161**	P		**P**	**02 07 33.9**	**+0.9**

comp=Z,3.5nm,0.8s,baz=269,slow=7.5,SNR=16
comp=Z,3.5nm,0.8s

LDAQ	**Lac Daran**	**66.18**	**360**	P		**P**	**02 07 36.7**	**+0.8**
LDAQ				IAmb		IAmb	02 07 37.4	

comp=Z,4.0nm,0.8s

Q09A	**Carvers**	**71.51**	**324**	P		**P**	**02 08 09.2**	**-0.2**
ESDC	**Sonseca Array**	**85.22**	**46**	P		**P**	**02 09 25.1**	**+0.1**

comp=Z,1.0nm,0.9s,baz=252,slow=4.5,SNR=6.0
comp=Z,1.0nm,0.9s

YKA	**Yellowknife Ar**	**87.70**	**341**	P		**P**	**02 09 36.5**	**-0.1**

comp=Z,1.3nm,0.9s,baz=129,slow=5.4,SNR=4.8
comp=Z,1.3nm,0.9s

H11S2	**WAKE ISLAND Hyl**	**25.37**	**280**	T		T	04 33 37.5	

baz=100,slow=74

H11S1	**WAKE ISLAND Hyl**	**25.38**	**280**	T		T	04 33 36.2	

baz=100,slow=74

H11N3	**WAKE ISLAND Hyl**	**25.38**	**281**	T		T	04 33 37.2	

baz=96,slow=74

H11S3	**WAKE ISLAND Hyl**	**25.39**	**280**	T		T	04 33 35.6	

baz=100,slow=74

H11N2	**WAKE ISLAND Hyl**	**25.40**	**281**	T		T	04 33 38.1	

baz=96,slow=74

H11N1	**WAKE ISLAND Hyl**	**25.40**	**281**	T		T	04 33 36.9	

baz=96,slow=74

MKAR	**Makanchi Array**	**144.33**	**32**	PKP		**PKPab**	**02 16 23.0**	**+0.5**

comp=Z,1.5nm,0.8s,baz=327,slow=4.4,SNR=8.2

MJAR	**Matsushiro Arr**	**148.57**	**311**	PKPbc		**PKPbc**	**02 16 36.2**	**+0.7**

comp=Z,1.1nm,0.7s,baz=74,slow=6.2,SNR=4.1

SONM	**Songino Array**	**150.69**	**3**	PKPbc		**PKPbc**	**02 16 40.4**	**-0.2**

comp=Z,1.2nm,0.9s,baz=260,slow=1.4,SNR=5.1

*CNRM **26** 01:57:52.0, 35˚.75N×4˚.87W, h97km, ML1.1*
*MDD **26** 01:57:54.8±0.9, 35˚.95N×4˚.63W, h93km±7km, Mb2.5/11, Error ellipse: s-maj=7.6km s-min=3.4km az=163.0*
*INMG **26** 01:57:55.5±1.7, 36˚.00N×4˚.67W, h82km±5km, ML2.1, Error ellipse: s-maj=5.5km s-min=3.2km az=119.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Alboran*
*IGIL **26** 01:57:55.5, 35˚.95N×4˚.63W, h38km, ML1.8*
*SFS **26** 01:57:55.0, 35˚.95N×4˚.60W, h87km, ML2.2/12, MLv2.2/12*

ISC 26 01:57:51.5±1.2, 35˚.86N±0˚.03×4˚.64W±0˚.03, h104km±7km, n66, σ1s72/93, 8C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ECEU	**Ceuta**	**0.60**	**274**			Pn	**Pn**	**01 58 11.5**	**+3.1**
SMIR	**Smir Dam**	**0.63**	**254**			P	**Pn**	**01 58 07.3**	**-1.4**
SMIR	**Smir Dam**	**0.63**	**254**			S	**Sn**	**01 58 19.0**	**-2.5**
EMIJ	**Mijas**	**0.71**	**351**			Pn	**Pn**	**01 58 09.8**	**+0.4**
EMIJ						Sn	**Sn**	**01 58 20.9**	**-1.8**
EMIJ	**Mijas**	**0.71**	**351**			P	**Pn**	**01 58 09.8**	**+0.4**
EMIJ						S	**Sn**	**01 58 21.0**	**-1.8**
PALE	**Palemas**	**0.86**	**138**			P	**Pn**	**01 58 11.5**	**+0.8**
PALE	**Palemas**	**0.86**	**138**			S	**Sn**	**01 58 26.2**	**+0.9**
EJIF	**Jimena Fronter**	**0.89**	**311**			P	**Pn**	**01 58 13.8**	**+2.8**
EJIF						S	**Sn**	**01 58 25.7**	**-0.1**
EMAL	**Malaga-Limoner**	**0.91**	**11**			Pn	**Pn**	**01 58 12.2**	**+1.0**
EMAL						Sn	**Sn**	**01 58 25.1**	**-1.0**
ELGU	**Los Guajares,**	**1.29**	**39**			Pn	**Pn**	**01 58 16.1**	**+0.5**
ELGU						Sn	**Sn**	**01 58 31.4**	**-2.4**
ELGU	**Los Guajares,**	**1.29**	**39**			P	**Pn**	**01 58 16.2**	**+0.7**
ELGU				⇑*i*IVmb_VC				01 58 16.6	

133nm,SNR=2.0

ELGU				S		**Sn**	**01 58 32.2**	**-1.5**
ESPR	**Espera**	**1.40**	**316**	Sn		**Sn**	**01 58 35.4**	**-0.6**
ESPR	**Espera**	**1.40**	**316**	S		**Sn**	**01 58 37.3**	**+1.4**
GOG	**Mont Gurugu**	**1.48**	**115**	P		**Pn**	**01 58 19.3**	**+1.5**
GOG	**Mont Gurugu**	**1.48**	**115**	S		**Sn**	**01 58 40.8**	**+3.0**
AKLM	**AKL**	**1.49**	**155**	P		**Pn**	**01 58 16.9**	**-1.0**
AKLM	**AKL**	**1.49**	**155**	S		**Sn**	**01 58 35.3**	**-2.7**
TAF	**Taforalt**	**2.10**	**119**	P		**Pn**	**01 58 27.1**	**+1.6**
TAF	**Taforalt**	**2.10**	**119**	S		**Sn**	**01 58 55.2**	**+3.7**
LCRM	**LCR**	**2.18**	**185**	P		**Pn**	**01 58 27.1**	**+0.4**
LCRM	**LCR**	**2.18**	**185**	S		**Sn**	**01 58 54.0**	**+0.5**
E0803	**Jimena (Jaen)**	**2.18**	**25**	P		**Pn**	**01 58 23.1**	**-3.5**
E0803				S		**Sn**	**01 58 51.9**	**-1.5**
ECAB	**El Cabril**	**2.29**	**344**	Pn		**Pn**	**01 58 29.5**	**+1.4**

ECAB				Sn		**Sn**	**01 58 54.8**	**-1.2**
ECAB	**El Cabril**	**2.29**	**344**	P		**Pn**	**01 58 29.5**	**+1.4**
ECAB				⇑*i*IVmb_VC			01 58 29.6	

109nm,SNR=1.9

ECAB				S		**Sn**	**01 58 54.8**	**-1.2**
EADA	**Adamuz**	**2.30**	**1**	Pn		**Pn**	**01 58 30.1**	**+2.0**
EADA				Sn		**Sn**	**01 58 55.5**	**-0.6**
EADA	**Adamuz**	**2.30**	**1**	P		**Pn**	**01 58 29.9**	**+1.8**
EADA				⇑*i*IVmb_VC			01 58 30.4	

189nm,SNR=2.9

EADA				S		**Sn**	**01 58 55.2**	**-1.0**
EQES	**Quesada**	**2.31**	**33**	S		**Sn**	**01 58 54.8**	**-1.7**
EMIN	**Mina Concepcio**	**2.50**	**320**	Pn		**Pn**	**01 58 32.3**	**+1.5**
EMIN	**Mina Concepcio**	**2.50**	**320**	P		**Pn**	**01 58 32.2**	**+1.5**
EMIN				⇑*i*IVmb_VC			01 58 33.0	

180nm,SNR=2.3

EMIN				S		**Sn**	**01 58 59.6**	**-1.3**
EGRO	**El Granado**	**2.83**	**307**	Pn		**Pn**	**01 58 36.6**	**+1.6**
EGRO	**El Granado**	**2.83**	**307**	P		**Pn**	**01 58 36.6**	**+1.6**
EGRO				⇑*i*IVmb_VC			01 58 37.2	

405nm,SNR=3.7

EGRO				S		**Sn**	**01 59 07.2**	**-1.3**
PVAQ	**Vaqueiros**	**2.91**	**303**	Pn		**Pn**	**01 58 38.1**	**+2.0**
PVAQ	**Vaqueiros**	**2.91**	**303**	*eP*		**Pn**	**01 58 38.1**	**+2.0**
PVAQ				*eS*		**Sn**	**01 59 09.3**	**-1.2**
PVAQ				*i* IAML			01 59 09.8	
PVAQ				*i* IAML			01 59 10.0	
PVAQ				*i* IAML			01 59 11.2	
PVAQ	**Vaqueiros**	**2.91**	**303**	P		**Pn**	**01 58 35.4**	**-0.7**
PVAQ	**Vaqueiros**	**2.91**	**303**	S		**Sn**	**01 59 08.9**	**-1.6**
ZHG	**ZHG**	**2.92**	**215**	P		**Pn**	**01 58 36.8**	**+0.5**
ZHG	**ZHG**	**2.92**	**215**	S		**Sn**	**01 59 09.9**	**-0.9**
PBDV	**Barranco-do-Ve**	**2.99**	**298**	*eS*		**Sn**	**01 59 11.6**	**-0.7**
PBDV				*i* IAML			01 59 12.7	
PBDV				*i* IAML			01 59 13.5	
PBDV				*i* IAML			01 59 17.9	
MD31	**MD31**	**2.99**	**182**	P		**Pn**	**01 58 36.3**	**-0.9**
MD31	**MD31**	**2.99**	**182**	S		**Sn**	**01 59 10.7**	**-1.8**
PBAR	**Barrancos**	**3.00**	**321**	Pn		**Pn**	**01 58 39.1**	**+1.8**
PBAR	**Barrancos**	**3.00**	**321**	*eP*		**Pn**	**01 58 39.1**	**+1.8**
PBAR				*eS*		**Sn**	**01 59 11.3**	**-1.3**
PBAR				*i* IAML			01 59 13.1	
PBAR				*i* IAML			01 59 14.3	
PBAR				*i* IAML			01 59 14.6	
PSIM	**Granatula de C**	**3.04**	**13**	P		**Pn**	**01 58 39.3**	**+1.5**
PSIM				S		**Sn**	**01 59 11.6**	**-1.9**
MDT	**Midelt**	**3.04**	**179**	P		**Pn**	**01 58 37.1**	**-0.9**
MDT	**Midelt**	**3.04**	**179**	S		**Sn**	**01 59 12.5**	**-1.3**
PCVE	**Castro Verde**	**3.25**	**304**	*eP*		**Pn**	**01 58 42.5**	**+1.8**
PCVE				*eS*		**Sn**	**01 59 17.4**	**-1.2**
PCVE				*i* IAML			01 59 18.9	
PCVE				*i* IAML			01 59 19.1	
PCVE				*i* IAML			01 59 19.9	
PBEJ	**Beja**	**3.37**	**311**	*eS*		**Sn**	**01 59 20.0**	**-1.3**
PBEJ				*i* IAML			01 59 20.8	
PBEJ				*i* IAML			01 59 21.3	
PBEJ				*i* IAML			01 59 21.4	
EBAD	**Badajoz**	**3.45**	**327**	Pn		**Pn**	**01 58 45.3**	**+2.0**
EBAD	**Badajoz**	**3.45**	**327**	P		**Pn**	**01 58 45.1**	**+1.8**
EBAD				⇑*i*IVmb_VC			01 58 45.6	

173nm,SNR=2.2

EBAD				S		**Sn**	**01 59 22.4**	**-1.0**
MESJ	**Messejana**	**3.48**	**306**	*eP*		**Pn**	**01 58 45.5**	**+1.8**
MESJ				*eS*		**Sn**	**01 59 22.3**	**-1.9**
MESJ				IAML			01 59 24.3	

comp=N,2.4nm,0.1s

MESJ	**Messejana**	**3.48**	**306**	*eP*		**Pn**	**01 58 45.6**	**+1.8**
MESJ				*eS*		**Sn**	**01 59 22.3**	**-1.9**
MESJ				*i* IAML			01 59 23.3	
MESJ				*i* IAML			01 59 25.1	
MESJ				*i* IAML			01 59 25.9	
MORF	**Marmelete**	**3.54**	**295**	*eS*		**Sn**	**01 59 23.8**	**-1.6**
MORF				*i* IAML			01 59 25.9	
MORF				*i* IAML			01 59 28.9	
MORF				*i* IAML			01 59 29.3	
PFVI	**Vila Bisbo**	**3.60**	**292**	*eS*		**Sn**	**01 59 26.4**	**-0.6**
PAB	**San Pablo**	**3.68**	**4**	P		**Pn**	**01 58 48.0**	**+1.5**
PAB				⇑*i*IVmb_VC			01 58 57.4	

comp=N,76nm,SNR=1.3

PAB				S		**Sn**	**01 59 26.9**	**-2.2**
PTEO	**Sao Teotonio**	**3.69**	**298**	*eP*		**Pn**	**01 58 48.7**	**+2.3**
PTEO				*eS*		**Sn**	**01 59 28.4**	**-0.6**
EVO	**Evora**	**3.79**	**316**	*eP*		**Pn**	**01 58 50.0**	**+2.2**
EVO				*eS*		**Sn**	**01 59 30.1**	**-1.4**
EVO				*i* IAML			01 59 32.9	
EVO				*i* IAML			01 59 33.0	
EVO				*i* IAML			01 59 33.2	
PESTR	**Estremoz**	**3.81**	**323**	*eP*		**Pn**	**01 58 50.3**	**+2.2**
PESTR				*eS*		**Sn**	**01 59 30.6**	**-1.4**
PESTR				*i* IAML			01 59 32.1	
PESTR				*i* IAML			01 59 32.5	
PESTR				*i* IAML			01 59 32.9	
PESTR	**Estremoz**	**3.81**	**323**	P		**Pn**	**01 58 48.3**	**+0.2**
PESTR	**Estremoz**	**3.81**	**323**	S		**Sn**	**01 59 32.7**	**+0.7**
PMRV	**Marv??o**	**4.18**	**329**	*eP*		**Pn**	**01 58 54.9**	**+1.9**
PMRV				*eS*		**Sn**	**01 59 39.1**	**-1.8**
PMRV				*i* IAML			01 59 39.9	
PMRV				*i* IAML			01 59 41.0	
PMRV				*i* IAML			01 59 42.0	
PMTG	**Montargil**	**4.29**	**319**	*eP*		**Pn**	**01 58 56.5**	**+2.0**
PMTG				*eS*		**Sn**	**01 59 41.7**	**-1.8**
PMTG				*i* IAML			01 59 45.3	
PMTG				*i* IAML			01 59 53.6	
PMTG				*i* IAML			02 00 13.7	
EPLA	**Plasencia**	**4.35**	**345**	P		**Pn**	**01 58 57.3**	**+2.0**
EPLA				⇑*i*IVmb_VC			01 59 05.6	

comp=N,72nm,SNR=0.7

EPLA				S		**Sn**	**01 59 42.8**	**-2.2**
PCBR	**Castelo Branco**	**4.56**	**331**	*eP*		**Pn**	**01 59 00.1**	**+1.9**
PCBR				*eS*		**Sn**	**01 59 48.0**	**-2.1**
PCBR				*i* IAML			01 59 48.8	
PCBR				*i* IAML			01 59 49.1	
PCBR				*i* IAML			01 59 52.1	
PARRA	**Arraiolos**	**4.58**	**311**	*eP*		Pn	01 58 52.5	-6.0
PARRA				*eS*		Sn	01 59 34.9	-16
PARRA				*i* IAML			01 59 35.7	
PARRA				*i* IAML			01 59 36.0	
PARRA				*i* IAML			01 59 36.1	
PSARD	**Sardoal**	**4.66**	**324**	*eP*		**Pn**	**01 59 01.8**	**+2.2**
PSARD				*eS*		**Sn**	**01 59 50.2**	**-2.4**
PSARD				*i* IAML			01 59 50.8	
PSARD				*i* IAML			01 59 52.6	
PSARD				*i* IAML			01 59 53.4	
OUK	**Oukaimeden**	**5.37**	**211**	P		Pn	01 59 07.3	-2.2

*NOU **26** 02:06:44.3, 40˚.03S×176˚.78E, h45km, MLv4.0/16, North Island, New Zealand*
*WEL **26** 02:06:44.8±0.9, 40˚.S±4˚×17˚.7E±˚, h40km±7km, M3.6/73, ML4.1/10, MLv3.6/73, Error ellipse: s-maj=5.5km s-min=4.3km az=135.0, confirmed*

ISC 26 02:06:44.9±1.3, 40˚.03S±0˚.03×176˚.76E±0˚.04, h53km±6km, n122, σ0s95/130, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PWZ	**Pawanui**	**0.08**	**93**			P	**Pn**	**02 06 53.3**	**+0.3**
PXZ	**Pawanui**	**0.08**	**94**			P	**Pn**	**02 06 53.5**	**+0.5**
PXZ						S	**Sn**	**02 06 59.3**	**+0.5**
WPWS	**Waipawa Distri**	**0.15**	**302**			P	**Pn**	**02 06 52.4**	**-0.9**
WPWS						S	**Sn**	**02 06 57.4**	**-1.9**
WPHZ	**Waipukurau**	**0.24**	**261**			P	**Pn**	**02 06 53.6**	**-0.3**
WPHZ						S	**Sn**	**02 06 59.5**	**-0.8**
KAHZ	**Kahuranaki**	**0.25**	**22**			P	**Pn**	**02 06 54.2**	**+0.3**
KAHZ						S	**Sn**	**02 07 00.6**	**+0.2**
PRHZ	**Porangahau**	**0.26**	**201**			P	**Pn**	**02 06 54.9**	**+0.9**
PRHZ						S	**Sn**	**02 07 01.5**	**+1.0**
PGFS	**Porangahau Fir**	**0.30**	**202**			P	**Pn**	**02 06 55.1**	**+0.8**
PGFS						S	**Sn**	**02 07 02.5**	**+1.5**
PNHZ	**Pukenui**	**0.44**	**285**			P	**Pn**	**02 06 54.8**	**-0.9**
CKHZ	**Cape Kidnapper**	**0.44**	**34**			P	**Pn**	**02 06 56.3**	**+0.6**
CKHZ						S	**Sn**	**02 07 04.5**	**+1.0**
KRHZ	**Kereru**	**0.48**	**322**			P	**Pn**	**02 06 55.0**	**-1.2**
ANWZ	**Angora Road**	**0.48**	**206**			P	**Pn**	**02 06 56.4**	**+0.2**
DVHZ	**Dannevirke**	**0.53**	**239**			P	**Pn**	**02 06 57.0**	**+0.3**
DVHZ						S	**Sn**	**02 07 05.2**	**0.0**
MCHZ	**McNeill Hill**	**0.58**	**356**			P	**Pn**	**02 06 57.4**	**+0.1**
TSZ	**Takapari Road**	**0.61**	**267**			P	**Pn**	**02 06 57.3**	**-0.4**
KWHZ	**Kaweka Forest**	**0.65**	**337**			P	**Pn**	**02 06 57.5**	**-0.7**
BFZ	**Birch Farm**	**0.76**	**211**			P	**Pn**	**02 07 00.5**	**+1.0**
BFZ	**Birch Farm**	**0.76**	**211**			P	**Sn**	**02 07 11.3**	**+1.0**
BFZ	**Birch Farm**	**0.76**	**211**			P	**Pn**	**02 07 00.5**	**+1.0**
ARHZ	**Aropaoanui**	**0.78**	**14**			P	**Pn**	**02 07 00.5**	**+0.7**
PRWZ	**Pori Road**	**0.80**	**228**			P	**Pn**	**02 07 01.1**	**+1.1**
POWZ	**Post Office Ro**	**0.84**	**244**			P	**Pn**	**02 07 01.0**	**+0.4**
BKZ	**Black Stump Fm**	**0.88**	**347**			P	**Pn**	**02 07 00.8**	**-0.4**
BKZ	**Black Stump Fm**	**0.88**	**347**			S	**Sn**	**02 07 11.7**	**-1.4**
BKZ	**Black Stump Fm**	**0.88**	**347**			P	**Pn**	**02 07 00.9**	**-0.2**
NMHZ	**Naumai**	**0.93**	**2**			P	**Pn**	**02 07 02.3**	**+0.6**
MOVZ	**Moawhango**	**0.99**	**308**			P	**Pn**	**02 07 02.6**	**0.0**
TIWZ	**Tintock**	**1.00**	**221**			P	**Pn**	**02 07 03.6**	**+0.9**
WHHZ	**Waihua**	**1.02**	**22**			P	**Pn**	**02 07 03.4**	**+0.6**
MRZ	**Mangatainoka R**	**1.10**	**234**			P	**Pn**	**02 07 04.4**	**+0.4**
OHWZ	**Ohakea**	**1.12**	**260**			P	**Pn**	**02 07 05.6**	**+1.3**
WNVZ	**Wahianoa**	**1.13**	**308**			P	**Pn**	**02 07 05.1**	**+0.5**
RAHZ	**Arahi**	**1.14**	**13**			P	**Pn**	**02 07 04.9**	**+0.4**
TUVZ	**Tukino**	**1.14**	**311**			P	**Pn**	**02 07 05.2**	**+0.6**
WHVZ	**Whangaehu Hut**	**1.17**	**309**			P	**Pn**	**02 07 05.5**	**+0.4**
MTHZ	**Maungataniwha**	**1.17**	**3**			P	**Pn**	**02 07 05.1**	**0.0**
MTVZ	**Mangateitei**	**1.18**	**302**			P	**Pn**	**02 07 05.8**	**+0.6**
TRVZ	**Turoa**	**1.18**	**308**			P	**Pn**	**02 07 05.9**	**+0.6**
MAVZ	**Matarangi**	**1.19**	**309**			P	**Pn**	**02 07 06.0**	**+0.5**
ETVZ	**East Tongariro**	**1.20**	**317**			P	**Pn**	**02 07 05.8**	**+0.3**
SNVZ	**South Ngauruho**	**1.20**	**314**			P	**Pn**	**02 07 06.3**	**+0.7**
OTVZ	**Oturere**	**1.21**	**315**			P	**Pn**	**02 07 05.9**	**+0.3**
FWVZ	**Far West T-bar**	**1.21**	**309**			P	**Pn**	**02 07 06.1**	**+0.4**
MRHZ	**Matea Rd**	**1.22**	**347**			P	**Pn**	**02 07 06.2**	**+0.5**
TMVZ	**Te

AC02	**Maricunga**	**37.33**	**80**	P	**P**	**02 38 15.9**	**+0.2**
PPT	**Papeete**	**40.58**	**294**	LR	LR	02 50 59.8	
	comp=Z,551nm,21.0s,baz=131,slow=30						
NNA	**Nana**	**41.96**	**56**	LR	LR	02 52 21.9	
	comp=Z,681nm,18.0s,baz=223,slow=30						
LPAZ	**La Paz**	**44.63**	**69**	P	**P**	**02 39 18.2**	**+2.2**
LPAZ				IAmb	IAmb	02 39 19.1	
	comp=Z,16nm,1.3s						
LPAZ	**La Paz**	**44.63**	**69**	P	**P**	**02 39 17.3**	**+1.3**
	comp=Z,6.4nm,1.1s,baz=226,slow=5.3,SNR=11						
LPAZ				LR	LR	02 54 24.1	
	comp=Z,298nm,18.1s,baz=232,slow=31						
	comp=Z,6.4nm,1.1s						
ATAH	**Atahualpa**	**44.87**	**50**	LR	LR	02 54 17.5	
	comp=Z,403nm,18.5s,baz=226,slow=31						
RAR	**Rarotonga**	**45.51**	**281**	LR	LR	02 53 09.5	
	comp=Z,559nm,19.5s,baz=125,slow=29						
CPUP	**Villa Florida**	**46.43**	**89**	P	**P**	**02 39 29.9**	**+0.4**
CPUP	**Villa Florida**	**46.43**	**89**	LR	LR	02 55 33.5	
	comp=Z,142nm,21.8s,baz=96,slow=32						
BELA	**Belgrano 2**	**47.02**	**164**	P	**P**	**02 39 33.1**	**-0.4**
BELA				IAmb	IAmb	02 39 39.5	
	comp=Z,13nm,1.1s						
CZSB	**Cruzeiro do Su**	**47.81**	**56**	P	**P**	**02 39 40.8**	**+0.4**
CZSB				IAmb	IAmb	02 39 50.1	
	comp=Z,15nm,1.2s						
COHC	**Cochancay**	**48.26**	**45**	P	**P**	**02 39 44.7**	**+0.9**
QSPA	**South Pole Qui**	**48.75**	**180**	P	**P**	**02 39 46.9**	**-0.3**
QSPA				IAmb	IAmb	02 40 42.8	
	comp=Z,32nm,2.0s						
QSPA	**South Pole Qui**	**48.75**	**180**	P	**P**	**02 39 47.0**	**-0.2**
	comp=Z,4.3nm,1.1s,baz=99,slow=5.5,SNR=5.2						
QSPA				LR	LR	02 57 17.6	
	comp=Z,380nm,19.4s,baz=106,slow=32						
	comp=Z,4.3nm,1.1s						
VNDA	**Vanda**	**49.28**	**197**	P	**P**	**02 39 54.0**	**+3.1**
VNDA	**Vanda**	**49.28**	**197**	P	**P**	**02 39 51.1**	**+0.2**
	comp=Z,2.1nm,1.1s,baz=59,slow=1.7,SNR=6.0						
VNDA				LR	LR	02 56 55.9	
	comp=Z,506nm,18.0s,baz=92,slow=32						
	comp=Z,2.1nm,1.1s						
SIV	**San Ignacio**	**49.87**	**75**	LR	LR	02 57 56.9	
	comp=Z,376nm,19.6s,baz=288,slow=32						
AQDB	**Aquidauana**	**51.02**	**83**	P	**P**	**02 40 04.8**	**0.0**
AQDB				IAmb	IAmb	02 40 05.8	
	comp=Z,14nm,1.2s						
VILB	**Vilhena**	**52.51**	**73**	P	**P**	**02 40 16.9**	**+0.8**
VILB				IAmb	IAmb	02 40 17.6	
	comp=Z,23nm,1.3s						
FLOC	**Florencia**	**53.58**	**46**	P	**P**	**02 40 24.3**	**+0.4**
FLOC				IAmb	IAmb	02 40 39.0	
	comp=Z,10nm,1.1s						
URZ	**Urewera**	**53.69**	**248**	LR	LR	02 57 29.0	
	comp=Z,606nm,21.0s,baz=134,slow=30						
RAO	**Raoul Island**	**54.57**	**260**	LR	LR	02 57 21.6	
	comp=Z,404nm,21.3s,baz=118,slow=29						
VNA3	**Neumayer Olymp**	**54.85**	**157**	⇑P	**P**	**02 40 31.8**	**-0.6**
	comp=Z,5.9nm,0.8s						
VNA1	**Neumayer–Stat**	**55.53**	**157**	⇑P	**P**	**02 40 37.2**	**-0.1**
	comp=Z,9.2nm,1.0s						
SNAA	**Sanae**	**56.56**	**159**	⇑P	**P**	**02 40 43.9**	**-0.9**
	comp=Z,67nm,0.9s						
SNAA	**Sanae**	**56.56**	**159**	P	**P**	**02 40 43.7**	**-1.1**
SNAA				IAmb	IAmb	02 40 49.7	
	comp=Z,8.2nm,1.2s						
SNAA	**Sanae**	**56.56**	**159**	P	**P**	**02 40 43.7**	**-1.1**
	comp=Z,5.3nm,1.1s,baz=218,slow=1.9,SNR=4.8						
SNAA				LR	LR	03 01 46.3	
	comp=Z,134nm,19.1s,baz=280,slow=33						
	comp=Z,5.3nm,1.1s						
ROSC	**El Rosal**	**57.03**	**45**	P	**P**	**02 40 48.8**	**-0.3**
	comp=Z,5.3nm,0.4s,baz=238,slow=8.0,SNR=5.6						
ROSC				LR	LR	03 00 43.4	
	comp=Z,359nm,20.2s,baz=237,slow=31						
	comp=Z,5.3nm,0.4s						
TROLL	**Troll, Antarti**	**57.78**	**160**	⇑P	**P**	**02 40 53.2**	**-0.3**
	comp=Z,258nm,0.8s						
MACA	**Manacapuru-AM**	**59.08**	**64**		**P**	**02 41 02.0**	**-1.1**
BDFB	**Brasilia**	**59.73**	**84**	LR	LR	03 04 13.6	
	comp=Z,622nm,20.9s,baz=195,slow=33						
CMIG	**Matias Romero**	**60.17**	**18**	LR	LR	03 01 18.9	
	comp=Z,131nm,19.6s,baz=180,slow=30						
SDV	**Santo Domingo**	**62.39**	**46**	LR	LR	03 04 24.9	
	comp=Z,176nm,18.9s,baz=226,slow=32						
BAUV	**El Baul**	**63.88**	**49**	P	**P**	**02 41 31.7**	**-3.8**
ZAIG	**Zacatecas**	**64.39**	**9**	P	**P**	**02 41 40.6**	**+1.6**
LPIG	**La Paz**	**65.23**	**1**	LR	LR	03 04 08.1	
	comp=Z,309nm,20.3s,baz=193,slow=30						
PCRV	**Puerto La Cruz**	**66.83**	**51**	LR	LR	03 08 46.6	
	comp=Z,410nm,18.1s,slow=34						
SYO	**Syowa Base**	**67.73**	**169**	‖*ep*P	**P**	**02 42 00.5**	**+0.9**
SYO	**Syowa Base**	**67.73**	**169**	‖*es*P	sP	02 42 02.4	-0.4
HPIG		**68.24**	**5**	P	**P**	**02 42 05.4**	**+1.9**
MDP	**Montagnes des**	**70.56**	**64**	LR	LR	03 09 52.2	
	comp=Z,567nm,19.0s,baz=220,slow=33						
TX31	**Lajitas Ar. Si**	**70.78**	**7**	P	**P**	**02 42 20.6**	**+1.5**
TXAR	**Lajitas Array**	**70.78**	**7**	P	**P**	**02 42 20.1**	**+1.1**
TXAR	**Lajitas Array**	**70.78**	**7**	P	**P**	**02 42 18.8**	**-0.3**
	comp=Z,0.9nm,1.1s,baz=181,slow=7.5,SNR=8.3						
TXAR				LR	LR	03 07 57.1	
	comp=Z,52nm,21.0s,baz=176,slow=31						
	comp=Z,0.9nm,1.1s						
MAW	**Mawson**	**71.17**	**178**	P	**P**	**02 42 20.9**	**0.0**
	comp=Z,3.3nm,1.0s,baz=126,slow=6.2,SNR=4.1						
MAW				LR	LR	03 11 12.4	
	comp=Z,274nm,19.6s,baz=184,slow=34						
	comp=Z,3.3nm,1.0s						
VHRN	**Van Horn**	**72.11**	**6**		**P**	**02 42 28.7**	**+1.6**
VHRN				IAmb	IAmb	02 42 32.0	
	comp=Z,11nm,1.6s						
SJG	**San Juan**	**72.44**	**45**	LR	LR	03 12 05.6	
	comp=Z,68nm,18.3s,baz=196,slow=34						
PFO	**Pinyon Flats O**	**74.86**	**355**	LR	LR	03 09 03.6	
	comp=Z,134nm,18.3s,baz=188,slow=30						
APMT	**Aspermont**	**75.11**	**10**		**P**	**02 42 44.6**	**0.0**
APMT				IAmb	IAmb	02 42 55.5	
	comp=Z,15nm,1.2s						
RCBR	**Riachuelo**	**75.11**	**85**	LR	LR	03 13 35.3	
	comp=Z,124nm,19.3s,baz=240,slow=34						
ANMO	**Albuquerque**	**76.16**	**4**	LR	LR	03 10 44.7	
	comp=Z,306nm,20.3s,baz=280,slow=31						
CCUT	**Cedar City**	**78.66**	**358**	P	**P**	**02 43 06.2**	**+1.5**
NVAR	**Mina Array Bea**	**79.78**	**354**	P	**P**	**02 43 12.1**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=204,slow=3.3,SNR=3.9						
NVAR				LR	LR	03 12 23.0	
	comp=Z,304nm,18.1s,baz=165,slow=31						
	comp=Z,0.2nm,0.3s						
STKA	**Stephens Creek**	**80.97**	**235**	LR	LR	03 12 05.9	
	comp=Z,345nm,21.7s,baz=164,slow=30						
ELK	**Elko**	**81.91**	**357**	LR	LR	03 12 34.2	
	comp=Z,150nm,21.6s,baz=241,slow=30						
HNR	**Honiara**	**83.02**	**264**	LR	LR	03 13 23.9	
	comp=Z,234nm,21.5s,baz=154,slow=31						
YBH	**Yreka Blue Hor**	**83.47**	**351**	LR	LR	03 12 52.3	
	comp=Z,27nm,21.2s,baz=168,slow=30						
PDAR	**Pinedale Array**	**83.86**	**1**	P	**P**	**02 43 31.4**	**-0.8**
PDAR	**Pinedale Array**	**83.86**	**1**	P	**P**	**02 43 31.6**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=179,slow=5.9,SNR=7.8						
PDAR				LR	LR	03 14 37.2	
	comp=Z,93nm,21.6s,baz=165,slow=31						
	comp=Z,1.3nm,0.9s						
ECSD	**EROS Data Cent**	**85.81**	**11**	IAmb	IAmb	02 43 51.8	
	comp=Z,9.6nm,1.3s						
NEW	**Newport**	**89.50**	**356**	LR	LR	03 18 09.9	
	comp=Z,407nm,18.2s,baz=178,slow=32						
SADO	**Sadowa**	**90.51**	**22**	LR	LR	03 22 00.6	
	comp=Z,70nm,18.1s,baz=196,slow=34						
ASAR	**Alice Springs**	**91.57**	**236**	P	**P**	**02 44 09.6**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=149,slow=4.4,SNR=5.7						
ASAR				LR	LR	03 18 04.2	
	comp=Z,296nm,21.7s,baz=133,slow=31						
	comp=Z,0.8nm,0.8s						
PMG	**Port Moresby**	**92.48**	**255**	LR	LR	03 20 04.1	
	comp=Z,150nm,19.5s,baz=110,slow=32						
H01W1	**Cape Leeuwin H**	**93.38**	**216**	T	T	04 28 29.5	
	baz=146,slow=76,SNR=22						
H01W2	**Cape Leeuwin H**	**93.39**	**216**	T	T	04 28 19.7	
	baz=146,slow=76,SNR=22						
H01W3	**Cape Leeuwin H**	**93.40**	**216**	T	T	04 28 33.1	
	baz=146,slow=76,SNR=23						
WRA	**Warramunga Arr**	**94.00**	**239**	P	**P**	**02 44 20.4**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=137,slow=4.5,SNR=5.3						
WRA				LR	LR	03 23 23.1	
	comp=Z,247nm,19.1s,baz=104,slow=34						
	comp=Z,2.0nm,0.9s						
BBB	**Bella Bella**	**94.42**	**350**	LR	LR	03 19 30.0	
	comp=Z,76nm,18.4s,baz=235,slow=31						
H11S2	**WAKE ISLAND Hy**	**96.34**	**289**	T	T	04 31 25.1	
	baz=135						
H11S1	**WAKE ISLAND Hy**	**96.36**	**289**	T	T	04 31 27.7	
	baz=135						
H11S3	**WAKE ISLAND Hy**	**96.36**	**289**	T	T	04 31 32.1	
	baz=135,SNR=11						
H11N3	**WAKE ISLAND Hy**	**97.01**	**290**	T	T	04 32 20.7	
	baz=135						
H11N1	**WAKE ISLAND Hy**	**97.02**	**290**	T	T	04 32 25.8	
	baz=135						
H11N2	**WAKE ISLAND Hy**	**97.03**	**290**	T	T	04 32 22.2	
	baz=135						
BOSA	**Boshof**	**99.46**	**142**	LR	LR	03 21 13.6	
	comp=Z,74nm,21.2s,baz=206,slow=30						
CLL	**Collm**	**141.10**	**56**	*e*PKPdf	**PKiKP**	**02 50 36.0**	**+0.9**
HFS	**Hagfors**	**141.81**	**42**	PKP	**PKPdf**	**02 50 31.2**	**-2.2**
	comp=Z,0.7nm,0.6s,baz=222,slow=2.0,SNR=5.3						
ARCES	**ARCESS Array B**	**144.06**	**24**	PKP	**PKPab**	**02 50 34.6**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=318,slow=1.6,SNR=4.7						
CMAR	**Chiang Mai Arr**	**145.58**	**237**	PKPbc	**PKPdf**	**02 50 40.8**	**-0.5**
	comp=Z,8.3nm,0.9s,baz=172,slow=2.4,SNR=14						
FINES	**FINESS Array B**	**147.52**	**37**	PKPbc	**PKPbc**	**02 50 44.8**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=294,slow=1.9,SNR=8.7						
AKASG	**Malin Array Be**	**151.30**	**58**	PKPbc	**PKPbc**	**02 50 54.2**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=275,slow=3.1,SNR=5.4						
SONM	**Songino Array**	**152.74**	**296**	PKP	**PKPdf**	**02 50 52.5**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=119,slow=1.9,SNR=4.3						
SONM				PKPbc	**PKPbc**	**02 50 58.3**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=148,slow=2.3,SNR=7.6						
BRTR	**Keskin Array B**	**153.31**	**82**	PKPbc	**PKiKP**	**02 51 01.5**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=352,slow=5.8,SNR=3.8						
KURBB	**Kurchatov Arra**	**168.64**	**327**	PKPab	**PKPab**	**02 52 19.0**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=38,slow=4.0,SNR=4.0						
MKAR	**Makanchi Array**	**168.97**	**303**	PKPab	**PKPab**	**02 52 20.9**	**+0.2**
	comp=Z,1.0nm,1.0s,baz=39,slow=6.2,SNR=4.0						

*NEIC **26** 02:33:40.0±1.1, 15°.6S±0°.2×177°.31W±0°.09, h418km±8km, mb4.3/19, Error ellipse: s-maj=22.6km s-min=12.8km az=170.0*
*IDC **26** 02:33:40.8±7.7, 15°.29S×177°.66W, h418km±88km, mb3.3/6, mbtmp4.0/7, Error ellipse: s-maj=85.1km s-min=25.7km az=152.0*
ISC 26 02:33:38.7±0.6, 15°.6S±0°.1×177°.3W±0°.1, h400km, n31, σ1§20/30, mb4.0/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**1.55**	**329**	P		**Pn**	**02 34 34.3**	**+2.1**
MSVF	**Nonsavu**	**4.91**	**244**			Pn	02 35 03.2	+3.3
AFI	**Afiamalu**	**5.62**	**73**	P		**Pn**	**02 35 07.6**	**+0.2**
DZM	**Mont Dzumac**	**16.65**	**245**	P		**P**	**02 37 10.7**	**+1.6**
DZM				IAmb		IAmb	02 37 11.3	
	comp=Z,27nm,1.5s							
DZM	**Mont Dzumac**	**16.65**	**245**	P		**P**	**02 37 09.2**	**0.0**
	comp=Z,5.0nm,0.7s,baz=53,slow=21,SNR=5.9							
LTZ	**Lake Taylor**	**28.49**	**196**	P		**P**	**02 38 58.8**	**-0.4**
LTZ				IAmb		IAmb	02 39 13.2	
	comp=Z,22nm,1.4s							
CTAO	**Charters Tower**	**34.92**	**257**	P		**P**	**02 39 57.6**	**+2.7**
CTAO				IAmb		IAmb	02 39 57.9	
	comp=Z,9.3nm,0.7s							
COEN	**Coen**	**38.21**	**267**	P		**P**	**02 40 22.4**	**-0.1**
COEN				IAmb		IAmb	02 40 51.3	
	comp=Z,28nm,1.2s							
TOO	**Toolangi**	**39.43**	**229**	P		**P**	**02 40 30.5**	**-1.7**
TOO				IAmb		IAmb	02 40 53.8	
	comp=Z,8.7nm,1.2s							
STKA	**Stephens Creek**	**40.67**	**239**	P		**P**	**02 40 41.6**	**-0.7**
STKA	**Stephens Creek**	**40.67**	**239**	P		**P**	**02 40 41.5**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=78,slow=9.9,SNR=5.3							
	comp=Z,1.3nm,0.4s							
BBOO	**Buckleboo**	**45.45**	**239**	P		**P**	**02 41 19.0**	**-1.0**
WR8	**Warramunga Arr**	**45.97**	**257**	P		**P**	**02 41 22.9**	**-1.4**
WR8				IAmb		IAmb	02 41 27.1	
	comp=Z,4.5nm,0.7s							
WB0	**Warramunga Arr**	**46.08**	**257**	P		**P**	**02 41 23.8**	**-1.3**
WB0				IAmb		IAmb	02 41 24.4	
	comp=Z,6.6nm,0.8s							
WRA	**Warramunga Arr**	**46.12**	**257**	P		**P**	**02 41 23.9**	**-1.5**
	comp=Z,3.4nm,0.7s,baz=92,slow=6.4,SNR=66							
	comp=Z,3.4nm,0.7s							
AS31	**Alice Springs**	**46.46**	**252**	P		**P**	**02 41 27.3**	**-0.7**
AS31				IAmb		IAmb	02 41 27.8	
	comp=Z,11nm,0.5s							
ASAR	**Alice Springs**	**46.46**	**252**	P		**P**	**02 41 26.7**	**-1.2**
ASAR	**Alice Springs**	**46.46**	**252**	P		**P**	**02 41 27.1**	**-0.9**
	comp=Z,31nm,0.6s,baz=84,slow=7.6,SNR=470							
PSA00	**Pilbara Seismi**	**59.53**	**254**	P		**P**	**02 43 01.0**	**-1.1**
PSA00				IAmb		IAmb	02 43 01.5	
	comp=Z,8.0nm,0.8s							
PSA00	**Pilbara Seismi**	**59.53**	**254**	P		**P**	**02 43 01.0**	**-1.1**
PSA00				IAmb		IAmb	02 43 07.1	
	comp=Z,3.4nm,0.8s							
MORW	**Morawa**	**62.37**	**245**	P		**P**	**02 43 19.9**	**-1.1**
MORW				IAmb		IAmb	02 43 22.0	
	comp=Z,21nm,1.5s							
VNDA	**Vanda**	**62.78**	**185**	P		**P**	**02 43 23.9**	**+1.2**
QSPA	**South Pole Qui**	**74.40**	**180**	P		**P**	**02 44 34.7**	**+0.7**
NVAR	**Mina Array Bea**	**77.06**	**44**	P		**P**	**02 44 49.2**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=226,slow=10,SNR=4.4							
	comp=Z,0.9nm,0.7s							
CCB	**Clear Creek Bu**	**83.16**	**12**	P		**P**	**02 45 20.0**	**-0.7**
CCB				IAmb		IAmb	02 45 20.6	
	comp=Z,4.1nm,1.0s							
IMAR	**Indian Mountai**	**83.28**	**9**	P		**P**	**02 45 20.3**	**-1.0**
ILAR	**Eielson Array**	**83.46**	**13**	P		**P**	**02 45 21.4**	**-0.8**
	comp=Z,3.3nm,1.0s,baz=225,slow=5.5,SNR=9.2							
	comp=Z,1.3nm,1.0s							
J25K	**Salcha River,**	**83.65**	**13**	P		**P**	**02 45 22.8**	**-0.5**
TXAR	**Lajitas Array**	**83.89**	**57**	P		**P**	**02 45 25.4**	**0.0**
TXAR	**Lajitas Array**	**83.89**	**57**	P		**P**	**02 45 27.1**	**+1.7**
	comp=Z,1.0nm,0.8s,baz=220,slow=6.5,SNR=9.8							
	comp=Z,1.0nm,0.8s							
PDAR	**Pinedale Array**	**84.99**	**43**	P		**P**	**02 45 30.5**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=219,slow=3.9,SNR=1.6							
	comp=Z,0.2nm,0.4s							

*IDC **26** 02:42:46.0±1.7, 31°.92S×178°.09W, h0km, mb3.8/2, mbtmp3.8/3, ML2.8/1, Error ellipse: s-maj=55.7km s-min=32.1km az=130.0*
ISC 26 02:42:49.6±1.7, 32°.0S±0°.2×178°.1W±0°.4, h24km, n7, σ0§63/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.43**	**211**	Pn		**Pn**	**02 44 35.7**	**-0.7**
	0.2nm,0.3s,baz=38,slow=20,SNR=1.9							
URZ				Sn		**Sn**	**02 46 00.9**	**+0.9**
	1.2nm,0.3s,baz=230,slow=9.5,SNR=10.0							
	8.3nm,0.9s							
ASAR	**Alice Springs**	**42.99**	**269**	P		**P**	**02 50 47.1**	**-0.1**
	0.5nm,0.4s,baz=105,slow=7.3,SNR=7.9							
	0.5nm,0.4s							
WRA	**Warramunga Arr**	**44.12**	**274**	P		**P**	**02 50 56.3**	**0.0**
	1.0nm,0.6s,baz=113,slow=8.0,SNR=16							
	1.0nm,0.6s							
FINES	**FINESS Array B**	**146.57**	**339**	PKPbc	**PKPdf**		**03 02 26.9**	**+0.2**
	0.7nm,0.5s,baz=49,slow=5.1,SNR=8.0							
HFS	**Hagfors**	**150.75**	**348**	PKPbc	**PKiKP**		**03 02 40.3**	**+0.6**
	0.6nm,0.6s,baz=84,slow=7.6,SNR=4.4							
MMAI	**Mount Meron Ar**	**151.81**	**281**	PKPbc	**PKiKP**		**03 02 43.1**	**+0.2**
	0.9nm,0.5s,baz=77,slow=3.1,SNR=4.1							
BRTR	**Keskin Array B**	**153.25**	**296**	PKPbc	**PKPbc**		**03 02 45.1**	**-0.5**
	0.5nm,0.6s,baz=126,slow=4.1,SNR=2.9							

*IDC **26** 03:01:31.6±1.6, 0°.56S×127°.99E, h0km, mb3.7/4, mbtmp3.8/4, Error ellipse: s-maj=133.1km s-min=21.6km az=68.0*
*NEIC **26** 03:01:34.1±1.2, 0°.75S±0°.06×127°.8E±0°.1, h10km±1km, mb3.9/7, Error ellipse: s-maj=18.3km s-min=8.1km az=71.0*
*DJA **26** 03:01:38.1±2.3, 1°.S±3°×12°.8E±°, h26km±21km, M3.4/5, MLv3.4/5*
ISC 26 03:01:36.9±0.8, 0°.76S±0°.06×127°.78E±0°.08, h35km, n22, σ1§18/23, mb4.0/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.58**	**345**			**Pn**	**03 02 01.7**	**-0.8**
TNTI	**Ternate**	**1.58**	**345**	P		**Pn**	**03 02 02.2**	**-0.3**
TNTI				S		**Sn**	**03 02 21.0**	**-0.7**
SANI	**Sanana**	**2.20**	**234**	P		**Pn**	**03 02 11.4**	**+0.4**
SANI				S		**Sn**	**03 02 36.3**	**-0.7**
NLAI	**Namlea**	**2.55**	**195**	P		**Pn**	**03 02 18.0**	**+2.1**
SWI	**Sorong**	**3.48**	**92**	P		Pn	03 02 35.0	+6.3
FAKI	**Fak Fak**	**4.95**	**116**	Pn		**Pn**	**03 02 47.9**	**-1.0**
TOLI2	**Tolitoli**	**7.24**	**285**	Pn		**Pn**	**03 03 20.0**	**-0.3**
SAUI	**Saumlaki**	**7.98**	**154**	Pn		**Pn**	**03 03 27.9**	**-2.6**
MTN	**Manton Dam**	**12.45**	**165**	Pn		**Pn**	**03 04 34.0**	**+2.2**
WB0	**Warramunga Arr**	**19.97**	**161**	Pn		**P**	**03 06 07.5**	**+1.2**
WB0				IAmb		IAmb	03 06 10.3	
	comp=Z,4.6nm,1.0s							
WRA	**Warramunga Arr**	**20.11**	**162**	P		**P**	**03 06 06.9**	**-1.1**
WRA	**Warramunga Arr**	**20.11**	**162**	P		**P**	**03 06 08.3**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=342,slow=12,SNR=10							
	comp=Z,0.7nm,0.5s							
WB2	**Warramunga Arr**	**20.12**	**162**	P		**P**	**03 06 07.7**	**-0.3**
WB2				IAmb		IAmb	03 06 34.4	
	comp=Z,10nm,1.4s							
WR8	**Warramunga Arr**	**20.18**	**161**			**P**	**03 06 07.3**	**-1.3**
WR8				IAmb		IAmb	03 06 33.6	
	comp=Z,11nm,1.4s							
AS31	**Alice Springs**	**23.53**	**166**	P		**P**	**03 06 44.7**	**+0.6**
AS31				IAmb		IAmb	03 07 14.4	
	comp=Z,1.0nm,0.9s							
ASAR	**Alice Springs**	**23.53**	**166**	P		**P**	**03 06 44.0**	**-0.2**
ASAR	**Alice Springs**	**23.53**	**166**	P		**P**	**03 06 45.3**	**+1.2**
	comp=Z,1.6nm,0.6s,baz=343,slow=11,SNR=22							
	comp=Z,1.6nm,0.6s							
EIDS	**Eidsvold**	**33.23**	**139**	P		**P**	**03 08 10.4**	**-0.5**
MK31	**Makanchi Array**	**61.84**	**326**	P		**P**	**03 11 53.7**	**+1.1**
MK31				IAmb		IAmb	03 12 00.2	
	comp=Z,2.8nm,1.4s							
MKAR	**Makanchi Array**	**61.84**	**326**	P		**P**	**03 11 53.1**	**+0.6**
MKAR	**Makanchi Array**	**61.84**	**326**	P		**P**	**03 11 52.2**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=124,slow=9.4,SNR=7.2							
	comp=Z,0.7nm,0.6s							
KURBB	**Kurchatov Arra**	**66.07**	**328**	P		**P**	**03 12 19.9**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=129,slow=5.5,SNR=10.0							
	comp=Z,1.2nm,0.7s							

*IPEC **26** 03:02:52.9±0.2, 51°.62N×16°.14E, h1km, ML2.7/6, Error ellipse: s-maj=2.8km s-min=1.4km az=75.0*
*IDC **26** 03:02:54.0±0.7, 51°.54N×16°.05E, h0km, mbtmp3.0/8, ML2.6/8, Error ellipse: s-maj=13.5km s-min=6.7km az=103.0*
*DNK **26** 03:02:55.5±2.1, 51°.86N×16°.01E, h0km±53km, ML2.2*
*PRU **26** 03:02:56.0, 51°.51N×16°.07E, h0km*
*UPP **26** 03:02:58.1±3.3, 51°.94N×15°.55E, h0km, ML1.8*
ISC 26 03:02:51.1±0.7, 51°.69N±0°.03×16°.11E±0°.02, h0km, n74, σ1§46/129, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.85**	**172**	*e*Pg		**Pb**	**03 03 08.2**	**-0.6**
KSP				*e*Sg		**Sg**	**03 03 18.3**	**-0.1**
CHVC	**Chvalec**	**1.10**	**182**	*e*PG		**Pb**	**03 03 13.1**	**+0.1**
CHVC				*e*SG		**Sg**	**03 03 26.3**	**-0.1**
OSTC	**Ostas**	**1.14**	**177**	*e*PG		**Pb**	**03 03 13.6**	**0.0**
OSTC				*e*SG		**Sg**	**03 03 27.2**	**-0.3**
	comp=Z,121nm,0.6s							
UPC	**Upice**	**1.18**	**183**	*e*PG		**Pb**	**03 03 14.5**	**+0.1**
UPC				*e*SG		**Sg**	**03 03 28.4**	**-0.6**
	comp=Z,264nm,0.5s							
DPC	**Dobruska-Polom**	**1.35**	**174**	*e*PG		**Pn**	**03 03 17.0**	**-0.1**
DPC				*e*SG		**Sg**	**03 03 33.6**	**-0.7**
	comp=Z,62nm,0.4s							
PVCC	**Panska Ves**	**1.51**	**220**	*e*PG		**Pg**	**03 03 20.6**	**+0.6**
PVCC				*e*SG		**Sg**	**03 03 39.4**	**-0.2**
PIVO	**Bartosovice**	**1.53**	**169**	*e*Pg		**Pb**	**03 03 20.0**	**-0.3**
	baz=350							
PIVO				*e*Sg		**Sg**	**03 03 38.5**	**-1.6**
	81nm,0.3s,baz=350							
BRG	**Berggiesshubel**	**1.59**	**240**	Pn		**Pb**	**03 03 21.1**	**-0.2**
BRG				Pg		**Pg**	**03 03 22.1**	**+0.7**
BRG				Sg		**Sg**	**03 03 42.0**	**+0.1**
BRG				Amp			03 03 42.8	
	comp=Z,130nm,0.4s							
KRLC	**Kraliky**	**1.67**	**165**	*e*PG		**Pb**	**03 03 22.3**	**-0.4

STHS	**Stebnicka Huta**	**3.99**	**123**	*e*PN		**Pn**	**03 03 54.6**	**+1.2**
STHS				*e*PG		**Pg**	**03 04 07.9**	**+0.5**
STHS				*e*SG		**Sg**	**03 04 59.8**	**+0.7**
MOA	**Molln**	**4.02**	**198**	*i* Pn		**Pn**	**03 03 54.9**	**+0.9**
	comp=Z,3.0nm,0.3s,SNR=22							
MOA				*e*Sn		**Sn**	**03 04 43.5**	**+1.7**
	comp=Z,7.8nm,0.3s							
LUNU	**Lund**	**4.26**	**339**	*e*P		**Pn**	**03 03 58.1**	**+1.0**
LUNU				*e*S		**Sn**	**03 04 47.4**	**0.0**
KECS	**Kecovo**	**4.27**	**137**	*e*SG		**Sg**	**03 05 06.6**	**-1.6**
BIOA	**Bad Ischl, Aus**	**4.31**	**203**	*e*Pn		**Pn**	**03 03 58.8**	**+0.9**
	comp=Z,1.7nm,0.3s							
BIOA				Sn		**Sn**	**03 04 49.9**	**+1.1**
	comp=Z,2.4nm,0.5s							
ARSA	**Arzberg**	**4.46**	**185**	*i* Pn		**Pn**	**03 04 01.8**	**+1.9**
	comp=Z,0.9nm,0.3s							
BLEU	**Blekinge**	**4.63**	**358**	P		**Pn**	**03 04 04.8**	**+2.6**
BLEU	**Blekinge**	**4.63**	**358**	*e*P		**Pn**	**03 04 04.7**	**+2.6**
BLEU				P		Pb	03 04 04.8	-8.2
BLEU				*e*S		**Sn**	**03 04 54.5**	**-2.1**
BJUU	**Bjuv**	**4.76**	**339**	*e*P		**Pn**	**03 04 05.2**	**+1.3**
BJUU				*e*S		**Sn**	**03 05 00.0**	**+0.3**
KOLS	**Kolonicke sedl**	**4.82**	**123**	*e*PN		**Pn**	**03 04 06.5**	**+1.7**
KBA	**Koelnbreinsper**	**4.95**	**202**	*e*Pn		**Pn**	**03 04 08.2**	**+1.3**
	comp=Z,5.6nm,0.4s							
DEL	**Delary**	**4.97**	**346**	P		**Pn**	**03 04 08.4**	**+1.6**
DEL				S		**Sn**	**03 05 02.9**	**-2.1**
DEL	**Delary**	**4.97**	**346**	P		**Pn**	**03 04 08.4**	**+1.6**
DEL				*e*P		**Pn**	**03 04 08.5**	**+1.6**
DEL				S		**Sn**	**03 05 02.9**	**-2.1**
DEL				*e*S		**Sn**	**03 05 03.3**	**-1.6**
SOKA	**Soboth**	**5.06**	**188**	*e*Pn		**Pn**	**03 04 09.3**	**+1.0**
	comp=Z,0.5nm,0.3s							
OBKA	**Obir**	**5.28**	**192**	*e*Pn		**Pn**	**03 04 11.3**	**0.0**
	comp=Z,1.5nm,0.9s							
VXJU	**Vaexsjoe**	**5.29**	**353**	P		**Pn**	**03 04 13.8**	**+2.5**
VXJU	**Vaexsjoe**	**5.29**	**353**	P		**Pn**	**03 04 13.8**	**+2.5**
OSKU	**Oskarshamn**	**5.52**	**360**	P		**Pn**	**03 04 17.2**	**+2.8**
OSKU	**Oskarshamn**	**5.52**	**360**	P		**Pn**	**03 04 17.2**	**+2.8**
BYXU	**Byxelkrok**	**5.64**	**5**	P		**Pn**	**03 04 18.9**	**+2.9**
BYXU	**Byxelkrok**	**5.64**	**5**	P		**Pn**	**03 04 18.9**	**+2.9**
FABU	**Falkenberg**	**5.68**	**341**	P		**Pn**	**03 04 18.1**	**+1.5**
FABU	**Falkenberg**	**5.68**	**341**	P		**Pn**	**03 04 18.1**	**+1.5**
FABU				*e*P		**Pn**	**03 04 18.4**	**+1.8**
FABU				*e*S		**Sn**	**03 05 19.6**	**-2.9**
EKSU	**Eksjoe**	**5.92**	**356**	P		**Pn**	**03 04 22.3**	**+2.5**
EKSU	**Eksjoe**	**5.92**	**356**	P		**Pn**	**03 04 22.3**	**+2.5**
ONAU	**Onsala**	**6.22**	**339**	*e*P		**Pn**	**03 04 25.9**	**+1.9**
BORU	**Boraas**	**6.26**	**343**	*e*P		**Pn**	**03 04 27.1**	**+2.5**
BORU				*e*S		**Sn**	**03 05 32.7**	**-4.1**
DAVOX	**Davos/Dischmat**	**6.38**	**222**	Pn		**Pn**	**03 04 25.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=41,slow=22,SNR=3.8							
	comp=Z,1.1nm,0.6s							
LNKU	**Linkoeping**	**6.56**	**357**	P		**Pn**	**03 04 30.8**	**+2.2**
LNKU	**Linkoeping**	**6.56**	**357**	P		**Pn**	**03 04 30.8**	**+2.2**
VIKU	**Vikbolandet**	**6.84**	**3**	P		**Pn**	**03 04 35.0**	**+2.6**
VIKU	**Vikbolandet**	**6.84**	**3**	P		**Pn**	**03 04 35.0**	**+2.6**
NACGM	**Naroch**	**7.16**	**59**	*e*P		**Pn**	**03 04 37.9**	**+0.9**
	comp=Z,4.0nm,0.9s,baz=247							
AKASG	**Malin Array Be**	**8.30**	**92**	Pn		**Pn**	**03 04 52.1**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=282,slow=12,SNR=4.3							
	comp=Z,0.6nm,0.5s							
HFS	**Hagfors**	**8.57**	**352**	Pn		**Pn**	**03 04 58.4**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=166,slow=14,SNR=8.4							
	comp=Z,0.2nm,0.3s							
NOA	**NORSAR Array B**	**9.76**	**346**	Pn		**Pn**	**03 05 14.2**	**+1.7**
	baz=158,slow=12,SNR=5.4							
FINES	**FINESS Array B**	**11.20**	**25**	Pn		**Pn**	**03 05 33.6**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=213,slow=12,SNR=7.3							
FINES				Sn		**Sn**	**03 07 35.3**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=206,slow=21,SNR=5.2							
	comp=Z,0.7nm,0.6s							
EKA	**Eskdalemuir Ar**	**12.03**	**295**	Pn		**Pn**	**03 05 41.0**	**-2.6**
	baz=107,slow=13							
ARCES	**ARCESS Array B**	**18.45**	**10**	Pn		**Pn**	**03 07 06.8**	**-1.0**
	baz=195,slow=13,SNR=4.7							
	comp=Z,0.5nm,0.5s							

IDC 26 03:05:59.2±2.1, 0.°55S×127.°99E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=141.0km s-min=27.1km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.25**	**163**	P	P	03 10 35.6	-0.7
	0.4nm,0.7s,baz=342,slow=12,SNR=5.0						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**23.68**	**166**	P	P	03 11 13.2	+0.5
	0.8nm,0.7s,baz=345,slow=11,SNR=9.2						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**61.78**	**326**	P	P	03 16 19.7	-0.1
	0.5nm,0.7s,baz=132,slow=6.0,SNR=4.7						
	0.5nm,0.7s						

IDC 26 03:21:47.9±1.7, 0.°84S×127.°38E, h0km, mb3.7/4, mbtmp3.8/4, Error ellipse: s-maj=154.2km s-min=22.1km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.17**	**161**	P	P	03 26 24.2	0.0
	0.8nm,0.5s,baz=339,slow=12,SNR=8.3						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**23.56**	**165**	P	P	03 27 00.2	0.0
	1.8nm,0.7s,baz=344,slow=11,SNR=13						
	1.8nm,0.7s						
MKAR	**Makanchi Array**	**61.67**	**326**	P	P	03 32 07.8	0.0
	0.9nm,0.7s,baz=116,slow=8.7,SNR=5.0						
	0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**65.93**	**328**	P	P	03 32 35.8	0.0
	1.4nm,0.7s,baz=128,slow=5.9,SNR=8.9						
	1.4nm,0.7s						

IDC 26 03:23:29.8±2.3, 0.°62S×127.°85E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=227.5km s-min=23.2km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.22**	**162**	P	P	03 28 06.5	-0.1
	0.9nm,0.7s,baz=341,slow=10,SNR=4.9						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**23.65**	**166**	P	P	03 28 43.0	+0.1
	1.9nm,0.8s,baz=345,slow=10,SNR=9.1						
	1.9nm,0.8s						
MKAR	**Makanchi Array**	**61.76**	**326**	P	P	03 33 50.0	-0.2
	0.6nm,0.8s,baz=111,slow=7.9,SNR=4.0						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**66.00**	**328**	P	P	03 34 18.1	+0.1
	0.8nm,0.7s,baz=130,slow=5.9,SNR=6.0						
	0.8nm,0.7s						

UCR ***26*** *03:23:58.6±1.1, 8.°28N×82.°62W, h30km±2km, MW4.0, Fault plane solution: NP1:φs280.34000°, δ47.85000°, λ-39.32000°.*

CATAC ***26*** *03:23:58.8±0.8, 8.°N±7.°×8.°3W±.°, h20km±3km, M4.1/12, MLv4.1/12, Error ellipse: s-maj=15.5km s-min=4.7km az=19.0, confirmed*

UPA ***26*** *03:23:59.5±1.3, 8.°33N×82.°65W, h28km±3km, MW4.2*

ISC 26 03:23:59.2±1.0, 8.°31N±0.°03×82.°64W±0.°02, h31km±8km, n125, σ0s90/171, 35C-5D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LESP3	**La Esperanza,**	**0.17**	**303**	*e*P	**Pn**	**03 24 05.2**	**-0.5**
LESP3				*e*S	**Sn**	**03 24 09.7**	**-0.1**
DVD	**David**	**0.23**	**57**	*e*P	**Pn**	**03 24 05.8**	**-0.6**
DVD				*e*S	**Sn**	**03 24 11.0**	**0.0**
PEDE3	**Pedregal, Chir**	**0.23**	**71**	⇑*i*P	**Pn**	**03 24 05.8**	**-0.7**
PEDE3				*e*S	**Sn**	**03 24 11.5**	**+0.5**
PEDE3	**Pedregal, Chir**	**0.23**	**71**	*e*P	**Pn**	**03 24 05.7**	**-0.8**
PEDE3				*e*S	**Sn**	**03 24 11.5**	**+0.5**
LOCO3	**Loma Colorada,**	**0.24**	**66**	*e*P	**Pn**	**03 24 06.1**	**-0.5**
LOCO3				*e*S	**Sn**	**03 24 11.5**	**+0.2**
PTPA	**Petro Terminal**	**0.25**	**244**	⇓*e*P	**Pn**	**03 24 06.2**	**-0.6**
PTPA				*e*S	**Sn**	**03 24 13.2**	**+1.5**
PTPM	**Petroterminale**	**0.26**	**246**	⇓*i*P	**Pn**	**03 24 06.2**	**-0.6**
PTPM				*e*S	**Sn**	**03 24 10.9**	**-0.9**
PTPM	**Petroterminale**	**0.26**	**246**	*e*P	**Pn**	**03 24 06.1**	**-0.8**
PTPM				*e*S	**Sn**	**03 24 10.9**	**-0.9**
LOMA3	**Las Lomas, Chi**	**0.28**	**64**	⇑*e*P	**Pn**	**03 24 06.2**	**-0.8**
LOMA3				*e*S	**Sn**	**03 24 11.6**	**-0.6**
LOMA3	**Las Lomas, Chi**	**0.28**	**64**	*e*P	**Pn**	**03 24 06.4**	**-0.7**
LOMA3				*e*S	**Sn**	**03 24 11.6**	**-0.6**
LPPC	**Paso Canoas**	**0.29**	**318**	*e*P	**Pn**	**03 24 06.3**	**-1.1**
LPPC				*e*S	**Sn**	**03 24 12.7**	**0.0**
CHIR3	**Chiriqui UPA,**	**0.32**	**75**	⇑*e*P	**Pn**	**03 24 06.7**	**-0.9**
CHIR3				*e*S	**Sn**	**03 24 12.5**	**-0.8**
CHIR3	**Chiriqui UPA,**	**0.32**	**75**	*e*P	**Pn**	**03 24 06.7**	**-0.9**
CHIR3				*e*S	**Sn**	**03 24 12.5**	**-0.8**
CDITO	**Canoas**	**0.35**	**319**	P	**Pb**	**03 24 06.9**	**-0.5**
CDITO	**Canoas**	**0.35**	**319**	S	**Sn**	**03 24 14.2**	**+0.2**
PRISO	**Paraso**	**0.35**	**8**	*e*P	**Pb**	**03 24 07.5**	**-0.1**
CLLRA	**Cordillera,**	**0.43**	**4**	*e*P	**Pb**	**03 24 08.5**	**-0.2**
CLLRA	**Cordillera,**	**0.43**	**4**	⇑*i*P	**Pb**	**03 24 08.6**	**-0.2**
NELY	**Ciudad Neily**	**0.45**	**318**	*e*P	**Pb**	**03 24 08.1**	**-0.8**
NELY				*e*S	**Sb**	**03 24 16.1**	**+0.5**
BQSF3	**Alto Boquete,**	**0.47**	**26**	*e*P	**Pn**	**03 24 08.8**	**-1.1**
BQSF3				*e*S	**Sb**	**03 24 16.8**	**+0.4**
BQTLY	**Boquete Panama**	**0.48**	**22**	⇑*e*P	**Pn**	**03 24 08.9**	**-1.1**
BQTLY	**Boquete Panama**	**0.48**	**22**	⇑*i*P	**Pn**	**03 24 09.0**	**-1.1**
TBS2		**0.48**	**358**	⇑*e*P	**Pn**	**03 24 09.7**	**-0.3**
BRU2	**Volcan**	**0.48**	**354**	⇑*e*P	**Pn**	**03 24 09.1**	**-1.0**
BRU2				*e*S	**Sb**	**03 24 17.4**	**+0.7**
BRU2	**Volcan**	**0.48**	**354**	⇑*i*P	**Pn**	**03 24 09.2**	**-1.0**
BRU2				*e*S	**Sb**	**03 24 17.6**	**+1.0**
BRU2	**Volcan**	**0.48**	**354**	*e*P	**Pn**	**03 24 09.1**	**-1.0**
BRU2				*e*S	**Sb**	**03 24 17.6**	**+1.0**
BRU2	**Volcan**	**0.48**	**354**	P	**Pn**	**03 24 08.9**	**-1.2**
PSOM3	**Paja de Sombre**	**0.49**	**40**	⇑*e*P	**Pn**	**03 24 08.7**	**-1.4**
PSOM3				*e*S	**Sb**	**03 24 15.9**	**-0.7**
PSOM3	**Paja de Sombre**	**0.49**	**40**	*e*P	**Pn**	**03 24 08.7**	**-1.4**
PSOM3				*e*S	**Sb**	**03 24 15.9**	**-0.7**
BC3P	**Paso Ancho**	**0.50**	**3**	⇑*e*P	**Pn**	**03 24 09.3**	**-1.1**
BC3P				*e*S	**Sn**	**03 24 17.9**	**-0.2**
BC3P	**Paso Ancho**	**0.50**	**3**	*e*P	**Pn**	**03 24 09.3**	**-1.1**
BC3P				*e*S	**Sn**	**03 24 17.9**	**-0.2**
MLIR3	**Monte Lirio, C**	**0.51**	**339**	⇑*e*P	**Pn**	**03 24 09.9**	**-0.6**
MLIR3				*e*S	**Sn**	**03 24 18.1**	**-0.1**
MLIR3	**Monte Lirio, C**	**0.51**	**339**	*e*P	**Pn**	**03 24 09.8**	**-0.6**
MLIR3				*e*S	**Sn**	**03 24 18.1**	**-0.1**
LNBQ3	**Los Naranjos,**	**0.52**	**22**	⇑*e*P	**Pn**	**03 24 09.3**	**-1.2**
LNBQ3				*e*S	**Sn**	**03 24 17.6**	**-0.8**
LNBQ3	**Los Naranjos,**	**0.52**	**22**	*e*P	**Pn**	**03 24 09.3**	**-1.2**
LNBQ3				*e*S	**Sn**	**03 24 17.6**	**-0.8**
SCLRA	**Santa Clara, W**	**0.54**	**345**	*e*P	**Pn**	**03 24 10.0**	**-0.8**
SCLRA	**Santa Clara, W**	**0.54**	**345**	*e*S	**Sn**	**03 24 20.0**	**+1.1**
RSRNO	**Rio Sereno**	**0.55**	**337**	*e*P	**Pn**	**03 24 10.2**	**-0.7**
RSRNO	**Rio Sereno**	**0.55**	**337**	*e*S	**Sn**	**03 24 19.9**	**+0.8**
FITO	**Golfito**	**0.60**	**302**	*e*P	**Pn**	**03 24 09.8**	**-1.7**
FITO				*e*S	**Sn**	**03 24 18.1**	**-2.1**
VITO	**San Vito**	**0.60**	**327**	*e*P	**Pn**	**03 24 11.1**	**-0.6**
EDAD	**Golfito**	**0.62**	**303**	⇓*e*P	**Pn**	**03 24 10.1**	**-1.8**
EDAD				*e*S	**Sn**	**03 24 19.1**	**-1.7**
ALCO	**Alturas Coton,**	**0.66**	**343**	⇑*e*P	**Pn**	**03 24 11.3**	**-1.3**
PBNVO	**Pueblo Nuevo,**	**0.73**	**38**	⇑*e*P	**Pn**	**03 24 11.7**	**-1.7**
RBALA	**Bur**	**0.74**	**40**	⇑*e*P	**Pn**	**03 24 12.3**	**-1.3**
RBALA	**Bur**	**0.74**	**40**	⇑*i*P	**Pn**	**03 24 12.3**	**-1.3**
RMDIO	**Remedios, Chir**	**0.81**	**96**	⇑*e*P	**Pn**	**03 24 13.5**	**-0.9**
RMDIO	**Remedios, Chir**	**0.81**	**96**	*i* P	**Pn**	**03 24 13.5**	**-0.9**
NDIMA	**Cerro Iglesias**	**0.84**	**90**	⇑*e*P	**Pn**	**03 24 13.4**	**-1.4**
NDIMA	**Cerro Iglesias**	**0.84**	**90**	⇑*i*P	**Pn**	**03 24 13.5**	**-1.4**
EDP2	**Potrero Grande**	**0.88**	**323**	*e*P	**Pn**	**03 24 14.9**	**-0.5**
PDCAN	**Manzana , Fuen**	**0.93**	**91**	⇑*e*P	**Pn**	**03 24 14.7**	**-1.5**
PDCAN	**Manzana , Fuen**	**0.93**	**91**	⇑*i*P	**Pn**	**03 24 14.8**	**-1.5**
FIMO	**Fila Mora**	**0.98**	**314**	*e*P	**Pn**	**03 24 16.3**	**-0.5**
KKNTU	**Kakint[e]**	**0.98**	**57**	⇑*e*P	**Pn**	**03 24 15.5**	**-1.3**
KKNTU	**Kakint[e]**	**0.98**	**57**	⇑*i*P	**Pn**	**03 24 15.5**	**-1.3**
PANP	**Palmar Norte**	**1.03**	**309**	*e*P	**Pn**	**03 24 16.9**	**-0.6**
CVEJO	**Cerro Viej**	**1.05**	**93**	⇑*e*P	**Pn**	**03 24 16.3**	**-1.5**
CVEJO	**Cerro Viej**	**1.05**	**93**	⇑*e*P	**Pn**	**03 24 16.4**	**-1.4**
BURE	**Buenos Aires**	**1.10**	**321**	*e*P	**Pn**	**03 24 18.2**	**-0.3**
DRK0	**Durika**	**1.12**	**328**	*e*P	**Pn**	**03 24 17.9**	**-0.9**
DRK0	**Durika**	**1.12**	**328**	*e*P	**Pn**	**03 24 18.6**	**-0.3**
DRK0				*e*S	**Sn**	**03 24 32.8**	**-0.5**
DRK0				*e*S		03 24 33.1	
DRK0	**Durika**	**1.12**	**328**	*e*P	**Pn**	**03 24 18.6**	**-0.3**
DRK0				*e*S	**Sn**	**03 24 32.8**	**-0.5**
DRK0				*e*S		03 24 33.1	
DRK0	**Durika**	**1.12**	**328**	P	**Pn**	**03 24 18.3**	**-0.5**
EDPE	**Pejibaye, P**	**1.25**	**313**	⇓*e*P	**Pn**	**03 24 20.2**	**-0.3**
RGM0	**Gandoca**	**1.27**	**1**	*e*P	**Pn**	**03 24 21.9**	**+1.1**
RGM0				*e*S	**Sn**	**03 24 36.5**	**-0.3**
CEUA	**Cerro Uatsi, L**	**1.33**	**347**	*e*P	**Pn**	**03 24 23.0**	**+1.3**
SAJE	**San Jernim**	**1.34**	**320**	⇑*e*P	**Pn**	**03 24 21.2**	**-0.7**
MESA3	**La Mesa, Verag**	**1.45**	**96**	*e*P	**Pn**	**03 24 22.7**	**-0.6**
MESA3				*e*S	**Sn**	**03 24 41.6**	**+0.4**
GMAL	**Guarumal, Vera**	**1.50**	**111**	*e*P	**Pn**	**03 24 22.6**	**-1.3**
GMAL				*e*S	**Sn**	**03 24 42.6**	**+0.3**
LAES	**El Progreso Va**	**1.50**	**344**	*e*P	**Pn**	**03 24 24.6**	**+0.7**
RSUS3	**Rio de Jesus,**	**1.50**	**102**	⇑*e*P	**Pn**	**03 24 23.1**	**-0.8**
RSUS3				*e*S	**Sn**	**03 24 42.0**	**-0.5**
RSUS3	**Rio de Jesus,**	**1.50**	**102**	*e*P	**Pn**	**03 24 23.2**	**-0.8**
RSUS3				*e*S	**Sn**	**03 24 42.0**	**-0.5**
STIA3	**Santiago, Vera**	**1.67**	**97**	⇑*i*P	**Pn**	**03 24 25.9**	**-0.3**
STIA3				⇑*e*P	**Pn**	**03 24 25.9**	**-0.3**
STIA3				*e*S	**Sn**	**03 24 47.4**	**+0.8**
VERH	**Veragua Rainfo**	**1.69**	**341**	*e*P	**Pn**	**03 24 27.1**	**+0.4**
PIEC	**Cerro El Cedra**	**1.84**	**315**	*e*P	**Pn**	**03 24 28.9**	**-0.1**
LLNJ	**Naranjito**	**1.85**	**309**	*e*P	**Pn**	**03 24 29.3**	**+0.6**
RAZU	**San Marcos de**	**1.91**	**315**	*e*P	**Pn**	**03 24 29.7**	**-0.1**
RVSTA	**Santa Teresita**	**1.93**	**329**	*e*P	**Pn**	**03 24 30.7**	**+0.8**
REPA	**Paraso**	**1.94**	**321**	*e*P	**Pn**	**03 24 30.7**	**+0.6**
LCR2	**La Lucha 2**	**1.96**	**317**	⇑*e*P	**Pn**	**03 24 30.2**	**-0.3**
LCR2	**La Lucha 2**	**1.96**	**317**	P	**Pn**	**03 24 30.5**	**0.0**
LCR2	**La Lucha 2**	**1.96**	**317**	S	**Sn**	**03 24 55.5**	**+1.4**
PCAYA	**Pacayas**	**1.97**	**324**	*e*P	**Pn**	**03 24 31.3**	**+0.6**
RESJ	**San Isidro (Tu**	**1.97**	**330**	*e*P	**Pn**	**03 24 31.4**	**+0.9**
ABRB	**Las Abras (San**	**1.99**	**328**	*e*P	**Pn**	**03 24 31.9**	**+1.0**
CRIS3	**El Cristo, Coc**	**2.00**	**91**	*e*P	**Pn**	**03 24 31.0**	**+0.2**
CRIS3				*e*S	**Sn**	**03 24 56.9**	**+2.0**
CVTV	**Tajo**	**2.01**	**327**	*e*P	**Pn**	**03 24 32.0**	**+0.8**
CACAO	**El Cacao, Vera**	**2.01**	**118**	*e*P	**Pn**	**03 24 31.6**	**+0.7**
CACAO				*e*S	**Sn**	**03 24 55.4**	**+0.4**
PICV	**PH. Pirrs**	**2.02**	**311**	*e*P	**Pn**	**03 24 31.6**	**+0.5**
CVTQ	**Turrialba Volc**	**2.02**	**327**	*e*P	**Pn**	**03 24 32.1**	**+0.7**
VTR0	**Volcan Turrial**	**2.02**	**327**	*e*P	**Pn**	**03 24 31.5**	**-0.1**
VICA	**Volcano Irazu**	**2.04**	**325**	*e*P	**Pn**	**03 24 32.4**	**+0.6**
ACOS	**Acosta**	**2.11**	**315**	*e*P	**Pn**	**03 24 32.2**	**-0.2**
EGUB	**Earth Gu¡pi**	**2.11**	**334**	⇑*e*P	**Pn**	**03 24 33.7**	**+1.3**
CVIMO	**Finca Echandi**	**2.13**	**323**	*e*P	**Pn**	**03 24 33.4**	**+0.5**
HDC	**Heredia**	**2.22**	**319**	*e*P	**Pn**	**03 24 34.8**	**+0.8**
BELE	**Belen**	**2.25**	**317**	*e*P	**Pn**	**03 24 34.9**	**+0.5**
CARI	**Cariari**	**2.31**	**332**	*e*P	**Pn**	**03 24 36.3**	**+1.2**
TCS1	**Tacares**	**2.38**	**317**	P	**Pn**	**03 24 37.5**	**+1.4**
ATEO	**Atenas**	**2.39**	**314**	*e*P	**Pn**	**03 24 36.3**	**0.0**
AZU	**Azuero**	**2.40**	**102**	⇑*e*P	**Pn**	**03 24 37.2**	**+0.8**
AZU				*e*S	**Sn**	**03 25 05.9**	**+1.2**
AZU	**Azuero**	**2.40**	**102**	*e*P	**Pn**	**03 24 37.2**	**+0.8**
AZU				*e*S	**Sn**	**03 25 05.9**	**+1.2**
TRT2	**Tortugero**	**2.48**	**334**	*e*P	**Pn**	**03 24 37.9**	**+0.4**
TRT2	**Tortugero**	**2.48**	**334**	P	**Pn**	**03 24 38.3**	**+0.9**
ACHO3	**Achotines, Los**	**2.60**	**110**	*e*P	**Pn**	**03 24 39.6**	**+0.5**
ZANG	**Zanguenga, Cho**	**2.82**	**77**	*e*P	**Pn**	**03 24 42.1**	**0.0**
ZANG				*e*S	**Sn**	**03 25 13.3**	**-1.7**
SOCE	**Pocosol**	**2.84**	**317**	P	**Pn**	**03 24 44.0**	**+1.6**
BCIP	**Isla Barro Col**	**2.90**	**73**	*e*P	**Pn**	**03 24 43.4**	**+0.2**
BCIP	**Isla Barro Col**	**2.90**	**73**	*e*P	**Pn**	**03 24 44.1**	**+0.9**
BCIP				*e*S	**Sn**	**03 25 16.1**	**-0.9**
VACR	**Volcan Arenal**	**2.94**	**317**	*e*P	**Pn**	**03 24 44.9**	**+1.1**
CASO	**Castillo**	**2.95**	**316**	*e*P	**Pn**	**03 24 45.1**	**+1.1**
VARE2	**V. Arenal**	**2.96**	**316**	*e*P	**Pn**	**03 24 45.1**	**+0.9**
GAMB1	**Gamboa**	**3.01**	**74**	*e*P	**Pn**	**03 24 45.4**	**+0.7**
GAMB1				*e*S	**Sn**	**03 25 20.5**	**+0.8**
JTS	**Las Juntas de**	**3.01**	**311**	*e*P	**Pn**	**03 24 44.7**	**-0.1**
JTS	**Las Juntas de**	**3.01**	**311**	*e*P	**Pn**	**03 24 45.0**	**+0.2**
JTS				*e*S	**Sn**	**03 25 19.5**	**-0.3**
JTS	**Las Juntas de**	**3.01**	**311**	P	**Pn**	**03 24 46.3**	**+1.5**
UPA	**Univ. de Panam**	**3.14**	**78**	*e*P	**Pn**	**03 24 48.0**	**+1.4**
UPA				*e*S	**Sn**	**03 25 23.1**	**0.0**
INDI	**Punta indio, G**	**3.22**	**299**	P	**Pn**	**03 24 46.8**	**-0.8**
INDI	**Punta indio, G**	**3.22**	**299**	S	**Sn**	**03 25 23.7**	**-1.3**
CMARA	**Lajas Hojancha**	**3.23**	**302**	P	**Pn**	**03 24 47.7**	**-0.1**
CMARA	**Lajas Hojancha**	**3.23**	**302**	S	**Sn**	**03 25 25.9**	**+0.6**
JUD3	**Juan Diaz 3**	**3.40**	**303**	⇓*e*P	**Pn**	**03 24 50.5**	**+0.2**
ACON	**Acoyapa**	**4.41**	**326**	*e*P	**Pn**	**03 25 04.6**	**+0.6**
ACON	**Acoyapa**	**4.41**	**326**	P	**Pn**	**03 25 04.5**	**+0.6**

IDC ***26*** *03:24:24.6±0.8, 34.°33N×92.°78E, h0km, mb4.1/13, mbtmp4.1/18, ML3.9/5, MS3.5/12, Error ellipse: s-maj=26.7km s-min=16.0km az=37.0*

BJI ***26*** *03:24:25.8, 34.°35N×92.°71E, h9km, mB4.5/4, mb4.6/23, Ms4.2/32, Ms7 4.0/29*

NEIC ***26*** *03:24:26.5±2.2, 34.°43N±0.°09×92.°9E±0.°1, h10km±1km, mb4.3/25, Error ellipse: s-maj=19.6km s-min=13.7km az=56.0*

MOS ***26*** *03:24:26.2±1.3, 34.°55N×92.°71E, h12km, mb4.6/19, Error ellipse: s-maj=9.7km s-min=5.5km az=120.4*

NDI ***26*** *03:24:42.8±2.5, 34.°60N×92.°90E, h10km, ML4.1, MW4.2*

ISC 26 03:24:26.7±0.4, 34.°43N±0.°04×92.°75E±0.°04, h10km, n134, σ1s45/129, mb4.4/44, MS3.4/8, 10C-9D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOMU	**GeErMu**	**2.44**	**43**	Pn	**Pb**	**03 25 10.5**	**-0.5**
LSA	**Lhasa**	**4.91**	**196**		**Pn**	**03 25 44.0**	**+3.0**
LSA	**Lhasa**	**4.91**	**196**	Pn	**Pn**	**03 25 43.8**	**+2.8**
LSA				LR	LR		
	comp=N,3μm,7.9s						
LSA				LR	LR		
	comp=Z,3μm,8.7s						
LSA	**Lhasa**	**4.91**	**196**	P	**Pn**	**03 25 44.0**	**+3.0**
ZIRO	**ZIRO**	**6.95**	**172**	*e*P	**Pb**	**03 26 26.1**	**-1.5**
ZIRO				*e*S	Sb	03 27 44.5	-6.3
ZIRO				IAML		03 28 42.1	
	comp=E,457nm,0.9s						
ZIRO				IAML		03 28 42.6	
	comp=N,281nm,7.8s						
GTA	**Gaotai**	**7.53**	**47**	Pn	**Pn**	**03 26 19.0**	**+2.3**
GTA				LR	LR		
	comp=N,680nm,6.9s						
GTA				LR	LR		
	comp=N,810nm,7.6s						
GTA				LR	LR		
	comp=N,820nm,7.6s						
SHL	**Shillong**	**8.87**	**185**		**Pn**	**03 26 32.8**	**-2.3**
SHL	**Shillong**	**8.87**

ZAK pmax pmax
comp=Z,10.0nm,1.6s
KURBB Kurchatov Arra 19.22 332 P **P** **03 28 50.5 -0.4**
comp=Z,0.1nm,0.3s,baz=139,slow=11,SNR=9.2
comp=Z,3.7nm,1.1s
KURK Kurchatov 19.26 332 **P** **P** **03 28 50.7 -0.5**
KURK Kurchatov 19.26 332‖ *eP* **Pn** **03 28 52.3 +0.1**
KURK pmax pmax
comp=Z,7.0nm,1.0s
KK31 Karatay Array 19.34 303 **P** **03 28 51.2 -1.0**
KK31 Karatay Array 19.34 303 P **P** **03 28 51.2 -1.0**
KK31 pmax pmax
comp=Z,6.0nm,1.1s
KKAR Karatay Array 19.34 303 P **P** **03 28 51.5 -0.7**
KKAR Karatay Array 19.34 303 P **P** **03 28 51.5 -0.7**
SIMJ Simiganj 19.52 289 P **P** **03 28 53.5 -0.9**
KBL Kabul 19.54 277 **P** **03 28 55.3 +0.6**
KBL IAmb IAmb 03 29 01.9
comp=Z,17nm,0.9s
KBL Kabul 19.54 277 P **P** **03 28 55.3 +0.6**
KBL pmax pmax
comp=Z,17nm,1.0s
ZAA0 Zalesovo Array 20.30 346 P **P** **03 29 02.4 -0.1**
ZAA0 IAmb IAmb 03 29 06.2
comp=Z,5.2nm,0.7s
ZALV Zalesovo Beam 20.30 346 P **P** **03 29 02.3 -0.2**
ZALV Zalesovo Beam 20.30 346 P **P** **03 29 02.6 +0.1**
comp=Z,4.8nm,0.6s,baz=162,slow=10,SNR=17
ZALV LR LR 03 37 40.0
comp=Z,82nm,19.2s,baz=162,slow=39
comp=Z,4.8nm,0.6s
ZALV Zalesovo Beam 20.30 346 *i* P Pn 03 29 03.5 -1.0
ZALV pmax pmax
comp=Z,5.0nm,0.6s
QIZ Qiongzhong 21.59 131 P **P** **03 29 15.5 -1.3**
QIZ S **S** **03 33 17.0 +0.9**
QIZ LR LR
comp=Z,110nm,8.6s
QIZ LR LR
comp=Z,120nm,7.4s
QIZ LR LR
comp=Z,310nm,9.9s
BVAR Borovoye Array 24.45 326 P **P** **03 29 46.9 +1.2**
comp=Z,5.5nm,0.9s,baz=131,slow=10,SNR=14
BVAR LR LR 03 40 14.6
comp=Z,46nm,19.3s,baz=185,slow=39
comp=Z,5.5nm,0.9s
BRVK Borovoye 24.52 326 P **P** **03 29 46.8 +0.6**
BRVK Borovoye 24.52 326 *d i* P **P** **03 29 46.7 +0.5**
BRVK pmax pmax
comp=Z,14nm,1.3s
CN2 Changchun 26.89 60 *eP* **P** **03 30 07.5 -0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KSRS Korea Array 28.54 74 P **P** **03 30 22.9 +0.3**
comp=Z,3.4nm,0.8s,baz=273,slow=8.9,SNR=11
comp=Z,3.4nm,0.8s
PSI Prapat 31.99 168 LR LR 03 46 38.0
comp=Z,115nm,20.8s,baz=164,slow=42
ARTI Arti 32.09 324 LR LR 03 44 45.4
comp=Z,51nm,21.5s,baz=342,slow=38
ARTI Arti 32.09 324 *d i* P **P** **03 30 54.6 +0.9**
ARTI 03 31 55.3
ARTI S **S** **03 36 07.5 +1.8**
ARTI SS **SnSn** **03 37 52.3 -3.0**
ARTI pmax pmax
comp=Z,4.0nm,1.0s
YAK Yakutsk 36.11 29 LR LR 03 47 24.4
comp=Z,175nm,20.1s,baz=157,slow=38
YAK Yakutsk 36.11 29‖ *eP* **P** **03 31 26.5 -2.0**
YAK pmax pmax
comp=Z,13nm,0.4s
BELG Belogornoye 36.66 313‖ *eP* **P** **03 31 33.3 0.0**
BELG pmax pmax
comp=Z,5.0nm,1.3s
KIRV Kirov 37.41 324‖ *eP* **P** **03 31 40.1 +0.5**
KIV Kislovodsk 39.42 299 *eP* **P** **03 31 55.5 -1.4**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,27nm,16.0s
GURO Guroymak-BITLI 40.56 291 P **P** **03 32 09.0 +2.5**
GURO IAmb IAmb 03 32 10.9
comp=Z,8.0nm,1.1s
VORD Divnogorie 41.65 310 *eP* **P** **03 32 12.9 -2.1**
VORD pmax pmax
comp=Z,9.0nm,1.8s
VSR Storozhevoye 41.74 311 *eP* **P** **03 32 14.9 -0.9**
VSR pmax pmax
comp=Z,7.0nm,1.6s
LPSR Galich'ya Gora 41.96 313 *eP* **P** **03 32 16.2 -1.4**
LPSR pmax pmax
comp=Z,6.0nm,1.0s
TOLI2 Tolitoli 42.24 136 P **P** **03 32 19.6 -0.7**
TOLI2 IAmb IAmb 03 32 21.0
comp=Z,6.3nm,0.9s
KLMR Klimovskoe 42.86 325 *eP* **P** **03 32 23.9 -0.9**
KLMR *e* 03 34 02.6
KLMR pmax pmax
comp=Z,8.0nm,1.0s
OBN Obninsk 43.53 316 LR LR 03 53 09.8
comp=Z,135nm,20.6s,baz=211,slow=40
OBN Obninsk 43.53 316‖ *eP* **P** **03 32 32.4 +2.1**
OBN *e* 03 34 15.4
OBN pmax pmax
comp=Z,3.0nm,0.4s
OBN MLR MLR
comp=Z,112nm,21.0s
MA2 Magadan 44.98 38 LR LR 03 52 39.7
comp=Z,110nm,19.1s,baz=136,slow=38
MA2 Magadan 44.98 38‖ *eP* **P** **03 32 42.3 +0.4**
MA2 pmax pmax
comp=Z,36nm,1.3s
SEY Seymchan 46.24 33‖ *eP* **P** **03 32 53.1 +1.3**
SEY pmax pmax
comp=Z,6.0nm,0.9s
BR131 Keskin Array S 46.72 295 P **P** **03 32 56.1 0.0**
BR131 IAmb IAmb 03 33 07.9
comp=Z,5.7nm,1.4s
BR131 Keskin Array S 46.72 295 P **P** **03 32 56.1 0.0**
BR131 pmax pmax
comp=Z,6.0nm,1.4s
BRTR Keskin Array B 46.72 295 P **P** **03 32 56.1 0.0**
comp=Z,1.3nm,0.8s,baz=115,slow=7.4,SNR=7.5
comp=Z,1.3nm,0.8s
BRTR Keskin Array B 46.72 295 *ce* P **P** **03 32 58.0 +1.9**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
ANTO Ankara 47.32 295 P **P** **03 33 01.5 +0.8**
ANTO Ankara 47.32 295 P **P** **03 33 01.5 +0.8**
ANTO pmax pmax
comp=Z,15nm,1.1s
AKASG Malin Array Be 48.03 310 P **P** **03 33 05.6 -0.4**
comp=Z,4.0nm,0.9s,baz=77,slow=6.6,SNR=11
comp=Z,4.0nm,0.9s
AKBB Malin Array Si 48.03 310‖ *eP* **P** **03 33 04.8 -1.1**
AKBB pmax pmax
comp=Z,6.0nm,1.0s
MDUB Mudurnu 48.37 296 P **P** **03 33 09.2 +0.4**
VSU Vasula 49.05 321⇑ *eP* **P** **03 33 14.9 +1.3**
VSU pmax pmax
comp=Z,8.0nm,0.8s
FINES FINESS Array B 49.39 324 P **P** **03 33 16.4 +0.2**
comp=Z,0.8nm,0.6s,baz=84,slow=7.9,SNR=6.4
comp=Z,0.8nm,0.6s
FINES FINESS Array B 49.39 324 *i* P **P** **03 33 18.0 +1.8**
FINES pmax pmax
comp=Z,1.0nm,0.6s
MLR Muntele Rosu 51.02 304 P **P** **03 33 29.2 +0.2**
MLR Muntele Rosu 51.02 304 P **P** **03 33 29.2 +0.2**
MLR pmax pmax
comp=Z,9.0nm,1.0s
BURAR Bucovina Array 51.08 307 P **P** **03 33 27.3 -2.1**
BURAR IAmb IAmb 03 33 32.4
comp=Z,1.7nm,0.8s
BILL Bilibino 52.43 27⇑ *eP* **P** **03 33 40.0 +1.0**
BILL pmax pmax
comp=Z,7.0nm,0.9s
KOLS Kolonicke sedl 52.75 309 *eP* **P** **03 33 44.1 +2.4**
KOLS Kolonicke sedl 52.75 309 *eP* **P** **03 33 44.1 +2.4**
STHS Stebnicka Huta 53.31 309 *eP* **P** **03 33 47.3 +1.5**
STHS Stebnicka Huta 53.31 309 *eP* **P** **03 33 47.3 +1.5**
VYHS Vyhne 55.07 309 *eP* **P** **03 34 00.3 +1.6**
VYHS Vyhne 55.07 309 *eP* **P** **03 34 00.2 +1.6**
HFS Hagfors 55.54 323 P **P** **03 34 02.6 +0.8**
comp=Z,2.1nm,0.9s,baz=82,slow=11,SNR=8.4
comp=Z,2.1nm,0.9s
MORC Moravsky Berou 55.57 311 IAmb IAmb 03 34 06.1
comp=Z,6.5nm,1.3s
MORC Moravsky Berou 55.57 311 *eP* **P** **03 34 04.0 +1.7**
JAVC Velka Javorina 55.72 309 *eP* **P** **03 34 05.0 +1.6**
MODS Modra-Piesok 56.10 309 *eP* **P** **03 34 09.0 +2.9**
MODS Modra-Piesok 56.10 309 *eP* **P** **03 34 08.9 +2.9**
NB2 NORSAR Subarra 56.57 325 P **P** **03 34 10.1 +0.8**
comp=Z,0.8nm,0.8s,baz=79,slow=6.9
NOA NORSAR Array B 56.57 325 P **P** **03 34 09.5 +0.2**
comp=Z,0.4nm,0.3s,baz=55,slow=7.3,SNR=2.4
comp=Z,0.4nm,0.3s
RONA Rosalia, Austr 56.92 308 *eP* **P** **03 34 12.4 +0.4**
comp=Z,1.2nm,0.5s
CONA Conrad Observa 57.14 309 *eP* **P** **03 34 14.0 +0.4**
comp=Z,0.1nm,0.2s
BRG Berggiesshubel 57.51 313 *eP* **P** **03 34 18.4 +2.3**
BRG Amp 03 34 19.1
comp=Z,3.5nm,0.7s
BRG *er* 04 03 16.1
BRG Amp 04 03 27.3
comp=Z,3.2nm,0.6s
BRG r 04 03 41.4
BRG Amp 04 03 45.1
comp=Z,3.5nm,0.7s
SOKA Soboth 58.05 308 *i* P **P** **03 34 19.5 -0.5**
comp=Z,3.5nm,1.0s
GEC2 GERESS Array S 58.24 310 P **P** **03 34 21.2 -0.2**
GEC2 IAmb IAmb 03 34 24.4
comp=Z,3.8nm,0.8s
GERES GERESS Array B 58.24 310 P **P** **03 34 21.6 +0.3**
comp=Z,2.0nm,0.7s,baz=64,slow=9.1,SNR=19
comp=Z,2.0nm,0.7s
MYKA Terra Mystica 58.97 308 *eP* **P** **03 34 25.5 -0.9**
comp=Z,0.9nm,0.4s
LESA Schwarzleotal 59.34 309 *eP* **P** **03 34 29.3 +0.4**
comp=Z,7.7nm,0.9s
SQTA Sankt Quirin 60.35 309 *i* P **P** **03 34 35.6 -0.3**
comp=Z,3.2nm,0.6s
RETA Reutte 60.54 310 *eP* **P** **03 34 37.5 +0.3**
comp=Z,3.3nm,0.8s
FETA Feichten 60.73 309 *eP* **P** **03 34 37.6 -1.0**
comp=Z,3.9nm,0.8s
FUORN Ofenpass-Fuorn 61.16 309 **P** **03 34 42.9 +1.2**
FUORN IAmb IAmb 03 34 44.0
comp=Z,2.1nm,0.7s
DAVA Damuels 61.18 310 *eP* **P** **03 34 40.7 -0.9**
comp=Z,2.4nm,0.7s
TUE Stuetta 61.81 309 **P** **03 34 46.2 +0.2**
ASAR Alice Springs 69.76 140 P **P** **03 35 35.8 -1.4**
comp=Z,1.1nm,0.6s,baz=324,slow=6.4,SNR=14
comp=Z,1.1nm,0.6s
COLA College 70.39 23⇑ *eP* **P** **03 35 40.1 -0.3**
COLA pmax pmax
comp=Z,5.0nm,0.9s
ILAR Eielson Array 70.77 23 P **P** **03 35 41.8 -1.0**
comp=Z,1.2nm,0.9s,baz=295,slow=5.7,SNR=12
comp=Z,1.2nm,0.9s
ESDC Sonseca Array 73.54 307 P **P** **03 35 59.1 -0.8**
comp=Z,1.1nm,0.8s,baz=53,slow=6.3,SNR=9.7
comp=Z,1.1nm,0.8s
YKA Yellowknife Ar 80.93 12 P **P** **03 36 40.9 0.0**
comp=Z,1.5nm,0.9s,baz=343,slow=6.9,SNR=3.5
comp=Z,1.5nm,0.9s
YKA Yellowknife Ar 80.93 12 *ce* **P** **P** **03 36 44.2 +3.3**
YKA pmax pmax
comp=Z,2.0nm,0.9s
NVL N'lazareskaya 119.19 202 *e* PKIKP PKiKP 03 43 28.5 +14
NVL pmax pmax
comp=Z,12nm,1.0s

*IDC **26** 03:30:30.9±1.1, 0.°64S×127.°73E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=115.3km s-min=17.3km az=67.0*
*NEIC **26** 03:30:32.9±1.2, 0.°66S±0.°04×127.°6E±0.°1, h10km±1km, mb4.3/6, Error ellipse: s-maj=20.5km s-min=7.1km az=261.0*
*DJA **26** 03:30:37.0±0.3, 1.°S±3.°×12.°8E±.°, h49km±34km, M4.0/11, mb4.3/3, MLv3.9/11*
ISC 26 03:30:36.5±0.7, 0.°65S±0.°05×127.°59E±0.°07, h41km, n24, σ1§30/26, mb4.0/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**1.43**	**351**			**Pn**	**03 30 59.1**	**-1.0**
TNTI	**Ternate**	**1.43**	**351**	P		**Pn**	**03 30 59.8**	**-0.3**
TNTI				S		**Sn**	**03 31 18.3**	**+0.6**
SANI	**Sanana**	**2.12**	**229**	P		**Pn**	**03 31 09.7**	**+0.3**
SANI				S		**Sn**	**03 31 34.8**	**+0.3**
NLAI	**Namlea**	**2.61**	**191**	P		**Pn**	**03 31 16.1**	**-0.2**
MSAI	**Masohi**	**2.99**	**153**	P		**Pn**	**03 31 23.5**	**+2.0**
FAKI	**Fak Fak**	**5.17**	**116**	Pn		**Pn**	**03 31 50.0**	**-1.6**
FAKI	**Fak Fak**	**5.17**	**116**	P		**Pn**	**03 31 51.8**	**+0.3**
	0.2nm41nm,1.1s							
APSI	**Ampana**	**5.94**	**268**	P		**Pn**	**03 32 01.3**	**-0.8**
	55nm,0.7s							
MTN	**Manton Dam**	**12.61**	**164**	Pn		**Pn**	**03 33 31.7**	**-1.8**
KNRA	**Kununurra**	**14.97**	**176**	P		**P**	**03 34 09.8**	**-0.6**
WRA	**Warramunga Arr**	**20.28**	**161**	P		**P**	**03 35 05.7**	**-3.2**
WRA	**Warramunga Arr**	**20.28**	**161**	P		**P**	**03 35 06.7**	**-2.1**
	1.7nm,0.6s,baz=342,slow=11,SNR=22							
	1.7nm,0.6s							
WR8	**Warramunga Arr**	**20.34**	**161**	P		**P**	**03 35 08.2**	**-1.3**
WR8						IAmb	IAmb	03 35 29.9
	comp=Z,12nm,1.4s							
AS31	**Alice Springs**	**23.68**	**165**	P		**P**	**03 35 43.3**	**-1.4**
AS31						IAmb	IAmb	03 35 45.7
	comp=Z,1.4nm,0.6s							
ASAR	**Alice Springs**	**23.68**	**165**	P		**P**	**03 35 43.5**	**-1.2**
ASAR	**Alice Springs**	**23.68**	**165**	P		**P**	**03 35 44.1**	**-0.5**
	comp=Z,2.3nm,0.5s,baz=344,slow=11,SNR=30							
	comp=Z,2.3nm,0.5s							
GIRL	**Giralia**	**25.43**	**210**	P		**P**	**03 36 00.2**	**-0.3**
GIRL						IAmb	IAmb	03 36 25.5
	comp=Z,62nm,1.4s							
STKA	**Stephens Creek**	**33.76**	**158**	P		**P**	**03 37 15.3**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=323,slow=8.8,SNR=3.8							
	comp=Z,1.9nm,0.8s							
SONM	**Songino Array**	**51.70**	**342**	P		**P**	**03 39 40.8**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=133,slow=8.1,SNR=1.9							
	comp=Z,0.5nm,0.5s							
MKAR	**Makanchi Array**	**61.64**	**326**	P		**P**	**03 40 50.5**	**+0.3**
MKAR	**Makanchi Array**	**61.64**	**326**	P		**P**	**03 40 51.0**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=134,slow=5.3,SNR=9.4							
	comp=Z,1.0nm,0.6s							
KURBB	**Kurchatov Arra**	**65.88**	**328**	P		**P**	**03 41 18.5**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=125,slow=6.1,SNR=14							
	comp=Z,2.4nm,0.9s							
KURK	**Kurchatov**	**65.89**	**328**	P		**P**	**03 41 19.5**	**+1.5**
KURK						IAmb	IAmb	03 41 21.2
	comp=Z,3.6nm,0.9s							
BVAR	**Borovoye Array**	**71.45**	**328**	P		**P**	**03 41 53.8**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=123,slow=5.5,SNR=6.5							
	comp=Z,1.3nm,0.8s							

TRN 26 03:34:59.5, 14.°43N×59.°04W, h108km, MD3.6, Far North-east of Saint Lucia., Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SLBI	**Saint Lucia, B**	**1.91**	**258**	*eP*		Pn	03 35 32.6	+1.3
SLBI				*eS*		Sn	03 35 56.0	+0.5
BIM	**Bigot**	**1.97**	**273**	*eP*		Pn	03 35 33.4	+1.4
BIM				*eS*		Sn	03 35 57.7	+0.9
SVN	**Savane Anatole**	**2.10**	**282**	*eP*		Pn	03 35 34.8	+1.1
SVN				*eS*		Sn	03 36 01.1	+1.3
SVT	**Saint Vincent**	**2.47**	**240**	*eP*		Pn	03 35 40.0	+1.5
SVT				*eS*		Sn	03 36 08.9	+0.4
DSDZ	**La Diserade, G**	**2.71**	**314**	*eP*		Pn	03 35 42.1	+0.6
DSDZ				*eS*		Sn	03 36 10.6	-3.3

*SJA **26** 03:46:09.7±0.5, 19.°43S×67.°68W, h250km±8km, ML3.5, MW3.7*
*SCB **26** 03:46:10.6±0.9, 19.°47S×67.°56W, h228km±10km, ML3.5/3, MW3.2, Error ellipse: s-maj=3.3km s-min=2.8km az=1.0*
ISC 26 03:46:08.1±1.9, 19.°44S±0.°04×67.°57W±0.°05, h247km±17km, n31, σ2§90/46, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GO01	**Chusmiza**	**1.55**	**261**	*eP*		**Pn**	**03 46 48.3**	**+1.3**
PB08	**IPOC Station P**	**1.65**	**245**	IAML			03 46 49.9	
	comp=Z,66nm,0.2s							
PB08	**IPOC Station P**	**1.65**	**245**	Pg		**Pn**	**03 46 49.2**	**+1.5**
PB11	**IPOC Station P**	**1.99**	**260**	*eP*		**Pn**	**03 46 50.3**	**-0.1**
PB11				*eS*		**S**	**03 47 25.1**	**+1.4**
PB11				IAML			03 47 28.5	
	comp=Z,73nm,0.1s							
PB11	**IPOC Station P**	**1.99**	**260**	Pg		**Pn**	**03 46 51.6**	**+1.2**
PB11				Sg		**S**	**03 47 22.9**	**-0.8**
PB11				IAML			03 47 26.8	
	comp=Z,127nm,0.2s							
HMBC	**Humberstone**	**2.34**	**249**	*eP*		**Pn**	**03 46 54.3**	**+0.7**
HMBC				*eS*		**S**	**03 47 28.5**	**-1.0**
PB01	**IPOC Station P**	**2.41**	**228**	*eP*		**Pn**	**03 46 54.8**	**+0.5**
PB01				*eS*		**S**	**03 47 29.5**	**-1.2**
PB01				IAML			03 47 31.3	
	comp=Z,131nm,0.3s							
PB01	**IPOC Station P**	**2.41**	**228**	Pg		**Pn**	**03 46 55.6**	**+1.3**
PB01				Sg		**S**	**03 47 29.3**	**-1.5**
PB01				IAML			03 47 32.0	
	comp=Z,234nm,0.2s							
BBOJ	**La Paz, Jacaqu**	**2.52**	**346**	Pg		**Pn**	**03 46 58.4**	**+2.5**
TA02	**Huaiquique**	**2.55**	**251**	*eP*		**Pn**	**03 46 57.1**	**+1.5**
TA02				*eS*		**S**	**03 47 31.6**	**-1.5**
TA02				IAML			03 47 33.5	
	comp=Z,196nm,0.1s							
MOCB	**Mochara**	**2.56**	**135**	Pg		**Pn**	**03 46 57.4**	**+1.2**
MOCB				Sg		**S**	**03 47 33.1**	**-1.0**
MOCB				IAML			03 47 36.3	
	comp=Z,61nm,0.4s							
BBOE	**La Paz, Chanca**	**2.64**	**351**	Pg		**Pn**	**03 46 59.3**	**+2.1**
TA01	**Diego Aracena**	**2.70**	**245**	*eP*		**Pn**	**03 46 58.4**	**+1.2**
TA01				*eS*		**S**	**03 47 34.2**	**-1.7**
TA01				IAML			03 47 37.9	
	comp=Z,70nm,0.3s							
PATCX	**Punta Patache**	**2.79**	**240**	*eP*		**Pn**	**03 46 59.5**	**+1.3**
PATCX				*eS*		**S**	**03 47 36.3**	**-1.5**
PATCX				IAML			03 47 37.9	
	comp=Z,129nm,0.5s							
PB09	**IPOC Station P**	**2.82**	**213**	*eP*		**Pn**	**03 47 00.9**	**+2.3**
PB09				*eS*		**S**	**03 47 39.3**	**+0.7**
PB09				IAML			03 47 49.4	
	comp=Z,47nm,0.4s							
PB09	**IPOC Station P**	**2.82**	**213**	Pg		**Pn**	**03 47 00.4**	**+1.8**
AP01	**Chacalluta**	**2.83**	**292**	*eP*		**Pn**	**03 46 59.6**	**+1.1**
AP01				IAML			03 47 44.5	
	comp=Z,102nm,0.3s							
PB02	**IPOC Station P**	**2.88**	**229**	*eP*		**Pn**	**03 47 00.9**	**+1.8**
PB02				*eS*		**S**	**03 47 38.2**	**-1.3**
PB02	**IPOC Station P**	**2.88**	**229**	Pg		**Pn**	**03 47 01.4**	**+2.3**
BBOD	**La Paz, Gloria**	**2.95**	**340**	Pg		**Pn**	**03 47 02.9**	**+2.4**
LPAZ	**La Paz**	**3.18**	**350**	*eP*		**Pn**	**03 47 05.1**	**+2.0**
LPAZ				*eS*		**S**	**03 47 40.5**	**-5.9**
LPAZ	**La Paz**	**3.18**	**350**	Pg		**Pn**	**03 47 05.2**	**+2.2**
PB03	**IPOC Station P**	**3.31**	**218**	*eP*		**Pn**	**03 47 05.3**	**+1.4**
PB03				*eS*		**S**	**03 47 46.9**	**-1.2**
PB03				IAML			03 47 52.2	
	comp=Z,97nm,0.1s							
BBOB	**La Paz, Bander**	**3.32**	**351**	Pg		**Pn**	**03 47 06.4**	**+1.9**
YJA	**Yavi**	**3.34**	**145**	*eP*		**Pn**	**03 47 05.8**	**+1.3**
YJA				*eS*		**S**	**03 47 46.7**	**-2.5**
YJA	**Yavi**	**3.34**	**145**	Pg		**Pn**	**03 47 06.0**	**+1.5**
AF01	**San Pedro de A**	**3.54**	**189**	*eP*		Pn	03 46 56.4	-10
AF01				*eS*		S	03 48 04.4	+11
AF01				IAML			03 48 17.1	
	comp=Z,44nm,1.7s							
PB06	**IPOC Station P**	**3.75**	**210**	*eP*		**Pn**	**03 47 10.6**	**+1.6**
PB06				*eS*		**S**	**03 47 56.0**	**-1.4**
PB06				IAML			03 47 57.0	
	comp=Z,86nm,0.6s							
PB05	**IPOC Station P**	**4.20**	**215**	*eP*		**Pn**	**03 47 15.8**	**+1.7**
PB05				*eS*		**S**	**03 48 04.3**	**-2.3**
PB05				IAML			03 48 07.8	
	comp=Z,61nm,0.3s							
PB10	**IPOC Station P**	**4.92**	**214**	*eP*		**Pn**	**03 47 24.3**	**+1.6**
PB10				*eS*		**S**	**03 48 17.5**	**-4.8**
PB10				IAML			03 48 19.9	
	comp=Z,31nm,0.3s							
AZAP	**Zapla**	**5.30**	**154**	*eP*		**Pn**	**03 47 29.2**	**+1.6**
AZAP				IAML			03 49 18.2	
	comp=Z,13nm,3.0s							

AUST 26 03:48:18.4±0.8, 19.°S±6.°×12.°1E±.°, h10km, mb4.1/2, ML2.7/4, ML2.6/1, Error ellipse: s-maj=16.6km s-min=5.7km az=140.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBWA	**Marble Bar**	**2.67**	**199**	P		Pn	03 48 59.8	-1.6
MBWA				S		Sn	03 49 35.0	+1.1
PSAA2	**Pilbara Seismi**	**3.02**	**195**	P		Pn	03 49 06.4	+0.1
PSAA2				S		Sn	03 49 43.6	+1.0
PSA00	**Pilbara Seismi**	**3.03**	**195**	P		Pn	03 49 06.3	-0.1
PSA00				S		Sn	03 49 43.6	+0.9
FITZ	**Fitzroy Crossi**	**4.75**	**84**	P		Pn	03 49 31.0	+0.9
FITZ	**Fitzroy Crossi**	**4.75**	**84**	S		Sn	03 50 25.7	+0.5
GIRL	**Giralia**	**7.23**	**235**	P		Pn	03 50 04.3	+0.1
	comp=Z,38nm,1.5s,comp=Z,0.1nm							
GIRL				S		Sn	03 51 15.1	-11
MEEK	**Meekatharra**	**8.19**	**193**	P		Pn	03 50 17.9	+0.5
	comp=Z,14nm,2.1s							

IDC 26 03:52:40.3±2.1, 0.°51S×127.°91E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=120.4km s-min=28.2km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**20.31**	**162**	P		P	03 57 18.5	+0.4
	0.7nm,0.5s,baz=342,slow=11,SNR=10							
	0.7nm,0.5s							
ASAR	**Alice Springs**	**23.74**	**166**	P		P	03 57 54.2	-0.2
	1.9nm,0.6s,baz=343,slow=11,SNR=19							
	1.9nm,0.6s							
MKAR	**Makanchi Array**	**61.70**	**326**	P		P	04 03 00.2	-0.1
	0.3nm,0.7s,baz=121,slow=7.4,SNR=2.9							
	0.3nm,0.7s							

*PDG **26** 03:59:52.8±0.6, 44.°65N×18.°52E, h10km±1km, ML2.9/11, Error ellipse: s-maj=1.1km s-min=1.2km az=0.0*
*BEO **26** 03:59:53.0±0.4, 44.°59N×18.°34E, h7km±4km, ML2.7/18*
*RHSSO **26** 03:59:53.3±0.3, 44.°64N×18.°53E, h6km±2km, ML2.8/12*
*PRU **26** 04:00:02.4, 45.°19N×18.°23E, h10km*
ISC 26 03:59:53.8±1.0, 44.°61N±0.°02×18.°40E±0.°02, h17km±8km, n102, σ1§58/128, 12C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DOB	**Doboj**	**0.25**	**301**	*eP*		**Pb**	**03 59 59.4**	**-0.5**
DOB				*eSg*		**Sg**	**04 00 04.4**	**+1.0**
TEKS	**Tekeris**	**0.81**	**94**	*eP*		**Pb**	**04 00 08.0**	**-1.4**
TEKS				*eSg*		**Sb**	**04 00 18.9**	**-1.1**
BLY	**Banja Luka**	**0.88**	**280**	*eP*		**Pb**	**04 00 11.3**	**+0.6**
BLY				*eSg*		**Sn**	**04 00 24.4**	**+0.6**
BLY	**Banja Luka**	**0.88**	**280**	‖P		**Pn**	**04 00 12.7**	**+1.3**
BLY				‖S		**Sg**	**04 00 23.4**	**+0.7**
BBLS	**Lazi&#263i**	**1.03**	**135**	*eP*		**Pb**	**04 00 12.6**	**-0.7**
BBLS				*eSg*		**Sb**	**04 00 27.1**	**+0.6**
A051A	**Mrakovica**	**1.14**	**291**⇑	*iPg*		**Pb**	**04 00 15.9**	**+0.8**
A051A				*eSg*		**Sg**	**04 00 31.7**	**+0.8**
FRGS	**Fruska Gora**	**1.14**	**61**	*eP*		**Pn**	**04 00 14.5**	**-0.5**
FRGS				*eSg*		**Sn**	**04 00 30.5**	**+0.2**
RUDO	**Rudo**	**1.21**	**144**⇑	*iPg*		**Pn**	**04 00 14.6**	**-1.3**
RUDO				*eSg*		**Sb**	**04 00 30.9**	**-0.6**
DIVS	**Divibare**	**1.25**	**113**	*eP*		**Pn**	**04 00 16.9**	**+0.4**
DIVS				*eSg*		**Sb**	**04 00 32.6**	**-0.1**
A050A	**Klekovaca**	**1.34**	**265**	*eP*		**Pb**	**04 00 18.8**	**+0.2**
A050A				*eSg*		**Sg**	**04 00 38.5**	**+1.2**
KLINJ	**Klinje**	**1.44**	**175**	*eP*		**Pn**	**04 00 20.0**	**+0.8**
KLINJ				*eSg*		**Sg**	**04 00 40.1**	**-0.3**
UPM	**Unac-Piva**	**1.45**	**165**‖	*iPg*		**Pb**	**04 00 20.8**	**+0.4**
UPM				*i* Sg		**Sg**	**04 00 41.3**	**+0.7**
PLE	**Pljevlja**	**1.46**	**150**	*ePg*		**Pb**	**04 00 20.6**	**0.0**
PLE				*i* Sg		**Sg**	**04 00 41.6**	**+0.6**
TRUS	**Trudelj**	**1.48**	**104**	*ePg*		**Pn**	**04 00 20.0**	**+0.3**
TRUS				*eSg*		**Sg**	**04 00 41.2**	**-0.6**
AVAS	**Avala Beograd**	**1.51**	**86**	*ePg*		**Pb**	**04 00 21.6**	**+0.2**
AVAS				*eSg*		**Sb**	**04 00 41.7**	**+1.5**
MOSL	**Moslavina**	**1.54**	**311**⇑	*iPn*		**Pn**	**04 00 21.6**	**+1.0**
MOSL				*eSn*		**Sg**	**04 00 43.1**	**-0.5**

KIJV	**Kijevo**	**1.56**	**248**	*e*Pn	**Pb**	**04 00 22.0**	**-0.2**
KIJV				*e*Sn	**Sg**	**04 00 43.9**	**-0.1**
MORH	**Mrgy, Hungar**	**1.62**	**6**	*e*Pn	**Pn**	**04 00 21.7**	**+0.1**
MORH				*e*Sn	**Sn**	**04 00 41.8**	**-0.2**
MORH	**Mrgy, Hungar**	**1.62**	**6**	⇑P	**Pg**	**04 00 24.7**	**-0.3**
MORH				⇑S	**Sg**	**04 00 45.9**	**-0.1**
BRY	**Bratogost**	**1.71**	**177**	*e*Pn	**Pb**	**04 00 24.9**	**+0.1**
BRY				*i* Sn	**Sg**	**04 00 48.4**	**-0.4**
SJES	**Sjenica**	**1.76**	**139**	*e*Pg	**Pn**	**04 00 24.2**	**+0.6**
SJES				*e*Sg	**Sg**	**04 00 50.1**	**-0.4**
STON	**Ston**	**1.81**	**197**	*e*Pn	**Pb**	**04 00 26.1**	**-0.3**
STON				*e*Sn	**Sb**	**04 00 49.7**	**+1.0**
GRUS	**Gruza**	**1.81**	**113**	*e*Pg	**Pb**	**04 00 26.9**	**+0.4**
GRUS				*e*Sg	**Sg**	**04 00 53.4**	**+1.3**
NKME	**Niksic**	**1.88**	**168**	*e*Pn	**Pb**	**04 00 27.3**	**-0.4**
NKME				*i* Sn	**Sb**	**04 00 52.6**	**+1.7**
TREB	**Trebinje**	**1.89**	**181**	*e*Pn	**Pb**	**04 00 27.2**	**-0.6**
TREB				*e*Sn	**Sb**	**04 00 51.8**	**+0.7**
KOME	**Kolasin**	**1.93**	**155**	*e*Pn	**Pn**	**04 00 27.4**	**+1.5**
KOME				*i* Sn	**Sb**	**04 00 52.9**	**+0.5**
IVA	**Berane**	**2.04**	**148**	*e*Pn	**Pn**	**04 00 28.5**	**+1.0**
IVA				*i* Sn	**Sb**	**04 00 55.2**	**-0.4**
GOCS	**Kraljevo Serbi**	**2.06**	**119**	*e*Pg	**Pn**	**04 00 28.4**	**+0.6**
GOCS				*e*Sg	**Sg**	**04 01 00.7**	**+0.5**
CEME	**Cevo**	**2.09**	**170**	*e*Pn	**Pb**	**04 00 30.5**	**-0.8**
CEME				*i* Sn	**Sb**	**04 00 57.5**	**+0.5**
VRSS	**Vrsac**	**2.14**	**75**	*e*Pg	**Pb**	**04 00 31.9**	**-0.2**
VRSS				*e*Sg	**Sb**	**04 01 00.6**	**+2.2**
HCY	**Herceg Novi**	**2.16**	**178**	*e*Pn	**Pb**	**04 00 31.7**	**-0.7**
HCY				*i* Sn	**Sb**	**04 00 59.5**	**+0.6**
BEHE	**Becsehely**	**2.19**	**329**	⇑*i* Pn	**Pn**	**04 00 30.7**	**+1.3**
BEHE				*e*Sn	**Sn**	**04 00 58.0**	**+1.9**
PDG	**Podgorica**	**2.26**	**164**	*e*Pn	**Pn**	**04 00 32.4**	**+2.0**
PDG				*i* Sn	**Sb**	**04 01 01.4**	**-0.4**
PDG	**Podgorica**	**2.26**	**164**	⇓P	**Pb**	**04 00 33.1**	**-1.0**
BUM	**Brajici-Budva**	**2.33**	**171**	*e*Pn	**Pb**	**04 00 33.9**	**-1.5**
BUM				*i* Sn	**Sb**	**04 01 03.6**	**-0.3**
KUBS	**Kucevo**	**2.35**	**94**	*e*Pg	**Pb**	**04 00 36.9**	**+1.2**
MDVR	**Moldovita**	**2.37**	**85**	*e*Pn	**Pn**	**04 00 33.3**	**+1.4**
MDVR	**Moldovita**	**2.37**	**85**	⇑P	**Pb**	**04 00 35.0**	**-1.0**
SELS	**Selova**	**2.40**	**124**	*e*Pn	**Pn**	**04 00 33.1**	**+0.7**
DRME	**Dracevica, Mon**	**2.48**	**166**	*e*Pn	**Pn**	**04 00 35.7**	**+2.2**
DRME				*i* Sn	**Sb**	**04 01 07.0**	**-1.2**
BZS	**Buzias**	**2.49**	**65**	⇑P	**Pb**	**04 00 36.9**	**-1.1**
BOVS	**Bovan**	**2.57**	**111**	⇑P	**Pn**	**04 00 36.9**	**+2.3**
ULC	**Ulcinj**	**2.71**	**167**	*e*Pn	**Pn**	**04 00 38.9**	**+2.3**
ULC				*i* Sn	**Sb**	**04 01 12.4**	**-2.4**
SIRR	**Siria**	**2.83**	**53**	*e*Pn	**Pn**	**04 00 41.0**	**+2.7**
SIRR	**Siria**	**2.83**	**53**	⇓P	**Pb**	**04 00 41.6**	**-2.3**
ZAGS	**Zajecar**	**2.87**	**105**	*e*Pn	**Pn**	**04 00 39.7**	**+1.0**
ZAGS				*e*Sg	**Sg**	**04 01 26.6**	**+0.7**
SURR	**Surduc**	**2.87**	**65**	⇑P	**Pb**	**04 00 42.5**	**-2.0**
HERR	**Herculane**	**2.87**	**83**	⇑P	**Pn**	**04 00 41.9**	**+3.2**
CEY	**Cerknica**	**3.03**	**293**	*e*Pn	**Pn**	**04 00 39.6**	**-1.4**
BARS	**Barje**	**3.05**	**125**	*e*Pn	**Pn**	**04 00 42.0**	**+0.7**
LJU	**Ljubljana**	**3.09**	**299**	*e*Pn	**Pn**	**04 00 42.8**	**+1.0**
SOKA	**Soboth** 9.0nm,0.6s	**3.15**	**312**	*e*Sn	Sn	04 01 09.4	-10
SOKA	**Soboth** 1.8nm,0.2s	**3.15**	**312**	*i* Pn	**Pn**	**04 00 43.9**	**+1.2**
GZR	**Gura Zlata**	**3.20**	**74**	*e*Pn	**Pn**	**04 00 44.7**	**+1.3**
SKDS	**Skadanscina**	**3.25**	**288**	*e*Pn	**Pn**	**04 00 41.4**	**-2.6**
OBKA	**Obir** 87nm,0.4s	**3.31**	**306**	*e*Sn	Sn	04 01 11.2	-13
OBKA	**Obir** 0.7nm,0.2s	**3.31**	**306**	*e*Pn	**Pn**	**04 00 46.1**	**+1.2**
ARSA	**Arzberg** 12nm,0.7s	**3.32**	**324**	Sn	**Sn**	**04 01 19.4**	**-4.7**
ARSA	**Arzberg**	**3.32**	**324**	*e*Pn	**Pn**	**04 00 46.4**	**+1.4**
ARSA	**Arzberg** 13nm,0.4s	**3.32**	**324**	*i* Pn	**Pn**	**04 00 46.6**	**+1.6**
ZAPS	**Zavoj**	**3.33**	**112**	*e*Pn	**Pn**	**04 00 45.7**	**+0.5**
RONA	**Rosalia, Austr** 6.3nm,0.2s	**3.42**	**335**	*e*Sn	**Sn**	**04 01 28.4**	**+1.8**
RONA	**Rosalia, Austr** 6.8nm,0.3s	**3.42**	**335**	*e*Pn	**Pn**	**04 00 47.7**	**+1.3**
BOSS	**Bosilegrad**	**3.64**	**124**	*e*Pn	**Pn**	**04 00 49.3**	**0.0**
DRGR		**3.73**	**53**	⇑P	**Pn**	**04 00 53.7**	**+3.1**
CONA	**Conrad Observa** 6.2nm,0.4s	**3.76**	**333**	Sn	**Sn**	**04 01 34.3**	**-0.7**
CONA	**Conrad Observa** 2.0nm,0.2s	**3.76**	**333**	*e*Pn	**Pn**	**04 00 52.5**	**+1.4**
MODS	**Modra-Piesok**	**3.85**	**349**	*e*PN	**Pn**	**04 00 51.8**	**-0.4**
MARR	**Marisel-Cluj**	**3.90**	**56**	⇓P	**Pn**	**04 00 56.1**	**+3.0**
VYHS	**Vyhne**	**3.90**	**4**	*e*PN	**Pn**	**04 00 53.9**	**+0.9**
MYKA	**Terra Mystica** 7.9nm,0.3s	**3.91**	**303**	*e*Sn	Sn	04 01 23.0	-16
MYKA	**Terra Mystica** 6.9nm,0.3s,SNR=8.1	**3.91**	**303**	Pn	**Pn**	**04 00 56.0**	**+2.9**
MYKA	**Terra Mystica** 6.9nm,0.3s,SNR=8.1	**3.91**	**303**	Pn	**Pn**	**04 00 56.0**	**+2.9**
JAVC	**Velka Javorina**	**4.29**	**354**	*e*PG	**Pn**	**04 00 59.8**	**+1.5**
JAVC				*e*		04 01 22.0	
KBA	**Koelnbreinsper** 8.7nm,0.7s	**4.32**	**307**	*i* Sn	Sn	04 01 33.7	-15
KBA	**Koelnbreinsper** 4.3nm,0.4s	**4.32**	**307**	*e*Pn	**Pn**	**04 01 03.1**	**+4.3**
MOA	**Molln** 12nm,0.4s	**4.33**	**320**	*e*Sn	Sn	04 01 41.5	-7.5
MOA	**Molln** 1.2nm,0.2s	**4.33**	**320**	*e*Pn	**Pn**	**04 01 01.2**	**+2.3**
BIOA	**Bad Ischl, Aus** 12nm,0.6s	**4.53**	**315**	*i* Sn	Sn	04 01 44.3	-9.5
BIOA	**Bad Ischl, Aus** 3.8nm,0.3s	**4.53**	**315**	*i* Pn	**Pn**	**04 01 04.2**	**+2.7**
ABTA	**Abfaltersbach** 20nm,0.6s	**4.65**	**300**	*e*Sn	Sn	04 01 41.2	-16
ABTA	**Abfaltersbach** 3.3nm,0.3s	**4.65**	**300**	*i* Pn	**Pn**	**04 01 03.5**	**+0.2**
KRUC	**Moravsky**	**4.67**	**344**	*e*PN	Pn	04 01 07.8	+4.3
KRUC				*e*		04 01 21.2	
KRUC	**Moravsky**	**4.67**	**344**	*e*SN	**Sb**	**04 02 08.6**	**-2.4**
VOIR		**4.79**	**78**	⇓P	**Pn**	**04 01 07.8**	**+2.6**
VRAC	**Vranov**	**4.87**	**346**	*e*PN	**Pn**	**04 01 08.9**	**+2.7**
VRAC				*e*		04 01 24.6	
VRAC	**Vranov**	**4.87**	**346**	*e*SN	**Sb**	**04 02 13.9**	**-2.9**
LESA	**Schwarzleotal** 13nm,0.4s	**4.88**	**307**	*i* Pn	**Pn**	**04 01 08.5**	**+1.9**
MORC	**Moravsky Berou**	**5.21**	**354**	*e*PN	**Pn**	**04 01 12.6**	**+1.7**
MORC				*e*		04 01 33.6	
MORC	**Moravsky Berou**	**5.21**	**354**	*e*SN	**Sb**	**04 02 30.4**	**+3.8**
WTTA	**Wattenberg** 8.9nm,0.5s	**5.42**	**302**	*i* Sn	Sn	04 02 01.6	-14
WTTA	**Wattenberg** 1.1nm,0.2s	**5.42**	**302**	*i* Pn	**Pn**	**04 01 15.2**	**+1.2**
WATA	**Walderalm** 7.6nm,0.5s	**5.49**	**302**	*i* Sn	Sn	04 02 00.9	-17
WATA	**Walderalm** 2.0nm,0.2s	**5.49**	**302**	*i* Pn	**Pn**	**04 01 16.3**	**+1.5**
KRLC	**Kraliky**	**5.58**	**349**	*e*PN	**Pn**	**04 01 17.5**	**+1.4**
KHC	**Kasperske Hory**	**5.61**	**326**	*e*PN	**Pn**	**04 01 18.6**	**+2.2**
KHC				*e*PG	**Pg**	**04 01 39.0**	**-2.1**
KHC				*e*SN	**Sn**	**04 02 16.6**	**-3.8**
SQTA	**Sankt Quirin** 6.8nm,0.5s	**5.66**	**300**	*i* Sn	Sn	04 02 02.7	-19
SQTA	**Sankt Quirin** 3.0nm,0.2s	**5.66**	**300**	*i* Pn	**Pn**	**04 01 17.5**	**+0.3**
MOTA	**Moosalm** 2.8nm,0.4s	**5.78**	**301**	*e*Sn	Sn	04 02 05.6	-19
MOTA	**Moosalm** 2.3nm,0.4s	**5.78**	**301**	*i* Pn	**Pn**	**04 01 19.6**	**+0.7**
FETA	**Feichten** 3.8nm,0.7s	**5.88**	**297**	*e*Sn	Sn	04 02 08.8	-19
FETA	**Feichten** 1.7nm,0.3s	**5.88**	**297**	*e*Pn	**Pn**	**04 01 21.4**	**+1.1**

RHSSO 26 04:00:15.7±0.3, 44°.74N×15°.65E, h6km±2km, ML3.0/11, 1C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIT	**Plitvice**	**0.14**	**352**	*e*Pg	Pg	04 00 16.9	-1.7
PLIT				Sg	Sg	04 00 18.9	-1.6
UDBI	**Udbina**	**0.23**	**159**	*i* Pg	Pg	04 00 18.9	-1.2
UDBI				Sg	Sg	04 00 22.2	-0.9
VRC	**Vir**	**0.62**	**224**	*i* Pg	Pg	04 00 25.9	-1.7
VIRC				Sg	Sg	04 00 33.2	-2.4
A050A	**Klekovaca**	**0.68**	**112**	*e*Pg	Pg	04 00 27.3	-1.5
A050A				*e*Sg	Sg	04 00 37.2	-0.4
BOJS	**Bojanci**	**0.81**	**340**	*i* Pg	Pg	04 00 29.3	-2.0
BOJS				*i* Sg	Sg	04 00 39.0	-3.0
BOJS				IAML		04 00 45.6	
	comp=Z,148nm,0.1s						
DUGI	**Dugi Otok**	**0.86**	**210**	*e*Pg	Pg	04 00 30.5	-1.7
DUGI				Sg	Sg	04 00 42.1	-1.2
OZLJ	**Ozalj**	**0.89**	**352**	⇓*i* Pg	Pg	04 00 30.9	-1.8
OZLJ				*e*Sg	Sg	04 00 43.9	-0.3
OZLJ	**Ozalj**	**0.89**	**352**	*e*Pg	Pg	04 00 30.5	-2.2
KIJV	**Kijevo**	**0.91**	**143**	*e*Pg	Pg	04 00 31.8	-1.4
KIJV				*e*Sg	Sg	04 00 44.8	-0.2
A051A	**Mrakovica**	**0.93**	**73**	*e*Pg	Pg	04 00 33.2	-0.4
A051A				*e*Sg	Sg	04 00 45.5	-0.2
GBRS	**Gornja Briga**	**0.99**	**323**	*i* Pg	Pg	04 00 32.8	-1.9
GBRS				IAML		04 00 51.3	
	comp=Z,59nm,0.1s						
RIY	**Rijeka**	**1.01**	**306**	*i* Pg	Pg	04 00 32.8	-2.4
ZIRJ	**Zirje**	**1.08**	**180**	*e*Pg	Pg	04 00 34.3	-2.2
BLY	**Banja Luka**	**1.09**	**89**	*e*Pg	Pg	04 00 35.8	-0.8
BLY				*e*Sg	Sg	04 00 50.4	-0.4
CRES	**Cresnjevec Ost**	**1.10**	**353**	IAML		04 00 54.7	
	comp=Z,72nm,0.1s						
CRES	**Cresnjevec Ost**	**1.10**	**353**	*i* Pg	Pg	04 00 34.1	-2.7
CRES	**Cresnjevec Ost**	**1.10**	**353**	*i* Sg	Sg	04 00 48.0	-2.9
GCIS	**Gornji Cirnik**	**1.13**	**359**	IAML		04 00 55.1	
	comp=Z,88nm,0.2s						
GCIS	**Gornji Cirnik**	**1.13**	**359**	*i* Pg	Pg	04 00 35.3	-2.1
MOSL	**Moslavina**	**1.17**	**41**	*e*Pg	Pg	04 00 36.9	-1.3
MOSL				*e*Sg	Sg	04 00 53.1	-0.3
VISS	**Visnje**	**1.21**	**332**	IAML		04 00 56.2	
	comp=Z,121nm,0.3s						
VISS	**Visnje**	**1.21**	**332**	*i* Pg	Pg	04 00 36.4	-2.5
LEGS	**Legarje**	**1.23**	**349**	*i* Pg	Pg	04 00 36.4	-3.0
BRJN	**Brijuni**	**1.36**	**278**	⇑*i* Pg	Pn	04 00 40.5	-0.8
BRJN				*e*Sg	Sb	04 00 59.0	-0.3
DOB	**Doboj**	**1.75**	**89**	*e*Sn	Sn	04 01 09.0	-0.1
BEHE	**Becsehely**	**1.90**	**24**	*e*Pn	Pn	04 00 48.8	0.0
BEHE				*e*Sn	Sn	04 01 12.6	-0.5
STON	**Ston**	**2.38**	**141**	*e*Pn	Pn	04 00 55.9	+0.6
STON				*e*Sn	Sn	04 01 25.1	+0.2
MORH	**Mrgy, Hungar**	**2.57**	**54**	*e*Sn	Sn	04 01 29.6	+0.1
KLINJ	**Klinje**	**2.64**	**125**	*e*Sn	Sn	04 01 31.6	+0.3
TREB	**Trebinje**	**2.81**	**135**	*e*Pn	Pn	04 01 01.4	+0.1
TREB				*e*Sn	Sn	04 01 35.2	-0.3

GII 26 04:07:18.5±0.0, 33°.600N±0°.003×35°.167E±0°.001, h0km, confirmed, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNTI	**Hanita**	**0.52**	**179**	P	Pg	04 07 29.2	+0.8
GEM	**Giv'at Ha'Em**	**0.57**	**133**	S	Sb	04 07 39.8	-0.2
GEM	**Giv'at Ha'Em**	**0.57**	**133**	P	Pb	04 07 30.5	-0.9
NATI	**Neve Ativ**	**0.58**	**125**	S	Sb	04 07 40.9	+0.5
NATI	**Neve Ativ**	**0.58**	**125**	P	Pb	04 07 31.3	-0.3
KSHT	**Keshet**	**0.82**	**139**	S	Sb	04 07 48.2	+0.9
KSHT	**Keshet**	**0.82**	**139**	P	Pb	04 07 35.5	-0.1
MMLI	**Mount Malkishu**	**1.18**	**169**	S	Sn	04 07 58.7	-0.3
MMLI	**Mount Malkishu**	**1.18**	**169**	P	Pb	04 07 41.8	0.0
HMDT	**Nahal Hemdat**	**1.38**	**167**	S	Sn	04 08 04.2	+0.3
HMDT	**Nahal Hemdat**	**1.38**	**167**	P	Pg	04 07 44.9	0.0
DSI	**Dead Sea**	**2.03**	**175**	S	Sn	04 08 20.4	+0.3
DSI	**Dead Sea**	**2.03**	**175**	P	Pn	04 07 53.8	-0.2

NAO ***26*** *04:07:19.8, 35°.66N×22°.52E, h10km, mb3.6*

ROM ***26*** *04:07:53.9±0.2, 38°.69N±0°.01×18°.13E±0°.01, h19km±1km, ML3.6/78, Error ellipse: s-maj=1.0km s-min=0.9km az=117.0*

MOS ***26*** *04:07:54.5±0.9, 38°.84N×17°.86E, h13km, mb4.4/6, Error ellipse: s-maj=8.4km s-min=6.2km az=89.6*

IDC ***26*** *04:07:54.4±1.0, 38°.90N×17°.93E, h0km, mb3.8/9, mbtmp3.8/18, ML3.2/7, MS3.6/16, Error ellipse: s-maj=19.0km s-min=15.6km az=17.0*

PDG ***26*** *04:07:54.5±0.8, 38°.82N×17°.95E, h10km±2km, ML4.0/12, Error ellipse: s-maj=1.5km s-min=1.6km az=0.0*

NEIC ***26*** *04:07:55.3±1.9, 38°.77N±0°.03×17°.92E±0°.06, h10km±1km, mb4.3/8, Error ellipse: s-maj=8.2km s-min=5.5km az=92.0*

MED_RC ***26*** *04:07:55.0±0.3, 38°.78N×17°.91E, h12km±2km, MW4.2/17, Moment Tensor Solution. Mantle waves: s17,c28; Duration: 1s0 Moment tensor: Scale 10^15 Nm; Mrr-0.69±.32; Mθθ 2.22±.24; Mϕϕ -1.53±.16; Mrθ -0.90±.37; Mθϕ 0.61±.13; Mϕr 0.61±.37; Best double couple: M0 2.29000×10^15 NP1:ϕs218.00000°, δ58.00000°, λ-167.00000°. NP2:ϕs121.00000°, δ79.00000°, λ-33.00000°. Principal axes: T 2.5200, Plg14.0000°, Azm174.0000°; N -0.4500, Plg55.0000°, Azm285.0000°; P -2.0700, Plg31.0000°, Azm75.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

ISC 26 04:07:56.2±0.8, 38°.83N±0°.04×17°.95E±0°.03, h16km±5km, n239, σ1s30/245, mb4.0/14, MS3.6/15, 34C-7D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LADO	**San Nicola del**	**0.88**	**302**	⇑P	**Pn**	**04 08 14.1**	**+0.1**
LADO				S	**Sn**	**04 08 28.6**	**+2.1**
LADO				AML	AML		
	comp=N,132μm,0.8s						
LADO				AML	AML		
	comp=E,178μm,1.5s						
LADO				AML	AML		
	comp=N,132μm,0.8s						
LADO				AML	AML		
	comp=N,138μm,1.2s						
LADO				AML	AML		
	comp=E,178μm,0.5s						
LADO				AML	AML		
	comp=N,138μm,0.8s						
TIP	**Timpagrande**	**0.99**	**291**		**Pg**	**04 08 15.2**	**-0.1**
TIP	**Timpagrande**	**0.99**	**291**	⇑P	**Pg**	**04 08 15.3**	**-0.1**
TIP				S	**Sn**	**04 08 30.7**	**+1.4**
TIP				AML	AML		
	comp=N,1400μm,0.9s						
TIP				AML	AML		
	comp=E,1270μm,0.7s						
TIP				AML	AML		
	comp=N,1655μm,0.9s						
TIP				AML	AML		
	comp=E,1020μm,0.6s						
TIP				AML	AML		
	comp=N,1400μm,1.1s						
TIP				AML	AML		
	comp=N,1655μm,1.1s						
TIP				AML	AML		
	comp=E,1020μm,1.4s						
TIP				AML	AML		
	comp=E,1270μm,1.3s						
TIP	**Timpagrande**	**0.99**	**291**	⇑P	**Pg**	**04 08 15.3**	**-0.1**
TIP				⇓S	**Sn**	**04 08 30.0**	**+0.8**
PIPA	**Pietrapaola**	**1.10**	**307**	⇑P	**Pn**	**04 08 17.0**	**0.0**
PIPA				S	**Sn**	**04 08 34.0**	**+2.1**
PIPA				AML	AML		
	comp=E,1720μm,0.8s						
PIPA				AML	AML		
	comp=N,1730μm,1.3s						
PIPA				AML	AML		
	comp=N,1745μm,1.3s						
PIPA				AML	AML		
	comp=E,1720μm,0.8s						
PIPA				AML	AML		
	comp=N,1730μm,1.3s						
PIPA				AML	AML		
	comp=E,1635μm,0.8s						
PLAC	**Placanica**	**1.24**	**253**	⇑P	**Pn**	**04 08 18.4**	**-0.5**
PLAC				S	**Sg**	**04 08 37.0**	**+0.7**
PLAC				AML	AML		
	comp=E,820μm,0.7s						
PLAC				AML	AML		
	comp=N,1014μm,0.5s						
PLAC				AML	AML		
	comp=N,832μm,0.7s						
PLAC				AML	AML		
	comp=E,1076μm,0.5s						
PLAC				AML	AML		
	comp=E,702μm,0.7s						
PLAC				AML	AML		
	comp=N,1013μm,0.5s						
PLAC				AML	AML		
	comp=N,752μm,0.6s						
CELI	**Celico**	**1.26**	**298**	⇑P	**Pb**	**04 08 19.5**	**-0.1**
CELI				S	**Sg**	**04 08 38.6**	**+1.6**
CELI				AML	AML		
	comp=E,1655μm,1.3s						
CELI				AML	AML		
	comp=N,2915μm,0.7s						
CELI				AML	AML		
	comp=E,4175μm,1.3s						
CELI				AML	AML		
	comp=E,1655μm,0.7s						
CELI				AML	AML		
	comp=E,4175μm,0.7s						
CELI				AML	AML		
	comp=N,1145μm,0.7s						
SPS2	**Spezzano della**	**1.34**	**291**	P	**Pn**	**04 08 20.4**	**+0.1**
SPS2				S	**Sg**	**04 08 40.2**	**+0.8**
SPS2				AML	AML		
	comp=E,516μm,1.4s						
SPS2				AML	AML		
	comp=N,557μm,1.3s						
SPS2				AML	AML		
	comp=N,557μm,0.7s						
SPS2				AML	AML		
	comp=E,516μm,0.6s						
CAR1	**CAROLEI**	**1.42**	**288**	⇑P	**Pn**	**04 08 21.7**	**+0.3**
CAR1				S	**Sg**	**04 08 42.9**	**+0.9**
CAR1				AML	AML		
	comp=N,2475μm,1.0s						
CAR1				AML	AML		
	comp=N,2475μm,1.0s						
CAR1				AML	AML		
	comp=E,1775μm,0.6s						
TDS	**Terranova Siba**	**1.50**	**304**	⇑P	**Pn**	**04 08 22.8**	**+0.3**
SALB	**San Lorenzo Be**	**1.63**	**311**	P	**Pn**	**04 08 24.6**	**+0.3**
SALB				S	**Sg**	**04 08 48.5**	**-0.2**
SALB				AML	AML		
	comp=N,672μm,0.7s						
SALB				AML	AML		
	comp=N,672μm,0.7s						
SALB				AML	AML		
	comp=E,752μm,0.7s						
SOI	**Samo**	**1.67**	**244**	⇑P	**Pn**	**04 08 24.1**	**-0.6**
SOI				S	**Sb**	**04 08 46.7**	**-0.5**
SOI				AML	AML		
	comp=E,427μm,0.9s						
SOI				AML	AML		
	comp=N,632μm,0.7s						
KEK	**Kerkira**	**1.69**	**58**		**Pg**	**04 08 28.2**	**-0.4**
KEK	**Kerkira**	**1.69**	**58**	P	**Pg**	**04 08 28.1**	**-0.5**
ORI	**Oriolo Calabro**	**1.70**	**317**	P	**Pn**	**04 08 25.9**	**+0.8**
ORI	**Oriolo Calabro**	**1.70**	**317**	⇑P	**Pn**	**04 08 25.9**	**+0.8**
ORI				AML	AML		
	comp=E,2950μm,0.5s						
ORI				AML	AML		
	comp=N,2945μm,0.4s						
CET2	**Cetraro**	**1.70**	**295**	⇑P	**Pn**	**04 08 26.1**	**+0.8**
CET2				S	**Sb**	**04 08 48.9**	**+0.6**
CET2				AML	AML		
	comp=N,3100μm,0.8s						
CET2				AML	AML		
	comp=E,2050μm,0.8s						
CEL	**Celeste**	**1.71**	**251**		**Pn**	**04 08 25.0**	**-0.4**
CEL	**Celeste**	**1.71**	**251**	P	**Pn**	**04 08 24.9**	**-0.5**
CEL				S	**Sn**	**04 08 46.9**	**0.0**
CEL				AML	AML		
	comp=E,837μm,1.4s						
CEL				AML	AML		
	comp=N,642μm,1.3s						
CEL				AML	AML		
	comp=E,824μm,1.4s						
CEL				AML	AML		
	comp=N,641μm,1.3s						
CEL				AML	AML		
	comp=N,640μm,1.3s						
CEL				AML	AML		
	comp=E,824μm,0.6s						
CEL				AML	AML		
	comp=E,837μm,0.6s						
CEL				AML	AML		
	comp=N,641μm,0.7s						
CEL				AML	AML		
	comp=N,640μm,0.7s						
MESG	**Mesagne**	**1.76**	**358**	P	**Pn**	**04 08 26.6**	**+0.6**
TAR1	**Taranto**	**1.77**	**343**	P	**Pn**	**04 08 26.2**	**0.0**
GMB	**Gambarie**	**1.79**	**249**	AML	AML		
	comp=N,2605μm,0.6s						
GMB				AML	AML		
	comp=E,2690μm,0.5s						
GMB				AML	AML		
	comp=N,2605μm,1.4s						
GMB				AML	AML		
	comp=E,2690μm,1.5s						
SICLA	**Scilla**	**1.84**	**253**	P	**Pn**	**04 08 26.7**	**-0.5**
SICLA				S	**Sn**	**04 08 50.1**	**0.0**
SICLA				AML	AML		
	comp=N,798μm,1.0s						
SICLA				AML	AML		
	comp=E,928μm,0.6s						
SICLA				AML	AML		
	comp=N,798μm,1.0s						
SRN	**Sarande**	**1.91**	**56**	P	**Pn**	**04 08 28.8**	**+0.7**
MTTG	**Motta San Giov**	**1.95**	**246**	⇑P	**Pn**	**04 08 28.0**	**-0.7**
MTTG				S	**Sn**	**04 08 53.1**	**+0.2**
MTTG				AML	AML		
	comp=N,1058μm,0.5s						
MTTG				AML	AML		
	comp=E,1170μm,0.6s						
LTRZ	**Laterza**	**1.98**	**334**	⇑P	**Pn**	**04 08 29.4**	**+0.3**
LTRZ				AML	AML		
	comp=E,1270μm,0.6s						
LTRZ				AML	AML		
	comp=N,1570μm,0.7s						
LTRZ				AML	AML		
	comp=E,1270μm,1.4s						
MSRU	**Castanea**	**1.99**	**254**	P	**Pn**	**04 08 28.4**	**-0.8**
MSRU				AML	AML		
	comp=E,787μm,1.0s						
MSRU				AML	AML		
	comp=E,787μm,1.0s						
MSRU				AML	AML		
	comp=N,748μm,0.8s						
CUC	**Castrocucco**	**2.02**	**306**		**Pn**	**04 08 30.3**	**+0.6**
CUC	**Castrocucco**	**2.02**	**306**	P	**Pn**	**04 08 30.4**	**+0.6**
CUC				S	**Sb**	**04 08 57.9**	**+0.3**
CUC				AML	AML		
	comp=E,908μm,1.1s						
CUC				AML	AML		
	comp=N,696μm,0.9s						
CUC				AML	AML		
	comp=E,905μm,1.0s						
CUC				AML	AML		
	comp=N,716μm,1.0s						
CUC				AML	AML		
	comp=E,905μm,1.0s						
CUC				AML	AML		
	comp=N,716μm,1.0s						
CUC				AML	AML		
	comp=N,696μm,1.1s						
MATE	**Matera**	**2.06**	**333**	⇑P	**Pn**	**04 08 30.4**	**+0.3**
MATE				⇑S	**Sn**	**04 08 55.0**	**-0.4**
NOCI	**Noci**	**2.08**	**341**	⇑P	**Pn**	**04 08 30.6**	**+0.2**
NO

comp=E,2995µm,1.5s
MILZ AML AML
comp=N,1250µm,1.5s
MCEL Monticello 2.23 313 AML AML
comp=N,777µm,0.7s
MCEL AML AML
comp=E,594µm,0.7s
MCEL AML AML
comp=E,602µm,0.7s
MCEL AML AML
comp=E,594µm,1.3s
MCEL AML AML
comp=E,602µm,1.3s
MCEL AML AML
comp=N,746µm,0.7s
PTRP Pietrapertosa 2.23 320 P **Pn 04 08 34.0 +1.3**
MGR Morigerati 2.27 306 AML AML
comp=N,3395µm,0.5s
MGR AML AML
comp=N,3395µm,1.5s
MGR AML AML
comp=N,496µm,0.6s
MGR AML AML
comp=E,3420µm,1.3s
MGR AML AML
comp=E,462µm,1.0s
AMUR Altamura 2.32 334 ⇑P **Pn 04 08 33.9 +0.2**
AMUR AML AML
comp=E,1310µm,0.7s
AMUR AML AML
comp=N,1104µm,0.5s
AMUR AML AML
comp=E,1310µm,1.3s
BULG Bulgheria - Ca 2.35 303 AML AML
comp=E,475µm,0.4s
BULG AML AML
comp=E,502µm,0.5s
BULG AML AML
comp=E,475µm,1.6s
BULG AML AML
comp=N,1126µm,0.5s
BULG AML AML
comp=E,502µm,1.5s
BULG AML AML
comp=N,1088µm,0.5s
VPL Vulcano Piano 2.37 260 AML AML
comp=N,1032µm,0.7s
VPL AML AML
comp=E,627µm,0.7s
VPL AML AML
comp=E,627µm,1.3s
SLCN Sala Consilina 2.38 312 AML AML
comp=E,988µm,0.8s
SLCN AML AML
comp=E,928µm,1.5s
SLCN AML AML
comp=N,836µm,0.5s
SLCN AML AML
comp=E,988µm,1.2s
SLCN AML AML
comp=N,860µm,0.6s
SLCN AML AML
comp=E,928µm,0.5s
LLI Lipari 2.38 262 AML AML
comp=N,6620µm,0.6s
LLI AML AML
comp=E,5340µm,0.5s
LLI AML AML
comp=E,5340µm,1.5s
ECTS Castiglione 2.41 248 AML AML
comp=E,466µm,1.0s
ECTS AML AML
comp=N,438µm,0.7s
ACER Acerenza 2.50 322 **Pn 04 08 36.4 +0.3**
MUCR Ucria 2.54 253 AML AML
comp=E,424µm,0.6s
MUCR AML AML
comp=N,340µm,0.7s
EPZF Pizzo Felice 2.63 249 AML AML
comp=N,485µm,0.5s
EPZF AML AML
comp=E,613µm,0.5s
CDRU Civita di Ruta 2.63 310 AML AML
comp=E,218µm,0.6s
CDRU AML AML
comp=N,210µm,0.7s
AGST Augusta-Monte 2.66 235 AML AML
comp=E,832µm,1.1s
AGST AML AML
comp=N,841µm,1.4s
AGST AML AML
comp=N,841µm,0.6s
HAGA Augusta 2.69 236 P **Pn 04 08 36.0 -2.8**
HAGA AML AML
comp=E,238µm,0.6s
HAGA AML AML
comp=N,227µm,0.4s
MRLC Muro Lucano 2.70 316 AML AML
comp=N,413µm,1.0s
MRLC AML AML
comp=E,372µm,0.7s
MNO Monte Soro 2.71 252 AML AML
comp=E,569µm,1.3s
MNO AML AML
comp=E,569µm,0.7s
MNO AML AML
comp=N,580µm,0.6s
MNO AML AML
comp=N,580µm,1.4s
SSY Sortino 2.82 235 P **Pn 04 08 37.6 -3.0**
SSY AML AML
comp=E,1500µm,0.8s
SSY AML AML
comp=E,1500µm,1.2s
SSY AML AML
comp=N,2615µm,0.4s
IACL Alicudi 2.83 265 AML AML
comp=E,358µm,0.6s
IACL AML AML
comp=N,349µm,0.5s
HLNI Lentini 2.84 240 ⇑P **Pn 04 08 38.2 -2.7**
HLNI AML AML
comp=E,242µm,1.3s
HLNI AML AML
comp=N,239µm,0.4s
HLNI AML AML
comp=E,242µm,0.7s
GALF Gagliano Caste 2.88 248 AML AML
comp=E,834µm,0.6s
GALF AML AML
comp=N,870µm,0.7s
GALF AML AML
comp=N,870µm,1.3s
GALF AML AML
comp=E,834µm,1.4s
TIR Tirane 2.92 30 **Pn 04 08 43.1 +1.2**
TIR Tirane 2.92 30 P **Pn 04 08 43.1 +1.2**
SNAL S. Angelo Dei 2.97 316 AML AML
comp=N,665µm,1.1s
SNAL AML AML
comp=E,437µm,0.9s
SNAL AML AML
comp=N,626µm,0.9s
SNAL AML AML
comp=E,484µm,0.9s
SNAL AML AML
comp=N,665µm,0.9s
SNAL AML AML
comp=N,626µm,1.1s
HPAC Pachino 3.09 227 P **Pn 04 08 42.8 -1.5**
VAE Valguarnera 3.10 245 Pn **Pn 04 08 46.5 +2.1**
comp=N,11nm,0.6s,baz=137,slow=5.3,SNR=4.9
VAE Sn **Sb 04 09 29.1 +0.7**
comp=N,3.8nm,0.3s,baz=185,slow=15,SNR=5.1
THL Klokotos Trika 3.24 76 P **Pn 04 08 49.1 +2.7**
RAFF Raffo Rosso 3.25 242 **Pn 04 08 45.0 -1.6**
RAFF Raffo Rosso 3.25 242 P **Pn 04 08 45.0 -1.6**
RAFF AML AML
comp=N,234µm,0.9s
RAFF AML AML
comp=E,314µm,0.6s
MSAG Monte S. Angel 3.28 332 P **Pn 04 08 47.0 0.0**
MSAG AML AML
comp=E,658µm,1.2s
MSAG AML AML
comp=E,263µm,1.2s
MSAG AML AML
comp=N,428µm,0.5s
MSAG AML AML
comp=E,263µm,0.8s
MSAG AML AML
comp=N,1039µm,0.5s
MSAG AML AML
comp=E,658µm,0.8s
FNA Florina 3.29 52 **Pn 04 08 48.5 +1.4**
FNA Florina 3.29 52 P **Pn 04 08 48.5 +1.4**
ULC Ulcinj 3.29 17 *e*Pn **Pn 04 08 46.6 -0.5**
ULC *i* Sn **Sn 04 09 27.6 +1.8**
SGRT San Giovanni R 3.38 331 **Pn 04 08 47.8 -0.5**
SGRT San Giovanni R 3.38 331 P **Pn 04 08 48.4 0.0**
SGRT AML AML
comp=N,657µm,0.6s
SGRT AML AML
comp=E,722µm,1.1s
KLV Kalavryta, Ach 3.39 102 P **Pn 04 08 49.2 +0.7**
PAOL Paolisi 3.41 311 **Pn 04 08 50.0 +1.2**
DRME Dracevica, Mon 3.49 15 *e*Pn **Pn 04 08 49.7 -0.1**
DRME *i* Sn **Sn 04 09 32.3 +1.6**
PUK Puka 3.54 24 P **Pn 04 08 51.4 +0.8**
PUK AML AML
comp=E,404µm,0.9s
PUK AML AML
comp=E,404µm,1.1s
PUK AML AML
comp=N,357µm,0.6s
ITM Ithomi 3.54 116 **Pn 04 08 50.0 -0.6**
BUM Brajici-Budva 3.55 11 *e*Pn **Pn 04 08 50.4 -0.2**
BUM *i* Sn **Sn 04 09 34.7 +2.4**
MELA Melanico ??? S 3.60 324 P **Pn 04 08 52.1 +0.8**
MELA AML AML
comp=N,838µm,0.6s
MELA AML AML
comp=N,846µm,0.5s
MELA AML AML
comp=E,812µm,0.9s
MELA AML AML
comp=N,846µm,1.5s
MELA AML AML
comp=E,778µm,0.9s
MELA AML AML
comp=N,838µm,1.4s
HCY Herceg Novi 3.64 6 *e*Pn **Pn 04 08 51.6 -0.3**
HCY *i* Sn **Sn 04 09 36.2 +1.6**
PDG Podgorica 3.74 15 **Pn 04 08 53.2 +0.1**
PDG Podgorica 3.74 15 P **Pn 04 08 52.7 -0.4**
PDG AML AML
comp=N,219µm,0.7s
PDG AML AML
comp=N,192µm,0.5s
PDG AML AML
comp=E,262µm,0.6s
PDG AML AML
comp=E,284µm,0.6s
PDG Podgorica 3.74 15 *e*Pn **Pn 04 08 52.9 -0.3**
PDG *i* Sn **Sn 04 09 38.6 +1.8**
PDG Podgorica 3.74 15 ⇑P **Pn 04 08 53.5 +0.4**
CEME Cevo 3.79 11 *e*Pn **Pn 04 08 53.7 -0.3**
CEME *i* Sn **Sn 04 09 39.3 +1.0**
TREB Trebinje 3.90 4 *e*Pn **Pn 04 08 55.0 -0.4**
TRIV Trivento 3.92 320 P **Pn 04 08 57.7 +1.9**
TRIV AML AML
comp=E,163µm,0.6s
TRIV AML AML
comp=N,246µm,1.3s
TRIV AML AML
comp=E,163µm,1.4s
TRIV AML AML
comp=N,246µm,0.7s
NKME Niksic 4.01 11 *e*Pn **Pn 04 08 57.4 +0.4**
NKME *i* Sn **Sn 04 09 45.2 +1.5**
STON Ston 4.05 357 *e*Pn **Pn 04 08 53.9 -3.5**
BRY Bratogost 4.10 6 *e*Pn **Pn 04 08 57.9 -0.4**
BRY *i* Sn **Sn 04 09 46.8 +0.8**
KOME Kolasin 4.19 16 *e*Pn **Pn 04 09 00.0 +0.4**
KOME *i* Sn **Sn 04 09 49.4 +1.1**
IVA Berane 4.30 19 *e*Pn **Pn 04 09 01.5 +0.4**
IVA *i* Sn **Sn 04 09 52.4 +1.4**
VAY Valandovo 4.33 53 *i* Pn **Pn 04 09 03.1 +1.7**
KLJNJ Klinje 4.37 6 *e*Pn **Pn 04 09 00.2 -1.8**
INTR Introdacqua 4.43 317 **Pn 04 09 04.9 +2.1**
UPM Unac-Piva 4.43 9 *e*Pn **Pn 04 09 03.3 +0.4**
UPM *i* Sn **Sn 04 09 55.8 +1.5**
SOH Sokhos 4.62 63 P **Pn 04 09 07.0 +1.7**
PLE Pljevlja 4.63 13 *e*Pn **Pn 04 09 06.0 +0.4**
PLE *i* Sn **Sn 04 10 00.2 +1.1**
RUDO Rudo 4.91 12 *e*Pn **Pn 04 09 08.6 -0.7**
KKB Krupnik 4.97 51 *e*P **Pn 04 09 10.1 -0.1**
CAMP Campotosto 5.06 318 **Pn 04 09 13.9 +2.4**
MMB Musomishta 5.21 57 *e*P **Pn 04 09 15.9 +2.4**
KIJV Kijevo 5.30 348 *e*Pn **Pn 04 09 15.1 +0.4**
NRCA Norcia 5.43 319 **Pn 04 09 18.4 +1.9**
VTS Vitosha 5.52 45 *e*P **Pn 04 09 18.6 +0.8**
PLNA Plana 5.54 47 *e*P **Pn 04 09 21.1 +3.1**
BOVS Bovan 5.58 29 ⇑P **Pn 04 09 19.6 +1.1**
FDMO Fiordimonte 5.59 320 **Pn 04 09 20.9 +2.2**
A050A Klekovaca 5.75 350 *e*Pn **Pn 04 09 22.2 +1.3**
RZN Rozhen 5.93 59 *e*P **Pn 04 09 25.0 +1.5**
BLY Banja Luka 5.95 355 *e*Pn **Pn 04 09 24.4 +0.8**
BLY Banja Luka 5.95 355 ⇓P **Pn 04 09 24.3 +0.8**
A051A Mrakovica 6.23 353 *e*Pn **Pn 04 09 28.1 +0.6**
RDO Rodhopi 6.27 66 **Pn 04 09 26.5 -1.5**
ALN Alexandroupoli 6.56 69 **Pn 04 09 32.7 +0.7**
ALN Alexandroupoli 6.56 69 P **Pn 04 09 32.7 +0.7**
EZN Ezine 6.57 79 ⇑P **Pn 04 09 34.5 +2.4**
IDI Anoyia 6.58 120 Pn **Pn 04 09 32.9 +0.6**
IDI Anoyia 6.58 120 Pn **Pn 04 09 33.1 +0.8**
comp=N,2.6nm,0.3s,baz=227,slow=9.4,SNR=9.3
IDI Sn **Sn 04 10 44.2 -2.8**
comp=N,3.9nm,0.3s,baz=307,slow=18,SNR=6.1
comp=N,7.0nm,0.3s
MDVR Moldovita 6.58 24 ⇓P **Pn 04 09 32.3 0.0**
VSL Villasalto 6.69 278 Pn **Pn 04 09 32.8 -1.1**
BRJN Brijuni 6.83 334 *e*Pn **Pn 04 09 35.2 -0.5**
MOSL Moslavina 6.84 353 *e*Pn **Pn 04 09 35.6 -0.3**
HERR Herculane 6.91 27 ⇓P **Pn 04 09 36.8 +0.1**
BOJS Bojanci 6.97 344 *i* Pn **Pn 04 09 38.3 +0.7**
BOJS *e*Sn **Sn 04 10 55.1 -1.4**
OZLJ Ozalj 7.03 346 *e*Pn **Pn 04 09 38.7 +0.3**
BZS Buzias 7.31 21 ⇑P **Pn 04 09 41.7 -0.6**
VISS Visnje 7.34 343 *i* Pn **Pn 04 09 43.3 +0.5**
CEY Cerknica 7.38 340 *i* Pn **Pn 04 09 43.5 +0.2**
MORH Mrgy, Hungar 7.40 4 *e*Pn **Pn 04 09 40.9 -2.6**
GZR Gura Zlata 7.48 27 ⇑P **Pn 04 09 45.4 +0.8**
KEST Kesra 7.52 248 Pn **Pn 04 09 47.2 +1.9**
comp=N,0.3nm,0.3s,baz=2.0,slow=2.8,SNR=4.7
comp=N,2.0nm,0.6s
TRI Trieste 7.54 337 Pn **Pn 04 09 44.5 -1.0**
TRI Trieste 7.54 337 P **Pn 04 09 44.5 -1.0**
SURR Surduc 7.58 23 ⇑P **Pn 04 09 45.4 -0.6**
JAVS Javornik 7.63 339 *i* Pn **Pn 04 09 46.5 -0.2**
BEHE Becsehely 7.69 354 *e*Pn **Pn 04 09 43.7 -3.8**
CRNS Crni Vrh 7.75 341 *i* Pn **Pn 04 09 48.7 +0.4**
VOJS Vojsko 7.80 339 *e*Pn **Pn 04 09 48.8 -0.3**
LOT Lotru 7.90 31 ⇑P **Pn 04 09 50.6 +0.1**
SIRR Siria 7.92 19 ⇑P **Pn 04 09 50.4 -0.3**
OBKA Obir 8.08 343 *i* Pn **Pn 04 09 53.7 +0.8**
comp=N,9.4nm,0.5s,SNR=16
SOKA Soboth 8.14 346 *e*Pn **Pn 04 09 53.9 +0.2**
comp=N,12nm,0.5s,SNR=25
SOKA *i* Sn **Sn 04 11 22.7 -2.6**
comp=N,3.1nm,0.4s
STAL STALIGIAL 8.37 334 **Pn 04 09 56.5 -0.4**
MYKA Terra Mystica 8.42 339 *e*Pn **Pn 04 09 58.3 +0.7**
comp=N,3.6nm,0.5s
MYKA *e*Sn **Sn 04 11 31.1 -1.1**
comp=N,6.0nm,0.6s
VOIR 8.45 36 ⇑P **Pn 04 09 59.3 +1.3**
ARG Arkhangelos 8.49 105 **Pn 04 10 00.2 +1.6**
ARG Arkhangelos 8.49 105 P **Pn 04 10 00.2 +1.6**
CTI Castel Tesino 8.59 329 **Pn 04 09 59.8 -0.1**
CTI Castel Tesino 8.59 329 P **Pn 04 09 59.8 -0.1**
ARSA Arzberg 8.61 349 **Pn 04 10 00.4 +0.3**
ARSA Arzberg 8.61 349 *e*Pn **Pn 04 10 00.7 +0.7**
comp=N,16nm,0.4s,SNR=24
DRGR 8.70 22 ⇑P **Pn 04 10 01.8 +0.4**
MARR Marisel-Cluj 8.72 24 ⇓P **Pn 04 10 02.1 +0.4**
ABTA Abfaltersbach 8.87 335 *e*Pn **Pn 04 10 03.7 0.0**
comp=N,4.6nm,0.5s,SNR=6.0
KBA Koelnbreinsper 8.91 339 *i* Pn **Pn 04 10 04.9 +0.5**
comp=N,7.6nm,0.5s
KBA *i* Sn **Sn 04 11 43.0 -1.5**
comp=N,4.1nm,0.8s
MLR Muntele Rosu 8.92 39 LR LR 04 13 30.0
comp=N,102nm,20.4s,baz=48,slow=38
MLR Muntele Rosu 8.92 39 ⇑P **Pn 04 10 04.8 +0.3**
RONA Rosalia, Austr 8.95 353 *e*Pn **Pn 04 10 04.8 0.0**
comp=N,3.1nm,0.3s,SNR=9.0
BIOA Bad Ischl, Aus 9.40 342 *i* Sn **Sn 04 11 56.6 +0.3**
comp=N,9.2nm,0.7s
MOA Molln 9.41 345 *e*Pn **Pn 04 10 12.0 +1.0**
comp=N,5.8nm,0.5s,SNR=12
LESA Schwarzleotal 9.42 338 *e*Pn **Pn 04 10 11.3 +0.1**
comp=N,4.8nm,0.5s
LESA *i* Sn **Sn 04 11 57.4 +0.7**
comp=N,3.5nm,0.6s
VRI Vrincioaia 9.57 40 ⇑P **Pn 04 10 13.8 +0.5**
AKAS Kas 9.61 102 **Pn 04 10 14.7 +0.7**
FUORN Ofenpass-Fuorn 9.62 327 **Pn 04 10 15.6 +1.4**
VYHS Vyhne 9.69 4 *e*P **Pn 04 10 15.1 +0.2**
VYHS *e* 04 12 00.2
VYHS Vyhne 9.69 4 *e*PN **Pn 04 10 15.1 +0.2**
VYHS *e*SN **Sn 04 12 00.2 -3.1**
ELL Elmali 9.69 99 **Pn 04 10 17.5 +2.4**
ELL Elmali 9.69 99 P **Pn 04 10 17.5 +2.4**
WATA Walderalm 9.70 333 *e*Pn **Pn 04 10 16.1 +1.0**
comp=N,11nm,0.5s,SNR=5.3
SQTA Sankt Quirin 9.73 332 *e*Pn **Pn 04 10 16.8 +1.2**
comp=N,6.8nm,0.6s
FETA Feichten 9.75 329 *e*Pn **Pn 04 10 16.8 +0.9**
comp=N,5.1nm,0.6s,SNR=9.7
FETA *e*Sn **Sn 04 12 04.5 -0.5**
comp=N,1.0nm,0.4s
MOTA Moosalm 9.87 332 *e*Pn **Pn 04 10 18.9 +1.4**
comp=N,4.7nm,0.6s,SNR=6.9
MOTA *e*Sn **Sn 04 12 09.2 +1.1**
comp=N,4.4nm,0.6s
DAVOX Davos/Dischmat 9.91 326 Pn **Pn 04 10 18.8 +0.7**
comp=N,0.7nm,0.3s,baz=134,slow=22,SNR=14
comp=N,5.5nm,0.6s
CKRC Cesky Krumlov 10.33 346 *e*PN **Pn 04 10 24.1 +0.4**
CKRC Cesky Krumlov 10.33 346 *e*P **Pn 04 10 24.1 +0.4**
GERES GERESS Array B 10.47 344 Pn **Pn 04 10 25.0 -0.7**
comp=N,0.1nm,0.3s,baz=162,slow=13,SNR=14
comp=N,1.5nm,0.5s
GERES GERESS Array B 10.47 344 *e*P **Pn 04 10 26.5 +0.8**
VRAC Vranov 10.53 355 LR LR 04 15 20.5
comp=N,24nm,19.4s,baz=196,slow=43
KHC Kasperske Hory 10.77 344 *e*PN **Pn 04 10 30.5 +0.8**
KHC Kasperske Hory 10.77 344 *e*P **Pn 04 10 30.5 +0.8**
ZVC Zvikov 10.95 347 *e*PN **Pn 04 10 32.8 +0.7**
BR131 Keskin Array S 12.20 81 ⇓P **Pn 04 10 52.9 +3.5**
BRTR Keskin Array B 12.20 81 Pn **Pn 04 10 52.2 +2.9**
comp=N,0.1nm,0.3s,baz=268,slow=11,SNR=2.6
comp=N,0.8nm,0.8s
AKASG Malin Array Be 14.30 30 Pn **Pn 04 11 16.9 -1.0**
comp=N,0.2nm,0.3s,baz=222,slow=11,SNR=5.0
comp=N,0.2nm,0.3s
AKASG Malin Array Be 14.30 30 *e*P **P 04 11 24.7 -0.3**
AKBB Malin Array Si 14.30 30 ⇑*e*P **Pn 04 11 21.1 +3.2**
MMAI Mount Meron Ar 15.28 107 Pn **Pn 04 11 27.4 -3.8**
comp=N,1.6nm,0.3s,baz=314,slow=13,SNR=4.2
GHAJ Ghor Haditha 16.25 112 **Pn 04 11 42.3 -1.4**
GHAJ IAmb IAmb 04 12 07.2
comp=Z,16nm,0.8s
EIL Elat 16.74 118 Pn **Pn 04 11 47.6 -2.4**
comp=Z,0.5nm,0.3s,baz=333,slow=18,SNR=1.8
ASF Jabal al Asfar 16.78 108 Pn **Pn 04 11 50.7 +0.1**
comp=Z,0.2nm,0.3s,baz=349,slow=11,SNR=6.8
comp=Z,2.7nm,0.7s
ESDC Sonseca Array 16.99 280 Pn **Pn 04 11 52.0 -1.2**
comp=Z,0.6nm,0.7s,baz=74,slow=11,SNR=5.3
SOC Sochi 17.04 67 *e*P **Pn 04 11 53.9 +0.2**
SOC *e* 04 15 04.7
SOC MLR MLR
comp=Z,24nm,13.0s
MNK Minsk 17.07 20 *i* P **Pn 04 11 51.3 -2.7**
comp=E,9.0nm,0.8s
MNK *i* P **Pn 04 11 51.3 -2.7**
comp=N,9.0nm,0.8s
MNK *i* P **Pn 04 11 51.3 -2.7**
comp=Z,5.0nm,0.7s,baz=208
MNK *i* PP **sP 04 12 00.9 -0.5**
MNK *i* PPP PPP 04 12 08.6
MNK *i* S **Sn 04 15 00.4 -3.0**
MNK *i* SS **SnSn 04 15 15.0 -1.6**
MNK *i* SSS SSS 04 15 27.8
MNK *i* LQ LQ 04 16 52.0
MNK *i* LR LR 04 19 31.0
MNK *i* LRM MLR 04 19 44.4
comp=N,123nm,18.5s
MNK *i* LRM MLR 04 20 32.2
comp=Z,124nm,16.1s
MNK *i* LRM MLR 04 20 56.1
comp=E,109nm,16.4s
MNK Minsk 17.07 20 *i* P **Pn 04 11 51.3 -2.7**
MNK *i* S **Sn 04 15 00.3 -3.0**
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK pmax pmax
comp=Z,5.0nm,0.7s
MNK pmax pmax
comp=E,9.0nm,0.8s
MNK MLR MLR
comp=N,123nm,18.0s
MNK MLR MLR
comp=Z,124nm,16.0s
MNK MLR MLR
comp=E,109nm,16.0s
VSU Vasula 20.46 13 ⇑*e*P **P 04 12 32.8 0.0**
VSU pmax pmax
comp=Z,17nm,0.7s
GNI Garni 20.70 78 ⇓*e*P Pn 04 12 37.8 -0.3
GNI pmax pmax
comp=Z,20nm,1.0s
HFS Hagfors 21.50 354 P **P 04 12 44.5 +0.5**
comp=Z,3.1nm,0.6s,baz=163,slow=11,SNR=16
comp=Z,3.1nm,0.6s
KONO Kongsberg 21.51 348 *ce*P **P 04 12 46.2 +2.1**
KONO pmax pmax
comp=Z,10.0nm,1.7s
EKA Eskdalemuir Ar 21.75 326 P **P 04 12 46.5 -0.3**
comp=Z,2.7nm,0.8s,baz=139,slow=7.7,SNR=4.5
comp=Z,2.7nm,0.8s
NC602 NORSAR Array S 22.30 352 P **P 04 12 52.6 0.0**
NB2 NORSAR Subarra 22.63 351 P **P 04 12 55.7 -0.5**
comp=Z,0.8nm,0.7s,baz=159,slow=9.3
NOA NORSAR Array B 22.63 351 P **P 04 12 55.5 -0.7**
comp=Z,1.1nm,0.8s,baz=177,slow=10,SNR=9.8
comp=Z,1.1nm,0.8s
NC405 NORSAR Array S 22.65 352 P **P 04 12 57.5 +1.2**
NC204 NORSAR Array S 22.92 351 P **P 04 12 59.8 +0.6**
NC204 IAmb IAmb 04 13 33.1
comp=Z,9.0nm,1.4s
FINES FINESS Array B 23.20 10 P **P 04 13 01.8 -0.2**
FINES FINESS Array B 23.20 10 P **P 04 13 01.4 -0.6**
comp=Z,1.7nm,0.7s,baz=180,slow=9.0,SNR=7.7
comp=Z,1.7nm,0.7s
FINES FINESS Array B 23.20 10 *i* P **P 04 13 03.0 +1.0**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FIA1 FINESS Array S 23.20 10 P **P 04 13 01.8 -0.3**
KLMR Klimovskoe 25.83 24 *e*P **P 04 13 26.7 +0.2**
KLMR pmax pmax
comp=Z,8.0nm,0.8s
KIRV Kirov 28.25 35 LR LR 04 26 46.8
comp=Z,73nm,19.8s,baz=226,slow=40
AKTO Aktyubinsk 30.42 54 LR LR 04 27 39.5
comp=Z,69nm,20.1s,baz=196,slow=39
ARCES ARCESS Array B 31.04 5 LR LR 04 26 10.6
comp=Z,49nm,19.0s,baz=140,slow=35
BORG Borgarnes 34.57 331 LR LR 04 30 48.8
comp=Z,66nm,18.3s,baz=132,slow=40
DBIC Dimbokro 38.07 219 LR LR 04 33 09.3
comp=Z,82nm,18.7s,baz=89,slow=40
SFJD Kangerlussuaq 46.66 330 LR LR 04 38 13.2
comp=Z,61nm,19.4s,baz=90,slow=39
MK31 Makanchi Array 46.68 58 ⇑*e*P **P 04 16 25.2 +1.2**
MKAR Makanchi Array 46.68 58 P **P 04 16 23.7 -0.3**
MKAR Makanchi Array 46.68 58 P **P 04 16 24.8 +0.8**
comp=Z,0.8nm,0.6s,baz=277,slow=7.0,SNR=12
comp=Z,0.8nm,0.6s
MKAR Makanchi Array 46.68 58 P **P 04 16 23.7 -0.3**
ZALV Zalesovo Beam 46.77 48 P **P 04 16 24.8 +0.3**
comp=Z,2.5nm,0.6s,baz=287,slow=10,SNR=8.1
comp=Z,2.5nm,0.6s
ZALV Zalesovo Beam 46.77 48 *e*P **P 04 16 25.6 +1.1**
ZALV pmax pmax
comp=Z,3.0nm,0.6s

DRLN	**Deer Lake**	**53.11**	**308**	P	**P**	**04 17 11.4**	**-1.4**
LSZ	**Lusaka**	**54.66**	**168**	LR	LR	04 43 18.0	
	comp=Z,48nm,18.4s,baz=356,slow=39						
SCHQ	**Schefferville**	**56.61**	**316**	P	**P**	**04 17 38.0**	**0.0**
SCHQ				IAmb	IAmb	04 17 55.3	
	comp=Z,4.4nm,1.2s						
SCHQ	**Schefferville**	**56.61**	**316**	P	**P**	**04 17 38.1**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=79,slow=3.6,SNR=4.7						
SCHQ				LR	LR	04 41 19.0	
	comp=Z,44nm,18.9s,baz=82,slow=36						
	comp=Z,1.8nm,0.7s						
TSUM	**Tsumeb**	**57.72**	**180**	LR	LR	04 45 13.3	
	comp=Z,69nm,18.9s,baz=342,slow=39						
SONM	**Songino Array**	**61.60**	**50**	P	**P**	**04 18 13.6**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=298,slow=11,SNR=2.6						
	comp=Z,0.7nm,0.5s						
LBTB	**Lobatse**	**63.91**	**172**	LR	LR	04 49 40.0	
	comp=Z,62nm,18.2s,baz=359,slow=39						
BOSA	**Boshof**	**67.44**	**173**	LR	LR	04 50 22.6	
	comp=Z,44nm,18.1s,baz=16,slow=38						
HHC	**Hu-ho-hao-te**	**68.32**	**55**	*e*P	**P**	**04 18 57.0**	**+0.3**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,74nm,3.5s						
PZH	**PanZhiHua**	**69.34**	**72**	P	**P**	**04 19 04.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**71.79**	**81**	*i* P	**P**	**04 19 19.2**	**+1.0**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
YKA	**Yellowknife Ar**	**72.08**	**339**	LR	LR	04 53 03.1	
	comp=Z,55nm,18.2s,baz=7.0,slow=38						
F21K	**Alatna River**	**74.08**	**357**	P	**P**	**04 19 32.3**	**+1.3**
F21K				IAmb	IAmb	04 20 14.6	
	comp=Z,4.7nm,1.1s						
MA2	**Magadan**	**74.50**	**23**	LR	LR	04 57 45.5	
	comp=Z,32nm,18.2s,baz=52,slow=40						
IMAR	**Indian Mountai**	**75.33**	**356**	P	**P**	**04 19 39.7**	**+1.5**
PETK	**Petropavlovsk-**	**82.03**	**23**	LR	LR	05 02 12.0	
	comp=Z,47nm,18.4s,baz=283,slow=40						
NEW	**Newport**	**84.55**	**332**	LR	LR	05 03 30.6	
	comp=Z,39nm,18.1s,baz=6.0,slow=40						
TXAR	**Lajitas Array**	**93.05**	**312**	P	**P**	**04 21 09.7**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=38,slow=2.3,SNR=5.1						
	comp=Z,0.3nm,0.8s						
ASAR	**Alice Springs**	**124.24**	**94**	PKP	**PKPdf**	**04 26 53.6**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=315,slow=2.5,SNR=4.2						

NEIC 26 04:12:28.7±1.2, 40.65N±0.05×106.53W±0.03, h4km±6km, ML2.0/26, Error ellipse: s-maj=7.3km s-min=1.4km az=201.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAYD	**Hayden**	**0.57**	**258**	Pg	Pg	04 12 40.3	+0.7
HAYD				Sg	Sg	04 12 48.1	+0.9
HAYD				IAML		04 12 48.9	
	comp=N,88nm,0.3s						
HAYD				IAML		04 12 48.9	
	comp=E,76nm,0.3s						
ISCO	**Idaho Springs**	**1.10**	**140**		Pg	04 12 49.8	+0.1
ISCO					Sg	04 13 03.3	-0.7
O20A	**White River Ci**	**1.41**	**249**	Pg	Pg	04 12 55.5	-0.1
O20A					Sg	04 13 13.2	-0.6
O20A				IAML		04 13 14.7	
	comp=E,14nm,0.4s						
Q24A	**Divide**	**1.99**	**147**	Pn	Pn	04 13 03.1	-0.3
Q24A				IAML		04 13 33.6	
	comp=E,6.4nm,0.3s						
Q24A				IAML		04 13 35.0	
	comp=N,14nm,0.3s						
K22A	**Casper**	**2.00**	**0**	Pn	Pb	04 13 04.7	-1.1
PV22	**Blue Mesa, Par**	**2.74**	**220**	Pn	Pn	04 13 13.2	-0.4
PV22				IAML		04 13 56.1	
	comp=N,4.7nm,0.7s						
PV22				IAML		04 13 57.5	
	comp=E,8.8nm,0.8s						
PV15	**Paradox Valley**	**2.75**	**214**	Pn	Pn	04 13 13.4	-0.5
PV15				IAML		04 13 57.9	
	comp=E,5.2nm,1.3s						
PV15				IAML		04 13 59.0	
	comp=N,4.9nm,1.0s						
PV21	**Cone Mtn., Par**	**2.81**	**223**	Pn	Pn	04 13 13.9	-0.8
PV21				IAML		04 13 57.2	
	comp=E,9.1nm,0.5s						
PV20	**West Nyswonger**	**2.98**	**220**	Pn	Pn	04 13 18.6	+1.7
SDCO	**Great Sand Dun**	**3.00**	**164**	Pn	Pn	04 13 18.1	+0.7
P18A	**Preston Nutter**	**3.03**	**252**	Pn	Pn	04 13 16.8	-0.9
P18A				IAML		04 14 04.8	
	comp=E,6.5nm,0.5s						
P18A				IAML		04 14 07.1	
	comp=N,5.4nm,0.3s						
PD31	**Pinedale Array**	**3.10**	**314**	Pn	Pn	04 13 19.3	+0.6
PDAR	**Pinedale Array**	**3.10**	**314**	Pn	Pn	04 13 17.4	-1.3
SRU	**San Rafael Swe**	**3.44**	**245**	Pn	Pn	04 13 22.8	-0.4
SRU				IAML		04 14 14.3	
	comp=N,4.8nm,0.6s						

IDC 26 04:35:52.4±3.3, 32.02S×177.72W, h0km, mb3.6/2, mbtmp3.7/3, ML3.0/1, Error ellipse: s-maj=77.6km s-min=38.1km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.52**	**213**	Pn	Pn	04 37 43.5	+0.1
	0.2nm,0.3s,baz=181,slow=17,SNR=2.2						
URZ				Sn	Sn	04 39 10.0	+0.7
	0.7nm,0.3s,baz=259,slow=21,SNR=7.1						
	9.3nm,0.9s						
ASAR	**Alice Springs**	**43.28**	**269**	P	P	04 43 56.3	+0.3
	0.5nm,0.8s,baz=121,slow=7.5,SNR=4.1						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**44.42**	**274**	P	P	04 44 04.8	-0.4
	0.5nm,0.5s,baz=115,slow=7.9,SNR=11						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**146.75**	**339**	PKPbc	PKPdf	04 55 34.6	+0.8
	0.8nm,0.5s,baz=49,slow=4.2,SNR=4.2						

*CATAC **26** 04:37:40.3±0.7, 15°N±5°×9°3W±°, h40km±5km, M3.3/9, MLv3.3/9, Error ellipse: s-maj=13.5km s-min=5.8km az=36.3, confirmed*
*MEX **26** 04:37:40.8±0.5, 14°.73N×92°.38W, h87km±6km, MD3.9*
*GCG **26** 04:37:41.0±0.8, 14°.64N×92°.41W, h68km±4km, MD3.8, ML3.4, MW3.1*
ISC 26 04:37:39.9±1.4, 14°.62N±0°.07×92°.42W±0°.06, h75km±8km, n26, σ1°99/41, 3D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.33**	**28**	*e*P	**Pn**	**04 37 52.0**	**+0.2**
THIG				*e*S	**Sn**	**04 38 01.0**	**+0.5**
THIG		**0.33**	**28**	*i* P	**Pn**	**04 37 51.8**	**0.0**
THIG				↓↓*i* S	**Sn**	**04 38 00.4**	**-0.1**
THIG				IAML		04 38 02.5	
	comp=E,2μm,0.3s						
SMCA	**Catarina**	**0.41**	**55**	*e*P	**Pn**	**04 37 52.4**	**0.0**
SMCA				*i* S	**Sn**	**04 38 01.9**	**+0.2**
SMCA				IAML		04 38 02.9	
	comp=E,10μm,0.1s						
PATR	**El Naranjo**	**0.53**	**20**	*e*P	**Pn**	**04 37 53.1**	**-0.6**
PATR				*e*S	**Sn**	**04 38 03.1**	**-0.7**
PAVE	**Pavencul**	**0.62**	**23**	*e*P	**Pn**	**04 37 54.4**	**-0.2**
PAVE				*i* S	**Sn**	**04 38 05.3**	**-0.1**
RTAL	**Retalhuleu**	**0.71**	**97**	*e*P	**Pn**	**04 37 56.0**	**+0.7**
RTAL				*e*S	**Sn**	**04 38 07.3**	**+0.6**
RTAL	**Retalhuleu**	**0.71**	**97**	P	**Pn**	**04 37 55.8**	**+0.5**
RTAL				S	**Sn**	**04 38 07.6**	**+0.9**
QUEO	**Labor Ovalle**	**0.92**	**74**	*e*P	**Pn**	**04 37 58.9**	**+1.0**
QUEO				*i* S	**Sn**	**04 38 13.8**	**+2.5**
QUEO				IAML		04 38 19.0	
	comp=E,686nm,0.1s						
SOKI	**Kika Raxquin**	**1.01**	**78**	*i* P	**Pn**	**04 38 00.9**	**+1.8**
STG2	**El Palmar, Qui**	**1.03**	**100**	*i* P	**Pn**	**04 37 56.4**	**-2.8**
STG2				*i* S	**Sn**	**04 38 08.9**	**-4.7**
PCIG		**1.32**	**325**	*e*P	**Pn**	**04 38 02.4**	**-0.3**
PCIG				*e*S	**Sn**	**04 38 18.9**	**-1.0**
QUIS	**Sacapulas**	**1.45**	**62**	*i* P	**Pn**	**04 38 06.1**	**+1.6**
ESSG	**Sabana Grande**	**1.56**	**98**	*i* P	**Pn**	**04 38 07.2**	**+1.4**
ESSG				↓↓*i* S	**Sn**	**04 38 27.1**	**+1.6**
ESSG				IAML		04 38 27.7	
	comp=N,232nm,0.1s						
CCIG	**Comitan**	**1.68**	**9**	*e*P	**Pn**	**04 38 08.9**	**+1.4**
CCIG				*e*S	**Sn**	**04 38 25.3**	**-3.1**
CCIG	**Comitan**	**1.68**	**9**	*i* P	**Pn**	**04 38 08.9**	**+1.4**
CCIG				IAML		04 38 41.7	
	comp=N,101nm,0.4s						
CCIG	**Comitan**	**1.68**	**9**	P	**Pn**	**04 38 08.8**	**+1.2**
FG16	**Alotenango, Sa**	**1.89**	**100**	*i* P	**Pn**	**04 38 07.1**	**-3.2**
FG16				*i* S	**Sn**	**04 38 27.0**	**-6.5**
FG16				IAML		04 38 31.8	
	comp=N,2μm,0.2s						
TGIG		**2.25**	**343**	*e*P	**Pn**	**04 38 15.3**	**+0.2**
TGIG				*e*S	**Sn**	**04 38 40.3**	**-1.7**
TGIG		**2.25**	**343**	*i* P	**Pn**	**04 38 15.8**	**+0.7**
TGIG				IAML		04 38 53.1	
	comp=E,52nm,0.4s						
FAME	**Alcaldia de Sa**	**2.46**	**108**	P	**Pn**	**04 38 19.5**	**+1.7**
NUBE	**Las Nubes**	**2.66**	**105**	↓↓*i* P	**Pn**	**04 38 22.5**	**+1.8**
NUBE	**Las Nubes**	**2.66**	**105**	P	**Pn**	**04 38 22.7**	**+2.0**
JAYA	**Jayaque - finc**	**3.04**	**108**	P	**Pn**	**04 38 28.7**	**+2.8**
CMIG	**Matias Romero**	**3.41**	**316**	*e*P	**Pn**	**04 38 30.8**	**0.0**
CMIG				*e*S	**Sn**	**04 39 09.1**	**-1.0**
YOIG	**Yosondua**	**5.41**	**295**	*e*P	**Pn**	**04 39 00.3**	**+2.0**
TXIG	**Tlaxiaco**	**5.77**	**298**	*e*P	**Pn**	**04 39 04.5**	**+1.3**

IDC 26 04:49:26.4±8.3, 21.76S×148.02E, h0km, mbtmp2.9/2, ML3.0/2, Error ellipse: s-maj=70.1km s-min=61.2km az=169.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.92**	**276**	Pn	Pn	04 52 32.5	+1.0
	0.1nm,0.3s,baz=98,slow=13,SNR=5.4						
WRA				Sn	Sn	04 54 59.5	+3.5
	0.1nm,0.3s,baz=101,slow=23,SNR=2.6						
WRA				Lg	Lg	04 56 16.6	
	0.1nm,0.3s,baz=103,slow=29,SNR=4.3						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**13.17**	**259**	Pn	Pn	04 52 33.9	-0.9
	0.1nm,0.3s,baz=92,slow=8.0,SNR=1.8						
ASAR				Lg	Lg	04 56 22.2	
	0.1nm,0.3s,baz=79,slow=28,SNR=4.4						
	0.1nm,0.3s						
I22FR	**PORTLAGUERRE I**	**17.46**	**95**	I	I	06 24 20.0	
	0.1nm,2.3s,baz=270,slow=324,SNR=2.2						

*NEIC **26** 04:49:30.3±1.7, 19°.206N±0°.008×155°.444W±0°.009, h5km±1km, ML2.8/40, ML2.7/32(HVO), Error ellipse: s-maj=2.9km s-min=1.9km az=165.0*
HVO 26 04:49:29.4±1.6, 19.21N±0.01×155.452W±0.009, h1km±9km, Error ellipse: s-maj=2.2km s-min=0.7km az=155.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.06**	**60**		Pg	04 49 32.0	+1.4
HPO	**Honuapo**	**0.15**	**219**		Pg	04 49 34.0	+1.6
KHU	**Kahuku**	**0.16**	**284**		Pg	04 49 33.9	+1.3
KHU					Sg	04 49 36.9	+2.3
HLP	**Hilina Pali**	**0.16**	**57**		Pg	04 49 34.3	+1.7
HLP				IAML		04 49 38.8	
	comp=N,3μm,0.2s						
HLP				IAML		04 49 39.2	
	comp=E,3μm,0.2s						
AIN	**Ainahou**	**0.16**	**358**		Pg	04 49 34.2	+1.6
AIN				IAML		04 49 38.7	
	comp=E,3μm,0.2s						
SDHHI	**Sand Hill**	**0.23**	**39**		Pg	04 49 34.8	+0.9
SDHHI					Sg	04 49 39.2	+2.2
WRMHI	**West Rim**	**0.24**	**36**		Pg	04 49 35.0	+0.8
WRMHI					Sg	04 49 39.2	+1.8
RIM	**Rim**	**0.25**	**42**		Pg	04 49 35.1	+0.8
RIM					Sg	04 49 39.4	+1.9
KKO	**Keanakako'i**	**0.26**	**43**		Pg	04 49 35.2	+0.8
KKO					Sg	04 49 39.8	+2.0
UWE	**Uwekahuna**	**0.26**	**35**		Pg	04 49 35.2	+0.8
UWE					Sb	04 49 40.1	-2.1
UWE	**Uwekahuna**	**0.26**	**35**	IAML		04 49 44.9	
	comp=N,2μm,0.4s						
UWE				IAML		04 49 44.9	
	comp=E,2μm,0.4s						
OBL	**Observatory Le**	**0.26**	**37**		Pg	04 49 35.2	+0.7
OBL					Sg	04 49 39.9	+2.0
UWB	**Uwekahuna Bluf**	**0.27**	**37**		Pg	04 49 35.3	+0.7
UWB					Sg	04 49 40.1	+1.8
BYL	**Byron's Ledge**	**0.27**	**42**		Pg	04 49 35.6	+0.9
BYL					Sg	04 49 40.2	+2.0
BYL	**Byron's Ledge**	**0.27**	**42**	IAML		04 49 40.9	
	comp=E,1μm,0.5s						
BYL				IAML		04 49 42.4	
	comp=N,913nm,0.2s						
PUH	**Pauahi**	**0.28**	**53**		Pg	04 49 35.6	+0.8
PUH					Sg	04 49 40.2	+1.8
PUH	**Pauahi**	**0.28**	**53**	IAML		04 49 40.9	
	comp=N,1μm,0.3s						
PUH				IAML		04 49 41.1	
	comp=E,814nm,0.2s						
SBLHI	**Steaming Bluff**	**0.28**	**38**		Pg	04 49 35.5	+0.6
SBLHI					Sg	04 49 40.2	+1.8
HATHI	**Halema'uma'u T**	**0.28**	**40**		Pg	04 49 35.6	+0.7
HATHI					Sg	04 49 40.6	+2.1
HATHI	**Halema'uma'u T**	**0.28**	**40**	IAML		04 49 41.1	
	comp=N,1μm,0.4s						
HATHI				IAML		04 49 41.1	
	comp=E,1μm,0.4s						
MLH	**Mauna Loa**	**0.29**	**12**		Pg	04 49 36.1	+1.0
MLH					Sg	04 49 40.9	+2.0
MLH	**Mauna Loa**	**0.29**	**12**	IAML		04 49 41.8	
	comp=E,1μm,0.4s						
MLH				IAML		04 49 43.2	
	comp=N,2μm,0.2s						
RSD	**Rainshed**	**0.30**	**33**		Pg	04 49 35.1	-0.2
RSD	**Rainshed**	**0.30**	**33**		Sg	04 49 41.0	+1.8
MWH	**Mokuaweoweo**	**0.31**	**334**		Pg	04 49 36.1	+0.7
KNHH	**Kane Nui o Ham**	**0.32**	**57**		Pg	04 49 36.3	+0.8
STCH	**Steam Cracks**	**0.36**	**60**		Pg	04 49 36.8	+0.5
STCH					Sg	04 49 42.2	+1.3
STCH	**Steam Cracks**	**0.36**	**60**	IAML		04 49 42.5	
	comp=N,866nm,0.5s						
STCH				IAML		04 49 44.1	
	comp=E,676nm,0.4s						
NPOC	**North of Pu'u**	**0.37**	**60**		Pg	04 49 37.1	+0.5
NPOC					Sg	04 49 42.6	+1.2
JCUZ	**Jacuzzi**	**0.38**	**62**		Pg	04 49 37.2	+0.6
JCUZ					Sg	04 49 42.8	+1.3
ALEP	**Alea Permanent**	**0.38**	**331**		Pg	04 49 37.0	+0.3
ALEP					Sb	04 49 43.7	-2.0
HMH	**Humu'ula Sheep**	**0.39**	**356**		Pg	04 49 37.8	+0.8
HMH				IAML		04 49 47.2	
	comp=N,998nm,0.1s						
HMH	**Humu'ula Sheep**	**0.39**	**356**		Sb	04 49 44.4	-1.8
JOKA	**Jonika Flow**	**0.48**	**62**		Pg	04 49 38.4	-0.2
JOKA					Sg	04 49 45.5	+0.6
CPH	**Captain Cook**	**0.52**	**303**		Pg	04 49 39.7	+0.2
POHA	**Pohakuloa**	**0.55**	**352**		Sg	04 49 48.6	+1.4
POHA	**Pohakuloa**	**0.55**	**352**		Pg	04 49 40.2	+0.1
POHA				IAML		04 49 53.4	
	comp=N,496nm,0.7s						
POHA				IAML		04 49 53.7	
	comp=N,631nm,0.5s						
HUH	**Hualalai**	**0.60**	**323**		Pg	04 49 41.3	+0.4
HPAH	**Hawaii Prepara**	**0.85**	**344**		Pg	04 49 44.2	-1.6
HPAH					Sg	04 49 56.1	-0.7
HPAH	**Hawaii Prepara**	**0.85**	**344**	IAML		04 50 04.2	
	comp=E,260nm,0.3s						

*JMA **26** 05:01:50.8±0.2, 25°N±1°×122°.3E±0°.4, h82km±2km, MV2.3/10, TAIWAN REGION*
*TAP **26** 05:01:51.1, 24°.63N×122°.23E, h88km, ML2.9, D*
ISC 26 05:01:50.8±1.4, 24°.61N±0°.03×122°.33E±0°.03, h86km±7km, n83, σ0°77/140, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.21**	**205**	*i* P	**Pn**	**05 02 03.6**	**+0.4**
EOS2				S	**Sn**	**05 02 13.8**	**+1.5**
EOS3	**EOS3**	**0.32**	**182**	*i* P	**Pn**	**05 02 04.3**	**+0.6**
EOS3				*i* S	**Sn**	**05 02 14.6**	**+1.3**
EGS		**0.43**	**303**	*e*S	**Sn**	**05 02 15.3**	**+0.5**
TWC	**Suao**	**0.44**	**270**	*i* P	**Pn**	**05 02 04.3**	**-0.3**
TWC				*i* S	**Sn**	**05 02 13.6**	**-1.3**
ESAO	**Su ao**	**0.44**	**265**	*e*P	**Pn**	**05 02 05.4**	**+0.7**
ESAO				*e*S	**Sn**	**05 02 14.5**	**-0.5**
EOS4	**EOS4**	**0.49**	**181**	P	**Pn**	**05 02 04.6**	**0.0**
EOS4				S	**Sn**	**05 02 15.1**	**+0.2**
TWB1	**Santiao Chiao**	**0.50**	**322**	*i* S	**Sn**	**05 02 15.3**	**-0.5**
NTC	**Toucheng**	**0.52**	**298**	*e*P	**Pn**	**05 02 06.4**	**+1.1**
EWUT	**Wuta**	**0.53**	**252**	P	**Pn**	**05 02 05.6**	**+0.2**
EWUT				S	**Sn**	**05 02 16.2**	**0.0**
ILA	**Ilan**	**0.55**	**286**	*e*S	**Sn**	**05 02 16.9**	**+0.4**
NDS	**Dongshan**	**0.56**	**272**	P	**Pn**	**05 02 04.6**	**-1.0**
ENA	**Nanau**	**0.57**	**251**	*i* P	**Pn**	**05 02 06.0**	**+0.4**
ENA				*i* S	**Sn**	**05 02 16.8**	**0.0**
TIPB	**Shuangxi**	**0.58**	**308**	*i* P	**Pn**	**05 02 05.9**	**0.0**
TIPB				*i* S	**Sn**	**05 02 16.4**	**-0.7**
EAHA	**Aohua**	**0.61**	**243**	*e*P	**Pn**	**05 02 06.0**	**-0.1**
EAHA				*e*S	**Sn**	**05 02 17.3**	**-0.1**
TWE	**Neicheng**	**0.61**	**280**	*i* P	**Pn**	**05 02 06.0**	**-0.1**
TWE				*i* S	**Sn**	**05 02 17.2**	**-0.3**
EHP	**Heping Village**	**0.61**	**241**	*e*P	**Pn**	**05 02 05.7**	**-0.5**
SXI1	**Grass Mountain**	**0.63**	**319**	P	**Pn**	**05 02 06.9**	**+0.5**
SXI1				S	**Sn**	**05 02 17.8**	**-0.3**
YOJ	**Yonaguni jima**	**0.64**	**103**	*e*P	**Pn**	**05 02 06.1**	**-0.2**
YOJ				*e*S	**Sn**	**05 02 17.4**	**-0.5**
FUSB	**Fushanzhiwuyua**	**0.69**	**282**	P	**Pn**	**05 02 07.3**	**+0.4**
FUSB				S	**Sn**	**05 02 18.5**	**-0.5**
ENTT	**Nioudou**	**0.70**	**272**	*i* P	**Pn**	**05 02 07.6**	**+0.7**
ENTT				*i* S	**Sn**	**05 02 19.4**	**+0.4**
LATG	**Datong**	**0.74**	**264**	P	**Pn**	**05 02 07.7**	**+0.3**
LATG				S	**Sn**	**05 02 20.1**	**+0.3**
TNOU	**National Taiwa**	**0.74**	**317**	*e*P	**Pn**	**05 02 06.1**	**-1.2**
TNOU				*e*S	**Sn**	**05 02 19.2**	**-0.4**
NWLT	**Wulai**	**0.77**	**283**	*e*P	**Pn**	**05 02 07.7**	**0.0**
NWLT				*e*S	**Sn**	**05 02 20.1**	**-0.2**
TWA	**Mucha**	**0.77**	**299**	S	**Sn**	**05 02 19.5**	**-0.8**
ETL	**Fush Village**	**0.79**	**235**	P	**Pn**	**05 02 07.5**	**-0.3**
ETL				*e*S	**Sn**	**05 02 19.7**	**-0.9**
NACB	**Ninganchiao**	**0.80**	**237**	P	**Pn**	**05 02 07.5**	**-0.5**
NACB				S	**Sn**	**05 02 19.9**	**-1.0**
NHY	**Taipei**	**0.81**	**302**	*e*P	**Pn**	**05 02 08.9**	**+0.9**
YHNB	**Yeheng**	**0.87**	**274**	P	**Pn**	**05 02 08.8**	**0.0**
YHNB				*i* S	**Sn**	**05 02 22.6**	**+0.2**
ETLH	**Xiulin Townshi**	**0.87**	**243**	P	**Pn**	**05 02 08.4**	**-0.5**
ETLH				*i* S	**Sn**	**05 02 21.5**	**-0.8**
YM01	**YM01**	**0.87**	**308**	*e*P	**Pn**	**05 02 08.1**	**-0.7**
YM01				*e*S	**Sn**	**05 02 21.8**	**-0.5**
NNSB	**Datong**	**0.88**	**258**	*i* P	**Pn**	**05 02 09.2**	**+0.3**
NNSB				*e*S	**Sn**	**05 02 22.7**	**+0.1**
YM08	**YM08**	**0.88**	**311**	*e*S	**Sn**	**05 02 21.4**	**-1.0**
NSK	**Sanguang**	**0.89**	**274**	*i* P	**Pn**	**05 02 09.2**	**+0.3**
NSK				*i* S	**Sn**	**05 02 22.1**	**-0.5**
NNS	**Nan Shan**	**0.89**	**259**	*e*P	**Pn**	**05 02 09.4**	**+0.3**
NNS				S	**Sn**	**05 02 22.2**	**-0.5**
ZUZH	**Zhuzihu**	**0.90**	**308**	*e*S	**Sn**	**05 02 21.8**	**-1.0**
HWA	**Hwalien**	**0.92**	**226**	*e*P	**Pn**	**05 02 09.4**	**+0.2**
TWS1	**Kuangyinshan**	**0.96**	**301**	*e*P	**Pn**	**05 02 09.5**	**-0.3**
TWS1				*e*S	**Sn**	**05 02 24.0**	**0.0**
NTST	**Danshui**	**0.97**	**305**	*e*S	**Sn**	**05 02 24.4**	**+0.2**
TEYL	**Yanliau Villag**	**1.00**	**222**	*e*P	**Pn**	**05 02 09.7**	**-0.4**
TEYL				*e*S	**Sn**	**05 02 24.5**	**-0.1**
ETM	**Tongmen**	**1.00**	**230**	P	**Pn**	**05 02 10.0**	**-0.2**
ETM				S	**Sn**	**05 02 24.0**	**-0.7**
LXIB	**Xiulin Townshi**	**1.02**	**235**	*i* P	**Pn**	**05 02 10.2**	**-0.4**
LXIB				S	**Sn**	**05 02 24.3**	**-1.2**
PCYT	**Pengchaiyu**	**1.04**	**347**	P	**Pn**	**05 02 11.1**	**+0.4**
KSHI	**Guanxi Townshi**	**1.06**	**279**	*e*S	**Sn**	**05 02 26.6**	**+0.5**
WHF	**Hehuan Shan**	**1.08**	**245**	P	**Pn**	**05 02 11.5**	**-0.1**
WHF				*e*S	**Sn**	**05 02 26.5**	**-0.6**
SHUL	**Shoufeng**	**1.08**	**221**	P	**Pn**	**05 02 11.5**	**+0.4**
SHUL				*e*S	**Sn**	**05 02 26.5**	**-0.1**
NCUH	**Zhongli**	**1.10**	**289**	*e*S	**Sn**	**05 02 27.7**	**+0.9**
NFF	**Wufeng Townshi**	**1.10**	**271**	*e*S	**Sn**	**05 02 27.0**	**-0.1**
TWT	**Tachien**	**1.11**	**251**	*e*P	**Pn**	**05 02 12.6**	**+0.9**
TWT				*e*S	**Sn**	**05 02 27.6**	**+0.2**
TDCB	**Techi**	**1.13**	**252**	P	**Pn**	**05 02 12.1**	**+0.2**
TDCB				S	**Sn**	**05 02 27.1**	**-0.5**
ESL	**Shilin**	**1.14**	**226**	*e*P	**Pn**	**05 02 11.4**	**-0.5**
TEGC	**Jichi Village**	**1.15**	**219**	*e*P	**Pn**	**05 02 11.7**	**-0.3**
TEGC				*e*S	**Sn**	**05 02 27.7**	**-0.3**
LIOB	**Emei**	**1.20**	**272**	*e*P	**Pn**	**05 02 12.9**	**+0.4**
LIOB				S	**Sn**	**05 02 28.8**	**-0.2**
NSTT	**Nanjuang**	**1.21**	**271**	*e*P	**Pn**	**05 02 12.5**	**-0.2**
NSTT				*e*S	**Sn**	**05 02 29.3**	**0.0**
WARBT	**Fenglin Townsh**	**1.24**	**224**	*i* P	**Pn**	**05 02 12.3**	**-0.8**
WARBT				S	**Sn**	**05 02 28.1**	**-1.8**
OWD	**Renai**	**1.24**	**238**	P	**Pn**	**05 02 13.3**	**+0.1**
OWD				S	**Sn**	**05 02 29.2**	**-0.9**
EGFH	**Guangfu**	**1.25**	**221**	*e*P	**Pn**	**05 02 13.0**	**-0.2**
EGFH				*e*S	**Sn**	**05 02 29.1**	**-1.0**
HSN	**Hsinchu**	**1.25**	**279**	*e*S	**Sn**	**05 02 29.7**	**-0.4**
WUSB	**Renai**	**1.27**	**241**	P	**Pn**	**05 02 14.1**	**+0.6**
WUSB				*e*S	**Sn**	**05 02 30.6**	**-0.1**
IRIF	**Iriomote-Funau**	**1.30**	**102**	*e*P	**Pn**	**05 02 14.1**	**+0.2**
IRIF				*e*S	**Sn**	**05 02 31.2**	**-0.1**
WHP	**Taichung City**	**1.30**	**256**	*e*P	**Pn**	**05 02 14.6**	**+0.7**
WHP			

WSHM	**Spangler Hills**	**0.36**	**152**			Pg	05 04 06.0	0.0
WSHM					IAML		05 04 12.3	
	3µm,0.4s							
WSHM	**Spangler Hills**	**0.36**	**152**			Sg	05 04 11.9	+1.1
LRMC	**Laurel Mtn Rad**	**0.44**	**178**			Pg	05 04 07.5	0.0
LRMC					IAML		05 04 15.1	
	comp=N,2µm,0.2s							
LRMC					IAML		05 04 15.3	
	comp=E,1µm,0.2s							
LRMC	**Laurel Mtn Rad**	**0.44**	**178**			Sg	05 04 14.1	+0.8
CCCA	**Chr Cany lake**	**0.48**	**145**			Pg	05 04 08.9	+0.5
CCCA	**Chr Cany lake**	**0.48**	**145**			Sb	05 04 16.4	-1.4
WORM	**Onyx Ranch**	**0.49**	**243**			Pg	05 04 08.5	0.0
WORM						Sg	05 04 15.3	+0.4
WBSM	**Bird Springs**	**0.52**	**223**			Pg	05 04 09.1	0.0
WBSM						Sg	05 04 16.4	+0.6
WHFM	**Hanning Flat**	**0.57**	**247**			Pg	05 04 10.0	0.0
WHFM						Sg	05 04 17.9	+0.5
CWC	**Cottonwood Cre**	**0.60**	**330**			Pg	05 04 11.1	+0.5
CWC					IAML		05 04 22.0	
	comp=N,481nm,0.3s							
CWC					IAML		05 04 23.1	
	comp=E,605nm,0.2s							
CWC	**Cottonwood Cre**	**0.60**	**330**			Sg	05 04 19.7	+1.3
CGO	**Cerro Gordo**	**0.63**	**353**			Pg	05 04 10.9	-0.4
CGO						Sg	05 04 20.3	+0.8
DTP	**Desert Tortois**	**0.66**	**190**			Pg	05 04 11.5	-0.2
DTP						Sg	05 04 20.8	+0.4
ISA	**Isabella, Lake**	**0.68**	**248**			Pg	05 04 12.0	-0.1
ISA					IAML		05 04 21.4	
	comp=N,1µm,0.5s							
ISA					IAML		05 04 22.2	
	comp=E,892nm,0.3s							
ISA	**Isabella, Lake**	**0.68**	**248**			Sg	05 04 21.0	+0.2
QSM	**Queen of Sheba**	**0.68**	**86**			Pg	05 04 12.0	-0.1
QSM					IAML		05 04 25.7	
	comp=E,1µm,0.5s							
QSM					IAML		05 04 28.6	
	comp=N,806nm,0.5s							
QSM	**Queen of Sheba**	**0.68**	**86**			Sg	05 04 21.3	+0.4
WASM	**Alta Sierra Ca**	**0.72**	**255**			Pg	05 04 12.7	-0.1
WASM						Sg	05 04 22.6	+0.5
CCAC	**Calif City Air**	**0.81**	**198**			Pg	05 04 14.3	-0.2
CCAC						Sg	05 04 25.5	+0.5
FURC	**Furnace Creek,**	**0.87**	**51**			Sg	05 04 28.0	+0.9
FURC	**Furnace Creek,**	**0.87**	**51**	Pg		Pg	05 04 15.8	0.0
GWY	**Greenwater Val**	**0.88**	**72**			Pg	05 04 15.8	-0.2
GWY					IAML		05 04 32.2	
	comp=N,554nm,0.6s							
GWY					IAML		05 04 34.6	
	comp=E,755nm,0.4s							
GWY	**Greenwater Val**	**0.88**	**72**			Sg	05 04 27.9	+0.5
SPG2	**Springville 2**	**0.90**	**288**			Sg	05 04 27.8	-0.3
GSC	**Goldstone, Bar**	**0.96**	**130**			Pg	05 04 17.1	-0.3
GSC					IAML		05 04 32.7	
	comp=N,401nm,0.8s							
GSC					IAML		05 04 34.6	
	comp=E,520nm,0.7s							
GSC	**Goldstone, Bar**	**0.96**	**130**			Sg	05 04 30.0	+0.1
TEJ	**El Tejon**	**1.06**	**230**			Pg	05 04 18.6	-0.8
HYS	**Haystack Butte**	**1.06**	**174**			Pg	05 04 18.8	-0.6
EDW2	**Edwards Air Fo**	**1.06**	**193**			Pg	05 04 18.6	-0.8
EDW2						Sg	05 04 33.5	+0.3
GRAC	**Grapevine Rang**	**1.11**	**14**			Pg	05 04 19.8	-0.5
GRAC					IAML		05 04 26.5	
	comp=E,385nm,0.6s							
GRAC					IAML		05 04 42.3	
	comp=N,370nm,0.9s							
VES	**Vestal, Richgr**	**1.12**	**266**			Sg	05 04 35.6	+0.5
VES	**Vestal, Richgr**	**1.12**	**266**			Pg	05 04 20.3	-0.3
TPO	**Tropico Hills**	**1.12**	**202**			Pg	05 04 19.9	-0.7
TPO					IAML		05 04 38.5	
	comp=N,580nm,0.8s							
TPO					IAML		05 04 42.1	
	comp=E,477nm,0.8s							
SHOC	**Shoshone, Teco**	**1.16**	**91**			Pg	05 04 20.9	-0.4
SHOC						Sb	05 04 37.1	-0.3
SGV	**South Grapevin**	**1.19**	**27**			Pg	05 04 21.4	-0.4
WCT	**Wildcat Mounta**	**1.23**	**45**			Pg	05 04 22.4	-0.3
WCT					IAML		05 04 41.1	
	comp=E,342nm,0.5s							
WCT					IAML		05 04 41.9	
	comp=N,211nm,0.9s							
WCT	**Wildcat Mounta**	**1.23**	**45**			Sg	05 04 38.5	-0.1
SBB	**Saddle Back Bu**	**1.23**	**185**			Pg	05 04 21.9	-0.9
SBB						Sg	05 04 37.9	-0.8
AMDNV	**Amargosa**	**1.27**	**65**			Pg	05 04 22.6	-0.8
AMDNV						Sg	05 04 39.6	-0.2
LCH	**Last Change Ra**	**1.31**	**2**			Pg	05 04 24.1	-0.1
LCH						Sb	05 04 41.8	0.0
VOG	**Valley Oaks Go**	**1.42**	**287**			Pn	05 04 25.4	-0.4
VOG						Sg	05 04 44.6	0.0
LRRC	**Littlerock Res**	**1.42**	**191**			Pg	05 04 26.5	+0.3
GMN	**Gold Mountain**	**1.42**	**14**			Pn	05 04 25.3	-0.9
DSP	**Deep Springs**	**1.46**	**352**			Pn	05 04 25.8	-0.6
JNH	**Juniper Hills**	**1.48**	**188**			Pn	05 04 25.9	-1.0
DSCC	**Desert Studies**	**1.52**	**120**			Pn	05 04 25.8	-1.5
TUQ	**Turquoise Moun**	**1.53**	**108**			Pn	05 04 26.2	-1.3
TPNV	**Topopah Spring**	**1.56**	**48**			Pn	05 04 27.5	-0.5
TPNV					IAML		05 04 51.1	
	comp=N,205nm,0.7s							
TPNV					IAML		05 04 53.3	
	comp=N,206nm,0.5s							
CHFC	**Chilao Flat St**	**1.61**	**190**			Sg	05 04 50.7	0.0
BFSC	**Mount Baldy Ra**	**1.68**	**179**			Pn	05 04 28.5	-1.1
SSK	**Sunset Peak**	**1.71**	**180**			Pg	05 04 31.6	-0.2
MWC	**Mount Wilson**	**1.72**	**190**			Pn	05 04 29.6	-0.6
MWC					IAML		05 04 55.8	
	comp=E,125nm,0.5s							
MWC					IAML		05 04 56.6	
	comp=N,117nm,0.6s							
SIL	**Silver Peak**	**1.73**	**155**			Pg	05 04 32.1	-0.1
PASC	**Pasadena Art C**	**1.79**	**193**			Pn	05 04 30.4	-0.6
MZP	**Montezuma Peak**	**1.79**	**8**			Pn	05 04 30.7	-0.6
MTPC	**Mountain Pass**	**1.81**	**103**			Pn	05 04 29.9	-1.4
MTPC					IAML		05 04 57.9	
	comp=N,114nm,0.5s							
MTPC					IAML		05 04 58.2	
	comp=E,142nm,0.4s							
MLAC	**Mammoth, Mammo**	**1.93**	**332**			Pb	05 04 35.0	-0.2
SHPR	**Sheep Range**	**2.14**	**73**			Pn	05 04 36.0	+0.1
TPH	**Tonopah**	**2.18**	**10**			Pn	05 04 36.4	-0.3
TPH					IAML		05 05 16.0	
	comp=E,167nm,0.8s							
TPC	**Twentynine Pal**	**2.26**	**143**			Pn	05 04 37.1	-0.4
ELS	**Elsinore Mount**	**2.28**	**174**			Pn	05 04 36.7	-1.1
ELS					IAML		05 05 20.5	
	comp=E,47nm,1.4s							
V12A	**Nelson**	**2.33**	**94**			Pn	05 04 37.1	-1.4
V12A					IAML		05 05 15.4	
	comp=N,64nm,0.6s							
V12A					IAML		05 05 16.7	
	comp=E,51nm,0.5s							
S11A	**Rachel**	**2.33**	**42**			Pn	05 04 38.0	-0.6
BELC	**Belle Mtn. Jos**	**2.37**	**143**			Pn	05 04 37.6	-1.5
BELC					IAML		05 05 22.5	
	comp=N,58nm,0.5s							
BELC					IAML		05 05 23.4	
	comp=E,54nm,0.7s							
PFO	**Pinyon Flats O**	**2.52**	**156**	Pn	Pn	Pn	05 04 40.4	-0.8
PMPB	**Monarch Peak**	**2.53**	**278**			Pn	05 04 40.7	-0.5
PMPB					IAML		05 05 28.6	
	comp=E,105nm,0.8s							
PMPB					IAML		05 05 28.7	
	comp=N,110nm,0.9s							
NVAR	**Mina Array Bea**	**2.55**	**349**			Pn	05 04 41.2	-0.4
PRN	**Pahroc Range**	**2.60**	**54**			Pn	05 04 42.3	+0.1
PRN					IAML		05 05 26.1	
	comp=N,82nm,0.7s							
PRN					IAML		05 05 37.4	
	comp=E,114nm,0.9s							
BBGB	**Big Mountain B**	**2.77**	**285**			Pn	05 04 44.4	-0.3
BC3	**Big Chuckawall**	**2.92**	**140**	Pn	Pn	Pn	05 04 44.9	-1.8
BC3					IAML		05 05 37.6	
	comp=N,36nm,0.6s							
BC3					IAML		05 05 45.2	
	comp=E,32nm,1.0s							
R11B	**Troy Canyon, C**	**2.96**	**34**			Pn	05 04 46.3	-0.9
R11B					IAML		05 05 33.8	
	comp=E,37nm,0.7s							
SAO	**San Andreas Ge**	**3.14**	**287**			Pn	05 04 51.1	+1.6
W13A	**Hualapai Mount**	**3.22**	**104**			Pn	05 04 49.0	-1.9
CBX	**Cerro Bola**	**3.70**	**166**	Pn	Pn	Pn	05 04 57.5	+0.1
LCMT	**Little Creek M**	**3.76**	**72**			Pn	05 04 58.3	+0.1
CCUT	**Cedar City**	**3.85**	**64**			Pn	05 04 59.8	+0.3
PAHR	**Pah Rah Range**	**4.01**	**341**	Pn		Pn	05 05 00.9	-0.7
KNB	**Kanab**	**4.08**	**73**			Pn	05 05 03.3	+0.6
KNB					IAML		05 06 11.2	
	comp=E,10nm,0.8s							
KNB					IAML		05 06 21.8	
	comp=N,12nm,1.6s							
Y14A	**Wickenburg**	**4.34**	**116**			Pn	05 05 04.9	-1.2
Y14A					IAML		05 06 19.9	
	comp=E,12nm,0.7s							
Y14A					IAML		05 06 20.2	
	comp=N,21nm,0.8s							
U15A	**North Rim**	**4.41**	**82**	Pn	Pn	Pn	05 05 06.0	-1.3
U15A					IAML		05 06 16.8	
	comp=E,14nm,0.9s							
U15A					IAML		05 06 27.1	
	comp=N,16nm,1.1s							
PKCU	**Pink Cliffs**	**4.59**	**69**	Pn	Pn	Pn	05 05 09.8	-0.1
PKCU					IAML		05 06 26.4	
	comp=E,20nm,0.4s							
PKCU					IAML		05 06 41.7	
	comp=N,14nm,2.4s							
ELK	**Elko**	**5.19**	**21**	Pn	Pn	Pn	05 05 17.8	-0.2
ELK					IAML		05 06 47.3	
	comp=N,5.9nm,0.8s							
X16A	**Lo Mia Camp, P**	**5.34**	**104**	Pn	Pn	Pn	05 05 19.6	-0.5
X16A					IAML		05 08 27.9	
	comp=N,6.0nm,0.1s							
X16A					IAML		05 08 45.0	
	comp=E,4.8nm,0.1s							

*SDD **26** 05:05:31.0±3.6, 19°.11N×67°.23W, h23km±18km, MD2.3, ML1.8, MW2.1*
*RSPR **26** 05:05:36.1, 18°.92N×66°.92W, h8km±1km, MD2.8/11*
ISC 26 05:05:35.1±3.1, **18°.9N**±0°.1×**66°.91W**±0°.07, **h29**km, **n31**, σ0s**41**/33, **13C-6D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.58**	**141**	⇑*eP*		**Pb**		**05 05 47.5**	**+0.8**
AOPR	**Arecibo Observ**	**0.60**	**165**	⇓*eP*		**Pb**		**05 05 47.1**	**-0.1**
AOPR	**Arecibo Observ**	**0.60**	**165**	*eS*		**Sb**		**05 05 55.8**	**+0.5**
AOPR	**Arecibo Observ**	**0.60**	**165**	⇑*ePg*		**Pb**		**05 05 47.3**	**+0.2**
AOPR				*iS*		**Sb**		**05 05 55.0**	**-0.3**
AOPR				IAML				05 05 55.9	
	comp=N,35nm,0.6s								
UUPR	**Utuado, UPR, P**	**0.70**	**165**	⇓*eP*		**Pb**		**05 05 48.4**	**-0.4**
UUPR	**Utuado, UPR, P**	**0.70**	**165**	*eS*		**Sb**		**05 05 58.0**	**0.0**
LSP	**Las Mesas**	**0.77**	**192**	⇑*eP*		**Pn**		**05 05 50.0**	**0.0**
LSP	**Las Mesas**	**0.77**	**192**	*eS*		**Sb**		**05 05 59.9**	**-0.1**
ECPR	**Experimental S**	**0.80**	**139**	⇑*eP*		**Pn**		**05 05 49.9**	**-0.5**
ECPR	**Experimental S**	**0.80**	**139**	*eS*		**Sb**		**05 06 01.1**	**+0.1**
CELP	**Cerrillos**	**0.91**	**159**	⇑*eP*		**Pn**		**05 05 51.8**	**-0.1**
CELP	**Cerrillos**	**0.91**	**159**	*eS*		**Sn**		**05 06 04.0**	**0.0**
CELP	**Cerrillos**	**0.91**	**159**	⇓*ePg*		**Pn**		**05 05 51.8**	**-0.1**
CELP				*iS*		**Sn**		**05 06 04.2**	**+0.2**
CELP				IAML				05 06 04.3	
	comp=N,40nm,0.3s								
OBIP	**Obispado Ponce**	**0.93**	**162**	⇓*eP*		**Pn**		**05 05 52.1**	**-0.1**
OBIP	**Obispado Ponce**	**0.93**	**162**	*eS*		**Sn**		**05 06 04.8**	**+0.3**
CRPR	**Cabo Rojo, PR**	**0.94**	**191**	⇑*eP*		**Pn**		**05 05 52.2**	**-0.1**
CRPR	**Cabo Rojo, PR**	**0.94**	**191**	*eS*		**Sn**		**05 06 04.7**	**0.0**
CRPR	**Cabo Rojo, PR**	**0.94**	**191**	⇑*ePg*		**Pn**		**05 05 52.5**	**+0.3**
CRPR				⇓*eSg*		**Sn**		**05 06 03.7**	**-1.0**
MLPR	**Magueyes Islan**	**0.96**	**187**	⇑*eP*		**Pn**		**05 05 52.7**	**+0.1**
MLPR	**Magueyes Islan**	**0.96**	**187**	*eS*		**Sn**		**05 06 05.3**	**-0.1**
MLPR	**Magueyes Islan**	**0.96**	**187**	⇑*ePg*		**Pn**		**05 05 52.7**	**+0.1**
MLPR				⇓*eSg*		**Sn**		**05 06 06.1**	**+0.7**
MLPR				IAML				05 06 27.4	
	comp=N,8.0nm,3.0s								
GCPR	**Guaynabo City**	**1.00**	**128**	⇑*eP*		**Pn**		**05 05 53.3**	**+0.1**
GCPR	**Guaynabo City**	**1.00**	**128**	*eS*		**Sn**		**05 06 06.5**	**+0.2**
IGPR	**InterUniversit**	**1.23**	**141**	⇑*eP*		**Pn**		**05 05 56.0**	**-0.3**
IGPR	**InterUniversit**	**1.23**	**141**	*eS*		**Sn**		**05 06 11.8**	**-0.1**
PDPR	**Patillas Dam,**	**1.24**	**137**	⇑*eP*		**Pn**		**05 05 55.9**	**-0.6**
PDPR	**Patillas Dam,**	**1.24**	**137**	*eS*		**Sn**		**05 06 11.5**	**-0.7**
HUMP	**Col San Antoni**	**1.28**	**128**	⇑*eP*		**Pn**		**05 05 56.4**	**-0.6**
HUMP	**Col San Antoni**	**1.28**	**128**	*eS*		**Sn**		**05 06 13.8**	**+0.7**
PCDR	**Punta Cana, DR**	**1.45**	**254**	*iP*		Pn		05 05 49.5	-10
HIDR	**Higuey Centro**	**1.74**	**259**	*iP*		Pn		05 05 54.1	-9.3

*JMA **26** 05:16:29.6±0.2, 25°.N±1°×122°.5E±0°.5, h0km, MV3.2/8, NW OFF ISHIGAKIJIMA IS*
*TAP **26** 05:16:30.2, 24°.90N×122°.43E, h16km, ML3.4, C*
ISC 26 05:16:29.9±1.1, **24°.88N**±0°.03×**122°.44E**±0°.02, **h10**km±9km, **n73**, σ0s**52**/114, **3C-1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.43**	**287**	⇑*iP*		**Pb**		**05 16 39.2**	**-0.5**
TWB1				*iS*		**Sb**		**05 16 45.4**	**-0.9**
EGS		**0.47**	**266**	⇑*iP*		**Pb**		**05 16 40.0**	**-0.2**
EGS				*iS*		**Sb**		**05 16 46.7**	**-0.5**
EOS2	**EOS2**	**0.50**	**203**	*iP*		**Pb**		**05 16 41.2**	**+0.5**
EOS2				*iS*		**Sb**		**05 16 49.1**	**+1.1**
SXI1	**Grass Mountain**	**0.56**	**292**	⇓*iP*		**Pb**		**05 16 41.8**	**-0.1**
SXI1				*iS*		**Sb**		**05 16 49.5**	**-0.4**
NTC	**Toucheng**	**0.56**	**267**	*eP*		**Pb**		**05 16 41.5**	**-0.3**
TIPB	**Shuangxi**	**0.57**	**279**	P		**Pb**		**05 16 42.2**	**+0.2**
TIPB				S		**Sb**		**05 16 50.3**	**+0.1**
EOS3	**EOS3**	**0.60**	**191**	*iP*		**Pb**		**05 16 43.1**	**+0.6**
EOS3				S		**Sb**		**05 16 52.0**	**+1.0**
TWC	**Suao**	**0.60**	**243**	*iP*		**Pg**		**05 16 42.0**	**+0.3**
TWC				*iS*		**Sg**		**05 16 50.0**	**+0.5**
ESAO	**Su ao**	**0.62**	**241**	P		**Pb**		**05 16 43.0**	**0.0**
ESAO				S		**Sg**		**05 16 50.5**	**+0.3**
NWF	**Wu-fen Shan**	**0.63**	**288**	P		**Pb**		**05 16 42.6**	**-0.5**
NWF				S		**Sb**		**05 16 51.9**	**-0.1**
WFSB	**Wu-fen Shan**	**0.63**	**288**	P		**Pb**		**05 16 43.0**	**-0.1**
WFSB				S		**Sb**		**05 16 52.3**	**+0.4**
ILA	**Ilan**	**0.64**	**260**	*eP*		**Pb**		**05 16 43.6**	**+0.3**
ILA				S		**Sb**		**05 16 53.3**	**+1.1**
TNOU	**National Taiwa**	**0.66**	**294**	P		**Pg**		**05 16 43.2**	**+0.5**
TNOU				*eS*		**Sb**		**05 16 52.8**	**-0.1**
YOJ	**Yonaguni jima**	**0.67**	**129**	P		**Pg**		**05 16 42.5**	**-0.3**
YOJ	**Yonaguni jima**	**0.67**	**129**	*eP*		**Pg**		**05 16 42.3**	**-0.5**
YOJ				*eS*		**Sg**		**05 16 51.5**	**-0.1**
YOJ	**Yonaguni jima**	**0.67**	**129**	⇑*iP*		**Pg**		**05 16 42.9**	**+0.1**
YOJ				*iS*		**Sg**		**05 16 51.9**	**+0.3**
NDS	**Dongshan**	**0.70**	**250**	P		**Pg**		**05 16 43.2**	**-0.4**
NDS				S		**Sb**		**05 16 53.4**	**-0.7**
TWE	**Neicheng**	**0.72**	**257**	*iP*		**Pb**		**05 16 44.3**	**-0.3**
TWE				*iS*		**Sb**		**05 16 54.7**	**+0.1**
EWUT	**Wuta**	**0.74**	**234**	*eP*		**Pb**		**05 16 45.2**	**+0.2**
EWUT				S		**Sb**		**05 16 55.0**	**-0.2**
EOS4	**EOS4**	**0.77**	**189**	P		**Pn**		**05 16 45.9**	**-0.6**
ENA	**Nanau**	**0.78**	**235**	*iP*		**Pb**		**05 16 45.3**	**-0.3**
ENA				*iS*		**Sb**		**05 16 56.1**	**-0.3**
FUSB	**Fushanzhiwuyua**	**0.79**	**261**	P		**Pb**		**05 16 45.6**	**-0.2**
FUSB				*eS*		**Sn**		**05 16 58.3**	**-0.8**
TWA	**Mucha**	**0.79**	**277**	P		**Pb**		**05 16 45.6**	**-0.1**
TWA				S		**Sb**		**05 16 57.3**	**+0.9**
PCYT	**Pengchaiyu**	**0.82**	**336**	*eP*		**Pb**		**05 16 46.5**	**+0.2**
YM08	**YM08**	**0.83**	**292**	P		**Pb**		**05 16 46.5**	**0.0**
ENTT	**Nioudou**	**0.83**	**253**	*iP*		**Pb**		**05 16 46.4**	**-0.1**
ENTT				*iS*		**Sb**		**05 16 58.1**	**+0.3**
YM01	**YM01**	**0.83**	**289**	P		**Pg**		**05 16 46.3**	**+0.2**
NHDH	**Xindian Distri**	**0.84**	**276**	*eP*		**Pb**		**05 16 46.7**	**+0.1**
NHDH				*eS*		**Sb**		**05 16 58.9**	**+1.0**
EAHA	**Aohua**	**0.84**	**229**	*iP*		**Pb**		**05 16 47.0**	**+0.3**
EAHA				S		**Sg**		**05 16 56.9**	**-0.3**
TWY	**Chenhua**	**0.86**	**297**	*iP*		**Pb**		**05 16 47.5**	**+0.6**
TWY				*iS*		**Sb**		**05 16 59.6**	**+1.0**
NWLT	**Wulai**	**0.86**	**263**	P		**Pg**		**05 16 46.6**	**+0.1**
NWLT				*eS*		**Sn**		**05 17 00.3**	**-0.5**
ZUZH	**Zhuzihu**	**0.86**	**289**	*eP*		**Pg**		**05 16 46.6**	**+0.1**
TATO	**Taipei**	**0.87**	**276**	P		**Pb**		**05 16 47.0**	**-0.2**
TATO	**Taipei**	**0.87**	**276**	S		**Sb**		**05 16 59.3**	**+0.4**
ANP	**Anpu**	**0.89**	**290**	*eP*		**Pb**		**05 16 48.2**	**+0.6**
LATG	**Datong**	**0.90**	**248**	P		**Pb**		**05 16 47.9**	**+0.1**
LATG				S		**Sb**		**05 17 00.1**	**+0.2**
NTST	**Danshui**	**0.94**	**288**	*eP*		**Pg**		**05 16 47.5**	**-0.6**
NTST				*eS*		**Sn**		**05 17 02.4**	**-0.4**
YHNB	**Yeheng**	**0.99**	**258**	P		**Pb**		**05 16 49.7**	**+0.4**
YHNB	**Yeheng**	**0.99**	**258**	S		**Pb**		**05 16 49.5**	**+0.2**
YHNB				*eS*		**Sb**		**05 17 02.5**	**0.0**
NSK	**Sanguang**	**1.01**	**258**	P		**Pg**		**05 16 48.3**	**-1.0**
NSK				S		**Sb**		**05 17 03.3**	**+0.4**
ETL	**Fush Village**	**1.04**	**226**	*eP*		**Pn**		**05 16 50.6**	**0.0**
ETL				*eS*		**Sb**		**05 17 04.0**	**+0.3**
NACB	**Ninganchiao**	**1.04**	**228**	P		**Pn**		**05 16 50.7**	**0.0**
NACB	**Ninganchiao**	**1.04**	**228**	S		**Sb**		**05 17 04.4**	**+0.5**
NACB	**Ninganchiao**	**1.04**	**228**	P		**Pg**		**05 16 49.8**	**-0.3**
NACB				S		**Sb**		**05 17 03.7**	**-0.2**
NNSB	**Datong**	**1.06**	**245**	P		**Pg**		**05 16 50.3**	**-0.1**
NNSB				*eS*		**Sb**		**05 17 04.8**	**+0.2**
NNS	**Nan Shan**	**1.07**	**246**	*i* P		**Pg**		**05 16 50.3**	**-0.2**
NNS				*i* S		**Sb**		**05 17 04.9**	**+0.2**
ETLH	**Xiulin Townshi**	**1.10**	**233**	P		**Pb**		**05 16 51.2**	**0.0**
ETLH				S		**Sn**		**05 17 06.5**	**-0.5**
NFF	**Wufeng Townshi**	**1.23**	**259**	P		**Pb**		**05 16 53.0**	**-0.4**
ETM	**Tongmen**	**1.26**	**224**	*eP*		**Pn**		**05 16 53.3**	**-0.3**
ETM				*eS*		**Sn**		**05 17 10.8**	**+0.2**
FUSS	**Fushou**	**1.26**	**240**	*eP*		**Pg**		**05 16 54.8**	**+0.6**
FUSS				S		**Sb**		**05 17 10.7**	**+0.3**
LXIB	**Xiulin Townshi**	**1.27**	**228**	P		**Pg**		**05 16 54.5**	**+0.1**
LXIB				S		**Sn**		**05 17 12.1**	**+1.0**
IRIF	**Iriomote-Funau**	**1.29**	**115**	*eP*		**Pg**		**05 16 54.6**	**-0.2**
WHF	**Hehuan Shan**	**1.30**	**236**	P		**Pg**		**05 16 55.1**	**+0.2**
WHF				*eS*		**Sb**		**05 17 12.0**	**+0.3**
TWT	**Tachien**	**1.31**	**242**	*eP*		**Pn**		**05 16 53.4**	**-1.1**
TWT				*eS*		**Sn**		**05 17 13.9**	**+1.7**
LIOB	**Emei**	**1.32**	**260**	*eP*		**Pn**		**05 16 54.5**	**0.0**
NSTT	**Nanjuang**	**1.33**	**260**	*eP*		**Pn**		**05 16 54.7**	**0.0**
OWD	**Renai**	**1.48**	**232**	*eP*		**Pg**		**05 16 57.9**	**-0.5**
HATJ	**Hateruma jima**	**1.49**	**123**	*eP*		**Pg**		**05 16 58.2**	**-0.3**
WHP	**Taichung City**	**1.49**	**246**	*eP*		**Pg**		**05 16 59.0**	**+0.5**
WUSB	**Renai**	**1.50**	**234**	P		**Pg**		**05 16 58.5**	**-0.2**
WUSB				*i* S		**Sg**		**05 17 18.5**	**+0.4**
WARBT	**Fenglin Townsh**	**1.51**	**220**	*eP*		**Pn**		**05 16 57.1**	**0.0**
VWDT	**VWDT**	**1.63**	**227**	*eP*		**Pn**		**05 16 59.2**	**+0.5**
HGSD	**Ruisui**	**1.67**	**214**	*eP*		**Pn**		**05 17 00.2**	**-0.6**
EHYH	**Wanrong**	**1.71**	**216**	*eP*		**Pn**		**05 17 00.5**	**+0.7**
SMLT	**Sun Moon Lake**	**1.72**	**235**	*eP*		**Pb**		**05 17 00.9**	**-0.8**
SSLB	**Suanglung**	**1.74**	**232**	P		**Pg**		**05 17 03.3**	**0.0**
SSLB	**Suanglung**	**1.74**	**232**	*eP*		**Pb**		**05 17 01.3**	**-0.8**
TYC	**Yuchr**	**1.74**	**236**	P		**Pb**		**05 17 01.7**	**-0.3**
YULB	**Yu-li**	**1.81**	**215**	P		**Pb**		**05 17 03.2**	**-0.1**
CHKH	**Chenggong**	**1.94**	**210**	*eP*		**Pn**		**05 17 02.8**	**-0.2**
ALS	**Alishan**	**2.02**	**228**	*eP*		**Pb**		**05 17 07.0**	**0.0**
CHN5	**Tsauling**	**2.06**	**232**	*eP*		**Pb**		**05 17 07.0**	**-0.5**
WTP	**Ta-pu**	**2.33**	**226**	*eP*		**Pb**		**05 17 10.5**	**-1.6**
WTP				*i* S		**Sb**		**05 17 40.0**	**-1.0**

IDC 26 05:31:57.8±7.0, **19°.11S**×**176°.42W, h0**km, **mb3.9**/5, **mbtmp3.9**/5, **Error ellipse: s-maj=182.5km s-min=37.6km az=30.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.74**	**243**	P		P	P	05 39 32.0	-0.3
	1.9nm,0.7s,baz=93,slow=18,SNR=4.1 1.9nm,0.7s								
WRA	**Warramunga Arr**	**46.28**	**260**	P		P	P	05 40 25.6	0.0
	0.2nm,0.3s,baz=96,slow=7.6,SNR=

MRNZ	**Matariki Terra**	**4.47**	**213**	P	**Pn**	**05 43 08.0 +1.9**
THZ	**Tophouse**	**4.72**	**209**	P	**Pn**	**05 43 10.5 +1.5**
KHZ	**Kahutara**	**5.09**	**201**	P	**Pn**	**05 43 15.4 +2.2**
KHZ	**Kahutara**	**5.09**	**201**	S	**S**	**05 44 14.4 -1.5**
KHZ	**Kahutara**	**5.09**	**201**	P	**Pn**	**05 43 14.9 +1.7**

NAO ***26*** *05:55:24.1, 34.62N×24.44E, h10km, mb3.5*
ATH ***26*** *05:55:55.7, 37.90N×20.99E, h25km±1km, ML3.5/10, Manual Solution by A.Moschou First location: 2019/07/26 05:56:43, This location: 2021/06/16 08:28:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
IDC ***26*** *05:55:56.3±3.4, 38.09N×21.27E, h0km, mb3.5/7, mbtmp3.5/9, ML2.0/2, MS2.8/1, Error ellipse: s-maj=67.9km s-min=21.6km az=48.0*
THE ***26*** *05:55:57.0, 38.1°×21.0E±0.8, h0km, M3.3/38, MLh3.3/38*

ISC 26 05:55:57.4±0.8,**37.91N**±0.02×**20.99E**±0.02,**h16**km±5km, **n71**,σ1=**29**/115,**mb3.7/7**,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KYPS	**Kipseli, Zakin**	**0.16**	**235**	P		**Pg**	**05 56 01.1**	**-0.4**
KYPS				S		**Sg**	**05 56 04.5**	**+0.3**
LCHA	**Lechaina**	**0.22**	**83**	P		**Pg**	**05 56 01.4**	**-1.0**
LCHA				S		**Sg**	**05 56 05.8**	**0.0**
LTHK	**Lithakia**	**0.23**	**211**	P		**Pg**	**05 56 01.7**	**-0.9**
LTHK				S		**Sg**	**05 56 06.2**	**0.0**
LTHK	**Lithakia**	**0.23**	**211**	P		**Pg**	**05 56 01.8**	**-0.8**
LTHK				S		**Sg**	**05 56 06.2**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.24**	**314**	P		**Pg**	**05 56 01.8**	**-0.9**
RTZL				S		**Sg**	**05 56 06.1**	**-0.2**
ORTH	**Orthonies,Zaky**	**0.24**	**256**	P		**Pg**	**05 56 02.0**	**-0.7**
ORTH				S		**Sg**	**05 56 06.1**	**-0.3**
KRI1	**kERI**	**0.28**	**209**	P		**Pg**	**05 56 02.5**	**-0.9**
KRI1				S		**Sb**	**05 56 07.8**	**-0.8**
YRMI	**Loutra Irminis**	**0.34**	**56**	P		**Pg**	**05 56 03.1**	**-1.3**
YRMI				S		**Sg**	**05 56 09.0**	**-0.4**
PSDA	**Pessada-Kefalo**	**0.38**	**303**	P		**Pg**	**05 56 04.0**	**-1.1**
PSDA				S		**Sg**	**05 56 10.2**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.38**	**303**	P		**Pg**	**05 56 04.0**	**-1.1**
PSDA				S		**Sg**	**05 56 09.9**	**-0.4**
RLS	**Riolos of Patr**	**0.41**	**69**	P		**Pg**	**05 56 04.3**	**-1.3**
RLS				S		**Sg**	**05 56 11.1**	**-0.1**
RLS	**Riolos of Patr**	**0.41**	**69**	P		**Pg**	**05 56 04.3**	**-1.3**
RLS				S		**Sg**	**05 56 10.5**	**-0.7**
VLS	**Valsamata**	**0.41**	**310**	P		**Pg**	**05 56 04.3**	**-1.4**
VLS				S		**Sg**	**05 56 11.5**	**+0.1**
VLS	**Valsamata**	**0.41**	**310**	P		**Pg**	**05 56 04.5**	**-1.3**
VLS				S		**Sg**	**05 56 10.9**	**-0.5**
AXS	**Araxos**	**0.42**	**47**	P		**Pg**	**05 56 04.6**	**-1.2**
AXS				S		**Sg**	**05 56 11.4**	**-0.2**
AXS	**Araxos**	**0.42**	**47**	P		**Pg**	**05 56 04.7**	**-1.2**
ARG2	**Argostoli**	**0.48**	**304**	P		**Pg**	**05 56 05.8**	**-1.1**
ARG2				S		**Sg**	**05 56 13.4**	**+0.1**
LXR1	**Lixouri, Cepha**	**0.52**	**304**	P		**Pg**	**05 56 06.8**	**-0.9**
LXR1				S		**Sb**	**05 56 15.8**	**+0.4**
DMLN	**Damoulianata-K**	**0.58**	**304**	P		**Pg**	**05 56 07.7**	**-1.3**
DMLN				S		**Sb**	**05 56 17.5**	**+0.2**
DMLN	**Damoulianata-K**	**0.58**	**304**	P		**Pg**	**05 56 07.0**	**-1.3**
DMLN				S		**Sg**	**05 56 16.0**	**-0.7**
AST1	**Astakos**	**0.64**	**7**	P		**Pg**	**05 56 08.9**	**-1.0**
AST1				S		**Sb**	**05 56 19.4**	**+0.7**
FSK	**Fiskardo**	**0.64**	**329**	P		**Pg**	**05 56 08.5**	**-1.4**
FSK				S		**Sb**	**05 56 19.2**	**+0.3**
FSK	**Fiskardo**	**0.64**	**329**	P		**Pg**	**05 56 08.3**	**-1.7**
FSK				S		**Sg**	**05 56 17.8**	**-0.7**
UPR	**University Cam**	**0.73**	**59**	P		**Pb**	**05 56 11.2**	**-0.6**
UPR				S		**Sb**	**05 56 23.3**	**+1.7**
EVGI	**Lefkada island**	**0.76**	**340**	P		**Pg**	**05 56 10.6**	**-1.6**
EVGI				S		**Sb**	**05 56 22.5**	**+0.3**
EVGI	**Lefkada island**	**0.76**	**340**	P		**Pg**	**05 56 10.3**	**-1.8**
EVGI				S		**Sg**	**05 56 20.9**	**-1.2**
PVO	**Paravola**	**0.82**	**31**	P		**Pg**	**05 56 12.6**	**-0.8**
PVO				S		**Sb**	**05 56 25.9**	**+1.7**
PVO	**Paravola**	**0.82**	**31**	P		**Pg**	**05 56 12.4**	**-1.0**
NYDR	**Nydri-Lefkada**	**0.83**	**344**	P		**Pg**	**05 56 11.8**	**-1.8**
NYDR				S		**Sb**	**05 56 25.7**	**+1.3**
NYDR	**Nydri-Lefkada**	**0.83**	**344**	P		**Pg**	**05 56 11.8**	**-1.8**
NYDR				S		**Sg**	**05 56 22.5**	**-2.1**
DRAG	**Dragano-Lefkad**	**0.84**	**337**	P		**Pg**	**05 56 12.1**	**-1.5**
DRAG				S		**Sb**	**05 56 25.2**	**+0.6**
DRAG	**Dragano-Lefkad**	**0.84**	**337**	P		**Pg**	**05 56 12.3**	**-1.3**
DRAG				S		**Sg**	**05 56 23.5**	**-1.2**
EFP	**Efpalio**	**0.89**	**54**	P		**Pg**	**05 56 13.1**	**-1.5**
EFP				S		**Sb**	**05 56 27.9**	**+1.9**
EFP	**Efpalio**	**0.89**	**54**	P		**Pg**	**05 56 13.1**	**-1.5**
LKD2	**Lefkada island**	**0.91**	**344**	P		**Pg**	**05 56 13.3**	**-1.8**
LKD2				S		**Sb**	**05 56 27.8**	**+1.0**
LKD2	**Lefkada island**	**0.91**	**344**	P		**Pg**	**05 56 13.2**	**-1.8**
LKD2				S		**Sg**	**05 56 25.5**	**-1.6**
KLV	**Kalavryta, Ach**	**0.93**	**81**	P		**Pg**	**05 56 13.4**	**-1.9**
KLV				S		**Sb**	**05 56 28.5**	**+1.3**
TSLK	**Tsoukalades, L**	**0.95**	**344**	P		**Pg**	**05 56 14.1**	**-1.6**
TSLK				S		**Sn**	**05 56 30.3**	**+1.0**
TSLK	**Tsoukalades, L**	**0.95**	**344**	P		**Pg**	**05 56 13.8**	**-2.0**
TSLK				S		**Sg**	**05 56 26.9**	**-1.3**
SERG	**Sergoula**	**0.98**	**59**	P		**Pg**	**05 56 14.5**	**-1.8**
SERG				S		**Sb**	**05 56 30.5**	**+1.8**
ANX	**Ano Chora**	**1.00**	**47**	P		**Pg**	**05 56 15.2**	**-1.6**
ANX				S		**Sn**	**05 56 31.7**	**+1.0**
KALE	**Kalithea**	**1.03**	**62**	P		**Pg**	**05 56 15.3**	**-1.9**
KALE				S		**Sn**	**05 56 32.8**	**+1.5**
ITM	**Ithomi**	**1.04**	**134**	P		**Pg**	**05 56 15.4**	**-2.1**
ITM				S		**Sn**	**05 56 32.8**	**+1.1**
GUR	**Goura**	**1.07**	**88**	P		**Pg**	**05 56 16.1**	**-2.0**
GUR				S		**Sb**	**05 56 32.8**	**+1.3**
EVR	**Evrytania**	**1.19**	**32**	P		**Pg**	**05 56 19.6**	**-0.9**
EVR				S		**Sn**	**05 56 39.1**	**+3.6**
VLX	**Vlachokerasia**	**1.23**	**116**	P		**Pg**	**05 56 19.7**	**-1.4**
MAKR	**Makrakomi, Fth**	**1.42**	**39**	P		**Pn**	**05 56 23.3**	**+0.7**
AGG	**Agios Georgios**	**1.53**	**43**	P		**Pn**	**05 56 24.5**	**+0.4**
AXAR	**Agios Charalam**	**1.57**	**56**	P		**Pn**	**05 56 24.5**	**0.0**
IGT	**Igoumenitsa**	**1.70**	**343**	P		**Pn**	**05 56 27.8**	**+1.4**
IGT				S		**Sg**	**05 56 51.8**	**-0.3**
THL	**Klokotos Trika**	**1.84**	**26**	P		**Pb**	**05 56 30.6**	**0.0**
VILL	**Villia**	**1.85**	**81**	P		**Pb**	**05 56 30.6**	**-0.3**
VLI	**Veliai**	**1.96**	**127**	P		**Pb**	**05 56 31.9**	**-0.7**
TYRN	**Tyrnavos**	**2.04**	**28**	P		**Pn**	**05 56 32.7**	**+1.6**
NEO	**Neokhori**	**2.24**	**51**	P		**Pn**	**05 56 35.6**	**+1.8**
DION	**Dionisos Attik**	**2.33**	**85**	P		**Pb**	**05 56 37.7**	**-1.4**
DION				S		**Sb**	**05 57 06.9**	**-0.7**
KTHA	**Kythira Island**	**2.34**	**134**	P		**Pn**	**05 56 37.6**	**+2.4**
NEST	**Nestorio**	**2.50**	**1**	P		**Pn**	**05 56 40.2**	**+2.7**
KYMI	**Kymi, Euboea I**	**2.55**	**73**	P		**Pn**	**05 56 40.5**	**+2.4**
FNA	**Florina**	**2.88**	**6**	P		**Pn**	**05 56 44.5**	**+1.8**
IDI	**Anoyia**	**4.09**	**129**	Pn		**Pn**	**05 56 59.7**	**+0.4**
	1.0nm,0.3s,baz=324,slow=8.5,SNR=5.7							
IDI				Sn		**Sn**	**05 57 46.2**	**-0.6**
	3.0nm,0.3s,baz=329,slow=18,SNR=6.0 4.3nm,0.5s							
KEST	**Kesra**	**9.58**	**260**	LR		LR	06 02 54.6	
	comp=Z,49nm,18.8s,baz=235,slow=42							
BRTR	**Keskin Array B**	**10.04**	**76**	Pn		**Pn**	**05 58 21.5**	**+0.5**
	0.1nm,0.3s,baz=279,slow=13,SNR=2.0 0.2nm,0.4s							
HFS	**Hagfors**	**22.72**	**351**	P		**P**	**06 00 57.6**	**-0.7**
	1.8nm,0.6s,baz=146,slow=11,SNR=9.9 1.8nm,0.6s							
FINES	**FINESS Array B**	**23.77**	**6**	P		**P**	**06 01 07.3**	**-1.5**
	0.4nm,0.6s,baz=168,slow=9.8,SNR=4.5 0.4nm,0.6s							
NB2	**NORSAR Subarra**	**23.95**	**348**	P		**P**	**06 01 12.3**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=156,slow=9.3							
NOA	**NORSAR Array B**	**23.95**	**348**	P		**P**	**06 01 11.1**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=157,slow=9.0,SNR=5.1 comp=Z,0.2nm,0.5s							
ARCES	**ARCESS Array B**	**31.78**	**3**	P		**P**	**06 02 20.5**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=197,slow=9.0,SNR=1.7 comp=Z,1.0nm,0.8s							
KURBB	**Kurchatov Arra**	**42.09**	**53**	P		**P**	**06 03 47.3**	**-1.1**
	comp=Z,0.4nm,0.2s,baz=283,slow=8.5,SNR=5.1 comp=Z,0.4nm,0.2s							
MKAR	**Makanchi Array**	**45.13**	**58**	P		**P**	**06 04 12.8**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=279,slow=7.6,SNR=7.4 comp=Z,0.3nm,0.4s							
ZALV	**Zalesovo Beam**	**45.60**	**48**	P		**P**	**06 04 15.6**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=268,slow=7.4,SNR=3.5 comp=Z,0.9nm,0.5s							

ASRS ***26*** *05:59:24.0±1.4, 54.13N×86.49E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 26 05:59:24.8±2.9,**54.14N×86.68E, h0km, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=25.4km s-min=14.9km az=53.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.12**	**261**	I		I	06 06 00.0	
	baz=80,slow=316,SNR=21							
ZALV	**Zalesovo Beam**	**1.12**	**261**	Pg		Pg	05 59 45.1	-1.1
	1.0nm,0.3s,baz=82,slow=18,SNR=11							
ZALV				Lg		Lg	06 00 01.6	
	2.4nm,0.3s,baz=77,slow=27,SNR=11							
KURBB	**Kurchatov Arra**	**6.11**	**238**	Pn		Pn	06 00 57.5	+1.3
	0.1nm,0.3s,baz=54,slow=13,SNR=8.9 0.6nm,0.5s							
MKAR	**Makanchi Array**	**7.87**	**203**	Pn		Pn	06 01 21.1	+0.7
	0.2nm,0.3s,baz=22,slow=16,SNR=8.1 0.2nm,0.3s							

IDC ***26*** *05:59:24.3±0.7, 2.84S×119.46E, h0km, mb4.0/9, mbtmp4.1/11, ML3.6/2, MS3.4/17, Error ellipse: s-maj=38.1km s-min=13.3km az=65.0*
DJA ***26*** *05:59:26.4±0.2, 3.2S×119.9E, h10km, M4.6/18, mB5.6/1, mb4.6/6, MLv4.5/18, Mw(mB)5.0/1*
NEIC ***26*** *05:59:26.5±1.5, 3.00S±0.04×119.14E±0.1, h10km±1km, mb4.5/22, Error ellipse: s-maj=21.3km s-min=6.9km az=93.0*

ISC 26 05:59:25.6±1.9,**2.96S**±0.04×**119.35E**±0.07,**h7**km±13km, **n77**,σ1=**37**/72,**mb4.4**/27,**MS3.5**/14,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.48**	**100**	P		**Pg**	**05 59 34.1**	**-0.7**
TTSI				S		**Sg**	**05 59 41.2**	**+0.1**
SPSI	**Sidrap Palu**	**1.08**	**157**	P		**Pb**	**05 59 45.7**	**-0.9**
SPSI				S		**Sg**	**06 00 01.5**	**+1.1**
BNSI	**Bone**	**1.62**	**152**	P		**Pn**	**05 59 55.4**	**+0.9**
BNSI				S		**Sb**	**06 00 17.1**	**+0.7**
KAPI	**Kappang**	**2.08**	**169**			**Pn**	**06 00 01.0**	**+0.1**
KAPI	**Kappang**	**2.08**	**169**	Pn		**Pn**	**06 00 01.6**	**+0.7**
	63nm,0.3s,baz=337,slow=11,SNR=102							
KAPI				Sn		**Sb**	**06 00 30.5**	**+0.8**
	238nm,0.3s,baz=185,slow=20,SNR=10							
KAPI				LR		LR	06 01 03.1	
	comp=Z,291nm,21.9s,baz=329,slow=45							
	543nm,0.4s							
PCI	**Palu**	**2.10**	**13**	P		**Pn**	**06 00 01.1**	**-0.1**
PCI				S		**Sn**	**06 00 27.6**	**0.0**
BKSI	**Bulukumba**	**2.47**	**162**	P		**Pn**	**06 00 07.7**	**+1.4**
APSI	**Ampana**	**3.07**	**48**	P		**Pn**	**06 00 15.6**	**+1.0**
MPSI	**Mapaga**	**3.32**	**9**	P		**Pn**	**06 00 16.9**	**-1.1**
BSSI	**Bau Bau, Buton**	**3.36**	**160**	P		**Pn**	**06 00 19.3**	**+0.8**
KDI	**Kendari**	**3.41**	**107**	P		**Pn**	**06 00 20.9**	**+1.7**
LUWI	**Luwuk**	**3.92**	**61**	P		**Pn**	**06 00 26.9**	**+0.7**
MRSI	**Marisa**	**4.29**	**37**	P		**Pn**	**06 00 32.2**	**+0.9**
TOLI2	**Tolitoli**	**4.29**	**20**			**Pn**	**06 00 32.1**	**+0.7**
PLAI	**Plampang**	**6.03**	**195**	P		**Pn**	**06 00 55.9**	**+0.6**
	0.2nm34nm,1.0s							
EDFI	**Ende, Flores**	**6.20**	**158**	P		**Pn**	**06 00 59.4**	**+1.6**
TWSI	**Taliwang, Sumb**	**6.24**	**203**	P		**Pn**	**06 00 57.5**	**-0.7**
	0.1nm27nm,0.9s							
WBSI	**Waikabubak, Su**	**6.64**	**180**	P		**Pn**	**06 01 04.6**	**+0.9**
BWJI	**Bawean**	**7.26**	**246**	P		**Pn**	**06 01 12.2**	**0.0**
SOEI	**Soe**	**8.33**	**144**	Pn		**Pn**	**06 01 26.9**	**-0.1**
BATI	**Baumata**	**8.38**	**149**	LR		LR	06 04 48.3	
	comp=Z,365nm,19.8s,baz=201,slow=38							
DAV	**Davao City (W)**	**11.75**	**32**	LR		LR	06 07 20.9	
	comp=Z,163nm,19.8s,baz=232,slow=41							
MTN	**Manton Dam**	**15.24**	**131**	Pn		**Pn**	**06 03 02.0**	**+0.6**
MTN				IAmb		IAmb	06 03 28.6	
	comp=Z,20nm,1.4s							
FITZ	**Fitzroy Crossi**	**16.26**	**158**	Pn		**Pn**	**06 03 15.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**16.26**	**158**	Pn		**Pn**	**06 03 14.9**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=338,slow=19,SNR=5.0 comp=Z,2.5nm,0.9s							
KULM	**Kulim**	**20.40**	**294**	P		**P**	**06 04 03.6**	**+0.2**
RPSI	**Rantau Prapat**	**21.18**	**285**			**P**	**06 04 12.3**	**+0.5**
RPSI				IAmb		IAmb	06 04 17.8	
	comp=Z,18nm,1.1s							
RPSI	**Rantau Prapat**	**21.18**	**285**	P		**P**	**06 04 12.9**	**+1.1**
PSI	**Prapat**	**21.20**	**285**	P		**P**	**06 04 12.9**	**+0.7**
	comp=Z,13nm,1.0s,baz=138,slow=2.6,SNR=9.1							
PSI				LR		LR	06 14 11.7	
	comp=Z,124nm,18.6s,baz=162,slow=42 comp=Z,13nm,1.0s							
WB0	**Warramunga Arr**	**22.25**	**140**	P		**P**	**06 04 21.3**	**-2.0**
WB0				IAmb		IAmb	06 04 29.7	
	comp=Z,18nm,1.2s							
WRA	**Warramunga Arr**	**22.34**	**140**	P		**P**	**06 04 20.6**	**-3.6**
WRA	**Warramunga Arr**	**22.34**	**140**	P		**P**	**06 04 23.8**	**-0.5**
	comp=Z,5.5nm,0.9s,baz=319,slow=11,SNR=17							
WRA				LR		LR	06 12 53.8	
	comp=Z,64nm,21.7s,baz=4.5,slow=36 comp=Z,5.5nm,0.9s							
SRIT	**Nakonsritamara**	**22.79**	**300**	P		**P**	**06 04 30.1**	**+1.0**
SRIT				IAmb		IAmb	06 04 33.7	
	comp=Z,30nm,1.4s							
AS31	**Alice Springs**	**24.94**	**147**	P		**P**	**06 04 48.0**	**-1.7**
ASAR	**Alice Springs**	**24.94**	**147**	P		**P**	**06 04 49.1**	**-0.6**
ASAR	**Alice Springs**	**24.94**	**147**	P		**P**	**06 04 50.2**	**+0.5**
	comp=Z,2.4nm,1.0s,baz=346,slow=15,SNR=13							
ASAR				PcP		**PcP**	**06 08 25.1**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=312,slow=1.4,SNR=5.9							
ASAR				LR		LR	06 14 53.6	
	comp=Z,130nm,18.1s,baz=295,slow=37 comp=Z,2.4nm,1.0s							
CMAR	**Chiang Mai Arr**	**29.27**	**317**	LR		LR	06 19 33.6	
	comp=Z,73nm,18.8s,baz=135,slow=41							
NWAO	**Narrogin (SRO)**	**29.88**	**184**	LR		LR	06 17 37.9	
	comp=Z,52nm,21.1s,baz=121,slow=36							
GUMO	**Guam**	**30.19**	**56**	LR		LR	06 18 01.1	
	comp=Z,17nm,18.5s,baz=228,slow=37							
NJ2	**Nanjing**	**34.82**	**359**	*e*P		**P**	**06 06 21.3**	**+4.1**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.7s							
STKA	**Stephens Creek**	**35.57**	**146**	P		**P**	**06 06 24.5**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=297,slow=9.6,SNR=3.0							
STKA				LR		LR	06 22 01.1	
	comp=Z,80nm,18.5s,baz=27,slow=38 comp=Z,1.1nm,0.5s							
BRDH	**Bariadhala**	**37.16**	**315**	LR		LR	06 25 19.5	
	comp=Z,54nm,18.6s,baz=334,slow=42							
XAN	**Xi'an**	**38.09**	**346**	P		**P**	**06 06 49.5**	**+4.3**
XAN				pP		sP	06 06 57.8	+8.9
XAN				pmax		pmax		
	comp=Z,7.0nm,1.0s							
SHL	**Shillong**	**38.89**	**318**	P		**P**	**06 06 52.0**	**-0.3**
SHL				IAmb		IAmb	06 07 34.1	
	comp=Z,6.4nm,1.1s							
TJN	**Taejon**	**39.84**	**10**	P		**P**	**06 06 59.8**	**0.0**
JHJ2	**Mitsune**	**40.77**	**27**	P		**P**	**06 07 07.2**	**-0.4**
KSAR	**Wonju Array Be**	**40.97**	**10**	P		**P**	**06 07 08.2**	**-1.0**
KS19	**Wonju Array Si**	**41.03**	**10**	P		**P**	**06 07 10.9**	**+1.3**
KS19				IAmb		IAmb	06 07 13.3	
	comp=Z,14nm,1.1s							
LZH	**Lanzhou**	**41.46**	**341**	*e*P		**P**	**06 07 13.8**	**+0.4**
LZH				pP		sP	06 07 21.8	+4.7
LZH				pmax		pmax		
	comp=Z,19nm,1.4s							
BJT	**Baijiatuau**	**42.87**	**356**			**P**	**06 07 25.1**	**+0.5**
EVN	**Everest**	**43.87**	**317**	P		**P**	**06 07 33.1**	**-0.6**
EVN				IAmb		IAmb	06 07 35.6	
	comp=Z,5.7nm,0.8s							
HHC	**Hu-ho-hao-te**	**44.18**	**352**	*e*P		**P**	**06 07 37.3**	**+2.0**
HHC				pmax		pmax		
	comp=Z,17nm,0.5s							
HHC				pmax		pmax		
	comp=Z,76nm,5.1s							
GTA	**Gaotai**	**45.84**	**339**	*e*P		**P**	**06 07 49.8**	**+1.2**
GTA				pP		sP	06 07 58.8	+6.5
GTA				pmax		pmax		
	comp=Z,4.0nm,1.5s							
XLT	**XiLinHaoTe**	**46.74**	**357**	*e*P		**P**	**06 07 54.8**	**-0.8**
XLT				sP		sP	06 08 02.0	+2.7
XLT				PcP		**PcP**	**06 09 23.5**	**-5.5**
XLT				pmax		pmax		
	comp=Z,8.0nm,0.6s							
XLT				pmax		pmax		
	comp=Z,69nm,5.5s							

MDJ	**Mudanjiang**	**48.24**	**10**	P	**P**	**06 08 07.5 +0.4**
MDJ				pmax	pmax	
	comp=Z,11nm,1.0s					
USRK	**Ussuriysk Ar.**	**48.30**	**12**	P	**P**	**06 08 05.9 -1.6**
	comp=Z,0.9nm,0.5s,baz=194,slow=4.3,SNR=1.6 comp=Z,0.9nm,0.5s					
ULN	**Ulaanbaatar**	**51.75**	**349**		**P**	**06 08 33.6 -0.3**
SONM	**Songino Array**	**51.84**	**349**		**P**	**06 08 33.8 -0.8**
SONM				IAmb	IAmb	06 08 36.7
	comp=Z,4.8nm,1.0s					
SONM	**Songino Array**	**51.84**	**349**	P	**P**	**06 08 34.2 -0.4**
	comp=Z,3.9nm,0.8s,baz=166,slow=8.2,SNR=18 comp=Z,3.9nm,0.8s					
NIL	**Nilore**	**56.68**	**314**	P	**P**	**06 09 10.8 +0.8**
NIL				IAmb	IAmb	06 09 12.1
	comp=Z,7.5nm,1.1s					
KSH	**Kashi**	**58.06**	**321**	P	**P**	**06 09 20.5 +0.7**
KSH				pmax	pmax	
	comp=Z,5.0nm,0.9s					
MKAR	**Makanchi Array**	**59.32**	**331**		**P**	**06 09 27.7 -0.6**
MKAR	**Makanchi Array**	**59.32**	**331**	P	**P**	**06 09 28.1 -0.2**
	comp=Z,3.4nm,0.7s,baz=135,slow=7.3,SNR=20 comp=Z,3.4nm,0.7s					
BOOM	**Boomskoye usch**	**59.86**	**324**	P	**P**	**06 09 32.2 -0.1**
BOOM				IAmb	IAmb	06 09 35.3
	comp=Z,2.7nm,0.8s					
KBL	**Kabul**	**60.16**	**313**	P	**P**	**06 09 35.0 +0.4**
AAK	**Ala-Archa**	**60.81**	**323**	LR	LR	06 39 06.3
	comp=Z,43nm,18.9s,baz=183,slow=39					
ARSB	**Arslanbob**	**60.97**	**321**	P	**P**	**06 09 39.8 -0.1**
ARSB				IAmb	IAmb	06 09 42.6
	comp=Z,4.1nm,0.8s					
KK31	**Karatay Array**	**63.48**	**322**	P	**P**	**06 09 56.3 -0.2**
KKAR	**Karatay Array**	**63.48**	**322**	P	**P**	**06 09 57.0 +0.5**
KURBB	**Kurchatov Arra**	**63.78**	**332**	P	**P**	**06 09 57.1 -1.2**
	comp=Z,0.9nm,0.8s,baz=148,slow=5.6,SNR=6.5 comp=Z,0.9nm,0.8s					
KURK	**Kurchatov**	**63.80**	**332**		**P**	**06 09 58.0 -0.4**
KURK				IAmb	IAmb	06 10 06.1
	comp=Z,4.5nm,1.1s					
BVAR	**Borovoye Array**	**69.20**	**331**	P	**P**	**06 10 31.6 -1.4**
	comp=Z,0.8nm,0.6s,baz=126,slow=10.0,SNR=4.6 comp=Z,0.8nm,0.6s					
AKTO	**Aktyubinsk**	**74.52**	**324**	LR	LR	06 47 56.1
	comp=Z,40nm,18.2s,baz=204,slow=39					
MAW	**Mawson**	**75.00**	**199**	LR	LR	06 41 22.3
	comp=Z,38nm,21.5s,baz=56,slow=34					
ARTI	**Arti**	**76.89**	**330**	LR	LR	06 47 45.3
	comp=Z,26nm,18.6s,baz=250,slow=38					
BELG	**Belogornoye**	**81.30**	**324**	LR	LR	06 51 07.5
	comp=Z,21nm,20.7s,baz=233,slow=38					
BOSA	**Boshof**	**92.19**	**241**	LR	LR	06 52 33.3
	comp=Z,49nm,19.4s,baz=196,slow=34					

ASRS 26 06:00:21.0±1.1,**55.66N×86.26E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia**

GEN 26 06:04:40.8, 45.66N×7.62E, h4km±1km, MI0.5, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CIRO	**Champorcher**	**0.07**	**212**	P		Pg	06 04 43.6	+1.1
CIRO				S		Sg	06 04 45.0	+1.3
TRAV	**Traversella**	**0.17**	**149**	P		Pg	06 04 45.1	+0.9
TRAV				S		Sg	06 04 47.6	+1.1
REMY	**Saint-Rhmy-en**	**0.37**	**299**	P		Pg	06 04 48.9	+0.8
REMY				S		Sg	06 04 54.6	+1.6
MRGE	**Morge**	**0.41**	**286**	P		Pg	06 04 49.6	+0.9
RSP	**Reno Superiore**	**0.57**	**206**	P		Pb	06 04 52.7	-0.8
RSP				S		Sg	06 05 00.5	+1.3

ASRS ***26*** *06:04:38.0±1.0, 53.59N×86.89E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 26 06:04:41.9±2.6,**53.64N×86.89E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=22.9km s-min=14.0km az=76.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**285**	I		I	06 13 00.0	
	baz=104,slow=314,SNR=1.6							
ZALV	**Zalesovo Beam**	**1.27**	**285**	Pg		Pg	06 05 04.7	-1.5
	1.

ASRS ***26*** *06:29:50.0±1.6,55.16N×83.85E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 26 06:29:47.3±2.8,54.10N×86.39E,h0km,mbtmp2.6/2, ML2.5/2,Error ellipse: s-maj=22.1km s-min=13.3km az=60.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**262**	I	I	I	06 36 20.0	
	baz=80,slow=319,SNR=7.3							
ZALV	**Zalesovo Beam**	**0.94**	**262**	Pg	Pg	Pg	06 30 04.5	-0.7
	0.5nm,0.3s,baz=83,slow=18,SNR=4.8							
ZALV				Lg	Lg	Lg	06 30 18.4	
	0.8nm,0.3s,baz=80,slow=30,SNR=6.7							
KURBB	**Kurchatov Arra**	**5.94**	**237**	Pn	Pn	Pn	06 31 17.6	+1.2
	0.1nm,0.3s,baz=55,slow=13,SNR=2.0							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**7.76**	**201**	Pn	Pn	Pn	06 31 42.4	+0.9
	0.1nm,0.3s,baz=25,slow=13,SNR=5.2							
	0.2nm,0.4s							

IDC ***26*** *06:34:52.2±5.1,37.65N×71.84E,h192km±52km, mb3.5/2, mbtmp3.7/6,Error ellipse: s-maj=71.3km s-min=40.5km az=133.0*

ISC 26 06:34:47.9±1.3,37.3N±0.1×72.0E±0.2,h150km,n13, σ1s53/16,1C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EKS2	**Erkin-Say**	**5.52**	**14**	P		**Pn**	**06 36 10.3**	**+2.0**
	SNR=18							
AAK	**Ala-Archa**	**5.66**	**19**	P		**Pn**	**06 36 12.3**	**+2.1**
	SNR=6.4							
AAK	**Ala-Archa**	**5.66**	**19**	⇓P		**Pn**	**06 36 11.9**	**+1.8**
	2.6nm,0.4s							
AAK				⇓S		**Sn**	**06 37 14.0**	**-0.4**
	1.8nm,0.5s							
AAK	**Ala-Archa**	**5.66**	**19**	P		**Pn**	**06 36 11.4**	**+1.2**
	12nm,0.3s,baz=187,slow=10.0,SNR=9.9							
AAK				S		**Sn**	**06 37 14.2**	**-0.2**
	4.4nm,0.3s,baz=342,slow=18,SNR=4.0							
KK31	**Karatay Array**	**5.89**	**349**	⇓P		**Pn**	**06 36 15.2**	**+2.1**
	0.9nm,0.2s,baz=155,slow=10,SNR=37							
KK31				⇑S		**Sn**	**06 37 18.3**	**-1.6**
	8.9nm,0.3s,baz=148,slow=17,SNR=19							
ULHL	**Ulahol**	**5.92**	**32**	P		**Pn**	**06 36 14.5**	**+0.8**
	SNR=6.2							
CHMS	**Chumysh**	**6.06**	**20**	P		**Pn**	**06 36 17.4**	**+1.9**
	SNR=6.3							
TKM2	**Tokmak 2**	**6.25**	**25**	P		**Pn**	**06 36 19.3**	**+1.3**
	SNR=8.6							
MKAR	**Makanchi Array**	**12.17**	**36**	P		**Pn**	**06 37 36.4**	**+0.1**
	0.1nm,0.3s,baz=213,slow=11,SNR=3.1							
KURBB	**Kurchatov Arra**	**14.11**	**17**	P		**Pn**	**06 38 00.5**	**-0.4**
	0.4nm,0.4s,baz=208,slow=11,SNR=1.9							
ZALV	**Zalesovo Beam**	**18.85**	**24**	P		**P**	**06 38 54.6**	**-1.6**
	2.1nm,0.6s,baz=231,slow=9.4,SNR=10							
TORD	**Torodi Ar. Bea**	**66.52**	**269**	P		**P**	**06 45 20.9**	**-1.0**
	0.3nm,0.4s,baz=45,slow=5.5,SNR=5.1							
	0.3nm,0.4s							
BOSA	**Boshof**	**78.88**	**221**	P		**P**	**06 46 35.3**	**+0.7**
	2.2nm,0.9s,baz=56,slow=3.6,SNR=1.6							
	2.2nm,0.9s							

NEIC ***26*** *06:39:56.3±1.4,24.75N±0.02×121.86E±0.04,h64km±4km, mb4.5/26, Mwr4.2/13, Error ellipse: s-maj=5.4km s-min=2.0km az=107.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.04; Mθθ-1.24; Mφφ-0.80; Mrθ-1.06; Mθφ-1.07; Mφr0.01; Fault plane solution: Mo2.34000×10¹⁵ NP1:φ247.00000°, δ57.89000°, λ108.09000°. NP2:φ35.43000°, δ36.38000°, λ63.68000°. Principal axes: T 2.3926, Plg71.0000°, Azm199.0000°; N -0.1137, Plg15.0000°, Azm57.0000°; P -2.2789, Plg11.0000°, Azm324.0000°;*

TAP ***26*** *06:39:56.5,24.75N×121.84E, h63km, ML4.7, B*

BJI ***26*** *06:39:56.7,24.86N×121.81E, h60km, mB4.3/6, mb4.5/28, ML4.3/7, Ms3.7/5, Ms7 3.4/3*

ASIES ***26*** *06:39:56.5,24.75N×121.84E, h63km, ML4.7, Mw4.1, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.47; Mθθ-0.96; Mφφ-0.50; Mrθ-0.79; Mθφ-0.68; Mφr0.12; Fault plane solution: Mo1.66203×10¹⁵ NP1:φ38.88000°, δ36.39000°, λ62.23000°. NP2:φ252.07000°, δ58.33000°, λ108.95000°. Principal axes: T Plg70.1210°, Azm204.5520°; N Plg16.0470°, Azm61.8520°; P Plg11.4210°, Azm328.5200°;*

NEIC 06:39:56.4,24.74N×121.85E, h64km

JMA ***26*** *06:39:56.1±0.2,24.7N±0.5×121.9E±0.7, h69km±3km, MV4.0/14, TAIWAN REGION*

IDC ***26*** *06:40:00.6±2.9,24.80N×122.06E, h109km±27km, mb3.8/20, mbtmp4.2/22, MS3.0/13, Error ellipse: s-maj=20.4km s-min=10.5km az=60.0*

ISC 26 06:39:56.4±0.5,24.78N±0.02×121.86E±0.02,h65km±3km, n255,σ1s00/370,mb4.3/37,35C-13D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.08**	**339**	eP		**Pn**	**06 40 06.2**	**+0.1**
NTC				i S		**Sn**	**06 40 13.5**	**+0.4**
EGS		**0.09**	**44**	⇑iP		**Pn**	**06 40 06.3**	**+0.2**
EGS				eS		**Sn**	**06 40 13.9**	**+0.8**
ILA	**Ilan**	**0.10**	**263**	⇑iP		**Pn**	**06 40 06.5**	**+0.4**
ILA				eS		**Sn**	**06 40 14.1**	**+0.9**
TWC	**Suao**	**0.17**	**184**	⇑iP		**Pn**	**06 40 06.7**	**+0.3**
TWC				i S		**Sn**	**06 40 13.4**	**-0.1**
TWE	**Neicheng**	**0.19**	**252**	⇑iP		**Pn**	**06 40 06.7**	**+0.3**
TWE				S		**Sn**	**06 40 14.5**	**+0.8**
NDS	**Dongshan**	**0.20**	**223**	⇑iP		**Pn**	**06 40 05.8**	**-0.7**
NDS				i S		**Sn**	**06 40 13.7**	**-0.1**
TIPB	**Shuangxi**	**0.20**	**350**	⇑iP		**Pn**	**06 40 06.7**	**+0.2**
TIPB				i S		**Sn**	**06 40 13.7**	**-0.2**
ESAO	**Su ao**	**0.20**	**185**	⇑iP		**Pn**	**06 40 06.9**	**+0.4**
ESAO				i S		**Sn**	**06 40 14.2**	**+0.4**
FUSB	**Fushanzhiwuyua**	**0.25**	**266**	⇑iP		**Pn**	**06 40 07.0**	**+0.1**
FUSB				i S		**Sn**	**06 40 14.3**	**-0.2**
TWB1	**Santiao Chiao**	**0.26**	**27**	⇑iP		**Pn**	**06 40 07.1**	**+0.2**
TWB1				i S		**Sn**	**06 40 14.3**	**-0.1**
NWF	**Wu-fen Shan**	**0.30**	**346**	⇑P		**Pn**	**06 40 07.4**	**+0.2**
NWF				eS		**Sn**	**06 40 15.0**	**-0.1**
WFSB	**Wu-fen Shan**	**0.30**	**346**	⇑iP		**Pn**	**06 40 07.4**	**+0.3**
WFSB				S		**Sn**	**06 40 15.0**	**+0.1**
ENTT	**Nioudou**	**0.30**	**243**	⇑iP		**Pn**	**06 40 07.5**	**+0.3**
ENTT				i S		**Sn**	**06 40 15.3**	**+0.3**
SXI1	**Grass Mountain**	**0.32**	**2**	⇑iP		**Pn**	**06 40 07.4**	**0.0**
SXI1				i S		**Sn**	**06 40 15.2**	**-0.1**
TWA	**Mucha**	**0.32**	**309**	⇑iP		**Pn**	**06 40 07.5**	**+0.2**
TWA				S		**Sn**	**06 40 15.4**	**+0.1**
NWLT	**Wulai**	**0.33**	**270**	⇑iP		**Pn**	**06 40 07.3**	**0.0**
NWLT				i S		**Sn**	**06 40 14.6**	**-0.7**
EWUT	**Wuta**	**0.34**	**193**	⇓P		**Pn**	**06 40 07.9**	**+0.5**
EWUT				i S		**Sn**	**06 40 15.8**	**+0.4**
NHDH	**Xindian Distri**	**0.36**	**301**	⇑iP		**Pn**	**06 40 07.9**	**+0.3**
NHDH				S		**Sn**	**06 40 15.9**	**+0.2**
ENA	**Nanau**	**0.37**	**198**	P		**Pn**	**06 40 08.2**	**+0.5**
ENA				S		**Sn**	**06 40 16.9**	**+1.1**
NHY	**Taipei**	**0.37**	**314**	eS		**Sn**	**06 40 16.0**	**+0.1**
TNOU	**National Taiwa**	**0.38**	**348**	⇑iP		**Pn**	**06 40 07.8**	**+0.1**
TNOU				i S		**Sn**	**06 40 15.7**	**-0.3**
LATG	**Datong**	**0.39**	**232**	⇑iP		**Pn**	**06 40 08.4**	**+0.4**
LATG				S		**Sn**	**06 40 16.8**	**+0.5**
TATO	**Taipei**	**0.39**	**300**			**Pn**	**06 40 07.9**	**0.0**
TATO					Sn	**Sn**	**06 40 15.8**	**-0.4**
TAP	**Taipei**	**0.41**	**309**	⇑iP		**Pn**	**06 40 08.2**	**+0.2**
TAP				i S		**Sn**	**06 40 16.6**	**+0.1**
YM01	**YM01**	**0.45**	**324**	⇑iP		**Pn**	**06 40 08.6**	**+0.2**
YM01				S		**Sn**	**06 40 17.0**	**-0.2**
YHNB	**Yeheng**	**0.46**	**256**			**Pn**	**06 40 08.4**	**-0.2**
YHNB					Sn	**Sn**	**06 40 16.7**	**-0.6**
YHNB	**Yeheng**	**0.46**	**256**	P		**Pn**	**06 40 08.3**	**-0.2**
YHNB	**Yeheng**	**0.46**	**256**	S		**Sn**	**06 40 17.1**	**-0.2**
YHNB	**Yeheng**	**0.46**	**256**	⇑iP		**Pn**	**06 40 08.5**	**0.0**
YHNB				i S		**Sn**	**06 40 17.0**	**-0.3**
EAHA	**Aohua**	**0.46**	**194**	⇓P		**Pn**	**06 40 08.6**	**+0.1**
EAHA				S		**Sn**	**06 40 18.0**	**+0.8**
NSK	**Sanguang**	**0.47**	**258**	⇑iP		**Pn**	**06 40 08.6**	**0.0**
NSK				i S		**Sn**	**06 40 17.1**	**-0.4**
YM08	**YM08**	**0.48**	**329**	⇑iP		**Pn**	**06 40 08.5**	**-0.1**
YM08				S		**Sn**	**06 40 16.9**	**-0.7**
ZUZH	**Zhuzihu**	**0.48**	**323**	⇑P		**Pn**	**06 40 08.8**	**+0.1**
ZUZH				i S		**Sn**	**06 40 17.4**	**-0.3**
EOS2	**EOS2**	**0.49**	**137**	eP		**Pn**	**06 40 09.4**	**+0.8**
ANP	**Anpu**	**0.51**	**323**	⇑P		**Pn**	**06 40 09.0**	**-0.1**
ANP				eS		**Sn**	**06 40 17.4**	**-0.9**
TWS1	**Kuangyinshan**	**0.52**	**309**	⇑iP		**Pn**	**06 40 09.5**	**+0.5**
TWS1				S		**Sn**	**06 40 19.3**	**+1.1**
NTST	**Danshui**	**0.54**	**316**	⇑P		**Pn**	**06 40 09.7**	**+0.4**
NTST				eS		**Sn**	**06 40 19.1**	**+0.6**
TWY	**Chenhua**	**0.55**	**334**	⇑iP		**Pn**	**06 40 09.8**	**+0.4**
TWY				eS		**Sn**	**06 40 19.3**	**+0.5**
NNS	**Nan Shan**	**0.56**	**233**	⇑iP		**Pn**	**06 40 09.9**	**+0.3**
NNS				eS		**Sn**	**06 40 19.5**	**+0.3**
NNSB	**Datong**	**0.56**	**231**	⇑iP		**Pn**	**06 40 09.9**	**+0.3**
NNSB				S		**Sn**	**06 40 18.9**	**-0.3**
KSHI	**Guanxi Townshi**	**0.62**	**270**	P		**Pn**	**06 40 10.7**	**+0.5**
KSHI				i S		**Sn**	**06 40 21.2**	**+1.0**
EOS3	**EOS3**	**0.64**	**140**	eP		**Pn**	**06 40 11.1**	**+0.9**
NCUH	**Zhongli**	**0.64**	**287**	⇓P		**Pn**	**06 40 10.7**	**+0.4**
NCUH				S		**Sn**	**06 40 21.5**	**+0.9**
NACB	**Ninganchiao**	**0.65**	**202**			**Pn**	**06 40 09.8**	**-0.6**
NACB					Sn	**Sn**	**06 40 20.6**	**-0.2**
NACB	**Ninganchiao**	**0.65**	**202**	P		**Pn**	**06 40 09.9**	**-0.6**
NACB	**Ninganchiao**	**0.65**	**202**	eP		**Pn**	**06 40 10.0**	**-0.5**
NACB				eS		**Sn**	**06 40 20.7**	**0.0**
ETL	**Fush Village**	**0.65**	**199**	eP		**Pn**	**06 40 10.2**	**-0.3**
ETL				eS		**Sn**	**06 40 21.0**	**+0.1**
ETLH	**Xiulin Townshi**	**0.67**	**211**	⇓P		**Pn**	**06 40 10.7**	**0.0**
ETLH				i S		**Sn**	**06 40 21.4**	**+0.2**
NFF	**Wufeng Townshi**	**0.69**	**258**	⇑P		**Pn**	**06 40 11.1**	**+0.1**
NFF				i S		**Sn**	**06 40 21.7**	**0.0**
TWD	**Chiawan**	**0.74**	**199**	P		**Pn**	**06 40 11.0**	**-0.5**
TWD				eS		**Sn**	**06 40 22.1**	**-0.4**
FUSS	**Fushou**	**0.77**	**227**	⇓P		**Pn**	**06 40 12.8**	**+0.7**
FUSS				i S		**Sn**	**06 40 24.3**	**+0.7**
EOS4	**EOS4**	**0.78**	**147**	⇓eP		**Pn**	**06 40 12.0**	**+0.4**
EOS4				eS		**Sn**	**06 40 23.9**	**+1.2**
LIOB	**Emei**	**0.78**	**260**	⇓iP		**Pn**	**06 40 12.3**	**+0.3**
LIOB				i S		**Sn**	**06 40 23.8**	**+0.3**
NSTT	**Nanjuang**	**0.80**	**260**	P		**Pn**	**06 40 12.3**	**+0.1**
NSTT				i S		**Sn**	**06 40 23.7**	**0.0**
SBCB	**Hsinchu**	**0.80**	**271**	eP		**Pn**	**06 40 12.6**	**+0.4**
SBCB				S		**Sn**	**06 40 24.2**	**+0.4**
HSN	**Hsinchu**	**0.81**	**272**	eP		**Pn**	**06 40 12.1**	**-0.3**
HSN				S		**Sn**	**06 40 23.7**	**-0.4**
TWT	**Tachien**	**0.81**	**230**	P		**Pn**	**06 40 13.7**	**+1.1**
TWT				S		**Sn**	**06 40 25.4**	**+0.9**
TDCB	**Techi**	**0.83**	**231**	eP		**Pn**	**06 40 13.5**	**+0.8**
TDCB				eS		**Sn**	**06 40 24.9**	**+0.3**
HWA	**Hwalien**	**0.83**	**196**	eP		**Pn**	**06 40 12.8**	**+0.2**
HWA				S		**Sn**	**06 40 25.6**	**+1.1**
WHF	**Hehuan Shan**	**0.83**	**221**	⇓iP		**Pn**	**06 40 13.2**	**+0.1**
WHF				eS		**Sn**	**06 40 25.7**	**+0.4**
LXIB	**Xiulin Townshi**	**0.86**	**209**	eP		**Pn**	**06 40 12.6**	**-0.4**
LXIB				eS		**Sn**	**06 40 25.5**	**+0.1**
PCYT	**Pengchaiyu**	**0.87**	**13**	⇑iP		**Pn**	**06 40 13.5**	**+0.5**
PCYT				S		**Sn**	**06 40 25.4**	**0.0**
ETM	**Tongmen**	**0.88**	**203**	eP		**Pn**	**06 40 12.4**	**-0.7**
ETM				eS		**Sn**	**06 40 25.9**	**+0.3**
TEYL	**Yanliau Villag**	**0.94**	**195**	eP		**Pn**	**06 40 14.0**	**0.0**
WHP	**Taichung City**	**0.97**	**239**	⇑P		**Pn**	**06 40 15.5**	**+1.1**
WHP				S		**Sn**	**06 40 29.1**	**+1.3**
NMLH	**Miaoli**	**1.00**	**256**	eP		**Pn**	**06 40 15.6**	**+0.9**
NMLH				S		**Sn**	**06 40 29.2**	**+0.8**
SHUL	**Shoufeng**	**1.02**	**196**	eP		**Pn**	**06 40 15.1**	**+0.1**
SHUL				i S		**Sn**	**06 40 30.1**	**+1.3**
OWD	**Renai**	**1.03**	**217**	⇓iP		**Pn**	**06 40 15.6**	**+0.4**
OWD				S		**Sn**	**06 40 29.4**	**+0.2**
WUSB	**Renai**	**1.04**	**221**	⇓iP		**Pn**	**06 40 16.0**	**+0.7**
WUSB				S		**Sn**	**06 40 29.8**	**+0.5**
ESL	**Shilin**	**1.04**	**202**	P		**Pn**	**06 40 14.1**	**-1.1**
ESL				S		**Sn**	**06 40 28.2**	**-0.9**
NSY	**Sanyi**	**1.06**	**250**	eP		**Pn**	**06 40 16.3**	**+0.7**
NSY				eS		**Sn**	**06 40 30.8**	**+1.0**
YOJ	**Yonaguni jima**	**1.09**	**107**			**Pn**	**06 40 15.4**	**-0.4**
YOJ					Sn	**Sn**	**06 40 29.6**	**-0.7**
YOJ	**Yonaguni jima**	**1.09**	**107**	P		**Pn**	**06 40 15.8**	**0.0**
YOJ	**Yonaguni jima**	**1.09**	**107**	P		**Pn**	**06 40 15.9**	**+0.1**
YOJ					eS	**Sn**	**06 40 29.8**	**-0.6**
YOJ	**Yonaguni jima**	**1.09**	**107**	A		A	06 40 15.9	
	comp=N,7.0nm,1.6s,comp=E,4.0nm,1.2s							
YOJ	**Yonaguni jima**	**1.09**	**107**	⇓iP		**Pn**	**06 40 15.9**	**0.0**
YOJ					eS	**Sn**	**06 40 30.2**	**-0.1**
TEGC	**Jichi Village**	**1.10**	**195**	eP		**Pn**	**06 40 15.9**	**-0.1**
TEGC				eS		**Sn**	**06 40 32.5**	**+1.8**
WCS	**Beigang Elemen**	**1.12**	**231**	eP		**Pn**	**06 40 17.1**	**+0.8**
WCS				eS		**Sn**	**06 40 31.5**	**+0.4**
WARBT	**Fenglin Townsh**	**1.14**	**202**	P		**Pn**	**06 40 15.3**	**-1.2**
WARBT				i S		**Sn**	**06 40 30.4**	**-1.1**
EGFH	**Guangfu**	**1.17**	**200**	eP		**Pn**	**06 40 17.2**	**+0.3**
WDJ	**Dajia District**	**1.19**	**249**	eP		**Pn**	**06 40 18.1**	**+1.0**
WDJ				eS		**Sn**	**06 40 33.5**	**+0.9**
VWDT	**VWDT**	**1.21**	**213**	⇓iP		**Pn**	**06 40 18.0**	**+0.5**
VWDT				eS		**Sn**	**06 40 33.3**	**+0.2**
TCU	**Taichung**	**1.25**	**240**	eP		**Pn**	**06 40 18.6**	**+0.7**
TCU				eS		**Sn**	**06 40 34.8**	**+0.8**
SMLT	**Sun Moon Lake**	**1.25**	**225**	eP		**Pn**	**06 40 19.1**	**+1.1**
SMLT				eS		**Sn**	**06 40 36.3**	**+2.1**
TYC	**Yuchr**	**1.26**	**227**	eP		**Pn**	**06 40 19.0**	**+0.9**
TYC				eS		**Sn**	**06 40 36.1**	**+1.8**
SSLB	**Suanglung**	**1.29**	**220**			**Pn**	**06 40 19.0**	**+0.5**
SSLB					Sn	**Sn**	**06 40 35.5**	**+0.5**
SSLB	**Suanglung**	**1.29**	**220**	P		**Pn**	**06 40 18.2**	**-0.3**
SSLB	**Suanglung**	**1.29**	**220**	S		**Sn**	**06 40 37.5**	**+2.5**
SSLB	**Suanglung**	**1.29**	**220**	iP		**Pn**	**06 40 19.6**	**+1.1**
SSLB				eS		**Sn**	**06 40 35.5**	**+0.5**
HGSD	**Ruisui**	**1.34**	**197**	eP		**Pn**	**06 40 19.3**	**+0.1**
HGSD				eS		**Sn**	**06 40 36.3**	**+0.1**
EHY	**Hungye**	**1.36**	**201**	eP		**Pn**	**06 40 19.4**	**0.0**
EHY				eS		**Sn**	**06 40 37.1**	**+0.5**
EHYH	**Wanrong**	**1.36**	**200**	eP		**Pn**	**06 40 19.8**	**+0.3**
EHYH				eS		**Sn**	**06 40 36.8**	**+0.1**
WCHH	**Zhanghua**	**1.38**	**240**	eP		**Pn**	**06 40 19.9**	**+0.3**
WCHH				eS		**Sn**	**06 40 37.3**	**+0.3**
WCH1	**Changhua City**	**1.39**	**240**	eP		**Pn**	**06 40 20.3**	**+0.5**
WCH1				eS		**Sn**	**06 40 38.0**	**+0.7**
WNT	**Mingjian**	**1.40**	**230**	eP		**Pn**	**06 40 20.4**	**+0.5**
WNT				i S		**Sn**	**06 40 39.0**	**+1.4**
WJS	**Zhushan**	**1.41**	**228**	eP		**Pn**	**06 40 21.6**	**+1.6**
WJS				eS		**Sn**	**06 40 40.3**	**+2.5**
WHYT	**Xinyi Township**	**1.42**	**221**	⇑iP		**Pn**	**06 40 21.4**	**+1.2**
WHYT				S		**Sn**	**06 40 39.6**	**+1.6**
YULB	**Yu-li**	**1.47**	**201**			**Pn**	**06 40 19.4**	**-1.5**
YULB					Sn	**Sn**	**06 40 37.9**	**-1.4**
YULB	**Yu-li**	**1.47**	**201**	P		**Pn**	**06 40 20.5**	**-0.4**
YULB	**Yu-li**	**1.47**	**201**	eP		**Pn**	**06 40 19.9**	**-1.0**
YULB				eS		**Sn**	**06 40 37.8**	**-1.6**
ECBN	**Changbin**	**1.50**	**195**	eP		**Pn**	**06 40 21.1**	**-0.2**
ECBN				eS		**Sn**	**06 40 40.5**	**+0.5**
TWF1	**Yuli**	**1.51**	**200**	eP		**Pn**	**06 40 20.7**	**-0.8**
ALS	**Alishan**	**1.59**	**218**	eP		**Pn**	**06 40 23.8**	**+1.0**
ALS				S		**Sn**	**06 40 45.1**	**+2.6**
CHN5	**Tsauling**	**1.60**	**223**	eP		**Pn**	**06 40 23.8**	**+1.1**
CHN5				eS		**Sn**	**06 40 43.1**	**+0.6**
WGK	**Gukeng**	**1.61**	**228**	eP		**Pn**	**06 40 24.1**	**+1.3**
WGK				eS		**Sn**	**06 40 43.8**	**+1.2**
WDLH	**Douliu**	**1.62**	**228**	eP		**Pn**	**06 40 23.9**	**+1.0**
WDLH				eS		**Sn**	**06 40 44.4**	**+1.5**
CHKH	**Chenggong**	**1.64**	**195**	iP		**Pn**	**06 40 22.6**	**-0.5**
CHKH				eS		**Sn**	**06 40 42.8**	**-0.4**
FULB	**Fuli**	**1.66**	**198**	eP		**Pn**	**06 40 23.3**	**-0.1**
FULB				eS		**Sn**	**06 40 44.2**	**+0.5**
WTK	**Tuku**	**1.73**	**231**	P		**Pn**	**06 40 25.1**	**+0.8**
WTK				eS		**Sn**	**06 40 46.4**	**+1.0**
EHD	**Haiduan**	**1.73**	**200**	eP		**Pn**	**06 40 24.3**	**-0.1**
EHD				S		**Sn**	**06 40 46.2**	**+0.7**
CHKT	**Chengkung**	**1.73**	**195**	eP		**Pn**	**06 40 24.1**	**-0.3**
CHKT				i S		**Sn**	**06 40 44.4**	**-1.1**
IRIF	**Iriomote-Funau**	**1.76**	**104**	P		**Pn**	**06 40 24.8**	**+0.1**
IRIF				eS		**Sn**	**06 40 45.6**	**-0.5**
WCKO	**Fanlu**	**1.76**	**221**	eP		**Pn**	**06 40 25.9**	**+1.1**
WCKO				eS		**Sn**	**06 40 48.1**	**+1.9**
ELDTW	**Lidau**	**1.76**	**206**	P		**Pn**	**06 40 24.9**	**0.0**
ELDTW				S		**Sn**	**06 40 47.3**	**+0.9**
CHN2	**Minshiung**	**1.77**	**226**	eP		**Pn**	**06 40 26.1**	**+1.2**
CHN2				eS		**Sn**	**06 40 48.6**	**+2.1**
ECS	**Chishang**	**1.78**	**199**	eP		**Pn**	**06 40 25.7**	**+0.7**
ECS				eS		**Sn**	**06 40 47.0**	**+0.4**
CHY	**Chiayi**	**1.83**	**226**	eP		**Pn**	**06 40 27.0**	**+1.3**
CHY				S		**Sn**	**06 40 49.4**	**+1.5**
CHN4	**Tsaushan**	**1.83**	**219**	eP		**Pn**	**06 40 26.9**	**+1.2**
TPUB	**Ta-pu**	**1.85**	**218**			**Pn**	**06 40 25.9**	**-0.2**
TPUB	**Ta-pu**	**1.85**	**218**	eP		**Pn**	**06 40 27.0**	**+1.0**
EDH	**Donghe**	**1.87**	**196**	iP		**Pn**	**06 40 25.8**	**-0.5**
EDH				i S		**Sn**	**06 40 47.7**	**-1.1**
WSF	**Szhu**	**1.88**	**233**	eP		**Pn**	**06 40 26.7**	**+0.4**
WSF				eS		**Sn**	**06 40 49.6**	**+0.6**
STYH	**Taoyuan**	**1.88**	**212**	P		**Pn**	**06 40 28.1**	**+1.7**
STYH				eS		**Sn**	**06 40 51.0**	**+1.8**
WTP	**Ta-pu**	**1.91**	**217**	eP		**Pn**	**06 40 27.7**	**+0.9**
HATJ	**Hateruma jima**	**1.91**	**112**	eP		**Pn**	**06 40 27.1**	**+0.3**
HATJ				eS		**Sn**	**06 40 48.7**	**-1.2**
WSL	**Shuilin Townsh**	**1.95**	**230**	eP		**Pn**	**06 40 27.9**	**+0.7**
WSL				eS		**Sn**	**06 40 52.3**	**+1.6**
TWK	**Hsinying**	**1.96**	**220**	eP		**Pn**	**06 40 29.6**	**+2.1**
LONT	**Longtian**	**1.98**	**200**	eP		**Pn**	**06 40 27.3**	**-0.4**
SNST	**Tainan City**	**1.99**	**219**	eP		**Pn**	**06 40 28.9**	**+1.0**
CHN1	**Nanshi**	**2.00**	**218**	eP		**Pn**	**06 40 29.1**	**+1.0**
CHN1				eS		**Sn**	**06 40 53.7**	**+1.6**
ICHU	**Yijhu**	**2.02**	**226**	eP		**Pn**	**06 40 29.1**	**+0.8**
ICHU				eS		**Sn**	**06 40 53.4**	**+0.8**
JKRS	**Kuro-shima**	**2.03**	**105**	P		**Pn**	**06 40 28.9**	**+0.5**
JKRS				eS		**Sn**	**06 40 52.9**	**+0.2**
CHN8	**Yiju**	**2.08**	**227**	eP		**Pn**	**06 40 29.6**	**+0.6**
CHN8				S		**Sn**	**06 40 55.3**	**+1.4**
TWG	**Pinlang**	**2.08**	**201**			**Pn**	**06 40 27.2**	**-1.8**
TWG					Sn	**Sn**	**06 40 52.0**	**-1.9**
TWG	**Pinlang**	**2.08**	**201**	eP		**Pn**	**06 40 29.1**	**+0.1**
TWGBT	**Beinan**	**2.08**	**200**	P		**Pn**	**06 40 29.1**	**0.0**
TWGBT	**Beinan**	**2.08**	**200**	eP		**Pn**	**06 40 28.9**	**-0.2**
TWGBT				eS		**Sn**	**06 40 53.5**	**-0.5**
JIJ	**Ishigaki jima**	**2.12**	**101**	P		**Pn**	**06 40 29.6**	**+0.1**
JIJ				eS		**Sn**	**06 40 54.8**	**-0.1**
TTN	**Taitung**	**2.12**	**198**	eP		**Pn**	**06 40 30.4**	**+0.8**
LDUT	**Ludao**	**2.13**	**190**	eP		**Pn**	**06 40 28.2**	**-1.5**
VWUC	**VWUC**	**2.20**	**276**	eP		**Pn**	**06 40 30.4**	**-0.3**
MATB	**Ma-tsu**	**2.21**	**309**	eP		**Pn**	**06 40 30.5**	**-0.3**
JISG	**Ishigakijimahi**	**2.24**	**94**	P		**Pn**	**06 40 31.7**	**+0.5**
JISG				eS		**Sn**	**06 40 58.4**	**+0.7**
SCST	**Cishan**	**2.26**	**214**	eP		**Pn**	**06 40 33.1**	**+1.5**
TSCK	**Chigu Township**	**2.30**	**225**	P		**Pn**	**06 40 33.3**	**+1.3**
TSCK				eS		**Sn**	**06 40 59.9**	**+0.7**
SSD	**Sandimen**	**2.32**	**209**	eP		**Pn**	**06 40 34.4**	**+2.1**
SSD				eS		**Sn**	**06 41 03.0**	**+3.3**
ECL	**Taimali**	**2.33**	**201**	eP		**Pn**	**06 40 32.6**	**+0.2**
TSMG	**Majia**	**2.34**	**209**	eP		**Pn**	**06 40 34.6**	**+1.9**
TWM1	**Shoushan**	**2.35**	**214**	eP		**Pn**	**06 40 36.0**	**+3.2**
PNG	**Penghu**	**2.43**	**241**	eP		**Pn**	**06 40

comp=Z,52nm,18.6s,baz=121,slow=37
comp=Z,3.6nm,0.7s

KAPI Kappang 29.68 184 LR LR 06 58 31.0
comp=Z,33nm,18.9s,baz=14,slow=37

EVN Everest 31.50 284 P **P** **06 46 11.2 -1.8**
WMQ Urumqi 33.70 313 *eP* **P** **06 46 33.0 +1.6**
MKAR Makanchi Array 38.35 315 P **P** **06 47 11.3 +0.3**
MKAR Makanchi Array 38.35 315 P **P** **06 47 12.0 +1.0**
comp=Z,3.1nm,0.7s,baz=99,slow=9.9,SNR=24
comp=Z,3.1nm,0.7s

MAKZ Makanchi 38.55 315 P **P** **06 47 12.8 +0.1**
MAKZ IAmb IAmb 06 47 14.9
comp=Z,8.1nm,1.2s

PETK Petropavlovsk- 39.03 34 LR LR 07 05 28.8
comp=Z,16nm,18.7s,baz=263,slow=39

ZAA0 Zalesovo Array 40.09 326 **P** **06 47 24.8 -0.5**
ZAA0 IAmb IAmb 06 47 44.2
comp=Z,8.1nm,0.8s

ZALV Zalesovo Beam 40.09 326 **P** **06 47 24.6 -0.7**
ZALV Zalesovo Beam 40.09 326 P **P** **06 47 25.4 +0.1**
comp=Z,2.8nm,0.5s,baz=99,slow=9.2,SNR=11
comp=Z,2.8nm,0.5s

MA2 Magadan 40.20 22 LR LR 07 04 11.5
comp=Z,21nm,18.4s,baz=170,slow=36

NRN Naryn 41.34 305 **P** **06 47 37.5 +1.3**
NRN IAmb IAmb 06 47 40.7
comp=Z,3.9nm,0.6s

KURK Kurchatov 42.04 319 P **P** **06 47 42.0 +0.6**
KURBB Kurchatov Arra 42.06 319 P **P** **06 47 42.2 +0.6**
comp=Z,0.9nm,0.5s,baz=112,slow=9.6,SNR=12
comp=Z,0.9nm,0.5s

KK31 Karatay Array 45.61 307 **P** **06 48 10.8 +0.6**
WRA Warramunga Arr 46.08 164 P **P** **06 48 12.5 -1.5**
WRA Warramunga Arr 46.08 164 P **P** **06 48 12.8 -1.2**
comp=Z,2.0nm,0.5s,baz=347,slow=8.8,SNR=58
WRA PcP **PcP** **06 49 48.3 -1.1**
comp=Z,0.8nm,0.6s,baz=346,slow=3.6,SNR=6.6
comp=Z,2.0nm,0.5s

WR8 Warramunga Arr 46.13 163 **P** **06 48 13.2 -1.3**
WR8 IAmb IAmb 06 48 14.2
comp=Z,4.2nm,0.5s

BVAR Borovoye Array 47.61 320 P **P** **06 48 26.3 +0.6**
comp=Z,1.5nm,0.5s,baz=98,slow=9.1,SNR=9.5
comp=Z,1.5nm,0.5s

AS31 Alice Springs 49.55 165 P **P** **06 48 40.1 -0.8**
ASAR Alice Springs 49.55 165 P **P** **06 48 40.4 -0.5**
comp=Z,1.7nm,0.7s,baz=344,slow=8.0,SNR=30
ASAR PcP **PcP** **06 50 00.9 -0.9**
comp=Z,0.3nm,0.5s,baz=341,slow=3.4,SNR=4.7
comp=Z,1.7nm,0.7s

HNR Honiara 50.35 128 P **P** **06 48 46.7 -0.4**
comp=Z,204nm,0.5s,baz=140,slow=5.0,SNR=4.7

CTAO Charters Tower 50.52 150 P **P** **06 48 48.2 -0.1**
ARTI Arti 55.10 323 P **P** **06 49 21.1 -0.5**
comp=Z,1.6nm,0.4s,baz=123,slow=3.4,SNR=4.1
comp=Z,1.6nm,0.4s

EIDS Eidsvold 57.31 148 P **P** **06 49 37.2 -0.5**
NWAO Narrogin (SRO) 57.55 185 P **P** **06 49 37.6 -1.6**
BBOO Buckleboo 58.85 166 P **P** **06 49 47.0 -1.3**
STKA Stephens Creek 59.41 161 P **P** **06 49 50.7 -1.5**
comp=Z,1.4nm,0.5s,baz=48,slow=3.1,SNR=3.9
comp=Z,1.4nm,0.5s

J17K VABM Dome 63.27 30 P **P** **06 50 18.4 +0.5**
H18K Honhosa River 63.52 28 P **P** **06 50 19.4 -0.2**
D20K Etivluk River 64.09 24 P **P** **06 50 23.6 +0.3**
D20K IAmb IAmb 06 50 46.5
comp=Z,9.7nm,1.1s

H19K Roundabout Mou 64.30 27 P **P** **06 50 24.4 -0.3**
H19K IAmb IAmb 06 50 28.7
comp=Z,13nm,1.4s

J20K Nowinta River 65.39 29 P **P** **06 50 33.5 +1.7**
J20K IAmb IAmb 06 51 15.9
comp=Z,14nm,1.5s

G21K Allakaket 65.42 26 P **P** **06 50 32.6 +0.7**
G21K IAmb IAmb 06 50 38.0
comp=Z,9.0nm,1.4s

D22K Ayikyak River 65.51 23 P **P** **06 50 33.2 +0.7**
D22K IAmb IAmb 06 50 34.7
comp=Z,5.3nm,0.7s

H21K Melozitna Rive 65.80 27 P **P** **06 50 34.9 +0.5**
H21K IAmb IAmb 06 50 37.8
comp=Z,1.9nm,0.6s

BPAW Bear Paw Mtn. 66.78 29 P **P** **06 50 40.8 0.0**
KDAK Kodiak Island 67.06 35 LR LR 07 22 58.3
comp=Z,27nm,18.2s,baz=135,slow=38

H24K Noodor Dome 67.78 26 P **P** **06 50 47.8 +0.7**
RND Reindeer 67.83 29 P **P** **06 50 46.6 -0.9**
RND IAmb IAmb 06 50 48.8
comp=Z,9.8nm,1.2s

ILAR Eielson Array 68.40 27 P **P** **06 50 49.1 -1.8**
comp=Z,0.2nm,0.5s,baz=278,slow=5.2,SNR=5.5
comp=Z,0.2nm,0.5s

BMAR Burnt Mountain 68.73 24 P **P** **06 50 53.1 +0.2**
SPITS Spitsbergen Ar 69.04 348 P **P** **06 50 53.6 -1.1**
comp=Z,12nm,1.1s,baz=28,slow=6.5,SNR=2.6
comp=Z,12nm,1.1s

ARCES ARCESS Array B 69.22 338 P **P** **06 50 55.0 -0.9**
comp=Z,3.1nm,1.0s,baz=52,slow=7.9,SNR=4.6
comp=Z,3.1nm,1.0s

E28M Babbage River 70.26 23 P **P** **06 51 01.5 -0.8**
E28M IAmb IAmb 06 51 21.9
comp=Z,12nm,1.3s

FINES FINESS Array B 71.25 330 P **P** **06 51 08.3 0.0**
comp=Z,1.9nm,0.5s,baz=56,slow=5.6,SNR=22
comp=Z,1.9nm,0.5s

M29M Somme Creek 72.67 29 P **P** **06 51 16.8 -0.3**
M29M IAmb IAmb 06 51 41.8
comp=Z,4.9nm,1.4s

AKASG Malin Array Be 72.84 318 P **P** **06 51 17.1 -1.0**
comp=Z,2.3nm,0.8s,baz=61,slow=5.9,SNR=7.0
comp=Z,2.3nm,0.8s

BRTR Keskin Array B 73.32 306 P **P** **06 51 20.9 -0.5**
BRTR Keskin Array B 73.32 306 P **P** **06 51 21.9 +0.6**
comp=Z,2.3nm,0.8s,baz=99,slow=6.5,SNR=9.9
comp=Z,2.3nm,0.8s

MLR Muntele Rosu 76.68 314 P **P** **06 51 40.0 -0.6**
comp=Z,1.8nm,0.4s,baz=1.5,slow=5.5,SNR=3.1
comp=Z,1.8nm,0.4s

HFS Hagfors 77.35 331 P **P** **06 51 43.7 -0.2**
comp=Z,0.8nm,0.6s,baz=76,slow=7.9,SNR=4.2
HFS LR LR 07 27 32.6
comp=Z,24nm,20.2s,baz=96,slow=37
comp=Z,0.8nm,0.6s

NB2 NORSAR Subarra 77.99 332 P **P** **06 51 47.0 -0.5**
comp=Z,4.4nm,1.1s,baz=56,slow=5.9

NOA NORSAR Array B 77.99 332 P **P** **06 51 47.0 -0.5**
comp=Z,0.8nm,0.8s,baz=59,slow=5.6,SNR=4.4
NOA LR LR 07 27 54.3
comp=Z,12nm,18.4s,baz=230,slow=37
comp=Z,0.8nm,0.8s

NVAR Mina Array Bea 95.58 43 P **P** **06 53 15.0 0.0**
comp=Z,0.8nm,0.9s,baz=304,slow=2.7,SNR=4.5
comp=Z,0.8nm,0.9s

*HVO **26** 06:43:52.7±0.8, 19°.406N±0°.008×155°.294W±0°.008, h0km±3km, Error ellipse: s-maj=1.4km s-min=0.8km az=140.0*

NEIC 26 06:43:53.3±1.1, 19°.406N±0°.010×155°.295W±0°.009, h5km±1km, ML3.1/42, ML3.0/36(HVO), Error ellipse: s-maj=2.0km s-min=1.5km az=329.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRMHI	**West Rim**	**0.01**	**279**		Pg	06 43 53.2	-1.2
WRMHI					Sg	06 43 53.4	-1.7
UWE	**Uwekahuna**	**0.01**	**7**		Pg	06 43 53.5	-0.9
OBL	**Observatory Le**	**0.02**	**42**		Pg	06 43 53.6	-0.8
OBL					Sg	06 43 54.4	-0.8
SDHHI	**Sand Hill**	**0.02**	**176**		Pg	06 43 53.7	-0.7
SDHHI					Sg	06 43 54.0	-1.2
RIM	**Rim**	**0.02**	**118**		Pg	06 43 53.9	-0.5
RIM					Sg	06 43 54.6	-0.7
UWB	**Uwekahuna Bluf**	**0.03**	**41**		Pg	06 43 53.8	-0.7
UWB					Sg	06 43 54.6	-0.7
KKO	**Keanakako'i**	**0.03**	**106**		Pg	06 43 54.1	-0.4
KKO					Sg	06 43 55.0	-0.3
SBLHI	**Steaming Bluff**	**0.03**	**50**		Pg	06 43 54.0	-0.5
SBLHI					Sg	06 43 55.2	-0.2
BYL	**Byron's Ledge**	**0.03**	**79**		Pg	06 43 53.9	-0.6
BYL				IAML		06 43 55.2	
	comp=E,28μm,1.0s						
BYL				IAML		06 43 55.6	
	comp=N,14μm,0.4s						
HATHI	**Halema'uma'u T**	**0.04**	**62**		Pg	06 43 54.0	-0.5
PUH	**Pauahi**	**0.08**	**113**		Pg	06 43 55.2	+0.1
PUH				IAML		06 43 57.7	
	comp=E,11μm,1.2s						
HLP	**Hilina Pali**	**0.11**	**186**		Pg	06 43 55.9	+0.3
KNHH	**Kane Nui o Ham**	**0.12**	**102**		Pg	06 43 55.9	+0.1
MLH	**Mauna Loa**	**0.12**	**316**		Pg	06 43 56.4	+0.4
MLH				IAML		06 43 59.9	
	comp=N,12μm,0.5s						
MLH				IAML		06 43 60.0	
	comp=E,12μm,0.4s						
AIN	**Ainahou**	**0.16**	**258**		Pg	06 43 56.9	+0.4
AIN				IAML		06 44 01.8	
	comp=E,8μm,0.9s						
STCH	**Steam Cracks**	**0.16**	**97**		Pg	06 43 56.5	0.0
STCH				IAML		06 44 00.8	
	comp=E,6μm,1.2s						
STCH				IAML		06 44 01.4	
	comp=N,4μm,0.7s						
NPOC	**North of Pu'u**	**0.18**	**94**		Pg	06 43 56.9	+0.1
JCUZ	**Jacuzzi**	**0.18**	**97**		Pg	06 43 57.2	+0.3
HTC	**Hot Caves**	**0.19**	**210**		Pg	06 43 57.6	+0.5
HMH	**Humu'ula Sheep**	**0.26**	**318**		Pg	06 43 58.6	+0.1
JOKA	**Jonika Flow**	**0.28**	**84**		Pg	06 43 58.6	-0.1
JOKA				IAML		06 44 04.8	
	comp=N,2μm,0.9s						
MWH	**Mokuaweoweo**	**0.30**	**286**		Pg	06 43 58.8	-0.5
MWH				IAML		06 44 07.9	
	comp=N,4μm,0.8s						
KHU	**Kahuku**	**0.34**	**242**		Pg	06 43 59.9	-0.1
KHU					Sg	06 44 05.6	+1.1
ALEP	**Alea Permanent**	**0.36**	**292**		Pg	06 44 00.2	-0.1
POHA	**Pohakuloa**	**0.41**	**327**		Pg	06 44 01.0	-0.4
POHA				IAML		06 44 14.9	
	comp=N,1μm,1.3s						
HUH	**Hualalai**	**0.58**	**299**		Pg	06 44 04.6	+0.1
CPH	**Captain Cook**	**0.59**	**278**		Pg	06 44 04.1	-0.6
HPAH	**Hawaii Prepara**	**0.73**	**329**		Pg	06 44 05.9	-1.4
MHA	**Mahukona**	**0.97**	**324**		Pg	06 44 09.5	-2.3

*ASRS **26** 06:48:54.0±1.8, 53°.75N×91°.03E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 26 06:48:59.3±4.0, 53°.74N×90°.80E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=35.7km s-min=25.9km az=29.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.55**	**276**	I	I	07 10 45.0	
	0.1nm,1.4s,baz=90,slow=314,SNR=22						
ZALV	**Zalesovo Beam**	**3.55**	**276**	Pg	Pb	06 50 02.6	-0.3
	0.4nm,0.3s,baz=92,slow=17,SNR=7.6						
ZALV				Lg	Lg	06 50 52.4	
	1.3nm,0.3s,baz=89,slow=26,SNR=9.8						
KURBB	**Kurchatov Arra**	**8.16**	**252**	Pn	Pn	06 50 59.0	+0.1
	0.1nm,0.3s,baz=66,slow=15,SNR=3.0						
KURBB				Sn	Sn	06 52 29.8	-1.9
	baz=66,slow=25,SNR=6.1						
KURBB				Lg	Lg	06 53 21.3	
	baz=61,slow=33						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.83**	**221**	Pn	Pn	06 51 09.0	+0.8
	baz=36,slow=12,SNR=3.0						
MKAR				Sn	Sn	06 52 49.1	+0.8
	0.1nm,0.3s,baz=51,slow=28,SNR=3.3						
MKAR				Lg	Lg	06 53 37.0	
	baz=36,slow=23,SNR=5.7						
	0.3nm,0.7s						
SONM	**Songino Array**	**11.50**	**115**	Lg	Lg	06 54 52.1	
	0.9nm,0.3s,baz=297,slow=26,SNR=2.6						

*ASRS **26** 06:55:40.0±1.1, 54°.65N×83°.64E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 26 06:55:42.3±2.5, 54°.64N×83°.79E, h0km, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=19.8km s-min=11.9km az=173.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.92**	**139**	I	I	07 01 10.0	
	baz=318,slow=317,SNR=10						
ZALV	**Zalesovo Beam**	**0.92**	**139**	Pg	Pg	06 55 58.8	-1.1
	2.3nm,0.3s,baz=322,slow=14,SNR=14						
ZALV				Lg	Lg	06 56 13.7	
	5.9nm,0.3s,baz=316,slow=28,SNR=18						
KURBB	**Kurchatov Arra**	**5.14**	**221**	Pn	Pn	06 57 00.8	+0.3
	baz=40,slow=15,SNR=2.1						
KURBB				Lg	Lg	06 58 26.4	
	0.1nm,0.3s,baz=42,slow=32,SNR=6.0						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**7.91**	**188**	Pn	Pn	06 57 38.7	+0.1
	0.1nm,0.3s,baz=10,slow=14,SNR=2.0						
MKAR				Lg	Lg	06 59 54.4	
	baz=20,slow=30,SNR=3.9						
	0.2nm,0.5s						

*REN **26** 07:08:07.8±1.2, 41°.15N±0°.05×116°.60W±0°.05, h0km±3km, ML2.5/8, ML2.4/48(NEIC), Error ellipse: s-maj=7.2km s-min=5.6km az=208.0*

NEIC 26 07:08:06.6±0.9, 41°.12N±0°.05×116°.60W±0°.06, h10km±8km, Error ellipse: s-maj=7.1km s-min=6.4km az=211.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELK	**Elko**	**1.09**	**109**		Pn	07 08 29.0	+0.9
ELK	**Elko**	**1.09**	**109**	IAML		07 08 45.5	
	130nm,0.5s						
WVOR	**Wild Horse Val**	**2.02**	**311**		Pn	07 08 42.0	+1.2
Q09A	**Carvers**	**2.32**	**191**		Pb	07 08 46.9	-1.7
MFID	**Camas Ranch**	**2.37**	**14**		Pn	07 08 46.0	+0.4
MFID				IAML		07 09 23.5	
	38nm,0.7s						
PAHR	**Pah Rah Range**	**2.55**	**237**		Pn	07 08 48.8	+0.6
J08A	**Circle Bar Ran**	**2.64**	**329**		Pn	07 08 51.1	+1.7
BGU	**Big Grassy Mou**	**2.70**	**93**		Pn	07 08 51.4	+1.2
BGU				IAML		07 09 35.7	
	comp=N,10nm,0.4s						
BGU				IAML		07 09 38.3	
	comp=E,16nm,0.5s						
SPR3	**Spring Creek 3**	**2.73**	**140**		Pb	07 08 54.4	-1.4
SPR3	**Spring Creek 3**	**2.73**	**140**	IAML		07 09 40.4	
	comp=E,10nm,0.4s						
SPR3				IAML		07 09 40.9	
	comp=N,14nm,0.4s						
R11B	**Troy Canyon, C**	**2.87**	**164**		Pn	07 08 54.0	+1.4
HLID	**Hailey**	**2.93**	**33**		Pn	07 08 55.2	+1.8
HLID				IAML		07 09 41.5	
	comp=N,11nm,0.3s						
HLID				IAML		07 09 42.4	
	comp=N,8.8nm,0.3s						
NV11	**Mina Array Sit**	**2.94**	**205**		Pn	07 08 54.9	+1.4
HVU	**Hansel Valley**	**2.95**	**76**		Pn	07 08 54.8	+1.1
HVU				IAML		07 09 46.4	
	comp=E,22nm,0.5s						
NVAR	**Mina Array Bea**	**2.99**	**207**	Pn	Pn	07 08 55.3	+1.1
DUG	**Dugway, Tooele**	**3.02**	**106**	Pn	Pn	07 08 55.5	+0.9
DUG				IAML		07 09 44.1	
	comp=E,13nm,0.6s						
DUG				IAML		07 09 48.9	
	comp=E,12nm,1.1s						
TPH	**Tonopah**	**3.07**	**189**	Pn	Pn	07 08 56.5	+1.1
TPH				IAML		07 09 49.4	
	comp=E,8.4nm,0.9s						
TPH				IAML		07 09 49.4	
	comp=N,12nm,0.4s						
BEKR	**Beckworth**	**3.13**	**248**	Pn	Pn	07 08 56.9	+0.7
BEKR				IAML		07 09 50.0	
	comp=E,6.1nm,0.8s						
MPK	**Martis Peak**	**3.20**	**236**	Pn	Pn	07 08 58.6	+1.5
MPK				IAML		07 09 32.4	
	comp=N,18nm,0.9s						
MPK				IAML		07 09 45.3	
	comp=E,13nm,1.1s						
PSUT	**Pine Spring**	**3.33**	**140**	Pn	Pn	07 09 01.3	+2.4
MZP	**Montezuma Peak**	**3.46**	**190**	Pn	Pn	07 09 02.9	+2.0
S11A	**Rachel**	**3.53**	**169**	Pn	Pn	07 09 03.0	+1.5
GMN	**Gold Mountain**	**3.84**	**188**		Pn	07 09 08.0	+1.9
GMN				IAML		07 10 13.3	
	comp=N,7.0nm,0.7s						
GMN				IAML		07 10 17.5	
	comp=E,4.0nm,0.5s						
PRN	**Pahroc Range**	**3.89**	**162**	Pn	Pn	07 09 08.2	+1.6
PRN				IAML		07 10 18.1	
	comp=E,9.8nm,0.5s						
PRN				IAML		07 10 24.5	
	comp=N,10nm,0.5s						
J05D	**Fort Rock, OR**	**4.07**	**304**	Pn	Pn	07 09 10.2	+1.1
J05D				IAML		07 09 48.9	
	comp=N,8.6nm,3.6s						
MSU	**Marysvale**	**4.28**	**126**	Pn	Pn	07 09 13.8	+1.8
MTPU	**Mount Pierson**	**4.59**	**131**	Pn	Pn	07 09 19.1	+2.8
SHPR	**Sheep Range**	**4.74**	**166**	Pn	Pn	07 09 21.1	+2.8

*IDC **26** 07:10:12.8±3.6, 53°.67N×88°.05E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=34.3km s-min=20.2km az=53.0*

ASRS 26 07:10:10.0±1.1, 53°.75N×88°.14E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.98**	**277**	I	I	07 22 40.0	
	0.2nm,1.0s,baz=95,slow=324,SNR=5.7						
ZALV	**Zalesovo Beam**	**1.98**	**277**	Pn	Pg	07 10 47.7	-0.1
	0.6nm,0.3s,baz=95,slow=11,SNR=10						
ZALV				Lg	Lg	07 11 13.4	
	1.2nm,0.3s,baz=98,slow=31,SNR=5.3						
KURBB	**Kurchatov Arra**	**6.69**	**246**	Pn	Pn	07 11 52.0	+2.6
	0.1nm,0.3s,baz=65,slow=14,SNR=1.5						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**7.91**	**211**	Pn	Pn	07 12 08.0	+1.8
	baz=25,slow=13,SNR=1.9						
	0.1nm,0.3s						

*SDD **26** 07:10:17.7±1.0, 18°.07N×69°.06W, h70km±18km, MD3.0, ML2.2, MW2.4*
*RSPR **26** 07:10:18.6, 18°.46N×68°.89W, h98km±3km, MD3.0/4*

ISC 26 07:10:16.6±3.9, 18°.3N±0°.2×69°.0W±0°.2, h94km±16km, n18, σ0s.99/23, 8C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HIDR	**Higuey Centro**	**0.41**	**41**	*e*S		**Sn**	**07 10 42.4 +0.5**
HIDR	**Higuey Centro**	**0.41**	**41**	⇓*e*Pg		**Pn**	**07 10 31.3 +0.2**
HIDR				⇓*e*Sg		**Sn**	**07 10 40.8 -1.1**
HIDR				IAML			07 10 52.7
	comp=N,29nm,1.8s						
MIDR	**Miches**	**0.70**	**356**	⇓*e*Pg		**Pn**	**07 10 33.7 +0.2**
MIDR				⇓*e*Sg		**Sn**	**07 10 46.4 +0.4**
MIDR				IAML			07 10 48.4
	comp=N,32nm,2.5s						
SMDR	**Samana, DR**	**1.02**	**350**	⇑*e*P		**Pn**	**07 10 36.4 -0.4**
SMDR	**Samana, DR**	**1.02**	**350**	*e*S		**Sn**	**07 10 51.9 0.0**
CRPR	**Cabo Rojo, PR**	**1.82**	**98**	⇓*e*P		**Pn**	**07 10 46.7 +0.2**
CRPR	**Cabo Rojo, PR**	**1.82**	**98**	*e*S		**Sn**	**07 11 10.2 +0.9**
CRPR	**Cabo Rojo, PR**	**1.82**	**98**	⇑*e*Pg		**Pn**	**07 10 46.1 -0.4**
CRPR				*e*Sg		**Sn**	**07 11 07.3 -2.1**
CRPR				IAML			07 11 20.1
	comp=N,35nm,2.6s						
LSP	**Las Mesas**	**1.82**	**93**	⇓*e*P		**Pn**	**07 10 48.2 +1.6**
LSP	**Las Mesas**	**1.82**	**93**	*e*S		**Sn**	**07 11 09.9 +0.4**
AOPR	**Arecibo Observ**	**2.13**	**88**	⇑*e*P		**Pn**	**07 10 51.4 +0.8**
AOPR	**Arecibo Observ**	**2.13**	**88**	*e*S		**Sn**	**07 11 16.5 -0.3**
AOPR	**Arecibo Observ**	**2.13**	**88**	⇑*e*Pg		**Pn**	**07 10 51.5 +0.8**
AOPR				⇓*e*Sg		**Sn**	**07 11 15.6 -1.1**
AOPR				IAML			07 11 22.5
	comp=N,22nm,1.1s						
UUPR	**Utuado, UPR, P**	**2.17**	**90**	⇑*e*P		**Pn**	**07 10 52.1 +1.0**
UUPR	**Utuado, UPR, P**	**2.17**	**90**	*e*S		**Sn**	**07 11 18.4 +0.9**
CELP	**Cerrillos**	**2.31**	**95**	⇑*e*Pg		**Pn**	**07 10 53.3 +0.3**
CELP				⇑*e*Sg		**Sn**	**07 11 19.3 -1.6**
CELP				IAML			07 11 19.4
	comp=N,13nm,2.6s						
ECPR	**Experimental S**	**2.50**	**89**	⇑*e*P		**Pn**	**07 10 55.7 +0.1**
ECPR	**Experimental S**	**2.50**	**89**	*e*S		**Sn**	**07 11 24.2 -1.3**

*NEIC **26** 07:20:42.1±1.7, 10°.95S±0°.1×162°.5E±0°.1, h50km±8km, mb4.4/20, Error ellipse: s-maj=18.9km s-min=13.4km az=51.0*
*NOU **26** 07:20:42.1, 10°.89S×162°.45E, h31km, MLv5.4/12, Solomon Islands*
*IDC **26** 07:20:46.5±2.1, 10°.92S×162°.27E, h95km±18km, mb3.9/15, mbtmp4.3/17, MS3.3/17, Error ellipse: s-maj=19.9km s-min=12.1km az=81.0*

ISC 26 07:20:41.3±0.5, 10°.89S±0°.06×162°.47E±0°.04, h46km, n76, σ1s41/59, mb4.4/24, MS3.3/15, 3C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HURO	**Huro Makira**	**0.70**	**307**	P		**Pn**	**07 22 55.7 +0.8**
HURO	**Huro Makira**	**0.70**	**307**	S		**Sn**	**07 21 05.9 +1.1**
NGOA	**Tingoa Renbel**	**2.46**	**254**	P		**Pn**	**07 21 19.3 +0.3**
NGOA	**Tingoa Renbel**	**2.46**	**254**	S		**Sn**	**07 21 47.8 0.0**
ALEG	**Aligegeo Malai**	**2.75**	**320**	P		**Pn**	**07 21 23.6 +0.6**
HNR	**Honiara**	**2.88**	**300**			**Pn**	**07 21 26.5 +1.7**
HNR	**Honiara**	**2.88**	**300**	P		**Pn**	**07 21 26.7 +2.0**
	2μm,0.3s,baz=179,slow=5.5,SNR=33						
HNR				S		**Sn**	**07 22 02.3 +4.2**
	2μm,0.3s,baz=120,slow=16,SNR=10						
HNR	**Honiara**	**2.88**	**300**	P		**Pn**	**07 21 26.9 +2.2**
SAVO	**Savo Central**	**3.14**	**303**	P		**Pn**	**07 21 30.6 +2.3**
LUES	**Luesalemba Tem**	**3.39**	**87**	P		**Pn**	**07 21 32.1 +0.4**
LUES	**Luesalemba Tem**	**3.39**	**87**	S		**Sn**	**07 22 12.6 +1.9**
TATA	**Tatamba Isabel**	**3.62**	**313**	P		**Pn**	**07 21 36.2 +1.3**
VLAKA	**Lakatoro**	**7.08**	**138**	P		**Pn**	**07 22 25.2 +2.8**
DZM	**Mont Dzumac**	**11.76**	**162**	Pn		**Pn**	**07 23 26.9 +0.3**
DZM	**Mont Dzumac**	**11.76**	**162**	P		**Pn**	**07 23 29.8 +3.2**
	3.6nm,0.3s,baz=33,slow=7.9,SNR=46						
DZM				S		**Sn**	**07 25 37.5 +1.1**
	11nm,1.0s,baz=151,slow=20,SNR=2.9						
DZM				LR	LR	07 26 48.9	
	comp=Z,264nm,20.3s,baz=16,slow=31						
ONTNC	**Ouen Toro**	**11.98**	**162**	Pn		**Pn**	**07 23 28.6 -0.9**
PINNC	**Pines Island,**	**12.59**	**158**	Pn		**Pn**	**07 23 35.6 -2.3**
PMG	**Port Moresby**	**15.15**	**274**	LR	LR	07 29 46.9	
	comp=Z,284nm,20.4s,baz=139,slow=36						
EIDS	**Eidsvold**	**18.00**	**215**	P		**Pn**	**07 24 48.0 -0.3**
CTAO	**Charters Tower**	**18.10**	**238**	P		**Pn**	**07 24 49.6 +0.1**
COEN	**Coen**	**19.09**	**259**			**Pn**	**07 25 01.5 -0.1**
COEN				IAmb	IAmb	07 25 06.6	
	comp=Z,29nm,1.0s						
ARMA	**Armidale**	**21.90**	**206**	P		**P**	**07 25 31.4 +0.7**
JAY	**Jayapura**	**23.15**	**290**	LR	LR	07 35 43.6	
	comp=Z,65nm,18.2s,baz=348,slow=39						
RAO	**Raoul Island**	**25.87**	**138**	LR	LR	07 34 20.3	
	comp=Z,147nm,19.6s,baz=20,slow=31						
STKA	**Stephens Creek**	**28.43**	**220**	P		**P**	**07 26 30.4 -1.5**
	comp=Z,1.7nm,0.7s,baz=6.8,slow=9.2,SNR=5.4						
STKA				LR	LR	07 37 13.4	
	comp=Z,91nm,19.9s,baz=31,slow=35						
	comp=Z,1.7nm,0.7s						
WB0	**Warramunga Arr**	**28.45**	**249**	P		**P**	**07 26 30.8 -1.3**
WB0				IAmb	IAmb	07 26 32.0	
	comp=Z,6.9nm,0.9s						
WRA	**Warramunga Arr**	**28.54**	**248**	P		**P**	**07 26 31.5 -1.5**
WRA	**Warramunga Arr**	**28.54**	**248**	P		**P**	**07 26 31.0 -2.0**
	comp=Z,2.7nm,0.7s,baz=78,slow=9.5,SNR=15						
WRA				LR	LR	07 37 51.4	
	comp=Z,130nm,18.1s,baz=1.0,slow=36						
	comp=Z,2.7nm,0.7s

H11N2 **WAKE ISLAND Hy 30.73 8** T T 07 59 15.6
baz=188,slow=76,SNR=57

BKZ **Black Stump Fm 30.81 158** P **P** **07 26 53.6 +0.7**
KNRA **Kununurra 33.13 258** P **P** **07 27 11.9 -1.5**
RPZ **Rata Peaks 33.54 169** P **P** **07 27 17.5 +0.7**
comp=Z,5.5nm,0.6s,baz=190,slow=22,SNR=2.8
comp=Z,5.5nm,0.6s

FITZ **Fitzroy Crossi 36.32 254** P **P** **07 27 39.4 -1.7**
comp=Z,2.9nm,0.5s,baz=60,slow=10,SNR=18
comp=Z,2.9nm,0.5s

RAR **Rarotonga 37.62 111** LR LR 07 40 26.8
comp=Z,62nm,20.4s,baz=264,slow=31

DAV **Davao City (W) 40.83 294** LR LR 07 44 32.9
comp=Z,18nm,19.6s,baz=142,slow=35

PPT **Papeete 46.85 104** LR LR 07 45 55.7
comp=Z,26nm,18.3s,baz=304,slow=32

MJAR **Matsushiro Arr 52.42 335** LR LR 07 53 39.5
comp=Z,8.3nm,19.0s,baz=116,slow=38

JNU **Nakatsue 53.13 327** LR LR 07 49 47.1
comp=Z,35nm,21.5s,baz=161,slow=33

ASAJ **Asahikawa 57.65 343** LR LR 07 51 59.7
comp=Z,27nm,21.7s,baz=158,slow=32

KSRS **Korea Array 57.98 328** P **P** **07 30 27.8 -1.5**
comp=Z,1.3nm,0.7s,baz=142,slow=6.5,SNR=4.6
comp=Z,1.3nm,0.7s

USRK **Ussuriysk Ar. 61.41 335** P **P** **07 30 52.7 -0.1**
comp=Z,3.0nm,0.9s,baz=145,slow=7.0,SNR=5.6
USRK LR LR 07 55 19.2
comp=Z,22nm,21.4s,baz=5.8,slow=34
comp=Z,3.0nm,0.9s

PETK **Petropavlovsk- 63.87 357** P **P** **07 31 08.4 -0.6**
comp=Z,2.6nm,0.8s,baz=169,slow=8.9,SNR=6.3
comp=Z,2.6nm,0.8s

VNDA **Vanda 66.62 180** **P** **07 31 27.1 +0.5**
VNDA IAmb IAmb 07 31 28.2
comp=Z,3.7nm,1.1s

VNDA **Vanda 66.62 180** P **P** **07 31 27.6 +1.1**
comp=Z,1.9nm,0.9s,baz=333,slow=7.1,SNR=12
comp=Z,1.9nm,0.9s

SBA **Scott Base 66.99 179** P **P** **07 31 30.1 +1.1**
SBA IAmb IAmb 07 31 32.1
comp=Z,3.7nm,1.0s

MA2 **Magadan 70.85 354** LR LR 07 58 59.5
comp=Z,11nm,21.8s,baz=170,slow=32

SONM **Songino Array 76.66 325** P **P** **07 32 27.9 +0.4**
comp=Z,2.6nm,0.7s,baz=146,slow=5.8,SNR=11
comp=Z,2.6nm,0.7s

Q19K **Cape Douglas, 78.07 22** P **P** **07 32 34.7 -0.4**
O18K **Koktuh Hills 78.19 20** P **P** **07 32 34.9 -0.8**
QSPA **South Pole Qui 79.12 180** P **P** **07 32 41.6 +0.6**
QSPA **South Pole Qui 79.12 180** P **P** **07 32 41.6 +0.6**
comp=Z,8.9nm,0.8s,baz=345,slow=0.7,SNR=46
comp=Z,8.9nm,0.8s

L18K **Granite Mounta 79.49 18** P **P** **07 32 42.9 +0.2**
L18K IAmb IAmb 07 32 44.7
comp=Z,7.1nm,1.2s

L19K **White Mountain 80.03 19** P **P** **07 32 46.2 +0.4**
L19K IAmb IAmb 07 32 47.6
comp=Z,5.3nm,1.1s

CCB **Clear Creek Bu 84.03 19** P **P** **07 33 05.0 -1.6**
CCB IAmb IAmb 07 33 07.2
comp=Z,2.3nm,0.6s

ILAR **Eielson Array 84.41 19** P **P** **07 33 07.8 -0.8**
comp=Z,0.5nm,0.5s,baz=246,slow=6.0,SNR=15
comp=Z,0.5nm,0.5s

SCRK **Sand Creek 84.89 21** P **P** **07 33 11.3 +0.1**
SCRK IAmb IAmb 07 33 55.0
comp=Z,6.4nm,1.4s

BCAR **Beaver Creek A 85.14 22** **P** **07 33 12.5 +0.1**
NVAR **Mina Array Bea 88.39 51** P **P** **07 33 29.4 +0.4**
comp=Z,1.0nm,0.7s,baz=230,slow=7.5,SNR=10
comp=Z,1.0nm,0.7s

PFO **Pinyon Flats O 88.63 56** LR LR 08 06 50.6
comp=Z,13nm,19.9s,baz=221,slow=31

MKAR **Makanchi Array 91.22 317** P **P** **07 33 41.5 -0.3**
MKAR **Makanchi Array 91.22 317** P **P** **07 33 40.4 -1.4**
comp=Z,0.6nm,0.7s,baz=100,slow=5.2,SNR=5.3
comp=Z,0.6nm,0.7s

PLID **Pearl Lake 91.71 45** P **P** **07 33 43.3 -1.0**
PLID IAmb IAmb 07 33 45.0
comp=Z,1.6nm,0.8s

LPIG **La Paz 91.87 66** LR LR 08 09 13.9
comp=Z,18nm,18.1s,baz=224,slow=32

TROLL **Troll, Antarti 96.22 186** ⇑P **P** **07 34 03.4 -1.1**
comp=Z,41nm,0.5s

SNAA **Sanae 97.04 185** ⇑P **P** **07 34 06.9 -1.2**
comp=Z,18nm,1.0s

SNAA **Sanae 97.04 185** P **P** **07 34 06.9 -1.2**
comp=Z,2.0nm,1.2s,baz=211,slow=8.2,SNR=5.9
comp=Z,2.0nm,1.2s

VNA3 **Neumayer Olymp 97.89 183** ⇑P **P** **07 34 10.7 -1.2**
comp=Z,1.3nm,0.8s

IDC 26 07:26:00.7±1.9,5°74S×129°29E,h0km,mb3.7/2, mbtmp3.7/5,ML3.8/3,Error ellipse: s-maj=96.2km s-min=25.4km az=75.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.79**	**196**	Pn	Pn	07 29 05.8	+1.9
FITZ	0.9nm,0.3s,baz=18,slow=9.4,SNR=16			Sn	Sn	07 31 15.6	-12
	0.6nm,0.3s,baz=75,slow=14,SNR=4.5						
	4.3nm,0.5s						
WRA	**Warramunga Arr**	**14.95**	**161**	Pn	Pn	07 29 34.2	+0.7
WRA	0.2nm,0.3s,baz=341,slow=13,SNR=18			Sn	Sn	07 32 08.2	-12
	0.9nm,0.3s,baz=337,slow=22,SNR=6.7						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**18.37**	**166**	P	Pn	07 30 15.4	-1.7
ASAR	0.3nm,0.3s,baz=346,slow=10,SNR=15			S	Sn	07 33 28.8	-14
	0.7nm,0.8s,baz=345,slow=24,SNR=4.1						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**66.79**	**327**	P	P	07 36 54.7	+0.5
	0.3nm,0.3s,baz=111,slow=8.3,SNR=5.7						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**71.07**	**329**	P	P	07 37 20.2	-0.5
	0.6nm,0.8s,baz=135,slow=4.9,SNR=4.7						
	0.6nm,0.8s						

*IDC **26** 07:28:25.5±1.1,31°.04S×178°.26W,h0km,mb4.1/3, mbtmp4.1/4,ML3.1/1,Error ellipse: s-maj=36.1km s-min=21.0km az=109.0*

IDC 26 07:28:31.6±1.1,31°.1S×178°.4W±0°.3,h50km,n8, σ2s 04/9,mb4.0/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.83**	**12**	Pn	**Pn**	**07 28 59.5**	**-1.1**
RAO	61nm,0.3s,baz=151,slow=23,SNR=2.0			Sn	**Sn**	**07 29 21.3**	**-1.4**
	284nm,0.3s,baz=178,slow=23,SNR=10						
URZ	**Urewera**	**8.10**	**206**	Pn	Pn	07 30 23.4	-3.1
URZ	0.3nm,0.3s,baz=331,slow=19,SNR=1.5			Sn	**Sn**	**07 31 53.0**	**-3.6**
	1.1nm,0.3s,baz=242,slow=22,SNR=8.3						
	2.2nm,0.3s						
ASAR	**Alice Springs**	**42.78**	**268**	P	**P**	**07 36 25.6**	**+1.2**
	2.2nm,0.7s,baz=106,slow=7.6,SNR=12						
	2.2nm,0.7s						
WRA	**Warramunga Arr**	**43.83**	**273**	P	**P**	**07 36 34.4**	**+1.5**
	3.2nm,0.6s,baz=114,slow=7.7,SNR=13						
	3.2nm,0.6s						
SNAA	**Sanae**	**77.51**	**179**	P	**P**	**07 40 23.4**	**+1.9**
	0.9nm,0.8s,baz=195,slow=2.3,SNR=7.4						
	0.9nm,0.8s						
FINES	**FINESS Array B**	**145.65**	**339**	PKPbc	**PKPdf**	**07 48 03.2**	**-0.3**
	2.8nm,0.6s,baz=63,slow=2.4,SNR=13						
NOA	**NORSAR Array B**	**149.35**	**351**	PKPbc	**PKiKP**	**07 48 16.4**	**+1.0**
	0.6nm,0.7s,baz=14,slow=4.2,SNR=5.5						
HFS	**Hagfors**	**149.82**	**348**	PKPbc	**PKPbc**	**07 48 14.9**	**-0.5**
	1.4nm,0.8s,baz=129,slow=4.7,SNR=4.2						

*ASRS **26** 07:34:50.0±0.7,53°.95N×86°.53E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 26 07:34:54.5±3.0,54°.12N×86°.32E,h0km,mbtmp2.7/2, ML2.5/2,Error ellipse: s-maj=22.7km s-min=13.6km az=62.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.90**	**260**	I	I	07 39 10.0	
	baz=81,slow=320,SNR=1.9						
ZALV	**Zalesovo Beam**	**0.90**	**260**	Pg	Pg	07 35 11.9	+0.2
	baz=78,slow=17						
ZALV				Lg	Lg	07 35 24.6	
	1.4nm,0.3s,baz=76,slow=31,SNR=4.9						
KURBB	**Kurchatov Arra**	**5.92**	**237**	Pn	Pn	07 36 23.1	-0.2
	0.1nm,0.3s,baz=58,slow=14,SNR=3.4						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**7.77**	**201**	Pn	Pn	07 36 50.1	+1.4
	0.1nm,0.3s,baz=24,slow=15,SNR=2.2						
	0.2nm,0.4s						

*VAO **26** 07:37:59.5±0.5,19°.60S×70°.88W,h10km,mb4.2*
*NEIC **26** 07:38:02.4±1.5,19°.76S±0°.03×70°.87W±0°.05,h18km±4km, mb4.7/38,Mwr4.3/41,Mwr4.5(GUC),Error ellipse: s-maj=7.3km s-min=3.0km az=124.0,Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr3.73; Mθθ-2.18; Mφφ-1.54; Mrθ 1.32; Mrφ 1.87; Mθφ-0.97; Fault plane solution: Mo4.09000×10^15^ NP1:φs311.79000°, δ33.23000°, λ92.75000°. NP2:φs128.50000°, δ56.82000°, λ88.20000°. Principal axes: T 4.0708, Plg78.0000°, Azm32.0000°; N 0.0308, Plg2.0000°, Azm129.0000°; P -4.1015, Plg12.0000°, Azm220.0000°;*
*NEIC **26** 07:38:02.3,19°.79S×70°.84W,h16km*
*GUC **26** 07:38:03.5±0.8,19°.72S×70°.72W,h37km±2km,ML4.4*
*IDC **26** 07:38:05.5±4.5,19°.63S×70°.54W,h38km±38km,mb3.9/10, mbtmp4.1/12,ML3.4/2,MS3.7/18,Error ellipse: s-maj=24.4km s-min=18.8km az=83.0*

ISC 26 07:37:59.8±1.5,19°.71S±0°.04×70°.88W±0°.05,h7km±9km, n155,σ1$36/138,mb4.6/27,MS3.7/16,3C-3D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.90**	**128**		**Pn**	**07 38 18.6**	**-0.2**
TA02	**Huaiquique**	**0.90**	**128**	*eP*	**Pb**	**07 38 18.1**	**+0.4**
TA02				*eS*	**Sg**	**07 38 29.3**	**+0.6**
TA01	**Diego Aracena**	**1.07**	**142**		**Pn**	**07 38 21.6**	**+0.3**
TA01	**Diego Aracena**	**1.07**	**142**	*eP*	**Pg**	**07 38 21.2**	**+0.8**
TA01				*eS*	**Sg**	**07 38 34.9**	**+0.6**
PB11	**IPOC Station P**	**1.15**	**93**		**Pb**	**07 38 22.4**	**+0.2**
PB11	**IPOC Station P**	**1.15**	**93**	*i P*	**Pb**	**07 38 22.0**	**-0.2**
PB11				*eS*	**Sb**	**07 38 36.0**	**-1.4**
PB11				IAML		07 38 39.4	
	comp=N,12μm,0.4s						
PATCX	**Punta Patache**	**1.30**	**148**		**Pn**	**07 38 24.5**	**0.0**
AP01	**Chacalluta**	**1.43**	**21**		**Pb**	**07 38 27.5**	**+0.7**
AP01	**Chacalluta**	**1.43**	**21**	*eP*	**Pb**	**07 38 27.4**	**+0.7**
AP01				*eS*	**Sb**	**07 38 46.0**	**+0.9**
AP01				IAML		07 38 48.4	
	comp=E,11μm,0.3s						
GO01	**Chusmiza**	**1.59**	**89**		**Pn**	**07 38 29.4**	**+0.6**
GO01	**Chusmiza**	**1.59**	**89**	*i P*	**Pn**	**07 38 29.4**	**+0.6**
GO01				*eS*	**Sn**	**07 38 49.6**	**-0.2**
GO01				IAML		07 38 51.3	
	comp=N,9μm,0.3s						
PB08	**IPOC Station P**	**1.68**	**105**		**Pb**	**07 38 31.0**	**-0.3**
PB08	**IPOC Station P**	**1.68**	**105**	*i P*	**Pn**	**07 38 30.6**	**+0.6**
PB08				*eS*	**Sn**	**07 38 51.0**	**-0.9**
PB02	**IPOC Station P**	**1.84**	**150**		**Pn**	**07 38 33.1**	**+1.1**
PB02	**IPOC Station P**	**1.84**	**150**	*eP*	**Pn**	**07 38 32.8**	**+0.8**
PB02				IAML		07 39 01.4	
	comp=E,11μm,0.4s						
PB01	**IPOC Station P**	**1.86**	**136**		**Pn**	**07 38 33.4**	**+1.2**
PB01	**IPOC Station P**	**1.86**	**136**	*eP*	**Pn**	**07 38 33.0**	**+0.8**
PB01				IAML		07 39 01.5	
	comp=E,5μm,0.5s						
PB18	**Visviri**	**2.49**	**32**		**Pn**	**07 38 43.3**	**+2.0**
PB18	**Visviri**	**2.49**	**32**	*eP*	**Pb**	**07 38 44.8**	**-0.5**
PB03	**IPOC Station P**	**2.55**	**156**		**Pn**	**07 38 42.8**	**+1.1**
PB03	**IPOC Station P**	**2.55**	**156**	*eP*	**Pn**	**07 38 42.3**	**+0.6**
PB03				IAML		07 39 30.9	
	comp=E,2μm,0.5s						
PB09	**IPOC Station P**	**2.58**	**144**		**Pn**	**07 38 44.6**	**+2.4**
PB09	**IPOC Station P**	**2.58**	**144**	*eP*	**Pn**	**07 38 44.0**	**+1.9**
PB09				IAML		07 39 25.1	
	comp=N,4μm,0.7s						
PB05	**IPOC Station P**	**3.19**	**169**		**Pn**	**07 38 50.3**	**-0.2**
PB05	**IPOC Station P**	**3.19**	**169**	*eP*	**Pn**	**07 38 49.9**	**-0.6**
PB05				IAML		07 39 48.2	
	comp=E,963nm,0.5s						
PB06	**IPOC Station P**	**3.22**	**158**		**Pn**	**07 38 50.6**	**-0.3**
PB06	**IPOC Station P**	**3.22**	**158**	*eP*	**Pn**	**07 38 51.0**	**0.0**
PB06				IAML		07 39 45.6	
	comp=N,2μm,0.8s						
PB10	**IPOC Station P**	**3.79**	**176**		**Pn**	**07 38 57.7**	**-1.0**
PB10	**IPOC Station P**	**3.79**	**176**	*eP*	**Pn**	**07 38 58.2**	**-0.6**
AF01	**San Pedro de A**	**4.09**	**143**		**Pn**	**07 39 05.2**	**+2.2**
LPAZ	**La Paz**	**4.29**	**38**		**Pn**	**07 39 08.5**	**+2.4**
LPAZ	**La Paz**	**4.29**	**38**	Pn	**Pn**	**07 39 09.1**	**+2.9**
	comp=N,3.8nm,0.3s,baz=229,slow=6.5,SNR=58						
LPAZ	**La Paz**	**4.29**	**38**	*eP*	**Pn**	**07 39 03.1**	**-3.1**
PB14	**IPOC Station P**	**4.91**	**175**		**Pn**	**07 39 13.5**	**-0.9**
GO02	**Mina Guanaco**	**5.55**	**168**		**Pn**	**07 39 22.5**	**-0.7**
AC01	**Pan de Azucar**	**6.41**	**178**	Pn	**Pn**	**07 39 32.7**	**-2.0**
AC02	**Saricunga**	**7.27**	**168**		**Pn**	**07 39 47.7**	**+0.7**
AC06	**Mina Casimiro**	**7.62**	**176**		**Pn**	**07 39 49.8**	**-1.6**
GO03	**Copiapo**	**7.87**	**176**	Pn	**Pn**	**07 39 53.8**	**-1.0**
AC04	**Llanos de Chal**	**8.46**	**181**	Pn	**Pn**	**07 39 59.3**	**-3.5**
NNA	**Nana**	**9.59**	**322**	Pn	Pn	07 40 26.4	+8.0
	comp=N,1.8nm,0.3s,baz=219,slow=7.9,SNR=3.6						
SIV	**San Ignacio**	**10.04**	**70**	Pn	**Pn**	**07 40 23.8**	**-0.8**
	comp=N,0.1nm,0.3s,baz=267,slow=9.9,SNR=35						
SIV				LR	LR	07 44 41.0	
	comp=N,515nm,19.2s,baz=282,slow=41						
	comp=N,12nm,0.8s						
BBSD	**Serra de San D**	**10.06**	**77**	*eP*	**Pn**	**07 40 24.3**	**-0.5**
GO04	**Tololo Observa**	**10.41**	**180**	Pn	**Pn**	**07 40 26.6**	**-3.3**
PTLB	**Pontes e Lacer**	**11.97**	**71**		**Pn**	**07 40 51.3**	**+0.3**
PTLB	**Pontes e Lacer**	**11.97**	**71**	*eP*	**Pn**	**07 40 50.5**	**-0.5**
CZSB	**Cruzeiro do Su**	**12.04**	**351**	*eP*	**Pn**	**07 40 49.9**	**-2.1**
CZSB				*eS*	**Sn**	**07 43 03.5**	**-3.2**
CFA	**Coronel Fontan**	**12.08**	**169**	Pn		07 40 59.3	
	comp=N,0.5nm,0.3s,baz=340,slow=12,SNR=7.5						
VILB	**Vilhena**	**12.25**	**58**		**Pn**	**07 40 55.4**	**+0.5**
VILB	**Vilhena**	**12.25**	**58**	*eP*	**Pn**	**07 40 53.7**	**-1.1**
MURT	**Porto Murtinho**	**12.57**	**101**	*eP*	**Pn**	**07 40 56.8**	**-2.4**
MURT				*eS*	**Sn**	**07 43 20.9**	**+1.4**
BDQN	**Bodoquena, MS**	**13.30**	**96**	*eP*	**Pn**	**07 41 06.2**	**-2.9**
MT09	**Talagante**	**14.01**	**180**	Pn	**Pn**	**07 41 16.0**	**-2.9**
CPUP	**Villa Florida**	**14.10**	**120**	Pn	**Pn**	**07 41 20.0**	**-0.1**
	baz=150,slow=11,SNR=5.6						
CPUP				LR	LR	07 47 32.6	
	comp=N,58nm,20.4s,baz=159,slow=41						
	comp=N,0.8nm,0.8s						
CPUP	**Villa Florida**	**14.10**	**120**	*eP*	**Pn**	**07 41 21.0**	**+0.9**
AQDB	**Aquidauana**	**14.28**	**96**		**Pn**	**07 41 21.4**	**-1.2**
AQDB	**Aquidauana**	**14.28**	**96**	*eP*	**Pn**	**07 41 21.9**	**-0.7**
BO01	**Tunca**	**14.62**	**181**	Pn	**Pn**	**07 41 26.4**	**-0.8**
SJPY	**San Joaquin**	**14.64**	**114**	*eP*	**Pn**	**07 41 27.5**	**0.0**
SALV	**Santo Antonio**	**14.95**	**78**	*eP*	**Pn**	**07 41 30.9**	**-0.8**
AMBA	**Amambai (Brazi**	**15.15**	**105**	*eP*	**Pn**	**07 41 34.1**	**-0.2**
H03N1	**Juan Fernandez**	**15.44**	**206**	T	T	07 57 25.0	
	baz=32,slow=72,SNR=93						
H03N2	**Juan Fernandez**	**15.44**	**206**	T	T	07 57 25.5	
	baz=32,slow=72,SNR=46						
H03N3	**Juan Fernandez**	**15.45**	**206**	T	T	07 57 23.9	
	baz=32,slow=72,SNR=61						
TBTG	**Tabatinga, AM**	**15.46**	**4**	*eP*	**Pn**	**07 41 36.8**	**-1.7**
VA04	**Juan Fernndez**	**15.58**	**205**	Pn	**Pn**	**07 41 38.3**	**-1.6**
PDRB	**Porto dos Gac**	**15.82**	**61**	*eP*	**Pn**	**07 41 42.2**	**-0.9**
ML02	**Panimavida**	**16.00**	**182**	Pn	**Pn**	**07 41 46.1**	**+0.8**
ML02				IAmb	IAmb	07 41 58.7	
	comp=Z,42nm,0.8s						
RPRD	**Ribas do Rio P**	**16.16**	**96**	*eP*	**Pn**	**07 41 47.5**	**0.0**
BI02	**San Fabin de**	**16.89**	**181**	Pn	**Pn**	**07 41 55.0**	**-1.8**
CLDB	**Colider**	**16.98**	**61**	*eP*	**Pn**	**07 41 58.0**	**-0.1**
TEFE	**Tefe**	**17.22**	**22**	*eP*	**Pn**	**07 41 59.1**	**-1.9**
ARAG	**Araguaiana, MT**	**18.59**	**81**	*eP*	**Pn**	**07 42 19.4**	**+1.4**
COHC	**Cochancay**	**19.00**	**333**	P	**Pn**	**07 42 23.3**	**+0.4**
NPGB	**Novo Progresso**	**19.64**	**52**	*eP*	**P**	**07 42 27.6**	**-1.6**
TRQA	**Tornquist**	**19.85**	**159**	P	**P**	**07 42 29.8**	**-1.7**
FRTB	**Fartura**	**20.15**	**104**	*eP*	**P**	**07 42 33.1**	**-1.7**
SNDB	**Serra Nova Dou**	**20.34**	**71**	*eP*	**P**	**07 42 35.7**	**-1.2**
PLCA	**Paso Flores**	**20.95**	**179**	P	Pn	07 42 45.5	-0.5
	comp=Z,3.7nm,1.0s,baz=5.8,slow=10,SNR=7.0						
	comp=Z,3.7nm,1.0s						
PLCA	**Paso Flores**	**20.95**	**179**	*eP*	**P**	**07 42 44.9**	**+1.4**
OTAV	**Otavalo**	**21.17**	**339**	P	**P**	**07 42 47.1**	**+0.8**
OTAV	**Otavalo**	**21.17**	**339**	*eP*	**P**	**07 42 43.0**	**-3.3**
ITTB	**Itaituba**	**21.23**	**46**	*eP*	**P**	**07 42 45.0**	**-1.5**
IPMB	**Ipameri, GO**	**21.52**	**89**	*eP*	**P**	**07 42 48.0**	**-1.7**
FLOC	**Florencia**	**21.68**	**347**	P	**P**	**07 42 53.3**	**+2.0**
BDFB	**Brasilia**	**22.15**	**83**	P	**P**	**07 42 55.8**	**-0.8**
BDFB	**Brasilia**	**22.15**	**83**	P	**P**	**07 42 54.2**	**-2.3**
	comp=Z,3.3nm,0.9s,baz=247,slow=16,SNR=3.9						
BDFB				LR	LR	07 52 25.9	
	comp=Z,220nm,19.5s,baz=293,slow=39						
	comp=Z,3.3nm,0.9s						
VAO	**Valinhos**	**22.50**	**103**	P	**P**	**07 43 00.2**	**0.0**
LL01	**San Ignacio de**	**22.63**	**183**	P	**P**	**07 43 01.0**	**-0.3**
LL01				IAmb	IAmb	07 43 16.1	
	comp=Z,35nm,1.4s						
BOAV	**Boa Vista**	**24.21**	**26**	P	**P**	**07 43 17.3**	**0.0**
BOAV				IAmb	IAmb	07 43 18.4	
	comp=Z,17nm,0.9s						
BOAV	**Boa Vista**	**24.21**	**26**	*eP*	**P**	**07 43 15.2**	**-2.1**
ROSC	**El Rosal**	**24.63**	**352**	LR	LR	07 53 53.6	
	comp=Z,241nm,19.8s,baz=235,slow=38						
RUSC	**La Rusia**	**25.54**	**355**		**P**	**07 43 31.1**	**+1.2**
JANB	**Januaria**	**25.76**	**84**	*eP*	**P**	**07 43 29.8**	**-1.7**
SDBA	**SAO DESIDERIO**	**25.97**	**78**	*eP*	**P**	**07 43 32.2**	**-1.2**
SDV	**Santo Domingo**	**28.42**	**1**	LR	LR	07 56 18.7	
	comp=Z,256nm,19.1s,baz=226,slow=39						
BAUV	**El Baul**	**28.61**	**6**		**P**	**07 43 56.7**	**-0.3**
PCRV	**Puerto La Cruz**	**30.33**	**12**	LR	LR	07 57 16.6	
	comp=Z,317nm,19.1s,slow=38						
MDP	**Montagnes des**	**30.49**	**38**	LR	LR	07 57 09.3	
	comp=Z,355nm,19.1s,baz=210,slow=38						
SJG	**San Juan**	**37.87**	**7**	LR	LR	08 02 09.1	
	comp=Z,77nm,19.6s,baz=144,slow=38						
SMAI	**San Martin Ant**	**48.47**	**178**		**P**	**07 46 42.6**	**-0.1**
SMAI				IAmb	IAmb	07 46 50.2	
	comp=Z,9.7nm,0.9s						
ZAIG	**Zacatecas**	**52.35**	**322**	P	**P**	**07 47 14.8**	**+1.8**
ZAIG				IAmb	IAmb	07 47 17.2	
	comp=Z,5.1nm,0.7s						
TKL	**Tuckaleechee C**	**56.41**	**347**	LR	LR	08 14 13.7	
	comp=Z,41nm,18.2s,baz=179,slow=38						
DRIO	**Del Rio**	**56.65**	**329**	P	**P**	**07 47 43.8**	**-0.1**
DRIO				IAmb	IAmb	07 47 46.1	
	comp=Z,5.3nm,1.2s						
WLAR	**White Oak Lake**	**57.18**	**338**		**P**	**07 47 49.6**	**+2.1**
WHTX	**Lake Whitney,**	**57.37**	**333**		**P**	**07 47 50.0**	**+1.1**
WHTX				IAmb	IAmb	07 47 51.4	
	comp=Z,10nm,1.1s						
MIAR	**Mount Ida**	**58.12**	**338**	P	**P**	**07 47 55.1**	**+1.0**
MIAR				IAmb	IAmb	07 48 08.6	
	comp=Z,7.0nm,1.1s						
TXAR	**Lajitas Array**	**58.12**	**326**	P	**P**	**07 47 55.6**	**+1.2**
	comp=Z,1.0nm,0.9s,baz=148,slow=7.2,SNR=11						
	comp=Z,1.0nm,0.9s						
TX31	**Lajitas Ar. Si**	**58.12**	**326**	P	**P**	**07 47 54.4**	**0.0**
T47A	**Sharon Grove**	**58.44**	**345**		**P**	**07 47 56.5**	**+0.2**
T47A				IAmb	IAmb	07 47 57.5	
	comp=Z,8.7nm,0.9s						
PBMO	**Poplar Bluff**	**59.14**	**342**	P	**P**	**07 48 01.5**	**+0.3**
PBMO				IAmb	IAmb	07 48 16.6	
	comp=Z,5.0nm,0.9s						
MNHN	**Monahans**	**59.27**	**328**	P	**P**	**07 48 03.4**	**+1.1**
MNHN				IAmb	IAmb	07 48 05.0	
	comp=Z,8.1nm,1.1s						
APMT	**Aspermont**	**59.67**	**332**		**P**	**07 48 06.4**	**+1.4**
APMT				IAmb	IAmb	07 48 07.4	
	comp=Z,8.2nm,1.0s						
HHAR	**Hobbs**	**59.81**	**339**	P	**P**	**07 48 06.8**	**+0.9**
HHAR				IAmb	IAmb	07 48 41.3	
	comp=Z,5.8nm,1.4s						
VHRN	**Van Horn**	**59.96**	**326**		**P**	**07 48 08.5**	**+1.3**
VHRN				IAmb	IAmb	07 48 09.8	
	comp=Z,5.6nm,1.1s						
TUL3	**Leonard**	**60.14**	**337**	P	**P**	**07 48 08.8**	**+0.7**
TUL3				IAmb	IAmb	07 48 10.2	
	comp=Z,8.2nm,0.9s						
OK029	**Liberty Lake**	**60.68**	**335**	P	**P**	**07 48 11.8**	**0.0**
MNTX	**Cornudas Mount**	**60.89**	**326**		**P**	**07 48 13.4**	**0.0**
SMWD	**Samnorwood**	**61.23**	**333**		**P**	**07 48 16.1**	**+0.4**
SMWD				IAmb	IAmb	07 48 17.6	
	comp=Z,7.6nm,0.9s						
WVNY	**West Valley, N**	**62.22**	**354**		**P**	**07 48 23.2**	**+1.1**
VNA3	**Neumayer Olymp**	**62.35**	**161**	⇑P	**P**	**07 48 24.5**	**+1.8**
	comp=Z,1.9nm,0.8s						
J59A	**Piesco**	**62.95**	**357**	P	**P**	**07 48 27.8**	**+0.9**
J59A				IAmb	IAmb	07 48 29.3	
	comp=Z,9.6nm,1.1s						
SNAA	**Sanae**	**64.56**	**161**	⇑P	**P**	**07 48 38.6**	**+1.2**
	comp=Z,41nm,0.7s						
SNAA	**Sanae**	**64.56**	**161**	P	**P**	**07 48 38.1**	**+0.8**
SNAA	**Sanae**	**64.56**	**161**	P	**P**	**07 48 38.5**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=276,slow=6.3,SNR=13						
	comp=Z,1.5nm,0.7s						
SADO	**Sadowa**	**64.61**	**353**	LR	LR	08 20 28.0	
	comp=Z,26nm,18.3s,baz=141,slow=39						
BUKO	**Buck Lake**	**65.30**	**353**	P	**P**	**07 48 43.0**	**+0.7**
TROLL	**Troll, Antarti**	**66.28**	**161**	⇑P	**P**	**07 48 50.6**	**+2.0**
	comp=Z,69nm,0.6s						
DBIC	**Dimboko**	**70.02**	**75**	P	**P**	**07 49 12.0**	**-0.9**
DBIC	**Dimbokro**	**70.02**	**75**	P	**P**	**07 49 11.1**	**-1.8**
	comp=Z,4.2nm,0.8s,baz=281,slow=6.6,SNR=4.3						
DBIC				LR	LR	08 18 19.9	
	comp=Z,71nm,20.2s,baz=185,slow=35						
	comp=Z,4.2nm,0.8s						
QSPA	**South Pole Qui**	**70.47**	**180

az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**248**	I	I	07 49 00.0	
	baz=68,slon=318,SNR=11						
ZALV	**Zalesovo Beam**	**1.26**	**248**	Pg	Pg	07 41 05.3	-1.1
	0.9nm,0.3s,baz=68,slow=16,SNR=9.6						
ZALV				Lg	Lg	07 41 23.0	
	1.2nm,0.3s,baz=64,slow=25,SNR=7.0						
KURBB	**Kurchatov Arra**	**6.33**	**236**	Pn	Pn	07 42 17.6	+0.9
	0.1nm,0.3s,baz=52,slow=14,SNR=6.1						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**8.17**	**202**	Pn	Pn	07 42 43.1	+1.0
	0.1nm,0.3s,baz=25,slow=12,SNR=1.6						
	0.1nm,0.3s						

*IDC **26** 07:49:39.2±3.5, 53.°78N×88.°23E, h0km, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=32.7km s-min=20.2km az=54.0*

ASRS 26 07:49:36.0±1.2, 53.°78N×88.°21E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.02**	**276**	I	I	08 02 11.9	
	0.1nm,1.4s,baz=92,slow=320,SNR=4.2						
ZALV	**Zalesovo Beam**	**2.02**	**276**	Pn	Pg	07 50 15.1	+0.5
	1.3nm,0.3s,baz=95,slow=9.9,SNR=14						
ZALV				Lg	Lg	07 50 43.4	
	2.0nm,0.3s,baz=93,slow=25,SNR=14						
	2.2nm,0.3s						
KURBB	**Kurchatov Arra**	**6.74**	**246**	Pn	Pn	07 51 20.1	+4.0
	0.1nm,0.3s,baz=62,slow=14,SNR=5.3						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.95**	**211**	Pn	Pn	07 51 36.9	+4.1
	0.1nm,0.3s,baz=23,slow=12,SNR=2.0						
MKAR				Lg	Lg	07 53 51.3	
	baz=29,slow=33,SNR=5.4						
	0.1nm,0.4s						

VIE 26 07:50:22.9±0.3, 47.°54N×14.°93E, h0km, mb1.0/2, ml1.3/4, Error ellipse: s-maj=2.8km s-min=1.5km az=49.0 3 km NE of Erzberg Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.49**	**125**	*e*Pg	Pg	07 50 31.9	-0.5
	2.8nm,0.2s						
ARSA				*e*Sg	Sg	07 50 38.9	+0.2
	2.2nm,0.2s						
MOA	**Molln**	**0.55**	**305**	*i* Pg	Pg	07 50 33.5	+0.1
	0.6nm,0.1s						
MOA				Sg	Sg	07 50 41.8	+1.3
	1.5nm,0.4s						
CONA	**Conrad Observa**	**0.74**	**58**	*e*Pg	Pg	07 50 37.3	+0.2
	0.7nm,0.3s						
RONA	**Rosalia, Austr**	**0.94**	**80**	*e*Sg	Sb	07 50 54.5	-0.5
	0.1nm,0.0s						
KRUC	**Moravsky**	**1.81**	**32**	*e*PN	Pn	07 50 55.3	-0.1
KRUC				*e*SG	Sn	07 51 18.7	-0.3

ROM 26 07:50:49.5±0.1, 46.°396N±0.°003×13.°001E±0.°005, h7km±1km, ML0.7/14, 6D, Error ellipse: s-maj=0.3km s-min=0.1km az=74.0, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUSE	**Fusea**	**0.02**	**1**	*e*Pg	Pg	07 50 50.8	-0.1
FUSE	**Fusea**	**0.02**	**1**	*e*P	Pg	07 50 50.8	-0.1
BOO	**Bordano**	**0.10**	**138**	*e*Pg	Pg	07 50 52.3	+0.4
BOO				*e*Sg	Sg	07 50 54.0	+0.5
BOO	**Bordano**	**0.10**	**138**	P	Pg	07 50 52.3	+0.5
BOO				S	Sg	07 50 54.3	+0.8
CLUD	**Cludinico**	**0.10**	**307**	*e*Pg	Pg	07 50 52.3	+0.4
CLUD				*e*Sg	Sg	07 50 54.0	+0.4
CLUD	**Cludinico**	**0.10**	**307**	P	Pg	07 50 52.3	+0.4
CLUD				S	Sg	07 50 54.1	+0.5
CLUD				AML	AML		
	comp=E,57μm,0.4s						
CLUD				AML	AML		
	comp=N,67μm,0.4s						
MPRI	**Monte Prat**	**0.15**	**183**	*e*Pg	Pg	07 50 53.3	+0.5
MPRI				*e*Sg	Sg	07 50 55.8	+0.8
MPRI	**Monte Prat**	**0.15**	**183**	P	Pg	07 50 53.3	+0.5
MPRI				S	Sg	07 50 56.3	+1.4
MPRI				AML	AML		
	comp=N,49μm,0.7s						
MPRI				AML	AML		
	comp=E,40μm,0.1s						
DST2	**Trieste**	**0.16**	**199**	P	Pg	07 50 53.4	+0.6
DST2				S	Sg	07 50 56.3	+1.3
DST2				AML	AML		
	comp=E,124μm,0.3s						
DST2				AML	AML		
	comp=N,91μm,0.8s						
DST2				AML	AML		
	comp=E,124μm,1.7s						
ZOU	**Zoufplan**	**0.16**	**353**	*e*Pg	Pg	07 50 53.5	+0.5
ZOU				*e*Sg	Sg	07 50 56.1	+0.7
ZOU	**Zoufplan**	**0.16**	**353**	P	Pg	07 50 53.5	+0.5
ZOU				S	Sg	07 50 56.5	+1.1
ZOU				AML	AML		
	comp=E,36μm,1.3s						
ZOU				AML	AML		
	comp=N,43μm,1.3s						
ZOU				AML	AML		
	comp=N,43μm,0.7s						
PLRO	**Paularo**	**0.18**	**33**	*e*Pg	Pg	07 50 53.9	+0.6
PLRO				*e*Sg	Sg	07 50 56.9	+0.9
PLRO	**Paularo**	**0.18**	**33**	P	Pg	07 50 53.9	+0.6
PLRO				S	Sg	07 50 57.0	+1.0
BAD	**Bernadia**	**0.23**	**133**	*e*Pg	Pg	07 50 54.9	+0.8
BAD				*e*Sg	Sg	07 50 58.5	+1.2
BAD	**Bernadia**	**0.23**	**133**	P	Pg	07 50 55.3	+1.1
BAD				S	Sg	07 50 58.5	+1.3
VINO	**Villanova**	**0.24**	**125**	*e*Pg	Pg	07 50 54.8	+0.5
VINO				*e*Sg	Sg	07 50 58.5	+1.0
VINO	**Villanova**	**0.24**	**125**	P	Pg	07 50 54.8	+0.5
VINO				S	Sg	07 50 58.6	+1.1
VINO				AML	AML		
	comp=N,24μm,0.5s						
VINO				AML	AML		
	comp=E,28μm,0.8s						
STAL	**STALIGIAL**	**0.24**	**236**	P	Pg	07 50 54.7	+0.3
STAL				AML	AML		
	comp=E,28μm,1.1s						
STAL				AML	AML		
	comp=N,26μm,0.2s						
STAL				AML	AML		
	comp=E,28μm,0.9s						
PTCC	**Patocco-Chiusa**	**0.24**	**88**	P	Pg	07 50 55.2	+0.9
PTCC				S	Sg	07 50 59.4	+1.7
PTCC				AML	AML		
	comp=N,28μm,0.3s						
PTCC				AML	AML		
	comp=E,25μm,1.4s						
CSMI	**Casera Mimoias**	**0.27**	**296**	*e*Pg	Pg	07 50 55.5	+0.6
MLNI	**Malnisio**	**0.37**	**228**	*e*Pg	Pg	07 50 57.4	+0.7
COLI	**Coloredo**	**0.37**	**135**	*e*Pg	Pg	07 50 57.5	+0.8
LSR	**Lussari**	**0.37**	**77**	*e*Pg	Pg	07 50 57.5	+0.6
ACOM	**Acomizza, Ital**	**0.39**	**67**	*e*Pg	Pb	07 50 58.1	-0.7

*ISK **26** 07:58:30.1, 37.°71N×26.°87E, h14km, ML2.5/22*
*AFAD **26** 07:58:30.8, 37.°75N×26.°92E, h7km±4km, ML2.1*
*THE **26** 07:58:31.7, 38.°N±2.°×2.°7E±.°, h3km±2km, M2.7/6, MLh2.7/6*

ISC 26 07:58:31.2±0.8, 37.°75N±0.°02×26.°94E±0.°02, h13km±6km, n43, σ0§70/66, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.09**	**244**	P	**Pg**	**07 58 33.9**	**-0.2**
SMG				S	**Sg**	**07 58 35.7**	**-0.4**
GCAM	**G?zelcaml?**	**0.24**	**101**	Pg	**Pb**	**07 58 36.8**	**-0.6**
GCAM				Sg	**Sb**	**07 58 41.3**	**-0.2**
GCAM	**G?zelcaml?**	**0.24**	**101**	P	**Pg**	**07 58 36.6**	**+0.3**
GCAM				*i* IAML		07 58 41.0	
	comp=E,1μm,0.2s						
GCAM				S	**Sb**	**07 58 41.2**	**-0.3**
GCAM				*i* IAML		07 58 43.0	
	comp=N,686nm,0.2s						
GMLD	**Gumuldur**	**0.33**	**357**	Pg	**Pg**	**07 58 37.9**	**0.0**
DDIM	**Aydin, Didim**	**0.38**	**140**	P	**Pg**	**07 58 39.0**	**+0.3**
DDIM				S	**Sb**	**07 58 45.5**	**0.0**
DDIM				*i* IAML		07 58 46.0	
	comp=N,339nm,0.6s						
DDIM				*i* IAML		07 58 46.0	
	comp=E,393nm,0.4s						
DIDI	**Didim-Aydin**	**0.44**	**147**	Pg	**Pg**	**07 58 39.4**	**-0.5**
ZEYE	**Izmir, Urla-Ze**	**0.60**	**325**	P	**Pg**	**07 58 42.5**	**-0.3**
ZEYE				S	**Sg**	**07 58 50.8**	**0.0**
ZEYE				*i* IAML		07 58 53.0	
	comp=N,575nm,0.4s						
ZEYE				*i* IAML		07 58 54.0	
	comp=E,203nm,0.6s						
BLCB	**Balcova**	**0.64**	**7**	Pg	**Pg**	**07 58 43.5**	**-0.2**
BLCB	**Balcova**	**0.64**	**7**	P	**Pg**	**07 58 43.6**	**-0.2**
BLCB				S	**Sb**	**07 58 52.5**	**-0.6**
URLA	**Izmir**	**0.67**	**336**	Pg	**Pg**	**07 58 43.7**	**-0.5**
URLA				Sg	**Sb**	**07 58 53.7**	**-0.2**
URLA	**Izmir**	**0.67**	**336**	P	**Pg**	**07 58 42.9**	**-1.3**
URLA				S	**Sb**	**07 58 53.7**	**-0.2**
URLA				*i* IAML		07 58 56.0	
	comp=E,138nm,0.3s						
URLA				*i* IAML		07 58 58.0	
	comp=N,246nm,0.3s						
YKAV	**Yalikavak-Bodr**	**0.68**	**156**	Pg	**Pg**	**07 58 43.5**	**-0.9**
BODT	**Bodrum**	**0.75**	**156**	Pg	**Pg**	**07 58 44.9**	**-0.7**
BODT				Sg	**Sg**	**07 58 55.5**	**+0.1**
BODT	**Bodrum**	**0.75**	**156**	P	**Pg**	**07 58 45.8**	**+0.1**
BODT				S	**Sb**	**07 58 57.3**	**+1.2**
AYDN	**Tasoluk**	**0.75**	**96**	P	**Pg**	**07 58 45.7**	**-0.1**
AYDN				S	**Sg**	**07 58 55.7**	**+0.1**
AYDN				*i* IAML		07 59 00.0	
	comp=N,82nm,0.3s						
AYDN				*i* IAML		07 59 00.0	
	comp=E,96nm,0.4s						
AYDB	**Zeytinkoy-Aydi**	**0.78**	**75**	Pg	**Pb**	**07 58 46.8**	**+0.1**
BDRM	**Kayabasi**	**0.79**	**149**	P	**Pg**	**07 58 45.6**	**-0.9**
BDRM				S	**Sb**	**07 58 57.9**	**+0.5**
BDRM				*i* IAML		07 59 01.0	
	comp=E,128nm,0.3s						
MLSB	**Milas**	**0.81**	**124**	Pg	**Pg**	**07 58 46.6**	**-0.2**
IZMR	**zmir-demi**	**0.89**	**64**	P	**Pg**	**07 58 48.4**	**-0.1**
IZMR				S	**Sg**	**07 58 58.6**	**-1.4**
IZMR				*i* IAML		07 59 02.0	
	comp=N,51nm,0.5s						
IZMR				*i* IAML		07 59 04.0	
	comp=E,36nm,0.5s						
CHOS	**Chios island**	**0.94**	**313**	Pg	**Pg**	**07 58 48.8**	**-0.6**
CHOS				Sg	**Sb**	**07 59 02.1**	**+0.2**
CHOS	**Chios island**	**0.94**	**313**	P	**Pb**	**07 58 49.5**	**+0.1**
CHOS				S	**Sb**	**07 59 02.7**	**+0.8**
FOCM	**Foa**	**0.98**	**351**	Pg	**Pb**	**07 58 50.0**	**+0.1**
KARB	**zmir-Karabur**	**1.00**	**336**	P	**Pg**	**07 58 49.0**	**-1.6**
KARB				S	**Sn**	**07 59 05.0**	**+0.1**
KARB				*i* IAML		07 59 06.0	
	comp=N,109nm,0.3s						
KARB				*i* IAML		07 59 07.0	
	comp=E,88nm,1.1s						
ODEM	**Odemis-Izmir**	**1.04**	**59**	Pn	**Pb**	**07 58 51.5**	**+0.4**
NAZL	**Nazilli-Aydin**	**1.09**	**78**	Pn	**Pb**	**07 58 52.3**	**+0.3**
ESEN	**Aydn-Nazilli**	**1.12**	**87**	P	**Pg**	**07 58 51.9**	**-0.9**
ESEN				S	**Sb**	**07 59 08.1**	**+1.3**
ESEN				*i* IAML		07 59 12.0	
	comp=N,24nm,0.6s						
ESEN				*i* IAML		07 59 12.0	
	comp=E,25nm,0.4s						
DAT	**Datca**	**1.14**	**153**	Pn	**Pg**	**07 58 51.9**	**-1.2**
YAZI	**Mula-Dat§a-**	**1.14**	**159**	P	**Pb**	**07 58 53.0**	**+0.3**
YAZI				S	**Sn**	**07 59 08.9**	**+0.6**
YAZI				*i* IAML		07 59 12.0	
	comp=N,26nm,0.4s						
YAZI				*i* IAML		07 59 14.0	
	comp=E,35nm,0.3s						
MULA	**Mugla, Merkez-**	**1.21**	**114**	P	**Pg**	**07 58 52.9**	**-1.5**
MULA				S	**Sg**	**07 59 09.7**	**-0.4**
MULA				*i* IAML		07 59 12.0	
	comp=N,20nm,0.8s						
MULA				*i* IAML		07 59 17.0	
	comp=E,30nm,0.6s						
ZEDA	**zmir-Bergama**	**1.22**	**5**	P	**Pn**	**07 58 56.0**	**+2.1**
ZEDA				S	**Sb**	**07 59 10.6**	**+0.8**
ZEDA				*i* IAML		07 59 15.0	
	comp=E,36nm,0.4s						
ZEDA				*i* IAML		07 59 44.0	
	comp=N,54nm,1.5s						
GOMA	**Golmarmara-Man**	**1.23**	**39**	Pn	**Pb**	**07 58 54.4**	**+0.1**
IZMD	**zmir-Dikili-**	**1.23**	**360**	P	**Pg**	**07 58 53.8**	**-1.2**
IZMD				S	**Sn**	**07 59 11.1**	**+0.3**
IZMD				*i* IAML		07 59 15.0	
	comp=N,17nm,0.7s						
IZMD				*i* IAML		07 59 15.0	
	comp=E,24nm,0.4s						
KIRA	**zmir-Kiraz**	**1.24**	**68**	P	**Pg**	**07 58 53.8**	**-1.2**
KIRA				S	**Sg**	**07 59 10.7**	**-0.6**
KIRA				*i* IAML		07 59 14.0	
	comp=E,21nm,0.6s						
KIRA				*i* IAML		07 59 18.0	
	comp=N,22nm,0.8s						
TURN	**Turunc**	**1.43**	**133**	Pn	**Pn**	**07 58 56.3**	**-0.4**
SOMA	**Soma-Manisa**	**1.48**	**18**	Pn	**Pn**	**07 58 57.8**	**+0.3**
GORD	**Gordes-Manisa**	**1.52**	**40**	Pn	**Pn**	**07 58 58.2**	**+0.2**
KULA	**Kula-Manisa**	**1.56**	**60**	Pn	**Pn**	**07 58 59.4**	**+0.7**
PRK	**Paraskevi**	**1.58**	**341**	P	**Pn**	**07 58 59.6**	**+0.7**
PRK				S	**Sb**	**07 59 20.8**	**+0.6**
DALY	**Dalyan (Mula)**	**1.66**	**124**	Pn	**Pn**	**07 58 59.6**	**-0.3**
SIGR	**SIGRI**	**1.69**	**330**	Pn	**Pn**	**07 59 00.4**	**0.0**
SIGR	**SIGRI**	**1.69**	**330**	P	**Pb**	**07 59 01.9**	**-0.2**
BUHA	**Balikesir, Bur**	**1.75**	**4**	P	**Pb**	**07 59 03.6**	**+0.4**
BUHA				*i* IAML		07 59 31.0	
	comp=N,35nm,1.0s						
BUHA				*i* IAML		07 59 36.0	
	comp=E,32nm,0.7s						
APMY	**Acipayam-Deniz**	**1.90**	**98**	Pn	**Pn**	**07 59 03.9**	**+0.6**

*MOS **26** 08:12:52.9, 41.°09N×49.°77E, h15km, MPVA3.9*
*AZER **26** 08:12:54.8, 40.°97N×49.°77E, h60km, ml2.5*
*DRS **26** 08:12:56.8, 41.°20N×49.°82E, h39km*

ISC 26 08:12:55.5±1.6, 40.°97N±0.°04×49.°71E±0.°05, h13km±10km, n29, σ1§35/50, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDR	**Nardaran**	**0.44**	**151**	P	**Pn**	**08 13 07.9**	**+0.4**
NDR				S	**Sn**	**08 13 16.9**	**+1.7**
GOBA	**Gobu**	**0.56**	**178**	S	**Sn**	**08 13 19.6**	**+1.2**
ATGJ	**Altiaghaj**	**0.59**	**260**	P	**Pn**	**08 13 10.4**	**+0.8**
ATGJ				S	**Sn**	**08 13 22.8**	**+3.6**
SIZA	**Siyzn**	**0.62**	**280**	P	**Pn**	**08 13 10.3**	**+0.2**
SIZA				S	**Sn**	**08 13 21.8**	**+1.9**
GBS	**Qobustan**	**0.72**	**234**	P	**Pn**	**08 13 11.8**	**+0.4**
GBS				S	**Sn**	**08 13 23.7**	**+1.3**
PQL	**Pirkuli**	**0.86**	**259**	P	**Pn**	**08 13 13.2**	**-0.3**
PQL				S	**Sn**	**08 13 28.9**	**+2.9**
QUBA	**Quba, Azerbaij**	**1.00**	**293**	P	**Pb**	**08 13 14.6**	**0.0**
QUBA				S	**Sn**	**08 13 30.2**	**+1.1**
IML	**Ismayilli**	**1.17**	**262**	Pn	**Pg**	**08 13 18.1**	**+0.1**
IML				Sn	**Sn**	**08 13 35.4**	**+2.0**
XNQ	**Khinaliq**	**1.20**	**280**	Pn	**Pg**	**08 13 18.6**	**-0.1**
XNQ				Sn	**Sn**	**08 13 36.7**	**+2.2**
QSAR	**Qusar**	**1.22**	**297**	Pn	**Pn**	**08 13 18.3**	**0.0**
QSAR				Sn	**Sg**	**08 13 34.8**	**0.0**
KDMR	**Kurdemir**	**1.30**	**244**	Sn	**Sg**	**08 13 38.8**	**+1.4**
KSMR	**Kasumkent**	**1.35**	**299**	*e*Pg	**Pn**	**08 13 19.3**	**-0.8**
KSMR				*e*Sg	**Sg**	**08 13 39.1**	**+0.1**
QBL	**Gabala**	**1.42**	**270**	Sn	**Sb**	**08 13 39.9**	**+0.1**
DRN	**Derbent**	**1.48**	**316**	*e*Pg	**Pn**	**08 13 20.7**	**-1.1**
DRN				*e*Sg	**Sn**	**08 13 40.5**	**-0.5**
AKT	**Akhty**	**1.58**	**290**	*e*Pg	**Pn**	**08 13 23.0**	**-0.3**
AKT				*e*Sg	**Sb**	**08 13 44.2**	**-0.2**
BLQ	**Beylaqan**	**2.06**	**234**	Pg	**Pb**	**08 13 31.8**	**-0.9**
BLQ				Sn	**Sn**	**08 13 55.1**	**-0.2**
AGDM	**Agdam**	**2.16**	**247**	Pn	**Pn**	**08 13 30.6**	**-0.6**
AGDM				Sn	**Sn**	**08 13 58.3**	**+0.6**
KMKR	**Kumukh**	**2.28**	**302**	*e*Pn	**Pn**	**08 13 32.0**	**-1.0**
KMKR				*e*Sn	**Sn**	**08 14 02.0**	**+1.0**
YRD	**Yardimli**	**2.34**	**209**	Sn	**Sn**	**08 14 01.1**	**-1.3**
ZKTA	**Zakatala**	**2.42**	**287**	Sn	**Sn**	**08 14 03.5**	**-0.7**
GNBR	**Gunib**	**2.50**	**306**	*e*Pn	**Pn**	**08 13 35.1**	**-0.7**
GNBR				*e*Sn	**Sn**	**08 14 08.2**	**+1.9**
ASTR	**Astara**	**2.50**	**197**	Sn	**Sn**	**08 14 05.2**	**-1.0**
LRK	**Lerik**	**2.55**	**205**	Sn	**Sn**	**08 14 06.8**	**-0.8**
GANJ	**Ganja**	**2.59**	**264**	Pn	**Pn**	**08 13 36.6**	**-0.4**
GANJ				Sn	**Sn**	**08 14 05.8**	**-2.7**
ARKR	**Arakani**	**2.61**	**310**	*e*Pn	**Pn**	**08 13 36.1**	**-1.2**
ARKR				*e*Sn	**Sn**	**08 14 10.3**	**+1.5**
XNZR	**Khunzakh**	**2.74**	**306**	*e*Pn	**Pn**	**08 13 38.6**	**-0.7**
XNZR				*e*Sn	**Sn**	**08 14 14.2**	**+1.8**
UNCR	**Uncukul**	**2.79**	**310**	*e*Pn	**Pn**	**08 13 39.0**	**-0.8**
UNCR				*e*Sn	**Sn**	**08 14 14.8**	**+1.4**
GDB	**GEDABAY**	**3.01**	**267**	Pn	**Pn**	**08 13 41.7**	**-1.3**
GDB				Sn	**Sn**	**08 14 16.8**	**-2.2**
QZX	**Qazax, Azerbai**	**3.28**	**273**	Sn	**Sn**	**08 14 23.8**	**-1.7**

*IDC **26** 08:13:18.2±6.6, 22.°38S×179.°44W, h496km±79km, mb3.3/8, mbtmp4.2/9, Error ellipse: s-maj=29.7km s-min=22.5km az=34.0*

ISC 26 08:13:24.8±0.9, 22.°6S±0.°2×179.°5W±0.°2, h579km, n50, σ1§91/49, mb3.8/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUZ	**Omahuta**	**13.94**	**204**	P	**P**	**08 16 23.6**	**+0.5**
WCZ	**Waipu Caves**	**14.33**	**201**	P	**P**	**08 16 27.4**	**+0.5**
KUZ	**Kuaotunu**	**14.69**	**195**	P	**P**	**08 16 29.6**	**-0.7**
MKAZ	**Moumakai**	**15.17**	**197**	P	**P**	**08 16 34.8**	**-0.2**
HAZ	**Te Kaha**	**15.28**	**188**	P	**P**	**08 16 33.5**	**-2.5**
PKGZ	**Pakihiroa**	**15.35**	**187**	P	**P**	**08 16 35.7**	**-1.0**
RUGZ	**Raukumara Rang**	**15.50**	**188**	P	**P**	**08 16 36.2**	**-2.1**
TGRZ	**Tauranga**	**15.51**	**193**	P	**P**	**08 16 39.2**	**+1.0**
PUZ	**Puketiti**	**15.53**	**187**	P	**P**	**08 16 38.0**	**-0.5**
TWGZ	**Tauwhareparae**	**15.67**	**187**	P	**P**	**08 16 39.0**	**-0.8**
URZ	**Urewera**	**15.87**	**190**	P	**P**	**08 16 39.3**	**-2.4**
	8.4nm,0.3s,baz=273,slow=3.5,SNR=23						
URZ	**Urewera**	**15.87**	**190**	P	**P**	**08 16 38.5**	**-3.2**
MWZ	**Matawai**	**15.88**	**189**	P	**P**	**08 16 39.3**	**-2.5**
TKGZ	**Te Karaka**	**15.94**	**188**	P	**P**	**08 16 41.6**	**-0.8**
RAGZ	**Rawiri**	**16.05**	**189**	P	**P**	**08 16 40.7**	**-2.8**
MUGZ	**Murupara**	**16.14**	**191**	P	**P**	**08 16 41.5**	**-2.7**
HRRZ	**Handcock Road**	**16.14**	**192**	P	**P**	**08 16 43.5**	**-0.8**
RTZ	**Ruatahuna**	**16.24**	**190**	P	**P**	**08 16 42.1**	**-3.1**
SNGZ	**Shannon Statio**	**16.35**	**189**	P	**P**	**08 16 43.5**	**-2.6**
MTHZ	**Maungataniwha**	**16.49**	**190**	P	**P**	**08 16 45.4**	**-2.0**
RAHZ	**Arahi**	**16.52**	**189**	P	**P**	**08 16 45.2**	**-2.4**
MRHZ	**Matea Rd**	**16.55**	**191**	P	**P**	**08 16 45.1**	**-2.9**
RATZ	**Rangitukua**	**16.70**	**193**	P	**P**	**08 16 47.9**	**-1.4**
NMHZ	**Naumai**	**16.74**	**190**	P	**P**	**08 16 48.0**	**-1.7**
RITZ	**Rihia Road**	**16.79**	**193**	P	**P**	**08 16 49.3**	**-0.8**
BKZ	**Black Stump Fm**	**16.86**	**191**	P	**P**	**08 16 48.0**	**-2.7**
TMVZ	**Te Maari**	**16.96**	**193**	P	**P**	**08 16 49.9**	**-1.8**
ETVZ	**East Tongariro**	**16.98**	**193**	P	**P**	**08 16 50.0**	**-1.9**
NNVZ	**North Ngauruho**	**16.99**	**193**	P	**P**	**08 16 51.1**	**-1.0**
OTVZ	**Oturere**	**17.01**	**193**	P	**P**	**08 16 50.2**	**-2.1**
NGZ	**Ngauruhoe**	**17.04**	**193**	P	**P**	**08 16 51.7**	**-0.8**
KWHZ	**Kaweka Forest**	**17.12**	**191**	P	P	08 16 45.6	-7.5
VRZ	**Vera Road**	**17.18**	**195**	P	**P**	**08 16 54.9**	**+1.2**
WNVZ	**Wahianoa**	**17.18**	**193**	P	**P**	**08 16 51.7**	**-2.2**
PKVZ	**Pokaka**	**17.20**	**194**	P	**P**	**08 16 52.0**	**-1.9**
MOVZ	**Moawhango**	**17.23**	**193**	P	**P**	**08 16 52.2**	**-2.0**
KRHZ	**Kereru**	**17.34**	**191**	P	**P**	**08 16 52.3**	**-2.9**
KAHZ	**Kahuranaki**	**17.41**	**189**	P	**P**	**08 16 54.5**	**-1.2**
NETZ	**North Egmont**	**17.49**	**197**	P	**P**	**08 16 59.5**	**+2.9**
PNHZ	**Pukehui**	**17.64**	**191**	P	**P**	**08 16 55.2**	**-2.6**
DVHZ	**Dannevirke**	**18.02**	**191**	P	**P**	**08 16 59.4**	**-1.9**
BFZ	**Birch Farm**	**18.38**	**190**	P	**P**	**08 17 02.8**	**-1.7**
STKA	**Stephens Creek**	**35.66**	**246**	P	**P**	**08 19 35.6**	**+0.2**
	5.8nm,0.6s,baz=95,slow=11,SNR=18						
	5.8nm,0.6s						
ASAR	**Alice Springs**	**42.74**	**259**	P	**P**	**08 20 31.7**	**-0.6**
	6.0nm,0.7s,baz=102,slow=7.5,SNR=82						
	6.0nm,0.7s						
WRA	**Warramunga Arr**	**42.99**	**265**	P	**P**	**08 20 33.1**	**-1.2**
	3.0nm,0.7s,baz=96,slow=8.3,SNR=66						
	3.0nm,0.7s						
VNDA	**Vanda**	**55.70**	**185**	P	**P**	**08 22 08.1**	**+1.4**
	0.6nm,0.7s,baz=353,slow=8.6,SNR=6.9						
	0.6nm,0.7s						
QSPA	**South Pole Qui**	**67.46**	**180**	P	**P**	**08 23 24.9**	**+1.4**
	0.9nm,0.8s,baz=68,slow=3.4,SNR=3.7						
	0.9nm,0.8s						
NVAR	**Mina Array Bea**	**83.49**	**44**	P	**P**	**08 24 53.1**	**+0.4**
	1.4nm,0.9s,baz=221,slow=8.9,SNR=7.5						
	1.4nm,0.9s						
TXAR	**Lajitas Array**	**89.34**	**58**	P	**P**	**08 25 21.6**	**+1.0**
	1.1nm,0.9s,baz=210,slow=6.5,SNR=14						
	1.1nm,0.9s						
PDAR	**Pinedale Array**	**91.43**	**44**	P	**P**	**08 25 28.7**	**-1.4**
	0.8nm,0.9s,baz=199,slow=3.1,SNR=5.7						
	0.8nm,0.9s						

*IDC **26** 08:13:45.8±0.6, 20.°66N×121.°93E, h0km, mb4.4/25, mbtmp4.5/29, ML4.4/4, MS3.8/45, Error ellipse: s-maj=17.5km s-min=12.9km az=78.0*
*NIED **26** 08:13:47.8, 20.°87N×121.°92E, h23km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr=0.25; Mθθ=1.00; Mφφ=-0.75; Mrθ=0.70; Mrφ=-0.82; Mθφ=0.06; Fault plane solution: M0=1.37000×10^16 NP1: φs=158.00000°, δ=60.00000°, λ=-1.00000°. NP2: φs=248.00000°, δ=89.00000°, λ=-150.00000°.*
*JMA **26** 08:13:47.6±0.4, 21.°N±2.°×12.°2E±.°, h17km, MV4.9/20, PHILIPPINE ISL REGION*
*NEIC **26** 08:13:48.7±2.2, 20.°76N±0.°06×121

comp=N,2µm,13.7s
GZH LR LR
comp=E,750nm,12.1s
JOW Kunigami 8.36 43 **Pn** **Pn** **08 15 48.5 -0.9**
JOW Kunigami 8.36 43 Pn **Pn** **08 15 47.7 -1.8**
9.2nm,0.3s,baz=196,slow=11,SNR=41
JOW Sn **Sn** **08 17 19.0 -5.0**
baz=170,slow=30
24nm,0.3s
JOW Kunigami 8.36 43 P **Pn** **08 15 48.6 -0.9**
JOW Kunigami 8.36 43 P **Pn** **08 15 48.5 -0.9**
JOKE Okinoerabujima 8.92 41 P **Pn** **08 15 55.6 -1.5**
JTK Tokunoshima 9.46 41 *e*P **Pn** **08 16 02.5 -2.1**
JMZ Minamidaito 2 9.89 58 Pn **Pn** **08 16 11.1 +0.7**
SSE Sheshan 10.30 356 P **Pn** **08 16 15.5 -0.6**
SSE S **Sn** **08 18 11.3 -0.4**
SSE pmax pmax
comp=Z,7.0nm,0.8s
SSE pmax pmax
comp=Z,78nm,4.7s
SSE LR LR
comp=N,130nm,15.1s
SSE LR LR
comp=E,370nm,14.5s
JTAJ Takarajima 10.62 37 *e*P **Pn** **08 16 18.6 -1.9**
QIZ Qiongzhong 11.52 263 P **Pn** **08 16 29.3 -3.6**
QIZ S **Sn** **08 18 41.5 -0.2**
QIZ smax smax
comp=N,9.0nm,1.3s
QIZ smax smax
comp=E,6.0nm,1.1s
QIZ LR LR
comp=N,490nm,12.2s
QIZ LR LR
comp=E,180nm,13.4s
QIZ LR LR
comp=Z,700nm,12.4s
NJ2 Nanjing 11.57 347 *e*P **Pn** **08 16 34.5 +1.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 LR LR
comp=Z,550nm,13.7s
NJ2 LR LR
comp=Z,1µm,13.7s
NJ2 LR LR
comp=Z,610nm,16.1s
DAV Davao City (W) 14.07 165 LR LR 08 23 04.2
comp=Z,692nm,18.4s,baz=352,slow=40
JNU Nakatsue 14.64 31 **Pn** **08 17 13.5 -2.0**
JNU Nakatsue 14.64 31 Pn **Pn** **08 17 13.7 -1.8**
comp=Z,0.6nm,0.3s,baz=161,slow=7.8,SNR=8.9
JNU LR LR 08 22 52.3
comp=Z,421nm,21.2s,baz=198,slow=37
comp=Z,18nm,0.9s
JNU Nakatsue 14.64 31 P **Pn** **08 17 14.0 -1.5**
KKM Kota Kinabalu 15.66 202 **Pn** **08 17 29.7 +0.5**
KKM IAmb IAmb 08 17 36.2
comp=Z,42nm,1.1s
KKM Kota Kinabalu 15.66 202 P **P** **08 17 34.7 +1.3**
TIA Tai'an 15.95 346 P **P** **08 17 35.5 -0.9**
TIA pmax pmax
comp=Z,15nm,0.7s
TIA LR LR
comp=Z,300nm,15.1s
TIA LR LR
comp=Z,460nm,13.4s
LYN LuoYang 16.08 331 *e*P **Pn** **08 17 35.5 +1.1**
LYN sP sP 08 17 42.0 +0.4
LYN PP **PnPn** **08 17 47.0 +3.7**
LYN pmax pmax
comp=Z,19nm,0.7s
LYN pmax pmax
comp=Z,150nm,3.5s
LYN LR LR
comp=Z,1µm,14.8s
LYN LR LR
comp=Z,2µm,15.1s
LYN LR LR
comp=Z,420nm,10.6s
TJN Taejon 16.25 16 **Pn** **08 17 36.7 +0.1**
TJN Taejon 16.25 16 P **Pn** **08 17 38.5 +1.9**
SLVN Son La 16.86 275 **Pn** **08 17 44.3 -0.2**
SLVN Son La 16.86 275 P **P** **08 17 47.6 +1.0**
INCN Inchon 17.14 13 **Pn** **08 17 48.2 +0.3**
INCN IAmb IAmb 08 17 54.7
comp=Z,64nm,0.8s
INCN Inchon 17.14 13 P **P** **08 17 49.7 +0.1**
KSAR Wonju Array Be 17.39 16 P **Pn** **08 17 51.2 +0.2**
KSRS Korea Array 17.41 16 P **Pn** **08 17 51.2 0.0**
comp=Z,1.4nm,0.3s,baz=194,slow=11,SNR=32
comp=Z,30nm,0.8s
KS19 Wonju Array Si 17.45 16 P **Pn** **08 17 51.8 +0.1**
KS19 IAmb IAmb 08 17 55.3
comp=Z,41nm,0.8s
XAN Xi'an 17.54 322 P **P** **08 17 55.0 +1.0**
XAN pmax pmax
comp=Z,26nm,1.1s
XAN LR LR
comp=Z,870nm,15.1s
XAN LR LR
comp=Z,760nm,17.9s
XAN LR LR
comp=Z,940nm,15.1s
HNS HongShan 17.73 341 ⇑P **P** **08 17 57.3 +1.3**
HNS S **Sn** **08 21 13.3 +0.6**
HNS pmax pmax
comp=Z,42nm,1.0s
HNS LR LR
comp=Z,640nm,11.9s
HNS LR LR
comp=Z,530nm,14.1s
HNS LR LR
comp=Z,820nm,13.5s
DL2 Dalian 18.07 359 P **Pn** **08 17 57.3 -2.1**
DL2 S **Sn** **08 21 17.8 -3.3**
DL2 pmax pmax
comp=Z,29nm,0.4s
DL2 pmax pmax
comp=Z,120nm,5.3s
DL2 LR LR
comp=Z,440nm,13.8s
DL2 LR LR
comp=Z,460nm,12.7s
DL2 LR LR
comp=Z,800nm,19.6s
KMI Kunming 18.21 287 P **P** **08 18 04.5 +2.8**
KMI pmax pmax
comp=Z,14nm,1.6s
KMI LR LR
comp=Z,350nm,10.7s
KMI LR LR
comp=Z,290nm,14.7s
KMI LR LR
comp=Z,300nm,11.6s
PZH PanZhiHua 19.36 291 P **Pn** **08 18 16.5 +1.1**
PZH S **Sn** **08 21 45.8 -6.9**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH LR LR
comp=Z,400nm,13.9s
PZH LR LR
comp=Z,340nm,13.1s
PZH LR LR
comp=Z,330nm,13.5s
TOLI2 Tolitoli 19.57 183 **P** **08 18 16.9 +0.4**
TOLI2 Tolitoli 19.57 183 P **Pn** **08 18 22.3 +4.5**
INU Inuyama 19.65 39 P **Pn** **08 18 20.2 +1.6**
BJT Baijiatuau 19.81 347 **P** **08 18 18.5 -0.4**
BJT IAmb IAmb 08 18 27.7
comp=Z,34nm,0.9s
JGF Kuroka 20.02 39 P **P** **08 18 22.6 +1.3**
JGF IAmb IAmb 08 18 25.6
comp=Z,27nm,0.8s
JGF Kuroka 20.02 39 P Pn 08 18 24.0 +0.9
JHJ Hachijo jima 2 20.06 49 LR LR 08 25 49.3
comp=Z,174nm,18.3s,baz=100,slow=36
MPSI Mapaga 20.41 186 P Pn 08 18 33.9 +6.3
comp=Z,30nm,0.9s
SBUM Sibu 20.54 209 P **P** **08 18 27.6 +0.7**
SBUM IAmb IAmb 08 18 35.4
comp=Z,54nm,1.2s
MAJO Matsushiro 21.17 39 P **P** **08 18 35.2 +1.5**
MAJO Matsushiro 21.17 39 P **P** **08 18 36.2 +2.5**
MJAR Matsushiro Ar 21.17 39 P **P** **08 18 32.5 -1.3**
MJAR Matsushiro Ar 21.17 39 P **P** **08 18 35.3 +1.6**
comp=Z,16nm,0.9s,baz=231,slow=9.8,SNR=26
comp=Z,16nm,0.9s
MJB9 Matsu-Tunnel 21.17 39 P **P** **08 18 35.2 +1.5**
APSI Ampana 21.55 181 P P 08 18 45.6 +7.7
comp=Z,81nm,1.2s
CHTO Chiang Mai 21.73 269 P **P** **08 18 39.8 -0.1**
CHTO Chiang Mai 21.73 269 P **P** **08 18 41.0 +1.1**
CM31 Chiang Mai Arr 21.79 268 P **P** **08 18 41.7 +1.2**
CMAR Chiang Mai Arr 21.79 268 P **P** **08 18 40.8 +0.2**
CMAR Chiang Mai Arr 21.79 268 P **P** **08 18 39.9 -0.7**
comp=Z,9.1nm,0.9s,baz=72,slow=9.3,SNR=47
CMAR LR LR 08 26 54.5
comp=Z,96nm,18.8s,baz=85,slow=36
comp=Z,9.1nm,0.9s
HHC Hu-ho-hao-te 21.88 338 *e*P **P** **08 18 42.3 +0.9**
HHC PP **PnPn** **08 19 09.3 +6.5**
HHC S **S** **08 22 38.3 -4.9**
HHC sS sS 08 22 44.8 -2.7
HHC SS **SnSn** **08 23 14.8 +6.3**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,82nm,5.0s
HHC LR LR
comp=Z,470nm,13.3s
HHC LR LR
comp=Z,450nm,13.1s
HHC LR LR
comp=Z,430nm,13.5s
TNCH TengChong 21.99 286 P **P** **08 18 44.5 +1.7**
TNCH sP sP 08 18 48.3 +1.4
TNCH pmax pmax
comp=Z,140nm,1.4s
LZH Lanzhou 22.00 318 *e*P **P** **08 18 43.8 +1.0**
LZH pP sP 08 18 48.0 +1.1
LZH sP pP 08 18 51.5 +5.9
LZH PP **PnPn** **08 19 06.3 +1.8**
LZH S **S** **08 22 46.5 +0.8**
LZH pmax pmax
comp=Z,26nm,1.5s
LZH pmax pmax
comp=Z,52nm,4.3s
LZH LR LR
comp=Z,520nm,14.3s
LZH LR LR
comp=Z,600nm,15.2s
LZH LR LR
comp=Z,670nm,17.1s
BTO Baotou 22.23 335 *e*P **P** **08 18 48.5 +3.3**
BTO pP **sP** **08 18 52.8 +3.8**
BTO sP pP 08 18 55.8 +8.0
BTO S **S** **08 22 49.3 -0.7**
BTO sS **sS** **08 22 56.0 +1.7**
BTO pmax pmax
comp=Z,20nm,0.8s
BTO pmax pmax
comp=Z,260nm,6.5s
BTO LR LR
comp=Z,1µm,16.0s
BTO LR LR
comp=Z,2µm,15.3s
BTO LR LR
comp=Z,2µm,12.9s
JSD Sado 22.25 36 P **P** **08 18 45.7 +0.4**
KSM Kuching 22.30 212 P **P** **08 18 46.6 +0.7**
KSM IAmb IAmb 08 19 08.4
comp=Z,23nm,1.1s
KSM Kuching 22.30 212 P **P** **08 18 50.9 +5.0**
GUMO Guam 23.01 104 LR LR 08 25 41.5
comp=Z,109nm,20.4s,baz=240,slow=31
XLT XiLinHaoTe 23.58 349 *e*P **P** **08 18 57.5 -1.6**
XLT sP sP 08 19 05.5 +2.5
XLT S **S** **08 23 08.3 -5.1**
XLT SS **SnSn** **08 23 55.5 +5.5**
XLT pmax pmax
comp=Z,11nm,0.8s
XLT pmax pmax
comp=Z,63nm,3.7s
XLT LR LR
comp=Z,430nm,17.9s
XLT LR LR
comp=Z,200nm,15.7s
TTSI Tana Toraja 23.76 185 P P 08 19 10.2 +9.2
comp=Z,37nm,1.0s
NLAI Namlea 24.39 167 P P 08 19 16.7 +10
SPSI Sidrap Palu 24.68 185 P P 08 19 19.1 +10
comp=Z,19nm,0.7s
USA0B Ussuriysk Arra 24.81 17 P **P** **08 19 10.5 +0.1**
USA0B IAmb IAmb 08 19 15.3
comp=Z,15nm,0.9s
USRK Ussuriysk Ar. 24.81 17 **P** **08 19 09.9 -0.5**
USRK Ussuriysk Ar. 24.81 17 P **P** **08 19 11.9 +1.5**
comp=Z,13nm,0.8s,baz=206,slow=8.8,SNR=15
USRK LR LR 08 29 15.3
comp=Z,199nm,19.1s,baz=192,slow=37
comp=Z,13nm,0.8s
BNSI Bone 25.08 184 P **P** **08 19 19.1 +6.0**
comp=Z,25nm,1.2s
BNX BinXian 25.30 9 ⇓P **P** **08 19 16.3 +1.4**
BNX pP **sP** **08 19 19.0 0.0**
BNX sP **pP** **08 19 20.3 +2.5**
BNX S **S** **08 23 41.0 +0.2**
BNX sS **sS** **08 23 46.8 +1.2**
BNX pmax pmax
comp=Z,14nm,0.8s
BNX LR LR
comp=Z,320nm,14.6s
BNX LR LR
comp=Z,290nm,16.3s
BNX LR LR
comp=Z,310nm,13.9s
KAPI Kappang 25.72 185 LR LR 08 30 54.9
comp=Z,186nm,19.9s,baz=7.0,slow=40
JTM Tenmabayashi 25.74 35 P **P** **08 19 18.1 -0.8**
MYKOM Kota Tinggi 25.84 225 P **P** **08 19 18.3 -1.8**
MYKOM IAmb IAmb 08 19 26.2
comp=Z,31nm,1.2s
IPM Ipoh 26.00 234 **P** **08 19 21.3 -0.2**
GTA Gaotai 26.56 319 *e*P **P** **08 19 27.8 +1.3**
GTA sP sP 08 19 33.8 +3.3
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA LR LR
comp=Z,220nm,13.8s
GTA LR LR
comp=Z,440nm,15.3s
GTA LR LR
comp=Z,420nm,14.9s
ERM Erimo 27.72 35 P **P** **08 19 38.0 +1.3**
ERM IAmb IAmb 08 19 44.9
comp=Z,16nm,0.8s
BRDH Bariadhala 28.20 279 LR LR 08 33 08.0
comp=Z,123nm,18.6s,baz=130,slow=41
GOMU GeErMu 28.25 309 P **P** **08 19 41.5 -0.5**
GOMU S **S** **08 24 27.3 -1.0**
GOMU pmax pmax
comp=Z,8.0nm,1.2s
GOMU pmax pmax
comp=Z,76nm,5.2s
GOMU LR LR
comp=Z,490nm,17.6s
GOMU LR LR
comp=Z,340nm,16.6s
GOMU LR LR
comp=Z,440nm,16.2s
PSI Prapat 28.68 235 LR LR 08 32 06.5
comp=Z,159nm,18.2s,baz=48,slow=38
RPSI Rantau Prapat 28.75 234 P **P** **08 19 47.8 +1.6**
ASAJ Asahikawa 28.92 32 LR LR 08 32 43.2
comp=Z,248nm,18.5s,baz=240,slow=39
JKA Kamikawa-asahi 28.92 32 P **P** **08 19 48.5 +1.1**
JKA IAmb IAmb 08 19 54.4
comp=Z,19nm,0.8s
EDFI Ende, Flores 29.34 181 P **P** **08 19 49.7 -1.8**
JAY Jayapura 29.55 139 LR LR 08 29 49.1
comp=Z,230nm,20.2s,baz=350,slow=33
ULN Ulaanbaatar 29.59 339 P **P** **08 19 52.8 -0.8**
ULN IAmb IAmb 08 20 01.4
comp=Z,8.1nm,0.7s
SONM Songino Array 29.78 339 P **P** **08 19 54.5 -0.7**
SONM Songino Array 29.78 339 P **P** **08 19 54.7 -0.5**
comp=Z,5.3nm,0.8s,baz=160,slow=9.9,SNR=13
SONM LR LR 08 32 40.8
comp=Z,171nm,18.4s,baz=140,slow=38
comp=Z,5.3nm,0.8s
BATI Baumata 30.83 177 LR LR 08 33 17.4
comp=Z,84nm,19.5s,baz=151,slow=38
YSS Yuzhno-Sakhali 31.12 28 P **P** **08 20 06.8 0.0**
EVN Everest 32.71 290 P **P** **08 20 21.8 0.0**
WMQ Urumqi 36.57 317 *e*P **P** **08 20 56.3 +1.9**
WMQ LR LR
comp=Z,260nm,24.1s
MKAR Makanchi Array 41.31 318 P **P** **08 21 33.7 -0.3**
MKAR Makanchi Array 41.31 318 P **P** **08 21 34.7 +0.7**
comp=Z,8.2nm,0.7s,baz=113,slow=9.7,SNR=75
MKAR LR LR 08 40 32.0
comp=Z,226nm,18.6s,baz=101,slow=39
comp=Z,8.2nm,0.7s
YAK Yakutsk 41.57 5 LR LR 08 41 49.7
comp=Z,154nm,18.0s,baz=180,slow=40
H11N1 WAKE ISLAND Hy 42.07 83 T T 09 06 40.2
baz=282,slow=75,SNR=156
H11N2 WAKE ISLAND Hy 42.08 83 T T 09 06 39.2
baz=282,slow=75,SNR=177
H11N3 WAKE ISLAND Hy 42.09 83 T T 09 06 41.6
baz=282,slow=75,SNR=133
WB0 Warramunga Arr 42.09 162 P **P** **08 21 38.5 -2.0**
H11S3 WAKE ISLAND Hy 42.10 85 T T 09 06 36.6
baz=281,slow=75,SNR=294
H11S1 WAKE ISLAND Hy 42.11 85 T T 09 06 37.5
baz=281,slow=75,SNR=281
H11S2 WAKE ISLAND Hy 42.12 85 T T 09 06 36.4
baz=281,slow=75,SNR=300
WRAB Tennant Creek 42.24 163 P **P** **08 21 40.0 -1.7**
WRA Warramunga Arr 42.24 163 P **P** **08 21 39.1 -2.7**
comp=Z,1.4nm,0.5s,baz=344,slow=8.9,SNR=12
comp=Z,1.4nm,0.5s
PEA0B Petropavlovsk- 42.34 32 P **P** **08 21 43.1 +0.8**
PEA0B IAmb IAmb 08 21 54.0
comp=Z,40nm,1.5s
PETK Petropavlovsk- 42.34 32 P **P** **08 21 42.9 +0.6**
PETK Petropavlovsk- 42.34 32 P **P** **08 21 43.3 +1.0**
comp=Z,10nm,0.8s,baz=224,slow=6.7,SNR=17
PETK LR LR 08 40 00.1
comp=Z,97nm,19.8s,baz=227,slow=37
comp=Z,10nm,0.8s
TARG Taragay, Kyrgy 42.57 310 P **P** **08 21 44.2 -0.6**
KSH Kashi 43.41 306 P **P** **08 21 52.5 +1.2**
KSH pmax pmax
comp=Z,5.0nm,0.8s
ZAA0 Zalesovo Array 43.50 329 P **P** **08 21 51.0 -0.7**
ZAA0 IAmb IAmb 08 22 01.3
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 43.50 329 P **P** **08 21 50.9 -0.8**
ZALV Zalesovo Beam 43.50 329 P **P** **08 21 51.4 -0.3**
comp=Z,7.8nm,0.6s,baz=104,slow=6.3,SNR=36
ZALV LR LR 08 41 45.3
comp=Z,126nm,18.4s,baz=122,slow=38
comp=Z,7.8nm,0.6s
NRN Naryn 43.81 309 P **P** **08 21 54.7 -0.1**
NRN IAmb IAmb 08 22 02.7
comp=Z,12nm,1.0s
MA2 Magadan 43.88 21 LR LR 08 40 42.2
comp=Z,104nm,19.1s,baz=200,slow=37
NIL Nilore 44.79 297 **P** **08 22 01.4 -1.0**
KURK Kurchatov 45.18 322 P **P** **08 22 05.3 +0.1**
KURK IAmb IAmb 08 22 06.9
comp=Z,9.0nm,0.8s
AAK Ala-Archa 45.18 310 LR LR 08 44 11.3
comp=Z,303nm,18.4s,baz=106,slow=40
KURBB Kurchatov Arra 45.19 322 P **P** **08 22 05.8 +0.6**
comp=Z,4.1nm,0.4s,baz=119,slow=7.5,SNR=29
comp=Z,4.1nm,0.4s
ASAR Alice Springs 45.68 165 P **P** **08 22 08.9 -0.5**
comp=Z,1.8nm,0.7s,baz=347,slow=8.3,SNR=18
comp=Z,1.8nm,0.7s
GAR Garm 47.66 304 P **P** **08 22 24.3 -0.7**
HNR Honiara 47.92 125 LR LR 08 39 13.6
comp=Z,64nm,20.6s,baz=319,slow=32
KK31 Karatay Array 48.14 310 P **P** **08 22 28.6 0.0**
KKAR Karatay Array 48.14 310 P **P** **08 22 28.3 -0.3**
KBL Kabul 48.33 298 P **P** **08 22 30.4 0.0**
BVAR Borovoye Array 50.77 322 P **P** **08 22 48.5 +0.1**
comp=Z,3.7nm,0.5s,baz=98,slow=11,SNR=21
BVAR PcP **PcP** **08 24 05.1 -0.3**
comp=Z,2.8nm,0.7s,baz=113,slow=3.7,SNR=3.6
BVAR LR LR 08 46 52.3
comp=Z,112nm,18.2s,baz=102,slow=39
comp=Z,3.7nm,0.5s
BRVK Borovoye 50.84 322 P **P** **08 22 49.2 +0.2**
BRVK IAmb IAmb 08 22 50.4
comp=Z,9.1nm,0.9s
SHEM Shemya Is, Ala 51.02 38 LR LR 08 44 15.6
comp=Z,23nm,21.2s,baz=124,slow=36
TIXI Tiksi 51.05 3 LR LR 08 47 10.5
comp=Z,259nm,18.3s,baz=185,slow=39
AMKA Amchitka 53.76 41 P **P** **08 23 11.5 +0.8**
STKA Stephens Creek 55.63 160 P **P** **08 23 22.9 -1.5**
comp=Z,3.7nm,0.7s,baz=331,slow=5.7,SNR=11
STKA LR LR 08 49 21.2
comp=Z,68nm,20.0s,baz=19,slow=38
comp=Z,3.7nm,0.7s
AKTO Aktyubinsk 57.72 317 LR LR 08 50 35.6
comp=Z,162nm,18.7s,baz=130,slow=38
ARTI Arti 58.35 324 P **P** **08 23 42.9 -0.6**
ARTI Arti 58.35 324 LR LR 08 48 27.6
comp=Z,72nm,18.9s,baz=100,slow=36
DZM Mont Dzumac 60.83 132 *e*LR LR 08 41 58.4
comp=Z,235nm,22.5s
BELG Belogornoye 64.31 319 LR LR 08 55 01.7
comp=Z,56nm,21.1s,baz=298,slow=38
L14K Kuka Creek 64.98 31 P **P** **08 24 29.4 +1.3**
N15K Kwethluk River 66.24 32 P **P** **08 24 37.4 +1.1**
G18K Tagagawik 66.91 26 P **P** **08 24 41.3 +0.9**
G18K IAmb IAmb 08 24 51.3
comp=Z,6.8nm,1.0s
G19K Purcell Mounta 67.55 26 P **P** **08 24 45.1 +0.6**
G19K IAmb IAmb 08 24 56.9
comp=Z,12nm,1.2s
D20K Etivluk River 67.72 23 P **P** **08 24 46.0 +0.5**
H19K Roundabout Mou 67.82 26 P **P** **08 24 46.9 +0.7**
KBZ Khabaz 68.18 310 P **P** **08 24 49.7 +0.9**
comp=Z,4.2nm,0.8s,baz=162,slow=11,SNR=4.7
KBZ LR LR 08 56 53.8
comp=Z,49nm,20.9s,baz=60,slow=38
comp=Z,4.2nm,0.8s
J19K Poorman 68.23 28 P **P** **08 24 49.3 +0.5**
J19K IAmb IAmb 08 24 57.4
comp=Z,8.9nm,1.2s
KIV Kislovodsk 68.30 310 P **P** **08 24 49.7 0.0**
comp=Z,17nm,0.9s
L19K White Mountain 68.69 30 P **P** **08 24 52.9 +1.1**
L19K IAmb IAmb 08 25 17.7
comp=Z,12nm,1.2s
J20K Nowinta River 68.87 28 P **P** **08 24 54.1 +1.3**
J20K IAmb IAmb 08 25 11.7
comp=Z,5.7nm,0.8s
K20K Telida 68.96 29 P **P** **08 24 54.7 +1.3**
K20K IAmb IAmb 08 25 19.4
comp=Z,12nm,1.2s
G21K Allakaket 68.98 25 P **P** **08 24 54.1 +0.6**
G21K IAmb IAmb 08 25 01.9
comp=Z,6.8nm,1.0s
RAYN Ar Rayn 70.05 288 P **P** **08 25 01.7 +0.8**
RAYN IAmb IAmb 08 25 02.2
comp=Z,9.4nm,1.1s
KDAK Kodiak Island 70.28 35 LR LR 08 57 44.6
comp=Z,20nm,20.0s,baz=235,slow=38
NEA2 Nenana 71.02 27 P **P** **08 25 06.8 +0.8**
NEA2 IAmb IAmb 08 25 12.4
comp=Z,5.9nm,0.8s
MCK McKinley 71.20 28 P **P** **08 25 08.6 +1.4**
MCK IAmb IAmb 08 25 20.0
comp=Z,8.6nm,0.9s
PMR Palmer 71.45 30 P **P** **08 25 08.3 -0.3**
PMR IAmb IAmb 08 25 10.7
comp=Z,8.2nm,1.1s
WRH Wood River Hil 71.45 27 P **P** **08 25 09.0 +0.4**
WRH IAmb IAmb 08 25 33.6
comp=Z,6.7nm,1.1s
ILAR Eielson Array 71.92 27 P **P** **08 25 10.7 -0.8**
comp=Z,0.6nm,0.7s,baz=284,slow=6.6,SNR=9.7
ILAR LR LR 08 59 18.9
comp=Z,46nm,18.0s,baz=258,slow=38
comp=Z,0.6nm,0.7s
PWL Port Wells 71.96 31 P **P** **08 25 11.5 -0.2**
SPITS Spitsbergen Ar 72.95 348 P **P** **08 25 16.8 -0.7**
comp=Z,2.4nm,0.5s,baz=90,slow=11,SNR=9.5
SPITS LR LR 09 01 55.6
comp=Z,102nm,18.4s,baz=58,slow=40
comp=Z,2.4nm,0.5s
ARCES ARCESS Array B 72.96 339 P **P** **08 25 16.5 -1.0**
comp=Z,2.5nm,0.8s,baz=72,slow=4.0,SNR=3.9
ARCES LR LR 09 00 36.5

comp=Z,66nm,18.4s,baz=100,slow=38
comp=Z,2.5nm,0.8s

SCRK	**Sand Creek**	**73.31**	**27**	P		**P**	**08 25 19.6**	**-0.3**
SCRK				IAmb		IAmb	08 25 43.5		

comp=Z,22nm,2.0s

BMRM	**Bremner River**	**73.72**	**30**			**P**	**08 25 21.6**	**-0.7**
BMRM				IAmb		IAmb	08 25 29.9		

comp=Z,8.7nm,1.0s

I28M	**Miner Creek**	**74.62**	**25**	P		**P**	**08 25 27.9**	**+0.4**
I28M				IAmb		IAmb	08 25 32.4		

comp=Z,24nm,1.9s

FINES	**FINESS Array B**	**74.74**	**330**	P		**P**	**08 25 27.2**	**-0.9**
FINES	**FINESS Array B**	**74.74**	**330**	P		**P**	**08 25 27.4**	**-0.7**

comp=Z,3.1nm,0.8s,baz=110,slow=8.3,SNR=9.8

FINES				LR		LR	09 03 52.0		

comp=Z,45nm,18.1s,baz=77,slow=40
comp=Z,3.1nm,0.8s

DAWY	**Dawson**	**75.24**	**27**	P		**P**	**08 25 31.5**	**+0.4**
DAWY				IAmb		IAmb	08 25 38.8		

comp=Z,4.3nm,0.8s

BRTR	**Keskin Array B**	**75.78**	**307**	P		**P**	**08 25 34.6**	**-0.1**
BRTR	**Keskin Array B**	**75.78**	**307**	P		**P**	**08 25 34.2**	**-0.5**

comp=Z,0.8nm,0.6s,baz=110,slow=6.7,SNR=4.8
comp=Z,0.8nm,0.6s

BR104	**Keskin Array S**	**75.78**	**307**	P		**P**	**08 25 34.9**	**+0.2**

comp=Z,3.0nm,0.9s

BR106	**Keskin Array S**	**75.79**	**307**	P		**P**	**08 25 34.9**	**+0.1**

comp=Z,3.5nm,0.9s

AK09	**Malin Array Si**	**75.88**	**319**	P		**P**	**08 25 33.9**	**-0.9**
AK03	**Malin Array Si**	**75.89**	**319**	P		**P**	**08 25 34.3**	**-0.6**
AK08	**Malin Array Si**	**75.89**	**319**	P		**P**	**08 25 33.9**	**-1.0**
AKASG	**Malin Array Be**	**75.89**	**319**	P		**P**	**08 25 33.8**	**-1.2**

comp=Z,2.4nm,0.7s,baz=63,slow=5.5,SNR=5.6

AKASG				LR		LR	09 01 44.3		

comp=Z,33nm,19.7s,baz=101,slow=38
comp=Z,2.4nm,0.7s

AK01	**Malin Array Si**	**75.90**	**319**	P		**P**	**08 25 34.1**	**-0.9**
AK10	**Malin Array Si**	**75.90**	**319**	P		**P**	**08 25 34.1**	**-0.9**
L29M	**L29M**	**76.07**	**27**	P		**P**	**08 25 36.4**	**+0.6**
L29M				IAmb		IAmb	08 25 53.1		

comp=Z,8.1nm,1.1s

INK	**Inuvik**	**76.11**	**22**	LR		LR	09 01 03.2		

comp=Z,38nm,20.1s,baz=252,slow=37

M29M	**Somme Creek**	**76.13**	**28**	P		**P**	**08 25 36.2**	**-0.1**
M29M				IAmb		IAmb	08 25 43.3		

comp=Z,4.6nm,0.8s

MMAI	**Mount Meron Ar**	**76.20**	**300**	LR		LR	09 03 36.6		

comp=Z,56nm,18.1s,baz=65,slow=39

CSS	**Mathiatis**	**77.31**	**303**	P		**P**	**08 25 43.0**	**-0.3**
NDNU	**Novodnistrovsk**	**77.64**	**317**	P		**P**	**08 25 44.0**	**-0.9**
O30N	**Mendenhall**	**77.76**	**29**	P		**P**	**08 25 45.4**	**0.0**
RNPP5	**Staryi Chortor**	**77.76**	**320**	P		**P**	**08 25 44.8**	**-0.7**
KMPD	**K-Podol'skiy**	**78.23**	**318**	P		**P**	**08 25 48.2**	**+0.1**
BURAR	**Bucovina Array**	**79.32**	**317**	P		**P**	**08 25 54.8**	**+0.5**
MLR	**Muntele Rosu**	**79.53**	**315**	P		**P**	**08 25 54.3**	**-1.2**

comp=Z,4.7nm,0.8s,baz=158,slow=7.2,SNR=5.4
comp=Z,4.7nm,0.8s

HFS	**Hagfors**	**80.88**	**331**	P		**P**	**08 26 01.0**	**-1.3**

comp=Z,2.0nm,0.8s,baz=127,slow=3.9,SNR=7.3

HFS				LR		LR	09 05 22.6		

comp=Z,166nm,18.3s,baz=62,slow=38
comp=Z,2.0nm,0.8s

NC405	**NORSAR Array S**	**81.31**	**333**			**P**	**08 26 02.5**	**-2.2**
NB2	**NORSAR Subarra**	**81.56**	**333**	P		**P**	**08 26 05.4**	**-0.6**

comp=Z,2.5nm,0.9s,baz=61,slow=4.8

NOA	**NORSAR Array B**	**81.56**	**333**	P		**P**	**08 26 05.8**	**-0.3**

comp=Z,1.0nm,0.8s,baz=68,slow=4.8,SNR=7.5
comp=Z,1.0nm,0.8s

JMIC	**Jan Mayen**	**82.29**	**345**	LR		LR	09 06 34.1		

comp=Z,70nm,18.9s,baz=34,slow=38

VYHS	**Vyhne**	**82.99**	**319**	*e*P		**P**	**08 26 17.1**	**+3.4**
VRAC	**Vranov**	**84.01**	**321**	P		**P**	**08 26 18.7**	**-0.3**

comp=Z,1.6nm,0.3s,baz=78,slow=5.8,SNR=7.1
comp=Z,1.6nm,0.3s

CLL	**Collm**	**85.20**	**323**	*e*P		**P**	**08 26 26.0**	**+1.1**
YKA	**Yellowknife Ar**	**85.82**	**23**	P		**P**	**08 26 27.5**	**-0.2**

comp=Z,1.5nm,0.8s,baz=322,slow=4.9,SNR=4.4

YKA				LR		LR	09 08 03.4		

comp=Z,44nm,18.2s,baz=340,slow=38
comp=Z,1.5nm,0.8s

GERES	**GERESS Array B**	**85.92**	**321**	P		**P**	**08 26 28.1**	**-0.6**

comp=Z,0.6nm,0.6s,baz=64,slow=6.2,SNR=5.3
comp=Z,0.6nm,0.6s

CASY	**Casey**	**87.21**	**185**	P		**P**	**08 26 33.9**	**-0.3**
DAVOX	**Davos/Dischmat**	**89.17**	**320**	LR		LR	09 09 13.7		

comp=Z,69nm,18.6s,baz=79,slow=37

BORG	**Borgarnes**	**90.19**	**345**	LR		LR	09 13 13.1		

comp=Z,45nm,18.2s,baz=36,slow=40

VAE	**Valguarnera**	**90.61**	**311**	LR		LR	09 14 51.0		

comp=Z,35nm,18.4s,baz=134,slow=40

PPT	**Papeete**	**94.70**	**107**	LR		LR	08 59 18.3		

comp=Z,31nm,21.0s,baz=296,slow=29

PPT2	**Papeete2**	**94.71**	**107**	*e*LR		LR	08 57 42.1		

comp=Z,78nm,25.2s

MAW	**Mawson**	**98.13**	**199**	LR		LR	09 11 32.6		

comp=Z,27nm,19.1s,baz=73,slow=35

TAOE	**Nuku Hiva Isla**	**100.43**	**96**	*e*LR		LR	09 00 23.2		

comp=Z,76nm,26.8s

*IDC **26** 08:16:38.7±1.5,20.69N×122.05E,h0km,mb3.9/5, mbtmp3.9/6,ML3.0/1,Error ellipse: s-maj=49.9km s-min=28.5km az=64.0*

ISC 26 08:16:44.2±1.3,20.7N±0.2×122.2E±0.2,h40km,n6, σ0s60/6,mb3.9/5,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**8.24**	**41**	Pn	**Pn**	**08 18 41.4**	**+0.1**

0.4nm,0.3s,baz=131,slow=25,SNR=1.1
2.0nm,0.3s

MKAR	**Makanchi Array**	**41.49**	**318**	P	**P**	**08 24 27.3**	**-0.1**

0.5nm,0.3s,baz=112,slow=7.8,SNR=5.1
0.5nm,0.3s

ZALV	**Zalesovo Beam**	**43.65**	**329**	P	**P**	**08 24 43.8**	**-0.9**

1.3nm,0.5s,baz=119,slow=8.0,SNR=4.6
1.3nm,0.5s

KURBB	**Kurchatov Arra**	**45.36**	**322**	P	**P**	**08 24 58.1**	**-0.4**

2.7nm,0.2s,baz=119,slow=7.8,SNR=1.8
2.7nm,0.2s

ASAR	**Alice Springs**	**45.58**	**165**	P	**P**	**08 25 00.5**	**-0.1**

0.1nm,0.5s,baz=343,slow=8.1,SNR=1.0
0.1nm,0.5s

BVAR	**Borovoye Array**	**50.94**	**322**	P	**P**	**08 25 41.8**	**+0.2**

0.7nm,0.5s,baz=100,slow=4.4,SNR=2.3
0.7nm,0.5s

IDC 26 08:20:16.5±1.6,20.68N×121.89E,h0km,mb3.6/4, mbtmp3.6/5,ML2.9/1,Error ellipse: s-maj=50.1km s-min=28.7km az=64.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**8.47**	**42**	Pn	Pn	08 22 19.9	-0.5

0.4nm,0.3s,baz=283,slow=28,SNR=1.8
2.2nm,0.5s

MKAR	**Makanchi Array**	**41.34**	**318**	P	P	08 28 04.4	+0.3

0.5nm,0.5s,baz=116,slow=8.7,SNR=5.3
0.5nm,0.5s

WRA	**Warramunga Arr**	**42.17**	**162**	P	P	08 28 10.9	-0.2

0.3nm,0.8s,baz=339,slow=7.4,SNR=1.4
0.3nm,0.8s

ZALV	**Zalesovo Beam**	**43.55**	**329**	P	P	08 28 20.9	-0.9

0.6nm,0.5s,baz=144,slow=10,SNR=2.5
0.6nm,0.5s

KURBB	**Kurchatov Arra**	**45.23**	**322**	P	P	08 28 35.8	+0.4

0.4nm,0.2s,baz=110,slow=8.0,SNR=2.6
0.4nm,0.2s

*NEIC **26** 08:28:55.7±1.4,35.933N±0.008×117.69W±0.01, h5km±1km,Error ellipse: s-maj=1.3km s-min=1.1km az=82.0*

PAS 26 08:28:56.0±1.2,35.936N±0.006×117.700W±0.009, h3km±2km,ML3.2/264,ML2.9/138(NEIC),Error ellipse: s-maj=1.2km s-min=0.9km az=120.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.10**	**278**		Pg	08 28 58.2	+0.2
WVPM					Sg	08 28 59.8	+0.5
JRC2	**Joshua Ridge**	**0.10**	**298**		Pg	08 28 59.9	+1.9
WCSM	**Coso Springs S**	**0.10**	**329**		Pg	08 28 58.1	0.0
WCSM					Sg	08 28 59.7	+0.1
TOW	**Tower One**	**0.14**	**202**		Pg	08 28 59.2	+0.5
TOW					Sg	08 29 02.3	+1.8
CLC	**China Lake**	**0.15**	**145**		Pg	08 28 58.9	0.0
CLC				IAML		08 29 02.1	

comp=N,3μm,0.2s

WRVM	**Rose V. Centra**	**0.17**	**295**		Pg	08 28 59.5	+0.1
WRVM					Sg	08 29 02.1	+0.5
WNMM	**Nine Mile Cany**	**0.19**	**241**		Pg	08 28 59.9	+0.2
WNMM					Sg	08 29 02.8	+0.6
MPMC	**Manual Prospec**	**0.21**	**54**		Pg	08 28 59.9	-0.2
MPMC				IAML		08 29 03.6	

comp=E,2μm,0.8s

MPMC				IAML		08 29 05.1		

comp=N,2μm,0.7s

MFS	**McCloud Flat S**	**0.22**	**325**		Pg	08 29 00.4	+0.1
MFS					Sg	08 29 03.7	+0.5
SRTC	**Snort**	**0.25**	**189**		Pg	08 29 01.3	+0.5
SRTC					Sg	08 29 05.7	+1.8
GPO	**China Lake**	**0.29**	**174**		Pg	08 29 01.7	+0.1
GPO					Sg	08 29 06.5	+1.2
WSHM	**Spangler Hills**	**0.38**	**153**		Pg	08 29 03.1	-0.1
WSHM				IAML		08 29 08.9	

comp=N,2μm,0.3s

WSHM	**Spangler Hills**	**0.38**	**153**		Sg	08 29 08.8	+0.7
LRMC	**Laurel Mtn Rad**	**0.46**	**178**		Pg	08 29 04.6	-0.2
LRMC				IAML		08 29 12.4	

comp=E,2μm,0.1s

LRMC	**Laurel Mtn Rad**	**0.46**	**178**		Sg	08 29 11.2	+0.5
CCCA	**Chr Cany lake**	**0.49**	**146**		Pg	08 29 05.7	+0.2
CCCA	**Chr Cany lake**	**0.49**	**146**		Sg	08 29 13.3	+1.5
WORM	**Onyx Ranch**	**0.50**	**242**		Pg	08 29 05.4	-0.2
WORM					Sg	08 29 12.2	+0.1
WBSM	**Bird Springs**	**0.54**	**222**		Pg	08 29 06.2	-0.1
WBSM					Sg	08 29 13.7	+0.5
WHFM	**Hanning Flat**	**0.58**	**246**		Pg	08 29 07.0	-0.1
WHFM					Sg	08 29 14.8	+0.2
CWC	**Cottonwood Cre**	**0.59**	**329**		Pg	08 29 07.6	+0.3
CWC	**Cottonwood Cre**	**0.59**	**329**		Sg	08 29 15.6	+0.6
CGO	**Cerro Gordo**	**0.62**	**352**		Pg	08 29 07.5	-0.4
CGO					Sg	08 29 16.3	+0.4
QSM	**Queen of Sheba**	**0.68**	**87**		Pg	08 29 08.6	-0.3
QSM				IAML		08 29 19.6	

comp=N,764nm,0.5s

QSM				IAML		08 29 23.3		

comp=E,547nm,0.8s

QSM	**Queen of Sheba**	**0.68**	**87**		Sg	08 29 17.4	-0.3
DTP	**Desert Tortois**	**0.68**	**190**		Pg	08 29 08.6	-0.4
DTP					Sg	08 29 17.9	+0.2
ISA	**Isabella, Lake**	**0.69**	**247**		Pg	08 29 09.0	-0.1
ISA				IAML		08 29 20.0	

comp=N,715nm,0.2s

ISA	**Isabella, Lake**	**0.69**	**247**		Sg	08 29 18.1	0.0
WASM	**Alta Sierra Ca**	**0.72**	**254**		Pg	08 29 09.7	-0.2
WASM					Sg	08 29 19.6	+0.3
CCAC	**Calif City Air**	**0.82**	**198**		Pg	08 29 11.4	-0.4
CCAC					Sg	08 29 22.7	+0.2
FURC	**Furnace Creek,**	**0.86**	**52**		Pg	08 29 12.6	+0.1
FURC					Sg	08 29 24.2	+0.6
FURC	**Furnace Creek,**	**0.86**	**52**	IAML		08 29 28.4	

comp=E,640nm,0.9s

FURC				IAML		08 29 28.4		

comp=N,767nm,0.8s

GWY	**Greenwater Val**	**0.87**	**73**		Pg	08 29 12.4	-0.3
GWY				IAML		08 29 25.2		

comp=E,500nm,0.5s

GWY				IAML		08 29 29.1		

comp=N,442nm,0.5s

GWY	**Greenwater Val**	**0.87**	**73**		Sg	08 29 24.8	+0.8
SPG2	**Springville 2**	**0.90**	**287**		Pg	08 29 12.6	-0.7
SPG2					Sg	08 29 24.8	-0.2
GSC	**Goldstone, Bar**	**0.96**	**131**		Pg	08 29 13.8	-0.6
GSC				IAML		08 29 29.6	

comp=N,609nm,0.6s

GSC	**Goldstone, Bar**	**0.96**	**131**		Sg	08 29 26.9	0.0
TEJ	**El Tejon**	**1.07**	**229**		Pg	08 29 15.7	-0.9
HYS	**Haystack Butte**	**1.07**	**174**		Pg	08 29 15.9	-0.7
EDW2	**Edwards Air Fo**	**1.08**	**193**		Pg	08 29 15.8	-0.9
EDW2					Sg	08 29 30.1	-0.6
GRAC	**Grapevine Rang**	**1.09**	**14**		Pg	08 29 16.5	-0.4
GRAC				IAML		08 29 37.4	

comp=E,324nm,0.8s

GRAC				IAML		08 29 39.2		

comp=N,281nm,1.0s

VES	**Vestal, Richgr**	**1.13**	**266**		Pg	08 29 17.2	-0.4
VES					Sg	08 29 31.7	-0.5
TPO	**Tropico Hills**	**1.14**	**202**		Pg	08 29 17.0	-0.8
TPO				IAML		08 29 35.5	

comp=N,480nm,0.6s

TPO				IAML		08 29 35.6		

comp=E,506nm,0.7s

TPO	**Tropico Hills**	**1.14**	**202**		Sg	08 29 32.7	+0.1
SGV	**South Grapevin**	**1.17**	**27**		Pg	08 29 18.1	-0.4
TIN	**Tinemaha, Big**	**1.20**	**339**	Pg	Pb	08 29 19.2	-0.2
TIN				IAML		08 29 42.0	

comp=E,248nm,1.0s

TIN				IAML		08 29 43.2		

comp=N,258nm,0.7s

RRX	**Edison Barstow**	**1.20**	**151**		Pg	08 29 18.5	-0.6
WCT	**Wildcat Mounta**	**1.22**	**45**		Pg	08 29 18.7	-0.7
WCT				IAML		08 29 40.4	

comp=E,158nm,1.0s

ARVC	**Arvin**	**1.23**	**229**		Pg	08 29 18.8	-0.7
ARVC					Sg	08 29 34.6	-0.8
SBB	**Saddle Back Bu**	**1.25**	**185**		Pg	08 29 18.9	-1.1
SBB					Sg	08 29 35.0	-1.1
AMDNV	**Amargosa**	**1.26**	**65**		Pg	08 29 19.2	-0.9
AMDNV					Sg	08 29 36.4	0.0
BAKC	**Calstate**	**1.29**	**243**		Pg	08 29 20.2	-0.4
BAKC					Sb	08 29 38.0	+0.3
THC	**Tehachapi Micr**	**1.29**	**218**		Pg	08 29 19.5	-1.2
LCH	**Last Change Ra**	**1.29**	**2**		Pn	08 29 21.6	+0.4
LEOC	**Leona Valley**	**1.39**	**201**		Pn	08 29 22.3	-0.1
GMN	**Gold Mountain**	**1.41**	**14**		Pn	08 29 22.6	-0.2
VOG	**Valley Oaks Go**	**1.42**	**286**		Pn	08 29 22.2	-0.4
LRRC	**Littlerock Res**	**1.43**	**191**		Pn	08 29 22.9	0.0
LRRC					Sn	08 29 42.2	0.0
DSP	**Deep Springs**	**1.45**	**351**		Pn	08 29 22.7	-0.4
DSP	**Deep Springs**	**1.45**	**351**		Sb	08 29 41.8	-0.6
CJV	**Casa Juvan**	**1.45**	**195**		Sn	08 29 42.8	-0.1
HOLC	**Holcomb Ridge**	**1.48**	**185**		Pn	08 29 23.4	-0.2
HOLC					Sn	08 29 44.0	+0.5
JNH	**Juniper Hills**	**1.50**	**188**		Pn	08 29 22.8	-1.1
DSCC	**Desert Studies**	**1.52**	**121**		Pn	08 29 22.6	-1.6
DSCC					Sn	08 29 44.5	0.0
TUQ	**Turquoise Moun**	**1.53**	**109**		Pn	08 29 22.9	-1.4
TPNV	**Topopah Spring**	**1.55**	**49**		Pn	08 29 24.1	-0.6
TPNV				IAML		08 29 48.2	

comp=E,164nm,0.8s

TPNV				IAML		08 29 53.0		

comp=E,143nm,1.1s

HEC	**Hector,Ludlow**	**1.57**	**134**		Sb	08 29 46.2	+0.2
CHFC	**Chilao Flat St**	**1.62**	**190**		Pb	08 29 26.5	-0.1
CHFC					Sb	08 29 47.7	+0.1
BFSC	**Mount Baldy Ra**	**1.69**	**179**		Pn	08 29 26.1	-0.5
BFSC				IAML		08 29 50.6	

comp=E,93nm,0.5s

BFSC				IAML		08 29 51.9		

comp=N,103nm,0.3s

SSK	**Sunset Peak**	**1.72**	**180**		Pb	08 29 28.7	+0.3
MWC	**Mount Wilson**	**1.73**	**190**		Pn	08 29 26.7	-0.5
MWC				IAML		08 29 52.7	

comp=N,182nm,0.5s

MWC				IAML		08 29 53.9		

comp=E,132nm,0.5s

SIL	**Silver Peak**	**1.74**	**155**		Pb	08 29 28.8	+0.1
MZP	**Montezuma Peak**	**1.78**	**8**		Pn	08 29 27.6	-0.3
BBRC	**Big Bear Solar**	**1.79**	**159**		Pb	08 29 29.4	-0.2
CRGC	**Crocker Grade**	**1.79**	**248**		Pb	08 29 28.7	-0.8
MTPC	**Mountain Pass**	**1.80**	**104**		Pn	08 29 26.8	-1.3
MTPC				IAML		08 29 55.5	

comp=E,173nm,0.3s

PASC	**Pasadena Art C**	**1.81**	**193**		Pn	08 29 27.5	-0.6
PASC				IAML		08 29 58.0		

comp=E,78nm,0.3s

PSRC	**Puddingstone R**	**1.84**	**183**		Pg	08 29 31.0	-0.3
MLAC	**Mammoth, Mammo**	**1.92**	**332**		Pb	08 29 31.8	-0.1
SMMC	**Simmler**	**1.97**	**252**		Pn	08 29 31.3	+1.0
GMRC	**Granite Mounta**	**2.02**	**124**		Pn	08 29 29.2	-2.0
SHPR	**Sheep Range**	**2.13**	**74**		Pn	08 29 32.4	-0.3
BLAC	**Blackrock camp**	**2.15**	**150**		Pn	08 29 32.1	-0.8
TPH	**Tonopah**	**2.17**	**10**		Pn	08 29 32.9	-0.3
TPH				IAML		08 30 10.6	

comp=N,115nm,0.9s

TPC	**Twentynine Pal**	**2.27**	**143**		Pn	08 29 33.4	-1.2
ELS	**Elsinore Mount**	**2.29**	**174**		Pn	08 29 34.1	-0.7
ELS				IAML		08 30 13.7	

comp=E,48nm,0.5s

HMTC	**Hemet**	**2.29**	**165**		Pn	08 29 34.3	-0.4
S11A	**Rachel**	**2.32**	**42**		Pn	08 29 35.1	-0.1
S11A				IAML		08 30 16.5	

comp=N,115nm,1.3s

V12A	**Nelson**	**2.32**	**94**		Pn	08 29 34.2	-1.1
V12A				IAML		08 30 11.1		

comp=N,73nm,0.7s

V12A				IAML		08 30 13.1		

comp=E,53nm,0.6s

POB	**Polly Butte**	**2.33**	**164**		Pn	08 29 34.7	-0.6
BELC	**Belle Mtn. Jos**	**2.38**	**144**		Pn	08 29 34.9	-1.2
BELC				IAML		08 30 13.8		

comp=N,84nm,0.5s

BELC				IAML		08 30 15.8		

comp=E,92nm,0.4s

NV11	**Mina Array Sit**	**2.52**	**352**	Pn	Pn	08 29 38.8	+0.8
PMPB	**Monarch Peak**	**2.53**	**277**		Pn	08 29 38.4	+0.4
PMPB				IAML		08 30 18.3		

comp=N,94nm,1.0s

PMD	**Palm Desert**	**2.53**	**154**		Pn	08 29 36.8	-1.2
PFO	**Pinyon Flats O**	**2.53**	**156**		Pn	08 29 37.0	-1.1
NVAR	**Mina Array Bea**	**2.54**	**349**		Pn	08 29 39.3	+1.0
PRN	**Pahroc Range**	**2.59**	**55**		Pn	08 29 38.5	-0.3
PRN				IAML		08 30 27.1		

comp=E,59nm,0.8s

PRN				IAML		08 30 27.7		

comp=N,62nm,0.8s

BBGB	**Big Mountain B**	**2.77**	**284**		Pn	08 29 43.2	+1.7
BORC	**Borrego Spring**	**2.86**	**158**		Pn	08 29 41.6	-1.0
BORC				IAML		08 30 31.1		

comp=N,26nm,0.8s

BORC				IAML		08 30 32.6		

comp=E,33nm,0.9s

WAKR	**Walker**	**2.92**	**332**	Pn	Pn	08 29 44.8	+1.3
BC3	**Big Chuckawall**	**2.93**	**140**	Pn	Pn	08 29 41.7	-1.9
BC3				IAML		08 30 31.7		

comp=N,64nm,0.5s

BC3				IAML		08 30 32.4		

comp=E,44nm,0.5s

R11B	**Troy Canyon, C**	**2.94**	**34**		Pn	08 29 43.4	-0.5
DPP	**Dos Picos Cty**	**3.00**	**168**		Pn	08 29 43.5	-1.0
DPP				IAML		08 30 33.2		

comp=E,28nm,0.5s

SAO	**San Andreas Ge**	**3.14**	**286**		Pn	08 29 46.4	+0.1
W13A	**Hualapai Mount**	**3.22**	**104**		Pn	08 29 46.2	-1.5
W13A				IAML		08 30 42.5		

comp=N,33nm,0.7s

W13A				IAML		08 30 43.2		

comp=E,26nm,0.6s

BAR	**Barrett**	**3.36**	**165**	IAML		08 30 41.5		

comp=N,25nm,0.6s

BAR			

ADK	**Adak**	**50.64**	**30**	P	**P**	**08 43 49.6**	**+0.7**
ATKA	**Atka Island**	**52.07**	**31**	P	**P**	**08 43 59.4**	**-0.2**
ATKA				IAmb	IAmb	08 44 19.4	
	comp=Z,12nm,0.9s						
UNV	**Unalaska Valle**	**56.89**	**32**	P	**P**	**08 44 34.7**	**+0.1**
MKAR	**Makanchi Array**	**62.10**	**317**	P	**P**	**08 45 10.8**	**0.0**
MKAR	**Makanchi Array**	**62.10**	**317**	P	**P**	**08 45 10.1**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=92,slow=7.8,SNR=6.5						
	comp=Z,0.4nm,0.4s						
O15K	**Ungalikthiuk R**	**62.56**	**29**	P	**P**	**08 45 14.1**	**+0.6**
N17K	**Nushagak Hills**	**64.31**	**28**	P	**P**	**08 45 26.0**	**+0.9**
N17K				IAmb	IAmb	08 45 47.2	
	comp=Z,4.4nm,1.1s						
KURBB	**Kurchatov Arra**	**65.33**	**320**	P	**P**	**08 45 31.2**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=101,slow=6.3,SNR=5.6						
	comp=Z,0.9nm,0.4s						
J18K	**Innoko River**	**65.65**	**25**	P	**P**	**08 45 34.2**	**+0.4**
J18K				IAmb	IAmb	08 46 00.9	
	comp=Z,1.8nm,1.1s						
J19K	**Poorman**	**66.30**	**25**	P	**P**	**08 45 38.1**	**+0.1**
J19K				IAmb	IAmb	08 45 58.4	
	comp=Z,4.0nm,1.1s						
D23K	**Nanushuk River**	**69.92**	**20**	P	**P**	**08 46 01.7**	**+1.1**
D23K				IAmb	IAmb	08 46 10.6	
	comp=Z,1.5nm,0.8s						
KKAR	**Karatay Array**	**69.94**	**312**	P	**P**	**08 46 01.7**	**+0.5**
ILAR	**Eielson Array**	**70.15**	**25**	P	**P**	**08 46 01.6**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=252,slow=5.8,SNR=23						
	comp=Z,1.2nm,0.5s						
BVAR	**Borovoye Array**	**70.68**	**322**	P	**P**	**08 46 05.0**	**-0.5**
	comp=Z,2.8nm,0.4s,baz=106,slow=7.8,SNR=12						
	comp=Z,2.8nm,0.4s						
BCAR	**Beaver Creek A**	**72.02**	**27**	P	**P**	**08 46 14.1**	**+0.6**
NVAR	**Mina Array Bea**	**88.32**	**51**	P	**P**	**08 47 43.8**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=265,slow=5.6,SNR=7.0						
	comp=Z,0.9nm,0.7s						
FINES	**FINESS Array B**	**92.21**	**335**	P	**P**	**08 47 57.8**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=63,slow=4.8,SNR=9.5						
	comp=Z,0.7nm,0.5s						

*AUST **26** 08:36:33.3±0.5, 18°S±4°×120°E±°, h10km, mb4.1/10, ML3.5/8, Error ellipse: s-maj=11.0km s-min=4.3km az=143.6*
*IDC **26** 08:36:37.2±7.2, 18°73S×120°47E, h0km, mb3.3/1, mbtmp3.7/5, ML3.4/4, Error ellipse: s-maj=100.5km s-min=37.2km az=144.0*

ISC 26 08:36:35.1±1.3, 18°56S±0°08×120°29E±0°07, h10km, n26, σ2s68/32, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior**	**1.94**	**72**	P	**Pb**	**08 37 11.1**	**+0.5**
AUBRM				S	**Sg**	**08 37 38.0**	**+0.3**
MBWA	**Marble Bar**	**2.64**	**191**	P	**Pb**	**08 37 22.8**	**+0.3**
MBWA				S	**Sb**	**08 37 58.2**	**+3.2**
PSA00	**Pilbara Seismi**	**3.03**	**188**	P	**Pb**	**08 37 28.2**	**-0.9**
PSA00				S	**Sb**	**08 38 07.6**	**+1.4**
FITZ	**Fitzroy Crossi**	**5.11**	**86**	P	**Pn**	**08 37 52.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**5.11**	**86**	Pn	**Pn**	**08 37 52.4**	**+0.7**
	1.4nm,0.3s,baz=266,slow=10,SNR=44						
FITZ				Sn	**Sn**	**08 38 50.5**	**-0.2**
	3.7nm,0.3s,baz=14,slow=20,SNR=7.4						
	4.7nm,0.3s						
GIRL	**Giralia**	**6.97**	**233**	P	**Pn**	**08 38 18.5**	**+1.1**
	comp=Z,37nm,1.7s,comp=Z,0.1nm						
GIRL				S	**Sn**	**08 39 34.4**	**-2.4**
MEEK	**Meekatharra**	**8.19**	**191**	P	**Pn**	**08 38 38.1**	**+4.0**
	comp=Z,13nm,0.7s,comp=Z,0.2nm						
CVQOZ	**Cooralya Stati**	**8.23**	**224**	P	**Pn**	**08 38 35.6**	**+1.1**
	comp=Z,129nm,1.0s,comp=Z,0.6nm						
KNRA	**Kununurra**	**8.60**	**72**	P	**Pn**	**08 38 40.2**	**+0.6**
WRKA	**Warakurna**	**9.85**	**132**	P	**Pn**	**08 39 00.7**	**+3.9**
	comp=Z,1.9nm,1.7s,comp=Z,0.0nm						
MORW	**Morawa**	**11.16**	**200**	P	**Pn**	**08 39 15.9**	**+1.1**
	comp=Z,9.8nm,2.1s						
MORW	**Morawa**	**11.16**	**200**	S	**Sn**	**08 41 16.1**	**-3.6**
MTN	**Manton Dam**	**11.89**	**63**	P	**Pn**	**08 39 22.7**	**-2.1**
	comp=Z,13nm,2.2s						
BLDU	**Ballidu**	**12.44**	**194**	P	**Pn**	**08 39 33.6**	**+1.3**
	comp=Z,14nm,2.3s						
BLDU	**Ballidu**	**12.44**	**194**	S	**Sn**	**08 41 45.8**	**-5.1**
KMBL	**Kambalda**	**12.84**	**174**	P	Pn	08 39 31.1	-6.6
KMBL				S	Sn	08 41 50.3	-10
KLBR	**Kellerberrin**	**13.18**	**190**	P	**Pn**	**08 39 44.3**	**+1.9**
	comp=Z,17nm,1.1s						
KLBR	**Kellerberrin**	**13.18**	**190**	S	**Sn**	**08 42 04.4**	**-4.7**
WRA	**Warramunga Arr**	**13.35**	**98**	Pn	**Pn**	**08 39 45.7**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=274,slow=14,SNR=26						
WRA				Sn	**Sn**	**08 42 06.8**	**-6.4**
	comp=Z,0.7nm,0.3s,baz=268,slow=24,SNR=5.1						
	comp=Z,0.5nm,0.3s						
WB2	**Warramunga Arr**	**13.36**	**98**	P	**Pn**	**08 39 45.7**	**+0.8**
ASAR	**Alice Springs**	**13.69**	**114**	Pn	**Pn**	**08 39 49.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=290,slow=11,SNR=11						
ASAR				Sn	**Sn**	**08 42 21.2**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=285,slow=22,SNR=6.4						
	comp=Z,0.3nm,0.4s						
AS31	**Alice Springs**	**13.69**	**114**	P	**P**	**08 39 55.2**	**-3.0**
	comp=Z,1.4nm,0.5s						
MUN	**Mundaring**	**13.86**	**195**	P	**Pn**	**08 39 53.8**	**+2.2**
	comp=Z,27nm,1.6s						
NWAO	**Narrogin (SRO)**	**14.57**	**190**	Pn	**Pn**	**08 40 01.7**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=8.9,slow=11,SNR=12						
NWAO				Sn	Sn	08 42 35.9	-7.1
	comp=Z,3.6nm,0.3s,baz=249,slow=13,SNR=9.0						
	comp=Z,4.3nm,0.4s						
MULG	**Mulgathing**	**17.11**	**136**	P	**P**	**08 40 40.8**	**+4.6**
STKA	**Stephens Creek**	**23.34**	**129**	P	**P**	**08 41 45.6**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=303,slow=12,SNR=3.1						
	comp=Z,0.6nm,0.5s						

CATAC 26 08:37:39.0±1.0, 12°N±4°×87°W±°, h25km±9km, M3.5/9, MLv3.5/9, 4C-14D, Error ellipse: s-maj=10.8km s-min=6.0km az=38.7, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.76**	**39**	⇓P	Pn	08 37 54.2	0.0
SAPS	**Ciudad Sandino**	**0.88**	**49**	⇓P	Pb	08 37 55.7	0.0
UNAN	**Cigeo UNAN**	**0.95**	**57**	⇓P	Pn	08 37 56.6	-0.2
APQ2	**Apoyeque**	**0.96**	**51**	P	Pn	08 37 56.2	-0.7
TISN	**Laguna Tiscapa**	**0.97**	**55**	⇓P	Pn	08 37 57.0	-0.1
MOMN	**Momotombo**	**0.97**	**33**	⇓P	Pn	08 37 56.9	-0.3
APQ3	**Volcan Apoyequ**	**0.97**	**46**	P	Pn	08 37 57.1	-0.1
CNGA	**Al SSO del Vol**	**0.98**	**22**	⇓P	Pn	08 37 56.9	-0.3
CNGN	**Cerro Negro**	**0.98**	**22**	⇓P	Pn	08 37 56.9	-0.4
NANN	**Nandasmo**	**1.00**	**69**	⇓P	Pb	08 37 58.4	+0.6
MOM2	**El Cardon**	**1.03**	**35**	⇓P	Pn	08 37 57.0	-0.9
WILN	**Americas 2**	**1.04**	**57**	⇓P	Pn	08 37 57.9	-0.2
WILN				S	Sn	08 38 12.3	+0.4
ILCN	**San Idelfonso**	**1.05**	**21**	⇓P	Pn	08 37 57.9	-0.4
POLN	**Al Sur del Vol**	**1.09**	**14**	⇓P	Pn	08 37 58.1	-0.7
POLN				S	Sn	08 38 13.6	+0.5
CRIN	**San Cristobal**	**1.11**	**2**	S	Sb	08 38 14.3	+0.6
CRIN	**San Cristobal**	**1.11**	**2**	⇓P	Pn	08 37 58.7	-0.4
JAPN	**Al SSO del Vol**	**1.38**	**92**	P	Pb	08 38 03.5	-0.6
CSGN	**Cosiguina Volc**	**1.46**	**341**	⇑P	Pn	08 38 03.7	-0.2
CSGN				S	Sn	08 38 22.3	0.0
POTN	**Potosi Cosigui**	**1.47**	**344**	⇑P	Pn	08 38 04.1	+0.2
MATN	**Matagalpa**	**1.75**	**40**	⇓P	Pn	08 38 06.9	-1.0
CNCH	**Conchagua**	**1.83**	**336**	⇑P	Pn	08 38 09.3	+0.2
LCND	**La Caada**	**1.89**	**335**	⇑P	Pn	08 38 09.9	+0.2
ACON	**Acoyapa**	**1.91**	**78**	P	Pn	08 38 09.1	-0.8
RCPN	**Sur Rio San Ju**	**2.16**	**26**	P	Pn	08 38 13.5	0.0
RCVN	**Varillal2**	**2.17**	**23**	P	Pn	08 38 14.7	+1.0
ALJI	**Alcalda de J**	**2.26**	**320**	P	Pb	08 38 21.4	+2.2

*IDC **26** 08:40:15.9±3.6, 54°42N×87°12E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=32.5km s-min=21.3km az=49.0*

ASRS 26 08:40:14.0±0.9, 54°37N×86°95E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**252**	I	I	08 48 43.8	
	baz=70,slow=319,SNR=8.7						
ZALV	**Zalesovo Beam**	**1.32**	**252**	Pg	Pn	08 40 40.8	+1.1
	1.1nm,0.3s,baz=72,slow=16,SNR=6.3						
ZALV				Lg	Lg	08 41 01.5	
	1.6nm,0.3s,baz=69,slow=31,SNR=4.8						
KURBB	**Kurchatov Arra**	**6.36**	**237**	Pn	Pn	08 41 53.9	+4.9
	0.1nm,0.3s,baz=54,slow=14,SNR=2.1						
	1.0nm,0.2s						
MKAR	**Makanchi Array**	**8.14**	**203**	Pn	Pn	08 42 17.5	+4.1
	0.1nm,0.3s,baz=26,slow=15,SNR=3.0						
	0.2nm,0.3s						

*SNET **26** 08:42:26.0±1.7, 12°.80N×88°.66W, h36km, ML3.7*
*CATAC **26** 08:42:26.1±0.3, 13°N±4°×87°9W±°, h41km±11km, M3.8/32, MLv3.8/32, Error ellipse: s-maj=8.7km s-min=2.8km az=25.5, confirmed*
*GCG **26** 08:42:27.1±1.0, 12°.93N×88°.69W, h29km±5km, MD4.3, ML3.5, MW3.0*

ISC 26 08:42:25.9±1.3, 12°.82N±0°.06×88°.66W±0°.03, h60km±14km, n87, σ0s58/96, 3C-28D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**0.51**	**10**	*i* P	**Pn**	**08 42 39.3**	**+1.2**
ALJI				*e*S	**Sn**	**08 42 48.2**	**+1.4**
ALJI	**Alcalda de J**	**0.51**	**10**	⇓P	**Pn**	**08 42 39.2**	**+1.2**
TECA	**Tecapa**	**0.69**	**13**	*e*P	**Pn**	**08 42 39.8**	**-0.5**
TECA				*e*P		08 42 39.9	
TECA				*e*S	**Sn**	**08 42 50.1**	**-0.6**
LCY	**Lacayo**	**0.70**	**31**	*e*P	**Pn**	**08 42 39.9**	**-0.4**
VSM	**San Miguel**	**0.71**	**32**	*e*P	**Pn**	**08 42 40.2**	**-0.4**
TECO	**Alcaldia de Te**	**0.72**	**351**	*e*P	**Pn**	**08 42 39.9**	**-0.6**
TECO	**Alcaldia de Te**	**0.72**	**351**	⇓P	**Pn**	**08 42 39.9**	**-0.6**
PACA	**Pacayal**	**0.73**	**27**	*e*P	**Pn**	**08 42 40.4**	**-0.3**
PACA	**Pacayal**	**0.73**	**27**	⇓P	**Pn**	**08 42 40.4**	**-0.3**
BLLM	**Bellamira**	**0.75**	**34**	*i* P	**Pn**	**08 42 40.4**	**-0.4**
PQSS	**Presa 15 de Se**	**0.81**	**7**	*e*P	**Pn**	**08 42 41.2**	**-0.3**
PQSS				*e*S	**Sn**	**08 42 52.8**	**-0.1**
PQSS	**Presa 15 de Se**	**0.81**	**7**	P	**Pn**	**08 42 41.2**	**-0.3**
SNVI	**San Vicente**	**0.81**	**348**	*e*P	**Pn**	**08 42 41.1**	**-0.6**
CNRM	**Centro Naciona**	**0.81**	**36**	*e*P	**Pn**	**08 42 41.3**	**-0.2**
CNRM				*e*S	**Sn**	**08 42 53.4**	**+0.4**
CNRM	**Centro Naciona**	**0.81**	**36**	P	**Pn**	**08 42 41.2**	**-0.3**
UESV	**Universidad de**	**0.82**	**352**	*e*P	**Pn**	**08 42 41.5**	**-0.3**
UESV	**Universidad de**	**0.82**	**352**	⇓P	**Pn**	**08 42 41.4**	**-0.4**
SCLA	**Alcaldia de Sa**	**0.88**	**356**	*e*P	**Pn**	**08 42 42.5**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.88**	**356**	⇓P	**Pn**	**08 42 42.4**	**-0.1**
LFRS	**El Faro**	**0.89**	**334**	*e*P	**Pn**	**08 42 42.0**	**-0.6**
LCND	**La Caada**	**0.90**	**57**	*e*P	**Pn**	**08 42 42.2**	**-0.5**
LCND				*e*P		08 42 42.5	
LCND	**La Caada**	**0.90**	**57**	⇓P	**Pn**	**08 42 42.1**	**-0.5**
LALI	**Alcalda de L**	**0.92**	**316**	*i* P	**Pn**	**08 42 42.4**	**-0.6**
LALI				*e*S	**Sn**	**08 42 54.2**	**-1.3**
LALI				IAML		08 42 59.5	
	comp=E,222nm,0.2s						
LALI	**Alcalda de L**	**0.92**	**316**	S	**Sn**	**08 42 55.4**	**-0.1**
LALI	**Alcalda de L**	**0.92**	**316**	⇓P	**Pn**	**08 42 42.2**	**-0.7**
CNCH	**Conchagua**	**0.93**	**61**	*e*P	**Pn**	**08 42 42.6**	**-0.5**
CNCH	**Conchagua**	**0.93**	**61**	⇓P	**Pn**	**08 42 42.4**	**-0.8**
PAVA	**Las Pavas**	**0.93**	**343**	*e*P	**Pn**	**08 42 42.9**	**-0.3**
PAVA	**Las Pavas**	**0.93**	**343**	S	**Sn**	**08 42 55.4**	**-0.5**
PAVA	**Las Pavas**	**0.93**	**343**	⇓P	**Pn**	**08 42 42.8**	**-0.3**
LOMA	**Loma Larga**	**0.96**	**329**	*e*P	**Pn**	**08 42 42.9**	**-0.6**
LOMA	**Loma Larga**	**0.96**	**329**	S	**Sn**	**08 42 56.4**	**-0.1**
LOMA	**Loma Larga**	**0.96**	**329**	⇓P	**Pn**	**08 42 43.0**	**-0.6**
LBRS	**Las Brisas**	**0.98**	**338**	*e*P	**Pn**	**08 42 43.6**	**-0.2**
UDBS	**Universidad Do**	**1.01**	**332**	*e*P	**Pn**	**08 42 44.0**	**-0.2**
LFU	**La Fuente**	**1.02**	**335**	*e*P	**Pn**	**08 42 44.2**	**-0.2**
CAHU	**Cacacuatique**	**1.04**	**25**	*e*P	**Pn**	**08 42 44.8**	**0.0**
UEES	**Universidad Ev**	**1.05**	**328**	*e*P	**Pn**	**08 42 44.6**	**-0.2**
UEES	**Universidad Ev**	**1.05**	**328**	⇓P	**Pn**	**08 42 44.6**	**-0.2**
PIC2	**El Picacho**	**1.09**	**328**	*e*P	**Pn**	**08 42 45.4**	**+0.1**
CSGN	**Cosiguina Volc**	**1.09**	**82**	⇓P	**Pn**	**08 42 44.2**	**-1.0**
CSGN				S	**Sn**	**08 42 59.7**	**+0.2**
BOQS	**Boqueron**	**1.09**	**327**	*e*P	**Pn**	**08 42 45.1**	**-0.2**
PMON	**Piamonte**	**1.09**	**325**	*e*P	**Pn**	**08 42 45.0**	**-0.3**
PMON	**Piamonte**	**1.09**	**325**	⇓P	**Pn**	**08 42 44.8**	**-0.5**
JAYA	**Jayaque - finc**	**1.13**	**317**	*e*P	**Pn**	**08 42 45.4**	**-0.5**
JAYA	**Jayaque - finc**	**1.13**	**317**	*e*P	**Pn**	**08 42 45.1**	**-0.7**
JAYA				*i* S	**Sn**	**08 43 00.6**	**0.0**
JAYA	**Jayaque - finc**	**1.13**	**317**	P	**Pn**	**08 42 45.2**	**-0.6**
POTN	**Potosi Cosigui**	**1.14**	**81**	⇓P	**Pn**	**08 42 45.3**	**-0.5**
SNJE	**San Jose**	**1.39**	**319**	*e*P	**Pn**	**08 42 49.5**	**+0.1**
SNJE				*e*P		08 42 49.5	
RTR	**El Retiro**	**1.44**	**318**	*e*P	**Pn**	**08 42 50.4**	**+0.5**
UNIC	**Universidad Ca**	**1.44**	**323**	*e*P	**Pn**	**08 42 50.0**	**+0.1**
UNIC	**Universidad Ca**	**1.44**	**323**	P	**Pn**	**08 42 50.0**	**+0.1**
MARCA	**Marcala la Paz**	**1.47**	**25**	*e*P	**Pn**	**08 42 50.4**	**+0.1**
MARCA				*i* S	**Sn**	**08 43 09.3**	**+0.7**
NUBE	**Las Nubes**	**1.53**	**315**	*e*P	**Pn**	**08 42 51.3**	**+0.1**
NUBE	**Las Nubes**	**1.53**	**315**	*e*P	**Pn**	**08 42 51.0**	**-0.2**
NUBE				*e*S	**Sn**	**08 43 09.9**	**-0.2**
NUBE	**Las Nubes**	**1.53**	**315**	S	**Sn**	**08 43 10.0**	**-0.2**
NUBE	**Las Nubes**	**1.53**	**315**	⇓P	**Pn**	**08 42 50.9**	**-0.3**
CRIN	**San Cristobal**	**1.58**	**94**	⇓P	**Pn**	**08 42 52.1**	**+0.3**
FAME	**Alcaldia de Sa**	**1.66**	**308**	S	**Sn**	**08 43 11.7**	**-1.5**
FAME	**Alcaldia de Sa**	**1.66**	**308**	⇓P	**Pn**	**08 42 52.5**	**-0.3**
MTO3	**Montecristo**	**1.71**	**337**	*e*P	**Pn**	**08 42 53.9**	**+0.2**
MTO3	**Montecristo**	**1.71**	**337**	*i* P	**Pn**	**08 42 53.7**	**0.0**
MTO3	**Montecristo**	**1.71**	**337**	P	**Pn**	**08 42 53.6**	**-0.1**
POLN	**Al Sur del Vol**	**1.81**	**95**	⇓P	**Pn**	**08 42 54.6**	**-0.3**
POLN				S	**Sn**	**08 43 16.6**	**-0.3**
TGUH	**Tegucigalpa,Un**	**1.83**	**48**	⇓P	**Pn**	**08 42 55.4**	**+0.1**
TGUH				S	**Sn**	**08 43 17.5**	**+0.1**
ESQI	**Esquipulas**	**1.85**	**339**	⇓P	**Pn**	**08 42 56.0**	**+0.5**
PLRN	**Geotermica Pol**	**1.86**	**97**	⇑P	**Pn**	**08 42 54.5**	**-1.1**
ILCN	**San Idelfonso**	**1.93**	**97**	⇓P	**Pn**	**08 42 56.0**	**-0.5**
CNGA	**Al SSO del Vol**	**1.94**	**99**	P	**Pn**	**08 42 56.4**	**-0.3**
CNGN	**Cerro Negro**	**1.94**	**99**	⇑P	**Pn**	**08 42 56.3**	**-0.4**
SARH	**Santa Rosa de**	**1.95**	**357**	*e*P	**Pn**	**08 42 57.6**	**+0.8**
MOMN	**Momotombo**	**2.11**	**101**	⇓P	**Pn**	**08 42 58.4**	**-0.6**
COPN	**Copaltepe**	**2.12**	**107**	⇓P	**Pn**	**08 42 58.3**	**-0.7**
MOM2	**El Cardon**	**2.16**	**100**	⇓P	**Pn**	**08 42 59.3**	**-0.3**
OCON	**Estacion meteo**	**2.28**	**69**	⇓P	**Pn**	**08 43 01.0**	**-0.3**
SAPS	**Ciudad Sandino**	**2.30**	**106**	⇓P	**Pn**	**08 43 01.1**	**-0.4**
TISN	**Laguna Tiscapa**	**2.43**	**106**	⇓P	**Pn**	**08 43 02.6**	**-0.8**
UNAN	**Cigeo UNAN**	**2.44**	**107**	P	**Pn**	**08 43 03.3**	**-0.2**
RCVN	**Varillal2**	**2.52**	**72**	P	**Pn**	**08 43 04.8**	**+0.1**
RCPN	**Sur Rio San Ju**	**2.60**	**74**	⇓P	**Pn**	**08 43 05.5**	**-0.2**
ESSG	**Sabana Grande**	**2.62**	**307**	*i* P	**Pn**	**08 43 06.8**	**+0.8**
ESSG				IAML		08 43 46.1	
	comp=N,326nm,0.3s						
NANN	**Nandasmo**	**2.63**	**109**	⇑P	**Pn**	**08 43 06.6**	**+0.5**
MATN	**Matagalpa**	**2.67**	**87**	P	**Pn**	**08 43 05.5**	**-1.2**
STG2	**El Palmar, Qui**	**3.09**	**302**	*i* P	Pn	08 43 18.4	+6.0
RTAL	**Retalhuleu**	**3.40**	**300**	P	**Pn**	**08 43 17.6**	**+1.0**
THIG		**4.07**	**301**	IAML		08 44 25.2	
	comp=N,193nm,0.7s						
CMARA	**Lajas Hojancha**	**4.22**	**131**	P	**Pn**	**08 43 29.4**	**+1.5**

IDC 26 08:42:41.7±901.0, 55°.19N×39°.76E, h0km, Error ellipse: s-maj=349.3km s-min=53.5km az=137.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**2.10**	**318**	I	I	08 56 40.0	
	0.3nm,0.6s,baz=135,slow=304,SNR=2.3						
I37NO	**I37NO**	**16.93**	**334**	I	I	10 25 30.0	
	baz=138,slow=323,SNR=2.2						
I26DE	**FREYUNG INFRAS**	**17.18**	**259**	I	I	10 20 40.0	
	baz=57,slow=312,SNR=1.1						

*IDC **26** 08:45:24.5±3.3, 53°.60N×87°.96E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=30.1km s-min=19.4km az=51.0*

ASRS 26 08:45:20.0±0.9, 53°.62N×87°.97E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**1.90**	**281**	Pn	Pg	08 45 58.1	+1.8
	1.2nm,0.3s,baz=103,slow=14,SNR=9.2						
ZALV				Lg	Lg	08 46 24.5	
	2.8nm,0.3s,baz=101,slow=26,SNR=11						
I46RU	**ZALESOVO INFRA**	**1.90**	**281**	I	I	08 57 14.8	
	0.1nm,0.9s,baz=97,slow=311,SNR=3.7						
KURBB	**Kurchatov Arra**	**6.54**	**246**	Pn	Pn	08 47 02.5	+5.2
	0.1nm,0.3s,baz=62,slow=14,SNR=1.3						
KURBB				Lg	Lg	08 48 51.8	
	0.3nm,0.3s,baz=64,slow=32,SNR=5.9						
	0.6nm,0.2s						
MKAR	**Makanchi Array**	**7.74**	**210**	Pn	Pn	08 47 19.1	+5.2
	0.1nm,0.3s,baz=33,slow=12,SNR=2.1						
	0.1nm,0.4s						

IDC 26 08:50:33.4±2.3, 6°.91S×128°.79E, h0km, mb3.4/1, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=86.2km s-min=29.7km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.54**	**195**	Pn	Pn	08 53 19.6	+0.1
	0.4nm,0.3s,baz=18,slow=14,SNR=17						
FITZ				Sn	Sn	08 55 13.8	-15
	0.6nm,0.3s,baz=94,slow=12,SNR=3.6						
	0.9nm,0.3s						
WRA	**Warramunga Arr**	**14.03**	**158**	Pn	Pn	08 53 53.3	-0.3
	0.5nm,0.3s,baz=337,slow=34,SNR=25						
WRA				Sn	Sn	08 56 15.9	-14
	0.5nm,0.3s,baz=328,slow=22,SNR=6.2						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**17.37**	**164**	P	Pn	08 54 37.6	+0.2
	0.3nm,0.3s,baz=338,slow=10,SNR=32						
ASAR				S	Sn	08 57 38.2	-13
	0.2nm,0.5s,baz=348,slow=26,SNR=2.3						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**67.50**	**327**	P	P	09 01 31.4	0.0
	0.3nm,0.6s,baz=122,slow=7.1,SNR=2.4						
	0.3nm,0.6s						

*RHSSO **26** 08:51:54.2±0.3, 44°.75N×15°.67E, h5km±2km, ML3.0/11*
*BEO **26** 08:51:55.6±0.3, 44°.89N×15°.74E, h12km±3km, ML3.0/16*
*VIE **26** 08:51:56.0±0.6, 44°.91N×15°.56E, h3km±1km, mb2.7/12, ml2.9/12, Error ellipse: s-maj=3.4km s-min=2.6km az=147.0 65 km S of Karlovac*
*PRU **26** 08:51:56.2, 44°.87N×15°.94E, h10km*

ISC 26 08:51:53.3±0.9, 44°.76N±0°.01×15°.67E±0°.02, h7km±7km, n83, σ1s11/146, 4C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLIT	**Plitvice**	**0.13**	**345**	*i* Pg	**Pg**	**08 51 56.1**	**0.0**
PLIT				Sg	**Sg**	**08 51 58.2**	**+0.3**
UDBI	**Udbina**	**0.24**	**163**	*i* Pg	**Pg**	**08 51 57.8**	**-0.2**
UDBI				Sg	**Sg**	**08 52 01.5**	**+0.3**
NVLJ	**Novalja**	**0.60**	**252**	*e*Pg	**Pg**	**08 52 04.6**	**-0.2**
NVLJ				Sg	**Sg**	**08 52 11.8**	**-0.9**
RABC	**Rab**	**0.63**	**270**	*i* Pg	**Pg**	**08 52 05.2**	**-0.2**
RABC				Sg	**Sg**	**08 52 14.1**	**+0.5**
VIRC	**Vir**	**0.64**	**224**	*i* Pg	**Pg**	**08 52 05.0**	**-0.5**
VIRC				Sg	**Sg**	**08 52 13.2**	**-0.7**
A050A	**Klekovaca**	**0.68**	**114**	⇑*i*Pg	**Pg**	**08 52 05.7**	**-0.6**
A050A				*e*Sg	**Sg**	**08 52 16.2**	**+1.1**
BOJS	**Bojanci**	**0.80**	**339**	*i* Pg	**Pg**	**08 52 08.6**	**-0.2**
BOJS				*i* Sg	**Sg**	**08 52 18.9**	**-0.3**
BOJS				IAML		08 52 25.0	
	comp=Z,100nm,0.1s						
BOJS	**Bojanci**	**0.80**	**339**	*e*Pg	**Pg**	**08 52 08.4**	**-0.3**
BOJS				*e*Sg	**Sg**	**08 52 18.9**	**-0.3**
OZLJ	**Ozalj**	**0.87**	**351**	⇓*i*Pg	**Pg**	**08 52 09.9**	**-0.1**
OZLJ				*e*Sg	**Sb**	**08 52 22.

TREB	**Trebinje**	**2.82**	**135**	*e*Pn		**Pn**		**08 52 40.2**	**+1.4**
TREB				*e*Sn		**Sn**		**08 53 13.7**	**+0.7**
TREB	**Trebinje**	**2.82**	**135**	*e*Pn		**Pn**		**08 52 42.1**	**-1.8**
TREB				*e*Sn		**Sb**		**08 53 16.8**	**-1.8**
BBLS	**Lazi&#263i**	**2.83**	**107**	*e*Pn		**Pn**		**08 52 40.5**	**+1.5**
KBA	**Koelnbreinsper** comp=Z,4.5nm,0.3s	**2.83**	**326**	*e*Pn		**Pn**		**08 52 39.8**	**+0.7**
RUDO	**Rudo**	**2.90**	**112**	*e*Pn		**Pn**		**08 52 41.2**	**+1.3**
RUDO				*e*Sn		**Sn**		**08 53 16.0**	**+1.0**
ABTA	**Abfaltersbach** comp=Z,5.7nm,0.5s,SNR=7.0	**2.97**	**313**	Pn		**Pn**		**08 52 42.4**	**+1.4**
RONA	**Rosalia, Austr** comp=Z,14nm,0.2s,SNR=11	**2.98**	**8**	Pn		**Pn**		**08 52 42.4**	**+1.4**
DIVS	**Divibare**	**3.17**	**100**	*e*Pn		**Pn**		**08 52 45.5**	**+1.8**
CONA	**Conrad Observa** comp=Z,5.5nm,0.2s,SNR=7.6	**3.18**	**2**	*i* Pn		**Pn**		**08 52 45.5**	**+1.7**
CONA	comp=Z,10nm,0.4s			*i* Sn		**Sn**		**08 53 22.2**	**+0.2**
MOA	**Molln** comp=Z,8.7nm,0.3s	**3.24**	**343**	*e*Pn		**Pn**		**08 52 46.7**	**+2.0**
MOA	comp=Z,9.2nm,0.4s			*i* Sn		**Sn**		**08 53 24.9**	**+1.4**
TRUS	**Trudelj**	**3.43**	**97**	*e*Pn		**Pn**		**08 52 48.3**	**+1.1**
PDG	**Podgorica**	**3.49**	**130**	*e*Sn		**Sn**		**08 53 32.6**	**+3.0**
GRUS	**Gruza**	**3.72**	**102**	*e*Pn		**Pn**		**08 52 52.3**	**+1.1**
GRUS				*e*Sn		**Sn**		**08 53 35.4**	**0.0**
WTTA	**Wattenberg** comp=Z,6.4nm,0.2s	**3.77**	**313**	*e*Pn		**Pn**		**08 52 53.0**	**+1.0**
MODS	**Modra-Piesok**	**3.79**	**16**	*e*PN		**Pn**		**08 52 50.5**	**-1.6**
MODS				*e*SN		**Sn**		**08 53 31.4**	**-5.5**
WATA	**Walderalm** comp=Z,3.3nm,0.2s	**3.84**	**314**	*e*Pn		**Pn**		**08 52 54.2**	**+1.2**
GOCS	**Kraljevo Serbi**	**3.93**	**106**	*e*Pn		**Pn**		**08 52 55.4**	**+1.2**
GOCS				*e*Sn		**Sn**		**08 53 39.6**	**-1.0**
MOTA	**Moosalm** comp=Z,7.8nm,0.6s	**4.10**	**311**	*e*Pn		**Pn**		**08 52 57.8**	**+1.3**
FETA	**Feichten** comp=Z,1.6nm,0.3s,SNR=4.5	**4.13**	**305**	Pn		**Pn**		**08 52 58.6**	**+1.7**
FETA	comp=Z,3.6nm,0.5s			*e*Sn		**Sn**		**08 53 47.2**	**+1.6**
FETA	comp=Z,22nm,0.8s			*e*Sg		**Sg**		**08 54 06.5**	**+0.8**
SELS	**Selova**	**4.22**	**109**	*e*Pn		**Pn**		**08 52 58.7**	**+0.6**
JAVC	**Velka Javorina**	**4.33**	**18**	*e*PN		**Pn**		**08 53 00.3**	**+0.7**
VYHS	**Vyhne**	**4.33**	**29**	*e*PN		**Pn**		**08 53 00.1**	**+0.5**
VYHS				*e*SN		**Sn**		**08 53 48.6**	**-1.7**
KRUC	**Moravsky**	**4.34**	**6**	*e*PN		**Pn**		**08 53 00.5**	**+0.9**
KRUC				*e*SN		**Sn**		**08 53 48.5**	**-1.9**
VRAC	**Vranov**	**4.60**	**8**	*e*PN		**Pn**		**08 53 03.3**	**0.0**
VRAC				*e*SN		**Sn**		**08 53 54.8**	**-2.1**
KHC	**Kasperske Hory**	**4.60**	**343**	*e*PN		**Pn**		**08 53 04.8**	**+1.4**
KHC				*e*SN		**Sn**		**08 53 55.4**	**-1.7**
ZAGS	**Zajecar**	**4.81**	**99**	*e*Pn		**Pn**		**08 53 07.2**	**+1.1**
ZAGS				*e*Sn		**Sn**		**08 54 01.1**	**-0.9**
BARS	**Barje**	**4.85**	**111**	*e*Pn		**Pn**		**08 53 08.0**	**+1.2**
BARS				*e*Sn		**Sn**		**08 54 02.1**	**-1.2**
MORC	**Moravsky Berou**	**5.18**	**14**	*e*PN		**Pn**		**08 53 11.7**	**+0.4**
GOPC	**GO Pecny, Ondr**	**5.20**	**354**	*e*PN		**Pn**		**08 53 12.8**	**+1.3**
GOPC				*e*SN		**Sn**		**08 54 10.0**	**-1.6**
ZAPS	**Zavoj**	**5.24**	**104**	*e*Pn		**Pn**		**08 53 13.3**	**+1.2**
ZAPS				*e*Sn		**Sn**		**08 54 11.2**	**-1.5**
UPC	**Upice**	**5.76**	**2**	*e*PN		**Pn**		**08 53 18.6**	**-0.6**

*NEIC **26** 09:05:17.9±0.8, 36°.361N±0°.010×98°.15W±0°.01, h8km±4km, Error ellipse: s-maj=1.4km s-min=1.3km az=152.0*

NEIC 26 09:05:17.7±0.7, 36°.360N±0°.009×98°.15W±0°.01, h4km±3km, mb_Lg2.4/44, ML2.7/36, ML2.9/66, Error ellipse: s-maj=1.4km s-min=1.3km az=143.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.20**	**44**		Pg		09 05 22.4	+0.7
CROK				Sg	Sg		09 05 25.6	+1.3
CROK	comp=E,3µm,0.3s			IAML			09 05 25.7	
CROK	comp=N,3µm,0.3s			IAML			09 05 25.7	
OK038	**West end E0370**	**0.49**	**284**		Pg		09 05 27.6	+0.5
OK038					Sg		09 05 34.6	+1.1
OK038	comp=N,813nm,0.2s			IAML			09 05 39.1	
GC02	**Grant County #**	**0.55**	**26**		Pg		09 05 28.6	+0.3
GC02					Sg		09 05 36.2	+0.9
KAN14	**Manchester OK**	**0.61**	**14**		Pg		09 05 29.9	+0.3
KAN14					Sg		09 05 38.4	+0.8
KAN14	comp=E,411nm,0.2s			IAML			09 05 38.5	
KAN17	**Caldwell West**	**0.75**	**25**		Pg		09 05 32.3	+0.1
KAN17	comp=N,375nm,0.3s			IAML			09 05 47.6	
KAN10	**Anthony SW Sta**	**0.76**	**4**		Pg		09 05 32.6	+0.2
KAN10					Sg		09 05 43.1	+0.8
OK029	**Liberty Lake**	**0.80**	**135**		Pg		09 05 33.1	0.0
OK029	comp=N,337nm,0.4s			IAML			09 05 46.6	
OK029	comp=N,426nm,0.4s			IAML			09 05 46.8	
BCOK	**Bluff Creek, N**	**0.83**	**148**		Pg		09 05 33.6	0.0
BCOK					Sg		09 05 45.2	+0.8
CSTR	**Hydro, Custer**	**0.83**	**211**		Pg		09 05 34.1	+0.3
CSTR					Sb		09 05 45.9	-0.4
KAN13	**South Haven SW**	**0.85**	**40**		Pg		09 05 34.1	+0.1
KAN13					Sg		09 05 45.4	+0.3
KAN13	comp=N,496nm,0.3s			IAML			09 05 49.9	
KAN01	**Argonia South**	**0.85**	**22**		Pg		09 05 34.1	0.0
KAN01				Sg	Sg		09 05 45.4	+0.2
BLOK	**Blackwell**	**0.85**	**62**		Pg		09 05 34.2	+0.1
BLOK					Sg		09 05 45.6	+0.4
BLOK	comp=E,514nm,0.2s			IAML			09 05 45.9	
KAN08	**Anthony NE Sta**	**0.88**	**10**		Pg		09 05 34.7	+0.1
KAN08					Sg		09 05 46.5	+0.5
KAN08	comp=E,303nm,0.1s			IAML			09 05 48.6	
KAN09	**Caldwell North**	**0.89**	**29**		Pg		09 05 34.9	+0.2
KAN09					Sg		09 05 46.7	+0.4
KAN06	**Argonia West S**	**0.92**	**15**	Pg	Pg		09 05 34.8	-0.5
KAN06	comp=E,366nm,0.1s			IAML			09 06 01.2	
KAN12	**Harper NE Stat**	**0.94**	**8**		Pg		09 05 36.0	+0.2
KAN12					Sg		09 05 48.6	+0.5
KAN12	comp=E,357nm,0.3s			IAML			09 05 49.8	
KAN12	comp=N,377nm,0.3s			IAML			09 06 01.6	
ADOK	**Arcadia Dam**	**0.95**	**138**	Pg	Pg		09 05 36.0	0.0
ELIS	**Ellis County**	**1.06**	**254**	Pg	Pg		09 05 38.2	0.0
ELIS	comp=N,242nm,0.2s			IAML			09 06 00.6	
ELIS	comp=E,222nm,0.2s			IAML			09 06 01.8	
OK051	**E0350 and S346**	**1.07**	**82**		Pg		09 05 38.2	-0.1
OKCSW	**OKLAHOMA CITY**	**1.12**	**148**		Pg		09 05 38.8	-0.4
OKCSW	comp=E,190nm,0.3s			IAML			09 05 59.4	
OK052	**Battle Ridge R**	**1.15**	**108**		Pg		09 05 39.7	-0.2
OK052	comp=E,260nm,0.2s			IAML			09 05 57.4	
QUOK	**Quay**	**1.18**	**99**		Pg		09 05 40.1	-0.3
QUOK	comp=E,286nm,0.2s			IAML			09 06 00.6	
FNO	**Franklin**	**1.26**	**151**		Pg		09 05 41.2	-0.6
FNO	comp=E,222nm,0.2s			IAML			09 05 59.5	
T35A	**Sooner Cattle**	**1.43**	**67**		Pb		09 05 44.8	-0.2
DEOK	**Depew**	**1.44**	**111**		Pn		09 05 44.1	-0.4
WMOK	**Wichita Mounta**	**1.70**	**198**		Pn		09 05 48.3	+0.2
WMOK	**Wichita Mounta** comp=Z,18nm,0.7s	**1.70**	**198**	IAmb_Lg			09 06 11.4	
DRZT	**Darrouzett**	**1.73**	**273**		Pb		09 05 50.3	+0.2
X34A	**Smith Ranch, M**	**1.77**	**171**		Pb		09 05 50.1	-0.7
X34A	comp=Z,27nm,0.7s			IAmb_Lg			09 06 17.5	
TUL3	**Leonard**	**1.96**	**103**		Pn		09 05 52.6	+0.8
R32A	**Long Quarter,**	**2.11**	**348**		Pb		09 05 55.4	-1.1
SMWD	**Samnorwood**	**2.11**	**234**		Pn		09 05 54.8	+1.0
LOOK	**Love County**	**2.49**	**161**	Pn	Pn		09 05 59.5	+0.4
LOOK	comp=Z,13nm,0.7s			IAmb_Lg			09 06 43.5	
RLO	**Rose Lookout**	**2.54**	**93**		Pn		09 05 59.8	+0.2
WTFS	**Witchita Falls**	**2.60**	**186**	Pn	Pn		09 06 01.3	+0.8

CBKS	**Cedar Bluff**	**2.75**	**333**	Pn		Pn		09 06 02.8	+0.2
U38A	**Gravette**	**3.04**	**87**	Pn		Pn		09 06 07.2	+0.6
AMTX	**Amarillo**	**3.23**	**244**	Pn		Pn		09 06 09.7	+0.5
HHAR	**Hobbs**	**3.40**	**90**	Pn		Pn		09 06 13.8	+2.3
HHAR	comp=Z,7.6nm,0.7s			IAmb_Lg				09 07 04.5	
APMT	**Aspermont**	**3.43**	**209**	Pn		Pn		09 06 14.3	+2.3
DKNS	**Dickens** comp=Z,17nm,0.8s	**3.52**	**221**	IAmb_Lg				09 07 12.4	
PLPT	**Palo Pinto**	**3.54**	**182**	Pn		Pn		09 06 14.5	+1.1
RTBA	**Rita Blanca**	**3.70**	**273**	Pn		Pn		09 06 16.9	+1.2
ABTX	**Abilene, Hawle** comp=Z,6.7nm,0.8s	**3.92**	**199**	IAmb_Lg				09 07 26.7	
SN07	**Snyder 07** comp=Z,6.8nm,0.7s	**3.96**	**215**	IAmb_Lg				09 07 33.4	
MIAR	**Mount Ida** comp=Z,9.9nm,0.8s	**4.15**	**115**	IAmb_Lg				09 07 39.4	
POST	**Post** comp=Z,9.2nm,1.0s	**4.29**	**221**	IAmb_Lg				09 07 39.5	
KSCO	**Kaye Shedlock'**	**4.43**	**308**	Pn		Pn		09 06 24.9	-0.9
KSCO	comp=Z,12nm,0.8s			IAmb_Lg				09 07 47.2	
X40A	**Basin Creek Fa**	**4.73**	**112**	Pn		Pn		09 06 30.3	+0.5
X40A	comp=Z,7.5nm,0.7s			IAmb_Lg				09 08 00.9	
MGMO	**Mountain Grove**	**4.79**	**79**	Pn		Pn		09 06 29.0	-1.7
MGMO	comp=Z,4.9nm,0.8s			IAmb_Lg				09 08 02.1	
WHAR	**Wooly Hollow**	**4.88**	**101**	Pn		Pn		09 06 31.3	-0.6
P38A	**Dawn**	**4.89**	**47**	Pn		Pn		09 06 30.7	-1.3
P38A	comp=Z,6.6nm,0.7s			IAmb_Lg				09 08 00.5	
R40A	**Maddies Statio** comp=Z,5.4nm,0.9s	**5.07**	**66**	IAmb_Lg				09 08 06.3	
T25A	**Trinidad** comp=Z,7.7nm,0.7s	**5.08**	**281**	Pn		Pn		09 06 32.6	-2.3
T25A				IAmb_Lg				09 08 04.0	
BRDY	**Brady** comp=Z,4.4nm,0.9s	**5.11**	**188**	IAmb_Lg				09 08 11.3	
CCM	**Cathedral Cave** comp=Z,6.5nm,0.8s	**5.77**	**71**	IAmb_Lg				09 08 21.9	
Q24A	**Divide** comp=Z,5.0nm,0.7s	**6.13**	**297**	IAmb_Lg				09 08 40.0	
PBMO	**Poplar Bluff** comp=Z,7.3nm,0.7s	**6.23**	**84**	IAmb_Lg				09 08 39.1	
ISCO	**Idaho Springs** comp=Z,3.5nm,0.8s	**6.81**	**303**	IAmb_Lg				09 08 54.7	
L40A	**Anamosa** comp=Z,6.2nm,0.7s	**7.83**	**41**	IAmb_Lg				09 09 29.6	

*JMA **26** 09:38:01.3±0.1, 24°.N±1°.×122°.5E±0°.3, h16km±1km, MV2.1/6, NW OFF ISHIGAKIJIMA IS*
*TAP **26** 09:38:01.7, 24°.45N×122°.43E, h11km±1km, ML2.5, C*

ISC 26 09:38:00.8±1.0, 24°.50N±0°.04×122°.53E±0°.02, h13km±9km, n30, σ8°.55/51, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.28**	**254**	P	P	**Pg**	**09 38 07.1**	**+0.4**
EOS2				S	S	**Sb**	**09 38 12.0**	**-0.3**
EOS3	**EOS3**	**0.29**	**223**	P	P	**Pg**	**09 38 07.0**	**+0.3**
EOS3				S	*e*S	**Sg**	**09 38 10.2**	**-0.4**
EOS4	**EOS4**	**0.42**	**208**	*e*P	P	**Pg**	**09 38 09.3**	**+0.2**
YOJ	**Yonaguni jima**	**0.44**	**95**	*e*P	P	**Pg**	**09 38 10.1**	**+0.7**
YOJ	**Yonaguni jima**	**0.44**	**95**	*e*P	P	**Pb**	**09 38 10.5**	**+0.1**
ESAO	**Su ao**	**0.63**	**277**	*e*P	P	**Pg**	**09 38 12.9**	**-0.2**
ESAO				*e*S	S	**Sg**	**09 38 21.6**	**+0.1**
TWC	**Suao**	**0.63**	**280**	*e*P	P	**Pg**	**09 38 13.2**	**+0.1**
TWC				*e*S	S	**Sg**	**09 38 21.3**	**-0.2**
EGS		**0.65**	**303**	*e*P	P	**Pb**	**09 38 14.2**	**+0.3**
EWUT	**Wuta**	**0.69**	**266**	*e*P	P	**Pg**	**09 38 14.1**	**-0.1**
EWUT				*e*S	S	**Sg**	**09 38 22.7**	**-0.6**
TWB1	**Santiao Chiao**	**0.71**	**316**	*e*P	P	**Pn**	**09 38 16.0**	**-0.5**
ENA	**Nanau**	**0.72**	**265**	P	P	**Pg**	**09 38 14.9**	**0.0**
NDS	**Dongshan**	**0.76**	**281**	*e*P	P	**Pg**	**09 38 14.6**	**-0.8**
NDS				*e*S	S	**Sg**	**09 38 25.2**	**-0.2**
TIPB	**Shuangxi**	**0.80**	**306**	P	P	**Pb**	**09 38 17.3**	**+0.7**
TIPB				*e*S	S	**Sb**	**09 38 27.6**	**+0.3**
TWE	**Neicheng**	**0.82**	**286**	P	P	**Pb**	**09 38 17.1**	**+0.2**
TWE				*e*S	S	**Sb**	**09 38 27.9**	**+0.2**
SXI1	**Grass Mountain**	**0.84**	**315**	*i* P	P	**Pb**	**09 38 17.9**	**+0.6**
SXI1				*i* S	S	**Sb**	**09 38 29.6**	**+1.0**
ENTT	**Nioudou**	**0.89**	**279**	P	P	**Pg**	**09 38 17.9**	**-0.2**
ENTT				*e*S	S	**Sb**	**09 38 30.2**	**+0.3**
FUSB	**Fushanzhiwuyua**	**0.90**	**287**	*i* P	P	**Pb**	**09 38 18.4**	**+0.2**
FUSB				*i* S	S	**Sb**	**09 38 30.3**	**+0.1**
NACB	**Ninganchiao**	**0.91**	**250**	*e*P	P	**Pg**	**09 38 17.6**	**-0.8**
NACB				*e*S	S	**Sb**	**09 38 30.8**	**+0.3**
LATG	**Datong**	**0.92**	**273**	P	P	**Pg**	**09 38 18.3**	**-0.2**
LATG				*e*S	S	**Sb**	**09 38 30.6**	**-0.1**
TNOU	**National Taiwa**	**0.95**	**313**	*e*P	P	**Pb**	**09 38 19.4**	**+0.3**
TNOU				*e*S	S	**Sb**	**09 38 31.5**	**-0.1**
NWLT	**Wulai**	**0.98**	**287**	P	P	**Pb**	**09 38 19.8**	**+0.2**
NWLT				*e*S	S	**Sg**	**09 38 31.8**	**-0.7**
ETLH	**Xiulin Townshi**	**1.00**	**253**	*e*P	P	**Pg**	**09 38 19.3**	**-0.8**
NNSB	**Datong**	**1.05**	**267**	*e*P	P	**Pg**	**09 38 20.4**	**-0.6**
NNSB				*e*S	S	**Sg**	**09 38 33.6**	**-1.1**
NNS	**Nan Shan**	**1.06**	**267**	*e*P	P	**Pg**	**09 38 20.6**	**-0.7**
NNS				*e*S	S	**Sg**	**09 38 34.8**	**-0.2**
NSK	**Sanguang**	**1.08**	**280**	*e*P	P	**Pb**	**09 38 21.7**	**+0.3**
NSK				*e*S	S	**Sg**	**09 38 35.4**	**-0.5**
YM01	**YM01**	**1.09**	**307**	*e*P	P	**Pb**	**09 38 21.6**	**+0.2**
YM01				*e*S	S	**Sb**	**09 38 36.0**	**+0.4**
IRIF	**Iriomote-Funau**	**1.10**	**98**	*e*P	P	**Pg**	**09 38 21.4**	**-0.6**
IRIF				*e*S	S	**Sg**	**09 38 36.6**	**+0.2**
LXIB	**Xiulin Townshi**	**1.13**	**245**	*e*S	S	**Sn**	**09 38 39.7**	**+1.9**
JKRS	**Kuro-shima**	**1.37**	**101**	*e*P	P	**Pn**	**09 38 25.7**	**+0.1**
JKRS				*e*S	S	**Sb**	**09 38 43.0**	**-0.7**
JIJ	**Ishigaki jima**	**1.47**	**95**	*e*S	S	**Sn**	**09 38 45.4**	**-0.8**

*IDC **26** 09:51:23.8±2.9, 53°.74N×87°.07E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=28.2km s-min=16.6km az=66.0*

ASRS 26 09:51:24.0±1.1, 53°.64N×86°.72E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=100,slow=327,SNR=3.1	**1.17**	**286**	I	I		09 59 20.0	
ZALV	**Zalesovo Beam** 1.1nm,0.3s,baz=100,slow=18,SNR=12	**1.17**	**286**	Pg	Pn		09 51 48.0	+0.4
ZALV	0.8nm,0.3s,baz=98,slow=31,SNR=5.8			Lg	Lg		09 52 07.7	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=60,slow=14,SNR=3.0 0.3nm,0.4s	**5.88**	**242**	Pn	Pn		09 52 55.4	+3.1
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=25,slow=13,SNR=5.6 0.2nm,0.3s	**7.42**	**204**	Pn	Pn		09 53 17.4	+3.9

*SDD **26** 09:54:39.3±1.3, 19°.01N×70°.36W, h31km±10km, MD3.1, ML2.4, MW2.8*
*OSPL **26** 09:54:40.1±1.1, 18°.97N×70°.35W, h15km±5km, ML1.7*

ISC 26 09:54:39.2±1.0, 18°.98N±0°.04×70°.32W±0°.03, h26km±11km, n13, σ1°.57/24, 6C-8D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DR08	**Loma La Naviza**	**0.28**	**94**	*e*Pg	P	**Pb**	**09 54 46.8**	**+0.7**
DR08				*e*Sg	S	**Sn**	**09 54 52.6**	**-0.7**
DR08	comp=N,5µm,0.1s			IAML			09 54 53.0	
SC01	**Santiago de lo**	**0.58**	**319**	*i* P	P	**Pb**	**09 54 50.1**	**-0.7**
SC01				*e*S	S	**Sb**	**09 54 59.0**	**+0.2**
SC01	comp=Z,39nm,0.7s			IAML			09 55 00.7	
BANI	**BANI**	**0.59**	**183**	*e*Pg	P	**Pb**	**09 54 50.9**	**-0.1**
BANI				*e*Sg	S	**Sb**	**09 54 59.5**	**+0.4**
BANI	comp=N,128nm,0.3s			IAML			09 55 04.2	
SDD	**Santo Domingo**	**0.65**	**143**	*i* P	P	**Pb**	**09 54 51.6**	**-0.3**
SDD				*e*S	S	**Sb**	**09 55 00.6**	**0.0**
SDDR	**Presa de Saban**	**0.91**	**270**	*e*Pg	P	**Pb**	**09 54 55.4**	**-1.0**
SDDR				*e*Sg	S	**Sb**	**09 55 05.9**	**-2.3**
SDDR	comp=N,47nm,0.3s			IAML			09 55 09.9	
SDDR	**Presa de Saban**	**0.91**	**270**	*i* P	P	**Pb**	**09 54 55.2**	**-1.2**
SDDR				*e*S	S	**Sb**	**09 55 07.6**	**-0.7**
SDDR	comp=Z,33nm,0.5s			IAML			09 55 08.5	
REDR	**Restauracion**	**1.03**	**280**	*e*Pg	P	**Pb**	**09 55 00.6**	**+2.2**
REDR				*e*Sg	S	**Sn**	**09 55 17.2**	**+5.7**
REDR	comp=N,71nm,0.1s			IAML			09 55 18.3	
LUDR	**Luperon**	**1.08**	**327**	*e*Pg	P	**Pn**	**09 54 57.9**	**-0.7**
LONE3	**El Aguacate, B**	**1.14**	**251**	*i* P	P	**Pn**	**09 54 60.0**	**+0.4**
LONE3				*e*S	S	**Sn**	**09 55 13.8**	**-0.7**
LONE3	comp=Z,12nm,0.5s			IAML			09 55 16.7	
LOPP1	**Punta Rusia, P**	**1.20**	**316**	*i* P	P	**Pn**	**09 54 59.8**	**-0.4**
LOPP1				*e*S	S	**Sn**	**09 55 15.8**	**+0.2**
LOPP1	comp=Z,34nm,1.8s			IAML			09 55 20.5	
MIDR	**Miches**	**1.20**	**90**	*e*Pg	P	**Pn**	**09 55 00.1**	**-0.2**
MIDR	comp=N,21nm,0.9s			IAML			09 55 20.3	
JIDR	**Jimani**	**1.53**	**252**	*e*Pg	P	**Pn**	**09 55 04.9**	**+0.1**
JIDR				*e*Sg	S	**Sn**	**09 55 22.8**	**-1.1**
JIDR	comp=N,31nm,2.3s			IAML			09 55 30.7	
HIDR	**Higuey Centro**	**1.57**	**104**	*e*Pg	P	**Pn**	**09 55 05.4**	**0.0**
HIDR				*e*Sg	S	**Sn**	**09 55 25.3**	**+0.4**
HIDR	comp=N,55nm,0.2s			IAML			09 55 33.6	

*IDC **26** 10:01:16.0±9.0, 2°.20N×126°.92E, h0km, mb3.7/4, mbtmp3.8/4, Error ellipse: s-maj=142.4km s-min=107.3km az=143.0*
*DJA **26** 10:01:41.5±1.0, 1°.N±4°.×12°.7E±°., h134km±20km, M4.1/11, mB4.8/3, mb4.1/3, MLv4.2/11, Mw(mB)4.1/3*

ISC 26 10:01:38.3±1.4, 1°.19N±0°.09×127°.4E±0°.1, h100km, n11, σ2°.01/11, mb3.9/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.13**	**322**	P	P	**Pn**	**10 02 27.8**	**+1.9**
KMSI	**Cibinong**	**3.52**	**260**	P	P	**Pn**	**10 02 33.1**	**+2.1**
SANI	**Sanana**	**3.53**	**204**	P	P	**Pn**	**10 02 32.9**	**+1.6**
NLAI	**Namlea**	**4.41**	**184**	P	P	**Pn**	**10 02 46.6**	**+3.5**
LUWI	**Luwuk**	**5.17**	**245**	P	P	**Pn**	**10 02 54.6**	**+1.2**
APSI	**Ampana** 0.2nm3µm34nm,0.5s	**6.16**	**250**	P	P	**Pn**	**10 03 07.6**	**+0.8**
TTSI	**Tana Toraja**	**8.71**	**241**	P	P	**Pn**	**10 03 42.4**	**+0.9**
FITZ	**Fitzroy Crossi** 1.9nm,0.9s,baz=10,slow=11,SNR=2.7 1.9nm,0.9s	**19.25**	**185**	P	P	**P**	**10 05 53.7**	**-1.3**
WRA	**Warramunga Arr** 2.7nm,0.4s,baz=339,slow=11,SNR=50 2.7nm,0.4s	**22.06**	**163**	P	P	**Pn**	**10 06 23.9**	**-1.3**
ASAR	**Alice Springs** 0.4nm,0.5s,baz=348,slow=7.4,SNR=13 0.4nm,0.5s	**25.49**	**166**	P	P	**Pn**	**10 06 56.0**	**-1.5**
STKA	**Stephens Creek** 0.8nm,0.4s,baz=324,slow=6.8,SNR=4.4 0.8nm,0.4s	**35.52**	**159**	P	P	**Pn**	**10 08 24.6**	**-1.0**

*IDC **26** 10:02:15.7±0.7, 37°.02S×176°.90E, h232km±5km, mb3.8/11, mbtmp4.3/12, Error ellipse: s-maj=20.6km s-min=12.1km az=50.0*
*NOU **26** 10:02:17.3, 37°.41S×176°.75E, h247km, MLv4.9/24, North Island, New Zealand*
*NEIC **26** 10:02:18.3±2.6, 37°.37S±0°.09×176°.32E±0°.09, h252km±5km, mb4.2/29, Error ellipse: s-maj=13.5km s-min=9.6km az=166.0*
*WEL **26** 10:02:20.4±0.8, 37°.S±6°.×17°.7E±°., h222km±6km, M5.0/121, MLv5.0/121, Error ellipse: s-maj=8.4km s-min=6.1km az=18.4, confirmed*
*WEL **26** 10:02:20.4, 37°.27S×176°.82E, h248km, ML5.0, Mw4.5, Moment Tensor Solution. s5 Moment tensor: Scale 10^15 Nm; Mrr2.09; Mθθ2.54; Mφφ-4.63; Mrθ3.08; Mθφ-4.40; Mφr0.84; Fault plane solution: Mo6.70000×10^15 NP1: φs65.00000°, δ77.00000°, λ146.00000°. NP2: φs164.00000°, δ57.00000°, λ15.00000°. Principal axes: T -7.2139, Plg33.0000°, Azm19.0000°; N 6.1895, Plg54.0000°, Azm226.0000°; P 1.0243, Plg13.0000°, Azm118.0000°; Stations used: URZ KUZ MKAZ PUZ HIZ OBLIQUE-REVERSE FAULTING*

ISC 26 10:02:18.7±0.6, 37°.36S±0°.05×176°.76E±0°.05, h242km±4km, n309, σ1°.14/231, mb4.2/25, 3C, North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WSRZ	**White Island S**	**0.37**	**116**	P	P	**Pn**	**10 02 49.9**	**-0.4**
WIZ	**White Island**	**0.38**	**116**	P	P	**Pn**	**10 02 49.7**	**-0.6**
OPRZ	**Ohinepanea**	**0.51**	**198**	P	P	**Pn**	**10 02 50.6**	**0.0**
OPRZ				S	S	**S**	**10 03 15.5**	**-0.4**
WHRZ	**Whale Island**	**0.53**	**161**	P	P	**Pn**	**10 02 50.9**	**+0.1**
TGRZ	**Tauranga**	**0.54**	**227**	P	P	**Pn**	**10 02 51.0**	**+0.2**
TBCS	**Tauranga Boys**	**0.59**	**234**	P	P	**Pn**	**10 02 51.3**	**+0.4**
MARZ	**Manawahe**	**0.63**	**186**	P	P	**Pn**	**10 02 51.3**	**+0.2**
LIRZ	**Lichensteins R**	**0.71**	**205**	P	P	**Pn**	**10 02 51.8**	**+0.4**
EDRZ	**Edgecumbe**	**0.75**	**181**	P	P	**Pn**	**10 02 51.7**	**+0.1**
KARZ	**Kaharoa**	**0.78**	**211**	P	P	**Pn**	**10 02 52.1**	**+0.4**
OMRZ	**Omania**	**0.81**	**202**	P	P	**Pn**	**10 02 52.3**	**+0.4**
KMRZ	**Kaimai**	**0.81**	**233**	P	P	**Pn**	**10 02 52.4**	**+0.5**
MKRZ	**Makatiti**	**0.81

MTHZ	Maungataniwha	1.49 177	P	Pn	10 02 56.5 +0.3
SNGZ	Shannon Statio	1.49 162	P	Pn	10 02 56.8 +0.6
MRHZ	Matea Rd	1.50 190	P	Pn	10 02 56.4 +0.2
KBAZ	Karaka Road Bo	1.51 279	P	Pn	10 02 56.6 +0.3
ETAZ	East Tamaki Re	1.52 285	P	Pn	10 02 56.3 -0.1
GRZ	Great Barrier	1.52 316	P	Pn	10 02 55.5 -1.0
RIGZ	Rimuhau	1.56 150	P	Pn	10 02 57.6 +0.8
WATZ	Wairara	1.57 211	P	Pn	10 02 57.5 +0.7
RAHZ	Arahi	1.58 171	P	Pn	10 02 57.6 +0.8
TBAS	Tolaga Bay Are	1.59 130	P	Pn	10 02 58.0 +1.2
MBAZ	Motutapu North	1.60 291	P	Pn	10 02 56.9 -0.1
CNGZ	Carnagh Statio	1.61 135	P	Pn	10 02 58.1 +1.1
GKBS	Kaiti Beach	1.66 143	P	Pn	10 02 58.4 +0.9
EPAZ	Eden Park BICE	1.68 286	P	Pn	10 02 57.4 -0.2
RATZ	Rangitukua	1.69 207	P	Pn	10 02 58.3 +0.5
HBAZ	Herne Bay Bore	1.70 287	P	Pn	10 02 57.5 -0.3
AWAZ	Awhitu Peninsu	1.71 279	P	Pn	10 02 57.8 -0.1
ABAZ	Army Bay	1.72 296	P	Pn	10 02 57.8 -0.2
NMHZ	Naumai	1.74 179	P	Pn	10 02 59.2 +1.0
WHHZ	Waihua	1.76 168	P	Pn	10 02 59.1 +0.9
RITZ	Rihia Road	1.77 203	P	Pn	10 02 59.1 +0.7
WTAZ	Waiatarua	1.80 283	P	Pn	10 02 58.6 -0.1
PRGZ	Paritu Road	1.80 151	P	Pn	10 02 59.0 +0.4
KNZ	Kokohu	1.81 157	P	Pn	10 02 59.2 +0.5
BKZ	Black Stump Fm	1.82 186		Pn	10 02 59.0 +0.1
BKZ			Sn	S	10 03 29.4 -1.2
BKZ	Black Stump Fm	1.82 186	P	Pn	10 02 58.8 -0.1
BKZ	Black Stump Fm	1.82 186	S	S	10 03 29.6 -1.0
BKZ	Black Stump Fm	1.82 186	P	Pn	10 02 59.0 +0.1
KATZ	Kakaramea	1.82 207	P	Pn	10 02 59.4 +0.4
RVAZ	Riverhead Bore	1.84 288	P	Pn	10 02 58.5 -0.6
HIZ	Hauiti	1.90 232	Pn	Pn	10 03 00.5 +1.0
HIZ	Hauiti	1.90 232	P	Pn	10 03 00.3 +0.8
HIZ	Hauiti	1.90 232	P	Pn	10 03 00.4 +1.0
ARHZ	Aropaoanui	1.91 174	P	Pn	10 03 00.6 +1.0
TMVZ	Te Maari	1.94 205	P	Pn	10 03 00.3 +0.2
KRVZ	Karewarewa	1.94 207	P	Pn	10 03 00.3 +0.2
ETVZ	East Tongariro	1.96 205	P	Pn	10 03 00.5 +0.3
WTVZ	West Tongariro	1.98 207	P	Pn	10 03 00.6 +0.2
NNVZ	North Ngauruho	1.99 207	P	Pn	10 03 00.7 +0.2
OTVZ	Oturere	2.00 205	P	Pn	10 03 00.8 +0.3
TWVZ	Taurewa	2.00 211	P	Pn	10 03 00.9 +0.3
MHGZ	Mahia Peninsul	2.01 154	P	Pn	10 03 01.3 +0.7
SNVZ	South Ngauruho	2.03 205	P	Pn	10 03 01.1 +0.2
NGZ	Ngauruhoe	2.03 206	P	Pn	10 03 01.1 +0.2
COVZ	Chateau Observ	2.07 207	P	Pn	10 03 01.3 +0.1
KWHZ	Kaweka Forest	2.08 187	P	Pn	10 03 01.8 +0.5
MCHZ	McNeill Hill	2.08 181	P	Pn	10 03 02.2 +1.0
TUVZ	Tukino	2.10 204	P	Pn	10 03 01.8 +0.3
FWVZ	Far West T-bar	2.12 206	P	Pn	10 03 01.7 -0.1
MAVZ	Mataroa	2.13 206	P	Pn	10 03 02.0 0.0
NGHS	Napier Girls H	2.13 177	P	Pn	10 03 02.4 +0.8
WHVZ	Whangaehu Hut	2.13 205	P	Pn	10 03 02.0 +0.1
NCDS	Napier Civil D	2.14 178	P	Pn	10 03 02.4 +0.7
NCHS	Napier Colenso	2.15 177	P	Pn	10 03 01.4 -0.4
TRVZ	Turoa	2.16 206	P	Pn	10 03 02.3 +0.1
WNVZ	Wahianoa	2.17 205	P	Pn	10 03 02.3 +0.1
MOVZ	Moawhango	2.19 201	P	Pn	10 03 02.1 -0.3
PKVZ	Pokaka	2.23 209	P	Pn	10 03 02.8 +0.1
MTVZ	Mangateitei	2.26 206	P	Pn	10 03 03.2 +0.2
HCDS	Hastings Civil	2.29 178	P	Pn	10 03 02.0 -1.1
KRHZ	Kereru	2.30 187	P	Pn	10 03 03.5 +0.2
CKHZ	Cape Kidnapper	2.31 174	P	Pn	10 03 03.9 +0.6
VRZ	Vera Road	2.36 221	P	Pn	10 03 04.8 +0.9
WCZ	Waipu Caves	2.40 305	P	Pn	10 03 03.7 -0.7
KAHZ	Kahuranaki	2.44 178	P	Pn	10 03 05.2 +0.5
MHHZ	Mangahewa	2.57 227	P	Pn	10 03 07.4 +1.4
PNHZ	Pukenui	2.59 190	P	Pn	10 03 06.0 -0.2
PWZ	Pawanui	2.67 178	P	Pn	10 03 06.9 -0.1
PXZ	Pawanui	2.67 178	P	Pn	10 03 07.0 0.0
WPHZ	Waipukurau	2.71 185	P	Pn	10 03 07.3 -0.2
DREZ	Durham Road	2.72 227	P	Pn	10 03 08.9 +1.3
WAZ	Wanganui	2.77 210	P	Pn	10 03 08.1 0.0
TSZ	Takapari Road	2.77 193	P	Pn	10 03 07.8 -0.3
LREZ	Lake Rotokare	2.80 221	P	Pn	10 03 09.5 +1.1
NEZ	North Egmont	2.83 227	P	Pn	10 03 10.1 +1.2
PREZ	Palmer Road	2.85 225	P	Pn	10 03 10.2 +1.2
PKE	Pukeiti	2.85 229	P	Pn	10 03 10.5 +1.5
KHEZ	Kahui Hut	2.90 227	P	Pn	10 03 09.9 +0.3
KHEZ	Kahui Hut	2.90 227	P	Pn	10 03 10.6 +1.0
PRHZ	Porangahau	2.91 182	P	Pn	10 03 09.3 -0.3
NBEZ	Newall Road No	2.97 229	P	Pn	10 03 11.5 +1.3
DVHZ	Dannevirke	2.97 189	P	Pn	10 03 09.6 -0.7
NMEZ	Namu Road	3.06 227	P	Pn	10 03 12.2 +1.0
OHWZ	Ohakea	3.06 201	P	Pn	10 03 11.4 +0.2
ANWZ	Angora Road	3.11 184	P	Pn	10 03 11.5 -0.3
POWZ	Post Office Ro	3.13 194	P	Pn	10 03 11.3 -0.7
PRWZ	Pori Road	3.25 191	P	Pn	10 03 12.8 -0.5
OUZ	Omahuta	3.33 309	P	Pn	10 03 13.0 -1.3
OUZ	Omahuta	3.33 309	P	Pn	10 03 13.2 -1.1
BFZ	Birch Farm	3.34 187		Pn	10 03 13.8 -0.6
BFZ	Birch Farm	3.34 187	P	Pn	10 03 13.5 -0.9
BFZ	Birch Farm	3.34 187	P	Pn	10 03 13.7 -0.7
MRZ	Mangatainoka R	3.42 195		Pn	10 03 14.3 -1.0
MRZ	Mangatainoka R	3.42 195	P	Pn	10 03 14.3 -1.0
TIWZ	Tintock	3.48 191	P	Pn	10 03 15.0 -1.0
CPWZ	Castlepoint	3.57 187	P	Pn	10 03 16.9 -0.1
HOWZ	Holdsworth Sta	3.66 195	P	Pn	10 03 16.6 -1.5
OGWZ	Otaki Gorge	3.67 199	P	Pn	10 03 17.0 -1.1
KIW	Kapiti Island	3.78 202	P	Pn	10 03 18.0 -1.5
TMWZ	Te Maipa	3.80 190	P	Pn	10 03 18.4 -1.3
MTW	Mount Morrison	3.92 194	P	Pn	10 03 19.4 -1.7
CAW	Cannon Point	3.97 199	P	Pn	10 03 20.1 -1.6
DUWZ	D'Urville Isla	4.09 212	P	Pn	10 03 21.1 -2.0
TRWZ	Traveller	4.12 191	P	Pn	10 03 22.0 -1.4
PAWZ	Paruwai Farm	4.15 194	P	Pn	10 03 22.0 -1.8
WEL	Wellington	4.21 201	P	Pn	10 03 22.9 -1.6
MSWZ	Moikau Station	4.22 196		Pn	10 03 22.8 -1.9
MSWZ	Moikau Station	4.22 196	P	Pn	10 03 22.7 -1.9
SNZO	South Karori	4.26 201		Pn	10 03 23.2 -1.8
SNZO	South Karori	4.26 201	P	Pn	10 03 23.0 -2.0
SNZO	South Karori	4.26 201	S	S	10 04 16.3 -1.5
BHW	Baring Head	4.30 199		Pn	10 03 23.6 -2.0
BHW	Baring Head	4.30 199	P	Pn	10 03 23.6 -2.0
TCW	Tory Channel	4.30 206		Pn	10 03 23.8 -1.8
TCW	Tory Channel	4.30 206	P	Pn	10 03 23.8 -1.8
PLWZ	Palliser	4.36 195		Pn	10 03 24.4 -2.1
PLWZ	Palliser	4.36 195	P	Pn	10 03 24.3 -2.1
TUWZ	Tuamarina	4.61 207		Pn	10 03 27.4 -2.0
TUWZ	Tuamarina	4.61 207	P	Pn	10 03 27.4 -2.0
NNZ	Nelson	4.66 213		Pn	10 03 27.4 -2.5
NNZ	Nelson	4.66 213	P	Pn	10 03 27.4 -2.5
TKNZ	Takaka Hill	4.71 218		Pn	10 03 27.7 -2.9
TKNZ	Takaka Hill	4.71 218	P	Pn	10 03 27.6 -3.0
QRZ	Quartz Range	4.78 222	Pn	Pn	10 03 28.6 -2.7
QRZ	Quartz Range	4.78 222	P	Pn	10 03 28.4 -3.0
QRZ	Quartz Range	4.78 222	P	Pn	10 03 28.5 -2.8
CMWZ	Cape Campbell	4.81 203		Pn	10 03 30.3 -1.4
CMWZ	Cape Campbell	4.81 203	P	Pn	10 03 30.5 -1.2
BSWZ	Blackbirch Sta	4.89 206		Pn	10 03 30.7 -2.1
BSWZ	Blackbirch Sta	4.89 206	P	Pn	10 03 30.8 -2.0
MRNZ	Matariki Terra	5.09 216		Pn	10 03 31.9 -3.3
MRNZ	Matariki Terra	5.09 216	P	Pn	10 03 32.1 -3.1
THZ	Tophouse	5.31 213		Pn	10 03 35.1 -2.9
THZ	Tophouse	5.31 213	P	Pn	10 03 35.2 -2.9
KHZ	Kahutara	5.62 205		Pn	10 03 40.1 -1.7
KHZ	Kahutara	5.62 205	P	Pn	10 03 39.9 -1.9
KHZ	Kahutara	5.62 205	S	S	10 04 16.1 -2.1
KHZ	Kahutara	5.62 205	P	Pn	10 03 40.0 -1.8
DSZ	Denniston Nort	5.82 220		Pn	10 03 40.6 -3.7
DSZ	Denniston Nort	5.82 220	P	Pn	10 03 40.6 -3.7
GVZ	Greta Valley S	6.29 206		Pn	10 03 47.9 -2.2
GVZ	Greta Valley S	6.29 206	P	Pn	10 03 47.7 -2.4
LTZ	Lake Taylor	6.42 211		Pn	10 03 48.4 -3.5
LTZ	Lake Taylor	6.42 211	P	Pn	10 03 48.2 -3.6
AMCZ	Amberley	6.61 207		Pn	10 03 51.1 -3.0
AMCZ	Amberley	6.61 207	P	Pn	10 03 51.2 -2.9
INZ	Inchbonnie	6.73 216		Pn	10 03 51.6 -4.1
INZ	Inchbonnie	6.73 216	P	Pn	10 03 51.6 -4.1
MNZS	Menzies Bay Ba	6.90 203	P	Pn	10 03 55.5 -2.3
OKCZ	Okains Bay	6.95 203	P	Pn	10 03 56.0 -2.5
OXZ	Oxford	6.96 210		Pn	10 03 54.7 -4.0
OXZ	Oxford	6.96 210	P	Pn	10 03 54.7 -4.0
MQZ	McQueen's Vall	7.07 205		Pn	10 03 56.6 -3.3
MQZ	McQueen's Vall	7.07 205	P	Pn	10 03 56.4 -3.6
AKCZ	Akaroa Harbour	7.13 203	P	Pn	10 03 58.2 -2.6
RACZ	Rakaia	7.27 207	P	Pn	10 03 58.7 -3.8
MHCZ	Mount Hutt	7.33 211	P	Pn	10 03 59.5 -3.8
WVZ	Waitaha Valley	7.33 217	P	Pn	10 03 59.2 -4.2
WACZ	Wakanui South	7.56 208	P	Pn	10 04 02.8 -3.5
RPZ	Rata Peaks	7.69 213	P	Pn	10 04 04.8 -3.1
	217nm,0.3s,baz=26,slow=2.8,SNR=390				
RPZ			S	S	10 05 27.8 -7.8
	169nm,0.3s,baz=138,slow=23,SNR=16				
RPZ	Rata Peaks	7.69 213	P	Pn	10 04 04.4 -3.5
RPZ	Rata Peaks	7.69 213	P	Pn	10 04 04.4 -3.5
GCSZ	Gaunt Creek Bo	7.71 218	P	Pn	10 04 03.7 -4.4
ARCZ	Arundel	7.83 211	P	Pn	10 04 05.8 -3.8
CTZ	Chatham Island	8.12 144	P	Pn	10 04 12.4 -1.0
CTZ	Chatham Island	8.12 144	P	Pn	10 04 15.8 +2.4
FOZ	Fox Glacier	8.12 218		Pn	10 04 09.5 -3.8
FOZ	Fox Glacier	8.12 218	P	Pn	10 04 09.4 -4.0
TMZ	Timaru	8.26 210	P	Pn	10 04 12.3 -2.8
LBZ	Lake Benmore	8.60 213		Pn	10 04 16.4 -3.1
LBZ	Lake Benmore	8.60 213	P	Pn	10 04 15.8 -3.7
ODZ	Otahua Downs	8.95 209		Pn	10 04 21.5 -2.4
ODZ	Otahua Downs	8.95 209	P	Pn	10 04 21.5 -2.4
ODZ	Otahua Downs	8.95 209	P	Pn	10 04 21.3 -2.6
JCZ	Jackson Bay	9.03 220	P	Pn	10 04 21.5 -3.5
JCZ	Jackson Bay	9.03 220	P	Pn	10 04 20.4 -4.6
GLKZ	Green Lake	9.22 30	P	Pn	10 04 17.6 -10
RAO	Raoul Island	9.23 30	S	S	10 05 55.4 -16
	218nm,0.3s,baz=66,slow=22,SNR=5.7				
WKZ	Wanaka	9.47 216		Pn	10 04 25.7 -4.9
WKZ	Wanaka	9.47 216	P	Pn	10 04 25.4 -5.2
EAZ	Earnscleugh	9.65 213	P	Pn	10 04 28.4 -4.5
HHSZ	Highcliff Hill	9.68 206	P	Pn	10 04 31.7 -1.5
MSZ	Milford Sound	9.89 220	P	Pn	10 04 30.8 -5.0
TUZ	Tuapeka	10.10 210	P	Pn	10 04 36.2 -2.2
MLZ	Mavora Lakes	10.30 216		Pn	10 04 37.2 -3.8
MLZ	Mavora Lakes	10.30 216	P	Pn	10 04 36.6 -4.4
WHZ	Wether Hill Ro	10.77 215		Pn	10 04 42.4 -4.5
WHZ	Wether Hill Ro	10.77 215	P	Pn	10 04 41.5 -5.4
SYZ	Scrubby Hill	10.78 209	P	Pn	10 04 44.6 -2.3
SYZ	Scrubby Hill	10.78 209	P	Pn	10 04 44.4 -2.6
DCZ	Deep Cove	10.84 219		Pn	10 04 42.7 -5.0
DCZ	Deep Cove	10.84 219	P	Pn	10 04 42.6 -5.1
APZ	The Paps	11.48 212	P	Pn	10 04 52.6 -3.3
PYZ	Puysegur Point	11.57 217	Pn	Pn	10 04 53.8 -3.1
PYZ	Puysegur Point	11.57 217	P	Pn	10 04 55.4 -1.5
PYZ	Puysegur Point	11.57 217	P	Pn	10 04 53.1 -3.8
PINNC	Pines Island,	16.75 329	P	P	10 05 58.0 -0.2
ONTNC	Ouen Toro	17.44 326	P	P	10 06 04.9 -0.8
DZM	Mont Dzumac	17.65 327	P	P	10 06 07.2 -0.5
DZM			IAmb	IAmb	10 06 14.2
	comp=Z,17nm,1.2s				
DZM	Mont Dzumac	17.65 327	P	P	10 06 04.5 -3.7
	comp=Z,6.7nm,0.6s,baz=160,slow=11,SNR=9.1				
DZM	Mont Dzumac	17.65 327	P	P	10 06 07.7 -0.5
MSVF	Nonsavu	19.58 4	P	P	10 06 28.9 0.0
MSVF	Nonsavu	19.58 4	P	P	10 06 27.3 -1.6
STKA	Stephens Creek	29.34 270	P	P	10 07 54.7 -4.4
STKA	Stephens Creek	29.34 270	P	P	10 07 58.6 -0.5
	comp=Z,2.4nm,0.9s,baz=101,slow=14,SNR=5.2				
	comp=Z,2.4nm,0.9s				
CTAO	Charters Tower	31.61 294	P	P	10 08 16.0 -3.2
CTAO			IAmb	IAmb	10 08 19.4
	comp=Z,9.0nm,1.0s				
BBOO	Buckleboo	33.43 265	P	P	10 08 32.0 -2.8
COEN	Coen	37.88 299	P	P	10 09 11.5 -1.2
AS31	Alice Springs	39.03 278	P	P	10 09 20.9 -1.4
ASAR	Alice Springs	39.03 278	P	P	10 09 20.4 -1.9
ASAR	Alice Springs	39.03 278	P	P	10 09 20.8 -1.5
	comp=Z,2.1nm,0.6s,baz=122,slow=8.4,SNR=39				
	comp=Z,2.1nm,0.6s				
WR0	Warramunga Arr	40.52 283	P	P	10 09 32.8 -1.7
WR0			IAmb	IAmb	10 09 42.3
	comp=Z,14nm,1.4s				
WR8	Warramunga Arr	40.56 283	P	P	10 09 33.0 -1.8
WR8			IAmb	IAmb	10 09 34.5
	comp=Z,10nm,1.4s				
WB2	Warramunga Arr	40.68 283	P	P	10 09 34.0 -1.7
WB2			IAmb	IAmb	10 10 12.6
	comp=Z,5.3nm,1.1s				
WRAB	Tennant Creek	40.69 283	P	P	10 09 34.0 -1.8
WRA	Warramunga Arr	40.69 283	P	P	10 09 34.1 -1.7
WRA	Warramunga Arr	40.69 283	P	P	10 09 34.1 -1.7
	comp=Z,1.7nm,0.3s,baz=127,slow=6.4,SNR=61				
	comp=Z,1.7nm,0.3s				
WB0	Warramunga Arr	40.75 284	P	P	10 09 34.6 -1.7
WB0			IAmb	IAmb	10 09 41.9
	comp=Z,11nm,1.4s				
VNDA	Vanda	40.78 185	P	P	10 09 33.4 -2.4
CASY	Casey	46.96 210	P	P	10 10 21.4 -3.5
KNRA	Kununurra	47.48 284	P	P	10 10 26.5 -3.1
KNRA			IAmb	IAmb	10 10 53.5
	comp=Z,17nm,1.5s				
FITZ	Fitzroy Crossi	48.52 279	P	P	10 10 34.6 -3.0
FITZ	Fitzroy Crossi	48.52 279	P	P	10 10 35.7 -1.8
	comp=Z,3.2nm,0.7s,baz=155,slow=9.9,SNR=9.7				
	comp=Z,3.2nm,0.7s				
MORW	Morawa	50.71 261	P	P	10 10 50.2 -3.7
MORW			IAmb	IAmb	10 11 17.9
	comp=Z,16nm,1.4s				
PSA00	Pilbara Seismi	51.26 271	P	P	10 10 53.6 -4.4
PSA00			IAmb	IAmb	10 11 09.1
	comp=Z,5.2nm,0.9s				
MBWA	Marble Bar	51.57 272	P	P	10 10 55.8 -4.6
MBWA			IAmb	IAmb	10 11 37.9
	comp=Z,12nm,1.3s				
QSPA	South Pole Qui	52.77 180	P	P	10 11 10.0 +1.3
QSPA			IAmb	IAmb	10 11 11.7
	comp=Z,5.9nm,0.7s				
QSPA	South Pole Qui	52.77 180	P	P	10 11 10.9 +2.2
	comp=Z,5.0nm,0.6s,baz=331,slow=0.7,SNR=56				
	comp=Z,5.0nm,0.6s				
SMAI	San Martin Ant	64.61 158	P	P	10 12 31.0 +1.2
SMAI			IAmb	IAmb	10 12 41.5
	comp=Z,7.4nm,1.1s				
TROLL	Troll, Antarti	70.86 182	⇑P	P	10 13 08.3 -0.6
	comp=Z,85nm,0.6s				
SNAA	Sanae	71.27 180	⇑P	P	10 13 10.6 -0.7
	comp=Z,26nm,0.5s				
SNAA	Sanae	71.27 180	P	P	10 13 10.6 -0.6
SNAA	Sanae	71.27 180	P	P	10 13 09.9 -1.4
	comp=Z,0.9nm,0.5s,baz=220,slow=9.2,SNR=21				
	comp=Z,0.9nm,0.5s				
VNA3	Neumayer Olymp	71.61 178	⇑P	P	10 13 12.5 -0.7
	comp=Z,5.2nm,0.6s				
PLCA	Paso Flores	80.84 135	P	P	10 14 06.1 +0.5
PLCA			IAmb	IAmb	10 14 44.1
	comp=Z,14nm,1.5s				
PLCA	Paso Flores	80.84 135	P	P	10 14 06.0 +0.3
	comp=Z,2.8nm,0.7s,baz=232,slow=6.1,SNR=8.9				
	comp=Z,2.8nm,0.7s				
BO02	Sierra Bellavi	84.68 130	P	P	10 14 26.6 +1.1
BO02			IAmb	IAmb	10 14 46.7
	comp=Z,11nm,1.4s				
MT01	Popeta	85.02 129	P	P	10 14 25.6 -1.5
KSRS	Korea Array	87.05 323	P	P	10 14 35.5 -1.0
	comp=Z,1.0nm,0.7s,baz=133,slow=5.0,SNR=4.4				
	comp=Z,1.0nm,0.7s				
CO03	El Pedregal	87.40 127	P	P	10 14 39.4 +0.6
CO03			IAmb	IAmb	10 15 08.5
	comp=Z,12nm,1.3s				
PETK	Petropavlovsk-	91.60 349	P	P	10 14 54.6 -2.9
	comp=Z,1.6nm,0.5s,baz=138,slow=5.6,SNR=7.8				
	comp=Z,1.6nm,0.5s				
CMAR	Chiang Mai Arr	91.75 292	P	P	10 14 56.4 -2.6
	comp=Z,1.1nm,0.3s,baz=143,slow=3.1,SNR=6.0				
	comp=Z,1.1nm,0.3s				
PZH	PanZhiHua	94.79 300	P	P	10 15 14.0 +1.0
NVAR	Mina Array Bea	96.25 46	P	P	10 15 17.0 -2.5
	comp=Z,0.4nm,0.7s,baz=218,slow=8.7,SNR=4.3				
	comp=Z,0.4nm,0.7s				
HHC	Hu-ho-hao-te	98.05 316	*e*P	P	10 15 29.8 +2.4
HHC			pmax	pmax	
	comp=Z,3.0nm,0.8s				
HHC			pmax	pmax	
	comp=Z,68nm,4.5s				
ARCES	ARCESS Array B	144.22 343		PKPab	10 21 20.2 -2.8
ARCES	ARCESS Array B	144.22 343	PKP	PKPab	10 21 19.7 -3.4
	comp=Z,3.2nm,0.5s,baz=29,slow=2.8,SNR=22				
FIA1	FINESS Array S	149.74 332	PKPbc	PKPdf	10 21 34.7 +0.9
FIA1			PKPab	PKPbc	10 21 41.5 +2.7
FINES	FINESS Array B	149.74 332	PKPbc	PKPdf	10 21 35.7 +1.9
FINES			PKPab	PKPbc	10 21 41.5 +2.7
FINES	FINESS Array B	149.74 332	PKPbc	PKPdf	10 21 34.4 +0.6
	comp=Z,1.1nm,0.6s,baz=27,slow=3.2,SNR=9.4				
BRTR	Keskin Array B	151.18 286	PKPbc	PKPdf	10 21 40.0 +3.1
	comp=Z,0.8nm,0.8s,baz=112,slow=4.5,SNR=5.0				
NB2	NORSAR Subarra	154.60 344	PKP	PKPab	10 22 01.5 -4.1
	comp=Z,0.8nm,0.6s,baz=27,slow=4.3				
NOA	NORSAR Array B	154.60 344	PKPab	PKPab	10 22 01.5 -4.1
	comp=Z,0.5nm,0.6s,baz=26,slow=3.4,SNR=4.6				
HFS	Hagfors	154.77 340	PKPab	PKPab	10 22 02.4 -3.9
	comp=Z,0.9nm,0.5s,baz=57,slow=5.5,SNR=4.6				
TORD	Torodi Ar. Bea	155.49 192	PKPab	PKPab	10 22 08.7 -1.8
	comp=Z,1.1nm,0.4s,baz=164,slow=3.5,SNR=4.0				
CLL	Collm	161.91 326	*e*PKPab	PKPab	10 22 37.0 -0.5

NEIC ***26*** *10:06:49.0±1.4, 1°.60N±0°.06×96°.54E±0°.08, h10km±2km, mb4.5/17, Error ellipse: s-maj=14.1km s-min=8.7km az=248.0*

IDC ***26*** *10:06:49.1±1.1, 1°.62N×96°.77E, h0km, mb4.0/12, mbtmp4.0/13, ML3.7/2, MS3.3/2, Error ellipse: s-maj=35.9km s-min=16.5km az=53.0*

DJA ***26*** *10:06:52.9±0.7, 2°.N±4°×9°.7E±°, h46km±27km, M4.2/12, mb4.5/3, MLv4.1/12*

ISC 26 10:06:53.0±0.7, 1°.62N±0°.07×96°.65E±0°.07, h35km, n62, σ1§43/49, mb4.2/21, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	Sinabang, Aceh	0.85	338	P	Pn	10 07 09.4	+0.9
GSI	Gunungsitoli	0.98	109		Pn	10 07 09.6	-0.6
GSI	Gunungsitoli	0.98	109	P	Pn	10 07 09.1	-1.1
RPSI	Rantau Prapat	2.52	65		Sn	10 08 03.6	+2.8
RPSI	Rantau Prapat	2.52	65	Pn	Pn	10 07 30.9	-0.4
PSI	Prapat	2.56	63	Pn	Pn	10 07 30.1	-2.0
	2.3nm,0.3s,baz=214,slow=1.3,SNR=4.4						
PSI				Sn	Sn	10 08 03.6	+1.5
	9.1nm,0.3s,baz=230,slow=17,SNR=6.2						
MLSI	Meulaboh, Aceh	2.64	355	P	Pn	10 07 32.6	-0.6
TSI	Tuntungan	2.68	46	P	Pn	10 07 32.9	-0.7
MNSI	Mandailing Nat	3.04	106	P	Pn	10 07 37.4	-1.3
LHMI	Lhok Sumawe	3.60	5	Pn	Pn	10 07 45.0	-1.3
LHMI	Lhok Sumawe	3.60	5	P	Pn	10 07 46.2	-0.1
PPI	Padang Panjang	4.28	119	P	Pn	10 07 54.9	-0.8
IPM	Ipoh	5.21	57	Pn	Pn	10 08 08.2	-0.4
KULM	Kulim	5.41	47		Pn	10 08 10.5	-0.7
MYKOM	Kota Tinggi	7.20	89	Pn	Pn	10 08 35.8	0.0
MNAI	Manna	8.66	133	Pn	Pn	10 08 55.5	-0.5
PALK	Pallekele	16.86	290	LR	LR	10 16 56.8	
	comp=Z,55nm,21.1s,baz=114,slow=36						
CMAR	Chiang Mai Arr	16.89	8	Pn	Pn	10 10 45.4	-1.4
	0.3nm,0.3s,baz=195,slow=12,SNR=4.2						
	0.7nm,0.4s						
SHL	Shillong	24.25	349	P	P	10 12 04.8	-2.3
SHL				IAmb	IAmb	10 12 09.0	
	comp=Z,11nm,0.9s						
H08S2	Diego Garcia H	25.79	249	T	T	10 39 12.0	
	baz=70,slow=75,SNR=441						
H08S3	Diego Garcia H	25.79	249	T	T	10 39 14.8	
	baz=70,slow=75,SNR=583						
H08S1	Diego Garcia H	25.81	249	T	T	10 39 14.1	
	baz=70,slow=75,SNR=157						
EVN	Everest	27.83	341	P	P	10 12 36.8	-3.2
EVN				IAmb	IAmb	10 13 11.2	
	comp=Z,16nm,0.9s						
YULB	Yu-li	32.24	46	P	P	10 13 18.4	+0.1
YULB				IAmb	IAmb	10 13 39.7	
	comp=Z,8.6nm,1.1s						
JOW	Kunigami	39.37	48	P	P	10 14 19.1	-0.2
JOW				IAmb	IAmb	10 14 34.9	
	comp=Z,22nm,1.4s						
H01W3	Cape Leeuwin H	39.84	157	T	T	10 56 50.7	
	baz=334,slow=76,SNR=10						
H01W2	Cape Leeuwin H	39.85	157	T	T	10 56 47.8	
	baz=334,slow=76,SNR=12						
H01W1	Cape Leeuwin H	39.85	157	T	T	10 56 50.9	
	baz=334,slow=76,SNR=12						
KBL	Kabul	41.66	325	P	P	10 14 36.3	-2.2
KBL				IAmb	IAmb	10 15 17.7	
	comp=Z,3.0nm,0.5s						
WB0	Warramunga Arr	42.69	122	P	P	10 14 46.4	-0.5
WRA	Warramunga Arr	42.72	122	P	P	10 14 46.0	-1.1
WRA	Warramunga Arr	42.72	122	P	P	10 14 47.5	+0.4
	comp=Z,0.5nm,0.7s,baz=302,slow=9.1,SNR=6.4						
	comp=Z

MEEK	**Meekatharra**	**7.68**	**182**	S	Sn	10 27 49.1	-5.7	
MORW	**Morawa**	**10.42**	**194**	P	Pn	10 27 04.1	-1.2	
	comp=Z,0.1nmcomp=Z,17nm,2.4s							

ISU ***26*** *11:16:31,40.90N×69.51E,h7km*
KRNET ***26*** *11:16:37.6±0.1,41.16N×70.24E,h13km,mb2.5*
ISC 26 11:16:38.4±1.3,41.19N±0.04×70.20E±0.05,h23km**±16**km**,**
n8,σ1§68/16,4C-6D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
CHMG	**Chimgan**	**0.39**	**339**	P		**Pb**	**11 16 45.6**	**-1.2**
CHMG				S		**Sn**	**11 16 56.2**	**+0.7**
CHRV	**Charvak**	**0.49**	**338**	P		**Pb**	**11 16 47.3**	**-1.1**
CHRV				S		**Sn**	**11 16 58.6**	**+0.8**
TRKS	**Terek-Say**	**0.79**	**64**	⇓*e*P		**Pb**	**11 16 52.2**	**-1.3**
TRKS				⇓*e*S		**Sn**	**11 17 02.9**	**-2.5**
BTK	**Batken**	**1.23**	**157**	⇑*e*P		**Pb**	**11 17 00.1**	**-0.8**
BTK				⇑*e*S		**Sb**	**11 17 16.2**	**-0.1**
CHMI	**Chimion**	**1.36**	**132**	P		**Pb**	**11 17 01.8**	**-1.4**
CHMI				S		**Sb**	**11 17 24.0**	**+3.8**
ARK	**Arkit**	**1.46**	**65**	⇑*e*P		**Pb**	**11 17 04.7**	**-0.2**
ARK				⇑*e*S		**Sb**	**11 17 24.4**	**+1.3**
DRK	**Karamyk**	**2.10**	**144**	⇓*e*P		**Pb**	**11 17 15.4**	**-0.6**
DRK				⇓*e*S		**Sb**	**11 17 42.6**	**+0.9**
MNAS	**Manas**	**2.16**	**52**	⇓*e*P		**Pb**	**11 17 16.2**	**-0.6**
MNAS				⇓*e*S		**Sb**	**11 17 44.8**	**+1.6**

AUST 26 11:24:06.6±0.7,19°S±5°×12°0E±°,h10km**,mb3.7/4,**
ML2.8/6,ML3.4/3,Error ellipse: s-maj=15.8km
s-min=4.7km az=132.2,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
AUBRM	**Broome Senior**	**1.88**	**73**	P		Pn	11 24 39.3	+0.5
AUBRM				S		Sb	11 25 04.0	-0.5
MBWA	**Marble Bar**	**2.70**	**192**	P		Pn	11 24 50.9	+0.8
MBWA				S		Sn	11 25 23.7	+0.9
PSAB2	**Pilbara Seismi**	**3.06**	**188**	P		Pn	11 24 55.8	+0.7
PSAB2				S		Sn	11 25 32.1	+0.2
PSA00	**Pilbara Seismi**	**3.08**	**189**	P		Pn	11 24 56.7	+1.3
PSA00				S		Sn	11 25 32.5	+0.2
FITZ	**Fitzroy Crossi**	**5.05**	**86**	P		Pn	11 25 20.7	-1.7
	comp=Z,1.5nm,2.3s							
GIRL	**Giralia**	**7.05**	**233**	P		Pn	11 25 49.2	-0.7
	comp=Z,30nm,1.9s,comp=Z,0.1nmcomp=Z,105µm							
MEEK	**Meekatharra**	**8.24**	**191**	P		Pn	11 26 06.2	-0.2
	comp=Z,14nm,2.5s,comp=Z,0.1nm							
MEEK				S		Sn	11 27 35.4	-4.2
KNRA	**Kununurra**	**8.53**	**72**	P		Pn	11 26 09.6	-0.7
	comp=Z,9.1nm,2.1s,comp=Z,0.0nm							

IDC ***26*** *11:42:55.5±1.2,0.42S×120.35E,h0km,mb3.7/5,*
mbtmp3.7/6,ML3.6/1,Error ellipse: s-maj=81.0km
s-min=20.8km az=64.0
DJA ***26*** *11:42:56.8±0.5,1.3S×12.0E±°,h10km,M3.9/11,mb4.1/1,*
MLv3.8/11
ISC 26 11:42:57.0±0.9,0.65S±0.05×119.9E±0.1,h10km**,n14,**
σ1§79/17,mb3.7/5,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
PCI	**Palu**	**0.26**	**192**	P		**Pg**	**11 43 00.8**	**-1.5**
PCI				S		**Sg**	**11 43 04.0**	**-1.8**
MPSI	**Mapaga**	**0.98**	**0**	P		**Pg**	**11 43 15.2**	**-0.7**
APSI	**Ampana**	**1.78**	**98**	P		**Pn**	**11 43 27.9**	**+0.2**
MRSI	**Marisa**	**2.33**	**61**	P		**Pn**	**11 43 35.5**	**+0.1**
TTSI	**Tana Toraja**	**2.38**	**182**	P		**Pn**	**11 43 36.6**	**+0.5**
TTSI				S		**Sb**	**11 44 07.9**	**-1.5**
LUWI	**Luwuk**	**2.91**	**98**	P		**Pn**	**11 43 45.1**	**+1.8**
SPSI	**Sidrap Palu**	**3.29**	**182**	P		**Pn**	**11 43 49.0**	**+0.3**
KAPI	**Kappang**	**4.34**	**182**	Pn		**Pn**	**11 44 06.0**	**+3.0**
	2.6nm,0.3s,baz=9.5,slow=18,SNR=3.9							
KAPI				Sn		**Sn**	**11 44 57.8**	**+4.1**
	2.9nm,0.3s,baz=56,slow=19,SNR=4.4							
	8.0nm,0.3s							
BKSI	**Bulukumba**	**4.65**	**177**	P		**Pn**	**11 44 08.0**	**+0.7**
WRA	**Warramunga Arr**	**23.83**	**144**	P		**P**	**11 48 08.7**	**-1.8**
	0.9nm,0.8s,baz=322,slow=11,SNR=5.6							
	0.9nm,0.8s							
ASAR	**Alice Springs**	**26.61**	**150**	P		**P**	**11 48 37.4**	**+1.5**
	0.4nm,0.8s,baz=328,slow=8.7,SNR=6.8							
	0.4nm,0.8s							
STKA	**Stephens Creek**	**37.22**	**149**	P		**P**	**11 50 08.0**	**-0.8**
	1.4nm,0.3s,baz=323,slow=15,SNR=3.6							
	1.4nm,0.3s							
MKAR	**Makanchi Array**	**57.58**	**330**	P		**P**	**11 52 47.4**	**+0.4**
	0.3nm,0.4s,baz=132,slow=6.4,SNR=2.7							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**62.01**	**332**	P		**P**	**11 53 17.4**	**0.0**
	0.5nm,0.5s,baz=137,slow=6.3,SNR=3.4							
	0.5nm,0.5s							

IDC ***26*** *11:45:08.0±0.8,31.90N×55.68E,h0km,mb4.0/18,*
mbtmp4.1/22,ML3.9/4,MS3.3/17,Error ellipse:
s-maj=19.1km s-min=13.4km az=11.0
MOS ***26*** *11:45:09.5±1.9,31.76N×55.65E,h12km,mb4.4/16,Error*
ellipse: s-maj=8.0km s-min=6.3km az=70.0
TEH ***26*** *11:45:10.1,32.21N×55.71E,h8km±21km*
THR ***26*** *11:45:10.5±0.0,32.22N×55.71E,h10km±10km,ML4.5*
NEIC ***26*** *11:45:12.2±1.5,31.91N±0.07×55.61E±0.07,h10km±1km,*
mb4.3/36,Error ellipse: s-maj=13.7km s-min=7.4km
az=36.0
OMAN ***26*** *11:45:15.7±0.1,31.92N×55.71E,h10km,mb5.2/19,Error*
ellipse: s-maj=2.2km s-min=1.1km az=229.0
ISC 26 11:45:11.3±0.3,32.15N±0.03×55.71E±0.03,h10km**,n271,**
σ1§84/249,mb4.3/52,MS3.3/12,7C-1D,Northern and
central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
IBAF	**Bafgh**	**0.57**	**193**	Pg		**Pb**	**11 45 22.8**	**-0.8**
IBAF				Sg		**Sg**	**11 45 31.0**	**+0.9**
YZKH	**Yazd**	**0.98**	**284**	*e*Pg		**Pb**	**11 45 29.0**	**-1.5**
YZKH				*i* S		**Sb**	**11 45 42.1**	**-1.4**
YZKH				IAML			11 45 42.9	
	comp=Z,6µm,1.0s							
ICHK	**Chekchek**	**1.11**	**275**	Pg		**Pb**	**11 45 31.5**	**-1.3**
TPRV	**Parvadeh(Tabas**	**1.20**	**43**	Pg		**Pn**	**11 45 32.9**	**-1.3**
IMEH	**Mehriz**	**1.21**	**231**	Pg		**Pg**	**11 45 34.2**	**-0.3**
ZRDN	**Zarand Kerman**	**1.37**	**149**	Pg		**Pg**	**11 45 37.6**	**-0.2**
ISAD	**Sadrabad**	**1.74**	**263**	Pg		**Pb**	**11 45 42.6**	**-1.0**
TKDS	**Koohdasht(Taba**	**1.88**	**39**	Pn		**Pb**	**11 45 43.6**	**-2.2**
KHGB	**Koh Gabri**	**1.89**	**160**	Pn		**Pb**	**11 45 45.9**	**-0.1**
TABS	**Tabas**	**1.91**	**38**	*e*PnA			11 45 43.6	
TABS				IAML			11 46 18.3	
	comp=Z,7µm,1.0s							
TNSJ	**Nastanj**	**1.96**	**22**	Pn		**Pb**	**11 45 44.7**	**-2.5**
ANAR	**Anarak**	**1.97**	**302**	Pn		**Pb**	**11 45 45.2**	**-2.2**
KRM1	**Kerman Provinc**	**2.12**	**141**	Pn		**Pb**	**11 45 48.9**	**-1.0**
KRBR	**Kerman**	**2.34**	**157**	Pn		**Pb**	**11 45 52.4**	**-1.4**
KRBR	**Kerman**	**2.34**	**157**	*e*PnA			11 45 52.5	
KRBR				IAML			11 46 36.3	
	comp=Z,4µm,1.0s							
NGRK	**Negar Kerman**	**2.65**	**160**	Pn		**Pb**	**11 45 56.5**	**-2.6**
ITEG	**Tejag**	**2.67**	**73**	Pn		**Pn**	**11 45 55.4**	**+0.8**
CHMN	**Cheshme madani**	**2.77**	**145**	Pn		**Pb**	**11 45 58.4**	**-2.7**
IKOO	**Kooshah**	**2.80**	**84**	Pn		**Pn**	**11 45 57.5**	**+1.1**
IRAM	**Ramesheh**	**2.85**	**264**	Pn		**Pn**	**11 45 58.2**	**+1.1**
BSRN	**Basiran**	**2.90**	**93**	Pn		**Pn**	**11 45 58.3**	**+0.5**
BSRN	**Basiran**	**2.90**	**93**	*e*PnA			11 45 58.1	
BSRN				IAML			11 46 52.0	
	comp=Z,2µm,1.0s							
IZEF	**Zefreh**	**2.95**	**285**	Pn		**Pn**	**11 45 59.4**	**+0.8**
TAPT	**Tabas- Tapeh t**	**2.98**	**24**	Pn		**Pn**	**11 45 58.9**	**+0.1**
AFRZ	**Afriz**	**3.06**	**65**	Pn		**Pn**	**11 46 00.6**	**+0.7**
IGAR	**Gharneh**	**3.12**	**276**	Pn		**Pn**	**11 46 01.7**	**+0.9**
KRSH	**Karshahi**	**3.51**	**302**	Pn		**Pn**	**11 46 06.5**	**+0.3**
IDAH	**Dahanechah**	**3.56**	**79**	Pn		**Pn**	**11 46 07.7**	**+0.7**
IANJ	**Anjilo**	**3.63**	**336**	Pn		**Pn**	**11 46 07.4**	**-0.5**
ISFB	**Sefidab**	**3.64**	**308**	Pn		**Pn**	**11 46 07.9**	**0.0**
IKLH	**Kolahrood**	**3.67**	**290**	Pn		**Pn**	**11 46 09.5**	**+1.0**
KLNJ	**Kolanjah**	**3.70**	**253**	Pn		**Pn**	**11 46 10.5**	**+1.7**
NHDN	**Nehbandan**	**3.77**	**100**	Pn		**Pn**	**11 46 10.8**	**+1.1**
KBAM	**BAM**	**3.82**	**141**	Pn		**Pn**	**11 46 12.2**	**+1.8**
SHRO	**Shahrood**	**3.84**	**4**	*e*PnA			11 46 10.2	
SHRO				IAML			11 47 21.7	
	comp=Z,1µm,1.0s							
ILAS	**Lasjerd**	**3.96**	**325**	Pn		**Pn**	**11 46 12.3**	**0.0**
QAMS	**Qamsar**	**3.96**	**295**	Pn		**Pn**	**11 46 13.1**	**+0.7**
JHRM	**Jahrom**	**4.08**	**207**	Pn		**Pn**	**11 46 15.7**	**+1.9**
IPIR	**Pirpir**	**4.11**	**279**	Pn		**Pn**	**11 46 16.0**	**+1.5**
SHRT	**Shahrakht**	**4.13**	**68**	Pn		**Pn**	**11 46 15.4**	**+0.8**
SHRT	**Shahrakht**	**4.13**	**68**	*e*PnA			11 46 16.1	
SHRT				IAML			11 47 45.4	
	comp=Z,420nm,1.0s							
IFIR	**Firoozkooh**	**4.26**	**326**	Pn		**Pn**	**11 46 15.8**	**-0.8**
JHBN	**Jahan bin**	**4.28**	**272**	Pn		**Pn**	**11 46 18.3**	**+1.5**
KAZ2	**Kazeron-Fars-I**	**4.30**	**235**	Pn		**Pn**	**11 46 18.2**	**+1.3**
QIR1	**Qir**	**4.33**	**213**	Pn		**Pn**	**11 46 19.2**	**+1.9**
IVRN	**Varamin**	**4.37**	**312**	Pn		**Pn**	**11 46 18.4**	**+0.6**
IKIA	**Kiasar**	**4.38**	**338**	Pn		**Pn**	**11 46 18.1**	**0.0**
TBHD	**Torbat heydari**	**4.38**	**41**	Pn		**Pn**	**11 46 18.7**	**+0.6**
SBZV	**Sabzevar**	**4.51**	**20**	Pn		**Pn**	**11 46 20.3**	**+0.4**
SBZV	**Sabzevar**	**4.51**	**20**	*e*PnA			11 46 20.2	
SBZV				IAML			11 48 01.9	
	comp=Z,360nm,1.0s							
IDMV	**Damavand**	**4.59**	**319**	Pn		**Pn**	**11 46 21.3**	**+0.3**
IALA	**Alasht**	**4.60**	**329**	Pn		**Pn**	**11 46 21.7**	**+0.4**
IGLO	**Ghaloghah**	**4.61**	**341**	Pn		**Pn**	**11 46 21.9**	**+0.6**
LAR1	**LAR**	**4.62**	**195**	Pn		**Pn**	**11 46 23.6**	**+2.3**
DAMV	**Damavand**	**4.66**	**319**	*e*PnA			11 46 22.2	
DAMV				IAML			11 46 46.1	
	comp=Z,420nm,1.0s							
IQOM	**Qom**	**4.72**	**306**	Pn		**Pn**	**11 46 23.2**	**+0.4**
BNDS	**Bandar-Abbas**	**4.75**	**175**	Pn		**Pn**	**11 46 25.1**	**+1.9**
BNDS	**Bandar-Abbas**	**4.75**	**175**	*i* P		**Pn**	**11 46 25.6**	**+2.4**
BNDS				IAML			11 48 11.4	
	comp=Z,230nm,1.0s							
GENO	**Geno**	**4.75**	**175**	Pn		**Pn**	**11 46 25.2**	**+1.9**
ABEH	**Behbahan**	**4.92**	**253**	Pn		**Pn**	**11 46 26.8**	**+1.5**
TBJM	**Torbat-e-JAM**	**4.95**	**50**	Pn		**Pn**	**11 46 26.6**	**+0.7**
IPRN	**Peran**	**4.95**	**327**	Pn		**Pn**	**11 46 26.4**	**+0.5**
ZHSF	**Zahedan**	**5.03**	**119**	*e*Pn		**Pn**	**11 46 28.8**	**+1.7**
ZHSF				IAML			11 47 59.4	
	comp=Z,220nm,1.0s							
IPAY	**Payeh**	**5.08**	**31**	Pn		**Pn**	**11 46 28.3**	**+0.6**
KHMZ	**Khomeyn**	**5.09**	**290**	*e*Pn		**Pn**	**11 46 29.8**	**+1.9**
KHMZ				IAML			11 48 04.9	
	comp=Z,270nm,1.0s							
IMND	**Minoodasht**	**5.10**	**357**	Pn		**Pn**	**11 46 27.9**	**+0.1**
IAKL	**Akhelmad**	**5.10**	**29**	Pn		**Pn**	**11 46 28.8**	**+0.7**
ISFR	**Sfrayin**	**5.24**	**20**	Pn		**Pn**	**11 46 30.2**	**+0.2**
LMD1	**Lamerd**	**5.28**	**205**	Pn		**Pn**	**11 46 32.7**	**+2.3**
LMD1	**Lamerd**	**5.28**	**205**	*e*PnA			11 46 32.7	
LMD1				IAML			11 48 29.8	
	comp=Z,500nm,1.0s							
ASAO	**Ashtian**	**5.33**	**298**	*e*Pn		**Pn**	**11 46 33.2**	**+2.0**
ASAO				IAML			11 48 33.3	
	comp=Z,230nm,1.0s							
CHTH	**Charan**	**5.34**	**316**	*e*PnA			11 46 32.3	
CHTH				IAML			11 48 14.6	
	comp=Z,340nm,1.0s							
JRKH	**Jarkhoshk**	**5.37**	**45**	Pn		**Pn**	**11 46 32.2**	**+0.5**
DSBU	**Dashti - Bushe**	**5.39**	**227**	Pn		**Pn**	**11 46 33.8**	**+1.9**
MZPU	**Pul - Mazandar**	**5.48**	**322**	Pn		**Pn**	**11 46 34.2**	**+1.0**
THKV	**Tehran--Karaj**	**5.50**	**314**	*e*Pn		**Pn**	**11 46 34.8**	**+1.4**
THKV				IAML			11 48 18.4	
	comp=Z,460nm,1.0s							
MRVT	**Maraveh tapeh**	**5.50**	**3**	Pn		**Pn**	**11 46 33.8**	**+0.3**
MRVT	**Maraveh tapeh**	**5.50**	**3**	*e*PnA			11 46 33.7	
MRVT				IAML			11 48 19.6	
	comp=Z,130nm,1.0s							
IMYA	**Miami**	**5.54**	**40**	Pn		**Pn**	**11 46 34.3**	**+0.3**
GTMR	**Gotvand**	**5.60**	**275**	*e*PnA			11 46 36.1	
GTMR				IAML			11 48 17.3	
	comp=Z,170nm,1.0s							
BJRD	**Bojnurd**	**5.71**	**14**	*e*PnA			11 46 37.2	
BJRD				IAML			11 46 38.6	
	comp=Z,130nm,1.0s							
IEMG	**Emamgholi**	**5.78**	**24**	Pn		**Pn**	**11 46 38.1**	**+0.7**
KLST	**Kelardasht - M**	**5.81**	**320**	Pn		**Pn**	**11 46 38.6**	**+0.7**
SHME	**Shamm**	**6.09**	**176**	P		**Pn**	**11 46 42.2**	**+0.8**
SHME				S		**Sn**	**11 47 52.5**	**+1.3**
SHME	**Shamm**	**6.09**	**176**	Pn		**Pn**	**11 46 42.8**	**+1.4**
HAGD	**Aghdareh**	**6.10**	**298**	Pn		**Pn**	**11 46 42.7**	**+0.9**
IGZV	**Ghazvin**	**6.21**	**314**	Pn		**Pn**	**11 46 44.3**	**+1.1**
QABG	**Abgarm-Qazvin**	**6.21**	**307**	Pn		**Pn**	**11 46 44.1**	**+0.8**
BANOM	**Banah**	**6.23**	**175**	P		**Pn**	**11 46 45.6**	**+2.3**
BANOM				S		**Sn**	**11 47 56.5**	**+1.9**
BANOM	**Banah**	**6.23**	**175**	Pn		**Pn**	**11 46 45.6**	**+2.3**
JASK	**Jask - Hormozg**	**6.54**	**163**	Pn		**Pn**	**11 46 49.7**	**+2.1**
JASK	**Jask - Hormozg**	**6.54**	**163**	P		**Pn**	**11 46 46.7**	**-0.9**
IKFM	**Kafar-mosalman**	**6.76**	**284**	Pn		**Pn**	**11 46 51.3**	**+0.7**
MASF	**Masafi**	**6.77**	**177**	P		**Pn**	**11 46 52.8**	**+2.1**
	SNR=12							
MASF				S		**Sn**	**11 48 07.1**	**-0.9**
MSFE	**Esma-Masafi**	**6.78**	**177**	Pn		**Pn**	**11 46 52.5**	**+1.6**
MDH	**Madha**	**6.85**	**176**	P		**Pn**	**11 46 54.2**	**+2.4**
MDH				S		**Sn**	**11 48 09.7**	**-0.1**
MDH	**Madha**	**6.85**	**176**	Pn		**Pn**	**11 46 53.2**	**+1.3**
NAZ	**Nazwa, Dubai**	**7.14**	**180**	P		**Pn**	**11 46 58.2**	**+2.3**
	SNR=18							
NAZ				S		**Sn**	**11 48 17.2**	**+0.2**
NAZ	**Nazwa, Dubai**	**7.14**	**180**	Pn		**Pn**	**11 46 57.5**	**+1.7**
UOSS	**Minazif**	**7.19**	**176**			**Pn**	**11 46 54.0**	**-2.5**
UOSS	**Minazif**	**7.19**	**176**	P		**Pn**	**11 46 58.1**	**+1.5**
UOSS	**Minazif**	**7.19**	**176**	Pn		**Pn**	**11 46 57.7**	**+1.1**
SNQR	**Sonqor, Kerman**	**7.27**	**294**	Pn		**Pn**	**11 46 59.2**	**+1.3**
HATD	**Hatta, Dubai**	**7.31**	**177**	P		**Pn**	**11 46 59.9**	**+1.7**
HATD				S		**Sn**	**11 48 21.0**	**-0.2**
HATD	**Hatta, Dubai**	**7.31**	**177**	Pn		**Pn**	**11 46 58.2**	**0.0**
ZNJK	**Zanjan**	**7.35**	**310**	*e*PnA			11 46 59.9	
ZNJK				IAML			11 47 06.1	
	comp=Z,77nm,1.0s							
FAQ	**Al Faqa, Dubai**	**7.38**	**181**	P		**Pn**	**11 47 02.2**	**+3.1**
	SNR=9.4							
FAQ				S		**Sn**	**11 48 19.6**	**-3.4**
FAQ	**Al Faqa, Dubai**	**7.38**	**181**	Pn		**Pn**	**11 47 01.3**	**+2.1**
ASHO	**Ashiyiah**	**7.45**	**178**	P		**Pn**	**11 47 01.7**	**+1.5**
	SNR=17							
ASHO				S		**Sn**	**11 48 25.1**	**+0.5**
ASHO	**Ashiyiah**	**7.45**	**178**	Pn		**Pn**	**11 47 01.6**	**+1.5**
ASUD	**Al Ashush, Dub**	**7.50**	**183**	P		**Pn**	**11 47 03.7**	**+2.8**
ASUD				S		**Sn**	**11 48 26.1**	**0.0**
ASUD	**Al Ashush, Dub**	**7.50**	**183**	Pn		**Pn**	**11 47 03.0**	**+2.2**
KBD	**Kabd**	**7.52**	**249**	P		**Pn**	**11 47 03.2**	**+2.2**
SHMA	**Al-Shehemyia**	**7.52**	**215**	P		**Pn**	**11 47 02.8**	**+1.7**
AJN	**Ajban**	**7.59**	**185**	P		**Pn**	**11 47 04.2**	**+2.2**
AJN				S		**Sn**	**11 48 26.1**	**-1.6**
JRN	**Qarnain Island**	**7.61**	**200**	P		**Pn**	**11 47 05.5**	**+1.1**
SAKB	**Bahrain**	**7.64**	**218**	P		**Pn**	**11 47 04.7**	**+2.0**
ALNE	**Al Ain**	**8.06**	**180**	P		**Pn**	**11 47 10.8**	**+2.2**
ILBA	**Ilam Banvizeh**	**8.13**	**283**	*e*Pn		**Pn**	**11 47 10.3**	**+0.8**
TRNA	**Turayna**	**8.38**	**209**	P		**Pn**	**11 47 16.9**	**+4.0**
GHWR	**Ruwais**	**8.53**	**198**	P		**Pn**	**11 47 19.2**	**+4.2**
SMRA	**Abu-Samra**	**8.54**	**211**	P		**Pn**	**11 47 17.7**	**+2.7**
	SNR=6.6							
IHSH	**Hashtrud**	**8.65**	**309**	Pn		**Pn**	**11 47 17.4**	**+0.6**
HOQ	**Hoqain**	**8.65**	**170**	P		**Pn**	**11 47 16.5**	**-0.2**
SLWR	**Sila**	**8.80**	**205**	P		**Pn**	**11 47 18.3**	**-0.3**
ARQ	**Araqi**	**8.81**	**175**	P		**Pn**	**11 47 21.0**	**+2.2**
	SNR=5.4							
GRMI	**Germi**	**9.20**	**318**	Pn		**Pn**	**11 47 23.6**	**-0.7**
GRMI	**Germi**	**9.20**	**318**	*e*Pn		**Pn**	**11 47 25.2**	**+0.9**
WSAR	**Wadi Sarin**	**9.25**	**163**	Pn		**Pn**	**11 47 21.7**	**-3.1**
	baz=4.6,slow=24,SNR=11							
SMDO	**Samad**	**9.29**	**167**	P		**Pn**	**11 47 23.0**	**-2.5**
UMZA	**Um Al Zommool**	**9.41**	**183**	P		**Pn**	**11 47 27.1**	**0.0**
KBL	**Kabul**	**11.40**	**74**	Pn		**Pn**	**11 47 56.5**	**+2.0**
KBL	**Kabul**	**11.40**	**74**	P		**Pn**	**11 47 56.5**	**+2.0**
GNI	**Garni**	**11.92**	**315**	LR		LR	11 53 05.9	
	comp=Z,104nm,18.0s,baz=170,slow=40							
RAYN	**Ar Rayn**	**12.46**	**229**	Pn		**Pn**	**11 48 06.0**	**-2.9**
RAYN	**Ar Rayn**	**12.46**	**229**	P		**Pn**	**11 48 06.0**	**-2.9**
SIMJ	**Simiganj**	**12.63**	**55**	Pn		**Pn**	**11 48 14.1**	**+2.8**
DOK	**Doka**	**13.55**	**186**	P		**Pn**	**11 48 25.3**	**+1.6**
GAR	**Garm**	**13.70**	**56**	Pn		P	11 48 29.4	-5.2
RBK	**Rabkut**	**14.65**	**186**	P		**Pn**	**11 48 39.9**	**+1.1**
NIL	**Nilore**	**14.81**	**79**	Pn		**P**	**11 48 44.1**	**-2.8**
NIL	**Nilore**	**14.81**	**79**	P		**P**	**11 48 44.1**	**-2.8**
KIV	**Kislovodsk**	**15.60**	**323**	*e*P		**P**	**11 48 57.8**	**+2.2**
KIV				pmax	pmax			
	comp=Z,7.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,18nm,13.0s							
ASF	**Jabal al Asfar**	**15.94**	**275**	Pn		**Pn**	**11 48 52.9**	**-3.0**
	comp=Z,1.0nm,0.3s,baz=119,slow=12,SNR=6.5							
	comp=Z,3.8nm,0.5s							
KK31	**Karatay Array**	**16.00**	**43**	Pn		**P**	**11 48 59.7**	**-0.3**
KK31	**Karatay Array**	**16.00**	**43**	P		**P**	**11 48 59.7**	**-0.3**
KK31				pmax	pmax			
	comp=Z,6.0nm,1.1s							
KKAR	**Karatay Array**	**16.00**	**43**	Pn		**P**	**11 48 59.6**	**-0.5**
KKAR	**Karatay Array**	**16.00**	**43**	P		**P**	**11 48 59.6**	**-0.5**
ARSB	**Arslanbob**	**16.57**	**52**			**P**	**11 49 08.1**	**+1.6**
ARSB	**Arslanbob**	**16.57**	**52**	P		**P**	**11 49 08.1**	**+1.6**
ARSB				pmax	pmax			
	comp=Z,13nm,1.1s							
MMAI	**Mount Meron Ar**	**17.14**	**278**	LR		LR	11 56 56.7	
	comp=Z,112nm,19.4s,baz=92,slow=41							
GHAJ	**Ghor Haditha**	**17.16**	**273**			**P**	**11 49 11.6**	**-1.3**
KSH	**Kashi**	**17.98**	**60**	P		**P**	**11 49 23.0**	**+1.0**
KSH				pmax	pmax			
	comp=Z,11nm,0.9s							
EIL	**Elat**	**17.99**	**268**	P		**Pn**	**11 49 19.1**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=238,slow=6.7,SNR=5.0							
	comp=Z,6.6nm,0.8s							
AAK	**Ala-Archa**	**18.19**	**50**	P		**P**	**11 49 27.1**	**+2.8**
AAK	**Ala-Archa**	**18.19**	**50**	LR		LR	11 57 31.7	
	comp=Z,94nm,21.0s,baz=258,slow=40							
AAK	**Ala-Archa**	**18.19**	**50**	*ce*P		**P**	**11 49 27.3**	**+2.9**
AAK				pmax	pmax			
	comp=Z,8.0nm,1.7s							
AKTO	**Aktyubinsk**	**18.35**	**5**	P		**P**	**11 49 25.9**	**0.0**
	comp=Z,0.5nm,0.3s,baz=188,slow=12,SNR=11							
AKTO				LR		LR	11 58 15.8	
	comp=Z,117nm,20.6s,baz=80,slow=42							
	comp=Z,7.3nm,0.7s							
NRN	**Naryn**	**18.67**	**55**	P		**Pn**	**11 49 32.5**	**+2.4**
NRN	**Naryn**	**18.67**	**55**	P		**Pn**	**11 49 32.5**	**+2.4**
NRN				pmax	pmax			
	comp=Z,6.0nm,0.8s							
BOOM	**Boomskoye usch**	**19.07**	**52**	P		**Pn**	**11 49 37.0**	**+2.2**
BOOM	**Boomskoye usch**	**19.07**	**52**	P		**Pn**	**11 49 37.0**	**+2.2**
BOOM				pmax	pmax			
	comp=Z,5.0nm,0.9s							
BR104	**Keskin Array S**	**19.37**	**299**	P		**Pn**	**11 49 36.5**	**-1.9**
	comp=Z,3.7nm,0.9s							
BR131	**Keskin Array S**	**19.38**	**299**	P		**Pn**	**11 49 38.4**	**-0.1**
BR131	**Keskin Array S**	**19.38**	**299**	*i* P		**Pn**	**11 49 41.3**	**+2.8**
BRTR	**Keskin Array B**	**19.38**	**299**	P		**P**	**11 49 36.4**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=115,slow=14,SNR=8.5							
BRTR				LR		LR	11 57 55.6	
	comp=Z,144nm,19.7s,baz=126,slow=39							
	comp=Z,1.0nm,0.6s							
BR105	**Keskin Array S**	**19.39**	**299**	P		**Pn**	**11 49 37.2**	**-1.5**
	comp=Z,3.0nm,0.8s							
BR106	**Keskin Array S**	**19.39**	**299**	P		**Pn**	**11 49 37.3**	**-1.4**
	comp=Z,3.5nm,0.9s							
KDJ	**Kajisay**	**19.75**	**54**	P		**Pn**	**11 49 44

comp=Z,3.9nm,0.8s,baz=251,slow=9.0,SNR=3.6
ZALV LR LR 12 04 58.2
comp=Z,89nm,18.8s,baz=262,slow=39
comp=Z,3.9nm,0.8s
ZALV Zalesovo Beam 30.09 35 P **P** **11 51 21.1 +0.4**
MPLH Magyarpolny 32.63 309 P **P** **11 51 42.5 -0.7**
comp=Z,17nm,0.7s
PALK Pallekele 33.97 131 LR LR 12 07 53.9
comp=Z,54nm,19.0s,baz=322,slow=40
AQU L'Aquila 34.87 299 P **P** **11 52 02.1 -0.7**
FIA1 FINESS Array S 35.04 336 P **P** **11 52 06.6 +2.6**
FINES FINESS Array B 35.04 336 P **P** **11 52 06.0 +2.0**
FINES FINESS Array B 35.04 336 P **P** **11 52 03.8 -0.2**
comp=Z,1.7nm,0.6s,baz=120,slow=7.7,SNR=10
comp=Z,1.7nm,0.6s
FINES FINESS Array B 35.04 336 P **P** **11 52 06.0 +2.0**
GERES GERESS Array B 35.52 310 P **P** **11 52 08.0 -0.4**
comp=Z,1.2nm,0.8s,baz=104,slow=9.7,SNR=7.9
comp=Z,1.2nm,0.8s
GERES GERESS Array B 35.52 310 P **P** **11 52 08.0 -0.4**
GTA Gaotai 36.22 66 *e*P **P** **11 52 16.5 +1.9**
GTA pP sP 11 52 19.8 +0.3
GTA pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 36.53 314 *i* P P 11 52 21.0 +4.1
comp=Z,5.0nm,0.9s
TUE Stuetta 38.07 306 P **P** **11 52 29.6 -0.7**
KEST Kesra 38.36 288 P **P** **11 52 31.5 -1.2**
comp=Z,2.6nm,0.8s,baz=359,slow=3.1,SNR=3.6
comp=Z,2.6nm,0.8s
HFS Hagfors 39.30 328 P **P** **11 52 39.9 -0.2**
comp=Z,1.6nm,0.6s,baz=130,slow=8.5,SNR=6.6
comp=Z,1.6nm,0.6s
MBAR Mbarara 40.24 221 *i* P **P** **11 52 48.3 -0.3**
MBAR pmax pmax
comp=Z,4.0nm,1.0s
NC405 NORSAR Array S 40.60 329 P **P** **11 52 52.6 +1.6**
NC405 IAmb IAmb 11 52 56.0
comp=Z,2.8nm,0.7s
NB201 NORSAR Array S 40.76 329 P **P** **11 52 54.1 +1.8**
NB201 IAmb IAmb 11 53 23.2
comp=Z,12nm,1.5s
NB2 NORSAR Subarra 40.79 329 P **P** **11 52 52.6 0.0**
comp=Z,1.3nm,0.6s,baz=117,slow=8.6
NOA NORSAR Array B 40.79 329 P **P** **11 52 51.8 -0.8**
comp=Z,0.9nm,0.6s,baz=116,slow=8.1,SNR=7.2
NOA LR LR 12 13 20.5
comp=Z,18nm,18.0s,baz=340,slow=41
comp=Z,0.9nm,0.6s
KONO Kongsberg 40.99 326 P **P** **11 52 56.2 +2.0**
KONO IAmb IAmb 11 53 17.6
comp=Z,10nm,1.2s
KONO Kongsberg 40.99 326 P **P** **11 52 56.2 +2.0**
KONO pmax pmax
comp=Z,10.0nm,1.3s
ARCES ARCESS Array B 41.10 344 P P 11 52 58.2 +3.3
ARCES IAmb IAmb 11 53 09.5
comp=Z,5.8nm,1.2s
ARCES ARCESS Array B 41.10 344 P P 11 52 58.3 +3.3
ARCES pmax pmax
comp=Z,6.0nm,1.3s
SONM Songino Array 41.11 52 LR LR 12 11 40.2
comp=Z,37nm,18.2s,baz=246,slow=39
CMAR Chiang Mai Arr 41.12 99 P **P** **11 52 54.0 -1.8**
comp=Z,0.9nm,0.6s,baz=299,slow=8.8,SNR=5.9
comp=Z,0.9nm,0.6s
CMAR Chiang Mai Arr 41.12 99*ce*P **P** **11 52 56.0 +0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
XAN Xi'an 44.20 73 P **P** **11 53 21.5 +0.8**
XAN pmax pmax
comp=Z,6.0nm,1.1s
HHC Hu-ho-hao-te 45.07 62 *e*P P 11 53 32.3 +4.7
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,90nm,3.9s
EKA Eskdalemuir Ar 46.75 318 P **P** **11 53 41.4 +0.9**
comp=Z,1.6nm,0.6s,baz=106,slow=7.6,SNR=9.3
comp=Z,1.6nm,0.6s
XLT XiLinHaoTe 48.00 58 *e*P P 11 53 57.3 +6.7
XLT pP sP 11 54 02.8 +7.3
XLT pmax pmax
comp=Z,9.0nm,0.4s
ESDC Sonseca Array 48.14 297 P **P** **11 53 49.9 -1.8**
comp=Z,0.7nm,0.7s,baz=66,slow=7.5,SNR=6.4
comp=Z,0.7nm,0.7s
TORD Torodi Ar. Bea 52.76 262 **P** **11 54 25.6 -1.2**
TORD IAmb IAmb 11 54 26.3
comp=Z,2.3nm,0.8s
TORD Torodi Ar. Bea 52.76 262 P **P** **11 54 24.7 -2.1**
comp=Z,2.4nm,0.5s,baz=51,slow=8.6,SNR=5.0
comp=Z,2.4nm,0.5s
MYKOM Kota Tinggi 54.39 114 P **P** **11 54 38.3 -0.5**
TIXI Tiksi 54.54 22 LR LR 12 20 41.6
comp=Z,37nm,19.2s,baz=310,slow=39
YAK Yakutsk 54.73 34*ce*P P 11 54 44.1 +3.6
YAK pmax pmax
comp=Z,10.0nm,0.8s
KSRS Korea Array 58.20 63 P **P** **11 55 04.2 -1.5**
comp=Z,1.0nm,0.7s,baz=269,slow=6.8,SNR=6.7
comp=Z,1.0nm,0.7s
USRK Ussuriysk Ar. 59.16 54 LR LR 12 22 58.4
comp=Z,39nm,19.4s,baz=254,slow=38
BOSA Boshof 67.01 209 P **P** **11 56 03.9 -0.7**
BOSA Boshof 67.01 209 LR LR 12 27 37.5
comp=Z,87nm,18.1s,baz=259,slow=38
BOSA Boshof 67.01 209 P **P** **11 56 03.9 -0.7**
BOSA pmax pmax
comp=Z,12nm,1.5s
BILL Bilibino 67.75 22 *i* P P 11 56 12.4 +3.7
BILL pmax pmax
comp=Z,3.0nm,1.0s
TOLK Toolik Lake Re 77.77 9 P **P** **11 57 11.2 +2.9**
G31M Satah River 80.94 4 P P 11 57 29.1 +3.6
G31M IAmb IAmb 11 57 47.6
comp=Z,4.1nm,1.1s
H27K Steamboat Moun 81.04 7 P **P** **11 57 29.2 +3.0**
H27K IAmb IAmb 11 57 31.9
comp=Z,4.2nm,1.2s
H29M Whitestone 81.35 6 P **P** **11 57 30.4 +2.7**
I28M Miner Creek 81.96 7 P **P** **11 57 32.9 +1.7**
I28M IAmb IAmb 11 57 51.4
comp=Z,4.0nm,1.2s
H31M Peel River 82.05 4 P **P** **11 57 33.5 +2.0**
J26L Joseph Creek 82.48 8 P **P** **11 57 36.2 +2.4**
J26L IAmb IAmb 11 57 39.1
comp=Z,1.8nm,0.8s
I30M Mount Dempster 82.49 5 P **P** **11 57 35.5 +1.6**
I30M IAmb IAmb 11 57 57.1
comp=Z,2.6nm,1.1s
PPLA Purkeypile 82.68 12 P **P** **11 57 35.9 +0.9**
WRA Warramunga Arr 91.27 113 P **P** **11 58 14.6 -2.7**
comp=Z,0.3nm,0.6s,baz=315,slow=4.2,SNR=5.2
comp=Z,0.3nm,0.6s
ASAR Alice Springs 92.99 116 P **P** **11 58 22.2 -3.1**
comp=Z,0.6nm,0.9s,baz=322,slow=4.9,SNR=5.6
comp=Z,0.6nm,0.9s

*AZER **26** 11:55:31.8,38˚.44N×49˚.09E,h10km,ml2.7*
*TEH **26** 11:55:32.4,38˚.54N×49˚.23E,h11km±28km*
ISC 26 11:55:36.0±1.2,**38˚.44N**±0˚.04×**48˚.95E**±0˚.06,**h18**km±4km,
n18,σ1°52/30,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GAS1	**Astara - Iran**	**0.10**	**240**			**Pg**	**Pg**	**11 55 39.2**	**-0.4**
GAS1						Sg	**Sg**	**11 55 44.2**	**+2.2**
ASTR	**Astara**	**0.17**	**315**			P	**Pb**	**11 55 39.8**	**-0.5**
ASTR						S	**Sg**	**11 55 45.5**	**+1.8**
LKRN	**Lenkeran, Azer**	**0.30**	**334**			P	**Pg**	**11 55 41.2**	**-1.4**
LKRN						S	**Sg**	**11 55 47.6**	**+0.5**
LRK	**Lerik**	**0.52**	**294**			P	**Pb**	**11 55 46.0**	**-0.6**
LRK						S	**Sn**	**11 55 56.5**	**-0.7**
YRD	**Yardimli**	**0.73**	**311**			P	**Pb**	**11 55 49.0**	**-1.3**
YRD						S	**Sg**	**11 56 01.1**	**+1.0**
CSN1	**Caspian**	**0.88**	**172**			Pg	**Pb**	**11 55 50.8**	**-1.9**
GRMI	**Germi**	**0.91**	**295**			Pg	**Pb**	**11 55 52.6**	**-0.7**
GLBA	**Clilabad**	**0.92**	**332**			P	**Pb**	**11 55 51.5**	**-1.7**
GLBA						S	**Sg**	**11 56 06.8**	**+1.0**
BLQ	**Beylaqan**	**1.68**	**320**			Pn	**Pn**	**11 56 03.3**	**-1.1**
BLQ						Sn	**Sb**	**11 56 27.7**	**+0.6**
IHSH	**Hashtrud**	**1.75**	**230**			Pn	**Pb**	**11 56 07.9**	**+0.2**
AGDM	**Agdam**	**2.20**	**320**			Pg	**Pn**	**11 56 12.9**	**+1.3**
AGDM						Sg	**Sb**	**11 56 43.7**	**+1.6**
BRDA	**Brd**	**2.28**	**324**			Sg	**Sg**	**11 56 48.2**	**-1.2**
ORD	**Ordubad**	**2.36**	**283**			Pg	**Pn**	**11 56 15.6**	**+1.7**
ORD						Sg	**Sg**	**11 56 50.3**	**-1.7**
ISHB	**Shabestar**	**2.62**	**268**			Pn	**Pb**	**11 56 21.7**	**-0.9**
SIZA	**Siyzn**	**2.64**	**359**			Pg	**Pb**	**11 56 22.9**	**+0.2**
SIZA						Sg	**Sg**	**11 57 00.4**	**-0.3**
XNQ	**Khinaliq**	**2.80**	**347**			Sg	**Sb**	**11 57 01.9**	**+2.2**
SBZ	**Shahbuz**	**2.82**	**291**			Pg	**Pb**	**11 56 24.1**	**-1.7**
SBZ						Sg	**Sg**	**11 57 04.4**	**-2.1**
GDB	**GEDABAY**	**3.36**	**314**			Pg	**Pb**	**11 56 33.6**	**-1.5**
GDB						Sg	**Sb**	**11 57 18.9**	**+3.1**

*NEIC **26** 12:13:19.7±1.5,35˚.613N±0˚.009×117˚.596W±0˚.008,*
h6km±4km,Error ellipse: s-maj=1.2km s-min=0.9km
az=179.0
PAS 26 12:13:20.0±1.9,**35˚.604N**±0˚.007×**117˚.60W**±0˚.01,
h3km±3km,**ML3.0**/23,**ML2.7**/136(NEIC),**Error ellipse:**
s-maj=1.4km s-min=1.1km az=75.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.09**	**93**				Pg	12 13 22.1	+0.4
LRMC	**Laurel Mtn Rad**	**0.14**	**208**				Pg	12 13 23.1	+0.3
SRTC	**Snort**	**0.15**	**306**				Pg	12 13 23.6	+0.7
CCCA	**Chr Cany lake**	**0.21**	**112**				Pg	12 13 24.7	+0.7
CLC	**China Lake**	**0.21**	**1**				Pg	12 13 24.3	+0.2
CLC					IAML			12 13 27.7	
	comp=N,2μm,0.3s								
CLC					IAML			12 13 28.1	
	comp=E,2μm,0.5s								
WNMM	**Nine Mile Cany**	**0.34**	**314**				Pg	12 13 26.8	+0.2
WVPM	**Volcano Peak E**	**0.39**	**333**				Pg	12 13 27.5	0.0
WVPM							Sg	12 13 33.5	+1.0
DTP	**Desert Tortois**	**0.39**	**211**				Pg	12 13 27.4	0.0
DTP							Sg	12 13 33.2	+0.6
JRC2	**Joshua Ridge**	**0.41**	**336**				Pg	12 13 27.9	0.0
WCSM	**Coso Springs S**	**0.44**	**342**				Pg	12 13 28.5	0.0
WCSM							Sg	12 13 34.9	+0.6
WBSM	**Bird Springs**	**0.44**	**261**				Pg	12 13 28.6	+0.1
MPMC	**Manual Prospec**	**0.46**	**11**				Pg	12 13 28.9	0.0
MPMC							Sg	12 13 35.3	+0.4
MPMC					IAML			12 13 36.8	
	comp=E,791nm,0.5s								
MPMC					IAML			12 13 37.0	
	comp=N,652nm,0.6s								
WRVM	**Rose V. Centra**	**0.47**	**330**				Pg	12 13 28.9	-0.1
WORM	**Onyx Ranch**	**0.53**	**280**				Pg	12 13 30.0	-0.1
MFS	**McCloud Flat S**	**0.55**	**338**				Pg	12 13 30.5	-0.1
MFS							Sg	12 13 38.6	+0.8
CCAC	**Calif City Air**	**0.56**	**217**				Pg	12 13 30.8	0.0
CCAC							Sg	12 13 38.8	+0.7
WHFM	**Hanning Flat**	**0.62**	**279**				Pg	12 13 31.6	-0.2
QSM	**Queen of Sheba**	**0.70**	**59**				Pg	12 13 33.2	-0.1
QSM							Sg	12 13 43.2	
	comp=N,358nm,0.3s								
QSM					IAML			12 13 46.2	
	comp=E,436nm,0.5s								
ISA	**Isabella, Lake**	**0.71**	**275**				Pg	12 13 33.5	-0.2
ISA					IAML			12 13 43.0	
	comp=N,420nm,0.5s								
ISA					IAML			12 13 44.4	
	comp=E,445nm,0.2s								
GSC	**Goldstone, Bar**	**0.72**	**115**				Pg	12 13 33.6	-0.1
GSC					IAML			12 13 48.3	
	comp=E,596nm,0.4s								
HYS	**Haystack Butte**	**0.74**	**178**				Pg	12 13 33.8	-0.3
EDW2	**Edwards Air Fo**	**0.79**	**204**				Pg	12 13 34.6	-0.5
WASM	**Alta Sierra Ca**	**0.79**	**280**				Pg	12 13 35.0	-0.2
WASM							Sg	12 13 45.4	0.0
RRX	**Edison Barstow**	**0.88**	**146**				Pg	12 13 36.7	-0.2
TPO	**Tropico Hills**	**0.89**	**216**				Pg	12 13 36.5	-0.4
TPO					IAML			12 13 55.2	
	comp=N,424nm,0.6s								
CWC	**Cottonwood Cre**	**0.92**	**335**				Pg	12 13 37.3	-0.3
SBB	**Saddle Back Bu**	**0.93**	**191**				Pg	12 13 37.4	-0.5
GWY	**Greenwater Val**	**0.95**	**52**				Pg	12 13 37.8	-0.5
GWY					IAML			12 13 53.6	
	comp=N,154nm,0.4s								
GWY					IAML			12 13 54.4	
	comp=E,177nm,0.4s								
CGO	**Cerro Gordo**	**0.96**	**350**				Pg	12 13 38.2	-0.2
TEJ	**El Tejon**	**0.96**	**248**				Pg	12 13 37.6	-0.8
FURC	**Furnace Creek,**	**1.05**	**35**			Pg	Pg	12 13 40.0	-0.1
FURC					IAML			12 13 57.2	
	comp=E,260nm,0.8s								
FURC					IAML			12 13 58.5	
	comp=N,234nm,0.7s								
ARVC	**Arvin**	**1.11**	**245**				Pg	12 13 40.6	-0.7
THC	**Tehachapi Micr**	**1.11**	**232**				Pg	12 13 40.6	-0.7
SHOC	**Shoshone, Teco**	**1.12**	**74**			Pg	Pg	12 13 41.1	-0.3
SHOC						Sg	Sg	12 13 56.3	+0.4
SPG2	**Springville 2**	**1.12**	**303**				Pg	12 13 40.6	-0.8
LEOC	**Leona Valley**	**1.13**	**211**				Pg	12 13 40.9	-0.7
LRRC	**Littlerock Res**	**1.13**	**198**				Pg	12 13 41.7	+0.1
LRRC							Sb	12 13 57.7	+0.4
CJV	**Casa Juvan**	**1.16**	**203**				Pg	12 13 41.8	-0.4
CJV							Sb	12 13 58.1	-0.2
HOLC	**Holcomb Ridge**	**1.16**	**190**				Pg	12 13 41.5	-0.7
HOLC							Sb	12 13 58.3	0.0
JNH	**Juniper Hills**	**1.19**	**194**				Pg	12 13 42.3	-0.5
VES	**Vestal, Richgr**	**1.23**	**282**			Pg	Pg	12 13 43.1	-0.4
VES							Sg	12 13 59.2	-0.3
DSCC	**Desert Studies**	**1.31**	**110**				Pg	12 13 44.4	-0.6
DSCC							Sg	12 14 02.0	+0.1
CHFC	**Chilao Flat St**	**1.31**	**196**				Pg	12 13 44.2	-0.9
CHFC							Sg	12 14 02.2	0.0
OSI	**Osito Audit: C**	**1.35**	**223**				Pn	12 13 45.1	-0.8
OSI							Sn	12 14 06.2	+1.9
OSI					IAML			12 14 07.2	
	comp=E,140nm,0.8s								
OSI					IAML			12 14 08.7	
	comp=N,104nm,1.1s								
BFSC	**Mount Baldy Ra**	**1.36**	**182**				Pn	12 13 44.8	-1.3
BFSC					IAML			12 14 04.8	
	comp=N,195nm,0.4s								
AMDNV	**Amargosa**	**1.36**	**51**				Pn	12 13 44.2	-1.7
TUQ	**Turquoise Moun**	**1.38**	**97**				Pn	12 13 45.2	-1.1
SSK	**Sunset Peak**	**1.39**	**183**				Pn	12 13 45.5	-1.0
GRAC	**Grapevine Rang**	**1.40**	**8**				Pn	12 13 45.9	-0.7
GRAC					IAML			12 14 08.9	
	comp=E,168nm,0.5s								
GRAC					IAML			12 14 12.3	
	comp=N,178nm,0.5s								
SIL	**Silver Peak**	**1.41**	**153**				Pn	12 13 46.2	-0.5
PDE	**Pardee, Santa**	**1.41**	**215**				Sg	12 14 04.9	-0.4
WCT	**Wildcat Mounta**	**1.43**	**33**				Pn	12 13 45.7	-1.2
MWC	**Mount Wilson**	**1.43**	**195**				Pn	12 13 46.2	-0.8
SGV	**South Grapevin**	**1.45**	**18**				Pn	12 13 46.2	-1.1
BBRC	**Big Bear Solar**	**1.45**	**157**				Pn	12 13 47.1	-0.3
PASC	**Pasadena Art C**	**1.51**	**199**				Pn	12 13 47.1	-0.8
PASC					IAML			12 14 10.4	
	comp=E,104nm,0.5s								
PASC					IAML			12 14 13.8	
	comp=N,74nm,0.6s								
PASC	**Pasadena Art C**	**1.51**	**199**				Sg	12 14 08.4	0.0
TIN	**Tinemaha, Big**	**1.53**	**341**				Pb	12 13 48.9	-0.3
TIN					IAML			12 14 17.1	
	comp=E,78nm,0.9s								
TIN					IAML			12 14 19.2	
	comp=N,75nm,1.0s								
SVD	**Seven Oaks Dam**	**1.55**	**164**				Sg	12 14 10.0	+0.3
BLCC	**Black Canyon**	**1.62**	**213**				Pn	12 13 48.9	-0.6
LCH	**Last Change Ra**	**1.63**	**359**				Pn	12 13 49.0	-0.7
GTM	**Goat Mountain**	**1.66**	**142**				Pb	12 13 51.3	0.0
GMN	**Gold Mountain**	**1.71**	**9**				Pn	12 13 50.3	-0.7
TPNV	**Topopah Spring**	**1.73**	**39**				Pn	12 13 50.1	-1.0
TPNV					IAML			12 14 17.7	
	comp=N,58nm,0.6s								
TPNV					IAML			12 14 19.7	
	comp=N,57nm,0.5s								
CRGC	**Crocker Grade**	**1.77**	**259**				Pb	12 13 53.1	-0.1
DSP	**Deep Springs**	**1.79**	**351**				Pn	12 13 51.3	-0.5
GMRC	**Granite Mounta**	**1.79**	**117**				Pn	12 13 49.6	-2.3
BLAC	**Blackrock camp**	**1.83**	**147**				Pn	12 13 52.0	-0.5
ELS	**Elsinore Mount**	**1.96**	**176**				Pn	12 13 52.3	-0.9
ELS					IAML			12 14 31.6	
	comp=E,46nm,0.7s								
ELS					IAML			12 14 32.5	
	comp=N,41nm,0.5s								
TPC	**Twentynine Pal**	**1.96**	**139**				Pn	12 13 53.1	-1.2
POB	**Polly Butte**	**1.99**	**164**				Pn	12 13 54.0	-0.8
BELC	**Belle Mtn. Jos**	**2.07**	**140**				Pn	12 13 54.5	-1.4
BELC					IAML			12 14 33.3	
	comp=E,43nm,0.8s								
BELC					IAML			12 14 37.4	
	comp=N,52nm,0.6s								
MZP	**Montezuma Peak**	**2.10**	**5**				Pn	12 13 55.9	-0.4
CRY	**Cary Ranch**	**2.15**	**160**				Pn	12 13 56.4	-0.6
SHPR	**Sheep Range**	**2.17**	**65**				Pn	12 13 57.0	-0.3
PMD	**Palm Desert**	**2.20**	**152**				Pn	12 13 56.0	-1.4
PFO	**Pinyon Flats O**	**2.20**	**154**				Pn	12 13 56.2	-1.3
PFO					IAML			12 14 36.8	
	comp=N,27nm,0.7s								
XPFO	**Pinon Flat**	**2.20**	**154**				Pn	12 13 56.3	-1.3
V12A	**Nelson**	**2.24**	**86**				Pn	12 13 56.5	-1.6
V12A					IAML			12 14 33.8	
	comp=N,36nm,0.9s								
FRD	**Ford Ranch, An**	**2.26**	**158**				Pb	12 14 02.0	+0.5
IRM	**Iron Mountain**	**2.48**	**125**			Pn	Pn	12 13 59.1	-2.2
IRM					IAML			12 14 43.3	
	comp=E,24nm,0.4s								
TPH	**Tonopah**	**2.48**	**7**				Pn	12 14 01.4	-0.2
S11A	**Rachel**	**2.52**	**36**			Pn	Pn	12 14 01.6	-0.4
S11A					IAML			12 14 48.0	
	comp=N,37nm,0.8s								
S11A					IAML			12 14 48.0	
	comp=E,48nm,1.0s								
MATG	**Mataguay Scout**	**2.52**	**162**				Pn	12 14 01.3	-0.7
BC3	**Big Chuckawall**	**2.63**	**137**			Pn	Pn	12 14 02.1	-1.4
BC3					IAML			12 14 49.6	
	comp=N,18nm,0.7s								
DPP	**Dos Picos Cty**	**2.66**	**168**			Pn	Pn	12 14 03.0	-0.8
DPP					IAML			12 14 44.3	
	comp=E,27nm,0.7s								
RAMR	**Ramage Ranch**	**2.66**	**272**			Pn	Pn	12 14 03.4	-0.5
PMPB	**Monarch Peak**	**2.67**	**284**			Pn	Pn	12 14 04.7	+0.7
PMPB					IAML			12 14 52.6	
	comp=N,50nm,1.1s								
PRN	**Pahroc Range**	**2.73**	**48**				Pn	12 14 04.5	-0.4
PRN					IAML			12 14 56.7	
	comp=N,28nm,0.7s								
PRN					IAML			12 14 57.1	
	comp=E,22nm,0.9s								
NV11	**Mina Array Sit**	**2.86**	**351**			Pn	Pn	12 14 06.3	-0.4
NVAR	**Mina Array Bea**	**2.88**	**349**			Pn	Pn	12 14 07.0	0.0
BAR	**Barrett**	**3.02**	**165**			Pn	Pn	12 14 08.2	-0.6
BAR					IAML			12 14 52.8	
	comp=E,24nm,0.6s								
BAR					IAML			12 14 54.9	
	comp=N,26nm,0.5s								
W13A	**Hualapai Mount**	**3.08**	**98**				Pn	12 14 08.4	-1.3
W13A					IAML			12 15 04.3	
	comp=E,12nm,0.9s								
SCZ	**Santa Cruz**	**3.23**	**289**			Pn	Pn	12 14 11.6	-0.1
SCZ					IAML			12 15 39.4	
	comp=N,12nm,4.5s								
WAKR	**Walker**	**3.25**	**334**			Pn	Pn	12 14 11.2	-0.9
YUH	**Yuha Desert**	**3.26**	**154**			Pn	Pn	12 14 11.2	-0.8
CBX	**Cerro Bola**	**3.37**	**166**			Pn	Pn	12 14 13.8	+0.1
GLA	**Glamis**	**3.43**	**137**			Pn	Pn	12 14 13.4	-1.0
GLA					IAML			12 15 12.1	
	comp=N,20nm,0.7s								
ESJX	**Sierra Juarez**	**3.84**	**159**			Pn	Pn	12 14 19.9	-0.3
ESJX					IAML			12 16 04.6	
	comp=N,6.5nm,3.5s								
PSUT	**Pine Spring**	**4.19**	**45**			Pn	Pn	12 14 24.5	-0.5
PSUT					IAML			12 15 38.1	
	comp=N,4.9nm,0.9s								
PSUT					IAML			12 15 43.7	
	comp=E,4.9nm,1.1s								
SPR3	**Spring Creek 3**	**4.28**	**37**			Pn	Pn	12 14 25.1	-1.2
SPR3					IAML			12 15 39.4	
	comp=E,6.1nm,1.3s								
SPR3					IAML			12 15 40.9	
	comp=N,5.5nm,2.0s								
U15A	**North Rim**	**4.38**	**78**			Pn	Pn	12 14 29.6	+1.8
U15A					IAML			12 15 47.8	
	comp=N,4.5nm,1.1s								
U15A					IAML			12 16 22.1	
	comp=E,6.3nm,4.5s								
PKCU	**Pink Cliffs**	**4.64**	**65**			Pn	Pn	12 14 33.6	+2.3
PKCU					IAML			12 16 07.0	
	comp=N,10nm,3.6s								

*IDC **26** 12:14:07.8±2.1,0˚.63S×127˚.96E,h0km,mb3.6/4,*
mbtmp3.6/4,Error ellipse: s-maj=193.0km s-min=22.3km
az=68.0
*DJA **26** 12:14:11.4±0.3,1˚S±3˚×12˚8E±˚,h10km,M3.7/10,mb4.0/1,*
MLv3.5/10
ISC 26 12:14:13.5±1.1,**0˚.79S**±0˚.07×**127˚.58E**±0˚.08,**h35**km,**n9,**
σ0°63/9,mb3.9/3,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.57**	**352**			P	**Pn**	**12 14 39.2**	**+0.3**
SANI	**Sanana**	**2.02**	**232**			P	**Pn**	**12 14 45.2**	**0.0**
NLAI	**Namlea**	**2.48**	**191**			P	**Pn**	**12 14 52.1**	**+0.7**
SWI	**Sorong**	**3.68**	**91**			P	**Pn**	**12 15 08.3**	**+0.4**
FAKI	**Fak Fak**	**5.12**	**114**			P	**Pn**	**12 15 27.9**	**+0.1**
WRA	**Warramunga Arr**	**20.15**	**161**			P	**P**	**12 18 43.6**	**-1.3**
	0.5nm,0.7s,baz=345,slow=13,SNR=9.0								
	0.5nm,0.7s								
ASAR	**Alice Springs**	**23.55**	**165**			P	**P**	**12 19 21.1**	**+0.2**
	0.9nm,0.5s,baz=344,slow=11,SNR=17								
	0.9nm,0.5s								
MKAR	**Makanchi Array**	**61.75**	**326**			P	**P**	**12 24 28.6**	**0.0**
	0.3nm,0.3s,baz=119,slow=8.6,SNR=7.2								
	0.3nm,0.3s								
KURBB	**Kurchatov Arra**	**66.00**	**328**			P	**P**	**12 24 56.5**	**0.0**
	0.5nm,0.2s,baz=126,slow=6.3,SNR=4.6								
	0.5nm,0.2s								

AUST 26 12:24:27.1±1.1,**19˚S**±6˚×**12˚1E**±˚,**h19**km±11km,**mb4.0**/6,
ML2.9/7,**ML3.0**/5,**Error ellipse: s-maj=17.3km**
s-min=3.9km az=140.6,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.56**	**63**			P	Pb	12 24 54.8	-0.5
AUBRM						S	Sg	12 25 17.0	-0.5
MBWA	**Marble Bar**	**2.66**	**201**			P	Pn	12 25 09.8	+0.8
MBWA						S	Sn	12 25 41.8	+1.2
PSAC2	**Pilbara Seismi**	**2.99**	**196**			P	Pn	12 25 14.6	+1.1
PSAC2						S	Sn	12 25 50.2	+1.4
PSA00	**Pilbara Seismi**	**3.01**	**197**			P	Pn	12 25 14.4	+0.6
PSA00						S	Sn	12 25 50.4	+1.0
FITZ	**Fitzroy Crossi**	**4.66**	**84**			P	Pn	12 25 35.8	-0.7
FITZ	**Fitzroy

LUWI	**Luwuk**	**5.93**	**269**	P	Pn	12 27 48.4	-0.8	
	0.3nm1µm99nm,0.9s							
APSI	**Ampana**	**7.05**	**270**	P	Pn	12 28 05.0	+0.3	
	1µm82nm,0.7s							

DJA 26 12:30:34.9±1.0, 8°S±9′×11°6E±°, h22km±10km, M3.7/10, mb4.0/1, MLv3.6/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRBI	**Singaraja**	**0.98**	**274**	P	Pn	12 30 53.8	+0.5
PLAI	**Plampang**	**1.70**	**113**	P	Pn	12 31 03.9	+0.7
JAGI	**Jajag, Banyuwa**	**2.05**	**261**	P	Pn	12 31 08.0	-0.1
KMMI	**Kalianget**	**2.47**	**296**	P	Pn	12 31 15.5	+1.7
GMJI	**Gumukmas**	**2.73**	**267**	P	Pn	12 31 18.3	+0.9
WBSI	**Waikabubak, Su**	**3.48**	**115**	P	Pn	12 31 27.1	-0.8
BSSI	**Bau Bau, Buton**	**4.70**	**65**	P	Pn	12 31 44.3	-0.3
PCJI	**Pacitan**	**4.97**	**269**	P	Pn	12 31 48.0	-0.3
EDFI	**Ende, Flores**	**5.46**	**97**	P	Pn	12 31 55.3	+0.1

NNC 26 12:50:49.7±1.8, 54°27N×86°48E, h0km, mb3.6, mpv3.4, 6C-3D, Error ellipse: s-maj=18.2km s-min=8.5km az=0.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.03**	**253**	⇓P	Pg	12 51 08.9	-0.6
	1.9nm,0.4s						
ZAA0				⇓S	Sb	12 51 23.9	-0.6
	44nm,1.1s						
KURK	**Kurchatov**	**5.97**	**237**	⇑Pn	Pn	12 52 20.8	+1.5
	7.9nm,0.9s						
KURK				⇑Lg	Lg	12 53 60.0	
	13nm,0.6s						
KURBB	**Kurchatov Arra**	**6.08**	**236**	⇑Pn	Pn	12 52 22.9	+2.1
	12nm,0.8s						
KURBB				⇓Lg	Lg	12 54 02.3	
	43nm,0.9s						
MK31	**Makanchi Array**	**7.94**	**201**	⇑Pn	Pn	12 52 48.7	+2.3
	1.5nm,0.5s,baz=27,slow=13,SNR=28						
MK31				⇑Sn	Sn	12 54 16.3	-0.6
	1.8nm,0.7s,baz=26,slow=25,SNR=5.3						
MK31				⇑Lg	Lg	12 54 59.4	
	14nm,0.9s,baz=23,slow=29,SNR=8.5						
MAKZ	**Makanchi**	**8.00**	**203**	Pn	Pn	12 52 48.4	+1.3
	1.3nm,0.7s						
MAKZ				Sn	Sn	12 54 18.3	+0.1
	6.3nm,1.1s						
MAKZ				Lg	Lg	12 55 03.9	
	6.6nm,1.0s						

*IDC **26** 13:00:09.3±0.8, 36°.57N×68°.54E, h0km, mb4.0/20, mbtmp4.2/26, ML4.1/5, MS3.4/19, Error ellipse: s-maj=16.9km s-min=11.9km az=13.0*
*MOS **26** 13:00:10.9±1.1, 36°.76N×68°.43E, h13km, mb4.5/23, Error ellipse: s-maj=6.7km s-min=4.8km az=84.7*
*BJI **26** 13:00:11.8, 37°.10N×68°.56E, h9km, mB4.5/5, mb4.4/22, ML4.3/1, Ms4.2/15, Ms7 4.0/15*
*NNC **26** 13:00:13.1±6.7, 36°.83N×68°.51E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=50.7km s-min=39.3km az=0.0*
*NEIC **26** 13:00:15.1±1.7, 36°.75N±0°.04×68°.38E±0°.08, h27km±4km, mb4.6/38, Error ellipse: s-maj=9.8km s-min=4.9km az=64.0*

ISC 26 13:00:13.4±0.4, 36°.66N±0°.04×68°.47E±0°.04, h24km, n170, σ1§90/178, mb4.5/58, MS3.5/24, 17C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMJ	**Simiganj**	**2.04**	**12**		**Pn**	**13 00 47.5**	**+1.1**
KBL	**Kabul**	**2.16**	**167**		**Pb**	**13 00 51.1**	**-0.9**
KBL	**Kabul**	**2.16**	**167**	PN	**Pb**	**13 00 51.1**	**-0.9**
GAR	**Garm**	**2.76**	**31**		**Pn**	**13 00 57.5**	**+1.3**
BTK	**Batken**	**3.87**	**28**	Pn	**Pn**	**13 01 14.6**	**+3.2**
BTK	**Batken**	**3.87**	**28**	PN	**Pn**	**13 01 14.6**	**+3.2**
NIL	**Nilore**	**4.93**	**126**		**Pn**	**13 01 29.6**	**+3.5**
NIL	**Nilore**	**4.93**	**126**	PN	**Pn**	**13 01 29.6**	**+3.5**
OHH	**Osh**	**5.13**	**40**	PN	**Pn**	**13 01 31.0**	**+2.2**
KSH	**Kashi**	**6.57**	**62**	P	**Pn**	**13 01 45.3**	**-3.3**
KSH				S	**Sn**	**13 02 58.0**	**-4.8**
KSH				pmax	pmax		
	comp=Z,100nm,0.6s						
KSH				LR	LR		
	comp=N,2µm,5.8s						
KSH				LR	LR		
	comp=E,1µm,6.2s						
KSH				LR	LR		
	comp=Z,1µm,7.0s						
KK31	**Karatay Array**	**6.63**	**13**		**Pn**	**13 01 49.6**	**+0.3**
KK31	**Karatay Array**	**6.63**	**13**	⇑Pn	**Pn**	**13 01 50.9**	**+1.6**
	5.4nm,0.3s,baz=196,slow=12,SNR=93						
KK31				⇓Sn	**Sn**	**13 03 05.5**	**+1.4**
	38nm,0.6s,baz=201,slow=20,SNR=4.2						
KK31				⇓Lg	Lg	13 03 40.4	
	156nm,0.7s,baz=189,slow=28,SNR=7.8						
KK31	**Karatay Array**	**6.63**	**13**	PN	**Pn**	**13 01 49.6**	**+0.3**
KKAR	**Karatay Array**	**6.63**	**13**		**Pn**	**13 01 50.1**	**+0.8**
KKAR	**Karatay Array**	**6.63**	**13**	PN	**Pn**	**13 01 50.1**	**+0.8**
EKS2	**Erkin-Say**	**7.26**	**33**	P	**Pn**	**13 02 00.0**	**+1.9**
	SNR=9.3						
NRN	**Naryn**	**7.55**	**49**		**Pn**	**13 02 02.0**	**-0.3**
NRN	**Naryn**	**7.55**	**49**	P	**Pn**	**13 02 02.0**	**-0.3**
AAK	**Ala-Archa**	**7.57**	**36**	P	**Pn**	**13 02 03.3**	**+0.9**
	SNR=15						
AAK	**Ala-Archa**	**7.57**	**36**		**Pn**	**13 02 03.2**	**+0.9**
AAK	**Ala-Archa**	**7.57**	**36**	⇑Pn	**Pn**	**13 02 02.7**	**+0.4**
	9.9nm,0.6s						
AAK				⇓Sn	**Sn**	**13 03 28.6**	**+1.3**
	21nm,0.7s						
AAK	**Ala-Archa**	**7.57**	**36**	Pn	**Pn**	**13 02 01.9**	**-0.3**
	5.9nm,0.3s,baz=239,slow=10,SNR=17						
AAK				Sn	**Sn**	**13 03 31.1**	**+3.8**
	2.4nm,0.3s,baz=319,slow=18,SNR=3.5						
AAK				LR	LR	13 05 16.6	
	comp=Z,215nm,20.6s,baz=224,slow=40						
	20nm,0.5s						
AAK	**Ala-Archa**	**7.57**	**36**	*ce*P	**Pn**	**13 02 03.0**	**+0.7**
AAK				pmax	pmax		
	comp=Z,23nm,0.6s						
FRU1	**Bishkek**	**7.76**	**36**		**Pn**	**13 02 06.3**	**+1.4**
FRU1	**Bishkek**	**7.76**	**36**	P	**Pn**	**13 02 06.3**	**+1.4**
KBK	**Karagaybulak**	**7.80**	**38**	P	**Pn**	**13 02 06.9**	**+1.4**
	SNR=51						
CHMS	**Chumysh**	**7.96**	**35**	P	**Pn**	**13 02 08.0**	**+0.4**
	SNR=14						
USP	**Ospenovka**	**8.06**	**33**	P	**Pn**	**13 02 09.2**	**+0.3**
	SNR=12						
BOOM	**Boomskoye usch**	**8.20**	**42**		**Pn**	**13 02 11.7**	**+0.7**
BOOM	**Boomskoye usch**	**8.20**	**42**	P	**Pn**	**13 02 11.7**	**+0.7**
ULHL	**Ulahol**	**8.20**	**45**	P	**Pn**	**13 02 11.7**	**+0.6**
	SNR=5.5						
TKM2	**Tokmak 2**	**8.32**	**39**	P	**Pn**	**13 02 13.1**	**+0.4**
	SNR=32						
BHK	**Bhakra**	**8.41**	**126**	*e*P	**Pn**	**13 02 10.6**	**-3.2**
BHK				*e*S	**Sn**	**13 03 42.9**	**-5.1**
BHK				IAML		13 04 56.0	
	comp=N,143nm,0.9s						
BHK				IAML		13 04 58.3	
	comp=E,100nm,2.6s						
KDJ	**Kajisay**	**8.68**	**48**		**Pn**	**13 02 17.7**	**+0.2**
KDJ	**Kajisay**	**8.68**	**48**	P	**Pn**	**13 02 17.7**	**+0.2**
PRZ	**Przheval'sk**	**9.62**	**50**		**Pn**	**13 02 31.1**	**+0.6**
PRZ	**Przheval'sk**	**9.62**	**50**	P	**Pn**	**13 02 31.1**	**+0.6**
MAKZ	**Makanchi**	**14.28**	**41**	Pn	**Pn**	**13 03 32.2**	**-1.8**
MAKZ	**Makanchi**	**14.28**	**41**	P	**Pn**	**13 03 32.2**	**-1.8**
MK31	**Makanchi Array**	**14.44**	**41**	Pn	**Pn**	**13 03 34.3**	**-1.9**
MK31	**Makanchi Array**	**14.44**	**41**	P	**Pn**	**13 03 34.3**	**-1.9**
MKAR	**Makanchi Array**	**14.44**	**41**		**Pn**	**13 03 34.1**	**-2.0**
MKAR	**Makanchi Array**	**14.44**	**41**	Pn	**Pn**	**13 03 34.3**	**-1.9**
	comp=E,0.8nm,0.3s,baz=232,slow=14,SNR=40						
	comp=E,25nm,0.8s						
AKTO	**Aktyubinsk**	**15.70**	**335**	⇑Pn	**Pn**	**13 03 50.9**	**-1.9**
	comp=E,11nm,0.8s						
AKTO				⇑Sn	**Sn**	**13 06 48.7**	**+2.8**
	comp=E,14nm,0.9s						
AKTO	**Aktyubinsk**	**15.70**	**335**	Pn	**Pn**	**13 03 50.1**	**-2.7**
	comp=E,0.8nm,0.3s,baz=154,slow=12,SNR=16						
AKTO				LR	LR	13 10 28.0	
	comp=E,105nm,19.5s,baz=92,slow=39						
	comp=E,3.3nm,0.4s						
KURBB	**Kurchatov Arra**	**15.72**	**24**	Pn	**Pn**	**13 03 49.5**	**-3.7**
	comp=E,3.7nm,0.8s,baz=212,slow=12,SNR=16						
KURK	**Kurchatov**	**15.83**	**24**		**Pn**	**13 03 50.9**	**-3.6**
KURK	**Kurchatov**	**15.83**	**24**	P	**Pn**	**13 03 50.9**	**-3.6**
KURK				pmax	pmax		
	comp=E,8.0nm,0.8s						
WMQ	**Urumqi**	**16.31**	**58**	*e*P	**P**	**13 04 04.3**	**+0.7**
WMQ				LR	LR		
	comp=Z,460nm,6.1s						
WMQ				LR	LR		
	comp=Z,340nm,6.1s						
BVA0	**Borovoye Array**	**16.42**	**4**	⇑Pn	**Pn**	**13 04 01.2**	**-0.9**
	comp=Z,9.7nm,0.7s						
BVA0				⇓Sn	**Sn**	**13 07 01.2**	**-2.3**
	comp=Z,20nm,1.3s						
BVAR	**Borovoye Array**	**16.42**	**4**	Pn	**Pn**	**13 03 59.5**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=167,slow=12,SNR=14						
BVAR				Sn	**Sn**	**13 06 54.8**	**-8.8**
	comp=Z,0.1nm,0.3s,baz=206,slow=19,SNR=1.9						
BVAR				LR	LR	13 10 35.3	
	comp=E,68nm,19.1s,baz=188,slow=38						
	comp=Z,2.7nm,0.4s						
BRVK	**Borovoye**	**16.45**	**4**		**Pn**	**13 04 01.2**	**-1.3**
BRVK	**Borovoye**	**16.45**	**4**	⇑Pn	**Pn**	**13 04 03.3**	**+0.9**
	comp=Z,15nm,0.8s						
BRVK				⇑Sn	**Sn**	**13 07 01.9**	**-2.3**
	comp=Z,22nm,0.9s						
BRVK	**Borovoye**	**16.45**	**4**	*ce*P	**Pn**	**13 04 02.7**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,19nm,1.7s						
AKT	**Akhty**	**16.80**	**293**	*e*P	**Pn**	**13 04 07.6**	**+0.5**
AKT				pmax	pmax		
	comp=Z,25nm,1.1s						
AKT				MLR	MLR		
	comp=Z,113nm,12.0s						
MAK	**Makhachkala**	**17.28**	**298**	*e*P	**Pn**	**13 04 08.1**	**-4.8**
MAK				*e*S	**Sn**	**13 07 16.0**	**-8.3**
MAK				pmax	pmax		
	comp=Z,121nm,1.1s						
MAK				MLR	MLR		
	comp=Z,362nm,13.0s						
EVN	**Everest**	**17.75**	**114**		**Pn**	**13 04 17.6**	**-1.9**
EVN				IAmb	IAmb	13 04 42.4	
	comp=Z,26nm,0.8s						
GNI	**Garni**	**18.91**	**288**	P	**Pn**	**13 04 33.8**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=79,slow=8.7,SNR=5.6						
	comp=Z,28nm,0.9s						
GNI	**Garni**	**18.91**	**288**	*ce*P	**Pn**	**13 04 33.3**	**+0.2**
GNI				pmax	pmax		
	comp=Z,43nm,1.0s						
LSA	**Lhasa**	**20.19**	**104**	P	Pn	13 04 48.8	+0.1
LSA				IAmb	IAmb	13 04 55.2	
	comp=Z,39nm,1.3s						
LSA	**Lhasa**	**20.19**	**104**	P	Pn	13 04 48.8	+0.1
LSA				pmax	pmax		
	comp=Z,39nm,1.3s						
ZAA0	**Zalesovo Array**	**20.68**	**28**		**P**	**13 04 50.6**	**-0.7**
ZAA0				IAmb	IAmb	13 04 57.3	
	comp=Z,27nm,0.8s						
ZALV	**Zalesovo Beam**	**20.68**	**28**	P	**P**	**13 04 50.8**	**-0.6**
	comp=Z,16nm,0.6s,baz=223,slow=10,SNR=44						
ZALV				LR	LR	13 14 07.3	
	comp=Z,60nm,21.3s,baz=202,slow=40						
	comp=Z,16nm,0.6s						
KBZ	**Khabaz**	**20.72**	**298**	P	**P**	**13 04 51.9**	**-0.1**
	comp=Z,5.4nm,0.8s,baz=110,slow=11,SNR=6.5						
	comp=Z,5.4nm,0.8s						
KBZ	**Khabaz**	**20.72**	**298**	*i* P	**P**	**13 04 52.8**	**+0.8**
KBZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SVE	**Sverdlovsk**	**20.85**	**348**	*e*P	Pn	13 04 55.9	+0.1
SVE				*e*S	**S**	**13 08 45.6**	**+1.1**
SVE				MLR	MLR		
	comp=Z,215nm,15.0s						
ARTI	**Arti**	**20.88**	**344**		**P**	**13 04 54.1**	**+0.6**
ARTI	**Arti**	**20.88**	**344**	P	**P**	**13 04 53.3**	**-0.3**
	comp=Z,3.9nm,0.5s,baz=135,slow=5.3,SNR=5.6						
ARTI				LR	LR	13 14 11.4	
	comp=Z,58nm,19.4s,baz=158,slow=40						
	comp=Z,3.9nm,0.5s						
ARTI	**Arti**	**20.88**	**344**	*c i* P	**P**	**13 04 54.3**	**+0.7**
ARTI						13 05 10.4	
ARTI				S	**S**	**13 08 43.3**	**-1.8**
ARTI				SS	**SnSn**	**13 09 01.7**	**-4.3**
ARTI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SHA1	**Shidzhatmaz**	**20.90**	**298**	*i* P	**P**	**13 04 54.6**	**+0.5**
KVAR	**Kislovodsk Arr**	**20.91**	**298**	LR	LR	13 15 09.7	
	comp=Z,110nm,18.3s,baz=265,slow=43						
KIV	**Kislovodsk**	**20.92**	**298**		**P**	**13 04 54.6**	**+0.4**
KIV	**Kislovodsk**	**20.92**	**298**	*e*P	**P**	**13 04 53.6**	**-0.6**
KIV				*e*S	**S**	**13 08 47.3**	**+1.1**
KIV				pmax	pmax		
	comp=Z,22nm,1.1s						
KIV				MLR	MLR		
	comp=Z,59nm,14.0s						
GOMU	**GeErMu**	**21.18**	**83**	P	**P**	**13 04 58.8**	**+1.4**
GOMU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BELG	**Belogornoye**	**21.52**	**324**	P	**P**	**13 05 00.6**	**+0.1**
	comp=Z,118nm,0.6s,baz=348,slow=1.3,SNR=17						
BELG	**Belogornoye**	**21.52**	**324**	*i* P	**P**	**13 05 00.4**	**-0.1**
BELG				pmax	pmax		
	comp=Z,20nm,1.0s						
SHL	**Shillong**	**22.83**	**112**		**P**	**13 05 14.2**	**-0.7**
SHL	**Shillong**	**22.83**	**112**	P	**P**	**13 05 14.2**	**-0.7**
SHL				pmax	pmax		
	comp=Z,38nm,1.0s						
RAYN	**Ar Rayn**	**23.72**	**243**	P	**P**	**13 05 24.8**	**+1.1**
RAYN	**Ar Rayn**	**23.72**	**243**	P	**P**	**13 05 24.8**	**+1.1**
RAYN				pmax	pmax		
	comp=Z,12nm,1.0s						
VRH	**Novokhopyorsk**	**23.96**	**316**	*e*P	**P**	**13 05 28.8**	**+3.2**
VRH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GTA	**Gaotai**	**24.78**	**74**	P	**P**	**13 05 35.5**	**+2.1**
GTA				sP	sP	13 05 44.8	+1.1
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GTA				LR	LR		
	comp=Z,160nm,14.5s						
GTA				LR	LR		
	comp=Z,220nm,14.2s						
GTA				LR	LR		
	comp=Z,270nm,12.4s						
KIRV	**Kirov**	**25.25**	**336**	*i* P	**P**	**13 05 38.3**	**+1.1**
VORD	**Divnogorie**	**25.25**	**314**	*e*P	**P**	**13 05 37.0**	**-0.4**
VORD				pmax	pmax		
	comp=Z,5.0nm,1.0s						
VSR	**Storozhevoye**	**25.42**	**314**	*e*P	**P**	**13 05 37.4**	**-1.5**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VORR	**Voronezh**	**25.58**	**315**	P	**P**	**13 05 38.9**	**-1.5**
VORR				pmax	pmax		
	comp=Z,18nm,1.3s						
LPSR	**Galich'ya Gora**	**26.13**	**317**	*e*P	**P**	**13 05 45.6**	**+0.2**
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ASF	**Jabal al Asfar**	**26.36**	**270**	LR	LR	13 19 19.4	
	comp=Z,104nm,19.8s,baz=113,slow=44						
BR131	**Keskin Array S**	**27.45**	**287**	*i* P	**P**	**13 05 59.2**	**+1.7**
BRTR	**Keskin Array B**	**27.45**	**287**	P	**P**	**13 05 58.6**	**+1.1**
BRTR	**Keskin Array B**	**27.45**	**287**	P	**P**	**13 05 59.1**	**+1.6**
	comp=Z,1.7nm,0.6s,baz=107,slow=8.3,SNR=11						
	comp=Z,1.7nm,0.6s						
MOY	**Mondy**	**27.46**	**47**	*e*P	**P**	**13 05 59.3**	**+1.8**
MOY				pmax	pmax		
	comp=Z,9.0nm,1.4s						
LZH	**Lanzhou**	**28.39**	**80**	*e*P	**P**	**13 06 06.3**	**+0.2**
LZH				pP	pP	13 06 12.5	-0.9
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				LR	LR		
	comp=Z,120nm,14.8s						
LZH				LR	LR		
	comp=Z,310nm,13.4s						
LZH				LR	LR		
	comp=Z,300nm,18.6s						
OBN	**Obninsk**	**28.51**	**320**	⇑*e*P	**P**	**13 06 07.3**	**+0.7**
OBN				*e*		13 07 01.9	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,82nm,20.0s						
SONM	**Songino Array**	**29.93**	**56**	P	**P**	**13 06 21.8**	**+2.2**
SONM	**Songino Array**	**29.93**	**56**	P	**P**	**13 06 20.5**	**+1.0**
	comp=Z,3.7nm,1.0s,baz=260,slow=8.6,SNR=16						
SONM				LR	LR	13 19 50.1	
	comp=Z,139nm,18.5s,baz=265,slow=39						
	comp=Z,3.7nm,1.0s						
SONM	**Songino Array**	**29.93**	**56**	P	**P**	**13 06 21.8**	**+2.2**
SONM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KLMR	**Klimovskoe**	**30.37**	**332**	*e*P	**P**	**13 06 21.5**	**-1.6**
KLMR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ULN	**Ulaanbaatar**	**30.37**	**56**	*ce*P	**P**	**13 06 24.7**	**+1.2**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.7s						
AKASG	**Malin Array Be**	**31.27**	**309**	P	**P**	**13 06 30.8**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=91,slow=7.1,SNR=6.4						
AKASG				LR	LR	13 21 56.0	
	comp=Z,64nm,18.5s,baz=108,slow=42						
	comp=Z,0.8nm,0.5s						
AKASG	**Malin Array Be**	**31.27**	**309**	*i* P	**P**	**13 06 31.6**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	**Malin Array Si**	**31.27**	**309**	*i* P	**P**	**13 06 32.4**	**+1.3**
AKBB				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**32.34**	**116**		**P**	**13 06 41.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**32.34**	**116**	P	**P**	**13 06 40.8**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=302,slow=8.6,SNR=16						
	comp=Z,2.8nm,0.9s						
PLOR	**Plostina**	**32.44**	**300**	⇑P	**P**	**13 06 43.5**	**+2.0**
MLR	**Muntele Rosu**	**32.93**	**299**		**P**	**13 06 46.3**	**+0.4**
MLR				IAmb	IAmb	13 06 49.5	
	comp=Z,11nm,1.1s						
MLR	**Muntele Rosu**	**32.93**	**299**	LR	LR	13 23 23.0	
	comp=Z,87nm,18.4s,baz=58,slow=42						
MLR	**Muntele Rosu**	**32.93**	**299**	P	**P**	**13 06 46.3**	**+0.4**
MLR				pmax	pmax		
	comp=Z,11nm,1.1s						
MLR	**Muntele Rosu**	**32.93**	**299**	⇓P	**P**	**13 06 48.3**	**+2.4**
MNK	**Minsk**	**32.96**	**316**	*i* P	**P**	**13 06 43.2**	**-2.8**
	comp=E,40nm,0.8s						
MNK				*i* P	**P**	**13 06 43.2**	**-2.8**
	comp=N,13nm,0.7s						
MNK				*i* P	**P**	**13 06 43.2**	**-2.8**
	comp=Z,11nm,0.7s,baz=106						
MNK				*i* PP	**PnPn**	**13 07 52.1**	**-3.1**
MNK				*i* PPP	PPP	13 08 02.4	
MNK				*i* S	**S**	**13 12 01.9**	**-0.6**
MNK				*i* SS	**SnSn**	**13 14 00.3**	**-0.4**
MNK				*i* SSS	SSS	13 14 15.9	
MNK				*i* LQ	LQ	13 19 00.6	
MNK	**Minsk**	**32.96**	**316**	*i* P	**P**	**13 06 43.1**	**-2.8**
MNK				*i*		13 07 52.0	
MNK				*i* S	**S**	**13 12 01.9**	**-0.6**
MNK				*i* SS	**SnSn**	**13 14 00.3**	**-0.4**
MNK				pmax	pmax		
	comp=Z,11nm,0.7s						
MNK				pmax	pmax		
	comp=E,40nm,0.8s						
MNK				pmax	pmax		
	comp=N,13nm,0.7s						
MNK				MLR	MLR		
	comp=Z,102nm,18.0s						
MNK				MLR	MLR		
	comp=N,1µm,21.0s						
MNK				MLR	MLR		
	comp=E,965nm,21.0s						
BURAR	**Bucovina Array**	**33.49**	**303**	P	**P**	**13 06 49.8**	**-1.0**
DRGR		**35.18**	**301**	⇑P	**P**	**13 07 07.0**	**+1.7**
FINES	**FINESS Array B**	**36.23**	**327**	P	**P**	**13 07 14.7**	**+0.6**
	comp=E,2.0nm,0.5s,baz=125,slow=10,SNR=17						
FINES				LR	LR	13 23 18.3	
	comp=E,57nm,18.7s,baz=82,slow=38						
	comp=E,2.0nm,0.5s						
FINES	**FINESS Array B**	**36.23**	**327**	*i* P	**P**	**13 07 14.6**	**+0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BOD	**Bodaibo**	**36.52**	**40**	*e*P	**P**	**13 07 16.9**	**+0.2**
BOD				pmax	pmax		
	comp=Z,79nm,0.9s						
XLT	**XiLinHaoTe**	**36.62**	**64**	*e*P	**P**	**13 07 16.5**	**-1.3**
XLT				pP	pP	13 07 21.0	-4.2
XLT				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ARCES	**ARCESS Array B**	**40.23**	**338**	P	**P**	**13 07 47.6**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=119,slow=9.9,SNR=6.7						
	comp=Z,1.0nm,0.5s						
CUC	**Castrocucco**	**40.95**	**291**	P	**P**	**13 07 56.3**	**+2.2**
GERES	**GERESS Array B**	**41.17**	**305**	P	**P**	**13 07 56.2**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=81,slow=8.2,SNR=4.0						
GERES				PP	**PnPn**	**13 09 34.1**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=94,slow=9.0,SNR=4.0						
	comp=Z,0.3nm,0.4s						
HFS	**Hagfors**	**41.69**	**322**	P	**P**	**13 08 00.4**	**+0.6**
	comp=Z,6.0nm,0.6s,baz=94,slow=10,SNR=32						
	comp=Z,6.0nm,0.6s						
NB2	**NORSAR Subarra**	**43.03**	**323**	P	**P**	**13 08 10.9**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=98,slow=8.6						
NOA	**NORSAR Array B**	**43.03**	**323**	P	**P**	**13 08 10.8**	**0.0**
	comp=Z,2.4nm,0.6s,baz=99,slow=8.1,SNR=23						
NOA				LR	LR	13 28 35.1	
	comp=Z,71nm,18.9s,baz=105,slow=40						
	comp=Z,2.4nm,0.6s						
HEH	**HeiHe**	**43.77**	**53**	*e*P	**P**	**13 08 18.0**	**+1.2**
HEH				pmax	pmax		
	comp=Z,16nm,0.9s						
HEH				LR	LR		
	comp=Z,160nm,12.2s						
HEH				LR	LR		
	comp=Z,140nm,12.2s						
HEH				LR	LR		
	comp=Z,190nm,12.8s						
DAVOX	**Davos/Dischmat**	**43.96**	**302**	LR	LR	13 29 20.4	
	comp=Z,41nm,21.6s,baz=85,slow=40						
BNX	**BinXian**	**44.36**	**59**	⇑P	**P**	**13 08 23.3**	**+1.6**
BNX				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TIXI	**Tiksi**	**46.40**	**22**	LR	LR	13 32 18.5	
	comp=Z,26nm,19.7s,baz=189,slow=42						
TIXI	**Tiksi**	**46.40**	**22**	*ce*P	**P**	**13 08 38.6**	**+1.2**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KSRS	**Korea Array**	**46.75**	**70**	P	**P**	**13 08 40.4**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=278,slow=6.6,SNR=5.6						
	comp=Z,1.3nm,0.9s						
SPITS	**Spitsbergen Ar**	**46.88**	**347**	P	**P**	**13 08 41.2**

comp=Z,12nm,1.2s
G24K **Hadweenzic Riv** **73.36** **14** P **P** **13 11 43.6 +0.9**
G24K IAmb IAmb 13 12 07.2
comp=Z,5.7nm,1.2s
LBTB **Lobatse** **73.46** **220** P **P** **13 11 44.6 +0.7**
LBTB IAmb IAmb 13 12 24.1
comp=Z,12nm,1.4s
LBTB **Lobatse** **73.46** **220** P **P** **13 11 44.6 +0.7**
LBTB pmax pmax
comp=Z,12nm,1.4s
H23K **Yukon River** **73.69** **15** P **P** **13 11 45.5 +0.7**
J18K **Innoko River** **73.95** **19** P **P** **13 11 47.5 +1.2**
J18K IAmb IAmb 13 12 07.5
comp=Z,3.7nm,0.8s
K17K **Iditarod** **74.11** **20** P **P** **13 11 47.6 +0.4**
G30M **tAoh Zraii Nji** **74.98** **10** P **P** **13 11 53.2 +1.0**
G30M IAmb IAmb 13 12 16.7
comp=Z,9.7nm,1.4s
CAST **Castle Rocks** **75.17** **18** IAmb IAmb 13 12 04.2
comp=Z,5.9nm,1.1s
ILAR **Eielson Array** **75.17** **15** P **P** **13 11 52.4 -0.9**
comp=Z,0.7nm,1.0s,baz=338,slow=5.5,SNR=6.4
comp=Z,0.7nm,1.0s
I28M **Miner Creek** **75.85** **12** **P** **13 11 58.3 +1.0**
I28M IAmb IAmb 13 12 11.7
comp=Z,3.7nm,0.7s
J26L **Joseph Creek** **76.07** **14** **P** **13 11 60.0 +1.4**
J26L IAmb IAmb 13 12 13.0
comp=Z,3.2nm,0.8s
I30M **Mount Dempster** **76.61** **10** **P** **13 12 02.2 +0.5**
I30M IAmb IAmb 13 12 31.7
comp=Z,4.2nm,0.9s
M27K **Edge Creek, AK** **78.34** **14** P **P** **13 12 13.0 +1.6**
M27K IAmb IAmb 13 12 15.1
comp=Z,11nm,1.5s
KDAK **Kodiak Island** **79.80** **21** LR LR 13 54 16.2
comp=Z,48nm,18.8s,baz=223,slow=41
O28M **Mount Upton** **80.12** **14** P **P** **13 12 20.7 -0.7**
O28M IAmb IAmb 13 12 34.3
comp=Z,10nm,1.3s
SCHQ **Schefferville** **81.14** **336** P **P** **13 12 27.6 +1.0**
comp=Z,1.5nm,0.6s,baz=41,slow=7.3,SNR=4.0
comp=Z,1.5nm,0.6s
WRA **Warramunga Arr** **83.81** **120** P **P** **13 12 40.0 -0.9**
comp=Z,0.4nm,0.6s,baz=322,slow=4.9,SNR=7.5
comp=Z,0.4nm,0.6s
WB2 **Warramunga Ar** **83.82** **120** P **P** **13 12 42.4 +1.4**
WB2 IAmb IAmb 13 12 52.7
comp=Z,6.3nm,1.1s
ASAR **Alice Springs** **86.03** **123** P **P** **13 12 53.0 +1.0**
ASAR **Alice Springs** **86.03** **123** P **P** **13 12 50.0 -2.1**
comp=Z,0.5nm,0.7s,baz=306,slow=5.0,SNR=8.4
comp=Z,0.5nm,0.7s
NEW **Newport** **95.31** **4** LR LR 14 03 47.3
comp=Z,24nm,18.2s,baz=8.0,slow=40

IDC 26 13:02:13.8±44.0, 15°39S×173°38W, h0km, mb3.8/3, mbtmp3.8/3, MS3.4/2, Error ellipse: s-maj=844.6km s-min=176.5km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**26.70**	**280**	LR	LR	13 16 52.4	
	comp=Z,68nm,19.3s,baz=81,slow=33						
STKA	**Stephens Creek**	**44.06**	**240**	P	P	13 10 25.2	+1.4
	1.0nm,0.5s,baz=92,slow=9.2,SNR=3.8						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**49.87**	**257**	P	P	13 11 09.1	-0.3
	0.3nm,0.6s,baz=96,slow=7.1,SNR=11						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**50.13**	**252**	P	P	13 11 10.4	-1.0
	2.0nm,0.8s,baz=88,slow=8.4,SNR=16						
	2.0nm,0.8s						
YKA	**Yellowknife Ar**	**90.08**	**23**	LR	LR	13 53 52.1	
	comp=Z,18nm,18.6s,baz=360,slow=34						

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*RSNC **26** 13:09:29.7±0.0, 10°N×2°×7°3W±°, h13km±3km, M2.1, ML2.1*
*FUNV **26** 13:09:30.2, 9°65N×72°76W, h15km, MW3.2*
ISC 26 13:09:27.3±1.5, 9°72N±0°04×72°80W±0°04, h13km±13km, n10, σ0°73/18, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**0.41**	**38**	*eP*	**Pn**	**13 09 38.3**	**-0.7**
MCQV				*eS*	**Sn**	**13 09 46.4**	**-0.1**
CRJC	**Cerrejon, Guaj**	**1.29**	**356**	P	**Pg**	**13 09 52.3**	**+0.1**
CRJC				S	**Sg**	**13 10 09.6**	**+0.5**
ARGC	**Ariguani, Magd**	**1.44**	**276**	P	**Pb**	**13 09 53.8**	**-0.1**
ARGC				S	**Sn**	**13 10 11.9**	**+0.1**
OCAC	**Ocana**	**1.56**	**199**	P	**Pb**	**13 09 55.6**	**-0.5**
OCAC				S	**Sb**	**13 10 15.5**	**-0.4**
CAPV	**Capacho**	**1.91**	**166**	*eP*	**Pb**	**13 10 01.9**	**-0.1**
CAPV				*eS*	**Sn**	**13 10 23.8**	**+0.2**
SMRC	**Santa Marta, M**	**2.01**	**316**	P	**Pn**	**13 10 02.1**	**+1.2**
URIC	**Uribia, Colomb**	**2.12**	**22**	P	**Pb**	**13 10 05.6**	**0.0**
URIC				S	**Sg**	**13 10 35.3**	**-0.2**
SJCC	**San Jacinto, C**	**2.36**	**274**	P	**Pb**	**13 10 07.9**	**-1.8**
SJCC				S	**Sb**	**13 10 39.0**	**+0.3**
SOCV	**Socops**	**2.39**	**127**	*eP*	**Pn**	**13 10 07.3**	**+1.2**
SOCV				*eS*	**Sn**	**13 10 34.9**	**-0.4**
BAUV	**El Baul**	**4.75**	**99**	*eP*	**Pn**	**13 10 38.8**	**+0.1**

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*WEL **26** 13:12:34.1±1.3, 48°S±12°×16°5E±1°1, h33km, M4.5/12, ML4.5/9, MLv4.5/12, Error ellipse: s-maj=19.3km s-min=10.5km az=139.1, confirmed*
NOU 26 13:12:55.6, 47°05S×166°86E, h0km, MLv4.1/8, Off W. Coast of S. Island, N.Z., Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**0.80**	**75**	P	Pn	13 13 14.5	+0.3
APZ				S	Sn	13 13 45.1	+18
PYZ	**Puysegur Point**	**0.89**	**352**	P	Pg	13 13 12.3	-0.4
PYZ	**Puysegur Point**	**0.89**	**352**	P	Pg	13 13 12.5	-0.2
RRKS	**Rarakau**	**1.00**	**25**	P	Pn	13 13 18.3	+1.5
WHZ	**Wether Hill Ro**	**1.38**	**33**	P	Pb	13 13 23.2	+0.9
WHZ				S	Sn	13 14 01.4	+20
DCZ	**Deep Cove**	**1.60**	**7**	P	Pn	13 13 23.5	-1.6
SYZ	**Scrubby Hill**	**1.65**	**73**	P	Pn	13 13 25.1	-0.7
SYZ	**Scrubby Hill**	**1.65**	**73**	P	Pn	13 13 25.4	-0.4
SYZ				S	Sg	13 14 05.5	+17
MOSS	**Mossburn Schoo**	**1.68**	**35**	P	Pg	13 13 27.8	0.0
MOSS				S	Sg	13 14 11.7	+22
MLZ	**Mavora Lakes**	**1.90**	**28**	P	Pb	13 13 30.6	-0.5
MLZ				S	Sg	13 14 15.9	+19
BDCS	**Balclutha Dist**	**2.13**	**69**	P	Pb	13 13 34.0	-1.0
TUZ	**Tuapeka**	**2.21**	**61**	P	Pn	13 13 34.7	+1.3
EAZ	**Earnscleugh**	**2.49**	**44**	P	Pn	13 13 38.5	+1.1
EAZ				S	Sg	13 14 30.7	+15
MSZ	**Milford Sound**	**2.49**	**18**	P	Pn	13 13 37.8	+0.5
WKZ	**Wanaka**	**2.69**	**35**	P	Pn	13 13 42.8	-1.7
HHSZ	**Highcliff Hill**	**2.83**	**67**	P	Pn	13 13 42.9	+0.8
JCZ	**Jackson Bay**	**3.27**	**25**	P	Pn	13 13 49.0	+0.8
JCZ	**Jackson Bay**	**3.27**	**25**	P	Pn	13 13 49.7	+1.5
ODZ	**Otahua Downs**	**3.31**	**54**	P	Pn	13 13 48.3	-0.4
LBZ	**Lake Benmore**	**3.54**	**42**	P	Pn	13 13 51.8	0.0
TMZ	**Timaru**	**3.94**	**49**	P	Pn	13 13 58.9	+1.6
FOZ	**Fox Glacier**	**4.09**	**32**	P	Pn	13 14 00.3	+1.0
ARCZ	**Arundel**	**4.34**	**46**	P	Pn	13 14 05.1	+2.2
RPZ	**Rata Peaks**	**4.46**	**43**	P	Pn	13 14 03.7	-0.7
RPZ	**Rata Peaks**	**4.46**	**43**	P	Pn	13 14 03.0	-1.4
GCSZ	**Gaunt Creek Bo**	**4.47**	**35**	P	Pn	13 14 05.4	+0.9
WACZ	**Wakanui South**	**4.68**	**50**	P	Pn	13 14 08.6	+1.1
WVZ	**Waitaha Valley**	**4.83**	**36**	P	Pn	13 14 10.9	+1.3
OXZ	**Oxford**	**5.22**	**46**	P	Pn	13 14 17.7	+2.8
INZ	**Inchbonnie**	**5.41**	**39**	P	Pn	13 14 18.1	+0.5
LTZ	**Lake Taylor**	**5.74**	**44**	P	Pn	13 14 22.6	+0.5
DSZ	**Denniston Nort**	**6.38**	**36**	P	Pn	13 14 30.5	-0.3
THZ	**Tophouse**	**6.83**	**41**	P	Pn	13 14 37.3	+0.3
MRNZ	**Matariki Terra**	**7.06**	**39**	P	Pn	13 14 40.4	+0.3
QRZ	**Quartz Range**	**7.45**	**35**	P	Pn	13 14 45.2	-0.2
QRZ	**Quartz Range**	**7.45**	**35**	P	Pn	13 14 45.1	-0.3
TKNZ	**Takaka Hill**	**7.45**	**38**	P	Pn	13 14 46.2	+0.8
NNZ	**Nelson**	**7.48**	**41**	P	Pn	13 14 47.8	+1.9
KHEZ	**Kahui Hut**	**9.35**	**37**	P	Pn	13 15 12.5	+0.9
HIZ	**Hauiti**	**10.35**	**37**	P	Pn	13 15 24.7	-0.6

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*NEIC **26** 13:32:06.4±0.7, 36°87N±0°01×97°44W±0°01, h5km±1km, mb_Lg2.2/17, ML2.3/20, ML2.5/42, Error ellipse: s-maj=2.8km s-min=1.8km az=40.0*
NEIC 26 13:32:06.5±0.6, 36°87N±0°01×97°44W±0°01, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.3km az=36.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.15**	**349**		Pg	13 32 09.9	+0.5
KAN13					Sg	13 32 12.4	+1.0
KAN13				IAML		13 32 13.3	
	comp=N,2μm,0.3s						
BLOK	**Blackwell**	**0.21**	**120**		Pg	13 32 11.2	+0.6
BLOK					Sg	13 32 14.3	+0.9
BLOK				IAML		13 32 15.8	
	comp=E,1μm,0.2s						
BLOK				IAML		13 32 16.3	
	comp=N,1μm,0.2s						
KAN09	**Caldwell North**	**0.30**	**332**		Pg	13 32 13.1	+0.8
KAN09					Sg	13 32 17.5	+1.1
KAN09				IAML		13 32 20.2	
	comp=N,873nm,0.2s						
GC02	**Grant County #**	**0.34**	**267**		Pg	13 32 13.6	+0.6
GC02					Sg	13 32 18.1	+0.8
KAN01	**Argonia South**	**0.38**	**318**		Pg	13 32 14.0	+0.2
KAN01					Sg	13 32 18.9	0.0
KAN01				IAML		13 32 19.9	
	comp=E,529nm,0.2s						
KAN01				IAML		13 32 20.1	
	comp=N,434nm,0.1s						
KAN14	**Manchester OK**	**0.43**	**282**		Pg	13 32 15.2	+0.5
KAN14					Sg	13 32 20.8	+0.6
KAN08	**Anthony NE Sta**	**0.55**	**310**		Pg	13 32 17.4	+0.3
KAN08					Sg	13 32 25.2	+0.9
KAN08				IAML		13 32 27.0	
	comp=N,257nm,0.4s						
CROK	**Carrier**	**0.57**	**230**		Pg	13 32 17.6	+0.2
CROK					Sg	13 32 25.6	+0.9
T35A	**Sooner Cattle**	**0.75**	**86**		Pg	13 32 20.9	+0.1
QUOK	**Quay**	**0.91**	**139**		Pg	13 32 23.5	-0.4
QUOK					Sg	13 32 35.5	-0.3
QUOK				IAML		13 32 38.4	
	comp=E,108nm,0.2s						
QUOK				IAML		13 32 41.8	
	comp=N,130nm,0.3s						
OK052	**Battle Ridge R**	**1.01**	**149**		Pg	13 32 25.8	-0.1
OK052				IAML		13 32 45.4	
	comp=N,161nm,0.2s						
OK038	**West end E0370**	**1.11**	**250**		Pg	13 32 27.7	-0.2
OK038					Sb	13 32 42.9	-0.2
DEOK	**Depew**	**1.28**	**143**		Pg	13 32 30.5	-0.4
DEOK					Sg	13 32 47.5	0.0
DEOK				IAML		13 32 53.5	
	comp=E,112nm,0.2s						
DEOK				IAML		13 32 53.6	
	comp=N,81nm,0.8s						
TUL3	**Leonard**	**1.64**	**125**		Pn	13 32 35.1	-0.9
TUL3				IAmb_Lg		13 33 01.1	
	comp=Z,12nm,0.8s						
X34A	**Smith Ranch, M**	**2.29**	**188**	IAmb_Lg		13 33 24.5	
	comp=Z,6.1nm,0.8s						
WMOK	**Wichita Mounta**	**2.39**	**207**		Pn	13 32 46.4	+0.1
WMOK	**Wichita Mounta**	**2.39**	**207**		Pn	13 32 45.8	-0.4
WMOK				IAmb_Lg		13 33 21.7	
	comp=Z,2.8nm,0.8s						
HHAR	**Hobbs**	**2.88**	**101**		Pn	13 32 52.6	-0.4
MIAR	**Mount Ida**	**3.91**	**125**	IAmb_Lg		13 34 13.1	
	comp=Z,5.9nm,0.8s						
P38A	**Dawn**	**4.13**	**47**	IAmb_Lg		13 34 20.7	
	comp=Z,7.4nm,0.7s						
MGMO	**Mountain Grove**	**4.15**	**85**	IAmb_Lg		13 34 23.3	
	comp=Z,6.2nm,1.1s						
CCM	**Cathedral Cave**	**5.07**	**75**	IAmb_Lg		13 34 52.1	
	comp=Z,4.2nm,0.8s						
SGCY	**Sterling City**	**5.80**	**213**	Pn	Pn	13 33 32.6	-0.6
F33A	**5 Mile Ranch,**	**9.01**	**5**	IAmb_Lg		13 36 46.7	
	comp=Z,3.3nm,1.0s						

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*IDC **26** 13:32:27.1±1.0, 27°37N×140°45E, h314km±23km, mb3.0/5, mbtmp3.9/8, Error ellipse: s-maj=65.3km s-min=12.9km az=74.0*
*JMA **26** 13:32:32.3±0.3, 28°N±2°×14°0E±°, h318km, MV4.1/14, W OFF OGASAWARA*
ISC 26 13:32:28.2±0.9, 27°44N±0°08×139°79E±0°10, h300km, n16, σ3°68/19, mb3.3/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.16**	**98**	P	Pn	13 33 19.3	+3.0
CBIJ				S	**S**	**13 33 55.2**	**+0.7**
JCJ	**Chichijima**	**2.16**	**98**	P	**Pn**	**13 33 12.3**	**-4.0**
	36nm,0.3s,baz=264,slow=23,SNR=20						
JCJ				S	**S**	**13 33 47.9**	**-6.6**
	118nm,0.3s,baz=270,slow=19,SNR=11						
JHH2	**Haha-jima-NKT2**	**2.27**	**110**	P	Pn	13 33 20.8	+3.6
JHH2				S	**S**	**13 33 59.7**	**+3.4**
JHJ	**Hachijo jima 2**	**5.67**	**360**	P	**Pn**	**13 33 54.0**	**+0.6**
	64nm,0.6s,baz=112,slow=13,SNR=2.2						
JHJ				S	**S**	**13 35 06.8**	**+4.8**
	125nm,0.7s,baz=246,slow=20,SNR=1.8						
BSO1	**Boso 1**	**7.27**	**8**	*eP*	**Pn**	**13 34 15.0**	**+2.9**
BSO1				*eS*	**S**	**13 35 34.7**	**-1.7**
JAG	**Ashikaga**	**8.97**	**358**	*eS*	**S**	**13 36 10.4**	**-5.1**
JHO	**Hitachi**	**9.17**	**4**	*eP*	**P**	**13 34 38.0**	**-2.5**
JFK	**Kawauchi**	**9.95**	**5**	*eS*	**S**	**13 36 31.9**	**-5.8**
JMK	**Ichinoseki**	**11.55**	**6**	*eS*	**S**	**13 37 08.8**	**-5.1**
KSRS	**Korea Array**	**14.13**	**318**	P	**Pn**	**13 35 39.9**	**+3.6**
	2.9nm,0.7s,baz=132,slow=12,SNR=16						
USRK	**Ussuriysk Ar.**	**17.87**	**341**	P	**P**	**13 36 17.5**	**+1.3**
	2.8nm,0.5s,baz=139,slow=9.5,SNR=7.2						
WRA	**Warramunga Arr**	**47.39**	**187**	P	**P**	**13 40 31.8**	**-1.2**
	0.6nm,0.3s,baz=6.1,slow=7.8,SNR=38						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**48.61**	**309**	P	**P**	**13 40 43.1**	**+1.0**
	0.1nm,0.4s,baz=106,slow=9.3,SNR=1.9						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**51.28**	**314**	P	**P**	**13 41 01.8**	**-0.1**
	0.4nm,0.4s,baz=89,slow=6.8,SNR=2.4						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**56.35**	**317**	P	**P**	**13 41 38.4**	**0.0**
	0.9nm,0.5s,baz=71,slow=9.3,SNR=3.1						
	0.9nm,0.5s						
FINES	**FINESS Array B**	**76.69**	**333**	P	**P**	**13 43 44.8**	**-1.3**
	0.2nm,0.3s,baz=46,slow=5.5,SNR=6.2						
	0.2nm,0.3s						

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*VAO **26** 13:34:46.6±3.6, 23°47S×68°52W, h95km±15km, mb4.4*
*IDC **26** 13:34:51.2±2.2, 23°52S×67°78W, h101km±20km, mb4.0/4, mbtmp4.1/8, Error ellipse: s-maj=40.3km s-min=14.4km az=111.0*
*SJA **26** 13:34:52.2±0.6, 23°41S×68°20W, h141km±3km, ML4.0, MW3.8*
*NEIC **26** 13:34:53.3±2.0, 23°46S±0°06×68°19W±0°07, h133km±4km, mb4.3/7, ML4.1(GUC), Error ellipse: s-maj=10.0km s-min=9.0km az=120.0*
*GUC **26** 13:34:54.0±0.9, 23°43S×68°25W, h124km±5km, ML4.1*
ISC 26 13:34:52.6±0.6, 23°44S±0°03×68°16W±0°04, h133km±6km, n96, σ1°48/119, mb4.1/4, 12C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.49**	**358**		**Pn**	**13 35 13.0**	**+0.7**
AF01				Sn	**Sn**	**13 35 27.9**	**+0.7**
AF01	**San Pedro de A**	**0.49**	**358**	⇓*iP*	**Pn**	**13 35 13.0**	**+0.7**
AF01				*eS*	**Sn**	**13 35 27.6**	**+0.4**
AF01	**San Pedro de A**	**0.49**	**358**	*eP*	**Pn**	**13 35 13.0**	**+0.7**
AF01				*eS*	**Sn**	**13 35 28.4**	**+1.2**
AF01				IAML		13 35 45.0	
	comp=Z,6μm,0.8s						
PB06	**IPOC Station P**	**1.49**	**299**		**Pn**	**13 35 21.9**	**+0.9**
PB06				Sn	**Sn**	**13 35 42.8**	**+0.2**
PB06	**IPOC Station P**	**1.49**	**299**	⇑*iP*	**Pn**	**13 35 21.9**	**+0.9**
PB06				*eS*	**Sn**	**13 35 42.7**	**+0.2**
PB06				IAML		13 35 44.8	
	comp=N,3μm,0.1s						
PB06	**IPOC Station P**	**1.49**	**299**	*eP*	**Pn**	**13 35 21.8**	**+0.9**
PB06				*eS*	**Sn**	**13 35 43.3**	**+0.7**
PB06				IAML		13 35 45.5	
	comp=Z,3μm,0.3s						
SALTA		**1.84**	**115**	*eP*	Pn	13 35 21.4	-3.9
SALTA				*eP*		13 35 26.9	
PB09	**IPOC Station P**	**1.92**	**328**		**Pn**	**13 35 27.3**	**+1.4**
PB09	**IPOC Station P**	**1.92**	**328**	⇑*iP*	**Pn**	**13 35 27.2**	**+1.4**
PB09				*eS*	**Sn**	**13 35 52.0**	**+0.6**
PB09				IAML		13 35 54.0	
	comp=E,1μm,0.3s						
PB09	**IPOC Station P**	**1.92**	**328**	*eP*	**Pn**	**13 35 27.2**	**+1.2**
PB09				*eS*	**Sn**	**13 35 52.9**	**+1.5**
PB09				IAML		13 35 53.7	
	comp=Z,956nm,0.4s						
PB05	**IPOC Station P**	**1.97**	**287**		**Pn**	**13 35 26.7**	**+0.3**
PB05	**IPOC Station P**	**1.97**	**287**	⇑*iP*	**Pn**	**13 35 26.7**	**+0.3**
PB05				*i* S	**Sn**	**13 35 51.7**	**-0.6**
PB05				IAML		13 35 58.3	
	comp=N,747nm,0.3s						
PB05	**IPOC Station P**	**1.97**	**287**	*eP*	**Pn**	**13 35 26.7**	**+0.3**
PB05				*eS*	**Sn**	**13 35 52.6**	**+0.3**
PB05				IAML		13 36 04.5	
	comp=Z,382nm,0.7s						
PB03	**IPOC Station P**	**2.02**	**313**		**Pn**	**13 35 27.7**	**+0.6**
PB03	**IPOC Station P**	**2.02**	**313**	⇑*iP*	**Pn**	**13 35 27.7**	**+0.6**
PB03				*i* S	**Sn**	**13 35 53.4**	**-0.2**
PB03				IAML		13 35 54.8	
	comp=N,1μm,0.2s						
PB03	**IPOC Station P**	**2.02**	**313**	*eP*	**Pn**	**13 35 27.7**	**+0.6**
PB03				*eS*	**Sn**	**13 35 53.7**	**+0.2**
PB03				IAML		13 35 55.0	
	comp=Z,1μm,0.2s						
GO02	**Mina Guanaco**	**2.15**	**217**		**Pn**	**13 35 30.0**	**+1.1**
GO02	**Mina Guanaco**	**2.15**	**217**	⇑*iP*	**Pn**	**13 35 30.0**	**+1.1**
GO02				*i* S	**Sn**	**13 35 57.7**	**+1.0**
GO02				IAML		13 35 59.4	
	comp=E,2μm,0.5s						
GO02	**Mina Guanaco**	**2.15**	**217**	*eP*	**Pn**	**13 35 30.0**	**+1.1**
GO02				*eS*	**Sn**	**13 35 58.4**	**+1.7**
PB10	**IPOC Station P**	**2.20**	**268**		**Pn**	**13 35 29.7**	**+0.6**
PB10	**IPOC Station P**	**2.20**	**268**	⇑*iP*	**Pn**	**13 35 29.7**	**+0.6**
PB10				*i* S	**Sn**	**13 35 56.6**	**-0.5**
PB10	**IPOC Station P**	**2.20**	**268**	*eP*	**Pn**	**13 35 29.7**	**+0.6**
PB10				*eS*	**Sn**	**13 35 58.4**	**+1.2**
PB10				IAML		13 36 06.1	
	comp=Z,267nm,0.3s						
PB14	**IPOC Station P**	**2.36**	**240**		**Pn**	**13 35 31.8**	**+0.3**
PB14	**IPOC Station P**	**2.36**	**240**	⇑*iP*	**Pn**	**13 35 31.9**	**+0.3**
PB14				IAML		13 36 01.8	
	comp=E,478nm,0.2s						
PB14	**IPOC Station P**	**2.36**	**240**	*eP*	**Pn**	**13 35 32.0**	**+0.5**
PB14				*eS*	**Sn**	**13 36 00.9**	**-0.5**
PB14				IAML		13 36 02.3	
	comp=Z,425nm,0.3s						
PB02	**IPOC Station P**	**2.65**	**322**		**Pn**	**13 35 35.1**	**+0.1**
PB02	**IPOC Station P**	**2.65**	**322**	⇑*iP*	**Pn**	**13 35 35.1**	**+0.1**
PB02				IAML		13 36 14.7	
	comp=E,2μm,0.3s						
PB02	**IPOC Station P**	**2.65**	**322**	*eP*	**Pn**	**13 35 35.1**	**+0.1**
PB02				*eS*	**Sn**	**13 36 06.9**	**-0.6**
PB02				IAML		13 36 10.1	
	comp=Z,1μm,0.2s						
PB01	**IPOC Station P**	**2.68**	**333**		**Pn**	**13 35 35.5**	**+0.1**
PB01	**IPOC Station P**	**2.68**	**333**	⇑*iP*	**Pn**	**13 35 35.5**	**+0.1**
PB01				IAML		13 36 09.7	
	comp=E,1μm,0.3s						
PB01	**IPOC Station P**	**2.68**	**333**	*eP*	**Pn**	**13 35 35.5**	**+0.1**
PB01				*eS*	**Sn**	**13 36 09.2**	**+0.9**
PB01				IAML		13 36 10.2	
	comp=Z,718nm,0.2s						
YJA	**Yavi**	**2.75**	**63**	*eP*	**Pn**	**13 35 38.6**	**+2.1**
AZAP	**Zapla**	**2.94**	**106**	*eP*	**Pn**	**13 35 40.3**	**+1.5**
PATCX	**Punta Patache**	**3.19**	**324**		**Pn**	**13 35 41.4**	**-0.6**
FSA	**Cafayete**	**3.32**	**144**	*eP*	**Pn**	**13 35 45.5**	**+1.9**
PX03	**IPOC Station P**	**3.32**	**335**	*eP*	**Pn**	**13 35 42.8**	**-0.8**
PX03				IAML		13 36 23.6	
	comp=N,380nm,0.2s						
PB08	**IPOC Station P**	**3.41**	**344**		**Pn**	**13 35 45.7**	**+0.6**
TA01	**Diego Aracena**	**3.42**	**326**	*eP*	**Pn**	**13 35 43.6**	**-1.2**
TA01	**Diego Aracena**	**3.42**	**326**	*eP*	**Pn**	**13 35 43.9**	**-0.9**
TA01				*eS*	Sn	13 36 13.1	-12
TA01				IAML		13 36 30.2	
	comp=Z,129nm,0.5s						
AC01	**Pan de Azucar**	**3.49**	**219**		**Pn**	**13 35 45.0**	**-0.7**
AC01	**Pan de Azucar**	**3.49**	**219**	*eP*	**Pn**	**13 35 44.9**	**-0.7**
AC01	**Pan de Azucar**	**3.49**	**219**	*eP*	**Pn**	**13 35 44.8**	**-0.9**
AC01				*eS*	Sn	13 36 15.2	-12
AC01				IAML		13 36 36.5	
	comp=Z,108nm,0.3s						
AC02	**Maricunga**	**3.49**	**194**		**Pn**	**13 35 47.2**	**+1.0**
AC02	**Maricunga**	**3.49**	**194**	*eP*	**Pn**	**13 35 47.4**	**+1.2**
AC02				*eS*	**Sn**	**13 36 28.4**	**+0.8**
HMBC	**Humberstone**	**3.53**	**333**		**Pn**	**13 35 45.3**	**-1.1**
HMBC	**Humberstone**	**3.53**	**333**	*eP*	**Pn**	**13 35 45.3**	**-1.1**
HMBC				*eS*	Sn	13 36 09.2	-19
HMBC				IAML		13 36 28.9	
	comp=Z,318nm,0.4s						
TA02	**Huaiquique**	**3.65**	**330**	*eP*	Pn	13 35 38.0	-10
TA02				IAML		13 36 43.0	
	comp=Z,194nm,0.3s						
GO01	**Chusmiza**	**3.88**	**345**	Pn	**Pn**	**13 35 51.9**	**+0.7**
PB11	**IPOC Station P**	**3.92**	**339**		**Pn**	**13 35 50.6**	**-0.9**
AC06	**Mina Casimiro**	**4.37**	**206**		**Pn**	**13 35 56.1**	**-1.2**
GO03	**Copiapo**	**4.54**	**204**		**Pn**	**13 35 58.4**	**-1.2**
GO03	**Copiapo**	**4.54**	**204**	*eP*	**Pn**	**13 35 58.6**	**-1.0**
GO03				*eS*	**Sn**	**13 36 50.3**	**-1.4**
PB16	**IPOC Station P**	**5.23**	**346**		**Pn**	**13 36 09.6**	**+0.1**
VCA	**Vinchina**	**5.27**	**180**	*eP*	**Pn**	**13 36 11.0**	**+1.5**
VCA				*eS*	**Sn**	**13 37 08.0**	**-1.5**
AC04	**Llanos de Chal**	**5.42**	**208**	Pn	**Pn**	**13 36 08.4**	**-3.0**
AC04	**Llanos de Chal**	**5.42**	**208**	*eP*	**Pn**	**13 36 08.2**	**-3.1**
AC04				*eS*	**Sn**	**13 37 11.1**	**-1.7**
AC04				IAML		13 37 24.6	
	comp=Z,41nm,0.5s						
LCO	**Las Campanas**	**6.00**	**202**	Pn	**Pn**	**13 36 16.9**	**-2.4**
CO01	**Juntas del Tor**	**6.73**	**194**	Pn	**Pn**	**13 36 28.7**	**-0.5**
**L

comp=Z,81nm,0.5s
QSPA South Pole Qui 66.76 180 P **P** **13 45 32.1 +2.6**
QSPA IAmb IAmb 13 45 32.7
comp=Z,2.5nm,0.6s
QSPA South Pole Qui 66.76 180 P **P** **13 45 31.8 +2.3**
comp=Z,2.3nm,0.5s,baz=162,slow=2.0,SNR=47
comp=Z,2.3nm,0.5s
TORD Torodi Ar. Bea 77.37 70 P **P** **13 46 34.5 +1.2**
TORD IAmb IAmb 13 46 35.6
comp=Z,4.0nm,1.1s
TORD Torodi Ar. Bea 77.37 70 P **P** **13 46 32.7 -0.6**
comp=Z,2.0nm,0.4s,baz=258,slow=5.6,SNR=1.9
comp=Z,2.0nm,0.4s
WRA Warramunga Arr 131.62 209 PKP **PKiKP** **13 53 50.6 -0.9**
comp=Z,0.2nm,0.5s,baz=135,slow=1.5,SNR=2.1

*JMA **26** 13:40:20.1±0.1,38°.5N±0°.2×141°.8E±0°.6,h50km,MV3.5/40, KINKAZAN REGION*
*IDC **26** 13:40:23.5±3.0,38°.77N×141°.53E,h56km±28km,mb3.3/2, mbtmp3.4/6,ML3.0/4,Error ellipse: s-maj=40.2km s-min=17.8km az=110.0*
ISC 26 13:40:19.9±1.4,38°.53N±0°.05×141°.88E±0°.09,h48km±9km, n25,σ0s58/28,9D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
JIKH	**Ishinomakikobu**	**0.39**	**236**	P		**Pn**		**13 40 29.4**	**-0.2**
JIKH				S		**Sn**		**13 40 36.2**	**-0.4**
JIO	**Ouri**	**0.42**	**260**	⇓P		**Pn**		**13 40 30.0**	**0.0**
JIO				⇓S		**Sn**		**13 40 36.6**	**-0.6**
JKMT	**Kesennumamotoy**	**0.42**	**312**	P		**Pn**		**13 40 30.0**	**-0.1**
JKMT				S		**Sn**		**13 40 36.8**	**-0.5**
OFUJ	**Ofunato**	**0.57**	**344**	P		**Pn**		**13 40 31.9**	**-0.1**
OFUJ				S		**Sn**		**13 40 40.3**	**-0.2**
JMK	**Ichinoseki**	**0.67**	**310**	P		**Pn**		**13 40 32.9**	**-0.2**
JMK				S		**Sn**		**13 40 42.3**	**-0.3**
JOU	**Okura**	**0.97**	**261**	⇓P		**Pn**		**13 40 36.6**	**-0.5**
JOU				⇓S		**Sn**		**13 40 48.9**	**-0.8**
JOM	**Ohasama**	**1.05**	**334**	P		**Pn**		**13 40 38.3**	**+0.1**
JMM	**Marumori**	**1.08**	**233**	⇓P		**Pn**		**13 40 37.8**	**-0.8**
JYK	**Kaneyama**	**1.25**	**289**	⇓P		**Pn**		**13 40 40.9**	**0.0**
JYK				⇓S		**Sn**		**13 40 56.3**	**-0.3**
JRG	**Rokugo**	**1.30**	**312**	P		**Pn**		**13 40 41.5**	**-0.1**
JFK	**Kawauchi**	**1.40**	**215**	P		**Pn**		**13 40 42.7**	**-0.4**
JYS	**Shirataka**	**1.46**	**258**	⇓P		**Pn**		**13 40 43.5**	**-0.3**
JYS				⇓*e*S		**Sn**		**13 41 01.5**	**-0.2**
MJAR	**Matsushiro Arr**	**3.52**	**237**	P		**Pn**		**13 41 13.5**	**+1.4**
	0.7nm,0.3s,baz=38,slow=13,SNR=47								
	11nm,0.6s								
ASAJ	**Asahikawa**	**5.61**	**5**	P		**Pn**		**13 41 40.1**	**-0.6**
	0.5nm,0.3s,baz=194,slow=14,SNR=7.3								
ASAJ				S		**Sn**		**13 42 43.5**	**-0.3**
	2.9nm,0.5s,baz=62,slow=32,SNR=1.6								
	1.5nm,0.4s								
JHJ	**Hachijo jima 2**	**5.66**	**198**	P		**Pn**		**13 41 41.8**	**+0.4**
	87nm,0.8s,baz=8.3,slow=23,SNR=1.2								
JHJ				S		**Sn**		**13 42 44.6**	**-0.4**
	137nm,0.8s,baz=188,slow=6.8,SNR=2.1								
USRK	**Ussuriysk Ar.**	**9.34**	**310**	P		**Pn**		**13 42 32.2**	**+0.4**
	0.2nm,0.3s,baz=127,slow=16,SNR=2.6								
	1.7nm,0.7s								
KSRS	**Korea Array**	**11.07**	**269**	P		**Pn**		**13 42 56.9**	**+1.5**
	0.1nm,0.3s,baz=78,slow=14,SNR=1.9								
	0.3nm,0.4s								
H11N2	**WAKE ISLAND Hy**	**28.63**	**124**	T		T		14 16 31.7	
	baz=316,slow=75,SNR=24								
H11N1	**WAKE ISLAND Hy**	**28.64**	**124**	T		T		14 16 26.7	
	baz=316,slow=75,SNR=39								
H11N3	**WAKE ISLAND Hy**	**28.65**	**124**	T		T		14 16 27.3	
	baz=316,slow=75,SNR=28								
H11S1	**WAKE ISLAND Hy**	**29.40**	**126**	T		T		14 17 27.5	
	baz=318,slow=76,SNR=18								
H11S3	**WAKE ISLAND Hy**	**29.40**	**126**	T		T		14 17 27.8	
	baz=318,slow=76,SNR=23								
H11S2	**WAKE ISLAND Hy**	**29.41**	**126**	T		T		14 17 26.5	
	baz=318,slow=76,SNR=15								
KURBB	**Kurchatov Arra**	**45.39**	**307**	P		**P**		**13 48 32.8**	**-0.6**
	0.9nm,0.5s,baz=80,slow=7.9,SNR=8.5								
	0.9nm,0.5s								
WRA	**Warramunga Arr**	**58.59**	**188**	P		P		13 50 16.3	+4.5
	0.3nm,0.9s,baz=6.7,slow=7.2,SNR=1.9								
	0.3nm,0.9s								

IDC 26 13:47:12.8±1.8,8°.17N×127°.15E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=44.0km s-min=27.1km az=60.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
DAV	**Davao City (W)**	**1.90**	**235**	Pn		Pn		13 47 46.3	-0.2
	58nm,0.3s,baz=52,slow=3.0,SNR=7.5								
DAV				Sn		Sn		13 48 06.7	-4.4
	106nm,0.3s,baz=244,slow=20,SNR=8.7								
WRA	**Warramunga Arr**	**28.82**	**166**	P		P		13 53 12.8	-0.1
	0.5nm,0.8s,baz=348,slow=10,SNR=5.2								
	0.5nm,0.8s								
ASAR	**Alice Springs**	**32.32**	**168**	P		P		13 53 43.7	-0.1
	0.3nm,0.3s,baz=343,slow=7.6,SNR=9.9								
	0.3nm,0.3s								
STKA	**Stephens Creek**	**42.15**	**162**	P		P		13 55 07.3	+0.2
	1.0nm,0.5s,baz=335,slow=14,SNR=2.9								
	1.0nm,0.5s								
MKAR	**Makanchi Array**	**54.22**	**323**	P		P		13 56 40.2	-0.1
	0.3nm,0.5s,baz=115,slow=7.7,SNR=3.9								
	0.3nm,0.5s								

AUST 26 13:49:16.6±0.7,18°S±5°×12°0E±°,h10km,mb4.3/2, ML2.5/6,ML2.9/5,Error ellipse: s-maj=14.7km s-min=4.5km az=138.6,Western Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
AUBRM	**Broome Senior**	**1.73**	**75**	S		Sg		13 50 12.0	-0.3
MBWA	**Marble Bar**	**2.82**	**194**	P		Pn		13 50 02.5	+0.8
MBWA				S		Sn		13 50 36.5	+0.8
PSAC2	**Pilbara Seismi**	**3.17**	**190**	P		Pn		13 50 07.7	+1.0
PSAC2				S		Sn		13 50 45.6	+1.0
PSA00	**Pilbara Seismi**	**3.19**	**191**	P		Pn		13 50 07.4	+0.5
PSA00				S		Sn		13 50 45.3	+0.2
FITZ	**Fitzroy Crossi**	**4.92**	**87**	P		Pn		13 50 30.2	-0.4
FITZ	**Fitzroy Crossi**	**4.92**	**87**	S		Sn		13 51 26.0	-1.6
GIRL	**Giralia**	**7.20**	**233**	P		Pn		13 51 00.7	-1.3
	comp=Z,107µmcomp=Z,0.1nmcomp=Z,49nm,1.4s								
GIRL				S		Sn		13 52 16.7	-7.2
MEEK	**Meekatharra**	**8.36**	**192**	P		Pn		13 51 18.1	+0.2
KNRA	**Kununurra**	**8.38**	**72**	P		Pn		13 51 17.6	-0.6
	comp=Z,0.0nmcomp=Z,5.3nm,0.4s								
KNRA				S		Sn		13 52 48.0	-5.0
BLDU	**Ballidu**	**12.62**	**195**	S		Sn		13 54 27.5	-9.3

*NOU **26** 13:53:17.3,21°.43S×177°.18W,h448km,mb4.5/16,Fiji Islands Region*
*IDC **26** 13:53:45.0±2.0,23°.14S×179°.90E,h533km±18km, mb3.7/17,mbtmp4.6/19,Error ellipse: s-maj=22.2km s-min=10.6km az=70.0*
*NEIC **26** 13:53:47.4±1.5,23°.2S±0°.1×179°.9E±0°.2,h551km±7km, mb4.4/28,Error ellipse: s-maj=23.5km s-min=10.1km az=58.0*
ISC 26 13:53:46.1±0.5,23°.23S±0°.06×179°.95E±0°.09,h550km, n136,σ1s63/138,mb4.2/31,3C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
MSVF	**Nonsavu**	**5.75**	**342**	P		**P**		**13 55 22.6**	**-0.1**
GLKZ	**Green Lake**	**6.31**	**163**	P		**P**		**13 55 27.8**	**+0.3**
AFI	**Afiamalu**	**12.14**	**42**	P		**P**		**13 56 23.2**	**-3.1**
DZM	**Mont Dzumac**	**12.52**	**273**	P		**P**		**13 56 29.5**	**-0.8**
	6.8nm,1.0s,baz=89,slow=15,SNR=5.6								
OUZ	**Omahuta**	**13.17**	**203**	P		**P**		**13 56 39.8**	**+3.2**
OUZ	**Omahuta**	**13.17**	**203**	P		**P**		**13 56 38.3**	**+1.7**
KUZ	**Kuaotunu**	**13.96**	**194**	P		**P**		**13 56 44.4**	**-0.3**
MKAZ	**Moumakai**	**14.44**	**196**	P		**P**		**13 56 49.9**	**+0.3**
HAZ	**Te Kaha**	**14.60**	**187**	P		**P**		**13 56 51.8**	**+0.4**
HAZ				S		**S**		**13 59 21.1**	**-2.8**
TGRZ	**Tauranga**	**14.80**	**192**	P		**P**		**13 56 56.2**	**+2.9**
RUGZ	**Raukumara Rang**	**14.82**	**187**	P		**P**		**13 56 53.4**	**-0.4**
RUGZ				S		**S**		**13 59 24.8**	**-3.5**
OPRZ	**Ohinepanea**	**14.86**	**191**	P		**P**		**13 56 55.7**	**+1.7**
PUZ	**Puketiti**	**14.87**	**185**	P		**P**		**13 56 54.6**	**+0.5**
TOZ	**Tahuroa Road**	**14.95**	**194**	P		**P**		**13 56 57.7**	**+2.7**
TWGZ	**Tauwhareparae**	**15.00**	**186**	P		**P**		**13 56 56.2**	**+0.7**
TWGZ				S		**S**		**13 59 28.4**	**-2.9**
KARZ	**Kaharoa**	**15.09**	**191**	P		**P**		**13 56 58.7**	**+2.4**
OMRZ	**Omania**	**15.15**	**191**	P		**P**		**13 56 58.2**	**+1.2**
URZ	**Urewera**	**15.18**	**189**	P		**P**		**13 56 55.9**	**-1.4**
	23nm,0.6s,baz=295,slow=3.4,SNR=20								
URZ				S		**S**		**13 59 27.7**	**-6.8**
	17nm,0.9s,baz=73,slow=21,SNR=7.8								
URZ	**Urewera**	**15.18**	**189**	P		**P**		13 56 51.6	-5.7
URZ	**Urewera**	**15.18**	**189**	P		**P**		**13 56 53.4**	**-3.9**
URZ				S		**S**		**13 59 29.6**	**-4.8**
MWZ	**Matawai**	**15.20**	**187**	P		**P**		**13 56 56.4**	**-1.1**
MWZ				S		**S**		**13 59 33.1**	**-1.8**
TARZ	**Mount Tarawera**	**15.25**	**190**	P		**P**		**13 56 58.8**	**+0.7**
TKGZ	**Te Karaka**	**15.27**	**186**	P		**P**		**13 56 57.9**	**-0.2**
CNGZ	**Carnagh Statio**	**15.28**	**185**	P		**P**		**13 56 58.3**	**0.0**
RAGZ	**Rawiri**	**15.38**	**188**	P		**P**		**13 56 58.2**	**-1.2**
HRRZ	**Handcock Road**	**15.44**	**191**	P		**P**		**13 57 00.3**	**+0.3**
MUGZ	**Murupara**	**15.44**	**189**	P		**P**		**13 56 58.7**	**-1.2**
TLZ	**Tolley Road**	**15.52**	**193**	P		**P**		**13 57 00.7**	**-0.1**
PRRZ	**Plateau Road**	**15.53**	**190**	P		**P**		**13 57 00.4**	**-0.5**
RIGZ	**Rimuhau**	**15.54**	**186**	P		**P**		**13 56 59.8**	**-1.2**
RIGZ				S		**S**		**13 59 35.8**	**-4.9**
RTZ	**Ruatahuna**	**15.55**	**189**	P		**P**		**13 56 59.8**	**-1.3**
RTZ	**Ruatahuna**	**15.55**	**189**	P		**P**		**13 57 00.3**	**-0.8**
KUTZ	**Kaahu Road**	**15.62**	**192**	P		**P**		**13 57 02.8**	**+1.0**
SNGZ	**Shannon Statio**	**15.67**	**188**	P		**P**		**13 57 01.2**	**-1.1**
MTHZ	**Maungataniwha**	**15.80**	**189**	P		**P**		**13 57 02.2**	**-1.4**
RAHZ	**Arahi**	**15.83**	**188**	P		**P**		**13 57 02.8**	**-1.1**
HIZ	**Hauiti**	**15.85**	**195**	P		**P**		**13 57 03.8**	**-0.2**
HIZ	**Hauiti**	**15.85**	**195**	P		**P**		**13 57 05.1**	**+1.1**
MRHZ	**Matea Rd**	**15.85**	**190**	P		**P**		**13 57 02.6**	**-1.5**
RATZ	**Rangitukua**	**15.99**	**192**	P		**P**		**13 57 04.2**	**-1.3**
NMHZ	**Naumai**	**16.05**	**189**	P		**P**		**13 57 04.2**	**-1.9**
RITZ	**Rihia Road**	**16.09**	**192**	P		**P**		**13 57 04.4**	**-1.9**
BKZ	**Black Stump Fm**	**16.16**	**190**	P		**P**		**13 57 05.3**	**-1.8**
BKZ	**Black Stump Fm**	**16.16**	**190**	P		**P**		**13 57 03.9**	**-3.2**
TMVZ	**Te Maari**	**16.25**	**192**	P		**P**		**13 57 06.9**	**-1.1**
ETVZ	**East Tongariro**	**16.27**	**192**	P		**P**		**13 57 06.8**	**-1.3**
OTVZ	**Oturere**	**16.30**	**192**	P		**P**		**13 57 06.3**	**-2.3**
NGZ	**Ngauruhoe**	**16.33**	**192**	P		**P**		**13 57 08.3**	**-0.5**
SNVZ	**South Ngauruho**	**16.33**	**192**	P		**P**		**13 57 08.3**	**-0.5**
COVZ	**Chateau Observ**	**16.36**	**192**	P		**P**		**13 57 08.9**	**-0.1**
MCHZ	**McNeill Hill**	**16.40**	**189**	P		**P**		**13 57 06.9**	**-2.3**
TUVZ	**Tukino**	**16.41**	**192**	P		**P**		**13 57 08.3**	**-1.2**
FWVZ	**Far West T-bar**	**16.41**	**192**	P		**P**		**13 57 09.7**	**+0.1**
KWHZ	**Kaweka Forest**	**16.43**	**190**	P		**P**		**13 57 07.6**	**-2.0**
VRZ	**Vera Road**	**16.45**	**194**	P		**P**		**13 57 10.8**	**+1.1**
WNVZ	**Wahianoa**	**16.47**	**192**	P		**P**		**13 57 07.7**	**-2.4**
MOVZ	**Moawhango**	**16.52**	**191**	P		**P**		**13 57 09.1**	**-1.4**
KRHZ	**Kereru**	**16.65**	**190**	P		**P**		**13 57 09.3**	**-2.2**
KAHZ	**Kahuranaki**	**16.72**	**188**	P		**P**		**13 57 11.0**	**-1.3**
NEZ	**North Egmont**	**16.75**	**196**	P		**P**		**13 57 14.7**	**+2.2**
KHEZ	**Kahui Hut**	**16.80**	**196**	P		**P**		**13 57 12.8**	**-0.1**
KHEZ	**Kahui Hut**	**16.80**	**196**	P		**P**		**13 57 16.4**	**+3.5**
PNHZ	**Pukenui**	**16.94**	**190**	P		**P**		**13 57 12.4**	**-1.7**
NMEZ	**Namu Road**	**16.94**	**196**	P		**P**		**13 57 17.1**	**+2.9**
WPHZ	**Waipukurau**	**17.05**	**189**	P		**P**		**13 57 14.6**	**-0.5**
DVHZ	**Dannevirke**	**17.32**	**190**	P		**P**		**13 57 16.4**	**-1.2**
BFZ	**Birch Farm**	**17.68**	**189**	P		**P**		**13 57 19.4**	**-1.5**
SNZO	**South Karori**	**18.56**	**192**	P		**P**		**13 57 28.7**	**-0.2**
SNZO	**South Karori**	**18.56**	**192**	P		**P**		**13 57 28.3**	**-0.6**
QRZ	**Quartz Range**	**18.63**	**198**	P		**P**		**13 57 30.0**	**+0.4**
KHZ	**Kahutara**	**19.87**	**194**	P		**P**		**13 57 39.2**	**-1.6**
RPZ	**Rata Peaks**	**21.71**	**198**	P		**P**		**13 57 56.7**	**-0.8**
	16nm,0.6s,baz=282,slow=3.9,SNR=13								
	16nm,0.6s								
RPZ	**Rata Peaks**	**21.71**	**198**	P		**P**		**13 57 57.4**	**-0.1**
JCZ	**Jackson Bay**	**22.73**	**201**	P		**P**		**13 58 07.1**	**+0.4**
ODZ	**Otahua Downs**	**23.05**	**197**	P		**P**		**13 58 09.0**	**-0.4**
TATA	**Tatamba Isabel**	**24.31**	**304**	P		P		13 58 11.1	-10
EIDS	**Eidsvold**	**26.38**	**259**	P		**P**		**13 58 39.9**	**+0.8**
EIDS					IAmb	IAmb		13 58 49.3	
	comp=Z,12nm,1.4s								
CTAO	**Charters Tower**	**31.43**	**269**	P		**P**		**13 59 23.7**	**+0.6**
CTAO	**Charters Tower**	**31.43**	**269**	P		**P**		**13 59 23.0**	**-0.1**
TOO	**Toolangi**	**32.78**	**236**	P		**P**		**13 59 35.1**	**+0.8**
MTSU	**Mount Surprise**	**33.66**	**272**	P		**P**		**13 59 41.4**	**-0.6**
PMG	**Port Moresby**	**34.23**	**288**	P		**P**		**13 59 46.6**	**-0.1**
PMG	**Port Moresby**	**34.23**	**288**	P		**P**		**13 59 46.4**	**-0.4**
	comp=Z,48nm,1.0s,baz=90,slow=3.3,SNR=5.8								
	comp=Z,48nm,1.0s								
STKA	**Stephens Creek**	**34.93**	**247**	P		**P**		**13 59 53.1**	**+0.6**
STKA	**Stephens Creek**	**34.93**	**247**	P		**P**		**13 59 52.3**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=93,slow=12,SNR=3.9								
	comp=Z,1.3nm,0.5s								
COEN	**Coen**	**35.97**	**278**	P		**P**		**14 00 01.4**	**+0.2**
COEN					IAmb	IAmb		14 00 14.6	
	comp=Z,26nm,1.5s								
BBOO	**Buckleboo**	**39.67**	**246**	P		**P**		**14 00 30.9**	**-0.2**
BBOO					IAmb	IAmb		14 01 10.5	
	comp=Z,26nm,1.4s								
AS31	**Alice Springs**	**42.10**	**260**			**P**		**14 00 50.5**	**-0.1**
ASAR	**Alice Springs**	**42.10**	**260**	P		**P**		**14 00 49.4**	**-1.2**
ASAR	**Alice Springs**	**42.10**	**260**	P		**P**		**14 00 50.2**	**-0.4**
	comp=Z,5.7nm,0.8s,baz=102,slow=7.1,SNR=73								
ASAR				S		**S**		**14 06 28.0**	**-2.9**
	comp=Z,0.6nm,0.8s,baz=94,slow=17,SNR=4.9								
	comp=Z,5.7nm,0.8s								
WR8	**Warramunga Arr**	**42.26**	**265**			**P**		**14 00 51.0**	**-0.8**
WR8					IAmb	IAmb		14 00 51.2	
	comp=Z,4.8nm,0.6s								
WB0	**Warramunga Arr**	**42.40**	**266**			**P**		**14 00 52.2**	**-0.8**
WB0					IAmb	IAmb		14 00 52.7	
	comp=Z,11nm,0.6s								
WRAB	**Tennant Creek**	**42.40**	**265**	P		**P**		**14 00 52.3**	**-0.7**
WRAB					IAmb	IAmb		14 00 52.7	
	comp=Z,5.4nm,0.8s								
WRA	**Warramunga Arr**	**42.41**	**265**	P		**P**		**14 00 52.3**	**-0.8**
WRA	**Warramunga Arr**	**42.41**	**265**	P		**P**		**14 00 52.2**	**-0.8**
	comp=Z,7.1nm,0.6s,baz=89,slow=6.0,SNR=154								
	comp=Z,7.1nm,0.6s								
JAY	**Jayapura**	**43.21**	**293**	P		**P**		**14 00 57.9**	**-1.5**
	comp=Z,7.2nm,0.5s,baz=168,slow=3.6,SNR=5.1								
	comp=Z,7.2nm,0.5s								
GUMO	**Guam**	**50.17**	**313**	P		**P**		**14 01 51.8**	**0.0**
GUMO	**Guam**	**50.17**	**313**	P		**P**		**14 01 51.1**	**-0.7**
	comp=Z,42nm,0.6s,baz=174,slow=13,SNR=5.9								
	comp=Z,42nm,0.6s								
FAKI	**Fak Fak**	**50.35**	**286**	P		**P**		**14 01 52.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**50.84**	**265**	P		**P**		**14 01 56.5**	**-0.2**
	comp=Z,3.1nm,0.5s,baz=87,slow=11,SNR=8.0								
	comp=Z,3.1nm,0.5s								
VNDA	**Vanda**	**55.04**	**185**			**P**		**14 02 27.7**	**+2.0**
VNDA	**Vanda**	**55.04**	**185**	P		**P**		**14 02 26.9**	**+1.2**
	comp=Z,1.6nm,0.6s,baz=10,slow=6.1,SNR=19								
	comp=Z,1.6nm,0.6s								
SBA	**Scott Base**	**55.05**	**183**			**P**		**14 02 28.9**	**+3.2**
SBA					IAmb	IAmb		14 02 29.5	
	comp=Z,12nm,0.9s								
MBWA	**Marble Bar**	**55.45**	**260**	P		**P**		**14 02 28.9**	**-0.5**
MBWA					IAmb	IAmb		14 02 44.5	
	comp=Z,15nm,1.4s								
MORW	**Morawa**	**57.06**	**250**	P		**P**		**14 02 40.2**	**-0.2**
CASY	**Casey**	**60.70**	**206**	P		**P**		**14 03 04.3**	**+0.2**
QSPA	**South Pole Qui**	**66.85**	**180**	P		**P**		**14 03 45.6**	**+2.1**
QSPA					IAmb	IAmb		14 03 46.3	
	comp=Z,14nm,0.8s								
QSPA	**South Pole Qui**	**66.85**	**180**	P		**P**		**14 03 45.4**	**+1.9**
	comp=Z,13nm,0.6s,baz=332,slow=0.4,SNR=122								
	comp=Z,13nm,0.6s								
JOW	**Kunigami**	**70.51**	**312**	P		**P**		**14 04 07.1**	**+1.1**
JOW					IAmb	IAmb		14 04 07.5	
	comp=Z,15nm,0.8s								
MJAR	**Matsushiro Arr**	**71.32**	**326**	P		**P**		**14 04 10.5**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=154,slow=5.3,SNR=8.2								
	comp=Z,4.3nm,0.8s								
SMAI	**San Martin Ant**	**76.75**	**159**	P		**P**		**14 04 42.8**	**+2.0**
SMAI					IAmb	IAmb		14 04 43.3	
	comp=Z,7.9nm,0.7s								
BELA	**Belgrano 2**	**77.11**	**173**	P		**P**		**14 04 43.1**	**+0.5**
BELA					IAmb	IAmb		14 04 43.8	
	comp=Z,9.1nm,0.9s								
KSRS	**Korea Array**	**77.70**	**320**	P		**P**		**14 04 46.3**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=139,slow=5.8,SNR=12								
	comp=Z,1.9nm,0.7s								
MAW	**Mawson**	**78.36**	**200**	P		**P**		**14 04 50.0**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=125,slow=8.4,SNR=8.0								
	comp=Z,1.9nm,0.5s								
PEA0B	**Petropavlovsk-**	**78.44**	**347**	P		**P**		**14 04 50.8**	**+0.8**
PEA0B					IAmb	IAmb		14 04 51.2	
	comp=Z,9.6nm,0.9s								
PETK	**Petropavlovsk-**	**78.44**	**347**	P		**P**		**14 04 50.4**	**+0.4**
PETK	**Petropavlovsk-**	**78.44**	**347**	P		**P**		**14 04 49.4**	**-0.6**
	comp=Z,3.4nm,0.7s,baz=115,slow=6.2,SNR=15								
	comp=Z,3.4nm,0.7s								
USRK	**Ussuriysk Ar.**	**80.17**	**327**	P		**P**		**14 04 59.0**	**-0.3**
	comp=Z,6.1nm,1.1s,baz=132,slow=5.4,SNR=6.1								
	comp=Z,6.1nm,1.1s								
IPM	**Ipoh**	**81.62**	**279**	P		**P**		**14 05 08.3**	**+0.7**
IPM					IAmb	IAmb		14 05 40.6	
	comp=Z,8.1nm,1.1s								
TROLL	**Troll, Antarti**	**85.00**	**181**	⇑P		**P**		**14 05 23.4**	**-0.1**
	comp=Z,164nm,0.3s								
SNAA	**Sanae**	**85.34**	**179**	⇑P		**P**		**14 05 24.4**	**-0.6**
	comp=Z,39nm,0.5s								
SNAA	**Sanae**	**85.34**	**179**	P		**P**		**14 05 24.8**	**-0.3**
SNAA	**Sanae**	**85.34**	**179**	P		**P**		**14 05 24.4**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=205,slow=7.4,SNR=33								
	comp=Z,1.3nm,0.5s								
VNA3	**Neumayer Olymp**	**85.55**	**177**	⇑P		**P**		**14 05 25.5**	**-0.5**
	comp=Z,4.9nm,1.0s								
CMAR	**Chiang Mai Arr**	**89.25**	**290**	P		**P**		**14 05 45.9**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=133,slow=3.5,SNR=6.9								
	comp=Z,0.5nm,0.3s								
IMAR	**Indian Mountai**	**91.16**	**10**	P		**P**		**14 05 52.5**	**+0.5**
FINES	**FINESS Array B**	**137.79**	**342**	PKP		**PKPdf**		**14 12 07.9**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=116,slow=4.4,SNR=4.0								
FINES				SKP		**SKPbc**		**14 14 50.4**	**+0.5**
	comp=Z,1.9nm,1.1s,baz=207,slow=2.1,SNR=6.0								
NB2	**NORSAR Subarra**	**141.41**	**351**	PKP		PKPpre		14 12 09.5	
	comp=Z,0.4nm,0.6s,baz=20,slow=3.5								
NOA	**NORSAR Array B**	**141.41**	**351**	PKhKP		PKPpre		14 12 09.4	
	comp=Z,0.6nm,0.7s,baz=16,slow=4.6,SNR=4.9								
HFS	**Hagfors**	**141.88**	**349**	PKhKP		PKPpre		14 12 10.1	
	comp=Z,2.3nm,0.5s,baz=64,slow=3.4,SNR=22								
AKASG	**Malin Array Be**	**144.38**	**328**	PKP		PKPbc		14 12 18.9	-0.7
	comp=Z,3.1nm,0.5s,baz=45,slow=4.1,SNR=25								
AKASG				SKP		**SKPbc**		**14 15 07.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=71,slow=1.9,SNR=4.7								
AKBB	**Malin Array Si**	**144.38**	**328**	PKPbc		PKPbc		14 12 19.4	-0.2
KIEV	**Kiev**	**144.39**	**328**			PKPbc		14 12 19.2	-0.4
BRTR	**Keskin Array B**	**147.13**	**308**	PKPbc		**PKPbc**		**14 12 28.2**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=109,slow=3.9,SNR=6.2								
MMAI	**Mount Meron Ar**	**147.38**	**295**	PKPbc		**PKPbc**		**14 12 29.6**	**+0.8**
	comp=Z,4.0nm,0.6s,baz=67,slow=6.6,SNR=7.9								
GERES	**GERESS Array B**	**152.21**	**340**	PKPbc		**PKPbc**		**14 12 38.7**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=132,slow=2.0,SNR=3.8								

IDC 26 14:23:00.7±52.0,23°.02S×178°.20W,h0km,mb4.1/3, mbtmp4.1/3,Error ellipse: s-maj=945.1km s-min=165.9km az=86.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
STKA	**Stephens Creek**	**36.58**	**247**	P		P		14 30 07.8	-0.8

1.4nm,0.5s,baz=50,slow=8.6,SNR=12
1.4nm,0.5s
ASAR Alice Springs 67.14 191 P **P** **14 51 24.9 +0.4**
0.2nm,0.6s,baz=4.0,slow=4.6,SNR=6.3
0.2nm,0.6s
NOA NORSAR Array B 69.82 338 P **P** **14 51 40.8 0.0**
0.4nm,0.6s,baz=32,slow=4.4,SNR=4.6
0.4nm,0.6s
HFS Hagfors 69.86 337 P **P** **14 51 40.2 -0.8**
1.0nm,0.5s,baz=38,slow=7.5,SNR=9.3
1.0nm,0.5s
AKASG Malin Array Be 71.39 323 P **P** **14 51 49.2 -1.2**
0.3nm,0.3s,baz=46,slow=6.4,SNR=2.2
0.3nm,0.3s

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*TIF **26** 14:50:23.1, 42°.45N×43°.36E, h9km*
*MOS **26** 14:50:24.9, 42°.58N×43°.29E, h10km, MPVA4.0*
*NORS **26** 14:50:25.3, 42°.67N×43°.33E, h2km, MPVA4.0*
*AFAD **26** 14:50:26.8, 42°.46N×43°.06E, h39km±4km, ML3.3*

ISC 26 14:50:23.9±0.9, 42°.45N±0°.01×43°.33E±0°.01, h10km±7km, n62, σ1s56/117, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GARIG	**Gari**	**0.18**	**33**	P		**Pg**	**14 50 27.2**	**-0.8**
GARIG				S		**Sg**	**14 50 30.0**	**-0.8**
TKB	**Tkibuli**	**0.27**	**249**	P		**Pg**	**14 50 29.6**	**+0.2**
TKB				S		**Sg**	**14 50 34.5**	**+1.4**
TKB	**Tkibuli**	**0.27**	**249**	*e*Pg		**Pg**	**14 50 29.6**	**+0.2**
TKB				*e*Sg		**Sg**	**14 50 34.5**	**+1.4**
ALIG	**Mtskhetisjvari**	**0.42**	**146**	P		**Pg**	**14 50 31.9**	**-0.3**
ALIG				S		**Sg**	**14 50 38.0**	**+0.4**
ALIG	**Mtskhetisjvari**	**0.42**	**146**	*e*Pg		**Pg**	**14 50 31.9**	**-0.3**
ALIG				*e*Sg		**Sg**	**14 50 38.0**	**+0.4**
DIGR	**Digorskoe uzhe**	**0.49**	**22**	*i* Pg		**Pg**	**14 50 32.8**	**-0.7**
DIGR				*e*Sg		**Sg**	**14 50 40.0**	**0.0**
LACR	**Lac**	**0.81**	**62**	*e*Pg		**Pb**	**14 50 39.4**	**-0.7**
LACR				*e*Sg		**Sb**	**14 50 51.1**	**0.0**
KORR	**Kora**	**0.84**	**40**	*e*Pg		**Pg**	**14 50 39.8**	**-0.3**
KORR				*e*Sg		**Sn**	**14 50 52.4**	**-1.8**
LSNR	**Lesken**	**0.91**	**23**	*e*Pg		**Pg**	**14 50 41.0**	**-0.4**
LSNR				*e*Sg		**Sn**	**14 50 54.4**	**-1.5**
ARNR	**Ardon**	**1.01**	**43**	*e*Pg		**Pn**	**14 50 44.0**	**-0.2**
ARNR				*e*Sg		**Sn**	**14 50 59.0**	**+0.5**
AKH	**Akhalkalaki**	**1.04**	**173**	P		**Pb**	**14 50 43.9**	**-0.3**
AKH				S		**Sn**	**14 50 58.9**	**-0.6**
AKH	**Akhalkalaki**	**1.04**	**173**	*e*Pg		**Pb**	**14 50 43.9**	**-0.3**
AKH				*e*Sg		**Sn**	**14 50 58.9**	**-0.6**
EPOS	**Posof**	**1.05**	**206**	P		**Pb**	**14 50 44.1**	**-0.1**
EPOS				S		**Sb**	**14 50 56.3**	**-1.7**
EPOS				*i* IAML			14 50 59.0	
	comp=N,914nm,0.4s							
NCK	**Nalchik**	**1.06**	**10**	*i* Pg		**Pn**	**14 50 44.6**	**-0.3**
NCK				*e*Sg		**Sn**	**14 50 59.6**	**-0.2**
STDR	**Stavd-Durt**	**1.06**	**30**	*e*Pg		**Pn**	**14 50 45.5**	**+0.5**
STDR				*e*Sg		**Sn**	**14 51 00.8**	**+1.0**
TRLG	**Trialeti**	**1.07**	**148**	P		**Pb**	**14 50 44.3**	**-0.4**
VLKR	**Vladikavkaz**	**1.16**	**58**	*e*Pg		**Pg**	**14 50 48.0**	**+1.9**
VLKR				*e*Sg		**Sn**	**14 51 05.0**	**+2.9**
BTKR	**Batakoyurt**	**1.28**	**44**	*e*Pg		**Pg**	**14 50 50.8**	**+2.2**
BTKR				*e*Sg		**Sg**	**14 51 09.7**	**+4.5**
KMGR	**Komgaron**	**1.28**	**61**	*e*Pg		**Pg**	**14 50 49.9**	**+1.3**
KMGR				*e*Sg		**Sg**	**14 51 08.9**	**+3.7**
KBZ	**Khabaz**	**1.32**	**346**	*i* Pg		**Pb**	**14 50 48.3**	**-0.5**
KBZ				*e*Sg		**Sg**	**14 51 05.7**	**-0.7**
SHTL	**Shatili**	**1.36**	**81**	P		**Pg**	**14 50 49.5**	**-0.6**
SHA1	**Shidzhatmaz**	**1.38**	**339**	*e*Pg		**Pg**	**14 50 49.9**	**-0.5**
SHA1				*e*Sg		**Sg**	**14 51 09.1**	**+0.6**
AHAN	**Ardahan-Merkez**	**1.39**	**203**	P		**Pg**	**14 50 51.7**	**+1.1**
AHAN				S		**Sn**	**14 51 06.4**	**-1.6**
AHAN				*i* IAML			14 51 11.0	
	comp=E,498nm,0.8s							
BATM	**Batumi**	**1.48**	**236**	P		**Pn**	**14 50 51.0**	**+0.3**
BATM				S		**Sg**	**14 51 11.7**	**0.0**
BATM	**Batumi**	**1.48**	**236**	*e*Pg		**Pn**	**14 50 51.0**	**+0.3**
BATM				*e*Sg		**Sg**	**14 51 11.7**	**0.0**
DOMR	**Dombai**	**1.51**	**304**	*e*Pg		**Pg**	**14 50 53.7**	**+0.7**
DOMR				*e*Sg		**Sg**	**14 51 14.8**	**+2.2**
KIV	**Kislovodsk**	**1.58**	**343**	P		**Pg**	**14 50 53.5**	**-0.7**
KIV	**Kislovodsk**	**1.58**	**343**	*e*Pg		**Pb**	**14 50 53.2**	**-0.1**
KIV				*e*Sg		**Sg**	**14 51 15.3**	**+0.6**
BEYR	**Belyy Ugol+**	**1.61**	**347**	*e*Pg		**Pb**	**14 50 53.6**	**-0.1**
BEYR				*e*Sg		**Sg**	**14 51 15.0**	**-0.6**
PYA1	**Pyatigorsk**	**1.62**	**354**	*e*Pg		**Pb**	**14 50 53.9**	**-0.1**
PYA1				*e*Sg		**Sg**	**14 51 15.6**	**-0.5**
TRKR	**Terskaya**	**1.64**	**38**	*e*Pg		**Pg**	**14 50 55.1**	**-0.2**
TRKR				*e*Sg		**Sg**	**14 51 18.1**	**+1.6**
DBOC	**Borcka**	**1.66**	**229**	P		**Pb**	**14 50 54.1**	**-0.5**
DBOC				S		**Sb**	**14 51 15.4**	**-0.3**
DBOC				*i* IAML			14 51 18.0	
	comp=E,610nm,0.4s							
GOLE	**Ardahan-Gölle**	**1.70**	**199**	P		**Pg**	**14 50 56.4**	**-0.2**
GOLE				S		**Sg**	**14 51 18.4**	**-0.3**
GOLE				*i* IAML			14 51 22.0	
	comp=E,219nm,0.7s							
DAGI	**Agillar**	**1.73**	**218**	P		**Pb**	**14 50 56.1**	**+0.2**
DAGI				S		**Sn**	**14 51 16.9**	**+0.5**
EAK	**Akyaka**	**1.77**	**173**	P		**Pb**	**14 50 56.6**	**0.0**
EAK				S		**Sb**	**14 51 18.3**	**-0.7**
EAK				*i* IAML			14 51 21.0	
	comp=N,198nm,0.5s							
EAK				*i* IAML			14 51 31.0	
	comp=E,153nm,0.6s							
DGRG	**David-gareji**	**1.82**	**123**	P		**Pb**	**14 50 57.7**	**+0.4**
DGRG				S		**Sg**	**14 51 23.4**	**+1.0**
DGRG	**David-gareji**	**1.82**	**123**	*e*Pg		**Pb**	**14 50 57.7**	**+0.4**
DGRG				*e*Sg		**Sg**	**14 51 23.4**	**+1.0**
DBAD	**Bademkaya**	**1.88**	**221**	P		**Pb**	**14 50 58.2**	**-0.3**
DBAD				S		**Sn**	**14 51 20.1**	**0.0**
DBAD				*i* IAML			14 51 24.0	
	comp=E,738nm,0.5s							
DBAD				*i* IAML			14 51 26.0	
	comp=N,599nm,0.5s							
DDEM	**Demirkent**	**1.96**	**218**	P		**Pb**	**14 50 59.6**	**-0.1**
DDEM				S		**Sn**	**14 51 21.4**	**-0.4**
DDEM				*i* IAML			14 51 27.0	
	comp=N,690nm,0.3s							
DIGO	**Kars**	**2.03**	**179**	P		**Pg**	**14 51 03.0**	**+0.1**
DIGO				S		**Sb**	**14 51 27.5**	**+1.0**
DIGO				*i* IAML			14 51 31.0	
	comp=N,183nm,0.4s							
DIGO				*i* IAML			14 51 32.0	
	comp=E,307nm,0.4s							
DVE	**Vedeno**	**2.12**	**75**	*e*Pg		**Pg**	**14 51 04.5**	**-0.1**
DVE				*e*Sg		**Sg**	**14 51 32.9**	**+0.8**
BTLR	**Botlikh**	**2.15**	**83**	*e*Pg		**Pg**	**14 51 05.2**	**+0.1**
BTLR				*e*Sg		**Sg**	**14 51 34.3**	**+1.4**
LGD	**Lagodekhi**	**2.25**	**105**	P		Pg	14 51 11.9	+4.8
LGD				S		**Sg**	**14 51 42.6**	**+6.4**
LGD	**Lagodekhi**	**2.25**	**105**	*e*Pn		Pg	14 51 11.9	+4.8
LGD				*e*Sn		**Sg**	**14 51 42.6**	**+6.4**
ALER	**Alexandrovskoy**	**2.33**	**353**	*e*Pg		**Pb**	**14 51 04.3**	**-1.8**
ALER				*e*Sg		**Sb**	**14 51 34.5**	**-0.4**
GRYR	**Gornoye**	**2.33**	**316**	*e*Pg		**Pb**	**14 51 05.2**	**-1.0**
GRYR				*e*Sg		**Sb**	**14 51 35.0**	**0.0**
XNZR	**Khunzakh**	**2.50**	**87**	*e*Pn		**Pg**	**14 51 10.9**	**-0.9**
XNZR				*e*Sn		**Sg**	**14 51 42.4**	**-1.7**
GNI	**Garni**	**2.53**	**155**	*e*Pn		**Pb**	**14 51 10.8**	**+1.3**
GNI				*e*Sn		**Sg**	**14 51 43.4**	**-1.8**
UNCR	**Uncukul**	**2.57**	**83**	*e*Pn		**Pb**	**14 51 09.1**	**-1.0**
UNCR				*e*Sn		**Sg**	**14 51 44.5**	**-2.0**
RPOR	**Krasnaya Polya**	**2.57**	**300**	*e*Pn		**Pb**	**14 51 10.0**	**-0.2**
RPOR				*e*Sn		**Sb**	**14 51 42.1**	**+0.2**
VSHL	**Vashlovani**	**2.59**	**117**	P		**Pb**	**14 51 08.7**	**-1.8**
VSHL	**Vashlovani**	**2.59**	**117**	*e*Pn		**Pb**	**14 51 08.7**	**-1.8**
VSLR	**Vesoyloye**	**2.63**	**294**	*e*Pn		**Pb**	**14 51 10.5**	**-0.6**
VSLR				*e*Sn		**Sb**	**14 51 43.2**	**-0.1**
IZDR	**Rize**	**2.66**	**232**	P		**Pn**	**14 51 07.7**	**+0.8**
IZDR				S		**Sn**	**14 51 34.6**	**-4.7**
KRNR	**Karanay**	**2.66**	**81**	*e*Pn		**Pg**	**14 51 12.4**	**+0.6**
KRNR				*e*Sn		**Sg**	**14 51 47.8**	**-1.8**
GNBR	**Gunib**	**2.69**	**90**	*e*Pn		**Pg**	**14 51 14.1**	**-1.4**
GNBR				*e*Sn		**Sg**	**14 51 48.6**	**-1.7**
ARKR	**Arakani**	**2.71**	**86**	*e*Pn		**Pb**	**14 51 13.7**	**+1.2**
ARKR				*e*Sn		**Sg**	**14 51 48.4**	**-2.6**
KRIK	**Erzurum-spir**	**2.78**	**221**	P		**Pb**	**14 51 13.6**	**-0.2**
KRIK				S		**Sb**	**14 51 47.7**	**-0.3**
GUZR	**Guzeripl'**	**2.81**	**304**	*e*Pn		**Pb**	**14 51 11.4**	**-2.9**
GUZR				*e*Sn		**Sb**	**14 51 47.5**	**-1.2**
BAYB	**BAYBURT**	**3.19**	**228**	P		**Pb**	**14 51 21.0**	**+0.3**
BAYB				S		**Sb**	**14 51 59.3**	**-0.3**
MRNR	**Maryino**	**3.19**	**299**	*e*Pn		**Pn**	**14 51 16.4**	**+2.3**
MRNR				*e*Sn		**Sn**	**14 51 55.4**	**+3.2**
AKT	**Akhty**	**3.42**	**105**	*e*Pn		**Pb**	**14 51 22.5**	**-2.2**
AKT				*e*Sn		**Sb**	**14 52 04.4**	**-1.9**

IDC 26 14:55:40.6±3.8, 60°.78N×29°.12E, h0km, mbtmp3.5/1, ML2.4/1, Error ellipse: s-maj=40.4km s-min=15.1km az=2.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FINES	**FINESS Array B**	**1.62**	**296**	Pg		Pn	14 56 09.4	-1.0
	0.5nm,0.3s,baz=111,slow=16,SNR=27							
FINES				Lg		Lg	14 56 31.4	
	2.4nm,0.3s,baz=103,slow=30,SNR=38							
FINES				Rg		Rg	14 56 38.7	
	33nm,0.9s,baz=100,slow=31,SNR=17							
HFS	**Hagfors**	**7.65**	**272**	Lg		Lg	14 59 37.2	
	0.2nm,0.3s,baz=79,slow=30,SNR=5.0							
ARCES	**ARCESS Array B**	**8.92**	**352**	Pn		Pn	14 57 48.0	-2.6
	baz=171,slow=12,SNR=1.3							
	3.4nm,1.2s							
I37NO	**I37NO**	**9.43**	**336**	I		I	15 47 50.0	
	baz=149,slow=322,SNR=1.5							

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*PDG **26** 15:02:01.9±0.2, 42°.92N×20°.11E, h14km, MD2.7/3, ML2.6/13, Error ellipse: s-maj=0.5km s-min=1.2km az=0.0*
*BEO **26** 15:02:03.3±0.2, 42°.95N×20°.14E, h0km, ML2.4/16*
*RHSSO **26** 15:02:05.9±0.8, 43°.08N×19°.92E, h4km±2km, ML2.5/5*

ISC 26 15:02:01.7±1.0, 42°.93N±0°.02×20°.12E±0°.02, h7km±8km, n52, σ1s13/95, 21C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IVA	**Berane**	**0.18**	**250**	⇑*i*Pg		**Pg**	**15 02 05.8**	**+0.5**
IVA				*i* Sg		**Sg**	**15 02 08.9**	**+1.1**
SJES	**Sjenica**	**0.35**	**342**	*e*Pg		**Pg**	**15 02 08.9**	**+0.4**
SJES				*e*Sg		**Sg**	**15 02 13.3**	**+0.2**
PVY	**Plav**	**0.36**	**200**	⇓*i*Pg		**Pg**	**15 02 07.9**	**-0.8**
PVY				*i* Sg		**Sg**	**15 02 14.2**	**+0.8**
KOME	**Kolasin**	**0.45**	**260**	⇑*i*Pg		**Pg**	**15 02 10.7**	**+0.2**
KOME				*i* Sg		**Sg**	**15 02 17.7**	**+1.3**
PLE	**Pljevlja**	**0.67**	**307**	⇓*i*Pg		**Pg**	**15 02 14.4**	**-0.2**
PLE				*i* Sg		**Sg**	**15 02 24.7**	**+1.4**
SELS	**Selova**	**0.79**	**68**	*e*Pg		**Pg**	**15 02 17.0**	**+0.2**
SELS				*e*Sg		**Sb**	**15 02 27.7**	**-0.9**
PDG	**Podgorica**	**0.81**	**232**	*e*Pg		**Pg**	**15 02 17.1**	**-0.2**
PDG				*e*Sg		**Sb**	**15 02 30.3**	**+1.0**
PDG	**Podgorica**	**0.81**	**232**	⇑*i*Pg		**Pg**	**15 02 16.7**	**-0.6**
PDG				*i* Sg		**Sb**	**15 02 29.6**	**+0.3**
PDG	**Podgorica**	**0.81**	**232**	⇑P		**Pg**	**15 02 16.7**	**-0.5**
PDG				⇓S		**Sb**	**15 02 29.4**	**+0.1**
GOCS	**Kraljevo Serbi**	**0.84**	**41**	*e*Pg		**Pg**	**15 02 17.9**	**+0.2**
GOCS				*e*Sg		**Sg**	**15 02 27.8**	**-0.8**
NKME	**Niksic**	**0.88**	**260**	⇑*i*Pg		**Pg**	**15 02 18.2**	**-0.3**
NKME				*i* Sg		**Sb**	**15 02 31.5**	**+0.3**
RUDO	**Rudo**	**0.88**	**322**	⇓*i*Pg		**Pg**	**15 02 17.2**	**-1.4**
RUDO				*e*Sg		**Sg**	**15 02 27.7**	**-2.3**
UPM	**Unac-Piva**	**0.93**	**287**	⇑*i*Pg		**Pg**	**15 02 19.2**	**-0.4**
UPM				*i* Sg		**Sb**	**15 02 33.2**	**+0.2**
CEME	**Cevo**	**0.97**	**247**	⇑*i*Pg		**Pg**	**15 02 19.4**	**-0.8**
CEME				*i* Sg		**Sb**	**15 02 35.1**	**+1.3**
DRME	**Dracevica, Mon**	**1.02**	**223**	⇓*i*Pg		**Pg**	**15 02 20.1**	**-1.1**
DRME				*i* Sg		**Sb**	**15 02 35.9**	**+0.7**
GRUS	**Gruza**	**1.05**	**24**	*e*Pg		**Pb**	**15 02 22.3**	**+0.1**
GRUS				*e*Sg		**Sb**	**15 02 36.3**	**+0.2**
BBLS	**Lazi&#263i**	**1.07**	**331**	*e*Pg		**Pg**	**15 02 21.8**	**-0.4**
BUM	**Brajici-Budva**	**1.10**	**236**	⇑*i*Pg		**Pg**	**15 02 22.9**	**0.0**
BUM				*i* Sg		**Sn**	**15 02 39.6**	**+0.4**
KLINJ	**Klinje**	**1.15**	**282**	⇑*i*Pg		**Pg**	**15 02 23.1**	**-0.7**
KLINJ				*e*Sg		**Sg**	**15 02 37.8**	**-0.9**
BRY	**Bratogost**	**1.16**	**269**	⇑*i*Pg		**Pg**	**15 02 22.8**	**-1.2**
BRY				*i* Sg		**Sn**	**15 02 41.2**	**+0.5**
ULC	**Ulcinj**	**1.17**	**214**	⇓*i*Pg		**Pg**	**15 02 23.0**	**-1.0**
ULC				*i* Sg		**Sn**	**15 02 41.0**	**+0.4**
DIVS	**Divibare**	**1.17**	**355**	*e*Pg		**Pb**	**15 02 24.5**	**+0.2**
DIVS				*e*Sg		**Sb**	**15 02 40.5**	**+0.8**
BARS	**Barje**	**1.25**	**95**	*e*Pg		**Pn**	**15 02 25.9**	**+0.3**
BARS				*e*Sg		**Sn**	**15 02 42.8**	**+0.1**
HCY	**Herceg Novi**	**1.29**	**249**	⇑*i*Pn		**Pn**	**15 02 25.1**	**-1.1**
HCY				*i* Sg		**Sn**	**15 02 45.9**	**+2.1**
TRUS	**Trudelj**	**1.31**	**9**	*e*Pg		**Pg**	**15 02 27.7**	**+0.9**
TRUS				*e*Sg		**Sn**	**15 02 45.9**	**+1.8**
TREB	**Trebinje**	**1.32**	**261**	*e*Pg		**Pn**	**15 02 27.0**	**+0.4**
TREB				*e*Sg		**Sn**	**15 02 44.9**	**+0.5**
BOVS	**Bovan**	**1.35**	**58**	*e*Pg		**Pg**	**15 02 28.3**	**+0.7**
BOVS				*e*Sg		**Sn**	**15 02 45.6**	**+0.4**
BOVS	**Bovan**	**1.35**	**58**	⇓P		**Pg**	**15 02 27.9**	**+0.2**
BOVS				⇓S		**Sn**	**15 02 47.3**	**+2.1**
SVIS	**Svilajnac**	**1.55**	**30**	*e*Sg		**Sg**	**15 02 52.2**	**+0.7**
TEKS	**Tekeris**	**1.67**	**345**	*e*Pg		**Pn**	**15 02 31.4**	**0.0**
TEKS				*e*Sg		**Sg**	**15 02 55.7**	**+0.3**
ZAGS	**Zajecar**	**1.77**	**60**	*e*Pg		**Pg**	**15 02 35.7**	**+0.1**
ZAGS				*e*Sg		**Sg**	**15 02 58.5**	**-0.1**
STON	**Ston**	**1.78**	**269**	⇑*i*Pn		**Pg**	**15 02 35.6**	**-0.2**
STON				*e*Sn		**Sn**	**15 02 58.8**	**+1.1**
AVAS	**Avala Beograd**	**1.79**	**9**	*e*Pg		**Pg**	**15 02 35.8**	**-0.1**
AVAS				*e*Sg		**Sg**	**15 02 59.2**	**+0.1**
BOSS	**Bosilegrad**	**1.79**	**103**	*e*Pg		**Pb**	**15 02 35.2**	**+0.4**
BOSS				*e*Sg		**Sg**	**15 02 59.0**	**-0.2**
BORS2	**Bor- Borsko je**	**1.80**	**49**	*e*Pg		**Pb**	**15 02 34.2**	**-0.8**
BORS2				*e*Sg		**Sg**	**15 02 59.1**	**-0.4**
KUBS	**Kucevo**	**1.86**	**37**	*e*Pn		**Pb**	**15 02 36.0**	**0.0**
ZAPS	**Zavoj**	**1.87**	**79**	*e*Pg		**Pg**	**15 02 36.9**	**-0.6**
ZAPS				*e*Sg		**Sg**	**15 03 00.8**	**-1.0**
BLKB	**Belogradchik**	**1.99**	**69**	⇑S		**Sn**	**15 03 01.8**	**+0.8**
MDVR	**Moldovita**	**2.18**	**31**	⇑P		**Pb**	**15 02 40.5**	**-1.0**
MDVR				⇓S		**Sg**	**15 03 10.9**	**-0.8**
HERR	**Herculane**	**2.56**	**40**	⇑P		**Pn**	**15 02 44.5**	**+0.9**
HERR				⇓S		**Sb**	**15 03 18.6**	**-1.0**
BLY	**Banja Luka**	**2.80**	**312**	*e*Pn		**Pn**	**15 02 49.2**	**+2.4**
BLY				*e*Sn		**Sn**	**15 03 20.5**	**-0.3**
BLY	**Banja Luka**	**2.80**	**312**	⇑P		**Pb**	**15 02 50.0**	**-2.0**
BZS	**Buzias**	**2.89**	**21**	⇑P		**Pb**	**15 02 51.1**	**-2.5**
BZS				⇑S		**Sb**	**15 03 29.0**	**-0.1**
KIJV	**Kijevo**	**2.91**	**293**	*e*Pn		**Pn**	**15 02 50.7**	**+2.3**
KIJV				*e*Sn		**Sn**	**15 03 23.6**	**-0.1**
A050A	**Klekovaca**	**3.03**	**302**	*e*Pn		**Pn**	**15 02 52.2**	**+2.1**
A050A				*e*Sn		**Sn**	**15 03 26.6**	**-0.1**
GZR	**Gura Zlata**	**3.12**	**37**	⇓P		**Pn**	**15 02 54.0**	**+2.7**
GZR				⇑S		**Sb**	**15 03 33.8**	**-1.8**
A051A	**Mrakovica**	**3.12**	**313**	*e*Pn		**Pn**	**15 02 53.1**	**+1.8**
A051A				*e*Sn		**Sn**	**15 03 27.7**	**-1.1**
SURR	**Surduc**	**3.17**	**26**	⇓P		**Pn**	**15 02 53.9**	**+2.0**
SURR				⇓S		**Sb**	**15 03 34.3**	**-2.8**
PLVB	**Pleven**	**3.32**	**81**	⇑S		**Sn**	**15 03 33.4**	**-0.4**
MORH	**Mrgy, Hungar**	**3.45**	**343**	⇓P		**Pb**	**15 02 59.8**	**-3.2**
MOSL	**Moslavina**	**3.61**	**319**	*e*Pn		**Pn**	**15 02 59.9**	**+1.8**
TIP	**Timpagrande**	**4.53**	**215**	⇑P		**Pn**	**15 03 10.2**	**-0.6**

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*IDC **26** 15:07:23.0±3.5, 6°.71S×129°.82E, h154km±33km, mb3.7/10, mbtmp4.3/14, Error ellipse: s-maj=37.2km s-min=13.0km az=67.0*
*NEIC **26** 15:07:25.1±1.8, 6°.68S±0°.08×129°.68E±0°.08, h166km±10km, mb4.4/13, Error ellipse: s-maj=13.2km s-min=10.2km az=225.0*
*DJA **26** 15:07:25.7±0.3, 7°.5S±3°×13°.0E±°, h170km±6km, M4.6/9, mB5.0/2, mb4.5/9, MLv4.6/9, Mw(mB)4.3/2*

ISC 26 15:07:23.0±0.5, 6°.86S±0°.05×129°.70E±0°.06, h150km, n68, σ2s40/71, mb4.2/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SAUI	**Saumlaki**	**1.94**	**125**			**Pn**	**15 08 02.1**	**+4.6**
SAUI	**Saumlaki**	**1.94**	**125**	P		**Pn**	**15 08 02.2**	**+4.6**
SAUI	**Saumlaki**	**1.94**	**125**	P		**Pn**	**15 08 02.3**	**+4.8**
BNDI	**Bandanaira**	**2.33**	**5**	P		**Pn**	**15 08 05.3**	**+3.2**
BNDI	**Bandanaira**	**2.33**	**5**	P		**Pn**	**15 08 03.8**	**+1.7**
FAKI	**Fak Fak**	**4.67**	**33**			**Pn**	**15 08 31.2**	**-0.8**
SOEI	**Soe**	**6.09**	**241**			**Pn**	**15 08 53.0**	**+1.8**
SOEI	**Soe**	**6.09**	**241**	P		**Pn**	**15 08 55.3**	**+4.1**
SOEI	**Soe**	**6.09**	**241**	P		**Pn**	**15 08 54.3**	**+3.1**
	0.6nm40nm,0.7s							
MTN	**Manton Dam**	**6.12**	**167**			**Pn**	**15 08 54.1**	**+2.8**
MTN	**Manton Dam**	**6.12**	**167**	P		**Pn**	**15 08 54.1**	**+2.8**
KDU	**Kakadu**	**6.41**	**155**	P		**Pn**	**15 08 57.5**	**+2.3**
BATI	**Baumata**	**6.83**	**240**	P		**Pn**	**15 09 03.8**	**+2.9**
	55nm,0.4s,baz=80,slow=4.1,SNR=26							
BATI				S		**Sn**	**15 10 15.3**	**-2.4**
	60nm,0.4s,baz=62,slow=18,SNR=7.2							
RKPI	**Ransiki, Papua**	**6.94**	**40**	P		**Pn**	**15 09 02.0**	**-0.3**
	1.3nm2µm89nm,0.5s							
BBSI	**Bau Bau**	**7.21**	**280**	P		**Pn**	**15 09 09.4**	**+3.4**
	0.1nm38nm,1.0s							
KNRA	**Kununurra**	**8.81**	**186**			**Pn**	**15 09 29.0**	**+1.7**
SPSI	**Sidrap Palu**	**10.29**	**286**	P		Pn	15 09 56.7	+10
MRSI	**Marisa**	**10.63**	**313**	P		**Pn**	**15 09 54.9**	**+3.5**
	49nm,1.1s							
PCI	**Palu**	**11.47**	**301**	P		**P**	**15 10 12.5**	**+2.3**
FITZ	**Fitzroy Crossi**	**11.85**	**199**	P		**Pn**	**15 10 07.9**	**+0.4**
	2.1nm,0.3s,baz=34,slow=12,SNR=41							
FITZ				S		**Sn**	**15 12 14.3**	**-4.2**
	9.6nm,0.5s,baz=206,slow=19,SNR=7.6							
TOLI2	**Tolitoli**	**11.91**	**311**	Pn		**Pn**	**15 10 06.6**	**-1.6**
PLAI	**Plampang**	**11.97**	**260**	P		**Pn**	**15 10 09.4**	**+0.4**
MPSI	**Mapaga**	**12.11**	**306**	P		**P**	**15 10 14.2**	**-3.0**
	12nm,1.1s							
WB0	**Warramunga Arr**	**13.62**	**161**			**Pn**	**15 10 29.3**	**-0.9**
WRAB	**Tennant Creek**	**13.76**	**161**	P		**Pn**	**15 10 31.3**	**-0.7**
WRA	**Warramunga Arr**	**13.77**	**161**			**Pn**	**15 10 32.2**	**+0.1**
WRA	**Warramunga Arr**	**13.77**	**161**	P		**Pn**	**15 10 31.4**	**-0.8**
	3.0nm,0.6s,baz=340,slow=13,SNR=40							
WRA				S		**Sn**	**15 12 57.1**	**-7.5**
	13nm,0.7s,baz=332,slow=25,SNR=10							
WB2	**Warramunga Arr**	**13.77**	**161**	Pn		**Pn**	**15 10 31.0**	**-1.1**
WR8	**Warramunga Arr**	**13.83**	**161**			**Pn**	**15 10 32.2**	**-0.7**
WR0	**Warramunga Arr**	**13.85**	**161**	Pn		**Pn**	**15 10 33.7**	**+0.6**
COEN	**Coen**	**15.01**	**119**			**Pn**	**15 10 47.3**	**-0.4**
COEN				IAmb		IAmb	15 10 52.4	
	comp=Z,18nm,0.9s							
COEN	**Coen**	**15.01**	**119**	P		**P**	**15 10 51.1**	**+1.6**
JAGI	**Jajag, Banyuwa**	**15.49**	**263**	Pn		**Pn**	**15 10 50.8**	**-2.8**
JAGI	**Jajag, Banyuwa**	**15.49**	**263**	P		**P**	**15 10 55.8**	**+1.0**
QIS	**Mount Isa**	**16.67**	**146**	P		**Pn**	**15 11 09.9**	**+1.9**
AS31	**Alice Springs**	**17.20**	**167**			**Pn**	**15 11 16.0**	**+1.7**
ASAR	**Alice Springs**	**17.20**	**167**			**Pn**	**15 11 15.4**	**+1.0**
ASAR	**Alice Springs**	**17.20**	**167**	P		**Pn**	**15 11 16.4**	**+2.0**
	comp=Z,8.6nm,0.5s,baz=347,slow=9.5,SNR=152							
ASAR				S		**S**	**15 14 19.6**	**-5.7**
	comp=Z,2.9nm,0.7s,baz=354,slow=27,SNR=7.2							
AS01	**Alice Springs**	**17.21**	**167**	P		**Pn**	**15 11 16.1**	**+1.6**
PSA00	**Pilbara

ROM 26 15:36:42.1±0.1, 42°713N×0°005×11°948E±0°006, h11km, ML1.7/16, 2C, Error ellipse: s-maj=0.5km s-min=0.4km az=12.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACS	**San Casciano d**	**0.14**	**348**	⇑P	Pg	15 36 46.0	+0.5
SACS				S	Sg	15 36 48.9	+1.1
SACS				AML	AML		
	comp=E,1217µm,0.5s						
SACS				AML	AML		
	comp=N,958µm,0.5s						
LATE	**Laterza**	**0.14**	**227**	P	Pb	15 36 46.3	-0.6
LATE				S	Sg	15 36 49.2	+1.3
LATE				AML	AML		
	comp=E,443µm,0.9s						
LATE				AML	AML		
	comp=N,558µm,0.3s						
MCIV	**Monte Civitell**	**0.21**	**288**	P	Pg	15 36 47.2	+0.6
MCIV				S	Sg	15 36 50.9	+1.2
MGAB	**Montegabbione**	**0.23**	**31**	⇑P	Pg	15 36 47.1	+0.1
MGAB				S	Sg	15 36 51.3	+1.0
MGAB				AML	AML		
	comp=E,527µm,0.2s						
MGAB				AML	AML		
	comp=N,412µm,0.2s						
MGAB				AML	AML		
	comp=N,407µm,0.3s						
MGAB				AML	AML		
	comp=E,542µm,0.2s						
MGAB				AML	AML		
	comp=N,412µm,1.8s						
SF04	**Casetta**	**0.24**	**300**	P	Pg	15 36 47.9	+0.7
SF04				S	Sg	15 36 52.2	+1.6
SF04				AML	AML		
	comp=E,9µm,1.6s						
SF04				AML	AML		
	comp=N,13µm,1.6s						
SF04				AML	AML		
	comp=E,9µm,1.6s						
SF04				AML	AML		
	comp=N,13µm,1.6s						
SF04				AML	AML		
	comp=E,9µm,0.4s						
SF14	**Selvena**	**0.25**	**280**	P	Pg	15 36 47.5	+0.3
SF14				S	Sg	15 36 51.7	+1.0
SF11	**Podere del Sol**	**0.25**	**308**	P	Pg	15 36 47.9	+0.5
SF11				S	Sg	15 36 51.8	+0.9
SF13	**Bagnolo**	**0.26**	**294**	P	Pg	15 36 48.2	+0.6
SF13				S	Sg	15 36 52.3	+1.1
SF01	**Poggio Pratacc**	**0.30**	**289**	P	Pg	15 36 48.9	+0.6
SF01				S	Sb	15 36 53.8	-0.8
SF01				AML	AML		
	comp=E,163µm,1.5s						
SF01				AML	AML		
	comp=N,162µm,0.8s						
SF01				AML	AML		
	comp=E,163µm,1.5s						
SF01				AML	AML		
	comp=E,163µm,0.5s						
SF01				AML	AML		
	comp=N,162µm,0.8s						
ARCI	**Arcidosso**	**0.38**	**292**	P	Pb	15 36 50.3	-0.6
ARCI				S	Sb	15 36 56.6	-0.2
ARCI				AML	AML		
	comp=E,46µm,0.6s						
ARCI				AML	AML		
	comp=N,50µm,1.4s						
ARCI				AML	AML		
	comp=N,50µm,0.6s						
ARCI				AML	AML		
	comp=E,46µm,1.4s						
GNU	**Giano nell'Umb**	**0.47**	**79**	P	Pg	15 36 51.3	0.0
GNU				S	Sb	15 36 59.1	-0.4
MOMA	**Monte Martano**	**0.47**	**79**	P	Pg	15 36 51.3	-0.1
MOMA				S	Sb	15 36 59.4	-0.1
BARO	**Barbarano Roma**	**0.47**	**171**	P	Pg	15 36 51.2	-0.2
BARO				S	Sb	15 36 58.7	-0.8
CESX	**Cesi**	**0.48**	**102**	P	Pg	15 36 51.2	-0.3
CESX				S	Sb	15 36 59.5	-0.2
CAFI	**Castiglion Fio**	**0.62**	**1**	P	Pg	15 36 54.0	-0.1
CAFI				S	Sb	15 37 03.5	-0.2
CAFI				AML	AML		
	comp=E,33µm,0.8s						
CAFI				AML	AML		
	comp=N,30µm,1.2s						

*NEIC **26** 15:38:15.3±1.0, 35°.80N±0°.02×117°.619W±0°.008, h10km±1km, Error ellipse: s-maj=3.0km s-min=2.8km az=176.0*

PAS 26 15:38:15.8±0.8, 35°.81N±0°.01×117°.63W±0°.01, h8km±7km, ML3.0/93, ML2.8/84(NEIC), Error ellipse: s-maj=1.9km s-min=1.2km az=154.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.03**	**75**	Pg	Pg	15 38 17.4	0.0
TOW	**Tower One**	**0.11**	**270**		Pg	15 38 18.7	+0.4
SRTC	**Snort**	**0.15**	**219**		Pg	15 38 19.3	+0.4
SRTC					Sg	15 38 22.6	+1.4
WVPM	**Volcano Peak E**	**0.21**	**313**		Pg	15 38 20.0	0.0
WNMM	**Nine Mile Cany**	**0.22**	**279**		Pg	15 38 20.3	0.0
WNMM					Sg	15 38 23.8	+0.4
WSHM	**Spangler Hills**	**0.24**	**151**		Pg	15 38 20.5	-0.1
WSHM					Sg	15 38 24.1	+0.4
WSHM	**Spangler Hills**	**0.24**	**151**	IAML		15 38 24.6	
	6µm,0.3s						
WSHM				IAML		15 38 24.6	
	9µm,0.3s						
MPMC	**Manual Prospec**	**0.28**	**25**	Pg	Pg	15 38 21.1	-0.2
WRVM	**Rose V. Centra**	**0.29**	**314**		Pg	15 38 21.4	-0.1
WRVM					Sg	15 38 25.5	0.0
LRMC	**Laurel Mtn Rad**	**0.33**	**187**	Pg	Pg	15 38 22.1	-0.3
LRMC				IAML		15 38 27.8	
	comp=N,2µm,0.2s						
CCCA	**Chr Cany lake**	**0.36**	**142**		Pg	15 38 23.1	+0.3
CCCA	**Chr Cany lake**	**0.36**	**142**		Sg	15 38 28.6	+1.1
MFS	**McCloud Flat S**	**0.36**	**330**		Pg	15 38 22.6	-0.2
MFS					Sg	15 38 28.0	+0.4
WORM	**Onyx Ranch**	**0.51**	**257**		Pg	15 38 25.2	-0.4
WORM					Sg	15 38 32.0	-0.3
DTP	**Desert Tortois**	**0.57**	**198**		Pg	15 38 26.2	-0.5
DTP					Sg	15 38 34.1	-0.1
WHFM	**Hanning Flat**	**0.59**	**259**		Pg	15 38 26.8	-0.4
WHFM					Sg	15 38 34.6	-0.4
QSM	**Queen of Sheba**	**0.64**	**76**		Pg	15 38 27.6	-0.5
QSM					Sg	15 38 36.2	-0.2
QSM	**Queen of Sheba**	**0.64**	**76**	IAML		15 38 39.8	
	comp=E,819nm,0.5s						
QSM				IAML		15 38 41.6	
	comp=N,773nm,0.4s						
ISA	**Isabella, Lake**	**0.70**	**258**		Pg	15 38 28.7	-0.6
ISA				IAML		15 38 38.7	
	comp=N,609nm,0.4s						
ISA				IAML		15 38 40.4	
	comp=E,306nm,0.3s						
ISA	**Isabella, Lake**	**0.70**	**258**		Sg	15 38 38.1	-0.3
CCAC	**Calif City Air**	**0.72**	**206**		Pg	15 38 29.2	-0.5
CWC	**Cottonwood Cre**	**0.73**	**330**		Pg	15 38 29.8	0.0
CGO	**Cerro Gordo**	**0.75**	**349**		Pg	15 38 29.7	-0.6
CGO					Sg	15 38 41.0	+0.8
WASM	**Alta Sierra Ca**	**0.76**	**265**		Pg	15 38 29.8	-0.5
GSC	**Goldstone, Bar**	**0.84**	**127**		Pg	15 38 31.3	-0.7
GSC				IAML		15 38 45.5	
	comp=N,504nm,0.5s						
GSC	**Goldstone, Bar**	**0.84**	**127**		Pn	15 38 42.4	+8.4
GWY	**Greenwater Val**	**0.87**	**64**		Pg	15 38 31.9	-0.5
GWY	**Greenwater Val**	**0.87**	**64**	IAML		15 38 48.0	
	comp=E,465nm,0.4s						
GWY				IAML		15 38 49.3	
	comp=N,376nm,0.7s						
FURC	**Furnace Creek,**	**0.91**	**43**		Pg	15 38 33.0	-0.2
FURC					Sb	15 38 45.5	-0.4
FURC	**Furnace Creek,**	**0.91**	**43**	Pg	Pg	15 38 32.8	-0.3
FURC	**Furnace Creek,**	**0.91**	**43**	IAML		15 38 48.4	
	comp=N,508nm,0.8s						
HYS	**Haystack Butte**	**0.94**	**177**		Pg	15 38 33.1	-0.8
HYS					Sg	15 38 46.2	0.0
EDW2	**Edwards Air Fo**	**0.97**	**198**		Pg	15 38 33.4	-1.0
EDW2					Sg	15 38 46.3	-0.8
SPG2	**Springville 2**	**1.00**	**293**		Pg	15 38 33.9	-1.1
SPG2					Sg	15 38 46.8	-1.1
TEJ	**El Tejon**	**1.04**	**237**		Pg	15 38 34.3	-1.4
TPO	**Tropico Hills**	**1.05**	**208**		Pg	15 38 34.9	-1.0
TPO				IAML		15 38 54.5	
	comp=E,341nm,0.6s						
TPO				IAML		15 38 55.1	
	comp=N,309nm,0.6s						
RRX	**Edison Barstow**	**1.07**	**151**		Pg	15 38 35.9	-0.3
SHOC	**Shoshone, Teco**	**1.11**	**85**		Pg	15 38 35.9	-1.1
VES	**Vestal, Richgr**	**1.18**	**272**		Pb	15 38 37.5	-0.9
VES				IAML		15 38 54.1	
	comp=E,280nm,0.5s						
VES				IAML		15 38 56.7	
	comp=N,376nm,0.4s						
GRAC	**Grapevine Rang**	**1.21**	**10**		Pb	15 38 38.2	-0.6
GRAC				IAML		15 38 56.4	
	comp=N,153nm,0.7s						
GRAC				IAML		15 38 59.9	
	comp=E,203nm,0.4s						
WCT	**Wildcat Mounta**	**1.27**	**39**		Pn	15 38 38.6	-1.4
OSI	**Osito Audit: C**	**1.49**	**217**		Pn	15 38 41.9	-0.9
OSI				IAML		15 39 06.3	
	comp=N,129nm,0.6s						
OSI				IAML		15 39 12.9	
	comp=E,157nm,0.8s						
GMN	**Gold Mountain**	**1.52**	**11**		Pn	15 38 42.7	-0.8
DSP	**Deep Springs**	**1.58**	**350**		Pn	15 38 43.6	-0.4
TPNV	**Topopah Spring**	**1.59**	**44**		Pn	15 38 43.4	-1.0
TPNV				IAML		15 39 09.7	
	comp=E,132nm,0.5s						
TPNV				IAML		15 39 13.1	
	comp=E,112nm,0.6s						
MTPC	**Mountain Pass**	**1.72**	**100**		Pn	15 38 44.6	-1.6
MTPC				IAML		15 39 10.8	
	comp=N,120nm,0.5s						
MTPC				IAML		15 39 11.6	
	comp=E,122nm,0.3s						
MZP	**Montezuma Peak**	**1.90**	**6**		Pn	15 38 48.3	-0.4
SHPR	**Sheep Range**	**2.12**	**70**		Pn	15 38 51.0	-0.6
BELC	**Belle Mtn. Jos**	**2.25**	**143**	IAML		15 39 29.5	
	comp=E,58nm,0.4s						
BELC				IAML		15 39 30.2	
	comp=N,51nm,0.4s						
PMD	**Palm Desert**	**2.39**	**154**		Pn	15 38 53.8	-1.4
PFO	**Pinyon Flats O**	**2.40**	**156**		Pg	15 39 00.7	-1.0
PMPB	**Monarch Peak**	**2.60**	**280**		Pg	15 39 04.9	-0.7
PMPB				IAML		15 39 40.2	
	comp=E,62nm,0.9s						
PMPB				IAML		15 39 45.2	
	comp=N,50nm,1.0s						
PRN	**Pahroc Range**	**2.62**	**52**		Pg	15 39 05.0	-1.0
PRN				IAML		15 39 43.2	
	comp=E,49nm,0.5s						
PRN				IAML		15 39 47.0	
	comp=N,59nm,0.7s						
IRM	**Iron Mountain**	**2.62**	**128**		Pn	15 38 56.4	-2.0
IRM				IAML		15 39 39.3	
	comp=N,29nm,0.4s						
IRM				IAML		15 39 39.4	
	comp=E,45nm,0.4s						
BC3	**Big Chuckawall**	**2.80**	**140**		Pn	15 38 59.1	-1.8
BC3				IAML		15 39 47.0	
	comp=E,26nm,0.5s						
BC3				IAML		15 39 49.8	
	comp=N,37nm,0.6s						
BBGB	**Big Mountain B**	**2.86**	**287**		Pn	15 39 01.4	-0.4
CMB	**Columbia Colle**	**3.13**	**316**		Pg	15 39 13.8	-1.9
W13A	**Hualapai Mount**	**3.14**	**102**		Pn	15 39 04.5	-1.2
SAO	**San Andreas Ge**	**3.23**	**288**	Pn	Pn	15 39 04.6	-2.1
LCMT	**Little Creek M**	**3.74**	**70**	Pn	Pn	15 39 12.8	-1.0
PSUT	**Pine Spring**	**4.06**	**47**		Pg	15 39 32.8	-0.8
PSUT				IAML		15 40 28.7	
	comp=E,11nm,1.6s						
PSUT				IAML		15 40 32.2	
	comp=N,8.0nm,0.8s						
SZCU	**Shurtz Canyon**	**4.06**	**63**	Pg	Pg	15 39 32.7	-0.9
SPR3	**Spring Creek 3**	**4.13**	**39**		Pg	15 39 33.3	-1.6
SPR3				IAML		15 40 29.7	
	comp=N,7.4nm,0.9s						
SPR3				IAML		15 40 31.5	
	comp=E,11nm,0.9s						
U15A	**North Rim**	**4.37**	**80**		Pn	15 39 22.8	+0.1
MTPU	**Mount Pierson**	**4.90**	**61**	Pg	Pg	15 39 47.2	-2.5

*DNK **26** 15:38:27.1±1.7, 51°.45N×16°.07E, h1km, ML1.9*
*IPEC **26** 15:38:28.0±0.2, 51°.54N×16°.23E, h1km, ML2.4/6, Error ellipse: s-maj=2.7km s-min=1.4km az=75.0*
*IDC **26** 15:38:29.6±0.9, 51°.42N×16°.20E, h0km, mbtmp3.1/5, ML2.5/5, Error ellipse: s-maj=20.6km s-min=8.5km az=105.0*
*PRU **26** 15:38:30.3, 51°.45N×16°.13E, h0km*
*VIE **26** 15:38:30.6±0.4, 51°.36N×16°.71E, h0km, mb2.4/4, ml2.8/5, Error ellipse: s-maj=4.1km s-min=2.9km az=78.0 37 km NNW of Wroclaw Suspected Mining induced.*

ISC 26 15:38:27.6±0.7, 51°.57N±0°.03×16°.11E±0°.02, h0km, n45, σ1§15/85, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg	**Pg**	**15 38 41.9**	**+0.3**
KSP				*e*Sg	**Sg**	**15 38 50.5**	**-0.6**
CHVC	**Chvalec**	**0.98**	**182**	*e*PG	**Pg**	**15 38 46.7**	**+0.4**
CHVC				*e*SG	**Sg**	**15 38 58.5**	**-0.5**
OSTC	**Ostas**	**1.01**	**176**	*e*PG	**Pg**	**15 38 47.4**	**+0.4**
OSTC				*e*SG	**Sg**	**15 38 59.4**	**-0.6**
	comp=Z,42nm,0.3s						
UPC	**Upice**	**1.06**	**183**	*e*PG	**Pg**	**15 38 48.0**	**+0.1**
UPC				*e*SG	**Sg**	**15 39 01.9**	**+0.3**
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*PG	**Pg**	**15 38 50.7**	**-0.3**
DPC				*e*SG	**Sg**	**15 39 05.1**	**-1.7**
	comp=Z,37nm,0.8s						
PIVO	**Bartosovice**	**1.41**	**169**	*e*Pg	**Pn**	**15 38 53.4**	**-1.1**
	baz=352						
PIVO				*e*Sg	**Sg**	**15 39 10.9**	**-1.9**
	40nm,0.3s,baz=352						
PVCC	**Panska Ves**	**1.42**	**224**	*e*PG	**Pb**	**15 38 55.1**	**+0.1**
PVCC				*e*SG	**Sb**	**15 39 13.8**	**+0.1**
	comp=Z,137nm,0.3s						
BRG	**Berggiesshubel**	**1.53**	**244**	Pg	**Pg**	**15 38 57.6**	**+0.7**
BRG				Sg	**Sb**	**15 39 17.7**	**+1.0**
BRG				Amp		15 39 20.2	
	comp=Z,39nm,0.4s						
KRLC	**Kraliky**	**1.55**	**164**	*e*PG	**Pb**	**15 38 57.1**	**-0.1**
KRLC				*e*SG	**Sn**	**15 39 15.8**	**-1.5**
RYBC	**Ceska Rybna**	**1.76**	**181**	*e*Pn	**Pn**	**15 38 59.2**	**-0.1**
	baz=3.3						
RYBC				*e*Sg	**Sn**	**15 39 22.3**	**-0.1**
	comp=Z,26nm,0.3s,baz=3.3						
GOPC	**GO Pecny, Ondr**	**1.85**	**208**	*e*PG	**Pb**	**15 39 01.8**	**-0.6**
PRU	**Pruhonice**	**1.87**	**213**	*e*PN	**Pn**	**15 39 00.7**	**-0.1**
PRU				*e*PG	**Pb**	**15 39 02.5**	**0.0**
PRU				*e*SG	**Sg**	**15 39 27.2**	**-0.3**
	comp=Z,22nm,0.4s						
STEB	**Steborice**	**1.94**	**146**	*e*PN	**Pn**	**15 39 01.8**	**0.0**
STEB				*e*PG	**Pb**	**15 39 04.0**	**+0.1**
STEB				*e*SG	**Sb**	**15 39 28.8**	**+0.2**
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**15 39 03.0**	**+0.9**
CLL				*e*Pg	**Pg**	**15 39 05.0**	**-0.2**
CLL				*e*Sg	**Sg**	**15 39 31.0**	**+0.4**
	comp=Z,17nm,0.4s						
MORC	**Moravsky Berou**	**2.01**	**153**	*e*SG	**Sn**	**15 39 29.2**	**+0.6**
MORC	**Moravsky Berou**	**2.01**	**153**	*e*Pn	**Pn**	**15 39 02.1**	**-0.7**
	baz=335						
MORC				*e*Sg	**Sn**	**15 39 29.1**	**+0.5**
	comp=Z,32nm,0.6s,baz=335						
MORC	**Moravsky Berou**	**2.01**	**153**	*e*PN	**Pn**	**15 39 02.2**	**-0.6**
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*PG	**Pb**	**15 39 07.8**	**+0.3**
OKC				*e*SG	**Sb**	**15 39 34.7**	**-0.1**
	comp=Z,45nm,0.9s						
VRAC	**Vranov**	**2.28**	**172**	Pn	**Pn**	**15 39 05.4**	**-1.1**
	comp=Z,2.6nm,0.3s,baz=336,slow=14,SNR=11						
VRAC				Lg	Lg	15 39 39.2	
	comp=Z,2.9nm,0.3s,baz=72,slow=23,SNR=11						
	comp=Z,4.7nm,0.4s						
VRAC	**Vranov**	**2.28**	**172**	*e*Pn	**Pn**	**15 39 06.2**	**-0.3**
	baz=354						
VRAC				*e*Sg	**Sb**	**15 39 38.4**	**+0.1**
	comp=Z,12nm,0.5s,baz=354						
TREC	**Trest**	**2.31**	**190**	*e*SG	**Sb**	**15 39 40.0**	**+0.9**
KRUC	**Moravsky**	**2.51**	**176**	*e*SG	**Sb**	**15 39 45.8**	**+0.8**
KRUC	**Moravsky**	**2.51**	**176**	*e*Sg	**Sb**	**15 39 45.7**	**+0.8**
	comp=Z,22nm,0.7s,baz=358						
OJC	**Ojcow**	**2.69**	**119**	*e*Pn	**Pn**	**15 39 12.8**	**+0.6**
OJC				*e*Pg	**Pg**	**15 39 20.8**	**+1.6**
OJC				*e*Sg	**Sg**	**15 39 55.3**	**+1.2**
JAVC	**Velka Javorina**	**2.89**	**159**	*e*Pn	**Pn**	**15 39 14.2**	**-0.7**
	baz=342						
KHC	**Kasperske Hory**	**2.93**	**215**	*e*PN	**Pn**	**15 39 16.3**	**+0.9**
KHC				*e*PG	**Pb**	**15 39 21.4**	**+0.8**
KHC				*e*SN	**Sn**	**15 39 50.6**	**-0.7**
KHC				*e*SG	**Sg**	**15 39 59.9**	**-1.7**
	comp=Z,7.8nm,0.3s						
CKRC	**Cesky Krumlov**	**2.98**	**204**	*e*PN	**Pn**	**15 39 17.0**	**+0.9**
CKRC				*e*PG	**Pb**	**15 39 22.6**	**+1.0**
CKRC				*e*SG	**Sb**	**15 40 00.7**	**+2.2**
	comp=Z,12nm,0.7s						
GERES	**GERESS Array B**	**3.13**	**211**	Pn	**Pn**	**15 39 18.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=27,slow=11,SNR=15						
GERES				Pg	**Pb**	**15 39 25.4**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=31,slow=17,SNR=32						
GERES				Lg	Lg	15 40 05.8	
	comp=Z,0.4nm,0.3s,baz=31,slow=27,SNR=12						
	comp=Z,1.2nm,0.4s						
LANS	**Liptovska Anna**	**3.23**	**137**	*e*PG	**Pg**	**15 39 29.8**	**+0.3**
LANS				*e*SG	**Sg**	**15 40 10.1**	**-1.3**
MODS	**Modra-Piesok**	**3.28**	**166**	*e*PG	**Pb**	**15 39 27.9**	**+1.2**
MODS				*e*SG	**Sg**	**15 40 10.3**	**-2.7**
VYHS	**Vyhne**	**3.54**	**149**	*e*PN	**Pn**	**15 39 24.5**	**+0.7**
VYHS				*e*PG	**Pg**	**15 39 35.3**	**-0.1**
VYHS				*e*SG	**Sg**	**15 40 20.1**	**-1.2**
BSD	**Bornholm Skovb**	**3.63**	**349**	*e*P	**Pn**	**15 39 26.3**	**+1.4**
BSD				*e*S	**Sn**	**15 40 09.5**	**+1.1**
BSD				IAML		15 40 12.5	
	comp=Z,1.2nm,0.2s						
CONA	**Conrad Observa**	**3.64**	**183**	*e*Pn	**Pn**	**15 39 25.8**	**+0.5**
	comp=Z,1.0nm,0.2s						
CONA				*e*Sg	**Sb**	**15 40 20.3**	**+2.6**
	comp=Z,6.6nm,0.4s						
RONA	**Rosalia, Austr**	**3.87**	**178**	*i* Pn	**Pn**	**15 39 28.6**	**+0.3**
	comp=Z,0.3nm,0.2s						
RONA				*i* Sn	**Sn**	**15 40 13.1**	**-1.4**
	comp=Z,1.3nm,0.5s						
MOA	**Molln**	**3.91**	**199**	*i* Pn	**Pn**	**15 39 29.8**	**+0.9**
	comp=Z,1.0nm,0.2s						
MOA				*e*Sg	**Sg**	**15 40 32.4**	**-0.7**
	comp=Z,0.7nm,0.2s						
BIOA	**Bad Ischl, Aus**	**4.20**	**203**	*e*Sg	**Sg**	**15 40 41.8**	**-0.6**
	comp=Z,9.5nm,0.5s						
ARSA	**Arzberg**	**4.34**	**185**	*i* Pn	**Pn**	**15 39 35.5**	**+0.8**
	comp=Z,0.2nm,0.1s						
ARSA				*e*Sg	**Sg**	**15 40 46.9**	**+0.1**
	comp=Z,5.4nm,0.4s						
KOLS	**Kolonicke sedl**	**4.75**	**121**	*e*PG	**Pg**	**15 40 00.5**	**+1.9**
BLEU	**Blekinge**	**4.75**	**358**	*e*P	**Pn**	**15 39 42.2**	**+1.8**
BLEU				*e*S	**Sn**	**15 40 35.1**	**-1.0**
BJUU	**Bjuv**	**4.87**	**339**	*e*P	**Pn**	**15 39 42.7**	**+0.6**
BJUU				*e*S	**Sn**	**15 40 39.1**	**0.0**
DEL	**Delary**	**5.09**	**346**	*e*P	**Pn**	**15 39 45.8**	**+0.7**
DEL				*e*S	**Sn**	**15 40 40.8**	**-3.7**
FABU	**Falkenberg**	**5.80**	**341**	*e*P	**Pn**	**15 39 55.7**	**+1.0**
FABU				*e*S	**Sn**	**15 40 58.8**	**-3.1**
HFS	**Hagfors**	**8.70**	**352**	Pn	**Pn**	**15 40 35.9**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=167,slow=13,SNR=2.2						
	comp=Z,0.5nm,0.5s						
FINES	**FINESS Array B**	**11.31**	**25**	Pn	**Pn**	**15 41 10.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=215,slow=12,SNR=5.4						
	comp=Z,0.4nm,0.3s						
ARCES	**ARCESS Array B**	**18.57**	**10**	Pn	**P**	**15 42 42.7**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=199,slow=13,SNR=4.2						
	comp=Z,0.4nm,0.5s						

IDC 26 15:39:45.8±999.0, 48°.94N×44°.82E, h0km, Error ellipse: s-maj=582.1km s-min=167.1km az=146.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**9.05**	**332**	I	I	16 34 10.0	
	baz=145,slow=318,SNR=8.0						
I26DE	**FREYUNG INFRAS**	**20.39**	**282**	I	I	17 40 20.0	
	baz=78,slow=305,SNR=1.2						
I37NO	**I37NO**	**23.92**	**337**	I	I	18 06 20.0	
	baz=137,slow=322,SNR=1.3						

*IDC **26** 15:47:10.8±1.2, 30°.23S×179°.58W, h356km±11km, mb3.6/9, mbtmp4.4/10, Error ellipse: s-maj=16.1km s-min=15.2km az=80.0*
*NEIC **26** 15:47:11.3±2.0, 30°.4S±0°.1×179°.5W±0°.2, h362km±4km, mb4.1/20, Error ellipse: s-maj=24.0km s-min=14.5km az=113.0*

ISC 26 15:47:09.8±0.5, 30°.44S±0°.06×179°.55W±0°.08, h350km, n144, σ1§61/150, mb4.0/19, 4C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.83**	**51**	P	**Pn**	**15 48 01.7**	**+1.7**
GLKZ				S	**S**	**15 48 40.8**	**+0.6**
RIZ	**Raoul Island**	**1.84**	**50**	P	**Pn**	**15 48 01.6**	**+1.5**
RAO	**Raoul Island**	**1.84**	**51**	Pn	**Pn**	**15 48 01.9**	**+1.9**
RAO				Sn	**S**	**15 48 39.6**	**-0.7**
RAO	**Raoul Island**	**1.84**	**51**	P	**Pn**	**15 48 00.7**	**+0.7**
	326nm,0.4s,baz=32,slow=17,SNR=7.7						
RAO				S	**S**	**15 48 39.6**	**-0.7**
	619nm,0.3s,baz=293,slow=22,SNR=15						
MXZ	**Matakaoa Point**	**7.33**	**194**	Pn	**Pn**	**15 48 59.1**	**+3.3**
MXZ	**Matakaoa Point**	**7.33**	**194**	S	**S**	**15 50 18.4**	**-3.8**
KUZ	**Kuaotunu**	**7.43**	**211**	P	**Pn**	**15 49 01.6**	**+4.5**
OUZ	**Omahuta**	**7.49**	**229**	P	Pn	15 49 02.8	+5.1
WCZ	**Waipu Caves**	**7.50**	**221**	P	Pn	15 49 03.6	+5.7
HAZ	**Te Kaha**	**7.63**	**196**	P	**Pn**	**15 48 59.6**	**+0.2**
HAZ				S	**S**	**15 50 27.7**	**-1.0**
PKGZ	**Pakihiroa**	**7.67**	**194**	P	**Pn**	**15 48 59.9**	**0.0**
PKGZ				S	**S**	**15 50 27.0**	**-2.6**
PUZ	**Puketiti**	**7.83**	**193**	P	**Pn**	**15 49 02.0**	**+0.2**
PUZ				S	**S**	**15 50 29.5**	**-3.6**
RUGZ	**Raukumara Rang**	**7.85**	**196**	P	**Pn**	**15 49 02.2**	**0.0**
RUGZ				S	**S**	**15 50 30.5**	**-3.3**
TWGZ	**Tauwhareparae**	**7.99**	**194**	P	**Pn**	**15 49 04.2**	**+0.5**
TWGZ				S	**S**	**15 50 34.4**	**-2.2**
OPRZ	**Ohinepanea**	**8.06**	**203**	P	**Pn**	**15 49 07.0**	**+2.4**
MARZ	**Manawahe**	**8.15**	**202**	P	**P**	**15 49 10.2**	**+1.6**
CNGZ	**Carnagh Statio**	**8.24**	**192**	P	**Pn**	**15 49 07.2**	**+0.6**
MWZ	**Matawai**	**8.24**	**196**	P	**Pn**	**15 49 06.3**	**-0.4**
MWZ				S	**S**	**15 50 39.7**	**-2.4**
TKGZ	**Te Karaka**	**8.27**	**194**	P	**Pn**	**15 49 05.8**	**-1.1**
URZ	**Urewera**	**8.28**	**199**	P	**Pn**	**15 49

NGZ	Ngauruhoe	9.59	203	P	Pn	15 49 24.1	+1.3
COVZ	Chateau Observ	9.63	203	P	Pn	15 49 24.8	+1.5
MAVZ	Matarangi	9.68	203	P	Pn	15 49 24.6	+0.5
TRVZ	Turoa	9.71	203	P	Pn	15 49 25.0	+0.6
KRHZ	Kereru	9.78	199	P	Pn	15 49 23.9	-1.0
PKVZ	Pokaka	9.78	204	P	Pn	15 49 27.2	+2.3
KAHZ	Kahuranaki	9.78	196	P	Pn	15 49 24.0	-1.1
PXZ	Pawanui	10.01	196	P	Pn	15 49 27.4	-0.3
WPHZ	Waipukurau	10.15	198	P	Pn	15 49 30.7	+1.3
PRHZ	Porangahau	10.29	197	P	Pn	15 49 31.1	+0.1
ANWZ	Angora Road	10.51	197	P	Pn	15 49 33.4	-0.3
POWZ	Post Office Ro	10.64	200	P	Pn	15 49 34.7	-0.6
PRWZ	Pori Road	10.73	199	P	Pn	15 49 36.0	-0.3
MRZ	Mangatainoka R	10.95	200		Pn	15 49 39.8	+1.0
TRWZ	Traveller	11.60	198	P	Pn	15 49 46.9	+0.3
MSWZ	Moikau Station	11.74	200	P	Pn	15 49 46.1	-2.1
BHW	Baring Head	11.84	201	P	P	15 49 49.6	+0.1
TCW	Tory Channel	11.86	203	P	P	15 49 45.1	-4.5
TUWZ	Tuamarina	12.17	204		P	15 49 50.1	-3.0
NNZ	Nelson	12.19	206		P	15 49 50.8	-2.5
TKNZ	Takaka Hill	12.20	208	P	P	15 49 51.5	-1.9
QRZ	Quartz Range	12.20	210	P	P	15 49 54.2	+0.7
BSWZ	Blackbirch Sta	12.44	203	P	P	15 49 54.5	-1.7
MRNZ	Matariki Terra	12.59	208	P	P	15 49 55.7	-2.1
MSVF	Nonsavu	12.84	350	P	P	15 49 58.4	-2.4
THZ	Tophouse	12.84	206		P	15 49 57.6	-2.9
KHZ	Kahutara	13.18	203	P	P	15 50 05.5	+1.2
INZ	Inchbonnie	14.23	208	P	P	15 50 14.8	-1.0
MQZ	McQueen's Vall	14.62	203	P	P	15 50 19.4	-0.7
DZM	Mont Dzumac	15.07	300	P	P	15 50 26.4	+1.1
	9.8nm,0.8s,baz=178,slow=14,SNR=11						
RPZ	Rata Peaks	15.21	207	S	S	15 53 07.2	-2.6
	7.7nm,0.4s,baz=293,slow=19,SNR=14						
EIDS	Eidsvold	26.40	274	P	P	15 52 17.4	+1.8
EIDS				IAmb	IAmb	15 52 18.9	
	comp=Z,4.6nm,0.8s						
CTAO	Charters Tower	32.49	280	P	P	15 53 11.0	+1.9
CTAO				IAmb	IAmb	15 53 12.2	
	comp=Z,6.1nm,0.8s						
STKA	Stephens Creek	33.17	257	P	P	15 53 15.9	+1.2
STKA	Stephens Creek	33.17	257	P	P	15 53 16.1	+1.3
	comp=Z,5.3nm,0.8s,baz=81,slow=9.5,SNR=11						
	comp=Z,5.3nm,0.8s						
BBOO	Buckleboo	37.67	255	P	P	15 53 52.9	+0.1
BBOO				IAmb	IAmb	15 54 27.6	
	comp=Z,30nm,1.4s						
AS31	Alice Springs	41.77	268	P	P	15 54 25.4	-1.0
ASAR	Alice Springs	41.77	268	P	P	15 54 25.3	-1.0
ASAR	Alice Springs	41.77	268	P	P	15 54 26.1	-0.3
	comp=Z,1.6nm,0.5s,baz=106,slow=7.4,SNR=50						
ASAR				PcP	sP	15 56 15.6	+2.2
	comp=Z,0.7nm,0.8s,baz=98,slow=5.0,SNR=4.4						
ASAR				ScP	ScP	15 59 31.1	-0.4
	comp=Z,1.5nm,0.8s,baz=114,slow=3.8,SNR=11						
ASAR				S	S	16 00 16.5	-0.6
	comp=Z,0.5nm,0.9s,baz=98,slow=15,SNR=4.0						
	comp=Z,1.6nm,0.5s						
WR8	Warramunga Arr	42.62	273	P	P	15 54 33.0	-0.2
WRAB	Tennant Creek	42.76	273	P	P	15 54 31.9	-2.3
WRA	Warramunga Arr	42.77	273	P	P	15 54 33.4	-0.9
WRA	Warramunga Arr	42.77	273	P	P	15 54 34.0	-0.3
	comp=Z,3.1nm,0.4s,baz=111,slow=8.1,SNR=64						
WRA				ScP	ScP	15 59 34.6	-0.8
	comp=Z,1.2nm,1.0s,baz=102,slow=4.3,SNR=4.6						
WRA				S	S	16 00 27.8	-3.8
	comp=Z,1.4nm,0.7s,baz=109,slow=15,SNR=7.0						
	comp=Z,3.1nm,0.4s						
WB0	Warramunga Arr	42.79	273	P	P	15 54 34.2	-0.3
WB0				IAmb	IAmb	15 54 36.2	
	comp=Z,6.8nm,0.8s						
MTN	Manton Dam	48.67	280	P	P	15 55 19.2	-0.9
MTN				IAmb	IAmb	15 55 49.0	
	comp=Z,14nm,1.2s						
KNRA	Kununurra	49.38	275	P	P	15 55 25.5	+0.1
KNRA				IAmb	IAmb	15 55 28.7	
	comp=Z,4.6nm,0.8s						
FITZ	Fitzroy Crossi	51.02	271	P	P	15 55 37.3	-0.3
MORW	Morawa	55.24	254	P	P	15 56 06.2	-1.6
MORW				IAmb	IAmb	15 56 25.9	
	comp=Z,8.8nm,1.1s						
QSPA	South Pole Qui	59.67	180	P	P	15 56 39.6	+1.5
QSPA				IAmb	IAmb	15 56 41.9	
	comp=Z,7.3nm,0.8s						
QSPA	South Pole Qui	59.67	180	P	P	15 56 40.7	+2.7
	comp=Z,5.9nm,0.6s,baz=317,slow=0.6,SNR=54						
	comp=Z,5.9nm,0.6s						
BELA	Belgrano 2	69.92	173	P	P	15 57 44.1	+0.8
BELA				IAmb	IAmb	15 57 45.2	
	comp=Z,3.1nm,0.7s						
JOW	Kunigami	75.70	313	P	P	15 58 16.3	-1.3
MJAR	Matsushiro Arr	77.52	326	P	P	15 58 25.4	-2.1
	comp=Z,3.0nm,0.9s,baz=162,slow=7.5,SNR=4.1						
	comp=Z,3.0nm,0.9s						
TROLL	Troll, Antarti	77.83	181	⇑P	P	15 58 30.4	+1.5
	comp=Z,246nm,0.6s						
SNAA	Sanae	78.15	179	⇑P	P	15 58 31.7	+1.2
	comp=Z,28nm,0.5s						
SNAA	Sanae	78.15	179	P	P	15 58 31.2	+0.7
SNAA				IAmb	IAmb	15 58 48.0	
	comp=Z,5.1nm,1.4s						
SNAA	Sanae	78.15	179	P	P	15 58 31.2	+0.7
	comp=Z,0.7nm,0.4s,baz=213,slow=8.4,SNR=13						
	comp=Z,0.7nm,0.4s						
VNA3	Neumayer Olymp	78.35	177	⇑P	P	15 58 32.8	+1.1
	comp=Z,9.3nm,0.6s						
VNA1	Neumayer--Stat	79.01	177	⇑P	P	15 58 36.7	+1.6
	comp=Z,8.2nm,1.0s						
ADK	Adak	82.00	2	P	P	15 58 50.7	-0.2
KSRS	Korea Array	83.52	321	P	P	15 58 59.3	+0.3
	comp=Z,1.7nm,0.8s,baz=153,slow=6.3,SNR=9.4						
	comp=Z,1.7nm,0.8s						
KSAR	Wonju Array Be	83.53	320	P	P	15 58 58.2	-0.9
PET	Petropavlovsk	85.26	347	P	P	15 59 07.2	-0.1
PEA0B	Petropavlovsk-	85.53	346	P	P	15 59 08.8	+0.2
PETK	Petropavlovsk-	85.53	346	P	P	15 59 09.2	+0.6
	comp=Z,3.7nm,0.6s,baz=116,slow=7.0,SNR=9.8						
	comp=Z,3.7nm,0.6s						
NVAR	Mina Array Bea	89.18	44	P	P	15 59 27.2	+0.6
	comp=Z,0.9nm,0.8s,baz=208,slow=8.6,SNR=4.6						
	comp=Z,0.9nm,0.8s						
MKAR	Makanchi Array	116.78	310	PKP	PKPdf	16 05 11.8	-0.9
	comp=Z,0.7nm,0.6s,baz=220,slow=1.3,SNR=5.4						
KURBB	Kurchatov Arra	120.15	314	PKP	PKPdf	16 05 17.6	-1.3
	comp=Z,2.4nm,0.6s,baz=117,slow=1.8,SNR=15						
KKAR	Karatay Array	123.98	304		PKPdf	16 05 26.5	-0.2
BVAR	Borovoye Array	125.50	316	PKP	PKPdf	16 05 28.8	-0.4
	comp=Z,2.8nm,0.7s,baz=75,slow=1.7,SNR=15						
ARTI	Arti	132.37	320	PKP	PKPdf	16 05 41.8	-0.3
	comp=Z,0.8nm,0.3s,baz=125,slow=5.9,SNR=3.4						
ARCES	ARCESS Array B	138.33	347	PKhKP	PKPpre	16 05 45.4	
	comp=Z,1.1nm,0.5s,baz=23,slow=2.0,SNR=8.7						
ARCES				SKPbc	SKPbc	16 08 51.8	-1.7
	comp=Z,5.8nm,1.1s,baz=18,slow=4.2,SNR=3.7						
BELG	Belogornoye	139.30	316	PKP	PKPdf	16 05 56.5	+1.4
	comp=Z,14nm,0.5s,baz=63,slow=9.9,SNR=4.9						
KBZ	Khabaz	144.02	304	PKP	PKPab	16 06 02.9	+0.6
	comp=Z,2.8nm,0.7s,baz=146,slow=2.3,SNR=4.3						
FIA1	FINESS Array S	144.71	339		PKPbc	16 06 03.8	-0.5
FINES	FINESS Array B	144.71	339	PKP	PKPbc	16 06 03.6	-0.6
	comp=Z,32nm,0.8s,baz=54,slow=3.6,SNR=186						
NC303	NORSAR Array S	148.37	350		PKPbc	16 06 14.6	0.0
NB2	NORSAR Subarra	148.57	350	PKP	PKPbc	16 06 14.5	-0.6
	comp=Z,4.4nm,0.6s,baz=17,slow=4.1						
NOA	NORSAR Array B	148.57	350	PKPbc	PKPbc	16 06 14.6	-0.5
	comp=Z,5.3nm,0.7s,baz=16,slow=4.2,SNR=33						
HFS	Hagfors	149.00	347	PKPbc	PKPbc	16 06 15.5	-0.7
	comp=Z,6.7nm,0.6s,baz=98,slow=3.0,SNR=30						
KONO	Kongsberg	150.14	351		PKPbc	16 06 18.8	-0.1
MMAI	Mount Meron Ar	150.24	284	PKPbc	PKPbc	16 06 20.9	+0.8
	comp=Z,4.8nm,0.5s,baz=81,slow=5.2,SNR=10						
AKASG	Malin Array Be	150.51	322		PKPbc	16 06 20.5	+0.4
AKASG	Malin Array Be	150.51	322	PKPbc	PKPbc	16 06 19.7	-0.3
	comp=Z,6.8nm,0.6s,baz=54,slow=2.6,SNR=39						
KIEV	Kiev	150.52	322		PKPbc	16 06 20.0	0.0
BRTR	Keskin Array B	151.44	298	PKPbc	PKPbc	16 06 22.1	-0.6
	comp=Z,2.0nm,0.6s,baz=123,slow=4.6,SNR=11						
GERES	GERESS Array B	159.03	335	PKPab	PKPab	16 07 03.9	-0.8
	comp=Z,0.2nm,0.4s,baz=46,slow=5.8,SNR=5.3						
TORD	Torodi Ar. Bea	162.76	184	PKPab	PKPab	16 07 22.3	+0.7
	comp=Z,1.7nm,0.7s,baz=170,slow=3.7,SNR=8.0						

*IDC **26** 15:53:36.6±1.6,4°.33N×74°.14W, h0km, mbtmp4.2/1, ML3.0/1, Error ellipse: s-maj=51.3km s-min=10.9km az=74.0*

*RSNC **26** 15:53:40.0±0.0,5°N±1°×7°.5W±°, h-2km±2km, M3.3, ML3.0*

ISC 26 15:53:38.4±1.0,5°.22N±0°.02×74°.47W±0°.02, h11km±9km, n40, σ1§63/72, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	El Rosal	0.41	158	Pg	Pb	15 53 47.9	+0.1
	188nm,0.3s,baz=180,slow=20,SNR=72						
ROSC				Lg	Lg	15 53 53.9	
	334nm,0.3s,baz=73,slow=24,SNR=21						
ROSC	El Rosal	0.41	158	P	Pb	15 53 47.8	0.0
ROSC				S	Sb	15 53 54.2	0.0
NORC	Norcasia	0.52	311	P	Pg	15 53 49.0	+0.4
NORC				S	Sg	15 53 55.7	+0.2
CVER	Cruz Verde, Cu	0.80	150	P	Pn	15 53 56.5	+0.5
CVER				S	Sn	15 54 09.0	+0.9
GUY2C	Guyana, Caldas	0.89	270	P	Pb	15 53 56.3	+0.2
GUY2C				S	Sb	15 54 08.6	+0.5
RECRC	Villamaria, Ca	0.91	254	P	Pg	15 53 56.3	+0.2
RECRC				S	Sg	15 54 08.0	-0.1
NIZA	Niza - Manizal	1.01	261	P	Pb	15 53 57.8	-0.2
NIZA				S	Sb	15 54 11.0	-0.4
CMAN1	Manizales, Cal	1.06	262	P	Pn	15 54 00.4	+1.0
ANIL	Santa Ana	1.18	232	P	Pb	15 54 00.4	-0.5
ANIL				S	Sb	15 54 15.6	-0.7
PTBC	PUERTO BERRIO,	1.31	1	P	Pn	15 54 02.5	-0.1
PTBC				S	Sb	15 54 19.8	-0.1
VILC	Villavicencio,	1.35	145	P	Pg	15 54 05.3	+1.0
VILC				S	Sg	15 54 29.2	+7.4
HELC	Santa Helena	1.43	313	P	Pn	15 54 04.6	+0.1
HELC				S	Sn	15 54 23.4	-0.1
ORTC	Ortega, Tolima	1.51	211	P	Pg	15 54 06.7	-0.8
ORTC				S	Sg	15 54 26.9	-0.2
MEDEC	Medelln, Ant	1.53	313	P	Pg	15 54 09.0	+1.2
MEDEC				S	Sb	15 54 26.8	+0.5
RUSC	La Rusia	1.54	64	P	Pg	15 54 08.1	+0.2
RUSC				S	Sg	15 54 29.1	+1.2
PRAC	Prado	1.55	195	P	Pg	15 54 07.7	-0.5
PRAC				S	Sg	15 54 29.3	+0.9
CBOC	Ciudad Bolivar	1.66	293	P	Pb	15 54 09.3	+0.2
CBOC				S	Sb	15 54 31.0	+0.9
PLMC	San Jos del P	1.83	260	P	Pb	15 54 12.6	+0.7
PLMC				S	Sg	15 54 37.1	-0.2
BARC	Barichara	1.87	43	P	Pg	15 54 14.6	+0.3
BARC				S	Sg	15 54 39.2	+0.5
BRJC	Barrancabermej	1.89	23	P	Pg	15 54 14.3	-0.3
BRJC				S	Sg	15 54 39.1	0.0
URMC	La Uribe, Meta	1.96	177	P	Pb	15 54 14.0	-0.2
URMC				S	Sg	15 54 41.0	-0.5
YOTC	Yotoco, Valle	2.23	237	P	Pb	15 54 18.6	-0.3
YOTC				S	Sb	15 54 47.0	+0.4
ZARC	Zaragoza, Cauc	2.29	350	P	Pb	15 54 18.8	-0.9
ZARC				S	Sb	15 54 47.9	-0.2
DBBC	Dabeiba	2.48	316	P	Pb	15 54 23.5	+0.4
DBBC				S	Sg	15 54 58.5	+0.2
PTGC	Puerto Gaitan,	2.54	113	P	Pg	15 54 26.7	-0.4
PTGC				S	Sg	15 55 00.3	+0.2
BETC	Betania	2.70	201	P	Pb	15 54 27.5	+0.7
BETC				S	Sg	15 55 02.9	-2.3
UREC	San Jos de Ur	2.73	337	P	Pb	15 54 25.8	-1.4
UREC				S	Sb	15 55 01.0	+0.3
PAMC	Pamplona, Colo	2.75	40	P	Pg	15 54 29.4	-1.7
PAMC				S	Sg	15 55 05.1	-1.6
JAMC	Jamundi, Valle	2.96	228	P	Pb	15 54 30.6	-0.8
JAMC				S	Sb	15 55 09.7	+2.0
MALC	Bahia Malaga	3.10	247	P	Pb	15 54 32.8	-0.7
MACC	Macarena, Meta	3.12	168	P	Pb	15 54 34.3	+0.4
MACC				S	Sg	15 55 14.5	-4.1
GARC	Garzon, Huila	3.18	199	P	Pg	15 54 37.5	-1.9
GARC				S	Sb	15 55 09.4	-4.6
OCAC	Ocana	3.21	21	P	Pb	15 54 32.4	-3.1
OCAC				S	Sb	15 55 12.6	-2.1
APAC	Apartado, Choc	3.39	322	P	Pb	15 54 36.1	-2.3
APAC				S	Sb	15 55 20.5	+0.8
POPC	Popayan, Colom	3.45	220	P	Pb	15 54 38.8	-0.9
FLOC	Florencia	3.80	198	P	Pn	15 54 37.9	+1.0
SJCC	San Jacinto, C	4.70	351	P	Pn	15 54 51.2	+1.9
SJCC				S	Sn	15 55 46.7	+2.8
SDV	Santo Domingo	5.27	46	Pn	Pn	15 55 02.1	+4.8
	4.3nm,0.3s,baz=1.3,slow=9.9,SNR=3.3						
SDV				Sn	Sn	15 56 02.0	+3.8
	4.8nm,0.3s,baz=254,slow=22,SNR=5.8						
	9.5nm,0.3s						
ASAR	Alice Springs	147.09	233	PKPbc	PKPbc	16 13 20.9	-1.4
	0.4nm,0.8s,baz=115,slow=3.9,SNR=9.6						
WRA	Warramunga Arr	148.38	240	PKPbc	PKPbc	16 13 24.4	-1.6
	0.2nm,0.7s,baz=109,slow=3.0,SNR=11						

IDC 26 16:21:38.1±6.4,4.72N×93.90E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=317.9km s-min=23.1km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	43.10	348	P	P	16 29 40.6	+0.5
	0.3nm,0.6s,baz=161,slow=8.0,SNR=2.8						
	0.3nm,0.6s						
WRA	Warramunga Arr	46.69	123	P	P	16 30 09.0	-0.1
	0.2nm,0.7s,baz=300,slow=8.3,SNR=2.2						
	0.2nm,0.7s						
KURBB	Kurchatov Arra	47.53	347	P	P	16 30 14.9	-0.3
	0.6nm,0.7s,baz=168,slow=7.8,SNR=4.2						
	0.6nm,0.7s						
ASAR	Alice Springs	48.14	128	P	P	16 30 20.2	-0.1
	0.1nm,0.4s,baz=301,slow=7.9,SNR=12						
	0.1nm,0.4s						
ZALV	Zalesovo Beam	49.63	353	P	P	16 30 30.7	-0.6
	0.6nm,0.4s,baz=157,slow=8.0,SNR=3.8						
	0.6nm,0.4s						

*THE **26** 16:31:34.3,40°N±23°×2°0E±3°,9, h14km±17km, M2.6/8, MLh2.6/8*
*TIR **26** 16:31:35.1,40°.27N×19°.79E, h43km±1km, Md2.9/10, Ml3.3/3*
*ATH **26** 16:31:35.7±0.3,40°.28N×19°.75E, h10km, ML2.8/13, Manual Solution by N.Liadopoulou First location: 2019/07/26 16:33:01, This location: 2020/07/03 05:02:27 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 2 km*

ISC 26 16:31:35.4±1.2,40°.29N±0°.03×19°.76E±0°.03, h14km±10km, n40, σ0§72/52, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRN	Sarande	0.45	155	Pg	Pg	16 31 43.7	-0.6
SRN				Sg	Sb	16 31 51.9	+0.3
SRN				AMd		16 32 46.3	
KEK	Kerkira	0.57	177	Pg	Pb	16 31 47.6	+0.3
KEK				Sg	Sn	16 31 57.0	-1.4
KEK				AML	AML	16 32 05.9	
	6µm,0.3s						
KEK				AMd		16 32 56.1	
KEK	Kerkira	0.57	177	P	Pn	16 31 48.8	-0.4
KBN	Korca	0.86	66	Pg	Pg	16 31 51.4	-0.7
KBN				Sg	Sb	16 32 03.6	+0.1
KBN				AMd		16 33 00.4	
IGT	Igoumenitsa	0.87	149	Pg	Pg	16 31 51.9	-0.5
IGT				Sg	Sn	16 32 04.7	-1.0
IGT				AMd		16 33 09.2	
IGT	Igoumenitsa	0.87	149	P	Pg	16 31 51.5	-0.9
IGT	Igoumenitsa	0.87	149	P	Pg	16 31 51.7	-0.7
IGT				S	Sn	16 32 04.9	-0.9
NEST	Nestorio	1.00	82	Pg	Pb	16 31 54.0	-0.5
NEST				Sg	Sg	16 32 08.2	+0.4
NEST				AML	AML	16 32 16.3	
	0.6nm,0.4s						
NEST				AMd		16 33 07.9	
NEST	Nestorio	1.00	82	P	Pn	16 31 55.1	0.0
NEST	Nestorio	1.00	82	P	Pg	16 31 54.7	0.0
SCTE	Santa Cesarea	1.01	258	Pg	Pn	16 31 55.0	-0.1
SCTE				Sg	Sn	16 32 09.8	+0.7
SCTE				AML	AML	16 32 14.8	
	2.9nm,0.4s						
SCTE				AMd		16 33 02.1	
SCTE	Santa Cesarea	1.01	258	P	Pn	16 31 55.0	-0.1
SCTE				S	Sn	16 32 08.8	-0.3
JAN	Janina	1.05	126	P	Pn	16 31 55.5	-0.2
PENT	Pentalofos	1.06	94	P	Pb	16 31 55.4	-0.2
OHR	Ohrid	1.14	44	*i* Pn	Pg	16 31 57.8	+0.3
FNA	Florina	1.33	68	Pg	Pn	16 31 59.5	-0.2
FNA				Sg	Sn	16 32 17.6	+0.4
FNA				AMd		16 33 03.2	
MESG	Mesagne	1.49	282	P	Pb	16 32 02.0	-0.8
PHP	Peshkopia	1.49	20	Pn	Pn	16 32 01.8	-0.1
PHP				AMd		16 33 14.9	
TETR	Tetrakomo, Epi	1.50	128	P	Pb	16 32 03.0	-0.1
TSLK	Tsoukalades, L	1.62	154	P	Pb	16 32 05.1	+0.1
TSLK				S	Sg	16 32 29.2	+1.7
TSLK	Tsoukalades, L	1.62	154	P	Pn	16 32 03.4	-0.1
LKD2	Lefkada island	1.65	155	Pn	Pn	16 32 04.1	+0.1
LKD2				AMd		16 33 29.9	
LKD2	Lefkada island	1.65	155	P	Pb	16 32 05.2	-0.4
LKD2				S	Sg	16 32 29.0	+0.5
LKD2	Lefkada island	1.65	155	P	Pn	16 32 04.0	+0.1
NYDR	Nydri-Lefkada	1.73	155	P	Pb	16 32 06.3	-0.7
NYDR				S	Sg	16 32 31.1	-0.1
PUK	Puka	1.76	3	Pn	Pn	16 32 05.9	+0.4
PUK				AMd		16 33 16.8	
AMPL	Ampelaki	1.77	140	P	Pb	16 32 07.9	+0.3
FSK	Fiskardo	1.93	161	P	Pn	16 32 08.4	+0.7
FSK	Fiskardo	1.93	161	P	Pn	16 32 07.7	-0.1
NOCI	Noci	2.11	285	P	Pn	16 32 10.8	+0.4
MAKR	Makrakomi, Fth	2.23	124	P	Pn	16 32 12.5	+0.5
VAY	Valandovo	2.37	63	*i* Pn	Pg	16 32 20.1	-0.8
ANX	Ano Chora	2.38	135	P	Pn	16 32 14.8	+0.7
AXS	Araxos	2.44	148	P	Pn	16 32 16.2	+1.4
EFP	Efpalio	2.50	137	P	Pn	16 32 17.1	+1.5
TIP	Timpagrande	2.56	245	P	Pn	16 32 17.3	+0.7
SERG	Sergoula	2.58	136	P	Pn	16 32 18.3	+1.4
KALE	Kalithea	2.65	135	P	Pn	16 32 18.9	+1.2
CUC	Castrocucco	3.03	266	P	Pn	16 32 24.2	+1.1
GUR	Goura	3.09	139	P	Pn	16 32 24.6	+0.7

*IDC **26** 16:54:37.0±5.0,33°.59N×71°.82E, h0km, mb3.7/5, mbtmp3.7/10, ML3.6/5, MS3.0/4, Error ellipse: s-maj=87.7km s-min=31.7km az=144.0*

ISC 26 16:54:42.2±2.3,33°.6N±0°.2×71°.6E±0°.2, h35km, n15, σ1§42/16, mb3.7/5, 1C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	Ala-Archa	9.32	14	⇓P	Pn	16 56 54.9	+0.7
	1.3nm,0.5s						
AAK				⇓S	Sn	16 58 39.7	+1.9
	2.3nm,0.8s						
AAK	Ala-Archa	9.32	14	Pn	Pn	16 56 52.9	-1.3
	1.8nm,0.3s,baz=208,slow=8.9,SNR=4.0						
AAK				Sn	Sn	16 58 39.9	+2.0
	0.3nm,0.3s,baz=359,slow=23,SNR=4.6						
AAK				LR	LR	17 01 02.4	
	comp=Z,31nm,21.1s,baz=206,slow=42						
	3.5nm,0.4s						
KK31	Karatay Array	9.53	355	⇑P	Pn	16 56 56.8	-0.1
	1.2nm,0.3s,baz=177,slow=13						
KK31				⇓S	Sn	16 58 41.3	-1.5
	6.3nm,0.8s,baz=178,slow=23						
MKAR	Makanchi Array	15.51	29	Pn	Pn	16 58 16.8	-1.4
	0.2nm,0.3s,baz=202,slow=12,SNR=5.9						
MKAR				LR	LR	17 04 47.2	
	comp=Z,41nm,21.3s,baz=214,slow=40						
	0.2nm,0.3s						
KURBB	Kurchatov Arra	17.77	15	P	Pn	16 58 45.4	-1.3
	0.2nm,0.3s,baz=208,slow=10,SNR=9.1						
	1.9nm,0.8s						
BVAR	Borovoye Array	19.44	358	P	P	16 59 05.4	-0.1
	baz=174,slow=9.1,SNR=7.4						
	0.9nm,0.5s						
AKTO	Aktyubinsk	19.55	333	P	Pn	16 59 07.4	-0.8
	0.5nm,0.3s,baz=144,slow=8.0,SNR=7.5						
	1.9nm,0.5s						
ZALV	Zalesovo Beam	22.42	21	P	P	16 59 36.4	-1.2
	3.5nm,0.5s,baz=213,slow=11,SNR=19						
	3.5nm,0.5s						
BELG	Belogornoye	25.48	325	LR	LR	17 12 45.1	
	comp=Z,30nm,18.4s,baz=209,slow=42						
FINES	FINESS Array B	40.16	328	P	P	17 02 15.7	+1.1
	0.3nm,0.6s,baz=100,slow=7.9,SNR=1.2						
	0.3nm,0.6s						
ARCES	ARCESS Array B	44.01	339	P	P	17 02 45.9	+0.1
	1.5nm,0.7s,baz=93,slow=6.2,SNR=5.5						
	1.5nm,0.7s						
HFS	Hagfors	45.65	324	P	P	17 03 00.1	+1.0
	0.4nm,0.4s,baz=97,slow=12,SNR=6.9						
	0.4nm,0.4s						
NB2	NORSAR Subarra	46.99	325	P	P	17 03 11.8	+2.2
	comp=Z,0.4nm,0.5s,baz=101,slow=7.9						
NOA	NORSAR Array B	46.99	325	P	P	17 03 10.7	+1.1
	comp=Z,0.2nm,0.5s,baz=99,slow=7.7,SNR=4.3						
	comp=Z,0.2nm,0.5s						
MA2	Magadan	56.39	37	LR	LR	17 32 11.9	
	comp

JAGI **Jajag, Banyuwa** 6.85 262 P P 17 00 51.7 -0.6
JAGI **Jajag, Banyuwa** 6.85 262 P P 17 00 51.4 -0.9
KMMI **Kalianget** 7.00 273 P P 17 00 55.3 +1.6
1.0nm284nm,1.1s
SANI **Sanana** 7.37 43 P P 17 00 57.8 +0.7
SANI **Sanana** 7.37 43 P P 17 00 57.8 +0.7
NLAI **Namlea** 7.41 55 P P 17 00 58.9 +1.3
BKB **Balikpapan** 7.45 326 P P 17 00 59.5 +1.6
0.8nm192nm,0.8s
GMJI **Gumukmas** 7.53 264 P P 17 00 57.5 -1.1
1.3nm7µm259nm,0.8s
MPSI **Mapaga** 7.89 352 P P 17 01 03.7 +1.6
9µm1µm,0.8s
MRSI **Marisa** 8.01 7 P P 17 01 03.9 +0.7
9µm1µm,0.8s
AAI **Ambon** 8.11 62 P P 17 01 03.5 -0.7
16µm850nm,0.6s
BWJI **Bawean** 8.46 281 P P 17 01 07.8 +0.3
6µm740nm,1.1s
GRJI **Gresik** 8.48 274 P P 17 01 07.6 -0.2
KMSI **Cibinong** 8.58 20 P P 17 01 10.0 +1.2
TOLI2 **Tolitoli** 8.59 359 P 17 01 09.1 +0.2
TOLI2 **Tolitoli** 8.59 359 P P 17 01 09.0 +0.2
MSAI **Masohi** 8.91 63 P P 17 01 09.7 -2.3
11µm411nm,0.5s
TBJI **Tambak Boyo** 9.11 274 P P 17 01 14.1 +0.1
476nm,0.7s
BNDI **Bandanaira** 9.34 72 P P 17 01 16.2 0.0
BNDI **Bandanaira** 9.34 72 P P 17 01 15.8 -0.4
12µm1µm,0.8s
NGJI **Ngawi** 9.46 270 P P 17 01 18.3 +0.9
175nm,0.8s
PCJI **Pacitan** 9.76 265 P P 17 01 19.4 -1.0
9µm482nm,0.4s
WOJI **Wonogiri, Jawa** 10.00 268 P P 17 01 22.0 -0.7
5µm465nm,0.8s
SAUI **Saumlaki** 10.21 93 P 17 01 23.7 -1.2
SAUI **Saumlaki** 10.21 93 P P 17 01 24.9 0.0
SAUI **Saumlaki** 10.21 93 P P 17 01 24.5 -0.4
UGM **Wanagama** 10.39 267 P 17 01 26.2 -0.6
UGM **Wanagama** 10.39 267 P P 17 01 26.4 -0.4
UGM **Wanagama** 10.39 267 P P 17 01 25.9 -0.9
4µm353nm,0.7s
TNTI **Ternate** 10.40 38 P 17 01 25.9 -0.9
TNTI **Ternate** 10.40 38 P P 17 01 26.7 -0.1
TNTI **Ternate** 10.40 38 P P 17 01 25.9 -0.9
3µm229nm,0.6s
SMRI **Semarang** 10.49 272 P 17 01 27.1 -0.6
SMRI **Semarang** 10.49 272 P P 17 01 28.6 +0.9
SMRI **Semarang** 10.49 272 P P 17 01 27.5 -0.2
198nm,0.6s
KNRA **Kununurra** 11.10 138 P 17 01 34.1 +0.3
KNRA **Kununurra** 11.10 138 P P 17 01 34.1 +0.3
comp=Z,222nm,0.8s
MTN **Manton Dam** 11.28 119 P 17 01 35.7 +0.1
MTN **Manton Dam** 11.28 119 P P 17 01 35.6 -0.1
comp=Z,237nm,0.5s
MTN **Manton Dam** 11.28 119 P P 17 01 35.9 +0.3
FITZ **Fitzroy Crossi** 11.44 157 P P 17 01 37.7 +0.6
comp=Z,44nm,0.8s
FITZ **Fitzroy Crossi** 11.44 157 P P 17 01 37.7 +0.6
comp=Z,105nm,0.5s,baz=358,slow=9.6,SNR=1044
FITZ S S 17 03 43.1 +0.2
comp=Z,53nm,0.8s,baz=332,slow=20,SNR=7.6
FITZ **Fitzroy Crossi** 11.44 157 P P 17 01 37.7 +0.6
SGSI **Sangihe** 12.02 22 P P 17 01 41.9 -1.3
comp=Z,8µmcomp=Z,752nm,1.0s
FAKI **Fak Fak** 12.10 68 P 17 01 42.1 -1.9
FAKI **Fak Fak** 12.10 68 P P 17 01 42.4 -1.6
FAKI **Fak Fak** 12.10 68 P P 17 01 42.1 -1.9
comp=Z,5µmcomp=Z,595nm,0.9s
STKI **Sintang** 12.13 308 P P 17 01 45.5 +1.2
comp=Z,81nm,0.8s
SWI **Sorong** 12.18 58 P P 17 01 43.7 -1.1
comp=Z,7µmcomp=Z,843nm,1.0s
KDU **Kakadu** 12.40 115 P P 17 01 46.4 -0.6
comp=Z,83nm,0.7s
KDU **Kakadu** 12.40 115 P P 17 01 46.4 -0.6
CMJI **Cimerak** 12.45 268 P P 17 01 45.5 -2.0
comp=Z,5µmcomp=Z,437nm,0.8s
JCJI **Jatiwangi** 12.68 274 P P 17 01 49.7 -0.2
comp=Z,8µmcomp=Z,129nm,0.4s
KMPI **Kaimana, Papua** 13.21 74 P P 17 01 55.1 -0.2
SBUM **Sibu** 13.23 318 P P 17 01 56.5 +1.0
SBUM **Sibu** 13.23 318 P P 17 01 56.8 +1.2
BBJI **Bungbulang** 13.24 269 P P 17 01 54.4 -1.3
LEM **Lembang** 13.30 272 P P 17 01 55.9 -0.6
comp=Z,91nm,0.8s,baz=68,slow=9.9,SNR=24
LEM S S 17 04 09.8 -8.1
comp=Z,56nm,0.6s,baz=145,slow=14,SNR=3.6
LEM **Lembang** 13.30 272 P P 17 01 55.9 -0.6
comp=Z,99nm,0.7s
MBWA **Marble Bar** 13.61 185 P P 17 01 59.2 -0.1
MBWA **Marble Bar** 13.61 185 P P 17 01 59.3 +0.1
comp=Z,161nm,0.4s
MBWA **Marble Bar** 13.61 185 P P 17 01 59.4 +0.1
MBWA **Marble Bar** 13.61 185 P P 17 01 59.2 -0.1
CNJI **Cibinong** 13.76 270 P P 17 01 59.1 -1.9
comp=Z,2µmcomp=Z,178nm,1.0s
KSM **Kuching** 13.92 310 P P 17 02 03.3 +0.7
KSM **Kuching** 13.92 310 P P 17 02 04.7 +2.1
PSAC1 **Pilbara Seismi** 13.97 185 P P 17 02 03.0 +0.1
comp=Z,159nm,0.5s
PSA00 **Pilbara Seismi** 14.01 184 P P 17 02 03.3 0.0
PSA00 **Pilbara Seismi** 14.01 184 P P 17 02 03.0 -0.3
PSA00 **Pilbara Seismi** 14.01 184 P P 17 02 03.4 0.0
comp=Z,191nm,0.5s
PSA00 **Pilbara Seismi** 14.01 184 P P 17 02 03.4 0.0
TPI **Tanjungpandan** 14.11 289 P P 17 02 04.9 +0.4
comp=Z,95nm,0.7s
DBJI **Dramaga** 14.18 273 P P 17 02 04.2 -1.0
comp=Z,101nm,0.6s
KKM **Kota Kinabalu** 14.30 340 P P 17 02 06.0 -0.4
KKM **Kota Kinabalu** 14.30 340 P P 17 02 06.4 0.0
SKJI **Sukabumi** 14.34 271 P P 17 02 04.6 -2.1
comp=Z,3µmcomp=Z,247nm,0.5s
RKPI **Ransiki, Papua** 14.42 66 P P 17 02 07.3 -0.2
DAV **Davao City (W)** 15.20 18 P P 17 02 13.2 -1.6
DAV S S 17 04 49.3 -1.3
CGJI **Cibinong** 15.22 272 P P 17 02 13.2 -1.8
comp=Z,4µmcomp=Z,226nm,0.5s
XMI **Christmas Isla** 15.40 258 P P 17 02 17.1 +0.4
PPBI **Pangkal Pinang** 15.74 289 P P 17 02 21.8 +1.9
SRPI **Serui, Papua** 16.19 70 P P 17 02 24.6 +0.6
comp=Z,4µmcomp=Z,440nm,0.8s
BAKI **Biak** 16.32 68 P P 17 02 26.7 +1.5
comp=Z,2µmcomp=Z,282nm,0.7s
GIRL **Giralia** 16.38 203 P P 17 02 27.8 +2.2
GIRL **Giralia** 16.38 203 P P 17 02 27.6 +2.0
comp=Z,82nm,0.5s
KASI **Kota Agung** 16.52 276 P P 17 02 24.9 -2.2
comp=Z,54nm,0.9s
MDSI **Maura Dua** 17.00 279 P P 17 02 30.8 -0.6
LWLI **Liwa** 17.03 277 P P 17 02 30.8 -1.0
comp=Z,59nm,0.8s
LHSI **Lahat** 17.78 281 P P 17 02 39.7 +1.2
DSRI **Dabo** 17.81 292 P P 17 02 39.9 +1.1
WRA **Warramunga Arr** 17.87 135 P P 17 02 39.6 +0.3
WRA **Warramunga Arr** 17.87 135 P P 17 02 39.9 +0.6
comp=Z,17nm,0.4s,baz=315,slow=10,SNR=313
WRA S S 17 05 31.8 -2.4
comp=Z,9.2nm,0.9s,baz=311,slow=16,SNR=6.9
WRA ScP ScP 17 09 23.2 -0.7
comp=Z,4.0nm,0.5s,baz=320,slow=2.4,SNR=6.0
WRA PKiKP PKiKP 17 14 33.3 -1.5
comp=Z,0.4nm,0.7s,baz=312,slow=1.1,SNR=5.1
WRA P3KPbc 17 37 00.6
comp=Z,0.5nm,1.1s,baz=137,slow=3.9,SNR=6.5
WRAB **Tennant Creek** 17.87 135 P P 17 02 40.1 +0.8
TPRI **Tanjung Pinang** 18.45 296 P P 17 02 46.0 +1.3
comp=Z,59nm,0.9s
SMPI **Sarmi** 18.48 74 P P 17 02 45.4 +0.5
comp=Z,2µmcomp=Z,162nm,0.7s
WRKA **Warakurna** 18.75 159 P P 17 02 48.0 +0.7
comp=Z,25nm,0.6s
MEEK **Meekatharra** 19.14 187 P P 17 02 51.2 +0.4
comp=Z,93nm,0.9s
MEEK **Meekatharra** 19.14 187 P P 17 02 51.5 +0.7
MYKOM **Kota Tinggi** 19.46 298 P P 17 02 54.2 +0.5
MYKOM **Kota Tinggi** 19.46 298 P P 17 02 55.7 +1.9
GENI **Genyem** 19.70 77 P P 17 02 56.8 +0.8
GENI **Genyem** 19.70 77 P P 17 02 55.7 -0.3
comp=Z,1µmcomp=Z,99nm,0.9s
JAY **Jayapura** 20.24 77 P P 17 03 00.5 -0.5
comp=Z,18nm,0.4s,baz=241,slow=8.1,SNR=56
comp=Z,18nm,0.4s
JAY **Jayapura** 20.24 77 P P 17 03 00.4 -0.5
comp=Z,37nm,0.9s
AS15 **Alice Springs** 20.25 144 P P 17 03 01.4 +0.5
comp=Z,20nm,0.6s
AS31 **Alice Springs** 20.27 144 P P 17 03 01.4 +0.4
ASAR **Alice Springs** 20.27 144 P P 17 03 01.5 +0.5
ASAR P 17 06 47.7 0.0
ASAR **Alice Springs** 20.27 144 P P 17 03 01.6 +0.5
comp=Z,12nm,0.5s,baz=318,slow=8.2,SNR=934
ASAR S S 17 06 11.9 -0.5
comp=Z,6.1nm,0.7s,baz=335,slow=22,SNR=4.1
ASAR PcP PcP 17 06 47.4 -0.3
comp=Z,16nm,0.5s,baz=324,slow=1.6,SNR=16
ASAR ScP ScP 17 09 28.6 -0.7
comp=Z,12nm,0.6s,baz=334,slow=2.1,SNR=16
ASAR PKiKP PKiKP 17 14 33.9 -1.9
comp=Z,0.4nm,0.5s,baz=7.9,slow=1.0,SNR=4.2
ASAR P3KPbc 17 36 48.2
comp=Z,0.6nm,1.0s,baz=126,slow=3.1,SNR=4.2
comp=Z,12nm,0.5s
AS05 **Alice Springs** 20.28 144 P P 17 03 01.6 +0.4
comp=Z,18nm,0.6s
AS01 **Alice Springs** 20.29 144 P P 17 03 01.9 +0.6
MORW **Morawa** 21.93 192 P P 17 03 16.4 +0.5
MORW **Morawa** 21.93 192 P P 17 03 16.4 +0.5
comp=Z,47nm,0.8s
MORW **Morawa** 21.93 192 P P 17 03 16.9 +1.1
QIS **Mount Isa** 22.18 128 P P 17 03 18.4 +0.2
comp=Z,12nm,0.5s
QIS **Mount Isa** 22.18 128 P P 17 03 19.1 +0.9
COEN **Coen** 22.69 108 P P 17 03 23.0 +0.2
COEN **Coen** 22.69 108 P P 17 03 22.7 -0.1
comp=Z,31nm,1.2s
COEN **Coen** 22.69 108 P P 17 03 23.1 +0.3
MNSI **Mandailing Nat** 22.91 290 P P 17 03 24.5 -0.3
IPM **Ipoh** 23.23 300 P P 17 03 27.6 0.0
IPM **Ipoh** 23.23 300 P P 17 03 28.2 +0.6
BLDU **Ballidu** 23.32 189 P P 17 03 28.4 +0.3
comp=Z,65nm,0.6s
BLDU **Ballidu** 23.32 189 P P 17 03 28.8 +0.6
KULM **Kulim** 23.97 302 P P 17 03 33.8 -0.4
KULM **Kulim** 23.97 302 P P 17 03 34.0 -0.2
KLBR **Kellerberrin** 24.13 187 P P 17 03 35.5 +0.2
comp=Z,108nm,0.5s
KLBR **Kellerberrin** 24.13 187 P P 17 03 36.1 +0.7
RPSI **Rantau Prapat** 24.26 294 P P 17 03 37.0 +0.3
PSI **Prapat** 24.30 294 P P 17 03 38.1 +0.8
MUN **Mundaring** 24.73 190 P P 17 03 41.1 +0.4
comp=Z,41nm,0.6s
GSI **Gunungsitoli** 24.96 290 P 17 03 41.7 -1.3
GSI **Gunungsitoli** 24.96 290 P P 17 03 42.7 -0.3
GSI **Gunungsitoli** 24.96 290 P P 17 03 42.1 -0.9
comp=Z,69nm,1.1s
MTSU **Mount Surprise** 25.02 117 P P 17 03 44.0 +0.5
comp=Z,21nm,0.6s
MTSU **Mount Surprise** 25.02 117 P P 17 03 44.5 +1.1
NWAO **Narrogin (SRO)** 25.52 187 P P 17 03 48.1 +0.5
NWAO **Narrogin (SRO)** 25.52 187 P P 17 03 47.9 +0.3
comp=Z,82nm,0.5s
NWAO **Narrogin (SRO)** 25.52 187 P P 17 03 48.2 +0.8
comp=Z,30nm,0.4s,baz=21,slow=7.2,SNR=97
comp=Z,30nm,0.4s
NWAO **Narrogin (SRO)** 25.52 187 P P 17 03 48.4 +0.8
NWAO **Narrogin (SRO)** 25.52 187 P P 17 03 48.3 +0.8
NWAO **Narrogin (SRO)** 25.52 187 P P 17 03 48.5 +1.0
PMG **Port Moresby** 25.93 96 P P 17 03 51.0 -0.4
PMG **Port Moresby** 25.93 96 P P 17 03 51.5 0.0
comp=Z,22nm,0.5s,baz=65,slow=1.9,SNR=24
comp=Z,22nm,0.5s
SRIT **Nakonsritamara** 26.68 307 P P 17 03 58.6 +0.6
SRIT **Nakonsritamara** 26.68 307 P P 17 03 58.8 +0.8
LHMI **Lhok Sumawe** 27.14 297 P P 17 04 01.8 -0.3
MLSI **Meulaboh, Aceh** 27.20 295 P P 17 04 01.6 -1.0
RKGY **Rocky Gully** 27.21 187 P P 17 04 04.2 +1.9
comp=Z,269nm,0.6s
QIZ **Qiongzhong** 28.59 338 P P 17 04 14.3 -0.3
QIZ sP **sP** 17 06 54.3 -1.4
QIZ S S 17 08 20.3 -2.6
QIZ pmax pmax
comp=Z,13nm,0.7s
BBOO **Buckleboo** 28.78 153 P P 17 04 16.3 +0.3
BBOO **Buckleboo** 28.78 153 P P 17 04 16.4 +0.3
comp=Z,22nm,0.9s
HTT **Hallett** 30.65 150 P P 17 04 33.0 +0.8
comp=Z,3.3nm,0.7s
HTT **Hallett** 30.65 150 P P 17 04 33.6 +1.4
YULB **Yu-li** 30.73 1 P P 17 04 30.9 -2.1
STKA **Stephens Creek** 30.90 144 P P 17 04 35.5 +1.1
STKA **Stephens Creek** 30.90 144 P P 17 04 35.1 +0.8
comp=Z,66nm,1.0s
STKA **Stephens Creek** 30.90 144 P P 17 04 35.4 +1.1
comp=Z,6.0nm,0.3s,baz=313,slow=9.8,SNR=50
STKA PcP PcP 17 07 12.5 +0.1
comp=Z,11nm,0.6s,baz=326,slow=3.4,SNR=5.6
STKA S S 17 08 58.8 +0.5
comp=Z,4.9nm,0.7s,baz=307,slow=17,SNR=3.1
STKA ScP ScP 17 09 58.8 -1.5
comp=Z,12nm,0.6s,baz=318,slow=5.3,SNR=11
comp=Z,6.0nm,0.3s
STKA **Stephens Creek** 30.90 144 P P 17 04 35.2 +0.8
GUMO **Guam** 31.65 49 P P 17 04 40.2 -0.7
GUMO **Guam** 31.65 49 P P 17 04 40.3 -0.7
comp=Z,87nm,0.3s,baz=334,slow=1.3,SNR=43
comp=Z,87nm,0.3s
GUMO **Guam** 31.65 49 P P 17 04 40.6 -0.3
YHNB **Yeheng** 32.00 1 P P 17 04 42.7 -1.1
YHNB IAmb IAmb 17 06 20.2
comp=Z,36nm,1.4s
CMSA **Cobar Meteorol** 33.18 139 P P 17 04 54.9 +1.2
SLVN **Son La** 33.23 330 P P 17 04 55.4 +1.1
SLVN IAmb IAmb 17 04 56.6
comp=Z,19nm,0.7s
SLVN **Son La** 33.23 330 P P 17 04 55.7 +1.4
CM31 **Chiang Mai Arr** 33.77 320 P P 17 04 58.2 -0.6
CM31 IAmb IAmb 17 05 00.9
comp=Z,39nm,0.8s
CMAR **Chiang Mai Arr** 33.77 320 P P 17 04 59.2 +0.4
CMAR PcP PcP 17 07 21.9 +1.2
CMAR **Chiang Mai Arr** 33.77 320 P P 17 04 59.9 +1.1
comp=Z,31nm,0.8s,baz=146,slow=6.7,SNR=177
CMAR PcP PcP 17 07 22.3 +1.6
comp=Z,11nm,0.7s,baz=175,slow=2.8,SNR=16
CMAR ScP ScP 17 10 10.3 -0.1
comp=Z,1.1nm,0.6s,baz=166,slow=2.8,SNR=4.7
comp=Z,31nm,0.8s
CHTO **Chiang Mai** 34.03 321 P P 17 05 01.5 +0.5
CHTO **Chiang Mai** 34.03 321 P P 17 05 02.0 +1.0
CHTO **Chiang Mai** 34.03 321 P P 17 05 02.0 +1.0
CHTO **Chiang Mai** 34.03 321 P P 17 05 01.9 +0.9
CHTO PcP PcP 17 07 22.4 +0.9
KMI **Kunming** 37.01 332 ⇓P P 17 05 27.5 +1.8
KMI pmax pmax
comp=Z,24nm,0.9s
TOO **Toolangi** 37.25 147 P P 17 05 28.8 +1.5
CAN **Canberra** 37.74 141 P P 17 05 32.6 +1.3
CAN IAmb IAmb 17 06 44.5
comp=Z,45nm,1.7s
WHN **Wuhan** 38.39 351 P P 17 05 37.5 +1.0
WHN S S 17 10 52.8 +2.4
WHN pmax pmax
comp=Z,40nm,0.5s
PZH **PanZhiHua** 38.65 332 P P 17 05 39.5 +0.6
PZH PcP PcP 17 07 36.0 +0.4
PZH pmax pmax
comp=Z,20nm,0.7s
TNCH **TengChong** 39.07 327 ⇓*i*P P 17 05 43.3 +0.9
TNCH sP sP 17 08 31.5 +2.4
TNCH pmax pmax
comp=Z,45nm,0.5s
ENH **Enshi** 39.18 344 IAmb IAmb 17 05 44.0
comp=Z,20nm,0.5s
ENH **Enshi** 39.18 344 P P 17 05 43.2 +0.3
ENH **Enshi** 39.18 344 P P 17 05 42.7 -0.2
NJ2 **Nanjing** 39.41 357 ⇓P P 17 05 45.5 +0.8
NJ2 pmax pmax
comp=Z,20nm,0.6s
JCJ **Chichijima** 40.07 30 S S 17 11 03.3 -12
comp=Z,76nm,0.8s,baz=335,slow=22,SNR=5.7
JNU **Nakatsue** 41.50 13 PcP PcP 17 07 44.9 +0.2
comp=Z,5.9nm,0.8s,baz=108,slow=4.3,SNR=4.5
BRDH **Bariadhala** 41.56 317 P P 17 06 02.5 +0.6
comp=Z,132nm,0.3s,baz=122,slow=4.1,SNR=4.9
comp=Z,132nm,0.3s
PALK **Pallekele** 42.80 289 P P 17 06 11.6 -0.3
PALK IAmb IAmb 17 06 12.6
comp=Z,22nm,0.7s
PALK **Pallekele** 42.80 289 P P 17 06 11.2 -0.7
PALK P P 17 06 11.4 -0.5
XAN **Xi'an** 42.90 345 ⇓P P 17 06 12.0 -0.3
XAN PcP PcP 17 07 50.8 +1.3
XAN S S 17 11 55.5 -0.1
XAN pmax pmax
comp=Z,67nm,0.7s
SHL **Shillong** 43.41 320 P P 17 06 16.2 -0.3
SHL **Shillong** 43.41 320 P P 17 06 16.4 -0.2
TIA **Tai'an** 43.66 355 P P 17 06 17.0 -1.1
TIA pmax pmax
comp=Z,8.0nm,0.4s
HNS **HongShan** 45.08 353 ⇑P P 17 06 29.3 +0.4
HNS pmax pmax
comp=Z,40nm,0.7s
KSAR **Wonju Array Be** 45.20 8 P P 17 06 29.5 -0.4
KSRS **Korea Array** 45.21 8 P P 17 06 29.9 -0.1
comp=Z,5.1nm,0.6s,baz=189,slow=8.1,SNR=35
KSRS PcP PcP 17 07 58.2 +0.8
comp=Z,9.8nm,0.6s,baz=177,slow=3.1,SNR=44
comp=Z,5.1nm,0.6s
KS19 **Wonju Array Si** 45.25 8 P P 17 06 29.8 -0.5
JGF **Kuroka** 45.58 19 P P 17 06 31.9 -1.1
TIY **Taiyuan** 45.71 350 P P 17 06 33.8 -0.1
TIY S S 17 12 36.5 +1.4
TIY sS sS 17 15 46.0 +1.4
TIY pmax pmax
comp=Z,44nm,0.4s
LZH **Lanzhou** 46.29 341 *e*P P 17 06 39.5 +1.1
LZH pmax pmax
comp=Z,70nm,1.0s
MJAR **Matsushiro Arr** 46.72 19 P P 17 06 40.5 -0.9
comp=Z,5.4nm,0.6s,baz=190,slow=8.2,SNR=12
MJAR PcP PcP 17 08 03.1 +0.3
comp=Z,4.3nm,0.8s,baz=180,slow=5.0,SNR=6.1
MJAR ScP ScP 17 11 00.5 -0.6
comp=Z,1.7nm,0.7s,baz=170,slow=4.9,SNR=5.4
comp=Z,5.4nm,0.6s
MJB9 **Matsu-Tunnel** 46.72 19 P P 17 06 39.5 -1.9
LSA **Lhasa** 46.84 324 P P 17 06 44.1 +1.1
LSA **Lhasa** 46.84 324 P P 17 06 43.6 +0.6
BJT **Baijiatuau** 47.52 355 IAmb IAmb 17 06 47.5
comp=Z,19nm,0.5s
BJT **Baijiatuau** 47.52 355 P P 17 06 47.4 +0.1
JSD **Sado** 48.10 18 P P 17 06 51.8 +0.1
EVN **Everest** 48.33 318 P P 17 06 54.9 +0.5
JMM **Marumori** 48.79 21 P P 17 06 56.9 +0.1
JMM IAmb IAmb 17 06 58.0
comp=Z,27nm,0.6s
HHC **Hu-ho-hao-te** 48.92 350 *e*P P 17 07 00.8 +3.0
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,120nm,4.2s
GOMU **GeErMu** 49.98 332 P P 17 07 07.0 +1.0
GOMU PcP PcP 17 08 16.3 +1.1
GOMU S S 17 13 37.0 +2.7
GOMU pmax pmax
comp=Z,10.0nm,0.9s
GOMU pmax pmax
comp=Z,87nm,4.8s
GTA **Gaotai** 50.66 339 P P 17 07 12.3 +1.6
GTA PcP PcP 17 08 19.0 +1.6
GTA S S 17 13 43.5 +0.5
GTA ScS ScS 17 15 59.5 +0.2
GTA pmax pmax
comp=Z,47nm,1.1s
XLT **XiLinHaoTe** 51.38 355 *e*P P 17 07 15.5 -0.2
XLT sP sP 17 10 03.3 -5.0
XLT pmax pmax
comp=Z,35nm,0.6s
JTM **Tenmabayashi** 51.50 19 P P 17 07 16.3 -0.3
JTM **Tenmabayashi** 51.50 19 P P 17 07 16.6 +0.1
USRK **Ussuriysk Ar.** 52.44 10 P 17 07 22.6 -0.5
USRK **Ussuriysk Ar.** 52.44 10 P P 17 07 22.9 -0.2
comp=Z,15nm,0.5s,baz=190,slow=6.8,SNR=48
USRK PcP PcP 17 08 23.9 +0.1
comp=Z,1.8nm,0.4s,baz=201,slow=2.6,SNR=4.3
comp=Z,15nm,0.5s
MDJ **Mudanjiang** 52.48 8 P P 17 07 23.5 +0.1
MDJ pmax pmax
comp=Z,34nm,0.5s
MDJ **Mudanjiang** 52.48 8 P P 17 07 23.6 +0.1
MDJ **Mudanjiang** 52.48 8 P P 17 07 21.9 -1.5
BNX **BinXian** 53.34 6 ⇑P P 17 07 28.5 -1.0
BNX pmax pmax
comp=Z,9.0nm,0.6s
MSZ **Milford Sound** 54.95 140 P P 17 07 42.5 +1.6
JKA **Kamikawa-asahi** 54.99 19 P P 17 07 41.4 +0.2
JCZ **Jackson Bay** 55.22 139 P P 17 07 44.8 +1.9
MLZ **Mavora Lakes** 55.39 141 P P 17 07 44.8 +0.8
WHZ **Wether Hill Ro** 55.53 142 P P 17 07 45.5 +0.6
FOZ **Fox Glacier** 55.65 138 P P 17 07 45.9 +0.1
EAZ **Earnscleugh** 56.07 141 P P 17 07 49.9 +1.2
LBZ **Lake Benmore** 56.26 139 P P 17 07 50.2 +0.2
DSZ **Denniston Nort** 56.27 136 P P 17 07 51.0 +0.8
INZ **Inchbonnie** 56.41 137 P P 17 07 50.8 -0.2
QRZ **Quartz Range** 56.43 135 P P 17 07 52.7 +1.4
ULN **Ulaanbaatar** 56.52 349 P P 17 07 52.1 +0.3
ULN **Ulaanbaatar** 56.52 349 P P 17 07 52.1 +0.3
ULN **Ulaanbaatar** 56.52 349 P P 17 07 51.7 -0.1
ULN PcP PcP 17 08 40.3 +0.4
RPZ **Rata Peaks** 56.55 138 P P 17 07 52.7 +0.7
SONM **Songino Array** 56.62 348 P P 17 07 52.6 +0.2
SONM **Songino Array** 56.62 348 P P 17 07 52.7 +0.2
comp=Z,18nm,0.4s,baz=170,slow=8.3,SNR=87
SONM PcP PcP 17 08 40.5 +0.2
comp=Z,4.0nm,0.5s,baz=171,slow=4.5,SNR=5.9
comp=Z,18nm,0.4s
THZ **Tophouse** 57.04 135 P P 17 07 56.1 +0.6
THZ **Tophouse** 57.04 135 P P 17 07 56.4 +0.9
HHSZ **Highcliff Hill** 57.18 141 P P 17 07 57.7 +1.4
NNZ **Nelson** 57.18 135 P P 17 07 56.9 +0.6
VRZ **Vera Road** 57.47 132 P P 17 07 59.8 +1.5
GVZ **Greta Valley S** 57.58 137 P P 17 07 59.7 +0.7
YSS **Yuzhno-Sakhali** 57.59 18 P P 17 07 59.0 +0.1
YSS **Yuzhno-Sakhali** 57.59 18 P P 17 07 59.2 +0.3
MQZ **McQueen's Vall** 57.60 138 P P 17 07 59.6 +0.5
KHZ **Kahutara** 57.72 136 P P 17 07 59.4 -0.5
HEH **HeiHe** 57.81 5 *e*P P 17 08 00.3 0.0
HEH PcP PcP 17 08 44.5 -0.2
HEH pmax pmax
comp=Z,29nm,1.0s
WAZ **Wanganui** 57.83 133 P P 17 08 02.6 +1.8
MRZ **Mangatainoka R** 58.55 133 P P 17 08 05.6 -0.1
TSZ **Takapari Road** 58.64 133 P P 17 08 06.5 +0.2
BKZ **Black Stump Fm** 58.76 131 P P 17 08 07.4 +0.3
URZ **Urewera** 58.97 130 P P 17 08 08.0 -0.4
RTZ **Ruatahuna** 58.97 131 P P 17 08 08.5 -0.1
MWZ **Matawai** 59.30 130 P P 17 08 10.9 +0.2
WMQ **Urumqi** 59.34 332 *e*P P 17 08 12.3 +1.5
WMQ pmax pmax
comp=Z,56nm,0.7s
HAZ **Te Kaha** 59.34 130 P P 17 08 11.0 +0.1
PUZ **Puketiti** 59.79 130 P P 17 08 14.0 +0.1
NIL **Nilore** 61.03 315 P P 17 08 22.0 -0.2
KSH **Kashi** 62.64 322 P P 17 08 33.5 +0.9
KSH S S 17 16 16.3 -0.1
KSH pmax pmax
comp=Z,110nm,0.6s
KDJ **Kajisay** 63.57 325 IAmb IAmb 17 08 39.8
comp=Z,22nm,0.6s
MKAR **Makanchi Array** 64.09 331 P 17 08 41.7 +0.1
MKAR **Makanchi Array** 64.09 331 P P 17 08 42.0 +0.4
comp=Z,57nm,0.5s,baz=141,slow=7.4,SNR=797
MKAR PcP PcP 17 09 10.8 +0.3
comp=Z,5.4nm,0.5s,baz=131,slow=4.3,SNR=3.6
MKAR PKPPKP P'P'df 17 37 27.0 +3.6
comp=Z,0.6nm,0.8s,baz=278,slow=3.6,SNR=4.4
comp=Z,57nm,0.5s
MAKZ **Makanchi** 64.25 331 P 17 08 42.8 +0.3
MAKZ IAmb IAmb 17 08 43.7
comp=Z,39nm,0.9s
MAKZ **Makanchi** 64.25 331 P P 17 08 42.4 -0.1
MAKZ PcP PcP 17 09 11.1 0.0
MAKZ pP pP 17 10 36.9 -1.7
KBL **Kabul** 64.48 314 P 17 08 44.8 +0.2
BOOM **Boomskoye usch** 64.51 325 IAmb IAmb 17 08 45.9
comp=Z,44nm,0.7s
TKM2 **Tokmak 2** 64.97 325 P P 17 08 47.9 +0.4
SNR=6.9
UCH **Uchtor** 65.17 324 P P 17 08 49.7 +0.7

KBK **Karagaybulak** 65.18 324 P P 17 08 49.6 +0.8
SNR=12
AAK **Ala-Archa** 65.44 324 P P 17 08 51.2 +0.9
SNR=18
AAK **Ala-Archa** 65.44 324 P 17 08 50.9 +0.6
AAK **Ala-Archa** 65.44 324 P P 17 08 51.0 +0.6
AAK **Ala-Archa** 65.44 324 *i* P P 17 08 51.0 +0.6
SNR=18
AAK **Ala-Archa** 65.44 324 P P 17 08 50.9 +0.6
AAK PcP PcP 17 09 17.2 +0.8
CHMS **Chumysh** 65.51 324 P P 17 08 50.7 +0.1
SNR=7.4
USP **Ospenovka** 65.82 324 P P 17 08 52.9 +0.4
SNR=21
EKS2 **Erkin-Say** 65.87 324 P P 17 08 53.6 +0.6
SNR=20
GAR **Garm** 65.93 319 IAmb IAmb 17 08 55.4
comp=Z,53nm,1.0s
SIMJ **Simiganj** 66.61 318 P P 17 08 57.3 -0.4
NGCH **Negor - Chabah** 66.74 302 P P 17 08 59.6 +1.1
JLN **Jalan Bani Buh** 67.14 298 P P 17 09 01.0 0.0
PEA0B **Petropavlovsk-** 67.95 23 IAmb IAmb 17 09 06.5
comp=Z,21nm,0.7s
PETK **Petropavlovsk-** 67.95 23 17 09 04.8 -0.5
PETK **Petropavlovsk-** 67.95 23 P P 17 09 05.1 -0.2
comp=Z,17nm,0.7s,baz=193,slow=3.3,SNR=40
comp=Z,17nm,0.7s
MHTO **MHTO** 68.05 296 P P 17 09 06.5 -0.1
KKAR **Karatay Array** 68.08 322 P 17 09 05.5 -0.8
PET **Petropavlovsk** 68.25 23 P P 17 09 07.1 0.0
comp=Z,15nm,0.9s
JMDO **Jabal Madar** 68.36 298 P P 17 09 07.4 -1.0
ZALV **Zalesovo Beam** 68.41 338 P 17 09 07.0 -1.0
ZALV **Zalesovo Beam** 68.41 338 P P 17 09 07.2 -0.8
comp=Z,72nm,0.4s,baz=139,slow=5.5,SNR=381
ZALV S S 17 17 19.0 -4.7
comp=Z,2.8nm,0.8s,baz=128,slow=9.6,SNR=6.7
comp=Z,72nm,0.4s
KURBB **Kurchatov Arra** 68.56 332 P P 17 09 09.1 +0.1
comp=Z,26nm,0.6s,baz=147,slow=5.3,SNR=169
KURBB PcP PcP 17 09 29.4 +0.3
comp=Z,7.7nm,0.6s,baz=131,slow=3.6,SNR=12
comp=Z,26nm,0.6s
KURK **Kurchatov** 68.58 333 P 17 09 09.1 -0.1
KURK IAmb IAmb 17 09 10.1
comp=Z,46nm,0.8s
KURK **Kurchatov** 68.58 333 P P 17 09 09.3 +0.1
KURK **Kurchatov** 68.58 333 P P 17 09 09.2 -0.1
KURK pP pP 17 11 06.0 -1.7
SMDO **Samad** 68.62 298 P P 17 09 10.4 +0.2
BIDO **Bidbid** 68.70 299 P P 17 09 11.3 +0.8
SNR=9.4
HOQ **Hoqain** 69.43 299 P P 17 09 15.3 +0.4
SNR=6.2
YAK **Yakutsk** 69.68 4 P 17 09 15.4 -0.1
YAK **Yakutsk** 69.68 4 P P 17 09 15.2 -0.3
JASK **Jask - Hormozg** 69.69 301 P P 17 09 18.1 +1.7
DMTO **DMTO** 69.87 292 P P 17 09 18.0 +0.4
ARQ **Araqi** 70.04 298 P P 17 09 18.8 +0.2
SNR=7.0
SOHO **SOHO** 70.28 299 P P 17 09 20.1 +0.2
SOHO **SOHO** 70.28 299 *i* P P 17 09 20.0 +0.1
SNR=9.5
RBK **Rabkut** 70.50 291 P P 17 09 21.3 0.0
UOSS **Minazif** 70.81 300 P 17 09 22.9 -0.1
UOSS **Minazif** 70.81 300 P P 17 09 22.4 -0.6
UOSS **Minazif** 70.81 300 *i* P P 17 09 22.9 -0.1
SNR=5.6
HATD **Hatta, Dubai** 70.84 299 P P 17 09 23.1 0.0
HATD **Hatta, Dubai** 70.84 299 *i* P P 17 09 23.6 +0.4
SNR=12
MDH **Madha** 70.84 300 P P 17 09 22.3 -0.9
DOK **Doka** 70.86 293 P P 17 09 23.0 -0.3
SNR=8.5
ASHO **Ashiyiah** 70.86 299 P P 17 09 23.7 +0.4
ASHO **Ashiyiah** 70.86 299 *i* P P 17 09 23.6 +0.2
SNR=13
ALNE **Al Ain** 70.93 299 P P 17 09 23.9 +0.1
SNR=8.5
ALNE **Al Ain** 70.93 299 *i* P P 17 09 23.9 +0.1
SNR=16
MA2 **Magadan** 70.97 16 P P 17 09 23.2 0.0
comp=Z,76nm,0.9s
MSFE **Esma-Masafi** 70.98 300 *i* P P 17 09 24.7 +0.7
SNR=6.7
MASF **Masafi** 70.98 300 P P 17 09 25.4 +1.3
WHFO **Wadi Hawf** 71.00 292 P P 17 09 24.2 -0.1
SNR=14
UMZA **Um Al Zommool** 71.05 297 P P 17 09 24.1 -0.3
SHME **Shamm** 71.21 301 P P 17 09 26.0 +0.7
SHME **Shamm** 71.21 301 P P 17 09 26.2 +0.8
FAQ **Al Faqa, Dubai** 71.28 299 P P 17 09 25.7 0.0
FAQ **Al Faqa, Dubai** 71.28 299 *i* P P 17 09 26.3 +0.5
SNR=8.4
MAW **Mawson** 71.29 200 P P 17 09 26.1 +1.2
comp=Z,1.2nm,0.4s,baz=92,slow=17,SNR=5.4
comp=Z,1.2nm,0.4s
NAZ **Nazwa, Dubai** 71.30 299 P P 17 09 24.5 -1.3
ABTO **Aybut** 71.30 291 P P 17 09 26.1 0.0
ASUD **Al Ashush, Dub** 71.47 299 P P 17 09 26.9 +0.1
SNR=25
ASUD **Al Ashush, Dub** 71.47 299 *i* P P 17 09 27.6 +0.8
SNR=25
AJN **Ajban** 71.75 299 P P 17 09 27.8 -0.6
VOI **Vohitsoka** 72.61 249 P P 17 09 34.4 +0.7
MZR **Muzera** 72.62 297 P P 17 09 33.8 +0.2
MZR **Muzera** 72.62 297 *i* P P 17 09 34.0 +0.4
SNR=14
VNDA **Vanda** 73.13 171 P 17 09 36.3 +0.9
VNDA **Vanda** 73.13 171 P P 17 09 36.3 +0.9
comp=Z,1.2nm,0.4s,baz=314,slow=5.9,SNR=16
comp=Z,1.2nm,0.4s
JRN **Qarnain Island** 73.72 299 P P 17 09 39.9 +0.2
BVAR **Borovoye Array** 73.96 331 P P 17 09 40.2 -0.3
comp=Z,5.2nm,0.3s,baz=132,slow=6.6,SNR=67
comp=Z,5.2nm,0.3s
BRVK **Borovoye** 74.03 331 P 17 09 40.6 -0.3
BRVK **Borovoye** 74.03 331 P P 17 09 40.4 -0.5
SLWR **Sila** 74.49 297 P P 17 09 44.6 +0.5
TRNA **Turayna** 75.09 298 P P 17 09 48.0 +0.5
SNR=38
SMRA **Abu-Samra** 75.43 298 P P 17 09 49.7 +0.4
SNR=9.8
SHMA **Al-Shehemyia** 75.61 299 P P 17 09 50.6 +0.4
SNR=34
SAKB **Bahrain** 76.01 299 P P 17 09 53.1 +0.6
AKTO **Aktyubinsk** 79.17 325 P P 17 10 08.9 -0.1
comp=Z,26nm,0.6s,baz=107,slow=5.6,SNR=76
comp=Z,26nm,0.6s
TIXI **Tiksi** 79.18 3 P 17 10 08.0 -0.6
KBD **Kabd** 79.29 302 P P 17 10 09.9 -0.2
RAYN **Ar Rayn** 79.85 295 P 17 10 14.0 +0.8
RAYN IAmb IAmb 17 10 14.9
comp=Z,42nm,0.7s
RAYN **Ar Rayn** 79.85 295 *i* P P 17 10 14.2 +1.0
SNR=46
SYO **Syowa Base** 79.94 201⇑ *e* P P 17 10 13.6 +0.9
SYO **Syowa Base** 79.94 201⇓ *e* PcP PcP 17 10 18.5 +0.6
ATD **Arta Tunnel** 80.00 283 IAmb IAmb 17 10 44.2
comp=Z,95nm,1.9s
ARTI **Arti** 81.64 330 P 17 10 20.4 -1.3
QSPA **South Pole Qui** 82.46 180 P 17 10 26.7 +0.9
QSPA **South Pole Qui** 82.46 180 P P 17 10 26.7 +0.9
comp=Z,4.7nm,0.7s,baz=302,slow=1.3,SNR=42
QSPA PKKPbc PKKPbc 17 28 47.2 -3.8
comp=Z,1.4nm,0.6s,baz=104,slow=1.3,SNR=11
comp=Z,4.7nm,0.7s
KIBK **Kibwezi** 82.72 269 P P 17 10 29.1 +0.9
GNI **Garni** 84.44 312 P P 17 10 38.4 +2.2
GNI **Garni** 84.44 312 P P 17 10 36.1 -0.1
comp=Z,22nm,0.8s
SPIA **Saint Paul Isl** 85.03 31 P P 17 10 38.4 -0.1
baz=248
GEVA **Gevas** 85.27 309 IAmb IAmb 17 10 42.3
comp=Z,46nm,1.0s
KBZ **Khabaz** 86.65 315 P P 17 10 46.9 +0.4
comp=Z,12nm,0.8s,baz=142,slow=2.5,SNR=19
comp=Z,12nm,0.8s
KIV **Kislovodsk** 86.85 315 P P 17 10 49.5 +2.0
KIV **Kislovodsk** 86.85 315 P P 17 10 50.2 +2.6
KIV **Kislovodsk** 86.85 315 P P 17 10 47.5 -0.1
comp=Z,13nm,0.9s
GAMB **Gambell** 86.94 24 P P 17 10 47.5 +0.2
baz=246
KOPT **Kop Dagi** 87.58 311 P 17 10 52.6 +1.3
KOPT IAmb IAmb 17 10 56.8
comp=Z,22nm,0.7s
M11K **Mekoryuk** 88.13 28 P P 17 10 53.0 0.0
baz=251
S12K **Black Hills** 88.88 33 P P 17 10 56.7 +0.1
baz=255
TNA **Tin City** 89.11 23 P P 17 10 57.2 -0.2
baz=250
M13K **Dall Lake** 89.48 29 P P 17 10 59.2 -0.1
baz=254
SDPT **Sand Point** 89.66 34 P P 17 11 00.2 0.0
baz=256
F14K **Arctic Creek** 89.71 23 P P 17 11 00.7 +0.4
baz=251
GHAJ **Ghor Haditha** 89.99 301 P 17 11 02.3 0.0
L14K **Kuka Creek** 90.05 28 P P 17 11 02.1 +0.2
baz=254
MBAR **Mbarara** 90.19 269 P P 17 11 04.6 +0.8
MBAR IAmb IAmb 17 11 05.3
comp=Z,10.0nm,0.7s
MBAR **Mbarara** 90.19 269 P P 17 11 04.6 +0.8
O14K **Tigyukauivet M** 90.20 30 P P 17 11 03.6 +1.0
baz=256
M14K **Bethel** 90.24 29 P P 17 11 02.7 0.0
baz=255
MMAI **Mount Meron Ar** 90.38 303 P P 17 11 05.3 +1.1
comp=Z,3.6nm,0.5s,baz=96,slow=5.1,SNR=19
comp=Z,3.6nm,0.5s
S14K **Fog Glacier** 90.39 33 P P 17 11 03.8 +0.1
baz=257
F15K **North Star Dit** 90.45 23 P P 17 11 04.2 +0.5
baz=253
G15K **Niukluk** 90.48 24 P P 17 11 03.8 -0.1
baz=253
L15K **Ungalak Mounta** 90.69 28 P P 17 11 05.0 +0.2
baz=256
LSZ **Lusaka** 90.74 255 P 17 11 06.9 +0.6
LSZ IAmb IAmb 17 11 07.6
comp=Z,11nm,0.7s
LSZ **Lusaka** 90.74 255 P P 17 11 07.0 +0.7
M15K **Kasigluk River** 90.83 29 P P 17 11 05.8 +0.3
baz=256
K15K **Wolf Creek Mou** 90.83 27 P P 17 11 05.4 -0.1
baz=255
O15K **Ungalikthiuk R** 90.90 30 P P 17 11 05.5 -0.4
baz=257
N15K **Kwethluk River** 90.99 29 P P 17 11 06.1 -0.3
baz=257
H16K **Elim** 91.12 25 P P 17 11 07.3 +0.5
baz=255
G16K **Koyuk River** 91.28 24 P P 17 11 07.5 0.0
baz=255
TROLL **Troll, Antarti** 91.33 196 ⇑P P 17 11 09.0 +1.1
comp=Z,185nm,0.7s
BOSA **Boshof** 91.45 241 P P 17 11 09.8 +0.5
comp=Z,3.8nm,0.5s,baz=121,slow=3.8,SNR=15
comp=Z,3.8nm,0.5s
J16K **Anvik River** 91.49 26 P P 17 11 09.0 +0.5
baz=256
I17K **Unalakleet** 91.59 26 P P 17 11 08.8 -0.1
baz=256
D17K **Noatak River** 91.61 22 P P 17 11 09.6 +0.6
baz=254
N16K **Nishlik Lake** 91.70 29 P P 17 11 09.5 -0.1
baz=258,SNR=6.9
M16K **Timber Creek** 91.73 29 P P 17 11 09.6 0.0
baz=258
P16K **Nushagak River** 91.79 31 P P 17 11 10.0 +0.1
baz=258
C17K **DeLong Mountai** 91.79 21 P P 17 11 10.1 +0.2
baz=254
O16K **Kokwok River B** 91.85 30 P P 17 11 10.6 +0.4
baz=258
E17K **Hotham Inlet** 91.92 22 P P 17 11 10.7 +0.2
baz=255
F17K **Baldwin Pennin** 91.98 23 P P 17 11 10.4 -0.3
baz=256
G17K **Kiwalik Mounta** 91.99 24 P P 17 11 10.6 -0.1
baz=256
H17K **Granite Mounta** 92.16 25 IAmb IAmb 17 11 12.7
comp=Z,13nm,0.8s
H17K **Granite Mounta** 92.16 25 P P 17 11 11.8 +0.2
baz=257
J17K **VABM Dome** 92.18 26 P P 17 11 11.5 -0.2
baz=258
L17K **Donlin** 92.27 28 P P 17 11 12.1 0.0
baz=258
R17L **Mt. Peulik Vol** 92.37 32 P P 17 11 12.0 -0.7
baz=260
O17K **Koliganek Bris** 92.38 30 P P 17 11 12.1 -0.6
baz=259
K17K **Iditarod** 92.39 27 IAmb IAmb 17 11 14.2
comp=Z,10nm,1.0s
K17K **Iditarod** 92.39 27 P P 17 11 12.2 -0.5
baz=258
CHIR **Chirikof Islan** 92.46 34 P P 17 11 13.0 -0.1
baz=260
E18K **Tukpahlearik C** 92.47 22 IAmb IAmb 17 11 14.2
comp=Z,20nm,1.1s
E18K **Tukpahlearik C** 92.47 22 P P 17 11 13.2 +0.3
baz=256
N17K **Nushagak Hills** 92.48 29 P P 17 11 12.8 -0.3
baz=259
B18K **Kokolik River** 92.51 20 P P 17 11 13.2 +0.2
baz=255
M17K **Holitna River** 92.53 28 P P 17 11 13.3 -0.1
baz=259
P17K **Kvichak River** 92.61 31 P P 17 11 13.2 -0.5
baz=260
F18K **Selawik** 92.64 23 P P 17 11 13.6 -0.1
baz=257
Q17K **Contact Creek** 92.73 32 P P 17 11 14.0 -0.5
baz=260
BR104 **Keskin Array S** 92.73 310 P P 17 11 13.9 -1.1
comp=Z,73nmcomp=Z,9.9nm,0.9s
BR131 **Keskin Array S** 92.73 310 IAmb IAmb 17 11 15.1
comp=Z,8.5nm,0.8s
BRTR **Keskin Array B** 92.73 310 P P 17 11 14.2 -0.8
comp=Z,5.5nm,0.8s,baz=124,slow=5.2,SNR=33
comp=Z,5.5nm,0.8s
BR105 **Keskin Array S** 92.75 310 P P 17 11 14.0 -1.1
comp=Z,75nmcomp=Z,11nm,0.9s
BR106 **Keskin Array S** 92.75 310 P P 17 11 13.6 -1.5
comp=Z,70nmcomp=Z,10.0nm,0.9s
H18K **Honhosa River** 92.85 25 P P 17 11 15.1 +0.3
baz=258
G18K **Tagagawik** 92.89 24 P P 17 11 15.4 +0.5
baz=258
SNAA **Sanae** 92.94 195 ⇑P P 17 11 15.9 +0.8
comp=Z,55nm,0.6s
SNAA **Sanae** 92.94 195 P P 17 11 16.0 +0.8
comp=Z,1.9nm,0.7s,baz=136,slow=4.3,SNR=22
comp=Z,1.9nm,0.7s
OBN **Obninsk** 92.94 325 P P 17 11 14.4 -0.9
comp=Z,44nm,0.7s
L18K **Granite Mounta** 93.03 28 P P 17 11 15.8 +0.2
baz=260
N18K **Kilae Creek** 93.14 29 P P 17 11 15.6 -0.6
baz=260
C19K **Lookout Ridge** 93.22 21 P P 17 11 16.5 +0.1
baz=257
J18K **Innoko River** 93.24 26 IAmb IAmb 17 11 17.1
comp=Z,10nm,1.2s
J18K **Innoko River** 93.24 26 P P 17 11 16.0 -0.5
baz=260
Q18K **Katmai Hardscr** 93.25 31 P P 17 11 16.3 -0.5
baz=261
M18K **Stony River** 93.30 29 P P 17 11 15.9 -1.0
baz=260
O18K **Koktuh Hills** 93.34 30 P P 17 11 16.3 -0.8
baz=261
SII **Sitkinak Islan** 93.37 34 P P 17 11 16.6 -0.7
baz=262
ANTO **Ankara** 93.40 310 P P 17 11 17.5 -0.4
comp=Z,6.2nm,0.8s
F19K **Shaleruckik Mo** 93.42 23 P P 17 11 17.3 0.0
baz=259
G19K **Purcell Mounta** 93.56 24 P P 17 11 18.0 0.0
baz=260
H19K **Roundabout Mou** 93.71 24 P P 17 11 18.9 +0.3
baz=260
E19K **Redstone River** 93.75 22 P P 17 11 19.1 +0.4
baz=260
J19K **Poorman** 93.81 26 P P 17 11 19.5 +0.4
baz=261
N19K **Bonanza Creek** 93.84 29 IAmb IAmb 17 11 20.2
comp=Z,7.9nm,0.8s
N19K **Bonanza Creek** 93.84 29 P P 17 11 19.2 -0.3
baz=262,SNR=5.3
L19K **White Mountain** 93.87 28 IAmb IAmb 17 11 20.4
comp=Z,8.1nm,1.0s
L19K **White Mountain** 93.87 28 P P 17 11 19.3 -0.2
baz=261,SNR=5.2
OHAK **Old Harbor** 93.95 33 P P 17 11 19.3 -0.5
baz=262
Q19K **Cape Douglas,** 93.99 31 P P 17 11 20.2 +0.1
baz=262
M19K **Big River Lodg** 94.04 28 P P 17 11 20.3 +0.1
baz=262
D20K **Etivluk River** 94.20 21 P P 17 11 21.2 +0.3
baz=260
B20K **Meade River** 94.23 20 P P 17 11 21.3 +0.4
baz=260
F20K **Avaraart Lake** 94.25 23 IAmb IAmb 17 11 22.3
comp=Z,7.5nm,0.9s
F20K **Avaraart Lake** 94.25 23 P P 17 11 20.7 -0.3
baz=261
E20K **Nigu River** 94.27 22 P P 17 11 21.2 -0.1
baz=260,SNR=9.2
P19K **Oil Pt** 94.30 31 P P 17 11 21.3 -0.2
baz=262
H20K **Anotleneega Mo** 94.35 25 P P 17 11 21.6 0.0
baz=262
L20K **Farewell, AK** 94.36 28 P P 17 11 21.2 -0.5
baz=262,SNR=8.2
K20K **Telida** 94.39 27 IAmb IAmb 17 11 22.8
comp=Z,5.6nm,0.7s
K20K **Telida** 94.39 27 P P 17 11 21.8 0.0
baz=262,SNR=5.2
I20K **Naaghedeneel** 94.42 25 P P 17 11 21.9 0.0
baz=262
J20K **Nowinta River** 94.47 26 P P 17 11 22.1 0.0
baz=262
M20K **Styx River** 94.63 28 IAmb IAmb 17 11 23.7
comp=Z,6.3nm,0.8s
M20K **Styx River** 94.63 28 P P 17 11 22.3 -0.7
baz=263
B21K **Ikpikpuk River** 95.04 20 P P 17 11 24.6 0.0
baz=262
G21K **Allakaket** 95.05 24 IAmb IAmb 17 11 26.2
comp=Z,6.7nm,1.1s
G21K **Allakaket** 95.05 24 P P 17 11 24.7 0.0
baz=263
E21K **Killik River** 95.11 22 P P 17 11 24.7 -0.3
baz=263
F21K **Alatna River** 95.14 23 P P 17 11 25.0 -0.2
baz=263
PPLA **Purkeypile** 95.19 27 P P 17 11 25.5 -0.1
baz=264
H21K **Melozitna Rive** 95.23 25 P P 17 11 25.2 -0.4
baz=263
CHUM **Lake Minchumin** 95.24 26 P P 17 11 25.8 +0.2
baz=264
CAST **Castle Rocks** 95.29 27 P P 17 11 25.6 -0.3
baz=264,SNR=14
SKT **Skwentna** 95.39 28 IAmb IAmb 17 11 25.4
comp=Z,5.1nm,0.5s
SKT **Skwentna** 95.39 28 P P 17 11 24.9 -1.5
baz=264
I21K **Tanana** 95.52 25 P P 17 11 26.8 0.0
baz=264
LVZ **Lovozero** 95.54 338 P P 17 11 26.0 -1.0
comp=Z,21nm,2.8s
F22K **John River** 95.68 23 P P 17 11 28.1 +0.6
baz=264
SUA **Susitna One** 95.72 29 P P 17 11 27.5 -0.5
baz=265
H22K **Ishtalitna Cre** 95.84 24 P P 17 11 28.0 -0.3
baz=265
BPAW **Bear Paw Mtn.** 95.84 26 IAmb IAmb 17 11 28.7
comp=Z,4.0nm,0.6s
BPAW **Bear Paw Mtn.** 95.84 26 P P 17 11 27.8 -0.6
baz=265,SNR=5.5
E22K **Anaktuvuk Pass** 95.88 22 IAmb IAmb 17 11 29.8
comp=Z,9.8nm,0.8s
E22K **Anaktuvuk Pass** 95.88 22 P P 17 11 28.3 -0.2
baz=265
G22K **Bettles** 95.88 23 P P 17 11 28.4 0.0
baz=265
MLY **Manley** 96.03 25 IAmb IAmb 17 11 30.7
comp=Z,4.1nm,0.6s
MLY **Manley** 96.03 25 P P 17 11 28.8 -0.5
baz=265,SNR=7.3
YLV **Yalova** 96.07 310 P P 17 11 29.1 -0.9
comp=Z,16nm,0.9s
TRF **Thorofare Moun** 96.10 27 IAmb IAmb 17 11 29.5
comp=Z,7.6nm,0.9s
TRF **Thorofare Moun** 96.10 27 P P 17 11 28.4 -1.4
baz=266,SNR=5.3
O22K **Cooper Landing** 96.13 30 P P 17 11 28.9 -0.8
baz=266
RC01 **Rabbit Creek A** 96.17 29 P P 17 11 28.9 -1.0
baz=266
SEW **Seward** 96.24 30 P P 17 11 29.1 -1.0
baz=266
COLD **Coldfoot** 96.42 23 IAmb IAmb 17 11 32.1
comp=Z,7.9nm,1.1s
COLD **Coldfoot** 96.42 23 P P 17 11 30.1 -0.7
baz=266,SNR=5.4
G23K **Bananza Creek** 96.45 24 IAmb IAmb 17 11 32.6
comp=Z,7.0nm,0.9s
G23K **Bananza Creek** 96.45 24 P P 17 11 30.8 -0.2
baz=266,SNR=5.2
C23K **Itkillik River** 96.45 20 P P 17 11 31.0 0.0
baz=266
H23K **Yukon River** 96.59 24 P P 17 11 31.6 -0.1
baz=266
I23K **Minto, Yukon-K** 96.62 25 P P 17 11 31.6 -0.2
baz=266,SNR=9.1
E23K **Chandalar** 96.69 22 IAmb IAmb 17 11 33.7
comp=Z,12nm,1.1s
E23K **Chandalar** 96.69 22 P P 17 11 32.1 0.0
baz=267
MCK **McKinley** 96.72 27 IAmb IAmb 17 11 32.2
comp=Z,7.9nm,0.8s
MCK **McKinley** 96.72 27 P P 17 11 32.2 -0.1
baz=267
TOLK **Toolik Lake Re** 96.75 22 P P 17 11 32.4 +0.1
baz=267
KNK **Knik Glacier** 96.81 29 P P 17 11 32.2 -0.5
baz=267
AK09 **Malin Array Si** 96.85 320 P P 17 11 31.7 -1.4
AK08 **Malin Array Si** 96.87 320 P P 17 11 31.8 -1.4
AK10 **Malin Array Si** 96.87 320 P P 17 11 31.9 -1.3
AKASG **Malin Array Be** 96.89 320 P P 17 11 32.1 -1.2
comp=Z,2.8nm,0.6s,baz=81,slow=4.4,SNR=13
AKASG PP PP 17 15 40.5 +1.6
comp=Z,0.6nm,0.5s,baz=107,slow=13,SNR=5.1
comp=Z,2.8nm,0.6s
AKBB **Malin Array Si** 96.89 320 IAmb IAmb 17 11 32.9
comp=Z,6.2nm,0.8s
AKBB **Malin Array Si** 96.89 320 P P 17 11 31.6 -1.7
AK07 **Malin Array Si** 96.90 320 P P 17 11 31.7 -1.6
KIEV **Kiev** 96.90 320 P 17 11 31.6 -1.8
KIEV IAmb IAmb 17 11 32.9
comp=Z,5.6nm,0.8s
KIEV **Kiev** 96.90 320 P P 17 11 32.2 -1.2
KIEV **Kiev** 96.90 320 P P 17 11 31.6 -1.8
comp=Z,30nm,0.8s
D24K **Happy Valley** 97.04 21 P P 17 11 34.3 +0.7
baz=267
C24K **Franklin Bluff** 97.11 21 P P 17 11 34.3 +0.5
baz=268
E24K **Your Creek** 97.12 22 P P 17 11 34.6 +0.5
baz=268
WRH **Wood River Hil** 97.13 26 IAmb IAmb 17 11 33.9
comp=Z,5.6nm,0.9s
CCB **Clear Creek Bu** 97.26 26 IAmb IAmb 17 11 34.2
comp=Z,6.1nm,0.6s
P23K **Montague Islan** 97.26 30 P P 17 11 35.2 +0.4
baz=268
H24K **Noodor Dome** 97.27 25 IAmb IAmb 17 11 36.0
comp=Z,5.7nm,1.1s
H24K **Noodor Dome** 97.27 25 P P 17 11 35.3 +0.5
baz=268
SORM **Soroca** 97.32 318 P Pdif 17 11 33.5 -1.8
comp=Z,9.5nm,0.7s
F24K **Squaw Lake** 97.33 23 P P 17 11 35.4 +0.5
baz=268
SCM **Sheep Creek Mo** 97.37 29 P P 17 11 35.5 +0.2
baz=268
POKR **Poker Plat Res** 97.43 25 P P 17 11 35.9 +0.4
baz=268
G24K **Hadweenzic Riv** 97.46 24 P P 17 11 36.2 +0.6
baz=268
HDA **Harding Lake** 97.62 26 P Pdif 17 11 34.8 -1.5

baz=269
ILAR Eielson Array 97.66 26 P Pdif 17 11 34.9 -1.5
comp=Z,1.0nm,0.6s,baz=246,slow=4.8,SNR=18
ILAR PKKPbc **PKKPbc 17 28 11.1 -1.3**
comp=Z,0.2nm,0.5s,baz=59,slow=2.5,SNR=5.3
comp=Z,1.0nm,0.6s
Q23K Middleton Isla 97.77 31 P **P 17 11 37.3 +0.3**
baz=268
LUBAR Lubar, Ukraine 97.79 319 P Pdif 17 11 36.7 -0.7
MI28 Mi28,Pidlybu 97.89 320 P Pdif 17 11 36.0 -1.8
D25K Kavik River 97.92 21 P **P 17 11 38.2 +0.6**
baz=270
M24K Tolsona, Glenn 97.92 28 P Pdif 17 11 37.1 -0.6
baz=269
NDNU Novodnistrovsk 98.00 318 P Pdif 17 11 36.9 -1.4
G25K Bearman Lake 98.01 24 P **P 17 11 38.2 +0.2**
baz=270
KLU Klutina 98.03 29 P **P 17 11 38.7 +0.5**
baz=269
EYAK Cordova Ski Ar 98.10 30 P **P 17 11 38.7 +0.2**
baz=269
H25L Birch Creek 98.12 24 P **P 17 11 38.7 +0.2**
baz=270
K24K Donnelly Dome 98.12 27 P **P 17 11 38.9 +0.3**
baz=270
F25K Christian Rive 98.19 23 P **P 17 11 39.0 +0.2**
baz=270
PAX Paxson 98.26 27 P **P 17 11 39.3 0.0**
baz=270
J25K Salcha River, 98.31 26 P **P 17 11 39.4 -0.1**
baz=270
VRI Vrincioaia 98.32 315 P Pdif 17 11 39.7 -0.2
comp=Z,6.6nm,0.6s
PLOR5 Plostina Array 98.37 315 P Pdif 17 11 39.6 -0.5
comp=Z,551nmcomp=Z,4.6nm,2.1s
HARP HAARP 98.40 28 P Pdif 17 11 39.6 -0.3
baz=270
TESR Tescani 98.40 316 P Pdif 17 11 39.3 -0.9
C26K Camden Bay 98.43 20 P Pdif 17 11 39.4 -0.3
baz=271
RIDG Independent Ri 98.54 27 P Pdif 17 11 40.1 -0.3
baz=270
BMRM Bremner River 98.66 29 P **P 17 11 41.0 -0.1**
baz=270
N25K Chitina, Valde 98.67 29 P **P 17 11 41.1 -0.1**
baz=270
F26K Sheenjek River 98.76 23 P **P 17 11 41.6 +0.3**
baz=272
C27K Jago River 98.85 21 P **P 17 11 42.0 +0.3**
baz=272
SCRK Sand Creek 98.92 26 P **P 17 11 42.5 +0.2**
baz=271
FINES FINESS Array B 98.92 331 P Pdif 17 11 41.5 -0.6
comp=Z,2.9nm,0.7s,baz=90,slow=5.7,SNR=14
FINES PKiKP **PKiKP 17 16 09.3 +0.4**
comp=Z,1.1nm,0.5s,baz=107,slow=3.7,SNR=12
comp=Z,2.9nm,0.7s
G26K Porcupine Rive 98.92 23 P **P 17 11 42.4 +0.4**
baz=272
ARA0 ARCESS Array S 98.93 339 *e*P Pdif 17 11 42.0 0.0
ARCES ARCESS Array B 98.93 339 P Pdif 17 11 41.0 -1.0
comp=Z,6.0nm,0.8s,baz=86,slow=4.0,SNR=23
ARCES PKiKP **PKiKP 17 16 08.8 -0.1**
comp=Z,0.4nm,0.5s,baz=46,slow=1.7,SNR=5.6
ARCES PKKPbc **PKKPbc 17 28 06.1 -2.8**
comp=Z,1.4nm,0.9s,baz=320,slow=3.2,SNR=5.8
comp=Z,6.0nm,0.8s
RNPP9 Sopachiv 99.02 321 P Pdif 17 11 42.0 -0.8
RNPP8 Varash 99.04 321 P **Pdif 17 11 42.5 -0.4**
J26L Joseph Creek 99.09 26 P **Pdif 17 11 42.5 -0.4**
baz=272
I26K Coal Creek Min 99.24 25 P **Pdif 17 11 43.5 +0.1**
baz=272
CRQE Cirque 99.41 30 P **Pdif 17 11 44.9 +0.4**
baz=271
HAMF Hammerfest 99.49 340 *e*P **Pdif 17 11 43.3 -1.1**
E27K Coleen River 99.70 22 P **Pdif 17 11 45.9 +0.4**
baz=274
K27K Chicken 99.76 26 P **Pdif 17 11 46.1 +0.3**
baz=273
G27K Doyon Strip 99.77 23 P **Pdif 17 11 46.4 +0.6**
baz=274
KTK1 Kautokeino 99.77 339 *e*P **Pdif 17 11 44.9 -0.8**
H27K Steamboat Moun 99.86 24 P **Pdif 17 11 47.1 +0.9**
baz=274
I27K Kandik River 99.86 25 P **Pdif 17 11 47.0 +0.7**
baz=274
L27K Beaver Creek, 99.92 27 P **Pdif 17 11 47.3 +0.8**
baz=273
M27K Edge Creek, AK 99.93 28 P **Pdif 17 11 47.3 +0.5**
baz=273
MESA MESA 99.99 30 P **Pdif 17 11 47.8 +0.6**
baz=272
CTG Chitna Glacier 100.26 29 P **Pdif 17 11 48.8 +0.5**
baz=273
SPA0 Spitsbergen Ar 100.31 348 *e*P **Pdif 17 11 47.5 -0.5**
SPITS Spitsbergen Ar 100.31 348 P **Pdif 17 11 46.8 -1.2**
comp=Z,1.9nm,0.4s,baz=100,slow=9.4,SNR=23
F28M Old Crow 100.40 23 P **Pdif 17 11 49.6 +1.0**
baz=276
BVCY Beaver Creek 100.40 28 P **Pdif 17 11 49.5 +0.8**
baz=274
E28M Babbage River 100.42 22 P **Pdif 17 11 49.6 +0.9**
baz=276
I28M Miner Creek 100.57 25 P **Pdif 17 11 50.1 +0.6**
baz=275
JETT Jettan, Norway 100.71 339 *e*P **Pdif 17 11 49.7 -0.3**
O28M Mount Upton 100.83 30 P **Pdif 17 11 51.4 +0.4**
baz=274
YUK8 Steele Glacier 101.00 29 P **Pdif 17 11 51.9 +0.2**
baz=274
E29M Blow River 101.05 22 P **Pdif 17 11 52.1 +0.7**
baz=278
H29M Whitestone 101.13 24 P **Pdif 17 11 52.4 +0.5**
baz=277
G29M Pine Creek 101.19 23 P **Pdif 17 11 52.2 +0.1**
baz=277
TRO Tromso 101.22 340 *e*P **Pdif 17 11 50.9 -1.2**
I29M Ogilvie Camp, 101.26 25 P **Pdif 17 11 52.6 +0.2**
baz=277
M29M Somme Creek 101.51 28 P **Pdif 17 11 54.0 +0.3**
baz=276
YUK4 Talbot Arm 101.53 29 P **Pdif 17 11 54.5 +0.5**
baz=276
L29M L29M 101.59 27 P **Pdif 17 11 54.6 +0.6**
baz=276
EPYK Eagle Plains 101.78 24 P **Pdif 17 11 55.4 +0.6**
baz=278
K29M Barlow Dome 101.78 26 P **Pdif 17 11 55.2 +0.2**
baz=277
G30M tAoh Zraii Nji 101.88 23 P **Pdif 17 11 55.7 +0.5**
baz=279
F30M Barrier River 101.95 22 P **Pdif 17 11 55.2 -0.3**
baz=279
I30M Mount Dempster 102.08 25 P **Pdif 17 11 56.2 -0.1**
baz=278
J30M Hart River 102.19 26 P **Pdif 17 11 57.7 +0.9**
baz=278
M30M Minto, Yukon 102.26 28 P **Pdif 17 11 57.5 +0.5**
baz=277
P30M Million Dollar 102.48 30 P **Pdif 17 11 58.4 +0.3**
baz=277
G31M Satah River 102.65 23 P **Pdif 17 11 59.4 +0.8**
baz=281
STEI Steigen 102.84 338 *e*P **Pdif 17 11 58.1 -1.3**
FAUS Fauske 102.94 338 *e*P **Pdif 17 11 59.1 -0.7**
HFS Hagfors 105.09 330 Pdiff **Pdif 17 12 08.5 -1.0**
comp=Z,4.0nm,0.7s,baz=104,slow=6.3,SNR=13
HFS PP **PP 17 16 39.0 -0.1**
comp=Z,1.1nm,0.6s,baz=35,slow=5.3,SNR=3.8
NB2 NORSAR Subarra106.08 332 P **Pdif 17 12 12.9 -1.2**
comp=Z,2.8nm,1.0s,baz=74,slow=4.4
NOA NORSAR Array B 106.08 332 Pdiff **Pdif 17 12 13.0 -1.0**
comp=Z,1.3nm,0.8s,baz=74,slow=4.6,SNR=7.1
GERES GERESS Array B 107.01 319 PKiKP **PKiKP 17 16 24.4 +0.1**
comp=Z,1.0nm,0.7s,baz=104,slow=0.6,SNR=7.8
GERES PP **PP 17 16 51.5 -2.1**
comp=Z,0.4nm,0.6s,baz=59,slow=5.1,SNR=3.6
WTTA Wattenberg 108.62 317 *i* PKiKP **PKiKP 17 16 27.8 +0.3**
comp=Z,5.7nm,0.5s
WATA Walderalm 108.65 317 *i* PKiKP **PKiKP 17 16 27.5 0.0**
comp=Z,4.8nm,0.5s
MOTA Moosalm 108.96 317 *i* PKiKP **PKiKP 17 16 28.0 0.0**
comp=Z,4.0nm,0.7s
FETA Feichten 109.27 317 *i* PKiKP **PKiKP 17 16 28.9 +0.2**
comp=Z,7.7nm,1.4s
YKA Yellowknife Ar 112.04 24 PKiKP **PKiKP 17 16 32.8 -0.4**
comp=Z,2.8nm,0.5s,baz=314,slow=2.6,SNR=17

EKA Eskdalemuir Ar 115.15 329 PKP **PKPdf 17 16 39.0 -0.5**
comp=Z,0.4nm,0.3s,baz=49,slow=3.4,SNR=13
NVAR Mina Array Bea 118.56 50 PKP **PKiKP 17 16 47.2 +0.4**
comp=Z,1.9nm,0.5s,baz=259,slow=2.2,SNR=6.1
NVAR PKKPbc **PKKPbc 17 27 06.2 -0.4**
comp=Z,0.3nm,0.4s,baz=144,slow=4.8,SNR=3.5
TORD Torodi Ar. Bea 120.15 281 PKP **PKPdf 17 16 50.0 -0.2**
comp=Z,8.6nm,0.6s,baz=57,slow=2.3,SNR=31
PFO Pinyon Flats O 121.11 55 PKP **PKiKP 17 16 52.8 +0.9**
ESDC Sonseca Array 121.42 312 PKP **PKiKP 17 16 52.4 +0.2**
comp=Z,1.9nm,0.6s,baz=26,slow=2.5,SNR=14
FFC Flin Flon 121.79 28 **PKPdf 17 16 52.2 -0.1**
PDAR Pinedale Array 123.50 43 PKP **PKiKP 17 16 56.4 -0.1**
comp=Z,1.1nm,0.4s,baz=113,slow=1.3,SNR=26
PDAR PKKPbc **PKKPab 17 26 48.0 -0.4**
comp=Z,0.8nm,0.7s,baz=116,slow=3.4,SNR=6.2
DBIC Dimbokro 126.30 273 PKP **PKPdf 17 17 02.5 +0.5**
comp=Z,9.4nm,0.6s,baz=122,slow=1.5,SNR=13
RSSD Black Hills 126.50 39 **PKPdf 17 17 02.1 +0.2**
CRNM Carthage 128.80 52 **PKiKP 17 17 07.5 +0.2**
PLCA Paso Flores 130.81 168 PKP **PKiKP 17 17 10.9 -0.1**
comp=Z,2.8nm,0.6s,baz=256,slow=4.0,SNR=6.7
PLCA SKPbc **SKPbc 17 19 40.7 +0.5**
comp=Z,5.4nm,0.8s,baz=196,slow=1.1,SNR=12
SCHQ Schefferville 132.41 6 PKP **PKiKP 17 17 13.9 +0.2**
comp=Z,6.2nm,0.3s,baz=359,slow=2.2,SNR=13
TXAR Lajitas Array 132.78 57 PKhKP PKPpre 17 16 58.9
comp=Z,0.5nm,0.6s,baz=223,slow=2.7,SNR=3.9
TXAR PKP **PKiKP 17 17 15.7 +0.3**
comp=Z,1.9nm,0.5s,baz=211,slow=2.2,SNR=23
TXAR SKPbc **SKPbc 17 19 46.2 -1.2**
comp=Z,1.7nm,0.9s,baz=278,slow=3.7,SNR=8.2
CFA Coronel Fontan 140.10 168 PKhKP PKPpre 17 17 22.0
comp=Z,1.7nm,0.5s,baz=191,slow=5.0,SNR=8.4
CFA SKPbc **SKPbc 17 20 08.6 -0.4**
comp=Z,1.9nm,0.5s,baz=194,slow=3.9,SNR=5.2
LCO Las Campanas 141.96 163 **PKPdf 17 17 28.3 -2.9**
S51A Beattyville 142.64 33 **PKPdf 17 17 29.3 -2.4**
X48A Hartselle 142.79 40 **PKPdf 17 17 29.0 -3.1**
HAL Halifax 142.82 5 **PKPdf 17 17 29.8 -2.0**
MCWV Mont Chateau 142.94 27 **PKPdf 17 17 30.4 -1.8**
SSPA Standing Stone 142.97 24 **PKPdf 17 17 30.1 -2.1**
HRV Adam Dziewonsk 143.44 16 PKPbc 17 17 32.3 +0.6
Y49A Blount Mountai 143.57 40 PKPab 17 17 32.0 -0.3
AC02 Maricunga 144.46 164 **PKPab 17 17 37.2 +0.8**
GO02 Mina Guanaco 145.91 163 **PKPbc 17 17 41.2 +1.1**
CPUP Villa Florida 146.31 183 PKPbc **PKPdf 17 17 39.3 +0.9**
comp=Z,8.4nm,0.8s,baz=20,slow=2.6,SNR=40
HMBC Humberstone 150.36 159 **PKPbc 17 17 51.4 +0.3**
DWPF Disney Wildern 150.52 43 **PKiKP 17 17 51.5 0.0**
PB11 IPOC Station P 150.92 159 **PKiKP 17 17 53.2 +0.3**
GO01 Chusmiza 151.17 160 **PKiKP 17 17 54.2 +0.4**
RCBR Riachuelo 153.41 241 PKPab **PKPab 17 18 13.0 -0.2**
comp=Z,9.2nm,1.0s,baz=308,slow=23,SNR=4.2
BDFB Brasilia 154.54 205 PKP **PKPdf 17 17 51.5 +0.1**
comp=Z,1.0nm,0.3s,baz=12,slow=25,SNR=5.1
BDFB PKPab **PKPab 17 18 18.0 +0.2**
comp=Z,2.4nm,0.5s,baz=306,slow=4.4,SNR=3.3
LPAZ La Paz 154.67 159 PKP **PKPdf 17 17 52.9 +0.8**
comp=Z,3.2nm,0.8s,baz=143,slow=2.0,SNR=14
LPAZ PKPab **PKPab 17 18 20.5 +1.5**
comp=Z,7.1nm,0.7s,baz=171,slow=3.3,SNR=8.7
SIV San Ignacio 156.54 175 PKP **PKPdf 17 17 54.7 +0.8**
comp=Z,2.2nm,0.7s,baz=161,slow=2.4,SNR=10.0
SIV PKPab **PKPab 17 18 27.4 +1.1**
comp=Z,4.6nm,0.7s,baz=165,slow=4.1,SNR=13

NEIC 26 17:02:02.9±1.1, **37.00N**±0.01×**104.94W**±0.01, **h5**km±1km, **ML1.6**/10, **Error ellipse: s-maj=3.0km s-min=2.0km az=290.0, New Mexico**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T25A	**Trinidad**	**0.45**	**71**		Pg	17 02 12.4	+0.8
T25A				Sg	Sg	17 02 18.4	+1.0
T25A				IAML		17 02 18.8	
	comp=E,57nm,0.2s						
SDCO	**Great Sand Dun**	**0.87**	**329**	Pg	Pg	17 02 19.6	-0.1
SDCO				Sg	Sg	17 02 31.0	0.0
SDCO				IAML		17 02 31.8	
	comp=E,15nm,0.1s						
SDCO				IAML		17 02 38.8	
	comp=E,15nm,0.1s						
S22A	**4UR Ranch, Cre**	**1.68**	**297**		Pn	17 02 32.4	-0.9
RTBA	**Rita Blanca**	**1.85**	**107**	Pn	Pn	17 02 36.1	+0.6
PV02	**Paradox Valley**	**3.25**	**293**	Pn	Pn	17 02 54.9	+0.1

*MOS **26** 17:11:45.8±1.1, 31.67N×131.71E, h23km, mb4.6/12, Error ellipse: s-maj=11.2km s-min=6.9km az=110.4*
*NIED **26** 17:11:49.5, 31.76N×131.92E, h26km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}6.53; $M_{\theta\theta}$1.45; $M_{\phi\phi}$-7.98; $M_{r\theta}$2.59; $M_{r\phi}$-3.18; $M_{\theta\phi}$3.95; Fault plane solution: $M_0$9.12000×10^{15} NP1: ϕ_s182.00000°, δ32.00000°, λ67.00000°. NP2:ϕ_s29.00000°, δ61.00000°, λ104.00000°.*
*IDC **26** 17:11:49.3±2.4, 31.68N×131.54E, h28km±16km, mb3.8/19, mbtmp4.0/22, ML3.5/3, MS4.0/44 Error ellipse: s-maj=19.2km s-min=12.5km az=78.0*
*JMA **26** 17:11:49.5±0.2, 31.8N±0.3×131.9E±0.8, h26km±1km, MD4.3/36, MV4.4/36, HYUGANADA REGION*
JMA Felt II J1 at HYUGANADA REGION .
*NEIC **26** 17:11:50.1±2.2, 31.68N±0.04×131.84E±0.07, h34km±5km, mb4.6/37, Error ellipse: s-maj=9.3km s-min=5.8km az=76.0*
ISC 26 17:11:50.5±0.6, **31.68N**±0.04×**131.85E**±0.04, **h41**km±4km, **n201**, σ1°**66**/163, **mb4.5**/55, **MS4.1**/50, **6C-8D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNKG	**Nichinankitago**	**0.40**	**268**	⇓P	**Pn**	**17 11 58.6**	**-1.3**
JNKG	**Nichinankitago**	**0.40**	**268**	A	A	17 11 58.6	
	comp=N,38nm,2.5s,comp=E,30nm,2.5s						
JNAR	**Kushima--Naru**	**0.51**	**253**	⇓P	**Pn**	**17 12 01.3**	**-0.1**
JNAR	**Kushima--Naru**	**0.51**	**253**	A	A	17 12 01.3	
	comp=N,37nm,2.0s,comp=E,28nm,1.7s						
JTSN	**Tsuno**	**0.63**	**333**	⇓P	**Pn**	**17 12 01.1**	**-1.9**
JTSN				⇓S	**Sn**	**17 12 09.2**	**-2.9**
JTSN	**Tsuno**	**0.63**	**333**	A	A	17 12 01.1	
	comp=N,12nm,1.8s,comp=E,11nm,2.6s						
JTZ	**Takazaki**	**0.68**	**289**	*i* P	**Pn**	**17 12 03.1**	**-0.5**
JTZ				*e*S	**Sn**	**17 12 12.5**	**-0.7**
JTZ	**Takazaki**	**0.68**	**289**	A	A	17 12 03.1	
	comp=N,44nm,0.6s,comp=E,20nm,0.5s						
JHHC	**Hyugahichiya**	**0.78**	**347**	⇓*i*P	**Pn**	**17 12 03.2**	**-1.8**
JHHC				⇓S	**Sn**	**17 12 12.8**	**-2.7**
JHHC	**Hyugahichiya**	**0.78**	**347**	A	A	17 12 03.2	
	comp=N,12nm,0.7s,comp=E,21nm,0.5s						
JTSR	**Tashiro, Z**	**0.94**	**237**	A	A	17 12 08.1	
	comp=N,18nm,1.1s,comp=E,26nm,0.5s						
JKIT	**Kitakata**	**1.00**	**341**	A	A	17 12 06.9	
	comp=N,22nm,0.6s,comp=E,22nm,0.5s						
JSKE	**Saikikamae**	**1.12**	**2**	A	A	17 12 08.2	
	comp=N,10.0nm,2.5s,comp=E,13nm,2.2s						
JZO	**Okuchi**	**1.16**	**294**	A	A	17 12 10.5	
	comp=N,12nm,2.1s,comp=E,14nm,2.2s						
JIU3	**Izumi3**	**1.23**	**315**	*i* P	**Pn**	**17 12 11.4**	**+0.1**
JIU3				S	**Sn**	**17 12 27.7**	**+1.0**
JIU3	**Izumi3**	**1.23**	**315**	A	A	17 12 11.4	
	comp=N,14nm,1.3s,comp=E,13nm,3.5s						
JTN	**Tanegashima 3**	**1.26**	**216**	*i* P	**Pn**	**17 12 12.6**	**+0.9**
JTN	**Tanegashima 3**	**1.26**	**216**	A	A	17 12 12.6	
	comp=N,8.0nm,1.0s,comp=E,9.0nm,0.8s						
JUS	**Usuki**	**1.38**	**357**	A	A	17 12 12.5	
	comp=N,8.0nm,1.1s,comp=E,16nm,1.5s						
JTO	**Tosashimizu**	**1.43**	**34**	P	**Pn**	**17 12 11.4**	**-2.5**
JTO	**Tosashimizu**	**1.43**	**34**	A	A	17 12 11.4	
	comp=N,4.0nm,3.1s,comp=E,4.0nm,4.0s						
JHD	**Hondo**	**1.65**	**299**	A	A	17 12 17.8	
	comp=N,8.0nm,2.3s,comp=E,8.0nm,2.0s						
JNU	**Nakatsue**	**1.65**	**331**		**Pn**	**17 12 17.0**	**0.0**
JNU				Sn	**Sn**	**17 12 37.6**	**+0.5**
JNU	**Nakatsue**	**1.65**	**331**	Pg	**Pn**	**17 12 17.1**	**0.0**
	comp=E,161nm,0.3s,baz=41,slow=3.5,SNR=1157						
JNU				Lg	Lg	17 12 39.9	
	comp=E,115nm,0.3s,baz=78,slow=18,SNR=6.7						
JNU				LR	LR	17 12 46.7	
	comp=E,1μm,18.5s,baz=191,slow=37						
JNU	**Nakatsue**	**1.65**	**331**	P	**Pn**	**17 12 17.5**	**+0.4**
JNU	**Nakatsue**	**1.65**	**331**	A	A	17 12 17.1	
	comp=N,10.0nm,4.3s,comp=E,10.0nm,2.5s						
JBEP	**Beppuamama**	**1.69**	**347**	A	A	17 12 17.2	
	comp=N,22nm,1.8s,comp=E,28nm,2.1s						
JTA	**Tamana**	**1.69**	**319**	A	A	17 12 18.0	
	comp=N,8.0nm,2.3s,comp=E,6.0nm,5.6s						
JKI	**Kunimi**	**1.96**	**353**	A	A	17 12 21.1	
	comp=N,11nm,1.8s,comp=E,11nm,5.3s						
NGSJ	**Nagasakinomoza**	**1.98**	**299**	A	A	17 12 22.5	
	comp=N,4.0nm,2.1s,comp=E,8.0nm,2.7s						
JFI	**Itaya**	**2.13**	**325**	A		17 12 24.2	
	comp=N,5.0nm,4.7s,comp=E,3.0nm,2.2s						
JUR	**Ureshino**	**2.13**	**312**	A	A	17 12 24.5	
	comp=N,5.0nm,3.7s,comp=E,3.0nm,2.0s						
JMN	**Monobe**	**2.67**	**39**		**Pn**	**17 12 30.3**	**-0.7**
JMN	**Monobe**	**2.67**	**39**	P	**Pn**	**17 12 30.9**	**-0.1**
JII	**Iki**	**2.76**	**320**	A	A	17 12 33.3	
	comp=N,5.0nm,3.2s,comp=E,8.0nm,2.3s						
JTU	**Tsushima**	**3.50**	**325**	P	**Pn**	**17 12 42.2**	**-0.2**
INU	**Inuyama**	**5.66**	**48**		**Pn**	**17 13 12.1**	**0.0**
INU	**Inuyama**	**5.66**	**48**	P	**Pn**	**17 13 13.2**	**+1.2**
JOW	**Kunigami**	**5.75**	**214**		**Pn**	**17 13 12.9**	**-0.4**
JOW	**Kunigami**	**5.75**	**214**	Pn	**Pn**	**17 13 12.0**	**-1.3**
	comp=E,5.4nm,0.3s,baz=96,slow=21,SNR=39						
JOW				Sn	**Sn**	**17 14 15.7**	**-2.4**
	comp=E,6.7nm,0.3s,baz=116,slow=26,SNR=6.4						
	comp=E,10.0nm,0.3s						
JOW	**Kunigami**	**5.75**	**214**	P	**Pn**	**17 13 13.5**	**+0.2**
JMZ	**Minamidaito 2**	**5.86**	**185**		**Pn**	**17 13 14.7**	**-0.1**
JMZ	**Minamidaito 2**	**5.86**	**185**	P	**Pn**	**17 13 14.6**	**-0.3**
TJN	**Taejon**	**5.98**	**323**		**Pn**	**17 13 17.1**	**+0.6**
TJN	**Taejon**	**5.98**	**323**	P	**Pn**	**17 13 17.0**	**+0.6**
TJN	**Taejon**	**5.98**	**323**	P	**Pn**	**17 13 17.1**	**+0.6**
JGF	**Kuroka**	**6.03**	**48**	Pn	**Pn**	**17 13 17.7**	**+0.5**
JGF	**Kuroka**	**6.03**	**48**	P	**Pn**	**17 13 17.8**	**+0.5**
KSRS	**Korea Array**	**6.61**	**332**	Pn	**Pn**	**17 13 23.1**	**-1.9**
	comp=E,0.6nm,0.3s,baz=147,slow=14,SNR=16						
KSRS				Lg	Lg	17 15 13.6	
	comp=E,0.5nm,0.3s,baz=134,slow=25,SNR=4.9						
	comp=E,1.5nm,0.4s						
KSAR	**Wonju Array Be**	**6.61**	**331**		**Pn**	**17 13 25.3**	**+0.2**
KSAR	**Wonju Array Be**	**6.61**	**331**	P	**Pn**	**17 13 25.3**	**+0.2**
KS19	**Wonju Array Si**	**6.67**	**332**		**Pn**	**17 13 25.4**	**-0.5**
JHJ2	**Mitsune**	**6.89**	**76**	Pn	**Pn**	**17 13 27.9**	**-1.0**
JHJ2	**Mitsune**	**6.89**	**76**	P	**Pn**	**17 13 28.4**	**-0.5**
MAJO	**Matsushiro**	**7.17**	**46**		**Pn**	**17 13 31.9**	**-0.8**
MAJO	**Matsushiro**	**7.17**	**46**	P	**Pn**	**17 13 33.3**	**+0.6**
MAJO	**Matsushiro**	**7.17**	**46**	P	**Pn**	**17 13 31.9**	**-0.8**
MJB9	**Matsu-Tunnel**	**7.17**	**46**		**Pn**	**17 13 32.6**	**-0.1**
MJAR	**Matsushiro Arr**	**7.17**	**46**	Pn	**Pn**	**17 13 32.2**	**-0.5**
MJAR	**Matsushiro Arr**	**7.17**	**46**	Pn	**Pn**	**17 13 33.7**	**+1.0**
	comp=E,0.3nm,0.3s,baz=243,slow=14,SNR=18						
	comp=E,1.5nm,0.3s						
SSE	**Sheshan**	**9.13**	**269**	P	**Pn**	**17 13 57.3**	**-2.3**
SSE				S	**Sn**	**17 15 39.3**	**-1.8**
SSE				pmax	pmax		
	comp=E,4.0nm,0.5s						
SSE				pmax	pmax		
	comp=E,57nm,4.1s						
SSE				LR	LR		
	comp=E,170nm,14.3s						
SSE				LR	LR		
	comp=E,450nm,13.9s						
JCJ	**Chichijima**	**10.11**	**114**	LR	LR	17 17 38.8	
	comp=E,376nm,18.2s,baz=244,slow=34						
YOJ	**Yonaguni jima**	**10.61**	**230**	Pn	**Pn**	**17 14 18.8**	**-1.1**
YOJ	**Yonaguni jima**	**10.61**	**230**	P	**Pn**	**17 14 19.3**	**-0.6**
YOJ	**Yonaguni jima**	**10.61**	**230**	P	**Pn**	**17 14 18.8**	**-1.1**
NJ2	**Nanjing**	**11.05**	**275**	*e*P	**Pn**	**17 14 27.5**	**+1.5**
NJ2				pmax	pmax		
	comp=E,10.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**12.50**	**0**	LR	LR	17 19 17.6	
	comp=E,453nm,19.8s,baz=179,slow=36						
TIA	**Tai'an**	**13.03**	**294**	P	**Pn**	**17 14 55.0**	**+2.0**
TIA				pmax	pmax		
	comp=E,4.0nm,0.4s						
TIA				LR	LR		
	comp=E,1μm,11.3s						
TIA				LR	LR		
	comp=E,1μm,11.3s						
TIA				LR	LR		
	comp=E,2μm,11.7s						
TEY	**Ternei**	**13.84**	**14**	*e*P	**P**	**17 15 11.3**	**-0.2**
BNX	**BinXian**	**14.46**	**347**	⇓P	**P**	**17 15 19.5**	**+1.2**
BNX				pmax	pmax		
	comp=Z,14nm,0.7s						
HNS	**HongShan**	**15.23**	**297**	⇓P	**P**	**17 15 29.0**	**+2.1**
HNS				pmax	pmax		
	comp=Z,14nm,0.4s						
HNS				LR	LR		
	comp=N,1μm,16.5s						
HNS				LR	LR		
	comp=E,1μm,15.1s						
HNS				LR	LR		
	comp=Z,1μm,14.5s						
LYN	**LuoYang**	**16.49**	**285**	*e*P	**Pn**	**17 15 35.5**	**-3.2**
LYN				pP	P	17 15 43.0	+2.1
LYN				SS	**S**	**17 18 56.0**	**+4.8**
LYN				pmax	pmax		
	comp=Z,29nm,0.5s						
LYN				pmax	pmax		
	comp=Z,270nm,6.3s						
LYN				LR	LR		
	comp=Z,200nm,13.4s						
LYN				LR	LR		
	comp=Z,1μm,15.5s						
LYN				LR	LR		
	comp=Z,1μm,15.8s						
XLT	**XiLinHaoTe**	**17.40**	**319**	*e*P	**P**	**17 15 52.8**	**+1.7**
XLT				pP	pP	17 16 02.5	+1.4
XLT				pmax	pmax		
	comp=Z,4.0nm,1.1s						
XLT				pmax	pmax		
	comp=Z,130nm,3.8s						
XLT				LR	LR		
	comp=Z,1μm,14.9s						
XLT				LR	LR		
	comp=Z,1μm,14.0s						
YSS	**Yuzhno-Sakhali**	**17.41**	**26**	*e*P	P	17 15 58.9	+7.9
YSS				pmax	pmax		
	comp=Z,20nm,1.3s						
HHC	**Hu-ho-hao-te**	**18.71**	**305**	*e*P	**Pn**	**17 16 08.3**	**+2.1**
HHC				pmax	pmax		
	comp=Z,17nm,0.5s						
HHC				pmax	pmax		
	comp=Z,120nm,4.0s						
HHC				LR	LR		
	comp=Z,390nm,12.5s						
HHC				LR	LR		
	comp=Z,860nm,12.7s						
HHC				LR	LR		
	comp=Z,1μm,13.0s						
HEH	**HeiHe**	**18.85**	**351**	*e*P	**Pn**	**17 16 08.3**	**+0.6**
HEH				pP	**pP**	**17 16 18.3**	**+1.6**
HEH				S	**S**	**17 19 39.3**	**+0.4**
HEH				pmax	pmax		
	comp=Z,10.0nm,1.5s						
HEH				LR	LR		
	comp=Z,240nm,14.5s						
HEH				LR	LR		
	comp=Z,370nm,14.4s						
HEH				LR	LR		
	comp=Z,450nm,16.5s						
ENH	**Enshi**	**19.22**	**272**		**P**	**17 16 09.1**	**-2.1**
ENH				IAmb	IAmb	17 16 14.6	
	comp=Z,65nm,1.5s						
XAN	**Xi'an**	**19.40**	**283**	P	**P**	**17 16 12.8**	**-0.3**
XAN				pP	pP	17 16 23.0	-0.2
XAN				pmax	pmax		
	comp=Z,14nm,1.2s						
BTO	**Baotou**	**19.71**	**303**	*e*P	**Pn**	**17 16 20.5**	**+2.3**
BTO				pP	**sP**	**17 16 29.3**	**-2.4**
BTO				sP	**pP**	**17 16 33.8**	**+7.2**
BTO				PP	**PnPn**	**17 16 39.5**	**+7.0**
BTO				S	**Sn**	**17 19 57.5**	**-1.2**
BTO				pmax	pmax		
	comp=Z,18nm,1.6s						
BTO				pmax	pmax		
	comp=Z,280nm,6.7s						
BTO				LR	LR		
	comp=Z,2μm,15.5s						
BTO				LR	LR		
	comp=Z,2μm,14.7s						
BTO				LR	LR		
	comp=Z,3μm,14.8s						
GUMO	**Guam**	**21.61**	**143**	LR	LR	17 24 23

QIZ LR LR
comp=Z,130nm,15.7s
QIZ LR LR
comp=Z,120nm,15.5s
QIZ LR LR
comp=Z,320nm,14.7s
LZH Lanzhou 23.62 288 *e*P **P 17 16 59.3 +1.3**
LZH pP pP 17 17 06.8 -1.9
LZH sP sP 17 17 14.8 +1.1
LZH pmax pmax
comp=Z,22nm,1.1s
LZH LR LR
comp=Z,330nm,13.0s
LZH LR LR
comp=Z,460nm,15.9s
LZH LR LR
comp=Z,550nm,14.3s
ULN Ulaanbaatar 24.83 318*ce*P **P 17 17 07.8 -1.2**
ULN pmax pmax
comp=Z,18nm,1.7s
DAV Davao City (W) 25.18 195 LR LR 17 28 46.8
comp=Z,111nm,18.7s,baz=22,slow=40
SONM Songino Array 25.19 317 P 17 17 11.7 -0.6
SONM Songino Array 25.19 317 P **P 17 17 11.8 -0.4**
comp=Z,3.2nm,0.6s,baz=133,slow=9.6,SNR=24
SONM LR LR 17 28 38.9
comp=Z,652nm,18.2s,baz=130,slow=40
comp=Z,3.2nm,0.6s
SONM Songino Array 25.19 317 P **P 17 17 11.7 -0.6**
SONM pmax pmax
comp=Z,16nm,1.4s
PZH PanZhiHua 26.76 267 P **P 17 17 28.3 +1.7**
PZH S **S 17 21 57.0 -2.9**
PZH sS **sS 17 22 17.8 -0.2**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,90nm,7.1s
PZH LR LR
comp=Z,200nm,20.4s
PZH LR LR
comp=Z,190nm,12.6s
PZH LR LR
comp=Z,310nm,12.8s
GTA Gaotai 27.08 295 *e*P **P 17 17 30.5 +1.1**
GTA pP pP 17 17 40.0 -0.4
GTA sS sS 17 22 24.5 +1.7
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA LR LR
comp=Z,160nm,13.8s
GTA LR LR
comp=Z,660nm,16.0s
GTA LR LR
comp=Z,760nm,15.6s
PETK Petropavlovsk- 28.42 34 P **P 17 17 43.5 +2.5**
comp=Z,0.7nm,0.8s,baz=235,slow=5.1,SNR=4.6
comp=Z,0.7nm,0.8s
YAK Yakutsk 30.40 358 LR LR 17 30 24.8
comp=Z,308nm,18.5s,baz=167,slow=37
CHTO Chiang Mai 32.27 255 P **P 17 18 15.1 -0.3**
CHTO Chiang Mai 32.27 255 P **P 17 18 15.1 -0.3**
CHTO pmax pmax
comp=Z,6.0nm,1.3s
CMAR Chiang Mai Arr 32.45 254 LR LR 17 32 57.2
comp=Z,194nm,19.2s,baz=60,slow=39
FAKI Fak Fak 34.41 179 P **P 17 18 33.5 -0.5**
JAY Jayapura 35.03 164 LR LR 17 32 15.1
comp=Z,114nm,18.4s,baz=188,slow=35
WMQ Urumqi 36.55 302 *e*P **P 17 18 54.3 +2.0**
WMQ LR LR
comp=Z,300nm,13.3s
WMQ LR LR
comp=Z,620nm,17.7s
WMQ LR LR
comp=Z,350nm,24.5s
BRDH Bariadhala 36.70 266 LR LR 17 36 51.9
comp=Z,214nm,18.3s,baz=118,slow=41
IPM Ipoh 39.60 233 P **P 17 19 17.4 -0.8**
IPM lAmb lAmb 17 19 20.1
comp=Z,7.9nm,0.9s
TIXI Tiksi 40.06 359 LR LR 17 36 44.1
comp=Z,271nm,18.6s,baz=186,slow=37
ZALV Zalesovo Beam 40.09 318 LR LR 17 36 41.0
comp=Z,157nm,19.4s,baz=115,slow=37
MK31 Makanchi Array 40.56 306 *i*P **P 17 19 23.4 -2.5**
MKAR Makanchi Array 40.56 306 P **P 17 19 24.8 -1.1**
comp=Z,1.4nm,0.4s,baz=89,slow=11,SNR=34
MKAR LR LR 17 37 45.4
comp=Z,289nm,19.3s,baz=93,slow=39
comp=Z,1.4nm,0.4s
MAKZ Makanchi 40.77 306 P **P 17 19 26.9 -0.7**
MAKZ Makanchi 40.77 306 P **P 17 19 26.9 -0.7**
MAKZ pmax pmax
comp=Z,2.0nm,0.6s
BILL Bilibino 41.52 19 *i*P **P 17 19 32.5 -0.9**
BILL pmax pmax
comp=Z,8.0nm,1.0s
PSI Prapat 42.25 234 LR LR 17 38 21.3
comp=Z,84nm,19.4s,baz=56,slow=38
KURK Kurchatov 43.29 312*ce*P **P 17 19 46.8 -1.2**
KURK pmax pmax
comp=Z,7.0nm,2.5s
KURBB Kurchatov Arra 43.34 312 P **P 17 19 47.5 -0.9**
comp=Z,1.0nm,0.2s,baz=98,slow=9.7,SNR=7.5
KURBB LR LR 17 39 40.9
comp=Z,488nm,18.5s,baz=168,slow=39
comp=Z,1.0nm,0.2s
PMG Port Moresby 43.40 158 LR LR 17 37 46.9
comp=Z,123nm,18.5s,baz=316,slow=36
GSI Gunungsitoli 44.26 234 P **P 17 19 55.9 -0.4**
KSH Kashi 45.48 296 P **P 17 20 09.0 +3.2**
KSH pmax pmax
comp=Z,3.0nm,1.4s
KSH LR LR
comp=Z,160nm,12.4s
KSH LR LR
comp=Z,400nm,17.9s
KSH LR LR
comp=Z,570nm,17.5s
AAK Ala-Archa 46.20 301 LR LR 17 42 04.2
comp=Z,304nm,18.1s,baz=70,slow=40
KNRA Kununurra 47.18 184 P **P 17 20 18.4 -0.7**
KNRA lAmb lAmb 17 20 44.5
comp=Z,13nm,1.2s
BVAR Borovoye Array 48.50 315 P **P 17 20 28.4 -0.7**
comp=Z,2.7nm,0.5s,baz=100,slow=9.9,SNR=25
BVAR PcP **PcP 17 21 54.6 0.0**
comp=Z,0.8nm,0.4s,baz=120,slow=3.4,SNR=4.8
BVAR LR LR 17 41 28.8
comp=Z,88nm,18.2s,baz=90,slow=37
comp=Z,2.7nm,0.5s
BRVK Borovoye 48.57 315 P **P 17 20 28.3 -1.3**
BRVK lAmb lAmb 17 20 29.9
comp=Z,3.2nm,0.6s
BRVK Borovoye 48.57 315 P **P 17 20 28.3 -1.3**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
KK31 Karatay Array 49.05 302 P **P 17 20 31.6 -1.9**
KK31 Karatay Array 49.05 302 P **P 17 20 31.6 -1.9**
KK31 pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 49.05 302 P **P 17 20 32.1 -1.4**
KKAR Karatay Array 49.05 302 P **P 17 20 32.1 -1.4**
WB0 Warramunga Arr 51.21 177 P **P 17 20 49.7 -0.2**
WB0 lAmb lAmb 17 21 04.6
comp=Z,7.2nm,1.1s
WB0 PcP **PcP 17 22 07.5 +2.6**
WRA Warramunga Arr 51.38 177 P **P 17 20 52.0 +0.8**
comp=Z,1.4nm,0.8s,baz=351,slow=7.6,SNR=12
comp=Z,1.4nm,0.8s
WRA Warramunga Arr 51.38 177 P **P 17 20 52.0 +0.8**
WB2 Warramunga Arr 51.38 177 P **P 17 20 51.1 -0.1**
WB2 lAmb lAmb 17 21 03.7
comp=Z,5.2nm,0.8s
K17K Iditarod 53.19 3 P **P 17 21 05.8 +1.6**
K17K lAmb lAmb 17 21 41.4
comp=Z,6.6nm,1.1s
CTAO Charters Tower 53.30 163 P **P 17 21 04.6 -0.8**
CTAO Charters Tower 53.30 163 P **P 17 21 04.6 -0.8**
CTAO pmax pmax
comp=Z,23nm,1.5s
PALK Pallekele 53.39 254 LR LR 17 45 51.5
comp=Z,103nm,18.9s,baz=46,slow=38
N17K Nushagak Hills 53.72 35 P **P 17 21 09.9 +1.7**
N17K lAmb lAmb 17 21 21.0
comp=Z,6.1nm,1.1s
L18K Granite Mounta 53.94 33 P **P 17 21 10.8 +1.1**
L18K lAmb lAmb 17 21 46.7
comp=Z,11nm,1.4s
H19K Roundabout Mou 54.08 29 P **P 17 21 10.2 -0.4**
J20K Nowinta River 55.06 31 P **P 17 21 18.6 +0.8**
J20K lAmb lAmb 17 21 30.7
comp=Z,6.8nm,1.2s
AS31 Alice Springs 55.07 178 P **P 17 21 17.7 -0.6**
ASAR Alice Springs 55.07 178 P **P 17 21 17.9 -0.4**
ASAR Alice Springs 55.07 178 P **P 17 21 18.9 +0.5**
comp=Z,1.6nm,0.9s,baz=12,slow=13,SNR=15
comp=Z,1.6nm,0.9s
K20K Telida 55.12 32 P **P 17 21 18.8 +0.5**
K20K lAmb lAmb 17 21 30.0
comp=Z,11nm,1.5s
ARTI Arti 55.30 320 P **P 17 21 18.0 -1.6**
ARTI Arti 55.30 320 LR LR 17 48 44.2
comp=Z,106nm,18.4s,baz=88,slow=40
ARTI Arti 55.30 320*c i*P **P 17 21 17.6 -2.0**
ARTI S **S 17 28 59.0 -1.5**
ARTI pmax pmax
comp=Z,11nm,2.0s
KDAK Kodiak Island 56.28 39 P **P 17 21 28.0 +1.4**
KDAK Kodiak Island 56.28 39 P **P 17 21 28.0 +1.4**
KDAK pmax pmax
comp=Z,13nm,1.0s
AKTO Aktyubinsk 56.38 312 LR LR 17 47 59.5
comp=Z,139nm,18.7s,baz=324,slow=39
E24K Your Creek 57.20 26 P **P 17 21 35.1 +2.0**
E24K lAmb lAmb 17 21 59.2
comp=Z,7.5nm,1.1s
ILAR Eielson Array 58.15 30 P **P 17 21 41.3 +1.5**
comp=Z,0.4nm,0.6s,baz=292,slow=8.1,SNR=4.4
ILAR LR LR 17 49 04.3
comp=Z,31nm,18.6s,baz=264,slow=38
comp=Z,0.4nm,0.6s
F25K Christian Rive 58.31 27 P **P 17 21 43.6 +2.7**
F25K lAmb lAmb 17 22 18.6
comp=Z,5.1nm,1.1s
F26K Sheenjek River 58.87 26 P **P 17 21 47.3 +2.5**
M27K Edge Creek, AK 60.78 32 P **P 17 21 59.8 +1.7**
BELG Belogornoye 62.25 316 LR LR 17 51 11.5
comp=Z,181nm,19.1s,baz=12,slow=38
I30M Mount Dempster 62.43 28 P **P 17 22 10.8 +1.6**
I30M lAmb lAmb 17 22 12.7
comp=Z,9.9nm,1.5s
INK Inuvik 62.64 25 LR LR 17 52 58.6
comp=Z,42nm,18.4s,baz=24,slow=39
DZM Mont Dzumac 62.89 144 *e*LR LR 17 40 56.6
comp=Z,74nm,24.1s
STKA Stephens Creek 63.88 171 P **P 17 22 20.4 +1.5**
STKA Stephens Creek 63.88 171 P **P 17 22 17.9 -1.0**
comp=Z,0.7nm,0.4s,baz=348,slow=6.7,SNR=5.3
comp=Z,0.7nm,0.4s
STKA Stephens Creek 63.88 171 P **P 17 22 20.4 +1.5**
STKA pmax pmax
comp=Z,29nm,0.7s
SPITS Spitsbergen Ar 64.17 348 P **P 17 22 20.5 +0.2**
comp=Z,5.8nm,1.0s,baz=75,slow=4.4,SNR=4.7
SPITS LR LR 17 52 17.0
comp=Z,115nm,19.9s,baz=40,slow=38
comp=Z,5.8nm,1.0s
MAK Makhachkala 65.38 307 *e*P **P 17 22 26.7 -2.0**
MAK *e* 17 24 50.4
MAK *e*PPP PPP 17 26 28.1
MAK *e*S **S 17 31 08.8 -1.2**
MAK *e*SS **SS 17 35 22.2 -1.0**
MAK pmax pmax
comp=Z,174nm,1.8s
MAK MLR MLR
comp=Z,467nm,16.0s
MMPY Sheldon Lake, 65.41 30 P **P 17 22 30.3 +1.6**
MMPY lAmb lAmb 17 22 41.6
comp=Z,4.9nm,1.2s
ARCES ARCESS Array B 66.12 338 P **P 17 22 32.4 -0.6**
comp=Z,4.1nm,1.0s,baz=64,slow=8.2,SNR=4.9
ARCES LR LR 17 56 28.2
comp=Z,100nm,18.9s,baz=66,slow=41
comp=Z,4.1nm,1.0s
OBN Obninsk 67.50 322 LR LR 17 55 52.9
comp=Z,140nm,19.3s,baz=159,slow=39
OBN Obninsk 67.50 322‖ *e*P **P 17 22 41.2 -0.8**
OBN *e* 17 25 09.5
OBN *e*S S 17 31 59.7 +24
OBN pmax pmax
comp=Z,3.0nm,0.7s
OBN MLR MLR
comp=Z,215nm,15.0s
KBZ Khabaz 68.20 309 LR LR 17 56 55.2
comp=Z,206nm,18.1s,baz=50,slow=40
KIV Kislovodsk 68.25 309 *e*P **P 17 22 43.8 -3.4**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,126nm,17.0s
GNI Garni 68.37 305 LR LR 17 56 29.0
comp=Z,87nm,18.1s,baz=79,slow=39
FIA1 FINESS Array S 69.69 330 P **P 17 22 54.2 -1.4**
FINES FINESS Array B 69.69 330 P **P 17 22 54.4 -1.3**
comp=Z,1.4nm,0.4s,baz=72,slow=6.1,SNR=31
FINES LR LR 17 56 27.7
comp=Z,197nm,19.3s,baz=62,slow=38
comp=Z,1.4nm,0.4s
FINES FINESS Array B 69.69 330 P **P 17 22 54.5 -1.1**
AKASG Malin Array Be 73.45 320 P **P 17 23 17.5 -0.9**
comp=Z,1.7nm,0.4s,baz=59,slow=6.2,SNR=6.0
AKASG LR LR 17 58 01.7
comp=Z,180nm,18.2s,baz=49,slow=38
comp=Z,1.7nm,0.4s
AKBB Malin Array Si 73.45 320 P **P 17 23 16.8 -1.6**
AKBB lAmb lAmb 17 23 42.5
comp=Z,3.3nm,0.7s
AKBB Malin Array Si 73.45 320 P **P 17 23 16.8 -1.6**
AKBB pmax pmax
comp=Z,3.0nm,0.7s
KIEV Kiev 73.46 320 P **P 17 23 16.9 -1.5**
KIEV Kiev 73.46 320 P **P 17 23 17.0 -1.5**
KIEV pmax pmax
comp=Z,3.0nm,0.7s
HFS Hagfors 75.45 333 P **P 17 23 28.1 -1.9**
comp=Z,0.5nm,0.4s,baz=64,slow=6.8,SNR=7.4
HFS LR LR 17 58 47.7
comp=Z,79nm,19.7s,baz=46,slow=37
comp=Z,0.5nm,0.4s
NC405 NORSAR Array S 75.58 334 P **P 17 23 29.9 -0.7**
NC405 lAmb lAmb 17 23 53.0
comp=Z,8.1nm,1.3s
NB2 NORSAR Subarra 75.81 334 P **P 17 23 30.1 -1.9**
comp=Z,0.5nm,0.6s,baz=49,slow=5.9
NOA NORSAR Array B 75.81 334 P **P 17 23 31.3 -0.7**
comp=Z,0.2nm,0.5s,baz=52,slow=5.4,SNR=1.9
NOA LR LR 18 00 10.8
comp=Z,168nm,18.2s,baz=35,slow=38
comp=Z,0.2nm,0.5s
BRTR Keskin Array B 76.18 308 P **P 17 23 34.0 -0.6**
comp=Z,0.8nm,0.9s,baz=130,slow=1.9,SNR=4.4
comp=Z,0.8nm,0.9s
BRTR Keskin Array B 76.18 308*ce*P **P 17 23 34.9 +0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.4s
ILON Igloolik, Nuna 76.28 12 P **P 17 23 34.7 +0.3**
ILON lAmb lAmb 17 23 50.5
comp=Z,7.2nm,1.0s
BURAR Bucovina Array 77.30 318 P **P 17 23 40.0 -0.8**
ASF Jabal al Asfar 77.61 300 LR LR 18 04 03.8
comp=Z,38nm,18.9s,baz=74,slow=40
MLR Muntele Rosu 78.04 316 LR LR 18 01 21.2
comp=Z,198nm,19.5s,baz=60,slow=38
MMAI Mount Meron Ar 78.28 301 LR LR 18 02 50.6
comp=Z,64nm,19.0s,baz=30,slow=39
NEW Newport 79.38 39 LR LR 18 01 05.2
comp=Z,24nm,18.8s,baz=337,slow=37
VRAC Vranov 80.96 323 LR LR 18 04 25.2
comp=Z,182nm,19.4s,baz=52,slow=39
CLL Collm 81.45 326 *ep*P **pP 17 24 12.0 -3.3**
CLL *i* (sP) sP 17 24 15.1 -4.7
comp=Z,4.0nm,0.8s
J08A Circle Bar Ran 81.48 44 P **P 17 24 03.3 -0.3**
J08A lAmb lAmb 17 24 16.8
comp=Z,4.9nm,0.8s
BORG Borgarnes 81.62 349 LR LR 18 03 13.0
comp=Z,23nm,18.4s,baz=331,slow=38
GERES GERESS Array B 82.72 324 LR LR 18 05 19.5
comp=Z,361nm,18.6s,baz=81,slow=39
FRB Frobisher Bay 83.53 9 LR LR 18 03 44.5
comp=Z,71nm,18.3s,baz=334,slow=37
NVAR Mina Array Bea 84.48 48 P **P 17 24 21.9 +2.4**
comp=Z,0.5nm,0.8s,baz=289,slow=4.2,SNR=8.0
comp=Z,0.5nm,0.8s
EKA Eskdalemuir Ar 85.16 336 P **P 17 24 21.4 -0.7**
comp=Z,0.2nm,0.4s,baz=45,slow=4.5,SNR=5.7
comp=Z,0.2nm,0.4s
BFO Black Forest 85.69 326*ce*P **P 17 24 24.6 -0.4**
DAVOX Davos/Dischmat 86.02 324 LR LR 18 07 34.5
comp=Z,399nm,18.8s,baz=85,slow=39
PDAR Pinedale Array 86.96 40 P **P 17 24 33.5 +1.9**
comp=Z,0.3nm,0.6s,baz=247,slow=1.8,SNR=8.2
comp=Z,0.3nm,0.6s
PPT2 Papeete2 89.77 111 *e*LR LR 17 53 18.2
comp=Z,38nm,23.0s
PPT2 *e*LR LR 17 53 21.3
comp=Z,96nm,29.8s
SCHQ Schefferville 92.35 11 LR LR 18 08 45.0
comp=Z,53nm,20.5s,baz=44,slow=37
TAOE Nuku Hiva Isla 92.90 99 *e*LR LR 17 55 00.2
comp=Z,190nm,29.0s
TBI Tubuai 93.00 116 *e*LR LR 17 54 48.2
comp=Z,226nm,28.0s
KEST Kesra 93.95 317 LR LR 18 13 02.6
comp=Z,64nm,19.7s,baz=331,slow=39
ESDC Sonseca Array 98.02 327 LR LR 18 15 59.3
comp=Z,197nm,18.3s,baz=26,slow=39

*IDC **26** 17:34:26.7±2.5,7°.17S×108°.90E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=138.7km s-min=12.7km az=20.0*
*DJA **26** 17:34:28.8±0.3,7°S±5°×10°9E±°, h10km, M3.2/11, MLv3.2/11*
ISC 26 17:34:28.4±0.9,**7°.36S**±0°.09×**108°.70E**±0°.06,**h10**km,**n13,** σ**0s71**/13,**mb3.2**/3,**Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.50**	**211**	P		P	**Pg**	**17 34 38.1**	**+0.1**
LEM	**Lembang**	**1.20**	**296**	Pg		Pg	**Pb**	**17 34 51.2**	**-0.1**
	26nm,0.3s,baz=54,slow=9.0,SNR=16								
LEM				Lg		Lg		17 35 09.8	
	23nm,0.3s,baz=340,slow=23,SNR=9.0								
LEM	**Lembang**	**1.20**	**296**	P		P	**Pb**	**17 34 51.2**	**-0.1**
CNJI	**Cibinong**	**1.56**	**272**	P		P	**Pn**	**17 34 56.2**	**0.0**
UGM	**Wanagama**	**1.89**	**107**	P		P	**Pn**	**17 35 01.6**	**+0.9**
DBJI	**Dramaga**	**2.10**	**292**	Pg		Pg	**Pn**	**17 35 08.4**	**-0.2**
SKJI	**Sukabumi**	**2.16**	**279**	P		P	**Pn**	**17 35 05.6**	**+1.2**
WOJI	**Wonogiri, Jawa**	**2.25**	**102**	P		P	**Pn**	**17 35 06.2**	**+0.5**
PCJI	**Pacitan**	**2.59**	**109**	P		P	**Pn**	**17 35 11.2**	**+0.9**
CGJI	**Cibinong**	**3.08**	**284**	P		P	**Pn**	**17 35 18.1**	**+1.0**
WRA	**Warramunga Arr**	**27.82**	**119**	P		P	**P**	**17 40 17.5**	**-0.6**
	0.4nm,0.8s,baz=292,slow=11,SNR=6.6								
	0.4nm,0.8s								
ASAR	**Alice Springs**	**29.11**	**127**	P		P	**P**	**17 40 29.2**	**-0.5**
	0.2nm,0.6s,baz=303,slow=8.5,SNR=8.8								
	0.2nm,0.6s								
STKA	**Stephens Creek**	**39.16**	**133**	P		P	**P**	**17 41 56.0**	**-0.5**
	0.6nm,0.5s,baz=318,slow=14,SNR=2.0								
	0.6nm,0.5s								

*IDC **26** 18:00:59.5±8.5,36°.37N×70°.89E, h92km±59km, mb3.8/6, mbtmp4.0/11, ML3.6/5, Error ellipse: s-maj=72.3km s-min=40.2km az=169.0*
*NNC **26** 18:01:04.6±11.0,36°.96N×70°.42E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=89.7km s-min=67.2km az=171.0*
ISC 26 18:01:01.4±1.8,**36°.5N**±0°.1×**70°.8E**±0°.1,**h100**km,**n20,** σ**1s44**/22,**mb3.9**/5,**4C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**6.45**	**26**	P		P	**Pn**	**18 02 37.1**	**+3.0**
	SNR=22								
EKS2	**Erkin-Say**	**6.62**	**20**	P		P	**Pn**	**18 02 38.3**	**+2.2**
	SNR=12								
KK31	**Karatay Array**	**6.64**	**358**	⇑P		P	**Pn**	**18 02 38.4**	**+2.2**
	12nm,0.3s,baz=177,slow=12								
KK31				⇑S		S	**Sn**	**18 03 49.9**	**-0.5**
	19nm,0.5s,baz=188,slow=22								
AAK	**Ala-Archa**	**6.81**	**24**	⇑P		P	**Pn**	**18 02 40.5**	**+1.7**
	2.0nm,0.4s								
AAK				⇓S		S	**Sn**	**18 03 55.0**	**+0.2**
	4.0nm,0.5s								
AAK	**Ala-Archa**	**6.81**	**24**	P		P	**Pn**	**18 02 37.0**	**-1.8**
	4.6nm,0.3s,baz=205,slow=4.9,SNR=9.1								
AAK				S		S	**Sn**	**18 03 54.3**	**-0.6**
	7.4nm,0.5s,baz=330,slow=23,SNR=10								
	4.8nm,0.3s								
CHMS	**Chumysh**	**7.22**	**24**	P		P	**Pn**	**18 02 45.7**	**+1.5**
	SNR=8.5								
USP	**Ospenovka**	**7.38**	**22**	P		P	**Pn**	**18 02 46.4**	**0.0**
	SNR=6.5								
TKM2	**Tokmak 2**	**7.45**	**29**	P		P	Pn	18 02 51.2	+3.7
	SNR=25								
MKAR	**Makanchi Array**	**13.44**	**36**	P		P	**Pn**	**18 04 06.8**	**-1.0**
	0.1nm,0.3s,baz=217,slow=13,SNR=14								
	1.3nm,0.7s								
KURBB	**Kurchatov Arra**	**15.22**	**19**	P		P	**Pn**	**18 04 28.9**	**-1.8**
	0.1nm,0.3s,baz=206,slow=11,SNR=12								
	0.4nm,0.6s								
BVAR	**Borovoye Array**	**16.56**	**359**	P		P	**P**	**18 04 47.6**	**-0.6**
	0.1nm,0.3s,baz=168,slow=11,SNR=9.6								
	1.6nm,0.7s								
AKTO	**Aktyubinsk**	**16.71**	**331**	⇓P		P	**P**	**18 04 51.5**	**+1.6**
	4.0nm,0.8s								
AKTO				⇑S		S	**Sn**	**18 07 53.2**	**-1.5**
	2.4nm,1.2s								
AKTO	**Aktyubinsk**	**16.71**	**331**	P		P	**P**	**18 04 50.6**	**+0.7**
	0.4nm,0.3s,baz=146,slow=7.3,SNR=19								
	2.4nm,0.8s								
ZALV	**Zalesovo Beam**	**20.03**	**25**	P		P	Pn	18 05 26.1	-2.6
	4.9nm,0.5s,baz=227,slow=11,SNR=27								
	4.9nm,0.5s								
FINES	**FINESS Array B**	**37.40**	**326**	P		P	**P**	**18 08 04.7**	**+0.4**
	0.6nm,0.4s,baz=115,slow=10,SNR=11								
	0.6nm,0.4s								
ARCES	**ARCESS Array B**	**41.10**	**338**	P		P	**P**	**18 08 34.2**	**-0.7**
	0.9nm,0.5s,baz=115,slow=5.8,SNR=9.5								
	0.9nm,0.5s								
HFS	**Hagfors**	**42.97**	**322**	P		P	**P**	**18 08 50.2**	**0.0**
	1.2nm,0.4s,baz=93,slow=11,SNR=14								
	1.2nm,0.4s								
NB2	**NORSAR Subarra**	**44.29**	**323**	P		P	**P**	**18 09 00.0**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=96,slow=7.9								
NOA	**NORSAR Array B**	**44.29**	**323**	P		P	**P**	**18 09 00.4**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=97,slow=7.8,SNR=9.1								
	comp=Z,1.0nm,0.6s								
SADO	**Sadowa**	**94.67**	**339**	P		P	**P**	**18 14 10.6**	**-0.6**
	comp=Z,4.4nm,0.8s,baz=329,slow=5.9,SNR=3.5								
	comp=Z,4.4nm,0.8s								

*NEIC **26** 18:12:50.9±1.7,43°.79N±0°.06×105°.3W±0°.1, h0km±1km, ML3.4/60, Error ellipse: s-maj=13.5km s-min=9.7km az=59.0*
*IDC **26** 18:12:53.8±1.8,44°.21N×105°.94W, h0km, mb3.9/5, mbtmp3.7/8, ML3.7/3, Error ellipse: s-maj=59.9km s-min=10.0km az=142.0*
ISC 26 18:12:52.1±0.8,**43°.80N**±0°.07×**105°.28W**±0°.07,**h0**km,**n81,** σ**0s73**/80,**mb3.9**/5,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.95**	**70**				**Pb**	**18 13 11.3**	**-0.3**
K22A	**Casper**	**1.47**	**219**				**Pn**	**18 13 18.2**	**-1.8**
LAO	**LASA Array**	**2.96**	**347**				**Pn**	**18 13 40.1**	**-0.3**
LAO					IAML			18 14 25.4	
	169nm,0.7s								
LAO					IAML			18 14 34.4	
	182nm,0.6s								
RLMT	**Red Lodge**	**3.15**	**296**				**Pn**	**18 13 43.6**	**+0.6**
RLMT					IAML			18 14 32.8	
	61nm,0.5s								
PD31	**Pinedale Array**	**3.29**	**253**				**Pn**	**18 13 45.5**	**+0.4**
PDAR	**Pinedale Array**	**3.29**	**253**				**Pn**	**18 13 44.7**	**-0.3**
PDAR	**Pinedale Array**	**3.29**	**253**	Pn		Pn	**Pn**	**18 13 46.4**	**+1.3**
	4.8nm,0.3s,baz=67,slow=17,SNR=47								
PDAR				Lg		Lg		18 14 26.9	
	2.4nm,0.3s,baz=69,slow=21,SNR=1.6								
	6.4nm,0.3s								
HAYD	**Hayden**	**3.59**	**205**				**Pn**	**18 13 48.4**	**-0.9**
HAYD					IAML			18 14 57.2	
	comp=N,54nm,0.7s								
HAYD					IAML			18 14 58.9	
	comp=E,49nm,0.9s								
YNE	**Yellowstone No**	**3.60**	**291**				**Pn**	**18 13 49.2**	**-0.1**

YNE				IAML			18 14 49.7	
	comp=E,64nm,0.7s							
YNE				IAML			18 14 57.5	
	comp=N,63nm,0.5s							
YMP	**Mirror Lake Pl**	**3.63 287**			**Pn**		**18 13 50.5**	**+0.8**
YMP				IAML			18 14 55.8	
	comp=N,108nm,0.6s							
OGNE	**Ogallala**	**3.73 139**			**Pn**		**18 13 51.4**	**+0.4**
LOHW	**Long Hollow**	**3.87 269**			**Pn**		**18 13 53.4**	**+0.5**
YNR	**Norris Junctio**	**3.98 285**			**Pn**		**18 13 55.7**	**+1.1**
SNOW	**Snow King Moun**	**3.99 267**			**Pn**		**18 13 56.1**	**+1.4**
SNOW				IAML			18 15 03.9	
	comp=N,46nm,0.9s							
SNOW				IAML			18 15 14.9	
	comp=N,41nm,0.6s							
ISCO	**Idaho Springs**	**4.01 184**			**Pn**		**18 13 55.9**	**+0.9**
YHH	**Holmes Hill**	**4.12 286**			**Pn**		**18 13 57.5**	**+0.9**
TPAW	**Teton Pass**	**4.13 268**			**Pn**		**18 13 57.4**	**+0.7**
TPAW				IAML			18 15 22.3	
	comp=N,45nm,0.6s							
FXWY	**Fox Creek**	**4.17 270**			**Pn**		**18 13 58.1**	**+1.0**
E28A	**Huff**	**4.27 48**			**Pn**		**18 13 59.0**	**+0.7**
O20A	**White River Ci**	**4.28 212**			**Pn**		**18 13 59.3**	**+0.7**
O20A				IAML			18 15 14.3	
	comp=N,49nm,1.0s							
O20A				IAML			18 15 27.1	
	comp=N,38nm,1.4s							
K30B	**Basset**	**4.29 103**			**Pn**		**18 13 59.1**	**+0.5**
YHL	**Hebgen Lake**	**4.36 286**			**Pn**		**18 14 00.8**	**+1.0**
YHL				IAML			18 15 19.3	
	comp=E,32nm,0.8s							
YHL				IAML			18 15 22.3	
	comp=N,30nm,1.2s							
AHID	**Auburn Hatcher**	**4.37 258**			**Pn**		**18 14 00.9**	**+1.0**
AHID				IAML			18 15 18.4	
	comp=N,36nm,1.6s							
AHID				IAML			18 15 28.5	
	comp=N,28nm,1.1s							
QLMT	**Earthquake Lak**	**4.53 285**			**Pn**		**18 14 01.7**	**-0.4**
DGMT	**Dagmar**	**4.73 9**			**Pn**		**18 14 04.6**	**0.0**
BOZ	**Bozeman (W)**	**4.87 294**			**Pn**		**18 14 07.6**	**+0.9**
BOZ				IAML			18 15 28.4	
	comp=N,21nm,0.8s							
HWUT	**Hardware Ranch**	**5.12 247**			**Pn**		**18 14 09.8**	**-0.4**
HWUT				IAML			18 15 35.4	
	comp=N,30nm,1.1s							
HWUT				IAML			18 15 46.1	
	comp=N,26nm,0.9s							
KSCO	**Kaye Shedlock'**	**5.18 156**			**Pn**		**18 14 10.9**	**-0.1**
BSUT	**Blindstream Ca**	**5.22 233**			**Pn**		**18 14 11.6**	**-0.1**
BSUT				IAML			18 15 45.0	
	comp=N,17nm,1.3s							
BSUT				IAML			18 15 56.2	
	comp=E,14nm,2.1s							
EGMT	**Eagleton**	**5.25 325**			**Pn**		**18 14 11.9**	**0.0**
DLMT	**Dillon**	**5.45 289**			**Pn**		**18 14 14.7**	**0.0**
LRM	**Limekiln Ridge**	**5.49 294**			**Pn**		**18 14 15.6**	**+0.4**
MCMT	**McKenzie Canyo**	**5.53 283**			**Pn**		**18 14 16.6**	**+0.8**
P18A	**Preston Nutter**	**5.58 223**			**Pn**		**18 14 17.6**	**+0.9**
JLU	**Jordanelle**	**5.59 237**			**Pn**		**18 14 16.6**	**0.0**
MDND	**Maddock**	**5.67 42**			**Pn**		**18 14 17.5**	**0.0**
LYMT	**Lyon Mountain**	**5.87 305**			**Pn**		**18 14 20.6**	**+0.2**
HVU	**Hansel Valley**	**5.87 252**			**Pn**		**18 14 20.6**	**+0.1**
PV22	**Blue Mesa, Par**	**5.89 208**			**Pn**		**18 14 21.4**	**+0.7**
PV07	**Paradox Valley**	**5.93 207**			**Pn**		**18 14 22.0**	**+0.7**
PV21	**Cone Mtn., Par**	**5.93 209**			**Pn**		**18 14 22.2**	**+0.9**
PV15	**Paradox Valley**	**5.97 205**			**Pn**		**18 14 22.6**	**+0.7**
PV23	**Carpenter Ridg**	**6.04 209**			**Pn**		**18 14 23.3**	**+0.4**
SDCO	**Great Sand Dun**	**6.05 182**			**Pn**		**18 14 23.8**	**+0.8**
PV04	**Paradox Valley**	**6.06 208**			**Pn**		**18 14 23.4**	**+0.4**
MPU	**Maple Canyon**	**6.06 234**			**Pn**		**18 14 23.4**	**+0.3**
PV12	**Saucer Basin,**	**6.09 207**			**Pn**		**18 14 24.2**	**+0.6**
PV14	**Lion Creek, Pa**	**6.12 209**			**Pn**		**18 14 23.6**	**-0.3**
PV10	**Paradox Valley**	**6.12 209**			**Pn**		**18 14 25.1**	**+1.1**
SRU	**San Rafael Swe**	**6.12 222**			**Pn**		**18 14 23.6**	**-0.3**
PV20	**West Nyswonger**	**6.12 208**			**Pn**		**18 14 23.6**	**-0.4**
PV11	**David Mesa, Pa**	**6.13 207**			**Pn**		**18 14 23.5**	**-0.5**
PV16	**Nyswonger Mesa**	**6.13 208**			**Pn**		**18 14 23.7**	**-0.4**
PV19	**Morning Glory**	**6.16 208**			**Pn**		**18 14 23.7**	**-0.8**
PV03	**Paradox Valley**	**6.16 207**			**Pn**		**18 14 24.1**	**-0.4**
S22A	**4UR Ranch, Cre**	**6.16 192**			**Pn**		**18 14 24.5**	**-0.1**
PV02	**Paradox Valley**	**6.17 206**			**Pn**		**18 14 25.3**	**+0.6**
PV01	**Paradox Valley**	**6.18 205**			**Pn**		**18 14 25.4**	**+0.6**
PV18	**Skein Mesa, Pa**	**6.19 208**			**Pn**		**18 14 25.8**	**+0.9**
PV13	**Radium Mtn., P**	**6.24 207**			**Pn**		**18 14 25.5**	**-0.1**
ECSD	**EROS Data Cent**	**6.28 88**			**Pn**		**18 14 25.5**	**-0.3**
TMUT	**Trail Mountain**	**6.33 227**			**Pn**		**18 14 26.8**	**-0.1**
PV05	**Paradox Valley**	**6.41 208**			**Pn**		**18 14 26.3**	**-1.5**
CBKS	**Cedar Bluff**	**6.50 138**			**Pn**		**18 14 28.9**	**-0.1**
Q16A	**Castle Valley**	**6.59 224**			**Pn**		**18 14 30.4**	**0.0**
HLID	**Hailey**	**6.63 271**			**Pn**		**18 14 32.1**	**+1.3**
T25A	**Trinidad**	**6.69 174**	Pn		**Pn**		**18 14 31.4**	**-0.3**
HMU	**Henry Mountain**	**7.17 217**			**Pn**		**18 14 37.9**	**-0.5**
MSU	**Marysvale**	**7.42 227**			**Pn**		**18 14 41.7**	**0.0**
RTBA	**Rita Blanca**	**7.61 164**			**Pn**		**18 14 43.5**	**-0.8**
AGMN	**Agassiz Nation**	**7.94 52**			**Pn**		**18 14 48.2**	**-0.6**
ELK	**Elko**	**7.99 251**	Pn		**Pn**		**18 14 49.1**	**-0.5**
	comp=E,0.1nm,0.3s,baz=55,slow=14,SNR=2.6							
ELK			Lg		Lg		18 16 54.2	
	comp=E,0.1nm,0.3s,baz=163,slow=17,SNR=1.2 comp=E,0.4nm,0.4s							
CCUT	**Cedar City**	**8.76 227**			**Pn**		**18 15 00.6**	**+0.5**
ULM	**Lac du Bonnet**	**9.10 42**			**Pn**		**18 15 04.1**	**-0.4**
I56US	**NEWPORT INFRAS**	**9.37 303**	I		I		19 10 10.0	
	baz=116,slow=311,SNR=3.0							
NVAR	**Mina Array Bea**	**11.19 246**	Pn		**Pn**		**18 15 35.2**	**+1.8**
	comp=E,0.1nm,0.3s,baz=46,slow=13,SNR=6.0 comp=E,0.8nm,0.6s							
ARCES	**ARCESS Array B**	**61.36 18**	P		**P**		**18 23 09.4**	**+0.3**
	comp=E,2.2nm,0.8s,baz=339,slow=5.3,SNR=4.0 comp=E,2.2nm,0.8s							
ZALV	**Zalesovo Beam**	**82.24 354**	P		**P**		**18 25 14.0**	**-0.8**
	comp=E,0.7nm,0.5s,baz=353,slow=4.8,SNR=4.0 comp=E,0.7nm,0.5s							
BVAR	**Borovoye Array**	**83.48 3**	P		**P**		**18 25 21.7**	**+0.4**
	comp=E,0.5nm,0.6s,baz=343,slow=4.6,SNR=5.1 comp=E,0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**85.90 358**	P		**P**		**18 25 31.8**	**-1.7**
	comp=E,0.2nm,0.6s,baz=2.2,slow=3.6,SNR=5.3 comp=E,0.2nm,0.6s							
MKAR	**Makanchi Array**	**89.54 355**	P		**P**		**18 25 51.0**	**-0.2**
	comp=E,0.5nm,0.6s,baz=19,slow=4.9,SNR=6.5 comp=E,0.5nm,0.6s							

IDC 26 18:28:07.8±1.9, 1°.03S×127°.40E, h0km, mb3.6/4, mbtmp3.5/5, ML3.2/1, Error ellipse: s-maj=185.7km s-min=21.8km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.99**	**161**	P	P	18 32 41.6	-0.5
	0.1nm,0.3s,baz=342,slow=12,SNR=7.9 0.3nm,0.5s						
ASAR	**Alice Springs**	**23.38**	**165**	P	P	18 33 18.1	-0.2
	0.5nm,0.5s,baz=344,slow=11,SNR=21 0.5nm,0.5s						
MKAR	**Makanchi Array**	**61.84**	**326**	P	P	18 38 29.2	+0.3
	0.3nm,0.4s,baz=115,slow=8.6,SNR=5.3 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**66.09**	**328**	P	P	18 38 56.1	-0.6
	0.4nm,0.6s,baz=127,slow=6.5,SNR=5.2 0.4nm,0.6s						
QSPA	**South Pole Qui**	**88.91**	**180**	P	P	18 41 05.1	+1.0
	0.6nm,0.8s,baz=351,slow=2.8,SNR=1.7 0.6nm,0.8s						

*INMG **26** 18:31:36.7±2.0, 35°.44N×3°.82W, h0km±7km, ML2.3, Error ellipse: s-maj=6.8km s-min=4.0km az=26.0, #DIST_RANGE: REGIONAL #IPMA_REGION: NE Al Hoceima (MARR)*

*CNRM **26** 18:31:36.3, 35°.56N×3°.80W, h14km, ML2.5*

*SFS **26** 18:31:36.1, 35°.50N×3°.83W, h4km, ML2.9/7, ML2.7/10, MLv2.5/10*

*MDD **26** 18:31:37.1±0.6, 35°.49N×3°.80W, h0km, mb_Lg2.8/10, Error ellipse: s-maj=6.0km s-min=3.2km az=26.0*

ISC 26 18:31:36.4±1.0, 35°.52N±0°.02×3°.74W±0°.02, h13km±8km, n47, σ1°16/65, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.34**	**208**	P	**Pg**	**18 31 43.0**	**-0.3**
PALE	**Palemas**	**0.34**	**208**	S	**Sg**	**18 31 47.9**	**0.0**
WMELI	**Melilla**	**0.68**	**107**	Pg	**Pb**	**18 31 50.1**	**+0.1**
WMELI				Sg	**Sg**	**18 31 58.6**	**+0.1**
EMEL	**Melilla**	**0.68**	**108**	Pg	**Pb**	**18 31 50.2**	**+0.2**
EMEL				Sg	**Sb**	**18 31 59.3**	**0.0**
EMEL				*i* lVmb_Lg		18 32 01.8	
GOG	**Mont Gurugu**	**0.68**	**116**	P	**Pg**	**18 31 49.5**	**-0.1**
GOG	**Mont Gurugu**	**0.68**	**116**	S	**Sn**	**18 32 02.2**	**0.0**
EMLI	**Melilla**	**0.68**	**108**	Pg	**Pb**	**18 31 50.1**	**0.0**
EMLI				Sg	**Sg**	**18 31 59.2**	**+0.5**
EALB	**Alboran**	**0.71**	**54**	Pg	**Pn**	**18 31 51.6**	**-0.5**
EALB				Sg	**Sn**	**18 32 01.8**	**-1.2**
EALB	**Alboran**	**0.71**	**54**	Pg	**Pn**	**18 31 51.6**	**-0.5**
EALB				Sg	**Sn**	**18 32 02.0**	**-0.9**
EALB				*i* lVmb_Lg		18 32 02.7	
AKLM	**AKL**	**1.01**	**186**	P	**Pg**	**18 31 55.2**	**-0.6**
AKLM	**AKL**	**1.01**	**186**	S	**Sg**	**18 32 09.7**	**+0.7**
TAF	**Taforalt**	**1.30**	**122**	P	**Pb**	**18 32 00.8**	**+0.2**
EMIJ	**Mijas**	**1.34**	**322**	Pg	**Pn**	**18 32 00.0**	**-0.7**
EMIJ				Sg	**Sb**	**18 32 17.2**	**-1.2**
EMIJ	**Mijas**	**1.34**	**322**	Pg	**Pg**	**18 32 02.0**	**-0.1**
EMIJ				Sg	**Sg**	**18 32 19.4**	**-0.1**
EMIJ				*i* lVmb_Lg		18 32 23.0	
SMIR	**Smir Dam**	**1.34**	**277**	P	**Pn**	**18 32 00.1**	**-0.7**
SMIR	**Smir Dam**	**1.34**	**277**	S	**Sb**	**18 32 17.4**	**-1.1**
ELGU	**Los Guajares,**	**1.35**	**4**	Pn	**Pn**	**18 32 00.8**	**-0.2**
ELGU				Sn	**Sn**	**18 32 19.3**	**+0.5**
ELGU	**Los Guajares,**	**1.35**	**4**	Pg	**Pn**	**18 32 00.9**	**-0.1**
ELGU				Sg	**Sn**	**18 32 20.6**	**+1.8**
ELGU				*i* lVmb_Lg		18 32 23.2	
EMAL	**Malaga-Limoner**	**1.36**	**336**	Sg	**Sb**	**18 32 18.2**	**-0.8**
ECEU	**Ceuta**	**1.38**	**286**	Pg	**Pn**	**18 32 00.7**	**-0.6**
ECEU				Sg	**Sb**	**18 32 18.2**	**-1.4**
ECEU	**Ceuta**	**1.38**	**286**	Pg	**Pn**	**18 32 00.7**	**-0.6**
ECEU				*i* lVmb_Lg		18 32 18.2	
JBK	**JBK**	**1.52**	**140**	P	**Pn**	**18 32 02.2**	**-1.3**
JBK	**JBK**	**1.52**	**140**	S	**Sn**	**18 32 24.4**	**+1.1**
EGOR	**Sierra Gorda,**	**1.62**	**350**	Pn	**Pn**	**18 32 04.6**	**-0.1**
EGOR	**Sierra Gorda,**	**1.62**	**350**	Pn	**Pb**	**18 32 06.1**	**0.0**
EGOR				Sn	**Sn**	**18 32 25.4**	**0.0**
EGOR				*i* lVmb_Lg		18 32 34.9	
EQTA	**Presa de Quent**	**1.70**	**8**	Pg	**Pg**	**18 32 08.1**	**-1.0**
EQTA				Sn	**Sb**	**18 32 28.3**	**-0.7**
RSA	**Sarsar**	**1.81**	**250**	P	**Pn**	**18 32 06.6**	**-0.7**
RSA	**Sarsar**	**1.81**	**250**	S	**Sn**	**18 32 30.0**	**-0.2**
ENIJ	**Nijar**	**1.91**	**40**	Pn	**Pn**	**18 32 08.3**	**-0.3**
ENIJ				Sn	**Sn**	**18 32 32.7**	**+0.1**
LCRM	**LCR**	**2.05**	**207**	P	**Pn**	**18 32 11.9**	**+1.3**
EQES	**Quesada**	**2.34**	**13**	Sn	**Sb**	**18 32 46.5**	**-0.9**
EQES				*i* lVmb_Lg		18 32 49.3	
EADA	**Adamuz**	**2.73**	**346**	Pn	**Pn**	**18 32 22.1**	**+2.2**
EADA				*i* lVmb_Lg		18 33 07.5	
MD31	**MD31**	**2.77**	**198**	P	**Pn**	**18 32 21.1**	**+0.6**
MDT	**Midelt**	**2.79**	**195**	P	**Pn**	**18 32 22.0**	**+1.2**
ECAB	**El Cabril**	**2.88**	**333**	Pn	**Pn**	**18 32 24.3**	**+2.3**
ECAB				*i* lVmb_Lg		18 33 10.5	
PVAQ	**Vaqueiros**	**3.71**	**302**	*e*P	**Pn**	**18 32 35.2**	**+1.8**
PVAQ				*e*S	**Sn**	**18 33 16.7**	**-0.3**
PVAQ				*i* IAML		18 33 19.0	
PVAQ				*i* IAML		18 33 19.0	
PVAQ				*i* IAML		18 33 24.1	
PVAQ	**Vaqueiros**	**3.71**	**302**	P	**Pn**	**18 32 34.3**	**+0.9**
PBAR	**Barrancos**	**3.74**	**316**	*e*P	**Pn**	**18 32 34.8**	**+0.9**
PBAR				*e*S	**Sn**	**18 33 17.9**	**+0.2**
PBAR				*i* IAML		18 33 22.2	
PBAR				*i* IAML		18 33 24.2	
PBAR				*i* IAML		18 33 29.2	
PBDV	**Barranco-do-Ve**	**3.79**	**298**	*e*S	**Sn**	**18 33 18.6**	**-0.4**
PBDV				*i* IAML		18 33 23.0	
PBDV				*i* IAML		18 33 23.5	
PBDV				*i* IAML		18 33 25.7	
PCVE	**Castro Verde**	**4.05**	**303**	*e*P	**Pn**	**18 32 40.6**	**+2.5**
PCVE				*e*S	**Sn**	**18 33 22.6**	**-2.6**
PCVE				*i* IAML		18 33 28.8	
PCVE				*i* IAML		18 33 29.7	
PCVE				*i* IAML		18 33 34.4	
MESJ	**Messejana**	**4.28**	**304**	*e*P	**Pn**	**18 32 42.5**	**+1.3**
MESJ				*e*S	**Sn**	**18 33 31.2**	**+0.3**
MESJ				*i* IAML		18 33 34.1	
MESJ				*i* IAML		18 33 36.2	
MESJ				*i* IAML		18 33 37.0	
MORF	**Marmelete**	**4.34**	**296**	*e*S	**Sn**	**18 33 31.7**	**-0.8**
MORF				*i* IAML		18 33 33.9	
MORF				*i* IAML		18 33 34.0	
MORF				*i* IAML		18 33 36.1	
PFVI	**Vila Bisbo**	**4.41**	**293**	*e*S	**Sn**	**18 33 32.6**	**-1.5**
PMTG	**Montargil**	**5.03**	**316**	*e*P	**Pn**	**18 32 54.1**	**+2.6**
PMTG				*e*S	**Sn**	**18 33 49.2**	**-0.3**
PARRA	**Arraiolos**	**5.36**	**309**	*e*P	Pn	18 32 49.4	-6.6
PARRA				*i* IAML		18 33 41.9	
PARRA				*e*S	Sn	18 33 42.0	-16
PARRA				*i* IAML		18 33 46.2	
PARRA				*i* IAML		18 33 46.6	
PSARD	**Sardoal**	**5.38**	**321**	*e*P	**Pn**	**18 33 00.5**	**+4.2**
PSARD				*e*S	**Sn**	**18 33 58.6**	**+0.6**
PSARD				*i* IAML		18 34 00.2	
PSARD				*i* IAML		18 34 00.3	
PSARD				*i* IAML		18 34 01.5	
TIO	**Tiouine**	**5.45**	**214**	P	**Pn**	**18 32 58.1**	**+0.7**

IDC 26 18:50:41.1±1.9, 2°.92S×144°.56E, h0km, mb3.4/2, mbtmp3.4/3, ML3.5/1, MS3.1/3, Error ellipse: s-maj=118.7km s-min=31.0km az=116.0, Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.64**	**210**	P	P	18 55 11.9	+0.4
	0.1nm,0.3s,baz=34,slow=10,SNR=17 0.6nm,0.6s						
ASAR	**Alice Springs**	**23.05**	**206**	P	P	18 55 48.2	0.0
	0.6nm,0.5s,baz=24,slow=12,SNR=22						
ASAR				LR	LR	19 05 48.0	
	comp=Z,80nm,20.4s,baz=66,slow=39 0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**49.68**	**297**	LR	LR	19 22 34.8	
	comp=Z,8.5nm,18.2s,baz=175,slow=38						
PALK	**Pallekele**	**64.52**	**279**	LR	LR	19 31 05.6	
	comp=Z,23nm,18.1s,baz=191,slow=38						
ILAR	**Eielson Array**	**83.64**	**24**	P	P	19 03 11.1	-0.2
	0.2nm,0.6s,baz=236,slow=6.4,SNR=2.1 0.2nm,0.6s						

*NEIC **26** 18:52:24.4±0.0, 35°.8N±0°.3×98°.1W±0°.3, h5km±1km, Error ellipse: s-maj=0.0km s-min=0.0km az=90.0*

NEIC 26 18:52:23.5±1.4, 35°.827N±0°.009×98°.08W±0°.01, h5km±1km, mb_Lg2.7/58, ML2.8/38, ML2.9/64, Error ellipse: s-maj=2.1km s-min=1.6km az=342.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.41**	**114**		Sb	18 52 38.6	-1.4
OK029	**Liberty Lake**	**0.51**	**93**		Pg	18 52 33.7	+0.4
OK029				Sg	Sb	18 52 41.3	-1.2
OK029				IAML		18 52 41.6	
	849nm,0.1s						
CSTR	**Hydro, Custer**	**0.53**	**250**		Pg	18 52 34.1	+0.4
CSTR					Sg	18 52 41.6	+0.9
OK004	**Okla Sci Mus**	**0.57**	**122**		Pg	18 52 35.3	+0.7
OK004					Sb	18 52 43.6	-1.0
ADOK	**Arcadia Dam**	**0.60**	**107**		Pg	18 52 35.5	+0.5
ADOK					Sg	18 52 39.6	-3.2
OKCSW	**OKLAHOMA CITY**	**0.67**	**129**	Pg	Pg	18 52 35.5	-0.8
OKCSW				Sg	Sg	18 52 45.1	+0.1
OKCSW				IAML		18 52 46.4	
	comp=E,836nm,0.3s						
OKCSW				IAML		18 52 46.4	
	comp=N,929nm,0.2s						
CROK	**Carrier**	**0.68**	**6**		Pg	18 52 36.8	+0.2
CROK					Sg	18 52 46.2	+0.7
CROK				IAML		18 52 53.1	
	comp=E,664nm,0.2s						
CROK				IAML		18 52 54.0	
	comp=N,512nm,0.2s						
FNO	**Franklin**	**0.79**	**136**		Pg	18 52 38.7	0.0
FNO				Sg	Sg	18 52 49.9	+0.9
FNO				IAML		18 52 53.0	
	comp=E,410nm,0.3s						
OK038	**West end E0370**	**0.84**	**320**		Pg	18 52 39.4	-0.3
OK038					Sg	18 52 50.9	+0.1
GC02	**Grant County #**	**1.04**	**10**		Pg	18 52 43.0	-0.5
GC02					Sg	18 52 57.3	+0.4
OK052	**Battle Ridge R**	**1.05**	**80**		Pg	18 52 43.4	-0.2
OK052					Sb	18 52 57.9	-0.2
OK052				IAML		18 52 59.9	
	comp=E,275nm,0.1s						
OK052				IAML		18 53 07.5	
	comp=E,222nm,0.2s						
ELIS	**Ellis County**	**1.12**	**283**		Pg	18 52 44.4	-0.5
ELIS					Sg	18 52 59.8	+0.4
ELIS				IAML		18 53 04.3	
	comp=E,422nm,0.2s						
ELIS	**Ellis County**	**1.12**	**283**	P	Sg	18 53 00.6	+1.2
KAN14	**Manchester OK**	**1.13**	**5**		Pg	18 52 44.2	-1.0
KAN14				IAML		18 53 06.0	
	comp=N,269nm,0.1s						
KAN14				IAML		18 53 07.2	
	comp=E,282nm,0.1s						
QUOK	**Quay**	**1.16**	**72**		Pg	18 52 44.7	-1.1
QUOK				IAML		18 53 05.4	
	comp=E,352nm,0.2s						
QUOK				IAML		18 53 06.0	
	comp=N,417nm,0.3s						
BLOK	**Blackwell**	**1.16**	**36**		Pg	18 52 44.9	-0.9
OK051	**E0350 and S346**	**1.21**	**56**		Pg	18 52 46.3	-0.4
WMOK	**Wichita Mounta**	**1.23**	**208**		Pg	18 52 46.1	-1.0
WMOK	**Wichita Mounta**	**1.23**	**208**		Pg	18 52 46.2	-0.9
WMOK				IAML		18 53 03.0	
	comp=N,136nm,0.3s						
WMOK				IAML		18 53 09.7	
	comp=N,79nm,0.2s						
WMOK	**Wichita Mounta**	**1.23**	**208**	P	Pg	18 52 46.2	-0.9
X34A	**Smith Ranch, M**	**1.24**	**171**		Pg	18 52 47.2	-0.1
X34A				IAML		18 53 06.5	
	comp=E,299nm,0.3s						
X34A				IAML		18 53 10.9	
	comp=N,179nm,0.2s						
KAN17	**Caldwell West**	**1.24**	**12**		Pg	18 52 46.0	-1.3
KAN17				IAML		18 53 06.5	
	comp=N,374nm,0.3s						
KAN13	**South Haven SW**	**1.28**	**22**		Pg	18 52 47.0	-1.0
DEOK	**Depew**	**1.28**	**89**		Pg	18 52 47.0	-1.1
DEOK				IAML		18 53 10.4	
	comp=N,167nm,0.3s						
DEOK				IAML		18 53 11.1	
	comp=E,205nm,0.1s						
KAN10	**Anthony SW Sta**	**1.29**	**359**		Pn	18 52 47.7	-0.6
KAN01	**Argonia South**	**1.35**	**11**		Pn	18 52 48.1	-1.0
KAN01				IAmb_Lg		18 53 09.2	
	comp=Z,50nm,0.7s						
KAN09	**Caldwell North**	**1.36**	**16**		Pn	18 52 48.4	-0.7
KAN08	**Anthony NE Sta**	**1.40**	**3**		Pn	18 52 48.7	-1.0
T35A	**Sooner Cattle**	**1.67**	**49**		Pn	18 52 53.2	-0.2
TUL3	**Leonard**	**1.86**	**87**		Pn	18 52 56.0	0.0
DRZT	**Darrouzett**	**1.90**	**290**	P	Sb	18 53 23.7	+0.9
SMWD	**Samnorwood**	**1.91**	**248**		Pn	18 52 56.4	-0.4
SMWD	**Samnorwood**	**1.91**	**248**	P	Pn	18 52 57.4	+0.6
LOOK	**Love County**	**1.97**	**158**		Pn	18 52 57.8	+0.2
LOOK				IAmb_Lg		18 53 27.7	
	comp=Z,49nm,0.8s						
WTFS	**Witchita Falls**	**2.08**	**189**		Pn	18 52 59.6	+0.5
WTFS	**Witchita Falls**	**2.08**	**189**	P	Pb	18 53 01.0	-0.8
RLO	**Rose Lookout**	**2.50**	**81**		Pn	18 53 05.2	+0.4
Z35A	**Perchaven, San**	**2.58**	**165**		Pn	18 53 06.4	+0.4
Z35A				IAmb_Lg		18 53 51.7	
	comp=Z,19nm,0.7s						
FW06	**Azle**	**2.88**	**171**		Pn	18 53 11.7	+1.6
APMT	**Aspermont**	**3.01**	**215**		Pn	18 53 13.2	+1.3
APMT	**Aspermont**	**3.01**	**215**	P	Pn	18 53 14.5	+2.6
PLPT	**Palo Pinto**	**3.01**	**184**		Pn	18 53 13.1	+1.2
PLPT	**Palo Pinto**	**3.01**	**184**	P	Pb	18 53 14.9	-2.8
U38A	**Gravette**	**3.05**	**77**		Pn	18 53 13.6	+1.2
AMTX	**Amarillo**	**3.09**	**253**		Pn	18 53 13.1	0.0
AMTX				IAmb_Lg		18 54 02.3	
	comp=Z,25nm,0.8s						
AMTX	**Amarillo**	**3.09**	**253**	P	Pn	18 53 12.9	-0.2
DKNS	**Dickens**	**3.19**	**228**		Pn	18 53 14.0	-0.4
DKNS	**Dickens**	**3.19**	**228**	P	Pn	18 53 16.4	+2.0
CBKS	**Cedar Bluff**	**3.26**	**337**	IAmb_Lg		18 54 12.2	
	comp=Z,17nm,0.8s						
HHAR	**Hobbs**	**3.38**	**81**		Pn	18 53 16.1	-0.9
ABTX	**Abilene, Hawle**	**3.45**	**203**		Pn	18 53 17.0	-1.0
SN07	**Snyder 07**	**3.59**	**221**	Pn	Pn	18 53 19.2	-0.7
Z38A	**Mt. Pleasant**	**3.61**	**134**		Pn	18 53 19.1	-1.0
SN05	**Snyder 5**	**3.75**	**219**		Pn	18 53 22.2	+0.1
SN05				IAmb_Lg		18 54 27.3	
	comp=Z,25nm,0.9s						
RTBA	**Rita Blanca**	**3.82**	**281**		Pn	18 53 23.0	-0.1
RTBA	**Rita Blanca**	**3.82**	**281**	P	Pb	18 53 30.8	-0.8
MIAR	**Mount Ida**	**3.90**	**108**	Pn	Pn	18 53 25.4	+1.3
MIAR		

σ1ˢ25/41, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.04**	**43**	P	**Pn**	**18 54 33.9**	**+1.8**
HAZ	**Te Kaha**	**5.59**	**189**	P	**Pn**	**18 54 47.5**	**-0.1**
HAZ				S	**S**	**18 55 59.9**	**+0.6**
WMGZ	**Waiomatatini S**	**5.59**	**184**	P	**Pn**	**18 54 48.8**	**+1.2**
WMGZ				S	**S**	**18 55 58.9**	**-0.6**
PKGZ	**Pakihiroa**	**5.66**	**187**	P	**Pn**	**18 54 48.5**	**0.0**
PKGZ				S	**S**	**18 55 59.1**	**-1.8**
RUGZ	**Raukumara Rang**	**5.81**	**190**	P	**Pn**	**18 54 49.5**	**-0.7**
RUGZ				S	**S**	**18 56 01.8**	**-2.1**
PUZ	**Puketiti**	**5.85**	**185**	P	**Pn**	**18 54 50.4**	**-0.1**
PUZ				S	**S**	**18 56 03.2**	**-1.4**
TWGZ	**Tauwhareparae**	**5.98**	**187**	P	**Pn**	**18 54 52.2**	**+0.3**
TWGZ				S	**S**	**18 56 07.8**	**+0.6**
URZ	**Urewera**	**6.19**	**193**	P	**Pn**	**18 54 53.6**	**-0.6**
	9.0nm,0.3s,baz=258,slow=5.2,SNR=79						
URZ				S	**S**	**18 56 12.8**	**+1.5**
	6.3nm,0.3s,baz=75,slow=20,SNR=20						
URZ	**Urewera**	**6.19**	**193**	P	**Pn**	**18 54 54.2**	**+0.1**
URZ				S	**S**	**18 56 12.2**	**+0.9**
MWZ	**Matawai**	**6.19**	**190**	P	**Pn**	**18 54 54.5**	**+0.2**
MWZ				S	**S**	**18 56 12.5**	**+1.1**
TKGZ	**Te Karaka**	**6.25**	**188**	P	**Pn**	**18 54 55.1**	**+0.3**
TKGZ				S	**S**	**18 56 13.7**	**+1.1**
CNGZ	**Carnagh Statio**	**6.26**	**185**	P	**Pn**	**18 54 55.3**	**+0.3**
RAGZ	**Rawiri**	**6.37**	**191**	P	**Pn**	**18 54 54.7**	**-1.5**
RAGZ				S	**S**	**18 56 17.1**	**+2.1**
MUGZ	**Murupara**	**6.47**	**195**	P	**Pn**	**18 54 57.7**	**+0.5**
MUGZ				S	**S**	**18 56 17.5**	**+0.6**
RIGZ	**Rimuhau**	**6.53**	**188**	P	**Pn**	**18 54 57.6**	**-0.3**
RIGZ				S	**S**	**18 56 18.2**	**0.0**
RTZ	**Ruatahuna**	**6.56**	**193**	P	**Pn**	**18 54 58.3**	**0.0**
RTZ				S	**S**	**18 56 19.4**	**+0.5**
SNGZ	**Shannon Statio**	**6.66**	**191**	P	**P**	**18 54 59.9**	**-0.1**
SNGZ				S	**S**	**18 56 22.0**	**+1.1**
MTHZ	**Maungataniwha**	**6.81**	**194**	P	**P**	**18 55 02.3**	**+0.6**
MTHZ				S	**S**	**18 56 24.1**	**0.0**
RAHZ	**Arahi**	**6.83**	**192**	P	**Pn**	**18 55 01.2**	**-0.1**
RAHZ				S	**S**	**18 56 26.2**	**+1.8**
KNZ	**Kokohu**	**6.85**	**188**	P	**P**	**18 55 01.8**	**-0.3**
KNZ				S	**S**	**18 56 23.0**	**-1.7**
ASAR	**Alice Springs**	**40.41**	**271**	P	**P**	**19 00 22.1**	**+0.9**
	0.3nm,0.6s,baz=108,slow=7.7,SNR=7.0 0.3nm,0.6s						
WRA	**Warramunga Arr**	**41.57**	**276**	P	**P**	**19 00 30.7**	**+0.2**
	0.4nm,0.5s,baz=112,slow=7.9,SNR=8.7 0.4nm,0.5s						
FINES	**FINESS Array B**	**145.87**	**337**	PKPbc	**PKPdf**	**19 12 06.0**	**-4.6**
	0.8nm,0.5s,baz=64,slow=4.8,SNR=8.3						

IDC 26 19:01:29.1±2.2, 6°61S×129°45E, h0km, mb3.5/1, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=118.7km s-min=32.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.08**	**161**	Pn	Pn	19 04 49.6	-0.4
	0.1nm,0.3s,baz=340,slow=13,SNR=6.8						
WRA				Sn	Sn	19 07 12.3	-15
	0.1nm,0.3s,baz=341,slow=19,SNR=6.6 0.1nm,0.3s						
ASAR	**Alice Springs**	**17.49**	**166**	P	Pn	19 05 35.0	+0.3
	baz=347,slow=10.0,SNR=11 0.2nm,0.5s						
MKAR	**Makanchi Array**	**67.60**	**327**	P	P	19 12 27.8	0.0
	0.2nm,0.5s,baz=120,slow=7.1,SNR=4.4 0.2nm,0.5s						

*IDC **26** 19:01:31.3±1.3, 31°.11S×178°.06W, h0km, mb4.1/3, mbtmp4.1/4, ML3.4/1, MS3.4/3, Error ellipse: s-maj=38.2km s-min=21.5km az=106.0*

*NEIC **26** 19:01:33.7±1.1, 30°.90S±0°.08×178°.0W±0°.2, h12km±6km, mb4.2/8, Error ellipse: s-maj=29.2km s-min=10.1km az=101.0*

ISC 26 19:01:38.0±0.9, 31°.11S±0°.08×178°.2W±0°.2, h46km, n23, σ1ˢ49/21, **mb4.2/6, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.87**	**6**	Pn	Pn	19 02 02.6	-4.8
RAO	**Raoul Island**	**1.87**	**6**	Pn	**Pn**	**19 02 05.0**	**-2.5**
	32nm,0.3s,baz=217,slow=20,SNR=1.6						
RAO				Sn	**Sn**	**19 02 30.2**	**+0.4**
	131nm,0.3s,baz=72,slow=20,SNR=4.9						
URZ	**Urewera**	**8.12**	**207**	Pn	**Pn**	**19 03 31.3**	**-1.9**
	0.4nm,0.3s,baz=0.0,slow=20,SNR=3.1						
URZ				Sn	**Sn**	**19 04 59.6**	**-4.0**
	0.8nm,0.3s,baz=201,slow=20,SNR=8.0 6.2nm,0.9s						
RTZ	**Ruatahuna**	**8.48**	**207**	Pn	**Pn**	**19 03 39.7**	**+1.5**
BKZ	**Black Stump Fm**	**9.15**	**207**	Pn	**Pn**	**19 03 49.0**	**+1.6**
DZM	**Mont Dzumac**	**16.44**	**300**	LR	LR	19 10 12.2	
	comp,Z,114nm,19.8s,baz=51,slow=32						
CTAO	**Charters Tower**	**33.78**	**280**	P	**P**	**19 08 17.9**	**+2.2**
AS31	**Alice Springs**	**42.94**	**268**	P	**P**	**19 09 32.9**	**+0.3**
ASAR	**Alice Springs**	**42.94**	**268**	P	**P**	**19 09 32.0**	**-0.6**
ASAR	**Alice Springs**	**42.94**	**268**	P	**P**	**19 09 33.0**	**+0.4**
	2.3nm,0.5s,baz=106,slow=7.3,SNR=51 2.3nm,0.5s						
WR8	**Warramunga Arr**	**43.85**	**273**	P	**P**	**19 09 39.7**	**-0.2**
WR8				IAmb	IAmb	19 09 57.7	
	comp=Z,5.3nm,1.2s						
WRA	**Warramunga Arr**	**43.99**	**273**	P	**P**	**19 09 40.9**	**-0.1**
WRA	**Warramunga Arr**	**43.99**	**273**	P	**P**	**19 09 41.1**	**0.0**
	comp=Z,2.9nm,0.5s,baz=112,slow=7.9,SNR=29 comp=Z,2.2nm,0.5s						
KNRA	**Kununurra**	**50.63**	**275**	P	**P**	**19 10 32.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**52.23**	**271**	P	**P**	**19 10 44.6**	**0.0**
FITZ				IAmb	IAmb	19 11 03.2	
	comp=Z,1.6nm,1.4s						
QSPA	**South Pole Qui**	**59.00**	**180**	P	**P**	**19 11 34.0**	**+1.3**
QSPA				IAmb	IAmb	19 11 48.1	
	comp=Z,5.7nm,1.4s						
QSPA	**South Pole Qui**	**59.00**	**180**	P	**P**	**19 11 32.7**	**0.0**
	comp=Z,1.0nm,1.0s,baz=48,slow=2.1,SNR=2.4 comp=Z,1.0nm,1.0s						
MAW	**Mawson**	**71.59**	**201**	LR	LR	19 45 33.7	
	comp=Z,37nm,18.4s,baz=316,slow=37						
SNAA	**Sanae**	**77.45**	**178**	P	**P**	**19 13 29.4**	**+1.3**
SNAA				IAmb	IAmb	19 13 43.6	
	comp=Z,3.4nm,1.5s						
PDAR	**Pinedale Array**	**96.75**	**44**	LR	LR	19 54 28.2	
	comp=Z,12nm,18.3s,baz=48,slow=33						
FINES	**FINESS Array B**	**145.77**	**339**	PKPbc	**PKPdf**	**19 21 10.6**	**0.0**
	comp=Z,0.9nm,0.4s,baz=42,slow=4.3,SNR=19						
NOA	**NORSAR Array B**	**149.43**	**351**	PKPbc	**PKPbc**	**19 21 21.2**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=14,slow=2.4,SNR=1.5						
HFS	**Hagfors**	**149.91**	**348**	PKPbc	**PKPbc**	**19 21 22.0**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=7.4,slow=4.5,SNR=4.0						

*IDC **26** 19:12:16.4±0.8, 30°.38S×178°.20W, h0km, mb4.1/5, mbtmp4.1/6, ML3.3/1, Error ellipse: s-maj=31.0km s-min=16.3km az=114.0*

*NEIC **26** 19:12:22.2±2.6, 30°.30S±0°.06×178°.1W±0°.2, h57km±7km, mb4.5/10, Error ellipse: s-maj=23.1km s-min=8.8km az=91.0*

ISC 26 19:12:21.9±0.7, 30°.38S±0°.08×178°.2W±0°.2, h46km, n33, σ1ˢ48/38, **mb4.3/10, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.16**	**14**		**Pn**	**19 12 40.9**	**-0.8**
RAO				Sn	**Sn**	**19 12 53.0**	**-3.4**
RAO	**Raoul Island**	**1.16**	**14**	Pn	**Pn**	**19 12 40.7**	**-1.1**
	120nm,0.3s,baz=157,slow=21,SNR=8.3						
RAO				Sn	**Sn**	**19 12 58.1**	**+1.7**
	255nm,0.3s,baz=102,slow=21,SNR=7.4						
URZ	**Urewera**	**8.75**	**205**	Pn	**Pn**	**19 14 24.0**	**-1.8**
	0.4nm,0.3s,baz=122,slow=20,SNR=1.7						
URZ				Sn	**Sn**	**19 16 00.6**	**-2.5**
	1.7nm,0.3s,baz=133,slow=18,SNR=8.5 9.1nm,1.0s						
RTZ	**Ruatahuna**	**9.11**	**204**	Pn	**Pn**	**19 14 32.4**	**+1.5**
BKZ	**Black Stump Fm**	**9.78**	**205**	Pn	**Pn**	**19 14 40.8**	**+0.8**
TCW	**Tory Channel**	**12.39**	**207**	Pn	**Pn**	**19 15 16.9**	**+1.3**
TUWZ	**Tuamarina**	**12.71**	**208**	Pn	**Pn**	**19 15 21.1**	**+1.1**
CTAO	**Charters Tower**	**33.60**	**279**	P	**P**	**19 18 57.5**	**-0.5**
CTAO				IAmb	IAmb	19 19 11.6	
	comp=Z,19nm,1.3s						
STKA	**Stephens Creek**	**34.29**	**257**	P	**P**	**19 19 04.4**	**+0.5**
STKA	**Stephens Creek**	**34.29**	**257**	P	**P**	**19 19 05.7**	**+1.8**
	comp=Z,3.3nm,0.6s,baz=102,slow=10,SNR=10.0 comp=Z,3.3nm,0.6s						
BBOO	**Buckleboo**	**38.78**	**254**	P	**P**	**19 19 42.4**	**+0.2**
ASAR	**Alice Springs**	**42.91**	**267**	P	**P**	**19 20 14.5**	**-1.9**
ASAR	**Alice Springs**	**42.91**	**267**	P	**P**	**19 20 16.9**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=102,slow=7.3,SNR=26						
ASAR				PcP	**PcP**	**19 22 07.6**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=121,slow=4.2,SNR=1.8 comp=Z,1.1nm,0.6s						
WR8	**Warramunga Arr**	**43.75**	**272**	P	**P**	**19 20 23.2**	**0.0**
WR8				IAmb	IAmb	19 20 29.8	
	comp=Z,7.3nm,1.2s						
WRA	**Warramunga Arr**	**43.90**	**272**	P	**P**	**19 20 25.1**	**+0.8**
	comp=Z,2.4nm,0.5s,baz=111,slow=8.1,SNR=39 comp=Z,2.4nm,0.5s						
WB0	**Warramunga Arr**	**43.92**	**273**	P	**P**	**19 20 24.5**	**0.0**
KNRA	**Kununurra**	**50.51**	**274**	P	**P**	**19 21 14.8**	**-1.0**
KNRA				IAmb	IAmb	19 21 35.3	
	comp=Z,13nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.16**	**270**	P	**P**	**19 21 27.7**	**-0.5**
CASY	**Casey**	**55.06**	**208**	P	**P**	**19 21 46.1**	**-2.6**
CASY				IAmb	IAmb	19 21 48.7	
	comp=Z,4.9nm,1.2s						
QSPA	**South Pole Qui**	**59.73**	**180**	P	**P**	**19 22 23.1**	**+1.3**
QSPA				IAmb	IAmb	19 22 55.7	
	comp=Z,3.8nm,1.2s						
QSPA	**South Pole Qui**	**59.73**	**180**	P	**P**	**19 22 23.9**	**+2.1**
	comp=Z,1.1nm,1.0s,baz=31,slow=6.4,SNR=13 comp=Z,1.1nm,1.0s						
SNAA	**Sanae**	**78.18**	**179**	P	**P**	**19 24 14.6**	**-1.5**
SNAA				IAmb	IAmb	19 24 54.7	
	comp=Z,5.3nm,1.5s						
PETK	**Petropavlovsk-**	**85.75**	**346**	P	**P**	**19 24 53.7**	**-2.0**
PETK	**Petropavlovsk-**	**85.75**	**346**	P	**P**	**19 24 58.0**	**+2.3**
	comp=Z,1.1nm,0.7s,baz=106,slow=8.2,SNR=4.0 comp=Z,1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**120.93**	**314**	PKP	**PKiKP**	**19 31 10.9**	**+2.0**
	comp=Z,0.8nm,0.8s,baz=114,slow=1.6,SNR=5.1						
BVAR	**Borovoye Array**	**126.25**	**316**	PKP	**PKiKP**	**19 31 21.1**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=90,slow=3.0,SNR=4.5						
FINES	**FINESS Array B**	**145.06**	**340**	PKP	**PKPbc**	**19 31 52.6**	**-0.3**
	comp=Z,3.4nm,0.4s,baz=58,slow=3.4,SNR=23						
FINES				PKPbc	**PKPdf**	**19 31 55.1**	**+1.6**
	comp=Z,3.4nm,0.4s,baz=59,slow=3.8,SNR=14						
NB2	**NORSAR Subarra**	**148.70**	**351**	PKP	**PKPbc**	**19 32 03.6**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=14,slow=4.3						
NOA	**NORSAR Array B**	**148.70**	**351**	PKPbc	**PKPbc**	**19 32 03.2**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=14,slow=3.7,SNR=5.6						
HFS	**Hagfors**	**149.19**	**348**	PKPbc	**PKPbc**	**19 32 04.3**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=66,slow=3.6,SNR=8.3						
AKASG	**Malin Array Be**	**151.16**	**323**	PKPbc	**PKPbc**	**19 32 09.7**	**0.0**
	comp=Z,1.5nm,0.5s,baz=48,slow=3.0,SNR=6.8						
MMAI	**Mount Meron Ar**	**151.33**	**284**	PKPbc	**PKPbc**	**19 32 11.0**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=100,slow=6.0,SNR=4.0						
BRTR	**Kevin Array B**	**152.42**	**298**	PKPbc	**PKiKP**	**19 32 14.2**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=132,slow=4.1,SNR=2.7						

*NEIC **26** 19:28:58.6±1.0, 16°.74S±0°.06×172°.9W±0°.1, h10km±1km, mb4.5/11, Error ellipse: s-maj=21.7km s-min=10.4km az=80.0*

*IDC **26** 19:29:08.7±5.5, 15°.10S×175°.21W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=179.7km s-min=109.7km az=154.0*

ISC 26 19:28:57.5±0.8, 16°.62S±0°.06×172°.49W±0°.10, h24km, n20, σ1ˢ87/19, **mb4.4/9, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.78**	**14**	Pn	**Pb**	**19 29 46.5**	**0.0**
AFI				Sn	**Sb**	**19 30 19.1**	**-1.2**
NIUE	**Niue**	**3.45**	**135**		**Pb**	**19 29 55.8**	**-2.2**
NIUE					**Sn**	**19 30 31.9**	**+2.0**
NNZ	**Nelson**	**27.38**	**204**	P	**P**	**19 34 42.0**	**+1.0**
NNZ				IAmb	IAmb	19 34 54.6	
	comp=Z,12nm,1.1s						
QRZ	**Quartz Range**	**27.39**	**205**	P	**P**	**19 34 40.9**	**-0.1**
QRZ				IAmb	IAmb	19 35 00.9	
	comp=Z,22nm,1.3s						
THZ	**Tophouse**	**28.03**	**204**	P	**P**	**19 34 46.7**	**-0.2**
THZ				IAmb	IAmb	19 34 47.0	
	comp=Z,8.6nm,1.0s						
LTZ	**Lake Taylor**	**29.15**	**203**	P	**P**	**19 34 56.5**	**-0.3**
INZ	**Inchbonnie**	**29.42**	**205**	P	**P**	**19 35 00.4**	**+1.2**
CTAO	**Charters Tower**	**39.25**	**258**	P	**P**	**19 36 23.8**	**-0.7**
CTAO				IAmb	IAmb	19 36 40.6	
	comp=Z,14nm,1.3s						
STKA	**Stephens Creek**	**44.21**	**241**	P	**P**	**19 37 08.3**	**+3.3**
	comp=Z,0.6nm,0.4s,baz=90,slow=6.1,SNR=4.1 comp=Z,0.6nm,0.4s						
BBOO	**Buckleboo**	**48.98**	**241**	P	**P**	**19 37 41.1**	**-1.2**
WR8	**Warramunga Arr**	**50.28**	**258**	P	**P**	**19 37 50.5**	**-1.9**
WR8				IAmb	IAmb	19 37 56.9	
	comp=Z,9.4nm,1.5s						
WB0	**Warramunga Arr**	**50.40**	**258**	P	**P**	**19 37 50.9**	**-2.5**
WB2	**Warramunga Arr**	**50.42**	**258**	P	**P**	**19 37 52.3**	**-1.3**
WB2				IAmb	IAmb	19 38 11.5	
	comp=Z,6.7nm,1.4s						
WRA	**Warramunga Arr**	**50.43**	**258**	P	**P**	**19 37 51.5**	**-2.1**
	comp=Z,0.8nm,0.3s,baz=92,slow=8.1,SNR=36 comp=Z,0.8nm,0.3s						
ASAR	**Alice Springs**	**50.58**	**253**	P	**P**	**19 37 53.0**	**-1.7**
ASAR	**Alice Springs**	**50.58**	**253**	P	**P**	**19 37 53.2**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=89,slow=8.2,SNR=15						
ASAR				PcP	PcP	19 39 19.9	+7.5
	comp=Z,0.1nm,0.6s,baz=97,slow=3.7,SNR=1.1 comp=Z,0.9nm,0.7s						
QSPA	**South Pole Qui**	**73.43**	**180**	P	**P**	**19 40 30.6**	**+2.9**
H03N2	**Juan Fernandez**	**83.90**	**123**	T	T	21 16 39.9	
	baz=256,slow=76						
H03N3	**Juan Fernandez**	**83.91**	**123**	T	T	21 16 42.6	
	baz=256,slow=76						
H03N1	**Juan Fernandez**	**83.92**	**123**	T	T	21 16 38.2	
	baz=256,slow=76						

*IDC **26** 19:39:49.9±0.7, 13°.82N×121°.14E, h144km±2km, mb3.4/12, mbtmp3.8/12, Error ellipse: s-maj=30.8km s-min=14.6km az=62.0*

ISC 26 19:39:50.3±0.9, 13°.8N±0°.2×121°.1E±0°.2, h152km, n13, σ0ˢ66/14, **mb3.7/12, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.33**	**327**	P	**Pn**	**19 40 11.1**	**-0.2**
	1μm,0.4s,baz=180,slow=7.1,SNR=30						
TGY				S	**Sn**	**19 40 26.5**	**-0.8**
	695nm,0.5s,baz=345,slow=20,SNR=15						
CMAR	**Chiang Mai Arr**	**21.79**	**285**	P	**P**	**19 44 29.7**	**-0.7**
	2.7nm,0.8s,baz=93,slow=7.8,SNR=24 2.7nm,0.8s						
MJAR	**Matsushiro Arr**	**27.31**	**31**	P	**P**	**19 45 20.5**	**-0.4**
	1.5nm,0.9s,baz=196,slow=8.5,SNR=2.1 1.5nm,0.9s						
WRA	**Warramunga Arr**	**35.98**	**159**	P	**P**	**19 46 36.8**	**0.0**
	0.3nm,0.6s,baz=330,slow=9.8,SNR=2.4 0.3nm,0.6s						
ASAR	**Alice Springs**	**39.30**	**161**	P	**P**	**19 47 04.9**	**+0.3**
	0.3nm,0.4s,baz=337,slow=6.7,SNR=10 0.3nm,0.4s						
MKAR	**Makanchi Array**	**46.18**	**323**	P	**P**	**19 48 00.6**	**+0.7**
	0.6nm,0.3s,baz=123,slow=8.1,SNR=15 0.6nm,0.3s						
ZALV	**Zalesovo Beam**	**49.14**	**332**	P	**P**	**19 48 23.3**	**+0.9**
	1.5nm,0.4s,baz=119,slow=8.4,SNR=7.7 1.5nm,0.4s						
KURBB	**Kurchatov Arra**	**50.32**	**326**	P	**P**	**19 48 32.5**	**+1.1**
	1.7nm,0.5s,baz=133,slow=7.6,SNR=24 1.7nm,0.5s						
BVAR	**Borovoye Array**	**55.91**	**326**	P	**P**	**19 49 12.9**	**+0.7**
	0.5nm,0.5s,baz=120,slow=8.8,SNR=5.3 0.5nm,0.5s						
ARCES	**ARCESS Array B**	**79.12**	**339**	P	**P**	**19 51 37.1**	**-0.5**
	2.6nm,1.0s,baz=77,slow=4.9,SNR=5.1 2.6nm,1.0s						
FINES	**FINESS Array B**	**80.38**	**331**	P	**P**	**19 51 44.8**	**+0.2**
	0.4nm,0.7s,baz=59,slow=5.6,SNR=4.0 0.4nm,0.7s						
HFS	**Hagfors**	**86.57**	**331**	P	**P**	**19 52 16.5**	**+0.3**
	0.5nm,0.5s,baz=111,slow=6.5,SNR=5.4 0.5nm,0.5s						
NOA	**NORSAR Array B**	**87.34**	**333**	P	**P**	**19 52 19.9**	**-0.1**
	0.4nm,0.7s,baz=70,slow=4.4,SNR=2.4 0.4nm,0.7s						

DJA 26 19:43:50.2±0.5, 8°S±5°×117°9E±°, h166km±7km, M3.9/10, mb4.3/3, MLv3.7/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.20**	**244**	P	Pn	19 44 18.5	+0.3
PLAI				S	Sn	19 44 40.5	+0.8
WBSI	**Waikabubak, Su**	**1.43**	**159**	P	Pn	19 44 20.2	-0.2
WBSI				S	Sn	19 44 43.7	0.0
WSI	**Waingapu**	**1.96**	**134**	P	Pn	19 44 26.0	+0.1
BASI	**Baing, Sumba**	**2.54**	**139**	P	Pn	19 44 32.9	+0.2
BSSI	**Bau Bau, Buton**	**2.68**	**37**	P	Pn	19 44 33.8	-0.5
EDFI	**Ende, Flores**	**2.83**	**99**	P	Pn	19 44 36.3	+0.1
BKSI	**Bulukumba**	**3.21**	**23**	P	Pn	19 44 41.2	+0.3
JAGI	**Jajag, Banyuwa**	**4.67**	**268**	P	Pn	19 44 59.3	-0.3
BATI	**Baumata**	**5.10**	**112**	P	Pn	19 45 05.2	0.0
	0.2nm33nm,0.7s						
SOEI	**Soe**	**5.52**	**106**	P	Pn	19 45 10.6	-0.3
	0.2nm43nm,0.6s						

*NEIC **26** 19:43:53.3±0.8, 19°.17N±0°.02×155°.48W±0°.02, h41km±1km, Error ellipse: s-maj=3.0km s-min=2.8km az=166.0*

HVO 26 19:43:55.1±0.7, 19°16N±0°.02×155°45W±0°.02, h35km±2km, ML2.4/24, ML2.5/40(NEIC), Error ellipse: s-maj=3.5km s-min=2.3km az=112.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.10**	**33**		Pn	19 44 00.8	-0.4
HPO	**Honuapo**	**0.12**	**235**		Pn	19 44 00.8	-1.7
HPO				Sn	Sn	19 44 04.9	-3.3
KHU	**Kahuku**	**0.18**	**301**		Pn	19 44 01.1	-1.6
KHU					Sn	19 44 05.6	-2.8
HLP	**Hilina Pali**	**0.20**	**44**		Pn	19 44 01.4	-1.1
HLP				IAML		19 44 06.0	
	comp=E,539nm,1.0s						
HLP				Sn	Sn	19 44 06.1	-1.9
HLP				IAML		19 44 09.8	
	comp=N,597nm,0.3s						
AIN	**Ainahou**	**0.22**	**359**		Pn	19 44 01.6	-1.1
AIN				Sn	Sn	19 44 06.3	-2.0
SDHHI	**Sand Hill**	**0.28**	**33**		Pn	19 44 01.9	-1.1
SDHHI					Sn	19 44 07.0	-1.8
WRMHI	**West Rim**	**0.29**	**30**		Pn	19 44 01.9	-1.2
WRMHI					Sn	19 44 07.2	-1.7
KKO	**Keanakako'i**	**0.30**	**36**		Pn	19 44 02.1	-1.1
KKO					Sn	19 44 07.5	-1.6
UWE	**Uwekahuna**	**0.30**	**30**		Pn	19 44 01.9	-1.3
UWE				IAML		19 44 11.6	
	comp=N,475nm,0.6s						
UWE				IAML		19 44 16.6	
	comp=E,474nm,0.8s						
UWE	**Uwekahuna**	**0.30**	**30**		Sn	19 44 07.4	-1.8
OBL	**Observatory Le**	**0.31**	**32**		Pn	19 44 02.1	-1.2
OBL					Sn	19 44 07.8	-1.4
PUH	**Pauahi**	**0.31**	**46**		Pn	19 44 02.0	-1.3
PUH				IAML		19 44 07.7	
	comp=E,340nm,0.3s						
PUH	**Pauahi**	**0.31**	**46**		Sn	19 44 07.3	-1.9
BYL	**Byron's Ledge**	**0.31**	**36**		Pn	19 44 02.0	-1.3
BYL				IAML		19 44 18.2	
	comp=E,301nm,1.5s						
BYL	**Byron's Ledge**	**0.31**	**36**		Sn	19 44 07.6	-1.7
UWB	**Uwekahuna Bluf**	**0.32**	**32**		Pn	19 44 02.1	-1.3
UWB					Sn	19 44 07.3	-1.9
HATHI	**Halema'uma'u T**	**0.32**	**34**		Pn	19 44 02.1	-1.4
HATHI				IAML		19 44 07.9	
	comp=E,357nm,0.4s						
HATHI	**Halema'uma'u T**	**0.32**	**34**		Sn	19 44 07.7	-1.7
SBLHI	**Steaming Bluff**	**0.32**	**33**		Pn	19 44 02.1	-1.3
SBLHI					Sn	19 44 07.6	-1.8
MLH	**Mauna Loa**	**0.34**	**11**		Pn	19 44 02.6	-1.2
MLH				IAML		19 44 08.6	
	comp=E,428nm,0.3s						
MLH				IAML		19 44 08.8	
	comp=N,462nm,0.5s						
MLH	**Mauna Loa**	**0.34**	**11**		Sn	19 44 08.3	-1.7
RSD	**Rainshed**	**0.35**	**28**		Pn	19 44 01.8	-1.9
RSD	**Rainshed**	**0.35**	**28**		Sn	19 44 07.9	-2.0
KNHH	**Kane Nui o Ham**	**0.35**	**50**		Pn	19 44 02.5	-1.2
MWH	**Mokuaweoweo**	**0.35**	**338**		Pn	19 44 02.5	-1.7
MWH				IAML		19 44 10.5	
	comp=N,281nm,1.2s						
MWH				IAML		19 44 11.9	
	comp=E,350nm,1.8s						
MWH	**Mokuaweoweo**	**0.35**	**338**		Sn	19 44 09.0	-1.7
STCH	**Steam Cracks**	**0.39**	**54**		Pn	19 44 02.9	-1.3
STCH				IAML		19 44 09.1	
	comp=E,275nm,0.1s						
STCH	**Steam Cracks**	**0.39**	**54**		Sn	19 44 08.8	-1.8
NPOC	**North of Pu'u**	**0.40**	**54**		Pn	19 44 03.2	-1.2
NPOC					Sn	19 44 09.3	-1.6
JCUZ	**Jacuzzi**	**0.40**	**56**		Pn	19 44 03.3	-1.1
JCUZ					Sn	19 44 09.2	-1.7
ALEP	**Alea Permanent**	**0.42**	**335**		Pn	19 44 03.3	-1.7
ALEP					Sn	19 44 09.5	-2.4
HMH	**Humu'ula Sheep**	**0.45**	**356**		Pn	19 44 04.0	-1.2
HM

Mww5.4/31,Error ellipse: s-maj=9.3km s-min=8.1km az=95.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.23; $M_{\theta\theta}$0.86; $M_{\phi\phi}$-0.63; $M_{r\theta}$-0.67; $M_{\theta\phi}$-0.80; $M_{\phi r}$-0.42; Fault plane solution: $M_0$1.36000×10^{17} NP1:ϕ_s335.20000°,δ54.62000°,λ-10.70000°. NP2: ϕ_s71.44000°,δ81.30000°,λ-144.15000°. Principal axes: T 1.3491, Plg18.0000°, Azm198.0000°; N 0.0218, Plg53.0000°, Azm83.0000°; P -1.3709, Plg31.0000°, Azm299.0000°; Moment Tensor Solution. Moment tensor: Scale 10^{17} Nm; M_{rr}-0.32; $M_{\theta\theta}$0.92; $M_{\phi\phi}$-0.60; $M_{r\theta}$-0.34; $M_{\theta\phi}$-0.68; $M_{\phi r}$-0.22; Fault plane solution: $M_0$1.13000×10^{17} NP1:ϕ_s69.09000°,δ78.75000°, λ-154.60000°. NP2:ϕ_s333.80000°,δ65.12000°, λ-12.42000°. Principal axes: T 1.2153, Plg9.0000°, Azm199.0000°; N -0.2011, Plg62.0000°, Azm91.0000°; P -1.0141, Plg26.0000°, Azm294.0000°;

JMA ***26*** *20:16:57.6±0.8,21˚N±3˚×12˚2E±˚,h24km,MV5.3/32, MW5.4/32,PHILIPPINE ISL REGION*

NEIC ***26*** *20:16:57.5,20˚.81N×121˚.88E,h12km*

NEIC ***26*** *20:16:57.8,20˚.76N×121˚.91E,h18km*

BJI ***26*** *20:16:57.6,21˚.00N×121˚.76E,h6km,mB5.6/72,mb5.1/90, Ms5.5/99,Ms7 5.3/94*

NIED ***26*** *20:16:57.6,20˚.93N×121˚.87E,h24km,MW5.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.05; $M_{\theta\theta}$0.74; $M_{\phi\phi}$-0.70; $M_{r\theta}$1.16; $M_{\theta\phi}$-1.15; $M_{\phi r}$-0.15; Fault plane solution: $M_0$1.74000×10^{17} NP1: ϕ_s168.00000°,δ53.00000°,λ5.00000°. NP2:ϕ_s75.00000°, δ86.00000°,λ142.00000°.*

IDC ***26*** *20:16:58.2±1.6,20˚.61N×121˚.96E,h23km±9km,mb4.9/36, mbtmp5.0/41,ML4.4/5,MS4.9/70 Error ellipse: s-maj=12.0km s-min=7.7km az=72.0*

MAN ***26*** *20:16:58.8,20˚.65N×121˚.93E,h19km,mb5.9,ML5.0, MS5.4*

MAN INTENSITY VI - ITBAYAT BATANES; INTENSITY IV - BASCO IVANA AND MAHATAO BATANES; INTENSITY III - SABTANG AND UYUGAN BATANES.

GCMT ***26*** *20:16:58.9±0.1,20˚.80N±0˚.01×121˚.73E±0˚.01,h13km, MW5.4/152,Moment Tensor Solution. s109,c179; s152,c297; Duration: 1ś2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.04±.01; $M_{\theta\theta}$0.63±.01; $M_{\phi\phi}$-0.59±.02; $M_{r\theta}$-0.33±.04; $M_{\theta\phi}$-1.19±.01; $M_{\phi r}$-0.36±.04; Best double couple: $M_0$1.42300×10^{17} NP1:ϕ_s345.00000°,δ74.00000°, λ-10.00000°. NP2:ϕ_s78.00000°,δ80.00000°, λ-164.00000°. Principal axes: T 1.3640, Plg4.0000°, Azm211.0000°; N 0.1200, Plg71.0000°, Azm109.0000°; P -1.4830, Plg19.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 20:16:58.7±0.4,20.73N±0˚.02×121˚.95E±0˚.03,h25km±2km, h25km:pP-P,n1601,σ1ś51/1389,mb5.5/401,MS5.0/370, 52C-46D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**2.23**	**339**	P			**Pn**	**20 17 31.1**	**-3.0**
TWG	**Pinlang**	**2.23**	**339**				**Pn**	**20 17 30.8**	**-3.3**
YULB	**Yu-li**	**2.71**	**347**				**Pn**	**20 17 38.4**	**-2.4**
YULB	**Yu-li**	**2.71**	**347**	P			**Pn**	**20 17 39.4**	**-1.4**
TPUB	**Ta-pu**	**2.83**	**335**				**Pn**	**20 17 40.7**	**-1.7**
TPUB	**Ta-pu**	**2.83**	**335**	P			**Pn**	**20 17 43.3**	**+0.9**
SSLB	**Suanglung**	**3.17**	**343**				**Pn**	**20 17 46.4**	**-0.8**
SSLB	**Suanglung**	**3.17**	**343**	P			**Pn**	**20 17 48.8**	**+1.6**
NACB	**Ninganchiao**	**3.44**	**355**				**Pn**	**20 17 48.4**	**-2.3**
NACB	**Ninganchiao**	**3.44**	**355**	P			**Pn**	**20 17 48.5**	**-2.3**
SZP	**Santa**	**3.47**	**204**	P			**Pn**	**20 17 53.5**	**+2.4**
HATJ	**Hateruma jima**	**3.73**	**27**	P			**Pn**	**20 17 54.0**	**-0.6**
HATJ				*eS*			**Sn**	**20 18 35.1**	**-2.7**
HATJ	**Hateruma jima**	**3.73**	**27**	A			A	20 17 54.0	
	comp=N,34nm,4.8s,comp=E,24nm,2.2s								
YOJ	**Yonaguni jima**	**3.84**	**15**				**Pn**	**20 17 55.1**	**-1.1**
YOJ	**Yonaguni jima**	**3.84**	**15**	P			**Pn**	**20 17 58.3**	**+2.1**
YOJ	**Yonaguni jima**	**3.84**	**15**	P			**Pn**	**20 17 55.1**	**-1.1**
YOJ	**Yonaguni jima**	**3.84**	**15**	P			**Pn**	**20 17 58.0**	**+1.7**
YOJ				*eS*			**Sn**	**20 18 39.0**	**-1.6**
IRIF	**Iriomote-Funau**	**3.94**	**24**	P			**Pn**	**20 17 57.0**	**-0.7**
IRIF				*eS*			**Sn**	**20 18 40.5**	**-2.6**
YHNB	**Yeheng**	**3.95**	**352**				**Pn**	**20 17 57.2**	**-0.7**
YHNB	**Yeheng**	**3.95**	**352**	P			**Pn**	**20 17 58.0**	**+0.1**
JKRS	**Kuro-shima**	**3.97**	**28**	P			**Pn**	**20 17 57.6**	**-0.5**
JKRS				*eS*			**Sn**	**20 18 41.2**	**-2.7**
JKRS	**Kuro-shima**	**3.97**	**28**	A			A	20 17 57.6	
	comp=N,30nm,2.9s,comp=E,28nm,9.3s								
JIJ	**Ishigaki jima**	**4.14**	**29**	P			**Pn**	**20 17 59.2**	**-1.2**
JIJ				*eS*			**Sn**	**20 18 43.5**	**-4.6**
JIJ	**Ishigaki jima**	**4.14**	**29**	A			A	20 17 59.2	
	comp=N,8.0nm,6.0s,comp=E,7.0nm,6.7s								
TATO	**Taipei**	**4.24**	**354**				**Pn**	**20 18 01.4**	**-0.4**
TATO	**Taipei**	**4.24**	**354**	P			**Pn**	**20 18 02.6**	**+0.8**
TATO				S			**Sn**	**20 18 53.9**	**+3.4**
TATO	**Taipei**	**4.24**	**354**	P			**Pn**	**20 18 02.5**	**+0.7**
JISG	**Ishigakijimahi**	**4.41**	**29**	P			**Pn**	**20 18 02.5**	**-1.6**
JISG				*eS*			**Sn**	**20 18 50.9**	**-3.9**
JTJ	**Tarama**	**4.65**	**33**	P			**Pn**	**20 18 06.4**	**-0.9**
JTJ				*eS*			**Sn**	**20 18 57.1**	**-3.3**
JTJ	**Tarama**	**4.65**	**33**	A			A	20 18 06.4	
	comp=N,13nm,6.6s,comp=E,14nm,7.5s								
KNMB	**Chin-men Tao**	**4.96**	**319**				**Pn**	**20 18 09.3**	**-2.3**
JIRB	**Irabujima**	**5.05**	**36**	P			**Pn**	**20 18 11.7**	**-1.2**
JIRB				*eS*			**Sn**	**20 19 06.8**	**-3.5**
JMJ2	**Miyako jima3**	**5.06**	**37**	*eP*			**Pn**	**20 18 12.5**	**-0.6**
JMJ2	**Miyako jima3**	**5.06**	**37**	A			A	20 18 12.5	
	comp=N,26nm,5.9s,comp=E,39nm,8.0s								
JMJ	**Miyako jima 2**	**5.10**	**37**	P			**Pn**	**20 18 12.8**	**-0.8**
JOGS	**Gusukube**	**5.12**	**38**	*eP*			**Pn**	**20 18 14.0**	**+0.1**
JOGS	**Gusukube**	**5.12**	**38**	A			A	20 18 14.0	
	comp=N,30nm,7.3s,comp=E,30nm,6.4s								
JIKM	**Ikemajima**	**5.16**	**36**	*eP*			**Pn**	**20 18 13.9**	**-0.6**
JIKM				*eS*			**Sn**	**20 19 09.3**	**-4.0**
JIKM	**Ikemajima**	**5.16**	**36**	A			A	20 18 13.9	
	comp=N,15nm,7.7s,comp=E,20nm,8.4s								
QZH	**Quanzhou**	**5.21**	**324**	⇓*i* Pn			**Pn**	**20 18 12.5**	**-2.6**
QZH				Sn			**Sn**	**20 19 11.0**	**-3.4**
QZH				LR			LR		
	comp=E,25μm,14.8s								
QZH				LR			LR		
	comp=E,37μm,14.1s								
QZH				LR			LR		
	comp=E,25μm,16.8s								
TGY	**Tagaytay City**	**6.67**	**188**	Pn			**Pn**	**20 18 33.0**	**-2.2**
	comp=E,1.4nm,0.3s,baz=355,slow=5.4,SNR=17								
TGY				Sn			Sn	20 19 36.4	-14
	comp=E,29nm,0.3s,baz=35,slow=11,SNR=0.6								
TGY				LR			LR	20 21 42.9	
	comp=E,11μm,19.9s,baz=5.0,slow=44 comp=E,78nm,0.3s								
TGY	**Tagaytay City**	**6.67**	**188**	P			**Pn**	**20 18 33.0**	**-2.2**
JKE	**Kume jima 2**	**7.12**	**38**	*eP*			**Pn**	**20 18 41.6**	**+0.3**
HKPS	**Hong Kong Po S**	**7.43**	**283**				**Pn**	**20 18 43.4**	**-2.2**
JAGN	**Aguni-jima**	**7.58**	**39**	*eP*			**Pn**	**20 18 48.1**	**+0.4**
JJT3	**Tamagusuku3**	**7.60**	**44**	*eP*			**Pn**	**20 18 47.7**	**-0.2**
JNTH	**Nagotoyohara**	**8.01**	**43**	*eP*			**Pn**	**20 18 53.7**	**+0.1**
GZH	**Guangzhou**	**8.32**	**288**	P			**Pn**	**20 18 54.5**	**-3.4**
GZH				S			**Sn**	**20 20 24.5**	**-6.6**
GZH				LR			LR		
	comp=E,22μm,13.5s								
GZH				LR			LR		
	comp=E,14μm,12.4s								
JOW	**Kunigami**	**8.39**	**42**				**Pn**	**20 18 57.6**	**-1.1**
JOW	**Kunigami**	**8.39**	**42**	Pn			**Pn**	**20 18 58.2**	**-0.6**
	comp=E,15nm,0.3s,baz=175,slow=8.7,SNR=72								
JOW				Sn			**Sn**	**20 20 27.6**	**-5.1**
	comp=E,1.7nm,0.3s,baz=127,slow=29,SNR=0.7 comp=E,70nm,0.3s								
JOW	**Kunigami**	**8.39**	**42**	P			**Pn**	**20 18 58.2**	**-0.6**
JOW	**Kunigami**	**8.39**	**42**	P			**Pn**	**20 18 58.3**	**-0.6**
JYRO	**Yoronjima**	**8.64**	**42**	P			**Pn**	**20 19 01.0**	**-1.1**
JOKE	**Okinoerabujima**	**8.95**	**41**	P			**Pn**	**20 19 05.2**	**-1.3**
JTK	**Tokunoshima**	**9.49**	**41**	P			**Pn**	**20 19 11.9**	**-2.0**
JMZ	**Minamidaito 2**	**9.91**	**58**				**Pn**	**20 19 18.8**	**-0.8**
JMZ	**Minamidaito 2**	**9.91**	**58**	P			**Pn**	**20 19 20.7**	**+1.0**
JMZ	**Minamidaito 2**	**9.91**	**58**	*eP*			**Pn**	**20 19 18.6**	**-1.0**
JAMN	**Amaminishikomi**	**9.96**	**40**	*eP*			**Pn**	**20 19 19.1**	**-1.1**
JAMN				*eS*			**Sn**	**20 21 05.3**	**-5.9**
JKDJ	**Kitadaitoujima**	**10.04**	**57**	*eP*			**Pn**	**20 19 19.6**	**-1.7**
JAM	**Amami Oshima**	**10.34**	**41**	*eP*			**Pn**	**20 19 24.3**	**-1.2**
SSE	**Sheshan**	**10.34**	**356**	P			**Pn**	**20 19 25.0**	**-0.5**
SSE				S			**Sn**	**20 21 23.8**	**+3.2**
SSE				pmax			pmax		
	comp=E,15nm,0.8s								
SSE				pmax			pmax		
	comp=E,330nm,7.3s								
SSE				LR			LR		
	comp=E,4μm,11.0s								
SSE				LR			LR		
	comp=E,4μm,11.0s								
JTAJ	**Takarajima**	**10.65**	**37**	*eP*			**Pn**	**20 19 27.7**	**-2.1**
CNSH	**ChangSha**	**11.06**	**314**	P			**Pn**	**20 19 34.5**	**-0.9**
CNSH				S			**Sn**	**20 21 35.8**	**-2.5**
CNSH				pmax			pmax		
	comp=E,13nm,0.7s								
QIZ	**Qiongzhong**	**11.51**	**264**				**Pn**	**20 19 39.9**	**-1.7**
QIZ	**Qiongzhong**	**11.51**	**264**	P			**Pn**	**20 19 40.8**	**-0.8**
QIZ				S			**Sn**	**20 21 52.5**	**+3.0**
QIZ				pmax			pmax		
	comp=E,18nm,1.2s								
QIZ				pmax			pmax		
	comp=E,170nm,4.0s								
QIZ				LR			LR		
	comp=E,7μm,11.8s								
QIZ				LR			LR		
	comp=E,5μm,12.2s								
QIZ				LR			LR		
	comp=E,11μm,12.3s								
QIZ	**Qiongzhong**	**11.51**	**264**	P			**Pn**	**20 19 41.1**	**-0.5**
NJ2	**Nanjing**	**11.61**	**347**	⇑P			**Pn**	**20 19 42.8**	**0.0**
NJ2				pP				20 19 47.3	
NJ2				S			**Sn**	**20 21 44.3**	**-7.3**
NJ2				pmax			pmax		
	comp=E,12nm,0.7s								
NJ2				pmax			pmax		
	comp=E,280nm,6.9s								
NJ2				LR			LR		
	comp=E,7μm,17.1s								
NJ2				LR			LR		
	comp=E,16μm,15.2s								
NJ2				LR			LR		
	comp=E,8μm,16.1s								
WHN	**Wuhan**	**11.93**	**327**	P			**Pn**	**20 19 48.3**	**+1.1**
WHN				S			**Sn**	**20 22 02.0**	**+2.5**
WHN				pmax			pmax		
	comp=E,100nm,1.1s								
WHN				pmax			pmax		
	comp=E,2μm,6.1s								
WHN				LR			LR		
	comp=E,44μm,14.7s								
WHN				LR			LR		
	comp=E,75μm,17.0s								
WHN				LR			LR		
	comp=E,31μm,12.9s								
DAV	**Davao City (W)**	**14.03**	**165**	LR			LR	20 25 53.2	
	comp=E,11μm,20.0s,baz=346,slow=38								
DAV	**Davao City (W)**	**14.03**	**165**	⇑*i* P			**Pn**	**20 20 19.0**	**+2.9**
JNU	**Nakatsue**	**14.68**	**31**				**Pn**	**20 20 23.4**	**-1.4**
JNU	**Nakatsue**	**14.68**	**31**	Pn			**Pn**	**20 20 25.1**	**+0.3**
	comp=E,1.3nm,0.3s,baz=177,slow=5.9,SNR=13								
JNU				LR			LR	20 26 01.3	
	comp=E,6μm,21.1s,baz=213,slow=37 comp=E,25nm,0.8s								
JNU	**Nakatsue**	**14.68**	**31**	P			**Pn**	**20 20 26.4**	**+1.6**
ENH	**Enshi**	**14.71**	**313**				**Pn**	**20 20 24.4**	**-0.9**
ENH	**Enshi**	**14.71**	**313**	P			**Pn**	**20 20 26.0**	**+0.7**
GYA	**Guiyang**	**15.12**	**295**	⇓P			**Pn**	**20 20 30.0**	**-0.9**
GYA				*sP*			P	20 20 39.0	+3.1
GYA				S			**Sn**	**20 23 19.0**	**+1.3**
GYA				pmax			pmax		
	comp=E,19nm,1.2s								
GYA				pmax			pmax		
	comp=E,1μm,4.8s								
GYA				LR			LR		
	comp=E,14μm,13.0s								
GYA				LR			LR		
	comp=E,5μm,13.4s								
GYA				LR			LR		
	comp=E,7μm,17.0s								
JTU	**Tsushima**	**15.23**	**24**	P			**Pn**	**20 20 34.0**	**+1.8**
DLV	**Lat**	**15.59**	**238**				**Pn**	**20 20 35.5**	**-1.7**
DLV	**Lat**	**15.59**	**238**	P			**Pn**	**20 20 37.4**	**+0.3**
KKM	**Kota Kinabalu**	**15.63**	**202**				**Pn**	**20 20 37.6**	**+0.1**
KKM	**Kota Kinabalu**	**15.63**	**202**	P			**P**	**20 20 40.1**	**-1.4**
TIA	**Tai'an**	**15.99**	**346**	P			**Pn**	**20 20 43.0**	**+1.0**
TIA				S			**Sn**	**20 23 37.8**	**-0.8**
TIA				pmax			pmax		
	comp=E,100nm,0.9s								
TIA				pmax			pmax		
	comp=E,2μm,5.8s								
TIA				LR			LR		
	comp=E,3μm,14.1s								
TIA				LR			LR		
	comp=E,13μm,14.4s								
TIA				LR			LR		
	comp=E,8μm,13.4s								
LYN	**LuoYang**	**16.11**	**331**	*eP*			**Pn**	**20 20 44.0**	**+0.4**
LYN				*sP*			P	20 20 49.0	+2.3
LYN				pmax			pmax		
	comp=E,120nm,1.4s								
LYN				pmax			pmax		
	comp=E,2μm,4.1s								
LYN				LR			LR		
	comp=E,23μm,16.1s								
LYN				LR			LR		
	comp=E,25μm,15.9s								
LYN				LR			LR		
	comp=E,7μm,20.3s								
TJN	**Taejon**	**16.29**	**16**				**Pn**	**20 20 43.7**	**-2.1**
TJN	**Taejon**	**16.29**	**16**	P			**P**	**20 20 48.6**	**0.0**
TJN	**Taejon**	**16.29**	**16**	*i* P			**Pn**	**20 20 46.9**	**+1.1**
UBPT	**Khong Chiam**	**16.58**	**254**	Pn			**Pn**	**20 20 47.9**	**-1.8**
JMN	**Monobe**	**16.72**	**37**				**Pn**	**20 20 49.0**	**-2.3**
JMN	**Monobe**	**16.72**	**37**	P			**P**	**20 20 54.7**	**+1.2**
SLVN	**Son La**	**16.86**	**275**				**Pn**	**20 20 50.1**	**-3.1**
SLVN	**Son La**	**16.86**	**275**	P			**Pn**	**20 20 54.2**	**+1.0**
INCN	**Inchon**	**17.18**	**13**				**Pn**	**20 20 56.5**	**-0.6**
INCN	**Inchon**	**17.18**	**13**	P			**Pn**	**20 20 55.3**	**-1.8**
INCN				S			**Sn**	**20 24 09.2**	**+1.7**
INCN	**Inchon**	**17.18**	**13**	P			**P**	**20 20 59.7**	**+1.2**
INCN	**Inchon**	**17.18**	**13**	P			**Pn**	**20 20 56.5**	**-0.6**
INCN				pmax			pmax		
	comp=E,256nm,1.6s								
SGSI	**Sangihe**	**17.30**	**168**	P			**Pn**	**20 20 59.0**	**+0.3**
	comp=E,4μmcomp=Z,5μmcomp=Z,359nm,1.6s								
KSAR	**Wonju Array Be**	**17.43**	**16**	P			**Pn**	**20 20 59.8**	**-0.4**
KSAR	**Wonju Array Be**	**17.43**	**16**	P			**Pn**	**20 20 59.8**	**-0.4**
KSRS	**Korea Array**	**17.45**	**16**	P			**Pn**	**20 21 00.9**	**+0.6**
	comp=Z,2.1nm,0.3s,baz=199,slow=13,SNR=67 comp=Z,35nm,1.0s								
KSRS	**Korea Array**	**17.45**	**16**	P			**Pn**	**20 21 01.0**	**+0.6**
KS19	**Wonju Array Si**	**17.48**	**16**	P			**P**	**20 21 01.8**	**0.0**
XAN	**Xi'an**	**17.57**	**322**	⇓P			**Pn**	**20 21 02.0**	**0.0**
XAN				S			**Sn**	**20 24 18.0**	**+1.0**
XAN				pmax			pmax		
	comp=E,200nm,1.4s								
XAN				pmax			pmax		
	comp=E,4μm,7.8s								
XAN				LR			LR		
	comp=E,12μm,15.7s								
XAN				LR			LR		
	comp=E,12μm,13.7s								
XAN				LR			LR		
	comp=E,20μm,16.6s								
HNS	**HongShan**	**17.76**	**341**	⇓P			**P**	**20 21 05.0**	**+0.1**
HNS				pmax			pmax		
	comp=E,190nm,1.3s								
HNS				pmax			pmax		
	comp=E,4μm,7.1s								
HNS				LR			LR		
	comp=E,10μm,13.2s								
HNS				LR			LR		
	comp=E,12μm,14.2s								
HNS				LR			LR		
	comp=E,9μm,14.3s								
DL2	**Dalian**	**18.11**	**359**	P			**Pn**	**20 21 07.5**	**-1.1**
DL2				S			**Sn**	**20 24 29.0**	**-1.0**
DL2				pmax			pmax		
	comp=E,89nm,1.6s								
DL2				pmax			pmax		
	comp=E,3μm,8.6s								
DL2				LR			LR		
	comp=E,6μm,12.7s								
DL2				LR			LR		
	comp=E,8μm,13.3s								
DL2				LR			LR		
	comp=E,7μm,12.7s								
KMI	**Kunming**	**18.22**	**287**	⇓P			**P**	**20 21 10.8**	**+0.5**
KMI				S			**Sn**	**20 24 31.5**	**-1.7**
KMI				pmax			pmax		
	comp=E,39nm,2.0s								
KMI				pmax			pmax		
	comp=E,1μm,8.7s								
KMI				LR			LR		
	comp=E,7μm,12.3s								
KMI				LR			LR		
	comp=E,2μm,13.7s								
KMI				LR			LR		
	comp=E,4μm,15.8s								
TIY	**Taiyuan**	**18.83**	**336**	P			**Pn**	**20 21 17.8**	**+0.4**
TIY				PP			**PnPn**	**20 21 32.8**	**+2.9**
TIY				S			**Sn**	**20 24 46.5**	**-0.9**
TIY				pmax			pmax		
	comp=Z,170nm,1.3s								
TIY				pmax			pmax		
	comp=E,2μm,8.0s								
TIY				LR			LR		
	comp=E,20μm,13.6s								
TIY				LR			LR		
	comp=E,13μm,15.5s								
TIY				LR			LR		
	comp=E,19μm,12.3s								
CD2	**Chengdu**	**19.23**	**305**	P			**P**	**20 21 21.5**	**+0.3**
CD2				*sP*			Pn	20 21 24.8	+2.5
CD2				S			**S**	**20 24 59.3**	**+1.7**
CD2				pmax			pmax		
	comp=E,460nm,1.0s								
CD2				pmax			pmax		
	comp=E,3μm,4.2s								
CD2				LR			LR		
	comp=E,21μm,15.7s								
CD2				LR			LR		
	comp=E,17μm,15.0s								
CD2				LR			LR		
	comp=E,16μm,15.1s								
PZH	**PanZhiHua**	**19.38**	**291**	P			**Pn**	**20 21 25.3**	**+1.2**
PZH				S			**S**	**20 24 57.0**	**-3.8**
PZH				pmax			pmax		
	comp=E,70nm,1.5s								
PZH				pmax			pmax		
	comp=E,2μm,4.7s								
PZH				LR			LR		
	comp=E,6μm,13.3s								
PZH				LR			LR		
	comp=E,4μm,13.3s								
PZH				LR			LR		
	comp=E,4μm,14.2s								
TOLI2	**Tolitoli**	**19.54**	**183**				**P**	**20 21 23.5**	**-1.1**
TOLI2	**Tolitoli**	**19.54**	**183**	P			**Pn**	**20 21 26.0**	**0.0**
JCJ	**Chichijima**	**19.54**	**67**	P			**P**	**20 21 24.3**	**-0.3**
JCJ	**Chichijima**	**19.54**	**67**	P			**P**	**20 21 23.6**	**-1.0**
	comp=Z,2.9nm,0.3s,baz=205,slow=3.3,SNR=6.2 comp=Z,191nm,0.9s								
JCJ	**Chichijima**	**19.54**	**67**	P			**Pn**	**20 21 27.0**	**+1.0**
INU	**Inuyama**	**19.68**	**39**				**P**	**20 21 25.7**	**-0.4**
INU	**Inuyama**	**19.68**	**39**	P			**Pn**	**20 21 30.2**	**+2.6**
BJT	**Baijiatuau**	**19.85**	**347**	P			**P**	**20 21 28.0**	**+0.2**
BJT	**Baijiatuau**	**19.85**	**347**	P			**P**	**20 21 28.6**	**+0.8**
BJT	**Baijiatuau**	**19.85**	**347**	P			**P**	**20 21 28.0**	**+0.2**
BJT				pmax			pmax		
	comp=Z,128nm,0.7s								
BJI	**Beijing**	**19.87**	**347**	P			**P**	**20 21 28.8**	**+0.8**
BJI				S			**S**	**20 25 09.0**	**-1.4**
BJI				pmax			pmax		
	comp=E,91nm,0.9s								
BJI				LR			LR		
	comp=E,2μm,14.6s								
BJI				LR			LR		
	comp=E,2μm,12.3s								
BJI				LR			LR		
	comp=E,3μm,13.9s								
JSG	**Sagara**	**19.95**	**42**	P			**P**	**20 21 27.3**	**-1.7**
JSG				IAmb			IAmb	20 21 40.8	
	comp=Z,310nm,1.1s								
JGF	**Kuroka**	**20.06**	**39**				**P**	**20 21 28.1**	**-2.1**
JGF				IAmb			IAmb	20 21 38.6	
	comp=Z,291nm,1.3s								
JGF	**Kuroka**	**20.06**	**39**	P			Pn	20 21 34.3	+2.2
JHJ	**Hachijo jima 2**	**20.09**	**48**	P			Pn	20 21 32.3	-0.1
	comp=Z,241nm,1.1s,baz=315,slow=8.6,SNR=2.1								
JHJ				LR			LR	20 28 29.4	
	comp=Z,2μm,21.8s,baz=290,slow=34 comp=Z,241nm,1.1s								
MRSI	**Marisa**	**20.13**	**180**	P			**P**	**20 21 31.7**	**+0.6**
	comp=Z,3μmcomp=Z,2μmcomp=Z,167nm,0.7s								
MPSI	**Mapaga**	**20.37**	**186**	P			**P**	**20 21 33.0**	**-0.7**
	comp=Z,3μmcomp=Z,146nm,0.9s								
SBUM	**Sibu**	**20.50**	**209**	P			**P**	**20 21 35.6**	**+0.5**
SBUM				IAmb			IAmb	20 21 51.4	
	comp=Z,431nm,1.2s								
SBUM				IAMs_20			IAMs_20	20 30 05.2	
	comp=Z,5μm,20.0s								
SBUM	**Sibu**	**20.50**	**209**	P			Pn	20 21 36.7	-0.6
TNTI	**Ternate**	**20.54**	**164**				**P**	**20 21 34.5**	**-0.9**
TNTI	**Ternate**	**20.54**	**164**	P			Pn	20 21 39.4	+1.7
TNTI	**Ternate**	**20.54**	**164**	P			**P**	**20 21 35.3**	**-0.1**
	comp=Z,1μmcomp=Z,132nm,1.1s								
SNY	**Shenyang**	**21.07**	**3**	⇓P			**P**	**20 21 43.0**	**+1.9**
SNY				S			Sn	20 25 38.8	-2.5
SNY				pmax			pmax		
	comp=Z,1μm,11.1s								
SNY				LR			LR		
	comp=Z,1μm,20.8s								
SNY				LR			LR		
	comp=Z,7μm,15.6s								
SNY				LR			LR		
	comp=Z,5μm,13.5s								
MAJO	**Matsushiro**	**21.20**	**39**				**P**	**20 21 42.6**	**0.0**
MAJO				IAmb			IAmb	20 21 55.5	
	comp=Z,325nm,1.6s								
MAJO	**Matsushiro**	**21.20**	**39**	P			**P**	**20 21 46.3**	**+3.7**
MAJO	**Matsushiro**	**21.20**	**39**	*i* P			**P**	**20 21 43.6**	**+1.0**
MAJO				pmax			pmax		
	comp=Z,100nm,1.7s								
MJAR	**Matsushiro Arr**	**21.20**	**39**				**P**	**20 21 42.1**	**-0.5**

comp=Z,750nm,4.0s
HHC LR LR
comp=Z,9µm,14.5s
HHC LR LR
comp=Z,9µm,15.5s
HHC LR LR
comp=Z,9µm,15.1s
TNCH TengChong 22.00 286 P P 20 21 53.5 +2.1
TNCH pP pP 20 21 58.0 -0.1
TNCH PP **PnPn 20 22 17.0 +3.6**
TNCH S **S 20 25 49.5 -3.6**
TNCH sS pS 20 25 57.5 -4.2
TNCH SS **SnSn 20 26 20.0 +0.5**
TNCH pmax pmax
comp=Z,140nm,1.3s
TNCH pmax pmax
comp=Z,1µm,3.8s
TNCH LR LR
comp=Z,6µm,13.9s
TNCH LR LR
comp=Z,5µm,13.3s
TNCH LR LR
comp=Z,8µm,14.1s
LZH Lanzhou 22.02 318 ⇓P P 20 21 53.0 +1.5
LZH pP pP 20 21 56.8 -1.1
LZH PP **PnPn 20 22 15.0 +1.3**
LZH pmax pmax
comp=Z,120nm,1.6s
LZH pmax pmax
comp=Z,1µm,4.4s
LZH LR LR
comp=Z,7µm,14.0s
LZH LR LR
comp=Z,8µm,14.9s
LZH LR LR
comp=Z,12µm,16.5s
KSM Kuching 22.26 212 P P 20 21 54.2 +0.1
KSM IAmb IAmb 20 21 57.9
comp=Z,255nm,1.2s
KSM Kuching 22.26 212 P P 20 21 55.4 +1.3
BTO Baotou 22.26 335 *eP* **P 20 21 55.3 +1.3**
BTO pP **pP 20 21 59.8 -1.0**
BTO sP **sP 20 22 02.3 -1.6**
BTO PP **PnPn 20 22 22.8 +5.9**
BTO S **S 20 26 00.3 +2.5**
BTO sS **pS 20 26 05.3 -0.8**
BTO pmax pmax
comp=Z,78nm,1.9s
BTO pmax pmax
comp=Z,2µm,8.1s
BTO LR LR
comp=Z,40µm,13.3s
BTO LR LR
comp=Z,32µm,14.7s
BTO LR LR
comp=Z,48µm,13.3s
JSD Sado 22.29 36 P P 20 21 56.5 +2.3
BKB Balikpapan 22.41 193 P P 20 21 53.5 -2.1
BKB Balikpapan 22.41 193 P P 20 21 56.5 +0.9
BKB Balikpapan 22.41 193 P P 20 21 54.5 -1.1
STKI Sintang 22.95 208 P P 20 22 02.3 +0.9
comp=Z,3µmcomp=Z,151nm,1.2s
SANI Sanana 22.99 170 P P 20 22 03.4 +1.7
SANI Sanana 22.99 170 P P 20 22 02.6 +0.9
comp=Z,164nm,0.9s
GUMO Guam 23.01 104 P 20 22 00.6 -1.4
GUMO Guam 23.01 104 LR LR 20 28 52.2
comp=Z,2µm,21.0s,baz=275,slow=31
GUMO Guam 23.01 104 P P 20 22 04.7 +2.7
GUMO Guam 23.01 104 P P 20 22 00.6 -1.4
GUMO pmax pmax
comp=Z,403nm,1.1s
GUMO MLR MLR
comp=Z,3µm,20.0s
PSTR Posyet 23.09 17 *i* P **P 20 22 03.3 +0.8**
MSHR Mys Shultsa 23.12 18 *ceP* **P 20 22 03.4 +0.6**
MSHR pmax pmax
comp=Z,65nm,1.0s
MSHR MLR MLR
comp=Z,2µm,18.0s
CN2 Changchun 23.19 6 ⇑P P 20 22 02.8 -0.7
CN2 *eS* **S 20 26 10.0 -3.8**
CN2 pmax pmax
comp=Z,40nm,0.7s
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=Z,5µm,13.0s
CN2 LR LR
comp=Z,2µm,13.0s
CN2 LR LR
comp=Z,3µm,13.0s
SWI Sorong 23.32 156 P P 20 22 05.7 +0.6
XLT XiLinHaoTe 23.61 349 *eP* **P 20 22 07.0 -0.8**
XLT sP sP 20 22 20.3 +2.6
XLT PP pP 20 22 36.5 +22
XLT S **S 20 26 17.5 -3.4**
XLT SS **SnSn 20 27 05.0 +6.1**
XLT pmax pmax
comp=Z,100nm,1.2s
XLT pmax pmax
comp=Z,890nm,6.8s
XLT LR LR
comp=Z,6µm,16.6s
XLT LR LR
comp=Z,4µm,14.5s
JMM Marumori 23.62 40 P P 20 22 06.5 -1.3
JMM Marumori 23.62 40 P P 20 22 10.9 +3.0
TTSI Tana Toraja 23.72 185 P P 20 22 10.0 +1.0
comp=Z,2µmcomp=Z,171nm,0.7s
VLA Vladivostok 23.82 18 *i* P **P 20 22 10.7 +1.0**
VLA pmax pmax
comp=Z,107nm,1.2s
NLAI Namlea 24.35 167 P P 20 22 15.7 +0.8
SPSI Sidrap Palu 24.64 185 P P 20 22 18.2 +0.7
comp=Z,2µmcomp=Z,118nm,1.2s
MDJ Mudanjiang 24.65 13 IAmb IAmb 20 22 27.2
comp=Z,216nm,1.5s
MDJ IAMs_20 IAMs_20 20 33 20.9
comp=Z,6µm,18.0s
MDJ Mudanjiang 24.65 13 P P 20 22 19.5 +2.2
MDJ pmax pmax
comp=Z,130nm,2.1s
MDJ pmax pmax
comp=Z,2µm,4.4s
MDJ LR LR
comp=Z,5µm,19.4s
MDJ LR LR
comp=Z,8µm,14.2s
MDJ LR LR
comp=Z,8µm,17.1s
MDJ Mudanjiang 24.65 13 P P 20 22 20.5 +3.2
SRIT Nakonsritamara 24.72 244 P 20 22 18.5 +0.3
SRIT Nakonsritamara 24.72 244 P P 20 22 21.2 +3.0
USA0B Ussuriysk Arra 24.85 17 IAmb IAmb 20 22 27.5
comp=Z,167nm,1.2s
USA0B Ussuriysk Arra 24.85 17 *di* P **P 20 22 20.1 +1.0**
USRK Ussuriysk Ar. 24.85 17 P P 20 22 20.8 +1.7
USRK Ussuriysk Ar. 24.85 17 P P 20 22 21.3 +2.2
comp=Z,37nm,1.0s,baz=204,slow=9.0,SNR=29
USRK LR LR 20 32 51.0
comp=Z,3µm,18.4s,baz=192,slow=38
comp=Z,37nm,1.0s
USRK Ussuriysk Ar. 24.85 17 P P 20 22 20.8 +1.7
MSAI Masohi 24.89 163 P P 20 22 20.1 +0.3
comp=Z,221nm,1.2s
AAI Ambon 25.03 165 P P 20 22 22.5 +1.5
comp=Z,2µmcomp=Z,112nm,0.7s
BNSI Bone 25.04 184 P P 20 22 22.0 +0.9
comp=Z,3µmcomp=Z,2µmcomp=Z,102nm,1.1s
BNX BinXian 25.34 9 ⇑P P 20 22 24.0 +0.4
BNX pP **pP 20 22 29.8 -1.0**
BNX sP **sP 20 22 32.8 -1.0**
BNX S **S 20 26 53.5 +5.1**
BNX sS **sS 20 27 00.8 +1.7**
BNX pmax pmax
comp=Z,120nm,1.0s
BNX pmax pmax
comp=Z,950nm,5.2s
BNX LR LR
comp=Z,4µm,14.1s
BNX LR LR
comp=Z,5µm,18.4s
BNX LR LR
comp=Z,4µm,13.9s
FAKI Fak Fak 25.59 156 P P 20 22 26.7 +0.7
FAKI IAmb IAmb 20 22 28.2
comp=Z,208nm,1.6s
KAPI Kappang 25.68 185 P 20 22 26.8 -0.1
KAPI IAmb IAmb 20 22 38.6
comp=Z,244nm,1.4s
KAPI Kappang 25.68 185 LR LR 20 33 54.4
comp=Z,3µm,19.0s,baz=358,slow=40
KAPI Kappang 25.68 185 P P 20 22 27.3 +0.5
KAPI P **P 20 22 27.3 +0.5**
KAPI P **P 20 22 27.3 +0.5**
KAPI S **S 20 26 57.2 +3.0**
KAPI S **S 20 26 57.2 +3.0**
KAPI S **S 20 26 57.2 +3.0**
KAPI Kappang 25.68 185 P P 20 22 28.2 +1.3
KAPI Kappang 25.68 185 *i* P **P 20 22 27.2 +0.3**
KAPI pmax pmax
comp=Z,123nm,1.3s
KULM Kulim 25.75 236 P 20 22 28.1 +0.4
KULM IAmb IAmb 20 22 33.5
comp=Z,244nm,1.6s
KULM Kulim 25.75 236 P P 20 22 29.4 +1.8
JTM Tenmabayashi 25.77 35 P 20 22 28.4 +0.9
JTM Tenmabayashi 25.77 35 P P 20 22 30.5 +3.0
MYKOM Kota Tinggi 25.82 225 P P 20 22 27.4 -0.8
MYKOM IAmb IAmb 20 22 32.0
comp=Z,124nm,1.0s
MYKOM Kota Tinggi 25.82 225 P P 20 22 30.0 +1.8
BKSI Bulukumba 25.95 184 P P 20 22 28.9 -0.5
comp=Z,47nm,0.9s
IPM Ipoh 25.98 234 P 20 22 29.4 -0.3
IPM IAmb IAmb 20 22 32.8
comp=Z,156nm,1.0s
IPM Ipoh 25.98 234 P P 20 22 30.8 +1.1
TPRI Tanjung Pinang 26.03 223 P P 20 22 29.2 -0.9
comp=Z,2µmcomp=Z,129nm,1.1s
BBSI Bau Bau 26.07 179 P P 20 22 29.4 -1.0
comp=Z,2µmcomp=Z,2µmcomp=Z,93nm,0.9s
GTA Gaotai 26.59 319 P P 20 22 36.5 +1.4
GTA pP pP 20 22 40.0 -2.5
GTA S **S 20 27 12.5 +4.0**
GTA pmax pmax
comp=Z,61nm,1.5s
GTA pmax pmax
comp=Z,700nm,9.6s
GTA LR LR
comp=Z,5µm,15.3s
GTA LR LR
comp=Z,8µm,13.8s
GTA LR LR
comp=Z,9µm,14.5s
BSSI Bau Bau, Buton 26.75 183 P P 20 22 34.7 -1.9
comp=Z,1µmcomp=Z,87nm,0.9s
DSRI Dabo 27.08 221 P P 20 22 39.5 -0.1
comp=Z,2µmcomp=Z,122nm,1.6s
TEY Ternei 27.09 23 ⇓ *eP* **P 20 22 42.9 +3.5**
TEY 20 27 19.1
TEY pmax pmax
comp=N,10.0nm,2.4s
TEY pmax pmax
comp=E,10.0nm,2.4s
TEY pmax pmax
comp=Z,90nm,2.7s
TPI Tanjungpandan 27.23 213 P P 20 22 40.8 -0.1
comp=Z,2µmcomp=Z,1µmcomp=Z,103nm,1.5s
ERM Erimo 27.75 35 P P 20 22 44.4 -1.0
ERM IAmb IAmb 20 22 58.5
comp=Z,158nm,1.2s
ERM Erimo 27.75 35 P P 20 22 48.7 +3.3
ERM Erimo 27.75 35 *i* P **P 20 22 46.6 +1.2**
ERM pmax pmax
comp=Z,79nm,1.1s
JEM Erimo 27.75 35 P P 20 22 48.7 +3.3
SMPI Sarmi 27.92 142 P P 20 22 48.3 +1.2
comp=Z,1µmcomp=Z,68nm,1.4s
SHL Shillong 28.02 286 P 20 22 47.3 -1.0
SHL Shillong 28.02 286 P P 20 22 51.8 +3.5
SNR=14
SHL Shillong 28.02 286 P P 20 22 47.3 -1.0
SHL pmax pmax
comp=Z,47nm,1.0s
BRDH Bariadhala 28.20 280 LR LR 20 35 52.5
comp=Z,1µm,18.7s,baz=130,slow=40
GOMU GeErMu 28.27 309 P P 20 22 51.8 +1.3
GOMU S **S 20 27 40.0 +4.4**
GOMU pmax pmax
comp=Z,24nm,1.1s
GOMU pmax pmax
comp=Z,310nm,5.4s
GOMU LR LR
comp=Z,8µm,16.7s
GOMU LR LR
comp=Z,4µm,19.7s
GOMU LR LR
comp=Z,7µm,20.1s
HIA Hailar 28.52 357 P P 20 22 51.5 -0.7
HIA Hailar 28.52 357 IAMs_20 IAMs_20 20 35 43.2
comp=Z,4µm,18.0s
HIA Hailar 28.52 357 P P 20 22 54.5 +2.3
HIA Hailar 28.52 357 P P 20 22 51.5 -0.7
HIA pmax pmax
comp=Z,48nm,1.4s
HIA MLR MLR
comp=Z,4µm,18.0s
PSI Prapat 28.65 235 LR LR 20 35 26.1
comp=Z,2µm,18.8s,baz=48,slow=39
PSI Prapat 28.65 235 P P 20 22 55.8 +2.0
KMMI Kalianget 28.70 197 P P 20 22 54.7 +0.6
comp=Z,3µmcomp=Z,130nm,1.3s
RPSI Rantau Prapat 28.72 234 PcP 20 26 05.3 +0.8
LHMI Lhok Sumawe 28.75 241 P 20 22 54.5 0.0
LHMI IAmb IAmb 20 23 02.6
comp=Z,88nm,0.9s
LHMI Lhok Sumawe 28.75 241 P P 20 22 55.8 +1.2
LHMI Lhok Sumawe 28.75 241 P P 20 22 55.4 +0.8
BKNI Bangkinang 28.79 228 P P 20 22 55.3 +0.3
BKNI IAMs_20 IAMs_20 20 33 29.5
comp=Z,3µm,21.0s
BKNI Bangkinang 28.79 228 P P 20 22 56.6 +1.7
PMBI Palembang 28.92 218 IAMs_20 IAMs_20 20 33 51.8
comp=Z,3µm,21.0s
ASAJ Asahikawa 28.95 32 P P 20 22 56.9 +0.8
comp=Z,12nm,0.8s,baz=248,slow=17,SNR=16
ASAJ LR LR 20 35 53.0
comp=Z,4µm,18.8s,baz=221,slow=39
comp=Z,12nm,0.8s
ASAJ Asahikawa 28.95 32 P P 20 22 55.5 -0.6
ASAJ pmax pmax
comp=Z,239nm,1.2s
JKA Kamikawa-asahi 28.95 32 P 20 22 55.5 -0.6
LSA Lhasa 29.19 294 P P 20 23 00.8 +1.9
LSA S **S 20 27 52.5 +2.2**
LSA pmax pmax
comp=Z,32nm,0.9s
LSA LR LR
comp=Z,3µm,17.8s
LSA LR LR
comp=Z,1µm,18.8s
LSA Lhasa 29.19 294 P P 20 23 01.4 +2.5
LSA P **P 20 23 01.4 +2.5**
LSA Lhasa 29.19 294 P P 20 23 01.1 +2.2
MMRI Maumere 29.19 179 P 20 22 58.3 0.0
MMRI Maumere 29.19 179 P P 20 22 59.5 +1.1
MMRI Maumere 29.19 179 P P 20 22 59.1 +0.7
EDFI Ende, Flores 29.30 181 P P 20 22 59.2 -0.3
SRBI Singaraja 29.39 194 P P 20 23 01.9 +1.7
comp=Z,2µmcomp=Z,124nm,1.9s
MNSI Mandailing Nat 29.50 231 P P 20 23 02.4 +1.2
JAY Jayapura 29.53 139 LR LR 20 32 48.4
comp=Z,4µm,20.3s,baz=319,slow=32
ULN Ulaanbaatar 29.62 340 P 20 23 01.1 -1.1
ULN IAmb IAmb 20 23 07.3
comp=Z,114nm,1.2s
ULN Ulaanbaatar 29.62 340 IAMs_20 IAMs_20 20 35 41.0
comp=Z,5µm,19.0s
ULN Ulaanbaatar 29.62 340 P P 20 23 02.1 -0.1
ULN Ulaanbaatar 29.62 340 *ceP* **P 20 23 02.0 -0.1**
ULN pmax pmax
comp=Z,102nm,1.3s
PLAI Plampang 29.66 188 P P 20 23 04.7 +2.1
PLAI Plampang 29.66 188 P P 20 23 03.8 +1.2
MLSI Meulaboh, Aceh 29.75 240 P P 20 23 04.2 +0.8
NGJI Ngawi 29.77 201 P P 20 23 04.6 +1.1
comp=Z,3µmcomp=Z,118nm,1.3s
HEH HeiHe 29.77 7 *eP* **P 20 23 05.0 +1.7**
HEH pP **pP 20 23 10.3 -0.2**
HEH S **S 20 28 02.0 +3.9**
HEH pmax pmax
comp=Z,7.0nm,1.1s
HEH LR LR
comp=Z,4µm,15.3s
HEH LR LR
comp=Z,3µm,13.0s
HEH LR LR
comp=Z,8µm,15.2s
PPI Padang Panjang 29.80 228 P P 20 23 04.8 +1.0
SONM Songino Array 29.82 339 P 20 23 03.0 -0.8
SONM Songino Array 29.82 339 P P 20 23 03.7 -0.1
comp=Z,36nm,0.9s,baz=159,slow=9.4,SNR=45
SONM LR LR 20 35 58.5
comp=Z,5µm,19.5s,baz=146,slow=38
comp=Z,36nm,0.9s
SONM Songino Array 29.82 339 P P 20 23 03.1 -0.8
SONM pmax pmax
comp=Z,51nm,1.1s
SMRI Semarang 29.84 203 P 20 23 04.4 +0.3
SMRI Semarang 29.84 203 P P 20 23 07.0 +2.9
SMRI Semarang 29.84 203 P P 20 23 05.2 +1.1
comp=Z,162nm,1.7s
GMJI Gumukmas 30.01 197 P P 20 23 06.8 +1.1
comp=Z,2µmcomp=Z,69nm,1.0s
JAGI Jajag, Banyuwa 29.80 228 P P 20 23 05.7 0.0
JAGI IAmb IAmb 20 23 28.2
comp=Z,123nm,1.2s
JAGI Jajag, Banyuwa 30.02 196 P P 20 23 07.6 +1.9
JAGI Jajag, Banyuwa 30.02 196 P P 20 23 06.8 +1.1
comp=Z,2µmcomp=Z,99nm,1.2s
WSI Waingapu 30.26 183 P P 20 23 06.9 -0.9
WBSI Waikabubak, Su 30.29 185 P P 20 23 09.0 +0.8
LHSI Lahat 30.37 219 P P 20 23 09.9 +1.0
comp=Z,2µmcomp=Z,74nm,1.1s
SOEI Soe 30.38 175 P 20 23 08.0 -1.1
SOEI IAmb IAmb 20 23 31.5
comp=Z,109nm,1.0s
SOEI Soe 30.38 175 P P 20 23 11.0 +1.9
SOEI Soe 30.38 175 P P 20 23 08.5 -0.6
WOJI Wonogiri, Jawa 30.39 202 P P 20 23 10.1 +1.1
KLJ Kotabumi 30.47 215 P P 20 23 11.4 +1.6
MDSI Maura Dua 30.53 217 P P 20 23 10.6 +0.3
comp=Z,2µmcomp=Z,2µmcomp=Z,127nm,1.4s
YUK Yuzh-Kuril'sk 30.58 35 *i* P **P 20 23 11.7 +1.3**
UGM Wanagama 30.60 203 P 20 23 10.3 -0.7
UGM Wanagama 30.60 203 P P 20 23 12.9 +2.0
UGM Wanagama 30.60 203 P P 20 23 12.0 +1.1
PCJI Pacitan 30.64 201 P P 20 23 12.3 +1.1
comp=Z,121nm,1.4s
GSI Gunungsitoli 30.64 234 P 20 23 09.4 -2.0
GSI IAmb IAmb 20 23 14.8
comp=Z,70nm,1.0s
GSI Gunungsitoli 30.64 234 P P 20 23 12.8 +1.4
GSI Gunungsitoli 30.64 234 P P 20 23 12.2 +0.8
comp=Z,60nm,0.7s
BLSI Bandar Lampung 30.69 214 P P 20 23 12.3 +0.6
KSI Kapahiang 30.79 220 P P 20 23 13.6 +1.0
BASI Baing, Sumba 30.79 183 P P 20 23 13.6 +1.1
BATI Baumata 30.79 177 LR LR 20 38 17.8
comp=Z,1µm,18.2s,baz=356,slow=42
BATI Baumata 30.79 177 P P 20 23 11.7 -0.9
SBJI Serang 30.88 212 P P 20 23 14.4 +1.0
DBJI Dramaga 30.96 210 P P 20 23 15.1 +1.0
LWLI Liwa 31.04 216 P P 20 23 15.8 +0.9
YSS Yuzhno-Sakhali 31.15 28 P 20 23 15.1 -0.4
YSS Yuzhno-Sakhali 31.15 28 P P 20 23 18.7 +3.2
YSS Yuzhno-Sakhali 31.15 28 *de* P **P 20 23 17.3 +1.8**
YSS *eS* **S 20 28 24.3 +4.5**
YSS pmax pmax
comp=Z,140nm,1.3s
YSS pmax pmax
comp=Z,900nm,3.9s
YSS MLR MLR
comp=Z,2µm,15.0s
KASI Kota Agung 31.22 215 P P 20 23 17.4 +1.0
comp=Z,1µmcomp=Z,94nm,1.2s
SISI Saibi 31.33 228 P P 20 23 18.3 +0.9
comp=Z,112nm,1.2s
BBJI Bungbulang 31.35 208 P P 20 23 19.1 +1.5
CNJI Cibinong 31.44 209 P P 20 23 19.4 +1.1
comp=Z,799nmcomp=Z,67nm,1.0s
CGJI Cibinong 31.52 212 P P 20 23 19.4 +0.4
comp=Z,1µmcomp=Z,98nm,1.3s
PPSI Pulau Pagai 31.75 225 P P 20 23 22.3 +1.3
GRNR Gornyy 32.07 17 ⇓ *iP* **P 20 23 26.5 +3.0**
GRNR *e* 20 24 46.9
GRNR pmax pmax
comp=Z,3.0nm,1.0s
GRNR MLR MLR
comp=E,1µm,15.0s
GRNR MLR MLR
comp=N,1µm,14.0s
KUR Kuril'sk 32.45 35 *eP* **P 20 23 30.4 +3.6**
KUR S **S 20 28 45.1 +5.1**
KUR pmax pmax
comp=Z,448nm,1.4s
KUR pmax pmax
comp=Z,1µm,2.8s
UGL Uglegorsk 32.53 25 *eP* P 20 23 21.5 -6.1
UGL *eS* **S 20 28 35.0 -6.3**
UGL pmax pmax
comp=Z,900nm,2.6s
UGL pmax pmax
comp=Z,100nm,1.4s
UGL smax smax
comp=E,1µm,11.0s
UGL smax smax
comp=N,500nm,9.2s
UGL MLR MLR
comp=E,2µm,14.0s
ZAK Zakamensk 33.06 338 *eP* **P 20 23 31.0 -1.3**
ZAK pmax pmax
comp=Z,15nm,1.1s
TYV Tymovskoe 34.20 23 *eP* **P 20 23 44.7 +2.6**
TYV *eS* S 20 29 16.8 +10
TYV pmax pmax
comp=Z,27nm,1.6s
TYV pmax pmax
comp=Z,600nm,2.7s
TYV smax smax
comp=N,600nm,9.6s
TYV smax smax
comp=E,400nm,9.6s
IRK Irkutsk 34.32 341 *eP* **P 20 23 41.7 -1.4**
IRK pmax pmax
comp=Z,102nm,1.4s
MTN Manton Dam 34.57 164 P 20 23 43.8 -1.8
MTN Manton Dam 34.57 164 P **P 20 23 44.1 -1.5**
comp=Z,31nm,1.2s
MTN Manton Dam 34.57 164 P P 20 23 46.4 +0.8
KDU Kakadu 34.79 162 P P 20 23 45.7 -1.8
comp=Z,39nm,0.9s
KDU Kakadu 34.79 162 P P 20 23 48.4 +0.9
XMI Christmas Isla 34.87 209 P P 20 23 49.6 +1.3
MOY Mondy 34.94 337 *eP* **P 20 23 47.8 -0.9**
MOY pmax pmax
comp=Z,55nm,1.5s
WMQ Urumqi 36.60 317 *eP* **P 20 24 04.5 +1.6**
WMQ pmax pmax
comp=Z,12nm,0.9s
WMQ pmax pmax
comp=Z,430nm,4.3s
WMQ LR LR
comp=Z,4µm,13.9s
WMQ LR LR
comp=Z,4µm,12.3s
WMQ LR LR
comp=Z,3µm,15.3s
KNRA Kununurra 36.80 169 IAmb IAmb 20 24 05.4
comp=Z,110nm,1.4s
KNRA Kununurra 36.80 169 P P 20 24 03.4 -1.3
comp=Z,26nm,1.2s
BOD Bodaibo 37.49 353 *eP* **P 20 24 08.3 -1.9**
BOD pmax pmax
comp=Z,217nm,1.8s
PATS Pohnpei 37.81 106 P P 20 24 12.2 -1.2
PATS Pohnpei 37.81 106 P P 20 24 15.5 +2.0
comp=Z,345nm,1.2s
PATS Pohnpei 37.81 106 P P 20 24 16.3 +2.9
RABL Rabaul 38.63 126 P 20 24 19.5 -0.9
RABL IAmb IAmb 20 24 30.2
comp=Z,59nm,0.8s
FITZ Fitzroy Crossi 38.76 174 P P 20 24 19.8 -1.5
comp=Z,5.8nm,1.0s

FITZ	**Fitzroy Crossi**	**38.76**	**174**		LR	LR	20 42 50.4		
	comp=Z,520nm,19.4s,baz=357,slow=40								
FITZ	**Fitzroy Crossi**	**38.76**	**174**		P	**P**	**20 24 20.3**	**-1.0**	
PMG	**Port Moresby**	**38.88**	**138**		LR	LR	20 41 31.0		
	comp=Z,483nm,18.3s,baz=304,slow=38								
PMG	**Port Moresby**	**38.88**	**138**	*i*	P	**P**	**20 24 24.2**	**+1.8**	
PMG					pmax	pmax			
	comp=Z,34nm,1.2s								
ZSN	**Zaisan**	**40.07**	**321**	*e*	P	**P**	**20 24 32.3**	**+0.3**	
ZSN	**Zaisan**	**40.07**	**321**	*e*	P	**P**	**20 24 32.3**	**+0.3**	
SKR	**Severo-Kuril's**	**40.16**	**34**	*e*	P	**P**	**20 24 34.1**	**+1.4**	
SKR				*e*			20 26 17.2		
SKR				*e*	S	**S**	**20 30 45.2**	**+7.4**	
SKR				*e*	SS	**SS**	**20 33 34.1**	**-1.9**	
SKR					pmax	pmax			
	comp=Z,189nm,1.2s								
SKR					pmax	pmax			
	comp=Z,2µm,2.5s								
SKR					MLR	MLR			
	comp=Z,2µm,15.0s								
COCO	**West Island**	**40.99**	**219**		P	**P**	**20 24 39.5**	**-0.4**	
COCO	**West Island**	**40.99**	**219**		P	**P**	**20 24 41.8**	**+1.9**	
COCO	**West Island**	**40.99**	**219**		P	**P**	**20 24 39.5**	**-0.4**	
COCO					pmax	pmax			
	comp=Z,326nm,1.3s								
HYB	**Hyderabad**	**41.06**	**273**	*e*	P	**P**	**20 24 39.9**	**-0.7**	
HYB				*e*			20 24 42.5		
HYB					IVmB_BB		20 24 48.6		
	comp=Z,999nm,2.4s								
MK31	**Makanchi Array**	**41.34**	**318**	*d*	*i* P	**P**	**20 24 43.5**	**+1.0**	
MKAR	**Makanchi Array**	**41.34**	**318**		P	**P**	**20 24 42.6**	**+0.1**	
MKAR	**Makanchi Array**	**41.34**	**318**		P	**P**	**20 24 42.9**	**+0.3**	
	comp=Z,30nm,0.6s,baz=112,slow=9.4,SNR=196								
MKAR					PcP	**PcP**	**20 26 40.6**	**0.0**	
	comp=Z,2.9nm,0.7s,baz=94,slow=3.6,SNR=1.0								
MKAR					ScP	**ScP**	**20 30 27.8**	**-1.3**	
	comp=Z,1.1nm,0.7s,baz=98,slow=5.0,SNR=3.6								
MKAR					LR	LR	20 43 42.4		
	comp=Z,5µm,18.1s,baz=98,slow=39								
	comp=Z,30nm,0.6s								
MKAR	**Makanchi Array**	**41.34**	**318**	*i*	P	**P**	**20 24 43.7**	**+1.2**	
MKAR					pmax	pmax			
	comp=Z,30nm,0.6s								
MAKZ	**Makanchi**	**41.54**	**318**		P	**P**	**20 24 43.9**	**-0.3**	
MAKZ					IAmb	IAmb	20 24 50.3		
	comp=Z,100nm,1.1s								
MAKZ	**Makanchi**	**41.54**	**318**		P	**P**	**20 24 43.9**	**-0.3**	
MAKZ					pmax	pmax			
	comp=Z,100nm,1.1s								
MAKZ					MLR	MLR			
	comp=Z,4µm,18.0s								
YAK	**Yakutsk**	**41.61**	**5**		P	**P**	**20 24 43.1**	**-1.3**	
YAK	**Yakutsk**	**41.61**	**5**		IAMs_20	IAMs_20	20 44 41.4		
	comp=Z,3µm,18.0s								
YAK	**Yakutsk**	**41.61**	**5**		P	**P**	**20 24 44.2**	**-0.3**	
	comp=Z,19nm,0.8s,baz=173,slow=8.1,SNR=8.5								
YAK					LR	LR	20 42 11.5		
	comp=Z,2µm,21.9s,baz=182,slow=36								
	comp=Z,19nm,0.8s								
YAK	**Yakutsk**	**41.61**	**5**	*e*	P	**P**	**20 24 44.0**	**-0.5**	
YAK				*e*	*PP	**pP**	**20 24 52.0**	**+0.2**	
YAK				*e*			20 26 20.6		
YAK				*e*			20 26 41.2		
YAK				*e*	S	**S**	**20 31 00.8**	**+1.7**	
YAK				*e*	SS	**SS**	**20 34 06.9**	**+2.4**	
YAK				*e*			20 34 47.9		
YAK					pmax	pmax			
	comp=Z,15nm,1.1s								
YAK					pmax	pmax			
	comp=N,16nm,1.8s								
YAK					pmax	pmax			
	comp=E,6.0nm,1.0s								
YAK					pmax	pmax			
	comp=Z,246nm,4.0s								
YAK					pmax	pmax			
	comp=N,220nm,3.3s								
YAK					pmax	pmax			
	comp=E,54nm,2.3s								
YAK					smax	smax			
	comp=E,41nm,2.3s								
YAK					smax	smax			
	comp=N,114nm,4.9s								
YAK					MLR	MLR			
	comp=Z,3µm,13.0s								
YAK					MLR	MLR			
	comp=N,2µm,15.0s								
YAK					MLR	MLR			
	comp=E,1µm,15.0s								
MBWA	**Marble Bar**	**41.69**	**183**		P	**P**	**20 24 44.6**	**-1.0**	
MBWA					IAmb	IAmb	20 24 46.1		
	comp=Z,101nm,1.4s								
MBWA	**Marble Bar**	**41.69**	**183**		P	**P**	**20 24 44.6**	**-1.0**	
	comp=Z,52nm,1.1s								
MBWA	**Marble Bar**	**41.69**	**183**		P	**P**	**20 24 45.1**	**-0.5**	
SHLS	**Shalkode**	**41.84**	**312**	*e*	P	**P**	**20 24 44.6**	**-2.2**	
SHLS					pmax	pmax			
	comp=Z,14nm,0.6s								
SHLS	**Shalkode**	**41.84**	**312**	*e*	P	**P**	**20 24 44.6**	**-2.2**	
	comp=Z,14nm,0.6s								
PDGK	**Podgornoye**	**41.88**	**312**		P	**P**	**20 24 48.2**	**+1.1**	
WB0	**Warramunga Arr**	**42.05**	**162**		P	**P**	**20 24 46.5**	**-2.1**	
WB0					IAmb	IAmb	20 25 03.0		
	comp=Z,80nm,1.1s								
PALK	**Pallekele**	**42.06**	**258**		P	**P**	**20 24 50.2**	**+1.3**	
H11N1	**WAKE ISLAND Hy**	**42.08**	**83**		T	T	21 09 51.2		
	baz=278,slow=75,SNR=3122								
H11N2	**WAKE ISLAND Hy**	**42.09**	**83**		T	T	21 09 50.8		
	baz=278,slow=75,SNR=3629								
PSA00	**Pilbara Seismi**	**42.10**	**183**		P	**P**	**20 24 47.6**	**-1.3**	
PSA00					IAmb	IAmb	20 24 49.4		
	comp=Z,114nm,1.4s								
PSA00	**Pilbara Seismi**	**42.10**	**183**		P	**P**	**20 24 47.3**	**-1.6**	
PSA00					IAmb	IAmb	20 24 49.5		
	comp=Z,153nm,1.4s								
PSA00	**Pilbara Seismi**	**42.10**	**183**		P	**P**	**20 24 48.0**	**-0.8**	
	comp=Z,95nm,1.4s								
PSA00	**Pilbara Seismi**	**42.10**	**183**		P	**P**	**20 24 48.3**	**-0.6**	
H11N3	**WAKE ISLAND Hy**	**42.10**	**83**		T	T	21 09 48.2		
	baz=278,slow=75,SNR=4150								
H11S3	**WAKE ISLAND Hy**	**42.10**	**85**		T	T	21 09 46.3		
	baz=281,slow=75,SNR=6722								
H11S1	**WAKE ISLAND Hy**	**42.11**	**85**		T	T	21 09 47.1		
	baz=281,slow=75,SNR=3017								
H11S2	**WAKE ISLAND Hy**	**42.12**	**85**		T	T	21 09 47.6		
	baz=281,slow=75,SNR=3372								
UZB	**Uzynbulak**	**42.14**	**312**	*e*	P	**P**	**20 24 49.3**	**0.0**	
UZB	**Uzynbulak**	**42.14**	**312**	*e*	P	**P**	**20 24 49.3**	**0.0**	
WRAB	**Tennant Creek**	**42.20**	**162**		P	**P**	**20 24 48.0**	**-1.8**	
WRAB					IAmb	IAmb	20 25 04.3		
	comp=Z,99nm,1.1s								
WRAB	**Tennant Creek**	**42.20**	**162**	*i*	P	**P**	**20 24 48.9**	**-0.9**	
WRAB					pmax	pmax			
	comp=Z,50nm,1.1s								
WRA	**Warramunga Arr**	**42.21**	**163**		P	**P**	**20 24 46.8**	**-3.0**	
WRA	**Warramunga Arr**	**42.21**	**163**		P	**P**	**20 24 48.1**	**-1.7**	
	comp=Z,26nm,1.0s,baz=343,slow=9.1,SNR=59								
WRA					PcP	**PcP**	**20 26 43.2**	**-0.6**	
	comp=Z,6.3nm,1.1s,baz=343,slow=2.5,SNR=1.9								
WRA					ScP	**ScP**	**20 30 31.2**	**-1.7**	
	comp=Z,2.8nm,0.8s,baz=344,slow=4.0,SNR=6.6								
WRA					S	**S**	**20 31 06.9**	**-1.9**	
	comp=Z,6.2nm,0.9s,baz=347,slow=14,SNR=7.8								
WRA					LR	LR	20 43 46.0		
	comp=Z,426nm,18.7s,baz=341,slow=38								
	comp=Z,26nm,1.0s								
WR8	**Warramunga Arr**	**42.27**	**162**		P	**P**	**20 24 48.1**	**-2.2**	
WR8					IAmb	IAmb	20 25 04.8		
	comp=Z,134nm,1.4s								
PEA0B	**Petropavlovsk-**	**42.37**	**32**		P	**P**	**20 24 49.8**	**-1.1**	
PEA0B					IAmb	IAmb	20 24 56.5		
	comp=Z,161nm,1.2s								
PEA0B	**Petropavlovsk-**	**42.37**	**32**	*i*	P	**P**	**20 24 52.1**	**+1.2**	
PETK	**Petropavlovsk-**	**42.37**	**32**		P	**P**	**20 24 49.3**	**-1.6**	
PETK	**Petropavlovsk-**	**42.37**	**32**		P	**P**	**20 24 51.6**	**+0.7**	
	comp=Z,44nm,0.9s,baz=210,slow=5.1,SNR=21								
PETK					LR	LR	20 44 04.3		
	comp=Z,2µm,18.7s,baz=225,slow=38								
	comp=Z,44nm,0.9s								
PRZ	**Przheval'sk**	**42.38**	**311**		IAmb	IAmb	20 25 09.0		
	comp=Z,86nm,1.1s								
KPKS	**Kokpek**	**42.48**	**312**	*e*	P	**P**	**20 24 52.0**	**0.0**	
KPKS	**Kokpek**	**42.48**	**312**	*e*	P	**P**	**20 24 52.1**	**0.0**	
SATY	**Saty**	**42.55**	**312**	*e*	P	**P**	**20 24 52.6**	**0.0**	
SATY	**Saty**	**42.55**	**312**	*e*	P	**P**	**20 24 52.6**	**0.0**	
TARG	**Taragay, Kyrgy**	**42.59**	**310**		IAmb	IAmb	20 25 11.4		
	comp=Z,126nm,1.3s								
PET	**Petropavlovsk**	**42.80**	**32**		P	**P**	**20 24 54.4**	**+0.1**	
PET	**Petropavlovsk**	**42.80**	**32**		P	**P**	**20 24 56.9**	**+2.7**	
PET	**Petropavlovsk**	**42.80**	**32**	*e*	P	**P**	**20 24 55.9**	**+1.7**	
PET				*e*	S	**S**	**20 31 18.2**	**+1.4**	
PET					pmax	pmax			
	comp=Z,239nm,1.3s								
PET					pmax	pmax			
	comp=Z,100nm,13.0s								
PET					MLR	MLR			
	comp=Z,1µm,15.0s								
PET					MLR	MLR			
	comp=Z,1µm,14.0s								
PET	**Petropavlovsk**	**42.80**	**32**		P	**P**	**20 24 56.6**	**+2.4**	
	comp=Z,4µmcomp=Z,222nm,1.7s								
TDK	**Taldyqorghan**	**43.16**	**314**	*e*	P	**P**	**20 24 57.5**	**+0.1**	
TDK					pmax	pmax			
	comp=Z,48nm,0.9s								
TDK	**Taldyqorghan**	**43.16**	**314**	*e*	P	**P**	**20 24 57.6**	**+0.1**	
	comp=Z,48nm,0.9s								
KSH	**Kashi**	**43.43**	**306**		P	**P**	**20 25 04.0**	**+4.2**	
KSH					sP	sP	20 25 11.3	+1.0	
KSH					S	S	20 31 36.0	+9.2	
KSH					ScS	**ScS**	**20 35 02.5**	**+4.1**	
KSH					pmax	pmax			
	comp=Z,27nm,1.1s								
KSH					pmax	pmax			
	comp=Z,400nm,6.2s								
KSH					LR	LR			
	comp=Z,3µm,18.9s								
KSH					LR	LR			
	comp=Z,3µm,18.2s								
KSH					LR	LR			
	comp=Z,5µm,22.0s								
ZAA0	**Zalesovo Array**	**43.53**	**329**		IAmb	IAmb	20 25 05.2		
	comp=Z,179nm,1.2s								
ZALV	**Zalesovo Beam**	**43.53**	**329**		P	**P**	**20 25 00.1**	**-0.1**	
ZALV	**Zalesovo Beam**	**43.53**	**329**		P	**P**	**20 25 00.5**	**+0.3**	
	comp=Z,68nm,0.6s,baz=118,slow=7.8,SNR=294								
ZALV					ScP	**ScP**	**20 30 36.1**	**-1.6**	
	comp=Z,1.7nm,0.8s,baz=129,slow=2.0,SNR=4.1								
ZALV					S	**S**	**20 31 27.8**	**+0.2**	
	comp=Z,1.4nm,0.7s,baz=112,slow=16,SNR=4.0								
ZALV					LR	LR	20 45 04.3		
	comp=Z,2µm,18.1s,baz=126,slow=39								
	comp=Z,68nm,0.6s								
TNSS	**Tian-Shan**	**43.56**	**311**	*e*	P	**P**	**20 25 01.0**	**-0.1**	
TNSS	**Tian-Shan**	**43.56**	**311**	*e*	P	**P**	**20 25 01.0**	**-0.1**	
AAA	**Alma-Ata**	**43.63**	**311**	*e*	P	**P**	**20 25 01.5**	**+0.2**	
AAA					pmax	pmax			
	comp=Z,31nm,1.0s								
AAA	**Alma-Ata**	**43.63**	**311**	*e*	P	**P**	**20 25 01.6**	**+0.2**	
	comp=Z,31nm,1.0s								
GIRL	**Giralia**	**43.77**	**190**		P	**P**	**20 25 02.7**	**+0.4**	
GIRL					IAmb	IAmb	20 25 07.8		
	comp=Z,104nm,1.0s								
GIRL	**Giralia**	**43.77**	**190**		P	**P**	**20 25 03.4**	**+1.0**	
	comp=Z,112nm,1.1s								
NRN	**Naryn**	**43.83**	**309**		IAmb	IAmb	20 25 09.3		
	comp=Z,84nm,1.0s								
ULHL	**Ulahol**	**43.85**	**310**		P	**P**	**20 25 05.8**	**+2.5**	
	SNR=8.6								
MA2	**Magadan**	**43.92**	**21**		P	**P**	**20 25 02.0**	**-1.2**	
MA2					IAMs_20	IAMs_20	20 45 38.8		
	comp=Z,2µm,18.0s								
MA2	**Magadan**	**43.92**	**21**		P	**P**	**20 25 04.0**	**+0.7**	
	comp=Z,29nm,1.0s,baz=204,slow=17,SNR=5.5								
MA2					LR	LR	20 44 00.1		
	comp=Z,2µm,19.6s,baz=208,slow=37								
	comp=Z,29nm,1.0s								
MA2	**Magadan**	**43.92**	**21**		P	**P**	**20 25 06.3**	**+3.1**	
MA2	**Magadan**	**43.92**	**21**		P	**P**	**20 25 02.0**	**-1.2**	
MA2					pmax	pmax			
	comp=Z,70nm,1.2s								
MA2					MLR	MLR			
	comp=Z,2µm,18.0s								
KUU	**Kurty**	**44.23**	**312**	*e*	P	**P**	**20 25 06.1**	**+0.1**	
KUU					pmax	pmax			
	comp=Z,29nm,1.1s								
KUU	**Kurty**	**44.23**	**312**	*e*	P	**P**	**20 25 06.2**	**+0.1**	
	comp=Z,29nm,1.1s								
MTSU	**Mount Surprise**	**44.42**	**149**		P	**P**	**20 25 09.2**	**+1.5**	
	comp=Z,27nm,0.9s								
MTSU	**Mount Surprise**	**44.42**	**149**		P	**P**	**20 25 10.2**	**+2.5**	
TKM2	**Tokmak 2**	**44.49**	**311**		P	**P**	**20 25 10.3**	**+1.9**	
	SNR=28								
QIS	**Mount Isa**	**44.52**	**156**		P	**P**	**20 25 08.2**	**-0.4**	
	comp=Z,37nm,0.9s								
QIS	**Mount Isa**	**44.52**	**156**		P	**P**	**20 25 09.8**	**+1.3**	
NIL	**Nilore**	**44.81**	**297**		P	**P**	**20 25 11.1**	**+0.3**	
NIL					IAmb	IAmb	20 25 20.3		
	comp=Z,63nm,0.9s								
NIL	**Nilore**	**44.81**	**297**		P	**P**	**20 25 12.2**	**+1.4**	
NIL					P	**P**	**20 25 12.2**	**+1.4**	
NIL	**Nilore**	**44.81**	**297**		P	**P**	**20 25 11.1**	**+0.3**	
NIL					pmax	pmax			
	comp=Z,63nm,0.9s								
NIL					MLR	MLR			
	comp=Z,3µm,18.0s								
KBK	**Karagaybulak**	**44.88**	**310**		P	**P**	**20 25 13.1**	**+1.6**	
	SNR=13								
UCH	**Uch**	**45.10**	**309**		P	**P**	**20 25 16.1**	**+2.6**	
	SNR=38								
CHMS	**Chumysh**	**45.11**	**311**		P	**P**	**20 25 14.7**	**+1.6**	
	SNR=17								
AAK	**Ala-Archa**	**45.20**	**310**		P	**P**	**20 25 13.5**	**-0.5**	
AAK	**Ala-Archa**	**45.20**	**310**		LR	LR	20 47 20.8		
	comp=Z,4µm,18.9s,baz=106,slow=40								
AAK	**Ala-Archa**	**45.20**	**310**	*de*	P	**P**	**20 25 15.8**	**+1.8**	
AAK					pmax	pmax			
	comp=Z,13nm,1.0s								
AAK	**Ala-Archa**	**45.20**	**310**	*i*	P	**P**	**20 25 15.8**	**+1.8**	
	SNR=8.0								
KURK	**Kurchatov**	**45.21**	**322**		P	**P**	**20 25 14.2**	**+0.5**	
KURK	**Kurchatov**	**45.21**	**322**		IAMs_20	IAMs_20	20 42 38.4		
	comp=Z,2µm,18.0s								
KURK	**Kurchatov**	**45.21**	**322**		P	**P**	**20 25 14.3**	**+0.7**	
KURK					P	**P**	**20 25 14.3**	**+0.7**	
KURK	**Kurchatov**	**45.21**	**322**	*ce*	P	**P**	**20 25 14.6**	**+0.9**	
KURK					pmax	pmax			
	comp=Z,106nm,1.0s								
KURBB	**Kurchatov Arra**	**45.22**	**322**		P	**P**	**20 25 14.7**	**+0.9**	
	comp=Z,172nm,1.0s,baz=118,slow=7.8,SNR=240								
KURBB					PcP	**PcP**	**20 26 52.6**	**-1.0**	
	comp=Z,3.0nm,0.6s,baz=120,slow=3.3,SNR=1.2								
KURBB					ScP	**ScP**	**20 30 44.3**	**-0.4**	
	comp=Z,0.2nm,0.4s,baz=107,slow=3.9,SNR=2.5								
KURBB					S	**S**	**20 31 59.2**	**+7.0**	
	comp=Z,0.9nm,0.8s,baz=109,slow=19,SNR=5.0								
KURBB					LR	LR	20 45 46.4		
	comp=Z,2µm,18.1s,baz=138,slow=38								
	comp=Z,172nm,1.0s								
SGDS	**Sogindy**	**45.31**	**311**	*e*	P	**P**	**20 25 14.9**	**+0.2**	
USP	**Ospenovka**	**45.35**	**311**		P	**P**	**20 25 16.6**	**+1.6**	
	SNR=9.9								
AS31	**Alice Springs**	**45.64**	**165**		P	**P**	**20 25 17.9**	**+0.5**	
	comp=Z,10nm,0.6s								
ASAR	**Alice Springs**	**45.64**	**165**		P	**P**	**20 25 16.2**	**-1.3**	
ASAR	**Alice Springs**	**45.64**	**165**		P	**P**	**20 25 17.2**	**-0.2**	
	comp=Z,10nm,0.5s,baz=347,slow=8.2,SNR=69								
ASAR					PcP	**PcP**	**20 26 54.8**	**-0.6**	
	comp=Z,6.0nm,1.0s,baz=331,slow=3.6,SNR=1.6								
ASAR					ScP	**ScP**	**20 30 45.1**	**-1.8**	
	comp=Z,2.2nm,0.9s,baz=357,slow=4.4,SNR=5.5								
ASAR					S	**S**	**20 31 57.8**	**-1.1**	
	comp=Z,2.9nm,0.9s,baz=354,slow=20,SNR=12								
ASAR					LR	LR	20 46 06.2		
	comp=Z,396nm,20.0s,baz=345,slow=38								
	comp=Z,10nm,0.5s								
AS01	**Alice Springs**	**45.65**	**165**		P	**P**	**20 25 18.9**	**+1.4**	
EKS2	**Erkin-Say**	**45.73**	**310**		P	**P**	**20 25 20.1**	**+2.0**	
	SNR=8.5								
WRKA	**Warakurna**	**45.91**	**172**		P	**P**	**20 25 18.6**	**-0.9**	
	comp=Z,19nm,0.9s								
BTLS	**Baital**	**46.12**	**313**	*e*	P	**P**	**20 25 21.3**	**+0.3**	
BTLS					pmax	pmax			
	comp=Z,13nm,1.0s								
BTLS	**Baital**	**46.12**	**313**	*e*	P	**P**	**20 25 21.4**	**+0.3**	
	comp=Z,13nm,1.0s								
DRK	**Karamyk**	**46.60**	**305**		IAmb	IAmb	20 25 49.4		
	comp=Z,59nm,1.2s								
SEY	**Seymchan**	**46.99**	**18**		P	**P**	**20 25 28.0**	**+0.5**	
	comp=Z,7.0nm,0.8s,baz=203,slow=4.5,SNR=7.7								
SEY					LR	LR	20 46 08.2		
	comp=Z,2µm,19.5s,baz=210,slow=37								
	comp=Z,7.0nm,0.8s								
SEY	**Seymchan**	**46.99**	**18**	*i*	P	**P**	**20 25 28.7**	**+1.2**	
SEY					pmax	pmax			
	comp=Z,10.0nm,1.0s								
CTAO	**Charters Tower**	**47.03**	**148**		P	**P**	**20 25 28.2**	**-0.1**	
CTAO	**Charters Tower**	**47.03**	**148**		IAMs_20	IAMs_20	20 43 13.3		
	comp=Z,2µm,21.0s								
CTAO	**Charters Tower**	**47.03**	**148**		P	**P**	**20 25 30.3**	**+2.0**	
CTAO	**Charters Tower**	**47.03**	**148**		P	**P**	**20 25 28.2**	**-0.1**	
CTAO					pmax	pmax			
	comp=Z,178nm,1.7s								
CTAO					MLR	MLR			
	comp=Z,2µm,21.0s								
MEEK	**Meekatharra**	**47.20**	**184**		P	**P**	**20 25 28.6**	**-1.0**	
	comp=Z,57nm,1.0s								
MEEK	**Meekatharra**	**47.20**	**184**		P	**P**	**20 25 29.7**	**+0.1**	
DZA	**Taraz**	**47.53**	**310**	*e*	P	**P**	**20 25 32.2**	**+0.1**	
DZA					pmax	pmax			
	comp=Z,13nm,1.1s								
DZA	**Taraz**	**47.53**	**310**	*e*	P	**P**	**20 25 32.3**	**+0.1**	
	comp=Z,13nm,1.1s								
GAR	**Garm**	**47.68**	**304**		P	**P**	**20 25 33.2**	**-0.2**	
HNR	**Honiara**	**47.90**	**125**		IAMs_20	IAMs_20	20 41 51.4		
	comp=Z,2µm,20.0s								
HNR	**Honiara**	**47.90**	**125**		LR	LR	20 42 12.6		
	comp=Z,1µm,21.3s,baz=292,slow=32								
KK31	**Karatay Array**	**48.16**	**310**		P	**P**	**20 25 37.2**	**+0.2**	
KK31	**Karatay Array**	**48.16**	**310**		P	**P**	**20 25 37.2**	**+0.2**	
KK31					pmax	pmax			
	comp=Z,28nm,1.0s								
KKAR	**Karatay Array**	**48.16**	**310**		P	**P**	**20 25 36.7**	**-0.3**	
KKAR	**Karatay Array**	**48.16**	**310**		P	**P**	**20 25 36.7**	**-0.3**	
KBL	**Kabul**	**48.34**	**298**		P	**P**	**20 25 38.5**	**-0.2**	
KBL	**Kabul**	**48.34**	**298**		P	**P**	**20 25 40.7**	**+1.9**	
	SNR=48								
KBL					P	**P**	**20 25 40.7**	**+1.9**	
	SNR=48								
KBL	**Kabul**	**48.34**	**298**		P	**P**	**20 25 38.5**	**-0.2**	
KBL					pmax	pmax			
	comp=Z,128nm,1.4s								
IUG	**Iuzhnay**	**48.34**	**308**	*e*	P	**P**	**20 25 38.7**	**+0.2**	
IUG					pmax	pmax			
	comp=Z,30nm,1.0s								
IUG	**Iuzhnay**	**48.34**	**308**	*e*	P	**P**	**20 25 38.8**	**+0.2**	
	comp=Z,30nm,1.0s								
BRZS	**Berezniki**	**48.47**	**319**	*e*	P	**P**	**20 25 39.5**	**+0.3**	
BRZS	**Berezniki**	**48.47**	**319**	*e*	P	**P**	**20 25 39.6**	**+0.3**	
BRLS	**Borolday**	**48.64**	**310**	*e*	P	**P**	**20 25 41.5**	**+0.9**	
BRLS	**Borolday**	**48.64**	**310**	*e*	P	**P**	**20 25 41.6**	**+0.9**	
SIMJ	**Simiganj**	**48.65**	**304**		P	**P**	**20 25 40.8**	**-0.2**	
CHM	**Chimkent**	**48.69**	**309**	*e*	P	**P**	**20 25 41.2**	**+0.2**	
CHM					pmax	pmax			
	comp=Z,15nm,0.9s								
CHM	**Chimkent**	**48.69**	**309**	*e*	P	**P**	**20 25 41.3**	**+0.2**	
	comp=Z,15nm,0.9s								
MORW	**Morawa**	**49.84**	**187**		P	**P**	**20 25 49.2**	**-0.6**	
MORW					IAmb	IAmb	20 25 58.4		
	comp=Z,63nm,0.8s								
MORW	**Morawa**	**49.84**	**187**		P	**P**	**20 25 49.7**	**-0.1**	
	comp=Z,86nm,0.9s								
MORW	**Morawa**	**49.84**	**187**		P	**P**	**20 25 50.1**	**+0.3**	
BVA0	**Borovoye Array**	**50.80**	**322**		P	**P**	**20 25 57.7**	**+0.8**	
BVAR	**Borovoye Array**	**50.80**	**322**		P	**P**	**20 25 57.9**	**+0.9**	
	comp=Z,45nm,0.9s,baz=107,slow=9.5,SNR=151								
BVAR					PcP	**PcP**	**20 27 13.4**	**-0.2**	
	comp=Z,9.2nm,0.5s,baz=104,slow=4.6,SNR=4.4								
BVAR					ScP	**ScP**	**20 31 07.0**	**-1.3**	
	comp=Z,2.8nm,0.7s,baz=108,slow=4.7,SNR=5.3								
BVAR					LR	LR	20 48 34.6		
	comp=Z,2µm,18.1s,baz=105,slow=37								
	comp=Z,45nm,0.9s								
BRVK	**Borovoye**	**50.87**	**322**		P	**P**	**20 25 57.5**	**0.0**	
BRVK	**Borovoye**	**50.87**	**322**		P	**P**	**20 25 58.5**	**+1.0**	
BRVK					P	**P**	**20 25 58.5**	**+1.0**	
BRVK					P	**P**	**20 25 58.5**	**+1.0**	
BRVK	**Borovoye**	**50.87**	**322**	*ce*	P	**P**	**20 25 58.4**	**+1.0**	
BRVK					pmax	pmax			
	comp=Z,85nm,1.1s								
SHEM	**Shemya Is, Ala**	**51.05**	**38**		P	**P**	**20 25 59.3**	**+0.5**	
	comp=Z,13nm,0.5s,baz=316,slow=4.1,SNR=8.6								
SHEM					LR	LR	20 47 01.3		
	comp=Z,334nm,21.6s,baz=278,slow=35								
	comp=Z,13nm,0.5s								
TIXI	**Tiksi**	**51.09**	**3**		P	**P**	**20 25 56.8**	**-1.9**	
TIXI					IAmb	IAmb	20 26 13.6		
	comp=Z,86nm,1.7s								
TIXI	**Tiksi**	**51.09**	**3**		P	**P**	**20 25 57.9**	**-0.8**	
	comp=Z,7.2nm,0.5s,baz=210,slow=7.9,SNR=20								
TIXI					LR	LR	20 50 10.2		
	comp=Z,3µm,19.3s,baz=198,slow=39								
	comp=Z,7.2nm,0.5s								
TIXI	**Tiksi**	**51.09**	**3**	*ce*	P	**P**	**20 25 59.9**	**+1.2**	
TIXI					pmax	pmax			
	comp=Z,70nm,2.5s								
BLDU	**Ballidu**	**51.30**	**186**		P	**P**	**20 25 59.5**	**-1.3**	
	comp=Z,41nm,0.9s								
BLDU	**Ballidu**	**51.30**	**186**		P	**P**	**20 26 01.3**	**+0.5**	
QL

| | | |

comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 69.62 320 *e*P **P** **20 28 04.6 -1.2**
LPSR pmax pmax
comp=Z,70nm,1.0s
Q19K Cape Douglas, 69.62 33 P **P** **20 28 05.4 -0.3**
baz=276,SNR=6.5
VSR Storozhevoye 69.66 318 *e*P **P** **20 28 04.6 -1.5**
VSR pmax pmax
comp=Z,40nm,1.1s
VSR MLR MLR
comp=Z,660nm,15.0s
GURO Guroymak-BITLI 69.70 305 IAmb IAmb 20 28 17.7
comp=Z,75nm,1.1s
CHUM Lake Minchumin 69.73 28 P **P** **20 28 07.4 +1.0**
baz=276
I21K Tanana 69.75 27 IAmb IAmb 20 28 21.2
comp=Z,43nm,1.0s
I21K Tanana 69.75 27 P **P** **20 28 06.8 +0.4**
baz=276
P19K Oil Pt 69.75 33 P **P** **20 28 06.8 +0.3**
P19K Oil Pt 69.75 33 P **P** **20 28 07.0 +0.4**
baz=277
G22K Bettles 69.78 25 P **P** **20 28 07.4 +0.9**
baz=275
C23K Itkillik River 69.84 22 P **P** **20 28 06.8 0.0**
baz=275
MSEY Mahe Island 69.88 257 P **P** **20 28 07.4 -0.7**
MSEY Mahe Island 69.88 257 P **P** **20 28 07.4 -0.7**
MSEY pmax pmax
comp=Z,87nm,1.2s
MSEY Mahe Island 69.88 257 P **P** **20 28 09.5 +1.4**
CAST Castle Rocks 69.88 29 IAmb IAmb 20 28 18.4
comp=Z,61nm,1.0s
CAST Castle Rocks 69.88 29 P **P** **20 28 08.5 +1.2**
baz=276,SNR=59
PPLA Purkeypile 69.89 29 IAMs_20 IAMs_20 21 02 30.8
comp=Z,574nm,18.0s
PPLA Purkeypile 69.89 29 P **P** **20 28 08.7 +1.2**
baz=276,SNR=5.0
D23K Nanushuk River 69.90 23 P **P** **20 28 08.5 +1.2**
baz=275,SNR=14
H22K Ishtalitna Cre 69.93 26 P **P** **20 28 08.9 +1.4**
baz=276,SNR=35
MOS Moscow 69.96 323 *e*P **P** **20 28 06.4 -1.5**
MOS *e* 20 28 28.7
MOS *e* 20 30 40.8
MOS *e*PPP PPP 20 32 21.9
MOS *e*S **S** **20 37 13.2 -3.3**
MOS pmax pmax
comp=Z,40nm,0.6s
MOS MLR MLR
comp=E,700nm,16.0s
MOS MLR MLR
comp=Z,900nm,16.0s
LVZ Lovozero 69.97 336 *i* P **P** **20 28 09.0 +1.2**
LVZ pmax pmax
comp=Z,12nm,1.4s
O20K Slope Mountain 70.00 32 P **P** **20 28 10.0 +1.8**
baz=277
OHAK Old Harbor 70.01 35 IAmb IAmb 20 28 13.7
comp=Z,37nm,1.0s
OHAK Old Harbor 70.01 35 P **P** **20 28 11.8 +3.7**
OHAK Old Harbor 70.01 35 P **P** **20 28 09.2 +1.0**
baz=277,SNR=7.3
RAYN Ar Rayn 70.06 288 P **P** **20 28 08.6 -0.5**
RAYN Ar Rayn 70.06 288 IAMs_20 IAMs_20 21 03 45.6
comp=Z,795nm,21.0s
RAYN Ar Rayn 70.06 288 P **P** **20 28 08.6 -0.5**
RAYN pmax pmax
comp=Z,81nm,1.1s
RAYN MLR MLR
comp=Z,800nm,21.0s
RAYN Ar Rayn 70.06 288 *i* P **P** **20 28 09.9 +0.8**
SNR=53
N20K Mount Spurr 70.08 31 P **P** **20 28 09.5 +0.9**
baz=277
SPCR Spurr Chakacha 70.08 31 P **P** **20 28 09.3 +0.7**
baz=277
COLD Coldfoot 70.25 24 IAMs_20 IAMs_20 20 59 34.0
comp=Z,636nm,20.0s
COLD Coldfoot 70.25 24 P **P** **20 28 10.5 +1.0**
baz=276,SNR=5.1
MLY Manley 70.29 27 IAmb IAmb 20 28 15.8
comp=Z,38nm,1.0s
MLY Manley 70.29 27 P **P** **20 28 10.9 +1.1**
baz=277,SNR=35
BPAW Bear Paw Mtn. 70.29 28 IAmb IAmb 20 28 20.9
comp=Z,81nm,1.2s
BPAW IAMs_20 IAMs_20 20 59 01.3
comp=Z,756nm,21.0s
BPAW Bear Paw Mtn. 70.29 28 P **P** **20 28 11.5 +1.7**
baz=277,SNR=25
SKT Skwentna 70.30 30 P **P** **20 28 11.0 +1.2**
baz=277
Q20K Shuyak Island 70.31 34 P **P** **20 28 09.3 -0.7**
baz=278
SYI Shuyak Island 70.31 34 IAmb IAmb 20 28 20.0
comp=Z,75nm,1.1s
KDAK Kodiak Island 70.32 35 P **P** **20 28 10.2 +0.2**
KDAK Kodiak Island 70.32 35 P **P** **20 28 11.1 +1.1**
comp=Z,35nm,0.8s,baz=260,slow=5.9,SNR=22
KDAK LR LR 20 58 28.1
comp=Z,369nm,21.9s,baz=258,slow=35
comp=Z,35nm,0.8s
KDAK Kodiak Island 70.32 35 P **P** **20 28 10.2 +0.2**
KDAK pmax pmax
comp=Z,445nm,1.9s
KDAK MLR MLR
comp=Z,700nm,22.0s
KDAK Kodiak Island 70.32 35 P **P** **20 28 10.1 +0.2**
baz=278
TOLK Toolik Lake Re 70.33 23 IAmb IAmb 20 28 24.0
comp=Z,33nm,0.8s
TOLK IAMs_20 IAMs_20 21 01 00.0
comp=Z,1μm,19.0s
TOLK Toolik Lake Re 70.33 23 P **P** **20 28 10.2 +0.2**
baz=277,SNR=7.3
E23K Chandalar 70.38 24 IAmb IAmb 20 28 16.2
comp=Z,62nm,1.1s
E23K Chandalar 70.38 24 P **P** **20 28 11.2 +0.9**
baz=277,SNR=22
G23K Bananza Creek 70.38 25 IAmb IAmb 20 28 16.3
comp=Z,47nm,1.1s
G23K Bananza Creek 70.38 25 P **P** **20 28 11.5 +1.1**
baz=277,SNR=23
KTH Kantishna Hill 70.39 28 IAmb IAmb 20 29 05.8
comp=Z,30nm,0.7s
KTH IAMs_20 IAMs_20 20 58 30.8
comp=Z,640nm,21.0s
APA Apatity 70.48 336 *e*P **P** **20 28 10.4 -0.4**
APA *e* 20 28 31.1
APA *e* 20 30 45.7
APA *e*S **S** **20 37 21.7 -0.5**
APA MLR MLR
comp=Z,1μm,14.8s
SOC Sochi 70.50 310 *e*P **P** **20 28 10.3 -1.1**
SOC *e*S **S** **20 37 23.4 +0.1**
SOC *e*SS **SS** **20 41 53.4 -0.9**
SOC pmax pmax
comp=Z,36nm,1.2s
SOC MLR MLR
comp=Z,1μm,20.0s
C24K Franklin Bluff 70.52 22 P **P** **20 28 10.8 -0.2**
baz=277
D24K Happy Valley 70.54 22 P **P** **20 28 11.2 0.0**
baz=277,SNR=11
HOM Homer 70.55 33 P **P** **20 28 12.0 +0.6**
baz=278
OBN Obninsk 70.65 323 P **P** **20 28 11.1 -0.9**
OBN Obninsk 70.65 323 LR LR 21 01 50.8
comp=Z,2μm,19.3s,baz=20,slow=38
OBN Obninsk 70.65 323 *d* *i*P **P** **20 28 11.8 -0.2**
OBN *e* 20 30 44.6
OBN *e*PPP PPP 20 32 29.7
OBN *i* S **S** **20 37 24.2 -0.3**
OBN pmax pmax
comp=Z,19nm,1.0s
OBN MLR MLR
comp=Z,1μm,18.0s
OBN Obninsk 70.65 323 P **P** **20 28 12.0 0.0**
comp=Z,741nmcomp=Z,51nm,0.8s
TRF Thorofare Moun 70.68 28 IAmb IAmb 20 29 14.4
comp=Z,30nm,0.7s
TRF IAMs_20 IAMs_20 20 58 39.6
comp=Z,634nm,21.0s
TRF Thorofare Moun 70.68 28 P **P** **20 28 13.3 +1.0**
baz=278,SNR=7.4

H23K Yukon River 70.69 26 IAmb IAmb 20 28 18.5
comp=Z,72nm,1.1s
H23K Yukon River 70.69 26 P **P** **20 28 12.9 +0.7**
baz=278,SNR=39
SUA Susitna One 70.74 31 P **P** **20 28 13.4 +0.7**
baz=278
CNPM China Poot 70.77 33 P **P** **20 28 12.0 -0.8**
CNPM IAmb IAmb 20 28 52.3
comp=Z,68nm,1.2s
E24K Your Creek 70.80 23 IAmb IAmb 20 28 18.6
comp=Z,51nm,1.0s
E24K IAMs_20 IAMs_20 20 58 28.5
comp=Z,603nm,18.0s
E24K Your Creek 70.80 23 P **P** **20 28 13.3 +0.4**
baz=278,SNR=22
CUT Chulitna 70.83 30 P **P** **20 28 13.7 +0.7**
baz=278
I23K Minto, Yukon-K 70.85 27 IAMs_20 IAMs_20 21 01 45.0
comp=Z,636nm,20.0s
I23K Minto, Yukon-K 70.85 27 P **P** **20 28 14.0 +0.9**
baz=278,SNR=25
BWN Browne 70.94 28 IAmb IAmb 20 28 32.5
comp=Z,46nm,0.8s
BWN IAMs_20 IAMs_20 20 59 54.4
comp=Z,788nm,19.0s
NEA2 Nenana 71.05 27 P **P** **20 28 14.7 +0.3**
NEA2 IAmb IAmb 20 28 19.8
comp=Z,44nm,1.0s
NEA2 IAMs_20 IAMs_20 20 59 43.4
comp=Z,598nm,20.0s
NEA2 Nenana 71.05 27 P **P** **20 28 15.1 +0.7**
baz=278,SNR=35
F24K Squaw Lake 71.10 24 IAmb IAmb 20 28 20.5
comp=Z,47nm,0.9s
F24K IAMs_20 IAMs_20 21 02 32.5
comp=Z,711nm,19.0s
F24K Squaw Lake 71.10 24 P **P** **20 28 15.3 +0.6**
baz=278,SNR=28
MCK McKinley 71.24 28 IAmb IAmb 20 28 25.9
comp=Z,78nm,1.1s
MCK IAMs_20 IAMs_20 20 59 08.4
comp=Z,658nm,21.0s
MCK McKinley 71.24 28 P **P** **20 28 16.1 +0.6**
baz=279,SNR=28
RC01 Rabbit Creek A 71.28 31 P **P** **20 28 17.3 +1.5**
baz=279
RND Reindeer 71.33 28 IAMs_20 IAMs_20 20 59 10.6
comp=Z,619nm,21.0s
H24K Noodor Dome 71.36 26 P **P** **20 28 17.3 +0.9**
H24K IAmb IAmb 20 28 30.8
comp=Z,58nm,1.2s
H24K IAMs_20 IAMs_20 21 01 36.5
comp=Z,573nm,19.0s
H24K Noodor Dome 71.36 26 P **P** **20 28 17.6 +1.3**
baz=279,SNR=25
D25K Kavik River 71.38 22 IAmb IAmb 20 28 26.9
comp=Z,35nm,0.8s
D25K Kavik River 71.38 22 P **P** **20 28 17.3 +0.9**
baz=279,SNR=9.8
G24K Hadweenzic Riv 71.39 25 IAmb IAmb 20 28 22.4
comp=Z,55nm,1.1s
G24K Hadweenzic Riv 71.39 25 P **P** **20 28 16.3 -0.1**
baz=279,SNR=24
WRH Wood River Hil 71.49 27 IAmb IAmb 20 28 32.8
comp=Z,35nm,1.1s
WRH IAMs_20 IAMs_20 21 00 18.9
comp=Z,616nm,20.0s
COLA College 71.53 27 P **P** **20 28 17.3 +0.1**
COLA College 71.53 27 IAMs_20 IAMs_20 21 01 54.8
comp=Z,625nm,20.0s
COLA College 71.53 27 P **P** **20 28 20.2 +3.0**
COLA College 71.53 27 P **P** **20 28 17.3 +0.1**
COLA pmax pmax
comp=Z,20nm,0.8s
COLA MLR MLR
comp=Z,600nm,20.0s
COLA College 71.53 27 P **P** **20 28 18.0 +0.8**
baz=279
VADS Vadso 71.56 339 *e*P **P** **20 28 17.9 +0.6**
SEW Seward 71.58 32 P **P** **20 28 17.5 -0.1**
baz=280
HOPEN Hopen 71.61 346 *e*P **P** **20 28 19.4 +1.9**
POKR Poker Plat Res 71.66 26 IAmb IAmb 20 28 28.3
comp=Z,31nm,1.0s
POKR IAMs_20 IAMs_20 21 02 09.4
comp=Z,618nm,20.0s
POKR Poker Plat Res 71.66 26 P **P** **20 28 18.7 +0.6**
baz=280
C26K Camden Bay 71.78 21 P **P** **20 28 19.2 +0.5**
baz=280
ANN Anapa 71.89 312 *e*P **P** **20 28 19.2 -0.6**
ANN *e* 20 30 56.7
ANN *e*S **S** **20 37 38.6 -0.6**
ANN pmax pmax
comp=Z,118nm,1.0s
ANN MLR MLR
comp=Z,1μm,18.0s
G25K Bearman Lake 71.92 25 P **P** **20 28 20.3 +0.8**
baz=280,SNR=16
F25K Christian Rive 71.94 24 IAmb IAmb 20 28 34.4
comp=Z,31nm,0.9s
F25K Christian Rive 71.94 24 P **P** **20 28 20.5 +0.7**
baz=280,SNR=23
ILAR Eielson Array 71.95 27 P **P** **20 28 18.9 -0.9**
ILAR Eielson Array 71.95 27 P **P** **20 28 19.6 -0.2**
comp=Z,3.9nm,0.9s,baz=270,slow=5.0,SNR=29
ILAR LR LR 21 02 28.5
comp=Z,490nm,19.0s,baz=276,slow=38
comp=Z,3.9nm,0.9s
HDA Harding Lake 71.99 27 IAMs_20 IAMs_20 21 00 44.1
comp=Z,681nm,21.0s
HDA Harding Lake 71.99 27 P **P** **20 28 20.1 0.0**
baz=280,SNR=13
PWL Port Wells 71.99 31 P **P** **20 28 20.2 0.0**
baz=280
M23K Glacier View 72.11 30 P **P** **20 28 21.8 +0.9**
baz=280
H25L Birch Creek 72.12 25 P **P** **20 28 21.6 +0.8**
baz=281,SNR=18
C27K Jago River 72.25 22 IAmb IAmb 20 28 27.3
comp=Z,62nm,1.1s
C27K Jago River 72.25 22 P **P** **20 28 22.0 +0.4**
baz=282
SCM Sheep Creek Mo 72.29 30 IAMs_20 IAMs_20 21 05 17.3
comp=Z,572nm,18.0s
SCM Sheep Creek Mo 72.29 30 P **P** **20 28 22.7 +0.7**
baz=281
BMAR Burnt Mountain 72.38 24 P **P** **20 28 22.4 0.0**
PRP Porcupine Dome 72.38 26 IAMs_20 IAMs_20 21 06 23.3
comp=Z,589nm,18.0s
PRP Porcupine Dome 72.38 26 P **P** **20 28 21.8 -0.7**
baz=281
F26K Sheenjek River 72.48 24 IAmb IAmb 20 28 29.1
comp=Z,46nm,1.1s
F26K IAMs_20 IAMs_20 21 05 12.0
comp=Z,850nm,18.0s
F26K Sheenjek River 72.48 24 P **P** **20 28 22.4 -0.6**
baz=282,SNR=12
GLI Glacier Island 72.58 31 P **P** **20 28 24.2 +0.6**
baz=281
P23K Montague Islan 72.61 32 IAMs_20 IAMs_20 21 05 06.8
comp=Z,537nm,18.0s
P23K Montague Islan 72.61 32 P **P** **20 28 23.1 -0.7**
baz=281
K24K Donnelly Dome 72.61 28 IAMs_20 IAMs_20 21 00 42.5
comp=Z,612nm,21.0s
K24K Donnelly Dome 72.61 28 P **P** **20 28 24.0 +0.2**
baz=282,SNR=16
J25K Salcha River, 72.62 27 P **P** **20 28 23.1 -0.8**
J25K IAMs_20 IAMs_20 21 02 37.8
comp=Z,552nm,19.0s
J25K Salcha River, 72.62 27 P **P** **20 28 24.4 +0.5**
baz=282,SNR=10
M24K Tolsona, Glenn 72.77 29 P **P** **20 28 24.4 -0.4**
baz=282
G26K Porcupine Rive 72.78 24 IAmb IAmb 20 28 30.7
comp=Z,53nm,1.1s
G26K IAMs_20 IAMs_20 21 03 24.8
comp=Z,537nm,19.0s
G26K Porcupine Rive 72.78 24 P **P** **20 28 25.7 +1.0**
baz=282,SNR=19
FID Port Fidalgo 72.91 31 IAMs_20 IAMs_20 21 05 29.2
comp=Z,618nm,18.0s
PAX Paxson 72.91 29 IAmb IAmb 20 29 13.9
comp=Z,30nm,0.4s
PAX IAMs_20 IAMs_20 21 00 22.7
comp=Z,640nm,22.0s
PAX Paxson 72.91 29 P **P** **20 28 26.0 +0.3**

baz=282,SNR=15
SPB2 Spitsbergen Ar 72.99 348 IAmb IAmb 20 28 30.0
comp=Z,30nm,0.9s
SPA0 Spitsbergen Ar 72.99 348 *e*P **P** **20 28 26.2 +0.4**
SPITS Spitsbergen Ar 72.99 348 P **P** **20 28 25.9 +0.1**
comp=Z,18nm,0.8s,baz=84,slow=10,SNR=30
SPITS LR LR 21 04 20.2
comp=Z,880nm,18.7s,baz=56,slow=39
comp=Z,18nm,0.8s
SPITS Spitsbergen Ar 72.99 348 P **P** **20 28 25.7 -0.1**
SPITS pmax pmax
comp=Z,77nm,1.5s
ARA0 ARCESS Array S 72.99 339 *e*P **P** **20 28 26.4 +0.5**
ARCES ARCESS Array B 72.99 339 P **P** **20 28 25.7 -0.3**
comp=Z,2.0nm,0.5s,baz=73,slow=8.8,SNR=23
ARCES LR LR 21 04 55.0
comp=Z,1μm,18.5s,baz=72,slow=39
comp=Z,2.0nm,0.5s
KLU Klutina 73.02 30 P **P** **20 28 27.2 +0.8**
baz=282
RIDG Independent Ri 73.03 28 IAMs_20 IAMs_20 21 00 44.6
comp=Z,626nm,22.0s
RIDG Independent Ri 73.03 28 P **P** **20 28 26.1 -0.2**
baz=282,SNR=21
HARP HAARP 73.18 29 P **P** **20 28 27.0 -0.2**
baz=282
Q23K Middleton Isla 73.24 32 P **P** **20 28 26.9 -0.6**
baz=282
D27M Malcolm River 73.28 22 IAmb IAmb 20 28 33.3
comp=Z,50nm,1.2s
D27M IAMs_20 IAMs_20 21 02 10.9
comp=Z,1μm,19.0s
D27M Malcolm River 73.28 22 P **P** **20 28 27.9 +0.2**
baz=284
EYAK Cordova Ski Ar 73.30 31 IAMs_20 IAMs_20 21 03 59.0
comp=Z,537nm,19.0s
EYAK Cordova Ski Ar 73.30 31 P **P** **20 28 30.7 +2.8**
EYAK Cordova Ski Ar 73.30 31 P **P** **20 28 28.8 +0.9**
baz=283
E27K Coleen River 73.31 23 IAmb IAmb 20 28 33.6
comp=Z,50nm,1.2s
E27K Coleen River 73.31 23 P **P** **20 28 28.5 +0.5**
baz=284,SNR=6.5
HAMF Hammerfest 73.32 340 *e*P **P** **20 28 28.6 +0.8**
SCRK Sand Creek 73.35 27 P **P** **20 28 28.1 -0.1**
SCRK IAmb IAmb 20 29 04.3
comp=Z,44nm,1.3s
SCRK Sand Creek 73.35 27 P **P** **20 28 29.1 +0.8**
baz=283,SNR=23
I26K Coal Creek Min 73.39 26 IAmb IAmb 20 28 33.3
comp=Z,47nm,1.0s
I26K IAMs_20 IAMs_20 21 03 01.1
comp=Z,635nm,20.0s
I26K Coal Creek Min 73.39 26 P **P** **20 28 29.1 +0.7**
baz=283
J26L Joseph Creek 73.41 27 IAmb IAmb 20 29 52.4
comp=Z,26nm,0.6s
J26L IAMs_20 IAMs_20 21 02 52.6
comp=Z,804nm,19.0s
J26L Joseph Creek 73.41 27 P **P** **20 28 29.2 +0.6**
baz=283,SNR=37
KBS Kingsbay 73.54 349 *e*P **P** **20 28 28.5 -0.5**
TOKA Tokat 73.54 307 IAmb IAmb 20 28 39.9
comp=Z,150nm,1.8s
N25K Chitina, Valde 73.61 30 P **P** **20 28 29.5 -0.3**
baz=283
G27K Doyon Strip 73.63 24 IAMs_20 IAMs_20 21 03 15.2
comp=Z,580nm,18.0s
G27K Doyon Strip 73.63 24 P **P** **20 28 29.8 0.0**
baz=284,SNR=18
GAZ Gaziantep 73.72 304 IAmb IAmb 20 28 41.5
comp=Z,72nm,1.1s
BMRM Bremner River 73.75 30 IAMs_20 IAMs_20 21 00 02.0
comp=Z,739nm,22.0s
BMRM Bremner River 73.75 30 P **P** **20 28 30.2 -0.4**
baz=283
H27K Steamboat Moun 73.82 25 IAmb IAmb 20 28 45.5
comp=Z,140nm,1.9s
H27K IAMs_20 IAMs_20 21 06 12.4
comp=Z,657nm,19.0s
H27K Steamboat Moun 73.82 25 P **P** **20 28 31.5 +0.5**
baz=285,SNR=10.0
L26K Log Cabin Wild 73.85 28 IAMs_20 IAMs_20 21 01 01.3
comp=Z,606nm,21.0s
L26K Log Cabin Wild 73.85 28 P **P** **20 28 31.1 0.0**
baz=284,SNR=5.4
RAGM Ragged Mountai 73.85 31 IAMs_20 IAMs_20 21 05 14.7
comp=Z,786nm,18.0s
KTK1 Kautokeino 73.90 338 *e*P **P** **20 28 31.8 +0.5**
I27K Kandik River 73.94 25 P **P** **20 28 32.5 +0.8**
baz=285,SNR=23
E28M Babbage River 73.95 22 IAMs_20 IAMs_20 21 05 28.5
comp=Z,849nm,18.0s
E28M Babbage River 73.95 22 P **P** **20 28 32.2 +0.6**
baz=286,SNR=9.1
GLB Gilahina Butte 74.02 30 P **P** **20 28 32.5 +0.4**
GLB IAmb IAmb 20 28 45.1
comp=Z,122nm,1.5s
D28M Stokes Point 74.03 21 P **P** **20 28 32.6 +0.6**
baz=286
HMT Hamilton 74.07 31 IAMs_20 IAMs_20 21 05 38.3
comp=Z,715nm,19.0s
KAIM Kayak Island 74.09 32 P **P** **20 28 32.5 0.0**
baz=284
F28M Old Crow 74.09 23 IAmb IAmb 20 28 37.9
comp=Z,54nm,1.1s
F28M IAMs_20 IAMs_20 21 03 06.4
comp=Z,1μm,20.0s
F28M Old Crow 74.09 23 P **P** **20 28 33.8 +1.3**
baz=286,SNR=17
DIKM Dikmen 74.13 309 P **P** **20 28 33.9 +0.8**
comp=Z,126nmcomp=Z,59nm,1.1s
K27K Chicken 74.15 27 IAmb IAmb 20 28 48.4
comp=Z,50nm,1.1s
K27K IAMs_20 IAMs_20 21 03 27.3
comp=Z,577nm,18.0s
K27K Chicken 74.15 27 P **P** **20 28 34.0 +1.1**
baz=285
M26K Nabesna, AK 74.16 29 IAmb IAmb 20 28 48.0
comp=Z,61nm,1.1s
M26K IAMs_20 IAMs_20 21 01 03.5
comp=Z,611nm,22.0s
M26K Nabesna, AK 74.16 29 P **P** **20 28 34.0 +1.0**
baz=284,SNR=15
SIM Simferopol' 74.16 312 *e*P **P** **20 28 32.4 -0.8**
SIM *e* 20 28 48.0
SIM *e*S **SKiKP** **20 37 57.0 -2.5**
SIM pmax pmax
comp=Z,72nm,0.8s
VRDI Verde Repeater 74.23 30 IAMs_20 IAMs_20 20 59 43.7
comp=Z,645nm,22.0s
BERG Berg Lake 74.32 31 P **P** **20 28 34.0 +0.1**
BERG IAmb IAmb 20 29 51.0
comp=Z,69nm,0.9s
BERG IAMs_20 IAMs_20 21 03 13.1
comp=Z,590nm,20.0s
BNN Bunyan 74.36 306 IAmb IAmb 20 28 45.4
comp=Z,36nm,1.0s
SUCK Suckling Hills 74.36 31 IAMs_20 IAMs_20 21 05 52.2
comp=Z,763nm,18.0s
MCARA McCarthy VSAT 74.40 30 IAmb IAmb 20 28 53.8
comp=Z,44nm,0.9s
MCARA McCarthy VSAT 74.40 30 P **P** **20 28 34.7 +0.4**
baz=285
CRQM Cirque 74.50 31 IAmb IAmb 20 28 53.2
comp=Z,75nm,1.2s
L27K Beaver Creek, 74.51 28 IAmb IAmb 20 28 47.8
comp=Z,46nm,1.2s
L27K IAMs_20 IAMs_20 21 01 41.8
comp=Z,817nm,22.0s
L27K Beaver Creek, 74.51 28 P **P** **20 28 36.6 +1.6**
baz=285,SNR=24
CRQE Cirque 74.52 31 P **P** **20 28 35.1 -0.2**
baz=285
BCAR Beaver Creek A 74.53 28 P **P** **20 28 35.4 +0.3**
E29M Blow River 74.59 22 IAMs_20 IAMs_20 21 03 34.5
comp=Z,740nm,20.0s
E29M Blow River 74.59 22 P **P** **20 28 36.3 +1.0**
baz=287,SNR=6.3
BGLC Bering Glacier 74.59 31 P **P** **20 28 36.2 +0.8**
baz=285
TGL Tana Glacier 74.65 30 IAmb IAmb 20 28 45.7
comp=Z,38nm,1.0s
I28M Miner Creek 74.66 25 P **P** **20 28 36.6 +0.7**
I28M IAmb IAmb 20 28 41.6
comp=Z,41nm,0.9s
I28M IAMs_20 IAMs_20 21 04 22.6
comp=Z,614nm,20.0s

I28M	**Miner Creek**	**74.66**	**25**	P		**P**		**20 28 36.7**	**+0.8**
	baz=286,SNR=43									
M27K	**Edge Creek, AK**	**74.67**	**29**	IAMs_20		IAMs_20		21 01 28.1		
	comp=Z,775nm,22.0s									
M27K	**Edge Creek, AK**	**74.67**	**29**	P		**P**		**20 28 36.6**	**+0.6**
	baz=285,SNR=14									
JETT	**Jettan, Norway**	**74.71**	**339**	*e*P		**P**		**20 28 37.2**	**+1.2**
WAX	**Waxell Ridge**	**74.72**	**31**	IAMs_20		IAMs_20		21 03 28.5		
	comp=Z,556nm,20.0s									
FINES	**FINESS Array B**	**74.77**	**330**	P		**P**		**20 28 35.6**	**-0.8**
FINES	**FINESS Array B**	**74.77**	**330**	P		**P**		**20 28 36.3**	**-0.1**
	comp=Z,6.2nm,0.7s,baz=49,slow=5.1,SNR=30									
FINES				LR		LR		21 04 22.7		
	comp=Z,793nm,18.1s,baz=78,slow=38									
	comp=Z,6.2nm,0.7s									
BZK	**Bozkurt**	**74.96**	**309**	P		**P**		**20 28 39.0**	**+1.1**
	comp=Z,57nm,1.1s									
G29M	**Pine Creek**	**74.98**	**24**	IAmb		IAmb		20 28 42.9		
	comp=Z,72nm,1.1s									
G29M				IAMs_20		IAMs_20		21 06 25.0		
	comp=Z,857nm,19.0s									
G29M	**Pine Creek**	**74.98**	**24**	P		**P**		**20 28 38.5**	**+0.9**
	baz=288,SNR=23									
H29M	**Whitestone**	**75.06**	**24**	IAmb		IAmb		20 28 43.4		
	comp=Z,46nm,1.1s									
H29M				IAMs_20		IAMs_20		21 06 19.0		
	comp=Z,778nm,19.0s									
H29M	**Whitestone**	**75.06**	**24**	P		**P**		**20 28 38.8**	**+0.7**
	baz=287,SNR=18									
BVCY	**Beaver Creek**	**75.11**	**29**	P		**P**		**20 28 39.7**	**+1.3**
	baz=286									
BARN	**Barnard Glacie**	**75.12**	**30**	IAmb		IAmb		20 29 00.1		
	comp=Z,38nm,1.0s									
MESA	**MESA**	**75.22**	**31**	IAMs_20		IAMs_20		21 01 10.8		
	comp=Z,623nm,20.0s									
MESA	**MESA**	**75.22**	**31**	P		**P**		**20 28 38.7**	**-0.6**
	baz=286									
ASF	**Jabal al Asfar**	**75.23**	**299**	LR		LR		21 06 29.2		
	comp=Z,592nm,21.5s,baz=108,slow=40									
VSU	**Vasula**	**75.24**	**327**	*ce*P		**P**		**20 28 38.4**	**-0.8**
VSU				pmax		pmax				
	comp=Z,107nm,1.7s									
YAH	**Yahtse**	**75.27**	**31**	IAMs_20		IAMs_20		21 03 44.0		
	comp=Z,706nm,19.0s									
DAWY	**Dawson**	**75.28**	**27**	IAmb		IAmb		20 28 44.6		
	comp=Z,39nm,0.9s									
DAWY	**Dawson**	**75.28**	**27**	P		**P**		**20 28 40.6**	**+1.2**
	baz=287,SNR=29									
CTG	**Chitna Glacier**	**75.29**	**30**	P		**P**		**20 28 40.4**	**+0.7**
	baz=286,SNR=14									
CTGM	**Chitina Glacie**	**75.30**	**30**	IAmb		IAmb		20 28 50.1		
	comp=Z,52nm,1.0s									
I29M	**Ogilvie Camp,**	**75.34**	**25**	P		**P**		**20 28 41.0**	**+1.3**
	baz=288									
ILGA	**Ilgaz**	**75.40**	**309**	P		**P**		**20 28 40.0**	**-0.8**
ILGA				IAmb		IAmb		20 28 56.8		
	comp=Z,111nm,1.8s									
YUK3	**Moose Creek**	**75.47**	**29**	P		**P**		**20 28 42.0**	**+1.2**
	baz=287									
LOGN	**Logan Glacier**	**75.49**	**30**	IAmb		IAmb		20 28 51.2		
	comp=Z,49nm,1.0s									
TABL	**Table Mountain**	**75.53**	**31**	IAmb		IAmb		20 29 05.8		
	comp=Z,81nm,1.3s									
TABL				IAMs_20		IAMs_20		21 03 52.1		
	comp=Z,696nm,19.0s									
F30M	**Barrier River**	**75.59**	**23**	IAmb		IAmb		20 28 46.1		
	comp=Z,66nm,1.0s									
F30M				IAMs_20		IAMs_20		21 05 20.9		
	comp=Z,719nm,21.0s									
F30M	**Barrier River**	**75.59**	**23**	P		**P**		**20 28 42.2**	**+1.1**
	baz=289,SNR=22									
G30M	**tAoh Zraii Nji**	**75.63**	**23**	IAmb		IAmb		20 28 45.8		
	comp=Z,57nm,1.0s									
G30M				IAMs_20		IAMs_20		21 05 16.2		
	comp=Z,880nm,20.0s									
G30M	**tAoh Zraii Nji**	**75.63**	**23**	P		**P**		**20 28 41.5**	**+0.1**
	baz=289,SNR=18									
EPYK	**Eagle Plains**	**75.64**	**24**	IAmb		IAmb		20 28 46.0		
	comp=Z,43nm,0.9s									
EPYK				IAMs_20		IAMs_20		21 04 51.5		
	comp=Z,622nm,20.0s									
EPYK	**Eagle Plains**	**75.64**	**24**	P		**P**		**20 28 42.5**	**+1.1**
	baz=289,SNR=17									
J29N	**Klondike Camp**	**75.65**	**26**	IAmb		IAmb		20 28 47.4		
	comp=Z,37nm,0.8s									
J29N				IAMs_20		IAMs_20		21 04 32.9		
	comp=Z,788nm,21.0s									
MNK	**Minsk**	**75.69**	**323**	*i* P		**P**		**20 28 40.8**	**-1.0**
	comp=E,13nm,1.0s									
MNK				*i* P		**P**		**20 28 40.8**	**-1.0**
	comp=N,25nm,0.9s									
MNK				*i* P		**P**		**20 28 40.8**	**-1.0**
	comp=Z,57nm,0.8s,baz=74									
MNK				*i* PPP		PPP		20 33 16.3		
MNK				*i* SSS		SSS		20 46 37.9		
MNK				*i* LQ		LQ		20 56 59.4		
MNK				*i* LR		LR		21 03 16.2		
MNK				*i* LRM		MLR		21 04 15.0		
	comp=E,727nm,16.6s									
MNK				*i* LRM		MLR		21 04 30.7		
	comp=Z,761nm,17.9s									
MNK				*i* LRM		MLR		21 04 46.0		
	comp=N,641nm,16.5s									
MNK	**Minsk**	**75.69**	**323**	*i* P		**P**		**20 28 40.8**	**-1.0**
MNK				*i*				20 28 52.1		
MNK				*i*				20 31 30.1		
MNK				*i* PPP		PPP		20 33 16.2		
MNK				*i* S		**S**		**20 38 22.9**	**+1.1**
MNK				*i*				20 38 58.9		
MNK				*i* SS		**SS**		**20 43 15.1**	**+2.3**
MNK				*i* SSS		SSS		20 46 37.8		
MNK				pmax		pmax				
	comp=E,13nm,1.0s									
MNK				pmax		pmax				
	comp=Z,57nm,0.8s									
MNK				pmax		pmax				
	comp=N,25nm,0.9s									
MNK				MLR		MLR				
	comp=E,727nm,17.0s									
MNK				MLR		MLR				
	comp=Z,761nm,18.0s									
MNK				MLR		MLR				
	comp=N,641nm,17.0s									
BR131	**Keskin Array S**	**75.80**	**307**	IAmb		IAmb		20 28 52.7		
	comp=Z,114nm,1.6s									
BR131	**Keskin Array S**	**75.80**	**307**	P		**P**		**20 28 43.9**	**+0.8**
	SNR=31									
BR131	**Keskin Array S**	**75.80**	**307**	*d* P		**P**		**20 28 43.4**	**+0.4**
BRTR	**Keskin Array B**	**75.80**	**307**	P		**P**		**20 28 42.5**	**-0.5**
BRTR	**Keskin Array B**	**75.80**	**307**	P		**P**		**20 28 44.0**	**+1.0**
	comp=Z,9.0nm,0.9s,baz=116,slow=7.0,SNR=49									
BRTR				LR		LR		21 06 30.9		
	comp=Z,576nm,20.5s,baz=74,slow=39									
	comp=Z,9.0nm,0.9s									
BR104	**Keskin Array S**	**75.80**	**307**	P		**P**		**20 28 42.7**	**-0.3**
	comp=Z,189nmcomp=Z,18nm,0.9s									
BR106	**Keskin Array S**	**75.81**	**307**	P		**P**		**20 28 43.6**	**+0.5**
	comp=Z,251nmcomp=Z,25nm,1.0s									
BR105	**Keskin Array S**	**75.82**	**307**	P		**P**		**20 28 43.5**	**+0.4**
	comp=Z,307nmcomp=Z,31nm,1.3s									
NOR	**Nord**	**75.83**	**354**	*i* P		**P**		**20 28 40.4**	**-1.8**
NOR				IAmb		IAmb		20 28 46.3		
	comp=Z,9.7nm,1.0s									
O28M	**Mount Upton**	**75.89**	**30**	IAmb		IAmb		20 29 09.1		
	comp=Z,67nm,1.4s									
O28M				IAMs_20		IAMs_20		21 00 27.4		
	comp=Z,632nm,22.0s									
O28M	**Mount Upton**	**75.89**	**30**	P		**P**		**20 28 43.8**	**+0.5**
	baz=287									
AK09	**Malin Array Si**	**75.90**	**319**	P		**P**		**20 28 42.8**	**-0.4**
AK03	**Malin Array Si**	**75.91**	**319**	P		**P**		**20 28 42.8**	**-0.4**
ATD	**Arta Tunnel**	**75.92**	**277**	IAMs_20		IAMs_20		20 59 01.5		
	comp=Z,486nm,18.0s									
AKASG	**Malin Array Be**	**75.92**	**319**	P		**P**		**20 28 42.1**	**-1.1**
AKASG	**Malin Array Be**	**75.92**	**319**	P		**P**		**20 28 42.9**	**-0.3**
	comp=Z,8.5nm,0.6s,baz=65,slow=5.6,SNR=35									
	comp=Z,8.5nm,0.6s									
AKASG	**Malin Array Be**	**75.92**	**319**	P		**P**		**20 28 42.1**	**-1.1**
AKASG				pmax		pmax				
	comp=Z,20nm,1.0s									
AKBB	**Malin Array Si**	**75.92**	**319**	IAmb		IAmb		20 28 52.9		
	comp=Z,35nm,0.8s									
AKBB	**Malin Array Si**	**75.92**	**319**	P		**P**		**20 28 42.8**	**-0.4**
KIEV	**Kiev**	**75.93**	**319**	P		**P**		**20 28 42.1**	**-1.2**
KIEV				IAmb		IAmb		20 28 52.9		
	comp=Z,33nm,0.9s									
KIEV	**Kiev**	**75.93**	**319**	IAMs_20		IAMs_20		21 06 26.7		
	comp=Z,736nm,19.0s									
KIEV	**Kiev**	**75.93**	**319**	P		**P**		**20 28 42.1**	**-1.2**
KIEV				pmax		pmax				
	comp=Z,33nm,0.9s									
KIEV				MLR		MLR				
	comp=Z,700nm,19.0s									
KIEV	**Kiev**	**75.93**	**319**	*i* P		**P**		**20 28 42.9**	**-0.4**
	SNR=21									
KIEV	**Kiev**	**75.93**	**319**	P		**P**		**20 28 42.7**	**-0.6**
	comp=Z,2µmcomp=Z,180nm,0.8s									
YUK8	**Steele Glacier**	**75.94**	**30**	P		**P**		**20 28 44.1**	**+0.6**
	baz=287									
PCA	**Pinnacle**	**76.06**	**31**	IAmb		IAmb		20 28 57.4		
	comp=Z,68nm,1.1s									
PCA				IAMs_20		IAMs_20		21 04 28.0		
	comp=Z,552nm,18.0s									
PINM	**Pinnacle**	**76.06**	**31**	P		**P**		**20 28 44.1**	**+0.1**
	baz=287									
L29M	**L29M**	**76.11**	**27**	IAmb		IAmb		20 28 50.4		
	comp=Z,54nm,1.0s									
L29M				IAMs_20		IAMs_20		21 04 29.0		
	comp=Z,564nm,19.0s									
L29M	**L29M**	**76.11**	**27**	P		**P**		**20 28 44.9**	**+0.7**
	baz=288,SNR=47									
K29M	**Barlow Dome**	**76.13**	**27**	IAmb		IAmb		20 28 50.0		
	comp=Z,30nm,0.9s									
K29M				IAMs_20		IAMs_20		21 08 19.6		
	comp=Z,504nm,18.0s									
K29M	**Barlow Dome**	**76.13**	**27**	P		**P**		**20 28 45.4**	**+0.9**
	baz=289,SNR=32									
INK	**Inuvik**	**76.15**	**22**	IAmb		IAmb		20 28 48.8		
	comp=Z,46nm,1.1s									
INK	**Inuvik**	**76.15**	**22**	LR		LR		21 04 44.5		
	comp=Z,534nm,20.1s,baz=276,slow=38									
INK	**Inuvik**	**76.15**	**22**	P		**P**		**20 28 44.4**	**+0.2**
	baz=291,SNR=14									
I30M	**Mount Dempster**	**76.15**	**25**	P		**P**		**20 28 43.9**	**-0.6**
I30M				IAmb		IAmb		20 28 58.1		
	comp=Z,40nm,1.1s									
I30M	**Mount Dempster**	**76.15**	**25**	P		**P**		**20 28 45.4**	**+0.9**
	baz=289,SNR=35									
M29M	**Somme Creek**	**76.17**	**28**	IAmb		IAmb		20 28 50.8		
	comp=Z,29nm,0.8s									
M29M				IAMs_20		IAMs_20		21 02 32.7		
	comp=Z,690nm,21.0s									
M29M	**Somme Creek**	**76.17**	**28**	P		**P**		**20 28 46.2**	**+1.5**
	baz=288,SNR=37									
NACGM	**Naroch**	**76.19**	**324**	*i* P		**P**		**20 28 45.5**	**+0.8**
	comp=Z,56nm,0.8s,baz=74									
MMAI	**Mount Meron Ar**	**76.22**	**300**	P		**P**		**20 28 45.2**	**-0.2**
	comp=Z,6.9nm,0.8s,baz=106,slow=4.5,SNR=11									
MMAI				LR		LR		21 06 46.0		
	comp=Z,667nm,19.4s,baz=72,slow=39									
	comp=Z,6.9nm,0.8s									
RAO	**Raoul Island**	**76.34**	**129**	LR		LR		20 56 21.3		
	comp=Z,640nm,21.3s,baz=311,slow=31									
G31M	**Satah River**	**76.38**	**23**	IAMs_20		IAMs_20		21 05 47.8		
	comp=Z,833nm,21.0s									
G31M	**Satah River**	**76.38**	**23**	P		**P**		**20 28 45.2**	**-0.3**
	baz=291,SNR=17									
F31M	**Tsiigehtchic**	**76.38**	**23**	IAmb		IAmb		20 28 49.9		
	comp=Z,48nm,0.9s									
F31M				IAMs_20		IAMs_20		21 07 15.9		
	comp=Z,881nm,18.0s									
F31M	**Tsiigehtchic**	**76.38**	**23**	P		**P**		**20 28 45.8**	**+0.2**
	baz=291,SNR=5.2									
J30M	**Hart River**	**76.39**	**26**	IAMs_20		IAMs_20		21 05 27.2		
	comp=Z,551nm,21.0s									
J30M	**Hart River**	**76.39**	**26**	P		**P**		**20 28 46.8**	**+0.9**
	baz=290,SNR=22									
ANTO	**Ankara**	**76.39**	**308**	P		**P**		**20 28 45.5**	**-0.7**
ANTO				IAmb		IAmb		20 28 56.2		
	comp=Z,37nm,0.8s									
ANTO	**Ankara**	**76.39**	**308**	IAMs_20		IAMs_20		21 08 55.9		
	comp=Z,749nm,21.0s									
ANTO	**Ankara**	**76.39**	**308**	P		**P**		**20 28 47.8**	**+1.5**
ANTO				P		**P**		**20 28 47.8**	**+1.5**
ANTO	**Ankara**	**76.39**	**308**	P		**P**		**20 28 45.6**	**-0.7**
ANTO				pmax		pmax				
	comp=Z,37nm,0.8s									
ANTO				MLR		MLR				
	comp=Z,700nm,21.0s									
ANTO	**Ankara**	**76.39**	**308**	P		**P**		**20 28 46.5**	**+0.2**
	comp=Z,445nmcomp=Z,31nm,0.8s									
ANTO	**Ankara**	**76.39**	**308**	⇑P		**P**		**20 28 47.5**	**+1.2**
BCPM	**Bancas Point**	**76.40**	**31**	IAMs_20		IAMs_20		21 04 28.9		
	comp=Z,522nm,19.0s									
BAL3X	**Bal3x, Balta**	**76.42**	**316**	P		**P**		**20 28 45.7**	**-0.5**
YUK4	**Talbot Arm**	**76.43**	**29**	P		**P**		**20 28 47.4**	**+1.2**
	baz=288									
GHAJ	**Ghor Haditha**	**76.55**	**299**	IAMs_20		IAMs_20		21 06 30.9		
	comp=Z,585nm,20.0s									
PNL	**Peninsula**	**76.60**	**31**	P		**P**		**20 28 51.1**	**+4.1**
PNL	**Peninsula**	**76.60**	**31**	P		**P**		**20 28 46.4**	**-0.6**
	baz=288									
PURM	**Purcari**	**76.63**	**315**	P		**P**		**20 28 48.1**	**+0.7**
	comp=Z,6µmcomp=Z,45nm,0.7s									
YUK6	**Outpost Mounta**	**76.69**	**30**	P		**P**		**20 28 48.3**	**+0.6**
	baz=289,SNR=10									
H31M	**Peel River**	**76.75**	**24**	IAmb		IAmb		20 28 52.2		
	comp=Z,36nm,0.8s									
H31M				IAMs_20		IAMs_20		21 02 27.7		
	comp=Z,580nm,21.0s									
H31M	**Peel River**	**76.75**	**24**	P		**P**		**20 28 48.4**	**+0.7**
	baz=291,SNR=32									
O29M	**Mount Kennedy**	**76.79**	**30**	IAMs_20		IAMs_20		21 07 49.3		
	comp=Z,600nm,18.0s									
O29M	**Mount Kennedy**	**76.79**	**30**	P		**P**		**20 28 48.6**	**+0.4**
	baz=289									
MI28	**MI28,Pidlybu**	**76.80**	**320**	P		**P**		**20 28 48.3**	**0.0**
M30M	**Minto, Yukon**	**76.86**	**28**	IAmb		IAmb		20 28 54.4		
	comp=Z,54nm,1.1s									
M30M				IAMs_20		IAMs_20		21 03 14.9		
	comp=Z,548nm,21.0s									
M30M	**Minto, Yukon**	**76.86**	**28**	P		**P**		**20 28 49.7**	**+1.2**
	baz=290,SNR=41									
MAYO	**Mayo, Yukon**	**76.90**	**27**	P		**P**		**20 28 49.7**	**+1.1**
	baz=290									
HIZ	**Hauiti**	**77.02**	**140**	P		**P**		**20 28 49.7**	**+0.1**
HIZ				IAmb		IAmb		20 28 56.7		
	comp=Z,49nm,0.9s									
LUBAR	**Lubar, Ukraine**	**77.04**	**319**	P		**P**		**20 28 49.1**	**-0.5**
STEI	**Steigen**	**77.05**	**338**	*e*P		**P**		**20 28 49.6**	**+0.3**
N30M	**Aishikik Lake**	**77.10**	**29**	P		**P**		**20 28 51.2**	**+1.4**
	baz=290,SNR=18									
HYT	**Haines Junctio**	**77.12**	**30**	IAmb		IAmb		20 29 15.2		
	comp=Z,41nm,1.2s									
HYT	**Haines Junctio**	**77.12**	**30**	P		**P**		**20 28 50.9**	**+0.8**
	baz=289,SNR=13									
SORM	**Soroca**	**77.17**	**317**	P		**P**		**20 28 50.2**	**-0.2**
SORM	**Soroca**	**77.17**	**317**	P		**P**		**20 28 49.8**	**-0.6**
	comp=Z,834nmcomp=Z,77nm,0.9s									
SORM	**Soroca**	**77.17**	**317**	⇓P		**P**		**20 28 50.3**	**-0.2**
QRZ	**Quartz Range**	**77.18**	**143**	IAmb		IAmb		20 28 59.0		
	comp=Z,111nm,1.7s									
A36M	**Sachs Harbour**	**77.20**	**17**	P		**P**		**20 28 50.0**	**-0.1**
A36M				IAmb		IAmb		20 28 54.3		
	comp=Z,43nm,0.9s									
A36M				IAMs_20		IAMs_20		21 04 15.1		
	comp=Z,566nm,22.0s									
A36M	**Sachs Harbour**	**77.20**	**17**	P		**P**		**20 28 50.3**	**+0.2**
	baz=298,SNR=7.8									
KIS	**Kishinev**	**77.20**	**316**	*e*P		**P**		**20 28 50.0**	**-0.6**
KIS				*e*L		L		21 00 08.0		
KIS				LRM		MLR		21 05 51.0		
	comp=Z,400nm,16.0s									
KIS	**Kishinev**	**77.20**	**316**	*e*P		**P**		**20 28 50.0**	**-0.6**
MILM	**Milestii Mici**	**77.22**	**315**	⇓*i*P		**P**		**20 28 50.0**	**-0.7**
	comp=Z,120nm,3.5s									
MILM				*e*S		**S**		**20 38 34.0**	**-4.8**
MILM	**Milestii Mici**	**77.22**	**315**	LRM		MLR		21 05 49.0		
	comp=Z,800nm,19.0s									
MILM	**Milestii Mici**	**77.22**	**315**	P		**P**		**20 28 50.0**	**-0.7**
MILM	**Milestii Mici**	**77.22**	**315**	⇓P		**P**		**20 28 50.1**	**-0.7**
MILM	**Milestii Mici**	**77.22**	**315**	*e*PS				20 39 18.0		
MILM	**Milestii Mici**	**77.22**	**315**	*e*L		L		20 57 47.0		
MILM	**Milestii Mici**	**77.22**	**315**	LQM				21 02 00.0		
	comp=Z,900nm,17.0s									
FAUS	**Fauske**	**77.25**	**338**	*e*P		**P**		**20 28 50.9**	**+0.5**
CSS	**Mathiatis**	**77.33**	**303**	P		**P**		**20 28 52.2**	**+0.6**
	comp=Z,1µmcomp=Z,120nm,0.9s									
P29M	**Windy Craggy**	**77.41**	**31**	IAmb		IAmb		20 29 18.6		
	comp=Z,33nm,1.0s									
P29M				IAMs_20		IAMs_20		21 05 08.7		
	comp=Z,534nm,20.0s									
P29M	**Windy Craggy**	**77.41**	**31**	P		**P**		**20 28 52.4**	**+0.8**
	baz=290									
SAHE	**Sakarya_HENDEK**	**77.54**	**309**	⇑P		**P**		**20 28 53.4**	**+0.7**
LOF	**Lofoten**	**77.55**	**339**	*e*P		**P**		**20 28 53.0**	**+0.9**
TKNZ	**Takaka Hill**	**77.56**	**143**	P		**P**		**20 28 52.6**	**+0.1**
P30M	**Million Dollar**	**77.61**	**30**	P		**P**		**20 28 52.9**	**+0.2**
	baz=290									
NDNU	**Novodnistrovsk**	**77.67**	**317**	P		**P**		**20 28 53.2**	**0.0**
N31M	**Braeburn, Yuko**	**77.68**	**29**	IAmb		IAmb		20 28 59.0		
	comp=Z,35nm,1.1s									
N31M				IAMs_20		IAMs_20		21 03 09.8		
	comp=Z,586nm,20.0s									
N31M	**Braeburn, Yuko**	**77.68**	**29**	P		**P**		**20 28 54.3**	**+1.3**
	baz=291,SNR=13									
TLCR		**77.72**	**314**	P		**P**		**20 28 54.4**	**+0.9**
TLCR		**77.72**	**314**	⇑P		**P**		**20 28 54.5**	**+0.9**
RNPP9	**Sopachiv**	**77.73**	**320**	P		**P**		**20 28 53.5**	**0.0**
RNPP8	**Varash**	**77.77**	**320**	P		**P**		**20 28 53.7**	**0.0**
RNPP5	**Staryi Chortor**	**77.79**	**320**	P		**P**		**20 28 53.7**	**-0.1**
O30N	**Mendenhall**	**77.79**	**29**	P		**P**		**20 28 55.1**	**+1.4**
	baz=291,SNR=15									
INZ	**Inchbonnie**	**77.87**	**145**	P		**P**		**20 28 53.7**	**-0.6**
NNZ	**Nelson**	**77.92**	**143**	P		**P**		**20 28 53.8**	**-0.7**
NNZ				IAmb		IAmb		20 28 56.1		
	comp=Z,65nm,1.4s									
VASR	**Vaslui**	**77.97**	**315**	⇑P		**P**		**20 28 56.0**	**+1.1**
THZ	**Tophouse**	**78.02**	**144**	P		**P**		**20 28 54.7**	**-0.5**
M31M	**Drury Creek, Y**	**78.04**	**28**	IAMs_20		IAMs_20		21 05 49.1		
	comp=Z,597nm,19.0s									
MOR8	**Moi Rana**	**78.04**	**337**	*e*P		**P**		**20 28 55.1**	**+0.1**
TPGR	**Topolog**	**78.09**	**313**	⇓P		**P**		**20 28 56.5**	**+0.9**
CFR	**Carcaliu**	**78.18**	**314**	P		**P**		**20 28 56.8**	**+0.7**
CFR	**Carcaliu**	**78.18**	**314**	⇑P		**P**		**20 28 56.9**	**+0.7**
TIRR	**Tirgusor**	**78.21**	**313**	P		**P**		**20 28 55.8**	**-0.5**
TIRR				IAmb		IAmb		20 29 05.0		
	comp=Z,38nm,0.8s									
TIRR				IAMs_20		IAMs_20		21 06 32.7		
	comp=Z,1µm,20.0s									
TIRR	**Tirgusor**	**78.21**	**313**	P		**P**		**20 28 55.8**	**-0.5**
TIRR				pmax		pmax				
	comp=Z,38nm,0.8s									
TIRR				MLR		MLR				
	comp=Z,1µm,20.0s									
TIRR	**Tirgusor**	**78.21**	**313**	P		**P**		**20 28 56.5**	**+0.2**
	comp=Z,633nmcomp=Z,61nm,0.9s									
TIRR	**Tirgusor**	**78.21**	**313**	⇓P		**P**		**20 28 56.8**	**+0.6**
URZ	**Urewera**	**78.23**	**139**	LR		LR		20 58 02.6		
	comp=Z,331nm,21.9s,baz=306,slow=32									
KMPD	**K-Podol'skiy**	**78.25**	**318**	P		**P**		**20 28 55.5**	**-0.9**
IZVR	**Izvoarele**	**78.32**	**314**	⇑P		**P**		**20 28 57.7**	**+0.8**
RPZ	**Rata Peaks**	**78.35**	**146**	P		**P**		**20 28 57.0**	**+0.1**
RPZ	**Rata Peaks**	**78.35**	**146**	LR		LR		20 59 38.4		
	comp=Z,667nm,21.6s,baz=318,slow=33									
WHY	**Whitehorse**	**78.39**	**29**	IAmb		IAmb		20 29 02.9		
	comp=Z,52nm,1.0s									
WHY	**Whitehorse**	**78.39**	**29**	P		**P**		**20 28 57.8**	**+0.7**
	baz=292,SNR=16									
GHRR		**78.40**	**315**	⇑P		**P**		**20 28 58.5**	**+1.2**
BKZ	**Black Stump Fm**	**78.42**	**140**	P		**P**		**20 29 00.5**	**+3.1**
TLBR	**Topalu**	**78.43**	**313**	⇓P		**P**		**20 28 58.8**	**+1.3**
HARR	**Harsova**	**78.47**	**313**	P		**P**		**20 28 58.8**	**+1.1**
HARR	**Harsova**	**78.47**	**313**	⇑P		**P**		**20 28 58.8**	**+1.1**
SUW	**Suwalki**	**78.47**	**323**	P		**P**		**20 28 56.8**	**-0.7**
SUW	**Suwalki**	**78.47**	**323**	P		**P**		**20 28 56.8**	**-0.7**
SUW				MLR		MLR				
	comp=Z,1µm,19.0s									
STOK	**Stokkvaagen**	**78.50**	**337**	*e*P		**P**		**20 28 57.1**	**-0.3**
LEIR	**Leirfjorden**	**78.56**	**337**	*e*P		**P**		**20 28 57.8**	**+0.1**
SKAG	**Skagway**	**78.62**	**31**	P		**P**		**20 29 01.7**	**+3.5**
SKAG	**Skagway**	**78.62**	**31**	P		**P**		**20 28 59.9**	**+1.7**
	baz=292									
PANC	**Panciu**	**78.63**	**315**	⇓P		**P**		**20 29 00.1**	**+1.5**

DOPR	Dopca	79.77	315	⇓P		P		20 29 05.8	+1.0		
LOZB	Loznitsa	79.80	312	⇑P		P		20 29 06.2	+1.1		
DAG	Danmarks Havn	79.87	351	*i* P		P		20 29 04.6	-0.1		
DAG				IAmb		IAmb		20 29 08.0			
	comp=Z,24nm,1.0s										
RAKU	Rahkiv	79.88	317	P		P		20 29 05.6	+0.2		
MANT	Manisa	79.94	307	IAmb		IAmb		20 29 10.6			
	comp=Z,44nm,1.0s										
SHIU	Shidnytsya	79.97	319	P		P		20 29 06.7	+0.8		
MEZ	Mezhgor'ye	80.12	318	P		P		20 29 07.5	+0.8		
JMB	Yambol	80.12	312	*i* P		P		20 29 07.5	+0.7		
VOIR		80.17	315	P		P		20 29 07.8	+0.7		
VOIR		80.17	315	P		P		20 29 07.5	+0.4		
	comp=Z,13nm,0.9s										
VOIR		80.17	315	⇓P		P		20 29 07.9	+0.7		
MTUR	Matau	80.23	315	P		P		20 29 08.9	+1.5		
MTUR	Matau	80.23	315	⇑P		P		20 29 09.0	+1.5		
KWP	Kalwaria Pacla	80.23	319	P		P		20 29 07.8	+0.5		
	comp=Z,115nm,1.0s										
SZH	Strazhitsa	80.26	313	*i* P		P		20 29 08.3	+0.8		
Q32M	Nakina River	80.27	30	IAMs_20		IAMs_20		21 04 41.2			
	comp=Z,521nm,20.0s										
Q32M	Nakina River	80.27	30	P		P		20 29 08.4	+0.9		
	baz=294										
BMR	Baia Mare	80.42	317	P		P		20 29 08.9	+0.6		
BMR	Baia Mare	80.42	317	⇑P		P		20 29 09.0	+0.6		
ELND	Elena	80.44	312	⇓P		P		20 29 09.4	+0.9		
ARR	Arges	80.47	315	⇓P		P		20 29 09.0	+0.3		
KORU	Korolevo	80.48	318	P		P		20 29 09.2	+0.6		
BRIU	Brid	80.49	318	P		P		20 29 08.2	-0.4		
COPA	Copaceanca	80.49	314	⇓P		P		20 29 09.7	+1.0		
HUMR	Humele	80.52	314	⇑P		P		20 29 09.5	+0.6		
BEL	Belsk	80.58	322	*e*P		P		20 29 09.8	+0.7		
BEL				*e*L		L		21 09 49.1			
	comp=Z,1μm,18.5s										
MUKU	Mukachevo	80.66	318	P		P		20 29 10.2	+0.7		
CJR	Cluj-Napoca	80.69	316	P		P		20 29 11.5	+1.7		
CJR	Cluj-Napoca	80.69	316	⇑P		P		20 29 11.5	+1.7		
R33M	Jennings River	80.69	30	P		P		20 29 09.5	-0.2		
R33M	Jennings River	80.69	30	P		P		20 29 10.2	+0.5		
	baz=295,SNR=6.5										
KOLS	Kolonicke sedl	80.74	319	*e*P		P		20 29 10.7	+0.7		
KOLS				pmax		pmax					
	comp=Z,9.0nm,0.6s										
KOLS	Kolonicke sedl	80.74	319	*e*P		P		20 29 10.7	+0.7		
BERU	Beregovo	80.76	318	P		P		20 29 10.7	+0.6		
HOLU	Holmets	80.82	318	P		P		20 29 11.1	+0.7		
HFS	Hagfors	80.91	331	P		P		20 29 10.1	-0.6		
	comp=Z,6.0nm,0.7s,baz=108,slow=4.8,SNR=33										
HFS				PP		PP		20 32 13.7	-1.1		
	comp=Z,4.1nm,0.8s,baz=69,slow=9.7,SNR=4.2										
HFS				LR		LR		21 08 32.1			
	comp=Z,3μm,18.5s,baz=64,slow=38										
	comp=Z,6.0nm,0.7s										
DIM	Dimitrovgrad	80.94	311	*i* P		P		20 29 12.4	+1.2		
TGTN	Hyland Airport	80.96	27	P		P		20 29 11.7	+0.7		
	baz=297										
CAVK	Edirne/Enez-Ca	80.97	310	⇑P		P		20 29 12.1	+0.7		
U33K	Whale Pass	81.00	33	P		P		20 29 12.4	+1.2		
	baz=294										
MARR	Marisel-Cluj	81.01	316	⇓P		P		20 29 12.7	+1.1		
EZN	Ezine	81.15	309	P		P		20 29 12.9	+0.6		
	comp=Z,789nmcomp=Z,89nm,0.9s										
PLVB	Pleven	81.15	313	⇑P		P		20 29 13.3	+1.1		
STHS	Stebnicka Huta	81.20	320	*e*P		P		20 29 12.6	+0.1		
STHS				pmax		pmax					
	comp=Z,18nm,1.0s										
STHS	Stebnicka Huta	81.20	320	*e*P		P		20 29 12.6	+0.1		
DRGR		81.23	317	P		P		20 29 13.7	+1.0		
DRGR		81.23	317	⇑P		P		20 29 13.8	+1.0		
BDRM	Kayabasi	81.23	306	⇓P		P		20 29 13.0	+0.2		
S34M	Telegraph Cree	81.25	31	IAMs_20		IAMs_20		21 10 29.1			
	comp=Z,557nm,18.0s										
S34M	Telegraph Cree	81.25	31	P		P		20 29 13.5	+1.0		
	baz=295										
CRAG	Craig	81.26	34	P		P		20 29 12.9	+0.3		
	baz=294										
WRAK	Wrangell Islan	81.27	33	P		P		20 29 13.5	+0.9		
	baz=294										
WTLY	Watson Lake, Y	81.37	29	P		P		20 29 13.7	+0.6		
	baz=297										
DEV	Deva	81.43	316	P		P		20 29 14.5	+0.9		
DEV	Deva	81.43	316	⇓P		P		20 29 14.6	+0.9		
PLD	Plovdiv	81.49	312	*i* P		P		20 29 18.3	+4.2		
DLBC	Dease Lake	81.55	30	P		P		20 29 14.8	+0.6		
	comp=Z,0.4nm,0.8s,baz=102,slow=4.1,SNR=7.8										
DLBC				LR		LR		21 05 20.0			
	comp=Z,27nm,21.3s,baz=292,slow=36										
DLBC	Dease Lake	81.55	30	P		P		20 29 14.5	+0.3		
	baz=296										
NB2	NORSAR Subarra	81.59	333	P		P		20 29 13.2	-1.1		
	comp=Z,32nm,1.4s,baz=64,slow=4.6										
NC602	NORSAR Array S	81.59	332	P		P		20 29 13.5	-0.8		
NC602	NORSAR Array S	81.59	332	*e*P		P		20 29 14.3	+0.1		
NOA	NORSAR Array B	81.59	333	P		P		20 29 13.4	-0.9		
	comp=Z,2.9nm,0.7s,baz=62,slow=4.9,SNR=25										
NOA				PP		PP		20 32 19.0	-1.5		
	comp=Z,1.7nm,0.8s,baz=66,slow=8.1,SNR=3.7										
NOA				LR		LR		21 11 02.6			
	comp=Z,1μm,19.3s,baz=55,slow=40										
	comp=Z,9.9nm,0.7s										
GZR	Gura Zlata	81.69	315	P		P		20 29 16.0	+0.9		
GZR	Gura Zlata	81.69	315	⇑P		P		20 29 16.1	+0.9		
MPEP	Malo Peshtene	81.76	313	*i* P		P		20 29 16.6	+1.1		
OJC	Ojcow	81.77	321	*e*P		P		20 29 16.1	+0.6		
OJC				*e*S		S		20 39 24.5	-2.4		
OJC				*e*L		L		21 06 14.6			
	comp=Z,1μm,22.6s										
OJC	Ojcow	81.77	321	P		P		20 29 15.8	+0.4		
	comp=Z,912nmcomp=Z,101nm,0.8s										
NIE	Niedzica	81.77	320	*e*P		P		20 29 16.7	+1.2		
NIE				*e*S		S		20 39 27.3	+0.2		
NIE				*e*L		L		21 11 50.1			
	comp=Z,693nm,19.4s										
NIE	Niedzica	81.77	320	P		P		20 29 16.2	+0.7		
	comp=Z,310nmcomp=Z,30nm,1.0s										
NBO00	NORSAR Array S	81.79	333	P		P		20 29 14.9	-0.5		
VALD	Valchedram	81.85	314	*i* P		P		20 29 16.9	+0.9		
RES	Resolute Bay	81.94	9	LR		LR		21 09 17.3			
	comp=Z,676nm,19.4s,baz=347,slow=38										
NEEM	North Greenlan	81.94	358	*i* P		P		20 29 16.6	+0.4		
NEEM				IAmb		IAmb		20 29 21.6			
	comp=Z,58nm,1.0s										
PUNG	Punghina	81.98	314	⇓P		P		20 29 17.5	+0.9		
SURR	Surdu	81.98	316	⇓P		P		20 29 17.3	+0.7		
DOMB	Dombas	82.02	334	*e*P		P		20 29 16.1	-0.5		
T35M	Bob Quinn	82.08	32	P		P		20 29 16.0	-0.9		
	baz=296										
DBG	Daneborg	82.10	350	*i* P		P		20 29 17.0	+0.3		
DBG				IAmb		IAmb		20 29 20.6			
	comp=Z,13nm,0.9s										
V35K	Ketchikan	82.10	34	P		P		20 29 17.7	+0.7		
	baz=295										
WRGLY	Wrigley	82.10	25	P		P		20 29 17.0	+0.1		
	baz=301										
HERR	Herculane	82.11	315	⇑P		P		20 29 18.2	+0.9		
JMIC	Jan Mayen	82.33	345	LR		LR		21 09 43.5			
	comp=Z,766nm,19.0s,baz=42,slow=38										
BZS	Buzias	82.36	316	P		P		20 29 19.0	+0.4		
BZS	Buzias	82.36	316	⇑P		P		20 29 19.0	+0.4		
MOL	Molde	82.36	335	*e*P		P		20 29 18.3	+0.1		
VTS	Vitosha	82.37	313	*i* P		P		20 29 20.1	+1.2		
LANS	Liptovska Anna	82.38	320	*e*P		P		20 29 20.2	+1.5		
LANS				pmax		pmax					
	comp=Z,7.0nm,0.9s										
LANS	Liptovska Anna	82.38	320	*e*P		P		20 29 20.2	+1.5		
BORU	Boraas	82.45	329	*i* P		P		20 29 17.9	-1.0		
U35K	Hyder	82.66	33	P		P		20 29 20.2	+0.3		
	baz=296										
TULEG	Thule	82.72	3	IAMs_20		IAMs_20		21 08 22.4			
	comp=Z,739nm,20.0s										
TULEG	Thule	82.72	3	*i* P		P		20 29 19.0	-0.9		
TULEG				IAmb		IAmb		20 29 20.4			
	comp=Z,13nm,0.7s										
KKB	Krupnik	82.72	312	*i* P		P		20 29 21.1	+0.5		
AKN	Aaknes	82.79	335	*e*P		P		20 29 20.7	+0.1		
OKC	Ostrava-Krasne	82.90	321	AMS		AMS		21 11 50.0			
	comp=Z,1μm,13.7s										
KONO	Kongsberg	82.97	332	P		P		20 29 20.4	-1.0		
KONO	Kongsberg	82.97	332	P		P		20 29 20.5	-1.0		
KONO				pmax		pmax					
	comp=Z,25nm,1.4s										
KONO				MLR		MLR					
	comp=Z,4μm,18.0s										

ONAU	Onsala	82.97	329	*i* P		P		20 29 19.6	-1.9		
SKAR	Skarslia	83.01	333	*e*P		P		20 29 22.7	+0.9		
VYHS	Vyhne	83.02	319	*e*P		P		20 29 22.9	+0.9		
VYHS				pmax		pmax					
	comp=Z,171nm,2.2s										
VYHS	Vyhne	83.02	319	*e*P		P		20 29 22.9	+0.9		
STEB	Steborice	83.08	321	*e*P		P		20 29 23.1	+0.8		
STEB				*ex*		x		20 29 28.8			
ABPO	Ambohimpanom	83.14	247	P		P		20 29 21.8	-1.5		
ABPO	Ambohimpanom	83.14	247	P		P		20 29 21.8	-1.5		
ABPO				pmax		pmax					
	comp=Z,68nm,1.1s										
MAUC	Maruska	83.28	320	*e*P		P		20 29 24.4	+1.0		
MAUC				*e*SKS		S		20 39 49.8	+7.3		
MORC	Moravsky Berou	83.28	321	*e*P		P		20 29 23.9	+0.5		
MORC	Moravsky Berou	83.28	321	P		P		20 29 24.3	+1.0		
MORC	Moravsky Berou	83.28	321	⇑P		P		20 29 24.4	+1.0		
VAY	Valandovo	83.30	312	*i* P		P		20 29 23.6	0.0		
KSP	Ksiaz	83.57	322	*e*P		P		20 29 25.5	+0.8		
KSP				*e*S		SKSac		20 39 48.9	+3.0		
KSP				*e*L		L		21 11 31.9			
	comp=Z,2μm,18.3s										
KSP	Ksiaz	83.57	322	P		P		20 29 25.6	+0.8		
	comp=Z,752nmcomp=Z,81nm,0.9s										
TOAD	Toad River Com	83.57	29	P		P		20 29 24.8	+0.2		
	baz=300										
JAVC	Velka Javorina	83.58	320	*e*P		P		20 29 26.8	+1.8		
KRLC	Kraliky	83.61	321	*e*P		P		20 29 25.8	+0.8		
KRLC	Kraliky	83.61	321	*e*P		P		20 29 25.8	+0.8		
SRO	Srobarova	83.61	319	*e*P		P		20 29 26.6	+1.6		
SRO				pmax		pmax					
	comp=Z,90nm,2.1s										
SRO	Srobarova	83.61	319	*e*P		P		20 29 26.6	+1.6		
HYA	Hoyanger	83.65	334	*e*P		P		20 29 24.7	-0.2		
OSTC	Ostas	83.73	322	AMS		AMS		21 11 00.0			
	comp=Z,1μm,15.2s										
DPC	Dobruska-Polom	83.76	322	*e*P		P		20 29 26.3	+0.5		
DPC				AMS		AMS		21 10 50.0			
	comp=Z,900nm,15.4s										
DPC	Dobruska-Polom	83.76	322	*e*P		P		20 29 26.3	+0.5		
DPC				MLR		MLR					
	comp=Z,900nm,15.4s										
DPC	Dobruska-Polom	83.76	322	P		P		20 29 26.6	+0.8		
	comp=Z,509nmcomp=Z,32nm,0.9s										
IDI	Anoyia	83.78	305	LR		LR		21 12 31.5			
	comp=Z,132nm,19.5s,baz=96,slow=40										
CHVC	Chvalec	83.81	322	*e*P		P		20 29 26.8	+0.7		
CHVC				AMS		AMS		21 11 00.0			
	comp=Z,1μm,15.0s										
CHVC	Chvalec	83.81	322	*e*P		P		20 29 26.8	+0.7		
CHVC				MLR		MLR					
	comp=Z,1μm,15.0s										
SMOL	Smolenice	83.87	320	*e*P		P		20 29 28.0	+1.6		
SMOL				pmax		pmax					
	comp=Z,29nm,1.5s										
UPC	Upice	83.87	322	*e*P		P		20 29 26.9	+0.6		
UPC				AMS		AMS		21 11 00.0			
	comp=Z,2μm,15.3s										
UPC	Upice	83.87	322	*e*P		P		20 29 26.9	+0.6		
UPC				MLR		MLR					
	comp=Z,2μm,15.3s										
MODS	Modra-Piesok	84.02	320	*e*P		P		20 29 29.0	+1.9		
MODS				pmax		pmax					
	comp=Z,110nm,1.6s										
MODS	Modra-Piesok	84.02	320	*e*P		P		20 29 29.0	+1.9		
VRAC	Vranov	84.04	321	*e*P		P		20 29 28.0	+0.8		
VRAC	Vranov	84.04	321	LR		LR		21 07 43.1			
	comp=Z,951nm,18.9s,baz=60,slow=36										
VRAC	Vranov	84.04	321	P		P		20 29 28.7	+1.5		
VRAC	Vranov	84.04	321	⇑P		P		20 29 28.7	+1.5		
MORH	Mrgy, Hungar	84.05	317	P		P		20 29 28.0	+0.7		
HOMB	Homborsund	84.15	331	*e*P		P		20 29 29.9	+2.4		
HOMB	Homborsund	84.15	331	*i* P		P		20 29 29.4	+1.9		
KRUC	Moravsky	84.26	320	*e*P		P		20 29 29.1	+0.8		
RUE	Ruedersdorf	84.26	324	*e*P		P		20 29 29.3	+1.0		
	comp=Z,46nm,0.9s,baz=61,slow=5.0										
SUE	Sulen	84.29	334	*e*P		P		20 29 29.3	+1.1		
FNA	Florina	84.34	311	IAmb		IAmb		20 29 32.0			
	comp=Z,30nm,0.8s										
MPLH	Magyarpolny	84.35	318	P		P		20 29 29.6	+0.7		
	comp=Z,2μmcomp=Z,121nm,1.4s										
BER	Bergen	84.42	334	*e*P		P		20 29 30.4	+1.6		
ASK	Askoy	84.43	334	*e*P		P		20 29 29.5	+0.6		
OHR	Ohrid	84.62	312	*e*P		P		20 29 29.6	-0.8		
PVCC	Panska Ves	84.69	322	*e*P		P		20 29 31.5	+1.0		
PVCC				AMS		AMS		21 11 50.0			
	comp=Z,1μm,16.0s										
PVCC	Panska Ves	84.69	322	*e*P		P		20 29 31.5	+1.0		
PVCC				MLR		MLR					
	comp=Z,1μm,16.0s										
SNART	Snartemo	84.70	331	*i* P		P		20 29 30.9	+0.6		
TREC	Trest	84.70	321	*e*P		P		20 29 31.3	+0.7		
TREC				AMS		AMS		21 12 30.0			
	comp=Z,1μm,15.1s										
TREC	Trest	84.70	321	*e*P		P		20 29 31.3	+0.7		
TREC				MLR		MLR					
	comp=Z,1μm,15.1s										
VOI	Vohitsoka	84.71	244	P		P		20 29 30.3	-0.9		
MUD	Monsted U'grnd	84.75	329	*i* P		P		20 29 31.0	+0.4		
MUD				IAmb		IAmb		20 29 36.4			
	comp=Z,40nm,1.2s										
GOPC	GO Pecny, Ondr	84.84	322	AMS		AMS		21 11 50.0			
	comp=Z,1μm,18.9s										
BRG	Berggiesshubel	84.89	323	*e*P		P		20 29 31.8	+0.3		
	comp=Z,17nm,0.9s,baz=61,slow=5.0										
BRG	Berggiesshubel	84.89	323	*e*P		P		20 29 31.9	+0.4		
BRG				Amp				20 29 32.7			
	comp=Z,6.6nm,1.0s										
BRG	Berggiesshubel	84.89	323	P		P		20 29 37.0	+5.5		
BRG				Amp				20 29 38.0			
	comp=Z,25nm,1.0s										
BRG	Berggiesshubel	84.89	323	SKS		S		20 39 56.0	-2.6		
BRG	Berggiesshubel	84.89	323	SS		SS		20 45 33.0	+2.5		
RONA	Rosalia, Austr	84.90	319	*i* P		P		20 29 32.7	+1.1		
	comp=Z,21nm,1.1s,SNR=5.3										
KULLO	Kullorsuaq	84.91	360	*i* P		P		20 29 33.1	+2.0		
KULLO				IAmb		IAmb		20 29 34.5			
	comp=Z,40nm,1.0s										
PRU	Pruhonice	84.95	322	*e*P		P		20 29 32.6	+0.8		
PRU				*e*SKS		SKSac		20 39 51.1	-3.7		
PRU				AMS		AMS		21 11 40.0			
	comp=Z,1μm,15.8s										
PRU	Pruhonice	84.95	322	*e*P		P		20 29 32.6	+0.8		
PRU				*e*				20 39 51.1			
PRU				MLR		MLR					
	comp=Z,1μm,15.8s										
RICC	Richard	84.95	322	AMS		AMS		21 12 30.0			
	comp=Z,2μm,16.0s										
PRA	Prague	84.97	322	*e*P		P		20 29 37.3	+5.4		
PRA				AMS		AMS		21 12 40.0			
	comp=Z,1μm,14.8s										
PRA	Prague	84.97	322	*e*P		P		20 29 37.3	+5.4		
PRA				MLR		MLR					
	comp=Z,1μm,14.8s										
CONA	Conrad Observa	85.06	320	*i* P		P		20 29 33.8	+1.3		
	comp=Z,48nm,1.2s,SNR=20										
PDG	Podgorica	85.16	314	IAmb		IAmb		20 29 43.2			
	comp=Z,41nm,0.9s										
PDG				IAMs_20		IAMs_20		21 11 59.6			
	comp=Z,567nm,19.0s										
PDG	Podgorica	85.16	314	⇓P		P		20 29 33.5	+0.5		
CLL	Collm	85.23	323	IAmb		IAmb		20 29 42.1			
	comp=Z,30nm,0.9s										
CLL	Collm	85.23	323	*i* P		P		20 29 33.0	-0.1		
CLL				*i*				20 29 36.8			
CLL				*e*S		S		20 40 02.0	+0.2		
CLL				pmax		pmax					
	comp=Z,14nm,1.0s										
CLL	Collm	85.23	323	P		P		20 29 33.5	+0.4		
	comp=Z,37nm,1.0s										
CLL	Collm	85.23	323	*i* P		P		20 29 33.0	-0.1		
	comp=Z,14nm,1.0s										
CLL				*i* pP		PcP		20 29 36.8	+0.5		
	comp=Z,63nm,1.6s										
CLL				*i* x		x		20 29 40.9			
	comp=Z,36nm,1.0s										
CLL				*e*PP		PP		20 32 42.0	-8.4		
CLL				*e*PPPP				20 36 11.0			
CLL				*e*SKSac		SKSac		20 39 55.0	-1.5		
CLL				*e*S		S		20 40 02.0	+0.2		
CLL				*e*SP		SPn		20 40 56.0	+0.6		
CLL				*e*SS		SS		20 45 35.0	-0.3		
CLL				*ex*		x		20 50 12.0			
CLL				*e*SSSS				20 52 00.0			

CLL	Collm	85.23	323	*e*P		P		20 29 34.0	+0.8		
	comp=Z,24nm,0.8s,baz=61,slow=5.0										
ZVC	Zvikov	85.39	321	*e*P		P		20 29 35.2	+1.1		
ZVC				AMS		AMS		21 13 10.0			
	comp=Z,1μm,14.6s										
BSEG	Bad Segeberg	85.42	327	*e*P		P		20 29 34.1	+0.1		
	comp=Z,17nm,0.9s,baz=61,slow=5.0										
KMBO	Kilima Mbogo	85.43	267	*i* P		P		20 29 33.7	-1.5		
ARSA	Arzberg	85.56	319	IAmb		IAmb		20 29 40.8			
	comp=Z,82nm,1.8s										
ARSA	Arzberg	85.56	319	*e*P		P		20 29 35.7	+0.7		
	comp=Z,22nm,1.1s,SNR=7.9										
BLY	Banja Luka	85.59	316	⇑P		P		20 29 36.3	+1.2		
CKRC	Cesky Krumlov	85.60	321	*e*P		P		20 29 36.3	+1.2		
CKRC				*e*SKS		SKSac		20 39 56.6	-2.4		
CKRC				AMS		AMS		21 13 10.0			
	comp=Z,1μm,15.5s										
CKRC	Cesky Krumlov	85.60	321	*e*P		P		20 29 36.3	+1.2		
CKRC				*e*				20 39 56.6			
CKRC				MLR		MLR					
	comp=Z,1μm,15.5s										
FLTG	Flechtingen	85.71	325	*e*P		P		20 29 36.0	+0.5		
	comp=Z,12nm,0.8s,baz=61,slow=5.0										
YKAW3	Yellowknife Wh	85.82	23	IAmb		IAmb		20 29 40.4			
	comp=Z,28nm,0.9s										
YKA	Yellowknife Ar	85.86	23	P		P		20 29 35.2	-0.9		
YKA	Yellowknife Ar	85.86	23	P		P		20 29 36.9	+0.8		
	comp=Z,13nm,0.8s,baz=317,slow=5.3,SNR=19										
YKA				LR		LR		21 11 02.1			
	comp=Z,219nm,19.5s,baz=305,slow=38										
	comp=Z,13nm,0.8s										
KEK	Kerkira	85.87	311	IAmb		IAmb		20 29 42.2			
	comp=Z,44nm,0.9s										
KHC	Kasperske Hory	85.89	321	*e*P		P		20 29 36.9	+0.3		
KHC				*e*pP		pP		20 29 42.6	-2.1		
KHC				*e*SKS		SKSac		20 39 53.2	-7.7		
KHC				AMS		AMS		21 13 30.0			
	comp=Z,1μm,16.3s										
KHC	Kasperske Hory	85.89	321	*i* P		P		20 29 37.5	+0.9		
KHC				pmax		pmax					
	comp=Z,11nm,1.1s										
KHC	Kasperske Hory	85.89	321	P		P		20 29 37.1	+0.5		
	comp=Z,13nm,1.2s										
YKAW1	Yellowknife Wh	85.91	23	IAmb		IAmb		20 29 41.0			
	comp=Z,28nm,1.0s										
GEC2	GERESS Array S	85.95	321	*e*P		P		20 29 37.9	+0.9		
	comp=Z,9.9nm,0.9s,baz=61,slow=5.0										
GERES	GERESS Array B	85.95	321	P		P		20 29 36.1	-0.9		
GERES	GERESS Array B	85.95	321	P		P		20 29 37.8	+0.9		
	comp=Z,4.4nm,0.8s,baz=66,slow=4.5,SNR=23										
GERES				LR		LR		21 09 30.9			
	comp=Z,1μm,20.2s,baz=60,slow=37										
	comp=Z,4.4nm,0.8s										
SUMG	Summit	85.99	354	IAmb		IAmb		20 29 42.5			
	comp=Z,44nm,1.1s										
SUMG	Summit	85.99	354	*i* P		P		20 29 38.3	+1.2		
SUMG				IAmb		IAmb		20 29 42.2			
	comp=Z,61nm,1.3s										
MOA	Molln	86.06	320	*e*P		P		20 29 38.1	+0.6		
	comp=Z,35nm,1.4s										
ASSE	Asse, Remlinge	86.11	325	*e*P		P		20 29 37.9	+0.4		
	comp=Z,23nm,1.3s,baz=61,slow=5.0										
SOKA	Soboth	86.12	319	*i* P		P		20 29 38.6	+0.8		
	comp=Z,2.0nm,0.8s										
MOX	Moxa	86.31	323	*e*P		P		20 29 39.6	+1.0		
	comp=Z,7.8nm,1.0s,baz=61,slow=5.0				

comp=Z,2.5nm,0.6s,baz=47,slow=2.5,SNR=9.1
EKA PP **PP** **20 33 37.2 +0.1**
comp=Z,1.2nm,0.8s,baz=38,slow=12,SNR=4.1
comp=Z,2.5nm,0.6s
MBAR Mbarara 91.34 270 IAMs_20 IAMs_20 21 09 16.4
comp=Z,513nm,19.0s
SFJD Kangerlussuaq 92.36 357 IAMs_20 IAMs_20 21 13 32.0
comp=Z,727nm,21.0s
ANGG Ammassalik, Gr 92.52 352 IAMs_20 IAMs_20 21 10 46.3
comp=Z,821nm,21.0s
VSL Villasalto 93.15 314 IAMs_20 IAMs_20 21 15 46.1
comp=Z,399nm,19.0s
NEW Newport 93.42 35 LR LR 21 12 46.3
comp=Z,125nm,20.9s,baz=331,slow=36
YBH Yreka Blue Hor 93.81 43 P **P** **20 30 15.7 +1.5**
comp=Z,0.3nm,0.9s,baz=83,slow=0.9,SNR=4.2
YBH LR LR 21 06 43.9
comp=Z,6.6nm,21.0s,baz=292,slow=32
J05D Fort Rock, OR 93.89 41 P **P** **20 30 13.6 -0.9**
PPT Papeete 94.69 107 LR LR 21 03 42.4
comp=Z,186nm,21.0s,baz=312,slow=30
PPT2 Papeete2 94.70 107 *e*S **S** **20 41 28.8 -2.0**
comp=Z,252nm,25.8s
PPT2 *e*SS **SS** **20 47 56.5 +1.3**
comp=Z,764nm,27.0s
PPT2 *e*LQ LQ 20 56 49.7
comp=Z,521nm,25.2s
PPT2 *e*LR LR 21 00 43.4
comp=Z,751nm,34.5s
PPT2 *e*LR LR 21 00 51.2
comp=Z,969nm,25.8s
KEST Kesra 95.05 311 P **P** **20 30 21.4 +1.4**
comp=Z,3.8nm,0.9s,baz=358,slow=4.7,SNR=4.7
KEST LR LR 21 20 46.6
comp=Z,356nm,19.6s,baz=9.2,slow=40
comp=Z,3.8nm,0.9s
FRB Frobisher Bay 95.40 5 LR LR 21 17 31.9
comp=Z,515nm,18.6s,baz=346,slow=38
FFC Flin Flon 95.99 24 IAMs_20 IAMs_20 21 17 13.4
comp=Z,430nm,21.0s
MSO Missoula 96.00 35 IAMs_20 IAMs_20 21 18 09.8
comp=Z,428nm,19.0s
TBI Tubuai 96.75 112 *e*S **S** **20 41 42.3 -5.9**
comp=Z,720nm,28.2s
TBI *e*SS SS 20 48 02.4 -22
comp=Z,2µm,37.0s
TBI Tubuai 96.75 112 *e*LR LR 21 01 37.8
comp=Z,5µm,31.0s
TBI *e*LR LR 21 01 41.1
comp=Z,1µm,32.0s
WELL Weller Preserv 96.87 45 IAMs_20 IAMs_20 21 04 12.5
comp=Z,394nm,22.0s
EGMT Eagleton 97.39 32 IAMs_20 IAMs_20 21 15 34.1
comp=Z,465nm,22.0s
DLMT Dillon 97.65 35 IAMs_20 IAMs_20 21 16 19.6
comp=Z,396nm,20.0s
BOZ Bozeman (W) 98.02 35 IAMs_20 IAMs_20 21 16 57.2
comp=Z,482nm,22.0s
MAW Mawson 98.09 199 P **P** **20 30 32.5 -0.1**
comp=Z,0.9nm,0.4s,baz=333,slow=9.2,SNR=3.5
MAW LR LR 21 13 15.3
comp=Z,291nm,18.7s,baz=57,slow=34
comp=Z,0.9nm,0.4s
NVAR Mina Array Bea 98.45 44 P Pdif 20 30 37.2 +1.7
comp=Z,1.3nm,0.8s,baz=271,slow=4.9,SNR=8.1
NVAR LR LR 21 11 55.2
comp=Z,143nm,18.8s,baz=280,slow=33
comp=Z,1.3nm,0.8s
LSZ Lusaka 98.71 257 P **P** **20 30 35.0 -1.8**
LSZ lAmb lAmb 20 30 43.4
comp=Z,15nm,0.9s
LSZ Lusaka 98.71 257 LR LR 21 11 56.6
comp=Z,534nm,19.6s,baz=66,slow=33
LSZ Lusaka 98.71 257 P **P** **20 30 35.0 -1.8**
LSZ pmax pmax
comp=Z,15nm,1.0s
RLMT Red Lodge 99.59 34 IAMs_20 IAMs_20 21 16 37.5
comp=Z,450nm,20.0s
DGMT Dagmar 99.72 29 IAMs_20 IAMs_20 21 19 28.6
comp=Z,540nm,19.0s
SNOW Snow King Moun 99.89 36 IAMs_20 IAMs_20 21 20 38.8
comp=Z,424nm,21.0s
LAO LASA Array 100.05 31 IAMs_20 IAMs_20 21 23 12.4
comp=Z,428nm,18.0s
TAOE Nuku Hiva Isla 100.43 96 *e*LR LR 21 03 13.9
comp=Z,583nm,23.8s
VNDA Vanda 100.80 172 P **Pdif** **20 30 44.3 -0.3**
comp=Z,2.0nm,1.2s,baz=279,slow=2.0,SNR=3.5
VNDA PP **PP** **20 34 52.6 0.0**
comp=Z,3.6nm,1.2s,baz=334,slow=9.9,SNR=4.4
CART Cartagena 100.99 317 IAMs_20 IAMs_20 21 21 59.3
comp=Z,508nm,19.0s
BW06 Boulder Array 101.01 36 IAMs_20 IAMs_20 21 18 54.3
comp=Z,353nm,21.0s
PDAR Pinedale Array 101.01 36 P **Pdif** **20 30 46.8 +0.1**
comp=Z,0.1nm,0.3s,baz=39,slow=5.7,SNR=1.7
PDAR PP **PP** **20 34 55.0 +0.6**
comp=Z,0.8nm,1.0s,baz=285,slow=5.8,SNR=4.2
ESDC Sonseca Array 101.53 320 P **Pdif** **20 30 49.5 +0.6**
comp=Z,0.4nm,0.5s,baz=267,slow=23,SNR=2.9
ESDC PP **PP** **20 34 54.6 -3.7**
comp=Z,1.4nm,1.0s,baz=49,slow=7.4,SNR=4.5
MDND Maddock 102.22 27 IAMs_20 IAMs_20 21 26 49.5
comp=Z,511nm,19.0s
E28A Huff 102.72 29 IAMs_20 IAMs_20 21 19 12.9
comp=Z,634nm,21.0s
RSSD Black Hills 102.96 32 IAMs_20 IAMs_20 21 26 26.6
comp=Z,400nm,18.0s
AGMN Agassiz Nation 103.40 25 IAMs_20 IAMs_20 21 25 36.6
comp=Z,558nm,18.0s
TAM Tamanrasset 104.41 301 IAMs_20 IAMs_20 21 24 33.4
comp=Z,414nm,19.0s
WUAZ Wupatki 104.63 43 IAMs_20 IAMs_20 21 09 52.0
comp=Z,426nm,22.0s
SUSD Miller 105.14 29 IAMs_20 IAMs_20 21 21 08.9
comp=Z,348nm,21.0s
ISCO Idaho Springs 105.20 36 IAMs_20 IAMs_20 21 25 39.4
comp=Z,357nm,20.0s
EYMN Ely 105.34 23 IAMs_20 IAMs_20 21 23 35.6
comp=Z,550nm,19.0s
S22A 4UR Ranch, Cre 105.93 38 IAMs_20 IAMs_20 21 25 41.9
comp=Z,403nm,21.0s
K30B Basset 106.19 31 IAMs_20 IAMs_20 21 23 37.9
comp=Z,540nm,19.0s
OGNE Ogallala 106.29 33 IAMs_20 IAMs_20 21 21 22.8
comp=Z,392nm,20.0s
E38A The Farm, Brul 106.45 23 IAMs_20 IAMs_20 21 24 24.0
comp=Z,535nm,21.0s
SYO Syowa Base 106.47 202 ⇑*e*PpPdiff pPdif 20 31 16.0 -1.8
SDCO Great Sand Dun 106.69 38 IAMs_20 IAMs_20 21 27 57.0
comp=Z,534nm,21.0s
ECSD EROS Data Cent 106.74 28 IAMs_20 IAMs_20 21 28 23.3
comp=Z,591nm,20.0s
TUC Tucson 107.02 45 IAMs_20 IAMs_20 21 22 56.7
comp=Z,309nm,19.0s
SPMN Marine on St. 107.13 25 IAMs_20 IAMs_20 21 28 06.1
comp=Z,455nm,18.0s
KSCO Kaye Shedlock' 107.39 35 IAMs_20 IAMs_20 21 28 31.1
comp=Z,389nm,20.0s
T25A Trinidad 107.74 37 IAMs_20 IAMs_20 21 24 08.6
comp=Z,374nm,21.0s
BGNE Belgrade 107.86 31 IAMs_20 IAMs_20 21 23 37.1
comp=Z,392nm,20.0s
I37A Lemond, Waseca 107.89 26 IAMs_20 IAMs_20 21 22 49.3
comp=Z,572nm,22.0s
ANMO Albuquerque 108.05 40 IAMs_20 IAMs_20 21 29 17.2
comp=Z,381nm,19.0s
Y22D IRIS PASSCAL I 108.35 41 P **PKiKP** **20 35 25.2 -0.4**
baz=312
CBKS Cedar Bluff 109.05 33 IAMs_20 IAMs_20 21 26 22.9
comp=Z,560nm,21.0s
I40A Norwalk 109.10 24 IAMs_20 IAMs_20 21 31 19.1
comp=Z,496nm,19.0s
E46A Sault Ste Mari 109.11 19 IAMs_20 IAMs_20 21 28 16.0
comp=Z,482nm,18.0s
H43A Windswept, Lux 109.65 22 IAMs_20 IAMs_20 21 23 15.6
comp=Z,585nm,21.0s
R32A Long Quarter, 109.87 33 IAMs_20 IAMs_20 21 25 15.6
comp=Z,470nm,21.0s
JFWS Jewell Farm 110.07 25 IAMs_20 IAMs_20 21 26 10.9
comp=Z,455nm,20.0s
EPT El Paso 110.14 43 IAMs_20 IAMs_20 21 31 29.0
comp=Z,282nm,18.0s
KSU1 Kansas State U 110.39 31 IAMs_20 IAMs_20 21 31 13.8
comp=Z,482nm,19.0s
GLMI Grayling 110.40 20 IAMs_20 IAMs_20 21 23 47.1
comp=Z,621nm,22.0s
L40A Anamosa 110.40 26 IAMs_20 IAMs_20 21 27 14.7
comp=Z,409nm,21.0s
N38A Joes South For 110.60 28 IAMs_20 IAMs_20 21 28 26.2
comp=Z,399nm,20.0s
AMTX Amarillo 110.89 37 IAMs_20 IAMs_20 21 27 59.2
comp=Z,372nm,21.0s
MNTX Cornudas Mount 110.90 42 IAMs_20 IAMs_20 21 29 20.0
comp=Z,331nm,20.0s
L42A Oliver, Polo 111.07 25 IAMs_20 IAMs_20 21 22 00.3
comp=Z,588nm,22.0s
P38A Dawn 111.42 29 IAMs_20 IAMs_20 21 24 49.0
comp=Z,526nm,21.0s
L44A Lake County Fo 111.59 23 IAMs_20 IAMs_20 21 24 32.0
comp=Z,634nm,22.0s
J47A Sunmer 111.75 21 IAMs_20 IAMs_20 21 33 18.9
comp=Z,438nm,18.0s
I49A Point Hope 111.75 19 IAMs_20 IAMs_20 21 26 14.9
comp=Z,485nm,20.0s
T35A Sooner Cattle 112.14 33 IAMs_20 IAMs_20 21 27 39.7
comp=Z,502nm,20.0s
P40A Paris 112.15 28 IAMs_20 IAMs_20 21 31 22.4
comp=Z,507nm,20.0s
M44A Midewin, Midew 112.22 24 IAMs_20 IAMs_20 21 25 26.8
comp=Z,630nm,22.0s
L46A Eue Claire 112.32 22 IAMs_20 IAMs_20 21 29 10.3
comp=Z,506nm,18.0s
HDIL Hopedale 112.45 25 IAMs_20 IAMs_20 21 27 56.9
comp=Z,510nm,21.0s
WMOK Wichita Mounta 112.61 36 IAMs_20 IAMs_20 21 28 30.5
comp=Z,392nm,20.0s
K50A Casco 112.87 19 IAMs_20 IAMs_20 21 29 55.5
comp=Z,416nm,20.0s
R40A Maddies Statio 113.07 29 IAMs_20 IAMs_20 21 31 59.8
comp=Z,461nm,19.0s
S39A Bolivar 113.08 30 IAMs_20 IAMs_20 21 25 47.0
comp=Z,450nm,21.0s
P43A Skaggs, Pawnee 113.13 26 IAMs_20 IAMs_20 21 29 26.0
comp=Z,510nm,19.0s
LONY Lake Ozonia 113.23 13 IAMs_20 IAMs_20 21 27 20.6
comp=Z,460nm,20.0s
TUL3 Leonard 113.29 33 IAMs_20 IAMs_20 21 28 17.1
comp=Z,447nm,19.0s
SFIN Lafayette 113.45 24 IAMs_20 IAMs_20 21 26 13.4
comp=Z,597nm,21.0s
U38A Gravette 113.57 31 IAMs_20 IAMs_20 21 33 04.4
comp=Z,530nm,20.0s
TXAR Ljitas Jrray 113.59 43 PKiKP **PKiKP** **20 35 35.1 -0.4**
comp=Z,0.3nm,0.6s,baz=281,slow=2.1,SNR=4.1
TXAR PP **PP** **20 36 27.6 +0.8**
comp=Z,2.9nm,1.1s,baz=273,slow=2.1,SNR=7.6
TXAR PKKPbc **PKKPbc** **20 46 17.6 -1.7**
comp=Z,0.3nm,0.7s,baz=134,slow=3.6,SNR=4.0
CCM Cathedral Cave 113.72 28 IAMs_20 IAMs_20 21 32 39.0
comp=Z,466nm,19.0s
VT1 Waterbury 113.87 11 IAMs_20 IAMs_20 21 27 17.6
comp=Z,515nm,20.0s
P46A Rosedale 114.07 24 IAMs_20 IAMs_20 21 27 54.8
comp=Z,476nm,21.0s
ERPA Erie 114.26 18 IAMs_20 IAMs_20 21 26 33.1
comp=Z,273nm,20.0s
O48B Farmland 114.28 22 IAMs_20 IAMs_20 21 25 32.0
comp=Z,413nm,20.0s
EMMW East Machias 114.31 7 IAMs_20 IAMs_20 21 31 25.9
comp=Z,533nm,19.0s
M52A Chesterland 114.38 19 IAMs_20 IAMs_20 21 26 08.5
comp=Z,428nm,20.0s
Z35A Perchaven, San 114.51 36 IAMs_20 IAMs_20 21 30 07.6
comp=Z,462nm,19.0s
O49A Covington 114.63 22 IAMs_20 IAMs_20 21 25 52.2
comp=Z,578nm,21.0s
N51A Ashland 114.63 20 IAMs_20 IAMs_20 21 25 52.1
comp=Z,429nm,22.0s
P48A Milroy 114.88 23 IAMs_20 IAMs_20 21 30 42.0
comp=Z,412nm,19.0s
S44A Carbondale 114.89 27 IAMs_20 IAMs_20 21 30 45.6
comp=Z,527nm,20.0s
ACSO Alum Creek Sta 115.05 21 IAMs_20 IAMs_20 21 27 42.3
comp=Z,384nm,20.0s
JCT Junction City 115.17 39 IAMs_20 IAMs_20 21 34 10.6
comp=Z,396nm,19.0s
N53A Lisbon 115.21 19 IAMs_20 IAMs_20 21 26 01.4
comp=Z,422nm,21.0s
WHTX Lake Whitney, 115.40 37 IAMs_20 IAMs_20 21 30 03.6
comp=Z,359nm,20.0s
L59A Walton 115.45 14 IAMs_20 IAMs_20 21 32 59.4
comp=Z,453nm,19.0s
MIAR Mount Ida 115.48 32 IAMs_20 IAMs_20 21 29 02.9
comp=Z,402nm,20.0s
T45A Paducah 115.71 27 IAMs_20 IAMs_20 21 30 37.6
comp=Z,502nm,20.0s
Z38A Mt. Pleasant 115.77 34 IAMs_20 IAMs_20 21 34 21.9
comp=Z,548nm,20.0s
R49A Shelbyville 116.00 24 IAMs_20 IAMs_20 21 31 07.8
comp=Z,349nm,20.0s
R50A Paris 116.32 23 IAMs_20 IAMs_20 21 30 48.2
comp=Z,515nm,20.0s
MCWV Mont Chateau 116.56 19 IAMs_20 IAMs_20 21 27 01.2
comp=Z,529nm,21.0s
WVT Waverly 116.81 27 IAMs_20 IAMs_20 21 28 26.7
comp=Z,486nm,21.0s
Q54A Coxs Mills 116.88 20 IAMs_20 IAMs_20 21 25 57.6
comp=Z,513nm,22.0s
N62A Caunsett State 117.00 13 IAMs_20 IAMs_20 21 29 57.3
comp=Z,463nm,20.0s
S51A Beattyville 117.16 23 IAMs_20 IAMs_20 21 26 36.3
comp=Z,544nm,22.0s
P57A Homestead Farm 117.26 17 IAMs_20 IAMs_20 21 33 00.4
comp=Z,496nm,19.0s
U49A Red Boiling Sp 117.32 25 IAMs_20 IAMs_20 21 28 49.9
comp=Z,510nm,22.0s
Q56A Snyder Ridge, 117.33 18 IAMs_20 IAMs_20 21 26 39.5
comp=Z,499nm,22.0s
OXF Oxford 117.49 29 IAMs_20 IAMs_20 21 31 28.7
comp=Z,407nm,20.0s
735A Kenedy 117.53 39 IAMs_20 IAMs_20 21 36 44.3
comp=Z,344nm,18.0s
PLAL Pickwick Lake 117.68 28 IAMs_20 IAMs_20 21 28 08.8
comp=Z,499nm,22.0s
S54A Dingess, Beckl 117.80 21 IAMs_20 IAMs_20 21 27 55.1
comp=Z,423nm,21.0s
HKT Hockley 117.86 37 IAMs_20 IAMs_20 21 32 09.1
comp=Z,407nm,20.0s
P61A Hammonton 117.91 15 IAMs_20 IAMs_20 21 31 24.4
comp=Z,514nm,20.0s
Y45A Yeager Farm, C 117.96 29 IAMs_20 IAMs_20 21 32 52.4
comp=Z,501nm,19.0s
TZTN Tazewell 118.15 23 IAMs_20 IAMs_20 21 28 54.5
comp=Z,573nm,22.0s
KVTX Kingsville 118.44 40 IAMs_20 IAMs_20 21 16 15.4
comp=Z,321nm,20.0s
TROLL Troll, Antarti 118.52 198 ⇑P **PKPdf** **20 35 43.5 -0.2**
comp=Z,172nm,0.5s
X48A Hartselle 118.58 27 IAMs_20 IAMs_20 21 31 42.4
comp=Z,492nm,20.0s
W50A Signal Mountai 118.65 25 IAMs_20 IAMs_20 21 29 30.1
comp=Z,490nm,21.0s
U54A Nelsons Funny 118.78 22 IAMs_20 IAMs_20 21 37 09.3
comp=Z,498nm,19.0s
Z47A Carrollton 119.19 29 IAMs_20 IAMs_20 21 34 41.8
comp=Z,491nm,19.0s
Y49A Blount Mountai 119.36 27 IAMs_20 IAMs_20 21 29 52.0
comp=Z,546nm,21.0s
X51A Calhoun 119.39 25 IAMs_20 IAMs_20 21 29 20.6
comp=Z,527nm,22.0s
V55A Taylorsville 119.60 22 IAMs_20 IAMs_20 21 28 53.8
comp=Z,521nm,22.0s
LRAL Lakeview Retre 119.81 28 IAMs_20 IAMs_20 21 33 13.9
comp=Z,435nm,20.0s
346A Big Creek Wild 120.05 31 IAMs_20 IAMs_20 21 32 19.9
comp=Z,370nm,20.0s
SNAA Sanae 120.19 197 ⇑P **PKPdf** **20 35 46.5 -0.4**
comp=Z,26nm,0.5s
SNAA Sanae 120.19 197 IAMs_20 IAMs_20 21 21 13.3
comp=Z,462nm,21.0s
SNAA Sanae 120.19 197 PKP **PKPdf** **20 35 45.8 -1.1**
comp=Z,0.8nm,0.5s,baz=304,slow=3.6,SNR=18
Y52A Lilburn 120.31 25 IAMs_20 IAMs_20 21 34 08.2
comp=Z,486nm,19.0s
250A Grady 121.03 28 IAMs_20 IAMs_20 21 36 53.4
comp=Z,473nm,19.0s
DBIC Dimbokro 121.09 292 PKP **PKPdf** **20 35 49.0 -1.2**
comp=Z,4.0nm,0.8s,baz=284,slow=4.2,SNR=2.0
152A Waverly Hall 121.09 26 IAMs_20 IAMs_20 21 32 20.9
comp=Z,503nm,21.0s
BELA Belgrano 2 121.71 186 **PKPdf** **20 35 49.0 -0.6**
Y58A Scranton 121.89 21 IAMs_20 IAMs_20 21 29 33.5
comp=Z,482nm,20.0s
352A Blakely 122.04 27 IAMs_20 IAMs_20 21 30 16.1
comp=Z,461nm,20.0s
VNA1 Neumayer--Stat 122.22 198 ⇑P **PKiKP** **20 35 51.0 +0.2**
comp=Z,8.1nm,1.0s
VNA3 Neumayer Olymp 122.28 197 ⇑P **PKPdf** **20 35 50.4 -0.5**
comp=Z,5.5nm,0.6s
TEIG Tepich 129.68 38 IAMs_20 IAMs_20 21 41 24.9
comp=Z,359nm,21.0s
MTDJ Mount Denham 136.83 28 IAMs_20 IAMs_20 21 45 49.8
comp=Z,347nm,20.0s
SOCE Pocosol 139.52 43 **PKPdf** **20 36 22.3 -2.8**
HDC Heredia 140.13 42 IAMs_20 IAMs_20 21 44 10.5
comp=Z,322nm,20.0s
SJG San Juan 140.59 12 IAMs_20 IAMs_20 21 44 40.0
comp=Z,300nm,19.0s
SDV Santo Domingo 148.07 24 **PKPdf** **20 36 36.8 -3.4**
SDV IAMs_20 IAMs_20 21 46 43.4
comp=Z,371nm,22.0s
BAUV El Baul 148.92 19 **PKPbc** **20 36 43.9 -1.4**
ROSC El Rosal 149.98 34 PKPbc **PKPbc** **20 36 47.6 -0.9**
comp=Z,12nm,0.6s,baz=63,slow=5.7,SNR=9.9
OTAV Otavalo 151.15 46 PKPdf **PKPdf** **20 36 41.2 -4.3**
OTAV **PKPdf** **20 36 47.3 +1.8**
OTAV Otavalo 151.15 46 IAMs_20 IAMs_20 21 35 44.0
comp=Z,240nm,20.0s
OTAV Otavalo 151.15 46 PKIKP **PKPdf** **20 36 47.3 +1.8**
OTAV MLR MLR
comp=Z,200nm,20.0s
OTAV Otavalo 151.15 46 *e*P **PKPdf** **20 36 46.0 +0.5**
FLOC Florencia 151.91 40 PKPdf **PKPdf** **20 36 42.1 -4.1**
FLOC **PKPbc** **20 36 49.6 -3.0**
COYC Coyhaique 152.67 158 **PKPbc** **20 36 51.1 -2.1**
PLCA Paso Flores 157.40 155 PKP **PKPdf** **20 36 50.1 -2.8**
comp=Z,1.4nm,0.7s,baz=309,slow=19,SNR=3.3
PLCA PKPab **PKPab** **20 37 23.4 -1.0**
comp=Z,10nm,1.1s,baz=243,slow=4.4,SNR=5.8
TRQA Tornquist 162.41 170 PKPdf **PKPdf** **20 36 56.8 -1.8**
TRQA **PKPab** **20 37 44.8 -1.2**
TRQA Tornquist 162.41 170 PKP2 **PKPab** **20 37 44.8 -1.2**
TRQA 21 36 56.8
SMTB Santa Maria do 164.47 318 *e*P **PKPdf** **20 37 02.4 +1.1**
BSCB Bom Sucesso 167.58 266 *e*P **PKPdf** **20 37 03.5 -0.1**
BDFB Brasilia 169.20 296 PKP **PKPdf** **20 37 04.3 -0.5**
comp=Z,3.6nm,0.8s,baz=67,slow=8.2,SNR=3.8
LPAZ La Paz 169.47 67 PKP **PKPdf** **20 37 06.0 +0.4**
comp=Z,1.6nm,0.8s,baz=207,slow=2.3,SNR=6.1
LPAZ La Paz 169.47 67 PKIKP **PKPdf** **20 37 06.0 +0.4**
CLDB Colider 169.96 347 *e*P **PKPdf** **20 37 05.9 +0.6**
CPUP Villa Florida 174.39 187 PKP **PKPdf** **20 37 06.8 0.0**
comp=Z,0.9nm,1.0s,baz=207,slow=2.3,SNR=3.3
CPUP PKPab **PKPab** **20 38 36.4 -2.7**
comp=Z,3.9nm,1.1s,baz=208,slow=1.6,SNR=6.3
PTLB Pontes e Lacer 174.64 11 *e*P **PKPdf** **20 37 08.6 +1.4**
BBSD Serra de San D 175.72 35 *e*P **PKPdf** **20 37 08.3 +0.8**

NEIC ***26*** *20:27:50.3±1.3, 61.40N±0.03×150.08W±0.05, h45km±4km, Error ellipse: s-maj=4.0km s-min=3.3km az=176.0*
AEIC 26 20:27:51.0±1.4, 61.391N±0.006×150.09W±0.05, h42km±7km, ML2.7, ML2.9/130(NEIC), **Error ellipse: s-maj=3.5km s-min=0.9km az=91.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FIS	**Fire Island**	**0.26**	**194**		Pn	20 27 59.0	+0.1
FIS				Sn	Sn	20 28 06.1	+1.6
FIS				IAML		20 28 07.2	
	comp=N,1µm,0.7s						
SUA	**Susitna One**	**0.32**	**283**		Pn	20 27 58.8	-1.0
SUA				Sn	Sn	20 28 05.7	-0.3
SUA				IAML		20 28 06.8	
	comp=N,640nm,0.8s						
RC01	**Rabbit Creek A**	**0.35**	**150**		Pn	20 27 58.9	-1.0
RC01				Sn	Sn	20 28 05.8	-0.4
RC01				IAML		20 28 06.3	
	comp=N,957nm,0.3s						
RC01				IAML		20 28 11.1	
	comp=E,645nm,0.2s						
M22K	**Willow**	**0.36**	**358**		Pn	20 27 58.8	-1.3
M22K				Sn	Sn	20 28 05.8	-0.6
M22K				IAML		20 28 06.6	
	comp=E,1µm,0.6s						
M22K				IAML		20 28 06.6	
	comp=N,951nm,0.6s						
PMR	**Palmer**	**0.50**	**66**		Pn	20 28 00.5	-1.3
PMR				Sn	Sn	20 28 08.6	-0.9
PMR				IAML		20 28 09.4	
	comp=E,658nm,0.3s						
PMR				IAML		20 28 09.6	
	comp=N,810nm,0.2s						
GHO	**Glory Hole Cre**	**0.68**	**55**		Pn	20 28 03.0	-1.2
GHO				Sn	Sn	20 28 12.9	-0.8
KNK	**Knik Glacier**	**0.79**	**88**		Pn	20 28 04.7	-1.0
KNK				Sn	Sn	20 28 16.4	+0.2
KNK				IAML		20 28 19.3	
	comp=N,357nm,0.5s						
KNK				IAML		20 28 19.3	
	comp=E,382nm,0.3s						
CAPN	**Captain Cook N**	**0.81**	**220**	Pn	Pn	20 28 06.3	+0.4
CAPN				IAML		20 28 21.1	
	comp=N,541nm,0.9s						
STLK	**Strandline Lak**	**0.84**	**278**	Pn	Pn	20 28 05.7	-0.8
STLK				Sn	Sn	20 28 17.2	-0.5
STLK				IAML		20 28 18.0	
	comp=E,348nm,0.3s						
SLKM	**Skilak Lake**	**0.89**	**184**		Pn	20 28 05.5	-1.5
SLKM				IAML		20 28 20.6	
	comp=N,281nm,0.3s						
SLKM				IAML		20 28 21.0	
	comp=E,456nm,0.3s						
SKT	**Skwentna**	**0.91**	**311**		Pn	20 28 06.0	-1.3
SKT				Sn	Sn	20 28 18.5	-0.7
SKT				IAML		20 28 19.4	
	comp=E,426nm,0.6s						
SPCG	**Spurr Capps Gl**	**0.94**	**265**		Pn	20 28 07.0	-0.7
SPU	**Mount Spurr**	**0.97**	**258**		Pn	20 28 07.0	-1.1
SPU				Sn	Sn	20 28 19.9	-0.9
SPU				IAML		20 28 21.0	
	comp=N,244nm,0.3s						
PWL	**Port Wells**	**1.01**	**121**		Pn	20 28 07.8	-0.8
PWL				Sn	Sn	20 28 22.0	+0.4
CUT	**Chulitna**	**1.02**	**355**		Pn	20 28 07.8	-1.0
CUT				Sn	Sn	20 28 21.0	-0.9
CUT				IAML		20 28 24.0	
	comp=E,302nm,0.3s						
CUT				IAML		20 28 25.5	
	comp=N,198nm,0.5s						
M23K	**Glacier View**	**1.20**	**69**		Pn	20 28 10.9	-0.3
SEW	**Seward**	**1.33**	**166**		Pn	20 28 12.7	-0.3
SEW				IAML		20 28 33.9	
	comp=N,105nm,0.4s						
SEW				IAML		20 28 37.1	
	comp=E,114nm,0.3s						
SCM	**Sheep Creek Mo**	**1.39**	**70**		Pn	20 28 13.6	-0.4
SCM				Sn	Sn	20 28 31.9	+0.7
DFR	**Drift River**	**1.50**	**239**		Pn	20 28 14.7	-0.7
M20K	**Styx River**	**1.53**	**290**	Pn	Pn	20 28 16.0	+0.1
M20K				Sn	Sn	20 28 36.0	+1.3
M20K				IAML		20 28 37.9	
	comp=E,79nm,0.6s						
M20K				IAML		20 28 38.6	
	comp=N,102nm,0.8s						
GLI	**Glacier Island**	**1.54**	**108**		Pn	20 28 14.9	-1.1
GLI				Sn	Sn	20 28 34.5	-0.2
GLI				IAML		20 28 38.6	
	comp=N,209nm,0.5s						
RDJH	**Redoubt Jeurge**	**1.55**	**240**		Pn	20 28 15.7	-0.4
RDSO	**Redoubt South**	**1.60**	**235**		Pn	20 28 16.2	-0.7
RED	**Redoubt Volcan**	**1.63**	**235**		Pn	20 28 16.5	-0.7
RED				Sn	Sn	20 28 37.2	+0.2
RED				IAML		20 28 40.2	
	comp=N,134nm,0.6s						
RED				IAML		20 28 40.6	
	comp=E,104nm,0.4s						
BRLK	**Bradley Lake**	**1.68**	**194**		Pn	20 28 16.7	-1.2
BRLK				Sn	Sn	20 28 37.9	-0.3
BRLK				IAML		20 28 43.5	
	comp=E,102nm,0.3s						
BRLK				IAML		20 28 44.7	
	comp=N,115nm,0.5s						
FID	**Port Fidalgo**	**1.87**	**109**		Pn	20 28 19.1	-1.3
FID				IAML		20 28 49.9	
	comp=N,110nm,0.4s						
FID				IAML		20 28 50.3	
	comp=E,106nm,0.4s						
HOM	**Homer**	**1.90**	**204**		Sn	20 28 41.9	-1.6
P23K	**Montague Islan**	**1.92**	**135**	Pn	Pn	20 28 19.5	-1.6

P23K				IAML			20 28 53.5	
	comp=E,130nm,0.4s							
CNPM	**China Poot**	**1.96**	**197**		Pn	Pn	20 28 20.8	-0.8
CNPM	**China Poot**	**1.96**	**197**	IAML			20 28 51.0	
	comp=E,124nm,0.6s							
IVE	**Iliamna Volcan**	**1.99**	**227**		Pn	Pn	20 28 22.6	+0.5
M24K	**Tolsona, Glenn**	**2.00**	**67**		Pn	Pn	20 28 22.9	+0.7
M24K				IAML			20 28 52.2	
	comp=N,130nm,0.5s							
KLU	**Klutina**	**2.01**	**85**		Pn	Pn	20 28 21.7	-0.7
KLU				IAML			20 28 53.7	
	comp=E,60nm,0.3s							
KLU				IAML			20 28 55.3	
	comp=N,91nm,0.4s							
HIN	**Hinchinbrook I**	**2.02**	**118**		Pn	Pn	20 28 22.3	-0.2
HIN				IAML			20 28 58.8	
	comp=E,117nm,0.8s							
ILSW	**Iliamna Southw**	**2.06**	**228**	Pn	Pn	Pn	20 28 23.6	+0.5
ILSW				IAML			20 28 54.2	
	comp=E,55nm,0.7s							
TRF	**Thorofare Moun**	**2.07**	**358**	Pn	Pn	Pn	20 28 22.5	-0.8
TRF				IAML			20 29 04.0	
	comp=N,50nm,1.2s							
DIV	**Divide**	**2.10**	**95**		Pn	Pn	20 28 23.2	-0.5
DIV				IAML			20 28 55.9	
	comp=N,97nm,0.4s							
DIV				IAML			20 28 57.9	
	comp=E,64nm,0.4s							
M19K	**Big River Lodg**	**2.12**	**286**	Pn	Pn	Pn	20 28 22.7	-1.1
KTH	**Kantishna Hill**	**2.21**	**350**	Pn	Pn	Pn	20 28 25.9	+0.8
KTH				IAML			20 28 56.6	
	comp=N,40nm,0.9s							
N19K	**Bonanza Creek**	**2.21**	**257**	Pn	Pn	Pn	20 28 25.0	-0.2
CAST	**Castle Rocks**	**2.24**	**336**	Pn	Pn	Pn	20 28 25.5	0.0
CAST				IAML			20 28 56.4	
	comp=E,26nm,0.5s							
CAST				IAML			20 29 13.3	
	comp=N,19nm,0.8s							
EYAK	**Cordova Ski Ar**	**2.28**	**110**		Pn	Pn	20 28 27.4	+1.4
P19K	**Oil Pt**	**2.33**	**223**	Pn	Pn	Pn	20 28 28.6	+1.8
P19K				IAML			20 29 00.1	
	comp=E,90nm,0.6s							
P19K				IAML			20 29 00.9	
	comp=N,89nm,0.8s							
L19K	**White Mountain**	**2.40**	**291**	Pn	Pn	Pn	20 28 27.5	-0.2
N25K	**Chitina, Valde**	**2.64**	**83**			Pn	20 28 31.6	+0.5
N25K				IAML			20 29 12.9	
	comp=N,50nm,0.6s							
PAX	**Paxson**	**2.69**	**52**	Pn	Pn	Pn	20 28 31.8	+0.1
PAX				IAML			20 29 10.9	
	comp=N,40nm,0.8s							
BMRM	**Bremner River**	**2.69**	**97**			Pn	20 28 31.9	+0.1
BMRM				IAML			20 29 14.8	
	comp=E,46nm,0.7s							
BMRM				IAML			20 29 17.1	
	comp=N,42nm,0.8s							
Q23K	**Middleton Isla**	**2.71**	**135**	Pn	Pn	Pn	20 28 31.9	0.0
K20K	**Telida**	**2.71**	**319**	Pn	Pn	Pn	20 28 31.5	-0.4
BPAW	**Bear Paw Mtn.**	**2.75**	**352**	Pn	Pn	Pn	20 28 32.5	-0.1
M18K	**Stony River**	**2.75**	**275**			Pn	20 28 32.3	-0.2
RAGM	**Ragged Mountai**	**2.83**	**108**			Pn	20 28 33.0	-0.7
N18K	**Kilae Creek**	**2.91**	**258**	Pn	Pn	Pn	20 28 34.2	-0.5
SYI	**Shuyak Island**	**3.02**	**203**	Pn	Pn	Pn	20 28 36.6	+0.5
SYI				IAML			20 29 19.5	
	comp=N,20nm,0.9s							
SYI				IAML			20 29 20.8	
	comp=E,35nm,1.1s							
HMT	**Hamilton**	**3.04**	**108**			Pn	20 28 34.2	-2.4
Q19K	**Cape Douglas,**	**3.04**	**217**	Pn	Pn	Pn	20 28 36.7	+0.2
L18K	**Granite Mounta**	**3.24**	**288**	Pn	Pn	Pn	20 28 38.8	-0.4
P18K	**Big Mountain,**	**3.24**	**234**	Pn	Pn	Pn	20 28 38.8	-0.5
J20K	**Nowinta River**	**3.36**	**328**	Pn	Pn	Pn	20 28 40.9	0.0
J20K				IAML			20 29 20.9	
	comp=E,20nm,0.5s							
J20K				IAML			20 29 20.9	
	comp=N,21nm,0.5s							
CCB	**Clear Creek Bu**	**3.43**	**17**	Pn	Pn	Pn	20 28 41.2	-0.6
M17K	**Holitna River**	**3.53**	**273**	Pn	Pn	Pn	20 28 43.1	-0.1
M17K				IAML			20 29 54.7	
	comp=N,25nm,1.1s							
N17K	**Nushagak Hills**	**3.57**	**259**	Pn	Pn	Pn	20 28 43.0	-0.7
N17K				IAML			20 29 25.5	
	comp=E,16nm,0.5s							
J19K	**Poorman**	**3.65**	**318**	Pn	Pn	Pn	20 28 44.4	-0.5
J19K				IAML			20 29 44.3	
	comp=E,14nm,1.9s							
J19K				IAML			20 29 46.1	
	comp=N,13nm,0.6s							
MLY	**Manley**	**3.67**	**356**	Pn	Pn	Pn	20 28 44.7	-0.4
IL31		**3.69**	**22**	Pn	Pn	Pn	20 28 46.8	+1.4
J18K	**Innoko River**	**3.72**	**307**	Pn	Pn	Pn	20 28 45.6	-0.2
J18K				IAML			20 29 28.1	
	comp=N,11nm,0.8s							
I23K	**Minto, Yukon-K**	**3.79**	**5**	Pn	Pn	Pn	20 28 47.5	+0.8
I23K				IAML			20 29 26.2	
	comp=N,14nm,2.1s							
I23K				IAML			20 29 55.2	
	comp=E,12nm,1.6s							
K17K	**Iditarod**	**4.09**	**293**	Pn	Pn	Pn	20 28 50.1	-0.7
K17K				IAML			20 30 09.0	
	comp=N,19nm,2.1s							
K17K				IAML			20 30 19.4	
	comp=E,16nm,2.2s							
M16K	**Timber Creek**	**4.30**	**269**	Pn	Pn	Pn	20 28 53.6	-0.3
M16K				IAML			20 29 27.8	
	comp=N,12nm,2.5s							
M16K				IAML			20 30 33.8	
	comp=E,15nm,2.1s							
O16K	**Kokwok River B**	**4.35**	**249**	Pn	Pn	Pn	20 28 53.8	-0.6
O16K				IAML			20 29 33.0	
	comp=N,9.4nm,2.0s							
O16K				IAML			20 30 18.1	
	comp=E,11nm,2.1s							
P16K	**Nushagak River**	**4.59**	**242**	Pn	Pn	Pn	20 28 57.9	+0.1
J17K	**VABM Dome**	**4.64**	**300**	Pn	Pn	Pn	20 28 57.8	-0.6
J17K				IAML			20 30 00.2	
	comp=N,11nm,2.2s							
J17K				IAML			20 30 33.3	
	comp=E,12nm,3.5s							
N15K	**Kwethluk River**	**5.05**	**260**	Pn	Pn	Pn	20 29 04.5	+0.4
J16K	**Anvik River**	**5.25**	**296**	Pn	Pn	Pn	20 29 06.4	-0.4
O15K	**Ungalikthiuk R**	**5.33**	**250**	Pn	Pn	Pn	20 29 08.0	+0.2
I17K	**Unalakleet**	**5.49**	**302**	Pn	Pn	Pn	20 29 10.4	+0.3
K15K	**Wolf Creek Mou**	**5.49**	**284**	Pn	Pn	Pn	20 29 10.0	-0.1

*IDC **26** 20:28:40.6±1.3,9.67N×92.53E,h0km,mb3.6/4, mbtmp3.5/6,ML3.3/1,Error ellipse: s-maj=39.8km s-min=22.8km az=57.0*

ISC 26 20:28:45.3±1.1,9.7N±0.2×92.5E±0.1,h35km,n9,σ0§62/6, mb3.6/4,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.72**	**35**	Pn	**Pn**	**20 31 15.8**	**-0.6**
	0.3nm,0.6s,baz=220,slow=13,SNR=1.2						
PALK	**Pallekele**	**11.91**	**259**	Pn	**Pn**	**20 31 32.4**	**-0.3**
	0.2nm,0.3s,baz=84,slow=9.2,SNR=1.3						
	3.7nm,0.7s						
H08S3	**Diego Garcia H**	**26.33**	**230**	T	T	21 01 53.2	
	baz=49,slow=76						
H08S2	**Diego Garcia H**	**26.34**	**230**	T	T	21 01 58.9	
	baz=49,slow=76						
H08S1	**Diego Garcia H**	**26.35**	**230**	T	T	21 01 40.1	
	baz=49,slow=76						
MKAR	**Makanchi Array**	**37.98**	**349**	P	**P**	**20 36 00.4**	**+0.6**
	0.5nm,0.7s,baz=162,slow=8.3,SNR=3.8						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**42.40**	**347**	P	**P**	**20 36 36.8**	**+0.5**
	0.4nm,0.6s,baz=165,slow=7.6,SNR=2.2						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**50.64**	**126**	P	**P**	**20 37 41.7**	**+0.3**
	0.5nm,0.5s,baz=307,slow=8.6,SNR=22						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**52.33**	**130**	P	**P**	**20 37 54.0**	**0.0**
	0.6nm,0.6s,baz=303,slow=7.1,SNR=13						
	0.6nm,0.6s						

IDC 26 20:31:14.4±1.6,20.42N×121.92E,h0km,mb3.6/4, mbtmp3.6/5,ML3.2/1,Error ellipse: s-maj=72.0km s-min=26.7km az=68.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**17.76**	**16**	P	Pn	20 35 23.0	0.0
	0.1nm,0.3s,baz=203,slow=12,SNR=3.1						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**41.56**	**319**	P	P	20 39 04.4	+0.6
	0.6nm,0.6s,baz=108,slow=9.0,SNR=6.5						
	0.6nm,0.6s						
H11N1	**WAKE ISLAND Hy 42.14**		**83**	T	T	21 24 05.0	
	baz=277,slow=74,SNR=28						
H11N2	**WAKE ISLAND Hy 42.15**		**83**	T	T	21 24 05.7	
	baz=277,slow=74,SNR=24						
H11S3	**WAKE ISLAND Hy 42.15**		**85**	T	T	21 24 04.2	
	baz=280,slow=74,SNR=58						
H11N3	**WAKE ISLAND Hy 42.16**		**83**	T	T	21 24 07.2	
	baz=277,slow=74,SNR=25						
H11S1	**WAKE ISLAND Hy 42.16**		**85**	T	T	21 24 04.0	
	baz=280,slow=74,SNR=45						
H11S2	**WAKE ISLAND Hy 42.17**		**85**	T	T	21 24 05.6	
	baz=280,slow=74,SNR=41						
ZALV	**Zalesovo Beam**	**43.79**	**329**	P	P	20 39 21.0	-0.8
	1.0nm,0.6s,baz=108,slow=9.3,SNR=5.0						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**45.35**	**164**	P	P	20 39 34.5	-0.1
	0.1nm,0.3s,baz=342,slow=7.7,SNR=4.2						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**45.45**	**322**	P	P	20 39 34.8	-0.3
	0.6nm,0.6s,baz=120,slow=7.3,SNR=4.6						
	0.6nm,0.6s						

*PRU **26** 20:34:20.2,49.88N×18.39E,h0km*

IPEC 26 20:34:18.4±0.3,49.86N×18.49E,h1km,ML1.4/4,Error ellipse: s-maj=2.0km s-min=1.7km az=68.0,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.23**	**264**	*e*PG	Pg	20 34 23.2	+0.5
OKC				*e*SG	Sg	20 34 26.3	+0.6
	comp=Z,25nm,0.2s						
STEB	**Steborice**	**0.47**	**279**	*e*PG	Pg	20 34 27.8	+0.4
STEB				*e*SG	Sg	20 34 33.9	+0.3
MORC	**Moravsky Berou**	**0.62**	**262**	*e*Pg	Pg	20 34 30.2	-0.1
	baz=82						
MORC				*e*Sg	Sg	20 34 38.1	-0.3
	6.7nm,0.3s,baz=82						
OJC	**Ojcow**	**0.91**	**66**	*e*Pg	Pg	20 34 35.9	0.0
OJC				*e*SG	Sg	20 34 47.8	+0.1
LANS	**Liptovska Anna**	**0.95**	**138**	*e*PG	Pb	20 34 37.3	-0.4
LANS				*e*SG	Sb	20 34 50.6	-0.3
LANS				*e*LG	Lg	20 34 55.7	
KRLC	**Kraliky**	**1.13**	**282**	*e*PG	Pg	20 34 38.6	-1.4
KRLC				*e*SG	Sg	20 34 53.8	-0.8
KRLC	**Kraliky**	**1.13**	**282**	*e*	Pg	20 34 38.6	-1.4
JAVC	**Velka Javorina**	**1.14**	**209**	*e*Pg	Pg	20 34 40.3	+0.1
	baz=28						
VRAC	**Vranov**	**1.36**	**247**	*e*Pg	Pg	20 34 43.8	-0.6
	baz=65						
VRAC				*e*Sg	Sg	20 35 00.9	-1.0
	4.5nm,0.3s,baz=65						
VYHS	**Vyhne**	**1.39**	**171**	*e*PG	Pn	20 34 44.5	-0.4
VYHS				*e*SG	Sn	20 35 03.9	0.0
DPC	**Dobruska-Polom**	**1.48**	**290**	*e*PG	Pn	20 34 45.4	-0.8
DPC				*e*SG	Sg	20 35 04.9	-1.1
KRUC	**Moravsky**	**1.59**	**240**	*e*Pg	Pn	20 34 47.4	-0.2
	baz=59						
KRUC				*e*Sg	Sn	20 35 08.0	-0.8
	2.2nm,0.3s,baz=59						
OSTC	**Ostas**	**1.62**	**296**	*e*PG	Pb	20 34 48.7	-0.4
OSTC				*e*SG	Sn	20 35 09.7	0.0
UPC	**Upice**	**1.72**	**293**	*e*PG	Pn	20 34 49.7	+0.2
UPC				*e*SG	Sb	20 35 12.8	-0.1
STHS	**Stebnicka Huta**	**1.84**	**103**	*e*SG	Sg	20 35 19.1	+1.6
STHS				*e*LG	Lg	20 35 21.3	
TREC	**Trest**	**2.04**	**255**	*e*SG	Sb	20 35 22.4	+0.3
GOPC	**GO Pecny, Ondr**	**2.40**	**273**	*e*SG	Sg	20 35 34.6	-0.8
	comp=Z,3.6nm,0.5s						
PRU	**Pruhonice**	**2.56**	**274**	*e*SG	Sb	20 35 37.8	+0.8
PVCC	**Panska Ves**	**2.61**	**286**	*e*SG	Sb	20 35 40.3	+1.8
BRG	**Berggiesshubel**	**3.08**	**291**	Sg	Sg	20 35 55.7	-1.8
BRG				Amp		20 35 59.7	
	comp=Z,2.4nm,0.5s						
KHC	**Kasperske Hory**	**3.29**	**259**	*e*PN	Pn	20 35 08.0	-3.0
KHC				*e*SG	Sg	20 36 02.2	-1.7

IDC 26 20:49:25.6±10.0,39.68S×80.06E,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=282.7km s-min=40.9km az=134.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**27.42**	**91**	T	T	21 25 23.8	
	baz=251,slow=75,SNR=479						
H01W3	**Cape Leeuwin H**	**27.43**	**91**	T	T	21 25 24.3	
	baz=251,slow=75,SNR=609						
H01W1	**Cape Leeuwin H**	**27.44**	**91**	T	T	21 25 25.1	
	baz=251,slow=75,SNR=464						
H08S2	**Diego Garcia H**	**32.61**	**346**	T	T	21 28 34.6	
	baz=172,slow=76,SNR=46						
H08S1	**Diego Garcia H**	**32.61**	**346**	T	T	21 28 34.0	
	baz=172,slow=76,SNR=51						
H08S3	**Diego Garcia H**	**32.63**	**346**	T	T	21 28 38.5	
	baz=172,slow=76,SNR=103						
ASAR	**Alice Springs**	**47.83**	**87**	P	P	20 58 04.1	-1.1
	0.3nm,0.6s,baz=240,slow=5.6,SNR=6.5						
	0.3nm,0.6s						
STKA	**Stephens Creek**	**49.67**	**101**	P	P	20 58 19.0	-0.2
	1.3nm,0.9s,baz=270,slow=16,SNR=3.3						
	1.3nm,0.9s						
WRA	**Warramunga Arr**	**50.24**	**83**	P	P	20 58 24.7	+1.0
	1.7nm,0.9s,baz=235,slow=7.8,SNR=5.4						
	1.7nm,0.9s						
QSPA	**South Pole Qui**	**50.48**	**180**	P	P	20 58 25.0	-0.1
	1.8nm,1.0s,baz=309,slow=3.3,SNR=3.2						
	1.8nm,1.0s						

*IDC **26** 20:51:22.4±2.1,0.80S×16.97W,h0km,mb3.8/6, mbtmp3.8/6,Error ellipse: s-maj=69.7km s-min=31.3km az=80.0*

ISC 26 20:51:23.2±2.0,0.9S±0.2×17.0W±0.4,h10km,n13,σ1§10/8, mb4.1/5,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**7.34**	**160**	T	T	21 00 32.6	
	baz=348,slow=74,SNR=130						
H10N3	**ASCENSION HYDR**	**7.34**	**160**	T	T	21 00 38.7	
	baz=348,slow=74,SNR=146						
H10N1	**ASCENSION HYDR**	**7.36**	**160**	T	T	21 00 34.0	
	baz=348,slow=74,SNR=146						
H10S3	**ASCENSION HYDR**	**8.34**	**164**	T	T	21 01 52.8	
	baz=229,slow=74,SNR=13						
H10S2	**ASCENSION HYDR**	**8.35**	**163**	T	T	21 01 51.7	
	baz=351,slow=74,SNR=9.2						
TORD	**Torodi Ar. Bea**	**23.24**	**52**	P	**P**	**20 56 30.5**	**-0.4**
	1.6nm,0.5s,baz=238,slow=8.5,SNR=3.6						
	1.6nm,0.5s						
BOSA	**Boshof**	**48.88**	**128**	P	**P**	**21 00 09.6**	**-0.1**
	2.6nm,0.8s,baz=275,slow=7.8,SNR=3.7						
	2.6nm,0.9s						
GERES	**GERESS Array B**	**56.22**	**24**	P	**P**	**21 01 04.6**	**+0.9**
	0.4nm,0.6s,baz=212,slow=6.5,SNR=2.8						
	0.4nm,0.6s						
HFS	**Hagfors**	**65.38**	**16**	P	**P**	**21 02 04.3**	**-1.4**
	1.6nm,0.8s,baz=162,slow=5.7,SNR=3.0						
	1.6nm,0.8s						
NOA	**NORSAR Array B**	**65.48**	**15**	P	**P**	**21 02 05.5**	**-0.9**
	0.5nm,0.8s,baz=190,slow=4.9,SNR=2.9						
	0.5nm,0.8s						
FINES	**FINESS Array B**	**70.31**	**20**	P	**P**	**21 02 37.8**	**+1.1**
	1.2nm,0.8s,baz=215,slow=2.3,SNR=7.9						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**142.67**	**133**	PKP	**PKPdf**	**21 10 57.0**	**-0.8**
	0.3nm,0.8s,baz=209,slow=3.1,SNR=4.0						
WRA	**Warramunga Arr**	**145.13**	**128**	PKPbc	**PKPdf**	**21 11 02.7**	**+0.7**
	0.4nm,0.7s,baz=239,slow=2.2,SNR=7.4						

*BJI **26** 21:00:00.5,41.71N×65.83E,h13km,mB4.6/1,mb4.3/23, Ms4.1/2,Ms7.3/2*

*IDC **26** 21:00:01.7±0.6,41.65N×66.04E,h0km,mb4.1/21, mbtmp4.2/31,ML4.0/10,Error ellipse: s-maj=10.2km s-min=6.9km az=175.0*

*MOS **26** 21:00:01.8±1.1,41.84N×66.09E,h11km,mb4.5/18,Error ellipse: s-maj=5.2km s-min=5.0km az=156.2*

*NNC **26** 21:00:02.9±4.5,41.54N×66.13E,h21km±22km,mb4.6, mpv4.3,Error ellipse: s-maj=30.0km s-min=17.5km az=52.0*

*SOME **26** 21:00:02.5,41.22N×66.40E,h10km*

*NEIC **26** 21:00:04.2±1.2,41.87N±0.07×66.04E±0.09,h10km±1km, mb4.6/111,Error ellipse: s-maj=11.8km s-min=11.3km az=124.0*

ISC 26 21:00:04.0±0.4,41.90N±0.04×66.03E±0.03,h10km,n267, σ1§71/289,mb4.5/91,11C-6D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHM	**Chimkent**	**2.69**	**80**	*e*PN	**Pn**	**21 00 46.7**	**-0.7**
CHM	**Chimkent**	**2.69**	**80**	*e*P	**Pn**	**21 00 49.8**	**+2.4**
	201nm,0.1s						
CHM				*e*S	**Sb**	**21 01 23.7**	**-1.8**
	3µm,0.4s						
CHM	**Chimkent**	**2.69**	**80**	*e*P	**Pn**	**21 00 46.7**	**-0.7**
IUG	**luzhnay**	**2.99**	**84**	*e*PN	**Pn**	**21 00 50.8**	**-0.8**
IUG	**luzhnay**	**2.99**	**84**	*e*P	**Pn**	**21 00 50.8**	**-0.8**
BRLS	**Borolday**	**3.04**	**67**	Pg	**Pb**	**21 00 56.5**	**-1.6**
	32nm,0.2s						
BRLS				Lg	Lg	21 01 35.6	
	374nm,0.2s						
BRLS	**Borolday**	**3.04**	**67**	*e*PN	**Pn**	**21 00 49.0**	**-3.1**
BRLS	**Borolday**	**3.04**	**67**	*e*P	**Pb**	**21 00 56.5**	**-1.6**
	31nm,0.2s						
BRLS				*e*S	**Sb**	**21 01 35.2**	**-0.1**
	414nm,0.1s						
BRLS	**Borolday**	**3.04**	**67**	*e*P	**Pn**	**21 00 49.0**	**-3.1**
KK31	**Karatay Array**	**3.53**	**69**		**Pn**	**21 00 58.9**	**0.0**
KK31	**Karatay Array**	**3.53**	**69**	⇑Pn	**Pn**	**21 00 59.0**	**0.0**
	4.9nm,0.2s,baz=241,slow=16						
KK31				⇑Pg	**Pb**	**21 01 08.9**	**+2.3**
	79nm,0.5s,baz=249,slow=18						
KK31				⇓Lg	Lg	21 01 55.4	
	104nm,0.4s,baz=243,slow=39						
KK31	**Karatay Array**	**3.53**	**69**	PN	**Pn**	**21 00 58.9**	**0.0**
KKAR	**Karatay Array**	**3.53**	**69**		**Pn**	**21 00 58.9**	**0.0**
KKAR	**Karatay Array**	**3.53**	**69**	PN	**Pn**	**21 00 58.9**	**0.0**
SIMJ	**Simiganj**	**3.96**	**144**		**Pn**	**21 01 04.4**	**-0.6**
SIMJ				Pg	**Pb**	**21 01 13.8**	**-0.2**
DZA	**Taraz**	**4.05**	**74**	*e*PN	**Pn**	**21 01 05.7**	**-0.4**
DZA	**Taraz**	**4.05**	**74**	*e*P	**Pn**	**21 01 05.8**	**-0.4**
BTK	**Batken**	**4.07**	**115**		**Pn**	**21 01 04.9**	**-1.5**
BTK				Pg	**Pb**	**21 01 14.7**	**-1.0**
BTK	**Batken**	**4.07**	**115**	PN	**Pn**	**21 01 04.9**	**-1.5**
BTK						21 01 14.7	
GAR	**Garm**	**4.37**	**130**		**Pn**	**21 01 10.5**	**-0.1**
GAR				Pg	**Pb**	**21 01 20.5**	**-0.5**
DRK	**Karamyk**	**5.01**	**117**		**Pn**	**21 01 19.1**	**-0.5**
DRK	**Karamyk**	**5.01**	**117**	PN	**Pn**	**21 01 19.1**	**-0.5**
ARSB	**Arslanbob**	**5.25**	**94**		**Pn**	**21 01 21.8**	**-0.9**
ARSB				Pg	**Pb**	**21 01 38.4**	**+2.5**
ARSB	**Arslanbob**	**5.25**	**94**	PN	**Pb**	**21 01 38.4**	**+2.5**
MRKS	**Merke**	**5.40**	**79**	Pg	**Pb**	**21 01 39.3**	**+0.7**
	8.5nm,0.5s						
MRKS				Lg	Lg	21 02 48.2	
	69nm,0.4s						
MRKS	**Merke**	**5.40**	**79**	*e*P	**Pb**	**21 01 39.3**	**+0.7**
	14nm,0.2s						
MRKS				*e*S	**Sb**	**21 02 48.8**	**+5.3**
	128nm,0.4s						
EKS2	**Erkin-Say**	**5.80**	**80**	P	**Pn**	**21 01 30.6**	**+0.4**
	SNR=6.1						
AAK	**Ala-Archa**	**6.33**	**80**		**Pn**	**21 01 37.5**	**0.0**
AAK	**Ala-Archa**	**6.33**	**80**	⇑Pn	**Pn**	**21 01 37.3**	**-0.1**
	2.4nm,0.5s						
AAK				⇑Pg	Pb	21 01 58.5	+4.3
	49nm,0.9s						
AAK				⇓Lg	Lg	21 03 24.0	
	64nm,1.0s						
AAK	**Ala-Archa**	**6.33**	**80**	Pn	**Pn**	**21 01 39.2**	**+1.7**
	3.7nm,0.3s,baz=224,slow=4.5,SNR=6.9						
AAK				Pg	**Pb**	**21 01 57.3**	**+3.0**
	5.6nm,0.3s,baz=210,slow=10.0,SNR=4.5						
AAK				Sn	**Sn**	**21 02 48.6**	**-1.2**
	7.5nm,0.3s,baz=242,slow=6.3,SNR=1.8						
AAK				Lg	Lg	21 03 23.4	
	8.4nm,0.3s,baz=12,slow=19,SNR=3.8						
	6.5nm,0.4s						
UCH	**Uchtor**	**6.33**	**84**	P	**Pn**	**21 01 40.8**	**+3.0**
	SNR=6.8						
USP	**Ospenovka**	**6.40**	**75**	P	**Pn**	**21 01 38.0**	**-0.5**
	SNR=22						
FRU1	**Bishkek**	**6.44**	**79**	Pn	**Pn**	**21 01 38.6**	**-0.3**
FRU1	**Bishkek**	**6.44**	**79**	PN	**Pn**	**21 01 38.6**	**-0.3**
SGDS	**Sogindy**	**6.53**	**73**	Pg	Pb	21 02 02.7	+5.0
	10nm,0.4s						
SGDS				Lg	Lg	21 03 28.2	
	44nm,0.2s						
SGDS	**Sogindy**	**6.53**	**73**	*e*P	**Pn**	**21 01 39.7**	**-0.5**
CHMS	**Chumysh**	**6.55**	**77**	P	**Pn**	**21 01 40.3**	**-0.1**
	SNR=13						
BTLS	**Baital**	**6.62**	**59**	*e*PN	**Pn**	**21 01 41.1**	**-0.3**
BTLS	**Baital**	**6.62**	**59**	*e*P	**Pn**	**21 01 41.1**	**-0.3**
KBK	**Karagaybulak**	**6.66**	**81**	P	Pn	21 01 46.9	+4.8
	SNR=7.5						
TKM2	**Tokmak 2**	**7.16**	**79**	P	**Pn**	**21 01 52.0**	**+3.1**
	SNR=7.5						
BOOM	**Boomskoye usch**	**7.38**	**82**	Pn	**Pn**	**21 01 51.8**	**-0.3**
BOOM	**Boomskoye usch**	**7.38**	**82**	P	**Pn**	**21 01 51.8**	**-0.3**
KST	**Kastek**	**7.43**	**78**	Pg	**Pb**	**21 02 16.1**	**+2.9**
	9.4nm,0.3s						
KST				Lg	Lg	21 03 50.2	
	46nm,0.4s						
NRN	**Naryn**	**7.48**	**90**		**Pn**	**21 01 53.6**	**+0.1**
NRN	**Naryn**	**7.48**	**90**	P	**Pn**	**21 01 53.6**	**+0.1**
KBL	**Kabul**	**7.72**	**161**		**Pn**	**21 01 55.3**	**-1.4**
KBL	**Kabul**	**7.72**	**161**	P	**Pn**	**21 01 55.3**	**-1.4**
KSH	**Kashi**	**7.92**	**104**	P	**Pn**	**21 01 55.5**	**-3.9**
KSH				S	**Sn**	**21 03 21.5**	**-7.6**
KSH				pmax	p

KURBB Lg Lg 21 06 38.9
0.4nm,0.3s,baz=228,slow=31,SNR=8.6
0.9nm,0.3s
KURK Kurchatov 12.38 40 *ce*P **Pn 21 03 00.8 +0.7**
KURK pmax pmax
comp=Z,3.0nm,0.7s
MAKZ Makanchi 12.42 61 Pn **Pn 21 02 59.8 -1.1**
MAKZ Makanchi 12.42 61 P **Pn 21 02 59.8 -1.1**
MK31 Makanchi Array 12.62 62 Pn **Pn 21 03 02.6 -1.0**
MK31 Makanchi Array 12.62 62 P **Pn 21 03 02.6 -1.0**
MKAR Makanchi Array 12.62 62 Pn **Pn 21 03 02.1 -1.4**
MKAR Makanchi Array 12.62 62 Pn **Pn 21 03 01.6 -2.0**
comp=Z,1.0nm,0.3s,baz=248,slow=14,SNR=32
MKAR Sn **Sn 21 05 18.3 -5.8**
comp=Z,0.2nm,0.3s,baz=246,slow=25,SNR=2.0
MKAR Lg Lg 21 06 43.6
comp=Z,0.6nm,0.3s,baz=239,slow=25,SNR=3.5
comp=Z,4.5nm,0.6s
MKAR Makanchi Array 12.62 62 *i* P **Pn 21 03 02.0 -1.6**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
AKT Akhty 13.69 274 *e*P **Pn 21 03 18.1 -0.1**
AKT *e*S **Sn 21 05 52.5 +2.2**
AKT pmax pmax
comp=Z,14nm,1.4s
ARTI Arti 15.32 344 **Pn 21 03 39.5 -0.7**
ARTI IAmb IAmb 21 03 52.0
comp=Z,14nm,0.5s
ARTI Arti 15.32 344 Pn **Pn 21 03 38.3 -1.9**
comp=Z,0.8nm,0.3s,baz=167,slow=10,SNR=8.2
ARTI Sn **Sn 21 06 21.3 -8.5**
comp=Z,0.9nm,0.3s,baz=161,slow=24,SNR=6.7
ARTI Lg Lg 21 08 18.3
comp=Z,0.3nm,0.3s,baz=268,slow=13,SNR=3.8
ARTI Arti 15.32 344 P **Pn 21 03 42.7 +2.5**
ARTI S **Sn 21 06 31.2 +1.4**
SVE Sverdlovsk 15.34 349 *e*P **Pn 21 03 38.6 -1.8**
SVE *e*S **Sn 21 06 23.0 -7.2**
WMQ Urumqi 16.00 76 *e*P **Pn 21 03 50.8 +1.6**
GNI Garni 16.16 271 **Pn 21 03 50.7 -0.6**
GNI Garni 16.16 271 Pn **Pn 21 03 52.7 +1.4**
comp=Z,1.2nm,0.3s,baz=0.5,slow=5.4,SNR=12
GNI Garni 16.16 271 *i* P **Pn 21 03 51.1 -0.2**
GNI pmax pmax
comp=Z,20nm,0.9s
BELG Belogornoye 16.29 316 Pn **Pn 21 03 54.3 +1.6**
comp=Z,3.8nm,0.3s,baz=322,slow=6.1,SNR=6.5
BELG Sn Sn 21 06 42.8 -10
comp=Z,0.5nm,0.3s,baz=241,slow=22,SNR=2.4
comp=Z,7.3nm,0.4s
KBZ Khabaz 17.06 284 Pn **Pn 21 04 00.2 -2.3**
comp=Z,0.4nm,0.3s,baz=153,slow=13,SNR=4.1
comp=Z,2.0nm,0.5s
KBZ Khabaz 17.06 284 *i* P **Pn 21 04 03.6 +1.0**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KVAR Kislovodsk Arr 17.20 285 Pn **Pn 21 03 59.7 -4.8**
baz=114,slow=20
KVAR Sn Sn 21 07 01.3 -15
baz=332,slow=22
comp=Z,3.2nm,0.8s
KIV Kislovodsk 17.21 285 **Pn 21 04 02.9 -1.7**
KIV IAmb IAmb 21 04 34.9
comp=Z,21nm,0.6s
KIV Kislovodsk 17.21 285 *e*P **Pn 21 04 03.5 -1.0**
KIV *e*S **Sn 21 07 17.4 +1.5**
KIV pmax pmax
comp=Z,8.0nm,1.0s
ZAA0 Zalesovo Array 17.36 40 **Pn 21 04 05.3 -1.0**
ZALV Zalesovo Beam 17.36 40 Pn **Pn 21 04 05.8 -0.5**
comp=Z,1.5nm,0.3s,baz=237,slow=10,SNR=19
ZALV Sn **Sn 21 07 13.7 -5.7**
comp=Z,0.1nm,0.3s,baz=230,slow=20,SNR=2.8
ZALV Lg Lg 21 09 19.7
comp=Z,0.1nm,0.3s,baz=227,slow=24,SNR=1.9
comp=Z,3.1nm,0.3s
ZALV Zalesovo Beam 17.36 40 *i* P **P 21 04 07.6 0.0**
ZALV pmax pmax
comp=Z,3.0nm,0.3s
VRH Novokhopyorsk 19.05 308 *e*P **P 21 04 26.9 +0.7**
VRH pmax pmax
comp=Z,10.0nm,0.8s
KIRV Kirov 19.70 334 P **Pn 21 04 34.6 -0.1**
comp=Z,1.6nm,0.3s,baz=125,slow=9.6,SNR=4.6
KIRV Sn **S 21 08 08.6 -6.5**
comp=Z,0.7nm,0.3s,baz=167,slow=7.4,SNR=2.4
KIRV Lg Lg 21 10 36.0
comp=Z,0.3nm,0.3s,baz=128,slow=19,SNR=2.0
comp=Z,6.2nm,0.4s
VSR Storozhevoye 20.59 306 *e*P **P 21 04 42.1 -0.9**
VSR pmax pmax
comp=Z,6.0nm,0.9s
VORR Voronezh 20.70 307 P Pn 21 04 47.4 +0.9
VORR pmax pmax
comp=Z,7.0nm,0.9s
LPSR Galich'ya Gora 21.16 310 *e*P **P 21 04 50.7 +1.6**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SIM Simferopol' 23.30 288 *e*P **P 21 05 09.7 -2.2**
SIM *e* 21 05 40.0
SIM pmax pmax
comp=Z,32nm,1.0s
OBN Obninsk 23.36 315↑ *e*P **P 21 05 13.9 +1.5**
OBN *e* 21 05 40.3
OBN *e*S S 21 08 55.8 -29
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,324nm,17.0s
BZK Bozkurt 23.76 281 P **P 21 05 17.1 +0.6**
ILGA Ilgaz 24.15 279 P **P 21 05 21.2 +0.7**
BR131 Keskin Array S 24.53 276 **P**
BR131 IAmb IAmb 21 05 25.7
comp=Z,6.1nm,0.7s
BR131 Keskin Array S 24.53 276 *i* P **P 21 05 23.5 -0.4**
BRTR Keskin Array B 24.53 276 **P 21 05 25.0 +1.2**
BRTR Keskin Array B 24.53 276 P **P 21 05 24.8 +0.9**
comp=Z,4.6nm,0.6s,baz=87,slow=8.1,SNR=35
comp=Z,4.6nm,0.6s
BRTR Keskin Array B 24.53 276 *e*P **P 21 05 25.1 +1.2**
BRTR pmax pmax
comp=Z,5.0nm,0.6s
KLMR Klimovskoe 24.88 329 *e*P **P 21 05 25.7 -0.9**
KLMR pmax pmax
comp=Z,14nm,1.4s
RAYN Ar Rayn 25.07 229 **P 21 05 28.4 -0.3**
RAYN IAmb IAmb 21 05 33.0
comp=Z,6.5nm,0.6s
RAYN Ar Rayn 25.07 229 P **P 21 05 28.4 -0.3**
RAYN pmax pmax
comp=Z,7.0nm,0.6s
GTA Gaotai 25.66 84 *e*P **P 21 05 32.8 -1.3**
GTA pmax pmax
comp=Z,5.0nm,1.2s
MMAI Mount Meron Ar 25.77 260 P **P 21 05 35.8 +0.8**
comp=Z,0.8nm,0.4s,baz=80,slow=8.9,SNR=5.4
comp=Z,0.8nm,0.4s
CSS Mathiatis 26.42 266 P **P 21 05 40.2 -0.7**
CSS IAmb IAmb 21 05 50.7
comp=Z,13nm,1.3s
AKASG Malin Array Be 26.67 302 P **P 21 05 43.0 +0.1**
comp=Z,0.2nm,0.3s,baz=79,slow=8.0,SNR=4.8
comp=Z,0.2nm,0.3s
AKASG Malin Array Be 26.67 302 *e*P **P 21 05 46.5 +3.6**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 26.67 302 *i* P **P 21 05 44.9 +2.0**
AKBB pmax pmax
comp=Z,1.0nm,0.3s
MANT Manisa 28.67 276 P **P 21 06 01.0 -0.2**
AKAS Kas 28.69 271 P **P 21 06 00.2 -1.1**
SONM Songino Array 28.97 64 P **P 21 06 03.1 -0.6**
comp=Z,0.8nm,0.4s,baz=289,slow=9.0,SNR=3.9
comp=Z,0.8nm,0.4s
MLR Muntele Rosu 28.99 291 P **P 21 06 02.6 -1.3**
MLR Muntele Rosu 28.99 291 P **P 21 06 02.6 -1.3**
MLR pmax pmax
comp=Z,4.0nm,0.9s
BURAR Bucovina Array 29.28 295 P **P 21 06 06.5 +0.1**
ULN Ulaanbaatar 29.41 64 *ce*P **P 21 06 08.4 +0.8**
ULN pmax pmax
comp=Z,15nm,2.5s
FIA1 FINESS Array S 30.85 323 P **P 21 06 20.7 +0.7**
FIA1 IAmb IAmb 21 06 21.7
comp=Z,8.4nm,0.6s
FINES FINESS Array B 30.85 323 P **P 21 06 21.0 +1.0**
comp=Z,2.7nm,0.5s,baz=112,slow=9.8,SNR=36
comp=Z,2.7nm,0.5s
IDI Anoyia 32.58 272 P **P 21 06 34.7 -0.9**
PZH PanZhiHua 33.02 106 P **P 21 06 40.8 +1.2**
FNA Florina 33.26 283 P **P 21 06 41.4 -0.1**
FNA Florina 33.26 283 P **P 21 06 41.4 -0.1**
FNA pmax pmax
comp=Z,3.0nm,0.9s
HHC Hu-ho-hao-te 33.88 76 *e*P **P 21 06 47.8 +0.8**
HHC pmax pmax
comp=Z,12nm,0.6s
ITM Ithomi 34.05 277 P **P 21 06 47.3 -1.0**
PDG Podgorica 34.33 287 P **P 21 06 51.5 +0.8**
PDG IAmb IAmb 21 06 52.4
comp=Z,5.0nm,0.7s
ARCES ARCESS Array B 34.67 336 P **P 21 06 54.6 +1.3**
ARCES ARCESS Array B 34.67 336 P **P 21 06 54.1 +0.7**
comp=Z,1.6nm,0.5s,baz=125,slow=6.4,SNR=23
comp=Z,1.6nm,0.5s
ARCES ARCESS Array B 34.67 336 *e*P **P 21 06 53.5 +0.1**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
KEK Kerkira 34.74 282 P **P 21 06 55.5 +1.3**
KEK IAmb IAmb 21 07 37.4
comp=Z,5.6nm,0.9s
SCTE Santa Cesarea 35.59 283 P **P 21 07 01.0 -0.6**
HFS Hagfors 36.45 318 P **P 21 07 09.4 +0.6**
comp=Z,4.2nm,0.7s,baz=98,slow=11,SNR=22
comp=Z,4.2nm,0.7s
GERES GERESS Array B 36.78 299 P **P 21 07 10.9 -0.9**
comp=Z,0.6nm,0.6s,baz=82,slow=7.6,SNR=3.7
TIP Timpagrande 37.13 283 P **P 21 07 14.1 -0.8**
SABO M.te Sabotino 37.41 295 P **P 21 07 17.8 +0.7**
NC405 NORSAR Array S 37.52 320 P **P 21 07 18.5 +0.6**
CUC Castrocucco 37.54 284 P **P 21 07 19.2 +0.9**
CUC IAmb IAmb 21 07 20.4
comp=Z,4.7nm,0.7s
NC602 NORSAR Array S 37.57 319 P **P 21 07 18.5 +0.2**
NC303 NORSAR Array S 37.70 320 P **P 21 07 20.1 +0.8**
NC303 IAmb IAmb 21 07 20.8
comp=Z,5.5nm,0.6s
NB201 NORSAR Array S 37.72 320 P **P 21 07 17.4 -2.1**
NB201 IAmb IAmb 21 07 47.0
comp=Z,9.8nm,1.2s
NB2 NORSAR Subarra 37.76 319 P **P 21 07 20.2 +0.3**
comp=Z,2.1nm,0.6s,baz=95,slow=8.6
NB2 NORSAR Subarra 37.76 319 P **P 21 07 17.8 -2.1**
NOA NORSAR Array B 37.76 319 P **P 21 07 19.8 -0.1**
comp=Z,1.6nm,0.5s,baz=96,slow=8.4,SNR=13
comp=Z,1.6nm,0.5s
NOA NORSAR Array B 37.76 319 *e*P **P 21 07 20.2 +0.3**
NOA pmax pmax
comp=Z,2.0nm,0.5s
NBO00 NORSAR Array S 37.97 319 P **P 21 07 21.7 0.0**
NC204 NORSAR Array S 38.00 320 P **P 21 07 22.5 +0.6**
CEL Celeste 38.09 282 P **P 21 07 22.5 -0.5**
CEL IAmb IAmb 21 07 39.6
comp=Z,18nm,1.5s
FDMO Fiordimonte 38.53 290 P **P 21 07 27.0 +0.5**
FDMO IAmb IAmb 21 07 38.5
comp=Z,12nm,1.4s
NRCA Norcia 38.57 290 P **P 21 07 27.7 +0.7**
NRCA IAmb IAmb 21 07 34.6
comp=Z,9.1nm,1.2s
SPB2 Spitsbergen Ar 41.34 346 P **P 21 07 51.0 +1.5**
SPITS Spitsbergen Ar 41.35 346 P **P 21 07 51.3 +1.7**
comp=Z,3.4nm,0.5s,baz=106,slow=12,SNR=12
comp=Z,3.4nm,0.5s
SENIN Lac Senin/Sane 41.55 297 P **P 21 07 51.8 -0.1**
SENIN IAmb IAmb 21 08 01.7
comp=Z,11nm,1.5s
YAK Yakutsk 42.02 39 *ce*P **P 21 07 56.2 +1.1**
YAK pmax pmax
comp=Z,6.0nm,0.6s
BNI Bardonecchia 42.35 295 P **P 21 07 58.5 +0.2**
BNI Bardonecchia 42.35 295 P **P 21 07 58.5 +0.2**
BNI pmax pmax
comp=Z,5.0nm,1.2s
TIXI Tiksi 42.35 25 P **P 21 07 58.6 +0.8**
TIXI Tiksi 42.35 25 *ce*P **P 21 07 59.4 +1.6**
TIXI pmax pmax
comp=Z,8.0nm,1.3s
KBS Kingsbay 42.48 347 P **P 21 08 00.0 +1.2**
KBS IAmb IAmb 21 08 36.7
comp=Z,29nm,1.4s
KBS Kingsbay 42.48 347 P **P 21 08 00.0 +1.2**
KBS pmax pmax
comp=Z,29nm,1.4s
NJ2 Nanjing 42.74 86 *e*P **P 21 08 01.0 -0.4**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
KEST Kesra 43.91 281 P **P 21 08 11.9 +1.0**
comp=Z,2.7nm,0.9s,baz=58,slow=9.5,SNR=2.2
comp=Z,2.7nm,0.9s
MDJ Mudanjiang 45.33 64 P **P 21 08 20.5 -1.6**
EKA Eskdalemuir Ar 45.77 312 P **P 21 08 25.8 +0.4**
comp=Z,2.9nm,0.8s,baz=88,slow=8.1,SNR=10
comp=Z,2.9nm,0.8s
KSRS Korea Array 46.94 74 P **P 21 08 34.3 -0.5**
comp=Z,0.9nm,0.6s,baz=282,slow=4.9,SNR=5.9
comp=Z,0.9nm,0.6s
KSRS Korea Array 46.94 74 *e*P **P 21 08 33.7 -1.1**
KSRS pmax pmax
comp=Z,1.0nm,0.4s
USRK Ussuriysk Ar. 47.08 64 P **P 21 08 35.8 -0.1**
comp=Z,1.7nm,0.6s,baz=306,slow=9.9,SNR=5.8
comp=Z,1.7nm,0.6s
JNU Nakatsue 51.09 77 P **P 21 09 03.7 -3.1**
comp=Z,2.4nm,0.3s,baz=353,slow=8.1,SNR=26
ESDC Sonseca Array 51.67 292 P **P 21 09 10.9 -0.1**
comp=Z,0.6nm,0.6s,baz=59,slow=7.2,SNR=7.3
comp=Z,0.6nm,0.6s
ERM Erimo 55.42 62 P **P 21 09 36.6 -1.8**
ERM Erimo 55.42 62 P **P 21 09 36.6 -1.8**
ERM pmax pmax
comp=Z,39nm,1.5s
BILL Bilibino 55.49 27 *i* P **P 21 09 39.4 +0.8**
BILL pmax pmax
comp=Z,3.0nm,1.0s
JMM Marumori 55.81 67 P **P 21 09 40.3 -1.0**
PETK Petropavlovsk- 58.82 45 P **P 21 10 01.7 -0.7**
comp=Z,1.0nm,0.6s,baz=261,slow=8.6,SNR=2.8
comp=Z,1.0nm,0.6s
TORD Torodi Ar. Bea 62.27 263 P **P 21 10 25.4 -1.0**
TORD Torodi Ar. Bea 62.27 263 P **P 21 10 24.6 -1.8**
comp=Z,1.0nm,0.4s,baz=46,slow=6.6,SNR=2.3
comp=Z,1.0nm,0.4s
B21K Ikpikpuk River 64.86 15 P **P 21 10 43.8 +1.1**
D20K Etivluk River 65.24 16 P **P 21 10 45.2 0.0**
D20K IAmb IAmb 21 11 04.6
comp=Z,7.2nm,1.1s
F15K North Star Dit 65.79 21 P **P 21 10 49.1 +0.3**
D22K Ayikyak River 65.86 14 P **P 21 10 50.1 +0.9**
E21K Killik River 65.99 15 P **P 21 10 50.5 +0.4**
F17K Baldwin Pennin 66.07 19 P **P 21 10 51.2 +0.6**
A36M Sachs Harbour 66.14 4 P **P 21 10 51.5 +0.6**
D23K Nanushuk River 66.15 14 P **P 21 10 51.1 0.0**
D23K IAmb IAmb 21 11 04.5
comp=Z,3.5nm,0.9s
E19K Redstone River 66.15 17 P **P 21 10 51.3 +0.1**
E19K IAmb IAmb 21 10 51.7
comp=Z,3.9nm,0.9s
D24K Happy Valley 66.30 13 P **P 21 10 53.4 +1.3**
F19K Shaleruckik Mo 66.55 17 P **P 21 10 53.6 -0.1**
F19K IAmb IAmb 21 11 11.4
comp=Z,7.1nm,1.4s
TOLK Toolik Lake Re 66.63 13 P **P 21 10 55.2 +1.0**
TOLK IAmb IAmb 21 10 59.5
comp=Z,5.7nm,0.8s
E22K Anaktuvuk Pass 66.67 14 P **P 21 10 55.0 +0.5**
F21K Alatna River 67.13 16 P **P 21 10 58.3 +0.8**
F21K IAmb IAmb 21 11 00.1
comp=Z,6.6nm,1.3s
E24K Your Creek 67.32 13 P **P 21 10 58.9 +0.2**
E24K IAmb IAmb 21 11 37.1
comp=Z,5.1nm,1.1s
H17K Granite Mounta 67.61 19 P **P 21 11 00.6 +0.1**
COLD Coldfoot 67.76 14 P **P 21 11 01.7 +0.3**
COLD IAmb IAmb 21 11 03.2
comp=Z,4.0nm,1.0s
F24K Squaw Lake 67.92 13 P **P 21 11 03.0 +0.6**
F24K IAmb IAmb 21 11 33.1
comp=Z,9.6nm,1.4s
H19K Roundabout Mou 67.94 18 P **P 21 11 03.0 +0.5**
H19K IAmb IAmb 21 11 44.3
comp=Z,4.9nm,1.2s
IMAR Indian Mountai 68.15 16 P **P 21 11 03.9 +0.1**
F25K Christian Rive 68.23 13 P **P 21 11 04.9 +0.5**
F25K IAmb IAmb 21 11 07.6
comp=Z,8.2nm,1.2s
E27K Coleen River 68.29 11 P **P 21 11 05.6 +0.8**
F26K Sheenjek River 68.37 12 P **P 21 11 06.4 +1.1**
F26K IAmb IAmb 21 11 07.1
comp=Z,3.8nm,1.1s
BMAR Burnt Mountain 68.55 12 P **P 21 11 06.7 +0.3**
E29M Blow River 68.58 9 P **P 21 11 07.2 +0.7**
E29M IAmb IAmb 21 11 36.6
comp=Z,11nm,1.5s
H21K Melozitna Rive 68.63 16 P **P 21 11 07.7 +0.9**
H21K IAmb IAmb 21 11 42.0
comp=Z,6.4nm,1.4s
G24K Hadweenzic Riv 68.73 14 P **P 21 11 07.8 +0.3**
G24K IAmb IAmb 21 11 10.7
comp=Z,7.4nm,1.3s
J16K Anvik River 68.79 21 P **P 21 11 08.5 +0.7**
J17K VABM Dome 69.09 20 P **P 21 11 09.8 0.0**
K15K Wolf Creek Mou 69.34 22 P **P 21 11 11.5 +0.1**
H24K Noodor Dome 69.43 14 P **P 21 11 12.4 +0.5**
J19K Poorman 69.43 18 P **P 21 11 11.9 +0.1**
J19K IAmb IAmb 21 11 22.9
comp=Z,4.6nm,1.4s
J20K Nowinta River 69.62 18 P **P 21 11 13.1 +0.2**
J20K IAmb IAmb 21 11 17.8
comp=Z,3.8nm,1.1s
J18K Innoko River 69.62 19 P **P 21 11 13.3 +0.3**
I23K Minto, Yukon-K 69.77 15 P **P 21 11 14.6 +0.7**
I23K IAmb IAmb 21 11 49.7
comp=Z,4.6nm,1.4s
K17K Iditarod 69.86 20 P **P 21 11 15.2 +0.7**
H27K Steamboat Moun 70.12 12 P **P 21 11 17.6 +1.4**
K20K Telida 70.34 18 P **P 21 11 17.8 +0.3**
K20K IAmb IAmb 21 11 41.8
comp=Z,7.1nm,1.4s
BPAW Bear Paw Mtn. 70.37 16 P **P 21 11 17.9 +0.2**
BPAW IAmb IAmb 21 11 24.5
comp=Z,3.1nm,1.0s
G31M Satah River 70.40 8 P **P 21 11 18.5 +0.8**
G31M IAmb IAmb 21 11 26.3
comp=Z,4.1nm,1.1s
M14K Bethel 70.47 23 P **P 21 11 18.9 +0.6**
AMKA Amchitka 70.51 38 P **P 21 11 18.3 -0.4**
ILAR Eielson Array 70.58 14 P **P 21 11 19.1 +0.2**
comp=Z,0.8nm,0.8s,baz=330,slow=4.8,SNR=8.2
comp=Z,0.8nm,0.8s
H29M Whitestone 70.58 10 P **P 21 11 19.8 +0.9**
H29M IAmb IAmb 21 11 20.9
comp=Z,2.6nm,0.8s
L18K Granite Mounta 70.68 20 P **P 21 11 19.8 +0.3**
L18K IAmb IAmb 21 11 41.0
comp=Z,6.4nm,1.3s
CAST Castle Rocks 70.73 17 **P 21 11 20.5 +0.6**
J25K Salcha River, 71.00 14 P **P 21 11 21.7 +0.2**
TRF Thorofare Moun 71.09 16 P **P 21 11 22.8 +0.6**
TRF IAmb IAmb 21 11 35.1
comp=Z,5.3nm,1.2s
I28M Miner Creek 71.09 11 P **P 21 11 22.7 +0.6**
M16K Timber Creek 71.09 21 P **P 21 11 22.7 +0.6**
M16K IAmb IAmb 21 11 56.0
comp=Z,12nm,1.4s
L19K White Mountain 71.17 19 P **P 21 11 21.4 -1.2**
L19K IAmb IAmb 21 11 32.1
comp=Z,4.9nm,1.2s
PPLA Purkeypile 71.17 17 P **P 21 11 22.5 -0.1**
PPLA IAmb IAmb 21 11 45.5
comp=Z,6.3nm,1.2s
M17K Holitna River 71.18 20 P **P 21 11 23.4 +0.8**
J26L Joseph Creek 71.41 13 P **P 21 11 24.5 +0.4**
H31M Peel River 71.47 9 P **P 21 11 24.3 0.0**
H31M IAmb IAmb 21 12 03.9
comp=Z,3.8nm,1.1s
M19K Big River Lodg 71.52 19 P **P 21 11 25.0 +0.3**
M19K IAmb IAmb 21 11 41.6
comp=Z,5.3nm,1.2s
I30M Mount Dempster 71.79 10 P **P 21 11 25.9 -0.4**
SCRK Sand Creek 71.82 13 P **P 21 11 26.9 +0.3**
M20K Styx River 71.84 18 P **P 21 11 26.7 0.0**
M20K IAmb IAmb 21 12 05.8
comp=Z,4.4nm,1.2s
RIDG Independent Ri 71.89 14 P **P 21 11 25.5 -1.5**
RIDG IAmb IAmb 21 12 05.3
comp=Z,8.5nm,1.4s
O14K Tigyukauivet M 71.90 23 P **P 21 11 26.6 -0.4**
N17K Nushagak Hills 71.99 21 P **P 21 11 27.8 +0.3**
N17K IAmb IAmb 21 11 50.0
comp=Z,8.2nm,1.3s
SKT Skwentna 72.12 18 P **P 21 11 27.7 -0.6**
SKT IAmb IAmb 21 11 28.5
comp=Z,4.4nm,0.6s
N18K Kilae Creek 72.20 20 P **P 21 11 28.8 0.0**
N18K IAmb IAmb 21 12 01.9
comp=Z,13nm,1.5s
O15K Ungalikthiuk R 72.39 23 P **P 21 11 30.3 +0.4**
J30M Hart River 72.42 10 P **P 21 11 29.8 -0.3**
N19K Bonanza Creek 72.44 20 P **P 21 11 30.9 +0.6**
N19K IAmb IAmb 21 11 41.9
comp=Z,3.7nm,1.0s
PAX Paxson 72.48 14 P **P 21 11 28.8 -1.7**
PAX Paxson 72.48 14 P **P 21 11 28.8 -1.7**
PAX pmax pmax
comp=Z,4.0nm,1.4s
O16K Kokwok River B 72.53 22 P **P 21 11 31.7 +1.0**
O16K IAmb IAmb 21 11 57.2
comp=Z,12nm,1.4s
SUA Susitna One 72.75 18 P **P 21 11 31.3 -0.8**
SUA IAmb IAmb 21 11 59.6
comp=Z,10nm,1.4s
K29M Barlow Dome 72.96 11 P **P 21 11 33.9 +0.5**
O18K Koktuh Hills 73.08 20 P **P 21 11 33.7 -0.3**
O18K IAmb IAmb 21 11 34.1
comp=Z,9.5nm,1.2s
SCM Sheep Creek Mo 73.15 16 P **P 21 11 34.4 -0.1**
SCM IAmb IAmb 21 11 35.9
comp=Z,5.6nm,0.9s
SCM Sheep Creek Mo 73.15 16 P **P 21 11 34.4 -0.1**
SCM pmax pmax
comp=Z,6.0nm,0.9s
YKA Yellowknife Ar 75.95 0 P **P 21 11 50.9 +0.3**
comp=Z,2.1nm,0.8s,baz=359,slow=7.2,SNR=6.3
comp=Z,2.1nm,0.8s
BOSA Boshof 79.62 216 P **P 21 12 09.6 -2.0**
comp=Z,2.2nm,0.9s,baz=312,slow=7.3,SNR=4.3
comp=Z,2.2nm,0.9s
FFC Flin Flon 83.20 353 P **P 21 12 30.4 +0.2**
FFC IAmb IAmb 21 12 31.4
comp=Z,3.8nm,0.9s
FFC Flin Flon 83.20 353 P **P 21 12 30.4 +0.2**
FFC pmax pmax
comp=Z,4.0nm,0.9s
WRA Warramunga Arr 88.05 119 P **P 21 12 52.2 -2.6**
comp=Z,1.0nm,0.7s,baz=322,slow=4.5,SNR=8.8
comp=Z,1.0nm,0.7s
ASAR Alice Springs 90.45 122 P **P 21 13 03.6 -2.3**
comp=Z,1.0nm,0.6s,baz=315,slow=4.4,SNR=17
comp=Z,1.0nm,0.6s
QSPA South Pole Qui 131.69 180 PKP **PKPdf 21 19 14.9 -1.2**
comp=Z,1.0nm,0.9s,baz=277,slow=0.8,SNR=5.9

JMA ***26*** *21:10:29.9±0.6,26°N±2°×14°3E±°, h0km, MV4.7/10, IOTO ISLANDS REGION*
IDC ***26*** *21:10:30.2±1.3,25.88N×143.15E, h0km, mb3.9/15, mbtmp3.8/17, ML3.0/2, Error ellipse: s-maj=48.5km s-min=17.9km az=81.0*
NEIC ***26*** *21:10:31.1±1.4,26.0N±0.1×143.6E±0.1, h10km±1km, mb4.8/17, Error ellipse: s-maj=28.3km s-min=4.8km az=34.0*
ISC 26 21:10:30.8±0.8,25.9N±0.1×143.4E±0.1, h10km, n54, σ1ş54/46, mb4.3/23, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**1.26**	**304**	P	**Pn**	**21 10 53.5**	**-1.0**
JHH2				S	**Sb**	**21 11 11.5**	**+0.4**
JHH2	**Haha-jima-NKT2**	**1.26**	**304**	A	A	21 10 53.5	
comp=N,10.0nm,0.3s,comp=E,10.0nm,0.4s							
CBIJ	**Chichi jima**	**1.56**	**318**	P	**Pn**	**21 10 59.5**	**+0.8**
CBIJ				S	**Sn**	**21 11 20.3**	**+1.3**
JCJ	**Chichijima**	**1.56**	**318**		**Pn**	**21 10 59.3**	**+0.6**
JCJ				Sn	**Sn**	**21 11 20.1**	**+1.1**
JCJ	**Chichijima**	**1.56**	**318**	Pn	Pn	21 10 52.3	-6.3

```
                comp=E,155nm,0.3s,baz=196,slow=7.4,SNR=148
JCJ                                    Sn      Sn      21 11 12.7  -6.3
                comp=E,407nm,0.3s,baz=294,slow=23,SNR=30
JHO  Hitachi                10.91 348  eP      Pn      21 13 07.7 +0.6
MJAR Matsushiro Arr         11.45 339  Pn      Pn      21 13 15.6 +1.1
                baz=134,slow=11,SNR=1.1
                comp=E,0.7nm,0.5s
KSRS Korea Array            17.42 315  P       P       21 14 35.6 +0.4
                comp=E,0.1nm,0.3s,baz=119,slow=12,SNR=5.1
                comp=E,1.0nm,0.8s
USRK Ussuriysk Ar.          20.43 336  P       Pn      21 15 09.6  -0.6
                comp=E,0.6nm,0.4s,baz=143,slow=10,SNR=1.7
                comp=E,0.6nm,0.4s
H11N2 WAKE ISLAND Hy        22.55 101  T       T       21 39 29.2
                baz=291,slow=74,SNR=5.1
H11N1 WAKE ISLAND Hy        22.55 101  T       T       21 39 21.3
                baz=291,slow=74,SNR=4.2
H11N3 WAKE ISLAND Hy        22.56 101  T       T       21 39 19.8
                baz=291,slow=74,SNR=4.9
H11S3 WAKE ISLAND Hy        22.82 104  T       T       21 39 58.8
                baz=291,slow=76,SNR=11
H11S1 WAKE ISLAND Hy        22.82 104  T       T       21 39 59.5
                baz=291,slow=76,SNR=16
H11S2 WAKE ISLAND Hy        22.83 104  T       T       21 39 58.9
                baz=291,slow=76,SNR=11
CMAR Chiang Mai Arr         41.63 269  P       P       21 18 19.2  -0.3
                comp=E,0.4nm,0.6s,baz=60,slow=8.1,SNR=5.1
                comp=E,0.4nm,0.6s
WB0  Warramunga Arr         46.25 192          P
WB0                                    IAmb    IAmb    21 19 02.2
                comp=Z,8.7nm,1.1s
WR8  Warramunga Arr         46.41 192          P       21 18 58.6 +0.8
WRA  Warramunga Arr         46.43 192          P       21 18 57.8  -0.1
WRA  Warramunga Arr         46.43 192  P       P       21 18 58.3 +0.4
                comp=Z,4.4nm,0.5s,baz=10.0,slow=8.3,SNR=30
                comp=Z,4.4nm,0.5s
FITZ Fitzroy Crossi         47.03 203  P       P       21 19 02.5  -0.1
ASAR Alice Springs          50.14 191  P       P       21 19 26.7 +0.1
                comp=Z,0.5nm,0.7s,baz=12,slow=9.3,SNR=9.8
                comp=Z,0.5nm,0.7s
ZALV Zalesovo Beam          51.05 320  P       P       21 19 33.1 +0.1
                comp=Z,0.3nm,0.3s,baz=105,slow=7.4,SNR=2.3
                comp=Z,0.3nm,0.3s
MKAR Makanchi Array         52.02 310  P       P       21 19 39.4  -1.1
                comp=Z,0.2nm,0.4s,baz=88,slow=11,SNR=6.4
                comp=Z,0.2nm,0.4s
KURBB Kurchatov Arra        54.60 315  P       P       21 19 59.2  -0.1
                comp=Z,0.5nm,0.4s,baz=91,slow=7.9,SNR=11
                comp=Z,0.5nm,0.4s
BVAR Borovoye Array         59.60 318  P       P       21 20 34.9 +0.1
                comp=Z,0.8nm,0.6s,baz=97,slow=7.9,SNR=6.2
                comp=Z,0.8nm,0.6s
ARTI Arti                   66.08 323  P       P       21 21 17.5  -0.4
ARTI                                   IAmb    IAmb    21 21 27.3
                comp=Z,5.3nm,0.6s
ARCES ARCESS Array B        74.98 341  P       P       21 22 14.5 +2.6
                comp=Z,4.0nm,1.1s,baz=38,slow=6.1,SNR=5.3
                comp=Z,4.0nm,1.1s
FIA1 FINESS Array S         79.45 334  P       P       21 22 38.0 +0.9
FIA1                                   IAmb    IAmb    21 22 48.5
                comp=Z,7.7nm,0.8s
FINES FINESS Array B        79.45 334  P       P       21 22 38.1 +1.0
FINES FINESS Array B        79.45 334  P       P       21 22 38.3 +1.2
                comp=Z,1.3nm,0.4s,baz=71,slow=4.9,SNR=39
                comp=Z,1.3nm,0.4s
KBZ  Khabaz                 79.56 314  P       P       21 22 38.9 +0.7
                comp=Z,1.4nm,0.7s,baz=175,slow=1.5,SNR=5.9
                comp=Z,1.4nm,0.7s
PSUT Pine Spring            83.49  50          P       21 22 56.7  -2.6
AKASG Malin Array Be        84.17 324  P       P       21 23 02.1  -0.2
                comp=Z,0.4nm,0.5s,baz=52,slow=5.4,SNR=2.2
                comp=Z,0.4nm,0.5s
HFS  Hagfors                84.90 337  P       P       21 23 05.8   0.0
                comp=Z,1.6nm,0.8s,baz=77,slow=3.1,SNR=7.2
                comp=Z,1.6nm,0.8s
NB2  NORSAR Subarra         85.07 339  P       P       21 23 07.4 +0.7
                comp=Z,0.8nm,0.6s,baz=45,slow=5.1
NOA  NORSAR Array B         85.07 339  P       P       21 23 06.3  -0.3
                comp=Z,0.4nm,0.7s,baz=40,slow=5.0,SNR=2.4
                comp=Z,0.4nm,0.7s
Q16A Castle Valley          85.15  49          P       21 23 07.4  -0.4
Q16A                                   IAmb    IAmb    21 23 22.1
                comp=Z,4.9nm,0.8s
P18A Preston Nutter         85.42  48  P       P       21 23 05.7  -3.5
P18A                                   IAmb    IAmb    21 23 23.0
                comp=Z,6.2nm,0.9s
SRU  San Rafael Swe         85.49  49  P       P       21 23 08.1  -1.3
SRU                                    IAmb    IAmb    21 23 24.6
                comp=Z,6.4nm,0.7s
SRU  San Rafael Swe         85.49  49  IAmb    IAmb    21 23 24.6
                comp=Z,6.4nm,0.7s
SRU  San Rafael Swe         85.49  49  P       P       21 23 08.1  -1.3
SRU  San Rafael Swe         85.49  49  pmax    pmax
                comp=Z,6.0nm,0.7s
SRU  San Rafael Swe         85.49  49  P       P       21 23 09.1  -0.3
U15A North Rim              85.58  52  P       P       21 23 09.4  -0.6
HMU  Henry Mountain         85.92  50  P       P       21 23 10.2  -1.5
O20A White River Ci         86.49  47          P       21 23 12.6  -1.7
PV22 Blue Mesa, Par         86.95  48  P       P       21 23 15.2  -1.5
PV22                                   IAmb    IAmb    21 23 24.3
                comp=Z,5.3nm,1.1s
PV17 East Wray Mesa         86.97  49  P       P       21 23 15.9  -0.8
PV16 Nyswonger Mesa         86.98  49  P       P       21 23 15.8  -1.0
PV16                                   IAmb    IAmb    21 23 34.5
                comp=Z,4.6nm,0.7s
RSSD Black Hills            87.00  42          P       21 23 14.9  -1.9
RSSD                                   IAmb    IAmb    21 23 31.3
                comp=Z,4.7nm,0.6s
RSSD Black Hills            87.00  42  P       P       21 23 14.9  -1.9
RSSD Black Hills            87.00  42  pmax    pmax
                comp=Z,5.0nm,0.6s
BRTR Keskin Array B         87.56 313  P       P       21 23 21.1 +1.6
                comp=Z,0.4nm,0.6s,baz=72,slow=3.8,SNR=3.9
                comp=Z,0.4nm,0.6s
```

MOS ***26*** *21:14:42.4±0.9,51.45N×174.77W,h0km,mb4.9/38,Error ellipse: s-maj=9.4km s-min=5.7km az=103.6*

IDC ***26*** *21:14:43.5±0.5,51.42N×174.65W,h0km,mb4.5/32, mbtmp4.5/36,ML4.1/4,MS3.9/29,Error ellipse: s-maj=15.3km s-min=10.7km az=157.0*

BJI ***26*** *21:14:47.4,51.79N×175.16W,h22km,mB5.0/11, mb5.0/50,Ms4.5/7,Ms7 4.3/7*

AEIC ***26*** *21:14:48.1±2.3,51.29N±0.07×174.82W±0.08,h35km±5km, Error ellipse: s-maj=10.7km s-min=7.4km az=180.0*

NEIC ***26*** *21:14:48.5±2.6,51.35N±0.07×174.90W±0.08,h26km±4km, mb4.7/332,ML4.6/10,Mwr4.4/16,ML4.4(AEIC),Error ellipse: s-maj=10.9km s-min=7.3km az=184.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.41; Mθθ2.55; Mθθ -2.96; Mrθ -2.79; Mθθ-1.15; Mθr-1.74; Fault plane solution: M0 4.45000×10¹⁵ NP1: ϕs234.44000°,δ86.39000°,λ132.08000°. NP2: ϕs328.42000°,δ42.20000°,λ5.37000°. Principal axes: T 4.4687, Plg35.0000°, Azm180.0000°; N -0.0286, Plg42.0000°, Azm51.0000°; P -4.4401, Plg29.0000°, Azm292.0000°;*

NEIC ***26*** *21:14:48.4,51.34N×174.90W,h26km*
ISC 26 21:14:49.6±0.7,51.35N±0.06×174.77W±0.03,h40km±5km, n873,σ1§27/742,mb4.7/229,MS3.9/30,29C-31D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.93**	**22**			**Pn**	**21 15 05.4**	**-0.7**
ATKA				IAML			21 15 23.1	
	comp=N,14μm,0.7s							
ATKA	**Atka Island**	**0.93**	**22**	**P**		**Pn**	**21 15 05.3**	**-0.8**
ATKA	**Atka Island**	**0.93**	**22**	**S**		**Sn**	**21 15 16.2**	**-2.0**
GSIG	**Igitkin Island**	**0.97**	**312**			**Pn**	**21 15 05.4**	**-1.3**
GSIG						**Sn**	**21 15 18.9**	**-0.3**
GSMY	**Great Sitkin M**	**1.06**	**312**			**Pn**	**21 15 07.0**	**-1.0**
GSMY						**Sn**	**21 15 21.9**	**+0.3**
GSCK	**Great Sitkin C**	**1.10**	**308**			**Pn**	**21 15 07.4**	**-1.0**
GSCK						**Sn**	**21 15 22.6**	**+0.2**
GSTR	**Great Sitkin T**	**1.10**	**314**			**Pn**	**21 15 07.9**	**-0.7**
GSTR				IAML			21 15 33.9	
	comp=E,19μm,0.7s							
GSTD	**Great Sitkin T**	**1.11**	**310**			**Pn**	**21 15 07.8**	**-0.9**
ETKA	**Kagalaska Isla**	**1.15**	**297**			**Pn**	**21 15 07.8**	**-1.3**
ETKA						**Sn**	**21 15 23.0**	**-0.6**
ADAG	**Mount Adagdak**	**1.31**	**300**			**Pn**	**21 15 11.0**	**-0.3**
ADK	**Adak**	**1.31**	**295**			**Pn**	**21 15 10.2**	**-1.2**
ADK				IAML			21 15 28.8	
	comp=E,11μm,0.3s							
ADK				IAML			21 15 36.5	
	comp=E,9μm,0.3s							
ADK	**Adak**	**1.31**	**295**			**Sn**	**21 15 26.6**	**-1.0**
ADK	**Adak**	**1.31**	**295**	**P**		**Pn**	**21 15 10.1**	**-1.2**
ADK	**Adak**	**1.31**	**295**	**P**		**Sn**	**21 15 27.7**	**0.0**
KIRH	**Kanaga Island**	**1.55**	**292**			**Pn**	**21 15 14.0**	**-0.7**
KIWB	**Kanaga Island**	**1.57**	**290**			**Pn**	**21 15 14.2**	**-0.8**
KIWB				IAML			21 15 41.8	
	comp=N,9μm,0.4s							
KIKV	**Kanaga Island**	**1.59**	**291**			**Sn**	**21 15 35.2**	**+0.6**
CEAP	**Semis' Anvil P**	**3.58**	**283**			**Pn**	**21 15 42.4**	**-0.2**
CETU	**Semisch Tuman**	**3.63**	**282**			**Pn**	**21 15 42.7**	**-0.5**
AMKA	**Amchitka**	**3.72**	**273**			**Pn**	**21 15 43.3**	**-1.1**
NIKH	**Nikolski High**	**3.99**	**64**			**Pn**	**21 15 48.9**	**+0.8**
NIKH				IAML			21 16 56.4	
	comp=E,1μm,0.7s							
NIKH	**Nikolski High**	**3.99**	**64**	**P**		**Pn**	**21 15 48.3**	**+0.2**
NIKH	**Nikolski High**	**3.99**	**64**	**S**		**Sn**	**21 16 34.1**	**+0.5**
NIKH	**Nikolski High**	**3.99**	**64**	**P**		**Pn**	**21 15 48.7**	**+0.5**
	baz=248,SNR=8.6							
LSPA	**Little Sitkin**	**4.19**	**281**			**Pn**	**21 15 49.7**	**-1.2**
OKTU	**Okmok Mt. Tuli**	**4.60**	**61**			**Pn**	**21 15 58.4**	**+1.9**
UNV	**Unalaska Valle**	**5.62**	**60**			**Pn**	**21 16 12.5**	**+2.0**
UNV	**Unalaska Valle**	**5.62**	**60**	**P**		**Pn**	**21 16 12.7**	**+2.1**
	baz=247							
LVA	**Lava Point**	**6.00**	**59**			**Pn**	**21 16 17.9**	**+2.0**
P08K	**Saint George I**	**6.10**	**28**			**Pn**	**21 16 18.9**	**+1.8**
P08K	**Saint George I**	**6.10**	**28**	**P**		**Pn**	**21 16 19.1**	**+2.1**
	baz=213							
AKUT	**Akutan**	**6.13**	**59**	**Pn**		**Pn**	**21 16 19.5**	**+1.9**
SPIA	**Saint Paul Isl**	**6.41**	**23**			**Pn**	**21 16 23.6**	**+2.2**
SPIA	**Saint Paul Isl**	**6.41**	**23**	**P**		**Pn**	**21 16 24.5**	**+3.1**
	baz=207,SNR=6.7							
SHEM	**Shemya Is, Ala**	**7.01**	**286**	**Pn**		**Pn**	**21 16 27.7**	**-1.9**
	comp=E,6.8nm,0.3s,baz=354,slow=4.1,SNR=9.9							
SHEM						**Sn**	**21 17 52.3**	**+4.4**
	comp=E,51nm,0.3s,baz=130,slow=3.7,SNR=6.5							
SHEM				LR		LR	21 19 29.4	
	comp=E,953nm,18.4s,baz=108,slow=40							
	comp=E,11nm,0.3s							
FALS	**False Pass**	**7.68**	**58**	**Pn**		**Pn**	**21 16 38.5**	**-0.3**
FALS	**False Pass**	**7.68**	**58**	**P**		**Pn**	**21 16 41.6**	**+2.9**
	baz=248							
S12K	**Black Hills**	**8.73**	**55**	**Pn**		**Pn**	**21 16 53.6**	**+0.4**
S12K	**Black Hills**	**8.73**	**55**	**P**		**Pn**	**21 16 54.9**	**+1.7**
	baz=245							
SDPT	**Sand Point**	**9.44**	**59**			**Pn**	**21 17 03.5**	**+0.7**
SDPT	**Sand Point**	**9.44**	**59**	**P**		**Pn**	**21 17 02.8**	**0.0**
SDPT	**Sand Point**	**9.44**	**59**	**P**		**Pn**	**21 17 03.9**	**+1.1**
	baz=251							
CNBA	**Chernabura Isl**	**9.77**	**63**	**Pn**		**Pn**	**21 17 06.5**	**-0.8**
CHNA	**Chernabura Isl**	**9.77**	**63**	**P**		**Pn**	**21 17 05.9**	**-1.5**
CHNA	**Chernabura Isl**	**9.77**	**63**	**P**		**Pn**	**21 17 07.1**	**-0.3**
	baz=255							
M11K	**Mekoryuk**	**10.25**	**25**			**Pn**	**21 17 14.3**	**+0.5**
M11K	**Mekoryuk**	**10.25**	**25**	**P**		**Pn**	**21 17 14.4**	**+0.5**
	baz=212,SNR=5.9							
S14K	**Fog Glacier**	**10.26**	**55**	**P**		**Pn**	**21 17 13.8**	**-0.4**
	baz=248							
CHGN	**Chignik**	**10.86**	**56**	**Pn**		**Pn**	**21 17 21.3**	**-0.9**
CHGN	**Chignik**	**10.86**	**56**	**P**		**Pn**	**21 17 23.7**	**+1.5**
	baz=250							
O14K	**Tigyukauivet M**	**11.03**	**39**			**Pn**	**21 17 27.9**	**+3.4**
O14K	**Tigyukauivet M**	**11.03**	**39**	**P**		**Pn**	**21 17 26.7**	**+2.2**
	baz=230							
M13K	**Dall Lake**	**11.10**	**31**	**P**		**Pn**	**21 17 27.8**	**+2.2**
	baz=220							
N14K	**Kuskokwak Cree**	**11.32**	**36**			**Pn**	**21 17 31.7**	**+3.2**
N14K	**Kuskokwak Cree**	**11.32**	**36**	**P**		**Pn**	**21 17 31.6**	**+3.2**
	baz=226,SNR=15							
O15K	**Ungalikthiuk R**	**11.56**	**41**	**P**		**Pn**	**21 17 35.0**	**+3.2**
	baz=234							
M14K	**Bethel**	**11.81**	**32**			**Pn**	**21 17 39.3**	**+4.0**
M14K	**Bethel**	**11.81**	**32**	**P**		**Pn**	**21 17 38.0**	**+2.8**
	baz=223							
K13K	**Kusilvak Mount**	**11.96**	**24**			**Pn**	**21 17 40.0**	**+2.6**
K13K	**Kusilvak Mount**	**11.96**	**24**	**P**		**Pn**	**21 17 40.1**	**+2.8**
	baz=212							
L14K	**Kuka Creek**	**12.03**	**29**	**P**		**Pn**	**21 17 41.1**	**+2.9**
	baz=219							
N15K	**Kwethluk River**	**12.07**	**37**			**Pn**	**21 17 42.4**	**+3.6**
N15K	**Kwethluk River**	**12.07**	**37**	**P**		**Pn**	**21 17 41.9**	**+3.1**
	baz=230,SNR=11							
M15K	**Kasigluk River**	**12.21**	**34**	**P**		**Pn**	**21 17 43.0**	**+2.3**
	baz=226,SNR=12							
CHIR	**Chirikof Islan**	**12.21**	**61**	**Pn**		**Pn**	**21 17 39.6**	**-1.2**
CHIR	**Chirikof Islan**	**12.21**	**61**	**P**		**Pn**	**21 17 39.3**	**-1.5**
CHIR	**Chirikof Islan**	**12.21**	**61**	**S**		**Sn**	**21 19 53.1**	**-2.3**
CHIR	**Chirikof Islan**	**12.21**	**61**	**P**		**Pn**	**21 17 43.1**	**+2.3**
	baz=256							
P16K	**Nushagak River**	**12.27**	**45**			**Pn**	**21 17 43.9**	**+2.5**
P16K	**Nushagak River**	**12.27**	**45**	**P**		**Pn**	**21 17 44.1**	**+2.7**
	baz=239							
R17L	**Mt. Peulik Vol**	**12.39**	**52**	**P**		**Pn**	**21 17 44.4**	**+1.2**
	baz=247							
PLK4	**Peulik 4**	**12.39**	**52**			**Pn**	**21 17 44.0**	**+0.7**
O16K	**Kokwok River B**	**12.53**	**42**			**Pn**	**21 17 47.9**	**+2.9**
O16K	**Kokwok River B**	**12.53**	**42**	**P**		**Pn**	**21 17 47.0**	**+2.0**
	baz=236,SNR=14							
GAMB	**Gambell**	**12.57**	**6**	**P**		**Pn**	**21 17 48.9**	**+3.4**
	baz=189							
L15K	**Ungalak Mounta**	**12.66**	**30**	**P**		**Pn**	**21 17 50.6**	**+3.8**
	baz=221							
Q16K	**King Salmon**	**12.70**	**48**	**P**		**Pn**	**21 17 51.2**	**+3.9**
	baz=243							
N16K	**Nishlik Lake**	**12.78**	**38**	**P**		**Pn**	**21 17 52.3**	**+3.8**
	baz=232							
Q17K	**Contact Creek**	**12.88**	**50**	**P**		**Pn**	**21 17 52.9**	**+3.0**
	baz=246,SNR=6.1							
J14K	**Nanvaranak Lak**	**12.93**	**24**			**Pn**	**21 17 52.4**	**+1.9**
J14K	**Nanvaranak Lak**	**12.93**	**24**	**P**		**Pn**	**21 17 53.5**	**+3.1**
	baz=213,SNR=5.1							
P17K	**Kvichak River**	**13.04**	**46**	**P**		**Pn**	**21 17 55.2**	**+3.2**
	baz=241							
O17K	**Koliganek Bris**	**13.05**	**43**	**P**		**Pn**	**21 17 55.8**	**+3.7**
	baz=238,SNR=6.2							
M16K	**Timber Creek**	**13.06**	**36**	**P**		**Pn**	**21 17 54.5**	**+2.3**
	baz=229							
K15K	**Wolf Creek Mou**	**13.12**	**28**			**Pn**	**21 17 56.7**	**+3.6**
K15K	**Wolf Creek Mou**	**13.12**	**28**	**P**		**Pn**	**21 17 55.8**	**+2.8**
	baz=219							
ACHA	**Angle Creek He**	**13.13**	**51**			**Pn**	**21 17 54.4**	**+1.1**
SII	**Sitkinak Islan**	**13.18**	**59**	**Pn**		**Pn**	**21 17 53.2**	**-0.7**
SII	**Sitkinak Islan**	**13.18**	**59**	**P**		**Pn**	**21 17 52.6**	**-1.3**
SII	**Sitkinak Islan**	**13.18**	**59**	**P**		**Pn**	**21 17 57.5**	**+3.6**
	baz=255							
R18K	**Karluk**	**13.33**	**54**	**P**		**Pn**	**21 17 55.8**	**-0.2**
	baz=251							
N17K	**Nushagak Hills**	**13.43**	**40**			**Pn**	**21 18 00.0**	**+2.6**
N17K	**Nushagak Hills**	**13.43**	**40**	**P**		**Pn**	**21 18 00.3**	**+2.9**
	baz=235							
Q18K	**Katmai Hardscr**	**13.46**	**49**	**P**		**Pn**	**21 18 00.1**	**+2.2**
	baz=246,SNR=6.2							
P18K	**Big Mountain,**	**13.68**	**46**			**Pn**	**21 18 01.6**	**+0.7**
P18K	**Big Mountain,**	**13.68**	**46**	**P**		**Pn**	**21 18 02.6**	**+1.8**
	baz=243							
OHAK	**Old Harbor**	**13.82**	**56**	**P**		**Pn**	**21 18 00.1**	**-2.6**
OHAK	**Old Harbor**	**13.82**	**56**	**P**		**Pn**	**21 18 04.2**	**+1.5**
	baz=254							
M17K	**Hoholitna River**	**13.87**	**37**	**P**		**Pn**	**21 18 05.3**	**+2.0**
	baz=231							
O18K	**Koktuh Hills**	**13.91**	**45**			**Pn**	**21 18 05.7**	**+1.8**
O18K	**Koktuh Hills**	**13.91**	**45**	**P**		**Pn**	**21 18 05.9**	**+2.0**
	baz=241,SNR=5.2							
L17K	**Donlin**	**14.04**	**33**	**P**		**Pn**	**21 18 07.5**	**+1.9**
	baz=227,SNR=14							
N18K	**Kilae Creek**	**14.05**	**41**			**Pn**	**21 18 08.4**	**+2.6**
N18K	**Kilae Creek**	**14.05**	**41**	**P**		**Pn**	**21 18 08.0**	**+2.2**
	baz=237,SNR=7.7							
ANM	**Nome**	**14.14**	**17**	**P**		**Pn**	**21 18 09.9**	**+3.0**
	baz=205							
J16K	**Anvik River**	**14.16**	**27**			**P**	**21 18 12.7**	**-1.3**
J16K	**Anvik River**	**14.16**	**27**	**P**		**Pn**	**21 18 09.3**	**+2.1**
	baz=219							
Q19K	**Cape Douglas,**	**14.22**	**50**			**Pn**	**21 18 08.9**	**+0.8**
Q19K	**Cape Douglas,**	**14.22**	**50**	**P**		**Pn**	**21 18 09.3**	**+1.2**
	baz=247							
KDAK	**Kodiak Island**	**14.35**	**55**			**Pn**	**21 18 09.7**	**-0.1**
KDAK	**Kodiak Island**	**14.35**	**55**	**Pn**		**Pn**	**21 18 07.0**	**-2.8**
	comp=E,1.4nm,0.3s,baz=156,slow=2.4,SNR=30							
KDAK						**Sn**	**21 20 48.4**	**+1.0**
	comp=E,0.4nm,0.3s,baz=47,slow=10,SNR=1.2							
	comp=E,4.3nm,0.3s							
KDAK	**Kodiak Island**	**14.35**	**55**	**P**		**Pn**	**21 18 07.0**	**-2.8**
KDAK	**Kodiak Island**	**14.35**	**55**	**P**		**Pn**	**21 18 11.8**	**+2.0**
	baz=253							
K17K	**Iditarod**	**14.44**	**32**			**P**	**21 18 16.2**	**-1.0**
K17K	**Iditarod**	**14.44**	**32**	**P**		**Pn**	**21 18 14.0**	**+3.0**
	baz=226							
M18K	**Stony River**	**14.54**	**38**	**P**		**Pn**	**21 18 14.0**	**+1.7**
	baz=234,SNR=5.7							
I17K	**Unalakleet**	**14.61**	**25**	**P**		**Pn**	**21 18 13.3**	**+0.1**
	baz=217							
L18K	**Granite Mounta**	**14.66**	**35**	**P**		**Pn**	**21 18 16.7**	**+2.8**
	baz=230,SNR=9.0							
TNA	**Tin City**	**14.69**	**11**	**P**		**Pn**	**21 18 16.1**	**+1.8**
	baz=197							
J17K	**VABM Dome**	**14.69**	**29**			**P**	**21 18 20.9**	**+1.1**
J17K	**VABM Dome**	**14.69**	**29**	**P**		**Pn**	**21 18 15.7**	**+1.4**
	baz=222,SNR=22							
N19K	**Bonanza Creek**	**14.71**	**42**			**Pn**	**21 18 16.3**	**+1.6**
N19K	**Bonanza Creek**	**14.71**	**42**	**P**		**Pn**	**21 18 15.3**	**+0.6**
	baz=239,SNR=13							
P19K	**Oil Pt**	**14.71**	**47**			**P**	**21 18 20.3**	**+0.1**
P19K	**Oil Pt**	**14.71**	**47**	**P**		**Pn**	**21 18 15.5**	**+0.8**
	baz=245							
Q20K	**Shuyak Island**	**14.71**	**52**	**P**		**Pn**	**21 18 15.3**	**+0.6**
	baz=250							
SYI	**Shuyak Island**	**14.71**	**52**			**Pn**	**21 18 13.4**	**-1.3**
G15K	**Niukluk**	**14.78**	**18**	**P**		**Pn**	**21 18 16.0**	**+0.5**
	baz=207							
F14K	**Arctic Creek**	**14.82**	**14**	**P**		**Pn**	**21 18 17.3**	**+1.3**
	baz=201							
H16K	**Elim**	**14.85**	**21**	**P**		**Pn**	**21 18 17.7**	**+1.3**
	baz=212							
ILSW	**Iliamna Southw**	**14.89**	**46**			**Pn**	**21 18 19.4**	**+2.2**
O20K	**Slope Mountain**	**15.17**	**46**	**P**		**Pn**	**21 18 22.0**	**+1.2**
	baz=245							
RED	**Redoubt Volcan**	**15.25**	**45**			**Pn**	**21 18 21.9**	**0.0**
F15K	**North Star Dit**	**15.31**	**16**	**P**		**P**	**21 18 28.4**	**+1.7**
F15K				IAmb		IAmb	21 18 43.8	
	comp=Z,50nm,1.1s							
F15K	**North Star Dit**	**15.31**	**16**	**P**		**Pn**	**21 18 23.1**	**+0.6**
	baz=205							
L19K	**White Mountain**	**15.32**	**37**	**P**		**Pn**	**21 18 23.4**	**+0.7**
	baz=234,SNR=11							
M19K	**Big River Lodg**	**15.33**	**39**	**P**		**P**	**21 18 25.3**	**-1.8**
	baz=236							
G16K	**Koyuk River**	**15.47**	**20**			**P**	**21 18 28.1**	**-0.4**
G16K				IAmb		IAmb	21 18 46.0	
	comp=Z,27nm,0.9s							
G16K	**Koyuk River**	**15.47**	**20**	**P**		**Pn**	**21 18 25.7**	**+1.1**
	baz=210							
J18K	**Innoko River**	**15.48**	**31**			**P**	**21 18 29.2**	**+0.5**
J18K	**Innoko River**	**15.48**	**31**	**P**		**Pn**	**21 18 25.4**	**+0.6**
	baz=227,SNR=14							
CNPM	**China Poot**	**15.59**	**49**			**Pn**	**21 18 25.6**	**-0.6**
H17K	**Granite Mounta**	**15.65**	**24**	IAmb		IAmb	21 18 38.8	
	comp=Z,26nm,0.8s							
H17K	**Granite Mounta**	**15.65**	**24**	**P**		**Pn**	**21 18 27.8**	**+0.8**
	baz=217,SNR=8.5							
M20K	**Styx River**	**15.82**	**40**	**P**		**P**	**21 18 31.3**	**-1.3**
	baz=238,SNR=9.3							
BRLK	**Bradley Lake**	**15.85**	**49**			**Pn**	**21 18 28.4**	**-1.1**
L20K	**Farewell, AK**	**15.86**	**37**	**P**		**Pn**	**21 18 29.8**	**+0.1**
	baz=235,SNR=12							
N20K	**Mount Spurr**	**15.86**	**43**	**P**		**Pn**	**21 18 27.4**	**-2.3**
	baz=242							
SPCR	**Spurr Chakacha**	**15.86**	**43**	**P**		**Pn**	**21 18 27.4**	**-2.3**
	baz=242							
SPU	**Mount Spurr**	**15.92**	**43**	**P**		**P**	**21 18 34.5**	**+0.9**
G17K	**Kiwalik Mounta**	**15.94**	**22**	**P**		**Pn**	**21 18 30.9**	**+0.3**
	baz=214							
CAPN	**Captain Cook N**	**16.12**	**45**	**P**		**Pn**	**21 18 33.7**	**+0.8**
	baz=245							
STLK	**Strandline Lak**	**16.16**	**42**			**Pn**	**21 18 34.0**	**+0.4**
J19K	**Poorman**	**16.20**	**31**			**Pn**	**21 18 34.4**	**+0.5**
J19K				IAmb		IAmb	21 18 44.0	
	comp=Z,42nm,1.1s							
J19K	**Poorman**	**16.20**	**31**	**P**		**Pn**	**21 18 33.8**	**-0.2**
	baz=228,SNR=23							
H18K	**Honhosa River**	**16.23**	**25**			**Pn**	**21 18 34.6**	**+0.2**
H18K	**Honhosa River**	**16.23**	**25**	**P**		**Pn**	**21 18 34.3**	**-0.1**
	baz=220							
K20K	**Telida**	**16.31**	**35**	**P**		**Pn**	**21 18 34.0**	**-1.4**
	baz=232							
GCSA	**Galena City Sc**	**16.34**	**28**	**P**		**Pn**	**21 18 35.7**	**0.0**
	baz=223							
PET	**Petropavlovsk**	**16.36**	**286**	Pn		**Pn**	**21 18 33.7**	**-2.3**
PET	**Petropavlovsk**	**16.36**	**286**	*i* P		**Pn**	**21 18 35.0**	**-1.0**
PET				pmax		pmax		
	comp=Z,14nm,0.9s							
SLKM	**Skilak Lake**	**16.44**	**47**			**Pn**	**21 18 36.0**	**-1.0**
SLKM				IAmb		IAmb	21 18 39.3	
	comp=Z,38nm,0.4s							
SKT	**Skwentna**	**16.52**	**41**			**Pn**	**21 18 37.4**	**-0.7**
SKT	**Skwentna**	**16.52**	**41**	**P**		**Pn**	**21 18 37.7**	**-0.4**
	baz=241,SNR=11							
F17K	**Baldwin Pennin**	**16.61**	**19**			**Pn**	**21 18 39.5**	**+0.5**
F17K				IAmb		IAmb	21 18 59.1	
	comp=Z,45nm,0.9s							
F17K	**Baldwin Pennin**	**16.61**	**19**	**P**		**P**	**21 18 40.2**	**-0.9**
	baz=211							
SUA	**Susitna One**	**16.61**	**43**			**Pn**	**21 18 38.7**	**-0.6**
SUA	**Susitna One**	**16.61**	**43**	**P**

TRF	Thorofare Moun baz=238,SNR=6.8	17.77	38	P	P	21 18 54.2	+0.1			
BPAW	Bear Paw Mtn.	17.86	35		Pn	21 18 54.5	-0.2			
BPAW	Bear Paw Mtn. baz=236,SNR=16	17.86	35	P	P	21 18 55.6	+0.6			
Q23K	Middleton Isla baz=256	17.94	52	P	Pn	21 18 55.3	-0.3			
GLI	Glacier Island baz=250	18.00	47	P	Pn	21 18 55.9	-0.6			
M23K	Glacier View baz=247,SNR=10	18.05	44	P	Pn	21 18 55.6	-1.4			
C17K	DeLong Mountai baz=204	18.08	14	P	Pn	21 18 56.7	-0.6			
IMAR	Indian Mountai	18.15	28	P	Pn	21 18 58.4	+0.2			
I21K	Tanana baz=231	18.17	32	P	P	21 18 57.0	-1.4			
H21K	Melozitna Rive comp=Z,44nm,1.1s	18.21	30	IAmb	IAmb	21 19 06.4				
H21K	Melozitna Rive baz=229,SNR=26	18.21	30	P	Pn	21 18 59.2	+0.3			
SCM	Sheep Creek Mo	18.25	44	P	P	21 18 58.4	-0.9			
SCM SCM	Sheep Creek Mo comp=Z,20nm,0.8s	18.25	44	P pmax	P pmax	21 18 58.4	-0.9			
SCM	Sheep Creek Mo baz=248,SNR=7.5	18.25	44	P	P	21 18 58.1	-1.2			
FID	Port Fidalgo comp=Z,18nm,0.5s	18.25	48	IAmb	IAmb	21 19 08.5				
SKR	Severo-Kuril's	18.28	279	*i* P	P	21 18 59.0	-0.7			
E19K	Redstone River comp=Z,34nm,1.0s	18.34	22	IAmb	IAmb	21 19 07.9				
E19K	Redstone River baz=217,SNR=15	18.34	22	P	Pn	21 19 01.0	+0.6			
F20K	Avaraart Lake baz=221,SNR=16	18.38	24	P	P	21 19 00.7	+0.1			
MCK	McKinley	18.43	38		P	21 19 00.9	-0.4			
MCK MCK	McKinley comp=Z,14nm,0.7s	18.43	38	P pmax	P pmax	21 19 00.9	-0.4			
MCK	McKinley baz=240	18.43	38	P	P	21 19 00.6	-0.7			
BWN	Browne comp=Z,48nm,0.8s	18.46	36	IAmb	IAmb	21 19 10.8				
MLY	Manley	18.49	33		Pn	21 19 03.0	+0.6			
MLY	Manley baz=234,SNR=18	18.49	33	P	Pn	21 19 02.3	-0.1			
EYAK	Cordova Ski Ar baz=253	18.53	49	P	P	21 19 01.6	-0.7			
G21K	Aliakaket baz=226,SNR=21	18.59	27	P	Pn	21 19 03.8	+0.3			
KLU	Klutina	18.75	46	P	P	21 19 03.9	-1.0			
KLU	Klutina baz=250	18.75	46	P	P	21 19 03.8	-1.0			
H22K	Ishtalitna Cre baz=231,SNR=12	18.81	30	P	P	21 19 05.0	-0.4			
NEA2	Nenana baz=238,SNR=9.5	18.83	35	P	Pn	21 19 06.3	-0.2			
M24K	Tolsona, Glenn comp=Z,27nm,0.5s	18.85	44	IAmb	IAmb	21 19 14.3				
M24K	Tolsona, Glenn baz=248	18.85	44	P	Pn	21 19 06.6	-0.2			
RAGM	Ragged Mountai	19.00	50	P	Pn	21 19 09.2	+0.6			
RAGM RAGM	comp=Z,19nm,0.6s			IAmb	IAmb	21 19 25.4				
KAIM	Kayak Island baz=257	19.01	51	P	P	21 19 07.9	+0.2			
I23K	Minto, Yukon-K comp=Z,25nm,0.8s	19.04	34	IAmb	IAmb	21 19 14.4				
I23K	Minto, Yukon-K baz=236,SNR=27	19.04	34	P	Pn	21 19 08.8	-0.1			
B18K	Kokolik River baz=206	19.10	14	P	P	21 19 09.0	+0.5			
F21K	Alatna River	19.10	26		P	21 19 08.8	+0.2			
F21K	Alatna River baz=224,SNR=16	19.10	26	P	Pn	21 19 09.6	-0.1			
WRH	Wood River Hil	19.13	36		P	21 19 08.3	-0.6			
BILL BILL	Bilibino comp=Z,31nm,0.8s	19.13	338	P IAmb	Pn IAmb	21 19 10.3 21 19 10.7	+0.3			
BILL BILL	Bilibino comp=Z,49nm,1.3s	19.13	338	*ce*P pmax	P pmax	21 19 09.0	+0.1			
HMT	Hamilton comp=Z,31nm,1.2s	19.18	50	IAmb	IAmb	21 19 22.2				
BMRM	Bremner River baz=254	19.19	48	P	P	21 19 09.8	+0.2			
E20K	Nigu River baz=218	19.21	21	P	P	21 19 09.5	-0.4			
C19K	Lookout Ridge baz=210	19.23	17	P	P	21 19 09.9	-0.2			
CCB	Clear Creek Bu comp=Z,14nm,0.5s	19.32	36	IAmb	IAmb	21 19 26.1				
H23K	Yukon River baz=234,SNR=18	19.37	32	P	P	21 19 12.1	+0.5			
N25K	Chitina, Valde baz=252,SNR=9.1	19.38	46	P	P	21 19 11.6	-0.2			
HARP	HAARP baz=249,SNR=7.3	19.40	44	P	P	21 19 12.4	+0.4			
COLA COLA	College comp=Z,20nm,0.8s	19.42	36	P IAmb	P IAmb	21 19 12.5 21 19 21.6	+0.4			
COLA COLA	College comp=Z,20nm,0.8s	19.42	36	P pmax	P pmax	21 19 12.5	+0.4			
COLA	College baz=239	19.42	36	P	Pn	21 19 13.2	-0.3			
G22K	Bettles baz=228,SNR=16	19.45	28	P	Pn	21 19 13.8	0.0			
BERG	Berg Lake comp=Z,22nm,0.8s	19.47	50	IAmb	IAmb	21 19 32.4				
PAX	Paxson baz=247,SNR=8.8	19.49	42	P	Pn	21 19 13.9	-0.5			
D20K	Etivluk River	19.49	20		P	21 19 13.0	+0.1			
D20K D20K	Etivluk River comp=Z,57nm,1.1s	19.49	20	IAmb P	IAmb Pn	21 19 16.1 21 19 14.0	-0.3			
HDA	Harding Lake comp=Z,30nm,0.5s	19.53	37	IAmb	IAmb	21 19 19.3				
HDA	Harding Lake baz=241,SNR=25	19.53	37	P	P	21 19 13.8	+0.5			
F22K	John River baz=226,SNR=10	19.66	26	P	Pn	21 19 15.6	-0.7			
GLB	Gilahina Butte	19.69	47		P	21 19 15.3	+0.1			
POKR	Poker Plat Res comp=Z,18nm,0.7s	19.70	35	IAmb	IAmb	21 19 25.4				
POKR	Poker Plat Re. baz=239,SNR=12	19.70	35	P	Pn	21 19 16.1	-0.8			
K24K	Donnelly Dome comp=Z,34nm,0.7s	19.70	40	IAmb	IAmb	21 19 33.8				
K24K	Donnelly Dome baz=244,SNR=10	19.70	40	P	Pn	21 19 16.3	-0.6			
IL31	comp=Z,16nm,0.6s	19.73	36	IAmb	IAmb	21 19 29.6				
ILAR	Eielson Array	19.73	36		P	21 19 15.0	-0.5			
ILAR	Eielson Array comp=Z,2.3nm,0.3s,baz=225,slow=8.0,SNR=80	19.73	36	P	P	21 19 12.8	-2.6			
ILAR	comp=Z,0.2nm,0.5s,baz=338,slow=25,SNR=1.8			S	S	21 22 50.4	-5.0			
ILAR	comp=Z,0.9nm,0.8s,baz=266,slow=3.3,SNR=3.7			PcP	PcP	21 23 31.8	-0.6			
ILAR	comp=Z,223nm,19.0s,baz=236,slow=39 comp=Z,3.0nm,0.5s			LR	LR	21 27 30.4				
ILAR ILAR	Eielson Array comp=Z,10.0nm,0.5s	19.73	36	*e*P pmax	P pmax	21 19 15.3	-0.1			
G23K	Bananza Creek	19.76	29	IAmb	IAmb	21 19 23.4				
G23K	comp=Z,26nm,0.9s Bananza Creek baz=231,SNR=20	19.76	29	P	Pn	21 19 17.1	-0.4			
CRQE	Cirque baz=256	19.85	49	P	P	21 19 17.4	+0.5			
E21K	Killik River baz=221	19.88	23	P	P	21 19 17.4	+0.4			
H24K	Noodor Dome comp=Z,54nm,1.1s	19.93	33	IAmb	IAmb	21 19 25.9				
H24K	Noodor Dome baz=236,SNR=45	19.93	33	P	P	21 19 17.8	+0.1			
COLD	Coldfoot comp=Z,32nm,1.0s	20.04	28	IAmb	IAmb	21 19 28.0				
COLD	Coldfoot baz=230,SNR=16	20.04	28	P	P	21 19 18.7	0.0			
MCARA	McCarthy VSAT baz=254	20.04	48	P	P	21 19 17.5	-1.3			
RIDG	Independent Ri baz=246,SNR=17	20.05	40	P	P	21 19 19.0	0.0			

ISLE	Juniper Island	20.17	50	P	P	21 19 20.0	-0.4			
E22K	Anaktuvuk Pass comp=Z,26nm,0.8s	20.20	25	IAmb	IAmb	21 19 27.5				
E22K	Anaktuvuk Pass baz=225,SNR=12	20.20	25	P	P	21 19 20.5	-0.1			
J25K	Salcha River, comp=Z,46nm,0.8s	20.23	38	IAmb	IAmb	21 19 21.7				
J25K	Salcha River, baz=243,SNR=83	20.23	38	P	P	21 19 19.6	-1.4			
C21K	Knifeblade Rid baz=218,SNR=8.9	20.24	21	P	P	21 19 21.0	0.0			
MESA	MESA	20.27	51	P	Pn	21 19 22.9	-0.9			
MESA MESA	comp=Z,20nm,0.7s			IAmb	IAmb	21 19 39.2				
MESA	MESA baz=259	20.27	51	P	P	21 19 21.8	+0.1			
M26K	Nabesna, AK comp=Z,17nm,0.5s	20.35	45	IAmb	IAmb	21 19 37.1				
M26K	Nabesna, AK baz=252	20.35	45	P	P	21 19 21.9	-0.4			
L26K	Log Cabin Wild	20.41	43	P	P	21 19 23.7	+0.8			
L26K L26K	comp=Z,14nm,0.6s Log Cabin Wild baz=250	20.41	43	IAmb P	IAmb P	21 19 41.2 21 19 23.5	+0.6			
YAH	Yahtse comp=Z,19nm,0.8s	20.41	51	IAmb	IAmb	21 19 42.6				
B20K	Meade River baz=213	20.45	17	P	P	21 19 23.5	+0.2			
SCRK	Sand Creek comp=Z,45nm,0.9s	20.50	40	IAmb	IAmb	21 19 30.1				
SCRK	Sand Creek baz=246,SNR=80	20.50	40	P	P	21 19 22.7	-1.3			
D22K	Ayikyak River comp=Z,23nm,0.7s	20.52	23	IAmb	IAmb	21 19 33.5				
D22K	Ayikyak River baz=222	20.52	23	P	P	21 19 25.2	+1.1			
G24K	Hadweenzic Riv comp=Z,22nm,0.8s	20.56	31	IAmb	IAmb	21 19 31.5				
G24K	Hadweenzic Riv baz=235,SNR=15	20.56	31	P	P	21 19 23.6	-0.8			
PRP	Porcupine Dome baz=241	20.60	35	P	P	21 19 25.6	+0.6			
B21K	Ikpikpuk River comp=Z,34nm,0.6s	20.65	20	IAmb	IAmb	21 19 29.1				
B21K	Ikpikpuk River baz=218,SNR=13	20.65	20	P	P	21 19 25.4	0.0			
CTG	Chitna Glacier baz=258	20.73	49	P	P	21 19 26.9	+0.4			
CTGM	Chitina Glacie comp=Z,14nm,0.6s	20.73	49	IAmb	IAmb	21 19 45.2				
E23K	Chandalar baz=229,SNR=6.6	20.75	27	P	P	21 19 27.0	+0.4			
M27K	Edge Creek, AK comp=Z,15nm,0.8s	20.84	45	IAmb	IAmb	21 19 46.2				
M27K	Edge Creek, AK baz=253,SNR=14	20.84	45	P	P	21 19 26.7	-0.9			
H25L	Birch Creek baz=238,SNR=19	20.88	33	P	P	21 19 27.0	-0.8			
J26L	Joseph Creek baz=246,SNR=123	20.88	39	P	P	21 19 26.5	-1.5			
F24K	Squaw Lake comp=Z,22nm,0.7s	20.91	29	IAmb	IAmb	21 19 31.7				
F24K	Squaw Lake baz=233,SNR=17	20.91	29	P	P	21 19 28.6	+0.3			
SEY	Seymchan comp=Z,2.6nm,0.5s,baz=133,slow=11,SNR=6.5	20.99	316	P	P	21 19 28.6	-0.6			
SEY SEY	Seymchan comp=Z,6.0nm,1.1s	20.99	316	*i* P pmax	P pmax	21 19 29.1	0.0			
MA2	Magadan comp=Z,6.4nm,0.6s,baz=86,slow=9.9,SNR=4.0	20.99	306	P	P	21 19 28.8	-0.3			
MA2	comp=Z,215nm,20.5s,baz=96,slow=34 comp=Z,6.4nm,0.6s			LR	LR	21 26 38.2				
G25K	Bearman Lake baz=237	21.05	32	P	P	21 19 30.6	+0.9			
L27K	Beaver Creek, baz=252	21.07	44	P	P	21 19 31.0	+0.9			
D23K	Nanushuk River comp=Z,29nm,0.6s	21.08	24	IAmb	IAmb	21 19 33.8				
D23K	Nanushuk River baz=226,SNR=7.5	21.08	24	P	P	21 19 31.8	+1.7			
E24K	Your Creek comp=Z,26nm,0.6s	21.08	28	IAmb	IAmb	21 19 31.9				
E24K	Your Creek baz=231,SNR=17	21.08	28	P	P	21 19 30.8	+0.7			
BCAR	Beaver Creek A	21.09	44	P	P	21 19 32.2	+2.0			
PCA	Pinnacle comp=Z,21nm,0.7s	21.09	52	IAmb	IAmb	21 19 48.7				
PINM	Pinnacle baz=261	21.09	52	P	P	21 19 31.4	+1.0			
TOLK	Toolik Lake Re comp=Z,38nm,0.6s	21.15	26	IAmb	IAmb	21 19 32.4				
TOLK	Toolik Lake Re baz=228,SNR=12	21.15	26	P	P	21 19 31.4	+0.5			
FYU	Fort Yukon comp=Z,30nm,1.0s	21.23	33	IAmb	IAmb	21 19 39.1				
O28M	Mount Upton baz=259	21.24	50	P	P	21 19 31.2	-0.9			
K27K	Chicken baz=249	21.30	41	P	P	21 19 31.7	-0.7			
BVCY	Beaver Creek baz=254	21.31	46	P	P	21 19 33.1	+0.5			
YUK3	Moose Creek baz=256,SNR=7.8	21.33	47	P	P	21 19 32.9	-0.1			
I26K	Coal Creek Min baz=244	21.38	37	P	P	21 19 33.2	-0.1			
PNL	Peninsula baz=263	21.46	53	P	P	21 19 32.9	-1.3			
YUK8	Steele Glacier baz=258	21.55	49	P	P	21 19 32.8	-2.5			
F25K	Christian Rive baz=236,SNR=10	21.66	30	P	P	21 19 36.1	-0.2			
D24K	Happy Valley baz=228,SNR=16	21.70	25	P	P	21 19 36.8	+0.2			
C23K	Itkillik River	21.72	23		P	21 19 37.9	+1.0			
C23K	Itkillik River baz=224,SNR=7.7	21.72	23	P	P	21 19 37.3	+0.4			
BMAR	Burnt Mountain	21.91	31	P	P	21 19 39.5	+0.5			
G26K	Porcupine Rive comp=Z,16nm,0.9s	21.93	33	IAmb	IAmb	21 19 46.2				
G26K	Porcupine Rive baz=240	21.93	33	P	P	21 19 39.4	+0.3			
O29M	Mount Kennedy baz=262	21.95	52	P	P	21 19 39.6	0.0			
YUK4	Talbot Arm baz=260	22.09	49	P	P	21 19 41.9	+0.8			
I27K	Kanuk River baz=246,SNR=11	22.09	37	P	P	21 19 41.6	+0.7			
YUK6	Outpost Mounta baz=261	22.15	50	P	P	21 19 41.3	-0.5			
F26K	Sheenjek River baz=238	22.19	31	P	P	21 19 42.9	+0.9			
P29M	Windy Craggy comp=Z,12nm,0.6s	22.29	54	IAmb	IAmb	21 20 02.9				
P29M	Windy Craggy baz=265	22.29	54	P	P	21 19 42.0	-1.2			
H27K	Steamboat Moun baz=245	22.39	36	P	P	21 19 44.6	+0.5			
M29M	Somme Creek baz=257,SNR=8.3	22.39	46	P	P	21 19 43.5	-0.8			
DAWY	Dawson	22.42	42		P	21 19 44.1	-0.4			
DAWY	Dawson baz=252,SNR=15	22.42	42	P	P	21 19 45.2	+0.6			
D25K	Kavik River comp=Z,22nm,1.0s	22.47	26	IAmb	IAmb	21 19 46.3				
D25K	Kavik River baz=231,SNR=6.4	22.47	26	P	P	21 19 44.6	-0.4			
HYT	Haines Junctio baz=262	22.55	51	P	P	21 19 45.9	-0.1			
G27K	Doyon Strip baz=243	22.60	34	P	P	21 19 46.3	-0.1			
I28M	Miner Creek comp=Z,18nm,0.8s	22.67	38	IAmb	IAmb	21 19 54.0				
I28M	Miner Creek baz=248,SNR=16	22.67	38	P	P	21 19 47.9	+0.7			
L29M	L29M baz=256,SNR=16	22.70	45	P	P	21 19 47.7	+0.2			
P30M	Million Dollar baz=264	22.73	53	P	P	21 19 46.7	-1.2			
N30M	Aishikik Lake baz=261	22.84	49	P	P	21 19 48.7	-0.3			
S31K	Pelican comp=Z,21nm,0.8s	23.00	58	IAmb	IAmb	21 20 06.1				
S31K	Pelican baz=270	23.00	58	P	P	21 19 50.5	0.0			

K29M	Barlow Dome	23.15	43		P	21 19 51.3	-0.8			
K29M K29M	comp=Z,9.0nm,0.6s			IAmb	IAmb	21 19 54.5				
K29M	Barlow Dome baz=255,SNR=20	23.15	43	P	P	21 19 51.5	-0.7			
M30M	Minto, Yukon baz=259	23.18	46	P	P	21 19 51.5	-0.9			
O30N	Mendenhall baz=264	23.23	51	P	P	21 19 51.6	-1.3			
C26K	Camden Bay baz=232	23.25	26	P	P	21 19 52.6	-0.3			
E27K	Coleen River baz=240	23.27	31	P	P	21 19 53.0	-0.3			
I29M	Ogilvie Camp, comp=Z,31nm,1.1s	23.28	39	IAmb	IAmb	21 19 59.6				
C27K	Jago River baz=235	23.41	27	P	P	21 19 54.3	-0.2			
N31M	Braeburn, Yuko baz=262	23.47	49	P	P	21 19 55.3	0.0			
SKAG	Skagway baz=267	23.51	54	P	P	21 19 56.4	+0.9			
SIT	Sitka baz=273	23.51	60	P	P	21 19 55.3	-0.3			
H29M	Whitestone comp=Z,14nm,0.8s	23.56	37	IAmb	IAmb	21 19 56.4				
H29M	Whitestone baz=249,SNR=12	23.56	37	P	P	21 19 55.0	-0.9			
F28M	Old Crow baz=244	23.58	33	P	P	21 19 56.2	0.0			
WHY	Whitehorse	23.81	51		sP	21 20 12.8	+0.4			
WHY	Whitehorse baz=265	23.81	51	P	P	21 19 58.2	-0.4			
J30M	Hart River baz=255,SNR=17	23.85	42	P	P	21 19 58.3	-0.6			
S32K	Killisnoo baz=273	23.90	59	P	P	21 19 58.6	-0.6			
G29M	Pine Creek comp=Z,18nm,0.8s	23.94	36	IAmb	IAmb	21 20 06.5				
G29M	Pine Creek baz=248,SNR=7.2	23.94	36	P	P	21 19 59.1	-0.5			
I30M	Mount Dempster comp=Z,12nm,0.7s	24.01	40	IAmb	IAmb	21 20 02.4				
I30M	Mount Dempster baz=253,SNR=24	24.01	40	P	P	21 19 58.8	-1.5			
D27M	Malcolm River baz=239	24.01	29	P	P	21 19 59.1	-1.1			
E28M	Babbage River comp=Z,19nm,0.9s	24.14	31	IAmb	IAmb	21 20 03.7				
E28M	Babbage River baz=242,SNR=7.7	24.14	31	P	P	21 20 01.5	+0.1			
EPYK	Eagle Plains comp=Z,19nm,1.1s	24.23	37	IAmb	IAmb	21 20 08.9				
EPYK	Eagle Plains baz=250,SNR=5.4	24.23	37	P	P	21 20 02.5	+0.2			
E29M	Blow River comp=Z,32nm,0.9s	24.59	32	IAmb	IAmb	21 20 08.4				
E29M	Blow River baz=245,SNR=14	24.59	32	P	P	21 20 05.0	-0.5			
G30M	tAoh Zraii Nji baz=250	24.63	36	P	P	21 20 06.1	+0.2			
P33M	Teslin, Yukon baz=268	24.80	53	P	P	21 20 07.5	-0.1			
U33K	Whale Pass baz=277	24.80	63	P	P	21 20 07.0	-0.5			
CRAG	Craig baz=278	24.89	64	P	P	21 20 07.2	-1.0			
H31M	Peel River comp=Z,18nm,0.8s	24.98	39	IAmb	IAmb	21 20 10.8				
H31M	Peel River baz=254,SNR=13	24.98	39	P	P	21 20 09.2	+0.1			
F30M	Barrier River	25.01	35		P	21 20 09.8	+0.5			
F30M F30M	comp=Z,17nm,0.8s			IAmb	IAmb	21 20 17.6				
F30M	Barrier River baz=249,SNR=7.4	25.01	35	P	P	21 20 09.5	+0.2			
Q32M	Nakina River comp=Z,12nm,0.9s	25.07	56	IAmb	IAmb	21 20 13.7				
Q32M	Nakina River baz=271,SNR=7.8	25.07	56	P	P	21 20 10.0	-0.1			
WRAK	Wrangell Islan comp=Z,26nm,0.8s	25.20	62	IAmb	IAmb	21 20 14.7				
WRAK	Wrangell Islan baz=276,SNR=7.8	25.20	62	P	P	21 20 11.1	+0.1			
G31M	Satah River baz=252	25.34	37	P	P	21 20 12.1	-0.1			
F31M	Tsiigehtchic baz=252	25.69	36	P	P	21 20 14.6	-0.8			
MMPY	Sheldon Lake, baz=264	25.72	47	P	P	21 20 15.6	-0.2			
S34M	Telegraph Cree comp=Z,7.9nm,0.7s	25.72	58	IAmb	IAmb	21 20 20.6				
S34M	Telegraph Cree baz=274	25.72	58	P	P	21 20 15.1	-0.6			
R33M	Jennings River baz=271,SNR=6.3	25.73	55	P	P	21 20 15.0	-1.1			
V35K	Ketchikan comp=Z,16nm,0.9s	25.76	64	IAmb	IAmb	21 20 32.0				
V35K	Ketchikan baz=279	25.76	64	P	P	21 20 14.6	-1.5			
INK	Inuvik baz=250	26.05	34	P	P	21 20 18.1	-0.6			
DLBC	Dease Lake baz=274,SNR=10	26.27	57	P	P	21 20 20.0	-0.8			
T35M	Bob Quinn comp=Z,19nm,1.1s	26.28	60	IAmb	IAmb	21 20 24.9				
T35M	Bob Quinn baz=277,SNR=8.4	26.28	60	P	P	21 20 18.7	-2.2			
TYV	Tymovskoe	26.47	286	*e*P	P	21 20 26.4	+3.8			
TYV TYV	comp=Z,8.0nm,0.9s comp=Z,100nm,5.4s			pmax pmax	pmax pmax					
RUBB	Prince Rupert	26.72	66		sP	21 20 34.9	-3.6			
YSS	Yuzhno-Sakhali	27.84	278	*e*P	P	21 20 34.3	-0.6			
YSS YSS	comp=Z,10.0nm,0.8s comp=Z,300nm,14.0s			pmax MLR	pmax MLR					
ASAJ	Asahikawa comp=Z,15nm,1.0s,baz=99,slow=11,SNR=6.4 comp=Z,15nm,1.0s	29.23	273	P	P	21 20 49.4	+2.0			
YAK	Yakutsk	31.34	312	LR	LR	21 33 58.3				
YAK	comp=Z,272nm,19.2s,baz=100,slow=37 Yakutsk	31.34	312	*i* P	P	21 21 05.6	-0.1			
YAK	comp=Z,5.0nm,0.7s			pmax	pmax					
TIXI	Tiksi	31.92	330		PcP	21 24 00.6	+0.5			
TIXI	Tiksi comp=Z,190nm,19.0s,baz=109,slow=38	31.92	330	LR	LR	21 34 54.2				
YKA	Yellowknife Ar comp=Z,300nm,18.0s,baz=289,slow=40	33.41	47	LR	LR	21 36 45.8				
LON	Longmire comp=Z,5.3nm,0.8s	34.38	76	IAmb	IAmb	21 21 50.0				
H11N2	WAKE ISLAND Hy baz=19,slow=76,SNR=100	34.69	211	T	T	21 58 35.8				
H11N3	WAKE ISLAND Hy baz=19,slow=76,SNR=101	34.70	211	T	T	21 58 42.8				
H11N1	WAKE ISLAND Hy baz=19,slow=76,SNR=89	34.71	211	T	T	21 58 45.5				
HEH	HeiHe	35.74	292	*e*P	P	21 21 42.5	-1.7			
HEH HEH	comp=Z,18nm,0.7s			pmax	pmax					
USA0B	Ussuriysk Arra	35.80	280	P	P	21 21 44.5	-0.2			
USA0B USA0B	comp=Z,7.1nm,0.8s comp=Z,7.0nm,0.8s			IAmb pmax	IAmb pmax	21 21 50.1				
USA0B	Ussuriysk Arra	35.80	280	P	P	21 21 44.5	-0.2			
USRK	Ussuriysk Ar.	35.80	280		P	21 21 44.2	-0.6			
USRK	Ussuriysk Ar. comp=Z,4.8nm,0.6s,baz=61,slow=9.8,SNR=10	35.80	280	P	P	21 21 44.3	-0.4			
USRK USRK	comp=Z,108nm,19.9s,baz=357,slow=38 comp=Z,4.8nm,0.6s			LR	LR	21 37 29.9				
H11S1	WAKE ISLAND Hy baz=20,slow=76,SNR=217	35.90	211	T	T	22 00 58.8				
H11S2	WAKE ISLAND Hy baz=20,slow=76,SNR=129	35.91	211	T	T	22 00 51.3				
H11S3	WAKE ISLAND Hy baz=20,slow=76,SNR=63	35.92	211	T	T	22 00 55.7				
D08A	Wollman Farm, comp=Z,9.3nm,0.9s	35.99	74	IAmb	IAmb	21 22 02.5				
MJA0	Matsu Arr-Jizo	36.26	265	*e*P	P	21 21 49.3	+0.4			
MJA0 MJA0	comp=Z,5.0nm,0.6s			pmax	pmax					
MAJO	Matsushiro	36.29	265		P	21 21 49.9	+0.9			
MAJO MAJO	comp=Z,21nm,1.1s			IAmb	IAmb	21 21 50.6				

MAJO Matsushiro 36.29 265 P P 21 21 49.9 +0.9
MAJO pmax pmax
comp=Z,21nm,1.1s
MJAR Matsushiro Arr 36.29 265 P P 21 21 49.9 +0.8
MJAR Matsushiro Arr 36.29 265 P P 21 21 49.4 +0.3
comp=Z,4.9nm,0.6s,baz=45,slow=7.6,SNR=13
MJAR LR LR 21 35 25.9
comp=Z,171nm,19.7s,baz=48,slow=34
comp=Z,4.9nm,0.6s
MJAR Matsushiro Arr 36.29 265 P P 21 21 49.9 +0.8
MJAR pmax pmax
comp=Z,4.0nm,1.0s
MJB9 Matsu-Tunnel 36.29 265 P P 21 21 50.9 +1.9
MJB9 IAmb IAmb 21 21 51.6
comp=Z,21nm,1.1s
VLA Vladivostok 36.43 278 *i* **P P 21 21 50.4 +0.3**
NEW Newport 36.51 72 IAmb IAmb 21 22 06.9
comp=Z,16nm,0.9s
NEW Newport 36.51 72 LR LR 21 36 19.6
comp=Z,170nm,18.4s,baz=16,slow=36
G08A Pilot Rock 36.82 77 pP 21 22 01.2 -2.1
K05A Summer Lake 36.96 82 pP 21 22 02.4 -2.2
MDJ Mudanjiang 37.06 282 P P 21 21 54.9 -0.7
MDJ IAmb IAmb 21 21 55.5
comp=Z,19nm,1.1s
MSHR Mys Shultsa 37.17 278*ce***P P 21 21 56.1 -0.3**
MSHR pmax pmax
comp=Z,20nm,1.0s
PSTR Posyet 37.35 278 *i* **P P 21 21 58.0 +0.1**
BNX BinXian 37.83 285 ⇑P P 21 22 00.8 -1.2
BNX pmax pmax
comp=Z,53nm,0.7s
BNX pmax pmax
comp=Z,130nm,7.9s
WVOR Wild Horse Val 38.52 81 P P 21 22 12.5 +4.5
WVOR Wild Horse Val 38.52 81 P P 21 22 12.5 +4.5
WVOR pmax pmax
comp=Z,4.0nm,0.8s
MSO Missoula 39.09 72 IAmb IAmb 21 22 30.3
comp=Z,9.6nm,0.8s
CN2 Changchun 40.03 283 *eP* **P 21 22 21.0 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
EGMT Eagleton 40.96 68 IAmb IAmb 21 22 44.9
comp=Z,12nm,0.7s
NVAR Mina Array Bea 41.04 86 P P 21 22 31.6 +2.5
comp=Z,1.1nm,0.7s,baz=313,slow=7.2,SNR=5.7
NVAR ScP **ScP 21 28 16.5 +1.9**
comp=Z,0.3nm,0.5s,baz=262,slow=9.1,SNR=3.7
BOZ Bozeman (W) 41.10 72 IAmb IAmb 21 22 45.2
comp=Z,9.4nm,0.9s
ELK Elko 41.58 81 P P 21 22 37.8 +4.3
ELK Elko 41.58 81 P P 21 22 37.8 +4.3
ELK pmax pmax
comp=Z,3.0nm,0.8s
YHL Hebgen Lake 41.76 73 IAmb IAmb 21 22 52.2
comp=Z,6.8nm,0.7s
DSP Deep Springs 41.90 87 pP 21 22 44.9 -0.7
MZP Montezuma Peak 42.06 86 pP 21 22 45.8 -1.5
FFC Flin Flon 42.09 56 P 21 22 37.9 +0.7
FFC IAmb IAmb 21 22 38.4
comp=Z,6.6nm,0.7s
FFC Flin Flon 42.09 56 P P 21 22 37.9 +0.7
FFC pmax pmax
comp=Z,7.0nm,0.7s
KSRS Korea Array 42.17 274 P P 21 22 38.1 +0.1
comp=Z,10nm,0.9s,baz=54,slow=7.5,SNR=37
KSRS LR LR 21 40 09.5
comp=Z,23µm,21.0s,baz=40,slow=36
comp=Z,10nm,0.9s
KSRS Korea Array 42.17 274 *eP* **P 21 22 38.7 +0.7**
KSRS pmax pmax
comp=Z,10.0nm,0.9s
KS19 Wonju Array Si 42.17 274 IAmb IAmb 21 22 41.4
comp=Z,9.6nm,0.8s
KSAR Wonju Array Be 42.20 274 P 21 22 38.7 +0.4
KSAR Wonju Array Be 42.20 274 P P 21 22 38.7 +0.4
GRAC Grapevine Rang 42.51 87 sP 21 22 52.0 -2.8
RLMT Red Lodge 42.76 72 IAmb IAmb 21 22 60.0
comp=Z,18nm,0.9s
R11B Troy Canyon, C 42.79 84 P P 21 22 45.4 +2.1
JNU Nakatsue 43.09 267 P 21 22 46.6 +1.0
JNU IAmb IAmb 21 22 48.0
comp=Z,22nm,1.0s
JNU Nakatsue 43.09 267 P P 21 22 46.2 +0.6
comp=Z,15nm,0.9s,baz=45,slow=7.3,SNR=9.8
JNU LR LR 21 39 09.3
comp=Z,129nm,20.4s,baz=38,slow=34
comp=Z,15nm,0.9s
CLC China Lake 43.10 88 IAmb IAmb 21 22 44.4
comp=Z,6.7nm,0.7s
SPR3 Spring Creek 3 43.17 82 sP 21 22 57.9 -2.7
TJN Taejon 43.19 273 P 21 22 49.1 +2.8
TJN Taejon 43.19 273 P P 21 22 49.1 +2.8
TJN pmax pmax
comp=Z,79nm,0.6s
TPNV Topopah Spring 43.23 86 sP 21 22 57.5 -3.4
PSUT Pine Spring 43.75 82 pP 21 22 58.3 -2.7
BW06 Boulder Array 43.90 75 IAmb IAmb 21 23 08.3
comp=Z,12nm,1.1s
PD31 Pinedale Array 43.90 75 IAmb IAmb 21 23 08.3
comp=Z,11nm,1.1s
PDAR Pinedale Array 43.90 75 P P 21 22 53.1 +0.8
PDAR Pinedale Array 43.90 75 P P 21 22 52.7 +0.5
comp=Z,1.7nm,0.5s,baz=310,slow=3.9,SNR=18
comp=Z,1.7nm,0.5s
MSU Marysvale 44.80 81 P P 21 23 00.0 +0.4
MSU Marysvale 44.80 81 P P 21 23 00.0 +0.4
TMUT Trail Mountain 44.93 80 P P 21 23 01.3 +0.6
TMUT IAmb IAmb 21 23 20.3
comp=Z,7.4nm,0.7s
DL2 Dalian 45.19 280 P P 21 23 02.0 -0.3
DL2 pmax pmax
comp=Z,38nm,1.0s
XLT XiLinHaoTe 45.61 289 *eP* **P 21 23 05.5 -0.2**
XLT PcP **PcP 21 24 44.3 +0.8**
XLT pmax pmax
comp=Z,10.0nm,0.7s
O20A White River Ci 46.24 77 IAmb IAmb 21 23 33.2
comp=Z,10nm,0.9s
PV23 Carpenter Ridg 46.80 79 IAmb IAmb 21 23 32.9
comp=Z,10nm,1.0s
PV10 Paradox Valley 46.83 79 IAmb IAmb 21 23 36.5
comp=Z,8.9nm,0.8s
PV20 West Nyswonger 46.89 79 P P 21 23 19.5 +3.5
PV20 IAmb IAmb 21 23 38.0
comp=Z,8.2nm,0.7s
PV04 Paradox Valley 46.90 79 IAmb IAmb 21 23 38.7
comp=Z,5.8nm,0.8s
PV19 Morning Glory 46.90 79 IAmb IAmb 21 23 34.5
comp=Z,6.8nm,0.7s
PV11 David Mesa, Pa 46.98 79 IAmb IAmb 21 23 40.4
comp=Z,10nm,0.6s
PV18 Skein Mesa, Pa 46.99 79 IAmb IAmb 21 23 39.4
comp=Z,11nm,0.8s
PV12 Saucer Basin, 47.01 79 IAmb IAmb 21 23 37.2
comp=Z,12nm,0.8s
PV03 Paradox Valley 47.02 79 IAmb IAmb 21 23 35.0
comp=Z,5.7nm,0.7s
PV13 Radium Mtn., P 47.10 79 IAmb IAmb 21 23 36.2
comp=Z,13nm,0.9s
ULN Ulaanbaatar 48.52 298 P 21 23 28.0 -0.5
ULN IAmb IAmb 21 23 28.7
comp=Z,4.7nm,0.9s
ULN Ulaanbaatar 48.52 298*ce***P P 21 23 27.6 -0.9**
ULN pmax pmax
comp=Z,5.0nm,1.0s
AGMN Agassiz Nation 48.67 61 IAmb IAmb 21 23 31.2
comp=Z,13nm,0.9s
SONM Songino Array 48.90 299 P P 21 23 31.1 -0.2
SONM IAmb IAmb 21 23 31.9
comp=Z,4.8nm,1.1s
SONM Songino Array 48.90 299 P P 21 23 31.3 0.0
comp=Z,2.9nm,0.7s,baz=53,slow=8.1,SNR=8.7
SONM PcP **PcP 21 24 55.4 +0.2**
comp=Z,3.6nm,0.9s,baz=76,slow=2.7,SNR=7.3
SONM LR LR 21 47 14.1
comp=Z,168nm,18.1s,baz=344,slow=40
comp=Z,2.9nm,0.7s
SONM Songino Array 48.90 299 P P 21 23 31.1 -0.2
SONM pmax pmax
comp=Z,5.0nm,1.1s
EPLO Experimental L 49.04 58 P 21 23 32.6 +0.4
JOW Kunigami 49.06 263 IAmb IAmb 21 23 33.9
comp=Z,11nm,1.0s
JOW Kunigami 49.06 263 P P 21 23 32.2 -0.4
comp=Z,6.4nm,0.7s,baz=297,slow=4.5,SNR=4.5
comp=Z,6.4nm,0.7s
ZAK Zakamensk 49.12 303 *eP* **P 21 23 32.1 -0.8**
ZAK *e* 21 24 55.8
ZAK pmax pmax
comp=Z,8.0nm,1.3s
ZAK pmax pmax
comp=Z,5.0nm,1.1s
TIA Tai'an 49.67 280 P P 21 23 37.5 +0.3
TIA pmax pmax
comp=Z,19nm,0.7s
KBS Kingsbay 49.93 358 P P 21 23 38.4 -0.2
KBS Kingsbay 49.93 358*ce***P P 21 23 39.5 +0.9**
KBS pmax pmax
comp=Z,47nm,2.5s
KBS Kingsbay 49.93 358 *eP* **P 21 23 38.7 +0.1**
HHC Hu-ho-hao-te 50.12 288 *eP* **P 21 23 39.5 -1.1**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,130nm,6.2s
HNS HongShan 50.39 283 ⇑P P 21 23 43.5 +0.9
HNS pmax pmax
comp=Z,62nm,0.9s
SPA0 Spitsbergen Ar 50.56 357 *eP* **P 21 23 42.7 -0.7**
SPITS Spitsbergen Ar 50.56 357 P P 21 23 42.8 -0.7
comp=Z,16nm,0.6s,baz=52,slow=6.7,SNR=67
SPITS PcP **PcP 21 25 00.7 +0.1**
comp=Z,3.1nm,0.7s,baz=90,slow=4.3,SNR=1.5
comp=Z,16nm,0.6s
SPITS Spitsbergen Ar 50.56 357 P P 21 23 43.1 -0.3
SPITS pmax pmax
comp=Z,24nm,0.7s
SPB2 Spitsbergen Ar 50.56 357 P P 21 23 43.0 -0.4
Y22A Socorro 50.96 82 pP 21 23 56.1 -1.2
BTO Baotou 51.18 289 *eP* **P 21 23 49.5 +0.8**
BTO pP **pP 21 23 59.3 +0.5**
BTO sP **sP 21 24 03.3 +0.4**
BTO PP **PP 21 25 47.0 +1.6**
BTO pmax pmax
comp=Z,28nm,0.7s
BTO pmax pmax
comp=Z,220nm,6.0s
EYMN Ely 51.25 59 IAmb IAmb 21 23 50.6
comp=Z,18nm,1.1s
HOPEN Hopen 51.79 354 *eP* **P 21 23 52.3 -0.3**
TBO Thunder Bay 51.93 57 P 21 23 55.0 +1.0
E38A The Farm, Brul 52.03 60 IAmb IAmb 21 23 55.8
comp=Z,13nm,0.6s
I37A Lemond, Waseca 52.61 64 IAmb IAmb 21 24 15.8
comp=Z,13nm,0.6s
SUMG Summit 52.70 15 P 21 23 58.8 -1.0
SUMG IAmb IAmb 21 24 01.3
comp=Z,8.4nm,1.1s
SUMG Summit 52.70 15 P P 21 23 58.8 -1.0
SUMG pmax pmax
comp=Z,8.0nm,1.1s
VHRN Van Horn 54.32 84 sP 21 24 22.4 -3.8
SFJD Kangerlussuaq 54.70 23 LR LR 21 51 52.3
comp=Z,115nm,18.7s,baz=18,slow=41
P38A Dawn 55.35 68 IAmb IAmb 21 24 22.8
comp=Z,12nm,1.0s
WMOK Wichita Mounta 55.47 76 IAmb IAmb 21 24 38.4
comp=Z,5.5nm,0.9s
KUQ Kuujjuuaa 55.51 38 P 21 24 19.9 -0.1
KUQ IAmb IAmb 21 24 20.2
comp=Z,9.8nm,0.7s
SSLB Suanglung 55.83 266 P 21 24 23.2 +0.3
ZALV Zalesovo Beam 55.86 315 P P 21 24 21.8 -0.8
comp=Z,0.8nm,0.5s,baz=48,slow=7.1,SNR=5.7
ZALV PcP **PcP 21 25 21.3 +0.3**
comp=Z,3.4nm,0.7s,baz=40,slow=3.2,SNR=9.9
ZALV LR LR 21 49 54.1
comp=Z,140nm,19.0s,baz=14,slow=38
comp=Z,0.8nm,0.5s
XAN Xi'an 56.14 284 P P 21 24 25.0 0.0
XAN pP pP 21 24 31.0 -4.1
XAN pmax pmax
comp=Z,23nm,1.2s
TX31 Lajitas Ar. Si 56.15 84 IAmb IAmb 21 24 41.4
comp=Z,5.2nm,1.1s
TXAR Lajitas Array 56.15 84 P 21 24 29.5 +4.3
TXAR Lajitas Array 56.15 84 P P 21 24 24.5 -0.7
comp=Z,0.5nm,0.6s,baz=317,slow=6.7,SNR=10
comp=Z,0.5nm,0.6s
VADS Vadso 57.58 350 *eP* **P 21 24 34.5 0.0**
MGMO Mountain Grove 57.74 70 IAmb IAmb 21 24 58.0
comp=Z,6.3nm,0.9s
LZH Lanzhou 57.80 289 *eP* **P 21 24 37.5 +0.6**
LZH sP sP 21 24 50.5 -0.7
LZH pmax pmax
comp=Z,26nm,1.0s
GTA Gaotai 57.91 294 *eP* **P 21 24 37.0 -0.5**
GTA pP pP 21 24 44.0 -3.7
GTA pmax pmax
comp=Z,9.0nm,1.0s
VLDQ Val d'Or 58.36 51 P 21 24 39.3 -1.1
ENH Enshi 58.38 280 IAmb IAmb 21 24 41.8
comp=Z,6.6nm,0.7s
SCHQ Schefferville 58.43 40 IAmb IAmb 21 24 41.3
comp=Z,6.6nm,0.7s
SCHQ Schefferville 58.43 40 P P 21 24 40.6 -0.2
comp=Z,6.5nm,0.7s,baz=319,slow=5.9,SNR=6.4
comp=Z,6.5nm,0.7s
ARA0 ARCESS Array S 58.52 352 *eP* **P 21 24 40.2 -1.0**
ARCES ARCESS Array B 58.52 352 P P 21 24 40.3 -0.9
ARCES IAmb IAmb 21 24 40.8
comp=Z,13nm,0.8s
ARCES ARCESS Array B 58.52 352 P P 21 24 39.6 -1.6
comp=Z,8.4nm,0.7s,baz=16,slow=8.4,SNR=24
ARCES PcP **PcP 21 25 31.3 +0.1**
comp=Z,6.7nm,0.7s,baz=15,slow=5.0,SNR=10.0
ARCES LR LR 21 52 45.5
comp=Z,47nm,18.1s,baz=70,slow=39
comp=Z,8.4nm,0.7s
MIAR Mount Ida 58.74 73 IAmb IAmb 21 24 56.4
comp=Z,7.3nm,0.9s
JETT Jettan, Norway 58.90 354 *eP* **P 21 24 43.5 -0.4**
TRO Tromso 58.92 354 *eP* **P 21 24 43.5 -0.5**
LVZ Lovozero 59.06 347 P P 21 24 43.5 -1.5
comp=Z,20nm,0.9s
KTK1 Kautokeino 59.23 353 *eP* **P 21 24 45.5 -0.5**
Q48B Farmland 59.70 62 P P 21 24 49.5 -0.2
SADO Sadowa 59.81 55 P 21 24 51.4 +0.9
USIN University of 59.85 66 P P 21 24 52.5 +1.7
LOF Lofoten 60.68 356 *eP* **P 21 24 55.3 -0.8**
STEI Steigen 60.81 356 *eP* **P 21 24 55.8 -1.1**
KURK Kurchatov 60.84 316 P 21 24 57.2 -0.2
KURK Kurchatov 60.84 316*ce***P P 21 24 57.3 -0.1**
KURK pmax pmax
comp=Z,12nm,0.6s
T47A Sharon Grove 60.85 66 P 21 24 59.1 +1.4
T47A IAmb IAmb 21 25 02.4
comp=Z,8.2nm,0.6s
KURBB Kurchatov Arra 60.95 316 P P 21 24 57.5 -0.6
comp=Z,12nm,0.5s,baz=44,slow=6.7,SNR=95
KURBB LR LR 21 52 57.7
comp=Z,184nm,18.9s,baz=189,slow=38
comp=Z,12nm,0.5s
TRQ Mont Tremblant 61.09 51 P 21 24 59.0 -0.3
FAUS Fauske 61.35 356 *eP* **P 21 24 59.5 -1.1**
WMQ Urumqi 61.45 305 *eP* **P 21 25 02.0 +0.2**
WMQ LR LR
comp=Z,170nm,24.1s
R50A Paris 61.53 64 IAmb IAmb 21 25 04.4
comp=Z,7.0nm,0.7s
CLTN Cedars of Leba 61.92 67 IAmb IAmb 21 25 08.8
comp=Z,3.5nm,0.8s
MK31 Makanchi Array 62.01 311 *i* **P P 21 24 04.2 -1.2**
MKAR Makanchi Array 62.01 311 P P 21 24 04.5 -0.8
comp=Z,5.7nm,0.4s,baz=48,slow=5.6,SNR=101
MKAR LR LR 21 54 28.7
comp=Z,84nm,18.3s,baz=12,slow=38
comp=Z,5.7nm,0.4s
VAGH Vaagaholmen 62.09 356 *eP* **P 21 25 04.4 -1.2**
RABL Rabaul 62.12 218 P 21 25 05.2 -1.2
T50A Nancy 62.12 65 IAmb IAmb 21 25 21.9
comp=Z,5.1nm,0.6s
MAKZ Makanchi 62.14 311 P P 21 25 02.4 -3.9
KONS Konsvik 62.33 356 *eP* **P 21 25 06.5 -0.7**
STOK Stokkvaagen 62.50 356 *eP* **P 21 25 07.6 -0.7**
BVA0 Borovoye Array 62.51 322 P P 21 25 07.8 -0.9
BVAR Borovoye Array 62.51 322 P P 21 25 08.6 -0.1
comp=Z,16nm,0.4s,baz=52,slow=6.4,SNR=158
BVAR PcP **PcP 21 25 47.9 +0.4**
comp=Z,11nm,0.7s,baz=49,slow=3.2,SNR=15
BVAR LR LR 21 54 44.8
comp=Z,222nm,19.4s,baz=44,slow=38
comp=Z,16nm,0.4s
BRVK Borovoye 62.53 322 P 21 25 09.0 +0.3
BRVK IAmb IAmb 21 25 10.1
comp=Z,6.2nm,0.5s
BRVK Borovoye 62.53 322*ce***P P 21 25 09.1 +0.3**
BRVK pmax pmax
comp=Z,4.0nm,0.5s
MOR8 Moi Rana 62.60 356 *eP* **P 21 25 07.0 -2.0**
LEIR Leirfjorden 62.72 356 *eP* **P 21 25 09.2 -0.6**
Q54A Coxs Mills 62.97 61 IAmb IAmb 21 25 13.7
comp=Z,9.7nm,0.7s
TGY Tagaytay City 63.10 259 P P 21 25 14.3 +1.3
comp=Z,102nm,0.3s,baz=316,slow=7.2,SNR=4.1
VT1 Waterbury 63.34 52 IAmb IAmb 21 25 14.6
comp=Z,6.7nm,0.6s
SSPA Standing Stone 63.38 58 P P 21 25 15.0 +0.4
FPAL Fort Paine 63.43 67 IAmb IAmb 21 25 20.2
comp=Z,5.0nm,0.9s
LBNH Lisbon 63.81 51 IAmb IAmb 21 25 18.3
comp=Z,11nm,0.8s
N58A Sunbury 63.85 57 IAmb IAmb 21 25 26.2
comp=Z,11nm,0.9s
ARTI Arti 64.02 330 P 21 25 17.5 -1.0
ARTI Arti 64.02 330 LR LR 21 56 41.8
comp=Z,89nm,19.5s,baz=74,slow=39
ARTI Arti 64.02 330*d* **iP P 21 25 19.4 +0.9**
ARTI 21 25 52.1
ARTI 21 27 41.3
ARTI S **S 21 33 55.5 +4.0**
ARTI SS **SS 21 38 04.1 +4.5**
ARTI pmax pmax
comp=Z,5.0nm,0.6s
HNH Hanover 64.03 52 IAmb IAmb 21 25 20.5
comp=Z,13nm,1.1s
BATG Bathurst New B 64.31 46 IAmb IAmb 21 25 22.6
comp=Z,7.1nm,0.8s
PKME Peaks-Kenny Pk 64.33 49 IAmb IAmb 21 25 21.6
comp=Z,10nm,0.9s
NSS Namsos 64.34 357 *eP* **P 21 25 19.9 -0.6**
HNR Honiara 64.36 208 LR LR 21 48 24.7
comp=Z,61nm,19.6s,baz=250,slow=31
BG3 Lake Jocassee 64.65 65 IAmb IAmb 21 25 25.9
comp=Z,11nm,1.1s
KIRV Kirov 64.67 336 LR LR 21 57 32.9
comp=Z,60nm,19.1s,baz=356,slow=40
WVL Waterville 64.67 50 IAmb IAmb 21 25 23.6
comp=Z,10nm,0.7s
KLMR Klimovskoe 64.82 342 *eP* **P 21 25 21.4 -2.3**
KLMR pmax pmax
comp=Z,12nm,1.6s
V55A Taylorsville 65.00 63 IAmb IAmb 21 25 29.1
comp=Z,13nm,1.1s
G65A Princeton 65.19 48 IAmb IAmb 21 25 27.1
comp=Z,12nm,0.8s
HODGE Hodges 65.58 65 IAmb IAmb 21 25 32.3
comp=Z,7.3nm,0.7s
PZH PanZhiHua 65.83 283 P P 21 25 31.3 +0.3
PZH pmax pmax
comp=Z,20nm,0.8s
PDGK Podgornoye 65.90 310 P P 21 25 30.7 -0.5
KMI Kunming 66.23 281 ⇑P P 21 25 34.8 +1.2
KMI pmax pmax
comp=Z,12nm,0.8s
FINES FINESS Array B 66.33 349 P P 21 25 32.1 -1.3
comp=Z,4.2nm,0.7s,baz=18,slow=8.0,SNR=16
FINES LR LR 21 58 00.1
comp=Z,75nm,18.3s,baz=92,slow=39
comp=Z,4.2nm,0.7s
DRLN Deer Lake 66.41 39 P 21 25 34.4 +0.2
DRLN IAmb IAmb 21 25 35.3
comp=Z,12nm,0.9s
MOL Molde 66.42 359 *eP* **P 21 25 33.6 -0.4**
AKN Aaknes 66.81 359 *eP* **P 21 25 36.4 -0.2**
DOMB Dombas 66.92 358 *eP* **P 21 25 36.9 -0.4**
TAOE Nuku Hiva Isla 66.98 142 *e***LR LR** 21 45 45.3
comp=Z,196nm,29.6s
FOO Floro 67.41 0 *eP* **P 21 25 39.6 -0.6**
HYA Hoyanger 67.84 360 *eP* **P 21 25 42.7 -0.2**
NB2 NORSAR Subarra 67.86 357 P P 21 25 42.3 -0.9
comp=Z,5.7nm,0.6s,baz=3.9,slow=6.2
NOA NORSAR Array B 67.86 357 P P 21 25 42.5 -0.7
comp=Z,6.9nm,0.7s,baz=4.7,slow=6.4,SNR=42
NOA LR LR 21 57 51.5
comp=Z,25nm,18.0s,baz=215,slow=38
comp=Z,6.9nm,0.7s
NC602 NORSAR Array S 68.16 357 IAmb IAmb 21 25 45.1
comp=Z,8.2nm,1.1s
NC602 NORSAR Array S 68.16 357 *eP* **P 21 25 44.5 -0.5**
SLVN Son La 68.29 277 P 21 25 46.1 -0.4
SLVN IAmb IAmb 21 25 49.4
comp=Z,6.1nm,0.9s
SKAR Skarslia 68.30 358 *eP* **P 21 25 45.6 -0.4**
ASK Askoy 68.53 0 *eP* **P 21 25 46.8 -0.5**
BER Bergen 68.62 360 *eP* **P 21 25 48.2 +0.3**
HFS Hagfors 68.67 355 P P 21 25 47.2 -1.0
comp=Z,13nm,0.5s,baz=11,slow=3.0,SNR=134
comp=Z,13nm,0.5s
AAK Ala-Archa 68.79 312 P P 21 25 49.4 -0.2
AAK IAmb IAmb 21 25 50.5
comp=Z,8.1nm,0.6s
AAK Ala-Archa 68.79 312*ce***P P 21 25 50.6 +1.1**
AAK pmax pmax
comp=Z,3.0nm,0.7s
OSL Oslo 68.98 357 *eP* **P 21 25 50.5 +0.3**
NRN Naryn 69.02 311 P P 21 25 50.6 -0.5
NRN IAmb IAmb 21 25 53.6
comp=Z,3.7nm,1.0s
NRN Naryn 69.02 311 P P 21 25 50.6 -0.5
NRN pmax pmax
comp=Z,4.0nm,1.0s
ODD1 Odda 69.09 359 *eP* **P 21 25 50.8 -0.1**
AKTO Aktyubinsk 69.13 327 P P 21 25 50.9 -0.4
VSU Vasula 69.15 348*ce***P P 21 25 49.2 -2.0**
VSU pmax pmax
comp=Z,14nm,0.8s
KONO Kongsberg 69.31 358 P 21 25 52.3 +0.1
KONO IAmb IAmb 21 25 52.8
comp=Z,12nm,0.8s
KONO Kongsberg 69.31 358*ce***P P 21 25 52.6 +0.4**
KONO pmax pmax
comp=Z,13nm,1.3s
KONO Kongsberg 69.31 358 *eP* **P 21 25 52.1 -0.1**
BLSS Blasjo 69.58 359 *eP* **P 21 25 53.8 -0.1**
KMY Karmoy 69.80 360 *eP* **P 21 25 55.1 -0.1**
KK31 Karatay Array 70.23 315 IAmb IAmb 21 25 59.0
comp=Z,8.4nm,1.0s
KK31 Karatay Array 70.23 315 P P 21 25 57.6 -0.6
KKAR Karatay Array 70.23 315 P 21 25 58.3 +0.1
KKAR Karatay Array 70.23 315 P P 21 25 58.3 +0.1
KSH Kashi 70.51 309 P P 21 26 04.0 +3.9
KSH pP pP 21 26 11.3 +0.6
KSH pmax pmax
comp=Z,15nm,0.7s
ARSB Arslanbob 70.52 312 IAmb IAmb 21 26 02.2
comp=Z,7.4nm,0.8s
BELG Belogorsnoye 70.63 334 LR LR 22 00 17.1
comp=Z,69nm,18.7s,baz=349,slow=39
SNART Snartemo 70.67 359 *eP* **P 21 26 00.7 +0.1**
SNART Snartemo 70.67 359 *i* **P P 21 26 00.1 -0.4**
HOMB Homborsund 70.71 358 *eP* **P 21 26 00.7 -0.1**
HOMB Homborsund 70.71 358 *i* **P P 21 26 00.4 -0.4**
OBN Obninsk 70.75 342*de***P P 21 26 00.0 -1.1**
OBN *e* 21 26 22.4
OBN *e* 21 28 36.5
OBN *eS* **SKSac 21 35 54.4 -5.2**
OBN pmax pmax
comp=Z,5.0nm,0.6s
BORU Boraas 71.21 356 *i* **P P 21 26 03.4 -0.4**
ONAU Onsala 71.48 356 *i* **P P 21 26 04.3 -1.1**
FABU Falkenberg 71.84 356 *i* **P P 21 26 07.0 -0.6**
PPT Papeete 72.08 155 LR LR 21 51 45.1
comp=Z,90nm,21.3s,baz=356,slow=31
PPT2 Papeete2 72.10 155 *e***LR LR** 21 48 11.2
comp=Z,118nm,27.8s
PPT2 *e***LR LR** 21 48 12.1
comp=Z,109nm,22.0s
DEL Delary 72.31 355 *i* **P P 21 26 09.6 -0.9**
BLEU Blekinge 72.36 354 *i* **P P 21 26 09.8 -1.0**
MUD Monsted U'grnd 72.52 358 *i* **P P 21 26 12.1 +0.5**
MUD IAmb IAmb 21 26 12.5
comp=Z,14nm,0.7s
BTK Batken 72.53 313 IAmb IAmb 21 26 13.6
comp=Z,9.8nm,0.8s

LPSR	Galich'ya Gora	72.61	339	*e*P		P	21 26 09.3	-3.0	
LPSR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
MNK	Minsk	72.84	346	*i* P		P	21 26 12.5	-1.1	
MNK				*i*			21 26 29.5		
MNK				*i*			21 28 54.1		
MNK				*i* PPP		PPP	21 30 38.5		
MNK				*i* S		S	21 35 38.8	+2.4	
MNK				*i*			21 36 14.7		
MNK				*i* SS		SS	21 40 19.4	+3.8	
MNK				pmax		pmax			
	comp=Z,13nm,0.8s								
MNK				pmax		pmax			
	comp=E,7.0nm,0.9s								
MNK				pmax		pmax			
	comp=N,10.0nm,0.9s								
MNK				MLR		MLR			
	comp=Z,54nm,15.0s								
MNK				MLR		MLR			
	comp=N,82nm,20.0s								
MNK				MLR		MLR			
	comp=E,215nm,19.0s								
LUNU	Lund	73.17	355	*i* P		P	21 26 15.3	-0.2	
VRH	Novokhopyorsk	73.25	337	*e*P		P	21 26 13.8	-2.3	
VRH				pmax		pmax			
	comp=Z,8.0nm,1.0s								
VORR	Voronezh	73.41	339	*e*P		P	21 26 15.5	-1.6	
VORR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
RAR	Rarotonga	73.44	165	LR		LR	21 50 54.7		
	comp=Z,96nm,19.9s,baz=70,slow=30								
EKA	Eskdalemuir Ar	73.46	5	P		P	21 26 17.3	0.0	
	comp=Z,5.1nm,0.7s,baz=354,slow=4.6,SNR=19								
	comp=Z,5.1nm,0.7s								
CMAR	Chiang Mai Arr	73.52	279	P		P	21 26 18.5	+0.2	
CMAR	Chiang Mai Arr	73.52	279	P		P	21 26 18.8	+0.5	
	comp=Z,2.1nm,0.6s,baz=24,slow=6.7,SNR=16								
	comp=Z,2.1nm,0.6s								
CMAR	Chiang Mai Arr	73.52	279	*e*P		P	21 26 18.9	+0.6	
CMAR				pmax		pmax			
	comp=Z,2.0nm,0.6s								
VSR	Storozhevoye	73.84	339	*e*P		P	21 26 16.0	-3.6	
VSR				pmax		pmax			
	comp=Z,10.0nm,1.0s								
SIMJ	Simiganj	74.48	313			P	21 26 24.3	+0.5	
SIMJ				IAmb		IAmb	21 26 24.9		
	comp=Z,16nm,0.9s								
BSEG	Bad Segeberg	75.00	357	*e*P		P	21 26 26.7	+0.4	
	comp=Z,12nm,0.7s,baz=3.9,slow=5.7								
AK21	Malin Array Si	76.27	345	P		P	21 26 32.3	-1.3	
AK22	Malin Array Si	76.28	345	P		P	21 26 32.5	-1.1	
AKASG	Malin Array Be	76.31	345	P		P	21 26 32.5	-1.3	
	comp=Z,8nm,0.4s,baz=19,slow=6.1,SNR=17								
AKASG				LR		LR	22 04 57.2		
	comp=Z,43nm,18.5s,baz=34,slow=40								
	comp=Z,2.8nm,0.4s								
AKBB	Malin Array Si	76.31	345	IAmb		IAmb	21 26 33.0		
	comp=Z,7.2nm,0.5s								
AKBB	Malin Array Si	76.31	345	P		P	21 26 32.7	-1.1	
AK18	Malin Array Si	76.31	345	P		P	21 26 32.6	-1.3	
KIEV	Kiev	76.32	345			P	21 26 32.6	-1.3	
KIEV				IAmb		IAmb	21 26 33.0		
	comp=Z,6.4nm,0.5s								
KIEV	Kiev	76.32	345	P		P	21 26 32.6	-1.3	
KIEV				pmax		pmax			
	comp=Z,6.0nm,0.5s								
KIEV	Kiev	76.32	345	P		P	21 26 32.5	-1.3	
	comp=Z,35nm,0.9s								
KIEV	Kiev	76.32	345	⇑P		P	21 26 32.7	-1.2	
NIL	Nilore	76.48	307			P	21 26 35.2	0.0	
NIL	Nilore	76.48	307	P		P	21 26 35.2	0.0	
NIL				pmax		pmax			
	comp=Z,26nm,0.8s								
FLTG	Flechtingen	76.58	356	*e*P		P	21 26 35.3	0.0	
	comp=Z,7.9nm,0.7s,baz=3.9,slow=5.7								
IBBN	Ibbenburen	76.70	358	*e*P		P	21 26 36.8	+0.8	
	comp=Z,16nm,0.7s,baz=3.9,slow=5.7								
CLZ	Clausthal	77.10	357	*e*P		P	21 26 39.2	+0.9	
	comp=Z,8.8nm,0.7s,baz=3.9,slow=5.7								
LUBAR	Lubar, Ukraine	77.30	345	P		P	21 26 38.0	-1.5	
GTTG	Gottingen	77.41	357	*e*P		P	21 26 40.7	+0.6	
	comp=Z,9.7nm,0.8s,baz=3.9,slow=5.7								
CLL	Collm	77.51	355			P	21 26 39.4	-1.2	
CLL				IAmb		IAmb	21 26 41.1		
	comp=Z,8.6nm,0.8s								
CLL	Collm	77.51	355	*i* P		P	21 26 40.1	-0.5	
CLL				*e**PP		PcP	21 26 50.0	-0.8	
CLL				pmax		pmax			
	comp=Z,9.0nm,0.9s								
CLL	Collm	77.51	355	P		P	21 26 40.4	-0.2	
	comp=Z,13nm,0.8s								
CLL	Collm	77.51	355	*i* P		P	21 26 40.1	-0.5	
	comp=Z,9.0nm,0.9s								
CLL				*e*pP		PcP	21 26 50.0	-0.8	
CLL	Collm	77.51	355	*e*P		P	21 26 39.9	-0.6	
	comp=Z,6.8nm,0.7s,baz=3.9,slow=5.7								
BUG	Bochum--Univer	77.58	359	*e*P		P	21 26 41.2	+0.3	
	comp=Z,8.6nm,0.8s,baz=3.9,slow=5.7								
TBI	Tubuai	77.63	156	*e*LR		LR	21 50 43.2		
	comp=Z,540nm,24.0s								
KSP	Ksiaz	77.76	353	P		P	21 26 41.8	-0.2	
	comp=Z,8.5nm,0.9s								
KASTN	Kahler Asten	77.79	358	*e*P		P	21 26 42.4	+0.1	
	comp=Z,6.2nm,1.1s,baz=3.9,slow=5.7								
KBL	Kabul	77.81	311			P	21 26 41.8	-1.1	
KBL	Kabul	77.81	311	P		P	21 26 41.8	-1.1	
KBL				pmax		pmax			
	comp=Z,16nm,0.8s								
BRG	Berggiesshubel	77.89	354	*e*P		P	21 26 42.8	0.0	
	comp=Z,5.2nm,0.8s,baz=3.9,slow=5.7								
BRG	Berggiesshubel	77.89	354	*i* P		P	21 26 42.7	0.0	
BRG				Amp			21 26 43.4		
	comp=Z,7.5nm,0.8s								
CHVC	Chvalec	78.03	353	*e*P		P	21 26 43.4	-0.1	
CHVC	Chvalec	78.03	353	*e*P		P	21 26 43.4	-0.1	
OSTC	Ostas	78.05	353	*e*P		P	21 26 43.8	+0.2	
OSTC	Ostas	78.05	353	*e*P		P	21 26 43.8	+0.2	
UPC	Upice	78.11	353	*e*P		P	21 26 43.8	-0.2	
UPC	Upice	78.11	353	*e*P		P	21 26 43.8	-0.2	
RICC	Richard	78.21	354	*e*P		P	21 26 45.3	+0.8	
MOX	Moxa	78.24	356	*e*P		P	21 26 44.3	-0.4	
	comp=Z,5.0nm,0.8s,baz=3.9,slow=5.7								
DPC	Dobruska-Polom	78.24	353	*e*P		P	21 26 44.8	0.0	
DPC	Dobruska-Polom	78.24	353	*e*P		P	21 26 44.8	0.0	
DPC	Dobruska-Polom	78.24	353	P		P	21 26 45.1	+0.3	
	comp=Z,11nm,1.1s								
MEM	Membach	78.42	359	*d*P		P	21 26 45.7	+0.1	
	comp=Z,9.2nm,1.0s								
BTNL	Ternell	78.44	359	*d*P		P	21 26 45.5	-0.3	
	comp=Z,8.9nm,0.9s								
BSTI	Sart Tilman	78.45	360	*d*P		P	21 26 46.0	+0.2	
	comp=Z,2.9nm,0.7s								
KRLC	Kraliky	78.48	352	*e*P		P	21 26 45.9	-0.2	
KRLC	Kraliky	78.48	352	*e*P		P	21 26 45.9	-0.2	
STEB	Steborice	78.53	352	*e*P		P	21 26 46.0	-0.3	
GOF	Gofitskoye	78.57	334	*ce*P		P	21 26 39.3	-7.3	
BGES	Gesves	78.65	0	*d*P		P	21 26 47.1	+0.2	
	comp=Z,5.5nm,1.0s								
NDNU	Novodnistrovsk	78.65	345	P		P	21 26 46.1	-0.9	
STHS	Stebnicka Huta	78.69	349	*e*P		P	21 26 47.0	-0.2	
STHS	Stebnicka Huta	78.69	349	*e*P		P	21 26 47.0	-0.2	
MORC	Moravsky Berou	78.71	352	*e*P		P	21 26 46.8	-0.6	
BMRD	Maredsous	78.73	0	*d*P		P	21 26 47.5	+0.2	
	comp=Z,12nm,0.9s								
PRU	Pruhonice	78.73	354	*e*P		P	21 26 47.4	0.0	
PRU	Pruhonice	78.73	354	*e*P		P	21 26 47.4	0.0	
TNS	Taunus Mts	78.77	358	*e*P		P	21 26 48.3	+0.6	
	comp=Z,7.1nm,0.8s,baz=3.9,slow=5.7								
KMPD	K-Podol'skiy	78.83	346	P		P	21 26 46.2	-1.7	
MANZ	Manzenberg	78.88	355	*e*P		P	21 26 48.5	+0.3	
	comp=Z,0.6nm,0.8s,baz=3.9,slow=5.7								
RCHB	Rochefort	78.88	0	*d*P		P	21 26 48.3	+0.1	
	comp=Z,7.3nm,1.0s								
DOU	Dourbes	78.94	0	*d*P		P	21 26 48.6	+0.1	
	comp=Z,6.6nm,0.9s								
SORM	Soroca	78.94	344	P		P	21 26 47.4	-1.1	
	comp=Z,14nm,0.9s								
SORM	Soroca	78.94	344	⇓P		P	21 26 47.9	-0.6	
STNU	Starunia	78.97	347	P		P	21 26 47.8	-0.9	
ROTZ	Rotzenmuhle	79.09	355	*e*P		P	21 26 48.9	-0.5	
	comp=Z,0.8nm,0.8s,baz=3.9,slow=5.7								
LANS	Liptovska Anna	79.15	351	*e*P		P	21 26 50.2	+0.5	
LANS	Liptovska Anna	79.15	351	*e*P		P	21 26 50.2	+0.5	
GRF	Grafenberg Arr	79.21	356	*e*P		P	21 26 51.0	+0.9	
	comp=Z,8.0nm,0.7s,baz=3.9,slow=5.7								
MTN	Manton Dam	79.24	234	IAmb		IAmb	21 26 51.2		
	comp=Z,11nm,0.8s								
VRAC	Vranov	79.26	352	*e*P		P	21 26 49.9	-0.4	
VRAC	Vranov	79.26	352	⇑P		P	21 26 50.3	0.0	
KSV	Kosov	79.28	347	P		P	21 26 49.8	-0.6	
ZVC	Zvikov	79.30	354	*e*P		P	21 26 50.4	-0.1	
WLF	Walferdange	79.36	359	IAmb		IAmb	21 26 53.1		
	comp=Z,8.1nm,0.8s								
WLF	Walferdange	79.36	359	*d*P		P	21 26 51.5	+0.6	
	comp=Z,7.4nm,0.7s								
WLF	Walferdange	79.36	359	*e*P		P	21 26 51.8	+0.9	
	comp=Z,6.3nm,0.7s,baz=3.9,slow=5.7								
KSM	Kuching	79.46	259	IAmb		IAmb	21 26 54.2		
	comp=Z,16nm,1.1s								
NSLU	Nyzhne Selyshc	79.48	347	P		P	21 26 52.1	+0.6	
KRUC	Moravsky	79.52	353	*e*P		P	21 26 51.3	-0.4	
JAVC	Velka Javorina	79.61	352	*e*P		P	21 26 52.9	+0.6	
KHC	Kasperske Hory	79.65	354	*e*P		P	21 26 52.6	+0.1	
KHC	Kasperske Hory	79.65	354	*e*P		P	21 26 52.6	+0.1	
KHC	Kasperske Hory	79.65	354	P		P	21 26 52.7	+0.2	
	comp=Z,8.2nm,1.0s								
WET	Wettzell	79.68	355	*e*P		P	21 26 53.0	+0.4	
	comp=Z,1.6nm,0.8s,baz=3.9,slow=5.7								
KIV	Kislovodsk	79.68	333	*e*P		P	21 26 52.6	-0.2	
KIV				pmax		pmax			
	comp=Z,4.0nm,1.0s								
BERU	Beregovo	79.68	348	P		P	21 26 53.2	+0.6	
KBZ	Khabaz	79.83	333	P		P	21 26 53.8	+0.4	
	comp=Z,1.7nm,0.7s,baz=180,slow=1.0,SNR=3.6								
KBZ				LR		LR	22 08 19.9		
	comp=Z,52nm,18.1s,baz=34,slow=40								
	comp=Z,1.7nm,0.7s								
KBZ	Khabaz	79.83	333	*e*P		P	21 26 54.2	+0.7	
KBZ				pmax		pmax			
	comp=Z,2.0nm,0.7s								
VYHS	Vyhne	79.86	351	*e*P		P	21 26 53.9	+0.3	
VYHS	Vyhne	79.86	351	*e*P		P	21 26 53.9	+0.3	
BUR08	Bucovina Ar. S	79.91	346	IAmb		IAmb	21 26 55.1		
	comp=Z,5.8nm,1.0s								
CKRC	Cesky Krumlov	79.91	354	*e*P		P	21 26 53.6	-0.3	
CKRC	Cesky Krumlov	79.91	354	*e*P		P	21 26 53.6	-0.3	
GEC2	GERESS Array S	79.93	354	*e*P		P	21 26 54.5	+0.4	
	comp=Z,9.9nm,0.8s,baz=3.9,slow=5.7								
GERES	GERESS Array B	79.93	354	P		P	21 26 54.1	+0.1	
	comp=Z,2.6nm,0.8s,baz=20,slow=4.4,SNR=19								
	comp=Z,2.6nm,0.8s								
BURAR	Bucovina Array	79.94	346			P	21 26 53.5	-0.6	
BURAR				IAmb		IAmb	21 26 55.5		
	comp=Z,4.8nm,0.8s								
BURAR	Bucovina Array	79.94	346	⇓P		P	21 26 54.0	-0.1	
MODS	Modra-Piesok	80.13	352	*e*P		P	21 26 53.8	-1.2	
MODS	Modra-Piesok	80.13	352	*e*P		P	21 26 53.8	-1.2	
AKT	Akhty	80.42	329	*e*P		P	21 26 55.9	-1.0	
AKT				pmax		pmax			
	comp=Z,12nm,1.3s								
ARCR	ARCALIA	80.58	347	⇑P		P	21 26 58.2	+0.7	
CONA	Conrad Observa	80.69	353	*i* P		P	21 26 58.2	+0.1	
	comp=Z,1.8nm,0.7s,SNR=5.6								
TESR	Tescani	80.79	345	P		P	21 26 58.4	-0.2	
	comp=Z,6.7nm,1.6s								
ECH	Echery	80.81	359	IAmb		IAmb	21 27 00.3		
	comp=Z,6.7nm,0.9s								
RONA	Rosalia, Austr	80.88	352	*i* P		P	21 26 59.1	0.0	
	comp=Z,1.1nm,0.8s								
MOA	Molln	80.88	354	*i* P		P	21 26 59.2	+0.1	
	comp=Z,0.8nm,0.6s								
BIOA	Bad Ischl, Aus	81.08	354	*i* P		P	21 27 00.2	0.0	
	comp=Z,2.0nm,1.0s								
RJOB	Jochberg	81.08	355	*e*P		P	21 27 00.5	+0.3	
	comp=Z,2.4nm,0.7s,baz=3.9,slow=5.7								
DRGR		81.09	348	⇓P		P	21 27 00.1	-0.2	
DRGR		81.09	348	⇓P		P	21 27 00.1	-0.2	
GHRR		81.11	345	P		P	21 27 00.7	+0.4	
MARR	Marisel-Cluj	81.15	348	⇓P		P	21 27 00.4	-0.3	
MPLH	Magyarpolny	81.30	352	P		P	21 27 02.0	+0.7	
	comp=Z,15nm,1.1s								
TURR	Turia	81.34	346	⇑P		P	21 27 02.6	+1.0	
ARSA	Arzberg	81.39	353	*i* P		P	21 27 01.9	+0.1	
	comp=Z,1.7nm,0.8s								
LESA	Schwarzleotal	81.40	355	*i* P		P	21 27 01.5	-0.5	
	comp=Z,1.0nm,0.7s								
VRI	Vrincioaia	81.41	345	⇓P		P	21 27 02.2	+0.3	
VRI	Vrincioaia	81.41	345	⇓P		P	21 27 02.2	+0.3	
RETA	Reutte	81.43	356	*i* P		P	21 27 02.1	-0.1	
	comp=Z,1.5nm,0.7s								
PLOR5	Plostina Array	81.44	345	P		P	21 27 02.7	+0.6	
	comp=Z,4.5nm,0.8s								
COVR	Voineasa-Covas	81.51	345	⇓P		P	21 27 03.4	+0.9	
WATA	Walderalm	81.55	356	*i* P		P	21 27 02.6	-0.2	
	comp=Z,2.2nm,1.0s								
MOTA	Moosalm	81.56	356	*i* P		P	21 27 02.8	-0.1	
	comp=Z,1.4nm,0.8s								
WTTA	Wattenberg	81.62	356	*i* P		P	21 27 03.3	0.0	
	comp=Z,2.0nm,0.7s								
SQTA	Sankt Quirin	81.68	356	*i* P		P	21 27 03.7	+0.3	
	comp=Z,2.5nm,0.8s								
KBA	Koelnbreinsper	81.71	354	*i* P		P	21 27 03.7	0.0	
	comp=Z,7.7nm,0.8s								
TLCR		81.71	343	⇓P		P	21 27 03.9	+0.4	
TLCR		81.71	343	⇓P		P	21 27 03.9	+0.4	
SIRR	Siria	81.74	349	⇑P		P	21 27 04.1	+0.5	
CFR	Carcaliu	81.84	344	⇓P		P	21 27 04.5	+0.4	
CFR	Carcaliu	81.84	344	⇓P		P	21 27 04.5	+0.4	
MLR	Muntele Rosu	81.90	345	IAmb		IAmb	21 27 07.1		
	comp=Z,5.5nm,0.7s								
MLR	Muntele Rosu	81.90	345	⇑P		P	21 27 05.7	+1.0	
MLR	Muntele Rosu	81.90	345	P		P	21 27 05.5	+0.8	
	comp=Z,2.2nm,1.0s								
MLR	Muntele Rosu	81.90	345	⇑P		P	21 27 05.7	+1.0	
FETA	Feichten	81.90	356	*i* P		P	21 27 05.1	+0.4	
	comp=Z,2.6nm,0.7s								
SOKA	Soboth	81.99	353	*i* P		P	21 27 05.4	+0.3	
	comp=Z,4.9nm,0.8s,SNR=5.5								
VOIR		82.09	346	⇑P		P	21 27 06.5	+0.9	
VOIR		82.09	346	P		P	21 27 06.2	+0.6	
	comp=Z,4.8nm,1.2s								
VOIR		82.09	346	⇑P		P	21 27 06.5	+0.9	
TPGR	Topolog	82.10	344	⇓P		P	21 27 06.2	+0.6	
SURR	Surduc	82.19	348	⇓P		P	21 27 06.1	+0.1	
OBKA	Obir	82.20	354	*i* P		P	21 27 06.5	+0.3	
	comp=Z,3.7nm,0.7s,SNR=4.1								
HARR	Harsova	82.35	344	⇓P		P	21 27 07.3	+0.4	
HARR	Harsova	82.35	344	⇓P		P	21 27 07.3	+0.4	
BZS	Buzias	82.39	348	⇓P		P	21 27 06.9	-0.1	
BZS	Buzias	82.39	348	⇓P		P	21 27 06.9	-0.1	
GZR	Gura Zlata	82.46	348	⇑P		P	21 27 07.3	-0.2	
GZR	Gura Zlata	82.46	348	⇑P		P	21 27 07.3	-0.2	
TIRR	Tirgusor	82.49	343	⇑P		P	21 27 07.9	+0.4	
TIRR	Tirgusor	82.49	343	P		P	21 27 08.0	+0.4	
	comp=Z,11nm,0.8s								
TIRR	Tirgusor	82.49	343	⇑P		P	21 27 07.9	+0.4	
WRA	Warramunga Arr	83.80	227	P		P	21 27 13.4	-1.1	
	comp=Z,1.9nm,1.0s,baz=39,slow=6.2,SNR=9.7								
	comp=Z,1.9nm,1.0s								
LOZB	Loznitsa	83.86	345	⇓P		P	21 27 14.9	+0.2	
BNI	Bardonecchia	83.97	359	IAmb		IAmb	21 27 19.6		
	comp=Z,3.5nm,0.8s								
PLVB	Pleven	84.16	346	⇓P		P	21 27 16.9	+0.7	
OZAP	Van, Ozalp-Mer	84.16	330	⇓P		P	21 27 18.2	+1.6	
BOVS	Bovan	84.33	348	⇑P		P	21 27 16.8	-0.3	
RPSI	Rantau Prapat	85.60	269	IAmb		IAmb	21 27 24.7		
	comp=Z,8.0nm,0.8s								
LHI	Lord Howe Isla	85.67	202	P		P	21 27 23.2	-0.5	
PDG	Podgorica	85.81	350	⇑P		P	21 27 24.6	+0.1	
NRCA	Norcia	85.95	354	P		P	21 27 25.9	+0.6	
NRCA				IAmb		IAmb	21 27 26.6		
	comp=Z,7.9nm,0.9s								
BR106	Keskin Array S	85.96	338	P		P	21 27 25.6	+0.1	
	comp=Z,1.8nm,1.2s								
BR131	Keskin Array S	85.97	338	IAmb		IAmb	21 27 26.4		
	comp=Z,4.1nm,1.0s								
BRTR	Keskin Array B	85.97	338			P	21 27 25.6	+0.1	
BRTR	Keskin Array B	85.97	338	P		P	21 27 24.9	-0.6	
	comp=Z,1.6nm,0.9s,baz=45,slow=3.7,SNR=8.2								
	comp=Z,1.6nm,0.9s								
BR105	Keskin Array S	85.98	338	P		P	21 27 25.7	+0.1	
RDO	Rodhopi	86.20	345	IAmb		IAmb	21 27 28.5		
	comp=Z,7.1nm,0.9s								
BNN	Bunyan	86.27	337	P		P	21 27 27.0	0.0	
BNN				IAmb		IAmb	21 27 28.1		
	comp=Z,5.1nm,0.8s								
KIRS	Kirsehir-Merke	86.47	338	⇑P		P	21 27 28.8	+0.9	
FITZ	Fitzroy Crossi	86.48	235	P		P	21 27 27.9	0.0	
	comp=Z,7.2nm,0.8s,baz=55,slow=4.7,SNR=12								
	comp=Z,7.2nm,0.8s								
FNA	Florina	87.17	348	IAmb		IAmb	21 27 31.8		
	comp=Z,4.9nm,0.7s								
ASAR	Alice Springs	87.22	226	P		P	21 27 31.6	0.0	
	comp=Z,2.4nm,0.8s,baz=32,slow=4.7,SNR=20								
	comp=Z,2.4nm,0.8s								
ESDC	Sonseca Array	89.00	7			P	21 27 40.0	0.0	
ESDC				IAmb		IAmb	21 27 40.8		
	comp=Z,3.0nm,1.1s								
ESDC	Sonseca Array	89.00	7	P		P	21 27 39.6	-0.4	
	comp=Z,2.5nm,1.0s,baz=347,slow=3.8,SNR=9.5								
	comp=Z,2.5nm,1.0s								
STKA	Stephens Creek	91.33	216	P		P	21 27 51.0	+0.4	
	comp=Z,2.4nm,0.8s,baz=18,slow=9.3,SNR=4.5								
	comp=Z,2.4nm,0.8s								
STKA	Stephens Creek	91.33	216	*e*P		P	21 27 52.4	+1.8	
STKA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
ROSC	El Rosal	92.75	79	LR		LR	22 09 41.3		
	comp=Z,316nm,20.9s,baz=62,slow=36								
RAYN	Ar Rayn	97.48	323			P	21 28 19.2	-0.1	
RAYN				IAmb		IAmb	21 28 20.2		
	comp=Z,4.7nm,0.9s								
RAYN	Ar Rayn	97.48	323	P		P	21 28 19.2	-0.1	
RAYN				pmax		pmax			
	comp=Z,5.0nm,0.9s								
TORD	Torodi Ar. Bea	115.71	4	PKP		PKiKP	21 33 27.1	-0.6	
	comp=Z,0.9nm,0.3s,baz=358,slow=3.0,SNR=2.4								
H03N2	Juan Fernandez	118.72	108	T		T	23 44 12.8		
	baz=317,slow=78,SNR=17								
H03N1	Juan Fernandez	118.73	108	T		T	23 44 10.7		
	baz=317,slow=78,SNR=18								
H03N3	Juan Fernandez	118.73	108	T		T	23 44 09.7		
	baz=317,slow=78,SNR=22								
DBIC	Dimbokro	121.57	12	PKP		PKPdf	21 33 37.9	-1.1	
	comp=Z,1.2nm,0.4s,baz=19,slow=3.7,SNR=1.3								
PLCA	Paso Flores	128.56	110	PKP		PKPdf	21 33 51.8	+0.2	
	comp=Z,1.5nm,0.7s,baz=268,slow=4.6,SNR=3.5								
QSPA	South Pole Qui	141.10	180	PKhKP		PKPpre	21 34 08.9		
	comp=Z,0.9nm,0.7s,baz=305,slow=0.7,SNR=5.9								
MAW	Mawson	148.00	218	PKPbc		PKPbc	21 34 29.5	+0.4	
	comp=Z,6.1nm,0.7s,baz=102,slow=1.8,SNR=12								
BOSA	Boshof	152.77	319	PKPbc		PKPbc	21 34 41.6	-0.3	
	comp=Z,2.6nm,0.4s,baz=24,slow=2.3,SNR=17								
SNAA	Sanae	159.28	173	PKPab		PKPab	21 35 18.7	-0.9	
	comp=Z,0.8nm,0.9s,baz=258,slow=6.5,SNR=3.6								

*IDC **26** 21:34:41.9±1.0,28.°60N×139.°90E,h404km±30km,mb2.9/6, mbtmp3.7/7, Error ellipse: s-maj=86.6km s-min=16.2km az=74.0*

ISC 26 21:34:41.6±0.9,**28.°6N**±0.°2×**139.°9E**±0.°2,**h400**km,**n7,** σ0**56**/8,**mb3.1**/6,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	2.55	125	P		Pn		21 35 40.7	-0.7
	78nm,0.4s,baz=259,slow=17,SNR=28								
JCJ				S		S		21 36 30.6	+0.9
	58nm,0.4s,baz=288,slow=23,SNR=15								
MKAR	Makanchi Array	47.93	309	P		P		21 42 41.7	+0.1
	0.4nm,0.7s,baz=83,slow=12,SNR=2.6								
	0.4nm,0.7s								
WRA	Warramunga Arr	48.54	187	P		P		21 42 46.4	0.0
	0.3nm,0.3s,baz=3.0,slow=7.7,SNR=14								
	0.3nm,0.3s								
KURBB	Kurchatov Arra	50.52	314	P		P		21 43 01.1	+0.3
	0.5nm,0.4s,baz=91,slow=7.4,SNR=4.0								
	0.5nm,0.4s								
ASAR	Alice Springs	52.27	187	P		P		21 43 13.9	0.0
	0.3nm,0.3s,baz=21,slow=12,SNR=6.1								
	0.3nm,0

WRA	**Warramunga Arr**	**48.55**	**256**	P		**P**	**22 44 51.4**	**-0.4**
	0.5nm,1.0s,baz=91,slow=6.6,SNR=4.5							
WRA				LR		LR	23 03 20.7	
	comp=Z,126nm,20.0s,baz=50,slow=34							
	0.5nm,1.0s							
GUMO	**Guam**	**48.72**	**303**	LR		LR	23 03 56.0	
	comp=Z,36nm,18.3s,baz=114,slow=34							
ASAR	**Alice Springs**	**48.91**	**251**	P		**P**	**22 44 55.0**	**+0.5**
	1.1nm,0.8s,baz=85,slow=8.0,SNR=16							
	1.1nm,0.8s							
FITZ	**Fitzroy Crossi**	**56.90**	**258**	LR		LR	23 08 05.8	
	comp=Z,79nm,21.3s,baz=104,slow=34							
DAV	**Davao City (W)**	**62.82**	**286**	LR		LR	23 13 07.4	
	comp=Z,53nm,18.0s,baz=119,slow=35							
VNDA	**Vanda**	**63.90**	**185**	P		**P**	**22 46 40.5**	**+0.1**
	0.9nm,1.0s,baz=360,slow=7.5,SNR=3.6							
	0.9nm,1.0s							
PFO	**Pinyon Flats O**	**73.56**	**48**	LR		LR	23 15 42.5	
	comp=Z,66nm,18.2s,baz=222,slow=32							
KDAK	**Kodiak Island**	**74.57**	**12**	LR		LR	23 13 51.2	
	comp=Z,58nm,21.1s,baz=195,slow=30							
NVAR	**Mina Array Bea**	**74.83**	**43**	P		**P**	**22 47 49.3**	**+0.5**
	0.4nm,0.6s,baz=243,slow=4.6,SNR=4.6							
	0.4nm,0.6s							
QSPA	**South Pole Qui**	**75.31**	**180**	P		**P**	**22 47 50.7**	**-0.4**
	1.4nm,0.9s,baz=46,slow=8.1,SNR=8.6							
	1.4nm,0.9s							
BBB	**Bella Bella**	**77.96**	**27**	LR		LR	23 15 51.6	
	comp=Z,46nm,19.8s,baz=208,slow=31							
TXAR	**Lajitas Array**	**81.48**	**57**	P		**P**	**22 48 25.8**	**+0.2**
	0.2nm,0.8s,baz=190,slow=2.3,SNR=3.5							
TXAR				LR		LR	23 19 56.1	
	comp=Z,28nm,18.9s,baz=216,slow=32							
	0.2nm,0.8s							
ANMO	**Albuquerque**	**81.52**	**51**	LR		LR	23 20 07.2	
	comp=Z,71nm,19.2s,baz=340,slow=32							
ILAR	**Eielson Array**	**82.08**	**12**	P		**P**	**22 48 27.3**	**-0.6**
	1.1nm,1.2s,baz=206,slow=5.1,SNR=4.6							
	1.1nm,1.2s							
PDAR	**Pinedale Array**	**82.77**	**42**	P		**P**	**22 48 31.8**	**-0.5**
	0.3nm,0.7s,baz=280,slow=6.0,SNR=2.9							
	0.3nm,0.7s							
H03S2	**Juan Fernandez**	**86.81**	**124**	T		T	00 24 36.2	
	baz=251,slow=74							
H03S1	**Juan Fernandez**	**86.83**	**124**	T		T	00 24 37.9	
	baz=251,slow=74							
H03S3	**Juan Fernandez**	**86.83**	**124**	T		T	00 24 37.9	
	baz=251							
BRTR	**Keskin Array B**	**144.69**	**320**	PKP		**PKPdf**	**22 55 44.9**	**-0.2**
	1.3nm,0.9s,baz=48,slow=2.1,SNR=4.5							
GERES	**GERESS Array B**	**145.24**	**350**	PKPbc		**PKPdf**	**22 55 46.1**	**+0.4**
	0.5nm,0.8s,baz=59,slow=12,SNR=3.4							
DAVOX	**Davos/Dischmat**	**147.79**	**354**	PKPbc		**PKPbc**	**22 55 53.8**	**+0.8**
	2.3nm,0.8s,baz=62,slow=1.1,SNR=4.1							

*NEIC **26** 23:08:26.4±2.7, 17.°99S±0.°1×168.°6E±0.°2, h121km±13km, mb4.3/4, Error ellipse: s-maj=29.8km s-min=12.9km az=125.0*
*IDC **26** 23:08:27.2±3.8, 18.°01S×168.°58E, h143km±34km, mb3.8/8, mbtmp4.2/9, Error ellipse: s-maj=35.5km s-min=24.2km az=160.0*
*NOU **26** 23:08:28.6, 17.°99S×168.°55E, h121km, MLv4.8/14, Vanuatu Islands*
ISC 26 23:08:27.9±0.7, 17.°95S±0.°05×168.°6E±0.°1, h150km, n34, σ1§26/37, mb3.9/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**0.44**	**301**	P	**Pn**	**23 08 47.2**	**-1.7**
DVP	**Devils Point**	**0.44**	**301**	S	**Sn**	**23 09 02.8**	**-2.1**
VLAKA	**Lakatoro**	**2.14**	**329**	P	**Pn**	**23 09 03.2**	**-1.5**
VLAKA	**Lakatoro**	**2.14**	**329**	S	**Sn**	**23 09 31.7**	**-1.3**
YATNC	**Mamie plateau,**	**4.38**	**201**	P	**Pn**	**23 09 31.7**	**-1.4**
DZM	**Mont Dzumac**	**4.56**	**206**		**Pn**	**23 09 34.7**	**-0.9**
DZM				Sn	**Sn**	**23 10 25.8**	**-2.6**
DZM	**Mont Dzumac**	**4.56**	**206**	P	**Pn**	**23 09 34.7**	**-0.9**
	25nm,0.3s,baz=89,slow=12,SNR=115						
DZM				S	**Sn**	**23 10 26.2**	**-2.2**
	134nm,0.5s,baz=129,slow=23,SNR=18						
DZM	**Mont Dzumac**	**4.56**	**206**	P	**Pn**	**23 09 35.1**	**-0.5**
QUENC	**Quen Island, N**	**4.73**	**200**	P	**Pn**	**23 09 37.8**	**+0.1**
PINNC	**Pines Island,**	**4.76**	**193**		**Pn**	**23 09 37.3**	**-0.7**
PINNC				Sn	**Sn**	**23 10 29.8**	**-3.0**
PINNC	**Pines Island,**	**4.76**	**193**	P	**Pn**	**23 09 38.2**	**+0.1**
PINNC	**Pines Island,**	**4.76**	**193**	S	**Sn**	**23 10 31.7**	**-1.1**
ONTNC	**Quen Toro**	**4.77**	**204**	P	**Pn**	**23 09 38.5**	**+0.3**
ONTNC				Sn	**Sn**	**23 10 31.8**	**-1.4**
ONTNC	**Quen Toro**	**4.77**	**204**	P	**Pn**	**23 09 38.0**	**-0.2**
ONTNC	**Quen Toro**	**4.77**	**204**	S	**Sn**	**23 10 31.8**	**-1.4**
KOUNC	**Koumac, New Ca**	**4.81**	**237**	P	**Pn**	**23 09 39.2**	**+0.5**
CTAO	**Charters Tower**	**21.21**	**261**	P	**P**	**23 13 03.8**	**+1.9**
BKZ	**Black Stump Fm**	**22.23**	**164**	P	**P**	**23 13 13.3**	**+1.0**
BKZ				IAmb	IAmb	23 13 24.1	
	comp=Z,31nm,1.4s						
STKA	**Stephens Creek**	**28.03**	**235**		**P**	**23 14 06.0**	**+0.9**
STKA	**Stephens Creek**	**28.03**	**235**	P	**P**	**23 14 05.9**	**+0.9**
	comp=Z,5.3nm,0.7s,baz=57,slow=8.2,SNR=15						
	comp=Z,5.3nm,0.7s						
WRA	**Warramunga Arr**	**32.41**	**261**	P	**P**	**23 14 42.8**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=80,slow=6.1,SNR=18						
	comp=Z,1.0nm,0.6s						
AS31	**Alice Springs**	**32.85**	**254**	P	**P**	**23 14 47.4**	**-0.3**
AS31				IAmb	IAmb	23 14 47.8	
	comp=Z,3.3nm,0.8s						
ASAR	**Alice Springs**	**32.85**	**254**	P	**P**	**23 14 47.1**	**-0.5**
	comp=Z,7.9nm,0.6s,baz=81,slow=8.9,SNR=80						
	comp=Z,7.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**77.41**	**294**	P	**P**	**23 20 08.4**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=135,slow=4.6,SNR=5.2						
	comp=Z,0.9nm,0.5s						
SONM	**Songino Array**	**85.82**	**323**	P	**P**	**23 20 50.5**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=134,slow=5.1,SNR=5.0						
	comp=Z,0.8nm,0.5s						
NVAR	**Mina Array Bea**	**88.42**	**49**	P	**P**	**23 21 04.5**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=287,slow=4.2,SNR=4.7						
	comp=Z,0.8nm,0.7s						
ILAR	**Eielson Array**	**89.20**	**17**	P	**P**	**23 21 06.1**	**0.0**
	comp=Z,0.4nm,0.6s,baz=245,slow=5.0,SNR=5.5						
	comp=Z,0.4nm,0.6s						
SNAA	**Sanae**	**90.41**	**183**	P	**P**	**23 21 11.5**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=158,slow=5.4,SNR=6.1						
	comp=Z,0.8nm,0.8s						
ARCES	**ARCESS Array B**	**123.67**	**345**	PKP	**PKPdf**	**23 27 06.3**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=50,slow=2.3,SNR=7.7						
FINES	**FINESS Array B**	**129.16**	**338**	PKP	**PKPdf**	**23 27 16.8**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=106,slow=5.1,SNR=4.0						
BRTR	**Keskin Array B**	**135.53**	**309**	PKP	**PKiKP**	**23 27 32.3**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=75,slow=2.5,SNR=2.7						
GERES	**GERESS Array B**	**143.07**	**332**	PKP	PKPbc	23 27 41.4	+0.1
	comp=Z,0.3nm,0.5s,baz=24,slow=3.5,SNR=2.9						
WLF	**Walferdange**	**145.34**	**340**		**PKPab**	**23 27 48.8**	**+0.6**
TUE	**Stuetta**	**146.78**	**333**		**PKPbc**	**23 27 52.7**	**+0.2**

IDC 26 23:19:25.1±2.0, 0.°35S×124.°95E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=184.1km s-min=28.5km az=63.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.53**	**155**	P	P	23 24 14.8	-1.4
	0.3nm,0.4s,baz=333,slow=11,SNR=7.5						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**24.75**	**160**	P	P	23 24 49.6	+1.0
	0.4nm,0.3s,baz=342,slow=8.8,SNR=8.0						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**59.94**	**327**	P	P	23 29 33.1	-0.2
	0.2nm,0.5s,baz=139,slow=5.4,SNR=1.6						
	0.2nm,0.5s						

*SJA **26** 23:22:22.7±0.7, 29.°33S×72.°46W, h28km±8km, ML4.4, MW4.4*
*IDC **26** 23:22:25.9±0.8, 29.°46S×71.°85W, h0km, mb4.0/7, mbtmp4.0/11, ML4.0/4, MS3.2/5, Error ellipse: s-maj=29.5km s-min=20.3km az=94.0*
*NEIC **26** 23:22:26.3±1.5, 29.°38S±0.°03×72.°02W±0.°03, h10km±4km, mb4.4/6, Mwr4.1/52, Mwr4.4(GUC), Error ellipse: s-maj=5.3km s-min=1.3km az=218.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=1.35; $M_{\theta\theta}$=0.29; $M_{\phi\phi}$=-1.65; $M_{r\theta}$=0.13; $M_{\theta\phi}$=-0.20; $M_{\phi r}$=-0.66; Fault plane solution: M_o=1.68000×10^{15} NP1:ϕ_s=177.33000°, δ57.21000°, λ79.87000°. NP2:ϕ_s=15.59000°, δ34.15000°, λ105.27000°. Principal axes: T 1.5175, Plg75.0000°, Azm58.0000°; N 0.2822, Plg9.0000°, Azm183.0000°; P -1.7997, Plg12.0000°, Azm275.0000°;*
*NEIC **26** 23:22:26.1, 29.°37S×72.°02W, h10km*
*GUC **26** 23:22:27.2±0.9, 29.°41S×71.°89W, h32km±4km, ML4.4*
ISC 26 23:22:25.2±0.5, 29.°39S±0.°02×72.°05W±0.°03, h10km, n112, σ2§27/155, mb4.3/8, 8C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**0.88**	**127**		**Pn**	**23 22 42.5**	**-1.2**
CO05				Sg	**Sn**	**23 22 54.2**	**-0.3**
CO05	**La Serena**	**0.88**	**127**	⇓*i*	**Pn**	**23 22 42.4**	**-1.3**
CO05				*i* S	**Sg**	**23 22 52.5**	**-1.1**
CO05				IAML		23 22 55.0	
	comp=N,20μm,0.5s						
LCO	**Las Campanas**	**1.24**	**72**		**Pg**	**23 22 49.0**	**0.0**
LCO					**Sn**	**23 23 06.0**	**+0.2**
LCO	**Las Campanas**	**1.24**	**72**	⇓*i*	**Pg**	**23 22 48.6**	**-0.5**
LCO				*i* S	**Sn**	**23 23 05.0**	**-0.8**
LCO				IAML		23 23 09.9	
	comp=N,39μm,0.4s						
LCO	**Las Campanas**	**1.24**	**72**	*eP*	Pb	23 22 42.9	-6.0
LCO				IAML		23 23 07.2	
	comp=Z,13μm,0.5s						
CO06	**Fray Jorge**	**1.33**	**164**		**Pg**	**23 22 50.3**	**-0.4**
CO06				Sn	**Sg**	**23 23 08.6**	**+0.6**
CO06	**Fray Jorge**	**1.33**	**164**	⇑*i*	**Pb**	**23 22 49.9**	**-0.4**
CO06				*i* S	**Sb**	**23 23 05.2**	**-2.1**
CO06				IAML		23 23 08.7	
	comp=E,5μm,0.3s						
GO04	**Tololo Observa**	**1.34**	**126**		**Pg**	**23 22 50.2**	**-0.7**
GO04				Sn	**Sn**	**23 23 08.0**	**-0.2**
GO04	**Tololo Observa**	**1.34**	**126**	⇓*i*	**Pg**	**23 22 50.0**	**-1.0**
GO04				*i* S	**Sg**	**23 23 06.9**	**-1.4**
GO04				IAML		23 23 12.9	
	comp=E,33μm,0.4s						
GO04	**Tololo Observa**	**1.34**	**126**	*eP*	**Pg**	**23 22 49.9**	**-1.1**
GO04				*eS*	**Sn**	**23 23 08.2**	**0.0**
GO04				IAML		23 23 10.8	
	comp=Z,8μm,0.6s						
AC04	**Llanos de Chal**	**1.46**	**36**		**Pb**	**23 22 52.0**	**-0.4**
AC04	**Llanos de Chal**	**1.46**	**36**	⇑*i*	**Pb**	**23 22 52.1**	**-0.4**
AC04				*i* S	**Sb**	**23 23 10.4**	**-0.7**
AC04	**Llanos de Chal**	**1.46**	**36**	*eP*	**Pg**	**23 22 52.1**	**-1.1**
AC04				IAML		23 23 22.6	
	comp=Z,2μm,0.6s						
CO01	**Juntas del Tor**	**1.80**	**109**		**Pb**	**23 22 57.5**	**-1.0**
CO01				Sn	**Sb**	**23 23 20.1**	**-1.0**
CO01	**Juntas del Tor**	**1.80**	**109**	⇓*i*	**Pb**	**23 22 57.4**	**-1.0**
CO01				*i* S	**Sb**	**23 23 19.9**	**-1.2**
CO01	**Juntas del Tor**	**1.80**	**109**	*eP*	**Pb**	**23 22 57.5**	**-1.0**
CO01				*eS*	**Sn**	**23 23 15.8**	**-3.8**
CO01				IAML		23 23 23.5	
	comp=Z,2μm,0.6s						
CO03	**El Pedregal**	**1.86**	**141**		**Pb**	**23 22 57.7**	**-1.7**
CO03				Sn	**Sn**	**23 23 20.8**	**-0.2**
CO03	**El Pedregal**	**1.86**	**141**	⇑*i*	**Pb**	**23 22 58.0**	**-1.4**
CO03				*i* S	**Sn**	**23 23 20.7**	**-0.2**
CO03				IAML		23 23 26.8	
	comp=N,5μm,0.4s						
CO03	**El Pedregal**	**1.86**	**141**	*eP*	**Pb**	**23 22 58.0**	**-1.4**
CO03				*eS*	**Sn**	**23 23 15.8**	**-5.2**
CO03				IAML		23 23 25.7	
	comp=Z,2μm,0.4s						
CO02	**Combarbal**	**2.02**	**154**		**Pb**	**23 23 00.6**	**-1.5**
CO02	**Combarbal**	**2.02**	**154**	⇑*i*	**Pb**	**23 23 00.7**	**-1.5**
CO02				*i* S	**Sn**	**23 23 25.1**	**+0.2**
CO02				IAML		23 23 31.7	
	comp=N,12μm,0.3s						
CO02	**Combarbal**	**2.02**	**154**	*eP*	**Pb**	**23 23 00.7**	**-1.5**
CO02				*eS*	**Sg**	**23 23 28.2**	**-2.0**
CO02				IAML		23 23 33.0	
	comp=Z,4μm,0.5s						
AROD	**Rodeo**	**2.37**	**110**	*eP*	**Pb**	**23 23 07.8**	**-0.5**
AROD				*eS*	**Sb**	**23 23 37.9**	**+0.2**
GO03	**Copiapo**	**2.40**	**42**		**Pn**	**23 23 05.5**	**+0.9**
GO03	**Copiapo**	**2.40**	**42**	*eS*	**Sb**	**23 23 37.1**	**-1.2**
GO03				IAML		23 23 47.4	
	comp=Z,828nm,0.5s						
AC06	**Mina Casimiro**	**2.52**	**37**		**Pn**	**23 23 07.3**	**+1.0**
AC06	**Mina Casimiro**	**2.52**	**37**	⇑*i*	**Pb**	**23 23 07.8**	**-2.8**
AC06				*eS*	**Sb**	**23 23 39.3**	**-2.3**
AC06				IAML		23 23 52.6	
	comp=E,1μm,0.4s						
ACDV	**Cuesta del Vie**	**2.66**	**108**	*eP*	**Pb**	**23 23 13.0**	**-0.1**
ACDV				*eS*	**Sg**	**23 23 49.7**	**-1.1**
ACDV				IAML		23 23 51.2	
	comp=Z,900nm,0.9s						
ACCO	**Cerro Coronel**	**2.85**	**115**	*eP*	**Pb**	**23 23 15.0**	**-1.4**
ACCO				*eS*	**Sg**	**23 23 54.3**	**-2.6**
DOCA	**Reserva Natura**	**3.00**	**122**	*eP*	**Pb**	**23 23 16.8**	**-2.2**
DOCA				*eS*	**Sg**	**23 24 01.6**	**-0.2**
VA06	**Catapilco**	**3.22**	**169**		**Pn**	**23 23 16.8**	**+0.9**
VA06	**Catapilco**	**3.22**	**169**	*eP*	**Pn**	**23 23 16.7**	**+0.8**
VA06				*i* S	**Sn**	**23 23 55.1**	**+0.7**
RTLS	**Leoncito**	**3.38**	**136**	*eP*	**Pb**	**23 23 22.5**	**-2.8**
RTLS				*eS*	**Sb**	**23 24 06.6**	**+0.1**
RTLS				IAML		23 24 16.4	
	comp=Z,2μm,0.7s						
VCA	**Vinchina**	**3.43**	**80**	*eP*	**Pb**	**23 23 24.3**	**-1.9**
VCA				*eS*	**Sb**	**23 24 06.2**	**-1.7**
VCA				IAML		23 24 23.6	
	comp=Z,1μm,0.7s						
AC01	**Pan de Azucar**	**3.48**	**22**		**Pn**	**23 23 19.8**	**+0.4**
AC01	**Pan de Azucar**	**3.48**	**22**	*eP*	**Pn**	**23 23 19.4**	**-0.1**
AC01				*eS*	**Sg**	**23 24 14.8**	**-2.1**
VA03	**San Esteban**	**3.60**	**159**		**Pn**	**23 23 22.9**	**+1.7**
VA03	**San Esteban**	**3.60**	**159**	*eP*	**Pn**	**23 23 23.4**	**+2.2**
VA03				*eS*	**Sn**	**23 24 07.0**	**+3.2**
VA03				IAML		23 24 31.4	
	comp=Z,688nm,0.6s						
ZON	**Zonda**	**3.62**	**127**		**Pn**	**23 23 23.0**	**+1.6**
AC02	**Maricunga**	**3.63**	**46**		**Pn**	**23 23 23.3**	**+1.4**
AC02	**Maricunga**	**3.63**	**46**	*eP*	**Pn**	**23 23 24.2**	**+2.3**
AC02				*eS*	**Sb**	**23 24 10.9**	**-3.1**
AC02				IAML		23 24 26.7	
	comp=Z,469nm,0.6s						
VA01	**Torpederas**	**3.64**	**175**		**Pn**	**23 23 22.7**	**+1.1**
VA01	**Torpederas**	**3.64**	**175**	*eP*	**Pn**	**23 23 22.1**	**+0.5**
VA01				*eS*	**Sb**	**23 24 14.6**	**+0.9**
VA01				IAML		23 24 31.3	
	comp=Z,254nm,0.7s						
RTLL	**Cerro Villicun**	**3.64**	**123**	*eP*	**Pb**	**23 23 25.8**	**-4.0**
RTLL				*eS*	**Sb**	**23 24 10.4**	**-3.6**
PEL	**Peldehue**	**3.92**	**163**		**Pn**	**23 23 26.7**	**+1.2**
MT02	**Curacav**	**3.93**	**169**		**Pn**	**23 23 27.4**	**+1.8**
CFA	**Coronel Fontan**	**3.96**	**125**	Pn	**Pn**	**23 23 29.3**	**+3.2**
	comp=Z,13nm,0.3s,baz=297,slow=15,SNR=63						
CFA				Sn	**Sn**	**23 24 15.4**	**+2.8**
	comp=Z,15nm,0.3s,baz=244,slow=20,SNR=4.1						
CFA				LR	LR	23 24 38.2	
	comp=Z,214nm,19.1s,baz=272,slow=35						
CFA	**Coronel Fontan**	**3.96**	**125**	*eP*	**Pn**	**23 23 24.3**	**-1.8**
CFA				*eP*	Pb	23 23 29.7	-5.5
CFA				*eS*	**Sb**	**23 24 19.3**	**-3.9**
CFA				*eS*	Sg	23 24 22.5	-10
CFA				IAML		23 24 30.6	
	comp=Z,300nm,0.8s						
MT05	**Renca**	**4.14**	**165**		**Pn**	**23 23 31.0**	**+2.4**
MT05	**Renca**	**4.14**	**165**	*eP*	**Pn**	**23 23 30.4**	**+1.8**
MT05				*eS*	**Sb**	**23 24 25.7**	**-2.7**
MT05				IAML		23 24 44.1	
	comp=Z,597nm,1.8s						
ASAL	**Salagasta**	**4.22**	**140**	*eP*	Pb	23 23 34.2	-5.4
ASAL				*eS*	**Sg**	**23 24 35.3**	**-5.4**
MT16	**CCHEN**	**4.23**	**162**		**Pn**	**23 23 31.7**	**+1.8**
MT04	**Ro Olivares**	**4.32**	**158**	*eP*	**Pn**	**23 23 34.4**	**+3.1**
MT04				*eS*	**Sn**	**23 24 25.1**	**+3.3**
MT04				IAML		23 24 43.9	
	comp=Z,326nm,0.5s						
MT08	**Bocatoma Ro**	**4.40**	**157**		**Pn**	**23 23 34.8**	**+2.6**
MT08	**Bocatoma Ro**	**4.40**	**157**	*eP*	**Pn**	**23 23 36.3**	**+4.0**
MT08				*eS*	**Sb**	**23 23 39.5**	**+3.6**
MT08				IAML		23 24 45.0	
	comp=Z,423nm,0.7s						
ACLC	**CERRO LA CRUZ**	**4.45**	**92**	*eP*	**Pn**	**23 23 35.8**	**+2.8**
ACLC				*eS*	**Sb**	**23 24 32.0**	**-5.4**
ACLC				IAML		23 24 42.3	
	comp=Z,177nm,0.6s						
MT09	**Talagante**	**4.46**	**169**		**Pn**	**23 23 34.2**	**+1.1**
MT01	**Popeta**	**4.51**	**172**	*eP*	**Pn**	**23 23 34.3**	**+0.7**
MT01				*eS*	**Sb**	**23 24 40.1**	**+1.2**
MT01				IAML		23 24 54.3	
	comp=Z,209nm,0.5s						
LMEL	**Las Melosas**	**4.71**	**161**		**Pn**	**23 23 38.4**	**+1.8**
LMEL	**Las Melosas**	**4.71**	**161**	*eP*	**Pn**	**23 23 38.0**	**+1.5**
BO04	**La Punta**	**4.75**	**165**		**Pn**	**23 23 38.0**	**+1.1**
GO02	**Mina Guanaco**	**4.75**	**28**		**Pn**	**23 23 37.9**	**+0.7**
GO02	**Mina Guanaco**	**4.75**	**28**	IAML		23 25 07.7	
	comp=Z,348nm,0.6s						
PB14	**IPOC Station P**	**4.97**	**18**		**Pn**	**23 23 39.5**	**-0.7**
BO02	**Sierra Bellavi**	**5.49**	**169**		**Pn**	**23 23 48.3**	**+1.2**
PB10	**IPOC Station P**	**6.01**	**13**	Pn	**Pn**	**23 23 52.7**	**-1.5**
ML02	**Panimavida**	**6.38**	**175**		**Pn**	**23 24 00.2**	**+1.0**
PB05	**IPOC Station P**	**6.72**	**15**	Pn	**Pn**	**23 24 02.8**	**-1.3**
PB06	**IPOC Station P**	**7.02**	**19**	Pn	**Pn**	**23 24 07.3**	**-1.0**
H03N1	**Juan Fernandez**	**7.12**	**234**	Pn	**Pn**	**23 24 09.6**	**+0.5**
	baz=112,slow=18						
H03N1				Sn	**Sn**	**23 25 24.5**	**-5.4**
	baz=311,slow=74						
H03N1				T	T	23 31 51.3	
	baz=64,slow=71,SNR=1145						
H03N2	**Juan Fernandez**	**7.13**	**234**	Pn	**Pn**	**23 24 09.7**	**+0.3**
	baz=112,slow=18						
H03N2				Sn	**Sn**	**23 25 24.6**	**-5.8**
H03N2				T	T	23 31 49.0	
	baz=64,slow=71,SNR=1349						
H03N3	**Juan Fernandez**	**7.13**	**234**	Pn	**Pn**	**23 24 09.4**	**0.0**
	baz=112,slow=18						
H03N3				Sn	**Sn**	**23 25 24.3**	**-6.1**
	baz=78,slow=74						
H03N3				T	T	23 31 47.5	
	baz=64,slow=71,SNR=1181						
VA04	**Juan Fernndez**	**7.17**	**232**		**Pn**	**23 24 09.5**	**-0.7**
BI02	**San Fabin de**	**7.28**	**175**	Pn	**Pn**	**23 24 12.7**	**+0.9**
AF01	**San Pedro de A**	**7.29**	**29**	Pn	**Pn**	**23 24 12.5**	**+0.3**
H03S3	**Juan Fernandez**	**7.33**	**231**	Pn	**Pn**	**23 24 10.8**	**-1.3**
	baz=344,slow=74						
H03S3				Sn	**Sn**	**23 25 28.0**	**-7.2**
	baz=28,slow=74						
H03S1	**Juan Fernandez**	**7.34**	**231**	Pn	**Pn**	**23 24 11.1**	**-1.1**
	baz=196,slow=74						
H03S1				Sn	**Sn**	**23 25 27.8**	**-7.6**
H03S2	**Juan Fernandez**	**7.35**	**231**	Pn	**Pn**	**23 24 10.8**	**-1.5**
H03S2				Sn	**Sn**	**23 25 28.0**	**-7.6**
	baz=272,slow=74						
BI05	**Punta Hualpn**	**7.40**	**187**	Pn	**Pn**	**23 24 13.2**	**-0.1**
PB03	**IPOC Station P**	**7.60**	**16**	Pn	**Pn**	**23 24 15.8**	**-0.4**
PB09	**IPOC Station P**	**7.98**	**19**	Pn	**Pn**	**23 24 22.0**	**+0.6**
PB02	**IPOC Station P**	**8.27**	**14**	Pn	**Pn**	**23 24 25.1**	**-0.3**
PB01	**IPOC Station P**	**8.63**	**16**	Pn	**Pn**	**23 24 30.4**	**+0.1**
PB08	**IPOC Station P**	**9.58**	**17**	Pn	**Pn**	**23 24 41.5**	**-2.1**
PLCA	**Paso Flores**	**11.38**	**174**	Pn	**Pn**	**23 25 07.9**	**0.0**
PLCA	**Paso Flores**	**11.38**	**174**	Pn	**Pn**	**23 25 08.6**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=347,slow=13,SNR=3.3						
	comp=Z,0.5nm,0.3s						
TRQA	**Tornquist**	**12.03**	**139**		**Pn**	**23 25 17.6**	**+0.8**
CPUP	**Villa Florida**	**13.38**	**80**	Pn	**Pn**	**23 25 35.9**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=347,slow=2.8,SNR=5.4						
CPUP				Sn	**Sn**	**23 28 07.8**	**+3.9**
	baz=133,slow=12,SNR=1.9						
CPUP				LR	LR	23 31 05.1	
	comp=Z,62nm,19.6s,baz=117,slow=39						
	comp=Z,0.3nm,0.3s						
LPAZ	**La Paz**	**13.53**	**16**		**P**	**23 25 42.8**	**-4.4**
LPAZ	**La Paz**	**13.53**	**16**	Pn	**Pn**	**23 25 41.9**	**+4.0**
	comp=Z,0.3nm,0.3s,baz=185,slow=8.5,SNR=20						
LPAZ				LR	LR	23 31 17.3	
	comp=Z,73nm,19.0s,baz=163,slow=39						
	comp=Z,4.4nm,0.7s						
PLTB	**Pedras Altas**	**16.06**	**103**	Pn	**Pn**	**23 26 11.7**	**+0.4**
SIV	**San Ignacio**	**16.73**	**40**	Pn	**P**	**23 26 20.9**	**-1.2**
	baz=226,slow=10,SNR=15						
SIV				LR	LR	23 33 45.6	
	comp=Z,93nm,20.1s,baz=253,slow=41						
	comp=Z,6.0nm,0.8s						
VILB	**Vilhena**	**19.71**	**36**	P	**P**	**23 26 54.8**	**-0.2**
VILB				IAmb	IAmb	23 26 57.0	
	comp=Z,9.5nm,0.7s						
VAO	**Valinhos**	**23.36**	**80**

comp=Z,7.0nm,0.8s
BBOO Buckleboo 39.65 239 P **P** 23 44 07.0 -1.6
BBOO IAmb IAmb 23 44 16.7
comp=Z,11nm,1.1s
WR8 Warramunga Arr 39.75 259 P **P** 23 44 08.6 -1.0
WB0 Warramunga Arr 39.86 259 P **P** 23 44 09.3 -1.3
WRAB Tennant Creek 39.90 259 P **P** 23 44 10.1 -0.7
WRA Warramunga Arr 39.91 259 **P** 23 44 09.8 -1.1
WRA Warramunga Arr 39.91 259 P **P** 23 44 09.1 -1.8
comp=Z,2.2nm,0.9s,baz=93,slow=8.3,SNR=13
comp=Z,2.2nm,0.9s
AS31 Alice Springs 40.29 253 **P** 23 44 12.8 -1.3
ASAR Alice Springs 40.29 253 **P** 23 44 12.6 -1.5
ASAR Alice Springs 40.29 253 P **P** 23 44 13.7 -0.4
comp=Z,5.1nm,0.9s,baz=84,slow=8.7,SNR=33
comp=Z,5.1nm,0.9s
TAOE Nuku Hiva Isla 43.09 85 P **P** 23 44 36.7 -0.5
TAOE IAmb IAmb 23 45 04.2
comp=Z,60nm,0.5s
MTN Manton Dam 43.79 269 P **P** 23 44 41.8 -0.9
MTN IAmb IAmb 23 44 56.0
comp=Z,53nm,0.7s
KNRA Kununurra 45.59 264 P **P** 23 44 56.0 -1.1
KNRA IAmb IAmb 23 45 21.0
comp=Z,49nm,0.6s
FITZ Fitzroy Crossi 48.25 260 P **P** 23 45 17.3 -0.6
FITZ IAmb IAmb 23 45 30.5
comp=Z,24nm,1.1s
FITZ Fitzroy Crossi 48.25 260 P **P** 23 45 20.2 +2.4
SBA Scott Base 61.36 182 **P** 23 46 51.7 -0.1
SBA IAmb IAmb 23 46 56.6
comp=Z,4.8nm,0.8s
UGM Wanagama 64.64 269 P **P** 23 47 13.5 -1.1
UGM IAmb IAmb 23 47 27.0
comp=Z,39nm,1.0s
CASY Casey 65.14 204 P **P** 23 47 17.7 +0.6
CASY IAmb IAmb 23 47 32.2
comp=Z,2.5nm,0.8s
KIWB Kanaga Island 68.50 4 P **P** 23 47 37.9 -0.6
ADK Adak 68.57 5 P **P** 23 47 39.0 +0.2
GSTR Great Sitkin T 68.83 5 P **P** 23 47 41.1 +0.5
PEA0B Petropavlovsk- 71.36 348 P **P** 23 47 55.9 -0.2
PEA0B IAmb IAmb 23 48 03.8
comp=Z,29nm,1.1s
HKPS Hong Kong Po S 72.14 301 P **P** 23 47 59.6 -1.8
HKPS IAmb IAmb 23 48 32.7
comp=Z,69nm,1.1s
MNAI Manna 72.83 271 P **P** 23 48 05.0 -0.7
QSPA South Pole Qui 73.34 180 P **P** 23 48 08.3 +0.3
QSPA IAmb IAmb 23 48 19.1
comp=Z,8.9nm,1.1s
QSPA South Pole Qui 73.34 180 P **P** 23 48 11.3 +3.3
comp=Z,3.0nm,1.1s,baz=22,slow=6.6,SNR=6.5
comp=Z,3.0nm,1.1s
P08K Saint George I 73.98 8 P **P** 23 48 12.8 +1.3
XAN Xi'an 81.56 309 P **P** 23 48 57.3 +2.9
XAN pmax pmax
comp=Z,87nm,2.3s
HHC Hu-ho-hao-te 82.88 316 *e*P **P** 23 49 04.0 +2.8
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,970nm,4.0s
BELA Belgrano 2 83.95 174 **P** 23 49 06.6 +0.6
BELA IAmb IAmb 23 49 17.8
comp=Z,3.3nm,1.0s
PZH PanZhiHua 84.17 300 P **P** 23 49 11.0 +2.9
TXAR Lajitas Array 89.67 59 P **P** 23 49 34.3 -0.5
comp=Z,0.4nm,1.0s,baz=235,slow=4.1,SNR=3.4
comp=Z,0.4nm,1.0s
TROLL Troll, Antarti 91.41 182 ⇑P **P** 23 49 43.0 +0.8
comp=Z,91nm,1.0s
SNAA Sanae 91.84 180 ⇑P **P** 23 49 43.7 -0.4
comp=Z,26nm,1.2s

OSUNB ***26*** *23:37:56.4±0.8,20.˚48N×122.˚10E,h9km±4km, mb5.4/9, Error ellipse: s-maj=3.7km s-min=3.5km az=0.0*
JMA ***26*** *23:37:57.7±0.4,21.˚1N±2.˚×121.˚9E±0.˚8, h31km, MV6.0/34, MW6.0/34, PHILIPPINE ISL REGION*
MAN ***26*** *23:37:57.8,20.˚78N×121.˚91E, h17km, mb6.2, ML5.3, MS5.9*
MAN INTENSITY VII - ITBAYAT BATANES; INTENSITY V - BASCO IVANA AND MAHATAO BATANES; INTENSITY IV - SABTANG AND UYUGAN BATANES.
NIED ***26*** *23:37:57.7,20.˚84N×121.˚90E, h31km, MW6.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁸Nm; Mrr0.08; Mθθ0.61; Mϕϕ-0.69; Mrθ0.81; Mθϕ-0.73; Mϕr-0.03; Fault plane solution: M₀1.25000×10¹⁸ NP1: ϕs164.00000°, δ54.00000°, λ10.00000°. NP2:ϕ68.00000°, δ82.00000°, λ144.00000°.*
NEIC ***26*** *23:37:58.8,20.˚85N×122.˚07E, h20km, Moment Tensor Solution. Duration: 4s4 Moment tensor: Scale 10¹⁸Nm; Mrr0.08; Mθθ0.65; Mϕϕ-0.73; Mrθ-0.15; Mθϕ-0.83; Mϕr-0.20; Fault plane solution: M₀1.11000×10¹⁸ NP1: ϕs339.58000°, δ79.79000°, λ-5.60000°. NP2:ϕ70.57000°, δ84.49000°, λ-169.74000°. Principal axes: T 1.0440, Plg3.0000°, Azm205.0000°; N 0.1303, Plg78.0000°, Azm99.0000°; P -1.1743, Plg11.0000°, Azm295.0000°;*
ISC-PP ***26*** *23:37:58,20.˚84N×121.˚97E, h13km, Mwppsm6.2, Moment Tensor Solution. s41 Moment tensor: Scale 10¹⁸Nm; Mrr0.00±.13; Mθθ-0.64±.19; Mϕϕ0.42±.15; Mrθ-0.32±.20; Mθϕ0.24±.14; Mϕr-0.22±.15; Fault plane solution: M₀2.32000×10¹⁸ NP1:ϕs35.20000°, δ54.80000°, λ5.70000°. NP2:ϕs301.90000°, δ85.40000°, λ144.60000°.*
IPGP ***26*** *23:37:58.0,20.˚81N×121.˚98E, h14km, Mw6.0, Fault plane solution: NP1:ϕ253.00000°, δ81.00000°, λ145.00000°. NP2:ϕs350.00000°, δ56.00000°, λ11.00000°.*
NEIC ***26*** *23:37:58.4±1.5,20.˚84N±0.˚05×121.˚97E±0.˚07, h9km±1km, mb5.9/602, Ms_20 5.8/1013, Mwb5.9/58, Mww6.0/32, Error ellipse: s-maj=10.3km s-min=9.2km az=275.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.18; Mθθ5.06; Mϕϕ-5.24; Mrθ-4.37; Mθϕ-5.37; Mϕr-1.23; Fault plane solution: M₀8.72000×10¹⁷ NP1: ϕs339.07000°, δ58.89000°, λ2.78000°. NP2:ϕs247.63000°, δ87.62000°, λ148.86000°. Principal axes: T 8.8799, Plg23.0000°, Azm199.0000°; N -0.3274, Plg59.0000°, Azm64.0000°; P -8.5526, Plg20.0000°, Azm298.0000°;*
NEIC ***26*** *23:37:58.7,20.˚84N×121.˚98E, h10km*
NEIC ***26*** *23:37:58.8,20.˚85N×121.˚96E, h20km*
BJI ***26*** *23:37:58.9,21.˚03N×121.˚78E, h8km, mB6.0/70, mb5.6/86, Ms6.2/99, Ms7 6.1/95*
GCMT ***26*** *23:38:02.3±0.1,20.˚84N×121.˚78E, h15km, MW6.0/166, Moment Tensor Solution. s150,c317; s166,c568; Duration: 2s4 Moment tensor: Scale 10¹⁸Nm; Mrr0.03±.01; Mθθ0.58±.01; Mϕϕ-0.61±.01; Mrθ-0.50±.02; Mθϕ-0.84±.01; Mϕr-0.30±.02; Best double couple: M₀1.18200×10¹⁸ NP1:ϕs341.00000°, δ62.00000°, λ-3.00000°. NP2:ϕ72.00000°, δ87.00000°, λ-152.00000°. Principal axes: T 1.1180, Plg18.0000°, Azm203.0000°; N 0.1290, Plg61.0000°, Azm77.0000°; P -1.2470, Plg22.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
IDC ***26*** *23:38:02.0±0.9,20.˚71N×122.˚03E, h40km±7km, mb5.1/37, mbtmp5.3/41, ML4.2/3, MS5.7/54 Error ellipse: s-maj=10.0km s-min=6.6km az=79.0*
ISC 26 23:37:58.8±0.4,20.˚75N±0.˚02×122.˚09E±0.˚02, h16km±2km, h16km:pP-P, n2245,σ1s73/2400, mb5.8/525, MS5.8/549, 124C-62D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**2.26**	**336**	P	**Pn**	**23 38 35.1**	**-0.5**
TWG	**Pinlang**	**2.27**	**335**		**Pn**	**23 38 32.5**	**-3.2**
YULB	**Yu-li**	**2.73**	**344**		**Pn**	**23 38 40.0**	**-2.1**
YULB	**Yu-li**	**2.73**	**344**	P	**Pn**	**23 38 40.5**	**-1.6**
TPUB	**Ta-pu**	**2.88**	**332**		**Pn**	**23 38 42.1**	**-2.0**
TPUB	**Ta-pu**	**2.88**	**332**	P	**Pn**	**23 38 43.8**	**-0.3**
SSLB	**Suanglung**	**3.20**	**341**		**Pn**	**23 38 47.1**	**-1.5**
SSLB	**Suanglung**	**3.20**	**341**	P	**Pn**	**23 38 48.9**	**+0.3**
NACB	**Ninganchiao**	**3.44**	**352**		**Pn**	**23 38 49.4**	**-2.4**
NACB	**Ninganchiao**	**3.44**	**352**	P	**Pn**	**23 38 54.8**	**+3.0**
SZP	**Santa**	**3.54**	**206**	P	**Pn**	**23 38 54.2**	**+1.0**
HATJ	**Hateruma jima**	**3.65**	**25**	P	**Pn**	**23 38 54.1**	**-0.6**
HATJ				S	**Sn**	**23 39 34.9**	**-2.7**
HATJ	**Hateruma jima**	**3.65**	**25**	A	A	23 38 54.1	
comp=N,140nm,9.0s,comp=E,110nm,9.2s							
YOJ	**Yonaguni jima**	**3.79**	**13**		**Pn**	**23 38 55.8**	**-0.8**
YOJ	**Yonaguni jima**	**3.79**	**13**	P	**Pn**	**23 38 56.5**	**-0.1**
YOJ	**Yonaguni jima**	**3.79**	**13**	P	**Pn**	**23 38 56.0**	**-0.7**
YOJ				S	**Sn**	**23 39 39.0**	**-1.9**
YOJ	**Yonaguni jima**	**3.79**	**13**	A	A	23 38 56.0	
comp=N,88nm,7.8s,comp=E,95nm,9.1s							
YOJ	**Yonaguni jima**	**3.79**	**13**	⇑P	**Pn**	**23 38 54.5**	**-2.1**
IRIF	**Iriomote-Funau**	**3.88**	**23**	P	**Pn**	**23 38 57.6**	**-0.2**
IRIF	**Iriomote-Funau**	**3.88**	**23**	A	A	23 38 57.6	
comp=N,85nm,8.4s,comp=E,64nm,9.8s							
JKRS	**Kuro-shima**	**3.90**	**27**	P	**Pn**	**23 38 57.4**	**-0.7**
JKRS				S	**Sn**	**23 39 42.3**	**-1.3**
YHNB	**Yeheng**	**3.96**	**351**		**Pn**	**23 38 57.6**	**-1.4**
YHNB	**Yeheng**	**3.96**	**351**	P	**Pn**	**23 38 59.1**	**+0.1**
JIJ	**Ishigaki jima**	**4.07**	**27**	P	**Pn**	**23 38 59.9**	**-0.5**
JIJ				*e*S	**Sn**	**23 39 46.6**	**-1.1**
JIJ	**Ishigaki jima**	**4.07**	**27**	A	A	23 38 59.9	
comp=N,55nm,8.5s,comp=E,34nm,9.8s							
TATO	**Taipei**	**4.24**	**353**		**Pn**	**23 39 02.2**	**-0.6**
TATO	**Taipei**	**4.24**	**353**	P	**Pn**	**23 39 03.7**	**+0.9**
TATO	**Taipei**	**4.24**	**353**	P	**Pn**	**23 39 03.0**	**+0.2**
JISG	**Ishigakijimahi**	**4.33**	**28**	P	**Pn**	**23 39 03.5**	**-0.6**
JISG				S	**Sn**	**23 39 51.4**	**-3.0**
JISG	**Ishigakijimahi**	**4.33**	**28**	A	A	23 39 03.5	
comp=N,54nm,7.8s,comp=E,36nm,10.4s							
JTJ	**Tarama**	**4.56**	**31**	P	**Pn**	**23 39 07.2**	**0.0**
JTJ				S	**Sn**	**23 39 58.9**	**-1.0**
JTJ	**Tarama**	**4.56**	**31**	A	A	23 39 07.2	
comp=N,43nm,10.4s,comp=E,86nm,9.6s							
JIRB	**Irabujima**	**4.96**	**34**	P	**Pn**	**23 39 12.8**	**+0.2**
JIRB				*e*S	**Sn**	**23 40 07.3**	**-2.3**
JIRB	**Irabujima**	**4.96**	**34**	A	A	23 39 12.8	
comp=N,52nm,9.0s,comp=E,57nm,8.5s							
JMJ2	**Miyako jima3**	**4.97**	**36**	P	**Pn**	**23 39 11.6**	**-1.3**
JMJ2	**Miyako jima3**	**4.97**	**36**	A	A	23 39 11.6	
comp=N,115nm,8.5s,comp=E,154nm,8.5s							
JMJ	**Miyako jima 2**	**5.01**	**36**	P	**Pn**	**23 39 14.7**	**+1.3**
JOGS	**Gusukube**	**5.03**	**37**	P	**Pn**	**23 39 14.0**	**+0.3**
JOGS	**Gusukube**	**5.03**	**37**	A	A	23 39 14.0	
comp=N,126nm,8.1s,comp=E,110nm,8.1s							
KNMB	**Chin-men Tao**	**5.04**	**318**		**Pn**	**23 39 10.7**	**-3.1**
JIKM	**Ikemajima**	**5.07**	**34**	A	A	23 39 14.4	
comp=N,68nm,7.0s,comp=E,85nm,9.2s							
QZH	**Quanzhou**	**5.28**	**323**	⇓*i*Pn	**Pn**	**23 39 13.5**	**-3.6**
QZH				Sn	**Sn**	**23 40 11.5**	**-6.1**
QZH				LR	LR		
comp=E,155μm,16.1s							
QZH				LR	LR		
comp=E,234μm,14.4s							
QZH				LR	LR		
comp=E,165μm,16.1s							
TGY	**Tagaytay City**	**6.70**	**190**	Pn	**Pn**	**23 39 38.8**	**+2.0**
comp=E,173nm,0.3s,baz=315,slow=4.5,SNR=15							
TGY				LR	LR	23 42 46.2	
comp=E,70μm,20.6s,baz=7.0,slow=43							
JKE	**Kume jima 2**	**7.02**	**37**	P	**Pn**	**23 39 41.9**	**+0.9**
JKE				*e*S	**Sn**	**23 40 58.6**	**-2.1**
JAGN	**Aguni-jima**	**7.49**	**38**	P	**Pn**	**23 39 48.2**	**+0.8**
JJT3	**Tamagusuku3**	**7.49**	**43**	P	**Pn**	**23 39 48.6**	**+1.1**
JJT3				S	**Sn**	**23 41 13.0**	**+0.8**
HKC	**Hong Kong Obse**	**7.53**	**283**	⇑P	**Pn**	**23 39 45.0**	**-3.1**
HKPS	**Hong Kong Po S**	**7.56**	**283**		**Pn**	**23 39 45.2**	**-3.2**
JIH	**Iheya**	**8.25**	**40**	*e*P	**Pn**	**23 39 56.6**	**-1.3**
JOW	**Kunigami**	**8.29**	**42**		**Pn**	**23 39 56.8**	**-1.7**
JOW	**Kunigami**	**8.29**	**42**	Pn	**Pn**	**23 39 58.5**	**0.0**
comp=E,1.5nm,0.3s,baz=120,slow=25,SNR=11							
JOW				Sn	**Sn**	**23 41 29.8**	**-2.0**
comp=E,13nm,0.3s,baz=301,slow=19,SNR=1.1							
comp=E,202nm,0.4s							
JOW	**Kunigami**	**8.29**	**42**	P	**Pn**	**23 39 59.7**	**+1.3**
JOW	**Kunigami**	**8.29**	**42**	S	**Sn**	**23 41 29.9**	**-1.9**
GZH	**Guangzhou**	**8.45**	**288**	P	Pn	23 39 55.5	-5.1
GZH				S	**Sn**	**23 41 32.0**	**-3.7**
GZH				LR	LR		
comp=E,115μm,13.7s							
GZH				LR	LR		
comp=E,86μm,13.1s							
JYRO	**Yoronjima**	**8.53**	**42**	P	**Pn**	**23 40 00.8**	**-1.0**
JOKE	**Okinoerabujima**	**8.85**	**41**	P	**Pn**	**23 40 05.5**	**-0.6**
JOKE				*e*S	**Sn**	**23 41 42.1**	**-3.6**
JTK	**Tokunoshima**	**9.39**	**40**	P	**Pn**	**23 40 11.4**	**-2.1**
JTK				*e*S	**Sn**	**23 41 55.9**	**-3.0**
JMZ	**Minamidaito 2**	**9.79**	**57**		**Pn**	**23 40 18.5**	**-0.6**
JMZ	**Minamidaito 2**	**9.79**	**57**	P	**Pn**	**23 40 22.4**	**+3.3**
JMZ	**Minamidaito 2**	**9.79**	**57**	⇓P	**Pn**	**23 40 18.4**	**-0.7**
JMZ				⇓*e*S	**Sn**	**23 42 04.5**	**-4.2**
JMZ	**Minamidaito 2**	**9.79**	**57**	⇓P	**Pn**	**23 40 21.8**	**+2.7**
JAMN	**Amaminishikomi**	**9.86**	**39**	P	**Pn**	**23 40 19.0**	**-0.9**
JAM	**Amami Oshima**	**10.24**	**40**	P	**Pn**	**23 40 24.2**	**-0.9**
JAM				*e*S	**Sn**	**23 42 15.2**	**-4.5**
SSE	**Sheshan**	**10.34**	**356**	P	**Pn**	**23 40 26.8**	**+0.3**
SSE				S	**Sn**	**23 42 25.8**	**+3.8**
SSE				pmax	pmax		
comp=E,47nm,1.7s							
SSE				pmax	pmax		
comp=E,2μm,9.0s							
SSE				LR	LR		
comp=E,8μm,13.1s							
SSE				LR	LR		
comp=E,10μm,13.2s							
JTAJ	**Takarajima**	**10.56**	**36**	P	**Pn**	**23 40 28.7**	**-0.9**
CNSH	**ChangSha**	**11.15**	**313**	P	**Pn**	**23 40 35.5**	**-2.1**
CNSH				S	**Sn**	**23 42 37.5**	**-4.5**
CNSH				pmax	pmax		
comp=E,20nm,0.6s							
NJ2	**Nanjing**	**11.62**	**346**	⇓P	**Pn**	**23 40 42.3**	**-1.8**
NJ2				pP		23 40 45.8	
NJ2				PP	**PnPn**	**23 40 53.3**	**+1.2**
NJ2				S	Sn	23 42 44.5	-9.1
NJ2				pmax	pmax		
comp=E,23nm,0.7s							
NJ2				pmax	pmax		
comp=E,2μm,7.9s							
NJ2				LR	LR		
comp=E,19μm,15.0s							
NJ2				LR	LR		
comp=E,43μm,13.4s							
NJ2				LR	LR		
comp=E,62μm,14.9s							
QIZ	**Qiongzhong**	**11.65**	**264**		**Pn**	**23 40 42.4**	**-2.1**
QIZ	**Qiongzhong**	**11.65**	**264**	P	**Pn**	**23 40 42.3**	**-2.3**
QIZ				S	**Sn**	**23 42 51.0**	**-3.5**
QIZ				pmax	pmax		
comp=E,56nm,0.6s							
QIZ				LR	LR		
comp=E,44μm,14.2s							
QIZ				LR	LR		
comp=E,15μm,14.6s							
QIZ				LR	LR		
comp=E,65μm,13.2s							
QIZ	**Qiongzhong**	**11.65**	**264**	P	**Pn**	**23 40 44.8**	**+0.2**
WHN	**Wuhan**	**11.99**	**326**	P	**Pn**	**23 40 47.3**	**-1.8**
WHN				S	**Sn**	**23 42 58.5**	**-4.1**
WHN				pmax	pmax		
comp=E,370nm,1.5s							
WHN				pmax	pmax		
comp=E,7μm,7.8s							
WHN				LR	LR		
comp=E,218μm,13.7s							
WHN				LR	LR		
comp=E,272μm,13.5s							
WHN				LR	LR		
comp=E,206μm,14.8s							
JMTN	**Minamitane**	**12.46**	**38**	*e*P	**Pn**	**23 40 54.5**	**-1.2**
JTN	**Tanegashima 3**	**12.70**	**37**	*e*P	**Pn**	**23 40 59.2**	**+0.3**
JSJ	**Shimokoshiki**	**12.85**	**31**	P	**Pn**	**23 41 00.1**	**-0.8**
DAV	**Davao City (W)**	**14.01**	**166**	P	**P**	**23 41 22.8**	**-2.0**
DAV	**Davao City (W)**	**14.01**	**166**	Pn	**Pn**	**23 41 20.7**	**+3.8**
comp=E,34nm,0.3s,baz=345,slow=8.6,SNR=6.5							
DAV				LR	LR	23 47 16.0	
comp=E,65μm,18.4s,baz=350,slow=40							
DAV	**Davao City (W)**	**14.01**	**166**	⇑*e*P	**Pn**	**23 41 20.0**	**+3.1**
JNU	**Nakatsue**	**14.59**	**31**		**Pn**	**23 41 23.2**	**-1.6**
JNU	**Nakatsue**	**14.59**	**31**	Pn	**Pn**	**23 41 24.6**	**-0.1**
comp=E,2.3nm,0.3s,baz=185,slow=6.6,SNR=28							
comp=E,98nm,0.8s							
JNU	**Nakatsue**	**14.59**	**31**	P	**Pn**	**23 41 25.1**	**+0.3**
JNU	**Nakatsue**	**14.59**	**31**	⇓P	**Pn**	**23 41 23.3**	**-1.5**
ENH	**Enshi**	**14.80**	**312**		**Pn**	**23 41 25.6**	**-2.0**
ENH	**Enshi**	**14.80**	**312**	P	**Pn**	**23 41 26.8**	**-0.8**
JTU	**Tsushima**	**15.16**	**24**	P	**Pn**	**23 41 33.3**	**+0.9**
JTU	**Tsushima**	**15.16**	**24**	⇑P	**Pn**	**23 41 32.6**	**+0.2**
GYA	**Guiyang**	**15.24**	**295**	⇓P	**Pn**	**23 41 31.0**	**-2.6**
GYA				sP	P	23 41 40.0	+1.6
GYA				S	**Sn**	**23 44 16.0**	**-6.2**
GYA				pmax	pmax		
comp=E,49nm,2.0s							
GYA				LR	LR		
comp=E,92μm,14.1s							
GYA				LR	LR		
comp=E,26μm,13.0s							
GYA				LR	LR		
comp=E,48μm,17.7s							
KKM	**Kota Kinabalu**	**15.69**	**202**		**Pn**	**23 41 39.3**	**-0.2**
KKM				IAmb	IAmb	23 41 44.1	
comp=Z,850nm,1.3s							
KKM	**Kota Kinabalu**	**15.69**	**202**	P	**Pn**	**23 41 41.3**	**+1.8**
KKM	**Kota Kinabalu**	**15.69**	**202**	⇑P	**Pn**	**23 41 39.6**	**+0.1**
DLV	**Lat**	**15.71**	**238**		**Pn**	**23 41 38.9**	**-1.0**
DLV	**Lat**	**15.71**	**238**	P	**Pn**	**23 41 41.1**	**+1.2**
DLV	**Lat**	**15.71**	**238**	⇑P	**Pn**	**23 41 39.4**	**-0.5**
TIA	**Tai'an**	**16.01**	**345**	P	**Pn**	**23 41 43.8**	**+0.4**
TIA				S	**Sn**	**23 44 41.8**	**+1.2**
TIA				pmax	pmax		
comp=Z,6μm,6.5s							
TIA				LR	LR		
comp=Z,55μm,12.7s							
TIA				LR	LR		
comp=Z,44μm,11.7s							
TIA				LR	LR		
comp=Z,60μm,12.4s							
LYN	**LuoYang**	**16.16**	**330**	⇓P	**Pn**	**23 41 44.8**	**-0.6**
LYN				pmax	pmax		
comp=Z,460nm,1.6s							
LYN				pmax	pmax		
comp=Z,11μm,10.3s							
LYN				LR	LR		
comp=Z,159μm,12.7s							
LYN				LR	LR		
comp=Z,61μm,11.2s							
LYN				LR	LR		
comp=Z,149μm,12.7s							
TJN	**Taejon**	**16.24**	**15**		**Pn**	**23 41 45.4**	**-1.0**
TJN				IAmb	IAmb	23 41 51.9	
comp=Z,1μm,1.0s							
TJN	**Taejon**	**16.24**	**15**	P	**Pn**	**23 41 47.8**	**+1.5**
JMN	**Monobe**	**16.62**	**37**		**Pn**	**23 41 47.9**	**-3.4**
JMN	**Monobe**	**16.62**	**37**	P	**P**	**23 41 53.3**	**-0.4**
JMN	**Monobe**	**16.62**	**37**	⇓P	**Pn**	**23 41 47.2**	**-4.1**
SLVN	**Son La**	**16.99**	**275**		**Pn**	**23 41 52.3**	**-3.8**
SLVN	**Son La**	**16.99**	**275**	P	**Pn**	**23 41 55.7**	**-0.4**
INCN	**Inchon**	**17.14**	**12**		**Pn**	**23 41 55.0**	**-2.7**
INCN	**Inchon**	**17.14**	**12**	P	**P**	**23 42 01.4**	**+2.0**
INCN				P	**P**	**23 42 01.4**	**+2.0**
INCN				P	**P**	**23 42 01.4**	**+2.0**
INCN				S	**Sn**	**23 45 11.4**	**+3.4**
INCN				S	**Sn**	**23 45 11.4**	**+3.4**
INCN				S	**Sn**	**23 45 11.4**	**+3.4**
INCN	**Inchon**	**17.14**	**12**	P	**P**	**23 42 01.1**	**+1.8**
INCN	**Inchon**	**17.14**	**12**	⇑P	**Pn**	**23 41 58.4**	**+0.7**
SGSI	**Sangihe**	**17.29**	**168**	P	**Pn**	**23 41 59.0**	**-0.7**
comp=Z,23μmcomp=Z,13μmcomp=Z,476nm,1.4s							
KSAR	**Wonju Array Be**	**17.38**	**16**		**Pn**	**23 41 59.9**	**-0.8**
KSRS	**Korea Array**	**17.40**	**16**	P	**Pn**	**23 42 00.9**	**0.0**
comp=Z,2.1nm,0.3s,baz=198,slow=12,SNR=130							
KSRS				LR	LR	23 49 40.6	
comp=Z,17988μm,18.5s,baz=200,slow=40							
KSRS				ScP	**ScP**	**23 50 14.4**	**-2.4**
comp=Z,7.9nm,1.1s,baz=198,slow=2.0,SNR=10							
comp=Z,104nm,0.8s							
KS19	**Wonju Array Si**	**17.43**	**15**		**Pn**	**23 42 00.0**	**-1.4**
KS19				IAmb	IAmb	23 42 06.5	
comp=Z,1μm,1.8s							
XAN	**Xi'an**	**17.64**	**321**	⇓P	**Pn**	**23 42 03.0**	**-1.1**
XAN				S	**Sn**	**23 45 20.8**	**+0.5**
XAN				pmax	pmax		
comp=Z,520nm,1.4s							
XAN				pmax	pmax		
comp=Z,13μm,5.7s							
XAN				LR	LR		
comp=Z,68μm,15.9s							
XAN				LR	LR		
comp=Z,72μm,15.3s							
XAN				LR	LR		
comp=Z,125μm,16.0s							
HNS	**HongShan**	**17.79**	**340**	⇓P	**Pn**	**23 42 06.0**	**+0.2**
HNS				pmax	pmax		
comp=Z,510nm,1.3s							
HNS				pmax	pmax		
comp=Z,15μm,7.8s							
HNS				LR	LR		
comp=Z,92μm,15.1s							
HNS				LR	LR		
comp=Z,53μm,15.5s							
HNS				LR	LR		
comp=Z,68μm,14.8s							
DL2	**Dalian**	**18.10**	**359**	P	**Pn**	**23 42 09.0**	**-0.6**
DL2				S	**Sn**	**23 45 28.0**	**-3.3**
DL2				pmax	pmax		
comp=Z,190nm,1.3s							
DL2				pmax	pmax		
comp=Z,9μm,9.2s							
DL2				LR	LR		
comp=Z,21μm,12.6s							
DL2				LR	LR		
comp=Z,55μm,13.3s							
DL2				LR	LR		
comp=Z,53μm,15.7s							
KMI	**Kunming**	**18.34**	**287**	⇓P	**Pn**	**23 42 12.0**	**-1.0**
KMI				sP	sP	23 42 21.8	+2.4
KMI				pmax	pmax		
comp=Z,180nm,1.9s							
KMI				pmax	pmax		
comp=Z,5μm,6.6s							
KMI				LR	LR		
comp=Z,45μm,12.0s							
KMI				LR	LR		
comp=Z,15μm,13.7s							
KMI				LR	LR		
comp=Z,30μm,13.1s							
TIY	**Taiyuan**	**18.87**	**336**	P	**Pn**	**23 42 19.0**	**-0.1**
TIY				S	**Sn**	**23 45 50.0**	**0.0**
TIY				pmax	pmax		
comp=Z,440nm,1.2s							
TIY				pmax	pmax		
comp=Z,10μm,8.6s							
TIY				LR	LR		
comp=Z,133μm,14.2s							
TIY				LR	LR		
comp=Z,95μm,15.5s							
TIY				LR	LR		
comp=Z,126μm,12.3s							
CD2	**Chengdu**	**19.33**	**305**	P	**P**	**23 42 22.5**	**-1.1**
CD2				sP	pP	23 42 26.3	-1.2
CD2				S	**Sn**	**23 45 58.8**	**-2.5**
CD2				pmax	pmax		
comp=Z,870nm,1.0s							
CD2				pmax	pmax		
comp=Z,14μm,6.5s							
CD2				LR	LR		
comp=Z,99μm,15.0s							
CD2				LR	LR		
comp=Z,95μm,13.5s							
JCJ	**Chichijima**	**19.41**	**67**	P	**P**	**23 42 24.4**	**0.0**
JCJ				IAmb	IAmb	23 42 35.8	
comp=Z,1μm,1.7s							
JCJ	**Chichijima**	**19.41**	**67**	P	**P**	**23 42 20.2**	**-4.3**
comp=Z,260nm,1.0s,baz=212,slow=5.6,SNR=9.4							
JCJ				S	**Sn**	**23 46 03.0**	**-0.3**
comp=Z,44nm,0.9s,baz=106,slow=24,SNR=1.7							
JCJ	**Chichijima**	**19.41**	**67**	P	**Pn**	**23 42 28.6**	**+3.0**
JCJ	**Chichijima**	**19.41**	**67**	⇓

INU Inuyama 19.59 39 P **P** **23 42 26.2 -0.1**
INU IAmb IAmb 23 42 38.8
comp=Z,424nm,1.0s
INU Inuyama 19.59 39 P **Pn** **23 42 29.8 +2.2**
INU Inuyama 19.59 39 ⇓P **Pn** **23 42 30.5 +2.9**
JSG Sagara 19.85 42 P **P** **23 42 29.4 +0.2**
JSG Sagara 19.85 42 P **Pn** **23 42 32.2 +1.5**
BJT Baijiatuau 19.86 347 P **P** **23 42 28.6 -0.7**
BJT IAmb IAmb 23 42 30.8
comp=Z,346nm,0.9s
BJT Baijiatuau 19.86 347 P **P** **23 42 29.6 +0.3**
BJI Beijing 19.88 347 P **P** **23 42 29.0 -0.5**
BJI S **S** **23 46 10.3 -2.5**
BJI pmax pmax
comp=Z,210nm,0.9s
BJI pmax pmax
comp=Z,2μm,9.3s
BJI LR LR
comp=Z,14μm,15.1s
BJI LR LR
comp=Z,10μm,16.4s
BJI LR LR
comp=Z,20μm,14.7s
JGF Kuroka 19.96 39 P **Pn** **23 42 31.4 -0.8**
JGF Kuroka 19.96 39 P **Pn** **23 42 33.9 +1.8**
JGF Kuroka 19.96 39 ⇑P **Pn** **23 42 33.9 +1.8**
JHJ Hachijo jima 2 19.98 48 P **Pn** **23 42 34.6 +2.3**
comp=Z,271nm,0.9s,baz=223,slow=17,SNR=1.8
JHJ S **Sn** **23 46 24.7 +8.0**
comp=Z,124nm,0.8s,baz=216,slow=20,SNR=2.3
JHJ LR LR 23 49 30.5
comp=Z,12μm,21.3s,baz=256,slow=34
JHJ2 Mitsune 20.00 48 P **Pn** **23 42 32.1 -0.5**
JHJ2 Mitsune 20.00 48 P **Pn** **23 42 33.8 +1.3**
KMSI Cibinong 20.14 175 P **P** **23 42 33.3 +0.9**
comp=Z,17μmcomp=Z,18μmcomp=Z,1μm,0.9s
MRSI Marisa 20.15 180 P **P** **23 42 32.4 -0.1**
comp=Z,16μmcomp=Z,7μmcomp=Z,656nm,1.4s
MPSI Mapaga 20.40 186 P **P** **23 42 34.7 -0.6**
comp=Z,17μmcomp=Z,327nm,1.1s
TNTI Ternate 20.51 165 P **P** **23 42 35.4 -1.1**
TNTI Ternate 20.51 165 P Pn 23 42 39.4 +0.7
TNTI Ternate 20.51 165 P **P** **23 42 36.6 +0.1**
comp=Z,9μmcomp=Z,316nm,1.1s
SBUM Sibu 20.58 209 P **P** **23 42 36.3 -1.0**
SBUM IAmb IAmb 23 42 50.0
comp=Z,988nm,1.5s
SBUM Sibu 20.58 209 P **P** **23 42 38.1 +0.9**
SBUM Sibu 20.58 209 ⇑P **P** **23 42 37.8 +0.5**
SNY Shenyang 21.05 3 ⇓P **P** **23 42 41.0 -1.1**
SNY S **S** **23 46 32.5 -3.5**
SNY pmax pmax
comp=Z,5μm,12.3s
SNY LR LR
comp=Z,10μm,23.7s
SNY LR LR
comp=Z,44μm,14.2s
SNY LR LR
comp=Z,36μm,15.6s
MAJO Matsushiro 21.11 38 P **P** **23 42 43.6 +0.8**
MAJO Matsushiro 21.11 38 P **P** **23 42 44.8 +2.0**
MAJO Matsushiro 21.11 38 ⇓P **P** **23 42 45.2 +2.4**
MAJO Matsushiro 21.11 38 P **P** **23 42 44.9 +2.0**
MAJO S Sn 23 46 44.7 +0.8
MJAR Matsushiro Arr 21.11 38 P **P** **23 42 43.9 +1.0**
MJAR Matsushiro Arr 21.11 38 P **P** **23 42 44.2 +1.3**
comp=Z,62nm,1.2s,baz=222,slow=8.2,SNR=34
MJAR S Sn 23 46 44.0 0.0
comp=Z,2.0nm,0.8s,baz=236,slow=12,SNR=1.1
MJAR ScP **ScP** **23 50 23.2 -2.1**
comp=Z,6.9nm,1.0s,baz=207,slow=3.2,SNR=6.8
comp=Z,62nm,1.2s
MJB9 Matsu-Tunnel 21.11 38 P **P** **23 42 44.0 +1.2**
APSI Ampana 21.53 181 P **P** **23 42 49.8 +2.3**
comp=Z,14μmcomp=Z,2μm,1.1s
SMKI Samarinda 21.60 193 P **P** **23 42 48.9 +0.7**
PCI Palu 21.64 186 P **P** **23 42 49.3 +0.7**
comp=Z,17μmcomp=Z,13μmcomp=Z,962nm,1.2s
LUWI Luwuk 21.67 178 P **P** **23 42 50.4 +1.5**
comp=Z,11μmcomp=Z,784nm,1.2s
CHTO Chiang Mai 21.87 269 P **P** **23 42 51.0 -0.2**
CHTO IAmb IAmb 23 43 01.6
comp=Z,662nm,1.6s
CHTO Chiang Mai 21.87 269 P **P** **23 42 51.6 +0.5**
CHTO P **P** **23 42 51.6 +0.5**
CHTO S **S** **23 46 56.3 +3.9**
CHTO S **S** **23 46 56.3 +3.9**
CHTO Chiang Mai 21.87 269 P **P** **23 42 51.6 +0.5**
CHTO Chiang Mai 21.87 269 ⇑P **P** **23 42 51.4 +0.2**
CHTO Chiang Mai 21.87 269 P **P** **23 42 51.4 +0.2**
CHTO S **S** **23 46 54.7 +2.2**
CM31 Chiang Mai Arr 21.93 268 P **P** **23 42 51.5 -0.3**
CM31 IAmb IAmb 23 43 06.9
comp=Z,530nm,1.6s
CM31 Chiang Mai Arr 21.93 268 P **P** **23 42 52.2 +0.4**
CM31 P **P** **23 42 52.2 +0.4**
CM31 S **S** **23 46 56.9 +3.3**
CM31 S **S** **23 46 56.9 +3.3**
CMAR Chiang Mai Arr 21.93 268 P **P** **23 42 51.5 -0.3**
CMAR Chiang Mai Arr 21.93 268 P **P** **23 42 52.4 +0.6**
comp=Z,65nm,1.0s,baz=72,slow=9.1,SNR=148
CMAR PcP **PcP** **23 46 51.7 +0.9**
comp=Z,20nm,0.8s,baz=87,slow=2.4,SNR=15
CMAR ScP **ScP** **23 50 25.0 -2.6**
comp=Z,26nm,1.1s,baz=87,slow=2.6,SNR=12
CMAR LR LR 23 51 14.8
comp=Z,14μm,18.0s,baz=85,slow=36
comp=Z,65nm,1.0s
HHC Hu-ho-hao-te 21.95 338 *e*P **P** **23 42 51.8 -0.1**
HHC sP pwP 23 43 00.0 +1.9
HHC PP **PnPn** **23 43 14.0 +0.3**
HHC S **S** **23 46 54.8 +0.9**
HHC sS sS 23 46 59.5 -0.2
HHC SS **SnSn** **23 47 20.3 +0.5**
HHC pmax pmax
comp=Z,130nm,1.0s
HHC pmax pmax
comp=Z,4μm,6.1s
HHC LR LR
comp=Z,62μm,16.2s
HHC LR LR
comp=Z,62μm,16.1s
HHC LR LR
comp=Z,64μm,15.2s
LZH Lanzhou 22.10 318 ⇓P **P** **23 42 53.8 +0.1**
LZH pP sP 23 42 58.8 -0.7
LZH PP **PnPn** **23 43 14.5 -1.4**
LZH SS Sn 23 47 26.0 +18
LZH pmax pmax
comp=Z,340nm,1.3s
LZH pmax pmax
comp=Z,2μm,4.1s
LZH LR LR
comp=Z,50μm,16.8s
LZH LR LR
comp=Z,52μm,14.9s
LZH LR LR
comp=Z,76μm,14.9s
TNCH TengChong 22.12 286 ⇓*i*P **P** **23 42 54.8 +0.8**
TNCH pP pP 23 42 57.8 -0.6
TNCH PP **PnPn** **23 43 18.8 +2.6**
TNCH S **S** **23 46 49.5 -8.1**
TNCH sS sS 23 46 53.8 -10
TNCH pmax pmax
comp=Z,570nm,1.5s
TNCH LR LR
comp=Z,29μm,13.6s
TNCH LR LR
comp=Z,27μm,13.7s
TNCH LR LR
comp=Z,50μm,14.6s
JSD Sado 22.19 36 P **P** **23 42 56.4 +1.9**
JSD Sado 22.19 36 ⇓P **P** **23 42 55.4 +0.9**
BTO Baotou 22.31 335 ⇓*i*P **P** **23 42 56.5 +0.7**
BTO pP **sP** **23 43 01.0 -0.7**
BTO sP **pwP** **23 43 03.5 +1.5**
BTO PP **PnPn** **23 43 23.8 +5.2**
BTO pmax pmax
comp=Z,210nm,1.5s
BTO pmax pmax
comp=Z,9μm,8.6s
BTO LR LR
comp=Z,266μm,14.7s
BTO LR LR
comp=Z,185μm,16.0s

BTO LR LR
comp=Z,324μm,13.7s
KSM Kuching 22.35 212 P **P** **23 42 55.3 -1.0**
KSM IAmb IAmb 23 43 00.8
comp=Z,448nm,1.0s
KSM Kuching 22.35 212 P **P** **23 42 56.0 -0.3**
KSM Kuching 22.35 212 ⇑P **P** **23 42 55.6 -0.7**
BKB Balikpapan 22.46 194 P **P** **23 42 55.4 -2.0**
BKB IAMs_20 IAMs_20 23 53 06.7
comp=Z,25μm,20.0s
BKB Balikpapan 22.46 194 P **P** **23 42 58.3 +0.9**
BKB Balikpapan 22.46 194 P **P** **23 42 56.5 -0.9**
comp=Z,26μmcomp=Z,1μm,1.1s
BKB Balikpapan 22.46 194 ⇑P **P** **23 42 57.0 -0.4**
GUMO Guam 22.88 104 P **P** **23 43 04.0 +2.1**
GUMO Guam 22.88 104 LR LR 23 49 54.6
comp=Z,11μm,20.8s,baz=274,slow=31
SANI Sanana 22.98 170 P **P** **23 43 03.8 +0.9**
SANI Sanana 22.98 170 P **P** **23 43 03.2 +0.3**
comp=Z,9μmcomp=Z,5μmcomp=Z,400nm,1.0s
SANI Sanana 22.98 170 ⇑P **P** **23 42 59.5 -3.4**
STKI Sintang 23.03 208 P **P** **23 43 03.3 -0.2**
comp=Z,11μmcomp=Z,442nm,1.4s
CN2 Changchun 23.16 6 *e*P **P** **23 43 04.5 0.0**
CN2 *e*S **S** **23 47 11.5 -4.0**
CN2 pmax pmax
comp=Z,3μm,6.0s
CN2 LR LR
comp=Z,29μm,12.0s
CN2 LR LR
comp=Z,18μm,12.0s
CN2 LR LR
comp=Z,16μm,14.0s
SWI Sorong 23.28 156 P **P** **23 43 07.8 +1.8**
JMM Marumori 23.52 39 P **P** **23 43 07.5 -0.7**
JMM IAmb IAmb 23 43 25.1
comp=Z,482nm,1.5s
JMM Marumori 23.52 39 P **P** **23 43 08.7 +0.4**
JMM Marumori 23.52 39 ⇑P **P** **23 43 08.2 -0.1**
XLT XiLinHaoTe 23.62 349 *e*P **P** **23 43 07.5 -1.8**
XLT sP sP 23 43 14.8 -0.7
XLT PP **PnPn** **23 43 40.0 +3.5**
XLT PcP **PcP** **23 46 56.5 +2.6**
XLT S **S** **23 47 19.5 -3.8**
XLT SS **SnSn** **23 48 07.3 +6.6**
XLT pmax pmax
comp=Z,270nm,1.4s
XLT pmax pmax
comp=Z,4μm,8.6s
XLT LR LR
comp=Z,42μm,17.4s
XLT LR LR
comp=Z,22μm,15.3s
TTSI Tana Toraja 23.75 186 P **P** **23 43 10.9 +0.3**
comp=Z,12μmcomp=Z,7μmcomp=Z,642nm,1.1s
NLAI Namlea 24.34 168 P **P** **23 43 16.6 +0.4**
comp=Z,11μmcomp=Z,13μmcomp=Z,1μm,1.0s
MDJ Mudanjiang 24.60 13 P **P** **23 43 18.0 -0.3**
MDJ IAmb IAmb 23 43 42.0
comp=Z,305nm,1.1s
MDJ IAMs_20 IAMs_20 23 54 14.7
comp=Z,32μm,18.0s
MDJ Mudanjiang 24.60 13 P **P** **23 43 19.3 +1.0**
MDJ sP pwP 23 43 24.8 -1.0
MDJ pmax pmax
comp=Z,48nm,1.2s
MDJ LR LR
comp=Z,32μm,18.8s
MDJ LR LR
comp=Z,39μm,14.7s
MDJ LR LR
comp=Z,53μm,15.7s
MDJ Mudanjiang 24.60 13 P **P** **23 43 20.3 +2.0**
SPSI Sidrap Palu 24.67 186 P **P** **23 43 19.0 -0.1**
comp=Z,13μmcomp=Z,319nm,1.2s
USA0B Ussuriysk Arra 24.79 17 P **P** **23 43 20.5 +0.5**
USRK Ussuriysk Ar. 24.79 17 P **P** **23 43 20.5 +0.5**
USRK Ussuriysk Ar. 24.79 17 P **P** **23 43 22.0 +2.0**
comp=Z,37nm,0.8s,baz=204,slow=9.0,SNR=48
USRK S **S** **23 47 48.0 +6.1**
comp=Z,2.8nm,0.7s,baz=224,slow=8.1,SNR=1.5
comp=Z,37nm,0.8s
SRIT Nakonsritamara 24.84 244 P **P** **23 43 18.9 -1.9**
SRIT Nakonsritamara 24.84 244 P **P** **23 43 21.5 +0.7**
MSAI Masohi 24.87 164 P **P** **23 43 22.2 +1.3**
comp=Z,9μmcomp=Z,10μmcomp=Z,529nm,1.2s
AAI Ambon 25.01 165 P **P** **23 43 24.6 +2.4**
comp=Z,11μmcomp=Z,6μmcomp=Z,450nm,1.0s
BNSI Bone 25.07 185 P **P** **23 43 22.8 +0.1**
comp=Z,12μmcomp=Z,7μmcomp=Z,413nm,1.3s
RKPI Ransiki, Papua 25.09 150 P P 23 43 34.4 +11
BNX BinXian 25.30 9 ⇑P **P** **23 43 25.0 +0.4**
BNX pP **pP** **23 43 28.0 -0.6**
BNX sP **sP** **23 43 29.5 -0.7**
BNX S **S** **23 47 53.8 +3.8**
BNX sS **sS** **23 47 59.0 +2.5**
BNX ScS **ScS** **23 54 26.3 +1.6**
BNX pmax pmax
comp=Z,240nm,1.6s
BNX pmax pmax
comp=Z,5μm,7.3s
BNX LR LR
comp=Z,30μm,14.1s
BNX LR LR
comp=Z,33μm,19.0s
BNX LR LR
comp=Z,34μm,14.2s
FAKI Fak Fak 25.54 156 P **P** **23 43 25.9 -1.2**
FAKI IAmb IAmb 23 43 39.2
comp=Z,165nm,0.9s
FAKI Fak Fak 25.54 156 P **P** **23 43 29.6 +2.5**
FAKI Fak Fak 25.54 156 P **P** **23 43 27.7 +0.6**
comp=Z,8μmcomp=Z,3μmcomp=Z,192nm,1.1s
FAKI Fak Fak 25.54 156 ⇑P **P** **23 43 25.4 -1.7**
JTM Tenmabayashi 25.68 35 P **P** **23 43 28.0 -0.1**
JTM Tenmabayashi 25.68 35 P **P** **23 43 29.9 +1.8**
JTM Tenmabayashi 25.68 35 ⇑P **P** **23 43 29.4 +1.2**
KAPI Kappang 25.71 185 P **P** **23 43 27.3 -1.3**
KAPI Kappang 25.71 185 P **P** **23 43 27.4 -1.1**
comp=Z,99nm,1.1s,baz=17,slow=5.4,SNR=21
KAPI S **S** **23 47 53.2 -3.6**
comp=Z,4.6nm,0.3s,baz=172,slow=14,SNR=0.9
KAPI LR LR 23 55 07.1
comp=Z,16μm,19.9s,baz=1.5,slow=40
comp=Z,99nm,1.1s
KAPI Kappang 25.71 185 P **P** **23 43 28.5 0.0**
KAPI P **P** **23 43 28.5 0.0**
KAPI S **S** **23 47 59.7 +2.8**
KAPI S **S** **23 47 59.7 +2.8**
KAPI Kappang 25.71 185 P **P** **23 43 29.1 +0.6**
KAPI Kappang 25.71 185 ⇑P **P** **23 43 26.8 -1.7**
KAPI Kappang 25.71 185 P **P** **23 43 28.1 -0.4**
KAPI S **S** **23 47 54.8 -2.0**
BAKI Biak 25.76 146 P **P** **23 43 36.0 +6.9**
KULM Kulim 25.88 237 P **P** **23 43 29.2 -0.9**
KULM IAmb IAmb 23 43 33.7
comp=Z,512nm,1.5s
KULM Kulim 25.88 237 P **P** **23 43 30.5 +0.4**
KULM Kulim 25.88 237 ⇑P **P** **23 43 30.1 -0.1**
MYKOM Kota Tinggi 25.92 226 P **P** **23 43 29.8 -0.7**
MYKOM IAmb IAmb 23 43 37.4
comp=Z,355nm,1.0s
MYKOM IAMs_20 IAMs_20 23 53 46.5
comp=Z,25μm,19.0s
MYKOM Kota Tinggi 25.92 226 P **P** **23 43 31.4 +0.9**
MYKOM Kota Tinggi 25.92 226 ⇑P **P** **23 43 30.4 -0.1**
BKSI Bulukumba 25.98 184 P **P** **23 43 32.4 +1.4**
BBSI Bau Bau 26.08 179 P **P** **23 43 34.2 +2.3**
comp=Z,9μmcomp=Z,5μmcomp=Z,315nm,1.1s
IPM Ipoh 26.10 235 P **P** **23 43 31.0 -1.1**
IPM IAmb IAmb 23 43 34.9
comp=Z,412nm,1.0s
IPM Ipoh 26.10 235 P **P** **23 43 32.2 0.0**
IPM Ipoh 26.10 235 ⇑P **P** **23 43 31.4 -0.7**
TPRI Tanjung Pinang 26.13 223 P **P** **23 43 33.6 +1.1**
comp=Z,10μmcomp=Z,5μmcomp=Z,390nm,1.1s
KOHI KOHIMA 26.16 286 IAmb IAmb 23 43 40.0
comp=Z,268nm,1.1s
KOHI *e*P P 23 43 42.0 +9.1
KOHI *e*S **S** **23 48 10.1 +5.8**
IMP Imphal 26.24 284 *e*P **P** **23 43 39.7 +6.2**
IMP IAmb IAmb 23 43 42.3
comp=Z,144nm,0.9s
IMP *e*S **S** **23 48 15.4 +10**
ZIRO ZIRO 26.60 290 IAmb IAmb 23 43 44.2
comp=Z,148nm,0.8s
ZIRO *e*P P 23 43 47.9 +11
ZIRO *e*S **S** **23 48 17.9 +6.6**
GTA Gaotai 26.66 319 P **P** **23 43 37.5 +0.3**
GTA sP pwP 23 43 46.5 +3.0
GTA PcP **PcP** **23 47 06.0 +5.1**
GTA S **S** **23 48 14.0 +2.0**
GTA ScP **ScP** **23 50 38.0 -2.5**
GTA pmax pmax
comp=Z,200nm,1.5s
GTA pmax pmax
comp=Z,3μm,8.5s
GTA LR LR
comp=Z,30μm,15.3s
GTA LR LR
comp=Z,54μm,14.9s
GTA LR LR
comp=Z,64μm,15.3s
BSSI Bau Bau, Buton 26.77 184 P **P** **23 43 39.3 +1.1**
comp=Z,7μmcomp=Z,3μmcomp=Z,228nm,1.4s
SAIH SAIHA 27.10 279 *e*P **P** **23 43 47.5 +6.2**
SAIH IAmb IAmb 23 43 58.4
comp=Z,302nm,1.7s
SAIH *e*S **S** **23 48 26.0 +6.9**
DSRI Dabo 27.18 221 P **P** **23 43 42.8 +0.9**
comp=Z,9μmcomp=Z,10μmcomp=Z,295nm,1.8s
TPI Tanjungpandan 27.32 213 P **P** **23 43 43.5 +0.4**
comp=Z,12μmcomp=Z,6μmcomp=Z,346nm,1.8s
AZL Aizawl 27.36 282 *e*P **P** **23 43 49.8 +6.2**
AZL IAmb IAmb 23 44 00.3
comp=Z,210nm,1.4s
AZL *e*S **S** **23 48 30.0 +6.8**
TEZP TEZPUR 27.42 288 IAmb IAmb 23 43 46.7
comp=Z,198nm,1.4s
TEZP *e*P **P** **23 43 50.2 +6.2**
TEZP *e*S **S** **23 48 30.8 +6.9**
PPBI Pangkal Pinang 27.62 216 P **P** **23 43 50.8 +5.0**
ERM Erimo 27.66 35 P **P** **23 43 47.0 +1.1**
ERM IAmb IAmb 23 44 05.6
comp=Z,337nm,1.1s
ERM Erimo 27.66 35 P **P** **23 43 50.3 +4.4**
ERM Erimo 27.66 35 ⇓P **P** **23 43 48.6 +2.7**
ERM Erimo 27.66 35 P **P** **23 43 47.6 +1.6**
ERM S **S** **23 48 30.8 +3.5**
JEM Erimo 27.66 35 P **P** **23 43 48.6 +2.6**
SMPI Sarmi 27.85 142 P **P** 23 43 57.2 +9.3
SHL Shillong 28.15 286 P **P** **23 43 49.5 -1.3**
SHL IAmb IAmb 23 43 58.2
comp=Z,178nm,1.2s
SHL Shillong 28.15 286 *e*P P 23 43 56.0 +5.2
SHL IAmb IAmb 23 43 58.1
comp=Z,71nm,1.6s
SHL *e*S **S** **23 48 41.0 +5.1**
BRDH Bariadhala 28.33 280 LR LR 23 56 31.1
comp=Z,7μm,20.6s,baz=120,slow=39
GOMU GeErMu 28.36 309 P **P** **23 43 52.5 -0.3**
GOMU S **S** **23 48 38.0 -1.3**
GOMU pmax pmax
comp=Z,80nm,1.2s
GOMU pmax pmax
comp=Z,980nm,5.3s
GOMU LR LR
comp=Z,48μm,16.3s
GOMU LR LR
comp=Z,27μm,20.3s
GOMU LR LR
comp=Z,40μm,20.3s
GUWA GUWAHATI 28.37 287 *e*P P 23 43 58.8 +6.3
GUWA IAmb IAmb 23 44 02.5
comp=Z,66nm,1.5s
GUWA *e*S **S** **23 48 45.9 +7.0**
HIA Hailar 28.52 357 P **P** **23 43 53.1 -0.4**
HIA Hailar 28.52 357 IAMs_20 IAMs_20 23 56 45.2
comp=Z,29μm,18.0s
HIA Hailar 28.52 357 P **P** **23 43 54.9 +1.3**
TSI Tuntungan 28.61 236 P **P** **23 43 56.9 +2.2**
comp=Z,7μmcomp=Z,7μmcomp=Z,201nm,1.5s
AGT Agartala 28.68 282 *e*P P 23 44 01.6 +6.4
AGT IAmb IAmb 23 44 03.2
comp=Z,219nm,0.3s
AGT *e*S **S** **23 48 50.9 +7.2**
KMMI Kalianget 28.76 197 P **P** **23 43 58.0 +2.1**
comp=Z,11μmcomp=Z,9μmcomp=Z,450nm,1.8s
PSI Prapat 28.77 235 P **P** **23 43 56.2 -0.1**
comp=Z,100nm,1.0s,baz=30,slow=5.5,SNR=43
PSI LR LR 23 56 19.8
comp=Z,12μm,18.2s,baz=48,slow=38
comp=Z,100nm,1.0s
PSI Prapat 28.77 235 P **P** **23 43 56.9 +0.6**
RPSI Rantau Prapat 28.84 235 P **P** **23 43 55.7 -1.0**
JKA Kamikawa-asahi 28.87 32 P **P** **23 43 57.7 +1.0**
JKA IAMs_20 IAMs_20 23 56 34.8
comp=Z,25μm,20.0s
LHMI Lhok Sumawe 28.88 241 P **P** **23 43 57.3 +0.2**
LHMI IAmb IAmb 23 44 30.6
comp=Z,347nm,1.3s
LHMI Lhok Sumawe 28.88 241 P **P** **23 43 58.7 +1.6**
LHMI Lhok Sumawe 28.88 241 P **P** **23 43 57.3 +0.2**
comp=Z,8μmcomp=Z,4μmcomp=Z,202nm,1.6s
BKNI Bangkinang 28.91 228 P **P** **23 43 57.1 -0.2**
BKNI IAMs_20 IAMs_20 23 54 31.8
comp=Z,17μm,22.0s
BKNI Bangkinang 28.91 228 P **P** **23 43 58.2 +0.9**
BKNI Bangkinang 28.91 228 P **P** **23 43 57.7 +0.4**
comp=Z,7μmcomp=Z,261nm,1.5s
PMBI Palembang 29.02 218 P **P** **23 43 58.8 +0.5**
PMBI IAMs_20 IAMs_20 23 56 12.0
comp=Z,17μm,19.0s
GRJI Gresik 29.07 200 P P 23 44 04.2 +5.5
TBJI Tambak Boyo 29.19 201 P **P** **23 44 00.4 +0.6**
MMRI Maumere 29.20 180 P **P** **23 43 59.4 -0.5**
MMRI Maumere 29.20 180 P **P** **23 44 01.3 +1.4**
MMRI Maumere 29.20 180 P **P** **23 43 59.9 0.0**
LSA Lhasa 29.30 294 P **P** **23 43 59.9 -1.4**
LSA IAmb IAmb 23 44 18.9
comp=Z,331nm,1.5s
LSA IAMs_20 IAMs_20 23 56 09.4
comp=Z,16μm,21.0s
LSA Lhasa 29.30 294 P **P** **23 44 01.8 +0.5**
LSA S **S** **23 48 54.3 -0.1**
LSA pmax pmax
comp=Z,100nm,1.2s
LSA LR LR
comp=Z,15μm,17.0s
LSA LR LR
comp=Z,15μm,18.0s
LSA Lhasa 29.30 294 P **P** **23 44 02.5 +1.1**
LSA P **P** **23 44 02.5 +1.1**
LSA Lhasa 29.30 294 *i*P **P** **23 44 02.4 +1.1**
SNR=20
EDFI Ende, Flores 29.32 181 P **P** **23 43 59.9 -1.1**
comp=Z,6μmcomp=Z,508nm,1.1s
SRBI Singaraja 29.44 194 P **P** **23 44 04.2 +2.2**
comp=Z,9μmcomp=Z,6μmcomp=Z,290nm,1.3s
JAY Jayapura 29.45 140 LR LR 23 54 01.0
comp=Z,22μm,20.0s,baz=326,slow=33
MNSI Mandailing Nat 29.61 231 P **P** **23 44 03.4 -0.2**
comp=Z,4μmcomp=Z,248nm,1.2s
ULN Ulaanbaatar 29.66 339 P **P** **23 44 02.5 -1.3**
ULN **pP** **23 44 02.8 -5.5**
ULN IAmb IAmb 23 44 04.4
comp=Z,179nm,1.0s
ULN Ulaanbaatar 29.66 339 P **P** **23 44 03.5 -0.4**
ULN P **P** **23 44 03.5 -0.4**
ULN S **S** **23 49 03.8 +4.9**
ULN S **S** **23 49 03.8 +4.9**
ULN Ulaanbaatar 29.66 339 ⇓P **P** **23 44 03.0 -0.8**
PLAI Plampang 29.70 189 P **P** **23 44 04.8 +0.5**
PLAI Plampang 29.70 189 P **P** **23 44 04.2 -0.1**
comp=Z,7μmcomp=Z,7μmcomp=Z,495nm,1.2s
HEH HeiHe 29.74 7 *e*P **P** **23 44 05.8 +1.4**
HEH sP **pwP** **23 44 12.0 +0.1**
HEH S **S** **23 49 02.0 +2.1**
HEH pmax pmax
comp=Z,21nm,1.1s
HEH pmax pmax
comp=Z,4μm,10.9s
HEH LR LR
comp=Z,32μm,15.2s
HEH LR LR
comp=Z,14μm,15.6s
HEH LR LR
comp=Z,56μm,14.9s
NGJI Ngawi 29.83 202 P **P** **23 44 07.7 +2.2**
comp=Z,7μmcomp=Z,399nm,1.0s

SONM Songino Array 29.85 339 P **P** **23 44 04.3 -1.3**
SONM Songino Array 29.85 339 P **P** **23 44 04.6 -0.9**
comp=Z,75nm,0.9s,baz=159,slow=9.5,SNR=333
SONM PcP **PcP** **23 47 09.1 +0.6**
comp=Z,8.2nm,0.8s,baz=144,slow=3.9,SNR=6.6
SONM ScP **ScP** **23 50 46.8 -3.4**
comp=Z,6.6nm,1.0s,baz=168,slow=2.2,SNR=7.5
SONM LR LR 23 57 00.7
comp=Z,40μm,19.6s,baz=146,slow=38
comp=Z,75nm,0.9s
MLSI Meulaboh, Aceh 29.87 240 P **P** **23 44 06.6 +0.7**
comp=Z,4μmcomp=Z,312nm,0.8s
SMRI Semarang 29.91 204 P **P** **23 44 05.8 -0.4**
SMRI Semarang 29.91 204 P **P** **23 44 09.1 +2.9**
SMRI Semarang 29.91 204 P **P** **23 44 08.2 +2.0**
comp=Z,11μmcomp=Z,10μmcomp=Z,597nm,1.9s
SMRI Semarang 29.91 204 ⇑P **P** **23 44 07.3 +1.2**
PPI Padang Panjang 29.91 228 P **P** **23 44 06.4 +0.2**
comp=Z,7μmcomp=Z,7μmcomp=Z,487nm,1.5s
SAUI Saumlaki 29.95 161 P **P** **23 44 07.0 +0.4**
JAGI Jajag, Banyuwa 30.07 196 P **P** **23 44 06.4 -1.2**
JAGI IAmb IAmb 23 44 11.8
comp=Z,262nm,1.2s
JAGI Jajag, Banyuwa 30.07 196 P **P** **23 44 09.1 +1.5**
JAGI Jajag, Banyuwa 30.07 196 P **P** **23 44 08.1 +0.5**
comp=Z,8μmcomp=Z,4μmcomp=Z,234nm,1.4s
JAGI Jajag, Banyuwa 30.07 196 ⇑P **P** **23 44 06.4 -1.2**
GMJI Gumukmas 30.07 197 P **P** **23 44 07.7 +0.1**
comp=Z,7μmcomp=Z,7μmcomp=Z,319nm,1.9s
WSI Waingapu 30.28 184 P **P** **23 44 10.8 +1.4**
WBSI Waikabubak, Su 30.32 185 P **P** **23 44 10.0 +0.2**
comp=Z,4μmcomp=Z,344nm,0.8s
SOEI Soe 30.39 176 P **P** **23 44 09.7 -0.8**
SOEI IAmb IAmb 23 44 54.9
comp=Z,296nm,1.1s
SOEI Soe 30.39 176 P **P** **23 44 12.0 +1.4**
SOEI Soe 30.39 176 P **P** **23 44 10.8 +0.2**
comp=Z,5μmcomp=Z,2μmcomp=Z,113nm,0.8s
WOJI Wonogiri, Jawa 30.46 202 P **P** **23 44 11.6 +0.6**
LHSI Lahat 30.47 219 P **P** **23 44 12.6 +1.4**
comp=Z,9μmcomp=Z,5μmcomp=Z,279nm,1.6s
CMBY CAMPBELL BAY 30.49 247 *eP* P 23 44 17.6 +6.2
CMBY eS **S** **23 49 19.1 +6.7**
KLI Kotabumi 30.57 215 P **P** **23 44 13.5 +1.5**
MDSI Maura Dua 30.63 217 P **P** **23 44 12.7 +0.1**
comp=Z,9μmcomp=Z,5μmcomp=Z,416nm,1.0s
UGM Wanagama 30.67 203 P **P** **23 44 13.2 +0.2**
UGM Wanagama 30.67 203 P **P** **23 44 13.6 +0.7**
UGM Wanagama 30.67 203 P **P** **23 44 14.4 +1.5**
comp=Z,780nm,1.9s
PCJI Pacitan 30.70 202 P **P** **23 44 15.1 +1.9**
comp=Z,7μmcomp=Z,5μmcomp=Z,250nm,1.3s
TNG Tangerang 30.76 211 P P 23 44 19.7 +6.0
GSI Gunungsitoli 30.77 234 P **P** **23 44 12.1 -1.7**
GSI Gunungsitoli 30.77 234 P **P** **23 44 14.7 +0.9**
GSI Gunungsitoli 30.77 234 P **P** **23 44 13.7 -0.1**
comp=Z,155nm,1.3s
BLSI Bandar Lampung 30.78 214 P **P** **23 44 14.3 +0.4**
comp=Z,6μmcomp=Z,4μmcomp=Z,212nm,1.1s
BATI Baumata 30.80 177 LR LR 23 59 21.1
comp=Z,9μm,18.1s,baz=4.0,slow=42
BATI Baumata 30.80 177 P **P** **23 44 14.4 +0.3**
comp=Z,2μmcomp=Z,206nm,1.1s
BASI Baing, Sumba 30.81 183 P **P** **23 44 15.3 +1.2**
LEM Lembang 30.88 209 P **P** **23 44 15.9 +1.0**
comp=Z,158nm,0.9s,baz=50,slow=7.3,SNR=23
comp=Z,158nm,0.9s
KSI Kapahiang 30.89 220 P **P** **23 44 15.3 +0.4**
SBJI Serang 30.97 212 P **P** **23 44 17.1 +1.6**
DBJI Dramaga 31.04 211 P **P** **23 44 17.9 +1.7**
YSS Yuzhno-Sakhali 31.08 28 P **P** **23 44 16.9 +0.7**
YSS IAMs_20 IAMs_20 23 56 50.2
comp=Z,14μm,20.0s
YSS Yuzhno-Sakhali 31.08 28 P **P** **23 44 18.3 +2.1**
YSS Yuzhno-Sakhali 31.08 28 ⇓P **P** **23 44 18.4 +2.1**
LWLI Liwa 31.13 217 P **P** **23 44 18.0 +0.9**
GTK Tadong 31.21 289 *eP* P 23 44 24.0 +6.1
GTK IAmb IAmb 23 44 26.8
comp=Z,129nm,0.9s
GTK eS **S** **23 49 30.5 +6.7**
MNAI Manna 31.23 219 P **P** **23 44 17.3 -0.7**
MNAI Manna 31.23 219 P **P** **23 44 18.3 +0.4**
KASI Kota Agung 31.31 215 P **P** **23 44 18.7 +0.1**
comp=Z,6μmcomp=Z,5μmcomp=Z,310nm,1.0s
BBJI Bungbulang 31.43 208 P **P** **23 44 20.7 +1.0**
SISI Saibi 31.44 229 P **P** **23 44 19.1 -0.7**
comp=Z,4μmcomp=Z,320nm,1.3s
CNJI Cibinong 31.52 209 P **P** **23 44 21.9 +1.5**
comp=Z,2μmcomp=Z,183nm,0.9s
SKJI Sukabumi 31.53 211 P **P** **23 44 21.0 +0.5**
CGJI Cibinong 31.61 212 P **P** **23 44 20.6 -0.6**
comp=Z,189nm,1.8s
PPSI Pulau Pagai 31.85 225 P **P** **23 44 24.6 +1.2**
comp=Z,7μmcomp=Z,468nm,1.6s
EVN Everest 32.84 290 IAMs_20 IAMs_20 23 58 54.2
comp=Z,15μm,19.0s
MANU Manus Island 33.56 129 P **P** **23 44 38.7 +0.4**
MANU IAMs_20 IAMs_20 23 55 11.6
comp=Z,13μm,21.0s
BOK Bokaro 33.59 282 *eP* P 23 44 44.9 +6.3
BOK IAmb IAmb 23 44 46.7
comp=Z,82nm,1.9s
BOK eS **S** **23 50 07.5 +6.9**
MTN Manton Dam 34.55 164 P **P** **23 44 46.1 -0.7**
KDU Kakadu 34.76 162 P **P** **23 44 49.8 +1.1**
XMI Christmas Isla 34.95 209 P **P** **23 44 52.1 +1.7**
XMI Christmas Isla 34.95 209 ⇑P **P** **23 44 49.4 -1.0**
VIS Vishakhapatnam 36.67 272 *eP* P 23 45 11.5 +6.3
VIS IAmb IAmb 23 45 13.8
comp=Z,172nm,1.2s
VIS eS **S** **23 50 55.1 +7.0**
WMQ Urumqi 36.68 317 *eP* **P** **23 45 05.5 +0.5**
WMQ sP pwP 23 45 16.8 +7.4
WMQ PP **PP** **23 46 30.8 +2.2**
WMQ S **S** **23 50 47.5 -0.4**
WMQ ScP **ScP** **23 51 11.5 -2.5**
WMQ pmax pmax
comp=Z,60nm,1.7s
WMQ pmax pmax
comp=Z,340nm,3.8s
WMQ LR LR
comp=Z,20μm,15.1s
WMQ LR LR
comp=Z,24μm,17.3s
WMQ LR LR
comp=Z,15μm,15.1s
BLSP Bilaspur 37.15 280 *eP* **P** **23 45 13.4 +4.2**
BLSP IAmb IAmb 23 45 16.1
comp=Z,72nm,0.9s
BLSP eS **S** **23 51 01.6 +6.2**
PATS Pohnpei 37.68 106 P **P** **23 45 14.8 +1.0**
PATS Pohnpei 37.68 106 P **P** **23 45 16.4 +2.6**
comp=Z,0.0nmcomp=Z,393nm,1.4s
PATS Pohnpei 37.68 106 P **P** **23 45 16.0 +2.2**
RABL Rabaul 38.53 127 P **P** **23 45 23.9 +2.9**
RABL IAMs_20 IAMs_20 23 58 26.2
comp=Z,10μm,20.0s
PTH Pithoragarh 38.74 292 *eP* P 23 45 28.9 +6.1
PTH IAmb IAmb 23 45 30.5
comp=Z,94nm,0.3s
PTH eS **S** **23 51 26.1 +6.5**
FITZ Fitzroy Crossi 38.76 175 ScP **S** **23 51 20.0 +0.4**
comp=Z,12nm,1.0s,baz=352,slow=7.1,SNR=4.2
FITZ LR LR 00 04 12.5
comp=Z,3μm,19.1s,baz=356,slow=41
PMG Port Moresby 38.80 138 P **P** **23 45 23.0 -0.2**
PMG IAmb IAmb 23 45 34.4
comp=Z,234nm,1.1s
PMG Port Moresby 38.80 138 LR LR 00 02 24.5
comp=Z,3μm,18.9s,baz=306,slow=38
PMG Port Moresby 38.80 138 P **P** **23 45 25.3 +2.2**
PMG Port Moresby 38.80 138 P **P** **23 45 25.6 +2.5**
JOSI Joshimath 39.37 293 *eP* P 23 45 34.0 +5.9
JOSI IAmb IAmb 23 45 44.0
comp=Z,198nm,1.1s
JOSI eS **S** **23 51 35.5 +6.3**
VJD Vijayawada 39.42 271 *eP* P 23 45 34.8 +6.4
VJD IAmb IAmb 23 45 42.7
comp=Z,233nm,1.1s
VJD eS **S** **23 51 36.9 +7.1**
ZSN Zaisan 40.14 320 *eP* **P** **23 45 33.2 -0.8**
ZSN eS **S** **23 51 39.3 -0.7**
COEN Coen 40.23 147 P **P** **23 45 35.4 +0.3**
COEN IAMs_20 IAMs_20 00 00 31.0
comp=Z,11μm,21.0s
COEN Coen 40.23 147 P **P** **23 45 35.6 +0.5**
comp=Z,99nm,1.1s
COEN Coen 40.23 147 P **P** **23 45 36.9 +1.8**
COEN Coen 40.23 147 ⇑P **P** **23 45 36.8 +1.7**
KLP Kalpa 40.56 295 *eP* P 23 45 43.9 +5.8
KLP IAmb IAmb 23 45 45.9
comp=Z,78nm,1.6s
KLP eS **S** **23 51 53.2 +5.9**
DDI Dehra Dun 40.65 293 *eP* P 23 45 44.6 +6.1
DDI IAmb IAmb 23 45 46.3
comp=Z,158nm,1.3s
DDI eS **S** **23 51 54.7 +6.6**
COCO West Island 41.09 219 P **P** **23 45 41.5 -0.6**
COCO West Island 41.09 219 P **P** **23 45 42.9 +0.8**
COCO P **P** **23 45 42.9 +0.8**
COCO West Island 41.09 219 P **P** **23 45 43.6 +1.5**
HYB Hyderabad 41.19 273 *eP* **P** **23 45 43.4 +0.3**
HYB IVmB_BB 23 45 49.7
comp=Z,2μm,1.8s
HYB IVMs_BB IVMs_BB 00 07 33.3
comp=Z,3μm,15.4s
BHPL Bhopal 41.37 282 IAmb IAmb 23 45 49.6
comp=Z,165nm,1.3s
BHPL *eP* P 23 45 50.7 +6.2
BHPL eS **S** **23 52 05.6 +6.7**
MKAR Makanchi Array 41.41 318 P **P** **23 45 43.5 -1.1**
MKAR Makanchi Array 41.41 318 P **P** **23 45 44.5 -0.1**
comp=Z,78nm,0.6s,baz=108,slow=7.8,SNR=242
MKAR PcP **PcP** **23 47 42.9 +0.5**
comp=Z,13nm,0.7s,baz=142,slow=2.5,SNR=2.0
MKAR ScP **ScP** **23 51 28.9 -3.2**
comp=Z,18nm,1.1s,baz=108,slow=4.0,SNR=8.0
MKAR S **S** **23 51 59.4 +0.3**
comp=Z,14nm,1.0s,baz=106,slow=15,SNR=7.4
MKAR LR LR 00 04 53.9
comp=Z,28μm,18.2s,baz=98,slow=39
comp=Z,78nm,0.6s
SMLA Simla 41.46 294 *eP* P 23 45 51.2 +6.1
SMLA IAmb IAmb 23 45 52.8
comp=Z,44nm,1.6s
SMLA eS **S** **23 52 06.6 +6.7**
YAK Yakutsk 41.58 5 P **P** **23 45 44.9 -0.8**
YAK Yakutsk 41.58 5 IAMs_20 IAMs_20 00 05 42.5
comp=Z,15μm,19.0s
MAKZ Makanchi 41.62 318 P **P** **23 45 45.5 -0.8**
MAKZ IAmb IAmb 23 45 48.5
comp=Z,195nm,0.9s
MBWA Marble Bar 41.72 183 P **P** **23 45 45.3 -1.9**
comp=Z,89nm,1.4s
MBWA Marble Bar 41.72 183 P **P** **23 45 47.3 +0.1**
MBWA Marble Bar 41.72 183 ⇑P **P** **23 45 45.2 -1.9**
MBWA Marble Bar 41.72 183 P **P** **23 45 45.5 -1.7**
MBWA Marble Bar 41.72 183 P **P** **23 45 47.3 +0.1**
MALK Mahakanadarawa 41.92 259 ⇓P **P** **23 45 50.5 +1.4**
SHLS Shalkode 41.93 312 *eP* **P** **23 45 45.7 -3.3**
SHLS eS **S** **23 51 01.9 -5.1**
H11N1 WAKE ISLAND Hy 41.95 83 P P 23 45 55.5 +6.5
baz=254,slow=8.2,SNR=6.8
H11N1 T T 00 30 48.3
baz=274,slow=75,SNR=2218
H11N2 WAKE ISLAND Hy 41.95 83 P P 23 45 55.2 +6.2
baz=254,slow=8.2,SNR=5.1
H11N2 T T 00 30 48.2
baz=274,slow=75,SNR=1455
H11N3 WAKE ISLAND Hy 41.96 83 P P 23 45 54.3 +5.2
baz=254,slow=8.2,SNR=6.8
H11N3 T T 00 30 52.7
baz=274,slow=75,SNR=1784
H11S3 WAKE ISLAND Hy 41.97 85 T T 00 30 48.4
baz=280,slow=75
KUDL Kundal 41.97 289 *eP* P 23 45 55.6 +6.3
KUDL IAmb IAmb 23 45 59.5
comp=Z,39nm,0.9s
KUDL eS **S** **23 52 14.4 +6.9**
H11S1 WAKE ISLAND Hy 41.98 85 T T 00 30 49.2
baz=280,slow=75,SNR=2286
H11S2 WAKE ISLAND Hy 41.98 85 T T 00 30 50.1
baz=280,slow=75,SNR=3014
WB0 Warramunga Arr 42.03 163 P **P** **23 45 47.5 -2.3**
WB0 IAmb IAmb 23 46 23.8
comp=Z,385nm,1.6s
WB9 Warramunga Arr 42.05 163 P **P** **23 45 47.6 -2.4**
PSAC1 Pilbara Seismi 42.08 183 P **P** **23 45 48.4 -1.8**
comp=Z,258nm,1.1s
BHK Bhakra 42.12 294 *eP* **P** **23 45 53.0 +2.5**
BHK IAmb IAmb 23 45 58.7
comp=Z,256nm,0.9s
BHK eS **S** **23 52 09.9 +0.1**
PSA00 Pilbara Seismi 42.12 183 P **P** **23 45 48.9 -1.6**
comp=Z,257nm,1.1s
PSA00 Pilbara Seismi 42.12 183 P **P** **23 45 50.5 0.0**
WRAB Tennant Creek 42.17 163 P **P** **23 45 49.5 -1.5**
WRAB IAmb IAmb 23 46 25.1
comp=Z,363nm,1.4s
WRA Warramunga Arr 42.18 163 P **P** **23 45 48.8 -2.2**
WRA Warramunga Arr 42.18 163 P **P** **23 45 49.0 -2.0**
comp=Z,37nm,0.7s,baz=343,slow=9.0,SNR=72
WRA PcP **PcP** **23 47 44.6 -0.7**
comp=Z,13nm,0.9s,baz=338,slow=3.4,SNR=2.4
WRA ScP **ScP** **23 51 33.6 -1.8**
comp=Z,6.7nm,1.0s,baz=344,slow=4.4,SNR=4.5
WRA S **S** **23 52 02.8 -7.9**
comp=Z,14nm,0.9s,baz=346,slow=14,SNR=8.8
comp=Z,37nm,0.7s
PALK Pallekele 42.20 258 P **P** **23 45 49.2 -2.2**
PALK Pallekele 42.20 258 P **P** **23 45 51.4 +0.1**
comp=Z,12nm,0.6s,baz=73,slow=9.1,SNR=8.4
PALK PcP **PcP** **23 47 46.8 +1.2**
comp=Z,16nm,1.0s,baz=40,slow=4.9,SNR=5.0
PALK LR LR 00 02 57.1
comp=Z,4μm,20.6s,baz=64,slow=36
comp=Z,12nm,0.6s
PALK Pallekele 42.20 258 P **P** **23 45 52.8 +1.4**
PALK P **P** **23 45 52.8 +1.4**
PALK Pallekele 42.20 258 P **P** **23 45 50.6 -0.8**
UZB Uzynbulak 42.23 312 *eP* **P** **23 45 50.6 -0.9**
comp=Z,62nm,1.1s
WR8 Warramunga Arr 42.24 163 P **P** **23 45 49.5 -2.0**
WR8 IAmb IAmb 23 46 25.6
comp=Z,330nm,1.6s
PEA0B Petropavlovsk- 42.29 31 P **P** **23 45 52.1 +0.5**
PETK Petropavlovsk- 42.29 31 P **P** **23 45 52.1 +0.5**
PETK Petropavlovsk- 42.29 31 P **P** **23 45 53.1 +1.5**
comp=Z,51nm,0.9s,baz=212,slow=5.3,SNR=63
PETK ScP **ScP** **23 51 31.7 -3.7**
comp=Z,5.2nm,0.9s,baz=227,slow=6.9,SNR=4.3
comp=Z,51nm,0.9s
KPKS Kokpek 42.57 312 *eP* **P** **23 45 53.2 -0.9**
SATY Saty 42.64 312 *eP* **P** **23 45 53.9 -0.9**
comp=Z,65nm,1.1s
HALK Hakmana 42.68 256 ⇓P **P** **23 45 56.6 +1.3**
TARG Taragay, Kyrgy 42.69 310 P **P** **23 45 54.6 -1.0**
PET Petropavlovsk 42.71 32 P **P** **23 45 56.4 +1.4**
PET IAMs_20 IAMs_20 00 04 11.9
comp=Z,9μm,22.0s
PET Petropavlovsk 42.71 32 P **P** **23 45 57.8 +2.8**
PET Petropavlovsk 42.71 32 ⇓P **P** **23 45 56.9 +1.9**
TDK Taldyqorghan 43.25 314 *eP* **P** **23 45 58.9 -0.6**
comp=Z,97nm,0.8s
TDK eS **S** **23 52 25.6 -0.5**
TDK LR LR 00 05 50.2
comp=Z,11μm,15.3s
JMU Jammu 43.48 296 *eP* P 23 46 08.3 +6.8
JMU IAmb IAmb 23 46 09.8
comp=Z,924nm,1.9s
JMU eS **S** **23 52 37.4 +7.7**
KSH Kashi 43.53 306 P **P** **23 46 04.8 +2.8**
KSH S **S** **23 52 36.5 +5.9**
KSH ScS **ScS** **23 56 00.0 -1.6**
KSH pmax pmax
comp=Z,120nm,1.4s
KSH pmax pmax
comp=Z,1μm,5.6s
KSH LR LR
comp=Z,25μm,18.6s
KSH LR LR
comp=Z,26μm,20.6s
KSH LR LR
comp=Z,32μm,18.9s
ZAA0 Zalesovo Array 43.59 329 P **P** **23 46 01.4 -0.7**
ZAA0 IAmb IAmb 23 46 02.8
comp=Z,224nm,0.9s
ZALV Zalesovo Beam 43.59 329 P **P** **23 46 01.1 -1.0**
ZALV Zalesovo Beam 43.59 329 P **P** **23 46 01.4 -0.7**
comp=Z,143nm,0.8s,baz=111,slow=8.1,SNR=427
ZALV ScP **ScP** **23 51 36.5 -4.0**
comp=Z,9.1nm,1.0s,baz=139,slow=3.1,SNR=6.7
ZALV S **S** **23 52 27.7 -3.0**
comp=Z,12nm,1.1s,baz=118,slow=18,SNR=5.7
ZALV LR LR 00 06 07.0
comp=Z,16μm,18.6s,baz=126,slow=39
comp=Z,143nm,0.8s
TNSS Tian-Shan 43.66 311 *eP* **P** **23 46 02.0 -1.4**
AAA Alma-Ata 43.73 311 *eP* **P** **23 46 02.8 -0.7**
comp=Z,158nm,1.3s
AAA LR LR 00 06 23.7
comp=Z,16μm,17.3s
GIRL Giralia 43.81 191 P **P** **23 46 04.8 +0.6**
GIRL IAmb IAmb 23 46 07.6
comp=Z,226nm,1.1s
GIRL Giralia 43.81 191 P **P** **23 46 04.1 0.0**
comp=Z,0.0nmcomp=Z,238nm,1.9s
MA2 Magadan 43.85 21 P **P** **23 46 04.3 +0.2**
MA2 IAMs_20 IAMs_20 00 06 41.4
comp=Z,13μm,18.0s
MA2 Magadan 43.85 21 P **P** **23 46 05.8 +1.6**
MA2 Magadan 43.85 21 P **P** **23 46 03.9 -0.3**
comp=Z,3μmcomp=Z,156nm,1.5s
MA2 Magadan 43.85 21 ⇓P **P** **23 46 04.9 +0.7**
ULHL Ulahol 43.95 310 P **P** **23 46 06.2 +0.7**
SNR=34
KOD Kodaikanal 44.13 263 *eP* P 23 46 13.5 +6.2
KOD IAmb IAmb 23 46 19.1
comp=Z,70nm,0.7s
KOD eS **S** **23 52 46.8 +6.7**
SEM Semipalatinsk 44.21 322 LR LR 00 06 13.6
comp=Z,5μm,14.2s
KUU Kurty 44.32 312 *eP* **P** **23 46 07.3 -0.9**
comp=Z,105nm,0.8s
KUU LR LR 00 07 15.1
comp=Z,8μm,12.4s
MTSU Mount Surprise 44.36 149 P **P** **23 46 09.8 +1.1**
comp=Z,162nm,1.0s
MTSU Mount Surprise 44.36 149 P **P** **23 46 10.8 +2.1**
QIS Mount Isa 44.48 156 P **P** **23 46 09.6 -0.1**
comp=Z,0.0nmcomp=Z,123nm,0.9s
QIS Mount Isa 44.48 156 P **P** **23 46 10.4 +0.7**
TKM2 Tokmak 2 44.58 311 P **P** **23 46 11.0 +0.5**
SNR=100
NIL Nilore 44.92 297 P **P** **23 46 12.6 -0.5**
NIL Nilore 44.92 297 P **P** **23 46 13.6 +0.5**
NIL P **P** **23 46 13.6 +0.5**
KBK Karagaybulak 44.98 310 P **P** **23 46 14.6 +1.0**
SNR=36
UCH Uchtor 45.19 309 P **P** **23 46 16.8 +1.1**
SNR=138
CHMS Chumysh 45.20 311 P **P** **23 46 15.6 +0.4**
SNR=42
KURK Kurchatov 45.28 322 P **P** **23 46 14.9 -0.8**
KURK Kurchatov 45.28 322 IAMs_20 IAMs_20 00 03 38.7
comp=Z,10μm,18.0s
KURK Kurchatov 45.28 322 P **P** **23 46 15.8 +0.2**
KURK P **P** **23 46 15.8 +0.2**
KURK Kurchatov 45.28 322 ⇑P **P** **23 46 15.4 -0.3**
KURBB Kurchatov Arra 45.29 322 P **P** **23 46 15.7 -0.1**
comp=Z,292nm,1.0s,baz=119,slow=7.4,SNR=618
KURBB ScP **ScP** **23 51 44.1 -3.5**
comp=Z,8.4nm,1.0s,baz=108,slow=3.9,SNR=4.7
KURBB S **S** **23 52 53.5 -2.1**
comp=Z,13nm,1.1s,baz=120,slow=14,SNR=6.0
KURBB LR LR 00 07 01.7
comp=Z,9μm,18.2s,baz=116,slow=38
KURBB PKPPKP P'P'df 00 17 40.4 -16
comp=Z,0.5nm,0.7s,baz=269,slow=3.4,SNR=6.1
comp=Z,292nm,1.0s
AAK Ala-Archa 45.30 310 P **P** **23 46 17.4 +1.2**
SNR=9.6
AAK Ala-Archa 45.30 310 P **P** **23 46 16.1 0.0**
AAK Ala-Archa 45.30 310 LR LR 00 08 23.2
comp=Z,29μm,18.7s,baz=106,slow=40
AAK Ala-Archa 45.30 310 P **P** **23 46 16.7 +0.6**
AAK P **P** **23 46 16.7 +0.6**
AAK P **P** **23 46 16.7 +0.6**
AAK Ala-Archa 45.30 310 *i* P **P** **23 46 16.8 +0.6**
SNR=12
AAK Ala-Archa 45.30 310 ⇓P **P** **23 46 16.8 +0.6**
AAK Ala-Archa 45.30 310 P **P** **23 46 17.1 +0.9**
SGDS Sogindy 45.40 311 *eP* **P** **23 46 16.1 -0.8**
SGDS eS **S** **23 52 56.8 -0.7**
USP Ospenovka 45.45 311 P **P** **23 46 17.5 +0.3**
SNR=35
AS31 Alice Springs 45.62 165 P **P** **23 46 18.4 -0.3**
AS31 Alice Springs 45.62 165 P **P** **23 46 19.1 +0.4**
comp=Z,25nm,0.5s
ASAR Alice Springs 45.62 165 P **P** **23 46 17.0 -1.7**
ASAR Alice Springs 45.62 165 P **P** **23 46 17.7 -1.0**
comp=Z,15nm,0.5s,baz=345,slow=7.3,SNR=74
ASAR ScP **ScP** **23 51 46.5 -2.8**
comp=Z,7.0nm,0.9s,baz=342,slow=4.1,SNR=7.2
ASAR S **S** **23 52 56.9 -4.1**
comp=Z,8.2nm,1.0s,baz=356,slow=22,SNR=12
ASAR LR LR 00 06 27.3
comp=Z,2μm,19.2s,baz=349,slow=37
ASAR PKPPKP **P'P'df** **00 17 45.0 0.0**
comp=Z,0.6nm,0.9s,baz=123,slow=3.4,SNR=4.5
comp=Z,15nm,0.5s
AS01 Alice Springs 45.63 165 P **P** **23 46 19.7 +0.9**
EKS2 Erkin-Say 45.82 310 P **P** **23 46 20.8 +0.6**
SNR=34
WRKA Warakurna 45.91 172 P **P** **23 46 19.5 -1.5**
comp=Z,56nm,0.9s
GOA Goa 46.04 272 *eP* P 23 46 28.6 +6.4
GOA IAmb IAmb 23 46 30.4
comp=Z,159nm,1.4s
GOA eS **S** **23 53 14.2 +6.9**
BTLS Baital 46.21 313 *eP* **P** **23 46 22.7 -0.5**
BTLS eS **S** **23 53 08.6 -0.5**
CTAO Charters Tower 46.97 148 P **P** **23 46 30.2 +0.9**
CTAO Charters Tower 46.97 148 IAMs_20 IAMs_20 00 04 16.7
comp=Z,11μm,21.0s
CTAO Charters Tower 46.97 148 P **P** **23 46 31.2 +1.9**
CTAO Charters Tower 46.97 148 ⇑P **P** **23 46 29.9 +0.6**
TATA Tatamba Isabel 47.03 124 P **P** **23 46 32.3 +2.4**
MEEK Meekatharra 47.23 184 P **P** **23 46 29.5 -1.7**
comp=Z,144nm,1.2s
MEEK Meekatharra 47.23 184 P **P** **23 46 30.8 -0.4**
DZA Taraz 47.63 310 *eP* **P** **23 46 33.5 -0.8**
comp=Z,27nm,0.9s
GAR Garm 47.78 304 P **P** **23 46 35.5 -0.2**
HNR Honiara 47.80 125 IAMs_20 IAMs_20 00 02 53.9
comp=Z,8μm,20.0s
HNR Honiara 47.80 125 LR LR 00 03 15.1
comp=Z,6μm,21.2s,baz=291,slow=32
ALEG Aligegeo Malai 47.95 124 P **P** **23 46 40.0 +2.9**
KK31 Karatay Array 48.26 310 P **P** **23 46 38.8 -0.4**
KK31 IAmb IAmb 23 46 46.7
comp=Z,89nm,1.1s
KKAR Karatay Array 48.26 310 P **P** **23 46 38.9 -0.3**
IUG Iuzhnay 48.44 308 *eP* **P** **23 46 39.9 -0.9**
comp=Z,68nm,1.0s
KBL Kabul 48.45 298 P **P** **23 46 41.0 -0.1**
KBL Kabul 48.45 298 P **P** **23 46 41.4 +0.3**
SNR=136
KBL P **P** **23 46 41.4 +0.3**
SNR=136
KBL P **P** **23 46 41.4 +0.3**
SNR=136
BRZS Berezniki 48.54 319 *eP* **P** **23 46 40.6 -0.7**
BRLS Boroldaу 48.73 310 *eP* **P** **23 46 42.8 -0.1**
SIMJ Simiganj 48.76 304 P **P** **23 46 42.3 -0.9**
CHM Chimkent 48.78 309 *eP* **P** **23 46 42.5 -0.8**
comp=Z,40nm,1.2s
CHM LR LR 00 09 43.2
comp=Z,6μm,15.7s
HMDM Hanimaadhoo 49.30 261 P **P** **23 46 46.1 -1.4**
MORW Morawa 49.87 187 P **P** **23 46 50.6 -0.9**
MORW IAmb IAmb 23 46 53.8
comp=Z,175nm,1.1s
MORW Morawa 49.87 187 P **P** **23 46 50.4 -1.1**
comp=Z,114nm,0.9s
MORW Morawa 49.87 187 P **P** **23 46 50.9 -0.6**
BVAR Borovoye Array 50.87 322 P **P** **23 46 58.8 -0.1**
comp=Z,67nm,0.6s,baz=113,slow=11,SNR=411
BVAR PcP **PcP** **23 48 13.0 -2.4**
comp=Z,47nm,0.7s,baz=105,slow=4.2,SNR=5.7
BVAR ScP **ScP** **23 52 08.6 -2.6**
comp=Z,27nm,1.0s,baz=105,slow=6.0,SNR=9.8
BVAR S **S** **23 54 14.2 -0.4**
comp=Z,7.3nm,1.0s,baz=93,slow=16,SNR=3.9
BVAR LR LR 00 09 36.7
comp=Z,11μm,18.1s,baz=104,slow=37

comp=Z,67nm,0.6s
BRVK Borovoye 50.94 322 P **P** **23 46 58.6 -0.9**
BRVK Borovoye 50.94 322 P **P** **23 46 59.4 -0.1**
BRVK P **P** **23 46 59.4 -0.1**
BRVK P **P** **23 46 59.4 -0.1**
SHEM Shemya Is, Ala 50.95 38 P **P** **23 47 00.4 +0.9**
SMY Shemya 50.95 38 P P 23 46 52.9 -6.6
TIXI Tiksi 51.06 3 P **P** **23 46 58.6 -1.4**
TIXI Tiksi 51.06 3 LR LR 00 11 20.7
comp=Z,27µm,18.2s,baz=198,slow=39
TIXI Tiksi 51.06 3 ⇑P **P** **23 46 58.3 -1.8**
BLDU Ballidu 51.33 186 P **P** **23 47 01.1 -1.4**
comp=Z,94nm,1.3s
BLDU Ballidu 51.33 186 P **P** **23 47 01.6 -0.9**
QLP Quilpie 51.72 155 P **P** **23 47 05.1 -0.4**
comp=Z,422nm,0.8s
QLP Quilpie 51.72 155 P **P** **23 47 06.8 +1.3**
KMBL Kambalda 51.82 180 P P 23 46 55.7 -10
KLBR Kellerberrin 52.21 185 P **P** **23 47 08.2 -0.9**
comp=Z,249nm,0.8s
KLBR Kellerberrin 52.21 185 P **P** **23 47 08.1 -0.9**
GD1S Gladstone Soft 52.60 146 P **P** **23 47 14.4 +2.3**
MUN Mundaring 52.73 186 P **P** **23 47 11.7 -1.3**
comp=Z,112nm,1.2s
MUN Mundaring 52.73 186 P **P** **23 47 12.3 -0.6**
MTKN Mount Kenneth 52.73 187 P **P** **23 47 14.9 +2.0**
LUES Luesalemba Tem 53.20 122 P **P** **23 47 19.5 +2.8**
NWAO Narrogin (SRO) 53.58 185 P **P** **23 47 18.3 -0.8**
NWAO Narrogin (SRO) 53.58 185 P **P** **23 47 18.4 -0.8**
NWAO Narrogin (SRO) 53.58 185 P **P** **23 47 19.4 +0.2**
NWAO P **P** **23 47 19.4 +0.2**
NWAO Narrogin (SRO) 53.58 185 P **P** **23 47 19.6 +0.5**
AMKA Amchitka 53.69 41 P **P** **23 47 20.8 +0.9**
EIDS Eidsvold 53.80 147 P **P** **23 47 21.1 +0.1**
EIDS IAMs_20 IAMs_20 00 07 52.6
comp=Z,6µm,20.0s
EIDS Eidsvold 53.80 147 P **P** **23 47 20.7 -0.3**
comp=Z,37nm,1.0s
EIDS Eidsvold 53.80 147 P **P** **23 47 21.7 +0.7**
BILL Bilibino 54.63 19 P **P** **23 47 26.4 -0.1**
BILL IAmb IAmb 23 47 49.0
comp=Z,115nm,1.3s
BILL Bilibino 54.63 19 IAMs_20 IAMs_20 00 13 08.0
comp=Z,8µm,19.0s
BBOO Buckleboo 54.91 166 P **P** **23 47 28.3 -0.6**
BBOO IAmb IAmb 23 47 37.2
comp=Z,170nm,0.8s
BBOO Buckleboo 54.91 166 P **P** **23 47 28.2 -0.7**
comp=Z,242nm,1.1s
BBOO Buckleboo 54.91 166 P **P** **23 47 28.8 -0.1**
MIDW Midway 55.12 69 P **P** **23 47 30.0 -0.6**
MIDW IAmb IAmb 23 47 38.0
comp=Z,95nm,1.0s
RKGY Rocky Gully 55.27 185 P **P** **23 47 31.2 -0.2**
comp=Z,203nm,0.9s
WHYH Whyalla 55.49 164 P **P** **23 47 34.5 +1.5**
STKA Stephens Creek 55.56 160 P **P** **23 47 32.6 -1.0**
STKA Stephens Creek 55.56 160 P **P** **23 47 32.8 -0.8**
comp=Z,527nm,0.7s
STKA Stephens Creek 55.56 160 P **P** **23 47 33.5 -0.2**
comp=Z,47nm,0.7s,baz=337,slow=7.5,SNR=52
STKA LR LR 00 13 23.1
comp=Z,4µm,21.1s,baz=327,slow=38
comp=Z,47nm,0.7s
STKA Stephens Creek 55.56 160 P **P** **23 47 33.8 +0.2**
PTPS Port Pirie 55.73 164 P **P** **23 47 37.1 +2.4**
HTT Hallett 56.22 163 P **P** **23 47 38.1 -0.3**
comp=Z,23nm,1.1s
HTT Hallett 56.22 163 P **P** **23 47 39.0 +0.6**
ADK Adak 56.24 41 P **P** **23 47 40.8 +2.5**
ADK Adak 56.24 41 ⇑P **P** **23 47 40.0 +1.7**
ADK ⇑P **pP** **23 47 42.4 -0.1**
CMSA Cobar Meteorol 56.70 156 P **P** **23 47 41.6 -0.1**
comp=Z,190nm,1.3s
CMSA Cobar Meteorol 56.70 156 P **P** **23 47 42.7 +0.9**
VLAKA Lakatoro 57.63 126 P **P** **23 47 50.5 +1.9**
ATKA Atka Island 57.81 41 P **P** **23 47 53.3 +3.9**
AKTO Aktyubinsk 57.83 317 LR LR 00 14 48.1
comp=Z,18µm,18.0s,baz=97,slow=38
KOUNC Koumac, New Ca 58.20 132 P **P** **23 47 55.3 +2.7**
ARMA Armidale 58.27 150 P **P** **23 47 53.4 +0.4**
ARMA IAMs_20 IAMs_20 00 11 21.7
comp=Z,8µm,21.0s
ARMA Armidale 58.27 150 P **P** **23 47 53.8 +0.8**
comp=Z,49nm,1.8s
ARMA Armidale 58.27 150 P **P** **23 47 55.7 +2.7**
ARTI Arti 58.45 324 P **P** **23 47 52.5 -1.3**
ARTI IAMs_20 IAMs_20 00 15 09.2
comp=Z,8µm,21.0s
ARTI Arti 58.45 324 LR LR 00 15 20.5
comp=Z,8µm,19.5s,baz=102,slow=38
WSAR Wadi Sarin 58.48 285 LR LR 00 18 04.3
comp=Z,20nm,18.3s,baz=102,slow=41
JASK Jask - Hormozg 58.70 288 P **P** **23 47 57.2 +1.0**
SNR=8.5
BIDO Bidbid 58.88 286 P **P** **23 47 57.6 +0.2**
SNR=20
SMDO Samad 59.04 285 P **P** **23 47 58.2 -0.4**
SNR=16
SMDO P **P** **23 47 58.2 -0.4**
SNR=16
JMDO Jabal Madar 59.12 284 P **P** **23 47 59.1 0.0**
JMDO P **P** **23 47 59.1 0.0**
MHTO MHTO 59.53 283 P **P** **23 48 00.9 -1.0**
SNR=14
MHTO P **P** **23 48 00.9 -1.0**
SNR=14
HOQ Hoqain 59.60 286 P **P** **23 48 02.0 -0.5**
SNR=20
HOQ P **P** **23 48 02.0 -0.5**
SNR=20
DQM DQM 60.15 282 P **P** **23 48 06.9 +0.7**
DQM P **P** **23 48 06.9 +0.7**
MDH Madha 60.20 288 P **P** **23 48 05.3 -1.1**
MDH P **P** **23 48 05.3 -1.1**
YNG Young 60.20 155 P **P** **23 48 06.4 +0.3**
comp=Z,57nm,1.8s
SOHO SOHO 60.20 287 P **P** **23 48 05.8 -0.6**
SOHO P **P** **23 48 05.8 -0.6**
SOHO P **P** **23 48 05.8 -0.6**
SOHO SOHO 60.20 287 *i* P **P** **23 48 06.0 -0.5**
SNR=22
SHME Shamm 60.20 289 P **P** **23 48 06.9 +0.4**
SNR=8.1
SHME P **P** **23 48 06.9 +0.4**
SNR=8.1
SHME Shamm 60.20 289 *i* P **P** **23 48 06.9 +0.4**
SNR=9.3
MASF Masafi 60.31 288 P **P** **23 48 07.4 +0.2**
SNR=8.7
MASF P **P** **23 48 07.4 +0.2**
SNR=8.7
MASF P **P** **23 48 07.4 +0.2**
SNR=8.7
MSFE Esma-Masafi 60.31 288 *i* P **P** **23 48 07.7 +0.4**
SNR=10
UOSS Minazif 60.34 288 P **P** **23 48 07.0 -0.5**
UOSS Minazif 60.34 288 P **P** **23 48 06.6 -0.9**
UOSS P **P** **23 48 06.6 -0.9**
UOSS P **P** **23 48 06.6 -0.9**
UOSS Minazif 60.34 288 *i* P **P** **23 48 06.4 -1.1**
SNR=7.3
UOSS Minazif 60.34 288 P **P** **23 48 06.9 -0.6**
UOSS S **S** **23 56 21.2 -0.7**
ARQ Araqi 60.36 286 P **P** **23 48 07.5 -0.1**
SNR=20
HATD Hatta, Dubai 60.43 287 P **P** **23 48 08.6 +0.6**
SNR=24
HATD P **P** **23 48 08.6 +0.6**
SNR=24
HATD Hatta, Dubai 60.43 287 *i* P **P** **23 48 07.5 -0.6**
SNR=16
ASHO Ashiyiah 60.52 287 P **P** **23 48 09.3 +0.6**
SNR=16
ASHO P **P** **23 48 09.3 +0.6**
SNR=16
ASHO P **P** **23 48 09.3 +0.6**
SNR=16
ASHO Ashiyiah 60.52 287 *i* P **P** **23 48 09.1 +0.4**
SNR=33
DZM Mont Dzumac 60.71 132 P **P** **23 48 11.2 +1.2**
DZM IAmb IAmb 23 48 21.1
comp=Z,102nm,1.2s
DZM IAMs_20 IAMs_20 00 09 49.9
comp=Z,11µm,22.0s
DZM Mont Dzumac 60.71 132 *e*P **P** **23 48 10.4 +0.4**
comp=Z,224nm,1.3s
DZM Mont Dzumac 60.71 132 *e*PP **PP** **23 50 22.6 -1.4**
comp=Z,335nm,25.5s
DZM *e*S **S** **23 56 25.7 -0.9**
comp=Z,4µm,28.4s
DZM *e*SS **SS** **00 00 25.1 -0.6**
comp=Z,2µm,26.7s
DZM *e*LQ LQ 00 03 34.1
comp=Z,5µm,26.8s
DZM *e*LR LR 00 06 09.6
comp=Z,22µm,23.0s
DZM Mont Dzumac 60.71 132 LR LR 00 10 12.5
comp=Z,8µm,21.5s,baz=314,slow=32
DZM Mont Dzumac 60.71 132 P **P** **23 48 13.2 +3.2**
SPIA Saint Paul Isl 60.72 35 P **P** **23 48 09.9 +0.5**
SPIA Saint Paul Isl 60.72 35 P **P** **23 48 09.7 +0.3**
baz=263
UMQ Umm Al-Quwin 60.72 288 P **P** **23 48 11.4 +1.4**
SNR=8.1
UMQ P **P** **23 48 11.4 +1.4**
SNR=8.1
UMQ Umm Al-Quwin 60.72 288 *i* P **P** **23 48 11.8 +1.8**
SNR=8.6
NAZ Nazwa, Dubai 60.82 288 P **P** **23 48 11.3 +0.6**
SNR=13
NAZ Nazwa, Dubai 60.82 288 *i* P **P** **23 48 11.0 +0.3**
SNR=16
ONTNC Ouen Toro 60.87 132 P **P** **23 48 11.1 +0.2**
ONTNC IAmb IAmb 23 48 21.7
comp=Z,78nm,1.2s
ONTNC IAMs_20 IAMs_20 00 09 55.2
comp=Z,9µm,21.0s
ALNE Al Ain 60.92 287 P **P** **23 48 12.1 +0.7**
SNR=35
ALNE Al Ain 60.92 287 *i* P **P** **23 48 11.8 +0.4**
SNR=18
FAQ Al Faqa, Dubai 60.93 287 P **P** **23 48 12.0 +0.6**
SNR=12
FAQ P **P** **23 48 12.0 +0.6**
SNR=12
FAQ Al Faqa, Dubai 60.93 287 *i* P **P** **23 48 11.5 0.0**
SNR=13
P08K Saint George I 61.03 36 P **P** **23 48 12.1 +0.6**
baz=264
GAMB Gambell 61.10 28 P **P** **23 48 12.2 +0.4**
GAMB IAmb IAmb 23 48 23.2
comp=Z,78nm,1.1s
GAMB IAMs_20 IAMs_20 00 16 51.8
comp=Z,5µm,18.0s
GAMB Gambell 61.10 28 P **P** **23 48 12.5 +0.6**
baz=258
NIKH Nikolski High 61.13 40 P **P** **23 48 13.0 +0.7**
NIKH IAmb IAmb 23 48 19.0
comp=Z,141nm,1.0s
NIKH Nikolski High 61.13 40 P **P** **23 48 13.9 +1.6**
NIKH Nikolski High 61.13 40 P **P** **23 48 13.0 +0.7**
baz=267
NIKH S **S** **23 56 33.0 +2.1**
baz=267
INH Isangel 61.13 128 P **P** **23 48 15.4 +2.6**
ASUD Al Ashush, Dub 61.18 287 P **P** **23 48 13.7 +0.5**
SNR=8.2
ASUD P **P** **23 48 13.7 +0.5**
SNR=8.2
ASUD Al Ashush, Dub 61.18 287 *i* P **P** **23 48 13.6 +0.4**
SNR=7.4
OUENC Ouen Island, N 61.22 132 P **P** **23 48 18.0 +4.7**
CAN Canberra 61.33 155 P **P** **23 48 13.8 -0.1**
CAN IAmb IAmb 23 48 23.5
comp=Z,89nm,1.2s
CAN Canberra 61.33 155 P **P** **23 48 14.3 +0.4**
comp=Z,0.0nmcomp=Z,75nm,2.0s
CAN Canberra 61.33 155 P **P** **23 48 14.6 +0.7**
CNB Canberra Magne 61.47 155 P **P** **23 48 15.3 +0.5**
comp=Z,119nm,1.1s
CNB Canberra Magne 61.47 155 P **P** **23 48 16.4 +1.6**
AJN Ajban 61.50 287 P **P** **23 48 15.6 +0.3**
SNR=8.2
AJN P **P** **23 48 15.6 +0.3**
SNR=8.2
AJN Ajban 61.50 287 *i* P **P** **23 48 15.2 -0.2**
SNR=10
BRAT Ballarat 61.53 160 P **P** **23 48 16.8 +1.7**
UMZA Um Al Zommool 61.72 285 P **P** **23 48 16.4 -0.4**
UMZA P **P** **23 48 16.4 -0.4**
PINNC Pines Island, 61.77 132 P **P** **23 48 16.6 -0.4**
PINNC IAmb IAmb 23 48 29.2
comp=Z,174nm,1.3s
PINNC Pines Island, 61.77 132 P **P** **23 48 21.4 +4.4**
TOO Toolangi 62.05 159 P **P** **23 48 19.0 +0.3**
TOO Toolangi 62.05 159 P **P** **23 48 19.5 +0.8**
comp=Z,33nm,0.9s
GEXS Deakin Univers 62.24 160 P **P** **23 48 22.5 +2.7**
UNV Unalaska Valle 62.58 39 P **P** **23 48 22.3 +0.3**
UNV IAmb IAmb 23 48 43.6
comp=Z,65nm,0.9s
UNV Unalaska Valle 62.58 39 P **P** **23 48 22.4 +0.4**
baz=268
UNV S **S** **23 56 49.0 -0.2**
baz=268
LVA Lava Point 62.86 39 P **P** **23 48 24.0 0.0**
LHI Lord Howe Isla 62.91 145 P **P** **23 48 24.8 +0.3**
LHI IAmb IAmb 23 48 28.9
comp=Z,138nm,1.4s
AKUT Akutan 63.02 39 P **P** **23 48 23.6 -1.3**
TNA Tin City 63.03 26 P **P** **23 48 26.7 +1.9**
TNA IAmb IAmb 23 49 15.3
comp=Z,117nm,1.4s
TNA IAMs_20 IAMs_20 00 15 45.6
comp=Z,5µm,22.0s
TNA Tin City 63.03 26 P **P** **23 48 25.0 +0.2**
baz=261
TNA S **S** **23 56 56.5 +2.0**
baz=261
DMTO DMTO 63.06 280 P **P** **23 48 26.2 +0.3**
M11K Mekoryuk 63.15 32 P **P** **23 48 25.9 +0.1**
M11K IAmb IAmb 23 48 37.0
comp=Z,102nm,0.8s
M11K Mekoryuk 63.15 32 P **P** **23 48 26.4 +0.7**
baz=265
M11K S **S** **23 56 58.9 +2.7**
baz=265
MZR Muzera 63.17 286 P **P** **23 48 26.4 -0.1**
SNR=23
MZR P **P** **23 48 26.4 -0.1**
SNR=23
FUNA Funafuti 63.20 111 P **P** **23 48 26.8 0.0**
JRN Qarnain Island 63.33 288 P **P** **23 48 26.6 -1.0**
SNR=15
JRN P **P** **23 48 26.6 -1.0**
SNR=15
GHWR Ruwais 63.51 287 P **P** **23 48 28.2 -0.6**
GHWR P **P** **23 48 28.2 -0.6**
KIRV Kirov 63.51 326 LR LR 00 18 32.3
comp=Z,14µm,20.6s,baz=94,slow=38
DOK Doka 63.59 281 P **P** **23 48 29.1 -0.3**
DOK P **P** **23 48 29.1 -0.3**
F14K Arctic Creek 63.67 26 P **P** **23 48 29.9 +0.7**
baz=262,SNR=10
F14K S **S** **23 57 04.6 +2.0**
baz=262
RBK Rabkut 63.80 280 P **P** **23 48 30.6 -0.3**
RBK P **P** **23 48 30.6 -0.3**
ANM Nome 63.96 27 P **P** **23 48 31.5 +0.4**
ANM IAmb IAmb 23 48 41.3
comp=Z,77nm,0.9s
ANM IAMs_20 IAMs_20 00 19 48.4
comp=Z,5µm,18.0s
ANM Nome 63.96 27 P **P** **23 48 31.4 +0.4**
baz=264
ANM S **S** **23 57 08.9 +2.6**
baz=264
K13K Kusilvak Mount 64.03 30 P **P** **23 48 32.1 +0.6**
K13K IAmb IAmb 23 48 55.5
comp=Z,110nm,1.1s
K13K Kusilvak Mount 64.03 30 P **P** **23 48 32.8 +1.3**
baz=266,SNR=11
K13K S **S** **23 57 10.5 +3.4**
baz=266
WHFO Wadi Hawf 64.10 280 P **P** **23 48 31.9 -0.9**
WHFO P **P** **23 48 31.9 -0.9**
F15K North Star Dit 64.39 26 P **P** **23 48 34.4 +0.5**
F15K IAmb IAmb 23 49 02.6
comp=Z,140nm,1.3s
F15K IAMs_20 IAMs_20 00 16 47.8
comp=Z,5µm,20.0s
F15K North Star Dit 64.39 26 P **P** **23 48 34.6 +0.7**
baz=264,SNR=8.9
F15K S **S** **23 57 13.6 +2.1**
baz=264
FALS False Pass 64.40 38 P **P** **23 48 34.5 +0.4**
FALS False Pass 64.40 38 P **P** **23 48 35.0 +0.9**
baz=270
FALS S **S** **23 57 13.8 +1.9**
baz=270
BELG Belogornoye 64.41 319 LR LR 00 18 48.2
comp=Z,6µm,18.4s,baz=87,slow=38
C16K Lisburne Hills 64.45 23 P **P** **23 48 34.7 +0.6**
C16K IAmb IAmb 23 48 44.9
comp=Z,70nm,0.9s
C16K IAMs_20 IAMs_20 00 17 47.0
comp=Z,5µm,20.0s
C16K Lisburne Hills 64.45 23 P **P** **23 48 34.6 +0.4**
baz=262
C16K S **S** **23 57 13.6 +1.5**
baz=262
SLWR Sila 64.55 288 P **P** **23 48 35.5 0.0**
SLWR P **P** **23 48 35.5 0.0**
M13K Dall Lake 64.57 32 P **P** **23 48 36.1 +1.0**
M13K IAMs_20 IAMs_20 00 17 32.9
comp=Z,4µm,20.0s
M13K Dall Lake 64.57 32 P **P** **23 48 35.8 +0.7**
baz=268,SNR=5.4
M13K S **S** **23 57 14.8 +1.1**
baz=268
G15K Niukluk 64.57 27 P **P** **23 48 36.3 +1.3**
baz=265,SNR=7.9
G15K S **S** **23 57 16.0 +2.2**
baz=265
J14K Nanvaranak Lak 64.60 29 P **P** **23 48 35.1 -0.1**
J14K IAmb IAmb 23 48 45.9
comp=Z,103nm,0.9s
J14K Nanvaranak Lak 64.60 29 P **P** **23 48 36.7 +1.4**
baz=266,SNR=29
J14K S **S** **23 57 16.6 +2.5**
baz=266
ABTO Aybut 64.68 280 P **P** **23 48 37.8 +1.2**
ABTO P **P** **23 48 37.8 +1.2**
SHMA Al-Shehemyia 64.82 290 P **P** **23 48 36.6 -0.7**
TRNA Turayna 64.83 288 P **P** **23 48 36.6 -0.9**
SNR=22
L14K Kuka Creek 64.94 31 P **P** **23 48 38.7 +1.2**
L14K Kuka Creek 64.94 31 P **P** **23 48 38.6 +1.2**
baz=268
L14K S **S** **23 57 20.3 +2.1**
baz=268
SAKB Bahrain 65.17 290 P **P** **23 48 39.0 -0.6**
S12K Black Hills 65.17 37 P **P** **23 48 39.6 +0.5**
S12K IAmb IAmb 23 48 46.8
comp=Z,67nm,1.1s
S12K Black Hills 65.17 37 P **P** **23 48 40.0 +0.9**
baz=271
S12K S **S** **23 57 23.5 +2.0**
baz=271
SMRA Abu-Samra 65.17 288 P **P** **23 48 39.0 -0.6**
SNR=24
D17K Noatak River 65.22 24 P **P** **23 48 40.8 +1.5**
baz=264,SNR=26
D17K S **S** **23 57 22.9 +1.2**
baz=264
M14K Bethel 65.27 32 P **P** **23 48 40.7 +1.1**
baz=269,SNR=18
M14K S **S** **23 57 23.7 +1.3**
baz=269
C17K DeLong Mountai 65.27 23 P **P** **23 48 40.5 +0.9**
baz=264
C17K S **S** **23 57 22.4 +0.1**
baz=264
H16K Elim 65.31 27 P **P** **23 48 41.5 +1.6**
baz=266
H16K S **S** **23 57 24.7 +1.8**
baz=266
G16K Koyuk River 65.31 27 P **P** **23 48 41.1 +1.2**
G16K IAmb IAmb 23 49 03.5
comp=Z,203nm,1.6s
G16K IAMs_20 IAMs_20 00 19 13.2
comp=Z,4µm,19.0s
G16K Koyuk River 65.31 27 P **P** **23 48 41.1 +1.2**
baz=266,SNR=12
G16K S **S** **23 57 25.5 +2.6**
baz=266
RDOG Red Dog Mine 65.33 24 P **P** **23 48 40.5 +0.6**
RDOG IAmb IAmb 23 48 49.4
comp=Z,63nm,0.8s
RDOG IAMs_20 IAMs_20 00 18 34.2
comp=Z,8µm,20.0s
RDOG Red Dog Mine 65.33 24 P **P** **23 48 41.2 +1.2**
baz=264
RDOG S **S** **23 57 24.3 +1.3**
baz=264
N14K Kuskokwak Cree 65.38 33 P **P** **23 48 41.0 +0.7**
N14K Kuskokwak Cree 65.38 33 P **P** **23 48 42.0 +1.6**
baz=269,SNR=10
N14K S **S** **23 57 24.0 +0.2**
baz=269
K15K Wolf Creek Mou 65.52 30 P **P** **23 48 42.6 +1.3**
K15K Wolf Creek Mou 65.52 30 P **P** **23 48 43.0 +1.7**
baz=268,SNR=18
K15K S **S** **23 57 27.2 +1.7**
baz=268
L15K Ungalak Mounta 65.52 31 P **P** **23 48 42.5 +1.3**
baz=268,SNR=11
L15K S **S** **23 57 26.1 +0.6**
baz=268
O14K Tigyukauivet M 65.59 33 P **P** **23 48 43.1 +1.4**
O14K IAmb IAmb 23 48 51.5
comp=Z,85nm,0.9s
O14K Tigyukauivet M 65.59 33 P **P** **23 48 43.1 +1.4**
baz=270
O14K S **S** **23 57 27.7 +1.3**
baz=270
E17K Hotham Inlet 65.65 25 P **P** **23 48 43.6 +1.6**
baz=266,SNR=13
E17K S **S** **23 57 28.4 +1.4**
baz=266
F17K Baldwin Pennin 65.84 25 P **P** **23 48 44.3 +1.1**
F17K IAmb IAmb 23 48 53.3
comp=Z,97nm,0.9s
F17K Baldwin Pennin 65.84 25 P **P** **23 48 44.8 +1.6**
baz=267,SNR=9.8
F17K S **S** **23 57 31.9 +2.7**
baz=267
B18K Kokolik River 65.86 22 P **P** **23 48 44.9 +1.6**
baz=265
B18K S **S** **23 57 31.6 +2.2**
baz=265
M15K Kasigluk River 65.89 32 P **P** **23 48 45.2 +1.6**
baz=270,SNR=47
M15K S **S** **23 57 32.0 +1.9**
baz=270
I17K Unalakleet 65.95 28 P **P** **23 48 45.1 +1.1**
I17K IAmb IAmb 23 48 54.3
comp=Z,112nm,0.8s
I17K Unalakleet 65.95 28 P **P** **23 48 46.1 +2.1**
baz=268,SNR=11
I17K S **S** **23 57 33.1 +2.4**
baz=268
GLAD Gladstone 65.97 159 P **P** **23 48 45.3 +1.0**
J16K Anvik River 65.97 29 P **P** **23 48 45.1 +0.9**
J16K IAmb IAmb 23 48 54.3
comp=Z,94nm,0.9s
J16K Anvik River 65.97 29 P **P** **23 48 46.1 +1.9**
baz=269,SNR=34
J16K S **S** **23 57 33.6 +2.6**
baz=269
G17K Kiwalik Mounta 66.03 26 P **P** **23 48 46.4 +1.9**
baz=268,SNR=22
G17K S **S** **23 57 35.1 +3.5**
baz=268
SDPT Sand Point 66.08 38 P **P** **23 48 45.0 +0.1**
SDPT IAmb IAmb 23 49 25.7
comp=Z,78nm,1.0s
SDPT Sand Point 66.08 38 P **P** **23 48 49.4 +4.4**
SDPT Sand Point 66.08 38 P **P** **23 48 46.5 +1.5**
baz=272
SDPT S **S** **23 57 32.1 -0.4**
baz=272
N15K Kwethluk River 66.18 32 P **P** **23 48 46.5 +0.9**
N15K Kwethluk River 66.18 32 P **P** **23 48 47.1 +1.6**
baz=270,SNR=98
N15K S **S** **23 57 35.8 +2.1**
baz=270

A19K Wainwright 66.19 21 P P 23 48 46.1 +0.7
baz=265
A19K S S 23 57 33.7 +0.4
baz=265
H17K Granite Mounta 66.32 27 P P 23 48 47.4 +1.0
H17K IAmb IAmb 23 48 56.6
comp=Z,88nm,0.8s
H17K Granite Mounta 66.32 27 P P 23 48 48.2 +1.8
baz=268,SNR=35
H17K S S 23 57 37.8 +2.6
baz=268
O15K Ungalikthiuk R 66.33 33 P P 23 48 47.6 +1.1
O15K IAmb IAmb 23 48 56.2
comp=Z,109nm,0.9s
O15K Ungalikthiuk R 66.33 33 P P 23 48 48.4 +1.9
baz=271,SNR=16
O15K S S 23 57 37.2 +1.7
baz=271
F18K Selawik 66.48 25 P P 23 48 49.4 +2.0
baz=268,SNR=28
F18K S S 23 57 43.5 +6.4
baz=268
S14K Fog Glacier 66.56 37 P P 23 48 49.4 +1.2
baz=273
S14K S S 23 57 40.6 +2.0
baz=273
CHNA Chernabura Isl 66.61 38 P P 23 48 51.9 +3.5
CHNA Chernabura Isl 66.61 38 P P 23 48 49.3 +0.9
baz=273
CHNA S S 23 57 39.8 +0.8
baz=273
CNBA Chernabura Isl 66.61 38 P P 23 48 49.5 +1.1
CNBA IAmb IAmb 23 48 54.6
comp=Z,128nm,1.1s
C19K Lookout Ridge 66.62 23 P P 23 48 49.4 +1.1
C19K Lookout Ridge 66.62 23 P P 23 48 49.8 +1.5
baz=267
C19K S S 23 57 41.2 +2.3
baz=267
J17K VABM Dome 66.66 29 P P 23 48 50.4 +1.8
J17K IAMs_20 IAMs_20 00 18 01.0
comp=Z,4µm,20.0s
J17K VABM Dome 66.66 29 P P 23 48 50.5 +1.9
baz=270,SNR=37
J17K S S 23 57 42.7 +3.3
baz=270
M16K Timber Creek 66.73 31 P P 23 48 50.3 +1.2
M16K Timber Creek 66.73 31 P P 23 48 51.2 +2.2
baz=271,SNR=29
M16K S S 23 57 43.2 +2.9
baz=271
N16K Nishlik Lake 66.84 32 P P 23 48 51.8 +2.0
baz=272,SNR=31
N16K S S 23 57 43.5 +1.8
baz=272
G18K Tagagawik 66.87 26 P P 23 48 50.2 +0.3
G18K IAmb IAmb 23 49 02.2
comp=Z,112nm,1.1s
G18K IAMs_20 IAMs_20 00 18 13.2
comp=Z,5µm,21.0s
G18K Tagagawik 66.87 26 P P 23 48 51.2 +1.3
baz=269,SNR=33
G18K S S 23 57 42.8 +1.0
baz=269
MSVF Nonsavu 66.88 121 P P 23 48 51.4 +0.7
MSVF IAmb IAmb 23 49 39.6
comp=Z,151nm,1.4s
MSVF Nonsavu 66.88 121 IAMs_20 IAMs_20 00 12 45.8
comp=Z,8µm,21.0s
MSVF Nonsavu 66.88 121 P P 23 48 53.2 +2.5
H18K Honhosa River 66.98 27 P P 23 48 51.0 +0.4
H18K IAmb IAmb 23 49 14.2
comp=Z,84nm,1.1s
H18K Honhosa River 66.98 27 P P 23 48 52.6 +2.0
baz=270,SNR=15
H18K S S 23 57 42.8 -0.5
baz=270
KBD Kabd 66.99 294 P P 23 48 50.3 -1.0
MOO Moorlands 67.01 160 P P 23 48 51.8 +0.8
K17K Iditarod 67.02 29 P P 23 48 52.4 +1.5
K17K IAMs_20 IAMs_20 00 15 31.5
comp=Z,4µm,22.0s
K17K Iditarod 67.02 29 P P 23 48 52.9 +2.0
baz=271,SNR=42
K17K S S 23 57 46.6 +2.8
baz=271
L17K Donlin 67.03 30 P P 23 48 53.1 +2.1
baz=271,SNR=33
L17K S S 23 57 47.8 +3.9
baz=271
CHGN Chignik 67.20 36 P P 23 48 52.5 +0.4
CHGN IAmb IAmb 23 49 00.6
comp=Z,100nm,1.2s
CHGN Chignik 67.20 36 P P 23 48 54.2 +2.2
baz=274,SNR=9.8
O16K Kokwok River B 67.20 33 P P 23 48 52.4 +0.3
O16K IAmb IAmb 23 49 02.0
comp=Z,109nm,0.9s
O16K Kokwok River B 67.20 33 P P 23 48 53.6 +1.5
baz=272,SNR=22
O16K S S 23 57 47.8 +1.8
baz=272
F19K Shaleruckik Mo 67.24 25 P P 23 48 52.5 +0.3
F19K IAmb IAmb 23 49 12.2
comp=Z,103nm,1.4s
F19K Shaleruckik Mo 67.24 25 P P 23 48 53.5 +1.3
baz=270,SNR=14
F19K S S 23 57 48.6 +2.5
baz=270
P16K Nushagak River 67.28 34 P P 23 48 53.2 +0.7
P16K Nushagak River 67.28 34 P P 23 48 54.3 +1.7
baz=273
P16K S S 23 57 49.0 +2.1
baz=273
E19K Redstone River 67.45 24 P P 23 48 54.1 +0.6
E19K IAmb IAmb 23 49 05.5
comp=Z,112nm,0.8s
E19K Redstone River 67.45 24 P P 23 48 55.0 +1.4
baz=270
E19K S S 23 57 50.8 +1.9
baz=270
M17K Holitna River 67.46 31 P P 23 48 55.5 +1.8
M17K Holitna River 67.46 31 P P 23 48 55.9 +2.2
baz=272,SNR=21
M17K S S 23 57 52.1 +3.0
baz=272
GNI Garni 67.46 306 P P 23 48 54.6 +0.3
GNI IAmb IAmb 23 49 05.9
comp=Z,129nm,0.9s
GNI Garni 67.46 306 IAMs_20 IAMs_20 00 22 26.4
comp=Z,5µm,20.0s
GNI Garni 67.46 306 LR LR 00 22 36.9
comp=Z,5µm,19.7s,baz=89,slow=40
GNI Garni 67.46 306 P P 23 48 54.9 +0.6
GNI Garni 67.46 306 P P 23 48 55.0 +0.6
GNI Garni 67.46 306 P P 23 48 53.3 -1.0
comp=Z,2µmcomp=Z,159nm,1.3s
TAU Tasmania Unive 67.47 160 P P 23 48 54.0 +0.2
TAU IAmb IAmb 23 49 04.1
comp=Z,153nm,1.6s
TAU Tasmania Unive 67.47 160 IAMs_20 IAMs_20 00 19 48.4
comp=Z,5µm,20.0s
TAU Tasmania Unive 67.47 160 P P 23 48 56.4 +2.5
DGTI Dogotuki 67.50 119 P P 23 48 54.5 -0.1
B20K Meade River 67.51 22 P P 23 48 54.2 +0.3
B20K Meade River 67.51 22 P P 23 48 55.7 +1.8
baz=269,SNR=8.5
B20K S S 23 57 49.6 +0.2
baz=269
G19K Purcell Mounta 67.51 26 P P 23 48 55.0 +1.0
G19K IAmb IAmb 23 49 06.3
comp=Z,111nm,1.1s
G19K IAMs_20 IAMs_20 00 22 15.1
comp=Z,4µm,18.0s
G19K Purcell Mounta 67.51 26 P P 23 48 55.8 +1.9
baz=271,SNR=24
G19K S S 23 57 52.7 +3.2
baz=271
GCSA Galena City Sc 67.62 27 P P 23 48 56.3 +1.7
baz=271,SNR=23
GCSA S S 23 57 52.2 +1.5
baz=271
N17K Nushagak Hills 67.62 32 P P 23 48 56.5 +1.8
N17K IAmb IAmb 23 49 08.6
comp=Z,167nm,1.2s
N17K Nushagak Hills 67.62 32 P P 23 48 56.6 +1.9
baz=273,SNR=25
N17K S S 23 57 53.1 +2.1
baz=273
D20K Etivluk River 67.69 23 P P 23 48 56.3 +1.3
D20K IAMs_20 IAMs_20 00 18 24.5
comp=Z,5µm,21.0s
D20K Etivluk River 67.69 23 P P 23 48 56.7 +1.6
baz=270,SNR=54
D20K S S 23 57 52.6 +1.0
baz=270
O17K Koliganek Bris 67.70 33 P P 23 48 57.1 +1.9
baz=273,SNR=19
O17K S S 23 57 55.2 +3.2
baz=273
A21K Barrow 67.72 20 P P 23 48 57.1 +1.9
baz=269
J18K Innoko River 67.72 29 P P 23 48 56.4 +1.0
J18K IAmb IAmb 23 49 18.2
comp=Z,174nm,1.4s
J18K Innoko River 67.72 29 P P 23 48 57.1 +1.8
baz=272,SNR=42
J18K S S 23 57 53.3 +1.1
baz=272
H19K Roundabout Mou 67.78 26 P P 23 48 56.7 +1.1
H19K Roundabout Mou 67.78 26 P P 23 48 57.4 +1.8
baz=271,SNR=115
H19K S S 23 57 54.8 +2.1
baz=271
L18K Granite Mounta 67.78 30 P P 23 48 55.9 +0.2
L18K IAMs_20 IAMs_20 00 16 05.7
comp=Z,4µm,22.0s
L18K Granite Mounta 67.78 30 P P 23 48 57.6 +1.9
baz=272,SNR=90
L18K S S 23 57 55.3 +2.4
baz=272
E20K Nigu River 67.85 23 P P 23 48 57.9 +1.8
baz=270
E20K S S 23 57 54.8 +1.2
baz=270
Q16K King Salmon 67.99 34 P P 23 48 58.4 +1.4
baz=274,SNR=8.3
Q16K S S 23 57 55.9 +0.4
baz=274
F20K Avaraart Lake 68.04 25 P P 23 48 58.3 +1.1
F20K IAmb IAmb 23 49 17.1
comp=Z,93nm,1.0s
F20K Avaraart Lake 68.04 25 P P 23 48 59.1 +1.9
baz=271,SNR=48
F20K S S 23 57 59.5 +3.7
baz=271
P17K Kvichak River 68.07 33 P P 23 48 59.6 +2.0
baz=274,SNR=36
P17K S S 23 57 59.1 +2.7
baz=274
J19K Poorman 68.19 28 P P 23 48 59.9 +1.6
J19K IAmb IAmb 23 49 11.7
comp=Z,88nm,1.0s
J19K Poorman 68.19 28 P P 23 49 00.1 +1.9
baz=273,SNR=40
J19K S S 23 57 59.0 +1.2
baz=273
R17L Mt. Peulik Vol 68.23 35 P P 23 49 01.3 +2.6
baz=275,SNR=9.7
R17L S S 23 58 00.9 +2.4
baz=275
PLK4 Peulik 4 68.23 35 P P 23 49 00.1 +1.4
M18K Stony River 68.23 31 P P 23 49 00.8 +2.2
baz=274,SNR=28
M18K S S 23 58 01.2 +2.9
baz=274
N18K Kilae Creek 68.25 32 P P 23 49 00.2 +1.5
N18K IAmb IAmb 23 49 16.8
comp=Z,75nm,1.1s
N18K Kilae Creek 68.25 32 P P 23 49 00.7 +2.0
baz=274,SNR=17
N18K S S 23 58 00.5 +2.0
baz=274
A22K Sinclair Lake 68.25 20 P P 23 49 01.7 +3.2
baz=270
A22K S S 23 58 02.0 +3.8
baz=270
OZAP Van, Ozalp-Mer 68.27 304 ⇑P P 23 48 60.0 +0.5
KBZ Khabaz 68.30 310 P P 23 48 59.2 -0.1
comp=Z,55nm,0.9s,baz=84,slow=4.4,SNR=77
KBZ S S 23 58 01.4 +1.7
comp=Z,5.1nm,0.9s,baz=56,slow=19,SNR=5.7
KBZ LR LR 00 23 36.7
comp=Z,7µm,18.9s,baz=74,slow=40
comp=Z,55nm,0.9s
C21K Knifeblade Rid 68.35 22 P P 23 49 01.0 +1.9
baz=271,SNR=20
C21K S S 23 58 01.4 +2.0
baz=271
B21K Ikpikpuk River 68.40 22 P P 23 49 00.3 +0.9
B21K Ikpikpuk River 68.40 22 P P 23 49 01.2 +1.8
baz=271,SNR=33
B21K S S 23 58 00.9 +1.0
baz=271
KIV Kislovodsk 68.42 310 P P 23 48 59.5 -0.6
KIV Kislovodsk 68.42 310 P P 23 49 00.0 -0.1
KIV P P 23 49 00.0 -0.1
KIV P P 23 49 00.0 -0.1
KIV Kislovodsk 68.42 310 *i* P P 23 49 00.3 +0.1
SNR=50
KIV Kislovodsk 68.42 310 P P 23 48 59.2 -1.0
comp=Z,3µmcomp=Z,250nm,0.8s
KIV Kislovodsk 68.42 310 ⇑P P 23 49 00.5 +0.3
KIV Kislovodsk 68.42 310 P P 23 49 00.2 +0.1
KIV S S 23 58 03.1 +1.8
Q17K Contact Creek 68.43 34 P P 23 49 00.8 +0.9
baz=275,SNR=17
Q17K S S 23 58 00.5 -0.4
baz=275
H20K Anotleneega Mo 68.44 26 P P 23 49 01.8 +2.0
baz=273,SNR=34
H20K S S 23 58 02.8 +2.1
baz=273
KARS Kars 68.64 307 P P 23 49 01.2 -0.5
L19K White Mountain 68.64 30 P P 23 49 02.0 +0.9
L19K IAmb IAmb 23 49 14.8
comp=Z,167nm,1.2s
L19K IAMs_20 IAMs_20 00 16 43.4
comp=Z,4µm,21.0s
L19K White Mountain 68.64 30 P P 23 49 03.2 +2.0
baz=274,SNR=41
L19K S S 23 58 04.9 +1.7
baz=274
I20K Naaghedeneel 68.64 27 P P 23 49 02.9 +1.8
I20K IAMs_20 IAMs_20 00 19 34.2
comp=Z,5µm,20.0s
I20K Naaghedeneel 68.64 27 P P 23 49 03.2 +2.1
baz=274,SNR=36
I20K S S 23 58 06.5 +3.4
baz=274
O18K Koktuh Hills 68.65 33 P P 23 49 02.1 +0.9
O18K Koktuh Hills 68.65 33 P P 23 49 03.5 +2.3
baz=275,SNR=59
O18K S S 23 58 06.6 +3.2
baz=275
E21K Killik River 68.67 23 P P 23 49 02.2 +1.0
E21K IAMs_20 IAMs_20 00 21 46.1
comp=Z,6µm,18.0s
E21K Killik River 68.67 23 P P 23 49 02.5 +1.3
baz=272
E21K S S 23 58 06.1 +2.8
baz=272
P18K Big Mountain, 68.68 33 P P 23 49 01.5 +0.1
P18K IAmb IAmb 23 49 11.6
comp=Z,137nm,1.1s
P18K Big Mountain, 68.68 33 P P 23 49 02.8 +1.4
baz=275,SNR=36
P18K S S 23 58 05.2 +1.4
baz=275
ACHA Angle Creek He 68.73 34 P P 23 49 02.1 +0.3
ACHA IAmb IAmb 23 49 17.9
comp=Z,155nm,1.6s
B22K Teshekpuk Lake 68.79 21 P P 23 49 02.8 +1.0
B22K Teshekpuk Lake 68.79 21 P P 23 49 02.7 +0.9
baz=272
B22K S S 23 58 08.4 +3.9
baz=272
CHIR Chirikof Islan 68.80 37 P P 23 49 03.8 +1.6
CHIR Chirikof Islan 68.80 37 P P 23 49 04.9 +2.7
CHIR Chirikof Islan 68.80 37 P P 23 49 03.8 +1.6
baz=276
CHIR S S 23 58 09.5 +4.3
baz=276
J20K Nowinta River 68.83 28 P P 23 49 03.8 +1.6
comp=Z,4µm,21.0s
J20K Nowinta River 68.83 28 P P 23 49 04.6 +2.4
baz=274,SNR=55
J20K S S 23 58 09.5 +4.3
baz=274
Q18K Katmai Hardscr 68.86 34 P P 23 49 03.1 +0.5
baz=275,SNR=14
Q18K S S 23 58 05.5 -0.5
baz=275
IMAR Indian Mountai 68.88 26 P P 23 49 03.1 +0.6
M19K Big River Lodg 68.88 30 P P 23 49 03.3 +0.7
M19K IAmb IAmb 23 49 13.0
comp=Z,108nm,0.9s
M19K Big River Lodg 68.88 30 P P 23 49 05.1 +2.4
baz=275,SNR=43
M19K S S 23 58 06.8 +0.7
baz=275
F21K Alatna River 68.91 25 P P 23 49 02.8 +0.1
F21K Alatna River 68.91 25 P P 23 49 03.9 +1.1
baz=273,SNR=9.6
F21K S S 23 58 08.1 +1.8
baz=273
K20K Telida 68.92 29 P P 23 49 04.0 +1.1
K20K IAmb IAmb 23 49 13.1
comp=Z,101nm,0.8s
K20K Telida 68.92 29 P P 23 49 05.1 +2.2
baz=274,SNR=62
K20K S S 23 58 09.7 +3.3
baz=274
N19K Bonanza Creek 68.93 31 P P 23 49 04.5 +1.5
N19K IAmb IAmb 23 49 13.1
comp=Z,96nm,0.9s
N19K Bonanza Creek 68.93 31 P P 23 49 05.1 +2.1
baz=275,SNR=28
N19K S S 23 58 09.1 +2.2
baz=275
G21K Allakaket 68.94 25 P P 23 49 03.5 +0.5
G21K IAmb IAmb 23 49 15.0
comp=Z,119nm,0.9s
G21K Allakaket 68.94 25 P P 23 49 04.9 +1.9
baz=274,SNR=34
G21K S S 23 58 09.1 +2.4
baz=274
GEVA Gevas 69.05 304 P P 23 49 03.9 -0.5
GEVA IAmb IAmb 23 49 12.2
comp=Z,120nm,1.0s
O19K Port Alsworth 69.06 32 P P 23 49 05.3 +1.6
O19K Port Alsworth 69.06 32 P P 23 49 05.6 +1.9
baz=275,SNR=9.6
O19K S S 23 58 09.9 +1.8
baz=275
L20K Farewell, AK 69.08 30 P P 23 49 06.5 +2.6
baz=275,SNR=33
L20K S S 23 58 09.9 +1.6
baz=275
D22K Ayikyak River 69.11 23 P P 23 49 04.9 +0.9
D22K IAMs_20 IAMs_20 00 21 13.8
comp=Z,7µm,19.0s
D22K Ayikyak River 69.11 23 P P 23 49 05.9 +2.0
baz=274,SNR=21
D22K S S 23 58 10.1 +1.5
baz=274
R18K Karluk 69.26 35 P P 23 49 07.0 +2.0
baz=276
R18K S S 23 58 08.4 -2.1
baz=276
H21K Melozitna Rive 69.29 26 P P 23 49 05.6 +0.5
H21K IAMs_20 IAMs_20 00 21 39.6
comp=Z,4µm,20.0s
H21K Melozitna Rive 69.29 26 P P 23 49 06.8 +1.7
baz=275,SNR=74
H21K S S 23 58 12.8 +2.0
baz=275
F22K John River 69.39 24 P P 23 49 07.1 +1.4
baz=274
F22K S S 23 58 13.8 +1.8
baz=274
M20K Styx River 69.48 30 P P 23 49 07.3 +0.9
M20K IAMs_20 IAMs_20 00 21 02.0
comp=Z,4µm,20.0s
M20K Styx River 69.48 30 P P 23 49 08.7 +2.3
baz=276,SNR=44
M20K S S 23 58 17.5 +4.2
baz=276
E22K Anaktuvuk Pass 69.48 24 P P 23 49 06.6 +0.3
E22K IAmb IAmb 23 49 18.2
comp=Z,109nm,0.9s
E22K IAMs_20 IAMs_20 00 20 58.6
comp=Z,5µm,19.0s
E22K Anaktuvuk Pass 69.48 24 P P 23 49 08.2 +1.8
baz=275,SNR=25
E22K S S 23 58 13.9 +0.9
baz=275
SII Sitkinak Islan 69.52 36 P P 23 49 07.8 +1.1
SII IAMs_20 IAMs_20 00 16 35.6
comp=Z,4µm,22.0s
SII Sitkinak Islan 69.52 36 P P 23 49 09.8 +3.2
SII Sitkinak Islan 69.52 36 P P 23 49 07.0 +0.3
baz=277
SII S S 23 58 12.0 -1.7
baz=277
Q19K Cape Douglas, 69.53 33 P P 23 49 07.3 +0.5
Q19K Cape Douglas, 69.53 33 P P 23 49 07.1 +0.3
baz=276,SNR=12
Q19K S S 23 58 14.8 +0.9
baz=276
HOMI Horasan 69.62 306 ⇓P P 23 49 08.6 +0.7
CHUM Lake Minchumin 69.66 28 P P 23 49 09.0 +1.6
baz=276,SNR=17
CHUM S S 23 58 15.4 +0.4
baz=276
P19K Oil Pt 69.66 33 P P 23 49 07.6 +0.1
P19K IAmb IAmb 23 49 20.3
comp=Z,97nm,0.8s
P19K Oil Pt 69.66 33 P P 23 49 08.2 +0.7
baz=276,SNR=15
P19K S S 23 58 16.0 +0.6
baz=276
ILSW Iliamna Southw 69.67 32 P P 23 49 08.2 +0.6
ILSW IAmb IAmb 23 49 21.1
comp=Z,58nm,0.9s
I21K Tanana 69.67 27 P P 23 49 09.1 +1.6
I21K IAmb IAmb 23 49 22.4
comp=Z,155nm,1.2s
I21K Tanana 69.67 27 P P 23 49 09.1 +1.6
baz=276
I21K S S 23 58 18.7 +3.4
baz=276
G22K Bettles 69.70 25 P P 23 49 08.9 +1.3
baz=275
G22K S S 23 58 18.0 +2.5
baz=275
C23K Itkillik River 69.78 22 P P 23 49 08.1 +0.1
C23K IAmb IAmb 23 49 19.7
comp=Z,86nm,0.9s
C23K Itkillik River 69.78 22 P P 23 49 10.0 +2.0
baz=275,SNR=6.4
C23K S S 23 58 17.7 +1.4
baz=275
GURO Guroymak-BITLI 69.80 305 P P 23 49 08.4 -0.6
GURO IAMs_20 IAMs_20 00 24 17.6
comp=Z,6µm,22.0s
CAST Castle Rocks 69.80 29 P P 23 49 09.0 +0.7
CAST Castle Rocks 69.80 29 P P 23 49 10.0 +1.7
baz=276,SNR=76
CAST S S 23 58 17.9 +1.0
baz=276
RED Redoubt Volcan 69.81 32 P P 23 49 08.6 +0.2
RED IAmb IAmb 23 49 18.1
comp=Z,124nm,1.0s
PPLA Purkeypile 69.81 29 P P 23 49 08.8 +0.2
PPLA IAMs_20 IAMs_20 00 23 33.7
comp=Z,4µm,18.0s
PPLA Purkeypile 69.81 29 P P 23 49 10.5 +2.0
baz=276,SNR=24
PPLA S S 23 58 18.4 +1.1
baz=276
D23K Nanushuk River 69.83 23 P P 23 49 09.6 +1.3
D23K IAMs_20 IAMs_20 00 21 56.7
comp=Z,7µm,20.0s
D23K Nanushuk River 69.83 23 P P 23 49 10.0 +1.6
baz=275
D23K S S 23 58 17.6 +0.6
baz=275
H22K Ishtalitna Cre 69.86 26 P P 23 49 11.0 +2.4
baz=276,SNR=34

H22K S **S** **23 58 19.4 +1.9**
baz=276
O20K **Slope Mountain** **69.92 32** P **P** **23 49 09.6 +0.5**
baz=277
O20K S **S** **23 58 17.1 -1.3**
baz=277
OHAK **Old Harbor** **69.92 35** P **P** **23 49 09.1 0.0**
OHAK IAmb IAmb 23 49 21.4
comp=Z,102nm,1.2s
OHAK **Old Harbor** **69.92 35** P **P** **23 49 11.1 +2.0**
OHAK **Old Harbor** **69.92 35** P **P** **23 49 10.3 +1.2**
baz=277,SNR=15
OHAK S **S** **23 58 19.5 +1.2**
baz=277
SPCR **Spurr Chakacha** **69.99 31** P **P** **23 49 11.2 +1.6**
baz=277,SNR=8.1
SPCR S **S** **23 58 21.8 +2.5**
baz=277
N20K **Mount Spurr** **69.99 31** P **P** **23 49 11.1 +1.5**
baz=277,SNR=8.4
N20K S **S** **23 58 19.5 +0.2**
baz=277
LVZ **Lovozero** **70.01 336** P **P** **23 49 08.9 -0.6**
LVZ **Lovozero** **70.01 336** P **P** **23 49 08.8 -0.7**
comp=Z,47nm,1.7s
MSEY **Mahe Island** **70.02 257** P **P** **23 49 09.5 -0.9**
MSEY IAmb IAmb 23 49 24.8
comp=Z,125nm,1.4s
MSEY **Mahe Island** **70.02 257** IAMs_20 IAMs_20 00 21 43.3
comp=Z,4µm,18.0s
MSEY **Mahe Island** **70.02 257** P **P** **23 49 11.7 +1.2**
MSEY P **P** **23 49 11.7 +1.2**
MSEY **Mahe Island** **70.02 257** P **P** **23 49 11.3 +0.8**
SPU **Mount Spurr** **70.07 31** P **P** **23 49 10.9 +0.9**
SPU IAmb IAmb 23 49 21.9
comp=Z,59nm,1.0s
STLK **Strandline Lak** **70.14 31** P **P** **23 49 10.9 +0.5**
COLD **Coldfoot** **70.18 24** P **P** **23 49 11.7 +1.1**
COLD IAmb IAmb 23 49 23.3
comp=Z,101nm,1.3s
COLD IAMs_20 IAMs_20 00 20 36.1
comp=Z,4µm,21.0s
COLD **Coldfoot** **70.18 24** P **P** **23 49 12.3 +1.7**
baz=276,SNR=18
COLD S **S** **23 58 22.9 +1.7**
baz=276
RAYN **Ar Rayn** **70.18 288** P **P** **23 49 10.8 -0.7**
RAYN **Ar Rayn** **70.18 288** IAMs_20 IAMs_20 00 22 18.6
comp=Z,4µm,20.0s
RAYN **Ar Rayn** **70.18 288** P **P** **23 49 10.7 -0.7**
RAYN **Ar Rayn** **70.18 288** *i* P **P** **23 49 11.3 -0.1**
SNR=152
MLY **Manley** **70.21 27** P **P** **23 49 12.5 +1.6**
MLY IAmb IAmb 23 49 23.4
comp=Z,122nm,1.0s
MLY **Manley** **70.21 27** P **P** **23 49 12.9 +2.1**
baz=277,SNR=40
MLY S **S** **23 58 23.5 +1.8**
baz=277
BPAW **Bear Paw Mtn.** **70.21 28** P **P** **23 49 11.2 +0.4**
BPAW IAmb IAmb 23 49 22.8
comp=Z,128nm,1.0s
BPAW IAMs_20 IAMs_20 00 20 02.2
comp=Z,5µm,22.0s
BPAW **Bear Paw Mtn.** **70.21 28** P **P** **23 49 12.7 +1.8**
baz=277,SNR=37
BPAW S **S** **23 58 23.5 +1.8**
baz=277
Q20K **Shuyak Island** **70.22 34** P **P** **23 49 12.1 +1.2**
baz=278,SNR=8.2
Q20K S **S** **23 58 20.5 -1.3**
baz=278
SKT **Skwentna** **70.22 30** P **P** **23 49 11.5 +0.6**
SKT IAmb IAmb 23 49 19.6
comp=Z,74nm,0.8s
SKT IAMs_20 IAMs_20 00 17 43.6
comp=Z,4µm,22.0s
SKT **Skwentna** **70.22 30** P **P** **23 49 11.8 +0.9**
baz=277,SNR=32
SKT S **S** **23 58 19.7 -2.1**
baz=277
SYI **Shuyak Island** **70.22 34** P **P** **23 49 11.5 +0.6**
KDAK **Kodiak Island** **70.23 35** P **P** **23 49 11.2 +0.3**
KDAK **Kodiak Island** **70.23 35** IAMs_20 IAMs_20 00 17 21.5
comp=Z,4µm,22.0s
KDAK **Kodiak Island** **70.23 35** P **P** **23 49 12.0 +1.0**
comp=Z,29nm,0.6s,baz=252,slow=4.3,SNR=24
KDAK S **S** **23 58 20.5 -1.4**
comp=Z,5.2nm,1.0s,baz=129,slow=21,SNR=2.4
comp=Z,29nm,0.6s
KDAK **Kodiak Island** **70.23 35** P **P** **23 49 12.5 +1.5**
baz=278
KDAK S **S** **23 58 20.6 -1.4**
baz=278
TOLK **Toolik Lake Re** **70.26 23** P **P** **23 49 11.8 +0.7**
TOLK IAmb IAmb 23 49 20.5
comp=Z,90nm,0.8s
TOLK **Toolik Lake Re** **70.26 23** P **P** **23 49 13.0 +1.9**
baz=276,SNR=15
TOLK S **S** **23 58 23.4 +1.2**
baz=276
KTH **Kantishna Hill** **70.31 28** P **P** **23 49 12.2 +0.8**
KTH IAmb IAmb 23 49 24.4
comp=Z,64nm,0.8s
KTH IAMs_20 IAMs_20 00 19 42.8
comp=Z,4µm,20.0s
G23K **Bananza Creek** **70.31 25** P **P** **23 49 11.9 +0.5**
G23K IAmb IAmb 23 49 23.5
comp=Z,100nm,0.9s
G23K **Bananza Creek** **70.31 25** P **P** **23 49 13.0 +1.6**
baz=277,SNR=14
G23K S **S** **23 58 25.6 +2.9**
baz=277
E23K **Chandalar** **70.31 24** P **P** **23 49 11.9 +0.5**
E23K IAMs_20 IAMs_20 00 25 19.5
comp=Z,4µm,18.0s
E23K **Chandalar** **70.31 24** P **P** **23 49 13.3 +1.9**
baz=277,SNR=25
E23K S **S** **23 58 22.9 0.0**
baz=277
C24K **Franklin Bluff** **70.45 22** P **P** **23 49 12.4 +0.3**
C24K IAmb IAmb 23 49 21.3
comp=Z,112nm,0.8s
C24K **Franklin Bluff** **70.45 22** P **P** **23 49 13.6 +1.5**
baz=277
C24K S **S** **23 58 28.4 +4.2**
baz=277
HOM **Homer** **70.46 33** P **P** **23 49 12.3 0.0**
HOM **Homer** **70.46 33** P **P** **23 49 13.3 +0.9**
baz=278
HOM S **S** **23 58 26.7 +2.0**
baz=278
D24K **Happy Valley** **70.47 22** P **P** **23 49 12.5 +0.2**
D24K **Happy Valley** **70.47 22** P **P** **23 49 14.3 +2.0**
baz=277,SNR=25
D24K S **S** **23 58 27.0 +2.5**
baz=277
CAPN **Captain Cook N** **70.56 31** P **P** **23 49 12.3 -0.5**
CAPN **Captain Cook N** **70.56 31** P **P** **23 49 13.9 +1.0**
baz=278
CAPN S **S** **23 58 28.4 +2.7**
baz=278
TRF **Thorofare Moun** **70.60 28** P **P** **23 49 13.2 -0.2**
TRF IAmb IAmb 23 49 30.2
comp=Z,64nm,0.8s
TRF IAMs_20 IAMs_20 00 19 41.6
comp=Z,4µm,21.0s
TRF **Thorofare Moun** **70.60 28** P **P** **23 49 14.9 +1.5**
baz=278,SNR=17
TRF S **S** **23 58 27.5 +0.9**
baz=278
H23K **Yukon River** **70.61 26** P **P** **23 49 14.8 +1.6**
H23K IAmb IAmb 23 49 23.9
comp=Z,131nm,0.8s
H23K IAMs_20 IAMs_20 00 22 17.6
comp=Z,4µm,20.0s
H23K **Yukon River** **70.61 26** P **P** **23 49 15.5 +2.3**
baz=278,SNR=66
H23K S **S** **23 58 29.1 +2.7**
baz=278
SUA **Susitna One** **70.66 31** P **P** **23 49 14.1 +0.4**
SUA **Susitna One** **70.66 31** P **P** **23 49 14.5 +0.8**
baz=278,SNR=59
SUA S **S** **23 58 26.7 -0.5**
baz=278
CNPM **China Poot** **70.69 33** P **P** **23 49 14.8 +1.0**
CNPM IAmb IAmb 23 49 26.6
comp=Z,63nm,0.8s
KOPT **Kop Dagi** **70.69 306** P **P** **23 49 14.1 -0.4**
KOPT IAmb IAmb 23 49 24.4
comp=Z,139nm,1.2s
KOPT IAMs_20 IAMs_20 00 25 15.0
comp=Z,6µm,18.0s
OBN **Obninsk** **70.72 323** P **P** **23 49 12.4 -1.6**
OBN **Obninsk** **70.72 323** LR LR 00 22 53.2
comp=Z,11µm,19.3s,baz=22,slow=38
OBN **Obninsk** **70.72 323** ⇑P **P** **23 49 12.7 -1.3**
comp=Z,2µmcomp=Z,166nm,1.5s
OBN **Obninsk** **70.72 323** ⇑P **P** **23 49 13.4 -0.6**
E24K **Your Creek** **70.73 23** P **P** **23 49 14.5 +0.5**
E24K IAMs_20 IAMs_20 00 19 30.5
comp=Z,4µm,20.0s
E24K **Your Creek** **70.73 23** P **P** **23 49 15.5 +1.5**
baz=278,SNR=33
E24K S **S** **23 58 27.8 +0.1**
baz=278
CUT **Chulitna** **70.75 30** P **P** **23 49 14.3 +0.2**
CUT IAMs_20 IAMs_20 00 24 14.7
comp=Z,3µm,18.0s
CUT **Chulitna** **70.75 30** P **P** **23 49 15.0 +1.0**
baz=278,SNR=13
CUT S **S** **23 58 24.9 -3.0**
baz=278
I23K **Minto, Yukon-K** **70.78 27** P **P** **23 49 14.9 +0.8**
I23K IAmb IAmb 23 49 34.5
comp=Z,132nm,1.2s
I23K IAMs_20 IAMs_20 00 22 46.0
comp=Z,4µm,20.0s
I23K **Minto, Yukon-K** **70.78 27** P **P** **23 49 15.8 +1.6**
baz=278,SNR=23
I23K S **S** **23 58 29.3 +1.2**
baz=278
BRLK **Bradley Lake** **70.83 32** P **P** **23 49 14.4 -0.3**
BRLK IAmb IAmb 23 49 24.8
comp=Z,92nm,0.8s
BWN **Browne** **70.87 28** P **P** **23 49 16.5 +1.7**
BWN IAmb IAmb 23 49 25.5
comp=Z,134nm,0.9s
BWN IAMs_20 IAMs_20 00 20 55.4
comp=Z,5µm,20.0s
M22K **Willow** **70.91 30** P **P** **23 49 15.4 +0.3**
M22K **Willow** **70.91 30** P **P** **23 49 15.8 +0.7**
baz=278,SNR=11
M22K S **S** **23 58 29.0 -0.8**
baz=278
FIS **Fire Island** **70.95 31** P **P** **23 49 16.5 +1.2**
NEA2 **Nenana** **70.98 27** P **P** **23 49 15.9 +0.4**
NEA2 IAmb IAmb 23 49 24.8
comp=Z,107nm,0.8s
NEA2 IAMs_20 IAMs_20 00 20 44.4
comp=Z,4µm,21.0s
NEA2 **Nenana** **70.98 27** P **P** **23 49 16.9 +1.5**
baz=278,SNR=66
NEA2 S **S** **23 58 30.5 0.0**
baz=278
F24K **Squaw Lake** **71.03 24** P **P** **23 49 16.5 +0.7**
F24K IAMs_20 IAMs_20 00 23 35.6
comp=Z,6µm,20.0s
F24K **Squaw Lake** **71.03 24** P **P** **23 49 17.7 +1.9**
baz=278,SNR=31
F24K S **S** **23 58 32.4 +1.2**
baz=278
SLKM **Skilak Lake** **71.05 32** P **P** **23 49 16.2 +0.2**
MCK **McKinley** **71.16 28** P **P** **23 49 16.7 +0.1**
MCK IAMs_20 IAMs_20 00 20 19.3
comp=Z,5µm,22.0s
MCK **McKinley** **71.16 28** P **P** **23 49 17.5 +0.9**
baz=279,SNR=32
MCK S **S** **23 58 31.6 -1.1**
baz=279
RC01 **Rabbit Creek A** **71.19 31** P **P** **23 49 16.5 -0.3**
RC01 **Rabbit Creek A** **71.19 31** P **P** **23 49 17.2 +0.3**
baz=279
RC01 S **S** **23 58 31.9 -1.3**
baz=279
RND **Reindeer** **71.25 28** P **P** **23 49 17.1 -0.1**
RND IAMs_20 IAMs_20 00 20 12.5
comp=Z,4µm,22.0s
H24K **Noodor Dome** **71.29 26** P **P** **23 49 18.0 +0.7**
H24K IAmb IAmb 23 49 27.2
comp=Z,83nm,0.9s
H24K IAMs_20 IAMs_20 00 22 38.5
comp=Z,4µm,20.0s
H24K **Noodor Dome** **71.29 26** P **P** **23 49 18.9 +1.5**
baz=279,SNR=49
H24K S **S** **23 58 35.5 +1.3**
baz=279
O22K **Cooper Landing** **71.30 32** P **P** **23 49 17.6 +0.2**
O22K **Cooper Landing** **71.30 32** P **P** **23 49 17.9 +0.5**
baz=279
O22K S **S** **23 58 36.0 +1.7**
baz=279
D25K **Kavik River** **71.31 22** P **P** **23 49 18.0 +0.5**
D25K IAmb IAmb 23 49 26.6
comp=Z,120nm,0.8s
D25K **Kavik River** **71.31 22** P **P** **23 49 18.3 +0.8**
baz=279,SNR=19
D25K S **S** **23 58 32.1 -2.3**
baz=279
G24K **Hadweenzic Riv** **71.32 25** P **P** **23 49 18.0 +0.6**
G24K IAmb IAmb 23 49 29.6
comp=Z,108nm,0.9s
G24K **Hadweenzic Riv** **71.32 25** P **P** **23 49 19.3 +1.8**
baz=279,SNR=39
G24K S **S** **23 58 36.4 +2.0**
baz=279
PMR **Palmer** **71.40 30** P **P** **23 49 17.9 -0.1**
PMR IAmb IAmb 23 49 26.6
comp=Z,73nm,0.8s
PMR **Palmer** **71.40 30** P **P** **23 49 21.3 +3.3**
PMR **Palmer** **71.40 30** P **P** **23 49 18.9 +0.8**
baz=279,SNR=9.6
PMR S **S** **23 58 33.5 -2.0**
baz=279
WRH **Wood River Hil** **71.41 27** P **P** **23 49 18.5 +0.4**
WRH IAmb IAmb 23 49 32.9
comp=Z,110nm,1.1s
WRH IAMs_20 IAMs_20 00 21 19.9
comp=Z,5µm,21.0s
COLA **College** **71.45 27** P **P** **23 49 18.7 +0.5**
COLA IAmb IAmb 23 49 28.4
comp=Z,59nm,0.8s
COLA **College** **71.45 27** IAMs_20 IAMs_20 00 23 06.7
comp=Z,4µm,19.0s
COLA **College** **71.45 27** P **P** **23 49 21.9 +3.6**
COLA **College** **71.45 27** P **P** **23 49 18.7 +0.5**
baz=279
COLA S **S** **23 58 35.7 -0.3**
baz=279
COLA **College** **71.45 27** P **P** **23 49 19.2 +1.0**
GHO **Glory Hole Cre** **71.47 30** P **P** **23 49 18.8 +0.2**
GHO IAmb IAmb 23 49 34.5
comp=Z,101nm,0.9s
GHO IAMs_20 IAMs_20 00 18 25.7
comp=Z,3µm,21.0s
SEW **Seward** **71.49 32** P **P** **23 49 18.3 -0.2**
SEW **Seward** **71.49 32** P **P** **23 49 19.3 +0.7**
baz=280,SNR=6.8
SEW S **S** **23 58 34.8 -1.7**
baz=280
CCB **Clear Creek Bu** **71.51 27** P **P** **23 49 18.8 +0.2**
CCB IAMs_20 IAMs_20 00 21 33.4
comp=Z,3µm,20.0s
POKR **Poker Plat Res** **71.59 26** P **P** **23 49 20.3 +1.1**
POKR IAmb IAmb 23 49 34.2
comp=Z,104nm,1.1s
POKR IAMs_20 IAMs_20 00 23 11.4
comp=Z,4µm,20.0s
POKR **Poker Plat Res** **71.59 26** P **P** **23 49 20.1 +1.0**
baz=280,SNR=26
POKR S **S** **23 58 38.8 +1.2**
baz=280
VADS **Vadso** **71.60 339** *e* P **P** **23 49 18.0 -1.1**
VADS IAmb IAmb 23 49 39.0
comp=Z,56nm,1.0s
VADS *e* 23 58 34.9
VADS IVMs_BB IVMs_BB 00 27 29.3
comp=Z,3µm,12.4s
HOPEN **Hopen** **71.62 346** *e* 23 58 49.0
C26K **Camden Bay** **71.72 21** P **P** **23 49 21.0 +1.2**
baz=280
C26K S **S** **23 58 40.7 +1.8**
baz=280
KNK **Knik Glacier** **71.75 30** P **P** **23 49 20.2 0.0**
KNK IAmb IAmb 23 49 34.7
comp=Z,159nm,1.1s
KNK IAMs_20 IAMs_20 00 22 44.2
comp=Z,3µm,19.0s
KNK **Knik Glacier** **71.75 30** P **P** **23 49 21.4 +1.2**
baz=280,SNR=21
KNK S **S** **23 58 37.6 -2.1**
baz=280
G25K **Bearman Lake** **71.84 25** P **P** **23 49 22.4 +1.8**
baz=280,SNR=34
G25K S **S** **23 58 41.9 +1.5**
baz=280
F25K **Christian Rive** **71.87 24** P **P** **23 49 21.8 +0.9**
F25K IAmb IAmb 23 49 30.8
comp=Z,73nm,0.8s
F25K IAMs_20 IAMs_20 00 20 07.7
comp=Z,4µm,21.0s
F25K **Christian Rive** **71.87 24** P **P** **23 49 22.0 +1.2**
baz=280,SNR=59
F25K S **S** **23 58 42.9 +1.9**
baz=280
IL31 **71.88 27** P **P** **23 49 20.7 -0.1**
ILAR **Eielson Array** **71.88 27** P **P** **23 49 20.6 -0.3**
ILAR **Eielson Array** **71.88 27** P **P** **23 49 21.0 +0.1**
comp=Z,8.6nm,0.8s,baz=275,slow=5.2,SNR=25
ILAR S **S** **23 58 39.8 -1.1**
comp=Z,0.2nm,0.9s,baz=283,slow=16,SNR=4.8
ILAR PKPPKP **P'P'df** **00 17 15.4 +0.6**
comp=Z,1.3nm,1.0s,baz=90,slow=0.9,SNR=6.3
comp=Z,8.6nm,0.8s
PWL **Port Wells** **71.91 31** P **P** **23 49 21.6 +0.4**
PWL IAmb IAmb 23 49 29.9
comp=Z,112nm,0.8s
PWL **Port Wells** **71.91 31** P **P** **23 49 22.4 +1.2**
baz=280,SNR=12
PWL S **S** **23 58 40.1 -1.4**
baz=280
HDA **Harding Lake** **71.91 27** P **P** **23 49 20.9 -0.2**
HDA IAmb IAmb 23 49 34.0
comp=Z,101nm,1.1s
HDA IAMs_20 IAMs_20 00 21 13.1
comp=Z,4µm,20.0s
HDA **Harding Lake** **71.91 27** P **P** **23 49 21.2 +0.1**
baz=280,SNR=17
HDA S **S** **23 58 39.3 -2.1**
baz=280
KEKH **Kekaha** **72.01 73** P **P** **23 49 23.6 +1.2**
M23K **Glacier View** **72.03 30** P **P** **23 49 23.2 +1.3**
baz=280,SNR=17
M23K S **S** **23 58 41.6 -1.3**
baz=280
H25L **Birch Creek** **72.05 25** P **P** **23 49 23.4 +1.6**
baz=281,SNR=16
H25L S **S** **23 58 46.2 +3.5**
baz=281
C27K **Jago River** **72.19 22** P **P** **23 49 23.4 +0.7**
C27K IAmb IAmb 23 49 32.1
comp=Z,66nm,0.8s
C27K **Jago River** **72.19 22** P **P** **23 49 24.6 +1.9**
baz=282,SNR=8.5
C27K S **S** **23 58 43.9 -0.4**
baz=282
SCM **Sheep Creek Mo** **72.21 30** P **P** **23 49 23.9 +0.9**
SCM IAMs_20 IAMs_20 00 26 19.2
comp=Z,4µm,18.0s
SCM **Sheep Creek Mo** **72.21 30** P **P** **23 49 24.5 +1.5**
baz=281,SNR=27
SCM S **S** **23 58 44.2 -0.8**
baz=281
FYU **Fort Yukon** **72.22 25** P **P** **23 49 23.8 +0.9**
FYU IAmb IAmb 23 49 34.9
comp=Z,84nm,0.9s
PRP **Porcupine Dome** **72.30 26** P **P** **23 49 23.7 +0.1**
PRP IAMs_20 IAMs_20 00 27 16.3
comp=Z,3µm,19.0s
PRP **Porcupine Dome** **72.30 26** P **P** **23 49 24.8 +1.2**
baz=281
PRP S **S** **23 58 46.2 +0.1**
baz=281
BMAR **Burnt Mountain** **72.31 24** P **P** **23 49 24.3 +0.9**
F26K **Sheenjek River** **72.42 24** P **P** **23 49 24.9 +0.8**
F26K IAmb IAmb 23 49 33.9
comp=Z,60nm,0.9s
F26K IAMs_20 IAMs_20 00 25 37.0
comp=Z,5µm,20.0s
F26K **Sheenjek River** **72.42 24** P **P** **23 49 26.0 +1.9**
baz=282,SNR=20
F26K S **S** **23 58 47.7 +0.6**
baz=282
KEV **Kevo** **72.46 339** P **P** **23 49 23.7 -0.5**
KEV IAmb IAmb 23 49 51.8
comp=Z,118nm,1.6s
KEV IAMs_20 IAMs_20 00 24 11.5
comp=Z,6µm,20.0s
GLI **Glacier Island** **72.50 31** P **P** **23 49 25.1 +0.4**
GLI IAmb IAmb 23 49 36.2
comp=Z,135nm,1.0s
GLI **Glacier Island** **72.50 31** P **P** **23 49 25.8 +1.1**
baz=281,SNR=9.9
GLI S **S** **23 58 47.9 -0.3**
baz=281
P23K **Montague Islan** **72.52 32** P **P** **23 49 25.7 +0.9**
P23K IAmb IAmb 23 49 36.7
comp=Z,166nm,1.0s
P23K IAMs_20 IAMs_20 00 26 08.6
comp=Z,3µm,18.0s
P23K **Montague Islan** **72.52 32** P **P** **23 49 26.6 +1.8**
baz=281,SNR=8.5
P23K S **S** **23 58 49.6 +1.1**
baz=281
K24K **Donnelly Dome** **72.53 28** P **P** **23 49 25.1 +0.2**
K24K IAMs_20 IAMs_20 00 21 54.5
comp=Z,4µm,21.0s
K24K **Donnelly Dome** **72.53 28** P **P** **23 49 26.2 +1.4**
baz=282,SNR=19
K24K S **S** **23 58 47.2 -1.3**
baz=282
J25K **Salcha River,** **72.55 27** P **P** **23 49 24.3 -0.7**
J25K IAMs_20 IAMs_20 00 23 48.8
comp=Z,4µm,19.0s
J25K **Salcha River,** **72.55 27** P **P** **23 49 24.7 -0.2**
baz=282,SNR=26
J25K S **S** **23 58 46.1 -2.6**
baz=282
M24K **Tolsona, Glenn** **72.69 29** P **P** **23 49 26.5 +0.6**
M24K IAMs_20 IAMs_20 00 26 23.9
comp=Z,3µm,19.0s
M24K **Tolsona, Glenn** **72.69 29** P **P** **23 49 28.0 +2.2**
baz=282,SNR=15
M24K S **S** **23 58 52.1 +1.6**
baz=282
G26K **Porcupine Rive** **72.71 24** P **P** **23 49 26.9 +1.2**
G26K IAmb IAmb 23 49 37.8
comp=Z,125nm,1.0s
G26K IAMs_20 IAMs_20 00 26 29.8
comp=Z,3µm,18.0s
G26K **Porcupine Rive** **72.71 24** P **P** **23 49 27.9 +2.2**
baz=282,SNR=19
G26K S **S** **23 58 52.9 +2.6**
baz=282
FID **Port Fidalgo** **72.82 31** P **P** **23 49 26.4 -0.2**
FID IAmb IAmb 23 49 38.4
comp=Z,187nm,1.2s
FID IAMs_20 IAMs_20 00 25 51.1
comp=Z,3µm,18.0s
PAX **Paxson** **72.83 29** P **P** **23 49 26.8 0.0**
PAX IAmb IAmb 23 49 52.5
comp=Z,71nm,1.1s
PAX IAMs_20 IAMs_20 00 21 23.6
comp=Z,4µm,22.0s
PAX **Paxson** **72.83 29** P **P** **23 49 27.9 +1.1**
baz=282,SNR=19
PAX S **S** **23 58 51.0 -1.2**
baz=282
HIN **Hinchinbrook I** **72.88 31** P **P** **23 49 26.8 -0.2**
HIN IAmb IAmb 23 49 38.8
comp=Z,106nm,1.0s
KLU **Klutina** **72.93 30** P **P** **23 49 27.2 -0.1**
KLU IAmb IAmb 23 49 39.3
comp=Z,66nm,0.9s
KLU **Klutina** **72.93 30** P **P** **23 49 28.6 +1.3**
baz=282,SNR=21
KLU S **S** **23 58 53.5 +0.3**
baz=282
RIDG **Independent Ri** **72.95 28** P **P** **23 49 27.3 -0.1**
RIDG IAMs_20 IAMs_20 00 21 45.5
comp=Z,4µm,21.0s

RIDG **Independent Ri** **72.95** **28** P **P** **23 49 28.4 +1.0**
baz=282,SNR=33
RIDG S **S** **23 58 52.4 -0.9**
baz=282
SPB2 **Spitsbergen Ar** **73.00** **348** P **P** **23 49 26.4 -1.0**
SPB2 IAmb IAmb 23 50 11.1
comp=Z,292nm,1.8s
SPA0 **Spitsbergen Ar** **73.00** **348** *e*P **P** **23 49 26.3 -1.1**
SPA0 IAmb IAmb 23 50 10.3
comp=Z,261nm,1.8s
SPA0 *e* 23 59 01.9
SPITS **Spitsbergen Ar** **73.00** **348** P **P** **23 49 27.2 -0.2**
comp=Z,18nm,0.6s,baz=101,slow=8.6,SNR=27
SPITS LR LR 00 25 21.7
comp=Z,5µm,18.5s,baz=56,slow=39
comp=Z,18nm,0.6s
ARA0 **ARCESS Array S** **73.03** **339** *e*P **P** **23 49 28.2 +0.6**
ARA0 IAmb IAmb 23 49 48.0
comp=Z,590nm,2.8s
ARA0 *e* 23 58 52.1
ARCES **ARCESS Array B** **73.03** **339** P **P** **23 49 27.2 -0.4**
ARCES **ARCESS Array B** **73.03** **339** P **P** **23 49 26.3 -1.3**
comp=Z,10nm,0.9s,baz=75,slow=8.2,SNR=29
ARCES LR LR 00 25 48.1
comp=Z,9µm,18.2s,baz=71,slow=39
comp=Z,10nm,0.9s
DIV **Divide** **73.08** **30** P **P** **23 49 28.7 +0.5**
DIV IAmb IAmb 23 49 40.2
comp=Z,123nm,0.9s
DIV IAMs_20 IAMs_20 00 23 08.2
comp=Z,3µm,21.0s
HARP **HAARP** **73.10** **29** P **P** **23 49 29.6 +1.4**
baz=282,SNR=6.1
HARP S **S** **23 58 56.1 +1.1**
baz=282
Q23K **Middleton Isla** **73.16** **32** P **P** **23 49 30.5 +2.0**
baz=282
Q23K S **S** **23 58 56.5 +0.9**
baz=282
Q23K S **S** **23 58 56.5 +0.9**
baz=282
EYAK **Cordova Ski Ar** **73.22** **31** P **P** **23 49 28.9 0.0**
EYAK IAmb IAmb 23 49 39.8
comp=Z,273nm,1.6s
EYAK IAMs_20 IAMs_20 00 22 53.9
comp=Z,3µm,20.0s
EYAK **Cordova Ski Ar** **73.22** **31** P **P** **23 49 31.0 +2.1**
EYAK **Cordova Ski Ar** **73.22** **31** P **P** **23 49 30.5 +1.6**
baz=282,SNR=8.5
EYAK S **S** **23 58 56.8 +0.5**
baz=282
D27M **Malcolm River** **73.22** **22** P **P** **23 49 29.1 +0.2**
D27M IAmb IAmb 23 49 40.5
comp=Z,77nm,1.0s
D27M IAMs_20 IAMs_20 00 21 34.1
comp=Z,7µm,22.0s
D27M **Malcolm River** **73.22** **22** P **P** **23 49 30.8 +1.9**
baz=284,SNR=9.7
D27M S **S** **23 58 56.3 0.0**
baz=284
E27K **Coleen River** **73.25** **23** P **P** **23 49 29.4 +0.4**
E27K IAmb IAmb 23 49 43.5
comp=Z,72nm,1.1s
E27K **Coleen River** **73.25** **23** P **P** **23 49 30.9 +1.8**
baz=284,SNR=17
E27K S **S** **23 58 56.1 -0.5**
baz=284
SCRK **Sand Creek** **73.27** **27** P **P** **23 49 29.7 +0.4**
SCRK IAmb IAmb 23 49 42.9
comp=Z,80nm,0.9s
SCRK **Sand Creek** **73.27** **27** P **P** **23 49 30.1 +0.8**
baz=283,SNR=21
SCRK S **S** **23 58 55.5 -1.6**
baz=283
I26K **Coal Creek Min** **73.32** **26** P **P** **23 49 29.7 +0.3**
I26K IAmb IAmb 23 49 38.6
comp=Z,98nm,0.8s
I26K IAMs_20 IAMs_20 00 24 03.4
comp=Z,4µm,21.0s
I26K **Coal Creek Min** **73.32** **26** P **P** **23 49 30.4 +1.0**
baz=283
I26K S **SKiKP** **23 58 58.9 -1.4**
baz=283
J26L **Joseph Creek** **73.33** **27** P **P** **23 49 30.1 +0.4**
J26L IAmb IAmb 23 49 43.0
comp=Z,98nm,1.0s
J26L IAMs_20 IAMs_20 00 24 04.6
comp=Z,6µm,19.0s
J26L **Joseph Creek** **73.33** **27** P **P** **23 49 30.2 +0.6**
baz=283,SNR=52
J26L S **S** **23 58 56.6 -1.1**
baz=283
HAMF **Hammerfest** **73.36** **340** *e*P **P** **23 49 30.1 +0.6**
HAMF *e* 23 59 03.1
HAMF IVMs_BB IVMs_BB 00 28 56.6
comp=Z,4µm,15.0s
AFI **Afiamalu** **73.52** **112** P **P** **23 49 32.4 +0.9**
AFI IAmb IAmb 23 50 25.7
comp=Z,164nm,1.4s
N25K **Chitina, Valde** **73.53** **30** P **P** **23 49 31.8 +0.9**
N25K IAMs_20 IAMs_20 00 19 17.0
comp=Z,3µm,22.0s
N25K **Chitina, Valde** **73.53** **30** P **P** **23 49 32.5 +1.6**
baz=283,SNR=18
N25K S **S** **23 59 00.2 +0.1**
baz=283
KBS **Kingsbay** **73.55** **349** P **P** **23 49 29.7 -0.9**
KBS **Kingsbay** **73.55** **349** *e*P **P** **23 49 31.1 +0.6**
KBS *e* 23 59 07.6
KBS IVMs_BB IVMs_BB 00 25 46.3
comp=Z,8µm,14.6s
KBS **Kingsbay** **73.55** **349** *i* P **P** **23 49 30.1 -0.5**
G27K **Doyon Strip** **73.56** **24** P **P** **23 49 31.7 +0.8**
G27K IAMs_20 IAMs_20 00 24 17.3
comp=Z,4µm,19.0s
G27K **Doyon Strip** **73.56** **24** P **P** **23 49 32.4 +1.5**
baz=284,SNR=17
G27K S **SKiKP** **23 59 01.8 +1.1**
baz=284
BJO1 **Bjornoya** **73.61** **344** *e*P **P** **23 49 33.5 +2.5**
BJO1 *e* 23 59 07.1
MENT **Mentasta** **73.62** **28** P **P** **23 49 31.1 -0.2**
MENT **Mentasta** **73.62** **28** P **P** **23 49 35.2 +3.9**
TOKA **Tokat** **73.64** **307** P **P** **23 49 31.6 -0.3**
TOKA IAmb IAmb 23 49 39.5
comp=Z,136nm,1.1s
TOKA IAMs_20 IAMs_20 00 26 17.9
comp=Z,4µm,22.0s
BMRM **Bremner River** **73.67** **30** P **P** **23 49 32.2 +0.5**
BMRM IAmb IAmb 23 49 43.5
comp=Z,112nm,1.0s
BMRM IAMs_20 IAMs_20 00 23 55.9
comp=Z,3µm,20.0s
BMRM **Bremner River** **73.67** **30** P **P** **23 49 33.0 +1.4**
baz=283,SNR=16
BMRM S **SKiKP** **23 58 58.7 -2.4**
baz=283
KIP **Kipapa** **73.68** **73** P **P** **23 49 32.5 +0.2**
KIP IAmb IAmb 23 50 03.9
comp=Z,358nm,1.8s
KIP **Kipapa** **73.68** **73** IAMs_20 IAMs_20 00 15 08.5
comp=Z,5µm,22.0s
H27K **Steamboat Moun** **73.75** **25** P **P** **23 49 32.5 +0.5**
H27K IAmb IAmb 23 49 44.0
comp=Z,90nm,1.2s
H27K IAMs_20 IAMs_20 00 27 13.4
comp=Z,4µm,18.0s
H27K **Steamboat Moun** **73.75** **25** P **P** **23 49 34.0 +1.9**
baz=284,SNR=25
H27K S **S** **23 59 04.9 +2.6**
baz=284
L26K **Log Cabin Wild** **73.77** **28** P **P** **23 49 32.7 +0.5**
L26K IAMs_20 IAMs_20 00 22 03.2
comp=Z,5µm,21.0s
L26K **Log Cabin Wild** **73.77** **28** P **P** **23 49 33.8 +1.6**
baz=284,SNR=9.4
L26K S **S** **23 59 03.9 +1.3**
baz=284
RAGM **Ragged Mountai** **73.77** **31** P **P** **23 49 33.2 +0.9**
RAGM IAmb IAmb 23 49 49.0
comp=Z,218nm,1.4s
RAGM IAMs_20 IAMs_20 00 26 24.5
comp=Z,6µm,18.0s
GAZ **Gaziantep** **73.82** **304** P **P** **23 49 32.5 -0.5**
GAZ IAmb IAmb 23 49 41.0
comp=Z,147nm,1.0s
I27K **Kandik River** **73.87** **25** P **P** **23 49 34.6 +1.8**
baz=285,SNR=32
I27K S **S** **23 59 04.8 +1.1**
baz=285
E28M **Babbage River** **73.88** **22** P **P** **23 49 32.4 -0.3**
E28M IAMs_20 IAMs_20 00 26 30.6
comp=Z,6µm,18.0s
E28M **Babbage River** **73.88** **22** P **P** **23 49 34.1 +1.4**
baz=286,SNR=22
E28M S **S** **23 59 05.2 +1.6**
baz=286
GLB **Gilahina Butte** **73.93** **30** P **P** **23 49 34.1 +0.9**
GLB IAmb IAmb 23 49 47.5
comp=Z,133nm,1.0s
KTK1 **Kautokeino** **73.94** **338** *e*P **P** **23 49 33.4 +0.3**
KTK1 IAmb IAmb 23 49 51.5
comp=Z,166nm,1.8s
KTK1 *e* 23 59 00.9
KTK1 IVMs_BB IVMs_BB 00 25 13.9
comp=Z,3µm,16.6s
D28M **Stokes Point** **73.96** **21** P **P** **23 49 34.5 +1.4**
baz=286
D28M S **S** **23 59 05.3 +0.9**
baz=286
HMT **Hamilton** **73.98** **31** P **P** **23 49 34.0 +0.5**
HMT IAmb IAmb 23 49 58.3
comp=Z,70nm,1.0s
HMT IAMs_20 IAMs_20 00 26 40.2
comp=Z,4µm,19.0s
KAIM **Kayak Island** **74.00** **32** P **P** **23 49 34.1 +0.6**
KAIM IAmb IAmb 23 49 46.3
comp=Z,122nm,0.8s
KAIM **Kayak Island** **74.00** **32** P **P** **23 49 35.1 +1.5**
baz=284,SNR=14
KAIM S **S** **23 59 04.5 -0.7**
baz=284
F28M **Old Crow** **74.02** **23** P **P** **23 49 34.4 +0.8**
F28M IAmb IAmb 23 49 45.6
comp=Z,99nm,0.9s
F28M **Old Crow** **74.02** **23** P **P** **23 49 34.9 +1.3**
baz=286,SNR=10
F28M S **S** **23 59 06.9 +1.5**
baz=286
K27K **Chicken** **74.08** **27** P **P** **23 49 34.5 +0.6**
K27K IAmb IAmb 23 49 46.4
comp=Z,103nm,0.9s
K27K IAMs_20 IAMs_20 00 24 28.5
comp=Z,4µm,18.0s
K27K **Chicken** **74.08** **27** P **P** **23 49 35.8 +1.9**
baz=285
K27K S **S** **23 59 06.4 +0.5**
baz=285
M26K **Nabesna, AK** **74.08** **29** P **P** **23 49 34.4 +0.3**
M26K IAmb IAmb 23 49 46.0
comp=Z,141nm,1.0s
M26K IAMs_20 IAMs_20 00 21 52.4
comp=Z,4µm,22.0s
M26K **Nabesna, AK** **74.08** **29** P **P** **23 49 35.6 +1.6**
baz=284,SNR=23
M26K S **S** **23 59 06.5 +0.3**
baz=284
VRDI **Verde Repeater** **74.15** **30** P **P** **23 49 35.1 +0.5**
VRDI IAMs_20 IAMs_20 00 20 45.6
comp=Z,4µm,22.0s
DIKM **Dikmen** **74.22** **309** P **P** **23 49 34.7 -0.5**
comp=Z,1µmcomp=Z,97nm,1.2s
DIKM **Dikmen** **74.22** **309** ⇑P **P** **23 49 35.5 +0.3**
BERG **Berg Lake** **74.24** **31** P **P** **23 49 35.2 +0.3**
BERG IAMs_20 IAMs_20 00 24 06.0
comp=Z,4µm,20.0s
EGAK **Eagle** **74.27** **26** IAMs_20 IAMs_20 00 24 43.1
comp=Z,5µm,20.0s
SUCK **Suckling Hills** **74.28** **31** P **P** **23 49 35.5 +0.3**
SUCK IAMs_20 IAMs_20 00 25 25.1
comp=Z,3µm,19.0s
MCARA **McCarthy VSAT** **74.31** **30** P **P** **23 49 36.4 +1.0**
MCARA IAmb IAmb 23 50 00.4
comp=Z,106nm,0.9s
MCARA IAMs_20 IAMs_20 00 26 28.1
comp=Z,3µm,18.0s
MCARA **McCarthy VSAT** **74.31** **30** P **P** **23 49 36.9 +1.5**
baz=284
MCARA S **S** **23 59 08.6 -0.1**
baz=284
CRQM **Cirque** **74.42** **31** P **P** **23 49 36.5 +0.3**
CRQM IAmb IAmb 23 49 55.9
comp=Z,84nm,0.9s
CRQM IAMs_20 IAMs_20 00 24 30.2
comp=Z,3µm,18.0s
L27K **Beaver Creek,** **74.43** **28** P **P** **23 49 37.3 +1.2**
L27K IAmb IAmb 23 49 48.1
comp=Z,100nm,1.1s
L27K IAMs_20 IAMs_20 00 22 31.7
comp=Z,5µm,21.0s
L27K **Beaver Creek,** **74.43** **28** P **P** **23 49 37.9 +1.8**
baz=285,SNR=28
L27K S **S** **23 59 11.6 +1.6**
baz=285
CRQE **Cirque** **74.44** **31** P **P** **23 49 37.5 +1.2**
baz=285,SNR=11
BCAR **Beaver Creek A** **74.45** **28** P **P** **23 49 37.1 +1.0**
BNN **Bunyan** **74.46** **306** P **P** **23 49 36.1 -0.7**
BNN IAmb IAmb 23 49 44.4
comp=Z,122nm,1.0s
BNN IAMs_20 IAMs_20 00 28 17.8
comp=Z,4µm,19.0s
BGLC **Bering Glacier** **74.51** **31** P **P** **23 49 35.7 -0.7**
baz=285
BGLC S **S** **23 59 11.3 +0.5**
baz=285
E29M **Blow River** **74.52** **22** P **P** **23 49 36.1 -0.3**
E29M IAMs_20 IAMs_20 00 23 00.6
comp=Z,5µm,20.0s
E29M **Blow River** **74.52** **22** P **P** **23 49 37.9 +1.4**
baz=287,SNR=12
E29M S **S** **23 59 09.7 -1.1**
baz=287
TGL **Tana Glacier** **74.56** **30** P **P** **23 49 37.1 +0.1**
TGL IAMs_20 IAMs_20 00 27 14.5
comp=Z,3µm,18.0s
I28M **Miner Creek** **74.59** **25** P **P** **23 49 38.0 +1.0**
I28M IAmb IAmb 23 49 48.8
comp=Z,97nm,0.9s
I28M IAMs_20 IAMs_20 00 24 49.6
comp=Z,4µm,22.0s
I28M **Miner Creek** **74.59** **25** P **P** **23 49 38.6 +1.6**
baz=286,SNR=56
I28M S **S** **23 59 11.7 -0.1**
baz=286
M27K **Edge Creek, AK** **74.59** **29** P **P** **23 49 37.8 +0.7**
M27K IAMs_20 IAMs_20 00 22 29.0
comp=Z,5µm,22.0s
M27K **Edge Creek, AK** **74.59** **29** P **P** **23 49 38.7 +1.6**
baz=285,SNR=26
M27K S **S** **23 59 11.8 -0.3**
baz=285
WAX **Waxell Ridge** **74.63** **31** P **P** **23 49 37.4 0.0**
WAX IAMs_20 IAMs_20 00 24 29.3
comp=Z,4µm,19.0s
JETT **Jettan, Norway** **74.74** **339** *e*P **P** **23 49 38.4 +0.6**
JETT IAmb IAmb 23 49 44.0
comp=Z,422nm,2.1s
JETT IVMs_BB IVMs_BB 00 27 33.9
comp=Z,4µm,12.6s
FIA1 **FINESS Array S** **74.82** **330** P **P** **23 49 37.1 -1.1**
FINES **FINESS Array B** **74.83** **330** P **P** **23 49 37.3 -1.0**
comp=Z,11nm,0.7s,baz=34,slow=5.1,SNR=69
FINES S **S** **23 59 10.1 -4.2**
comp=Z,2.1nm,0.9s,baz=51,slow=11,SNR=4.6
FINES LR LR 00 25 25.4
comp=Z,7µm,18.1s,baz=80,slow=38
comp=Z,11nm,0.7s
ISLE **Juniper Island** **74.84** **31** P **P** **23 49 38.8 +0.2**
ISLE IAmb IAmb 23 49 52.5
comp=Z,74nm,1.0s
ISLE IAMs_20 IAMs_20 00 20 55.7
comp=Z,4µm,22.0s
G29M **Pine Creek** **74.91** **24** P **P** **23 49 39.4 +0.7**
G29M IAmb IAmb 23 49 52.9
comp=Z,255nm,1.4s
G29M IAMs_20 IAMs_20 00 25 40.0
comp=Z,5µm,19.0s
G29M **Pine Creek** **74.91** **24** P **P** **23 49 40.0 +1.2**
baz=287,SNR=37
G29M S **S** **23 59 16.3 +1.0**
baz=287
H29M **Whitestone** **74.98** **24** P **P** **23 49 39.9 +0.7**
H29M IAmb IAmb 23 49 58.6
comp=Z,120nm,1.1s
H29M IAMs_20 IAMs_20 00 27 20.0
comp=Z,5µm,19.0s
H29M **Whitestone** **74.98** **24** P **P** **23 49 40.8 +1.6**
baz=287,SNR=22
H29M S **S** **23 59 15.6 -0.5**
baz=287
BVCY **Beaver Creek** **75.03** **29** P **P** **23 49 41.4 +1.8**
baz=286,SNR=6.8
BVCY S **S** **23 59 20.2 +3.4**
baz=286
BARN **Barnard Glacie** **75.04** **30** P **P** **23 49 39.8 0.0**
BARN IAmb IAmb 23 50 06.1
comp=Z,146nm,1.3s
BZK **Bozkurt** **75.06** **310** P **P** **23 49 39.4 -0.5**
BZK IAMs_20 IAMs_20 00 25 54.3
comp=Z,3µm,20.0s
BZK **Bozkurt** **75.06** **310** P **P** **23 49 39.5 -0.5**
comp=Z,2µmcomp=Z,134nm,1.0s
BZK **Bozkurt** **75.06** **310** ⇑P **P** **23 49 40.4 +0.4**
GRNC **Granite Creek** **75.08** **30** P **P** **23 49 41.2 +1.2**
GRNC IAmb IAmb 23 50 02.8
comp=Z,146nm,1.4s
MESA **MESA** **75.14** **31** P **P** **23 49 40.7 +0.3**
MESA IAmb IAmb 23 49 59.4
comp=Z,258nm,1.8s
MESA IAMs_20 IAMs_20 00 22 11.7
comp=Z,4µm,21.0s
MESA **MESA** **75.14** **31** P **P** **23 49 42.1 +1.7**
baz=286,SNR=7.4
MESA S **S** **23 59 18.9 +0.5**
baz=286
YAH **Yahtse** **75.19** **31** P **P** **23 49 41.0 +0.3**
YAH IAmb IAmb 23 49 59.8
comp=Z,184nm,1.5s
YAH IAMs_20 IAMs_20 00 24 46.9
comp=Z,5µm,20.0s
DAWY **Dawson** **75.20** **27** P **P** **23 49 40.9 +0.4**
DAWY IAmb IAmb 23 49 52.3
comp=Z,90nm,0.9s
DAWY IAMs_20 IAMs_20 00 25 02.0
comp=Z,3µm,20.0s
DAWY **Dawson** **75.20** **27** P **P** **23 49 42.2 +1.7**
baz=287,SNR=29
DAWY S **S** **23 59 18.4 -0.3**
baz=287
TRO **Tromso** **75.21** **339** *e*P **P** **23 49 40.3 0.0**
TRO IAmb IAmb 23 49 58.4
comp=Z,99nm,1.6s
TRO *e* 23 59 27.4
TRO IVMs_BB IVMs_BB 00 32 19.6
comp=Z,5µm,16.7s
CTG **Chitna Glacier** **75.21** **30** P **P** **23 49 42.7 +1.9**
baz=286,SNR=25
CTG S **S** **23 59 19.7 +0.6**
baz=286
CTGM **Chitina Glacie** **75.22** **30** P **P** **23 49 41.3 +0.5**
CTGM IAmb IAmb 23 49 57.6
comp=Z,92nm,0.8s
CTGM IAMs_20 IAMs_20 00 27 24.6
comp=Z,3µm,18.0s
KHLH **Kahului Airpor** **75.25** **73** P **P** **23 49 42.9 +1.4**
I29M **Ogilvie Camp,** **75.27** **25** P **P** **23 49 41.2 +0.4**
I29M **Ogilvie Camp,** **75.27** **25** P **P** **23 49 41.9 +1.0**
baz=288,SNR=29
I29M S **S** **23 59 19.5 +0.3**
baz=288
ASF **Jabal al Asfar** **75.34** **299** LR LR 00 27 31.6
comp=Z,4µm,21.4s,baz=106,slow=39
YUK3 **Moose Creek** **75.39** **29** P **P** **23 49 43.2 +1.3**
baz=287,SNR=14
YUK3 S **S** **23 59 19.5 -1.7**
baz=287
LOGN **Logan Glacier** **75.41** **30** P **P** **23 49 43.0 +1.1**
LOGN IAmb IAmb 23 49 56.4
comp=Z,107nm,1.0s
TABL **Table Mountain** **75.45** **31** P **P** **23 49 42.5 +0.3**
TABL IAmb IAmb 23 49 53.8
comp=Z,146nm,1.3s
TABL IAMs_20 IAMs_20 00 24 53.9
comp=Z,4µm,19.0s
ILGA **Ilgaz** **75.49** **309** P **P** **23 49 42.2 -0.6**
ILGA IAmb IAmb 23 49 51.4
comp=Z,166nm,1.2s
F30M **Barrier River** **75.52** **23** P **P** **23 49 42.3 +0.1**
F30M IAmb IAmb 23 49 59.3
comp=Z,134nm,1.0s
F30M IAMs_20 IAMs_20 00 27 35.0
comp=Z,5µm,18.0s
F30M **Barrier River** **75.52** **23** P **P** **23 49 43.1 +0.9**
baz=289,SNR=31
F30M S **S** **23 59 20.2 -1.8**
baz=289
G30M **tAoh Zraii Nji** **75.56** **23** P **P** **23 49 42.5 -0.1**
G30M IAmb IAmb 23 49 55.6
comp=Z,140nm,1.2s
G30M IAMs_20 IAMs_20 00 26 18.3
comp=Z,5µm,20.0s
G30M **tAoh Zraii Nji** **75.56** **23** P **P** **23 49 42.8 +0.3**
baz=289,SNR=24
G30M S **S** **23 59 22.0 -0.6**
baz=289
EPYK **Eagle Plains** **75.57** **24** P **P** **23 49 42.5 -0.1**
EPYK IAmb IAmb 23 49 50.9
comp=Z,68nm,0.8s
EPYK IAMs_20 IAMs_20 00 28 17.6
comp=Z,5µm,18.0s
EPYK **Eagle Plains** **75.57** **24** P **P** **23 49 43.1 +0.5**
baz=289,SNR=54
EPYK S **S** **23 59 20.1 -2.6**
baz=289
J29N **Klondike Camp** **75.58** **26** P **P** **23 49 44.0 +1.3**
J29N IAmb IAmb 23 49 54.5
comp=Z,137nm,0.8s
J29N IAMs_20 IAMs_20 00 25 23.9
comp=Z,5µm,20.0s
J29N **Klondike Camp** **75.58** **26** P **P** **23 49 43.2 +0.5**
baz=288,SNR=16
J29N S **S** **23 59 23.7 +0.8**
baz=288
O28M **Mount Upton** **75.81** **30** P **P** **23 49 44.1 -0.2**
O28M IAmb IAmb 23 50 09.1
comp=Z,99nm,1.1s
O28M **Mount Upton** **75.81** **30** P **P** **23 49 46.3 +2.0**
baz=287,SNR=18
O28M S **S** **23 59 25.4 -0.5**
baz=287
NOR **Nord** **75.83** **354** *i* P **P** **23 49 42.9 -0.8**
NOR IAmb IAmb 23 49 50.5
comp=Z,75nm,1.4s
CIDE **Kastamonu/Cide** **75.84** **310** ⇑P **P** **23 49 44.5 +0.1**
KIRS **Kirsehir-Merke** **75.84** **307** ⇓P **P** **23 49 44.5 -0.2**
YUK8 **Steele Glacier** **75.85** **30** P **P** **23 49 46.3 +1.7**
baz=287
BR131 **Keskin Array S** **75.90** **307** P **P** **23 49 44.4 -0.7**
BR131 IAmb IAmb 23 49 52.3
comp=Z,134nm,1.1s
BR131 **Keskin Array S** **75.90** **307** P **P** **23 49 44.4 -0.7**
SNR=81
BR131 P **P** **23 49 44.4 -0.7**
SNR=81
BRTR **Keskin Array B** **75.90** **307** P **P** **23 49 44.1 -1.0**
BRTR **Keskin Array B** **75.90** **307** P **P** **23 49 44.4 -0.7**
comp=Z,47nm,1.1s,baz=116,slow=5.6,SNR=111
BRTR LR LR 00 27 33.4
comp=Z,4µm,20.9s,baz=72,slow=39
comp=Z,47nm,1.1s
BR104 **Keskin Array S** **75.90** **307** P **P** **23 49 44.3 -0.8**
comp=Z,506nmcomp=Z,54nm,1.3s
BR106 **Keskin Array S** **75.91** **307** P **P** **23 49 44.4 -0.8**
comp=Z,840nmcomp=Z,103nm,1.1s
BR105 **Keskin Array S** **75.91** **307** P **P** **23 49 44.4 -0.8**
comp=Z,814nmcomp=Z,94nm,1.2s
PCA **Pinnacle** **75.97** **31** P **P** **23 49 45.2 +0.2**
PCA IAMs_20 IAMs_20 00 25 19.8
comp=Z,3µm,19.0s
PINM **Pinnacle** **75.97** **31** P **P** **23 49 47.1 +2.1**
baz=287,SNR=17
PINM S **S** **23 59 29.1 +1.7**
baz=287
AK09 **Malin Array Si** **75.98** **319** P **P** **23 49 43.6 -1.5**
AK08 **Malin Array Si** **75.99** **319** P **P** **23 49 43.6 -1.6**
AKASG **Malin Array Be** **75.99** **319** P **P** **23 49 43.6 -1.6**
AKASG **Malin Array Be** **75.99** **319** P **P** **23 49 43.8 -1.4**
comp=Z,24nm,0.6s,baz=63,slow=5.7,SNR=72
AKASG S **S** **23 59 24.2 -3.5**
comp=Z,0.2nm,0.3s,baz=70,slow=11,SNR=1.9

comp=Z,24nm,0.6s
AKBB Malin Array Si 75.99 319 P **P** **23 49 43.5 -1.7**
AKBB IAmb IAmb 23 49 53.2
comp=Z,70nm,0.9s
AKBB Malin Array Si 75.99 319 P **P** **23 49 43.6 -1.7**
KIEV Kiev 76.00 319 P **P** **23 49 43.6 -1.6**
KIEV IAmb IAmb 23 49 53.2
comp=Z,63nm,0.9s
KIEV Kiev 76.00 319 IAMs_20 IAMs_20 00 27 28.5
comp=Z,5μm,19.0s
KIEV Kiev 76.00 319 *i* P **P** **23 49 43.9 -1.3**
SNR=37
KIEV Kiev 76.00 319 P **P** **23 49 43.6 -1.6**
comp=Z,4μmcomp=Z,330nm,1.5s
KIEV Kiev 76.00 319 ⇑P **P** **23 49 44.4 -0.8**
AK04 Malin Array Si 76.02 319 P **P** **23 49 43.8 -1.6**
L29M L29M 76.03 28 P **P** **23 49 46.2 +0.9**
L29M IAmb IAmb 23 49 55.3
comp=Z,110nm,0.8s
L29M IAMs_20 IAMs_20 00 25 29.9
comp=Z,4μm,19.0s
L29M L29M 76.03 28 P **P** **23 49 47.3 +2.0**
baz=288,SNR=103
L29M S **S** **23 59 30.1 +2.3**
baz=288
ATD Arta Tunnel 76.05 277 P **P** **23 49 43.8 -2.4**
ATD IAmb IAmb 23 49 56.1
comp=Z,161nm,1.8s
K29M Barlow Dome 76.06 27 P **P** **23 49 46.5 +1.0**
K29M IAmb IAmb 23 49 57.7
comp=Z,59nm,0.8s
K29M Barlow Dome 76.06 27 P **P** **23 49 46.6 +1.1**
baz=289,SNR=77
K29M S **S** **23 59 30.3 +2.0**
baz=289
I30M Mount Dempster 76.08 25 P **P** **23 49 46.3 +0.7**
I30M IAmb IAmb 23 49 59.5
comp=Z,104nm,1.1s
I30M IAMs_20 IAMs_20 00 28 20.1
comp=Z,4μm,18.0s
I30M Mount Dempster 76.08 25 P **P** **23 49 46.5 +0.9**
baz=289,SNR=41
I30M S **S** **23 59 27.3 -1.2**
baz=289
INK Inuvik 76.08 22 P **P** **23 49 45.0 -0.4**
INK IAmb IAmb 23 49 58.6
comp=Z,80nm,1.2s
INK IAMs_20 IAMs_20 00 25 54.8
comp=Z,4μm,20.0s
INK Inuvik 76.08 22 P **P** **23 49 45.6 +0.2**
comp=Z,38nm,1.0s,baz=285,slow=7.7,SNR=24
INK LR LR 00 25 55.3
comp=Z,4μm,20.2s,baz=288,slow=38
comp=Z,38nm,1.0s
INK Inuvik 76.08 22 P **P** **23 49 45.7 +0.4**
baz=291,SNR=16
INK S **S** **23 59 26.1 -2.0**
baz=291
M29M Somme Creek 76.09 28 P **P** **23 49 47.3 +1.6**
M29M IAmb IAmb 23 49 56.1
comp=Z,76nm,0.7s
M29M IAMs_20 IAMs_20 00 23 33.6
comp=Z,5μm,21.0s
M29M Somme Creek 76.09 28 P **P** **23 49 47.3 +1.6**
baz=288,SNR=125
M29M S **S** **23 59 30.9 +2.2**
baz=288
RAO Raoul Island 76.24 129 LR LR 00 17 59.1
comp=Z,3μm,21.3s,baz=309,slow=31
G31M Satah River 76.31 23 P **P** **23 49 46.3 -0.4**
G31M IAmb IAmb 23 49 54.5
comp=Z,49nm,0.8s
G31M IAMs_20 IAMs_20 00 26 38.9
comp=Z,6μm,20.0s
G31M Satah River 76.31 23 P **P** **23 49 46.8 +0.1**
baz=291,SNR=21
G31M S **S** **23 59 27.4 -3.2**
baz=291
J30M Hart River 76.31 26 P **P** **23 49 47.3 +0.4**
J30M IAMs_20 IAMs_20 00 26 05.2
comp=Z,4μm,22.0s
J30M Hart River 76.31 26 P **P** **23 49 48.1 +1.2**
baz=290,SNR=47
J30M S **S** **23 59 31.3 +0.3**
baz=290
BCPM Bancas Point 76.31 31 P **P** **23 49 48.0 +1.1**
BCPM IAmb IAmb 23 49 58.8
comp=Z,66nm,1.0s
BCPM IAMs_20 IAMs_20 00 25 29.8
comp=Z,3μm,19.0s
F31M Tsiigehtchic 76.32 23 P **P** **23 49 46.3 -0.4**
F31M IAmb IAmb 23 49 54.7
comp=Z,87nm,0.8s
F31M IAMs_20 IAMs_20 00 28 17.0
comp=Z,6μm,18.0s
F31M Tsiigehtchic 76.32 23 P **P** **23 49 47.0 +0.3**
baz=291
F31M S **S** **23 59 28.2 -2.5**
baz=291
MMAI Mount Meron Ar 76.33 300 P **P** **23 49 48.1 +0.5**
comp=Z,32nm,1.0s,baz=87,slow=4.4,SNR=37
MMAI LR LR 00 27 48.6
comp=Z,5μm,19.5s,baz=68,slow=39
comp=Z,32nm,1.0s
YUK4 Talbot Arm 76.35 29 P **P** **23 49 49.3 +1.9**
baz=288,SNR=17
POHA Pohakuloa 76.39 74 P **P** **23 49 50.8 +2.5**
ANTO Ankara 76.48 308 P **P** **23 49 47.2 -1.1**
ANTO Ankara 76.48 308 IAMs_20 IAMs_20 00 29 58.3
comp=Z,5μm,20.0s
ANTO Ankara 76.48 308 P **P** **23 49 48.1 -0.2**
ANTO P **P** **23 49 48.1 -0.2**
ANTO Ankara 76.48 308 P **P** **23 49 47.8 -0.5**
comp=Z,934nmcomp=Z,99nm,1.0s
ANTO Ankara 76.48 308 ⇑P **P** **23 49 48.7 +0.3**
ANTO Ankara 76.48 308 P **P** **23 49 48.2 -0.2**
BAL3X Bal3x, Balta 76.51 316 P **P** **23 49 47.4 -0.8**
PNL Peninsula 76.52 31 P **P** **23 49 50.7 +2.6**
PNL Peninsula 76.52 31 P **P** **23 49 49.8 +1.8**
baz=288,SNR=9.8
PNL S **S** **23 59 33.7 +0.5**
baz=288
AIN Ainahou 76.57 74 P **P** **23 49 48.1 -1.2**
YUK6 Outpost Mounta 76.61 30 P **P** **23 49 50.8 +1.9**
baz=289,SNR=13
YUK6 S **S** **23 59 36.6 +1.9**
baz=289
GHAJ Ghor Haditha 76.67 299 P **P** **23 49 48.8 -0.5**
GHAJ IAMs_20 IAMs_20 00 27 32.7
comp=Z,4μm,20.0s
H31M Peel River 76.68 24 P **P** **23 49 48.7 -0.2**
H31M IAmb IAmb 23 49 57.5
comp=Z,79nm,0.8s
H31M IAMs_20 IAMs_20 00 23 29.7
comp=Z,4μm,22.0s
H31M Peel River 76.68 24 P **P** **23 49 49.4 +0.5**
baz=291,SNR=37
H31M S **S** **23 59 31.8 -3.0**
baz=291
UWE Uwekahuna 76.70 74 P **P** **23 49 50.0 0.0**
RSD Rainshed 76.71 74 P **P** **23 49 49.6 -0.4**
O29M Mount Kennedy 76.71 30 P **P** **23 49 49.4 +0.1**
O29M IAMs_20 IAMs_20 00 28 51.4
comp=Z,4μm,18.0s
O29M Mount Kennedy 76.71 30 P **P** **23 49 51.2 +1.9**
baz=288
O29M S **S** **23 59 34.8 -0.7**
baz=288
PURM Purcari 76.72 315 P **P** **23 49 48.6 -0.8**
comp=Z,2μmcomp=Z,165nm,1.1s
PURM Purcari 76.72 315 ⇑P **P** **23 49 48.8 -0.6**
HLP Hilina Pali 76.73 74 P **P** **23 49 51.4 +1.4**
HATHI Halema'uma'u T 76.73 74 P **P** **23 49 50.4 +0.3**
BYL Byron's Ledge 76.74 74 P **P** **23 49 49.7 -0.4**
M30M Minto, Yukon 76.78 28 P **P** **23 49 50.9 +1.4**
M30M IAmb IAmb 23 50 01.5
comp=Z,133nm,1.2s
M30M IAMs_20 IAMs_20 00 25 53.9
comp=Z,4μm,20.0s
M30M Minto, Yukon 76.78 28 P **P** **23 49 51.4 +1.9**
baz=290,SNR=58
M30M S **S** **23 59 38.3 +2.2**
baz=290
MAYO Mayo, Yukon 76.82 27 P **P** **23 49 51.4 +1.7**
MAYO Mayo, Yukon 76.82 27 P **P** **23 49 51.2 +1.5**
baz=290
KNHH Kane Nui o Ham 76.83 74 P **P** **23 49 51.3 +0.6**

TOZ Tahuroa Road 76.84 139 P **P** **23 49 49.5 -0.6**
STCH Steam Cracks 76.87 74 P **P** **23 49 49.6 -1.3**
STCH IAmb IAmb 23 50 16.8
comp=Z,184nm,1.2s
MI28 Mi28,Pidlybu 76.88 320 P **P** **23 49 48.6 -1.6**
HIZ Hauiti 76.95 140 P **P** **23 49 51.1 +0.4**
HIZ IAMs_20 IAMs_20 00 20 43.6
comp=Z,4μm,19.0s
HIZ Hauiti 76.95 140 P **P** **23 49 52.5 +1.8**
KHEZ Kahui Hut 76.95 141 P **P** **23 49 53.6 +2.8**
N30M Aishikik Lake 77.02 29 P **P** **23 49 51.8 +0.9**
N30M IAmb IAmb 23 50 03.5
comp=Z,62nm,0.8s
N30M IAMs_20 IAMs_20 00 23 54.5
comp=Z,3μm,20.0s
N30M Aishikik Lake 77.02 29 P **P** **23 49 52.9 +2.0**
baz=290,SNR=59
N30M S **S** **23 59 40.8 +2.0**
baz=290
HYT Haines Junctio 77.04 30 P **P** **23 49 51.9 +0.8**
HYT IAmb IAmb 23 50 03.6
comp=Z,70nm,0.9s
HYT IAMs_20 IAMs_20 00 21 41.9
comp=Z,4μm,22.0s
HYT Haines Junctio 77.04 30 P **P** **23 49 52.9 +1.8**
baz=289,SNR=30
HYT S **S** **23 59 42.9 +3.7**
baz=289
RER Riviere de l'E 77.05 241 P **P** **23 49 51.3 -0.5**
RER IAmb IAmb 23 49 57.4
comp=Z,154nm,0.9s
STEI Steigen 77.08 338 *e*P **P** **23 49 50.0 -1.1**
STEI IAmb IAmb 23 49 58.7
comp=Z,95nm,0.7s
STEI *e* 23 59 35.0
STEI IVMs_BB IVMs_BB 00 28 39.8
comp=Z,4μm,13.6s
LUBAR Lubar, Ukraine 77.11 319 P **P** **23 49 49.7 -1.9**
QRZ Quartz Range 77.11 143 P **P** **23 49 51.6 0.0**
QRZ IAmb IAmb 23 50 01.6
comp=Z,78nm,1.0s
QRZ Quartz Range 77.11 143 P **P** **23 49 52.8 +1.2**
A36M Sachs Harbour 77.14 17 P **P** **23 49 51.2 -0.1**
A36M IAmb IAmb 23 50 01.4
comp=Z,141nm,0.8s
A36M IAMs_20 IAMs_20 00 26 05.5
comp=Z,3μm,21.0s
A36M Sachs Harbour 77.14 17 P **P** **23 49 51.6 +0.3**
baz=298,SNR=18
A36M S **S** **23 59 37.0 -2.5**
baz=298
SORM Soroca 77.26 317 P **P** **23 49 50.9 -1.5**
comp=Z,1μmcomp=Z,84nm,1.1s
SORM Soroca 77.26 317 ⇑P **P** **23 49 51.7 -0.7**
KIS Kishinev 77.28 316 ⇓*i*P **P** **23 49 49.0 -3.6**
comp=Z,90nm,1.2s
KIS *e*S **S** **23 59 36.0 -5.9**
KIS *e*L L 00 20 11.0
KIS LQM 00 23 00.0
comp=Z,2μm,17.0s
KIS LRM MLR 00 26 49.0
comp=Z,3μm,18.0s
KIS Kishinev 77.28 316 P **P** **23 49 51.5 -1.1**
comp=Z,691nmcomp=Z,44nm,0.8s
FAUS Fauske 77.28 338 *e*P **P** **23 49 51.1 -1.0**
FAUS *e* 23 59 42.3
FAUS IVMs_BB IVMs_BB 00 27 30.6
comp=Z,5μm,15.7s
MILM Milestii Mici 77.31 315 ⇓*i*P **P** **23 49 50.0 -2.7**
comp=Z,520nm,3.4s
MILM Milestii Mici 77.31 315 *e*PP PP 23 52 44.0 -2.6
MILM ⇓*i*S **S** **23 59 36.0 -6.2**
MILM *e*L L 00 19 42.0
MILM LQM 00 23 02.0
comp=Z,5μm,17.5s
MILM LRM MLR 00 26 52.0
comp=Z,5μm,19.0s
MILM Milestii Mici 77.31 315 ⇓P **P** **23 49 51.8 -0.9**
P29M Windy Craggy 77.33 31 P **P** **23 49 53.9 +1.2**
P29M IAmb IAmb 23 50 05.3
comp=Z,74nm,0.8s
P29M IAMs_20 IAMs_20 00 26 10.7
comp=Z,3μm,20.0s
P29M Windy Craggy 77.33 31 P **P** **23 49 54.6 +2.0**
baz=289,SNR=16
P29M S **S** **23 59 42.6 +0.5**
baz=289
DSZ Denniston Nort 77.33 144 P **P** **23 49 53.0 +0.1**
DSZ IAmb IAmb 23 50 02.6
comp=Z,153nm,1.7s
DSZ Denniston Nort 77.33 144 P **P** **23 49 54.1 +1.2**
JCZ Jackson Bay 77.38 147 P **P** **23 49 56.0 +2.9**
MSZ Milford Sound 77.38 148 P **P** **23 49 55.6 +2.6**
CSS Mathiatis 77.44 303 P **P** **23 49 53.0 -0.7**
CSS IAMs_20 IAMs_20 00 28 53.8
comp=Z,4μm,21.0s
CSS Mathiatis 77.44 303 P **P** **23 49 53.1 -0.7**
comp=Z,3μmcomp=Z,498nm,0.9s
MDUB Mudurnu 77.49 309 P **P** **23 49 53.4 -0.7**
TKNZ Takaka Hill 77.50 143 P **P** **23 49 54.0 +0.2**
FOZ Fox Glacier 77.52 147 P **P** **23 49 53.2 -0.5**
FOZ IAmb IAmb 23 50 03.7
comp=Z,96nm,1.2s
P30M Million Dollar 77.53 30 P **P** **23 49 55.2 +1.4**
baz=290
P30M S **S** **23 59 46.0 +1.7**
baz=290
LOF Lofoten 77.58 339 *e*P **P** **23 49 52.6 -1.2**
N31M Braeburn, Yuko 77.60 29 P **P** **23 49 54.5 +0.3**
N31M IAmb IAmb 23 50 08.9
comp=Z,98nm,1.0s
N31M IAMs_20 IAMs_20 00 24 21.8
comp=Z,4μm,21.0s
N31M Braeburn, Yuko 77.60 29 P **P** **23 49 55.9 +1.7**
baz=291,SNR=25
N31M S **S** **23 59 46.0 +1.0**
baz=291
PABE Paberze 77.62 325 P **P** **23 49 53.0 -1.3**
MRNZ Matariki Terra 77.63 143 P **P** **23 49 55.9 +1.5**
SAHE Sakarya_HENDEK 77.64 309 ⇑P **P** **23 49 54.3 -0.4**
EIL Elat 77.64 297 LR LR 00 28 23.3
comp=Z,4μm,19.4s,baz=82,slow=39
O30N Mendenhall 77.71 29 P **P** **23 49 55.5 +0.7**
O30N Mendenhall 77.71 29 P **P** **23 49 56.6 +1.8**
baz=290,SNR=29
O30N S **S** **23 59 48.0 +1.7**
baz=290
NDNU Novodnistrovsk 77.75 317 P **P** **23 49 54.1 -1.1**
RNPP9 Sopachiv 77.80 320 P **P** **23 49 54.6 -0.8**
INZ Inchbonnie 77.81 145 P **P** **23 49 55.5 +0.1**
INZ Inchbonnie 77.81 145 P **P** **23 49 56.8 +1.4**
TLCR 77.81 314 ⇑P **P** **23 49 55.4 -0.1**
NGZ Ngauruhoe 77.82 140 P **P** **23 49 56.7 +1.0**
FWVZ Far West T-bar 77.84 140 P **P** **23 49 57.1 +1.2**
TMVZ Te Maari 77.84 140 P **P** **23 49 57.1 +1.3**
SNVZ South Ngauruho 77.85 140 P **P** **23 49 56.9 +1.0**
RNPP8 Varash 77.85 320 P **P** **23 49 54.9 -0.7**
NNZ Nelson 77.85 143 P **P** **23 49 55.3 -0.4**
NNZ IAmb IAmb 23 50 04.7
comp=Z,64nm,0.8s
NNZ Nelson 77.85 143 P **P** **23 49 55.8 +0.1**
ETVZ East Tongariro 77.86 140 P **P** **23 49 57.0 +1.0**
RNPP5 Staryi Chortor 77.86 320 P **P** **23 49 54.7 -1.0**
WHVZ Whangaehu Hut 77.88 140 P **P** **23 49 56.9 +0.7**
PYZ Puysegur Point 77.88 150 P **P** **23 49 56.0 +0.3**
DUWZ D'Urville Isla 77.89 142 P **P** **23 49 56.1 +0.2**
JURR Jurilovca 77.89 313 ⇑P **P** **23 49 56.1 +0.1**
THZ Tophouse 77.95 144 P **P** **23 49 55.7 -0.6**
THZ Tophouse 77.95 144 P **P** **23 49 56.3 0.0**
M31M Drury Creek, Y 77.96 28 P **P** **23 49 56.9 +0.8**
M31M IAmb IAmb 23 50 07.8
comp=Z,48nm,0.8s
M31M IAMs_20 IAMs_20 00 26 41.2
comp=Z,4μm,20.0s
M31M Drury Creek, Y 77.96 28 P **P** **23 49 56.9 +0.8**
baz=292,SNR=19
M31M S **S** **23 59 50.3 +1.4**
baz=292
MLZ Mavora Lakes 77.98 149 P **P** **23 49 56.5 +0.2**
MOVZ Moawhango 78.05 140 P **P** **23 49 56.7 -0.2**
VASR Vaslui 78.06 315 ⇑P **P** **23 49 56.8 -0.1**
MOR8 Moi Rana 78.08 337 *e*P **P** **23 49 54.5 -2.1**
VLDR Vladesti 78.11 315 ⇑P **P** **23 49 57.4 +0.2**
HORU Horodok 78.15 318 P **P** **23 49 56.3 -1.1**
URZ Urewera 78.16 139 P **P** **23 49 58.3 +0.9**

comp=Z,8.1nm,0.6s,baz=37,slow=9.2,SNR=7.2
URZ LR LR 00 20 45.0
comp=Z,2μm,20.6s,baz=306,slow=33
comp=Z,8.1nm,0.6s
TPGR Topolog 78.17 314 ⇑P **P** **23 49 57.6 0.0**
TATR Tatarca 78.20 314 ⇓P **P** **23 49 58.4 +0.7**
SCTR Scanteiesti 78.22 314 ⇑P **P** **23 49 58.4 +0.6**
EUNU Eureka 78.24 5 P **P** **23 49 57.2 -0.2**
EUNU IAmb IAmb 23 50 10.8
comp=Z,265nm,1.9s
VARL Varlezi 78.24 315 ⇓P **P** **23 49 58.4 +0.4**
HAZ Te Kaha 78.27 138 P **P** **23 49 58.6 +0.6**
CFR Carcaliu 78.27 314 ⇑P **P** **23 49 58.0 -0.1**
VAGH Vaagaholmen 78.27 337 *e*P **P** **23 49 56.5 -1.2**
VAGH *e* 23 59 54.6
VAGH IVMs_BB IVMs_BB 00 28 18.9
comp=Z,5μm,16.3s
WHZ Wether Hill Ro 78.28 149 P **P** **23 49 58.6 +0.7**
RPZ Rata Peaks 78.29 146 P **P** **23 49 58.1 0.0**
RPZ Rata Peaks 78.29 146 LR LR 00 20 40.9
comp=Z,4μm,21.6s,baz=310,slow=33
RPZ Rata Peaks 78.29 146 P **P** **23 49 59.1 +1.0**
LTZ Lake Taylor 78.29 145 P **P** **23 49 57.9 -0.3**
LTZ Lake Taylor 78.29 145 P **P** **23 49 59.2 +1.0**
TIRR Tirgusor 78.30 313 P **P** **23 49 57.3 -1.0**
TIRR IAmb IAmb 23 50 06.1
comp=Z,81nm,1.1s
TIRR Tirgusor 78.30 313 P **P** **23 49 57.7 -0.6**
comp=Z,1μmcomp=Z,75nm,1.1s
TIRR Tirgusor 78.30 313 ⇓P **P** **23 49 58.0 -0.3**
RTZ Ruatahuna 78.30 139 P **P** **23 49 57.3 -1.0**
RTZ IAmb IAmb 23 50 06.8
comp=Z,101nm,1.3s
RTZ IAMs_20 IAMs_20 00 20 07.6
comp=Z,6μm,21.0s
LBZ Lake Benmore 78.31 147 P **P** **23 49 57.3 -0.8**
LBZ IAmb IAmb 23 50 07.6
comp=Z,186nm,1.5s
LBZ Lake Benmore 78.31 147 P **P** **23 49 59.2 +1.0**
WHY Whitehorse 78.31 29 P **P** **23 49 59.3 +1.1**
WHY IAMs_20 IAMs_20 00 25 09.5
comp=Z,5μm,22.0s
WHY Whitehorse 78.31 29 P **P** **23 49 59.9 +1.7**
baz=292,SNR=31
WHY S **S** **23 59 53.7 +0.9**
baz=292
TUWZ Tuamarina 78.31 143 P **P** **23 49 58.3 +0.1**
KMPD K-Podol'skiy 78.33 318 P **P** **23 49 56.8 -1.6**
NEGRR Negrea 78.33 314 ⇑P **P** **23 49 59.1 +0.6**
BKZ Black Stump Fm 78.35 140 P **P** **23 49 58.0 -0.5**
BKZ IAMs_20 IAMs_20 00 21 50.8
comp=Z,3μm,20.0s
BKZ Black Stump Fm 78.35 140 P **P** **23 50 00.1 +1.6**
BKZ Black Stump Fm 78.35 140 P **P** **23 49 59.0 +0.4**
DRBR Darabani 78.35 317 ⇓P **P** **23 49 57.9 -0.6**
TCW Tory Channel 78.36 143 P **P** **23 49 58.1 -0.4**
MFTR Murfatlar 78.38 313 ⇑P **P** **23 49 58.9 +0.2**
IZVR Izvoarele 78.41 314 ⇑P **P** **23 49 59.0 +0.2**
SILT Sile 78.42 310 ⇓P **P** **23 49 59.5 +0.4**
TUDR 78.46 314 ⇑P **P** **23 49 59.5 +0.4**
MWZ Matawai 78.46 139 P **P** **23 49 58.9 -0.3**
BSWZ Blackbirch Sta 78.46 143 P **P** **23 49 59.2 +0.2**
MXZ Matakaoa Point 78.48 138 IAMs_20 IAMs_20 00 20 27.3
comp=Z,6μm,22.0s
GHRR 78.49 315 P **P** **23 49 58.7 -0.6**
GHRR 78.49 315 ⇑P **P** **23 49 59.8 +0.5**
TLBR Topalu 78.52 313 ⇑P **P** **23 49 59.6 +0.1**
STOK Stokkvaagen 78.53 337 *e*P **P** **23 49 58.4 -0.8**
STOK IVmB_BB 23 50 04.0
comp=Z,666nm,2.8s
STOK *e* 23 59 58.0
STOK IVMs_BB IVMs_BB 00 28 17.1
comp=Z,4μm,14.7s
SUW Suwalki 78.54 323 *e*P **P** **23 49 58.2 -1.1**
SUW Suwalki 78.54 323 P **P** **23 49 58.1 -1.3**
SKAG Skagway 78.54 31 P **P** **23 50 00.1 +0.9**
SKAG IAmb IAmb 23 50 09.7
comp=Z,71nm,1.0s
SKAG IAMs_20 IAMs_20 00 29 47.7
comp=Z,6μm,18.0s
SKAG Skagway 78.54 31 P **P** **23 50 01.7 +2.4**
SKAG Skagway 78.54 31 P **P** **23 50 01.2 +1.9**
baz=291,SNR=11
SKAG S **S** **23 59 55.8 +0.8**
baz=291
OXZ Oxford 78.54 145 P **P** **23 49 59.6 +0.2**
HARR Harsova 78.56 313 ⇑P **P** **23 49 59.8 +0.1**
TSZ Takapari Road 78.59 141 P **P** **23 50 00.1 +0.3**
LEIR Leirfjorden 78.59 337 *e*P **P** **23 49 59.2 -0.3**
LEIR *e* 23 59 56.8
LEIR IVMs_BB IVMs_BB 00 28 18.1
comp=Z,6μm,14.4s
S31K Pelican 78.64 32 P **P** **23 50 00.3 +0.4**
S31K IAmb IAmb 23 50 14.9
comp=Z,105nm,1.2s
S31K IAMs_20 IAMs_20 00 31 10.5
comp=Z,3μm,18.0s
S31K Pelican 78.64 32 P **P** **23 50 01.9 +2.1**
baz=291,SNR=10
S31K S **S** **23 59 57.1 +1.0**
baz=291
SNZO South Karori 78.67 142 P **P** **23 49 59.2 -1.0**
SNZO IAmb IAmb 23 50 08.1
comp=Z,100nm,1.0s
R31K City Hall, Gus 78.72 32 P **P** **23 50 01.0 +0.7**
baz=291
PANC Panciu 78.72 315 ⇓P **P** **23 50 01.2 +0.6**
KHZ Kahutara 78.74 144 P **P** **23 49 59.9 -0.6**
KHZ Kahutara 78.74 144 P **P** **23 50 02.3 +1.7**
MRZ Mangatainoka R 78.75 141 P **P** **23 49 59.5 -1.2**
CHRU Chernivtsi 78.75 317 P **P** **23 50 00.2 -0.5**
comp=Z,72nm,0.7s
AMCZ Amberley 78.77 145 P **P** **23 50 00.6 -0.1**
ISP Isparta 78.77 306 P **P** **23 49 59.6 -1.6**
ISP IAMs_20 IAMs_20 00 31 32.6
comp=Z,5μm,21.0s
YLV Yalova 78.79 309 P **P** **23 50 00.6 -0.6**
comp=Z,2μmcomp=Z,238nm,1.2s
ODBI Odobesti 78.81 315 P **P** **23 50 00.5 -0.6**
comp=Z,593nmcomp=Z,73nm,0.8s
ODBI Odobesti 78.81 315 ⇑P **P** **23 50 01.7 +0.6**
ICOR Ion Corvin 78.82 313 ⇑P **P** **23 50 01.6 +0.4**
KLYT Kilyos 78.83 310 P **P** **23 50 00.7 -0.5**
comp=Z,2μmcomp=Z,169nm,1.3s
KLYT Kilyos 78.83 310 ⇑P **P** **23 50 01.1 -0.1**
GVZ Greta Valley S 78.83 144 P **P** **23 49 59.5 -1.6**
GVZ Greta Valley S 78.83 144 P **P** **23 50 01.7 +0.6**
TESR Tescani 78.85 316 P **P** **23 50 00.7 -0.6**
comp=Z,1μmcomp=Z,146nm,0.9s
TESR Tescani 78.85 316 ⇓P **P** **23 50 01.0 -0.4**
PRAR RASCA 78.86 316 ⇑P **P** **23 50 01.0 -0.3**
N32M Quiet Lake 78.94 29 P **P** **23 50 02.8 +1.2**
N32M IAmb IAmb 23 50 13.5
comp=Z,153nm,0.9s
N32M IAMs_20 IAMs_20 00 25 04.2
comp=Z,4μm,20.0s
N32M Quiet Lake 78.94 29 P **P** **23 50 02.5 +0.9**
baz=293
N32M S **S** **00 00 00.6 +1.2**
baz=293
AMRR Amara 78.98 314 ⇑P **P** **23 50 02.9 +0.8**
GRER 78.99 314 ⇓P **P** **23 50 03.2 +1.1**
VRI Vrincioaia 79.00 315 P **P** **23 50 01.4 -0.8**
comp=Z,2μmcomp=Z,141nm,1.4s
VRI Vrincioaia 79.00 315 ⇑P **P** **23 50 02.6 +0.4**
ODZ Otahua Downs 79.00 147 P **P** **23 50 03.2 +1.3**
MSWZ Moikau Station 79.05 142 P **P** **23 50 03.0 +0.7**
PLOR5 Plostina Array 79.05 315 P **P** **23 50 01.8 -0.7**
comp=Z,2μmcomp=Z,122nm,1.4s
PLOR Plostina 79.06 315 ⇑P **P** **23 50 02.9 +0.4**
ONER Baraj Valea Uz 79.07 315 ⇑P **P** **23 50 02.9 +0.4**
BISRR Bisoca 79.11 315 P **P** **23 50 02.2 -0.7**
comp=Z,4μmcomp=Z,379nm,1.2s
BISRR Bisoca 79.11 315 ⇑P **P** **23 50 03.3 +0.4**
MQZ McQueen's Vall 79.12 145 P **P** **23 50 02.3 -0.3**
PGOR Pogoanele 79.13 314 ⇑P **P** **23 50 03.4 +0.6**
MMPY Sheldon Lake, MMPY 79.14 27 P **P** **23 50 03.0 +0.3**
IAMs_20 IAMs_20 00 27 36.3
comp=Z,4μm,19.0s
MMPY Sheldon Lake, MMPY 79.14 27 P **P** **23 50 03.8 +1.1**
baz=294,SNR=19
S **S** **00 00 01.5 -0.1**
baz=294
PLWZ Palliser 79.15 142 P **P** **23 50 03.0 +0.1**

BFZ Birch Farm 79.16 141 P P 23 50 02.5 -0.4
BFZ IAmb IAmb 23 50 12.1
comp=Z,122nm,0.9s
BFZ Birch Farm 79.16 141 P P 23 50 04.9 +2.0
BFZ Birch Farm 79.16 141 P P 23 50 02.8 -0.1
P32M Atlin 79.25 30 P P 23 50 03.9 +0.6
P32M IAMs_20 IAMs_20 00 24 08.6
comp=Z,4µm,22.0s
P32M Atlin 79.25 30 P P 23 50 04.9 +1.6
baz=293,SNR=14
P32M S S **00 00 03.9 +1.1**
baz=293
KSV Kosov 79.29 318 P P 23 50 02.8 -0.9
CTYL Yalikoy Yolu 79.30 310 P P 23 50 03.0 -0.8
comp=Z,2µmcomp=Z,181nm,1.0s
CTYL Yalikoy Yolu 79.30 310 ⇑P P 23 50 03.5 -0.3
CICN Ciocanesti 79.33 313 ⇑P P 23 50 04.2 +0.3
COVR Voineasa-Covas 79.35 315 ⇑P P 23 50 04.1 -0.1
ISR Istrita 79.36 314 P P 23 50 03.3 -0.9
comp=Z,2µmcomp=Z,132nm,1.1s
ISR Istrita 79.36 314 ⇓P P 23 50 04.8 +0.6
R32K Eaglecrest 79.37 32 P P 23 50 04.6 +0.7
R32K IAMs_20 IAMs_20 00 30 16.8
comp=Z,3µm,19.0s
R32K Eaglecrest 79.37 32 P P 23 50 05.9 +2.0
baz=292,SNR=9.9
R32K S S **00 00 06.3 +2.3**
baz=292
LEHL Lehliu 79.38 314 ⇑P P 23 50 04.8 +0.6
PRD Provadia 79.39 312 *i* **P P 23 50 03.6 -0.7**
TURR Turia 79.41 315 ⇓P P 23 50 04.9 +0.5
SIT Sitka 79.42 33 P P 23 50 04.7 +0.6
SIT IAmb IAmb 23 50 23.8
comp=Z,93nm,1.0s
SIT Sitka 79.42 33 P P 23 50 06.4 +2.2
SIT Sitka 79.42 33 P P 23 50 05.1 +0.9
baz=292
SIT S S **00 00 06.3 +1.8**
baz=292
BURAR Bucovina Array 79.42 317 P P 23 50 03.5 -1.1
BURAR Bucovina Array 79.42 317 ⇑P P 23 50 04.5 -0.1
BUR08 Bucovina Ar. S 79.42 317 P P 23 50 03.7 -0.9
BUR08 IAmb IAmb 23 50 08.0
comp=Z,132nm,1.4s
P33M Teslin, Yukon 79.43 29 P P 23 50 04.7 +0.4
P33M IAMs_20 IAMs_20 00 26 53.1
comp=Z,3µm,19.0s
P33M Teslin, Yukon 79.43 29 P P 23 50 05.4 +1.1
baz=293,SNR=30
P33M S S **00 00 05.8 +1.1**
baz=293
NEHR Nehoiu 79.43 315 ⇑P P 23 50 05.0 +0.5
JIS Juneau Island 79.43 32 P P 23 50 06.5 +2.3
OZUR 79.55 315 ⇑P P 23 50 05.7 +0.5
ELL Elmali 79.56 305 P P 23 50 04.2 -1.3
ELL IAMs_20 IAMs_20 00 30 47.7
comp=Z,4µm,20.0s
BOSR Bodos 79.64 315 ⇑P P 23 50 06.3 +0.6
MLR Muntele Rosu 79.64 315 P P 23 50 04.8 -1.0
MLR IAmb IAmb 23 50 09.3
comp=Z,110nm,1.1s
MLR Muntele Rosu 79.64 315 LR LR 00 28 54.1
comp=Z,5µm,20.6s,baz=58,slow=38
MLR Muntele Rosu 79.64 315 P P 23 50 04.6 -1.2
comp=Z,1µmcomp=Z,106nm,1.0s
MLR Muntele Rosu 79.64 315 ⇑P P 23 50 06.1 +0.3
S32K Killisnoo 79.64 32 P P 23 50 05.6 +0.3
S32K Killisnoo 79.64 32 P P 23 50 06.3 +0.9
baz=292
SULR 79.69 314 ⇑P P 23 50 06.2 +0.3
NSS Namsos 79.73 336 *eP* **P 23 50 05.2 -0.5**
NSS IVMs_BB IVMs_BB 00 29 03.4
comp=Z,8µm,14.7s
BAND Balkesir-Ban 79.78 309 ⇑P P 23 50 06.6 0.0
PHSR Pinarhisar 79.79 311 ⇑P P 23 50 06.6 0.0
DOPR Dopca 79.85 315 ⇑P P 23 50 07.2 +0.3
DAG Danmarks Havn 79.87 351 *i* **P P 23 50 04.9 -1.4**
DAG IAmb IAmb 23 50 14.9
comp=Z,128nm,1.4s
RAZG Razgrad 79.88 313 ⇑P P 23 50 07.3 +0.2
LOZB Loznitsa 79.89 312 ⇑P P 23 50 07.2 +0.1
AKAS Kas 79.95 305 P P 23 50 05.7 -2.1
AKAS IAmb IAmb 23 50 10.4
comp=Z,143nm,1.0s
RAKU Rahkiv 79.95 318 P P 23 50 06.6 -0.7
SGRR Singureni 80.03 313 ⇓P P 23 50 08.6 +0.8
MANT Manisa 80.04 307 P P 23 50 07.5 -0.7
MANT IAmb IAmb 23 50 15.6
comp=Z,198nm,1.3s
SHIU Shidnytsya 80.05 319 P P 23 50 07.4 -0.4
TAVA DENIZLI_Tavas 80.09 306 ⇑P P 23 50 07.8 -0.6
ARCR ARCALIA 80.15 317 ⇑P P 23 50 09.1 +0.7
Q32M Nakina River 80.18 30 P P 23 50 09.6 +1.0
Q32M IAmb IAmb 23 50 36.1
comp=Z,117nm,1.4s
Q32M IAMs_20 IAMs_20 00 25 53.2
comp=Z,3µm,21.0s
Q32M Nakina River 80.18 30 P P 23 50 09.5 +1.0
baz=294,SNR=7.9
Q32M S S **00 00 14.6 +1.6**
baz=294
MEZ Mezhgor'ye 80.20 318 P P 23 50 08.4 -0.2
JMB Yambol 80.22 312 *i* **P P 23 50 08.7 -0.1**
TGMR Targu Mures 80.23 316 ⇑P P 23 50 09.7 +0.9
VOIR 80.25 315 P P 23 50 08.6 -0.5
comp=Z,631nmcomp=Z,34nm,1.1s
VOIR 80.25 315 ⇑P P 23 50 08.5 -0.5
KWP Kalwaria Pacla 80.31 319 *eP* **P 23 50 08.8 -0.4**
KWP *eL* L 00 31 15.8
comp=Z,7µm,20.8s
KWP Kalwaria Pacla 80.31 319 P P 23 50 08.8 -0.4
comp=Z,3µmcomp=Z,230nm,1.5s
R9F13 Warsaw-Wawer 80.31 322 *eP* P 23 50 04.3 -4.8
SZH Strazhitsa 80.35 315 *i* **P P 23 50 08.9 -0.6**
BMR Baia Mare 80.50 317 ⇑P P 23 50 10.7 +0.4
ELND Elena 80.53 312 ⇓P P 23 50 10.4 -0.1
ARR Arges 80.55 315 ⇑P P 23 50 10.8 +0.2
KORU Korolevo 80.56 318 P P 23 50 10.2 -0.3
BRIU Brid 80.57 318 P P 23 50 10.2 -0.4
COPA Copaceanca 80.58 314 ⇑P P 23 50 10.4 -0.3
HUMR Humele 80.60 314 ⇑P P 23 50 10.4 -0.5
R33M Jennings River 80.61 30 P P 23 50 12.0 +1.2
R33M IAmb IAmb 23 50 22.7
comp=Z,127nm,1.6s
R33M IAMs_20 IAMs_20 00 24 15.5
comp=Z,3µm,22.0s
R33M Jennings River 80.61 30 P P 23 50 12.1 +1.3
baz=295,SNR=14
R33M S S **00 00 19.4 +2.0**
baz=295
BEL Belsk 80.66 322 *eP* **P 23 50 10.4 -0.5**
BEL *eL* L 00 30 52.9
comp=Z,10µm,19.0s
TNR Turnu Rosu 80.69 315 ⇑P P 23 50 12.1 +0.7
T33K Petersburg 80.72 33 P P 23 50 12.2 +1.0
baz=294
MUKU Mukachevo 80.73 318 P P 23 50 11.1 -0.4
CJR Cluj-Napoca 80.77 316 ⇑P P 23 50 12.5 +0.7
CBBR Cluj-Babes-Bol 80.78 316 ⇑P P 23 50 12.4 +0.7
FURI Furi 80.78 276 P P 23 50 14.0 +1.2
FURI Furi 80.78 276 IAMs_20 IAMs_20 00 30 37.3
comp=Z,3µm,19.0s
KOLS Kolonicke sedl 80.82 319 *eP* **P 23 50 11.5 -0.5**
KOLS *ePP* **PP 23 53 14.3 -1.6**
BERU Beregovo 80.84 318 P P 23 50 11.7 -0.3
TGTN Hyland Airport 80.89 27 P P 23 50 13.0 +0.8
baz=297,SNR=12
TGTN S S **00 00 20.5 +0.5**
baz=297
HOLU Holmets 80.90 318 P P 23 50 12.0 -0.3
U33K Whale Pass 80.91 33 P P 23 50 13.1 +0.8
U33K Whale Pass 80.91 33 P P 23 50 14.2 +2.0
baz=294
U33K S S **00 00 22.7 +2.5**
baz=294
UZHM Uzhgorod 80.92 319 P P 23 50 12.1 -0.3
HFS Hagfors 80.96 331 P P 23 50 11.4 -1.1
comp=Z,8.3nm,0.4s,baz=117,slow=5.2,SNR=77
HFS S S **00 00 21.9 +1.2**
comp=Z,4.7nm,1.0s,baz=81,slow=8.9,SNR=6.1
HFS PKKPbc **PKKPbc 00 08 48.4 -2.9**
comp=Z,0.9nm,0.7s,baz=150,slow=6.1,SNR=3.5
HFS LR LR 00 29 34.3
comp=Z,26µm,18.4s,baz=64,slow=38
comp=Z,8.3nm,0.4s
DIM Dimitrovgrad 81.03 311 *i* **P P 23 50 13.7 +0.5**
MESR Meseseni 81.03 317 ⇑P P 23 50 13.7 +0.6
CAVK Edirne/Enez-Ca 81.07 310 ⇑P P 23 50 13.2 -0.2
ALN Alexandroupoli 81.08 310 P P 23 50 12.6 -0.9
ALN IAMs_20 IAMs_20 00 30 02.7
comp=Z,4µm,20.0s
MARR Marisel-Cluj 81.09 316 ⇓P P 23 50 13.6 0.0
ARG Arkhangelos 81.09 305 P P 23 50 12.5 -1.1
ARG IAmb IAmb 23 50 22.3
comp=Z,229nm,1.1s
LOT Lotru 81.10 315 ⇑P P 23 50 13.7 0.0
S34M Telegraph Cree 81.16 31 P P 23 50 15.2 +1.7
S34M IAMs_20 IAMs_20 00 31 22.2
comp=Z,4µm,18.0s
S34M Telegraph Cree 81.16 31 P P 23 50 15.4 +1.8
baz=295,SNR=15
S34M S S **00 00 24.0 +1.2**
baz=295
CRAG Craig 81.17 34 P P 23 50 14.3 +0.7
CRAG IAmb IAmb 23 50 33.7
comp=Z,102nm,1.4s
CRAG Craig 81.17 34 P P 23 50 15.6 +2.0
CRAG Craig 81.17 34 P P 23 50 15.4 +1.8
baz=294
CRAG S S **00 00 23.6 +0.7**
baz=294
VLAD Vladila 81.17 314 ⇑P P 23 50 14.0 +0.1
WRAK Wrangell Islan 81.18 33 P P 23 50 14.2 +0.5
WRAK Wrangell Islan 81.18 33 P P 23 50 15.3 +1.7
baz=294
WRAK S S **00 00 23.9 +0.8**
baz=294
PLVB Pleven 81.24 313 ⇑P P 23 50 14.4 +0.1
EZN Ezine 81.24 309 P P 23 50 13.9 -0.4
comp=Z,1µmcomp=Z,166nm,1.2s
EZN Ezine 81.24 309 ⇑P P 23 50 14.1 -0.2
STHS Stebnicka Huta 81.28 320 *eP* **P 23 50 13.6 -0.8**
WTLY Watson Lake, Y 81.29 29 P P 23 50 15.2 +0.9
WTLY IAMs_20 IAMs_20 00 32 06.3
comp=Z,4µm,18.0s
WTLY Watson Lake, Y 81.29 29 P P 23 50 15.6 +1.3
baz=297,SNR=9.8
WTLY S S **00 00 24.4 +0.2**
baz=297
DRGR 81.31 317 ⇑P P 23 50 14.8 +0.1
BDRM Kayabasi 81.33 306 ⇓P P 23 50 14.9 -0.1
KDZ Kurdzhali 81.34 311 *i* **P P 23 50 13.8 -1.1**
RDO Rodhopi 81.36 311 P P 23 50 14.0 -1.0
RDO IAmb IAmb 23 50 22.3
comp=Z,165nm,1.4s
RDO IAMs_20 IAMs_20 00 30 05.0
comp=Z,4µm,20.0s
NC405 NORSAR Array S 81.39 333 P P 23 50 13.3 -1.5
NC405 IAmb IAmb 23 50 24.9
comp=Z,70nm,0.8s
DLBC Dease Lake 81.47 30 P P 23 50 16.5 +1.2
comp=Z,1.2nm,1.0s,baz=274,slow=6.4,SNR=14
DLBC Dease Lake 81.47 30 P P 23 50 16.1 +0.8
baz=296,SNR=17
DLBC S S **00 00 28.1 +1.9**
baz=296
NC303 NORSAR Array S 81.49 333 P P 23 50 13.8 -1.4
DEV Deva 81.51 316 ⇑P P 23 50 13.3 +0.6
BLEU Blekinge 81.59 327 *i* **P P 23 50 14.7 -1.2**
NB201 NORSAR Array S 81.60 333 P P 23 50 14.3 -1.6
NB2 NORSAR Subarra 81.64 333 P P 23 50 14.3 -1.8
comp=Z,84nm,1.4s,baz=62,slow=4.6
NB2 NORSAR Subarra 81.64 333 P P 23 50 14.3 -1.8
baz=62,slow=4.6
NOA NORSAR Array B 81.64 333 P P 23 50 14.3 -1.8
comp=Z,8.9nm,0.8s,baz=63,slow=4.9,SNR=32
NOA PKKPbc **PKKPbc 00 08 46.1 -3.7**
comp=Z,0.9nm,0.8s,baz=247,slow=2.3,SNR=4.5
NOA LR LR 00 32 04.6
comp=Z,8µm,19.9s,baz=75,slow=40
comp=Z,8.9nm,0.8s
NC602 NORSAR Array S 81.64 332 P P 23 50 14.4 -1.7
NC602 NORSAR Array S 81.64 332 *eP* **P 23 50 16.2 +0.2**
NC602 *e* 00 00 23.9
NC602 IVMs_BB IVMs_BB 00 30 00.0
comp=Z,19µm,14.8s
NC204 NORSAR Array S 81.72 333 P P 23 50 14.9 -1.6
RZN Rozhen 81.74 311 *i* **P P 23 50 16.9 -0.3**
SRE Strehaia 81.75 315 ⇑P P 23 50 17.1 +0.2
GZR Gura Zlata 81.77 315 ⇑P P 23 50 17.2 0.0
BORR Bors 81.79 317 ⇑P P 23 50 17.5 +0.3
NBO00 NORSAR Array S 81.83 333 P P 23 50 16.1 -1.0
OJC Ojcow 81.84 321 *eP* **P 23 50 17.0 -0.3**
OJC *eL* L 00 27 17.5
comp=Z,7µm,21.8s
OJC Ojcow 81.84 321 P P 23 50 16.5 -0.8
OJC Ojcow 81.84 321 P P 23 50 16.9 -0.4
comp=Z,1µmcomp=Z,174nm,0.7s
NIE Niedzica 81.85 320 *eP* **P 23 50 17.8 +0.3**
NIE *eL* L 00 32 51.7
comp=Z,5µm,19.5s
NIE Niedzica 81.85 320 P P 23 50 16.9 -0.5
comp=Z,550nmcomp=Z,47nm,0.9s
PGB Panagyurishte 81.85 312 *i* **P P 23 50 17.3 -0.3**
MPEP Malo Peshtene 81.85 313 *i* **P P 23 50 17.0 -0.5**
NAO01 NORSAR Array S 81.88 333 P P 23 50 15.4 -1.9
RES Resolute Bay 81.90 9 P P 23 50 16.7 -0.5
RES IAmb IAmb 23 50 24.8
comp=Z,268nm,2.0s
RES IAMs_20 IAMs_20 00 29 39.6
comp=Z,5µm,20.0s
RES Resolute Bay 81.90 9 P P 23 50 16.7 -0.5
comp=Z,33nm,1.0s,baz=327,slow=6.4,SNR=14
comp=Z,33nm,1.0s
NEEM North Greenlan 81.93 358 *i* **P P 23 50 18.0 +0.3**
NEEM IAmb IAmb 23 50 21.7
comp=Z,125nm,1.0s
VALD Valchedram 81.94 314 *i* **P P 23 50 17.9 0.0**
T35M Bob Quinn 81.99 32 P P 23 50 19.4 +1.3
T35M Bob Quinn 81.99 32 P P 23 50 19.5 +1.4
baz=296
T35M S S **00 00 31.5 0.0**
baz=296
V35K Ketchikan 82.01 34 P P 23 50 17.9 -0.2
V35K Ketchikan 82.01 34 P P 23 50 18.9 +0.8
baz=295
V35K S S **00 00 33.0 +1.3**
baz=295
WRGLY Wrigley 82.03 25 P P 23 50 18.7 +0.7
WRGLY IAMs_20 IAMs_20 00 29 18.5
comp=Z,4µm,20.0s
WRGLY Wrigley 82.03 25 P P 23 50 18.9 +0.8
baz=301,SNR=11
WRGLY S S **00 00 30.7 -0.9**
baz=301
WRGLY S **SKSac 00 00 32.9 -4.8**
baz=301
KARP Karpathos 82.05 305 P P 23 50 17.6 -1.2
KARP Karpathos 82.05 305 P P 23 50 18.3 -0.5
comp=Z,3µmcomp=Z,251nm,1.2s
DOMB Dombas 82.06 334 *eP* **P 23 50 17.2 -1.1**
DOMB *e* 00 00 25.4
DOMB IVMs_BB IVMs_BB 00 30 18.0
comp=Z,11µm,14.6s
SURR Surduc 82.06 316 ⇑P P 23 50 18.6 0.0
PUNG Punghina 82.07 314 ⇑P P 23 50 19.1 +0.5
KECS Kecovo 82.09 319 *eP* **P 23 50 18.8 +0.1**
GKP Gorka Klasztor 82.10 324 *eP* **P 23 50 17.8 -0.7**
DBG Daneborg 82.11 350 *i* **P P 23 50 17.6 -0.7**
DBG IAmb IAmb 23 50 25.4
comp=Z,63nm,1.2s
SIRR Siria 82.18 316 ⇑P P 23 50 19.4 +0.1
HERR Herculane 82.19 315 ⇓P P 23 50 19.0 -0.3
DJES Djerdap 82.20 315 ⇑P P 23 50 19.4 +0.1
JNE Jan Mayen East 82.30 345 *eP* **P 23 50 15.8 -3.5**
JNE *e*SKSac **SKSac 00 00 43.5 +4.2**
JNE IVMs_BB IVMs_BB 00 30 32.0
comp=Z,4µm,15.8s
OSL Oslo 82.38 332 *eP* **P 23 50 19.2 -0.7**
MOL Molde 82.41 335 *eP* **P 23 50 19.9 -0.1**
BZS Bazas 82.45 316 ⇑P P 23 50 20.1 -0.5
LANS Liptovska Anna 82.45 320 *eP* **P 23 50 21.2 +0.6**
LANS *ePP* **PP 23 53 29.6 +0.3**
VTS Vitosha 82.46 313 *i* **P P 23 50 20.9 0.0**
MMB Musomishta 82.48 311 *i* **P P 23 50 20.1 -0.9**
DEL Delary 82.50 328 *i* **P P 23 50 19.1 -1.5**
BORU Boraas 82.51 329 *i* **P P 23 50 19.2 -1.4**
U35K Hyder 82.57 33 IAMs_20 IAMs_20 00 32 12.6
comp=Z,3µm,19.0s
U35K Hyder 82.57 33 P P 23 50 22.2 +1.2
baz=296
U35K S S **00 00 38.4 +1.0**
baz=296
PSZ Piszkesteto 82.67 318 P P 23 50 21.1 -0.7
PSZ IAmb IAmb 23 50 29.9
comp=Z,108nm,1.3s
PSZ Piszkesteto 82.67 318 ⇑P P 23 50 21.8 -0.1
BSZH Besenyszg 82.67 318 ⇑P P 23 50 22.2 +0.5
MDVR Moldovita 82.69 315 ⇑P P 23 50 22.0 0.0
TULEG Thule 82.70 3 P P 23 50 20.8 -0.5
TULEG IAmb IAmb 23 50 30.1
comp=Z,250nm,1.8s
TULEG IAMs_20 IAMs_20 00 29 23.3
comp=Z,5µm,19.0s
TULEG Thule 82.70 3 *i* **P P 23 50 20.8 -0.5**
TULEG IAmb IAmb 23 50 24.7
comp=Z,32nm,0.7s
MOBC Moresby Island 82.74 36 P P 23 50 22.2 +0.1
MOBC IAmb IAmb 23 50 46.9
comp=Z,83nm,1.5s
KKB Krupnik 82.81 312 *i* **P P 23 50 21.9 -0.7**
LIRD Liard River Hi 82.83 29 P P 23 50 24.0 +1.6
baz=299,SNR=7.3
LIRD S S **00 00 40.2 +0.2**
baz=299
AKN Aaknes 82.83 335 *eP* **P 23 50 22.1 -0.2**
BANR Banloc 82.85 316 ⇓P P 23 50 22.8 +0.1
OKC Ostrava-Krasne 82.97 321 *eP* **P 23 50 23.4 +0.2**
OKC *e*SKS **S 00 00 39.9 -1.8**
OKC AMS AMS 00 32 50.0
comp=Z,6µm,13.4s
KONO Kongsberg 83.02 332 P P 23 50 22.1 -1.1
KONO Kongsberg 83.02 332 *eP* **P 23 50 23.7 +0.5**
ONAU Onsala 83.03 329 *i* **P P 23 50 21.8 -1.5**
SKAR Skarslia 83.06 333 *eP* **P 23 50 23.2 -0.4**
LUNU Lund 83.08 327 *i* **P P 23 50 23.0 -0.7**
BOVS Bovan 83.13 314 ⇑P P 23 50 24.0 -0.1
STEB Steborice 83.15 321 *eP* **P 23 50 24.0 -0.2**
RUBB Prince Rupert 83.15 34 P P 23 50 24.9 +0.8
ABPO Ambohimpanom 83.28 247 P P 23 50 24.9 -0.6
ABPO IAmb IAmb 23 50 32.6
comp=Z,79nm,0.8s
MAUC Maruska 83.35 320 *eP* **P 23 50 25.5 +0.2**
MAUC *e*SKS **SKSac 00 00 51.5 +4.3**
MORC Moravsky Berou 83.35 321 P P 23 50 24.7 -0.5
MORC IAmb IAmb 23 50 33.5
comp=Z,174nm,1.7s
MORC Moravsky Berou 83.35 321 *eP* **P 23 50 24.8 -0.5**
MORC Moravsky Berou 83.35 321 *eS* **S 00 00 45.7 -0.1**
MORC Moravsky Berou 83.35 321 ⇑P P 23 50 25.4 +0.1
KOTAN Kotaneelee Air 83.37 27 P P 23 50 27.2 +2.1
baz=301
KOTAN S S **00 00 45.3 -0.1**
baz=301
VAY Valandovo 83.39 312 *i* **P P 23 50 24.8 -0.8**
TOAD Toad River Com 83.49 29 P P 23 50 26.3 +0.5
baz=300,SNR=15
TOAD S S **00 00 45.6 -1.2**
baz=300
HG4B Hotspring 83.53 36 P P 23 50 26.8 +0.7
HG4B IAmb IAmb 23 50 51.8
comp=Z,128nm,1.5s
KSP Ksiaz 83.64 322 *eP* **P 23 50 26.3 -0.4**
KSP Ksiaz 83.64 322 P P 23 50 26.2 -0.4
comp=Z,2µmcomp=Z,116nm,1.1s
JAVC Velka Javorina 83.65 320 *eP* **P 23 50 27.6 +0.7**
JAVC Velka Javorina 83.65 320 *eS* **S 00 00 47.5 -1.4**
KRLC Kraliky 83.68 321 *eP* **P 23 50 26.7 -0.3**
KRLC AMS AMS 00 32 50.0
comp=Z,8µm,14.8s
SRO Srobarova 83.69 319 *eP* **P 23 50 27.5 +0.5**
HYA Hoyanger 83.69 334 *eP* **P 23 50 26.9 +0.2**
OSTC Ostas 83.80 322 *eP* **P 23 50 27.7 +0.1**
OSTC *e*SKS **S 00 00 47.5 -2.7**
OSTC AMS AMS 00 32 00.0
comp=Z,9µm,16.1s
OSTC *ex* x 00 50 31.7
DPC Dobruska-Polom 83.83 322 *eP* **P 23 50 27.8 +0.1**
DPC *ep*P **PcP 23 50 31.1 -0.7**
DPC *e*SKS **S 00 00 45.0 -5.5**
DPC AMS AMS 00 31 50.0
comp=Z,7µm,15.9s
DPC Dobruska-Polom 83.83 322 P P 23 50 27.2 -0.5
comp=Z,817nmcomp=Z,59nm,1.6s
CHVC Chvalec 83.88 322 *eP* **P 23 50 28.0 0.0**
CHVC AMS AMS 00 32 50.0
comp=Z,10µm,15.1s
IDI Anoyia 83.88 305 P P 23 50 27.1 -1.2
IDI IAmb IAmb 23 50 48.0
comp=Z,69nm,1.1s
IDI Anoyia 83.88 305 LR LR 00 34 11.0
comp=Z,939nm,19.2s,baz=82,slow=40
FOO Floro 83.92 335 *eP* **P 23 50 26.1 -1.7**
UPC Upice 83.94 322 *eP* **P 23 50 28.1 -0.1**
UPC AMS AMS 00 32 00.0
comp=Z,11µm,15.7s
VRAC Vranov 84.11 321 *eP* **P 23 50 29.0 -0.1**
VRAC Vranov 84.11 321 *eS* **SKSac 00 00 50.9 -1.2**
VRAC Vranov 84.11 321 LR LR 00 32 41.9
comp=Z,6µm,18.3s,baz=60,slow=39
VRAC Vranov 84.11 321 ⇑P P 23 50 29.7 +0.5
MORH Mrgy, Hungar 84.13 317 *eP* **P 23 50 28.3 -0.9**
MORH Mrgy, Hungar 84.13 317 P P 23 50 28.8 -0.4
comp=Z,1µmcomp=Z,88nm,1.5s
MORH Mrgy, Hungar 84.13 317 ⇑P P 23 50 29.3 0.0
ODD1 Odda 84.17 333 *eP* **P 23 50 28.8 -0.4**
HOMB HombORsund 84.20 331 *eP* **P 23 50 29.0 -0.3**
HOMB HombORsund 84.20 331 *i* **P P 23 50 28.6 -0.8**
RUE Ruedersdorf 84.33 324 *eP* **P 23 50 29.9 -0.2**
comp=Z,127nm,0.9s,baz=61,slow=4.9
KRUC Moravsky 84.33 320 *eP* **P 23 50 29.7 -0.6**
KRUC Moravsky 84.33 320 *eS* **SKSac 00 00 50.2 -3.3**
SUE Sulen 84.33 334 *eP* **P 23 50 29.5 -0.4**
MPLH Magyarpolny 84.43 318 P P 23 50 30.3 -0.5
comp=Z,5µmcomp=Z,531nm,1.4s
FNA Florina 84.43 311 P P 23 50 29.0 -2.0
FNA IAmb IAmb 23 50 30.5
comp=Z,70nm,0.9s
FNA IAMs_20 IAMs_20 00 32 49.0
comp=Z,5µm,20.0s
BER Bergen 84.47 334 *eP* **P 23 50 29.5 -1.1**
BLS5 Blasjo 84.51 332 *eP* **P 23 50 30.8 -0.2**
OHR Ohrid 84.71 312 *i* **P P 23 50 31.0 -1.4**
SNART Snartemo 84.75 331 *eP* **P 23 50 31.8 -0.3**
SNART Snartemo 84.75 331 *i* **P P 23 50 31.6 -0.5**
PVCC Panska Ves 84.76 322 *eP* **P 23 50 32.8 +0.4**
PVCC AMS AMS 00 33 00.0
comp=Z,10µm,18.4s
TREC Trest 84.77 321 *eP* **P 23 50 32.5 0.0**
TREC *e*SKS **SKSac 00 00 55.8 -0.5**
TREC AMS AMS 00 32 40.0
comp=Z,7µm,16.3s
MUD Monsted U'grnd 84.80 329 *i* **P P 23 50 31.6 -0.8**
MUD IAmb IAmb 23 50 39.8
comp=Z,312nm,1.8s
VOI Vohitsoka 84.84 244 P P 23 50 32.3 -1.0
KULLO Kullorsuaq 84.89 360 *i* **P P 23 50 32.4 -0.2**
KULLO IAmb IAmb 23 50 41.5
comp=Z,57nm,0.9s
GOPC GO Pecny, Ondr 84.91 322 *eP* **P 23 50 33.1 -0.1**
GOPC *e*SKS **SKSac 00 00 58.7 +1.5**
GOPC AMS AMS 00 32 40.0
comp=Z,9µm,18.2s
BRG Berggiesshubel 84.96 323 *eP* **P 23 50 32.6 -0.8**
comp=Z,72nm,1.1s,baz=61,slow=4.9
BRG Berggiesshubel 84.96 323 *eP* **P 23 50 33.0 -0.4**
BRG Amp 23 50 34.4
comp=Z,25nm,1.1s
BRG Berggiesshubel 84.96 323 P P 23 50 36.6 +3.2
BRG Amp 23 50 40.6
comp=Z,72nm,1.1s
BRG Berggiesshubel 84.96 323 SKS **S 00 00 56.0 -5.7**
BRG Berggiesshubel 84.96 323 SS SS 00 06 35.0 +1.2
RONA Rosalia, Austr 84.97 319 *i* **P P 23 50 33.3 -0.2**
comp=Z,60nm,1.2s,SNR=15
RONA *e*PP **PP 23 53 49.4 -0.5**
comp=Z,25nm,1.6s
PRU Pruhonice 85.02 322 *eP* **P 23 50 33.4 -0.3**
PRU *e*SKS **SKSac 00 00 51.5 -6.3**
PRU AMS AMS 00 32 50.0
comp=Z,9µm,16.5s
RICC Richard 85.03 322 *eP* **P 23 50 33.9 +0.2**
RICC AMS AMS 00 33 30.0

comp=Z,10µm,13.9s
PRA Prague 85.04 322 *e*P **P 23 50 34.3 +0.5**
PRA *e*SKS **SKSac 00 00 54.2 -3.7**
PRA AMS AMS 00 33 50.0
comp=Z,9µm,15.4s
CONA Conrad Observa 85.14 320 *e*P **P 23 50 34.4 -0.1**
comp=Z,80nm,1.1s,SNR=19
CONA *e*PP **PP 23 53 50.9 -0.5**
comp=Z,28nm,1.3s
BEHE Becsehely 85.20 318 P **P 23 50 33.5 -1.2**
BEHE IAmb IAmb 23 50 42.7
comp=Z,120nm,1.5s
BEHE IAMs_20 IAMs_20 00 33 23.0
comp=Z,2µm,18.0s
BEHE Becsehely 85.20 318 *e*P **P 23 50 34.5 -0.2**
PDG Podgorica 85.25 314 P **P 23 50 33.7 -1.2**
PDG IAmb IAmb 23 50 41.6
comp=Z,181nm,1.4s
PDG IAMs_20 IAMs_20 00 32 52.5
comp=Z,4µm,20.0s
PDG Podgorica 85.25 314 ⇑P **P 23 50 34.6 -0.4**
KIBK Kibwezi 85.26 266 P **P 23 50 33.5 -2.1**
KIBK IAmb IAmb 23 50 42.5
comp=Z,144nm,1.6s
KIBK Kibwezi 85.26 266 P **P 23 50 36.5 +0.9**
SNR=6.4
TIR Tirane 85.27 312 P **P 23 50 34.1 -1.0**
TIR Tirane 85.27 312 P **P 23 50 34.7 -0.4**
comp=Z,3µmcomp=Z,267nm,1.1s
TIR Tirane 85.27 312 ⇑P **P 23 50 34.9 -0.2**
BBB Bella Bella 85.27 36 P **P 23 50 35.0 +0.2**
comp=Z,15nm,0.9s,baz=207,slow=4.5,SNR=2.6
comp=Z,15nm,0.9s
CLL Collm 85.29 323 P **P 23 50 34.5 -0.5**
CLL Collm 85.29 323 P **P 23 50 33.9 -1.1**
comp=Z,926nmcomp=Z,68nm,0.9s
CLL Collm 85.29 323 *e*P **P 23 50 34.3 -0.8**
comp=Z,57nm,0.9s,baz=61,slow=4.9
ITM Ithomi 85.41 308 P **P 23 50 34.0 -2.0**
ITM IAMs_20 IAMs_20 00 33 29.4
comp=Z,3µm,20.0s
GORT1 Trebel 85.42 325 *e*P **P 23 50 35.8 +0.2**
comp=Z,324nm,1.4s,baz=61,slow=4.9
ZVC Zvikov 85.47 321 *e*P **P 23 50 35.8 -0.2**
ZVC *e*SKS **SKSac 00 00 55.9 -4.8**
ZVC AMS AMS 00 34 10.0
comp=Z,8µm,15.3s
BSEG Bad Segeberg 85.48 327 *e*P **P 23 50 35.6 -0.3**
comp=Z,220nm,1.6s,baz=61,slow=4.9
KOGS Kog 85.54 318 *e*P **P 23 50 35.6 -0.8**
SCO Scoresbysund 85.58 349 P **P 23 50 36.2 +0.1**
SCO IAmb IAmb 23 51 00.8
comp=Z,151nm,1.5s
SCO Scoresbysund 85.58 349 *i* P **P 23 50 35.4 -0.6**
SCO IAmb IAmb 23 50 39.3
comp=Z,72nm,1.3s
MOSL Moslavina 85.58 317 *e*P **P 23 50 36.0 -0.6**
ARSA Arzberg 85.64 319 P **P 23 50 36.1 -0.8**
ARSA IAmb IAmb 23 50 44.8
comp=Z,96nm,1.3s
ARSA Arzberg 85.64 319 *e*P **P 23 50 35.9 -1.0**
comp=Z,62nm,1.0s,SNR=8.0
ARSA *e*PP **PP 23 53 52.5 -2.8**
comp=Z,20nm,2.1s
ARSA *e*S **S 00 01 07.2 -1.5**
comp=Z,13nm,1.6s
BLY Banja Luka 85.67 316 *e*P **P 23 50 37.2 +0.2**
BLY Banja Luka 85.67 316 ⇑P **P 23 50 37.3 +0.2**
CKRC Cesky Krumlov 85.68 321 *e*P **P 23 50 37.2 +0.2**
CKRC *e*SKS **SKSac 00 00 58.8 -3.3**
CKRC AMS AMS 00 34 00.0
comp=Z,8µm,15.7s
A051A Mrakovica 85.73 317 *e*P **P 23 50 36.4 -1.1**
TREB Trebinje 85.75 314 *e*P **P 23 50 36.3 -1.2**
LODK Lodwar 85.75 272 P **P 23 50 36.6 -1.5**
LODK IAMs_20 IAMs_20 00 28 33.2
comp=Z,3µm,22.0s
LODK Lodwar 85.75 272 P **P 23 50 39.3 +1.2**
SNR=11
YKAW3 Yellowknife Wh 85.75 23 P **P 23 50 37.4 +0.4**
YKAW3 IAmb IAmb 23 50 44.2
comp=Z,59nm,0.8s
FLTG Flechtingen 85.78 325 *e*P **P 23 50 36.1 -1.3**
comp=Z,57nm,1.0s,baz=61,slow=4.9
YKA Yellowknife Ar 85.79 23 P **P 23 50 36.6 -0.7**
YKA Yellowknife Ar 85.79 23 P **P 23 50 37.5 +0.2**
comp=Z,22nm,0.9s,baz=317,slow=5.3,SNR=37
comp=Z,22nm,0.9s
POIN Pond Inlet 85.81 6 P **P 23 50 37.4 +0.2**
POIN IAmb IAmb 23 50 54.8
comp=Z,61nm,1.2s
POIN IAMs_20 IAMs_20 00 32 34.7
comp=Z,4µm,19.0s
YKAW1 Yellowknife Wh 85.84 23 P **P 23 50 37.9 +0.4**
YKAW1 IAmb IAmb 23 50 53.4
comp=Z,146nm,1.6s
KEK Kerkira 85.96 311 P **P 23 50 38.9 +0.3**
KEK IAMs_20 IAMs_20 00 32 48.7
comp=Z,4µm,21.0s
KHC Kasperske Hory 85.97 321 *e*P **P 23 50 38.5 0.0**
KHC *e*pP **PcP 23 50 42.1 +0.9**
KHC *e*SKS **SKSac 00 00 58.2 -5.7**
KHC AMS AMS 00 34 40.0
comp=Z,8µm,15.0s
KHC Kasperske Hory 85.97 321 P **P 23 50 37.9 -0.6**
comp=Z,653nmcomp=Z,43nm,1.6s
FOMA Nahampoana Res 85.97 242 P **P 23 50 38.0 -0.8**
FOMA IAmb IAmb 23 50 45.1
comp=Z,98nm,1.1s
SUMG Summit 85.99 354 P **P 23 50 37.7 -0.9**
SUMG IAmb IAmb 23 50 47.7
comp=Z,212nm,1.7s
SUMG IAMs_20 IAMs_20 00 29 38.9
comp=Z,6µm,22.0s
SUMG Summit 85.99 354 *i* P **P 23 50 38.0 -0.6**
SUMG IAmb IAmb 23 50 42.2
comp=Z,52nm,1.0s
HOLB Holberg 85.99 37 P **P 23 50 38.4 -0.2**
HOLB IAmb IAmb 23 51 07.5
comp=Z,83nm,1.2s
TANN Tannenbergstha 86.01 323 *e*P **P 23 50 37.7 -1.1**
comp=Z,105nm,1.7s,baz=61,slow=4.9
NEUB Neuenburg 86.02 324 *e*P **P 23 50 38.3 -0.3**
comp=Z,172nm,1.5s,baz=61,slow=4.9
GEC2 GERESS Array S 86.02 321 P **P 23 50 37.8 -1.1**
GEC2 GERESS Array S 86.02 321 *e*P **P 23 50 38.0 -0.9**
comp=Z,133nm,1.6s,baz=61,slow=4.9
GERES GERESS Array B 86.02 321 P **P 23 50 38.2 -0.6**
GERES GERESS Array B 86.02 321 P **P 23 50 39.2 +0.3**
comp=Z,19nm,1.0s,baz=72,slow=4.3,SNR=5.4
GERES PKKPbc **PKKPbc 00 08 39.6 +0.1**
comp=Z,0.6nm,0.7s,baz=236,slow=6.9,SNR=4.8
GERES LR LR 00 30 33.6
comp=Z,7µm,20.4s,baz=59,slow=37
comp=Z,19nm,1.0s
STON Ston 86.12 314 *e*P **P 23 50 38.1 -1.2**
MOA Molln 86.14 320 *e*P **P 23 50 39.2 -0.2**
comp=Z,115nm,1.3s,SNR=11
MOA *e*PP **PP 23 53 56.5 -2.9**
comp=Z,23nm,1.5s
MOA *e*S **S 00 01 10.4 -3.1**
comp=Z,14nm,1.3s
ASSE Asse, Remlinge 86.18 325 *e*P **P 23 50 38.9 -0.4**
comp=Z,156nm,1.7s,baz=61,slow=4.9
SOKA Soboth 86.19 319 *e*P **P 23 50 39.2 -0.5**
comp=Z,90nm,1.5s
SOKA *i* PP **PP 23 53 55.1 -4.8**
comp=Z,25nm,1.3s
A050A Klekovaca 86.20 316 *e*P **P 23 50 39.2 -0.6**
NRDL Niedersach Rie 86.30 325 *e*P **P 23 50 39.5 -0.4**
comp=Z,148nm,1.3s,baz=61,slow=4.9
WET Wettzell 86.37 322 *e*P **P 23 50 39.5 -1.0**
comp=Z,55nm,1.5s,baz=61,slow=4.9
MOX Moxa 86.38 323 *e*P **P 23 50 38.7 -1.7**
comp=Z,100nm,1.6s,baz=61,slow=4.9
MOX *e*L L 00 33 27.5
comp=Z,13µm,19.0s
OZLJ Ozalj 86.39 318 *e*P **P 23 50 40.2 -0.4**
MANZ Manzenberg 86.42 323 *e*P **P 23 50 40.2 -0.5**
comp=Z,16nm,1.4s,baz=61,slow=4.9
ROTZ Rotzenmuhle 86.46 322 *e*P **P 23 50 39.7 -1.2**
comp=Z,50nm,1.9s,baz=61,slow=4.9
CLZ Clausthal 86.48 325 *e*P **P 23 50 40.7 -0.2**
comp=Z,196nm,1.5s,baz=61,slow=4.9
KIJV Kijevo 86.49 316 *e*P **P 23 50 40.6 -0.5**
OBKA Obir 86.57 319 *e*P **P 23 50 40.7 -0.9**

comp=Z,36nm,1.0s
RETH Rethem/Aller, 86.58 326 *e*P **P 23 50 41.0 -0.3**
comp=Z,90nm,1.3s,baz=61,slow=4.9
BIOA Bad Ischl, Aus 86.59 320 PcP **P 23 50 41.7 +0.2**
comp=Z,66nm,1.4s
BIOA *e*PP **PP 23 53 57.3 -5.7**
comp=Z,18nm,1.3s
BIOA *e*S **S 00 01 15.5 -2.4**
comp=Z,12nm,1.3s
UPNV Upernavik 86.70 359 *i* P **P 23 50 41.5 0.0**
UPNV IAmb IAmb 23 50 47.6
comp=Z,21nm,0.7s
GTTG Gottingen 86.85 325 *e*P **P 23 50 42.3 -0.4**
comp=Z,180nm,1.7s,baz=61,slow=4.9
CRNS Crni Vrh 86.94 318 *e*P **P 23 50 43.2 -0.2**
RAR Rarotonga 86.97 114 LR LR 00 23 42.1
comp=Z,866nm,20.9s,baz=297,slow=32
KBA Koelnbreinsper 87.05 320 *i* SKS **SKSac 00 01 06.8 -4.2**
comp=Z,8.8nm,1.1s
KBA *e*S **SKKSac 00 01 20.7 +0.9**
comp=Z,9.8nm,1.1s
GRA1 Grafenberg Arr 87.06 323 P **P 23 50 42.7 -1.1**
GRA1 IAmb IAmb 23 50 50.9
comp=Z,208nm,2.0s
GRF Grafenberg Arr 87.06 323 *e*P **P 23 50 43.3 -0.5**
comp=Z,255nm,2.1s,baz=61,slow=4.9
GRF *e*L L 00 31 56.6
comp=Z,8µm,19.7s
GRFO Grafenberg 87.06 323 P **P 23 50 43.2 -0.6**
RJOB Jochberg 87.07 320 *e*P **P 23 50 43.2 -0.8**
comp=Z,22nm,1.0s,baz=61,slow=4.9
MYKA Terra Mystica 87.07 319 *i* P **P 23 50 43.8 -0.3**
comp=Z,9.1nm,0.8s
MYKA *i* S **S 00 01 22.0 -0.7**
comp=Z,14nm,1.5s
JAVS Javornik 87.15 318 *e*P **P 23 50 44.0 -0.4**
UBBA Unterbreizbach 87.19 324 *e*P **P 23 50 44.1 -0.2**
comp=Z,94nm,1.6s,baz=61,slow=4.9
CASY Casey 87.20 185 P **P 23 50 43.7 -0.1**
LESA Schwarzleotal 87.29 320 *e*P **P 23 50 44.6 -0.5**
comp=Z,18nm,0.7s
LESA *e*PP **PP 23 54 06.9 -1.8**
comp=Z,25nm,1.5s
LESA *e*SKS **SKSac 00 01 06.6 -5.7**
comp=Z,15nm,1.5s
LESA *e*S **S 00 01 23.1 -1.6**
comp=Z,27nm,1.2s
ABTA Abfaltersbach 87.71 320 *i* P **P 23 50 46.1 -1.0**
comp=Z,6.9nm,0.7s
ABTA *e*S **S 00 01 23.8 -5.0**
comp=Z,16nm,1.3s
MATE Matera 87.73 313 ⇓P **P 23 50 47.0 -0.2**
FUR Furstenfeldbru 87.77 321 *e*P **P 23 50 47.0 -0.2**
comp=Z,78nm,1.2s,baz=61,slow=4.9
CBB Campbell River 87.83 37 P **P 23 50 48.2 +0.7**
KASTN Kahler Asten 87.86 325 *e*P **P 23 50 47.3 -0.4**
comp=Z,83nm,1.7s,baz=61,slow=4.9
SGRT San Giovanni R 87.91 314 P **P 23 50 46.6 -1.5**
SGRT IAmb IAmb 23 50 56.4
comp=Z,82nm,1.2s
SGRT IAMs_20 IAMs_20 00 36 35.6
comp=Z,4µm,19.0s
WTTA Wattenberg 87.99 320 *e*P **P 23 50 47.6 -0.9**
comp=Z,13nm,0.6s
WTTA *e*PP **PP 23 54 12.1 -2.4**
comp=Z,37nm,1.4s
WTTA *e*SKS **SKSac 00 01 11.4 -5.4**
comp=Z,16nm,1.1s
WTTA *i* S **SKKSac 00 01 28.3 +1.5**
comp=Z,26nm,1.2s
WATA Walderalm 87.99 320 *i* P **P 23 50 47.4 -1.1**
comp=Z,32nm,1.1s
WATA *e*SKS **SKSac 00 01 11.4 -5.3**
comp=Z,7.0nm,1.0s
ACER Acerenza 88.19 313 P **P 23 50 48.6 -0.9**
ACER IAMs_20 IAMs_20 00 35 13.3
comp=Z,3µm,18.0s
SQTA Sankt Quirin 88.26 320 *i* P **P 23 50 49.1 -0.7**
comp=Z,22nm,0.8s
SQTA *e*PP **PP 23 54 13.9 -2.7**
comp=Z,18nm,1.4s
SQTA *e*S **S 00 01 30.7 -3.5**
comp=Z,16nm,1.2s
MOTA Moosalm 88.27 321 *e*P **P 23 50 48.8 -1.0**
comp=Z,18nm,0.9s
MOTA *e*PP **PP 23 54 13.4 -3.3**
comp=Z,19nm,1.4s
MOTA *e*S **S 00 01 31.1 -3.2**
comp=Z,12nm,1.4s
OZB Mount Ozzard 88.30 38 P **P 23 50 50.1 +0.3**
OZB IAmb IAmb 23 51 03.8
comp=Z,66nm,1.1s
TIP Timpagrande 88.33 311 P **P 23 50 49.1 -1.1**
TIP IAmb IAmb 23 50 57.2
comp=Z,137nm,1.4s
TIP Timpagrande 88.33 311 P **P 23 50 49.5 -0.7**
comp=Z,818nmcomp=Z,58nm,1.3s
TIP Timpagrande 88.33 311 ⇓P **P 23 50 49.8 -0.4**
RETA Reutte 88.40 321 *i* P **P 23 50 49.5 -0.9**
comp=Z,11nm,1.1s
RETA *e*PP **PP 23 54 16.2 -1.5**
comp=Z,19nm,1.7s
ILON Igloolik, Nuna 88.50 8 P **P 23 50 49.3 -1.0**
ILON IAmb IAmb 23 50 55.4
comp=Z,50nm,0.9s
CUC Castrocucco 88.63 312 P **P 23 50 49.5 -2.1**
CUC IAmb IAmb 23 50 59.1
comp=Z,83nm,1.5s
CUC IAMs_20 IAMs_20 00 36 02.9
comp=Z,4µm,18.0s
FETA Feichten 88.65 320 *e*P **P 23 50 50.5 -1.2**
comp=Z,22nm,1.1s,SNR=8.9
FETA *i* PP **PP 23 54 20.4 +0.7**
comp=Z,23nm,1.2s
FETA *e*SKS **SKSac 00 01 16.9 -3.7**
comp=Z,15nm,1.4s
FETA *e*S **S 00 01 36.4 -1.6**
comp=Z,13nm,1.5s
STU Stuttgart 88.67 322 P **P 23 50 50.4 -1.1**
STU Stuttgart 88.67 322 *e*P **P 23 50 50.8 -0.7**
comp=Z,32nm,0.7s,baz=61,slow=4.9
TEOL Teolo 88.88 319 P **P 23 50 52.1 -0.4**
INTR Introdacqua 89.02 315 P **P 23 50 52.4 -1.0**
INTR IAMs_20 IAMs_20 00 33 32.0
comp=Z,4µm,20.0s
PAOL Paolisi 89.02 314 P **P 23 50 51.6 -1.8**
FDMO Fiordimonte 89.08 316 P **P 23 50 53.0 -0.7**
CAMP Campotosto 89.10 316 P **P 23 50 52.9 -0.9**
CAMP IAmb IAmb 23 51 01.5
comp=Z,126nm,1.4s
FUORN Ofenpass-Fuorn 89.12 320 P **P 23 50 53.3 -0.7**
FUORN IAmb IAmb 23 51 01.0
comp=Z,153nm,1.7s
CLRS Cowichan Lake 89.14 37 P **P 23 50 54.0 +0.3**
CLRS IAmb IAmb 23 51 08.0
comp=Z,64nm,1.3s
NRCA Norcia 89.16 316 P **P 23 50 53.6 -0.4**
NRCA IAmb IAmb 23 51 02.5
comp=Z,161nm,1.4s
AQU L'Aquila 89.19 315 P **P 23 50 53.5 -0.7**
comp=Z,873nmcomp=Z,80nm,1.1s
SOEG Soedalen 89.20 350 *i* P **P 23 50 53.0 -0.5**
SOEG IAmb IAmb 23 50 56.9
comp=Z,58nm,1.2s
DAVOX Davos/Dischmat 89.27 320 LR LR 00 33 16.8
comp=Z,5µm,18.1s,baz=52,slow=37
CEL Celeste 89.33 311 P **P 23 50 54.0 -0.9**
CEL IAMs_20 IAMs_20 00 36 31.6
comp=Z,5µm,21.0s
CEL Celeste 89.33 311 P **P 23 50 54.3 -0.6**
comp=Z,2µmcomp=Z,240nm,1.5s
BFO Black Forest 89.39 322 P **P 23 50 53.7 -1.2**
BFO Black Forest 89.39 322 *e*P **P 23 50 54.3 -0.6**
comp=Z,53nm,1.6s,baz=61,slow=4.9
BTNL Ternell 89.42 325 *d*P **P 23 50 53.9 -1.1**
comp=Z,14nm,1.5s
LLLB Lillooet 89.44 35 P **P 23 50 56.2 +1.1**
LLLB IAmb IAmb 23 51 14.6
comp=Z,50nm,0.9s
MEM Membach 89.47 325 *d*P **P 23 50 54.4 -0.8**
comp=Z,18nm,1.4s
BHOU Houvegnez 89.61 325 *d*P **P 23 50 54.7 -1.2**
comp=Z,16nm,1.3s
CESX Cesi 89.61 316 P **P 23 50 54.8 -1.2**
PGC Sidney 89.62 37 P **P 23 50 56.8 +0.9**
BSTI Sart Tilman 89.72 325 *d*P **P 23 50 55.9 -0.4**
TUE Stuetta 89.75 320 P **P 23 50 55.9 -0.9**

TUE IAmb IAmb 23 51 05.0
comp=Z,58nm,1.1s
TUE Stuetta 89.75 320 P **P 23 50 56.0 -0.9**
comp=Z,2µmcomp=Z,169nm,0.9s
ZCCA Zocca 89.80 318 P **P 23 50 57.2 +0.2**
WLF Walferdange 89.90 324 P **P 23 50 56.2 -1.0**
WLF IAmb IAmb 23 51 05.2
comp=Z,138nm,1.3s
WLF Walferdange 89.90 324 *d*P **P 23 50 56.3 -1.0**
comp=Z,44nm,1.3s
WLF Walferdange 89.90 324 *e*P **P 23 50 56.3 -1.0**
comp=Z,135nm,1.3s,baz=61,slow=4.9
PRMA PARMA 90.01 319 P **P 23 50 58.0 +0.2**
OSSC Osservatorio P 90.03 317 P **P 23 50 56.5 -1.5**
OSSC IAmb IAmb 23 51 05.0
comp=Z,160nm,1.4s
NLWA Neilton Lookou 90.03 38 P **P 23 50 59.5 +1.5**
NLWA IAmb IAmb 23 51 08.6
comp=Z,119nm,1.9s
BGES Gesves 90.08 325 *d*P **P 23 50 57.8 -0.3**
comp=Z,10nm,1.5s
ECH Echery 90.12 323 P **P 23 50 57.1 -1.2**
RCHB Rochefort 90.14 325 *d*P **P 23 50 57.0 -1.3**
ILULI Ilulissat 90.16 358 P **P 23 50 57.4 -0.6**
ILULI IAmb IAmb 23 54 12.6
comp=Z,50nm,0.6s
ILULI IAMs_20 IAMs_20 00 39 05.1
comp=Z,4µm,18.0s
BLKN Baker Lake 90.22 16 P **P 23 50 57.9 -0.5**
BLKN IAMs_20 IAMs_20 00 37 39.1
comp=Z,3µm,20.0s
WISH Wishkah 90.23 39 P **P 23 50 59.7 +0.9**
WISH IAmb IAmb 23 51 13.8
comp=Z,123nm,1.5s
UCC Uccle 90.24 326 P **P 23 50 57.5 -1.2**
UCC Uccle 90.24 326 *d*P **P 23 50 57.8 -1.0**
comp=Z,14nm,1.2s
BMRD Maredsous 90.30 325 *d*P **P 23 50 58.4 -0.7**
DOU Dourbes 90.51 325 *d*P **P 23 50 59.0 -1.1**
comp=Z,14nm,0.8s
GNW Green Mountain 90.55 38 P **P 23 51 01.6 +1.3**
GNW IAmb IAmb 23 51 09.8
comp=Z,112nm,1.9s
RADR Rader Ridge 90.58 39 P **P 23 51 00.8 +0.3**
RADR IAmb IAmb 23 51 11.7
comp=Z,73nm,1.2s
CASP Castiglione de 90.63 317 P **P 23 50 59.8 -1.1**
CASP IAmb IAmb 23 51 07.5
comp=Z,61nm,1.2s
CASP IAMs_20 IAMs_20 00 37 14.6
comp=Z,4µm,19.0s
E03A Lebam 90.65 39 P **P 23 51 01.1 +0.3**
E03A IAmb IAmb 23 51 34.6
comp=Z,49nm,1.2s
MSSA Maissana 90.73 318 P **P 23 51 01.8 +0.5**
MSSA IAmb IAmb 23 51 08.6
comp=Z,106nm,1.4s
VAE Valguarnera 90.73 311 LR LR 00 41 39.5
comp=Z,2µm,19.1s,baz=58,slow=42
RAFF Raffo Rosso 90.88 310 P **P 23 51 01.3 -0.8**
RAFF IAMs_20 IAMs_20 00 37 04.7
comp=Z,3µm,20.0s
F03A Seaside 90.98 39 P **P 23 51 02.4 +0.1**
F03A IAmb IAmb 23 51 13.9
comp=Z,42nm,1.0s
SENIN Lac Senin/Sane 91.01 321 P **P 23 51 01.4 -1.4**
EKA Eskdalemuir Ar 91.12 332 P **P 23 51 01.7 -1.1**
comp=Z,9.0nm,1.0s,baz=26,slow=3.3,SNR=12
EKA PP **PP 23 54 40.5 +1.6**
comp=Z,7.1nm,1.0s,baz=57,slow=7.9,SNR=4.2
EKA PKKPbc **PKKPbc 00 08 25.9 -1.2**
comp=Z,1.4nm,0.9s,baz=234,slow=2.4,SNR=4.0
comp=Z,9.0nm,1.0s
EKB Eskdalemuir 91.14 332 P **P 23 51 03.0 +0.2**
EKB IAmb IAmb 23 51 09.9
comp=Z,83nm,1.6s
ESK Eskdalemuir 91.15 332 P **P 23 51 02.8 -0.1**
ESK IAmb IAmb 23 51 10.0
comp=Z,86nm,1.7s
F04D Rainier, OR 91.22 39 P **P 23 51 03.7 +0.2**
F04D IAmb IAmb 23 54 21.8
comp=Z,33nm,0.7s
D05A Enumclaw 91.23 38 P **P 23 51 04.4 +0.9**
D05A IAmb IAmb 23 51 22.8
comp=Z,114nm,1.6s
WDD Wied Dalam 91.39 309 P **P 23 51 02.7 -1.8**
MBAR Mbarara 91.48 270 P **P 23 51 04.2 -1.3**
MBAR IAMs_20 IAMs_20 00 30 27.7
comp=Z,3µm,22.0s
MBAR Mbarara 91.48 270 P **P 23 51 05.9 +0.4**
MBAR P **P 23 51 05.9 +0.4**
LON Longmire 91.57 38 P **P 23 51 05.1 0.0**
COR Corvallis 91.84 41 P **P 23 51 06.7 +0.4**
COR IAmb IAmb 23 51 17.6
comp=Z,54nm,1.0s
LTY Liberty 91.94 37 P **P 23 51 07.2 +0.3**
G04A Mulino 92.00 40 P **P 23 51 07.5 +0.3**
G04A IAmb IAmb 23 51 21.0
comp=Z,67nm,1.2s
B08A Colville Reser 92.07 36 P **P 23 51 08.2 +0.7**
B08A IAmb IAmb 23 51 24.0
comp=Z,74nm,1.6s
B08A IAMs_20 IAMs_20 00 38 55.3
comp=Z,4µm,18.0s
BNI Bardonecchia 92.08 320 P **P 23 51 06.8 -0.9**
KEBM Edson Butte 92.08 42 P **P 23 51 07.7 +0.1**
KEBM IAmb IAmb 23 51 30.7
comp=Z,66nm,1.1s
J01E Myrtle Point 92.19 42 P **P 23 51 07.9 -0.1**
J01E IAmb IAmb 23 51 17.8
comp=Z,40nm,1.1s
H04D Lebanon 92.21 40 P **P 23 51 08.4 +0.3**
H04D IAmb IAmb 23 51 20.4
comp=Z,82nm,1.5s
BUCK Buck Mountain 92.23 41 P **P 23 51 08.4 +0.1**
BUCK IAmb IAmb 23 51 23.4
comp=Z,52nm,1.1s
I03D Drain, OR 92.27 41 P **P 23 51 08.4 +0.1**
SFJD Kangerlussuaq 92.35 357 P **P 23 51 07.3 -1.0**
SFJD IAmb IAmb 23 51 29.9
comp=Z,53nm,1.3s
SFJD Kangerlussuaq 92.35 357 IAMs_20 IAMs_20 00 34 33.0
comp=Z,4µm,21.0s
HOOD Mount Hood Mea 92.44 39 P **P 23 51 10.0 +0.7**
H04A Detroit Lake 92.46 40 P **P 23 51 09.4 +0.1**
ANGG Ammassalik, Gr 92.53 352 IAMs_20 IAMs_20 00 34 14.5
comp=Z,5µm,22.0s
MXC Moxie City 92.54 38 P **P 23 51 10.2 +0.6**
E07A Sunnyside 92.80 38 P **P 23 51 11.5 +0.7**
E07A IAmb IAmb 23 51 27.8
comp=Z,59nm,1.5s
WAH2 Wahluke Slope 92.85 37 P **P 23 51 10.6 -0.4**
WAH2 IAmb IAmb 23 51 27.7
comp=Z,104nm,1.8s
KSXB Camp Six Broad 92.91 43 P **P 23 51 10.7 -0.9**
KSXB IAMs_20 IAMs_20 00 39 33.7
comp=Z,2µm,18.0s
CLF Chambon-Foret 92.95 324 P **P 23 51 10.6 -0.9**
D08A Wollman Farm, 93.04 37 P **P 23 51 12.1 +0.2**
HAWA Hanford 93.08 38 P **P 23 51 13.0 +0.9**
G06A Carlson Farm, 93.08 39 P **P 23 51 13.1 +0.9**
BBOR Butler Butte 93.11 42 P **P 23 51 12.7 +0.1**
BBOR IAmb IAmb 23 51 47.5
comp=Z,58nm,1.7s
F07A Phinny Hill Vi 93.13 38 P **P 23 51 13.3 +1.0**
I05D Terrebonne, OR 93.16 40 P **P 23 51 13.2 +0.7**
SSB Saint Sauveur 93.22 321 P **P 23 51 11.2 -1.6**
VSL Villasalto 93.24 314 P **P 23 51 12.1 -0.9**
VSL IAmb IAmb 23 51 20.2
comp=Z,92nm,1.3s
VSL IAMs_20 IAMs_20 00 38 36.8
comp=Z,3µm,18.0s
J04A Umpqua Nationa 93.28 41 P **P 23 51 13.1 -0.3**
J04A IAmb IAmb 23 51 24.3
comp=Z,57nm,0.9s
E08A Dider Farm, El 93.29 37 P **P 23 51 13.9 +0.9**
NEW Newport 93.33 35 P **P 23 51 13.2 0.0**
NEW Newport 93.33 35 IAMs_20 IAMs_20 00 40 04.4
comp=Z,2µm,18.0s
YPT Yellepit 93.60 38 P **P 23 51 15.2 +0.8**
PINE Pine Mountain 93.70 40 P **P 23 51 15.9 +0.6**
PINE IAmb IAmb 23 51 26.8
comp=Z,42nm,1.2s
L04D Klamath Falls 93.71 42 P **P 23 51 15.2 0.0**
L04D IAmb IAmb 23 51 26.8

YBH Yreka Blue Hor 93.71 43 P P 23 51 15.5 +0.3
YBH Yreka Blue Hor 93.71 43 P P 23 51 15.9 +0.7
comp=Z,0.3nm,0.9s,baz=347,slow=5.2,SNR=7.0
E09A Wood Farm, Sta 93.79 37 P P 23 51 15.7 +0.3
E09A IAMs_20 IAMs_20 00 40 05.0
comp=Z,2µm,19.0s
J05D Fort Rock, OR 93.79 41 P P 23 51 15.6 0.0
J05D IAmb IAmb 23 51 26.2
comp=Z,48nm,1.5s
K04D Chiloquin, OR 93.83 42 P P 23 51 15.6 -0.2
K04D IAmb IAmb 23 53 05.2
comp=Z,32nm,0.5s
KMRM Mail Ridge 93.85 44 P P 23 51 14.3 -1.5
G08A Pilot Rock 94.03 38 P P 23 51 16.4 -0.3
LNOR Lincton Mounta 94.08 38 P P 23 51 16.9 +0.1
KCPM Cahto Peak 94.21 45 IAMs_20 IAMs_20 00 40 33.3
comp=Z,2µm,19.0s
K05A Summer Lake 94.31 41 P P 23 51 18.1 0.0
K05A IAmb IAmb 23 51 51.6
comp=Z,100nm,1.7s
O02D Mt. Diablo Mer 94.48 44 P P 23 51 19.5 +0.7
O02D IAmb IAmb 23 51 56.2
comp=Z,69nm,1.9s
PPT Papeete 94.57 107 LR LR 00 27 16.6
comp=Z,1µm,20.9s,baz=274,slow=31
PPT2 Papeete2 94.58 107 ePKIKP P 23 51 18.0 -1.5
comp=Z,403nm,27.5s
PPT2 Papeete2 94.58 107 ePP PP 23 55 03.6 -4.1
comp=Z,140nm,25.5s
PPT2 eS S 00 02 28.2 -4.0
comp=Z,2µm,26.0s
PPT2 eSS SS 00 08 56.9 +1.2
comp=Z,1µm,23.8s
PPT2 eLQ LQ 00 17 37.7
comp=Z,3µm,26.2s
PPT2 eLR LR 00 21 27.7
comp=Z,6µm,35.0s
PPT2 eLR LR 00 21 35.5
comp=Z,7µm,26.0s
PAE Paea 94.60 107 ePKIKP P 23 51 12.8 -6.7
comp=Z,157nm,24.4s
PAE Paea 94.60 107 eS S 00 02 33.9 +1.7
comp=Z,365nm,24.3s
PAE Paea 94.60 107 eLR LR 00 21 40.5
comp=Z,956nm,24.4s
TVO Taravao 94.93 107 eLR LR 00 21 51.0
comp=Z,1µm,25.9s
HATC Hat Creek Radi 94.99 43 P P 23 51 21.0 -0.1
HATC IAmb IAmb 23 51 28.8
comp=Z,33nm,0.9s
KEST Kesra 95.14 311 P P 23 51 20.3 -1.6
KEST Kesra 95.14 311 P P 23 51 21.9 0.0
comp=Z,12nm,1.0s,baz=13,slow=2.0,SNR=8.8
comp=Z,12nm,1.0s
JTMT Jette 95.16 34 P P 23 51 22.2 +0.4
GDXM Geysers 95.19 45 P P 23 51 23.1 +1.0
GDXM IAmb IAmb 23 51 31.7
comp=Z,60nm,1.9s
PMOR Pomariorio Ree 95.21 104 eLR LR 00 22 03.9
comp=Z,7µm,23.2s
BMO Blue Mountains 95.24 38 P P 23 51 22.2 0.0
BMO IAMs_20 IAMs_20 00 41 10.5
comp=Z,2µm,20.0s
J08A Circle Bar Ran 95.42 40 P P 23 51 23.5 +0.4
VAH Vaihoa 95.53 104 eLR LR 00 22 20.1
comp=Z,10µm,29.5s
ORV Oroville 95.65 44 P P 23 51 24.0 0.0
PLID Pearl Lake 95.84 37 P P 23 51 25.5 +0.5
WVOR Wild Horse Val 95.85 40 P P 23 51 25.2 +0.1
MSO Missoula 95.91 35 P P 23 51 24.5 -0.7
MSO IAMs_20 IAMs_20 00 39 10.8
comp=Z,3µm,18.0s
FFC Flin Flon 95.92 24 P P 23 51 24.6 -0.3
FFC Flin Flon 95.92 24 IAMs_20 IAMs_20 00 38 04.7
comp=Z,2µm,20.0s
BEKR Beckworth 96.22 43 P P 23 51 25.9 -0.9
OVMT Ovando 96.26 34 P P 23 51 26.3 -0.6
AFDM Forest Hills D 96.32 44 P P 23 51 27.3 +0.2
BPMT Black Pine Rid 96.42 35 P P 23 51 28.1 +0.4
TBI Tubuai 96.63 112 eP P 23 51 27.6 -1.0
comp=Z,3µm,32.0s
TBI Tubuai 96.63 112 ePP PP 23 55 17.9 -5.6
comp=Z,1µm,28.0s
TBI eS S 00 02 44.2 -5.5
comp=Z,8µm,25.5s
TBI eSS SS 00 09 29.5 +4.9
comp=Z,6µm,27.0s
TBI eLQ LQ 00 18 38.9
comp=Z,7µm,30.2s
TBI eLR LR 00 22 29.7
comp=Z,33µm,31.0s
TBI eLR LR 00 22 34.5
comp=Z,7µm,32.5s
PAHR Pah Rah Range 96.93 43 P P 23 51 29.9 -0.1
MFID Camas Ranch 96.95 38 P P 23 51 29.0 -1.0
CMB Columbia Colle 97.20 45 P P 23 51 30.2 -1.0
CMB IAmb IAmb 23 51 40.1
comp=Z,46nm,1.9s
EGMT Eagleton 97.30 32 P P 23 51 31.2 -0.2
EGMT IAmb IAmb 23 51 48.2
comp=Z,48nm,1.9s
EGMT IAMs_20 IAMs_20 00 40 10.2
comp=Z,3µm,20.0s
LRM Limekiln Ridge 97.35 35 P P 23 51 31.6 -0.3
BBGB Big Mountain B 97.56 46 P P 23 51 32.2 -0.7
BBGB IAmb IAmb 23 52 07.8
comp=Z,20nm,1.1s
BBGB IAMs_20 IAMs_20 00 39 59.1
comp=Z,2µm,18.0s
DLMT Dillon 97.56 35 P P 23 51 32.6 -0.2
DLMT IAMs_20 IAMs_20 00 43 01.6
comp=Z,2µm,19.0s
WAKR Walker 97.57 44 P P 23 51 32.7 -0.3
WAKR IAmb IAmb 23 51 42.8
comp=Z,49nm,1.9s
HLID Hailey 97.68 38 P Pdif 23 51 33.7 +0.3
HLID IAMs_20 IAMs_20 00 42 44.9
comp=Z,2µm,18.0s
HULI Fort Hunter Li 97.72 47 IAMs_20 IAMs_20 00 37 40.6
comp=Z,2µm,18.0s
MCMT McKenzie Canyo 97.76 36 P Pdif 23 51 33.9 +0.1
PMPB Monarch Peak 97.91 47 P Pdif 23 51 34.5 +0.1
PMPB IAmb IAmb 23 55 17.4
comp=Z,26nm,1.4s
PMPB IAMs_20 IAMs_20 00 38 32.6
comp=Z,2µm,18.0s
BOZ Bozeman (W) 97.93 35 P Pdif 23 51 34.7 +0.2
BOZ IAMs_20 IAMs_20 00 37 59.4
comp=Z,3µm,21.0s
MAW Mawson 98.15 199 P Pdif 23 51 34.6 +0.1
comp=Z,2.6nm,0.6s,baz=39,slow=7.0,SNR=4.4
MAW LR LR 00 34 18.6
comp=Z,2µm,18.9s,baz=57,slow=34
comp=Z,2.6nm,0.6s
RAMR Ramage Ranch 98.18 47 IAMs_20 IAMs_20 00 38 09.7
comp=Z,2µm,18.0s
NVAR Mina Array Bea 98.34 44 P Pdif 23 51 36.6 +0.1
NVAR Mina Array Bea 98.34 44 P Pdif 23 51 37.9 +1.4
comp=Z,1.5nm,0.7s,baz=280,slow=5.4,SNR=6.7
comp=Z,1.5nm,0.7s
NV11 Mina Array Sit 98.44 44 P P 23 51 36.6 -0.3
YHL Hebgen Lake 98.66 35 P P 23 51 37.1 -0.8
YHL IAMs_20 IAMs_20 00 38 25.5
comp=Z,2µm,21.0s
YHB Horse Butte 98.72 35 IAMs_20 IAMs_20 00 38 17.0
comp=Z,2µm,22.0s
LSZ Lusaka 98.84 257 P P 23 51 37.2 -1.8
LSZ IAmb IAmb 23 51 45.4
comp=Z,17nm,0.8s
LSZ Lusaka 98.84 257 IAMs_20 IAMs_20 00 32 17.0
comp=Z,4µm,21.0s
LSZ Lusaka 98.84 257 LR LR 00 32 40.1
comp=Z,3µm,20.6s,baz=66,slow=33
LSZ Lusaka 98.84 257 P P 23 51 38.1 -0.9
LSZ P P 23 51 38.1 -0.9
YNM Yellowstone No 99.00 35 IAMs_20 IAMs_20 00 44 01.5
comp=Z,3µm,19.0s
YNR Norris Junctio 99.02 35 IAMs_20 IAMs_20 00 41 42.1
comp=Z,2µm,18.0s
DSP Deep Springs 99.16 44 P Pdif 23 51 40.3 +0.4
TPH Tonopah 99.24 43 P Pdif 23 51 41.1 +0.5
VES Vestal, Richgr 99.28 46 P Pdif 23 51 40.8 +0.4
YMP Mirror Lake Pl 99.28 35 IAMs_20 IAMs_20 00 38 16.1
comp=Z,2µm,20.0s
MZP Montezuma Peak 99.36 44 P Pdif 23 51 41.4 +0.3

RLMT Red Lodge 99.50 34 IAMs_20 IAMs_20 00 39 35.7
comp=Z,3µm,20.0s
FXWY Fox Creek 99.53 36 IAMs_20 IAMs_20 00 39 12.9
comp=Z,3µm,22.0s
DGMT Dagmar 99.64 29 IAMs_20 IAMs_20 00 40 39.8
comp=Z,4µm,20.0s
GMN Gold Mountain 99.67 44 Pdif Pdif 23 51 42.5 0.0
TPAW Teton Pass 99.67 36 IAMs_20 IAMs_20 00 44 23.5
comp=Z,2µm,20.0s
LOHW Long Hollow 99.78 36 IAMs_20 IAMs_20 00 44 50.4
comp=Z,2µm,19.0s
ISA Isabella, Lake 99.79 46 IAMs_20 IAMs_20 00 38 43.3
comp=Z,2µm,19.0s
SNOW Snow King Moun 99.80 36 IAMs_20 IAMs_20 00 38 48.9
comp=Z,2µm,22.0s
LAO LASA Array 99.96 31 IAMs_20 IAMs_20 00 44 22.6
comp=Z,2µm,20.0s
AHID Auburn Hatcher 100.06 37 IAMs_20 IAMs_20 00 45 02.9
comp=Z,2µm,19.0s
OSI Osito Audit: C 100.21 47 IAMs_20 IAMs_20 00 28 01.5
comp=Z,2µm,21.0s
TAOE Nuku Hiva Isla 100.30 96 IAMs_20 IAMs_20 00 26 47.7
comp=Z,2µm,22.0s
TAOE Nuku Hiva Isla 100.30 96 ePP PP 23 55 48.4 -3.4
comp=Z,240nm,28.3s
TAOE eS Sdif 00 03 14.3 -7.1
comp=Z,664nm,29.2s
TAOE eSS SS 00 10 13.9 -2.6
comp=Z,1µm,26.6s
TAOE eLQ LQ 00 19 42.5
comp=Z,4µm,30.4s
TAOE eLR LR 00 24 14.8
comp=Z,6µm,32.6s
TPO Tropico Hills 100.40 47 IAMs_20 IAMs_20 00 28 22.5
comp=Z,2µm,22.0s
LRMC Laurel Mtn Rad 100.43 46 IAMs_20 IAMs_20 00 39 14.1
comp=Z,2µm,19.0s
HWUT Hardware Ranch 100.54 38 IAMs_20 IAMs_20 00 43 55.9
comp=Z,2µm,19.0s
VNDA Vanda 100.79 172 P Pdif 23 51 46.2 +0.1
comp=Z,4.8nm,1.0s,baz=294,slow=7.0,SNR=6.9
VNDA PP PP 23 55 52.7 -1.4
comp=Z,5.9nm,1.2s,baz=331,slow=10.0,SNR=4.2
VNDA PKKPbc PKKPbc 00 07 59.5 -2.6
comp=Z,1.0nm,0.7s,baz=176,slow=1.0,SNR=4.2
PASC Pasadena Art C 100.83 47 IAMs_20 IAMs_20 00 39 22.8
comp=Z,2µm,19.0s
MWC Mount Wilson 100.88 47 IAMs_20 IAMs_20 00 28 32.4
comp=Z,2µm,22.0s
BW06 Boulder Array 100.91 36 IAMs_20 IAMs_20 00 43 03.4
comp=Z,2µm,20.0s
PDAR Pinedale Array 100.91 36 P Pdif 23 51 49.3 +1.4
comp=Z,0.2nm,0.4s,baz=274,slow=2.4,SNR=4.0
PDAR PP PP 23 55 58.0 +2.8
comp=Z,1.4nm,1.0s,baz=300,slow=6.6,SNR=4.7
PDAR PKKPbc PKKPbc 00 07 58.7 -2.1
comp=Z,0.7nm,0.7s,baz=141,slow=2.5,SNR=6.6
CTU Camp Tracy 101.02 39 IAMs_20 IAMs_20 00 40 12.6
comp=Z,2µm,22.0s
CART Cartagena 101.07 317 IAMs_20 IAMs_20 00 46 18.8
comp=Z,3µm,19.0s
GSC Goldstone, Bar 101.12 46 IAMs_20 IAMs_20 00 46 33.3
comp=Z,2µm,20.0s
BFSC Mount Baldy Ra 101.15 47 IAMs_20 IAMs_20 00 28 31.3
comp=Z,2µm,21.0s
JLU Jordanelle 101.25 39 IAMs_20 IAMs_20 00 44 26.8
comp=Z,2µm,20.0s
ESDC Sonseca Array 101.61 320 P Pdif 23 51 51.3 +0.5
comp=Z,0.6nm,0.8s,baz=277,slow=5.2,SNR=4.4
ESDC PP PP 23 55 59.5 -0.8
comp=Z,3.4nm,1.0s,baz=55,slow=6.7,SNR=6.3
BSUT Blindstream Ca 101.69 38 IAMs_20 IAMs_20 00 44 44.5
comp=Z,2µm,21.0s
PBRG Braganca 101.82 323 ePP PP 23 56 06.7 +4.9
MDND Maddock 102.14 27 IAMs_20 IAMs_20 00 47 34.7
comp=Z,3µm,18.0s
PFO Pinyon Flats O 102.32 47 IAMs_20 IAMs_20 00 38 53.5
comp=Z,2µm,19.0s
PMD Palm Desert 102.36 47 IAMs_20 IAMs_20 00 38 55.4
comp=Z,2µm,19.0s
MVO Moncorvo 102.41 323 eSS SS 00 11 00.1 +17
MVO eLR LR 00 27 59.2
MVO i IAMs_20 IAMs_20 00 40 36.8
comp=Z,5µm,18.0s
BELC Belle Mtn. Jos 102.41 46 IAMs_20 IAMs_20 00 40 38.7
comp=Z,2µm,19.0s
BORC Borrego Spring 102.55 47 IAMs_20 IAMs_20 00 47 35.5
comp=Z,2µm,20.0s
PGAV Gavieira, Arco 102.56 324 ePP PP 23 56 09.6 +2.2
PGAV eSS SS 00 10 59.9 +15
PGAV eLR LR 00 28 03.9
PGAV i IAMs_20 IAMs_20 00 43 27.4
comp=Z,5µm,20.0s
P18A Preston Nutter 102.58 39 IAMs_20 IAMs_20 00 41 11.1
comp=Z,2µm,21.0s
PCAB Cabril 102.60 324 ePP PP 23 56 03.5 -4.1
K22A Casper 102.63 35 IAMs_20 IAMs_20 00 44 48.7
comp=Z,2µm,19.0s
SRU San Rafael Swe 102.76 39 IAMs_20 IAMs_20 00 42 06.7
comp=Z,2µm,20.0s
RSSD Black Hills 102.87 32 IAMs_20 IAMs_20 00 41 47.7
comp=Z,3µm,22.0s
W13A Hualapai Mount 103.17 44 IAMs_20 IAMs_20 00 41 19.2
comp=Z,2µm,19.0s
MTE Manteigas 103.21 323 eLR LR 00 29 09.8
MTE i IAMs_20 IAMs_20 00 40 56.9
comp=Z,4µm,18.0s
BLYC Blythe 103.55 46 IAMs_20 IAMs_20 00 41 53.8
comp=Z,2µm,18.0s
ESJX Sierra Juarez 103.60 48 IAMs_20 IAMs_20 00 42 56.4
comp=Z,2µm,19.0s
PMRV Marv??o 103.78 322 eLR LR 00 29 38.3
PMRV i IAMs_20 IAMs_20 00 43 24.2
comp=Z,5µm,20.0s
PV21 Cone Mtn., Par 104.03 39 IAMs_20 IAMs_20 00 47 59.4
comp=Z,3µm,19.0s
VTX Valle De La Tr 104.06 48 IAMs_20 IAMs_20 00 47 46.8
comp=Z,2µm,18.0s
PV22 Blue Mesa, Par 104.16 39 IAMs_20 IAMs_20 00 42 39.7
comp=Z,2µm,21.0s
PV16 Nyswonger Mesa 104.23 39 IAMs_20 IAMs_20 00 47 58.7
comp=Z,3µm,20.0s
PESTR Estremoz 104.27 322 ePKiKP PKiKP 23 56 13.1 -6.2
PV05 Paradox Valley 104.28 39 IAMs_20 IAMs_20 00 42 39.8
comp=Z,3µm,21.0s
PV07 Paradox Valley 104.30 39 IAMs_20 IAMs_20 00 42 44.6
comp=Z,2µm,20.0s
PV03 Paradox Valley 104.31 39 IAMs_20 IAMs_20 00 48 09.7
comp=Z,3µm,18.0s
PV13 Radium Mtn., P 104.39 39 IAMs_20 IAMs_20 00 48 11.9
comp=Z,3µm,19.0s
PBAR Barrancos 104.40 321 ePKiKP PKiKP 23 56 18.8 -0.8
PV15 Paradox Valley 104.47 39 IAMs_20 IAMs_20 00 42 33.9
comp=Z,2µm,20.0s
PMTG Montargil 104.50 322 ePKiKP PKiKP 23 56 17.6 -2.1
TAM Tamanrasset 104.52 302 IAMs_20 IAMs_20 00 46 16.8
comp=Z,3µm,19.0s
PV01 Paradox Valley 104.55 39 IAMs_20 IAMs_20 00 48 26.2
comp=Z,3µm,19.0s
SFX San Felipe 104.92 48 IAMs_20 IAMs_20 00 48 21.5
comp=Z,2µm,18.0s
SUSD Miller 105.06 29 IAMs_20 IAMs_20 00 42 10.1
comp=Z,2µm,20.0s
ISCO Idaho Springs 105.11 36 IAMs_20 IAMs_20 00 43 28.5
comp=Z,2µm,21.0s
PARRA Arraiolos 105.14 322 ePKiKP PKiKP 23 56 19.9 -0.9
MVCO Mesa Verde 105.20 40 IAMs_20 IAMs_20 00 48 53.9
comp=Z,2µm,18.0s
EYMN Ely 105.27 23 IAMs_20 IAMs_20 00 45 33.9
comp=Z,4µm,19.0s
PVAQ Vaqueiros 105.32 321 eLR LR 00 29 50.4
PVAQ i IAMs_20 IAMs_20 00 47 12.1
comp=Z,5µm,18.0s
BOSA Boshof 105.41 245 Pdiff Pdif 23 52 07.8 -0.1
comp=Z,4.0nm,0.8s,baz=94,slow=3.9,SNR=4.8
W18A Petrified Fore 105.81 42 IAMs_20 IAMs_20 00 44 04.0
comp=Z,2µm,20.0s
S22A 4UR Ranch, Cre 105.83 38 IAMs_20 IAMs_20 00 46 43.0
comp=Z,3µm,21.0s
Q24A Divide 105.95 37 IAMs_20 IAMs_20 00 49 28.7
comp=Z,2µm,20.0s
X18A Snowflake 106.05 43 IAMs_20 IAMs_20 00 50 36.5
comp=Z,2µm,18.0s
K30B Basset 106.11 31 IAMs_20 IAMs_20 00 44 19.1
comp=Z,2µm,20.0s
OGNE Ogallala 106.20 33 IAMs_20 IAMs_20 00 45 48.9
comp=Z,2µm,19.0s
E38A The Farm, Brul 106.38 23 IAMs_20 IAMs_20 00 43 35.3
comp=Z,4µm,22.0s
SYO Syowa Base 106.53 202 ePdiff Pdif 23 52 15.2 +3.5
SYO Syowa Base 106.53 202 pPKiKP PKiKP 23 56 28.0 +5.6
SDCO Great Sand Dun 106.60 38 IAMs_20 IAMs_20 00 48 59.1
comp=Z,3µm,19.0s
TUC Tucson 106.92 45 IAMs_20 IAMs_20 00 43 48.7
comp=Z,2µm,20.0s
SPMN Marine on St. 107.06 25 IAMs_20 IAMs_20 00 48 11.3
comp=Z,3µm,19.0s
KSCO Kaye Shedlock' 107.30 35 IAMs_20 IAMs_20 00 50 42.2
comp=Z,3µm,18.0s
T25A Trinidad 107.64 37 IAMs_20 IAMs_20 00 45 11.7
comp=Z,2µm,20.0s
BGNE Belgrade 107.78 31 IAMs_20 IAMs_20 00 45 39.2
comp=Z,3µm,20.0s
I37A Lemond, Waseca 107.81 26 IAMs_20 IAMs_20 00 45 13.5
comp=Z,4µm,20.0s
AVE Averroes 107.83 317 IAMs_20 IAMs_20 00 41 02.8
comp=Z,3µm,21.0s
ANMO Albuquerque 107.95 40 IAMs_20 IAMs_20 00 48 24.3
comp=Z,2µm,22.0s
Y22D IRIS PASSCAL I 108.25 41 IAMs_20 IAMs_20 00 45 34.4
comp=Z,2µm,20.0s
Y22D IRIS PASSCAL I 108.25 41 P PKiKP 23 56 28.0 +1.0
baz=312
Y22A Socorro 108.31 41 IAMs_20 IAMs_20 00 51 16.1
comp=Z,2µm,19.0s
319A Douglas 108.50 45 IAMs_20 IAMs_20 00 44 56.6
comp=Z,2µm,20.0s
121A Cookes Peak, D 108.72 43 IAMs_20 IAMs_20 00 45 23.2
comp=Z,2µm,21.0s
I40A Norwalk 109.03 24 IAMs_20 IAMs_20 00 52 21.5
comp=Z,3µm,19.0s
E46A Sault Ste Mari 109.05 19 IAMs_20 IAMs_20 00 49 18.4
comp=Z,3µm,19.0s
SCIA State Center 109.62 27 IAMs_20 IAMs_20 00 44 57.5
comp=Z,3µm,22.0s
TSUM Tsumeb 109.68 256 IAMs_20 IAMs_20 00 42 29.1
comp=Z,3µm,20.0s
R32A Long Quarter, 109.78 33 IAMs_20 IAMs_20 00 46 17.8
comp=Z,3µm,22.0s
JFWS Jewell Farm 110.00 25 IAMs_20 IAMs_20 00 53 09.1
comp=Z,3µm,18.0s
EPT El Paso 110.04 43 IAMs_20 IAMs_20 00 52 44.0
comp=Z,2µm,19.0s
KSU1 Kansas State U 110.31 31 IAMs_20 IAMs_20 00 52 35.6
comp=Z,3µm,19.0s
L40A Anamosa 110.32 26 IAMs_20 IAMs_20 00 51 54.9
comp=Z,2µm,19.0s
GLMI Grayling 110.33 20 IAMs_20 IAMs_20 00 44 38.5
comp=Z,4µm,22.0s
I45A Fountain 110.50 21 IAMs_20 IAMs_20 00 48 19.0
comp=Z,2µm,19.0s
N38A Joes South For 110.52 28 IAMs_20 IAMs_20 00 42 40.4
comp=Z,2µm,22.0s
QSPA South Pole Qui 110.56 180 IAMs_20 IAMs_20 00 44 32.4
comp=Z,2µm,21.0s
QSPA South Pole Qui 110.56 180 PKiKP PKiKP 23 56 30.2 +0.1
comp=Z,2.7nm,0.7s,baz=315,slow=1.7,SNR=9.2
QSPA PKKPbc PKKPbc 00 07 30.6 -1.9
comp=Z,2.9nm,0.9s,baz=146,slow=2.1,SNR=3.9
AMTX Amarillo 110.80 37 IAMs_20 IAMs_20 00 53 41.3
comp=Z,2µm,18.0s
MNTX Cornudas Mount 110.80 42 IAMs_20 IAMs_20 00 50 09.1
comp=Z,2µm,20.0s
MSTX Muleshoe 110.82 39 IAMs_20 IAMs_20 00 50 56.1
comp=Z,2µm,21.0s
L42A Oliver, Polo 111.00 25 IAMs_20 IAMs_20 00 47 42.6
comp=Z,3µm,20.0s
ELIS Ellis County 111.19 35 IAMs_20 IAMs_20 00 53 33.2
comp=Z,4µm,22.0s
OK038 West end E0370 111.24 34 IAMs_20 IAMs_20 00 52 43.5
comp=Z,3µm,19.0s
BUKO Buck Lake 111.28 16 IAMs_20 IAMs_20 00 48 17.0
comp=Z,4µm,20.0s
P38A Dawn 111.34 29 IAMs_20 IAMs_20 00 45 51.2
comp=Z,2µm,22.0s
N41A Harden Midland 111.61 26 IAMs_20 IAMs_20 00 52 46.0
comp=Z,3µm,18.0s
CROK Carrier 111.62 34 IAMs_20 IAMs_20 00 46 54.4
comp=Z,3µm,21.0s
TRQ Mont Tremblant 111.66 12 IAMs_20 IAMs_20 00 47 24.7
comp=Z,3µm,20.0s
J47A Sunmer 111.68 21 IAMs_20 IAMs_20 00 54 21.2
comp=Z,2µm,18.0s
I49A Point Hope 111.69 19 IAMs_20 IAMs_20 00 43 57.3
comp=Z,4µm,22.0s
T35A Sooner Cattle 112.06 33 IAMs_20 IAMs_20 00 48 42.8
comp=Z,3µm,20.0s
P40A Paris 112.07 28 IAMs_20 IAMs_20 00 52 33.6
comp=Z,3µm,18.0s
L46A Eue Claire 112.26 23 IAMs_20 IAMs_20 00 50 10.6
comp=Z,3µm,20.0s
HDIL Hopedale 112.37 25 IAMs_20 IAMs_20 00 50 30.1
comp=Z,3µm,20.0s
OK029 Liberty Lake 112.43 34 IAMs_20 IAMs_20 00 48 37.0
comp=Z,3µm,21.0s
TORD Torodi Ar. Bea 112.44 295 PKiKP PKiKP 23 56 33.3 -1.9
comp=Z,2.4nm,0.7s,baz=38,slow=2.5,SNR=4.5
TORD PKKPbc PKKPbc 00 07 25.4 +1.2
comp=Z,2.4nm,0.6s,baz=248,slow=3.2,SNR=4.7
WMOK Wichita Mounta 112.52 36 IAMs_20 IAMs_20 00 54 16.7
comp=Z,3µm,18.0s
MNTQ Montreal, Queb 112.53 12 IAMs_20 IAMs_20 00 51 00.8
comp=Z,3µm,18.0s
SLBS Sierra La Lagu 112.78 52 IAMs_20 IAMs_20 00 38 16.1
comp=Z,2µm,20.0s
K50A Casco 112.81 20 IAMs_20 IAMs_20 00 50 56.9
comp=Z,3µm,19.0s
R40A Maddies Statio 112.99 29 IAMs_20 IAMs_20 00 46 59.0
comp=Z,3µm,21.0s
LONY Lake Ozonia 113.19 13 IAMs_20 IAMs_20 00 46 42.1
comp=Z,3µm,20.0s
TUL3 Leonard 113.20 33 IAMs_20 IAMs_20 00 54 52.2
comp=Z,3µm,19.0s
N47A Urbana 113.47 23 IAMs_20 IAMs_20 00 50 14.7
comp=Z,3µm,19.0s
TXAR Lajitas Array 113.48 43 Pdiff Pdif 23 52 43.4 -0.5
comp=Z,0.2nm,0.9s,baz=313,slow=5.6,SNR=2.0
TXAR PKiKP PKiKP 23 56 36.8 -0.2
comp=Z,0.8nm,0.5s,baz=342,slow=4.3,SNR=11
TXAR PKKPbc PKKPbc 00 07 19.4 -1.8
comp=Z,0.9nm,0.8s,baz=132,slow=2.0,SNR=6.1
SLM Saint Louis 113.60 27 IAMs_20 IAMs_20 00 54 20.9
comp=Z,3µm,18.0s
CCM Cathedral Cave 113.64 28 IAMs_20 IAMs_20 00 52 36.2
comp=Z,3µm,19.0s
HPIG 113.77 46 IAMs_20 IAMs_20 00 54 33.4
comp=Z,2µm,20.0s
HHAR Hobbs 113.83 31 IAMs_20 IAMs_20 00 54 11.6
comp=Z,3µm,20.0s
M50A Fremont 113.91 20 IAMs_20 IAMs_20 00 46 37.2
comp=Z,4µm,22.0s
MGMO Mountain Grove 113.92 30 IAMs_20 IAMs_20 00 47 33.7
comp=Z,3µm,20.0s
GGN Saint George 113.95 7 IAMs_20 IAMs_20 00 48 54.7
comp=Z,3µm,20.0s
P46A Rosedale 114.00 24 IAMs_20 IAMs_20 00 48 57.1
comp=Z,3µm,21.0s
PMOZ Porto Moniz, M 114.04 323 eLR LR 00 34 50.5
PMOZ i IAMs_20 IAMs_20 00 54 40.4
comp=Z,3µm,16.0s
FVM French Village 114.06 28 IAMs_20 IAMs_20 00 54 39.2
comp=Z,3µm,18.0s
ERPA Erie 114.20 18 IAMs_20 IAMs_20 00 47 45.5
comp=Z,2µm,20.0s
O48B Farmland 114.21 23 IAMs_20 IAMs_20 00 50 28.3
comp=Z,3µm,20.0s
CMLA Cha da Macela 114.31 332 IAMs_20 IAMs_20 00 48 50.0
comp=Z,3µm,19.0s
WVNY West Valley, N 114.32 17 IAMs_20 IAMs_20 00 47 11.4
comp=Z,3µm,21.0s
M52A Chesterland 114.32 19 IAMs_20 IAMs_20 00 52 28.9
comp=Z,2µm,20.0s
Z35A Perchaven, San 114.41 36 IAMs_20 IAMs_20 00 51 09.7
comp=Z,2µm,20.0s
FW06 Azle 114.52 36 IAMs_20 IAMs_20 00 50 24.6
comp=Z,3µm,20.0s
N51A Ashland 114.57 20 IAMs_20 IAMs_20 00 52 37.5
comp=Z,3µm,18.0s
BLO Bloomington 114.65 24 IAMs_20 IAMs_20 00 47 09.2
comp=Z,3µm,22.0s
S44A Carbondale 114.81 27 IAMs_20 IAMs_20 00 51 47.9
comp=Z,3µm,20.0s
P48A Milroy 114.81 23 IAMs_20 IAMs_20 00 46 56.3
comp=Z,2µm,20.0s
CGM3 Cape Girardeau 114.97 28 IAMs_20 IAMs_20 00 55 55.2
comp=Z,3µm,18.0s

ACSO	Alum Creek Sta	114.98	21	IAMs_20	IAMs_20	00 47 34.7		
	comp=Z,4µm,22.0s							
PBMO	Poplar Bluff	115.06	28	IAMs_20	IAMs_20	00 49 43.8		
	comp=Z,2µm,20.0s							
JCT	Junction City	115.07	40	IAMs_20	IAMs_20	00 55 21.7		
	comp=Z,3µm,19.0s							
N53A	Lisbon	115.15	19	IAMs_20	IAMs_20	00 47 24.8		
	comp=Z,3µm,20.0s							
TRY	Troy	115.19	13	IAMs_20	IAMs_20	00 47 50.0		
	comp=Z,4µm,22.0s							
WHTX	Lake Whitney,	115.31	37	IAMs_20	IAMs_20	00 50 55.7		
	comp=Z,2µm,20.0s							
LCAR	Lake Charles	115.32	29	IAMs_20	IAMs_20	00 54 21.7		
	comp=Z,3µm,19.0s							
MIAR	Mount Ida	115.39	32	IAMs_20	IAMs_20	00 49 55.1		
	comp=Z,3µm,20.0s							
L59A	Walton	115.40	14	IAMs_20	IAMs_20	00 51 29.9		
	comp=Z,3µm,20.0s							
WHAR	Wooly Hollow	115.42	31	IAMs_20	IAMs_20	00 52 19.7		
	comp=Z,3µm,20.0s							
O52A	Adamsville	115.47	20	IAMs_20	IAMs_20	00 52 42.2		
	comp=Z,3µm,18.0s							
T45A	Paducah	115.64	27	IAMs_20	IAMs_20	00 51 59.9		
	comp=Z,3µm,20.0s							
HICK	Hickman	115.79	28	IAMs_20	IAMs_20	00 52 31.9		
	comp=Z,3µm,20.0s							
P52A	Corning	115.81	21	IAMs_20	IAMs_20	00 47 33.3		
	comp=Z,3µm,22.0s							
X40A	Basin Creek Fa	115.81	32	IAMs_20	IAMs_20	00 50 22.9		
	comp=Z,3µm,21.0s							
UALR	University of	115.81	31	IAMs_20	IAMs_20	00 48 43.1		
	comp=Z,3µm,21.0s							
KSPA	Keystone Colle	115.84	15	IAMs_20	IAMs_20	00 52 58.4		
	comp=Z,3µm,19.0s							
PEBM	Pemiscott Bayo	115.87	28	IAMs_20	IAMs_20	00 56 23.1		
	comp=Z,3µm,18.0s							
GNAR	Gosnell	115.92	29	IAMs_20	IAMs_20	00 56 26.6		
	comp=Z,3µm,18.0s							
R49A	Shelbyville	115.93	24	IAMs_20	IAMs_20	00 47 12.1		
	comp=Z,3µm,22.0s							
HBAR	Harrisburg	115.97	29	IAMs_20	IAMs_20	00 54 30.0		
	comp=Z,2µm,20.0s							
435B	Jarrell	116.14	38	IAMs_20	IAMs_20	00 54 44.8		
	comp=Z,3µm,19.0s							
Q52A	Bidwell	116.37	21	IAMs_20	IAMs_20	00 56 37.2		
	comp=Z,2µm,18.0s							
MET	Memphis--Engin	116.66	29	IAMs_20	IAMs_20	00 57 02.2		
	comp=Z,3µm,18.0s							
WVT	Waverly	116.74	27		PKPdf	23 56 42.3	-0.6	
WVT	Waverly	116.74	27	IAMs_20	IAMs_20	00 55 29.9		
	comp=Z,3µm,20.0s							
Z41A	Richland Creek	116.81	32	IAMs_20	IAMs_20	00 50 59.5		
	comp=Z,3µm,20.0s							
Q54A	Coxs Mills	116.82	20	IAMs_20	IAMs_20	00 53 40.0		
	comp=Z,3µm,19.0s							
BRNJ	Basking Ridge	116.95	14	IAMs_20	IAMs_20	00 52 07.8		
	comp=Z,3µm,20.0s							
N62A	Caumsett State	116.95	13	IAMs_20	IAMs_20	00 50 58.8		
	comp=Z,3µm,20.0s							
MACI	Morro de la Ar	116.97	319	IAMs_20	IAMs_20	00 50 09.6		
	comp=Z,2µm,20.0s							
S51A	Beattyville	117.09	23	IAMs_20	IAMs_20	00 49 00.6		
	comp=Z,4µm,22.0s							
T50A	Nancy	117.17	24	IAMs_20	IAMs_20	00 53 08.9		
	comp=Z,3µm,20.0s							
P57A	Homestead Farm	117.20	17	IAMs_20	IAMs_20	00 48 41.8		
	comp=Z,3µm,21.0s							
Q56A	Snyder Ridge,	117.27	19	IAMs_20	IAMs_20	00 49 50.9		
	comp=Z,3µm,20.0s							
CLTN	Cedars of Leba	117.39	26	IAMs_20	IAMs_20	00 50 57.1		
	comp=Z,3µm,20.0s							
OXF	Oxford	117.41	29	IAMs_20	IAMs_20	00 56 47.9		
	comp=Z,3µm,18.0s							
WUPA	West Chester U	117.41	15	IAMs_20	IAMs_20	00 50 52.2		
	comp=Z,2µm,21.0s							
735A	Kenedy	117.43	39	IAMs_20	IAMs_20	00 58 20.3		
	comp=Z,2µm,18.0s							
SDMD	Soldier's Deli	117.59	16	IAMs_20	IAMs_20	00 52 10.0		
	comp=Z,3µm,19.0s							
ACRG	Accra	117.60	288	IAMs_20	IAMs_20	00 54 11.8		
	comp=Z,3µm,20.0s							
S54A	Dingess, Beckl	117.74	21	IAMs_20	IAMs_20	00 54 19.5		
	comp=Z,3µm,18.0s							
HKT	Hockley	117.76	37	IAMs_20	IAMs_20	00 51 51.2		
	comp=Z,3µm,20.0s							
P61A	Hammonton	117.86	15	IAMs_20	IAMs_20	00 52 15.9		
	comp=Z,3µm,20.0s							
143A	Socs Landing,	117.95	32	IAMs_20	IAMs_20	00 54 02.6		
	comp=Z,3µm,20.0s							
X48A	Hartselle	118.50	27	IAMs_20	IAMs_20	00 52 43.7		
	comp=Z,3µm,20.0s							
S57A	Dark Hollow, R	118.52	19	IAMs_20	IAMs_20	00 50 30.0		
	comp=Z,3µm,21.0s							
TROLL	Troll, Antarti	118.57	198	⇑P	PKPdf	23 56 45.1	-0.3	
	comp=Z,676nm,0.5s							
441A	DeRidder	118.59	34	IAMs_20	IAMs_20	00 57 28.1		
	comp=Z,3µm,18.0s							
ZAIG	Zacatecas	118.61	48	IAMs_20	IAMs_20	00 55 59.1		
	comp=Z,3µm,22.0s							
CPCT	Cooper Cave	118.67	25	IAMs_20	IAMs_20	00 53 28.8		
	comp=Z,3µm,20.0s							
U54A	Nelsons Funny	118.72	22	IAMs_20	IAMs_20	00 50 15.5		
	comp=Z,3µm,21.0s							
VBMS	Vicksburg	118.78	31	IAMs_20	IAMs_20	00 57 10.5		
	comp=Z,3µm,18.0s							
TKL	Tuckaleechee C	118.78	24	PKP	PKPdf	23 56 46.3	-0.5	
	comp=Z,5.3nm,0.7s,baz=315,slow=7.1,SNR=5.8							
FPAL	Fort Paine	119.03	26	IAMs_20	IAMs_20	00 52 20.4		
	comp=Z,2µm,20.0s							
V55A	Taylorsville	119.53	22	IAMs_20	IAMs_20	00 50 06.1		
	comp=Z,4µm,22.0s							
LRAL	Lakeview Retre	119.73	28	IAMs_20	IAMs_20	00 54 25.1		
	comp=Z,2µm,20.0s							
346A	Big Creek Wild	119.97	31	IAMs_20	IAMs_20	00 59 13.0		
	comp=Z,2µm,18.0s							
SNAA	Sanae	120.24	197	⇑P	PKPdf	23 56 47.5	-1.1	
	comp=Z,72nm,0.6s							
SNAA	Sanae	120.24	197		PKPdf	23 56 47.7	-0.9	
SNAA				IAMs_20	IAMs_20	00 42 39.7		
	comp=Z,2µm,20.0s							
SNAA	Sanae	120.24	197	PKP	PKPdf	23 56 47.7	-0.9	
	comp=Z,3.3nm,0.6s,baz=189,slow=6.0,SNR=15							
SNAA				PKKPbc	PKKPbc	00 06 57.4	-0.7	
	comp=Z,1.9nm,0.8s,baz=25,slow=0.5,SNR=9.4							
Y52A	Lilburn	120.24	25	IAMs_20	IAMs_20	00 55 09.3		
	comp=Z,3µm,19.0s							
V58A	Windy Hill, Pi	120.28	20	IAMs_20	IAMs_20	00 55 38.6		
	comp=Z,3µm,18.0s							
250A	Grady	120.95	28	IAMs_20	IAMs_20	00 52 02.5		
	comp=Z,3µm,21.0s							
W59A	Clinton	121.07	20	IAMs_20	IAMs_20	00 51 32.6		
	comp=Z,3µm,20.0s							
DBIC	Dimbokro	121.21	292	PKP	PKPdf	23 56 51.8	-0.2	
	comp=Z,8.3nm,0.8s,baz=144,slow=1.1,SNR=6.7							
Y57A	Sumter	121.48	22	IAMs_20	IAMs_20	00 51 14.6		
	comp=Z,3µm,22.0s							
MOIG	Morelia	121.61	49	IAMs_20	IAMs_20	01 01 16.4		
	comp=Z,3µm,19.0s							
BELA	Belgrano 2	121.73	186	IAMs_20	IAMs_20	00 51 52.4		
	comp=Z,2µm,19.0s							
352A	Blakely	121.96	27	IAMs_20	IAMs_20	00 53 55.4		
	comp=Z,3µm,22.0s							
Y60A	Bolivia	122.22	20	IAMs_20	IAMs_20	00 50 22.8		
	comp=Z,3µm,21.0s							
VNA1	Neumayer--Stat	122.28	197	⇑P	PKPdf	23 56 52.1	-0.3	
	comp=Z,14nm,0.8s							
VNA3	Neumayer Olymp	122.34	197	⇑P	PKPdf	23 56 51.6	-1.0	
	comp=Z,12nm,0.5s							
451A	Vernon	122.34	28	IAMs_20	IAMs_20	00 53 07.4		
	comp=Z,3µm,22.0s							
TIGA	Tifton	122.56	26	IAMs_20	IAMs_20	00 55 53.7		
	comp=Z,3µm,20.0s							
UNM	Universidad Na	123.26	48	IAMs_20	IAMs_20	00 55 42.0		
	comp=Z,2µm,20.0s							
TLIG	Tlapa	124.87	49	IAMs_20	IAMs_20	01 02 04.9		
	comp=Z,2µm,20.0s							
BBSR	BB Station	126.78	7	IAMs_20	IAMs_20	00 59 29.4		
	comp=Z,3µm,19.0s							
TEIG	Tepich	129.59	38	IAMs_20	IAMs_20	01 02 14.9		
	comp=Z,2µm,21.0s							
CCIG	Comitan	130.17	45	IAMs_20	IAMs_20	00 43 55.6		
	comp=Z,2µm,22.0s							
CAMR	Camarioca	130.81	29	IAMs_20	IAMs_20	00 58 14.7		
	comp=Z,6µm,22.0s							
PETF	Flores	131.17	42	IAMs_20	IAMs_20	01 05 28.6		
	comp=Z,2µm,22.0s							
HUEH	Huehuetenango	131.28	45	IAMs_20	IAMs_20	01 07 27.2		
	comp=Z,2µm,22.0s							
RTAL	Retalhuleu	131.72	46	IAMs_20	IAMs_20	01 07 14.0		
	comp=Z,3µm,22.0s							
ESQI	Esquipulas	133.26	44	IAMs_20	IAMs_20	01 02 23.2		
	comp=Z,2µm,22.0s							
MTO3	Montecristo	133.36	44	IAMs_20	IAMs_20	01 05 50.0		
	comp=Z,2µm,20.0s							
TGUH	Tegucigalpa,Un	134.95	42	IAMs_20	IAMs_20	01 02 26.9		
	comp=Z,2µm,22.0s							
NMDO	Nuevo Mundo	135.68	23	IAMs_20	IAMs_20	00 58 27.8		
	comp=Z,3µm,22.0s							
GRTK	Grand Turk	136.05	18	IAMs_20	IAMs_20	01 00 23.1		
	comp=Z,3µm,20.0s							
GTBY	Guantanamo Bay	136.21	24	IAMs_20	IAMs_20	01 06 46.9		
	comp=Z,2µm,19.0s							
HERN	Volcan Telica	136.32	43	IAMs_20	IAMs_20	01 07 35.4		
	comp=Z,2µm,20.0s							
MTDJ	Mount Denham	136.75	28	IAMs_20	IAMs_20	01 06 42.9		
	comp=Z,2µm,20.0s							
SIUN	Universidad Ur	136.75	40	IAMs_20	IAMs_20	01 01 47.1		
	comp=Z,925nm,21.0s							
MGAN	Managua	137.05	43	IAMs_20	IAMs_20	01 08 02.4		
	comp=Z,2µm,21.0s							
BILN	Bilwi Airport	137.31	38	IAMs_20	IAMs_20	01 01 40.6		
	comp=Z,1µm,22.0s							
JTS	Las Juntas de	139.27	43	IAMs_20	IAMs_20	01 12 04.6		
	comp=Z,2µm,20.0s							
SDD	Santo Domingo	139.30	18	IAMs_20	IAMs_20	01 04 47.8		
	comp=Z,1µm,20.0s							
AGPR	Aguadilla, PR	140.00	14	IAMs_20	IAMs_20	01 01 37.0		
	comp=Z,2µm,22.0s							
HDC	Heredia	140.03	43	IAMs_20	IAMs_20	01 05 16.4		
	comp=Z,2µm,22.0s							
PRSN	Puerto Rico Se	140.23	14	IAMs_20	IAMs_20	01 03 39.2		
	comp=Z,2µm,22.0s							
UUPR	Utuado, UPR, P	140.29	13	IAMs_20	IAMs_20	01 04 17.7		
	comp=Z,2µm,21.0s							
GCPR	Guaynabo City	140.36	12	IAMs_20	IAMs_20	01 07 03.6		
	comp=Z,1µm,20.0s							
CRPR	Cabo Rojo, PR	140.44	14	IAMs_20	IAMs_20	01 01 08.8		
	comp=Z,2µm,21.0s							
CELP	Cerrillos	140.49	13	IAMs_20	IAMs_20	01 07 21.0		
	comp=Z,2µm,20.0s							
OBIP	Obispado Ponce	140.51	13	IAMs_20	IAMs_20	01 07 21.7		
	comp=Z,2µm,21.0s							
SJG	San Juan	140.54	12	IAMs_20	IAMs_20	01 05 41.4		
	comp=Z,2µm,21.0s							
SJG	San Juan	140.54	12	PKP	PKPdf	23 57 28.2	-0.1	
	comp=Z,9.1nm,0.2s,baz=5.8,slow=20,SNR=2.5							
HUMP	Col San Antoni	140.57	12	IAMs_20	IAMs_20	01 05 36.1		
	comp=Z,2µm,20.0s							
PDPR	Patillas Dam,	140.66	12	IAMs_20	IAMs_20	01 05 40.4		
	comp=Z,2µm,20.0s							
SABA	Saba	141.51	8	IAMs_20	IAMs_20	00 59 44.6		
	comp=Z,2µm,21.0s							
ANWB	Willy Bob	141.63	6	IAMs_20	IAMs_20	01 00 57.6		
	comp=Z,2µm,21.0s							
SEUS	St. Eustatius	141.67	8	IAMs_20	IAMs_20	01 11 04.8		
	comp=Z,2µm,20.0s							
BRU2	Volcan	141.85	42	IAMs_20	IAMs_20	01 09 59.6		
	comp=Z,2µm,20.0s							
ABD	La Joyeuse, An	142.84	6	IAMs_20	IAMs_20	01 04 27.6		
	comp=Z,2µm,22.0s							
GDHS	Morne Mazeau,	143.01	6	IAMs_20	IAMs_20	01 02 21.8		
	comp=Z,2µm,22.0s							
GDSD	La Dsirade Is	143.04	5	IAMs_20	IAMs_20	00 58 55.8		
	comp=Z,1µm,20.0s							
SMRC	Santa Marta, M	144.46	28	IAMs_20	IAMs_20	01 10 29.3		
	comp=Z,2µm,20.0s							
SVN	Savane Anatole	144.49	5	IAMs_20	IAMs_20	01 00 32.2		
	comp=Z,2µm,22.0s							
ILAM	Ilet Lapin Mar	144.58	5	IAMs_20	IAMs_20	01 07 29.6		
	comp=Z,2µm,20.0s							
FDF	Fon Fe France	144.59	5	IAMs_20	IAMs_20	01 07 25.1		
	comp=Z,2µm,21.0s							
BIM	Bigot	144.82	5	IAMs_20	IAMs_20	01 08 28.0		
	comp=Z,2µm,21.0s							
GRGR	Grenville	147.12	7	IAMs_20	IAMs_20	01 02 01.1		
	comp=Z,2µm,22.0s							
SDV	Santo Domingo	148.00	24		PKPdf	23 57 42.1	+0.4	
SDV	Santo Domingo	148.00	24	PKPbc	PKPdf	23 57 42.1	+0.4	
	comp=Z,54nm,0.8s,baz=49,slow=1.5,SNR=14							
SDV	Santo Domingo	148.00	24	eP	PKPdf	23 57 41.3	-0.4	
CBOC	Ciudad Bolivar	148.13	36	P	PKiKP	23 57 47.2	+0.3	
CBOC				P	pPKPbc	23 57 49.4	-0.1	
PTBC	PUERTO BERRIO	148.38	33	P	PKiKP	23 57 46.8	-0.4	
PCRV	Puerto La Cruz	148.56	13	PKPbc	PKPdf	23 57 43.6	+1.2	
	comp=Z,20nm,0.7s,baz=19,slow=4.3,SNR=9.9							
BAUV	El Baul	148.86	20		PKPdf	23 57 43.1	+0.2	
GUY2C	Guyana, Caldas	149.01	35	P	PKPdf	23 57 28.9	-15	
GUY2C				P	PKPbc	23 57 45.2	-2.6	
GUY2C				P	sPKPdf	23 57 50.2	+0.6	
GUY2C				S	PKPab	23 57 52.5	+0.7	
EFI	East Falkland	149.13	180		PKPbc	23 57 46.7	+0.4	
RUSC	La Rusia	149.62	31	IAMs_20	IAMs_20	01 11 44.5		
	comp=Z,1µm,22.0s							
ROSC	El Rosal	149.89	34	PKPbc	PKPbc	23 57 49.5	-0.3	
	comp=Z,18nm,0.6s,baz=344,slow=6.8,SNR=14							
OTAV	Otavalo	151.04	46		PKPbc	23 57 50.9	-1.7	
OTAV	Otavalo	151.04	46	eP	PKPdf	23 57 44.4	-2.5	
OTAV	Otavalo	151.04	46	PKP	PKPdf	23 57 46.9	0.0	
URMC	La Uribe, Meta	151.20	36	P	PKiKP	23 57 54.7	+1.6	
FLOC	Florencia	151.81	40	IAMs_20	IAMs_20	01 10 58.3		
	comp=Z,2µm,22.0s							
COYC	Coyhaique	152.63	158		PKiKP	23 57 55.2	+0.2	
MDP	Montagnes des	153.79	348	PKPbc	PKPbc	23 57 56.6	-1.6	
	comp=Z,14nm,0.9s,baz=300,slow=3.6,SNR=5.7							
RCBR	Coachuelo	154.00	302	PKPbc	PKPbc	23 57 56.7	-2.0	
	comp=Z,3.2nm,0.7s,baz=157,slow=22,SNR=2.3							
SBBR	Sobral	155.91	312	PKP	PKPdf	23 57 52.5	-0.8	
NBAN	Anadia - AL	156.43	295	PKP	PKPdf	23 57 52.9	-1.1	
NBPB	Pedra_Branca-C	156.66	308	PKP	PKPdf	23 57 53.4	-0.9	
LR04	Corral	156.76	149	IAMs_20	IAMs_20	01 00 52.5		
	comp=Z,2µm,22.0s							
BOAV	Boa Vista	156.86	7	PKP	PKPdf	23 57 53.9	-0.7	
NBPS	Pedro II - PI	157.19	313	PKP	PKPdf	23 57 54.1	-1.0	
PLCA	Paso Flores	157.36	154	PKP	PKPdf	23 57 54.8	+0.3	
	comp=Z,4.2nm,1.0s,baz=245,slow=4.3,SNR=4.2							
PLCA	Paso Flores	157.36	154	eP	PKPdf	23 57 52.6	-1.9	
PLCA	Paso Flores	157.36	154	PKP	PKPdf	23 57 52.3	-2.2	
CN01	Coaracy Nunes	157.49	342	PKP	PKPdf	23 57 54.9	-0.4	
BI02	San Fabin de	160.32	147	PKPdf	PKPdf	23 57 59.4	+1.3	
BI02					PKPab	23 58 39.6	+1.0	
CZSB	Cruzeiro do Su	160.70	50	PKP	PKPdf	23 57 58.0	-1.1	
MAL2	Monte Alegre,	161.03	348	PKP	PKPdf	23 57 58.6	-0.9	
BMO1	UHE Belo Monte	161.51	340	PKP	PKPdf	23 57 59.3	-0.7	
TEFE	Tefe	161.65	22	PKP	PKPdf	23 57 59.2	-0.9	
TUC4	UHE Tucurui	161.69	332	PKP	PKPdf	23 57 59.3	-0.8	
BMO2	UHE Belo Monte	161.77	341	PKP	PKPdf	23 57 59.4	-0.8	
ATM1	UHE Belo Monte	161.78	342	PKP	PKPdf	23 57 59.4	-0.9	
MACA	Manacapuru-AM	162.31	9	PKP	PKPdf	23 57 59.9	-0.9	
MT01	Popeta	162.38	141	PKPdf	PKPdf	23 57 58.8	-1.5	
MT01					PKPab	23 58 48.5	+0.8	
TRQA	Tornquist	162.40	169	PKPdf	PKPdf	23 58 00.9	+0.7	
TRQA					PKPab	23 58 47.8	+0.2	
RIB01	Linhares ES	163.48	272	PKP	PKPdf	23 58 00.4	-1.4	
PRPB	Parauapebas	163.52	330	PKP	PKPdf	23 58 01.0	-0.9	
ITTB	Itaituba	163.58	352	PKP	PKPdf	23 58 01.1	-0.9	
SJMB	Sao Joao De Ma	164.12	274	PKP	PKPdf	23 58 01.2	-1.1	
SMTB	Santa Maria do	164.54	318	PKP	PKPdf	23 58 01.1	-1.8	
SDBA	SAO DESIDERIO	165.04	302	PKP	PKPdf	23 58 03.5	+0.1	
LAJE	UHE Lajeado	165.86	318	PKP	PKPdf	23 58 04.8	+0.8	
JANB	Januaria	165.88	291	PKP	PKPdf	23 58 03.6	-0.4	
NPGB	Novo Progresso	166.15	349	PKP	PKPdf	23 58 03.4	-0.9	
DIAM	Diamantina, MG	166.36	278	PKP	PKPdf	23 58 03.2	-1.2	
JQT1	Jequitai-MG	166.72	283	PKP	PKPdf	23 58 02.6	-2.0	
SSV2	Sao Salvador	167.85	309	PKP	PKPdf	23 58 05.7	+0.2	
PLTB	Pedras Altas	168.37	198	PKP	PKPdf	23 58 03.7	-1.6	
SNDB	Serra Nova Dou	169.21	323	PKP	PKPdf	23 58 06.5	+0.2	
BDFB	Brasilia	169.31	297	PKP	PKPdf	23 58 06.3	-0.2	
	comp=Z,9.1nm,1.0s,baz=155,slow=5.0,SNR=6.6							
BDFB					PKPab	23 59 20.3	+1.3	
	comp=Z,4.2nm,0.7s,baz=42,slow=10,SNR=3.4							
LPAZ	La Paz	169.34	67	PKP	PKPdf	23 58 07.1	-0.1	
	comp=Z,3.4nm,0.9s,baz=34,slow=4.0,SNR=13							
LPAZ	La Paz	169.34	67	eP	PKPdf	23 58 04.6	-2.5	
LPAZ	La Paz	169.34	67	PKP	PKPdf	23 58 03.9	-3.2	
PET01	Itanhaem-SP	169.56	248	PKP	PKPdf	23 58 05.0	-1.3	
BAT2	UHE Batalha	169.57	287	PKP	PKPdf	23 58 05.4	-1.2	
VABB	Valinhos	169.60	256	PKP	PKPdf	23 58 03.8	-2.6	
CLDB	Colider	169.97	348	PKP	PKPdf	23 58 06.8	0.0	
IPMB	Ipameri, GO	170.44	285	PKP	PKPdf	23 58 05.8	-1.2	
PDRB	Porto dos Gac	170.84	353	PKP	PKPdf	23 58 07.0	-0.3	
ITU3	Corumbazu	171.11	285	PKP	PKPdf	23 58 06.2	-1.2	
BB19B	Bebedouro	171.23	266	PKP	PKPdf	23 58 05.4	-1.9	
VILB	Vilhena	171.94	16	PKP	PKPdf	23 58 07.0	-0.8	
ITRB	Iturama	172.84	277	PKP	PKPdf	23 58 06.3	-1.8	
PCMB	Pacaembu	173.74	261	PKP	PKPdf	23 58 06.3	-2.1	
SIV	San Ignacio	174.39	33	PKP	PKPdf	23 58 08.5	-0.2	
	comp=Z,10nm,1.0s,baz=155,slow=1.8,SNR=11							
SIV				PKPab	PKPab	23 59 40.1	-1.0	
	comp=Z,6.8nm,0.9s,baz=291,slow=4.7,SNR=4.3							
CPUP	Villa Florida	174.42	185	PKP	PKPdf	23 58 08.7	+0.2	
	comp=Z,1.9nm,0.9s,baz=127,slow=1.1,SNR=3.3							
CPUP				PKPab	PKPab	23 59 40.2	-0.6	
	comp=Z,2.1nm,0.9s,baz=12,slow=3.1,SNR=6.9							
PTLB	Pontes e Lacer	174.60	13	PKP	PKPdf	23 58 07.6	-1.1	
TRCB	Terra Rica	174.69	246	PKP	PKPdf	23 58 07.6	-1.1	
SALV	Santo Antonio	174.74	336	PKP	PKPdf	23 58 07.8	-1.1	
AQDB	Aquidauana	177.91	277	PKP	PKPdf	23 58 07.3	-2.1	

*IDC **26** 23:41:58.7±1.1,26.09N×128.42E,h0km,mb4.4/11, mbtmp4.4/12,ML3.9/1,Error ellipse: s-maj=41.4km s-min=15.0km az=81.0*
*JMA **26** 23:42:00.8±0.4,26.1N×127.9E±.1,h40km,MV4.0/22, NEAR OKINAWAJIMA ISLAND*

ISC 26 23:41:59.3±1.9,26.02N±0.06×128.66E±0.04,h11km±11km, n35,σ1s12/36,mb4.4/11,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNTH	Nagotoyohara	0.76	311	*i* P	Pb	23 42 14.5	0.0
JNTH				*e*S	Sb	23 42 25.1	+0.1
JJT3	Tamagusuku3	0.80	279	P	Pb	23 42 15.9	+0.7
JJT3				*e*S	Sb	23 42 27.0	+0.9
JOW	Kunigami	0.88	337	Pn	Pb	23 42 16.9	+0.1
	788nm,0.3s,baz=146,slow=17,SNR=90						
JOW				Sn	Sg	23 42 27.9	0.0
	2µm,0.3s,baz=134,slow=23,SNR=15						
JOW	Kunigami	0.88	337	*i* P	Pb	23 42 16.8	+0.1
JOW				*e*S	Sb	23 42 28.3	-0.3
JYRO	Yoronjima	1.02	350	*i* P	Pb	23 42 19.0	-0.1
JIH	Iheya	1.19	329	P	Pg	23 42 21.5	-0.7
JOKE	Okinoerabujima	1.34	357	*i* P	Pn	23 42 23.8	-0.2
JAGN	Agumi-jima	1.39	295	*i* P	Pn	23 42 24.5	-0.2
JKE	Kume jima 2	1.71	281	P	Pn	23 42 28.2	-0.9
JKE				*e*S	Sn	23 42 48.5	-2.5
JTK	Tokunoshima	1.78	8	P	Pn	23 42 30.0	-0.2
JAMN	Amaminishikomi	2.27	12	P	Pn	23 42 36.8	0.0
JMZ	Minamidaito 2	2.32	94	P	Pn	23 42 37.2	-0.3
JMZ				*e*S	Sn	23 43 03.2	-2.8
JKDJ	Kitadaitoujima	2.38	91	P	Pn	23 42 37.7	-0.6
JKDJ				*e*S	Sn	23 43 05.6	-1.8
JAM	Amami Oshima	2.53	19	P	Pn	23 42 40.1	-0.3
JTAJ	Takarajima	3.16	9	P	Pn	23 42 48.7	-0.4
JMTN	Minamitane	4.79	24	*e*P	Pn	23 43 12.6	+1.1
JTN	Tanegashima 3	5.05	23	P	Pn	23 43 16.9	+1.8
JNU	Nakatsue	7.34	15	Pn	Pn	23 43 48.2	+

SSLB	Suanglung	3.27	340	P		Pn	23	59	47.6	-1.2
NACB	Ninganchiao	3.49	351	Pn		Pn	23	59	48.6	-3.3
NACB	Ninganchiao	3.49	351	P		Pn	23	59	48.8	-3.0
HATJ	Hateruma jima	3.65	24	*e*S		Sn	00	00	33.2	-2.6
YOJ	Yonaguni jima	3.81	11	Pn		Pn	23	59	56.4	+0.2
YOJ	Yonaguni jima	3.81	11	P		Pn	23	59	57.2	+1.0
YOJ	Yonaguni jima	3.81	11	*e*P		Pn	23	59	55.9	-0.3
YOJ				*e*S		Sn	00	00	36.6	-3.2
IRIF	Iriomote-Funau	3.88	21	P		Pn	23	59	56.1	-1.0
IRIF				*e*S		Sn	00	00	39.1	-2.3
JKRS	Kuro-shima	3.89	25	P		Pn	23	59	56.7	-0.7
JKRS				*e*S		Sn	00	00	39.9	-2.0
YHNB	Yeheng	4.01	349	Pn		Pn	23	59	58.0	-1.0
YHNB	Yeheng	4.01	349	P		Pn	23	59	57.5	-1.6
JIJ	Ishigaki jima	4.06	26	*e*P		Pn	23	59	58.3	-1.4
JIJ				*e*S		Sn	00	00	42.5	-3.4
TATO	Taipei	4.29	351	Pn		Pn	00	00	02.2	-0.7
TATO	Taipei	4.29	351	P		Pn	00	00	01.7	-1.2
JISG	Ishigakijimahi	4.33	27	*e*S		Sn	00	00	49.5	-3.0
JTJ	Tarama	4.55	30	*e*S		Sn	00	00	55.7	-2.3
JMJ2	Miyako jima3	4.95	35	*e*S		Sn	00	01	07.0	-0.8
KNMB	Chin-men Tao	5.12	317	Pn		Pn	00	00	12.1	-2.2
TGY	Tagaytay City	6.68	190	Pn		Pn	00	00	37.3	+1.5
	73nm,0.3s,baz=320,slow=6.2,SNR=1.7									
JNTH	Nagotoyohara	7.87	42	*e*P		Pn	00	00	51.9	-0.1
JOW	Kunigami	8.26	41	Pn		Pn	00	00	57.5	+0.1
	5.8nm,0.3s,baz=118,slow=22,SNR=12									
JOW				Sn		Sn	00	02	22.3	-7.1
	0.9nm,0.3s,baz=101,slow=20,SNR=0.9									
	15nm,0.3s									
JOW	Kunigami	8.26	41	*e*P		Pn	00	00	57.3	0.0
JYRO	Yoronjima	8.50	41	*e*P		Pn	00	01	00.1	-0.6
JOKE	Okinoerabujima	8.82	40	*e*P		Pn	00	01	02.6	-2.5
NJ2	Nanjing	11.68	346	*e*P		Pn	00	01	43.8	-0.4
NJ2				pmax	pmax					
	comp=Z,8.0nm,0.5s									
JNU	Nakatsue	14.58	30	Pn		Pn	00	02	22.8	-1.1
	comp=Z,0.2nm,0.3s,baz=0.8,slow=19,SNR=1.9									
	comp=Z,3.5nm,0.7s									
LYN	LuoYang	16.24	330	P		P	00	02	51.5	+3.3
LYN				sP	pP		00	02	54.8	-2.1
LYN				pmax	pmax					
	comp=Z,26nm,1.0s									
KSRS	Korea Array	17.41	15	P		Pn	00	02	59.9	-0.3
	comp=Z,0.2nm,0.3s,baz=198,slow=12,SNR=13									
	comp=Z,2.0nm,0.7s									
XAN	Xi'an	17.72	321	P		P	00	03	08.3	+3.6
XAN				pmax	pmax					
	comp=Z,12nm,1.3s									
HNS	HongShan	17.85	340	⇑P		P	00	03	10.5	+4.4
HNS				pmax	pmax					
	comp=Z,10.0nm,0.8s									
PZH	PanZhiHua	19.59	291	P		Pn	00	03	25.5	-1.4
MPSI	Mapaga	20.38	187	P		P	00	03	34.0	+0.1
	comp=Z,17nm,0.9s									
SBUM	Sibu	20.59	209			P	00	03	36.4	+0.2
SBUM				IAmb	IAmb		00	03	37.9	
	comp=Z,30nm,1.5s									
MJAR	Matsushiro Arr	21.08	38	P		P	00	03	41.3	-0.1
	comp=Z,0.5nm,0.4s,baz=237,slow=11,SNR=2.0									
	comp=Z,0.5nm,0.4s									
APSI	Ampana	21.50	181	P		P	00	03	46.2	+0.2
	comp=Z,53nm,0.9s									
CHTO	Chiang Mai	21.95	269			P	00	03	50.0	-0.9
CMAR	Chiang Mai Arr	22.01	268	P		P	00	03	50.9	-0.7
	comp=Z,1.6nm,0.3s,baz=71,slow=8.8,SNR=9.3									
	comp=Z,1.6nm,0.3s									
LZH	Lanzhou	22.19	318	*e*P		P	00	03	59.3	+5.9
LZH				pP	sP		00	04	05.5	-0.9
LZH				pmax	pmax					
	comp=Z,14nm,0.7s									
KSM	Kuching	22.37	213	P		P	00	03	55.2	-0.1
KSM				IAmb	IAmb		00	03	57.9	
	comp=Z,32nm,1.2s									
CN2	Changchun	23.18	6	P		P	00	04	07.8	+4.2
CN2				pmax	pmax					
	comp=Z,10.0nm,0.6s									
BNX	BinXian	25.33	9	⇓P		P	00	04	31.5	+8.0
BNX				pmax	pmax					
	comp=Z,8.0nm,1.1s									
KAPI	Kappang	25.68	186	P		P	00	04	26.5	-0.4
	comp=Z,6.1nm,0.3s,baz=358,slow=11,SNR=4.2									
	comp=Z,6.1nm,0.3s									
IPM	Ipoh	26.15	235			P	00	04	30.7	-0.5
IPM				IAmb	IAmb		00	04	33.6	
	comp=Z,11nm,0.8s									
GTA	Gaotai	26.75	319	*e*P		P	00	04	39.0	+2.4
GTA				pP	pP		00	04	44.3	-1.9
GTA				pmax	pmax					
	comp=Z,3.0nm,1.0s									
EDFI	Ende, Flores	29.28	181	P		P	00	04	57.8	-1.6
SONM	Songino Array	29.92	338	P		P	00	05	03.0	-1.8
	comp=Z,1.2nm,0.6s,baz=154,slow=8.3,SNR=7.0									
	comp=Z,1.2nm,0.6s									
PPI	Padang Panjang	29.95	228	P		P	00	05	04.5	-0.7
WOJI	Wonogiri, Jawa	30.46	202	P		P	00	05	09.1	-0.5
MDSI	Maura Dua	30.65	217	P		P	00	05	11.5	+0.1
WMQ	Urumqi	36.76	317	*e*P		P	00	06	06.3	+2.0
FITZ	Fitzroy Crossi	38.72	175	P		P	00	06	19.1	-1.8
	comp=Z,1.1nm,0.4s,baz=35,slow=8.6,SNR=5.0									
	comp=Z,1.1nm,0.4s									
MKAR	Makanchi Array	41.50	318			P	00	06	44.0	+0.1
MKAR	Makanchi Array	41.50	318	P		P	00	06	42.9	-0.9
	comp=Z,2.0nm,0.7s,baz=114,slow=9.1,SNR=9.9									
	comp=Z,2.0nm,0.7s									
MAKZ	Makanchi	41.70	318	P		P	00	06	44.0	-1.5
MAKZ				IAmb	IAmb		00	06	53.8	
	comp=Z,9.9nm,1.2s									
H11N1	WAKE ISLAND Hy	41.86	83	T		T	00	51	41.9	
	baz=282,slow=74,SNR=28									
H11N2	WAKE ISLAND Hy	41.87	83	T		T	00	51	49.0	
	baz=282,slow=74,SNR=26									
H11N3	WAKE ISLAND Hy	41.88	83	T		T	00	51	44.4	
	baz=282,slow=74,SNR=27									
H11S3	WAKE ISLAND Hy	41.88	85	T		T	00	51	44.8	
	baz=281,slow=75,SNR=41									
H11S1	WAKE ISLAND Hy	41.89	85	T		T	00	51	44.1	
	baz=281,slow=75,SNR=62									
H11S2	WAKE ISLAND Hy	41.90	85	T		T	00	51	46.6	
	baz=281,slow=75,SNR=45									
WB0	Warramunga Arr	41.97	163			P	00	06	47.2	-0.7
PSA00	Pilbara Seismi	42.09	183	P		P	00	06	47.5	-1.3
PSA00				IAmb	IAmb		00	06	49.4	
	comp=Z,7.8nm,0.9s									
PSA00	Pilbara Seismi	42.09	183	P		P	00	06	47.8	-1.0
PSA00				IAmb	IAmb		00	06	49.4	
	comp=Z,14nm,1.0s									
WRA	Warramunga Arr	42.12	163	P		P	00	06	49.6	+0.5
WRA	Warramunga Arr	42.12	163	P		P	00	06	48.0	-1.1
	comp=Z,3.3nm,0.8s,baz=343,slow=8.2,SNR=20									
WRA				PcP		PcP	00	08	42.5	-0.8
	comp=Z,0.6nm,0.8s,baz=334,slow=3.3,SNR=1.9									
	comp=Z,3.3nm,0.8s									
WR8	Warramunga Arr	42.18	163	P		P	00	06	50.0	+0.5
WR8				IAmb	IAmb		00	06	56.3	
	comp=Z,16nm,1.5s									
PETK	Petropavlovsk-	42.27	31	P		P	00	06	51.7	+1.7
PETK	Petropavlovsk-	42.27	31	P		P	00	06	50.1	+0.1
	comp=Z,0.4nm,0.4s,baz=200,slow=6.6,SNR=4.4									
	comp=Z,0.4nm,0.4s									
ZAA0	Zalesovo Array	43.66	329			P	00	07	00.2	-1.0
ZAA0				IAmb	IAmb		00	07	08.8	
	comp=Z,7.1nm,0.8s									
ZALV	Zalesovo Beam	43.66	329			P	00	06	60.0	-1.2
ZALV	Zalesovo Beam	43.66	329	P		P	00	06	59.8	-1.4
	comp=Z,3.1nm,0.7s,baz=111,slow=8.1,SNR=13									
ZALV				S		S	00	13	33.9	+5.3
	comp=Z,0.4nm,0.3s,baz=358,slow=28,SNR=1.2									
	comp=Z,3.1nm,0.7s									
GIRL	Giralia	43.79	191	P		P	00	07	03.1	+0.6
NRN	Naryn	44.02	309	P		P	00	07	04.4	-0.3
KURK	Kurchatov	45.36	322			P	00	07	13.6	-1.2
KURK				IAmb	IAmb		00	07	20.1	
	comp=Z,8.3nm,0.9s									
KURBB	Kurchatov Arra	45.37	322	P		P	00	07	14.1	-0.9
	comp=Z,4.3nm,0.8s,baz=117,slow=7.6,SNR=19									
	comp=Z,4.3nm,0.8s									
AS31	Alice Springs	45.56	165	P		P	00	07	16.7	0.0
ASAR	Alice Springs	45.57	165	P		P	00	07	17.5	+0.7
ASAR	Alice Springs	45.57	165	P		P	00	07	16.4	-0.3
	comp=Z,1.2nm,0.4s,baz=348,slow=7.7,SNR=24									
ASAR				ScP		ScP	00	12	45.9	+0.7
	comp=Z,0.3nm,0.8s,baz=340,slow=4.5,SNR=2.4									
ASAR				S		S	00	13	56.8	-0.1
	comp=Z,0.8nm,1.0s,baz=356,slow=22,SNR=5.5									
	comp=Z,1.2nm,0.4s									

BVAR	Borovoye Array	50.95	322	P		P	00	07	57.3	-0.8
	comp=Z,1.8nm,0.7s,baz=112,slow=10.0,SNR=10.0									
	comp=Z,1.8nm,0.7s									
BRVK	Borovoye	51.02	322			P	00	07	57.8	-0.8
BRVK				IAmb	IAmb		00	08	00.7	
	comp=Z,4.3nm,0.8s									
NWAO	Narrogin (SRO)	53.55	185	P		P	00	08	16.8	-0.6
	comp=Z,9.7nm,0.9s,baz=353,slow=4.6,SNR=4.0									
	comp=Z,9.7nm,0.9s									
STKA	Stephens Creek	55.50	160	P		P	00	08	31.9	+0.3
	comp=Z,4.0nm,0.6s,baz=331,slow=7.7,SNR=11									
	comp=Z,4.0nm,0.6s									
ARTI	Arti	58.53	324	P		P	00	08	51.4	-1.5
KBZ	Khabaz	68.39	310	P		P	00	09	59.3	+1.1
	comp=Z,1.0nm,0.7s,baz=142,slow=5.4,SNR=2.0									
	comp=Z,1.0nm,0.7s									
CAST	Castle Rocks	69.79	29			P	00	10	08.8	+2.2
CAST				IAmb	IAmb		00	10	12.2	
	comp=Z,4.1nm,1.0s									
RAYN	Ar Rayn	70.28	288			P	00	10	09.3	-1.1
RAYN				IAmb	IAmb		00	10	15.5	
	comp=Z,5.1nm,1.0s									
H23K	Yukon River	70.61	26	P		P	00	10	13.2	+1.6
SUA	Susitna One	70.64	31	P		P	00	10	13.1	+1.1
E24K	Your Creek	70.73	23	P		P	00	10	14.8	+2.5
RND	Reindeer	71.24	28			P	00	10	16.8	+1.3
ILAR	Eielson Array	71.87	27	P		P	00	10	20.9	+1.7
	comp=Z,0.4nm,0.7s,baz=292,slow=5.4,SNR=5.8									
	comp=Z,0.4nm,0.7s									
SPITS	Spitsbergen Ar	73.05	348	P		P	00	10	25.7	-0.4
	comp=Z,1.3nm,0.6s,baz=336,slow=5.4,SNR=1.3									
	comp=Z,1.3nm,0.6s									
ARCES	ARCESS Array B	73.09	339	P		P	00	10	28.1	+1.7
	comp=Z,1.3nm,0.8s,baz=83,slow=9.4,SNR=4.2									
	comp=Z,1.3nm,0.8s									
FINES	FINESS Array B	74.90	330	P		P	00	10	39.0	+1.9
	comp=Z,1.0nm,0.7s,baz=45,slow=5.7,SNR=4.4									
	comp=Z,1.0nm,0.7s									
BRTR	Keskin Array B	75.99	307	P		P	00	10	44.3	+0.3
	comp=Z,0.6nm,0.8s,baz=134,slow=8.2,SNR=4.1									
	comp=Z,0.6nm,0.8s									
L29M	L29M	76.02	28	P		P	00	10	45.5	+1.9
K29M	Barlow Dome	76.05	27	P		P	00	10	44.3	+0.5
K29M				IAmb	IAmb		00	10	48.7	
	comp=Z,6.8nm,1.5s									
I30M	Mount Dempster	76.07	25	P		P	00	10	45.0	+1.0
I30M				IAmb	IAmb		00	11	05.8	
	comp=Z,4.9nm,1.3s									
AKASG	Malin Array Be	76.08	319	P		P	00	10	42.5	-1.5
	comp=Z,0.5nm,0.5s,baz=62,slow=6.6,SNR=2.6									
	comp=Z,0.5nm,0.5s									
M29M	Somme Creek	76.08	28	P		P	00	10	46.0	+1.9
M29M				IAmb	IAmb		00	10	49.8	
	comp=Z,3.3nm,0.9s									
HFS	Hagfors	81.04	331	P		P	00	11	10.0	-1.2
	comp=Z,0.6nm,0.6s,baz=147,slow=3.0,SNR=5.7									
	comp=Z,0.6nm,0.6s									
NB2	NORSAR Subarra	81.71	333	P		P	00	11	13.7	-1.1
	comp=Z,4.3nm,1.2s,baz=63,slow=5.3									
NOA	NORSAR Array B	81.71	333	P		P	00	11	14.9	0.0
	comp=Z,0.3nm,0.6s,baz=60,slow=4.7,SNR=3.9									
	comp=Z,0.3nm,0.6s									
GERES	GERESS Array B	86.11	321	P		P	00	11	37.5	-0.1
	comp=Z,0.2nm,0.5s,baz=61,slow=4.9,SNR=3.7									
	comp=Z,0.2nm,0.5s									

NAO ***27*** *00:04:33.3±0.7, 79°.32N×3°.89E, h15km, ML3.0*
DNK ***27*** *00:04:33.4±0.8, 79°.42N×4°.56E, h14km±9km, ML2.0*
BER ***27*** *00:04:35.0±2.8, 79°.36N×4°.07E, h10km, mb(Pn)3.9, Confirmed Earthquake*
KOLA ***27*** *00:04:37.3, 79°.11N×5°.12E, h0km, ML2.5, Greenland sea,Knipovich ridge, north*
FCIAR ***27*** *00:04:38.0, 79°.08N×4°.42E, h10km, station OMEGA has station magnitude of 3.60*

ISC 27 00:04:30.9±1.0, 79°.35N±0°.07×3°.83E±0°.05, h10km, n35, σ2§78/61, 3C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.59	101	Pn		Pn	Pn	00 05 00.6	+1.5
KBS				Sn		Sn	Sn	00 05 18.7	-1.0
KBS	Kingsbay	1.59	101	P		Pn	Pn	00 05 00.6	+1.5
KBS				S		Sn	Sn	00 05 18.6	-1.1
KBS	Kingsbay	1.59	101	⇑*e*P		Pn	Pn	00 05 00.8	+1.8
KBS				*e*S		Sn	Sn	00 05 18.6	-1.1
KBS				IAML				00 05 28.8	
	comp=Z,99nm,0.3s								
KBS	Kingsbay	1.59	101	*i* P		Pn	Pn	00 05 00.2	+1.1
KBS				*i* S		Sn	Sn	00 05 18.6	-1.1
BRBB	Barentsburg B	2.40	117	Pn		Pn	Pn	00 05 12.9	+2.8
BRBB				Sn		Sn	Sn	00 05 39.5	+0.1
BRBB	Barentsburg B	2.40	117	P		Pn	Pn	00 05 12.6	+2.5
BRBB				S		Sn	Sn	00 05 39.0	-0.3
BRBB	Barentsburg B	2.40	117	*e*P		Pn	Pn	00 05 12.8	+2.8
BRBB				*e*S		Sn	Sn	00 05 39.1	-0.3
BRBA	Barentsburg A	2.42	117	Pn		Pn	Pn	00 05 13.0	+2.6
BRBA				Sn		Sn	Sn	00 05 39.9	-0.1
BRBA	Barentsburg A	2.42	117	*e*P		Pn	Pn	00 05 13.2	+2.9
BRBA				*e*S		Sn	Sn	00 05 39.7	-0.2
BRBA				IAML				00 05 44.2	
	comp=Z,46nm,0.3s								
SPA0	Spitsbergen Ar	2.72	109	Pn		Pn	Pn	00 05 17.5	+2.9
	baz=308,slow=12								
SPA0				Sn		Sn	Sn	00 05 47.4	0.0
	baz=299,slow=14								
SPA0	Spitsbergen Ar	2.72	109	⇑*i* P		Pn	Pn	00 05 17.5	+2.9
SPA0				*i* S		Sn	Sn	00 05 47.2	-0.2
SPA0	Spitsbergen Ar	2.72	109	⇑*e*P		Pn	Pn	00 05 17.4	+2.9
SPA0				*e*S		Sn	Sn	00 05 47.2	-0.2
SPA0				IAML				00 05 55.8	
	comp=Z,28nm,0.8s								
SPITS	Spitsbergen Ar	2.72	109	P		Pn	Pn	00 05 17.4	+2.9
SPITS				S		Sn	Sn	00 05 47.2	-0.2
HSPB	Hornsund (broa	3.36	129	Pn		Pn	Pn	00 05 26.6	+3.2
HSPB				Sn		Sn	Sn	00 06 02.2	-1.1
HSPB	Hornsund (broa	3.36	129	P		Pn	Pn	00 05 26.4	+3.0
HSPB				S		Sn	Sn	00 06 02.1	-1.1
HSPB	Hornsund (broa	3.36	129	*e*P		Pn	Pn	00 05 25.9	+2.5
HSPB				*e*S		Sn	Sn	00 06 01.5	-1.8
HSPB	Hornsund (broa	3.36	129	*e*P		Pn	Pn	00 05 26.3	+3.0
HSPB				*e*S		Sn	Sn	00 06 02.0	-1.3
HSPB				IAML				00 06 06.8	
	comp=Z,27nm,0.5s								
NOR	Nord	4.07	313	Pn		Pn	Pn	00 05 35.1	+2.1
NOR	Nord	4.07	313	*e*P		Pn	Pn	00 05 35.0	+1.9
NOR	Nord	4.07	313	*i* P		Pn	Pn	00 05 35.1	+2.1
NOR				IAML				00 05 53.1	
	comp=Z,2.6nm,0.3s								
HOPEN	Hopen	5.25	112	Pn		Pn	Pn	00 05 51.5	+2.2
HOPEN				Sn		Sn	Sn	00 06 47.2	-2.4
HOPEN	Hopen	5.25	112	*e*P		Pn	Pn	00 05 51.2	+2.0
HOPEN				*e*S		Sn	Sn	00 06 46.0	-3.6
HOPEN	Hopen	5.25	112	*e*P		Pn	Pn	00 05 51.6	+2.4
HOPEN				*e*S		Sn	Sn	00 06 46.6	-3.0
DAG	Danmarks Havn	5.30	252	*i* P		Pn	Pn	00 05 53.1	+3.1
DAG				*i*				00 06 47.7	
DAG				IAML				00 06 51.3	
	comp=Z,3.8nm,0.3s								
BJO1	Bjornoya	5.94	137	P		Pn	Pn	00 06 00.9	+2.3
BJO1				S		Sn	Sn	00 07 01.2	-5.3
DBG	Daneborg	7.39	240	Pn		Pn	Pn	00 06 21.4	+2.8
DBG				Sn		Sn	Sn	00 07 37.2	-5.2
DBG	Daneborg	7.39	240	Pn		Pn	Pn	00 06 21.4	+2.8
DBG				Sn		Sn	Sn	00 07 37.2	-5.2
DBG	Daneborg	7.39	240	*i* P		Pn	Pn	00 06 20.8	+2.2
DBG				IAML				00 07 42.6	
	comp=Z,2.0nm,0.3s								
OMEGA	Omega	7.56	58	*e*P		Pn	Pn	00 06 22.4	+1.5
OMEGA				S		Sn	Sn	00 07 41.7	-4.8
	comp=Z,15nm,1.8s								
NEEM	North Greenlan	10.84	288	*i* P		Pn	Pn	00 07 06.0	-0.1
VADS	Vadso	11.28	131	Pn		Pn	Pn	00 07 15.5	+3.7
VADS				Sn		Sn	Sn	00 09 11.1	-6.5
VADS	Vadso	11.28	131	Pn		Pn	Pn	00 07 15.5	+3.7
VADS				Sn		Sn	Sn	00 09 11.1	-6.5
ARA0	ARCESS Array S	11.31	139	Pn		Pn	Pn	00 07 15.8	+3.5
	baz=347,slow=10								
ARA0				Sn		Sn	Sn	00 09 12.4	-6.1
	baz=348,slow=18								
ARA0	ARCESS Array S	11.31	139	Pn		Pn	Pn	00 07 15.8	+3.5
	baz=347,slow=10								
ARA0				Sn		Sn	Sn	00 09 12.4	-6.1
	baz=348,slow=18								
SUMG	Summit	11.94	258	*i* P		Pn	Pn	00 07 20.9	-0.3
SUMG				*i* S		Sn	Sn	00 09 25.0	-9.4
SUMG				IAML				00 09 41.1	
	comp=Z,17nm,3.9s								

OSPL ***27*** *00:10:25.5±1.9, 18°.33N×69°.59W, h81km±10km, ML2.7*
SDD ***27*** *00:10:30.0±2.6, 18°.52N×69°.76W, h62km±12km, MD3.5, ML2.9, MW3.1*

ISC 27 00:10:27.2±1.5, 18°.46N±0°.06×69°.76W±0°.04, h73km±9km, n23, σ1§01/28, 19C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SDD	Santo Domingo	0.14	268	⇑*e*Sg		Sn	Sn	00 10 46.4	+0.7
SDD				IAML				00 10 47.8	
	comp=N,71nm,0.2s								
SDD	Santo Domingo	0.14	268	*i* P		Pn	Pn	00 10 37.4	-0.5
SDD				*e*S		Sn	Sn	00 10 46.4	+0.7
LOSC1	San Cristbal	0.33	260	*i* P		Pn	Pn	00 10 38.7	-0.1
LOSC1				*e*S		Sn	Sn	00 10 48.8	+1.3
LOSC1				IAML				00 10 51.8	
	comp=Z,680nm,0.3s								
DR08	Loma La Naviza	0.55	334	⇑*e*Sg		Sn	Sn	00 10 49.1	-1.8
DR08				IAML				00 10 50.4	
	comp=N,10μm,0.2s								
BANI	BANI	0.57	263	⇑*e*Pg		Pn	Pn	00 10 41.0	-0.1
BANI				IAML				00 10 55.5	
	comp=N,814nm,0.2s								
MIDR	Miches	0.85	52	⇑*e*Sg		Sn	Sn	00 10 55.3	-1.2
MIDR				IAML				00 10 55.4	
	comp=N,134nm,0.2s								
ABDR	Alto Bandera	0.89	293	⇑*e*Sg		Sn	Sn	00 10 58.2	+0.2
ABDR				IAML				00 10 58.8	
	comp=N,581nm,0.2s								
NADR	Nagua	0.89	354	⇑*e*Pg		Pn	Pn	00 10 43.3	-1.2
NADR				⇑*e*Sg		Sn	Sn	00 10 57.7	+0.3
NADR				IAML				00 10 58.0	
	comp=N,1μm,0.2s								
SADR	Isla Saona	0.97	106	*e*Pg		Pn	Pn	00 10 45.9	+0.4
SADR				⇑*e*Pg				00 10 47.2	
SADR				⇑*e*Sg		Sn	Sn	00 11 00.5	+1.4
SADR				IAML				00 11 20.4	
	comp=N,140nm,3.1s								
HIDR	Higuey Centro	1.00	83	⇑*e*Pg		Pn	Pn	00 10 45.4	-0.4
HIDR				IAML				00 11 01.1	
	comp=N,274nm,0.2s								
SC01	Santiago de lo	1.32	317	*i* P		Pn	Pn	00 10 50.5	+0.5
SC01				IAML				00 11 12.1	
	comp=Z,78nm,0.2s								
PODR	Polo	1.47	259	⇑*e*Sg		Sn	Sn	00 11 11.0	+0.2
PODR				IAML				00 11 16.8	
	comp=N,82nm,0.6s								
SDDR	Presa de Saban	1.54	290	⇑*e*Pg		Pn	Pn	00 10 53.1	+0.4
SDDR				⇑*e*Sg		Sn	Sn	00 11 12.7	+0.6
SDDR				IAML				00 11 21.8	
	comp=N,66nm,0.3s								
SDDR	Presa de Saban	1.54	290	*i* P		Pn	Pn	00 10 53.5	+0.8
SDDR				*e*S		Sn	Sn	00 11 12.0	-0.1
SDDR				IAML				00 11 19.7	
	comp=Z,54nm,1.6s								
LODU1	El Espartillar	1.63	266	*i* P		Pn	Pn	00 10 53.6	-0.4
LODU1				IAML				00 11 14.

comp=Z,0.8nm,0.5s,baz=77,slow=8.8,SNR=8.0
comp=Z,0.8nm,0.5s

GTA Gaotai 26.59 319 *eP* **P 00 16 15.3 +2.3**
GTA sP pP 00 16 23.8 +1.2
GTA pmax pmax
comp=Z,3.0nm,1.6s

SONM Songino Array 29.77 339 P **P 00 16 41.0 -0.3**
comp=Z,0.8nm,0.6s,baz=161,slow=10,SNR=4.1
comp=Z,0.8nm,0.6s

KNRA Kununurra 36.86 169 P **P 00 17 43.1 0.0**
KNRA IAmb IAmb 00 18 01.0
comp=Z,6.1nm,1.1s

FITZ Fitzroy Crossi 38.84 175 P **P 00 17 59.8 +0.1**
FITZ Fitzroy Crossi 38.84 175 P **P 00 17 59.2 -0.6**
comp=Z,1.7nm,0.9s,baz=16,slow=7.4,SNR=2.3
comp=Z,1.7nm,0.9s

MKAR Makanchi Array 41.34 318 P **P 00 18 21.2 +0.9**
MKAR Makanchi Array 41.34 318 P **P 00 18 21.6 +1.3**
comp=Z,2.0nm,0.5s,baz=111,slow=8.6,SNR=19
comp=Z,2.0nm,0.5s

MAKZ Makanchi 41.54 318 P **P 00 18 23.1 +1.1**
MAKZ IAmb IAmb 00 18 31.0
comp=Z,3.9nm,0.8s

H11N1 WAKE ISLAND Hy 41.98 83 T T 01 03 20.6
baz=280,slow=75
H11N2 WAKE ISLAND Hy 41.98 83 T T 01 03 23.4
baz=280,slow=75
H11N3 WAKE ISLAND Hy 41.99 83 T T 01 03 22.4
baz=280,slow=75
H11S3 WAKE ISLAND Hy 42.00 85 T T 01 03 20.9
baz=280,slow=75
H11S1 WAKE ISLAND Hy 42.01 85 T T 01 03 24.3
baz=280,slow=75
H11S2 WAKE ISLAND Hy 42.02 85 T T 01 03 21.3
baz=280,slow=75

WB0 Warramunga Arr 42.11 163 P **P 00 18 27.3 +0.5**
WB0 IAmb IAmb 00 19 01.0
comp=Z,4.9nm,1.1s

WRA Warramunga Arr 42.26 163 P **P 00 18 27.4 -0.7**
WRA Warramunga Arr 42.26 163 P **P 00 18 25.8 -2.3**
comp=Z,0.8nm,0.5s,baz=344,slow=9.1,SNR=11
comp=Z,0.8nm,0.5s

ZAA0 Zalesovo Array 43.51 329 **P 00 18 38.5 +0.7**
ZALV Zalesovo Beam 43.51 329 **P 00 18 38.5 +0.7**
ZALV Zalesovo Beam 43.51 329 P **P 00 18 38.8 +1.0**
comp=Z,3.7nm,0.6s,baz=120,slow=7.4,SNR=13
comp=Z,3.7nm,0.6s

KURK Kurchatov 45.20 322 P **P 00 18 52.0 +0.7**
KURK IAmb IAmb 00 18 55.2
comp=Z,6.4nm,1.1s

KURBB Kurchatov Arra 45.21 322 P **P 00 18 52.4 +0.9**
comp=Z,4.4nm,0.9s,baz=114,slow=7.7,SNR=17
comp=Z,4.4nm,0.9s

ASAR Alice Springs 45.70 165 P **P 00 18 54.4 -1.3**
comp=Z,0.4nm,0.3s,baz=339,slow=8.3,SNR=11
comp=Z,0.4nm,0.3s

BVAR Borovoye Array 50.79 322 P **P 00 19 35.7 +1.1**
comp=Z,1.3nm,0.5s,baz=106,slow=8.0,SNR=7.5
comp=Z,1.3nm,0.5s

STKA Stephens Creek 55.64 160 P **P 00 20 09.3 -1.2**
comp=Z,1.5nm,0.5s,baz=347,slow=7.7,SNR=6.3
comp=Z,1.5nm,0.5s

ILAR Eielson Array 71.83 27 P **P 00 21 58.3 +1.5**
comp=Z,0.3nm,0.6s,baz=262,slow=4.7,SNR=4.6
comp=Z,0.3nm,0.6s

FINES FINESS Array B 74.75 330 P **P 00 22 14.9 +0.9**
comp=Z,0.6nm,0.7s,baz=58,slow=7.2,SNR=6.0
comp=Z,0.6nm,0.7s

BRTR Keskin Array B 75.82 307 P **P 00 22 21.1 +0.3**
comp=Z,0.2nm,0.3s,baz=74,slow=6.2,SNR=4.1
comp=Z,0.2nm,0.3s

AKASG Malin Array Be 75.91 319 P **P 00 22 20.2 -0.8**
comp=Z,0.3nm,0.3s,baz=68,slow=4.8,SNR=2.3
comp=Z,0.3nm,0.3s

HFS Hagfors 80.88 331 P **P 00 22 48.5 +0.3**
comp=Z,0.3nm,0.3s,baz=107,slow=5.0,SNR=6.9
comp=Z,0.3nm,0.3s

NOA NORSAR Array B 81.56 333 P **P 00 22 52.3 +0.5**
comp=Z,0.2nm,0.6s,baz=63,slow=4.8,SNR=3.6
comp=Z,0.2nm,0.6s

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*IDC **27** 00:15:53.5±0.9,20°.43N×122°.23E,h0km,mb3.9/12, mbtmp3.9/14,ML3.8/2,Error ellipse: s-maj=27.6km s-min=16.0km az=73.0*
*NEIC **27** 00:15:57.6±2.3,20°.76N±0°.10×121°.97E±0°.07,h10km±1km, mb4.5/11,Error ellipse: s-maj=17.0km s-min=10.6km az=190.0*

ISC 27 00:15:56.7±0.8,20°.7N±0°.1×122°.02E±0°.09,h10km,n43, σ1s18/36,mb4.1/19,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**2.33**	**338**		**Pn**	**00 16 33.0**	**-2.1**
YULB	**Yu-li**	**2.81**	**346**	Pn	**Pn**	**00 16 38.9**	**-2.8**
TPUB	**Ta-pu**	**2.93**	**334**		**Pn**	**00 16 42.6**	**-0.8**
SSLB	**Suanglung**	**3.27**	**343**		**Pn**	**00 16 47.8**	**-0.4**
NACB	**Ninganchiao**	**3.52**	**354**	Pn	**Pn**	**00 16 49.9**	**-1.7**
YOJ	**Yonaguni jima**	**3.90**	**13**	Pn	**Pn**	**00 16 55.4**	**-1.3**
YHNB	**Yeheng**	**4.04**	**352**		**Pn**	**00 16 58.1**	**-0.6**
KNMB	**Chin-men Tao**	**5.06**	**319**	Pn	**Pn**	**00 17 11.0**	**-1.7**
JOW	**Kunigami**	**8.40**	**42**	Pn	**Pn**	**00 17 57.2**	**-1.4**
JOW	**Kunigami**	**8.40**	**42**	Pn	**Pn**	**00 17 57.5**	**-1.1**
	4.0nm,0.3s,baz=231,slow=12,SNR=5.4						
JOW				Sn	**Sn**	**00 19 35.3**	**+1.7**
	1.6nm,0.3s,baz=44,slow=14,SNR=2.0						
	10nm,0.4s						
JMZ	**Minamidaito 2**	**9.90**	**57**	Pn	**Pn**	**00 18 19.9**	**+0.8**
KSRS	**Korea Array**	**17.51**	**16**	P	**P**	**00 20 02.6**	**+0.5**
	0.1nm,0.3s,baz=199,slow=12,SNR=15						
	4.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**21.85**	**268**	P	**P**	**00 20 51.4**	**+1.6**
	1.4nm,0.3s,baz=74,slow=8.3,SNR=5.7						
	1.4nm,0.3s						
SONM	**Songino Array**	**29.91**	**339**	P	**P**	**00 22 05.3**	**+0.4**
	0.8nm,0.6s,baz=159,slow=8.7,SNR=5.9						
	0.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**38.67**	**174**	P	P	00 23 16.1	-4.6
	0.3nm,0.4s,baz=331,slow=10,SNR=1.8						
	0.3nm,0.4s						
MK31	**Makanchi Array**	**41.44**	**318**	P	**P**	**00 23 43.9**	**+0.3**
MKAR	**Makanchi Array**	**41.44**	**318**	P	**P**	**00 23 44.2**	**+0.6**
MKAR	**Makanchi Array**	**41.44**	**318**	P	**P**	**00 23 44.7**	**+1.1**
	1.5nm,0.6s,baz=109,slow=10.0,SNR=11						
	1.5nm,0.6s						
MAKZ	**Makanchi**	**41.64**	**318**	P	**P**	**00 23 44.2**	**-1.0**
MAKZ				IAmb	IAmb	00 23 47.2	
	comp=Z,8.5nm,1.2s						
WB0	**Warramunga Arr**	**41.96**	**162**	P	**P**	**00 23 46.8**	**-1.2**
WB0				IAmb	IAmb	00 24 10.7	
	comp=Z,4.6nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**42.02**	**83**	T	T	01 08 40.4	
	baz=281,slow=77						
H11N2	**WAKE ISLAND Hy**	**42.03**	**83**	T	T	01 08 41.2	
	baz=281,slow=77						
H11N3	**WAKE ISLAND Hy**	**42.04**	**83**	T	T	01 08 43.2	
	baz=281,slow=77						
H11S3	**WAKE ISLAND Hy**	**42.04**	**85**	T	T	01 08 41.2	
	baz=280,slow=75						
H11S1	**WAKE ISLAND Hy**	**42.05**	**85**	T	T	01 08 43.8	
	baz=280,slow=75						
H11S2	**WAKE ISLAND Hy**	**42.06**	**85**	T	T	01 08 45.3	
	baz=280,slow=75						
WRA	**Warramunga Arr**	**42.11**	**163**	P	**P**	**00 23 49.2**	**0.0**
WRA	**Warramunga Arr**	**42.11**	**163**	P	**P**	**00 23 47.1**	**-2.2**
	comp=Z,0.4nm,0.5s,baz=344,slow=9.0,SNR=6.0						
	comp=Z,0.4nm,0.5s						
ZAA0	**Zalesovo Array**	**43.63**	**329**		**P**	**00 24 00.8**	**-0.5**
ZAA0				IAmb	IAmb	00 24 04.0	
	comp=Z,4.4nm,1.0s						
ZALV	**Zalesovo Beam**	**43.63**	**329**		**P**	**00 24 00.9**	**-0.3**
ZALV	**Zalesovo Beam**	**43.63**	**329**	P	**P**	**00 24 01.5**	**+0.2**
	comp=Z,2.5nm,0.6s,baz=116,slow=6.9,SNR=11						
	comp=Z,2.5nm,0.6s						
KURBB	**Kurchatov Arra**	**45.33**	**322**	P	**P**	**00 24 15.1**	**+0.3**
	comp=Z,5.2nm,0.9s,baz=120,slow=7.8,SNR=18						
	comp=Z,5.2nm,0.9s						
ASAR	**Alice Springs**	**45.55**	**165**	P	P	00 24 11.4	-5.5
	comp=Z,0.5nm,0.8s,baz=320,slow=3.3,SNR=4.2						
	comp=Z,0.5nm,0.8s						
BVAR	**Borovoye Array**	**50.91**	**322**	P	**P**	**00 24 58.4**	**+0.4**
	comp=Z,2.6nm,0.9s,baz=108,slow=8.4,SNR=3.9						
	comp=Z,2.6nm,0.9s						
O18K	**Koktuh Hills**	**68.77**	**32**	P	**P**	**00 26 59.6**	**-1.2**
E21K	**Killik River**	**68.78**	**23**	P	**P**	**00 27 00.8**	**+0.1**
E21K				IAmb	IAmb	00 27 28.2	
	comp=Z,12nm,1.5s						
CAST	**Castle Rocks**	**69.92**	**29**		**P**	**00 27 09.0**	**+1.1**
CAST				IAmb	IAmb	00 27 13.3	
	comp=Z,3.5nm,1.0s						
MSEY	**Mahe Island**	**69.93**	**257**	P	**P**	**00 27 10.2**	**+1.5**
PPLA	**Purkeypile**	**69.93**	**29**	P	**P**	**00 27 08.1**	**0.0**
PPLA				IAmb	IAmb	00 27 15.6	
	comp=Z,4.2nm,0.8s						
OHAK	**Old Harbor**	**70.04**	**35**	P	**P**	**00 27 08.5**	**-0.2**
OHAK				IAmb	IAmb	00 27 42.9	
	comp=Z,12nm,1.4s						
FINES	**FINESS Array B**	**74.88**	**330**	P	**P**	**00 27 37.3**	**-0.1**
	comp=Z,1.0nm,1.0s,baz=55,slow=6.2,SNR=2.0						
	comp=Z,1.0nm,1.0s						
BRTR	**Keskin Array B**	**75.90**	**307**	P	**P**	**00 27 43.4**	**-0.5**
	comp=Z,0.6nm,1.0s,baz=102,slow=6.1,SNR=2.7						
	comp=Z,0.6nm,1.0s						
AKASG	**Malin Array Be**	**76.02**	**319**	P	**P**	**00 27 44.0**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=66,slow=4.8,SNR=2.5						
	comp=Z,1.3nm,0.7s						

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*OTT **27** 00:17:15.8±0.1,44°.62N×74°.44W,h5km,MN3.3/20,52km southeast from Cornwall, On Western Quebec Seismic Zone.*
*NEIC **27** 00:17:15.8±0.6,44°.62N±0°.01×74°.44W±0°.01,h5km±1km, mb_Lg2.6/48,ML2.9/10,ML2.6/13(LDO),Error ellipse: s-maj=2.8km s-min=2.3km az=350.0*
*LDO **27** 00:17:16.4±0.8,44°.626N±0°.010×74°.45W±0°.02,h5km±1km, Error ellipse: s-maj=2.8km s-min=1.9km az=249.0*

ISC 27 00:17:15.1±0.7,44°.61N±0°.02×74°.43W±0°.02,h10km,n87, σ0s90/102,New York

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONY	**Lake Ozonia**	**0.11**	**274**		**Pg**	**00 17 17.9**	**+0.1**
LONY				IAML	**Sg**	**00 17 19.2**	**-0.5**
	2µm,0.4s						
LONY					**Sg**	**00 17 19.3**	**-0.5**
LONY				IAML		00 17 19.6	
	6µm,0.1s						
BMNY	**Brushton-Moira**	**0.23**	**347**		**Pg**	**00 17 20.2**	**+0.3**
BMNY					**Sg**	**00 17 23.4**	**+0.2**
PTNY	**Frank Revetta**	**0.37**	**262**		**Pg**	**00 17 22.7**	**+0.2**
PTNY					**Sg**	**00 17 27.6**	**+0.2**
MSNY	**Massena**	**0.49**	**322**		**Pg**	**00 17 24.4**	**-0.2**
MSNY					**Sg**	**00 17 30.8**	**-0.4**
CFNY	**Clifton-Fine,**	**0.63**	**225**		**Pg**	**00 17 27.1**	**-0.2**
CFNY					**Sg**	**00 17 35.9**	**+0.3**
WBO	**Williamsburg**	**0.71**	**303**		**Pg**	**00 17 28.5**	**-0.3**
WBO	**Williamsburg**	**0.71**	**303**	PG	**Pg**	**00 17 28.6**	**-0.3**
WBO				SG	**Sg**	**00 17 38.0**	**-0.2**
WBO				Trac		00 17 39.3	
	comp=Z,75nm,0.1s						
RIGQ	**Rigaud**	**0.84**	**8**	PG	**Pg**	**00 17 30.8**	**-0.6**
RIGQ				SG	**Sg**	**00 17 41.5**	**-0.9**
HBVT	**Hinesburg**	**1.01**	**104**		**Pg**	**00 17 33.8**	**-0.8**
HBVT					**Sg**	**00 17 47.4**	**-0.3**
MNTQ	**Montreal, Queb**	**1.06**	**33**		**Pg**	**00 17 34.7**	**-0.7**
MNTQ				IAML		00 17 49.5	
	comp=E,227nm,0.3s						
MNTQ				IAML		00 17 49.5	
	comp=N,159nm,0.3s						
MNTQ	**Montreal, Queb**	**1.06**	**33**	PG	**Pg**	**00 17 34.5**	**-1.0**
MNTQ				SG	**Sg**	**00 17 48.7**	**-0.5**
MNTQ				Trac		00 17 55.5	
	comp=N,36nm,0.1s						
FLET	**Fletcher**	**1.06**	**84**		**Pg**	**00 17 34.7**	**-0.8**
FLET					**Sg**	**00 17 48.2**	**-1.1**
WCNY	**West Carthage**	**1.08**	**235**		**Pg**	**00 17 35.0**	**-0.8**
WCNY					**Sg**	**00 17 49.1**	**-0.8**
OTAO	**Ottawa Anderso**	**1.12**	**315**	PG	**Pb**	**00 17 35.8**	**-0.8**
OTAO				SG	**Sb**	**00 17 50.8**	**-0.5**
ORIO	**Orleans, Innes**	**1.13**	**318**	PG	**Pb**	**00 17 36.0**	**-0.8**
ORIO				SG	**Sb**	**00 17 50.9**	**-0.7**
ORIO				Trac		00 17 51.4	
	comp=N,62nm,0.1s						
J59A	**Piesco**	**1.15**	**183**		**Pb**	**00 17 36.3**	**-0.8**
J59A				IAML		00 17 53.4	
	comp=N,957nm,0.1s						
J59A				IAML		00 17 53.5	
	comp=N,656nm,0.1s						
OTT	**Ottawa**	**1.20**	**311**		**Pb**	**00 17 37.0**	**-0.9**
OTT	**Ottawa**	**1.20**	**311**	PG	**Pb**	**00 17 37.1**	**-0.8**
OTT				SG	**Sb**	**00 17 52.9**	**-0.6**
OTT				Trac		00 17 53.9	
	comp=N,94nm,0.1s						
MCVT	**Middlebury Col**	**1.23**	**122**		**Pn**	**00 17 37.6**	**-0.8**
VT1	**Waterbury**	**1.24**	**103**		**Pn**	**00 17 38.1**	**-0.3**
GAC	**Glen Almond**	**1.32**	**326**	PG	**Pn**	**00 17 38.9**	**-0.6**
GAC				SG	**Sb**	**00 17 56.4**	**-0.5**
GAC				Trac		00 18 01.8	
	comp=N,26nm,0.1s						
ACCN	**Adirondack Com**	**1.35**	**155**		**Pn**	**00 17 39.3**	**-0.7**
ACCN	**Adirondack Com**	**1.35**	**155**		**Sb**	**00 17 57.6**	**-0.1**
KGNO	**Kingston**	**1.52**	**256**		**Pn**	**00 17 42.7**	**+0.3**
KGNO	**Kingston**	**1.52**	**256**	PG	**Pn**	**00 17 42.5**	**+0.1**
KGNO				SG	**Sb**	**00 18 03.5**	**+0.7**
KGNO				Trac		00 18 11.7	
	comp=N,17nm,0.0s						
TRQ	**Mont Tremblant**	**1.61**	**357**		**Pn**	**00 17 44.0**	**+0.3**
TRQ	**Mont Tremblant**	**1.61**	**357**	PN	**Pn**	**00 17 44.4**	**+0.7**
TRQ				SG	**Sb**	**00 18 05.7**	**+0.2**
TRQ				Trac		00 18 08.7	
	comp=N,123nm,0.2s						
J57A	**Williamstown**	**1.65**	**224**		**Pn**	**00 17 45.0**	**+0.9**
MOQ	**Mont Orford**	**1.70**	**65**	PN	Pg	00 18 44.6	+57
MOQ				SN	Sg	00 19 07.4	+58
MOQ				Trac		00 19 10.0	
	comp=N,44nm,0.1s						
HNH	**Hanover**	**1.79**	**120**		**Pb**	**00 17 48.0**	**-0.1**
LBNH	**Lisbon**	**1.83**	**101**		**Pb**	**00 17 48.5**	**-0.2**
J61A	**Chester**	**1.86**	**132**		**Pn**	**00 17 48.1**	**+1.1**
PLVO	**Plevna**	**1.93**	**284**	PN	**Pn**	**00 17 48.5**	**+0.6**
PLVO				SN	**Sn**	**00 18 13.2**	**+0.9**
PLVO				Trac		00 18 17.1	
	comp=N,57nm,0.1s						
PECO	**Prince Edward**	**1.96**	**251**		**Pn**	**00 17 49.7**	**+1.3**
PECO	**Prince Edward**	**1.96**	**251**	PN	**Pn**	**00 17 49.5**	**+1.1**
PECO				SN	**Sb**	**00 18 15.2**	**-0.1**
PECO				Trac		00 18 17.9	
	comp=N,75nm,0.2s						
TRY	**Troy**	**1.96**	**163**		**Pn**	**00 17 50.1**	**+1.7**
BECQ	**Becancour**	**2.21**	**38**	PN	**Pn**	**00 17 53.4**	**+1.6**
BECQ				SN	**Sn**	**00 18 20.3**	**+1.1**
BECQ				LG	Lg	00 18 24.9	
BECQ				Trac		00 18 25.5	
	comp=N,1.5nm,0.0s						
GRQ	**Grand Remous**	**2.23**	**334**	PN	**Pn**	**00 17 53.2**	**+1.1**
GRQ				SN	**Sn**	**00 18 20.6**	**+0.8**
GRQ				LG	Lg	00 18 24.7	
GRQ				Trac		00 18 29.1	
	comp=N,15nm,0.1s						
PEMO	**Pembroke**	**2.26**	**299**	PN	**Pn**	**00 17 53.2**	**+0.7**
PEMO				SN	**Sn**	**00 18 21.4**	**+1.1**
PEMO				LG	Lg	00 18 25.1	
PEMO				Trac		00 18 26.3	
	comp=N,32nm,0.1s						
DELO	**Deloro Mine**	**2.28**	**269**		**Pn**	**00 17 53.5**	**+0.8**
DELO	**Deloro Mine**	**2.28**	**269**	PN	**Pn**	**00 17 53.9**	**+1.1**
DELO				SN	**Sn**	**00 18 21.9**	**+1.0**
DELO				Trac		00 18 27.3	
	comp=N,29nm,0.1s						
H62A	**Milan**	**2.34**	**90**		**Pn**	**00 17 54.7**	**+1.0**
I62A	**Tamworth**	**2.35**	**107**		**Pn**	**00 17 54.9**	**+1.2**
DPQ	**Saint Jean**	**2.37**	**29**	PN	**Pn**	**00 17 55.4**	**+1.4**
DPQ				SN	**Sn**	**00 18 24.1**	**+0.9**
DPQ				Trac		00 18 31.9	
	comp=N,21nm,0.1s						
L59A	**Walton**	**2.46**	**191**		**Pn**	**00 17 56.4**	**+1.1**
L59A				IAmb_Lg		00 18 36.1	
	comp=Z,26nm,0.7s						
L61B	**Northampton**	**2.51**	**149**		**Pn**	**00 17 57.7**	**+1.7**
K62A	**Royalston**	**2.52**	**140**		**Pn**	**00 17 57.6**	**+1.6**
CHRO	**Chalk River**	**2.52**	**305**	PN	**Pn**	**00 17 56.9**	**+0.8**
CHRO				SN	**Sn**	**00 18 27.5**	**+0.7**
CHRO				LG	Lg	00 18 33.7	
CHRO				Trac		00 18 33.9	
	comp=Z,31nm,0.2s						
BINY	**Binghamton**	**2.66**	**206**		**Pn**	**00 17 58.6**	**+0.5**
J55A	**Hilton**	**2.79**	**242**		**Pn**	**00 18 01.1**	**+1.3**
I63A	**Otisfield**	**2.82**	**100**		**Pn**	**00 18 01.9**	**+1.7**
I63A				IAmb_Lg		00 18 53.0	
	comp=Z,17nm,0.7s						
G62A	**West of Eustis**	**2.84**	**76**		**Pn**	**00 18 01.9**	**+1.4**
WLVO	**Wesleyville**	**2.93**	**258**	PN	**Pn**	**00 18 02.4**	**+0.7**
WLVO				SN	**Sn**	**00 18 37.1**	**+0.2**
WLVO				LG	Lg	00 18 44.5	
WLVO				Trac		00 18 52.5	
	comp=Z,25nm,0.1s						
HRV	**Adam Dziewonsk**	**2.97**	**134**	Pn	**Pn**	**00 18 03.1**	**+0.9**
HRV				IAmb_Lg		00 18 51.2	
	comp=Z,16nm,0.7s						
KSCT	**Kent School, K**	**2.97**	**166**		**Pn**	**00 18 03.5**	**+1.2**
MMNY	**Mt. Morris Dam**	**3.14**	**234**	IAmb_Lg		**00 18 54.0**	
	comp=Z,22nm,0.9s						
WES	**Weston**	**3.18**	**133**	Pn	**Pn**	**00 18 05.8**	**+0.8**
KSPA	**Keystone Colle**	**3.21**	**198**	IAmb_Lg		00 18 58.3	
	comp=Z,22nm,1.1s						
UCCT	**U. Connecticut**	**3.25**	**149**	IAmb_Lg		00 19 00.6	
	comp=Z,23nm,0.8s						
BCX	**Boston College**	**3.29**	**133**	IAmb_Lg		00 19 02.0	
	comp=Z,16nm,0.9s						
SADO	**Sadowa**	**3.36**	**274**	IAmb_Lg		00 19 05.0	
	comp=Z,12nm,0.8s						
L56A	**Greenwood**	**3.36**	**224**	IAmb_Lg		00 19 05.7	
	comp=Z,20nm,0.8s						
PKRO	**Pickering**	**3.39**	**261**	PN	**Pn**	**00 18 09.1**	**+1.0**
PKRO				SN	**Sn**	**00 18 48.5**	**+0.2**
PKRO				LG	Lg	00 18 59.6	
PKRO				Trac		00 19 09.6	
	comp=Z,115nm,0.2s						
WVL	**Waterville**	**3.41**	**89**	IAmb_Lg		00 19 08.8	
	comp=Z,12nm,0.8s						
SFA	**Sept-Chutes**	**3.56**	**44**	PN	**Pn**	**00 18 12.8**	**+2.4**
SFA				SN	**Sn**	**00 18 53.6**	**+1.1**
BUKO	**Buck Lake**	**3.62**	**285**	IAmb_Lg		00 19 12.4	
	comp=Z,21nm,0.7s						
BUKO	**Buck Lake**	**3.62**	**285**	PN	**Pn**	**00 18 11.5**	**+0.4**
BUKO				SN	**Sn**	**00 18 53.3**	**-0.6**
BUKO				Trac		00 19 10.7	
	comp=Z,30nm,0.2s						
M63A	**Gales Ferry**	**3.65**	**151**	IAmb_Lg		00 19 12.9	
	comp=Z,16nm,0.8s						
TORO	**Toronto--Lesli**	**3.67**	**256**	SN	**Sn**	**00 18 54.0**	**-1.2**
TORO				SN	Sb	00 18 54.5	-10
TORO				Trac		00 19 14.4	
	comp=Z,129nm,0.1s						
STCO	**Saint Catharin**	**3.70**	**249**	PN	**Pn**	**00 18 13.3**	**+1.1**
STCO				SN	**Sn**	**00 18 55.8**	**-0.1**
STCO				Trac		00 19 19.2	
	comp=Z,20nm,0.1s						
PKME	**Peaks-Kenny Pk**	**3.71**	**78**		**Pn**	**00 18 13.3**	**+0.9**
L64A	**Middleborough**	**3.75**	**134**	IAmb_Lg		00 19 21.0	
	comp=Z,13nm,0.8s						
WVNY	**West Valley, N**	**3.75**	**235**		**Pn**	**00 18 14.1**	**+1.1**
M57A	**Sunshine Farm,**	**3.82**	**212**	Pn	**Pn**	**00 18 14.9**	**+0.8**
KIPQ	**Kipawa,Quebec**	**3.90**	**306**	PN	**Pn**	**00 18 16.1**	**+1.0**
KIPQ				SN	**Sn**	**00 19 00.3**	**-0.6**
KIPQ				Trac		00 19 23.1	
	comp=Z,14nm,0.2s						
BRNJ	**Basking Ridge**	**3.93**	**181**	IAmb_Lg		00 19 19.4	
	comp=Z,17nm,0.7s						
E62A	**Clayton Lake**	**3.99**	**58**	Pn	**Pn**	**00 18 17.6**	**+1.3**
E62A				IAmb_Lg		00 19 24.9	
	comp=Z,11nm,0.8s						
LDAQ	**Lac Daran**	**4.01**	**32**	Pn	**Pn**	**00 18 18.1**	**+1.4**
N58A	**Sunbury**	**4.13**	**205**	Pn	**Pn**	**00 18 19.0**	**+0.8**
N58A				IAmb_Lg		00 19 24.8	
	comp=Z,14nm,0.7s						
F64A	**Sherman**	**4.48**	**72**	Pn	**Pn**	**00 18 23.7**	**+0.7**
F64A				IAmb_Lg		00 19 37.9	
	comp=Z,16nm,0.7s						
SSPA	**Standing Stone**	**4.72**	**214**	Pn	**Pn**	**00 18 27.5**	**+1.1**
SSPA				IAmb_Lg		00 19 42.2	
	comp=Z,15nm,1.1s						
G65A	**Princeton**	**4.92**	**81**	Pn	**Pn**	**00 18 29.4**	**+0.4**
G65A				IAmb_Lg		00 20 01.4	
	comp=Z,7.7nm,0.8s						
EMMW	**East Machias**	**4.98**	**86**	IAmb_Lg		00 20 02.9	
	comp=Z,11nm,1.0s						
GGN	**Saint George**	**5.42**	**82**	IAmb_Lg		00 20 07.0	
	comp=Z,10nm,0.8s						
P57A	**Homestead Farm**	**5.78**	**209**	IAmb_Lg		00 20 19.6	
	comp=Z,8.8nm,0.8s						
O53A	**New Philadelph**	**6.64**	**231**	IAmb_Lg		00 20 44.8	
	comp=Z,8.8nm,0.8s						
LMN	**Caledonia Moun**	**6.91**	**76**	IAmb_Lg		00 21 03.1	
	comp=Z,6.0nm,0.8s						

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*IDC **27** 00:18:59.4±1.9,21°.12N×122°.74E,h0km,mb3.7/7, mbtmp3.7/7,Error ellipse: s-maj=158.8km s-min=19.8km az=65.0*

ISC 27 00:19:00.2±1.7,21°.3N±0°.4×123°.2E±0°.8,h10km,n13, σ1s34/7,mb3.6/7,Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**29.75**	**337**	P	**P**	**00 25 07.4**	**+0.4**
	0.4nm,0.5s,baz=153,slow=8.7,SNR=2.1						
	0.4nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**40.84**	**84**	T	T	01 11 49.4	
	baz=280						
H11N2	**WAKE ISLAND Hy**	**40.84**	**84**	T	T	01 11 51.1	
	baz=280						
H11N3	**WAKE ISLAND Hy**	**40.86**	**84**	T	T	01 11 50.1	
	baz=280						
H11S3	**WAKE ISLAND Hy**	**40.88**	**86**	T	T	01 11 52.7	
	baz=281,slow=75,SNR=38						
H11S1	**WAKE ISLAND Hy**	**40.89**	**86**	T	T	01 11 50.4	
	baz=281,slow=75,SNR=40						
H11S2	**WAKE ISLAND Hy**	**40.89**	**86**	T	T	01 11 51.1	
	baz=281,slow=75,SNR=24						
MKAR	**Makanchi Array**	**41.72**	**317**	P	**P**	**00 26 48.0**	**-1.4**
	0.5nm,0.6s,baz=115,slow=9.9,SNR=5.0						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**42.40**	**164**	P	**P**	**00 26 53.8**	**-1.3**
	0.4nm,0.4s,baz=343,slow=8.4,SNR=1.8						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**43.68**	**328**	P	**P**	**00 27 04.2**	**-0.9**
	1.2nm,0.5s,baz=117,slow=8.3,SNR=4.7						
	1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**45.52**	**321**	P	**P**	**00 27 19.7**	**-0.2**
	0.9nm,0.8s,baz=116,slow=7.6,SNR=5.8						
	0

ONTNC **Ouen Toro** 18.61 248 P P 00 27 08.3 -0.5
URZ **Urewera** 23.16 196 P P 00 27 56.7 +3.7
HNR **Honiara** 25.34 282 P P 00 28 11.5 -1.6
MSWZ **Moikau Station** 26.61 197 P P 00 28 23.4 -0.7
PMG **Port Moresby** 37.50 276 P P 00 29 58.7 +0.1
20nm,0.7s,baz=111,slow=10,SNR=4.0
20nm,0.7s
STKA **Stephens Creek** 42.40 240 P P 00 30 37.9 -0.5
17nm,0.9s,baz=61,slow=7.1,SNR=9.6
17nm,0.9s
JAY **Jayapura** 45.67 283 P P 00 31 04.5 0.0
28nm,0.8s,baz=134,slow=1.2,SNR=12
28nm,0.8s
WRA **Warramunga Arr** 48.23 257 P P 00 31 22.8 -1.3
19nm,0.8s,baz=91,slow=7.0,SNR=12
19nm,0.8s
ASAR **Alice Springs** 48.48 252 P 00 31 24.1 -1.9
ASAR **Alice Springs** 48.48 252 P P 00 31 24.8 -1.2
145nm,0.6s,baz=85,slow=8.5,SNR=155
MTN **Manton Dam** 52.19 266 P 00 31 52.6 -1.1
MTN IAmb IAmb 00 31 53.1
comp=Z,30nm,0.8s
FITZ **Fitzroy Crossi** 56.60 259 P P 00 32 23.9 -1.3
comp=Z,3.5nm,0.4s,baz=76,slow=8.3,SNR=1.5
comp=Z,3.5nm,0.4s
PSA00 **Pilbara Seismi** 61.58 254 P 00 32 58.2 -0.9
MBWA **Marble Bar** 61.73 254 P P 00 32 59.2 -1.0
SBA **Scott Base** 62.44 184 P P 00 33 05.5 +1.6
VNDA **Vanda** 62.54 186 P 00 33 05.7 +1.2
VNDA **Vanda** 62.54 186 P P 00 33 04.8 +0.4
comp=Z,7.3nm,0.9s,baz=12,slow=6.1,SNR=23
comp=Z,7.3nm,0.9s
VNDA **Vanda** 62.54 186 P P 00 33 04.3 -0.2
VNDA P P 00 33 05.2 +0.7
NWAO **Narrogin (SRO)** 62.98 241 P P 00 33 07.3 -0.9
comp=Z,4.6nm,0.8s,baz=110,slow=12,SNR=1.5
comp=Z,4.6nm,0.8s
MORW **Morawa** 64.24 245 P P 00 33 15.6 -0.8
KAPI **Kappang** 64.90 272 P P 00 33 19.9 -1.1
comp=Z,5.5nm,0.5s,baz=237,slow=18,SNR=3.5
comp=Z,5.5nm,0.5s
TOLI2 **Tolitoli** 65.67 279 P 00 33 25.9 +0.1
TOLI2 IAmb IAmb 00 33 29.1
comp=Z,11nm,0.6s
GIRL **Giralia** 66.59 252 P P 00 33 31.3 -0.2
CCD **Concordia, Ant** 67.42 194 P P 00 33 34.5 -1.9
CCD P P 00 33 35.2 -1.1
JGF **Kuroka** 68.43 320 P P 00 33 42.2 -0.5
MJAR **Matsushiro Arr** 68.52 321 P P 00 33 42.3 -0.9
comp=Z,2.3nm,0.6s,baz=155,slow=5.9,SNR=6.1
comp=Z,2.3nm,0.6s
CASY **Casey** 69.15 205 P P 00 33 46.1 -0.4
JAGI **Jajag, Banyuwa** 69.42 267 P 00 33 47.4 -1.8
UNV **Unalaska Valle** 70.03 5 P P 00 33 51.3 -0.6
baz=189
CNBA **Chernabura Isl** 71.84 9 P P 00 34 04.2 +1.5
CNBA IAmb IAmb 00 34 26.5
comp=Z,31nm,1.1s
CHNA **Chernabura Isl** 71.85 9 P P 00 34 02.3 -0.4
baz=196
SDPT **Sand Point** 72.22 9 P P P 00 34 04.3 -0.7
baz=195
PETK **Petropavlovsk-** 72.85 343 P P 00 34 09.1 +0.4
comp=Z,1.8nm,0.7s,baz=157,slow=5.8,SNR=2.2
comp=Z,1.8nm,0.7s
SAO **San Andreas Ge** 72.85 43 P 00 34 10.3 +1.1
SAO IAmb IAmb 00 34 11.0
comp=Z,18nm,0.8s
PMPB **Monarch Peak** 72.95 43 P P 00 34 11.0 +1.2
PMPB IAmb IAmb 00 34 11.5
comp=Z,16nm,0.7s
UGM **Wanagama** 73.04 266 P P 00 34 10.0 -0.8
HOPS **Hopland Field** 73.16 40 P P 00 34 11.7 +0.8
HOPS IAmb IAmb 00 34 12.9
comp=Z,33nm,1.1s
S14K **Fog Glacier** 73.26 9 P P 00 34 11.0 -0.2
baz=196
KMPM **Mount Pierce** 73.41 38 P P 00 34 14.0 +1.5
KMPM IAmb IAmb 00 34 14.7
comp=Z,26nm,0.9s
CHGN **Chignik** 73.45 10 P P 00 34 11.3 -0.8
baz=197
KMRM **Mail Ridge** 73.53 39 P P 00 34 14.5 +1.4
CBX **Cerro Bola** 73.66 49 P P 00 34 15.0 +0.8
CBX IAmb IAmb 00 34 31.4
comp=Z,20nm,1.0s
MWC **Mount Wilson** 73.69 46 P P 00 34 15.0 +0.6
MWC IAmb IAmb 00 34 15.8
comp=Z,23nm,0.8s
JCC **Jacoby Creek,** 73.71 38 P P 00 34 14.6 +0.6
VES **Vestal, Richgr** 73.88 44 P P 00 34 15.1 -0.1
VES IAmb IAmb 00 34 16.5
comp=Z,28nm,0.9s
KHMM **Horse Mountain** 73.92 38 P P 00 34 16.7 +1.2
KHMM IAmb IAmb 00 34 17.6
comp=Z,16nm,1.0s
KRPM **Rodgers** 73.93 38 P P 00 34 16.3 +0.9
TPO **Tropico Hills** 73.93 46 P P 00 34 15.9 +0.4
TPO IAmb IAmb 00 34 17.4
comp=Z,18nm,0.9s
QSPA **South Pole Qui** 73.95 180 P P 00 34 15.9 +0.7
QSPA IAmb IAmb 00 34 16.8
comp=Z,18nm,0.8s
QSPA **South Pole Qui** 73.95 180 P P 00 34 15.9 +0.7
comp=Z,16nm,0.7s,baz=356,slow=0.7,SNR=106
comp=Z,16nm,0.7s
BFSC **Mount Baldy Ra** 73.98 46 P P 00 34 15.8 -0.2
BFSC IAmb IAmb 00 34 16.7
comp=Z,12nm,0.8s
ESJX **Sierra Juarez** 74.02 49 P P 00 34 16.8 +0.5
ESJX IAmb IAmb 00 34 18.3
comp=Z,20nm,1.1s
O02D **Mt. Diablo Mer** 74.06 39 IAmb IAmb 00 34 18.5
comp=Z,13nm,0.8s
ISA **Isabella, Lake** 74.20 45 P P 00 34 16.8 -0.3
ISA IAmb IAmb 00 34 19.0
comp=Z,16nm,1.0s
KRMB **Red Mountain** 74.23 37 P P 00 34 17.9 +0.8
KRMB IAmb IAmb 00 34 19.4
comp=Z,15nm,0.8s
CMB **Columbia Colle** 74.28 42 P 00 34 17.7 +0.3
BORC **Borrego Spring** 74.34 48 P P 00 34 18.2 +0.3
BORC IAmb IAmb 00 34 19.6
comp=Z,24nm,1.1s
YUH **Yuha Desert** 74.37 49 IAmb IAmb 00 34 19.8
comp=Z,16nm,1.0s
AFDM **Forest Hills D** 74.44 41 P 00 34 18.7 +0.3
KSXB **Camp Six Broad** 74.44 37 P P 00 34 19.1 +0.8
KSXB IAmb IAmb 00 34 20.4
comp=Z,12nm,0.7s
SII **Sitkinak Islan** 74.44 12 P P 00 34 17.5 -0.5
baz=201
ORV **Oroville** 74.47 40 P P 00 34 18.5 0.0
PFO **Pinyon Flats O** 74.49 48 P P 00 34 18.7 -0.2
PMD **Palm Desert** 74.57 48 P P 00 34 19.2 0.0
SLBS **Sierra La Lagu** 74.80 59 P P 00 34 21.3 +0.5
SLBS IAmb IAmb 00 34 22.7
comp=Z,43nm,1.4s
L02F **Cave Junction** 74.80 37 P P 00 34 21.5 +1.2
L02F IAmb IAmb 00 34 22.5
comp=Z,19nm,1.3s
BELC **Belle Mtn. Jos** 75.02 47 IAmb IAmb 00 34 23.6
comp=Z,22nm,0.9s
YBH **Yreka Blue Hor** 75.06 38 IAmb IAmb 00 34 23.9
comp=Z,17nm,0.8s
R17L **Mt. Peulik Vol** 75.06 10 P P 00 34 21.2 -0.2
baz=198
PLK4 **Peulik 4** 75.06 10 IAmb IAmb 00 34 22.0
comp=Z,10nm,0.8s
WAKR **Walker** 75.16 42 IAmb IAmb 00 34 24.4
comp=Z,14nm,0.7s
BC3 **Big Chuckawall** 75.23 48 IAmb IAmb 00 34 24.9
comp=Z,11nm,0.8s
MPK **Martis Peak** 75.23 41 P P 00 34 24.4 +1.2
OHAK **Old Harbor** 75.24 12 P P 00 34 22.4 +0.1
baz=202
HATC **Hat Creek Radi** 75.25 39 P 00 34 23.2 +0.2
HATC IAmb IAmb 00 34 24.8
comp=Z,36nm,1.2s
R18K **Karluk** 75.34 11 P P 00 34 23.2 +0.3
baz=200
BEKR **Beckworth** 75.36 40 P P 00 34 23.8 0.0
GLA **Glamis** 75.37 49 P P 00 34 24.6 +0.8
GLA IAmb IAmb 00 34 26.0
comp=Z,22nm,0.9s
QSM **Queen of Sheba** 75.45 45 P P 00 34 23.8 -0.4

DSP **Deep Springs** 75.48 44 P 00 34 25.3 +1.1
L04D **Klamath Falls** 75.60 38 P 00 34 25.4 +0.4
L04D IAmb IAmb 00 34 26.6
comp=Z,16nm,0.8s
KSRS **Korea Array** 75.62 316 P P 00 34 25.9 +1.0
comp=Z,1.8nm,0.9s,baz=134,slow=7.1,SNR=6.3
comp=Z,1.8nm,0.9s
PIX **Pinacate** 75.63 51 P P 00 34 25.6 +0.4
PIX IAmb IAmb 00 34 26.8
comp=Z,21nm,1.2s
IRM **Iron Mountain** 75.71 48 IAmb IAmb 00 34 27.6
comp=Z,29nm,1.2s
Q17K **Contact Creek** 75.74 10 P P 00 34 24.7 -0.7
baz=199
BBOR **Butler Butte** 75.79 37 P P 00 34 26.6 +0.5
NVAR **Mina Array Bea** 75.85 43 P P 00 34 27.3 +0.7
comp=Z,10.0nm,0.8s,baz=226,slow=9.2,SNR=40
comp=Z,10.0nm,0.8s
PAHR **Pah Rah Range** 75.88 41 P 00 34 26.9 +0.2
I02E **Swisshome, OR** 75.90 35 P P 00 34 27.7 +1.3
KDAK **Kodiak Island** 75.91 12 P P 00 34 26.1 0.0
KDAK IAmb IAmb 00 34 29.8
comp=Z,61nm,1.9s
KDAK **Kodiak Island** 75.91 12 P P 00 34 26.5 +0.4
baz=202
O14K **Tigyukauivet M** 75.91 7 P P 00 34 25.7 -0.4
BLYC **Blythe** 75.94 48 P P 00 34 28.0 +1.1
BLYC IAmb IAmb 00 34 28.9
comp=Z,20nm,1.0s
NV11 **Mina Array Sit** 75.94 43 IAmb IAmb 00 34 28.7
comp=Z,21nm,1.2s
113A **Mohawk Valley,** 76.00 50 P 00 34 27.9 +0.6
113A IAmb IAmb 00 34 29.1
comp=Z,15nm,1.0s
O15K **Ungalikthiuk R** 76.02 8 P P 00 34 26.3 -0.4
O15K IAmb IAmb 00 36 27.5
comp=Z,24nm,1.5s
O15K **Ungalikthiuk R** 76.02 8 P P 00 34 26.3 -0.4
baz=195
WCT **Wildcat Mounta** 76.06 45 IAmb IAmb 00 34 29.5
comp=Z,22nm,1.5s
P16K **Nushagak River** 76.14 9 P P 00 34 27.6 +0.2
P16K **Nushagak River** 76.14 9 P P 00 34 27.3 -0.1
baz=197
Q18K **Katmai Hardscr** 76.26 11 P P 00 34 27.9 -0.4
baz=200
214A **Organ Pipe Nat** 76.31 51 IAmb IAmb 00 34 31.0
comp=Z,18nm,1.2s
HSIG 76.35 54 P P 00 34 29.6 +0.3
HSIG IAmb IAmb 00 34 30.5
comp=Z,17nm,0.9s
TPNV **Topopah Spring** 76.40 45 IAmb IAmb 00 34 31.3
comp=Z,13nm,0.9s
N14K **Kuskokwak Cree** 76.51 7 P P 00 34 29.2 -0.3
N14K **Kuskokwak Cree** 76.51 7 P P 00 34 29.7 +0.2
baz=193
P17K **Kvichak River** 76.53 10 P P 00 34 29.4 -0.2
baz=198
HEBO **Mount Hebo** 76.65 34 P P 00 34 31.5 +0.8
O16K **Kokwok River B** 76.66 9 P P 00 34 29.3 -1.0
O16K **Kokwok River B** 76.66 9 P P 00 34 29.6 -0.8
baz=197
Q20K **Shuyak Island** 76.71 12 P P 00 34 30.9 +0.2
baz=202
SYI **Shuyak Island** 76.71 12 P P 00 34 30.6 0.0
V12A **Nelson** 76.72 46 P 00 34 32.3 +0.9
V12A IAmb IAmb 00 34 33.2
comp=Z,16nm,1.1s
K05A **Summer Lake** 76.73 38 P 00 34 32.5 +1.1
K05A IAmb IAmb 00 34 33.4
comp=Z,22nm,1.0s
Q19K **Cape Douglas,** 76.77 11 P P 00 34 31.6 +0.5
Q19K IAmb IAmb 00 34 37.4
comp=Z,20nm,0.9s
Q19K **Cape Douglas,** 76.77 11 P P 00 34 31.3 +0.3
baz=201
H04D **Lebanon** 76.78 36 P P 00 34 32.2 +0.9
H04D IAmb IAmb 00 34 33.1
comp=Z,25nm,1.3s
M13K **Dall Lake** 76.82 6 P P 00 34 31.6 +0.4
baz=192
J05D **Fort Rock, OR** 76.87 37 IAmb IAmb 00 34 34.0
comp=Z,20nm,0.8s
G03D **McMinnville, O** 76.92 35 P P 00 34 33.5 +1.3
P18K **Big Mountain,** 76.92 10 IAmb IAmb 00 34 32.2
comp=Z,23nm,0.9s
P18K **Big Mountain,** 76.92 10 P P 00 34 31.9 0.0
baz=200
N15K **Kwethluk River** 76.94 8 P P 00 34 32.4 +0.4
N15K IAmb IAmb 00 34 32.7
comp=Z,9.7nm,0.6s
N15K **Kwethluk River** 76.94 8 P P 00 34 32.4 +0.4
baz=195
O17K **Koliganek Bris** 76.98 9 P P 00 34 32.6 +0.5
baz=198
W13A **Hualapai Mount** 77.08 47 IAmb IAmb 00 34 35.4
comp=Z,16nm,1.0s
Y14A **Wickenburg** 77.13 49 IAmb IAmb 00 34 35.4
comp=Z,19nm,1.0s
H04A **Detroit Lake** 77.19 36 IAmb IAmb 00 34 34.3
comp=Z,11nm,0.7s
M14K **Bethel** 77.29 6 P P 00 34 34.7 +1.0
baz=193
PINE **Pine Mountain** 77.35 37 P 00 34 35.6 +0.8
PINE IAmb IAmb 00 34 36.7
comp=Z,18nm,0.9s
O18K **Koktuh Hills** 77.36 10 P 00 34 34.1 -0.2
O18K IAmb IAmb 00 34 35.0
comp=Z,14nm,0.8s
O18K **Koktuh Hills** 77.36 10 P P 00 34 34.8 +0.5
baz=200
M15K **Kasigluk River** 77.38 7 P P 00 34 35.0 +0.7
baz=194
N16K **Nishlik Lake** 77.41 8 P P 00 34 34.7 +0.2
baz=196
P19K **Oil Pt** 77.52 11 P P 00 34 35.1 -0.1
P19K IAmb IAmb 00 34 35.8
comp=Z,16nm,0.9s
P19K **Oil Pt** 77.52 11 P P 00 34 35.1 -0.1
baz=201
E03A **Leban** 77.61 34 IAmb IAmb 00 34 37.6
comp=Z,22nm,0.9s
N17K **Nushagak Hills** 77.69 9 P P 00 34 35.8 -0.3
N17K **Nushagak Hills** 77.69 9 P P 00 34 35.7 -0.3
baz=198
CNPM **China Poot** 77.79 12 P P 00 34 36.6 0.0
CNPM IAmb IAmb 00 35 08.1
comp=Z,52nm,1.7s
L14K **Kuka Creek** 77.80 6 P P 00 34 36.7 +0.1
baz=192
O19K **Port Alsworth** 77.84 10 P P 00 34 36.5 -0.3
baz=200
WVOR **Wild Horse Val** 77.91 39 IAmb IAmb 00 34 39.4
comp=Z,13nm,1.0s
M16K **Timber Creek** 77.92 8 P P 00 34 38.6 +1.3
M16K IAmb IAmb 00 34 39.1
comp=Z,16nm,0.9s
M16K **Timber Creek** 77.92 8 P P 00 34 38.0 +0.8
baz=196
TUC **Tucson** 77.99 51 P 00 34 39.7 +1.2
TUC IAmb IAmb 00 34 40.7
comp=Z,15nm,0.9s
C03A **Quillayute Air** 77.99 32 P P 00 34 39.8 +1.9
N18K **Kilae Creek** 78.03 9 P P 00 34 38.2 +0.3
N18K **Kilae Creek** 78.03 9 P P 00 34 37.3 -0.6
baz=199
O20K **Slope Mountain** 78.03 11 P P 00 34 38.8 +0.8
baz=202
K13K **Kusilvak Mount** 78.20 5 P P 00 34 39.3 +0.6
baz=190
L15K **Ungalak Mounta** 78.25 7 P P 00 34 39.6 +0.6
baz=193
RED **Redoubt Volcan** 78.32 11 P P 00 34 39.0 -0.6
RED IAmb IAmb 00 34 39.2
comp=Z,9.2nm,0.6s
N19K **Bonanza Creek** 78.39 10 P P 00 34 39.5 -0.5
N19K IAmb IAmb 00 34 40.2
comp=Z,27nm,1.7s
N19K **Bonanza Creek** 78.39 10 P P 00 34 39.2 -0.8
baz=200
G06A **Carlson Farm,** 78.39 36 P P 00 34 40.3 0.0
M17K **Holitna River** 78.49 8 IAmb IAmb 00 34 42.1
comp=Z,10nm,0.8s
M17K **Holitna River** 78.49 8 P P 00 34 41.2 +0.9
baz=197
X16A **Lo Mia Camp, P** 78.50 49 P P 00 34 41.5 +0.2

X16A IAmb IAmb 00 34 43.5
comp=Z,20nm,1.0s
J08A **Circle Bar Ran** 78.54 38 IAmb IAmb 00 34 42.8
comp=Z,22nm,1.2s
SEW **Seward** 78.69 13 P P 00 34 42.0 +0.5
SEW IAmb IAmb 00 34 42.4
comp=Z,12nm,0.9s
SEW **Seward** 78.69 13 P P 00 34 41.5 +0.1
baz=205
CLRS **Cowichan Lake** 78.78 31 P P 00 34 42.0 -0.2
CLRS IAmb IAmb 00 34 43.8
comp=Z,12nm,0.9s
Q23K **Middleton Isla** 78.78 14 P P 00 34 43.5 +1.6
baz=208
KNB **Kanab** 78.78 46 P 00 34 43.5 +0.7
KNB IAmb IAmb 00 34 44.8
comp=Z,33nm,1.7s
M18K **Stony River** 78.81 9 P P 00 34 41.7 -0.4
baz=199
K15K **Wolf Creek Mou** 78.85 6 IAmb IAmb 00 34 44.3
comp=Z,26nm,1.3s
K15K **Wolf Creek Mou** 78.85 6 P P 00 34 43.5 +1.2
baz=193,SNR=5.5
PSUT **Pine Spring** 78.85 44 P 00 34 43.5 +0.3
U15A **North Rim** 78.86 47 P 00 34 43.9 +0.6
U15A IAmb IAmb 00 34 45.5
comp=Z,17nm,1.0s
CBB **Campbell River** 78.97 30 P P 00 34 43.5 +0.3
CBB IAmb IAmb 00 34 44.9
comp=Z,17nm,0.9s
PGC **Sidney** 79.01 32 P P 00 34 43.8 +0.3
P23K **Montague Islan** 79.04 14 P P 00 34 43.7 +0.3
WUAZ **Wupatki** 79.07 48 P P 00 34 44.3 -0.1
WUAZ IAmb IAmb 00 34 46.5
comp=Z,16nm,1.1s
L17K **Donlin** 79.08 8 P P 00 34 44.7 +1.2
baz=196,SNR=5.9
ELK **Elko** 79.09 42 P 00 34 44.2 -0.2
BBB **Bella Bella** 79.18 27 P P 00 34 45.0 +0.7
F07A **Phinny Hill Vi** 79.19 36 P P 00 34 44.9 +0.4
HKPS **Hong Kong Po S** 79.20 297 P P 00 34 44.7 -0.4
PKCU **Pink Cliffs** 79.35 46 P P 00 34 46.5 +0.5
PKCU IAmb IAmb 00 34 48.8
comp=Z,23nm,1.2s
DUN6 **Lazy B Ranch** 79.37 52 P 00 34 46.3 +0.3
G08A **Pilot Rock** 79.38 37 P 00 34 45.4 -0.3
G08A IAmb IAmb 00 34 47.2
comp=Z,17nm,1.0s
L18K **Granite Mounta** 79.38 9 P 00 34 45.5 +0.4
L18K **Granite Mounta** 79.38 9 P P 00 34 46.5 +1.4
baz=198,SNR=6.2
MXC **Moxie City** 79.39 35 P P 00 34 45.4 -0.3
NJ2 **Nanjing** 79.40 308 eP P 00 34 47.0 +1.1
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
M19K **Big River Lodg** 79.43 10 P P 00 34 45.4 -0.1
M19K **Big River Lodg** 79.43 10 P P 00 34 44.8 -0.7
baz=200
A04D **Lummi Island** 79.44 32 P P 00 34 45.9 +0.2
LTY **Liberty** 79.60 34 P P 00 34 46.0 -0.8
LTY IAmb IAmb 00 34 47.9
comp=Z,16nm,1.3s
PWL **Port Wells** 79.61 13 P P 00 34 46.1 -0.4
baz=206
L19K **White Mountain** 79.62 9 P P 00 34 46.3 -0.2
baz=200
E07A **Sunnyside** 79.62 35 P P 00 34 47.0 +0.2
E07A IAmb IAmb 00 34 48.4
comp=Z,16nm,0.9s
M20K **Styx River** 79.62 10 P P 00 34 46.5 -0.1
baz=201
X18A **Snowflake** 79.64 50 P P 00 34 47.7 +0.3
K17K **Iditarod** 79.64 8 P P 00 34 47.3 +0.8
K17K **Iditarod** 79.64 8 P P 00 34 47.5 +1.0
baz=196
GAMB **Gambell** 79.66 1 P P 00 34 47.5 +0.9
baz=183
HPIG 79.67 58 P P 00 34 47.3 -0.5
HPIG IAmb IAmb 00 34 49.2
comp=Z,27nm,1.7s
SUA **Susitna One** 79.67 12 P P 00 34 46.6 -0.3
SUA IAmb IAmb 00 34 47.1
comp=Z,9.0nm,0.6s
SUA **Susitna One** 79.67 12 P P 00 34 47.1 +0.2
baz=204
KAIM **Kayak Island** 79.69 15 P P 00 34 47.5 +0.7
baz=210
HAWA **Hanford** 79.70 35 IAmb IAmb 00 34 48.8
comp=Z,15nm,1.0s
MTPU **Mount Pierson** 79.73 46 P P 00 34 48.9 +0.8
YPT **Yellepit** 79.82 36 P P 00 34 47.7 -0.2
GLI **Glacier Island** 79.90 13 P P 00 34 47.3 -0.7
GLI **Glacier Island** 79.90 13 P P 00 34 48.1 +0.1
baz=207
WAH2 **Wahluke Slope** 79.90 35 P P 00 34 48.9 +0.5
WAH2 IAmb IAmb 00 34 49.6
comp=Z,43nm,1.6s
EYAK **Cordova Ski Ar** 79.91 14 P P 00 34 47.7 -0.3
baz=208
J16K **Anvik River** 79.91 7 P P 00 34 48.5 +0.5
J16K **Anvik River** 79.91 7 P P 00 34 49.2 +1.3
baz=194,SNR=8.4
MSU **Marysvale** 79.97 45 P P 00 34 50.1 +0.9
SKT **Skwentna** 80.00 11 P P 00 34 47.5 -1.1
baz=203
V35K **Ketchikan** 80.01 23 P P 00 34 49.2 +0.6
baz=222
E08A **Dider Farm, El** 80.03 36 P P 00 34 49.1 +0.1
E08A IAmb IAmb 00 34 50.5
comp=Z,16nm,1.1s
U33K **Whale Pass** 80.04 22 P P 00 34 49.6 +0.8
baz=221
L20K **Farewell, AK** 80.06 10 P P 00 34 48.3 -0.5
baz=201
W18A **Petrified Fore** 80.06 49 P P 00 34 50.2 +0.5
KNK **Knik Glacier** 80.08 13 P P 00 34 48.8 -0.2
baz=206
LNOR **Lincton Mounta** 80.10 36 P P 00 34 49.6 +0.1
PMR **Palmer** 80.11 12 P P 00 34 48.7 -0.3
PMR IAmb IAmb 00 34 50.5
comp=Z,31nm,1.9s
PMR **Palmer** 80.11 12 P P 00 34 49.1 0.0
baz=205
MFID **Camas Ranch** 80.17 39 P 00 34 50.3 +0.3
MFID IAmb IAmb 00 34 51.4
comp=Z,15nm,1.2s
J17K **VABM Dome** 80.20 7 P P 00 34 50.1 +0.6
baz=196
BERG **Berg Lake** 80.28 15 P P 00 34 50.2 +0.2
BERG IAmb IAmb 00 36 07.3
comp=Z,12nm,0.8s
GHO **Glory Hole Cre** 80.31 12 IAmb IAmb 00 34 50.3
comp=Z,11nm,0.6s
121A **Cookes Peak, D** 80.35 52 P P 00 34 51.6 +0.3
121A IAmb IAmb 00 34 53.5
comp=Z,19nm,0.8s
MA2 **Magadan** 80.38 343 P P 00 34 51.0 +0.5
S31K **Pelican** 80.41 20 P P 00 34 51.4 +0.7
baz=218
DIV **Divide** 80.42 14 P P 00 34 50.5 -0.4
DIV IAmb IAmb 00 34 51.4
comp=Z,13nm,0.8s
D08A **Wollman Farm,** 80.44 35 P 00 34 51.6 +0.4
D08A IAmb IAmb 00 34 52.6
comp=Z,20nm,1.0s
I17K **Unalakleet** 80.49 6 P P 00 34 52.3 +1.3
baz=194
WAX **Waxell Ridge** 80.54 15 IAmb IAmb 00 34 52.6
comp=Z,32nm,1.2s
MESA **MESA** 80.55 16 P P 00 34 52.6 +0.9
baz=212
E09A **Wood Farm, Sta** 80.55 36 P P 00 34 51.9 +0.1
BMRM **Bremner River** 80.55 14 IAmb IAmb 00 34 52.3
comp=Z,26nm,1.2s
BMRM **Bremner River** 80.55 14 P P 00 34 51.9 +0.3
baz=210
WRAK **Wrangell Islan** 80.56 22 P P 00 34 52.1 +0.6
baz=221
J18K **Innoko River** 80.57 8 IAmb IAmb 00 34 52.8
comp=Z,12nm,0.8s
J18K **Innoko River** 80.57 8 P P 00 34 52.0 +0.5
baz=198,SNR=13
S32K **Killisnoo** 80.57 21 P P 00 34 51.9 +0.4
baz=219
BNX **BinXian** 80.58 323 ⇑P P 00 34 54.5 +2.6
BNX pmax pmax

comp=Z,6.0nm,0.7s
BGU Big Grassy Mou 80.62 43 P P 00 34 52.2 -0.2
ZAIG Zacatecas 80.65 63 P P 00 34 53.4 +0.2
HMU Henry Mountain 80.68 46 P P 00 34 52.9 -0.1
SCM Sheep Creek Mo 80.70 13 IAmb IAmb 00 34 52.5
comp=Z,11nm,0.6s
SCM Sheep Creek Mo 80.70 13 P P 00 34 52.1 -0.3
baz=207
KLU Klutina 80.71 14 P P 00 34 52.6 +0.2
KLU Klutina 80.71 14 P P 00 34 52.0 -0.4
baz=208
CRQM Cirque 80.73 15 P P 00 34 52.4 -0.3
CRQM IAmb IAmb 00 34 53.4
comp=Z,20nm,1.2s
PPLA Purkeypile 80.73 10 P P 00 34 52.8 +0.3
baz=202
CRQE Cirque 80.74 15 P P 00 34 52.7 +0.1
baz=211
TGL Tana Glacier 80.81 15 P P 00 34 52.1 -0.8
TGL IAmb IAmb 00 34 53.9
comp=Z,13nm,1.1s
PNL Peninsula 80.82 17 P P 00 34 53.5 +0.5
baz=214
K20K Telida 80.85 9 P 00 34 52.9 -0.1
K20K Telida 80.85 9 P P 00 34 53.5 +0.4
baz=200,SNR=8.5
Q16A Castle Valley 80.86 45 P P 00 34 53.2 -0.6
TABL Table Mountain 80.98 16 P P 00 34 53.5 -0.5
TABL IAmb IAmb 00 34 55.2
comp=Z,17nm,1.3s
B08A Colville Reser 80.98 34 P P 00 34 53.1 -0.9
B08A IAmb IAmb 00 34 54.8
comp=Z,13nm,0.9s
EPT El Paso 81.00 53 P P 00 34 55.2 +0.5
EPT IAmb IAmb 00 37 40.2
comp=Z,15nm,0.7s
TMUT Trail Mountain 81.02 45 P 00 34 55.4 +0.6
TMUT IAmb IAmb 00 34 56.9
comp=Z,16nm,1.0s
LLLB Lillooet 81.05 31 P 00 34 54.0 -0.3
LLLB IAmb IAmb 00 34 55.5
comp=Z,15nm,1.1s
VRDI Verde Repeater 81.06 15 IAmb IAmb 00 34 55.2
comp=Z,19nm,1.3s
H16K Elim 81.07 6 P P 00 34 54.4 +0.4
baz=192
MPU Maple Canyon 81.08 44 P P 00 34 55.1 +0.1
HLID Hailey 81.11 40 P 00 34 54.9 -0.1
HLID IAmb IAmb 00 34 56.8
comp=Z,14nm,1.1s
N25K Chitina, Valde 81.11 14 IAmb IAmb 00 34 55.2
comp=Z,14nm,0.7s
N25K Chitina, Valde 81.11 14 P P 00 34 54.5 0.0
baz=210,SNR=14
GLB Gilahina Butte 81.16 15 IAmb IAmb 00 34 55.3
comp=Z,9.3nm,0.6s
M24K Tolsona, Glenn 81.19 13 P P 00 34 54.9 0.0
baz=208
HVU Hansel Valley 81.22 42 P 00 34 55.3 -0.4
HVU IAmb IAmb 00 34 57.1
comp=Z,16nm,1.3s
J19K Poorman 81.22 8 P 00 34 54.9 -0.1
J19K Poorman 81.22 8 P P 00 34 55.7 +0.8
baz=199
CAST Castle Rocks 81.24 10 P P 00 34 53.7 -1.3
baz=202
G15K Niukluk 81.27 5 P P 00 34 55.8 +0.7
baz=191
P29M Windy Craggy 81.28 18 IAmb IAmb 00 34 56.7
comp=Z,13nm,0.8s
P29M Windy Craggy 81.28 18 P P 00 34 56.2 +0.9
baz=216,SNR=6.4
MCARA McCarthy VSAT 81.30 15 P P 00 34 55.0 -0.4
MCARA McCarthy VSAT 81.30 15 P P 00 34 55.9 +0.5
baz=211
CTU Camp Tracy 81.34 43 P P 00 34 55.8 -0.5
LOGN Logan Glacier 81.34 16 P P 00 34 55.5 -0.3
BARN Barnard Glacie 81.37 16 P P 00 34 55.2 -0.8
CTG Chitna Glacier 81.37 16 P P 00 34 56.5 +0.5
baz=213
CTGM Chitina Glacie 81.38 16 P P 00 34 55.9 -0.1
SRU San Rafael Swe 81.39 45 P 00 34 57.3 +0.7
SRU IAmb IAmb 00 34 58.2
comp=Z,12nm,1.0s
SBM South Baldy 81.44 51 P P 00 34 58.0 +0.8
JLU Jordanelle 81.49 44 P P 00 34 57.2 0.0
O28M Mount Upton 81.52 16 P P 00 34 56.2 -0.7
O28M Mount Upton 81.52 16 P P 00 34 56.7 -0.1
baz=214
Y22A Socorro 81.58 51 P P 00 34 58.0 +0.3
O29M Mount Kennedy 81.58 17 P P 00 34 57.2 +0.2
O29M Mount Kennedy 81.58 17 P P 00 34 57.2 +0.2
baz=215
TRF Thorofare Moun 81.58 11 P P 00 34 56.1 -0.9
baz=204,SNR=7.9
F14K Arctic Creek 81.59 4 P P 00 34 56.9 +0.1
baz=188
H17K Granite Mounta 81.60 6 P P 00 34 57.3 +0.5
H17K IAmb IAmb 00 34 58.3
comp=Z,45nm,1.9s
H17K Granite Mounta 81.60 6 P P 00 34 56.9 +0.1
baz=195
J20K Nowinta River 81.61 9 IAmb IAmb 00 34 57.5
comp=Z,8.6nm,0.6s
J20K Nowinta River 81.61 9 P P 00 34 57.2 +0.3
baz=200,SNR=12
CHUM Lake Minchumin 81.63 10 P P 00 34 56.4 -0.6
baz=202
SMAI San Martin Ant 81.66 159 P P 00 34 58.0 +0.7
SMAI IAmb IAmb 00 34 58.9
comp=Z,21nm,1.1s
Y22D IRIS PASSCAL I 81.67 51 P P 00 34 59.5 +1.3
T35M Bob Quinn 81.75 23 P P 00 34 58.3 +0.4
baz=223
CRNM Carthage 81.76 51 P P 00 34 59.4 +0.8
VHRN Van Horn 81.78 55 P P 00 34 59.3 +0.6
G16K Koyuk River 81.80 5 P P 00 34 58.9 +1.0
baz=192
RND Reindeer 81.81 12 P 00 34 58.0 -0.1
RND IAmb IAmb 00 34 58.7
comp=Z,12nm,0.7s
P18A Preston Nutter 81.83 45 P P 00 34 59.3 +0.2
MNTX Cornudas Mount 81.84 54 P P 00 34 59.2 +0.3
PV05 Paradox Valley 81.89 47 P P 00 35 00.4 +1.1
PV05 IAmb IAmb 00 35 01.3
comp=Z,16nm,0.7s
P30M Million Dollar 81.91 18 P P 00 34 59.5 +0.9
baz=217
MVCO Mesa Verde 81.91 48 P 00 34 59.0 -0.4
MVCO IAmb IAmb 00 35 00.8
comp=Z,20nm,1.6s
HWUT Hardware Ranch 81.92 43 P P 00 34 59.0 -0.3
BSUT Blindstream Ca 81.92 44 P 00 35 00.2 +0.6
BSUT IAmb IAmb 00 35 01.1
comp=Z,14nm,1.0s
BNM Barren Site 81.92 51 P P 00 35 00.1 +0.6
F15K North Star Dit 81.93 4 P P 00 34 59.0 +0.4
baz=190
H18K Honhosa River 81.98 7 P P 00 34 58.7 -0.2
baz=196
BPAW Bear Paw Mtn. 82.06 10 P P 00 34 58.4 -0.9
baz=203
YUK8 Steele Glacier 82.06 16 P P 00 34 59.7 0.0
baz=214
PV10 Paradox Valley 82.07 46 P P 00 35 00.2 0.0
G17K Kiwalik Mounta 82.07 6 P P 00 34 59.4 +0.1
baz=194
PV19 Morning Glory 82.08 47 P P 00 35 00.6 +0.4
PV14 Lion Creek, Pa 82.08 46 P P 00 35 00.5 +0.2
PV14 IAmb IAmb 00 35 01.7
comp=Z,21nm,0.9s
PV17 East Wray Mesa 82.08 47 P P 00 35 00.4 +0.2
MCK McKinley 82.09 11 P P 00 34 58.8 -0.7
MCK IAmb IAmb 00 34 59.8
comp=Z,12nm,0.9s
MCK McKinley 82.09 11 P P 00 34 59.0 -0.4
baz=205,SNR=6.9
PV18 Skein Mesa, Pa 82.10 47 P 00 35 00.3 -0.1
PV20 West Nyswonger 82.10 46 P 00 35 00.5 +0.1
PAX Paxson 82.11 13 P P 00 34 59.2 -0.4
baz=209
S34M Telegraph Cree 82.11 22 P P 00 35 00.7 +1.0
S34M Telegraph Cree 82.11 22 P P 00 35 00.7 +1.0
baz=222,SNR=5.2
PV13 Radium Mtn., P 82.12 47 P P 00 35 00.8 +0.3
PV13 IAmb IAmb 00 35 01.9
comp=Z,12nm,1.0s
PV16 Nyswonger Mesa 82.12 47 IAmb IAmb 00 35 02.0
comp=Z,27nm,1.4s
NEW Newport 82.13 35 P 00 34 59.7 -0.4
PV03 Paradox Valley 82.15 47 IAmb IAmb 00 35 02.0
comp=Z,14nm,1.1s
I20K Naaghedeneel 82.15 9 P P 00 35 00.2 +0.6
baz=200
PV11 David Mesa, Pa 82.15 47 P P 00 35 00.8 +0.3
PV11 IAmb IAmb 00 35 02.8
comp=Z,37nm,1.4s
PV04 Paradox Valley 82.17 46 P P 00 35 01.5 +0.8
M26K Nabesna, AK 82.18 14 IAmb IAmb 00 35 01.0
comp=Z,16nm,1.1s
M26K Nabesna, AK 82.18 14 P P 00 35 00.4 +0.4
baz=211,SNR=6.3
PV21 Cone Mtn., Par 82.20 46 P P 00 35 01.1 +0.2
PV02 Paradox Valley 82.20 47 IAmb IAmb 00 35 02.3
comp=Z,24nm,1.0s
TX31 Lajitas Ar. Si 82.24 57 P P 00 35 01.5 +0.4
TX31 IAmb IAmb 00 37 40.6
comp=Z,20nm,0.9s
TXAR Lajitas Array 82.24 57 P 00 35 01.4 +0.3
TXAR Lajitas Array 82.24 57 P P 00 35 02.1 +1.0
comp=Z,3.4nm,0.7s,baz=218,slow=8.2,SNR=54
comp=Z,3.4nm,0.7s
PV01 Paradox Valley 82.28 47 P P 00 35 01.1 -0.2
PV01 IAmb IAmb 00 35 02.6
comp=Z,16nm,0.7s
YUK3 Moose Creek 82.29 16 P P 00 35 01.1 +0.4
baz=213
HYT Haines Junctio 82.31 17 P 00 35 00.3 -0.5
HYT Haines Junctio 82.31 17 P P 00 35 01.3 +0.5
baz=216,SNR=5.2
PV22 Blue Mesa, Par 82.32 46 P P 00 35 01.7 +0.2
PV22 IAmb IAmb 00 35 02.9
comp=Z,13nm,0.9s
TLIG Tlapa 82.34 69 P P 00 35 01.6 -0.3
TLIG IAmb IAmb 00 35 04.4
comp=Z,9.1nm,0.8s
PV07 Paradox Valley 82.37 47 P P 00 35 02.1 +0.4
PV07 IAmb IAmb 00 35 03.1
comp=Z,10nm,0.7s
BWN Browne 82.39 11 P P 00 35 00.1 -0.8
ANMO Albuquerque 82.39 50 P 00 35 02.3 +0.3
ANMO Albuquerque 82.39 50 P P 00 35 01.9 0.0
ANMO Albuquerque 82.39 50 P P 00 35 02.0 +0.1
YUK4 Talbot Arm 82.42 17 P P 00 35 02.1 +0.7
baz=215
M27K Edge Creek, AK 82.42 15 P 00 35 00.6 -0.7
M27K IAmb IAmb 00 35 02.7
comp=Z,13nm,0.9s
M27K Edge Creek, AK 82.42 15 P P 00 35 01.6 +0.2
baz=212,SNR=11
PV15 Paradox Valley 82.44 47 P P 00 35 01.9 -0.3
PV15 IAmb IAmb 00 35 03.5
comp=Z,14nm,0.8s
P32M Atlin 82.50 20 P P 00 35 02.0 +0.4
P32M Atlin 82.50 20 P P 00 35 02.5 +0.8
baz=220
Q32M Nakina River 82.50 21 P P 00 35 01.8 -0.1
Q32M Nakina River 82.50 21 P P 00 35 02.2 +0.3
baz=221
H19K Roundabout Mou 82.58 8 P P 00 35 01.9 +0.1
H19K Roundabout Mou 82.58 8 P P 00 35 02.4 +0.5
baz=198,SNR=5.3
L26K Log Cabin Wild 82.64 14 P P 00 35 02.6 +0.3
baz=211
G18K Tagagawik 82.66 7 P 00 35 02.0 -0.3
G18K IAmb IAmb 00 35 03.2
comp=Z,11nm,0.9s
G18K Tagagawik 82.66 7 P P 00 35 02.6 +0.3
baz=196,SNR=6.0
ALPN Alpine 82.67 56 P 00 35 03.6 +0.2
O30N Mendenhall 82.69 18 P P 00 35 02.5 -0.2
O30N IAmb IAmb 00 35 03.9
comp=Z,23nm,1.4s
O30N Mendenhall 82.69 18 P P 00 35 03.0 +0.4
baz=218,SNR=10
BVCY Beaver Creek 82.72 15 P P 00 35 03.4 +0.6
baz=213
H20K Anotleneega Mo 82.75 8 P P 00 35 03.4 +0.6
baz=200,SNR=5.1
K24K Donnelly Dome 82.78 13 IAmb IAmb 00 35 04.1
comp=Z,22nm,1.2s
K24K Donnelly Dome 82.78 13 P P 00 35 03.7 +0.6
baz=208
AHID Auburn Hatcher 82.79 42 P P 00 35 03.9 +0.2
AHID IAmb IAmb 00 35 05.7
comp=Z,12nm,0.9s
NEA2 Nenana 82.85 11 IAmb IAmb 00 35 04.5
comp=Z,23nm,1.8s
NEA2 Nenana 82.85 11 P P 00 35 03.3 0.0
baz=205
I21K Tanana 82.89 10 P P 00 35 03.8 +0.3
baz=202
DLBC Dease Lake 82.90 22 P P 00 35 04.2 +0.5
baz=223
WRH Wood River Hil 82.92 11 IAmb IAmb 00 35 04.8
comp=Z,34nm,1.3s
RIDG Independent Ri 82.93 13 P P 00 35 03.4 -0.4
RIDG Independent Ri 82.93 13 P P 00 35 03.8 +0.1
baz=209,SNR=5.0
F17K Baldwin Pennin 82.93 6 P P 00 35 03.1 -0.5
F17K IAmb IAmb 00 35 04.9
comp=Z,19nm,1.0s
F17K Baldwin Pennin 82.93 6 P P 00 35 04.2 +0.6
baz=193
N30M Aishikik Lake 82.95 17 P P 00 35 03.6 -0.3
N30M Aishikik Lake 82.95 17 P P 00 35 03.9 0.0
baz=216
MLY Manley 82.96 10 P P 00 35 03.4 -0.5
baz=203
WHY Whitehorse 82.97 19 P 00 35 04.0 -0.1
WHY IAmb IAmb 00 35 05.3
comp=Z,14nm,1.0s
WHY Whitehorse 82.97 19 P P 00 35 04.5 +0.3
baz=219
L27K Beaver Creek, 83.03 15 P P 00 35 04.3 0.0
baz=212,SNR=7.4
BCAR Beaver Creek A 83.04 15 P P 00 35 04.1 -0.3
G19K Purcell Mounta 83.08 7 P P 00 35 04.3 -0.2
G19K IAmb IAmb 00 35 05.8
comp=Z,13nm,0.8s
G19K Purcell Mounta 83.08 7 P P 00 35 05.0 +0.5
baz=197,SNR=8.8
HDA Harding Lake 83.08 12 IAmb IAmb 00 35 05.0
comp=Z,11nm,0.5s
HDA Harding Lake 83.08 12 P P 00 35 04.2 -0.3
baz=207,SNR=12
MSO Missoula 83.14 37 IAmb IAmb 00 35 06.1
comp=Z,28nm,1.7s
DLMT Dillon 83.17 39 IAmb IAmb 00 35 07.1
comp=Z,14nm,0.8s
H21K Melozitna Rive 83.21 9 IAmb IAmb 00 35 06.5
comp=Z,21nm,1.6s
H21K Melozitna Rive 83.21 9 P P 00 35 05.7 +0.6
baz=201,SNR=5.6
F18K Selawik 83.24 6 P P 00 35 05.1 -0.1
baz=195
TPAW Teton Pass 83.24 41 P 00 35 05.8 -0.3
TPAW IAmb IAmb 00 35 07.6
comp=Z,16nm,0.7s
FXWY Fox Creek 83.27 41 P 00 35 06.3 0.0
FXWY IAmb IAmb 00 35 07.8
comp=Z,43nm,1.8s
P33M Teslin, Yukon 83.27 20 P P 00 35 05.7 0.0
baz=220
R33M Jennings River 83.27 21 P P 00 35 06.3 +0.6
baz=222,SNR=7.0
I23K Minto, Yukon-K 83.30 11 IAmb IAmb 00 35 06.6
comp=Z,16nm,1.3s
I23K Minto, Yukon-K 83.30 11 P P 00 35 05.3 -0.2
baz=205,SNR=7.0
SCRK Sand Creek 83.32 13 P P 00 35 05.8 -0.1
baz=210,SNR=10
COLA College 83.33 11 P P 00 35 05.2 -0.4
COLA College 83.33 11 P P 00 35 05.4 -0.3
baz=206
S22A 4UR Ranch, Cre 83.34 48 P 00 35 06.5 -0.3
S22A IAmb IAmb 00 35 08.7
comp=Z,17nm,1.0s
N31M Braeburn, Yuko 83.35 18 P P 00 35 05.8 -0.1
N31M IAmb IAmb 00 35 07.2
comp=Z,12nm,1.1s
N31M Braeburn, Yuko 83.35 18 P P 00 35 06.7 +0.8
baz=218
SNOW Snow King Moun 83.35 41 P P 00 35 06.4 -0.3
SNOW IAmb IAmb 00 35 08.2
comp=Z,20nm,0.8s
CLN7 Carlsbad 7 83.35 54 P P 00 35 06.6 -0.1
M29M Somme Creek 83.37 16 P P 00 35 05.9 -0.2
M29M Somme Creek 83.37 16 P P 00 35 06.5 +0.4
baz=215,SNR=7.8
IMAR Indian Mountai 83.37 9 P P 00 35 05.9 -0.1
IL31 83.42 12 P P 00 35 05.3 -0.8
IL31 IAmb IAmb 00 35 06.7
comp=Z,10.0nm,0.6s
ILAR Eielson Array 83.42 12 P 00 35 05.3 -0.9
ILAR Eielson Array 83.42 12 P P 00 35 05.5 -0.8
comp=Z,5.4nm,0.5s,baz=228,slow=5.6,SNR=92
comp=Z,5.4nm,0.5s
O20A White River Ci 83.43 45 P 00 35 07.3 +0.2
O20A IAmb IAmb 00 35 08.3
comp=Z,12nm,0.8s
LRM Limekiln Ridge 83.49 39 P P 00 35 07.0 -0.3
E17K Hotham Inlet 83.51 5 P P 00 35 07.2 +0.6
baz=193
HTMS Hat Mesa 83.51 54 P P 00 35 07.9 +0.3
BELA Belgrano 2 83.52 172 P 00 35 05.9 -0.7
BELA IAmb IAmb 00 35 07.0
comp=Z,19nm,1.3s
LOHW Long Hollow 83.52 41 P P 00 35 07.5 0.0
LOHW IAmb IAmb 00 35 08.9
comp=Z,20nm,1.4s
CPRX Cap Rock 83.55 53 P P 00 35 07.9 +0.1
J25K Salcha River, 83.58 12 P 00 35 06.5 -0.7
J25K IAmb IAmb 00 35 07.8
comp=Z,12nm,0.8s
J25K Salcha River, 83.58 12 P P 00 35 07.0 -0.2
baz=209,SNR=15
QLMT Earthquake Lak 83.61 40 P P 00 35 08.4 +0.5
POKR Poker Plat Res 83.63 11 IAmb IAmb 00 35 07.5
comp=Z,26nm,1.0s
POKR Poker Plat Res 83.63 11 P P 00 35 06.8 -0.5
baz=207,SNR=9.5
H22K Ishtalitna Cre 83.65 10 P P 00 35 07.5 +0.1
baz=203,SNR=15
F19K Shaleruckik Mo 83.67 7 P 00 35 06.8 -0.5
F19K IAmb IAmb 00 35 08.3
comp=Z,15nm,0.8s
F19K Shaleruckik Mo 83.67 7 P P 00 35 07.9 +0.5
baz=197
YHB Horse Butte 83.71 40 P P 00 35 07.9 -0.5
YHB IAmb IAmb 00 35 10.5
comp=Z,19nm,1.0s
SAND Sanderson 83.72 57 P 00 35 08.8 +0.2
MNHN Monahans 83.75 55 P P 00 35 08.5 -0.2
YHL Hebgen Lake 83.77 40 P 00 35 09.4 +0.6
YHL IAmb IAmb 00 35 11.0
comp=Z,23nm,0.9s
BW06 Boulder Array 83.78 42 P P 00 35 08.1 -0.8
BW06 IAmb IAmb 00 35 09.6
comp=Z,10nm,0.7s
PD31 Pinedale Array 83.78 42 P P 00 35 08.1 -0.8
PD31 IAmb IAmb 00 35 09.6
comp=Z,10nm,0.8s
PDAR Pinedale Array 83.78 42 P P 00 35 08.3 -0.5
PDAR Pinedale Array 83.78 42 P P 00 35 08.6 -0.3
comp=Z,7.6nm,0.6s,baz=214,slow=3.1,SNR=76
comp=Z,7.6nm,0.6s
K27K Chicken 83.80 14 P P 00 35 07.8 -0.3
K27K Chicken 83.80 14 P P 00 35 08.8 +0.6
baz=212
OVMT Ovando 83.81 37 P P 00 35 07.9 -0.9
BOZ Bozeman (W) 83.87 39 P P 00 35 09.2 0.0
BOZ IAmb IAmb 00 35 10.7
comp=Z,12nm,1.1s
J26L Joseph Creek 83.87 13 P 00 35 08.6 0.0
J26L IAmb IAmb 00 35 10.0
comp=Z,13nm,0.8s
J26L Joseph Creek 83.87 13 P P 00 35 09.0 +0.4
baz=210,SNR=21
H23K Yukon River 83.89 10 P P 00 35 07.5 -1.1
H23K IAmb IAmb 00 35 29.6
comp=Z,23nm,1.9s
H23K Yukon River 83.89 10 P P 00 35 08.2 -0.4
baz=205
G21K Allakaket 83.91 8 P 00 35 08.7 0.0
G21K IAmb IAmb 00 35 09.8
comp=Z,11nm,0.8s
G21K Allakaket 83.91 8 P P 00 35 09.0 +0.4
baz=201,SNR=11
H17A Grant Village 83.92 41 P P 00 35 08.9 -0.6
M30M Minto, Yukon 83.93 17 P P 00 35 08.4 -0.4
M30M Minto, Yukon 83.93 17 P P 00 35 08.8 -0.1
baz=217,SNR=12
YHH Holmes Hill 83.94 40 P P 00 35 09.8 +0.1
E18K Tukpahlearik C 83.95 6 P P 00 35 08.0 -0.8
E18K IAmb IAmb 00 35 10.0
comp=Z,14nm,0.7s
E18K Tukpahlearik C 83.95 6 P P 00 35 09.0 +0.2
baz=194
L29M L29M 84.00 16 IAmb IAmb 00 35 10.6
comp=Z,19nm,0.8s
L29M L29M 84.00 16 P P 00 35 09.8 +0.6
baz=215,SNR=18
D17K Noatak River 84.01 5 P P 00 35 09.7 +0.6
baz=192
YNR Norris Junctio 84.01 40 P P 00 35 11.1 +1.1
F20K Avaraart Lake 84.12 7 IAmb IAmb 00 35 10.8
comp=Z,9.8nm,0.9s
F20K Avaraart Lake 84.12 7 P P 00 35 10.3 +0.7
baz=199
H24K Noodor Dome 84.19 11 P P 00 35 09.0 -1.1
baz=206
ODSA Odessa 84.22 54 P P 00 35 11.7 +0.6
HAYD Hayden 84.27 45 P P 00 35 11.9 +0.6
SDCO Great Sand Dun 84.29 48 P 00 35 10.9 -0.7
SDCO IAmb IAmb 00 38 26.3
comp=Z,15nm,1.2s
M31M Drury Creek, Y 84.32 18 P P 00 35 10.6 -0.3
M31M Drury Creek, Y 84.32 18 P P 00 35 10.8 0.0
baz=219
E19K Redstone River 84.33 7 IAmb IAmb 00 35 11.9
comp=Z,18nm,0.7s
E19K Redstone River 84.33 7 P P 00 35 11.5 +0.8
baz=197
YMP Mirror Lake Pl 84.35 40 P P 00 35 11.7 0.0
PRP Porcupine Dome 84.35 12 P P 00 35 10.2 -0.8
PRP IAmb IAmb 00 35 11.7
comp=Z,19nm,1.1s
PRP Porcupine Dome 84.35 12 P P 00 35 11.4 +0.3
baz=208
DAWY Dawson 84.47 15 IAmb IAmb 00 35 12.6
comp=Z,13nm,0.8s
DAWY Dawson 84.47 15 P P 00 35 11.6 +0.1
baz=214,SNR=18
WTLY Watson Lake, Y 84.55 21 P P 00 35 12.2 +0.1
WTLY Watson Lake, Y 84.55 21 P P 00 35 11.8 -0.2
baz=224
YNE Yellowstone No 84.57 40 P P 00 35 13.1 +0.3
YNE IAmb IAmb 00 35 14.6
comp=Z,20nm,1.4s
F21K Alatna River 84.58 8 P P 00 35 11.5 -0.5
F21K IAmb IAmb 00 35 12.8
comp=Z,7.2nm,0.7s
F21K Alatna River 84.58 8 P P 00 35 12.2 +0.2
baz=201
G22K Bettles 84.58 9 P P 00 35 12.3 +0.3
baz=203
G23K Bananza Creek 84.62 10 P 00 35 12.3 0.0
G23K Bananza Creek 84.62 10 P P 00 35 12.6 +0.4
baz=204,SNR=6.3
I26K Coal Creek Min 84.66 13 P P 00 35 12.6 +0.2
baz=211
K29M Barlow Dome 84.76 16 IAmb IAmb 00 35 14.4
comp=Z,13nm,0.9s
K29M Barlow Dome 84.76 16 P P 00 35 13.6 +0.5
baz=216,SNR=17
H25L Birch Creek 84.96 11 P P 00 35 13.4 -0.5
baz=208
TOAD Toad River Com 84.97 23 P P 00 35 14.9 +0.8
baz=227
F22K John River 85.03 9 P P 00 35 14.9 +0.7
baz=202
G24K Hadweenzic Riv 85.04 11 P P 00 35 14.2 -0.1
baz=206
Q24A Divide 85.06 47 P P 00 35 15.1 -0.3
COLD Coldfoot 85.06 9 P P 00 35 14.4 0.0
COLD Coldfoot 85.06 9 P P 00 35 15.1 +0.7
baz=204
J29N Klondike Camp 85.08 15 P P 00 35 15.4 +0.8

J29N IAmb IAmb 00 35 16.1
comp=Z,18nm,0.8s
J29N Klondike Camp 85.08 15 P P 00 35 15.4 +0.8
baz=215
ISCO Idaho Springs 85.09 46 P 00 35 15.0 -0.6
RLMT Red Lodge 85.09 40 P 00 35 15.2 -0.1
E20K Nigu River 85.22 7 P P 00 35 15.6 +0.5
baz=198
I27K Kandik River 85.24 13 P P 00 35 15.9 +0.5
baz=212
833A Chaparral WMA, 85.34 59 P P 00 35 17.0 +0.4
G25K Bearman Lake 85.35 11 P P 00 35 16.3 +0.5
baz=208
I28M Miner Creek 85.49 14 P 00 35 16.3 -0.3
I28M Miner Creek 85.49 14 P P 00 35 16.4 -0.2
baz=214,SNR=10
HBVL Hebbronville 85.49 60 P P 00 35 18.7 +1.3
HBVL IAmb IAmb 00 35 20.1
comp=Z,20nm,0.9s
MMPY Sheldon Lake, 85.58 19 P 00 35 17.4 +0.3
MMPY Sheldon Lake, 85.58 19 P P 00 35 17.4 +0.3
baz=222,SNR=12
D20K Etivluk River 85.60 7 P P 00 35 17.1 0.0
D20K Etivluk River 85.60 7 P P 00 35 17.6 +0.6
baz=198
E21K Killik River 85.66 8 P P 00 35 17.4 0.0
E21K IAmb IAmb 00 35 19.9
comp=Z,42nm,1.9s
E21K Killik River 85.66 8 P P 00 35 18.1 +0.8
baz=200
J30M Hart River 85.66 16 P 00 35 17.8 +0.2
J30M Hart River 85.66 16 P P 00 35 17.7 +0.2
baz=217,SNR=14
E22K Anaktuvuk Pass 85.66 8 P 00 35 17.2 -0.2
E22K IAmb IAmb 00 35 18.4
comp=Z,11nm,0.9s
E22K Anaktuvuk Pass 85.66 8 P P 00 35 17.9 +0.6
baz=202
C19K Lookout Ridge 85.68 5 P P 00 35 18.2 +0.8
F24K Squaw Lake 85.71 10 P P 00 35 17.9 +0.3
F24K Squaw Lake 85.71 10 P P 00 35 17.7 +0.1
baz=206
TGTN Hyland Airport 85.74 20 P P 00 35 18.5 +0.6
baz=225
B18K Kokolik River 85.75 5 P P 00 35 18.3 +0.7
baz=193
H27K Steamboat Moun 85.80 13 P 00 35 18.2 +0.2
H27K Steamboat Moun 85.80 13 P P 00 35 18.6 +0.6
baz=212,SNR=7.2
E23K Chandalar 85.92 9 P P 00 35 19.1 +0.4
E23K Chandalar 85.92 9 P P 00 35 18.9 +0.3
baz=204
G26K Porcupine Rive 85.95 12 P 00 35 18.9 +0.2
G26K IAmb IAmb 00 35 20.7
comp=Z,18nm,1.1s
G26K Porcupine Rive 85.95 12 P P 00 35 19.7 +1.0
baz=210
E24K Your Creek 86.11 10 P P 00 35 19.9 +0.3
E24K Your Creek 86.11 10 P P 00 35 19.7 +0.2
baz=206
F25K Christian Rive 86.17 11 P P 00 35 20.3 +0.5
F25K IAmb IAmb 00 38 00.1
comp=Z,17nm,1.6s
F25K Christian Rive 86.17 11 P P 00 35 20.3 +0.5
baz=208
I30M Mount Dempster 86.17 15 P 00 35 19.9 -0.1
I30M IAmb IAmb 00 35 20.7
comp=Z,9.8nm,0.8s
I30M Mount Dempster 86.17 15 P P 00 35 19.9 -0.1
baz=217
EGMT Eagleton 86.19 38 P 00 35 20.7 +0.3
BMAR Burnt Mountain 86.22 11 P P 00 35 20.7 +0.6
C21K Knifeblade Rid 86.24 7 P P 00 35 20.6 +0.5
baz=199
D22K Ayikyak River 86.24 8 P P 00 35 20.5 +0.4
D22K Ayikyak River 86.24 8 P P 00 35 20.8 +0.7
baz=202
G27K Doyon Strip 86.26 13 P P 00 35 20.9 +0.6
baz=212
TOLK Toolik Lake Re 86.46 9 P P 00 35 21.4 +0.2
TOLK Toolik Lake Re 86.46 9 P P 00 35 21.3 +0.1
baz=204
H29M Whitestone 86.50 14 P P 00 35 20.9 -0.5
H29M IAmb IAmb 00 35 22.2
comp=Z,13nm,1.0s
H29M Whitestone 86.50 14 P P 00 35 21.6 +0.2
baz=215
F26K Sheenjek River 86.53 11 P P 00 35 22.4 +0.8
F26K IAmb IAmb 00 36 51.4
comp=Z,32nm,1.8s
D23K Nanushuk River 86.59 9 P P 00 35 21.9 +0.1
D23K Nanushuk River 86.59 9 P P 00 35 22.6 +0.8
baz=203
MAW Mawson 86.66 199 P P 00 35 22.0 -0.2
comp=Z,6.5nm,0.6s,baz=123,slow=6.0,SNR=14
comp=Z,6.5nm,0.6s
B21K Ikpikpuk River 86.70 7 P P 00 35 21.8 -0.4
B21K Ikpikpuk River 86.70 7 P P 00 35 23.2 +1.0
baz=200
B20K Meade River 86.79 6 P P 00 35 22.9 +0.3
B20K Meade River 86.79 6 P P 00 35 22.9 +0.3
baz=197
D24K Happy Valley 87.04 9 P P 00 35 24.4 +0.4
D24K Happy Valley 87.04 9 P P 00 35 24.5 +0.6
baz=205
G29M Pine Creek 87.14 14 P P 00 35 25.3 +0.8
baz=215
H31M Peel River 87.15 16 P P 00 35 24.4 -0.2
H31M IAmb IAmb 00 37 59.2
comp=Z,14nm,1.6s
H31M Peel River 87.15 16 P P 00 35 25.1 +0.6
baz=219
C23K Itkillik River 87.41 8 P P 00 35 25.5 -0.1
C23K Itkillik River 87.41 8 P P 00 35 26.2 +0.6
baz=203
E27K Coleen River 87.45 12 P P 00 35 27.2 +1.3
baz=212
ESPZ Base Esperanza 87.53 157 P P 00 35 26.4 -0.1
C24K Franklin Bluff 87.57 9 P P 00 35 27.4 +1.0
baz=205
D25K Kavik River 87.58 10 P P 00 35 26.9 +0.3
baz=207
G30M tAoh Zraii Nji 87.62 14 P P 00 35 26.7 -0.1
G30M IAmb IAmb 00 35 28.1
comp=Z,20nm,1.6s
G30M tAoh Zraii Nji 87.62 14 P P 00 35 27.6 +0.9
baz=217
LAO LASA Array 87.70 40 P 00 35 27.7 +0.1
RSSD Black Hills 87.98 43 P P 00 35 28.6 -0.6
G31M Satah River 88.04 15 P P 00 35 28.5 -0.2
G31M IAmb IAmb 00 35 29.3
comp=Z,14nm,1.4s
G31M Satah River 88.04 15 P P 00 35 28.8 +0.2
baz=219
E28M Babbage River 88.22 12 P P 00 35 30.4 +0.9
baz=214
E29M Blow River 88.38 13 P P 00 35 31.7 +1.4
baz=216
HHC Hu-ho-hao-te 88.41 313 *e*P P 00 35 31.3 +0.1
HHC pmax pmax
comp=Z,27nm,0.6s
HHC pmax pmax
comp=Z,51nm,4.4s
WRGLY Wrigley 88.55 21 P P 00 35 32.0 +0.9
baz=229
F31M Tsiigehtchic 88.58 15 P P 00 35 31.0 -0.2
F31M Tsiigehtchic 88.58 15 P P 00 35 32.0 +0.9
baz=219
DGMT Dagmar 89.70 39 P 00 35 37.1 +0.1
MTO3 Montecristo 89.80 75 P P 00 35 38.0 -0.4
MTO3 IAmb IAmb 00 35 40.0
comp=Z,13nm,1.0s
PLCA Paso Flores 90.15 133 P P 00 35 39.1 -0.3
comp=Z,3.1nm,1.0s,baz=227,slow=5.9,SNR=5.6
comp=Z,3.1nm,1.0s
BI02 San Fabin de 91.09 129 P P 00 35 44.3 +0.5
BI02 IAmb IAmb 00 35 45.1
comp=Z,8.1nm,0.8s
PZH PanZhiHua 91.25 297 P P 00 35 46.0 +1.2
CMAR Chiang Mai Arr 91.42 289 P P 00 35 45.1 -0.4
comp=Z,1.0nm,0.7s,baz=117,slow=2.9,SNR=4.7
comp=Z,1.0nm,0.7s
TROLL Troll, Antarti 92.09 179 ⇓P P 00 35 47.1 -0.7
comp=Z,322nm,0.7s
MT01 Popeta 92.10 126 P 00 35 48.8 +0.4
WLAR White Oak Lake 92.20 56 P P 00 35 48.5 -0.2

SNAA Sanae 92.28 178 ⇓P P 00 35 47.6 -1.0
comp=Z,40nm,0.8s
SNAA Sanae 92.28 178 P P 00 35 47.3 -1.3
comp=Z,1.4nm,0.8s,baz=198,slow=12,SNR=6.5
comp=Z,1.4nm,0.8s
MDND Maddock 92.29 41 P P 00 35 48.0 -0.9
VNA3 Neumayer Olymp 92.30 175 ⇓P P 00 35 47.8 -0.8
comp=Z,5.8nm,1.0s
ECSD EROS Data Cent 92.81 45 P 00 35 50.5 -0.9
VNA1 Neumayer--Stat 92.98 176 ⇓P P 00 35 51.7 0.0
comp=Z,9.1nm,1.1s
WHAR Wooly Hollow 93.33 54 P 00 35 54.0 0.0
WHAR IAmb IAmb 00 39 04.5
comp=Z,11nm,1.2s
F33A 5 Mile Ranch, 93.72 43 P 00 35 54.1 -1.4
F33A IAmb IAmb 00 35 55.8
comp=Z,12nm,1.2s
A36M Sachs Harbour 93.93 14 P P 00 35 56.4 +0.6
baz=227
AGMN Agassiz Nation 94.80 41 P P 00 35 58.4 -2.0
AGMN IAmb IAmb 00 36 00.2
comp=Z,5.6nm,0.9s
I37A Lemond, Waseca 95.10 46 P P 00 36 01.2 -0.7
SPMN Marine on St. 95.86 45 P 00 36 05.4 +0.1
N41A Harden Midland 95.96 49 P P 00 36 05.7 -0.2
N41A IAmb IAmb 00 40 00.4
comp=Z,7.6nm,0.8s
TBO Thunder Bay 99.02 42 Pdif Pdif 00 36 18.2 -1.2
ZALV Zalesovo Beam 108.85 322 PKiKP PKiKP 00 41 04.9 -1.1
comp=Z,0.3nm,0.3s,baz=116,slow=3.4,SNR=1.9
MKAR Makanchi Array 110.25 314 PKiKP PKiKP 00 41 07.4 -1.6
comp=Z,1.0nm,0.8s,baz=66,slow=1.5,SNR=5.0
KURBB Kurchatov Arra 112.74 319 PKiKP PKiKP 00 41 11.8 -1.7
comp=Z,0.6nm,0.7s,baz=89,slow=1.6,SNR=6.3
BVAR Borovoye Array 117.51 322 PKP PKPdf 00 41 21.7 -1.0
comp=Z,1.7nm,0.6s,baz=116,slow=3.4,SNR=12
SPITS Spitsbergen Ar 117.64 357 PKP PKPdf 00 41 20.9 -1.4
comp=Z,2.2nm,0.6s,baz=32,slow=4.9,SNR=4.7
ARCES ARCESS Array B 125.08 351 PKP PKPdf 00 41 36.4 -0.4
comp=Z,3.1nm,0.5s,baz=18,slow=1.4,SNR=37
BOSA Boshof 131.44 204 PKP PKPdf 00 41 49.8 -0.6
comp=Z,3.6nm,0.9s,baz=90,slow=4.4,SNR=4.3
FINES FINESS Array B 132.28 347 PKP PKPdf 00 41 50.6 0.0
comp=Z,0.8nm,0.5s,baz=19,slow=4.0,SNR=18
NB2 NORSAR Subarra 134.90 356 PKP PKPdf 00 41 55.3 -0.3
comp=Z,1.2nm,0.7s,baz=37,slow=2.6
NOA NORSAR Array B 134.90 356 PKP PKPdf 00 41 54.7 -0.9
comp=Z,1.1nm,0.7s,baz=14,slow=4.0,SNR=7.2
HFS Hagfors 135.58 354 PKHKP PKPpre 00 41 42.5
comp=Z,0.4nm,0.5s,baz=81,slow=3.8,SNR=4.4
HFS PKP PKPdf 00 41 56.0 -0.8
comp=Z,2.1nm,0.7s,baz=45,slow=0.8,SNR=5.6
SUW Suwalki 139.61 344 PKPdf PKPpre 00 42 01.3
EKA Eskdalemuir Ar 140.34 7 PKhKP PKPpre 00 41 57.1
comp=Z,0.4nm,0.5s,baz=311,slow=2.5,SNR=4.2
AKASG Malin Array Be 140.38 336 PKhKP PKPpre 00 41 56.4
comp=Z,0.2nm,0.3s,baz=47,slow=1.6,SNR=1.9
CLZ Clausthal 144.09 354 *e*PKPbc **PKPab 00 42 10.8 -0.1**
baz=11,slow=3.1
STHS Stebnicka Huta 144.25 342 *e*PKP **PKPab 00 42 11.3 -0.4**
CLL Collm 144.30 351 *i* PKPdf **PKPab 00 42 11.0 -0.8**
comp=Z,13nm,1.4s
KOLS Kolonicke sedl 144.35 340 *e*PKP PKPbc 00 42 12.3 0.0
GTTG Gottingen 144.42 355 *e*PKPbc **PKPab 00 42 12.1 -0.1**
baz=11,slow=3.1
BURAR Bucovina Array 144.43 336 ⇓P PKPbc 00 42 12.7 +0.1
CHVC Chvalec 144.47 348 *e*PKP **PKPab 00 42 11.7 -0.8**
UPC Upice 144.55 348 *e*PKP PKPbc 00 42 12.9 +0.1
BRG Berggiesshubel 144.58 350 Amp 00 42 13.5
comp=Z,5.4nm,0.9s
BRG Berggiesshubel 144.58 350 *e*PKP **PKPab 00 42 12.7 -0.1**
DPC Dobruska-Polom 144.64 348 *e*PKP **PKPab 00 42 13.3 +0.1**
BUG Bochum--Univer 144.70 358 *e*PKPbc PKPbc 00 42 12.5 -0.6
baz=11,slow=3.1
STEB Steborice 144.71 346 *e*PKP **PKPab 00 42 13.4 0.0**
TESR Tescani 144.74 334 ⇑P PKPbc 00 42 13.4 -0.1
GHRR 144.77 333 ⇑P **PKPdf 00 42 14.2 +0.3**
TLCR 144.78 330 ⇑P **PKPab 00 42 13.7 0.0**
KRLC Kraliky 144.80 347 *e*PKP PKPbc 00 42 13.6 0.0
PVCC Panska Ves 144.81 349 *e*PKP **PKPdf 00 42 13.8 0.0**
KASTN Kahler Asten 144.88 356 *e*PKPbc PKPbc 00 42 13.5 -0.3
baz=11,slow=3.1
MORC Mokry Berou 144.91 346 *e*PKP **PKPdf 00 42 14.1 +0.1**
MORC Moravsky Berou 144.91 346 ⇑P **PKPdf 00 42 14.2 +0.1**
LANS Liptovska Anna 145.00 343 *e*PKP **PKPab 00 42 15.2 +0.6**
PANC Panciu 145.03 333 ⇑P **PKPab 00 42 14.8 +0.1**
CFR Carcaliu 145.11 331 ⇑P **PKPbc 00 42 14.7 0.0**
MOX Moxa 145.13 353 *e*PKPbc **PKPdf 00 42 14.2 -0.1**
baz=11,slow=3.1
VRI Vrincioaia 145.22 333 ⇑P **PKPbc 00 42 15.0 0.0**
TPGR Topolog 145.22 330 ⇑P **PKPab 00 42 15.4 -0.1**
MAUC Maruska 145.22 345 *e*PKP **PKPab 00 42 15.3 -0.1**
TANN Tannenbergstba 145.25 352 *e*PKPbc **PKPdf 00 42 14.8 +0.1**
baz=11,slow=3.1
PLOR Plostina 145.26 333 ⇑P **PKPbc 00 42 15.1 -0.1**
KECS Kecovo 145.31 342 *e*PKP **PKPbc 00 42 15.0 -0.2**
PRU Pruhonice 145.33 349 *e*PKP **PKPdf 00 42 14.9 +0.2**
TURR Turia 145.37 334 ⇓P **PKPab 00 42 16.0 -0.1**
UCC Uccle 145.38 1 *d*PKP **PKPdf 00 42 14.9 +0.1**
OZUR 145.44 334 ⇓P **PKPab 00 42 16.2 -0.2**
COVR Voineasa-Covas 145.46 334 ⇓P **PKPdf 00 42 15.4 +0.3**
VRAC Vranov 145.56 347 *e*PKP **PKPbc 00 42 16.0 0.0**
MEM Membach 145.57 359 *d*PKP **PKPbc 00 42 15.5 -0.4**
HARR Harsova 145.57 331 ⇑P **PKPbc 00 42 16.4 +0.4**
BTNL Ternell 145.59 359 *d*PKP **PKPbc 00 42 15.8 -0.2**
BSTI Sart Tilman 145.60 359 *d*PKP **PKPbc 00 42 16.1 +0.2**
DOPR Dopca 145.70 335 ⇓P **PKPab 00 42 17.1 -0.2**
MANZ Manzenberg 145.72 352 *e*PKPbc **PKPbc 00 42 16.3 -0.1**
baz=11,slow=3.1
BRTR Keskin Array B 145.73 319 PKPbc **PKPbc 00 42 16.6 -0.4**
comp=Z,3.3nm,0.7s,baz=118,slow=2.7,SNR=19
VYHS Vyhne 145.77 344 *e*PKP **PKPbc 00 42 16.9 +0.3**
BGES Gesves 145.80 360 *d*PKP **PKPdf 00 42 15.0 -0.5**
TREC Trest 145.81 348 *e*PKP **PKPbc 00 42 16.5 -0.2**
BHOU Houvegnez 145.82 359 *d*PKP **PKPbc 00 42 17.0 +0.3**
KRUC Moravsky 145.84 347 *e*PKP **PKPbc 00 42 16.8 0.0**
MLR Muntele Rosu 145.85 333 ⇓P **PKPbc 00 42 17.5 +0.4**
TNS Taunus Mts 145.85 356 *e*PKPbc **PKPbc 00 42 16.7 -0.1**
baz=11,slow=3.1
ISR Istrita 145.88 332 ⇑P **PKPbc 00 42 17.4 +0.3**
BMRD Maredsous 145.88 0 *d*PKP **PKPbc 00 42 16.8 0.0**
ROTZ Rotzenmuhle 145.92 352 *e*PKPbc **PKPdf 00 42 16.2 +0.5**
baz=11,slow=3.1
MARR Marisel-Cluj 146.00 338 ⇓P **PKPbc 00 42 17.2 -0.2**
RCHB Rochefort 146.03 360 *d*PKP **PKPbc 00 42 17.0 -0.3**
DRGR 146.05 338 ⇑P **PKPbc 00 42 17.6 0.0**
DOU Dourbes 146.09 1 *d*PKP **PKPbc 00 42 17.1 -0.4**
VOIR 146.27 334 ⇓P **PKPbc 00 42 18.7 +0.5**
MODS Modra-Piesok 146.28 345 *e*PKP **PKPdf 00 42 16.5 +0.1**
KHC Kasperske Hory 146.33 350 *e*PKP **PKPbc 00 42 17.7 -0.5**
CKRC Cesky Krumlov 146.50 349 *e*PKP **PKPbc 00 42 18.4 -0.3**
ARR Arges 146.50 335 ⇑P **PKPab 00 42 19.8 -0.8**
WLF Walferdange 146.51 359 *d*PKP **PKPbc 00 42 18.9 +0.3**
WLF Walferdange 146.51 359 *e*PKPbc **PKPbc 00 42 19.3 +0.6**
baz=11,slow=3.1
GEC2 GERESS Array S 146.58 350 *e*PKPbc **PKPbc 00 42 18.7 -0.3**
baz=11,slow=3.1
GERES GERESS Array B 146.58 350 PKPbc **PKPbc 00 42 18.7 -0.3**
comp=Z,3.6nm,0.8s,baz=41,slow=2.5,SNR=23
CONA Conrad Observa 147.03 347 *i* PKP **PKPbc 00 42 20.5 +0.2**
comp=Z,6.6nm,0.6s
RONA Rosalia, Austr 147.15 346 *e*PKP **PKPbc 00 42 20.9 +0.4**
comp=Z,1.1nm,1.0s,SNR=6.2
SURR Surduc 147.15 338 ⇑P **PKPbc 00 42 20.4 -0.2**
GZR Gura Zlata 147.21 337 ⇑P **PKPbc 00 42 20.4 -0.4**
MOA Molln 147.44 348 *i* PKP **PKPbc 00 42 21.1 -0.2**
comp=Z,7.0nm,0.9s
BZS Buzias 147.45 338 ⇑P **PKPbc 00 42 20.8 -0.6**
BIOA Bad Ischl, Aus 147.71 349 *i* PKP **PKPbc 00 42 21.6 -0.4**
comp=Z,7.4nm,1.0s
BFO Black Forest 147.74 356 *e*PKPbc **PKPbc 00 42 22.0 -0.1**
baz=11,slow=3.1
ARSA Arzberg 147.75 347 *i* PKP **PKPbc 00 42 21.7 -0.5**
comp=Z,7.1nm,1.1s
HERR Herculane 147.78 337 ⇓P **PKPbc 00 42 21.9 -0.4**
RJOB Jochberg 147.81 350 *e*PKPbc **PKPbc 00 42 22.2 -0.1**
baz=11,slow=3.1
MMAI Mount Meron Ar 147.82 307 PKPbc **PKPbc 00 42 23.1 +0.3**
comp=Z,2.9nm,0.6s,baz=74,slow=6.2,SNR=16
ELND Elena 147.88 331 ⇑P **PKPbc 00 42 22.6 0.0**
MORH Mrgy, Hungar 147.90 342 ⇑P **PKPbc 00 42 22.2 -0.3**
PLVB Pleven 148.09 332 ⇑P **PKPbc 00 42 22.3 -0.8**
LESA Schwarzleotal 148.13 350 *i* PKP **PKPbc 00 42 22.7 -0.5**
comp=Z,2.5nm,0.5s

MDVR Moldovita 148.13 337 ⇑P **PKPdf 00 42 18.6 -1.1**
RETA Reutte 148.34 353 *e*PKP **PKPbc 00 42 23.6 -0.2**
comp=Z,8.2nm,1.0s,SNR=5.0
RETA Reutte 148.34 353 *e*P **PKPbc 00 42 23.6 -0.2**
comp=Z,8.2nm,1.0s,SNR=5.0
KBA Koelnbreinsper 148.35 349 *i* PKP **PKPbc 00 42 23.1 -0.8**
comp=Z,5.8nm,0.5s
WATA Walderalm 148.38 352 *i* PKP **PKPbc 00 42 23.6 -0.4**
comp=Z,5.5nm,0.5s
SOKA Soboth 148.40 347 *e*PKP **PKPbc 00 42 23.1 -0.8**
comp=Z,8.5nm,1.0s,SNR=5.7
SOKA Soboth 148.40 347 *e*P **PKPbc 00 42 23.1 -0.8**
comp=Z,8.5nm,1.0s,SNR=5.7
MOTA Moosalm 148.44 352 *i* PKP **PKPbc 00 42 23.7 -0.4**
comp=Z,8.2nm,1.1s,SNR=4.6
MOTA Moosalm 148.44 352 *i* P **PKPbc 00 42 23.7 -0.4**
comp=Z,8.2nm,1.1s,SNR=4.6
WTTA Wattenberg 148.45 351 *i* PKP **PKPbc 00 42 24.0 -0.2**
comp=Z,13nm,0.5s
SQTA Sankt Quirin 148.55 352 *i* PKP **PKPbc 00 42 24.1 -0.3**
comp=Z,6.9nm,0.7s,SNR=5.1
SQTA Sankt Quirin 148.55 352 *i* P **PKPbc 00 42 24.1 -0.3**
comp=Z,6.9nm,0.7s,SNR=5.1
MYKA Terra Mystica 148.73 349 *e*PKP **PKPbc 00 42 23.8 -1.0**
comp=Z,5.2nm,0.5s,SNR=5.0
MYKA Terra Mystica 148.73 349 *e*P **PKPbc 00 42 23.8 -1.0**
comp=Z,5.2nm,0.5s,SNR=5.0
FETA Feichten 148.81 352 *i* PKP **PKPbc 00 42 24.9 -0.2**
comp=Z,9.4nm,0.8s,SNR=6.0
ABTA Abfaltersbach 148.81 350 *i* PKP **PKPbc 00 42 24.0 -0.9**
comp=Z,11nm,0.7s,SNR=12
ABTA Abfaltersbach 148.81 350 *i* P **PKPbc 00 42 24.0 -0.9**
comp=Z,11nm,0.7s,SNR=12
BOVS Bovan 149.11 336 ⇑P **PKPbc 00 42 23.6 -2.1**
BLY Banja Luka 149.66 343 ⇑P **PKPbc 00 42 26.6 -0.4**
TAVA DENIZLI_Tavas 150.04 320 ⇓P **PKPbc 00 42 27.2 -1.1**
PDG Podgorica 151.06 338 ⇓P **PKPbc 00 42 29.1 -1.3**
PCAB Cabril 152.10 21 *e*PKPbc **PKPbc 00 42 32.8 0.0**
POLO Lamas de Olo 152.48 21 *e*PKPbc **PKPbc 00 42 33.3 -0.4**
MVO Moncorvo 152.92 20 *e*PKPbc **PKiKP 00 42 34.9 +0.1**
PVIS Viseu 153.02 22 *e*PKPbc **PKPbc 00 42 34.6 -0.2**
PVIS *e*PKPab **PKPab 00 42 47.7 +0.2**
PCAS Casmilo, Conde 153.37 24 *e*PKPbc **PKPbc 00 42 34.7 -0.9**
PCAS *e*PKPab **PKPab 00 42 48.8 -0.1**
MTE Manteigas 153.43 22 *e*PKPbc **PKPbc 00 42 35.5 -0.2**
PSARD Sardoal 153.90 24 *e*PKPbc **PKPbc 00 42 35.4 -1.4**
PSARD *e*PKPab **PKPab 00 42 50.8 -0.4**
PCBR Castelo Branco 153.94 22 *e*PKPab **PKPab 00 42 51.0 -0.3**
ESDC Sonseca Array 155.23 17 PKP **PKPdf 00 42 30.6 +0.1**
comp=Z,0.6nm,0.8s,baz=346,slow=3.0,SNR=3.6
ESDC PKPab **PKPab 00 42 57.0 +0.1**
comp=Z,3.4nm,0.9s,baz=322,slow=3.9,SNR=13
TORD Torodi Ar. Bea 175.63 132 PKPab **PKPab 00 44 27.5 +0.3**
comp=Z,4.7nm,0.8s,baz=283,slow=4.2,SNR=9.6

*IDC **27** 00:23:51.4±2.5, 6°.54S×130°.08E, h130km±23km, mb4.0/9, mbtmp4.5/15, Error ellipse: s-maj=24.6km s-min=12.9km az=65.0*
*DJA **27** 00:23:55.8±0.2, 7°.3S×13°.0E±°, h188km±5km, M4.7/14, mb4.8/14, mB5.2/8, MLv4.8/10, Mw(mB)4.6/8*
*NEIC **27** 00:23:55.6±1.2, 6°.62S±0°.06×129°.80E±0°.09, h157km±7km, mb4.6/17, Error ellipse: s-maj=13.5km s-min=9.1km az=98.0*

ISC 27 00:23:54.3±0.4, **6°.69S**±0°.04×**129°.88E**±0°.05, **h150**km, **n95**, σ1§**87**/97, **mb4.4**/17, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.90**	**132**				**Pn**	**00 24 31.6**	**+3.3**
SAUI	**Saumlaki**	**1.90**	**132**	P			**Pn**	**00 24 32.6**	**+4.3**
SAUI	**Saumlaki**	**1.90**	**132**	P			**Pn**	**00 24 32.4**	**+4.1**
BNDI	**Bandanaira**	**2.15**	**1**	P			**Pn**	**00 24 35.1**	**+3.8**
BNDI	**Bandanaira**	**2.15**	**1**	P			**Pn**	**00 24 35.0**	**+3.8**
AAI	**Ambon**	**3.43**	**331**	P			**Pn**	**00 24 50.1**	**+3.0**
MSAI	**Masohi**	**3.46**	**344**	P			**Pn**	**00 24 50.7**	**+3.2**
NLAI	**Namlea**	**4.41**	**321**	P			**Pn**	**00 25 03.4**	**+3.4**
FAKI	**Fak Fak**	**4.43**	**32**				**Pn**	**00 25 00.1**	**-0.1**
FAKI					Sn		**Sn**	**00 25 47.5**	**-4.0**
FAKI	**Fak Fak**	**4.43**	**32**	P			**Pn**	**00 25 00.2**	**0.0**
KMPI	**Kaimana, Papua**	**4.85**	**52**	P			**Pn**	**00 25 07.1**	**+1.3**
SWI	**Sorong**	**5.95**	**13**	P			**Pn**	**00 25 20.3**	**-0.1**
	5μm78nm,0.6s								
SANI	**Sanana**	**6.03**	**320**	P			**Pn**	**00 25 24.4**	**+3.0**
SANI	**Sanana**	**6.03**	**320**	P			**Pn**	**00 25 23.2**	**+1.8**
	0.3nm90nm,0.8s								
MTN	**Manton Dam**	**6.24**	**169**				**Pn**	**00 25 25.3**	**+1.1**
MTN					Sn		**Sn**	**00 26 32.8**	**-1.7**
MTN	**Manton Dam**	**6.24**	**169**	P			**Pn**	**00 25 25.3**	**+1.1**
SOEI	**Soe**	**6.34**	**241**				**Pn**	**00 25 26.3**	**+0.6**
SOEI					Sn		**Sn**	**00 26 40.0**	**+2.8**
SOEI	**Soe**	**6.34**	**241**	P			**Pn**	**00 25 27.6**	**+1.9**
SOEI	**Soe**	**6.34**	**241**	S			**Sn**	**00 26 38.7**	**+1.5**
SOEI	**Soe**	**6.34**	**241**	P			**Pn**	**00 25 27.2**	**+1.5**
	3μm133nm,1.1s								
KDU	**Kakadu**	**6.48**	**157**	P			**Pn**	**00 25 28.4**	**+1.0**
RKPI	**Ransiki, Papua**	**6.70**	**40**	P			**Pn**	**00 25 32.2**	**+1.9**
BATI	**Baumata**	**7.07**	**240**	P			**Pn**	**00 25 36.8**	**+1.4**
	184nm,0.4s,baz=55,slow=2.3,SNR=24								
BATI					S		**Sn**	**00 26 51.0**	**-3.7**
	107nm,0.5s,baz=255,slow=23,SNR=11								
BATI	**Baumata**	**7.07**	**240**	P			**Pn**	**00 25 36.8**	**+1.4**
	3μm240nm,0.6s								
BBSI	**Bau Bau**	**7.37**	**279**	P			**Pn**	**00 25 42.4**	**+3.1**
	0.4nm2μm108nm,1.0s								
MMRI	**Maumere**	**7.82**	**255**	P			**Pn**	**00 25 48.1**	**+2.7**
BAKI	**Biak**	**8.27**	**49**	P			**Pn**	**00 25 53.0**	**+1.6**
EDFI	**Ende, Flores**	**8.37**	**255**	P			**Pn**	**00 25 55.3**	**+2.5**
	0.2nm34nm,0.8s								
KNRA	**Kununurra**	**9.00**	**187**				**Pn**	**00 26 00.6**	**-0.4**
WSI	**Waingapu**	**9.94**	**252**	P			**Pn**	**00 26 15.2**	**+1.6**
KAPI	**Kappang**	**10.22**	**279**	P			**Pn**	**00 26 18.0**	**+0.7**
	4.6nm,0.7s,baz=90,slow=19,SNR=2.0								
SPSI	**Sidrap Palu**	**10.43**	**285**	P			Pn	00 26 31.3	+11
JAY	**Jayapura**	**11.55**	**69**	P			Pn	00 26 28.9	-6.1
	2.1nm,0.4s,baz=222,slow=12,SNR=1.0								
FITZ	**Fitzroy Crossi**	**12.07**	**200**	Pn			**Pn**	**00 26 40.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**12.07**	**200**	P			**Pn**	**00 26 40.4**	**-1.1**
	7.3nm,0.3s,baz=20,slow=10,SNR=59								
FITZ					S		Sn	00 28 45.1	-10
	17nm,0.3s,baz=24,slow=20,SNR=6.9								
PLAI	**Plampang**	**12.18**	**259**	P			**Pn**	**00 26 42.4**	**-0.6**
	44nm,0.6s								
WRA	**Warramunga Arr**	**13.86**	**162**				**Pn**	**00 27 02.6**	**-1.9**
WRA	**Warramunga Arr**	**13.86**	**162**	P			Pn	00 27 02.0	-2.6
	14nm,0.8s,baz=347,slow=13,SNR=12								
WRA					S		Sn	00 29 29.0	-9.3
	25nm,1.0s,baz=349,slow=22,SNR=12								
COEN	**Coen**	**14.93**	**120**	P			**Pn**	**00 27 18.8**	**+0.8**
JAGI	**Jajag, Banyuwa**	**15.69**	**263**				**Pn**	**00 27 26.4**	**-1.0**
JAGI					IAmb		IAmb	00 27 28.1	
	comp=Z,22nm,0.7s								
JAGI	**Jajag, Banyuwa**	**15.69**	**263**	P			**Pn**	**00 27 27.2**	**-0.2**
QIS	**Mount Isa**	**16.70**	**147**	P			**P**	**00 27 40.7**	**+1.3**
ASAR	**Alice Springs**	**17.32**	**168**				**P**	**00 27 48.1**	**+2.0**
ASAR	**Alice Springs**	**17.32**	**168**	P			**P**	**00 27 47.6**	**+1.4**
	comp=Z,28nm,0.7s,baz=350,slow=10,SNR=117								
ASAR					S		**S**	**00 30 51.7**	**-7.4**
	comp=Z,1.9nm,0.5s,baz=354,slow=26,SNR=5.2								
AS01	**Alice Springs**	**17.32**	**167**	P			**P**	**00 27 48.0**	**+1.7**
MBWA	**Marble Bar**	**17.42**	**213**	P			**P**	**00 27 46.8**	**-0.5**
MBWA	**Marble Bar**	**17.42**	**213**	P			**P**	**00 27 48.2**	**+0.9**
PSA00	**Pilbara Seismi**	**17.69**	**212**				**P**	**00 27 51.0**	**+0.7**
PSA00	**Pilbara Seismi**	**17.69**	**212**	P			**P**	**00 27 50.8**	**+0.6**
PSA00					IAmb		IAmb	00 27 52.1	
	comp=Z,6.4nm,0.6s								

STKA	**Stephens Creek**	**27.34**	**158**	P	**P**	**00 29 25.7**	**+0.4**
HTT	**Hallett**	**27.90**	**164**	P	**P**	**00 29 31.4**	**+1.1**
NWAO	**Narrogin (SRO)**	**28.63**	**203**	P	**P**	**00 29 36.5**	**-0.2**
NWAO				IAmb	IAmb	00 29 49.4	
	comp=Z,16nm,1.1s						
NWAO	**Narrogin (SRO)**	**28.63**	**203**	P	**P**	**00 29 37.0**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=31,slow=8.4,SNR=6.1						
	comp=Z,1.6nm,0.3s						
NWAO	**Narrogin (SRO)**	**28.63**	**203**	P	**P**	**00 29 37.1**	**+0.3**
CMSA	**Cobar Meteorol**	**28.80**	**151**	P	**P**	**00 29 39.4**	**+1.1**
CAN	**Canberra**	**33.48**	**151**	P	**P**	**00 30 20.4**	**+1.1**
CAN				IAmb	IAmb	00 30 21.9	
	comp=Z,18nm,0.7s						
CAN	**Canberra**	**33.48**	**151**	P	**P**	**00 30 20.9**	**+1.5**
GLAD	**Gladstone**	**37.79**	**157**	P	**P**	**00 30 56.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**39.45**	**310**	P	**P**	**00 31 09.2**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=129,slow=7.3,SNR=6.8						
	comp=Z,1.2nm,0.6s						
NJ2	**Nanjing**	**39.94**	**345**	*eP*	**P**	**00 31 16.0**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PZH	**PanZhiHua**	**42.82**	**322**	P	**P**	**00 31 39.0**	**+1.3**
XAN	**Xi'an**	**45.11**	**335**	*eP*	**P**	**00 31 57.3**	**+1.5**
HHC	**Hu-ho-hao-te**	**50.22**	**342**	*eP*	**P**	**00 32 32.3**	**-2.8**
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,500nm,4.3s						
GVZ	**Greta Valley S**	**52.37**	**141**	P	**P**	**00 32 52.3**	**+1.3**
GTA	**Gaotai**	**53.65**	**331**	*eP*	**P**	**00 33 00.5**	**0.0**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
EVN	**Everest**	**53.99**	**312**	P	**P**	**00 33 02.5**	**-1.4**
WMQ	**Urumqi**	**63.07**	**327**	*eP*	**P**	**00 34 07.8**	**+2.0**
WMQ				LR	LR		
	comp=N,1μm,15.3s						
WMQ				LR	LR		
	comp=E,800nm,19.7s						
WMQ				LR	LR		
	comp=Z,520nm,17.7s						
KSH	**Kashi**	**67.72**	**318**	P	**P**	**00 34 35.8**	**0.0**
MKAR	**Makanchi Array**	**67.91**	**327**	P	**P**	**00 34 36.0**	**-0.7**
MKAR	**Makanchi Array**	**67.91**	**327**	P	**P**	**00 34 36.4**	**-0.4**
	comp=Z,13nm,0.5s,baz=115,slow=8.5,SNR=134						
	comp=Z,13nm,0.5s						
MAKZ	**Makanchi**	**68.08**	**327**	P	**P**	**00 34 37.2**	**-0.7**
MAKZ				IAmb	IAmb	00 34 38.1	
	comp=Z,12nm,0.6s						
ZALV	**Zalesovo Beam**	**71.26**	**334**	P	**P**	**00 34 55.5**	**-1.6**
	comp=Z,1.4nm,0.6s,baz=102,slow=5.0,SNR=7.8						
	comp=Z,1.4nm,0.6s						
SIMJ	**Simiganj**	**72.15**	**314**	P	**P**	**00 35 02.3**	**-0.6**
SIMJ				IAmb	IAmb	00 35 03.0	
	comp=Z,7.3nm,0.8s						
KURBB	**Kurchatov Arra**	**72.19**	**328**	P	**P**	**00 35 01.9**	**-0.8**
	comp=Z,2.8nm,0.6s,baz=127,slow=4.9,SNR=30						
	comp=Z,2.8nm,0.6s						
KURK	**Kurchatov**	**72.20**	**329**	P	**P**	**00 35 02.0**	**-0.7**
VNDA	**Vanda**	**72.77**	**173**	P	**P**	**00 35 05.8**	**+0.1**
VNDA	**Vanda**	**72.77**	**173**	P	**P**	**00 35 05.0**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=319,slow=5.4,SNR=3.7						
	comp=Z,1.1nm,0.8s						
KK31	**Karatay Array**	**73.03**	**319**	P	**P**	**00 35 07.2**	**-0.7**
KK31				IAmb	IAmb	00 35 08.7	
	comp=Z,6.7nm,1.2s						
KKAR	**Karatay Array**	**73.03**	**319**	P	**P**	**00 35 07.3**	**-0.6**
BVAR	**Borovoye Array**	**77.74**	**328**	P	**P**	**00 35 33.7**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=131,slow=6.8,SNR=13						
	comp=Z,2.2nm,0.8s						
QSPA	**South Pole Qui**	**83.28**	**180**	P	**P**	**00 36 03.3**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=280,slow=1.0,SNR=1.8						
	comp=Z,1.3nm,0.7s						
RAYN	**Ar Rayn**	**87.52**	**294**	P	**P**	**00 36 25.1**	**-0.7**
RAYN				IAmb	IAmb	00 36 25.8	
	comp=Z,4.9nm,0.6s						
TORD	**Torodi Ar. Bea**	**128.64**	**281**	PKP	**PKPdf**	**00 42 44.9**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=5.2,slow=2.0,SNR=4.7						
LPAZ	**La Paz**	**151.03**	**142**	PKPbc	**PKPbc**	**00 43 31.7**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=208,slow=2.9,SNR=5.5						

*GCG **27** 00:28:23.4±0.4, 13°.58N×88°.39W, h216^{km}±6^{km}, MD4.2*
*SNET **27** 00:28:25.5±1.0, 13°.71N×88°.40W, h194^{km}±5^{km}, ML3.5*
*CATAC **27** 00:28:25.6±0.8, 13°.N±9°×8°.8W±°, h197^{km}±6^{km}, M3.2/8, MLv3.2/8, Error ellipse: s-maj=21.4km s-min=6.6km az=21.5, confirmed*

ISC 27 00:28:25.1±2.5, 13°.5N±0°.1×88°.38W±0°.07, h203^{km}±16^{km}, n31, σ0°70/39, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACA	**Pacayal**	**0.07**	**120**	*eP*	**Pn**	**00 28 52.3**	**+0.5**
PACA				*eS*	**Sn**	**00 29 13.1**	**+0.7**
TECA	**Tecapa**	**0.12**	**266**	*eP*	**Pn**	**00 28 52.1**	**+0.2**
CAHU	**Cacacuatique**	**0.32**	**32**	*eP*	**Pn**	**00 28 52.0**	**-0.2**
TECO	**Alcaldia de Te**	**0.39**	**275**	*eP*	**Pn**	**00 28 52.0**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.39**	**301**	*eP*	**Pn**	**00 28 52.3**	**+0.1**
SCLA				*eS*	**Sn**	**00 29 12.9**	**-0.3**
PAVA	**Las Pavas**	**0.58**	**291**	*eP*	**Pn**	**00 28 52.9**	**-0.1**
PAVA				*eS*	**Sn**	**00 29 13.6**	**-0.9**
PAVA	**Las Pavas**	**0.58**	**291**	P	**Pn**	**00 28 53.2**	**+0.2**
PAVA	**Las Pavas**	**0.58**	**291**	S	**Sn**	**00 29 14.2**	**-0.3**
CNCH	**Conchagua**	**0.58**	**113**	*eP*	**Pn**	**00 28 52.9**	**-0.1**
LFRS	**El Faro**	**0.67**	**280**	*eP*	**Pn**	**00 28 52.9**	**-0.5**
MARCA	**Marcala la Paz**	**0.73**	**27**	*eP*	**Pn**	**00 28 53.8**	**0.0**
LOMA	**Loma Larga**	**0.78**	**281**	*eP*	**Pn**	**00 28 53.6**	**-0.4**
LOMA				*eS*	**Sn**	**00 29 15.3**	**-1.0**
PMON	**Piamonte**	**0.93**	**283**	*eP*	**Pn**	**00 28 54.6**	**-0.2**
PMON				*eS*	**Sn**	**00 29 17.3**	**-0.5**
PMON	**Piamonte**	**0.93**	**283**	S	**Sn**	**00 29 19.7**	**+1.9**
PMON	**Piamonte**	**0.93**	**283**	P	**Pn**	**00 28 56.0**	**+1.2**
JAYA	**Jayaque - finc**	**1.05**	**278**	*eP*	**Pn**	**00 28 55.5**	**-0.2**
JAYA				*eS*	**Sn**	**00 29 18.5**	**-0.7**
JAYA	**Jayaque - finc**	**1.05**	**278**	*iP*	**Pn**	**00 28 55.5**	**-0.2**
JAYA				*iS*	**Sn**	**00 29 20.3**	**+1.0**
JAYA	**Jayaque - finc**	**1.05**	**278**	P	**Pn**	**00 28 55.2**	**-0.5**
TGUH	**Tegucigalpa,Un**	**1.21**	**63**	P	**Pn**	**00 28 57.2**	**+0.4**
CEVE	**Cerro Verde**	**1.25**	**285**	*eP*	**Pn**	**00 28 57.6**	**+0.3**
CEVE				IAML		00 29 29.9	
	comp=Z,328nm,0.2s						
MTO3	**Montecristo**	**1.30**	**313**	*iP*	**Pn**	**00 28 57.9**	**+0.2**
MTO3	**Montecristo**	**1.30**	**313**	P	**Pn**	**00 28 57.9**	**+0.2**
NUBE	**Las Nubes**	**1.42**	**286**	*eP*	**Pn**	**00 28 58.1**	**-0.3**
NUBE	**Las Nubes**	**1.42**	**286**	*iP*	**Pn**	**00 28 58.6**	**+0.1**
NUBE	**Las Nubes**	**1.42**	**286**	P	**Pn**	**00 28 58.4**	**-0.1**
NUBE	**Las Nubes**	**1.42**	**286**	S	**Sn**	**00 29 25.8**	**+1.4**
FAME	**Alcaldia de Sa**	**1.62**	**282**	S	**Sn**	**00 29 26.5**	**-0.9**
FAME	**Alcaldia de Sa**	**1.62**	**282**	P	**Pn**	**00 28 59.6**	**-0.5**
RCVN	**Varillal2**	**2.13**	**88**	P	**Pn**	**00 29 05.5**	**+0.2**
COPN	**Copaltepe**	**2.19**	**127**	P	**Pn**	**00 29 07.0**	**+1.2**
COPN				S	**Sn**	**00 29 36.3**	**-1.1**
RCPN	**Sur Rio San Ju**	**2.23**	**89**	P	**Pn**	**00 29 05.7**	**-0.6**

*TXNET **27** 00:35:04.0, 33°.0N±0°.5×100°.9W±0°.6, h6^{km}±1^{km}, ML2.9/6, Error ellipse: s-maj=0.8km s-min=0.7km az=105.5, final*
*NEIC **27** 00:35:04.0±2.1, 32°.95N±0°.02×100°.92W±0°.01, h6^{km}±2^{km}, Error ellipse: s-maj=2.3km s-min=1.8km az=179.0*
*NEIC **27** 00:35:04.9±1.9, 32°.95N±0°.02×100°.90W±0°.02, h5^{km}±1^{km}, mb_Lg2.8/75, ML2.4/7, ML2.9/6, Error ellipse: s-maj=3.0km s-min=2.5km az=150.0*

ISC 27 00:35:04.1±0.8, 32°.95N±0°.02×100°.92W±0°.02, h6^{km}±4^{km}, n80, σ0°68/107, 6C, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SN03	**Snyder 3**	**0.03**	**215**		**Pg**	**00 35 05.2**	**-0.2**
SN03					**Sg**	**00 35 06.1**	**-0.2**
SN03	**Snyder 3**	**0.03**	**215**	P	**Pg**	**00 35 05.2**	**-0.2**
SN03				S	**Sg**	**00 35 06.1**	**-0.2**
SN05	**Snyder 5**	**0.08**	**159**	Pg	**Pg**	**00 35 05.8**	**-0.1**
SN05				IAML		00 35 08.9	
	8μm,0.5s						
SN05	**Snyder 5**	**0.08**	**159**	↑P	**Pg**	**00 35 05.8**	**-0.1**
SN05				S	**Sg**	**00 35 07.2**	**-0.1**
SN02	**Snyder 2**	**0.09**	**176**		**Pg**	**00 35 06.0**	**-0.1**
SN02					**Sg**	**00 35 07.6**	**+0.1**
SN02	**Snyder 2**	**0.09**	**176**	↑P	**Pg**	**00 35 06.0**	**-0.1**
SN02				S	**Sg**	**00 35 07.6**	**+0.1**
SN01	**Snyder 1**	**0.09**	**165**		**Pg**	**00 35 06.1**	**-0.1**
SN01					**Sg**	**00 35 07.7**	**+0.1**
SN01	**Snyder 1**	**0.09**	**165**	↑P	**Pg**	**00 35 06.1**	**-0.1**
SN01				S	**Sg**	**00 35 07.7**	**+0.1**
SN07	**Snyder 07**	**0.14**	**9**	Pg	**Pg**	**00 35 06.9**	**-0.1**
SN07				Sg	**Sg**	**00 35 08.6**	**-0.4**
SN07				IAML		00 35 09.3	
	5μm,0.3s						
SN07				IAML		00 35 10.4	
	3μm,0.2s						
SN07	**Snyder 07**	**0.14**	**9**	↑P	**Pg**	**00 35 06.9**	**-0.1**
SN07				S	**Sg**	**00 35 09.1**	**+0.1**
SN08	**Arah**	**0.21**	**215**	P	**Pg**	**00 35 08.2**	**0.0**
SN08				S	**Sg**	**00 35 11.3**	**+0.4**
POST	**Post**	**0.50**	**283**		**Pg**	**00 35 13.8**	**0.0**
POST					**Sg**	**00 35 20.7**	**+0.4**
POST	**Post**	**0.50**	**283**	↑P	**Pg**	**00 35 13.8**	**0.0**
POST				S	**Sg**	**00 35 20.7**	**+0.4**
POST	**Post**	**0.50**	**283**	P	**Pg**	**00 35 13.8**	**0.0**
POST				S	**Sg**	**00 35 20.8**	**+0.4**
DKNS	**Dickens**	**0.71**	**360**	Pg	**Pg**	**00 35 17.4**	**-0.4**
DKNS					**Sg**	**00 35 27.0**	**0.0**
DKNS	**Dickens**	**0.71**	**360**	↑P	**Pg**	**00 35 17.3**	**-0.5**
DKNS				S	**Sg**	**00 35 27.0**	**0.0**
APMT	**Aspermont**	**0.77**	**61**	Pg	**Pg**	**00 35 18.4**	**-0.5**
APMT				Sg	**Sg**	**00 35 29.2**	**+0.5**
APMT	**Aspermont**	**0.77**	**61**	P	**Pg**	**00 35 18.3**	**-0.5**
APMT				S	**Sg**	**00 35 28.3**	**-0.5**
TMB05	**Klondike**	**0.86**	**248**	P	**Pg**	**00 35 20.1**	**-0.5**
TMB05				S	**Sg**	**00 35 31.6**	**0.0**
SGCY	**Sterling City**	**1.05**	**190**	Pg	**Pg**	**00 35 23.5**	**-0.7**
SGCY					**Sg**	**00 35 37.4**	**-0.4**
SGCY	**Sterling City**	**1.05**	**190**	P	**Pg**	**00 35 23.9**	**-0.3**
SGCY				S	**Sg**	**00 35 37.4**	**-0.4**
SGCY	**Sterling City**	**1.05**	**190**	P	**Pg**	**00 35 23.6**	**-0.7**
SGCY				S	**Sg**	**00 35 37.6**	**-0.2**
ABTX	**Abilene, Hawle**	**1.12**	**107**	Pg	**Pg**	**00 35 24.8**	**-0.8**
ABTX				Sg	**Sg**	**00 35 39.8**	**-0.4**
ABTX	**Abilene, Hawle**	**1.12**	**107**	P	**Pg**	**00 35 24.8**	**-0.8**
ABTX				S	**Sg**	**00 35 39.5**	**-0.7**
TMB06	**Greenwood**	**1.23**	**218**	P	**Pn**	**00 35 27.8**	**-0.1**
TMB06				S	**Sb**	**00 35 43.8**	**0.0**
TMB06	**Greenwood**	**1.23**	**218**	P	**Pn**	**00 35 27.9**	**+0.1**
TMB06				S	**Sb**	**00 35 44.0**	**+0.2**
TMB04	**Seminole**	**1.36**	**257**	P	**Pn**	**00 35 28.8**	**-0.9**
TMB04				S	**Sb**	**00 35 47.4**	**-0.3**
TMB04	**Seminole**	**1.36**	**257**	P	**Pn**	**00 35 28.9**	**-0.9**
TMB04				S	**Sb**	**00 35 47.5**	**-0.3**
TMB04	**Seminole**	**1.36**	**257**	P	**Pn**	**00 35 29.0**	**-0.8**
TMB04				S	**Sb**	**00 35 47.5**	**-0.3**
ODSA	**Odessa**	**1.61**	**239**		**Pb**	**00 35 33.9**	**-0.4**
ODSA					**Sb**	**00 35 54.9**	**0.0**
ODSA	**Odessa**	**1.61**	**239**	P	**Pb**	**00 35 34.1**	**-0.2**
ODSA				S	**Sb**	**00 35 55.3**	**+0.4**
ODSA	**Odessa**	**1.61**	**239**	P	**Pg**	**00 35 34.9**	**0.0**
ODSA				S	**Sg**	**00 35 55.9**	**+0.1**
ODSA	**Odessa**	**1.61**	**239**	S	**Sg**	**00 35 55.9**	**+0.1**
TMB01	**Midkiff**	**1.62**	**218**	P	**Pb**	**00 35 34.3**	**-0.1**
TMB01				S	**Sb**	**00 35 55.3**	**+0.2**
MSTX	**Muleshoe**	**1.85**	**304**	Pn	**Pn**	**00 35 36.8**	**+0.3**
MSTX					**Sb**	**00 36 02.2**	**+0.2**
MSTX	**Muleshoe**	**1.85**	**304**	P	**Pb**	**00 35 37.6**	**-0.9**
MSTX				S	**Sb**	**00 36 02.4**	**+0.4**
TMB02	**Rankin**	**1.99**	**209**	P	**Pn**	**00 35 39.2**	**+0.8**
TMB02				S	**Sb**	**00 36 05.4**	**-0.5**
TMB02	**Rankin**	**1.99**	**209**	P	**Pb**	**00 35 40.1**	**-0.6**
TMB02				S	**Sb**	**00 36 06.6**	**+0.7**
TMB02	**Rankin**	**1.99**	**209**	P	**Pb**	**00 35 40.2**	**-0.6**
TMB02				S	**Sb**	**00 36 06.6**	**+0.7**
AMTX	**Amarillo**	**2.03**	**342**	Pn	**Pn**	**00 35 40.0**	**+1.0**
AMTX					**Sb**	**00 36 07.2**	**+0.2**
AMTX				IAmb_Lg		00 36 10.2	
	comp=Z,33nm,0.7s						
AMTX	**Amarillo**	**2.03**	**342**	P	**Pb**	**00 35 40.7**	**-0.7**
OZNA	**Ozona**	**2.03**	**185**	Pn	**Pn**	**00 35 39.7**	**+0.8**
OZNA					**Sb**	**00 36 07.2**	**+0.2**
OZNA				IAmb_Lg		00 36 12.1	
	comp=Z,45nm,1.0s						
OZNA	**Ozona**	**2.03**	**185**	P	**Pn**	**00 35 39.9**	**+1.0**
OZNA	**Ozona**	**2.03**	**185**	P	**Pn**	**00 35 40.0**	**+1.0**
OZNA	**Ozona**	**2.03**	**185**	P	**Pb**	**00 35 40.6**	**-0.8**
PLPT	**Palo Pinto**	**2.19**	**93**		**Pb**	**00 35 44.6**	**+0.4**
PLPT					**Sg**	**00 36 13.3**	**-1.3**
PLPT				IAmb_Lg		00 36 16.0	
	comp=Z,64nm,1.0s						
WTFS	**Witchita Falls**	**2.21**	**68**	Pn	**Pn**	**00 35 42.5**	**+1.2**
WTFS					**Sb**	**00 36 10.9**	**-1.1**
SMWD	**Samnorwood**	**2.22**	**14**	Pn	**Pb**	**00 35 43.7**	**-0.9**
SMWD					**Sb**	**00 36 11.4**	**-1.0**
MNHN	**Monahans**	**2.24**	**225**		**Sb**	**00 36 14.2**	**+1.1**
MNHN				IAmb_Lg		00 36 18.6	
	comp=Z,39nm,0.9s						
BRDY	**Brady**	**2.33**	**135**	Pn	**Pn**	**00 35 43.4**	**+0.5**
HTMS	**Hat Mesa**	**2.34**	**259**	Pn	**Pb**	**00 35 45.7**	**-1.0**
HTMS					**Sg**	**00 36 17.9**	**-1.3**
CPRX	**Cap Rock**	**2.48**	**273**	Pn	**Pn**	**00 35 46.6**	**+1.5**
CPRX				Sg	**Sb**	**00 36 21.3**	**+1.3**
CLN7	**Carlsbad 7**	**2.50**	**258**	Pn	**Pn**	**00 35 46.6**	**+1.3**
WMOK	**Wichita Mounta**	**2.52**	**44**	Pn	**Pn**	**00 35 47.0**	**+1.4**
CLNB	**Carlsbad**	**2.59**	**255**	Pn	**Pn**	**00 35 48.1**	**+1.4**
JCT	**Junction City**	**2.64**	**159**	Pn	**Pn**	**00 35 48.7**	**+1.4**
FW06	**Azle**	**2.83**	**89**	Pn	**Pn**	**00 35 51.9**	**+2.1**
FW06					**Pg**	**00 35 59.3**	**+1.0**
FW06				IAmb_Lg		00 36 38.2	
	comp=Z,25nm,0.9s						
PECS	**Pecos**	**2.96**	**239**		**Pn**	**00 35 52.7**	**+1.0**
PECS				IAmb_Lg		00 36 39.8	
	comp=Z,29nm,0.8s						
WHTX	**Lake Whitney,**	**3.08**	**107**	IAmb_Lg		00 36 48.4	
	comp=Z,20nm,0.7s						
Z35A	**Perchaven, San**	**3.10**	**82**	IAmb_Lg		00 36 49.1	
	comp=Z,27nm,1.0s						
SAND	**Sanderson**	**3.16**	**199**		**Pn**	**00 35 55.3**	**+0.8**
SAND				IAmb_Lg		00 36 49.0	
	comp=Z,20nm,0.8s						
LOOK	**Love County**	**3.29**	**71**		**Pn**	**00 35 56.8**	**+0.6**
ELIS	**Ellis County**	**3.34**	**21**	IAmb_Lg		00 36 48.4	
	comp=Z,29nm,1.0s						
ALPN	**Alpine**	**3.46**	**223**		**Pn**	**00 35 58.8**	**+0.1**
ALPN				IAmb_Lg		00 37 03.4	
	comp=Z,19nm,1.0s						
DRIO	**Del Rio**	**3.53**	**176**		**Pn**	**00 35 58.9**	**-0.6**
HNDO	**Hondo**	**3.69**	**157**	IAmb_Lg		00 37 05.3	
	comp=Z,28nm,1.0s						
OKCSW	**OKLAHOMA CITY**	**3.78**	**49**	IAmb_Lg		00 37 13.2	
	comp=Z,21nm,0.7s						
MNTX	**Cornudas Mount**	**3.98**	**253**	IAmb_Lg		00 37 15.2	
	comp=Z,22nm,0.8s						
OK029	**Liberty Lake**	**4.03**	**44**	IAmb_Lg		00 37 17.2	
	comp=Z,22nm,0.9s						
TREL	**Terrell**	**4.07**	**92**	IAmb_Lg		00 37 16.6	
	comp=Z,34nm,0.8s						
VHRN	**Van Horn**	**4.08**	**239**	IAmb_Lg		00 37 15.4	
	comp=Z,15nm,0.8s						
CROK	**Carrier**	**4.29**	**33**	IAmb_Lg		00 37 21.8	
	comp=Z,14nm,0.9s						
EPT	**El Paso**	**4.87**	**258**	IAmb_Lg		00 37 48.5	
	comp=Z,15nm,1.1s						
ANMO	**Albuquerque**	**5.01**	**295**	IAmb_Lg		00 37 42.9	
	comp=Z,18nm,0.8s						
T25A	**Trinidad**	**5.06**	**327**	IAmb_Lg		00 37 46.4	
	comp=Z,19nm,0.8s						
Y22A	**Socorro**	**5.15**	**283**	IAmb_Lg		00 38 03.1	
	comp=Z,21nm,0.8s						
121A	**Cookes Peak, D**	**5.80**	**268**	IAmb_Lg		00 38 20.1	
	comp=Z,11nm,0.8s						
KSCO	**Kaye Shedlock'**	**6.20**	**348**	IAmb_Lg		00 38 36.1	
	comp=Z,17nm,0.9s						
MVCO	**Mesa Verde**	**7.53**	**306**	IAmb_Lg		00 39 07.6	
	comp=Z,7.1nm,1.0s						
CCM	**Cathedral Cave**	**9.38**	**54**	IAmb_Lg		00 40 09.0	
	comp=Z,6.1nm,0.8s						

IDC 27 00:42:39.9±1.2, 20°.58N×121°.93E, h0^{km}, mb3.4/5, mbtmp3.5/6, MLM3.8/1, Error ellipse: s-maj=48.9km s-min=22.1km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**8.52**	**42**	Pn	Pn	00 44 44.1	-0.4
	2.3nm,0.3s,baz=197,slow=14,SNR=4.9						
	7.4nm,0.5s						
MKAR	**Makanchi Array**	**41.44**	**319**	P	P	00 50 28.3	0.0
	0.3nm,0.6s,baz=111,slow=7.4,SNR=4.0						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**42.07**	**162**	P	P	00 50 32.9	-0.8
	0.3nm,0.5s,baz=336,slow=9.8,SNR=2.7						
	0.3nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**42.12**	**83**	T	T	01 35 26.2	
	baz=280,slow=75						
H11N2	**WAKE ISLAND Hy**	**42.12**	**83**	T	T	01 35 26.8	
	baz=280,slow=75						
H11N3	**WAKE ISLAND Hy**	**42.14**	**83**	T	T	01 35 26.7	
	baz=280,slow=75						
H11S3	**WAKE ISLAND Hy**	**42.14**	**85**	T	T	01 35 29.3	
	baz=280,slow=76						
H11S1	**WAKE ISLAND Hy**	**42.15**	**85**	T	T	01 35 29.9	
	baz=280,slow=76						
H11S2	**WAKE ISLAND Hy**	**42.16**	**85**	T	T	01 35 29.3	
	baz=280,slow=76						
ZALV	**Zalesovo Beam**	**43.65**	**329**	P	P	00 50 46.3	+0.2
	0.2nm,0.4s,baz=108,slow=9.7,SNR=7.0						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**45.33**	**322**	P	P	00 50 59.0	-0.6
	0.3nm,0.5s,baz=122,slow=7.1,SNR=5.2						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**45.50**	**165**	P	P	00 51 01.9	+0.6
	0.1nm,0.3s,baz=341,slow=8.6,SNR=2.0						
	0.1nm,0.3s						

IDC 27 00:49:33.9±1.6, 0°.27N×126°.27E, h0^{km}, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=158.5km s-min=22.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.59**	**159**	P	P	00 54 25.0	-0.5
	0.6nm,0.5s,baz=338,slow=11,SNR=8.6						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**24.92**	**163**	P	P	00 54 59.3	+0.4
	0.7nm,0.5s,baz=350,slow=15,SNR=8.1						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**60.14**	**327**	P	P	00 59 43.0	-0.4
	0.2nm,0.5s,baz=114,slow=8.4,SNR=2.5						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**64.41**	**328**	P	P	01 00 12.1	+0.2
	0.2nm,0.4s,baz=125,slow=6.3,SNR=5.8						
	0.2nm,0.4s						

*IDC **27** 00:50:50.7±0.6, 0°.77N×125°.61E, h0^{km}, mb4.2/15, mbtmp4.2/17, ML4.0/2, MS4.1/1, Error ellipse: s-maj=30.1km s-min=11.7km az=80.0*
*NEIC **27** 00:50:53.4±2.7, 0°.87N±0°.04×125°.95E±0°.07, h10^{km}±1^{km}, mb4.4/15, Error ellipse: s-maj=11.6km s-min=6.5km az=77.0*
*DJA **27** 00:50:56.2±0.2, 1°.N±2°×12°.6E±°, h10^{km}, M4.7/18, mB5.3/4, mb4.7/9, MLv4.6/18, Mw(mB)4.7/4*

ISC 27 00:50:57.1±0.5, 0°.85N±0°.06×125°.99E±0°.06, h44^{km}, n58, σ1§61/60, mb4.3/24, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.38**	**93**		**Pn**	**00 51 19.5**	**-0.3**
TNTI	**Ternate**	**1.38**	**93**	P	**Pn**	**00 51 20.4**	**+0.6**
KMSI	**Cibinong**	**2.03**	**262**	P	**Pn**	**00 51 28.1**	**-0.7**
KMSI				S	**Sn**	**00 51 54.7**	**+1.8**
SGSI	**Sangihe**	**2.86**	**351**	P	**Pn**	**00 51 41.7**	**+1.5**
SANI	**Sanana**	**2.88**	**180**	P	**Pn**	**00 51 40.5**	**+0.1**
LUWI	**Luwuk**	**3.73**	**240**	P	**Pn**	**00 51 54.0**	**+1.9**
MRSI	**Marisa**	**4.07**	**265**	P	**Pn**	**00 51 58.0**	**+1.2**
NLAI	**Namlea**	**4.21**	**165**	P	**Pn**	**00 51 59.6**	**+0.9**
APSI	**Ampana**	**4.68**	**248**	P	**Pn**	**00 52 06.5**	**+1.3**
MSAI	**Masohi**	**5.09**	**145**	P	**Pn**	**00 52 13.5**	**+2.6**
	1.0nm4μm65nm,0.6s						
TOLI2	**Tolitoli**	**5.22**	**273**		**Pn**	**00 52 10.0**	**-2.6**
MPSI	**Mapaga**	**6.12**	**265**	P	**Pn**	**00 52 26.5**	**+1.6**
	0.2nm2μm46nm,0.9s						
PCI	**Palu**	**6.40**	**254**	P	**Pn**	**00 52 30.6**	**+1.8**
	0.6nm7μm52nm,0.6s						
BBSI	**Bau Bau**	**7.16**	**208**	P	**Pn**	**00 52 41.3**	**+2.0**
	0.3nm62nm,1.0s						
TTSI	**Tana Toraja**	**7.28**	**238**	P	**Pn**	**00 52 41.9**	**+0.9**
**FAKI

comp=Z,3.5nm,0.6s
KURK Kurchatov 63.78 329 P P 01 01 23.9 -0.6
KKAR Karatay Array 64.85 318 P P 01 01 31.5 -0.3
BVAR Borovoye Array 69.34 328 P P 01 01 58.9 -1.1
comp=Z,0.5nm,0.4s,baz=143,slow=10,SNR=6.8
comp=Z,0.5nm,0.4s
VNDA Vanda 80.68 173 P P 01 03 04.9 -0.1
comp=Z,1.3nm,0.8s,baz=309,slow=4.3,SNR=6.2
comp=Z,1.3nm,0.8s
QSPA South Pole Qui 90.77 180 P P 01 03 56.5 +1.1
comp=Z,1.0nm,0.9s,baz=291,slow=0.2,SNR=6.2
comp=Z,1.0nm,0.9s
FINES FINESS Array B 94.01 332 P P 01 04 09.7 -0.6
comp=Z,0.4nm,0.6s,baz=60,slow=11,SNR=4.8
comp=Z,0.4nm,0.6s

IDC 27 01:09:00.1±2.8, 30°64'S×177°27'W, h0 km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=59.8km s-min=28.6km az=93.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.50**	**338**	Pn	Pn	01 09 28.4	+0.2
	373nm,0.3s,baz=102,slow=7.9,SNR=23						
RAO				Sn	Sn	01 09 49.4	+0.9
	152nm,0.3s,baz=104,slow=23,SNR=6.7						
STKA	**Stephens Creek**	**35.04**	**257**	P	P	01 15 55.5	+0.8
	0.6nm,0.4s,baz=85,slow=11,SNR=3.1						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**44.74**	**272**	P	P	01 17 14.6	-0.9
	0.3nm,0.5s,baz=112,slow=8.2,SNR=5.2						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**145.59**	**340**	PKPbc	PKPdf	01 28 39.0	-0.7
	1.3nm,0.8s,baz=60,slow=2.1,SNR=9.7						

*ISK **27** 01:09:04.9, 38°.95N×24°.98E, h10 km, ML3.5/53*
*THE **27** 01:09:05.5, 39°N±1°×25°.0E±1°.0, h15 km±3 km, M3.2/28, MLh3.2/28*
*ATH **27** 01:09:05.4, 38°.86N×24°.92E, h22 km± 1 km, ML3.4/14, Manual Solution by S.Liakopoulos First location: 2019/07/27 01:10:20, This location: 2019/07/27 01:19:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*AFAD **27** 01:09:05.3, 38°.87N×25°.06E, h27 km± 2 km, ML3.4*
ISC 27 01:09:04.5±1.0, 38°.86N±0°.02×24°.95E±0°.01, h14 km±8 km, n166, σ0°.84/209, 17C-9D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKY1	**Skyros Island**	**0.30**	**278**	P	**Pb**	**01 09 12.0**	**+0.2**
SKY1				S	**Sb**	**01 09 16.9**	**+0.3**
SKY	**Skiros Island**	**0.31**	**273**	P	**Pb**	**01 09 11.7**	**-0.2**
SKY				S	**Sg**	**01 09 16.3**	**+0.8**
KYMI	**Kymi, Euboea I**	**0.70**	**251**	P	**Pb**	**01 09 18.6**	**0.0**
KYMI				S	**Sn**	**01 09 29.8**	**-0.9**
KYMI	**Kymi, Euboea I**	**0.70**	**251**	P	**Pb**	**01 09 18.5**	**0.0**
KYMI				S	**Sb**	**01 09 28.1**	**0.0**
SIGR	**SIGRI**	**0.79**	**63**	Pg	**Pb**	**01 09 19.6**	**-0.4**
SIGR	**SIGRI**	**0.79**	**63**	P	**Pn**	**01 09 20.5**	**-0.7**
SIGR				S	**Sn**	**01 09 32.3**	**-0.5**
SIGR	**SIGRI**	**0.79**	**63**	P	**Pn**	**01 09 20.6**	**-0.7**
SIGR				S	**Sn**	**01 09 31.4**	**-1.4**
KARY	**Karystos**	**0.92**	**206**	P	**Pg**	**01 09 22.3**	**0.0**
KARY	**Karystos**	**0.92**	**206**	P	**Pg**	**01 09 22.3**	**0.0**
KARY				S	**Sg**	**01 09 34.4**	**+0.1**
EAG2	**Marmaro, Chios**	**0.96**	**109**	P	**Pn**	**01 09 23.8**	**+0.2**
EAG2				S	**Sn**	**01 09 36.4**	**-0.6**
CHOS	**Chios island**	**0.98**	**118**	Pg	**Pn**	**01 09 24.6**	**+0.6**
CHOS				Sg	**Sn**	**01 09 39.1**	**+1.3**
CHOS	**Chios island**	**0.98**	**118**	P	**Pn**	**01 09 24.2**	**+0.2**
CHOS				S	**Sn**	**01 09 38.0**	**+0.2**
CHOS	**Chios island**	**0.98**	**118**	P	**Pn**	**01 09 24.3**	**+0.3**
CHOS				S	**Sn**	**01 09 37.4**	**-0.4**
LMN1	**MIRINA LIMNOU**	**1.02**	**5**	P	**Pb**	**01 09 23.5**	**-0.4**
LMN1				S	**Sn**	**01 09 38.1**	**-0.3**
LIA	**Limnos Island**	**1.05**	**10**	P	**Pn**	**01 09 25.0**	**+0.1**
LIA				S	**Sn**	**01 09 40.1**	**+0.8**
LIA	**Limnos Island**	**1.05**	**10**	P	**Pn**	**01 09 24.9**	**+0.1**
LIA				S	**Sg**	**01 09 38.5**	**0.0**
GPNR	**Gulpinar-Canak**	**1.09**	**57**	Pg	**Pb**	**01 09 24.9**	**-0.3**
PRK	**Paraskevi**	**1.10**	**69**	P	**Pg**	**01 09 25.6**	**-0.1**
PRK				S	**Sn**	**01 09 40.7**	**+0.3**
PRK	**Paraskevi**	**1.10**	**69**	P	**Pg**	**01 09 25.6**	**-0.1**
PRK				S	**Sn**	**01 09 40.3**	**-0.2**
DION	**Dionisos Attik**	**1.12**	**226**	P	**Pb**	**01 09 25.2**	**-0.5**
DION	**Dionisos Attik**	**1.12**	**226**	P	**Pb**	**01 09 25.1**	**-0.5**
DION				S	**Sb**	**01 09 39.6**	**-0.5**
KOCA	**Canakkale, Ayv**	**1.12**	**55**	P	**Pg**	**01 09 26.1**	**-0.1**
KOCA				S	**Sg**	**01 09 40.2**	**-0.6**
KOCA				*i* IAML		01 09 49.0	
	comp=N,821nm,0.5s						
KOCA				*i* IAML		01 09 49.0	
	comp=E,949nm,0.7s						
KARB	**zmir-Karabur**	**1.16**	**99**	P	**Pg**	**01 09 27.1**	**+0.3**
KARB				S	**Sb**	**01 09 41.2**	**0.0**
KARB				*i* IAML		01 09 47.0	
	comp=E,597nm,0.4s						
PTL	**Penteli**	**1.18**	**227**	P	**Pn**	**01 09 26.1**	**-0.5**
PTL				S	**Sg**	**01 09 42.6**	**+0.1**
PTL	**Penteli**	**1.18**	**227**	P	**Pn**	**01 09 26.0**	**-0.6**
PTL				S	**Sb**	**01 09 41.8**	**0.0**
CEE	**eme**	**1.18**	**116**	Pn	**Pg**	**01 09 28.1**	**+0.8**
PARN1	**Fyli,Attica,Gr**	**1.26**	**233**	P	**Pn**	**01 09 27.7**	**0.0**
PARN1				S	**Sb**	**01 09 43.8**	**-0.3**
ATHU	**Athens Univers**	**1.28**	**226**	P	**Pn**	**01 09 27.4**	**-0.6**
ATHU				S	**Sg**	**01 09 45.7**	**-0.1**
ATHU	**Athens Univers**	**1.28**	**226**	P	**Pn**	**01 09 27.2**	**-0.7**
ATHU				S	**Sb**	**01 09 44.6**	**-0.1**
STFN	**Stefani**	**1.30**	**239**	P	**Pn**	**01 09 28.6**	**+0.3**
STFN				S	**Sb**	**01 09 45.0**	**-0.3**
ATH5	**Athens Parliam**	**1.30**	**228**	P	**Pn**	**01 09 27.9**	**-0.3**
BOZC	**Bozcaada**	**1.30**	**41**	Pn	**Pn**	**01 09 28.2**	**-0.1**
BOZC	**Bozcaada**	**1.30**	**41**	P	**Pb**	**01 09 28.4**	**-0.4**
BOZC				S	**Sg**	**01 09 46.0**	**-0.5**
BOZC				*i* IAML		01 09 50.0	
	comp=E,747nm,0.4s						
BOZC				*i* IAML		01 09 51.0	
	comp=N,844nm,0.5s						
ATH	**Athens Observa**	**1.31**	**228**	P	**Pn**	**01 09 28.3**	**-0.1**
ATH				S	**Sg**	**01 09 47.8**	**+0.9**
ATH	**Athens Observa**	**1.31**	**228**	P	**Pn**	**01 09 28.1**	**-0.3**
PARN2	**Moni Osiou Mel**	**1.35**	**241**	P	**Pn**	**01 09 29.2**	**+0.2**
ZEYE	**Izmir, Urla-Ze**	**1.37**	**117**	P	**Pg**	**01 09 30.7**	**-0.1**
ZEYE				S	**Sg**	**01 09 47.7**	**-0.9**
MAGU	**Magoula**	**1.37**	**236**	P	**Pn**	**01 09 29.4**	**+0.2**
URLA	**Izmir**	**1.38**	**111**	Pn	**Pg**	**01 09 30.8**	**-0.3**
URLA	**Izmir**	**1.38**	**111**	P	**Pb**	**01 09 30.3**	**+0.2**
URLA				S	**Sb**	**01 09 47.6**	**-0.1**
URLA				*i* IAML		01 09 58.0	
	comp=E,390nm,0.6s						
URLA				*i* IAML		01 09 59.0	
	comp=N,394nm,0.9s						
FOCM	**Foa**	**1.40**	**95**	Pn	**Pg**	**01 09 30.9**	**-0.5**
EZNE	**Ezine-Canakkal**	**1.42**	**50**	Pn	**Pb**	**01 09 30.2**	**-0.5**
NEO	**Neokhori**	**1.42**	**289**	P	**Pn**	**01 09 30.2**	**+0.4**
NEO				S	**Sg**	**01 09 49.9**	**-0.3**
NEO	**Neokhori**	**1.42**	**289**	P	**Pn**	**01 09 30.3**	**+0.4**
AYVA	**Ayvalik**	**1.43**	**71**	P	**Pb**	**01 09 30.5**	**-0.4**
AYVA				S	**Sg**	**01 09 49.4**	**-1.0**
AYVA				*i* IAML		01 09 55.0	
	comp=N,475nm,0.4s						
EZN	**Ezine**	**1.44**	**47**	Pn	**Pn**	**01 09 29.9**	**-0.2**
EZN	**Ezine**	**1.44**	**47**	P	**Pn**	**01 09 30.1**	**0.0**
EZN				S	**Sn**	**01 09 50.6**	**-0.2**
EZN	**Ezine**	**1.44**	**47**	⇑P	**Pn**	**01 09 30.3**	**+0.2**
EZN				⇓S	**Sg**	**01 09 51.1**	**+0.3**
CAND	**Candarli**	**1.45**	**86**	Pn	**Pb**	**01 09 31.4**	**+0.1**
PAIG	**Paliouri**	**1.45**	**318**	P	**Pn**	**01 09 30.8**	**+0.5**
PAIG				S	**Sg**	**01 09 50.8**	**-0.5**
VILL	**Villia**	**1.46**	**242**	P	**Pn**	**01 09 30.5**	**-0.1**
VIL2	**Platees**	**1.47**	**244**	P	**Pn**	**01 09 30.3**	**-0.3**
GOAD	**anakkale-G¶**	**1.50**	**29**	P	**Pn**	**01 09 31.4**	**+0.4**
GOAD				S	**Sg**	**01 09 52.1**	**-0.6**
GOAD				*i* IAML		01 09 59.0	
	comp=N,550nm,0.5s						
GOAD				*i* IAML		01 10 01.0	
	comp=E,773nm,0.6s						
ECEA	**Canakkale, Ece**	**1.52**	**38**	P	**Pb**	**01 09 32.1**	**-0.3**
ECEA				S	**Sg**	**01 09 52.6**	**-0.7**
ECEA				*i* IAML		01 09 57.0	
	comp=N,879nm,0.4s						
ECEA				*i* IAML		01 09 59.0	
	comp=E,947nm,0.6s						
GADA	**Gvkgeada**	**1.52**	**29**	Pn	**Pn**	**01 09 31.4**	**+0.1**
GADA	**Gvkgeada**	**1.52**	**29**	P	**Pn**	**01 09 31.3**	**0.0**
BAYC	**CANAKKALE_Bayr**	**1.52**	**54**	P	**Pn**	**01 09 31.4**	**+0.1**
BAYC				S	**Sb**	**01 09 51.3**	**-0.3**
LKR	**Lokris**	**1.54**	**263**	P	**Pn**	**01 09 31.3**	**-0.2**
LKR	**Lokris**	**1.54**	**263**	P	**Pn**	**01 09 31.1**	**-0.5**
IZMD	**zmir-Dikili-**	**1.55**	**85**	P	**Pn**	**01 09 32.5**	**-0.6**
CNKL	**anakkale-Mer**	**1.64**	**42**	P	**Pn**	**01 09 33.3**	**+0.4**
CNKL				S	**Sn**	**01 09 52.1**	**-1.6**
CNKL				*i* IAML		01 10 04.0	
	comp=E,474nm,1.2s						
OUR	**Ouranopolis**	**1.65**	**333**	Pn	**Pn**	**01 09 33.3**	**+0.2**
OUR	**Ouranopolis**	**1.65**	**333**	P	**Pn**	**01 09 33.2**	**+0.2**
ZEDA	**zmir-Bergama**	**1.66**	**86**	P	**Pn**	**01 09 33.8**	**+0.6**
ZEDA				S	**Sb**	**01 09 55.0**	**-0.7**
SMTH	**Samothraki Isl**	**1.67**	**15**	P	**Pn**	**01 09 33.3**	**-0.1**
SMTH	**Samothraki Isl**	**1.67**	**15**	P	**Pn**	**01 09 33.2**	**-0.2**
BLCB	**Balcova**	**1.71**	**105**	Pn	**Pb**	**01 09 35.6**	**0.0**
COMU	**Canakkale**	**1.71**	**43**	Pn	**Pn**	**01 09 34.3**	**+0.4**
DGB	**zmir**	**1.72**	**117**	P	**Pn**	**01 09 34.4**	**+0.4**
DGB				S	**Sg**	**01 09 59.1**	**-0.7**
GMLD	**Gumuldur**	**1.73**	**116**	Pn	**Pb**	**01 09 35.8**	**-0.2**
MET4	**Agioi Theodoro**	**1.74**	**225**	P	**Pn**	**01 09 33.8**	**-0.5**
KRL1	**Karlovasi Samo**	**1.74**	**127**	P	**Pn**	**01 09 34.8**	**+0.4**
THAS	**Thassos island**	**1.75**	**354**	P	**Pn**	**01 09 34.2**	**-0.3**
MET5	**Makryloggos,Me**	**1.76**	**226**	P	**Pn**	**01 09 34.2**	**-0.4**
LTK	**Loutraki**	**1.77**	**242**	P	**Pn**	**01 09 35.1**	**+0.3**
LTK	**Loutraki**	**1.77**	**242**	P	**Pn**	**01 09 34.6**	**-0.1**
BUHA	**Balikesir, Bur**	**1.77**	**68**	P	**Pn**	**01 09 35.5**	**+0.7**
MET6	**Megalochori,Me**	**1.78**	**225**	P	**Pn**	**01 09 34.5**	**-0.4**
AXAR	**Agios Charalam**	**1.79**	**268**	P	**Pn**	**01 09 35.3**	**+0.2**
YAYO	**Edremit-Balk**	**1.81**	**65**	Pn	**Pn**	**01 09 36.1**	**+0.8**
SMG	**Samos**	**1.88**	**127**	P	**Pn**	**01 09 36.7**	**+0.4**
SMG	**Samos**	**1.88**	**127**	P	**Pn**	**01 09 36.7**	**+0.4**
PLG	**Polygyros**	**1.91**	**323**	P	**Pn**	**01 09 36.8**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.93**	**37**	Pn	**Pn**	**01 09 37.4**	**+0.4**
ENZZ	**Sultanice-Enez**	**1.97**	**27**	Pn	**Pn**	**01 09 38.2**	**+0.7**
CANM	**Can-anakkale**	**1.99**	**54**	Pn	**Pn**	**01 09 38.4**	**+0.6**
SOMA	**Soma-Manisa**	**2.03**	**81**	Pn	**Pn**	**01 09 39.6**	**+1.2**
AGG	**Agios Georgios**	**2.05**	**275**	P	**Pn**	**01 09 39.3**	**+0.7**
CAVK	**Edirne/Enez-Ca**	**2.06**	**27**	⇓P	**Pn**	**01 09 39.8**	**+1.1**
CAVK				⇑S	**Sb**	**01 10 06.2**	**-0.9**
LPK	**Lapseki**	**2.06**	**42**	Pn	**Pn**	**01 09 39.2**	**+0.5**
YENI	**Yenice-Canakka**	**2.08**	**58**	Pn	**Pn**	**01 09 39.7**	**+0.8**
ENEZ	**Enez**	**2.09**	**26**	Pn	**Pn**	**01 09 39.6**	**+0.5**
ENEZ	**Enez**	**2.09**	**26**	P	**Pn**	**01 09 39.6**	**+0.5**
GCAM	**G?zelcaml?**	**2.14**	**122**	Pn	**Pb**	**01 09 42.1**	**-0.9**
GCAM	**G?zelcaml?**	**2.14**	**122**	P	**Pn**	**01 09 40.9**	**+1.1**
KAVA	**Kavala**	**2.16**	**351**	P	**Pn**	**01 09 40.0**	**-0.1**
ERIK	**Erikli-Kesan**	**2.17**	**33**	Pn	**Pn**	**01 09 41.1**	**+0.9**
ALN	**Alexandroupoli**	**2.20**	**22**	Pn	**Pn**	**01 09 41.1**	**+0.4**
ALN	**Alexandroupoli**	**2.20**	**22**	P	**Pn**	**01 09 40.9**	**+0.3**
MAKR	**Makrakomi, Fth**	**2.20**	**275**	P	**Pn**	**01 09 40.9**	**+0.1**
MHLO	**Agia Marina, M**	**2.21**	**192**	P	**Pn**	**01 09 40.4**	**-0.4**
STEP	**BALIKESIR_Sava**	**2.21**	**76**	P	**Pn**	**01 09 42.3**	**+1.5**
STEP				S	**Sb**	**01 10 13.2**	**+1.6**
STEP				*i* IAML		01 10 23.0	
	comp=E,312nm,0.9s						
STEP				*i* IAML		01 10 28.0	
	comp=N,265nm,0.7s						
AKHS	**Akhisar**	**2.23**	**89**	P	**Pn**	**01 09 42.6**	**+1.5**
HORT	**Hortiatis**	**2.25**	**321**	P	**Pn**	**01 09 42.2**	**+0.9**
GUR	**Goura**	**2.25**	**247**	P	**Pn**	**01 09 41.7**	**+0.3**
BALY	**Balya**	**2.25**	**66**	P	**Pn**	**01 09 42.2**	**+0.8**
KALE	**Kalithea**	**2.25**	**259**	P	**Pn**	**01 09 41.7**	**+0.3**
DDIM	**Aydin, Didim**	**2.29**	**127**	P	**Pb**	**01 09 43.9**	**-1.6**
RDO	**Rodhopi**	**2.33**	**11**	Pn	**Pn**	**01 09 42.9**	**+0.5**
KRBG	**Karabiga-Canak**	**2.37**	**49**	Pn	**Pn**	**01 09 43.7**	**+0.7**
GONE	**Gonen-Balikesi**	**2.43**	**60**	Pn	**Pn**	**01 09 44.7**	**+1.0**
IZMR	**zmir-demi**	**2.46**	**106**	P	**Pg**	**01 09 51.6**	**-0.2**
BKES	**Balkesir-Mer**	**2.47**	**68**	P	**Pn**	**01 09 45.8**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**2.48**	**111**	Pn	**Pb**	**01 09 46.8**	**-2.2**
RKY	**Sarkoy-Tekirda**	**2.50**	**43**	Pn	**Pn**	**01 09 45.6**	**+0.7**
ODEM	**Odemis-Izmir**	**2.52**	**102**	Pn	**Pn**	**01 09 46.9**	**+1.8**
GORD	**Gordes-Manisa**	**2.52**	**88**	Pn	**Pn**	**01 09 46.4**	**+1.3**
AYDN	**Tasoluk**	**2.60**	**117**	P	**Pn**	**01 09 48.3**	**+2.1**
AYDN				S	**Sb**	**01 10 24.0**	**+1.3**
UKOP	**Uzunkopru-Edir**	**2.61**	**29**	Pn	**Pn**	**01 09 46.9**	**+0.7**
BDRM	**Kayabasi**	**2.66**	**132**	⇑P	**Pn**	**01 09 48.3**	**+1.3**
MRMT	**Marmara Adasi**	**2.68**	**49**	Pn	**Pn**	**01 09 47.9**	**+0.6**
EDC	**Edincik**	**2.69**	**56**	Pn	**Pn**	**01 09 48.6**	**+1.1**
NAZL	**Nazilli-Aydin**	**2.77**	**108**	Pn	**Pn**	**01 09 50.8**	**+2.2**
KDZ	**Kurdzhali**	**2.78**	**6**	Pn	**Pn**	**01 09 49.6**	**+0.9**
KIRA	**zmir-Kiraz**	**2.79**	**103**	P	**Pn**	**01 09 50.2**	**+1.4**
BAND	**Balkesir-Ban**	**2.85**	**57**	⇓P	**Pn**	**01 09 51.1**	**+1.5**
KULA	**Kula-Manisa**	**2.92**	**96**	Pn	**Pn**	**01 09 51.8**	**+1.1**
KCTX	**Karacabey (Bur**	**2.98**	**61**	Pn	**Pn**	**01 09 52.5**	**+1.1**
VAY	**Valandovo**	**3.06**	**324**	*i* Pn	**Pn**	**01 09 54.6**	**+2.1**
CRLU	**Corlu**	**3.12**	**42**	Pn	**Pn**	**01 09 54.2**	**+1.0**
SIMA	**Simav-Kutahya**	**3.15**	**85**	Pn	**Pn**	**01 09 55.6**	**+1.8**
EDRB	**Edirne**	**3.28**	**24**	Pn	**Pn**	**01 09 56.7**	**+1.2**
PLD	**Plovdiv**	**3.29**	**357**	Pn	**Pn**	**01 09 56.1**	**+0.5**
MDNY	**Mudanya-Bursa**	**3.39**	**62**	Pn	**Pn**	**01 09 58.4**	**+1.4**
TAVA	**DENIZLI_Tavas**	**3.42**	**113**	⇑P	**Pn**	**01 09 59.4**	**+1.9**
SLVT	**Silivri**	**3.44**	**46**	Pn	**Pn**	**01 09 58.9**	**+1.2**
ARMT	**Armutlu**	**3.46**	**59**	Pn	**Pn**	**01 09 59.6**	**+1.6**
GEDZ	**Gediz**	**3.48**	**86**	Pn	**Pn**	**01 10 00.3**	**+2.0**
TVSB	**Tavsanli**	**3.56**	**79**	Pn	**Pn**	**01 10 01.2**	**+1.8**
CTKS	**Kestanelik-??a**	**3.62**	**48**	Pn	**Pn**	**01 10 00.5**	**+0.4**
CTYL	**Yalikoy Yolu**	**3.66**	**43**	Pn	**Pn**	**01 10 02.1**	**+1.5**
BGKT	**Bogazkoy**	**3.74**	**50**	Pn	**Pn**	**01 10 02.8**	**+1.0**
YLV	**Yalova**	**3.81**	**62**	Pn	**Pn**	**01 10 04.5**	**+1.6**
KAVV	**Kandilli-Istan**	**3.85**	**54**	Pn	**Pn**	**01 10 03.0**	**-0.3**
ISK	**Istanbul-Kandi**	**3.85**	**54**	Pn	**Pn**	**01 10 05.3**	**+2.0**
KLYT	**Kilyos**	**3.94**	**51**	Pn	**Pn**	**01 10 05.9**	**+1.3**
CAVI	**Cavuskoy**	**4.01**	**69**	Pn	**Pn**	**01 10 07.0**	**+1.4**
ELND	**Elena**	**4.12**	**9**	⇓P	**Pn**	**01 10 07.8**	**+0.7**
PLVB	**Pleven**	**4.53**	**357**	⇓P	**Pn**	**01 10 10.9**	**+1.3**
LOZB	**Loznitsa**	**4.67**	**15**	⇑P	**Pn**	**01 10 15.5**	**+0.8**
BOVS	**Bovan**	**5.36**	**334**	⇑P	**Pn**	**01 10 25.2**	**+1.1**
HARR	**Harsova**	**6.24**	**20**	⇓P	**Pn**	**01 10 37.2**	**+1.1**
HERR	**Herculane**	**6.31**	**343**	⇓P	**Pn**	**01 10 37.5**	**+0.5**
MDVR	**Moldovita**	**6.39**	**339**	⇑P	**Pn**	**01 10 39.2**	**+0.9**
VOIR		**6.57**	**1**	⇓P	**Pn**	**01 10 41.7**	**+0.9**
MLR	**Muntele Rosu**	**6.67**	**6**	⇑P	**Pn**	**01 10 43.3**	**+1.2**
GZR	**Gura Zlata**	**6.72**	**347**	⇑P	**Pn**	**01 10 43.7**	**+0.8**
COVR	**Voineasa-Covas**	**7.04**	**7**	⇑P	**Pn**	**01 10 48.9**	**+1.7**
PLOR	**Plostina**	**7.10**	**10**	⇑P	**Pn**	**01 10 49.1**	**+1.1**
DOPR	**Dopca**	**7.11**	**2**	⇑P	**Pn**	**01 10 48.9**	**+0.8**
VRI	**Vrincioaia**	**7.12**	**10**	⇑P	**Pn**	**01 10 50.0**	**+1.7**
BZS	**Buzias**	**7.19**	**341**	⇑P	**Pn**	**01 10 49.3**	**+0.1**
TURR	**Turia**	**7.23**	**6**	⇑P	**Pn**	**01 10 50.4**	**+0.6**
TESR	**Tescani**	**7.75**	**9**	⇑P	**Pn**	**01 10 57.8**	**+0.9**
MARR	**Marisel-Cluj**	**7.93**	**351**	⇑P	**Pn**	**01 10 59.9**	**+0.5**
DRGR		**8.10**	**349**	⇓P	**Pn**	**01 11 02.8**	**+1.1**

AUST 27 01:11:26.7±1.4, 18°S±13°×12°0E±°, h10 km, mb3.8/4, ML2.5/3, ML2.9/3, Error ellipse: s-maj=32.2km s-min=7.4km az=147.2, Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior**	**2.10**	**93**	S	Sn	01 12 28.7	+0.5
MBWA	**Marble Bar**	**3.28**	**185**	P	Pn	01 12 19.2	+1.1
MBWA				S	Sn	01 12 53.1	-4.2
PSAC1	**Pilbara Seismi**	**3.65**	**183**	P	Pn	01 12 23.6	+0.4
PSAC1				S	Sn	01 13 00.9	-5.5
FITZ	**Fitzroy Crossi**	**5.35**	**93**	P	Pn	01 12 46.6	-0.1
	comp=Z,0.0nmcomp=Z,7μmcomp=Z,1.3nm,2.3s						
FITZ	**Fitzroy Crossi**	**5.35**	**93**	S	Sn	01 13 42.1	-6.2
GIRL	**Giralia**	**7.22**	**228**	S	Sn	01 14 33.2	-1.1
KNRA	**Kununurra**	**8.65**	**77**	P	Pn	01 13 32.3	+0.3
	comp=Z,7.1nm,1.5s,comp=Z,0.0nm						
MEEK	**Meekatharra**	**8.82**	**188**	P	Pn	01 13 34.2	-0.1
MORW	**Morawa**	**11.73**	**197**	P	Pn	01 14 12.7	-1.4
	comp=Z,11nm,3.0s						
BLDU	**Balidu**	**13.04**	**193**	P	Pn	01 14 32.0	-0.1
	comp=Z,18nm,2.6s						

*IDC **27** 01:24:41.9±0.4, 20°.65N×121°.92E, h0 km, mb5.1/31, mbtmp5.1/33, ML4.8/2, MS5.3/74, Error ellipse: s-maj=15.6km s-min=11.0km az=76.0*
*BGR **27** 01:24:42.9, 20°.33N×122°.24E, h10 km, mb5.5, Ms5.9*
*MOS **27** 01:24:42.7±1.0, 20°.70N×121°.98E, h13 km, mb5.7/73, MS5.4/50, Error ellipse: s-maj=6.0km s-min=3.6km az=109.7*
*JMA **27** 01:24:42.8±0.4, 21°N±2°×122°.0E±0°.8, h13 km, MV5.8/30, MW5.8/30, PHILIPPINE ISL REGION*
*NIED **27** 01:24:42.8, 20°.90N×122°.01E, h13 km, MW5.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^17Nm; Mrr=0.58; Mθθ=4.07; Mϕϕ=-3.49; Mrθ=4.52; Mθϕ=-2.43; Mϕr=1.47; Fault plane solution: Mo6.50000×10^17 NP1: ϕs153.00000°, δ43.00000°, λ-3.00000°. NP2:ϕs245.00000°, δ88.00000°, λ-133.00000°.*
*TAP **27** 01:24:43.5, 20°.76N×121°.86E, h75 km, ML5.8, D*
*NEIC **27** 01:24:44.9, 20°.90N×121°.92E, h20 km, Moment Tensor Solution. Duration: 3s8 Moment tensor: Scale 10^17Nm; Mrr=0.96; Mθθ=3.81; Mϕϕ=-2.84; Mrθ=1.65; Mθϕ=-3.58; Mϕr=0.68; Fault plane solution: Mo5.27000×10^17 NP1: ϕs339.54000°, δ79.18000°, λ9.98000°. NP2:ϕs247.65000°, δ80.20000°, λ169.02000°. Principal axes: T 5.8331, Plg15.0000°, Azm203.0000°; N -1.4275, Plg75.0000°, Azm26.0000°; P -4.4056, Plg1.0000°, Azm294.0000°;*
*NEIC **27** 01:24:44.7±2.9, 20°.75N±0°.02×122°.01E±0°.07, h10 km±1 km, mb5.7/428, Ms_20 5.4/870, Mwb5.7/23, Mww5.7/48 Error ellipse: s-maj=11.8km s-min=2.9km az=95.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=0.38; Mθθ3.89; Mϕϕ-3.51; Mrθ-1.71; Mθϕ-1.38; Mϕr-1.25; Fault plane solution: Mo4.49000×10^17 NP1: ϕs324.61000°, δ61.53000°, λ-3.70000°. NP2:ϕs56.37000°, δ86.75000°, λ-151.48000°. Principal axes: T 4.5959, Plg17.0000°, Azm187.0000°; N -0.2147, Plg61.0000°, Azm62.0000°; P -4.3812, Plg22.0000°, Azm284.0000°;*
*BJI **27** 01:24:44.8, 21°.06N×121°.80E, h5 km, mB5.7/69, mb5.3/84, ML5.8/2, Ms5.9/97, Ms7 5.8/93*
*NEIC **27** 01:24:44.9, 20°.80N×122°.02E, h10 km*
*NEIC **27** 01:24:44.9, 20°.80N×122°.02E, h20 km*
*MAN **27** 01:24:45.8, 20°.67N×121°.91E, h15 km, mb6.1, ML5.2, MS5.8*
MAN INTENSITY IV - BASCO ITBAYAT IVANA AND MAHATAO BATANES; INTENSITY III - SABTANG AND UYUGAN BATANES.
*GCMT **27** 01:24:46.7±0.1, 20°.83N×121°.89E, h17 km, MW5.7/161, Moment Tensor Solution. s131, c241; s161, c340; Duration: 1s8 Moment tensor: Scale 10^17Nm; Mrr=0.68±.05; Mθθ3.73±.04; Mϕϕ-3.05±.05; Mrθ0.02±.11; Mθϕ-3.43±.04; Mϕr0.12±.12; Best double couple: Mo4.82400×10^17 NP1:ϕs248.00000°, δ89.00000°, λ-179.00000°. NP2:ϕs158.00000°, δ89.00000°, λ-1.00000°. Principal axes: T 5.1630, Plg0.0000°, Azm203.0000°; N -0.6730, Plg88.0000°, Azm302.0000°; P -4.4860, Plg2.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 01:24:44.3±0.3, 20°.84N±0°.02×122°.06E±0°.02, h12 km±1 km, h12 km:pP-P, n2085, σ1°.76/1689, mb5.6/465, MS5.5/531, 109C-60D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LYUB	**Lan-yu**	**1.24**	**339**	⇑P	**Pg**	**01 25 06.2**	**-2.1**
LYUB				S	**Sn**	**01 25 22.7**	**-1.4**
LAY	**Lan-yu**	**1.28**	**339**	*e*P	**Pg**	**01 25 06.5**

TSCK	Chigu Township	2.94	322	*eP*	Pn	01 25 29.9	-0.9
TSCK				*eS*	Sn	01 26 02.7	-3.4
ICHU	Yijhu	3.00	327	*eP*	Pn	01 25 31.0	-0.8
ICHU				*eS*	Sn	01 26 04.6	-3.1
ESL	Shilin	3.02	349	P	Pn	01 25 30.5	-1.4
ESL				*eS*	Sn	01 26 05.8	-2.3
VWDT	VWDT	3.02	344⇑	*iP*	Pn	01 25 31.5	-0.5
CHN8	Yiju	3.03	326	*eP*	Pn	01 25 30.0	-2.1
CHN5	Tsauling	3.03	335	*eP*	Pb	01 25 32.7	-5.6
TEYL	Yanliau Villag	3.05	352	*eP*	Pn	01 25 31.9	-0.5
TEYL				*eS*	Sn	01 26 07.6	-1.1
CHY	Chiayi	3.05	331	*eP*	Pn	01 25 32.2	-0.2
WHYT	Xinyi Township	3.06	339	*eP*	Pb	01 25 32.9	-5.8
SSLB	Suanglung	3.11	341		Pn	01 25 33.2	0.0
SSLB	Suanglung	3.11	341	P	Pn	01 25 33.3	0.0
SSLB	Suanglung	3.11	341	⇑P	Pn	01 25 33.4	+0.2
HWA	Hwalien	3.15	352	*eP*	Pn	01 25 33.1	-0.7
WGK	Gukeng	3.15	334	*eP*	Pn	01 25 33.4	-0.5
ETM	Tongmen	3.16	351	*eP*	Pn	01 25 32.4	-1.5
WSL	Shuilin Townsh	3.17	328	*eP*	Pn	01 25 32.9	-1.1
WDLH	Douliu	3.17	334⇓	*eP*	Pn	01 25 33.9	-0.1
OWD	Renai	3.21	345	*eP*	Pn	01 25 34.1	-0.6
SMLT	Sun Moon Lake	3.21	341	*eP*	Pb	01 25 35.4	-6.1
LXIB	Xiulin Townshi	3.22	349	⇑P	Pn	01 25 33.4	-1.6
WTK	Tuku	3.23	332⇓	*eP*	Pn	01 25 34.0	-0.8
TYC	Yuchr	3.25	340	*eP*	Pb	01 25 36.0	-6.0
TWD	Chiawan	3.26	353	*eP*	Pn	01 25 33.6	-1.6
WUSB	Renai	3.26	345	⇑P	Pn	01 25 35.0	-0.4
WSF	Szhu	3.27	329	*eP*	Pn	01 25 33.7	-1.7
EOS4	EOS4	3.28	4	*eP*	Pn	01 25 34.4	-0.8
WDGT	Dungji	3.28	318	*eP*	Pn	01 25 33.0	-2.5
WNT	Mingjian	3.28	337	*eP*	Pn	01 25 35.2	-0.4
ETL	Fush Village	3.33	353	*eP*	Pn	01 25 34.5	-1.8
NACB	Ninganchiao	3.35	353		Pn	01 25 34.5	-2.0
NACB	Ninganchiao	3.35	353	P	Pn	01 25 34.8	-1.7
NACB	Ninganchiao	3.35	353	⇑P	Pn	01 25 34.4	-2.1
WHF	Hehuan Shan	3.37	348	⇑P	Pn	01 25 36.0	-1.2
WCS	Beigang Elemen	3.38	342⇓	*eP*	Pn	01 25 37.4	+0.5
VCHM	Qimei	3.39	315	*eP*	Pn	01 25 34.7	-2.4
ETLH	Xiulin Townshi	3.40	351⇑	*eP*	Pn	01 25 36.0	-1.3
EOS3	EOS3	3.44	4	*eP*	Pn	01 25 37.1	-0.5
FUSS	Fushou	3.48	348⇓	*eP*	Pn	01 25 38.1	-0.4
EAHA	Aohua	3.49	355⇑	*eP*	Pn	01 25 38.0	-0.5
TWT	Tachien	3.50	347	*eP*	Pn	01 25 38.9	+0.1
TDCB	Techi	3.50	346⇑	*eP*	Pn	01 25 38.4	-0.3
WCHH	Zhanghua	3.51	337	*eP*	Pn	01 25 37.9	-0.8
PHUB	P'eng-hu	3.52	320	*eP*	Pn	01 25 36.2	-2.6
TCU	Taichung	3.53	339	*eP*	Pn	01 25 39.6	+0.6
EOS2	EOS2	3.57	3	*eP*	Pn	01 25 39.6	+0.2
PNG	Penghu	3.57	320	*eP*	Pn	01 25 37.4	-2.2
WHP	Taichung City	3.58	344⇓	*eP*	Pb	01 25 41.3	-6.3
ENA	Nanau	3.59	355	*eP*	Pn	01 25 39.1	-0.7
HATJ	Hateruma jima	3.59	26	P	Pn	01 25 39.7	-0.2
HATJ				*eS*	Sn	01 26 20.9	-1.3
HATJ	Hateruma jima	3.59	26	A	A	01 25 39.7	
	comp=N,90nm,9.6s,comp=E,80nm,11.3s						
SZP	Santa	3.60	205	P	Pn	01 25 40.8	+0.8
NNSB	Datong	3.63	350⇑	*eP*	Pn	01 25 39.7	-0.8
NNS	Nan Shan	3.64	350	*eP*	Pn	01 25 40.2	-0.4
JYNG	Yonaunijimaku	3.69	13	A	A	01 25 40.4	
	comp=N,53nm,2.7s,comp=E,45nm,5.6s						
TWQ1	Liyutan	3.69	342	*eP*	Pn	01 25 41.6	+0.4
LATG	Datong	3.71	353⇑	*eP*	Pn	01 25 40.5	-1.1
YOJ	Yonaguni jima	3.71	14		Pn	01 25 40.8	-0.7
YOJ	Yonaguni jima	3.71	14	P	Pn	01 25 41.4	-0.1
YOJ	Yonaguni jima	3.71	14	P	Pn	01 25 40.8	-0.7
YOJ	Yonaguni jima	3.71	14	*eP*	Pn	01 25 40.9	-0.6
YOJ				*eS*	Sn	01 26 23.8	-1.4
YOJ	Yonaguni jima	3.71	14	A	A	01 25 40.9	
	comp=N,51nm,2.6s,comp=E,52nm,2.7s						
YOJ	Yonaguni jima	3.71	14	*eP*	Pn	01 25 41.3	-0.3
ESAO	Su ao	3.73	357⇑	*eP*	Pn	01 25 40.9	-0.8
TWC	Suao	3.76	357	*eP*	Pn	01 25 41.4	-0.8
NDS	Dongshan	3.79	355	*eP*	Pn	01 25 41.4	-1.2
IRIF	Iriomote-Funau	3.81	24	P	Pn	01 25 42.5	-0.3
IRIF				*eS*	Sn	01 26 25.0	-2.5
IRIF	Iriomote-Funau	3.81	24	A	A	01 25 42.5	
	comp=N,45nm,6.7s,comp=E,53nm,8.6s						
ENTT	Nioudou	3.81	353	*eP*	Pn	01 25 42.6	-0.3
JKRS	Kuro-shima	3.84	28	*eS*	Sn	01 26 26.5	-1.7
JKRS	Kuro-shima	3.84	28	A	A	01 26 26.5	
	comp=N,67nm,6.5s,comp=E,70nm,8.6s						
NMLH	Miaoli	3.86	343	*eP*	Pn	01 25 42.6	-1.0
YHNB	Yeheng	3.87	351		Pn	01 25 43.2	-0.6
YHNB	Yeheng	3.87	351	P	Pn	01 25 44.0	+0.3
YHNB	Yeheng	3.87	351	*eP*	Pn	01 25 43.6	-0.1
NFF	Wufeng Townshi	3.88	347⇑	*eP*	Pn	01 25 45.4	+1.6
NSK	Sanguang	3.88	351	*eP*	Pn	01 25 43.5	-0.3
TWE	Neicheng	3.88	355	*eP*	Pn	01 25 44.0	+0.1
NSTT	Nanjuang	3.90	346	*eP*	Pn	01 25 44.5	+0.4
LIOB	Emei	3.91	346	*eP*	Pn	01 25 45.3	+1.0
FUSB	Fushanzhiwuyua	3.93	354⇓	*eP*	Pn	01 25 44.3	-0.3
NWLT	Wulai	3.96	353⇑	*eP*	Pn	01 25 44.9	0.0
EGS		3.99	358	*eP*	Pn	01 25 45.8	+0.5
KSHI	Guanxi Townshi	4.00	348	*eP*	Pn	01 25 45.7	+0.1
JIJ	Ishigaki jima	4.00	28	P	Pn	01 25 45.0	-0.5
JIJ				*eS*	Sn	01 26 29.4	-3.0
JIJ	Ishigaki jima	4.00	28	A	A	01 25 45.0	
	comp=N,39nm,10.7s,comp=E,23nm,8.0s						
SBCB	Hsinchu	4.06	346	*eP*	Pn	01 25 47.0	+0.8
HSN	Hsinchu	4.07	346	*eP*	Pn	01 25 45.4	-1.1
TIPB	Shuangxi	4.12	357	*eP*	Pn	01 25 47.9	+0.7
TWA	Mucha	4.15	354	*eP*	Pn	01 25 48.0	+0.5
TATO	Taipei	4.15	353		Pn	01 25 47.9	+0.4
TATO	Taipei	4.15	353	P	Pn	01 25 49.1	+1.6
TATO				S	Sn	01 26 37.0	+1.0
TATO	Taipei	4.15	353	P	Pn	01 25 48.5	+0.9
TWB1	Santiao Chiao	4.15	359⇓	*eP*	Pn	01 25 47.5	-0.1
NCUH	Zhongli	4.19	349	*eP*	Pn	01 25 48.5	+0.4
TAP	Taipei	4.21	353	*eP*	Pn	01 25 48.6	+0.2
NWF	Wu-fen Shan	4.22	357	*eP*	Pn	01 25 50.0	+1.3
WFSB	Wu-fen Shan	4.22	357	*eP*	Pn	01 25 49.5	+0.9
SXI1	Grass Mountain	4.24	358	*eP*	Pn	01 25 49.0	+0.1
JISG	Ishigakijimahi	4.27	29	P	Pn	01 25 48.5	-0.7
JISG				S	Sn	01 26 36.9	-2.2
JISG	Ishigakijimahi	4.27	29	A	A	01 25 48.5	
	comp=N,30nm,8.9s,comp=E,31nm,10.1s						
TWS1	Kuangyinshan	4.29	352	*eP*	Pn	01 25 50.0	+0.6
TNOU	National Taiwa	4.30	357	*eP*	Pn	01 25 50.1	+0.5
YM01	YM01	4.31	354	*eP*	Pn	01 25 50.4	+0.6
ZUZH	Zhuzihu	4.33	354	*eP*	Pn	01 25 51.3	+1.2
NTST	Danshui	4.34	353	*eP*	Pn	01 25 51.5	+1.3
YM08	YM08	4.35	354	*eP*	Pn	01 25 50.5	+0.2
ANP	Anpu	4.36	354	*eP*	Pn	01 25 50.6	+0.1
TWY	Chenhua	4.44	355	*eP*	Pn	01 25 50.3	-1.2
JTJ	Tarama	4.50	32	P	Pn	01 25 52.1	-0.3
JTJ				*eS*	Sn	01 26 42.0	-2.8
JTJ	Tarama	4.50	32	A	A	01 25 52.1	
	comp=N,35nm,11.1s,comp=E,57nm,11.7s						
PCYT	Pengchaiyu	4.77	0	*eP*	Pn	01 25 56.4	+0.3
VWUC	VWUC	4.78	330	*eP*	Pn	01 25 54.6	-1.6
KNM	Kinmen	4.89	317	*eP*	Pn	01 25 57.0	-0.7
JIRB	Irabujima	4.90	35	S	Sn	01 26 52.7	-1.9
JIRB	Irabujima	4.90	35	A	A	01 26 52.7	
	comp=N,36nm,10.4s,comp=E,39nm,7.8s						
JMJ2	Miyako jima3	4.92	37	*eP*	Pn	01 25 59.1	+1.0
JMJ2	Miyako jima3	4.92	37	A	A	01 25 59.1	
	comp=N,76nm,5.9s,comp=E,76nm,8.0s						
KNMB	Chin-men Tao	4.95	318		Pn	01 25 56.2	-2.3
KNMB	Chin-men Tao	4.95	318	*eP*	Pn	01 25 56.9	-1.6
JMJ	Miyako jima 2	4.96	36	P	Pn	01 25 59.9	+1.2
JOGS	Gusukube	4.98	38	*eP*	Pn	01 25 59.0	+0.1
JOGS				*eS*	Sn	01 26 56.1	-0.4
JOGS	Gusukube	4.98	38	A	A	01 25 59.0	
	comp=N,67nm,6.4s,comp=E,64nm,9.1s						
PTMZ	Houxiangcun	4.98	328	*eP*	Pn	01 25 57.5	-1.5
JIKM	Ikemajima	5.02	35	*eP*	Pn	01 25 59.3	-0.2
JIKM	Ikemajima	5.02	35	A	A	01 25 59.3	
	comp=N,49nm,7.7s,comp=E,57nm,8.1s						
ZPLA	Ao Xicun	5.04	308	*eP*	Pn	01 25 57.0	-2.7
DSXP	Dongshan	5.15	305	*eP*	Pn	01 25 58.8	-2.5
QZH	Quanzhou	5.19	325⇓	*iPn*	Pn	01 25 59.3	-2.5
QZH				Sn	Sn	01 26 56.0	-5.6
QZH				LR	LR		
	comp=E,46µm,10.6s						
QZH				LR	LR		
	comp=E,78µm,13.4s						
QZH				LR	LR		
	comp=E,48µm,15.8s						
AXDP	Jialang	5.53	318	*eP*	Pn	01 26 04.9	-1.5
MATB	Ma-tsu	5.63	340	*eP*	Pn	01 26 06.9	-1.1
TGY	Tagaytay City	6.78	189		Pn	01 26 21.1	-2.7
TGY	Tagaytay City	6.78	189	Pn	Pn	01 26 21.1	-2.7
	comp=E,30nm,0.3s,baz=321,slow=2.6,SNR=12						
TGY				LR	LR	01 29 41.9	
	comp=E,16µm,18.5s,baz=1.0,slow=46						
	comp=E,123nm,0.3s						
JKE	Kume jima 2	6.98	38	*eP*	Pn	01 26 26.9	+0.5
JKE	Kume jima 2	6.98	38	A	A	01 26 26.9	
	comp=N,11nm,10.7s,comp=E,11nm,9.2s						
JAGN	Aguni-jima	7.44	39	P	Pn	01 26 33.5	+0.8
JAGN				*eS*	Sn	01 27 55.1	-1.9
JAGN	Aguni-jima	7.44	39	A	A	01 26 33.5	
	comp=N,20nm,11.2s,comp=E,16nm,7.9s						
JJT3	Tamagusuku3	7.45	44	*eP*	Pn	01 26 33.6	+0.7
JJT3	Tamagusuku3	7.45	44	A	A	01 26 33.6	
	comp=N,43nm,8.6s,comp=E,26nm,8.8s						
HKPS	Hong Kong Po S	7.50	282		Pn	01 26 31.8	-1.9
JNTH	Nagotoyohara	7.87	43	P	Pn	01 26 37.9	-0.7
JNTH	Nagotoyohara	7.87	43	A	A	01 26 37.9	
	comp=N,9.0nm,12.2s,comp=E,10.0nm,9.0s						
JIH	Iheya	8.20	40	P	Pn	01 26 41.9	-1.3
JIH				*eS*	Sn	01 28 11.3	-4.5
JIH	Iheya	8.20	40	A	A	01 26 41.9	
	comp=N,14nm,11.8s,comp=E,15nm,10.8s						
JOW	Kunigami	8.25	42		Pn	01 26 42.5	-1.3
JOW	Kunigami	8.25	42	Pn	Pn	01 26 43.5	-0.3
	comp=E,108nm,0.3s,baz=207,slow=11,SNR=101						
JOW				Sn	Sn	01 28 11.3	-5.6
	comp=E,6.1nm,0.3s,baz=178,slow=27,SNR=1.1						
JOW				LR	LR	01 29 37.0	
	comp=E,30µm,20.2s,baz=220,slow=35						
JOW	Kunigami	8.25	42	P	Pn	01 26 43.2	-0.6
JOW	Kunigami	8.25	42	*eP*	Pn	01 26 43.0	-0.9
JOW	Kunigami	8.25	42	A	A	01 26 43.0	
	comp=N,12nm,10.3s,comp=E,10.0nm,8.1s						
GZH	Guangzhou	8.39	287	P	Pn	01 26 42.0	-3.8
GZH				S	Sn	01 28 16.0	-4.5
GZH				LR	LR		
	comp=E,50µm,15.7s						
GZH				LR	LR		
	comp=E,38µm,13.3s						
JYRO	Yoronjima	8.49	42	P	Pn	01 26 45.9	-1.3
JYRO	Yoronjima	8.49	42	A	A	01 26 45.9	
	comp=N,9.0nm,10.8s,comp=E,9.0nm,8.8s						
JOKE	Okinoerabujima	8.81	41	P	Pn	01 26 50.6	-1.0
JOKE	Okinoerabujima	8.81	41	A	A	01 26 50.6	
	comp=N,8.0nm,9.9s,comp=E,8.0nm,12.0s						
JTK	Tokunoshima	9.35	41	P	Pn	01 26 56.7	-2.2
JTK	Tokunoshima	9.35	41	A	A	01 26 56.7	
	comp=N,5.0nm,12.6s,comp=E,7.0nm,11.0s						
JMZ	Minamidaito 2	9.77	58		Pn	01 27 02.6	-2.2
JMZ	Minamidaito 2	9.77	58	P	Pn	01 27 04.6	-0.2
JMZ	Minamidaito 2	9.77	58	A	A	01 27 06.0	
	comp=N,84nm,11.0s,comp=E,45nm,8.3s						
JAMN	Amaminishikomi	9.81	40	P	Pn	01 27 03.7	-1.6
JAMN	Amaminishikomi	9.81	40	A	A	01 27 03.7	
	comp=N,7.0nm,8.5s,comp=E,5.0nm,8.5s						
JKDJ	Kitadaitoujima	9.89	57	*eP*	Pn	01 27 04.0	-2.4
JKDJ				*eS*	Sn	01 28 49.4	-8.0
JKDJ	Kitadaitoujima	9.89	57	A	A	01 27 04.0	
	comp=N,52nm,9.8s,comp=E,58nm,11.8s						
JAM	Amami Oshima	10.20	41	*eP*	Pn	01 27 09.6	-0.9
JAM	Amami Oshima	10.20	41	A	A	01 27 09.6	
	comp=N,4.0nm,10.4s,comp=E,6.0nm,12.0s						
SSE	Sheshan	10.25	356	P	Pn	01 27 11.3	+0.1
SSE				S	Sn	01 29 06.0	0.0
SSE				pmax	pmax		
	comp=E,42nm,1.0s						
SSE				pmax	pmax		
	comp=E,620nm,7.4s						
JZK	Kikaishima	10.36	42	A	A	01 27 13.7	
	comp=N,24nm,7.6s,comp=E,26nm,15.0s						
JTAJ	Takarajima	10.51	37	A	A	01 27 15.7	
	comp=N,5.0nm,9.1s,comp=E,5.0nm,11.8s						
CNSH	ChangSha	11.06	313	P	Pn	01 27 21.5	-0.9
CNSH				S	Sn	01 29 25.0	-1.1
NJ2	Nanjing	11.53	346	⇑P	Pn	01 27 28.5	-0.3
NJ2				sP		01 27 35.3	
NJ2				S	Sn	01 29 42.0	+4.5
NJ2				pmax	pmax		
	comp=E,40nm,0.7s						
NJ2				LR	LR		
	comp=E,16µm,15.1s						
NJ2				LR	LR		
	comp=E,53µm,13.5s						
NJ2				LR	LR		
	comp=E,27µm,18.6s						
QIZ	Qiongzhong	11.63	263		Pn	01 27 28.5	-1.7
QIZ	Qiongzhong	11.63	263	P	Pn	01 27 26.0	-4.2
QIZ				S	Sn	01 29 36.5	-3.5
QIZ				pmax	pmax		
	comp=E,72nm,0.7s						
QIZ				LR	LR		
	comp=N,20µm,12.4s						
QIZ				LR	LR		
	comp=E,4µm,10.3s						
QIZ				LR	LR		
	comp=Z,32µm,10.3s						
QIZ	Qiongzhong	11.63	263	P	Pn	01 27 29.4	-0.8
GULI	GuiLin	11.64	295	P	Pn	01 27 16.8	-14
GULI				S	Sn	01 29 47.0	+6.8
GULI				pmax	pmax		
	comp=E,65nm,1.1s						
GULI				LR	LR		
	comp=N,23µm,14.2s						
GULI				LR	LR		
	comp=E,21µm,12.1s						
GULI				LR	LR		
	comp=Z,25µm,14.9s						
WHN	Wuhan	11.90	326	P	Pn	01 27 32.5	-1.3
WHN				S	Sn	01 29 49.8	+3.2
WHN				pmax	pmax		
	comp=E,73nm,0.6s						
WHN				pmax	pmax		
	comp=E,2µm,10.5s						
WHN				LR	LR		
	comp=E,74µm,13.5s						
WHN				LR	LR		
	comp=E,112µm,12.4s						
WHN				LR	LR		
	comp=E,82µm,12.2s						
JKC	Kuchinoerabu	12.07	36	A	A	01 27 36.7	
	comp=N,10.0nm,10.8s,comp=E,7.0nm,8.9s						
DAV	Davao City (W)	14.11	166	Pn	Pn	01 28 04.8	+0.7
	comp=E,93nm,0.3s,baz=28,slow=17,SNR=1.6						
DAV				LR	LR	01 34 01.3	
	comp=E,32µm,18.4s,baz=358,slow=40						
DAV	Davao City (W)	14.11	166⇑	*eP*	P	01 28 08.0	-3.8
DAV	Davao City (W)	14.11	166	P	Pn	01 28 07.1	+3.0
JNU	Nakatsue	14.54	31		Pn	01 28 07.9	-2.1
JNU	Nakatsue	14.54	31	Pn	Pn	01 28 08.4	-1.5
	comp=E,3.5nm,0.3s,baz=170,slow=5.8,SNR=16						
JNU				LR	LR	01 33 46.2	
	comp=E,19µm,21.2s,baz=197,slow=37						
JNU	Nakatsue	14.54	31	P	Pn	01 28 09.4	-0.6
ENH	Enshi	14.72	312		Pn	01 28 12.1	-0.4
ENH	Enshi	14.72	312	P	P	01 28 13.1	-5.5
JTU	Tsushima	15.10	24	P	P	01 28 19.8	-2.9
GYA	Guiyang	15.17	295	P	Pn	01 28 18.5	-0.1
GYA				sP	sP	01 28 25.8	-2.1
GYA				S	Sn	01 31 10.3	+3.6
GYA				pmax	pmax		
	comp=E,27nm,1.0s						
GYA				LR	LR		
	comp=E,18µm,11.9s						
GYA				LR	LR		
	comp=E,19µm,14.8s						
GYA				LR	LR		
	comp=E,29µm,14.9s						
DLV	Lat	15.73	238		Pn	01 28 25.1	-0.9
DLV	Lat	15.73	238	P	Pn	01 28 26.2	+0.1
KKM	Kota Kinabalu	15.76	202	P	Pn	01 28 25.6	-0.8
KKM				IAmb	IAmb	01 28 29.3	
	comp=Z,584nm,1.2s						
KKM	Kota Kinabalu	15.76	202	P	Pn	01 28 27.1	+0.7
TIA	Tai'an	15.91	345	P	P	01 28 29.3	-2.5
TIA				S	S	01 31 28.5	-10
TIA				pmax	pmax		
	comp=E,3µm,6.4s						
TIA				LR	LR		
	comp=E,21µm,12.7s						
TIA				LR	LR		
	comp=E,31µm,10.6s						
TIA				LR	LR		
	comp=E,25µm,14.9s						
MYLDM	Lahad Datu	15.94	193	P	P	01 28 29.6	-2.6
MYLDM	Lahad Datu	15.94	193	P	Pn	01 28 29.0	+0.4
LYN	LuoYang	16.07	330	⇓P	P	01 28 30.5	-3.0
LYN				sP	sP	01 28 35.5	-2.3
LYN				PP	PnPn	01 28 44.3	+5.2
LYN				pmax	pmax		
	comp=Z,81nm,1.2s						
LYN				pmax	pmax		
	comp=Z,4µm,4.0s						
LYN				LR	LR		
	comp=E,54µm,15.6s						
LYN				LR	LR		
	comp=E,61µm,15.2s						
LYN				LR	LR		
	comp=Z,51µm,14.7s						
TJN	Taejon	16.16	16		P	01 28 32.2	-2.4
TJN				IAmb	IAmb	01 28 40.0	
	comp=E,771nm,0.8s						
TJN	Taejon	16.16	16	P	P	01 28 33.5	-1.1
TJN	Taejon	16.16	16	*iP*	P	01 28 33.1	-1.5
JMN	Monobe	16.57	37		Pn	01 28 32.6	-4.0
JMN	Monobe	16.57	37	P	Pn	01 28 35.0	-1.7
SLVN	Son La	16.95	275	P	P	01 28 41.4	-2.0
SLVN	Son La	16.95	275	P	P	01 28 41.8	-1.6
INCN	Inchon	17.06	12		P	01 28 43.7	-0.8
INCN				IAmb	IAmb	01 28 51.0	
	comp=Z,367nm,0.9s						
INCN	Inchon	17.06	12	P	P	01 28 46.4	+1.9
INCN				S	S	01 31 56.6	-5.5
INCN	Inchon	17.06	12	P	P	01 28 44.9	+0.4
INCN	Inchon	17.06	12	P	P	01 28 43.7	-0.8
INCN				pmax	pmax		
	comp=Z,367nm,1.0s						
KSAR	Wonju Array Be	17.30	16	P	P	01 28 47.0	-0.2
KSAR	Wonju Array Be	17.30	16	P	P	01 28 47.0	-0.2
KSRS	Korea Array	17.33	16		ScP	01 37 00.4	-2.8
KSRS	Korea Array	17.33	16	Pn	P	01 28 46.8	-0.6
	comp=Z,1.8nm,0.3s,baz=197,slow=13,SNR=93						
KSRS				LR	LR	01 36 44.0	
	comp=Z,8482µm,18.4s,baz=200,slow=41						
KSRS				ScP	ScP	01 37 00.4	-2.8
	comp=Z,3.2nm,1.0s,baz=198,slow=2.3,SNR=8.0						
	comp=Z,179nm,0.9s						
SGSI	Sangihe	17.38	168	P	Pn	01 28 46.6	-0.3
	comp=Z,9µmcomp=Z,9µmcomp=Z,351nm,1.5s						
XAN	Xi'an	17.55	321	⇓P	P	01 28 49.0	-1.0
XAN				S	S	01 32 05.3	-6.9
XAN				pmax	pmax		
	comp=Z,190nm,1.1s						
XAN				pmax	pmax		
	comp=Z,3µm,5.0s						
XAN				LR	LR		
	comp=Z,22µm,16.2s						
XAN				LR	LR		
	comp=Z,34µm,14.0s						
XAN				LR	LR		
	comp=Z,30µm,13.7s						
HNS	HongShan	17.70	340	⇑P	P	01 28 52.0	+0.5
HNS				pmax	pmax		
	comp=Z,210nm,1.1s						
HNS				pmax	pmax		
	comp=Z,4µm,7.0s						
HNS				LR	LR		
	comp=Z,33µm,14.9s						
HNS				LR	LR		
	comp=Z,20µm,13.9s						
HNS				LR	LR		
	comp=Z,28µm,15.9s						
DL2	Dalian	18.01	359	P	P	01 28 58.8	+3.8
DL2				pmax	pmax		
	comp=Z,270nm,1.3s						
DL2				pmax	pmax		
	comp=Z,8µm,8.1s						
DL2				LR	LR		
	comp=Z,20µm,13.9s						
DL2				LR	LR		
	comp=Z,23µm,11.8s						
DL2				LR	LR		
	comp=Z,25µm,16.1s						
KMI	Kunming	18.29	287	P	P	01 28 58.8	+0.4
KMI				pmax	pmax		
	comp=Z,83nm,1.7s						
KMI				pmax	pmax		
	comp=Z,3µm,6.4s						
KMI				LR	LR		
	comp=Z,26µm,11.3s						
KMI				LR	LR		
	comp=Z,13µm,13.3s						
KMI				LR	LR		
	comp=Z,13µm,13.6s						
TIY	Taiyuan	18.77	336	P	Pn	01 29 04.8	+0.8
TIY				PP	PnPn	01 29 24.0	+7.8
TIY				S	S	01 32 34.3	-2.7
TIY				pmax	pmax		
	comp=Z,180nm,1.1s						
TIY				pmax	pmax		
	comp=Z,2µm,5.5s						
TIY				LR	LR		
	comp=Z,47µm,12.9s						
TIY				LR	LR		
	comp=Z,47µm,12.9s						
TIY				LR	LR		
	comp=Z,47µm,15.5s						
CD2	Chengdu	19.25	305	P	Pn	01 29 09.5	-0.3
CD2				sP	sP	01 29 16.0	+3.0
CD2				S	S	01 32 46.5	-0.3
CD2				pmax	pmax		
	comp=Z,470nm,0.7s						
CD2				pmax	pmax		
	comp=Z,5µm,4.0s						
CD2				LR	LR		
	comp=Z,43µm,13.9s						
CD2				LR	LR		
	comp=Z,30µm,12.4s						
CD2				LR	LR		
	comp=Z,25µm,13.7s						
JCJ	Chichijima	19.41	67	P	Pn

comp=Z,9μmcomp=Z,4μmcomp=Z,365nm,1.1s
MPSI Mapaga 20.48 186 P **P** **01 29 20.9 -1.3**
comp=Z,296nm,1.4s
TNTI Ternate 20.61 165 P **P** **01 29 20.8 -2.7**
TNTI Ternate 20.61 165 P Pn 01 29 24.4 -1.4
TNTI Ternate 20.61 165 P **P** **01 29 21.5 -2.1**
SBUM Sibu 20.64 209 P Pn 01 29 24.1 -2.1
SBUM IAmb IAmb 01 29 30.4
comp=Z,406nm,1.4s
SBUM Sibu 20.64 209 P Pn 01 29 24.2 -2.0
SNY Shenyang 20.97 3 ⇓P Pn 01 29 29.5 -0.3
SNY S **S** **01 33 16.5 -4.1**
SNY pmax pmax
comp=Z,56nm,1.1s
SNY pmax pmax
comp=Z,2μm,6.0s
SNY LR LR
comp=Z,13μm,15.7s
SNY LR LR
comp=Z,21μm,13.9s
SNY LR LR
comp=Z,20μm,16.7s
MAJO Matsushiro 21.06 39 P **P** **01 29 29.5 +1.1**
MAJO Matsushiro 21.06 39 P **P** **01 29 30.1 +1.7**
MAJO Matsushiro 21.06 39 *i* P **P** **01 29 30.2 +1.8**
MAJO pmax pmax
comp=Z,59nm,1.0s
MJAR Matsushiro Arr 21.06 39 P **P** **01 29 30.0 +1.6**
MJAR Matsushiro Arr 21.06 39 P **P** **01 29 30.5 +2.1**
comp=Z,72nm,1.1s,baz=226,slow=8.4,SNR=26
MJAR LR LR 01 36 54.1
comp=Z,6μm,21.8s,baz=221,slow=34
comp=Z,72nm,1.1s
MJAR Matsushiro Arr 21.06 39 P **P** **01 29 30.0 +1.6**
MJAR pmax pmax
comp=Z,110nm,1.2s
APSI Ampana 21.62 181 P **P** **01 29 35.0 +0.6**
comp=Z,7μmcomp=Z,744nm,1.2s
SMKI Samarinda 21.68 193 P **P** **01 29 36.3 +1.2**
comp=Z,10μmcomp=Z,13μmcomp=Z,825nm,1.0s
PCI Palu 21.72 186 P **P** **01 29 37.0 +1.5**
comp=Z,7μmcomp=Z,580nm,1.3s
LUWI Luwuk 21.75 178 P **P** **01 29 35.4 -0.5**
comp=Z,9μmcomp=Z,6μmcomp=Z,430nm,0.7s
CHTO Chiang Mai 21.83 269 P **P** **01 29 38.3 +1.5**
CHTO Chiang Mai 21.83 269 P **P** **01 29 38.7 +1.9**
CHTO P **P** **01 29 38.7 +1.9**
CHTO S Sn 01 33 40.6 -7.2
CHTO S Sn 01 33 40.6 -7.2
CHTO Chiang Mai 21.83 269 P **P** **01 29 37.9 +1.1**
CHTO Chiang Mai 21.83 269 P **P** **01 29 38.3 +1.5**
CHTO pmax pmax
comp=Z,156nm,1.2s
CHTO MLR MLR
comp=Z,8μm,20.0s
HHC Hu-ho-hao-te 21.86 338 *e*P **P** **01 29 37.5 +0.5**
HHC sP sP 01 29 44.5 +3.2
HHC PP **PnPn** **01 29 58.5 +0.1**
HHC S Sn 01 33 40.5 -7.6
HHC SS **SnSn** **01 34 10.5 +6.8**
HHC pmax pmax
comp=Z,41nm,0.8s
HHC pmax pmax
comp=Z,980nm,4.2s
HHC LR LR
comp=Z,23μm,11.4s
HHC LR LR
comp=Z,24μm,12.0s
HHC LR LR
comp=Z,24μm,13.5s
CM31 Chiang Mai Arr 21.89 268 P **P** **01 29 38.4 +1.0**
CMAR Chiang Mai Arr 21.89 268 P **P** **01 29 39.1 +1.6**
CMAR Chiang Mai Arr 21.89 268 P **P** **01 29 38.6 +1.1**
comp=Z,56nm,0.8s,baz=74,slow=9.3,SNR=200
CMAR PcP **PcP** **01 33 36.7 -0.2**
comp=Z,10nm,0.8s,baz=61,slow=0.6,SNR=11
CMAR ScP **ScP** **01 37 11.3 -2.7**
comp=Z,7.4nm,0.9s,baz=67,slow=1.0,SNR=11
CMAR LR LR 01 38 01.0
comp=Z,9μm,19.0s,baz=85,slow=37
CMAR Chiang Mai Arr 21.89 268 P **P** **01 29 39.1 +1.6**
LZH Lanzhou 22.02 318 ⇓P **P** **01 29 39.5 +0.7**
LZH pP sP 01 29 44.5 +1.4
LZH PP **PnPn** **01 30 03.0 +2.4**
LZH S **S** **01 33 43.5 +1.8**
LZH pmax pmax
comp=Z,160nm,1.5s
LZH pmax pmax
comp=Z,970nm,4.4s
LZH LR LR
comp=Z,18μm,16.5s
LZH LR LR
comp=Z,23μm,17.5s
LZH LR LR
comp=Z,23μm,14.3s
TNCH TengChong 22.07 285 P **P** **01 29 37.3 -2.2**
TNCH pP pP 01 29 40.5 -2.3
TNCH sP sP 01 29 42.3 -1.4
TNCH PP **PnPn** **01 30 04.3 +2.9**
TNCH S **S** **01 33 36.3 -6.6**
TNCH sS sS 01 33 45.5 -2.7
TNCH SS **SnSn** **01 34 09.8 +0.8**
TNCH pmax pmax
comp=Z,280nm,1.0s
TNCH pmax pmax
comp=Z,3μm,3.3s
TNCH LR LR
comp=Z,8μm,14.5s
TNCH LR LR
comp=Z,11μm,13.2s
TNCH LR LR
comp=Z,21μm,14.6s
JSD Sado 22.14 36 P **P** **01 29 42.4 +2.4**
BTO Baotou 22.21 335 *e*P **P** **01 29 42.5 +1.7**
BTO pP **sP** **01 29 46.3 +1.1**
BTO sP **pP** **01 29 49.5 +5.7**
BTO PP **PnPn** **01 30 10.8 +7.5**
BTO S **S** **01 33 47.3 +2.0**
BTO sS Sn 01 33 51.5 -5.2
BTO pmax pmax
comp=Z,78nm,1.0s
BTO pmax pmax
comp=Z,2μm,5.8s
BTO LR LR
comp=Z,97μm,14.7s
BTO LR LR
comp=Z,84μm,15.1s
BTO LR LR
comp=Z,112μm,15.2s
KSM Kuching 22.40 212 IAmb IAmb 01 29 54.9
comp=Z,334nm,1.1s
KSM Kuching 22.40 212 P **P** **01 29 42.2 -0.7**
BKB Balikpapan 22.54 194 IAMs_20 IAMs_20 01 39 50.7
comp=Z,15μm,19.0s
BKB Balikpapan 22.54 194 P **P** **01 29 43.7 -0.6**
BKB Balikpapan 22.54 194 P **P** **01 29 44.1 -0.2**
comp=Z,10μmcomp=Z,12μmcomp=Z,1μm,1.4s
GUMO Guam 22.93 105 P **P** **01 29 50.2 +1.7**
GUMO Guam 22.93 105 LR LR 01 38 31.1
comp=Z,4μm,18.3s,baz=272,slow=36
GUMO Guam 22.93 105 P **P** **01 29 50.4 +1.8**
GUMO Guam 22.93 105 P **P** **01 29 50.2 +1.7**
GUMO pmax pmax
comp=Z,748nm,1.4s
GUMO MLR MLR
comp=Z,7μm,18.0s
PSTR Posyet 22.96 17 *i* P **P** **01 29 50.2 +1.7**
MSHR Mys Shultsa 22.99 17 *ce*P **P** **01 29 49.7 +0.8**
MSHR pmax pmax
comp=Z,223nm,1.3s
MSHR MLR MLR
comp=Z,6μm,17.0s
SANI Sanana 23.07 170 P **P** **01 29 50.3 +0.4**
SANI Sanana 23.07 170 P **P** **01 29 48.6 -1.3**
comp=Z,217nm,1.1s
CN2 Changchun 23.07 6 P **P** **01 29 49.8 +0.1**
CN2 S **S** **01 33 58.3 -2.2**
CN2 pmax pmax
comp=Z,40nm,1.3s
CN2 pmax pmax
comp=Z,2μm,6.0s
CN2 LR LR
comp=Z,21μm,14.0s
CN2 LR LR
comp=Z,14μm,14.0s
CN2 LR LR
comp=Z,15μm,14.0s
STKI Sintang 23.09 208 P **P** **01 29 49.7 -0.4**
comp=Z,7μmcomp=Z,286nm,1.3s
SWI Sorong 23.37 156 P **P** **01 29 53.5 +0.5**
JMM Marumori 23.48 40 IAmb IAmb 01 30 04.6
comp=Z,213nm,1.1s
JMM Marumori 23.48 40 P **P** **01 29 56.4 +2.5**
XLT XiLinHaoTe 23.53 349 *e*P **P** **01 29 53.5 -1.0**
XLT pP sP 01 29 57.8 -1.1
XLT S **S** **01 34 04.3 -3.9**
XLT SS **SnSn** **01 34 47.8 +3.1**
XLT PcS PcS 01 37 26.3 +7.1
XLT pmax pmax
comp=Z,79nm,1.1s
XLT pmax pmax
comp=Z,2μm,6.8s
XLT LR LR
comp=Z,20μm,16.1s
XLT LR LR
comp=Z,9μm,19.4s
VLA Vladivostok 23.70 18 *i* P **P** **01 29 57.6 +1.7**
VLA pmax pmax
comp=Z,157nm,1.0s
TTSI Tana Toraja 23.84 186 P **P** **01 29 57.7 +0.2**
comp=Z,5μmcomp=Z,3μmcomp=Z,290nm,0.8s
NLAI Namlea 24.43 168 P **P** **01 30 03.2 +0.1**
comp=Z,5μmcomp=Z,433nm,0.8s
MDJ Mudanjiang 24.52 13 IAmb IAmb 01 30 12.6
comp=Z,298nm,1.2s
MDJ IAMs_20 IAMs_20 01 41 08.6
comp=Z,18μm,18.0s
MDJ Mudanjiang 24.52 13 P **P** **01 30 06.5 +2.8**
MDJ PP **PnPn** **01 30 38.3 +3.6**
MDJ pmax pmax
comp=Z,19nm,0.9s
MDJ LR LR
comp=Z,23μm,15.5s
MDJ LR LR
comp=Z,11μm,16.1s
MDJ LR LR
comp=Z,30μm,15.4s
MDJ Mudanjiang 24.52 13 P **P** **01 30 05.8 +2.1**
USA0B Ussuriysk Arra 24.72 17 IAmb IAmb 01 30 15.3
comp=Z,157nm,1.1s
USA0B Ussuriysk Arra 24.72 17 *i* P **P** **01 30 07.0 +1.6**
USRK Ussuriysk Ar. 24.72 17 P **P** **01 30 07.4 +2.0**
USRK Ussuriysk Ar. 24.72 17 P **P** **01 30 07.4 +2.0**
comp=Z,87nm,1.0s,baz=199,slow=7.7,SNR=48
USRK LR LR 01 41 20.8
comp=Z,10μm,18.4s,baz=189,slow=40
comp=Z,87nm,1.0s
SPSI Sidrap Palu 24.75 185 P **P** **01 30 06.1 +0.2**
comp=Z,4μmcomp=Z,282nm,1.1s
SRIT Nakonsritamara 24.85 244 P **P** **01 30 08.9 +2.0**
MSAI Masohi 24.96 164 P **P** **01 30 09.1 +1.3**
comp=Z,8μmcomp=Z,292nm,0.8s
AAI Ambon 25.11 165 P **P** **01 30 10.7 +1.6**
comp=Z,3μmcomp=Z,132nm,0.5s
BNSI Bone 25.15 185 P **P** **01 30 10.4 +0.8**
comp=Z,4μmcomp=Z,182nm,0.8s
BNX BinXian 25.22 9 ⇓P **P** **01 30 11.0 +1.0**
BNX pP **pwP** **01 30 14.0 +0.7**
BNX sP **sP** **01 30 15.3 +0.8**
BNX S **S** **01 34 37.8 +2.6**
BNX sS **sS** **01 34 42.3 +1.7**
BNX pmax pmax
comp=Z,250nm,1.0s
BNX pmax pmax
comp=Z,4μm,7.1s
BNX LR LR
comp=Z,5μm,17.4s
BNX LR LR
comp=Z,16μm,15.7s
BNX LR LR
comp=Z,14μm,16.3s
JTM Tenmabayashi 25.63 35 P **P** **01 30 15.9 +2.2**
FAKI Fak Fak 25.64 156 P **P** **01 30 13.8 -0.2**
FAKI Fak Fak 25.64 156 P **P** **01 30 15.3 +1.3**
FAKI Fak Fak 25.64 156 P **P** **01 30 14.3 +0.3**
comp=Z,2μmcomp=Z,94nm,0.8s
KAPI Kappang 25.79 185 P **P** **01 30 14.8 -0.6**
KAPI IAmb IAmb 01 30 26.7
comp=Z,259nm,1.1s
KAPI Kappang 25.79 185 LR LR 01 40 33.1
comp=Z,5μm,22.0s,baz=10,slow=37
KAPI Kappang 25.79 185 P **P** **01 30 16.2 +0.8**
KAPI P **P** **01 30 16.2 +0.8**
KAPI P **P** **01 30 16.2 +0.8**
KAPI Kappang 25.79 185 P **P** **01 30 16.2 +0.8**
KAPI Kappang 25.79 185 *c* P **P** **01 30 14.2 -1.2**
KAPI pmax pmax
comp=Z,243nm,1.4s
KULM Kulim 25.90 236 IAmb IAmb 01 30 26.0
comp=Z,140nm,0.9s
KULM Kulim 25.90 236 P **P** **01 30 16.9 +0.5**
MYKOM Kota Tinggi 25.96 226 P **P** **01 30 17.5 +0.6**
BKSI Bulukumba 26.07 184 P **P** **01 30 18.3 +0.5**
comp=Z,4μmcomp=Z,2μmcomp=Z,87nm,0.8s
KOHI KOHIMA 26.10 286 *e*P **P** **01 30 22.8 +4.4**
KOHI IAmb IAmb 01 30 25.7
comp=Z,70nm,0.9s
KOHI *e*S **S** **01 34 55.7 +5.8**
IPM Ipoh 26.12 234 P **P** **01 30 17.8 -0.7**
IPM Ipoh 26.12 234 P **P** **01 30 18.1 -0.3**
BBSI Bau Bau 26.16 179 P P 01 30 27.1 +8.3
TPRI Tanjung Pinang 26.17 223 P **P** **01 30 20.0 +1.1**
comp=Z,4μmcomp=Z,193nm,1.1s
IMP Imphal 26.19 284 *e*P **P** **01 30 23.5 +4.4**
IMP IAmb IAmb 01 30 33.1
comp=Z,64nm,0.5s
IMP *e*S **S** **01 34 56.9 +5.9**
ZIRO ZIRO 26.54 290 *e*P **P** **01 30 26.7 +4.3**
ZIRO IAmb IAmb 01 30 37.6
comp=Z,77nm,0.9s
ZIRO *e*S **S** **01 35 02.7 +5.9**
GTA Gaotai 26.58 319 P **P** **01 30 23.3 +0.8**
GTA pP sP 01 30 27.5 +0.5
GTA S **S** **01 35 02.0 +5.0**
GTA pmax pmax
comp=Z,62nm,1.2s
GTA pmax pmax
comp=Z,620nm,6.2s
GTA LR LR
comp=Z,7μm,11.3s
GTA LR LR
comp=Z,19μm,13.8s
GTA LR LR
comp=Z,19μm,13.5s
BSSI Bau Bau, Buton 26.86 183 P P 01 30 32.0 +7.0
TEY Ternei 26.96 23 ⇑*e*P **P** **01 30 29.1 +3.4**
TEY pmax pmax
comp=Z,20nm,1.1s
TEY pmax pmax
comp=Z,100nm,8.7s
TEY pmax pmax
comp=N,100nm,9.3s
SAIH SAIHA 27.05 279 *e*P **P** **01 30 31.3 +4.4**
SAIH IAmb IAmb 01 30 46.1
comp=Z,52nm,0.8s
SAIH *e*S **S** **01 35 10.5 +5.7**
DSRI Dabo 27.22 221 P **P** **01 30 29.5 +1.1**
comp=Z,2μmcomp=Z,162nm,1.1s
AZL Aizawl 27.30 282 *e*P **P** **01 30 33.5 +4.4**
AZL IAmb IAmb 01 30 43.4
comp=Z,84nm,1.6s
AZL *e*S **S** **01 35 14.6 +5.8**
TEZP TEZPUR 27.36 288 *e*P **P** **01 30 34.0 +4.5**
TEZP IAmb IAmb 01 30 39.7
comp=Z,157nm,2.1s
TEZP *e*S **S** **01 35 15.4 +6.1**
TPI Tanjungpandan 27.37 213 P **P** **01 30 30.0 +0.4**
comp=Z,2μmcomp=Z,156nm,1.6s
ERM Erimo 27.61 35 P **P** **01 30 34.3 +2.7**
ERM Erimo 27.61 35 *i* P **P** **01 30 33.3 +1.7**
ERM pmax pmax
comp=Z,92nm,0.9s
JEM Erimo 27.61 35 P **P** **01 30 34.3 +2.7**
PPBI Pangkal Pinang 27.67 216 P **P** **01 30 33.1 +0.7**
SHL Shillong 28.10 285 P **P** **01 30 36.4 0.0**
SHL IAmb IAmb 01 30 46.0
comp=Z,354nm,1.8s
SHL Shillong 28.10 285 P **P** **01 30 37.4 +1.1**
SNR=25
SHL Shillong 28.10 285 *e*P P 01 30 39.8 +3.5
SHL IAmb IAmb 01 30 44.8
comp=Z,120nm,1.3s
SHL *e*S **S** **01 35 25.5 +4.2**
SHL Shillong 28.10 285 P **P** **01 30 36.4 0.0**
SHL pmax pmax
comp=Z,354nm,1.8s
SHL MLR MLR
comp=Z,4μm,22.0s
BRDH Bariadhala 28.28 279 LR LR 01 44 14.2
comp=Z,6μm,18.7s,baz=126,slow=42
GOMU GeErMu 28.28 309 P **P** **01 30 39.0 +0.9**
GOMU PcP **PcP** **01 33 50.8 -0.5**
GOMU S **S** **01 35 26.5 +2.0**
GOMU pmax pmax
comp=Z,45nm,1.3s
GOMU pmax pmax
comp=Z,500nm,4.6s
GOMU LR LR
comp=Z,17μm,16.7s
GOMU LR LR
comp=Z,14μm,15.4s
GOMU LR LR
comp=Z,17μm,15.4s
GUWA GUWAHATI 28.31 287 *e*P P 01 30 42.6 +4.6
GUWA IAmb IAmb 01 30 48.1
comp=Z,167nm,1.5s
GUWA *e*S **S** **01 35 30.5 +6.2**
HIA Hailar 28.43 357 IAMs_20 IAMs_20 01 43 29.6
comp=Z,13μm,18.0s
HIA Hailar 28.43 357 P P 01 30 41.5 +2.7
PSI Prapat 28.80 235 LR LR 01 43 34.7
comp=Z,5μm,18.1s,baz=50,slow=40
PSI Prapat 28.80 235 P **P** **01 30 42.1 -0.5**
PSI Prapat 28.80 235 P **P** **01 30 42.1 -0.5**
PSI pmax pmax
comp=Z,138nm,1.3s
PSI MLR MLR
comp=Z,6μm,19.0s
ASAJ Asahikawa 28.81 32 P P 01 30 46.1 +3.9
comp=Z,104nm,0.7s,baz=243,slow=15,SNR=22
ASAJ LR LR 01 43 50.0
comp=Z,9μm,18.2s,baz=224,slow=40
JKA Kamikawa-asahi 28.81 32 IAMs_20 IAMs_20 01 43 29.9
comp=Z,9μm,19.0s
KMMI Kalianget 28.83 197 P **P** **01 30 42.6 -0.1**
comp=Z,6μmcomp=Z,3μmcomp=Z,205nm,1.2s
RPSI Rantau Prapat 28.86 234 P **P** **01 30 42.1 -1.0**
RPSI IAmb IAmb 01 30 50.6
comp=Z,138nm,1.3s
LHMI Lhok Sumawe 28.89 241 IAmb IAmb 01 30 54.9
comp=Z,132nm,0.8s
LHMI Lhok Sumawe 28.89 241 P **P** **01 30 44.0 +0.7**
LHMI Lhok Sumawe 28.89 241 P **P** **01 30 44.2 +0.9**
comp=Z,4μmcomp=Z,186nm,0.9s
PMBI Palembang 29.07 218 IAMs_20 IAMs_20 01 43 08.3
comp=Z,11μm,19.0s
LSA Lhasa 29.24 294 P **P** **01 30 48.3 +1.5**
LSA S **S** **01 35 39.5 -0.3**
LSA LR LR
comp=Z,7μm,13.5s
LSA LR LR
comp=Z,8μm,17.4s
LSA Lhasa 29.24 294 P **P** **01 30 47.9 +1.1**
LSA P **P** **01 30 47.9 +1.1**
LSA Lhasa 29.24 294 P **P** **01 30 48.8 +2.0**
TBJI Tambak Boyo 29.25 201 P P 01 30 54.1 +7.7
MMRI Maumere 29.29 180 P **P** **01 30 47.1 +0.3**
MMRI Maumere 29.29 180 P **P** **01 30 47.0 +0.3**
EDFI Ende, Flores 29.40 181 P **P** **01 30 45.9 -2.0**
SRBI Singaraja 29.52 194 P **P** **01 30 49.1 +0.3**
comp=Z,2μmcomp=Z,206nm,1.4s
JAY Jayapura 29.54 140 LR LR 01 40 46.3
comp=Z,9μm,20.4s,baz=338,slow=33
ULN Ulaanbaatar 29.56 339 P **P** **01 30 49.0 -0.1**
ULN IAmb IAmb 01 31 00.4
comp=Z,102nm,1.1s
ULN Ulaanbaatar 29.56 339 P **P** **01 30 49.9 +0.8**
ULN P **P** **01 30 49.9 +0.8**
ULN S **S** **01 35 48.0 +4.1**
ULN S **S** **01 35 48.0 +4.1**
ULN Ulaanbaatar 29.56 339 *ce*P **P** **01 30 48.5 -0.6**
ULN pmax pmax
comp=Z,95nm,1.0s
MNSI Mandailing Nat 29.64 231 P **P** **01 30 49.4 -0.5**
comp=Z,3μmcomp=Z,149nm,0.9s
HEH HeiHe 29.66 7 *e*P **P** **01 30 51.5 +1.8**
HEH pP **pwP** **01 30 57.3 +4.3**
HEH S **S** **01 35 46.3 +1.3**
HEH pmax pmax
comp=Z,21nm,0.9s
HEH pmax pmax
comp=Z,3μm,6.6s
HEH LR LR
comp=Z,7μm,15.1s
HEH LR LR
comp=Z,10μm,13.3s
HEH LR LR
comp=Z,19μm,15.3s
SONM Songino Array 29.76 339 P **P** **01 30 50.6 -0.2**
SONM Songino Array 29.76 339 P **P** **01 30 50.6 -0.2**
comp=Z,44nm,0.8s,baz=160,slow=8.6,SNR=110
SONM ScP **ScP** **01 37 32.5 -3.9**
comp=Z,4.3nm,1.0s,baz=161,slow=6.6,SNR=4.0
SONM LR LR 01 43 46.7
comp=Z,18μm,18.5s,baz=144,slow=38
comp=Z,44nm,0.8s
PLAI Plampang 29.78 189 P **P** **01 30 50.7 -0.4**
PLAI Plampang 29.78 189 P **P** **01 30 50.6 -0.5**
comp=Z,3μmcomp=Z,361nm,1.1s
MLSI Meulaboh, Aceh 29.89 240 P **P** **01 30 52.0 -0.1**
NGJI Ngawi 29.90 201 P **P** **01 30 53.9 +1.7**
comp=Z,4μmcomp=Z,337nm,1.1s
PPI Padang Panjang 29.94 228 P **P** **01 30 52.4 -0.2**
comp=Z,3μmcomp=Z,258nm,1.1s
SMRI Semarang 29.97 204 P **P** **01 30 53.5 +0.7**
SMRI Semarang 29.97 204 P **P** **01 30 52.7 -0.1**
comp=Z,5μmcomp=Z,206nm,1.9s
GMJI Gumukmas 30.14 197 P **P** **01 30 55.4 +1.1**
comp=Z,3μmcomp=Z,99nm,1.2s
JAGI Jajag, Banyuwa 30.14 196 P **P** **01 30 54.2 -0.1**
JAGI IAmb IAmb 01 30 59.4
comp=Z,244nm,1.3s
JAGI Jajag, Banyuwa 30.14 196 P **P** **01 30 55.5 +1.2**
JAGI Jajag, Banyuwa 30.14 196 P **P** **01 30 55.1 +0.8**
comp=Z,5μmcomp=Z,2μmcomp=Z,155nm,1.3s
WBSI Waikabubak, Su 30.40 185 P **P** **01 30 56.9 +0.3**
YUK Yuzh-Kuril'sk 30.44 35 *e*P P 01 31 01.3 +4.6
YUK *e* 01 31 59.2
YUK 01 33 57.6
YUK *e*S **S** **01 36 02.5 +5.2**
YUK *e*SS **ScP** **01 37 43.2 +4.7**
YUK pmax pmax
comp=Z,944nm,1.5s
YUK pmax pmax
comp=Z,682nm,1.1s
YUK pmax pmax
comp=N,416nm,1.0s
YUK pmax pmax
comp=E,361nm,1.0s
YUK MLR MLR
comp=Z,5μm,18.0s
YUK MLR MLR
comp=N,6μm,16.0s
SOEI Soe 30.48 176 IAmb IAmb 01 31 19.1
comp=Z,109nm,0.9s
SOEI Soe 30.48 176 P **P** **01 30 58.0 +0.6**
SOEI Soe 30.48 176 P **P** **01 30 58.9 +1.5**
comp=Z,127nm,1.0s
CMBY CAMPBELL BAY 30.49 247 IAmb IAmb 01 29 09.2
comp=Z,200nm,0.1s
CMBY *e*P **P** **01 30 59.9 +2.4**
CMBY *e*S **S** **01 36 02.7 +3.9**
LHSI Lahat 30.52 219 P **P** **01 30 57.7 +0.1**
comp=Z,4μmcomp=Z,115nm,0.9s
WOJI Wonogiri, Jawa 30.52 202 P **P** **01 30 57.6 -0.1**
KLI Kotabumi 30.61 215 P **P** **01 30 59.5 +1.0**
MDSI Maura Dua 30.68 217 P **P** **01 30 58.8 -0.3**
comp=Z,4μmcomp=Z,2μmcomp=Z,178nm,1.2s
UGM Wanagama 30.74 203 P **P** **01 31 00.6 +1.0**
UGM Wanagama 30.74 203 P **P** **01 31 01.2 +1.6**
UGM Wanagama 30.74 203 P **P** **01 30 59.6 0.0**
comp=Z,5μmcomp=Z,198nm,1.3s
PCJI Pacitan 30.77 201 P **P** **01 31 00.1 +0.3**
comp=Z,2μmcomp=Z,192nm,1.4s
GSI Gunungsitoli 30.79 234 P **P** **01 31 00.6 +0.5**
GSI Gunungsitoli 30.79 234 P **P** **01 30 59.3 -0.8**

comp=Z,50nm,0.8s
BATI Baumata 30.89 177 LR LR 01 46 06.7
comp=Z,4μm,18.0s,baz=20,slow=42
BATI Baumata 30.89 177 P **P** **01 31 00.8 -0.1**
comp=Z,2μmcomp=Z,252nm,0.9s
BASI Baing, Sumba 30.89 183 P **P** **01 31 02.5 +1.6**
KSI Kapahiang 30.93 220 P **P** **01 31 02.1 +0.7**
YSS Yuzhno-Sakhali 31.02 28 P **P** **01 31 03.6 +1.9**
YSS IAMs_20 IAMs_20 01 42 21.6
comp=Z,8μm,22.0s
YSS Yuzhno-Sakhali 31.02 28 P **P** **01 31 04.4 +2.7**
YSS Yuzhno-Sakhali 31.02 28 *ke*P **P** **01 31 04.1 +2.4**
YSS *e* 01 33 59.9
YSS *e*S **S** **01 36 10.8 +4.5**
YSS pmax pmax
comp=N,500nm,3.3s
YSS pmax pmax
comp=E,500nm,3.3s
YSS pmax pmax
comp=Z,1μm,3.3s
YSS pmax pmax
comp=Z,240nm,1.1s
YSS pmax pmax
comp=N,100nm,1.0s
YSS pmax pmax
comp=E,110nm,1.0s
YSS smax smax
comp=N,1μm,6.0s
YSS MLR MLR
comp=Z,7μm,15.0s
YSS MLR MLR
comp=E,4μm,14.0s
SBJI Serang 31.02 212 P **P** **01 31 03.9 +1.8**
DBJI Dramaga 31.10 211 P **P** **01 31 04.6 +1.8**
comp=E,416nm,1.4s
GTK Tadong 31.15 289 *e*P P 01 31 07.8 +4.4
GTK IAmb IAmb 01 31 08.8
comp=Z,144nm,0.2s
GTK *e*S **S** **01 36 15.0 +5.7**
LWLI Liwa 31.18 216 P **P** **01 31 04.6 +1.0**
MNAI Manna 31.28 219 P **P** **01 31 06.0 +1.6**
KASI Kota Agung 31.36 215 P **P** **01 31 05.2 +0.1**
comp=Z,2μmcomp=Z,142nm,1.0s
SISI Saibi 31.47 228 P **P** **01 31 05.5 -0.6**
comp=Z,2μmcomp=Z,218nm,1.3s
BBJI Bungbulang 31.48 208 P **P** **01 31 06.7 +0.4**
CNJI Cibinong 31.58 209 P **P** **01 31 07.6 +0.6**
comp=Z,2μmcomp=Z,135nm,1.8s
SKJI Sukabumi 31.58 210 P P 01 31 14.8 +7.8
CGJI Cibinong 31.66 212 P **P** **01 31 07.4 -0.3**
comp=Z,5μmcomp=Z,113nm,1.3s
PPSI Pulau Pagai 31.89 225 P **P** **01 31 09.8 0.0**
comp=Z,4μmcomp=Z,167nm,1.2s
GRNR Gornyy 31.94 17 *i*P **P** **01 31 11.4 +1.5**
GRNR pmax pmax
comp=Z,5.0nm,1.0s
GRNR MLR MLR
comp=N,3μm,15.0s
GRNR MLR MLR
comp=E,3μm,15.0s
KUR Kuril'sk 32.30 35 P P 01 31 16.8 +3.7
KUR S **S** **01 36 30.6 +4.1**
KUR pmax pmax
comp=Z,544nm,1.1s
KUR pmax pmax
comp=Z,2μm,4.9s
KUR MLR MLR
comp=Z,3μm,15.0s
UGL Uglegorsk 32.40 25 *e*P P 01 31 06.7 -7.2
UGL *e* 01 32 17.0
UGL pmax pmax
comp=Z,1μm,3.1s
UGL pmax pmax
comp=Z,100nm,1.1s
UGL MLR MLR
comp=E,2μm,14.0s
EVN Everest 32.78 289 P **P** **01 31 19.4 +1.1**
EVN IAmb IAmb 01 31 30.3
comp=Z,123nm,1.0s
ZAK Zakamensk 33.00 338 *e*P **P** **01 31 18.7 -0.6**
ZAK pmax pmax
comp=Z,25nm,1.0s
BOK Bokaro 33.53 282 *e*P P 01 31 28.6 +4.4
BOK IAML 01 31 28.9
comp=Z,39nm,0.6s
BOK *e*S **S** **01 36 52.1 +5.9**
TYV Tymovskoe 34.06 23 *e*P P 01 31 34.0 +5.6
TYV pmax pmax
comp=Z,47nm,1.3s
TYV pmax pmax
comp=Z,1μm,4.5s
TYV MLR MLR
comp=E,7μm,15.0s
IRK Irkutsk 34.26 341 *e*P **P** **01 31 29.3 -0.8**
IRK *e*S **S** **01 36 56.5 -0.2**
IRK pmax pmax
comp=Z,142nm,1.7s
MTN Manton Dam 34.64 164 P **P** **01 31 30.5 -3.2**
MTN Manton Dam 34.64 164 P **P** **01 31 30.8 -2.9**
KDU Kakadu 34.85 162 P **P** **01 31 32.5 -3.0**
KDU Kakadu 34.85 162 P **P** **01 31 36.6 +1.1**
MOY Mondy 34.88 337 *e*P **P** **01 31 35.4 -0.3**
MOY pmax pmax
comp=Z,158nm,2.0s
XMI Christmas Isla 35.01 209 P **P** **01 31 36.6 -0.3**
NKL Nikolayevsk 35.30 19 *e*P **P** **01 31 40.2 +1.2**
NKL *e*S S 01 37 20.0 +7.4
NKL pmax pmax
comp=N,76nm,1.1s
NKL pmax pmax
comp=E,82nm,1.1s
NKL pmax pmax
comp=Z,271nm,1.0s
NKL smax smax
comp=E,206nm,2.5s
NKL smax smax
comp=N,205nm,5.1s
NKL MLR MLR
comp=E,19μm,17.0s
NKL MLR MLR
comp=N,31μm,18.0s
NKL MLR MLR
comp=Z,37μm,18.0s
WMQ Urumqi 36.59 317 *e*P P 01 31 54.3 +3.9
WMQ S **S** **01 37 33.5 +0.5**
WMQ pmax pmax
comp=Z,66nm,1.3s
WMQ pmax pmax
comp=Z,350nm,4.3s
WMQ LR LR
comp=Z,10μm,13.5s
WMQ LR LR
comp=Z,5μm,13.5s
WMQ LR LR
comp=Z,4μm,15.5s
VIS Vishakhapatnam 36.63 272 *e*P P 01 31 55.1 +4.2
VIS IAmb IAmb 01 31 57.7
comp=Z,150nm,2.1s
VIS *e*S **S** **01 37 39.4 +5.5**
KNRA Kununurra 36.88 169 P **P** **01 31 49.5 -3.5**
BOD Bodaibo 37.40 353 *e*P **P** **01 31 57.3 +0.3**
BOD pmax pmax
comp=Z,31nm,1.8s
PATS Pohnpei 37.74 106 P **P** **01 32 01.6 +1.2**
PATS Pohnpei 37.74 106 P **P** **01 31 58.0 -2.3**
PATS Pohnpei 37.74 106 P **P** **01 32 02.1 +1.7**
PTH Pithoragarh 38.67 292 *e*P P 01 32 12.6 +4.3
PTH IAmb IAmb 01 32 17.1
comp=Z,90nm,0.8s
PTH *e*S **S** **01 38 10.7 +5.6**
FITZ Fitzroy Crossi 38.85 175 P **P** **01 32 06.6 -3.0**
FITZ Fitzroy Crossi 38.85 175 P **P** **01 32 08.5 -1.1**
PMG Port Moresby 38.89 138 LR LR 01 49 19.4
comp=Z,2μm,18.5s,baz=306,slow=38
PMG Port Moresby 38.89 138 P **P** **01 32 11.5 +1.5**
PMG Port Moresby 38.89 138 P **P** **01 32 11.3 +1.3**
JOSI Joshimath 39.30 293 *e*P P 01 32 19.8 +6.1
JOSI IAmb IAmb 01 32 37.3
comp=Z,63nm,0.8s
JOSI *e*S S 01 38 22.1 +7.4
HNLY HANLEY 40.00 296 *e*P **P** **01 32 21.7 +1.9**
HNLY IAmb IAmb 01 32 41.9
comp=Z,60nm,1.1s
HNLY *e*S **S** **01 38 30.6 +4.9**
SKR Severo-Kuril's 40.02 34 *ce*P **P** **01 32 21.0 +2.0**

COEN Coen 40.33 147 P **P** **01 32 22.5 +0.6**
COEN Coen 40.33 147 P **P** **01 32 22.8 +0.9**
KLP Kalpa 40.49 294 *e*P P 01 32 27.6 +3.9
KLP IAML 01 32 34.8
comp=Z,88nm,1.9s
KLP *e*S **S** **01 38 37.8 +5.1**
COCO West Island 41.13 219 P **P** **01 32 27.7 -0.8**
COCO P **P** **01 32 27.7 -0.8**
COCO West Island 41.13 219 P **P** **01 32 29.5 +0.9**
HYB Hyderabad 41.15 273 *e*P **P** **01 32 29.9 +1.0**
HYB IVmB_BB 01 32 36.4
comp=Z,1μm,3.9s
MK31 Makanchi Array 41.33 318 *d*iP **P** **01 32 30.1 +0.1**
MKAR Makanchi Array 41.33 318 P **P** **01 32 30.5 +0.6**
MKAR Makanchi Array 41.33 318 P **P** **01 32 30.3 +0.4**
comp=Z,63nm,0.8s,baz=111,slow=10,SNR=138
MKAR ScP **ScP** **01 38 14.3 -3.9**
comp=Z,5.4nm,1.0s,baz=108,slow=4.7,SNR=3.8
MKAR LR LR 01 50 31.6
comp=Z,6μm,19.7s,baz=104,slow=38
comp=Z,63nm,0.8s
MKAR Makanchi Array 41.33 318 *i*P **P** **01 32 30.2 +0.2**
MKAR pmax pmax
comp=Z,63nm,0.8s
SMLA Simla 41.39 294 *e*P P 01 32 35.0 +4.4
SMLA IAML 01 32 41.8
comp=Z,73nm,2.6s
SMLA *e*S **S** **01 38 51.1 +5.7**
YAK Yakutsk 41.50 5 IAMs_20 IAMs_20 01 50 24.3
comp=Z,6μm,20.0s
YAK Yakutsk 41.50 5 P **P** **01 32 32.5 +1.4**
comp=Z,22nm,0.5s,baz=344,slow=6.2,SNR=4.7
YAK LR LR 01 51 41.1
comp=Z,5μm,18.4s,baz=184,slow=39
comp=Z,22nm,0.5s
YAK Yakutsk 41.50 5 *e*P **P** **01 32 32.3 +1.2**
YAK *e* 01 34 08.9
YAK *e* 01 34 29.0
YAK *e*S **S** **01 38 49.0 +2.8**
YAK *e*SS **SnSn** **01 41 55.1 -5.1**
YAK *e* 01 42 35.9
YAK pmax pmax
comp=Z,74nm,0.9s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=Z,430nm,4.2s
YAK pmax pmax
comp=N,318nm,3.6s
YAK pmax pmax
comp=E,109nm,2.9s
YAK smax smax
comp=N,371nm,4.9s
YAK smax smax
comp=E,290nm,5.7s
YAK MLR MLR
comp=Z,10μm,18.0s
YAK MLR MLR
comp=E,8μm,19.0s
YAK MLR MLR
comp=N,6μm,16.0s
MAKZ Makanchi 41.53 318 P **P** **01 32 32.1 +0.5**
MAKZ IAmb IAmb 01 32 39.3
comp=Z,96nm,0.8s
MAKZ IAMs_20 IAMs_20 01 50 16.5
comp=Z,6μm,20.0s
MAKZ Makanchi 41.53 318 P **P** **01 32 32.1 +0.5**
MAKZ pmax pmax
comp=Z,96nm,0.8s
MAKZ MLR MLR
comp=Z,6μm,20.0s
MBWA Marble Bar 41.80 183 P **P** **01 32 31.5 -2.4**
MBWA Marble Bar 41.80 183 P **P** **01 32 30.5 -3.4**
MBWA Marble Bar 41.80 183 P **P** **01 32 32.3 -1.7**
MBWA P **P** **01 32 32.3 -1.7**
MBWA Marble Bar 41.80 183 P **P** **01 32 33.6 -0.4**
SHLS Shalkode 41.85 312 *e*P **P** **01 32 32.4 -2.0**
SHLS *e*S **S** **01 38 48.6 -3.6**
SHLS Shalkode 41.85 312 *e*P **P** **01 32 32.5 -2.0**
SHLS *e*S **S** **01 38 48.6 -3.6**
KUDL Kundal 41.91 289 *e*P P 01 32 39.4 +4.5
KUDL IAmb IAmb 01 32 43.6
comp=Z,36nm,0.8s
KUDL *e*S **S** **01 38 56.9 +3.8**
H11N1 WAKE ISLAND Hy 41.97 83 P P 01 32 40.9 +5.6
baz=259,slow=8.4,SNR=5.7
H11N1 T T 02 17 31.4
baz=280,slow=75
H11N2 WAKE ISLAND Hy 41.97 83 P P 01 32 27.3 -8.0
baz=259,slow=8.4,SNR=3.3
H11N2 T T 02 17 31.2
baz=280,slow=75
H11N3 WAKE ISLAND Hy 41.99 83 P P 01 32 42.2 +6.8
H11N3 WAKE ISLAND Hy 41.99 83 P P 01 32 42.2 +6.8
baz=259,slow=8.4,SNR=5.5
H11N3 T T 02 17 30.8
baz=280,slow=75
H11S3 WAKE ISLAND Hy 41.99 85 T T 02 17 29.5
baz=281,slow=75
H11S1 WAKE ISLAND Hy 42.00 85 T T 02 17 31.0
baz=281,slow=75
H11S2 WAKE ISLAND Hy 42.01 85 T T 02 17 30.9
baz=281,slow=75
UZB Uzynbulak 42.15 312 *e*P **P** **01 32 37.5 +0.6**
UZB Uzynbulak 42.15 312 *e*P **P** **01 32 37.5 +0.6**
PALK Pallekele 42.18 257 P **P** **01 32 37.7 +0.4**
PALK Pallekele 42.18 257 LR LR 01 49 44.5
comp=Z,2μm,21.1s,baz=64,slow=36
PALK Pallekele 42.18 257 P **P** **01 32 38.3 +0.9**
PALK P **P** **01 32 38.3 +0.9**
PALK Pallekele 42.18 257 P **P** **01 32 37.7 +0.4**
PALK pmax pmax
comp=Z,60nm,1.1s
PALK MLR MLR
comp=Z,3μm,21.0s
PSA00 Pilbara Seismi 42.21 183 P **P** **01 32 35.2 -2.1**
PSA00 IAmb IAmb 01 32 48.0
comp=Z,96nm,0.9s
PSA00 Pilbara Seismi 42.21 183 P **P** **01 32 35.4 -1.9**
PSA00 IAmb IAmb 01 32 47.9
comp=Z,73nm,1.0s
PSA00 Pilbara Seismi 42.21 183 P **P** **01 32 34.5 -2.7**
PSA00 Pilbara Seismi 42.21 183 P **P** **01 32 34.9 -2.4**
PEA0B Petropavlovsk- 42.23 32 P **P** **01 32 37.9 +0.6**
PEA0B IAmb IAmb 01 32 48.0
comp=Z,250nm,1.5s
PEA0B Petropavlovsk- 42.23 32 *i*P **P** **01 32 38.8 +1.6**
PETK Petropavlovsk- 42.23 32 P **P** **01 32 38.3 +1.1**
PETK Petropavlovsk- 42.23 32 P **P** **01 32 38.6 +1.4**
comp=Z,43nm,0.9s,baz=204,slow=3.3,SNR=26
PETK LR LR 01 52 01.1
comp=Z,4μm,18.9s,baz=225,slow=39
comp=Z,43nm,0.9s
WRAB Tennant Creek 42.27 163 P **P** **01 32 35.4 -2.5**
WRAB IAmb IAmb 01 32 48.4
comp=Z,121nm,1.1s
WRAB Tennant Creek 42.27 163 *e*P **P** **01 32 35.7 -2.1**
WRAB pmax pmax
comp=Z,40nm,1.0s
WRA Warramunga Arr 42.27 163 P **P** **01 32 34.8 -3.1**
WRA Warramunga Arr 42.27 163 P **P** **01 32 35.1 -2.9**
comp=Z,17nm,0.5s,baz=343,slow=9.1,SNR=64
WRA S **S** **01 38 51.3 -7.2**
comp=Z,19nm,1.2s,baz=341,slow=15,SNR=25
WRA LR LR 01 52 04.9
comp=Z,2μm,19.0s,baz=340,slow=39
comp=Z,17nm,0.5s
WRA Warramunga Arr 42.27 163 *i*P **P** **01 32 35.0 -2.9**
WRA pmax pmax
comp=Z,18nm,0.5s
KPKS Kokpek 42.48 312 *e*P **P** **01 32 39.9 +0.4**
KPKS Kokpek 42.48 312 *e*P **P** **01 32 40.0 +0.4**
SATY Saty 42.55 312 *e*P **P** **01 32 40.7 +0.5**
SATY Saty 42.55 312 *e*P **P** **01 32 40.7 +0.5**
PET Petropavlovsk 42.66 32 P **P** **01 32 42.6 +2.0**
PET IAmb IAmb 01 32 47.2
comp=Z,236nm,1.1s
PET Petropavlovsk 42.66 32 P **P** **01 32 42.6 +2.0**
PET Petropavlovsk 42.66 32 *e*P P 01 32 44.6 +4.0
PET *e*S **S** **01 39 06.2 +2.8**
PET pmax pmax
comp=Z,216nm,1.3s
PET pmax pmax
comp=Z,2μm,7.6s
PET pmax pmax
comp=Z,300nm,11.3s
PET MLR MLR
comp=Z,3μm,15.0s
PET MLR MLR
comp=Z,3μm,14.0s
PET Petropavlovsk 42.66 32 P **P** **01 32 40.5 -0.1**
comp=Z,3μmcomp=Z,257nm,1.4s
TDK Taldyqorghan 43.16 314 *e*P **P** **01 32 45.7 +0.8**
TDK pmax pmax
comp=Z,94nm,1.0s
TDK Taldyqorghan 43.16 314 *e*P **P** **01 32 45.8 +0.8**
comp=Z,94nm,1.0s
JMU Jammu 43.41 296 *e*P P 01 32 54.1 +7.0
JMU IAmb IAmb 01 32 58.8
comp=Z,92nm,0.9s
JMU *e*S S 01 39 22.0 +6.9
KSH Kashi 43.45 306 P P 01 32 51.0 +3.5
KSH pP sP 01 32 54.0 +2.0
KSH S S 01 39 22.3 +6.5
KSH ScS **ScS** **01 42 51.8 +4.2**
KSH pmax pmax
comp=Z,40nm,1.2s
KSH pmax pmax
comp=Z,700nm,5.1s
KSH LR LR
comp=Z,12μm,15.3s
KSH LR LR
comp=Z,8μm,18.4s
KSH LR LR
comp=Z,9μm,18.9s
ZAA0 Zalesovo Array 43.50 329 IAmb IAmb 01 32 57.5
comp=Z,118nm,0.7s
ZALV Zalesovo Beam 43.50 329 P **P** **01 32 47.3 -0.1**
ZALV Zalesovo Beam 43.50 329 P **P** **01 32 47.1 -0.3**
comp=Z,61nm,0.6s,baz=115,slow=6.7,SNR=110
ZALV ScP **ScP** **01 38 22.2 -4.5**
comp=Z,3.4nm,0.9s,baz=131,slow=4.4,SNR=3.2
ZALV LR LR 01 52 43.2
comp=Z,5μm,19.5s,baz=126,slow=39
comp=Z,61nm,0.6s
ZALV Zalesovo Beam 43.50 329 P **P** **01 32 47.3 -0.1**
TNSS Tian-Shan 43.57 311 *e*P **P** **01 32 48.9 +0.1**
TNSS Tian-Shan 43.57 311 *e*P **P** **01 32 48.1 -0.7**
AAA Alma-Ata 43.64 311 *e*P **P** **01 32 49.5 +0.6**
AAA Alma-Ata 43.64 311 *e*P **P** **01 32 49.5 +0.6**
MA2 Magadan 43.79 21 P P 01 32 53.4 +3.7
MA2 IAMs_20 IAMs_20 01 53 26.1
comp=Z,6μm,19.0s
MA2 Magadan 43.79 21 LR LR 01 53 36.5
comp=Z,5μm,18.1s,baz=213,slow=39
MA2 Magadan 43.79 21 P **P** **01 32 52.0 +2.3**
MA2 Magadan 43.79 21 *i*P **P** **01 32 51.3 +1.5**
MA2 pmax pmax
comp=Z,45nm,0.9s
MA2 MLR MLR
comp=Z,4μm,21.0s
MA2 Magadan 43.79 21 P **P** **01 32 51.2 +1.5**
comp=Z,2μmcomp=Z,74nm,1.0s
NRN Naryn 43.84 309 IAmb IAmb 01 33 07.7
comp=Z,143nm,1.2s
NRN IAMs_20 IAMs_20 01 52 43.4
comp=Z,7μm,20.0s
ULHL Ulahol 43.87 310 P **P** **01 32 52.5 +1.6**
SNR=12
GIRL Giralia 43.88 190 IAmb IAmb 01 33 04.5
comp=Z,129nm,1.1s
GIRL Giralia 43.88 190 P **P** **01 32 50.4 -0.5**
comp=Z,137nm,1.4s
KOD Kodaikanal 44.10 263 *e*P **P** **01 32 51.0 -2.2**
KOD IAmb IAmb 01 33 01.6
comp=Z,82nm,1.1s
KOD *e*S **S** **01 39 30.8 +4.6**
KUU Kurty 44.24 312 *e*P **P** **01 32 54.3 +0.7**
KUU Kurty 44.24 312 *e*P **P** **01 32 54.3 +0.7**
MTSU Mount Surprise 44.45 149 P **P** **01 32 55.7 +0.2**
comp=Z,66nm,0.9s
MTSU Mount Surprise 44.45 149 P **P** **01 32 56.8 +1.2**
TKM2 Tokmak 2 44.50 311 P **P** **01 32 57.0 +1.1**
SNR=32
QIS Mount Isa 44.58 156 P **P** **01 32 54.3 -2.2**
comp=Z,57nm,1.0s
QIS Mount Isa 44.58 156 P **P** **01 32 57.4 +0.9**
NIL Nilore 44.85 297 P **P** **01 32 59.1 +0.4**
NIL IAmb IAmb 01 33 11.8
comp=Z,120nm,1.0s
NIL Nilore 44.85 297 P **P** **01 32 58.7 0.0**
NIL P **P** **01 32 58.7 0.0**
NIL Nilore 44.85 297 P **P** **01 32 59.1 +0.4**
NIL pmax pmax
comp=Z,120nm,1.0s
NIL MLR MLR
comp=Z,8μm,18.0s
KBK Karagaybulak 44.90 310 P **P** **01 33 00.8 +1.7**
SNR=10
UCH Uchtor 45.11 309 P **P** **01 33 02.8 +1.6**
SNR=41
CHMS Chumysh 45.12 310 P **P** **01 33 01.7 +1.0**
SNR=13
KURK Kurchatov 45.19 322 P **P** **01 33 01.4 +0.4**
KURK Kurchatov 45.19 322 IAMs_20 IAMs_20 01 52 48.4
comp=Z,4μm,18.0s
KURK Kurchatov 45.19 322 P **P** **01 33 01.8 +0.8**
KURK P **P** **01 33 01.8 +0.8**
KURK S **S** **01 39 43.9 +3.3**
KURK S **S** **01 39 43.9 +3.3**
KURK Kurchatov 45.19 322 *ce*P **P** **01 33 00.8 -0.2**
KURK pmax pmax
comp=Z,81nm,1.0s
KURK MLR MLR
comp=Z,3μm,15.0s
KURBB Kurchatov Arra 45.20 322 P **P** **01 33 01.4 +0.2**
comp=Z,66nm,0.8s,baz=119,slow=7.4,SNR=168
KURBB LR LR 01 53 00.2
comp=Z,4μm,19.7s,baz=126,slow=38
comp=Z,66nm,0.8s
AAK Ala-Archa 45.22 310 P **P** **01 33 02.6 +1.0**
AAK Ala-Archa 45.22 310 LR LR 01 54 59.8
comp=Z,9μm,20.3s,baz=104,slow=40
AAK Ala-Archa 45.22 310 P **P** **01 33 03.9 +2.3**
AAK P **P** **01 33 03.9 +2.3**
AAK S **S** **01 39 44.4 +2.8**
AAK S **S** **01 39 44.4 +2.8**
AAK Ala-Archa 45.22 310 *ce*P **P** **01 33 02.5 +0.9**
AAK pmax pmax
comp=Z,22nm,1.7s
AAK Ala-Archa 45.22 310 *i*P **P** **01 33 02.2 +0.6**
SNR=11
SGDS Sogindy 45.31 311 *e*P **P** **01 33 02.7 +0.4**
USP Ospenovka 45.36 311 P **P** **01 33 03.6 +1.0**
SNR=14
AS31 Alice Springs 45.72 165 P **P** **01 33 04.0 -1.6**
comp=Z,24nm,0.9s
ASAR Alice Springs 45.72 165 P **P** **01 33 02.6 -2.9**
ASAR Alice Springs 45.72 165 P **P** **01 33 03.6 -1.9**
comp=Z,9.7nm,0.4s,baz=348,slow=6.8,SNR=57
ASAR ScP **ScP** **01 38 34.5 -1.8**
comp=Z,2.9nm,1.0s,baz=339,slow=3.9,SNR=4.3
ASAR S **S** **01 39 41.2 -7.4**
comp=Z,8.0nm,1.0s,baz=353,slow=18,SNR=7.6
ASAR LR LR 01 53 12.3
comp=Z,1μm,20.6s,baz=358,slow=38
comp=Z,9.7nm,0.4s
AS01 Alice Springs 45.73 165 P **P** **01 33 05.9 +0.3**
EKS2 Erkin-Say 45.74 310 P **P** **01 33 06.7 +1.0**
SNR=8.3
WRKA Warakurna 46.00 172 P **P** **01 33 05.1 -2.6**
BTLS Baital 46.13 313 *e*P **P** **01 33 08.8 +0.2**
BTLS *e*S **S** **01 39 54.8 +0.5**
BTLS Baital 46.13 313 *e*P **P** **01 33 08.8 +0.2**
BTLS *e*S **S** **01 39 54.9 +0.5**
SEY Seymchan 46.86 18 LR LR 01 53 42.5
comp=Z,3μm,20.6s,baz=212,slow=37
SEY Seymchan 46.86 18 *e*P **P** **01 33 15.6 +1.6**
SEY pmax pmax
comp=Z,18nm,1.0s
CTAO Charters Tower 47.06 148 P **P** **01 33 15.4 -0.8**
CTAO IAmb IAmb 01 33 26.7
comp=Z,134nm,1.3s
CTAO Charters Tower 47.06 148 IAMs_20 IAMs_20 01 50 28.9
comp=Z,5μm,21.0s
CTAO Charters Tower 47.06 148 P **P** **01 33 16.5 +0.4**
CTAO Charters Tower 47.06 148 P **P** **01 33 15.4 -0.8**
CTAO pmax pmax
comp=Z,134nm,1.3s
TATA Tatamba Isabel 47.11 124 P **P** **01 33 17.1 +0.5**
MEEK Meekatharra 47.31 184 P **P** **01 33 16.0 -2.0**

comp=Z,106nm,1.1s
MEEK Meekatharra 47.31 184 P P 01 33 16.3 -1.7
BTK Batken 47.45 306 IAmb IAmb 01 33 32.4
comp=Z,107nm,1.4s
DZA Taraz 47.55 310 *eP* **P 01 33 20.3 +0.6**
DZA Taraz 47.55 310 *eP* **P 01 33 20.4 +0.6**
HNR Honiara 47.87 125 LR LR 01 49 59.8
comp=Z,2µm,21.7s,baz=310,slow=32
ALEG Aligegeo Malai 48.03 124 P P 01 33 25.1 +1.3
KKAR Karatay Array 48.18 310 P P 01 33 24.8 +0.2
KKAR Karatay Array 48.18 310 P P 01 33 24.8 +0.2
IUG luzhnay 48.36 308 *eP* **P 01 33 26.6 +0.5**
IUG *eS* **S 01 40 26.8 +0.4**
IUG pmax pmax
comp=Z,44nm,0.8s
IUG luzhnay 48.36 308 *eP* **P 01 33 26.7 +0.5**
comp=Z,44nm,0.8s
IUG *eS* **S 01 40 26.9 +0.4**
KBL Kabul 48.38 298 P **P 01 33 27.2 +0.6**
KBL IAmb IAmb 01 33 34.2
comp=Z,130nm,1.2s
KBL Kabul 48.38 298 P **P 01 33 28.0 +1.4**
SNR=56
KBL P **P 01 33 28.0 +1.4**
SNR=56
KBL P **P 01 33 28.0 +1.4**
SNR=56
KBL S **S 01 40 28.3 +1.1**
KBL S **S 01 40 28.3 +1.1**
KBL S **S 01 40 28.3 +1.1**
KBL Kabul 48.38 298 P **P 01 33 27.2 +0.6**
KBL pmax pmax
comp=Z,130nm,1.3s
BRZS Berezniki 48.45 319 *eP* **P 01 33 27.6 +0.9**
BRZS Berezniki 48.45 319 *eP* **P 01 33 27.6 +0.9**
BRLS Boroldav 48.65 309 *eP* **P 01 33 29.6 +1.3**
BRLS Boroldav 48.65 309 *eP* **P 01 33 29.6 +1.3**
SIMJ Simiganj 48.68 304 P **P 01 33 29.3 +0.5**
SIMJ IAmb IAmb 01 33 51.2
comp=Z,82nm,1.5s
CHM Chimkent 48.70 308 *eP* **P 01 33 29.5 +0.8**
CHM pmax pmax
comp=Z,35nm,1.5s
CHM Chimkent 48.70 308 *eP* **P 01 33 29.5 +0.8**
comp=Z,35nm,1.5s
MORW Morawa 49.95 187 IAmb IAmb 01 33 45.1
comp=Z,56nm,0.8s
MORW Morawa 49.95 187 P **P 01 33 35.8 -2.4**
MORW Morawa 49.95 187 P **P 01 33 37.0 -1.2**
BVAR Borovoye Array 50.78 322 P **P 01 33 44.6 +0.2**
comp=Z,32nm,0.6s,baz=108,slow=9.5,SNR=63
BVAR PcP **PcP 01 35 02.0 +0.8**
comp=Z,20nm,0.6s,baz=118,slow=3.7,SNR=6.2
BVAR ScP **ScP 01 38 53.8 -3.6**
comp=Z,2.8nm,0.6s,baz=107,slow=5.1,SNR=4.5
BVAR LR LR 01 56 13.7
comp=Z,4µm,20.2s,baz=104,slow=37
comp=Z,32nm,0.6s
BRVK Borovoye 50.85 322 P **P 01 33 44.9 +0.1**
BRVK IAmb IAmb 01 33 53.7
comp=Z,117nm,0.8s
BRVK Borovoye 50.85 322 IAMs_20 IAMs_20 01 56 05.3
comp=Z,4µm,19.0s
BRVK Borovoye 50.85 322 P **P 01 33 45.4 +0.5**
BRVK S **S 01 41 03.6 +2.9**
BRVK Borovoye 50.85 322 *ce*P **P 01 33 45.5 +0.6**
BRVK pmax pmax
comp=Z,186nm,1.7s
SHEM Shemya Is, Ala 50.91 38 P **P 01 33 47.4 +2.2**
comp=Z,63nm,1.0s,baz=74,slow=4.8,SNR=9.4
SHEM LR LR 01 54 47.1
comp=Z,702nm,21.4s,baz=258,slow=35
comp=Z,63nm,1.0s
TIXI Tiksi 50.98 3 P **P 01 33 44.5 -1.0**
TIXI Tiksi 50.98 3 LR LR 01 57 46.7
comp=Z,11µm,18.8s,baz=198,slow=39
TIXI Tiksi 50.98 3 *ce*P **P 01 33 48.0 +2.5**
TIXI pmax pmax
comp=Z,25nm,0.8s
BLDU Ballidu 51.41 186 P **P 01 33 47.0 -2.2**
comp=Z,46nm,1.3s
BLDU Ballidu 51.41 186 P **P 01 33 48.3 -0.9**
QLP Quilpie 51.81 155 P **P 01 33 50.5 -1.8**
comp=Z,217nm,0.7s
QLP Quilpie 51.81 155 P **P 01 33 52.2 -0.1**
KLBR Kellerberrin 52.29 185 P **P 01 33 53.6 -2.2**
comp=Z,190nm,0.8s
KLBR Kellerberrin 52.29 185 P **P 01 33 54.4 -1.4**
MUN Mundaring 52.81 186 P **P 01 33 59.0 -0.6**
LUES Luesalemba Tem 53.27 122 P **P 01 34 05.3 +1.9**
AMKA Amchitka 53.65 41 P **P 01 34 07.1 +1.5**
NWAO Narrogin (SRO) 53.66 185 P **P 01 34 03.7 -2.2**
NWAO IAmb IAmb 01 34 13.1
comp=Z,94nm,0.8s
NWAO Narrogin (SRO) 53.66 185 P **P 01 34 04.9 -1.0**
NWAO P **P 01 34 04.9 -1.0**
NWAO Narrogin (SRO) 53.66 185 P **P 01 34 04.9 -1.0**
NWAO Narrogin (SRO) 53.66 185 P **P 01 34 03.7 -2.2**
NWAO pmax pmax
comp=Z,94nm,0.9s
EIDS Eidsvold 53.90 147 P **P 01 34 08.3 +0.6**
BILL Bilibino 54.56 19 P **P 01 34 13.6 +1.5**
BILL IAmb IAmb 01 34 21.9
comp=Z,49nm,0.7s
BILL IAMs_20 IAMs_20 02 00 00.8
comp=Z,4µm,21.0s
BILL Bilibino 54.56 19 *ce*P **P 01 34 14.4 +2.3**
BILL pmax pmax
comp=Z,36nm,1.0s
BILL MLR MLR
comp=Z,3µm,17.0s
BBOO Buckleboo 55.00 166 IAmb IAmb 01 34 27.8
comp=Z,83nm,0.9s
BBOO Buckleboo 55.00 166 P **P 01 34 14.2 -1.4**
MIDW Midway 55.12 70 P **P 01 34 19.1 +2.4**
WHYH Whyalla 55.58 164 P **P 01 34 21.0 +1.2**
STKA Stephens Creek 55.66 160 P **P 01 34 18.6 -1.8**
STKA Stephens Creek 55.66 160 P **P 01 34 19.0 -1.4**
comp=Z,24nm,0.7s,baz=336,slow=7.2,SNR=52
STKA LR LR 02 00 08.4
comp=Z,1µm,20.8s,baz=328,slow=38
comp=Z,24nm,0.7s
STKA Stephens Creek 55.66 160 P **P 01 34 19.0 -1.4**
STKA Stephens Creek 55.66 160 P **P 01 34 18.6 -1.8**
STKA pmax pmax
comp=Z,180nm,0.8s
KIWB Kanaga Island 55.91 41 IAmb IAmb 01 34 28.0
comp=Z,131nm,1.4s
ADK Adak 56.20 41 P **P 01 34 26.3 +2.2**
ADK Adak 56.20 41 P **P 01 34 26.5 +2.4**
ADK Adak 56.20 41 P **P 01 34 26.3 +2.2**
ADK pmax pmax
comp=Z,238nm,1.5s
HTT Hallett 56.31 163 P **P 01 34 25.1 0.0**
CMSA Cobar Meteorol 56.80 156 P **P 01 34 28.3 -0.2**
SVE Sverdlovsk 57.22 325 *ce*P **P 01 34 31.7 +0.4**
SVE *eS* S 01 42 33.1 +6.4
SVE pmax pmax
comp=Z,231nm,0.9s
SVE MLR MLR
comp=Z,5µm,17.0s
SVE MLR MLR
comp=E,4µm,18.0s
AKTO Aktyubinsk 57.74 317 LR LR 01 58 59.5
comp=E,5µm,19.4s,baz=92,slow=36
ATKA Atka Island 57.77 41 P **P 01 34 37.4 +2.2**
ATKA Atka Island 57.77 41 P **P 01 34 37.2 +2.0**
ARTI Arti 58.36 324 P **P 01 34 38.6 -0.7**
ARTI IAMs_20 IAMs_20 02 01 54.7
comp=Z,4µm,20.0s
ARTI Arti 58.36 324 LR LR 01 59 24.6
comp=Z,3µm,18.9s,baz=102,slow=36
ARTI Arti 58.36 324 *c i*P **P 01 34 38.7 -0.6**
ARTI 01 35 28.0
ARTI 01 36 48.2
ARTI PPP PPP 01 38 07.7
ARTI S **S 01 42 43.0 +1.4**
ARTI 01 44 23.8
ARTI SS **SS 01 46 35.3 +1.9**
ARTI SSS SSS 01 49 02.7
ARTI pmax pmax
comp=Z,44nm,1.2s
ARTI MLR MLR
comp=Z,3µm,15.0s
ARMA Armidale 58.36 150 IAMs_20 IAMs_20 01 58 16.8
comp=Z,3µm,20.0s
ARMA Armidale 58.36 150 P **P 01 34 40.9 +1.2**
WSAR Wadi Sarin 58.42 285 LR LR 02 04 50.1
comp=Z,7.0nm,18.1s,baz=101,slow=41
JASK Jask - Hormozg 58.64 288 P **P 01 34 44.1 +2.3**
SNR=7.0
BIDO Bidbid 58.82 285 P **P 01 34 45.4 +2.3**
SNR=11
BIDO P **P 01 34 45.4 +2.3**
SNR=11
SMDO Samad 58.98 285 P **P 01 34 44.9 +0.5**
SNR=6.3
SMDO P **P 01 34 44.9 +0.5**
SNR=6.3
JMDO Jabal Madar 59.07 284 P **P 01 34 44.8 0.0**
JMDO P **P 01 34 44.8 0.0**
MHTO MHTO 59.48 283 P **P 01 34 48.0 +0.3**
MHTO P **P 01 34 48.0 +0.3**
HOQ Hoqain 59.55 286 P **P 01 34 48.4 +0.3**
SNR=12
HOQ S **S 01 43 00.6 +2.5**
DQM DQM 60.10 282 P **P 01 34 52.1 +0.2**
DQM P **P 01 34 52.1 +0.2**
MDH Madha 60.14 288 P **P 01 34 52.1 -0.1**
MDH P **P 01 34 52.1 -0.1**
MDH S **S 01 43 07.2 +1.6**
MDH S **S 01 43 07.2 +1.6**
MDH Madha 60.14 288 P **P 01 34 52.0 -0.1**
SOHO SOHO 60.14 287 P **P 01 34 53.2 +1.1**
SOHO S **S 01 43 06.9 +1.2**
SOHO SOHO 60.14 287 *i* P **P 01 34 52.8 +0.6**
SNR=16
SHME Shamm 60.14 289 P **P 01 34 52.6 +0.5**
SHME P **P 01 34 52.6 +0.5**
SHME S **S 01 43 07.6 +1.9**
SHME S **S 01 43 07.6 +1.9**
SHME Shamm 60.14 289 *i* P **P 01 34 52.4 +0.2**
SNR=5.8
MASF Masafi 60.25 288 P **P 01 34 54.4 +1.5**
SNR=7.1
MASF P **P 01 34 54.4 +1.5**
SNR=7.1
MSFE Esma-Masafi 60.25 288 *i* P **P 01 34 54.1 +1.1**
SNR=12
UOSS Minazif 60.28 287 P **P 01 34 53.3 +0.1**
UOSS Minazif 60.28 287 P **P 01 34 53.5 +0.4**
UOSS P **P 01 34 53.5 +0.4**
UOSS Minazif 60.28 287 P **P 01 34 53.6 +0.4**
ARQ Araqi 60.31 286 P **P 01 34 53.7 +0.3**
SNR=6.9
ARQ P **P 01 34 53.7 +0.3**
SNR=6.9
HATD Hatta, Dubai 60.37 287 P **P 01 34 54.7 +1.0**
SNR=11
HATD Hatta, Dubai 60.37 287 *i* P **P 01 34 53.8 +0.1**
SNR=21
ASHO Ashiyiah 60.46 287 P **P 01 34 54.9 +0.5**
SNR=13
ASHO P **P 01 34 54.9 +0.5**
SNR=13
ASHO P **P 01 34 54.9 +0.5**
SNR=13
ASHO Ashiyiah 60.46 287 *i* P **P 01 34 55.4 +1.0**
SNR=21
UMQ Umm Al-Quwin 60.66 288 P **P 01 34 57.8 +2.1**
SNR=5.8
SPIA Saint Paul Isl 60.66 35 P **P 01 34 55.6 +0.4**
baz=263
NAZ Nazwa, Dubai 60.76 288 P **P 01 34 57.0 +0.6**
SNR=9.7
NAZ P **P 01 34 57.0 +0.6**
SNR=9.7
NAZ Nazwa, Dubai 60.76 288 *i* P **P 01 34 56.5 0.0**
SNR=13
DZM Mont Dzumac 60.80 132 IAMs_20 IAMs_20 01 56 34.9
comp=Z,5µm,22.0s
DZM Mont Dzumac 60.80 132 *e*P **P 01 34 57.5 +0.8**
comp=Z,82nm,1.4s
DZM *e*S **S 01 43 06.0 -8.1**
comp=Z,1µm,26.6s
DZM *e*SS **SS 01 47 10.0 -3.4**
comp=Z,556nm,24.1s
DZM *e*LQ LQ 01 50 16.8
comp=Z,2µm,28.0s
DZM *e*LR LR 01 52 54.5
comp=Z,8µm,22.9s
DZM Mont Dzumac 60.80 132 LR LR 01 56 56.7
comp=Z,4µm,21.5s,baz=321,slow=32
ALNE Al Ain 60.86 287 P **P 01 34 58.3 +1.1**
SNR=15
ALNE Al Ain 60.86 287 *i* P **P 01 34 57.3 +0.2**
SNR=16
FAQ Al Faqa, Dubai 60.87 287 P **P 01 34 58.0 +0.8**
SNR=9.4
FAQ P **P 01 34 58.0 +0.8**
SNR=9.4
FAQ Al Faqa, Dubai 60.87 287 *i* P **P 01 34 57.3 +0.2**
SNR=9.0
P08K Saint George I 60.98 36 P **P 01 34 57.5 +0.2**
baz=264
GAMB Gambell 61.04 28 P **P 01 34 58.8 +1.2**
baz=258
NIKH Nikolski High 61.08 40 P **P 01 35 00.0 +1.9**
NIKH Nikolski High 61.08 40 P **P 01 35 00.0 +1.9**
NIKH Nikolski High 61.08 40 P **P 01 34 58.6 +0.5**
baz=267
ASUD Al Ashush, Dub 61.12 287 P **P 01 34 59.7 +0.8**
SNR=7.8
ASUD P **P 01 34 59.7 +0.8**
SNR=7.8
ASUD Al Ashush, Dub 61.12 287 *i* P **P 01 34 59.9 +1.1**
SNR=10
OUENC Ouen Island, N 61.30 132 P **P 01 35 02.2 +2.2**
CAN Canberra 61.42 155 P **P 01 35 00.9 +0.3**
CAN IAmb IAmb 01 35 30.1
comp=Z,40nm,1.1s
CAN Canberra 61.42 155 P **P 01 35 01.8 +1.2**
CAN Canberra 61.42 155 P **P 01 35 00.9 +0.3**
CAN pmax pmax
comp=Z,40nm,1.1s
AJN Ajban 61.44 287 *i* P **P 01 35 01.4 +0.3**
SNR=5.8
CNB Canberra Magne 61.56 155 P **P 01 35 02.1 +0.5**
BRAT Ballarat 61.62 160 P **P 01 35 03.2 +1.4**
UMZA Um Al Zommool 61.66 285 P **P 01 35 02.6 +0.1**
UMZA P **P 01 35 02.6 +0.1**
TOO Toolangi 62.15 159 P **P 01 35 04.8 -0.7**
TOO Toolangi 62.15 159 P **P 01 35 04.8 -0.7**
TOO pmax pmax
comp=Z,16nm,1.0s
UNV Unalaska Valle 62.53 39 P **P 01 35 08.6 +0.7**
baz=268
TNA Tin City 62.97 26 IAMs_20 IAMs_20 02 06 14.2
comp=Z,3µm,18.0s
TNA Tin City 62.97 26 P **P 01 35 10.6 +0.1**
baz=261
DMTO DMTO 63.01 280 P **P 01 35 12.7 +1.0**
M11K Mekoryuk 63.10 32 P **P 01 35 14.1 +2.6**
M11K Mekoryuk 63.10 32 P **P 01 35 11.0 -0.5**
baz=265
MZR Muzera 63.11 286 P **P 01 35 12.2 -0.1**
SNR=19
MZR P **P 01 35 12.2 -0.1**
SNR=19
MZR Muzera 63.11 286 *i* P **P 01 35 12.4 +0.1**
SNR=9.1
JRN Qarnain Island 63.27 288 P **P 01 35 12.9 -0.3**
SNR=9.1
JRN P **P 01 35 12.9 -0.3**
SNR=9.1
KIRV Kirov 63.42 326 LR LR 02 05 50.0
comp=Z,4µm,18.3s,baz=95,slow=39
KIRV Kirov 63.42 326 *i* P **P 01 35 13.0 -0.6**
GHWR Ruwais 63.45 287 P **P 01 35 14.7 +0.2**
GHWR P **P 01 35 14.7 +0.2**
DOK Doka 63.54 281 P **P 01 35 14.7 -0.5**
DOK P **P 01 35 14.7 -0.5**
F14K Arctic Creek 63.61 26 P **P 01 35 14.9 0.0**
baz=262
RBK Rabkut 63.75 280 P **P 01 35 17.2 +0.5**
RBK P **P 01 35 17.2 +0.5**
ANM Nome 63.90 27 IAMs_20 IAMs_20 02 06 34.0
comp=Z,2µm,18.0s
ANM Nome 63.90 27 P **P 01 35 17.4 +0.7**
baz=264
K13K Kusilvak Mount 63.97 30 IAmb IAmb 01 35 24.4
comp=Z,82nm,1.0s
K13K Kusilvak Mount 63.97 30 P **P 01 35 18.0 +0.8**
baz=266,SNR=19
WHFO Wadi Hawf 64.05 280 P **P 01 35 18.1 -0.4**
WHFO P **P 01 35 18.1 -0.4**
BELG Belogornoye 64.32 319 LR LR 02 02 53.7
comp=Z,2µm,18.7s,baz=88,slow=36
BELG Belogornoye 64.32 319 *i* P **P 01 35 20.5 +0.8**
BELG pmax pmax
comp=Z,7.0nm,0.9s
BELG MLR MLR
comp=Z,321nm,16.0s
F15K North Star Dit 64.33 26 P **P 01 35 22.1 +2.6**
F15K IAmb IAmb 01 35 28.9
comp=Z,90nm,1.4s
F15K IAMs_20 IAMs_20 02 06 48.4
comp=Z,2µm,18.0s
F15K North Star Dit 64.33 26 P **P 01 35 20.0 +0.5**
baz=264
FALS False Pass 64.35 38 P **P 01 35 20.1 +0.3**
baz=270
C16K Lisburne Hills 64.38 23 IAMs_20 IAMs_20 02 04 40.7
comp=Z,2µm,18.0s
C16K Lisburne Hills 64.38 23 P **P 01 35 20.4 +0.5**
baz=262
LKRN Lenkeran, Azer 64.48 304 P P 01 35 24.2 +3.2
SLWR Sila 64.49 287 P **P 01 35 21.5 +0.3**
SLWR P **P 01 35 21.5 +0.3**
SLWR P **P 01 35 21.5 +0.3**
M13K Dall Lake 64.51 32 P **P 01 35 20.5 -0.3**
baz=267,SNR=11
G15K Niukluk 64.51 27 P **P 01 35 21.0 +0.2**
baz=265
J14K Nanvaranak Lak 64.55 29 IAmb IAmb 01 35 28.0
comp=Z,81nm,1.1s
J14K Nanvaranak Lak 64.55 29 P **P 01 35 21.2 +0.2**
baz=266,SNR=11
ABTO Aybut 64.63 280 P **P 01 35 22.4 0.0**
SHMA Al-Shehemyia 64.75 290 P **P 01 35 22.9 -0.1**
TRNA Turayna 64.77 288 P **P 01 35 23.3 +0.1**
SNR=7.8
L14K Kuka Creek 64.88 31 P **P 01 35 23.6 +0.4**
baz=268,SNR=85
AKT Akhty 64.96 307 *e*P **P 01 35 23.6 -0.7**
AKT *e* 01 35 54.2
AKT *e* 01 37 46.7
AKT *e*S **S 01 44 06.2 +0.1**
AKT *e*SS **SS 01 48 15.7 -1.9**
AKT pmax pmax
comp=Z,80nm,1.0s
AKT MLR MLR
comp=Z,2µm,14.0s
MAK Makhachkala 64.97 309 *e*P **P 01 35 24.0 -0.1**
MAK *e* 01 37 44.1
MAK *e*PPP PPP 01 39 19.0
MAK *e*S **S 01 44 08.2 +2.3**
MAK *e*SS **SS 01 48 15.5 -2.0**
MAK *e*SSS SSS 01 51 15.6
MAK pmax pmax
comp=Z,132nm,1.4s
MAK MLR MLR
comp=Z,4µm,15.0s
SAKB Bahrain 65.11 290 P **P 01 35 26.4 +1.0**
SMRA Abu-Samra 65.11 288 P **P 01 35 25.7 +0.3**
SNR=13
S12K Black Hills 65.12 37 P **P 01 35 24.0 -0.9**
baz=271
D17K Noatak River 65.16 24 P **P 01 35 25.0 +0.1**
baz=264,SNR=18
C17K DeLong Mountai 65.20 23 P **P 01 35 25.7 +0.5**
baz=264
M14K Bethel 65.21 32 P **P 01 35 25.9 +0.6**
baz=268,SNR=48
H16K Elim 65.25 27 P **P 01 35 26.2 +0.7**
baz=266
G16K Koyuk River 65.25 27 P **P 01 35 28.1 +2.5**
G16K IAmb IAmb 01 35 41.5
comp=Z,47nm,1.2s
G16K IAMs_20 IAMs_20 02 05 55.8
comp=Z,2µm,18.0s
G16K Koyuk River 65.25 27 P **P 01 35 26.0 +0.5**
baz=266
RDOG Red Dog Mine 65.26 24 IAMs_20 IAMs_20 02 05 19.9
comp=Z,4µm,19.0s
RDOG Red Dog Mine 65.26 24 P **P 01 35 26.1 +0.5**
baz=264
N14K Kuskokwak Cree 65.33 33 P **P 01 35 26.7 +0.6**
baz=269,SNR=15
SEKA Sheki 65.39 307 P **P 01 35 29.6 +2.6**
K15K Wolf Creek Mou 65.46 30 P **P 01 35 27.1 +0.1**
baz=268,SNR=30
L15K Ungalak Mounta 65.46 31 P **P 01 35 28.0 +1.0**
baz=268
MNGR Mingechevir, A 65.53 306 P P 01 35 31.2 +3.4
O14K Tigyukauivet M 65.54 33 IAmb IAmb 01 35 34.1
comp=Z,77nm,0.9s
O14K Tigyukauivet M 65.54 33 P **P 01 35 27.8 +0.3**
baz=270,SNR=7.9
E17K Hotham Inlet 65.59 25 P **P 01 35 28.0 +0.2**
baz=266,SNR=11
F17K Baldwin Pennin 65.77 25 IAmb IAmb 01 35 53.9
comp=Z,63nm,1.1s
F17K Baldwin Pennin 65.77 25 P **P 01 35 29.8 +0.9**
baz=266
B18K Kokolik River 65.79 22 P **P 01 35 30.2 +1.2**
baz=265
M15K Kasigluk River 65.83 32 P **P 01 35 30.0 +0.6**
baz=270,SNR=30
I17K Unalakleet 65.89 28 IAmb IAmb 01 35 40.6
comp=Z,73nm,1.1s
I17K Unalakleet 65.89 28 P **P 01 35 30.8 +1.1**
baz=268
J16K Anvik River 65.92 29 IAmb IAmb 01 35 48.1
comp=Z,41nm,0.8s
J16K Anvik River 65.92 29 P **P 01 35 30.5 +0.6**
baz=268,SNR=10
G17K Kiwalik Mounta 65.97 26 P **P 01 35 31.3 +1.1**
baz=268,SNR=28
SDPT Sand Point 66.03 38 P **P 01 35 33.3 +2.5**
SDPT Sand Point 66.03 38 P **P 01 35 31.0 +0.3**
baz=272
E18K Tukpahlearik C 66.09 24 IAmb IAmb 01 35 45.9
comp=Z,40nm,0.8s
E18K Tukpahlearik C 66.09 24 P **P 01 35 32.1 +1.1**
baz=267
A19K Wainwright 66.12 21 P **P 01 35 32.3 +1.2**
baz=265
GANJ Ganja 66.12 306 P P 01 35 34.8 +3.1
N15K Kwethluk River 66.13 32 IAMs_20 IAMs_20 02 04 47.2
comp=Z,2µm,19.0s
N15K Kwethluk River 66.13 32 P **P 01 35 32.7 +1.3**
baz=270,SNR=62
H17K Granite Mounta 66.26 27 IAmb IAmb 01 35 41.4
comp=Z,63nm,1.1s
H17K IAMs_20 IAMs_20 02 07 38.4
comp=Z,2µm,18.0s
H17K Granite Mounta 66.26 27 P **P 01 35 33.5 +1.4**
baz=268,SNR=16
O15K Ungalikthiuk R 66.28 33 P **P 01 35 33.0 +0.7**
baz=271,SNR=24
F18K Selawik 66.42 25 P **P 01 35 34.5 +1.4**
baz=268,SNR=22
L16K Owhat River 66.42 31 IAmb IAmb 01 35 40.0
comp=Z,79nm,1.1s
L16K Owhat River 66.42 31 P **P 01 35 34.4 +1.2**
baz=270
S14K Fog Glacier 66.52 37 P **P 01 35 35.0 +1.0**
baz=272
CHNA Chernabura Isl 66.57 38 P P 01 35 37.2 +3.0
CHNA Chernabura Isl 66.57 38 P **P 01 35 34.4 +0.2**
baz=273,SNR=7.1
CNBA Chernabura Isl 66.57 38 P **P 01 35 34.6 +0.4**
J17K VABM Dome 66.60 29 P **P 01 35 34.9 +0.6**
baz=270,SNR=43
M16K Timber Creek 66.68 31 P **P 01 35 35.6 +0.8**
baz=271,SNR=39
N16K Nishlik Lake 66.78 32 P **P 01 35 36.4 +0.9**
baz=271,SNR=47
G18K Tagagawik 66.81 26 IAmb IAmb 01 35 45.7
comp=Z,38nm,0.9s
G18K IAMs_20 IAMs_20 02 04 56.8
comp=Z,2µm,19.0s
G18K Tagagawik 66.81 26 P **P 01 35 37.3 +1.6**
baz=269,SNR=15
KBD Kabd 66.92 294 P **P 01 35 36.9 -0.1**
H18K Honhosa River 66.92 27 IAmb IAmb 01 35 52.2
comp=Z,141nm,1.7s

H18K IAMs_20 IAMs_20 02 06 59.9
comp=Z,2μm,19.0s
H18K Honhosa River 66.92 27 P **P** **01 35 36.9 +0.6**
baz=270,SNR=13
MSVF Nonsavu 66.95 121 IAMs_20 IAMs_20 01 59 41.5
comp=Z,3μm,19.0s
MSVF Nonsavu 66.95 121 P **P** **01 35 38.6 +1.3**
NAX Nakhchivan 66.95 305 P P 01 35 40.4 +3.3
K17K Iditarod 66.96 30 P **P** **01 35 37.0 +0.3**
baz=271,SNR=30
L17K Donlin 66.97 30 P **P** **01 35 37.5 +0.8**
baz=271,SNR=35
CHGN Chignik 67.15 36 P **P** **01 35 39.4 +1.5**
CHGN Chignik 67.15 36 P **P** **01 35 38.6 +0.7**
baz=274
O16K Kokwok River B 67.15 33 P **P** **01 35 38.8 +1.0**
baz=272,SNR=23
F19K Shaleruckik Mo 67.17 25 IAmb IAmb 01 35 44.0
comp=Z,101nm,1.7s
F19K Shaleruckik Mo 67.17 25 P **P** **01 35 39.7 +1.8**
baz=270,SNR=8.8
P16K Nushagak River 67.23 34 P **P** **01 35 39.3 +1.0**
baz=273,SNR=9.0
GNI Garni 67.38 306 P **P** **01 35 41.2 +1.3**
GNI IAmb IAmb 01 35 51.9
comp=Z,88nm,1.1s
GNI Garni 67.38 306 IAMs_20 IAMs_20 02 08 10.9
comp=Z,2μm,21.0s
GNI Garni 67.38 306 LR LR 02 08 22.5
comp=Z,2μm,21.0s,baz=82,slow=39
GNI Garni 67.38 306 P **P** **01 35 40.6 +0.7**
GNI Garni 67.38 306 *e*P **P** **01 35 41.0 +1.1**
GNI pmax pmax
comp=Z,40nm,1.3s
GNI Garni 67.38 306 P **P** **01 35 40.0 +0.1**
comp=Z,1μmcomp=Z,80nm,1.6s
E19K Redstone River 67.39 24 IAmb IAmb 01 35 49.6
comp=Z,66nm,0.8s
E19K IAMs_20 IAMs_20 02 07 37.9
comp=Z,2μm,18.0s
E19K Redstone River 67.39 24 P **P** **01 35 40.8 +1.5**
baz=270
M17K Holitna River 67.40 31 P **P** **01 35 41.1 +1.7**
baz=272,SNR=29
B20K Meade River 67.44 22 P **P** **01 35 40.7 +1.2**
baz=269
G19K Purcell Mounta 67.45 26 IAmb IAmb 01 36 12.2
comp=Z,61nm,1.1s
G19K Purcell Mounta 67.45 26 P **P** **01 35 40.7 +1.1**
baz=270,SNR=24
GCSA Galena City Sc 67.56 27 P **P** **01 35 41.2 +0.9**
baz=271
N17K Nushagak Hills 67.56 32 P **P** **01 35 41.4 +1.0**
baz=273,SNR=32
D20K Etivluk River 67.62 23 IAMs_20 IAMs_20 02 05 52.2
comp=Z,2μm,18.0s
D20K Etivluk River 67.62 23 P **P** **01 35 41.4 +0.6**
baz=270,SNR=31
O17K Koliganek Bris 67.65 33 P **P** **01 35 42.7 +1.7**
baz=273,SNR=20
A21K Barrow 67.65 20 P **P** **01 35 40.7 -0.1**
baz=269
J18K Innoko River 67.67 29 P **P** **01 35 41.8 +0.8**
baz=272,SNR=22
H19K Roundabout Mou 67.72 26 P **P** **01 35 42.6 +1.3**
baz=271,SNR=50
L18K Granite Mounta 67.73 30 P **P** **01 35 43.1 +1.7**
baz=272,SNR=32
E20K Nigu River 67.78 23 P **P** **01 35 42.6 +0.8**
baz=270,SNR=47
GOF Gofitskoye 67.92 311 *ce*P P 01 35 46.4 +3.4
Q16K King Salmon 67.94 34 P **P** **01 35 42.7 -0.1**
baz=274
F20K Avaraart Lake 67.98 25 IAmb IAmb 01 35 49.5
comp=Z,50nm,1.1s
F20K Avaraart Lake 67.98 25 P **P** **01 35 44.0 +1.1**
baz=271
P17K Kvichak River 68.02 33 P **P** **01 35 44.9 +1.6**
baz=274,SNR=42
VRH Novokhopyorsk 68.06 318 *e*P **P** **01 35 43.3 -0.4**
VRH pmax pmax
comp=Z,200nm,0.8s
VRH MLR MLR
comp=Z,2μm,15.0s
J19K Poorman 68.13 28 IAmb IAmb 01 35 53.1
comp=Z,68nm,1.1s
J19K IAMs_20 IAMs_20 02 09 53.9
comp=Z,2μm,18.0s
J19K Poorman 68.13 28 P **P** **01 35 45.0 +1.0**
baz=273,SNR=33
M18K Stony River 68.17 31 P **P** **01 35 45.9 +1.6**
baz=274,SNR=53
R17L Mt. Peulik Vol 68.18 35 P **P** **01 35 45.0 +0.6**
baz=275
PLK4 Peulik 4 68.18 35 IAmb IAmb 01 36 02.1
comp=Z,122nm,1.5s
A22K Sinclair Lake 68.19 20 P **P** **01 35 45.3 +1.2**
baz=270
OZAP Van, Ozalp-Mer 68.19 304 ⇓P **P** **01 35 45.9 +0.8**
N18K Kilae Creek 68.19 32 IAmb IAmb 01 35 51.6
comp=Z,60nm,1.2s
N18K Kilae Creek 68.19 32 P **P** **01 35 46.4 +2.0**
baz=274,SNR=20
KBZ Khabaz 68.22 310 P **P** **01 35 45.5 +0.7**
comp=Z,18nm,0.8s,baz=120,slow=4.1,SNR=20
KBZ LR LR 02 07 50.4
comp=Z,2μm,21.2s,baz=68,slow=38
comp=Z,18nm,0.8s
KBZ Khabaz 68.22 310 *c i*P **P** **01 35 45.1 +0.3**
KBZ pmax pmax
comp=Z,25nm,0.9s
C21K Knifeblade Rid 68.28 22 P **P** **01 35 47.0 +2.1**
baz=271,SNR=8.0
B21K Ikpikpuk River 68.33 22 P **P** **01 35 44.9 -0.2**
baz=271,SNR=22
KIV Kislovodsk 68.33 310 P **P** **01 35 46.3 +0.6**
KIV IAMs_20 IAMs_20 02 11 05.9
comp=Z,3μm,19.0s
KIV Kislovodsk 68.33 310 P **P** **01 35 46.7 +0.9**
KIV P **P** **01 35 46.7 +0.9**
KIV Kislovodsk 68.33 310 *e*P **P** **01 35 46.5 +0.8**
KIV *e* 01 38 15.2
KIV *e*S **S** **01 44 47.7 +0.9**
KIV *e*SS **SS** **01 49 12.0 +2.2**
KIV pmax pmax
comp=Z,53nm,3.7s
KIV pmax pmax
comp=Z,92nm,1.1s
KIV MLR MLR
comp=Z,2μm,17.0s
KIV Kislovodsk 68.33 310 *i* P **P** **01 35 46.0 +0.3**
SNR=42
KIV Kislovodsk 68.33 310 P **P** **01 35 45.6 -0.1**
comp=Z,1μmcomp=Z,95nm,1.3s
KIV Kislovodsk 68.33 310 ⇓P **P** **01 35 46.9 +1.2**
H20K Anotleneega Mo 68.38 26 P **P** **01 35 46.3 +0.8**
baz=273,SNR=45
Q17K Contact Creek 68.38 34 P **P** **01 35 45.4 -0.4**
baz=275,SNR=28
SHA1 Shidzhatmaz 68.39 310 *i* P **P** **01 35 46.4 +0.1**
KLMR Klimovskoe 68.42 329 *e*P **P** **01 35 44.5 -1.3**
KLMR *e* 01 38 15.6
KLMR pmax pmax
comp=Z,104nm,1.2s
KLMR MLR MLR
comp=Z,8μm,14.0s
KARS Kars 68.56 307 IAmb IAmb 01 36 04.5
comp=Z,73nm,1.2s
I20K Naaghedeneel 68.58 27 IAMs_20 IAMs_20 02 06 17.8
comp=Z,2μm,20.0s
I20K Naaghedeneel 68.58 27 P **P** **01 35 46.9 +0.2**
baz=273,SNR=19
L19K White Mountain 68.59 30 IAMs_20 IAMs_20 02 03 28.0
comp=Z,2μm,22.0s
L19K White Mountain 68.59 30 P **P** **01 35 47.8 +0.9**
baz=274,SNR=50
O18K Koktuh Hills 68.59 33 P **P** **01 35 47.2 +0.2**
baz=275,SNR=52
E21K Killik River 68.60 23 IAMs_20 IAMs_20 02 06 50.1
comp=Z,2μm,18.0s
E21K Killik River 68.60 23 P **P** **01 35 47.5 +0.6**
baz=272
P18K Big Mountain, 68.62 33 P **P** **01 35 47.8 +0.6**
baz=275,SNR=26
ACHA Angle Creek He 68.68 34 IAmb IAmb 01 35 52.8
comp=Z,48nm,1.0s
B22K Teshekpuk Lake 68.72 21 P **P** **01 35 48.4 +0.9**
baz=272
CHIR Chirikof Islan 68.75 37 P **P** **01 35 50.3 +2.3**
CHIR Chirikof Islan 68.75 37 P **P** **01 35 48.6 +0.6**
baz=276
J20K Nowinta River 68.77 28 IAmb IAmb 01 36 09.4
comp=Z,74nm,1.1s
J20K IAMs_20 IAMs_20 02 09 36.7
comp=Z,2μm,18.0s
J20K Nowinta River 68.77 28 P **P** **01 35 48.7 +0.8**
baz=274,SNR=47
Q18K Katmai Hardscr 68.80 34 P **P** **01 35 48.7 +0.3**
baz=275,SNR=20
IMAR Indian Mountai 68.81 26 P **P** **01 35 49.4 +1.1**
M19K Big River Lodg 68.83 30 P **P** **01 35 49.5 +1.1**
baz=275
F21K Alatna River 68.85 25 P **P** **01 35 49.2 +0.8**
baz=273,SNR=7.0
K20K Telida 68.86 29 P **P** **01 35 49.5 +0.9**
baz=274,SNR=37
N19K Bonanza Creek 68.87 31 P **P** **01 35 49.9 +1.1**
baz=275,SNR=19
G21K Allakaket 68.88 25 IAmb IAmb 01 35 55.2
comp=Z,70nm,1.1s
G21K Allakaket 68.88 25 P **P** **01 35 49.2 +0.6**
baz=274,SNR=34
O19K Port Alsworth 69.01 32 P **P** **01 35 50.0 +0.5**
baz=275,SNR=14
L20K Farewell, AK 69.02 30 P **P** **01 35 50.1 +0.5**
baz=275,SNR=24
D22K Ayikyak River 69.05 23 IAMs_20 IAMs_20 02 07 15.9
comp=Z,3μm,19.0s
D22K Ayikyak River 69.05 23 P **P** **01 35 50.2 +0.6**
baz=273,SNR=16
R18K Karluk 69.20 35 P **P** **01 35 51.7 +0.9**
baz=276
H21K Melozitna Rive 69.23 26 IAmb IAmb 01 36 12.1
comp=Z,93nm,1.1s
H21K Melozitna Rive 69.23 26 P **P** **01 35 51.4 +0.5**
baz=275,SNR=52
F22K John River 69.33 24 P **P** **01 35 52.2 +0.8**
baz=274
E22K Anaktuvuk Pass 69.42 24 IAmb IAmb 01 36 25.9
comp=Z,72nm,1.0s
E22K IAMs_20 IAMs_20 02 08 13.8
comp=Z,2μm,19.0s
E22K Anaktuvuk Pass 69.42 24 P **P** **01 35 53.0 +1.0**
baz=274,SNR=24
M20K Styx River 69.42 30 IAMs_20 IAMs_20 02 07 36.2
comp=Z,2μm,20.0s
M20K Styx River 69.42 30 P **P** **01 35 53.0 +0.8**
baz=276
SII Sitkinak Islan 69.47 36 IAMs_20 IAMs_20 02 03 19.5
comp=Z,2μm,21.0s
SII Sitkinak Islan 69.47 36 P **P** **01 35 54.9 +2.5**
SII Sitkinak Islan 69.47 36 P **P** **01 35 52.6 +0.2**
baz=277
Q19K Cape Douglas, 69.48 33 P **P** **01 35 52.2 -0.3**
baz=276
HOMI Horasan 69.55 306 ⇓P **P** **01 35 54.5 +1.0**
VORR Voronezh 69.56 319 *e*P **P** **01 35 52.1 -1.0**
VORR pmax pmax
comp=Z,115nm,1.0s
CHUM Lake Minchumin 69.59 28 P **P** **01 35 54.1 +1.0**
baz=276,SNR=25
LPSR Galich'ya Gora 69.60 320 *e*P **P** **01 35 52.7 -0.6**
LPSR pmax pmax
comp=Z,160nm,0.9s
P19K Oil Pt 69.61 33 P **P** **01 35 54.3 +1.0**
baz=276,SNR=10.0
I21K Tanana 69.61 27 IAmb IAmb 01 36 14.6
comp=Z,73nm,1.1s
I21K Tanana 69.61 27 P **P** **01 35 53.9 +0.8**
baz=276
ERBR Yeremizino-Bor 69.61 312 *e*P **P** **01 35 53.9 +0.4**
ERBR *e**PP **sP** **01 35 57.6 -0.6**
ERBR *e*S **S** **01 45 03.3 +1.6**
ERBR pmax pmax
comp=Z,159nm,1.0s
ERBR MLR MLR
comp=Z,5μm,17.0s
ERBR MLR MLR
comp=N,2μm,13.0s
ERBR MLR MLR
comp=E,5μm,15.0s
ILSW Iliamna Southw 69.62 32 IAmb IAmb 01 36 03.0
comp=Z,34nm,0.8s
G22K Bettles 69.64 25 P **P** **01 35 53.9 +0.6**
baz=275
VSR Storozhevoye 69.65 318 *e*P **P** **01 35 53.2 -0.4**
VSR pmax pmax
comp=Z,110nm,1.2s
VSR MLR MLR
comp=Z,2μm,16.0s
C23K Itkillik River 69.71 22 P **P** **01 35 54.3 +0.6**
baz=275
GURO Guroymak-BITLI 69.72 305 IAmb IAmb 01 36 05.5
comp=Z,61nm,1.1s
GURO IAMs_20 IAMs_20 02 09 20.9
comp=Z,2μm,22.0s
CAST Castle Rocks 69.75 29 IAmb IAmb 01 36 02.9
comp=Z,69nm,0.8s
CAST IAMs_20 IAMs_20 02 08 30.6
comp=Z,2μm,18.0s
CAST Castle Rocks 69.75 29 P **P** **01 35 54.3 +0.2**
baz=276,SNR=112
RED Redoubt Volcan 69.75 32 IAmb IAmb 01 36 12.6
comp=Z,64nm,1.0s
PPLA Purkeypile 69.75 29 IAMs_20 IAMs_20 02 10 26.8
comp=Z,2μm,19.0s
PPLA Purkeypile 69.75 29 P **P** **01 35 55.0 +0.8**
baz=276,SNR=10
D23K Nanushuk River 69.76 23 IAMs_20 IAMs_20 02 08 40.6
comp=Z,3μm,19.0s
D23K Nanushuk River 69.76 23 P **P** **01 35 54.0 -0.1**
baz=275,SNR=20
H22K Ishtalitna Cre 69.79 26 P **P** **01 35 55.8 +1.5**
baz=276,SNR=40
O20K Slope Mountain 69.86 32 P **P** **01 35 55.3 +0.4**
baz=277
OHAK Old Harbor 69.87 35 IAmb IAmb 01 36 14.1
comp=Z,49nm,0.9s
OHAK Old Harbor 69.87 35 P **P** **01 35 57.4 +2.5**
OHAK Old Harbor 69.87 35 P **P** **01 35 55.1 +0.2**
baz=277,SNR=12
LVZ Lovozero 69.92 336 P **P** **01 35 56.3 +1.2**
LVZ Lovozero 69.92 336 P **P** **01 35 56.3 +1.2**
LVZ pmax pmax
comp=Z,27nm,0.8s
LVZ MLR MLR
comp=Z,4μm,18.0s
N20K Mount Spurr 69.94 31 P **P** **01 35 56.9 +1.5**
baz=277,SNR=8.2
SPCR Spurr Chakacha 69.94 31 P **P** **01 35 55.5 +0.1**
baz=277,SNR=7.4
MOS Moscow 69.94 323 *e*P **P** **01 35 54.3 -1.0**
MOS *e* 01 36 15.5
MOS *e* 01 38 31.0
MOS *e*PPP PPP 01 40 06.4
MOS *e*S **S** **01 45 08.2 +3.1**
MOS pmax pmax
comp=Z,57nm,0.6s
MOS smax smax
comp=N,900nm,4.3s
MOS MLR MLR
comp=E,3μm,19.0s
MOS MLR MLR
comp=Z,3μm,19.0s
MSEY Mahe Island 70.00 257 P **P** **01 35 59.2 +2.7**
MSEY P **P** **01 35 59.2 +2.7**
SPU Mount Spurr 70.01 31 IAmb IAmb 01 36 16.0
comp=Z,44nm,1.0s
STLK Strandline Lak 70.08 31 IAmb IAmb 01 36 16.3
comp=Z,76nm,1.6s
COLD Coldfoot 70.12 24 IAmb IAmb 01 36 10.2
comp=Z,168nm,1.9s
COLD Coldfoot 70.12 24 P **P** **01 35 58.1 +1.8**
baz=276,SNR=15
RAYN Ar Rayn 70.12 288 P **P** **01 35 56.9 -0.3**
RAYN Ar Rayn 70.12 288 IAMs_20 IAMs_20 02 10 19.9
comp=Z,2μm,22.0s
RAYN Ar Rayn 70.12 288 P **P** **01 35 57.2 0.0**
RAYN Ar Rayn 70.12 288 P **P** **01 35 56.9 -0.3**
RAYN pmax pmax
comp=Z,111nm,1.0s
RAYN MLR MLR
comp=Z,2μm,22.0s
RAYN Ar Rayn 70.12 288 *i* P **P** **01 35 57.0 -0.1**
SNR=67
MLY Manley 70.15 27 IAmb IAmb 01 36 05.5
comp=Z,66nm,0.9s
MLY Manley 70.15 27 P **P** **01 35 57.2 +0.7**
baz=277,SNR=46
BPAW Bear Paw Mtn. 70.15 28 IAmb IAmb 01 36 11.0
comp=Z,81nm,1.2s
BPAW IAMs_20 IAMs_20 02 10 56.1
comp=Z,2μm,18.0s
BPAW Bear Paw Mtn. 70.15 28 P **P** **01 35 58.2 +1.6**
baz=277,SNR=37
SKT Skwentna 70.16 30 IAmb IAmb 01 36 03.1
comp=Z,59nm,1.2s
SKT IAMs_20 IAMs_20 02 04 16.5
comp=Z,2μm,22.0s
SKT Skwentna 70.16 30 P **P** **01 35 57.6 +1.0**
baz=277,SNR=30
Q20K Shuyak Island 70.17 34 P **P** **01 35 58.4 +1.7**
baz=278,SNR=14
KDAK Kodiak Island 70.18 35 P **P** **01 35 57.4 +0.7**
KDAK Kodiak Island 70.18 35 IAMs_20 IAMs_20 02 04 05.1
comp=Z,2μm,22.0s
KDAK Kodiak Island 70.18 35 LR LR 02 08 18.4
comp=Z,845nm,20.7s,baz=250,slow=37
KDAK Kodiak Island 70.18 35 *i* P **P** **01 35 58.4 +1.7**
KDAK pmax pmax
comp=Z,45nm,0.8s
KDAK Kodiak Island 70.18 35 P **P** **01 35 57.4 +0.7**
baz=278
TOLK Toolik Lake Re 70.20 23 IAmb IAmb 01 36 03.0
comp=Z,57nm,0.9s
TOLK IAMs_20 IAMs_20 02 08 55.1
comp=Z,3μm,19.0s
TOLK Toolik Lake Re 70.20 23 P **P** **01 35 57.3 +0.5**
baz=276,SNR=20
E23K Chandalar 70.25 24 IAmb IAmb 01 36 41.7
comp=Z,81nm,1.1s
E23K IAMs_20 IAMs_20 02 08 13.4
comp=Z,2μm,21.0s
E23K Chandalar 70.25 24 P **P** **01 35 56.9 -0.2**
baz=277,SNR=21
G23K Bananza Creek 70.25 25 IAmb IAmb 01 36 03.7
comp=Z,66nm,1.1s
G23K Bananza Creek 70.25 25 P **P** **01 35 58.9 +1.8**
baz=277,SNR=32
KTH Kantishna Hill 70.25 28 IAmb IAmb 01 36 14.1
comp=Z,44nm,1.0s
KTH IAMs_20 IAMs_20 02 06 16.7
comp=Z,2μm,20.0s
VSLR Vesyoloye 70.31 310 *i* P **P** **01 35 58.4 +0.5**
VSLR pmax pmax
comp=Z,44nm,1.0s
C24K Franklin Bluff 70.38 22 P **P** **01 35 59.1 +1.3**
baz=277
D24K Happy Valley 70.41 22 IAmb IAmb 01 36 04.2
comp=Z,76nm,0.9s
D24K Happy Valley 70.41 22 P **P** **01 35 59.0 +1.0**
baz=277,SNR=9.4
HOM Homer 70.41 33 P **P** **01 35 58.6 +0.4**
baz=278
APA Apatity 70.43 336 *e*P **P** **01 35 58.1 0.0**
APA *e*S **S** **01 45 09.4 -1.1**
APA *e* 01 45 50.5
APA *e*SS **SS** **01 49 42.0 +1.2**
CAPN Captain Cook N 70.50 31 P **P** **01 35 58.5 -0.2**
baz=278
SOC Sochi 70.52 310 *e*P **P** **01 35 59.4 +0.3**
SOC *e*PPP PPP 01 40 21.2
SOC *e*S **S** **01 45 13.4 +1.1**
SOC *e*SS **SS** **01 49 50.8 +7.6**
SOC *e*SSS SSS 01 52 52.9
SOC pmax pmax
comp=Z,29nm,0.6s
SOC MLR MLR
comp=Z,2μm,16.0s
TRF Thorofare Moun 70.54 28 IAmb IAmb 01 36 20.4
comp=Z,73nm,1.2s
TRF IAMs_20 IAMs_20 02 06 25.5
comp=Z,2μm,20.0s
TRF Thorofare Moun 70.54 28 P **P** **01 36 00.1 +0.9**
baz=278,SNR=35
H23K Yukon River 70.55 26 IAmb IAmb 01 36 05.9
comp=Z,88nm,0.9s
H23K Yukon River 70.55 26 P **P** **01 36 00.3 +1.3**
baz=277,SNR=74
SUA Susitna One 70.60 31 P **P** **01 36 00.5 +1.0**
baz=278,SNR=43
KOPT Kop Dagi 70.61 306 IAmb IAmb 01 36 15.8
comp=Z,52nm,1.1s
KOPT IAMs_20 IAMs_20 02 07 52.3
comp=Z,2μm,21.0s
OBN Obninsk 70.63 323 P **P** **01 35 59.2 -0.3**
OBN Obninsk 70.63 323 LR LR 02 09 38.8
comp=Z,3μm,20.1s,baz=21,slow=38
OBN Obninsk 70.63 323 *ce*P **P** **01 35 58.3 -1.2**
OBN *i* 01 38 38.4
OBN *i* S **S** **01 45 14.0 +0.9**
OBN *i* SSS SSS 01 52 53.4
OBN pmax pmax
comp=Z,84nm,1.7s
OBN MLR MLR
comp=Z,3μm,18.0s
OBN Obninsk 70.63 323 P **P** **01 35 59.2 -0.3**
comp=Z,1μmcomp=Z,88nm,1.3s
OBN Obninsk 70.63 323 ⇓P **P** **01 35 59.1 -0.3**
CNPM China Poot 70.63 33 IAmb IAmb 01 36 05.5
comp=Z,114nm,1.4s
E24K Your Creek 70.67 23 IAmb IAmb 01 36 06.0
comp=Z,73nm,0.8s
E24K IAMs_20 IAMs_20 02 06 15.8
comp=Z,2μm,20.0s
E24K Your Creek 70.67 23 P **P** **01 35 59.9 +0.3**
baz=278
CUT Chulitna 70.69 30 P **P** **01 36 01.2 +1.4**
baz=278,SNR=6.9
I23K Minto, Yukon-K 70.72 27 P **P** **01 36 00.7 +0.8**
baz=278,SNR=23
BRLK Bradley Lake 70.77 32 IAmb IAmb 01 36 06.3
comp=Z,80nm,1.1s
BWN Browne 70.81 28 IAMs_20 IAMs_20 02 07 39.3
comp=Z,3μm,20.0s
M22K Willow 70.86 30 P **P** **01 36 02.5 +1.7**
baz=278,SNR=6.4
NEA2 Nenana 70.92 27 IAmb IAmb 01 36 09.6
comp=Z,79nm,1.0s
NEA2 IAMs_20 IAMs_20 02 07 38.3
comp=Z,2μm,20.0s
NEA2 Nenana 70.92 27 P **P** **01 36 02.4 +1.2**
baz=278,SNR=64
F24K Squaw Lake 70.97 24 IAmb IAmb 01 36 07.9
comp=Z,67nm,0.8s
F24K IAMs_20 IAMs_20 02 10 11.6
comp=Z,3μm,18.0s
F24K Squaw Lake 70.97 24 P **P** **01 36 02.4 +0.9**
baz=278,SNR=34
SLKM Skilak Lake 70.99 32 IAmb IAmb 01 36 21.2
comp=Z,91nm,1.4s
MCK McKinley 71.10 28 IAMs_20 IAMs_20 02 11 35.2
comp=Z,2μm,18.0s
MCK McKinley 71.10 28 P **P** **01 36 03.0 +0.7**
baz=279,SNR=22
RC01 Rabbit Creek A 71.14 31 P **P** **01 36 03.2 +0.7**
baz=279
RND Reindeer 71.19 28 IAMs_20 IAMs_20 02 09 05.4
comp=Z,2μm,19.0s
H24K Noodor Dome 71.23 26 P **P** **01 36 03.2 +0.1**
baz=279,SNR=23
O22K Cooper Landing 71.24 32 P **P** **01 36 03.9 +0.7**
baz=279
D25K Kavik River 71.25 22 IAmb IAmb 01 36 09.1
comp=Z,71nm,1.1s
D25K Kavik River 71.25 22 P **P** **01 36 04.5 +1.3**
baz=279,SNR=15
G24K Hadweenzic Riv 71.25 25 IAmb IAmb 01 36 09.7
comp=Z,67nm,0.9s
G24K Hadweenzic Riv 71.25 25 P **P** **01 36 04.2 +1.0**
baz=279,SNR=45
PMR Palmer 71.35 30 IAmb IAmb 01 36 23.5
comp=Z,67nm,1.0s
PMR Palmer 71.35 30 P **P** **01 36 06.4 +2.6**
PMR Palmer 71.35 30 P **P** **01 36 04.4 +0.6**
baz=279,SNR=7.2
WRH Wood River Hil 71.35 27 IAmb IAmb 01 36 34.7
comp=Z,40nm,0.8s
WRH IAMs_20 IAMs_20 02 07 42.8
comp=Z,2μm,20.0s
COLA College 71.39 27 P **P** **01 36 05.5 +1.5**

COLA IAmb IAmb 01 36 12.7
comp=Z,35nm,0.8s
COLA College 71.39 27 IAMs_20 IAMs_20 02 04 52.7
comp=Z,2µm,22.0s
COLA College 71.39 27 P **P** **01 36 06.7 +2.7**
COLA College 71.39 27 P **P** **01 36 05.5 +1.5**
COLA pmax pmax
comp=Z,35nm,0.9s
COLA College 71.39 27 P **P** **01 36 04.7 +0.7**
baz=279
GHO Glory Hole Cre 71.42 30 IAmb IAmb 01 36 13.0
comp=Z,48nm,0.9s
SEW Seward 71.43 32 P **P** **01 36 05.1 +0.7**
baz=280
VADS Vadso 71.50 339 *e*P **P** **01 36 04.8 +0.2**
VADS IAmb IAmb 01 36 06.9
comp=Z,20nm,1.1s
POKR Poker Plat Res 71.53 26 IAmb IAmb 01 36 29.8
comp=Z,55nm,0.9s
POKR Poker Plat Res 71.53 26 P **P** **01 36 04.9 0.0**
baz=280,SNR=24
C26K Camden Bay 71.65 21 P **P** **01 36 05.4 -0.1**
baz=280
KNK Knik Glacier 71.69 30 IAMs_20 IAMs_20 02 08 49.0
comp=Z,2µm,21.0s
KNK Knik Glacier 71.69 30 P **P** **01 36 05.5 -0.5**
baz=280
G25K Bearman Lake 71.78 25 P **P** **01 36 06.9 +0.6**
baz=280,SNR=23
F25K Christian Rive 71.81 24 IAmb IAmb 01 36 13.3
comp=Z,57nm,0.9s
F25K IAMs_20 IAMs_20 02 06 52.7
comp=Z,2µm,21.0s
F25K Christian Rive 71.81 24 P **P** **01 36 06.6 0.0**
baz=280,SNR=36
ILAR Eielson Array 71.81 27 P **P** **01 36 06.2 -0.4**
ILAR Eielson Array 71.81 27 P **P** **01 36 07.0 +0.4**
comp=Z,12nm,0.7s,baz=273,slow=4.9,SNR=36
ILAR LR LR 02 10 13.8
comp=Z,1µm,18.2s,baz=270,slow=38
comp=Z,12nm,0.7s
PWL Port Wells 71.85 31 IAmb IAmb 01 36 24.4
comp=Z,75nm,0.9s
PWL IAMs_20 IAMs_20 02 10 29.3
comp=Z,2µm,19.0s
PWL Port Wells 71.85 31 P **P** **01 36 07.5 +0.6**
baz=280
HDA Harding Lake 71.85 27 IAmb IAmb 01 36 25.5
comp=Z,53nm,0.9s
HDA IAMs_20 IAMs_20 02 08 07.0
comp=Z,2µm,20.0s
HDA Harding Lake 71.85 27 P **P** **01 36 07.2 +0.4**
baz=280,SNR=30
ANN Anapa 71.90 312 *e*P **P** **01 36 07.1 -0.3**
ANN *e*'PP **sP** **01 36 11.0 -1.1**
ANN *e* 01 38 45.8
ANN *e*S **S** **01 45 28.5 +0.3**
ANN pmax pmax
comp=Z,176nm,1.1s
ANN MLR MLR
comp=E,3µm,16.0s
ANN MLR MLR
comp=N,2µm,15.0s
ANN MLR MLR
comp=Z,2µm,15.0s
M23K Glacier View 71.97 30 P **P** **01 36 08.4 +0.8**
baz=280,SNR=8.2
H25L Birch Creek 71.98 25 P **P** **01 36 08.8 +1.2**
baz=281,SNR=30
C27K Jago River 72.12 22 IAmb IAmb 01 36 14.7
comp=Z,81nm,1.2s
C27K Jago River 72.12 22 P **P** **01 36 08.9 +0.5**
baz=281,SNR=6.7
SCM Sheep Creek Mo 72.15 30 IAMs_20 IAMs_20 02 13 13.1
comp=Z,2µm,19.0s
SCM Sheep Creek Mo 72.15 30 P **P** **01 36 08.7 -0.1**
baz=281,SNR=30
FYU Fort Yukon 72.16 25 IAmb IAmb 01 36 42.0
comp=Z,64nm,1.0s
BMAR Burnt Mountain 72.24 24 P **P** **01 36 10.8 +1.6**
PRP Porcupine Dome 72.24 26 IAmb IAmb 01 36 30.6
comp=Z,88nm,1.7s
PRP Porcupine Dome 72.24 26 P **P** **01 36 09.9 +0.5**
baz=281
F26K Sheenjek River 72.35 24 IAmb IAmb 01 36 16.5
comp=Z,54nm,1.1s
F26K IAMs_20 IAMs_20 02 12 58.0
comp=Z,3µm,18.0s
F26K Sheenjek River 72.35 24 P **P** **01 36 10.4 +0.6**
baz=282,SNR=19
KEV Kevo 72.37 339 P **P** **01 36 11.2 +1.5**
KEV IAMs_20 IAMs_20 02 10 55.9
comp=Z,3µm,19.0s
KEV Kevo 72.37 339 P **P** **01 36 11.3 +1.5**
KEV pmax pmax
comp=Z,48nm,1.2s
KEV MLR MLR
comp=Z,3µm,19.0s
GLI Glacier Island 72.44 31 P **P** **01 36 11.1 +0.6**
baz=281
P23K Montague Islan 72.47 32 IAmb IAmb 01 36 30.9
comp=Z,97nm,1.0s
P23K IAMs_20 IAMs_20 02 13 02.5
comp=Z,2µm,18.0s
P23K Montague Islan 72.47 32 P **P** **01 36 10.5 0.0**
baz=281
K24K Donnelly Dome 72.47 28 IAMs_20 IAMs_20 02 08 38.4
comp=Z,2µm,19.0s
K24K Donnelly Dome 72.47 28 P **P** **01 36 10.8 +0.2**
baz=281,SNR=37
J25K Salcha River, 72.48 27 P **P** **01 36 10.9 +0.2**
baz=282,SNR=18
M24K Tolsona, Glenn 72.63 30 IAMs_20 IAMs_20 02 12 08.8
comp=Z,2µm,18.0s
M24K Tolsona, Glenn 72.63 30 P **P** **01 36 12.0 +0.3**
baz=282
G26K Porcupine Rive 72.64 24 IAmb IAmb 01 36 25.1
comp=Z,41nm,0.8s
G26K Porcupine Rive 72.64 24 P **P** **01 36 12.3 +0.8**
baz=282,SNR=22
PAX Paxson 72.78 29 IAmb IAmb 01 36 32.8
comp=Z,42nm,1.0s
PAX IAMs_20 IAMs_20 02 08 19.5
comp=Z,2µm,22.0s
PAX Paxson 72.78 29 P **P** **01 36 13.4 +0.9**
baz=282,SNR=22
HIN Hinchinbrook I 72.83 31 IAMs_20 IAMs_20 02 12 51.0
comp=Z,1µm,18.0s
KLU Klutina 72.88 30 IAmb IAmb 01 36 37.9
comp=Z,51nm,0.9s
KLU IAMs_20 IAMs_20 02 05 18.2
comp=Z,2µm,22.0s
KLU Klutina 72.88 30 P **P** **01 36 12.8 -0.4**
baz=282,SNR=7.5
RIDG Independent Ri 72.89 28 IAmb IAmb 01 36 32.9
comp=Z,91nm,1.0s
RIDG IAMs_20 IAMs_20 02 08 41.5
comp=Z,2µm,20.0s
RIDG Independent Ri 72.89 28 P **P** **01 36 13.6 +0.4**
baz=282,SNR=29
SPB2 Spitsbergen Ar 72.91 348 IAmb IAmb 01 36 21.6
comp=Z,50nm,0.8s
SPA0 Spitsbergen Ar 72.91 348 *e*P **P** **01 36 12.5 -0.4**
SPA0 IAmb IAmb 01 36 17.2
comp=Z,68nm,1.0s
SPITS Spitsbergen Ar 72.91 348 P **P** **01 36 12.4 -0.6**
comp=Z,47nm,0.9s,baz=77,slow=9.5,SNR=21
SPITS LR LR 02 12 15.6
comp=Z,4µm,18.0s,baz=56,slow=39
comp=Z,47nm,0.9s
SPITS Spitsbergen Ar 72.91 348 P **P** **01 36 12.8 -0.2**
SPITS pmax pmax
comp=Z,60nm,1.0s
ARA0 ARCESS Array S 72.93 339 *e*P **P** **01 36 14.5 +1.3**
ARA0 IAmb IAmb 01 36 19.9
comp=Z,22nm,1.2s
ARA0 IAmb IAmb 01 36 25.4
comp=Z,34nm,1.1s
ARCES ARCESS Array B 72.93 339 P **P** **01 36 14.9 +1.7**
ARCES ARCESS Array B 72.93 339 P **P** **01 36 13.9 +0.7**
comp=Z,7.6nm,0.8s,baz=75,slow=6.4,SNR=16
ARCES LR LR 02 12 33.7
comp=Z,3µm,18.2s,baz=66,slow=39
comp=Z,7.6nm,0.8s
ARCES ARCESS Array B 72.93 339 P **P** **01 36 14.9 +1.7**
ARCES pmax pmax
comp=Z,26nm,1.1s
DIV Divide 73.02 30 IAmb IAmb 01 36 35.2
comp=Z,148nm,1.4s
DIV IAMs_20 IAMs_20 02 09 42.1
comp=Z,2µm,21.0s
HARP HAARP 73.04 29 P **P** **01 36 15.0 +1.1**
baz=282
Q23K Middleton Isla 73.10 32 P **P** **01 36 14.8 +0.5**
baz=282
D27M Malcolm River 73.15 22 IAmb IAmb 01 36 20.8
comp=Z,64nm,1.2s
D27M IAMs_20 IAMs_20 02 08 19.3
comp=Z,3µm,22.0s
D27M Malcolm River 73.15 22 P **P** **01 36 14.8 +0.2**
baz=284
EYAK Cordova Ski Ar 73.16 31 IAmb IAmb 01 36 21.9
comp=Z,165nm,1.5s
EYAK IAMs_20 IAMs_20 02 10 09.7
comp=Z,2µm,20.0s
EYAK Cordova Ski Ar 73.16 31 P **P** **01 36 16.9 +2.2**
EYAK Cordova Ski Ar 73.16 31 P **P** **01 36 15.3 +0.7**
baz=282
E27K Coleen River 73.18 23 IAmb IAmb 01 36 21.0
comp=Z,58nm,1.1s
E27K Coleen River 73.18 23 P **P** **01 36 14.7 -0.1**
baz=284,SNR=13
SCRK Sand Creek 73.21 27 P **P** **01 36 15.6 +0.5**
baz=283,SNR=42
I26K Coal Creek Min 73.26 26 IAmb IAmb 01 36 20.6
comp=Z,73nm,0.9s
I26K IAMs_20 IAMs_20 02 10 47.3
comp=Z,2µm,21.0s
I26K Coal Creek Min 73.26 26 P **P** **01 36 15.2 0.0**
baz=283
J26L Joseph Creek 73.27 27 IAmb IAmb 01 36 20.5
comp=Z,43nm,0.8s
J26L IAMs_20 IAMs_20 02 10 39.5
comp=Z,2µm,19.0s
J26L Joseph Creek 73.27 27 P **P** **01 36 15.8 +0.3**
baz=283,SNR=61
KBS Kingsbay 73.45 349 P **P** **01 36 16.6 +0.4**
KBS Kingsbay 73.45 349 *ce*P **P** **01 36 17.7 +1.6**
KBS pmax pmax
comp=Z,21nm,0.8s
KBS Kingsbay 73.45 349 *i* P **P** **01 36 17.8 +1.7**
N25K Chitina, Valde 73.47 30 IAmb IAmb 01 36 45.7
comp=Z,39nm,0.8s
N25K IAMs_20 IAMs_20 02 13 53.9
comp=Z,2µm,18.0s
N25K Chitina, Valde 73.47 30 P **P** **01 36 16.5 -0.1**
baz=283,SNR=13
G27K Doyon Strip 73.49 24 IAMs_20 IAMs_20 02 12 51.3
comp=Z,2µm,20.0s
G27K Doyon Strip 73.49 24 P **P** **01 36 17.4 +0.8**
baz=284,SNR=19
TOKA Tokat 73.56 307 IAmb IAmb 01 36 27.7
comp=Z,53nm,1.1s
MENT 73.56 28 P **P** **01 36 19.8 +2.7**
BMRM Bremner River 73.61 31 IAmb IAmb 01 36 44.6
comp=Z,67nm,1.0s
BMRM IAMs_20 IAMs_20 02 07 49.7
comp=Z,2µm,22.0s
BMRM Bremner River 73.61 31 P **P** **01 36 17.9 +0.5**
baz=283,SNR=13
H27K Steamboat Moun 73.69 25 IAmb IAmb 01 36 34.1
comp=Z,145nm,1.8s
H27K IAMs_20 IAMs_20 02 13 37.4
comp=Z,2µm,19.0s
H27K Steamboat Moun 73.69 25 P **P** **01 36 17.9 +0.2**
baz=284,SNR=22
L26K Log Cabin Wild 73.71 28 IAmb IAmb 01 36 38.7
comp=Z,73nm,1.3s
L26K IAMs_20 IAMs_20 02 13 34.1
comp=Z,3µm,18.0s
L26K Log Cabin Wild 73.71 28 P **P** **01 36 17.4 -0.5**
baz=284
RAGM Ragged Mountai 73.71 31 IAmb IAmb 01 36 35.0
comp=Z,75nm,1.0s
RAGM IAMs_20 IAMs_20 02 13 20.4
comp=Z,2µm,18.0s
GAZ Gaziantep 73.75 304 IAmb IAmb 01 36 32.4
comp=Z,84nm,1.1s
I27K Kandik River 73.81 25 P **P** **01 36 18.2 -0.3**
baz=284,SNR=42
E28M Babbage River 73.81 22 P **P** **01 36 18.6 +0.2**
baz=286,SNR=11
KTK1 Kautokeino 73.85 338 *e*P **P** **01 36 18.9 +0.3**
KTK1 IAmb IAmb 01 36 24.9
comp=Z,647nm,2.8s
GLB Gilahina Butte 73.88 30 IAmb IAmb 01 36 40.3
comp=Z,76nm,1.1s
GLB IAMs_20 IAMs_20 02 13 09.6
comp=Z,1µm,18.0s
D28M Stokes Point 73.89 21 P **P** **01 36 19.6 +0.8**
baz=286
HMT Hamilton 73.92 31 IAmb IAmb 01 36 49.3
comp=Z,56nm,1.0s
HMT IAMs_20 IAMs_20 02 13 36.0
comp=Z,2µm,19.0s
KAIM Kayak Island 73.95 32 IAmb IAmb 01 36 37.0
comp=Z,94nm,1.0s
KAIM Kayak Island 73.95 32 P **P** **01 36 19.0 -0.3**
baz=284
F28M Old Crow 73.96 23 IAmb IAmb 01 36 25.3
comp=Z,63nm,1.1s
F28M IAMs_20 IAMs_20 02 10 52.5
comp=Z,3µm,20.0s
F28M Old Crow 73.96 23 P **P** **01 36 20.0 +0.7**
baz=286,SNR=25
K27K Chicken 74.01 27 IAmb IAmb 01 36 26.1
comp=Z,63nm,0.9s
K27K Chicken 74.01 27 P **P** **01 36 19.4 -0.2**
baz=285
M26K Nabesna, AK 74.02 29 IAmb IAmb 01 36 39.8
comp=Z,59nm,0.9s
M26K IAMs_20 IAMs_20 02 13 31.3
comp=Z,2µm,18.0s
M26K Nabesna, AK 74.02 29 P **P** **01 36 19.9 +0.1**
baz=284,SNR=27
VRDI Verde Repeater 74.09 30 IAmb IAmb 01 36 27.3
comp=Z,64nm,1.2s
OUZ Omahuta 74.14 138 P P 01 36 27.2 +6.5
DIKM Dikmen 74.14 309 P **P** **01 36 20.9 +0.1**
comp=Z,1µmcomp=Z,69nm,1.6s
DIKM Dikmen 74.14 309 ⇑P **P** **01 36 22.1 +1.2**
SIM Simferopol' 74.17 312 *eP* **P** **01 36 18.5 -2.4**
SIM pmax pmax
comp=Z,175nm,1.1s
BERG Berg Lake 74.18 31 IAmb IAmb 01 36 37.5
comp=Z,64nm,0.9s
BERG IAMs_20 IAMs_20 02 10 40.8
comp=Z,2µm,20.0s
SUCK Suckling Hills 74.22 31 IAMs_20 IAMs_20 02 08 49.9
comp=Z,2µm,20.0s
MCARA McCarthy VSAT 74.26 30 IAmb IAmb 01 36 42.6
comp=Z,56nm,0.8s
MCARA McCarthy VSAT 74.26 30 P **P** **01 36 21.7 +0.6**
baz=284
CRQM Cirque 74.36 31 IAmb IAmb 01 36 36.5
comp=Z,58nm,0.8s
L27K Beaver Creek, 74.37 28 IAMs_20 IAMs_20 02 09 48.6
comp=Z,2µm,21.0s
L27K Beaver Creek, 74.37 28 P **P** **01 36 22.8 +1.0**
baz=285,SNR=58
CRQE Cirque 74.38 31 P **P** **01 36 22.9 +0.9**
baz=285,SNR=20
BCAR Beaver Creek A 74.39 28 P **P** **01 36 23.0 +1.1**
BGLC Bering Glacier 74.45 31 P **P** **01 36 22.6 +0.4**
baz=285
E29M Blow River 74.45 22 IAMs_20 IAMs_20 02 13 36.6
comp=Z,2µm,18.0s
E29M Blow River 74.45 22 P **P** **01 36 22.6 +0.5**
baz=287
TGL Tana Glacier 74.51 30 IAmb IAmb 01 36 39.3
comp=Z,74nm,1.2s
TGL IAMs_20 IAMs_20 02 14 08.4
comp=Z,1µm,18.0s
I28M Miner Creek 74.52 25 IAmb IAmb 01 36 38.1
comp=Z,54nm,0.9s
I28M IAMs_20 IAMs_20 02 11 44.6
comp=Z,2µm,20.0s
I28M Miner Creek 74.52 25 P **P** **01 36 22.8 +0.1**
baz=286,SNR=36
M27K Edge Creek, AK 74.53 29 IAMs_20 IAMs_20 02 13 45.9
comp=Z,2µm,18.0s
M27K Edge Creek, AK 74.53 29 P **P** **01 36 23.1 +0.2**
baz=285,SNR=19
WAX Waxell Ridge 74.58 31 IAmb IAmb 01 36 43.0
comp=Z,61nm,0.9s
WAX IAMs_20 IAMs_20 02 11 13.2
comp=Z,2µm,20.0s
JETT Jettan, Norway 74.65 339 *e*P **P** **01 36 25.2 +1.9**
JETT IAmb IAmb 01 36 27.4
comp=Z,14nm,0.8s
FIA1 FINESS Array S 74.73 330 IAmb IAmb 01 36 31.9
comp=Z,92nm,0.9s
FINES FINESS Array B 74.73 330 P **P** **01 36 23.2 -0.6**
FINES FINESS Array B 74.73 330 P **P** **01 36 24.1 +0.3**
comp=Z,8.0nm,0.6s,baz=53,slow=6.1,SNR=27
FINES LR LR 02 10 06.5
comp=Z,2µm,20.7s,baz=80,slow=36
comp=Z,8.0nm,0.6s
ISLE Juniper Island 74.78 31 IAMs_20 IAMs_20 02 11 09.6
comp=Z,2µm,20.0s
G29M Pine Creek 74.85 24 IAmb IAmb 01 36 30.4
comp=Z,101nm,1.1s
G29M IAMs_20 IAMs_20 02 14 22.0
comp=Z,2µm,18.0s
G29M Pine Creek 74.85 24 P **P** **01 36 25.4 +1.0**
baz=287,SNR=18
H29M Whitestone 74.92 24 IAmb IAmb 01 36 39.9
comp=Z,46nm,0.9s
H29M IAMs_20 IAMs_20 02 14 06.0
comp=Z,2µm,19.0s
H29M Whitestone 74.92 24 P **P** **01 36 25.3 +0.4**
baz=287,SNR=22
BVCY Beaver Creek 74.97 29 P **P** **01 36 25.6 +0.3**
baz=286,SNR=15
BZK Bozkurt 74.97 309 IAMs_20 IAMs_20 02 12 40.6
comp=Z,2µm,20.0s
BZK Bozkurt 74.97 309 P **P** **01 36 25.7 +0.1**
comp=Z,2µmcomp=Z,142nm,0.9s
BZK Bozkurt 74.97 309 ⇓P **P** **01 36 25.9 +0.3**
BARN Barnard Glacie 74.98 30 IAmb IAmb 01 36 37.7
comp=Z,39nm,0.8s
MESA MESA 75.08 31 IAmb IAmb 01 36 43.9
comp=Z,78nm,1.2s
MESA IAMs_20 IAMs_20 02 14 48.6
comp=Z,1µm,18.0s
MESA MESA 75.08 31 P **P** **01 36 26.3 +0.1**
baz=286
TRO Tromso 75.12 339 *e*P **P** **01 36 27.8 +1.9**
YAH Yahtse 75.13 31 IAmb IAmb 01 36 33.9
comp=Z,130nm,1.6s
YAH IAMs_20 IAMs_20 02 11 31.8
comp=Z,2µm,20.0s
DAWY Dawson 75.14 27 IAmb IAmb 01 36 41.6
comp=Z,49nm,0.9s
DAWY IAMs_20 IAMs_20 02 11 46.9
comp=Z,2µm,20.0s
DAWY Dawson 75.14 27 P **P** **01 36 27.1 +0.8**
baz=287,SNR=53
CTG Chitna Glacier 75.15 30 P **P** **01 36 26.9 +0.4**
baz=286,SNR=17
CTGM Chitina Glacie 75.16 30 IAmb IAmb 01 36 47.3
comp=Z,132nm,1.2s
CTGM IAMs_20 IAMs_20 02 14 19.5
comp=Z,1µm,18.0s
I29M Ogilvie Camp, 75.20 25 IAMs_20 IAMs_20 02 12 13.5
comp=Z,1µm,19.0s
I29M Ogilvie Camp, 75.20 25 P **P** **01 36 27.4 +0.8**
baz=288,SNR=18
VSU Vasula 75.21 327 *ce*P **P** **01 36 25.1 -1.6**
VSU pmax pmax
comp=Z,90nm,1.7s
ASF Jabal al Asfar 75.27 299 LR LR 02 14 17.3
comp=Z,2µm,21.4s,baz=103,slow=40
YUK3 Moose Creek 75.33 29 P **P** **01 36 27.7 +0.1**
baz=286,SNR=7.3
LOGN Logan Glacier 75.35 30 IAmb IAmb 01 36 44.9
comp=Z,72nm,1.0s
TABL Table Mountain 75.39 31 IAmb IAmb 01 36 44.9
comp=Z,62nm,1.0s
TABL IAMs_20 IAMs_20 02 11 37.8
comp=Z,2µm,20.0s
ILGA Ilgaz 75.41 309 IAmb IAmb 01 36 39.0
comp=Z,95nm,1.3s
ILGA IAMs_20 IAMs_20 02 15 51.3
comp=Z,2µm,20.0s
F30M Barrier River 75.45 23 IAmb IAmb 01 36 33.5
comp=Z,93nm,1.0s
F30M Barrier River 75.45 23 P **P** **01 36 28.4 +0.4**
baz=289,SNR=35
G30M tAoh Zraii Nji 75.50 23 IAmb IAmb 01 36 33.8
comp=Z,87nm,1.1s
G30M IAMs_20 IAMs_20 02 11 51.2
comp=Z,2µm,20.0s
G30M tAoh Zraii Nji 75.50 23 P **P** **01 36 28.4 +0.2**
baz=289,SNR=27
EPYK Eagle Plains 75.51 24 IAmb IAmb 01 36 33.4
comp=Z,53nm,0.9s
EPYK IAMs_20 IAMs_20 02 14 45.5
comp=Z,2µm,18.0s
EPYK Eagle Plains 75.51 24 P **P** **01 36 28.3 0.0**
baz=289,SNR=29
J29N Klondike Camp 75.52 26 IAmb IAmb 01 36 55.0
comp=Z,52nm,0.7s
J29N IAMs_20 IAMs_20 02 12 08.8
comp=Z,2µm,19.0s
J29N Klondike Camp 75.52 26 P **P** **01 36 29.0 +0.5**
baz=288,SNR=15
MNK Minsk 75.67 323 *i* P **P** **01 36 29.0 -0.4**
MNK *i* 01 36 41.6
MNK *i* 01 39 15.3
MNK *i* PPP PPP 01 41 04.5
MNK *i* S **S** **01 46 11.1 +0.6**
MNK pmax pmax
comp=N,18nm,0.9s
MNK pmax pmax
comp=Z,38nm,0.8s
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK MLR MLR
comp=N,3µm,15.0s
MNK MLR MLR
comp=Z,2µm,16.0s
MNK MLR MLR
comp=E,2µm,13.0s
NOR Nord 75.74 354 *i* P **P** **01 36 31.2 +1.8**
NOR IAmb IAmb 01 36 36.0
comp=Z,11nm,0.8s
O28M Mount Upton 75.75 30 IAmb IAmb 01 36 51.1
comp=Z,103nm,1.4s
O28M Mount Upton 75.75 30 P **P** **01 36 30.2 +0.1**
baz=287,SNR=11
YUK8 Steele Glacier 75.80 30 P **P** **01 36 30.6 +0.2**
baz=287,SNR=16
BR131 Keskin Array S 75.82 307 IAmb IAmb 01 36 40.6
comp=Z,65nm,1.3s
BR131 Keskin Array S 75.82 307 P **P** **01 36 30.8 0.0**
SNR=24
BR131 P **P** **01 36 30.8 0.0**
SNR=24
BR131 Keskin Array S 75.82 307 *i* P **P** **01 36 30.8 0.0**
BRTR Keskin Array B 75.82 307 P **P** **01 36 30.5 -0.2**
BRTR Keskin Array B 75.82 307 P **P** **01 36 30.8 0.0**
comp=Z,5.8nm,0.6s,baz=116,slow=5.7,SNR=45
comp=Z,5.8nm,0.6s
BRTR Keskin Array B 75.82 307 *i* P **P** **01 36 30.7 0.0**
BRTR pmax pmax
comp=Z,5.0nm,0.6s
BR104 Keskin Array S 75.82 307 P **P** **01 36 30.6 -0.1**
comp=Z,262nmcomp=Z,25nm,1.1s
BR106 Keskin Array S 75.83 307 P **P** **01 36 30.7 -0.1**
comp=Z,279nmcomp=Z,24nm,1.0s
BR105 Keskin Array S 75.83 307 P **P** **01 36 30.7 -0.1**
comp=Z,333nmcomp=Z,31nm,1.6s
AK09 Malin Array Si 75.89 319 P **P** **01 36 29.9 -0.8**
AK03 Malin Array Si 75.90 319 P **P** **01 36 29.5 -1.3**
AK08 Malin Array Si 75.90 319 P **P** **01 36 29.5 -1.3**
AKASG Malin Array Be 75.91 319 P **P** **01 36 30.0 -0.8**
AKASG Malin Array Be 75.91 319 P **P** **01 36 29.5 -1.3**
comp=Z,3.1nm,0.4s,baz=63,slow=5.9,SNR=25
AKASG LR LR 02 11 35.8
comp=Z,2µm,21.2s,baz=78,slow=37
comp=Z,3.1nm,0.4s
AKASG Malin Array Be 75.91 319 P **P** **01 36 30.0 -0.8**
AKASG pmax pmax
comp=Z,34nm,1.1s
AKBB Malin Array Si 75.91 319 IAmb IAmb 01 36 38.9
comp=Z,60nm,1.0s
AKBB Malin Array Si 75.91 319 *c* P **P** **01 36 29.4 -1.4**
AKBB pmax pmax
comp=Z,15nm,0.9s
AKBB Malin Array Si 75.91 319 P **P** **01 36 29.6 -1.2**
KIEV Kiev 75.92 319 P **P** **01 36 29.8 -1.1**
KIEV IAmb IAmb 01 36 38.9

comp=Z,54nm,1.0s
KIEV Kiev 75.92 319 IAMs_20 IAMs_20 02 12 08.9
comp=Z,2µm,20.0s
KIEV Kiev 75.92 319 P **P** **01 36 29.8 -1.1**
KIEV pmax pmax
comp=Z,54nm,1.0s
MLR MLR
comp=Z,2µm,20.0s
KIEV Kiev 75.92 319 *i* P **P** **01 36 29.7 -1.1**
SNR=20
KIEV Kiev 75.92 319 P **P** **01 36 29.6 -1.3**
comp=Z,3µmcomp=Z,228nm,0.9s
KIEV Kiev 75.92 319 ⇑P **P** **01 36 30.7 -0.2**
PINM Pinnacle 75.92 31 P **P** **01 36 31.1 +0.2**
baz=287
L29M L29M 75.97 28 IAmb IAmb 01 36 37.8
comp=Z,76nm,0.9s
L29M IAMs_20 IAMs_20 02 10 36.9
comp=Z,2µm,21.0s
L29M L29M 75.97 28 P **P** **01 36 31.3 +0.3**
baz=288,SNR=75
K29M Barlow Dome 76.00 27 IAmb IAmb 01 36 46.5
comp=Z,39nm,0.8s
K29M IAMs_20 IAMs_20 02 12 22.5
comp=Z,2µm,20.0s
K29M Barlow Dome 76.00 27 P **P** **01 36 31.3 0.0**
baz=288,SNR=25
ATD Arta Tunnel 76.00 277 IAmb IAmb 01 36 38.8
comp=Z,48nm,1.1s
ATD Arta Tunnel 76.00 277 LR LR 02 09 22.6
comp=Z,44nm,21.4s,baz=62,slow=35
INK Inuvik 76.01 22 IAmb IAmb 01 36 36.1
comp=Z,65nm,1.2s
INK IAMs_20 IAMs_20 02 16 13.8
comp=Z,2µm,19.0s
INK Inuvik 76.01 22 LR LR 02 11 57.4
comp=Z,1µm,21.3s,baz=294,slow=37
INK Inuvik 76.01 22 P **P** **01 36 31.4 +0.3**
baz=291,SNR=19
I30M Mount Dempster 76.02 25 IAmb IAmb 01 36 46.1
comp=Z,59nm,1.1s
I30M Mount Dempster 76.02 25 P **P** **01 36 32.1 +0.7**
baz=289,SNR=44
M29M Somme Creek 76.03 28 IAmb IAmb 01 36 52.1
comp=Z,63nm,0.9s
M29M IAMs_20 IAMs_20 02 10 18.5
comp=Z,2µm,22.0s
M29M Somme Creek 76.03 28 P **P** **01 36 32.2 +0.7**
baz=288,SNR=89
G31M Satah River 76.24 23 IAmb IAmb 01 36 46.2
comp=Z,37nm,0.9s
G31M IAMs_20 IAMs_20 02 13 13.9
comp=Z,2µm,20.0s
G31M Satah River 76.24 23 P **P** **01 36 32.6 +0.2**
baz=291,SNR=23
F31M Tsiigehtchic 76.25 23 IAmb IAmb 01 36 37.2
comp=Z,54nm,0.8s
F31M Tsiigehtchic 76.25 23 P **P** **01 36 32.9 +0.4**
baz=291,SNR=22
J30M Hart River 76.25 26 IAMs_20 IAMs_20 02 12 49.2
comp=Z,2µm,20.0s
J30M Hart River 76.25 26 P **P** **01 36 32.7 0.0**
baz=289,SNR=37
MMAI Mount Meron Ar 76.25 300 P **P** **01 36 33.8 +0.5**
comp=Z,16nm,1.0s,baz=72,slow=2.7,SNR=14
MMAI LR LR 02 14 35.4
comp=Z,2µm,20.5s,baz=64,slow=39
comp=Z,16nm,1.0s
BCPM Bancas Point 76.26 31 IAMs_20 IAMs_20 02 15 57.6
comp=Z,1µm,18.0s
YUK4 Talbot Arm 76.29 29 P **P** **01 36 33.5 +0.4**
baz=288,SNR=7.9
RAO Raoul Island 76.32 129 LR LR 02 04 43.4
comp=Z,1µm,21.7s,baz=329,slow=32
POHA Pohakuloa 76.40 74 P **P** **01 36 36.5 +2.0**
ANTO Ankara 76.41 308 P **P** **01 36 34.1 +0.1**
ANTO IAmb IAmb 01 36 43.8
comp=Z,69nm,1.0s
ANTO Ankara 76.41 308 IAMs_20 IAMs_20 02 14 16.6
comp=Z,2µm,22.0s
ANTO Ankara 76.41 308 P **P** **01 36 34.4 +0.4**
ANTO P **P** **01 36 34.4 +0.4**
ANTO Ankara 76.41 308 P **P** **01 36 34.1 +0.1**
ANTO pmax pmax
comp=Z,69nm,1.0s
ANTO MLR MLR
comp=Z,2µm,22.0s
ANTO Ankara 76.41 308 P **P** **01 36 34.0 +0.1**
comp=Z,506nmcomp=Z,30nm,0.8s
ANTO Ankara 76.41 308 ⇑P **P** **01 36 34.5 +0.4**
MWH Mokuaweoweo 76.42 74 IAMs_20 IAMs_20 02 04 26.3
comp=Z,2µm,22.0s
PNL Peninsula 76.46 31 P **P** **01 36 35.9 +2.1**
PNL Peninsula 76.46 31 P **P** **01 36 33.7 -0.2**
baz=288
YUK6 Outpost Mounta 76.55 30 P **P** **01 36 35.5 +0.8**
baz=288,SNR=13
GHAJ Ghor Haditha 76.59 299 IAmb IAmb 01 36 51.0
comp=Z,130nm,1.4s
GHAJ IAMs_20 IAMs_20 02 14 08.9
comp=Z,2µm,20.0s
H31M Peel River 76.61 24 IAmb IAmb 01 36 39.6
comp=Z,56nm,0.9s
H31M IAMs_20 IAMs_20 02 15 29.7
comp=Z,2µm,18.0s
H31M Peel River 76.61 24 P **P** **01 36 34.9 +0.3**
baz=291,SNR=28
PURM Purcari 76.63 315 P **P** **01 36 35.3 +0.3**
comp=Z,2µmcomp=Z,124nm,1.3s
PURM Purcari 76.63 315 ⇑P **P** **01 36 35.5 +0.5**
O29M Mount Kennedy 76.65 30 IAMs_20 IAMs_20 02 15 02.1
comp=Z,2µm,18.0s
O29M Mount Kennedy 76.65 30 P **P** **01 36 34.8 -0.3**
baz=286
M30M Minto, Yukon 76.72 28 IAMs_20 IAMs_20 02 11 00.8
comp=Z,2µm,22.0s
M30M Minto, Yukon 76.72 28 P **P** **01 36 35.4 +0.1**
baz=290,SNR=58
MAYO Mayo, Yukon 76.76 27 IAMs_20 IAMs_20 02 16 26.8
comp=Z,1µm,18.0s
MAYO Mayo, Yukon 76.76 27 P **P** **01 36 36.3 +0.8**
baz=290,SNR=9.7
N30M Aishikik Lake 76.96 29 IAmb IAmb 01 36 57.8
comp=Z,46nm,0.9s
N30M IAMs_20 IAMs_20 02 12 58.2
comp=Z,2µm,20.0s
N30M Aishikik Lake 76.96 29 P **P** **01 36 37.0 +0.2**
baz=290,SNR=32
HYT Haines Junctio 76.98 30 IAmb IAmb 01 36 57.9
comp=Z,74nm,1.1s
HYT IAMs_20 IAMs_20 02 08 37.8
comp=Z,2µm,22.0s
HYT Haines Junctio 76.98 30 P **P** **01 36 37.6 +0.6**
baz=289,SNR=27
STEI Steigen 76.99 338 *e*P **P** **01 36 37.5 +0.9**
LUBAR Lubar, Ukraine 77.03 319 P **P** **01 36 36.2 -1.0**
HIZ Hauiti 77.03 140 IAmb IAmb 01 36 48.1
comp=Z,66nm,1.0s
HIZ Hauiti 77.03 140 P **P** **01 36 40.2 +3.0**
A36M Sachs Harbour 77.07 17 IAmb IAmb 01 36 41.7
comp=Z,82nm,0.9s
A36M IAMs_20 IAMs_20 02 12 49.4
comp=Z,2µm,22.0s
A36M Sachs Harbour 77.07 17 P **P** **01 36 38.2 +1.2**
baz=298,SNR=12
SORM Soroca 77.17 317 P **P** **01 36 37.9 -0.1**
SORM Soroca 77.17 317 P **P** **01 36 36.9 -1.1**
comp=Z,826nmcomp=Z,72nm,0.9s
SORM Soroca 77.17 317 ⇑P **P** **01 36 38.0 -0.1**
FAUS Fauske 77.19 338 *e*P **P** **01 36 38.4 +0.6**
FAUS IAmb IAmb 01 36 55.6
comp=Z,46nm,0.9s
KIS Kishinev 77.19 316 *e*P **P** **01 36 35.0 -3.2**
KIS *e*L L 02 08 57.0
KIS LRM MLR 02 13 33.0
comp=Z,800nm,20.0s
KIS Kishinev 77.19 316 *e*P **P** **01 36 35.0 -3.2**
KIS *i* 01 36 40.0
KIS *e* 01 46 30.0
QRZ Quartz Range 77.20 143 IAmb IAmb 01 36 43.7
comp=Z,50nm,0.9s
QRZ Quartz Range 77.20 143 P **P** **01 36 39.5 +1.4**
MILM Milestii Mici 77.22 315 *e*P **P** **01 36 36.0 -2.3**
comp=Z,140nm,1.6s
MILM *e*S **S** **01 46 23.0 -4.8**
MILM *e*L L 02 06 28.0
MILM LQM 02 13 31.0
comp=Z,2µm,15.5s
MILM LRM MLR 02 13 42.0
comp=Z,2µm,18.0s
MILM Milestii Mici 77.22 315 *e*P **P** **01 36 36.0 -2.3**
MILM *e*S **S** **01 46 23.0 -4.8**
MILM pmax pmax
comp=Z,140nm,1.6s
MILM Milestii Mici 77.22 315 ⇑P **P** **01 36 38.7 +0.3**
P29M Windy Craggy 77.27 31 IAmb IAmb 01 36 52.3
comp=Z,46nm,0.8s
P29M Windy Craggy 77.27 31 P **P** **01 36 38.8 +0.4**
baz=289,SNR=13
CSS Mathiatis 77.36 303 P **P** **01 36 39.1 -0.3**
comp=Z,2µmcomp=Z,231nm,0.9s
VRZ Vera Road 77.37 141 P P 01 36 44.4 +5.2
DSZ Denniston Nort 77.42 144 P **P** **01 36 40.6 +1.2**
JCZ Jackson Bay 77.47 147 P **P** **01 36 41.9 +2.2**
P30M Million Dollar 77.47 30 P **P** **01 36 38.9 -0.7**
baz=290
N31M Braeburn, Yuko 77.55 29 IAmb IAmb 01 37 01.0
comp=Z,111nm,1.1s
N31M IAMs_20 IAMs_20 02 15 27.6
comp=Z,2µm,19.0s
N31M Braeburn, Yuko 77.55 29 P **P** **01 36 39.8 -0.2**
baz=291,SNR=18
SAHE Sakarya_HENDEK 77.55 309 ⇓P **P** **01 36 40.6 +0.2**
EIL Elat 77.57 297 LR LR 02 13 10.7
comp=Z,2µm,19.3s,baz=79,slow=38
O30N Mendenhall 77.66 29 IAmb IAmb 01 37 00.9
comp=Z,49nm,0.9s
O30N Mendenhall 77.66 29 P **P** **01 36 41.1 +0.5**
baz=290,SNR=22
NDNU Novodnistrovsk 77.66 317 P **P** **01 36 39.6 -1.2**
RNPP9 Sopachiv 77.72 320 P **P** **01 36 40.3 -0.7**
TLCR 77.72 314 P **P** **01 36 41.1 0.0**
TLCR 77.72 314 ⇓P **P** **01 36 41.2 0.0**
RNPP8 Varash 77.76 320 P **P** **01 36 39.7 -1.6**
RNPP5 Staryi Chortor 77.77 320 P **P** **01 36 40.5 -0.8**
JURR Jurilovca 77.81 313 ⇑P **P** **01 36 41.6 -0.1**
WTVZ West Tongariro 77.86 140 P **P** **01 36 44.4 +2.4**
INZ Inchbonnie 77.90 145 P P 01 36 46.6 +4.6
M31M Drury Creek, Y 77.90 28 IAMs_20 IAMs_20 02 10 53.0
comp=Z,1µm,20.0s
M31M Drury Creek, Y 77.90 28 P **P** **01 36 42.9 +1.0**
baz=292,SNR=24
NGZ Ngauruhoe 77.91 140 P P 01 36 47.4 +5.0
FWVZ Far West T-bar 77.93 140 P P 01 36 48.1 +5.5
TMVZ Te Maari 77.93 140 P **P** **01 36 45.1 +2.7**
SNVZ South Ngauruho 77.94 140 P **P** **01 36 45.3 +2.8**
OTVZ Oturere 77.94 140 P **P** **01 36 45.3 +2.7**
NNZ Nelson 77.94 143 IAmb IAmb 01 36 47.4
comp=Z,44nm,0.8s
NNZ Nelson 77.94 143 P **P** **01 36 43.4 +1.1**
WHVZ Whangaehu Hut 77.97 140 P P 01 36 48.0 +5.2
VASR Vaslui 77.97 315 ⇑P **P** **01 36 43.3 +0.7**
DUWZ D'Urville Isla 77.98 142 P **P** **01 36 43.3 +0.8**
MOR8 Moi Rana 77.99 337 *e*P **P** **01 36 41.8 -0.5**
MOR8 IAmb IAmb 01 36 45.2
comp=Z,19nm,1.0s
WNVZ Wahianoa 78.00 140 P P 01 36 47.3 +4.4
VLDR Vladesti 78.02 315 ⇓P **P** **01 36 42.8 0.0**
TPGR Topolog 78.09 313 ⇑P **P** **01 36 43.4 +0.1**
SCTR Scanteiesti 78.13 314 ⇑P **P** **01 36 44.2 +0.8**
MOVZ Moawhango 78.14 140 P **P** **01 36 45.3 +1.7**
VARL Varlezi 78.16 315 ⇑P **P** **01 36 43.7 +0.1**
VAGH Vaagaholmen 78.18 337 *e*P **P** **01 36 42.9 -0.4**
VAGH IAmb IAmb 01 36 48.1
comp=Z,25nm,1.2s
CFR Carcaliu 78.18 314 P **P** **01 36 43.4 -0.3**
CFR Carcaliu 78.18 314 ⇑P **P** **01 36 43.5 -0.3**
TIRR Tirgusor 78.21 313 IAmb IAmb 01 36 53.7
comp=Z,82nm,1.4s
TIRR IAMs_20 IAMs_20 02 14 20.2
comp=Z,2µm,19.0s
TIRR Tirgusor 78.21 313 P **P** **01 36 43.7 -0.2**
TIRR Tirgusor 78.21 313 P **P** **01 36 44.2 +0.3**
comp=Z,835nmcomp=Z,39nm,0.9s
TIRR Tirgusor 78.21 313 ⇑P **P** **01 36 43.7 -0.2**
KMPD K-Podol'skiy 78.25 318 P **P** **01 36 42.3 -1.7**
URZ Urewera 78.25 139 LR LR 02 07 30.1
comp=Z,733nm,21.2s,baz=308,slow=33
WHY Whitehorse 78.25 29 P **P** **01 36 44.8 +0.8**
baz=292,SNR=26
MFTR Murfatlar 78.29 313 ⇑P **P** **01 36 45.0 +0.7**
KONS Konsvik 78.33 337 *e*P **P** **01 36 45.1 +1.0**
HAZ Te Kaha 78.35 138 P **P** **01 36 46.5 +1.9**
TUDR 78.37 314 ⇑P **P** **01 36 45.9 +1.2**
RPZ Rata Peaks 78.38 146 P **P** **01 36 44.3 -0.4**
RPZ Rata Peaks 78.38 146 LR LR 02 07 36.1
comp=Z,1µm,21.6s,baz=320,slow=33
RPZ Rata Peaks 78.38 146 P **P** **01 36 44.6 -0.1**
LTZ Lake Taylor 78.38 145 P **P** **01 36 46.4 +1.6**
LBZ Lake Benmore 78.40 147 P **P** **01 36 45.0 +0.3**
GHRR 78.40 315 P **P** **01 36 45.3 +0.3**
BKZ Black Stump Fm 78.44 140 IAMs_20 IAMs_20 02 13 56.7
comp=Z,1µm,18.0s
BKZ Black Stump Fm 78.44 140 P **P** **01 36 47.3 +2.1**
TLBR Topalu 78.44 313 ⇑P **P** **01 36 45.2 +0.1**
STOK Stokkvaagen 78.44 337 *e*P **P** **01 36 44.5 -0.2**
SUW Suwalki 78.45 323 *e*P **P** **01 36 47.2 +2.2**
SUW Suwalki 78.45 323 IAMs_20 IAMs_20 02 15 33.8
comp=Z,3µm,20.0s
HARR Harsova 78.47 313 P **P** **01 36 45.4 +0.1**
HARR Harsova 78.47 313 ⇑P **P** **01 36 45.5 +0.1**
SKAG Skagway 78.48 31 IAmb IAmb 01 37 02.4
comp=Z,45nm,1.0s
SKAG IAMs_20 IAMs_20 02 16 42.4
comp=Z,2µm,18.0s
SKAG Skagway 78.48 31 P **P** **01 36 47.5 +2.4**
SKAG Skagway 78.48 31 P **P** **01 36 45.8 +0.8**
baz=291
LEIR Leirfjorden 78.50 337 *e*P **P** **01 36 45.6 +0.5**
LEIR IAmb IAmb 01 36 49.0
comp=Z,15nm,0.6s
MWZ Matawai 78.55 139 P **P** **01 36 46.9 +1.1**
S31K Pelican 78.58 32 IAMs_20 IAMs_20 02 17 48.2
comp=Z,1µm,19.0s
S31K Pelican 78.58 32 P **P** **01 36 45.5 -0.1**
baz=291
PANC Panciu 78.63 315 ⇑P **P** **01 36 47.6 +1.4**
PSN Preselentsi 78.65 312 *i* P **P** **01 36 46.5 +0.1**
R31K City Hall, Gus 78.66 32 P **P** **01 36 46.4 +0.3**
baz=291
TSZ Takapari Road 78.68 141 P **P** **01 36 49.4 +2.9**
ISP Isparta 78.69 306 IAMs_20 IAMs_20 02 18 07.2
comp=Z,2µm,21.0s
ISP Isparta 78.69 306 *ce*P **P** **01 36 46.2 -0.7**
ISP pmax pmax
comp=Z,89nm,1.7s
YLV Yalova 78.71 309 P **P** **01 36 46.8 -0.1**
comp=Z,1µmcomp=Z,94nm,0.9s
ODBI Odobesti 78.73 315 P **P** **01 36 46.8 0.0**
comp=Z,438nmcomp=Z,49nm,0.9s
ODBI Odobesti 78.73 315 ⇑P **P** **01 36 46.6 -0.1**
ICOR Ion Corvin 78.74 313 ⇑P **P** **01 36 47.3 +0.5**
TESR Tescani 78.76 315 P **P** **01 36 47.0 0.0**
comp=Z,955nmcomp=Z,78nm,0.9s
TESR Tescani 78.76 315 ⇑P **P** **01 36 46.7 -0.3**
PRAR RASCA 78.77 316 ⇑P **P** **01 36 48.2 +1.2**
KHZ Kahutara 78.83 144 P **P** **01 36 49.0 +1.9**
N32M Quiet Lake 78.88 29 IAMs_20 IAMs_20 02 11 58.1
comp=Z,2µm,20.0s
N32M Quiet Lake 78.88 29 P **P** **01 36 47.4 0.0**
baz=293
VRI Vrincioaia 78.91 315 P **P** **01 36 48.2 +0.4**
VRI Vrincioaia 78.91 315 P **P** **01 36 48.2 +0.4**
comp=Z,1µmcomp=Z,78nm,1.0s
VRI Vrincioaia 78.91 315 ⇑P **P** **01 36 48.3 +0.4**
GVZ Greta Valley S 78.92 144 IAmb IAmb 01 36 53.9
comp=Z,76nm,0.6s
GVZ Greta Valley S 78.92 144 P **P** **01 36 47.6 -0.1**
PLOR5 Plostina Array 78.96 315 P **P** **01 36 48.4 +0.3**
comp=Z,1µmcomp=Z,83nm,1.1s
PLOR Plostina 78.97 315 P **P** **01 36 49.2 +1.0**
PLOR Plostina 78.97 315 ⇑P **P** **01 36 49.2 +1.0**
ONER Baraj Valea Uz 78.99 315 ⇑P **P** **01 36 48.5 +0.3**
BISRR Bisoca 79.03 315 P **P** **01 36 48.8 +0.3**
comp=Z,3µmcomp=Z,214nm,0.9s
BISRR Bisoca 79.03 315 ⇑P **P** **01 36 49.4 +0.9**
PGOR Pogoanele 79.04 314 ⇑P **P** **01 36 49.3 +0.8**
MMPY Sheldon Lake, 79.08 27 IAMs_20 IAMs_20 02 18 52.1
comp=Z,1µm,19.0s
MMPY Sheldon Lake, 79.08 27 P **P** **01 36 48.7 +0.2**
baz=294,SNR=15
P32M Atlin 79.19 30 IAMs_20 IAMs_20 02 10 08.3
comp=Z,2µm,22.0s
P32M Atlin 79.19 30 P **P** **01 36 48.9 -0.3**
baz=293
KSV Kosov 79.20 318 P **P** **01 36 49.7 +0.4**
CTYL Yalikoy Yolu 79.21 310 P **P** **01 36 49.8 +0.3**
comp=Z,1µmcomp=Z,108nm,0.8s
CTYL Yalikoy Yolu 79.21 310 ⇓P **P** **01 36 50.7 +1.2**
BFZ Birch Farm 79.25 141 P **P** **01 36 50.4 +0.9**
BFZ Birch Farm 79.25 141 P **P** **01 36 50.7 +1.2**
COVR Voineasa-Covas 79.27 315 ⇑P **P** **01 36 50.2 +0.5**
ISR Istrita 79.27 314 P **P** **01 36 50.6 +0.8**
ISR Istrita 79.27 314 P **P** **01 36 50.1 +0.2**
comp=Z,1µmcomp=Z,58nm,0.9s
ISR Istrita 79.27 314 ⇑P **P** **01 36 50.7 +0.8**
LEHL Lehliu 79.29 313 ⇑P **P** **01 36 51.3 +1.4**
R32K Eaglecrest 79.31 32 IAMs_20 IAMs_20 02 16 52.5
comp=Z,2µm,19.0s
R32K Eaglecrest 79.31 32 P **P** **01 36 49.3 -0.4**
baz=292
TURR Turia 79.33 315 ⇓P **P** **01 36 50.6 +0.5**
BURAR Bucovina Array 79.34 317 P **P** **01 36 49.4 -0.8**
BURAR Bucovina Array 79.34 317 P **P** **01 36 50.1 -0.1**
BURAR Bucovina Array 79.34 317 ⇑P **P** **01 36 50.2 -0.1**
NEHR Nehoiu 79.34 315 ⇑P **P** **01 36 50.6 +0.4**
P33M Teslin, Yukon 79.37 29 IAmb IAmb 01 37 10.7
comp=Z,181nm,2.0s
P33M IAMs_20 IAMs_20 02 16 35.8
comp=Z,1µm,19.0s
P33M Teslin, Yukon 79.37 29 P **P** **01 36 49.6 -0.5**
baz=293,SNR=19
SIT Sitka 79.37 33 IAmb IAmb 01 37 10.3
comp=Z,65nm,1.0s
SIT Sitka 79.37 33 P P 01 36 53.2 +3.2
SIT Sitka 79.37 33 P **P** **01 36 50.3 +0.3**
baz=292
JIS Juneau Island 79.38 32 P P 01 36 53.0 +3.0
STNU Starunia 79.43 318 P **P** **01 36 50.1 -0.5**
ELL Elmali 79.48 305 IAmb IAmb 01 37 09.0
comp=Z,84nm,0.8s
BOSR Bodos 79.55 315 ⇑P **P** **01 36 52.6 +1.3**
MLR Muntele Rosu 79.55 315 IAmb IAmb 01 37 00.6
comp=Z,42nm,0.8s
MLR IAMs_20 IAMs_20 02 18 42.6
comp=Z,2µm,20.0s
MLR Muntele Rosu 79.55 315 LR LR 02 14 47.5
comp=Z,2µm,18.3s,baz=60,slow=38
MLR Muntele Rosu 79.55 315 P **P** **01 36 51.3 -0.1**
MLR Muntele Rosu 79.55 315 P **P** **01 36 51.4 -0.1**
comp=Z,819nmcomp=Z,66nm,0.9s
MLR Muntele Rosu 79.55 315 ⇑P **P** **01 36 51.4 -0.1**
S32K Killisnoo 79.59 32 P **P** **01 36 50.6 -0.6**
baz=292
SULR 79.61 314 ⇓P **P** **01 36 52.3 +0.7**
NSS Namsos 79.63 336 *e*P **P** **01 36 51.2 -0.1**
MORS Morshin 79.66 319 P **P** **01 36 52.0 +0.2**
BAND Balkesir-Ban 79.70 309 ⇑P **P** **01 36 52.0 -0.2**
DOPR Dopca 79.77 315 ⇑P **P** **01 36 52.7 +0.2**
DAG Danmarks Havn 79.78 351 *i* P **P** **01 36 53.4 +1.5**
DAG IAmb IAmb 01 36 55.6
comp=Z,15nm,0.8s
RAZG Razgrad 79.80 313 ⇑P **P** **01 36 52.8 +0.2**
LOZB Loznitsa 79.80 312 ⇑P **P** **01 36 52.9 +0.2**
RAKU Rahkiv 79.87 318 P **P** **01 36 52.6 -0.4**
MANT Manisa 79.96 307 IAmb IAmb 01 37 03.2
comp=Z,132nm,1.4s
SHIU Shidnytsya 79.96 319 P **P** **01 36 53.2 -0.3**
TAVA DENIZLI_Tavas 80.02 306 ⇑P **P** **01 36 54.0 0.0**
ARCR ARCALIA 80.07 317 ⇑P **P** **01 36 54.7 +0.7**
MEZ Mezhgor'ye 80.11 318 P **P** **01 36 54.1 -0.2**
Q32M Nakina River 80.12 30 IAMs_20 IAMs_20 02 12 26.9
comp=Z,2µm,19.0s
Q32M Nakina River 80.12 30 P **P** **01 36 53.5 -0.9**
baz=294
VOIR 80.17 315 P **P** **01 36 56.0 +1.3**
VOIR 80.17 315 P **P** **01 36 54.3 -0.4**
comp=Z,537nmcomp=Z,24nm,0.9s
VOIR 80.17 315 ⇓P **P** **01 36 56.0 +1.3**
KWP Kalwaria Pacla 80.22 319 *e*P **P** **01 36 54.9 0.0**
KWP *e*L L 02 18 01.4
comp=Z,3µm,19.0s
KWP Kalwaria Pacla 80.22 319 P **P** **01 36 54.5 -0.3**
comp=Z,1µmcomp=Z,164nm,1.1s
R9F13 Warsaw-Wawer 80.22 322 *e*P **P** **01 36 54.6 -0.1**
R9F13 *e*S **SKiKP** **01 45 50.9 -7.0**
ELND Elena 80.44 312 ⇓P **P** **01 36 56.1 -0.1**
ARR Arges 80.47 315 ⇑P **P** **01 36 57.4 +1.1**
BRIU Brid 80.48 318 P **P** **01 36 56.3 +0.1**
HUMR Humele 80.52 314 ⇑P **P** **01 36 56.9 +0.3**
R33M Jennings River 80.56 30 IAMs_20 IAMs_20 02 15 12.2
comp=Z,1µm,20.0s
R33M Jennings River 80.56 30 P **P** **01 36 56.2 -0.4**
baz=295,SNR=7.5
TNR Turnu Rosu 80.61 315 P **P** **01 36 57.4 +0.4**
TNR Turnu Rosu 80.61 315 ⇑P **P** **01 36 57.5 +0.4**
MUKU Mukachevo 80.65 318 P **P** **01 36 57.2 +0.1**
T33K Petersburg 80.66 33 P **P** **01 36 56.6 -0.4**
baz=294
CJR Cluj-Napoca 80.68 316 P **P** **01 36 58.5 +1.1**
CJR Cluj-Napoca 80.68 316 ⇑P **P** **01 36 58.6 +1.1**
CBBR Cluj-Babes-Bol 80.69 316 ⇑P **P** **01 36 58.9 +1.4**
KOLS Kolonicke sedl 80.73 319 *e*P **P** **01 36 57.2 -0.4**
KOLS pmax pmax
comp=Z,22nm,0.7s
KOLS Kolonicke sedl 80.73 319 *e*P **P** **01 36 57.2 -0.4**
FURI Furi 80.74 276 IAMs_20 IAMs_20 02 17 13.5
comp=Z,1µm,20.0s
BERU Beregovo 80.75 318 P **P** **01 36 57.7 0.0**
HOLU Holmets 80.81 318 P **P** **01 36 58.0 0.0**
TGTN Hyland Airport 80.82 27 P **P** **01 36 57.8 -0.1**
baz=297
U33K Whale Pass 80.86 33 P **P** **01 36 57.8 -0.2**
baz=294
HFS Hagfors 80.87 331 P **P** **01 36 57.7 -0.4**
comp=Z,5.8nm,0.6s,baz=113,slow=3.7,SNR=37
HFS PP **PP** **01 40 03.3 +1.4**
comp=Z,9.2nm,0.9s,baz=81,slow=8.9,SNR=4.4
HFS LR LR 02 16 20.2
comp=Z,10µm,18.1s,baz=64,slow=38
comp=Z,5.8nm,0.6s
CAVK Edirne/Enez-Ca 80.98 310 ⇑P **P** **01 36 59.4 +0.3**
ALN Alexandroupoli 81.00 310 IAMs_20 IAMs_20 02 16 48.3
comp=Z,2µm,20.0s
MARR Marisel-Cluj 81.00 316 ⇑P **P** **01 36 59.5 +0.2**
LOT Lotru 81.01 315 ⇑P **P** **01 36 59.3 0.0**
VLAD Vladila 81.09 314 ⇑P **P** **01 37 00.5 +1.0**
S34M Telegraph Cree 81.11 31 IAMs_20 IAMs_20 02 18 06.9
comp=Z,2µm,18.0s
S34M Telegraph Cree 81.11 31 P **P** **01 37 00.1 +0.7**
baz=295,SNR=7.6
CRAG Craig 81.12 34 P **P** **01 37 02.1 +2.6**
CRAG Craig 81.12 34 P **P** **01 36 58.8 -0.7**
baz=294
WRAK Wrangell Islan 81.13 33 P **P** **01 36 58.6 -0.9**
baz=294
PLVB Pleven 81.15 313 ⇑P **P** **01 36 59.9 0.0**
EZN Ezine 81.16 309 P **P** **01 36 59.5 -0.5**
EZN Ezine 81.16 309 P **P** **01 36 59.1 -0.9**
comp=Z,953nmcomp=Z,87nm,1.5s
EZN Ezine 81.16 309 ⇓P **P** **01 36 59.6 -0.5**
STHS Stebnicka Huta 81.19 320 *e*P **P** **01 36 59.8 -0.2**
STHS pmax pmax
comp=Z,19nm,0.9s
STHS Stebnicka Huta 81.19 320 *e*P **P** **01 36 59.8 -0.2**
DRGR 81.22 317 P **P** **01 37 00.1 -0.2**
DRGR 81.22 317 ⇓P **P** **01 37 00.1 -0.2**
WTLY Watson Lake, Y 81.23 29 IAmb IAmb 01 37 25.4
comp=Z,49nm,1.0s
WTLY IAMs_20 IAMs_20 02 15 58.1
comp=Z,1µm,19.0s
WTLY Watson Lake, Y 81.23 29 P **P** **01 37 00.2 +0.2**
baz=297,SNR=24
KDZ Kurdzhali 81.25 311 *i* P **P** **01 37 00.8 +0.3**
RDO Rodhopi 81.28 311 IAMs_20 IAMs_20 02 16 41.5
comp=Z,2µm,20.0s
NC405 NORSAR Array S 81.30 333 IAmb IAmb 01 37 08.1
comp=Z,52nm,0.8s
DLBC Dease Lake 81.41 30 LR LR 02 13 57.4
comp=Z,71nm,20.7s,baz=294,slow=36
DLBC Dease Lake 81.41 30 P **P** **01 37 01.3 +0.2**
baz=296,SNR=6.1
DEV Deva 81.42 316 P **P** **01 37 02.3 +1.0**
DEV Deva 81.42 316 ⇑P **P** **01 37 02.4 +1.0**
NB2 NORSAR Subarra 81.55 333 P **P** **01 37 00.7 -1.1**
comp=Z,33nm,1.1s,baz=64,slow=5.6

NOA NORSAR Array B 81.55 333 P **P** **01 37 00.5 -1.2**
comp=Z,4.9nm,0.8s,baz=62,slow=4.7,SNR=26
NOA PP **PP** **01 40 10.0 +2.4**
comp=Z,1.4nm,0.9s,baz=65,slow=8.5,SNR=3.6
NOA LR LR 02 18 39.4
comp=Z,5μm,18.7s,baz=85,slow=40
comp=Z,4.9nm,0.8s
NC602 NORSAR Array S 81.55 332 *e*P **P** **01 37 01.8 +0.1**
RZN Rozhen 81.66 311 *i* P **P** **01 37 02.6 -0.3**
GZR Gura Zlata 81.68 315 P **P** **01 37 02.5 -0.3**
GZR Gura Zlata 81.68 315 ⇑P **P** **01 37 02.6 -0.3**
OJC Ojcow 81.75 321 *e*P **P** **01 37 03.0 0.0**
OJC *e*L L 02 14 02.3
comp=Z,3μm,20.1s
OJC Ojcow 81.75 321 P **P** **01 37 03.1 +0.1**
comp=Z,1μmcomp=Z,109nm,1.1s
NIE Niedzica 81.76 320 *e*P **P** **01 37 03.7 +0.6**
NIE *e*L L 02 20 19.6
comp=Z,2μm,18.0s
NIE Niedzica 81.76 320 P **P** **01 37 03.1 0.0**
comp=Z,386nmcomp=Z,36nm,1.1s
PGB Panagyurishte 81.76 312 *i* P **P** **01 37 03.3 0.0**
MPEP Malo Peshtene 81.77 313 *i* P **P** **01 37 03.6 +0.4**
RES Resolute Bay 81.82 9 IAmb IAmb 01 37 07.5
comp=Z,44nm,1.1s
RES IAMs_20 IAMs_20 02 16 24.7
comp=Z,2μm,20.0s
RES Resolute Bay 81.82 9 LR LR 02 16 55.3
comp=Z,2μm,19.6s,baz=321,slow=38
NEEM North Greenlan 81.84 358 *i* P **P** **01 37 05.2 +1.8**
NEEM IAmb IAmb 01 37 09.7
comp=Z,0.3nm,0.2s
VALD Valchedram 81.85 314 *i* P **P** **01 37 03.7 +0.1**
T35M Bob Quinn 81.94 32 P **P** **01 37 03.5 -0.3**
baz=296
V35K Ketchikan 81.96 34 P **P** **01 37 03.9 0.0**
baz=295
WRGLY Wrigley 81.97 25 IAMs_20 IAMs_20 02 16 04.3
comp=Z,2μm,20.0s
WRGLY Wrigley 81.97 25 P **P** **01 37 03.4 -0.4**
baz=301
DOMB Dombas 81.97 334 *e*P **P** **01 37 03.0 -1.0**
DOMB IAmb IAmb 01 37 15.3
comp=Z,26nm,0.9s
KARP Karpathos 81.98 305 P **P** **01 37 04.5 0.0**
comp=Z,3μmcomp=Z,164nm,0.9s
SURR Surduc 81.98 316 ⇑P **P** **01 37 04.2 -0.1**
PUNG Punghina 81.98 314 ⇑P **P** **01 37 05.2 +0.9**
DBG Daneborg 82.02 350 *i* P **P** **01 37 04.4 +0.5**
DBG IAmb IAmb 01 37 09.7
comp=Z,9.9nm,0.8s
SIRR Siria 82.09 316 ⇑P **P** **01 37 04.8 -0.1**
HERR Herculane 82.11 315 ⇑P **P** **01 37 04.9 -0.1**
DJES Djerdap 82.12 315 ⇓P **P** **01 37 05.7 +0.6**
JMIC Jan Mayen 82.26 345 LR LR 02 17 30.7
comp=Z,3μm,18.5s,baz=58,slow=38
OSL Oslo 82.29 332 *e*P P 01 37 08.4 +2.8
MOL Molde 82.31 335 *e*P **P** **01 37 05.7 0.0**
BZS Buzias 82.36 316 P **P** **01 37 06.0 -0.2**
BZS Buzias 82.36 316 ⇓P **P** **01 37 06.1 -0.2**
LANS Liptovska Anna 82.36 320 *e*P **P** **01 37 07.5 +1.2**
LANS pmax pmax
comp=Z,9.0nm,0.8s
LANS Liptovska Anna 82.36 320 *e*P **P** **01 37 07.5 +1.2**
VTS Vitosha 82.38 313 *i* P **P** **01 37 06.8 +0.2**
MMB Musomishta 82.40 311 *i* P **P** **01 37 05.9 -0.7**
BORU Boraas 82.42 329 *i* P P 01 37 10.2 +3.9
U35K Hyder 82.52 33 P **P** **01 37 06.6 -0.3**
baz=296
PSZ Piszkesteto 82.58 318 IAmb IAmb 01 37 18.5
comp=Z,46nm,1.2s
PSZ IAMs_20 IAMs_20 02 13 44.5
comp=Z,2μm,21.0s
PSZ Piszkesteto 82.58 318 P **P** **01 37 08.3 +0.8**
PSZ Piszkesteto 82.58 318 ⇑P **P** **01 37 08.3 +0.8**
TULEG Thule 82.61 3 *e*P **P** **01 37 07.5 +0.6**
KKB Krupnik 82.73 312 *i* P **P** **01 37 08.0 -0.3**
FABU Falkenberg 82.73 329 *i* P **P** **01 37 09.9 +2.0**
AKN Aaknes 82.74 335 *e*P **P** **01 37 06.7 -1.2**
LIRD Liard River Hi 82.77 29 P **P** **01 37 08.3 +0.2**
baz=299
OKC Ostrava-Krasne 82.88 321 AMS AMS 02 19 30.0
comp=Z,2μm,13.7s
KONO Kongsberg 82.92 332 P **P** **01 37 10.0 +1.1**
KONO Kongsberg 82.92 332 P **P** **01 37 10.0 +1.1**
KONO pmax pmax
comp=Z,37nm,1.4s
KONO MLR MLR
comp=Z,9μm,19.0s
KONO Kongsberg 82.92 332 *e*P **P** **01 37 08.6 -0.3**
SKAR Skarslia 82.97 333 *e*P **P** **01 37 10.0 +0.8**
LUNU Lund 82.99 327 *i* P **P** **01 37 11.8 +2.4**
BJUU Bjuv 83.00 328 *i* P P 01 37 12.7 +3.3
VYHS Vyhne 83.01 319 *e*P **P** **01 37 09.8 +0.2**
VYHS pmax pmax
comp=Z,85nm,1.6s
VYHS Vyhne 83.01 319 *e*P **P** **01 37 09.8 +0.2**
BOVS Bovan 83.04 314 ⇓P **P** **01 37 10.2 +0.4**
STEB Steborice 83.06 321 *e*P **P** **01 37 09.8 -0.1**
MAUC Maruska 83.26 320 *e*P **P** **01 37 11.7 +0.8**
MORC Moravsky Berou 83.27 321 IAmb IAmb 01 37 26.1
comp=Z,39nm,1.1s
MORC IAMs_20 IAMs_20 02 13 51.5
comp=Z,2μm,19.0s
MORC Moravsky Berou 83.27 321 *e*P **P** **01 37 11.0 0.0**
MORC Moravsky Berou 83.27 321 *e*S **S** **01 47 33.5 +2.1**
MORC Moravsky Berou 83.27 321 P **P** **01 37 11.4 +0.5**
MORC Moravsky Berou 83.27 321 ⇓P **P** **01 37 11.5 +0.5**
ABPO Ambohimpanom 83.28 247 P **P** **01 37 11.7 +0.1**
ABPO Ambohimpanom 83.28 247 P **P** **01 37 11.7 +0.1**
ABPO pmax pmax
comp=Z,71nm,0.9s
KOTAN Kotaneelee Air 83.31 27 P **P** **01 37 11.1 +0.2**
baz=301
VAY Valandovo 83.31 312 *i* P **P** **01 37 09.7 -1.5**
TOAD Toad River Com 83.43 29 P **P** **01 37 11.0 -0.6**
baz=300,SNR=11
KSP Ksiaz 83.55 322 *e*P **P** **01 37 12.4 +0.1**
KSP *e*L L 02 19 20.0
comp=Z,4μm,17.9s
KSP Ksiaz 83.55 322 P **P** **01 37 12.4 +0.1**
comp=Z,881nmcomp=Z,93nm,1.0s
JAVC Velka Javorina 83.57 320 *e*P **P** **01 37 13.4 +0.9**
JAVC Velka Javorina 83.57 320 *e*S **S** **01 47 36.4 +1.9**
KRLC Kraliky 83.59 321 *e*P **P** **01 37 12.1 -0.5**
KRLC *e*SKS **SKSac** **01 47 34.8 -0.4**
KRLC AMS AMS 02 19 30.0
comp=Z,3μm,14.0s
KRLC Kraliky 83.59 321 *e*P **P** **01 37 12.1 -0.5**
KRLC *e* 01 47 34.8
KRLC MLR MLR
comp=Z,3μm,14.0s
HYA Hoyanger 83.60 334 *e*P **P** **01 37 12.2 -0.1**
HYA IAmb IAmb 01 37 18.6
comp=Z,54nm,1.0s
OSTC Ostas 83.71 322 *e*P **P** **01 37 14.0 +0.8**
OSTC *e*SKS **S** **01 47 30.0 -5.8**
OSTC AMS AMS 02 19 20.0
comp=Z,4μm,15.1s
OSTC Ostas 83.71 322 *e*P **P** **01 37 14.0 +0.8**
OSTC *e* 01 47 30.0
OSTC MLR MLR
comp=Z,4μm,15.1s
DPC Dobruska-Polom 83.74 322 *e*P **P** **01 37 13.7 +0.3**
DPC AMS AMS 02 18 30.0
comp=Z,3μm,15.8s
DPC Dobruska-Polom 83.74 322 *e*P **P** **01 37 13.7 +0.3**
DPC MLR MLR
comp=Z,3μm,15.8s
DPC Dobruska-Polom 83.74 322 P **P** **01 37 13.4 0.0**
comp=Z,647nmcomp=Z,39nm,1.1s
OVD Ostervraa, Den 83.79 330 *i* P **P** **01 37 14.0 +0.7**
CHVC Chvalec 83.79 322 *e*P **P** **01 37 13.4 -0.2**
CHVC AMS AMS 02 19 30.0
comp=Z,4μm,14.6s
CHVC Chvalec 83.79 322 *e*P **P** **01 37 13.4 -0.2**
CHVC MLR MLR
comp=Z,4μm,14.6s
IDI Anoyia 83.81 305 IAmb IAmb 01 37 32.4
comp=Z,91nm,1.3s
IDI Anoyia 83.81 305 LR LR 02 21 05.1
comp=Z,489nm,18.1s,baz=94,slow=40
FOO Floro 83.83 335 *e*P **P** **01 37 14.8 +1.3**
FOO IAmb IAmb 01 37 20.0
comp=Z,36nm,1.1s

SKO Skopje 83.85 313 *i* P **P** **01 37 14.0 -0.1**
UPC Upice 83.85 322 *e*P **P** **01 37 14.3 +0.4**
UPC AMS AMS 02 19 20.0
comp=Z,4μm,14.3s
UPC Upice 83.85 322 *e*P **P** **01 37 14.3 +0.4**
UPC MLR MLR
comp=Z,4μm,14.3s
SMOL Smolenice 83.85 320 *e*P **P** **01 37 15.6 +1.6**
SMOL pmax pmax
comp=Z,44nm,1.8s
MODS Modra-Piesok 84.00 320 *e*P **P** **01 37 12.9 -1.8**
MODS pmax pmax
comp=Z,1μm,3.5s
MODS Modra-Piesok 84.00 320 *e*P **P** **01 37 12.9 -1.8**
VRAC Vranov 84.02 321 *e*P **P** **01 37 15.0 +0.1**
VRAC Vranov 84.02 321 *e*S **S** **01 47 41.5 +2.6**
VRAC Vranov 84.02 321 LR LR 02 18 05.5
comp=Z,2μm,18.3s,baz=60,slow=38
VRAC Vranov 84.02 321 P **P** **01 37 14.9 +0.1**
VRAC Vranov 84.02 321 ⇓P **P** **01 37 14.9 +0.1**
MORH Mrgy, Hungar 84.04 317 *e*P **P** **01 37 14.6 -0.3**
MORH Mrgy, Hungar 84.04 317 P **P** **01 37 15.0 +0.1**
comp=Z,776nmcomp=Z,34nm,2.0s
MORH Mrgy, Hungar 84.04 317 ⇑P **P** **01 37 14.8 -0.1**
ODD1 Odda 84.08 333 *e*P **P** **01 37 16.4 +1.5**
HOMB Hombersund 84.11 331 *e*P P 01 37 18.3 +3.3
RUE Ruedersdorf 84.24 324 *e*P **P** **01 37 16.1 +0.3**
comp=Z,106nm,1.1s,baz=61,slow=4.8
SUE Sulen 84.24 334 *e*P **P** **01 37 16.4 +0.8**
KRUC Moravsky 84.25 320 *e*P **P** **01 37 16.2 +0.3**
KRUC Moravsky 84.25 320 *e*S **S** **01 47 42.4 +1.3**
MPLH Magyarpolny 84.34 318 P **P** **01 37 16.5 0.0**
comp=Z,3μmcomp=Z,187nm,1.1s
FNA Florina 84.35 311 IAMs_20 IAMs_20 02 18 24.5
comp=Z,2μm,21.0s
BER Bergen 84.38 334 *e*P **P** **01 37 17.6 +1.3**
ASK Askoy 84.38 334 *e*P **P** **01 37 14.7 -1.6**
BLS5 Blasjo 84.42 332 *e*P **P** **01 37 16.7 +0.1**
RUDO Rudo 84.61 315 *e*P **P** **01 37 19.2 +1.3**
OHR Ohrid 84.63 312 *i* P **P** **01 37 16.4 -1.7**
SNART Snartemo 84.66 331 *e*P **P** **01 37 18.3 +0.6**
SNART Snartemo 84.66 331 *i* P **P** **01 37 19.2 +1.5**
PVCC Panska Ves 84.67 322 *e*P **P** **01 37 18.3 +0.2**
PVCC *e*pP **sP** **01 37 22.7 -0.1**
PVCC AMS AMS 02 19 50.0
comp=Z,4μm,17.7s
PVCC Panska Ves 84.67 322 *e*P **P** **01 37 18.3 +0.2**
PVCC *e* 01 37 22.7
PVCC MLR MLR
comp=Z,4μm,17.7s
TREC Trest 84.68 321 *e*P **P** **01 37 17.9 -0.3**
TREC *e*pP **sP** **01 37 24.9 +2.0**
TREC Trest 84.68 321 *e*P **P** **01 37 17.9 -0.3**
TREC *e* 01 37 24.9
MUD Monsted U'grnd 84.71 329 *i* P **P** **01 37 20.7 +2.6**
PLE Pljevlja 84.71 314 ⇓*i*P **P** **01 37 18.0 -0.6**
KULLO Kullorsuaq 84.81 360 *i* P **P** **01 37 18.8 +0.5**
GOPC GO Pecny, Ondr 84.82 322 *e*SKS **S** **01 47 44.5 -2.4**
GOPC AMS AMS 02 19 20.0
comp=Z,4μm,22.9s
KOME Kolasin 84.82 314 ⇓*i*P **P** **01 37 18.7 -0.4**
VOI Vohitsoka 84.85 244 P **P** **01 37 18.8 -0.7**
VOI Vohitsoka 84.85 244 P **P** **01 37 19.3 -0.2**
SNR=5.5
BRG Berggiesshubel 84.87 323 *e*P **P** **01 37 19.2 +0.1**
comp=Z,44nm,1.1s,baz=61,slow=4.8
BRG Berggiesshubel 84.87 323 *e*P **P** **01 37 18.9 -0.2**
BRG Amp 01 37 20.9
comp=Z,7.0nm,0.9s
BRG Berggiesshubel 84.87 323 P P 01 37 26.4 +7.3
BRG Amp 01 37 27.7
comp=Z,44nm,1.1s
BRG PP PP 01 40 45.0 +10
BRG Amp 01 40 52.8
comp=Z,9.7nm,1.3s
BRG Berggiesshubel 84.87 323 S **S** **01 47 52.0 +4.7**
BRG Berggiesshubel 84.87 323 SS SS 01 53 29.0 +10
RONA Rosalia, Austr 84.89 319 *i* P **P** **01 37 19.0 -0.3**
comp=Z,19nm,0.9s
PRU Pruhonice 84.93 322 *e*P **P** **01 37 19.4 0.0**
PRU *e*SKS **S** **01 47 49.5 +1.6**
PRU AMS AMS 02 19 20.0
comp=Z,4μm,15.9s
PRU Pruhonice 84.93 322 *e*P **P** **01 37 19.4 0.0**
PRU *e* 01 47 49.5
PRU MLR MLR
comp=Z,4μm,15.9s
RICC Richard 84.94 322 AMS AMS 02 20 10.0
comp=Z,4μm,15.2s
PRA Prague 84.95 322 AMS AMS 02 19 20.0
comp=Z,4μm,14.9s
CONA Conrad Observa 85.05 320 *i* P **P** **01 37 20.5 +0.3**
comp=Z,58nm,1.2s,SNR=19
KMY Karmoy 85.05 333 *e*P **P** **01 37 18.3 -1.4**
UPM Unac-Piva 85.09 314 ⇓*i*P **P** **01 37 19.8 -0.8**
BEHE Becsehely 85.11 318 *e*P P 01 37 26.5 +6.1
PDG Podgorica 85.17 314 IAMs_20 IAMs_20 02 19 40.1
comp=Z,2μm,20.0s
PDG Podgorica 85.17 314 ⇓*i*P **P** **01 37 20.0 -0.7**
PDG Podgorica 85.17 314 ⇑P **P** **01 37 20.4 -0.3**
TIR Tirane 85.18 312 P **P** **01 37 20.4 -0.4**
TIR Tirane 85.18 312 P **P** **01 37 20.9 +0.1**
comp=Z,3μmcomp=Z,166nm,0.8s
TIR Tirane 85.18 312 ⇑P **P** **01 37 20.5 -0.4**
CLL Collm 85.20 323 IAmb IAmb 01 37 28.8
comp=Z,55nm,1.0s
CLL Collm 85.20 323 *e*P **P** **01 37 20.0 -0.7**
CLL *i* 01 37 23.1
CLL *e*S **S** **01 47 52.0 +1.4**
CLL pmax pmax
comp=Z,13nm,1.1s
CLL Collm 85.20 323 P **P** **01 37 20.8 +0.1**
comp=Z,631nmcomp=Z,57nm,1.0s
CLL Collm 85.20 323 *e*P **P** **01 37 20.5 -0.2**
comp=Z,58nm,1.0s,baz=61,slow=4.8
BBB Bella Bella 85.22 36 LR LR 02 13 46.8
comp=Z,611nm,21.3s,baz=308,slow=34
KIBK Kibwezi 85.23 266 IAmb IAmb 01 37 30.8
comp=Z,56nm,1.1s
KIBK Kibwezi 85.23 266 P **P** **01 37 22.4 +0.8**
SNR=7.5
NKME Niksic 85.23 314 ⇓*i*P **P** **01 37 20.4 -0.7**
KLINJ Klinje 85.32 314 *e*P **P** **01 37 21.0 -0.6**
ITM Ithomi 85.33 308 IAMs_20 IAMs_20 02 19 43.9
comp=Z,1μm,19.0s
GORT1 Trebel 85.33 325 *e*P **P** **01 37 21.8 +0.6**
comp=Z,77nm,1.0s,baz=61,slow=4.8
CEME Cevo 85.35 314 ⇓*i*P **P** **01 37 20.8 -0.9**
ULC Ulcinj 85.36 313 ⇓*i*P **P** **01 37 20.8 -0.9**
ZVC Zvikov 85.38 321 *e*P **P** **01 37 21.4 -0.2**
ZVC AMS AMS 02 20 50.0
comp=Z,3μm,15.6s
BSEG Bad Segeberg 85.39 327 *e*P **P** **01 37 21.8 +0.3**
comp=Z,43nm,1.0s,baz=61,slow=4.8
BRY Bratogost 85.46 314 ⇓*i*P **P** **01 37 21.6 -0.7**
BUM Brajici-Budva 85.46 314 ⇓*i*P **P** **01 37 21.4 -0.9**
MOSL Moslavina 85.49 317 *e*P **P** **01 37 22.1 -0.2**
KMBO Kilima Mbogo 85.54 267 *i* P **P** **01 37 22.7 -0.7**
ARSA Arzberg 85.55 319 IAMs_20 IAMs_20 02 18 45.1
comp=Z,2μm,21.0s
ARSA Arzberg 85.55 319 *i* P **P** **01 37 21.4 -1.2**
comp=Z,29nm,1.1s
BLY Banja Luka 85.58 316 *e*P **P** **01 37 22.6 -0.1**
BLY Banja Luka 85.58 316 ⇓P **P** **01 37 23.4 +0.7**
CKRC Cesky Krumlov 85.59 321 *e*P **P** **01 37 23.0 +0.3**
CKRC *e*SKS **S** **01 47 53.1 -1.4**
CKRC AMS AMS 02 20 30.0
comp=Z,3μm,14.6s
CKRC Cesky Krumlov 85.59 321 *e*P **P** **01 37 23.0 +0.3**
CKRC *e* 01 47 53.1
CKRC MLR MLR
comp=Z,3μm,14.6s
A051A Mrakovica 85.65 317 *e*P **P** **01 37 23.0 -0.2**
TREB Trebinje 85.66 314 *e*P P 01 37 26.5 +3.3
HCY Herceg Novi 85.67 314 ⇓*i*P **P** **01 37 23.2 0.0**
YKAW3 Yellowknife Wh 85.68 23 IAmb IAmb 01 37 27.8
comp=Z,51nm,0.9s
FLTG Flechtingen 85.69 325 *e*P **P** **01 37 22.7 -0.4**
comp=Z,45nm,1.1s,baz=61,slow=4.8
LODK Lodwar 85.71 272 IAMs_20 IAMs_20 02 15 20.3
comp=Z,1μm,22.0s
LODK Lodwar 85.71 272 P **P** **01 37 25.3 +1.3**
SNR=18
YKA Yellowknife Ar 85.73 23 P **P** **01 37 22.2 -0.8**

YKA Yellowknife Ar 85.73 23 P **P** **01 37 22.9 -0.1**
comp=Z,23nm,0.8s,baz=314,slow=5.2,SNR=24
YKA LR LR 02 17 47.4
comp=Z,453nm,19.9s,baz=326,slow=37
comp=Z,23nm,0.8s
YKA Yellowknife Ar 85.73 23 *i* P **P** **01 37 25.0 +1.9**
YKA pmax pmax
comp=Z,23nm,0.8s
POIN Pond Inlet 85.73 6 IAMs_20 IAMs_20 02 14 48.9
comp=Z,2μm,22.0s
YKAW1 Yellowknife Wh 85.78 23 IAmb IAmb 01 37 28.3
comp=Z,36nm,0.9s
KHC Kasperske Hory 85.88 321 *e*P **P** **01 37 25.3 +1.1**
KHC *ex* x 01 37 31.7
KHC *e*SKS **S** **01 47 55.2 -2.2**
KHC AMS AMS 02 20 40.0
comp=Z,3μm,19.0s
KHC Kasperske Hory 85.88 321 *i* P **P** **01 37 24.8 +0.6**
KHC pmax pmax
comp=Z,17nm,1.0s
KHC Kasperske Hory 85.88 321 P **P** **01 37 24.2 0.0**
comp=Z,413nmcomp=Z,25nm,1.1s
SUMG Summit 85.90 354 IAmb IAmb 01 37 36.5
comp=Z,44nm,1.0s
SUMG IAMs_20 IAMs_20 02 21 30.3
comp=Z,2μm,18.0s
SUMG Summit 85.90 354 *i* P **P** **01 37 23.6 -0.7**
SUMG IAmb IAmb 01 37 36.5
comp=Z,26nm,0.9s
TANN Tannenbergstha 85.92 323 *e*P **P** **01 37 24.4 0.0**
comp=Z,131nm,2.3s,baz=61,slow=4.8
NEUB Neuenburg 85.93 324 *e*P **P** **01 37 24.4 0.0**
comp=Z,48nm,1.0s,baz=61,slow=4.8
GEC2 GERESS Array S 85.93 321 IAmb IAmb 01 37 32.9
comp=Z,37nm,1.1s
GEC2 GERESS Array S 85.93 321 *e*P **P** **01 37 24.6 0.0**
comp=Z,38nm,1.1s,baz=61,slow=4.8
GERES GERESS Array B 85.93 321 P **P** **01 37 23.4 -1.1**
GERES GERESS Array B 85.93 321 P **P** **01 37 23.9 -0.6**
comp=Z,4.7nm,0.9s,baz=66,slow=3.2,SNR=13
GERES PP **PP** **01 40 46.0 +2.2**
comp=Z,0.7nm,0.7s,baz=90,slow=4.0,SNR=3.5
GERES LR LR 02 17 19.4
comp=Z,2μm,18.8s,baz=58,slow=37
comp=Z,4.7nm,0.9s
GERES GERESS Array B 85.93 321 P **P** **01 37 24.0 -0.6**
STON Ston 86.03 314 *e*P **P** **01 37 23.3 -1.7**
MOA Molln 86.05 320 *i* P **P** **01 37 25.2 +0.1**
comp=Z,12nm,0.6s,SNR=8.9
MOA *e*PP **PP** **01 40 37.9 -6.8**
comp=Z,9.1nm,1.4s
ASSE Asse, Remlinge 86.09 325 *e*P **P** **01 37 25.2 +0.2**
comp=Z,48nm,1.3s,baz=61,slow=4.8
SOKA Soboth 86.11 319 *i* P **P** **01 37 25.3 -0.2**
comp=Z,29nm,1.1s
A050A Klekovaca 86.12 316 *e*P **P** **01 37 25.1 -0.4**
NRDL Niedersach Rie 86.21 325 *e*P **P** **01 37 26.2 +0.6**
comp=Z,48nm,1.1s,baz=61,slow=4.8
WET Wettzell 86.28 322 *e*P **P** **01 37 26.5 +0.4**
comp=Z,76nm,2.0s,baz=61,slow=4.8
MOX Moxa 86.29 323 *e*P **P** **01 37 26.2 0.0**
comp=Z,22nm,1.1s,baz=61,slow=4.8
MOX *e*L L 02 20 13.1
comp=Z,6μm,18.8s
OZLJ Ozalj 86.30 318 *e*P **P** **01 37 26.2 0.0**
MANZ Manzenberg 86.33 323 *e*P **P** **01 37 26.7 +0.3**
comp=Z,4.8nm,1.2s,baz=61,slow=4.8
ROTZ Rotzenmuhle 86.37 322 *e*P **P** **01 37 26.2 -0.4**
comp=Z,4.7nm,1.0s,baz=61,slow=4.8
CLZ Clausthal 86.39 325 *e*P **P** **01 37 27.1 +0.5**
comp=Z,63nm,1.2s,baz=61,slow=4.8
KIJV Kijevo 86.40 316 *e*P **P** **01 37 24.0 -2.8**
OBKA Obir 86.48 319 *i* P **P** **01 37 27.9 +0.6**
comp=Z,16nm,1.7s
RETH Rethem/Aller, 86.48 326 *e*P **P** **01 37 27.1 +0.2**
comp=Z,26nm,1.0s,baz=61,slow=4.8
BIOA Bad Ischl, Aus 86.50 320 *i* P **P** **01 37 27.4 +0.2**
comp=Z,11nm,1.0s
GTTG Gottingen 86.76 325 *e*P **P** **01 37 28.7 +0.3**
comp=Z,29nm,1.0s,baz=61,slow=4.8
KBA Koelnbreinsper 86.96 320 *i* P **P** **01 37 29.4 -0.3**
comp=Z,9.6nm,0.7s
GRF Grafenberg Arr 86.97 323 *e*P **P** **01 37 30.0 +0.5**
comp=Z,124nm,2.0s,baz=61,slow=4.8
GRF *e*L L 02 18 42.5
comp=Z,4μm,19.5s
RJOB Jochberg 86.98 320 *e*P **P** **01 37 29.5 -0.2**
comp=Z,21nm,0.9s,baz=61,slow=4.8
MYKA Terra Mystica 86.98 319 *i* P **P** **01 37 29.9 +0.2**
comp=Z,4.4nm,0.8s
RAR Rarotonga 87.04 114 LR LR 02 13 21.3
comp=Z,352nm,19.5s,baz=298,slow=34
UBBA Unterbreizbach 87.10 324 *e*P **P** **01 37 30.2 +0.2**
comp=Z,72nm,1.9s,baz=61,slow=4.8
LESA Schwarzleotal 87.20 320 *i* P **P** **01 37 31.1 +0.3**
comp=Z,9.3nm,0.7s
LESA *e*PP **PP** **01 40 50.5 -3.6**
comp=Z,9.2nm,1.3s
CASY Casey 87.28 185 P **P** **01 37 29.2 -1.1**
IBBN Ibbenburen 87.55 326 *e*P **P** **01 37 32.2 0.0**
comp=Z,49nm,1.1s,baz=61,slow=4.8
ABTA Abfaltersbach 87.62 320 *i* P **P** **01 37 32.0 -0.7**
comp=Z,12nm,0.7s
FUR Furstenfeldbru 87.68 321 *e*P **P** **01 37 33.1 +0.1**
comp=Z,34nm,0.8s,baz=61,slow=4.8
SGRT San Giovanni R 87.82 314 IAMs_20 IAMs_20 02 23 30.4
comp=Z,2μm,19.0s
WTTA Wattenberg 87.90 320 *i* P **P** **01 37 34.2 0.0**
comp=Z,16nm,0.6s
WATA Walderalm 87.90 320 *i* P **P** **01 37 34.1 -0.1**
comp=Z,9.8nm,0.7s
SQTA Sankt Quirin 88.17 320 *i* P **P** **01 37 35.3 -0.2**
comp=Z,16nm,1.0s
MOTA Moosalm 88.18 321 *i* P **P** **01 37 35.4 -0.1**
comp=Z,12nm,0.8s
TIP Timpagrande 88.24 311 IAMs_20 IAMs_20 02 22 26.7
comp=Z,2μm,22.0s
TIP Timpagrande 88.24 311 P **P** **01 37 35.7 -0.2**
comp=Z,892nmcomp=Z,44nm,1.9s
TNS Taunus Mts 88.26 324 *e*P **P** **01 37 35.8 0.0**
comp=Z,242nm,2.8s,baz=61,slow=4.8
RETA Reutte 88.31 321 *i* P **P** **01 37 36.0 -0.1**
comp=Z,9.5nm,1.0s
ILON Igloolik, Nuna 88.42 8 IAmb IAmb 01 37 44.7
comp=Z,50nm,1.0s
CUC Castrocucco 88.54 312 IAMs_20 IAMs_20 02 22 48.6
comp=Z,1μm,19.0s
FETA Feichten 88.56 320 *i* P **P** **01 37 36.4 -1.0**
comp=Z,13nm,1.3s
STU Stuttgart 88.58 322 *e*P **P** **01 37 36.9 -0.4**
comp=Z,28nm,0.7s,baz=61,slow=4.8
TEOL Teolo 88.79 319 IAmb IAmb 01 37 48.9
comp=Z,40nm,0.7s
GUMA Gualdo di Mace 88.82 316 IAMs_20 IAMs_20 02 24 27.8
comp=Z,2μm,21.0s
INTR Introdacqua 88.93 315 IAMs_20 IAMs_20 02 20 18.8
comp=Z,2μm,20.0s
FDMO Fiordimonte 89.00 316 IAmb IAmb 01 37 49.0
comp=Z,51nm,0.9s
FDMO IAMs_20 IAMs_20 02 24 33.4
comp=Z,2μm,20.0s
FUORN Ofenpass-Fuorn 89.03 320 IAmb IAmb 01 37 54.4
comp=Z,37nm,0.9s
NRCA Norcia 89.07 316 IAMs_20 IAMs_20 02 24 30.4
comp=Z,2μm,22.0s
AQU L'Aquila 89.11 315 P **P** **01 37 39.7 -0.2**
comp=Z,873nmcomp=Z,45nm,1.0s
DAVOX Davos/Dischmat 89.18 320 LR LR 02 21 29.5
comp=Z,2μm,19.1s,baz=50,slow=38
CEL Celeste 89.25 311 IAMs_20 IAMs_20 02 23 17.4
comp=Z,2μm,20.0s
CEL Celeste 89.25 311 P **P** **01 37 40.3 -0.3**
comp=Z,2μmcomp=Z,165nm,1.5s
BFO Black Forest 89.30 322 *e*P **P** **01 37 40.1 -0.5**
comp=Z,12nm,1.1s,baz=61,slow=4.8
MEM Membach 89.38 325 *d*P **P** **01 37 43.3 +2.4**
comp=Z,11nm,1.0s
LLLB Lillooet 89.39 35 IAmb IAmb 01 38 01.0
comp=Z,54nm,1.0s
BEBN Eben Emael 89.45 325 *d*P **P** **01 37 41.8 +0.6**
comp=Z,50nm,0.4s
BHOU Houvegnez 89.52 325 *d*P **P** **01 37 43.8 +2.2**
comp=Z,7.9nm,1.1s
CESX Cesi 89.52 316 IAMs_20 IAMs_20 02 25 01.3
comp=Z,1μm,19.0s
BSTI Sart Tilman 89.63 325 *d*P **P** **01 37 42.2 +0.2**
comp=Z,3.7nm,0.9s
TUE Stuetta 89.66 320 IAmb IAmb 01 37 55.7

	comp=Z,88nm,1.9s									
TUE	**Stuetta**	**89.66**	**320**		P	**P**		**01 37 42.0**	**-0.6**	
	comp=Z,2µmcomp=Z,89nm,1.3s									
WLF	**Walferdange**	**89.81**	**324**		IAmb	IAmb		01 37 51.6		
	comp=Z,42nm,1.0s									
WLF	**Walferdange**	**89.81**	**324**		*d*P	**P**		**01 37 41.3**	**-1.6**	
	comp=Z,25nm,1.1s									
WLF	**Walferdange**	**89.81**	**324**		*e*P	**P**		**01 37 43.3**	**+0.3**	
	comp=Z,48nm,1.1s,baz=61,slow=4.8									
OSSC	**Osservatorio P**	**89.95**	**317**		IAMs_20	IAMs_20		02 20 20.5		
	comp=Z,2µm,20.0s									
BGES	**Gesves**	**89.99**	**325**		*d*P	P		01 37 47.8	+4.0	
RCHB	**Rochefort**	**90.05**	**325**		*d*P	**P**		**01 37 42.8**	**-1.2**	
	comp=Z,10nm,0.9s									
ILULI	**Ilulissat**	**90.07**	**358**		IAMs_20	IAMs_20		02 25 59.5		
	comp=Z,1µm,20.0s									
UCC	**Uccle**	**90.15**	**326**		*d*P	**P**		**01 37 46.3**	**+1.9**	
BORG	**Borgarnes**	**90.15**	**345**		LR	LR		02 20 57.6		
	comp=Z,3µm,21.0s,baz=29,slow=37									
BLKN	**Baker Lake**	**90.15**	**16**		IAmb	IAmb		01 37 48.1		
	comp=Z,47nm,1.2s									
BLKN					IAMs_20	IAMs_20		02 24 24.1		
	comp=Z,2µm,18.0s									
BMRD	**Maredsous**	**90.21**	**325**		*d*P	**P**		**01 37 46.5**	**+1.7**	
	comp=Z,13nm,1.0s									
DOU	**Dourbes**	**90.42**	**325**		*d*P	**P**		**01 37 47.4**	**+1.7**	
	comp=Z,13nm,0.9s									
VAE	**Valguarnera**	**90.65**	**311**		LR	LR		02 25 07.6		
	comp=Z,1µm,19.4s,baz=28,slow=40									
EKA	**Eskdalemuir Ar**	**91.03**	**332**		P	**P**		**01 37 47.8**	**-0.7**	
	comp=Z,1.3nm,0.6s,baz=36,slow=3.5,SNR=8.0									
EKA					PP	**PP**		**01 41 28.5**	**+4.3**	
	comp=Z,4.3nm,1.0s,baz=61,slow=8.7,SNR=4.0									
	comp=Z,1.3nm,0.6s									
MBAR	**Mbarara**	**91.44**	**270**		P	**P**		**01 37 51.0**	**-0.5**	
MBAR					IAMs_20	IAMs_20		02 17 13.8		
	comp=Z,1µm,22.0s									
MBAR	**Mbarara**	**91.44**	**270**		P	**P**		**01 37 52.4**	**+1.0**	
MBAR					P	**P**		**01 37 52.4**	**+1.0**	
MBAR	**Mbarara**	**91.44**	**270**		*i* P	**P**		**01 37 52.1**	**+0.7**	
MBAR					pmax	pmax				
	comp=Z,14nm,1.3s									
B08A	**Colville Reser**	**92.02**	**36**		IAMs_20	IAMs_20		02 25 39.9		
	comp=Z,2µm,18.0s									
SFJD	**Kangerlussuaq**	**92.26**	**357**		IAMs_20	IAMs_20		02 19 54.4		
	comp=Z,1µm,20.0s									
SFJD	**Kangerlussuaq**	**92.26**	**357**		LR	LR		02 20 15.0		
	comp=Z,1µm,20.2s,baz=10.0,slow=36									
VSL	**Villasalto**	**93.16**	**314**		IAMs_20	IAMs_20		02 26 51.5		
	comp=Z,1µm,18.0s									
NEW	**Newport**	**93.28**	**35**		P	**P**		**01 38 00.3**	**+1.1**	
	comp=Z,6.0nm,0.9s,baz=300,slow=7.1,SNR=10									
NEW					LR	LR		02 20 21.5		
	comp=Z,449nm,21.1s,baz=332,slow=36									
	comp=Z,6.0nm,0.9s									
PINE	**Pine Mountain**	**93.65**	**40**		IAmb	IAmb		01 38 27.5		
	comp=Z,29nm,1.2s									
YBH	**Yreka Blue Hor**	**93.67**	**43**		P	**P**		**01 38 02.2**	**+1.1**	
	comp=Z,0.3nm,0.9s,baz=304,slow=3.6,SNR=6.0									
YBH					LR	LR		02 15 59.0		
	comp=Z,20nm,20.4s,baz=294,slow=33									
E09A	**Wood Farm, Sta**	**93.74**	**37**		IAMs_20	IAMs_20		02 26 49.6		
	comp=Z,1µm,18.0s									
J05D	**Fort Rock, OR**	**93.75**	**41**		P	**P**		**01 38 01.4**	**-0.2**	
K05A	**Summer Lake**	**94.27**	**41**		P	**P**		**01 38 05.1**	**+1.1**	
K05A					IAmb	IAmb		01 38 33.6		
	comp=Z,26nm,1.1s									
PPT	**Papeete**	**94.63**	**107**		LR	LR		02 14 01.4		
	comp=Z,599nm,21.0s,baz=281,slow=31									
PPT2	**Papeete2**	**94.64**	**107**		*e*S	**S**		**01 49 15.9**	**-3.4**	
	comp=Z,936nm,24.2s									
PPT2					*e*SS	**SS**		**01 55 40.2**	**-2.8**	
	comp=Z,1µm,24.5s									
PPT2					*e*LQ	LQ		02 03 48.6		
	comp=Z,733nm,27.8s									
PPT2					*e*LR	LR		02 08 10.5		
	comp=Z,2µm,35.2s									
PPT2					*e*LR	LR		02 08 19.3		
	comp=Z,2µm,25.2s									
KEST	**Kesra**	**95.06**	**311**		P	**P**		**01 38 07.1**	**-0.5**	
	comp=Z,3.7nm,0.9s,baz=31,slow=5.9,SNR=6.4									
KEST					LR	LR		02 31 25.5		
	comp=Z,1µm,18.3s,baz=53,slow=42									
	comp=Z,3.7nm,0.9s									
BMO	**Blue Mountains**	**95.19**	**38**		IAMs_20	IAMs_20		02 27 54.1		
	comp=Z,1µm,20.0s									
FRB	**Frobisher Bay**	**95.29**	**5**		LR	LR		02 25 17.7		
	comp=Z,2µm,18.7s,baz=350,slow=38									
FFC	**Flin Flon**	**95.86**	**24**		P	**P**		**01 38 09.0**	**-1.7**	
FFC	**Flin Flon**	**95.86**	**24**		IAMs_20	IAMs_20		02 24 49.5		
	comp=Z,1µm,20.0s									
FFC	**Flin Flon**	**95.86**	**24**		P	**P**		**01 38 09.0**	**-1.7**	
FFC					pmax	pmax				
	comp=Z,9.0nm,1.0s									
FFC					MLR	MLR				
	comp=Z,1µm,20.0s									
MSO	**Missoula**	**95.86**	**35**		IAMs_20	IAMs_20		02 23 02.4		
	comp=Z,1µm,22.0s									
TBI	**Tubuai**	**96.70**	**112**		*e*S	**S**		**01 49 35.2**	**-1.6**	
	comp=Z,3µm,30.0s									
TBI					*e*SS	**SS**		**01 56 09.9**	**-2.1**	
	comp=Z,3µm,27.8s									
TBI					*e*LQ	LQ		02 05 21.3		
	comp=Z,4µm,28.0s									
TBI					*e*LR	LR		02 09 13.1		
	comp=Z,12µm,30.5s									
TBI					*e*LR	LR		02 09 17.5		
	comp=Z,2µm,33.2s									
SAO	**San Andreas Ge**	**97.14**	**46**		IAMs_20	IAMs_20		02 11 55.5		
	comp=Z,1µm,22.0s									
EGMT	**Eagleton**	**97.25**	**32**		IAMs_20	IAMs_20		02 27 05.9		
	comp=Z,1µm,19.0s									
DLMT	**Dillon**	**97.51**	**35**		IAMs_20	IAMs_20		02 31 22.2		
	comp=Z,1µm,18.0s									
HULI	**Fort Hunter Li**	**97.69**	**47**		IAMs_20	IAMs_20		02 30 23.7		
	comp=Z,1µm,19.0s									
BOZ	**Bozeman (W)**	**97.88**	**35**		IAMs_20	IAMs_20		02 24 53.9		
	comp=Z,1µm,21.0s									
RAMR	**Ramage Ranch**	**98.14**	**47**		IAMs_20	IAMs_20		02 13 22.8		
	comp=Z,1µm,21.0s									
MAW	**Mawson**	**98.22**	**199**		P	Pdif		01 38 19.6	-1.3	
	comp=Z,0.6nm,0.3s,baz=67,slow=8.3,SNR=1.5									
	comp=Z,0.6nm,0.3s									
NVAR	**Mina Array Bea**	**98.31**	**44**		LR	LR		02 14 46.0		
	comp=Z,506nm,21.7s,baz=290,slow=30									
YHL	**Hebgen Lake**	**98.61**	**35**		IAMs_20	IAMs_20		02 24 57.1		
	comp=Z,1µm,22.0s									
LSZ	**Lusaka**	**98.83**	**257**		P	**P**		**01 38 22.2**	**-2.8**	
LSZ					IAmb	IAmb		01 38 32.1		
	comp=Z,28nm,1.1s									
LSZ	**Lusaka**	**98.83**	**257**		LR	LR		02 19 16.1		
	comp=Z,2µm,21.2s,baz=70,slow=33									
LSZ	**Lusaka**	**98.83**	**257**		P	**P**		**01 38 22.2**	**-2.8**	
LSZ					pmax	pmax				
	comp=Z,28nm,1.2s									
ELK	**Elko**	**98.86**	**40**		P	Pdif		01 38 25.8	+0.9	
	comp=Z,1.8nm,0.5s,baz=307,slow=10,SNR=6.1									
ELK					PP	**PP**		**01 42 25.8**	**-0.1**	
	comp=Z,0.3nm,0.3s,baz=290,slow=3.1,SNR=3.7									
	comp=Z,1.8nm,0.5s									
YNM	**Yellowstone No**	**98.94**	**35**		IAMs_20	IAMs_20		02 30 47.1		
	comp=Z,1µm,20.0s									
YNR	**Norris Junctio**	**98.97**	**35**		IAMs_20	IAMs_20		02 30 37.7		
	comp=Z,1µm,18.0s									
YMP	**Mirror Lake Pl**	**99.23**	**35**		IAMs_20	IAMs_20		02 25 07.6		
	comp=Z,1µm,22.0s									
RLMT	**Red Lodge**	**99.44**	**34**		IAMs_20	IAMs_20		02 30 28.2		
	comp=Z,1µm,18.0s									
DGMT	**Dagmar**	**99.58**	**29**		IAMs_20	IAMs_20		02 27 25.5		
	comp=Z,2µm,20.0s									
TPAW	**Teton Pass**	**99.62**	**36**		IAMs_20	IAMs_20		02 26 04.0		
	comp=Z,1µm,22.0s									
SNOW	**Snow King Moun**	**99.75**	**36**		IAMs_20	IAMs_20		02 28 25.5		
	comp=Z,954nm,19.0s									
LAO	**LASA Array**	**99.91**	**31**		IAMs_20	IAMs_20		02 27 32.2		
	comp=Z,992nm,20.0s									
AHID	**Auburn Hatcher**	**100.01**	**37**		IAMs_20	IAMs_20		02 31 49.4		
	comp=Z,1µm,19.0s									
OSI	**Osito Audit: C**	**100.17**	**47**		IAMs_20	IAMs_20		02 14 45.7		
	comp=Z,1µm,22.0s									
CLC	**China Lake**	**100.26**	**45**		IAMs_20	IAMs_20		02 32 33.8		
	comp=Z,920nm,18.0s									
TAOE	**Nuku Hiva Isla**	**100.34**	**96**		*e*S	**Sdif**		**01 50 06.3**	**-1.9**	
TAOE					*e*SS	**SS**		**01 56 55.7**	**-7.9**	
	comp=Z,395nm,24.5s									
	comp=Z,546nm,25.1s									
TPO	**Tropico Hills**	**100.36**	**47**		IAMs_20	IAMs_20		02 15 06.7		
	comp=Z,1µm,22.0s									
LRMC	**Laurel Mtn Rad**	**100.39**	**46**		IAMs_20	IAMs_20		02 24 45.4		
	comp=Z,924nm,20.0s									
HWUT	**Hardware Ranch**	**100.49**	**38**		IAMs_20	IAMs_20		02 30 40.3		
	comp=Z,1µm,18.0s									
PASC	**Pasadena Art C**	**100.79**	**47**		IAMs_20	IAMs_20		02 32 28.1		
	comp=Z,996nm,18.0s									
MWC	**Mount Wilson**	**100.85**	**47**		IAMs_20	IAMs_20		02 32 29.6		
	comp=Z,989nm,18.0s									
PDAR	**Pinedale Array**	**100.86**	**36**		P	**Pdif**		**01 38 35.2**	**+1.4**	
	comp=Z,0.5nm,0.7s,baz=246,slow=9.0,SNR=4.3									
PDAR					PP	**PP**		**01 42 41.6**	**+0.7**	
	comp=Z,1.1nm,0.9s,baz=320,slow=3.9,SNR=4.0									
PDAR					PKKPbc	**PKKPdf**		**01 54 51.0**	**-0.7**	
	comp=Z,0.3nm,0.7s,baz=134,slow=4.3,SNR=4.1									
VNDA	**Vanda**	**100.88**	**172**		P	**Pdif**		**01 38 31.1**	**-1.6**	
	comp=Z,3.2nm,1.1s,baz=337,slow=4.3,SNR=8.2									
VNDA					PP	**PP**		**01 42 39.3**	**-1.5**	
	comp=Z,2.6nm,1.0s,baz=323,slow=6.2,SNR=4.5									
BFSC	**Mount Baldy Ra**	**101.11**	**47**		IAMs_20	IAMs_20		02 20 18.6		
	comp=Z,1µm,19.0s									
JLU	**Jordanelle**	**101.21**	**39**		IAMs_20	IAMs_20		02 27 02.2		
	comp=Z,1µm,22.0s									
ESDC	**Sonseca Array**	**101.52**	**320**		PP	**PP**		**01 42 42.6**	**-3.1**	
	comp=Z,2.2nm,0.9s,baz=46,slow=8.4,SNR=6.6									
BSUT	**Blindstream Ca**	**101.65**	**38**		IAMs_20	IAMs_20		02 31 28.9		
	comp=Z,1µm,19.0s									
MDND	**Maddock**	**102.08**	**27**		IAMs_20	IAMs_20		02 24 16.5		
	comp=Z,1µm,22.0s									
PFO	**Pinyon Flats O**	**102.29**	**47**		IAMs_20	IAMs_20		02 15 39.7		
	comp=Z,1µm,22.0s									
PMD	**Palm Desert**	**102.32**	**47**		IAMs_20	IAMs_20		02 25 38.6		
	comp=Z,916nm,20.0s									
BELC	**Belle Mtn. Jos**	**102.38**	**46**		IAMs_20	IAMs_20		02 21 34.0		
	comp=Z,1µm,20.0s									
P18A	**Preston Nutter**	**102.54**	**39**		IAMs_20	IAMs_20		02 27 55.6		
	comp=Z,1µm,22.0s									
RSSD	**Black Hills**	**102.82**	**32**		IAMs_20	IAMs_20		02 28 43.3		
	comp=Z,1µm,21.0s									
AGMN	**Agassiz Nation**	**103.27**	**25**		IAMs_20	IAMs_20		02 29 08.6		
	comp=Z,1µm,21.0s									
BLYC	**Blythe**	**103.52**	**46**		IAMs_20	IAMs_20		02 16 57.0		
	comp=Z,988nm,21.0s									
ESJX	**Sierra Juarez**	**103.57**	**48**		IAMs_20	IAMs_20		02 18 27.6		
	comp=Z,931nm,21.0s									
VTX	**Valle De La Tr**	**104.03**	**48**		IAMs_20	IAMs_20		02 15 33.0		
	comp=Z,1µm,22.0s									
PV23	**Carpenter Ridg**	**104.03**	**39**		IAMs_20	IAMs_20		02 30 02.2		
	comp=Z,2µm,20.0s									
PV07	**Paradox Valley**	**104.26**	**39**		IAMs_20	IAMs_20		02 29 31.1		
	comp=Z,1µm,21.0s									
PV03	**Paradox Valley**	**104.26**	**39**		IAMs_20	IAMs_20		02 29 31.2		
	comp=Z,1µm,20.0s									
Y14A	**Wickenburg**	**104.41**	**45**		IAMs_20	IAMs_20		02 33 55.6		
	comp=Z,832nm,19.0s									
TAM	**Tamanrasset**	**104.44**	**302**		IAMs_20	IAMs_20		02 32 53.1		
	comp=Z,1µm,20.0s									
SUSD	**Miller**	**105.00**	**29**		IAMs_20	IAMs_20		02 28 33.8		
	comp=Z,2µm,22.0s									
ISCO	**Idaho Springs**	**105.06**	**36**		IAMs_20	IAMs_20		02 34 55.0		
	comp=Z,971nm,19.0s									
F33A	**5 Mile Ranch,**	**105.07**	**27**		IAMs_20	IAMs_20		02 34 55.4		
	comp=Z,1µm,18.0s									
EYMN	**Ely**	**105.21**	**23**		IAMs_20	IAMs_20		02 29 32.8		
	comp=Z,2µm,21.0s									
W18A	**Petrified Fore**	**105.77**	**42**		IAMs_20	IAMs_20		02 29 34.4		
	comp=Z,989nm,21.0s									
S22A	**4UR Ranch, Cre**	**105.78**	**38**		IAMs_20	IAMs_20		02 33 17.4		
	comp=Z,880nm,20.0s									
Q24A	**Divide**	**105.90**	**36**		IAMs_20	IAMs_20		02 36 22.3		
	comp=Z,794nm,18.0s									
K30B	**Basset**	**106.05**	**31**		IAMs_20	IAMs_20		02 34 33.7		
	comp=Z,1µm,20.0s									
OGNE	**Ogallala**	**106.15**	**33**		IAMs_20	IAMs_20		02 32 26.5		
	comp=Z,1µm,18.0s									
E38A	**The Farm, Brul**	**106.32**	**23**		IAMs_20	IAMs_20		02 31 04.2		
	comp=Z,2µm,21.0s									
SDCO	**Great Sand Dun**	**106.55**	**38**		IAMs_20	IAMs_20		02 35 43.5		
	comp=Z,2µm,19.0s									
ECSD	**EROS Data Cent**	**106.61**	**28**		IAMs_20	IAMs_20		02 32 54.2		
	comp=Z,2µm,20.0s									
TUC	**Tucson**	**106.88**	**45**		IAMs_20	IAMs_20		02 36 25.0		
	comp=Z,914nm,19.0s									
SPMN	**Marine on St.**	**106.99**	**25**		IAMs_20	IAMs_20		02 34 56.2		
	comp=Z,2µm,19.0s									
KSCO	**Kaye Shedlock'**	**107.24**	**35**		IAMs_20	IAMs_20		02 32 36.7		
	comp=Z,975nm,19.0s									
BGNE	**Belgrade**	**107.72**	**31**		IAMs_20	IAMs_20		02 30 39.9		
	comp=Z,1µm,21.0s									
I37A	**Lemond, Waseca**	**107.75**	**26**		IAMs_20	IAMs_20		02 31 57.3		
	comp=Z,1µm,19.0s									
ANMO	**Albuquerque**	**107.90**	**40**		IAMs_20	IAMs_20		02 34 46.7		
	comp=Z,1µm,20.0s									
G40A	**Rib Lake**	**107.95**	**23**		IAMs_20	IAMs_20		02 36 37.4		
	comp=Z,1µm,19.0s									
L34A	**Svendsen Farm,**	**108.11**	**29**		IAMs_20	IAMs_20		02 36 45.1		
	comp=Z,1µm,19.0s									
Y22D	**IRIS PASSCAL I**	**108.20**	**41**		IAMs_20	IAMs_20		02 38 08.8		
	comp=Z,984nm,20.0s									
Y22D	**IRIS PASSCAL I**	**108.20**	**41**		P	**PKiKP**		**01 43 12.6**	**-0.4**	
	baz=312									
Y22A	**Socorro**	**108.27**	**41**		IAMs_20	IAMs_20		02 37 52.5		
	comp=Z,1µm,18.0s									
319A	**Douglas**	**108.46**	**45**		IAMs_20	IAMs_20		02 31 42.9		
	comp=Z,870nm,19.0s									
I40A	**Norwalk**	**108.96**	**24**		IAMs_20	IAMs_20		02 32 41.4		
	comp=Z,2µm,20.0s									
E46A	**Sault Ste Mari**	**108.98**	**19**		IAMs_20	IAMs_20		02 36 03.3		
	comp=Z,1µm,18.0s									
H43A	**Windswept, Lux**	**109.52**	**22**		IAMs_20	IAMs_20		02 30 28.8		
	comp=Z,2µm,22.0s									
SCIA	**State Center**	**109.56**	**27**		IAMs_20	IAMs_20		02 32 05.2		
	comp=Z,1µm,21.0s									
I42A	**Draeger Farm,**	**109.61**	**23**		IAMs_20	IAMs_20		02 31 47.2		
	comp=Z,2µm,21.0s									
TSUM	**Tsumeb**	**109.67**	**256**		IAMs_20	IAMs_20		02 29 03.8		
	comp=Z,1µm,20.0s									
R32A	**Long Quarter,**	**109.73**	**33**		IAMs_20	IAMs_20		02 32 50.4		
	comp=Z,1µm,21.0s									
JFWS	**Jewell Junctio**	**109.93**	**25**		IAMs_20	IAMs_20		02 33 11.9		
	comp=Z,1µm,20.0s									
EPT	**El Paso**	**110.00**	**43**		IAMs_20	IAMs_20		02 36 10.4		
	comp=Z,769nm,19.0s									
KSU1	**Kansas State U**	**110.25**	**31**		IAMs_20	IAMs_20		02 39 20.9		
	comp=Z,1µm,19.0s									
L40A	**Anamosa**	**110.26**	**26**		IAMs_20	IAMs_20		02 38 39.7		
	comp=Z,1µm,19.0s									
GLMI	**Grayling**	**110.27**	**20**		IAMs_20	IAMs_20		02 31 11.4		
	comp=Z,2µm,22.0s									
I45A	**Fountain**	**110.43**	**21**		IAMs_20	IAMs_20		02 35 33.9		
	comp=Z,1µm,20.0s									
N38A	**Joes South For**	**110.46**	**28**		IAMs_20	IAMs_20		02 34 10.1		
	comp=Z,1µm,19.0s									
QSPA	**South Pole Qui**	**110.64**	**180**		PKiKP	**PKiKP**		**01 43 13.6**	**-2.8**	
	comp=Z,2.7nm,1.0s,baz=340,slow=2.1,SNR=3.2									
AMTX	**Amarillo**	**110.75**	**37**		IAMs_20	IAMs_20		02 40 25.8		
	comp=Z,963nm,18.0s									
MNTX	**Conundas Mount**	**110.76**	**42**		IAMs_20	IAMs_20		02 39 36.4		
	comp=Z,986nm,18.0s									
MSTX	**Muleshoe**	**110.77**	**39**		IAMs_20	IAMs_20		02 33 19.5		
	comp=Z,948nm,22.0s									
K43A	**Burlington**	**110.84**	**24**		IAMs_20	IAMs_20		02 31 50.0		
	comp=Z,2µm,22.0s									
L42A	**Oliver, Polo**	**110.93**	**25**		IAMs_20	IAMs_20		02 35 01.3		
	comp=Z,1µm,20.0s									
OK038	**West end E0370**	**111.19**	**34**		IAMs_20	IAMs_20		02 39 19.0		
	comp=Z,1µm,20.0s									
BUKO	**Buck Lake**	**111.21**	**16**		IAMs_20	IAMs_20		02 33 29.1		
	comp=Z,1µm,20.0s									
P38A	**Dawn**	**111.28**	**29**		IAMs_20	IAMs_20		02 32 46.8		
	comp=Z,1µm,21.0s									
N41A	**Harden Midland**	**111.54**	**26**		IAMs_20	IAMs_20		02 39 31.8		
	comp=Z,1µm,18.0s									
CROK	**Carrier**	**111.56**	**34**		IAMs_20	IAMs_20		02 38 31.0		
	comp=Z,1µm,19.0s									
TRQ	**Mont Tremblant**	**111.58**	**12**		IAMs_20	IAMs_20		02 38 25.9		
	comp=Z,1µm,18.0s									
T35A	**Sooner Cattle**	**112.00**	**33**		IAMs_20	IAMs_20		02 35 17.5		
	comp=Z,1µm,21.0s									
P40A	**Paris**	**112.01**	**28**		IAMs_20	IAMs_20		02 35 32.3		
	comp=Z,1µm,20.0s									
OK051	**E0350 and S346**	**112.16**	**33**		IAMs_20	IAMs_20		02 35 27.6		
	comp=Z,1µm,20.0s									
L46A	**Eue Claire**	**112.19**	**22**		IAMs_20	IAMs_20		02 39 46.5		
	comp=Z,1µm,18.0s									
HDIL	**Hopedale**	**112.31**	**25**		IAMs_20	IAMs_20		02 37 04.9		
	comp=Z,1µm,20.0s									
TORD	**Torodi Ar. Bea**	**112.37**	**295**		PKiKP	**PKiKP**		**01 43 20.2**	**-0.9**	
	comp=Z,1.0nm,0.6s,baz=29,slow=2.2,SNR=7.1									
TORD					PP	**PP**		**01 44 03.4**	**-3.0**	
	comp=Z,3.3nm,0.9s,baz=56,slow=11,SNR=6.0									
TORD					PKKPbc	**PKKPab**		**01 54 14.8**	**-5.6**	
	comp=Z,1.1nm,0.8s,baz=286,slow=2.8,SNR=4.5									
MNTQ	**Montreal, Queb**	**112.46**	**12**		IAMs_20	IAMs_20		02 37 09.9		
	comp=Z,1µm,19.0s									
WMOK	**Wichita Mounta**	**112.47**	**36**		IAMs_20	IAMs_20		02 37 37.2		
	comp=Z,1µm,19.0s									
OK052	**Battle Ridge R**	**112.57**	**33**		IAMs_20	IAMs_20		02 35 54.5		
	comp=Z,1µm,20.0s									
SLBS	**Sierra La Lagu**	**112.75**	**52**		IAMs_20	IAMs_20		02 25 07.9		
	comp=Z,778nm,20.0s									
R40A	**Maddies Statio**	**112.93**	**29**		IAMs_20	IAMs_20		02 35 47.7		
	comp=Z,1µm,20.0s									
S39A	**Bolivar**	**112.94**	**30**		IAMs_20	IAMs_20		02 37 38.9		
	comp=Z,1µm,19.0s									
LONY	**Lake Ozonia**	**113.11**	**13**		IAMs_20	IAMs_20		02 33 26.1		
	comp=Z,1µm,20.0s									
TUL3	**Leonard**	**113.15**	**33**		IAMs_20	IAMs_20		02 41 37.8		
	comp=Z,1µm,20.0s									
PECO	**Prince Edward**	**113.22**	**15**		IAMs_20	IAMs_20		02 35 09.2		
	comp=Z,2µm,20.0s									
N47A	**Urbana**	**113.40**	**23**		IAMs_20	IAMs_20		02 32 13.5		
	comp=Z,1µm,22.0s									
TXAR	**Lajitas Array**	**113.44**	**43**		PKiKP	**PKiKP**		**01 43 22.5**	**-0.5**	
	comp=Z,0.6nm,0.5s,baz=279,slow=0.3,SNR=7.1									
TXAR					PKKPbc	**PKKPbc**		**01 54 09.0**	**+1.6**	
	comp=Z,0.7nm,0.7s,baz=135,slow=5.2,SNR=3.5									
SLM	**Saint Louis**	**113.54**	**27**		IAMs_20	IAMs_20		02 41 15.6		
	comp=Z,1µm,18.0s									
ABTX	**Abilene, Hawle**	**113.56**	**38**		IAMs_20	IAMs_20		02 39 05.0		
	comp=Z,1µm,20.0s									
CCM	**Cathedral Cave**	**113.58**	**28**		IAMs_20	IAMs_20		02 39 20.9		
	comp=Z,1µm,19.0s									
HPIG		**113.73**	**46**		IAMs_20	IAMs_20		02 30 24.6		
	comp=Z,830nm,21.0s									
HHAR	**Hobbs**	**113.78**	**31**		IAMs_20	IAMs_20		02 40 37.2		
	comp=Z,1µm,19.0s									
M50A	**Fremont**	**113.84**	**20**		IAMs_20	IAMs_20		02 37 40.0		
	comp=Z,1µm,19.0s									
MGMO	**Mountain Grove**	**113.86**	**30**		IAMs_20	IAMs_20		02 36 22.4		
	comp=Z,1µm,20.0s									
GGN	**Sa

W50A	**Signal Mountai**	**118.51**	**25**	IAMs_20	IAMs_20	02 36 44.1			
	comp=Z,2µm,22.0s								
441A	**DeRidder**	**118.54**	**34**	IAMs_20	IAMs_20	02 40 09.7			
	comp=Z,900nm,19.0s								
ZAIG	**Zacatecas**	**118.58**	**48**	IAMs_20	IAMs_20	02 42 45.2			
	comp=Z,1µm,20.0s								
CPCT	**Cooper Cave**	**118.61**	**25**	IAMs_20	IAMs_20	02 40 13.5			
	comp=Z,1µm,20.0s								
TROLL	**Troll, Antarti**	**118.64**	**198**	⇓P	**PKPdf**	**01 43 30.1**		**-1.6**	
	comp=Z,639nm,0.8s								
VBMS	**Vicksburg**	**118.72**	**31**	IAMs_20	IAMs_20	02 41 39.1			
	comp=Z,1µm,19.0s								
FPAL	**Fort Paine**	**118.97**	**26**	IAMs_20	IAMs_20	02 38 33.1			
	comp=Z,836nm,20.0s								
Z47A	**Carrollton**	**119.05**	**29**	IAMs_20	IAMs_20	02 42 19.7			
	comp=Z,1µm,20.0s								
W52A	**Murphy**	**119.15**	**24**	IAMs_20	IAMs_20	02 42 53.9			
	comp=Z,1µm,20.0s								
X51A	**Calhoun**	**119.25**	**25**	IAMs_20	IAMs_20	02 40 30.6			
	comp=Z,1µm,20.0s								
LRAL	**Lakeview Retre**	**119.67**	**28**	IAMs_20	IAMs_20	02 41 10.8			
	comp=Z,1µm,19.0s								
346A	**Big Creek Wild**	**119.91**	**31**	IAMs_20	IAMs_20	02 40 48.6			
	comp=Z,1µm,21.0s								
Y52A	**Lilburn**	**120.18**	**25**	IAMs_20	IAMs_20	02 41 44.2			
	comp=Z,1µm,19.0s								
V58A	**Windy Hill, Pi**	**120.21**	**20**	IAMs_20	IAMs_20	02 35 24.6			
	comp=Z,1µm,21.0s								
SNAA	**Sanae**	**120.31**	**197**	⇓P	**PKPdf**	**01 43 33.3**		**-1.5**	
	comp=Z,55nm,0.7s								
SNAA	**Sanae**	**120.31**	**197**		**PKPdf**	**01 43 32.9**		**-1.9**	
SNAA				IAMs_20	IAMs_20	02 41 48.8			
	comp=Z,747nm,20.0s								
SNAA	**Sanae**	**120.31**	**197**	PKP	**PKPdf**	**01 43 33.0**		**-1.9**	
	comp=Z,4.1nm,1.0s,baz=135,slow=2.9,SNR=13								
SNAA	**Sanae**	**120.31**	**197**	PKIKP	**PKPdf**	**01 43 32.9**		**-1.9**	
250A	**Grady**	**120.89**	**28**	IAMs_20	IAMs_20	02 40 39.3			
	comp=Z,1µm,21.0s								
DBIC	**Dimbokro**	**121.15**	**292**	PKP	**PKiKP**	**01 43 36.4**		**-1.8**	
	comp=Z,5.8nm,0.7s,baz=59,slow=2.9,SNR=4.9								
MOIG	**Morelia**	**121.58**	**49**	IAMs_20	IAMs_20	02 48 00.7			
	comp=Z,1µm,19.0s								
352A	**Blakely**	**121.90**	**27**	IAMs_20	IAMs_20	02 40 29.0			
	comp=Z,2µm,22.0s								
451A	**Vernon**	**122.28**	**28**	IAMs_20	IAMs_20	02 41 22.2			
	comp=Z,1µm,20.0s								
VNA1	**Neumayer--Stat**	**122.35**	**198**	⇑P	**PKPdf**	**01 43 36.4**		**-2.3**	
	comp=Z,11nm,0.9s								
VNA3	**Neumayer Olymp**	**122.41**	**197**	⇓P	**PKPdf**	**01 43 36.8**		**-2.1**	
	comp=Z,11nm,0.7s								
UNM	**Universidad Na**	**123.22**	**48**	IAMs_20	IAMs_20	02 28 14.3			
	comp=Z,846nm,21.0s								
060A	**Indiantown**	**127.69**	**25**	IAMs_20	IAMs_20	02 42 42.1			
	comp=Z,1µm,20.0s								
TEIG	**Tepich**	**129.54**	**38**	IAMs_20	IAMs_20	02 52 32.5			
	comp=Z,948nm,19.0s								
PETF	**Flores**	**131.13**	**42**	IAMs_20	IAMs_20	02 52 15.0			
	comp=Z,967nm,22.0s								
HUEH	**Huehuetenango**	**131.25**	**45**	IAMs_20	IAMs_20	02 54 24.5			
	comp=Z,1µm,22.0s								
ESQI	**Esquipulas**	**133.22**	**44**	IAMs_20	IAMs_20	02 49 08.6			
	comp=Z,888nm,22.0s								
MTO3	**Montecristo**	**133.32**	**44**	IAMs_20	IAMs_20	02 52 36.4			
	comp=Z,732nm,20.0s								
TGUH	**Tegucigalpa,Un**	**134.91**	**42**	IAMs_20	IAMs_20	02 49 12.5			
	comp=Z,1µm,21.0s								
NMDO	**Nuevo Mundo**	**135.61**	**23**	IAMs_20	IAMs_20	02 45 01.7			
	comp=Z,1µm,22.0s								
GRTK	**Grand Turk**	**135.98**	**18**	IAMs_20	IAMs_20	02 44 39.1			
	comp=Z,1µm,21.0s								
GTBY	**Guantanamo Bay**	**136.14**	**24**	IAMs_20	IAMs_20	02 45 54.0			
	comp=Z,946nm,22.0s								
HERN	**Volcan Telica**	**136.29**	**43**	IAMs_20	IAMs_20	02 54 12.8			
	comp=Z,1µm,21.0s								
SIUN	**Universidad Ur**	**136.71**	**40**	IAMs_20	IAMs_20	02 48 22.6			
	comp=Z,414nm,20.0s								
BILN	**Bilwi Airport**	**137.27**	**38**	IAMs_20	IAMs_20	02 54 31.1			
	comp=Z,592nm,21.0s								
ACON	**Acoyapa**	**137.82**	**42**	IAMs_20	IAMs_20	02 56 36.3			
	comp=Z,732nm,21.0s								
PRVC	**Isla de Provid**	**138.94**	**36**	IAMs_20	IAMs_20	02 58 53.6			
	comp=Z,1µm,19.0s								
SDD	**Santo Domingo**	**139.22**	**18**	IAMs_20	IAMs_20	02 52 13.1			
	comp=Z,652nm,21.0s								
JTS	**Las Juntas de**	**139.23**	**43**	IAMs_20	IAMs_20	02 58 40.1			
	comp=Z,807nm,20.0s								
AGPR	**Aguadilla, PR**	**139.92**	**14**	IAMs_20	IAMs_20	02 47 59.3			
	comp=Z,1µm,22.0s								
UUPR	**Utuado, UPR, P**	**140.21**	**13**	IAMs_20	IAMs_20	02 53 05.1			
	comp=Z,777nm,19.0s								
LCR2	**La Lucha 2**	**140.25**	**43**	IAMs_20	IAMs_20	02 57 06.0			
	comp=Z,810nm,20.0s								
CRPR	**Cabo Rojo, PR**	**140.37**	**14**	IAMs_20	IAMs_20	02 47 43.2			
	comp=Z,933nm,20.0s								
CELP	**Cerrillos**	**140.41**	**13**	IAMs_20	IAMs_20	02 49 07.4			
	comp=Z,878nm,21.0s								
OBIP	**Obispado Ponce**	**140.44**	**13**	IAMs_20	IAMs_20	02 54 27.1			
	comp=Z,935nm,20.0s								
SJG	**San Juan**	**140.47**	**12**	IAMs_20	IAMs_20	02 55 49.8			
	comp=Z,623nm,20.0s								
HUMP	**Col San Antoni**	**140.49**	**12**	IAMs_20	IAMs_20	02 52 22.5			
	comp=Z,720nm,20.0s								
PDPR	**Patillas Dam,**	**140.58**	**12**	IAMs_20	IAMs_20	02 52 24.8			
	comp=Z,640nm,21.0s								
SEUS	**St. Eustatius**	**141.59**	**8**	IAMs_20	IAMs_20	02 46 29.3			
	comp=Z,893nm,20.0s								
BRU2	**Volcan**	**141.81**	**42**	IAMs_20	IAMs_20	02 56 25.2			
	comp=Z,1µm,21.0s								
BCIP	**Isla Barro Col**	**143.23**	**38**	IAMs_20	IAMs_20	02 50 50.3			
	comp=Z,1µm,22.0s								
SMRC	**Santa Marta, M**	**144.40**	**28**	IAMs_20	IAMs_20	02 57 25.3			
	comp=Z,958nm,20.0s								
FDF	**Fort de France**	**144.51**	**5**	IAMs_20	IAMs_20	02 46 45.6			
	comp=Z,841nm,22.0s								
BIM	**Bigot**	**144.73**	**5**	IAMs_20	IAMs_20	02 55 13.5			
	comp=Z,832nm,21.0s								
SDV	**Santo Domingo**	**147.94**	**24**		**PKPbc**	**01 44 29.0**		**-1.7**	
SDV	**Santo Domingo**	**147.94**	**24**	*eP*	**PKPdf**	**01 44 26.4**		**-1.3**	
EFI	**East Falkland**	**149.22**	**180**		**PKPbc**	**01 44 31.5**		**-1.1**	
EFI	**East Falkland**	**149.22**	**180**	PKP2	**PKPbc**	**01 44 31.5**		**-1.1**	
RUSC	**La Rusia**	**149.56**	**31**	IAMs_20	IAMs_20	02 55 14.3			
	comp=Z,646nm,21.0s								
ROSC	**El Rosal**	**149.84**	**34**	PKPbc	**PKPbc**	**01 44 34.3**		**-1.6**	
	comp=Z,62nm,1.0s,baz=342,slow=4.6,SNR=19								
OTAV	**Otavalo**	**151.00**	**46**		**PKPbc**	**01 44 37.3**		**-1.4**	
OTAV	**Otavalo**	**151.00**	**46**	IAMs_20	IAMs_20	03 03 06.4			
	comp=Z,707nm,21.0s								
OTAV	**Otavalo**	**151.00**	**46**	PKIKP	**PKPbc**	**01 44 37.3**		**-1.4**	
FLOC	**Florencia**	**151.77**	**40**	IAMs_20	IAMs_20	02 57 43.9			
	comp=Z,933nm,21.0s								
BOAV	**Boa Vista**	**156.77**	**7**	IAMs_20	IAMs_20	03 10 30.7			
	comp=Z,692nm,21.0s								
PLCA	**Paso Flores**	**157.45**	**154**	PKP	**PKPdf**	**01 44 41.9**		**+1.1**	
	comp=Z,2.2nm,1.0s,baz=269,slow=3.5,SNR=3.6								
CZSB	**Cruzeiro do Su**	**160.68**	**50**	*eP*	**PKPdf**	**01 44 43.3**		**-1.9**	
MACA	**Manacapuru-AM**	**162.23**	**9**	*eP*	**PKPdf**	**01 44 44.3**		**-2.6**	
ITTB	**Itaituba**	**163.49**	**352**	*eP*	**PKPdf**	**01 44 46.8**		**-1.3**	
SMTB	**Santa Maria do**	**164.46**	**318**	*eP*	**PKPdf**	**01 44 48.4**		**-0.6**	
JANB	**Januaria**	**165.82**	**292**	*eP*	**PKPdf**	**01 44 49.8**		**-0.3**	
SNDB	**Serra Nova Dou**	**169.12**	**323**	*eP*	**PKPdf**	**01 44 50.9**		**-1.5**	
BDFB	**Brasilia**	**169.25**	**297**	PKP	**PKPdf**	**01 44 53.4**		**+0.8**	
	comp=Z,2.3nm,0.6s,baz=81,slow=6.1,SNR=4.3								
LPAZ	**La Paz**	**169.33**	**67**	PKP	**PKPdf**	**01 44 53.4**		**+0.1**	
	comp=Z,4.5nm,0.9s,baz=297,slow=2.6,SNR=9.8								
LPAZ				PKPab	**pPKPab**	**01 46 07.0**		**-2.4**	
	comp=Z,0.8nm,0.3s,baz=307,slow=6.7,SNR=7.3								
CLDB	**Colider**	**169.88**	**348**	*eP*	**PKPdf**	**01 44 51.7**		**-1.2**	
IPMB	**Ipameri, GO**	**170.39**	**286**	*eP*	**PKPdf**	**01 44 51.8**		**-1.3**	
PDRB	**Porto dos Gac**	**170.75**	**353**	*eP*	**PKPdf**	**01 44 51.5**		**-1.9**	
ARAG	**Araguaiana, MT**	**172.26**	**310**	*eP*	**PKPdf**	**01 44 53.0**		**-1.0**	
CPUP	**Villa Florida**	**174.50**	**186**	PKP	**PKPdf**	**01 44 54.9**		**+0.2**	
	comp=Z,0.3nm,0.6s,baz=225,slow=1.6,SNR=2.9								
CPUP				PKPab	**PKPab**	**01 46 27.1**		**-0.2**	
	comp=Z,2.7nm,1.0s,baz=222,slow=1.3,SNR=4.5								
PTLB	**Pontes e Lacer**	**174.52**	**12**	*eP*	**PKPdf**	**01 44 54.1**		**-0.8**	
BBSD	**Serra de San D**	**175.58**	**35**	*eP*	**PKPdf**	**01 44 54.3**		**-0.9**	
AQDB	**Aquidauana**	**177.87**	**279**	*eP*	**PKPdf**	**01 44 56.0**		**+0.5**	

JMA 27 01:29:05.9±0.0, 39°0N±0°1×140°9E±0°1, h6km, MV1.8/20, SOUTHERN IWATE PREF, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
JMK	**Ichinoseki**	**0.26**	**90**	P	Pg	01	29	11.0	0.0
JMK				S	Sg	01	29	14.6	+0.2
JOFO	**Osakifurukawao**	**0.35**	**177**	P	Pg	01	29	13.1	+0.4
JOFO				*eS*	Sg	01	29	18.4	+1.1
JYK	**Kaneyama**	**0.41**	**266**	P	Pg	01	29	14.2	+0.3
JYK				S	Sg	01	29	19.5	+0.1
JKMT	**Kesennumamotoy**	**0.48**	**107**	P	Pg	01	29	15.1	0.0
JKMT				*eS*	Sg	01	29	21.7	+0.4
JRG	**Rokugo**	**0.49**	**336**	P	Pg	01	29	15.4	+0.1
JRG				S	Sg	01	29	22.6	+0.9
JOM	**Ohasama**	**0.61**	**31**	P	Pg	01	29	17.4	-0.3
JOM				S	Sg	01	29	25.7	+0.1
JOU	**Okura**	**0.61**	**197**	P	Pg	01	29	17.5	-0.1
JOU				S	Sg	01	29	25.5	-0.1
JIO	**Ouri**	**0.61**	**144**	*eP*	Pg	01	29	17.2	-0.4
JIO				S	Sg	01	29	25.2	-0.5
OFUJ	**Ofunato**	**0.62**	**78**	P	Pg	01	29	17.6	-0.2
OFUJ				S	Sg	01	29	25.9	-0.1

SJA 27 01:29:06.0±0.8, 29°56S×71°71W, h34km±14km, ML3.2, MW3.5
GUC 27 01:29:07.8±0.8, 29°50S×71°45W, h46km±1km, ML3.5
ISC 27 01:29:06.2±1.8, 29°50S±0°04×71°51W±0°06, h13km±12km, n16, σ1°45/32, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
CO05	**La Serena**	**0.48**	**151**	⇑*eP*	**Pn**	**01**	**29**	**19.1**	**+0.3**
CO05				*eS*	**Sn**	**01**	**29**	**26.4**	**-0.7**
CO05				IAML		01	29	27.6	
	comp=N,10µm,0.3s								
LCO	**Las Campanas**	**0.86**	**56**	⇑*iP*	**Pg**	**01**	**29**	**23.2**	**+0.4**
LCO				*eS*	**Sb**	**01**	**29**	**33.8**	**-0.7**
LCO				IAML		01	29	36.5	
	comp=N,14µm,0.2s								
GO04	**Tololo Observa**	**0.92**	**138**	*eP*	**Pb**	**01**	**29**	**24.5**	**+0.4**
GO04				*eS*	**Sb**	**01**	**29**	**35.7**	**-0.6**
GO04				IAML		01	29	41.6	
	comp=N,4µm,0.4s								
CO06	**Fray Jorge**	**1.18**	**185**	⇓*eP*	**Pn**	**01**	**29**	**28.4**	**0.0**
CO06				*eS*	**Sb**	**01**	**29**	**43.8**	**+0.1**
CO06				IAML		01	29	48.8	
	comp=E,561nm,0.2s								
CO01	**Juntas del Tor**	**1.32**	**112**	⇓*eP*	**Pb**	**01**	**29**	**31.5**	**+0.4**
CO01				*eS*	**Sb**	**01**	**29**	**47.3**	**-0.7**
CO01				IAML		01	29	49.5	
	comp=N,549nm,0.3s								
AC04	**Llanos de Chal**	**1.34**	**17**	*iP*	**Pn**	**01**	**29**	**30.5**	**-0.1**
AC04				*iS*	**Sb**	**01**	**29**	**48.0**	**-0.3**
AC04				IAML		01	29	51.2	
	comp=E,675nm,0.2s								
CO03	**El Pedregal**	**1.52**	**152**	⇑*eP*	**Pn**	**01**	**29**	**33.3**	**+0.2**
CO03				*eS*	**Sn**	**01**	**29**	**52.0**	**-0.8**
CO03				IAML		01	29	55.5	
	comp=E,406nm,0.2s								
CO03	**El Pedregal**	**1.52**	**152**	*iP*	**Pn**	**01**	**29**	**33.2**	**0.0**
CO03				*iS*	**Sn**	**01**	**29**	**52.9**	**+0.1**
CO03				IAML		01	29	54.4	
	comp=Z,202nm,0.3s								
CO02	**Combarbal**	**1.76**	**166**	⇑*eP*	**Pn**	**01**	**29**	**36.3**	**-0.2**
CO02				*eS*	**Sn**	**01**	**29**	**58.8**	**0.0**
CO02				IAML		01	30	05.5	
	comp=E,1µm,0.1s								
CO02	**Combarbal**	**1.76**	**166**	*iP*	**Pn**	**01**	**29**	**36.0**	**-0.4**
CO02				*iS*	**Sn**	**01**	**29**	**58.9**	**+0.1**
CO02				IAML		01	30	08.3	
	comp=Z,241nm,0.4s								
AROD	**Rodeo**	**1.89**	**111**	*iP*	**Pb**	**01**	**29**	**41.0**	**+0.2**
AROD				*iS*	**Sg**	**01**	**30**	**06.6**	**-0.5**
ACDV	**Cuesta del Vie**	**2.18**	**109**	*iP*	**Pb**	**01**	**29**	**44.7**	**-0.9**
ACDV				*iS*	**Sb**	**01**	**30**	**13.0**	**+0.3**
ACDV				IAML		01	30	16.1	
	comp=Z,98nm,0.6s								
ACCO	**Cerro Coronel**	**2.38**	**118**	*iP*	**Pb**	**01**	**29**	**48.0**	**-1.2**
ACCO				*iS*	**Sb**	**01**	**30**	**18.7**	**+0.1**
RTLS	**Leoncito**	**2.98**	**141**	*iP*	**Pn**	**01**	**29**	**55.5**	**+2.0**
RTLS				*iS*	**Sn**	**01**	**30**	**32.0**	**+2.6**
RTLS				IAML		01	30	55.5	
	comp=Z,164nm,0.8s								
VCA	**Vinchina**	**2.99**	**76**	*iP*	**Pn**	**01**	**29**	**56.1**	**+2.7**
VCA				*iS*	**Sb**	**01**	**30**	**33.9**	**-2.0**
VCA				IAML		01	30	54.2	
	comp=Z,115nm,0.5s								
ACLC	**CERRO LA CRUZ**	**3.98**	**90**	*iP*	**Pn**	**01**	**30**	**08.8**	**+1.8**
ACLC				*iS*	**Sb**	**01**	**30**	**59.1**	**-5.2**
ACLC				IAML		01	31	19.8	
	comp=Z,20nm,0.3s								

NEIC 27 01:35:36.3±1.4, 35°51N±0°01×117°32W±0°02, h10km±2km, Error ellipse: s-maj=3.2km s-min=2.9km az=312.0
PAS 27 01:35:37.5±1.8, 35°53N±0°01×117°37W±0°02, h9km±7km, ML3.6/165, ML3.3/160(NEIC), Error ellipse: s-maj=2.2km s-min=1.7km az=129.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
CCCA	**Chr Cany lake**	**0.01**	**167**		Pg	01	35	39.5	+0.3
WSHM	**Spangler Hills**	**0.12**	**303**		Pg	01	35	40.4	0.0
WSHM					IAML	01	35	42.8	
	13µm,0.2s								
LRMC	**Laurel Mtn Rad**	**0.26**	**258**		Sg	01	35	46.6	+0.2
LRMC	**Laurel Mtn Rad**	**0.26**	**258**	Pg	Pg	01	35	42.8	-0.1
LRMC					IAML	01	35	47.1	
	comp=E,20µm,0.1s								
LRMC					IAML	01	35	47.6	
	comp=N,14µm,0.2s								
CLC	**China Lake**	**0.34**	**326**		Sg	01	35	48.6	-0.2
CLC	**China Lake**	**0.34**	**326**		Pg	01	35	44.0	-0.3
CLC					IAML	01	35	49.1	
	comp=N,3µm,0.4s								
CLC					IAML	01	35	49.4	
	comp=E,3µm,0.5s								
SRTC	**Snort**	**0.35**	**297**		Pg	01	35	44.6	+0.1
SRTC					Sg	01	35	50.3	+1.2
TOW	**Tower One**	**0.42**	**310**		Pg	01	35	46.0	+0.1
TOW					Sb	01	35	52.7	-1.2
DTP	**Desert Tortois**	**0.47**	**236**		Pg	01	35	46.4	-0.4
DTP					Sg	01	35	52.8	-0.2
GSC	**Goldstone, Bar**	**0.51**	**117**		Sg	01	35	54.2	-0.1
GSC	**Goldstone, Bar**	**0.51**	**117**	Pg	Pg	01	35	47.3	-0.2
GSC					IAML	01	35	54.5	
	comp=N,1µm,0.4s								
GSC					IAML	01	35	55.6	
	comp=E,2µm,0.6s								
MPMC	**Manual Prospec**	**0.53**	**349**		Sg	01	35	54.7	-0.3
WVPM	**Volcano Peak E**	**0.55**	**319**		Pg	01	35	47.9	-0.4
WVPM					Sg	01	35	55.6	0.0
JRG	**Joshua Ridge**	**0.57**	**321**		Sg	01	35	56.2	-0.1
WCSM	**Coso Springs S**	**0.59**	**327**		Pg	01	35	48.5	-0.5
WCSM					Sg	01	35	56.6	-0.2
QSM	**Queen of Sheba**	**0.59**	**43**		Sg	01	35	56.6	-0.2
QSM	**Queen of Sheba**	**0.59**	**43**		Pg	01	35	48.8	-0.2
QSM					IAML	01	36	00.3	
	comp=E,3µm,0.2s								
QSM					IAML	01	36	00.5	
	comp=N,2µm,0.3s								
WBSM	**Bird Springs**	**0.63**	**271**		Sg	01	35	57.6	-0.5
WRVM	**Rose V. Centra**	**0.64**	**318**		Pg	01	35	49.3	-0.5
WRVM					Sg	01	35	58.1	-0.1
CCAC	**Calif City Air**	**0.65**	**235**		Pg	01	35	49.9	-0.3
CCAC					Sg	01	35	58.3	-0.4
HYS	**Haystack Butte**	**0.69**	**194**		Pg	01	35	50.1	-0.7
HYS					Sg	01	35	59.6	-0.3
MFS	**McCloud Flat S**	**0.70**	**326**		Pg	01	35	50.7	-0.5
MFS					Sg	01	36	00.2	-0.2
RRX	**Edison Barstow**	**0.72**	**155**		Pg	01	35	51.2	-0.3
RRX					Sg	01	36	00.7	-0.2
WORM	**Onyx Ranch**	**0.73**	**283**		Pg	01	35	51.0	-0.7
WORM					Sg	01	36	00.3	-0.9
WHFM	**Hanning Flat**	**0.82**	**282**		Pg	01	35	52.5	-0.7
WHFM					Sg	01	36	02.9	-1.0
EDW2	**Edwards Air Fo**	**0.83**	**218**		Pg	01	35	52.7	-0.8
EDW2					Pn	01	36	03.8	+8.3
GWY	**Greenwater Val**	**0.86**	**41**		Sg	01	36	04.7	-0.8
GWY	**Greenwater Val**	**0.86**	**41**		Pg	01	35	53.7	-0.5
GWY					IAML	01	36	09.0	
	comp=N,2µm,0.3s								
ISA	**Isabella, Lake**	**0.91**	**278**		Pg	01	35	54.2	-0.9
ISA					Pn	01	36	05.7	+9.1
ISA	**Isabella, Lake**	**0.91**	**278**	IAML		01	36	07.7	
	comp=E,716nm,0.3s								
ISA				IAML		01	36	07.9	
	comp=N,823nm,0.2s								

SBB	**Saddle Back Bu**	**0.92**	**204**		Pg	01	35	54.4	-0.9
SHOC	**Shoshone, Teco**	**0.96**	**67**		Pg	01	35	55.5	-0.5
TPO	**Tropico Hills**	**0.96**	**227**		Pg	01	35	55.3	-0.7
VTV	**Victorville**	**0.97**	**178**		Pg	01	35	56.2	0.0
VTV					Sb	01	36	09.8	+0.3
ADO	**Adelanto Recei**	**0.98**	**183**		Pg	01	35	56.0	-0.5
ADO					Sn	01	36	10.9	-0.8
WASM	**Alta Sierra Ca**	**0.99**	**282**		Pg	01	35	55.7	-0.9
FURC	**Furnace Creek,**	**1.02**	**24**		Sb	01	36	10.6	-0.2
FURC	**Furnace Creek,**	**1.02**	**24**	Pg	Pg	01	35	56.3	-0.8
FURC				IAML		01	36	16.6	
	comp=E,770nm,0.6s								
FURC				IAML		01	36	22.8	
	comp=N,690nm,0.7s								
CWC	**Cottonwood Cre**	**1.07**	**328**		Pg	01	35	57.5	-0.7
CWC	**Cottonwood Cre**	**1.07**	**328**		Sg	01	36	11.3	-0.9
CGO	**Cerro Gordo**	**1.07**	**341**		Pg	01	35	57.4	-0.8
CGO					Sg	01	36	11.8	-0.5
HEC	**Hector,Ludlow**	**1.10**	**129**		Pg	01	35	57.6	-1.0
TEJ	**El Tejon**	**1.12**	**255**		Pg	01	35	57.6	-1.5
TUQ	**Turquoise Moun**	**1.18**	**94**		Pb	01	35	58.8	-1.4
AMDNV	**Amargosa**	**1.27**	**44**		Pn	01	36	01.3	-0.2
BFSC	**Mount Baldy Ra**	**1.31**	**191**	IAML		01	36	21.1	
	comp=N,396nm,0.5s								
BFSC				IAML		01	36	21.8	
	comp=E,403nm,0.4s								
MWC	**Mount Wilson**	**1.43**	**204**		Pn	01	36	02.9	-0.9
MWC				IAML		01	36	25.6	
	comp=N,343nm,0.4s								
MWC				IAML		01	36	25.9	
	comp=E,333nm,0.3s								
VES	**Vestal, Richgr**	**1.43**	**283**		Pn	01	36	02.9	-0.8
VES				IAML		01	36	24.7	
	comp=E,432nm,0.6s								
VES				IAML		01	36	25.7	
	comp=N,571nm,0.4s								
OSI	**Osito Audit: C**	**1.44**	**231**		Pb	01	36	04.6	0.0
OSI				IAML		01	36	31.9	
	comp=N,473nm,0.6s								
GRAC	**Grapevine Rang**	**1.46**	**0**		Pn	01	36	03.5	-0.7
GRAC				IAML		01	36	28.0	
	comp=N,516nm,0.7s								
GRAC				IAML		01	36	30.2	
	comp=E,386nm,0.5s								
MTPC	**Mountain Pass**	**1.48**	**91**		Pn	01	36	02.9	-1.6
MTPC				IAML		01	36	24.6	
	comp=N,541nm,0.3s								
MTPC				IAML		01	36	24.9	
	comp=E,620nm,0.3s								
GTM	**Goat Mountain**	**1.49**	**146**		Pb	01	36	05.3	-0.1
PASC	**Pasadena Art C**	**1.52**	**207**		Pn	01	36	04.0	-0.8
PASC				IAML		01	36	29.1	
	comp=E,222nm,0.4s								
TPNV	**Topopah Spring**	**1.68**	**32**	Pn	Pn	01	36	06.3	-0.9
TPNV				IAML		01	36	32.7	
	comp=E,375nm,0.5s								
TPNV				IAML		01

NEIC ***27*** *01:42:09.2±2.1, 17.4S±0.1×176.1W±0.1, h10km±2km, mb4.4/9, Error ellipse: s-maj=28.2km s-min=16.6km az=38.0*

IDC ***27*** *01:42:10.7±1.3, 17.88S×176.57W, h0km, mb4.1/4, mbtmp4.1/4, MS4.5/3, Error ellipse: s-maj=42.5km s-min=33.8km az=132.0*

ISC 27 01:42:08.9±0.9, 17.4S±0.1×176.1W±0.1, h10km, n20, σ1§07/16, mb4.4/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.11**	**107**	Pn	**Pn**	**01 43 39.1**	**-0.1**
FUNA	**Funafuti**	**9.96**	**332**	Pn	**Pn**	**01 44 31.8**	**-0.2**
RAO	**Raoul Island**	**11.88**	**188**	LR	LR	01 48 39.8	
	comp=Z,817nm,19.9s,baz=25,slow=34						
LTZ	**Lake Taylor**	**27.14**	**199**	P	**P**	**01 47 51.3**	**-0.9**
LTZ				IAmb	IAmb	01 47 58.9	
	comp=Z,12nm,1.4s						
CTAO	**Charters Tower**	**35.68**	**260**	P	**P**	**01 49 08.9**	**+1.2**
TOO	**Toolangi**	**39.17**	**231**	P	**P**	**01 49 36.4**	**-0.7**
TOO				IAmb	IAmb	01 49 39.3	
	comp=Z,6.4nm,1.2s						
BBOO	**Buckleboo**	**45.55**	**241**	P	**P**	**01 50 29.8**	**+0.7**
WB0	**Warramunga Arr**	**46.83**	**259**	P	**P**	**01 50 38.0**	**-1.4**
WB0				IAmb	IAmb	01 50 47.8	
	comp=Z,6.2nm,1.0s						
WRA	**Warramunga Arr**	**46.87**	**259**	P	**P**	**01 50 38.1**	**-1.5**
WRA	**Warramunga Arr**	**46.87**	**259**	P	**P**	**01 50 38.3**	**-1.3**
	comp=Z,2.4nm,0.8s,baz=95,slow=7.2,SNR=12						
	comp=Z,2.4nm,0.8s						
AS31	**Alice Springs**	**47.02**	**254**	P	**P**	**01 50 40.4**	**-0.4**
AS31				IAmb	IAmb	01 50 44.9	
	comp=Z,1.9nm,0.7s						
ASAR	**Alice Springs**	**47.02**	**254**	P	**P**	**01 50 40.0**	**-0.9**
ASAR	**Alice Springs**	**47.02**	**254**	P	**P**	**01 50 40.1**	**-0.7**
	comp=Z,4.6nm,0.7s,baz=88,slow=8.2,SNR=31						
	comp=Z,4.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**55.26**	**260**	P	**P**	**01 51 44.5**	**+1.7**
QSPA	**South Pole Qui**	**72.62**	**180**	P	**P**	**01 53 37.2**	**+0.7**
QSPA				IAmb	IAmb	01 53 47.4	
	comp=Z,6.4nm,0.9s						
QSPA	**South Pole Qui**	**72.62**	**180**	P	**P**	**01 53 37.2**	**+0.7**
	comp=Z,2.9nm,1.0s,baz=357,slow=2.6,SNR=7.5						
	comp=Z,2.9nm,1.0s						
LPIG	**La Paz**	**76.32**	**59**	LR	LR	02 21 20.8	
	comp=Z,381nm,21.0s,baz=305,slow=31						
ILAR	**Eielson Array**	**84.95**	**12**	P	P	01 54 49.5	+5.6
	comp=Z,0.3nm,0.7s,baz=219,slow=6.4,SNR=7.7						
	comp=Z,0.3nm,0.7s						
SNAA	**Sanae**	**91.01**	**178**	LR	LR	02 29 59.2	
	comp=Z,656nm,21.1s,baz=113,slow=32						
BRTR	**Keskin Array B**	**145.96**	**317**	PKPbc	**PKiKP**	**02 01 52.9**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=129,slow=2.0,SNR=16						

NEIC ***27*** *01:44:14.3±1.6, 19.7S±0.1×178.1W±0.2, h601km±8km, mb4.3/34, Error ellipse: s-maj=21.5km s-min=16.9km az=105.0*

IDC ***27*** *01:44:17.1±2.7, 19.69S×178.36W, h630km±31km, mb3.4/14, mbtmp4.3/14, Error ellipse: s-maj=15.1km s-min=13.6km az=144.0*

ISC 27 01:44:14.0±0.5, 19.70S±0.09×178.24W±0.09, h600km, n92, σ0§98/74, mb4.2/31, 4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.02**	**299**	P	**P**	**01 45 40.7**	**+1.0**
FUTU	**Fugatoga**	**5.37**	**1**	P	**P**	**01 45 50.2**	**+0.3**
PINNC	**Pines Island,**	**13.66**	**255**	P	**P**	**01 47 09.7**	**+0.2**
DZM	**Mont Dzumac**	**14.50**	**258**	P	**P**	**01 47 17.9**	**+0.1**
URZ	**Urewera**	**18.93**	**191**	P	**P**	**01 47 55.1**	**-2.8**
	8.7nm,0.3s,baz=272,slow=2.6,SNR=21						
QRZ	**Quartz Range**	**22.48**	**199**	P	**P**	**01 48 29.4**	**-0.3**
CTAO	**Charters Tower**	**33.35**	**263**	P	**P**	**01 50 05.1**	**+0.8**
TOO	**Toolangi**	**36.19**	**233**	P	**P**	**01 50 29.0**	**+1.4**
COEN	**Coen**	**37.31**	**273**	P	**P**	**01 50 38.2**	**+1.1**
COEN				IAmb	IAmb	01 50 39.0	
	comp=Z,6.6nm,0.8s						
JAY	**Jayapura**	**43.58**	**288**	P	**P**	**01 51 26.4**	**-0.4**
	comp=Z,10nm,0.6s,baz=181,slow=2.5,SNR=6.4						
	comp=Z,10nm,0.6s						
WR8	**Warramunga Arr**	**44.34**	**261**	P	**P**	**01 51 32.6**	**0.0**
WR8				IAmb	IAmb	01 51 34.0	
	comp=Z,7.3nm,1.1s						
AS31	**Alice Springs**	**44.48**	**256**	P	**P**	**01 51 34.2**	**+0.5**
ASAR	**Alice Springs**	**44.48**	**256**	P	**P**	**01 51 33.8**	**+0.1**
ASAR	**Alice Springs**	**44.48**	**256**	P	**P**	**01 51 34.2**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=87,slow=8.2,SNR=8.1						
ASAR				S	**S**	**01 57 25.6**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=94,slow=15,SNR=4.8						
	comp=Z,2.3nm,0.6s						
WRA	**Warramunga Arr**	**44.49**	**261**	P	**P**	**01 51 33.4**	**-0.3**
WRA	**Warramunga Arr**	**44.49**	**261**	P	**P**	**01 51 33.8**	**0.0**
	comp=Z,1.0nm,0.3s,baz=97,slow=7.5,SNR=19						
WRA				S	**S**	**01 57 23.7**	**-3.0**
	comp=Z,0.4nm,0.9s,baz=98,slow=15,SNR=2.4						
	comp=Z,1.0nm,0.3s						
KNRA	**Kununurra**	**50.49**	**266**	P	**P**	**01 52 18.5**	**0.0**
KNRA				IAmb	IAmb	01 52 31.9	
	comp=Z,13nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.91**	**262**	P	**P**	**01 52 36.5**	**+0.6**
VNDA	**Vanda**	**58.68**	**185**	P	**P**	**01 53 15.6**	**+1.0**
VNDA	**Vanda**	**58.68**	**185**	P	**P**	**01 53 15.9**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=353,slow=7.7,SNR=5.1						
	comp=Z,1.0nm,0.6s						
CASY	**Casey**	**64.58**	**205**	P	**P**	**01 53 53.1**	**0.0**
MJAR	**Matsushiro Arr**	**69.43**	**324**	P	**P**	**01 54 23.4**	**+0.2**
	comp=Z,3.1nm,0.5s,baz=156,slow=5.2,SNR=9.0						
	comp=Z,3.1nm,0.5s						
MAJO	**Matsushiro**	**69.44**	**324**	P	**P**	**01 54 23.4**	**+0.2**
MAJO				IAmb	IAmb	01 54 23.8	
	comp=Z,15nm,1.3s						
QSPA	**South Pole Qui**	**70.36**	**180**	P	**P**	**01 54 29.6**	**+1.2**
QSPA				IAmb	IAmb	01 54 30.3	
	comp=Z,6.8nm,0.8s						
QSPA	**South Pole Qui**	**70.36**	**180**	P	**P**	**01 54 29.4**	**+1.0**
	comp=Z,5.5nm,0.6s,baz=214,slow=0.9,SNR=24						
	comp=Z,5.5nm,0.6s						
KIWB	**Kanaga Island**	**71.25**	**1**	P	**P**	**01 54 33.0**	**-0.5**
ADK	**Adak**	**71.29**	**1**	P	**P**	**01 54 33.3**	**-0.4**
SSLB	**Suanglung**	**73.34**	**303**	P	**P**	**01 54 45.5**	**-0.8**
SSLB				IAmb	IAmb	01 54 46.2	
	comp=Z,6.0nm,0.6s						
PETK	**Petropavlovsk-**	**75.44**	**345**	P	**P**	**01 54 57.6**	**+0.3**
	comp=Z,4.3nm,0.6s,baz=119,slow=9.2,SNR=7.9						
	comp=Z,4.3nm,0.6s						
KSRS	**Korea Array**	**76.14**	**319**	P	**P**	**01 55 02.5**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=144,slow=5.5,SNR=2.3						
	comp=Z,0.6nm,0.4s						
USRK	**Ussuriysk Ar.**	**78.18**	**326**	P	**P**	**01 55 13.7**	**+1.4**
	comp=Z,4.2nm,0.8s,baz=144,slow=4.7,SNR=5.2						
	comp=Z,4.2nm,0.8s						
BELA	**Belgrano 2**	**80.38**	**173**	P	**P**	**01 55 23.2**	**-0.3**
N14K	**Kuskokwak Cree**	**80.48**	**8**	P	**P**	**01 55 24.2**	**+0.1**
O18K	**Koktuh Hills**	**81.47**	**12**	P	**P**	**01 55 27.8**	**-1.4**
O18K				IAmb	IAmb	01 55 29.9	
	comp=Z,10nm,1.0s						
M16K	**Timber Creek**	**81.93**	**9**		**P**	**01 55 32.7**	**+1.2**
M16K				IAmb	IAmb	01 55 33.2	
	comp=Z,8.1nm,0.7s						
ILSW	**Iliamna Southw**	**81.99**	**12**	P	**P**	**01 55 31.5**	**-0.5**
ILSW				IAmb	IAmb	01 55 32.2	
	comp=Z,10nm,0.8s						
L19K	**White Mountain**	**83.70**	**11**	P	**P**	**01 55 41.2**	**+0.9**
GHO	**Glory Hole Cre**	**84.50**	**14**	P	**P**	**01 55 44.3**	**-0.1**
GHO				IAmb	IAmb	01 55 45.0	
	comp=Z,8.0nm,0.7s						
TXAR	**Lajitas Array**	**86.82**	**57**	P	**P**	**01 55 57.6**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=287,slow=4.2,SNR=2.3						
	comp=Z,0.3nm,0.7s						
WRH	**Wood River Hil**	**87.08**	**13**	P	**P**	**01 55 55.6**	**-0.9**
WRH				IAmb	IAmb	01 55 56.8	
	comp=Z,5.1nm,0.8s						
HDA	**Harding Lake**	**87.26**	**13**	P	**P**	**01 55 57.3**	**0.0**
H21K	**Melozitna Rive**	**87.27**	**10**	P	**P**	**01 55 57.7**	**+0.4**
H21K				IAmb	IAmb	01 55 58.3	
	comp=Z,3.0nm,0.8s						
CCB	**Clear Creek Bu**	**87.29**	**13**	P	**P**	**01 55 56.6**	**-0.8**
ILAR	**Eielson Array**	**87.59**	**13**	P	**P**	**01 55 58.1**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=216,slow=5.4,SNR=16						
	comp=Z,2.1nm,0.8s						
M29M	**Somme Creek**	**87.70**	**17**	P	**P**	**01 56 00.5**	**+0.9**
M29M				IAmb	IAmb	01 56 00.9	
	comp=Z,3.1nm,0.7s						
J26L	**Joseph Creek**	**88.09**	**14**	P	**P**	**01 56 02.1**	**+0.8**
J26L				IAmb	IAmb	01 56 02.7	
	comp=Z,4.7nm,0.8s						
M30M	**Minto, Yukon**	**88.28**	**18**	P	**P**	**01 56 02.7**	**+0.5**
M30M				IAmb	IAmb	01 56 03.3	
	comp=Z,4.3nm,0.8s						
L29M	**L29M**	**88.33**	**17**	IAmb	IAmb	01 56 04.0	
	comp=Z,6.9nm,0.9s						
PDAR	**Pinedale Array**	**88.54**	**43**	P	**P**	**01 56 04.5**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=171,slow=3.7,SNR=4.8						
	comp=Z,1.0nm,0.8s						
DAWY	**Dawson**	**88.76**	**16**	IAmb	IAmb	01 56 05.6	
	comp=Z,5.0nm,1.0s						
SNAA	**Sanae**	**88.81**	**179**	P	**P**	**01 56 03.9**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=204,slow=9.7,SNR=2.4						
	comp=Z,1.2nm,0.9s						
K29M	**Barlow Dome**	**89.08**	**17**	IAmb	IAmb	01 56 07.0	
	comp=Z,2.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.63**	**290**	P	**P**	**01 56 10.9**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=130,slow=2.0,SNR=7.4						
	comp=Z,0.9nm,0.3s						
MKAR	**Makanchi Array**	**110.48**	**314**	PKiKP	**PKiKP**	**02 01 38.6**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=96,slow=1.4,SNR=2.9						
KURBB	**Kurchatov Arra**	**113.31**	**318**	PKiKP	**PKiKP**	**02 01 43.4**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=92,slow=2.4,SNR=2.4						
BVAR	**Borovoye Array**	**116.32**	**320**	PKP	**PKPdf**	**02 01 52.3**	**-1.6**
	comp=Z,0.9nm,0.4s,baz=122,slow=2.3,SNR=5.9						
ARCES	**ARCESS Array B**	**128.10**	**350**	PKP	**PKPdf**	**02 02 11.1**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=48,slow=1.8,SNR=15						
FINES	**FINESS Array B**	**134.94**	**344**	PKhKP	PKPpre	02 02 22.2	
	comp=Z,0.5nm,0.5s,baz=94,slow=7.6,SNR=4.7						
NOA	**NORSAR Array B**	**138.16**	**353**	PKP	**PKiKP**	**02 02 32.4**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=23,slow=3.4,SNR=1.5						
HFS	**Hagfors**	**138.72**	**351**	PKhKP	PKPpre	02 02 22.4	
	comp=Z,0.9nm,0.5s,baz=90,slow=3.0,SNR=8.5						
AKASG	**Malin Array Be**	**142.21**	**331**	PKhKP	PKPpre	02 02 34.9	
	comp=Z,1.9nm,0.5s,baz=44,slow=4.1,SNR=13						
AKBB	**Malin Array Si**	**142.21**	**331**	PKP	PKPpre	02 02 34.5	
AK04	**Malin Array Si**	**142.22**	**331**	PKP	PKPpre	02 02 34.7	
AK01	**Malin Array Si**	**142.22**	**331**	PKP	PKPpre	02 02 34.7	
KIEV	**Kiev**	**142.22**	**331**	PKP	PKPpre	02 02 34.5	
AK22	**Malin Array Si**	**142.23**	**332**	PKP	PKPpre	02 02 34.7	
AK08	**Malin Array Si**	**142.24**	**331**	PKP	PKPpre	02 02 34.7	
AK09	**Malin Array Si**	**142.24**	**331**	PKP	PKPpre	02 02 34.7	
AK18	**Malin Array Si**	**142.26**	**332**	PKP	PKPpre	02 02 34.4	
AK06	**Malin Array Si**	**142.30**	**331**	PKP	PKPpre	02 02 34.9	
MI28	**Mi28,Pidlybu**	**142.73**	**333**	PKP	PKPpre	02 02 36.1	
RNPP9	**Sopachiv**	**143.10**	**335**	PKP	PKPab	02 02 37.4	-0.9
RNPP8	**Varash**	**143.18**	**335**	PKP	PKPab	02 02 37.4	-1.2
RNPP5	**Staryi Chortor**	**143.25**	**335**	PKP	PKPab	02 02 37.8	-1.1
LUBAR	**Lubar, Ukraine**	**143.42**	**332**	PKP	PKPab	02 02 38.0	-1.6
EKA	**Eskdalemuir Ar**	**144.23**	**5**	PKP	PKPbc	02 02 41.6	-0.5
	comp=Z,0.7nm,0.5s,baz=325,slow=3.2,SNR=9.3						
SORM	**Soroca**	**144.41**	**329**	PKP	**PKPdf**	**02 02 40.1**	**-2.6**
NDNU	**Novodnistrovsk**	**144.55**	**330**	PKP	**PKPdf**	**02 02 41.2**	**-1.8**
PURM	**Purcari**	**144.70**	**326**	PKP	**PKPdf**	**02 02 41.4**	**-1.9**
BRTR	**Keskin Array B**	**146.13**	**313**	PKPbc	**PKPbc**	**02 02 48.0**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=136,slow=4.6,SNR=6.0						
MMAI	**Mount Meron Ar**	**147.22**	**301**	PKPbc	**PKiKP**	**02 02 52.2**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=79,slow=5.5,SNR=12						
CLL	**Collm**	**147.24**	**347**	*i* PKPbc	**PKPbc**	**02 02 50.9**	**+0.2**
	comp=Z,5.0nm,0.7s						
CLL				*i* PKPab	**PKPab**	**02 02 54.5**	**0.0**
	comp=Z,5.0nm,0.9s						
MORC	**Moravsky Berou**	**147.45**	**341**	*e*PKP	**PKPbc**	**02 02 51.0**	**-0.4**
VRAC	**Vranov**	**148.15**	**341**	*e*PKP	**PKiKP**	**02 02 54.7**	**+0.3**
JAVC	**Velka Javorina**	**148.21**	**340**	*e*PKP	**PKiKP**	**02 02 55.0**	**+0.4**
KRUC	**Moravsky**	**148.43**	**341**	*e*PKP	**PKPbc**	**02 02 54.2**	**+0.4**
MEM	**Membach**	**148.97**	**355**	*d*PKP	**PKPbc**	**02 02 55.0**	**-0.1**
KHC	**Kasperske Hory**	**149.14**	**345**	*e*PKP	**PKPbc**	**02 02 55.0**	**-0.6**
BMRD	**Maredsous**	**149.37**	**356**	*d*PKP	**PKPbc**	**02 02 55.7**	**-0.4**
GERES	**GERESS Array B**	**149.37**	**344**	PKPbc	**PKPbc**	**02 02 56.5**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=48,slow=2.0,SNR=8.2						
DOU	**Dourbes**	**149.59**	**356**	*d*PKP	**PKPbc**	**02 02 56.8**	**+0.2**
WLF	**Walferdange**	**149.90**	**354**	*d*PKP	**PKiKP**	**02 02 57.9**	**0.0**

IDC ***27*** *01:55:14.0±2.7, 30.88S×177.91W, h47km±22km, mb3.3/2, mbtmp3.7/3, ML2.9/1, Error ellipse: s-maj=52.0km s-min=19.9km az=112.0*

ISC 27 01:55:13.3±1.6, 30.8S±0.1×178.0W±0.3, h46km, n13, σ1§84/9, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.50**	**1**	P	**Pn**	**01 55 39.8**	**+2.0**
	158nm,0.3s,baz=46,slow=23,SNR=2.3						
RAO				S	**Sn**	**01 55 53.1**	**-3.2**
	345nm,0.4s,baz=226,slow=23,SNR=2.1						
URZ	**Urewera**	**8.52**	**207**	P	**Pn**	**01 57 13.7**	**-0.3**
	0.2nm,0.3s,baz=360,slow=6.2,SNR=2.7						
URZ				S	**Sn**	**01 58 47.7**	**-1.0**
	4.7nm,0.5s,baz=200,slow=21,SNR=9.6						
	13nm,1.1s						
ASAR	**Alice Springs**	**43.13**	**267**	P	**P**	**02 03 10.3**	**+0.8**
	0.3nm,0.6s,baz=110,slow=7.3,SNR=2.2						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**44.15**	**272**	P	**P**	**02 03 18.4**	**+0.7**
	0.6nm,0.5s,baz=113,slow=7.6,SNR=8.6						
	0.6nm,0.5s						
H03S2	**Juan Fernandez**	**80.23**	**123**	T	T	03 36 27.4	
	baz=238,slow=74,SNR=19						
H03S1	**Juan Fernandez**	**80.24**	**123**	T	T	03 36 26.3	
	baz=238,slow=74,SNR=16						
H03S3	**Juan Fernandez**	**80.25**	**123**	T	T	03 36 23.7	
	baz=238,slow=74,SNR=17						
H03N3	**Juan Fernandez**	**80.43**	**123**	T	T	03 36 47.2	
	baz=242,slow=72,SNR=5.0						
H03N2	**Juan Fernandez**	**80.43**	**123**	T	T	03 36 40.4	
	baz=242,slow=72,SNR=6.6						
H03N1	**Juan Fernandez**	**80.44**	**123**	T	T	03 36 43.9	
	baz=242,slow=72,SNR=11						
FINES	**FINESS Array B**	**145.50**	**340**	PKPbc	**PKPab**	**02 14 46.1**	**+0.1**
	0.8nm,0.5s,baz=64,slow=3.5,SNR=15						
EKA	**Eskdalemuir Ar**	**155.16**	**7**	PKP	**PKPdf**	**02 15 01.8**	**+1.0**
	0.2nm,0.4s,baz=7.4,slow=2.2,SNR=1.7						
GERES	**GERESS Array B**	**159.88**	**337**	PKP	**PKPdf**	**02 15 05.3**	**-1.8**
	0.4nm,0.6s,baz=35,slow=2.4,SNR=2.6						

NEIC ***27*** *02:25:28.4±1.7, 11.4S±0.1×167.2E±0.2, h10km±1km, mb4.8/10, Error ellipse: s-maj=33.3km s-min=12.0km az=302.0*

IDC ***27*** *02:25:32.9±1.1, 12.45S×166.00E, h0km, mb3.9/9, mbtmp3.8/10, ML3.4/1, MS3.8/1, Error ellipse: s-maj=36.0km s-min=20.9km az=99.0*

ISC 27 02:25:27.8±1.0, 11.5S±0.1×167.2E±0.1, h10km, n27, σ1§68/17, mb4.2/14, 1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.59**	**184**		**Pn**	**02 27 59.1**	**-0.7**
DZM	**Mont Dzumac**	**10.59**	**184**	Pn	Pn	02 27 52.9	-6.9
	0.3nm,0.3s,baz=309,slow=18,SNR=1.9						
DZM				Sn	Sn	02 29 43.9	-15
	0.4nm,0.3s,baz=342,slow=23,SNR=2.1						
	3.3nm,0.8s						
PINNC	**Pines Island,**	**11.11**	**179**		**Pn**	**02 28 07.0**	**+0.1**
FUTU	**Fugatoga**	**14.60**	**103**	Pn	**Pn**	**02 28 54.4**	**-0.2**
EIDS	**Eidsvold**	**20.59**	**226**	P	**P**	**02 30 03.2**	**-4.0**
ARMA	**Armidale**	**23.77**	**215**	P	**P**	**02 30 40.6**	**-0.2**
STKA	**Stephens Creek**	**31.15**	**225**	P	**P**	**02 31 48.1**	**+1.1**
STKA	**Stephens Creek**	**31.15**	**225**	P	P	02 31 40.7	-6.2
	1.0nm,0.2s,baz=27,slow=11,SNR=5.2						
	1.0nm,0.2s						
TOO	**Toolangi**	**32.49**	**213**		**P**	**02 31 59.2**	**+0.5**
TOO				IAmb	IAmb	02 32 37.4	
	comp=Z,16nm,1.9s						
WB0	**Warramunga Arr**	**32.61**	**251**	P	**P**	**02 31 59.6**	**-0.4**
WB0				IAmb	IAmb	02 32 04.9	
	comp=Z,19nm,1.9s						
WB2	**Warramunga Arr**	**32.67**	**251**	P	**P**	**02 32 01.3**	**+0.7**
WB2				IAmb	IAmb	02 32 38.4	
	comp=Z,16nm,1.7s						
WRA	**Warramunga Arr**	**32.69**	**251**	P	P	02 31 54.5	-6.2
	comp=Z,0.2nm,0.6s,baz=85,slow=9.0,SNR=9.4						
WRA				PcP	**PcP**	**02 34 49.3**	**+2.7**
	comp=Z,0.8nm,0.8s,baz=79,slow=3.0,SNR=7.0						
	comp=Z,0.2nm,0.6s						
GUMO	**Guam**	**33.30**	**318**	LR	LR	02 44 34.6	
	comp=Z,164nm,21.4s,baz=108,slow=34						
ASAR	**Alice Springs**	**33.89**	**244**	P	**P**	**02 32 11.5**	**+0.3**
ASAR	**Alice Springs**	**33.89**	**244**	P	P	02 32 04.0	-7.2
	comp=Z,0.7nm,0.7s,baz=69,slow=9.3,SNR=8.5						
ASAR				PcP	**PcP**	**02 34 52.4**	**+2.4**
	comp=Z,0.7nm,0.8s,baz=96,slow=3.7,SNR=5.9						
	comp=Z,0.7nm,0.7s						
BBOO	**Buckleboo**	**35.61**	**228**	P	**P**	**02 32 26.2**	**+0.4**
BBOO				IAmb	IAmb	02 32 32.9	
	comp=Z,32nm,1.6s						
USRK	**Ussuriysk Ar.**	**63.95**	**333**	P	P	02 36 10.9	+10
	comp=Z,0.8nm,0.5s,baz=157,slow=5.4,SNR=4.1						
	comp=Z,0.8nm,0.5s						
QSPA	**South Pole Qui**	**78.56**	**180**	P	**P**	**02 37 30.8**	**+1.3**
QSPA				IAmb	IAmb	02 37 38.0	
	comp=Z,11nm,1.0s						
QSPA	**South Pole Qui**	**78.56**	**180**	P	**P**	**02 37 30.1**	**+0.7**
	comp=Z,2.0nm,0.9s,baz=97,slow=1.6,SNR=6.1						
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**79.83**	**323**	P	P	02 37 43.5	+6.8
	comp=Z,0.3nm,0.4s,baz=134,slow=6.2,SNR=1.3						
	comp=Z,0.3nm,0.4s						
ILAR	**Eielson Array**	**83.45**	**18**	P	P	02 38 07.5	+12
	comp=Z,0.3nm,0.9s,baz=258,slow=5.5,SNR=2.5						
	comp=Z,0.3nm,0.9s						
O30N	**Mendenhall**	**84.71**	**24**	P	**P**	**02 37 59.7**	**-2.1**
N30M	**Aishikik Lake**	**84.71**	**23**	P	**P**	**02 38 01.1**	**-0.7**
N30M				IAmb	IAmb	02 39 34.9	
	comp=Z,6.5nm,0.8s						
SYO	**Syowa Base**	**91.81**	**197**	*ļ*P*e*P	sP	02 38 41.5	+2.5
ZALV	**Zalesovo Beam**	**94.71**	**324**	P	P	02 38 56.7	+7.5
	comp=Z,0.3nm,0.3s,baz=96,slow=6.0,SNR=4.8						
	comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**94.78**	**317**	P	P	02 38 56.8	+6.9
	comp=Z,0.4nm,0.6s,baz=94,slow=6.3,SNR=9.3						
	comp=Z,0.4nm,0.6s						
ARCES	**ARCESS Array B**	**117.07**	**346**	PKP	PKiKP	02 44 21.4	+8.7
	comp=Z,0.4nm,0.6s,baz=60,slow=2.2,SNR=0.8						

OMAN 27 02:29:00.1±0.2, 24.78N×62.40E, h16km±8km, mb3.9/4, ml3.4/4, Error ellipse: s-maj=17.2km s-min=2.8km az=259.0, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NGCH	**Negor - Chabah**	**1.28**	**297**	P	Pb	02 29 23.9	+0.1
	SNR=7.3						
NGCH				S	Sg	02 29 42.7	+1.2
JLN	**Jalan Bani Buh**	**3.79**	**227**	P	Pn	02 29 57.6	-0.3
JLN				S	Sn	02 30 43.1	+0.9
WBK	**Wadi Bani Khal**	**3.81**	**236**	P	Pn	02 29 59.0	+0.8
	SNR=21						
WBK				S	Sn	02 30 43.3	+0.5
BIDO	**Bidbid**	**4.10**	**253**	P	Pn	02 30 03.3	+1.2
BIDO				S	Sn	02 30 49.8	+0.1
JASK	**Jask - Hormozg**	**4.24**	**286**	P	Pn	02 30 05.1	+1.1
JASK				S	Sn	02 30 54.5	+1.3
SMDO	**Samad**	**4.33**	**248**	P	Pn	02 30 07.1	+1.6
SMDO				S	Sn	02 30 57.2	+1.5
JMDO	**Jabal Madar**	**4.61**	**240**	P	Pn	02 30 11.1	+1.9
JMDO				S	Sn	02 31 04.2	+1.7
HOQ	**Hoqain**	**4.80**	**257**	P	Pn	02 30 12.4	+0.7
HOQ				S	Sn	02 31 09.7	+2.7
BSY	**Bisya**	**5.18**	**248**	P	Pn	02 30 18.8	+1.9
BSY				S	Sn	02 31 19.3	+3.0
SOHO	**SOHO**	**5.38**	**264**	P	Pn	02 30 20.2	+0.5
SOHO				S	Sn	02 31 20.7	-0.7
MDH	**Madha**	**5.56**	**277**	P	Pn	02 30 21.9	-0.2
ARQ	**Araqi**	**5.56**	**256**	P	Pn	02 30 24.9	+2.7
	SNR=8.1						
ARQ				S	Sn	02 31 28.3	+2.4
MHTO	**MHTO**	**5.56**	**228**	P	Pn	02 30 23.0	+0.7
	SNR=14						
MHTO				S	Sn	02 31 25.2	-0.6
UOSS	**Minazif**	**5.63**	**273**	P	Pn	02 30 22.8	-0.3
MASF	**Masafi**	**5.69**	**277**	P	Pn

WACZ	Wakanui South	2.76	189	P		Pn	02 32 54.4	+1.7
TSZ	Takapari Road	2.92	68	P		Pn	02 32 55.4	+0.7
BFZ	Birch Farm	2.93	81	P		Pn	02 32 55.8	+1.1
BFZ	Birch Farm	2.93	81	S		S	02 33 33.4	-1.2
BFZ	Birch Farm	2.93	81	P		Pn	02 32 55.9	+1.1
FOZ	Fox Glacier	3.02	219	P		Pn	02 32 56.3	+0.6
NGZ	Ngauruhoe	3.16	51	P		Pn	02 32 57.9	+0.3
TMZ	Timaru	3.33	198	P		Pn	02 33 00.3	+1.1
PXZ	Pawanui	3.56	72	P		Pn	02 33 03.1	+1.2
LBZ	Lake Benmore	3.57	207	P		Pn	02 33 02.4	+0.4
BKZ	Black Stump Fm	3.72	58	P		Pn	02 33 03.7	-0.1
BKZ	Black Stump Fm	3.72	58	P		Pn	02 33 03.7	-0.1
TLZ	Tolley Road	3.74	40	P		Pn	02 33 05.3	+1.2
JCZ	Jackson Bay	3.93	222	P		Pn	02 33 06.8	+0.6
JCZ	Jackson Bay	3.93	222	P		Pn	02 33 07.0	+0.8
ODZ	Otahua Downs	4.04	198	P		Pn	02 33 08.4	+0.9
ODZ	Otahua Downs	4.04	198	S		S	02 33 57.0	-0.8
ODZ	Otahua Downs	4.04	198	P		Pn	02 33 08.7	+1.2
WKZ	Wanaka	4.39	214	P		Pn	02 33 11.8	0.0
KNZ	Kokohu	4.57	63	P		Pn	02 33 14.5	+0.6
URZ	Urewera	4.66	52	P		Pn	02 33 15.3	+0.3
URZ	Urewera	4.66	52	P		Pn	02 33 14.3	-0.8
MWZ	Matawai	4.86	55	P		Pn	02 33 17.9	+0.2
WHZ	Wether Hill Ro	5.70	213	P		Pn	02 33 27.8	-0.1

CATAC ***27*** *02:35:50.9±0.5, 14°N±2°×9°1W±°, h20km±3km, M3.4/23, MLv3.4/23, Error ellipse: s-maj=5.9km s-min=3.0km az=33.8, confirmed*
GCG ***27*** *02:35:51.3±0.7, 14°23N×91°42W, h63km±9km, MD3.5, ML3.2, MW2.8*

ISC 27 02:35:49.8±2.3**, 13°95N**±0°09×**91°48W**±0°07**, h28**km±14**km**, n39**, σ1**§29**/44**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.61**	**340**	P		**Pn**	**02 36 03.4**	**+0.7**
RTAL				S		**Sn**	**02 36 12.1**	**+0.6**
ESSG	**Sabana Grande**	**0.77**	**55**	*i* P		**Pb**	**02 36 04.8**	**+0.1**
ESSG				*i* S		**Sb**	**02 36 15.1**	**+0.3**
ESSG				IAML			02 36 15.3	
	comp=E,846nm,0.1s							
SOKI	**Kika Raxquin**	**0.87**	**5**	*i* P		**Pn**	**02 36 06.1**	**-0.5**
SOKI				*i* S		**Sb**	**02 36 17.6**	**-0.6**
SOKI				IAML			02 36 18.2	
	comp=N,320nm,0.1s							
FG16	**Alotenango, Sa**	**0.99**	**71**	*i* P		**Pn**	**02 36 05.1**	**-3.0**
FG16				*i* S		**Sn**	**02 36 16.2**	**-5.2**
FG16				IAML			02 36 17.0	
	comp=N,5μm,0.2s							
ESSJ	**San Jos, E**	**1.03**	**112**	*i* P		**Pn**	**02 36 04.9**	**-3.4**
SMCA	**Catarina**	**1.07**	**328**	*i* P		**Pn**	**02 36 08.5**	**-0.5**
SMCA				*i* S		**Sn**	**02 36 20.7**	**-2.3**
SMCA				IAML			02 36 21.5	
	comp=E,124nm,0.1s							
HUEH	**Huehuetenango**	**1.36**	**359**	P		**Pn**	**02 36 14.2**	**+1.0**
HUEH	**Huehuetenango**	**1.36**	**359**	S		**Sn**	**02 36 31.3**	**+0.8**
FAME	**Alcaldia de Sa**	**1.43**	**94**	P		**Pn**	**02 36 14.2**	**+0.3**
FAME	**Alcaldia de Sa**	**1.43**	**94**	S		**Sn**	**02 36 32.1**	**+0.4**
SLOZ	**Alcaldia de Sa**	**1.65**	**87**	S		**Sn**	**02 36 37.6**	**+0.4**
SLOZ	**Alcaldia de Sa**	**1.65**	**87**	P		**Pn**	**02 36 17.6**	**+0.6**
LOAL	**Lomas de Alarc**	**1.65**	**88**	P		**Pn**	**02 36 17.4**	**+0.4**
LOAL	**Lomas de Alarc**	**1.65**	**88**	S		**Sn**	**02 36 37.8**	**+0.5**
NUBE	**Las Nubes**	**1.65**	**91**	S		**Sn**	**02 36 37.7**	**+0.2**
NUBE	**Las Nubes**	**1.65**	**91**	P		**Pn**	**02 36 17.6**	**+0.4**
CEVE	**Cerro Verde**	**1.81**	**94**	P		**Pn**	**02 36 19.5**	**+0.2**
CEVE	**Cerro Verde**	**1.81**	**94**	S		**Sn**	**02 36 41.7**	**+0.2**
UNIC	**Universidad Ca**	**1.88**	**89**	S		**Sn**	**02 36 43.5**	**+0.6**
UNIC	**Universidad Ca**	**1.88**	**89**	P		**Pn**	**02 36 20.6**	**+0.5**
JAYA	**Jayaque - finc**	**2.00**	**98**	P		**Pn**	**02 36 22.3**	**+0.5**
JAYA	**Jayaque - finc**	**2.00**	**98**	S		**Sn**	**02 36 46.6**	**+0.6**
CEDA	**San Andres**	**2.03**	**94**	S		**Sn**	**02 36 47.4**	**+0.7**
CEDA	**San Andres**	**2.03**	**94**	P		**Pn**	**02 36 22.9**	**+0.7**
MTO3	**Montecristo**	**2.10**	**77**	P		**Pn**	**02 36 23.7**	**+0.3**
MTO3	**Montecristo**	**2.10**	**77**	S		**Sn**	**02 36 48.9**	**+0.1**
PMON	**Piamonte**	**2.12**	**96**	P		**Pn**	**02 36 24.3**	**+0.9**
PMON	**Piamonte**	**2.12**	**96**	S		**Sn**	**02 36 49.6**	**+0.7**
LALI	**Alcalda de L**	**2.15**	**102**	P		**Pn**	**02 36 24.6**	**+0.8**
LALI	**Alcalda de L**	**2.15**	**102**	S		**Sn**	**02 36 50.4**	**+0.9**
ESQI	**Esquipulas**	**2.16**	**73**	P		**Pn**	**02 36 24.2**	**+0.1**
UEES	**Universidad Ev**	**2.19**	**96**	S		**Sn**	**02 36 51.5**	**+0.8**
UEES	**Universidad Ev**	**2.19**	**96**	P		**Pn**	**02 36 24.9**	**+0.5**
UTEC	**Universidad Te**	**2.23**	**96**	P		**Pn**	**02 36 25.5**	**+0.6**
IGN	**Direccin Gen**	**2.26**	**96**	P		**Pn**	**02 36 26.1**	**+0.8**
IGN	**Direccin Gen**	**2.26**	**96**	S		**Sn**	**02 36 53.1**	**+0.8**
PANCS	**Alcalda de**	**2.26**	**98**	P		**Pn**	**02 36 26.4**	**+1.0**
LOMA	**Loma Larga**	**2.26**	**97**	S		**Sn**	**02 36 53.2**	**+0.6**
PETF	**Flores**	**3.34**	**28**	P		**Pn**	**02 36 40.7**	**+0.6**

ISK ***27*** *02:49:32.2, 36°88N×44°76E, h5km, ML3.5/8*
TEH ***27*** *02:49:35.1, 37°21N×44°99E, h6km±33km*
AFAD ***27*** *02:49:36.0, 37°02N×44°76E, h8km±7km, ML3.1*
ISN ***27*** *02:49:39.5±0.6, 36°79N×44°36E, h4km±321km, ML3.5*

ISC 27 02:49:35.3±1.1**, 37°08N**±0°02×**44°84E**±0°02**, h5**km±10**km**, n58**, σ1**§97**/80**, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NGD1	**Naghade .Az. G**	**0.48**	**106**	Pg		**Pg**	**02 49 43.9**	**-0.6**
NGD1				Sg		**Sg**	**02 49 49.6**	**-1.1**
MAHB	**Mahabad**	**0.76**	**114**	Pg		**Pg**	**02 49 48.3**	**-1.6**
CUKT	**Cukurca**	**1.00**	**280**	Pg		**Pg**	**02 49 51.9**	**-2.5**
CUKT				Sg		**Sb**	**02 50 07.2**	**-1.5**
CUKT	**Cukurca**	**1.00**	**280**	P		**Pg**	**02 49 51.4**	**-3.0**
CUKT				S		**Sg**	**02 50 06.2**	**-1.2**
HAKT	**HAKKARI**	**1.02**	**298**	P		**Pb**	**02 49 55.6**	**0.0**
HAKT				S		**Sn**	**02 50 11.7**	**+0.2**
HAKT				*i* IAML			02 50 15.0	
	comp=N,2μm,0.6s							
HAKT				*i* IAML			02 50 15.0	
	comp=E,1μm,0.8s							
HAKT	**HAKKARI**	**1.02**	**298**	Pg		**Pb**	**02 49 55.6**	**0.0**
ISHB	**Shabestar**	**1.35**	**27**	Pg		Pn	02 49 57.6	-3.6
ITBZ	**Tabriz**	**1.55**	**42**	Pg		**Pn**	**02 50 01.0**	**-2.8**
ITBZ				Sg		**Sn**	**02 50 20.0**	**-4.5**
OZAP	**Van, Ozalp-Mer**	**1.72**	**337**	P		**Pg**	**02 50 10.0**	**+1.8**
OZAP				S		**Sg**	**02 50 35.7**	**+5.2**
OZAP				*i* IAML			02 50 48.0	
	comp=E,184nm,1.1s							
OZAP				*i* IAML			02 50 52.0	
	comp=N,206nm,1.8s							
IKRK	**Kirkuk**	**1.72**	**194**	*e*Pn		**Pg**	**02 50 07.5**	**-0.8**
IKRK				*e*Sn		**Sn**	**02 50 27.5**	**-0.8**
IKRK				AML		AML	02 50 38.8	
	comp=E,1μm,0.8s							
IKRK				AML		AML	02 50 40.9	
	comp=N,781nm,0.6s							
TVAN	**Van**	**1.84**	**322**	P		**Pb**	**02 50 10.8**	**+1.2**
TVAN				S		**Sg**	**02 50 38.5**	**+4.0**
TVAN				*i* IAML			02 50 50.0	
	comp=N,189nm,1.0s							
TVAN				*i* IAML			02 50 50.0	
	comp=N,271nm,0.6s							
GEVA	**Gevas**	**1.88**	**312**	P		**Pg**	**02 50 12.6**	**+1.4**
GEVA				S		**Sg**	**02 50 39.8**	**+4.3**
GEVA				*i* IAML			02 50 47.0	
	comp=N,196nm,0.7s							
GEVA				*i* IAML			02 50 48.0	
	comp=N,225nm,0.9s							
VANB	**Van**	**1.90**	**323**	Pn		**Pn**	**02 50 07.7**	**-0.8**
VANB				Sn		**Sn**	**02 50 33.7**	**+0.7**
AKDM	**Akdamar-Van**	**1.93**	**311**	Pn		**Pn**	**02 50 09.3**	**+0.3**
IHSH	**Hashtrud**	**1.95**	**83**	Pn		**Pn**	**02 50 08.4**	**-1.0**
SIRN	**Sırnak**	**1.98**	**283**	P		**Pg**	**02 50 12.5**	**-0.8**
SIRN				S		**Sg**	**02 50 38.4**	**-0.4**
SIRN				*i* IAML			02 50 48.0	
	comp=N,779nm,0.5s							
SIRN				*i* IAML			02 50 54.0	
	comp=N,585nm,0.9s							
SIRN	**Sırnak**	**1.98**	**283**	Pn		**Pg**	**02 50 12.4**	**-0.8**
PERV	**Siirt/Pervari-**	**2.02**	**296**	P		**Pg**	**02 50 14.1**	**+0.1**
PERV				S		**Sg**	**02 50 41.5**	**+1.2**
PERV				*i* IAML			02 50 50.0	
	comp=N,601nm,0.5s							
PERV				*i* IAML			02 50 50.0	
	comp=N,608nm,0.7s							
IHRS	**Heris**	**2.14**	**54**	Pn		**Pn**	**02 50 12.0**	**0.0**
VMUR	**Van-Muradiye**	**2.16**	**333**	P		**Pb**	**02 50 16.3**	**+1.4**
CLDR	**Caldiran**	**2.19**	**341**	Pn		**Pn**	**02 50 10.2**	**-2.4**
CLDR	**Caldiran**	**2.19**	**341**	P		**Pn**	**02 50 10.8**	**-1.8**
CLDR				S		**Sn**	**02 50 39.0**	**-1.2**
ADCV	**BITLIS_Adilcev**	**2.40**	**317**	P		**Pb**	**02 50 19.4**	**+0.2**
ADCV				S		**Sg**	**02 50 54.7**	**+2.2**
ADCV				*i* IAML			02 50 55.0	
	comp=N,95nm,1.5s							
ADCV				*i* IAML			02 51 01.0	
	comp=N,61nm,1.4s							
SRTM	**Siirt_Merkez**	**2.49**	**292**	P		**Pg**	**02 50 22.7**	**-0.3**
SRTM				S		**Sg**	**02 50 55.3**	**0.0**
BLIS	**Bitlis-Merkez**	**2.54**	**303**	P		**Pb**	**02 50 22.4**	**+1.0**
BLIS				S		**Sg**	**02 50 56.1**	**-0.7**
BLIS				*i* IAML			02 51 11.0	
	comp=N,62nm,0.9s							
KGS1	**Ghasr-e-Shirin**	**2.64**	**166**	Pn		**Pb**	**02 50 22.2**	**-0.8**
GURO	**Guroymak-BITLI**	**2.67**	**304**	Pn		**Pn**	**02 50 19.0**	**-0.1**
IDHR	**Dehrash**	**2.68**	**152**	Pn		**Pb**	**02 50 22.6**	**-1.4**
MIDY	**Mardin/Midyat-**	**2.77**	**278**	P		**Pg**	**02 50 29.6**	**+1.3**
MIDY				S		**Sb**	**02 51 00.3**	**+0.8**
AGRB	**Hanur-Agry**	**2.89**	**330**	Pn		**Pn**	**02 50 23.1**	**+0.9**
TASB	**TASBURUN-IGDIR**	**2.94**	**351**	Pn		**Pn**	**02 50 24.4**	**+1.6**
BTMN	**Batman**	**2.95**	**287**	P		**Pg**	**02 50 30.4**	**-1.4**
BTMN				S		**Sg**	**02 51 08.0**	**-2.1**
GRMI	**Germi**	**2.97**	**53**	Pn		**Pn**	**02 50 22.1**	**-1.2**
KOTA	**Agri, Merkez-K**	**3.01**	**335**	P		**Pb**	**02 50 31.8**	**+2.3**
GNI	**Garni**	**3.07**	**359**	Pn		**Pn**	**02 50 26.5**	**+1.9**
IGHG	**Ghaleghazi**	**3.08**	**152**	Pn		**Pn**	**02 50 27.9**	**+3.1**
GLG1	**Gilan-e-Gharb**	**3.08**	**163**	Pn		**Pn**	**02 50 28.1**	**-2.5**
SVAN	**Silvan-Diyarba**	**3.08**	**291**	Pn		**Pn**	**02 50 24.2**	**-0.5**
SVAN	**Silvan-Diyarba**	**3.08**	**291**	P		**Pg**	**02 50 32.9**	**-1.4**
SVAN				S		**Sb**	**02 51 06.6**	**-2.0**
MUSM	**Mu-Merkez**	**3.10**	**303**	P		**Pb**	**02 50 29.9**	**-1.2**
MUSM				S		**Sg**	**02 51 12.7**	**-2.3**
MUSM				*i* IAML			02 51 37.0	
	comp=N,31nm,1.1s							
SNQR	**Sonqor, Kerman**	**3.17**	**134**	Pn		**Pn**	**02 50 28.7**	**+2.6**
KCHF	**Cheshme Sefid,**	**3.32**	**147**	Pn		**Pn**	**02 50 31.1**	**+2.9**
VRTB	**Varto-Mus**	**3.38**	**309**	Pn		**Pn**	**02 50 29.4**	**+0.5**
GAS1	**Astara - Iran**	**3.43**	**66**	Pn		**Pn**	**02 50 29.1**	**-0.3**
IBZA	**Bozab**	**3.58**	**136**	Pn		**Pn**	**02 50 35.1**	**+3.3**
ILBA	**Ilam Banvizeh**	**3.62**	**162**	Pn		**Pn**	**02 50 34.8**	**+2.7**
KOPR	**Koprukoy-ERZUR**	**3.73**	**322**	Pn		**Pn**	**02 50 34.8**	**+1.0**
BNGB	**Bingl**	**3.80**	**301**	Pn		**Pn**	**02 50 34.8**	**+0.2**
BHD	**Baghdad**	**3.82**	**186**	*e*Pn		**Pn**	**02 50 37.0**	**+2.3**
BHD				*e*Sn		**Sn**	**02 51 19.0**	**-1.0**
IBDR	**Badra**	**4.06**	**167**	*e*Pn		**Pn**	**02 50 42.0**	**+3.9**
IBDR				*e*Sn		**Sn**	**02 51 28.0**	**+2.0**
IBDR				AML	AML		02 51 34.8	
	comp=N,56nm,0.3s							
IBDR				AML	AML		02 51 56.5	
	comp=E,64nm,0.5s							
QABG	**Abgarm-Qazvin**	**4.06**	**108**	Pn		**Pn**	**02 50 39.8**	**+1.4**
HAGD	**Aghdareh**	**4.15**	**122**	Pn		**Pn**	**02 50 41.5**	**+1.9**
IKFM	**Kafar-mosalman**	**4.31**	**144**	Pn		**Pn**	**02 50 44.5**	**+2.9**
IGZV	**Ghazvin**	**4.38**	**97**	Pn		**Pn**	**02 50 43.8**	**+1.2**
URFA	**Urfa**	**4.81**	**276**	Pn		**Pn**	**02 50 48.0**	**-0.5**
KLST	**Kelardasht - M**	**5.02**	**95**	Pn		**Pn**	**02 50 53.0**	**+1.4**
RAFI	**Al-Rafai**	**5.44**	**168**	*e*Pn		**Pn**	**02 51 01.0**	**+3.9**
RAFI				*e*Sn		**Sn**	**02 52 00.5**	**+0.4**
RAFI				AML	AML		02 52 09.4	
	comp=N,137nm,0.6s							
RAFI				AML	AML		02 52 24.1	
	comp=E,224nm,0.4s							
JHBN	**Jahan bin**	**6.81**	**133**	Pn		**Pn**	**02 51 18.4**	**+2.2**

IDC ***27*** *03:08:11.5±0.6, 20°67N×122°15E, h0km, mb3.8/16, mbtmp3.9/18, ML4.1/2, Error ellipse: s-maj=23.6km s-min=13.2km az=71.0*
NEIC ***27*** *03:08:14.0±2.6, 20°81N±0°05×122°0E±0°1, h10km±1km, mb4.3/17, Error ellipse: s-maj=17.5km s-min=8.0km az=87.0*
JMA ***27*** *03:08:14.8±0.4, 21°N±2°×122°0E±0°9, h29km, MV4.4/18, PHILIPPINE ISL REGION*

ISC 27 03:08:16.9±0.5**, 20°81N**±0°05×**122°08E**±0°07**, h35**km**, n74**, σ1**§39**/74**, mb4.0**/23**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWGBT	**Beinan**	**2.20**	**335**	P		**Pn**	**03 08 50.6**	**-0.4**
TWG	**Pinlang**	**2.21**	**335**			**Pn**	**03 08 48.5**	**-2.6**
YULB	**Yu-li**	**2.67**	**344**			**Pn**	**03 08 55.9**	**-1.5**
YULB	**Yu-li**	**2.67**	**344**	P		**Pn**	**03 08 56.1**	**-1.4**
TPUB	**Ta-pu**	**2.82**	**332**			**Pn**	**03 08 59.6**	**+0.1**
TPUB	**Ta-pu**	**2.82**	**332**	P		**Pn**	**03 09 00.1**	**+0.6**
SSLB	**Suanglung**	**3.14**	**341**			**Pn**	**03 09 03.0**	**-1.0**
SSLB	**Suanglung**	**3.14**	**341**	P		**Pn**	**03 09 04.7**	**+0.7**
NACB	**Ninganchiao**	**3.38**	**352**			**Pn**	**03 09 04.9**	**-2.3**
NACB	**Ninganchiao**	**3.38**	**352**	P		**Pn**	**03 09 05.3**	**-1.9**
HATJ	**Hateruma jima**	**3.60**	**26**	*e*P		**Pn**	**03 09 10.0**	**-0.2**
HATJ				*e*S		**Sn**	**03 09 50.4**	**-1.1**
YOJ	**Yonaguni jima**	**3.73**	**13**			**Pn**	**03 09 11.2**	**-0.8**
YOJ	**Yonaguni jima**	**3.73**	**13**	P		**Pn**	**03 09 11.2**	**-0.8**
YOJ	**Yonaguni jima**	**3.73**	**13**	*e*P		**Pn**	**03 09 12.2**	**+0.2**
YOJ				*e*S		**Sn**	**03 09 53.5**	**-1.3**
IRIF	**Iriomote-Funau**	**3.82**	**23**	P		**Pn**	**03 09 13.0**	**-0.3**
IRIF				*e*S		**Sn**	**03 09 56.0**	**-1.1**
JKRS	**Kuro-shima**	**3.85**	**27**	*e*P		**Pn**	**03 09 13.5**	**-0.1**
JKRS				*e*S		**Sn**	**03 09 56.8**	**-0.8**
YHNB	**Yeheng**	**3.89**	**350**			**Pn**	**03 09 12.5**	**-1.8**
YHNB	**Yeheng**	**3.89**	**350**	P		**Pn**	**03 09 14.9**	**+0.5**
JIJ	**Ishigaki jima**	**4.01**	**28**	*e*P		**Pn**	**03 09 15.0**	**-0.9**
JIJ				*e*S		**Sn**	**03 09 58.5**	**-3.3**
JISG	**Ishigakijimahi**	**4.28**	**28**	*e*P		**Pn**	**03 09 18.8**	**-0.8**
JISG				S		**Sn**	**03 10 06.0**	**-2.4**
JTJ	**Tarama**	**4.51**	**32**	*e*P		**Pn**	**03 09 22.6**	**-0.2**
JTJ				*e*S		**Sn**	**03 10 12.0**	**-2.1**
JMJ2	**Miyako jima3**	**4.92**	**37**	*e*S		**Sn**	**03 10 24.6**	**+0.4**
KNMB	**Chin-men Tao**	**4.99**	**317**	Pn		**Pn**	**03 09 27.1**	**-2.2**
JAGN	**Aguni-jima**	**7.44**	**38**	*e*P		**Pn**	**03 10 03.5**	**+0.5**
JIH	**Iheya**	**8.21**	**40**	*e*P		**Pn**	**03 10 14.3**	**+0.8**
JOW	**Kunigami**	**8.25**	**42**			**Pn**	**03 10 13.9**	**-0.2**
JOW	**Kunigami**	**8.25**	**42**	Pn		**Pn**	**03 10 14.0**	**-0.1**
	5.5nm,0.3s,baz=206,slow=12,SNR=14							
	14nm,0.3s							
JOW	**Kunigami**	**8.25**	**42**	*e*P		**Pn**	**03 10 13.9**	**-0.2**
JYRO	**Yoronjima**	**8.49**	**42**	*e*P		**Pn**	**03 10 16.8**	**-0.6**
JMZ	**Minamidaito 2**	**9.77**	**58**			Pn	03 10 29.5	-5.4
JAMN	**Amaminishikomi**	**9.82**	**40**	*e*P		**Pn**	**03 10 36.1**	**+0.5**
KSRS	**Korea Array**	**17.34**	**16**	P		**P**	**03 12 17.0**	**-0.2**
	0.6nm,0.3s,baz=196,slow=13,SNR=8.3							
	2.0nm,0.8s							
TOLI2	**Tolitoli**	**19.62**	**184**	P		**P**	**03 12 42.9**	**+0.4**
TOLI2				IAmb		IAmb	03 12 48.0	
	comp=Z,15nm,1.4s							
SBUM	**Sibu**	**20.63**	**209**	P		**P**	**03 12 54.2**	**+0.7**
MJAR	**Matsushiro Arr**	**21.07**	**38**	P		**P**	**03 12 57.8**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=219,slow=9.4,SNR=1.8							
	comp=Z,0.4nm,0.3s							
CMAR	**Chiang Mai Arr**	**21.92**	**268**	P		**P**	**03 13 08.1**	**+0.7**
	comp=Z,2.5nm,0.3s,baz=76,slow=9.7,SNR=6.0							
	comp=Z,2.5nm,0.3s							
SONM	**Songino Array**	**29.79**	**338**	P		**P**	**03 14 19.9**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=167,slow=10,SNR=5.0							
	comp=Z,0.6nm,0.7s							
KNRA	**Kununurra**	**36.85**	**169**	P		**P**	**03 15 20.1**	**-1.9**
KNRA				IAmb		IAmb	03 16 00.9	
	comp=Z,7.8nm,1.2s							
FITZ	**Fitzroy Crossi**	**38.83**	**175**	P		**P**	**03 15 36.5**	**-2.2**
FITZ	**Fitzroy Crossi**	**38.83**	**175**	P		**P**	**03 15 36.7**	**-2.0**
	comp=Z,2.1nm,0.9s,baz=26,slow=8.0,SNR=7.1							
	comp=Z,2.1nm,0.9s							
MKAR	**Makanchi Array**	**41.36**	**318**	P		**P**	**03 16 01.6**	**+2.0**
	comp=Z,1.6nm,0.6s,baz=111,slow=8.9,SNR=14							
	comp=Z,1.6nm,0.6s							
H11N1	**WAKE ISLAND Hy 41.95**		**83**	T		T	04 01 07.3	
	baz=280,slow=75,SNR=77							
H11N2	**WAKE ISLAND Hy 41.95**		**83**	T		T	04 01 05.4	
	baz=280,slow=75,SNR=59							
H11N3	**WAKE ISLAND Hy 41.97**		**83**	T		T	04 01 05.0	
	baz=280,slow=75,SNR=47							
H11S3	**WAKE ISLAND Hy 41.97**		**85**	T		T	04 01 02.5	
	baz=281,slow=75,SNR=149							
H11S1	**WAKE ISLAND Hy 41.98**		**85**	T		T	04 01 00.5	
	baz=281,slow=75,SNR=108							
H11S2	**WAKE ISLAND Hy 41.99**		**85**	T		T	04 01 03.9	
	baz=281,slow=75,SNR=120							
PSA00	**Pilbara Seismi**	**42.18**	**183**	P		**P**	**03 16 04.0**	**-2.4**
PSA00				IAmb		IAmb	03 16 06.0	
	comp=Z,4.4nm,0.9s							
PSA00	**Pilbara Seismi**	**42.18**	**183**	P		**P**	**03 16 05.3**	**-1.1**
PSA00				IAmb		IAmb	03 16 06.0	
	comp=Z,7.8nm,0.8s							
WRA	**Warramunga Arr**	**42.24**	**163**	P		**P**	**03 16 05.5**	**-1.4**
WRA	**Warramunga Arr**	**42.24**	**163**	P		**P**	**03 16 05.0**	**-2.0**
	comp=Z,1.5nm,0.5s,baz=343,slow=9.1,SNR=22							
	comp=Z,1.5nm,0.5s							
WR8	**Warramunga Arr**	**42.30**	**163**	P		**P**	**03 16 05.5**	**-1.9**
WR8				IAmb		IAmb	03 16 29.6	
	comp=Z,9.6nm,1.3s							
ZALV	**Zalesovo Beam**	**43.53**	**329**	P		**P**	**03 16 18.7**	**+1.7**
ZALV	**Zalesovo Beam**	**43.53**	**329**	P		**P**	**03 16 19.1**	**+2.1**
	comp=Z,1.9nm,0.6s,baz=114,slow=7.2,SNR=7.0							
	comp=Z,1.9nm,0.6s							
KURK	**Kurchatov**	**45.22**	**322**	P		**P**	**03 16 31.9**	**+1.3**
KURK				IAmb		IAmb	03 16 39.8	
	comp=Z,3.1nm,0.8s							
KURBB	**Kurchatov Arra**	**45.24**	**322**	P		**P**	**03 16 31.6**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=118,slow=7.4,SNR=8.6							
	comp=Z,0.8nm,0.5s							
AS31	**Alice Springs**	**45.69**	**165**	P		**P**	**03 16 35.4**	**+0.8**
ASAR	**Alice Springs**	**45.69**	**165**	P		**P**	**03 16 35.1**	**+0.6**
ASAR	**Alice Springs**	**45.69**	**165**	P		**P**	**03 16 33.6**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=344,slow=7.1,SNR=16							
	comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**50.82**	**322**	P		**P**	**03 17 14.7**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=105,slow=7.3,SNR=4.3							
	comp=Z,0.7nm,0.4s							
NWAO	**Narrogin (SRO)**	**53.64**	**185**	P		**P**	**03 17 35.0**	**+0.1**
BBOO	**Buckleboo**	**54.97**	**166**	P		**P**	**03 17 43.7**	**-0.9**
STKA	**Stephens Creek**	**55.63**	**160**	P		**P**	**03 17 48.2**	**-1.2**
	comp=Z,2.4nm,0.8s,baz=326,slow=8.0,SNR=6.8							
	comp=Z,2.4nm,0.8s							
TOO	**Toolangi**	**62.12**	**159**	P		**P**	**03 18 35.1**	**+0.7**
TOO				IAmb		IAmb	03 18 39.6	
	comp=Z,3.6nm,1.1s							
H19K	**Roundabout Mou**	**67.73**	**26**	P		**P**	**03 19 13.1**	**+2.5**
F20K	**Avaraart Lake**	**67.99**	**25**	P		**P**	**03 19 15.1**	**+2.9**
CAST	**Castle Rocks**	**69.75**	**29**	P		**P**	**03 19 25.6**	**+2.3**
CAST				IAmb		IAmb	03 19 34.2	
	comp=Z,2.8nm,1.0s							
ILAR	**Eielson Array**	**71.83**	**27**	P		**P**	**03 19 37.1**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=278,slow=4.7,SNR=6.4							
	comp=Z,0.2nm,0.5s							
FINES	**FINESS Array B**	**74.77**	**330**	P		**P**	**03 19 54.4**	**+1.2**
FINES	**FINESS Array B**	**74.77**	**330**	P		**P**	**03 19 54.0**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=55,slow=3.7,SNR=4.0							
	comp=Z,0.5nm,0.7s							
DAWY	**Dawson**	**75.15**	**27**	P		**P**	**03 19 57.0**	**+1.6**
DAWY				IAmb		IAmb	03 20 03.5	
	comp=Z,2.7nm,1.3s							
BRTR	**Keskin Array B**	**75.85**	**307**	P		**P**	**03 20 00

ESAC					Pg		**Pg**	**03 13 11.7**	**-0.3**
ESAC					Sg		**Sg**	**03 13 39.3**	**+1.5**
E0901	**Celadas (Terue**	**2.36**	**261**		Pn		**Pb**	**03 13 14.0**	**-2.1**
E0901					Pg		**Pg**	**03 13 18.3**	**-0.9**
E0901					Sg		**Sg**	**03 13 50.8**	**+0.9**
E0901				*i*	IVmb_Lg			03 14 02.9	
EPF	**Esparros**	**2.44**	**331**	*e*	Pg		**Pg**	**03 13 20.3**	**-0.3**
EPF				*e*	Sg		**Sg**	**03 13 50.8**	**-1.4**
	16nm,0.2s								
MTLF	**Montolieu**	**2.45**	**5**	*e*	Pg		**Pg**	**03 13 20.6**	**-0.2**
MTLF				*e*	Sg		**Sg**	**03 13 51.4**	**-1.1**
	15nm,0.2s								
ECHE	**Chera**	**2.58**	**240**		Pn		**Pb**	**03 13 16.8**	**-2.9**
ECHE				*i*	IVmb_Lg			03 14 12.0	
ETSF	**Etsaut**	**2.73**	**318**	*e*	Pg		**Pg**	**03 13 25.8**	**-0.3**
ETSF				*e*	Sg		**Sg**	**03 14 00.8**	**-0.7**
	21nm,0.4s								
ETOR	**Torete**	**3.02**	**270**		Pg		**Pg**	**03 13 29.3**	**-2.5**
ETOR					Sg		**Sg**	**03 14 12.4**	**+1.4**
ETOR				*i*	IVmb_Lg			03 14 18.0	
EORO	**Oroz-Betelu**	**3.13**	**311**		Pn		**Pn**	**03 13 25.0**	**+2.3**
EORO					Pg		**Pg**	**03 13 31.6**	**-2.3**
EORO					Sg		**Sg**	**03 14 15.4**	**+1.0**
EORO				*i*	IVmb_Lg			03 14 18.8	
SJPF	**Ste Jean**	**3.23**	**314**	*e*	Pn		**Pn**	**03 13 26.5**	**+2.6**
SJPF	**Ste Jean**	**3.23**	**314**	*e*	Pg		**Pg**	**03 13 35.5**	**-0.2**
SJPF				*e*	Sg		**Sg**	**03 14 16.3**	**-1.2**
	11nm,0.4s								
EALK	**Alkurruntz**	**3.45**	**313**		Pn		**Pn**	**03 13 29.4**	**+2.4**
EALK					Pg		**Pg**	**03 13 38.7**	**-1.3**
EALK					Sg		**Sg**	**03 14 24.4**	**-0.4**
EALK				*i*	IVmb_Lg			03 14 31.1	
LASF	**Ste Croix**	**3.48**	**24**	*e*	Pg		**Pg**	**03 13 39.4**	**-1.1**
LASF				*e*	Sn		**Sn**	**03 14 07.5**	**-0.7**
LASF				*e*	Sg		**Sg**	**03 14 25.3**	**-0.2**
	1.3nm,0.2s								
CAF	**Calviac**	**4.03**	**1**	*e*	Pg		**Pg**	**03 13 49.5**	**-1.4**
CAF				*e*	Sg		**Sg**	**03 14 41.9**	**-1.1**
	3.9nm,0.2s								
SMRF	**Simiane la Rot**	**4.09**	**40**	*e*	Pn		**Pn**	**03 13 37.7**	**+2.0**
LFF	**La Frestale**	**4.13**	**348**	*e*	Pg		**Pg**	**03 13 51.5**	**-1.4**
LFF				*e*	Sg		**Sg**	**03 14 45.3**	**-1.1**
	7.6nm,0.5s								
LMR	**La Mourre**	**4.18**	**53**	*e*	Sn		**Sn**	**03 14 24.5**	**-1.1**
	4.2nm,0.2s								
RJF	**Les Rejaudoux**	**4.41**	**356**	*e*	Pg		**Pg**	**03 13 57.5**	**-0.8**
RJF				*e*	Sg		**Sg**	**03 14 53.6**	**-1.9**
	2.8nm,0.2s								
VIVF	**Saint-Julien-l**	**4.44**	**26**	*e*	Sg		**Sg**	**03 14 55.4**	**-0.9**
	0.9nm,0.3s								
ELAN	**Lanestosa**	**4.62**	**302**		Pn		**Pn**	**03 13 44.8**	**+1.7**
ELAN				*i*	IVmb_Lg			03 15 04.9	
PSIM	**Granatula de C**	**4.84**	**246**		Pn		**Pn**	**03 13 47.6**	**+1.5**
PSIM					Sn		**Sn**	**03 14 43.1**	**+1.2**
SBF	**Sospel**	**5.04**	**52**	*e*	Pn		**Pn**	**03 13 50.0**	**+1.2**
SBF				*e*	Sn		**Sn**	**03 14 45.1**	**-1.6**
TCF	**Toulx Ste Croi**	**5.39**	**2**	*e*	Pg		**Pg**	**03 14 15.3**	**-1.7**
TCF				*e*	Sg		**Sg**	**03 15 24.9**	**-1.9**
	1.8nm,0.3s								
PGF	**Pioggiola**	**5.54**	**70**	*e*	Pn		**Pn**	**03 13 57.8**	**+2.1**
PGF				*e*	Sn		**Sn**	**03 14 57.6**	**-1.5**
	0.6nm,0.2s								
BGF	**Bois d'Agland**	**5.70**	**6**	*e*	Pg		**Pg**	**03 14 21.0**	**-1.8**
MFF	**Saint Martin d**	**5.89**	**346**	*e*	Sg		**Sg**	**03 15 40.6**	**-2.4**
	1.5nm,0.4s								
SSF	**Saint Saulge**	**6.26**	**10**	*e*	Sg		**Sg**	**03 15 51.2**	**-3.5**
	0.4nm,0.3s								

IDC ***27*** *03:13:56.8±1.2,0.˚99N×125.˚98E, h0km, mb3.8/6, mbtmp3.8/7, ML3.5/1, Error ellipse: s-maj=104.8km s-min=17.3km az=69.0*

NEIC ***27*** *03:13:57.3±2.9,0.˚9N±0.˚1×125.˚70E±0.˚07, h10km±1km, mb4.2/8, Error ellipse: s-maj=22.9km s-min=11.0km az=190.0*

DJA ***27*** *03:14:02.9±0.3, 1˚N±4˚×12˚6E±˚, h10km, M3.8/10, mb3.4/1, MLv4.0/10*

ISC 27 03:14:02.2±0.7, 0.˚97N±0.˚07×126.˚14E±0.˚05, h44km, n24, σ2°72/24, mb4.1/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
TNTI	**Ternate**	**1.24**	**99**			**Pn**	**03 14 25.4**	**+2.2**	
TNTI	**Ternate**	**1.24**	**99**	P		**Pn**	**03 14 25.3**	**+2.2**	
TNTI				S		**Sn**	**03 14 41.6**	**+2.9**	
KMSI	**Cibinong**	**2.20**	**260**	P		**Pn**	**03 14 39.3**	**+3.0**	
SGSI	**Sangihe**	**2.76**	**347**	P		**Pn**	**03 14 47.7**	**+3.6**	
LUWI	**Luwuk**	**3.92**	**239**	P		**Pn**	**03 15 04.3**	**+4.3**	
APSI	**Ampana**	**4.87**	**247**	P		**Pn**	**03 15 17.1**	**+4.1**	
TOLI2	**Tolitoli**	**5.36**	**271**	Pn		Pn	03 15 10.3	-9.5	
KNRA	**Kununurra**	**16.75**	**171**			**Pn**	**03 17 50.7**	**-3.1**	
KNRA				IAmb		IAmb	03 17 57.2		
	comp=Z,5.3nm,1.0s								
FITZ	**Fitzroy Crossi**	**18.96**	**181**	P		**P**	**03 18 16.8**	**-3.1**	
FITZ	**Fitzroy Crossi**	**18.96**	**181**	P		**P**	**03 18 19.9**	**-0.1**	
	comp=Z,0.1nm,0.3s,baz=14,slow=12,SNR=2.1								
	comp=Z,0.9nm,0.5s								
WRA	**Warramunga Arr**	**22.29**	**159**	P		**P**	**03 18 54.9**	**-1.1**	
WRA	**Warramunga Arr**	**22.29**	**159**	P		**P**	**03 18 56.2**	**+0.2**	
	comp=Z,2.2nm,0.7s,baz=338,slow=11,SNR=21								
	comp=Z,2.2nm,0.7s								
WR8	**Warramunga Arr**	**22.36**	**159**	P		**P**	**03 18 56.4**	**-0.3**	
WR8				IAmb		IAmb	03 19 05.5		
	comp=Z,9.8nm,1.1s								
ASAR	**Alice Springs**	**25.63**	**163**	P		**P**	**03 19 30.5**	**+2.7**	
ASAR	**Alice Springs**	**25.63**	**163**	P		**P**	**03 19 29.1**	**+1.3**	
	comp=Z,1.0nm,0.4s,baz=346,slow=11,SNR=25								
	comp=Z,1.0nm,0.4s								
KULM	**Kulim**	**25.81**	**280**	P		**P**	**03 19 23.6**	**-6.0**	
KULM				IAmb		IAmb	03 19 47.9		
	comp=Z,15nm,1.3s								
BBOO	**Buckleboo**	**34.88**	**165**	P		**P**	**03 20 50.4**	**+0.8**	
SONM	**Songino Array**	**49.72**	**343**	P		**P**	**03 22 51.6**	**+1.4**	
	comp=Z,0.7nm,0.7s,baz=166,slow=7.0,SNR=2.3								
	comp=Z,0.7nm,0.7s								
NIL	**Nilore**	**59.17**	**309**	P		**P**	**03 23 55.8**	**-3.2**	
MKAR	**Makanchi Array**	**59.49**	**326**	P		**P**	**03 24 00.9**	**0.0**	
MKAR	**Makanchi Array**	**59.49**	**326**	P		**P**	**03 24 00.7**	**-0.3**	
	comp=Z,0.5nm,0.3s,baz=122,slow=7.0,SNR=9.4								
	comp=Z,0.5nm,0.3s								
KURBB	**Kurchatov Arra**	**63.75**	**328**	P		**P**	**03 24 29.8**	**+0.3**	
	comp=Z,0.8nm,0.5s,baz=128,slow=6.0,SNR=7.2								
	comp=Z,0.8nm,0.5s								
KURK	**Kurchatov**	**63.75**	**328**	P		**P**	**03 24 29.0**	**-0.5**	
KURK				IAmb		IAmb	03 24 32.7		
	comp=Z,2.2nm,0.7s								
BVAR	**Borovoye Array**	**69.31**	**328**	P		**P**	**03 25 04.8**	**-0.2**	
	comp=Z,0.9nm,0.7s,baz=137,slow=7.1,SNR=5.1								
	comp=Z,0.9nm,0.7s								

IDC ***27*** *03:19:39.7±0.6,20.˚66N×122.˚12E, h0km, mb4.0/21, mbtmp4.1/24, ML4.0/3, MS3.3/2, Error ellipse: s-maj=19.2km s-min=11.9km az=78.0*

JMA ***27*** *03:19:42.0±0.6,21˚N±2˚×12˚2E±˚, h0km, MV4.5/16, TAIWAN REGION*

NEIC ***27*** *03:19:41.8±2.2,20.˚71N±0.˚06×122.˚03E±0.˚05, h10km±1km, mb4.6/26, Error ellipse: s-maj=10.2km s-min=6.4km az=155.0*

BJI ***27*** *03:19:44.9,21.˚02N×121.˚60E, h4km, mB4.6/7, mb4.3/24, ML4.1/2, Ms4.1/22, Ms7 3.9/21*

ISC 27 03:19:41.3±0.4, 20.˚70N±0.˚04×122.˚11E±0.˚05, h10km, n124, σ1°98/123, mb4.3/45, MS3.9/6, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
TWGBT	**Beinan**	**2.32**	**336**	P		**Pn**	**03 20 18.5**	**-1.1**	
TWG	**Pinlang**	**2.33**	**336**			**Pn**	**03 20 16.0**	**-3.7**	
YULB	**Yu-li**	**2.79**	**344**			**Pn**	**03 20 23.2**	**-2.9**	
YULB	**Yu-li**	**2.79**	**344**	P		**Pn**	**03 20 24.0**	**-2.1**	
TPUB	**Ta-pu**	**2.93**	**332**			**Pn**	**03 20 27.9**	**-0.2**	
TPUB	**Ta-pu**	**2.93**	**332**	P		**Pn**	**03 20 27.6**	**-0.5**	
SSLB	**Suanglung**	**3.26**	**341**			**Pn**	**03 20 31.2**	**-1.3**	
SSLB	**Suanglung**	**3.26**	**341**	P		**Pn**	**03 20 32.6**	**0.0**	
NACB	**Ninganchiao**	**3.49**	**352**			**Pn**	**03 20 33.2**	**-2.5**	
HATJ	**Hateruma jima**	**3.69**	**25**	*e*		**Pn**	**03 20 37.5**	**-1.0**	
HATJ				*e*		**Sn**	**03 21 18.1**	**-3.9**	
JYNG	**Yonagunijimaku**	**3.81**	**11**	*e*		**Pn**	**03 20 38.8**	**-1.4**	
JYNG				*e*		**Sn**	**03 21 21.2**	**-3.9**	
YOJ	**Yonaguni jima**	**3.84**	**12**			**Pn**	**03 20 40.9**	**+0.4**	
YOJ	**Yonaguni jima**	**3.84**	**12**	P		**Pn**	**03 20 41.9**	**+1.4**	
YOJ	**Yonaguni jima**	**3.84**	**12**	*e*		**Sn**	**03 21 22.6**	**-3.1**	
IRIF	**Iriomote-Funau**	**3.92**	**22**	*e*		**Pn**	**03 20 40.1**	**-1.5**	
IRIF				*e*		**Sn**	**03 21 23.8**	**-3.9**	
JKRS	**Kuro-shima**	**3.94**	**26**	*e*		**Pn**	**03 20 41.3**	**-0.5**	
JKRS				*e*		**Sn**	**03 21 24.4**	**-3.6**	
YHNB	**Yeheng**	**4.01**	**350**			**Pn**	**03 20 41.0**	**-1.9**	
YHNB	**Yeheng**	**4.01**	**350**	P		**Pn**	**03 20 42.2**	**-0.8**	
JIJ	**Ishigaki jima**	**4.10**	**27**	*e*		**Pn**	**03 20 42.7**	**-1.4**	
JIJ				*e*		**Sn**	**03 21 28.4**	**-3.8**	
TATO	**Taipei**	**4.30**	**352**			**Pn**	**03 20 46.7**	**-0.1**	
TATO	**Taipei**	**4.30**	**352**	P		**Pn**	**03 20 47.9**	**+1.1**	
JISG	**Ishigakijimahi**	**4.37**	**27**	*e*		**Pn**	**03 20 46.0**	**-1.8**	
JISG				*e*		**Sn**	**03 21 34.3**	**-4.5**	
JTJ	**Tarama**	**4.60**	**31**	*e*		**Pn**	**03 20 50.2**	**-0.6**	
JTJ				*e*		**Sn**	**03 21 40.7**	**-3.6**	
JMJ2	**Miyako jima3**	**5.00**	**36**	*e*		**Sn**	**03 21 52.7**	**-1.6**	
JMJ	**Miyako jima 2**	**5.04**	**35**	P		**Pn**	**03 20 59.0**	**+2.0**	
JOGS	**Gusukube**	**5.06**	**36**	*e*		**Pn**	**03 20 58.1**	**+0.9**	
KNMB	**Chin-men Tao**	**5.09**	**318**			**Pn**	**03 20 55.0**	**-2.7**	
TGY	**Tagaytay City**	**6.65**	**190**	Pn		**Pn**	**03 21 18.5**	**-0.8**	
	baz=350,slow=19								
TGY						Sn	**Sn**	**03 22 28.3**	**-7.0**
	51nm,0.3s,baz=202,slow=18,SNR=1.5								
JOW	**Kunigami**	**8.31**	**42**			**Pn**	**03 21 41.2**	**-0.8**	
JOW	**Kunigami**	**8.31**	**42**	Pn		**Pn**	**03 21 41.5**	**-0.5**	
	9.3nm,0.3s,baz=197,slow=11,SNR=12								
JOW						Sn	**Sn**	**03 23 12.2**	**-3.8**
	0.8nm,0.3s,baz=158,slow=23,SNR=1.4								
	21nm,0.3s								
QIZ	**Qiongzhong**	**11.66**	**264**	P		**Pn**	**03 22 25.5**	**-2.5**	
QIZ				S		**Sn**	**03 24 39.8**	**+1.5**	
QIZ				pmax		pmax			
	comp=Z,13nm,1.5s								
QIZ				pmax		pmax			
	comp=Z,140nm,2.7s								
QIZ				LR		LR			
	comp=N,230nm,12.0s								
QIZ				LR		LR			
	comp=E,110nm,8.7s								
QIZ				LR		LR			
	comp=Z,340nm,11.1s								
NJ2	**Nanjing**	**11.68**	**346**	*e*	P	**Pn**	**03 22 27.3**	**-0.8**	
NJ2					pmax	pmax			
	comp=Z,9.0nm,0.6s								
NJ2					LR	LR			
	comp=N,330nm,14.2s								
NJ2					LR	LR			
	comp=E,770nm,12.2s								
NJ2					LR	LR			
	comp=Z,350nm,15.2s								
WHN	**Wuhan**	**12.04**	**326**	P		Pn	03 22 39.0	+5.9	
WHN					pmax	pmax			
	comp=Z,40nm,0.5s								
JNU	**Nakatsue**	**14.63**	**30**			**Pn**	**03 23 11.2**	**+2.7**	
JNU	**Nakatsue**	**14.63**	**30**	Pn		**Pn**	**03 23 08.4**	**0.0**	
	comp=Z,0.3nm,0.3s,baz=355,slow=17,SNR=2.5								
	comp=Z,3.9nm,0.7s								
KKM	**Kota Kinabalu**	**15.65**	**202**			**P**	**03 23 28.0**	**+1.6**	
KKM				IAmb		IAmb	03 23 30.3		
	comp=Z,47nm,0.9s								
TIA	**Tai'an**	**16.06**	**345**	P		**P**	**03 23 35.5**	**+4.7**	
TIA				pmax		pmax			
	comp=Z,9.0nm,1.2s								
LYN	**LuoYang**	**16.22**	**330**	P		**P**	**03 23 30.8**	**-1.7**	
LYN				pP		pP	03 23 33.5	-1.5	
LYN				sP		sP	03 23 36.3	+0.1	
LYN				pmax		pmax			
	comp=Z,24nm,0.8s								
LYN				LR		LR			
	comp=Z,790nm,14.5s								
LYN				LR		LR			
	comp=Z,930nm,14.4s								
LYN				LR		LR			
	comp=Z,810nm,12.2s								
KSAR	**Wonju Array Be**	**17.42**	**16**			**Pn**	**03 23 44.2**	**-0.4**	
KSRS	**Korea Array**	**17.45**	**16**	P		**P**	**03 23 46.0**	**0.0**	
	comp=Z,0.3nm,0.3s,baz=196,slow=12,SNR=23								
	comp=Z,9.8nm,1.0s								
KS19	**Wonju Array Si**	**17.48**	**15**	P		**P**	**03 23 46.5**	**+0.1**	
XAN	**Xi'an**	**17.69**	**321**	P		**Pn**	**03 23 47.5**	**-0.5**	
XAN				pmax		pmax			
	comp=Z,18nm,0.9s								
XAN				LR		LR			
	comp=Z,500nm,15.3s								
XAN				LR		LR			
	comp=Z,460nm,16.4s								
XAN				LR		LR			
	comp=Z,450nm,11.7s								
HNS	**HongShan**	**17.85**	**340**	‖P		**P**	**03 23 51.8**	**+1.4**	
HNS				PP		PnPn	**03 24 02.0**	**+1.4**	
HNS				pmax		pmax			
	comp=Z,10.0nm,1.1s								
HNS				LR		LR			
	comp=Z,410nm,11.4s								
HNS				LR		LR			
	comp=Z,360nm,12.2s								
HNS				LR		LR			
	comp=Z,340nm,12.5s								
TOLI2	**Tolitoli**	**19.51**	**184**	P		**Pn**	**03 24 10.9**	**+0.8**	
PZH	**PanZhiHua**	**19.53**	**291**	P		**Pn**	**03 24 11.5**	**+1.0**	
BJT	**Baijiatuau**	**19.92**	**346**			**P**	**03 24 13.3**	**+0.1**	
SBUM	**Sibu**	**20.54**	**209**			Pn	03 24 22.0	-0.3	
SBUM				IAmb		IAmb	03 24 24.2		
	comp=Z,26nm,1.3s								
MJAR	**Matsushiro Arr**	**21.14**	**38**			**P**	**03 24 33.0**	**+6.5**	
MJAR	**Matsushiro Arr**	**21.14**	**38**	P		**P**	**03 24 28.1**	**+1.6**	
	comp=Z,1.1nm,0.7s,baz=232,slow=9.1,SNR=7.7								
	comp=Z,1.1nm,0.7s								
CHTO	**Chiang Mai**	**21.88**	**269**	P		**P**	**03 24 35.0**	**+0.4**	
CMAR	**Chiang Mai Arr**	**21.94**	**268**	P		**P**	**03 24 35.6**	**+0.4**	
CMAR	**Chiang Mai Arr**	**21.94**	**268**	P		**P**	**03 24 36.8**	**+1.5**	
	comp=Z,4.0nm,0.8s,baz=72,slow=9.3,SNR=20								
CMAR					LR	LR	03 34 15.9		
	comp=Z,66nm,18.4s,baz=20,slow=40								
	comp=Z,4.0nm,0.8s								
HHC	**Hu-ho-hao-te**	**22.00**	**338**	*e*	P	**P**	**03 24 36.5**	**+0.6**	
HHC					pmax	pmax			
	comp=Z,18nm,0.5s								
HHC					pmax	pmax			
	comp=Z,67nm,5.6s								
HHC					LR	LR			
	comp=Z,220nm,11.8s								
HHC					LR	LR			
	comp=Z,260nm,11.4s								
HHC					LR	LR			
	comp=Z,270nm,11.4s								
LZH	**Lanzhou**	**22.15**	**318**	*e*	P	**P**	**03 24 39.3**	**+1.7**	
LZH					pP	sP	03 24 46.0	+4.7	
LZH					pmax	pmax			
	comp=Z,13nm,0.9s								
LZH					LR	LR			
	comp=Z,410nm,14.6s								
LZH					LR	LR			
	comp=Z,280nm,16.2s								
LZH					LR	LR			
	comp=Z,400nm,16.5s								
TNCH	**TengChong**	**22.15**	**286**	*e*	P	**P**	**03 24 38.8**	**+1.1**	
TNCH					pmax	pmax			
	comp=Z,220nm,3.8s								
GUMO	**Guam**	**22.85**	**104**		LR	LR	03 31 22.9		
	comp=Z,74nm,22.0s,baz=234,slow=31								
CN2	**Changchun**	**23.21**	**6**	P		**P**	**03 24 51.8**	**+3.4**	
CN2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
XLT	**XiLinHaoTe**	**23.68**	**349**	*e*	P	**P**	**03 24 54.3**	**+1.1**	
XLT					pmax	pmax			
	comp=Z,10.0nm,0.9s								
NLAI	**Namlea**	**24.29**	**168**	P		**P**	**03 25 01.2**	**+2.2**	
USRK	**Ussuriysk Ar.**	**24.84**	**17**	P		**P**	**03 25 04.8**	**+1.0**	
	comp=Z,3.1nm,0.8s,baz=213,slow=10,SNR=5.3								
	comp=Z,3.1nm,0.8s								
BNX	**BinXian**	**25.35**	**9**	⇑P		**P**	**03 25 13.3**	**+4.8**	
BNX					pmax	pmax			
	comp=Z,10.0nm,1.2s								
IPM	**Ipoh**	**26.08**	**235**			**P**	**03 25 15.2**	**-0.2**	
IPM				IAmb		IAmb	03 25 18.0		
	comp=Z,22nm,1.0s								
GTA	**Gaotai**	**26.72**	**319**	*e*	P	**P**	**03 25 23.8**	**+2.7**	
GTA					pmax	pmax			
	comp=Z,4.0nm,1.3s								
GTA					LR	LR			
	comp=Z,230nm,14.5s								
GTA					LR	LR			
	comp=Z,170nm,14.2s								
GTA					LR	LR			
	comp=Z,250nm,14.9s								
PPBI	**Pangkal Pinang**	**27.59**	**216**	P		P	03 25 19.7	-9.2	
RPSI	**Rantau Prapat**	**28.83**	**235**			**P**	**03 25 41.0**	**+1.0**	
RPSI				IAmb		IAmb	03 25 48.7		
	comp=Z,7.7nm,0.8s								
HEH	**HeiHe**	**29.79**	**7**	*e*	P	P	03 25 55.3	+7.1	
HEH				LR		LR			
	comp=Z,130nm,15.9s								
HEH				LR		LR			
	comp=Z,240nm,15.3s								
HEH				LR		LR			
	comp=Z,250nm,14.1s								
SONM	**Songino Array**	**29.91**	**339**	P		**P**	**03 25 48.7**	**-0.7**	
	comp=Z,1.8nm,0.6s,baz=163,slow=10,SNR=8.4								
	comp=Z,1.8nm,0.6s								
WMQ	**Urumqi**	**36.73**	**317**	*e*	P	**P**	**03 26 49.5**	**+0.6**	
FITZ	**Fitzroy Crossi**	**38.71**	**175**	P		**P**	**03 27 04.1**	**-1.5**	
	comp=Z,1.0nm,0.4s,baz=339,slow=8.1,SNR=6.6								
	comp=Z,1.0nm,0.4s								
MKAR	**Makanchi Array**	**41.47**	**318**	P		**P**	**03 27 28.0**	**-0.5**	
MKAR	**Makanchi Array**	**41.47**	**318**	P		**P**	**03 27 28.2**	**-0.3**	
	comp=Z,2.2nm,0.5s,baz=106,slow=8.9,SNR=15								
	comp=Z,2.2nm,0.5s								
MBWA	**Marble Bar**	**41.66**	**183**	P		**P**	**03 27 29.2**	**-0.9**	
MBWA				IAmb		IAmb	03 27 30.3		
	comp=Z,8.6nm,0.9s								
H11N1	**WAKE ISLAND Hy**	**41.93**	**83**	T		T	04 12 24.0		
	baz=277,slow=75								
H11N2	**WAKE ISLAND Hy**	**41.94**	**83**	T		T	04 12 27.2		
	baz=277,slow=75								
H11N3	**WAKE ISLAND Hy**	**41.95**	**83**	T		T	04 12 29.0		
	baz=277,slow=75								
H11S3	**WAKE ISLAND Hy**	**41.95**	**85**	T		T	04 12 27.2		
	baz=277,slow=75								
H11S1	**WAKE ISLAND Hy**	**41.96**	**85**	T		T	04 12 25.9		
	baz=277,slow=75								
H11S2	**WAKE ISLAND Hy**	**41.97**	**85**	T		T	04 12 26.4		
	baz=277,slow=75								
PSA00	**Pilbara Seismi**	**42.07**	**183**			**P**	**03 27 33.0**	**-0.5**	
PSA00				IAmb		IAmb	03 27 34.2		
	comp=Z,12nm,0.8s								
PSA00	**Pilbara Seismi**	**42.07**	**183**	P		**P**	**03 27 32.6**	**-0.9**	
PSA00				IAmb		IAmb	03 27 34.2		
	comp=Z,7.5nm,0.8s								
WRA	**Warramunga Arr**	**42.12**	**163**	P		**P**	**03 27 32.5**	**-1.5**	
	comp=Z,3.1nm,0.7s,baz=342,slow=9.2,SNR=15								
	comp=Z,3.1nm,0.7s								
PETK	**Petropavlovsk-**	**42.32**	**31**	P		**P**	**03 27 35.4**	**+0.1**	
	comp=Z,2.4nm,0.9s,baz=151,slow=3.4,SNR=3.8								
	comp=Z,2.4nm,0.9s								
KSH	**Kashi**	**43.58**	**306**	P		**P**	**03 27 49.0**	**+3.2**	
KSH				pmax		pmax			
	comp=Z,4.0nm,0.8s								
ZAA0	**Zalesovo Array**	**43.64**	**329**	IAmb		IAmb	03 27 52.9		
	comp=Z,9.3nm,0.6s								
ZALV	**Zalesovo Beam**	**43.64**	**329**	P		**P**	**03 27 45.3**	**-0.7**	
ZALV	**Zalesovo Beam**	**43.64**	**329**	P		**P**	**03 27 45.5**	**-0.5**	
	comp=Z,4.3nm,0.6s,baz=119,slow=5.5,SNR=15								
	comp=Z,4.3nm,0.6s								
NRN	**Naryn**	**43.97**	**309**	P		**P**	**03 27 51.1**	**+1.9**	
NRN				IAmb		IAmb	03 27 57.4		
	comp=Z,6.0nm,1.0s								
KURK	**Kurchatov**	**45.33**	**322**			**P**	**03 27 58.8**	**-0.7**	
KURK				IAmb		IAmb	03 28 02.6		
	comp=Z,9.4nm,0.9s								
KURBB	**Kurchatov Arra**	**45.34**	**322**	P		**P**	**03 27 59.4**	**-0.2**	
	comp=Z,1.1nm,0.9s,baz=118,slow=7.6,SNR=32								
	comp=Z,1.1nm,0.9s								
ASAR	**Alice Springs**	**45.57**	**165**	P		**P**	**03 28 01.7**	**0.0**	
	comp=Z,1.2nm,0.4s,baz=345,slow=8.4,SNR=23								
	comp=Z,1.2nm,0.4s								
KKAR	**Karatay Array**	**48.31**	**310**	P		**P**	**03 28 22.2**	**-0.8**	
BVAR	**Borovoye Array**	**50.93**	**322**	P		**P**	**03 28 42.5**	**-0.2**	
	comp=Z,3.3nm,0.5s,baz=103,slow=6.9,SNR=16								
	comp=Z,3.3nm,0.5s								
BRVK	**Borovoye**	**51.00**	**322**			**P**	**03 28 42.9**	**-0.4**	
BRVK				IAmb		IAmb	03 28 46.6		
	comp=Z,8.2nm,0.9s								
NWAO	**Narrogin (SRO)**	**53.52**	**185**	P		**P**	**03 29 02.7**	**+0.5**	
BBOO	**Buckleboo**	**54.85**	**166**	P		**P**	**03 29 11.4**	**-0.5**	
STKA	**Stephens Creek**	**55.51**	**160**	P		**P**	**03 29 16.9**	**+0.2**	
STKA	**Stephens Creek**	**55.51**	**160**	P		**P**	**03 29 17.4**	**+0.7**	
	comp=Z,4.0nm,0.7s,baz=334,slow=7.1,SNR=10.0								
	comp=Z,4.0nm,0.7s								
ARTI	**Arti**	**58.50**	**324**			**P**	**03

MKAR	Makanchi Array	41.34	318	P		P	03 28 26.1	+0.9	
	2.6nm,0.6s,baz=116,slow=9.7,SNR=4.5								
	2.6nm,0.6s								
PETK	Petropavlovsk-	42.22	32	LR		LR	03 47 06.9		
	comp=Z,74nm,18.3s,baz=49,slow=38								
WRA	Warramunga Arr	42.27	163	P		P	03 28 32.6	-0.4	
	0.9nm,0.8s,baz=342,slow=8.2,SNR=0.7								
	0.9nm,0.8s								
ZALV	Zalesovo Beam	43.51	329	P		P	03 28 42.5	0.0	
	4.6nm,0.6s,baz=116,slow=8.0,SNR=4.2								
	4.6nm,0.6s								
KURBB	Kurchatov Arra	45.21	322	P		P	03 28 56.5	+0.2	
	3.0nm,0.7s,baz=119,slow=7.1,SNR=2.5								
	3.0nm,0.7s								
ASAR	Alice Springs	45.71	165	P		P	03 29 01.0	+0.5	
	0.3nm,0.3s,baz=346,slow=8.4,SNR=0.8								
	0.3nm,0.3s								
BVAR	Borovoye Array	50.80	322	P		P	03 29 39.6	+0.2	
	1.2nm,0.6s,baz=103,slow=6.2,SNR=2.1								
	1.2nm,0.6s								

*IDC **27** 03:20:57.0±5.1, 12°.29N×85°.32W, h0km, mb3.3/2, mbtmp3.3/2, MS3.9/1, Error ellipse: s-maj=258.4km s-min=77.8km az=62.0*
*SNET **27** 03:21:07.6±2.6, 11°.82N×86°.84W, h35km, ML4.1*
*CATAC **27** 03:21:07.5±0.3, 12°.N±1°×8°.7W±°, h30km±2km, M4.3/55, MLv4.3/55, Error ellipse: s-maj=3.5km s-min=1.8km az=39.6, confirmed*

ISC 27 03:21:03.9±1.5, 11°.69N±0°.03×86°.90W±0°.03, h10km±11km, n102, σ1s29/115, 7C-13D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
COPN	Copaltepe	0.57	31	⇓P	Pn	03 21 19.3		+1.1
SAPS	Ciudad Sandino	0.68	45	S	Sn	03 21 30.9		+0.7
SAPS	Ciudad Sandino	0.68	45	⇓P	Pn	03 21 20.7		+1.1
AMTN	Mateare	0.71	40	P	Pn	03 21 21.1		+1.0
AMTN	Mateare	0.71	40	S	Sn	03 21 31.7		+0.6
ABCN	Banco Central	0.72	53	S	Sn	03 21 31.7		+0.4
ABCN	Banco Central	0.72	53	P	Pn	03 21 21.5		+1.4
UNAN	Cigeo UNAN	0.74	56	⇓P	Pn	03 21 21.5		+1.1
UNAN				S	Sn	03 21 32.2		+0.4
APQ2	Apoyeque	0.75	48	P	Pn	03 21 21.4		+0.8
TISN	Laguna Tiscapa	0.76	54	⇓P	Pn	03 21 20.8		+0.1
ALEN	Leon	0.77	2	S	Sn	03 21 32.6		+0.2
ALEN	Leon	0.77	2	⇑P	Pn	03 21 21.7		+0.9
ALLN	Telcor Managua	0.77	53	P	Pn	03 21 22.0		+1.2
ALLN	Telcor Managua	0.77	53	S	Sn	03 21 32.9		+0.5
SABN	Sabanita	0.77	70	⇑P	Pn	03 21 21.8		+1.0
APQ3	Volcan Apoyequ	0.78	42	P	Pn	03 21 22.1		+1.1
APQ3				S	Sn	03 21 33.1		+0.5
MGAN	Managua	0.78	54	S	Sn	03 21 33.1		+0.3
MGAN	Managua	0.78	54	⇓P	Pn	03 21 22.2		+1.2
BC84	Volcan Momotom	0.78	26	P	Pn	03 21 22.6		+1.6
MOMN	Momotombo	0.80	26	⇓P	Pn	03 21 22.4		+1.1
MOMN				S	Sn	03 21 33.6		+0.4
NANN	Nandasmo	0.80	72	S	Sn	03 21 33.7		+0.5
NANN	Nandasmo	0.80	72	⇑P	Pn	03 21 23.3		+2.0
CNGN	Cerro Negro	0.83	14	S	Sn	03 21 34.7		+0.7
CNGN	Cerro Negro	0.83	14	⇓P	Pn	03 21 22.7		+1.0
WILN	Americas 2	0.84	56	⇑P	Pn	03 21 22.9		+1.2
WILN				S	Sn	03 21 34.3		+0.2
MOM2	El Cardon	0.85	28	⇓P	Pn	03 21 23.2		+1.3
MOM2				S	Sn	03 21 34.9		+0.5
NADN	Granada	0.85	86	⇓P	Pn	03 21 22.7		+0.2
NADN				S	Sn	03 21 34.5		+0.1
PLRN	Geotermica Pol	0.90	8	⇓P	Pn	03 21 23.1		+0.4
POLN	Al Sur del Vol	0.96	5	P	Pn	03 21 24.7		+1.3
CRIN	San Cristobal	1.02	352	S	Sn	03 21 39.1		+0.4
CRIN	San Cristobal	1.02	352	⇓P	Pn	03 21 25.5		+1.2
ARIN	Rivas	1.07	103	S	Sb	03 21 39.8		+1.4
ARIN	Rivas	1.07	103	⇓P	Pb	03 21 25.3		+0.8
JAPN	Al SSO del Vol	1.21	98	P	Pn	03 21 28.0		+1.2
MORN	Al O del Volca	1.23	96	P	Pb	03 21 28.1		+0.8
MORN				S	Sb	03 21 43.9		+0.6
AESN	El Sauce Leon	1.24	16	S	Sn	03 21 44.6		+0.4
AESN	El Sauce Leon	1.24	16	⇓P	Pn	03 21 28.6		+1.2
BOAB	BOACO BROADBAN	1.42	58	S	Sn	03 21 48.5		-0.1
BOAB	BOACO BROADBAN	1.42	58	⇑P	Pb	03 21 30.5		-0.1
POTN	Potosi Cosigui	1.43	336	P	Pn	03 21 31.2		+1.2
POTN				S	Sb	03 21 49.4		+0.4
CSGN	Cosiguina Volc	1.43	333	P	Pg	03 21 31.4		0.0
CARN	Rivas	1.44	110	⇑P	Pn	03 21 30.6		+0.6
CARN				S	Sg	03 21 48.9		-1.3
MATN	Matagalpa	1.56	37	⇑P	Pn	03 21 31.8		+0.1
ELI1	Hacienda Flor	1.68	128	P	Pn	03 21 34.4		+1.1
ACON	Acoyapa	1.71	80	P	Pn	03 21 34.5		+0.7
ACON	Acoyapa	1.71	80	S	Sn	03 21 55.5		-0.2
CHOHN	Orocuina	1.80	352	S	Sn	03 21 58.9		+0.8
CHOHN	Orocuina	1.80	352	P	Pn	03 21 36.6		+1.5
CNCH	Conchagua	1.82	330	eP	Pn	03 21 36.9		+1.4
CNCH				eS	Sn	03 21 57.5		-1.2
CNCH	Conchagua	1.82	330	P	Pn	03 21 37.0		+1.5
CNCH	Conchagua	1.82	330	S	Sn	03 22 00.0		+1.3
LCND	La Caada	1.88	329	eP	Pn	03 21 37.2		+1.1
LCND				eS	Sn	03 21 59.5		-0.4
LCND	La Caada	1.88	329	P	Pn	03 21 37.5		+1.4
OCON	Estacion meteo	1.97	12	P	Pb	03 21 39.3		-0.7
RCPN	Sur Rio San Ju	1.99	23	P	Pn	03 21 38.7		+1.0
RCVN	Varillal2	2.00	20	P	Pn	03 21 39.8		-0.7
RCVN	Varillal2	2.00	20	S	Sn	03 22 03.5		+0.3
CMARA	Lajas Hojancha	2.20	139	P	Pn	03 21 41.4		+0.8
RANC	El Ranchito	2.20	322	P	Pn	03 21 42.3		+1.6
PACA	Pacayal	2.25	322	eP	Pn	03 21 42.7		+1.3
PACA				eS	Sn	03 22 08.0		-1.3
PACA	Pacayal	2.25	322	P	Pn	03 21 43.1		+1.7
YUSH	Yuscaran	2.25	1	P	Pb	03 21 43.5		-1.3
INDI	Punta indio, G	2.27	143	P	Pn	03 21 42.4		+0.9
JTS	Las Juntas de	2.36	126	P	Pn	03 21 43.9		+1.1
JTS				S	Sn	03 22 11.9		0.0
TGUH	Tegucigalpa,Un	2.38	351	P	Pn	03 21 45.4		+2.2
TGUH				S	Sn	03 22 12.8		+0.3
TECA	Tecapa	2.38	319	eP	Pn	03 21 45.0		+1.8
SOCE	Pocosol	2.59	120	P	Pn	03 21 47.1		+1.2
ESPN	Las Esperanzas	2.59	79	P	Pn	03 21 47.0		+1.1
TECO	Alcaldia de Te	2.60	315	eP	Pn	03 21 46.3		+0.2
TECO	Alcaldia de Te	2.60	315	P	Pn	03 21 48.1		+2.0
UESV	Universidad de	2.67	317	P	Pn	03 21 48.9		+1.8
SCLA	Alcaldia de Sa	2.68	318	eP	Pn	03 21 48.9		+1.7
SCLA	Alcaldia de Sa	2.68	318	P	Pn	03 21 49.4		+2.2
MARCA	Marcala la Paz	2.69	336	P	Pn	03 21 49.6		+2.1
PAVA	Las Pavas	2.83	316	P	Pn	03 21 51.1		+1.7
INTHN	La Esperanza I	2.86	336	P	Pn	03 21 51.3		+1.5
LOMA	Loma Larga	2.95	311	P	Pn	03 21 53.0		+2.0
LOMA	Loma Larga	2.95	311	S	Sn	03 22 27.8		+1.2
LALI	Alcalda de L	2.97	307	P	Pn	03 21 52.9		+1.8
TCS1	Tacares	3.03	122	P	Pn	03 21 52.9		+0.8
UEES	Universidad Ev	3.05	312	P	Pn	03 21 53.9		+1.6
BLUN	Bluefields	3.07	84	P	Pn	03 21 53.4		+0.9
PMON	Piamonte	3.10	311	eP	Pn	03 21 54.3		+1.3
PMON	Piamonte	3.10	311	P	Pn	03 21 55.5		+2.4
PMON	Piamonte	3.10	311	S	Sn	03 22 32.0		+1.8
JAYA	Jayaque - finc	3.17	308	eP	Pn	03 21 55.1		+1.1
JAYA				eS	Sn	03 22 27.9		-4.0
JAYA	Jayaque - finc	3.17	308	S	Sn	03 22 33.4		+1.5
JAYA	Jayaque - finc	3.17	308	P	Pn	03 21 55.6		+1.6
TRT2	Tortugero	3.30	110	P	Pn	03 21 56.6		+0.9
LCR2	La Lucha 2	3.44	124	P	Pn	03 21 59.5		+1.7
LCR2	La Lucha 2	3.44	124	S	Sn	03 22 38.6		-0.1
SARH	Santa Rosa de	3.56	330	P	Pn	03 22 01.3		+2.0
NUBE	Las Nubes	3.57	308	P	Pn	03 22 01.6		+2.1
FAME	Alcaldia de Sa	3.72	305	P	Pn	03 22 03.5		+2.1
OCHAL	Ojochal	4.11	129	P	Pn	03 22 07.9		+1.2
DRK0	Durika	4.33	124	S	Sn	03 23 00.7		+0.1
DRK0	Durika	4.33	124	P	Pn	03 22 10.9		+0.9
TXAR	Lajitas Array	23.50	321	P	P	03 26 13.8		-0.4
	0.9nm,0.7s,baz=121,slow=8.1,SNR=12							
	0.9nm,0.7s							
PDAR	Pinedale Array	36.70	332	P	P	03 28 08.3		-3.1
	0.1nm,0.4s,baz=142,slow=9.5,SNR=2.6							
	0.1nm,0.4s							
BDFB	Brasilia	47.10	124	LR	LR	03 52 14.9		
	comp=Z,135nm,19.1s,baz=74,slow=41							
ASAR	Alice Springs	139.48	247	PKP	PKPdf	03 40 30.4		-2.2
	0.1nm,0.3s,baz=101,slow=2.0,SNR=1.6							
WRA	Warramunga Arr	139.57	253	PKP	PKPdf	03 40 30.1		-2.7
	0.4nm,0.7s,baz=92,slow=2.6,SNR=5.6							

*IDC **27** 03:21:37.1±1.4, 20°.65N×122°.07E, h0km, mb3.8/4, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=75.7km s-min=23.6km az=70.0*
*JMA **27** 03:21:41.2±0.7, 21°.N±3°×12°.2E±°, h27km, MV3.9/13, TAIWAN REGION*

ISC 27 03:21:41.8±1.2, 20°.80N±0°.09×122°.4E±0°.2, h35km, n13, σ0s63/15, mb3.6/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
HATJ	Hateruma jima	3.49	21	eS	Sn	03 23 13.4		-0.1
JYNG	Yonagunijimaku	3.67	8	eS	Sn	03 23 18.1		+0.1
YOJ	Yonaguni jima	3.69	8	eP	Pn	03 22 36.6		+0.3
YOJ				eS	Sn	03 23 17.8		-0.7
IRIF	Iriomote-Funau	3.72	19	eP	Pn	03 22 36.5		-0.2
IRIF				eS	Sn	03 23 19.0		-0.4
JKRS	Kuro-shima	3.72	23	eS	Sn	03 23 19.8		+0.4
JIJ	Ishigaki jima	3.89	24	eS	Sn	03 23 22.6		-0.9
JISG	Ishigakijimahi	4.16	24	eS	Sn	03 23 29.3		-0.7
JTJ	Tarama	4.37	28	eS	Sn	03 23 35.4		+0.1
KSRS	Korea Array	17.27	15	P	P	03 25 42.6		+1.2
	0.1nm,0.3s,baz=199,slow=12,SNR=2.3							
	1.7nm,0.8s							
MKAR	Makanchi Array	41.58	318	P	P	03 29 26.0		-0.2
	0.6nm,0.5s,baz=108,slow=9.3,SNR=1.4							
	0.6nm,0.5s							
WRA	Warramunga Arr	42.14	163	P	P	03 29 30.2		-0.7
	0.6nm,0.5s,baz=343,slow=9.1,SNR=1.7							
	0.6nm,0.5s							
ZALV	Zalesovo Beam	43.71	329	P	P	03 29 42.8		-0.4
	1.7nm,0.6s,baz=124,slow=8.0,SNR=1.6							
	1.7nm,0.6s							
ASAR	Alice Springs	45.59	165	P	P	03 29 59.2		+0.5
	0.5nm,0.5s,baz=352,slow=7.8,SNR=4.1							
	0.5nm,0.5s							

IDC 27 03:24:12.8±1.2, 20°.64N×122°.06E, h0km, mb3.5/6, mbtmp3.6/7, ML3.8/1, Error ellipse: s-maj=47.7km s-min=21.5km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MKAR	Makanchi Array	41.48	318	P	P	03 32 02.2		+0.6
	0.2nm,0.4s,baz=115,slow=8.0,SNR=2.4							
	0.2nm,0.4s							
WRA	Warramunga Arr	42.08	163	P	P	03 32 05.9		-0.8
	0.3nm,0.5s,baz=343,slow=9.1,SNR=2.3							
	0.3nm,0.5s							
ZALV	Zalesovo Beam	43.67	329	P	P	03 32 18.0		-1.3
	0.7nm,0.5s,baz=127,slow=7.7,SNR=1.7							
	0.7nm,0.5s							
KURBB	Kurchatov Arra	45.36	322	P	P	03 32 32.8		0.0
	0.2nm,0.3s,baz=115,slow=7.6,SNR=2.9							
	0.2nm,0.3s							
ASAR	Alice Springs	45.52	165	P	P	03 32 34.9		+0.5
	0.2nm,0.4s,baz=345,slow=8.4,SNR=4.2							
	0.2nm,0.4s							
BVAR	Borovoye Array	50.94	322	P	P	03 33 16.0		0.0
	0.3nm,0.4s,baz=99,slow=8.9,SNR=1.7							
	0.3nm,0.4s							

JMA 27 03:26:02.3±0.2, 26°.4N±0°.5×127°.6E±0°.3, h17km±4km, MV1.2/8, NEAR OKINAWAJIMA ISLAND, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
JJT3	Tamagusuku3	0.31	148	eP	Pg	03 26 08.8		-0.1
JJT3				eS	Sg	03 26 13.3		-0.2
JAGN	Aguni-jima	0.37	299	eP	Pg	03 26 09.9		-0.1
JNTH	Nagotoyohara	0.39	74	eP	Pg	03 26 10.4		0.0
JNTH				S	Sg	03 26 15.5		-0.4
JKE	Kume jima 2	0.74	264	eS	Sb	03 26 25.9		-0.5
JOW	Kunigami	0.74	55	Pn	Pb	03 26 16.1		-0.6
	2.8nm,0.3s,baz=212,slow=13,SNR=6.7							
JOW	Kunigami	0.74	55	eP	Pb	03 26 16.0		-0.7
JOW	Kunigami	0.74	55					
	6.3nm,0.3s							
JYRO	Yoronjima	0.98	51	S	Sb	03 26 33.5		+0.1

*NEIC **27** 03:27:30.3±1.5, 56°.13N±0°.08×149°.4W±0°.1, h10km±2km, ML3.6/58, ML3.4(AEIC), Error ellipse: s-maj=14.1km s-min=9.6km az=157.0*
*AEIC **27** 03:27:35.5±1.4, 56°.14N±0°.09×149°.4W±0°.1, h12km±7km, Error ellipse: s-maj=13.6km s-min=8.4km az=150.0*

ISC 27 03:27:29.6±1.2, 56°.15N±0°.07×149°.36W±0°.06, h10km, n114, σ1s24/115, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KDAK	Kodiak Island	2.41	314		Pn	03 28 10.0		+0.9
KDAK	Kodiak Island	2.41	314		Sn	03 28 36.8		-1.7
OHAK	Old Harbor	2.42	298		Pn	03 28 09.8		+0.6
OHAK	Old Harbor	2.42	298		Sn	03 28 36.7		-2.0
OHAK	Old Harbor	2.42	298	P	Pn	03 28 09.7		+0.6
SII	Sitkinak Islan	2.71	281		Pn	03 28 13.9		+0.7
SII	Sitkinak Islan	2.71	281		Sn	03 28 44.7		-1.5
SII	Sitkinak Islan	2.71	281	P	Pn	03 28 14.0		+0.7
SYI	Shuyak Island	2.96	328		Pn	03 28 17.4		+0.8
SYI				IAML		03 28 53.1		
	comp=E,157nm,0.4s							
SYI				IAML		03 28 53.4		
	comp=N,101nm,0.5s							
SYI	Shuyak Island	2.96	328		Sn	03 28 51.1		-1.1
SYI					Lg	03 28 51.4		
R18K	Karluk	3.13	299		Pn	03 28 20.4		+1.4
R18K					Sn	03 28 54.5		-2.0
R18K	Karluk	3.13	299	IAML		03 28 55.8		
	comp=N,159nm,0.4s							
R18K				IAML		03 28 59.2		
	comp=E,123nm,0.3s							
CHIR	Chirikof Islan	3.53	267	Pn	Pn	03 28 24.9		+0.4
CHIR				IAML		03 29 03.8		
	comp=N,108nm,0.4s							
CHIR				IAML		03 29 05.4		
	comp=E,81nm,0.4s							
CHIR	Chirikof Islan	3.53	267		Sn	03 29 03.3		-3.0
CHIR	Chirikof Islan	3.53	267	P	Pn	03 28 25.1		+0.6
CNPM	China Poot	3.53	344		Pn	03 28 25.0		+0.5
CNPM				IAML		03 29 06.8		
	comp=N,108nm,0.4s							
CNPM				IAML		03 29 07.2		
	comp=E,93nm,0.3s							
CNPM	China Poot	3.53	344		Sn	03 29 04.4		-1.9
Q19K	Cape Douglas,	3.62	322		Pn	03 28 27.2		+1.5
Q19K	Cape Douglas,	3.62	322		Sn	03 29 06.5		-2.0
Q19K					Lg	03 29 08.5		
KAPH	Katmai Pasha	3.65	314		Pn	03 28 28.0		+1.9
KAPH					Sn	03 29 07.7		-1.5
KAHG	Katmai Hook Gl	3.66	312		Pn	03 28 27.1		+0.7
KAHG					Sn	03 29 08.6		-1.1
Q23K	Middleton Isla	3.66	25		Sn	03 29 06.6		-2.9
Q23K	Middleton Isla	3.66	25	Pn	Pn	03 28 26.4		+0.2
Q23K				IAML		03 29 09.2		
	comp=E,87nm,0.7s							
Q23K				IAML		03 29 18.9		
	comp=N,87nm,1.5s							
HOM	Homer	3.72	342		Pn	03 28 28.3		+1.2
HOM					Sn	03 29 10.7		-0.3
HOM	Homer	3.72	342	IAML		03 29 14.0		
	comp=N,135nm,0.3s							
ACHA	Angle Creek He	3.85	305		Pn	03 28 30.5		+1.6
AU22	Augustine Moun	3.87	328		Pn	03 28 30.6		+1.4
KJL	Kejulik	3.89	302		Pn	03 28 31.0		+1.6
AUCH	Augustine Cone	3.89	328		Pn	03 28 31.4		+1.9
KAHC	Katmai Hardscr	3.95	312		Pn	03 28 31.9		+1.6
SEW	Seward	3.97	359	Pn	Pn	03 28 30.6		+0.2
P23K	Montague Islan	4.00	14	Pn	Pn	03 28 31.4		+0.5
P23K				IAML		03 29 18.6		
	comp=N,72nm,0.5s							
P23K				IAML		03 29 19.5		
	comp=E,80nm,0.6s							
P19K	Oil Pt	4.07	331	Pn	Pn	03 28 33.2		+1.2
PLK3	Peulik 3	4.09	295		Pn	03 28 33.7		+1.6
PLK4	Peulik 4	4.11	294		Pn	03 28 34.2		+1.6
PLK4				IAML		03 29 25.3		
	comp=E,36nm,0.4s							
IVE	Iliamna Volcan	4.33	335		Pn	03 28 36.6		+1.0
ILSW	Iliamna Southw	4.34	334	Pn	Pn	03 28 36.5		+0.8
ILSW				IAML		03 29 27.3		
	comp=N,73nm,0.4s							
ILSW				IAML		03 29 30.5		
	comp=E,45nm,0.6s							
SLKM	Skilak Lake	4.39	354	Pn	Pn	03 28 36.8		+0.4
SLKM				IAML		03 29 27.2		
	comp=E,93nm,0.3s							
HIN	Hinchinbrook I	4.52	18	Pn	Pn	03 28 38.8		+0.7
HIN				IAML		03 29 29.1		
	comp=E,74nm,0.7s							
P18K	Big Mountain,	4.52	318	Pn	Pn	03 28 39.0		+0.9
P18K				IAML		03 29 30.4		
	comp=N,26nm,0.4s							
KAIM	Kayak Island	4.61	33		Pn	03 28 40.3		+1.0
KAIM				IAML		03 29 35.5		
	comp=E,78nm,0.5s							
PWL	Port Wells	4.75	6	Pn	Pn	03 28 41.6		+0.3
PWL				IAML		03 29 35.3		
	comp=E,70nm,0.4s							
PWL				IAML		03 29 35.9		
	comp=N,55nm,0.4s							
EYAK	Cordova Ski Ar	4.80	22		Pn	03 28 42.9		+1.0
EYAK				IAML		03 29 36.9		
	comp=N,66nm,0.6s							
EYAK				IAML		03 29 40.0		
	comp=E,34nm,0.9s							
EYAK	Cordova Ski Ar	4.80	22	P	Pn	03 28 43.1		+1.2
O18K	Koktuh Hills	4.84	322		Pn	03 28 43.4		+0.8
O18K				IAML		03 29 40.3		
	comp=N,23nm,0.7s							
FID	Port Fidalgo	4.86	17		Pn	03 28 43.0		+0.3
FID	Port Fidalgo	4.86	17	IAML		03 29 36.0		
	comp=E,39nm,0.8s							
FID				IAML		03 29 36.6		
	comp=N,32nm,0.6s							
ANPK	Aniakchak Peak	4.91	282		Pn	03 28 45.1		+1.7
RAGM	Ragged Mountai	4.92	28		Pn	03 28 44.6		+1.1
SUCK	Suckling Hills	4.92	35		Pn	03 28 45.0		+1.4
SUCK				IAML		03 29 41.1		
	comp=N,60nm,0.4s							
SUCK				IAML		03 29 44.1		
	comp=E,31nm,0.4s							
HMT	Hamilton	4.99	31		Pn	03 28 45.8		+1.3
BERG	Berg Lake	5.20	33		Pn	03 28 48.4		+1.0
GRIN	Grindle Hills	5.23	35		Pn	03 28 49.3		+1.5
DIV	Divide	5.33	19	Pn	Pn	03 28 50.5		+1.1
DIV				IAML		03 29 51.9		
	comp=E,16nm,0.6s							
N19K	Bonanza Creek	5.39	332	Pn	Pn	03 28 50.4		+0.3
BMRM	Bremner River	5.43	25		Pn	03 28 51.7		+1.0
P16K	Nushagak River	5.46	305	Pn	Pn	03 28 53.0		+2.0
VNHG	Veniaminof 1	5.47	275		Pn	03 28 52.0		+0.8
O17K	Koliganek Bris	5.49	315		Pn	03 28 52.5		+1.2
WAX	Waxell Ridge	5.51	36		Pn	03 28 53.1		+1.3
GHO	Glory Hole Cre	5.64	2		Pn	03 28 54.1		+0.6
KLU	Klutina	5.65	17		Pn	03 28 54.8		+1.1
N18K	Kilae Creek	5.69	326		Pn	03 28 54.5		+0.4
TGL	Tana Glacier	5.75	34		Pn	03 28 56.3		+1.3
ISLE	Juniper Island	5.79	37		Pn	03 28 56.8		+1.1
O16K	Kokwok River B	5.80	310		Pn	03 28 57.0		+1.4
BAGL	Bagley Icefiel	5.80	38		Pn	03 28 56.9		+1.3
YAH	Yahtse	5.83	40		Pn	03 28 57.3		+1.1
CHX	Chaix Hills	5.87	45		Pn	03 28 57.2		+0.5
RKAV	Rock Avalanche	5.94	42		Pn	03 28 59.0		+1.4
CHNA	Chernabura Isl	5.96	261	P	Pn	03 28 58.5		+0.7
CNBA	Chernabura Isl	5.96	261		Pn	03 28 58.3		+0.4
N25K	Chitina, Valde	6.00	22		Pn	03 28 59.6		+1.1
SAMH	Samovar Hills	6.05	45		Pn	03 29 00.7		+1.5
TABL	Table Mountain	6.11	42		Pn	03 29 01.4		+1.3
YKU2	Yakutat	6.18	53	P	Pn	03 29 00.2		-0.6
MCARA	McCarthy VSAT	6.20	30		Pn	03 29 02.6		+1.5
PCA	Pinnacle	6.24	47		Pn	03 29 03.0		+1.3
M18K	Stony River	6.32	331		Pn	03 29 02.8		+0.1
SDPT	Sand Point	6.33	267	P	Pn	03 29 03.9		+1.1
BARN	Barnard Glacie	6.36	36		Pn	03 29 04.7		+1.3
PNL	Peninsula	6.38	52		Pn	03 29 04.9		+1.4
CTGM	Chitina Glacie	6.40	38		Pn	03 29 05.1		+1.1
WACK	Wrangell Chich	6.40	22		Pn	03 29 05.4		+1.3
LOGN	Logan Glacier	6.42	40		Pn	03 29 05.2		+1.0
BCPM	Bancas Point	6.42	50		Pn	03 29 05.5		+1.4
N16K	Nishlik Lake	6.58	315		Pn	03 29 08.0		+1.6
O28M	Mount Upton	6.68	42		Pn	03 29 09.0		+1.0
M17K	Holitna River	6.73	325		Pn	03 29 09.1		+0.7
N15K	Kwethluk River	6.96	310		Pn	03 29 12.5		+1.0
M16K	Timber Creek	7.00	318		Pn	03 29 13.2		+1.1
PS4A	Pavlof South-4	7.10	269		Pn	03 29 14.3		+0.9
P29M	Windy Craggy	7.11	56		Pn	03 29

RAFI	**Al-Rafai**	**1.85**	**215**	*e*Pn	**Pn**	**03 39 45.0**	**+0.7**
RAFI				*e*Sn	**Sb**	**03 40 10.0**	**+0.4**
RAFI				*e*		03 40 24.4	
KGS1	**Ghasr-e-Shirin**	**1.94**	**311**	Pn	**Pn**	**03 39 47.0**	**+1.3**
HAGD	**Aghdareh**	**2.15**	**43**	Pn	**Pn**	**03 39 50.4**	**+1.7**
AHWZ	**Ahwaz**	**2.19**	**150**	Pn	**Pn**	**03 39 49.6**	**+0.5**
BHD	**Baghdad**	**2.50**	**271**	*e*Pn	**Pn**	**03 39 54.5**	**+1.2**
BHD				*e*Sn	**Sn**	**03 40 26.0**	**+2.4**
JHBN	**Jahan bin**	**2.96**	**109**	Pn	**Pn**	**03 40 00.9**	**+1.0**
IPIR	**Pirpir**	**3.02**	**100**	Pn	**Pn**	**03 40 01.7**	**+1.1**
QABG	**Abgarm-Qazvin**	**3.06**	**36**	Pn	**Pn**	**03 40 02.4**	**+1.1**
ZNGN	**Zangian**	**3.15**	**110**	Pn	**Pn**	**03 40 03.3**	**+0.8**
IKRK	**Kirkuk**	**3.30**	**311**	*e*Pn	**Pn**	**03 40 05.5**	**+1.2**
IKRK				*e*Sn	**Sn**	**03 40 45.5**	**+2.2**
IKRK	comp=E,82nm,0.2s			AML	AML	03 41 01.1	
IKRK	comp=N,101nm,0.5s			AML	AML	03 41 04.8	
QAMS	**Qamsar**	**3.40**	**81**	Pn	**Pn**	**03 40 07.7**	**+1.7**
IQOM	**Qom**	**3.46**	**62**	Pn	**Pn**	**03 40 07.8**	**+1.0**
IKLH	**Kolahrood**	**3.53**	**88**	Pn	**Pn**	**03 40 09.0**	**+1.3**
IGZV	**Ghazvin**	**3.91**	**36**	Pn	**Pn**	**03 40 13.8**	**+0.9**
IVRN	**Varamin**	**4.02**	**63**	Pn	**Pn**	**03 40 15.7**	**+1.5**
IGAR	**Gharneh**	**4.02**	**101**	Pn	**Pn**	**03 40 15.2**	**+0.8**
KRSH	**Karshahi**	**4.04**	**78**	Pn	**Pn**	**03 40 16.1**	**+1.4**
IZEF	**Zefreh**	**4.18**	**93**	Pn	**Pn**	**03 40 17.8**	**+1.2**
ISFB	**Sefidab**	**4.21**	**73**	Pn	**Pn**	**03 40 18.0**	**+1.2**
KLNJ	**Kolanjah**	**4.22**	**121**	Pn	**Pn**	**03 40 18.1**	**+0.8**
IRAM	**Ramesheh**	**4.47**	**107**	Pn	**Pn**	**03 40 21.4**	**+0.8**
IDMV	**Damavand**	**4.50**	**58**	Pn	**Pn**	**03 40 22.0**	**+0.9**

IDC ***27*** *03:41:50.4±11.0,37°.59N×143°.14E,h0km,mb3.8/3, mbtmp3.7/4,ML2.4/1,MS3.0/2,Error ellipse: s-maj=211.6km s-min=60.2km az=127.0*
JMA ***27*** *03:42:03.4±0.1,37°.8N±0°.3×141°.8E±0°.7,h40km±1km, MV3.4/34,SE OFF MIYAGI PREF*
ISC 27 03:42:00.7±2.3,37°.74N±0°.06×142°.0E±0°.1,h23km±14km, n18,σ1§17/29,mb3.6/3,22D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.69**	**326**	⇓*i*P		**Pn**	**03 42 15.4**	**+0.4**
JIKH				⇓*e*S		**Sb**	**03 42 23.8**	**+0.6**
JMST	**Minamisoumatoc**	**0.84**	**270**	⇓*i*P		**Pn**	**03 42 17.3**	**+0.1**
JMST				⇓*e*S		**Sb**	**03 42 27.2**	**-0.3**
JIO	**Ouri**	**0.86**	**327**	⇓*i*P		**Pb**	**03 42 17.7**	**+0.9**
JIO				⇓S		**Sb**	**03 42 27.7**	**-0.4**
JMM	**Marumori**	**0.93**	**278**	⇓*i*P		**Pn**	**03 42 18.6**	**+0.2**
JMM				⇓S		**Sb**	**03 42 29.3**	**-0.6**
JFK	**Kawauchi**	**0.93**	**247**	⇓*i*P		**Pn**	**03 42 18.8**	**+0.3**
JFK				⇓S		**Sn**	**03 42 29.7**	**-1.4**
ONAJ	**Iwakimizuishiy**	**1.11**	**236**	⇓*i*P		**Pn**	**03 42 21.5**	**+0.6**
ONAJ				⇓S		**Sn**	**03 42 34.4**	**-1.3**
JKMT	**Kesennumamotoy**	**1.14**	**341**	⇓*i*P		**Pb**	**03 42 22.0**	**+0.3**
JKMT				⇓S		**Sn**	**03 42 34.8**	**-1.3**
JOU	**Okura**	**1.20**	**302**	⇓*i*P		**Pn**	**03 42 22.7**	**+0.7**
JOU				⇓*e*S		**Sn**	**03 42 37.2**	**-0.5**
JOTO	**OTAMA OYAMA**	**1.30**	**263**	*i* P		**Pn**	**03 42 24.7**	**+1.3**
JOTO				S		**Sn**	**03 42 40.1**	**0.0**
JMK	**Ichinoseki**	**1.34**	**335**	⇓*i*P		**Pb**	**03 42 25.0**	**-0.1**
JMK				⇓*e*S		**Sn**	**03 42 41.3**	**0.0**
JYS	**Shirataka**	**1.57**	**289**	⇓*i*P		**Pn**	**03 42 28.0**	**+0.8**
JYS				⇓*e*S		**Sn**	**03 42 47.5**	**+0.7**
JYK	**Kaneyama**	**1.72**	**314**	⇓P		**Pn**	**03 42 30.2**	**+0.9**
JOM	**Ohasama**	**1.81**	**344**	⇓P		**Pb**	**03 42 31.9**	**-1.2**
MJAR	**Matsushiro Arr** 0.2nm,0.3s,baz=74,slow=16,SNR=8.6	**3.22**	**249**	Pn		**Pn**	**03 42 53.7**	**+3.8**
MJAR	0.4nm,0.3s,baz=84,slow=14,SNR=4.9				Sn	**Sb**	**03 43 33.8**	**-2.2**
MJAR	comp=Z,28nm,21.2s,baz=146,slow=45 2.3nm,0.4s			LR	LR	03 44 54.2		
ZALV	**Zalesovo Beam** 0.8nm,0.6s,baz=72,slow=6.2,SNR=2.7 0.8nm,0.6s	**41.76**	**312**	P		**P**	**03 49 47.0**	**-1.0**
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=81,slow=8.9,SNR=2.6 0.5nm,0.8s	**44.11**	**302**	P		**P**	**03 50 07.5**	**+0.3**
KURBB	**Kurchatov Arra** 1.4nm,0.5s,baz=82,slow=8.3,SNR=7.2 1.4nm,0.5s	**45.91**	**308**	P		**P**	**03 50 21.4**	**+0.1**
PALK	**Pallekele** comp=Z,70nm,18.1s,baz=232,slow=39	**62.94**	**258**	LR	LR	04 23 02.8		

DJA ***27*** *03:44:45.5±0.2,8°.5S±3°.3×10°.8E±°,h51km±3km,M4.8/37, mb4.8/37,mB5.2/9,MLv5.0/29,Mw(mB)4.6/9*
IDC ***27*** *03:44:48.9±1.0,8°.09S×108°.53E,h87km±8km,mb4.1/26, mbtmp4.4/29,MS3.6/9,Error ellipse: s-maj=15.0km s-min=8.7km az=56.0*
NEIC ***27*** *03:44:48.2±2.2,8°.24S±0°.09×108°.47E±0°.07,h68km±5km, mb4.6/35,Error ellipse: s-maj=14.1km s-min=8.4km az=215.0*
ISC 27 03:44:45.2±0.3,8°.33S±0°.05×108°.42E±0°.05,h55km,n143, σ1§62/138,**mb4.5/47,MS3.6/7,2C-3D,Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**1.63**	**308**	P		**Pn**	**03 45 10.4**	**-1.2**
LEM	**Lembang** 1μm,0.4s,baz=303,slow=21,SNR=48	**1.69**	**332**	P		**Pn**	**03 45 14.3**	**+1.7**
LEM	4μm,0.6s,baz=354,slow=19,SNR=13			S		**Sn**	**03 45 35.6**	**+2.5**
LEM	comp=Z,750nm,20.8s,baz=158,slow=51			LR	LR	03 46 08.3		
LEM	**Lembang**	**1.69**	**332**	P		**Pn**	**03 45 13.7**	**+1.2**
UGM	**Wanagama**	**2.12**	**79**			**Pn**	**03 45 18.6**	**+0.2**
UGM	**Wanagama**	**2.12**	**79**	P		**Pn**	**03 45 18.5**	**+0.2**
SKJI	**Sukabumi**	**2.27**	**305**	P		**Pn**	**03 45 19.9**	**-0.3**
SMRI	**Semarang**	**2.37**	**58**			**Pn**	**03 45 24.1**	**+2.4**
SMRI	**Semarang**	**2.37**	**58**	P		**Pn**	**03 45 23.9**	**+2.2**
DBJI	**Dramaga**	**2.42**	**317**	P		**Pn**	**03 45 23.4**	**+1.1**
WOJI	**Wonogiri, Jawa**	**2.53**	**79**	P		**Pn**	**03 45 23.4**	**-0.4**
PCJI	**Pacitan**	**2.73**	**87**	P		**Pn**	**03 45 27.3**	**+0.7**
TNG	**Tangerang**	**2.77**	**320**	P		**Pn**	**03 45 28.1**	**+0.9**
SBJI	**Serang**	**3.16**	**314**	P		**Pn**	**03 45 33.2**	**+0.8**
CGJI	**Cibinong**	**3.20**	**302**	P		**Pn**	**03 45 32.1**	**-0.9**
TBJI	**Tambak Boyo**	**3.71**	**66**	P		**Pn**	**03 45 42.0**	**+1.9**
GRJI	**Gresik**	**4.26**	**71**	P		**Pn**	**03 45 49.8**	**+2.2**
KASI	**Kota Agung**	**4.79**	**305**	P		**Pn**	**03 45 55.3**	**+0.5**
KLI	**Kotabumi**	**4.94**	**314**	P		**Pn**	**03 45 57.2**	**+0.3**
GMJI	**Gumukmas** 1.1nm3μm98nm,0.7s	**4.97**	**90**	P		**Pn**	**03 45 58.7**	**+1.4**
TPI	**Tanjungpandan** 0.5nm47nm,0.6s	**5.59**	**352**	P		**Pn**	**03 46 07.4**	**+1.6**
KMMI	**Kalianget** 0.5nm79nm,1.1s	**5.64**	**77**	P		**Pn**	**03 46 07.5**	**+1.0**
JAGI	**Jajag, Banyuwa**	**5.67**	**92**			**Pn**	**03 46 08.0**	**+1.1**
JAGI	**Jajag, Banyuwa** 1.8nm235nm,0.7s	**5.67**	**92**	P		**Pn**	**03 46 08.1**	**+1.1**
MDSI	**Maura Dua** 960nm109nm,0.8s	**5.69**	**312**	P		**Pn**	**03 46 07.4**	**+0.3**
LHSI	**Lahat** 108nm,0.9s	**6.61**	**312**	P		**Pn**	**03 46 20.9**	**+1.1**
MNAI	**Manna** 1.0nm174nm,0.7s	**6.71**	**306**	P		**Pn**	**03 46 20.9**	**-0.3**
SRBI	**Singaraja** 0.7nm2μm112nm,0.6s	**6.73**	**88**	P		**Pn**	**03 46 23.9**	**+2.5**
KSI	**Kapahiang** 162nm,0.6s	**7.43**	**308**	P		**Pn**	**03 46 31.6**	**+0.5**
TWSI	**Taliwang, Sumb** 1μm90nm,0.9s	**8.38**	**93**	P		**Pn**	**03 46 44.8**	**+0.8**
PLAI	**Plampang** 1μm112nm,0.8s	**9.27**	**94**	P		**Pn**	**03 46 57.9**	**+1.7**
PPSI	**Pulau Pagai**	**10.03**	**303**	P		**Pn**	**03 47 04.7**	**-1.9**
MYKOM	**Kota Tinggi**	**11.04**	**335**			**Pn**	**03 47 22.8**	**+2.4**
KAPI	**Kappang**	**11.72**	**74**	Pn		**Pn**	**03 47 33.2**	**+3.3**
KAPI	**Kappang** 3.8nm,0.5s,baz=270,slow=15,SNR=5.3	**11.72**	**74**	P		**Pn**	**03 47 29.0**	**-0.8**
KAPI	comp=Z,290nm,19.0s,baz=270,slow=41			LR	LR	03 52 41.1		
BKSI	**Bulukumba** 23nm,1.0s	**12.00**	**76**	P		**Pn**	**03 47 34.7**	**+1.2**
BSSI	**Bau Bau, Buton** 48nm,0.8s	**12.17**	**81**	P		**Pn**	**03 47 36.5**	**+0.6**
MMRI	**Maumere**	**13.67**	**92**			**Pn**	**03 47 58.6**	**+2.2**
BATI	**Baumata** 28nm,0.4s,baz=310,slow=4.7,SNR=5.5	**15.16**	**98**	P		**Pn**	**03 48 15.9**	**-0.2**
BATI	21nm,0.4s,baz=58,slow=6.9,SNR=1.6			S		**Sn**	**03 50 54.6**	**-8.4**
GIRL	**Giralia** comp=Z,28nm,0.8s	**15.29**	**159**	Pn		**Pn**	**03 48 14.7**	**-2.9**
GIRL				IAmb	IAmb	03 48 17.5		
TOLI2	**Tolitoli**	**15.48**	**53**			**P**	**03 48 24.0**	**+0.3**
SOEI	**Soe**	**15.71**	**96**			**P**	**03 48 26.6**	**+0.2**
SOEI	**Soe**	**15.71**	**96**	P		**P**	**03 48 25.3**	**-1.1**
MBWA	**Marble Bar**	**16.79**	**141**			**Pn**	**03 48 36.2**	**-0.5**
PSA00	**Pilbara Seismi**	**17.17**	**141**	P		**P**	**03 48 42.0**	**-0.3**
PSA00	**Pilbara Seismi**	**17.17**	**141**	Pn		**P**	**03 48 42.0**	**-0.3**
PSA00	comp=Z,9.0nm,0.8s			IAmb	IAmb	03 49 00.5		
NLAI	**Namlea** comp=Z,75nm,0.8s	**19.25**	**76**	P		**Pn**	**03 49 07.9**	**+1.1**
FITZ	**Fitzroy Crossi**	**19.36**	**122**			**Pn**	**03 49 08.4**	**+0.5**
FITZ	**Fitzroy Crossi** comp=Z,5.1nm,0.8s,baz=289,slow=6.2,SNR=18	**19.36**	**122**	P		**Pn**	**03 49 07.0**	**-0.9**
FITZ	comp=Z,2.0nm,0.7s,baz=132,slow=21,SNR=2.0			S	S	03 52 29.0	-14	
FITZ	comp=Z,135nm,19.6s,baz=236,slow=40			LR	LR	03 57 46.8		
AAI	**Ambon**	**20.19**	**78**	P		Pn	03 49 16.6	-1.3
TNTI	**Ternate** comp=Z,58nm,0.7s	**20.94**	**65**	P		Pn	03 49 25.3	-1.4
KNRA	**Kununurra**	**21.18**	**112**			**P**	**03 49 27.9**	**+1.7**
KNRA	comp=Z,18nm,0.8s			IAmb	IAmb	03 49 39.1		
MORW	**Morawa**	**21.84**	**162**	P		**P**	**03 49 34.8**	**+1.6**
MORW	comp=Z,16nm,1.1s			IAmb	IAmb	03 49 52.7		
MTN	**Manton Dam** comp=Z,24nm,0.5s	**22.77**	**103**	P		**P**	**03 49 43.9**	**+0.7**
MTN				IAmb	IAmb	03 49 55.7		
DAV	**Davao City (W)** comp=Z,125nm,21.2s,baz=178,slow=38	**22.95**	**49**	LR	LR	03 59 04.1		
FAKI	**Fak Fak** comp=Z,29nm,1.4s	**24.31**	**79**	P		**P**	**03 49 57.7**	**-0.1**
WRA	**Warramunga Arr**	**27.61**	**117**			**P**	**03 50 29.0**	**+1.3**
WRA	**Warramunga Arr** comp=Z,1.9nm,0.7s,baz=291,slow=11,SNR=35	**27.61**	**117**	P		**P**	**03 50 29.0**	**+1.3**
WRA	comp=Z,0.9nm,0.6s,baz=300,slow=2.0,SNR=5.0 comp=Z,1.9nm,0.7s			PcP		**PcP**	**03 53 44.5**	**+0.3**
WR8	**Warramunga Arr**	**27.76**	**117**			**P**	**03 50 30.5**	**+1.5**
WR8	comp=Z,9.8nm,0.8s			IAmb	IAmb	03 50 50.9		
CMAR	**Chiang Mai Arr** comp=Z,1.8nm,0.3s,baz=172,slow=8.3,SNR=4.8	**28.21**	**341**	P		**P**	**03 50 32.3**	**-0.6**
CMAR	comp=Z,0.6nm,0.3s,baz=165,slow=4.8,SNR=4.3			PcP		**PcP**	**03 53 45.1**	**-0.6**
CMAR	comp=Z,62nm,20.9s,baz=190,slow=38 comp=Z,1.8nm,0.3s			LR	LR	04 02 20.5		
AS31	**Alice Springs**	**28.78**	**125**	P		**P**	**03 50 39.9**	**+1.8**
ASAR	**Alice Springs** comp=Z,1.6nm,0.8s,baz=299,slow=8.5,SNR=14	**28.78**	**125**	P		**P**	**03 50 39.4**	**+1.3**
ASAR	comp=Z,1.5nm,0.8s,baz=312,slow=2.4,SNR=6.5			PcP		**PcP**	**03 53 47.6**	**+0.5**
ASAR	comp=Z,1.2nm,1.0s,baz=282,slow=2.3,SNR=5.1 comp=Z,1.6nm,0.8s			ScP		**ScP**	**03 57 21.4**	**-2.7**
PZH	**PanZhiHua**	**35.23**	**350**	P		P	03 51 39.3	+4.7
BBOO	**Buckleboo**	**35.33**	**138**	P		**P**	**03 51 35.8**	**+0.5**
BBOO	comp=Z,9.1nm,0.8s			IAmb	IAmb	03 51 52.8		
H08S2	**Diego Garcia H** baz=93,slow=76,SNR=163	**35.58**	**268**	T		T	04 29 08.1	
H08S3	**Diego Garcia H** baz=93,slow=76,SNR=310	**35.59**	**269**	T		T	04 29 10.6	
H08S1	**Diego Carcia H** baz=93,slow=76,SNR=338	**35.60**	**268**	T		T	04 29 09.6	
STKA	**Stephens Creek**	**38.71**	**132**			**P**	**03 52 05.7**	**+1.7**
STKA	**Stephens Creek** comp=Z,14nm,0.6s,baz=308,slow=8.3,SNR=37	**38.71**	**132**	P		**P**	**03 52 05.5**	**+1.4**
STKA	comp=Z,2.0nm,0.6s,baz=343,slow=3.1,SNR=2.1 comp=Z,14nm,0.6s			PcP		**PcP**	**03 54 15.2**	**+0.2**
NJ2	**Nanjing**	**41.37**	**13**	*e*P		**P**	**03 52 28.5**	**+2.5**
NJ2	comp=Z,10.0nm,0.5s			pmax	pmax			
XAN	**Xi'an**	**42.14**	**1**	P		**P**	**03 52 35.3**	**+3.0**
XAN				pP	pP	03 52 47.5	+1.0	
XAN	comp=Z,6.0nm,0.6s			pmax	pmax			
GTA	**Gaotai**	**48.16**	**351**	*e*P		**P**	**03 53 22.5**	**+2.4**
GTA	comp=Z,3.0nm,1.1s			pmax	pmax			
HHC	**Hu-ho-hao-te**	**49.02**	**3**	*e*P		**P**	**03 53 29.8**	**+3.2**
HHC	comp=Z,9.0nm,0.6s			pmax	pmax			
HHC	comp=Z,72nm,4.0s			pmax	pmax			
KSRS	**Korea Array** comp=Z,1.7nm,0.8s,baz=198,slow=9.6,SNR=7.1 comp=Z,1.7nm,0.8s	**49.06**	**21**	P		**P**	**03 53 26.2**	**-0.7**
MJAR	**Matsushiro Arr**	**52.67**	**30**	P		**P**	**03 53 52.6**	**-1.5**
MJAR	**Matsushiro Arr** comp=Z,3.2nm,0.7s,baz=206,slow=7.3,SNR=8.8 comp=Z,3.2nm,0.7s	**52.67**	**30**	P		**P**	**03 53 51.4**	**-2.7**
SONM	**Songino Array** comp=Z,0.8nm,0.4s,baz=182,slow=8.4,SNR=6.4	**55.95**	**358**	P		**P**	**03 54 15.7**	**-2.1**
SONM	comp=Z,0.9nm,0.6s,baz=174,slow=3.1,SNR=2.0 comp=Z,0.8nm,0.4s			PcP		**PcP**	**03 55 16.3**	**+0.5**
USRK	**Ussuriysk Ar.** comp=Z,1.5nm,0.6s,baz=226,slow=7.7,SNR=2.6 comp=Z,1.5nm,0.6s	**56.47**	**20**	P		**P**	**03 54 20.3**	**-1.1**
CASY	**Casey**	**57.88**	**179**	P		**P**	**03 54 31.8**	**+0.7**
CASY	comp=Z,5.1nm,1.0s			IAmb	IAmb	03 54 32.4		
MKAR	**Makanchi Array**	**59.61**	**339**	P		**P**	**03 54 41.4**	**-2.0**
MKAR	**Makanchi Array** comp=Z,1.9nm,0.4s,baz=153,slow=8.0,SNR=29 comp=Z,1.9nm,0.4s	**59.61**	**339**	P		**P**	**03 54 42.5**	**-0.9**
HEH	**HeiHe**	**60.64**	**14**	*e*P		**P**	**03 54 50.0**	**-0.3**
H04N2	**CROZET ISLANDS** baz=70,slow=75,SNR=78	**61.19**	**221**	T		T	05 01 59.4	
H04N1	**CROZET ISLANDS** baz=70,slow=75,SNR=78	**61.21**	**221**	T		T	05 01 54.8	
H04N3	**CROZET ISLANDS** baz=70,slow=75,SNR=66	**61.21**	**221**	T		T	05 01 50.9	
KURBB	**Kurchatov Arra** comp=Z,1.2nm,0.5s,baz=164,slow=4.7,SNR=7.8 comp=Z,1.2nm,0.5s	**64.18**	**339**	P		**P**	**03 55 12.8**	**-1.2**
KURK	**Kurchatov** comp=Z,3.1nm,0.8s	**64.22**	**339**			**P**	**03 55 13.2**	**-1.1**
KURK				IAmb	IAmb	03 55 46.4		
ZALV	**Zalesovo Beam** comp=Z,1.4nm,0.4s,baz=150,slow=5.7,SNR=7.1 comp=Z,1.4nm,0.4s	**65.17**	**345**	P		**P**	**03 55 18.9**	**-1.4**
MAW	**Mawson** comp=Z,6.0nm,0.6s,baz=69,slow=5.4,SNR=16 comp=Z,6.0nm,0.6s	**66.52**	**197**	P		**P**	**03 55 30.4**	**+1.5**
RAYN	**Ar Rayn**	**69.12**	**299**			**P**	**03 55 45.3**	**-0.8**
RAYN	comp=Z,16nm,1.2s			IAmb	IAmb	03 55 45.8		
BVAR	**Borovoye Array** comp=Z,3.7nm,0.6s,baz=142,slow=8.6,SNR=16 comp=Z,3.7nm,0.6s	**69.14**	**337**	P		**P**	**03 55 44.6**	**-1.0**
BRVK	**Borovoye** comp=Z,2.7nm,0.8s	**69.20**	**337**			**P**	**03 55 44.9**	**-1.0**
BRVK				IAmb	IAmb	03 56 12.6		
KIBK	**Kibwezi** comp=Z,5.9nm,0.9s	**70.25**	**270**	P		**P**	**03 55 53.1**	**-0.2**
KIBK				IAmb	IAmb	03 55 55.0		
PETK	**Petropavlovsk-** comp=Z,0.9nm,0.3s,baz=240,slow=7.3,SNR=1.9	**74.07**	**28**	P		**P**	**03 56 15.5**	**+0.3**
PETK	comp=Z,33nm,20.3s,baz=78,slow=37 comp=Z,0.9nm,0.3s			LR	LR	04 30 31.4		
VNDA	**Vanda** comp=Z,7.6nm,1.1s	**74.41**	**170**			**P**	**03 56 18.3**	**+1.4**
VNDA				IAmb	IAmb	03 56 19.1		
VNDA	**Vanda** comp=Z,3.4nm,0.8s,baz=297,slow=6.8,SNR=16 comp=Z,3.4nm,0.8s	**74.41**	**170**	P		**P**	**03 56 18.1**	**+1.2**
SBA	**Scott Base**	**75.48**	**169**	P		**P**	**03 56 25.4**	**+2.4**
SBA				IAmb	IAmb	03 56 26.2		
ARTI	**Arti**	**76.47**	**334**			**P**	**03 56 27.7**	**-1.3**
MBAR	**Mbarara** comp=Z,7.2nm,0.8s	**77.72**	**271**	P		**P**	**03 56 38.5**	**+1.4**
MBAR				IAmb	IAmb	03 56 39.3		
MATP	**Matopo** comp=Z,25nm,19.8s,baz=77,slow=31	**77.74**	**251**	LR	LR	04 25 33.9		
LSZ	**Lusaka** comp=Z,11nm,0.9s	**78.48**	**256**			**P**	**03 56 41.9**	**+0.7**
LSZ				IAmb	IAmb	03 56 42.9		
LSZ	**Lusaka** comp=Z,71nm,18.4s,baz=152,slow=33	**78.48**	**256**	LR	LR	04 28 32.5		
KBZ	**Khabaz** comp=Z,6.3nm,1.0s,baz=94,slow=5.9,SNR=7.9 comp=Z,6.3nm,1.0s	**78.57**	**318**	P		**P**	**03 56 40.5**	**-0.4**
BOSA	**Boshof**	**80.09**	**242**	P		**P**	**03 56 50.2**	**+0.4**
BOSA	comp=Z,5.5nm,1.1s			IAmb	IAmb	03 56 57.5		
BOSA	**Boshof** comp=Z,1.3nm,0.5s,baz=113,slow=3.7,SNR=8.0	**80.09**	**242**	P		**P**	**03 56 50.4**	**+0.6**
BOSA	comp=Z,43nm,21.6s,baz=187,slow=30 comp=Z,1.3nm,0.5s			LR	LR	04 24 42.9		
MMAI	**Mount Meron Ar** comp=Z,4.8nm,0.7s,baz=98,slow=6.0,SNR=7.4 comp=Z,4.8nm,0.7s	**80.51**	**305**	P		**P**	**03 56 52.0**	**+0.1**
QSPA	**South Pole Qui**	**81.67**	**180**			**P**	**03 56 59.1**	**+1.7**
QSPA	comp=Z,9.7nm,1.0s			IAmb	IAmb	03 57 00.0		
QSPA	**South Pole Qui** comp=Z,7.0nm,0.8s,baz=284,slow=1.5,SNR=32	**81.67**	**180**	P		**P**	**03 56 58.9**	**+1.5**
QSPA	comp=Z,38nm,20.2s,baz=286,slow=33 comp=Z,7.0nm,0.8s			LR	LR	04 29 42.5		
BR131	**Keskin Array S**	**83.76**	**312**			**P**	**03 57 05.7**	**-3.1**
BR131	comp=Z,4.5nm,0.9s			IAmb	IAmb	03 57 08.7		
BRTR	**Keskin Array B**	**83.76**	**312**			**P**	**03 57 06.8**	**-2.0**
BRTR	**Keskin Array B** comp=Z,4.1nm,1.0s,baz=136,slow=7.1,SNR=19 comp=Z,4.1nm,1.0s	**83.76**	**312**	P		**P**	**03 57 08.0**	**-0.8**
TROLL	**Troll, Antarti** comp=Z,43nm,0.6s	**86.99**	**197**	⇑P		**P**	**03 57 26.2**	**+1.9**
KIWB	**Kanaga Island**	**87.03**	**37**	P		**P**	**03 57 23.6**	**-1.0**
TSUM	**Tsumeb** comp=Z,8.7nm,1.1s	**88.09**	**251**	P		**P**	**03 57 32.0**	**+1.4**
TSUM				IAmb	IAmb	03 57 32.6		
SNAA	**Sanae** comp=Z,80nm,0.5s	**88.68**	**197**	⇓P		**P**	**03 57 34.0**	**+1.7**
SNAA	**Sanae**	**88.68**	**197**			**P**	**03 57 34.1**	**+1.7**
SNAA	**Sanae** comp=Z,5.0nm,0.8s,baz=160,slow=5.2,SNR=37 comp=Z,5.0nm,0.8s	**88.68**	**197**	P		**P**	**03 57 34.0**	**+1.7**
AKASG	**Malin Array Be** comp=Z,0.6nm,0.5s,baz=84,slow=4.1,SNR=1.4 comp=Z,0.6nm,0.5s	**89.60**	**321**	P		**P**	**03 57 35.1**	**-1.7**
VNA2	**Neumayer--Watz** comp=Z,8.4nm,0.7s,baz=52,slow=3.8	**90.33**	**197**	⇓P		**P**	**03 57 38.9**	**-1.1**
VNA1	**Neumayer--Stat** comp=Z,9.5nm,1.0s	**90.71**	**197**	⇑P		**P**	**03 57 43.7**	**+2.0**
VNA3	**Neumayer Olymp** comp=Z,5.5nm,0.8s	**90.83**	**197**	⇓P		**P**	**03 57 43.7**	**+1.4**
FINES	**FINESS Array B**	**93.60**	**332**	P		**P**	**03 57 54.4**	**-0.7**
FINES	**FINESS Array B** comp=Z,2.7nm,0.8s,baz=72,slow=2.4,SNR=10 comp=Z,2.7nm,0.8s	**93.60**	**332**	P		**P**	**03 57 53.7**	**-1.4**
ARCES	**ARCESS Array B**	**95.27**	**339**	P		**P**	**03 58 00.9**	**-1.7**
ARCES	**ARCESS Array B** comp=Z,0.6nm,0.5s,baz=109,slow=3.4,SNR=8.4 comp=Z,0.6nm,0.5s	**95.27**	**339**	P		**P**	**03 58 01.2**	**-1.4**
SPITS	**Spitsbergen Ar** comp=Z,2.4nm,0.7s,baz=116,slow=6.6,SNR=1.6 comp=Z,2.4nm,0.7s	**98.52**	**348**	P		**P**	**03 58 15.7**	**-1.5**
HFS	**Hagfors** comp=Z,0.6nm,0.7s,baz=93,slow=3.0,SNR=1.4 comp=Z,0.6nm,0.7s	**99.52**	**330**	P		**Pdif**	**03 58 20.1**	**-1.9**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.5s,baz=230,slow=3.8,SNR=11	**143.34**	**51**	PKhKP	PKPpre		04 04 10.4	
I62A	**Tamworth**	**144.59**	**360**	PKPdf		**PKPdf**	**04 04 14.6**	**-1.2**
R40A	**Maddies Statio**	**144.81**	**29**			**PKPdf**	**04 04 15.1**	**-1.3**
J57A	**Williamstown**	**144.84**	**6**			PKPbc	04 04 14.4	-1.0
N47A	**Urbana**	**145.24**	**19**			**PKPdf**	**04 04 16.4**	**-0.6**
MMNY	**Mt. Morris Dam**	**145.28**	**8**			**PKPbc**	**04 04 15.7**	**-1.2**
K57A	**Scipio Center**	**145.46**	**6**			**PKPab**	**04 04 16.7**	**-1.0**
CCM	**Cathedral Cave**	**145.48**	**28**			**PKPab**	**04 04 17.3**	**-0.6**
WVNY	**West Valley, N**	**145.50**	**9**			**PKPbc**	**04 04 16.5**	**-1.1**
N49A	**Columbus Grove**	**145.66**	**17**			**PKiKP**	**04 04 19.1**	**-2.7**
L56A	**Greenwood**	**145.92**	**8**			**PKPab**	**04 04 18.1**	**-1.4**
BINY	**Binghamton**	**146.04**	**6**			**PKPab**	**04 04 18.8**	**-1.1**
O49A	**Covington**	**146.29**	**18**			**PKPbc**	**04 04 19.3**	**-0.8**
BDFB	**Brasilia** comp=Z,2.1nm,0.7s,baz=16,slow=4.7,SNR=6.4	**146.65**	**224**	PKPbc	PKPab		**04 04 22.2**	**-0.9**
P52A	**Corning**	**147.43**	**15**			**PKPbc**	**04 04 22.7**	**-0.6**
Q54A	**Coxs Mills**	**148.36**	**14**			**PKPbc**	**04 04 24.9**	**-0.9**
LPAZ	**La Paz** comp=Z,0.4nm,0.7s,baz=270,slow=1.0,SNR=1.3	**155.31**	**188**	PKP	PKPab	**PKPdf**	**04 04 35.8**	**+1.6**
LPAZ	comp=Z,1.8nm,0.7s,baz=136,slow=3.7,SNR=9.3				PKPab	**PKPab**	**04 05 00.5**	**+1.3**

HVO ***27*** *04:04:18.4±0.9,19°.421N±0°.006×155°.616W±0°.009, h-1km±7km,ML3.3/43,ML3.5/36(NEIC),Error ellipse: s-maj=1.2km s-min=0.9km az=66.0*
**NEIC 27 04

POHA	**Pohakuloa**	**0.35**	**12**			Sg	04 04 30.8	+0.5
PUH	**Pauahi**	**0.37**	**96**			Pg	04 04 25.8	-0.4
PUH						Sg	04 04 31.4	+0.4
PUH	**Pauahi**	**0.37**	**96**		IAML		04 04 32.5	
	comp=E,3µm,0.7s							
PUH					IAML		04 04 36.4	
	comp=N,4µm,0.7s							
KNHH	**Kane Nui o Ham**	**0.41**	**95**			Pg	04 04 26.8	-0.2
STCH	**Steam Cracks**	**0.46**	**94**			Pg	04 04 26.8	-0.9
STCH					IAML		04 04 38.8	
	comp=E,3µm,0.8s							
STCH	**Steam Cracks**	**0.46**	**94**			Sg	04 04 34.2	+0.5
NPOC	**North of Pu'u**	**0.47**	**93**			Pg	04 04 27.8	-0.1
NPOC						Sg	04 04 34.8	+0.7
JCUZ	**Jacuzzi**	**0.48**	**94**			Pg	04 04 27.7	-0.4
JCUZ						Sg	04 04 34.6	+0.2
JOKA	**Jonika Flow**	**0.57**	**88**			Pg	04 04 29.1	-0.8
JOKA						Sg	04 04 37.5	+0.2
HPAH	**Hawaii Prepara**	**0.62**	**352**			Pg	04 04 29.9	-0.9
HPAH						Sg	04 04 38.4	-0.4
ILSW	**Iliamna Southw**	**40.56**	**2**	P		P	04 11 57.2	-2.0

*IDC **27** 04:14:04.1±1.7,0°.71N×125°.64E,h0km,mb3.4/5,*
mbtmp3.4/5,Error ellipse: s-maj=218.9km s-min=21.1km
az=64.0
*DJA **27** 04:14:11.1±1.0,1°.N±4°×12°.6E±°,h14km±8km,M3.9/7,*
MLv3.9/7

ISC 27 04:14:09.7±1.3,1°.0N±0°.2×126°.1E±0°.1,h44km,n9,σ0°.99/9,
mb3.6/5,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.27**	**99**	P	Pn	04 14 37.1	+6.0
KMSI	**Cibinong**	**2.16**	**260**	P	**Pn**	**04 14 42.3**	**-1.0**
KMSI				S	**Sn**	**04 15 08.4**	**-0.5**
LUWI	**Luwuk**	**3.89**	**239**	P	**Pn**	**04 15 08.0**	**+1.0**
APSI	**Ampana**	**4.83**	**247**	P	**Pn**	**04 15 21.0**	**+1.0**
WRA	**Warramunga Arr**	**22.29**	**159**	P	**P**	**04 19 02.6**	**-1.0**
	0.3nm,0.4s,baz=337,slow=11,SNR=8.1						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**25.63**	**163**	P	**P**	**04 19 34.4**	**-1.0**
	0.3nm,0.5s,baz=341,slow=8.8,SNR=6.5						
	0.3nm,0.5s						
STKA	**Stephens Creek**	**35.81**	**157**	P	**P**	**04 21 05.3**	**+0.2**
	0.5nm,0.5s,baz=346,slow=8.3,SNR=2.8						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**59.48**	**326**	P	**P**	**04 24 08.4**	**0.0**
	0.2nm,0.4s,baz=125,slow=6.9,SNR=4.6						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**63.73**	**328**	P	**P**	**04 24 37.8**	**+0.9**
	0.2nm,0.3s,baz=118,slow=7.4,SNR=1.6						
	0.2nm,0.3s						

DJA 27 04:15:19.7±0.8,1°N±4°×12°2E±°,h16km±6km,M4.0/8,
mb4.3/2,MLv3.8/8,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.50**	**196**	P	Pb	04 15 30.7	+0.6
MRSI				S	Sb	04 15 38.3	+1.1
APSI	**Ampana**	**1.91**	**193**	P	Pb	04 15 52.9	-1.3
LUWI	**Luwuk**	**2.10**	**161**	P	Pn	04 15 54.5	+0.2
MPSI	**Mapaga**	**2.27**	**254**	P	Pn	04 15 57.2	+0.7
PCI	**Palu**	**2.91**	**230**	P	Pn	04 16 04.1	-1.3
SANI	**Sanana**	**4.92**	**127**	P	Pn	04 16 31.8	-1.2

*NEIC **27** 04:23:28.1±0.6,35°.831N±0°.010×98°.09W±0°.01,h7km±5km,*
Error ellipse: s-maj=1.5km s-min=1.4km az=62.0

NEIC 27 04:23:28.0±0.6,35°.838N±0°.009×98°.08W±0°.01,h5km±1km,
mb_Lg3.3/125,ML3.6/62,ML3.5/28,Error ellipse:
s-maj=2.9km s-min=1.8km az=280.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCOK	**Bluff Creek, N**	**0.43**	**115**		Pg	04 23 36.6	+0.4
BCOK					Sg	04 23 42.8	+1.1
OK029	**Liberty Lake**	**0.51**	**94**		Pg	04 23 38.1	+0.3
OK029					Sg	04 23 45.7	+1.2
OK029				IAML		04 23 45.9	
	3µm,0.2s						
CSTR	**Hydro, Custer**	**0.53**	**249**		Pg	04 23 38.3	+0.2
CSTR					Sg	04 23 46.0	+1.0
OK004	**Okla Sci Mus**	**0.59**	**122**		Pg	04 23 39.5	+0.2
OK004					Sg	04 23 47.9	+1.0
ADOK	**Arcadia Dam**	**0.61**	**107**		Pg	04 23 40.0	+0.3
CROK	**Carrier**	**0.67**	**7**		Pg	04 23 41.2	+0.3
CROK					Sg	04 23 50.6	+1.0
CROK				IAML		04 23 51.0	
	comp=E,3µm,0.4s						
CROK				IAML		04 23 57.3	
	comp=N,2µm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.68**	**129**		Pg	04 23 41.1	+0.1
OKCSW					Sg	04 23 50.5	+0.6
OKCSW				IAML		04 23 50.8	
	comp=E,3µm,0.3s						
OKCSW				IAML		04 23 53.3	
	comp=N,3µm,0.6s						
FNO	**Franklin**	**0.80**	**136**		Pg	04 23 43.2	-0.2
FNO					Sg	04 23 54.3	+0.5
FNO				IAML		04 23 57.3	
	comp=E,2µm,0.5s						
OK038	**West end E0370**	**0.83**	**320**		Pg	04 23 43.9	-0.1
OK038					Sg	04 23 55.4	+0.7
GC02	**Grant County #**	**1.03**	**10**		Pg	04 23 47.4	-0.3
OK052	**Battle Ridge R**	**1.05**	**81**	IAML		04 24 10.1	
	comp=E,1µm,0.3s						
ELIS	**Ellis County**	**1.11**	**282**		Pg	04 23 48.9	-0.3
ELIS				IAML		04 24 08.6	
	comp=E,2µm,0.2s						
ELIS				IAML		04 24 16.2	
	comp=N,1µm,0.2s						
KAN14	**Manchester OK**	**1.12**	**5**	IAML		04 24 09.8	
	comp=E,2µm,0.2s						
KAN14				IAML		04 24 10.3	
	comp=N,1µm,0.1s						
BLOK	**Blackwell**	**1.16**	**37**		Pg	04 23 49.9	-0.3
QUOK	**Quay**	**1.16**	**73**	IAML		04 24 10.3	
	comp=N,2µm,0.4s						
WMOK	**Wichita Mounta**	**1.24**	**208**		Pg	04 23 50.4	-1.2
X34A	**Smith Ranch, M**	**1.25**	**170**		Pg	04 23 51.7	-0.3
X34A				IAML		04 24 10.4	
	comp=N,658nm,0.5s						
X34A				IAML		04 24 10.9	
	comp=E,1µm,0.3s						
DEOK	**Depew**	**1.29**	**89**	IAML		04 24 13.0	
	comp=E,1µm,0.2s						
DEOK				IAML		04 24 13.8	
	comp=N,701nm,0.2s						
T35A	**Sooner Cattle**	**1.66**	**49**		Pn	04 23 58.2	+0.4
TUL3	**Leonard**	**1.86**	**87**	IAmb_Lg		04 24 27.5	
	comp=Z,196nm,0.9s						
DRZT	**Darrouzett**	**1.89**	**289**	P	Pb	04 24 02.5	-0.5
SMWD	**Samnorwood**	**1.91**	**248**		Pn	04 24 01.5	+0.3
SMWD	**Samnorwood**	**1.91**	**248**	P	Pn	04 24 01.6	+0.4
LOOK	**Love County**	**1.98**	**158**	IAmb_Lg		04 24 34.9	
	comp=Z,260nm,0.9s						
WTFS	**Witchita Falls**	**2.09**	**189**		Pb	04 24 05.0	-1.3
RLO	**Rose Lookout**	**2.50**	**82**		Pn	04 24 09.5	+0.2
Z35A	**Perchaven, San**	**2.59**	**164**	IAmb_Lg		04 24 51.3	
	comp=Z,84nm,1.0s						
R32A	**Long Quarter,**	**2.63**	**349**		Pn	04 24 11.6	+0.5
FW06	**Azle**	**2.89**	**171**		Pn	04 24 15.8	+1.2
APMT	**Aspermont**	**3.02**	**214**		Pn	04 24 17.6	+1.1
PLPT	**Palo Pinto**	**3.02**	**184**		Pn	04 24 17.1	+0.6
U38A	**Gravette**	**3.05**	**78**		Pn	04 24 17.4	+0.5
U38A				IAmb_Lg		04 25 11.3	
	comp=Z,68nm,0.7s						
AMTX	**Amarillo**	**3.09**	**253**		Pn	04 24 18.7	+1.2
AMTX				IAmb_Lg		04 25 06.2	
	comp=Z,130nm,0.8s						
DKNS	**Dickens**	**3.19**	**228**		Pn	04 24 20.5	+1.7
DKNS				IAmb_Lg		04 25 10.8	
	comp=Z,80nm,0.9s						
CBKS	**Cedar Bluff**	**3.25**	**337**		Pn	04 24 21.1	+1.5
CBKS				IAmb_Lg		04 25 17.0	
	comp=Z,94nm,0.8s						
HHAR	**Hobbs**	**3.39**	**81**		Pn	04 24 21.2	-0.3
HHAR				IAmb_Lg		04 25 15.7	
	comp=Z,72nm,0.8s						
ABTX	**Abilene, Hawle**	**3.46**	**202**		Pb	04 24 26.4	-3.3
KSU1	**Kansas State U**	**3.46**	**19**	IAmb_Lg		04 25 27.1	
	comp=Z,74nm,0.8s						
TREL	**Terrell**	**3.51**	**151**	Pn	Pn	04 24 24.2	+1.0
TREL				IAmb_Lg		04 25 24.9	
	comp=Z,70nm,0.9s						
SN07	**Snyder 07**	**3.59**	**221**	IAmb_Lg		04 25 25.7	
	comp=Z,51nm,0.8s						
Z38A	**Mt. Pleasant**	**3.63**	**134**		Pn	04 24 25.2	+0.4
SN05	**Snyder 5**	**3.75**	**219**	IAmb_Lg		04 25 32.2	
	comp=Z,124nm,0.9s						
RTBA	**Rita Blanca**	**3.81**	**280**		Pn	04 24 28.1	+0.6
MIAR	**Mount Ida**	**3.91**	**108**		Pn	04 24 29.7	+1.0
MIAR				IAmb_Lg		04 25 41.2	
	comp=Z,92nm,0.9s						
POST	**Post**	**3.95**	**227**	IAmb_Lg		04 25 39.4	
	comp=Z,85nm,0.8s						
POST	**Post**	**3.95**	**227**	P	Pn	04 24 30.3	+1.0
POST				P	Pb	04 24 30.4	-7.8
237A	**Washetta, Mont**	**4.27**	**153**		Pn	04 24 33.9	+0.2
237A				IAmb_Lg		04 25 53.1	
	comp=Z,46nm,0.8s						
MSTX	**Muleshoe**	**4.28**	**246**		Pn	04 24 34.3	+0.4
X40A	**Basin Creek Fa**	**4.51**	**106**	IAmb_Lg		04 25 52.8	
	comp=Z,78nm,0.8s						
BRDY	**Brady**	**4.60**	**190**	IAmb_Lg		04 25 58.5	
	comp=Z,39nm,1.0s						
WLAR	**White Oak Lake**	**4.62**	**116**	IAmb_Lg		04 26 01.5	
	comp=Z,61nm,0.7s						
SGCY	**Sterling City**	**4.66**	**214**	IAmb_Lg		04 26 07.3	
	comp=Z,80nm,0.8s						
SGCY	**Sterling City**	**4.66**	**214**	P	Pn	04 24 39.2	+0.1
WHAR	**Wooly Hollow**	**4.76**	**95**	IAmb_Lg		04 26 03.1	
	comp=Z,50nm,0.8s						
UALR	**University of**	**4.81**	**101**	IAmb_Lg		04 26 13.3	
	comp=Z,45nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.84**	**88**	IAmb_Lg		04 26 00.4	
	comp=Z,40nm,0.9s						
MGMO	**Mountain Grove**	**4.87**	**73**		Pn	04 24 42.2	+0.3
MGMO				IAmb_Lg		04 26 07.1	
	comp=Z,60nm,0.9s						
NATX	**Nacogdoches**	**4.97**	**144**	IAmb_Lg		04 26 13.6	
	comp=Z,44nm,1.1s						
435B	**Jarrell**	**5.06**	**175**	IAmb_Lg		04 26 13.9	
	comp=Z,65nm,1.1s						
Z41A	**Richland Creek**	**5.06**	**119**	IAmb_Lg		04 26 17.0	
	comp=Z,61nm,1.0s						
P38A	**Dawn**	**5.22**	**42**	IAmb_Lg		04 26 24.4	
	comp=Z,64nm,1.0s						
R40A	**Maddies Statio**	**5.26**	**61**		Pn	04 24 46.9	-0.2
R40A				IAmb_Lg		04 26 27.5	
	comp=Z,62nm,0.7s						
T25A	**Trinidad**	**5.26**	**286**		Pn	04 24 47.6	+0.2
T25A				IAmb_Lg		04 26 22.2	
	comp=Z,59nm,0.8s						
CCAR	**Cane Creek**	**5.53**	**108**	IAmb_Lg		04 26 36.1	
	comp=Z,83nm,1.0s						
JCT	**Junction City**	**5.53**	**196**	IAmb_Lg		04 26 34.2	
	comp=Z,81nm,0.9s						
BGNE	**Belgrade**	**5.56**	**359**		Pn	04 24 50.6	-0.8
LCAR	**Lake Charles**	**5.63**	**86**	IAmb_Lg		04 26 36.8	
	comp=Z,30nm,0.8s						
CCM	**Cathedral Cave**	**5.91**	**66**		Pn	04 24 56.2	+0.1
CCM	**Cathedral Cave**	**5.91**	**66**		Pn	04 24 55.8	-0.4
MNHN	**Monahans**	**5.95**	**222**	IAmb_Lg		04 26 43.5	
	comp=Z,28nm,0.7s						
OGNE	**Ogallala**	**5.97**	**330**	IAmb_Lg		04 26 53.1	
	comp=Z,69nm,0.8s						
HBAR	**Harrisburg**	**6.05**	**91**	IAmb_Lg		04 26 52.1	
	comp=Z,72nm,0.8s						
143A	**Socs Landing,**	**6.35**	**118**	IAmb_Lg		04 27 02.6	
	comp=Z,28nm,0.8s						
Q24A	**Divide**	**6.43**	**301**	IAmb_Lg		04 26 59.1	
	comp=Z,31nm,0.8s						
FVM	**French Village**	**6.50**	**68**	IAmb_Lg		04 26 54.6	
	comp=Z,64nm,1.1s						
PECS	**Pecos**	**6.57**	**229**	IAmb_Lg		04 26 57.4	
	comp=Z,27nm,0.9s						
EF04	**Eagle Ford 04**	**6.61**	**178**	IAmb_Lg		04 27 15.4	
	comp=Z,40nm,0.7s						
SAND	**Sanderson**	**6.78**	**211**	IAmb_Lg		04 27 04.0	
	comp=Z,48nm,1.0s						
PVMO	**Portageville**	**6.81**	**83**	IAmb_Lg		04 26 58.2	
	comp=Z,38nm,0.8s						
K30B	**Basset**	**6.93**	**351**		Pn	04 25 10.5	+0.2
K30B				IAmb_Lg		04 27 20.4	
	comp=Z,63nm,0.9s						
CGM3	**Cape Girardeau**	**6.94**	**75**	IAmb_Lg		04 27 17.1	
	comp=Z,30nm,0.8s						
735A	**Kenedy**	**6.97**	**178**	IAmb_Lg		04 27 21.1	
	comp=Z,32nm,0.8s						
ISCO	**Idaho Springs**	**7.15**	**306**	IAmb_Lg		04 27 18.8	
	comp=Z,42nm,1.3s						
ALPN	**Alpine**	**7.17**	**222**	IAmb_Lg		04 27 27.5	
	comp=Z,21nm,0.8s						
OXF	**Oxford**	**7.23**	**98**	IAmb_Lg		04 27 33.3	
	comp=Z,22nm,0.7s						
Y45A	**Yeager Farm, C**	**7.29**	**103**	IAmb_Lg		04 27 32.4	
	comp=Z,21nm,0.7s						
MNTX	**Cornudas Mount**	**7.34**	**238**		Pn	04 25 16.1	+0.2
MNTX				IAmb_Lg		04 27 36.3	
	comp=Z,22nm,0.8s						
Y22D	**IRIS PASSCAL I**	**7.47**	**259**	IAmb_Lg		04 27 45.3	
	comp=Z,40nm,1.0s						
833A	**Chaparral WMA,**	**7.57**	**189**	IAmb_Lg		04 27 40.3	
	comp=Z,22nm,0.8s						
ECSD	**EROS Data Cent**	**7.97**	**8**		Pn	04 25 22.1	-2.4
146A	**Union**	**8.13**	**111**	IAmb_Lg		04 27 59.6	
	comp=Z,26nm,1.2s						
SUSD	**Miller**	**8.62**	**356**	IAmb_Lg		04 28 22.8	
	comp=Z,21nm,0.7s						
I37A	**Lemond, Waseca**	**8.92**	**22**	IAmb_Lg		04 28 17.7	
	comp=Z,34nm,0.9s						
RSSD	**Black Hills**	**9.45**	**333**	IAmb_Lg		04 28 46.0	
	comp=Z,24nm,1.1s						
I40A	**Norwalk**	**9.88**	**33**	IAmb_Lg		04 28 53.8	
	comp=Z,33nm,1.0s						

*NEIC **27** 04:25:02.0±1.5,18°.42N±0°.06×68°.73W±0°.01,h10km±1km,*
ML3.0/28,Md3.3/16(RSPR),Error ellipse: s-maj=10.3km
s-min=2.9km az=351.0
*SDD **27** 04:25:02.9±2.3,18°.43N×68°.65W,h15km±13km,MD3.6,*
ML3.4,MW3.6
*RSPR **27** 04:25:02.9,18°.68N×68°.81W,h101km±3km,MD3.3/16*
*OSPL **27** 04:25:04.6±4.2,18°.10N×68°.65W,h0km±33km,ML2.8*

ISC 27 04:25:02.7±0.9,18°.45N±0°.03×68°.66W±0°.02,h17km±7km,
n68,σ1§21/86,32C-6D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HIDR	**Higuey Centro**	**0.15**	**340**	⇑*e*Pg	**Pg**	**04 25 07.1**	**+0.3**
HIDR				IAML		04 25 10.8	
	comp=N,10µm,0.2s						
HIDR				⇓*e*Sg	**Sb**	**04 25 10.9**	**+0.9**
SADR	**Isla Saona**	**0.28**	**203**	⇑*e*Pg	**Pg**	**04 25 08.1**	**-0.7**
SADR				⇓*e*Sg	**Sg**	**04 25 13.0**	**0.0**
SADR				IAML		04 25 14.8	
	comp=N,8µm,0.4s						
MIDR	**Miches**	**0.64**	**326**	⇓*e*Pg	**Pg**	**04 25 14.5**	**-0.9**
MIDR				⇑*e*Sg	**Sg**	**04 25 22.9**	**-1.1**
MIDR				IAML		04 25 24.3	
	comp=N,1µm,0.3s						
SMDR	**Samana, DR**	**0.97**	**329**	⇑*e*P	**Pb**	**04 25 20.2**	**-0.8**
SMDR	**Samana, DR**	**0.97**	**329**	*e*S	**Sb**	**04 25 33.4**	**-0.3**
SDD	**Santo Domingo**	**1.19**	**271**	Pn	**Pn**	**04 25 23.0**	**-1.5**
SDD				Sn	**Sb**	**04 25 39.6**	**-0.2**
SDD	**Santo Domingo**	**1.19**	**271**	⇓*e*P	**Pn**	**04 25 23.8**	**-0.7**
SDD	**Santo Domingo**	**1.19**	**271**	*e*S	**Sb**	**04 25 40.2**	**+0.4**
SDD	**Santo Domingo**	**1.19**	**271**	⇓*e*Pg	**Pn**	**04 25 23.0**	**-1.5**
SDD				⇑*e*Sg	**Sb**	**04 25 40.0**	**+0.2**
SDD				IAML		04 25 42.1	
	comp=N,37nm,0.7s						
SDD	**Santo Domingo**	**1.19**	**271**	*i* P	**Pn**	**04 25 24.5**	**0.0**
DR08	**Loma La Naviza**	**1.38**	**292**	⇑*e*Pg	**Pn**	**04 25 26.1**	**-1.3**
DR08				⇓*e*Sg	**Sn**	**04 25 45.0**	**-0.3**
DR08				IAML		04 25 48.9	
	comp=N,7µm,0.1s						
NADR	**Nagua**	**1.44**	**309**	⇑*e*Pg	**Pn**	**04 25 28.1**	**0.0**
NADR				⇓*e*Sg	**Sn**	**04 25 47.2**	**+0.6**
NADR				IAML		04 25 58.5	
	comp=N,782nm,0.3s						
PRSN	**Puerto Rico Se**	**1.46**	**99**		**Pn**	**04 25 28.3**	**0.0**
PRSN					**Sn**	**04 25 47.3**	**+0.2**
PRSN				IAML		04 26 05.7	
	comp=E,310nm,0.3s						
PRSN	**Puerto Rico Se**	**1.46**	**99**	⇑*e*P	**Pg**	**04 25 30.9**	**+0.1**

AGPR	**Aguadilla, PR**	**1.47**	**89**		Pn	**Pn**	**04 25 27.7**	**-0.8**
AGPR					IAML		04 25 53.0	
	comp=E,125nm,0.7s							
AGPR					IAML		04 25 57.0	
	comp=N,119nm,0.4s							
AGPR	**Aguadilla, PR**	**1.47**	**89**	⇑*e*P		**Pb**	**04 25 29.4**	**-0.2**
AGPR	**Aguadilla, PR**	**1.47**	**89**	*i* P		**Pn**	**04 25 27.9**	**-0.6**
AGPR					IAML		04 25 57.7	
	comp=Z,77nm,0.3s							
CRPR	**Cabo Rojo, PR**	**1.54**	**106**			**Pn**	**04 25 29.7**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.54**	**106**			**Sg**	**04 25 54.4**	**+1.9**
CRPR	**Cabo Rojo, PR**	**1.54**	**106**	*e*S		**Sg**	**04 25 54.4**	**+1.9**
CRPR	**Cabo Rojo, PR**	**1.54**	**106**	*i* P		**Pb**	**04 25 30.3**	**-0.5**
CRPR				*e*S		**Sb**	**04 25 50.1**	**0.0**
CRPR					IAML		04 26 01.3	
	comp=Z,143nm,0.6s							
BANI	**BANI**	**1.61**	**268**	Pn		**Pn**	**04 25 29.6**	**-0.9**
BANI	**BANI**	**1.61**	**268**	⇑*e*Pg		**Pn**	**04 25 30.5**	**+0.1**
BANI				⇑*e*Sg		**Sn**	**04 25 50.9**	**0.0**
BANI					IAML		04 25 55.6	
	comp=N,256nm,0.1s							
MLPR	**Magueyes Islan**	**1.61**	**107**	⇑*e*P		**Pb**	**04 25 32.0**	**0.0**
MLPR	**Magueyes Islan**	**1.61**	**107**	*e*S		**Sg**	**04 25 56.0**	**+1.2**
AOPR	**Arecibo Observ**	**1.82**	**93**			**Pn**	**04 25 33.4**	**+0.2**
AOPR	**Arecibo Observ**	**1.82**	**93**	⇑*e*P		**Pn**	**04 25 34.1**	**+0.9**
UUPR	**Utuado, UPR, P**	**1.86**	**96**			**Pn**	**04 25 34.1**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.86**	**96**	⇑*e*P		**Pn**	**04 25 34.6**	**+0.9**
ABDR	**Alto Bandera**	**1.90**	**281**	⇑*e*Pg		**Pn**	**04 25 36.1**	**+1.5**
ABDR				⇑*e*Sg		**Sb**	**04 26 01.1**	**+0.5**
ABDR					IAML		04 26 06.5	
	comp=N,248nm,0.7s							
OBIP	**Obispado Ponce**	**2.00**	**101**			**Pn**	**04 25 36.5**	**+0.8**
OBIP	**Obispado Ponce**	**2.00**	**101**			**Sb**	**04 26 04.7**	**+1.5**
OBIP	**Obispado Ponce**	**2.00**	**101**	⇑*e*P		**Pb**	**04 25 37.4**	**-1.1**
OBIP	**Obispado Ponce**	**2.00**	**101**	*e*S		**Sb**	**04 26 04.7**	**+1.5**
CELP	**Cerrillos**	**2.02**	**100**			**Pn**	**04 25 36.6**	**+0.6**
CELP					IAML		04 26 11.9	
	comp=N,86nm,0.4s							
CELP					IAML		04 26 13.7	
	comp=E,84nm,0.7s							
CELP	**Cerrillos**	**2.02**	**100**	⇑*e*P		**Pn**	**04 25 37.6**	**+1.6**
EMPR	**Esperanza - Ma**	**2.03**	**89**	Pn		**Pn**	**04 25 37.4**	**+1.3**
EMPR	**Esperanza - Ma**	**2.03**	**89**			**Sb**	**04 26 03.8**	**-0.3**
EMPR	**Esperanza - Ma**	**2.03**	**89**	⇑*e*P		**Pn**	**04 25 37.4**	**+1.3**
EMPR	**Esperanza - Ma**	**2.03**	**89**	*e*S		**Sb**	**04 26 03.8**	**-0.3**
SC01	**Santiago de Io**	**2.18**	**297**			**Pn**	**04 25 38.6**	**+0.4**
SC01					IAML		04 26 14.5	
	comp=N,199nm,0.5s							
SC01					IAML		04 26 15.2	
	comp=E,182nm,0.5s							
SC01	**Santiago de Io**	**2.18**	**297**	⇑*e*Pg		**Pb**	**04 25 41.8**	**+0.1**
SC01				⇑*e*Sg		**Sb**	**04 26 09.6**	**+1.1**
SC01					IAML		04 26 14.3	
	comp=N,179nm,0.5s							
SC01	**Santiago de Io**	**2.18**	**297**	*i* P		**Pb**	**04 25 42.0**	**+0.3**
SC01				*e*S		**Sg**	**04 26 13.1**	**+0.2**
SC01					IAML		04 26 30.9	
	comp=Z,86nm,0.6s							
ECPR	**Experimental S**	**2.19**	**93**	⇑*e*P		**Pn**	**04 25 39.4**	**+1.0**
ECPR	**Experimental S**	**2.19**	**93**	*e*S		**Sb**	**04 26 09.3**	**+0.5**
SODR	**Sosua Marina B**	**2.22**	**306**	⇑*e*Pg		**Pb**	**04 25 42.8**	**+0.3**
SODR				⇑*e*Sg		**Sb**	**04 26 09.3**	**-0.4**
SODR					IAML		04 26 42.5	
	comp=N,230nm,0.8s							
SJG	**San Juan**	**2.41**	**98**			**Pn**	**04 25 42.5**	**+1.1**
SJG					IAML		04 26 16.7	
	comp=N,110nm,0.6s							
SJG					IAML		04 26 17.4	
	comp=N,70nm,0.5s							
SJG	**San Juan**	**2.41**	**98**	⇑*e*P		**Pn**	**04 25 43.2**	**+1.8**
SJG	**San Juan**	**2.41**	**98**	*i* P		**Pn**	**04 25 43.3**	**+1.9**
SJG				*e*S		**Sb**	**04 26 13.4**	**-1.7**
SJG					IAML		04 26 22.1	
	comp=Z,32nm,0.7s							
GCPR	**Guaynabo City**	**2.46**	**93**	Pn		**Pn**	**04 25 43.9**	**+1.9**
GCPR					IAML		04 26 17.5	
	comp=E,45nm,0.4s							
GCPR					IAML		04 26 24.1	
	comp=N,57nm,0.8s							
GCPR	**Guaynabo City**	**2.46**	**93**			**Sb**	**04 26 15.1**	**-1.3**
GCPR	**Guaynabo City**	**2.46**	**93**	⇑*e*P		**Pn**	**04 25 43.8**	**+1.8**
GCPR	**Guaynabo City**	**2.46**	**93**	*e*S		**Sb**	**04 26 15.1**	**-1.3**
IGPR	**InterUniversit**	**2.48**	**101**			**Pb**	**04 25 44.8**	**-2.0**
IGPR						**Sb**	**04 26 16.4**	**-0.6**
IGPR	**InterUniversit**	**2.48**	**101**	⇑*e*P		**Pb**	**04 25 44.8**	**-2.0**
IGPR	**InterUniversit**	**2.48**	**101**	*e*S		**Sb**	**04 26 16.4**	**-0.6**
SDDR	**Presa de Saban**	**2.54**	**282**	*i* P		**Pb**	**04 25 47.8**	**-0.1**
SDDR				*e*S		**Sb**	**04 26 19.6**	**+0.6**
SDDR					IAML		04 26 26.0	
	comp=Z,46nm,0.4s							
PDPR	**Patillas Dam,**	**2.55**	**99**			**Pn**	**04 25 44.6**	**+1.3**
PDPR					IAML		04 26 20.1	
	comp=N,43nm,0.7s							
PDPR	**

CASY				IAmb	IAmb	04 40 10.6
	comp=Z,3.9nm,0.7s					
QSPA	**South Pole Qui**	**58.77**	**180**	P	**P**	**04 39 58.2 +2.3**
QSPA				IAmb	IAmb	04 39 59.4
	comp=Z,4.6nm,0.9s					
QSPA	**South Pole Qui**	**58.77**	**180**	P	**P**	**04 39 56.4 +0.4**
	comp=Z,3.6nm,0.9s,baz=31,slow=2.7,SNR=11					
	comp=Z,3.6nm,0.9s					
TROLL	**Troll, Antarti**	**76.93**	**180**	⇑P	**P**	**04 41 51.1 +0.9**
	comp=Z,228nm,0.9s					
SNAA	**Sanae**	**77.20**	**178**	⇑P	**P**	**04 41 52.0 +0.4**
	comp=Z,39nm,0.7s					
SNAA	**Sanae**	**77.20**	**178**	P	**P**	**04 41 51.8 +0.1**
SNAA				IAmb	IAmb	04 42 05.6
	comp=Z,4.3nm,1.2s					
SNAA	**Sanae**	**77.20**	**178**	P	**P**	**04 41 52.1 +0.4**
	comp=Z,1.8nm,0.8s,baz=176,slow=15,SNR=8.3					
	comp=Z,1.8nm,0.8s					
VNA3	**Neumayer Olymp**	**77.33**	**176**	⇑P	**P**	**04 41 52.6 +0.3**
	comp=Z,9.1nm,0.8s					
VNA1	**Neumayer--Stat**	**78.00**	**176**	⇑P	**P**	**04 41 55.7 -0.2**
	comp=Z,4.2nm,0.9s					
H03S2	**Juan Fernandez**	**79.57**	**123**	T	T	06 09 23.8
	baz=238					
H03S1	**Juan Fernandez**	**79.58**	**123**	T	T	06 09 26.7
	baz=238					
H03S3	**Juan Fernandez**	**79.59**	**123**	T	T	06 09 30.8
	baz=238					
KSRS	**Korea Array**	**85.36**	**319**	P	**P**	**04 42 35.2 +0.1**
	comp=Z,0.4nm,0.4s,baz=156,slow=6.3,SNR=2.4					
	comp=Z,0.4nm,0.4s					
NVAR	**Mina Array Bea**	**88.63**	**42**	P	**P**	**04 42 51.8 +0.5**
	comp=Z,1.1nm,0.8s,baz=248,slow=6.0,SNR=6.7					
	comp=Z,1.1nm,0.8s					
TXAR	**Lajitas Array**	**92.52**	**57**	P	**P**	**04 43 10.0 +0.5**
	comp=Z,0.1nm,0.5s,baz=246,slow=10,SNR=2.2					
	comp=Z,0.1nm,0.5s					
ANMO	**Albuquerque**	**93.81**	**51**	LR	LR	05 20 01.6
	comp=Z,23nm,19.3s,baz=114,slow=32					
PDAR	**Pinedale Array**	**96.51**	**43**	P	**P**	**04 43 27.2 -0.5**
	comp=Z,0.2nm,0.7s,baz=284,slow=6.7,SNR=2.5					
	comp=Z,0.2nm,0.7s					
KURBB	**Kurchatov Arra**	**122.06**	**313**	PKP	**PKPdf**	**04 48 50.4 -1.9**
	comp=Z,0.8nm,0.8s,baz=105,slow=1.9,SNR=7.8					
BVAR	**Borovoye Array**	**127.39**	**315**	PKP	**PKPdf**	**04 49 02.1 -0.3**
	comp=Z,0.6nm,0.4s,baz=64,slow=3.4,SNR=2.8					
FIA1	**FINESS Array S**	**146.18**	**340**		**PKPdf**	**04 49 37.2 +0.6**
FINES	**FINESS Array B**	**146.19**	**340**	PKPdf	**PKPdf**	**04 49 37.1 +0.5**
FINES	**FINESS Array B**	**146.19**	**340**	PKPbc	**PKPdf**	**04 49 37.3 +0.6**
	comp=Z,4.6nm,0.7s,baz=46,slow=4.4,SNR=25					
NB2	**NORSAR Subarra**	**149.75**	**352**	PKP	**PKPbc**	**04 49 46.1 -1.3**
	comp=Z,1.0nm,0.7s,baz=14,slow=4.3					
NOA	**NORSAR Array B**	**149.75**	**352**	PKPbc	**PKPdf**	**04 49 45.6 +2.9**
	comp=Z,1.2nm,0.9s,baz=15,slow=2.9,SNR=7.4					
HFS	**Hagfors**	**150.26**	**349**	PKPbc	**PKPbc**	**04 49 47.9 -0.7**
	comp=Z,2.8nm,0.8s,baz=12,slow=2.1,SNR=7.5					
MMAI	**Mount Meron Ar**	**152.18**	**282**	PKPbc	**PKiKP**	**04 49 55.6 +1.2**
	comp=Z,0.5nm,0.3s,baz=132,slow=2.1,SNR=4.6					
AKASG	**Malin Array Be**	**152.32**	**322**	PKPbc	**PKPbc**	**04 49 53.2 -0.4**
	comp=Z,1.1nm,0.7s,baz=52,slow=3.0,SNR=6.5					
AKASG				PKPab	**PKPab**	**04 50 02.9 -0.7**
	comp=Z,1.0nm,0.6s,baz=51,slow=4.6,SNR=5.9					
BRTR	**Keskin Array B**	**153.44**	**297**	PKPbc	**PKPbc**	**04 49 54.4 -2.2**
	comp=Z,0.7nm,0.9s,baz=119,slow=1.8,SNR=3.0					
BRTR				PKPab	**PKPab**	**04 50 06.7 -2.3**
	comp=Z,0.8nm,0.8s,baz=108,slow=4.7,SNR=4.1					
BURAR	**Bucovina Array**	**156.24**	**320**	PKPab	**PKPab**	**04 50 21.3 +0.8**
TORD	**Torodi Ar. Bea**	**161.87**	**177**	PKPab	**PKPab**	**04 50 46.4 +0.9**
TORD	**Torodi Ar. Bea**	**161.87**	**177**	PKPab	**PKPab**	**04 50 45.6 +0.1**
	comp=Z,0.5nm,0.7s,baz=168,slow=1.9,SNR=1.8					

*SOME **27** 04:39:34.9, 42°.37N × 78°.35E, h10km*
*NNC **27** 04:39:35.7±0.9, 42°.48N × 78°.38E, h0km, mb2.8, mpv2.8,*
Error ellipse: s-maj=7.6km s-min=2.6km az=174.0
*KRNET **27** 04:39:35.2±0.1, 42°.37N × 78°.37E, h18km, mb2.5*

ISC 27 04:39:34.4±1.1, 42°.37N±0°.04 × 78°.37E±0°.04, h16km±7km, n24, σ0°.76/45, 9C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
PRZ	**Przheval'sk**	**0.11**	**13**	⇑*i*P		**Pg**	**04 39 38.3**	**+0.1**
PRZ				⇑*i*S		**Sg**	**04 39 40.5**	**-0.2**
SATY	**Saty**	**0.69**	**2**	P		**Pg**	**04 39 47.3**	**-0.6**
	4.2nm,0.1s							
SATY				S		**Sg**	**04 39 56.4**	**-0.6**
	19nm,0.1s							
TARG	**Taragay, Kyrgy**	**0.77**	**213**	⇑*i*P		**Pb**	**04 39 49.9**	**+0.3**
TARG				⇑*i*S		**Sb**	**04 40 00.6**	**+0.6**
KDJ	**Kajisay**	**0.91**	**255**	⇓*i*P		**Pn**	**04 39 52.6**	**-0.2**
KDJ				⇓*i*S		**Sn**	**04 40 05.1**	**-0.6**
TNSS	**Tian-Shan**	**1.24**	**303**	P		**Pn**	**04 39 57.5**	**0.0**
	0.6nm,0.2s							
TNSS				S		**Sb**	**04 40 13.8**	**+0.2**
	2.3nm,0.1s							
TNSS	**Tian-Shan**	**1.24**	**303**	*e*P		**Pn**	**04 39 57.5**	**0.0**
TNSS				*e*S		**Sb**	**04 40 13.8**	**+0.2**
	2.3nm,0.1s							
KOTS	**Kotyrbulak**	**1.26**	**313**	P		**Pb**	**04 39 57.9**	**-0.1**
	4.2nm,0.2s							
KOTS				S		**Sb**	**04 40 14.2**	**+0.2**
	19nm,0.2s							
KOTS	**Kotyrbulak**	**1.26**	**313**	*e*P		**Pb**	**04 39 57.9**	**-0.1**
	4.2nm,0.2s							
KOTS				*e*S		**Sb**	**04 40 14.2**	**+0.2**
	19nm,0.2s							
PDGK	**Podgornoye**	**1.26**	**40**	⇑P		**Pg**	**04 39 58.7**	**-0.1**
	0.6nm,0.4s							
PDGK				⇑S		**Sb**	**04 40 13.3**	**-0.8**
	2.5nm,0.6s							
KNDC	**Almaty**	**1.33**	**310**	⇑P		**Pg**	**04 39 59.6**	**-0.5**
	38nm,0.5s							
KNDC				⇓S		**Sg**	**04 40 17.2**	**-0.2**
	27nm,0.6s							
IZV	**Izvestkoviy**	**1.45**	**298**	*e*P		**Pg**	**04 40 01.9**	**-0.4**
	1.9nm,0.1s							
IZV				*e*S		**Sg**	**04 40 21.0**	**-0.3**
	8.5nm,0.1s							
ULHL	**Ulahol**	**1.58**	**266**	⇓*i*P		**Pg**	**04 40 04.5**	**-0.3**
ULHL				⇓*i*S		**Sg**	**04 40 25.9**	**+0.5**
CHKK	**Chushkaly**	**1.79**	**326**	P		**Pb**	**04 40 07.4**	**+0.6**
	9.7nm,0.4s							
CHKK				S		**Sb**	**04 40 30.6**	**+1.5**
	14nm,0.3s							
CHKK	**Chushkaly**	**1.79**	**326**	*e*P		**Pb**	**04 40 07.4**	**+0.6**
	9.7nm,0.4s							
CHKK				*e*S		**Sb**	**04 40 30.6**	**+1.5**
	14nm,0.3s							
BOOM	**Boomskoye usch**	**1.80**	**275**	⇓*e*P		**Pb**	**04 40 07.9**	**+0.8**
BOOM				⇓*e*S		**Sg**	**04 40 32.3**	**-0.1**
KTBS	**Karatobe**	**1.82**	**318**	P		**Pb**	**04 40 08.2**	**+0.8**
	1.2nm,0.2s							
KTBS				S		**Sg**	**04 40 31.9**	**-1.1**
	8.0nm,0.2s							
ARXS	**Arharly**	**1.88**	**348**	P		**Pb**	**04 40 08.8**	**+0.3**
	3.7nm,0.2s							
ARXS				S		**Sb**	**04 40 32.8**	**+1.1**
	5.0nm,0.2s							
ARXS	**Arharly**	**1.88**	**348**	*e*P		**Pb**	**04 40 08.8**	**+0.3**
ARXS				*e*S		**Sb**	**04 40 32.9**	**+1.1**
KST	**Kastek**	**1.89**	**292**	P		**Pb**	**04 40 09.6**	**+0.9**
	1.7nm,0.2s							
KST				S		**Sg**	**04 40 34.2**	**-1.1**
	6.8nm,0.5s							
KST	**Kastek**	**1.89**	**292**	*e*P		**Pb**	**04 40 09.6**	**+0.9**
	1.7nm,0.1s							
KST				*e*S		**Sg**	**04 40 34.2**	**-1.1**
	5.8nm,0.2s							
KNOS	**Konyrlen**	**2.07**	**16**	Pg		**Pb**	**04 40 12.1**	**+0.4**
	2.5nm,0.2s							
KNOS				Lg		Lg	04 40 39.2	
	4.3nm,0.1s							
DGS	**Degeres**	**2.10**	**295**	Pg		**Pb**	**04 40 13.1**	**+1.0**
DGS				Lg		Lg	04 40 40.3	
TKM2	**Tokmak 2**	**2.12**	**286**	⇑*i*P		**Pb**	**04 40 12.8**	**+0.3**
TKM2				⇑*i*S		**Sg**	**04 40 40.5**	**-2.0**
KRBS	**Karabastau**	**2.38**	**305**	Pg		**Pb**	**04 40 17.7**	**+0.9**
	0.3nm,0.1s							
KRBS				Lg		Lg	04 40 48.2	
	10.0nm,0.5s							

*SNET **27** 04:53:35.3±2.0, 12°.72N × 87°.92W, h53km, ML3.2*
*CATAC **27** 04:53:35.2±0.3, 13°.2°.8°8W±°, h38km±4km, M3.3/25,*
MLv3.3/25, Error ellipse: s-maj=5.3km s-min=2.2km
az=28.0, confirmed

ISC 27 04:53:34.8±1.3, 12°.64N±0°.06 × 87°.95W±0°.03, h62km±12km, n61, σ0°.41/78, 2C-8D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
CSGN	**Cosiguina Volc**	**0.51**	**48**	⇓P		**Pn**	**04 53 46.7**	**-0.3**
CSGN				S		**Sn**	**04 53 55.7**	**-0.3**
POTN	**Potosi Cosigui**	**0.56**	**50**	P		**Pn**	**04 53 47.5**	**-0.1**
POTN				S		**Sn**	**04 53 57.0**	**+0.2**
CNCH	**Conchagua**	**0.64**	**10**	*e*P		**Pn**	**04 53 48.4**	**-0.2**
CNCH				*e*S		**Sn**	**04 53 59.6**	**+0.9**
CNCH	**Conchagua**	**0.64**	**10**	S		**Sn**	**04 53 58.7**	**0.0**
CNCH	**Conchagua**	**0.64**	**10**	⇓P		**Pn**	**04 53 48.5**	**-0.1**
LCND	**La Caada**	**0.67**	**5**	*e*P		**Pn**	**04 53 48.6**	**-0.2**
LCND				*e*S		**Sn**	**04 53 59.7**	**+0.6**
LCND	**La Caada**	**0.67**	**5**	⇓P		**Pn**	**04 53 48.7**	**-0.2**
VSM	**San Miguel**	**0.85**	**338**	*e*P		**Pn**	**04 53 51.3**	**+0.1**
VSM				*e*S		**Sn**	**04 54 03.6**	**+0.3**
BLLM	**Bellamira**	**0.85**	**340**	*e*P		**Pn**	**04 53 50.7**	**-0.3**
BLLM				*e*S		**Sn**	**04 54 02.7**	**-0.3**
LCY	**Lacayo**	**0.85**	**337**	*e*P		**Pn**	**04 53 50.9**	**-0.3**
LCY				*e*S		**Sn**	**04 54 02.7**	**-0.5**
CRIN	**San Cristobal**	**0.88**	**86**	P		**Pn**	**04 53 52.3**	**+0.9**
PACA	**Pacayal**	**0.90**	**336**	*e*P		**Pn**	**04 53 51.7**	**-0.2**
PACA				*e*S		**Sn**	**04 54 04.0**	**-0.4**
PACA	**Pacayal**	**0.90**	**336**	S		**Sn**	**04 54 04.2**	**-0.1**
PACA	**Pacayal**	**0.90**	**336**	⇑P		**Pn**	**04 53 51.7**	**-0.2**
ALJI	**Alcalda de J**	**0.92**	**318**	*e*P		**Pn**	**04 53 52.1**	**+0.2**
ALJI				*e*S		**Sn**	**04 54 04.8**	**+0.4**
ALJI	**Alcalda de J**	**0.92**	**318**	P		**Pn**	**04 53 52.7**	**+0.8**
TECA	**Tecapa**	**1.01**	**328**	*e*P		**Pn**	**04 53 53.1**	**-0.1**
POLN	**Al Sur del Vol**	**1.11**	**89**	⇓P		**Pn**	**04 53 54.4**	**+0.1**
POLN				S		**Sn**	**04 54 08.5**	**-0.3**
CHOHN	**Orocuina**	**1.14**	**42**	S		**Sn**	**04 54 09.3**	**-0.4**
CHOHN	**Orocuina**	**1.14**	**42**	⇓P		**Pn**	**04 53 54.5**	**-0.3**
PLRN	**Geotermica Pol**	**1.15**	**93**	P		**Pn**	**04 53 54.1**	**-0.7**
ROCN	**Rota Cerro Neg**	**1.18**	**96**	P		**Pn**	**04 53 54.7**	**-0.6**
TECO	**Alcaldia de Te**	**1.21**	**318**	*e*P		**Pn**	**04 53 54.7**	**-0.9**
TECO	**Alcaldia de Te**	**1.21**	**318**	P		**Pn**	**04 53 55.4**	**-0.3**
CNGA	**Al SSO del Vol**	**1.22**	**97**	P		**Pn**	**04 53 56.2**	**+0.3**
CNGN	**Cerro Negro**	**1.23**	**96**	P		**Pn**	**04 53 55.9**	**0.0**
CNGN	**Cerro Negro**	**1.23**	**96**	S		**Sn**	**04 54 11.4**	**-0.3**
UESV	**Universidad de**	**1.29**	**321**	S		**Sn**	**04 54 13.3**	**+0.1**
UESV	**Universidad de**	**1.29**	**321**	P		**Pn**	**04 53 56.8**	**0.0**
SCLA	**Alcaldia de Sa**	**1.30**	**324**	*e*P		**Pn**	**04 53 56.6**	**-0.4**
SCLA				*e*S		**Sn**	**04 54 14.1**	**+0.6**
SCLA	**Alcaldia de Sa**	**1.30**	**324**	P		**Pn**	**04 53 57.4**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.30**	**324**	S		**Sn**	**04 54 14.0**	**+0.4**
MOMN	**Momotombo**	**1.39**	**99**	P		**Pn**	**04 53 58.3**	**+0.1**
COPN	**Copaltepe**	**1.40**	**109**	P		**Pn**	**04 53 58.3**	**+0.1**
PAVA	**Las Pavas**	**1.44**	**318**	P		**Pn**	**04 53 58.5**	**-0.3**
PAVA	**Las Pavas**	**1.44**	**318**	S		**Sn**	**04 54 17.0**	**+0.1**
MOM2	**El Cardon**	**1.44**	**98**	P		**Pn**	**04 53 59.1**	**+0.4**
LFRS	**El Faro**	**1.46**	**312**	*e*P		**Pn**	**04 53 59.0**	**-0.2**
LFRS				*e*S		**Sn**	**04 54 16.7**	**-0.7**
MARCA	**Marcala la Paz**	**1.51**	**357**	P		**Pn**	**04 54 00.0**	**+0.2**
MARCA	**Marcala la Paz**	**1.51**	**357**	S		**Sn**	**04 54 18.5**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.56**	**25**	⇓P		**Pn**	**04 54 00.7**	**+0.3**
TGUH				S		**Sn**	**04 54 20.0**	**+0.3**
LOMA	**Loma Larga**	**1.56**	**310**	*e*P		**Pn**	**04 53 59.6**	**-0.9**
LOMA	**Loma Larga**	**1.56**	**310**	S		**Sn**	**04 54 19.6**	**-0.1**
LOMA	**Loma Larga**	**1.56**	**310**	P		**Pn**	**04 54 00.6**	**+0.1**
SAPS	**Ciudad Sandino**	**1.58**	**107**	P		**Pn**	**04 54 00.7**	**+0.1**
SAPS	**Ciudad Sandino**	**1.58**	**107**	S		**Sn**	**04 54 19.8**	**-0.2**
APQ3	**Volcan Apoyequ**	**1.58**	**103**	P		**Pn**	**04 54 00.5**	**-0.1**
APQ3				S		**Sn**	**04 54 20.4**	**+0.3**
LALI	**Alcalda de L**	**1.58**	**302**	P		**Pn**	**04 54 01.1**	**+0.5**
YUSH	**Yuscaran**	**1.69**	**39**	S		**Sn**	**04 54 23.0**	**0.0**
YUSH	**Yuscaran**	**1.69**	**39**	⇓P		**Pn**	**04 54 02.5**	**+0.3**
PMON	**Piamonte**	**1.71**	**309**	*e*P		**Pn**	**04 54 02.5**	**+0.1**
PMON				*e*S		**Sn**	**04 54 23.2**	**-0.1**
PMON	**Piamonte**	**1.71**	**309**	P		**Pn**	**04 54 02.6**	**+0.2**
UNAN	**Cigeo UNAN**	**1.72**	**108**	P		**Pn**	**04 54 02.4**	**+0.1**
UNAN				S		**Sn**	**04 54 23.9**	**+0.4**
JAYA	**Jayaque - finc**	**1.78**	**305**	*e*P		**Pn**	**04 54 03.2**	**-0.2**
JAYA				*e*S		**Sn**	**04 54 24.4**	**-0.8**
JAYA	**Jayaque - finc**	**1.78**	**305**	S		**Sn**	**04 54 25.4**	**+0.2**
JAYA	**Jayaque - finc**	**1.78**	**305**	P		**Pn**	**04 54 03.3**	**-0.2**
RCVN	**Varillal2**	**1.95**	**61**	P		**Pn**	**04 54 06.4**	**+0.7**
MATN	**Matagalpa**	**1.99**	**81**	⇓P		**Pn**	**04 54 05.4**	**-0.9**
RCPN	**Sur Rio San Ju**	**2.01**	**64**	⇑P		**Pn**	**04 54 06.2**	**-0.3**
NUBE	**Las Nubes**	**2.18**	**305**	P		**Pn**	**04 54 09.5**	**+0.6**
BOAB	**BOACO BROADBAN**	**2.23**	**95**	P		**Pn**	**04 54 09.5**	**0.0**

*IDC **27** 05:01:28.6±1.2, 20°.58N × 122°.07E, h0km, mb3.5/8,*
mbtmp3.5/9, ML3.5/1, MS3.2/4, Error ellipse: s-maj=44.5km
s-min=20.4km az=66.0

ISC 27 05:01:34.1±1.1, 20°.6N±0°.1 × 122°.1E±0°.2, h40km, n18, σ1°.50/9, mb3.3/8, MS3.0/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
JNU	**Nakatsue**	**14.73**	**30**	LR		LR	05 10 27.7	
	comp=Z,76nm,20.9s,baz=196,slow=37							
KSRS	**Korea Array**	**17.54**	**16**	P		**Pn**	**05 05 35.2**	**-0.4**
	0.2nm,0.3s,baz=202,slow=13,SNR=4.9							
	0.9nm,0.7s							
CMAR	**Jiang Mai Arr**	**21.90**	**268**	P		**P**	**05 06 23.8**	**-0.2**
	0.3nm,0.3s,baz=82,slow=10,SNR=1.4							
CMAR				LR		LR	05 14 54.1	
	comp=Z,50nm,18.7s,baz=305,slow=37							
	0.3nm,0.3s							
GUMO	**Guam**	**22.86**	**104**	LR		LR	05 15 15.4	
	comp=Z,33nm,19.1s,baz=264,slow=36							
MKAR	**Makanchi Array**	**41.51**	**318**	P		**P**	**05 09 16.7**	**-0.8**
	0.2nm,0.4s,baz=113,slow=10.0,SNR=4.7							
	0.2nm,0.4s							
H11N1	**WAKE ISLAND Hy**	**41.98**	**83**	T		T	05 54 34.9	
	baz=279,slow=75,SNR=79							
H11N2	**WAKE ISLAND Hy**	**41.98**	**83**	T		T	05 54 16.7	
	baz=279,slow=75,SNR=82							
H11N3	**WAKE ISLAND Hy**	**42.00**	**83**	T		T	05 54 33.8	
	baz=279,slow=75,SNR=106							
H11S3	**WAKE ISLAND Hy**	**42.00**	**85**	T		T	05 54 19.8	
	baz=280,slow=74,SNR=267							
H11S1	**WAKE ISLAND Hy**	**42.01**	**85**	T		T	05 54 16.2	
	baz=280,slow=74,SNR=223							
H11S2	**WAKE ISLAND Hy**	**42.02**	**85**	T		T	05 54 16.9	
	baz=280,slow=74,SNR=312							
WRA	**Warramunga Arr**	**42.05**	**163**	P		**P**	**05 09 20.5**	**-1.6**
	0.5nm,0.9s,baz=343,slow=8.3,SNR=4.8							
	0.5nm,0.9s							
ZALV	**Zalesovo Beam**	**43.70**	**329**	P		**P**	**05 09 36.4**	**+1.3**
	0.9nm,0.5s,baz=123,slow=7.1,SNR=3.5							
	0.9nm,0.5s							
AAK	**Ala-Archa**	**45.38**	**310**	LR		LR	05 32 00.6	
	comp=Z,58nm,18.9s,baz=90,slow=40							
KURBB	**Kurchatov Arra**	**45.39**	**322**	P		**P**	**05 09 47.9**	**-0.8**
	1.1nm,0.7s,baz=120,slow=7.6,SNR=7.0							
	1.1nm,0.7s							
ASAR	**Alice Springs**	**45.49**	**165**	P		**P**	**05 09 51.5**	**+1.8**
	0.2nm,0.4s,baz=342,slow=9.2,SNR=2.0							
	0.2nm,0.4s							
BVAR	**Borovoye Array**	**50.98**	**322**	P		**P**	**05 10 33.8**	**+2.1**
	0.5nm,0.5s,baz=107,slow=12,SNR=1.6							
	0.5nm,0.5s							
NOA	**NORSAR Array B**	**81.76**	**333**	P		**P**	**05 13 48.0**	**-0.6**
	0.2nm,0.8s,baz=72,slow=4.6,SNR=1.5							
	0.2nm,0.8s							

*NEIC **27** 05:14:16.7±1.1, 35°.847N±0°.009 × 98°.071W±0°.004,*
h5km±1km, mb_Lg2.2/24, ML2.5/66, ML2.5/26, Error ellipse:
s-maj=2.9km s-min=1.5km az=114.0

NEIC 27 05:14:16.8±1.1, 35°.843N±0°.009 × 98°.08W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.6km az=259.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
BCOK	**Bluff Creek, N**	**0.42**	**116**			Pg	05 14 25.3	+0.4
BCOK						Sg	05 14 31.5	+1.0
OK029	**Liberty Lake**	**0.51**	**95**			Pg	05 14 26.8	+0.3
OK029						Sg	05 14 34.3	+1.1
CSTR	**Hydro, Custer**	**0.54**	**249**			Pg	05 14 27.4	+0.4
CSTR						Sg	05 14 35.1	+1.1
OK004	**Okla Sci Mus**	**0.59**	**123**			Pg	05 14 28.2	+0.2
OK004						Sg	05 14 36.6	+1.0
CROK	**Carrier**	**0.66**	**7**			Pg	05 14 29.5	-0.1
CROK					IAmb_Lg		05 14 37.4	
	comp=Z,27nm,1.2s							
CROK						Sg	05 14 39.1	+0.9
CROK					IAML		05 14 46.0	
	comp=N,201nm,0.2s							
CROK					IAML		05 14 48.5	
	comp=E,195nm,0.3s							
OKCSW	**OKLAHOMA CITY**	**0.68**	**130**		Pg		05 14 29.9	+0.1
OKCSW					Sg		05 14 38.7	+0.1
OKCSW					IAML		05 14 39.5	
	comp=E,317nm,0.3s							
OKCSW					IAML		05 14 39.5	
	comp=N,376nm,0.1s							
FNO	**Franklin**	**0.80**	**136**		Pg		05 14 31.9	-0.3
FNO					Sg		05 14 43.1	+0.5
FNO					IAML		05 14 46.3	
	comp=E,158nm,0.5s							
OK038	**West end E0370**	**0.83**	**320**		Pg		05 14 32.4	-0.3
OK038					Sg		05 14 44.1	+0.6
GC02	**Grant County #**	**1.02**	**10**		Pg		05 14 35.8	-0.5
OK052	**Battle Ridge R**	**1.05**	**81**		Pg		05 14 36.3	-0.5
OK052					IAML		05 14 56.7	
	comp=E,96nm,0.2s							
OK052					IAML		05 14 59.8	
	comp=E,112nm,0.2s							
KAN14	**Manchester OK**	**1.11**	**5**		Pg		05 14 37.4	-0.8
KAN14					Sb		05 14 53.0	-0.4
KAN14					IAML		05 14 57.7	
	comp=E,138nm,0.1s							
KAN14					IAML		05 15 01.7	
	comp=N,96nm,0.1s							
BLOK	**Blackwell**	**1.15**	**37**		Pg		05 14 38.4	-0.5
QUOK	**Quay**	**1.16**	**73**		Pg		05 14 38.3	-0.6
QUOK					IAML		05 14 56.4	
	comp=E,140nm,0.2s							
QUOK					IAML		05 15 01.5	
	comp=N,144nm,0.3s							
OK051	**E0350 and S346**	**1.20**	**56**		Pg		05 14 39.2	-0.6
OK051					Sb		05 14 55.7	-0.2
KAN17	**Caldwell West**	**1.23**	**12**		Pg		05 14 39.4	-0.9
KAN17					Sb		05 14 56.4	-0.2
KAN17					IAML		05 14 57.6	
	comp=N,119nm,0.3s							
KAN17					IAML		05 15 01.1	
	comp=E,134nm,0.2s							
WMOK	**Wichita Mounta**	**1.24**	**208**		Pg		05 14 39.5	-1.1
X34A	**Smith Ranch, M**	**1.26**	**171**		Pg		05 14 40.6	-0.3
X34A					Sn		05 14 57.9	-0.4
X34A					IAML		05 14 59.7	
	comp=E,95nm,0.3s							
KAN13	**South Haven SW**	**1.26**	**22**		Pg		05 14 40.1	-0.9
KAN13					Sg		05 14 57.5	+0.1
DEOK	**Depew**	**1.28**	**90**		Pn		05 14 40.2	-1.1
DEOK					Sg		05 14 57.5	-0.5
DEOK					IAML		05 15 01.3	
	comp=E,75nm,0.1s							
DEOK					IAML		05 15 03.9	
	comp=N,72nm,0.2s							
KAN01	**Argonia South**	**1.33**	**11**		Pn		05 14 41.3	-0.7
KAN01					Sb		05 14 59.9	+0.2
KAN01					IAML		05 15 02.3	
	comp=E,70nm,0.2s							
KAN01					IAML		05 15 02.3	
	comp=N,80nm,0.2s							
KAN09	**Caldwell North**	**1.34**	**16**		Pn		05 14 41.5	-0.7
KAN09					Sb		05 14 60.0	+0.1
T35A	**Sooner Cattle**	**1.66**	**49**		Pn		05 14 46.8	+0.3
TUL3	**Leonard**	**1.86**	**87**		Pn		05 14 49.7	+0.5
TUL3					IAmb_Lg		05 15 19.8	
	comp=Z,9.6nm,0.7s							
SMWD	**Samnorwood**	**1.91**	**248**	P	Pn		05 14 50.9	+0.8
LOOK	**Love County**	**1.99**	**158**		Pn		05 14 52.2	+1.2
LOOK					Sb		05 15 19.2	+0.7
LOOK					IAmb_Lg		05 15 22.8	
	comp=Z,18nm,1.0s							
WTFS	**Witchita Falls**	**2.10**	**189**		Pn		05 14 53.8	+1.2
RLO	**Rose Lookout**	**2.50**	**82**		Pn		05 14 59.6	+1.6
FW06	**Azle**	**2.90**	**171**	Pn	Pn		05 15 05.0	+1

PB05				IAML			05 17 17.7
	comp=N,526nm,0.3s						
PB05	**IPOC Station P**	**3.13 297**	*eP*		**Pn**	**05 16 39.0**	**+0.5**
PB05			*eS*		**Sn**	**05 17 16.8**	**-1.1**
PB05				IAML		05 17 19.0	
	comp=Z,278nm,0.3s						
PB09	**IPOC Station P**	**3.13 322**			**Pn**	**05 16 39.5**	**+1.0**
PB09	**IPOC Station P**	**3.13 322**	*eP*		**Pn**	**05 16 39.5**	**+1.0**
PB09				IAML		05 17 18.7	
	comp=N,651nm,0.4s						
PB09	**IPOC Station P**	**3.13 322**	*eP*		**Pn**	**05 16 39.8**	**+1.2**
PB09			*eS*		**Sn**	**05 17 18.6**	**+0.5**
PB09				IAML		05 17 19.3	
	comp=Z,472nm,0.2s						
PB10	**IPOC Station P**	**3.19 283**			**Pn**	**05 16 39.2**	**+0.1**
PB10	**IPOC Station P**	**3.19 283**⇓	*eP*		**Pn**	**05 16 38.6**	**-0.4**
PB10			*eS*		**Sn**	**05 17 15.3**	**-3.7**
PB10				IAML		05 17 22.5	
	comp=E,368nm,0.3s						
PB10	**IPOC Station P**	**3.19 283**	*eP*		**Pn**	**05 16 40.0**	**+0.9**
PB10			*eS*		**Sn**	**05 17 18.2**	**-0.8**
PB10				IAML		05 17 20.5	
	comp=Z,340nm,0.3s						
PB03	**IPOC Station P**	**3.26 313**			**Pn**	**05 16 40.3**	**+0.2**
PB03	**IPOC Station P**	**3.26 313**	*eP*		**Pn**	**05 16 40.6**	**+0.5**
PB03			*eS*		**Sn**	**05 17 18.9**	**-2.0**
PB03	**IPOC Station P**	**3.26 313**	*eP*		**Pn**	**05 16 40.6**	**+0.5**
PB03			*eS*		**Sn**	**05 17 19.9**	**-1.0**
PB03				IAML		05 17 24.1	
	comp=Z,728nm,0.3s						
AC01	**Pan de Azucar**	**3.61 239**			**Pn**	**05 16 43.9**	**-0.2**
AC01	**Pan de Azucar**	**3.61 239**⇓	*eP*		**Pn**	**05 16 44.0**	**-0.2**
AC01	**Pan de Azucar**	**3.61 239**	*eP*		**Pn**	**05 16 44.0**	**-0.2**
AC01			*eS*		**Sn**	**05 17 26.7**	**-1.6**
AC01				IAML		05 17 29.6	
	comp=Z,148nm,0.2s						
PB01	**IPOC Station P**	**3.88 326**			**Pn**	**05 16 47.4**	**-0.3**
PB01	**IPOC Station P**	**3.88 326**⇑	*eP*		**Pn**	**05 16 47.6**	**-0.1**
PB01	**IPOC Station P**	**3.88 326**	*eP*		**Pn**	**05 16 47.6**	**-0.1**
PB01			*eS*		**Sn**	**05 17 33.0**	**-1.6**
PB01				IAML		05 17 34.7	
	comp=Z,388nm,0.3s						
PB02	**IPOC Station P**	**3.88 319**			**Pn**	**05 16 47.0**	**-0.8**
PB02	**IPOC Station P**	**3.88 319**⇑	*eP*		**Pn**	**05 16 47.6**	**-0.1**
PB02			*eS*		**Sn**	**05 17 32.3**	**-2.4**
PB02	**IPOC Station P**	**3.88 319**	*eP*		**Pn**	**05 16 47.8**	**0.0**
PB02			*eS*		**Sn**	**05 17 32.7**	**-2.0**
GUSE	**Guasayan**	**4.14 150**	*eP*		**Pn**	**05 16 51.8**	**+0.9**
AC06	**Mina Casimiro**	**4.18 223**			**Pn**	**05 16 51.0**	**-0.4**
GO03	**Copiapo**	**4.29 219**			**Pn**	**05 16 53.4**	**+0.6**
GO03	**Copiapo**	**4.29 219**	*eP*		**Pn**	**05 16 52.2**	**-0.5**
GO03	**Copiapo**	**4.29 219**	*eP*		**Pn**	**05 16 52.5**	**-0.3**
GO03			*eS*		**Sn**	**05 17 42.5**	**-1.3**
CYA	**Choya**	**4.31 164**	*eP*		**Pn**	**05 16 54.0**	**+1.0**
PATCX	**Punta Patache**	**4.42 321**			**Pn**	**05 16 54.2**	**-0.3**
PATCX	**Punta Patache**	**4.42 321**⇑	*eP*		**Pn**	**05 16 54.0**	**-0.6**
PATCX	**Punta Patache**	**4.42 321**	*eP*		**Pn**	**05 16 54.5**	**-0.1**
PATCX			*eS*		**Sn**	**05 17 46.9**	**0.0**
PATCX				IAML		05 17 52.1	
	comp=Z,130nm,0.4s						
PB08	**IPOC Station P**	**4.52 336**			**Pn**	**05 16 56.4**	**+0.2**
PB08	**IPOC Station P**	**4.52 336**⇑	*eP*		**Pn**	**05 16 56.6**	**+0.4**
PB08	**IPOC Station P**	**4.52 336**	*eP*		**Pn**	**05 16 56.8**	**+0.6**
PB08			*eS*		**Sn**	**05 17 49.0**	**-0.8**
PB08				IAML		05 17 52.5	
	comp=Z,95nm,0.4s						
TA01	**Diego Aracena**	**4.64 323**			**Pn**	**05 16 57.1**	**-0.2**
TA01	**Diego Aracena**	**4.64 323**	*eP*		**Pn**	**05 16 56.6**	**-0.6**
TA01				IAML		05 17 53.4	
	comp=Z,89nm,0.5s						
TA02	**Huaiquique**	**4.85 325**			**Pn**	**05 16 59.5**	**-0.6**
GO01	**Chusmiza**	**4.97 337**			**Pn**	**05 17 01.9**	**-0.1**
GO01	**Chusmiza**	**4.97 337**	*eS*		**Sn**	**05 17 59.1**	**-1.2**
PB11	**IPOC Station P**	**5.07 333**			**Pn**	**05 17 02.2**	**-0.8**
PB11	**IPOC Station P**	**5.07 333**	*eP*		**Pn**	**05 17 01.8**	**-1.1**
PB11			*eS*		**Sn**	**05 17 58.6**	**-3.4**
PB11				IAML		05 17 59.4	
	comp=Z,146nm,0.3s						
ACLC	**CERRO LA CRUZ**	**5.11 178**	*eP*		**Pn**	**05 17 04.3**	**+0.8**
ACLC			*eS*		**Sn**	**05 17 58.1**	**-5.0**
AC04	**Llanos de Chal**	**5.24 221**	Pn		**Pn**	**05 17 03.6**	**-1.3**
AC04	**Llanos de Chal**	**5.24 221**		IAML		05 18 05.2	
	comp=Z,53nm,0.8s						
LCO	**Las Campanas**	**5.66 213**	Pn		**Pn**	**05 17 09.5**	**-1.2**
PB16	**IPOC Station P**	**6.32 339**			**Pn**	**05 17 19.9**	**+0.2**
PB18	**Visviri**	**7.01 342**			**Pn**	**05 17 29.7**	**+1.0**
CFA	**Coronel Fontan**	**7.34 187**	P		**Pn**	**05 17 32.0**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=16,slow=14,SNR=22						
CFA			S		**Sn**	**05 18 51.6**	**-3.7**
	comp=Z,1.5nm,0.3s,baz=12,slow=20,SNR=5.7						
LPAZ	**La Paz**	**8.02 353**			**Pn**	**05 17 42.1**	**+0.2**
LPAZ	**La Paz**	**8.02 353**	P		**Pn**	**05 17 42.3**	**+0.3**
	comp=Z,4.5nm,0.3s,baz=170,slow=6.4,SNR=57						
LPAZ			S		**Sn**	**05 19 08.7**	**-3.8**
	comp=Z,3.1nm,0.6s,baz=206,slow=8.4,SNR=8.4						
CPUP	**Villa Florida**	**9.14 105**	Pn		Pn	05 18 03.6	+7.7
CPUP	**Villa Florida**	**9.14 105**	P		**Pn**	**05 17 55.2**	**-0.7**
	comp=Z,0.6nm,1.0s,baz=223,slow=3.4,SNR=3.7						
SIV	**San Ignacio**	**10.05 36**	P		**Pn**	**05 18 05.9**	**-2.1**
	comp=Z,1.5nm,0.5s,baz=211,slow=12,SNR=8.5						
SIV			S		**Sn**	**05 19 55.2**	**-5.0**
	comp=Z,0.4nm,0.4s,baz=226,slow=7.4,SNR=3.3						
PLCA	**Paso Flores**	**16.63 189**	P		**Pn**	**05 19 31.8**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=7.9,slow=8.8,SNR=9.0						
LL02	**Futaleuf**	**19.24 190**	P		**Pn**	**05 20 00.2**	**-0.8**
BDFB	**Brasilia**	**19.94 68**	P		**Pn**	**05 20 05.7**	**-0.2**
BDFB			IAmb		IAmb	05 20 06.9	
	comp=Z,9.2nm,1.2s						
BDFB	**Brasilia**	**19.94 68**	P		**P**	**05 20 05.5**	**-0.4**
	comp=Z,2.9nm,0.4s,baz=238,slow=7.5,SNR=8.5						
COHC	**Cochancay**	**24.64 330**			**P**	**05 20 50.4**	**-1.1**
SNAA	**Sanae**	**59.12 161**	P		**P**	**05 25 29.8**	**+1.3**
SNAA			IAmb		IAmb	05 26 11.9	
	comp=Z,3.2nm,1.3s						
SNAA	**Sanae**	**59.12 161**	P		**P**	**05 25 30.3**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=281,slow=12,SNR=7.9						
	comp=Z,0.6nm,0.6s						
TXAR	**Lajitas Array**	**63.83 325**	P		**P**	**05 26 02.8**	**+2.3**
	comp=Z,0.1nm,0.5s,baz=142,slow=5.2,SNR=1.5						
	comp=Z,0.1nm,0.5s						
QSPA	**South Pole Qui**	**65.91 180**	P		**P**	**05 26 15.4**	**+1.8**
	comp=Z,1.0nm,0.5s,baz=140,slow=5.4,SNR=7.6						
	comp=Z,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.82 69**	P		**P**	**05 27 19.9**	**+0.4**
TORD			IAmb		IAmb	05 27 20.6	
	comp=Z,3.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**76.82 69**	P		**P**	**05 27 19.8**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=261,slow=4.9,SNR=2.1						
	comp=Z,0.7nm,0.5s						
BOSA	**Boshof**	**80.74 117**	P		**P**	**05 27 42.4**	**+1.5**
	comp=Z,2.1nm,0.9s,baz=265,slow=11,SNR=5.0						
	comp=Z,2.1nm,0.9s						
WRA	**Warramunga Arr**	**131.29 207**	PKP		**PKiKP**	**05 34 40.7**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=139,slow=1.9,SNR=2.3						
KURBB	**Kurchatov Arra**	**142.71 36**	PKP		**PKiKP**	**05 35 00.3**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=280,slow=1.6,SNR=1.8						
ZALV	**Zalesovo Beam**	**143.73 28**	PKP		**PKPdf**	**05 35 00.3**	**0.0**
	comp=Z,0.5nm,0.4s,baz=307,slow=5.0,SNR=2.9						
MKAR	**Makanchi Array**	**146.85 40**	PKP		**PKPdf**	**05 35 05.3**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=335,slow=2.0,SNR=4.8						
MKAR			PKPbc		**PKPab**	**05 35 09.9**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=305,slow=3.5,SNR=5.8						

*IDC **27** 05:17:31.2±0.5, 0.°06N×125.°51E, h0km, mb4.2/19, mbtmp4.2/21, ML4.5/2, Error ellipse: s-maj=26.8km s-min=12.1km az=73.0*

*NEIC **27** 05:17:37.3±1.9, 0.°01S±0.°09×125.°82E±0.°07, h41km±9km, mb4.6/22, Error ellipse: s-maj=12.7km s-min=9.7km az=189.0*

*DJA **27** 05:17:39.6±0.2, 0.°N±3.°×12.°6E±.°, h59km±6km, M4.5/14, mb4.6/11, mB5.1/4, ML4.4/14, Mw(mB)4.5/4*

ISC 27 05:17:37.3±0.4, 0.°01S±0.°06×125.°79E±0.°07, h44km, n72, σ1≥20/65, mb4.3/33, MS3.9/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.76**	**64**		**Pn**	**05 18 04.4**	**-0.9**
TNTI	**Ternate**	**1.76**	**64**	P	Pn	05 18 08.8	+3.5
KMSI	**Cibinong**	**1.90**	**288**	P	**Pn**	**05 18 05.9**	**-1.3**
SANI	**Sanana**	**2.03**	**174**	P	Pn	05 18 13.5	+4.5
LUWI	**Luwuk**	**3.18**	**251**	P	Pn	05 18 30.7	+5.8
MRSI	**Marisa**	**3.88**	**277**	P	**Pn**	**05 18 35.8**	**+1.4**
APSI	**Ampana**	**4.23**	**258**	P	Pn	05 18 42.1	+2.8
TOLI2	**Tolitoli**	**5.13**	**283**		**Pn**	**05 18 53.0**	**+1.4**
MPSI	**Mapaga**	**5.90**	**273**	P	**Pn**	**05 19 04.8**	**+2.6**
	0.3nm455nm36nm,0.8s						
PCI	**Palu**	**6.02**	**262**	P	Pn	05 19 07.5	+3.7
	0.5nm4μm50nm,0.7s						
TTSI	**Tana Toraja**	**6.68**	**243**	P	**Pn**	**05 19 14.1**	**+1.2**
	0.4nm41nm,0.8s						
FAKI	**Fak Fak**	**7.07**	**114**	Pn	**Pn**	**05 19 16.8**	**-1.5**
SPSI	**Sidrap Palu**	**7.18**	**237**	P	**Pn**	**05 19 21.2**	**+1.4**
KAPI	**Kappang**	**7.81**	**230**	Pn	**Pn**	**05 19 29.1**	**+0.7**
	2.7nm,0.3s,baz=27,slow=18,SNR=2.2						
MYLDM	**Lahad Datu**	**8.92**	**305**		**Pn**	**05 19 43.9**	**+0.3**
SBUM	**Sibu**	**13.78**	**280**		**Pn**	**05 20 49.9**	**-0.3**
MTN	**Manton Dam**	**13.80**	**158**		**Pn**	**05 20 50.5**	**0.0**
KSM	**Kuching**	**15.55**	**276**		**Pn**	**05 21 13.2**	**-0.4**
KSM				IAmb	IAmb	05 21 18.9	
	comp=Z,39nm,0.9s						
KNRA	**Kununurra**	**15.84**	**169**		**Pn**	**05 21 15.9**	**-1.4**
FITZ	**Fitzroy Crossi**	**17.97**	**180**		**P**	**05 21 43.1**	**-1.0**
FITZ	**Fitzroy Crossi**	**17.97**	**180**	P	**P**	**05 21 44.8**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=15,slow=13,SNR=17						
	comp=Z,6.7nm,0.9s						
LEM	**Lembang**	**19.35**	**249**	P	**P**	**05 21 57.0**	**-2.4**
	comp=Z,5.4nm,0.3s,baz=45,slow=13,SNR=6.5						
	comp=Z,15nm,0.4s						
WB0	**Warramunga Arr**	**21.37**	**157**		**P**	**05 22 21.3**	**+0.2**
WB0				IAmb	IAmb	05 22 25.9	
	comp=Z,34nm,1.0s						
WRA	**Warramunga Arr**	**21.50**	**158**		**P**	**05 22 20.5**	**-2.1**
WRA	**Warramunga Arr**	**21.50**	**158**	P	**P**	**05 22 22.8**	**+0.2**
	comp=Z,7.7nm,0.7s,baz=335,slow=9.9,SNR=58						
	comp=Z,7.7nm,0.7s						
MBWA	**Marble Bar**	**21.83**	**195**	P	**P**	**05 22 25.3**	**-0.7**
PSA00	**Pilbara Seismi**	**22.20**	**195**	P	**P**	**05 22 29.6**	**-0.4**
PSA00				IAmb	IAmb	05 22 33.2	
	comp=Z,13nm,0.9s						
YULB	**Yu-li**	**23.67**	**350**	P	**P**	**05 22 43.8**	**-1.2**
YULB				IAmb	IAmb	05 22 55.3	
	comp=Z,15nm,1.4s						
AS31	**Alice Springs**	**24.80**	**162**		**P**	**05 22 56.6**	**+1.2**
AS31				IAmb	IAmb	05 22 59.7	
	comp=Z,5.2nm,0.6s						
ASAR	**Alice Springs**	**24.80**	**162**		**P**	**05 22 56.1**	**+0.8**
ASAR	**Alice Springs**	**24.80**	**162**	P	**P**	**05 22 56.7**	**+1.3**
	comp=Z,6.2nm,0.5s,baz=342,slow=11,SNR=70						
	comp=Z,6.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**32.13**	**306**	P	**P**	**05 23 59.2**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=123,slow=9.3,SNR=4.8						
	comp=Z,0.8nm,0.3s						
NJ2	**Nanjing**	**32.56**	**349**	*eP*	**P**	**05 24 06.0**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BBOO	**Buckleboo**	**34.03**	**164**	P	**P**	**05 24 16.8**	**-0.4**
STKA	**Stephens Creek**	**35.04**	**156**		**P**	**05 24 26.1**	**+0.1**
STKA	**Stephens Creek**	**35.04**	**156**	P	**P**	**05 24 27.7**	**+1.7**
	comp=Z,13nm,0.8s,baz=337,slow=8.8,SNR=30						
	comp=Z,13nm,0.8s						
PZH	**PanZhiHua**	**35.09**	**321**	P	**P**	**05 24 29.0**	**+2.4**
KSRS	**Korea Array**	**37.33**	**3**	P	**P**	**05 24 46.4**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=180,slow=10.0,SNR=7.1						
	comp=Z,0.7nm,0.4s						
XAN	**Xi'an**	**37.39**	**337**	*eP*	P	05 24 51.8	+5.7
XAN				LR	LR		
	comp=N,190nm,23.4s						
XAN				LR	LR		
	comp=E,120nm,24.7s						
XAN				LR	LR		
	comp=Z,190nm,21.3s						
MJAR	**Matsushiro Arr**	**38.16**	**16**	P	**P**	**05 24 52.5**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=219,slow=13,SNR=1.2						
	comp=Z,0.6nm,0.3s						
HHC	**Hu-ho-hao-te**	**42.68**	**344**	*eP*	P	05 25 24.0	-5.9
HHC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,91nm,4.8s						
HHC				LR	LR		
	comp=N,74nm,12.2s						
HHC				LR	LR		
	comp=E,50nm,11.2s						
HHC				LR	LR		
	comp=Z,71nm,11.4s						
USRK	**Ussuriysk Ar.**	**44.37**	**6**	P	**P**	**05 25 44.8**	**+1.5**
	comp=Z,2.3nm,0.7s,baz=198,slow=4.1,SNR=2.0						
	comp=Z,2.3nm,0.7s						
GTA	**Gaotai**	**45.87**	**332**	*eP*	**P**	**05 25 56.0**	**+0.5**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.4s						
SONM	**Songino Array**	**50.55**	**343**	P	**P**	**05 26 30.8**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=160,slow=8.8,SNR=4.6						
	comp=Z,1.3nm,0.8s						
WMQ	**Urumqi**	**55.28**	**327**	*eP*	P	05 27 09.3	+2.9
WMQ				LR	LR		
	comp=Z,170nm,20.7s						
PETK	**Petropavlovsk-**	**59.23**	**22**	P	**P**	**05 27 34.4**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=216,slow=6.2,SNR=2.4						
	comp=Z,1.5nm,0.6s						
MKAR	**Makanchi Array**	**60.12**	**327**		**P**	**05 27 38.9**	**-1.4**
MKAR	**Makanchi Array**	**60.12**	**327**	P	**P**	**05 27 39.1**	**-1.2**
	comp=Z,2.3nm,0.4s,baz=128,slow=8.1,SNR=22						
MKAR				PcP	**PcP**	**05 28 25.7**	**0.0**
	comp=Z,1.0nm,0.8s,baz=132,slow=4.3,SNR=1.2						
	comp=Z,2.3nm,0.4s						
MAKZ	**Makanchi**	**60.30**	**327**	P	**P**	**05 27 40.5**	**-1.0**
MAKZ				IAmb	IAmb	05 27 43.3	
	comp=Z,4.3nm,0.7s						
KBL	**Kabul**	**63.09**	**309**	P	**P**	**05 28 00.6**	**-0.2**
KBL				IAmb	IAmb	05 28 02.1	
	comp=Z,5.6nm,0.7s						
ZAA0	**Zalesovo Array**	**63.50**	**334**		**P**	**05 28 03.2**	**+0.3**
ZAA0				IAmb	IAmb	05 28 04.6	
	comp=Z,4.3nm,1.2s						
ZALV	**Zalesovo Beam**	**63.50**	**334**		**P**	**05 28 02.5**	**-0.3**
ZALV	**Zalesovo Beam**	**63.50**	**334**	P	**P**	**05 28 00.9**	**-1.9**
	comp=Z,1.3nm,0.5s,baz=129,slow=5.5,SNR=6.8						
	comp=Z,1.3nm,0.5s						
GAR	**Garm**	**63.80**	**314**	P	**P**	**05 28 05.0**	**-0.3**
KURBB	**Kurchatov Arra**	**64.40**	**329**	P	**P**	**05 28 06.8**	**-2.0**
	comp=Z,2.7nm,0.6s,baz=127,slow=5.8,SNR=23						
	comp=Z,2.7nm,0.6s						
KURK	**Kurchatov**	**64.40**	**329**	P	**P**	**05 28 08.0**	**-0.8**
KK31	**Karatay Array**	**65.35**	**319**	P	**P**	**05 28 14.4**	**-0.8**
KKAR	**Karatay Array**	**65.35**	**319**		**P**	**05 28 14.4**	**-0.8**
BVAR	**Borovoye Array**	**69.95**	**328**	P	**P**	**05 28 42.2**	**-1.8**
	comp=Z,0.9nm,0.5s,baz=129,slow=11,SNR=7.5						
	comp=Z,0.9nm,0.5s						
ARTI	**Arti**	**77.67**	**328**	P	**P**	**05 29 28.3**	**-0.9**
VNDA	**Vanda**	**79.86**	**173**	P	**P**	**05 29 42.1**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=326,slow=5.9,SNR=5.4						
	comp=Z,1.1nm,0.8s						
J16K	**Anvik River**	**82.69**	**26**	P	**P**	**05 29 57.7**	**+1.7**
J16K				IAmb	IAmb	05 30 03.9	
	comp=Z,8.4nm,1.1s						
J17K	**VABM Dome**	**83.38**	**26**	P	**P**	**05 30 00.0**	**+0.4**
J17K				IAmb	IAmb	05 30 04.7	
	comp=Z,7.9nm,1.2s						
H17K	**Granite Mounta**	**83.39**	**24**	P	**P**	**05 29 59.9**	**+0.2**
H17K				IAmb	IAmb	05 30 07.3	
	comp=Z,3.3nm,0.8s						
L18K	**Granite Mounta**	**84.20**	**27**	P	**P**	**05 30 04.7**	**+0.8**
L18K				IAmb	IAmb	05 30 26.1	
	comp=Z,8.4nm,1.4s						
KBZ	**Khabaz**	**84.86**	**314**	P	**P**	**05 30 06.8**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=63,slow=2.3,SNR=4.1						
	comp=Z,2.4nm,0.7s						
ILAR	**Eielson Array**	**88.87**	**25**	P	**P**	**05 30 26.3**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=259,slow=5.3,SNR=2.6						
	comp=Z,0.3nm,0.8s						
QSPA	**South Pole Qui**	**89.92**	**180**	P	**P**	**05 30 33.8**	**+2.2**
	comp=Z,2.1nm,1.0s,baz=315,slow=4.8,SNR=4.8						
	comp=Z,2.1nm,1.0s						
BRTR	**Keskin Array B**	**91.67**	**310**	P	**P**	**05 30 39.1**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=80,slow=5.6,SNR=3.0						
	comp=Z,0.5nm,0.6s						
FINES	**FINESS Array B**	**94.66**	**332**	P	**P**	**05 30 53.5**	**0.0**
	comp=Z,1.1nm,0.9s,baz=74,slow=10,SNR=2.7						
	comp=Z,1.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**123.10**	**286**	PKP	**PKiKP**	**05 36 30.0**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=89,slow=1.7,SNR=3.3						
LPAZ	**La Paz**	**158.77**	**140**	PKPab	**PKPab**	**05 38 07.5**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=235,slow=10,SNR=10						

*IDC **27** 05:19:42.0±0.5, 0.°07N×125.°51E, h0km, mb4.4/21, mbtmp4.4/22, ML4.5/1, MS3.6/15, Error ellipse: s-maj=28.6km s-min=11.6km az=74.0*

*DJA **27** 05:19:47.3±0.2, 0.°N±3.°×12.°6E±.°, h10km, M4.6/18, mb4.8/12, mB5.0/2, MLv4.5/18, Mw(mB)4.3/2*

*NEIC **27** 05:19:48.9±1.1, 0.°02N±0.°07×125.°72E±0.°06, h42km±7km, mb4.8/59, Error ellipse: s-maj=10.2km s-min=8.9km az=187.0*

ISC 27 05:19:49.0±0.8, 0.°03N±0.°05×125.°72E±0.°06, h47km±7km, n140, σ1≥20/134, mb4.7/55, MS3.7/19, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.80**	**66**		**Pn**	**05 20 17.8**	**+0.2**
TNTI	**Ternate**	**1.80**	**66**	P	**Pn**	**05 20 18.9**	**+1.3**
KMSI	**Cibinong**	**1.82**	**287**	P	**Pn**	**05 20 16.9**	**-1.0**
SANI	**Sanana**	**2.09**	**173**	P	**Pn**	**05 20 20.2**	**-1.3**
NLAI	**Namlea**	**3.53**	**157**	P	**Pn**	**05 20 41.4**	**0.0**
MRSI	**Marisa**	**3.81**	**277**	P	**Pn**	**05 20 46.3**	**+1.1**
MSAI	**Masohi**	**4.64**	**136**	P	**Pn**	**05 20 58.0**	**+1.4**
TOLI2	**Tolitoli**	**5.05**	**282**	Pn	**Pn**	**05 21 02.3**	**0.0**
SWI	**Sorong**	**5.61**	**99**	P	**Pn**	**05 21 13.0**	**+3.1**
	0.2nm35nm,0.4s						
MPSI	**Mapaga**	**5.83**	**273**	P	**Pn**	**05 21 16.3**	**+3.3**
	0.3nm83nm,1.0s						
PCI	**Palu**	**5.96**	**261**	P	Pn	05 21 23.6	+8.9
TTSI	**Tana Toraja**	**6.65**	**243**	P	**Pn**	**05 21 25.1**	**+0.9**
	0.4nm109nm,0.7s						
BNSI	**Bone**	**7.13**	**232**	P	**Pn**	**05 21 31.7**	**+0.9**
	0.2nm55nm,0.7s						
SPSI	**Sidrap Palu**	**7.15**	**236**	P	**Pn**	**05 21 32.7**	**+1.6**
FAKI	**Fak Fak**	**7.15**	**114**	Pn	**Pn**	**05 21 30.1**	**-1.0**
BKSI	**Bulukumba**	**7.72**	**226**	P	**Pn**	**05 21 40.7**	**+1.8**
	0.1nm31nm,0.8s						
KAPI	**Kappang**	**7.79**	**230**		**Pn**	**05 21 39.8**	**-0.1**
KAPI	**Kappang**	**7.79**	**230**	Pn	**Pn**	**05 21 41.1**	**+1.3**
	2.5nm,0.3s,baz=51,slow=13,SNR=4.8						
KAPI				Sn	**Sn**	**05 23 10.6**	**+3.7**
	baz=16,slow=20						
MYLDM	**Lahad Datu**	**8.84**	**305**		**Pn**	**05 21 53.6**	**-0.7**
SOEI	**Soe**	**9.83**	**188**	P	**Pn**	**05 22 10.1**	**+2.1**
WSI	**Waingapu**	**11.05**	**209**	P	**Pn**	**05 22 24.3**	**-0.2**
SBUM	**Sibu**	**13.71**	**280**		**Pn**	**05 23 01.2**	**+0.3**
MTN	**Manton Dam**	**13.87**	**157**		**Pn**	**05 23 02.3**	**-0.8**
KSM	**Kuching**	**15.48**	**275**		**P**	**05 23 27.8**	**-0.3**
KSM				IAmb	IAmb	05 23 29.9	
	comp=Z,74nm,0.8s						
KNRA	**Kununurra**	**15.90**	**169**		**Pn**	**05 23 28.7**	**-1.0**
SMRI	**Semarang**	**16.79**	**245**	P	**P**	**05 23 41.8**	**-0.9**
SMRI				IAmb	IAmb	05 23 45.7	
	comp=Z,179nm,1.3s						
FITZ	**Fitzroy Crossi**	**18.02**	**180**		**Pn**	**05 23 55.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**18.02**	**180**	P	**P**	**05 23 56.1**	**0.0**
	comp=Z,1.2nm,0.3s,baz=13,slow=14,SNR=23						
	comp=Z,12nm,0.7s						
LEM	**Lembang**	**19.30**	**249**	P	**Pn**	**05 24 10.9**	**-0.9**
	comp=Z,87nm,0.8s,baz=107,slow=11,SNR=11						
DLV	**Lat**	**20.80**	**305**	P	**P**	**05 24 26.2**	**-0.6**
WB0	**Warramunga Arr**	**21.43**	**157**	P	**P**	**05 24 32.1**	**-1.3**
WB0				IAmb	IAmb	05 24 37.0	
	comp=Z,61nm,0.9s						
WRAB	**Tennant Creek**	**21.57**	**157**	P	**P**	**05 24 33.7**	**-1.1**
WRAB				IAmb	IAmb	05 24 37.8	
	comp=Z,25nm,0.8s						
WRA	**Warramunga Arr**	**21.57**	**157**	P	**P**	**05 24 32.7**	**-2.1**
WRA	**Warramunga Arr**	**21.57**	**157**	P	**P**	**05 24 33.5**	**-1.3**
	comp=Z,21nm,0.8s,baz=335,slow=9.1,SNR=29						
WRA				PcP	**PcP

comp=N,150nm,14.2s
GTA LR LR
comp=E,100nm,15.6s
GTA LR LR
comp=Z,140nm,16.7s
JKA Kamikawa-asahi 46.40 17 P **P** **05 28 11.9 +1.1**
EVN Everest 46.48 310 P **P** **05 28 12.3 -0.2**
EVN IAmb IAmb 05 28 15.3
comp=Z,15nm,1.4s
HEH HeiHe 50.05 1 *eP* **P** **05 28 39.0 +0.1**
ULN Ulaanbaatar 50.33 344 P **P** **05 28 40.9 -0.4**
ULN IAmb IAmb 05 28 47.3
comp=Z,7.1nm,1.1s
SONM Songino Array 50.49 343 P **P** **05 28 42.5 0.0**
SONM Songino Array 50.49 343 P **P** **05 28 41.1 -1.4**
comp=Z,3.2nm,0.9s,baz=160,slow=8.1,SNR=9.4
SONM PcP **PcP** **05 30 00.5 +0.4**
comp=Z,1.2nm,0.8s,baz=161,slow=3.1,SNR=2.4
SONM LR LR 05 53 07.9
comp=Z,69nm,19.7s,baz=104,slow=40
comp=Z,3.2nm,0.9s
WMQ Urumqi 55.21 327 *eP* **P** **05 29 20.0 +2.7**
WMQ LR LR
comp=N,310nm,16.1s
WMQ LR LR
comp=E,260nm,18.5s
WMQ LR LR
comp=Z,140nm,22.5s
PEA0B Petropavlovsk- 59.21 22 P **P** **05 29 46.5 +1.2**
PETK Petropavlovsk- 59.21 22 P **P** **05 29 47.3 +2.0**
PETK Petropavlovsk- 59.21 22 P **P** **05 29 46.9 +1.6**
comp=Z,6.5nm,0.9s,baz=225,slow=7.8,SNR=7.6
comp=Z,6.5nm,0.9s
LTZ Lake Taylor 59.61 142 P **P** **05 29 49.3 +1.0**
MKAR Makanchi Array 60.04 327 P **P** **05 29 50.0 -1.2**
MKAR Makanchi Array 60.04 327 P **P** **05 29 49.9 -1.3**
comp=Z,4.8nm,0.5s,baz=122,slow=8.7,SNR=27
MKAR PcP **PcP** **05 30 35.2 -1.6**
comp=Z,1.9nm,0.7s,baz=122,slow=5.2,SNR=1.7
MKAR LR LR 05 56 47.5
comp=Z,94nm,21.9s,baz=123,slow=37
comp=Z,4.8nm,0.5s
MAKZ Makanchi 60.22 327 P **P** **05 29 51.1 -1.3**
MAKZ IAmb IAmb 05 29 54.3
comp=Z,9.2nm,0.9s
MAKZ Makanchi 60.22 327 P **P** **05 29 52.8 +0.4**
MAKZ pP **pP** **05 30 05.2 +0.3**
KDJ Kajisay 60.47 320 P **P** **05 29 54.2 -0.2**
KDJ IAmb IAmb 05 29 56.8
comp=Z,9.6nm,1.0s
URZ Urewera 60.60 135 LR LR 05 58 02.1
comp=Z,104nm,18.5s,baz=308,slow=38
RTZ Ruatahuna 60.67 136 P **P** **05 29 55.3 -0.4**
YAK Yakutsk 61.91 2 LR LR 05 59 21.4
comp=Z,26nm,18.7s,baz=209,slow=38
ARSB Arslanbob 62.85 318 P **P** **05 30 09.8 -0.6**
ARSB IAmb IAmb 05 30 12.5
comp=Z,8.8nm,1.0s
DRK Karamyk 62.86 315 P **P** **05 30 10.5 -0.3**
KBL Kabul 63.01 309 P **P** **05 30 11.5 -0.2**
ZAA0 Zalesovo Array 63.43 334 P **P** **05 30 14.3 +0.5**
ZAA0 IAmb IAmb 05 30 15.6
comp=Z,7.8nm,1.1s
ZALV Zalesovo Beam 63.43 334 P **P** **05 30 12.8 -1.0**
ZALV Zalesovo Beam 63.43 334 P **P** **05 30 11.5 -2.4**
comp=Z,3.3nm,0.8s,baz=132,slow=4.1,SNR=11
comp=Z,3.3nm,0.8s
GAR Garm 63.72 314 P **P** **05 30 15.9 -0.3**
BTK Batken 63.79 316 P **P** **05 30 16.5 -0.1**
BTK IAmb IAmb 05 30 18.5
comp=Z,5.1nm,0.9s
KURBB Kurchatov Arra 64.32 329 P **P** **05 30 18.4 -1.3**
comp=Z,7.0nm,0.8s,baz=128,slow=5.9,SNR=24
comp=Z,7.0nm,0.8s
KURK Kurchatov 64.33 329 P **P** **05 30 19.4 -0.4**
KURK Kurchatov 64.33 329 P **P** **05 30 18.2 -1.6**
KURK pP **pP** **05 30 30.3 -2.1**
SIMJ Simiganj 64.53 314 P **P** **05 30 21.5 -0.1**
SIMJ IAmb IAmb 05 30 23.0
comp=Z,6.4nm,0.8s
KK31 Karatay Array 65.27 319 P **P** **05 30 24.8 -1.4**
KKAR Karatay Array 65.27 319 P **P** **05 30 25.4 -0.8**
CASY Casey 67.05 187 P **P** **05 30 36.7 -0.4**
CASY IAmb IAmb 05 30 41.1
comp=Z,5.4nm,0.9s
BVAR Borovoye Array 69.88 328 P **P** **05 30 54.3 -0.7**
comp=Z,4.3nm,0.8s,baz=109,slow=6.1,SNR=11
comp=Z,4.3nm,0.8s
TIXI Tiksi 71.53 1 P **P** **05 31 06.4 +1.8**
TIXI IAmb IAmb 05 31 42.4
comp=Z,5.7nm,0.6s
TIXI Tiksi 71.53 1 LR LR 06 04 33.0
comp=Z,16nm,19.4s,baz=175,slow=38
RAR Rarotonga 75.58 112 LR LR 06 04 17.6
comp=Z,51nm,20.1s,baz=314,slow=35
AKTO Aktyubinsk 75.93 322 LR LR 06 07 00.4
comp=Z,68nm,21.5s,baz=131,slow=38
ARTI Arti 77.60 328 P **P** **05 31 39.0 -1.2**
ARTI IAmb IAmb 05 31 42.6
comp=Z,13nm,1.0s
VNDA Vanda 79.91 173 P **P** **05 31 52.5 0.0**
VNDA Vanda 79.91 173 P **P** **05 31 52.2 -0.3**
comp=Z,2.5nm,0.8s,baz=314,slow=4.4,SNR=9.7
comp=Z,2.5nm,0.8s
K15K Wolf Creek Mou 82.00 27 P **P** **05 32 04.5 +0.6**
K15K IAmb IAmb 05 32 08.6
comp=Z,9.2nm,0.9s
J16K Anvik River 82.67 26 P **P** **05 32 07.8 +0.5**
J16K IAmb IAmb 05 32 13.5
comp=Z,13nm,0.9s
J17K VABM Dome 83.37 26 P **P** **05 32 11.8 +0.9**
J17K IAmb IAmb 05 32 16.1
comp=Z,12nm,0.8s
H17K Granite Mounta 83.38 24 P **P** **05 32 11.2 +0.2**
H17K IAmb IAmb 05 32 16.1
comp=Z,11nm,0.9s
K17K Iditarod 83.56 27 P **P** **05 32 13.3 +1.4**
K17K IAmb IAmb 05 32 17.5
comp=Z,13nm,0.9s
GEVA Gevas 84.21 308 P **P** **05 32 15.6 -0.5**
KBZ Khabaz 84.78 314 P **P** **05 32 17.8 -0.8**
comp=Z,5.5nm,0.8s,baz=106,slow=3.9,SNR=7.1
comp=Z,5.5nm,0.8s
H19K Roundabout Mou 84.93 24 P **P** **05 32 19.9 +1.1**
H19K IAmb IAmb 05 32 23.7
comp=Z,4.3nm,0.8s
PPT2 Papeete2 84.96 108 *e*LR LR 05 59 09.0
comp=Z,111nm,30.2s
PPT2 *e*LR LR 05 59 09.7
comp=Z,121nm,26.0s
E19K Redstone River 85.01 22 P **P** **05 32 18.9 -0.3**
E19K IAmb IAmb 05 32 25.3
comp=Z,5.7nm,0.9s
TBI Tubuai 85.25 113 *e*LR LR 05 59 13.4
comp=Z,571nm,33.5s
D20K Etivluk River 85.50 21 P **P** **05 32 21.9 +0.2**
KDAK Kodiak Island 85.53 32 LR LR 06 08 36.6
comp=Z,27nm,18.8s,baz=241,slow=34
KOPT Kop Dagi 86.31 310 P **P** **05 32 27.0 +0.3**
G23K Bananza Creek 87.69 23 P **P** **05 32 33.3 +0.8**
G23K IAmb IAmb 05 32 36.3
comp=Z,6.4nm,1.1s
I23K Minto, Yukon-K 87.82 25 P **P** **05 32 32.8 -0.2**
I23K IAmb IAmb 05 32 37.0
comp=Z,4.4nm,0.9s
ILAR Eielson Array 88.85 25 P **P** **05 32 37.2 -0.8**
comp=Z,0.4nm,0.8s,baz=246,slow=4.9,SNR=6.6
ILAR LR LR 06 16 15.7
comp=Z,14nm,18.5s,baz=1.5,slow=38
comp=Z,0.4nm,0.8s
QSPA South Pole Qui 89.97 180 P **P** **05 32 44.5 +1.2**
comp=Z,3.2nm,0.9s,baz=349,slow=1.8,SNR=9.0
comp=Z,3.2nm,0.9s
L27K Beaver Creek, 91.09 27 P **P** **05 32 48.8 +0.3**
L27K IAmb IAmb 05 32 52.5
comp=Z,3.0nm,0.8s
BCAR Beaver Creek A 91.11 27 P **P** **05 32 48.4 -0.2**
BRTR Keskin Array B 91.58 310 P **P** **05 32 49.0 -2.5**
comp=Z,1.1nm,0.8s,baz=115,slow=5.5,SNR=5.9
comp=Z,1.1nm,0.8s
L29M L29M 92.76 27 P **P** **05 32 56.4 +0.2**
L29M IAmb IAmb 05 33 01.2
comp=Z,4.6nm,0.8s
ARCES ARCESS Array B 93.55 340 P **P** **05 32 58.1 -1.5**
comp=Z,1.2nm,0.8s,baz=72,slow=4.5,SNR=1.6
ARCES LR LR 06 18 11.4

comp=Z,32nm,20.9s,baz=141,slow=38
comp=Z,1.2nm,0.8s
SPITS Spitsbergen Ar 93.89 349 LR LR 06 20 11.3
comp=Z,25nm,19.7s,baz=80,slow=39
AKASG Malin Array Be 94.10 321 P **P** **05 33 01.2 -1.4**
comp=Z,0.4nm,0.5s,baz=72,slow=4.8,SNR=2.1
comp=Z,0.4nm,0.5s
FINES FINESS Array B 94.59 332 P **P** **05 33 02.4 -2.2**
comp=Z,1.2nm,0.8s,baz=60,slow=4.9,SNR=3.8
comp=Z,1.2nm,0.8s
BUR08 Bucovina Ar. S 97.07 318 P **P** **05 33 15.6 -0.7**
TORD Torodi Ar. Bea 123.02 286 PKP **PKPdf** **05 38 40.8 -0.6**
comp=Z,0.9nm,0.3s,baz=54,slow=2.7,SNR=3.4
TXAR Lajitas Array 124.62 54 PKP **PKiKP** **05 38 44.6 +0.1**
comp=Z,0.2nm,0.4s,baz=350,slow=2.1,SNR=2.8

*IDC **27** 05:29:20.6±1.0, 22°.29N×121°.36E, h0km, mb3.6/9, mbtmp3.6/11, ML3.3/2, Error ellipse: s-maj=31.5km s-min=20.9km az=66.0*
*JMA **27** 05:29:22.6±0.2, 22°.4N±0°.9×121°.6E±0°.5, h0km, MV3.8/13, TAIWAN REGION*
*ASIES **27** 05:29:24.0, 22°.38N×121°.36E, h6km, ML3.8, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr0.38; Mθθ1.62; Mϕϕ-2.00; Mrθ-1.18; Mθϕ0.06; Mrϕ0.95; Fault plane solution: M0 2.38536×10^14^ NP1: ϕs221.10000°, δ50.02000°, λ170.73000°. NP2: ϕs317.08000°, δ82.91000°, λ40.35000°. Principal axes: T Plg32.7930°, Azm187.2170°; N Plg49.1360°, Azm325.3530°; P Plg21.5340°, Azm82.4890°;*
*TAP **27** 05:29:24.0, 22°.38N×121°.36E, h6km±1km, ML3.8, C*
ISC 27 05:29:24.6±0.9, 22°.37N±0°.02×121°.43E±0°.03, h23km±8km, n116, σ1s03/137, mb3.5/8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.30**	**7**	***e*P**	**Pb**	**05 29 31.7**	**+0.2**
LDUT				*e*S	**Sb**	**05 29 36.3**	**0.0**
LAY	**Lan-yu**	**0.35**	**161**	*i* P	**Pb**	**05 29 32.9**	**+0.6**
LYUB	**Lan-yu**	**0.40**	**158**	*e*P	**Pb**	**05 29 32.5**	**-0.5**
ECL	**Taimali**	**0.49**	**297**	*i* P	**Pb**	**05 29 33.8**	**-0.8**
TAW	**Tawu**	**0.49**	**268**	*e*P	**Pb**	**05 29 34.1**	**-0.5**
TAW				*e*S	**Sb**	**05 29 40.6**	**-0.8**
TAWH	**Dawu Township**	**0.50**	**266**	P	**Pb**	**05 29 34.2**	**-0.6**
TAWH				*e*S	**Sb**	**05 29 40.8**	**-0.9**
EAST	**Anshuo**	**0.54**	**271**	P	**Pb**	**05 29 34.7**	**-0.7**
EAST				*i* S	**Sb**	**05 29 41.8**	**-1.0**
TWGBT	**Beinan**	**0.55**	**324**	P	**Pb**	**05 29 35.0**	**-0.6**
TWG	**Pinlang**	**0.55**	**324**	*e*P	**Pb**	**05 29 35.1**	**-0.6**
LONT	**Longtian**	**0.60**	**333**	P	**Pb**	**05 29 36.0**	**-0.4**
SLIU	**Shizi**	**0.60**	**255**	*e*P	**Pb**	**05 29 36.0**	**-0.5**
EDH	**Donghe**	**0.61**	**349**	*e*P	**Pb**	**05 29 36.7**	**+0.1**
EDH				*e*S	**Sb**	**05 29 45.2**	**+0.5**
SMST	**Manzhou Townsh**	**0.65**	**237**	*e*P	**Pb**	**05 29 37.3**	**0.0**
SMST				*e*S	**Sb**	**05 29 45.5**	**-0.4**
TSEB	**Hengchuen, Pin**	**0.68**	**226**	*e*P	**Pb**	**05 29 38.5**	**+0.7**
TSEB				*e*S	**Sb**	**05 29 48.2**	**+1.4**
TWKBT	**Hengchun**	**0.71**	**233**	*e*P	**Pb**	**05 29 38.1**	**-0.2**
TWKBT				*e*S	**Sb**	**05 29 47.5**	**-0.3**
CHKT	**Chengkung**	**0.73**	**356**	S	**Sb**	**05 29 47.6**	**-0.6**
HEN	**Hengchun**	**0.74**	**240**	*e*S	**Sb**	**05 29 48.9**	**+0.5**
ECS	**Chishang**	**0.74**	**345**	*e*P	**Pn**	**05 29 40.0**	**+0.3**
ECS				*e*S	**Sn**	**05 29 50.5**	**+0.2**
SCZT	**Fangliau**	**0.75**	**270**	*i* P	**Pb**	**05 29 38.0**	**-0.9**
MASBT	**Mashibuluo**	**0.77**	**288**	P	**Pb**	**05 29 38.3**	**-1.0**
TSMG	**Majia**	**0.80**	**295**	*e*P	**Pb**	**05 29 38.7**	**-1.1**
EHD	**Haiduan**	**0.80**	**345**	*e*P	**Pb**	**05 29 39.5**	**-0.4**
EHD				*e*S	**Sn**	**05 29 50.9**	**-0.8**
CHKH	**Chenggong**	**0.82**	**358**	*e*P	**Pb**	**05 29 39.8**	**-0.4**
CHKH				*e*S	**Sb**	**05 29 50.4**	**-0.3**
SSD	**Sandimen**	**0.82**	**297**	*e*P	**Pb**	**05 29 39.0**	**-1.2**
FULB	**Fuli**	**0.83**	**352**	*e*P	**Pb**	**05 29 40.2**	**-0.2**
FULB				*e*S	**Sn**	**05 29 51.4**	**-1.1**
ELDTW	**Lidau**	**0.90**	**335**	*e*P	**Pb**	**05 29 41.0**	**-0.6**
ECBN	**Changbin**	**0.94**	**1**	*e*S	**Sb**	**05 29 53.9**	**-0.3**
TWF1	**Yuli**	**0.98**	**353**	*e*P	**Pn**	**05 29 43.0**	**0.0**
STYH	**Taoyuan**	**1.00**	**323**	*e*P	**Pb**	**05 29 42.3**	**-0.8**
SCST	**Cishan**	**1.00**	**301**	*e*P	**Pn**	**05 29 43.4**	**+0.2**
YULB	**Yu-li**	**1.02**	**353**	*e*P	**Pn**	**05 29 43.1**	**-0.4**
TWM1	**Shoushan**	**1.03**	**296**	*e*P	**Pb**	**05 29 45.0**	**+1.2**
SGST	**Jiashian**	**1.05**	**312**	*e*P	**Pn**	**05 29 43.2**	**-0.7**
SGST				*e*S	**Sn**	**05 29 58.1**	**+0.2**
HGSD	**Ruisui**	**1.11**	**360**	*e*P	**Pb**	**05 29 45.2**	**0.0**
EHYH	**Wanrong**	**1.12**	**356**	*e*P	**Pb**	**05 29 46.5**	**+1.3**
EHY	**Hungye**	**1.13**	**355**	*e*P	**Pb**	**05 29 44.4**	**+0.9**
WTP	**Ta-pu**	**1.15**	**319**	*e*P	**Pb**	**05 29 45.8**	**+0.1**
CHN1	**Nanshi**	**1.16**	**314**	P	**Pb**	**05 29 46.2**	**+0.2**
CHN1				*e*S	**Sn**	**05 30 03.2**	**+2.7**
TPUB	**Ta-pu**	**1.18**	**322**	*e*P	**Pb**	**05 29 46.0**	**-0.3**
SNST	**Tainan City**	**1.20**	**315**	*e*P	**Pb**	**05 29 47.5**	**+0.8**
SNST				S	**Sb**	**05 30 04.2**	**+2.4**
CHN3	**Shinhua**	**1.21**	**306**	*e*P	**Pb**	**05 29 48.8**	**+2.1**
CHN3				S	**Sb**	**05 30 05.9**	**+4.0**
CHN4	**Tsaushan**	**1.24**	**322**	*e*P	**Pb**	**05 29 47.5**	**+0.1**
TWK	**Hsinying**	**1.24**	**316**	*e*P	**Pb**	**05 29 47.7**	**+0.3**
ALS	**Alishan**	**1.27**	**333**	*e*P	**Pb**	**05 29 47.9**	**-0.1**
EGFH	**Guangfu**	**1.29**	**0**	*e*P	**Pb**	**05 29 48.9**	**+0.7**
WCKO	**Fanlu**	**1.30**	**325**	*e*P	**Pb**	**05 29 49.3**	**+0.8**
WCKO				S	**Sb**	**05 30 06.8**	**+2.1**
WARBT	**Fenglin Townsh**	**1.34**	**358**	*e*P	**Pb**	**05 29 48.5**	**-0.6**
VWDT	**VWDT**	**1.40**	**349**	*e*P	**Pb**	**05 29 50.1**	**+0.1**
CHN5	**Tsauling**	**1.40**	**331**	P	**Pb**	**05 29 49.4**	**+0.2**
CHN5				*e*S	**Sb**	**05 30 09.7**	**+2.0**
WHYT	**Xinyi Township**	**1.42**	**338**	*e*P	**Pb**	**05 29 50.4**	**-0.1**
ESL	**Shilin**	**1.44**	**0**	*e*P	**Pb**	**05 29 51.2**	**+0.5**
CHY	**Chiayi**	**1.45**	**321**	*e*P	**Pb**	**05 29 51.2**	**+0.3**
CHY				S	**Sb**	**05 30 10.0**	**+0.9**
TSCK	**Chigu Township**	**1.46**	**302**	*e*P	**Pb**	**05 29 51.0**	**0.0**
SSLB	**Suanglung**	**1.47**	**343**	*e*P	**Pb**	**05 29 51.2**	**-0.2**
WGK	**Gukeng**	**1.53**	**329**	*e*S	**Sb**	**05 30 13.1**	**+1.8**
WDLH	**Douliu**	**1.54**	**328**	*e*P	**Pb**	**05 29 52.7**	**+0.1**
WDLH				*e*S	**Sb**	**05 30 12.5**	**+0.8**
SMLT	**Sun Moon Lake**	**1.58**	**342**	*e*P	**Pb**	**05 29 53.5**	**+0.3**
WJS	**Zhushan**	**1.58**	**336**	*e*P	**Pb**	**05 29 52.9**	**-0.3**
OWD	**Renai**	**1.59**	**352**	*e*P	**Pb**	**05 29 53.2**	**-0.3**
WTK	**Tuku**	**1.62**	**324**	*e*P	**Pb**	**05 29 53.0**	**-0.8**
WTK				*e*S	**Sb**	**05 30 13.9**	**+0.1**
WUSB	**Renai**	**1.64**	**350**	*e*P	**Pb**	**05 29 54.0**	**-0.2**
LXIB	**Xiulin Townshi**	**1.64**	**360**	*e*P	**Pn**	**05 29 52.1**	**0.0**
WNT	**Mingjian**	**1.65**	**336**	*e*P	**Pb**	**05 29 53.7**	**-0.6**
WNT				*e*S	**Sb**	**05 30 15.9**	**+1.3**
WSF	**Szhu**	**1.68**	**319**	*e*S	**Sb**	**05 30 15.3**	**-0.3**
WCS	**Beigang Elemen**	**1.74**	**344**	*e*P	**Pb**	**05 29 56.5**	**+0.6**
WHF	**Hehuan Shan**	**1.77**	**355**	*e*P	**Pb**	**05 29 56.8**	**+0.2**
ETLH	**Xiulin Townshi**	**1.83**	**2**	*e*P	**Pb**	**05 29 56.5**	**-0.9**
WDGT	**Dungji**	**1.85**	**299**	*e*P	**Pn**	**05 29 54.9**	**0.0**
FUSS	**Fushou**	**1.87**	**355**	*e*P	**Pb**	**05 29 58.5**	**+0.2**
TWT	**Tachien**	**1.89**	**353**	*e*P	**Pb**	**05 29 57.5**	**-0.9**
TDCB	**Techi**	**1.89**	**353**	*e*P	**Pb**	**05 29 57.6**	**-0.8**
WHP	**Taichung City**	**1.95**	**347**	*e*P	**Pb**	**05 29 59.0**	**-0.5**
WHP				*e*S	**Sb**	**05 30 23.5**	**+0.1**
VCHM	**Qimei**	**2.02**	**295**	*e*P	**Pn**	**05 29 57.3**	**0.0**
NNSB	**Datong**	**2.05**	**359**	*e*P	**Pb**	**05 29 59.8**	**-1.3**
PHUB	**P'eng-hu**	**2.05**	**304**	*e*P	**Pn**	**05 29 57.9**	**+0.2**
TWQ1	**Liyutan**	**2.06**	**343**	*e*P	**Pb**	**05 30 00.3**	**-1.0**
NNS	**Nan Shan**	**2.06**	**359**	*e*P	**Pb**	**05 30 00.9**	**-0.5**
ENA	**Nanau**	**2.07**	**8**	*e*P	**Pb**	**05 30 00.1**	**-1.3**
PNG	**Penghu**	**2.10**	**305**	*e*P	**Pb**	**05 29 58.4**	**+0.2**
NSY	**Sanyi**	**2.12**	**343**	*e*S	**Sb**	**05 30 28.6**	**+0.2**
LATG	**Datong**	**2.15**	**2**	*e*P	**Pn**	**05 30 00.2**	**+1.0**
TWC	**Suao**	**2.26**	**10**	*e*S	**Sn**	**05 30 29.3**	**+1.7**
ENTT	**Nioudou**	**2.26**	**3**	*e*P	**Pb**	**05 30 03.1**	**-1.7**
NFF	**Wufeng Townshi**	**2.27**	**353**	*e*S	**Sb**	**05 30 32.0**	**-0.6**
NSTT	**Nanjuang**	**2.28**	**350**	*e*S	**Sb**	**05 30 31.7**	**-1.2**
YHNB	**Yeheng**	**2.29**	**359**	*e*P	**Pb**	**05 30 03.4**	**-1.9**
LIOB	**Emei**	**2.29**	**351**	*e*P	**Pb**	**05 30 03.4**	**-1.9**
NSK	**Sanguang**	**2.29**	**358**	*e*P	**Pb**	**05 30 03.6**	**-1.8**
FUSB	**Fushanzhiwuyua**	**2.38**	**4**	*e*P	**Pb**	**05 30 05.2**	**-1.7**
NWLT	**Wulai**	**2.40**	**2**	*e*P	**Pb**	**05 30 05.2**	**-1.9**
YOJ	**Yonaguni jima**	**2.54**	**35**	*e*S	**Sn**	**05 30 36.6**	**+2.1**
YOJ	**Yonaguni jima**	**2.54**	**35**	*e*P	**Pn**	**05 30 06.6**	**+2.3**
TIPB	**Shuangxi**	**2.61**	**8**	*e*P	**Pb**	**05 30 08.1**	**-2.7**
HATJ	**Hateruma jima**	**2.76**	**52**	P	**Pn**	**05 30 08.0**	**+0.6**
HATJ				*e*S	**Sn**	**05 30 40.3**	**+0.4**
IRIF	**Iriomote-Funau**	**2.88**	**47**	*e*P	**Pn**	**05 30 09.9**	**+0.9**
IRIF				S	**Sn**	**05 30 43.6**	**+0.7**
JKRS	**Kuro-shima**	**3.01**	**51**	*e*P	**Pn**	**05 30 12.0**	**+1.2**
JJ	**Ishigaki jima**	**3.19**	**51**	P	**Pn**	**05 30 13.9**	**+0.6**
JISG	**Ishigakijimahi**	**3.44**	**50**	*e*P	**Pn**	**05 30 17.2**	**+0.4**
JISG				*e*S	**Sn**	**05 30 56.1**	**-0.8**
JTJ	**Tarama**	**3.76**	**52**	*e*P	**Pn**	**05 30 22.3**	**+1.1**
JTJ				*e*S	**Sn**	**05 31 05.9**	**+1.2**
JOW	**Kunigami**	**7.65**	**53**	Pn	**Pn**	**05 31 14.1**	**-0.5**
	1.0nm,0.3s,baz=256,slow=18,SNR=1.3						
	3.5nm,0.4s						
KSRS	**Korea Array**	**16.04**	**19**	Pn	**Pn**	**05 33 09.1**	**+0.5**
	0.1nm,0.3s,baz=198,slow=11,SNR=5.6						
	0.5nm,0.6s						
MJAR	**Matsushiro Arr**	**20.27**	**42**	P	**P**	**05 33 59.1**	**+0.6**
	0.9nm,0.3s,baz=239,slow=14,SNR=4.6						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**39.80**	**317**	P	**P**	**05 36 55.7**	**-0.2**
	0.3nm,0.4s,baz=106,slow=9.1,SNR=3.7						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**41.89**	**328**	P	**P**	**05 37 12.6**	**-0.4**
	0.3nm,0.3s,baz=139,slow=9.0,SNR=3.6						
	0.3nm,0.3s						
H11N1	**WAKE ISLAND Hy**	**42.40**	**85**	T	T	06 22 45.5	
	baz=282,slow=75,SNR=9.7						
H11N2	**WAKE ISLAND Hy**	**42.40**	**85**	T	T	06 22 48.1	
	baz=282,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**42.41**	**85**	T	T	06 22 34.9	
	baz=282,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**42.47**	**87**	T	T	06 22 34.1	
	baz=283,slow=75,SNR=38						
H11S1	**WAKE ISLAND Hy**	**42.48**	**87**	T	T	06 22 52.3	
	baz=283,slow=75,SNR=27						
H11S2	**WAKE ISLAND Hy**	**42.49**	**87**	T	T	06 22 56.9	
	baz=283,slow=75,SNR=25						
KURBB	**Kurchatov Arra**	**43.64**	**321**	P	**P**	**05 37 25.1**	**-2.1**
	0.4nm,0.5s,baz=122,slow=7.0,SNR=4.1						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**43.91**	**162**	P	**P**	**05 37 28.1**	**-1.5**
	0.5nm,0.7s,baz=342,slow=8.0,SNR=3.6						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**47.34**	**164**	P	**P**	**05 37 56.2**	**-0.6**
	0.2nm,0.3s,baz=343,slow=8.4,SNR=1.8						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**49.22**	**322**	P	**P**	**05 38 11.4**	**+0.4**
	0.4nm,0.4s,baz=94,slow=9.1,SNR=2.1						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**73.12**	**330**	P	**P**	**05 40 53.8**	**+1.0**
	0.6nm,0.8s,baz=68,slow=5.9,SNR=3.5						
	0.6nm,0.8s						
HFS	**Hagfors**	**79.25**	**331**	P	**P**	**05 41 27.7**	**-0.1**
	0.6nm,0.7s,baz=57,slow=5.3,SNR=2.0						
	0.6nm,0.7s						

*IDC **27** 05:40:43.4±0.9, 20°.75N×121°.99E, h0km, mb3.6/8, mbtmp3.7/10, ML3.5/2, Error ellipse: s-maj=34.9km s-min=18.4km az=70.0*
ISC 27 05:40:48.4±1.0, 20°.8N±0°.1×122°.0E±0°.2, h35km, n16, σ1s00/10, mb3.7/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**8.31**	**42**	Pn	**Pn**	**05 42 47.2**	**+0.8**
	1.2nm,0.3s,baz=180,slow=4.0,SNR=1.8						
	3.9nm,0.4s						
KSRS	**Korea Array**	**17.38**	**16**	Pn	**Pn**	**05 44 46.4**	**-1.7**
	0.2nm,0.3s,baz=192,slow=10.0,SNR=2.1						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**41.33**	**318**	P	**P**	**05 48 31.9**	**+1.2**
	0.5nm,0.5s,baz=106,slow=9.6,SNR=5.5						
	0.5nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**42.02**	**83**	T	T	06 33 38.2	
	baz=285,slow=78,SNR=28						
H11N2	**WAKE ISLAND Hy**	**42.03**	**83**	T	T	06 33 36.0	
	baz=285,slow=78,SNR=34						
H11N3	**WAKE ISLAND Hy**	**42.04**	**83**	T	T	06 33 37.8	
	baz=285,slow=78,SNR=35						
H11S3	**WAKE ISLAND Hy**	**42.05**	**85**	T	T	06 33 33.2	
	baz=280,slow=74,SNR=83						
H11S1	**WAKE ISLAND Hy**	**42.06**	**85**	T	T	06 33 36.5	
	baz=280,slow=74,SNR=42						
H11S2	**WAKE ISLAND Hy**	**42.07**	**85**	T	T	06 33 34.5	
	baz=280,slow=74,SNR=60						
WRA	**Warramunga Arr**	**42.25**	**163**	P	**P**	**05 48 38.5**	**0.0**
	0.2nm,0.6s,baz=343,slow=8.4,SNR=0.9						
	0.2nm,0.6s						
PETK	**Petropavlovsk-**	**42.29**	**32**	P	**P**	**05 48 38.8**	**+0.2**
	1.7nm,0.9s,baz=239,slow=10.0,SNR=1.7						
	1.7nm,0.9s						
ZALV	**Zalesovo Beam**	**43.51**	**329**	P	**P**	**05 48 47.9**	**-0.4**
	0.9nm,0.5s,baz=118,slow=8.3,SNR=4.1						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**45.20**	**322**	P	**P**	**05 49 02.6**	**+0.7**
	0.9nm,0.7s,baz=118,slow=8.1,SNR=5.2						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**45.69**	**165**	P	**P**	**05 49 05.0**	**-1.1**
	0.1nm,0.5s,baz=346,slow=9.0,SNR=2.3						
	0.1nm,0.5s						
BVAR	**Borovoye Array**	**50.78**	**322**	P	**P**	**05 49 44.9**	**-0.2**
	0.3nm,0.4s,baz=114,slow=7.0,SNR=2.3						
	0.3nm,0.4s						
STKA	**Stephens Creek**	**55.64**	**160**	P	**P**	**05 50 21.4**	**+0.5**
	0.7nm,0.4s,baz=338,slow=19,SNR=3.3						
	0.7nm,0.4s						

*MEX **27** 05:47:05.8±0.9, 14°.79N×93°.69W, h14km±23km, MD4.1*
*GCG **27** 05:47:05.8±1.9, 14°.83N×93°.63W, h37km±999km, MD3.6, ML3.3*
ISC 27 05:46:59.4±1.9, 14°.72N±0°.08×93°.78W±0°.05, h16km±12km, n18, σ1s56/35, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.12**	**29**	***e*P**	**Pg**	**05 47 21.3**	**+0.3**
PCIG				*e*S	**Sb**	**05 47 34.0**	**-0.6**
THIG		**1.48**	**83**	*e*P	**Pg**	**05 47 27.8**	**0.0**
THIG	

DAV	**Davao City (W)**	**13.90**	**165**	LR	LR	06 00 33.9	
	comp=Z,52nm,18.1s,baz=4.5,slow=37						
KSRS	**Korea Array**	**17.55**	**16**	P	**P**	**05 56 07.1**	**+0.2**
	0.2nm,0.3s,baz=195,slow=12,SNR=5.2						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**41.47**	**318**	P	**P**	**05 59 48.1**	**+0.3**
	0.4nm,0.6s,baz=111,slow=8.0,SNR=4.0						
	0.4nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**42.02**	**83**	T	T	06 44 48.6	
	baz=278,slow=75,SNR=37						
H11N2	**WAKE ISLAND Hy**	**42.03**	**83**	T	T	06 44 50.6	
	baz=278,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**42.04**	**83**	T	T	06 44 52.0	
	baz=278,slow=75,SNR=45						
H11S3	**WAKE ISLAND Hy**	**42.04**	**85**	T	T	06 44 48.7	
	baz=280,slow=75,SNR=207						
H11S1	**WAKE ISLAND Hy**	**42.05**	**85**	T	T	06 44 47.3	
	baz=280,slow=75,SNR=118						
H11S2	**WAKE ISLAND Hy**	**42.06**	**85**	T	T	06 44 48.7	
	baz=280,slow=75,SNR=143						
WRA	**Warramunga Arr**	**42.07**	**163**	P	**P**	**05 59 52.0**	**-0.8**
	0.3nm,0.5s,baz=344,slow=8.3,SNR=2.7						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**43.67**	**329**	P	**P**	**06 00 04.3**	**-1.1**
	0.9nm,0.6s,baz=119,slow=6.4,SNR=4.3						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**45.36**	**322**	P	**P**	**06 00 19.2**	**+0.3**
	0.6nm,0.3s,baz=116,slow=7.4,SNR=5.4						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**45.51**	**165**	P	**P**	**06 00 21.2**	**+0.8**
	0.2nm,0.4s,baz=343,slow=8.2,SNR=5.2						
	0.2nm,0.4s						

IDC ***27*** *05:57:21.3±0.5, 37°.09S×17°.34W, h0ᵏᵐ, mb4.5/18, mbtmp4.5/18, MS4.7/22, Error ellipse: s-maj=17.9km s-min=12.1km az=100.0*

NEIC ***27*** *05:57:23.6, 37°.17S×17°.38W, h12ᵏᵐ*

NEIC ***27*** *05:57:23.6±1.5, 37°.2S±0°.1×17°.4W±0°.1, h10ᵏᵐ±1ᵏᵐ, mb5.2/72, Mww5.2/21, Error ellipse: s-maj=18.8km s-min=16.5km az=145.0*

NEIC ***27*** *05:57:23.6, 37°.57S×17°.38W, h12ᵏᵐ, Moment Tensor Solution. Duration: 2ˢ4 Moment tensor: Scale 10¹⁶Nm; Mrr-7.53; Mθθ 0.50; Mφφ 7.03; Mrθ-1.31; Mθφ-1.46; Mφr 5.00; Fault plane solution: M₀ 9.05000×10¹⁶ NP1: φs 349.42000°, δ 27.63000°, λ-87.38000°. NP2: φs 166.46000°, δ 62.40000°, λ-91.37000°. Principal axes: T 8.9543, Plg17.0000°, Azm257.0000°; N 0.1958, Plg1.0000°, Azm167.0000°; P -9.1501, Plg73.0000°, Azm73.0000°;*

BJI ***27*** *05:57:24.3, 37°.20S×17°.40W, h10ᵏᵐ, mB5.6/4, Ms5.4/12, Ms7 5.2/12*

GCMT ***27*** *05:57:24.6±0.1, 37°.23S±0°.01×17°.21W±0°.01, h12ᵏᵐ, MW5.3/155, Moment Tensor Solution. s80,c105; s155,c273; Duration: 1ˢ0 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.97±.01; Mθθ 0.07±.01; Mφφ 0.90±.01; Mrθ 0.11±.04; Mθφ-0.28±.01; Mφr-0.01±.04; Best double couple: M₀ 0.98900×10¹⁷ NP1: φs 169.00000°, δ 44.00000°, λ-81.00000°. NP2: φs 337.00000°, δ 47.00000°, λ-99.00000°. Principal axes: T 0.9930, Plg1.0000°, Azm73.0000°; N -0.0070, Plg6.0000°, Azm343.0000°; P -0.9860, Plg84.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 05:57:23.2±0.3, 37°.18S±0°.06×17°.37W±0°.06, h10ᵏᵐ, n255, σ 1§32/223, mb5.0/90, MS4.9/42, 1C-15D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEL	**Horse Pasture**	**23.51**	**29**	P	**P**	**06 02 32.4**	**-1.1**
SHEL				IAmb	IAmb	06 02 34.7	
	comp=Z,139nm,1.4s						
CAM01	**Campos-RJ**	**25.99**	**299**	*eP*	**P**	**06 02 57.5**	**+1.3**
DUB01	**Friburgo-RJ**	**26.33**	**298**	*eP*	**P**	**06 03 01.1**	**+1.8**
VAS01	**Vassouras-RJ**	**26.96**	**296**	*eP*	**P**	**06 03 05.4**	**+0.4**
H10S2	**ASCENSION HYDR**	**28.20**	**6**	T	T	06 32 54.7	
	baz=34,slow=74						
H10S3	**ASCENSION HYDR**	**28.21**	**6**	T	T	06 32 52.0	
	baz=186,slow=74						
GUA01	**Guaratinga, BA**	**28.52**	**310**	*eP*	**P**	**06 03 21.1**	**+2.1**
VAO	**Valinhos**	**29.11**	**291**	P	**P**	**06 03 24.4**	**+0.1**
VAO				IAmb	IAmb	06 03 58.9	
	comp=Z,60nm,1.8s						
H10N1	**ASCENSION HYDR**	**29.32**	**6**	T	T	06 34 18.7	
	baz=187,slow=80						
H10N3	**ASCENSION HYDR**	**29.32**	**6**	T	T	06 34 20.6	
	baz=187,slow=80						
H10N2	**ASCENSION HYDR**	**29.33**	**6**	T	T	06 34 20.7	
	baz=187,slow=80						
PLTB	**Pedras Altas**	**30.23**	**269**	P	**P**	**06 03 34.2**	**0.0**
BB19B	**Bebedouro**	**31.42**	**292**	*eP*	**P**	**06 03 46.5**	**+1.8**
PMNB	**Patos De Minas**	**31.52**	**298**	*eP*	**P**	**06 03 45.5**	**-0.2**
WIN	**Windhoek**	**33.04**	**74**	P	**P**	**06 03 57.7**	**-1.5**
WIN				IAmb	IAmb	06 04 21.4	
	comp=Z,38nm,1.4s						
VNA1	**Neumayer--Stat**	**33.88**	**175**	⇓P	**P**	**06 04 06.4**	**+0.8**
	comp=Z,9.1nm,1.0s						
VNA3	**Neumayer Olymp**	**34.37**	**176**	⇓P	**P**	**06 04 10.2**	**+0.3**
	comp=Z,14nm,0.8s						
BDFB	**Brasilia**	**34.59**	**300**		**P**	**06 04 12.5**	**0.0**
BDFB				IAmb	IAmb	06 04 14.0	
	comp=Z,41nm,1.5s						
BDFB	**Brasilia**	**34.59**	**300**	P	**P**	**06 04 11.9**	**-0.6**
	comp=Z,5.7nm,0.9s,baz=140,slow=2.6,SNR=6.4						
BDFB				LR	LR	06 15 49.4	
	comp=Z,3μm,20.5s,baz=126,slow=32						
	comp=Z,5.7nm,0.9s						
TRQA	**Tornquist**	**35.09**	**255**		**P**	**06 04 15.9**	**-0.7**
SNAA	**Sanae**	**35.37**	**172**	⇓P	**P**	**06 04 17.9**	**-0.7**
	comp=Z,54nm,0.7s						
SNAA	**Sanae**	**35.37**	**172**	P	**P**	**06 04 18.3**	**-0.3**
SNAA	**Sanae**	**35.37**	**172**	P	**P**	**06 04 17.7**	**-0.9**
	comp=Z,5.1nm,1.1s,baz=334,slow=14,SNR=8.0						
SNAA				S	**S**	**06 09 47.1**	**-5.7**
	comp=Z,1.0nm,1.0s,baz=1.3,slow=16,SNR=1.8						
SNAA				LR	LR	06 15 00.1	
	comp=Z,443nm,21.0s,baz=298,slow=30						
	comp=Z,5.1nm,1.1s						
TSUM	**Tsumeb**	**35.37**	**69**	LR	LR	06 16 29.0	
	comp=Z,1μm,19.0s,baz=178,slow=32						
CPUP	**Villa Florida**	**35.43**	**276**	P	**P**	**06 04 18.3**	**-1.2**
CPUP	**Villa Florida**	**35.43**	**276**	LR	LR	06 17 38.5	
	comp=Z,613nm,19.0s,baz=344,slow=34						
ESPZ	**Base Esperanza**	**35.49**	**210**	P	**P**	**06 04 19.6**	**0.0**
ESPZ				IAmb	IAmb	06 04 20.6	
	comp=Z,91nm,1.9s						
RCBR	**Riachuelo**	**35.50**	**327**	LR	LR	06 16 39.8	
	comp=Z,331nm,19.5s,baz=134,slow=33						
TROLL	**Troll, Antarti**	**36.36**	**170**	⇓P	**P**	**06 04 27.2**	**0.0**
	comp=Z,871nm,0.8s						
BOSA	**Boshof**	**36.55**	**89**	P	**P**	**06 04 28.1**	**-1.2**
BOSA	**Boshof**	**36.55**	**89**	P	**P**	**06 04 28.6**	**-0.7**
	comp=Z,20nm,1.4s,baz=242,slow=9.7,SNR=5.2						
BOSA				LR	LR	06 17 35.9	
	comp=Z,2μm,18.2s,baz=240,slow=33						
	comp=Z,20nm,1.4s						
AQDB	**Aquidauana**	**37.19**	**286**	P	**P**	**06 04 34.0**	**-0.6**
AQDB	**Aquidauana**	**37.19**	**286**	*eP*	**P**	**06 04 35.1**	**+0.5**
LBTB	**Lobatse**	**38.44**	**84**	P	**P**	**06 04 45.9**	**+0.6**
LBTB	**Lobatse**	**38.44**	**84**	LR	LR	06 17 55.6	
	comp=Z,2μm,19.8s,baz=237,slow=32						
PMSA	**Palmer Station**	**38.88**	**210**	LR	LR	06 18 37.0	
	comp=Z,1μm,20.2s,baz=52,slow=33						
SMTB	**Santa Maria do**	**39.27**	**308**	*eP*	**P**	**06 04 52.8**	**+0.5**
SNDB	**Serra Nova Dou**	**39.42**	**301**	*eP*	**P**	**06 04 53.9**	**+0.5**
SALV	**Santo Antonio**	**39.94**	**292**	*eP*	**P**	**06 04 59.2**	**+1.5**
PLCA	**Paso Flores**	**40.99**	**248**		**P**	**06 05 07.2**	**+0.8**
PLCA				IAmb	IAmb	06 05 13.8	
	comp=Z,42nm,1.3s						
PLCA	**Paso Flores**	**40.99**	**248**	P	**P**	**06 05 07.0**	**+0.6**
	comp=Z,7.0nm,0.9s,baz=109,slow=8.5,SNR=19						
PLCA				LR	LR	06 20 42.3	
	comp=Z,959nm,19.3s,baz=102,slow=34						
	comp=Z,7.0nm,0.9s						
PLCA	**Paso Flores**	**40.99**	**248**	*eP*	**P**	**06 05 07.7**	**+1.3**
COYC	**Coyhaique**	**41.20**	**241**		**P**	**06 05 07.8**	**-0.1**
COYC				IAmb	IAmb	06 05 15.4	
	comp=Z,42nm,1.1s						
SMAI	**San Martin Ant**	**41.30**	**206**	P	**P**	**06 05 08.3**	**-0.1**
SMAI				IAmb	IAmb	06 05 34.6	
	comp=Z,53nm,1.6s						
LL02	**Futaleuf**	**41.43**	**244**	P	**P**	**06 05 09.6**	**-0.3**
BELA	**Belgrano 2**	**41.47**	**185**	P	**P**	**06 05 10.3**	**+0.6**
BELA				IAmb	IAmb	06 05 11.5	
	comp=Z,59nm,1.8s						
CFA	**Coronel Fontan**	**41.94**	**262**	LR	LR	06 20 08.7	
	comp=Z,659nm,21.1s,baz=133,slow=33						
LL01	**San Ignacio de**	**42.00**	**245**	P	**P**	**06 05 13.8**	**-0.7**
LL01				IAmb	IAmb	06 05 14.8	
	comp=Z,76nm,1.7s						
LR05	**Currie**	**42.18**	**248**		**P**	**06 05 15.6**	**-0.4**
MT08	**Bocatoma Ro**	**42.67**	**259**	P	**P**	**06 05 19.9**	**-0.6**
MT08				IAmb	IAmb	06 05 39.4	
	comp=Z,58nm,1.6s						
LMEL	**Las Melosas**	**42.68**	**258**	P	**P**	**06 05 20.9**	**+0.5**
PRPB	**Parauapebas**	**42.74**	**308**	*eP*	**P**	**06 05 22.7**	**+1.9**
PTLB	**Pontes e Lacer**	**42.80**	**289**		**P**	**06 05 21.4**	**+0.1**
PTLB	**Pontes e Lacer**	**42.80**	**289**	*eP*	**P**	**06 05 21.9**	**+0.7**
BBSD	**Serra de San D**	**42.87**	**286**	*eP*	**P**	**06 05 22.4**	**+0.6**
MT16	**CCHEN**	**43.07**	**258**	P	**P**	**06 05 23.5**	**0.0**
MT16				IAmb	IAmb	06 05 30.0	
	comp=Z,46nm,1.1s						
MATP	**Matopo**	**43.08**	**80**	LR	LR	06 20 41.5	
	comp=Z,1μm,19.8s,baz=235,slow=32						
MT05	**Renca**	**43.26**	**258**		**P**	**06 05 23.5**	**-1.5**
PEL	**Peldehue**	**43.30**	**259**	P	**P**	**06 05 25.0**	**-0.3**
PEL				IAmb	IAmb	06 05 27.1	
	comp=Z,58nm,1.2s						
MT09	**Talagante**	**43.32**	**258**	P	**P**	**06 05 24.5**	**-1.0**
MT09				IAmb	IAmb	06 05 31.4	
	comp=Z,42nm,1.1s						
CLDB	**Colider**	**43.33**	**297**	*eP*	**P**	**06 05 25.8**	**+0.2**
MT01	**Popeta**	**43.49**	**258**		**P**	**06 05 25.8**	**-1.0**
MT01				IAmb	IAmb	06 05 32.5	
	comp=Z,30nm,1.1s						
PDRB	**Porto dos Gac**	**43.50**	**295**	*eP*	**P**	**06 05 26.3**	**-0.6**
SIV	**San Ignacio**	**43.94**	**287**	LR	LR	06 21 55.5	
	comp=Z,2μm,20.1s,baz=130,slow=34						
CO01	**Juntas del Tor**	**44.04**	**263**	P	**P**	**06 05 32.7**	**+1.2**
CO01				IAmb	IAmb	06 05 39.3	
	comp=Z,43nm,1.4s						
SYO	**Syowa Base**	**44.09**	**154**	⇓*eP*	**P**	**06 05 30.6**	**-0.5**
SYO	**Syowa Base**	**44.09**	**154**	⇓*pP*	**P**	**06 05 32.0**	**+0.9**
SYO	**Syowa Base**	**44.09**	**154**	⇓*sP*	sP	06 05 33.4	-1.0
LCO	**Las Campanas**	**44.92**	**264**	P	**P**	**06 05 38.0**	**-0.6**
DBIC	**Dimbokro**	**45.16**	**18**	P	**P**	**06 05 39.2**	**-1.0**
DBIC				IAmb	IAmb	06 06 20.6	
	comp=Z,68nm,1.6s						
DBIC	**Dimbokro**	**45.16**	**18**	P	**P**	**06 05 38.7**	**-1.5**
	comp=Z,6.4nm,0.8s,baz=195,slow=7.1,SNR=4.8						
DBIC				LR	LR	06 19 48.5	
	comp=Z,972nm,20.2s,baz=206,slow=30						
	comp=Z,6.4nm,0.8s						
VILB	**Vilhena**	**45.17**	**291**	P	**P**	**06 05 41.0**	**+0.6**
VILB				IAmb	IAmb	06 05 53.7	
	comp=Z,20nm,1.0s						
VILB	**Vilhena**	**45.17**	**291**	*eP*	**P**	**06 05 41.5**	**+1.1**
LSZ	**Lusaka**	**45.79**	**74**	P	**P**	**06 05 45.7**	**+0.3**
LSZ				IAmb	IAmb	06 06 08.4	
	comp=Z,64nm,2.0s						
LSZ	**Lusaka**	**45.79**	**74**	LR	LR	06 22 15.4	
	comp=Z,3μm,19.9s,baz=220,slow=33						
PB05	**IPOC Station P**	**47.35**	**272**	P	**P**	**06 05 56.2**	**-1.5**
PB08	**IPOC Station P**	**47.92**	**276**		**P**	**06 06 01.5**	**-0.8**
PB08				IAmb	IAmb	06 06 08.4	
	comp=Z,31nm,1.0s						
GO01	**Chusmiza**	**48.20**	**276**	P	**P**	**06 06 03.5**	**-1.2**
TA01	**Diego Aracena**	**48.51**	**275**	P	**P**	**06 06 06.0**	**-0.5**
TA01				IAmb	IAmb	06 07 12.3	
	comp=Z,34nm,1.2s						
PB11	**IPOC Station P**	**48.52**	**276**	P	**P**	**06 06 06.0**	**-0.7**
PB11				IAmb	IAmb	06 06 12.3	
	comp=Z,29nm,1.0s						
PB16	**IPOC Station P**	**49.17**	**278**	P	**P**	**06 06 11.3**	**-0.9**
PB16				IAmb	IAmb	06 06 18.5	
	comp=Z,21nm,1.0s						
LPAZ	**La Paz**	**49.24**	**281**	P	**P**	**06 06 10.8**	**-2.0**
LPAZ	**La Paz**	**49.24**	**281**	P	**P**	**06 06 11.3**	**-1.5**
	comp=Z,7.5nm,1.2s,baz=119,slow=4.5,SNR=12						
LPAZ				S	S	06 13 08.3	-11
	comp=Z,0.2nm,0.4s,baz=127,slow=5.1,SNR=1.3						
LPAZ				LR	LR	06 26 57.2	
	comp=Z,938nm,19.5s,baz=128,slow=36						
	comp=Z,7.5nm,1.2s						
LPAZ	**La Paz**	**49.24**	**281**	*eP*	**P**	**06 06 11.1**	**-1.7**
PB18	**Visviri**	**49.56**	**279**		**P**	**06 06 13.8**	**-1.4**
H04S2	**CROZET ISLANDS**	**50.82**	**124**	T	T	07 01 25.2	
	baz=256						
H04S3	**CROZET ISLANDS**	**50.82**	**124**	T	T	07 01 23.8	
	baz=256						
H04S1	**CROZET ISLANDS**	**50.84**	**124**	T	T	07 01 23.3	
	baz=256						
BBTS	**Babate**	**51.57**	**1**	LR	LR	06 24 43.2	
	comp=Z,742nm,18.7s,baz=174,slow=32						
MACA	**Manacapuru-AM**	**52.18**	**300**	P	**P**	**06 06 34.9**	**+0.6**
MAW	**Mawson**	**52.58**	**152**	P	**P**	**06 06 36.6**	**+0.1**
	comp=Z,4.7nm,0.9s,baz=272,slow=12,SNR=7.0						
MAW				S	S	06 14 19.3	+16
	comp=Z,1.3nm,0.8s,baz=287,slow=11,SNR=2.1						
MAW				LR	LR	06 24 16.9	
	comp=Z,459nm,21.6s,baz=278,slow=31						
	comp=Z,4.7nm,0.9s						
QSPA	**South Pole Qui**	**53.08**	**180**	P	**P**	**06 06 41.5**	**+1.1**
	comp=Z,17nm,0.8s,baz=203,slow=3.0,SNR=46						
QSPA				S	**S**	**06 14 12.0**	**+1.6**
	comp=Z,1.0nm,1.1s,baz=173,slow=5.1,SNR=3.2						
QSPA				LR	LR	06 27 14.9	
	comp=Z,399nm,18.9s,baz=196,slow=34						
	comp=Z,17nm,0.8s						
TORD	**Torodi Ar. Bea**	**53.17**	**23**		**P**	**06 06 40.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**53.17**	**23**	P	**P**	**06 06 40.4**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=200,slow=7.1,SNR=4.4						
TORD				S	**S**	**06 14 11.5**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=195,slow=27,SNR=2.5						
TORD				LR	LR	06 24 36.5	
	comp=Z,2μm,20.7s,baz=184,slow=31						
	comp=Z,1.0nm,0.4s						
TEFE	**Tefe**	**54.72**	**296**	*eP*	**P**	**06 06 53.5**	**+0.5**
BOAV	**Boa Vista**	**56.14**	**305**	P	**P**	**06 07 02.7**	**-0.4**
BOAV				IAmb	IAmb	06 07 05.6	
	comp=Z,35nm,1.8s						
CZSB	**Cruzeiro do Su**	**57.95**	**286**	P	**P**	**06 07 14.2**	**-1.8**
CZSB				IAmb	IAmb	06 07 20.4	
	comp=Z,23nm,1.1s						
CZSB	**Cruzeiro do Su**	**57.95**	**286**	*eP*	**P**	**06 07 14.3**	**-1.8**
TBTG	**Tabatinga, AM**	**58.12**	**291**	P	**P**	**06 07 16.2**	**-1.1**
OPO	**Ambohidratompo**	**58.94**	**91**	LR	LR	06 29 10.3	
	comp=Z,697nm,20.9s,baz=14,slow=32						
ATAH	**Atahualpa**	**62.73**	**282**	LR	LR	06 35 49.9	
	comp=Z,476nm,18.1s,baz=156,slow=37						
LODK	**Lodwar**	**63.44**	**63**	P	**P**	**06 07 54.7**	**+1.2**
LODK				IAmb	IAmb	06 08 06.0	
	comp=Z,31nm,1.7s						
SBA	**Scott Base**	**65.21**	**181**	P	**P**	**06 08 05.0**	**+0.9**
VNDA	**Vanda**	**65.57**	**180**	P	**P**	**06 08 07.3**	**+0.8**
VNDA	**Vanda**	**65.57**	**180**	P	**P**	**06 08 07.7**	**+1.2**
	comp=Z,15nm,1.4s,baz=189,slow=7.8,SNR=14						
VNDA				LR	LR	06 34 16.1	
	comp=Z,262nm,19.6s,baz=166,slow=34						
	comp=Z,15nm,1.4s						
BAUV	**El Baul**	**65.97**	**303**	P	**P**	**06 08 09.5**	**-0.4**
FLOC	**Florencia**	**66.22**	**292**	P	**P**	**06 08 10.0**	**-1.7**
FLOC				IAmb	IAmb	06 08 21.5	
	comp=Z,30nm,1.4s						
COHC	**Cochancay**	**66.31**	**286**	P	**P**	**06 08 11.9**	**-0.3**
SLOR	**San Lorenzo -**	**66.84**	**288**	P	**P**	**06 08 15.1**	**-1.1**
RUSC	**La Rusia**	**67.28**	**297**	P	**P**	**06 08 17.7**	**-1.2**
OTAV	**Otavalo**	**67.43**	**289**	P	**P**	**06 08 19.5**	**-0.4**
OTAV				IAmb	IAmb	06 08 35.8	
	comp=Z,32nm,1.5s						
OTAV	**Otavalo**	**67.43**	**289**	*eP*	**P**	**06 08 20.3**	**+0.4**
ROSC	**El Rosal**	**67.44**	**295**	P	**P**	**06 08 19.5**	**-0.3**
	comp=Z,4.9nm,0.4s,baz=68,slow=16,SNR=4.0						
	comp=Z,4.9nm,0.4s						
CASY	**Casey**	**69.40**	**160**	P	**P**	**06 08 31.4**	**+0.5**
KEST	**Kesra**	**76.67**	**22**	P	**P**	**06 09 15.4**	**+1.2**
KEST				IAmb	IAmb	06 09 17.1	
	comp=Z,37nm,1.4s						
KEST	**Kesra**	**76.67**	**22**	P	**P**	**06 09 13.9**	**-0.3**
	comp=Z,7.9nm,1.0s,baz=161,slow=3.8,SNR=6.3						
	comp=Z,7.9nm,1.0s						
ESDC	**Sonseca Array**	**77.47**	**11**	P	**P**	**06 09 19.1**	**+0.5**
ESDC	**Sonseca Array**	**77.47**	**11**	P	**P**	**06 09 18.4**	**-0.2**
	comp=Z,2.9nm,1.0s,baz=192,slow=5.7,SNR=10						
	comp=Z,2.9nm,1.0s						
ESPN	**Las Esperanzas**	**79.65**	**294**	P	**P**	**06 09 30.2**	**-0.9**
ESPN				IAmb	IAmb	06 09 37.7	
	comp=Z,23nm,0.9s						
CEL	**Celeste**	**81.10**	**26**	P	**P**	**06 09 37.0**	**-1.5**
	comp=Z,12nm,2.0s						
TIP	**Timpagrande**	**82.22**	**26**	P	**P**	**06 09 44.4**	**0.0**
TIP	**Timpagrande**	**82.22**	**26**	P	**P**	**06 09 43.9**	**-0.5**
	comp=Z,346nmcomp=Z,17nm,2.3s						
ITM	**Ithomi**	**82.44**	**31**	P	**P**	**06 09 46.2**	**+0.7**
RAYN	**Ar Rayn**	**84.52**	**55**	P	**P**	**06 09 57.4**	**+0.8**
RAYN				IAmb	IAmb	06 10 16.7	
	comp=Z,17nm,1.5s						
CSS	**Mathiatis**	**85.86**	**40**	P	**P**	**06 10 03.0**	**0.0**
	comp=Z,15nm,1.4s						
EZN	**Ezine**	**86.51**	**32**	P	**P**	**06 10 06.1**	**+0.1**
EZN				pP	**sP**	**06 10 09.5**	**+0.5**
CLF	**Chambon-Foret**	**86.62**	**13**	P	**P**	**06 10 06.9**	**+0.5**
TUE	**Stuetta**	**86.66**	**18**	P	**P**	**06 10 06.6**	**-0.3**
	comp=Z,37nm,2.1s						
FUORN	**Ofenpass-Fuorn**	**87.03**	**19**	P	**P**	**06 10 09.2**	**+0.5**
FETA	**Feichten**	**87.52**	**19**	*eP*	**P**	**06 10 12.1**	**+1.1**
	comp=Z,3.4nm,1.1s						
ABTA	**Abfaltersbach**	**87.75**	**20**	*i* P	**P**	**06 10 13.2**	**+1.2**
	comp=Z,15nm,1.3s						
SQTA	**Sankt Quirin**	**87.83**	**19**	*eP*	**P**	**06 10 13.4**	**+1.0**
	comp=Z,7.4nm,1.1s						
MOTA	**Moosalm**	**87.92**	**19**	*eP*	**P**	**06 10 13.8**	**+0.9**
	comp=Z,5.1nm,1.1s						
MYKA	**Terra Mystica**	**87.95**	**21**	*eP*	**P**	**06 10 14.5**	**+1.6**
	comp=Z,8.8nm,1.6s						
RETA	**Reutte**	**87.96**	**19**	*eP*	**P**	**06 10 14.4**	**+1.4**
	comp=Z,6.9nm,1.1s						
WTTA	**Wattenberg**	**87.98**	**19**	*eP*	**P**	**06 10 13.8**	**+0.6**
	comp=Z,16nm,1.4s						
WATA	**Walderalm**	**88.03**	**19**	*eP*	**P**	**06 10 14.0**	**+0.5**
	comp=Z,10nm,1.1s						
KBA	**Koelnbreinsper**	**88.28**	**20**	*eP*	**P**	**06 10 15.6**	**+1.0**
	comp=Z,3.9nm,1.1s						
BIOA	**Bad Ischl, Aus**	**88.92**	**20**	*i* P	**P**	**06 10 18.4**	**+1.0**
	comp=Z,3.0nm,0.6s						
WLF	**Walfersange**	**88.94**	**15**	*dP*	**P**	**06 10 18.6**	**+1.1**
	comp=Z,8.6nm,1.5s						
DOU	**Dourbes**	**89.04**	**14**	*dP*	**P**	**06 10 19.1**	**+1.2**
	comp=Z,5.4nm,1.4s						
ARSA	**Arzberg**	**89.06**	**22**	*eP*	**P**	**06 10 19.3**	**+1.2**
	comp=Z,13nm,1.8s						
MORH	**Mrgy, Hungar**	**89.11**	**24**	P	**P**	**06 10 17.5**	**-0.8**
	comp=Z,7.7nm,1.4s						
RCHB	**Rochefort**	**89.22**	**14**	*dP*	**P**	**06 10 20.0**	**+1.3**
	comp=Z,5.8nm,1.4s						
MOA	**Molln**	**89.24**	**21**	*eP*	**P**	**06 10 19.5**	**+0.6**
	comp=Z,12nm,1.9s						
BMRD	**Maredsous**	**89.27**	**14**	*dP*	**P**	**06 10 20.0**	**+1.1**
BGES	**Gesves**	**89.41**	**14**	*dP*	**P**	**06 10 21.1**	**+1.4**
	comp=Z,8.6nm,1.3s						
BHOU	**Houvegnez**	**89.56**	**15**	*dP*	**P**	**06 10 22.2**	**+1.9**
	comp=Z,8.3nm,1.4s						
MPLH	**Magyarpolny**	**89.60**	**23**	P	**P**	**06 10 20.6**	**0.0**
	comp=Z,27nm,1.8s						
UCC	**Uccle**	**89.67**	**14**	*dP*	**P**	**06 10 22.0**	**+1.2**
RONA	**Rosalia, Austr**	**89.69**	**22**	*eP*	**P**	**06 10 23.0**	**+2.0**
	comp=Z,18nm,1.8s						
BSTI	**Sart Tilman**	**89.69**	**14**	*dP*	**P**	**06 10 22.3**	**+1.3**
BR105	**Keskin Array S**	**89.72**	**37**	P	**P**	**06 10 21.4**	**-0.2**
	comp=Z,42nmcomp=Z,2.1nm,1.1s						
BR104	**Keskin Array S**	**89.73**	**37**	P	**P**	**06 10 21.4**	**-0.2**
	comp=Z,43nmcomp=Z,3.9nm,1.2s						
BR106	**Keskin Array S**	**89.74**	**37**	P	**P**	**06 10 21.4**	**-0.2**
	comp=Z,40nmcomp=Z,3.2nm,1.2s						
BRTR	**Keskin Array B**	**89.74**	**37**	P	**P**	**06 10 21.7**	**0.0**
BRTR	**Keskin Array B**	**89.74**	**37**	P	**P**	**06 10 22.0**	**+0.3**
	comp=Z,2.8nm,1.1s,baz=190,slow=5.7,SNR=11						
	comp=Z,2.8nm,1.1s						
CONA	**Conrad Observa**	**89.77**	**22**	*eP*	**P**	**06 10 23.1**	**+1.6**
	comp=Z,20nm,1.7s						
BTNL	**Ternell**	**89.81**	**15**	*dP*	**P**	**06 10 22.8**	**+1.3**
GERES	**GERESS Array B**	**89.99**	**20**	P	**P**	**06 10 22.5**	**0.0**
	comp=Z,1.0nm,0.9s,baz=206,slow=6.5,SNR=8.0						
GERES				PP	**PP**	**06 13 57.1**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=208,slow=12,SNR=3.6						
	comp=Z,1.0nm,0.9s						
GRFO	**Grafenberg**	**90.12**	**18**	P	**P**	**06 10 24.3**	**+1.4**
GRA1	**Grafenberg Arr**	**90.12**	**18**	P	**P**	**06 10 23.6**	**+0.7**
CKRC	**Cesky Krumlov**	**90.13**	**20**	*eP*	**P**	**06 10 24.2**	**+1.1**
CKRC				AMS	AMS	06 48 10.0	
	comp=Z,400nm,18.5s						
KHC	**Kasperske Hory**	**90.22**	**20**	*eP*	**P**	**06 10 21.8**	**-1.7**
KHC				AMS	AMS	06 46 50.0	
	comp=Z,700nm,19.6s						
K

KSP	**Ksiaz**	**92.51**	**21**	P	**P**	**06 10 34.1**	**+0.1**
	comp=Z,5.1nm,2.1s							
BURAR	**Bucovina Array**	**92.59**	**27**	P	**P**	**06 10 35.1**	**+0.5**
BUR08	**Bucovina Ar. S**	**92.61**	**27**	P	**P**	**06 10 35.0**	**+0.2**
BUR08				IAmb	IAmb	06 10 37.7		
	comp=Z,12nm,1.4s							
EKA	**Eskdalemuir Ar**	**92.95**	**8**	P	**P**	**06 10 34.5**	**-1.5**
	comp=Z,1.0nm,0.7s,baz=193,slow=2.9,SNR=4.1							
	comp=Z,1.0nm,0.7s							
OJC	**Ojcow**	**93.00**	**23**	P	**P**	**06 10 36.3**	**0.0**
	comp=Z,7.2nm,2.2s							
KSV	**Kosov**	**93.13**	**27**	P	**P**	**06 10 37.0**	**0.0**
KOPT	**Kop Dagi**	**93.39**	**41**	P	**P**	**06 10 39.5**	**+0.8**
SORM	**Soroca**	**94.20**	**29**	P	**P**	**06 10 41.5**	**-0.4**
NDNU	**Novodnistrovsk**	**94.20**	**28**	P	**P**	**06 10 41.5**	**-0.4**
H01W2	**Cape Leeuwin H**	**95.30**	**142**	T	T	07 57 39.4		
	baz=218,slow=75							
H01W3	**Cape Leeuwin H**	**95.31**	**142**	T	T	07 57 40.2		
	baz=218,slow=75							
H01W1	**Cape Leeuwin H**	**95.31**	**142**	T	T	07 57 43.0		
	baz=218,slow=75							
LUBAR	**Lubar, Ukraine**	**95.44**	**27**	P	**P**	**06 10 47.3**	**-0.2**
RNPP9	**Sopachiv**	**96.02**	**26**	P	**P**	**06 10 48.3**	**-1.8**
AK17	**Malin Array Si**	**96.55**	**28**	P	**P**	**06 10 52.5**	**0.0**
AK16	**Malin Array Si**	**96.56**	**28**	P	**P**	**06 10 52.4**	**-0.2**
AK19	**Malin Array Si**	**96.56**	**28**	P	**P**	**06 10 52.4**	**-0.2**
AK09	**Malin Array Si**	**96.58**	**28**	P	**P**	**06 10 52.5**	**-0.2**
AK20	**Malin Array Si**	**96.58**	**28**	P	**P**	**06 10 52.5**	**-0.2**
AK08	**Malin Array Si**	**96.58**	**28**	P	**P**	**06 10 52.9**	**+0.2**
AK02	**Malin Array Si**	**96.58**	**28**	P	**P**	**06 10 52.7**	**0.0**
AK18	**Malin Array Si**	**96.58**	**28**	P	**P**	**06 10 52.4**	**-0.3**
AKASG	**Malin Array Be**	**96.62**	**28**	P	**P**	**06 10 52.5**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=218,slow=3.3,SNR=5.4							
	comp=Z,0.2nm,0.4s							
AKBB	**Malin Array Si**	**96.62**	**28**	P	**P**	**06 10 53.0**	**+0.1**
AK03	**Malin Array Si**	**96.64**	**28**	P	**P**	**06 10 52.4**	**-0.6**
KBZ	**Khabaz**	**97.31**	**39**	P	**P**	**06 10 55.0**	**-1.2**
	comp=Z,1.1nm,0.4s,baz=218,slow=12,SNR=1.9							
	comp=Z,1.1nm,0.4s							
TBI	**Tubuai**	**104.77**	**225**	*e*SS	SS	06 30 47.7	+6.4	
	comp=Z,888nm,30.8s							
TBI	**Tubuai**	**104.77**	**225**	*e*LR	LR	06 45 49.7		
	comp=Z,3μm,32.2s							
TBI				*e*LR	LR	06 45 55.1		
	comp=Z,997nm,25.5s							
PPT2	**Papeete2**	**109.33**	**228**	*e*S		06 23 41.0		
	comp=Z,90nm,26.0s							
PPT2				*e*SS	**SS**	**06 31 52.2**	**+8.4**	
	comp=Z,240nm,26.5s							
PPT2	**Papeete2**	**109.33**	**228**	*e*LR	LR	06 47 53.5		
	comp=Z,1μm,31.2s							
PPT2				*e*LR	LR	06 47 57.1		
	comp=Z,753nm,32.5s							
TAOE	**Nuku Hiva Isla**	**109.59**	**242**	*e*SS	SS	06 31 53.5	+5.5	
	comp=Z,186nm,28.3s							
TAOE	**Nuku Hiva Isla**	**109.59**	**242**	*e*LR	LR	06 48 13.4		
	comp=Z,484nm,27.0s							
KSH	**Kashi**	**114.67**	**58**	PKP	**PKiKP**	**06 16 04.0**	**+0.3**
WRA	**Warramunga Arr**	**117.23**	**150**	PKP	**PKPdf**	**06 16 08.6**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=230,slow=2.1,SNR=2.8							
DZM	**Mont Dzumac**	**120.96**	**184**	*e*LR	LR	06 53 34.9		
	comp=Z,261nm,23.8s							
KURBB	**Kurchatov Arra**	**121.07**	**48**	PKP	**PKPdf**	**06 16 15.2**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=253,slow=2.7,SNR=5.9							
CMAR	**Chiang Mai Arr**	**121.69**	**90**	PKP	**PKPdf**	**06 16 17.6**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=251,slow=2.0,SNR=4.2							
WMQ	**Urumqi**	**124.43**	**58**	*e*PKP	**PKiKP**	**06 16 23.8**	**+1.2**
WMQ				LR	LR			
	comp=Z,400nm,15.7s							
WMQ				LR	LR			
	comp=Z,450nm,19.9s							
WMQ				LR	LR			
	comp=Z,270nm,15.7s							
GOMU	**GeErMu**	**126.71**	**69**	PKP	**PKPdf**	**06 16 27.0**	**-0.3**
GOMU				AMB	AMB			
	comp=Z,96nm,4.8s							
PZH	**PanZhiHua**	**127.97**	**83**	PKP	**PKPdf**	**06 16 29.5**	**-0.2**
QIZ	**Qiongzhong**	**130.69**	**96**	PKP	**PKPdf**	**06 16 31.5**	**-3.4**
QIZ				SS	SS	06 36 15.8	-4.2	
QIZ				LR	LR			
	comp=Z,54nm,12.4s							
QIZ				LR	LR			
	comp=Z,80nm,13.7s							
QIZ				LR	LR			
	comp=Z,250nm,22.0s							
CD2	**Chengdu**	**131.49**	**79**	PKP	**PKPdf**	**06 16 35.5**	**-0.6**
GTA	**Gaotai**	**131.54**	**67**	*e*PKP	**PKPdf**	**06 16 36.5**	**+0.4**
GTA				PP	**PP**	**06 19 02.8**	**+6.9**	
GTA				LR	LR			
	comp=Z,210nm,15.3s							
GTA				LR	LR			
	comp=Z,340nm,19.3s							
GTA				LR	LR			
	comp=Z,410nm,18.2s							
XAN	**Xi'an**	**136.70**	**77**	*e*PKP	**PKiKP**	**06 16 49.0**	**+1.4**
XAN				LR	LR			
	comp=Z,280nm,24.7s							
XAN				LR	LR			
	comp=Z,220nm,22.0s							
XAN				LR	LR			
	comp=Z,280nm,18.6s							
SONM	**Songino Array**	**138.05**	**57**	PKP	**PKPdf**	**06 16 47.5**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=222,slow=1.9,SNR=6.1							
ILAR	**Eielson Array**	**139.59**	**329**	PKP	**PKPdf**	**06 16 49.2**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=52,slow=2.4,SNR=6.4							
HHC	**Hu-ho-hao-te**	**140.61**	**68**	*e*PKP	**PKPdf**	**06 16 49.3**	**-3.5**
HHC				LR	LR			
	comp=Z,230nm,15.7s							
HHC				LR	LR			
	comp=Z,190nm,15.4s							
HHC				LR	LR			
	comp=Z,390nm,15.1s							
NJ2	**Nanjing**	**143.85**	**85**	*e*PKP	**PKPdf**	**06 16 59.0**	**+0.3**
XLT	**XiLinHaoTe**	**144.37**	**64**	*e*PKP	PKPbc	06 16 58.0	+0.2	
XLT				pPKP	PKiKP	06 17 07.3	+4.3	
CN2	**Changchun**	**151.14**	**65**	PKPbc	**PKPdf**	**06 17 09.0**	**-1.4**
HEH	**HeiHe**	**151.67**	**51**	PKPbc	**PKPbc**	**06 17 16.3**	**-1.0**
HEH				LR	LR			
	comp=Z,150nm,18.8s							
HEH				LR	LR			
	comp=Z,170nm,18.7s							
HEH				LR	LR			
	comp=Z,360nm,18.5s							
KSRS	**Korea Array**	**152.49**	**79**	PKPbc	**PKPbc**	**06 17 18.3**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=257,slow=3.1,SNR=8.8							
MJAR	**Matsushiro Arr**	**160.46**	**84**	PKPab	**PKPab**	**06 18 03.8**	**-0.5**
	comp=Z,0.6nm,0.2s,baz=298,slow=5.4,SNR=2.1							
PETK	**Petropavlovsk-**	**163.70**	**11**	PKPab	**PKPab**	**06 18 16.3**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=355,slow=4.6,SNR=1.9							

*NOU **27** 05:58:32.8,20°.39S×175°.30W,h121km,mb4.5/9, Tonga Islands*
*IDC **27** 05:58:32.5±5.9,20°.08S×175°.66W,h150km±53km,mb3.5/9, mbtmp4.0/11,MS3.8/1,Error ellipse: s-maj=31.1km s-min=17.1km az=161.0*
ISC 27 05:58:32.8±0.6,20°.3S±0°.1×175°.43W±0°.08,h150km,n30, σ2ş31/23,mb3.7/9,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**3.80**	**302**	P	Pn	05 59 31.5	+1.0
NIUE	**Niue**	**5.32**	**78**	P	**Pn**	**05 59 48.9**	**-1.6**
MSVF	**Nonsavu**	**6.67**	**291**	P	Pn	06 00 10.6	+1.9
RAR	**Rarotonga**	**14.67**	**96**	P	**Pn**	**06 01 56.5**	**+3.3**
	9.9nm,0.7s,baz=249,slow=14,SNR=1.9							
YATNC	**Mamie plateau,**	**16.59**	**261**	P	**P**	**06 02 20.0**	**+3.3**
OUENC	**Ouen Island, N**	**16.66**	**260**	P	**Pn**	**06 02 20.1**	**+2.5**
DZM	**Mont Dzumac**	**17.00**	**261**	P	**Pn**	**06 02 23.3**	**+1.4**
	20nm,0.6s,baz=79,slow=18,SNR=19							
DZM	**Mont Dzumac**	**17.00**	**261**	P	**Pn**	**06 02 24.0**	**+2.1**
URZ	**Urewera**	**19.04**	**198**	P	**P**	**06 02 43.8**	**+0.4**
	3.0nm,0.3s,baz=90,slow=11,SNR=9.9							
URZ				S	**S**	**06 06 04.9**	**-6.5**	
	3.3nm,0.7s,baz=53,slow=20,SNR=0.8							
URZ	**Urewera**	**19.04**	**198**	P	**P**	**06 02 44.8**	**+1.5**
QRZ	**Quartz Range**	**22.90**	**204**	P	**P**	**06 03 25.7**	**+2.1**
STKA	**Stephens Creek**	**40.05**	**244**	P	**P**	**06 05 54.1**	**+0.6**
	0.8nm,0.5s,baz=100,slow=11,SNR=3.8							
	0.8nm,0.5s							
ASAR	**Alice Springs**	**46.91**	**256**	P	**P**	**06 06 46.6**	**-2.0**
	4.4nm,0.7s,baz=100,slow=7.7,SNR=88							
ASAR				PcP	**PcP**	**06 08 17.5**	**-1.4**	
	0.3nm,0.6s,baz=102,slow=3.8,SNR=1.9							
	4.4nm,0.7s							
WRA	**Warramunga Arr**	**47.02**	**261**	P	**P**	**06 06 46.9**	**-2.6**
	1.9nm,0.3s,baz=96,slow=8.0,SNR=92							
WRA				PcP	**PcP**	**06 08 18.1**	**-1.2**	
	0.4nm,0.5s,baz=98,slow=3.1,SNR=2.5							
	1.9nm,0.3s							
FITZ	**Fitzroy Crossi**	**55.45**	**262**	LR	LR	06 30 36.2		
	comp=Z,81nm,18.2s,baz=126,slow=35							
QSPA	**South Pole Qui**	**69.78**	**180**	P	**P**	**06 09 27.8**	**+1.2**
	2.5nm,0.8s,baz=24,slow=10.0,SNR=1.2							
	2.5nm,0.8s							
NVAR	**Mina Array Bea**	**79.23**	**42**	P	**P**	**06 10 21.4**	**-0.3**
	0.6nm,0.6s,baz=247,slow=7.7,SNR=5.5							
	0.6nm,0.6s							
H03S2	**Juan Fernandez**	**84.11**	**124**	T	T	07 43 28.1		
	baz=248,slow=74,SNR=50							
H03S1	**Juan Fernandez**	**84.12**	**124**	T	T	07 43 29.1		
	baz=248,slow=74,SNR=53							
H03S3	**Juan Fernandez**	**84.13**	**124**	T	T	07 43 27.9		
	baz=248,slow=74,SNR=46							
H03N2	**Juan Fernandez**	**84.24**	**123**	T	T	07 43 50.5		
	baz=244,slow=74							
H03N3	**Juan Fernandez**	**84.24**	**123**	T	T	07 43 32.6		
	baz=244,slow=74							
H03N1	**Juan Fernandez**	**84.26**	**123**	T	T	07 43 38.1		
	baz=244							
TXAR	**Lajitas Array**	**84.92**	**56**	P	**P**	**06 10 51.2**	**-0.2**
	0.3nm,0.6s,baz=242,slow=5.4,SNR=3.8							
	0.3nm,0.6s							
PDAR	**Pinedale Array**	**87.17**	**42**	P	**P**	**06 11 02.1**	**-0.2**
	0.1nm,0.4s,baz=236,slow=10,SNR=2.2							
	0.1nm,0.4s							
ILAR	**Eielson Array**	**87.60**	**12**	P	**P**	**06 11 02.1**	**-1.4**
	0.1nm,0.3s,baz=200,slow=4.6,SNR=1.7							
	0.1nm,0.3s							
PLCA	**Paso Flores**	**87.65**	**133**	P	**P**	**06 11 05.2**	**+0.6**
	0.5nm,0.6s,baz=234,slow=8.7,SNR=3.7							
	0.5nm,0.6s							
AKASG	**Malin Array Be**	**143.96**	**333**	PKhKP	PKPpre	06 17 45.9		
	0.5nm,0.3s,baz=40,slow=4.3,SNR=3.8							
EKA	**Eskdalemuir Ar**	**144.53**	**8**	PKP	**PKPab**	**06 17 48.5**	**-1.4**
	0.5nm,0.6s,baz=14,slow=1.9,SNR=3.6							
GERES	**GERESS Array B**	**150.58**	**348**	PKPbc	**PKPbc**	**06 18 06.4**	**-0.7**
	0.5nm,0.7s,baz=346,slow=2.4,SNR=4.3							

*IDC **27** 05:59:23.0±0.7,37°.08S×17°.28W,h0km,mb4.2/11, mbtmp4.2/11,Error ellipse: s-maj=27.8km s-min=19.6km az=109.0*
*NEIC **27** 05:59:24.9±1.3,37°.1S±0°.1×17°.1W±0°.1,h10km±1km, mb4.6/18,Error ellipse: s-maj=23.4km s-min=18.3km az=337.0*
ISC 27 05:59:24.4±0.5,37°.11S±0°.09×17°.2W±0°.1,h10km,n45, σ0ş99/36,mb4.5/19,4C,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**21.72**	**212**	P	**P**	**06 04 14.8**	**-0.7**
HOPE				IAmb	IAmb	06 04 34.2		
	comp=Z,48nm,1.1s							
SHEL	**Horse Pasture**	**23.37**	**29**	P	**P**	**06 04 32.8**	**-0.5**
H10S2	**ASCENSION HYDR**	**28.11**	**5**	T	T	06 34 51.3		
	baz=184,slow=74,SNR=11							
H10S3	**ASCENSION HYDR**	**28.12**	**5**	T	T	06 34 51.3		
	baz=36,slow=74,SNR=9.2							
H10N1	**ASCENSION HYDR**	**29.23**	**5**	T	T	06 36 16.5		
	baz=181							
H10N3	**ASCENSION HYDR**	**29.23**	**5**	T	T	06 36 17.4		
	baz=181							
H10N2	**ASCENSION HYDR**	**29.25**	**5**	T	T	06 36 18.4		
	baz=181							
SUR	**Sutherland**	**31.42**	**93**	P	**P**	**06 05 45.2**	**-0.8**
SUR				IAmb	IAmb	06 05 59.7		
	comp=Z,7.2nm,1.1s							
VNA1	**Neumayer--Stat**	**33.94**	**175**	⇑P	**P**	**06 06 07.9**	**+0.5**
	comp=Z,5.8nm,1.0s							
VNA3	**Neumayer Olymp**	**34.43**	**176**	⇑P	**P**	**06 06 11.7**	**0.0**
	comp=Z,8.2nm,1.0s							
SNAA	**Sanae**	**35.42**	**172**	⇑P	**P**	**06 06 20.4**	**+0.1**
	comp=Z,66nm,1.2s							
SNAA	**Sanae**	**35.42**	**172**	P	**P**	**06 06 20.0**	**-0.3**
SNAA	**Sanae**	**35.42**	**172**	P	**P**	**06 06 19.9**	**-0.4**
	comp=Z,3.3nm,1.1s,baz=343,slow=17,SNR=3.6							
	comp=Z,3.3nm,1.1s							
GRHM	**Grahamstown, E**	**35.56**	**97**	P	**P**	**06 06 21.9**	**0.0**
GRHM				IAmb	IAmb	06 06 32.7		
	comp=Z,19nm,1.1s							
BOSA	**Boshof**	**36.38**	**89**	P	**P**	**06 06 27.5**	**-1.7**
BOSA				IAmb	IAmb	06 06 31.0		
	comp=Z,11nm,1.1s							
BOSA	**Boshof**	**36.38**	**89**	P	**P**	**06 06 30.4**	**+1.2**
	comp=Z,11nm,1.1s,baz=245,slow=13,SNR=3.7							
	comp=Z,11nm,1.1s							
TROLL	**Troll, Antarti**	**36.40**	**170**	⇑P	**P**	**06 06 29.3**	**+0.5**
	comp=Z,482nm,0.9s							
PLCA	**Paso Flores**	**41.16**	**248**	P	**P**	**06 07 08.9**	**-0.1**
PLCA				IAmb	IAmb	06 07 15.8		
	comp=Z,12nm,1.1s							
PLCA	**Paso Flores**	**41.16**	**248**	P	**P**	**06 07 09.5**	**+0.5**
	comp=Z,4.7nm,1.1s,baz=102,slow=9.5,SNR=3.4							
	comp=Z,4.7nm,1.1s							
BELA	**Belgrano 2**	**41.55**	**185**	P	**P**	**06 07 11.7**	**0.0**
PTLB	**Pontes e Lacer**	**42.93**	**289**	P	**P**	**06 07 24.4**	**+0.9**
CO01	**Juntas del Tor**	**44.21**	**263**	P	**P**	**06 07 33.7**	**-0.4**
CO01				IAmb	IAmb	06 07 39.1		
	comp=Z,5.7nm,1.0s							
VILB	**Vilhena**	**45.29**	**291**	P	**P**	**06 07 44.0**	**+1.5**
VILB				IAmb	IAmb	06 07 52.5		
	comp=Z,9.6nm,1.0s							
PB08	**IPOC Station P**	**48.07**	**276**	P	**P**	**06 08 04.7**	**0.0**
PB08				IAmb	IAmb	06 08 06.0		
	comp=Z,12nm,1.0s							
GO01	**Chusmiza**	**48.35**	**276**	P	**P**	**06 08 06.4**	**-0.7**
PB16	**IPOC Station P**	**49.32**	**277**	P	**P**	**06 08 14.4**	**-0.3**
PB16				IAmb	IAmb	06 08 16.1		
	comp=Z,8.3nm,1.1s							
LPAZ	**La Paz**	**49.38**	**281**	P	**P**	**06 08 15.1**	**0.0**
LPAZ	**La Paz**	**49.38**	**281**	P	**P**	**06 08 13.5**	**-1.7**
	comp=Z,1.8nm,0.9s,baz=129,slow=2.7,SNR=3.8							
	comp=Z,1.8nm,0.9s							
TORD	**Torodi Ar. Bea**	**53.05**	**23**	P	**P**	**06 08 40.5**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=197,slow=1.5,SNR=1.5							
	comp=Z,0.7nm,0.5s							
QSPA	**South Pole Qui**	**53.15**	**180**	P	**P**	**06 08 43.1**	**+0.9**
QSPA	**South Pole Qui**	**53.15**	**180**	P	**P**	**06 08 43.4**	**+1.2**
	comp=Z,18nm,1.0s,baz=202,slow=6.2,SNR=7.7							
	comp=Z,18nm,1.0s							
VNDA	**Vanda**	**65.64**	**180**	P	**P**	**06 10 07.9**	**-0.3**
	comp=Z,2.9nm,1.1s,baz=166,slow=4.2,SNR=3.1							
	comp=Z,2.9nm,1.1s							
KEST	**Kesra**	**76.54**	**22**	P	**P**	**06 11 16.9**	**+2.2**
	comp=Z,2.7nm,0.4s,baz=293,slow=7.7,SNR=1.4							
	comp=Z,2.7nm,0.4s							
ESDC	**Sonseca Array**	**77.37**	**10**	P	**P**	**06 11 20.6**	**+1.4**
	comp=Z,1.9nm,1.0s,baz=186,slow=5.3,SNR=4.3							
	comp=Z,1.9nm,1.0s							
BRTR	**Keskin Array B**	**89.59**	**37**	P	**P**	**06 12 21.1**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=238,slow=2.7,SNR=3.5							
	comp=Z,0.3nm,0.4s							
GERES	**GERESS Array B**	**89.87**	**20**	P	**P**	**06 12 24.8**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=188,slow=5.0,SNR=4.3							
	comp=Z,0.7nm,0.8s							
H01W2	**Cape Leeuwin H**	**95.25**	**142**	T	T	07 59 33.4		
	baz=218							
H01W3	**Cape Leeuwin H**	**95.27**	**142**	T	T	07 59 41.2		
	baz=218							
H01W1	**Cape Leeuwin H**	**95.27**	**142**	T	T	07 59 38.6		
	baz=218							
SONM	**Songino Array**	**137.88**	**57**	PKP	**PKPdf**	**06 18 48.6**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=241,slow=3.0,SNR=4.1							
ILAR	**Eielson Array**	**139.61**	**329**	PKhKP	PKPpre	06 18 47.9		
	comp=Z,0.4nm,0.9s,baz=341,slow=0.6,SNR=4.6							
J17K	**VAAM Dome**	**145.05**	**331**	PKPbc	**PKPdf**	**06 19 00.7**	**-0.3**
K17K	**Iditarod**	**145.08**	**330**	PKPbc	**PKPbc**	**06 19 00.3**	**-0.3**
KSRS	**Korea Array**	**152.31**	**79**	PKPbc	**PKPbc**	**06 19 19.9**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=280,slow=3.4,SNR=3.1							
PETK	**Petropavlovsk-**	**163.60**	**11**	PKPab	**PKPab**	**06 20 16.6**	**-2.0**
	comp=Z,0.8nm,0.4s,baz=341,slow=4.3,SNR=2.9							

IDC 27 06:20:53.2±419.0,0°.15N×78°.57W,h0km,Error ellipse: s-maj=247.0km s-min=152.1km az=25.0, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I20EC	**Galapagos**	**11.83**	**266**	I	I	07 31 30.0	
	baz=86,slow=320,SNR=2.4						
I41PY	**VILLA FLORIDA**	**33.37**	**144**	I	I	09 45 40.0	
	baz=319,slow=326,SNR=2.4						
I09BR	**BRASILIA INFRA**	**34.00**	**119**	I	I	09 48 10.0	
	baz=294,slow=330,SNR=1.8						

*CATAC **27** 06:39:46.9±0.4,9°.N±2°.×7°.7W±°,h23km±3km,M3.9/19, mb4.1/7,mB5.6/1,MLv3.8/19,Mw(mB)5.0/1,Error ellipse: s-maj=5.3km s-min=2.6km az=16.9,confirmed*
*RSNC **27** 06:39:48.0±0.0,9°.N±1°.×7°.7W±°,h37km±3km,M3.2,mb4.0, ML2.9*
ISC 27 06:39:47.5±1.1,9°.00N±0°.03×77°.32W±0°.03,h32km±10km, n49,σ1ş41/77,Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAP2	**Capurgana**	**0.35**	**186**	P	**Pb**	**06 39 55.8**	**-0.2**
CAP2				S	**Sn**	**06 40 02.4**	**+0.1**
CAPC	**Capurgana**	**0.37**	**184**	P	**Pb**	**06 39 56.0**	**-0.1**
CAPC				S	**Sn**	**06 40 02.4**	**-0.3**
LCBC	**Los crdobas,**	**0.95**	**99**	P	**Pb**	**06 40 06.2**	**+0.6**
LCBC				S	**Sn**	**06 40 17.6**	**+0.4**
APAC	**Apartado, Choc**	**1.32**	**146**	P	**Pn**	**06 40 10.2**	**+0.5**
APAC				S	**Sb**	**06 40 27.7**	**-0.7**
PTAC	**Punta Ardita,**	**1.91**	**195**	P	**Pn**	**06 40 17.4**	**-0.4**
PTAC				S	**Sn**	**06 40 40.8**	**+0.1**
UREC	**San Jos de Ur**	**2.16**	**125**	P	**Pn**	**06 40 21.4**	**0.0**
UREC				S	**Sn**	**06 40 45.6**	**-1.5**
DBBC	**Dabeiba**	**2.26**	**151**	P	**Pn**	**06 40 22.2**	**-0.6**
DBBC				S	**Sn**	**06 40 48.2**	**-1.4**
SJCC	**San Jacinto, C**	**2.29**	**67**	P	**Pn**	**06 40 23.4**	**+0.2**
SJCC				S	**Sn**	**06 40 51.5**	**+1.1**
SJCC	**San Jacinto, C**	**2.29**	**67**	P	**Pn**	**06 40 23.7**	**+0.5**
SJCC				S	**Sn**	**06 40 50.4**	**0.0**
BCIP	**Isla Barro Col**	**2.49**	**274**	P	**Pn**	**06 40 26.3**	**+0.5**
BCIP				S	**Sn**	**06 40 56.7**	**+1.6**
BCIP	**Isla Barro Col**	**2.49**	**274**	P	**Pn**	**06 40 25.5**	**-0.3**
BCIP				S	**Sn**	**06 40 53.1**	**-2.0**
ZARC	**Zaragoza, Cauc**	**2.87**	**121**	P	**Pn**	**06 40 30.8**	**-0.2**
ZARC				S	**Sn**	**06 41 02.1**	**-2.3**
ARGC	**Ariguani, Magd**	**3.15**	**74**	P	**Pn**	**06 40 36.0**	**+1.0**
ARGC				S	**Sn**	**06 41 11.3**	**-0.2**
AZU	**Azuero**	**3.16**	**248**	P	**Pn**	**06 40 34.0**	**-1.0**
AZU				S	**Sn**	**06 41 08.6**	**-3.0**
HELC	**Santa Helena**	**3.31**	**147**	P	**Pn**	**06 40 37.4**	**-0.1**
HELC				S	**Sn**	**06 41 15.5**	**-0.4**
HELC	**Santa Helena**	**3.31**	**147**	P	**Pn**	**06 40 37.0**	**-0.5**
HELC				S	**Sn**	**06 41 15.4**	**-0.5**
CBOC	**Ciudad Bolivar**	**3.38**	**157**	P	**Pn**	**06 40 39.9**	**+1.7**
SMRC	**Santa Marta, M**	**3.73**	**55**	P	**Pn**	**06 40 43.6**	**+0.7**
SMRC				S	**Sn**	**06 41 23.8**	**-2.0**
PTBC	**PUERTO BERRIO,**	**3.75**	**131**	P	**Pn**	**06 40 42.1**	**-1.1**
PTBC				S	**Sn**	**06 41 24.3**	**-2.0**
OCAC	**Ocana**	**4.03**	**101**	P	**Pn**	**06 40 46.7**	**-0.5**
OCAC				S	**Sn**	**06 41 32.3**	**-1.1**
GMAL	**Guarumal, Vera**	**4.06**	**253**	P	**Pn**	**06 40 48.1**	**+0.7**
BRJC	**Barrancabermej**	**4.08**	**119**	P	**Pn**	**06 40 47.6**	**-0.1**
BRJC				S	**Sn**	**06 41 33.0**	**-1.4**
NORC	**Norcasia**	**4.20**	**144**	P	**Pn**	**06 40 50.1**	**+0.7**
NORC				S	**Sn**	**06 41 38.2**	**+0.9**
PLMC	**San Jos del P**	**4.20**	**166**	P	**Pn**	**06 40 49.4**	**0.0**
GUY2C	**Guyana, Caldas**	**4.23**	**152**	P	**Pn**	**06 40 52.0**	**+1.8**
GUY2C				S	**Sn**	**06 41 37.2**	**-1.5**
BARC	**Barichara**	**4.75**	**120**	P	**Pn**	**06 40 58.5**	**+1.3**
BARC				S	**Sn**	**06 41 50.8**	**-0.5**
CRJC	**Cerrejon, Guaj**	**4.81**	**65**	P	**Pn**	**06 40 57.2**	**-0.7**
CRJC				S	**Sn**	**06 41 49.8**	**-2.8**
PAMC	**Pamplona, Colo**	**4.87**	**110**	P	**Pn**	**06 40 59.5**	**+0.5**
PAMC				S	**Sn**	**06 41 53.3**	**-1.2**
YOTC	**Yotoco, Valle**	**5.08**	**169**	P	**Pn**	**06 41 01.1**	**-0.5**
	6.6nm,1.0s							
RUSC	**La Rusia**	**5.22**	**126**	P	**Pn**	**06 41 04.3**	**+0.5**
RUSC	**La Rusia**	**5.22**	**126**	P	**Pn**	**06 41 05.6**	**+1.8**
RUSC				S	**Sn**	**06 42 02.6**	**-0.6**
RGM0	**Gandoca**	**5.25**	**277**	S	**Sn**	**06 42 04.9**	**+1.7**
RGM0	**Gandoca**	**5.25**	**277**	P	**Pn**	**06 41 03.7**	**0.0**
BRU2	**Volcan**	**5.31**	**268**	P	**Pn**	**06 41 04.1**	**-0.7**
BRU2

KIWB IAML 06 41 05.8
comp=E,7µm,0.5s
KIMD Kanaga Island 1.55 285 Pn 06 40 36.6 +0.3
KIMD Pb 06 40 36.8 -2.1
KIMD Sn 06 40 56.9 +1.5
TAPA Tanaga Point A 1.91 284 Pn 06 40 42.3 +1.0
TAPA Sb 06 41 06.9 -1.7
TAFL Tanaga Flats 1.95 282 Pn 06 40 42.7 +0.8
TAFL Sb 06 41 07.7 -1.9
TASE Tanaga Southea 2.05 284 Pn 06 40 44.5 +1.3
TASE Sb 06 41 11.7 -0.9
GAEA Gareloi East 2.48 281 Pn 06 40 51.0 +1.9
GAEA Sn 06 41 20.7 +2.4
GAKI Gareloi-Kavalg 2.50 275 Pn 06 40 50.4 +1.0
GAKI Sn 06 41 20.8 +2.0
GANE Gareloi Northe 2.50 281 Pn 06 40 51.0 +1.6
GANE Sb 06 41 23.9 -1.6
CEPE Semis' Perret 3.49 282 Pn 06 41 03.9 +1.0
CERB Semis' Cerberu 3.50 281 Pn 06 41 04.5 +1.4
CEAP Semis' Anvil P 3.54 282 Pn 06 41 04.8 +1.1
CETU Semis' Tuman 3.58 281 Pn 06 41 05.6 +1.4
AMKA Amchitka 3.68 272 Pn 06 41 05.8 +0.2
NIKH Nikolski High 4.00 64 Pn 06 41 10.4 +0.4
NIKH IAML 06 42 18.9
comp=E,2µm,1.0s
NIKH Nikolski High 4.00 64 P Pn 06 41 11.3 +1.3
NIKH Nikolski High 4.00 64 P Pn 06 41 09.8 -0.2
baz=251
LSPA Little Sitkin 4.15 280 Pn 06 41 13.4 +1.3
LSSE Little Sitkin 4.15 280 Pn 06 41 13.3 +1.3
LSNW Little Sitkin 4.18 281 Pn 06 41 13.5 +1.0
OKSP Okmok Steeple 4.42 63 Pn 06 41 17.4 +1.6
OKWE Okmok W'ng Wal 4.54 60 Pn 06 41 17.8 +0.5
MAPS Pakushin South 5.38 60 Pn 06 41 30.8 +1.9
MREP Makushin Rep't 5.49 61 Pn 06 41 32.6 +2.1
MTBL Makushin Table 5.59 59 Pn 06 41 33.4 +1.6
UNV Unalaska Valle 5.63 61 Pn 06 41 33.7 +1.4
UNV Unalaska Valle 5.63 61 P Pn 06 41 32.0 -0.4
baz=249
AKRB Akutan Reef Bi 5.98 59 Pn 06 41 38.6 +1.4
AKMO Akutan Morgan 6.00 60 Pn 06 41 38.6 +1.2
LVA Lava Point 6.01 59 Pn 06 41 40.4 +2.8
P08K Saint George I 6.08 29 Pn 06 41 41.5 +3.0
P08K Saint George I 6.08 29 P Pn 06 41 37.3 -1.1
baz=214
AKUT Akutan 6.14 60 Pn 06 41 43.4 +4.0
AKUT Akutan 6.14 60 P Pn 06 41 43.3 +4.0
SPIA Saint Paul Isl 6.38 23 Pn 06 41 46.0 +3.3
SPIA Saint Paul Isl 6.38 23 P Pn 06 41 41.9 -0.8
baz=207,SNR=5.8
SHEM Shemya Is, Ala 6.96 285 Pn Pn 06 41 50.3 -0.3
SHEM Shemya Is, Ala 6.96 285 Pn Pn 06 41 50.0 -0.7
comp=E,4.2nm,0.3s,baz=42,slow=3.0,SNR=8.5
SHEM Sn Sn 06 43 06.0 -2.6
baz=214,slow=23
SHEM LR LR 06 44 52.0
comp=E,1µm,18.6s,baz=110,slow=41
comp=E,7.6nm,0.3s
SMY Shemya 6.96 285 P Pn 06 41 41.9 -8.7
FALS False Pass 7.69 59 P Pn 06 42 01.2 +0.6
baz=249
S12K Black Hills 8.74 55 P Pn 06 42 15.3 +0.3
baz=246
SDPT Sand Point 9.44 60 Pn Pn 06 42 25.1 +0.4
SDPT Sand Point 9.44 60 P Pn 06 42 26.4 +1.8
SDPT Sand Point 9.44 60 P Pn 06 42 24.6 0.0
baz=252
CNBA Chernabura Isl 9.78 64 Pn Pn 06 42 28.9 -0.4
CHNA Chernabura Isl 9.79 63 P Pn 06 42 30.5 +1.2
CHNA Chernabura Isl 9.79 63 P Pn 06 42 29.4 +0.1
baz=256
M11K Mekoryuk 10.22 25 Pn Pn 06 42 39.2 +4.0
M11K Mekoryuk 10.22 25 P Pn 06 42 34.7 -0.5
baz=212
S14K Fog Glacier 10.26 56 P Pn 06 42 35.9 0.0
baz=248
CHGN Chignik 10.86 57 P Pn 06 42 43.8 -0.2
baz=251
O14K Tigyukauivet M 11.01 39 Pn Pn 06 42 49.9 +3.9
O14K Tigyukauivet M 11.01 39 P Pn 06 42 46.2 +0.1
baz=231
M13K Dall Lake 11.08 31 P Pn 06 42 47.0 0.0
baz=221
N14K Kuskokwak Cree 11.30 36 Pn Pn 06 42 53.7 +3.7
N14K Kuskokwak Cree 11.30 36 P Pn 06 42 49.7 -0.3
baz=227,SNR=15
O15K Ungalikthiuk R 11.55 42 Pn Pn 06 42 57.4 +4.0
O15K Ungalikthiuk R 11.55 42 P Pn 06 42 52.9 -0.5
baz=235,SNR=7.8
R16K Pilot Point 11.77 52 P Pn 06 42 55.8 -0.6
baz=246
M14K Bethel 11.79 32 Pn Pn 06 43 01.1 +4.4
M14K Bethel 11.79 32 P Pn 06 42 55.5 -1.2
baz=223
K13K Kusilvak Mount 11.94 24 Pn Pn 06 43 03.1 +4.5
K13K Kusilvak Mount 11.94 24 P Pn 06 42 57.5 -1.2
baz=213
L14K Kuka Creek 12.01 29 Pn Pn 06 43 04.1 +4.5
L14K Kuka Creek 12.01 29 P Pn 06 42 59.1 -0.5
baz=220
N15K Kwethluk River 12.06 37 Pn Pn 06 43 04.9 +4.5
N15K Kwethluk River 12.06 37 P Pn 06 42 59.5 -0.9
baz=230,SNR=13
M15K Kasigluk River 12.19 35 P Pn 06 43 01.4 -0.8
baz=227,SNR=15
CHIR Chirikof Islan 12.22 61 Pn Pn 06 43 01.1 -1.6
CHIR Chirikof Islan 12.22 61 P Pn 06 43 04.4 +1.8
CHIR Chirikof Islan 12.22 61 P Pn 06 43 02.2 -0.4
baz=257
P16K Nushagak River 12.26 45 Pn Pn 06 43 07.5 +4.4
P16K Nushagak River 12.26 45 P Pn 06 43 02.5 -0.6
baz=239
R17L Mt. Peulik Vol 12.39 53 P Pn 06 43 03.9 -1.1
baz=248
PLK4 Peulik 4 12.39 53 Pn Pn 06 43 07.1 +2.1
O16K Kokwok River B 12.52 42 Pn Pn 06 43 10.6 +4.0
O16K Kokwok River B 12.52 42 P Pn 06 43 06.3 -0.3
baz=237,SNR=16
GAMB Gambell 12.53 6 P Pn 06 43 06.0 -0.7
baz=189
L15K Ungalak Mounta 12.63 30 P Pn 06 43 07.3 -0.9
baz=222
Q16K King Salmon 12.69 48 P Pn 06 43 09.1 +0.1
baz=243
N16K Nishlik Lake 12.76 38 P Pn 06 43 09.7 -0.3
baz=232
Q17K Contact Creek 12.88 50 P Pn 06 43 11.5 -0.2
baz=246,SNR=5.1
J14K Nanvaranak Lak 12.90 24 Pn Pn 06 43 15.5 +3.7
J14K Nanvaranak Lak 12.90 24 P Pn 06 43 11.7 -0.2
baz=214,SNR=5.3
P17K Kvichak River 13.03 46 Pn 06 43 17.7 +4.1
P17K Kvichak River 13.03 46 P Pn 06 43 12.9 -0.8
baz=242,SNR=10
M16K Timber Creek 13.04 36 Pn 06 43 16.3 +2.5
M16K Timber Creek 13.04 36 P Pn 06 43 13.5 -0.2
baz=230,SNR=5.6
O17K Koliganek Bris 13.04 43 P Pn 06 43 13.8 0.0
baz=238,SNR=7.8
K15K Wolf Creek Mou 13.09 28 Pn 06 43 17.4 +2.9
K15K Wolf Creek Mou 13.09 28 P Pn 06 43 14.0 -0.5
baz=220
ACHA Angle Creek He 13.13 51 Pn Pn 06 43 16.5 +1.5
SII Sitkinak Islan 13.18 59 Pn Pn 06 43 14.2 -1.6
SII Sitkinak Islan 13.18 59 P Pn 06 43 14.9 -0.8
SII Sitkinak Islan 13.18 59 P Pn 06 43 15.2 -0.6
baz=256
R18K Karluk 13.33 54 P Pn 06 43 17.6 -0.1
baz=252
N17K Nushagak Hills 13.42 40 Pn Pn 06 43 23.2 +4.2
N17K Nushagak Hills 13.42 40 P Pn 06 43 18.4 -0.5
baz=235,SNR=5.9
Q18K Katmai Hardscr 13.45 50 P Pn 06 43 19.4 -0.1
baz=246
P18K Big Mountain, 13.68 47 P Pn 06 43 22.7 +0.2
baz=243
OHAK Old Harbor 13.83 57 Pn 06 43 21.8 -2.8
OHAK Old Harbor 13.83 57 P Pn 06 43 24.4 -0.2
baz=255
M17K Holitna River 13.85 37 Pn Pn 06 43 26.7 +1.9
M17K Holitna River 13.85 37 P Pn 06 43 23.8 -1.0
baz=232
O18K Koktuh Hills 13.90 45 P Pn 06 43 24.8 -0.7
baz=242
L17K Donlin 14.02 33 P P 06 43 31.9 -2.7
baz=228,SNR=15
L17K Donlin 14.02 33 P Pn 06 43 26.3 -0.8
baz=228,SNR=15
N18K Kilae Creek 14.04 41 Pn 06 43 29.4 +2.0
N18K Kilae Creek 14.04 41 P Pn 06 43 27.3 -0.1
baz=237,SNR=9.5
ANM Nome 14.10 17 P Pn 06 43 27.3 -0.9
baz=205
J16K Anvik River 14.13 27 Pn Pn 06 43 32.0 +3.4
J16K Anvik River 14.13 27 P Pn 06 43 28.0 -0.7
baz=219
Q19K Cape Douglas, 14.22 50 Pn Pn 06 43 30.1 +0.2
Q19K Cape Douglas, 14.22 50 P Pn 06 43 29.2 -0.7
baz=248
KDAK Kodiak Island 14.35 55 Pn 06 43 32.4 +0.7
KDAK Kodiak Island 14.35 55 Pn Pn 06 43 29.6 -2.1
comp=E,0.6nm,0.3s,baz=147,slow=2.6,SNR=19
KDAK Sn Sn 06 46 03.3 -6.3
comp=E,0.2nm,0.3s,baz=336,slow=16,SNR=0.9
comp=E,4.4nm,0.3s
KDAK Kodiak Island 14.35 55 *e*P Pn 06 43 29.2 -2.5
KDAK pmax pmax
comp=Z,8.0nm,0.2s
KDAK Kodiak Island 14.35 55 P Pn 06 43 31.9 +0.2
baz=254
K17K Iditarod 14.42 32 Pn 06 43 32.9 +0.4
K17K Iditarod 14.42 32 P Pn 06 43 32.0 -0.6
baz=226,SNR=11
O19K Port Alsworth 14.46 44 P P 06 43 37.6 -1.9
M18K Stony River 14.52 39 P Pn 06 43 33.9 0.0
baz=235,SNR=5.0
I17K Unalakleet 14.58 25 P Pn 06 43 34.9 +0.2
baz=218
L18K Granite Mounta 14.64 35 Pn 06 43 35.0 -0.6
L18K Granite Mounta 14.64 35 P Pn 06 43 34.8 -0.8
baz=231,SNR=7.1
TNA Tin City 14.65 11 P Pn 06 43 35.2 -0.4
baz=198
J17K VABM Dome 14.66 29 P P 06 43 41.5 -0.3
J17K VABM Dome 14.66 29 P Pn 06 43 35.0 -0.9
baz=222,SNR=25
N19K Bonanza Creek 14.69 42 P Pn 06 43 35.5 -0.9
baz=240,SNR=28
P19K Oil Pt 14.70 47 P Pn 06 43 35.7 -0.8
baz=246
Q20K Shuyak Island 14.71 52 P Pn 06 43 35.0 -1.5
baz=251
SYI Shuyak Island 14.71 52 Pn 06 43 34.9 -1.6
G15K Niukluk 14.74 18 P Pn 06 43 35.8 -1.2
baz=208
F14K Arctic Creek 14.78 14 P Pn 06 43 36.4 -1.0
baz=201
H16K Elim 14.81 22 P Pn 06 43 36.6 -1.2
baz=212
ILSW Iliamna Southw 14.89 46 Pn 06 43 39.3 +0.3
O20K Slope Mountain 15.16 46 P Pn 06 43 41.9 -0.8
baz=245
F15K North Star Dit 15.27 16 P Pn 06 43 42.8 -1.1
baz=205
L19K White Mountain 15.30 37 P Pn 06 43 43.1 -1.3
baz=234,SNR=16
M19K Big River Lodg 15.32 39 P Pn 06 43 43.8 -0.9
baz=236
G16K Koyuk River 15.44 20 P Pn 06 43 44.7 -1.4
baz=211
J18K Innoko River 15.46 32 P Pn 06 43 45.6 -0.8
baz=227,SNR=12
CNPM China Poot 15.59 49 Pn 06 43 46.7 -1.5
CNPM IAmb IAmb 06 44 24.9
comp=Z,59nm,1.3s
H17K Granite Mounta 15.63 24 P Pn 06 43 47.5 -1.1
baz=217,SNR=14
M20K Styx River 15.81 40 P Pn 06 43 50.3 -0.8
baz=239
BRLK Bradley Lake 15.84 49 Pn 06 43 51.2 -0.2
L20K Farewell, AK 15.85 37 P Pn 06 43 51.5 +0.1
baz=235,SNR=14
SPU Mount Spurr 15.91 43 Pn 06 43 53.0 +0.7
G17K Kiwalik Mounta 15.91 22 P Pn 06 43 51.3 -0.9
baz=214
CAPN Captain Cook N 16.12 45 P Pn 06 43 54.0 -0.8
baz=245
J19K Poorman 16.18 31 P Pn 06 43 55.0 -0.7
baz=228,SNR=27
H18K Honhosa River 16.20 25 P Pn 06 43 55.8 -0.2
baz=220
K20K Telida 16.30 35 P Pn 06 43 57.4 +0.2
baz=233
PET Petropavlovsk 16.31 286 *e*P P 06 43 59.0 -1.1
PET pmax pmax
comp=Z,36nm,1.4s
PET Petropavlovsk 16.31 286 P Pn 06 43 57.1 -0.3
comp=Z,20nm,1.6s
GCSA Galena City Sc 16.32 28 P Pn 06 43 57.0 -0.4
baz=224
F17K Baldwin Pennin 16.57 19 P 06 44 02.5 -0.4
F17K Baldwin Pennin 16.57 19 P Pn 06 44 01.4 +0.8
baz=211
SEW Seward 16.64 49 Pn 06 43 59.0 -2.5
SEW Seward 16.64 49 P Pn 06 44 02.1 +0.6
baz=250
O22K Cooper Landing 16.65 47 P Pn 06 44 01.9 +0.3
baz=248
G18K Tagagawik 16.71 23 Pn 06 44 03.1 +0.6
G18K Tagagawik 16.71 23 P Pn 06 44 02.1 -0.3
baz=218
PPLA Purkeypile 16.73 38 P Pn 06 44 03.0 +0.3
baz=237,SNR=14
J20K Nowinta River 16.79 32 P Pn 06 44 03.7 +0.4
baz=230,SNR=14
PEA0B Petropavlovsk- 16.88 287 P P 06 44 05.7 -0.7
PEA0B Petropavlovsk- 16.88 287 *de*P Pn 06 44 05.5 +1.0
PETK Petropavlovsk- 16.88 287 Pn 06 44 04.8 +0.2
PETK Petropavlovsk- 16.88 287 Pn P 06 44 05.7 -0.7
comp=Z,0.7nm,0.3s,baz=90,slow=18,SNR=11
PETK LR LR 06 49 56.7
comp=Z,542nm,22.0s,baz=98,slow=35
comp=Z,9.6nm,0.8s
PETK Petropavlovsk- 16.88 287 P Pn 06 44 04.8 +0.2
RC01 Rabbit Creek A 16.88 45 Pn 06 44 04.9 +0.4
RC01 Rabbit Creek A 16.88 45 P Pn 06 44 04.9 +0.4
baz=246
H19K Roundabout Mou 17.02 27 P Pn 06 44 06.6 +0.5
baz=223,SNR=17
E17K Hotham Inlet 17.02 18 P Pn 06 44 06.6 +0.4
baz=209,SNR=8.9
F18K Selawik 17.05 21 P Pn 06 44 07.2 +0.6
baz=214
CAST Castle Rocks 17.06 36 P P 06 44 08.0 -0.3
CAST Castle Rocks 17.06 36 P Pn 06 44 06.4 -0.3
baz=236,SNR=24
I20K Naaghedeneel 17.09 30 P Pn 06 44 07.4 +0.4
baz=228
CHUM Lake Minchumin 17.24 35 P Pn 06 44 09.3 +0.3
baz=234
G19K Purcell Mounta 17.31 25 P Pn 06 44 09.1 -0.7
baz=220
D17K Noatak River 17.35 15 P Pn 06 44 10.0 -0.4
baz=226,SNR=16
PMR Palmer 17.35 44 P Pn 06 44 10.3 -0.1
baz=246
PWL Port Wells 17.42 47 P Pn 06 44 11.6 +0.3
baz=249
H20K Anotleneega Mo 17.44 28 P Pn 06 44 11.1 -0.4
baz=226,SNR=11
C16K Lisburne Hills 17.55 12 P Pn 06 44 11.9 -0.9
baz=200
KNK Knik Glacier 17.58 45 P Pn 06 44 13.2 0.0
baz=248
P23K Montague Islan 17.58 50 P P 06 44 13.6 -0.5
baz=253
F19K Shaleruckik Mo 17.68 22 P P 06 44 15.6 +0.5
F19K Shaleruckik Mo 17.68 22 P Pn 06 44 14.0 -0.4
baz=217,SNR=15
RDOG Red Dog Mine 17.70 15 P P 06 44 15.5 +0.1
baz=205
TRF Thorofare Moun 17.75 38 P P 06 44 17.1 +0.9
TRF Thorofare Moun 17.75 38 P Pn 06 44 15.1 -0.4
baz=239,SNR=21
BPAW Bear Paw Mtn. 17.84 35 P P 06 44 17.7 +0.7
BPAW Bear Paw Mtn. 17.84 35 P P 06 44 16.9 -0.1
baz=236,SNR=21
Q23K Middleton Isla 17.94 52 P Pn 06 44 17.3 -0.3
baz=256
GLI Glacier Island 18.00 47 P Pn 06 44 17.3 -1.1
baz=251
C17K DeLong Mountai 18.04 14 P Pn 06 44 18.1 -0.8
baz=204
M23K Glacier View 18.05 44 P Pn 06 44 18.5 -0.5
baz=247,SNR=9.2
IMAR Indian Mountai 18.12 28 P P 06 44 20.9 +0.8
I21K Tanana 18.14 32 P P 06 44 20.5 +0.3
baz=232
H21K Melozitna Rive 18.19 30 P P 06 44 21.6 +0.8
baz=229,SNR=36
SCM Sheep Creek Mo 18.24 44 P P 06 44 21.5 +0.1
baz=248,SNR=9.3
E19K Redstone River 18.30 22 P Pn 06 44 22.5 +0.4
baz=217,SNR=21
F20K Avaraart Lake 18.35 24 P Pn 06 44 23.0 +0.3
baz=221
MCK McKinley 18.42 38 P P 06 44 23.1 -0.2
baz=240
BWN Browne 18.44 36 P P 06 44 23.6 0.0
BWN IAmb IAmb 06 44 33.4
comp=Z,57nm,0.9s
MLY Manley 18.47 33 P Pn 06 44 25.2 +1.0
MLY Manley 18.47 33 P Pn 06 44 24.3 +0.1
baz=234,SNR=27
EYAK Cordova Ski Ar 18.53 49 P Pn 06 44 25.8 +1.0
baz=254
G21K Allakaket 18.56 27 P Pn 06 44 26.2 +0.9
G21K IAmb IAmb 06 44 33.1
comp=Z,96nm,1.4s
G21K Allakaket 18.56 27 P Pn 06 44 25.8 +0.6
baz=226,SNR=30
KLU Klutina 18.74 46 P P 06 44 26.3 -0.6
baz=251
H22K Ishtalitna Cre 18.79 30 P Pn 06 44 28.3 +0.3
baz=231,SNR=11
NEA2 Nenana 18.81 36 P P 06 44 27.7 +0.1
baz=238,SNR=8.4
M24K Tolsona, Glenn 18.84 44 P Pn 06 44 28.4 -0.3
baz=249
D19K Kuna River 18.96 19 P P 06 44 28.7 -0.6
baz=214
KAIM Kayak Island 19.01 51 P Pn 06 44 30.6 0.0
baz=257
I23K Minto, Yukon-K 19.02 34 P Pn 06 44 30.7 0.0
baz=236,SNR=26
B18K Kokolik River 19.06 14 P P 06 44 30.4 +0.1
baz=206
F21K Alatna River 19.07 26 P Pn 06 44 31.1 -0.3
baz=224,SNR=14
BILL Bilibino 19.07 338 *ce*P Pn 06 44 32.1 +0.7
BILL pmax pmax
comp=Z,50nm,1.3s
BMRM Bremner River 19.18 48 P P 06 44 31.8 0.0
baz=254
H23K Yukon River 19.35 32 P P 06 44 33.6 +0.1
baz=234,SNR=11
N25K Chitina, Valde 19.38 46 P Pn 06 44 34.7 -0.5
baz=252
HARP HAARP 19.39 44 P P 06 44 34.6 +0.6
baz=249
COLA College 19.41 36 *de*P P 06 44 34.3 +0.2
COLA pmax pmax
comp=Z,24nm,0.9s
COLA College 19.41 36 P P 06 44 34.2 +0.2
baz=239
G22K Bettles 19.42 28 P P 06 44 33.9 -0.3
baz=228
D20K Etivluk River 19.46 20 P P 06 44 35.4 +0.7
baz=216,SNR=10.0
BERG Berg Lake 19.46 50 P P 06 44 34.3 -0.5
BERG IAmb IAmb 06 44 53.7
comp=Z,24nm,0.7s
PAX Paxson 19.48 42 P P 06 44 35.3 +0.3
baz=247
HDA Harding Lake 19.51 37 P P 06 44 34.9 -0.3
HDA IAmb IAmb 06 44 42.7
comp=Z,30nm,0.6s
HDA Harding Lake 19.51 37 P P 06 44 35.5 +0.2
baz=242,SNR=42
F22K John River 19.63 26 P P 06 44 36.8 +0.2
baz=226
POKR Poker Plat Res 19.69 35 P P 06 44 36.9 -0.3
baz=239
K24K Donnelly Dome 19.69 40 P P 06 44 37.7 +0.4
baz=245,SNR=9.8
ILAR Eielson Array 19.71 37 P P 06 44 37.0 -0.4
comp=Z,1.4nm,0.3s,baz=230,slow=8.0,SNR=71
comp=Z,3.6nm,0.5s
G23K Bananza Creek 19.73 30 P P 06 44 38.0 +0.3
baz=231,SNR=22
CRQE Cirque 19.84 50 P Pn 06 44 40.1 -0.7
baz=256
E21K Killik River 19.85 23 P P 06 44 39.2 +0.3
baz=221
WAX Waxell Ridge 19.89 50 P P 06 44 40.3 +0.8
H24K Noodor Dome 19.92 33 P Pn 06 44 40.7 -0.8
H24K IAmb IAmb 06 44 48.5
comp=Z,60nm,1.0s
H24K Noodor Dome 19.92 33 P P 06 44 40.5 +0.8
baz=237,SNR=29
A19K Wainwright 19.93 14 P P 06 44 38.9 -0.8
baz=206
COLD Coldfoot 20.01 28 P P 06 44 41.4 +0.8
baz=230,SNR=20
MCARA McCarthy VSAT 20.04 48 P P 06 44 41.6 +0.6
baz=255
RIDG Independent Ri 20.04 40 P Pn 06 44 42.2 -0.8
baz=246,SNR=11
E22K Anaktuvuk Pass 20.17 25 P Pn 06 44 43.6 -0.9
baz=225,SNR=14
J25K Salcha River, 20.21 38 P P 06 44 42.4 -0.6
baz=243,SNR=80
C21K Knifeblade Rid 20.21 21 P P 06 44 42.4 -0.4
baz=219,SNR=5.8
MESA MESA 20.27 52 P P 06 44 44.5 +0.7
MESA MESA 20.27 52 P P 06 44 43.8 0.0
baz=259
M26K Nabesna, AK 20.34 45 P P 06 44 44.6 +0.2
baz=252
L26K Log Cabin Wild 20.40 43 P P 06 44 45.5 +0.6
baz=250
B20K Meade River 20.42 17 P P 06 44 44.6 -0.4
baz=213
SCRK Sand Creek 20.49 40 P P 06 44 44.8 -1.2
baz=247,SNR=65
D22K Ayikyak River 20.49 23 P P 06 44 45.3 -0.6
baz=223
G24K Hadweenzic Riv 20.54 31 P P 06 44 46.2 -0.2
baz=235,SNR=14
PRP Porcupine Dome 20.58 35 P P 06 44 47.1 +0.1
baz=241
B21K Ikpikpuk River 20.62 20 P P 06 44 48.2 +1.0
B21K IAmb IAmb 06 44 52.1
comp=Z,50nm,1.1s
B21K Ikpikpuk River 20.62 20 P P 06 44 47.9 +0.7
baz=218
E23K Chandalar 20.73 27 P P 06 44 49.0 +0.5
baz=229,SNR=5.7
CTG Chitna Glacier 20.73 50 P P 06 44 48.8 +0.2
baz=258
M27K Edge Creek, AK 20.83 46 P P 06 44 49.7 0.0
baz=254,SNR=11
H25L Birch Creek 20.86 33 P P 06 44 50.2 +0.4
baz=239,SNR=24
J26L Joseph Creek 20.87 39 P P 06 44 49.3 -0.8
baz=246,SNR=99
F24K Squaw Lake 20.89 29 P P 06 44 51.4 +1.1
baz=233,SNR=18
SEY Seymchan 20.93 316 P P 06 44 51.1 +0.4
comp=Z,4.1nm,0.6s,baz=132,slow=12,SNR=5.7
SEY LR LR 06 53 25.5
comp=Z,923nm,18.5s,baz=136,slow=38
comp=Z,4.1nm,0.6s
SEY Seymchan 20.93 316 *e*P P 06 44 51.8 +1.1
SEY pmax pmax
comp=Z,28nm,1.5s
MA2 Magadan 20.94 306 LR LR 06 52 52.1
comp=Z,370nm,19.2s,baz=100,slow=37
MA2 Magadan 20.94 306 P P 06 44 50.4 -0.4
comp=Z,21nm,1.4s
G25K Bearman Lake 21.03 32 P P 06 44 52.3 +0.7
baz=237
D23K Nanushuk River 21.06 24 P P 06 44 53.0 +1.0
baz=226
E24K Your Creek 21.06 28 P P 06 44 52.9 +0.8
baz=231
L27K Beaver Creek, 21.06 44 P P 06 44 52.6 +0.5
baz=252
PCA Pinnacle 21.09 52 P P 06 44 52.7 +0.2
PCA IAmb IAmb 06 45 10.9
comp=Z,31nm,0.7s

PINM Pinnacle 21.09 52 P P 06 44 53.0 +0.4
baz=261
TOLK Toolik Lake Re 21.12 26 P P 06 44 53.2 +0.4
baz=228,SNR=12
O28M Mount Upton 21.24 50 P P 06 44 55.6 +1.3
baz=260
K27K Chicken 21.29 41 P P 06 44 54.7 +0.2
baz=249
BVCY Beaver Creek 21.30 46 P P 06 44 56.6 +1.9
baz=255,SNR=11
YUK3 Moose Creek 21.32 48 P P 06 44 55.5 +0.3
baz=257,SNR=9.3
I26K Coal Creek Min 21.36 37 P P 06 44 55.2 -0.1
baz=245
B22K Teshekpuk Lake 21.44 20 P P 06 44 55.6 -0.4
baz=219
PNL Peninsula 21.46 54 P P 06 44 56.3 -0.1
baz=263
YUK8 Steele Glacier 21.54 49 P P 06 44 57.5 0.0
baz=259,SNR=5.7
F25K Christian Rive 21.64 30 P P 06 44 57.7 -0.6
baz=236,SNR=13
A22K Sinclair Lake 21.66 18 P P 06 44 58.2 -0.2
baz=215
D24K Happy Valley 21.67 25 P P 06 44 59.0 +0.5
baz=228,SNR=10
C23K Itkillik River 21.69 23 P P 06 44 58.4 -0.4
baz=224
BMAR Burnt Mountain 21.89 31 P P 06 45 02.5 +1.5
G26K Porcupine Rive 21.91 33 P P 06 45 01.4 +0.4
baz=240
O29M Mount Kennedy 21.95 52 P P 06 45 01.3 -0.5
baz=263
I27K Kandik River 22.07 37 P P 06 45 03.4 +0.5
baz=246,SNR=9.7
YUK4 Talbot Arm 22.08 49 P P 06 45 04.1 +0.9
baz=260
C24K Franklin Bluff 22.09 24 P P 06 45 03.7 +0.7
baz=227
YUK6 Outpost Mounta 22.15 50 P P 06 45 04.3 +0.3
baz=261
F26K Sheenjek River 22.17 31 P P 06 45 03.1 -0.9
baz=238
P29M Windy Craggy 22.30 54 P P 06 45 05.2 -0.1
baz=265
H27K Steamboat Moun 22.37 36 P P 06 45 05.6 -0.6
baz=245
M29M Somme Creek 22.39 46 P P 06 45 05.5 -0.9
baz=258,SNR=7.3
DAWY Dawson 22.41 42 P P 06 45 05.9 -0.8
DAWY Dawson 22.41 42 P P 06 45 05.8 -0.8
baz=253,SNR=13
D25K Kavik River 22.45 26 P P 06 45 06.1 -0.8
baz=232
HYT Haines Junctio 22.55 51 P P 06 45 07.9 -0.3
baz=262
G27K Doyon Strip 22.58 34 P P 06 45 07.8 -0.6
baz=243
I28M Miner Creek 22.66 38 P P 06 45 09.5 +0.2
baz=249,SNR=22
L29M L29M 22.69 45 P P 06 45 09.5 -0.1
baz=256,SNR=11
P30M Million Dollar 22.73 53 P P 06 45 10.3 +0.2
baz=265
N30M Aishikik Lake 22.84 49 P P 06 45 10.9 -0.3
baz=261
S31K Pelican 23.01 58 P P 06 45 12.4 -0.4
baz=270
J29N Klondike Camp 23.02 41 P P 06 45 12.2 -0.8
baz=253
K29M Barlow Dome 23.14 43 P P 06 45 13.3 -1.0
baz=255,SNR=13
M30M Minto, Yukon 23.17 46 P P 06 45 14.1 -0.5
baz=259
C26K Camden Bay 23.22 26 P P 06 45 13.8 -1.0
baz=233
O30N Mendenhall 23.23 51 P P 06 45 14.0 -1.1
baz=264
E27K Coleen River 23.25 31 P P 06 45 14.2 -1.0
baz=241
I29M Ogilvie Camp, 23.27 39 P P 06 45 15.1 -0.3
baz=251,SNR=33
C27K Jago River 23.38 27 P P 06 45 16.3 -0.2
baz=235
N31M Braeburn, Yuko 23.47 49 P P 06 45 17.5 0.0
baz=263
SKAG Skagway 23.51 55 P P 06 45 16.8 -1.0
baz=268
SIT Sitka 23.52 61 P P 06 45 17.0 -0.9
baz=273
H29M Whitestone 23.54 37 P P 06 45 16.2 -1.9
baz=249,SNR=12
F28M Old Crow 23.56 33 P P 06 45 16.8 -1.5
baz=244
J30M Hart River 23.84 42 P P 06 45 19.6 -1.4
baz=255,SNR=15
S32K Killisnoo 23.91 59 P P 06 45 21.0 -0.5
baz=273
R32K Eaglecrest 23.91 57 P P 06 45 21.6 0.0
baz=271
G29M Pine Creek 23.93 36 P P 06 45 21.4 -0.4
baz=248,SNR=8.5
D27M Malcolm River 23.98 29 P P 06 45 21.2 -1.1
baz=239
I30M Mount Dempster 24.00 40 P P 06 45 21.5 -1.0
baz=254,SNR=22
E28M Babbage River 24.12 31 P P 06 45 23.4 -0.2
baz=242
M31M Drury Creek, Y 24.22 48 P P 06 45 24.8 +0.3
baz=262
EPYK Eagle Plains 24.22 37 P P 06 45 24.2 -0.3
baz=251
P32M Atlin 24.34 54 P P 06 45 25.1 -0.5
baz=269
E29M Blow River 24.57 32 P P 06 45 28.1 +0.6
baz=245,SNR=12
G30M tAoh Zraii Nji 24.61 36 P P 06 45 28.7 +0.7
baz=250
D28M Stokes Point 24.72 30 P P 06 45 29.3 +0.4
baz=242
N32M Quiet Lake 24.73 51 P P 06 45 29.4 +0.3
baz=266
P33M Teslin, Yukon 24.81 53 P P 06 45 31.1 +1.2
baz=268,SNR=6.7
U33K Whale Pass 24.82 63 P P 06 45 30.6 +0.7
baz=277,SNR=5.2
T33K Petersburg 24.84 61 P P 06 45 31.2 +1.1
baz=276
CRAG Craig 24.90 64 P P 06 45 33.2 +2.6
CRAG Craig 24.90 64 P P 06 45 31.5 +0.9
baz=278
H31M Peel River 24.97 39 P P 06 45 31.6 +0.3
baz=255,SNR=19
F30M Barrier River 24.99 35 P P 06 45 31.6 +0.2
F30M IAmb IAmb 06 45 39.6
comp=Z,23nm,0.9s
F30M Barrier River 24.99 35 P P 06 45 32.5 +1.0
baz=249,SNR=9.2
Q32M Nakina River 25.08 56 P P 06 45 33.1 +0.6
baz=272,SNR=11
WRAK Wrangell Islan 25.21 62 P P 06 45 34.7 +1.3
baz=277,SNR=18
G31M Satah River 25.32 37 P P 06 45 34.9 +0.5
baz=252,SNR=6.7
F31M Tsiigehtchic 25.68 36 P P 06 45 38.2 +0.6
baz=252
MMPY Sheldon Lake, 25.71 47 P P 06 45 38.1 +0.1
baz=265,SNR=8.7
S34M Telegraph Cree 25.73 58 P P 06 45 39.0 +0.9
baz=275,SNR=6.5
R33M Jennings River 25.74 55 P P 06 45 39.1 +0.7
baz=272,SNR=6.1
V35K Ketchikan 25.77 64 P P 06 45 39.1 +0.6
baz=280,SNR=6.8
INK Inuvik 26.04 34 P P 06 45 39.9 -0.9
baz=251,SNR=6.4
DLBC Dease Lake 26.27 57 P P 06 45 43.8 +0.6
baz=274,SNR=15
T35M Bob Quinn 26.29 60 P P 06 45 43.6 +0.3
baz=277,SNR=13
TGTN Hyland Airport 27.06 50 P P 06 45 50.7 +0.5
baz=270
YSS Yuzhno-Sakhali 27.79 278 eP P 06 46 00.2 +3.3
LIRD Liard River Hi 28.22 54 P P 06 46 00.6 0.0
baz=276
TOAD Toad River Com 28.73 55 P P 06 46 05.3 +0.2
baz=277
KOTAN Kotaneelee Air 29.18 53 P P 06 46 08.6 -0.5

baz=276
JKA Kamikawa-asahi 29.20 272 P P 06 46 09.6 +0.3
JKA IAmb IAmb 06 46 24.8
comp=Z,22nm,1.1s
ASAJ Asahikawa 29.20 273 LR LR 06 57 00.8
comp=Z,138nm,21.6s,baz=146,slow=35
ASAJ Asahikawa 29.20 273 P P 06 46 09.6 +0.2
ASAJ pmax pmax
comp=Z,22nm,1.1s
WRGLY Wrigley 29.30 46 P P 06 46 10.8 +0.7
baz=271
A36M Sachs Harbour 29.88 28 P P 06 46 15.2 +0.1
A36M IAmb IAmb 06 46 41.7
comp=Z,11nm,0.9s
A36M Sachs Harbour 29.88 28 P P 06 46 15.5 +0.4
baz=253
ERM Erimo 29.93 268 P P 06 46 16.5 +0.6
ERM Erimo 29.93 268 P P 06 46 16.5 +0.6
ERM pmax pmax
comp=Z,47nm,1.3s
YAK Yakutsk 31.28 312 LR LR 06 59 21.2
comp=Z,418nm,19.3s,baz=99,slow=37
YKA Yellowknife Ar 33.41 47 LR LR 07 02 52.0
comp=Z,436nm,18.2s,baz=280,slow=41
H11N2 WAKE ISLAND Hy 34.72 211 T T 07 23 45.0
baz=18,slow=76,SNR=93
H11N3 WAKE ISLAND Hy 34.72 211 T T 07 23 49.2
baz=18,slow=76,SNR=100
H11N1 WAKE ISLAND Hy 34.73 211 T T 07 23 51.1
baz=18,slow=76,SNR=76
H04A Detroit Lake 35.17 80 P P 06 47 04.4 +2.6
H04A IAmb IAmb 06 47 21.2
comp=Z,27nm,1.5s
HEH HeiHe 35.70 291 eP P 06 47 05.0 -1.1
HEH pmax pmax
comp=Z,11nm,0.7s
HEH LR LR
comp=N,140nm,17.1s
HEH LR LR
comp=E,200nm,18.4s
HEH LR LR
comp=Z,300nm,17.8s
USA0B Ussuriysk Arra 35.76 280 P P 06 47 06.7 0.0
USA0B IAmb IAmb 06 47 07.2
comp=Z,7.1nm,0.8s
USA0B Ussuriysk Arra 35.76 280 P P 06 47 06.7 0.0
USA0B pmax pmax
comp=Z,7.0nm,0.9s
USRK Ussuriysk Ar. 35.76 280 P P 06 47 06.0 -0.7
USRK Ussuriysk Ar. 35.76 280 P P 06 47 05.6 -1.1
comp=Z,2.9nm,0.5s,baz=57,slow=9.1,SNR=9.1
USRK LR LR 07 02 41.9
comp=Z,171nm,20.0s,baz=39,slow=38
comp=Z,2.9nm,0.5s
USRK Ussuriysk Ar. 35.76 280 P P 06 47 06.0 -0.7
H11S1 WAKE ISLAND Hy 35.92 211 T T 07 26 18.2
baz=20,slow=76,SNR=182
H11S2 WAKE ISLAND Hy 35.94 211 T T 07 26 08.3
baz=20,slow=76,SNR=94
H11S3 WAKE ISLAND Hy 35.94 211 T T 07 26 11.4
baz=20,slow=76,SNR=51
MJAR Matsushiro Arr 36.26 264 P P 06 47 12.1 +1.0
MJAR Matsushiro Arr 36.26 264 P P 06 47 11.9 +0.7
comp=Z,2.4nm,0.7s,baz=47,slow=6.8,SNR=6.1
comp=Z,2.4nm,0.7s
MJAR Matsushiro Arr 36.26 264 P P 06 47 12.1 +1.0
MJAR pmax pmax
comp=Z,10.0nm,1.5s
MAJO Matsushiro 36.26 264 P P 06 47 11.8 +0.7
MAJO IAmb IAmb 06 47 13.3
comp=Z,25nm,1.2s
MAJO Matsushiro 36.26 264 ceP P 06 47 12.1 +1.0
MAJO pmax pmax
comp=Z,12nm,1.0s
MJB9 Matsu-Tunnel 36.26 264 P P 06 47 12.6 +1.5
MJB9 IAmb IAmb 06 47 14.3
comp=Z,25nm,1.3s
VLA Vladivostok 36.39 278 ceP P 06 47 14.0 +1.9
VLA pmax pmax
comp=Z,32nm,1.0s
PINE Pine Mountain 36.40 80 P P 06 47 14.4 +1.9
PINE IAmb IAmb 06 47 44.6
comp=Z,8.2nm,1.0s
MSHR Mys Shultsa 37.13 278 ⇑eP P 06 47 20.0 +1.6
MSHR pmax pmax
comp=Z,21nm,1.7s
PSTR Posyet 37.31 278 deP P 06 47 21.8 +1.9
JGF Kuroka 37.39 264 P P 06 47 22.4 +1.6
JGF IAmb IAmb 06 47 40.1
comp=Z,16nm,1.1s
HATC Hat Creek Radi 37.70 85 P P 06 47 25.3 +1.9
HATC IAmb IAmb 06 47 59.6
comp=Z,19nm,1.0s
BNX BinXian 37.78 285 ⇑P P 06 47 23.3 -0.6
BNX pmax pmax
comp=Z,30nm,0.9s
J08A Circle Bar Ran 38.15 79 P P 06 47 29.6 +2.4
J08A IAmb IAmb 06 47 44.0
comp=Z,16nm,1.3s
RES Resolute Bay 38.70 25 LR LR 07 06 45.9
comp=Z,210nm,19.7s,baz=226,slow=42
OVMT Ovando 39.55 71 P P 06 47 39.2 +0.3
CN2 Changchun 39.98 283 P P 06 47 42.3 -0.1
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=N,500nm,19.0s
CN2 LR LR
comp=E,400nm,19.0s
CN2 LR LR
comp=Z,300nm,21.0s
JCJ Chichijima 40.39 250 LR LR 07 02 02.4
comp=Z,399nm,20.1s,baz=124,slow=32
NVAR Mina Array Bea 41.07 86 P P 06 47 52.1 +0.4
comp=Z,1.3nm,0.8s,baz=306,slow=8.1,SNR=7.5
NVAR ScP ScP 06 53 39.1 +0.9
comp=Z,1.3nm,1.0s,baz=291,slow=5.0,SNR=4.9
FFC Flin Flon 42.09 56 P P 06 48 00.0 +0.4
FFC Flin Flon 42.09 56 P P 06 48 00.0 +0.4
FFC pmax pmax
comp=Z,8.0nm,0.9s
KSRS Korea Array 42.13 274 P P 06 48 01.9 +1.8
comp=Z,4.2nm,0.6s,baz=60,slow=7.8,SNR=31
comp=Z,4.2nm,0.6s
KS19 Wonju Array Si 42.13 274 P P 06 48 01.0 +0.9
KS19 IAmb IAmb 06 48 18.1
comp=Z,18nm,1.3s
KSAR Wonju Array Be 42.16 274 P P 06 48 01.0 +0.7
KSAR Wonju Array Be 42.16 274 P P 06 48 01.0 +0.7
RLMT Red Lodge 42.78 72 P P 06 48 06.2 +0.6
RLMT IAmb IAmb 06 48 22.6
comp=Z,22nm,0.9s
TJN Taejon 43.15 273 P P 06 48 10.7 +2.3
TJN Taejon 43.15 273 ceP P 06 48 10.8 +2.4
LAO LASA Array 43.72 68 P P 06 48 13.3 +0.3
LAO IAmb IAmb 06 48 30.7
comp=Z,7.5nm,0.8s
PD31 Pinedale Array 43.92 75 P P 06 48 14.7 -0.1
PD31 IAmb IAmb 06 48 31.9
comp=Z,20nm,1.0s
PDAR Pinedale Array 43.92 75 P P 06 48 15.8 +0.9
comp=Z,2.1nm,0.7s,baz=303,slow=4.2,SNR=24
comp=Z,2.1nm,0.7s
Q16A Castle Valley 45.21 80 P P 06 48 25.8 +0.7
SRU San Rafael Swe 45.49 79 P P 06 48 28.2 +0.9
SRU IAmb IAmb 06 48 58.6
comp=Z,6.4nm,0.8s
SRU San Rafael Swe 45.49 79 P P 06 48 28.2 +0.9
SRU pmax pmax
comp=Z,6.0nm,0.8s
U15A North Rim 46.06 84 P P 06 48 32.2 +0.2
U15A IAmb IAmb 06 48 50.9
comp=Z,22nm,1.5s
HMU Henry Mountain 46.08 81 P P 06 48 32.0 0.0
HMU IAmb IAmb 06 48 51.2
comp=Z,8.4nm,0.9s
ESJX Sierra Juarez 46.67 91 P P 06 48 37.0 +0.3
ESJX IAmb IAmb 06 48 58.4
comp=Z,9.8nm,1.3s
NEEM North Greenlan 46.82 14 i P P 06 48 36.6 -0.8
PV20 West Nyswonger 46.92 79 P P 06 48 38.9 +0.3
PV20 IAmb IAmb 06 49 11.6
comp=Z,9.1nm,0.9s
ULM Lac du Bonnet 47.57 59 deP P 06 48 43.7 +0.4
ULN Ulaanbaatar 48.47 298 deP P 06 48 50.7 +0.3
ULN pmax pmax

comp=Z,4.0nm,1.0s
SONM Songino Array 48.85 299 P P 06 48 53.2 -0.1
SONM PcP PcP 06 50 17.5 0.0
SONM Songino Array 48.85 299 P P 06 48 54.0 +0.7
comp=Z,1.4nm,0.6s,baz=54,slow=7.7,SNR=10
SONM PcP PcP 06 50 17.9 +0.4
comp=Z,4.3nm,1.1s,baz=65,slow=2.4,SNR=7.5
comp=Z,1.4nm,0.6s
ZAK Zakamensk 49.06 303 eP P 06 48 54.3 -0.6
ZAK e 06 50 18.1
ZAK pmax pmax
comp=Z,7.0nm,1.4s
ZAK pmax pmax
comp=Z,5.0nm,1.1s
TIA Tai'an 49.62 280 P P 06 49 00.3 +1.1
TIA pmax pmax
comp=Z,16nm,0.7s
KBS Kingsbay 49.88 358 P P 06 49 01.2 +0.6
KBS Kingsbay 49.88 358 P P 06 49 01.2 +0.6
KBS pmax pmax
comp=Z,27nm,1.1s
KBS Kingsbay 49.88 358 eP P 06 49 00.8 +0.1
HHC Hu-ho-hao-te 50.07 288 eP P 06 49 00.8 -1.9
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,76nm,3.8s
HHC LR LR
comp=N,140nm,17.7s
HHC LR LR
comp=E,110nm,18.6s
HHC LR LR
comp=Z,130nm,18.6s
HNS HongShan 50.34 283 ⇑P P 06 49 06.3 +1.7
HNS pmax pmax
comp=Z,50nm,1.2s
HNS LR LR
comp=N,140nm,17.5s
HNS LR LR
comp=E,190nm,19.6s
HNS LR LR
comp=Z,220nm,20.8s
SPA0 Spitsbergen Ar 50.51 357 eP P 06 49 04.5 -1.0
SPITS Spitsbergen Ar 50.51 357 P P 06 49 05.2 -0.2
comp=Z,17nm,0.7s,baz=52,slow=5.5,SNR=58
SPITS LR LR 07 10 57.9
comp=Z,208nm,20.1s,baz=358,slow=37
comp=Z,17nm,0.7s
SPB2 Spitsbergen Ar 50.52 357 P P 06 49 05.4 -0.1
ANMO Albuquerque 50.64 81 ⇓eP P 06 49 10.3 +3.1
ANMO pmax pmax
comp=Z,4.0nm,1.7s
BTO Baotou 51.13 289 eP P 06 49 07.3 -3.4
BTO pP pP 06 49 17.3 -1.3
BTO sP sP 06 49 21.0 -0.8
BTO S S 06 56 20.8 -5.8
BTO sS sS 06 56 40.5 +0.9
BTO Baotou 51.13 289 SS SS 06 59 55.8 -5.7
BTO pmax pmax
comp=Z,21nm,0.7s
BTO pmax pmax
comp=Z,160nm,6.0s
BTO LR LR
comp=N,680nm,19.1s
BTO LR LR
comp=E,590nm,20.7s
BTO LR LR
comp=Z,1μm,24.5s
NJ2 Nanjing 51.30 275 eP P 06 49 12.5 +0.6
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
TBO Thunder Bay 51.94 57 P P 06 49 16.6 +0.1
LYN LuoYang 53.58 282 P P 06 49 30.5 +1.7
LYN pmax pmax
comp=Z,41nm,0.7s
LYN LR LR
comp=N,320nm,18.9s
LYN LR LR
comp=E,260nm,15.1s
LYN LR LR
comp=Z,550nm,22.7s
SFJD Kangerlussuaq 54.67 23 LR LR 07 14 57.7
comp=Z,158nm,20.8s,baz=310,slow=38
N38A Joes South For 54.77 67 P P 06 49 37.9 +0.4
ZALV Zalesovo Beam 55.80 315 P P 06 49 43.1 -1.5
comp=Z,0.4nm,0.3s,baz=42,slow=4.6,SNR=2.4
ZALV PcP PcP 06 50 43.8 +0.5
comp=Z,4.4nm,0.9s,baz=0.0,slow=3.0,SNR=7.5
comp=Z,0.4nm,0.3s
XAN Xi'an 56.09 284 P P 06 49 47.3 +0.2
XAN pP pP 06 49 53.5 -1.5
XAN pmax pmax
comp=Z,21nm,1.3s
XAN LR LR
comp=N,280nm,22.7s
XAN LR LR
comp=E,220nm,19.9s
XAN LR LR
comp=Z,250nm,19.9s
TXAR Lajitas Array 56.18 84 P P 06 49 47.8 -0.1
comp=Z,1.5nm,0.8s,baz=290,slow=3.6,SNR=9.0
comp=Z,1.5nm,0.8s
LZH Lanzhou 57.76 289 eP P 06 50 00.8 +1.8
LZH pP sP 06 50 08.3 -1.8
LZH pmax pmax
comp=Z,25nm,1.0s
GTA Gaotai 57.85 294 eP P 06 49 59.3 -0.3
GTA pmax pmax
comp=Z,8.0nm,1.2s
SCHQ Schefferville 58.42 40 P P 06 50 01.6 -1.6
comp=Z,6.4nm,0.9s,baz=315,slow=7.0,SNR=7.8
SCHQ LR LR 07 17 06.2
comp=Z,218nm,18.7s,baz=298,slow=38
comp=Z,6.4nm,0.9s
ARA0 ARCESS Array S 58.47 352 eP P 06 50 02.5 -0.7
ARCES ARCESS Array B 58.47 352 P P 06 50 02.1 -1.1
ARCES IAmb IAmb 06 50 33.3
comp=Z,12nm,1.2s
ARCES ARCESS Array B 58.47 352 P P 06 50 01.1 -2.2
comp=Z,4.8nm,0.7s,baz=4.4,slow=8.1,SNR=18
ARCES PcP PcP 06 50 53.8 +0.3
comp=Z,6.9nm,0.8s,baz=18,slow=4.2,SNR=8.3
comp=Z,4.8nm,0.7s
ARCES ARCESS Array B 58.47 352 P P 06 50 02.2 -1.1
ARCES pmax pmax
comp=Z,12nm,1.3s
JETT Jettan, Norway 58.85 354 eP P 06 50 05.5 -0.5
TRO Tromso 58.87 354 eP P 06 50 05.0 -1.0
KTK1 Kautokeino 59.17 353 eP P 06 50 07.4 -0.8
SADO Sadowa 59.81 55 LR LR 07 17 48.6
comp=Z,196nm,18.1s,baz=242,slow=38
LOF Lofoten 60.63 356 eP P 06 50 17.0 -1.1
STEI Steigen 60.76 356 eP P 06 50 18.1 -0.9
DELO Deloro Mine 60.77 54 P P 06 50 19.7 +0.3
KURK Kurchatov 60.78 316 P P 06 50 19.7 +0.3
KURK PcP PcP 06 51 03.4 +0.3
KURK Kurchatov 60.78 316 P P 06 50 19.7 +0.3
KURK 06 51 03.4
KURK pmax pmax
comp=Z,14nm,0.4s
KURBB Kurchatov Arra 60.89 316 P P 06 50 19.9 -0.2
comp=Z,8.2nm,0.5s,baz=42,slow=7.0,SNR=56
KURBB PcP PcP 06 51 03.7 +0.2
comp=Z,1.6nm,0.3s,baz=46,slow=4.1,SNR=8.4
comp=Z,8.2nm,0.5s
ERPA Erie 61.22 58 P P 06 50 22.8 +0.3
ERPA IAmb IAmb 06 50 39.7
comp=Z,14nm,1.1s
FAUS Fauske 61.31 356 eP P 06 50 22.3 -0.4
WMQ Urumqi 61.40 305 eP P 06 50 27.0 +3.2
WMQ LR LR
comp=Z,230nm,18.9s
MK31 Makanchi Array 61.95 311 i P P 06 50 27.0 -0.4
MKAR Makanchi Array 61.95 311 P P 06 50 27.1 -0.4
comp=Z,3.8nm,0.4s,baz=49,slow=5.8,SNR=80
comp=Z,3.8nm,0.4s
KONS Konsvik 62.28 356 eP P 06 50 28.9 -0.3
J57A Williamstown 62.38 54 P P 06 50 30.9 +0.5
STOK Stokkvaagen 62.45 356 eP P 06 50 29.9 -0.5
BVAR Borovoye Array 62.45 322 P P 06 50 30.9 +0.2
comp=Z,10nm,0.4s,baz=49,slow=6.5,SNR=40
BVAR PcP PcP 06 51 10.4 +0.6
comp=Z,6.1nm,0.6s,baz=59,slow=3.8,SNR=12
comp=Z,10nm,0.4s
BRVK Borovoye 62.47 322 P P 06 50 30.5 -0.3
BRVK PcP PcP 06 51 09.8 -0.1

BRVK IAmb IAmb 06 51 11.5
comp=Z,9.8nm,1.0s
BRVK Borovoye 62.47 322 *de*P **P 06 50 31.6 +0.8**
BRVK pmax pmax
comp=Z,4.0nm,1.3s
L56A Greenwood 62.48 56 P **P 06 50 32.0 +0.9**
MOR8 Moi Rana 62.55 356 *e*P **P 06 50 29.5 -1.7**
LEIR Leirfjorden 62.67 356 *e*P **P 06 50 31.5 -0.4**
ARTI Arti 63.96 330 *c i*P **P 06 50 40.5 -0.1**
ARTI 06 51 15.2
ARTI S **S 06 59 18.2 +4.1**
ARTI SS **SS 07 03 24.2 +2.4**
ARTI pmax pmax
comp=Z,5.0nm,0.8s
NSS Namsos 64.30 357 *e*P **P 06 50 42.2 -0.4**
KLMR Klimovskoe 64.76 342 *e*P **P 06 50 44.0 -1.8**
KLMR *e* 06 51 17.8
KLMR pmax pmax
comp=Z,9.0nm,1.2s
G65A Princeton 65.18 48 P **P 06 50 48.7 0.0**
G65A IAmb IAmb 06 50 49.8
comp=Z,14nm,1.0s
PZH PanZhiHua 65.79 283 P **P 06 50 54.3 +1.2**
PZH pmax pmax
comp=Z,20nm,1.1s
FINES FINESS Array B 66.28 349 P **P 06 50 54.6 -0.9**
comp=Z,3.4nm,0.7s,baz=34,slow=7.1,SNR=12
comp=Z,3.4nm,0.7s
MOL Molde 66.37 359 *e*P **P 06 50 55.6 -0.5**
DRLN Deer Lake 66.40 39 P **P 06 50 56.6 +0.1**
AKN Aaknes 66.77 359 *e*P **P 06 50 58.5 -0.2**
DOMB Dombas 66.87 358 *e*P **P 06 50 58.5 -0.8**
TAOE Nuku Hiva Isla 67.04 142 *e*LR LR 07 11 20.8
comp=Z,137nm,23.4s
NC303 NORSAR Array S 67.62 357 P **P 06 51 03.7 -0.4**
NB201 NORSAR Array S 67.80 357 P **P 06 51 05.0 -0.3**
NB2 NORSAR Subarra 67.82 357 P **P 06 51 04.7 -0.7**
comp=Z,4.4nm,0.6s,baz=3.8,slow=6.5
NOA NORSAR Array B 67.82 357 P **P 06 51 05.1 -0.3**
comp=Z,6.0nm,0.9s,baz=4.3,slow=6.4,SNR=29
NOA LR LR 07 21 05.4
comp=Z,42nm,20.4s,baz=90,slow=36
comp=Z,6.0nm,0.9s
SKAR Skarsfja 68.25 358 *e*P **P 06 51 07.8 -0.3**
ASK Askoy 68.48 360 *e*P **P 06 51 09.3 -0.2**
BER Bergen 68.58 360 *e*P **P 06 51 09.8 -0.3**
HFS Hagfors 68.62 355 P **P 06 51 09.7 -0.6**
comp=Z,9.0nm,0.6s,baz=0.0,slow=2.2,SNR=96
comp=Z,9.0nm,0.6s
AAK Ala-Archa 68.73 312 *ce*P **P 06 51 12.3 +0.7**
AAK pmax pmax
comp=Z,16nm,2.5s
OSL Oslo 68.94 357 *e*P **P 06 51 11.5 -0.8**
ODD1 Odda 69.05 359 *e*P **P 06 51 12.9 -0.1**
KONO Kongsberg 69.26 358 *ce*P **P 06 51 14.2 -0.1**
KONO pmax pmax
comp=Z,11nm,1.3s
KONO Kongsberg 69.26 358 *e*P **P 06 51 13.8 -0.5**
AB31 Akbulak array 69.39 325 P **P 06 51 15.3 -0.1**
AB31 IAmb IAmb 06 51 40.1
comp=Z,8.7nm,1.0s
BLS5 Blasjo 69.54 359 *e*P **P 06 51 15.2 -0.9**
KMY Karmoy 69.75 360 *e*P **P 06 51 16.4 -1.0**
KK31 Karatay Array 70.17 315 P **P 06 51 20.3 0.0**
KK31 IAmb IAmb 06 51 21.7
comp=Z,10nm,1.2s
KK31 Karatay Array 70.17 315 P **P 06 51 20.3 0.0**
KK31 pmax pmax
comp=Z,10.0nm,1.3s
KSH Kashi 70.46 309 P **P 06 51 26.5 +4.3**
KSH sP PcP 06 51 42.0 -1.5
KSH pmax pmax
comp=Z,17nm,1.1s
HOMB Homborsund 70.67 358 *e*P **P 06 51 22.4 -0.6**
OBN Obninsk 70.69 342 *i*P **P 06 51 22.2 -1.0**
OBN pmax pmax
comp=Z,7.0nm,0.9s
PPT Papeete 72.13 155 LR LR 07 18 55.8
comp=Z,121nm,20.2s,baz=320,slow=32
PPT2 Papeete2 72.15 155 *e*LR LR 07 13 36.1
comp=Z,161nm,22.5s
PPT2 *e*LR LR 07 13 42.0
comp=Z,170nm,23.8s
SHL Shillong 72.42 289 P **P 06 51 34.4 +0.1**
SHL Shillong 72.42 289 P **P 06 51 34.4 +0.1**
SHL pmax pmax
comp=Z,70nm,1.3s
LPSR Galich'ya Gora 72.55 339 *e*P **P 06 51 31.9 -2.5**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
EKA Eskdalemuir Ar 73.42 5 P **P 06 51 39.7 +0.2**
comp=Z,6.0nm,0.8s,baz=350,slow=4.7,SNR=11
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 73.48 279 P **P 06 51 42.4 +1.9**
comp=Z,1.6nm,0.6s,baz=25,slow=7.0,SNR=11
comp=Z,1.6nm,0.6s
CMAR Chiang Mai Arr 73.48 279 *i*P **P 06 51 41.2 +0.7**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
RAR Rarotonga 73.49 165 LR LR 07 15 41.8
comp=Z,152nm,20.7s,baz=335,slow=29
EVN Everest 73.57 294 P **P 06 51 42.0 +0.3**
EVN IAmb IAmb 06 51 43.8
comp=Z,16nm,1.0s
VSR Storozhevoye 73.79 339 *e*P **P 06 51 39.9 -1.9**
VSR pmax pmax
comp=Z,8.0nm,1.0s
VORD Divnogorie 73.99 338 *e*P **P 06 51 41.1 -1.8**
VORD pmax pmax
comp=Z,9.0nm,1.0s
SIMJ Simiganj 74.42 313 P **P 06 51 46.3 +0.4**
SIMJ IAmb IAmb 06 51 47.5
comp=Z,16nm,0.9s
BSEG Bad Segeberg 74.96 357 *e*P **P 06 51 49.6 +1.1**
comp=Z,13nm,1.0s,baz=3.9,slow=5.6
DZM Mont Dzumac 74.97 198 *e*LR LR 07 14 55.5
comp=Z,119nm,25.4s
DZM Mont Dzumac 74.97 198 LR LR 07 16 38.8
comp=Z,454nm,21.3s,baz=28,slow=29
RNPP9 Sopachiv 76.08 347 P **P 06 51 53.3 -1.7**
AK21 Malin Array Si 76.21 345 P **P 06 51 54.0 -1.7**
AK22 Malin Array Si 76.22 345 P **P 06 51 53.9 -1.9**
AK03 Malin Array Si 76.23 345 P **P 06 51 53.9 -1.9**
AK04 Malin Array Si 76.24 345 P **P 06 51 54.3 -1.6**
AK20 Malin Array Si 76.25 345 P **P 06 51 54.4 -1.5**
AKASG Malin Array Be 76.25 345 P **P 06 51 55.1 -0.9**
comp=Z,2.9nm,0.5s,baz=18,slow=6.1,SNR=11
AKASG LR LR 07 29 34.9
comp=Z,92nm,18.9s,baz=34,slow=39
comp=Z,2.9nm,0.5s
AKBB Malin Array Si 76.25 345 P **P 06 51 54.4 -1.6**
AK18 Malin Array Si 76.26 345 P **P 06 51 54.4 -1.6**
RNPP5 Staryi Chortor 76.26 347 P **P 06 51 55.2 -0.8**
KIEV Kiev 76.26 345 P **P 06 51 54.4 -1.6**
comp=Z,27nm,2.1s
AK01 Malin Array Si 76.27 345 P **P 06 51 54.5 -1.5**
AK19 Malin Array Si 76.27 345 P **P 06 51 54.5 -1.6**
AK17 Malin Array Si 76.30 345 P **P 06 51 54.1 -2.1**
AK02 Malin Array Si 76.30 345 P **P 06 51 54.2 -2.0**
AK16 Malin Array Si 76.30 345 P **P 06 51 54.2 -2.1**
AK09 Malin Array Si 76.33 344 P **P 06 51 54.7 -1.7**
AK05 Malin Array Si 76.33 345 P **P 06 51 54.8 -1.6**
AK14 Malin Array Si 76.34 345 P **P 06 51 54.8 -1.7**
AK10 Malin Array Si 76.35 344 P **P 06 51 54.8 -1.7**
FLTG Flechtingen 76.53 356 *e*P **P 06 51 57.8 +0.4**
comp=Z,5.9nm,0.8s,baz=3.9,slow=5.6
IBBN Ibbenburen 76.65 358 *e*P **P 06 51 59.4 +1.2**
comp=Z,13nm,0.9s,baz=3.9,slow=5.6
CLZ Clausthal 77.05 357 *e*P **P 06 52 01.7 +1.2**
comp=Z,7.3nm,0.9s,baz=3.9,slow=5.6
LUBAR Lubar, Ukraine 77.25 345 P **P 06 51 59.3 -2.3**
GTTG Gottingen 77.36 357 *e*P **P 06 52 03.4 +1.2**
comp=Z,8.2nm,0.9s,baz=3.9,slow=5.6
CLL Collm 77.46 355 P **P 06 52 01.9 -0.9**
CLL IAmb IAmb 06 52 03.6
comp=Z,5.2nm,0.7s
CLL Collm 77.46 355 P **P 06 52 01.9 -0.9**
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 77.46 355 P **P 06 52 01.6 -1.2**
comp=Z,7.2nm,0.9s
CLL Collm 77.46 355 *e*P **P 06 52 03.0 +0.2**
comp=Z,6.0nm,0.9s
CLL Collm 77.46 355 *e*P **P 06 52 03.0 +0.2**
comp=Z,4.0nm,0.8s,baz=3.9,slow=5.6

TBI Tubuai 77.69 156 *e*LR LR 07 16 16.6
comp=Z,541nm,23.8s
KSP Ksiaz 77.71 353 P **P 06 52 03.0 -1.2**
comp=Z,4.5nm,1.2s
KASTN Kahler Asten 77.75 358 *e*P **P 06 52 05.3 +0.9**
comp=Z,2.6nm,0.8s,baz=3.9,slow=5.6
KBL Kabul 77.76 311 P **P 06 52 04.6 -0.4**
KBL Kabul 77.76 311 P **P 06 52 04.6 -0.4**
KBL pmax pmax
comp=Z,36nm,1.4s
BRG Berggiesshubel 77.84 354 *e*P **P 06 52 05.3 +0.3**
comp=Z,4.7nm,0.8s,baz=3.9,slow=5.6
BRG Berggiesshubel 77.84 354 *i*P **P 06 52 05.2 +0.3**
BRG Amp 06 52 06.0
comp=Z,6.3nm,0.9s
OSTC Ostas 78.00 353 *e*P **P 06 52 06.1 +0.3**
OSTC Ostas 78.00 353 *e*P **P 06 52 06.1 +0.3**
DPC Dobruska-Polom 78.19 353 *e*P **P 06 52 07.2 +0.2**
DPC Dobruska-Polom 78.19 353 *e*P **P 06 52 07.2 +0.2**
MOX Moxa 78.19 356 *e*P **P 06 52 07.4 +0.5**
comp=Z,5.7nm,1.0s,baz=3.9,slow=5.6
MEM Membach 78.37 359 *d*P **P 06 52 08.3 +0.4**
TANN Tannenbergstha 78.38 355 *e*P **P 06 52 08.6 +0.6**
comp=Z,3.4nm,1.1s,baz=3.9,slow=5.6
BTNL Ternell 78.40 359 *d*P **P 06 52 07.6 -0.4**
BSTI Sart Tilman 78.40 360 *d*P **P 06 52 08.1 +0.1**
KRLC Kraliky 78.43 352 *e*P **P 06 52 08.3 0.0**
KRLC Kraliky 78.43 352 *e*P **P 06 52 08.3 0.0**
NDNU Novodnistrovsk 78.60 345 P **P 06 52 07.9 -1.2**
BGES Gesves 78.60 0 *d*P **P 06 52 09.4 +0.3**
BHOU Houtvegnez 78.63 359 *d*P **P 06 52 09.6 +0.3**
MORC Moravsky Berou 78.66 352 *e*P **P 06 52 07.2 -2.3**
BMRD Maredsous 78.68 0 *d*P **P 06 52 10.0 +0.4**
comp=Z,11nm,1.0s
PRU Pruhonice 78.68 354 *e*P **P 06 52 10.4 +0.8**
PRU Pruhonice 78.68 354 *e*P **P 06 52 10.4 +0.8**
TNS Taunus Mts 78.72 358 *e*P **P 06 52 10.7 +0.8**
comp=Z,6.7nm,0.9s,baz=3.9,slow=5.6
NIE Niedzica 78.74 350 P **P 06 52 08.6 -1.4**
comp=Z,2.3nm,1.9s
KMPD K-Podol'skiy 78.77 346 P **P 06 52 08.2 -1.9**
MANZ Manzenberg 78.83 355 *e*P **P 06 52 10.7 +0.3**
comp=Z,0.6nm,0.9s,baz=3.9,slow=5.6
RCHB Rochefort 78.83 360 *d*P **P 06 52 10.6 +0.2**
comp=Z,7.6nm,1.1s
SORM Soroca 78.88 344 P **P 06 52 09.6 -1.1**
comp=Z,500nmcomp=Z,9.7nm,1.1s
DOU Dourbes 78.89 0 *d*P **P 06 52 11.4 +0.7**
comp=Z,5.5nm,1.0s
ROTZ Rotzenmuhle 79.04 355 *e*P **P 06 52 11.2 -0.4**
comp=Z,0.5nm,0.8s,baz=3.9,slow=5.6
GRF Grafenberg Arr 79.16 356 *e*P **P 06 52 13.4 +1.2**
comp=Z,6.4nm,0.8s,baz=3.9,slow=5.6
VRAC Vranov 79.21 352 *e*P **P 06 52 12.2 -0.3**
WLF Walferdange 79.32 359 *e*P **P 06 52 14.2 +1.1**
comp=Z,7.1nm,1.0s
WLF Walferdange 79.32 359 *e*P **P 06 52 14.4 +1.3**
comp=Z,6.2nm,0.8s,baz=3.9,slow=5.6
NSLU Nyzhne Selyshc 79.42 347 P **P 06 52 13.5 -0.2**
BRIU Brid 79.48 348 P **P 06 52 13.0 -1.0**
JAVC Velka Javorina 79.56 352 *e*P **P 06 52 14.6 +0.1**
KHC Kasperske Hory 79.60 354 *e*P **P 06 52 14.9 +0.2**
KHC Kasperske Hory 79.60 354 *e*P **P 06 52 14.9 +0.2**
KHC Kasperske Hory 79.60 354 P **P 06 52 13.7 -1.0**
VYHS Vyhne 79.81 351 *e*P **P 06 52 16.8 +1.0**
VYHS Vyhne 79.81 351 *e*P **P 06 52 16.8 +1.0**
BUR08 Trucovisna Ar. S 79.86 346 P **P 06 52 15.4 -0.8**
GEC2 GERESS Array S 79.88 354 *e*P **P 06 52 16.4 +0.2**
comp=Z,2.8nm,1.0s,baz=3.9,slow=5.6
GERES GERESS Array B 79.88 354 P **P 06 52 15.2 -1.0**
comp=Z,2.0nm,0.9s,baz=27,slow=3.3,SNR=13
comp=Z,2.0nm,0.9s
MODS Modra-Piesok 80.08 352 *e*P **P 06 52 16.3 -0.9**
MODS Modra-Piesok 80.08 352 *e*P **P 06 52 16.3 -0.9**
RAO Raoul Island 80.34 183 LR LR 07 20 21.1
comp=Z,261nm,20.3s,baz=85,slow=30
AKT Akhty 80.36 329 *e*P **P 06 52 18.5 -0.5**
AKT pmax pmax
comp=Z,16nm,1.2s
ECH Echery 80.76 359 P **P 06 52 20.8 -0.1**
ECH IAmb IAmb 06 52 22.9
comp=Z,7.7nm,1.0s
ECH Echery 80.76 359 P **P 06 52 20.8 -0.1**
ECH pmax pmax
comp=Z,8.0nm,1.0s
RJOB Jochberg 81.03 355 *e*P **P 06 52 23.0 +0.6**
comp=Z,2.5nm,0.8s,baz=3.9,slow=5.6
GNI Garni 82.51 330 LR LR 07 35 02.2
comp=Z,57nm,19.0s,baz=35,slow=40
WRA Warramunga Arr 83.80 227 P **P 06 52 36.1 -0.9**
comp=Z,0.8nm,0.7s,baz=47,slow=5.3,SNR=6.8
comp=Z,0.8nm,0.7s
BRTR Keskin Array B 85.91 338 P **P 06 52 47.7 -0.1**
comp=Z,1.1nm,0.8s,baz=46,slow=3.6,SNR=6.9
comp=Z,1.1nm,0.8s
BRTR Keskin Array B 85.91 338 *i*P **P 06 52 48.2 +0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
SJG San Juan 87.13 64 LR LR 07 31 47.4
comp=Z,60nm,21.5s,baz=337,slow=36
ASAR Alice Springs 87.23 226 P **P 06 52 54.2 +0.2**
comp=Z,3.5nm,1.1s,baz=37,slow=4.8,SNR=21
comp=Z,3.5nm,1.1s
ESDC Sonseca Array 88.96 7 P **P 06 53 01.6 -0.7**
comp=Z,3.2nm,1.1s,baz=359,slow=4.2,SNR=9.5
comp=Z,3.2nm,1.1s
URZ Urewera 89.56 186 LR LR 07 24 54.2
comp=Z,87nm,20.1s,baz=25,slow=30
STKA Stephens Creek 91.34 216 LR LR 07 32 49.1
comp=Z,44nm,18.3s,baz=21,slow=35
ASF Jabal al Asfar 92.23 333 LR LR 07 42 05.8
comp=Z,99nm,18.4s,baz=53,slow=40
H03N2 Juan Fernandez 118.77 108 T T 09 08 39.7
baz=317,slow=78,SNR=15
H03N1 Juan Fernandez 118.78 108 T T 09 08 39.1
baz=317,slow=78,SNR=20
H03N3 Juan Fernandez 118.78 108 T T 09 08 38.3
baz=317,slow=78,SNR=20
QSPA South Pole Qui 141.15 180 PKhKP PKPpre 06 59 33.5
comp=Z,1.7nm,1.0s,baz=263,slow=0.6,SNR=5.4
MAW Mawson 148.02 218 PKPbc **PKPbc 06 59 51.6 -0.1**
BOSA Boshof 152.71 319 PKPbc **PKPbc 07 00 03.8 -0.6**
comp=Z,1.9nm,0.3s,baz=7.4,slow=2.3,SNR=11
SNAA Sanae 159.33 173 PKPab **PKPab 07 00 42.2 -0.1**
comp=Z,0.8nm,0.8s,baz=192,slow=2.0,SNR=3.6

WEL ***27*** *06:54:06.9±0.5, 32.°S±7.°×18.°0W±1.°6, h373km±8km, M3.8/7, mB4.0/7, ML4.8/7, MLv4.6/5, Mw(mB)3.0/7, Error ellipse: s-maj=22.6km s-min=4.0km az=111.5, confirmed*
IDC ***27*** *06:54:08.5±8.1, 32.°05S×179.°55E, h436km±98km, mb2.5/2, mbtmp3.6/3, Error ellipse: s-maj=110.5km s-min=35.1km az=10.0*
ISC 27 06:54:01.6±0.9, 31.°72S±0.°09×179.°5W±0.°2, h450km, n42, σ2.°77/63, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.79**	**29**	P	**P**	**06 55 06.1**	**-1.1**
GLKZ				S	**S**	**06 55 55.0**	**-5.2**
RIZ	**Raoul Island**	**2.80**	**28**	S	**S**	**06 55 59.4**	**-1.0**
HAZ	**Te Kaha**	**6.44**	**200**	P	**P**	**06 55 42.8**	**+2.6**
PUZ	**Puketiti**	**6.61**	**196**	P	**P**	**06 55 45.3**	**+3.2**
PUZ				S	**S**	**06 57 01.1**	**-3.3**
OUZ	**Omahuta**	**6.77**	**237**	P	**P**	**06 55 44.1**	**+0.3**
MWZ	**Matawai**	**7.05**	**200**	P	**P**	**06 55 48.4**	**+1.7**
MWZ				S	**S**	**06 57 10.0**	**-2.9**
URZ	**Urewera**	**7.11**	**202**	P	**P**	**06 55 47.4**	**+0.1**
	6.4nm,0.3s,baz=264,slow=6.0,SNR=33						
URZ				S	**S**	**06 57 09.5**	**-4.4**
	14nm,0.3s,baz=235,slow=24,SNR=25						
URZ	**Urewera**	**7.11**	**202**	P	**P**	**06 55 47.7**	**+0.4**
URZ				S	**S**	**06 57 10.3**	**-3.6**
RTZ	**Ruatahuna**	**7.47**	**202**	P	**P**	**06 55 54.0**	**+2.7**
RTZ				S	**S**	**06 57 19.7**	**-1.5**
KNZ	**Kokohu**	**7.65**	**197**	P	**P**	**06 55 54.3**	**+1.2**
KNZ				S	**S**	**06 57 24.0**	**-0.6**
BKZ	**Black Stump Fm**	**8.13**	**203**	P	**P**	**06 56 00.3**	**+1.9**
BKZ				S	**S**	**06 57 30.6**	**-3.6**
HIZ	**Hauiti**	**8.22**	**213**	P	**P**	06 56 04.4	+5.1
TMVZ	**Te Maari**	**8.37**	**207**	P	**P**	**06 56 04.1**	**+3.1**
ETVZ	**East Tongariro**	**8.38**	**207**	P	**P**	**06 56 04.0**	**+2.8**
KWHZ	**Kaweka Forest**	**8.39**	**202**	P	**P**	**06 56 03.8**	**+2.6**
KWHZ				S	**S**	**06 57 37.1**	**-2.2**

OTVZ Oturere 8.43 207 P **P 06 56 04.4 +2.7**
OTVZ S **S 06 57 38.6 -1.6**
SNVZ South Ngauruho 8.45 207 P **P 06 56 04.6 +2.6**
SNVZ S **S 06 57 38.7 -2.1**
NGZ Ngauruhoe 8.46 207 P **P 06 56 05.2 +3.2**
FWVZ Far West T-bar 8.55 207 P **P 06 56 04.1 +1.1**
FWVZ S **S 06 57 41.5 -1.3**
WNVZ Wahianoa 8.59 207 P **P 06 56 05.0 +1.6**
WNVZ S **S 06 57 40.5 -3.0**
KRHZ Kereru 8.60 202 P **P 06 56 04.6 +1.2**
KRHZ S **S 06 57 39.7 -3.9**
PKVZ Pokaka 8.66 208 P **P 06 56 06.7 +2.6**
PKVZ S **S 06 57 43.7 -1.0**
VRZ Vera Road 8.77 211 P **P 06 56 08.6 +3.4**
PWZ Pawanui 8.81 199 P **P 06 56 08.9 +3.2**
PWZ S **S 06 57 47.3 -0.3**
PXZ Pawanui 8.81 199 P **P 06 56 08.9 +3.2**
PXZ S **S 06 57 45.6 -2.0**
PNHZ Pukenui 8.90 202 P **P 06 56 07.9 +1.3**
PNHZ S **S 06 57 45.6 -3.9**
TSZ Takapari Road 9.11 203 P **P 06 56 11.5 +2.5**
TSZ S **S 06 57 49.9 -3.8**
NEZ North Egmont 9.18 213 P **P 06 56 14.2 +4.4**
BFZ Birch Farm 9.59 200 P **P 06 56 17.8 +3.7**
BFZ S **S 06 58 00.5 -2.7**
MRZ Mangatainoka R 9.78 203 P **P 06 56 18.8 +2.7**
MRZ S **S 06 58 04.0 -3.0**
NNZ Nelson 11.09 209 P **P 06 56 31.6 +1.2**
NNZ S **S 06 58 28.7 -4.5**
QRZ Quartz Range 11.15 213 P **P 06 56 32.9 +1.8**
THZ Tophouse 11.74 209 P **P 06 56 40.2 +2.6**
KHZ Kahutara 12.05 206 P **P 06 56 44.1 +3.3**
DSZ Denniston Nort 12.21 213 P **P 06 56 44.6 +2.0**
GVZ Greta Valley S 12.71 206 P **P 06 56 50.8 +2.8**
LTZ Lake Taylor 12.85 208 P **P 06 56 52.4 +2.8**
INZ Inchbonnie 13.15 211 P **P 06 56 55.3 +2.5**
ASAR Alice Springs 41.81 269 P **P 07 01 09.8 -1.0**
0.2nm,0.5s,baz=113,slow=8.5,SNR=5.1
0.2nm,0.5s
WRA Warramunga Arr 42.93 274 P **P 07 01 21.9 +2.4**
0.3nm,0.4s,baz=113,slow=7.9,SNR=12
0.3nm,0.4s
FINES FINESS Array B 145.93 338 PKPbc **PKiKP 07 12 56.6 +4.8**
0.8nm,0.3s,baz=58,slow=4.5,SNR=13
HFS Hagfors 150.26 347 PKPbc **PKPab 07 13 08.1 -0.3**
0.3nm,0.3s,baz=132,slow=2.1,SNR=1.6

NNC ***27*** *06:56:41.6±2.5, 36.°94N×70.°89E, h0km, mb5.8, mpv5.8, Error ellipse: s-maj=20.7km s-min=15.1km az=8.0*
MOS ***27*** *06:56:43.7±0.9, 36.°58N×71.°52E, h115km, mb5.1/52, Error ellipse: s-maj=4.5km s-min=3.0km az=100.0*
BJI ***27*** *06:56:45.0, 36.°65N×71.°63E, h105km, mB4.7/14, mb4.7/39*
NEIC ***27*** *06:56:45.4±1.6, 36.°53N±0.°06×71.°34E±0.°08, h117km±6km, mb4.8/108, Error ellipse: s-maj=9.4km s-min=8.6km az=77.0*
IDC ***27*** *06:56:45.8±0.5, 36.°53N×71.°56E, h128km±4km, mb4.5/28, mbtmp5.0/33, MS3.9/13, Error ellipse: s-maj=9.2km s-min=7.9km az=21.0*
GCMT ***27*** *06:56:46.4±0.4, 36.°44N±0.°03×71.°02E±0.°03, h119km±3km, MW4.9/82, Moment Tensor Solution. s25,c25; s82,c112; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.59±.09; Mθθ -2.04±.12; Mφφ 0.44±.12; Mrθ -0.34±.09; Mrφ -1.49±.12; Mθφ 0.71±.07; Best double couple: Mo2.46300×10^16 NP1:φs34.00000°, δs56.00000°, λ43.00000°. NP2: φs276.00000°, δs56.00000°, λ137.00000°. Principal axes: T 2.1880, Plg53.0000°, Azm245.0000°; N 0.5440, Plg37.0000°, Azm65.0000°; P -2.7380, Plg0.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 06:56:44.1±0.3, 36.°52N±0.°03×71.°48E±0.°03, h111km±2km, h112km; pP-P, n996, σ1.°42/1062, mb4.8/230, 66C-46D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.65**	**340**		**Pn**	**06 57 25.8**	**+0.2**
KBL	**Kabul**	**2.80**	**226**		**Pn**	**06 57 27.6**	**-0.1**
KBL	**Kabul**	**2.80**	**226**	PN	**Pn**	**06 57 27.6**	**-0.1**
SIMJ	**Simiganj**	**2.90**	**318**		**Pn**	**06 57 27.9**	**-1.1**
DRK	**Karamyk**	**2.97**	**5**		**Pn**	**06 57 31.5**	**+1.5**
DRK	**Karamyk**	**2.97**	**5**	PN	**Pn**	**06 57 31.5**	**+1.5**
NIL	**Nilore**	**3.21**	**153**		**Pn**	**06 57 35.0**	**+2.1**
NIL	**Nilore**	**3.21**	**153**	PN	**Pn**	**06 57 35.1**	**+2.1**
BTK	**Batken**	**3.57**	**352**		**Pn**	**06 57 39.4**	**+1.6**
BTK	**Batken**	**3.57**	**352**	PN	**Pn**	**06 57 39.4**	**+1.6**
SRNI	**Srinagar**	**3.66**	**130**	*e*P	Pn	06 57 34.1	-4.8
SRNI				*e*S	**Sn**	**06 58 20.0**	**-1.4**
KSH	**Kashi**	**4.64**	**48**	P	**Pn**	**06 57 49.3**	**-2.9**
KSH				S	Sn	06 58 36.0	-9.1
KSH				smax	smax		
	comp=N,7μm,0.6s						
KSH				smax	smax		
	comp=E,4μm,0.6s						
JMU	**Jammu**	**4.72**	**142**	*e*P	Pn	06 57 47.0	-6.3
JMU				*e*S	**Sn**	**06 58 43.3**	**-3.7**
JMU				IAML		06 58 49.5	
	comp=N,519nm,0.5s						
ARSB	**Arslanbob**	**4.94**	**13**		**Pn**	**06 57 56.2**	**-0.1**
ARSB	**Arslanbob**	**4.94**	**13**	PN	**Pn**	**06 57 56.2**	**-0.1**
THN	**Thein Dam**	**5.37**	**138**	*e*P	**Pn**	**06 58 00.4**	**-1.6**
THN				*e*S	Sn	06 58 54.2	-8.4
THN				IAML		06 59 05.7	
	comp=N,517nm,0.3s						
IUG	**Iuzhnay**	**5.73**	**349**	*e*PN	**Pn**	**06 58 07.0**	**+0.1**
IUG				*e*S	**Sn**	**06 59 11.0**	**-0.4**
IUG	**Iuzhnay**	**5.73**	**349**	*e*P	**Pn**	**06 58 07.1**	**+0.1**
IUG				*e*S	**Sn**	**06 59 11.1**	**-0.4**
CHM	**Chimkent**	**5.97**	**347**	*e*PN	**Pn**	**06 58 10.3**	**+0.2**
CHM	**Chimkent**	**5.97**	**347**	*e*P	**Pn**	**06 58 10.3**	**+0.2**
NRN	**Naryn**	**6.04**	**34**		**Pn**	**06 58 11.2**	**-0.1**
NRN	**Naryn**	**6.04**	**34**	PN	**Pn**	**06 58 11.2**	**-0.1**
UCH	**Uchtor**	**6.17**	**21**	P	**Pn**	**06 58 14.3**	**+1.1**
SNR=661							
DZA	**Taraz**	**6.37**	**359**	*e*PN	**Pn**	**06 58 15.6**	**+0.2**
DZA	**Taraz**	**6.37**	**359**	*e*P	**Pn**	**06 58 15.7**	**+0.2**
DZA				*e*S	Sn	06 59 26.4	-0.4
EKS2	**Erkin-Say**	**6.39**	**15**	P	**Pn**	**06 58 16.9**	**+1.1**
SNR=649							
AAK	**Ala-Archa**	**6.54**	**20**	P	**Pn**	**06 58 19.4**	**+1.5**
SNR=315							
AAK	**Ala-Archa**	**6.54**	**20**		**Pn**	**06 58 18.9**	**+1.1**
AAK	**Ala-Archa**	**6.54**	**20**	⇑P	**Pn**	**06 58 18.8**	**+0.9**
	comp=N,242nm,0.6s						
AAK				⇑S	**Sn**	**06 59 30.3**	**-0.8**
	comp=N,572nm,0.9s						
AAK	**Ala-Archa**	**6.54**	**20**	P	**Pn**	**06 58 19.0**	**+1.1**
	comp=N,635nm,0.5s,baz=207,slow=11,SNR=392						
AAK				S	**Sn**	**06 59 29.2**	**-1.9**
	comp=N,425nm,0.7s,baz=339,slow=21,SNR=9.1						
AAK	**Ala-Archa**	**6.54**	**20**	*d*PN	**Pn**	**06 58 19.2**	**+1.3**
AAK				pmax	pmax		
	comp=Z,769nm,0.8s						
AAK	**Ala-Archa**	**6.54**	**20**	P	**Pn**	**06 58 19.8**	**+1.9**
KK31	**Karatay Array**	**6.62**	**354**		**Pn**	**06 58 18.4**	**-0.4**
KK31	**Karatay Array**	**6.62**	**354**	⇓P	**Pn**	**06 58 15.0**	**-3.8**
	comp=Z,593nm,0.3s,baz=186,slow=15,SNR=8297						
KK31				⇑S	**Sn**	**06 59 26.8**	**-6.0**
	comp=Z,342nm,0.6s,baz=178,slow=23,SNR=3.9						
KK31	**Karatay Array**	**6.62**	**354**	PN	**Pn**	**06 58 18.4**	**-0.4**
KKAR	**Karatay Array**	**6.62**	**354**		**Pn**	**06 58 18.3**	**-0.5**
KKAR	**Karatay Array**	**6.62**	**354**	PN	**Pn**	**06 58 18.3**	**-0.5**
BRLS	**Boroldoy**	**6.63**	**349**	*e*PN	**Pn**	**06 58 15.3**	**-3.6**
BRLS	**Boroldoy**	**6.63**	**349**	*e*P	**Pn**	**06 58 15.4**	**-3.6**
KBK	**Karagaybulak**	**6.69**	**23**	P	**Pn**	**06 58 21.6**	**+1.6**
SNR=98							
FRU1	**Bishkek**	**6.74**	**20**		**Pn**	**06 58 21.6**	**+1.1**
FRU1	**Bishkek**	**6.74**	**20**	PN	**Pn**	**06 58 21.6**	**+1.1**
ULHL	**Ulahol**	**6.80**	**31**	P	**Pn**	**06 58 23.0**	**+1.5**
SNR=40							
BOOM	**Boomskoye usch**	**6.89**	**29**		**Pn**	**06 58 23.3**	**+0.7**
BOOM	**Boomskoye usch**	**6.89**	**29**	PN	**Pn**	**06 58 23.3**	**+0.7**
CHMS	**Chumysh**	**6.95**	**20**	P	**Pn**	**06 58 24.0**	**+0.8**
SNR=417							
USP	**Ospenovka**	**7.13**	**18**	P	**Pn**	**06 58 26.1**	**+0.3**
SNR=499							
KDJ	**Kajisay**	**7.13**	**36**		**Pn**	**06 58 26.9**	**+0.9**
KDJ	**Kajisay**	**7.13**	**36**	PN	**Pn**	**06 58 26.9**	**+0.9**
TKM2	**Tokmak 2**	**7.14**	**25**	P	**Pn**	**06 58 27.3**	**+1.2**

SNR=683
TARG Taragay, Kyrgy 7.16 41 Pn 06 58 26.9 +0.4
TARG Taragay, Kyrgy 7.16 41 PN Pn 06 58 26.9 +0.4
SMLA Simla 7.16 137 *e*P Pn 06 58 26.7 +0.5
SMLA eS Sn 06 59 36.6 -9.4
SMLA IAML 06 59 44.8
comp=N,773nm,0.2s
HNLY HANLEY 7.21 119 *e*P **Pn 06 58 24.6 -2.9**
HNLY eS **Sn 06 59 40.0 -8.1**
HNLY IAML 06 59 48.7
comp=N,364nm,0.4s
SGDS Sogindy 7.34 18 *e*P **Pn 06 58 28.7 +0.1**
KLP Kalpa 7.50 130 *e*P **Pn 06 58 28.3 -2.9**
KLP eS **Sn 06 59 46.5 -8.3**
KLP IAML 06 59 54.0
comp=N,396nm,0.8s
TNSS Tian-Shan 7.75 31 *e*PN **Pn 06 58 34.7 +0.2**
TNSS Tian-Shan 7.75 31 *e*P **Pn 06 58 34.7 +0.2**
AAA Alma-Ata 7.88 30 *e*PN **Pn 06 58 36.5 +0.6**
AAA Alma-Ata 7.88 30 *e*P **Pn 06 58 36.6 +0.6**
PRZ Przheval'sk 8.01 40 Pn 06 58 39.2 +1.4
PRZ Przheval'sk 8.01 40 PN **Pn 06 58 39.2 +1.4**
KUU Kurty 8.25 25 *e*PN **Pn 06 58 40.7 -0.2**
KUU Kurty 8.25 25 *e*P **Pn 06 58 40.8 -0.2**
DDI Dehra Dun 8.27 136 *e*P **Pn 06 58 38.5 -2.8**
DDI eS Sn 07 00 04.2 -8.8
DDI IAML 07 00 17.1
comp=N,224nm,0.4s
SATY Saty 8.43 37 *e*PN **Pn 06 58 43.8 +0.3**
SATY Saty 8.43 37 *e*P **Pn 06 58 43.8 +0.3**
SATY eS **Sn 07 00 16.9 0.0**
CHKK Chushkaly 8.45 28 *e*PN **Pn 06 58 43.6 0.0**
CHKK Chushkaly 8.45 28 *e*P **Pn 06 58 43.7 0.0**
RTK Rohtak 8.54 150 *e*P **Pn 06 58 41.9 -3.0**
RTK eS Sn 07 00 10.2 -9.3
RTK IAML 07 00 16.4
comp=N,348nm,0.0s
BKNR BIKANER 8.61 169 *e*P Pn 06 58 40.3 -5.6
BKNR IAML 06 58 46.1
comp=Z,484nm,0.3s
BKNR eS Sn 07 00 07.3 -14
BKNR IAML 07 00 16.5
comp=N,316nm,0.5s
BTLS Baital 8.73 12 *e*PN **Pn 06 58 46.8 -0.7**
BTLS Baital 8.73 12 *e*P **Pn 06 58 46.9 -0.6**
UZB Uzynbulak 8.80 39 *e*PN **Pn 06 58 48.8 +0.3**
UZB Uzynbulak 8.80 39 *e*P **Pn 06 58 48.9 +0.3**
KPKS Kokpek 8.87 36 *e*PN **Pn 06 58 49.6 +0.2**
KPKS Kokpek 8.87 36 *e*P **Pn 06 58 49.7 +0.2**
JOSI Joshimath 8.99 129 *e*P **Pn 06 58 48.1 -3.0**
JOSI eS Sn 07 00 20.9 -10
JOSI IAML 07 00 31.3
comp=N,224nm,0.5s
SHLS Shalkode 9.03 40 *e*P **Pn 06 58 54.9 +3.3**
SHLS Shalkode 9.03 40 *e*P **Pn 06 58 55.0 +3.3**
ARXS Arharly 9.08 30 *e*P **Pn 06 58 51.5 -0.8**
PDGK Podgornoye 9.17 40 ⇓P **Pn 06 58 53.0 -0.5**
comp=N,138nm,1.1s
PDGK ⇓S **Sn 07 00 39.9 +5.1**
comp=N,174nm,1.4s
PDGK Podgornoye 9.17 40 P **Pn 06 58 52.0 -1.5**
NDI New Delhi 9.19 147 *e*P **Pn 06 58 50.7 -3.0**
NDI eS Sn 07 00 25.2 -10
NDI IAML 07 00 35.9
comp=N,374nm,0.7s
NPLP NPLP New Delhi 9.21 147 *e*P **Pn 06 58 51.0 -3.0**
NPLP eS Sn 07 00 25.7 -10
NPLP IAML 07 00 32.6
comp=N,296nm,0.1s
LDR Lodi Road 9.27 147 *e*P **Pn 06 58 51.9 -2.9**
LDR eS Sn 07 00 27.4 -10
LDR IAML 07 00 35.1
comp=N,340nm,1.0s
AYAN Aya Nagar 9.32 148 *e*P **Pn 06 58 52.6 -2.9**
KUDL Kundal 9.36 152 *e*P **Pn 06 58 53.1 -2.9**
KUDL eS Sn 07 00 29.3 -10
KUDL IAML 07 00 34.2
comp=E,432nm,0.9s
SONA Sohna 9.51 149 *e*P **Pn 06 58 54.8 -3.2**
SONA eS Sn 07 00 32.5 -10
SONA IAML 07 00 42.7
comp=N,435nm,0.6s
TDK Taldyqorghan 9.97 30 *e*P **Pn 06 59 03.7 -0.4**
TDK Taldyqorghan 9.97 30 *e*P **Pn 06 59 03.8 -0.4**
PTH Pithoragarh 10.10 131 *e*P **Pn 06 59 02.6 -3.6**
PTH eS Sn 07 00 45.8 -12
PTH IAML 07 00 56.0
comp=N,290nm,0.5s
LGTI Lohaghat 10.19 131 *e*P **Pn 06 59 03.5 -3.7**
LGTI eS Sn 07 00 47.5 -12
LGTI IAML 07 00 54.0
comp=N,356nm,0.9s
JHNI Jhansi 12.56 149 *e*P **Pn 06 59 36.4 -2.6**
JHNI IAmb IAmb 06 59 37.7
comp=Z,232nm,0.5s
JHNI eS Sn 07 01 44.4 -13
MAKZ Makanchi 12.92 34 Pn 06 59 41.8 -1.7
MAKZ Makanchi 12.92 34 ⇑P **Pn 06 59 45.9 +2.4**
comp=Z,190nm,0.9s
MAKZ Makanchi 12.92 34 P **Pn 06 59 41.8 -1.7**
MK31 Makanchi Array 13.05 35 ⇓P **Pn 06 59 47.4 +2.2**
comp=Z,78nm,0.8s,baz=202,slow=7.6,SNR=281
MK31 Makanchi Array 13.05 35*d* iP **Pn 06 59 44.1 -1.1**
MKAR Makanchi Array 13.05 35 P **Pn 06 59 43.3 -1.9**
MKAR Makanchi Array 13.05 35 P **Pn 06 59 44.2 -1.0**
comp=Z,71nm,0.9s,baz=215,slow=10,SNR=124
MKAR Makanchi Array 13.05 35 P **Pn 06 59 43.3 -1.9**
BHUJ Bhuj 13.31 187 *e*P **Pn 06 59 45.3 -3.4**
BHUJ eS Sn 07 01 59.8 -16
BHUJ IAML 07 02 09.2
comp=E,124nm,0.8s
BHPL Bhopal 14.20 157 *e*P **Pn 06 59 57.7 -2.5**
BHPL IAmb IAmb 07 00 06.7
comp=Z,34nm,0.9s
BHPL eS **Sn 07 02 35.5 -1.2**
WMQ Urumqi 14.37 55 *e*P **Pn 07 00 02.0 -0.3**
WMQ pmax pmax
comp=Z,38nm,0.9s
WMQ pmax pmax
comp=Z,120nm,3.7s
KURBB Kurchatov Arra 14.99 18 ⇑P **P 07 00 11.9 -0.8**
comp=Z,175nm,0.7s
KURBB Kurchatov Arra 14.99 18 P **Pn 07 00 06.4 -3.5**
comp=Z,20nm,0.8s,baz=209,slow=12,SNR=86
KURK Kurchatov 15.09 18 ⇓P **P 07 00 12.8 -1.1**
comp=Z,120nm,0.7s
KURK Kurchatov 15.09 18⇑*e*P **Pn 07 00 08.4 -2.9**
AB31 Akbulak array 15.26 330 P **Pn 07 00 10.1 -3.3**
AB31 Akbulak array 15.26 330 ⇓P **Pn 07 00 10.0 -3.3**
comp=Z,70nm,0.5s
AB31 ⇓S **Sn 07 02 53.6 -8.4**
comp=Z,57nm,0.6s
ABKAR Akbulak array 15.26 330 P **Pn 07 00 10.1 -3.3**
EVN Everest 15.52 119 P **Pn 07 00 14.3 -3.1**
BVA0 Borovoye Array 16.52 358 ⇓P **Pn 07 00 26.6 -2.5**
comp=Z,83nm,0.7s,baz=163,slow=14,SNR=226
BVA0 Borovoye Array 16.52 358 P **Pn 07 00 26.6 -2.5**
BVAR Borovoye Array 16.52 358 P **Pn 07 00 28.4 -0.6**
comp=Z,119nm,0.6s,baz=167,slow=9.1,SNR=186
BVAR S **Sn 07 03 22.4 -10**
comp=Z,23nm,0.7s,baz=160,slow=22,SNR=3.8
BVAR LR LR 07 07 54.5
comp=Z,482nm,19.7s,baz=231,slow=40
BRVK Borovoye 16.56 357 P **Pn 07 00 27.1 -2.4**
BRVK Borovoye 16.56 357 ⇑P **Pn 07 00 27.0 -2.5**
comp=Z,117nm,0.9s
BRVK Borovoye 16.56 357*d* iP **Pn 07 00 27.7 -1.8**
BANOM Banah 16.71 235 *i* P **P 07 00 32.0 -0.1**
SNR=12
SHME Shamm 16.73 236 P **Pn 07 00 32.1 +0.2**
AKTO Aktyubinsk 16.96 329 ⇓P **Pn 07 00 32.4 -2.0**
comp=Z,61nm,0.6s
AKTO ⇓S **Sn 07 03 34.2 -8.7**
comp=Z,39nm,0.7s
AKTO Aktyubinsk 16.96 329 P **Pn 07 00 33.7 -0.7**
comp=Z,126nm,0.5s,baz=137,slow=11,SNR=116
MDH Madha 17.14 234 P **Pn 07 00 38.0 +1.1**
MSFE Esma-Masafi 17.19 234 *i* P **Pn 07 00 39.0 +1.5**
SNR=6.4
UOSS Minazif 17.45 233 P **P 07 00 39.3 -0.8**
UOSS Minazif 17.45 233 P **P 07 00 40.0 -0.1**
HATD Hatta, Dubai 17.58 233 P **P 07 00 41.9 +0.3**
ASHO Ashiyiah 17.73 233 *i* P **Pn 07 00 44.2 +0.2**
SNR=25

BOK Bokaro 17.75 132 *e*P **P 07 00 41.0 -2.4**
BOK IAmb IAmb 07 00 44.9
comp=Z,40nm,1.1s
BOK *e*S **S 07 04 00.6 -1.4**
LKRN Lenkeran, Azer 18.11 284 P **Pn 07 00 49.3 +0.9**
ASUD Al Ashush, Dub 18.24 234 P **P 07 00 49.1 +0.3**
ALNE Al Ain 18.37 232 *i* P **Pn 07 00 51.9 +0.2**
SNR=8.4
GOMU GeErMu 18.79 84 P **Pn 07 00 58.0 +1.1**
GOMU pmax pmax
comp=Z,29nm,0.8s
AKT Akhty 19.09 292 *e*P **P 07 00 58.8 +0.7**
AKT eS **S 07 04 29.8 +1.1**
AKT pmax pmax
comp=Z,77nm,0.7s
AKT MLR MLR
comp=Z,146nm,11.0s
SEKA Sheki 19.46 291 P **Pn 07 01 03.3 -1.0**
MAK Makhachkala 19.49 297 *e*P **P 07 01 02.3 0.0**
MAK eS **S 07 04 36.7 +0.3**
MAK pmax pmax
comp=Z,174nm,1.1s
MAK MLR MLR
comp=Z,391nm,16.0s
MNGR Mingechevir, A 19.50 290 P **Pn 07 01 04.6 -0.2**
ZAA0 Zalesovo Array 19.74 24 P **P 07 01 04.8 0.0**
ZALV Zalesovo Beam 19.74 24 P **P 07 01 04.8 -0.1**
ZALV Zalesovo Beam 19.74 24 P **P 07 01 05.1 +0.2**
comp=Z,151nm,0.6s,baz=231,slow=9.4,SNR=384
ZALV S **S 07 04 36.8 -4.3**
comp=Z,6.0nm,0.7s,baz=217,slow=20,SNR=2.6
ZALV Zalesovo Beam 19.74 24 *i* P **P 07 01 05.0 +0.2**
ZALV pmax pmax
comp=Z,150nm,0.6s
GANJ Ganja 20.07 290 P Pn 07 01 10.7 -0.8
SHL Shillong 20.57 116 P **P 07 01 15.1 +0.8**
SHL Shillong 20.57 116 P **P 07 01 15.1 +0.8**
NAX Nakhchivan 20.67 285 P Pn 07 01 17.3 -1.2
GNI Garni 21.26 288 P **P 07 01 23.8 +2.3**
GNI Garni 21.26 288 P **P 07 01 23.5 +2.0**
comp=Z,74nm,0.7s,baz=134,slow=2.2,SNR=29
comp=Z,74nm,0.7s
GNI Garni 21.26 288*c* iP **P 07 01 24.1 +2.6**
GNI pmax pmax
comp=Z,113nm,1.1s
GNI Garni 21.26 288 P **P 07 01 24.1 +2.6**
SVE Sverdlovsk 21.58 344*c* iP **P 07 01 25.1 +0.5**
SVE eS **S 07 05 20.2 +3.2**
SVE pmax pmax
comp=Z,127nm,0.8s
ARTI Arti 21.75 340 P **P 07 01 25.4 -1.1**
ARTI Arti 21.75 340 P **P 07 01 26.9 +0.4**
comp=Z,65nm,0.6s,baz=159,slow=8.1,SNR=41
comp=Z,65nm,0.6s
ARTI Arti 21.75 340*d* iP **P 07 01 26.3 -0.2**
ARTI 07 01 56.5
ARTI S **S 07 05 21.4 +1.2**
ARTI *SS **sS 07 05 53.7 -3.7**
ARTI pmax pmax
comp=Z,305nm,2.1s
OZAP Van, Ozalp-Mer 21.86 284 ⇑P **P 07 01 29.7 +1.7**
NCK Nalchik 22.40 297⇑*e*P **P 07 01 33.8 +0.4**
NCK pmax pmax
comp=Z,80nm,0.6s
GTA Gaotai 22.49 74 P **P 07 01 36.3 +1.9**
GTA pmax pmax
comp=Z,47nm,1.1s
GTA LR LR
comp=Z,210nm,15.6s
GTA LR LR
comp=Z,320nm,19.6s
GTA LR LR
comp=Z,390nm,17.4s
KARS Kars 22.54 289 P **P 07 01 36.6 +1.7**
KARS Kars 22.54 289 P **P 07 01 36.6 +1.7**
GEVA Gevas 22.61 283 P **P 07 01 36.8 +1.0**
KBZ Khabaz 22.94 297 P **P 07 01 38.0 -0.6**
comp=Z,28nm,0.8s,baz=117,slow=6.7,SNR=48
comp=Z,28nm,0.8s
KBZ Khabaz 22.94 297*c* iP **P 07 01 38.6 0.0**
KBZ pmax pmax
comp=Z,27nm,0.9s
GOF Gofitskoye 23.07 301*ce*P **P 07 01 33.5 -6.4**
SHA1 Shidzhatmaz 23.11 297*c* iP **P 07 01 40.9 +0.3**
BELG Belogornoye 23.12 321 P **P 07 01 40.2 0.0**
comp=Z,83nm,0.5s,baz=291,slow=1.1,SNR=20
comp=Z,83nm,0.5s
BELG Belogornoye 23.12 321*d* iP **P 07 01 40.0 -0.2**
BELG pmax pmax
comp=Z,25nm,0.9s
KIV Kislovodsk 23.12 298 P **P 07 01 39.5 -1.0**
KIV Kislovodsk 23.12 298 *e*P **P 07 01 40.8 +0.3**
KIV *e*S **S 07 05 44.8 +1.6**
KIV pmax pmax
comp=Z,61nm,1.0s
KIV Kislovodsk 23.12 298 *i* P **P 07 01 40.3 -0.2**
SNR=6.0
KIV Kislovodsk 23.12 298 P **P 07 01 40.8 +0.3**
comp=Z,725nmcomp=Z,81nm,0.8s
KIV Kislovodsk 23.12 298 ⇑P **P 07 01 41.4 +0.9**
HOMI Horasan 23.43 288 ⇑P **P 07 01 44.6 +1.1**
KRAR Krasnoyarsk 24.29 30⇑*e*P **P 07 01 53.4 +2.6**
ERBR Yeremizino-Bor 24.96 301 *e*P **P 07 01 58.3 +1.2**
ERBR *e* 07 02 35.3
ERBR *e*SS 07 07 22.9
ERBR pmax pmax
comp=Z,90nm,0.8s
VSLR Vesyoloye 24.97 296*de*P **P 07 02 00.3 +3.1**
VSLR pmax pmax
comp=Z,52nm,0.9s
SOC Sochi 25.21 296 *e*P **P 07 02 01.6 +2.3**
SOC *e*S **S 07 06 22.8 +6.4**
SOC pmax pmax
comp=Z,55nm,0.7s
VRH Novokhopyorsk 25.77 314 *e*P **P 07 02 05.1 +0.8**
VRH pmax pmax
comp=Z,48nm,0.9s
MOY Mondy 25.82 45 *e*P **P 07 02 07.3 +2.4**
MOY pmax pmax
comp=Z,16nm,1.1s
RAYN Ar Rayn 25.86 247 P **P 07 02 04.0 -1.5**
RAYN Ar Rayn 25.86 247 P **P 07 02 04.0 -1.5**
RAYN pmax pmax
comp=Z,13nm,0.7s
RAYN Ar Rayn 25.86 247 *i* P **P 07 02 05.5 0.0**
SNR=8.0
LZH Lanzhou 26.02 81 *e*P **P 07 02 12.8 +5.8**
LZH pP pP 07 02 37.5 +5.2
LZH sP sP 07 02 49.3 +3.5
LZH pmax pmax
comp=Z,23nm,1.3s
LZH LR LR
comp=Z,370nm,15.9s
LZH LR LR
comp=Z,370nm,16.5s
LZH LR LR
comp=Z,430nm,14.9s
KIRV Kirov 26.39 334 P **P 07 02 11.0 +1.2**
comp=Z,84nm,0.6s,baz=132,slow=5.8,SNR=40
KIRV pP **pP 07 02 37.6 +2.5**
comp=Z,53nm,0.7s,baz=124,slow=1.0,SNR=3.9
comp=Z,84nm,0.6s
KIRV Kirov 26.39 334*d* iP **P 07 02 10.7 +0.9**
ZAK Zakamensk 26.69 49 *e*P **P 07 02 13.4 +0.7**
ZAK pmax pmax
comp=Z,13nm,1.5s
ANN Anapa 26.97 298 *e*P **P 07 02 16.4 +1.3**
ANN pmax pmax
comp=Z,29nm,0.8s
VORD Divnogorie 27.11 312 *e*P **P 07 02 16.8 +0.4**
VORD pmax pmax
comp=Z,40nm,1.1s
VSR Storozhevoye 27.27 313 *e*P **P 07 02 18.1 +0.3**
VSR pmax pmax
comp=Z,20nm,0.5s
VORR Voronezh 27.41 314 *e*P **P 07 02 19.7 +0.7**
VORR pmax pmax
comp=Z,41nm,0.8s
PZH PanZhiHua 27.57 103 P **P 07 02 23.5 +2.7**
LPSR Galich'ya Gora 27.91 315 *e*P **P 07 02 24.0 +0.5**
LPSR pmax pmax
comp=Z,70nm,0.8s
SONM Songino Array 28.01 55 P **P 07 02 25.9 +1.4**
SONM Songino Array 28.01 55 P **P 07 02 25.8 +1.3**
comp=Z,2.2nm,0.7s,baz=248,slow=10,SNR=8.9
comp=Z,2.2nm,0.7s
SONM Songino Array 28.01 55 P **P 07 02 26.0 +1.4**
SONM pmax pmax
comp=Z,8.0nm,1.1s
ULN Ulaanbaatar 28.45 55*ce*P **P 07 02 30.2 +1.7**
ULN pmax pmax
comp=Z,3.0nm,0.8s
ASF Jabal al Asfar 28.79 272 LR LR 07 16 00.8
comp=Z,46nm,19.1s,baz=106,slow=40
ILGA Ilgaz 29.63 290 P **P 07 02 38.2 -0.9**
KIRS Kirsehir-Merke 29.65 287 ⇑P **P 07 02 39.8 +0.7**
MMAI Mount Meron Ar 29.73 274 P **P 07 02 39.8 -0.2**
comp=Z,4.5nm,0.8s,baz=68,slow=9.5,SNR=2.3
BR104 Keskin Array S 29.80 288 P **P 07 02 41.1 +0.6**
comp=Z,50nmcomp=Z,6.0nm,0.8s
BR131 Keskin Array S 29.80 288 P **P 07 02 41.2 +0.7**
BR131 Keskin Array S 29.80 288*d* iP **P 07 02 41.7 +1.2**
BRTR Keskin Array B 29.80 288 P **P 07 02 40.5 0.0**
BRTR Keskin Array B 29.80 288 P **P 07 02 41.2 +0.7**
comp=Z,3.1nm,0.6s,baz=106,slow=9.0,SNR=14
comp=Z,3.1nm,0.6s
BRTR Keskin Array B 29.80 288 *i* P **P 07 02 41.9 +1.4**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BR106 Keskin Array S 29.81 288 P **P 07 02 40.9 +0.2**
comp=Z,62nmcomp=Z,6.4nm,0.8s
BR106 pP **pP 07 03 04.8 -1.1**
comp=Z,62nmcomp=Z,6.4nm,0.8s
BR105 Keskin Array S 29.81 288 P **P 07 02 40.9 +0.2**
comp=Z,70nmcomp=Z,8.2nm,0.8s
BR105 pP **pP 07 03 05.5 -0.7**
comp=Z,70nmcomp=Z,8.2nm,0.8s
MOS Moscow 29.89 321 *e*P **P 07 02 40.6 -0.3**
MOS *e**PP **pP 07 03 02.9 -3.4**
MOS *e* 07 03 39.4
MOS *e*S **S 07 07 30.3 +0.5**
MOS *e*SS **ScP 07 09 12.1 -0.7**
MOS pmax pmax
comp=Z,85nm,0.7s
MOS pmax pmax
comp=Z,87nm,0.7s
CMAR Chiang Mai Arr 30.12 119 P **P 07 02 44.5 +1.1**
CMAR Chiang Mai Arr 30.12 119 P **P 07 02 43.9 +0.5**
comp=Z,1.1nm,0.3s,baz=302,slow=8.9,SNR=8.3
CMAR pP **pP 07 03 12.3 +2.9**
comp=Z,1.9nm,0.4s,baz=301,slow=8.7,SNR=2.4
comp=Z,1.1nm,0.3s
CMAR Chiang Mai Arr 30.12 119 *i* P **P 07 02 46.9 +3.5**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
OBN Obninsk 30.18 319 P **P 07 02 43.6 +0.1**
OBN Obninsk 30.18 319 P **P 07 02 44.5 +1.1**
comp=Z,105nm,0.5s,baz=47,slow=1.1,SNR=22
OBN Obninsk 30.18 319*d* iP **P 07 02 44.2 +0.7**
OBN *i* 07 03 25.1
OBN pmax pmax
comp=Z,69nm,0.7s
OBN Obninsk 30.18 319 P **P 07 02 44.1 +0.6**
comp=Z,1µmcomp=Z,178nm,0.6s
OBN Obninsk 30.18 319 P **P 07 02 44.6 +1.1**
BTO Baotou 30.25 70 *e*P **P 07 02 46.0 +1.5**
BTO pP **pP 07 03 10.3 -0.2**
BTO sP **sP 07 03 23.5 -0.6**
BTO PP **PnPn 07 03 48.0 +0.9**
BTO pmax pmax
comp=Z,28nm,1.2s
BTO pmax pmax
comp=Z,240nm,7.0s
BTO LR LR
comp=Z,520nm,20.5s
BTO LR LR
comp=Z,750nm,18.7s
BTO LR LR
comp=Z,1µm,24.1s
XAN Xi'an 30.54 83 *e*P **P 07 02 46.8 -0.3**
XAN pmax pmax
comp=Z,13nm,1.0s
EIL Elat 31.22 268 P **P 07 02 53.1 +0.1**
comp=Z,10nm,1.2s,baz=36,slow=8.7,SNR=3.8
comp=Z,10nm,1.2s
HHC Hu-ho-hao-te 31.39 70 *e*P **P 07 02 56.0 +1.4**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,56nm,4.0s
HHC LR LR
comp=Z,190nm,13.3s
HHC LR LR
comp=Z,140nm,14.0s
HHC LR LR
comp=Z,400nm,14.9s
KLMR Klimovskoe 31.66 330 *e*P **P 07 02 55.8 -0.6**
KLMR pmax pmax
comp=Z,63nm,0.9s
SLVN Son La 31.98 109 P **P 07 03 00.9 +1.1**
PURM Purcari 32.38 301 P **P 07 03 04.1 +1.1**
comp=Z,81nm,0.5s
BAL3X Bal3x, Balta 32.66 304 P **P 07 03 04.7 -0.7**
YLV Yalova 32.95 290 P **P 07 03 07.3 -0.8**
comp=Z,27nm,0.7s
MILM Milestii Mici 33.13 302 ⇓*i* P **P 07 03 10.0 +0.5**
comp=Z,100nm,1.1s
MILM Milestii Mici 33.13 302*d* iP **P 07 03 10.0 +0.5**
MILM pmax pmax
comp=Z,100nm,1.1s
AK09 Malin Array Si 33.19 309 P **P 07 03 10.2 +0.3**
AK10 Malin Array Si 33.20 309 P **P 07 03 10.3 +0.2**
AK08 Malin Array Si 33.21 309 P **P 07 03 10.4 +0.3**
AK07 Malin Array Si 33.23 308 P **P 07 03 10.5 +0.2**
AK06 Malin Array Si 33.23 309 P **P 07 03 10.6 +0.2**
AKASG Malin Array Be 33.24 309 P **P 07 03 10.3 -0.1**
AKASG Malin Array Be 33.24 309 P **P 07 03 11.1 +0.7**
comp=Z,30nm,0.6s,baz=82,slow=7.0,SNR=294
comp=Z,30nm,0.6s
AKASG Malin Array Be 33.24 309 P **P 07 03 10.3 -0.1**
AKASG pmax pmax
comp=Z,28nm,0.8s
AKBB Malin Array Si 33.24 309 P **P 07 03 10.3 -0.1**
AKBB Malin Array Si 33.24 309*c* iP **P 07 03 10.9 +0.5**
AKBB Malin Array Si 33.24 309 P **P 07 03 10.5 +0.1**
AK05 Malin Array Si 33.24 309 P **P 07 03 10.5 +0.1**
AK02 Malin Array Si 33.24 309 P **P 07 03 10.6 +0.2**
AK01 Malin Array Si 33.24 309 P **P 07 03 10.6 +0.2**
AK03 Malin Array Si 33.24 309 P **P 07 03 10.6 +0.2**
KIEV Kiev 33.24 309 P **P 07 03 10.6 +0.1**
KIEV Kiev 33.24 309 P **P 07 03 10.6 +0.1**
KIEV pmax pmax
comp=Z,65nm,0.7s
KIEV Kiev 33.24 309 *i* P **P 07 03 10.9 +0.4**
SNR=81
KIEV Kiev 33.24 309 P **P 07 03 10.5 +0.1**
comp=Z,3µmcomp=Z,388nm,0.7s
KIEV Kiev 33.24 309 P **P 07 03 10.8 +0.4**
KIEV sP **sP 07 03 49.7 +0.4**
AK11 Malin Array Si 33.27 309 P **P 07 03 10.8 +0.2**
AK12 Malin Array Si 33.27 309 P **P 07 03 10.8 +0.1**
AK04 Malin Array Si 33.28 309 P **P 07 03 10.6 -0.1**
AK15 Malin Array Si 33.30 309 P **P 07 03 10.6 -0.3**
AK14 Malin Array Si 33.30 309 P **P 07 03 10.6 -0.3**
AK16 Malin Array Si 33.31 309 P **P 07 03 10.6 -0.4**
AK23 Malin Array Si 33.31 309 P **P 07 03 10.6 -0.4**
AK13 Malin Array Si 33.33 309 P **P 07 03 10.8 -0.3**
AK18 Malin Array Si 33.34 309 P **P 07 03 10.9 -0.3**
AK17 Malin Array Si 33.34 309 P **P 07 03 10.9 -0.4**
AK22 Malin Array Si 33.34 309 P **P 07 03 10.9 -0.4**
AK21 Malin Array Si 33.36 309 P **P 07 03 11.1 -0.4**
TPGR Topolog 33.37 298 ⇓P **P 07 03 12.4 +0.7**
TIRR Tirgusor 33.38 297 P **P 07 03 11.9 +0.2**
TIRR Tirgusor 33.38 297 P **P 07 03 11.9 +0.2**
TIRR pmax pmax
comp=Z,12nm,1.2s
SORM Soroca 33.52 304 P **P 07 03 13.5 +0.7**
SORM Soroca 33.52 304 P **P 07 03 12.6 -0.2**
comp=Z,745nmcomp=Z,62nm,0.7s
SORM Soroca 33.52 304 ⇑P **P 07 03 13.6 +0.8**
CFR Carcaliu 33.57 299 P **P 07 03 14.6 +1.3**
CFR Carcaliu 33.57 299 ⇑P **P 07 03 14.7 +1.4**
MANT Manisa 33.88 287 P **P 07 03 15.2 -1.2**
LUBAR Lubar, Ukraine 34.07 307 P **P 07 03 17.4 -0.2**
NDNU Novodnistrovsk 34.20 305 P **P 07 03 19.2 +0.4**
MI28 Mi28,Pidlybu 34.24 309 P **P 07 03 19.6 +0.5**
HNS HongShan 34.33 75 ⇓P **P 07 03 23.3 +3.3**
HNS pmax pmax
comp=Z,12nm,0.9s
VRI Vrincioaia 34.55 300 P **P 07 03 23.7 +1.8**

VRI Vrincioaia 34.55 300 ⇓P **P** **07 03 23.7 +1.8**
BISRR Bisoca 34.57 299 P **P** **07 03 21.6 -0.5**
comp=Z,2µmcomp=Z,155nm,1.3s
BISRR Bisoca 34.57 299 ⇑P **P** **07 03 23.6 +1.5**
PLOR5 Plostina Array 34.60 300 P **P** **07 03 23.5 +1.2**
comp=Z,27nm,1.0s
PLOR Plostina 34.61 300 P **P** **07 03 24.3 +1.9**
PLOR Plostina 34.61 300 ⇑P **P** **07 03 24.4 +2.0**
TESR Tescani 34.61 301 P **P** **07 03 22.5 +0.2**
comp=Z,27nm,0.6s
TESR Tescani 34.61 301 ⇓P **P** **07 03 23.8 +1.5**
DRBR Darabani 34.68 304 ⇑P **P** **07 03 24.1 +1.1**
ISR Istrita 34.70 299 P **P** **07 03 24.3 +1.1**
ISR Istrita 34.70 299 P **P** **07 03 23.3 +0.1**
comp=Z,29nm,1.3s
ISR Istrita 34.70 299 ⇓P **P** **07 03 24.3 +1.1**
MNK Minsk 34.76 315 *i* P **P** **07 03 24.6 +1.1**
comp=E,6.0nm,0.8s
MNK *i* P **P** **07 03 24.6 +1.1**
comp=N,30nm,0.9s
MNK *i* P **P** **07 03 24.6 +1.1**
comp=Z,50nm,0.7s,baz=103
MNK *i* pP **pP** **07 03 47.3 -1.7**
MNK *i* sP **sP** **07 03 59.1 -3.0**
MNK *i* PP **PP** **07 04 44.3 0.0**
MNK *i* S **S** **07 08 48.5 +3.0**
MNK *i* sS **ScP** **07 09 28.4 -1.1**
MNK *i* SS **SnSn** **07 11 13.8 +3.0**
MNK *i* LQ LQ 07 15 20.7
MNK *i* LR LR 07 16 59.6
MNK *i* LRM MLR 07 17 47.5
comp=E,91nm,17.9s
MNK *i* LRM MLR 07 18 46.9
comp=Z,95nm,14.8s
MNK *i* LRM MLR 07 19 43.0
comp=N,96nm,17.9s
MNK Minsk 34.76 315 *i* P **P** **07 03 24.5 +1.1**
MNK *i* *PP **pP** **07 03 47.2 -1.7**
MNK *i* *SP **sP** **07 03 59.0 -3.0**
MNK *i* 07 04 44.2
MNK *i* 07 05 55.5
MNK *i* S **S** **07 08 48.4 +3.0**
MNK *i* 07 09 35.2
MNK *i* 07 13 35.2
MNK pmax pmax
comp=Z,50nm,0.7s
MNK pmax pmax
comp=E,6.0nm,0.8s
MNK pmax pmax
comp=N,30nm,0.9s
MNK MLR MLR
comp=E,91nm,18.0s
MNK MLR MLR
comp=Z,95nm,15.0s
MNK MLR MLR
comp=N,96nm,18.0s
ONER Baraj Valea Uz 34.78 301 ⇑P **P** **07 03 25.4 +1.5**
KMPD K-Podol'skiy 34.80 305 P **P** **07 03 23.0 -0.9**
KMPD P **P** **07 03 23.0 -0.9**
PRAR RASCA 34.91 302 ⇑P **P** **07 03 25.6 +0.7**
COVR Voineasa-Covas 34.92 300 ⇑P **P** **07 03 25.6 +0.6**
TURR Turia 35.05 300 ⇑P **P** **07 03 27.9 +1.8**
MLR Muntele Rosu 35.11 299 P **P** **07 03 27.4 +0.6**
MLR Muntele Rosu 35.11 299 P **P** **07 03 28.8 +2.1**
comp=N,15nm,0.6s,baz=206,slow=1.4,SNR=26
comp=N,15nm,0.6s
MLR Muntele Rosu 35.11 299 P **P** **07 03 27.4 +0.6**
MLR pmax pmax
comp=Z,46nm,1.2s
MLR Muntele Rosu 35.11 299 P **P** **07 03 27.8 +1.0**
comp=Z,344nmcomp=Z,34nm,0.9s
MLR Muntele Rosu 35.11 299 ⇓P **P** **07 03 28.9 +2.1**
ELND Elena 35.31 295 ⇓P **P** **07 03 29.6 +1.2**
EZN Ezine 35.37 289 P **P** **07 03 30.6 +1.7**
EZN Ezine 35.37 289 P **P** **07 03 28.7 -0.2**
EZN Ezine 35.37 289 ⇓P **P** **07 03 30.7 +1.7**
RNPP5 Staryi Chortor 35.40 309 P **P** **07 03 28.8 -0.2**
RNPP2 Kostyukhnivka 35.41 309 P **P** **07 03 28.9 -0.2**
RNPP9 Sopachiv 35.42 309 P **P** **07 03 29.0 -0.2**
RNPP8 Varash 35.43 309 P **P** **07 03 29.1 -0.2**
NACGM Naroch 35.47 316 *eP* **P** **07 03 30.6 +1.0**
DOPR Dopca 35.49 300 ⇑P **P** **07 03 31.9 +2.0**
BURAR Bucovina Array 35.60 303 P **P** **07 03 31.1 +0.1**
BURAR IAmb IAmb 07 03 33.0
comp=Z,7.6nm,0.7s
BURAR Bucovina Array 35.60 303 P **P** **07 03 32.3 +1.4**
BURAR Bucovina Array 35.60 303 ⇓P **P** **07 03 32.3 +1.4**
BUR08 Bucovina Ar. S 35.61 303 P **P** **07 03 31.4 +0.4**
BUR08 IAmb IAmb 07 03 33.3
comp=Z,10.0nm,0.8s
KSV Kosov 35.72 304 P **P** **07 03 31.3 -0.5**
VOIR 35.74 299 P **P** **07 03 33.5 +1.4**
VOIR 35.74 299 P **P** **07 03 31.5 -0.6**
comp=Z,6.4nm,0.6s
VOIR 35.74 299 ⇓P **P** **07 03 33.5 +1.4**
ISAL Salakas 35.98 317 *eP* **P** **07 03 35.3 +1.4**
ARR Arges 36.04 299 ⇑P **P** **07 03 35.2 +0.6**
STNU Starunia 36.11 305 P **P** **07 03 35.6 +0.5**
ARCR ARCALIA 36.19 302 ⇑P **P** **07 03 37.2 +1.4**
VSU Vasula 36.41 321 *d* iP **P** **07 03 37.0 -0.5**
VSU pmax pmax
comp=Z,75nm,0.8s
VSU Vasula 36.41 321 *eP* **P** **07 03 37.2 -0.3**
LVV L'vov 36.46 307 P **P** **07 03 37.8 -0.3**
TIA Tai'an 36.49 76 P **P** **07 03 41.8 +3.3**
TIA pmax pmax
comp=Z,10.0nm,1.0s
MORS Morshin 36.52 305 P **P** **07 03 39.4 +0.8**
LOT Lotru 36.64 299 ⇑P **P** **07 03 40.8 +1.0**
MEZ Mezhgor'ye 36.76 304 P **P** **07 03 40.9 +0.3**
BMR Baia Mare 36.76 303 P **P** **07 03 41.2 +0.5**
BMR Baia Mare 36.76 303 ⇑P **P** **07 03 41.3 +0.6**
MARR Marisel-Cluj 37.04 301 ⇑P **P** **07 03 45.4 +2.2**
ARBE Arbavere 37.08 323 *eP* **P** **07 03 44.2 +1.0**
PABE Paberze 37.17 316 P **P** **07 03 44.4 +0.4**
PABE Paberze 37.17 316 *eP* **P** **07 03 45.1 +1.1**
VSVD Vaisvydziai 37.28 317 *eP* **P** **07 03 46.1 +1.1**
MUKU Mukachevo 37.31 304 P **P** **07 03 45.3 +0.1**
DRGR 37.32 302 P **P** **07 03 47.3 +1.8**
DRGR 37.32 302 ⇓P **P** **07 03 47.4 +1.9**
BERU Beregovo 37.33 304 P **P** **07 03 45.5 0.0**
GZR Gura Zlata 37.34 299 P **P** **07 03 46.3 +0.6**
GZR Gura Zlata 37.34 299 ⇑P **P** **07 03 46.4 +0.7**
SUW Suwalki 37.38 313 *eP* **P** **07 03 46.5 +0.7**
SUW Suwalki 37.38 313 P **P** **07 03 45.0 -0.8**
SUW Suwalki 37.38 313 P **P** **07 03 45.0 -0.8**
SUW Suwalki 37.38 313 *eP* **P** **07 03 46.3 +0.4**
IDI Anoyia 37.47 282 P **P** **07 03 47.4 +0.5**
comp=Z,7.9nm,0.7s,baz=40,slow=10.0,SNR=6.4
comp=Z,7.9nm,0.7s
HOLU Holmets 37.51 304 P **P** **07 03 47.0 0.0**
KOLS Kolonicke sedl 37.58 305 *eP* **P** **07 03 49.3 +1.7**
KOLS pmax pmax
comp=Z,23nm,0.7s
KOLS Kolonicke sedl 37.58 305 *eP* **P** **07 03 49.3 +1.7**
LVZ Lovozero 37.59 338 P **P** **07 03 47.6 +0.2**
LVZ Lovozero 37.59 338 P **P** **07 03 47.6 +0.2**
LVZ pmax pmax
comp=Z,23nm,0.7s
LVZ Lovozero 37.59 338 P **P** **07 03 47.3 -0.2**
HERR Herculane 37.63 298 ⇑P **P** **07 03 49.5 +1.4**
FIA1 FINESS Array S 37.69 326 P **P** **07 03 48.3 +0.1**
FINES FINESS Array B 37.69 326 P **P** **07 03 48.5 +0.2**
FINES FINESS Array B 37.69 326 P **P** **07 03 49.1 +0.8**
comp=Z,56nm,0.6s,baz=121,slow=9.6,SNR=359
FINES pP **pP** **07 04 15.7 +1.5**
comp=Z,8.6nm,0.6s,baz=116,slow=13,SNR=2.8
FINES LR LR 07 20 03.9
comp=Z,114nm,21.8s,baz=93,slow=37
comp=Z,56nm,0.6s
FINES FINESS Array B 37.69 326 *i* P **P** **07 03 49.0 +0.8**
FINES pmax pmax
comp=Z,54nm,0.6s
APA Apatity 37.77 337 *eP* **P** **07 03 48.2 -0.7**
APA *e**PP **pP** **07 04 16.2 +1.1**
APA MLR MLR
comp=Z,316nm,17.5s
SURR Surduc 37.77 300 ⇑P **P** **07 03 50.5 +1.3**
SIRR Siria 38.07 301 ⇑P **P** **07 03 53.1 +1.4**
MEF Metsahovi 38.07 324 *eP* **P** **07 03 52.4 +0.9**
BZS Buzias 38.14 300 P **P** **07 03 54.1 +1.8**
BZS Buzias 38.14 300 ⇑P **P** **07 03 54.1 +1.8**
MDVR Moldovita 38.14 298 ⇑P **P** **07 03 53.4 +1.0**

STHS Stebnicka Huta 38.26 306 *eP* **P** **07 03 53.7 +0.4**
STHS pmax pmax
comp=Z,10.0nm,0.6s
STHS Stebnicka Huta 38.26 306 *eP* **P** **07 03 53.7 +0.4**
BOVS Bovan 38.27 296 ⇑P **P** **07 03 54.9 +1.4**
PBUR Paburge 38.40 317 *eP* **P** **07 03 54.9 +0.6**
R9F13 Warsaw-Wawer 38.43 310 *i* P **P** **07 03 56.2 +1.6**
R9F13 *e*pP **pP** **07 04 23.5 +3.1**
R9F13 *e*sP **sP** **07 04 37.2 +3.7**
R9F13 *e*S **S** **07 09 41.8 +0.6**
KEF Keuruu 38.47 327 *eP* **P** **07 03 55.7 +0.8**
SLIT Silitere, Latvi 38.49 319 *eP* **P** **07 03 55.1 0.0**
NIE Niedzica 38.88 306 *eP* **P** **07 04 00.8 +2.3**
FNA Florina 38.93 292 P **P** **07 03 58.8 -0.3**
FNA Florina 38.93 292 P **P** **07 03 58.8 -0.3**
FNA pmax pmax
comp=Z,7.0nm,0.7s
NJ2 Nanjing 39.09 82 *eP* **P** **07 04 01.3 +0.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
PSZ Piszkesteto 39.19 303 P **P** **07 04 02.5 +1.3**
PSZ IAmb IAmb 07 04 03.9
comp=Z,32nm,1.5s
PSZ Piszkesteto 39.19 303 P **P** **07 04 02.5 +1.3**
PSZ pmax pmax
comp=Z,32nm,1.5s
OJC Ojcow 39.20 307 *eP* **P** **07 04 02.3 +1.2**
OJC Ojcow 39.20 307 P **P** **07 04 01.6 +0.5**
OJC Ojcow 39.20 307 P **P** **07 04 01.6 +0.5**
DL2 Dalian 39.34 71 P **P** **07 04 06.5 +4.1**
DL2 pmax pmax
comp=Z,51nm,1.2s
LANS Liptovska Anna 39.43 305 *eP* **P** **07 04 05.4 +2.3**
LANS pmax pmax
comp=Z,10.0nm,1.4s
LANS Liptovska Anna 39.43 305 *eP* **P** **07 04 05.4 +2.3**
RAF Rauma 39.55 324 *eP* **P** **07 04 03.9 +0.1**
VYHS Vyhne 39.87 304 *eP* **P** **07 04 08.8 +2.1**
VYHS pmax pmax
comp=Z,18nm,1.4s
VYHS Vyhne 39.87 304 *eP* **P** **07 04 08.8 +2.1**
MORH Mrgy, Hungar 40.16 301 ⇑P **P** **07 04 10.2 +1.1**
PDG Podgorica 40.22 295 ⇑P **P** **07 04 10.5 +0.9**
SRO Srobarova 40.25 303 *eP* **P** **07 04 13.3 +3.4**
SRO pmax pmax
comp=Z,41nm,1.4s
SRO Srobarova 40.25 303 *eP* **P** **07 04 13.2 +3.4**
MAUC Maruska 40.49 306 *eP* **P** **07 04 14.1 +2.2**
STEB Steborice 40.51 307 *eP* **P** **07 04 13.4 +1.4**
JAVC Velka Javorina 40.62 305 *eP* **P** **07 04 15.4 +2.4**
MORC Moravsky Berou 40.66 306 P **P** **07 04 13.7 +0.4**
MORC IAmb IAmb 07 04 15.8
comp=Z,19nm,0.7s
MORC Moravsky Berou 40.66 306 *eP* **P** **07 04 15.1 +1.8**
MORC Moravsky Berou 40.66 306 P **P** **07 04 13.7 +0.4**
MORC pmax pmax
comp=Z,19nm,0.7s
MORC Moravsky Berou 40.66 306 ⇑P **P** **07 04 15.3 +2.0**
GKP Gorka Klasztor 40.85 312 *eP* **P** **07 04 15.9 +1.2**
GKP Gorka Klasztor 40.85 312 *eP* **P** **07 04 15.6 +1.0**
MODS Modra-Piesok 40.91 304 *eP* **P** **07 04 15.4 +0.1**
MODS pmax pmax
comp=Z,34nm,1.3s
MODS Modra-Piesok 40.91 304 *eP* **P** **07 04 15.4 +0.1**
KEV Kevo 40.93 338 P **P** **07 04 15.4 +0.3**
KEV IAmb IAmb 07 04 17.4
comp=Z,22nm,0.9s
KEV Kevo 40.93 338 P **P** **07 04 15.4 +0.3**
KEV pmax pmax
comp=Z,22nm,0.9s
KEV Kevo 40.93 338 P **P** **07 04 15.8 +0.7**
KEV sP **sP** **07 04 55.6 +1.1**
KRLC Kraliky 41.14 307 *eP* **P** **07 04 18.8 +1.6**
KRLC Kraliky 41.14 307 *eP* **P** **07 04 18.8 +1.6**
ARCES ARCESS Array B 41.28 337 P **P** **07 04 18.5 +0.5**
ARCES ARCESS Array B 41.28 337 P **P** **07 04 18.9 +0.9**
comp=Z,23nm,0.4s,baz=112,slow=8.2,SNR=374
comp=Z,23nm,0.4s
ARCES ARCESS Array B 41.28 337 P **P** **07 04 18.5 +0.5**
ARCES pmax pmax
comp=Z,36nm,0.8s
VRAC Vranov 41.30 306 *eP* **P** **07 04 20.7 +2.2**
VRAC Vranov 41.30 306 P **P** **07 04 20.6 +2.1**
VRAC Vranov 41.30 306 ⇑P **P** **07 04 20.7 +2.2**
DPC Dobruska-Polom 41.43 307 *eP* **P** **07 04 21.3 +1.8**
DPC Dobruska-Polom 41.43 307 *eP* **P** **07 04 21.3 +1.8**
KSP Ksiaz 41.43 308 *eP* **P** **07 04 20.9 +1.4**
KRUC Moravsky 41.45 305 *eP* **P** **07 04 21.6 +1.9**
OSTC Ostas 41.49 308 *eP* **P** **07 04 21.6 +1.6**
OSTC Ostas 41.49 308 *eP* **P** **07 04 21.6 +1.6**
CHVC Chvalec 41.59 308 *eP* **P** **07 04 22.1 +1.3**
CHVC Chvalec 41.59 308 *eP* **P** **07 04 22.1 +1.3**
RONA Rosalia, Austr 41.62 303 *i* P **P** **07 04 22.3 +1.2**
comp=Z,7.2nm,0.8s,SNR=5.6
UPC Upice 41.62 308 *eP* **P** **07 04 22.8 +1.7**
UPC Upice 41.62 308 *eP* **P** **07 04 22.8 +1.7**
KTK1 Kautokeino 41.76 336 *eP* **P** **07 04 22.5 +0.6**
BLEU Blekinge 41.83 316 *i* P **P** **07 04 22.8 +0.1**
BLEU IAmb IAmb 07 04 23.6
comp=Z,24nm,0.5s
CONA Conrad Observa 41.89 304 *i* P **P** **07 04 24.8 +1.4**
comp=Z,25nm,1.2s,SNR=12
HEH HeiHe 41.93 53 *eP* **P** **07 04 25.0 +1.5**
HEH pP **pP** **07 04 54.0 +3.5**
HEH pmax pmax
comp=Z,23nm,0.6s
PSI Prapat 42.03 137 P **P** **07 04 26.2 +1.4**
PSI pmax pmax
comp=Z,14nm,0.7s
RPSI Rantau Prapat 42.11 137 P **P** **07 04 26.2 +0.8**
RPSI IAmb IAmb 07 04 60.0
comp=Z,14nm,0.7s
ARSA Arzberg 42.19 303 *i* P **P** **07 04 26.7 +1.0**
comp=Z,3.1nm,0.8s
BSD Bornholm Skovb 42.27 315 *eP* **P** **07 04 26.2 -0.1**
BSD Bornholm Skovb 42.27 315 *i* P **P** **07 04 25.9 -0.3**
BSD IAmb IAmb 07 04 27.1
comp=Z,38nm,0.7s
GROS Grobnik 42.29 302 *eP* **P** **07 04 27.2 +0.5**
GOPC GO Pecny, Ondr 42.44 307 *eP* **P** **07 04 29.2 +1.5**
GOPC GO Pecny, Ondr 42.44 307 *eP* **P** **07 04 29.2 +1.5**
PERS Pernice 42.54 302 *eP* **P** **07 04 29.4 +0.7**
PVCC Panska Ves 42.54 308 *eP* **P** **07 04 30.0 +1.5**
PVCC Panska Ves 42.54 308 *eP* **P** **07 04 30.0 +1.5**
SOKA Soboth 42.59 302 *eP* **P** **07 04 30.2 +1.2**
comp=Z,15nm,0.9s,SNR=5.7
PRU Pruhonice 42.59 307 *eP* **P** **07 04 30.8 +1.9**
PRU Pruhonice 42.59 307 *eP* **P** **07 04 30.8 +1.9**
TIP Timpagrande 42.74 291 ⇑P **P** **07 04 30.4 0.0**
CKRC Cesky Krumlov 42.84 305 *eP* **P** **07 04 32.4 +1.4**
CKRC Cesky Krumlov 42.84 305 *eP* **P** **07 04 32.4 +1.4**
ZVC Zvikov 42.86 306 *eP* **P** **07 04 32.9 +1.8**
JETT Jettan, Norway 42.90 336 *eP* **P** **07 04 32.5 +1.3**
DEL Delary 42.91 317 *i* P **P** **07 04 31.7 +0.3**
BRG Berggiesshubel 42.92 308 *eP* **P** **07 04 33.2 +1.7**
comp=Z,31nm,0.6s,baz=83,slow=8.2
BRG Berggiesshubel 42.92 308 *i* P **P** **07 04 33.2 +1.7**
BRG Amp 07 04 34.1
comp=Z,31nm,0.6s
BRG pP **pP** **07 05 00.0 +2.2**
BRG Amp 07 05 02.0
comp=Z,6.3nm,0.9s
BRG sP **sP** **07 05 13.6 +2.9**
BRG Amp 07 05 15.5
comp=Z,8.5nm,0.9s
BRG PP **PP** **07 06 14.4 +1.3**
BRG 07 06 16.6
comp=Z,7.4nm,0.9s
OBKA Obir 42.94 302 *eP* **P** **07 04 33.7 +1.8**
comp=Z,11nm,1.1s
OBKA *i* PP **PP** **07 06 12.1 -1.5**
comp=Z,7.7nm,1.3s
RUE Ruedersdorf 42.94 311 *eP* **P** **07 04 32.9 +1.2**
RUE Ruedersdorf 42.94 311 *eP* **P** **07 04 32.8 +1.1**
comp=Z,49nm,0.8s,baz=83,slow=8.2
MOA Molln 42.97 304 *eP* **P** **07 04 32.9 +0.8**
comp=Z,18nm,1.1s,SNR=9.6
MOA *i* PP **PP** **07 06 11.0 -2.7**
comp=Z,1.8nm,0.6s
LUNU Lund 43.12 315 *i* P **P** **07 04 34.0 +0.9**
RGN Rugen 43.19 314 *eP* **P** **07 04 35.0 +1.4**
comp=Z,110nm,0.7s,baz=83,slow=8.2
GEC2 GERESS Array S 43.23 305 P **P** **07 04 35.1 +0.8**

GERES GERESS Array B 43.23 305 P **P** **07 04 34.4 +0.1**
GERES GERESS Array B 43.23 305 P **P** **07 04 35.2 +0.9**
comp=Z,1.6nm,0.5s,baz=92,slow=7.2,SNR=19
GERES PP **PP** **07 06 14.6 -2.1**
comp=Z,3.4nm,0.8s,baz=76,slow=8.4,SNR=6.5
GERES LR LR 07 24 40.9
comp=Z,61nm,19.4s,baz=48,slow=39
comp=Z,1.6nm,0.5s
CUC Castrocucco 43.25 292 P **P** **07 04 34.6 +0.2**
CUC IAmb IAmb 07 05 08.3
comp=Z,20nm,0.8s
KHC Kasperske Hory 43.29 306 *eP* **P** **07 04 36.5 +1.9**
KHC *ex* x 07 05 20.0
KHC Kasperske Hory 43.29 306 *ceP* **P** **07 04 35.4 +0.8**
KHC pmax pmax
comp=Z,10.0nm,0.9s
HFS Hagfors 43.29 322 P **P** **07 04 35.0 +0.6**
comp=Z,177nm,0.5s,baz=98,slow=11,SNR=1279
HFS Hagfors 43.29 322 P **P** **07 04 35.0 +0.6**
BJUU Bjuv 43.37 316 *i* P **P** **07 04 35.8 +0.7**
BIOA Bad Ischl, Aus 43.41 304 *i* P **P** **07 04 36.3 +0.7**
comp=Z,4.4nm,0.6s
BIOA *e*PP **PcP** **07 06 20.7 -1.3**
comp=Z,11nm,1.3s
TRO Tromso 43.41 336 *eP* **P** **07 04 36.0 +0.9**
CLL Collm 43.48 309 P **P** **07 04 36.7 +0.6**
CLL IAmb IAmb 07 04 38.0
comp=Z,18nm,0.7s
CLL Collm 43.48 309 *i* P **P** **07 04 37.0 +0.9**
CLL pmax pmax
comp=Z,20nm,0.8s
CLL Collm 43.48 309 *i* P **P** **07 04 37.0 +0.9**
comp=Z,20nm,0.8s
CLL *i* x x 07 04 39.2
CLL *e*PP **PP** **07 06 19.0 -0.1**
CLL *ep*PP 07 06 39.0
CLL Collm 43.48 309 *eP* **P** **07 04 37.3 +1.2**
comp=Z,18nm,0.7s,baz=83,slow=8.2
MYKA Terra Mystica 43.54 302 *i* P **P** **07 04 37.9 +1.2**
comp=Z,3.8nm,0.8s
BORU Boraas 43.57 318 *i* P **P** **07 04 37.8 +1.1**
FABU Falkenberg 43.57 317 *i* P **P** **07 04 37.5 +0.8**
KBA Koelnbreinsper 43.68 303 *i* P **P** **07 04 38.8 +0.8**
comp=Z,3.5nm,0.5s
ROBS Robic 43.69 302 *eP* **P** **07 04 38.0 +0.2**
COP Copenhagen 43.70 315 *i* P **P** **07 04 39.4 +1.6**
YAK Yakutsk 43.73 35 *eP* **P** **07 04 38.3 +0.4**
YAK *e**PP **pP** **07 05 01.0 -4.0**
YAK *e* 07 06 21.7
YAK *e* 07 06 23.7
YAK *e*S **S** **07 11 01.1 +1.7**
YAK *e**SS **sS** **07 11 43.0 -2.5**
YAK *e*SS **SS** **07 14 21.1 +2.3**
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK smax smax
comp=N,55nm,2.7s
YAK smax smax
comp=E,30nm,2.9s
TANN Tannenbergstha 43.89 308 *eP* **P** **07 04 41.1 +1.7**
comp=E,14nm,1.0s,baz=83,slow=8.2
RJOB Jochberg 43.97 304 *eP* **P** **07 04 41.3 +1.2**
comp=E,9.3nm,0.8s,baz=83,slow=8.2
FAUS Fauske 43.97 332 *eP* **P** **07 04 39.7 0.0**
MOR8 Moi Rana 43.99 331 *eP* **P** **07 04 40.0 0.0**
ONAU Onsala 44.02 318 *i* P **P** **07 04 40.4 +0.1**
LESA Schwarzleotal 44.09 303 *i* P **P** **07 04 41.7 +0.6**
comp=E,7.3nm,0.5s,SNR=8.8
LESA *i* PcP **PcP** **07 06 22.6 -1.8**
comp=E,9.0nm,1.5s
ROTZ Rotzenmuhle 44.12 307 *eP* **P** **07 04 42.3 +1.2**
comp=E,3.5nm,1.0s,baz=83,slow=8.2
STEI Steigen 44.13 333 *eP* **P** **07 04 41.7 +0.7**
MANZ Manzenberg 44.16 307 *eP* **P** **07 04 43.5 +2.0**
comp=E,3.5nm,0.9s,baz=83,slow=8.2
NEUB Neuenburg 44.26 309 *eP* **P** **07 04 43.8 +1.5**
comp=E,35nm,0.7s,baz=83,slow=8.2
ABTA Abfaltersbach 44.30 302 *eP* **P** **07 04 42.3 -0.5**
comp=E,5.7nm,1.0s
ABTA *i* PcP **PcP** **07 06 23.8 -1.3**
comp=E,7.3nm,1.2s
NC405 NORSAR Array S 44.36 323 P **P** **07 04 42.8 -0.2**
MOX Moxa 44.41 308 *eP* **P** **07 04 45.3 +1.8**
comp=E,13nm,0.8s,baz=83,slow=8.2
NC602 NORSAR Array S 44.41 323 *eP* **P** **07 04 43.0 -0.4**
GORT1 Trebel 44.42 311 *eP* **P** **07 04 44.5 +1.0**
comp=E,31nm,0.8s,baz=83,slow=8.2
KSAR Wonju Array Be 44.48 71 P **P** **07 04 45.5 +1.3**
KSAR Wonju Array Be 44.48 71 P **P** **07 04 45.5 +1.3**
LEIR Leirfjorden 44.50 330 *eP* **P** **07 04 44.4 +0.3**
FLTG Flechtingen 44.51 311 *eP* **P** **07 04 45.2 +1.0**
comp=E,86nm,0.6s,baz=83,slow=8.2
KSRS Korea Array 44.51 71 P **P** **07 04 45.0 +0.5**
comp=E,1.8nm,0.5s,baz=278,slow=7.7,SNR=15
comp=E,1.8nm,0.5s
KSRS Korea Array 44.51 71 P **P** **07 04 45.0 +0.5**
VAGH Vaagaholmen 44.58 331 *eP* **P** **07 04 45.4 +0.9**
KONS Konsvik 44.58 331 *eP* **P** **07 04 45.6 +0.9**
STOK Stokkvaagen 44.59 331 *eP* **P** **07 04 45.4 +0.8**
NB2 NORSAR Subarra 44.60 323 P **P** **07 04 44.9 0.0**
comp=Z,77nm,0.5s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.60 323 P **P** **07 04 45.8 +0.9**
NB2 NORSAR Subarra 44.60 323 P **P** **07 04 44.9 0.0**
baz=97,slow=7.9
NOA NORSAR Array B 44.60 323 P **P** **07 04 45.0 0.0**
comp=Z,87nm,0.5s,baz=96,slow=7.7,SNR=923
comp=Z,87nm,0.5s
NOA NORSAR Array B 44.60 323 P **P** **07 04 45.0 0.0**
NSS Namsos 44.69 328 *eP* **P** **07 04 45.7 +0.2**
NAO01 NORSAR Array S 44.74 323 P **P** **07 04 45.7 -0.3**
GRF Grafenberg Arr 44.76 307 *eP* **P** **07 04 48.7 +2.3**
comp=Z,255nm,2.6s,baz=83,slow=8.2
GRFO Grafenberg 44.76 307 P **P** **07 04 48.0 +1.7**
GRFO Grafenberg 44.76 307 P **P** **07 04 48.0 +1.7**
GRFO pmax pmax
comp=Z,63nm,1.5s
LOF Lofoten 44.80 333 *eP* **P** **07 04 46.9 +0.5**
WTTA Wattenberg 44.81 303 *eP* **P** **07 04 47.3 +0.3**
comp=Z,12nm,0.9s,SNR=5.7
WTTA *i* PcP **PcP** **07 06 26.4 -0.6**
comp=Z,6.4nm,0.7s
NC204 NORSAR Array S 44.84 323 P **P** **07 04 46.5 -0.3**
WATA Walderalm 44.84 303 *i* P **P** **07 04 47.0 -0.1**
comp=Z,11nm,1.3s
WATA *i* PcP **PcP** **07 06 26.4 -0.7**
comp=Z,4.6nm,0.8s
BSEG Bad Segeberg 44.96 313 *eP* **P** **07 04 49.4 +1.6**
comp=Z,55nm,0.6s,baz=83,slow=8.2
CLZ Clausthal 45.08 310 *eP* **P** **07 04 50.4 +1.6**
comp=Z,22nm,0.8s,baz=83,slow=8.2
RAFF Raffo Rosso 45.09 289 P **P** **07 04 50.1 +1.0**
RAFF IAmb IAmb 07 04 53.1
comp=Z,18nm,0.8s
SQTA Sankt Quirin 45.10 303 *i* P **P** **07 04 48.4 -0.8**
comp=Z,5.8nm,0.5s
SQTA *i* PcP **PcP** **07 06 27.5 -0.4**
comp=Z,3.1nm,0.5s
MOTA Moosalm 45.16 304 *i* P **P** **07 04 48.5 -1.2**
comp=Z,13nm,1.0s
MOTA *i* PcP **PcP** **07 06 27.5 -0.6**
comp=Z,2.7nm,0.6s
NRDL Niedersach Rie 45.19 311 *eP* **P** **07 04 51.3 +1.8**
comp=Z,23nm,0.7s,baz=83,slow=8.2
KONO Kongsberg 45.31 321 P **P** **07 04 50.6 +0.2**
KONO Kongsberg 45.31 321 *ceP* **P** **07 04 51.0 +0.5**
KONO pmax pmax
comp=Z,45nm,0.8s
KONO Kongsberg 45.31 321 *eP* **P** **07 04 50.7 +0.2**
KONO Kongsberg 45.31 321 P **P** **07 04 51.1 +0.5**
GTTG Gottingen 45.36 310 *eP* **P** **07 04 52.8 +1.8**
comp=Z,40nm,0.7s,baz=83,slow=8.2
RETA Reutte 45.36 304 *i* P **P** **07 04 50.7 -0.5**
comp=Z,5.0nm,0.6s
RETA *i* PcP **PcP** **07 06 26.9 -1.9**
comp=Z,4.4nm,1.0s
UBBA Unterbreizbach 45.41 308 *eP* **P** **07 04 52.9 +1.6**
comp=Z,11nm,0.6s,baz=83,slow=8.2
FETA Feichten 45.46 303 *i* P **P** **07 04 50.6 -1.5**
comp=Z,5.4nm,0.5s
FETA *i* PcP **PcP** **07 06 29.2 0.0**

TIXI Tiksi 45.61 22 P P 07 04 53.2 +0.5
TIXI IAmb IAmb 07 05 44.2
comp=Z,18nm,0.8s
TIXI Tiksi 45.61 22 LR LR 07 27 43.8
comp=Z,304nm,21.0s,baz=294,slow=41
TIXI Tiksi 45.61 22*de*P P 07 04 53.7 +1.0
TIXI pmax pmax
comp=Z,13nm,0.8s
TIXI Tiksi 45.61 22 P P 07 04 53.8 +1.0
RETH Rethem/Aller, 45.62 311 *e*P P 07 04 54.4 +1.5
comp=Z,18nm,1.1s,baz=83,slow=8.2
DOMB Dombas 45.70 324 *e*P P 07 04 54.3 +0.7
FUORN Ofenpass-Fuorn 45.84 303 P P 07 04 55.1 -0.1
HOMB Homborsund 45.86 319 *e*P P 07 04 55.2 +0.4
HOMB Homborsund 45.86 319 *i* P P 07 04 55.7 +0.9
SKAR Skarslia 46.00 322 *e*P P 07 04 56.9 +0.9
STU Stuttgart 46.20 306 *e*P P 07 04 59.4 +1.7
comp=Z,36nm,0.9s,baz=83,slow=8.2
KASTN Kahler Asten 46.36 309 *e*P P 07 05 00.2 +1.2
comp=Z,5.3nm,0.9s,baz=83,slow=8.2
MOL Molde 46.44 325 *e*P P 07 05 00.6 +1.2
TNS Taunus Mts 46.47 308 *e*P P 07 05 01.2 +1.4
comp=Z,11nm,1.0s,baz=83,slow=8.2
SNART Snartemo 46.54 319 *e*P P 07 05 00.7 +0.5
SNART Snartemo 46.54 319 *i* P P 07 05 01.2 +1.1
IBBN Ibbenburen 46.64 311 *e*P P 07 05 02.5 +1.5
comp=Z,47nm,0.7s,baz=83,slow=8.2
AKN Aaknes 46.68 324 *e*P P 07 05 02.2 +1.0
ODD1 Odda 46.82 321 *e*P P 07 05 03.3 +0.9
BFO Black Forest 46.84 305 *e*P P 07 05 03.6 +0.9
comp=Z,11nm,1.2s,baz=83,slow=8.2
BLS5 Blasjo 46.91 321 *e*P P 07 05 04.5 +1.4
BUG Bochum-Univer 47.04 310 *e*P P 07 05 05.8 +1.6
comp=Z,23nm,0.9s,baz=83,slow=8.2
HYA Hoyanger 47.04 323 *e*P P 07 05 04.9 +0.9
HSPB Hornsund (broa 47.22 345 *e*P P 07 05 07.5 +2.3
BER Bergen 47.47 322 *e*P P 07 05 08.3 +1.0
ASK Askoy 47.53 322 *e*P P 07 05 08.2 +0.4
KMY Karmoy 47.54 320 *e*P P 07 05 09.0 +1.1
SPB2 Spitsbergen Ar 47.56 347 P P 07 05 09.2 +1.3
SPITS Spitsbergen Ar 47.56 347 P P 07 05 09.5 +1.6
comp=Z,16nm,0.6s,baz=108,slow=11,SNR=57
comp=Z,16nm,0.6s
SPITS Spitsbergen Ar 47.56 347 P P 07 05 09.7 +1.8
SPITS pmax pmax
comp=Z,119nm,1.7s
ECH Echery 47.63 305 P P 07 05 08.4 -0.4
ECH Echery 47.63 305 P P 07 05 08.4 -0.4
ECH pmax pmax
comp=Z,5.0nm,1.0s
SUE Sulen 47.74 323 *e*P P 07 05 09.7 +0.3
BTNL Ternell 47.88 309 *d*P P 07 05 12.1 +1.4
comp=Z,14nm,0.9s
SENIN Lac Senin/Sane 47.90 303 P P 07 05 10.6 -0.6
SENIN IAmb IAmb 07 05 12.3
comp=Z,11nm,0.7s
MEM Membach 47.95 309 *d*P P 07 05 12.5 +1.3
comp=Z,11nm,0.8s
BHOU Houvegnez 48.00 308 *d*P P 07 05 13.2 +1.5
WLF Walferdange 48.02 307 P P 07 05 12.6 +0.8
WLF Walferdange 48.02 307 P P 07 05 12.6 +0.8
WLF pmax pmax
comp=Z,26nm,0.8s
WLF Walferdange 48.02 307 *d*P P 07 05 13.4 +1.6
comp=Z,23nm,0.9s
WLF Walferdange 48.02 307 *e*P P 07 05 13.7 +2.0
comp=Z,26nm,0.8s,baz=83,slow=8.2
BSTI Sart Tilman 48.23 309 *d*P P 07 05 15.2 +1.8
RCHB Rochefort 48.52 308 *d*P P 07 05 16.9 +1.2
comp=Z,9.5nm,0.7s
BGES Gesves 48.57 309 *d*P P 07 05 17.2 +1.2
KBS Kingsbay 48.68 347 P P 07 05 17.6 +1.2
KBS Kingsbay 48.68 347*ce*P P 07 05 18.2 +1.8
KBS pmax pmax
comp=Z,31nm,0.8s
KBS Kingsbay 48.68 347 *i* P P 07 05 17.7 +1.3
KBS Kingsbay 48.68 347 P P 07 05 17.8 +1.3
BMRD Maredsous 48.79 308 *d*P P 07 05 19.1 +1.4
comp=Z,14nm,1.0s
DOU Dourbes 48.93 308 *d*P P 07 05 20.0 +1.2
comp=Z,8.5nm,1.1s
UCC Uccle 48.95 309 *d*P P 07 05 19.3 +0.4
KMBO Kilima Mbogo 49.13 228 *e*P P 07 05 23.7 +2.8
KEST Kesra 49.40 289 P P 07 05 22.4 -0.2
comp=Z,2.9nm,0.6s,baz=45,slow=4.3,SNR=5.3
comp=Z,2.9nm,0.6s
KIBK Kibwezi 49.63 226 P P 07 05 25.3 +0.7
KIBK IAmb IAmb 07 05 26.4
comp=Z,8.6nm,0.8s
SSB Saint Sauveur 50.03 302 P P 07 05 27.3 +0.1
SSB IAmb IAmb 07 05 28.7
comp=Z,9.2nm,0.6s
SSB Saint Sauveur 50.03 302 P P 07 05 27.3 +0.1
SSB pmax pmax
comp=Z,9.0nm,0.6s
LRW Lerwick 50.72 322 *e*P P 07 05 32.7 +0.6
LRW IAmb IAmb 07 05 33.5
comp=Z,67nm,0.7s
DRUM Mains of Drumt 51.87 318 *e*P P 07 05 41.3 +0.5
DRUM IAmb IAmb 07 05 41.9
comp=Z,39nm,0.6s
EDMD Edmundbyers 51.97 315 *e*P P 07 05 42.2 +0.6
EDMD IAmb IAmb 07 05 42.7
comp=Z,53nm,0.6s
ESY Stoneypath 52.12 317 *e*P P 07 05 42.6 -0.1
MCD Coleburn Disti 52.16 319 *e*P P 07 05 43.6 +0.7
MCD IAmb IAmb 07 05 44.3
comp=Z,109nm,0.6s
WOL Wolverton 52.30 311 *e*P P 07 05 44.9 +0.9
BIGH Upper Bighouse 52.34 320 *e*P P 07 05 45.0 +0.8
BIGH IAmb IAmb 07 05 45.7
comp=Z,41nm,0.8s
EDI Edinburgh 52.44 317 *e*P P 07 05 45.6 +0.6
EDI IAmb IAmb 07 05 46.1
comp=Z,49nm,0.7s
YSS Yuzhno-Sakhali 52.50 55*de*P P 07 05 47.1 +1.6
YSS pmax pmax
comp=Z,13nm,1.1s
EKA Eskdalemuir Ar 52.54 316 P P 07 05 46.0 +0.3
comp=Z,18nm,0.7s,baz=97,slow=7.0,SNR=91
comp=Z,18nm,0.7s
ESK Eskdalemuir 52.57 316 P P 07 05 45.6 -0.3
ESK Eskdalemuir 52.57 316 *e*P P 07 05 46.2 +0.3
ESK Eskdalemuir 52.57 316 P P 07 05 45.6 -0.3
ESK pmax pmax
comp=Z,28nm,1.1s
ESK Eskdalemuir 52.57 316 P P 07 05 46.5 +0.5
MJB9 Matsu-Tunnel 52.58 69 P P 07 05 47.9 +1.5
MAJO Matsushiro 52.59 69 P P 07 05 47.4 +1.0
MAJO Matsushiro 52.59 69 P P 07 05 47.4 +1.0
MAJO pmax pmax
comp=Z,59nm,1.9s
MJAR Matsushiro Arr 52.59 69 P P 07 05 46.9 +0.5
MJAR IAmb IAmb 07 05 48.6
comp=Z,13nm,1.6s
MJAR Matsushiro Arr 52.59 69 P P 07 05 47.2 +0.8
comp=Z,3.8nm,0.7s,baz=292,slow=10.0,SNR=14
comp=Z,3.8nm,0.7s
MJAR Matsushiro Arr 52.59 69 P P 07 05 46.9 +0.5
MJAR pmax pmax
comp=Z,13nm,1.6s
KESW Keswick, Cumbr 52.67 315 *e*P P 07 05 47.4 +0.7
KESW IAmb IAmb 07 05 48.1
comp=Z,28nm,0.6s
FOEL Foel Wylfa 53.11 313 *e*P P 07 05 50.7 +0.7
MONM Monmouth 53.13 312 *e*P P 07 05 50.3 +0.2
PGBU Glenifferbraes 53.18 317 *e*P P 07 05 51.1 +0.7
PGBU IAmb IAmb 07 05 51.7
comp=Z,90nm,0.9s
NEWG New Galloway 53.19 316 *e*P P 07 05 51.2 +0.7
NEWG IAmb IAmb 07 05 51.9
comp=Z,50nm,0.6s
MCH1 Michaelchurch 53.20 312 *e*P P 07 05 51.2 +0.5
MCH1 IAmb IAmb 07 05 52.0
comp=Z,50nm,0.7s
LLW Llanuwychllyn 53.39 313 *e*P P 07 05 52.6 +0.6
KPL Plockton 53.48 319 *e*P P 07 05 53.1 +0.6
KPL IAmb IAmb 07 05 53.8
comp=Z,33nm,0.6s
GAL1 Galloway 53.52 316 *e*P P 07 05 53.3 +0.5
IOMK Kirk Michael 53.58 315 *e*P P 07 05 53.8 +0.5
LAWE Loch Awe, Argy 53.58 318 *e*P P 07 05 54.1 +0.8
LAWE IAmb IAmb 07 05 54.7
comp=Z,32nm,0.7s

WPS Cemaes, Angles 53.74 314 *e*P P 07 05 55.5 +1.0
NOR Nord 53.85 350 *i* P P 07 05 54.8 -0.2
NOR IAmb IAmb 07 05 57.1
comp=Z,8.0nm,0.7s
LEWI Lewis, Hebride 53.94 320 *e*P P 07 05 56.8 +0.8
LEWI IAmb IAmb 07 05 57.5
comp=Z,22nm,0.7s
JMM Marumori 54.03 66 P P 07 05 57.5 +0.6
SEY Seymchan 54.19 34 *e*P P 07 05 58.0 +0.4
SEY pmax pmax
comp=Z,7.0nm,1.0s
ILTH Belurgan, Co L 54.64 315 P P 07 06 00.9 -0.1
ILTH Belurgan, Co L 54.64 315 *e*P P 07 06 01.6 +0.5
DAG Danmarks Havn 54.82 344 *i* P P 07 06 02.0 0.0
DAG IAmb IAmb 07 06 04.3
comp=Z,40nm,0.9s
DSB Dublin 54.87 314 P P 07 06 02.9 +0.2
IDGL Inch Island, C 55.03 316 P P 07 06 05.1 +1.3
IDGL Inch Island, C 55.03 316 *e*P P 07 06 05.3 +1.5
IWEX Carrickbyrne, 55.35 313 P P 07 06 06.8 +0.6
DBG Daneborg 55.69 341 *i* P P 07 06 08.8 +0.5
IGLA Glengowla, Co 56.55 315 P P 07 06 15.5 +0.8
VAL Valentia 57.52 313 P P 07 06 22.8 +1.3
ESBB Sonseca Array 57.79 298 P P 07 06 23.4 -0.3
ESBB IAmb IAmb 07 06 25.7
comp=Z,6.0nm,0.6s
ESDC Sonseca Array 57.79 298 P P 07 06 23.4 -0.4
ESDC IAmb IAmb 07 07 15.7
comp=Z,17nm,1.9s
ESDC Sonseca Array 57.79 298 P P 07 06 23.6 -0.2
comp=Z,4.9nm,0.6s,baz=54,slow=7.5,SNR=47
comp=Z,4.9nm,0.6s
BILL Bilibino 58.42 26 *ce*P P 07 06 28.5 +0.9
BILL pmax pmax
comp=Z,8.0nm,1.3s
ALE Alert 59.06 354 P P 07 06 31.7 -0.2
MVO Moncorvo 59.36 301 *e*P P 07 06 36.2 +1.6
MVO *i* IAmb IAmb 07 06 40.5
comp=Z,25nm,1.6s
MVO *ep*P **PcP** 07 07 19.8 -1.7
PETK Petropavlovsk- 59.69 44 P P 07 06 36.8 +0.1
comp=Z,1.8nm,0.8s,baz=66,slow=8.6,SNR=3.7
PVRL Vila Real 59.79 301 *e*P P 07 06 43.7 +6.1
PVRL *i* IAmb IAmb 07 06 52.4
comp=Z,24nm,1.6s
POLO Lamas de Olo 59.80 301 *ep*P pP 07 07 16.8 +11
PGAV Gavieira, Arco 59.89 302 *e*P P 07 06 39.5 +1.2
PGAV *i* IAmb IAmb 07 06 43.0
comp=Z,80nm,1.9s
MTE Manteigas 60.02 300 *e*P P 07 06 41.1 +1.9
MTE *i* IAmb IAmb 07 06 46.0
comp=Z,40nm,1.7s
MTE *ep*P **pP** 07 07 12.2 +5.3
PVIS Viseu 60.14 301 *e*P P 07 06 40.7 +0.7
PVIS *ep*P **sP** 07 07 19.9 -0.3
PCBR Castelo Branco 60.21 299 *ep*P pP 07 07 13.2 +5.0
PMRV Marv??o 60.32 299 *e*P P 07 06 40.1 -1.1
PMRV *i* IAmb IAmb 07 06 56.4
comp=Z,21nm,1.9s
PBAR Barrancos 60.59 298 *e*P P 07 06 43.3 +0.3
PBAR *i* IAmb IAmb 07 06 53.5
comp=Z,30nm,2.2s
PSARD Sardoal 60.79 299 *e*P P 07 06 52.2 +7.9
PSARD *i* IAmb IAmb 07 07 02.5
comp=Z,40nm,1.8s
PSARD *ep*P sP 07 07 22.4 -2.2
NEEM North Greenlan 61.10 348 *i* P P 07 06 47.0 +0.8
NEEM IAmb IAmb 07 06 48.5
comp=Z,30nm,0.9s
EVO Evora 61.13 298 *e*P P 07 06 45.5 -1.2
EVO *i* IAmb IAmb 07 06 47.3
comp=Z,21nm,1.5s
EVO *ep*P **pP** 07 07 19.0 +4.5
SUMG Summit 61.17 341 P P 07 06 48.1 +1.2
SUMG Summit 61.17 341 P P 07 06 48.1 +1.2
SUMG pmax pmax
comp=Z,58nm,0.7s
SUMG Summit 61.17 341 *i* P P 07 06 46.7 -0.2
PBEJ Beja 61.24 298 *e*P P 07 06 48.0 +0.6
PBEJ *i* IAmb IAmb 07 06 53.5
comp=Z,16nm,1.4s
PVAQ Vaqueiros 61.41 297 *e*P P 07 06 48.7 +0.2
PVAQ *i* IAmb IAmb 07 06 59.2
comp=Z,29nm,1.8s
MESJ Messejana 61.58 298 *e*P P 07 06 50.3 +0.6
MESJ *i* IAmb IAmb 07 07 02.8
comp=Z,14nm,1.3s
PBDV Barranco-do-Ve 61.63 297 *e*P P 07 06 50.1 0.0
PBDV *i* IAmb IAmb 07 06 52.5
comp=Z,24nm,1.5s
PARRA Arraiolos 61.74 299 *e*P P 07 06 52.3 +1.6
PARRA *i* IAmb IAmb 07 06 59.3
comp=Z,13nm,1.9s
KULLO Kullorsuaq 64.14 347 *i* P P 07 07 06.5 +0.4
EDA Edea 64.88 255 P P 07 07 10.3 -1.5
UPNV Upernavik 65.22 345 *i* P P 07 07 13.7 +0.6
LSZ Lusaka 65.75 227 P P 07 07 17.1 -0.2
LSZ IAmb IAmb 07 07 18.1
comp=Z,14nm,0.8s
LSZ Lusaka 65.75 227 LR LR 07 37 42.2
comp=Z,102nm,19.2s,baz=173,slow=37
LSZ Lusaka 65.75 227 P P 07 07 17.2 -0.2
LSZ pmax pmax
comp=Z,14nm,0.8s
LSZ Lusaka 65.75 227 P P 07 07 17.1 -0.2
TORD Torodi Ar. Bea 66.11 269 P P 07 07 17.2 -2.4
TORD IAmb IAmb 07 07 18.0
comp=Z,7.8nm,0.7s
TORD Torodi Ar. Bea 66.11 269 P P 07 07 17.1 -2.6
comp=Z,14nm,0.6s,baz=36,slow=6.4,SNR=20
ILULI Ilulissat 66.51 341 P P 07 07 22.1 +0.8
ILULI Ilulissat 66.51 341 P P 07 07 22.2 +0.8
ILULI pmax pmax
comp=Z,45nm,0.7s
A19K Wainwright 67.04 17 P P 07 07 24.4 -0.3
baz=316
A21K Barrow 67.20 15 P P 07 07 25.9 +0.2
baz=320
C16K Lisburne Hills 67.31 20 P P 07 07 26.0 -0.5
baz=313
B18K Kokolik River 67.47 18 P P 07 07 26.7 -0.7
baz=316
C17K DeLong Mountai 67.75 19 P P 07 07 28.7 -0.6
baz=315
A22K Sinclair Lake 67.79 15 P P 07 07 28.9 -0.5
baz=321
SFJD Kangerlussuaq 67.88 339 LR LR 07 37 08.5
comp=Z,109nm,18.7s,baz=62,slow=36
B20K Meade River 68.08 16 P P 07 07 31.3 +0.1
baz=320
RDOG Red Dog Mine 68.12 19 P P 07 07 31.2 -0.3
baz=315
D17K Noatak River 68.32 20 P P 07 07 32.6 -0.2
baz=316
GAMB Gambell 68.33 25 P P 07 07 32.8 -0.1
baz=310
TNA Tin City 68.40 23 P P 07 07 32.6 -0.7
baz=312
B22K Teshekpuk Lake 68.63 15 P P 07 07 34.9 +0.3
baz=322
RES Resolute Bay 68.71 356 LR LR 07 41 40.1
comp=Z,111nm,20.1s,baz=12,slow=39
B21K Ikpikpuk River 68.95 16 P P 07 07 36.8 +0.1
baz=322
F14K Arctic Creek 68.95 22 P P 07 07 36.3 -0.4
baz=313
D19K Kuna River 69.01 18 P P 07 07 37.2 +0.1
baz=319
E17K Hotham Inlet 69.11 20 P P 07 07 37.3 -0.4
baz=316
D20K Etivluk River 69.20 17 P P 07 07 38.9 +0.6
D20K IAmb IAmb 07 07 39.6
comp=Z,16nm,1.0s
D20K Etivluk River 69.20 17 P P 07 07 38.8 +0.6
baz=320
C21K Knifeblade Rid 69.27 16 P P 07 07 38.9 +0.2
baz=322
F15K North Star Dit 69.29 22 P P 07 07 39.8 +0.9
F15K IAmb IAmb 07 07 40.4
comp=Z,12nm,0.7s
F15K North Star Dit 69.29 22 P P 07 07 39.7 +0.8
baz=314
C23K Itkillik River 69.61 14 P P 07 07 41.4 +0.7
baz=325
F17K Baldwin Pennin 69.73 20 P P 07 07 41.6 +0.1

F17K IAmb IAmb 07 08 38.3
comp=Z,13nm,0.8s
F17K Baldwin Pennin 69.73 20 P P 07 07 42.4 +0.9
baz=317
ANM Nome 69.87 23 P P 07 07 42.6 +0.1
baz=314
D22K Ayikyak River 69.96 16 P P 07 07 43.0 +0.1
baz=323
G15K Niukluk 69.97 22 P P 07 07 42.5 -0.5
baz=315
E19K Redstone River 70.02 18 P P 07 07 43.6 +0.3
E19K IAmb IAmb 07 07 45.0
comp=Z,36nm,1.8s
E19K Redstone River 70.02 18 P P 07 07 43.5 +0.2
baz=320
E21K Killik River 70.02 16 P P 07 07 43.3 -0.1
baz=322
F18K Selawik 70.05 19 P P 07 07 43.4 -0.1
baz=318
C24K Franklin Bluff 70.08 14 P P 07 07 43.9 +0.3
baz=327
G16K Koyuk River 70.18 21 P P 07 07 44.4 0.0
baz=316
D23K Nanushuk River 70.31 15 P P 07 07 45.0 -0.1
baz=325
F19K Shaleruckik Mo 70.36 19 P P 07 07 45.6 +0.2
baz=320
D24K Happy Valley 70.53 14 P P 07 07 46.6 +0.2
baz=327
G17K Kiwalik Mounta 70.59 20 P P 07 07 47.2 +0.3
baz=318
C26K Camden Bay 70.61 13 P P 07 07 46.7 -0.1
baz=330
F20K Avaraart Lake 70.71 18 P P 07 07 48.2 +0.7
baz=321
E22K Anaktuvuk Pass 70.75 16 P P 07 07 47.9 +0.1
baz=324
H16K Elim 70.77 22 P P 07 07 48.1 +0.3
baz=317
TOLK Toolik Lake Re 70.81 15 P P 07 07 48.3 +0.1
baz=326
G18K Tagagawik 70.84 19 P P 07 07 48.2 -0.2
baz=319
D25K Kavik River 70.86 13 P P 07 07 48.2 -0.2
baz=329
G19K Purcell Mounta 71.07 19 P P 07 07 49.3 -0.4
baz=320
C27K Jago River 71.07 12 P P 07 07 49.5 -0.2
baz=331
F21K Alatna River 71.11 17 P P 07 07 50.3 +0.4
baz=323,SNR=6.5
A36M Sachs Harbour 71.15 5 P P 07 07 50.1 0.0
baz=346,SNR=7.8
F22K John River 71.18 16 P P 07 07 50.4 0.0
baz=324
H17K Granite Mounta 71.22 21 P P 07 07 51.0 +0.3
H17K Granite Mounta 71.22 21 P P 07 07 50.7 +0.1
baz=318
E23K Chandalar 71.28 15 P P 07 07 51.4 +0.3
baz=326
H18K Honhosa River 71.49 20 P P 07 07 52.0 -0.3
baz=320
E24K Your Creek 71.50 15 P P 07 07 52.3 0.0
baz=327
G21K Allakaket 71.67 17 P P 07 07 53.4 +0.1
baz=323,SNR=5.2
H19K Roundabout Mou 71.71 19 P P 07 07 53.8 +0.2
H19K Roundabout Mou 71.71 19 P P 07 07 53.4 -0.1
baz=321,SNR=6.4
J14K Nanvaranak Lak 71.73 23 P P 07 07 53.7 +0.1
baz=316
I17K Unalakleet 71.78 22 P P 07 07 54.6 +0.6
baz=318
G22K Bettles 71.81 16 P P 07 07 54.0 -0.1
baz=325
COLD Coldfoot 71.85 16 P P 07 07 54.7 +0.4
COLD IAmb IAmb 07 07 56.3
comp=Z,20nm,1.3s
COLD Coldfoot 71.85 16 P P 07 07 54.8 +0.4
baz=326,SNR=7.0
D27M Malcolm River 71.87 12 P P 07 07 54.6 0.0
baz=333
K13K Kusilvak Mount 71.96 24 P P 07 07 55.3 +0.3
baz=315
F24K Squaw Lake 72.10 15 P P 07 07 55.9 0.0
baz=328
D28M Stokes Point 72.14 11 P P 07 07 56.0 -0.1
baz=335
H20K Anotleneega Mo 72.15 18 P P 07 07 55.9 -0.3
baz=322,SNR=11
GCSA Galena City Sc 72.21 20 P P 07 07 56.5 0.0
baz=321
J16K Anvik River 72.26 22 P P 07 07 57.5 +0.6
J16K Anvik River 72.26 22 P P 07 07 56.4 -0.5
baz=318
G23K Bananza Creek 72.32 16 P P 07 07 57.6 +0.4
G23K Bananza Creek 72.32 16 P P 07 07 56.9 -0.4
baz=326
F25K Christian River 72.48 14 P P 07 07 58.3 +0.1
baz=330
M11K Mekoryuk 72.52 26 P P 07 07 58.2 -0.3
baz=315
H21K Melozitna Rive 72.53 18 P P 07 07 58.6 +0.2
H21K IAmb IAmb 07 08 00.2
comp=Z,14nm,1.2s
H21K Melozitna River 72.53 18 P P 07 07 58.3 -0.2
baz=324,SNR=9.6
J17K VABM Dome 72.62 21 P P 07 07 59.2 +0.2
baz=320
E28M Babbage River 72.67 11 P P 07 07 59.5 +0.2
baz=334
F26K Sheenjek River 72.68 13 P P 07 07 59.6 +0.2
baz=331
H22K Ishtalitna Cre 72.68 17 P P 07 07 60.0 +0.6
baz=325
E27K Coleen River 72.71 12 P P 07 07 59.8 +0.3
baz=333
K15K Wolf Creek Mou 72.71 23 P P 07 07 59.6 +0.1
baz=318
I20K Naaghedeneel 72.81 19 P P 07 08 00.3 +0.2
I20K IAmb IAmb 07 08 01.6
comp=Z,25nm,1.2s
I20K Naaghedeneel 72.81 19 P P 07 08 00.0 0.0
baz=323
BMAR Burnt Mountain 72.83 14 P P 07 08 01.7 +1.4
G24K Hadweenzic Riv 72.88 15 P P 07 08 00.2 -0.3
baz=328,SNR=5.2
L14K Kuka Creek 73.04 24 P P 07 08 01.7 +0.3
baz=317
G25K Bearman Lake 73.11 15 P P 07 08 01.9 +0.1
baz=329
I21K Tanana 73.12 18 P P 07 08 02.7 +0.7
baz=325
E29M Blow River 73.13 11 P P 07 08 02.0 +0.1
baz=336
J19K Poorman 73.14 20 P P 07 08 02.6 +0.5
baz=322,SNR=13
H23K Yukon River 73.17 16 P P 07 08 02.8 +0.6
baz=327,SNR=8.1
L15K Ungalak Mounta 73.18 23 P P 07 08 02.8 +0.5
baz=318
J18K Innoko River 73.25 20 P P 07 08 03.0 +0.3
J18K Innoko River 73.25 20 P P 07 08 03.1 +0.4
baz=321,SNR=11
K17K Iditarod 73.38 22 P P 07 08 03.3 -0.2
baz=320,SNR=7.4
J20K Nowinta River 73.39 19 P P 07 08 04.2 +0.7
J20K IAmb IAmb 07 08 04.9
comp=Z,9.0nm,0.7s
J20K Nowinta River 73.39 19 P P 07 08 03.8 +0.3
baz=323,SNR=13
G26K Porcupine Rive 73.41 14 P P 07 08 04.7 +1.2
G26K Porcupine Rive 73.41 14 P P 07 08 03.9 +0.4
baz=331
M13K Dall Lake 73.49 25 P P 07 08 04.7 +0.5
baz=317
F28M Old Crow 73.51 12 P P 07 08 04.7 +0.4
baz=334
H24K Noodor Dome 73.53 16 P P 07 08 04.3 -0.1
baz=328,SNR=6.6
MLY Manley 73.55 17 P P 07 08 04.5 0.0
baz=326,SNR=7.8
H25L Birch Creek 73.60 15 P P 07 08 04.7 0.0
baz=330
M14K Bethel 73.71 24 P P 07 08 06.7 +1.3
M14K IAmb IAmb 07 08 07.5
comp=Z,18nm,0.8s
M14K Bethel 73.71 24 P P 07 08 05.7 +0.3

	baz=318,SNR=5.4								
I23K	**Minto, Yukon-K**	73.78	17	P		P		07 08 05.9	+0.2
	baz=327,SNR=8.6								
L17K	**Donlin**	73.82	22	P		P		07 08 06.3	+0.2
	baz=320								
INK	**Inuvik**	73.83	9	P		P		07 08 06.5	+0.5
INK				IAmb		IAmb		07 08 08.2	
	comp=Z,15nm,0.7s								
INK	**Inuvik**	73.83	9	P		P		07 08 06.5	+0.5
INK				pmax		pmax			
	comp=Z,15nm,0.7s								
INK	**Inuvik**	73.83	9	P		P		07 08 06.2	+0.2
	baz=339,SNR=14								
P08K	**Saint George I**	73.87	30	P		P		07 08 06.6	+0.2
	baz=313								
G27K	**Doyon Strip**	73.93	13	P		P		07 08 07.2	+0.5
G27K				IAmb		IAmb		07 08 09.2	
	comp=Z,19nm,1.4s								
G27K	**Doyon Strip**	73.93	13	P		P		07 08 06.4	-0.3
	baz=333,SNR=8.2								
K20K	**Telida**	74.07	20	P		P		07 08 07.5	0.0
	baz=323,SNR=16								
CHUM	**Lake Minchumin**	74.10	19	P		P		07 08 07.8	+0.2
	baz=325								
F30M	**Barrier River**	74.16	11	P		P		07 08 08.5	+0.6
F30M				IAmb		IAmb		07 08 10.2	
	comp=Z,22nm,1.3s								
F30M	**Barrier River**	74.16	11	P		P		07 08 08.1	+0.1
	baz=338,SNR=5.5								
M15K	**Kasigluk River**	74.17	24	P		P		07 08 08.0	-0.1
	baz=319								
L18K	**Granite Mounta**	74.23	21	P		P		07 08 08.7	+0.2
	baz=322,SNR=5.1								
POKR	**Poker Plat Res**	74.24	16	P		P		07 08 09.2	+0.7
POKR				IAmb		IAmb		07 08 10.7	
	comp=Z,28nm,1.4s								
POKR	**Poker Plat Res**	74.24	16	P		P		07 08 08.6	+0.1
	baz=328,SNR=7.3								
BPAW	**Bear Paw Mtn.**	74.26	18	P		P		07 08 09.0	+0.3
	baz=326,SNR=8.4								
PRP	**Porcupine Dome**	74.31	15	P		P		07 08 08.9	-0.2
	baz=330								
NEA2	**Nenana**	74.31	17	P		P		07 08 09.3	+0.4
	baz=327,SNR=20								
COLA	**College**	74.35	16	P		P		07 08 08.8	-0.3
	baz=328								
N14K	**Kuskokwak Cree**	74.42	25	P		P		07 08 09.0	-0.5
	baz=318								
G29M	**Pine Creek**	74.46	12	P		P		07 08 09.6	-0.2
	baz=336								
H27K	**Steamboat Moun**	74.47	13	P		P		07 08 10.3	+0.5
H27K				IAmb		IAmb		07 08 12.1	
	comp=Z,18nm,1.4s								
H27K	**Steamboat Moun**	74.47	13	P		P		07 08 09.8	-0.1
	baz=333,SNR=9.5								
M16K	**Timber Creek**	74.48	23	P		P		07 08 09.4	-0.5
	baz=320								
CAST	**Castle Rocks**	74.54	19	P		P		07 08 10.2	-0.1
	baz=325,SNR=16								
CCB	**Clear Creek Bu**	74.56	16	P		P		07 08 10.0	-0.3
FITZ	**Fitzroy Crossi**	74.59	127	P		P		07 08 12.1	+1.0
	comp=Z,1.0nm,1.3s								
F31M	**Tsiigehtchic**	74.61	10	P		P		07 08 10.9	+0.3
F31M				IAmb		IAmb		07 08 12.5	
	comp=Z,12nm,0.7s								
F31M	**Tsiigehtchic**	74.61	10	P		P		07 08 10.5	0.0
	baz=339,SNR=7.2								
WRH	**Wood River Hil**	74.64	17	P		P		07 08 10.4	-0.3
M17K	**Holitna River**	74.65	22	P		P		07 08 11.6	+0.7
M17K				IAmb		IAmb		07 08 58.0	
	comp=Z,13nm,0.9s								
M17K	**Holitna River**	74.65	22	P		P		07 08 11.1	+0.2
	baz=321								
ILAR	**Eielson Array**	74.66	16	P		P		07 08 10.6	-0.3
	comp=Z,4.3nm,1.0s,baz=323,slow=4.1,SNR=32								
ILAR				LR		LR		07 44 11.3	
	comp=Z,89nm,20.0s,baz=352,slow=38								
	comp=Z,4.3nm,1.0s								
G30M	**tAoh Zraii Nji**	74.68	11	P		P		07 08 11.3	+0.2
G30M				IAmb		IAmb		07 08 12.8	
	comp=Z,27nm,1.3s								
G30M	**tAoh Zraii Nji**	74.68	11	P		P		07 08 10.8	-0.2
	baz=337,SNR=5.2								
N15K	**Kwethluk River**	74.77	24	P		P		07 08 12.0	+0.4
	baz=319								
L19K	**White Mountain**	74.79	21	P		P		07 08 12.0	+0.2
	baz=323								
L20K	**Farewell, AK**	74.83	20	P		P		07 08 12.2	+0.2
	baz=324,SNR=6.1								
KNRA	**Kununurra**	74.91	123	P		P		07 08 13.3	+0.4
KNRA	**Kununurra**	74.91	123	P		P		07 08 13.1	+0.1
	comp=Z,9.3nm,1.1s								
PPLA	**Purkeypile**	74.94	19	P		P		07 08 11.8	-1.0
	baz=325								
HDA	**Harding Lake**	74.95	16	P		P		07 08 12.7	0.0
HDA	**Harding Lake**	74.95	16	P		P		07 08 12.6	0.0
	baz=329								
N16K	**Nishlik Lake**	74.96	23	P		P		07 08 13.3	+0.6
	baz=320,SNR=5.3								
TRF	**Thorofare Moun**	74.97	18	P		P		07 08 13.1	+0.1
	baz=326,SNR=7.6								
I26K	**Coal Creek Min**	74.98	14	P		P		07 08 12.7	0.0
	baz=332								
I27K	**Kandik River**	75.01	14	P		P		07 08 13.5	+0.5
	baz=333,SNR=5.4								
G31M	**Satah River**	75.02	10	P		P		07 08 13.2	+0.3
G31M				IAmb		IAmb		07 08 14.7	
	comp=Z,10.0nm,0.7s								
G31M	**Satah River**	75.02	10	P		P		07 08 12.9	0.0
	baz=339,SNR=11								
H29M	**Whitestone**	75.03	12	P		P		07 08 12.8	-0.3
	baz=336,SNR=8.5								
M18K	**Stony River**	75.06	21	P		P		07 08 13.3	+0.1
	baz=322								
O14K	**Tigyukauivet M**	75.06	25	P		P		07 08 13.5	+0.2
	baz=319								
MCK	**McKinley**	75.07	17	P		P		07 08 13.7	+0.4
MCK				IAmb		IAmb		07 08 14.7	
	comp=Z,7.7nm,0.5s								
MCK	**McKinley**	75.07	17	P		P		07 08 13.7	+0.4
MCK				pmax		pmax			
	comp=Z,8.0nm,0.5s								
MCK	**McKinley**	75.07	17	P		P		07 08 13.2	-0.1
	baz=327								
DBIC	**Dimbokro**	75.08	267	P		P		07 08 12.0	-2.2
	comp=Z,6.0nm,0.6s,baz=67,slow=7.4,SNR=12								
J25K	**Salcha River,**	75.12	16	P		P		07 08 13.4	-0.2
J25K	**Salcha River,**	75.12	16	P		P		07 08 13.7	0.0
	baz=330,SNR=6.8								
M19K	**Big River Lodg**	75.15	21	P		P		07 08 13.8	0.0
	baz=323								
EPYK	**Eagle Plains**	75.17	11	P		P		07 08 14.2	+0.4
	baz=337								
RND	**Reindeer**	75.36	18	P		P		07 08 14.7	-0.4
RND				IAmb		IAmb		07 08 16.3	
	comp=Z,16nm,1.4s								
RND	**Reindeer**	75.36	18	P		P		07 08 14.7	-0.4
RND				pmax		pmax			
	comp=Z,16nm,1.4s								
N17K	**Nushagak Hills**	75.41	23	P		P		07 08 15.6	+0.3
	baz=322								
I28M	**Miner Creek**	75.46	13	P		P		07 08 15.8	+0.1
I28M				IAmb		IAmb		07 08 17.3	
	comp=Z,26nm,1.5s								
I28M	**Miner Creek**	75.46	13	P		P		07 08 15.2	-0.4
	baz=334,SNR=10								
M20K	**Styx River**	75.52	20	P		P		07 08 16.3	+0.2
	baz=324								
J26L	**Joseph Creek**	75.60	15	P		P		07 08 16.6	+0.1
J26L				IAmb		IAmb		07 08 18.0	
	comp=Z,26nm,1.6s								
J26L	**Joseph Creek**	75.60	15	P		P		07 08 16.9	+0.5
	baz=332,SNR=11								
O15K	**Ungalikthiuk R**	75.61	25	P		P		07 08 17.1	+0.6
	baz=320								
N18K	**Kilae Creek**	75.69	22	P		P		07 08 17.5	+0.6
	baz=322								
K24K	**Donnelly Dome**	75.74	16	P		P		07 08 17.2	0.0
	baz=330,SNR=8.3								
I29M	**Ogilvie Camp,**	75.83	12	P		P		07 08 17.3	-0.3
I29M				IAmb		IAmb		07 08 19.0	
	comp=Z,21nm,1.4s								
I29M	**Ogilvie Camp,**	75.83	12	P		P		07 08 17.9	+0.3
	baz=336,SNR=13								
O16K	**Kokwok River B**	75.86	24	P		P		07 08 18.8	+1.0
O16K				IAmb		IAmb		07 08 21.3	
	comp=Z,27nm,1.3s								
O16K	**Kokwok River B**	75.86	24	P		P		07 08 18.4	+0.5
	baz=321,SNR=7.3								
SKT	**Skwentna**	75.87	19	P		P		07 08 17.6	-0.3
	baz=326,SNR=12								
SCRK	**Sand Creek**	75.98	15	P		P		07 08 18.7	0.0
	baz=331,SNR=10.0								
N19K	**Bonanza Creek**	76.00	21	P		P		07 08 18.9	+0.1
N19K	**Bonanza Creek**	76.00	21	P		P		07 08 18.7	-0.1
	baz=324								
RIDG	**Independent Ri**	76.00	16	P		P		07 08 18.7	0.0
	baz=331,SNR=5.4								
O17K	**Koliganek Bris**	76.03	23	P		P		07 08 18.7	-0.1
	baz=322								
H31M	**Peel River**	76.06	11	P		P		07 08 18.4	-0.6
	baz=339,SNR=7.3								
I30M	**Mount Dempster**	76.28	12	P		P		07 08 20.6	+0.2
I30M				IAmb		IAmb		07 08 21.9	
	comp=Z,14nm,1.2s								
I30M	**Mount Dempster**	76.28	12	P		P		07 08 20.1	-0.2
	baz=337,SNR=15								
K27K	**Chicken**	76.33	15	P		P		07 08 20.4	0.0
	baz=333								
SPCR	**Spurr Chakacha**	76.33	20	P		P		07 08 20.8	+0.1
	baz=325								
N20K	**Mount Spurr**	76.33	20	P		P		07 08 21.1	+0.5
	baz=325								
SUA	**Susitna One**	76.51	19	P		P		07 08 21.5	-0.1
	baz=326								
PAX	**Paxson**	76.53	16	P		P		07 08 22.0	+0.2
	baz=330,SNR=13								
O18K	**Koktuh Hills**	76.55	22	P		P		07 08 21.7	-0.1
	baz=323								
NIKH	**Nikolski High**	76.66	33	P		P		07 08 22.2	-0.3
	baz=314								
J29N	**Klondike Camp**	76.68	13	P		P		07 08 22.0	-0.5
	baz=336								
P17K	**Kvichak River**	76.69	23	P		P		07 08 22.5	0.0
	baz=322								
DAWY	**Dawson**	76.82	13	P		P		07 08 23.2	0.0
DAWY				IAmb		IAmb		07 08 24.9	
	comp=Z,24nm,1.6s								
DAWY	**Dawson**	76.82	13	P		P		07 08 23.3	0.0
	baz=335,SNR=9.4								
PMR	**Palmer**	76.83	19	P		P		07 08 22.9	-0.3
PMR	**Palmer**	76.83	19	P		P		07 08 22.9	-0.3
PMR				pmax		pmax			
	comp=Z,8.0nm,1.0s								
PMR	**Palmer**	76.83	19	P		P		07 08 23.1	-0.2
	baz=328								
J30M	**Hart River**	76.89	12	P		P		07 08 23.4	-0.3
	baz=337,SNR=10								
P18K	**Big Mountain,**	76.92	22	P		P		07 08 23.3	-0.6
	baz=323								
M23K	**Glacier View**	77.01	18	P		P		07 08 24.1	-0.3
	baz=329,SNR=7.8								
Q16K	**King Salmon**	77.03	24	P		P		07 08 24.4	0.0
	baz=322								
SCM	**Sheep Creek Mo**	77.08	18	P		P		07 08 24.9	+0.2
SCM				IAmb		IAmb		07 09 10.3	
	comp=Z,13nm,1.0s								
SCM	**Sheep Creek Mo**	77.08	18	P		P		07 08 25.0	+0.2
SCM				pmax		pmax			
	comp=Z,13nm,1.0s								
SCM	**Sheep Creek Mo**	77.08	18	P		P		07 08 24.3	-0.5
	baz=329								
RC01	**Rabbit Creek A**	77.09	19	P		P		07 08 24.5	-0.3
	baz=327								
HARP	**HAARP**	77.10	17	P		P		07 08 24.2	-0.6
	baz=331,SNR=7.3								
M24K	**Tolsona, Glenn**	77.12	17	P		P		07 08 24.3	-0.7
	baz=330,SNR=5.3								
O20K	**Slope Mountain**	77.13	21	P		P		07 08 24.7	-0.4
	baz=325								
KNK	**Knik Glacier**	77.15	18	P		P		07 08 25.1	0.0
	baz=328								
L27K	**Beaver Creek,**	77.24	15	P		P		07 08 26.1	+0.5
L27K	**Beaver Creek,**	77.24	15	P		P		07 08 25.2	-0.4
	baz=333,SNR=10								
BCAR	**Beaver Creek A**	77.25	15	P		P		07 08 26.4	+0.7
K29M	**Barlow Dome**	77.36	13	P		P		07 08 26.8	+0.4
K29M				IAmb		IAmb		07 08 28.4	
	comp=Z,16nm,1.3s								
K29M	**Barlow Dome**	77.36	13	P		P		07 08 25.4	-1.0
	baz=336,SNR=12								
MORW	**Morawa**	77.52	141	P		P		07 08 26.9	-0.7
MORW				IAmb		IAmb		07 09 00.3	
	comp=Z,17nm,0.8s								
Q18K	**Katmai Hardscr**	77.58	23	P		P		07 08 27.6	-0.1
	baz=323								
Q17K	**Contact Creek**	77.61	23	P		P		07 08 28.0	+0.1
	baz=323								
PWL	**Port Wells**	77.66	19	P		P		07 08 27.7	-0.3
	baz=328								
KLU	**Klutina**	77.71	17	P		P		07 08 28.1	-0.3
	baz=330								
HOM	**Homer**	77.76	21	P		P		07 08 28.6	0.0
	baz=326								
Q19K	**Cape Douglas,**	77.77	22	P		P		07 08 28.2	-0.5
	baz=324								
M27K	**Edge Creek, AK**	77.86	15	P		P		07 08 29.0	-0.2
	baz=333,SNR=13								
MAYO	**Mayo, Yukon**	77.87	12	P		P		07 08 30.0	+0.9
	baz=338								
S14K	**Fog Glacier**	77.92	26	P		P		07 08 29.8	+0.2
	baz=320								
L29M	**L29M**	77.92	13	P		P		07 08 29.7	+0.2
	baz=336,SNR=9.8								
N25K	**Chitina, Valde**	77.92	17	P		P		07 08 29.4	-0.2
	baz=331								
GLI	**Glacier Island**	77.95	18	P		P		07 08 29.3	-0.3
	baz=329								
R17L	**Mt. Peulik Vol**	77.96	24	P		P		07 08 29.7	0.0
	baz=322								
SEW	**Seward**	78.00	20	P		P		07 08 30.3	+0.5
	baz=328								
BOSA	**Boshof**	78.01	220	P		P		07 08 29.5	-0.9
	comp=Z,17nm,0.8s,baz=23,slow=4.3,SNR=23								
BOSA				pP		pP		07 09 03.6	+3.4
	comp=Z,11nm,0.8s,baz=35,slow=5.5,SNR=5.5								
	comp=Z,17nm,0.8s								
BVCY	**Beaver Creek**	78.02	15	P		P		07 08 30.1	+0.1
	baz=334,SNR=12								
SDPT	**Sand Point**	78.30	27	P		P		07 08 31.9	+0.3
	baz=320								
Q20K	**Shuyak Island**	78.41	22	P		P		07 08 31.8	-0.3
	baz=325								
M29M	**Somme Creek**	78.47	14	P		P		07 08 32.3	-0.2
	baz=336,SNR=12								
MCARA	**McCarthy VSAT**	78.48	16	P		P		07 08 32.1	-0.4
	baz=332								
BMRM	**Bremner River**	78.48	17	P		P		07 08 32.7	+0.1
	baz=331								
EYAK	**Cordova Ski Ar**	78.58	18	P		P		07 08 33.2	+0.2
	baz=330								
R18K	**Karluk**	78.63	23	P		P		07 08 33.7	+0.4
	baz=324								
P23K	**Montague Islan**	78.63	19	P		P		07 08 32.4	-0.9
	baz=329								
M30M	**Minto, Yukon**	78.66	13	P		P		07 08 33.2	-0.3
	baz=337								
YUK3	**Moose Creek**	78.68	15	P		P		07 08 33.5	-0.4
	baz=334,SNR=7.2								
CHNA	**Chernabura Isl**	79.03	27	P		P		07 08 34.8	-0.7
	baz=320								
CRQE	**Cirque**	79.03	16	P		P		07 08 35.3	-0.3
	baz=332								
KDAK	**Kodiak Island**	79.04	22	P		P		07 08 35.4	-0.2
	baz=325								
CTG	**Chitna Glacier**	79.23	16	P		P		07 08 35.9	-0.8
	baz=334								
YUK8	**Ste Glacier**	79.27	15	P		P		07 08 36.3	-0.9
	baz=335								
OHAK	**Old Harbor**	79.28	23	P		P		07 08 36.1	-0.8
	baz=325								
Q23K	**Middleton Isla**	79.40	19	P		P		07 08 36.3	-1.1
	baz=330								
M31M	**Drury Creek, Y**	79.42	12	P		P		07 08 36.9	-0.7
	baz=339,SNR=7.9								
YUK4	**Talbot Arm**	79.44	14	P		P		07 08 36.3	-1.7
	baz=336,SNR=6.3								
KAIM	**Kayak Island**	79.44	17	P		P		07 08 36.8	-1.0
	baz=331								
MMPY	**Sheldon Lake,**	79.52	10	P		P		07 08 37.8	-0.4
	baz=342								
SII	**Sitkinak Islan**	79.53	24	P		P		07 08 38.1	-0.3
	baz=324								
BGLC	**Bering Glacier**	79.54	17	P		P		07 08 38.1	-0.1
	baz=332								
N30M	**Aishikik Lake**	79.64	14	P		P		07 08 38.3	-0.5
	baz=337								
O28M	**Mount Upton**	79.65	15	P		P		07 08 37.7	-1.5
	baz=335								
CHIR	**Chirikof Islan**	79.65	25	P		P		07 08 37.6	-1.3
	baz=323								
MESA	**MESA**	79.80	16	P		P		07 08 38.6	-1.4
	baz=333								
N31M	**Braeburn, Yuko**	79.85	13	P		P		07 08 39.1	-0.9
	baz=338,SNR=5.6								
YUK6	**Outpost Mounta**	79.86	14	P		P		07 08 39.4	-1.0
	baz=336								
WRGLY	**Wrigley**	79.88	7	P		P		07 08 39.5	-0.5
	baz=348								
HYT	**Haines Junctio**	80.14	14	P		P		07 08 41.1	-0.6
	baz=337,SNR=12								
PINM	**Pinnacle**	80.25	16	P		P		07 08 41.1	-1.1
	baz=335								
O30N	**Mendenhall**	80.46	13	P		P		07 08 43.1	-0.2
	baz=338,SNR=6.2								
WHY	**Whitehorse**	80.78	13	P		P		07 08 44.4	-0.7
	baz=339								
PNL	**Peninsula**	80.82	15	P		P		07 08 44.2	-0.9
	baz=335								
P30M	**Million Dollar**	80.90	14	P		P		07 08 45.1	-0.5
	baz=337								
TGTN	**Hyland Airport**	80.99	9	P		P		07 08 45.4	-0.7
	baz=344								
P29M	**Windy Craggy**	81.20	15	P		P		07 08 46.4	-0.9
	baz=337								
YKA	**Yellowknife Ar**	81.21	3	P		P		07 08 47.6	+0.4
YKA	**Yellowknife Ar**	81.21	3	P		P		07 08 47.1	0.0
	comp=Z,5.1nm,0.8s,baz=351,slow=5.8,SNR=19								
YKA				pP		pP		07 09 18.4	+1.6
	comp=Z,6.7nm,1.0s,baz=345,slow=6.1,SNR=4.0								
YKA				LR		LR		07 49 12.3	
	comp=Z,58nm,18.4s,baz=336,slow=39								
	comp=Z,5.1nm,0.8s								
YKA	**Yellowknife Ar**	81.21	3	*i* P		P		07 08 48.4	+1.3
YKA				pmax		pmax			
	comp=Z,1.0nm,0.4s								
YKAW1	**Yellowknife Wh**	81.22	3	P		P		07 08 47.7	+0.5
YKAW1				IAmb		IAmb		07 08 49.5	
	comp=Z,11nm,0.8s								
P33M	**Teslin, Yukon**	81.56	12	P		P		07 08 49.1	-0.1
P33M				IAmb		IAmb		07 08 50.7	
	comp=Z,33nm,1.5s								
P33M	**Teslin, Yukon**	81.56	12	P		P		07 08 48.7	-0.5
	baz=341,SNR=12								
WRA	**Warramunga Arr**	81.67	122	P		P		07 08 48.9	-1.3
WRA	**Warramunga Arr**	81.67	122	P		P		07 08 49.0	-1.2
	comp=Z,3.0nm,0.5s,baz=324,slow=4.9,SNR=59								
WRA				pP		pP		07 09 21.3	+0.8
	comp=Z,8.2nm,0.8s,baz=322,slow=5.2,SNR=11								
WRA				PKKPbc		PKKPbc		07 27 22.4	+1.1
	comp=Z,0.3nm,0.6s,baz=125,slow=2.3,SNR=5.0								
	comp=Z,3.0nm,0.5s								
WRA	**Warramunga Arr**	81.67	122	P		P		07 08 48.9	-1.3
WRA				pmax		pmax			
	comp=Z,1.0nm,1.5s								
WR8	**Warramunga Arr**	81.79	122	P		P		07 08 50.7	-0.2
WR8				IAmb		IAmb		07 09 23.9	
	comp=Z,11nm,0.9s								
SKAG	**Skagway**	81.82	13	P		P		07 08 48.8	-1.6
	baz=339								
P32M	**Atlin**	82.00	13	P		P		07 08 50.5	-0.9
	baz=340								
SCHQ	**Schefferville**	82.23	337	P		P		07 08 52.7	0.0
SCHQ	**Schefferville**	82.23	337	P		P		07 08 52.9	+0.2
	comp=Z,3.0nm,0.4s,baz=13,slow=3.4,SNR=15								
SCHQ				LR		LR		07 43 52.9	
	comp=Z,71nm,18.4s,baz=29,slow=34								
	comp=Z,3.0nm,0.4s								
WTLY	**Watson Lake, Y**	82.28	10	P		P		07 08 52.3	-0.6
	baz=344								
R33M	**Jennings River**	82.64	11	P		P		07 08 54.7	-0.2
	baz=342,SNR=8.9								
Q32M	**Nakina River**	82.84	12	P		P		07 08 55.8	-0.2
Q32M				IAmb		IAmb		07 08 58.3	
	comp=Z,8.5nm,0.6s								
Q32M	**Nakina River**	82.84	12	P		P		07 08 55.9	-0.1
	baz=341,SNR=10								
S31K	**Pelican**	83.04	14	P		P		07 08 55.7	-1.1
	baz=338								
R32K	**Eaglecrest**	83.08	13	P		P		07 08 56.1	-1.0
	baz=339								
LIRD	**Liard River Hi**	83.32	9	P		P		07 08 57.8	-0.4
	baz=346								
DLBC	**Dease Lake**	83.70	11	P		P		07 09 00.1	-0.2
	baz=343								
S32K	**Killisnoo**	83.83	14	P		P		07 09 00.7	-0.1
	baz=339								
AS31	**Alice Springs**	83.95	125	P		P		07 09 01.5	-0.4
ASAR	**Alice Springs**	83.95	125	P		P		07 09 00.5	-1.5
	comp=Z,2.0nm,0.5s,baz=313,slow=4.9,SNR=27								
ASAR				pP		pP		07 09 34.1	+1.8
	comp=Z,5.5nm,0.8s,baz=316,slow=4.7,SNR=9.0								
	comp=Z,2.0nm,0.5s								
TOAD	**Toad River Com**	83.97	9	P		P		07 09 01.4	-0.2
	baz=347								
S34M	**Telegraph Cree**	84.03	12	P		P		07 09 02.5	+0.7
S34M				IAmb		IAmb		07 09 04.8	
	comp=Z,9.1nm,0.8s								
S34M	**Telegraph Cree**	84.03	12	P		P		07 09 01.8	-0.1
	baz=342,SNR=7.7								
SIT	**Sitka**	84.07	14	P		P		07 09 01.2	-0.8
	baz=339								
T35M	**Bob Quinn**	85.06	12	P		P		07 09 06.3	-0.8
	baz=343								
WRAK	**Wrangell Islan**	85.23	13	P		P		07 09 07.1	-0.8
	baz=341								
U33K	**Whale Pass**	85.38	14	P		P		07 09 07.5	-1.2
	baz=340								
CRAG	**Craig**	85.99	14	P		P		07 09 10.6	-1.1
	baz=340								
V35K	**Ketchikan**	86.40	13	P		P		07 09 12.4	-1.3
	baz=342								
FFC	**Flin Flon**	88.95	356	P		P		07 09 26.0	+0.1
FFC				IAmb		IAmb		07 09 28.3	
	comp=Z,5.7nm,0.9s								
FFC	**Flin Flon**	88.95	356	P		P		07 09 26.0	+0.1
FFC		

SMCA IAML 06 59 12.9
comp=E,1μm,0.2s
RTAL Retalhuleu 0.71 79 *e*P **Pn 06 59 06.7 +1.5**
RTAL *e*S **Sn 06 59 18.3 +2.6**
PATR El Naranjo 0.74 14 *i* P **Pn 06 59 05.1 -0.7**
PATR *i* S **Sn 06 59 15.1 -1.7**
PAVE Pavencul 0.83 16 *i* P **Pn 06 59 06.3 -0.5**
PAVE *i* S **Sn 06 59 17.0 -1.7**
QUEO Labor Ovalle 1.00 61 *i* P **Pn 06 59 10.0 +1.0**
QUEO *e*S **Sn 06 59 23.4 +0.9**
QUEO IAML 06 59 24.1
comp=N,542nm,0.2s
STG2 El Palmar, Qui 1.01 87 *i* P **Pn 06 59 07.4 -1.6**
STG2 *i* S **Sn 06 59 18.8 -3.9**
HUEH Huehuetenango 1.28 44 *e*P **Pn 06 59 13.4 +0.8**
HUEH *e*S **Sn 06 59 29.6 +0.6**
HUEH Huehuetenango 1.28 44 *i* P **Pn 06 59 13.4 +0.8**
HUEH *i* S **Sn 06 59 29.7 +0.6**
HUEH IAML 06 59 36.3
comp=E,359nm,0.5s
PCIG 1.52 329 *e*P **Pn 06 59 15.7 +0.1**
PCIG *e*S **Sn 06 59 33.2 -1.2**
FG16 Alotenango, Sa 1.85 93 *i* P Pn 06 59 17.4 -3.0
CCIG Comitan 1.90 8 *e*P **Pn 06 59 21.1 +0.2**
CCIG *e*S **Sn 06 59 40.0 -4.0**
TGIG 2.47 344 *e*P **Pn 06 59 33.1 +4.5**
TGIG *e*S **Sn 06 59 56.3 -1.4**
UXUV UXUV 3.35 330 *e*P **Pn 06 59 41.0 +0.4**
UXUV *e*S **Sn 07 00 20.6 +1.4**
CMIG Matias Romero 3.58 319 *e*P **Pn 06 59 44.1 +0.3**
CMIG *e*S **Sn 07 00 23.5 -1.5**

*NEIC **27** 07:03:14.8±1.4,35°.832N×0°.009×98°.092W±0°.009, h8km±5km, Error ellipse: s-maj=1.4km s-min=0.7km az=138.0*
NEIC 27 07:03:14.6±1.2,35°.837N×0°.009×98°.09W×0°.01,h6km±4km, mb_Lg2.5/64,ML2.5/58,ML2.4/20,Error ellipse: s-maj=1.4km s-min=1.3km az=53.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.43**	**115**		Pg	07 03 23.3	+0.5
BCOK					Sg	07 03 29.5	+1.0
OK029	**Liberty Lake**	**0.52**	**94**		Pg	07 03 24.6	+0.1
OK029					Sg	07 03 32.3	+1.1
CSTR	**Hydro, Custer**	**0.52**	**249**		Pg	07 03 24.6	-0.1
CSTR					Sg	07 03 32.4	+0.9
OK004	**Okla Sci Mus**	**0.59**	**122**		Pg	07 03 26.2	+0.3
OK004					Sg	07 03 34.5	+0.9
CROK	**Carrier**	**0.67**	**7**		Pg	07 03 27.4	-0.1
CROK					Sb	07 03 37.6	-0.7
CROK				IAML		07 03 46.2	
	comp=N,224nm,0.2s						
CROK				IAML		07 03 48.0	
	comp=E,160nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.68**	**129**		Pg	07 03 26.8	-0.9
OKCSW				IAML		07 03 39.9	
	comp=E,209nm,0.6s						
OKCSW				IAML		07 03 40.0	
	comp=N,267nm,0.6s						
FNO	**Franklin**	**0.81**	**136**		Pg	07 03 29.7	-0.3
FNO					Sg	07 03 41.0	+0.5
FNO				IAML		07 03 43.9	
	comp=E,154nm,0.6s						
OK038	**West end E0370**	**0.83**	**321**		Pg	07 03 30.1	-0.4
OK038					Sg	07 03 42.0	+0.7
GC02	**Grant County #**	**1.03**	**10**		Pg	07 03 33.8	-0.7
OK052	**Battle Ridge R**	**1.05**	**81**		Pg	07 03 34.6	-0.2
OK052					Sb	07 03 49.9	+0.5
OK052				IAML		07 03 50.1	
	comp=E,132nm,0.2s						
OK052				IAML		07 03 55.4	
	comp=E,110nm,0.2s						
KAN14	**Manchester OK**	**1.12**	**5**		Pg	07 03 35.4	-0.7
KAN14				IAML		07 03 55.8	
	comp=E,85nm,0.2s						
KAN14				IAML		07 03 59.4	
	comp=N,98nm,0.2s						
BLOK	**Blackwell**	**1.16**	**37**		Pg	07 03 36.6	-0.3
QUOK	**Quay**	**1.17**	**73**		Pg	07 03 36.0	-0.9
OK051	**E0350 and S346**	**1.21**	**56**		Pg	07 03 37.2	-0.6
KAN17	**Caldwell West**	**1.23**	**12**		Pg	07 03 37.5	-0.7
WMOK	**Wichita Mounta**	**1.23**	**208**		Pg	07 03 37.2	-1.0
WMOK	**Wichita Mounta**	**1.23**	**208**	Pg	Pg	07 03 37.0	-1.3
WMOK				IAML		07 03 58.4	
	comp=N,26nm,0.2s						
WMOK				IAML		07 03 59.4	
	comp=N,24nm,0.5s						
X34A	**Smith Ranch, M**	**1.25**	**170**		Pg	07 03 38.1	-0.5
X34A					Sn	07 03 56.2	+0.4
X34A				IAML		07 03 57.3	
	comp=E,90nm,0.5s						
X34A				IAML		07 04 18.1	
	comp=N,66nm,1.1s						
KAN13	**South Haven SW**	**1.27**	**23**		Pn	07 03 38.1	-0.8
DEOK	**Depew**	**1.29**	**89**		Pn	07 03 38.5	-0.7
DEOK					Sn	07 03 57.0	+0.2
DEOK				IAML		07 04 01.4	
	comp=E,82nm,0.3s						
DEOK				IAML		07 04 01.5	
	comp=N,108nm,0.2s						
KAN01	**Argonia South**	**1.34**	**11**		Pn	07 03 39.2	-0.6
KAN09	**Caldwell North**	**1.35**	**16**		Pn	07 03 39.1	-0.9
T35A	**Sooner Cattle**	**1.67**	**49**		Pn	07 03 44.9	+0.5
TUL3	**Leonard**	**1.87**	**87**		Pb	07 03 48.1	-1.0
TUL3				IAmb_Lg		07 04 14.3	
	comp=Z,27nm,1.2s						
SMWD	**Samnorwood**	**1.90**	**248**		Pn	07 03 47.2	-0.4
SMWD					Sb	07 04 14.1	+0.3
SMWD				IAmb_Lg		07 04 18.9	
	comp=Z,26nm,0.8s						
LOOK	**Love County**	**1.99**	**158**		Pn	07 03 48.6	-0.1
LOOK				IAmb_Lg		07 04 18.4	
	comp=Z,32nm,0.8s						
WTFS	**Witchita Falls**	**2.09**	**189**		Pn	07 03 50.5	+0.4
WTFS					Sb	07 04 19.8	+0.7
RLO	**Rose Lookout**	**2.51**	**82**		Pn	07 03 55.7	-0.2
R32A	**Long Quarter,**	**2.63**	**349**	IAmb_Lg		07 04 44.5	
	comp=Z,14nm,0.9s						
PLPT	**Palo Pinto**	**3.02**	**184**		Pn	07 04 04.0	+1.1
AMTX	**Amarillo**	**3.09**	**253**	IAmb_Lg		07 04 53.5	
	comp=Z,22nm,0.7s						
DKNS	**Dickens**	**3.18**	**228**	IAmb_Lg		07 04 57.8	
	comp=Z,12nm,0.7s						
CBKS	**Cedar Bluff**	**3.25**	**337**	IAmb_Lg		07 05 03.7	
	comp=Z,20nm,0.8s						
HHAR	**Hobbs**	**3.39**	**81**	IAmb_Lg		07 05 02.5	
	comp=Z,13nm,1.1s						
SN07	**Snyder 07**	**3.59**	**221**	IAmb_Lg		07 05 16.4	
	comp=Z,6.4nm,0.8s						
SN05	**Snyder 5**	**3.75**	**219**	IAmb_Lg		07 05 16.9	
	comp=Z,12nm,0.9s						
WHTX	**Lake Whitney,**	**3.87**	**172**	IAmb_Lg		07 05 27.0	
	comp=Z,7.0nm,0.9s						
MIAR	**Mount Ida**	**3.91**	**108**	IAmb_Lg		07 05 27.9	
	comp=Z,8.6nm,0.9s						
POST	**Post**	**3.95**	**227**	IAmb_Lg		07 05 30.0	
	comp=Z,11nm,0.9s						
MSTX	**Muleshoe**	**4.28**	**246**	IAmb_Lg		07 05 37.8	
	comp=Z,6.0nm,0.8s						
X40A	**Basin Creek Fa**	**4.51**	**106**	IAmb_Lg		07 05 42.1	
	comp=Z,7.6nm,0.7s						
BRDY	**Brady**	**4.60**	**190**	IAmb_Lg		07 05 41.2	
	comp=Z,5.0nm,0.8s						
SGCY	**Sterling City**	**4.66**	**214**	IAmb_Lg		07 05 54.3	
	comp=Z,12nm,0.9s						
WHAR	**Wooly Hollow**	**4.76**	**95**	IAmb_Lg		07 05 52.6	
	comp=Z,7.2nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.80**	**313**	IAmb_Lg		07 05 54.1	
	comp=Z,12nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.84**	**88**	IAmb_Lg		07 05 52.9	
	comp=Z,4.7nm,0.9s						
MGMO	**Mountain Grove**	**4.87**	**73**	IAmb_Lg		07 05 53.8	
	comp=Z,9.3nm,1.1s						
P38A	**Dawn**	**5.23**	**42**	IAmb_Lg		07 06 11.6	
	comp=Z,7.4nm,0.8s						
T25A	**Trinidad**	**5.26**	**286**	IAmb_Lg		07 06 07.4	
	comp=Z,7.4nm,0.8s						
R40A	**Maddies Statio**	**5.26**	**61**	IAmb_Lg		07 06 14.3	
	comp=Z,7.5nm,0.8s						
CCM	**Cathedral Cave**	**5.91**	**66**	IAmb_Lg		07 06 22.6	
	comp=Z,9.8nm,0.8s						
Q24A	**Divide**	**6.43**	**301**	IAmb_Lg		07 06 50.4	
	comp=Z,5.0nm,0.8s						
FVM	**French Village**	**6.50**	**68**	IAmb_Lg		07 06 50.8	
	comp=Z,7.7nm,1.0s						
ISCO	**Idaho Springs**	**7.15**	**306**	IAmb_Lg		07 07 06.0	
	comp=Z,3.1nm,0.9s						
S44A	**Carbondale**	**7.33**	**73**	IAmb_Lg		07 07 08.3	
	comp=Z,6.5nm,0.7s						
MNTX	**Cornudas Mount**	**7.34**	**238**	IAmb_Lg		07 07 20.5	
	comp=Z,2.8nm,0.7s						
RSSD	**Black Hills**	**9.45**	**333**	IAmb_Lg		07 08 10.8	
	comp=Z,3.3nm,1.0s						

IDC 27 07:23:25.5±1.3,12°.36N×143°.98E,h0km,mb3.6/3, mbtmp3.5/3,Error ellipse: s-maj=47.5km s-min=18.4km az=116.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.50**	**35**	Pn	Pg	07 23 54.5	+0.3
	36nm,0.3s,baz=41,slow=5.8,SNR=18						
GUMO				Sn	Sb	07 24 13.7	0.0
	31nm,0.3s,baz=213,slow=22,SNR=5.9						
WRA	**Warramunga Arr**	**33.48**	**197**	P	P	07 30 06.4	-0.3
	0.5nm,0.9s,baz=20,slow=9.7,SNR=5.7						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**37.14**	**195**	P	P	07 30 38.6	+0.4
	0.3nm,0.6s,baz=16,slow=9.8,SNR=6.5						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**91.90**	**335**	P	P	07 36 34.7	-0.9
	0.5nm,0.8s,baz=71,slow=6.7,SNR=3.4						
	0.5nm,0.8s						

*IDC **27** 07:57:29.2±1.3,26°.08S×70°.73E,h0km,mb4.1/7, mbtmp4.1/7,MS3.7/17,Error ellipse: s-maj=43.4km s-min=22.5km az=96.0*
ISC 27 07:57:30.8±1.3,26°.1S±0°.2×70°.7E±0°.4,h10km,n31, σ0s37/7,mb4.2/7,MS3.7/17,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**18.41**	**5**	T	T	08 20 33.2	
	baz=186,slow=76,SNR=68						
H08S2	**Diego Garcia H**	**18.41**	**6**	T	T	08 20 32.5	
	baz=186,slow=76,SNR=53						
H08S3	**Diego Garcia H**	**18.43**	**5**	T	T	08 20 31.6	
	baz=186,slow=76,SNR=59						
H04N2	**CROZET ISLANDS**	**25.09**	**212**	T	T	08 29 07.1	
	baz=44,slow=74,SNR=133						
H04N1	**CROZET ISLANDS**	**25.10**	**212**	T	T	08 29 06.6	
	baz=44,slow=74,SNR=82						
H04N3	**CROZET ISLANDS**	**25.11**	**212**	T	T	08 29 01.2	
	baz=44,slow=74,SNR=88						
PALK	**Pallekele**	**34.54**	**18**	LR	LR	08 14 40.8	
	comp=Z,211nm,20.7s,baz=190,slow=30						
H01W2	**Cape Leeuwin H**	**38.17**	**114**	T	T	08 45 25.0	
	baz=271,slow=75,SNR=74						
H01W3	**Cape Leeuwin H**	**38.17**	**114**	T	T	08 45 21.0	
	baz=271,slow=75,SNR=92						
H01W1	**Cape Leeuwin H**	**38.19**	**114**	T	T	08 45 20.8	
	baz=271,slow=75,SNR=85						
PSI	**Prapat**	**39.60**	**48**	LR	LR	08 18 47.6	
	comp=Z,104nm,18.8s,baz=229,slow=32						
BOSA	**Boshof**	**40.29**	**256**	LR	LR	08 18 23.5	
	comp=Z,149nm,19.2s,baz=67,slow=31						
LBTB	**Lobatse**	**40.58**	**261**	LR	LR	08 18 32.3	
	comp=Z,149nm,21.4s,baz=111,slow=31						
LSZ	**Lusaka**	**41.07**	**277**	LR	LR	08 20 03.4	
	comp=Z,121nm,18.5s,baz=170,slow=33						
MAW	**Mawson**	**41.81**	**185**	P	**P**	**08 05 20.6**	**+0.3**
	4.7nm,1.0s,baz=14,slow=7.0,SNR=5.1						
MAW				LR	LR	08 19 18.1	
	comp=Z,191nm,18.6s,baz=5.5,slow=31						
	4.7nm,1.0s						
KAPI	**Kappang**	**51.28**	**75**	LR	LR	08 26 23.8	
	comp=Z,28nm,18.2s,baz=222,slow=34						
CMAR	**Chiang Mai Arr**	**52.08**	**35**	P	**P**	**08 06 41.5**	**+0.4**
	1.3nm,0.3s,baz=217,slow=7.0,SNR=5.8						
CMAR				LR	LR	08 24 57.6	
	comp=Z,55nm,21.7s,baz=235,slow=32						
	1.3nm,0.3s						
BRDH	**Bariadhala**	**52.53**	**25**	LR	LR	08 25 16.8	
	comp=Z,116nm,20.6s,baz=165,slow=32						
ASAR	**Alice Springs**	**56.86**	**102**	P	**P**	**08 07 16.1**	**0.0**
	1.9nm,0.8s,baz=251,slow=6.5,SNR=19						
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**58.37**	**98**	P	**P**	**08 07 26.6**	**-0.2**
	2.8nm,1.0s,baz=254,slow=7.0,SNR=11						
	2.8nm,1.0s						
SNAA	**Sanae**	**60.31**	**200**	LR	LR	08 28 49.5	
	comp=Z,35nm,20.0s,baz=82,slow=31						
DAV	**Davao City (W)**	**62.58**	**66**	LR	LR	08 31 38.0	
	comp=Z,32nm,21.9s,baz=162,slow=33						
QSPA	**South Pole Qui**	**64.05**	**180**	LR	LR	08 32 11.6	
	comp=Z,44nm,19.3s,baz=256,slow=32						
VNDA	**Vanda**	**64.97**	**166**	P	**P**	**08 08 10.2**	**-0.2**
	2.7nm,1.0s,baz=269,slow=7.4,SNR=12						
	2.7nm,1.0s						
ASF	**Jabal al Asfar**	**66.31**	**329**	LR	LR	08 33 50.0	
	comp=Z,60nm,19.8s,baz=165,slow=33						
AAK	**Ala-Archa**	**68.47**	**3**	LR	LR	08 36 29.6	
	comp=Z,41nm,19.5s,baz=186,slow=34						
MKAR	**Makanchi Array**	**73.28**	**8**	P	**P**	**08 09 01.8**	**-0.4**
	0.6nm,0.8s,baz=193,slow=4.7,SNR=4.9						
	0.6nm,0.8s						
BVAR	**Borovoye Array**	**78.77**	**360**	LR	LR	08 42 26.4	
	comp=Z,43nm,19.7s,baz=209,slow=34						
SONM	**Songino Array**	**80.26**	**23**	P	**P**	**08 09 41.9**	**+0.2**
	3.2nm,1.1s,baz=205,slow=3.8,SNR=6.7						
	3.2nm,1.1s						
JNU	**Nakatsue**	**82.08**	**47**	LR	LR	08 44 49.5	
	comp=Z,24nm,19.4s,baz=229,slow=35						
MJAR	**Matsushiro Arr**	**88.96**	**48**	LR	LR	08 49 43.5	
	comp=Z,24nm,19.5s,baz=218,slow=35						

*IDC **27** 08:50:00.2±0.9,20°.72N×122°.20E,h0km,mb3.7/8, mbtmp3.7/10,ML3.6/2,MS3.2/5,Error ellipse: s-maj=32.7km s-min=17.4km az=66.0*
*JMA **27** 08:50:03.2±0.6,21°.N±2°×12°.2E±°,h0km,MV3.6/10, TAIWAN REGION*
ISC 27 08:50:05.2±0.9,20°.75N±0°.08×122°.3E±0°.1,h35km,n27, σ0s66/20,mb3.7/8,MS3.2/4,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**3.58**	**23**	*e*P	**Pn**	**08 50 58.5**	**+0.2**
HATJ				*e*S	**Sn**	**08 51 39.4**	**0.0**
IRIF	**Iriomote-Funau**	**3.81**	**21**	*e*P	**Pn**	**08 51 01.7**	**+0.2**
IRIF				*e*S	**Sn**	**08 51 44.8**	**-0.3**
JKRS	**Kuro-shima**	**3.82**	**25**	*e*S	**Sn**	**08 51 45.3**	**0.0**
JIJ	**Ishigaki jima**	**3.99**	**25**	*e*P	**Pn**	**08 51 03.5**	**-0.4**
JIJ				*e*S	**Sn**	**08 51 47.7**	**-1.7**
JISG	**Ishigakijimahi**	**4.26**	**26**	*e*P	**Pn**	**08 51 08.0**	**+0.5**
JISG				*e*S	**Sn**	**08 51 56.4**	**+0.4**
JTJ	**Tarama**	**4.47**	**30**	*e*S	**Sn**	**08 52 00.8**	**-0.7**
JOW	**Kunigami**	**8.18**	**41**	Pn	**Pn**	**08 52 01.9**	**+0.5**
	2.1nm,0.3s,baz=204,slow=10.0,SNR=6.1						
	4.5nm,0.4s						
DAV	**Davao City (W)**	**13.98**	**166**	LR	LR	08 58 34.5	
	comp=Z,75nm,21.7s,baz=348,slow=37						
KSRS	**Korea Array**	**17.35**	**15**	P	**Pn**	**08 54 05.6**	**+1.0**
	0.2nm,0.3s,baz=202,slow=12,SNR=5.8						
	1.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**22.09**	**268**	P	**P**	**08 54 57.8**	**+0.3**
	0.4nm,0.3s,baz=80,slow=11,SNR=1.5						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**41.52**	**318**	P	**P**	**08 57 49.7**	**+0.6**
	1.1nm,0.6s,baz=115,slow=10,SNR=5.4						
	1.1nm,0.6s						
YAK	**Yakutsk**	**41.56**	**5**	LR	LR	09 15 15.4	
	comp=Z,25nm,20.7s,baz=5.0,slow=36						
H11N1	**WAKE ISLAND Hy**	**41.79**	**83**	T	T	09 42 45.1	
	baz=280,slow=75,SNR=87						
H11N2	**WAKE ISLAND Hy**	**41.79**	**83**	T	T	09 42 45.8	
	baz=280,slow=75,SNR=67						
H11N3	**WAKE ISLAND Hy**	**41.80**	**83**	T	T	09 42 46.3	
	baz=280,slow=75,SNR=60						
H11S3	**WAKE ISLAND Hy**	**41.81**	**85**	T	T	09 42 49.8	
	baz=280,slow=75,SNR=284						
H11S1	**WAKE ISLAND Hy**	**41.82**	**85**	T	T	09 42 47.2	
	baz=280,slow=75,SNR=292						
H11S2	**WAKE ISLAND Hy**	**41.83**	**85**	T	T	09 42 47.7	
	baz=280,slow=75,SNR=218						
WRA	**Warramunga Arr**	**42.14**	**163**	P	**P**	**08 57 54.4**	**0.0**
	0.7nm,0.9s,baz=343,slow=9.1,SNR=5.5						
	0.7nm,0.9s						
ZALV	**Zalesovo Beam**	**43.67**	**329**	P	**P**	**08 58 06.4**	**-0.1**
	1.4nm,0.7s,baz=99,slow=9.1,SNR=5.2						
	1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**45.39**	**322**	P	**P**	**08 58 19.6**	**-0.6**
	1.5nm,0.7s,baz=118,slow=7.6,SNR=8.1						
	1.5nm,0.7s						
AAK	**Ala-Archa**	**45.42**	**310**	LR	LR	09 18 17.5	
	comp=Z,43nm,18.3s,baz=184,slow=37						
ASAR	**Alice Springs**	**45.59**	**165**	P	**P**	**08 58 22.3**	**+0.2**
	0.2nm,0.6s,baz=345,slow=7.2,SNR=5.5						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**50.97**	**322**	P	**P**	**08 59 02.2**	**-1.1**
	0.4nm,0.4s,baz=107,slow=7.7,SNR=1.8						
	0.4nm,0.4s						
STKA	**Stephens Creek**	**55.51**	**160**	P	**P**	**08 59 36.5**	**-0.4**
	1.8nm,1.0s,baz=348,slow=9.3,SNR=3.4						
	1.8nm,1.0s						
NOA	**NORSAR Array B**	**81.71**	**333**	LR	LR	09 40 23.9	
	comp=Z,7.1nm,18.6s,baz=270,slow=37						
NEW	**Newport**	**93.23**	**35**	LR	LR	09 47 17.4	
	comp=Z,28nm,18.2s,baz=82,slow=37						

*IDC **27** 09:10:00.8±1.0,20°.58N×122°.05E,h0km,mb3.7/7, mbtmp3.7/9,ML3.8/1,MS3.2/5,Error ellipse: s-maj=32.3km s-min=18.5km az=67.0*
*JMA **27** 09:10:02.5±1.0,21°.N±4°×12°.2E±°,h28km,MV3.8/12, PHILIPPINE ISL REGION*
ISC 27 09:10:05.9±1.0,20°.73N±0°.10×122°.2E±0°.1,h40km,n28, σ1s27/20,mb3.6/7,MS3.2/4,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**3.63**	**24**	*e*S	**Sn**	**09 11 40.3**	**-0.9**
YOJ	**Yonaguni jima**	**3.79**	**11**	*e*S	**Sn**	**09 11 44.4**	**-0.8**
IRIF	**Iriomote-Funau**	**3.86**	**21**	*e*P	**Pn**	**09 11 02.5**	**-0.2**
IRIF				*e*S	**Sn**	**09 11 46.2**	**-0.7**
JKRS	**Kuro-shima**	**3.88**	**25**	*e*P	**Pn**	**09 11 03.2**	**+0.2**
JKRS				*e*S	**Sn**	**09 11 46.5**	**-0.7**
JIJ	**Ishigaki jima**	**4.04**	**26**	*e*P	**Pn**	**09 11 03.6**	**+0.3**
JIJ				*e*S	**Sn**	**09 11 49.3**	**-2.1**
JISG	**Ishigakijimahi**	**4.31**	**27**	*e*S	**Sn**	**09 11 56.8**	**-1.1**
JTJ	**Tarama**	**4.53**	**30**	*e*S	**Sn**	**09 12 02.1**	**-1.3**
JOW	**Kunigami**	**8.24**	**41**	Pn	**Pn**	**09 12 02.7**	**-0.2**
	2.6nm,0.3s,baz=202,slow=11,SNR=6.9						
	4.5nm,0.3s						
JOW	**Kunigami**	**8.24**	**41**	*e*P	**Pn**	**09 12 03.8**	**+0.9**
DAV	**Davao City (W)**	**13.97**	**166**	LR	LR	09 18 57.7	
	comp=Z,74nm,20.4s,baz=354,slow=39						
KSRS	**Korea Array**	**17.39**	**15**	P	**P**	**09 14 08.5**	**+2.0**
	0.6nm,0.6s,baz=200,slow=12,SNR=2.4						
CMAR	**Chiang Mai Arr**	**22.01**	**268**	P	**P**	**09 14 54.8**	**-2.2**
	0.4nm,0.3s,baz=59,slow=9.8,SNR=4.6						
	0.4nm,0.3s						
SONM	**Songino Array**	**29.90**	**338**	LR	LR	09 29 19.4	
	comp=Z,48nm,20.3s,baz=260,slow=39						
MKAR	**Makanchi Array**	**41.49**	**318**	P	**P**	**09 17 49.8**	**+0.7**
	0.7nm,0.6s,baz=114,slow=9.0,SNR=6.8						
	0.7nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**41.86**	**83**	T	T	10 02 53.2	
	baz=274,slow=74,SNR=87						
H11N2	**WAKE ISLAND Hy**	**41.86**	**83**	T	T	10 02 51.3	
	baz=274,slow=74,SNR=130						
H11N3	**WAKE ISLAND Hy**	**41.88**	**83**	T	T	10 02 50.5	
	baz=274,slow=74,SNR=114						
H11S3	**WAKE ISLAND Hy**	**41.88**	**85**	T	T	10 02 49.6	
	baz=281,slow=75,SNR=379						
H11S1	**WAKE ISLAND Hy**	**41.89**	**85**	T	T	10 02 47.2	
	baz=281,slow=75,SNR=256						
H11S2	**WAKE ISLAND Hy**	**41.90**	**85**	T	T	10 02 49.9	
	baz=281,slow=75,SNR=368						
WRA	**Warramunga Arr**	**42.14**	**163**	P	**P**	**09 17 53.9**	**-0.6**
	0.8nm,0.9s,baz=342,slow=9.1,SNR=6.9						
	0.8nm,0.9s						
PALK	**Pallekele**	**42.28**	**258**	LR	LR	09 35 11.1	
	comp=Z,29nm,18.1s,baz=209,slow=36						
ZALV	**Zalesovo Beam**	**43.65**	**329**	P	**P**	**09 18 07.1**	**+0.6**
	1.4nm,0.5s,baz=106,slow=8.0,SNR=5.7						
	1.4nm,0.5s						
KURBB	**Kurchatov Arra**	**45.36**	**322**	P	**P**	**09 18 20.2**	**+0.1**
	0.7nm,0.4s,baz=119,slow=7.4,SNR=4.6						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**45.58**	**165**	P	**P**	**09 18 22.3**	**0.0**
	0.3nm,0.5s,baz=352,slow=14,SNR=9.5						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**50.94**	**322**	P	**P**	**09 19 05.8**	**+2.6**
	0.5nm,0.5s,baz=91,slow=8.6,SNR=3.1						
	0.5nm,0.5s						
TIXI	**Tiksi**	**51.08**	**3**	LR	LR	09 42 28.0	
	comp=Z,23nm,18.2s,baz=352,slow=38						
BELG	**Belogornoye**	**64.48**	**319**	LR	LR	09 50 27.6	
	comp=Z,37nm,21.0s,baz=199,slow=38						

*IDC **27** 09:16:15.6±0.9,37°.11S×17°.15W,h0km,mb4.0/8, mbtmp4.0/8,MS3.8/13,Error ellipse: s-maj=27.8km s-min=24.5km az=113.0*
*NEIC **27** 09:16:17.0±0.8,37°.06S±0°.09×17°.3W±0°.1,h10km±1km, mb4.6/15,Error ellipse: s-maj=23.1km s-min=9.6km az=126.0*
ISC 27 09:16:16.6±0.6,37°.1S±0°.1×17°.3W±0°.1,h10km,n43, σ0s82/28,mb4.4/16,MS3.8/13,4C,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**28.08**	**6**	T	T	09 51 30.2	
	baz=185,slow=74,SNR=52						
H10S3	**ASCENSION HYDR**	**28.08**	**5**	T	T	09 51 30.5	
	baz=35,slow=74,SNR=46						
H10N1	**ASCENSION HYDR**	**29.19**	**6**	T	T	09 52 50.7	
	baz=190,slow=79,SNR=4.5						
H10N3	**ASCENSION HYDR**	**29.19**	**6**	T	T	09 52 53.4	
	baz=190,slow=79,SNR=26						
H10N2	**ASCENSION HYDR**	**29.21**	**6**	T	T	09 52 48.5	
	baz=190,slow=79,SNR=12						
VNA1	**Neumayer--Stat**	**33.99**	**175**	⇑P	**P**	**09 23 00.5**	**+0.5**
	comp=Z,4.3nm,0.9s						
VNA3	**Neumayer Olym

PB16					IAmb	IAmb	09 25 46.1	
	comp=Z,9.4nm,1.5s							
LPAZ	**La Paz**	**49.29**	**281**	P		**P**	**09 25 05.0**	**-1.7**
LPAZ	**La Paz**	**49.29**	**281**	P		**P**	**09 25 08.4**	**+1.8**
	comp=Z,1.0nm,0.9s,baz=166,slow=4.2,SNR=3.7							
LPAZ				LR		LR	09 45 50.6	
	comp=Z,83nm,18.1s,baz=97,slow=36							
	comp=Z,1.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**53.04**	**23**	P		**P**	**09 25 33.6**	**-0.3**
QSPA	**South Pole Qui**	**53.20**	**180**	P		**P**	**09 25 35.9**	**+1.1**
QSPA					IAmb	IAmb	09 25 38.3	
	comp=Z,13nm,1.1s							
QSPA	**South Pole Qui**	**53.20**	**180**	P		**P**	**09 25 35.4**	**+0.6**
	comp=Z,7.5nm,1.0s,baz=213,slow=3.1,SNR=18							
	comp=Z,7.5nm,1.0s							
MDP	**Montagnes des**	**53.36**	**314**	LR		LR	09 46 54.3	
	comp=Z,96nm,18.4s,baz=131,slow=34							
BOAV	**Boa Vista**	**56.13**	**304**	P		**P**	**09 25 56.1**	**-0.5**
BOAV					IAmb	IAmb	09 25 58.8	
	comp=Z,4.5nm,1.2s							
NNA	**Nana**	**58.65**	**279**	LR		LR	09 50 43.2	
	comp=Z,39nm,21.9s,baz=116,slow=35							
PCRV	**Puerto La Cruz**	**64.65**	**307**	LR		LR	09 53 38.0	
	comp=Z,79nm,18.1s,slow=35							
SBA	**Scott Base**	**65.33**	**181**	P		**P**	**09 26 59.2**	**+0.9**
SBA					IAmb	IAmb	09 27 00.8	
	comp=Z,6.9nm,1.2s							
VNDA	**Vanda**	**65.69**	**180**	P		**P**	**09 27 01.3**	**+0.6**
	comp=Z,1.0nm,1.0s,baz=97,slow=4.3,SNR=4.2							
	comp=Z,1.0nm,1.0s							
KEST	**Kesra**	**76.53**	**22**	LR		LR	09 58 38.7	
	comp=Z,126nm,20.1s,baz=290,slow=33							
ESDC	**Sonseca Array**	**77.34**	**10**	P		**P**	**09 28 12.1**	**+0.8**
	comp=Z,1.3nm,1.0s,baz=162,slow=5.5,SNR=4.6							
	comp=Z,1.3nm,1.0s							
BRTR	**Keskin Array B**	**89.60**	**37**	P		**P**	**09 29 14.5**	**+0.1**
BRTR	**Keskin Array B**	**89.60**	**37**	P		**P**	**09 29 15.3**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=215,slow=7.0,SNR=3.6							
	comp=Z,0.7nm,0.8s							
GRFO	**Grafenberg**	**89.98**	**18**	P		**P**	**09 29 16.2**	**+0.5**
GRFO					IAmb	IAmb	09 29 18.2	
	comp=Z,11nm,1.3s							

NEIC ***27*** *09:37:40.7±2.4,36°685N±0°008×121°35W±0°01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.7km az=52.0*

NCEDC 27 09:37:41.2±2.4,36°694N±0°008×121°32W±0°02, h4km±3km, Mwr3.7/3, ML3.4/104(NEIC), **Error ellipse: s-maj=2.1km s-min=1.0km az=68.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJOM	**Mount Johnson**	**0.07**	**173**		Pg	09 37 43.0	+0.3
BJOM					Sg	09 37 44.6	+1.0
SCZ	**Santa Cruz**	**0.12**	**214**		Pg	09 37 43.4	-0.1
SCZ	**Santa Cruz**	**0.12**	**214**	IAML		09 37 45.5	
	comp=E,38μm,0.5s						
SCZ				IAML		09 37 45.5	
	comp=N,28μm,0.3s						
SAO	**San Andreas Ge**	**0.12**	**305**		Pg	09 37 43.5	-0.2
FRP	**Fremont Peak**	**0.15**	**294**		Pg	09 37 44.1	0.0
BJCM	**Johnson Can.**	**0.16**	**201**		Pg	09 37 44.2	-0.1
BSRM	**Salinas Radio**	**0.16**	**260**		Pg	09 37 44.4	0.0
HJGM	**San Juan Grade**	**0.23**	**297**		Pg	09 37 44.1	-1.5
BBGB	**Big Mountain B**	**0.26**	**117**		Pb	09 37 47.5	-1.0
BSGM	**Shirttail Gulc**	**0.28**	**169**		Pg	09 37 46.6	-0.1
BSGM					Sg	09 37 50.6	+0.1
HTUM	**Tustin Road**	**0.29**	**298**		Pg	09 37 46.9	+0.1
HTUM					Sg	09 37 51.3	+0.7
HFEM	**San Felipe**	**0.30**	**348**		Pg	09 37 48.0	+1.0
BSMM	**Soledad Missio**	**0.32**	**195**		Pg	09 37 47.6	+0.2
HERM	**Elkhorn Road**	**0.33**	**289**		Pg	09 37 47.9	+0.3
HCAM	**Canada Road**	**0.35**	**339**		Pb	09 37 49.2	-0.9
HCBM	**Chamberlain**	**0.36**	**311**		Pg	09 37 48.3	+0.1
HCOM	**Corn Cob Canyo**	**0.36**	**302**		Pg	09 37 48.5	+0.3
HPCM	**Pacheco Lake**	**0.37**	**6**		Pg	09 37 49.3	+0.9
SLD	**San Luis Dam**	**0.39**	**12**		Pg	09 37 49.5	+0.8
GHS	**Gilroy Hot Spr**	**0.41**	**346**		Pg	09 37 50.1	+0.9
HLPM	**Lions Peak**	**0.43**	**325**		Pg	09 37 50.1	+0.7
BMSM	**Mercy Hot Spri**	**0.43**	**95**		Pb	09 37 50.6	-0.8
BCWM	**Chews Ridge**	**0.43**	**207**		Pg	09 37 49.7	+0.1
BPRM	**Ponciano Ridge**	**0.43**	**229**		Pg	09 37 49.6	0.0
BPRM					Sg	09 37 56.2	+0.9
JELB	**Ellicott, Sant**	**0.47**	**300**		Pg	09 37 50.4	+0.2
LRC	**Lone Oak Road**	**0.50**	**153**		Pg	09 37 50.9	+0.1
CADM	**Anderson Res.**	**0.53**	**333**		Pg	09 37 52.0	+0.6
SCKWR	**San Luis Creek**	**0.53**	**22**		Pb	09 37 52.7	-0.3
JLAB	**Laurel Hill**	**0.57**	**324**		Pg	09 37 52.7	+0.6
PCCM	**Crazy Canyon**	**0.62**	**168**		Pg	09 37 53.2	+0.1
CCOB	**Coe Ranch Numb**	**0.63**	**334**		Pb	09 37 54.5	-0.3
PMPB	**Monarch Peak**	**0.64**	**138**		Pg	09 37 53.6	+0.2
ARN	**Arnold Ranch**	**0.68**	**346**		Pb	09 37 55.0	-0.6
HULI	**Fort Hunter Li**	**0.68**	**174**		Pg	09 37 54.0	-0.2
HULI	**Fort Hunter Li**	**0.68**	**174**	IAML		09 38 14.3	
	comp=E,3μm,0.5s						
HULI				IAML		09 38 16.1	
	comp=N,3μm,0.7s						
C072	**Blauer Lane Sa**	**0.69**	**330**		Pb	09 37 55.8	0.0
MHC	**Mount Hamilton**	**0.69**	**339**		Pg	09 37 55.3	+0.7
C054	**Valleyhaven Wa**	**0.70**	**325**		Pg	09 37 55.3	+0.6
JJOM	**Saint Joseph's**	**0.73**	**315**		Pg	09 37 55.1	-0.2
SCCB	**Santa Clara Co**	**0.73**	**324**		Pb	09 37 56.0	-0.5
PSAM	**San Ardo**	**0.75**	**152**		Pg	09 37 55.5	-0.2
PPTM	**Peach Tree Val**	**0.76**	**140**		Pg	09 37 55.7	-0.1
C041	**El Campo Drive**	**0.79**	**330**		Pb	09 37 57.7	+0.2
C046	**N 16th Street**	**0.80**	**326**		Pg	09 37 56.8	+0.3
MTOS	**Mt Oso, Westle**	**0.81**	**360**		Pb	09 37 57.8	-0.1
MTOS	**Mt Oso, Westle**	**0.81**	**360**	IAML		09 38 12.7	
	comp=E,2μm,1.1s						
MTOS				IAML		09 38 13.9	
	comp=N,1μm,0.7s						
CMLM	**Mount Lewis**	**0.82**	**342**		Pb	09 37 57.8	-0.4
PSMM	**Smith Mountain**	**0.86**	**136**		Pg	09 37 57.8	+0.1
JSJM	**St Joseph**	**0.89**	**316**		Pg	09 37 58.5	+0.2
JBMM	**Black Mountain**	**0.91**	**313**		Pg	09 37 58.1	-0.5
PHPM	**Hope Ranch**	**0.92**	**141**		Pg	09 37 58.3	-0.5
JFP	**Foothills Park**	**0.96**	**314**		Pg	09 37 59.1	-0.6
JPSM		**0.96**	**302**		Pg	09 37 58.8	-0.9
PKD	**Bear Valley Ra**	**0.98**	**140**		Pg	09 37 59.4	-0.6
JSFB	**Stanford Teles**	**0.98**	**316**		Pg	09 37 59.5	-0.6
WENL	**Wente Vineyard**	**0.99**	**340**		Pg	09 37 59.3	-0.9
MYLM	**Yosemite Lake**	**1.00**	**46**		Pg	09 38 00.4	+0.1
PVCM	**Vineyard Canyo**	**1.00**	**140**		Pg	09 37 59.9	-0.5
PPO	**Portuguese Can**	**1.00**	**145**		Pg	09 38 00.3	-0.1
PSTM	**Stockdale Moun**	**1.01**	**139**		Pg	09 38 00.0	-0.5
CVLM	**Vallecito**	**1.02**	**336**		Pg	09 38 00.9	+0.2
JRSC	**Jasper Ridge**	**1.02**	**314**		Pg	09 37 59.7	-1.0
WSRE	**Westside REC,**	**1.03**	**110**		Pb	09 38 01.7	+0.1
CBZL	**Buffer Zone**	**1.04**	**343**		Pb	09 38 01.7	-0.2
CNIC	**Niles Canyon**	**1.05**	**331**		Pg	09 38 00.7	-0.6
LEGD	**La Grand CA**	**1.07**	**61**		Pg	09 38 01.5	-0.3
CTM	**Castle Mountai**	**1.10**	**133**		Pb	09 38 02.7	-0.1
PHFM	**Heflinger Ranc**	**1.10**	**137**		Pg	09 38 01.7	-0.6
RAMR	**Ramage Ranch**	**1.12**	**161**		Pg	09 38 01.6	-1.0
LCUV	**Le Cuvier**	**1.14**	**155**		Pg	09 38 02.0	-1.2
CBSNC	**Byron Hot Spri**	**1.15**	**347**		Pg	09 38 03.3	0.0
GHC	**Gold Hill**	**1.17**	**137**		Pg	09 38 02.8	-0.8
JCHM	**Cahill Ridge**	**1.18**	**315**		Pg	09 38 02.3	-1.5
PCBM	**Cambria**	**1.19**	**170**		Pg	09 38 02.6	-1.5
JCPM	**Coyote Point**	**1.20**	**319**		Pg	09 38 02.4	-1.8
CSLM	**San Leandro Hi**	**1.21**	**329**		Pg	09 38 02.8	-1.6
PKLM	**Kerr Lake**	**1.22**	**139**		Pg	09 38 03.4	-1.1
MHDM	**Hidden Dam**	**1.22**	**69**		Pg	09 38 03.7	-0.9
SAC	**San Andreas**	**1.25**	**316**		Pg	09 38 03.3	-1.8
TCAS	**Cass Winery, P**	**1.25**	**150**		Pg	09 38 03.9	-1.2
TCHL	**Shandon**	**1.25**	**143**		Pg	09 38 03.8	-1.4
PMRM	**Maxey Ranch**	**1.26**	**136**		Pg	09 38 04.3	-1.2
BGC	**Bolinger Road**	**1.27**	**332**		Pg	09 38 04.1	-1.4
PAGB	**Antelope Grade**	**1.29**	**138**		Pg	09 38 04.4	-1.6
JSBM	**San Bruno Moun**	**1.30**	**319**		Pn	09 38 03.6	-2.6
JMGM	**Milagra Ridge**	**1.32**	**316**		Pn	09 38 04.0	-2.3
TRAM	**Private Proper**	**1.32**	**140**		Pn	09 38 05.6	-1.0
BDM	**Black Diamond**	**1.33**	**341**		Pn	09 38 05.8	-0.7
BUCR	**Buckhorn Ranch**	**1.35**	**43**		Pn	09 38 06.2	-0.8
BUCR	**Buckhorn Ranch**	**1.35**	**43**	IAML		09 38 28.7	
	comp=E,512nm,1.1s						
BUCR				IAML		09 38 29.4	
	comp=N,583nm,0.8s						
BKS	**Berkeley--Byer**	**1.39**	**329**		Pn	09 38 04.9	-2.4
CYBM	**Yerba Buena Is**	**1.39**	**324**		Pn	09 38 04.9	-2.5
PTAM	**Tassajara Cree**	**1.39**	**159**		Pn	09 38 05.7	-1.8
BL67	**Building 67, L**	**1.39**	**328**		Pn	09 38 05.9	-1.6
TSCN	**Private Proper**	**1.39**	**145**		Pn	09 38 05.8	-1.6
VAK	**Adit at Lawren**	**1.39**	**328**		Pn	09 38 05.3	-2.1
JPRM	**Presidio of Sa**	**1.43**	**320**		Pn	09 38 05.2	-2.7
LSDC	**Los Osos Digit**	**1.45**	**164**		Pn	09 38 06.9	-1.3
MMIM	**Miami Mountain**	**1.46**	**60**		Pn	09 38 07.7	-0.8
KARE	**Kearney REC, C**	**1.47**	**93**		Pn	09 38 07.5	-1.0
CPIM	**Pinole Ridge**	**1.48**	**331**		Pn	09 38 07.1	-1.5
TRAY	**Twisselman Ran**	**1.50**	**139**		Pn	09 38 07.3	-1.5
CPMM	**Point Molate**	**1.52**	**326**		Pn	09 38 06.8	-2.4
DPD	**Davis Peak**	**1.52**	**163**		Pn	09 38 07.7	-1.6
DCD	**Diablo Creek**	**1.53**	**165**		Pn	09 38 07.1	-2.2
CMB	**Columbia Colle**	**1.53**	**29**		Pn	09 38 08.2	-1.2
NLHM	**Lake Herman**	**1.57**	**335**		Pn	09 38 08.8	-1.1
FARB	**Farallon Islan**	**1.67**	**307**		Pn	09 38 09.1	-2.2
FARB	**Farallon Islan**	**1.67**	**307**	IAML		09 38 41.2	
	comp=N,314nm,1.0s						
KCC	**Kaiser Creek**	**1.72**	**68**		Pn	09 38 12.4	+0.3
SMMC	**Simmler**	**1.75**	**142**		Pn	09 38 10.9	-1.5
NOLM	**Olema**	**1.78**	**319**		Pn	09 38 10.1	-2.7
WELL	**Weller Preserv**	**1.81**	**15**		Pn	09 38 12.3	-0.8
NADM	**Allendale**	**1.84**	**344**		Pn	09 38 13.4	-0.1
NPRM	**Point Reyes**	**1.87**	**314**		Pn	09 38 11.3	-2.7
CVS	**Carmenet Viney**	**1.88**	**332**		Pn	09 38 12.0	-2.1
QRDG	**Quail Ridge Na**	**1.90**	**340**		Pn	09 38 13.4	-1.0
MCCM	**Marconi Confer**	**1.91**	**320**		Pn	09 38 12.1	-2.4
MCCM				IAML		09 38 46.1	
	comp=E,250nm,1.3s						
MCCM				IAML		09 38 52.5	
	comp=N,264nm,1.1s						
OAKV	**Oakville Exper**	**1.94**	**334**		Pn	09 38 12.4	-2.4
CRGC	**Crocker Grade**	**1.94**	**138**		Pn	09 38 14.7	-0.4
NTYM	**Taylor**	**2.00**	**328**		Pn	09 38 14.1	-1.6
VES	**Vestal, Richgr**	**2.00**	**115**		Pn	09 38 14.1	-1.7
MRDM	**Red Cones**	**2.02**	**63**		Pn	09 38 17.4	+1.1
MINS	**Minaret Summit**	**2.04**	**61**		Pn	09 38 17.4	+0.8
MMPM	**Mammoth Pass**	**2.05**	**63**		Pn	09 38 17.8	+1.0
MLIM	**Lincoln Peak**	**2.07**	**62**		Pn	09 38 18.3	+1.2
MDYM	**Dry Creek**	**2.08**	**62**		Pn	09 38 18.1	+1.0
MDCM	**Deadman Creek**	**2.08**	**60**		Pn	09 38 18.1	+0.9
MMLB	**Mammoth Lakes**	**2.11**	**62**		Pb	09 38 18.9	-1.2
MLCM	**Laurel Creek C**	**2.13**	**64**		Pn	09 38 18.9	+1.1
MEMM	**East Mammoth H**	**2.14**	**62**		Pn	09 38 19.2	+1.3
MGPM	**Gravel Pit**	**2.15**	**64**		Pb	09 38 19.8	-1.0
MCSM	**Casa Diablo Ho**	**2.16**	**63**		Pn	09 38 19.4	+1.3
MCBM	**Casa Benchmark**	**2.16**	**63**		Pn	09 38 19.5	+1.3
PKM	**Mcpherson Peak**	**2.18**	**145**		Pn	09 38 17.2	-1.2
MDRNC	**Doe Ridge**	**2.20**	**64**		Pb	09 38 20.6	-1.1
MLHM	**Little Hot Cre**	**2.23**	**63**		Pb	09 38 21.5	-0.7
FIGC	**Figueroa Mtn.**	**2.24**	**151**		Pn	09 38 17.9	-1.3
AFDM	**Forest Hills D**	**2.27**	**7**		Pn	09 38 19.1	-0.4
GAXM	**Alexander Vall**	**2.31**	**331**		Pn	09 38 17.7	-2.4
BCW	**Bitter Crk WRg**	**2.34**	**138**		Pn	09 38 20.9	+0.3
WAKR	**Walker**	**2.35**	**39**		Pn	09 38 21.9	+1.2
WAKR				IAML		09 39 00.5	
	comp=N,297nm,1.2s						
WAKR				IAML		09 39 02.9	
	comp=E,242nm,0.8s						
NJQ	**Nojoqui County**	**2.35**	**156**		Pn	09 38 19.4	-1.1
MNRC	**McLaughlin Min**	**2.35**	**338**		Pn	09 38 19.4	-1.3
GDXM	**Geysers**	**2.41**	**332**		Pn	09 38 19.4	-2.1
WASM	**Alta Sierra Ca**	**2.43**	**112**		Pn	09 38 21.8	-0.1
TIN	**Tinemaha, Big**	**2.51**	**81**		Pn	09 38 22.3	-0.6
ISA	**Isabella, Lake**	**2.52**	**113**		Pn	09 38 22.9	-0.1
ISA				IAML		09 38 58.1	
	comp=N,271nm,1.0s						
ISA				IAML		09 39 10.9	
	comp=E,192nm,0.9s						
ARVC	**Arvin**	**2.56**	**127**		Pn	09 38 23.2	-0.2
SUTB	**Sutter Butte**	**2.56**	**352**		Pn	09 38 22.0	-1.4
SUTB	**Sutter Butte**	**2.56**	**352**	IAML		09 39 28.7	
	comp=N,136nm,0.9s						
SUTB				IAML		09 39 33.3	
	comp=E,164nm,0.6s						
SFRE	**Sierra Foothil**	**2.56**	**0**		Pn	09 38 22.9	-0.5
SBC	**Santa Barbara**	**2.60**	**149**		Pn	09 38 23.0	-1.1
OSUM	**Sutter Buttes**	**2.61**	**351**		Pn	09 38 22.3	-1.8
CWC	**Cottonwood Cre**	**2.62**	**95**		Pn	09 38 24.8	+0.3
CWC				IAML		09 39 04.0	
	comp=E,150nm,0.6s						
CWC				IAML		09 39 13.0	
	comp=N,185nm,0.5s						
HOPS	**Hopland Field**	**2.68**	**329**		Pn	09 38 23.1	-2.0
WORM	**Onyx Ranch**	**2.68**	**111**		Pn	09 38 23.4	-1.9
ORV	**Oroville**	**2.86**	**357**		Pn	09 38 27.1	-0.5
OSI	**Osito Audit: C**	**2.96**	**134**		Pn	09 38 28.8	-0.2
OSI				IAML		09 39 34.3	
	comp=E,183nm,1.0s						
OSI				IAML		09 39 46.0	
	comp=N,118nm,0.9s						
NV11	**Mina Array Sit**	**3.06**	**54**		Pn	09 38 33.3	+2.9
NV11				IAML		09 39 28.0	
	comp=E,132nm,1.6s						
NV11				IAML		09 39 31.9	
	comp=N,138nm,1.3s						
TPO	**Tropico Hills**	**3.10**	**125**		Pn	09 38 31.0	0.0
TPO				IAML		09 39 35.3	
	comp=N,187nm,0.9s						
TPO				IAML		09 39 51.0	
	comp=E,163nm,1.0s						
GRAC	**Grapevine Rang**	**3.19**	**83**		Pn	09 38 34.1	+1.9
LRMC	**Laurel Mtn Rad**	**3.19**	**111**		Pn	09 38 32.3	+0.1
LRMC				IAML		09 39 32.3	
	comp=E,101nm,0.7s						
LRMC				IAML		09 39 34.8	
	comp=N,108nm,1.4s						
PAHR	**Pah Rah Range**	**3.37**	**26**		Pn	09 38 34.6	-0.2
PAHR				IAML		09 39 37.6	
	comp=E,69nm,1.7s						
PASC	**Pasadena Art C**	**3.59**	**134**		Pn	09 38 37.3	-0.3
PASC				IAML		09 39 30.0	
	comp=E,47nm,0.9s						
FURC	**Furnace Creek,**	**3.60**	**92**		Pn	09 38 37.5	-0.1
MWC	**Mount Wilson**	**3.63**	**132**		Pn	09 38 37.6	-0.8
MWC				IAML		09 39 34.0	
	comp=N,80nm,1.0s						
MWC				IAML		09 39 57.2	
	comp=E,69nm,1.4s						
O02D	**Mt. Diablo Mer**	**3.66**	**342**	Pn	Pn	09 38 38.5	-0.2
QSM	**Queen of Sheba**	**3.67**	**100**		Pn	09 38 38.9	+0.2
QSM				IAML		09 39 55.5	
	comp=E,60nm,1.0s						
QSM				IAML		09 40 00.8	
	comp=N,82nm,1.5s						
BFSC	**Mount Baldy Ra**	**3.87**	**128**		Pn	09 38 41.0	-0.6
BFSC				IAML		09 40 02.8	
	comp=N,42nm,0.8s						
BFSC				IAML		09 40 07.1	
	comp=E,47nm,1.0s						
GSC	**Goldstone, Bar**	**3.92**	**109**		Pn	09 38 42.2	0.0
GSC				IAML		09 39 50.7	
	comp=N,68nm,1.2s						
KMRM	**Mail Ridge**	**3.99**	**333**	Pn	Pn	09 38 42.9	-0.3
KMRM				IAML		09 40 35.6	
	comp=E,40nm,3.8s						
KMRM				IAML		09 40 39.9	
	comp=N,41nm,3.4s						
SHOC	**Shoshone, Teco**	**4.15**	**100**		Pn	09 38 45.6	+0.2
ELS	**Elsinore Mount**	**4.41**	**132**		Pn	09 38 48.4	-0.5
MTPC	**Mountain Pass**	**4.83**	**103**		Pn	09 38 53.4	-1.4
MTPC				IAML		09 40 27.6	
	comp=N,19nm,0.8s						
PFO	**Pinyon Flats O**	**5.03**	**126**	Pn	Pn	09 38 57.3	-0.3
PFO				IAML		09 40 17.2	
	comp=N,16nm,1.3s						
BELC	**Belle Mtn. Jos**	**5.11**	**120**		Pn	09 38 57.6	-1.1
BELC				IAML		09 40 41.0	
	comp=N,19nm,1.6s						
BELC				IAML		09 40 47.1	
	comp=E,27nm,1.5s						
VTX	**Valle De La Tr**	**7.01**	**137**	Pn	Pn	09 39 23.7	-0.9

IDC ***27*** *09:44:47.9±0.8,59°80S×151°43W,h0km,mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=34.4km s-min=21.5km az=21.0*

ISC 27 09:44:49.4±0.7,59°8S±0°1×151°5W±0°2,h10km,n28, σ2s20/17,mb4.1/9,4D,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**30.31**	**180**	P	**P**	**09 51 02.8**	**+2.1**
	5.5nm,1.0s,baz=67,slow=2.0,SNR=13						
TBI	**Tubuai**	**36.48**	**3**	*e*S	**S**	**09 57 41.2**	**+5.1**
	558nm,37.8s						
TBI				*e*LR	LR	10 01 42.9	
	3μm,24.2s						
PPT2	**Papeete2**	**42.20**	**3**	*e*S	**S**	**09 58 57.9**	**-4.5**
	93nm,24.0s						
PPT2				*e*LR	LR	10 04 06.7	
	747nm,27.0s						
PPT2				*e*LR	LR	10 04 18.8	
	937nm,24.8s						
VNA3	**Neumayer Olymp**	**46.52**	**164**	⇓P	**P**	**09 53 15.4**	**-0.9**
	comp=Z,3.5nm,1.0s						
SNAA	**Sanae**	**46.99**	**167**	⇓P	**P**	**09 53 19.1**	**-0.9**
	comp=Z,41nm,0.9s						
SNAA	**Sanae**	**46.99**	**167**	P	**P**	**09 53 18.8**	**-1.3**
	comp=Z,2.0nm,1.0s,baz=210,slow=10.0,SNR=7.0						
	comp=Z,2.0nm,1.0s						
TROLL	**Troll, Antarti**	**47.23**	**169**	⇓P	**P**	**09 53 21.9**	**-0.1**
	comp=Z,114nm,0.8s						
VNA1	**Neumayer--Stat**	**47.26**	**164**	⇓P	**P**	**09 53 21.5**	**-0.5**
	comp=Z,9.0nm,1.0s						
DZM	**Mont Dzumac**	**47.89**	**303**	*e*LR	LR	10 07 26.6	
	comp=Z,288nm,25.9s						
STKA	**Stephens Creek**	**51.51**	**272**	P	**P**	**09 53 54.2**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=160,slow=10,SNR=2.9						
	comp=Z,1.1nm,0.7s						
TAOE	**Nuku Hiva Isla**	**51.58**	**14**	*e*LR	LR	10 08 47.6	
	comp=Z,436nm,25.1s						
PLCA	**Paso Flores**	**51.60**	**107**	P	**P**	**09 53 55.2**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=198,slow=6.4,SNR=3.9						
	comp=Z,1.2nm,0.8s						
H03S2	**Juan Fernandez**	**52.84**	**95**	T	T	10 50 49.3	
	baz=216,slow=74,SNR=152						
H03S1	**Juan Fernandez**	**52.85**	**95**	T	T	10 50 58.6	
	baz=216,slow=74,SNR=135						
H03S3	**Juan Fernandez**	**52.86**	**95**	T	T	10 50 57.9	
	baz=216,slow=74,SNR=210						
H03N3	**Juan Fernandez**	**53.15**	**94**	T	T	10 51 08.2	
	baz=218,slow=72,SNR=150						
H03N2	**Juan Fernandez**	**53.16**	**94**	T	T	10 51 11.1	
	baz=218,slow=72,SNR=167						
H03N1	**Juan Fernandez**	**53.16**	**94**	T	T	10 51 04.8	
	baz=218,slow=72,SNR=113						
ASAR	**Alice Springs**	**62.11**	**271**	P	**P**	**09 55 11.2**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=142,slow=6.7,SNR=12						
	comp=Z,1.2nm,0.8s						
H01W1	**Cape Leeuwin H**	**62.60**	**247**	T	T	11 04 15.3	
	baz=145,slow=76,SNR=26						
H01W2	**Cape Leeuwin H**	**62.60**	**247**	T	T	11 04 15.1	
	baz=145,slow=76,SNR=21						
H01W3	**Cape Leeuwin H**	**62.62**	**247**	T	T	11 04 17.4	
	baz=145,slow=76,SNR=22						
WRA	**Warramunga Arr**	**65.00**	**273**	P	**P**	**09 55 30.2**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=159,slow=5.8,SNR=3.3						
	comp=Z,0.6nm,0.9s						
LPAZ	**La Paz**	**72.77**	**93**	P	**P**	**09 56 19.4**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=252,slow=3.2,SNR=2.2						
	comp=Z,0.7nm,0.8s						
ILAR	**Eielson Array**	**124.33**	**2**	PKP	**PKiKP**	**10 03 48.8**	**+1.7**
	comp=Z,1.1nm,0.9s,baz=233,slow=2.2,SNR=8.1						
MKAR	**Makanchi Array**	**146.30**	**272**	PKPbc	**PKPab**	**10 04 29.7**	**-0.3**
	comp=Z,3.8nm,0.9s,baz=104,slow=5.1,SNR=10.0						
KURBB	**Kurchatov Arra**	**150.67**	**274**	PKPbc	**PKPbc**	**10 04 38.6**	**-1.8**
	comp=Z,1.5nm,0.8s,baz=119,slow=1.9,SNR=6.0						
ESDC	**Sonseca Array**	**151.39**	**120**	PKPbc	**PKPbc**	**10 04 40.3**	**-2.3**
	comp=Z,2.0nm,0.8s,baz=239,slow=1.6,SNR=9.6						

AEIC ***27*** *09:47:56.0±1.3,51°29N±0°09×174°79W±0°08,h24km±8km, Error ellipse: s-maj=13.3km s-min=5.8km az=160.0*

NEIC 27 09:47:59.3±1.4,51°45N±0°08×174°93W±0°06,h35km±2km, mb3.7/30,ML3.7/10,ML3.1(AEIC), **Error ellipse: s-maj=14.7km s-min=3.3km az=157.0, Andreanof Islands**

| Code | Station Name | Δ

IL31					IAmb	IAmb	09 52 28.4			
	comp=Z,4.6nm,1.4s									
E21K	**Killik River**	**19.82**	**23**	P	P	09 52 26.6	+0.1			
E21K					IAmb	IAmb	09 53 02.2			
	comp=Z,9.0nm,1.4s									
H24K	**Noodor Dome**	**19.90**	**33**	P	P	09 52 27.5	0.0			
H24K					IAmb	IAmb	09 53 00.4			
	comp=Z,4.4nm,1.2s									
J25K	**Salcha River,**	**20.20**	**38**	P	P	09 52 27.6	-3.2			
J25K					IAmb	IAmb	09 52 30.3			
	comp=Z,2.0nm,0.6s									
SCRK	**Sand Creek**	**20.48**	**40**	P	P	09 52 32.0	-1.9			
SCRK					IAmb	IAmb	09 52 51.3			
	comp=Z,2.5nm,0.7s									
B21K	**Ikpikpuk River**	**20.58**	**20**	P	P	09 52 34.5	-0.2			
J26L	**Joseph Creek**	**20.86**	**39**	P	P	09 52 35.8	-2.1			
J26L					IAmb	IAmb	09 52 42.6			
	comp=Z,3.0nm,0.7s									
F24K	**Squaw Lake**	**20.87**	**29**	P	P	09 52 38.8	+0.8			
F24K					IAmb	IAmb	09 52 46.7			
	comp=Z,6.5nm,1.2s									
D23K	**Nanushuk River**	**21.03**	**24**	P	P	09 52 39.7	+0.2			
E24K	**Your Creek**	**21.04**	**28**	P	P	09 52 39.7	0.0			
TOLK	**Toolik Lake Re**	**21.10**	**26**	P	P	09 52 40.2	-0.1			
C23K	**Itkillik River**	**21.66**	**23**	P	P	09 52 46.0	-0.3			
DAWY	**Dawson**	**22.41**	**42**	P	P	09 52 53.0	-1.4			
DAWY					IAmb	IAmb	09 53 28.7			
	comp=Z,4.1nm,1.4s									
D25K	**Kavik River**	**22.42**	**26**	P	P	09 52 53.8	-0.8			
I28M	**Miner Creek**	**22.65**	**38**	P	P	09 52 56.0	-1.1			
I28M					IAmb	IAmb	09 53 10.8			
	comp=Z,4.8nm,1.4s									
K29M	**Barlow Dome**	**23.14**	**43**	P	P	09 53 01.7	-0.5			
K29M					IAmb	IAmb	09 53 24.1			
	comp=Z,4.1nm,1.4s									
J30M	**Hart River**	**23.83**	**42**	P	P	09 53 08.1	-0.8			
J30M					IAmb	IAmb	09 53 48.1			
	comp=Z,3.0nm,1.3s									
I30M	**Mount Dempster**	**23.99**	**40**	P	P	09 53 08.3	-2.0			

IDC ***27*** *09:55:05.6±0.6,59°.48S×150°.89W,h0km,mb4.5/11, mbtmp4.5/11,MS5.3/42,Error ellipse: s-maj=23.6km s-min=16.2km az=10.0*

MOS ***27*** *09:55:06.6±1.1,59°.64S×150°.87W,h10km,mb5.4/11, Error ellipse: s-maj=23.3km s-min=15.9km az=92.2*

NEIC ***27*** *09:55:08.5,59°.70S×150°.93W,h20km*

NEIC ***27*** *09:55:08.2±1.2,59°.6S±0°.2×150°.9W±0°.2,h10km±1km, mb5.4/54,Ms_20 5.6/595,Mwb5.6/30,Mww5.7/20,Error ellipse: s-maj=26.6km s-min=17.1km az=16.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.38; Mθθ2.65; Mφφ-3.03; Mrθ-0.79; Mθφ 1.82; Mφr-0.05; Fault plane solution: M₀3.48000×10¹⁷ NP1: φs299.61000°,δ81.72000°,λ12.16000°. NP2: φs207.83000°,δ77.97000°,λ171.54000°. Principal axes: T 3.3831, Plg14.0000°, Azm164.0000°; N 0.1869, Plg75.0000°, Azm333.0000°; P -3.5699, Plg3.0000°, Azm73.0000°;*

NEIC ***27*** *09:55:08.5,59°.50S×151°.53W,h20km,Moment Tensor Solution. Duration: 3s9 Moment tensor: Scale 10¹⁷Nm; Mrr-1.83; Mθθ4.61; Mφφ-2.78; Mrθ 0.54; Mθφ 1.09; Mφr1.68; Fault plane solution: M₀4.52000×10¹⁷ NP1: φs121.60000°,δ60.05000°,λ-22.31000°. NP2: φs223.18000°,δ70.80000°,λ-148.08000°. Principal axes: T 4.8583, Plg7.0000°, Azm350.0000°; N -0.7761, Plg53.0000°, Azm251.0000°; P -4.0822, Plg36.0000°, Azm85.0000°;*

NEIC ***27*** *09:55:08.5,59°.72S×150°.94W,h10km*

GCMT ***27*** *09:55:12.2±0.1,59°.81S±0°.01×150°.65W±0°.01,h12km, MW5.7/151,Moment Tensor Solution. s148,c260; s151,c328; Duration: 1s8 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.46±.04; Mθθ4.59±.04; Mφφ-4.13±.04; Mrθ-0.80±.11; Mθφ2.32±.04; Mφr-0.76±.11; Best double couple: M₀5.05300×10¹⁷ NP1:φs301.00000°,δ78.00000°, λ2.00000°. NP2:φs211.00000°,δ89.00000°,λ168.00000°. Principal axes: T 5.3280, Plg9.0000°, Azm165.0000°; N -0.5470, Plg78.0000°, Azm24.0000°; P -4.7790, Plg7.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 09:55:08.7±0.6,59°.62S±0°.06×150°.80W±0°.07,h14km±3km, h15km:pP-P,n553,σ1§78/251,mb5.3/39,MS5.5/330, 10C-15D,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTZ	**Chatham Island**	**22.34**	**304**		**P**	**10 00 06.8**	**+1.0**
SBA	**Scott Base**	**22.92**	**202**		**P**	**10 00 11.1**	**-0.5**
SBA	**Scott Base**	**22.92**	**202**	P	**P**	**10 00 11.1**	**-0.5**
SBA				pmax	pmax		
	comp=Z,438nm,1.9s						
VNDA	**Vanda**	**23.73**	**203**		**P**	**10 00 21.1**	**+1.3**
VNDA	**Vanda**	**23.73**	**203**	P	**P**	**10 00 20.8**	**+1.0**
	comp=Z,11nm,1.2s,baz=70,slow=10,SNR=15						
VNDA				LR	LR	10 07 28.3	
	comp=Z,6μm,18.0s,baz=74,slow=31						
	comp=Z,11nm,1.2s						
VNDA	**Vanda**	**23.73**	**203**	P	**P**	**10 00 21.1**	**+1.3**
VNDA				pmax	pmax		
	comp=Z,47nm,1.4s						
RPZ	**Rata Peaks**	**28.01**	**287**	LR	LR	10 09 36.3	
	comp=Z,4μm,19.8s,baz=132,slow=31						
THZ	**Tophouse**	**28.61**	**292**		**P**	**10 01 06.8**	**+2.5**
THZ				IAmb	IAmb	10 01 21.3	
	comp=Z,139nm,1.9s						
URZ	**Urewera**	**29.54**	**302**	LR	LR	10 09 28.1	
	comp=Z,4μm,21.3s,baz=140,slow=29						
QSPA	**South Pole Qui**	**30.52**	**180**	IAMs_20	IAMs_20	10 11 09.0	
	comp=Z,10μm,21.0s						
QSPA	**South Pole Qui**	**30.52**	**180**	P	**P**	**10 01 21.6**	**+0.5**
	comp=Z,16nm,1.0s,baz=72,slow=2.6,SNR=23						
QSPA				LR	LR	10 11 20.0	
	comp=Z,11μm,21.8s,baz=63,slow=32						
	comp=Z,16nm,1.0s						
SMAI	**San Martin Ant**	**34.98**	**139**	P	**P**	**10 02 00.2**	**+0.5**
SMAI				IAmb	IAmb	10 02 03.5	
	comp=Z,54nm,1.2s						
RAO	**Raoul Island**	**35.51**	**317**	LR	LR	10 13 00.8	
	comp=Z,2μm,21.6s,baz=156,slow=30						
TBI	**Tubuai**	**36.25**	**2**	*e*S	**S**	**10 07 54.2**	**+3.3**
	comp=Z,7μm,29.0s						
TBI				*e*SS	**SS**	**10 10 27.3**	**-1.8**
	comp=Z,12μm,24.2s						
TBI				*e*LR	LR	10 11 46.8	
	comp=Z,15μm,27.2s						
TBI				*e*LR	LR	10 11 50.0	
	comp=Z,73μm,28.0s						
BELA	**Belgrano 2**	**37.41**	**162**		**P**	**10 02 20.4**	**-0.1**
BELA				IAmb	IAmb	10 02 29.7	
	comp=Z,80nm,1.5s						
PMSA	**Palmer Station**	**37.77**	**136**	LR	LR	10 14 22.5	
	comp=Z,4μm,21.0s,baz=236,slow=30						
RAR	**Rarotonga**	**38.90**	**347**	IAMs_20	IAMs_20	10 13 55.1	
	comp=Z,7μm,20.0s						
RAR	**Rarotonga**	**38.90**	**347**	LR	LR	10 13 55.6	
	comp=Z,7μm,22.0s,baz=193,slow=29						
CASY	**Casey**	**40.84**	**218**		**P**	**10 02 50.4**	**+1.1**
CASY	**Casey**	**40.84**	**218**	IAMs_20	IAMs_20	10 18 49.9	
	comp=Z,5μm,18.0s						
ESPZ	**Base Esperanza**	**41.08**	**137**	P	**P**	**10 02 50.8**	**-0.4**
ESPZ				IAmb	IAmb	10 02 59.9	
	comp=Z,132nm,1.3s						
PPT2	**Papeete2**	**41.98**	**2**	*e*S	**S**	**10 09 18.4**	**+1.1**
	comp=Z,2μm,26.0s						
PPT2				*e*SS	**SS**	**10 12 22.6**	**-1.6**
	comp=Z,9μm,29.5s						
PPT2				*e*LR	LR	10 14 27.0	
	comp=Z,13μm,27.5s						
PPT2				*e*LR	LR	10 14 39.5	
	comp=Z,16μm,25.0s						
PPTF	**Pamatai, Papee**	**41.98**	**2**	IAMs_20	IAMs_20	10 15 31.1	
	comp=Z,6μm,20.0s						
PPT	**Papeete**	**42.00**	**2**	LR	LR	10 15 52.8	
	comp=Z,5μm,21.1s,baz=182,slow=30						
RPN	**Rapa Nui**	**43.11**	**60**	IAMs_20	IAMs_20	10 16 56.6	
	comp=Z,7μm,18.0s						
CAN	**Canberra**	**45.40**	**275**	IAMs_20	IAMs_20	10 17 22.1	
	comp=Z,5μm,22.0s						
VNA3	**Neumayer Olymp**	**46.62**	**164**	⇓P	**P**	**10 03 34.8**	**-0.9**
	comp=Z,18nm,0.9s						
VNA3				⇓PP	**PP**	**10 05 20.5**	**-4.4**
VNA3				⇑S	**S**	**10 10 22.5**	**-1.3**
COYC	**Coyhaique**	**46.93**	**109**	P	**P**	**10 03 38.8**	**+0.3**
SNAA	**Sanae**	**47.11**	**167**	⇓P	**P**	**10 03 38.6**	**-1.0**
	comp=Z,533nm,1.2s						
SNAA				⇓PP	**PP**	**10 05 29.1**	**-0.8**
SNAA				⇓S	**S**	**10 10 33.3**	**+2.5**
SNAA	**Sanae**	**47.11**	**167**		**P**	**10 03 38.6**	**-1.0**
SNAA	**Sanae**	**47.11**	**167**	P	**P**	**10 03 38.3**	**-1.2**
	comp=Z,12nm,1.0s,baz=205,slow=5.1,SNR=22						
SNAA				LR	LR	10 22 15.8	
	comp=Z,3μm,18.3s,baz=206,slow=34						
	comp=Z,12nm,1.0s						
SNAA	**Sanae**	**47.11**	**167**	*c i*P	**P**	**10 03 37.9**	**-1.7**
SNAA				pmax	pmax		
	comp=Z,21nm,1.1s						
VNA1	**Neumayer--Stat**	**47.36**	**164**	⇓P	**P**	**10 03 41.0**	**-0.4**
	comp=Z,55nm,0.9s						
TROLL	**Troll, Antarti**	**47.36**	**169**	⇓P	**P**	**10 03 41.4**	**-0.3**
	comp=Z,1μm,1.0s						
TROLL				⇑PP	**PP**	**10 05 31.1**	**-1.3**
TROLL				⇑S	**S**	**10 10 31.7**	**-2.9**
DZM	**Mont Dzumac**	**48.09**	**302**	*e*LR	LR	10 17 25.8	
	comp=Z,5μm,26.2s						
DZM	**Mont Dzumac**	**48.09**	**302**	LR	LR	10 21 24.4	
	comp=Z,2μm,18.4s,baz=162,slow=33						
AFI	**Afiamalu**	**48.20**	**332**	IAMs_20	IAMs_20	10 20 26.9	
	comp=Z,5μm,19.0s						
EFI	**East Falkland**	**48.80**	**124**	⇓*e*P	**P**	**10 03 51.4**	**-1.4**
LL02	**Futaleuf**	**48.81**	**107**	P	**P**	**10 03 53.2**	**+0.2**
LL02				IAmb	IAmb	10 04 02.1	
	comp=Z,52nm,1.1s						
MAW	**Mawson**	**50.71**	**196**	P	**P**	**10 04 07.0**	**-0.1**
	comp=Z,6.1nm,1.1s,baz=192,slow=12,SNR=7.5						
MAW				LR	LR	10 23 05.0	
	comp=Z,4μm,21.6s,baz=156,slow=33						
	comp=Z,6.1nm,1.1s						
MAW	**Mawson**	**50.71**	**196**	P	**P**	**10 04 07.0**	**-0.1**
LR05	**Currie**	**50.98**	**105**		**P**	**10 04 09.6**	**+0.1**
TAOE	**Nuku Hiva Isla**	**51.29**	**14**	*e*S	**S**	**10 11 31.8**	**+1.2**
	comp=Z,1μm,25.5s						
TAOE				*e*SS	**SS**	**10 14 59.6**	**-6.6**
	comp=Z,519nm,28.8s						
TAOE				*e*LR	LR	10 18 46.8	
	comp=Z,8μm,27.9s						
PLCA	**Paso Flores**	**51.30**	**106**	P	**P**	**10 04 12.1**	**0.0**
PLCA				IAmb	IAmb	10 04 21.3	
	comp=Z,97nm,1.6s						
PLCA	**Paso Flores**	**51.30**	**106**	P	**P**	**10 04 11.8**	**-0.3**
	comp=Z,6.8nm,1.1s,baz=232,slow=9.4,SNR=9.3						
PLCA				LR	LR	10 20 38.2	
	comp=Z,3μm,19.9s,baz=216,slow=30						
	comp=Z,6.8nm,1.1s						
PLCA	**Paso Flores**	**51.30**	**106**	*e*P	**P**	**10 04 12.7**	**+0.6**
PLCA	**Paso Flores**	**51.30**	**106**	*e*P	**P**	**10 04 10.9**	**-1.2**
SYO	**Syowa Base**	**51.45**	**185**	⇑*i*pP	pP	10 04 13.8	-2.4
SYO	**Syowa Base**	**51.45**	**185**	⇓*i*sP	sP	10 04 15.0	-2.6
STKA	**Stephens Creek**	**51.88**	**271**	P	**P**	**10 04 16.1**	**-0.3**
STKA				IAmb	IAmb	10 04 17.9	
	comp=Z,50nm,1.1s						
STKA	**Stephens Creek**	**51.88**	**271**	P	**P**	**10 04 15.0**	**-1.4**
	comp=Z,5.2nm,0.8s,baz=136,slow=8.1,SNR=11						
STKA				LR	LR	10 23 11.5	
	comp=Z,3μm,18.1s,baz=133,slow=32						
	comp=Z,5.2nm,0.8s						
STKA	**Stephens Creek**	**51.88**	**271**	*de*P	**P**	**10 04 15.5**	**-0.9**
EIDS	**Eidsvold**	**52.42**	**284**	P	**P**	**10 04 20.2**	**-0.3**
EIDS				IAmb	IAmb	10 04 28.2	
	comp=Z,52nm,1.8s						
H03S2	**Juan Fernandez**	**52.48**	**94**	T	T	11 01 16.6	
	baz=216,slow=74,SNR=601						
H03S1	**Juan Fernandez**	**52.49**	**94**	T	T	11 01 21.0	
	baz=216,slow=74,SNR=686						
H03S3	**Juan Fernandez**	**52.50**	**94**	T	T	11 01 15.9	
	baz=216,slow=74,SNR=1030						
H03N3	**Juan Fernandez**	**52.79**	**94**	T	T	11 01 28.9	
	baz=219,slow=72,SNR=124						
H03N2	**Juan Fernandez**	**52.80**	**94**	T	T	11 01 39.5	
	baz=219,slow=72,SNR=1072						
H03N1	**Juan Fernandez**	**52.81**	**94**	T	T	11 01 26.3	
	baz=219,slow=72,SNR=34						
BI02	**San Fabin de**	**54.10**	**103**	P	**P**	**10 04 32.3**	**-0.5**
BI02				IAmb	IAmb	10 04 41.5	
	comp=Z,37nm,0.9s						
ML02	**Panimavida**	**54.74**	**102**	IAmb	IAmb	10 04 45.9	
	comp=Z,65nm,1.2s						
HOPE	**Hope Point**	**54.91**	**139**	IAMs_20	IAMs_20	10 25 43.9	
	comp=Z,7μm,18.0s						
BO01	**Tunca**	**55.99**	**101**	IAmb	IAmb	10 04 54.5	
	comp=Z,51nm,1.3s						
MT01	**Popeta**	**56.33**	**101**	IAmb	IAmb	10 04 57.0	
	comp=Z,68nm,1.3s						
BO04	**La Punta**	**56.55**	**101**	IAmb	IAmb	10 04 59.5	
	comp=Z,38nm,1.3s						
LMEL	**Las Melosas**	**56.87**	**101**	IAmb	IAmb	10 05 01.4	
	comp=Z,39nm,1.1s						
MT08	**Bocatoma Ro**	**57.28**	**101**	IAmb	IAmb	10 05 08.4	
	comp=Z,36nm,1.3s						
TRQA	**Tornquist**	**57.52**	**111**	P	**P**	**10 04 57.7**	**+0.4**
TRQA				IAmb	IAmb	10 05 06.5	
	comp=Z,85nm,1.5s						
TRQA	**Tornquist**	**57.52**	**111**	P	**P**	**10 04 57.7**	**+0.4**
TRQA				pmax	pmax		
	comp=Z,85nm,1.5s						
CO02	**Combarbal**	**58.59**	**99**	IAmb	IAmb	10 05 13.4	
	comp=Z,41nm,0.9s						
CO03	**El Pedregal**	**59.04**	**99**	IAmb	IAmb	10 05 16.2	
	comp=Z,63nm,1.4s						
CTAO	**Charters Tower**	**59.25**	**283**	P	**P**	**10 05 08.9**	**-0.6**
CTAO				IAmb	IAmb	10 05 11.5	
	comp=Z,28nm,1.2s						
CTAO	**Charters Tower**	**59.25**	**283**	P	**P**	**10 05 08.9**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,28nm,1.2s						
ZON	**Zonda**	**59.48**	**101**	P	**P**	**10 05 11.8**	**+0.9**
ZON				IAmb	IAmb	10 05 12.4	
	comp=Z,34nm,1.5s						
ZON	**Zonda**	**59.48**	**101**	P	**P**	**10 05 11.9**	**+0.9**
ZON				pmax	pmax		
	comp=Z,34nm,1.5s						
CFA	**Coronel Fontan**	**59.65**	**101**	LR	LR	10 25 48.6	
	comp=Z,996nm,18.5s,baz=194,slow=31						
LCO	**Las Campanas**	**60.52**	**98**	IAMs_20	IAMs_20	10 24 05.7	
	comp=Z,3μm,20.0s						
HNR	**Honiara**	**62.12**	**302**	LR	LR	10 26 38.4	
	comp=Z,1μm,21.2s,baz=150,slow=30						
AS31	**Alice Springs**	**62.48**	**270**	P	**P**	**10 05 30.6**	**-0.9**
ASAR	**Alice Springs**	**62.48**	**270**	P	**P**	**10 05 30.5**	**-1.0**
ASAR	**Alice Springs**	**62.48**	**270**	P	**P**	**10 05 30.8**	**-0.7**
	comp=Z,5.9nm,0.9s,baz=144,slow=6.6,SNR=54						
ASAR				LR	LR	10 29 32.4	
	comp=Z,4μm,18.4s,baz=153,slow=33						
	comp=Z,5.9nm,0.9s						
H01W1	**Cape Leeuwin H**	**63.02**	**247**	T	T	11 14 40.4	
	baz=145,slow=76,SNR=160						
H01W2	**Cape Leeuwin H**	**63.03**	**247**	T	T	11 14 43.2	
	baz=145,slow=76,SNR=158						
H01W3	**Cape Leeuwin H**	**63.04**	**247**	T	T	11 14 41.7	
	baz=145,slow=76,SNR=163						
AC02	**Maricunga**	**63.09**	**98**	P	**P**	**10 05 36.0**	**-0.1**
AC02				IAmb	IAmb	10 05 44.9	
	comp=Z,18nm,0.9s						
NWAO	**Narrogin (SRO)**	**63.18**	**250**	IAMs_20	IAMs_20	10 26 46.2	
	comp=Z,4μm,19.0s						
NWAO	**Narrogin (SRO)**	**63.18**	**250**	LR	LR	10 27 07.7	
	comp=Z,4μm,18.9s,baz=128,slow=30						
GO02	**Mina Guanaco**	**64.24**	**96**	P	**P**	**10 05 44.4**	**+1.0**
WR8	**Warramunga Arr**	**65.27**	**273**	P	**P**	**10 05 49.1**	**-0.7**
WR8				IAmb	IAmb	10 05 56.8	
	comp=Z,48nm,1.9s						
WRA	**Warramunga Arr**	**65.36**	**272**	P	**P**	**10 05 49.5**	**-0.9**
WRA	**Warramunga Arr**	**65.36**	**272**	P	**P**	**10 05 48.9**	**-1.6**
	comp=Z,3.1nm,1.0s,baz=154,slow=5.6,SNR=15						
WRA				LR	LR	10 30 07.3	
	comp=Z,2μm,21.8s,baz=152,slow=32						
	comp=Z,3.1nm,1.0s						
WRA	**Warramunga Arr**	**65.36**	**272**	P	**P**	**10 05 49.5**	**-0.9**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.9s						
WRAB	**Tennant Creek**	**65.37**	**272**	P	**P**	**10 05 49.3**	**-1.2**
WRAB				IAmb	IAmb	10 05 57.4	
	comp=Z,39nm,1.9s						
WRAB				IAMs_20	IAMs_20	10 29 33.6	
	comp=Z,3μm,22.0s						
WRAB	**Tennant Creek**	**65.37**	**272**	⇑*e*P	**P**	**10 05 49.6**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PMG	**Port Moresby**	**67.98**	**290**	LR	LR	10 31 00.1	
	comp=Z,1μm,21.9s,baz=157,slow=32						
PB11	**IPOC Station P**	**68.70**	**93**	IAmb	IAmb	10 06 20.4	
	comp=Z,27nm,0.9s						
CPUP	**Villa Florida**	**69.37**	**107**		**P**	**10 06 15.8**	**+0.1**
CPUP	**Villa Florida**	**69.37**	**107**	P	**P**	**10 06 15.4**	**-0.3**
	comp=Z,3.6nm,1.0s,baz=44,slow=7.9,SNR=4.7						
CPUP				LR	LR	10 32 28.0	
	comp=Z,551nm,19.2s,baz=67,slow=32						
	comp=Z,3.6nm,1.0s						
CPUP	**Villa Florida**	**69.37**	**107**	P	**P**	**10 06 15.8**	**+0.1**
CPUP				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PSA00	**Pilbara Seismi**	**71.33**	**259**		**P**	**10 06 27.1**	**-0.7**
NNA	**Nana**	**71.63**	**82**	IAMs_20	IAMs_20	10 30 23.1	
	comp=Z,3μm,19.0s						
NNA	**Nana**	**71.63**	**82**	LR	LR	10 30 34.9	
	comp=Z,3μm,19.0s,baz=209,slow=30						
NNA	**Nana**	**71.63**	**82**	⇓*e*P	**P**	**10 06 29.2**	**-0.5**
NNA				pmax	pmax		
	comp=Z,78nm,1.6s						
MBWA	**Marble Bar**	**71.74**	**259**	P	**P**	**10 06 29.4**	**-0.8**
MBWA	**Marble Bar**	**71.74**	**259**	IAMs_20	IAMs_20	10 32 44.5	
	comp=Z,3μm,20.0s						
KNRA	**Kununurra**	**71.79**	**270**	P	**P**	**10 06 30.2**	**-0.3**
LPAZ	**La Paz**	**72.40**	**92**	P	**P**	**10 06 35.7**	**+0.7**
LPAZ				IAmb	IAmb	10 06 49.0	
	comp=Z,69nm,1.6s						
LPAZ	**La Paz**	**72.40**	**92**	P	**P**	**10 06 34.5**	**-0.5**
	comp=Z,4.2nm,1.1s,baz=198,slow=4.9,SNR=15						
LPAZ				LR	LR	10 30 30.6	
	comp=Z,2μm,21.1s,baz=190,slow=29						
	comp=Z,4.2nm,1.1s						
LPAZ	**La Paz**	**72.40**	**92**	P	**P**	**10 06 35.7**	**+0.7**
LPAZ				pmax	pmax		
	comp=Z,69nm,1.6s						
LPAZ	**La Paz**	**72.40**	**92**	*e*P	**P**	**10 06 34.5**	**-0.5**
BDQN	**Bodoquena, MS**	**74.61**	**104**	*e*P	**P**	**10 06 47.3**	**+0.1**
PAYG	**Puerto Ayora**	**74.91**	**64**	IAMs_20	IAMs_20	10 31 32.2	
	comp=Z,4μm,21.0s						
ATAH	**Atahualpa**	**75.00**	**78**	LR	LR	10 32 21.9	
	comp=Z,5μm,19.3s,baz=240,slow=30						
BBSD	**Serra de San D**	**75.44**	**99**	*e*P	**P**	**10 06 50.7**	**-1.4**
RPRD	**Ribas do Rio P**	**76.07**	**107**	*e*P	**P**	**10 06 55.6**	**0.0**
SIV	**San Ignacio**	**76.22**	**98**	LR	LR	10 34 32.1	
	comp=Z,2μm,21.5s,baz=219,slow=31						
PCMB	**Pacaembu**	**76.30**	**109**	*e*P	**P**	**10 06 57.2**	**+0.3**
SPB	**Sao Paulo**	**76.41**	**113**	IAMs_20	IAMs_20	10 39 40.3	
	comp=Z,2μm,19.0s						
JAY	**Jayapura**	**77.08**	**288**	LR	LR	10 36 25.5	
	comp=Z,830nm,21.7s,baz=184,slow=32						
CZSB	**Cruzeiro do Su**	**77.35**	**84**	*e*P	**P**	**10 07 03.1**	**+0.3**
JOHN	**Johnston Islan**	**77.59**	**342**	IAMs_20	IAMs_20	10 34 57.4	
	comp=Z,3μm,19.0s						
PTLB	**Pontes e Lacer**	**77.66**	**99**	*e*P	**P**	**10 07 05.5**	**+0.9**
BB19B	**Bebedouro**	**78.06**	**111**	*e*P	**P**	**10 07 06.5**	**-0.4**
ITRB	**Iturama**	**78.35**	**109**	*e*P	**P**	**10 07 08.6**	**+0.1**
COHC	**Cochancay**	**78.60**	**75**		**P**	**10 07 09.7**	**-0.1**
SALV	**Santo Antonio**	**78.99**	**102**	*e*P	**P**	**10 07 11.9**	**0.0**
BATI	**Baumata**	**79.02**	**269**	LR	LR	10 40 57.4	
	comp=Z,4μm,18.2s,baz=158,slow=35						
POHA	**Pohakuloa**	**79.18**	**355**	IAMs_20	IAMs_20	10 44 47.8	
	comp=Z,4μm,21.0s						
IPMB	**Ipameri, GO**	**80.86**	**110**	*e*P	**P**	**10 07 22.0**	**-0.1**
KIP	**Kipapa**	**80.96**	**353**	IAMs_20	IAMs_20	10 46 43.8	
	comp=Z,4μm,19.0s						
ARAG	**Araguaiana, MT**	**81.07**	**106**	*e*P	**P**	**10 07 22.3**	**-0.9**
MMRI	**Maumere**	**81.08**	**268**	IAMs_20	IAMs_20	10 40 05.8	
	comp=Z,2μm,20.0s						
PMNB	**Patos De Minas**	**81.23**	**112**	*e*P	**P**	**10 07 23.8**	**-0.4**
OTAV	**Otavalo**	**81.34**	**75**	P	**P**	**10 07 26.1**	**+1.0**
OTAV				IAmb	IAmb	10 07 35.9	
	comp=Z,58nm,1.5s						
OTAV	**Otavalo**	**81.34**	**75**	IAMs_20	IAMs_20	10 34 50.9	
	comp=Z,2μm,22.0s						
OTAV	**Otavalo**	**81.34**	**75**	P	**P**	**10 07 26.1**	**+1.0**
OTAV				pmax	pmax		
	comp=Z,58nm,1.5s						
OTAV	**Otavalo**	**81.34**	**75**	*e*P	**P**	**10 07 25.1**	**-0.1**
PDRB	**Porto dos Gac**	**82.13**	**99**	*e*P	**P**	**10 07 27.6**	**-1.3**
DIAM	**Diamantina, MG**	**82.73**	**114**	*e*P	**P**	**10 07 31.9**	**-0.3**
BDFB	**Brasilia**	**82.97**	**109**	P	**P**	**10 07 33.5**	**+0.2**
BDFB	**Brasilia**	**82.97**	**109**	P	**P**	**10 07 33.2**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=251,slow=4.3,SNR=7.9						
BDFB				LR	LR	10 40 30.6	
	comp=Z,3μm,20.2s,baz=203,slow=33						
	comp=Z,4.3nm,0.8s						
BDFB	**Brasilia**	**82.97**	**109**	P	**P**	**10 07 33.5**	**+0.2**
BDFB				pmax	pmax		
	comp=Z,17nm,1.1s						
CLDB	**Colider**	**83.23**	**100**	*e*P	**P**	**10 07 33.1**	**-1.5**
SJMB	**Sao Joao De Ma**	**83.53**	**116**	*e*P	**P**	**10 07 35.8**	**-0.2**
FLOC	**Florencia**	**83.88**	**76**		**P**	**10 07 41.0**	**+3.1**
SNDB	**Serra Nova Dou**	**84.53**	**104**	*e*P	**P**	**10 07 41.6**	**+0.4**
JANB	**Januaria**	**85.24**	**112**	*e*P	**P**	**10 07 44.6**	**-0.2**
KAPI	**Kappang**	**85.43**	**268**	IAMs_20	IAMs_20	10

	comp=Z,1µm,19.0s							
MDP	**Montagnes des**	**98.50**	**94**	LR	LR		10 48 04.0	
	comp=Z,786nm,19.9s,baz=184,slow=32							
WSHM	**Spangler Hills**	**98.79**	**27**	IAMs_20	IAMs_20		10 54 27.0	
	comp=Z,1µm,19.0s							
SAO	**San Andreas Ge**	**99.06**	**23**	IAMs_20	IAMs_20		10 45 01.9	
	comp=Z,2µm,19.0s							
GRGR	**Grenville**	**99.93**	**83**	IAMs_20	IAMs_20		10 47 25.0	
	comp=Z,1µm,21.0s							
HKT	**Hockley**	**100.05**	**46**	IAMs_20	IAMs_20		11 02 05.2	
	comp=Z,1µm,18.0s							
MCCM	**Marconi Confer**	**100.11**	**22**	IAMs_20	IAMs_20		10 55 36.8	
	comp=Z,1µm,20.0s							
Y22D	**IRIS PASSCAL I**	**100.14**	**36**	IAMs_20	IAMs_20		10 44 28.9	
	comp=Z,1µm,20.0s							
WUAZ	**Wupatki**	**100.24**	**32**	IAMs_20	IAMs_20		10 47 19.4	
	comp=Z,2µm,18.0s							
ABPO	**Ambohimpanom**	**100.28**	**197**	IAMs_20	IAMs_20		10 52 05.6	
	comp=Z,2µm,21.0s							
TPNV	**Topopah Spring**	**100.37**	**28**	IAMs_20	IAMs_20		10 42 58.8	
	comp=Z,1µm,21.0s							
CMB	**Columbia Colle**	**100.50**	**24**	IAMs_20	IAMs_20		10 55 57.1	
	comp=Z,1µm,19.0s							
HOPS	**Hopland Field**	**100.89**	**22**	IAMs_20	IAMs_20		10 55 25.6	
	comp=Z,2µm,20.0s							
TSUM	**Tsumeb**	**100.89**	**169**	IAMs_20	IAMs_20		10 58 57.6	
	comp=Z,3µm,21.0s							
ANMO	**Albuquerque**	**101.09**	**36**	IAMs_20	IAMs_20		10 45 20.0	
	comp=Z,1µm,21.0s							
ABTX	**Abilene, Hawle**	**101.13**	**42**	IAMs_20	IAMs_20		11 02 12.1	
	comp=Z,1µm,18.0s							
MSTX	**Muleshoe**	**101.33**	**39**	IAMs_20	IAMs_20		10 45 22.3	
	comp=Z,1µm,22.0s							
ORV	**Oroville**	**101.74**	**23**	IAMs_20	IAMs_20		10 57 32.0	
	comp=Z,1µm,18.0s							
O02D	**Mt. Diablo Mer**	**102.09**	**22**	IAMs_20	IAMs_20		10 57 12.3	
	comp=Z,3µm,19.0s							
BIM	**Bigot**	**102.25**	**82**	IAMs_20	IAMs_20		10 50 15.7	
	comp=Z,2µm,19.0s							
FDF	**Fort de France**	**102.39**	**82**	IAMs_20	IAMs_20		10 50 18.5	
	comp=Z,2µm,19.0s							
SVN	**Savane Anatole**	**102.47**	**82**	IAMs_20	IAMs_20		10 50 29.7	
	comp=Z,2µm,19.0s							
061Z	**Ochoppi**	**102.48**	**60**	IAMs_20	IAMs_20		10 48 59.0	
	comp=Z,1µm,18.0s							
RPSI	**Rantau Prapat**	**102.49**	**254**	IAMs_20	IAMs_20		10 58 18.0	
	comp=Z,1µm,21.0s							
JCC	**Jacoby Creek,**	**102.49**	**20**	IAMs_20	IAMs_20		10 55 53.8	
	comp=Z,2µm,21.0s							
AMTX	**Amarillo**	**102.52**	**40**	IAMs_20	IAMs_20		11 01 32.9	
	comp=Z,1µm,18.0s							
ILAM	**Ilet Lapin Mar**	**102.57**	**82**	IAMs_20	IAMs_20		11 03 04.0	
	comp=Z,2µm,20.0s							
MVCO	**Mesa Verde**	**102.61**	**33**	IAMs_20	IAMs_20		11 00 50.1	
	comp=Z,1µm,19.0s							
SJG	**San Juan**	**102.77**	**76**	IAMs_20	IAMs_20		10 49 40.7	
	comp=Z,1µm,21.0s							
HATC	**Hat Creek Radi**	**102.97**	**22**	IAMs_20	IAMs_20		10 56 54.4	
	comp=Z,1µm,20.0s							
Z38A	**Mt. Pleasant**	**103.34**	**45**	IAMs_20	IAMs_20		11 04 22.7	
	comp=Z,1µm,18.0s							
S22A	**4UR Ranch, Cre**	**103.59**	**34**	IAMs_20	IAMs_20		10 47 15.1	
	comp=Z,1µm,20.0s							
SABA	**Saba**	**103.79**	**79**	IAMs_20	IAMs_20		10 50 44.7	
	comp=Z,2µm,20.0s							
SEUS	**St. Eustatius**	**103.81**	**79**	IAMs_20	IAMs_20		10 49 49.3	
	comp=Z,1µm,21.0s							
SDCO	**Great Sand Dun**	**103.97**	**35**	IAMs_20	IAMs_20		10 49 51.3	
	comp=Z,2µm,18.0s							
ELK	**Elko**	**104.22**	**27**	IAMs_20	IAMs_20		10 58 30.8	
	comp=Z,2µm,18.0s							
DUG	**Dugway, Tooele**	**104.28**	**29**	IAMs_20	IAMs_20		10 58 56.4	
	comp=Z,1µm,18.0s							
OK029	**Liberty Lake**	**104.76**	**42**	IAMs_20	IAMs_20		10 49 47.2	
	comp=Z,1µm,19.0s							
OK038	**West end E0370**	**104.94**	**41**	IAMs_20	IAMs_20		11 03 47.0	
	comp=Z,1µm,18.0s							
WVOR	**Wild Horse Val**	**105.09**	**24**	IAMs_20	IAMs_20		10 57 40.7	
	comp=Z,1µm,19.0s							
O20A	**White River Ci**	**105.42**	**33**	IAMs_20	IAMs_20		10 48 12.5	
	comp=Z,1µm,20.0s							
OK051	**E0350 and S346**	**105.61**	**43**	IAMs_20	IAMs_20		11 03 57.8	
	comp=Z,917nm,18.0s							
ISCO	**Idaho Springs**	**105.84**	**35**	IAMs_20	IAMs_20		10 48 11.8	
	comp=Z,1µm,20.0s							
HWUT	**Hardware Ranch**	**105.92**	**30**	IAMs_20	IAMs_20		10 47 27.9	
	comp=Z,1µm,21.0s							
T35A	**Sooner Cattle**	**106.09**	**43**	IAMs_20	IAMs_20		11 06 58.6	
	comp=Z,972nm,18.0s							
COR	**Corvallis**	**106.27**	**20**	IAMs_20	IAMs_20		11 01 02.9	
	comp=Z,2µm,18.0s							
R32A	**Long Quarter,**	**106.72**	**40**	IAMs_20	IAMs_20		10 51 32.0	
	comp=Z,903nm,18.0s							
CBKS	**Cedar Bluff**	**106.74**	**39**	IAMs_20	IAMs_20		10 49 43.5	
	comp=Z,1µm,20.0s							
HLID	**Hailey**	**107.09**	**27**	IAMs_20	IAMs_20		10 50 16.7	
	comp=Z,2µm,18.0s							
AHID	**Auburn Hatcher**	**107.13**	**29**	IAMs_20	IAMs_20		10 51 22.8	
	comp=Z,1µm,18.0s							
BW06	**Boulder Array**	**107.53**	**31**	IAMs_20	IAMs_20		10 50 06.3	
	comp=Z,1µm,19.0s							
BMO	**Blue Mountains**	**107.68**	**24**	IAMs_20	IAMs_20		10 58 46.3	
	comp=Z,1µm,21.0s							
257A	**Skidaway Islan**	**107.72**	**57**	IAMs_20	IAMs_20		10 51 57.9	
	comp=Z,1µm,18.0s							
TPAW	**Teton Pass**	**107.85**	**29**	IAMs_20	IAMs_20		10 54 38.8	
	comp=Z,1µm,18.0s							
SNOW	**Snow King Moun**	**107.87**	**29**	IAMs_20	IAMs_20		11 03 21.4	
	comp=Z,1µm,18.0s							
OGNE	**Ogallala**	**107.96**	**37**	IAMs_20	IAMs_20		11 05 24.9	
	comp=Z,1µm,18.0s							
FXWY	**Fox Creek**	**107.97**	**29**	IAMs_20	IAMs_20		10 51 57.0	
	comp=Z,971nm,18.0s							
LOHW	**Long Hollow**	**108.05**	**30**	IAMs_20	IAMs_20		10 52 03.2	
	comp=Z,1µm,18.0s							
PLID	**Pearl Lake**	**108.19**	**25**	IAMs_20	IAMs_20		10 59 33.6	
	comp=Z,1µm,18.0s							
K22A	**Casper**	**108.23**	**33**	IAMs_20	IAMs_20		10 51 54.9	
	comp=Z,1µm,18.0s							
HAWA	**Hanford**	**108.71**	**22**	IAMs_20	IAMs_20		11 01 35.5	
	comp=Z,2µm,18.0s							
NLWA	**Neilton Lookou**	**108.90**	**19**	IAMs_20	IAMs_20		10 48 45.4	
	comp=Z,2µm,20.0s							
NHSC	**New Hope**	**109.06**	**57**	IAMs_20	IAMs_20		10 53 32.3	
	comp=Z,1µm,19.0s							
DLMT	**Dillon**	**109.21**	**27**	IAMs_20	IAMs_20		10 52 04.9	
	comp=Z,2µm,19.0s							
BGNE	**Belgrade**	**109.60**	**39**	IAMs_20	IAMs_20		10 51 53.3	
	comp=Z,2µm,20.0s							
Y57A	**Sumter**	**109.75**	**56**	IAMs_20	IAMs_20		10 53 30.6	
	comp=Z,1µm,19.0s							
N35A	**Tabor**	**109.93**	**41**	IAMs_20	IAMs_20		11 06 52.2	
	comp=Z,986nm,18.0s							
P40A	**Paris**	**110.00**	**45**	IAMs_20	IAMs_20		11 07 25.9	
	comp=Z,896nm,18.0s							
V53A	**Saluda**	**110.17**	**54**	IAMs_20	IAMs_20		11 10 30.7	
	comp=Z,1µm,20.0s							
MSO	**Missoula**	**110.29**	**26**	IAMs_20	IAMs_20		11 00 41.4	
	comp=Z,2µm,19.0s							
X58A	**Rowland**	**110.66**	**57**	IAMs_20	IAMs_20		10 53 16.6	
	comp=Z,971nm,20.0s							
L34A	**Svendsen Farm,**	**110.68**	**40**	IAMs_20	IAMs_20		10 51 50.9	
	comp=Z,1µm,20.0s							
W57A	**Gilead**	**110.89**	**56**	IAMs_20	IAMs_20		10 54 41.9	
	comp=Z,1µm,18.0s							
QIZ	**Qiongzhong**	**110.94**	**272**	Pdif	**Pdif**		**10 09 44.5**	**+2.8**
QIZ				PP	**PP**		**10 14 19.8**	**+0.4**
QIZ				SS	SS		10 29 53.3	+3.4
QIZ				LR	LR			
	comp=Z,190nm,23.4s							
QIZ				LR	LR			
	comp=Z,120nm,22.0s							
QIZ				LR	LR			
	comp=Z,740nm,22.0s							
NEW	**Newport**	**110.98**	**23**	IAMs_20	IAMs_20		10 49 56.5	
	comp=Z,1µm,21.0s							
V55A	**Taylorsville**	**110.98**	**55**	IAMs_20	IAMs_20		10 55 39.2	
	comp=Z,892nm,18.0s							
WCI	**Wyandotte Cave**	**111.00**	**50**	IAMs_20	IAMs_20		10 55 34.8	
	comp=Z,1µm,20.0s							
V58A	**Windy Hill, Pi**	**111.81**	**56**	IAMs_20	IAMs_20		10 55 26.1	
	comp=Z,1µm,18.0s							
P46A	**Rosedale**	**111.86**	**48**	IAMs_20	IAMs_20		11 09 16.5	
	comp=Z,923nm,20.0s							
LAO	**LASA Array**	**112.05**	**31**	IAMs_20	IAMs_20		10 52 41.9	
	comp=Z,1µm,20.0s							
SUSD	**Miller**	**112.08**	**37**	IAMs_20	IAMs_20		11 04 08.0	
	comp=Z,1µm,19.0s							
ECSD	**EROS Data Cent**	**112.19**	**39**	IAMs_20	IAMs_20		11 08 08.7	
	comp=Z,1µm,18.0s							
EGMT	**Eagleton**	**112.39**	**28**	IAMs_20	IAMs_20		11 02 08.9	
	comp=Z,1µm,19.0s							
S54A	**Dingess, Beckl**	**112.61**	**53**	IAMs_20	IAMs_20		11 11 47.4	
	comp=Z,939nm,20.0s							
MSEY	**Mahe Island**	**112.62**	**209**	IAMs_20	IAMs_20		11 08 01.9	
	comp=Z,2µm,18.0s							
T57A	**Hurt**	**112.78**	**55**	IAMs_20	IAMs_20		10 54 47.8	
	comp=Z,1µm,20.0s							
V61A	**Roper**	**112.89**	**58**	IAMs_20	IAMs_20		10 53 54.7	
	comp=Z,2µm,21.0s							
ATKA	**Atka Island**	**113.06**	**345**	IAMs_20	IAMs_20		11 03 05.4	
	comp=Z,2µm,20.0s							
ADK	**Adak**	**113.10**	**343**	IAMs_20	IAMs_20		10 52 38.4	
	comp=Z,1µm,20.0s							
NIKH	**Nikolski High**	**113.17**	**348**	IAMs_20	IAMs_20		11 01 55.6	
	comp=Z,2µm,22.0s							
T59A	**Double "B" Far**	**113.47**	**57**	IAMs_20	IAMs_20		10 55 19.1	
	comp=Z,1µm,20.0s							
E28A	**Huff**	**113.49**	**35**	IAMs_20	IAMs_20		11 06 11.1	
	comp=Z,1µm,19.0s							
I37A	**Lemond, Waseca**	**113.50**	**42**	IAMs_20	IAMs_20		11 08 37.4	
	comp=Z,1µm,18.0s							
S57A	**Dark Hollow, R**	**113.55**	**55**	IAMs_20	IAMs_20		10 56 06.2	
	comp=Z,1µm,18.0s							
UNV	**Unalaska Valle**	**113.81**	**350**	IAMs_20	IAMs_20		10 53 33.5	
	comp=Z,2µm,20.0s							
Q54A	**Coxs Mills**	**113.82**	**53**	IAMs_20	IAMs_20		10 57 10.3	
	comp=Z,1µm,18.0s							
P53A	**Whipple**	**114.02**	**52**	IAMs_20	IAMs_20		10 56 58.7	
	comp=Z,1µm,19.0s							
F33A	**5 Mile Ranch,**	**114.17**	**39**	IAMs_20	IAMs_20		10 53 13.2	
	comp=Z,1µm,22.0s							
R58B	**Mineral**	**114.17**	**56**	IAMs_20	IAMs_20		10 55 56.7	
	comp=Z,966nm,20.0s							
DGMT	**Dagmar**	**114.22**	**32**	IAMs_20	IAMs_20		10 55 49.6	
	comp=Z,2µm,18.0s							
L46A	**Eue Claire**	**114.28**	**48**	IAMs_20	IAMs_20		11 08 57.6	
	comp=Z,892nm,19.0s							
O52A	**Adamsville**	**114.38**	**52**	IAMs_20	IAMs_20		10 56 50.1	
	comp=Z,917nm,20.0s							
FALS	**False Pass**	**114.57**	**352**	IAMs_20	IAMs_20		10 51 37.6	
	comp=Z,3µm,21.0s							
CBN	**Corbin Frederi**	**114.59**	**56**	IAMs_20	IAMs_20		10 56 23.7	
	comp=Z,2µm,19.0s							
SPMN	**Marine on St.**	**114.76**	**41**	IAMs_20	IAMs_20		10 54 30.0	
	comp=Z,1µm,20.0s							
MCWV	**Mont Chateau**	**114.79**	**53**	IAMs_20	IAMs_20		10 55 59.1	
	comp=Z,1µm,20.0s							
ERM	**Erimo**	**114.86**	**311**	IAMs_20	IAMs_20		10 52 37.4	
	comp=Z,1µm,21.0s							
MDND	**Maddock**	**114.96**	**35**	IAMs_20	IAMs_20		10 53 08.0	
	comp=Z,1µm,20.0s							
PALK	**Pakeke**	**114.98**	**239**	IAMs_20	IAMs_20		11 03 59.9	
	comp=Z,2µm,20.0s							
O54A	**Avella**	**115.02**	**53**	IAMs_20	IAMs_20		10 55 11.2	
	comp=Z,964nm,22.0s							
P57A	**Homestead Farm**	**115.40**	**55**	IAMs_20	IAMs_20		10 55 44.2	
	comp=Z,1µm,22.0s							
V35K	**Ketchikan**	**115.61**	**12**	IAMs_20	IAMs_20		11 04 28.8	
	comp=Z,2µm,18.0s							
G40A	**Rib Lake**	**115.69**	**43**	IAMs_20	IAMs_20		11 13 39.5	
	comp=Z,885nm,18.0s							
I45A	**Fountain**	**116.04**	**46**	IAMs_20	IAMs_20		11 10 00.3	
	comp=Z,939nm,19.0s							
U33K	**Whale Pass**	**116.24**	**11**	IAMs_20	IAMs_20		10 54 16.3	
	comp=Z,2µm,19.0s							
CHTO	**Chiang Mai**	**116.28**	**262**	IAMs_20	IAMs_20		11 00 50.3	
	comp=Z,917nm,20.0s							
K50A	**Casco**	**116.33**	**50**	IAMs_20	IAMs_20		10 59 11.9	
	comp=Z,821nm,19.0s							
U35K	**Hyer**	**116.37**	**13**	IAMs_20	IAMs_20		10 55 20.7	
	comp=Z,2µm,19.0s							
E38A	**The Farm, Brul**	**116.39**	**41**	IAMs_20	IAMs_20		10 55 40.1	
	comp=Z,2µm,20.0s							
SSPA	**Standing Stone**	**116.42**	**54**	IAMs_20	IAMs_20		10 56 29.2	
	comp=Z,1µm,21.0s							
AGMN	**Agassiz Nation**	**116.49**	**38**	IAMs_20	IAMs_20		10 57 47.6	
	comp=Z,1µm,18.0s							
WRAK	**Wrangell Islan**	**116.61**	**11**	IAMs_20	IAMs_20		10 53 42.2	
	comp=Z,2µm,20.0s							
P08K	**Saint George I**	**116.83**	**349**	IAMs_20	IAMs_20		10 51 51.2	
	comp=Z,1µm,22.0s							
P61A	**Hammonton**	**116.92**	**57**	IAMs_20	IAMs_20		11 14 45.3	
	comp=Z,850nm,19.0s							
N58A	**Sunbury**	**117.08**	**55**	IAMs_20	IAMs_20		10 57 45.6	
	comp=Z,1µm,19.0s							
NJ2	**Nanjing**	**117.22**	**287**	*e*PKP	**PKiKP**		**10 13 53.8**	**+1.1**
I49A	**Point Hope**	**117.24**	**49**	IAMs_20	IAMs_20		10 57 19.0	
	comp=Z,892nm,21.0s							
M57A	**Sunshine Farm,**	**117.32**	**54**	IAMs_20	IAMs_20		10 57 13.1	
	comp=Z,981nm,20.0s							
T35M	**Bob Quinn**	**117.39**	**12**	IAMs_20	IAMs_20		10 54 01.7	
	comp=Z,2µm,20.0s							
S32K	**Killisnoo**	**117.44**	**10**	IAMs_20	IAMs_20		10 53 14.1	
	comp=Z,2µm,20.0s							
SPIA	**Saint Paul Isl**	**117.46**	**348**	IAMs_20	IAMs_20		10 57 16.0	
	comp=Z,1µm,20.0s							
EYMN	**Ely**	**117.58**	**41**	IAMs_20	IAMs_20		10 58 50.6	
	comp=Z,2µm,18.0s							
L56A	**Greenwood**	**117.81**	**54**	IAMs_20	IAMs_20		10 57 26.0	
	comp=Z,1µm,20.0s							
S34M	**Telegraph Cree**	**118.21**	**12**	IAMs_20	IAMs_20		10 55 13.4	
	comp=Z,2µm,20.0s							
R32K	**Eaglecrest**	**118.25**	**10**	IAMs_20	IAMs_20		10 53 48.3	
	comp=Z,2µm,20.0s							
BINY	**Binghamton**	**118.51**	**55**	IAMs_20	IAMs_20		10 58 57.5	
	comp=Z,1µm,19.0s							
N62A	**Caumsett State**	**118.52**	**57**	IAMs_20	IAMs_20		11 16 21.8	
	comp=Z,904nm,19.0s							
J55A	**Hilton**	**118.65**	**53**	IAMs_20	IAMs_20		10 57 28.2	
	comp=Z,1µm,21.0s							
P18K	**Big Mountain,**	**118.72**	**357**	IAMs_20	IAMs_20		10 55 13.5	
	comp=Z,2µm,20.0s							
K57A	**Scipio Center**	**118.73**	**54**	IAMs_20	IAMs_20		10 58 17.4	
	comp=Z,1µm,19.0s							
L59A	**Walton**	**118.90**	**55**	IAMs_20	IAMs_20		10 57 31.7	
	comp=Z,1µm,21.0s							
P19K	**Oil Pt**	**118.95**	**359**	IAMs_20	IAMs_20		11 07 12.5	
	comp=Z,2µm,19.0s							
BRLK	**Bradley Lake**	**119.04**	**360**	IAMs_20	IAMs_20		11 04 00.8	
	comp=Z,2µm,20.0s							
Q32M	**Nakina River**	**119.13**	**11**	IAMs_20	IAMs_20		10 56 23.7	
	comp=Z,1µm,19.0s							
O18K	**Koktuh Hills**	**119.18**	**357**	IAMs_20	IAMs_20		11 07 28.7	
	comp=Z,2µm,19.0s							
YSS	**Yuzhno-Sakhali**	**119.22**	**314**	∥ *i*PKIKP	**PKPdf**		**10 13 53.3**	**-2.8**
SEW	**Seward**	**119.39**	**1**	IAMs_20	IAMs_20		11 04 38.3	
	comp=Z,2µm,19.0s							
PET	**Petropavlovsk**	**119.42**	**328**	IAMs_20	IAMs_20		10 56 18.3	
	comp=Z,928nm,20.0s							
O19K	**Port Alsworth**	**119.51**	**358**	IAMs_20	IAMs_20		11 06 15.3	
	comp=Z,2µm,20.0s							
J57A	**Williamstown**	**119.51**	**54**	IAMs_20	IAMs_20		10 58 48.0	
	comp=Z,1µm,20.0s							
M63A	**Gales Ferry**	**119.52**	**58**	IAMs_20	IAMs_20		11 16 57.2	
	comp=Z,905nm,19.0s							
P32M	**Atlin**	**119.62**	**10**	IAMs_20	IAMs_20		10 55 01.6	
	comp=Z,3µm,21.0s							
R33M	**Jennings River**	**119.69**	**12**	IAMs_20	IAMs_20		11 03 57.4	
	comp=Z,1µm,20.0s							
SLKM	**Skilak Lake**	**119.79**	**0**	IAMs_20	IAMs_20		11 05 60.0	
	comp=Z,2µm,19.0s							
TRY	**Troy**	**119.92**	**56**	IAMs_20	IAMs_20		11 01 19.8	
	comp=Z,823nm,18.0s							
N18K	**Kilae Creek**	**120.03**	**357**	IAMs_20	IAMs_20		10 57 51.1	
	comp=Z,2µm,20.0s							
L61B	**Northampton**	**120.11**	**57**	IAMs_20	IAMs_20		10 59 44.7	
	comp=Z,867nm,19.0s							
N19K	**Bonanza Creek**	**120.13**	**358**	IAMs_20	IAMs_20		11 06 33.8	
	comp=Z,2µm,20.0s							
PWL	**Port Wells**	**120.16**	**1**	IAMs_20	IAMs_20		10 58 02.6	
	comp=Z,2µm,19.0s							
J59A	**Piesco**	**120.17**	**55**	IAMs_20	IAMs_20		10 59 04.5	
	comp=Z,1µm,21.0s							
M65A	**Busby, Falmout**	**120.26**	**59**	IAMs_20	IAMs_20		11 17 29.7	
	comp=Z,962nm,20.0s							
M11K	**Mekoryuk**	**120.27**	**351**	IAMs_20	IAMs_20		11 03 33.2	
	comp=Z,1µm,20.0s							
P33M	**Teslin, Yukon**	**120.31**	**10**	IAMs_20	IAMs_20		10 55 13.9	
	comp=Z,2µm,20.0s							
M14K	**Bethel**	**120.35**	**354**	IAMs_20	IAMs_20		10 55 12.4	
	comp=Z,2µm,20.0s							
RC01	**Rabbit Creek A**	**120.38**	**1**	IAMs_20	IAMs_20		11 05 18.3	
	comp=Z,2µm,18.0s							
FIS	**Fire Island**	**120.43**	**0**	IAMs_20	IAMs_20		11 03 49.7	
	comp=Z,2µm,20.0s							
K62A	**Royalston**	**120.47**	**57**	IAMs_20	IAMs_20		10 59 55.4	
	comp=Z,978nm,19.0s							
L64A	**Middleborough**	**120.48**	**58**	IAMs_20	IAMs_20		11 15 38.5	
	comp=Z,983nm,19.0s							
FFC	**Flin Flon**	**120.48**	**30**	IAMs_20	IAMs_20		10 58 37.1	
	comp=Z,1µm,19.0s							
WES	**Weston**	**120.64**	**58**	IAMs_20	IAMs_20		11 02 05.7	
	comp=Z,979nm,20.0s							
KNK	**Knik Glacier**	**120.71**	**1**	IAMs_20	IAMs_20		10 57 36.2	
	comp=Z,2µm,20.0s							
SUA	**Susitna One**	**120.75**	**0**	IAMs_20	IAMs_20		10 59 24.2	
	comp=Z,2µm,19.0s							
J61A	**Chester**	**120.89**	**56**	IAMs_20	IAMs_20		11 15 42.5	
	comp=Z,808nm,18.0s							
L14K	**Kuka Creek**	**120.98**	**353**	IAMs_20	IAMs_20		11 07 53.0	
	comp=Z,2µm,20.0s							
M22K	**Willow**	**121.04**	**0**	IAMs_20	IAMs_20		11 05 41.9	
	comp=Z,2µm,20.0s							
GHO	**Glory Hole Cre**	**121.07**	**1**	IAMs_20	IAMs_20		11 06 39.6	
	comp=Z,2µm,20.0s							
LONY	**Lake Ozonia**	**121.08**	**54**	IAMs_20	IAMs_20		10 59 48.6	
	comp=Z,1µm,21.0s							
SCM	**Sheep Creek Mo**	**121.15**	**2**	IAMs_20	IAMs_20		10 57 29.8	
	comp=Z,2µm,20.0s							
M20K	**Styx River**	**121.18**	**359**	IAMs_20	IAMs_20		11 07 20.6	
	comp=Z,2µm,20.0s							
N32M	**Quiet Lake**	**121.22**	**10**	IAMs_20	IAMs_20		10 56 20.8	
	comp=Z,2µm,20.0s							
PZH	**PanZhiHua**	**121.26**	**270**	PKP	**PKiKP**		**10 14 01.5**	**+0.5**
M24K	**Tolsona, Glenn**	**121.45**	**3**	IAMs_20	IAMs_20		11 09 42.7	
	comp=Z,2µm,19.0s							
L19K	**White Mountain**	**121.51**	**358**	IAMs_20	IAMs_20		10 57 01.2	
	comp=Z,2µm,20.0s							
L18K	**Granite Mounta**	**121.59**	**357**	IAMs_20	IAMs_20		10 58 59.4	
	comp=Z,2µm,19.0s							
VT1	**Waterbury**	**121.61**	**56**	IAMs_20	IAMs_20		11 01 48.3	
	comp=Z,898nm,18.0s							
CUT	**Chulitna**	**121.69**	**0**	IAMs_20	IAMs_20		11 06 51.2	
	comp=Z,2µm,20.0s							
I63A	**Otisfield**	**122.30**	**57**	IAMs_20	IAMs_20		11 03 23.8	
	comp=Z,844nm,18.0s							
M30M	**Minto, Yukon**	**122.34**	**8**	IAMs_20	IAMs_20		10 55 43.4	
	comp=Z,2µm,21.0s							
EDA	**Edea**	**122.40**	**157**	IAMs_20	IAMs_20		11 09 29.2	
	comp=Z,2µm,20.0s							
L27K	**Beaver Creek,**	**122.55**	**5**		**PKiKP**		**10 14 02.4**	**+0.2**
J16K	**Anvik River**	**122.81**	**355**	IAMs_20	IAMs_20		11 06 44.4	
	comp=Z,2µm,20.0s							
J18K	**Innoko River**	**122.84**	**357**	IAMs_20	IAMs_20		11 00 07.4	
	comp=Z,2µm,20.0s							
J17K	**VABM Dome**	**122.85**	**356**	IAMs_20	IAMs_20		11 02 13.7	
	comp=Z,2µm,19.0s							
MCK	**McKinley**	**123.03**	**1**		**PKPdf**		**10 14 03.0**	**0.0**
MCK	**McKinley**	**123.03**	**1**	PKiKP	**PKPdf**		**10 14 03.0**	**0.0**
MCK				MLR	MLR			
	comp=Z,1µm,19.0s							
G62A	**West of Eustis**	**123.26**	**56**	IAMs_20	IAMs_20		11 03 59.2	
	comp=Z,874nm,19.0s							
J19K	**Poorman**	**123.34**	**357**	IAMs_20	IAMs_20		10 58 47.7	
	comp=Z,2µm,20.0s							
BPAW	**Bear Paw Mtn.**	**123.40**	**360**	IAMs_20	IAMs_20		11 09 04

WMQ LR LR
comp=Z,610nm,24.1s
RAYN Ar Rayn 142.15 205 IAMs_20 IAMs_20 11 19 12.3
comp=Z,1µm,20.0s
TIXI Tiksi 142.17 329 IAMs_20 IAMs_20 11 07 55.4
comp=Z,991nm,22.0s
TIXI Tiksi 142.17 329 ePKIKP **PKPdf 10 14 37.0 -1.5**
IVI Ivigtut 143.83 53 IAMs_20 IAMs_20 11 11 34.3
comp=Z,1µm,21.0s
AVE Averroes 144.32 121 IAMs_20 IAMs_20 11 14 36.8
comp=Z,2µm,22.0s
KSH Kashi 144.60 257 PKP **PKiKP 10 14 48.0 +0.3**
TULEG Thule 145.14 24 IAMs_20 IAMs_20 11 21 02.5
comp=Z,1µm,18.0s
TARG Taragay, Kyrgy 145.35 261 **PKPbc 10 14 44.2 -1.3**
TARG Taragay, Kyrgy 145.35 261 PKIKP **PKPbc 10 14 44.2 -1.3**
SHLS Shalkode 145.56 264 ePKIKP **PKPdf 10 14 44.2 -1.4**
SHLS Shalkode 145.56 264 ePKP **PKPdf 10 14 44.2 -1.4**
UZB Uzynbulak 145.78 264 ePKP2 **PKPdf 10 14 45.0 -0.9**
UZB e 10 18 06.5
UZB Uzynbulak 145.78 264 ePKP **PKPdf 10 14 45.1 -0.9**
UZB ePP **PP 10 18 06.6 -1.6**
SFJD Kangerlussuaq 145.81 44 IAMs_20 IAMs_20 11 13 43.9
comp=Z,2µm,20.0s
SATY Saty 146.03 263 ePKP2 **PKPdf 10 14 45.3 -1.0**
SATY e 10 18 07.7
SATY Saty 146.03 263 ePKP **PKPdf 10 14 45.4 -1.0**
SATY ePP **PP 10 18 07.7 -1.9**
NRN Naryn 146.04 259 **PKPdf 10 14 46.9 +0.2**
NRN Naryn 146.04 259 PKP2 **PKPdf 10 14 46.9 +0.2**
KPKS Kokpek 146.18 264 ePKIKP **PKPdf 10 14 45.5 -1.0**
KPKS Kokpek 146.18 264 ePKP **PKPdf 10 14 45.6 -1.0**
ILULI Ilulissat 146.61 40 IAMs_20 IAMs_20 11 13 24.1
comp=Z,1µm,21.0s
MK31 Makanchi Array 146.67 271 dePKP2 **PKPdf 10 14 47.1 -0.1**
MKAR Makanchi Array 146.67 271 **PKPdf 10 14 47.8 +0.7**
MKAR Makanchi Array 146.67 271 PKPbc **PKPdf 10 14 47.5 +0.3**
comp=Z,6.9nm,0.8s,baz=108,slow=4.0,SNR=38
PFVI Vila Bisbo 146.89 116 ePKPdf **PKPdf 10 14 47.2 -0.7**
GAR Garm 146.95 250 PKPdf **PKPdf 10 14 48.3 +0.2**
MORF Marmelete 147.11 116 ePKPdf **PKiKP 10 14 53.2 +0.3**
MORF ePKPab **sPKPab 10 14 58.7 +1.5**
PTEO Sao Teotonio 147.27 115 ePKPdf **PKPbc 10 14 51.6 +0.8**
PTEO ePKPab **sPKPab 10 14 59.6 +1.9**
PBDV Barranco-do-Ve 147.39 117 ePKPdf **PKPbc 10 14 51.6 +0.5**
PBDV ePKPab **sPKPab 10 14 59.7 +1.4**
TDK Taldyqorghan 147.41 266 ePKIKP **PKPdf 10 14 47.6 -0.9**
TDK Taldyqorghan 147.41 266 ePKP **PKPdf 10 14 47.6 -0.9**
BTK Batken 147.54 252 **PKPdf 10 14 49.6 +0.7**
BTK Batken 147.54 252 PKP2 **PKPdf 10 14 49.7 +0.7**
PVAQ Vaqueiros 147.62 117 ePKBdf 10 14 48.0
PVAQ ePKPab **PKPab 10 14 57.9 +3.9**
PVAQ eLR LR 11 05 11.1
PVAQ i IAMs_20 IAMs_20 11 45 33.5
comp=Z,589nm,18.0s
PCVE Castro Verde 147.66 116 ePKPdf **PKiKP 10 14 54.0 +0.1**
PCVE ePKPab **sPKPab 10 15 00.2 +1.0**
AAK Ala-Archa 147.68 259 ePKHKP PKPpre 10 14 45.9
MESJ Messejana 147.75 116 ePKPdf **PKPbc 10 14 52.3 +0.2**
MESJ ePKPab **sPKPab 10 14 59.6 0.0**
PBEJ Beja 148.06 116 ePKPdf **PKiKP 10 14 54.5 -0.2**
PBEJ ePKPab **sPKPab 10 15 01.4 +0.5**
PARRA Arraiolos 148.15 114 ePKPdf **PKPab 10 14 56.5 +0.3**
PARRA ePKPab **sPKPab 10 15 02.6 +1.4**
EVO Evora 148.40 115 ePKPdf **PKPab 10 14 56.6 -0.5**
EVO ePKPab **sPKPab 10 15 02.1 -0.2**
PBAR Barrancos 148.56 117 ePKPdf **PKPdf 10 14 50.5 0.0**
PBAR ePKPab **sPKPab 10 15 02.1 -0.8**
PMTG Montargil 148.74 114 ePKPab **PKPab 10 15 02.7 +4.3**
PESTR Estremoz 148.87 115 **PKPab 10 15 03.5 +4.4**
PESTR Estremoz 148.87 115 ePKPdf **PKiKP 10 14 56.6 +0.2**
PESTR ePKPab **PKPab 10 15 03.4 +4.4**
PSARD Sardoal 149.19 114 ePKPab **PKPab 10 15 03.8 +3.4**
PCAS Casmilo, Conde 149.39 113 ePKPab **PKPab 10 15 04.7 +3.5**
PMRV Marv??o 149.41 115 ePKPab **PKPab 10 15 05.6 +4.4**
PMRV eLR LR 11 12 37.5
PMRV i IAMs_20 IAMs_20 11 38 59.6
comp=Z,826nm,20.0s
DZA Taraz 149.44 256 ePKIKP **PKPdf 10 14 50.8 -1.0**
DZA Taraz 149.44 256 ePKP **PKPdf 10 14 50.9 -1.0**
IUG Iuzhnay 149.52 253 ePKHKP PKPpre 10 14 51.0
IUG Iuzhnay 149.52 253 ePKP **PKPdf 10 14 51.1 -1.0**
COI Coimbra 149.56 113 IAMs_20 IAMs_20 11 37 23.2
comp=Z,1µm,20.0s
COI Coimbra 149.56 113 ePKPab **PKPab 10 15 05.0 +3.2**
BTLS Baital 149.64 262 ePKHKP PKPpre 10 14 51.4
BTLS Baital 149.64 262 ePKP **PKPdf 10 14 51.4 -0.7**
PCBR Castelo Branco 149.70 114 ePKPab **PKPab 10 15 05.1 +2.7**
ZALV Zalesovo Beam 149.80 284 PKPbc **PKPdf 10 14 54.2 +2.2**
comp=Z,2.3nm,0.8s,baz=166,slow=2.6,SNR=6.1
MTE Manteigas 150.11 114 ePKPdf **PKPab 10 15 02.0 -2.2**
MTE ePKPab **pPKPab 10 15 06.5 -1.4**
MTE eLQ LQ 10 56 45.8
MTE eLR LR 11 09 13.8
MTE i IAMs_20 IAMs_20 11 39 12.9
comp=Z,682nm,18.0s
PVIS Viseu 150.20 113 ePKPab **PKPab 10 15 06.2 +1.7**
BRLS Borolday 150.28 254 ePKIKP **PKPdf 10 14 52.0 -1.2**
BRLS Borolday 150.28 254 ePKP **PKPdf 10 14 52.0 -1.2**
CART Cartagena 150.70 125 IAMs_20 IAMs_20 11 37 08.3
comp=Z,808nm,19.0s
PVRL Vila Real 150.72 112 ePKPab **PKPab 10 15 07.8 +1.2**
POLO Lamas de Olo 150.76 112 ePKPab **PKPab 10 15 07.7 +0.8**
PAB San Pablo 150.89 119 PKPdf **PKPdf 10 14 55.2 +0.9**
PAB PKPbc **PKiKP 10 15 02.1 +1.5**
PAB **PKPab 10 15 08.8 +1.4**
PAB San Pablo 150.89 119 IAMs_20 IAMs_20 11 15 38.9
comp=Z,960nm,20.0s
PAB San Pablo 150.89 119 PKIKP **PKiKP 10 15 02.1 +1.5**
PAB 10 15 08.8
PAB 11 14 55.2
MVO Moncorvo 150.96 113 ePKPdf **PKiKP 10 15 01.8 +1.1**
MVO ePKPab **PKPab 10 15 08.4 +0.8**
MVO eLQ LQ 10 54 55.3
MVO eLR LR 11 09 54.5
MVO i IAMs_20 IAMs_20 11 40 36.0
comp=Z,754nm,18.0s
PGAV Gavieira, Arco 150.99 111 ePKPab **PKPab 10 15 08.4 +0.6**
PGAV eLR LR 11 10 36.3
PGAV i IAMs_20 IAMs_20 11 39 57.6
comp=Z,833nm,18.0s
KURBB Kurchatov Arra 151.03 274 PKPbc **PKPbc 10 14 58.2 -1.7**
comp=Z,4.7nm,0.9s,baz=115,slow=1.9,SNR=29
KURK Kurchatov 151.04 274 IAMs_20 IAMs_20 11 28 02.3
comp=Z,778nm,21.0s
KURK Kurchatov 151.04 274 PKIKP **PKPbc 10 14 58.2 -1.7**
ESDC Sonseca Array 151.16 119 PKPbc **PKPbc 10 14 59.5 -1.1**
comp=Z,4.9nm,0.9s,baz=260,slow=1.8,SNR=16
GHAJ Ghor Haditha 151.36 191 IAMs_20 IAMs_20 11 28 04.4
comp=Z,1µm,20.0s
SUMG Summit 151.57 36 IAMs_20 IAMs_20 11 14 49.7
comp=Z,1µm,22.0s
PBRG Braganca 151.59 113 ePKPdf **PKiKP 10 15 03.1 +1.2**
PBRG ePKPab **PKPab 10 15 09.8 -0.5**
KEST Kesra 152.83 143 PKPbc **PKPbc 10 15 04.7 +0.2**
comp=Z,6.5nm,0.9s,baz=46,slow=5.2,SNR=6.1
WDD Wied Dalam 154.36 152 IAMs_20 IAMs_20 11 23 22.2
comp=Z,2µm,22.0s
CSS Mathiatis 155.19 188 IAMs_20 IAMs_20 11 21 10.6
comp=Z,1µm,22.0s
KARP Karpathos 155.88 176 IAMs_20 IAMs_20 11 35 41.3
comp=Z,2µm,22.0s
VSL Villasalto 156.28 139 IAMs_20 IAMs_20 11 34 01.9
comp=Z,841nm,21.0s
BRVK Borovoye 156.62 272 IAMs_20 IAMs_20 11 40 08.7
comp=Z,900nm,21.0s
ISP Isparta 158.17 183 IAMs_20 IAMs_20 11 26 46.3
comp=Z,945nm,20.0s
GNI Garni 158.20 214 IAMs_20 IAMs_20 11 31 14.3
comp=Z,1µm,20.0s
CUC Castrocucco 158.62 151 IAMs_20 IAMs_20 11 33 06.1
comp=Z,1µm,20.0s
ARPR Arapgir-MALATY 158.65 200 IAMs_20 IAMs_20 11 31 09.4
comp=Z,1µm,20.0s
SSB Saint Sauveur 159.39 123 IAMs_20 IAMs_20 11 32 39.6
comp=Z,1µm,21.0s
DSB Dublin 159.51 92 IAMs_20 IAMs_20 11 42 33.0
comp=Z,910nm,20.0s
KBS Kingsbay 159.84 10 IAMs_20 IAMs_20 11 26 24.7
comp=Z,1µm,18.0s
MAK Makhachkala 159.89 222 ePKIKP **PKPdf 10 15 00.8 -5.4**
MAK e 10 19 22.7
MAK pmax pmax
comp=Z,46nm,0.3s
ANTO Ankara 160.10 188 IAMs_20 IAMs_20 11 35 01.8
comp=Z,828nm,20.0s
KIV Kislovodsk 162.30 214 ePKIKP **PKPdf 10 15 08.9 0.0**
KIV pmax pmax
comp=Z,5.0nm,1.1s
FETA Feichten 163.32 131 i PKP **PKPdf 10 15 09.5 -0.3**
comp=Z,4.4nm,1.3s
FETA ePKP **PKPab 10 16 01.6 +0.8**
comp=Z,8.6nm,1.2s
SQTA Sankt Quirin 163.67 132 ePKP **PKPdf 10 15 10.7 +0.6**
comp=Z,8.3nm,1.3s
SQTA i PKP **PKPab 10 16 02.6 +0.4**
comp=Z,10nm,1.3s
RETA Reutte 163.72 130 epPKP **pPKPdf 10 15 14.3 +0.3**
comp=Z,12nm,1.5s
RETA i PKP **PKPab 10 16 03.1 +0.8**
comp=Z,15nm,1.3s
MOTA Moosalm 163.73 131 epPKP **pPKPdf 10 15 14.1 0.0**
comp=Z,6.7nm,1.0s
MOTA ePKP **PKPab 10 16 00.8 -1.8**
comp=Z,6.2nm,1.2s
ABTA Abfaltersbach 163.75 135 ePKP **PKPab 10 16 03.7 +1.2**
comp=Z,13nm,1.1s
ABTA i PP **PP 10 19 50.4 +2.0**
comp=Z,4.5nm,1.0s
WTTA Wattenberg 163.87 132 ePKP **PKPdf 10 15 11.2 +0.8**
comp=Z,6.1nm,1.2s
WTTA ePKP **PKPab 10 16 02.8 -0.4**
comp=Z,12nm,1.2s
WTTA ePP **PP 10 19 52.2 +3.0**
comp=Z,7.4nm,1.3s
WATA Walderalm 163.90 132 ePKP **PKPdf 10 15 11.0 +0.6**
comp=Z,6.8nm,1.0s
WATA ePKP **PKPab 10 16 02.8 -0.5**
comp=Z,4.6nm,0.9s
MYKA Terra Mystica 164.05 138 ePKP **PKPdf 10 15 07.4 -3.0**
comp=Z,3.1nm,1.0s
MYKA ePKP **PKPab 10 16 04.9 +1.1**
comp=Z,8.0nm,1.3s
OBKA Obir 164.25 140 ePKP **PKPdf 10 15 08.2 -2.5**
comp=Z,6.3nm,1.2s
OBKA ePKP **PKPab 10 16 04.8 +0.1**
comp=Z,7.7nm,1.3s
LESA Schwarzleotal 164.39 134 i PKP **PKPdf 10 15 09.7 -1.1**
comp=Z,1.8nm,0.8s
LESA i pPKP **pPKPab 10 16 08.1 -1.0**
comp=Z,7.5nm,1.1s
SOKA Soboth 164.55 141 epPKP **PKPab 10 16 08.7 +2.7**
comp=Z,11nm,1.2s
BIOA Bad Ischl, Aus 164.96 136 ePKP **PKPdf 10 15 13.1 +2.0**
comp=Z,7.6nm,1.3s
BIOA ePKP **PKPab 10 16 09.1 +1.4**
comp=Z,7.4nm,1.1s
BIOA i PP **PP 10 19 52.4 -2.3**
comp=Z,3.7nm,1.2s
ARSA Arzberg 165.22 141 ePKP **PKPdf 10 15 13.3 +2.0**
comp=Z,4.8nm,1.4s
ARSA i PKP **pPKPab 10 16 10.7 -1.9**
comp=Z,5.3nm,1.0s
ARSA ePP **PP 10 19 54.3 -1.6**
comp=Z,2.9nm,0.9s
MOA Molln 165.31 137 ePKP **PKPab 10 16 10.1 +0.7**
comp=Z,7.7nm,1.6s
MOA ePP **PP 10 19 57.0 +0.5**
comp=Z,4.2nm,1.6s
RONA Rosalia, Austr 165.86 142 ePKP **PKPab 10 16 10.9 -0.8**
comp=Z,11nm,1.1s
CONA Conrad Observa 165.92 140 epPKP **pPKPdf 10 15 15.6 -0.3**
comp=Z,3.4nm,1.2s
CONA ePKP **PKPab 10 16 12.1 0.0**
comp=Z,8.9nm,1.4s
CONA i PP **PP 10 19 59.0 -0.6**
comp=Z,4.3nm,1.4s
KHC Kasperske Hory 166.14 132 ePKPAB **PKPab 10 16 19.5 +6.5**
KHC ex x 10 16 42.0
KHC ex x 10 17 30.0
KHC Kasperske Hory 166.14 132 ePKP2 **PKPab 10 16 19.5 +6.5**
MODS Modra-Piesok 166.76 143 ePKP2 **PKPab 10 16 20.5 +4.9**
MODS Modra-Piesok 166.76 143 ePKP **PKPab 10 16 20.5 +4.9**
VYHS Vyhne 167.32 147 ePKP2 **PKPab 10 16 23.6 +5.5**
VYHS Vyhne 167.32 147 ePKP **PKPab 10 16 23.6 +5.5**
CLL Collm 167.63 125 ePKP2 **PKPab 10 16 22.0 +2.6**
CLL MLR MLR
comp=Z,1µm,22.8s
NACGM Naroch 175.10 163 eSKP 10 18 43.3

*NEIC **27** 09:56:06.1±1.2,36°.669N±0°.007×121°.35W±0°.01, h5km±1km, Error ellipse: s-maj=1.8km s-min=1.1km az=241.0*
NCEDC 27 09:56:06.3±1.4,**36°.695N**±0°.005×**121°.325W**±0°.009, **h4**km±2km, **ML2.9**/52, **ML2.6**/60(NEIC), **Error ellipse: s-maj=1.1km s-min=0.9km az=84.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BJOM	**Mount Johnson**	**0.07**	**172**				Pg	09 56 08.1	+0.4
SCZ	**Santa Cruz**	**0.12**	**213**				Pg	09 56 08.5	-0.1
SCZ							Sg	09 56 10.2	0.0
SCZ	**Santa Cruz**	**0.12**	**213**	IAML				09 56 10.4	
	comp=N,5µm,0.4s								
SCZ				IAML				09 56 10.4	
	comp=E,8µm,0.5s								
SAO	**San Andreas Ge**	**0.12**	**305**				Pg	09 56 08.8	0.0
FRP	**Fremont Peak**	**0.14**	**294**				Pg	09 56 09.2	0.0
BJCM	**Johnson Can.**	**0.16**	**200**				Pg	09 56 09.3	-0.1
BSRM	**Salinas Radio**	**0.16**	**260**				Pg	09 56 09.5	0.0
BEMM	**Emmet**	**0.19**	**100**				Pg	09 56 11.1	+1.1
BBGB	**Big Mountain B**	**0.26**	**117**				Pb	09 56 12.6	-1.0
BSGM	**Shirttail Gulc**	**0.29**	**169**				Pg	09 56 11.7	-0.2
HTUM	**Tustin Road**	**0.29**	**297**				Pg	09 56 11.9	+0.1
HTUM							Sg	09 56 16.3	+0.6
HFEM	**San Felipe**	**0.29**	**348**				Pg	09 56 13.1	+1.1
BSMM	**Soledad Missio**	**0.32**	**195**				Pg	09 56 12.7	+0.2
HERM	**Elkhorn Road**	**0.33**	**288**				Pg	09 56 13.0	+0.3
HCAM	**Canada Road**	**0.35**	**339**				Pb	09 56 14.3	-0.9
HCBM	**Chamberlain**	**0.36**	**311**				Pg	09 56 13.4	+0.1
HCBM							Sb	09 56 21.6	+0.3
HCOM	**Corn Cob Canyo**	**0.36**	**302**				Pg	09 56 13.6	+0.3
HPCM	**Pacheco Lake**	**0.37**	**6**				Pg	09 56 14.4	+1.0
LRV	**Little Rabbit**	**0.37**	**138**				Pg	09 56 13.9	+0.5
SLD	**San Luis Dam**	**0.39**	**12**				Pg	09 56 14.6	+0.8
SLD							Sb	09 56 20.7	-1.5
GHS	**Gilroy Hot Spr**	**0.41**	**346**				Pg	09 56 15.2	+0.9
HLPM	**Lions Peak**	**0.42**	**325**				Pg	09 56 15.2	+0.7
BMSM	**Mercy Hot Spri**	**0.43**	**95**				Pb	09 56 15.8	-0.8
BCWM	**Chews Ridge**	**0.43**	**207**				Pg	09 56 14.8	+0.1
BPRM	**Ponciano Ridge**	**0.43**	**229**				Pg	09 56 14.7	0.0
JELB	**Ellicott, Sant**	**0.47**	**300**				Pg	09 56 15.5	+0.2
CADM	**Anderson Res.**	**0.53**	**333**				Pg	09 56 17.1	+0.6
SCKWR	**San Luis Creek**	**0.53**	**23**				Pb	09 56 17.8	-0.4
JLAB	**Laurel Hill**	**0.56**	**324**				Pg	09 56 17.9	+0.8
PCCM	**Crazy Canyon**	**0.62**	**168**				Pg	09 56 18.3	+0.2
CCOB	**Coe Ranch Numb**	**0.63**	**334**				Pb	09 56 19.6	-0.3
PMPB	**Monarch Peak**	**0.64**	**138**				Pg	09 56 18.5	0.0
ARN	**Arnold Ranch**	**0.67**	**346**				Pb	09 56 20.1	-0.7
HULI	**Fort Hunter Li**	**0.68**	**174**				Pg	09 56 19.2	-0.1
HULI	**Fort Hunter Li**	**0.68**	**174**	IAML				09 56 33.1	
	comp=E,358nm,0.6s								
HULI				IAML				09 56 37.0	
	comp=N,308nm,0.5s								
MHC	**Mount Hamilton**	**0.69**	**339**				Pb	09 56 20.4	-0.7
JJOM	**Saint Joseph's**	**0.73**	**314**				Pg	09 56 20.4	0.0
SCCB	**Santa Clara Co**	**0.73**	**324**				Pb	09 56 21.1	-0.5
PSAM	**San Ardo**	**0.75**	**152**				Pg	09 56 20.6	-0.2
PPTM	**Peach Tree Val**	**0.76**	**140**				Pg	09 56 20.8	-0.2
MTOS	**Mt Oso, Westle**	**0.81**	**360**				Pb	09 56 22.8	-0.1
MTOS	**Mt Oso, Westle**	**0.81**	**360**	IAML				09 56 38.2	
	comp=N,308nm,0.4s								
MTOS				IAML				09 56 40.7	
	comp=E,296nm,0.5s								
CMLM	**Mount Lewis**	**0.82**	**342**				Pb	09 56 22.9	-0.4
CALM	**Calaveras Res.**	**0.84**	**333**				Pg	09 56 23.0	+0.5
PSMM	**Smith Mountain**	**0.86**	**136**				Pg	09 56 22.9	+0.1
JSJM	**St Joseph**	**0.88**	**316**				Pg	09 56 23.6	+0.3
JBMM	**Black Mountain**	**0.91**	**313**				Pg	09 56 23.4	-0.4
PHPM	**Hope Ranch**	**0.92**	**141**				Pg	09 56 23.4	-0.5
JFP	**Foothills Park**	**0.96**	**314**				Pg	09 56 24.2	-0.6
JPSM		**0.96**	**302**				Pg	09 56 24.2	-0.6
PKD	**Bear Valley Ra**	**0.98**	**140**				Pg	09 56 24.5	-0.6
JSFB	**Stanford Teles**	**0.98**	**316**				Pg	09 56 24.6	-0.5
WENL	**Wente Vineyard**	**0.99**	**340**				Pb	09 56 25.6	-0.4
MYLM	**Yosemite Lake**	**1.00**	**46**				Pg	09 56 25.6	+0.2
PVCM	**Vineyard Canyo**	**1.00**	**140**				Pg	09 56 25.0	-0.5
PPO	**Portuguese Can**	**1.01**	**145**				Pg	09 56 25.5	-0.1
PSTM	**Stockdale Moun**	**1.01**	**139**				Pg	09 56 25.1	-0.6
CVLM	**Vallecito**	**1.01**	**336**				Pg	09 56 25.9	+0.2
JRSC	**Jasper Ridge**	**1.02**	**314**				Pg	09 56 25.0	-0.8
WSRE	**Westside REC,**	**1.03**	**110**				Pn	09 56 27.3	-0.3
CNIC	**Niles Canyon**	**1.04**	**331**				Pg	09 56 25.9	-0.5
LEGD	**La Grand CA**	**1.07**	**61**				Pg	09 56 26.6	-0.3
CTM	**Castle Mountai**	**1.10**	**133**				Pb	09 56 28.3	+0.2
PHFM	**Heflinger Ranc**	**1.10**	**137**				Pg	09 56 27.4	0.0
RAMR	**Ramage Ranch**	**1.12**	**161**				Pg	09 56 26.9	-0.9
LCUV	**Le Cuvier**	**1.15**	**155**				Pg	09 56 26.9	-1.4
GHC	**Gold Hill**	**1.17**	**137**				Pg	09 56 27.9	-0.8
JCHM	**Cahill Ridge**	**1.17**	**315**				Pg	09 56 27.5	-1.4
PCBM	**Cambria**	**1.19**	**170**				Pg	09 56 27.7	-1.5
JCPM	**Coyote Point**	**1.20**	**318**				Pg	09 56 27.6	-1.6
CSLM	**San Leandro Hi**	**1.21**	**329**				Pg	09 56 28.6	-0.9
PKLM	**Kerr Lake**	**1.22**	**139**				Pg	09 56 28.1	-1.5
MHDM	**Hidden Dam**	**1.22**	**69**				Pg	09 56 29.1	-0.7
SAC	**San Andreas**	**1.24**	**316**				Pg	09 56 28.3	-1.8
TCAS	**Cass Winery, P**	**1.25**	**150**				Pg	09 56 28.9	-1.3
TCHL	**Shandon**	**1.25**	**143**				Pg	09 56 29.4	-0.9
BGC	**Bolinger Road**	**1.26**	**332**				Pg	09 56 29.5	-1.1
PMRM	**Maxey Ranch**	**1.27**	**136**				Pg	09 56 29.2	-1.3
PAGB	**Antelope Grade**	**1.30**	**138**				Pg	09 56 29.4	-1.8
JSBM	**San Bruno Moun**	**1.30**	**319**				Pg	09 56 28.6	-2.7
JMGM	**Milagra Ridge**	**1.31**	**316**				Pn	09 56 29.2	-2.3
BDM	**Black Diamond**	**1.33**	**341**				Pn	09 56 31.1	-0.6
BUCR	**Buckhorn Ranch**	**1.35**	**44**				Pn	09 56 30.1	-2.0
BUCR	**Buckhorn Ranch**	**1.35**	**44**	IAML				09 56 54.1	
	comp=E,66nm,0.9s								
BUCR				IAML				09 56 54.3	
	comp=N,72nm,0.8s								
BKS	**Berkeley--Byer**	**1.39**	**329**				Pn	09 56 30.5	-2.0
PTAM	**Tassajara Cree**	**1.39**	**159**				Pn	09 56 31.8	-0.8
TSCN	**Private Proper**	**1.40**	**145**				Pn	09 56 30.4	-2.3
JPRM	**Presidio of Sa**	**1.43**	**320**				Pn	09 56 30.4	-2.7
LSDC	**Los Osos Digit**	**1.45**	**164**				Pb	09 56 33.8	-0.1
MMIM	**Miami Mountain**	**1.46**	**60**				Pn	09 56 32.9	-0.7
CPIM	**Pinole Ridge**	**1.47**	**331**				Pn	09 56 32.2	-1.5
PBPM	**Bitterwater Pu**	**1.50**	**137**				Pn	09 56 33.1	-1.0
CMB	**Columbia Colle**	**1.53**	**29**				Pn	09 56 33.9	-0.6
SMMC	**Simmler**	**1.75**	**142**				Pn	09 56 36.0	-1.5
NOLM	**Olema**	**1.78**	**319**				Pn	09 56 35.8	-2.1
CVS	**Carmenet Viney**	**1.88**	**332**				Pn	09 56 37.5	-1.8
CVS	**Carmenet Viney**	**1.88**	**332**	IAML				09 57 13.9	
	comp=N,35nm,0.8s								
CVS				IAML				09 57 27.5	
	comp=E,59nm,2.8s								
MCCM	**Marconi Confer**	**1.90**	**320**	Pn		Pn	Pn	09 56 37.0	-2.6
MCCM				IAML				09 57 20.0	
	comp=N,49nm,0.9s								
MCCM				IAML				09 57 23.8	
	comp=E,69nm,1.9s								
VES	**Vestal, Richgr**	**2.00**	**115**				Pn	09 56 39.9	-1.1
VES				IAML				09 57 07.8	
	comp=N,77nm,0.7s								
VES				IAML				09 57 14.7	
	comp=E,61nm,0.7s								
MRDM	**Red Cones**	**2.02**	**63**				Pn	09 56 42.4	+0.9
MINS	**Minaret Summit**	**2.05**	**61**				Pn	09 56 42.7	+0.8
MMPM	**Mammoth Pass**	**2.05**	**63**				Pb	09 56 44.0	-0.3
MLIM	**Lincoln Peak**	**2.07**	**62**				Pb	09 56 43.7	-1.0
MDYM	**Dry Creek**	**2.08**	**62**				Pb	09 56 43.9	-1.0
MDCM	**Deadman Creek**	**2.08**	**60**				Pn	09 56 43.0	+0.7
AFDM	**Forest Hills D**	**2.27**	**7**				Pn	09 56 44.0	-0.7
WAKR	**Walker**	**2.35**	**39**				Pn	09 56 46.3	+0.4
WAKR				IAML				09 57 23.3	
	comp=E,39nm,0.5s								
WAKR				IAML				09 57 30.7	
	comp=N,37nm,0.9s								
ISA	**Isabella, Lake**	**2.53**	**113**				Pn	09 56 48.3	+0.1
ISA				IAML				09 57 23.3	
	comp=N,23nm,1.0s								
HOPS	**Hopland Field**	**2.68**	**329**	Pn		Pn	Pn	09 56 48.5	-1.8
HOPS				IAML				09 57 16.1	
	comp=N,22nm,2.6s								
HOPS				IAML				09 58 08.3	
	comp=E,37nm,3.2s								
MPK	**Martis Peak**	**2.79**	**21**				Pn	09 56 51.5	-0.5
MPK				IAML				09 57 45.4	
	comp=N,35nm,0.6s								
MFS	**McCloud Flat S**	**2.86**	**101**				Pn	09 56 52.0	-0.8
MPMC	**Manual Prospec**	**3.16**	**100**	Pn		Pn	Pn	09 56 57.1	+0.1
MPMC				IAML				09 58 57.5	
	comp=N,20nm,0.2s								
BEKR	**Beckworth**	**3.26**	**13**				Pn	09 56 58.8	+0.5
BEKR				IAML				09 57 57.2	
	comp=E,12nm,0.6s								
PAHR	**Pah Rah Range**	**3.37**	**26**				Pn	09 57 00.1	+0.1
QSM	**Queen of Sheba**	**3.67**	**100**	Pn		Pn	Pn	09 57 04.0	+0.1
QSM				IAML				09 59 02.5	
	comp=N,7.6nm,0.1s								
WCT	**Wildcat Mounta**	**3.77**	**87**	Pn		Pn	Pn	09 57 05.3	-0.1
BFSC	**Mount Baldy Ra**	**3.87**	**128**	Pn		Pn	Pn	09 57 06.9	+0.1
BFSC				IAML				09 57 41.5	
	comp=N,7.7nm,0.1s								
GSC	**Goldstone, Bar**	**3.92**	**109**	Pn		Pn	Pn	09 57 07.4	0.0
GSC				IAML				09 58 22.6	
	comp=E,10nm,0.9s								
GSC				IAML				09 58 28.2	
	comp=N,8.2nm,1.1s								

*IDC **27** 10:07:51.1±0.7, 59°.55S×151°.43W, h0km, mb4.4/9, mbtmp4.4/9, MS5.2/31, Error ellipse: s-maj=26.4km s-min=17.1km az=14.0*
*NEIC **27** 10:07:56.6±2.1, 59°.9S±0°.2×151°.7W±0°.2, h10km±1km, mb5.0/37, Ms_20 5.5/39, Mww5.6/12, Error ellipse: s-maj=25.9km s-min=16.7km az=11.0*
*GCMT **27** 10:07:56.5±0.1, 59°.75S±0°.01×150°.88W±0°.01, h15km, MW5.6/154, Moment Tensor Solution. s78, c106; s154, c301; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr-0.20±.05; Mθθ 2.92±.05; Mϕϕ -2.72±.05; Mrθ-0.17±.10; Mθϕ 1.40±.04; Mϕr-0.11±.10; Best double couple: Mo3.15400×10^17 NP1:ϕs302.00000°, δ87.00000°, λ1.00000°. NP2:ϕs212.00000°, δ89.00000°, λ177.00000°. Principal axes: T 3.2580, Plg3.0000°, Azm167.0000°; N -0.2040, Plg87.0000°, Azm10.0000°; P -3.0500, Plg1.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 10:07:55.5±0.4,**59°.79S**±0°.08×**151°.49W**±0°.08, **h10**km, **n133, σ2s05/77, mb5.0**/27, **MS5.3**/43, **1C-5

BELA	**Belgrano 2**	**37.35**	**162**			**P**		**10 15 06.3**	**-1.2**
BELA				IAmb		IAmb		10 15 23.3	
	comp=Z,33nm,1.4s								
PMSA	**Palmer Station**	**37.89**	**136**	P		**P**		**10 15 14.6**	**+2.5**
PMSA	**Palmer Station**	**37.89**	**136**	LR		LR		10 28 18.7	
	comp=Z,2μm,18.2s,baz=236,slow=32								
RAR	**Rarotonga**	**38.99**	**348**	IAMs_20		IAMs_20		10 26 35.6	
	comp=Z,6μm,20.0s								
RAR	**Rarotonga**	**38.99**	**348**	LR		LR		10 27 36.3	
	comp=Z,4μm,18.7s,baz=208,slow=31								
CASY	**Casey**	**40.48**	**218**			**P**		**10 15 35.5**	**+1.7**
ESPZ	**Base Esperanza**	**41.19**	**137**	P		**P**		**10 15 42.5**	**+2.9**
PPT2	**Papeete2**	**42.17**	**3**	*e*S		**S**		**10 22 03.0**	**-5.0**
	comp=Z,726nm,23.8s								
PPT2				*e*SS		**SS**		**10 25 20.9**	**+5.1**
	comp=Z,5μm,27.8s								
PPT2				*e*LR		LR		10 27 15.2	
	comp=Z,9μm,27.0s								
PPT2				*e*LR		LR		10 27 21.9	
	comp=Z,11μm,25.0s								
PPT	**Papeete**	**42.19**	**3**	LR		LR		10 28 45.3	
	comp=Z,4μm,19.9s,baz=193,slow=30								
CAN	**Canberra**	**45.06**	**275**	P		**P**		**10 16 12.7**	**+1.3**
CAN				IAmb		IAmb		10 17 47.5	
	comp=Z,36nm,1.6s								
CAN				IAMs_20		IAMs_20		10 30 03.0	
	comp=Z,5μm,22.0s								
VNA3	**Neumayer Olymp**	**46.55**	**164**	⇓P		**P**		**10 16 19.4**	**-3.3**
	comp=Z,10nm,1.0s								
SNAA	**Sanae**	**47.02**	**167**	⇓P		**P**		**10 16 23.6**	**-2.7**
	comp=Z,180nm,0.9s								
SNAA	**Sanae**	**47.02**	**167**			**P**		**10 16 23.8**	**-2.6**
SNAA				IAmb		IAmb		10 16 31.8	
	comp=Z,19nm,1.1s								
SNAA	**Sanae**	**47.02**	**167**	P		**P**		**10 16 23.3**	**-3.0**
	comp=Z,9.7nm,1.1s,baz=199,slow=5.4,SNR=15								
SNAA				LR		LR		10 35 46.8	
	comp=Z,2μm,18.3s,baz=195,slow=36								
	comp=Z,9.7nm,1.1s								
TROLL	**Troll, Antarti**	**47.25**	**169**	⇓P		**P**		**10 16 26.2**	**-2.1**
	comp=Z,384nm,1.1s								
VNA1	**Neumayer--Stat**	**47.28**	**164**	⇓P		**P**		**10 16 25.9**	**-2.4**
	comp=Z,30nm,1.0s								
ARMA	**Armidale**	**47.68**	**282**	P		**P**		**10 16 31.6**	**-0.5**
DZM	**Mont Dzumac**	**47.89**	**303**	*e*LR		LR		10 29 59.1	
	comp=Z,3μm,25.2s								
LL02	**Futaleuf**	**49.09**	**108**			**P**		**10 16 45.6**	**+2.9**
LL01	**San Ignacio de**	**49.43**	**107**	P		**P**		**10 16 48.1**	**+2.9**
LL01				IAmb		IAmb		10 16 55.1	
	comp=Z,43nm,1.6s								
MAW	**Mawson**	**50.44**	**196**	LR		LR		10 36 01.6	
	comp=Z,2μm,21.8s,baz=160,slow=33								
SYO	**Syowa Base**	**51.25**	**185**	⇓*e*SP		sP		10 17 02.2	+0.3
SYO	**Syowa Base**	**51.25**	**185**	⇑*e*PcP		**PcP**		**10 18 12.5**	**-1.0**
LR05	**Currie**	**51.27**	**105**			**P**		**10 17 01.5**	**+2.3**
LR05				IAmb		IAmb		10 17 05.7	
	comp=Z,23nm,1.1s								
STKA	**Stephens Creek**	**51.53**	**272**			**P**		**10 17 01.4**	**+0.1**
STKA	**Stephens Creek**	**51.53**	**272**	P		**P**		**10 16 58.9**	**-2.4**
	comp=Z,4.8nm,0.8s,baz=135,slow=8.0,SNR=15								
STKA				LR		LR		10 36 02.4	
	comp=Z,4μm,18.0s,baz=133,slow=33								
	comp=Z,4.8nm,0.8s								
TAOE	**Nuku Hiva Isla**	**51.55**	**14**	*e*LR		LR		10 31 35.7	
	comp=Z,5μm,27.7s								
PLCA	**Paso Flores**	**51.59**	**107**			**P**		**10 17 02.6**	**+0.9**
PLCA	**Paso Flores**	**51.59**	**107**	P		**P**		**10 16 59.4**	**-2.3**
	comp=Z,1.3nm,0.7s,baz=222,slow=7.3,SNR=7.0								
PLCA				LR		LR		10 33 37.0	
	comp=Z,2μm,19.7s,baz=214,slow=30								
	comp=Z,1.3nm,0.7s								
EIDS	**Eidsvold**	**52.13**	**285**			**P**		**10 17 06.2**	**+0.5**
EIDS				IAmb		IAmb		10 17 17.1	
	comp=Z,25nm,1.5s								
H03S2	**Juan Fernandez**	**52.82**	**95**	T		T		11 13 57.9	
	baz=216,slow=74,SNR=52								
H03S1	**Juan Fernandez**	**52.83**	**95**	T		T		11 13 56.0	
	baz=216,slow=74,SNR=58								
H03S3	**Juan Fernandez**	**52.84**	**95**	T		T		11 13 57.6	
	baz=216,slow=74,SNR=67								
H03N3	**Juan Fernandez**	**53.13**	**94**	T		T		11 14 24.7	
	baz=219,slow=72,SNR=209								
H03N2	**Juan Fernandez**	**53.13**	**94**	T		T		11 14 18.0	
	baz=219,slow=72,SNR=354								
H03N1	**Juan Fernandez**	**53.14**	**94**	T		T		11 14 18.4	
	baz=219,slow=72,SNR=129								
BBOO	**Buckleboo**	**53.58**	**266**	P		**P**		**10 17 17.3**	**+0.8**
BI02	**San Fabin de**	**54.41**	**103**	P		**P**		**10 17 23.1**	**+0.5**
BI02				IAmb		IAmb		10 19 07.9	
	comp=Z,16nm,0.9s								
BO01	**Tunca**	**56.30**	**101**	P		**P**		**10 17 37.8**	**+1.7**
BO01				IAmb		IAmb		10 17 39.2	
	comp=Z,17nm,1.1s								
MT01	**Popeta**	**56.64**	**101**			**P**		**10 17 39.7**	**+1.1**
MT01				IAmb		IAmb		10 17 41.8	
	comp=Z,35nm,1.3s								
PEL	**Peldehue**	**57.50**	**101**	IAMs_20		IAMs_20		10 35 26.0	
	comp=Z,2μm,18.0s								
TRQA	**Tornquist**	**57.79**	**111**			**P**		**10 17 47.7**	**+1.1**
TRQA				IAmb		IAmb		10 18 02.5	
	comp=Z,29nm,1.3s								
CTAO	**Charters Tower**	**58.95**	**284**			**P**		**10 17 54.2**	**-0.7**
CTAO				IAmb		IAmb		10 17 58.7	
	comp=Z,18nm,1.1s								
CFA	**Coronel Fontan**	**59.96**	**102**	LR		LR		10 38 27.8	
	comp=Z,656nm,18.5s,baz=201,slow=31								
AS31	**Alice Springs**	**62.13**	**271**					**10 18 15.6**	**-1.1**
AS31				IAmb		IAmb		10 20 04.3	
	comp=Z,8.0nm,0.7s								
ASAR	**Alice Springs**	**62.13**	**271**			**P**		**10 18 14.8**	**-1.9**
ASAR	**Alice Springs**	**62.13**	**271**	P		**P**		**10 18 14.1**	**-2.5**
	comp=Z,6.8nm,0.8s,baz=138,slow=6.3,SNR=55								
ASAR				LR		LR		10 41 55.7	
	comp=Z,4μm,19.2s,baz=154,slow=33								
	comp=Z,6.8nm,0.8s								
H01W1	**Cape Leeuwin H**	**62.63**	**247**	T		T		11 27 11.0	
	baz=145,slow=76,SNR=39								
H01W2	**Cape Leeuwin H**	**62.64**	**247**	T		T		11 27 08.2	
	baz=145,slow=76,SNR=38								
H01W3	**Cape Leeuwin H**	**62.65**	**247**	T		T		11 27 09.1	
	baz=145,slow=76,SNR=45								
NWAO	**Narrogin (SRO)**	**62.79**	**251**	IAMs_20		IAMs_20		10 39 45.7	
	comp=Z,3μm,18.0s								
NWAO	**Narrogin (SRO)**	**62.79**	**251**	LR		LR		10 39 49.8	
	comp=Z,3μm,18.4s,baz=125,slow=30								
WR8	**Warramunga Arr**	**64.93**	**273**			**P**		**10 18 34.4**	**-0.7**
WRA	**Warramunga Arr**	**65.02**	**273**			**P**		**10 18 40.4**	**+4.7**
WRA	**Warramunga Arr**	**65.02**	**273**	P		**P**		**10 18 33.5**	**-2.3**
	comp=Z,3.2nm,0.8s,baz=151,slow=5.6,SNR=21								
WRA				LR		LR		10 43 10.2	
	comp=Z,2μm,21.4s,baz=152,slow=33								
	comp=Z,3.2nm,0.8s								
WRAB	**Tennant Creek**	**65.02**	**273**	P		**P**		**10 18 34.9**	**-0.8**
PMG	**Port Moresby**	**67.71**	**291**	LR		LR		10 43 50.8	
	comp=Z,851nm,21.8s,baz=150,slow=32								
CPUP	**Villa Florida**	**69.66**	**107**			**P**		**10 19 04.0**	**-1.0**
CPUP				IAmb		IAmb		10 19 16.8	
	comp=Z,20nm,1.9s								
CPUP	**Villa Florida**	**69.66**	**107**	P		**P**		**10 19 03.2**	**-1.8**
	comp=Z,1.2nm,0.9s,baz=99,slow=5.4,SNR=5.0								
CPUP				LR		LR		10 45 25.5	
	comp=Z,410nm,18.6s,baz=67,slow=32								
	comp=Z,1.2nm,0.9s								
RABL	**Rabaul**	**69.99**	**298**	P		P		10 18 59.8	-7.4
PB16	**IPOC Station P**	**70.32**	**93**	P		**P**		**10 19 06.2**	**-3.7**
PB16				IAmb		IAmb		10 19 23.4	
	comp=Z,20nm,1.2s								
PSA00	**Pilbara Seismi**	**70.95**	**260**	P		**P**		**10 19 13.7**	**+0.7**
FITZ	**Fitzroy Crossi**	**70.97**	**267**	LR		LR		10 46 00.2	
	comp=Z,3μm,21.9s,baz=139,slow=32								
NNA	**Nana**	**72.00**	**83**	IAMs_20		IAMs_20		10 43 11.4	
	comp=Z,3μm,19.0s								
NNA	**Nana**	**72.00**	**83**	LR		LR		10 43 13.1	
	comp=Z,2μm,18.1s,baz=204,slow=30								
LPAZ	**La Paz**	**72.75**	**93**			**P**		**10 19 22.2**	**-2.3**
LPAZ	**La Paz**	**72.75**	**93**	P		**P**		**10 19 22.8**	**-1.8**
	comp=Z,3.8nm,1.1s,baz=217,slow=5.2,SNR=9.7								
LPAZ				LR		LR		10 43 29.4	
	comp=Z,1μm,21.6s,baz=175,slow=29								
	comp=Z,3.8nm,1.1s								
PAYG	**Puerto Ayora**	**75.31**	**65**	P		**P**		**10 19 39.8**	**+1.0**
ATAH	**Atahualpa**	**75.38**	**79**	LR		LR		10 45 27.7	
	comp=Z,3μm,18.0s,baz=229,slow=30								
SIV	**San Ignacio**	**76.55**	**99**	LR		LR		10 47 20.3	
	comp=Z,1μm,21.6s,baz=218,slow=31								
JAY	**Jayapura**	**76.80**	**288**	LR		LR		10 49 06.3	
	comp=Z,704nm,21.4s,baz=186,slow=32								

PTLB	**Pontes e Lacer**	**77.97**	**100**			**P**		**10 19 55.5**	**+1.7**
BATI	**Baumata**	**78.66**	**269**	LR		LR		10 53 48.6	
	comp=Z,4μm,18.1s,baz=152,slow=35								
COHC	**Cochancay**	**78.99**	**76**			**P**		**10 20 02.1**	**+2.6**
OTAV	**Otavalo**	**81.72**	**75**			**P**		**10 20 16.3**	**+1.6**
OTAV				IAmb		IAmb		10 20 28.5	
	comp=Z,23nm,1.5s								
JTS	**Las Juntas de**	**87.42**	**65**	LR		LR		10 51 12.3	
	comp=Z,2μm,18.2s,baz=198,slow=30								
ROSC	**El Rosal**	**87.73**	**76**	LR		LR		10 52 57.3	
	comp=Z,2μm,18.4s,baz=241,slow=31								
CMIG	**Matias Romero**	**89.19**	**53**	LR		LR		10 52 57.2	
	comp=Z,418nm,18.9s,baz=206,slow=30								
LEM	**Lembang**	**89.60**	**257**	LR		LR		10 55 55.1	
	comp=Z,982nm,20.2s,baz=164,slow=32								
LPIG	**La Paz**	**90.15**	**37**	LR		LR		10 53 33.1	
	comp=Z,1μm,19.3s,baz=215,slow=30								
PMBI	**Palembang**	**94.37**	**257**	IAMs_20		IAMs_20		10 57 15.3	
	comp=Z,1μm,21.0s								
PFO	**Pinyon Flats O**	**97.46**	**29**	LR		LR		10 57 35.5	
	comp=Z,1μm,18.2s,baz=220,slow=31								
ALPN	**Alpine**	**98.09**	**40**			**P**		**10 21 29.8**	**-2.2**
ALPN				IAmb		IAmb		10 21 33.0	
	comp=Z,5.0nm,1.4s								
MSTX	**Muleshoe**	**101.69**	**40**	IAMs_20		IAMs_20		11 00 44.2	
	comp=Z,1μm,18.0s								
OK029	**Liberty Lake**	**105.13**	**43**	IAMs_20		IAMs_20		11 02 50.3	
	comp=Z,920nm,18.0s								
N38A	**Joes South For**	**111.07**	**44**	IAMs_20		IAMs_20		11 05 11.5	
	comp=Z,792nm,19.0s								
S51A	**Beattyville**	**111.94**	**52**	IAMs_20		IAMs_20		11 22 52.3	
	comp=Z,835nm,19.0s								
CHIR	**Chirikof Islan**	**115.31**	**357**	IAMs_20		IAMs_20		11 06 21.5	
	comp=Z,3μm,19.0s								
SII	**Sitkinak Islan**	**116.03**	**358**	IAMs_20		IAMs_20		11 05 13.4	
	comp=Z,3μm,20.0s								
NJ2	**Nanjing**	**116.94**	**288**	*e*P		**PKiKP**		**10 26 41.8**	**+2.1**
NJ2				pmax		pmax			
	comp=Z,7.0nm,0.5s								
Q19K	**Cape Douglas,**	**118.39**	**359**	IAMs_20		IAMs_20		11 06 50.0	
	comp=Z,3μm,19.0s								
RAGM	**Ragged Mountai**	**119.96**	**4**			**PKPdf**		**10 26 44.1**	**-0.6**
PZH	**PanZhiHua**	**120.91**	**270**	PKP		**PKiKP**		**10 26 49.5**	**+1.7**
M20K	**Styx River**	**121.35**	**359**	IAMs_20		IAMs_20		11 07 21.3	
	comp=Z,2μm,20.0s								
CD2	**Chengdu**	**123.48**	**275**	PKP		**PKiKP**		**10 26 53.5**	**+0.8**
DAWY	**Dawson**	**123.88**	**6**			**PKiKP**		**10 26 52.6**	**+0.2**
CCB	**Clear Creek Bu**	**124.15**	**2**			**PKPdf**		**10 26 51.2**	**-1.3**
ILAR	**Eielson Array**	**124.30**	**2**			PKPpre		10 26 50.2	
ILAR	**Eielson Array**	**124.30**	**2**	PKP		**PKPdf**		**10 26 48.0**	**-4.8**
	comp=Z,3.0nm,1.0s,baz=231,slow=1.6,SNR=4.7								
HHC	**Hu-ho-hao-te**	**127.48**	**288**	*e*P		**PKPdf**		**10 26 57.8**	**-2.1**
RDOG	**Red Dog Mine**	**127.82**	**355**	IAMs_20		IAMs_20		11 10 57.9	
	comp=Z,3μm,20.0s								
BILL	**Bilibino**	**131.19**	**340**	IAMs_20		IAMs_20		11 14 28.4	
	comp=Z,764nm,20.0s								
WMQ	**Urumqi**	**141.51**	**273**	*e*PKP		**PKiKP**		**10 27 27.5**	**-1.2**
WMQ				LR		LR			
	comp=Z,460nm,20.1s								
KSH	**Kashi**	**144.21**	**257**	PKP		**PKiKP**		**10 27 33.0**	**-1.5**
TARG	**Taragay, Kyrgy**	**144.98**	**261**			**PKPab**		**10 27 32.1**	**+0.2**
NRS	**Narsarsuaq**	**145.33**	**55**	IAMs_20		IAMs_20		11 12 33.6	
	comp=Z,1μm,20.0s								
NRN	**Naryn**	**145.66**	**259**			**PKPdf**		**10 27 31.8**	**-1.8**
MKAR	**Makanchi Array**	**146.32**	**272**			**PKPdf**		**10 27 31.8**	**-2.3**
MKAR	**Makanchi Array**	**146.32**	**272**	PKPbc		**PKPdf**		**10 27 32.5**	**-1.6**
	comp=Z,3.5nm,0.7s,baz=107,slow=3.2,SNR=12								
MAKZ	**Makanchi**	**146.49**	**272**			**PKPdf**		**10 27 33.1**	**-1.3**
GAR	**Garm**	**146.56**	**250**			**PKPbc**		**10 27 36.0**	**-0.5**
AAK	**Ala-Archa**	**147.30**	**259**	IAMs_20		IAMs_20		11 43 54.9	
	comp=Z,566nm,18.0s								
ZALV	**Zalesovo Beam**	**149.51**	**284**	PKPbc		**PKPdf**		**10 27 39.8**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=75,slow=1.6,SNR=1.9								
NEEM	**North Greenlan**	**149.53**	**25**	*e*P		**PKPdf**		**10 27 39.8**	**+0.9**
KK31	**Karatay Array**	**149.61**	**256**			**PKPdf**		**10 27 39.5**	**-0.1**
KKAR	**Karatay Array**	**149.61**	**256**			**PKPdf**		**10 27 40.0**	**+0.4**
KURBB	**Kurchatov Arra**	**150.69**	**274**	PKPbc		**PKPdf**		**10 27 42.5**	**+1.4**
	comp=Z,1.3nm,0.5s,baz=122,slow=1.9,SNR=12								
KURK	**Kurchatov**	**150.71**	**275**	IAMs_20		IAMs_20		11 41 12.2	
	comp=Z,846nm,20.0s								
ESDC	**Sonseca Array**	**151.38**	**120**	PKPbc		**PKPdf**		**10 27 45.3**	**+2.7**
	comp=Z,4.2nm,0.9s,baz=223,slow=1.7,SNR=12								
SUMG	**Summit**	**151.92**	**36**	*i* P		**PKiKP**		**10 27 51.0**	**+1.3**
CLL	**Collm**	**167.81**	**127**	*e*PKPab		PKiKP		10 29 08.0	-12
CLL	**Collm**	**167.81**	**127**	pmax		pmax			
	comp=Z,8.0nm,1.3s								

DJA 27 10:10:22.6±0.5, 2°N±5°×12°8E±°, h10km, M3.3/4, MLv3.3/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.36**	**208**	P		Pn	10 10 45.9	-1.8
TNTI				S		Sg	10 11 07.0	+0.5
TNTI	**Ternate**	**1.36**	**208**	P		Pn	10 10 44.9	-2.8
SGSI	**Sangihe**	**3.00**	**304**	P		Pn	10 11 10.9	+0.6

*SNET **27** 10:10:38.0±3.3, 12°.07N×87°.94W, h20km, ML3.2*
*CATAC **27** 10:10:39.0±0.3, 12°.N±2°×8°.8W±°, h11km±1km, M3.8/48, MLv3.8/48, Error ellipse: s-maj=4.0km s-min=1.7km az=27.3, confirmed*

ISC 27 10:10:37.0±1.5, 12°.11N±0°.05×87°.94W±0°.03, h2km±10km, n95, σ0°.74/110, 7C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**0.94**	**23**	P		**Pb**	**10 10 56.7**	**+0.6**
CSGN				S		**Sb**	**10 11 09.0**	**-0.1**
POTN	**Potosi Cosigui**	**0.98**	**25**	P		**Pb**	**10 10 56.9**	**+0.1**
CRIN	**San Cristobal**	**1.05**	**56**	P		**Pn**	**10 10 58.7**	**-0.1**
ALEN	**Leon**	**1.10**	**71**	P		**Pg**	**10 10 58.8**	**+0.7**
CNCH	**Conchagua**	**1.17**	**5**	*e*P		**Pb**	**10 11 00.1**	**+0.1**
CNCH	**Conchagua**	**1.17**	**5**	P		**Pn**	**10 11 00.6**	**+0.1**
CNCH	**Conchagua**	**1.17**	**5**	S		**Sb**	**10 11 15.9**	**+0.3**
LCND	**La Caada**	**1.19**	**2**	*e*P		**Pg**	**10 11 00.3**	**+0.4**
LCND				*e*S		**Sg**	**10 11 14.8**	**-0.7**
LCND	**La Caada**	**1.19**	**2**	⇑P		**Pb**	**10 11 00.6**	**+0.1**
POLN	**Al Sur del Vol**	**1.22**	**64**	⇑P		**Pg**	**10 11 00.2**	**-0.3**
POLN				S		**Sb**	**10 11 17.1**	**-0.1**
PLRN	**Geotermica Pol**	**1.24**	**67**	⇓P		**Pg**	**10 10 59.7**	**-1.1**
PLRN				S		**Sg**	**10 11 17.2**	**+0.4**
ROCN	**Rota Cerro Neg**	**1.24**	**71**	P		**Pn**	**10 11 02.0**	**+0.6**
ROCN				S		**Sg**	**10 11 17.2**	**+0.4**
CNGA	**Al SSO del Vol**	**1.27**	**72**	P		**Pg**	**10 11 01.6**	**+0.3**
CNGN	**Cerro Negro**	**1.27**	**72**	P		**Pg**	**10 11 01.6**	**+0.2**
CNGN	**Cerro Negro**	**1.27**	**72**	S		**Sb**	**10 11 18.7**	**+0.1**
COPN	**Copaltepe**	**1.32**	**87**	⇑P		**Pg**	**10 11 01.9**	**-0.4**
BLLM	**Bellamira**	**1.36**	**348**	*e*P		**Pg**	**10 11 03.0**	**0.0**
RANC	**El Ranchito**	**1.36**	**345**	P		**Pb**	**10 11 03.9**	**+0.6**
CNRM	**Centro Naciona**	**1.38**	**351**	P		**Pg**	**10 11 03.7**	**+0.3**
BC84	**Volcan Momotom**	**1.40**	**78**	P		**Pn**	**10 11 03.9**	**+0.3**
MOMN	**Momotombo**	**1.40**	**78**	⇑P		**Pn**	**10 11 02.9**	**-0.8**
PACA	**Pacayal**	**1.40**	**345**	*e*P		**Pn**	**10 11 04.1**	**+0.3**
PACA	**Pacayal**	**1.40**	**345**	P		**Pn**	**10 11 03.5**	**-0.3**
PACA	**Pacayal**	**1.40**	**345**	S		**Sb**	**10 11 22.8**	**+0.3**
MOM2	**El Cardon**	**1.46**	**77**	P		**Pn**	**10 11 03.9**	**-0.5**
MOM2				S		**Sb**	**10 11 23.2**	**-0.8**
AMTN	**Mateare**	**1.48**	**85**	P		**Pn**	**10 11 04.8**	**+0.1**
TECA	**Tecapa**	**1.48**	**338**	*e*P		**Pn**	**10 11 04.8**	**-0.1**
TECA				*e*S		**Sg**	**10 11 23.5**	**-1.3**
SAPS	**Ciudad Sandino**	**1.50**	**88**	S		**Sb**	**10 11 24.1**	**-1.0**
SAPS	**Ciudad Sandino**	**1.50**	**88**	⇑P		**Pn**	**10 11 04.6**	**-0.4**
APQ3	**Volcan Apoyequ**	**1.54**	**84**	P		**Pn**	**10 11 05.8**	**+0.2**
APQ3				S		**Sn**	**10 11 25.7**	**-0.6**
CHOHN	**Orocuina**	**1.56**	**29**	P		**Pn**	**10 11 06.1**	**+0.1**
AESN	**El Sauce Leon**	**1.57**	**60**	P		**Pn**	**10 11 06.4**	**+0.4**
APQ2	**Apoyeque**	**1.58**	**87**	P		**Pn**	**10 11 06.1**	**0.0**
ABCN	**Banco Central**	**1.59**	**89**	P		**Pn**	**10 11 06.3**	**0.0**
PQSS	**Presa 15 de Se**	**1.62**	**338**	*e*P		**Pn**	**10 11 07.1**	**+0.4**
PQSS	**Presa 15 de Se**	**1.62**	**338**	P		**Pn**	**10 11 07.3**	**+0.6**
PQSS	**Presa 15 de Se**	**1.62**	**338**	S		**Sn**	**10 11 28.5**	**+0.3**
ALLN	**Telcor Managua**	**1.63**	**88**	P		**Pn**	**10 11 06.6**	**-0.2**
UNAN	**Cigeo UNAN**	**1.63**	**90**	P		**Pn**	**10 11 07.1**	**+0.3**
UNAN				S		**Sn**	**10 11 27.6**	**-0.9**
TISN	**Laguna Tiscapa**	**1.63**	**89**	P		**Pn**	**10 11 06.4**	**-0.5**
TECO	**Alcaldia de Te**	**1.64**	**330**	*e*P		**Pn**	**10 11 07.1**	**+0.1**
TECO				*e*S		**Sn**	**10 11 25.5**	**-3.2**
TECO	**Alcaldia de Te**	**1.64**	**330**	S		**Sn**	**10 11 28.3**	**-0.4**
TECO	**Alcaldia de Te**	**1.64**	**330**	P		**Pn**	**10 11 07.6**	**+0.7**
MGAN	**Managua**	**1.65**	**88**	P		**Pn**	**10 11 06.9**	**-0.2**
MGAN	**Managua**	**1.65**	**88**	S		**Sn**	**10 11 28.5**	**-0.4**

CAHU	**Cacaucatique**	**1.67**	**351**	*e*P		**Pb**	**10 11 08.6**	**-0.1**
WILN	**Americas 2**	**1.71**	**88**	P		**Pn**	**10 11 07.8**	**-0.1**
WILN				S		**Sn**	**10 11 30.3**	**-0.2**
UESV	**Universidad de**	**1.73**	**331**	*e*P		**Pn**	**10 11 08.6**	**+0.4**
UESV	**Universidad de**	**1.73**	**331**	S		**Sn**	**10 11 30.7**	**-0.2**
UESV	**Universidad de**	**1.73**	**331**	P		**Pn**	**10 11 09.1**	**+0.9**
AERN	**Aeropuerto Man**	**1.73**	**89**	S		**Sn**	**10 11 31.0**	**+0.1**
AERN	**Aeropuerto Man**	**1.73**	**89**	P		**Pn**	**10 11 08.7**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.76**	**334**	*e*P		**Pn**	**10 11 09.1**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.76**	**334**	S		**Sb**	**10 11 32.6**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.76**	**334**	P		**Pn**	**10 11 09.2**	**+0.5**
NANN	**Nandasmo**	**1.79**	**95**	S		**Sn**	**10 11 32.7**	**+0.4**
NANN	**Nandasmo**	**1.79**	**95**	P		**Pn**	**10 11 09.3**	**+0.3**
PAVA	**Las Pavas**	**1.87**	**329**	*e*P		**Pn**	**10 11 11.2**	**+1.0**
PAVA				*e*S		**Sn**	**10 11 31.6**	**-2.8**
PAVA	**Las Pavas**	**1.87**	**329**	S		**Sn**	**10 11 34.5**	**+0.1**
PAVA	**Las Pavas**	**1.87**	**329**	P		**Pn**	**10 11 10.7**	**+0.5**
LOMA	**Loma Larga**	**1.94**	**322**	*e*P		**Pn**	**10 11 11.6**	**+0.4**
LOMA	**Loma Larga**	**1.94**	**322**	P		**Pn**	**10 11 12.3**	**+1.1**
UTEC	**Universidad Te**	**2.01**	**322**	P		**Pn**	**10 11 13.2**	**+1.2**
UEES	**Universidad Ev**	**2.04**	**322**	P		**Pb**	**10 11 14.3**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.04**	**18**	P		**Pn**	**10 11 13.6**	**+1.0**
TGUH				S		**Sn**	**10 11 39.0**	**+0.2**
OCON	**Estacion meteo**	**2.08**	**43**	⇑P		**Pn**	**10 11 13.0**	**0.0**
OCON				S		**Sn**	**10 11 39.6**	**0.0**
PMON	**Piamonte**	**2.08**	**320**	P		**Pn**	**10 11 13.8**	**+0.7**
PMON	**Piamonte**	**2.08**	**320**	S		**Sn**	**10 11 40.5**	**+0.7**
YUSH	**Yuscaran**	**2.12**	**30**	S		**Sn**	**10 11 40.5**	**-0.2**
YUSH	**Yuscaran**	**2.12**	**30**	⇑P		**Sn**	**10 11 13.8**	**+0.1**
MATN	**Matagalpa**	**2.13**	**67**	S		**Sn**	**10 11 40.6**	**-0.3**
MATN	**Matagalpa**	**2.13**	**67**	P		**Pn**	**10 11 13.2**	**-0.5**
JAYA	**Jayaque - finc**	**2.13**	**316**	*e*P		**Pn**	**10 11 13.0**	**-0.5**
JAYA				*e*S		**Sn**	**10 11 38.1**	**-2.8**
JAYA	**Jayaque - finc**	**2.13**	**316**	P		**Pn**	**10 11 14.2**	**

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JMJ2 **Miyako jima3** **4.96 38** *e*P **Pn** **10 12 46.5 -0.9**
JMJ2 *e*S **Sn** **10 13 41.1 -3.4**
JMJ **Miyako jima 2** **5.00 37** P **Pn** **10 12 48.7 +0.8**
JOGS **Gusukube** **5.02 38** *e*P **Pn** **10 12 47.3 -1.0**
JOGS *e*S **Sn** **10 13 44.0 -1.9**
JOGS **Gusukube** **5.02 38** A A 10 12 47.3
comp=N,11nm,6.5s,comp=E,10.0nm,11.4s
QZH **Quanzhou** **5.13 323** Pn **Pn** **10 12 48.8 -1.0**
QZH Sn **Sn** **10 13 44.0 -4.7**
QZH smax smax
comp=E,390nm,0.7s
QZH smax smax
comp=E,520nm,0.5s
TGY **Tagaytay City** **6.78 189** Pn **Pn** **10 13 10.7 -1.8**
comp=E,81nm,0.3s,baz=58,slow=4.7,SNR=13
comp=E,257nm,0.5s
JKE **Kume jima 2** **7.02 38** *e*P **Pn** **10 13 15.6 -0.1**
HKPS **Hong Kong Po S** **7.43 282** **Pn** **10 13 19.6 -1.8**
JAGN **Aguni-jima** **7.48 39** *e*P **Pn** **10 13 21.4 -0.7**
JJT3 **Tamagusuku3** **7.50 44** *e*P **Pn** **10 13 21.8 -0.5**
JNTH **Nagotoyohara** **7.91 43** *e*P **Pn** **10 13 26.0 -1.9**
JNTH *e*S **Sn** **10 14 55.6 -1.5**
JIH **Iheya** **8.24 40** *e*P **Pn** **10 13 30.7 -1.9**
JIH *e*S **Sn** **10 15 01.9 -3.4**
JOW **Kunigami** **8.29 43** Pn **Pn** **10 13 31.8 -1.4**
comp=E,30nm,0.3s,baz=108,slow=21,SNR=58
JOW Sn **Sn** **10 14 58.5 -8.0**
baz=93,slow=18
JOW LR LR 10 16 22.4
comp=E,4μm,18.5s,baz=212,slow=35
comp=E,153nm,0.4s
JOW **Kunigami** **8.29 43** P **Pn** **10 13 33.0 -0.2**
JOW **Kunigami** **8.29 43** *e*P **Pn** **10 13 31.6 -1.6**
GZH **Guangzhou** **8.31 287** P **Pn** **10 13 30.5 -3.0**
GZH S **Sn** **10 15 05.3 -1.8**
GZH LR LR
comp=E,6μm,12.5s
GZH LR LR
comp=E,4μm,13.9s
JYRO **Yoronjima** **8.54 43** *e*P **Pn** **10 13 34.6 -2.0**
JYRO *e*S **Sn** **10 15 07.9 -4.7**
JOKE **Okinoerabujima** **8.85 42** *e*P **Pn** **10 13 38.3 -2.6**
JTK **Tokunoshima** **9.39 41** P **Pn** **10 13 45.7 -2.5**
JTK *e*S **Sn** **10 15 28.8 -4.7**
JMZ **Minamidaito 2** **9.83 58** Pn **Pn** **10 13 52.2 -2.1**
JMZ **Minamidaito 2** **9.83 58** *e*P **Pn** **10 13 51.8 -2.5**
JAMN **Amaminishikomi** **9.86 40** *e*P **Pn** **10 13 52.8 -1.8**
JKDJ **Kitadaitoujima** **9.95 58** *e*P **Pn** **10 13 53.2 -2.8**
SSE **Sheshan** **10.23 356** P **Pn** **10 13 59.0 -0.8**
SSE S **Sn** **10 15 52.8 -1.4**
SSE pmax pmax
comp=E,15nm,0.8s
SSE LR LR
comp=E,1μm,13.9s
SSE LR LR
comp=E,2μm,14.8s
JAM **Amami Oshima** **10.24 41** *e*P **Pn** **10 13 57.9 -2.0**
JTAJ **Takarajima** **10.55 37** *e*P **Pn** **10 14 02.0 -2.1**
CNSH **ChangSha** **11.00 313** P **Pn** **10 14 09.0 -1.3**
CNSH pmax pmax
comp=E,4.0nm,0.4s
JNN **Nakanoshima** **11.45 37** *e*P **Pn** **10 14 15.9 -0.6**
NJ2 **Nanjing** **11.50 347** ⇑P **Pn** **10 14 16.5 -0.7**
NJ2 sP 10 14 22.5
NJ2 pmax pmax
comp=E,28nm,0.9s
NJ2 LR LR
comp=E,2μm,11.4s
NJ2 LR LR
comp=E,6μm,13.7s
NJ2 LR LR
comp=E,3μm,18.9s
QIZ **Qiongzhong** **11.55 263** **Pn** **10 14 16.9 -1.0**
QIZ **Qiongzhong** **11.55 263** P Pn 10 14 13.0 -4.9
QIZ S **Sn** **10 16 25.8 -0.9**
QIZ pmax pmax
comp=Z,220nm,4.7s
QIZ LR LR
comp=N,2μm,11.1s
QIZ LR LR
comp=E,1μm,12.4s
QIZ LR LR
comp=Z,4μm,11.1s
QIZ **Qiongzhong** **11.55 263** P **Pn** **10 14 15.5 -2.4**
WHN **Wuhan** **11.85 326** P Pn 10 14 27.0 +5.1
WHN pmax pmax
comp=Z,78nm,0.7s
WHN LR LR
comp=Z,8μm,9.8s
WHN LR LR
comp=Z,10μm,9.9s
WHN LR LR
comp=Z,10μm,13.2s
JMTN **Minamitane** **12.46 38** *e*P **Pn** **10 14 28.1 -2.2**
DAV **Davao City (W)** **14.13 165** LR LR 10 20 39.6
comp=Z,3μm,20.8s,baz=0.5,slow=39
DAV **Davao City (W)** **14.13 165** P **P** **10 15 02.9 +2.1**
DAV S **Sn** **10 17 35.6 +5.8**
JNU **Nakatsue** **14.57 31** **Pn** **10 14 57.6 -1.5**
JNU **Nakatsue** **14.57 31** Pn **Pn** **10 14 57.4 -1.8**
comp=Z,1.0nm,0.3s,baz=180,slow=7.8,SNR=15
JNU LR LR 10 20 59.3
comp=Z,2μm,18.0s,baz=203,slow=39
comp=Z,36nm,0.8s
JNU **Nakatsue** **14.57 31** P **Pn** **10 15 02.2 +3.1**
ENH **Enshi** **14.65 312** **Pn** **10 15 00.8 +0.5**
ENH **Enshi** **14.65 312** P **Pn** **10 15 00.1 -0.2**
GYA **Guiyang** **15.10 295** P **Pn** **10 15 07.3 +0.9**
GYA sP P 10 15 13.5 +1.9
GYA S **Sn** **10 17 57.0 +3.6**
GYA pmax pmax
comp=Z,35nm,0.8s
GYA LR LR
comp=Z,3μm,13.4s
GYA LR LR
comp=Z,3μm,14.6s
GYA LR LR
comp=Z,3μm,14.5s
DLV **Lat** **15.67 238** P **P** **10 15 16.2 -1.8**
KKM **Kota Kinabalu** **15.74 202** **Pn** **10 15 14.3 -0.5**
KKM IAmb IAmb 10 15 21.0
comp=Z,302nm,1.0s
KKM **Kota Kinabalu** **15.74 202** P **Pn** **10 15 15.2 +0.4**
TIA **Tai'an** **15.89 346** P **P** **10 15 19.5 -0.7**
TIA S **Sn** **10 18 11.3 -1.0**
TIA SS **S** **10 18 26.8 +0.3**
TIA pmax pmax
comp=Z,21nm,0.9s
TIA pmax pmax
comp=Z,390nm,4.8s
TIA LR LR
comp=Z,1μm,23.5s
TIA LR LR
comp=Z,5μm,18.2s
TIA LR LR
comp=Z,3μm,15.7s
MYLDM **Lahad Datu** **15.93 193** **Pn** **10 15 16.8 -0.5**
MYLDM **Lahad Datu** **15.93 193** P **P** **10 15 20.6 -0.2**
LYN **LuoYang** **16.02 330** P **P** **10 15 20.8 -0.9**
LYN sP pP 10 15 26.3 +0.3
LYN pmax pmax
comp=Z,51nm,1.4s
LYN pmax pmax
comp=Z,310nm,4.2s
LYN LR LR
comp=Z,5μm,13.5s
LYN LR LR
comp=Z,6μm,13.3s
LYN LR LR
comp=Z,5μm,16.1s
TJN **Taejon** **16.18 16** Pn **Pn** **10 15 18.7 -1.5**
TJN IAmb IAmb 10 15 28.4
comp=Z,216nm,0.9s
TJN **Taejon** **16.18 16** P **Pn** **10 15 21.8 +1.6**
TJN **Taejon** **16.18 16** P **Pn** **10 15 18.7 -1.5**
TJN pmax pmax
comp=Z,216nm,0.9s
JMN **Monobe** **16.61 37** P **P** **10 15 29.7 +1.4**
UBPT **Khong Chiam** **16.64 253** **Pn** **10 15 25.4 -0.8**
UBPT **Khong Chiam** **16.64 253** P **P** **10 15 27.9 -0.7**
SLVN **Son La** **16.87 275** **Pn** **10 15 28.3 -0.9**
SLVN **Son La** **16.87 275** P **P** **10 15 30.4 -0.8**
INCN **Inchon** **17.07 13** **Pn** **10 15 30.0 -1.5**
INCN IAmb IAmb 10 15 38.3
comp=Z,328nm,1.6s

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INCN **Inchon** **17.07 13** P **P** **10 15 33.8 +0.5**
INCN S **Sn** **10 18 42.5 +1.5**
INCN **Inchon** **17.07 13** P **P** **10 15 34.4 +1.2**
INCN **Inchon** **17.07 13** P **Pn** **10 15 30.0 -1.5**
INCN pmax pmax
comp=Z,328nm,1.6s
KSAR **Wonju Array Be** **17.32 16** P **Pn** **10 15 34.3 -0.3**
KSAR **Wonju Array Be** **17.32 16** P **Pn** **10 15 34.3 -0.3**
KSRS **Korea Array** **17.34 16** P **Pn** **10 15 34.1 -0.7**
comp=Z,0.9nm,0.3s,baz=200,slow=12,SNR=92
comp=Z,88nm,1.1s
KS19 **Wonju Array Si** **17.37 16** P **Pn** **10 15 34.2 -1.1**
SGSI **Sangihe** **17.40 168** P **P** **10 15 38.5 +1.4**
comp=Z,3μmcomp=Z,162nm,1.0s
XAN **Xi'an** **17.50 321** P **P** **10 15 39.8 +1.7**
XAN pmax pmax
comp=Z,150nm,1.3s
XAN LR LR
comp=Z,3μm,14.9s
XAN LR LR
comp=Z,2μm,13.7s
XAN LR LR
comp=Z,2μm,14.4s
HNS **HongShan** **17.66 341** ⇑P **P** **10 15 40.8 +1.0**
HNS S **Sn** **10 18 56.0 +0.7**
HNS pmax pmax
comp=Z,43nm,1.0s
HNS LR LR
comp=Z,3μm,14.7s
HNS LR LR
comp=Z,3μm,17.2s
HNS LR LR
comp=Z,3μm,16.7s
DL2 **Dalian** **18.00 359** P **P** **10 15 46.0 +2.5**
DL2 pmax pmax
comp=Z,100nm,1.3s
DL2 pmax pmax
comp=Z,1μm,7.5s
DL2 LR LR
comp=Z,3μm,14.7s
DL2 LR LR
comp=Z,4μm,13.3s
DL2 LR LR
comp=Z,3μm,15.3s
KMI **Kunming** **18.21 287** ⇓P **Pn** **10 15 45.3 -0.7**
KMI pmax pmax
comp=Z,25nm,1.4s
KMI pmax pmax
comp=Z,520nm,6.1s
KMI LR LR
comp=Z,3μm,10.9s
KMI LR LR
comp=Z,730nm,9.3s
KMI LR LR
comp=Z,2μm,13.8s
TIY **Taiyuan** **18.73 336** P **P** **10 15 51.3 -0.4**
TIY S **Sn** **10 19 21.0 -0.4**
TIY LR LR
comp=Z,4μm,12.7s
TIY LR LR
comp=Z,5μm,14.4s
TIY LR LR
comp=Z,4μm,15.1s
CD2 **Chengdu** **19.19 305** P **P** **10 15 56.0 -0.7**
CD2 pP pP 10 15 59.8 -1.5
CD2 PP **PnPn** **10 16 15.3 +4.8**
CD2 LR LR
comp=Z,5μm,13.1s
CD2 LR LR
comp=Z,4μm,10.8s
CD2 LR LR
comp=Z,3μm,12.2s
PZH **PanZhiHua** **19.36 291** P **Pn** **10 16 01.5 +1.7**
PZH S **Sn** **10 19 35.5 -1.3**
PZH pmax pmax
comp=Z,40nm,1.2s
PZH pmax pmax
comp=Z,720nm,4.5s
PZH LR LR
comp=Z,3μm,12.6s
PZH LR LR
comp=Z,1μm,12.6s
PZH LR LR
comp=Z,2μm,13.3s
JCJ **Chichijima** **19.48 67** P **P** **10 15 57.1 -2.7**
JCJ **Chichijima** **19.48 67** P P 10 15 51.7 -8.2
comp=Z,116nm,0.9s,baz=286,slow=15,SNR=4.8
JCJ LR LR 10 21 36.5
comp=Z,582nm,21.1s,baz=268,slow=31
JCJ **Chichijima** **19.48 67** P **Pn** **10 16 05.2 +4.1**
INU **Inuyama** **19.58 39** P **P** **10 15 59.0 -1.9**
INU **Inuyama** **19.58 39** P **Pn** **10 16 04.7 +2.4**
TOLI2 **Tolitoli** **19.65 184** **P** **10 16 00.1 -1.7**
TOLI2 **Tolitoli** **19.65 184** P **P** **10 16 01.1 -0.7**
BJT **Baijiatuau** **19.75 347** P **P** **10 16 00.7 -2.0**
BJT IAmb IAmb 10 16 13.1
comp=Z,88nm,0.7s
BJT **Baijiatuau** **19.75 347** P **Pn** **10 16 04.4 +0.2**
BJT **Baijiatuau** **19.75 347** P **P** **10 16 00.7 -2.0**
BJT pmax pmax
comp=Z,88nm,0.7s
JGF **Kuroka** **19.96 39** P **Pn** **10 16 08.9 +2.1**
JHJ **Hachijo jima 2** **20.00 49** P **P** **10 16 05.5 0.0**
comp=Z,42nm,0.7s,baz=242,slow=15,SNR=0.7
JHJ LR LR 10 21 24.2
comp=Z,934nm,21.4s,baz=249,slow=30
comp=Z,42nm,0.7s
KMSI **Cibinong** **20.24 174** P Pn 10 16 09.5 -0.7
comp=Z,302nm,0.9s
MRSI **Marisa** **20.24 180** P **P** **10 16 08.4 +0.1**
comp=Z,2μmcomp=Z,1μmcomp=Z,132nm,1.2s
MPSI **Mapaga** **20.48 186** P **P** **10 16 08.8 -2.1**
comp=Z,78nm,0.8s
SBUM **Sibu** **20.61 209** **P** **10 16 11.8 -0.4**
SBUM IAmb IAmb 10 16 24.1
comp=Z,204nm,1.0s
SBUM **Sibu** **20.61 209** P **P** **10 16 12.5 +0.3**
TNTI **Ternate** **20.64 165** P **P** **10 16 10.7 -1.8**
TNTI **Ternate** **20.64 165** P **P** **10 16 12.5 0.0**
TNTI **Ternate** **20.64 165** P **P** **10 16 11.8 -0.7**
comp=Z,72nm,1.0s
MAJO **Matsushiro** **21.10 39** **P** **10 16 21.8 +4.3**
MAJO IAmb IAmb 10 16 34.3
comp=Z,390nm,1.9s
MAJO **Matsushiro** **21.10 39** P **P** **10 16 20.9 +3.4**
MAJO **Matsushiro** **21.10 39** P **P** **10 16 21.8 +4.3**
MAJO pmax pmax
comp=Z,390nm,2.0s
MJAR **Matsushiro Arr** **21.10 39** **P** **10 16 20.2 +2.7**
MJAR **Matsushiro Arr** **21.10 39** P **P** **10 16 18.9 +1.4**
comp=Z,15nm,0.8s,baz=231,slow=7.1,SNR=36
MJAR LR LR 10 23 41.1
comp=Z,587nm,20.5s,baz=221,slow=34
comp=Z,15nm,0.8s
MJAR **Matsushiro Arr** **21.10 39** P **P** **10 16 20.2 +2.7**
MJAR pmax pmax
comp=Z,80nm,1.4s
APSI **Ampana** **21.62 181** P **P** **10 16 21.5 -1.7**
comp=Z,2μmcomp=Z,264nm,1.0s
SMKI **Samarinda** **21.67 193** P **P** **10 16 25.4 +1.7**
comp=Z,518nm,1.1s
PCI **Palu** **21.72 186** P **P** **10 16 22.6 -1.6**
comp=Z,3μmcomp=Z,189nm,0.9s
CHTO **Chiang Mai** **21.76 269** **P** **10 16 24.3 -0.3**
CHTO **Chiang Mai** **21.76 269** P **P** **10 16 26.4 +1.7**
CHTO S **S** **10 20 28.0 +3.0**
CHTO **Chiang Mai** **21.76 269** P **P** **10 16 26.5 +1.9**
CHTO **Chiang Mai** **21.76 269** P **P** **10 16 24.3 -0.3**
CHTO pmax pmax
comp=Z,104nm,1.3s
LUWI **Luwuk** **21.77 178** P **P** **10 16 26.1 +1.4**
comp=Z,262nm,0.8s
CM31 **Chiang Mai Arr** **21.82 268** P **P** **10 16 27.6 +2.3**
CMAR **Chiang Mai Arr** **21.82 268** **P** **10 16 25.1 -0.1**
CMAR **Chiang Mai Arr** **21.82 268** P **P** **10 16 25.8 +0.5**
comp=Z,26nm,0.8s,baz=75,slow=9.2,SNR=64
CMAR PcP **PcP** **10 20 23.4 -1.8**
comp=Z,3.4nm,0.7s,baz=91,slow=2.4,SNR=7.5
CMAR ScP **ScP** **10 24 03.3 +1.4**
comp=Z,1.6nm,0.8s,baz=2.3,slow=0.7,SNR=5.6
CMAR LR LR 10 25 31.5
comp=Z,1μm,18.7s,baz=85,slow=38
comp=Z,26nm,0.8s
CMAR **Chiang Mai Arr** **21.82 268** *i*P **P** **10 16 27.2 +1.9**
CMAR pmax pmax
comp=Z,28nm,0.8s

27d 10h

HHC **Hu-ho-hao-te** **21.82 338** *e*P **P** **10 16 25.5 +0.3**
HHC pP pP 10 16 29.8 +0.2
HHC sP sP 10 16 35.0 +3.2
HHC PP **PnPn** **10 16 49.8 +3.2**
HHC S **S** **10 20 24.5 -1.5**
HHC sS sS 10 20 27.8 -5.3
HHC SS **SnSn** **10 20 57.5 +6.3**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,210nm,4.7s
HHC LR LR
comp=Z,2μm,10.7s
HHC LR LR
comp=Z,2μm,10.5s
HHC LR LR
comp=Z,2μm,10.5s
LZH **Lanzhou** **21.96 318** *e*P **P** **10 16 28.8 +2.0**
LZH sP sP 10 16 35.0 +1.8
LZH pmax pmax
comp=Z,47nm,1.3s
LZH pmax pmax
comp=Z,200nm,4.2s
LZH LR LR
comp=Z,2μm,14.9s
LZH LR LR
comp=Z,3μm,16.5s
LZH LR LR
comp=Z,2μm,15.6s
TNCH **TengChong** **21.99 285** P **P** **10 16 28.0 +0.7**
TNCH pP pP 10 16 30.3 -1.6
TNCH sP sP 10 16 32.8 -1.1
TNCH PP **PnPn** **10 16 52.3 +3.2**
TNCH S **S** **10 20 24.5 -5.2**
TNCH sS pS 10 20 30.3 -6.1
TNCH SS **SnSn** **10 20 58.3 +2.7**
TNCH pmax pmax
comp=Z,130nm,0.4s
TNCH LR LR
comp=Z,1μm,12.5s
TNCH LR LR
comp=Z,1μm,14.9s
TNCH LR LR
comp=Z,2μm,14.4s
BTO **Baotou** **22.17 335** *e*P **P** **10 16 30.0 +1.0**
BTO pP **pP** **10 16 34.3 +0.9**
BTO sP **sP** **10 16 37.0 +1.4**
BTO PP **PnPn** **10 16 57.5 +6.0**
BTO sS **sS** **10 20 39.0 -1.0**
BTO pmax pmax
comp=Z,36nm,1.2s
BTO pmax pmax
comp=Z,550nm,5.4s
BTO LR LR
comp=Z,9μm,15.0s
BTO LR LR
comp=Z,9μm,14.5s
BTO LR LR
comp=Z,11μm,15.2s
JSD **Sado** **22.18 36** P **P** **10 16 32.6 +3.6**
KSM **Kuching** **22.37 212** **P** **10 16 30.0 -1.2**
KSM IAmb IAmb 10 16 40.9
comp=Z,128nm,1.1s
KSM **Kuching** **22.37 212** P **P** **10 16 30.2 -1.0**
BKB **Balikpapan** **22.53 193** P **P** **10 16 29.3 -3.6**
BKB **Balikpapan** **22.53 193** P **P** **10 16 33.2 +0.4**
BKB **Balikpapan** **22.53 193** P **P** **10 16 32.1 -0.7**
PSTR **Posyet** **22.97 17***d* *i*P **P** **10 16 39.3 +2.0**
MSHR **Mys Shultsa** **23.00 18***d**e*P **P** **10 16 40.0 +2.3**
MSHR pmax pmax
comp=Z,48nm,1.3s
GUMO **Guam** **23.01 105** **P** **10 16 36.9 -1.1**
GUMO **Guam** **23.01 105** LR LR 10 25 18.4
comp=Z,465nm,18.7s,baz=306,slow=36
GUMO **Guam** **23.01 105** P **P** **10 16 42.9 +4.9**
GUMO **Guam** **23.01 105** P **P** **10 16 36.9 -1.1**
GUMO pmax pmax
comp=Z,283nm,1.1s
STKI **Sintang** **23.06 208** P **P** **10 16 37.7 -0.8**
comp=Z,91nm,0.9s
CN2 **Changchun** **23.07 6** P **P** **10 16 38.8 +0.4**
CN2 S **S** **10 20 46.3 -2.4**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,2μm,12.0s
CN2 LR LR
comp=Z,2μm,12.0s
CN2 LR LR
comp=Z,2μm,13.0s
SANI **Sanana** **23.09 170** P **P** **10 16 41.7 +2.9**
SANI **Sanana** **23.09 170** P **P** **10 16 40.2 +1.4**
comp=Z,1μmcomp=Z,119nm,0.9s
XLT **XiLinHaoTe** **23.51 349** *e*P **P** **10 16 41.8 -1.1**
XLT pP pP 10 16 46.8 -0.7
XLT S **S** **10 20 52.0 -4.0**
XLT SS **SnSn** **10 21 35.3 +2.8**
XLT PcS **PcS** **10 24 14.3 +6.6**
XLT pmax pmax
comp=Z,16nm,1.2s
XLT pmax pmax
comp=Z,240nm,3.9s
XLT LR LR
comp=Z,2μm,17.3s
XLT LR LR
comp=Z,750nm,21.0s
JMM **Marumori** **23.52 40** P **P** **10 16 42.4 -0.5**
JMM **Marumori** **23.52 40** P **P** **10 16 47.4 +4.5**
VLA **Vladivostok** **23.71 18**⇓ *e*P **P** **10 16 47.2 +2.5**
VLA pmax pmax
comp=Z,61nm,0.9s
TTSI **Tana Toraja** **23.84 185** P **P** **10 16 44.5 -1.6**
comp=Z,2μmcomp=Z,135nm,0.8s
NLAI **Namlea** **24.46 168** P **P** **10 16 51.1 -0.8**
comp=Z,2μmcomp=Z,213nm,1.0s
MDJ **Mudanjiang** **24.53 13** P **P** **10 16 51.9 -0.4**
MDJ IAmb IAmb 10 17 00.4
comp=Z,59nm,1.0s
MDJ **Mudanjiang** **24.53 13** P **P** **10 16 53.8 +1.4**
MDJ PP **PnPn** **10 17 25.5 +1.9**
MDJ pmax pmax
comp=Z,15nm,1.1s
MDJ LR LR
comp=Z,3μm,14.9s
MDJ LR LR
comp=Z,2μm,14.5s
MDJ LR LR
comp=Z,3μm,15.2s
MDJ **Mudanjiang** **24.53 13** P **P** **10 16 57.1 +4.7**
USA0B **Ussuriysk Arra** **24.73 17** P **P** **10 16 53.1 -1.1**
USA0B **Ussuriysk Arra** **24.73 17***d**e*P **P** **10 16 55.7 +1.5**
USRK **Ussuriysk Ar.** **24.73 17** P **P** **10 16 55.5 +1.3**
comp=Z,39nm,1.0s,baz=201,slow=10,SNR=22
USRK LR LR 10 28 07.6
comp=Z,1μm,18.3s,baz=193,slow=40
comp=Z,39nm,1.0s
SPSI **Sidrap Palu** **24.75 185** P **P** **10 16 53.3 -1.2**
comp=Z,94nm,1.1s
SRIT **Nakonsritamara** **24.79 244** **P** **10 16 52.5 -2.5**
SRIT **Nakonsritamara** **24.79 244** P **P** **10 16 55.4 +0.5**
MSAI **Masohi** **24.99 163** P **P** **10 16 56.3 -0.4**
comp=Z,4μmcomp=Z,201nm,0.9s
AAI **Ambon** **25.13 165** P **P** **10 16 56.4 -1.6**
comp=Z,96nm,0.7s
BNSI **Bone** **25.16 184** P **P** **10 16 56.6 -1.6**
comp=Z,1μmcomp=Z,55nm,1.1s
BNX **BinXian** **25.23 9** ⇓P **P** **10 16 59.5 +0.9**
BNX pP **pP** **10 17 03.0 -0.5**
BNX sP **sP** **10 17 04.5 -1.0**
BNX S **S** **10 21 25.8 +2.4**
BNX sS **sS** **10 21 31.0 -0.6**
BNX pmax pmax
comp=Z,74nm,1.0s
BNX pmax pmax
comp=Z,570nm,4.9s
BNX LR LR
comp=Z,1μm,15.2s
BNX LR LR
comp=Z,2μm,13.0s
BNX LR LR
comp=Z,2μm,16.5s
JTM **Tenmabayashi** **25.66 35** **P** **10 17 01.9 -0.7**
JTM **Tenmabayashi** **25.66 35** P **P** **10 17 04.9 +2.3**

FAKI	**Fak Fak**	**25.68**	**156**	P	**P**	**10 17 01.0**	**-2.0**
FAKI				IAmb	IAmb	10 17 11.1	
	comp=Z,77nm,1.1s						
KAPI	**Kappang**	**25.79**	**185**		**P**	**10 17 02.2**	**-1.7**
KAPI				IAmb	IAmb	10 17 09.1	
	comp=Z,45nm,0.8s						
KAPI	**Kappang**	**25.79**	**185**	P	**P**	**10 17 03.6**	**-0.4**
KAPI	**Kappang**	**25.79**	**185**	P	**P**	**10 17 05.2**	**+1.2**
KAPI	**Kappang**	**25.79**	**185**	*i* P	**P**	**10 17 03.1**	**-0.9**
KULM	**Kulim**	**25.84**	**236**	IAmb	IAmb	10 17 05.9	
	comp=Z,53nm,1.0s						
KULM	**Kulim**	**25.84**	**236**	P	**P**	**10 17 04.8**	**+0.3**
MYKOM	**Kota Tinggi**	**25.91**	**225**	P	**P**	**10 17 05.6**	**+0.5**
IPM	**Ipoh**	**26.06**	**234**		**P**	**10 17 05.9**	**-0.6**
IPM				IAmb	IAmb	10 17 14.9	
	comp=Z,85nm,0.9s						
IPM	**Ipoh**	**26.06**	**234**	P	**P**	**10 17 06.0**	**-0.6**
BKSI	**Bulukumba**	**26.07**	**184**	P	**P**	**10 17 04.1**	**-2.4**
TPRI	**Tanjung Pinang**	**26.13**	**223**	P	**P**	**10 17 07.9**	**+0.8**
	comp=Z,171nm,1.2s						
GTA	**Gaotai**	**26.52**	**319**	*e*P	**P**	**10 17 12.3**	**+1.7**
GTA				pP	pP	10 17 15.0	-0.3
GTA				PP	**PnPn**	**10 17 51.5**	**+0.6**
GTA				S	**S**	**10 21 49.3**	**+5.0**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
GTA				LR	LR		
	comp=Z,560nm,12.0s						
GTA				LR	LR		
	comp=Z,2µm,14.5s						
GTA				LR	LR		
	comp=Z,2µm,14.2s						
TEY	**Ternei**	**26.98**	**23**	*e*P	**P**	**10 17 19.5**	**+5.0**
DSRI	**Dabo**	**27.18**	**221**	P	**P**	**10 17 18.2**	**+1.6**
	comp=Z,2µmcomp=Z,112nm,1.2s						
TPI	**Tanjungpandan**	**27.34**	**213**	P	**P**	**10 17 18.7**	**+0.8**
	comp=Z,912nmcomp=Z,54nm,1.3s						
ERM	**Erimo**	**27.65**	**35**	P	**P**	**10 17 24.5**	**+4.0**
JEM	**Erimo**	**27.65**	**35**	P	**P**	**10 17 24.5**	**+4.0**
SHL	**Shillong**	**28.02**	**285**		**P**	**10 17 24.1**	**-0.2**
SHL	**Shillong**	**28.02**	**285**	P	**P**	**10 17 23.1**	**-1.2**
SHL	**Shillong**	**28.02**	**285**	P	**P**	**10 17 24.1**	**-0.2**
SHL				pmax	pmax		
	comp=Z,37nm,1.1s						
BRDH	**Bariadhala**	**28.21**	**279**	LR	LR	10 29 05.3	
	comp=Z,788nm,18.6s,baz=145,slow=37						
GOMU	**GeErMu**	**28.22**	**309**	P	**P**	**10 17 27.8**	**+1.6**
GOMU				PcP	**PcP**	**10 20 38.3**	**-1.3**
GOMU				S	**S**	**10 22 12.0**	**+0.4**
GOMU				pmax	pmax		
	comp=Z,21nm,1.1s						
GOMU				pmax	pmax		
	comp=Z,160nm,5.6s						
GOMU				LR	LR		
	comp=Z,2µm,17.5s						
GOMU				LR	LR		
	comp=Z,2µm,16.1s						
GOMU				LR	LR		
	comp=Z,2µm,16.5s						
HIA	**Hailar**	**28.41**	**357**	P	**P**	**10 17 31.9**	**+4.6**
PSI	**Prapat**	**28.74**	**234**	P	**P**	**10 17 30.1**	**-0.6**
	comp=Z,42nm,1.0s,baz=28,slow=4.8,SNR=26						
	comp=Z,42nm,1.0s						
PSI	**Prapat**	**28.74**	**234**	P	**P**	**10 17 31.2**	**+0.5**
RPSI	**Rantau Prapat**	**28.81**	**234**	P	**P**	**10 17 30.1**	**-1.0**
RPSI	**Rantau Prapat**	**28.81**	**234**		**P**	**10 17 29.6**	**-1.6**
RPSI				IAmb	IAmb	10 17 31.8	
	comp=Z,47nm,1.0s						
ASAJ	**Asahikawa**	**28.84**	**32**	LR	LR	10 29 25.2	
	comp=Z,730nm,18.8s,baz=223,slow=37						
LSA	**Lhasa**	**29.16**	**294**	P	**P**	**10 17 32.6**	**-2.1**
MMRI	**Maumere**	**29.30**	**179**		**P**	**10 17 33.5**	**-1.9**
MMRI	**Maumere**	**29.30**	**179**	P	**P**	**10 17 37.5**	**+2.1**
MMRI	**Maumere**	**29.30**	**179**	P	**P**	**10 17 34.0**	**-1.4**
EDFI	**Ende, Flores**	**29.41**	**181**	P	**P**	**10 17 34.0**	**-2.5**
SRBI	**Singaraja**	**29.51**	**194**	P	**P**	**10 17 36.9**	**-0.4**
	comp=Z,70nm,1.2s						
ULN	**Ulaanbaatar**	**29.53**	**339**		**P**	**10 17 36.8**	**-0.6**
ULN				IAmb	IAmb	10 17 47.2	
	comp=Z,36nm,0.8s						
ULN	**Ulaanbaatar**	**29.53**	**339**	P	**P**	**10 17 36.6**	**-0.8**
ULN				P	**P**	**10 17 36.6**	**-0.8**
ULN				S	**S**	**10 22 29.4**	**-2.2**
ULN				S	**S**	**10 22 29.4**	**-2.2**
ULN	**Ulaanbaatar**	**29.53**	**339**	*ce*P	**P**	**10 17 36.6**	**-0.8**
ULN				pmax	pmax		
	comp=Z,26nm,1.3s						
MNSI	**Mandailing Nat**	**29.59**	**230**	P	**P**	**10 17 37.3**	**-0.8**
	comp=Z,102nm,1.1s						
HEH	**HeiHe**	**29.66**	**7**	*e*P	**P**	**10 17 40.8**	**+2.5**
HEH				pP	**sP**	**10 17 45.5**	**+0.2**
HEH				S	**S**	**10 22 39.3**	**+6.1**
HEH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HEH				LR	LR		
	comp=Z,730nm,15.5s						
HEH				LR	LR		
	comp=Z,2µm,13.4s						
HEH				LR	LR		
	comp=Z,3µm,15.1s						
SONM	**Songino Array**	**29.72**	**339**		**P**	**10 17 38.4**	**-0.7**
SONM	**Songino Array**	**29.72**	**339**	P	**P**	**10 17 38.1**	**-0.9**
	comp=Z,14nm,0.7s,baz=157,slow=8.8,SNR=23						
SONM				LR	LR	10 30 34.7	
	comp=Z,2µm,18.6s,baz=144,slow=38						
	comp=Z,14nm,0.7s						
SONM	**Songino Array**	**29.72**	**339**	P	**P**	**10 17 38.4**	**-0.7**
SONM				pmax	pmax		
	comp=Z,19nm,1.0s						
PLAI	**Plampang**	**29.77**	**188**	P	**P**	**10 17 41.3**	**+1.6**
PLAI	**Plampang**	**29.77**	**188**	P	**P**	**10 17 38.2**	**-1.5**
NGJI	**Ngawi**	**29.88**	**201**	P	**P**	**10 17 41.8**	**+1.2**
	comp=Z,97nm,0.8s						
PPI	**Padang Panjang**	**29.89**	**228**	P	**P**	**10 17 40.6**	**-0.1**
GMJI	**Gumukmas**	**30.13**	**197**	P	**P**	**10 17 42.8**	**0.0**
	comp=Z,62nm,1.7s						
WBSI	**Waikabubak, Su**	**30.40**	**185**	P	**P**	**10 17 43.7**	**-1.5**
	comp=Z,3µmcomp=Z,76nm,0.8s						
SOEI	**Soe**	**30.49**	**176**	IAmb	IAmb	10 18 34.9	
	comp=Z,73nm,1.1s						
SOEI	**Soe**	**30.49**	**176**	P	**P**	**10 17 47.2**	**+1.1**
SOEI	**Soe**	**30.49**	**176**	P	**P**	**10 17 47.6**	**+1.5**
	comp=Z,55nm,0.9s						
WOJI	**Wonogiri, Jawa**	**30.50**	**202**	P	**P**	**10 17 45.7**	**-0.4**
KLI	**Kotabumi**	**30.58**	**215**	P	**P**	**10 17 47.7**	**+0.9**
MDSI	**Maura Dua**	**30.64**	**217**	P	**P**	**10 17 47.1**	**-0.2**
	comp=Z,1µmcomp=Z,74nm,1.0s						
GSI	**Gunungsitoli**	**30.73**	**234**		**P**	**10 17 46.7**	**-1.5**
GSI				IAmb	IAmb	10 17 49.8	
	comp=Z,57nm,0.9s						
GSI	**Gunungsitoli**	**30.73**	**234**	P	**P**	**10 17 47.9**	**-0.3**
GSI	**Gunungsitoli**	**30.73**	**234**	P	**P**	**10 17 46.9**	**-1.3**
	comp=Z,72nm,1.2s						
KSI	**Kapahiang**	**30.89**	**220**	P	**P**	**10 17 49.5**	**-0.1**
BASI	**Baing, Sumba**	**30.90**	**183**	P	**P**	**10 17 48.8**	**-0.8**
YSS	**Yuzhno-Sakhali**	**31.04**	**28**		**P**	**10 17 50.0**	**-0.6**
YSS	**Yuzhno-Sakhali**	**31.04**	**28**	P	**P**	**10 17 54.2**	**+3.6**
YSS	**Yuzhno-Sakhali**	**31.04**	**28**	*ce*P	**P**	**10 17 52.0**	**+1.4**
YSS				*e**SP	**sP**	**10 17 56.8**	**0.0**
YSS				*e*S	**S**	**10 22 57.4**	**+2.4**
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
YSS				MLR	MLR		
	comp=Z,1µm,15.0s						
LWLI	**Liwa**	**31.14**	**216**	P	**P**	**10 17 53.5**	**+1.6**
KASI	**Kota Agung**	**31.32**	**215**	P	**P**	**10 17 51.8**	**-1.6**
	comp=Z,74nm,1.1s						
SISI	**Saibi**	**31.42**	**228**	P	**P**	**10 17 53.1**	**-1.2**
	comp=Z,2µmcomp=Z,116nm,0.9s						
BBJI	**Bungbulang**	**31.46**	**208**	P	**P**	**10 17 56.3**	**+1.7**
CGJI	**Cibinong**	**31.63**	**212**	P	**P**	**10 17 54.7**	**-1.3**
	comp=Z,66nm,1.0s						
GRNR	**Gornyy**	**31.96**	**17**	*i* P	**P**	**10 17 59.8**	**+1.2**
GRNR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GRNR				MLR	MLR		
	comp=E,470nm,15.0s						
GRNR				MLR	MLR		
	comp=N,370nm,12.0s						
GRNR				MLR	MLR		
	comp=Z,480nm,15.0s						
TABU	**Tabubil**	**32.10**	**142**	P	**P**	**10 18 03.1**	**+2.8**
EVN	**Everest**	**32.71**	**289**	P	**P**	**10 18 05.2**	**-1.0**
EVN				IAmb	IAmb	10 18 15.8	
	comp=Z,44nm,0.9s						

ZAK	**Zakamensk**	**32.97**	**338**	*e*P	**P**	**10 18 08.0**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TYV	**Tymovskoe**	**34.09**	**24**	*e*P	P	10 18 24.6	+7.4
TYV				pmax	pmax		
	comp=Z,100nm,3.8s						
TYV				pmax	pmax		
	comp=Z,34nm,1.0s						
IRK	**Irkutsk**	**34.22**	**341**	*e*P	**P**	**10 18 17.7**	**-0.7**
IRK				pmax	pmax		
	comp=Z,50nm,1.4s						
MTN	**Manton Dam**	**34.67**	**164**	P	P	10 18 17.5	-5.1
MTN	**Manton Dam**	**34.67**	**164**	P	**P**	**10 18 24.8**	**+2.2**
MOY	**Mondy**	**34.85**	**337**	*e*P	**P**	**10 18 24.0**	**+0.1**
MOY				pmax	pmax		
	comp=Z,31nm,1.6s						
KDU	**Kakadu**	**34.88**	**162**	P	**P**	**10 18 26.7**	**+2.3**
WMQ	**Urumqi**	**36.53**	**317**	*e*P	**P**	**10 18 40.3**	**+1.8**
WMQ				LR	LR		
	comp=Z,1µm,13.1s						
WMQ				LR	LR		
	comp=Z,580nm,11.7s						
WMQ				LR	LR		
	comp=Z,310nm,14.9s						
KAVG	**Kavieng**	**36.61**	**126**	P	**P**	**10 18 42.1**	**+2.8**
KNRA	**Kununurra**	**36.90**	**169**		**P**	**10 18 39.0**	**-2.7**
KNRA	**Kununurra**	**36.90**	**169**	P	**P**	**10 18 37.1**	**-4.6**
PATS	**Pohnpei**	**37.82**	**106**	P	**P**	**10 18 48.6**	**-1.0**
PATS	**Pohnpei**	**37.82**	**106**	P	**P**	**10 18 49.4**	**-0.2**
	comp=Z,119nm,1.1s						
PATS	**Pohnpei**	**37.82**	**106**	P	P	10 18 54.5	+4.9
FITZ	**Fitzroy Crossi**	**38.87**	**174**	P	**P**	**10 18 54.8**	**-3.5**
FITZ	**Fitzroy Crossi**	**38.87**	**174**	P	**P**	**10 18 54.5**	**-3.8**
HYB	**Hyderabad**	**41.08**	**273**	*e*P	**P**	**10 19 16.7**	**-0.1**
KRAR	**Krasnoyarsk**	**41.26**	**336**	*e*P	**P**	**10 19 18.1**	**+0.3**
MK31	**Makanchi Array**	**41.27**	**318**	*c i*P	**P**	**10 19 19.3**	**+1.2**
MKAR	**Makanchi Array**	**41.27**	**318**	P	**P**	**10 19 18.6**	**+0.5**
	comp=Z,25nm,0.8s,baz=111,slow=9.4,SNR=33						
MKAR				LR	LR	10 37 28.6	
	comp=Z,732nm,18.7s,baz=106,slow=38						
	comp=Z,25nm,0.8s						
MKAR	**Makanchi Array**	**41.27**	**318**	*i* P	**P**	**10 19 19.3**	**+1.2**
MKAR				pmax	pmax		
	comp=Z,27nm,0.6s						
MAKZ	**Makanchi**	**41.47**	**318**		**P**	**10 19 19.5**	**-0.2**
MAKZ				IAmb	IAmb	10 19 26.8	
	comp=Z,37nm,0.7s						
MAKZ	**Makanchi**	**41.47**	**318**	P	**P**	**10 19 19.5**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,37nm,0.7s						
YAK	**Yakutsk**	**41.50**	**5**	P	**P**	**10 19 18.4**	**-1.2**
YAK	**Yakutsk**	**41.50**	**5**	P	**P**	**10 19 21.0**	**+1.4**
	comp=Z,14nm,0.3s,baz=219,slow=7.3,SNR=5.5						
YAK				LR	LR	10 37 50.7	
	comp=Z,610nm,18.8s,baz=180,slow=38						
	comp=Z,14nm,0.3s						
YAK	**Yakutsk**	**41.50**	**5**	*e*P	**P**	**10 19 19.9**	**+0.3**
YAK				*e*		10 20 55.9	
YAK				*e*		10 21 17.4	
YAK				*e*S	**S**	**10 25 36.9**	**+2.6**
YAK				*e*		10 29 20.8	
YAK				pmax	pmax		
	comp=Z,23nm,1.0s						
YAK				pmax	pmax		
	comp=N,12nm,1.4s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,80nm,3.0s						
YAK				pmax	pmax		
	comp=E,67nm,3.5s						
YAK				smax	smax		
	comp=E,28nm,2.2s						
YAK				smax	smax		
	comp=N,27nm,2.3s						
YAK				MLR	MLR		
	comp=Z,886nm,14.0s						
YAK				MLR	MLR		
	comp=E,431nm,14.0s						
YAK				MLR	MLR		
	comp=N,657nm,15.0s						
SHLS	**Shalkode**	**41.78**	**312**	*e*P	**P**	**10 19 20.1**	**-2.4**
SHLS	**Shalkode**	**41.78**	**312**	*e*P	**P**	**10 19 20.1**	**-2.4**
MBWA	**Marble Bar**	**41.81**	**183**	P	**P**	**10 19 19.0**	**-3.6**
MBWA	**Marble Bar**	**41.81**	**183**	P	**P**	**10 19 19.1**	**-3.5**
	comp=Z,30nm,0.8s						
MBWA	**Marble Bar**	**41.81**	**183**	P	**P**	**10 19 20.0**	**-2.6**
MBWA				P	**P**	**10 19 20.0**	**-2.6**
MBWA	**Marble Bar**	**41.81**	**183**	P	**P**	**10 19 20.6**	**-2.0**
H11N1	**WAKE ISLAND Hy**	**42.05**	**83**	T	T	11 04 21.9	
	baz=283,slow=75,SNR=1461						
H11N2	**WAKE ISLAND Hy**	**42.05**	**83**	T	T	11 04 23.0	
	baz=283,slow=75,SNR=1885						
H11N3	**WAKE ISLAND Hy**	**42.06**	**83**	T	T	11 04 23.1	
	baz=283,slow=75,SNR=1956						
H11S3	**WAKE ISLAND Hy**	**42.07**	**85**	T	T	11 04 19.4	
	baz=281,slow=75,SNR=2483						
H11S1	**WAKE ISLAND Hy**	**42.08**	**85**	T	T	11 04 17.6	
	baz=281,slow=75,SNR=1530						
H11S2	**WAKE ISLAND Hy**	**42.09**	**85**	T	T	11 04 20.7	
	baz=281,slow=75,SNR=2360						
UZB	**Uzynbulak**	**42.09**	**312**	*e*P	**P**	**10 19 24.7**	**-0.2**
UZB	**Uzynbulak**	**42.09**	**312**	*e*P	**P**	**10 19 24.8**	**-0.2**
PALK	**Pallekele**	**42.11**	**257**	P	**P**	**10 19 24.7**	**-0.6**
	comp=Z,8.4nm,0.8s,baz=74,slow=6.6,SNR=4.9						
	comp=Z,8.4nm,0.8s						
PALK	**Pallekele**	**42.11**	**257**	*e*P	**P**	**10 19 26.0**	**+0.7**
PALK				pmax	pmax		
	comp=Z,21nm,1.1s						
WB0	**Warramunga Arr**	**42.15**	**162**	IAmb	IAmb	10 19 32.9	
	comp=Z,157nm,1.9s						
PSA00	**Pilbara Seismi**	**42.21**	**183**	P	**P**	**10 19 23.2**	**-2.7**
PSA00				IAmb	IAmb	10 19 31.8	
	comp=Z,42nm,0.8s						
PSA00	**Pilbara Seismi**	**42.21**	**183**	P	**P**	**10 19 22.9**	**-3.0**
	comp=Z,61nm,0.9s						
PSA00	**Pilbara Seismi**	**42.21**	**183**	P	**P**	**10 19 27.3**	**+1.4**
PEA0B	**Petropavlovsk-**	**42.27**	**32**	P	**P**	**10 19 25.8**	**-0.3**
PEA0B				IAmb	IAmb	10 19 33.4	
	comp=Z,82nm,1.4s						
PEA0B	**Petropavlovsk-**	**42.27**	**32**	P	**P**	**10 19 25.8**	**-0.3**
PEA0B				pmax	pmax		
	comp=Z,82nm,1.4s						
PETK	**Petropavlovsk-**	**42.27**	**32**	P	**P**	**10 19 25.9**	**-0.2**
PETK	**Petropavlovsk-**	**42.27**	**32**	P	**P**	**10 19 26.3**	**+0.2**
	comp=Z,9.9nm,1.0s,baz=210,slow=5.1,SNR=13						
	comp=Z,9.9nm,1.0s						
WRAB	**Tennant Creek**	**42.30**	**163**	P	**P**	**10 19 23.3**	**-3.4**
WRA	**Warramunga Arr**	**42.31**	**163**	P	**P**	**10 19 23.7**	**-3.0**
WRA	**Warramunga Arr**	**42.31**	**163**	P	**P**	**10 19 22.7**	**-4.0**
	comp=Z,6.5nm,0.7s,baz=344,slow=9.1,SNR=28						
WRA				S	S	10 25 36.8	-10
	comp=Z,2.7nm,0.9s,baz=341,slow=15,SNR=11						
	comp=Z,6.5nm,0.7s						
WRA	**Warramunga Arr**	**42.31**	**163**	*i* P	**P**	**10 19 23.0**	**-3.7**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.4s						
PRZ	**Przheval'sk**	**42.33**	**311**	P	**P**	**10 19 25.7**	**-1.3**
PRZ	**Przheval'sk**	**42.33**	**311**	P	**P**	**10 19 25.7**	**-1.3**
PRZ				pmax	pmax		
	comp=Z,30nm,1.0s						
WR8	**Warramunga Arr**	**42.36**	**162**	IAmb	IAmb	10 19 35.2	
	comp=Z,32nm,0.7s						
KPKS	**Kokpek**	**42.42**	**312**	*e*P	**P**	**10 19 27.7**	**+0.1**
SATY	**Saty**	**42.49**	**312**	*e*P	**P**	**10 19 28.4**	**+0.2**
SATY	**Saty**	**42.49**	**312**	*e*P	**P**	**10 19 28.5**	**+0.2**
PET	**Petropavlovsk**	**42.69**	**32**	P	**P**	**10 19 29.1**	**-0.3**
PET	**Petropavlovsk**	**42.69**	**32**	P	**P**	**10 19 32.8**	**+3.3**
PET	**Petropavlovsk**	**42.69**	**32**	*e*P	**P**	**10 19 32.4**	**+2.9**
PET				*e*S	**S**	**10 25 49.1**	**-3.0**
PET				pmax	pmax		
	comp=Z,66nm,0.7s						
PET				pmax	pmax		
	comp=Z,400nm,2.4s						
PET				pmax	pmax		
	comp=Z,100nm,7.6s						
PET				MLR	MLR		
	comp=Z,400nm,18.0s						
PET	**Petropavlovsk**	**42.69**	**32**	P	**P**	**10 19 31.6**	**+2.1**
	comp=Z,1µmcomp=Z,66nm,1.1s						
KDJ	**Kajisay**	**43.10**	**310**	P	**P**	**10 19 32.2**	**-1.0**
KDJ	**Kajisay**	**43.10**	**310**	P	**P**	**10 19 32.3**	**-1.0**
KDJ				pmax	pmax		
	comp=Z,18nm,1.0s						
TDK	**Taldyqorghan**	**43.10**	**314**	*e*P	**P**	**10 19 33.0**	**0.0**

TDK				pmax	pmax		
	comp=Z,29nm,1.1s						
TDK	**Taldyorghan**	**43.10**	**314**	*e*P	**P**	**10 19 33.1**	**0.0**
	comp=Z,29nm,1.1s						
KSH	**Kashi**	**43.38**	**306**	P	**P**	**10 19 38.8**	**+3.3**
KSH				sP	sP	10 19 47.8	+5.5
KSH				pmax	pmax		
	comp=Z,21nm,1.2s						
KSH				pmax	pmax		
	comp=Z,310nm,6.1s						
KSH				LR	LR		
	comp=Z,1µm,16.5s						
KSH				LR	LR		
	comp=Z,750nm,14.4s						
KSH				LR	LR		
	comp=Z,930nm,16.8s						
ZALV	**Zalesovo Beam**	**43.45**	**329**	P	**P**	**10 19 35.4**	**-0.2**
	comp=Z,26nm,0.7s,baz=117,slow=7.6,SNR=46						
ZALV				LR	LR	10 39 30.2	
	comp=Z,730nm,18.5s,baz=127,slow=38						
	comp=Z,26nm,0.7s						
TNSS	**Tian-Shan**	**43.51**	**311**	*e*P	**P**	**10 19 36.5**	**-0.3**
TNSS	**Tian-Shan**	**43.51**	**311**	*e*P	**P**	**10 19 36.6**	**-0.3**
NRN	**Naryn**	**43.78**	**309**	IAmb	IAmb	10 19 49.6	
	comp=Z,42nm,1.0s						
MA2	**Magadan**	**43.80**	**21**	P	**P**	**10 19 37.9**	**-0.6**
MA2	**Magadan**	**43.80**	**21**	P	**P**	**10 19 40.9**	**+2.5**
MA2	**Magadan**	**43.80**	**21**	*e*P	**P**	**10 19 40.8**	**+2.4**
MA2				pmax	pmax		
	comp=Z,26nm,1.0s						
MA2	**Magadan**	**43.80**	**21**	P	**P**	**10 19 40.3**	**+1.9**
	comp=Z,29nm,1.0s						
GIRL	**Giralia**	**43.88**	**190**	IAmb	IAmb	10 19 45.7	
	comp=Z,68nm,1.1s						
GIRL	**Giralia**	**43.88**	**190**	P	**P**	**10 19 39.0**	**-0.4**
	comp=Z,50nm,1.0s						
KUU	**Kurty**	**44.17**	**312**	*e*P	**P**	**10 19 41.9**	**+0.2**
KUU				pmax	pmax		
	comp=Z,16nm,1.2s						
KUU	**Kurty**	**44.17**	**312**	*e*P	**P**	**10 19 41.9**	**+0.2**
	comp=Z,16nm,1.2s						
MTSU	**Mount Surprise**	**44.50**	**149**	P	**P**	**10 19 44.0**	**-0.5**
	comp=Z,14nm,0.8s						
MTSU	**Mount Surprise**	**44.50**	**149**	P	**P**	**10 19 46.7**	**+2.2**
QIS	**Mount Isa**	**44.62**	**156**	P	**P**	**10 19 44.0**	**-1.4**
	comp=Z,29nm,0.7s						
QIS	**Mount Isa**	**44.62**	**156**	P	**P**	**10 19 45.5**	**+0.1**
NIL	**Nilore**	**44.78**	**297**	P	**P**	**10 19 46.3**	**-0.4**
NIL	**Nilore**	**44.78**	**297**	P	**P**	**10 19 46.8**	**+0.1**
NIL				P	**P**	**10 19 46.8**	**+0.1**
NIL	**Nilore**	**44.78**	**297**	P	**P**	**10 19 46.3**	**-0.4**
NIL				pmax	pmax		
	comp=Z,62nm,0.9s						
KURK	**Kurchatov**	**45.13**	**322**	P	**P**	**10 19 49.3**	**0.0**
KURK				IAmb	IAmb	10 19 57.4	
	comp=Z,51nm,1.0s						
KURK	**Kurchatov**	**45.13**	**322**	P	**P**	**10 19 48.7**	**-0.5**
KURK				S	**S**	**10 26 25.5**	**-2.4**
KURK	**Kurchatov**	**45.13**	**322**	*ce*P	**P**	**10 19 49.2**	**0.0**
KURK				pmax	pmax		
	comp=Z,37nm,0.8s						
KURBB	**Kurchatov Arra**	**45.15**	**322**	P	**P**	**10 19 49.8**	**+0.5**
	comp=Z,38nm,0.7s,baz=120,slow=7.4,SNR=63						
KURBB				ScP	**ScP**	**10 25 18.9**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=97,slow=4.8,SNR=4.7						
KURBB				LR	LR	10 39 46.9	
	comp=Z,459nm,19.3s,baz=172,slow=38						
	comp=Z,38nm,0.7s						
AAK	**Ala-Archa**	**45.15**	**310**	LR	LR	10 41 46.8	
	comp=Z,850nm,20.0s,baz=106,slow=40						
AAK	**Ala-Archa**	**45.15**	**310**	*e*P	**P**	**10 19 50.0**	**+0.3**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SGDS	**Sogindy**	**45.25**	**311**	*e*P	**P**	**10 19 50.2**	**-0.1**
AS31	**Alice Springs**	**45.74**	**165**	P	**P**	**10 19 51.8**	**-2.5**
AS31	**Alice Springs**	**45.74**	**165**	P	**P**	**10 19 51.4**	**-2.9**
	comp=Z,12nm,0.6s						
ASAR	**Alice Springs**	**45.74**	**165**	P	**P**	**10 19 52.0**	**-2.3**
ASAR	**Alice Springs**	**45.74**	**165**	P	**P**	**10 19 51.5**	**-2.9**
	comp=Z,4.5nm,0.5s,baz=346,slow=6.8,SNR=72						
ASAR				S	S	10 26 26.4	-11
	comp=Z,1.7nm,1.0s,baz=344,slow=14,SNR=7.8						
	comp=Z,4.5nm,0.5s						
ASAR	**Alice Springs**	**45.74**	**165**	P	**P**	**10 19 52.0**	**-2.3**
AS01	**Alice Springs**	**45.76**	**165**	P	**P**	**10 19 56.0**	**+1.6**
WRKA	**Warakurna**	**46.02**	**172**	P	**P**	**10 19 53.1**	**-3.4**
	comp=Z,15nm,1.3s						
BTLS	**Baital**	**46.07**	**313**	*e*P	**P**	**10 19 56.5**	**-0.2**
BTLS	**Baital**	**46.07**	**313**	*e*P	**P**	**10 19 56.5**	**-0.2**
SEY	**Seymchan**	**46.87**	**18**	*e*P	**P**	**10 20 03.3**	**+0.6**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CTAO	**Charters Tower**	**47.11**	**148**	P	**P**	**10 20 04.4**	**-0.7**
CTAO				IAmb	IAmb	10 20 09.3	
	comp=Z,28nm,1.0s						
CTAO	**Charters Tower**	**47.11**	**148**	P	**P**	**10 20 08.2**	**+3.1**
CTAO	**Charters Tower**	**47.11**	**148**	P	**P**	**10 20 04.4**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,28nm,1.0s						
MEEK	**Meekatharra**	**47.31**	**184**	P	**P**	**10 20 03.5**	**-3.1**
	comp=Z,48nm,1.1s						
MEEK	**Meekatharra**	**47.31**	**184**	P	**P**	**10 20 05.1**	**-1.5**
BTK	**Batken**	**47.39**	**306**	IAmb	IAmb	10 20 22.1	
	comp=Z,43nm,1.2s						
DZA	**Taraz**	**47.48**	**310**	*e*P	**P**	**10 20 07.7**	**-0.1**
DZA	**Taraz**	**47.48**	**310**	*e*P	**P**	**10 20 07.8**	**-0.1**
KKAR	**Karatay Array**	**48.11**	**310**	P	**P**	**10 20

AMKA	Amchitka	53.69	41	P	P	10 20 53.7	-0.8		
EIDS	Eidsvold	53.95	147	P	P	10 21 00.1	+3.4		
BILL	Bilibino	54.58	19	P	P	10 21 00.8	+0.1		
BILL				IAmb	IAmb	10 21 16.5			
	comp=Z,30nm,1.1s								
BILL	Bilibino	54.58	19	*de*P	P	10 21 02.2	+1.5		
BILL				pmax	pmax				
	comp=Z,18nm,1.0s								
BBOO	Buckleboo	55.03	166	P	P	10 21 02.4	-2.0		
BBOO				IAmb	IAmb	10 21 20.8			
	comp=Z,37nm,0.8s								
BBOO	Buckleboo	55.03	166	P	P	10 21 02.7	-1.7		
STKA	Stephens Creek	55.69	160	P	P	10 21 06.9	-2.3		
STKA	Stephens Creek	55.69	160	P	P	10 21 07.2	-2.0		
	comp=Z,14nm,0.8s,baz=333,slow=7.3,SNR=28								
	comp=Z,14nm,0.8s								
STKA	Stephens Creek	55.69	160	P	P	10 21 08.2	-1.0		
STKA	Stephens Creek	55.69	160	P	P	10 21 06.9	-2.3		
STKA				pmax	pmax				
	comp=Z,73nm,0.9s								
KIWB	Kanaga Island	55.95	41	P	P	10 21 10.2	-0.7		
KIWB				IAmb	IAmb	10 21 33.0			
	comp=Z,60nm,1.6s								
DGAR	Diego Garcia	56.16	245	P	P	10 21 14.2	+1.2		
AB31	Akbulak array	56.31	316	P	P	10 21 13.9	+0.4		
AB31				IAmb	IAmb	10 21 28.8			
	comp=Z,41nm,1.4s								
ABKAR	Akbulak array	56.31	316	P	P	10 21 13.7	+0.2		
HTT	Hallett	56.34	163	P	P	10 21 16.3	+2.4		
CMSA	Cobar Meteorol	56.84	156	P	P	10 21 20.5	+3.1		
SVE	Sverdlovsk	57.17	325	*e*P	P	10 21 20.1	+0.6		
SVE				pmax	pmax				
	comp=Z,91nm,0.9s								
SVE				MLR	MLR				
	comp=Z,646nm,17.0s								
ATKA	Atka Island	57.81	41	P	P	10 21 27.2	+3.1		
WBK	Wadi Bani Khal	58.16	284	P	P	10 21 26.1	-1.0		
WBK				P	P	10 21 26.1	-1.0		
ARTI	Arti	58.30	324	P	P	10 21 27.1	-0.4		
ARTI	Arti	58.30	324	*d i*P	P	10 21 26.9	-0.6		
ARTI						10 22 17.9			
ARTI						10 23 32.0			
ARTI				S	S	10 29 30.9	+1.8		
ARTI				SS	SS	10 33 24.1	+3.3		
ARTI				pmax	pmax				
	comp=Z,33nm,0.8s								
ARTI				MLR	MLR				
	comp=Z,408nm,16.0s								
ARMA	Armidale	58.41	150	P	P	10 21 27.6	-1.0		
JASK	Jask - Hormozg	58.57	288	P	P	10 21 29.6	-0.2		
BIDO	Bidbid	58.75	285	P	P	10 21 33.6	+2.4		
	SNR=5.2								
BIDO				P	P	10 21 33.6	+2.4		
	SNR=5.2								
SMDO	Samad	58.91	285	P	P	10 21 33.7	+1.3		
JMDO	Jabal Madar	58.99	284	P	P	10 21 33.6	+0.7		
BSY	Bisya	59.74	285	P	P	10 21 38.8	+0.8		
BSY				P	P	10 21 38.8	+0.8		
BANOM	Banah	59.95	289	P	P	10 21 40.4	+0.9		
SOHO	SOHO	60.06	286	P	P	10 21 39.8	-0.5		
SOHO				P	P	10 21 39.8	-0.5		
UOSS	Minazif	60.21	287	P	P	10 21 41.0	-0.2		
ARQ	Araqi	60.23	286	P	P	10 21 41.4	0.0		
ARQ				P	P	10 21 41.4	0.0		
HATD	Hatta, Dubai	60.30	287	P	P	10 21 42.5	+0.7		
ASHO	Ashiyiah	60.39	287	P	P	10 21 43.0	+0.5		
ASHO				P	P	10 21 43.0	+0.5		
SPIA	Saint Paul Isl	60.70	35	P	P	10 21 43.0	-1.0		
	baz=263								
ALNE	Al Ain	60.78	287	P	P	10 21 45.7	+0.5		
ALNE				P	P	10 21 45.7	+0.5		
DZM	Mont Dzumac	60.86	132	*e*LR	LR	10 39 43.8			
	comp=Z,764nm,22.5s								
P08K	Saint George I	61.02	36	P	P	10 21 45.2	-0.9		
	baz=264								
ASUD	Al Ashush, Dub	61.05	287	P	P	10 21 46.8	-0.1		
ASUD				P	P	10 21 46.8	-0.1		
GAMB	Gambell	61.06	28	P	P	10 21 45.6	-0.7		
	baz=258								
NIKH	Nikolski High	61.13	40	P	P	10 21 46.0	-1.0		
	baz=267								
CNB	Canberra Magne	61.60	155	P	P	10 21 53.4	+3.0		
UNV	Unalaska Valle	62.57	39	P	P	10 21 55.7	-1.0		
	baz=268								
TNA	Tin City	62.99	26	P	P	10 21 58.2	-1.0		
	baz=261								
MZR	Muzera	63.04	286	P	P	10 22 00.1	-0.2		
MZR				P	P	10 22 00.1	-0.2		
M11K	Mekoryuk	63.13	32	P	P	10 21 59.1	-1.2		
	baz=265								
JRN	Qarnain Island	63.20	288	P	P	10 22 00.8	-0.6		
JRN				P	P	10 22 00.8	-0.6		
KIRV	Kirov	63.37	326	LR	LR	10 52 06.2			
	comp=Z,341nm,18.5s,baz=101,slow=38								
KIRV	Kirov	63.37	326	*d i*P	P	10 22 01.2	-0.7		
DOK	Doka	63.46	281	P	P	10 22 03.2	0.0		
F14K	Arctic Creek	63.63	26	P	P	10 22 02.9	-0.7		
	baz=262								
ANM	Nome	63.93	27	P	P	10 22 04.8	-0.7		
	baz=264								
WHFO	Wadi Hawf	63.97	280	P	P	10 22 10.5	+3.9		
K13K	Kusilvak Mount	64.00	30	IAmb	IAmb	10 22 12.8			
	comp=Z,36nm,1.2s								
K13K	Kusilvak Mount	64.00	30	P	P	10 22 05.5	-0.5		
	baz=266								
BELG	Belogornoye	64.27	319	*d i*P	P	10 22 07.1	-0.8		
BELG				pmax	pmax				
	comp=Z,5.0nm,0.9s								
F15K	North Star Dit	64.36	26	IAmb	IAmb	10 22 17.6			
	comp=Z,22nm,1.0s								
F15K	North Star Dit	64.36	26	P	P	10 22 07.8	-0.5		
	baz=264								
FALS	False Pass	64.39	38	P	P	10 22 07.2	-1.5		
	baz=270								
C16K	Lisburne Hills	64.41	23	P	P	10 22 07.7	-0.8		
	baz=262								
SLWR	Sila	64.41	287	P	P	10 22 08.8	-0.5		
LKRN	Lenkeran, Azer	64.41	304	P	P	10 22 08.6	-0.5		
G15K	Niukluk	64.54	27	P	P	10 22 08.2	-1.3		
	baz=265								
M13K	Dall Lake	64.55	32	P	P	10 22 08.2	-1.3		
	baz=268								
J14K	Nanvaranak Lak	64.58	29	IAmb	IAmb	10 22 20.2			
	comp=Z,30nm,1.0s								
J14K	Nanvaranak Lak	64.58	29	P	P	10 22 09.0	-0.7		
	baz=266								
TRNA	Turayna	64.69	288	P	P	10 22 10.8	-0.4		
AKT	Akhty	64.89	307	*e*P	P	10 22 09.9	-2.5		
AKT				*e*		10 22 40.0			
AKT				pmax	pmax				
	comp=Z,47nm,1.0s								
AKT				MLR	MLR				
	comp=Z,539nm,20.0s								
MAK	Makhachkala	64.91	309	*e*P	P	10 22 08.3	-4.0		
MAK				*e*		10 24 30.3			
MAK				*e*PPP	PPP	10 26 06.4			
MAK				*e*S	S	10 30 47.5	-5.7		
MAK				*e*SSS	SSS	10 38 01.2			
MAK				pmax	pmax				
	comp=Z,36nm,0.4s								
MAK				MLR	MLR				
	comp=Z,387nm,12.0s								
L14K	Kuka Creek	64.91	31	P	P	10 22 11.0	-0.9		
	baz=268								
SAKB	Bahrain	65.03	290	P	P	10 22 13.0	-0.4		
SMRA	Abu-Samra	65.04	288	P	P	10 22 13.1	-0.4		
S12K	Black Hills	65.16	37	P	P	10 22 11.8	-1.9		
	baz=271								
D17K	Noatak River	65.18	24	P	P	10 22 12.6	-1.0		
	baz=264,SNR=14								
C17K	DeLong Mountai	65.23	23	P	P	10 22 13.3	-0.7		
	baz=264								
M14K	Bethel	65.24	32	P	P	10 22 13.1	-1.0		
	baz=269,SNR=25								
G16K	Koyuk River	65.28	27	P	P	10 22 13.1	-1.2		
	baz=266								
H16K	Elim	65.28	27	P	P	10 22 13.0	-1.3		
	baz=266								
RDOG	Red Dog Mine	65.28	24	P	P	10 22 13.2	-1.1		
	baz=264								
SEKA	Sheki	65.32	307	P	P	10 22 13.6	-1.5		
N14K	Kuskokwak Cree	65.36	33	P	P	10 22 13.7	-1.2		
	baz=269								
MNGR	Mingechevir, A	65.46	306	P	P	10 22 15.2	-0.7		
K15K	Wolf Creek Mou	65.49	30	P	P	10 22 14.1	-1.6		
	baz=268,SNR=7.9								
L15K	Ungalak Mounta	65.49	31	P	P	10 22 14.4	-1.4		
	baz=269								
O14K	Tigyukauivet M	65.57	33	P	P	10 22 15.1	-1.2		
	baz=270								
E17K	Hotham Inlet	65.61	25	P	P	10 22 15.3	-1.1		
	baz=266								
F17K	Baldwin Pennin	65.80	25	IAmb	IAmb	10 22 23.6			
	comp=Z,19nm,0.8s								
F17K	Baldwin Pennin	65.80	25	P	P	10 22 15.9	-1.7		
	baz=267								
B18K	Kokolik River	65.81	22	P	P	10 22 16.0	-1.7		
	baz=265								
M15K	Kasigluk River	65.87	32	P	P	10 22 16.0	-2.2		
	baz=270,SNR=14								
I17K	Unalakleet	65.92	28	IAmb	IAmb	10 22 31.4			
	comp=Z,31nm,0.9s								
I17K	Unalakleet	65.92	28	P	P	10 22 16.7	-1.8		
	baz=268								
J16K	Anvik River	65.94	29	IAmb	IAmb	10 22 28.7			
	comp=Z,16nm,0.8s								
J16K	Anvik River	65.94	29	P	P	10 22 16.6	-2.0		
	baz=269								
G17K	Kiwalik Mounta	66.00	26	P	P	10 22 17.7	-1.2		
	baz=268,SNR=12								
GANJ	Ganja	66.05	306	P	P	10 22 19.1	-0.7		
SDPT	Sand Point	66.07	38	P	P	10 22 18.1	-1.5		
	baz=272								
N15K	Kwethluk River	66.16	32	P	P	10 22 19.4	-0.7		
	baz=270,SNR=38								
H17K	Granite Mounta	66.29	27	IAmb	IAmb	10 22 33.8			
	comp=Z,25nm,0.9s								
H17K	Granite Mounta	66.29	27	P	P	10 22 19.7	-1.1		
	baz=268,SNR=10.0								
O15K	Ungalikthiuk R	66.31	33	P	P	10 22 19.5	-1.5		
	baz=271,SNR=5.8								
F18K	Selawik	66.45	25	P	P	10 22 21.0	-0.8		
	baz=268,SNR=18								
S14K	Fog Glacier	66.55	37	P	P	10 22 21.4	-1.4		
	baz=273								
CHNA	Chernabura Isl	66.61	38	P	P	10 22 27.2	+4.2		
CHNA	Chernabura Isl	66.61	38	P	P	10 22 22.1	-0.9		
	baz=273								
J17K	VABM Dome	66.63	29	P	P	10 22 22.4	-0.7		
	baz=270,SNR=16								
M16K	Timber Creek	66.71	31	P	P	10 22 22.6	-1.0		
	baz=271,SNR=31								
N16K	Nishlik Lake	66.82	32	P	P	10 22 23.8	-0.5		
	baz=272,SNR=29								
G18K	Tagagawik	66.83	26	IAmb	IAmb	10 22 48.0			
	comp=Z,19nm,1.1s								
G18K	Tagagawik	66.83	26	P	P	10 22 23.3	-1.0		
	baz=269,SNR=9.8								
NAX	Nakhchivan	66.89	305	P	P	10 22 24.3	-0.9		
H18K	Honhosa River	66.95	27	IAmb	IAmb	10 22 37.5			
	comp=Z,19nm,1.1s								
H18K	Honhosa River	66.95	27	P	P	10 22 24.1	-1.0		
	baz=270								
K17K	Iditarod	66.99	30	P	P	10 22 24.4	-0.9		
	baz=271,SNR=27								
L17K	Donlin	67.00	30	P	P	10 22 24.4	-1.1		
	baz=271,SNR=27								
D19K	Kuna River	67.09	23	P	P	10 22 25.4	-0.6		
	baz=269								
O16K	Kokwok River B	67.19	33	P	P	10 22 25.8	-0.8		
	baz=272,SNR=10								
CHGN	Chignik	67.19	36	P	P	10 22 26.0	-0.7		
	baz=274								
F19K	Shaleruckik Mo	67.20	25	P	P	10 22 26.3	-0.3		
	baz=270								
P16K	Nushagak River	67.26	34	P	P	10 22 26.0	-1.1		
	baz=273								
E19K	Redstone River	67.41	24	IAmb	IAmb	10 22 36.3			
	comp=Z,24nm,0.8s								
E19K	Redstone River	67.41	24	P	P	10 22 27.2	-0.7		
	baz=270								
M17K	Holitna River	67.44	31	P	P	10 22 27.1	-1.1		
	baz=272,SNR=24								
B20K	Meade River	67.46	22	IAmb	IAmb	10 22 50.6			
	comp=Z,33nm,0.9s								
B20K	Meade River	67.46	22	P	P	10 22 27.3	-0.9		
	baz=269								
G19K	Purcell Mounta	67.47	26	IAmb	IAmb	10 22 41.3			
	comp=Z,20nm,1.0s								
G19K	Purcell Mounta	67.47	26	P	P	10 22 27.4	-1.0		
	baz=271,SNR=8.2								
R16K	Pilot Point	67.57	35	P	P	10 22 27.4	-1.7		
	baz=274								
GCSA	Galena City Sc	67.58	27	P	P	10 22 27.5	-1.6		
	baz=271								
N17K	Nushagak Hills	67.60	32	IAmb	IAmb	10 22 37.1			
	comp=Z,24nm,0.8s								
N17K	Nushagak Hills	67.60	32	P	P	10 22 28.1	-1.1		
	baz=273,SNR=19								
D20K	Etivluk River	67.64	23	P	P	10 22 28.2	-1.2		
	baz=270								
A21K	Barrow	67.67	20	P	P	10 22 28.4	-1.1		
	baz=269								
O17K	Koliganek Bris	67.68	33	P	P	10 22 28.0	-1.8		
	baz=273								
J18K	Innoko River	67.69	29	P	P	10 22 28.8	-1.1		
	baz=272,SNR=8.9								
H19K	Roundabout Mou	67.75	26	P	P	10 22 29.4	-0.6		
	baz=271,SNR=27								
L18K	Granite Mounta	67.76	30	IAmb	IAmb	10 22 43.7			
	comp=Z,24nm,0.8s								
L18K	Granite Mounta	67.76	30	P	P	10 22 28.7	-1.5		
	baz=273,SNR=17								
Q16K	King Salmon	67.98	34	P	P	10 22 29.7	-1.9		
	baz=274								
VRH	Novokhopyorsk	68.00	318	*e*P	P	10 22 29.9	-2.0		
VRH				pmax	pmax				
	comp=Z,20nm,1.0s								
F20K	Avaraart Lake	68.00	25	IAmb	IAmb	10 22 37.8			
	comp=Z,14nm,0.9s								
F20K	Avaraart Lake	68.00	25	P	P	10 22 30.5	-1.2		
	baz=271,SNR=15								
P17K	Kvichak River	68.05	33	P	P	10 22 31.0	-1.1		
	baz=274,SNR=15								
OZAP	Van, Ozalp-Mer	68.12	304	⇑P	P	10 22 38.3	+5.1		
KBZ	Khabaz	68.15	310	P	P	10 22 32.6	-0.3		
	comp=Z,9.1nm,0.9s,baz=114,slow=3.0,SNR=16								
	comp=Z,9.1nm,0.9s								
KBZ	Khabaz	68.15	310	*de*P	P	10 22 33.3	+0.3		
KBZ				pmax	pmax				
	comp=Z,16nm,1.0s								
J19K	Poorman	68.16	28	IAmb	IAmb	10 22 58.4			
	comp=Z,20nm,1.1s								
J19K	Poorman	68.16	28	P	P	10 22 32.5	-0.3		
	baz=273,SNR=11								
A22K	Sinclair Lake	68.20	20	P	P	10 22 32.0	-0.8		
	baz=270								
M18K	Stony River	68.20	31	P	P	10 22 32.1	-1.0		
	baz=274,SNR=14								
R17L	Mt. Peulik Vol	68.21	35	P	P	10 22 31.8	-1.4		
	baz=275								
N18K	Kilae Creek	68.23	32	P	P	10 22 32.1	-1.1		
	baz=274,SNR=5.9								
KIV	Kislovodsk	68.27	310	P	P	10 22 33.9	0.0		
KIV	Kislovodsk	68.27	310	*e*P	P	10 22 35.0	+1.1		
KIV				pmax	pmax				
	comp=Z,42nm,1.0s								
KIV				MLR	MLR				
	comp=Z,243nm,17.0s								
KIV	Kislovodsk	68.27	310	⇑P	P	10 22 35.8	+1.9		
C21K	Knifeblade Rid	68.30	22	P	P	10 22 33.2	-0.3		
	baz=272								
B21K	Ikpikpuk River	68.35	22	P	P	10 22 33.0	-0.8		
B21K	Ikpikpuk River	68.35	22	P	P	10 22 33.4	-0.3		
	baz=271,SNR=11								
KLMR	Klimovskoe	68.37	329	*e*P	P	10 22 32.4	-1.7		
KLMR				pmax	pmax				
	comp=Z,47nm,1.2s								
KLMR				MLR	MLR				
	comp=Z,999nm,16.0s								
H20K	Anotleneega Mo	68.40	26	P	P	10 22 34.0	-0.3		
	baz=273,SNR=28								
Q17K	Contact Creek	68.41	34	P	P	10 22 33.9	-0.6		
	baz=275,SNR=6.7								
I20K	Naaghedeneei	68.61	27	P	P	10 22 35.6	+0.1		
	baz=274,SNR=22								
L19K	White Mountain	68.62	30	IAmb	IAmb	10 22 43.0			
	comp=Z,30nm,0.9s								
L19K	White Mountain	68.62	30	P	P	10 22 35.2	-0.4		
	baz=274,SNR=32								
E21K	Killik River	68.62	23	P	P	10 22 34.0	-1.6		
	baz=272								
O18K	Koktuh Hills	68.63	33	P	P	10 22 34.9	-0.8		
	baz=275,SNR=14								
P18K	Big Mountain,	68.66	33	IAmb	IAmb	10 22 43.3			
	comp=Z,33nm,0.9s								
P18K	Big Mountain,	68.66	33	P	P	10 22 34.0	-2.0		
	baz=275								
ACHA	Angle Creek He	68.71	34	IAmb	IAmb	10 22 50.7			
	comp=Z,14nm,0.8s								
B22K	Teshekpuk Lake	68.74	21	P	P	10 22 34.7	-1.5		
	baz=272								
CHIR	Chirikof Islan	68.79	37	P	P	10 22 35.6	-1.1		
	baz=276								
J20K	Nowinta River	68.79	28	P	P	10 22 34.7	-2.0		
	baz=274,SNR=25								
Q18K	Katmai Hardscr	68.84	34	P	P	10 22 35.3	-1.9		
	baz=275								
IMAR	Indian Mountai	68.84	26	P	P	10 22 36.9	0.0		
M19K	Big River Lodg	68.86	30	IAmb	IAmb	10 22 46.6			
	comp=Z,17nm,0.8s								
M19K	Big River Lodg	68.86	30	P	P	10 22 36.3	-0.9		
	baz=275								
F21K	Alatna River	68.87	25	P	P	10 22 36.3	-0.8		
	baz=273								
K20K	Telida	68.89	29	P	P	10 22 36.2	-1.1		
	baz=274,SNR=17								
G21K	Allakaket	68.91	25	IAmb	IAmb	10 23 03.0			
	comp=Z,36nm,1.2s								
G21K	Allakaket	68.91	25	P	P	10 22 36.8	-0.6		
	baz=274								
N19K	Bonanza Creek	68.91	31	IAmb	IAmb	10 22 50.8			
	comp=Z,17nm,0.8s								
N19K	Bonanza Creek	68.91	31	P	P	10 22 36.2	-1.4		
	baz=275,SNR=8.6								
O19K	Port Alsworth	69.04	32	P	P	10 22 37.1	-1.2		
	baz=275,SNR=10								
L20K	Farewell, AK	69.05	30	P	P	10 22 37.7	-0.7		
	baz=275,SNR=9.4								
D22K	Ayikyak River	69.07	23	P	P	10 22 37.4	-1.0		
	baz=274								
R18K	Karluk	69.24	35	P	P	10 22 38.0	-1.5		
	baz=276								
H21K	Melozitna Rive	69.25	26	P	P	10 22 38.1	-1.4		
	baz=275,SNR=29								
F22K	John River	69.35	24	P	P	10 22 38.3	-1.8		
	baz=274								
E22K	Anaktuvuk Pass	69.44	24	P	P	10 22 39.8	-1.0		
	baz=275,SNR=12								
M20K	Styx River	69.45	30	P	P	10 22 39.5	-1.4		
	baz=276,SNR=9.9								
HOMI	Horasan	69.48	306	⇑P	P	10 22 45.4	+3.7		
SII	Sitkinak Islan	69.50	36	P	P	10 22 39.4	-1.8		
	baz=277								
VORR	Voronezh	69.50	319	*e*P	P	10 22 41.3	0.0		
VORR				pmax	pmax				
	comp=Z,22nm,0.7s								
Q19K	Cape Douglas,	69.52	33	P	P	10 22 40.2	-1.1		
	baz=276								
LPSR	Galich'ya Gora	69.55	320	*e*P	P	10 22 40.3	-1.2		
LPSR				pmax	pmax				
	comp=Z,20nm,0.9s								
ERBR	Yeremizino-Bor	69.55	312	*e*P	P	10 22 40.9	-0.8		
ERBR				*e*S	S	10 31 48.1	-0.9		
ERBR				pmax	pmax				
	comp=Z,44nm,0.9s								
ERBR				MLR	MLR				
	comp=Z,417nm,18.0s								
VSR	Storozhevoye	69.59	318	*e*P	P	10 22 40.4	-1.4		
VSR				pmax	pmax				
	comp=Z,10.0nm,1.0s								
CHUM	Lake Minchumin	69.62	28	P	P	10 22 40.4	-1.4		
	baz=276,SNR=6.2								
P19K	Oil Pt	69.64	33	P	P	10 22 40.8	-1.3		
	baz=276								
ILSW	Iliamna Southw	69.65	32	IAmb	IAmb	10 22 53.3			
	comp=Z,21nm,0.9s								
G22K	Bettles	69.67	25	P	P	10 22 41.0	-1.0		
	baz=275								
C23K	Itkillik River	69.73	22	P	P	10 22 41.2	-1.1		
	baz=275								
CAST	Castle Rocks	69.77	29	P	P	10 22 41.9	-0.9		
	baz=276,SNR=55								
PPLA	Purkeypile	69.78	29	P	P	10 22 41.5	-1.5		
	baz=276								
D23K	Nanushuk River	69.78	23	P	P	10 22 42.0	-0.8		
	baz=275,SNR=7.9								
RED	Redoubt Volcan	69.78	32	IAmb	IAmb	10 22 49.9			
	comp=Z,27nm,0.9s								
H22K	Ishtalitna Cre	69.82	26	P	P	10 22 42.4	-0.6		
	baz=276,SNR=28								
MOS	Moscow	69.89	323	*e*P	P	10 22 45.0	+1.4		
MOS				*e*S	S	10 31 54.6	+2.0		
MOS				pmax	pmax				
	comp=Z,33nm,0.6s								
MOS				MLR	MLR				
	comp=Z,400nm,16.0s								
O20K	Slope Mountain	69.90	32	P	P	10 22 43.3	-0.4		
	baz=277								
OHAK	Old Harbor	69.91	35	P	P	10 22 47.7	+4.0		
OHAK	Old Harbor	69.91	35	P	P	10 22 42.3	-1.4		
	baz=277								
N20K	Mount Spurr	69.97	31	P	P	10 22 43.5	-0.6		
	baz=277								
SPCR	Spurr Chakacha	69.97	31	P	P	10 22 42.9	-1.2		
	baz=277								
RAYN	Ar Rayn	70.05	288	P	P	10 22 44.2	-1.0		
RAYN	Ar Rayn	70.05	288	P	P	10 22 45.1	-0.1		
RAYN	Ar Rayn	70.05	288	P	P	10 22 44.2	-1.0		
RAYN				pmax	pmax				
	comp=Z,43nm,1.1s								
COLD	Coldfoot	70.14	24	P	P	10 22 44.2	-0.8		
	baz=276								
MLY	Manley	70.18	27	IAmb	IAmb	10 22 58.4			
	comp=Z,30nm,0.9s								
MLY	Manley	70.18	27	P	P	10 22 44.6	-0.7		
	baz=277,SNR=40								
BPAW	Bear Paw Mtn.	70.18	28	IAmb	IAmb	10 22 57.8			
	comp=Z,33nm,1.0s								
BPAW	Bear Paw Mtn.	70.18	28	P	P	10 22 44.4	-0.9		
	baz=277,SNR=22								
SKT	Skwentna	70.19	30	IAmb	IAmb	10 22 56.5			
	comp=Z,71nm,1.8s								
SKT	Skwentna	70.19	30	P	P	10 22 44.6	-0.8		
	baz=277,SNR=9.9								
Q20K	Shuyak Island	70.20	34	P	P	10 22 43.7	-1.7		
	baz=278								
SYI	Shuyak Island	70.20	34	IAmb	IAmb	10 22 51.6			
	comp=Z,36nm,0.9s								
KDAK	Kodiak Island	70.21	35	P	P	10 22 45.8	+0.3		
KDAK	Kodiak Island	70.21	35	LR	LR	10 52 48.8			
	comp=Z,3µm,21.8s,baz=194,slow=35								
KDAK	Kodiak Island	70.21	35	*

TRF	Thorofare Moun	70.57	28	IAmb	IAmb	10 22 59.5			
	comp=Z,40nm,1.4s								
TRF	Thorofare Moun	70.57	28	P	P	10 22 46.8	-1.1		
	baz=278								
OBN	Obninsk	70.57	323	*i* P	P	10 22 46.6	-1.2		
OBN				*i*		10 23 05.9			
OBN				*i*		10 25 23.2			
OBN				pmax	pmax				
	comp=Z,12nm,0.6s								
OBN				MLR	MLR				
	comp=Z,263nm,21.0s								
H23K	Yukon River	70.58	26	IAmb	IAmb	10 22 53.9			
	comp=Z,33nm,0.8s								
H23K	Yukon River	70.58	26	P	P	10 22 46.6	-1.1		
	baz=278,SNR=39								
SUA	Susitna One	70.63	31	P	P	10 22 46.8	-1.4		
	baz=278,SNR=7.1								
CNPM	China Poot	70.67	33	IAmb	IAmb	10 22 56.3			
	comp=Z,32nm,0.9s								
E24K	Your Creek	70.69	23	IAmb	IAmb	10 22 53.9			
	comp=Z,30nm,0.8s								
E24K	Your Creek	70.69	23	P	P	10 22 47.2	-1.2		
	baz=278,SNR=18								
CUT	Chulitna	70.72	30	P	P	10 22 47.5	-1.0		
	baz=278								
I23K	Minto, Yukon-K	70.74	27	IAmb	IAmb	10 23 16.0			
	comp=Z,20nm,1.1s								
I23K	Minto, Yukon-K	70.74	27	P	P	10 22 47.6	-1.0		
	baz=278								
BWN	Browne	70.83	28	IAmb	IAmb	10 23 07.5			
	comp=Z,32nm,0.8s								
M22K	Willow	70.89	30	P	P	10 22 47.8	-1.8		
	baz=278,SNR=16								
NEA2	Nenana	70.94	27	P	P	10 22 48.5	-1.4		
	baz=278,SNR=52								
F24K	Squaw Lake	70.99	24	IAmb	IAmb	10 22 55.9			
	comp=Z,22nm,0.8s								
F24K	Squaw Lake	70.99	24	P	P	10 22 49.4	-0.8		
	baz=278,SNR=17								
SLKM	Skilak Lake	71.03	32	IAmb	IAmb	10 23 01.2			
	comp=Z,62nm,1.9s								
MCK	McKinley	71.13	28	P	P	10 22 50.0	-1.0		
	baz=279,SNR=7.6								
RC01	Rabbit Creek A	71.17	31	P	P	10 22 50.4	-0.9		
	baz=279								
H24K	Noodor Dome	71.25	26	IAmb	IAmb	10 23 07.7			
	comp=Z,22nm,1.0s								
H24K	Noodor Dome	71.25	26	P	P	10 22 50.8	-1.0		
	baz=279,SNR=16								
D25K	Kavik River	71.27	22	IAmb	IAmb	10 22 57.0			
	comp=Z,24nm,0.8s								
D25K	Kavik River	71.27	22	P	P	10 22 51.0	-0.8		
	baz=279								
O22K	Cooper Landing	71.27	32	P	P	10 22 51.5	-0.5		
	baz=279								
G24K	Hadweenzic Riv	71.28	25	IAmb	IAmb	10 22 57.7			
	comp=Z,24nm,0.8s								
G24K	Hadweenzic Riv	71.28	25	P	P	10 22 51.3	-0.6		
	baz=279,SNR=18								
PMR	Palmer	71.38	30	IAmb	IAmb	10 23 03.8			
	comp=Z,16nm,0.8s								
PMR	Palmer	71.38	30	P	P	10 22 54.5	+2.0		
PMR	Palmer	71.38	30	P	P	10 22 51.4	-1.1		
	baz=279,SNR=10								
WRH	Wood River Hil	71.38	27	IAmb	IAmb	10 23 05.2			
	comp=Z,23nm,0.8s								
COLA	College	71.42	27	P	P	10 22 52.3	-0.4		
COLA	College	71.42	27	P	P	10 22 56.3	+3.6		
COLA	College	71.42	27	*de*P	P	10 22 52.2	-0.5		
COLA				pmax	pmax				
	comp=Z,3.0nm,0.6s								
COLA	College	71.42	27	P	P	10 22 51.6	-1.1		
	baz=279								
SEW	Seward	71.47	32	P	P	10 22 51.9	-1.2		
	baz=280								
CCB	Clear Creek Bu	71.47	27	P	P	10 22 52.9	-0.2		
POKR	Poker Plat Res	71.55	26	IAmb	IAmb	10 23 03.5			
	comp=Z,27nm,1.0s								
POKR	Poker Plat Res	71.55	26	P	P	10 22 52.8	-0.8		
	baz=280,SNR=6.7								
C26K	Camden Bay	71.67	21	P	P	10 22 53.0	-1.2		
	baz=280								
KNK	Knik Glacier	71.73	30	P	P	10 22 53.6	-1.1		
	baz=280,SNR=9.0								
G25K	Bearman Lake	71.80	25	P	P	10 22 54.1	-0.9		
	baz=280,SNR=13								
F25K	Christian Rive	71.83	24	IAmb	IAmb	10 23 01.7			
	comp=Z,26nm,0.9s								
F25K	Christian Rive	71.83	24	P	P	10 22 54.1	-1.1		
	baz=280,SNR=17								
ANN	Anapa	71.83	312	*e*P	P	10 22 56.0	+0.4		
ANN				*e**PP	pP	10 22 59.3	-1.4		
ANN				*e*S	S	10 32 17.0	+1.4		
ANN				pmax	pmax				
	comp=Z,42nm,0.8s								
ANN				MLR	MLR				
	comp=Z,468nm,19.0s								
ILAR	Eielson Array	71.84	27	P	P	10 22 53.8	-1.5		
ILAR	Eielson Array	71.84	27	P	P	10 22 55.0	-0.3		
	comp=Z,3.3nm,0.8s,baz=281,slow=5.3,SNR=30								
	comp=Z,3.3nm,0.8s								
HDA	Harding Lake	71.88	27	IAmb	IAmb	10 23 03.3			
	comp=Z,21nm,0.9s								
HDA	Harding Lake	71.88	27	P	P	10 22 55.1	-0.4		
	baz=280,SNR=11								
PWL	Port Wells	71.88	31	P	P	10 22 54.1	-1.5		
	baz=280,SNR=7.0								
M23K	Glacier View	72.00	30	P	P	10 22 54.9	-1.5		
	baz=280,SNR=6.8								
H25L	Birch Creek	72.01	25	P	P	10 22 55.4	-0.8		
	baz=281								
C27K	Jago River	72.14	22	P	P	10 22 55.3	-1.7		
	baz=282								
SCM	Sheep Creek Mo	72.18	30	P	P	10 22 56.3	-1.3		
	baz=281,SNR=11								
BMAR	Burnt Mountain	72.26	24	P	P	10 22 57.4	-0.5		
PRP	Porcupine Dome	72.27	26	P	P	10 22 56.5	-1.5		
	baz=281,SNR=6.5								
F26K	Sheenjek River	72.37	24	IAmb	IAmb	10 23 24.2			
	comp=Z,28nm,1.1s								
F26K	Sheenjek River	72.37	24	P	P	10 22 57.0	-1.5		
	baz=282								
GLI	Glacier Island	72.47	31	P	P	10 22 58.0	-1.1		
	baz=281								
K24K	Donnelly Dome	72.50	28	P	P	10 22 58.1	-1.2		
	baz=282,SNR=17								
P23K	Montague Islan	72.50	32	P	P	10 22 57.8	-1.5		
	baz=281								
J25K	Salcha River,	72.51	27	P	P	10 22 57.4	-2.0		
	baz=282								
M24K	Tolsona, Glenn	72.66	29	P	P	10 22 58.5	-1.8		
	baz=282								
G26K	Porcupine Rive	72.67	24	IAmb	IAmb	10 23 21.7			
	comp=Z,20nm,0.8s								
G26K	Porcupine Rive	72.67	24	P	P	10 22 58.6	-1.6		
	baz=282,SNR=12								
PAX	Paxson	72.81	29	P	P	10 22 60.0	-1.3		
	baz=282,SNR=8.4								
SPB2	Spitsbergen Ar	72.88	348	IAmb	IAmb	10 23 10.3			
	comp=Z,33nm,0.8s								
SPA0	Spitsbergen Ar	72.89	348	*e*P	P	10 23 01.7	+0.3		
SPITS	Spitsbergen Ar	72.89	348	P	P	10 23 01.3	0.0		
	comp=Z,14nm,0.7s,baz=88,slow=8.4,SNR=21								
	comp=Z,14nm,0.7s								
ARA0	ARCESS Array S	72.90	339	*e*P	P	10 23 04.2	+2.7		
ARCES	ARCESS Array B	72.90	339	IAmb	IAmb	10 23 35.2			
	comp=Z,69nm,1.9s								
ARCES	ARCESS Array B	72.90	339	P	P	10 23 01.4	-0.2		
	comp=Z,4.9nm,0.9s,baz=70,slow=7.0,SNR=9.1								
	comp=Z,4.9nm,0.9s								
KLU	Klutina	72.91	30	IAmb	IAmb	10 23 10.8			
	comp=Z,22nm,1.0s								
KLU	Klutina	72.91	30	P	P	10 23 00.1	-1.7		
	baz=282,SNR=9.6								
RIDG	Independent Ri	72.92	28	IAmb	IAmb	10 23 10.7			
	comp=Z,36nm,1.0s								
RIDG	Independent Ri	72.92	28	P	P	10 23 00.2	-1.7		
	baz=282,SNR=19								
HARP	HAARP	73.07	29	P	P	10 23 01.3	-1.4		
	baz=282								
Q23K	Middleton Isla	73.14	32	P	P	10 23 01.4	-1.7		
	baz=282								
D27M	Malcolm River	73.17	22	P	P	10 23 01.1	-2.2		
	baz=284								
EYAK	Cordova Ski Ar	73.19	31	P	P	10 23 07.1	+3.7		
EYAK	Cordova Ski Ar	73.19	31	P	P	10 23 00.9	-2.5		
	baz=282								
E27K	Coleen River	73.20	23	IAmb	IAmb	10 23 18.9			
	comp=Z,45nm,1.6s								
E27K	Coleen River	73.20	23	P	P	10 23 01.1	-2.4		
	baz=284								
SCRK	Sand Creek	73.24	27	P	P	10 23 01.4	-2.4		
	baz=283,SNR=13								
I26K	Coal Creek Min	73.28	26	IAmb	IAmb	10 23 08.6			
	comp=Z,33nm,0.9s								
I26K	Coal Creek Min	73.28	26	P	P	10 23 02.4	-1.5		
	baz=283								
J26L	Joseph Creek	73.30	27	IAmb	IAmb	10 23 12.3			
	comp=Z,17nm,0.8s								
J26L	Joseph Creek	73.30	27	P	P	10 23 02.2	-1.9		
	baz=283,SNR=23								
N25K	Chitina, Valde	73.50	30	IAmb	IAmb	10 23 21.1			
	comp=Z,18nm,0.8s								
N25K	Chitina, Valde	73.50	30	P	P	10 23 03.2	-2.2		
	baz=283,SNR=8.6								
G27K	Doyon Strip	73.52	24	P	P	10 23 03.6	-1.7		
	baz=284								
BMRM	Bremner River	73.64	30	IAmb	IAmb	10 23 29.2			
	comp=Z,26nm,0.8s								
BMRM	Bremner River	73.64	30	P	P	10 23 04.2	-1.9		
	baz=283,SNR=9.2								
GAZ	Gaziantep	73.68	304	IAmb	IAmb	10 23 17.9			
	comp=Z,28nm,1.0s								
H27K	Steamboat Moun	73.71	25	IAmb	IAmb	10 23 22.3			
	comp=Z,46nm,1.6s								
H27K	Steamboat Moun	73.71	25	P	P	10 23 04.5	-2.0		
	baz=284								
L26K	Log Cabin Wild	73.74	28	P	P	10 23 05.0	-1.7		
	baz=284,SNR=8.9								
KTK1	Kautokeino	73.81	338	*e*P	P	10 23 08.9	+2.0		
I27K	Kandik River	73.83	25	P	P	10 23 05.1	-2.1		
	baz=285,SNR=13								
E28M	Babbage River	73.83	22	P	P	10 23 05.4	-1.7		
	baz=286								
GLB	Gilahina Butte	73.91	30	IAmb	IAmb	10 23 28.1			
	comp=Z,27nm,0.9s								
D28M	Stokes Point	73.91	21	P	P	10 23 05.8	-1.7		
	baz=286								
KAIM	Kayak Island	73.98	32	P	P	10 23 06.9	-1.2		
	baz=284								
F28M	Old Crow	73.98	23	IAmb	IAmb	10 23 13.8			
	comp=Z,23nm,1.1s								
F28M	Old Crow	73.98	23	P	P	10 23 06.2	-1.8		
	baz=286,SNR=11								
K27K	Chicken	74.04	27	IAmb	IAmb	10 23 34.5			
	comp=Z,32nm,1.0s								
K27K	Chicken	74.04	27	P	P	10 23 07.1	-1.3		
	baz=285								
M26K	Nabesna, AK	74.05	29	IAmb	IAmb	10 23 18.1			
	comp=Z,40nm,0.9s								
M26K	Nabesna, AK	74.05	29	P	P	10 23 07.1	-1.4		
	baz=284,SNR=14								
SIM	Simferopol'	74.10	312	*e*P	P	10 23 09.7	+0.6		
SIM				*e*S	S	10 32 39.2	-2.3		
SIM				pmax	pmax				
	comp=Z,51nm,0.9s								
MCARA	McCarthy VSAT	74.29	30	IAmb	IAmb	10 23 38.5			
	comp=Z,33nm,0.9s								
MCARA	McCarthy VSAT	74.29	30	P	P	10 23 08.4	-1.4		
	baz=285,SNR=9.0								
L27K	Beaver Creek,	74.40	28	P	P	10 23 10.2	-0.3		
L27K				IAmb	IAmb	10 23 20.1			
	comp=Z,24nm,0.9s								
L27K	Beaver Creek,	74.40	28	P	P	10 23 09.0	-1.6		
	baz=285,SNR=21								
CRQE	Cirque	74.42	31	P	P	10 23 08.8	-1.9		
	baz=285,SNR=15								
BCAR	Beaver Creek A	74.42	28	P	P	10 23 10.8	+0.2		
E29M	Blow River	74.47	22	P	P	10 23 08.9	-1.9		
	baz=287								
BGLC	Bering Glacier	74.48	31	P	P	10 23 09.0	-1.9		
	baz=285								
I28M	Miner Creek	74.55	25	P	P	10 23 10.3	-1.2		
	baz=286,SNR=18								
M27K	Edge Creek, AK	74.56	29	P	P	10 23 09.9	-1.7		
	baz=285								
JETT	Jettan, Norway	74.61	339	*e*P	P	10 23 12.6	+0.9		
FIA1	FINESS Array S	74.69	330	IAmb	IAmb	10 23 31.8			
	comp=Z,47nm,0.9s								
FINES	FINESS Array B	74.69	330	P	P	10 23 11.3	-0.8		
FINES	FINESS Array B	74.69	330	P	P	10 23 11.7	-0.5		
	comp=Z,9.1nm,0.8s,baz=72,slow=6.2,SNR=24								
	comp=Z,9.1nm,0.8s								
FINES	FINESS Array B	74.69	330	*i* P	P	10 23 13.5	+1.4		
FINES				pmax	pmax				
	comp=Z,9.0nm,0.8s								
G29M	Pine Creek	74.87	24	IAmb	IAmb	10 23 24.0			
	comp=Z,35nm,0.9s								
G29M	Pine Creek	74.87	24	P	P	10 23 12.0	-1.2		
	baz=287,SNR=16								
H29M	Whitestone	74.94	24	P	P	10 23 13.4	-0.2		
H29M				IAmb	IAmb	10 23 24.5			
	comp=Z,20nm,0.8s								
H29M	Whitestone	74.94	24	P	P	10 23 12.2	-1.4		
	baz=287								
BVCY	Beaver Creek	75.00	29	P	P	10 23 12.8	-1.2		
	baz=286								
BARN	Barnard Glacie	75.01	30	IAmb	IAmb	10 23 23.6			
	comp=Z,32nm,0.9s								
MESA	MESA	75.11	31	P	P	10 23 13.3	-1.6		
	baz=286								
VSU	Vasula	75.16	327	*de*P	P	10 23 13.3	-1.6		
VSU				pmax	pmax				
	comp=Z,23nm,1.0s								
DAWY	Dawson	75.17	27	IAmb	IAmb	10 23 24.4			
	comp=Z,26nm,0.9s								
DAWY	Dawson	75.17	27	P	P	10 23 14.2	-0.8		
	baz=287,SNR=28								
CTG	Chitna Glacier	75.19	30	P	P	10 23 14.1	-1.2		
	baz=286								
CTGM	Chitna Glacie	75.19	30	IAmb	IAmb	10 23 24.7			
	comp=Z,39nm,0.8s								
I29M	Ogilvie Camp,	75.23	25	P	P	10 23 15.2	0.0		
	baz=288,SNR=17								
YUK3	Moose Creek	75.36	29	P	P	10 23 15.9	-0.4		
	baz=287								
LOGN	Logan Glacier	75.38	30	IAmb	IAmb	10 23 44.5			
	comp=Z,29nm,0.9s								
F30M	Barrier River	75.47	23	P	P	10 23 16.5	-0.1		
	baz=285,SNR=18								
G30M	tAoh Zraii Nji	75.52	23	IAmb	IAmb	10 23 25.5			
	comp=Z,26nm,0.9s								
G30M	tAoh Zraii Nji	75.52	23	P	P	10 23 16.4	-0.5		
	baz=289,SNR=12								
EPYK	Eagle Plains	75.53	24	IAmb	IAmb	10 23 26.5			
	comp=Z,27nm,0.9s								
EPYK	Eagle Plains	75.53	24	P	P	10 23 16.6	-0.4		
	baz=289,SNR=12								
J29N	Klondike Camp	75.54	26	P	P	10 23 16.7	-0.4		
	baz=288								
MNK	Minsk	75.61	323	*i* P	P	10 23 18.3	+0.7		
MNK				*i*		10 26 01.8			
MNK				*i* S	S	10 33 01.7	+3.7		
MNK				pmax	pmax				
	comp=Z,19nm,0.7s								
MNK				pmax	pmax				
	comp=N,12nm,0.8s								
MNK				pmax	pmax				
	comp=E,6.0nm,0.7s								
MNK				MLR	MLR				
	comp=E,160nm,18.0s								
MNK				MLR	MLR				
	comp=Z,292nm,17.0s								
MNK				MLR	MLR				
	comp=N,255nm,17.0s								
KIRS	Kirsehir-Merke	75.70	307	⇑P	P	10 23 18.9	+0.3		
BR131	Keskin Array S	75.75	307	IAmb	IAmb	10 23 35.7			
	comp=Z,47nm,1.5s								
BR131	Keskin Array S	75.75	307	P	P	10 23 18.9	-0.1		
BR131				P	P	10 23 18.9	-0.1		
BR131	Keskin Array S	75.75	307	*ce*P	P	10 23 18.6	-0.3		
BRTR	Keskin Array B	75.75	307	P	P	10 23 17.9	-1.0		
BRTR	Keskin Array B	75.75	307	P	P	10 23 18.8	-0.2		
	comp=Z,6.0nm,0.8s,baz=115,slow=8.3,SNR=23								
	comp=Z,6.0nm,0.8s								
BRTR	Keskin Array B	75.75	307	*i* P	P	10 23 19.3	+0.4		
BRTR				pmax	pmax				
	comp=Z,6.0nm,0.8s								
BR106	Keskin Array S	75.76	307	P	P	10 23 18.0	-1.0		
	comp=Z,117nmcomp=Z,13nm,1.1s								
BR105	Keskin Array S	75.77	307	P	P	10 23 18.6	-0.4		
	comp=Z,144nmcomp=Z,14nm,1.2s								
O28M	Mount Upton	75.78	30	IAmb	IAmb	10 23 50.9			
	comp=Z,24nm,1.0s								
O28M	Mount Upton	75.78	30	P	P	10 23 17.5	-1.4		
	baz=287								
YUK8	Steele Glacier	75.83	30	P	P	10 23 17.8	-1.3		
	baz=287								
AK09	Malin Array Si	75.83	319	P	P	10 23 17.2	-1.8		
AK03	Malin Array Si	75.84	319	P	P	10 23 16.9	-2.1		
AK08	Malin Array Si	75.85	319	P	P	10 23 18.0	-1.0		
AKASG	Malin Array Be	75.85	319	P	P	10 23 16.6	-2.4		
AKASG	Malin Array Be	75.85	319	P	P	10 23 16.8	-2.2		
	comp=Z,7.9nm,0.8s,baz=62,slow=5.7,SNR=18								
AKASG	Malin Array Be	75.85	319	*i* P	P	10 23 17.7	-1.3		
AKASG				pmax	pmax				
	comp=Z,8.0nm,0.8s								
AKBB	Malin Array Si	75.85	319	IAmb	IAmb	10 23 29.6			
	comp=Z,18nm,0.9s								
AKBB	Malin Array Si	75.85	319	*ce*P	P	10 23 18.0	-1.0		
AKBB	Malin Array Si	75.85	319	P	P	10 23 17.8	-1.2		
AK01	Malin Array Si	75.86	319	P	P	10 23 17.9	-1.2		
AK10	Malin Array Si	75.86	319	P	P	10 23 17.8	-1.3		
KIEV	Kiev	75.86	319	P	P	10 23 17.5	-1.6		
KIEV	Kiev	75.86	319	P	P	10 23 17.5	-1.6		
KIEV				pmax	pmax				
	comp=Z,17nm,1.0s								
KIEV	Kiev	75.86	319	P	P	10 23 17.8	-1.3		
	comp=Z,75nm,0.8s								
KIEV	Kiev	75.86	319	⇑P	P	10 23 18.1	-1.0		
AK02	Malin Array Si	75.87	319	P	P	10 23 17.8	-1.4		
AK04	Malin Array Si	75.88	319	P	P	10 23 17.9	-1.3		
AK05	Malin Array Si	75.88	319	P	P	10 23 17.9	-1.3		
AK11	Malin Array Si	75.89	319	P	P	10 23 17.9	-1.4		
AK23	Malin Array Si	75.89	319	P	P	10 23 18.0	-1.3		
AK06	Malin Array Si	75.89	319	P	P	10 23 18.0	-1.3		
AK07	Malin Array Si	75.90	319	P	P	10 23 18.0	-1.3		
AK12	Malin Array Si	75.91	319	P	P	10 23 18.0	-1.4		
AK15	Malin Array Si	75.91	319	P	P	10 23 18.1	-1.3		
AK22	Malin Array Si	75.93	319	P	P	10 23 17.7	-1.8		
AK16	Malin Array Si	75.93	319	P	P	10 23 17.9	-1.6		
PINM	Pinnacle	75.95	31	P	P	10 23 18.7	-0.9		
	baz=287								
L29M	L29M	76.00	27	P	P	10 23 19.3	-0.5		
	baz=288,SNR=34								
K29M	Barlow Dome	76.02	27	IAmb	IAmb	10 23 35.6			
	comp=Z,31nm,1.3s								
K29M	Barlow Dome	76.02	27	P	P	10 23 19.2	-0.8		
	baz=289,SNR=19								
INK	Inuvik	76.03	22	IAmb	IAmb	10 23 33.5			
	comp=Z,22nm,1.1s								
INK	Inuvik	76.03	22	P	P	10 23 19.5	-0.3		
	baz=291,SNR=6.1								
I30M	Mount Dempster	76.04	25	IAmb	IAmb	10 23 30.6			
	comp=Z,20nm,0.8s								
I30M	Mount Dempster	76.04	25	P	P	10 23 18.7	-1.3		
	baz=289,SNR=23								
M29M	Somme Creek	76.06	28	IAmb	IAmb	10 23 30.0			
	comp=Z,31nm,0.9s								
M29M	Somme Creek	76.06	28	P	P	10 23 19.5	-0.7		
	baz=288,SNR=50								
MMAI	Mount Meron Ar	76.18	300	P	P	10 23 21.1	-0.3		
	comp=Z,5.7nm,0.8s,baz=66,slow=4.7,SNR=6.8								
	comp=Z,5.7nm,0.8s								
G31M	Satah River	76.26	23	IAmb	IAmb	10 23 29.3			
	comp=Z,16nm,0.8s								
G31M	Satah River	76.26	23	P	P	10 23 20.2	-0.9		
	baz=291,SNR=13								
F31M	Tsiigehtchic	76.27	23	IAmb	IAmb	10 23 29.6			
	comp=Z,27nm,0.8s								
F31M	Tsiigehtchic	76.27	23	P	P	10 23 20.4	-0.7		
	baz=291,SNR=13								
J30M	Hart River	76.28	26	P	P	10 23 20.2	-1.2		
	baz=290,SNR=16								
YUK4	Talbot Arm	76.32	29	P	P	10 23 20.4	-1.4		
	baz=288,SNR=11								
ANTO	Ankara	76.34	308	P	P	10 23 21.5	-0.7		
ANTO				IAmb	IAmb	10 23 29.8			
	comp=Z,27nm,0.8s								
ANTO	Ankara	76.34	308	P	P	10 23 21.3	-0.9		
ANTO	Ankara	76.34	308	P	P	10 23 21.5	-0.7		
ANTO				pmax	pmax				
	comp=Z,27nm,0.9s								
ANTO	Ankara	76.34	308	⇑P	P	10 23 22.6	+0.4		
PNL	Peninsula	76.49	31	P	P	10 23 26.1	+3.5		
PNL	Peninsula	76.49	31	P	P	10 23 21.2	-1.4		
	baz=288,SNR=5.7								
YUK6	Outpost Mounta	76.58	30	P	P	10 23 22.9	-0.5		
	baz=289								
H31M	Peel River	76.64	24	IAmb	IAmb	10 23 32.7			
	comp=Z,23nm,0.8s								
H31M	Peel River	76.64	24	P	P	10 23 22.5	-0.8		
	baz=291,SNR=16								
O29M	Mount Kennedy	76.68	30	P	P	10 23 23.2	-0.6		
	baz=289								
MI28	Mi28,Pidlybu	76.73	320	P	P	10 23 22.4	-1.7		
M30M	Minto, Yukon	76.75	28	IAmb	IAmb	10 23 40.0			
	comp=Z,44nm,1.2s								
M30M	Minto, Yukon	76.75	28	P	P	10 23 23.7	-0.4		
	baz=290,SNR=25								
MAYO	Mayo, Yukon	76.79	27	P	P	10 23 23.9	-0.3		
	baz=290,SNR=18								
STEI	Steigen	76.95	338	*e*P	P	10 23 25.0	0.0		
LUBAR	Lubar, Ukraine	76.97	319	P	P	10 23 23.7	-1.7		
N30M	Aishikik Lake	76.99	29	IAmb	IAmb	10 23 35.6			
	comp=Z,23nm,0.9s								
N30M	Aishikik Lake	76.99	29	P	P	10 23 24.7	-0.8		
	baz=290,SNR=23								
HYT	Haines Junctio	77.01	30	IAmb	IAmb	10 23 35.2			
	comp=Z,25nm,0.9s								
HYT	Haines Junctio	77.01	30	P	P	10 23 24.8	-0.8		
	baz=289,SNR=17								
A36M	Sachs Harbour	77.08	17	P	P	10 23 24.9	-0.7		
	baz=298,SNR=15								
SORM	Soroca	77.11	317	⇑P	P	10 23 25.2	-1.0		
SORM	Soroca	77.11	317	⇑P	P	10 23 25.2	-1.0		
FAUS	Fauske	77.15	338	*e*P	P	10 23 25.7	-0.4		
P29M	Windy Craggy	77.30	31	IAmb	IAmb	10 23 38

VRI	Vrincioaia	78.85	315	⇓P		P		10 23 36.4	+0.4	
N32M	Quiet Lake	78.91	29	IAmb		IAmb		10 23 45.6		
	comp=Z,35nm,0.9s									
N32M	Quiet Lake	78.91	29	P		P		10 23 34.1	-1.9	
	baz=293									
PLOR	Plostina	78.91	315	⇑P		P		10 23 37.4	+1.0	
PLOR	Plostina	78.91	315	⇑P		P		10 23 37.4	+1.0	
ONER	Baraj Valea Uz	78.93	315	⇑P		P		10 23 36.9	+0.5	
MMPY	Sheldon Lake,	79.11	27	P		P		10 23 36.1	-1.1	
	baz=294									
CTYL	Yalikoy Yolu	79.15	310	⇑P		P		10 23 38.4	+0.7	
COVR	Voineasa-Covas	79.21	315	⇓P		P		10 23 37.5	-0.5	
ISR	Istrita	79.21	314	⇓P		P		10 23 43.5	+5.4	
ISR	Istrita	79.21	314	⇓P		P		10 23 43.5	+5.5	
P32M	Atlin	79.22	30	P		P		10 23 36.6	-1.2	
	baz=293,SNR=6.5									
TURR	Turia	79.26	315	⇑P		P		10 23 27.2	-11	
BURAR	Bucovina Array	79.28	317	⇑P		P		10 23 37.4	-1.0	
BURAR	Bucovina Array	79.28	317	⇑P		P		10 23 38.3	-0.2	
BURAR	Bucovina Array	79.28	317	⇑P		P		10 23 38.3	-0.2	
NEHR	Nehoiu	79.28	315	⇓P		P		10 23 40.3	+1.9	
R32K	Eaglecrest	79.34	32	P		P		10 23 37.5	-1.0	
	baz=292,SNR=7.4									
P33M	Teslin, Yukon	79.40	29	P		P		10 23 37.4	-1.4	
	baz=293,SNR=8.7									
SIT	Sitka	79.40	33	IAmb		IAmb		10 23 54.7		
	comp=Z,43nm,1.1s									
SIT	Sitka	79.40	33	P		P		10 23 41.9	+3.2	
SIT	Sitka	79.40	33	P		P		10 23 37.3	-1.4	
	baz=292									
OZUR		79.40	315	⇑P		P		10 23 39.4	+0.4	
JIS	Juneau Island	79.41	31	P		P		10 23 42.0	+3.3	
MLR	Muntele Rosu	79.49	315	IAmb		IAmb		10 23 49.8		
	comp=Z,25nm,1.0s									
MLR	Muntele Rosu	79.49	315	⇑P		P		10 23 39.8	+0.1	
MLR	Muntele Rosu	79.49	315	⇑P		P		10 23 39.8	+0.1	
NSS	Namsos	79.59	336	*e*P		P		10 23 39.4	-0.3	
S32K	Killisnoo	79.62	32	P		P		10 23 38.3	-1.6	
	baz=292									
BAND	Balkesir-Ban	79.64	309	⇑P		P		10 23 39.4	-1.0	
PHSR	Pinarhisar	79.65	311	⇑P		P		10 23 40.5	+0.1	
DOPR	Dopca	79.71	315	⇑P		P		10 23 41.1	+0.4	
RAZG	Razgrad	79.73	313	⇑P		P		10 23 41.2	+0.3	
LOZB	Loznitsa	79.74	312	⇑P		P		10 23 41.1	+0.2	
DAG	Danmarks Havn	79.76	351	*e*P		P		10 23 39.4	-1.0	
MANT	Manisa	79.89	307	IAmb		IAmb		10 23 58.4		
	comp=Z,46nm,1.2s									
TAVA	DENIZLI_Tavas	79.95	306	⇓P		P		10 23 40.7	-1.6	
ARCR	ARCALIA	80.01	317	⇑P		P		10 23 45.3	+3.0	
VOIR		80.11	315	⇑P		P		10 23 41.3	-1.6	
VOIR		80.11	315	⇑P		P		10 23 41.3	-1.6	
Q32M	Nakina River	80.16	30	P		P		10 23 41.5	-1.5	
	baz=294									
BMR	Baia Mare	80.35	317	⇑P		P		10 23 46.3	+2.2	
BMR	Baia Mare	80.35	317	⇑P		P		10 23 46.3	+2.2	
ELND	Elena	80.38	312	⇑P		P		10 23 44.6	+0.2	
ARR	Arges	80.41	315	⇓P		P		10 23 45.5	+1.0	
TNR	Turnu Rosu	80.55	315	⇑P		P		10 23 45.9	+0.6	
TNR	Turnu Rosu	80.55	315	⇑P		P		10 23 45.9	+0.6	
R33M	Jennings River	80.59	30	P		P		10 23 43.8	-1.5	
	baz=295									
CJR	Cluj-Napoca	80.62	316	⇑P		P		10 23 48.1	+2.4	
CJR	Cluj-Napoca	80.62	316	⇑P		P		10 23 48.1	+2.4	
KOLS	Kolonicke sedl	80.68	319	*e*P		P		10 23 48.2	+2.3	
KOLS				pmax		pmax				
	comp=Z,13nm,0.8s									
KOLS	Kolonicke sedl	80.68	319	*e*P		P		10 23 48.1	+2.2	
T33K	Petersburg	80.69	33	P		P		10 23 44.4	-1.3	
	baz=294									
HFS	Hagfors	80.83	331	P		P		10 23 44.8	-1.6	
	comp=Z,2.8nm,0.6s,baz=100,slow=5.0,SNR=18									
	comp=Z,2.8nm,0.6s									
TGTN	Hyland Airport	80.85	27	P		P		10 23 45.4	-1.1	
	baz=297									
U33K	Whale Pass	80.89	33	P		P		10 23 44.7	-2.1	
	baz=294									
MARR	Marisel-Cluj	80.94	316	⇑P		P		10 23 47.8	+0.3	
LOT	Lotru	80.95	315	⇑P		P		10 23 48.4	+0.9	
PLVB	Pleven	81.09	313	⇑P		P		10 23 48.4	+0.2	
EZN	Ezine	81.10	309	⇑P		P		10 23 48.8	+0.6	
EZN	Ezine	81.10	309	⇑P		P		10 23 48.8	+0.6	
STHS	Stebnicka Huta	81.13	320	*e*P		P		10 23 48.1	-0.2	
STHS				pmax		pmax				
	comp=Z,11nm,1.1s									
STHS	Stebnicka Huta	81.13	320	*e*P		P		10 23 48.1	-0.2	
S34M	Telegraph Cree	81.14	31	P		P		10 23 46.6	-1.5	
	baz=295									
CRAG	Craig	81.15	34	P		P		10 23 53.3	+5.1	
CRAG	Craig	81.15	34	P		P		10 23 46.3	-1.9	
	baz=294									
WRAK	Wrangell Islan	81.16	33	P		P		10 23 46.3	-1.9	
	baz=294									
DRGR		81.17	317	⇓P		P		10 23 48.5	-0.1	
DRGR		81.17	317	⇓P		P		10 23 48.5	-0.1	
RDO	Rodhopi	81.22	311	IAmb		IAmb		10 24 05.8		
	comp=Z,30nm,1.2s									
NC405	NORSAR Array S	81.26	333	P		P		10 23 47.0	-1.7	
NC405				IAmb		IAmb		10 23 58.6		
	comp=Z,20nm,0.8s									
WTLY	Watson Lake, Y	81.26	29	P		P		10 23 47.2	-1.6	
	baz=297,SNR=15									
DEV	Deva	81.36	316	⇑P		P		10 23 55.2	+5.6	
DEV	Deva	81.36	316	⇑P		P		10 23 55.2	+5.6	
DLBC	Dease Lake	81.44	30	P		P		10 23 48.0	-1.8	
	baz=296									
NB2	NORSAR Subarra	81.51	333	P		P		10 23 48.9	-1.2	
	comp=Z,11nm,1.0s,baz=64,slow=4.8									
NB2				PP		PP		10 26 58.3	+2.4	
	comp=Z,2.3nm,0.9s,baz=62,slow=8.6									
NOA	NORSAR Array B	81.51	333	P		P		10 23 48.9	-1.2	
	comp=Z,2.9nm,0.8s,baz=62,slow=4.9,SNR=14									
NOA				PP		PP		10 26 57.5	+1.7	
	comp=Z,2.4nm,1.0s,baz=63,slow=8.0,SNR=4.2									
	comp=Z,2.9nm,0.8s									
NC204	NORSAR Array S	81.59	333	IAmb		IAmb		10 24 08.5		
	comp=Z,44nm,1.6s									
RZN	Rozhen	81.59	311	*i* P		P		10 23 53.5	+2.4	
GZR	Gura Zlata	81.62	315	⇑P		P		10 23 47.3	-3.7	
GZR	Gura Zlata	81.62	315	⇑P		P		10 23 47.3	-3.7	
OJC	Ojcow	81.70	321	*e*P		P		10 23 50.9	-0.4	
PGB	Panagyurishte	81.70	312	*i* P		P		10 23 51.9	+0.4	
NIE	Niedzica	81.70	320	*e*P		P		10 23 51.5	+0.1	
MPEP	Malo Peshtene	81.70	313	*i* P		P		10 23 51.6	+0.2	
RES	Resolute Bay	81.82	9	IAmb		IAmb		10 24 09.7		
	comp=Z,20nm,0.9s									
NEEM	North Greenlan	81.83	358	*i* P		P		10 23 51.6	-0.2	
NEEM				IAmb		IAmb		10 23 56.4		
	comp=Z,66nm,1.2s									
SURR	Surduc	81.92	316	⇓P		P		10 23 49.9	-2.6	
DOMB	Dombas	81.93	334	*e*P		P		10 23 50.5	-1.8	
T35M	Bob Quinn	81.97	32	P		P		10 23 51.2	-1.4	
	baz=296									
WRGLY	Wrigley	81.99	25	P		P		10 23 52.1	-0.4	
	baz=301									
V35K	Ketchikan	81.99	34	P		P		10 23 52.1	-0.5	
	baz=295									
BZS	Buzias	82.30	316	⇓P		P		10 23 54.0	-0.5	
BZS	Buzias	82.30	316	⇓P		P		10 23 54.0	-0.5	
LANS	Liptovska Anna	82.31	320	*e*P		P		10 23 55.8	+1.3	
LANS	Liptovska Anna	82.31	320	*e*P		P		10 23 55.8	+1.3	
VTS	Vitosha	82.31	313	*i* P		P		10 23 54.5	-0.3	
MMB	Musomishta	82.34	311	*i* P		P		10 23 58.0	+3.2	
MDVR	Moldovita	82.55	315	⇑P		P		10 23 55.4	-0.5	
KKB	Krupnik	82.67	312	*i* P		P		10 23 56.2	-0.3	
LIRD	Liard River Hi	82.80	29	P		P		10 23 56.5	-0.3	
	baz=299									
SKAR	Skarslia	82.93	333	*e*P		P		10 23 57.1	-0.4	
VYHS	Vyhne	82.95	319	*e*P		P		10 23 58.2	+0.3	
VYHS				pmax		pmax				
	comp=Z,52nm,1.8s									
VYHS	Vyhne	82.95	319	*e*P		P		10 23 58.2	+0.3	
BOVS	Bovan	82.98	314	⇑P		P		10 23 54.2	-3.9	
STEB	Steborice	83.01	321	*e*P		P		10 23 58.3	+0.2	
MORC	Moravsky Berou	83.21	321	IAmb		IAmb		10 24 04.5		
	comp=Z,37nm,1.7s									
MORC	Moravsky Berou	83.21	321	*e*P		P		10 24 00.1	+0.9	
MORC	Moravsky Berou	83.21	321	⇑P		P		10 23 57.6	-1.6	
MORC	Moravsky Berou	83.21	321	⇑P		P		10 23 57.6	-1.6	
ABPO	Ambohimpanom	83.21	247	P		P		10 23 58.4	-1.4	
ABPO	Ambohimpanom	83.21	247	P		P		10 23 58.4	-1.4	
ABPO				pmax		pmax				
	comp=Z,30nm,0.9s									
VAY	Valandovo	83.25	312	*i* P		P		10 23 58.3	-1.2	
TOAD	Toad River Com	83.46	29	P		P		10 23 59.7	-0.6	
	baz=300,SNR=8.8									
JAVC	Velka Javorina	83.51	320	*e*P		P		10 24 02.2	+1.4	
HYA	Hoyanger	83.56	334	*e*P		P		10 23 60.0	-0.7	
DPC	Dobruska-Polom	83.69	322	*e*P		P		10 24 02.7	+1.1	
DPC				AMS		AMS		11 05 50.0		
	comp=Z,300nm,14.8s									
DPC	Dobruska-Polom	83.69	322	*e*P		P		10 24 02.7	+1.1	
DPC				MLR		MLR				
	comp=Z,300nm,14.8s									
FOO	Floro	83.79	335	*e*P		P		10 24 00.8	-1.0	
MODS	Modra-Piesok	83.95	320	*e*P		P		10 24 02.1	-0.9	
MODS				pmax		pmax				
	comp=Z,54nm,1.5s									
MODS	Modra-Piesok	83.95	320	*e*P		P		10 24 02.1	-0.9	
VRAC	Vranov	83.97	321	*e*P		P		10 24 03.2	+0.1	
VRAC	Vranov	83.97	321	⇑P		P		10 24 03.5	+0.4	
VRAC	Vranov	83.97	321	⇑P		P		10 24 03.5	+0.4	
KRUC	Moravsky	84.19	320	*e*P		P		10 24 04.5	+0.3	
SUE	Sulen	84.20	334	*e*P		P		10 24 04.1	+0.2	
FNA	Florina	84.28	311	IAmb		IAmb		10 24 06.8		
	comp=Z,21nm,1.2s									
BLS5	Blasjo	84.37	332	*e*P		P		10 24 05.0	+0.1	
OHR	Ohrid	84.56	312	*i* P		P		10 24 04.7	-1.7	
BRG	Berggiesshubel	84.82	323	*e*P		P		10 24 07.7	+0.4	
BRG				Amp				10 24 11.6		
	comp=Z,4.8nm,0.9s									
BRG	Berggiesshubel	84.82	323	P		P		10 24 14.5	+7.2	
BRG				Amp				10 24 22.6		
	comp=Z,9.6nm,0.9s									
RONA	Rosalia, Austr	84.83	319	*i* P		P		10 24 07.5	0.0	
	comp=Z,12nm,1.3s									
PRU	Pruhonice	84.87	322	*e*pP		pP		10 24 12.4	-0.5	
PRU	Pruhonice	84.87	322	*e*P		P		10 24 12.4	+4.8	
PRA	Prague	84.90	322	AMS		AMS		11 07 10.0		
	comp=Z,500nm,12.3s									
CONA	Conrad Observa	85.00	320	*i* P		P		10 24 07.5	-0.9	
	comp=Z,24nm,1.5s									
KMY	Karmoy	85.01	333	*e*P		P		10 24 07.4	-0.7	
PDG	Podgorica	85.10	314	⇑P		P		10 24 07.2	-1.7	
CLL	Collm	85.15	323	P		P		10 24 08.1	-0.9	
CLL				IAmb		IAmb		10 24 24.3		
	comp=Z,36nm,1.5s									
CLL	Collm	85.15	323	*e*P		P		10 24 08.0	-1.0	
CLL				*i*				10 24 11.5		
KIBK	Kibwezi	85.15	266	P		P		10 24 08.5	-1.3	
KIBK	Kibwezi	85.15	266	P		P		10 24 10.0	+0.3	
ITM	Ithomi	85.27	308	P		P		10 24 08.0	-1.9	
KMBO	Kilima Mbogo	85.46	267	⇑*e*P		P		10 24 11.7	+0.2	
ARSA	Arzberg	85.50	319	*e*P		P		10 24 10.8	0.0	
	comp=Z,13nm,1.2s									
BLY	Banja Luka	85.52	316	⇑P		P		10 24 10.6	-0.3	
CKRC	Cesky Krumlov	85.53	321	*e*P		P		10 24 10.9	-0.1	
CKRC				AMS		AMS		11 09 00.0		
	comp=Z,400nm,18.7s									
CKRC	Cesky Krumlov	85.53	321	*e*P		P		10 24 10.9	-0.1	
CKRC				MLR		MLR				
	comp=Z,400nm,18.7s									
LODK	Lodwar	85.63	272	P		P		10 24 11.1	-1.1	
LODK	Lodwar	85.63	272	P		P		10 24 12.2	+0.1	
YKAW3	Yellowknife Wh	85.70	23	P		P		10 24 10.8	-0.6	
YKAW3				IAmb		IAmb		10 24 20.1		
	comp=Z,26nm,0.8s									
YKA	Yellowknife Ar	85.75	23	P		P		10 24 10.0	-1.7	
YKA	Yellowknife Ar	85.75	23	P		P		10 24 11.4	-0.3	
	comp=Z,13nm,0.9s,baz=317,slow=5.2,SNR=14									
	comp=Z,13nm,0.9s									
YKAW1	Yellowknife Wh	85.80	23	IAmb		IAmb		10 24 20.6		
	comp=Z,20nm,0.8s									
KHC	Kasperske Hory	85.82	321	*e*P		P		10 24 13.7	+1.3	
KHC				AMS		AMS		11 07 10.0		
	comp=Z,400nm,18.1s									
KHC	Kasperske Hory	85.82	321	⇑*e*P		P		10 24 12.2	-0.2	
KHC				pmax		pmax				
	comp=Z,8.0nm,1.8s									
GERES	GERESS Array B	85.88	321	P		P		10 24 12.3	-0.5	
GERES	GERESS Array B	85.88	321	P		P		10 24 13.1	+0.3	
	comp=Z,2.2nm,0.8s,baz=64,slow=3.1,SNR=17									
	comp=Z,2.2nm,0.8s									
GERES	GERESS Array B	85.88	321	P		P		10 24 12.3	-0.5	
SUMG	Summit	85.88	354	IAmb		IAmb		10 24 21.8		
	comp=Z,33nm,1.1s									
SUMG	Summit	85.88	354	*e*P		P		10 24 12.3	-0.4	
MOA	Molln	85.99	320	*e*PcP		P		10 24 14.2	+0.9	
	comp=Z,6.0nm,0.6s									
SOKA	Soboth	86.05	319	*e*PcP		PcP		10 24 15.3	-1.1	
	comp=Z,11nm,1.3s									
OBKA	Obir	86.42	319	*i* PcP		P		10 24 16.1	+0.6	
	comp=Z,11nm,1.2s									
BIOA	Bad Ischl, Aus	86.44	320	*e*PcP		PcP		10 24 17.3	-0.7	
	comp=Z,3.9nm,0.5s									
KBA	Koelnbreinsper	86.90	320	*i* P		P		10 24 15.9	-2.1	
	comp=Z,4.6nm,0.5s									
MYKA	Terra Mystica	86.93	319	*i* PcP		P		10 24 18.3	+0.3	
	comp=Z,2.0nm,0.5s									
RAR	Rarotonga	87.11	114	LR		LR		10 56 08.7		
	comp=Z,129nm,20.2s,baz=294,slow=31									
LESA	Schwarzleotal	87.14	320	*e*PcP		PcP		10 24 20.2	-1.0	
	comp=Z,3.8nm,0.7s									
CASY	Casey	87.29	185	P		P		10 24 18.1	-0.8	
CASY				IAmb		IAmb		10 24 31.7		
	comp=Z,15nm,1.2s									
ABTA	Abfaltersbach	87.56	320	*e*P		P		10 24 20.2	-0.9	
	comp=Z,5.4nm,0.7s									
WTTA	Wattenberg	87.84	320	*e*pP		P		10 24 24.6	+2.1	
	comp=Z,7.2nm,0.6s									
WATA	Walderalm	87.84	320	*i* PcP		P		10 24 23.3	+0.8	
	comp=Z,3.5nm,0.5s									
SQTA	Sankt Quirin	88.12	320	*i* PcP		PcP		10 24 24.7	-0.9	
	comp=Z,5.7nm,1.3s									
MOTA	Moosalm	88.12	321	*e*P		P		10 24 22.9	-0.9	
	comp=Z,6.4nm,1.2s									
TIP	Timpagrande	88.18	311	IAmb		IAmb		10 24 45.4		
	comp=Z,32nm,1.4s									
TIP	Timpagrande	88.18	311	⇑P		P		10 24 26.1	+2.0	
ILON	Igloolik, Nuna	88.42	8	IAmb		IAmb		10 24 37.4		
	comp=Z,17nm,0.9s									
FETA	Feichten	88.50	320	*i* PcP		P		10 24 25.8	+0.1	
	comp=Z,3.4nm,1.3s									
FDMO	Fiordimonte	88.94	316	IAmb		IAmb		10 24 45.2		
	comp=Z,22nm,1.0s									
LLLB	Lillooet	89.42	35	IAmb		IAmb		10 25 02.3		
	comp=Z,12nm,0.8s									
EKA	Eskdalemuir Ar	90.99	332	P		P		10 24 37.2	+0.4	
	comp=Z,1.4nm,0.6s,baz=50,slow=3.2,SNR=12									
	comp=Z,1.4nm,0.6s									
J04A	Umpqua Nationa	93.28	41	IAmb		IAmb		10 24 53.4		
	comp=Z,16nm,1.0s									
L04D	Klamath Falls	93.71	42	P		P		10 24 48.5	-1.5	
L04D				IAmb		IAmb		10 25 10.3		
	comp=Z,11nm,1.0s									
YBH	Yreka Blue Hor	93.71	43	LR		LR		10 58 09.8		
	comp=Z,70nm,21.5s,baz=188,slow=30									
J05D	Fort Rock, OR	93.79	41	IAmb		IAmb		10 25 48.4		
	comp=Z,18nm,1.6s									
K05A	Summer Lake	94.31	41	IAmb		IAmb		10 25 14.9		
	comp=Z,18nm,1.3s									
PPT	Papeete	94.70	107	LR		LR		11 00 46.4		
	comp=Z,143nm,19.7s,baz=324,slow=31									
PPT2	Papeete2	94.71	107	*e*LR		LR		10 55 17.6		
	comp=Z,266nm,26.2s									
PPT2				*e*LR		LR		10 55 23.8		
	comp=Z,344nm,26.5s									
FRB	Frobisher Bay	95.29	5	LR		LR		11 11 30.8		
	comp=Z,1μm,18.2s,baz=230,slow=38									
FFC	Flin Flon	95.88	24	P		P		10 24 58.3	-1.1	
FFC	Flin Flon	95.88	24	P		P		10 24 58.3	-1.1	
FFC				pmax		pmax				
	comp=Z,4.0nm,0.9s									
TBI	Tubuai	96.77	112	*e*LR		LR		10 56 09.9		
	comp=Z,2μm,34.0s									
TBI				*e*LR		LR		10 56 18.6		
	comp=Z,1μm,32.2s									
NVAR	Mina Array Bea	98.35	44	P		P		10 25 09.8	-1.4	
	comp=Z,0.9nm,0.9s,baz=279,slow=4.4,SNR=5.8									
	comp=Z,0.9nm,0.9s									
LSZ	Lusaka	98.76	257	P		Pdif		10 25 14.4	+1.2	
LSZ				P		Pdif		10 25 14.4	+1.2	
TAOE	Nuku Hiva Isla	100.42	96	*e*LR		LR		10 58 00.2		
	comp=Z,463nm,26.5s									
PDAR	Pinedale Array	100.90	36	P		Pdif		10 25 23.2	+0.7	
	comp=Z,0.1nm,0.4s,baz=328,slow=6.2,SNR=1.6									
PDAR				PP		PP		10 29 27.4	-2.4	
	comp=Z,0.1nm,0.3s,baz=329,slow=9.1,SNR=1.9									
VNDA	Vanda	100.90	172	P		Pdif		10 25 20.6	-0.6	
	comp=Z,0.4nm,0.9s,baz=321,slow=3.7,SNR=0.9									
SYO	Syowa Base	106.58	202	⇓*e*PP		PP		10 30 14.2	+2.2	
SUR	Sutherland	109.98	242	P		Pdif		10 26 03.8	+0.9	
TROLL	Troll, Antarti	118.63	198	⇑PKPdf		PKiKP		10 30 20.8	+0.6	
	comp=Z,149nm,0.7s									
SNAA	Sanae	120.30	198	⇑PKPdf		PKiKP		10 30 23.3	-0.1	
	comp=Z,20nm,0.6s									
SNAA	Sanae	120.30	198	PKP		PKPdf		10 30 20.6	-2.7	
	comp=Z,0.9nm,0.8s,baz=169,slow=5.2,SNR=8.0									
VNA1	Neumayer--Stat	122.34	198	⇓PKPdf		PKPdf		10 30 26.1	-1.0	
	comp=Z,3.9nm,1.0s									
VNA3	Neumayer Olymp	122.40	197	⇑PKPdf		PKiKP		10 30 27.6	+0.1	
	comp=Z,2.5nm,0.6s									
SDV	Santo Domingo	147.96	24			PKPdf		10 31 12.6	-3.7	
SDV	Santo Domingo	147.96	24	*e*P		PKPdf		10 31 15.5	-0.8	
ROSC	El Rosal	149.88	34	PKPbc		PKPbc		10 31 23.3	-1.2	
	comp=Z,8.9nm,0.3s,baz=135,slow=8.7,SNR=6.8									
OTAV	Otavalo	151.05	46	*e*P		PKPdf		10 31 20.1	-1.5	
LPAZ	La Paz	169.40	66	PKP		PKPdf		10 31 42.0	+0.2	
	comp=Z,0.8nm,0.5s,baz=42,slow=2.2,SNR=4.2									
BBSD	Serra de San D	175.62	34	*e*P		PKPdf		10 31 41.6	-2.1	

IDC ***27*** *10:30:54.5±0.6, 35°.60N×117°.39W, h0km, mb4.1/12, mbtmp4.0/18, ML3.8/7, Error ellipse: s-maj=12.7km s-min=6.5km az=71.0*

PAS ***27*** *10:30:54.4±1.5, 35°.637N±0°.008×117°.474W±0°.005, h2km±1km, Mwr3.9/4, mb4.2/11(NEIC), ML4.2/162(NEIC), Error ellipse: s-maj=1.2km s-min=0.6km az=192.0*

NEIC ***27*** *10:30:54.1±1.4, 35°.633N±0°.009×117°.46W±0°.01, h7km±2km, Error ellipse: s-maj=1.4km s-min=1.2km az=210.0*

ISC 27 10:30:55.3±0.5, 35°.62N±0°.02×117°.47W±0°.02, h10km, n193, σ1°.14/214, mb4.2/14, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	Spangler Hills	0.03	218		Pg	10 30 55.3	-1.9
WSHM				IAML		10 30 56.4	
	487μm,0.4s						
CCCA	Chr Cany lake	0.13	139		Pg	10 30 57.9	-0.5
CCCA	Chr Cany lake	0.13	139		Sg	10 31 00.7	+0.1
CCCA				IAML		10 31 01.4	
	comp=N,310μm,0.7s						
CCCA				IAML		10 31 01.8	
	comp=E,261μm,0.7s						
GPO	China Lake	0.16	280		Pg	10 30 57.9	-1.0
GPO					Sg	10 31 00.6	-0.7
CLC	China Lake	0.22	332		Pg	10 30 58.6	-1.3
LRMC	Laurel Mtn Rad	0.22	230		Pg	10 30 59.1	-0.9
LRMC				IAML		10 31 04.4	
	comp=N,69μm,0.6s						
LRMC				IAML		10 31 06.4	
	comp=E,55μm,1.5s						
SRTC	Snort	0.24	287		Pg	10 30 59.6	-0.6
SRTC					Sg	10 31 03.7	+0.2
TOW	Tower One	0.30	308		Pg	10 31 00.7	-0.7
TOW					Sb	10 31 05.9	-2.1
WNMM	Nine Mile Cany	0.42	302		Pg	10 31 02.6	-0.9
WVPM	Volcano Peak E	0.43	319		Pg	10 31 03.1	-0.8
WVPM					Sb	10 31 09.7	-2.0
MPMC	Manual Prospec	0.43	358		Pg	10 31 02.7	-1.2
JRC2	Joshua Ridge	0.45	323		Pg	10 31 03.2	-1.0
JRC2					Sg	10 31 09.4	-0.9
DTP	Desert Tortois	0.47	221		Pg	10 31 03.6	-0.9
DTP					Sg	10 31 09.9	-0.8
WCSM	Coso Springs S	0.47	329		Pg	10

SVD	**Seven Oaks Dam**	**1.54**	**168**			**Pn**	**10 31 22.3**	**-0.6**
PSRC	**Puddingstone R**	**1.55**	**190**			**Pb**	**10 31 22.8**	**-1.3**
TIN	**Tinemaha, Big**	**1.56**	**337**			**Pn**	**10 31 22.5**	**-0.6**
TIN					IAML		10 31 47.8	
	comp=N,4μm,0.7s							
TIN					IAML		10 31 52.6	
	comp=E,5μm,1.0s							
PASC	**Pasadena Art C**	**1.56**	**202**			**Pb**	**10 31 22.9**	**-1.4**
PASC					IAML		10 31 46.1	
	comp=N,3μm,0.7s							
PASC					IAML		10 31 47.8	
	comp=E,3μm,0.8s							
MTPC	**Mountain Pass**	**1.57**	**94**			**Pn**	**10 31 22.4**	**-0.9**
MTPC					IAML		10 31 46.6	
	comp=N,3μm,0.9s							
MTPC					IAML		10 31 51.5	
	comp=E,2μm,0.7s							
OAT	**Oat Mountain**	**1.58**	**217**			**Pn**	**10 31 23.2**	**-0.3**
GTM	**Goat Mountain**	**1.61**	**145**			**Pg**	**10 31 24.8**	**-1.4**
CFT	**Crafton Hills**	**1.61**	**169**			**Pn**	**10 31 23.5**	**-0.3**
LCH	**Last Change Ra**	**1.61**	**355**			**Pn**	**10 31 23.3**	**-0.7**
MLSC	**Mira Loma**	**1.62**	**183**			**Pn**	**10 31 23.5**	**-0.4**
RVR	**Riverside**	**1.63**	**177**			**Pn**	**10 31 23.5**	**-0.5**
TPNV	**Topopah Spring**	**1.65**	**36**			**Pn**	**10 31 23.9**	**-0.6**
TPNV					IAML		10 31 50.6	
	comp=E,3μm,0.8s							
TPNV					IAML		10 31 52.4	
	comp=E,4μm,0.8s							
GVRC	**Garvey Reservo**	**1.66**	**199**			**Pb**	**10 31 24.5**	**-1.4**
RHC	**Rose Hills Cem**	**1.68**	**196**			**Pn**	**10 31 24.5**	**-0.3**
GMN	**Gold Mountain**	**1.68**	**6**			**Pn**	**10 31 24.3**	**-0.7**
BLCC	**Black Canyon**	**1.69**	**216**			**Pn**	**10 31 24.8**	**-0.2**
VOG	**Valley Oaks Go**	**1.70**	**295**			**Pb**	**10 31 25.6**	**-1.0**
GMRC	**Granite Mounta**	**1.70**	**119**			**Pn**	**10 31 23.4**	**-1.8**
DJJ	**Donna J Jenkin**	**1.72**	**208**			**Pn**	**10 31 24.6**	**-0.7**
BCW	**Bitter Crk WRg**	**1.73**	**247**			**Pn**	**10 31 24.4**	**-1.1**
BBSC	**Beaumont Base**	**1.75**	**167**			**Pb**	**10 31 25.7**	**-1.8**
PEC	**Perris**	**1.75**	**172**			**Pn**	**10 31 25.4**	**-0.2**
BLAC	**Blackrock camp**	**1.79**	**150**			**Pn**	**10 31 25.5**	**-0.8**
DSP	**Deep Springs**	**1.79**	**347**			**Pn**	**10 31 25.9**	**-0.4**
CRGC	**Crocker Grade**	**1.88**	**259**			**Pg**	**10 31 29.8**	**-1.5**
EW2	**E Wide Canyon**	**1.89**	**152**			**Pn**	**10 31 27.0**	**-0.7**
TPC	**Twentynine Pal**	**1.91**	**142**			**Pn**	**10 31 27.0**	**-1.0**
STCC	**Santa Clara**	**1.93**	**227**			**Pn**	**10 31 28.4**	**+0.3**
HMTC	**Hemet**	**1.95**	**168**			**Pn**	**10 31 28.0**	**-0.5**
ELS	**Elsinore Mount**	**1.97**	**179**			**Pn**	**10 31 28.5**	**-0.3**
ELS					IAML		10 32 01.1	
	comp=E,2μm,0.6s							
ELS					IAML		10 32 06.8	
	comp=N,2μm,0.6s							
DANC	**Danby, Needles**	**1.97**	**119**	Pn		**Pn**	**10 31 27.3**	**-1.5**
POB	**Polly Butte**	**1.98**	**167**			**Pn**	**10 31 28.7**	**-0.3**
DGR	**Domenigoni Val**	**2.00**	**169**			**Pn**	**10 31 28.7**	**-0.5**
BELC	**Belle Mtn. Jos**	**2.02**	**143**			**Pn**	**10 31 28.8**	**-0.8**
BELC					IAML		10 32 08.3	
	comp=N,1μm,0.5s							
BELC					IAML		10 32 16.9	
	comp=E,2μm,0.8s							
RPV	**Rancho Palos V**	**2.03**	**203**			**Pn**	**10 31 29.3**	**-0.2**
MURC	**Murrieta**	**2.03**	**174**			**Pn**	**10 31 29.3**	**-0.3**
BACC	**Bachelor Mtn.**	**2.04**	**170**			**Pn**	**10 31 29.2**	**-0.5**
SHPR	**Sheep Range**	**2.07**	**64**			**Pn**	**10 31 29.9**	**-0.3**
MZP	**Montezuma Peak**	**2.08**	**2**			**Pn**	**10 31 30.1**	**-0.3**
SMMC	**Simmler**	**2.08**	**262**			**Pn**	**10 31 30.3**	**0.0**
V12A	**Nelson**	**2.13**	**86**			**Pn**	**10 31 30.1**	**-1.0**
V12A					IAML		10 32 03.1	
	comp=N,2μm,1.0s							
CRY	**Cary Ranch**	**2.14**	**163**			**Pn**	**10 31 30.9**	**-0.3**
PMD	**Palm Desert**	**2.17**	**155**			**Pn**	**10 31 30.5**	**-0.9**
PFO	**Pinyon Flats O**	**2.17**	**157**			**Pn**	**10 31 30.9**	**-0.8**
PFO	**Pinyon Flats O**	**2.17**	**157**	Pn		**Pn**	**10 31 30.8**	**-0.8**
	comp=N,24nm,0.3s,baz=341,slow=13,SNR=412							
PFO					Lg	Lg	10 32 02.9	
	comp=N,282nm,0.3s,baz=66,slow=17,SNR=14							
	comp=N,369nm,0.5s							
IRM	**Iron Mountain**	**2.41**	**127**			**Pn**	**10 31 33.1**	**-1.7**
IRM					IAML		10 32 12.5	
	comp=E,1μm,0.5s							
S11A	**Rachel**	**2.45**	**34**			**Pn**	**10 31 35.0**	**-0.4**
S11A					IAML		10 32 19.7	
	comp=N,2μm,1.5s							
TPH	**Tonopah**	**2.46**	**5**			**Pn**	**10 31 35.3**	**-0.3**
NEE2	**Needles Airpor**	**2.49**	**109**			**Pn**	**10 31 34.6**	**-1.3**
NEE2					IAML		10 32 20.9	
	comp=E,2μm,0.6s							
BORC	**Borrego Spring**	**2.50**	**159**			**Pn**	**10 31 35.7**	**-0.4**
BORC					IAML		10 32 16.6	
	comp=E,883nm,0.6s							
BORC					IAML		10 32 18.4	
	comp=N,992nm,0.8s							
BC3	**Big Chuckawall**	**2.57**	**139**			**Pn**	**10 31 35.8**	**-1.3**
BC3					IAML		10 32 22.4	
	comp=N,974nm,0.7s							
BC3					IAML		10 32 22.9	
	comp=E,798nm,0.6s							
PRN	**Pahroc Range**	**2.64**	**47**			**Pn**	**10 31 37.8**	**-0.3**
PRN					IAML		10 32 28.7	
	comp=N,1μm,0.8s							
DPP	**Dos Picos Cty**	**2.65**	**170**			**Pn**	**10 31 37.9**	**-0.3**
DPP					IAML		10 32 20.3	
	comp=E,1μm,0.6s							
PMPB	**Monarch Peak**	**2.77**	**283**			**Pn**	**10 31 39.7**	**0.0**
PMPB					IAML		10 32 28.1	
	comp=N,2μm,0.8s							
NV11	**Mina Array Sit**	**2.86**	**349**			**Pn**	**10 31 41.0**	**-0.1**
NV11					IAML		10 32 30.7	
	comp=E,621nm,0.9s							
NVAR	**Mina Array Bea**	**2.88**	**347**			**Pn**	**10 31 41.2**	**-0.3**
NVAR	**Mina Array Bea**	**2.88**	**347**	Pn		**Pn**	**10 31 41.4**	**-0.1**
	comp=E,11nm,0.3s,baz=171,slow=16,SNR=342							
NVAR					Lg	Lg	10 32 25.9	
	comp=E,30nm,0.3s,baz=273,slow=32,SNR=5.8							
	comp=E,40nm,0.6s							
W13A	**Hualapai Mount**	**2.98**	**99**			**Pn**	**10 31 41.8**	**-1.0**
W13A					IAML		10 32 33.3	
	comp=E,540nm,0.9s							
W13A					IAML		10 32 40.0	
	comp=N,718nm,1.6s							
BLYC	**Blythe**	**3.06**	**127**			**Pn**	**10 31 42.0**	**-1.8**
BLYC					IAML		10 32 35.4	
	comp=N,1μm,0.8s							
BLYC					IAML		10 32 41.9	
	comp=E,907nm,0.8s							
R11B	**Troy Canyon, C**	**3.11**	**28**	Pn		**Pn**	**10 31 43.7**	**-0.9**
TJX	**Tijuana**	**3.12**	**174**	Pn		**Pn**	**10 31 44.6**	**0.0**
Q09A	**Carvers**	**3.21**	**4**			**Pn**	**10 31 46.5**	**+0.5**
YUH	**Yuha Desert**	**3.23**	**156**			**Pn**	**10 31 44.9**	**-1.2**
CBX	**Cerro Bola**	**3.37**	**168**			**Pn**	**10 31 48.2**	**+0.1**
GLA	**Glamis**	**3.37**	**139**			**Pn**	**10 31 46.2**	**-1.8**
GLA					IAML		10 32 51.5	
	comp=N,1μm,0.7s							
LCMT	**Little Creek M**	**3.68**	**67**			**Pn**	**10 31 52.5**	**0.0**
CCX	**Cicese**	**3.81**	**170**			**Pn**	**10 31 54.4**	**+0.4**
CCX					IAML		10 32 55.3	
	comp=N,382nm,0.7s							
CCX					IAML		10 32 58.0	
	comp=E,542nm,0.5s							
ESJX	**Sierra Juarez**	**3.83**	**160**			**Pn**	**10 31 54.4**	**0.0**
ESJX					IAML		10 33 01.2	
	comp=E,329nm,0.8s							
KNB	**Kanab**	**4.00**	**68**			**Pn**	**10 31 57.3**	**+0.4**
KNB					IAML		10 33 20.9	
	comp=E,246nm,1.0s							
KNB					IAML		10 33 21.6	
	comp=N,292nm,1.6s							
Y14A	**Wickenburg**	**4.04**	**113**			**Pn**	**10 31 56.2**	**-1.1**
Y14A					IAML		10 33 09.3	
	comp=E,421nm,0.9s							
Y14A					IAML		10 33 12.8	
	comp=N,503nm,1.0s							
PSUT	**Pine Spring**	**4.10**	**44**			**Pn**	**10 31 57.7**	**-0.5**
PSUT					IAML		10 33 11.1	
	comp=E,324nm,1.0s							
PSUT					IAML		10 33 18.4	
	comp=N,312nm,1.1s							
113A	**Mohawk Valley,**	**4.19**	**132**			**Pn**	**10 31 57.0**	**-2.2**
SPR3	**Spring Creek 3**	**4.20**	**36**			**Pn**	**10 31 58.2**	**-1.4**
SPR3					IAML		10 33 12.0	
	comp=E,339nm,0.8s							
SPR3					IAML		10 33 16.9	
	comp=N,284nm,1.0s							
PAHR	**Pah Rah Range**	**4.35**	**340**			**Pn**	**10 32 02.1**	**+0.5**
VTX	**Valle De La Tr**	**4.45**	**161**			**Pn**	**10 32 03.1**	**+0.2**
VTX					IAML		10 33 18.2	
	comp=E,208nm,0.8s							
VTX					IAML		10 33 20.4	
	comp=N,253nm,0.8s							
WUAZ	**Wupatki**	**4.97**	**89**			**Pn**	**10 32 10.6**	**+0.5**
TCRU	**Three Creeks R**	**5.00**	**52**			**Pn**	**10 32 11.4**	**+0.8**
TCRU					IAML		10 33 46.9	
	comp=E,222nm,1.1s							
TCRU					IAML		10 33 53.0	
	comp=N,179nm,1.1s							
X16A	**Lo Mia Camp, P**	**5.09**	**102**			**Pn**	**10 32 12.1**	**+0.2**
X16A					IAML		10 33 39.9	
	comp=E,126nm,1.1s							
X16A					IAML		10 33 45.9	
	comp=N,143nm,1.6s							
PIX	**Pinacate**	**5.25**	**139**			**Pn**	**10 32 11.8**	**-2.1**
214A	**Organ Pipe Nat**	**5.33**	**132**			**Pn**	**10 32 12.8**	**-2.2**
214A					IAML		10 33 59.2	
	comp=E,108nm,0.6s							
214A					IAML		10 33 59.6	
	comp=N,100nm,2.0s							
ELK	**Elko**	**5.41**	**18**	Pn		**Pn**	**10 32 16.6**	**+0.4**
	comp=N,1.9nm,0.3s,baz=210,slow=11,SNR=47							
ELK					Lg	Lg	10 33 43.5	
	comp=N,9.2nm,0.3s,baz=188,slow=8.3,SNR=11							
	comp=N,5.7nm,0.3s							
X18A	**Snowflake**	**6.26**	**98**	Pn		**Pn**	**10 32 28.8**	**+0.9**
TUC	**Tucson**	**6.46**	**119**			**Pn**	**10 32 29.3**	**-1.2**
HVU	**Hansel Valley**	**7.16**	**29**	Pn		**Pn**	**10 32 42.9**	**+2.7**
YBH	**Yreka Blue Hor**	**7.35**	**328**	Pn		**Pn**	**10 32 45.1**	**+2.4**
	baz=149,slow=7.0,SNR=7.9							
YBH					Lg	Lg	10 34 44.7	
	baz=64,slow=5.7,SNR=6.6							
319A	**Douglas**	**8.04**	**119**	Pn		**Pn**	**10 32 51.9**	**-0.5**
ANMO	**Albuquerque**	**9.03**	**91**	Pn		**Pn**	**10 33 07.0**	**+1.1**
	comp=N,0.2nm,0.3s,baz=11,slow=12,SNR=3.6							
ANMO					Lg	Lg	10 35 35.2	
	comp=N,0.3nm,0.3s,baz=290,slow=19,SNR=9.7							
PDAR	**Pinedale Array**	**9.41**	**38**	Pn		**Pn**	**10 33 14.1**	**+2.9**
	comp=N,0.1nm,0.3s,baz=228,slow=12,SNR=13							
PDAR					Lg	Lg	10 35 48.6	
	comp=N,0.1nm,0.3s,baz=220,slow=21,SNR=3.6							
	comp=N,1.6nm,0.7s							
FXWY	**Fox Creek**	**9.42**	**30**			**Pn**	**10 33 10.8**	**-0.4**
LOHW	**Long Hollow**	**9.57**	**31**	Pn		**Pn**	**10 33 12.7**	**-0.7**
G06A	**Carlson Farm,**	**9.90**	**347**			**Pn**	**10 33 16.8**	**-0.8**
E09A	**Wood Farm, Sta**	**10.89**	**358**	Pn		**Pn**	**10 33 31.0**	**-0.2**
E07A	**Sunnyside**	**11.07**	**351**	Pn		**Pn**	**10 33 31.2**	**-2.4**
RLMT	**Red Lodge**	**11.36**	**31**	Pn		**Pn**	**10 33 36.7**	**-1.1**
CLN7	**Carlsbad 7**	**11.78**	**102**	Pn		**Pn**	**10 33 42.4**	**-1.1**
RTBA	**Rita Blanca**	**11.96**	**82**	Pn		**Pn**	**10 33 45.7**	**-0.2**
NEW	**Newport**	**12.63**	**1**	Pn		**Pn**	**10 33 53.4**	**-1.6**
NEW	**Newport**	**12.63**	**1**	Pn		**Pn**	**10 33 58.5**	**+3.5**
NEW	comp=N,0.1nm,0.3s,baz=186,slow=10,SNR=3.8				Lg	Lg	10 37 30.2	
	baz=77,slow=17,SNR=1.8							
	comp=N,1.0nm,0.6s							
B08A	**Colville Reser**	**12.80**	**354**	Pn		**Pn**	**10 33 56.2**	**-1.1**
AMTX	**Amarillo**	**12.93**	**89**	Pn		**Pn**	**10 33 58.2**	**-1.0**
TXAR	**Lajitas Array**	**13.23**	**114**	Pn		**Pn**	**10 34 04.7**	**+1.4**
	comp=N,0.5nm,0.3s,baz=292,slow=13,SNR=14							
TXAR					Lg	Lg	10 37 48.7	
	baz=290,slow=30							
	comp=N,0.8nm,0.4s							
LAO	**LASA Array**	**13.91**	**34**	Pn		**Pn**	**10 34 11.2**	**-1.3**
LLLB	**Lillooet**	**15.32**	**349**			**Pn**	**10 34 30.9**	**-0.6**
LLLB					IAmb	IAmb	10 34 41.1	
	comp=Z,15nm,1.2s							
DGMT	**Dagmar**	**16.16**	**33**	Pn		**Pn**	**10 34 41.4**	**-1.0**
DGMT					IAmb	IAmb	10 34 49.4	
	comp=Z,5.6nm,0.8s							
ADOK	**Arcadia Dam**	**16.34**	**84**			**Pn**	**10 34 43.4**	**-1.4**
E28A	**Huff**	**16.68**	**44**	Pn		**Pn**	**10 34 49.0**	**-0.1**
E28A					IAmb	IAmb	10 34 55.0	
	comp=Z,20nm,0.9s							
ECSD	**EROS Data Cent**	**17.95**	**57**			**Pn**	**10 35 03.1**	**-1.8**
R40A	**Maddies Statio**	**20.30**	**75**	P		**P**	**10 35 30.6**	**-0.7**
AGMN	**Agassiz Nation**	**20.38**	**45**			Pn	10 35 32.1	-1.9
AGMN					IAmb	IAmb	10 35 35.0	
	comp=Z,14nm,0.9s							
ULM	**Lac du Bonnet**	**21.42**	**40**			**P**	**10 35 43.3**	**0.0**
FFC	**Flin Flon**	**21.91**	**25**			**P**	**10 35 48.9**	**+0.5**
FFC					IAmb	IAmb	10 35 51.1	
	comp=Z,15nm,0.8s							
EPLO	**Experimental L**	**22.29**	**44**			**P**	**10 35 52.2**	**-0.4**
EPLO					IAmb	IAmb	10 35 55.2	
	comp=Z,11nm,1.1s							
TBO	**Thunder Bay**	**24.39**	**49**	P		**P**	**10 36 12.7**	**-0.9**
YKA	**Yellowknife Ar**	**26.95**	**3**	P		**P**	**10 36 39.3**	**+2.7**
	comp=Z,2.2nm,0.7s,baz=184,slow=8.7,SNR=5.6							
	comp=Z,2.2nm,0.7s							
ILAR	**Eielson Array**	**34.10**	**338**	P		**P**	**10 37 42.2**	**+2.5**
	comp=Z,1.6nm,0.8s,baz=155,slow=7.8,SNR=23							
	comp=Z,1.6nm,0.8s							
PETK	**Petropavlovsk-**	**59.54**	**316**	P		**P**	**10 41 00.1**	**+1.4**
	comp=Z,2.2nm,0.8s,baz=52,slow=13,SNR=4.6							
	comp=Z,2.2nm,0.8s							
LPAZ	**La Paz**	**69.62**	**129**	P		**P**	**10 42 04.8**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=295,slow=7.2,SNR=1.7							
	comp=Z,0.6nm,0.5s							
EKA	**Eskdalemuir Ar**	**73.49**	**33**	P		**P**	**10 42 29.0**	**+1.2**
	comp=Z,1.9nm,0.9s,baz=322,slow=6.3,SNR=3.6							
	comp=Z,1.9nm,0.9s							
NB2	**NORSAR Subarra**	**75.01**	**23**	P		**P**	**10 42 38.2**	**+1.6**
	comp=Z,1.9nm,0.9s,baz=319,slow=6.2							
NOA	**NORSAR Array B**	**75.01**	**23**	P		**P**	**10 42 38.2**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=319,slow=5.8,SNR=6.5							
	comp=Z,1.1nm,0.8s							
HFS	**Hagfors**	**76.49**	**23**	P		**P**	**10 42 45.8**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=220,slow=3.9,SNR=4.8							
	comp=Z,1.9nm,0.8s							
USRK	**Ussuriysk Ar.**	**78.62**	**317**	P		**P**	**10 42 58.8**	**+1.5**
	comp=Z,2.8nm,0.7s,baz=65,slow=5.7,SNR=5.2							
	comp=Z,2.8nm,0.7s							
ESDC	**Sonseca Array**	**83.23**	**45**	P		**P**	**10 43 22.4**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=326,slow=7.5,SNR=4.2							
	comp=Z,0.8nm,0.8s							
KSRS	**Korea Array**	**85.34**	**313**	P		**P**	**10 43 33.1**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=68,slow=5.5,SNR=4.7							
	comp=Z,0.9nm,0.8s							
SONM	**Songino Array**	**88.12**	**332**	P		**P**	**10 43 48.3**	**+2.0**
	comp=Z,1.0nm,0.6s,baz=17,slow=5.5,SNR=5.3							
	comp=Z,1.0nm,0.6s							
ZALV	**Zalesovo Beam**	**88.73**	**347**	P		**P**	**10 43 50.1**	**+1.3**
	comp=Z,1.4nm,0.6s,baz=40,slow=3.9,SNR=5.6							
	comp=Z,1.4nm,0.6s							

TAP 27 10:39:53.4,22.43N×121.02E,h27km,ML2.3,B,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAW	**Tawu**	**0.13**	**239**	P	Pb	10 39 58.7	+0.2
TAW				*i* S	Sb	10 40 02.5	+0.5
TAWH	**Dawu Township**	**0.15**	**235**	P	Pb	10 39 58.9	+0.3
TAWH				S	Sb	10 40 02.5	+0.3
EAST	**Anshuo**	**0.17**	**255**	P	Pb	10 39 59.1	+0.2
EAST				S	Sb	10 40 02.9	+0.3
ECL	**Taimali**	**0.18**	**340**	*e*P	Pb	10 39 58.2	-0.8
ECL				*e*S	Sb	10 40 01.9	-0.9
SLIU	**Shizi**	**0.29**	**224**	*i* P	Pb	10 40 00.8	+0.3
SLIU				S	Sb	10 40 05.8	+0.5
TTN	**Taitung**	**0.35**	**20**	*e*P	Pn	10 40 02.7	0.0
TTN				*e*S	Sn	10 40 09.1	+0.3
SCZT	**Fangliau**	**0.37**	**262**	*i* P	Pb	10 40 02.2	+0.5
SCZT				*e*S	Sb	10 40 06.5	-0.7
TWGBT	**Beinan**	**0.39**	**8**	*e*P	Pb	10 40 00.6	-1.4
TWGBT				*e*S	Sb	10 40 06.2	-1.5
TWG	**Pinlang**	**0.40**	**7**	*e*P	Pb	10 40 00.7	-1.3
TWG				*e*S	Sb	10 40 06.4	-1.4
MASBT	**Mashibuluo**	**0.40**	**297**	*i* P	Pb	10 40 02.4	+0.3
MASBT				*e*S	Sb	10 40 08.4	+0.4
SMST	**Manzhou Townsh**	**0.44**	**203**	P	Pb	10 40 02.7	0.0
SMST				S	Sb	10 40 09.7	+0.8
TSMG	**Majia**	**0.44**	**309**	*e*P	Pb	10 40 02.9	+0.1
SSD	**Sandimen**	**0.48**	**312**	*e*P	Pb	10 40 03.4	0.0
SSD				*e*S	Sb	10 40 10.1	0.0
LDUT	**Ludao**	**0.48**	**59**	P	Pb	10 40 02.4	-1.0
LDUT				*e*S	Sb	10 40 09.6	-0.6
LONT	**Longtian**	**0.49**	**12**	*e*P	Pb	10 40 02.1	-1.4
HEN	**Hengchun**	**0.49**	**212**	*e*P	Pn	10 40 04.2	-0.5
HEN				S	Sn	10 40 12.1	-0.3
TWKBT	**Hengchun**	**0.52**	**202**	P	Pn	10 40 04.8	-0.2
TWKBT				S	Sn	10 40 13.4	+0.3
TSEB	**Hengchuen, Pin**	**0.54**	**192**	*e*P	Pb	10 40 03.3	-1.0
TSEB				S	Sn	10 40 14.1	+0.7
EDH	**Donghe**	**0.60**	**26**	*e*P	Pb	10 40 03.8	-1.6
EDH				S	Sb	10 40 13.4	-0.2
LAY	**Lan-yu**	**0.63**	**128**	*e*P	Pn	10 40 06.3	-0.3
LAY				S	Sb	10 40 13.6	-0.6
SCST	**Cishan**	**0.67**	**313**	*i* P	Pn	10 40 07.9	+0.8
SCST				*e*S	Sn	10 40 19.0	+2.3
LYUB	**Lan-yu**	**0.67**	**129**	*e*P	Pb	10 40 03.9	-2.6
ECS	**Chishang**	**0.69**	**15**	P	Pn	10 40 08.0	+0.6
ECS				*e*S	Sb	10 40 14.8	-1.3
EHD	**Haiduan**	**0.74**	**13**	*e*P	Pb	10 40 05.1	-2.5
EHD				*e*S	Sn	10 40 19.9	+1.4
CHKT	**Chengkung**	**0.74**	**25**	P	Pb	10 40 07.0	-0.7
CHKT				*e*S	Sb	10 40 16.4	-1.0
SGST	**Jiashian**	**0.77**	**328**	P	Pn	10 40 09.4	+0.8
SGST				S	Sn	10 40 20.5	+1.3
STYT	**Tauyuan**	**0.77**	**342**	P	Pn	10 40 09.8	+1.1
STYT				S	Sn	10 40 19.9	+0.5
STYH	**Taoyuan**	**0.77**	**343**	P	Pn	10 40 10.1	+1.5
STYH				S	Sn	10 40 21.9	+2.6
FULB	**Fuli**	**0.81**	**18**	*e*P	Pn	10 40 10.1	+1.0
CHKH	**Chenggong**	**0.84**	**24**	*e*P	Pb	10 40 07.8	-1.5
CHKH				*e*S	Sb	10 40 18.6	-1.5
CHN1	**Nanshi**	**0.88**	**329**	*e*P	Pn	10 40 11.9	+1.8
CHN1				*e*S	Sn	10 40 25.4	+3.4
WTP	**Ta-pu**	**0.90**	**335**	P	Pb	10 40 12.1	+1.7
WTP				*e*S	Sn	10 40 23.3	+0.8
SNST	**Tainan City**	**0.93**	**329**	P	Pb	10 40 12.2	+1.4
SNST				*e*S	Sn	10 40 26.7	+3.6
TPUB	**Ta-pu**	**0.94**	**338**	*e*P	Pb	10 40 12.6	+1.5
TPUB				*e*S	Sn	10 40 27.0	+3.4
TWK	**Hsinying**	**0.97**	**330**	*e*P	Pb	10 40 12.8	+1.2
ECBN	**Changbin**	**0.97**	**24**	*e*P	Pb	10 40 12.5	+0.9
YUS	**Yu-Shan**	**1.06**	**357**	P	Pb	10 40 14.8	+1.4
YUS				*e*S	Sn	10 40 31.1	+4.0
WCKO	**Fanlu**	**1.08**	**339**	*e*P	Pb	10 40 13.3	-0.1
WCKO				S	Sb	10 40 30.8	+3.7
ALS	**Alishan**	**1.10**	**350**	*e*P	Pb	10 40 15.1	+1.2
ALS				*e*S	Sb	10 40 32.0	+4.1
EHYH	**Wanrong**	**1.10**	**16**	*e*P	Pb	10 40 15.3	+1.4
EHY	**Hungye**	**1.11**	**14**	*e*P	Pb	10 40 15.1	+1.2
WHYT	**Xinyi Township**	**1.27**	**353**	P	Pb	10 40 17.6	+0.8
WHYT				*e*S	Sb	10 40 34.9	+2.2
VWDT	**VWDT**	**1.32**	**5**	*e*P	Pb	10 40 19.3	+1.7
VWDT				*e*S	Sb	10 40 35.2	+1.1
WARBT	**Fenglin Townsh**	**1.33**	**15**	*e*P	Pb	10 40 18.9	+1.2
WARBT				*e*S	Sn	10 40 33.0	-0.1
SHUL	**Shoufeng**	**1.44**	**20**	P	Pb	10 40 19.6	0.0
SHUL				*e*S	Sb	10 40 38.7	+1.1
SMLT	**Sun Moon Lake**	**1.45**	**356**	*e*P	Pb	10 40 21.0	+1.2
SMLT				*e*S	Sb	10 40 38.3	+0.3
WUSB	**Renai**	**1.56**	**3**	*e*P	Pb	10 40 22.1	+0.4

JMA 27 10:40:31.8±0.5,21°N±2°×12°2E±°,h0km,MV4.0/12,
TAIWAN REGION,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**3.44**	**29**	*e*P	Pn	10 41 28.5	+1.9
HATJ				*e*S	Sn	10 42 08.4	+0.4
YOJ	**Yonaguni jima**	**3.53**	**15**	*e*P	Pb	10 41 32.2	-2.9
YOJ				*e*S	Sn	10 42 12.8	+2.4
IRIF	**Iriomote-Funau**	**3.65**	**26**	*e*P	Pn	10 41 31.4	+1.9
IRIF				*e*S	Sn	10 42 13.6	+0.3
JKRS	**Kuro-shima**	**3.69**	**30**	*e*S	Sn	10 42 15.2	+1.0
JIJ	**Ishigaki jima**	**3.86**	**31**	*e*S	Sn	10 42 17.3	-1.1
JISG	**Ishigakijimahi**	**4.13**	**31**	*e*S	Sn	10 42 24.6	-0.5
JTJ	**Tarama**	**4.37**	**34**	*e*S	Sn	10 42 31.5	+0.4

*HEL **27** 10:54:31.7±0.3,67.74N×33.98E,h0km,ML1.8,Explosion Hypocentre not reviewed by the ISC*
*KOLA **27** 10:54:

KUR			*i* S	**Sn**	**10 56 57.8**	**-0.3**
KUR			A	A	10 57 02.4	
	300nm,0.2s					
KUR			A	A	10 57 02.4	
	170nm,0.2s					
YUK	**Yuzh-Kuril'sk**	**1.38 276**	*i* P	Pn	10 56 38.2	-3.3
YUK			AMB	AMB	10 56 38.5	
	300nm,0.4s					
YUK			*i* S	Sn	10 56 56.2	-2.8
YUK			A	A	10 56 57.1	
	1μm,0.4s					
YUK			A	A	10 56 57.1	
	800nm,0.4s					
NEM2	**Nemuro 2**	**1.56 251**	*e*P	Pn	10 56 38.8	-5.2
NEM2			*e*S	Sn	10 56 58.5	-4.9
NMR	**Nemuro--Hokkai**	**1.57 251**	*e*P	Pn	10 56 39.5	-4.6
NMR			*i* S	Sn	10 56 59.0	-4.6
GLVR	**Golovnino**	**1.63 265**	*e*P	Pn	10 56 41.7	-3.3
GLVR			AMB	AMB	10 56 43.3	
	90nm,0.2s					
GLVR			*e*S	Sn	10 57 02.7	-2.5
GLVR			A	A	10 57 09.4	
	890nm,0.4s					
GLVR			A	A	10 57 09.4	
	460nm,0.4s					
JRA	**Rausu**	**1.91 272**	P	Pn	10 56 45.9	-2.9
JRA			*e*S	**Sn**	**10 57 11.2**	**-0.8**
JNSB	**Nemuroshibetsu**	**2.00 268**	*e*P	Pn	10 56 47.2	-2.8
JNSB			S	Sn	10 57 12.6	-1.7
JNK	**Nakash**	**2.23 263**	*e*S	Sn	10 57 17.7	-2.2
AKK	**Akkeshi**	**2.30 249**	*e*P	Pn	10 56 50.3	-3.9
JAK	**Akkeshi**	**2.41 249**	*e*P	Pn	10 56 51.2	-4.4
JTKR	**Abashiri--Toko**	**2.78 273**	P	Pn	10 56 58.8	-2.1
JTKR			*e*S	**Sn**	**10 57 33.0**	**-0.6**
JAR	**Ashorobuto**	**2.96 260**	P	Pn	10 57 00.1	-3.2
JOB	**Onbets**	**3.03 252**	*e*P	Pn	10 57 00.7	-3.5
JCH	**Churui**	**3.46 250**	*e*P	Pn	10 57 06.8	-3.3
JKK2	**Kamakawa 2**	**3.62 271**	*e*P	**Pn**	**10 57 13.3**	**+0.9**
JEM	**Erimo**	**3.87 243**	*e*P	Pn	10 57 13.0	-2.8
JNBK	**Urakawa-nobuka**	**4.01 248**	*e*P	Pn	10 57 14.1	-3.5

IDC 27 11:07:34.2±5.5, 6°46S×150°19E, h77km±47km, mb3.3/4, mbtmp3.7/5, ML1.2/1, Error ellipse: s-maj=101.9km s-min=33.3km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.19**	**226**	P	Pn	11 08 35.7	0.0
	1.0nm,0.3s,baz=50,slow=7.9,SNR=2.3						
PMG				S	Sn	11 09 24.6	+1.0
	26nm,0.5s,baz=323,slow=13,SNR=8.7						
	12nm,0.7s						
WRA	**Warramunga Arr**	**20.41**	**227**	P	P	11 12 04.0	-1.2
	1.7nm,0.7s,baz=53,slow=10,SNR=23						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**23.19**	**221**	P	P	11 12 33.8	-0.8
	1.4nm,1.0s,baz=50,slow=7.8,SNR=13						
	1.4nm,1.0s						
FITZ	**Fitzroy Crossi**	**26.59**	**242**	P	P	11 13 07.0	+1.6
	1.8nm,0.8s,baz=73,slow=6.5,SNR=3.0						
	1.8nm,0.8s						
ILAR	**Eielson Array**	**84.67**	**23**	P	P	11 19 59.3	+0.2
	0.4nm,0.9s,baz=247,slow=4.8,SNR=5.4						
	0.4nm,0.9s						

*KOLA **27** 11:11:25.9, 67°.52N×30°.54E, h0km, ML1.6, Error ellipse: s-maj=4.7km s-min=2.3km az=40.0, Kovdor City, Mines*
*HEL **27** 11:11:25.0±0.3, 67°.56N×30°.33E, h0km, ML1.6, Suspected explosion Hypocentre not reviewed by the ISC*
*IDC **27** 11:11:26.7±2.2, 67°.63N×29°.92E, h0km, mbtmp2.3/2, ML1.5/2, Error ellipse: s-maj=35.6km s-min=11.3km az=70.0*

ISC 27 11:11:24.0±1.1, 67°.58N±0°.06×30°.57E±0°.06, h0km, n10, σ0s77/12, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**0.40**	**295**	PG		11 11 31.2	
VRF				SG		11 11 34.8	
APA0	**Apatity Array**	**0.93**	**88**	P	**Pb**	**11 11 42.4**	**-0.6**
APA0				S	**Sg**	**11 11 54.4**	**+0.6**
APA	**Apatity**	**1.09**	**89**	S	**Sb**	**11 12 01.0**	**+0.6**
RAJF	**Raja-Jooseppi**	**1.23**	**318**	PG		11 11 46.7	
RAJF				SB		11 12 02.4	
KVDA	**Kovda**	**1.27**	**134**	P	**Pg**	**11 11 47.8**	**-0.5**
KVDA				S	**Sg**	**11 12 04.3**	**-0.4**
OLKF	**Oulanka, Finla**	**1.35**	**200**	PG		11 11 48.4	
	baz=19						
OLKF				MSG		11 12 04.2	
	comp=Z,2.7nm,0.2s						
OLKF				SN		11 12 10.4	
LVZ	**Lovozero**	**1.59**	**77**	S	**Sg**	**11 12 15.0**	**+0.1**
LVZ	**Lovozero**	**1.59**	**77**	SG		11 12 15.6	
KU6	**Riekki**	**1.59**	**190**	PG		11 11 52.7	
KU6				MSG		11 12 11.4	
	comp=Z,2.5nm,0.2s						
MSF	**Maaselka**	**1.79**	**201**	PG		11 11 56.0	
MSF				SN		11 12 19.2	
RNF	**Rovaniemi**	**2.03**	**243**	PG		11 11 59.6	
RNF				SG		11 12 26.2	
KU1	**Kurvinen**	**2.07**	**192**	PG		11 12 01.0	
KU2	**Taivalkoski**	**2.10**	**207**	PG		11 12 01.2	
RANF	**Ranua**	**2.17**	**225**	PG		11 12 01.9	
	baz=44						
RANF				SG		11 12 30.2	
TERR	**Teriberka**	**2.34**	**44**	S	**Sb**	**11 12 36.6**	**+0.4**
KEV	**Kevo**	**2.54**	**331**	*e*P	**Pn**	**11 12 06.8**	**+0.4**
KEV	**Kevo**	**2.54**	**331**	PB		11 12 07.6	
KEV				SB		11 12 39.1	
KEV				MSG		11 12 39.6	
	comp=Z,2.6nm,0.2s						
KLF	**Kolari**	**2.57**	**265**	PB		11 12 07.1	
KLF				MSG		11 12 38.3	
	comp=Z,2.5nm,0.2s						
KLF				SG		11 12 41.2	
ARA0	**ARCESS Array S**	**2.70**	**319**	*e*P	**Pn**	**11 12 09.7**	**+1.1**
ARA0	**ARCESS Array S**	**2.70**	**319**	PB		11 12 10.3	
	baz=140						
ARA0				SB		11 12 44.9	
ARCES	**ARCESS Array B**	**2.70**	**319**	Pn	**Pn**	**11 12 09.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=137,slow=16,SNR=19						
ARCES				Sn	**Sn**	**11 12 40.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=138,slow=26,SNR=1.3						
ARCES				Lg	Lg	11 12 44.8	
	comp=Z,0.4nm,0.3s,baz=135,slow=28,SNR=13						
	comp=Z,1.4nm,0.7s						
HEF	**Hetta**	**2.73**	**291**	PB		11 12 11.5	
HEF				MSG		11 12 43.3	
	comp=Z,2.7nm,0.2s						
HEF				SB		11 12 45.6	
TOF	**Tornio**	**2.89**	**241**	PN		11 12 10.6	
TOF				MSG		11 12 47.4	
	comp=Z,1.4nm,0.2s						
TOF				SB		11 12 49.4	
PAJU	**Pajala**	**2.94**	**262**	PN		11 12 11.8	
	baz=76						
PAJU				SB		11 12 49.4	
KTK1	**Kautokeino**	**3.08**	**301**	PN		11 12 14.3	
KTK1				SB		11 12 55.2	
OUL	**Oulu**	**3.14**	**219**	PG		11 12 20.6	
	baz=33						
OUL				SG		11 12 59.1	
LANU	**Lannavaara**	**3.29**	**282**	PN		11 12 16.4	
LANU				SN		11 12 56.0	
RMF	**Romuvaara**	**3.39**	**185**	PN		11 12 18.2	
RMF				SN		11 12 55.9	
ERTU	**Ertsjaerv**	**3.44**	**256**	PN		11 12 19.1	
ERTU				SN		11 12 56.9	
OBF4	**Vikkela, Lumij**	**3.56**	**221**	PN		11 12 20.3	
OBF4				SN		11 12 58.1	
I37NO	**I37NO**	**4.68**	**294**	I	I	11 40 20.0	
	baz=104,slow=315,SNR=4.1						
FINES	**FINESS Array B**	**6.46**	**200**	Pn	**Pn**	**11 13 01.2**	**+1.0**
	baz=19,slow=13,SNR=1.1						
	comp=Z,0.3nm,0.6s						

*IDC **27** 11:14:31.8±0.7, 0°.75S×127°.50E, h0km, mb3.9/12, mbtmp3.9/13, ML3.7/1, Error ellipse: s-maj=44.8km s-min=14.5km az=75.0*
*DJA **27** 11:14:35.5±0.2, 1°S±2°×12°8E±°, h10km, M4.3/14, mB5.4/2, mb4.7/6, MLv4.2/14, Mw(mB)4.8/2*
*NEIC **27** 11:14:35.3±1.8, 0°.74S±0°.06×128°.05E±0°.06, h28km±6km, mb4.3/14, Error ellipse: s-maj=9.9km s-min=6.7km az=128.0*

ISC 27 11:14:33.3±0.5, 0°.72S±0°.05×127°.91E±0°.07, h10km, n48, σ1s51/45, mb4.1/16, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.58**	**340**		**Pn**	**11 15 02.0**	**+0.5**
TNTI	**Ternate**	**1.58**	**340**	P	**Pn**	**11 15 02.8**	**+1.4**
SANI	**Sanana**	**2.33**	**236**	P	Pn	11 15 09.9	-1.8
NLAI	**Namlea**	**2.63**	**198**	P	**Pn**	**11 15 17.4**	**+1.6**
NLAI				S	**Sn**	**11 15 46.4**	**-1.4**
SWI	**Sorong**	**3.35**	**92**	P	**Pb**	**11 15 32.0**	**-0.9**
KMSI	**Cibinong**	**4.14**	**288**	P	Pn	11 15 34.5	-2.1
FAKI	**Fak Fak**	**4.85**	**117**	Pn	**Pn**	**11 15 43.3**	**-3.2**
FAKI	**Fak Fak**	**4.85**	**117**	P	**Pn**	**11 15 51.0**	**+4.5**
SGSI	**Sangihe**	**4.99**	**331**	P	**Pn**	**11 15 49.9**	**+1.6**
SGSI				S	**Sn**	**11 16 48.1**	**+2.1**
LUWI	**Luwuk**	**5.15**	**266**	P	Pn	11 15 47.9	-2.6
APSI	**Ampana**	**6.26**	**268**	P	Pn	11 16 03.8	-2.1
	0.5nm1μm76nm,0.5s						
TOLI2	**Tolitoli**	**7.36**	**284**	Pn	Pn	11 16 19.8	-1.1
PCI	**Palu**	**8.08**	**269**	P	**Pn**	**11 16 29.9**	**-0.9**
	33nm,0.7s						
TTSI	**Tana Toraja**	**8.41**	**254**	P	Pn	11 16 34.1	-1.2
	18nm,0.6s						
SPSI	**Sidrap Palu**	**8.75**	**248**	P	**Pn**	**11 16 39.0**	**-1.0**
KAPI	**Kappang**	**9.20**	**242**	Pn	**Pn**	**11 16 47.7**	**+1.6**
MYLDM	**Lahad Datu**	**11.08**	**302**		**Pn**	**11 17 12.9**	**+0.9**
JAGI	**Jajag, Banyuwa**	**15.72**	**240**		**Pn**	**11 18 18.3**	**+3.2**
JAGI				IAmb	IAmb	11 18 31.3	
	comp=Z,47nm,1.2s						
FITZ	**Fitzroy Crossi**	**17.41**	**187**	P	**Pn**	**11 18 37.5**	**+1.0**
FITZ	**Fitzroy Crossi**	**17.41**	**187**	P	**Pn**	**11 18 35.1**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=325,slow=4.1,SNR=5.4						
	comp=Z,1.6nm,1.0s						
WB0	**Warramunga Arr**	**19.96**	**162**	P	**P**	**11 19 05.4**	**-0.4**
WB0				IAmb	IAmb	11 19 36.8	
	comp=Z,7.0nm,1.1s						
WRAB	**Tennant Creek**	**20.11**	**162**	P	**P**	**11 19 07.6**	**+0.1**
WRA	**Warramunga Arr**	**20.11**	**162**	P	**P**	**11 19 07.2**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=342,slow=11,SNR=13						
	comp=Z,1.0nm,0.5s						
WR8	**Warramunga Arr**	**20.17**	**162**	P	**P**	**11 19 08.0**	**-0.2**
WR8				IAmb	IAmb	11 19 50.5	
	comp=Z,4.8nm,1.2s						
AS31	**Alice Springs**	**23.54**	**166**	P	**P**	**11 19 43.4**	**-0.6**
ASAR	**Alice Springs**	**23.54**	**166**	P	**P**	**11 19 44.1**	**+0.2**
ASAR	**Alice Springs**	**23.54**	**166**	P	**P**	**11 19 44.5**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=345,slow=10,SNR=17						
ASAR				PcP	**PcP**	**11 23 31.5**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=349,slow=2.7,SNR=5.9						
	comp=Z,2.1nm,0.7s						
TPUB	**Ta-pu**	**24.91**	**344**	P	**P**	**11 19 55.2**	**-1.5**
TPUB				IAmb	IAmb	11 19 59.4	
	comp=Z,20nm,0.9s						
STKA	**Stephens Creek**	**33.58**	**159**	P	**P**	**11 21 15.2**	**+1.4**
	comp=Z,1.6nm,0.8s,baz=331,slow=9.9,SNR=3.0						
	comp=Z,1.6nm,0.8s						
KSRS	**Korea Array**	**37.99**	**0**	P	**P**	**11 21 51.8**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=176,slow=9.2,SNR=2.8						
	comp=Z,0.7nm,0.8s						
MJAR	**Matsushiro Arr**	**38.29**	**13**	P	**P**	**11 21 55.9**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=190,slow=8.8,SNR=1.9						
	comp=Z,0.9nm,0.6s						
LSA	**Lhasa**	**46.31**	**314**	P	**P**	**11 22 60.0**	**-0.1**
LSA				IAmb	IAmb	11 23 05.4	
	comp=Z,6.1nm,0.6s						
SONM	**Songino Array**	**51.87**	**342**	P	**P**	**11 23 41.1**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=168,slow=7.4,SNR=2.4						
	comp=Z,0.5nm,0.6s						
PETK	**Petropavlovsk-**	**59.12**	**20**	P	**P**	**11 24 34.5**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=205,slow=7.2,SNR=4.8						
	comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**61.88**	**326**	P	**P**	**11 24 52.0**	**-1.0**
MKAR	**Makanchi Array**	**61.88**	**326**	P	**P**	**11 24 51.9**	**-1.1**
	comp=Z,2.7nm,0.7s,baz=118,slow=6.6,SNR=15						
	comp=Z,2.7nm,0.7s						
MAKZ	**Makanchi**	**62.06**	**326**	P	**P**	**11 24 53.5**	**-0.7**
ZALV	**Zalesovo Beam**	**65.07**	**334**	P	**P**	**11 25 12.5**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=141,slow=7.1,SNR=5.6						
	comp=Z,0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**66.11**	**328**	P	**P**	**11 25 19.4**	**-1.2**
	comp=Z,5.0nm,0.9s,baz=125,slow=5.8,SNR=16						
	comp=Z,5.0nm,0.9s						
KURK	**Kurchatov**	**66.11**	**328**	P	**P**	**11 25 19.9**	**-0.8**
KK31	**Karatay Array**	**67.29**	**318**	P	**P**	**11 25 26.6**	**-1.9**
KK31				IAmb	IAmb	11 26 09.2	
	comp=Z,3.5nm,1.4s						
KKAR	**Karatay Array**	**67.29**	**318**	P	**P**	**11 25 27.0**	**-1.5**
BVAR	**Borovoye Array**	**71.68**	**328**	P	**P**	**11 25 54.3**	**-1.0**
	comp=Z,3.7nm,0.9s,baz=103,slow=6.2,SNR=12						
	comp=Z,3.7nm,0.9s						
BRVK	**Borovoye**	**71.75**	**328**	P	**P**	**11 25 55.2**	**-0.6**
BRVK				IAmb	IAmb	11 25 60.0	
	comp=Z,6.2nm,1.1s						
AB31	**Akbulak array**	**76.33**	**321**	P	**P**	**11 26 21.3**	**-1.4**
AB31				IAmb	IAmb	11 26 24.9	
	comp=Z,2.8nm,1.2s						
ABKAR	**Akbulak array**	**76.33**	**321**	P	**P**	**11 26 21.0**	**-1.6**
D19K	**Kuna River**	**84.83**	**21**	P	**P**	**11 27 06.7**	**-1.2**
QSPA	**South Pole Qui**	**89.21**	**180**	P	**P**	**11 27 29.4**	**0.0**
	comp=Z,0.6nm,0.9s,baz=349,slow=5.2,SNR=1.8						
	comp=Z,0.6nm,0.9s						

IDC 27 11:24:25.4±2.0, 0°.86S×127°.23E, h0km, mb3.3/4, mbtmp3.4/4, Error ellipse: s-maj=199.1km s-min=24.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.20**	**160**	P	P	11 29 01.7	-0.3
	0.4nm,0.7s,baz=343,slow=13,SNR=5.2						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**23.57**	**165**	P	P	11 29 38.2	+0.2
	0.4nm,0.7s,baz=339,slow=11,SNR=4.3						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**61.61**	**327**	P	P	11 34 44.5	-0.5
	0.3nm,0.6s,baz=132,slow=6.4,SNR=2.5						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**65.87**	**328**	P	P	11 35 13.3	+0.4
	0.4nm,0.3s,baz=128,slow=7.3,SNR=3.4						
	0.4nm,0.3s						

*IDC **27** 11:28:57.2±1.6, 16°.26N×119°.90E, h114km±14km, mb3.4/11, mbtmp3.8/11, MS2.8/1, Error ellipse: s-maj=43.2km s-min=12.3km az=61.0*

ISC 27 11:28:55.8±0.8, 16°.4N±0°.1×120°.0E±0°.3, h100km, n12, σ1s21/17, mb3.8/10, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.44**	**157**	P	**Pn**	**11 29 34.4**	**+0.2**
	771nm,0.5s,baz=232,slow=1.9,SNR=10						
TGY				S	**Sn**	**11 30 05.7**	**+2.1**
	443nm,0.4s,baz=154,slow=22,SNR=3.2						
TGY				LR	LR	11 30 59.7	
	comp=Z,192nm,19.2s,baz=22,slow=52						
CMAR	**Chiang Mai Arr**	**20.16**	**279**	P	**P**	**11 33 22.2**	**-0.1**
	2.6nm,0.9s,baz=91,slow=7.5,SNR=16						
	2.6nm,0.9s						
SONM	**Songino Array**	**33.32**	**343**	P	**P**	**11 35 24.5**	**+0.3**
	1.0nm,0.6s,baz=156,slow=8.7,SNR=4.4						
	1.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**34.70**	**170**	P	**P**	**11 35 35.9**	**-0.2**
	1.5nm,1.0s,baz=340,slow=12,SNR=1.8						
	1.5nm,1.0s						
WRA	**Warramunga Arr**	**38.75**	**158**	P	**P**	**11 36 08.6**	**-2.0**
	0.5nm,0.7s,baz=326,slow=10,SNR=9.1						
WRA				PcP	**PcP**	**11 38 21.5**	**+1.1**
	0.2nm,0.7s,baz=340,slow=3.2,SNR=1.8						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**42.05**	**161**	P	**P**	**11 36 36.2**	**-1.6**
	0.5nm,0.5s,baz=338,slow=6.7,SNR=13						
ASAR				PcP	**PcP**	**11 38 32.0**	**+0.9**
	0.2nm,0.7s,baz=339,slow=3.1,SNR=1.3						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**43.48**	**322**	P	**P**	**11 36 49.5**	**+0.3**
	1.2nm,0.8s,baz=133,slow=8.6,SNR=7.7						
MKAR				PcP	**PcP**	**11 38 37.0**	**+1.4**
	0.2nm,0.6s,baz=85,slow=3.0,SNR=1.6						
	1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**47.60**	**325**	P	**P**	**11 37 21.9**	**+0.5**
	0.7nm,0.4s,baz=123,slow=7.9,SNR=9.2						
KURBB				ScP	**ScP**	**11 42 32.9**	**-2.0**
	2.7nm,1.1s,baz=128,slow=5.6,SNR=8.5						
	0.7nm,0.4s						
ARCES	**ARCESS Array B**	**76.36**	**339**	P	**P**	**11 40 34.1**	**+0.4**
	1.2nm,0.8s,baz=58,slow=7.1,SNR=3.6						
	1.2nm,0.8s						
FINES	**FINESS Array B**	**77.62**	**331**	P	**P**	**11 40 41.0**	**+0.1**
	0.5nm,0.5s,baz=58,slow=3.4,SNR=10.0						
	0.5nm,0.5s						
HFS	**Hagfors**	**83.81**	**331**	P	**P**	**11 41 13.1**	**-0.8**
	0.9nm,0.7s,baz=101,slow=15,SNR=2.0						
	0.9nm,0.7s						
NOA	**NORSAR Array B**	**84.58**	**332**	P	**P**	**11 41 17.9**	**0.0**
	0.2nm,0.5s,baz=64,slow=4.6,SNR=2.1						
	0.2nm,0.5s						

DJA 27 11:31:48.5±0.3, 1°S±3°×12°8E±°, h10km, M4.2/9, mb4.8/1, MLv3.8/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.64**	**354**	P	Pn	11 32 16.3	-1.1
NLAI	**Namlea**	**2.40**	**191**	P	Pn	11 32 27.6	-0.2
SWI	**Sorong**	**3.71**	**90**	P	Pn	11 32 45.8	-0.1
LUWI	**Luwuk**	**4.78**	**268**	P	Pn	11 33 00.7	+0.1
APSI	**Ampana**	**5.90**	**270**	P	Pn	11 33 16.3	+0.2

IDC 27 11:55:39.1±3.0, 0°.39N×126°.39E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=339.1km s-min=27.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.66**	**159**	P	P	12 00 30.9	-0.4
	0.5nm,0.6s,baz=338,slow=10,SNR=8.5						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**25.00**	**164**	P	P	12 01 05.2	+0.4
	0.7nm,1.0s,baz=342,slow=6.8,SNR=8.7						
	0.7nm,1.0s						
MKAR	**Makanchi Array**	**60.11**	**327**	P	P	12 05 48.2	-0.1
	0.3nm,0.4s,baz=120,slow=8.5,SNR=4.1						
	0.3nm,0.4s						

*NEIC **27** 12:01:09.1±1.0, 35°.832N±0°.009×98°.087W±0°.009, h5km±1km, mb_Lg2.5/56, ML2.5/36, ML2.5/58, Error ellipse: s-maj=2.9km s-min=1.6km az=270.0*

NEIC 27 12:01:09.1±1.1, 35°.834N±0°.009×98°.09W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.6km az=280.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.43**	**114**		Pg	12 01 17.9	+0.5
BCOK					Sg	12 01 24.0	+1.0
OK029	**Liberty Lake**	**0.52**	**94**		Pg	12 01 19.2	+0.1
OK029					Sg	12 01 26.8	+0.9
CSTR	**Hydro, Custer**	**0.52**	**249**		Pg	12 01 19.5	+0.3
CSTR					Sg	12 01 27.0	+1.1
ADOK	**Arcadia Dam**	**0.61**	**107**	Pg	Pg	12 01 21.0	+0.1
CROK	**Carrier**	**0.68**	**7**		Pg	12 01 22.2	+0.1
CROK					Sg	12 01 31.9	+1.1
CROK				IAML		12 01 40.6	
	comp=N,245nm,0.3s						
CROK				IAML		12 01 41.6	
	comp=E,178nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.68**	**129**		Pg	12 01 22.0	-0.2
OKCSW				IAML		12 01 34.4	
	comp=E,228nm,0.6s						
OKCSW				IAML		12 01 34.4	
	comp=N,364nm,0.6s						
FNO	**Franklin**	**0.81**	**135**		Pg	12 01 23.7	-0.8
FNO					Sg	12 01 34.4	-0.6
FNO				IAML		12 01 38.6	
	comp=E,187nm,0.5s						
OK038	**West end E0370**	**0.83**	**321**		Pg	12 01 25.3	+0.2
OK038					Sg	12 01 36.5	+0.6
GC02	**Grant County #**	**1.03**	**10**		Pg	12 01 28.6	-0.3
OK052	**Battle Ridge R**	**1.06**	**81**		Pg	12 01 29.0	-0.4
OK052					Sg	12 01 43.5	+0.4
OK052				IAML		12 01 44.6	
	comp=E,156nm,0.2s						
OK052				IAML		12 01 45.4	
	comp=E,126nm,0.3s						
KAN14	**Manchester OK**	**1.12**	**5**		Pg	12 01 30.2	-0.5
KAN14					Sg	12 01 45.6	+0.3
KAN14				IAML		12 01 53.6	
	comp=E,110nm,0.1s						
KAN14				IAML		12 01 57.9	
	comp=N,120nm,0.4s						
BLOK	**Blackwell**	**1.16**	**37**		Pg	12 01 31.0	-0.5
BLOK					Sb	12 01 46.8	-0.3
QUOK	**Quay**	**1.17**	**73**		Pg	12 01 30.7	-0.8
QUOK					Sb	12 01 47.2	-0.1
OK051	**E0350 and S346**	**1.22**	**56**		Pg	12 01 32.0	-0.4
OK051					Sg	12 01 48.1	-0.1
WMOK	**Wichita Mounta**	**1.23**	**208**		Pg	12 01 31.6	-1.1
WMOK	**Wichita Mounta**	**1.23**	**208**	Pg	Pg	12 01 31.4	-1.3
WMOK				IAML		12 01 52.6	
	comp=N,24nm,0.3s						
WMOK				IAML		12 01 53.8	
	comp=N,17nm,0.4s						
KAN17	**Caldwell West**	**1.24**	**12**		Pg	12 01 32.2	-0.6
KAN17					Sg	12 01 49.0	+0.1
KAN17				IAML		12 01 57.4	
	comp=E,167nm,0.3s						
X34A	**Smith Ranch, M**	**1.25**	**170**		Pg	12 01 32.8	-0.2
X34A				IAML		12 01 51.7	
	comp=E,87nm,0.6s						
X34A				IAML		12 01 59.7	
	comp=N,77nm,0.5s						
KAN13	**South Haven SW**	**1.28**	**23**		Pg	12 01 32.9	-0.7
DEOK	**Depew**	**1.29**	**89**		Pn	12 01 33.0	-0.8
DEOK					Sb	12 01 50.8	0.0
DEOK				IAML		12 01 56.9	
	comp=E,85nm,0.3s						
DEOK				IAML		12 01 57.4	
	comp=N,89nm,0.3s						
KAN01	**Argonia South**	**1.34**	**11**		Pn	12 01 33.5	-1.0
KAN09	**Caldwell North**	**1.35**	**16**		Pn	12 01 33.8	-0.9
KAN12	**Harper NE Stat**	**1.46**	**3**	IAmb_Lg		12 01 56.1	
	comp=Z,20nm,0.8s						
T35A	**Sooner Cattle**	**1.67**	**49**		Pn	12 01 38.8	-0.3
TUL3	**Leonard**	**1.87**	**87**		Pn	12 01 41.5	-0.3
TUL3

comp=Z,7.5nm,0.9s
R40A Maddies Statio 5.26 61 IAmb_Lg 12 03 55.7
comp=Z,8.4nm,0.9s
JCT Junction City 5.53 196 IAmb_Lg 12 04 14.3
comp=Z,12nm,1.0s
LCAR Lake Charles 5.63 86 IAmb_Lg 12 04 09.6
comp=Z,6.3nm,1.1s
OGNE Ogallala 5.97 330 IAmb_Lg 12 04 30.3
comp=Z,12nm,0.7s
L34A Svendsen Farm, 6.27 12 IAmb_Lg 12 04 45.1
comp=Z,10nm,0.7s
FVM French Village 6.50 68 IAmb_Lg 12 04 45.2
comp=Z,6.6nm,0.9s
S44A Carbondale 7.33 73 IAmb_Lg 12 05 11.2
comp=Z,7.1nm,0.7s

BER ***27*** *12:11:41.6±1.8, 81°.02N×3°.63W, h10km, mb(Pn)2.7, Confirmed Earthquake*
KOLA ***27*** *12:11:43.6, 81°.44N×0°.23E, h0km, ML1.8, Arctic Ocean,Knipovich ridge, north*
DNK ***27*** *12:11:43.1±1.6, 81°.03N×2°.94W, h36km±20km, ML1.2*
ISC 27 12:11:30.2±0.9**, 80°.23N**±0°.06×**4°.34W**±0°.03**, h10km, n14,**
σ1ˢ48/23, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.39**	**311**	*eP*		**Pg**		**12 12 15.3**	**-0.7**
NOR				*eS*		**Sn**		**12 12 37.7**	**-0.9**
NOR	**Nord**	**2.39**	**311**	*i* P		**Pg**		**12 12 15.4**	**-0.5**
NOR				*eS*		**Sn**		**12 12 39.8**	**+1.2**
NOR				IAML				12 12 55.4	
	comp=Z,2.3nm,0.4s								
KBS	**Kingsbay**	**3.23**	**106**	P		**Pg**		**12 12 31.9**	**0.0**
KBS				S		**Sb**		**12 13 07.2**	**+0.5**
KBS	**Kingsbay**	**3.23**	**106**	*eP*		**Pg**		**12 12 32.2**	**+0.3**
KBS				*e*				12 13 07.1	
KBS				IAML				12 13 10.2	
	comp=Z,2.1nm,0.9s								
KBS	**Kingsbay**	**3.23**	**106**	*i* P		**Pg**		**12 12 32.3**	**+0.3**
KBS				*i* S		**Sb**		**12 13 07.1**	**+0.3**
BRBB	**Barentsburg B**	**4.09**	**112**	*eP*		**Pg**		**12 12 46.9**	**-1.5**
BRBA	**Barentsburg A**	**4.11**	**112**	*eP*		**Pg**		**12 12 47.4**	**-1.4**
SPA0	**Spitsbergen Ar**	**4.38**	**107**	*eP*		**Pb**		**12 12 48.7**	**+1.6**
SPA0				IAML				12 13 37.7	
	comp=Z,1.3nm,1.2s								
SPA0				*eS*		**Sb**		**12 13 38.2**	**-1.8**
SPITS	**Spitsbergen Ar**	**4.38**	**107**	P		**Pb**		**12 12 48.8**	**+1.6**
SPITS				S		**Sb**		**12 13 36.6**	**-3.3**
DAG	**Danmarks Havn**	**4.49**	**227**	*eP*		**Pg**		**12 12 56.4**	**+0.4**
DAG				*eS*		**Sg**		**12 13 51.7**	**-2.3**
DAG	**Danmarks Havn**	**4.49**	**227**	*i* P		**Pg**		**12 12 56.0**	**0.0**
DAG				*e*				12 13 51.4	
DAG				IAML				12 13 56.0	
	comp=Z,0.8nm,0.3s								
HSPB	**Hornsund (broa**	**5.07**	**119**	P		**Pb**		**12 13 00.5**	**+1.8**
HSPB				S		**Sb**		**12 13 59.5**	**0.0**
HSPB	**Hornsund (broa**	**5.07**	**119**	*eP*		**Pb**		**12 13 00.6**	**+1.8**
HSPB				*eS*		**Sb**		**12 13 57.5**	**-2.0**
DBG	**Daneborg**	**6.87**	**219**	*eP*		**Pb**		**12 13 30.0**	**+0.6**

RSNC ***27*** *12:12:09.5±0.0, 10°.1×7°.3W±°, h-1km±1km, M2.2, ML2.2*
FUNV ***27*** *12:12:11.0, 10°.31N×72°.74W, h14km, MW3.4*
ISC 27 12:12:10.3±1.1**, 10°.33N**±0°.04×**72°.71W**±0°.04**, h24**km±11km**,**
n12, σ1ˢ74/22, 1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**0.33**	**149**	*i* P		**Pb**		**12 12 17.1**	**-0.6**
MCQV				*eS*		**Sb**		**12 12 23.2**	**+0.5**
CRJC	**Cerrejon, Guaj**	**0.70**	**346**	P		**Pb**		**12 12 23.0**	**-1.0**
CRJC				S		**Sb**		**12 12 33.5**	**+0.2**
URIC	**Uribia, Colomb**	**1.53**	**27**	P		**Pb**		**12 12 38.0**	**0.0**
URIC				S		**Sb**		**12 13 00.1**	**+3.1**
ARGC	**Ariguani, Magd**	**1.59**	**253**	P		**Pn**		**12 12 35.2**	**-1.7**
ARGC				S		**Sn**		**12 12 56.0**	**-0.7**
OCAC	**Ocana**	**2.17**	**196**	P		**Pn**		**12 12 45.3**	**+0.3**
OCAC				S		**Sn**		**12 13 13.0**	**+1.8**
SJCC	**San Jacinto, C**	**2.47**	**260**	P		**Pn**		**12 12 49.6**	**+0.4**
SJCC				S		**Sn**		**12 13 19.6**	**+0.9**
CAPV	**Capacho**	**2.48**	**171**	*eP*		**Pn**		**12 12 50.1**	**+0.7**
CAPV				*eS*		**Sn**		**12 13 19.5**	**+0.3**
ZARC	**Zaragoza, Cauc**	**3.53**	**217**	P		**Pn**		**12 13 04.7**	**+1.0**
ZARC				S		**Sn**		**12 13 45.7**	**+0.9**
PTBC	**PUERTO BERRIO,**	**4.15**	**205**	P		**Pn**		**12 13 07.9**	**-4.3**
PTBC				S		**Sn**		**12 14 01.8**	**+1.8**
BAUV	**El Baul**	**4.80**	**106**	*eP*		**Pn**		**12 13 21.9**	**+0.7**
BAUV				*eS*		**Sn**		**12 14 14.3**	**-1.8**
BENV	**Beln**	**5.04**	**94**	*eP*		**Pn**		**12 13 24.8**	**+0.3**
BENV				*eS*		**Sn**		**12 14 19.3**	**-2.8**
CACV	**CAICARA DEL OR**	**6.68**	**114**	*eP*		Pn		12 13 53.4	+6.3

IDC 27 12:16:36.7±8.4**, 18°.00S**×**176°.92W, h0**km**, mb3.8**/4**,**
mbtmp3.8/4, Error ellipse: s-maj=214.9km
s-min=48.9km az=28.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.83**	**242**	P		P		12 24 12.5	+0.5
	2.0nm,0.9s,baz=96,slow=7.1,SNR=3.2								
	2.0nm,0.9s								
WRA	**Warramunga Arr**	**46.01**	**259**	P		P		12 25 01.9	-0.4
	0.2nm,0.5s,baz=97,slow=6.9,SNR=6.8								
	0.2nm,0.5s								
ASAR	**Alice Springs**	**46.13**	**254**	P		P		12 25 02.9	-0.3
	2.2nm,0.5s,baz=90,slow=8.6,SNR=71								
	2.2nm,0.5s								
QSPA	**South Pole Qui**	**72.06**	**180**	P		P		12 28 02.7	+0.2
	0.9nm,0.9s,baz=28,slow=6.9,SNR=1.6								
	0.9nm,0.9s								

JMA ***27*** *12:23:35.9±0.0, 24°.1N±0°.2×121°.6E±0°.4, h19km, MV3.1/17, TAIWAN REGION*
ASIES ***27*** *12:23:36.4, 24°.19N×121°.62E, h18km, ML3.9, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}1.52; $M_{\theta\theta}$-0.32; $M_{\phi\phi}$-1.20; $M_{r\theta}$0.21; $M_{r\phi}$-0.43; $M_{\theta f}$0.02; Fault plane solution: $M_0$1.46810×10^{14} NP1: ϕ_s196.06000°, δ43.33000°, λ81.04000°. NP2:ϕ_s28.29000°, δ47.33000°, λ.98.36000°. Principal axes: T Plg83.5420°, Azm4.3300°; N Plg6.1350°, Azm202.6030°; P Plg2.0090°, Azm112.3870°;*
TAP ***27*** *12:23:36.4, 24°.19N×121°.62E, h18km, ML3.9, B*
ISC 27 12:23:36.5±0.8**, 24°.19N**±0°.01×**121°.63E**±0°.01**, h19**km±1km**,**
n166, σ0ˢ63/288, 16C-23D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.03**	**192**	*i* P		**Pg**		**12 23 40.0**	**0.0**
ETL				*eS*		**Sg**		**12 23 42.0**	**-0.2**
NACB	**Ninganchiao**	**0.04**	**244**	P		**Pg**		**12 23 39.8**	**0.0**
NACB	**Ninganchiao**	**0.04**	**244**	*i* P		**Pg**		**12 23 39.9**	**0.0**
NACB				S		**Sg**		**12 23 42.0**	**-0.1**
TWD	**Chiawan**	**0.11**	**196**	*i* P		**Pg**		**12 23 40.5**	**0.0**
TWD				*i* S		**Sg**		**12 23 43.0**	**-0.1**
ETLH	**Xiulin Townshi**	**0.14**	**277**	*i* P		**Pg**		**12 23 40.8**	**0.0**
ETLH				*i* S		**Sg**		**12 23 43.6**	**-0.2**
EHP	**Heping Village**	**0.16**	**40**	*eP*		**Pg**		**12 23 41.0**	**0.0**
EHP				S		**Sg**		**12 23 44.1**	**+0.1**
HWA	**Hwalien**	**0.21**	**186**	*i* P		**Pg**		**12 23 42.2**	**+0.5**
HWA				*eS*		**Sg**		**12 23 46.3**	**+1.0**
ETM	**Tongmen**	**0.26**	**209**	*i* P		**Pg**		**12 23 42.1**	**-0.3**
ETM				*eS*		**Sb**		**12 23 46.1**	**-0.1**
LXIB	**Xiulin Townshi**	**0.26**	**230**	*i* P		**Pb**		**12 23 42.4**	**-0.1**
LXIB				S		**Sb**		**12 23 46.1**	**-0.5**
EWUT	**Wuta**	**0.29**	**28**	*i* P		**Pb**		**12 23 42.9**	**-0.1**
EWUT				*eS*		**Sg**		**12 23 47.1**	**-0.2**
TEYL	**Yanliau Villag**	**0.32**	**185**	*i* P		**Pg**		**12 23 43.2**	**-0.3**
TEYL				*eS*		**Sg**		**12 23 48.2**	**-0.1**
NNSB	**Datong**	**0.33**	**316**	*i* P		**Pb**		**12 23 43.7**	**-0.2**
NNSB				S		**Sg**		**12 23 48.3**	**-0.3**
WHF	**Hehuan Shan**	**0.34**	**262**	*i* P		**Pb**		**12 23 44.0**	**-0.2**
WHF				*i* S		**Sb**		**12 23 48.9**	**-0.3**
NNS	**Nan Shan**	**0.34**	**317**	*i* P		**Pb**		**12 23 43.9**	**-0.2**
NNS				S		**Sb**		**12 23 48.9**	**-0.4**
LATG	**Datong**	**0.36**	**345**	*i* P		**Pg**		**12 23 44.0**	**-0.1**
LATG				S		**Sg**		**12 23 49.0**	**-0.4**
FUSS	**Fushou**	**0.36**	**279**	*i* P		**Pb**		**12 23 44.5**	**0.0**
FUSS				*i* S		**Sb**		**12 23 49.8**	**-0.1**
SHUL	**Shoufeng**	**0.41**	**189**	P		**Pb**		**12 23 45.4**	**+0.2**
SHUL				*eS*		**Sb**		**12 23 51.9**	**+0.9**
ESL	**Shilin**	**0.42**	**206**	*i* P		**Pg**		**12 23 44.7**	**-0.5**
ESL				S		**Sg**		**12 23 50.5**	**-0.4**
TWT	**Tachien**	**0.42**	**279**	*i* P		**Pb**		**12 23 45.8**	**+0.3**
TWT				S		**Sb**		**12 23 51.4**	**-0.3**
ESAO	**Su ao**	**0.43**	**27**	*i* P		**Pg**		**12 23 45.2**	**-0.2**
ESAO				*i* S		**Sg**		**12 23 51.0**	**-0.4**
TDCB	**Techi**	**0.44**	**278**	*i* P		**Pb**		**12 23 45.8**	**+0.1**
TDCB				*i* S		**Sb**		**12 23 51.7**	**-0.4**
NDS	**Dongshan**	**0.45**	**10**	*eP*		**Pg**		**12 23 44.4**	**-1.3**
NDS				S		**Sg**		**12 23 50.1**	**-1.8**
ENTT	**Nioudou**	**0.45**	**353**	*i* P		**Pb**		**12 23 45.8**	**-0.2**
ENTT				S		**Sb**		**12 23 52.1**	**-0.3**
TWC	**Suao**	**0.46**	**25**	*i* P		**Pg**		**12 23 45.8**	**-0.1**
TWC				*i* S		**Sg**		**12 23 52.2**	**-0.2**
OWD	**Renai**	**0.48**	**241**	P		**Pg**		**12 23 46.2**	**-0.1**
OWD				*i* S		**Sg**		**12 23 52.5**	**-0.4**
TEGC	**Jichi Village**	**0.49**	**190**	P		**Pb**		**12 23 46.9**	**+0.4**
TEGC				*eS*		**Sb**		**12 23 54.2**	**+0.9**
WUSB	**Renai**	**0.51**	**247**	*i* P		**Pb**		**12 23 46.9**	**0.0**
WUSB				*eS*		**Sg**		**12 23 53.6**	**-0.3**
WARBT	**Fenglin Townsh**	**0.52**	**205**	P		**Pg**		**12 23 46.2**	**-0.9**
WARBT				S		**Sg**		**12 23 53.6**	**-0.5**
TWE	**Neicheng**	**0.53**	**4**	*i* P		**Pg**		**12 23 47.0**	**-0.2**
TWE				*eS*		**Sg**		**12 23 54.2**	**-0.2**
YHNB	**Yeheng**	**0.53**	**334**	P		**Pb**		**12 23 47.3**	**+0.1**
YHNB	**Yeheng**	**0.53**	**334**	*i* P		**Pb**		**12 23 47.1**	**-0.1**
YHNB				S		**Sb**		**12 23 54.4**	**-0.1**
NSK	**Sanguang**	**0.54**	**333**	*i* P		**Pg**		**12 23 47.2**	**-0.3**
NSK				S		**Sg**		**12 23 54.6**	**-0.3**
EGFH	**Guangfu**	**0.55**	**200**	*eP*		**Pb**		**12 23 47.4**	**-0.4**
EGFH				S		**Sb**		**12 23 55.1**	**+0.1**
FUSB	**Fushanzhiwuyua**	**0.57**	**356**	*i* P		**Pg**		**12 23 47.8**	**-0.2**
FUSB				*i* S		**Sg**		**12 23 54.9**	**-0.7**
ILA	**Ilan**	**0.58**	**11**	*eP*		**Pg**		**12 23 48.0**	**-0.2**
ILA				*i* S		**Sg**		**12 23 57.0**	**+1.0**
EOS2	**EOS2**	**0.59**	**67**	*eP*		**Pn**		**12 23 49.3**	**-0.5**
NWLT	**Wulai**	**0.60**	**349**	*i* P		**Pb**		**12 23 48.2**	**-0.1**
NWLT				S		**Sb**		**12 23 55.9**	**-0.4**
VWDT	**VWDT**	**0.62**	**226**	*i* P		**Pb**		**12 23 48.7**	**-0.1**
VWDT				*eS*		**Sb**		**12 23 56.9**	**-0.2**
WHP	**Taichung City**	**0.63**	**278**	*i* P		**Pg**		**12 23 49.2**	**+0.1**
WHP				S		**Sg**		**12 23 57.9**	**+0.3**
EOS4	**EOS4**	**0.63**	**96**	*eP*		**Pn**		**12 23 49.9**	**-0.3**
NFF	**Wufeng Townshi**	**0.64**	**313**	P		**Pg**		**12 23 49.1**	**-0.2**
NFF				*eS*		**Sg**		**12 23 58.0**	**+0.1**
WCS	**Beigang Elemen**	**0.67**	**259**	P		**Pg**		**12 23 49.7**	**0.0**
WCS				*eS*		**Sg**		**12 23 58.4**	**-0.4**
NTC	**Toucheng**	**0.69**	**15**	*eP*		**Pb**		**12 23 49.8**	**-0.1**
NTC				*eS*		**Sg**		**12 23 59.3**	**0.0**
EGS		**0.71**	**23**	P		**Pg**		**12 23 50.5**	**0.0**
EGS				*eS*		**Sn**		**12 24 00.9**	**-1.0**
KSHI	**Guanxi Townshi**	**0.72**	**325**	*eP*		**Pn**		**12 23 51.0**	**-0.7**
KSHI				*eS*		**Sn**		**12 24 01.2**	**-1.0**
HGSD	**Ruisui**	**0.72**	**195**	P		**Pb**		**12 23 50.0**	**-0.4**
HGSD				*eS*		**Sg**		**12 24 00.8**	**+0.4**
LIOB	**Emei**	**0.72**	**309**	P		**Pn**		**12 23 51.0**	**-0.7**
LIOB				*eS*		**Sg**		**12 24 00.8**	**+0.4**
NSTT	**Nanjuang**	**0.72**	**308**	*i* P		**Pg**		**12 23 50.8**	**+0.1**
NSTT				S		**Sg**		**12 24 00.3**	**-0.1**
SMLT	**Sun Moon Lake**	**0.73**	**246**	P		**Pg**		**12 23 50.8**	**-0.2**
SMLT				*eS*		**Sg**		**12 24 00.5**	**-0.3**
EHY	**Hungye**	**0.74**	**203**	*eP*		**Pb**		**12 23 50.3**	**-0.4**
EHY				*eS*		**Sg**		**12 24 00.7**	**-0.2**
SSLB	**Suanglung**	**0.74**	**237**	P		**Pg**		**12 23 51.3**	**+0.3**
SSLB	**Suanglung**	**0.74**	**237**	*eP*		**Pb**		**12 23 50.7**	**-0.1**
SSLB				S		**Sb**		**12 23 60.0**	**-0.5**
EHYH	**Wanrong**	**0.74**	**201**	*eP*		**Pb**		**12 23 50.0**	**-0.8**
EHYH				*eS*		**Sg**		**12 24 01.6**	**+0.7**
TYC	**Yuchr**	**0.76**	**248**	P		**Pg**		**12 23 51.1**	**-0.3**
TYC				S		**Sb**		**12 24 01.0**	**-0.2**
NHDH	**Xindian Distri**	**0.78**	**353**	P		**Pg**		**12 23 51.7**	**-0.1**
NHDH				S		**Sg**		**12 24 01.9**	**-0.2**
TWA	**Mucha**	**0.79**	**357**	P		**Pg**		**12 23 51.9**	**-0.1**
TWA				*eS*		**Sg**		**12 24 02.4**	**-0.1**
TATO	**Taipei**	**0.79**	**351**	P		**Pg**		**12 23 52.1**	**0.0**
TATO	**Taipei**	**0.79**	**351**	S		**Sn**		**12 24 03.2**	**-0.8**
TIPB	**Shuangxi**	**0.80**	**13**	P		**Pb**		**12 23 51.8**	**0.0**
TIPB				S		**Sb**		**12 24 02.2**	**-0.1**
NSY	**Sanyi**	**0.82**	**286**	P		**Pn**		**12 23 53.4**	**+0.3**
NSY				S		**Sn**		**12 24 04.1**	**-0.8**
NMLH	**Miaoli**	**0.84**	**294**	*eP*		**Pn**		**12 23 54.0**	**+0.6**
NMLH				*eS*		**Sn**		**12 24 04.8**	**-0.4**
SBCB	**Hsinchu**	**0.84**	**316**	*eP*		**Pn**		**12 23 52.3**	**0.4**
SBCB				*eS*		**Sn**		**12 24 05.2**	**0.0**
YULB	**Yu-li**	**0.85**	**201**	P		**Pb**		**12 23 52.7**	**0.0**
YULB	**Yu-li**	**0.85**	**201**	*eP*		**Pb**		**12 23 50.8**	**-1.9**
YULB				*eS*		**Sb**		**12 24 02.1**	**-1.7**
TAP	**Taipei**	**0.85**	**352**	*eP*		**Pn**		**12 23 53.4**	**-0.1**
TAP				*eS*		**Sg**		**12 24 04.5**	**-0.1**
HSN	**Hsinchu**	**0.86**	**315**	P		**Pn**		**12 23 53.8**	**+0.3**
HSN				*eS*		**Sn**		**12 24 05.5**	**-0.1**
WHYT	**Xinyi Township**	**0.86**	**236**	*eP*		**Pg**		**12 23 53.3**	**-0.1**
WHYT				*eS*		**Sg**		**12 24 04.7**	**-0.2**
TCU	**Taichung**	**0.87**	**267**	*eP*		**Pn**		**12 23 54.4**	**+0.7**
TCU				S		**Sn**		**12 24 07.0**	**+1.0**
NCUH	**Zhongli**	**0.87**	**332**	*eP*		**Pn**		**12 23 54.0**	**+0.2**
NCUH				*eS*		**Sn**		**12 24 07.3**	**+1.3**
TWB1	**Santiao Chiao**	**0.88**	**22**	*eP*		**Pg**		**12 23 53.3**	**+0.1**
TWB1				*i* S		**Sg**		**12 24 05.0**	**-0.3**
ECBN	**Changbin**	**0.89**	**191**	P		**Pg**		**12 23 52.9**	**-0.4**
ECBN				*eS*		**Sg**		**12 24 05.4**	**-0.1**
EYUL	**Yuli**	**0.89**	**199**	*eP*		**Pb**		**12 23 53.2**	**-0.1**
EYUL				*eS*		**Sb**		**12 24 04.9**	**+0.2**
NWF	**Wu-fen Shan**	**0.89**	**9**	P		**Pn**		**12 23 53.9**	**-0.2**
NWF				*eS*		**Sb**		**12 24 05.1**	**+0.2**
TWF1	**Yuli**	**0.89**	**200**	*eP*		**Pb**		**12 23 53.4**	**0.0**
TWF1				*eS*		**Sb**		**12 24 03.5**	**-1.3**
WFSB	**Wu-fen Shan**	**0.89**	**9**	P		**Pn**		**12 23 53.9**	**-0.1**
WFSB				*eS*		**Sb**		**12 24 04.7**	**-0.1**
WJS	**Zhushan**	**0.90**	**246**	*eP*		**Pn**		**12 23 54.8**	**+0.5**
WJS				*eS*		**Sn**		**12 24 07.8**	**+1.0**
WDJ	**Dajia District**	**0.92**	**280**	*eP*		**Pn**		**12 23 55.0**	**+0.6**
WDJ				*eS*		**Sn**		**12 24 07.2**	**+0.1**
WNT	**Mingjian**	**0.92**	**250**	*eP*		**Sn**		**12 23 55.3**	**+0.9**
WNT				S		**Sn**		**12 24 08.5**	**+1.4**
SXI1	**Grass Mountain**	**0.93**	**14**	P		**Pb**		**12 23 54.2**	**+0.1**
SXI1				*eS*		**Sg**		**12 24 06.6**	**-0.3**
TWS1	**Kuangyinshan**	**0.93**	**348**	P		**Pn**		**12 23 54.8**	**+0.3**
TWS1				*eS*		**Sn**		**12 24 08.1**	**+0.7**
YM01	**YM01**	**0.95**	**357**	P		**Pn**		**12 23 54.8**	**-0.2**
YM01				*eS*		**Sn**		**12 24 08.1**	**0.0**
TNOU	**National Taiwa**	**0.96**	**8**	*eP*		**Pn**		**12 23 55.0**	**-0.1**
TNOU				*eS*		**Sg**		**12 24 07.4**	**-0.6**
ZUZH	**Zhuzihu**	**0.97**	**355**	*eP*		**Pg**		**12 23 55.4**	**-0.1**
ZUZH				*eS*		**Sg**		**12 24 08.1**	**-0.2**
NTST	**Danshui**	**0.98**	**350**	*i* P		**Pg**		**12 23 56.0**	**+0.3**
NTST				S		**Sn**		**12 24 09.9**	**+1.1**
WCHH	**Zhanghua**	**0.99**	**264**	P		**Pg**		**12 23 55.9**	**+0.2**
WCHH				*eS*		**Sn**		**12 24 10.2**	**+1.5**
YM08	**YM08**	**0.99**	**358**	*eP*		**Pb**		**12 23 55.1**	**-0.1**
YM08				*eS*		**Sn**		**12 24 09.0**	**0.0**
ANP	**Anpu**	**1.00**	**354**	P		**Pg**		**12 23 55.7**	**-0.2**
ANP				*eS*		**Sb**		**12 24 08.2**	**+0.1**
WCH1	**Changhua City**	**1.00**	**263**	*eP*		**Pg**		**12 23 55.9**	**0.0**
WCH1				*eS*		**Sn**		**12 24 09.9**	**+0.9**
ALS	**Alishan**	**1.01**	**228**	*eP*		**Pg**		**12 23 55.2**	**-0.1**
ALS				*eS*		**Sg**		**12 24 09.3**	**-0.4**
CHKH	**Chenggong**	**1.02**	**192**	*eP*		**Pb**		**12 23 54.3**	**-1.2**
CHKH				*eS*		**Sg**		**12 24 10.0**	**+0.3**
FULB	**Fuli**	**1.03**	**197**	*eP*		**Pb**		**12 23 55.1**	**-0.8**
FULB				*eS*		**Sg**		**12 24 10.3**	**0.0**
TWY	**Chenhua**	**1.08**	**359**	*eP*		**Pb**		**12 23 56.3**	**-0.3**
TWY				*eS*		**Sn**		**12 24 10.7**	**-0.5**
WGK	**Gukeng**	**1.10**	**243**	P		**Pg**		**12 23 58.4**	**+0.5**
WGK				*eS*		**Sg**		**12 24 14.1**	**+1.8**
WDL	**Douliou City**	**1.10**	**245**	*eP*		**Pb**		**12 23 57.2**	**+0.2**
EHD	**Haiduan**	**1.11**	**201**	*eP*		**Pn**		**12 23 56.3**	**-0.7**
EHD				*eS*		**Sb**		**12 24 10.5**	**-0.7**
CHKT	**Chengkung**	**1.11**	**193**	P		**Pn**		**12 23 55.8**	**-1.3**
CHKT				*eS*		**Sn**		**12 24 11.6**	**-0.3**
WDLH	**Douliu**	**1.12**	**244**	P		**Pg**		**12 23 58.5**	**+0.3**
WDLH				*eS*		**Sg**		**12 24 14.9**	**+2.0**
ELDTW	**Lidau**	**1.14**	**210**	*eP*		**Pn**		**12 23 56.7**	**-0.9**
ELDTW				*eS*		**Sb**		**12 24 12.5**	**+0.2**
ECS	**Chishang**	**1.15**	**199**	*eP*		**Pb**		**12 23 57.9**	**0.0**
ECS				*eS*		**Sn**		**12 24 13.2**	**+0.2**
WCKO	**Fanlu**	**1.20**	**232**	*eP*		**Pg**		**12 23 59.5**	**-0.2**
WCKO				*eS*		**Sg**		**12 24 16.4**	**+0.8**
JYNG	**Yonagunijimaku**	**1.23**	**77**	P		**Pb**		**12 23 59.0**	**-0.1**
JYNG				*eS*		**Sg**		**12 24 16.0**	**-0.3**
WTK	**Tuku**	**1.24**	**246**	P		**Pg**		**12 23 59.9**	**-0.6**
WTK				*eS*		**Sg**		**12 24 18.2**	**+1.3**
CHN2	**Minshiung**	**1.24**	**238**	*eP*		**Pb**		**12 23 59.8**	**+0.4**
CHN2				*eS*		**Sg**		**12 24 18.1**	**+1.2**
EDH	**Donghe**	**1.25**	**194**	*eP*		**Pn**		**12 23 58.3**	**-0.6**
EDH				*eS*		**Sn**		**12 24 15.6**	**+0.3**
TPUB	**Ta-pu**	**1.27**	**226**	P		**Pg**		**12 24 01.2**	**0.0**
TPUB	**Ta-pu**	**1.27**	**226**	*eP*		**Pb**		**12 24 00.3**	**+0.3**
WTCT	**Ta-ch'eng**	**1.28**	**256**	*eP*		**Pb**		**12 24 00.8**	**-0.4**
WTCT				*i* S		**Sg**		**12 24 18.3**	**+0.4**
STYH	**Taoyuan**	**1.28**	**218**	*eP*		**Pb**		**12 24 00.5**	**+0.5**
YOJ	**Yonaguni jima**	**1.29**	**78**	P		**Pn**		**12 23 59.8**	**+0.3**
YOJ	**Yonaguni jima**	**1.29**	**78**	P		**Pn**		**12 23 59.8**	**+0.3**
YOJ				*eS*		**Sb**		**12 24 17.3**	**+1.0**
YOJ	**Yonaguni jima**	**1.29**	**78**	*i* P		**Pn**		**12 23 59.7**	**+0.3**
YOJ				*eS*		**Sb**		**12 24 17.1**	**+0.7**
CHY	**Chiayi**	**1.30**	**238**	*eP*		**Pg**		**12 24 00.9**	**-0.8**
CHY				*eS*		**Sg**		**12 24 19.0**	**+0.3**
WTP	**Ta-pu**	**1.32**	**225**	*eP*		**Pb**		**12 24 01.3**	**+0.5**
WTP				*eS*		**Sg**		**12 24 19.6**	**+0.2**
LONT	**Longtian**	**1.36**	**200**	*eP*		**Pn**		**12 24 00.0**	**-0.5**
LONT				*eS*		**Sb**		**12 24 18.6**	**+0.3**
TWK	**Hsinying**	**1.39**	**229**	*eP*		**Pb**		**12 24 02.1**	**+0.1**
TWK				*eS*		**Sg**		**12 24 21.2**	**-0.4**
WSF	**Szhu**	**1.40**	**247**	*eP*		**Pb**		**12 24 02.1**	**0.0**
WSF				*eS*		**Sg**		**12 24 22.0**	**+0.2**
SNST	**Tainan City**	**1.42**	**227**	*eP*		**Pg**		**12 24 03.1**	**-0.8**
SNST				*eS*		**Sg**		**12 24 22.3**	**-0.1**
CHN1	**Nanshi**	**1.42**	**226**	*eP*		**Pg**		**12 24 03.1**	**-0.9**
CHN1				*eS*		**Sg**		**12 24 22.7**	**+0.1**
WSL	**Shuilin Townsh**	**1.45**	**243**	*eP*		**Pb**		**12 24 03.2**	**+0.4**
WSL				*eS*		**Sg**		**12 24 24.1**	**+0.8**
TWG	**Pinlang**	**1.46**	**201**	*eP*		**Pn**		**12 24 01.2**	**-0.6**
TWG				*eS*		**Sb**		**12 24 21.0**	**-0.2**
TWGBT	**Beinan**	**1.46**	**200**	P		**Pg**		**12 24 04.1**	**-0.5**
TWGBT	**Beinan**	**1.46**	**200**	*eP*		**Pn**		**12 24 01.0**	**-0.8**
TWGBT				*eS*		**Sb**		**12 24 20.9**	**-0.3**
ICHU	**Yijhu**	**1.49**	**237**	P		**Pb**		**12 24 04.2**	**+0.6**
ICHU				S		**Sg**		**12 24 24.7**	**+0.1**
PCYT	**Pengchaiyu**	**1.49**	**16**	*eP*		**Pn**		**12 24 02.5**	**+0.2**
PCYT				*eS*		**Sb**		**12 24 23.0**	**+0.9**
LDUT	**Ludao**	**1.

BKI				eS		S		12 31 38.5	-1.1	
ASAK	**Asacha**	**3.65**	**200**	eP		Pn		12 30 54.4	+0.7	
OSSR	**Ossora**	**3.83**	**25**	eP		Pn		12 30 55.3	-0.1	
SKR	**Severo-Kuril's**	**5.63**	**205**	eP		Pn		12 31 17.1	+0.5	
MA2	**Magadan**	**6.16**	**311**	P		Pn		12 31 21.4	-1.5	
	3.8nm,0.7s,baz=135,slow=16,SNR=1.5									
SHEM	**Shemya Is, Ala**	**8.87**	**105**	P		Pn		12 31 57.5	+1.1	
	5.7nm,0.4s,baz=295,slow=14,SNR=4.3									
USRK	**Ussuriysk Ar.**	**21.21**	**248**	P		P		12 34 15.0	-1.6	
	1.3nm,0.5s,baz=34,slow=10,SNR=4.9									
	1.3nm,0.5s									
MJAR	**Matsushiro Ant**	**24.26**	**226**	P		P		12 34 44.4	0.0	
	1.0nm,0.6s,baz=18,slow=10,SNR=3.9									
	1.0nm,0.6s									
KSRS	**Korea Array**	**28.25**	**243**	P		P		12 35 20.6	+0.7	
	0.4nm,0.4s,baz=37,slow=8.0,SNR=2.8									
	0.4nm,0.4s									
SONM	**Songino Array**	**33.26**	**279**	P		P		12 36 02.9	-0.8	
	0.6nm,0.4s,baz=72,slow=6.7,SNR=3.8									
	0.6nm,0.4s									
KURBB	**Kurchatov Arra**	**46.33**	**299**	P		P		12 37 49.1	-1.3	
	0.5nm,0.4s,baz=55,slow=7.9,SNR=7.6									
	0.5nm,0.4s									
MKAR	**Makanchi Array**	**46.91**	**293**	P		P		12 37 53.5	-1.4	
	0.2nm,0.3s,baz=52,slow=12,SNR=6.3									
	0.2nm,0.3s									
BVAR	**Borovoye Array**	**48.63**	**306**	P		P		12 38 06.5	-1.5	
	0.9nm,0.5s,baz=92,slow=13,SNR=4.7									
	0.9nm,0.5s									
ELK	**Elko**	**54.89**	**68**	P		P		12 38 55.9	+1.4	
	0.4nm,0.3s,baz=309,slow=6.5,SNR=2.1									
	0.4nm,0.3s									
NVAR	**Mina Array Bea**	**54.95**	**72**	P		P		12 38 57.1	+2.2	
	0.5nm,0.7s,baz=291,slow=7.6,SNR=5.7									
	0.5nm,0.7s									
PDAR	**Pinedale Array**	**56.32**	**62**	P		P		12 39 05.8	+1.3	
	0.4nm,0.4s,baz=345,slow=3.0,SNR=6.6									
	0.4nm,0.4s									
FINES	**FINESS Array B**	**57.56**	**336**	P		P		12 39 13.9	+1.4	
	1.0nm,0.8s,baz=44,slow=8.5,SNR=5.2									
	1.0nm,0.8s									
TXAR	**Lajitas Array**	**69.69**	**68**	P		P		12 40 33.0	+1.0	
	0.6nm,0.5s,baz=298,slow=4.8,SNR=9.3									
	0.6nm,0.5s									
WRA	**Warramunga Arr**	**78.53**	**204**	P		P		12 41 23.3	+0.6	
	0.4nm,0.6s,baz=19,slow=6.0,SNR=7.5									
	0.4nm,0.6s									
ASAR	**Alice Springs**	**82.22**	**204**	P		P		12 41 42.8	+0.6	
	0.3nm,0.8s,baz=16,slow=4.9,SNR=8.7									
	0.3nm,0.8s									
PLCA	**Paso Flores**	**144.07**	**87**	PKP		**PKPdf**		12 48 53.0	-1.1	
	0.4nm,0.5s,baz=272,slow=8.3,SNR=4.3									
QSPA	**South Pole Qui**	**145.58**	**180**	PKPbc		**PKPab**		12 48 56.5	-0.9	
	2.0nm,0.5s,baz=344,slow=3.6,SNR=22									

*IDC **27** 12:42:11.6±0.8,50˚.38N×159˚.86E,h0km,mb3.7/12, mbtmp3.8/14,ML3.6/2,MS2.7/1,Error ellipse: s-maj=21.7km s-min=17.1km az=177.0*
*KRSC **27** 12:42:13.7±1.9,50˚.45N×160˚.01E,h65km±27km,Ml4.4*
*NEIC **27** 12:42:13.7±1.6,50˚.43N±0˚.10×159˚.96E±0˚.09,h10km±1km, mb4.3/10,Error ellipse: s-maj=17.2km s-min=8.9km az=199.0*
*MOS **27** 12:42:14.7±0.6,50˚.40N×160˚.03E,h38km,mb4.1/4,Error ellipse: s-maj=13.5km s-min=3.9km az=98.2*

ISC 27 12:42:16.2±0.7,50˚.37N±0˚.06×160˚.04E±0˚.05,h35km,n100, σ1ₛ33/114,mb3.8/15,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**2.27**	**336**	PN	**Pn**	**12 42 49.6**	**-1.6**
RUS	**Russkaya**	**2.27**	**336**	eP	**Pn**	**12 42 49.7**	**-1.6**
PAU	**Pauzhetka**	**2.32**	**299**	PN	**Pn**	**12 42 51.0**	**-0.8**
PAU				S	**Sn**	**12 43 17.2**	**-1.9**
PAU	**Pauzhetka**	**2.32**	**299**	eP	**Pn**	**12 42 51.0**	**-0.8**
PAU				eS	**Sn**	**12 43 17.3**	**-1.9**
MTVR	**Mutnovka**	**2.41**	**332**	PN	**Pn**	**12 42 51.8**	**-1.4**
MTVR				S	**Sn**	**12 43 20.3**	**-1.3**
MTVR	**Mutnovka**	**2.41**	**332**	eP	**Pn**	**12 42 51.9**	**-1.4**
MTVR				eS	**Sn**	**12 43 20.3**	**-1.3**
ASAK	**Asacha**	**2.42**	**327**	PN	**Pn**	**12 42 52.2**	**-1.1**
ASAK	**Asacha**	**2.42**	**327**	eP	**Pn**	**12 42 52.3**	**-1.1**
GRL	**Gorelyy**	**2.50**	**331**	PN	**Pn**	**12 42 53.9**	**-0.6**
GRL	**Gorelyy**	**2.50**	**331**	eP	**Pn**	**12 42 53.9**	**-0.6**
SKR	**Severo-Kuril's**	**2.52**	**279**	ePN	**Pn**	**12 42 53.1**	**-1.6**
SKR				eS	**Sn**	**12 43 20.5**	**-3.6**
SKR				pmax	pmax		
	comp=Z,176nm,0.5s						
SKR				smax	smax		
	comp=N,2μm,0.7s						
SKR				smax	smax		
	comp=E,2μm,0.4s						
SKR	**Severo-Kuril's**	**2.52**	**279**	eP	**Pn**	**12 42 53.0**	**-1.6**
SKR				eS	**Sn**	**12 43 21.0**	**-3.1**
SPN	**Mys Shipunski**	**2.73**	**360**	PN	**Pn**	**12 42 56.4**	**-1.0**
SPN				S	**Sn**	**12 43 26.8**	**-2.4**
SPN	**Mys Shipunski**	**2.73**	**360**	eP	**Pn**	**12 42 56.5**	**-1.0**
SPN				eS	**Sn**	**12 43 26.9**	**-2.4**
KRMR	**Karymshinskiy**	**2.73**	**335**	PN	**Pn**	**12 42 56.9**	**-0.6**
KRMR				S	**Sn**	**12 43 27.4**	**-1.9**
KRMR	**Karymshinskiy**	**2.73**	**335**	eP	**Pn**	**12 42 57.0**	**-0.6**
KRMR				eS	**Sn**	**12 43 27.5**	**-1.9**
DALK	**Dalny**	**2.78**	**344**	PN	**Pn**	**12 42 56.9**	**-1.2**
DALK	**Dalny**	**2.78**	**344**	eP	**Pn**	**12 42 56.9**	**-1.2**
PET	**Petropavlovsk**	**2.79**	**343**		**Pn**	**12 42 57.4**	**-0.9**
PET				Sn	**Sn**	**12 43 28.7**	**-2.1**
PET	**Petropavlovsk**	**2.79**	**343**	ePN	**Pn**	**12 42 57.0**	**-1.3**
PET				eS	**Sn**	**12 43 28.5**	**-2.2**
PET				pmax	pmax		
	comp=Z,25nm,0.4s						
PET				smax	smax		
	comp=N,217nm,0.6s						
PET				smax	smax		
	comp=E,230nm,0.4s						
PET	**Petropavlovsk**	**2.79**	**343**	eP	**Pn**	**12 42 57.0**	**-1.3**
PET				eS	**Sn**	**12 43 28.5**	**-2.2**
MIPR	**Malaya Ipel'ka**	**2.81**	**314**	PN	**Pn**	**12 42 58.2**	**-0.3**
MIPR				S	**Sn**	**12 43 30.3**	**-0.8**
MIPR	**Malaya Ipel'ka**	**2.81**	**314**	eP	**Pn**	**12 42 58.2**	**-0.3**
MIPR				eS	**Sn**	**12 43 30.4**	**-0.8**
NLC	**Nalytchevo**	**2.83**	**352**	eS	**Sn**	**12 43 31.3**	**-0.5**
UGLR	**Uglovaya**	**2.94**	**346**	PN	**Pn**	**12 43 00.1**	**-0.3**
UGLR	**Uglovaya**	**2.94**	**346**	eP	**Pn**	**12 43 00.1**	**-0.3**
SDLR	**Sedlovina**	**3.00**	**347**	PN	**Pn**	**12 43 00.2**	**-1.1**
SDLR	**Sedlovina**	**3.00**	**347**	eP	**Pn**	**12 43 00.2**	**-1.1**
AVH	**Avacha**	**3.01**	**345**	PN	**Pn**	**12 43 01.9**	**+0.6**
AVH	**Avacha**	**3.01**	**345**	eP	**Pn**	**12 43 02.0**	**+0.6**
KRER	**Koryakskii**	**3.04**	**345**	PN	**Pn**	**12 43 02.2**	**+0.3**
KRER	**Koryakskii**	**3.04**	**345**	eP	**Pn**	**12 43 02.3**	**+0.3**
KOK	**Koryaka**	**3.05**	**344**	PN	**Pn**	**12 43 01.5**	**-0.5**
KOK	**Koryaka**	**3.05**	**344**	eP	**Pn**	**12 43 01.6**	**-0.5**
PEA0B	**Petropavlovsk-**	**3.10**	**333**		**Pn**	**12 43 02.7**	**+0.1**
PEA0B	**Petropavlovsk-**	**3.10**	**333**	PN	**Pn**	**12 43 02.4**	**-0.2**
PEA0B				S	**Sn**	**12 43 38.8**	**+0.4**
PETK	**Petropavlovsk-**	**3.10**	**333**	Pn	**Pn**	**12 43 01.7**	**-0.9**
	comp=E,4.2nm,0.3s,baz=126,slow=17,SNR=65						
PETK				Sn	**Sn**	**12 43 39.7**	**+1.3**
	comp=E,8.2nm,0.3s,baz=246,slow=14,SNR=9.3						
PETK				LR	LR	12 44 24.5	
	comp=E,125nm,20.4s,baz=190,slow=44						
	comp=E,9.0nm,0.4s						
KRX	**Arik**	**3.11**	**344**	PN	**Pn**	**12 43 01.9**	**-0.9**
KRX	**Arik**	**3.11**	**344**	eP	**Pn**	**12 43 02.0**	**-0.9**
APC	**Apacha**	**3.12**	**326**	PN	**Pn**	**12 43 02.4**	**-0.5**
APC				S	**Sn**	**12 43 40.0**	**+1.1**
APC	**Apacha**	**3.12**	**326**	eP	**Pn**	**12 43 02.4**	**-0.5**
APC				eS	**Sn**	**12 43 40.0**	**+1.1**
GNL	**Ganaly**	**3.57**	**340**	PN	**Pn**	**12 43 09.6**	**+0.5**
GNL	**Ganaly**	**3.57**	**340**	eP	**Pn**	**12 43 09.7**	**+0.5**
KII	**Karymskiy**	**3.69**	**355**	PN	**Pn**	**12 43 10.9**	**+0.2**
KII	**Karymskiy**	**3.69**	**355**	eP	**Pn**	**12 43 10.9**	**+0.2**
MKZ	**Mys Kozlova**	**4.32**	**13**	PN	**Pn**	**12 43 18.0**	**-1.2**
MKZ	**Mys Kozlova**	**4.32**	**13**	eP	**Pn**	**12 43 18.0**	**-1.2**
TUMD	**Tumrok D**	**4.84**	**2**	PN	**Pn**	**12 43 26.3**	**-0.2**
TUMD	**Tumrok D**	**4.84**	**2**	eP	**Pn**	**12 43 26.4**	**-0.2**
TUMD				eS	**Sn**	**12 44 18.9**	**-2.5**
KMNR	**Kamenistaya**	**5.39**	**1**	PN	**Pn**	**12 43 34.5**	**+0.4**
KMNR	**Kamenistaya**	**5.39**	**1**	eP	**Pn**	**12 43 34.6**	**+0.4**
BZMR	**Bezymyannaya**	**5.58**	**3**	PN	**Pn**	**12 43 37.6**	**+0.9**
BZMR	**Bezymyannaya**	**5.58**	**3**	eP	**Pn**	**12 43 37.7**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**5.59**	**4**	PN	**Pn**	**12 43 37.9**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**5.59**	**4**	eP	**Pn**	**12 43 38.0**	**+1.1**
KPT	**Kopyto**	**5.60**	**1**	PN	**Pn**	**12 43 37.8**	**+0.8**
KPT	**Kopyto**	**5.60**	**1**	eP	**Pn**	**12 43 37.9**	**+0.8**
ESO	**Esso**	**5.62**	**352**	PN	Pn	12 43 38.5	+1.3
ESO	**Esso**	**5.62**	**352**	eP	Pn	12 43 38.5	+1.3
KOZ	**Kozyrevsk**	**5.70**	**359**	PN	**Pn**	**12 43 39.3**	**+1.1**
KOZ	**Kozyrevsk**	**5.70**	**359**	eP	**Pn**	**12 43 39.4**	**+1.1**
BKI	**Bering**	**6.03**	**34**	PN	**Pn**	**12 43 41.6**	**-1.1**
BKI	**Bering**	**6.03**	**34**	eP	**Pn**	**12 43 41.7**	**-1.1**
KBTR	**Krutoberegovo**	**6.08**	**15**	PN	**Pn**	**12 43 42.9**	**-0.5**
KBTR	**Krutoberegovo**	**6.08**	**15**	eP	**Pn**	**12 43 42.9**	**-0.5**
KBG	**Krutoberegovo**	**6.10**	**14**	PN	**Pn**	**12 43 43.2**	**-0.6**
KBG	**Krutoberegovo**	**6.10**	**14**	eP	**Pn**	**12 43 43.2**	**-0.6**
SHEM	**Shemya Is, Ala**	**9.07**	**70**	Pn	**Pn**	**12 44 24.6**	**+0.1**
SHEM	**Shemya Is, Ala**	**9.07**	**70**	Pn	**Pn**	**12 44 24.2**	**-0.3**
	comp=E,5.8nm,0.3s,baz=141,slow=1.6,SNR=16						
SHEM				Sn	**Sn**	**12 45 58.4**	**-6.9**
	comp=E,6.8nm,0.3s,baz=42,slow=23,SNR=14						
	comp=E,14nm,0.3s						
JMM	**Marumori**	**18.57**	**235**	P	**Pn**	**12 46 30.6**	**+0.2**
JMM				IAmb	IAmb	12 46 41.5	
	comp=Z,13nm,0.9s						
YAK	**Yakutsk**	**20.30**	**317**	P	Pn	12 46 47.6	-3.3
YAK				IAmb	IAmb	12 46 49.4	
	comp=Z,18nm,0.7s						
YAK	**Yakutsk**	**20.30**	**317**	P	Pn	12 46 46.5	-4.3
	comp=Z,18nm,0.6s,baz=64,slow=1.9,SNR=5.7						
	comp=Z,18nm,0.6s						
JMN	**Monobe**	**25.38**	**239**	P	**P**	**12 47 40.3**	**+0.2**
TIXI	**Tiksi**	**25.57**	**338**	P	**P**	**12 47 40.4**	**-0.9**
TIXI				IAmb	IAmb	12 47 46.6	
	comp=Z,6.9nm,0.7s						
TIXI	**Tiksi**	**25.57**	**338**	P	**P**	**12 47 40.4**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KSRS	**Korea Array**	**26.27**	**253**	P	**P**	**12 47 47.2**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=328,slow=30,SNR=2.4						
	comp=Z,0.3nm,0.6s						
J19K	**Poorman**	**26.96**	**43**	P	**P**	**12 47 55.6**	**+1.6**
ILAR	**Eielson Array**	**30.81**	**42**	P	**P**	**12 48 29.1**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=244,slow=7.9,SNR=9.3						
	comp=Z,0.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**31.06**	**167**	T	T	13 22 59.9	
	baz=349,slow=75,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**31.07**	**167**	T	T	13 23 00.2	
	baz=349,slow=75,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**31.07**	**167**	T	T	13 22 58.6	
	baz=349,slow=75,SNR=6.5						
I29M	**Ogilvie Camp,**	**34.43**	**41**	P	**P**	**12 48 59.4**	**-0.5**
SONM	**Songino Array**	**34.58**	**287**	P	**P**	**12 49 02.0**	**+0.5**
SONM	**Songino Array**	**34.58**	**287**	P	**P**	**12 49 02.0**	**+0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.2s						
L29M	**L29M**	**34.76**	**45**	P	**P**	**12 49 04.1**	**+1.3**
L29M				IAmb	IAmb	12 49 06.4	
	comp=Z,3.8nm,1.1s						
KURK	**Kurchatov**	**49.18**	**304**	P	**P**	**12 51 00.8**	**+0.4**
KURK				IAmb	IAmb	12 51 06.1	
	comp=Z,2.8nm,0.6s						
KURK	**Kurchatov**	**49.18**	**304**	P	**P**	**12 51 00.8**	**+0.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURBB	**Kurchatov Arra**	**49.28**	**304**	P	**P**	**12 51 01.7**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=61,slow=7.8,SNR=7.2						
	comp=Z,1.9nm,0.6s						
MK31	**Makanchi Array**	**49.35**	**298**	P	**P**	**12 51 01.4**	**-0.3**
MK31				IAmb	IAmb	12 51 18.6	
	comp=Z,0.9nm,0.8s						
MK31	**Makanchi Array**	**49.35**	**298**	P	**P**	**12 51 01.5**	**-0.3**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**49.35**	**298**	P	**P**	**12 51 02.5**	**+0.7**
MKAR	**Makanchi Array**	**49.35**	**298**	P	**P**	**12 51 02.3**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=56,slow=6.8,SNR=6.8						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**49.35**	**298**	P	**P**	**12 51 02.5**	**+0.7**
BVAR	**Borovoye Array**	**52.09**	**310**	P	**P**	**12 51 21.7**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=64,slow=6.3,SNR=4.7						
	comp=Z,1.0nm,0.4s						
NVAR	**Mina Array Bea**	**56.74**	**68**	P	**P**	**12 51 58.5**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=316,slow=7.0,SNR=2.8						
	comp=Z,0.2nm,0.5s						
PDAR	**Pinedale Array**	**58.91**	**59**	P	**P**	**12 52 13.4**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=306,slow=5.1,SNR=4.0						
	comp=Z,0.4nm,0.8s						
AKASG	**Malin Array Be**	**70.94**	**329**	P	**P**	**12 53 29.0**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=34,slow=6.6,SNR=1.4						
	comp=Z,0.8nm,0.6s						
TXAR	**Lajitas Array**	**71.75**	**66**	P	**P**	**12 53 36.5**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=307,slow=4.7,SNR=5.1						
	comp=Z,0.4nm,0.6s						
WRA	**Warramunga Arr**	**73.60**	**205**	P	**P**	**12 53 45.7**	**0.0**
	comp=Z,0.6nm,1.0s,baz=16,slow=6.2,SNR=3.2						
	comp=Z,0.6nm,1.0s						
ASAR	**Alice Springs**	**77.26**	**204**	P	**P**	**12 54 07.8**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=16,slow=5.9,SNR=4.2						
	comp=Z,0.3nm,0.5s						

*IDC **27** 12:49:40.4±1.8,6˚.89S×153˚.78E,h0km,mb3.8/5, mbtmp3.8/6,ML2.0/1,MS3.3/2,Error ellipse: s-maj=39.3km s-min=29.7km az=111.0*

ISC 27 12:49:45.2±1.5,6˚.9S±0˚.2×153˚.9E±0˚.2,h35km,n7,σ1ₛ31/7, mb3.8/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.10**	**249**	Pn	**Pn**	**12 51 25.8**	**-0.8**
	1.6nm,0.3s,baz=73,slow=11,SNR=6.3						
PMG				Sn	**Sn**	**12 52 47.6**	**+1.5**
	1.6nm,0.3s,baz=51,slow=18,SNR=2.4						
PMG				LR	LR	12 54 23.6	
	comp=Z,82nm,18.3s,baz=68,slow=40						
	12nm,0.9s						
WRA	**Warramunga Arr**	**22.97**	**234**	P	**P**	**12 54 45.6**	**-1.2**
	1.2nm,0.7s,baz=57,slow=10,SNR=13						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**25.42**	**227**	P	**P**	**12 55 08.7**	**-1.1**
	1.9nm,0.7s,baz=60,slow=8.8,SNR=33						
	1.9nm,0.7s						
TGY	**Tagaytay City**	**38.77**	**303**	LR	LR	13 09 42.4	
	comp=Z,124nm,21.7s,baz=201,slow=31						
CMAR	**Chiang Mai Arr**	**59.73**	**296**	P	**P**	**12 59 47.4**	**+0.3**
	0.7nm,0.5s,baz=112,slow=6.8,SNR=5.6						
	0.7nm,0.5s						
SONM	**Songino Array**	**68.65**	**328**	P	**P**	**13 00 45.0**	**-0.1**
	0.3nm,0.4s,baz=131,slow=6.6,SNR=2.3						
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**83.08**	**180**	P	**P**	**13 02 08.2**	**+1.0**
	1.3nm,0.9s,baz=281,slow=5.2,SNR=6.1						
	1.3nm,0.9s						

*JMA **27** 12:51:42.4±0.2,25˚.N×122˚.6E±0˚.6,h114km±2km, MV1.8/9,NW OFF ISHIGAKIJIMA IS*
*TAP **27** 12:51:42.2,24˚.72N×122˚.55E,h120km±1km,ML2.5,C*

ISC 27 12:51:41.1±1.6,24˚.71N±0˚.05×122˚.58E±0˚.03,h124km±9km, n62,σ1ₛ02/122,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.43**	**228**	P	**Pn**	**12 52 00.0**	**+1.0**
EOS2				*i* S	**Sn**	**12 52 12.9**	**+0.4**
YOJ	**Yonaguni jima**	**0.46**	**122**	*e*P	**Pn**	**12 51 59.1**	**-0.2**
YOJ				*e*S	**Sn**	**12 52 12.5**	**-0.6**
EOS3	**EOS3**	**0.48**	**210**	*e*P	**Pn**	**12 52 00.9**	**+1.6**
EOS3				*e*S	**Sn**	**12 52 13.6**	**+0.7**
EOS4	**EOS4**	**0.63**	**202**	P	**Pn**	**12 52 01.1**	**+1.1**
EOS4				*e*S	**Sn**	**12 52 14.4**	**+0.1**
TWC	**Suao**	**0.67**	**262**	P	**Pn**	**12 52 00.4**	**-0.3**
TWC				*e*S	**Sn**	**12 52 13.8**	**-1.6**
TIPB	**Shuangxi**	**0.73**	**291**	*e*P	**Pn**	**12 52 01.6**	**+0.4**
TIPB				*i* S	**Sn**	**12 52 15.3**	**-1.1**
SXI1	**Grass Mountain**	**0.74**	**301**	*i* P	**Pn**	**12 52 01.6**	**+0.2**
SXI1				S	**Sn**	**12 52 16.1**	**-0.6**
ILA	**Ilan**	**0.76**	**275**	*e*S	**Sn**	**12 52 19.4**	**+2.8**
EWUT	**Wuta**	**0.77**	**250**	*e*P	**Pn**	**12 52 02.3**	**+0.8**
NDS	**Dongshan**	**0.79**	**265**	P	**Pn**	**12 52 02.0**	**+0.4**
NDS				S	**Sn**	**12 52 16.5**	**-0.6**
NWF	**Wu-fen Shan**	**0.81**	**297**	P	**Pn**	**12 52 02.1**	**+0.2**
NWF				*e*S	**Sn**	**12 52 15.4**	**-2.2**
WFSB	**Wu-fen Shan**	**0.81**	**297**	*i* P	**Pn**	**12 52 02.0**	**+0.2**
WFSB				*e*S	**Sn**	**12 52 15.4**	**-2.1**
TWE	**Neicheng**	**0.83**	**271**	P	**Pn**	**12 52 02.4**	**+0.4**
TWE				S	**Sn**	**12 52 17.1**	**-0.6**
TNOU	**National Taiwa**	**0.85**	**301**	P	**Pn**	**12 52 02.3**	**+0.2**
TNOU				S	**Sn**	**12 52 17.5**	**-0.6**
EHP	**Heping Village**	**0.86**	**243**	P	**Pn**	**12 52 02.8**	**+0.5**
EHP				S	**Sn**	**12 52 17.5**	**-0.8**
FUSB	**Fushanzhiwuyua**	**0.90**	**273**	*e*P	**Pn**	**12 52 03.0**	**+0.3**
FUSB				S	**Sn**	**12 52 17.5**	**-1.5**
ENTT	**Nioudou**	**0.92**	**266**	*e*P	**Pn**	**12 52 03.7**	**+0.9**
ENTT				S	**Sn**	**12 52 18.7**	**-0.5**
LATG	**Datong**	**0.97**	**260**	*e*P	**Pn**	**12 52 04.2**	**+0.8**
LATG				*e*S	**Sn**	**12 52 20.2**	**-0.1**
NWLT	**Wulai**	**0.98**	**274**	*i* P	**Pn**	**12 52 03.7**	**+0.3**
NWLT				*e*S	**Sn**	**12 52 18.9**	**-1.3**
YM01	**YM01**	**1.01**	**296**	P	**Pn**	**12 52 04.3**	**+0.5**
YM01				*i* S	**Sn**	**12 52 19.9**	**-0.9**
YM08	**YM08**	**1.02**	**298**	P	**Pn**	**12 52 04.0**	**+0.3**
YM08				S	**Sn**	**12 52 19.9**	**-0.9**
ZUZH	**Zhuzihu**	**1.04**	**296**	P	**Pn**	**12 52 04.5**	**+0.5**
ZUZH				S	**Sn**	**12 52 20.3**	**-1.0**
NACB	**Ninganchiao**	**1.04**	**240**	P	**Pn**	**12 52 04.1**	**+0.2**
NACB				S	**Sn**	**12 52 20.6**	**-0.6**
YHNB	**Yeheng**	**1.09**	**268**	*i* P	**Pn**	**12 52 05.4**	**+0.8**
YHNB				*i* S	**Sn**	**12 52 21.7**	**-0.6**
NSK	**Sanguang**	**1.11**	**269**	*i* P	**Pn**	**12 52 05.3**	**+0.6**
NSK				*i* S	**Sn**	**12 52 22.0**	**-0.6**
IRIF	**Iriomote-Funau**	**1.11**	**109**	P	**Pn**	**12 52 05.1**	**+0.5**
IRIF				*e*S	**Sn**	**12 52 22.0**	**-0.4**
ETLH	**Xiulin Townshi**	**1.12**	**244**	*e*P	**Pn**	**12 52 05.0**	**+0.2**
ETLH				S	**Sn**	**12 52 21.4**	**-1.3**
NNSB	**Datong**	**1.12**	**256**	P	**Pn**	**12 52 05.6**	**+0.7**
NNSB				*i* S	**Sn**	**12 52 22.2**	**-0.7**
NNSH	**Datong**	**1.12**	**256**	P	**Pn**	**12 52 05.2**	**+0.3**
NNSH				S	**Sn**	**12 52 22.0**	**-0.9**
NNS	**Nan Shan**	**1.13**	**257**	*e*P	**Pn**	**12 52 05.5**	**+0.6**
NNS				*e*S	**Sn**	**12 52 22.3**	**-0.7**
ETM	**Tongmen**	**1.23**	**233**	P	**Pn**	**12 52 06.2**	**+0.3**
ETM				S	**Sn**	**12 52 23.7**	**-1.0**
LXIB	**Xiulin Townshi**	**1.26**	**237**	*i* P	**Pn**	**12 52 06.4**	**0.0**
LXIB				*i* S	**Sn**	**12 52 24.4**	**-1.2**
KSHI	**Guanxi Townshi**	**1.28**	**273**	P	**Pn**	**12 52 07.4**	**+1.0**
KSHI				*e*S	**Sn**	**12 52 26.0**	**+0.5**
FUSS	**Fushou**	**1.30**	**250**	P	**Pn**	**12 52 07.1**	**+0.2**
FUSS				S	**Sn**	**12 52 25.6**	**-0.8**
SHUL	**Shoufeng**	**1.30**	**226**	P	**Pn**	**12 52 07.6**	**+0.9**
SHUL				S	**Sn**	**12 52 25.8**	**-0.3**
WHF	**Hehuan Shan**	**1.32**	**245**	*e*P	**Pn**	**12 52 08.2**	**+0.9**
WHF				S	**Sn**	**12 52 26.4**	**-0.8**
NFF	**Wufeng Townshi**	**1.33**	**267**	P	**Pn**	**12 52 07.9**	**+0.9**
NFF				S	**Sn**	**12 52 26.2**	**-0.5**
ESL	**Shilin**	**1.37**	**230**	P	**Pn**	**12 52 08.1**	**+0.6**
ESL				S	**Sn**	**12 52 26.1**	**-1.3**
JKRS	**Kuro-shima**	**1.39**	**109**	P	**Pn**	**12 52 08.8**	**+1.2**
JKRS				S	**Sn**	**12 52 27.9**	**+0.3**
LIOB	**Emei**	**1.42**	**268**	P	**Pn**	**12 52 09.2**	**+1.2**
LIOB				S	**Sn**	**12 52 28.6**	**+0.2**
NSTT	**Nanjuang**	**1.44**	**267**	P	**Pn**	**12 52 08.8**	**+0.7**
NSTT				S	**Sn**	**12 52 28.3**	**-0.3**
JIJ	**Ishigaki jima**	**1.47**	**103**	P	**Pn**	**12 52 09.2**	**+0.7**
JIJ				*e*S	**Sn**	**12 52 28.2**	**-1.0**
WARBT	**Fenglin Townsh**	**1.47**	**228**	*e*P	**Pn**	**12 52 08.3**	**-

KAN10	**Anthony SW Sta**	**1.28**	**360**			Pn		12 53 14.0	-0.8
KAN10						Sn		12 53 32.1	-0.2
DEOK	**Depew**	**1.29**	**89**			Pn		12 53 13.7	-1.1
DEOK	comp=N,286nm,0.2s			IAML				12 53 35.9	
DEOK	comp=E,324nm,0.1s			IAML				12 53 37.7	
KAN01	**Argonia South**	**1.34**	**11**			Pn		12 53 14.8	-0.8
KAN09	**Caldwell North**	**1.35**	**16**			Pn		12 53 15.0	-0.7
KAN08	**Anthony NE Sta**	**1.39**	**4**			Pn		12 53 15.6	-0.7
T35A	**Sooner Cattle**	**1.67**	**49**			Pn		12 53 20.0	0.0
TUL3	**Leonard**	**1.86**	**87**			Pn		12 53 23.3	+0.5
TUL3				IAmb_Lg				12 53 49.6	
	comp=Z,68nm,0.9s								
SMWD	**Samnorwood**	**1.91**	**248**			Pn		12 53 23.7	+0.3
LOOK	**Love County**	**1.98**	**158**			Pb		12 53 25.6	-1.2
RLO	**Rose Lookout**	**2.50**	**82**			Pn		12 53 32.0	+0.4
Z35A	**Perchaven, San**	**2.59**	**164**			Pn		12 53 33.7	+1.0
Z35A				IAmb_Lg				12 54 13.0	
	comp=Z,28nm,0.8s								
R32A	**Long Quarter,**	**2.63**	**349**	Pn		Pn		12 53 34.0	+0.7
APMT	**Aspermont**	**3.02**	**214**			Pn		12 53 39.5	+0.9
APMT				IAmb_Lg				12 54 28.9	
	comp=Z,29nm,0.9s								
PLPT	**Palo Pinto**	**3.02**	**184**			Pn		12 53 39.9	+1.2
U38A	**Gravette**	**3.05**	**78**			Pn		12 53 39.9	+0.7
U38A				IAmb_Lg				12 54 33.3	
	comp=Z,33nm,0.8s								
AMTX	**Amarillo**	**3.09**	**253**			Pn		12 53 40.5	+0.8
AMTX				IAmb_Lg				12 54 25.8	
	comp=Z,54nm,0.8s								
DKNS	**Dickens**	**3.19**	**228**			Pn		12 53 42.2	+1.2
DKNS				IAmb_Lg				12 54 37.9	
	comp=Z,48nm,0.9s								
CBKS	**Cedar Bluff**	**3.25**	**337**	Pn		Pn		12 53 42.6	+0.8
CBKS				IAmb_Lg				12 54 39.0	
	comp=Z,47nm,1.0s								
HHAR	**Hobbs**	**3.39**	**81**	IAmb_Lg				12 54 46.5	
	comp=Z,23nm,0.7s								
KSU1	**Kansas State U**	**3.46**	**19**	IAmb_Lg				12 54 46.5	
	comp=Z,34nm,0.8s								
TREL	**Terrell**	**3.51**	**151**	IAmb_Lg				12 54 47.0	
	comp=Z,35nm,0.9s								
SN07	**Snyder 07**	**3.59**	**221**	IAmb_Lg				12 54 51.7	
	comp=Z,24nm,0.7s								
SN05	**Snyder 5**	**3.75**	**219**	IAmb_Lg				12 54 54.8	
	comp=Z,48nm,0.8s								
RTBA	**Rita Blanca**	**3.81**	**280**			Pn		12 53 50.4	+0.8
MIAR	**Mount Ida**	**3.91**	**108**			Pn		12 53 51.8	+1.0
MIAR				IAmb_Lg				12 55 03.9	
	comp=Z,38nm,0.8s								
POST	**Post**	**3.95**	**227**	Pn		Pn		12 53 52.4	+1.0
POST				IAmb_Lg				12 55 01.6	
	comp=Z,42nm,0.8s								
MSTX	**Muleshoe**	**4.28**	**246**	Pn		Pn		12 53 56.8	+0.8
X40A	**Basin Creek Fa**	**4.51**	**106**	Pn		Pn		12 54 00.0	+0.9
X40A				IAmb_Lg				12 55 14.8	
	comp=Z,32nm,0.7s								
BRDY	**Brady**	**4.60**	**190**	Pn		Pn		12 54 01.4	+1.0
WLAR	**White Oak Lake**	**4.62**	**116**	IAmb_Lg				12 55 19.2	
	comp=Z,21nm,0.8s								
SGCY	**Sterling City**	**4.66**	**214**	IAmb_Lg				12 55 29.9	
	comp=Z,35nm,0.9s								
WHAR	**Wooly Hollow**	**4.76**	**95**	Pn		Pn		12 54 03.1	+0.6
WHAR				IAmb_Lg				12 55 25.2	
	comp=Z,18nm,0.8s								
KSCO	**Kaye Shedlock'**	**4.81**	**313**	Pn		Pn		12 54 03.9	+0.5
KSCO				IAmb_Lg				12 55 36.5	
	comp=Z,35nm,0.8s								
UALR	**University of**	**4.81**	**101**	Pn		Pn		12 54 04.3	+1.0
UALR				IAmb_Lg				12 55 32.7	
	comp=Z,18nm,0.7s								
MGMO	**Mountain Grove**	**4.87**	**73**	IAmb_Lg				12 55 29.1	
	comp=Z,20nm,0.9s								
435B	**Jarrell**	**5.06**	**175**	IAmb_Lg				12 55 39.2	
	comp=Z,22nm,0.7s								
P38A	**Dawn**	**5.23**	**42**	Pn		Pn		12 54 08.9	0.0
P38A				IAmb_Lg				12 55 45.8	
	comp=Z,21nm,0.9s								
R40A	**Maddies Statio**	**5.26**	**61**	IAmb_Lg				12 55 49.6	
	comp=Z,22nm,0.7s								
T25A	**Trinidad**	**5.26**	**286**	Pn		Pn		12 54 10.1	+0.5
T25A				IAmb_Lg				12 55 41.3	
	comp=Z,27nm,0.8s								
CCAR	**Cane Creek**	**5.53**	**108**	IAmb_Lg				12 55 53.5	
	comp=Z,29nm,0.8s								
BGNE	**Belgrade**	**5.56**	**359**	IAmb_Lg				12 55 57.2	
	comp=Z,25nm,0.8s								
LCAR	**Lake Charles**	**5.63**	**86**	IAmb_Lg				12 56 01.6	
	comp=Z,14nm,0.9s								
OGNE	**Ogallala**	**5.97**	**330**	Pn		Pn		12 54 19.8	+0.6
143A	**Socs Landing,**	**6.35**	**118**	IAmb_Lg				12 56 24.5	
	comp=Z,17nm,0.7s								
Q24A	**Divide**	**6.43**	**301**	IAmb_Lg				12 56 16.6	
	comp=Z,16nm,0.8s								
FVM	**French Village**	**6.50**	**68**	Pn		Pn		12 54 26.5	+0.1
FVM				IAmb_Lg				12 56 16.5	
	comp=Z,20nm,0.9s								
EF04	**Eagle Ford 04**	**6.61**	**178**	IAmb_Lg				12 56 24.7	
	comp=Z,20nm,0.7s								
SAND	**Sanderson**	**6.78**	**211**	Pn		Pn		12 54 31.0	+0.7
SLM	**Saint Louis**	**6.86**	**64**	IAmb_Lg				12 56 27.3	
	comp=Z,25nm,0.8s								
K30B	**Basset**	**6.93**	**351**	Pn		Pn		12 54 32.9	+0.5
CGM3	**Cape Girardeau**	**6.94**	**75**	IAmb_Lg				12 56 33.3	
	comp=Z,15nm,1.0s								
ISCO	**Idaho Springs**	**7.15**	**306**	IAmb_Lg				12 56 42.6	
	comp=Z,9.0nm,0.8s								
S44A	**Carbondale**	**7.33**	**73**	IAmb_Lg				12 56 45.5	
	comp=Z,19nm,0.7s								
MNTX	**Cornudas Mount**	**7.34**	**238**	IAmb_Lg				12 56 58.5	
	comp=Z,9.8nm,0.8s								
Y22D	**IRIS PASSCAL I**	**7.46**	**259**	IAmb_Lg				12 57 02.1	
	comp=Z,19nm,0.8s								
Y22A	**Socorro**	**7.54**	**258**	IAmb_Lg				12 56 59.4	
	comp=Z,8.2nm,1.0s								
833A	**Chaparral WMA,**	**7.57**	**189**	IAmb_Lg				12 57 02.5	
	comp=Z,9.6nm,0.8s								
ECSD	**EROS Data Cent**	**7.97**	**8**	Pn		Pn		12 54 46.8	+0.2
SUSD	**Miller**	**8.62**	**356**	IAmb_Lg				12 57 34.9	
	comp=Z,9.0nm,0.8s								
RSSD	**Black Hills**	**9.45**	**333**	IAmb_Lg				12 58 08.0	
	comp=Z,5.9nm,0.8s								
I40A	**Norwalk**	**9.88**	**33**	IAmb_Lg				12 58 27.6	
	comp=Z,14nm,1.1s								

DJA ***27*** *12:59:01.8±2.1,3˚S±15˚×13˚8E±1˚2, h10km, M3.9/3, MLv3.9/3*
IDC ***27*** *12:59:07.2±0.9,2˚.59S×138˚.62E, h0km, mb3.6/5, mbtmp3.6/8, ML3.4/3, MS3.1/2, Error ellipse: s-maj=21.9km s-min=15.8km az=175.0*

ISC 27 12:59:11.4±0.8,**2˚.62S**±0˚.08×**138˚.41E**±0˚.08,**h32km**,**n13**, **σ2s09/15**,**mb3.7/6**,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.69**	**26**	P		P	**Pn**	**12 59 21.1**	**-3.9**
GENI	**Genyem**	**1.76**	**89**	P		P	**Pn**	**12 59 37.7**	**-2.0**
GENI				S		S	**Sb**	**13 00 06.3**	**+1.5**
JAY	**Jayapura**	**2.30**	**88**	Pn		Pn	**Pn**	**12 59 44.5**	**-2.6**
	7.3nm,0.3s,baz=262,slow=14,SNR=27								
JAY				Lg		Lg		13 00 13.1	
	7.2nm,0.3s,baz=112,slow=22,SNR=4.6 26nm,0.5s								
JAY	**Jayapura**	**2.30**	**88**	P		P	**Pn**	**12 59 46.3**	**-0.8**
DAV	**Davao City (W)**	**16.01**	**307**	LR		LR		13 08 43.6	
	comp=Z,28nm,19.0s,baz=154,slow=36								
WRA	**Warramunga Arr**	**17.67**	**193**	P		P	**Pn**	**13 03 15.5**	**+0.3**
	0.3nm,0.3s,baz=17,slow=12,SNR=15								
WRA				S			**Sn**	**13 06 29.1**	**-2.2**
	0.5nm,0.7s,baz=0.2,slow=24,SNR=2.4 0.6nm,0.4s								
FITZ	**Fitzroy Crossi**	**19.84**	**218**	P		P	**Pn**	**13 03 41.5**	**+0.1**
	baz=48,slow=12,SNR=1.8 1.4nm,1.1s								
ASAR	**Alice Springs**	**21.38**	**191**	P		P	**P**	**13 03 57.1**	**+0.7**
	1.1nm,0.7s,baz=18,slow=9.5,SNR=13								
ASAR				S			**S**	**13 07 49.3**	**-2.9**
	0.2nm,0.6s,baz=17,slow=23,SNR=2.3 1.1nm,0.7s								
MKAR	**Makanchi Array**	**69.53**	**322**	P		P	**P**	**13 10 18.2**	**+1.1**
	0.5nm,1.0s,baz=123,slow=5.3,SNR=4.0								
MKAR				LR		LR		13 42 13.4	
	comp=Z,26nm,19.8s,baz=14,slow=37 0.5nm,1.0s								

KURBB	**Kurchatov Arra**	**73.48**	**325**	P		P		**13 10 42.1**	**+1.4**
	4.8nm,0.2s,baz=106,slow=6.8,SNR=4.8								
BVAR	**Borovoye Array**	**79.06**	**325**	P		P		**13 11 15.1**	**+2.6**
	0.5nm,0.5s,baz=115,slow=9.7,SNR=3.0 0.5nm,0.5s								
ILAR	**Eielson Array**	**85.87**	**24**	P		P		**13 11 47.6**	**-0.2**
	0.2nm,0.7s,baz=256,slow=4.7,SNR=2.6 0.2nm,0.7s								
QSPA	**South Pole Qui**	**87.33**	**180**	P		P		**13 11 55.7**	**+0.7**
	1.1nm,0.8s,baz=326,slow=3.6,SNR=2.3 1.1nm,0.8s								

AEIC ***27*** *13:03:08.2±1.5,52˚.73N±0˚.09×168˚.1W±0˚.1, h22km±9km, Error ellipse: s-maj=13.9km s-min=9.5km az=207.0*
IDC ***27*** *13:03:08.5±3.0,52˚.86N×168˚.08W, h41km±26km, mb3.7/20, mbtmp3.9/23, ML3.7/3, MS3.1/11, Error ellipse: s-maj=24.0km s-min=13.8km az=163.0*
NEIC ***27*** *13:03:10.0±1.9,52˚.82N±0˚.07×168˚.1W±0˚.1, h40km±16km, mb3.8/51, ML4.0/20, ML3.9(AEIC), Error ellipse: s-maj=10.8km s-min=8.8km az=139.0*

ISC 27 13:03:07.1±0.6,**52˚.68N**±0˚.06×**167˚.99W**±0˚.05,**h31km**, **n156**,**σ2s05/137**,**mb4.0/23**,**MS3.2/10**,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKSP	**Okmok Steeple**	**0.60**	**342**				**Pn**	**13 03 19.5**	**0.0**
NIKH	**Nikolski High**	**0.60**	**299**				**Pn**	**13 03 18.8**	**-0.7**
NIKH				IAML				13 03 26.8	
	comp=E,8μm,0.6s								
NIKH				IAML				13 03 27.6	
	comp=N,10μm,0.6s								
NIKH	**Nikolski High**	**0.60**	**299**				**Sn**	**13 03 26.5**	**-1.7**
NIKH	**Nikolski High**	**0.60**	**299**	P			**Pn**	**13 03 18.9**	**-0.6**
OKTU	**Okmok Mt. Tuli**	**0.70**	**357**				**Pn**	**13 03 21.5**	**+0.6**
OKFG	**Magazine Ridge**	**0.73**	**3**				**Pn**	**13 03 21.8**	**+0.6**
OKFG							**Sn**	**13 03 31.7**	**+0.3**
OKCE	**Okmok Cone E**	**0.75**	**352**				**Pn**	**13 03 22.0**	**+0.5**
OKCE							**Sn**	**13 03 32.6**	**+0.7**
OKER	**Okmok East Rim**	**0.77**	**357**				**Pb**	**13 03 22.5**	**+0.4**
OKNC	**Okmok New Cone**	**0.78**	**354**				**Pb**	**13 03 22.8**	**+0.6**
OKNC							**Sn**	**13 03 33.5**	**+0.9**
MAPS	**Pakushin South**	**1.29**	**29**				**Pb**	**13 03 30.1**	**-0.7**
MGOD	**Makushin Gods**	**1.30**	**31**				**Pb**	**13 03 30.2**	**-0.7**
MGOD							**Sb**	**13 03 46.5**	**-0.7**
UNV	**Unalaska Valle**	**1.47**	**37**				**Pb**	**13 03 32.9**	**-0.7**
UNV				IAML				13 03 54.2	
	comp=E,2μm,0.5s								
UNV				IAML				13 03 54.3	
	comp=N,2μm,0.4s								
MTBL	**Makushin Table**	**1.51**	**31**				**Sb**	**13 03 52.7**	**-0.5**
LVA	**Lava Point**	**1.89**	**37**				**Pb**	**13 03 40.5**	**-0.4**
LVA				IAML				13 04 14.7	
	comp=E,2μm,0.5s								
LVA	**Lava Point**	**1.89**	**37**				**Sb**	**13 04 03.4**	**-0.6**
AKGG	**Akutan Green G**	**1.93**	**37**				**Pb**	**13 03 40.8**	**-0.8**
AKUT	**Akutan**	**1.97**	**41**				**Pb**	**13 03 40.6**	**-1.6**
AKUT				IAML				13 04 14.8	
	comp=N,1μm,0.8s								
AKUT	**Akutan**	**1.97**	**41**	P			**Pb**	**13 03 40.6**	**-1.6**
ISNN	**Isanotski Nort**	**3.30**	**48**				**Pn**	**13 03 59.0**	**+2.5**
FALS	**False Pass**	**3.48**	**49**	P			**Pn**	**13 04 02.9**	**+4.0**
ATKA	**Atka Island**	**3.83**	**265**				**Pn**	**13 04 05.9**	**+2.1**
ATKA	**Atka Island**	**3.83**	**265**	P			**Pn**	**13 04 05.7**	**+1.9**
ATKA	**Atka Island**	**3.83**	**265**	S			**Sn**	**13 04 50.6**	**+2.9**
P08K	**Saint George I**	**4.03**	**348**				**Pn**	**13 04 09.3**	**+2.8**
SPIA	**Saint Paul Isl**	**4.69**	**345**				**Pn**	**13 04 17.6**	**+2.0**
SPIA				IAML				13 05 14.2	
	comp=N,168nm,0.8s								
SPIA				IAML				13 05 15.8	
	comp=E,201nm,0.7s								
SPIA	**Saint Paul Isl**	**4.69**	**345**	P			**Pn**	**13 04 17.5**	**+2.0**
GSTR	**Great Sitkin T**	**4.98**	**266**				**Pn**	**13 04 22.2**	**+2.5**
GSTD	**Great Sitkin T**	**5.04**	**266**				**Pn**	**13 04 22.6**	**+2.1**
SDPT	**Sand Point**	**5.17**	**56**				**Pn**	**13 04 25.0**	**+2.8**
SDPT				IAML				13 05 46.9	
	comp=N,151nm,1.0s								
SDPT				IAML				13 05 56.4	
	comp=E,102nm,0.7s								
SDPT	**Sand Point**	**5.17**	**56**	P			**Pn**	**13 04 25.8**	**+3.6**
ADK	**Adak**	**5.40**	**265**				**Pn**	**13 04 27.5**	**+2.1**
ADK	**Adak**	**5.40**	**265**	P			**Pn**	**13 04 27.8**	**+2.4**
CNBA	**Chernabura Isl**	**5.42**	**63**	Pn			**Pn**	**13 04 28.7**	**+3.0**
CHNA	**Chernabura Isl**	**5.43**	**63**	P			**Pn**	**13 04 29.3**	**+3.6**
KIWB	**Kanaga Island**	**5.69**	**265**				**Pn**	**13 04 31.8**	**+2.4**
KIKV	**Kanaga Island**	**5.70**	**266**				**Pn**	**13 04 31.6**	**+2.1**
KIMD	**Kanaga Island**	**5.76**	**264**				**Pn**	**13 04 32.2**	**+1.9**
O14K	**Tigyukauivet M**	**7.59**	**27**				**Pn**	**13 04 58.0**	**+2.7**
CEAP	**Semis' Anvil P**	**7.65**	**270**				**Pn**	**13 04 58.5**	**+2.3**
M11K	**Mekoryuk**	**7.79**	**7**	Pn			**Pn**	**13 05 01.1**	**+3.0**
AMKA	**Amchitka**	**7.95**	**266**				**Pn**	**13 05 01.8**	**+1.5**
O15K	**Ungalikthiuk R**	**7.96**	**32**	Pn			**Pn**	**13 05 03.9**	**+3.5**
N14K	**Kuskokwak Cree**	**8.06**	**23**	Pn			**Pn**	**13 05 05.2**	**+3.4**
M13K	**Dall Lake**	**8.16**	**16**	Pn			**Pn**	**13 05 07.0**	**+3.8**
LSSE	**Little Sitkin**	**8.28**	**270**				**Pn**	**13 05 07.7**	**+2.8**
LSNW	**Little Sitkin**	**8.30**	**270**				**Pn**	**13 05 07.9**	**+2.7**
P16K	**Nushagak River**	**8.48**	**37**	Pn			**Pn**	**13 05 11.7**	**+4.1**
N15K	**Kwethluk River**	**8.68**	**27**				**Pn**	**13 05 14.5**	**+4.2**
M14K	**Bethel**	**8.74**	**20**				**Pn**	**13 05 14.3**	**+3.2**
O16K	**Kokwok River B**	**8.85**	**35**				**Pn**	**13 05 16.2**	**+3.6**
L14K	**Kuka Creek**	**9.15**	**16**	Pn			**Pn**	**13 05 19.6**	**+2.9**
K13K	**Kusilvak Mount**	**9.45**	**10**	Pn			**Pn**	**13 05 24.1**	**+3.3**
OHAK	**Old Harbor**	**9.60**	**56**	P			**Pn**	**13 05 25.6**	**+2.8**
M16K	**Timber Creek**	**9.70**	**27**	Pn			**Pn**	**13 05 27.4**	**+3.0**
N17K	**Nushagak Hills**	**9.85**	**33**				**Pn**	**13 05 30.7**	**+4.4**
O18K	**Koktuh Hills**	**10.09**	**40**				Pn	13 05 34.7	+5.0
KDAK	**Kodiak Island**	**10.16**	**54**	Pn			**Pn**	**13 05 32.6**	**+2.0**
KDAK	**Kodiak Island**	**10.16**	**54**	P			**Pn**	**13 05 31.0**	**+0.4**
	comp=E,0.8nm,0.3s,baz=174,slow=1.6,SNR=13								
KDAK						S	**Sn**	**13 07 23.6**	**+0.2**
	comp=E,3.6nm,0.6s,baz=73,slow=19,SNR=1.4 comp=E,3.5nm,0.8s								
K15K	**Wolf Creek Mou**	**10.24**	**17**				**Pn**	**13 05 34.9**	**+3.3**
SYI	**Shuyak Island**	**10.61**	**50**	Pn			**Pn**	**13 05 39.0**	**+2.2**
SHEM	**Shemya Is, Ala**	**10.87**	**277**	P			**Pn**	**13 05 40.6**	**+0.3**
	comp=E,1.4nm,0.3s,baz=66,slow=12,SNR=1.7								
SHEM				LR		LR		13 09 29.6	
	comp=E,66nm,20.0s,baz=150,slow=35 comp=E,13nm,0.8s								
J16K	**Anvik River**	**11.32**	**17**	Pn			**Pn**	**13 05 49.5**	**+3.1**
J17K	**VABM Dome**	**11.72**	**20**				**Pn**	**13 05 55.2**	**+3.3**
L19K	**White Mountain**	**11.84**	**31**	Pn			**Pn**	**13 05 57.2**	**+3.7**
SEW	**Seward**	**12.64**	**47**	Pn			**Pn**	**13 06 06.7**	**+2.3**
PWL	**Port Wells**	**13.49**	**45**	Pn			**Pn**	**13 06 18.4**	**+2.4**
HIN	**Hinchinbrook I**	**14.09**	**48**	Pn			**Pn**	**13 06 25.8**	**+1.5**
SCM	**Sheep Creek Mo**	**14.39**	**42**	Pn			**Pn**	**13 06 30.0**	**+1.6**
BPAW	**Bear Paw Mtn.**	**14.44**	**31**				**P**	**13 06 32.9**	**-2.6**
EYAK	**Cordova Ski Ar**	**14.49**	**48**	Pn			**Pn**	**13 06 31.5**	**+1.7**
KLU	**Klutina**	**14.82**	**45**	Pn			**Pn**	**13 06 35.6**	**+1.4**
M24K	**Tolsona, Glenn**	**15.00**	**42**	Pn			**Pn**	**13 06 38.7**	**+2.1**
MLY	**Manley**	**15.18**	**29**				**P**	**13 06 41.7**	**-2.0**
MLY				IAmb		IAmb		13 06 49.6	
	comp=Z,3.3nm,0.7s								
GLB	**Gilahina Butte**	**15.72**	**47**	Pn		P		**13 06 48.7**	**-1.0**
CCB	**Clear Creek Bu**	**15.84**	**33**	Pn		Pn		**13 06 48.4**	**+1.1**
COLA	**College**	**15.97**	**32**	Pn		P		**13 06 51.2**	**-1.1**
H23K	**Yukon River**	**16.10**	**28**	P		P		**13 06 56.1**	**+2.2**
H23K				IAmb		IAmb		13 07 22.4	
	comp=Z,7.4nm,1.2s								
F21K	**Alatna River**	**16.22**	**20**	P		P		**13 06 58.5**	**+3.3**
F21K				IAmb		IAmb		13 07 00.0	
	comp=Z,7.1nm,1.4s								
IL31		**16.22**	**34**	Pn		P		**13 06 54.1**	**-1.0**
ILAR	**Eielson Array**	**16.22**	**34**	P		P		**13 06 52.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=229,slow=10.0,SNR=8.4 comp=Z,0.4nm,0.7s								
YAH	**Yahtse**	**16.30**	**52**	Pn		Pn		**13 06 55.2**	**+1.6**
YAH				IAmb		IAmb		13 07 05.3	
	comp=Z,10nm,0.8s								
GRNC	**Granite Creek**	**16.41**	**50**	P		P		**13 07 01.8**	**+4.3**
GRNC				IAmb		IAmb		13 07 02.2	
	comp=Z,7.0nm,0.6s								
H24K	**Noodor Dome**	**16.60**	**30**	P		P		**13 07 01.8**	**+2.4**
J25K	**Salcha River,**	**16.65**	**35**			P		**13 07 03.1**	**+3.2**
CTGM	**Chitina Glacie**	**16.67**	**50**	P		P		**13 07 05.2**	**+4.8**
CTGM				IAmb		IAmb		13 07 29.9	
	comp=Z,5.4nm,0.9s								
SCRK	**Sand Creek**	**16.80**	**38**	Pn		P		**13 07 01.4**	**-0.4**
M27K	**Edge Creek, AK**	**16.92**	**45**	IAmb		IAmb		13 07 40.6	
	comp=Z,5.1nm,0.9s								
D20K	**Etivluk River**	**16.96**	**14**	Pn		P		**13 07 02.8**	**-0.6**
D20K				IAmb		IAmb		13 07 35.1	

	comp=Z,18nm,1.4s								
O28M	**Mount Upton**	**17.15**	**51**	IAmb		IAmb		13 07 12.3	
	comp=Z,7.6nm,1.2s								
L27K	**Beaver Creek,**	**17.23**	**43**	P		P		**13 07 09.1**	**+2.7**
J26L	**Joseph Creek**	**17.24**	**37**	IAmb		IAmb		13 07 19.5	
	comp=Z,4.2nm,0.8s								
G24K	**Hadweenzic Riv**	**17.32**	**28**	P		P		**13 07 10.4**	**+3.1**
G24K				IAmb		IAmb		13 07 24.0	
	comp=Z,7.4nm,1.2s								
I26K	**Coal Creek Min**	**17.82**	**35**	P		P		**13 07 13.0**	**+0.2**
B21K	**Ikpikpuk River**	**18.10**	**15**	Pn		Pn		**13 07 15.0**	**-0.7**
TOLK	**Toolik Lake Re**	**18.23**	**22**			P		**13 07 18.6**	**+1.2**
TOLK				IAmb		IAmb		13 07 39.1	
	comp=Z,8.8nm,1.2s								
HYT	**Haines Junctio**	**18.44**	**52**			Pn		**13 07 22.0**	**+1.9**
HYT				IAmb		IAmb		13 07 28.0	
	comp=Z,7.7nm,0.7s								
G26K	**Porcupine Rive**	**18.58**	**30**	P		Pn		**13 07 21.7**	**+0.1**
G26K				IAmb		IAmb		13 07 46.7	
	comp=Z,7.1nm,1.4s								
BMAR	**Burnt Mountain**	**18.65**	**29**	P		Pn		**13 07 24.6**	**+2.2**
N30M	**Aishikik Lake**	**18.79**	**50**	IAmb		IAmb		13 07 45.9	
	comp=Z,4.4nm,0.8s								
L29M	**L29M**	**18.80**	**45**	IAmb		IAmb		13 07 44.8	
	comp=Z,4.4nm,0.8s								
H27K	**Steamboat Moun**	**18.89**	**34**	P		Pn		**13 07 26.1**	**+0.7**
H27K				IAmb		IAmb		13 07 40.9	
	comp=Z,5.3nm,1.2s								
C23K	**Itkillik River**	**18.99**	**19**	P		Pn		**13 07 26.6**	**+0.1**
O30N	**Mendenhall**	**19.11**	**52**	IAmb		IAmb		13 07 34.4	
	comp=Z,6.3nm,0.7s								
G27K	**Doyon Strip**	**19.17**	**32**	P		P		**13 07 27.6**	**-0.1**
C24K	**Franklin Bluff**	**19.28**	**20**	P		P		**13 07 28.0**	**-0.8**
K29M	**Barlow Dome**	**19.31**	**43**	P		Pn		**13 07 31.2**	**+0.6**
H29M	**Whitestone**	**19.98**	**36**			P		**13 07 37.0**	**+0.4**
H29M				IAmb		IAmb		13 07 50.2	
	comp=Z,6.3nm,0.8s								
E27K	**Coleen River**	**20.01**	**29**	P		P		**13 07 35.9**	**-0.9**
E27K				IAmb		IAmb		13 08 08.4	
	comp=Z,13nm,1.4s								
F28M	**Old Crow**	**20.20**	**32**	P		P		**13 07 39.4**	**+0.5**
F28M				IAmb		IAmb		13 08 10.2	
	comp=Z,3.3nm,0.8s								
M31M	**Drury Creek, Y**	**20.20**	**49**	P		Pn		13 07 40.5	-0.5
M31M				IAmb		IAmb		13 08 06.7	
	comp=Z,5.4nm,0.8s								
I30M	**Mount Dempster**	**20.29**	**40**			P		**13 07 40.4**	**+0.4**
I30M				IAmb		IAmb		13 07 45.9	
	comp=Z,4.1nm,1.2s								
G29M	**Pine Creek**	**20.44**	**34**			P		**13 07 42.3**	**+0.8**
PEA0B	**Petropavlovsk-**	**20.60**	**285**	P		P		**13 07 41.2**	**-2.1**
PETK	**Petropavlovsk-**	**20.60**	**285**	P		P		**13 07 42.4**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=85,slow=14,SNR=13								
PETK				LR		LR		13 15 38.6	
	comp=Z,38nm,21.2s,baz=76,slow=37 comp=Z,1.6nm,0.5s								
N32M	**Quiet Lake**	**20.62**	**52**	P		P		**13 07 44.6**	**+1.1**
EPYK	**Eagle Plains**	**20.65**	**36**	P		P		**13 07 43.8**	**+0.1**
D27M	**Malcolm River**	**20.85**	**27**	P		P		**13 07 45.7**	**-0.2**
H31M	**Peel

mbtmp3.4/4,ML3.3/1,Error ellipse: s-maj=120.2km s-min=25.3km az=68.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.07**	**181**	P	P	13 19 02.2	+0.2
	0.1nm,0.3s,baz=0.0,slow=11,SNR=1.8 1.2nm,0.8s						
WRA	**Warramunga Arr**	**21.51**	**158**	P	P	13 19 39.9	+0.2
	0.6nm,0.6s,baz=335,slow=10,SNR=4.9 0.6nm,0.6s						
ASAR	**Alice Springs**	**24.82**	**163**	P	P	13 20 12.7	-0.4
	0.4nm,0.6s,baz=344,slow=7.5,SNR=23 0.4nm,0.6s						
MKAR	**Makanchi Array**	**60.15**	**327**	P	P	13 24 58.4	0.0
	0.2nm,0.3s,baz=127,slow=6.6,SNR=5.1 0.2nm,0.3s						

*NOU **27** 13:33:45.5,43.78S×172.80E,h0km,MLv3.9/8,South Island, New Zealand*
*WEL **27** 13:33:47.8±0.3,44.3S×172.3E±,h5km,M3.4/8,ML3.7/8, MLv3.4/8,Error ellipse: s-maj=3.9km s-min=2.7km az=169.4,confirmed*
ISC 27 13:33:47.7±0.9,43.63S±0.03×172.60E±0.03,h9km±6km, n34,σ0.977/39,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUNS	**Huntsbury**	**0.06**	**41**	P	**Pg**	**13 33 49.1**	**-0.5**
MQZ	**McQueen's Vall**	**0.09**	**154**	P	**Pg**	**13 33 50.3**	**+0.3**
MQZ				S	**Sg**	**13 33 52.1**	**+0.6**
DHSS	**Diamond Harbou**	**0.09**	**92**	P	**Pg**	**13 33 50.2**	**+0.2**
MENS	**Menlo Terrace**	**0.11**	**50**	P	**Pg**	**13 33 50.3**	**+0.1**
MENS				S	**Sg**	**13 33 52.1**	**+0.1**
RCBS	**Redcliffs Bore**	**0.12**	**54**	P	**Pg**	**13 33 50.6**	**+0.2**
RCBS				S	**Sg**	**13 33 52.5**	**+0.2**
SUMS	**Sumner**	**0.13**	**63**	P	**Pg**	**13 33 50.8**	**+0.2**
SUMS				S	**Sg**	**13 33 53.0**	**+0.5**
MNZS	**Menzies Bay Ba**	**0.27**	**92**	P	**Pg**	**13 33 53.9**	**+0.8**
DSLC	**Dunsandel Scho**	**0.29**	**262**	P	**Pg**	**13 33 54.1**	**+0.5**
AKSS	**Akaroa School**	**0.32**	**125**	P	**Pg**	**13 33 54.7**	**+0.7**
AKCZ	**Akaroa Harbour**	**0.33**	**138**	P	**Pg**	**13 33 55.1**	**+0.8**
OKCZ	**Okains Bay**	**0.35**	**106**	P	**Pb**	**13 33 55.4**	**-0.7**
RACZ	**Rakaia**	**0.35**	**253**	P	**Pg**	**13 33 55.1**	**+0.5**
SMHS	**Summerhill**	**0.41**	**332**	P	**Pg**	**13 33 56.0**	**+0.2**
AMCZ	**Amberley**	**0.45**	**5**	P	**Pg**	**13 33 57.2**	**+0.7**
OXZ	**Oxford**	**0.51**	**306**	P	**Pg**	**13 33 57.3**	**-0.3**
SPRS	**Springfield Vo**	**0.57**	**301**	P	**Pg**	**13 33 58.5**	**-0.2**
WACZ	**Wakanui South**	**0.64**	**240**	P	**Pb**	**13 34 00.7**	**-0.2**
WAKC	**Waikari**	**0.67**	**7**	P	**Pg**	**13 34 01.3**	**+0.7**
MTHS	**Methven North**	**0.68**	**275**	P	**Pg**	**13 34 01.3**	**+0.5**
GVZ	**Greta Valley S**	**0.73**	**26**	P	**Pb**	**13 34 02.3**	**-0.3**
CSHS	**Castle Hill**	**0.75**	**302**	P	**Pg**	**13 34 02.1**	**-0.1**
MHCZ	**Mount Hutt**	**0.76**	**277**	P	**Pg**	**13 34 02.5**	**+0.3**
MHCZ				S	**Sg**	**13 34 13.4**	**+1.3**
MAYC	**Mayfield Schoo**	**0.88**	**257**	P	**Pg**	**13 34 04.9**	**+0.4**
LTZ	**Lake Taylor**	**0.88**	**344**	P	**Pg**	**13 34 04.8**	**+0.2**
CECS	**Cheviot Emerge**	**0.95**	**31**	P	**Pb**	**13 34 06.4**	**0.0**
ARCZ	**Arundel**	**1.08**	**252**	P	**Pg**	**13 34 07.9**	**-0.5**
RPZ	**Rata Peaks**	**1.12**	**265**	P	**Pg**	**13 34 09.1**	**-0.2**
KHZ	**Kahutara**	**1.39**	**30**	P	**Pn**	**13 34 11.9**	**-1.4**
ODZ	**Otahua Downs**	**1.99**	**224**	P	**Pn**	**13 34 20.3**	**-1.3**
JCZ	**Jackson Bay**	**2.79**	**260**	P	**Pn**	**13 34 32.9**	**+0.2**
QRZ	**Quartz Range**	**2.80**	**359**	P	**Pn**	**13 34 31.8**	**-0.9**
BFZ	**Birch Farm**	**4.00**	**44**	P	**Pn**	**13 34 47.2**	**-2.0**
KHEZ	**Kahui Hut**	**4.46**	**14**	P	**Pn**	**13 34 57.0**	**+1.4**
HIZ	**Hauiti**	**5.39**	**19**	P	**Pn**	**13 35 09.9**	**+1.6**

*IDC **27** 13:50:15.3±0.9,0.55S×128.06E,h0km,mb3.8/9, mbtmp3.8/11,ML3.7/2,MS2.8/2,Error ellipse: s-maj=44.8km s-min=15.6km az=75.0*
*NEIC **27** 13:50:18.0±2.5,0.78S±0.07×127.70E±0.09,h10km±1km, mb4.1/11,Error ellipse: s-maj=15.3km s-min=10.4km az=68.0*
*DJA **27** 13:50:21.7±0.3,1.3S±2.2×128.8E±,h10km,M4.1/11,mb4.5/1, MLv3.8/11*
ISC 27 13:50:17.6±0.6,0.76S±0.04×127.69E±0.07,h10km,n42, σ1.882/37,mb4.1/11,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.55**	**348**		**Pb**	**13 50 47.0**	**+0.5**
TNTI	**Ternate**	**1.55**	**348**	P	**Pb**	**13 50 46.9**	**+0.5**
SANI	**Sanana**	**2.13**	**233**	P	**Pg**	**13 50 59.6**	**+1.0**
NLAI	**Namlea**	**2.54**	**194**	P	**Pb**	**13 51 02.1**	**-1.1**
MSAI	**Masohi**	**2.85**	**154**	P	**Pn**	**13 51 05.8**	**+2.6**
SWI	**Sorong**	**3.57**	**92**	P	**Pn**	**13 51 16.7**	**+3.7**
KMSI	**Cibinong**	**3.94**	**290**	P	**Pb**	**13 51 24.7**	**-2.5**
SGSI	**Sangihe**	**4.92**	**334**	P	Pn	13 51 37.8	+6.2
LUWI	**Luwuk**	**4.93**	**267**	P	**Pn**	**13 51 35.3**	**+3.5**
FAKI	**Fak Fak**	**5.03**	**115**	Pn	**Pn**	**13 51 33.6**	**+0.4**
TOLI2	**Tolitoli**	**7.16**	**285**	Pn	**Pn**	**13 52 03.5**	**+1.1**
DAV	**Davao City (W)**	**8.06**	**345**	LR	LR	13 54 36.9	
	comp=Z,22nm,20.1s,baz=138,slow=33						
KAPI	**Kappang**	**8.99**	**242**	Pn	**Pn**	**13 52 28.4**	**+0.9**
KAPI	**Kappang**	**8.99**	**242**	Pn	Pn	13 52 33.3	+5.7
	1.9nm,0.3s,baz=69,slow=8.6,SNR=7.3 5.4nm,0.4s						
MTN	**Manton Dam**	**12.48**	**164**	Pn	**Pn**	**13 53 15.6**	**+0.2**
KKM	**Kota Kinabalu**	**13.30**	**301**	Pn	**Pn**	**13 53 31.1**	**+4.4**
KNRA	**Kununurra**	**14.86**	**176**	Pn	**Pn**	**13 53 47.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**17.35**	**187**	P	**P**	**13 54 21.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**17.35**	**187**	P	**P**	**13 54 21.8**	**+0.4**
	0.1nm,0.3s,baz=14,slow=8.3,SNR=1.7 1.5nm,1.0s						
WB0	**Warramunga Arr**	**20.00**	**161**	P	**P**	**13 54 49.9**	**-0.7**
WB0				IAmb	IAmb	13 55 05.7	
	comp=Z,3.3nm,0.9s						
WRA	**Warramunga Arr**	**20.15**	**162**	P	**P**	**13 54 49.0**	**-3.1**
WRA	**Warramunga Arr**	**20.15**	**162**	P	**P**	**13 54 51.3**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=342,slow=11,SNR=25 comp=Z,0.9nm,0.4s						
AS31	**Alice Springs**	**23.56**	**166**	P	**P**	**13 55 28.3**	**-0.1**
ASAR	**Alice Springs**	**23.56**	**166**	P	**P**	**13 55 28.2**	**-0.2**
	comp=Z,2.0nm,0.4s,baz=344,slow=11,SNR=70 comp=Z,2.0nm,0.4s						
BBOO	**Buckleboo**	**32.84**	**167**	P	**P**	**13 56 51.7**	**+0.1**
STKA	**Stephens Creek**	**33.62**	**158**	P	**P**	**13 56 59.0**	**+0.5**
STKA	**Stephens Creek**	**33.62**	**158**	P	**P**	**13 56 59.4**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=345,slow=12,SNR=2.8 comp=Z,0.7nm,0.5s						
KSRS	**Korea Array**	**38.02**	**0**	P	**P**	**13 57 34.6**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=175,slow=10,SNR=4.1 comp=Z,0.2nm,0.6s						
USA0B	**Ussuriysk Arra**	**44.92**	**4**	P	**P**	**13 58 28.5**	**-4.1**
USA0B				IAmb	IAmb	13 58 33.2	
	comp=Z,4.6nm,0.7s						
USRK	**Ussuriysk Ar.**	**44.92**	**4**	P	P	13 58 28.2	-4.4
EVN	**Everest**	**48.49**	**309**	P	**P**	**13 59 02.4**	**+0.7**
SONM	**Songino Array**	**51.83**	**342**	P	**P**	**13 59 23.2**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=144,slow=8.2,SNR=1.5 comp=Z,0.2nm,0.3s						
MK31	**Makanchi Array**	**61.78**	**326**	P	**P**	**14 00 35.7**	**-0.9**
MK31				IAmb	IAmb	14 00 41.2	
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**61.78**	**326**	P	**P**	**14 00 35.7**	**-0.9**
MKAR	**Makanchi Array**	**61.78**	**326**	P	**P**	**14 00 36.0**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=116,slow=8.1,SNR=13 comp=Z,1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**65.00**	**334**	P	**P**	**14 00 55.8**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=120,slow=8.5,SNR=1.9 comp=Z,0.3nm,0.3s						
SHEM	**Shemya Is, Ala**	**65.86**	**29**	LR	LR	14 25 13.9	
	comp=Z,3nm,19.4s,baz=142,slow=32						
KURBB	**Kurchatov Arra**	**66.02**	**328**	P	**P**	**14 01 03.3**	**-1.2**
	comp=Z,2.5nm,0.9s,baz=124,slow=5.7,SNR=17 comp=Z,2.5nm,0.9s						
KURK	**Kurchatov**	**66.03**	**328**	P	**P**	**14 01 04.0**	**-0.4**
BVAR	**Borovoye Array**	**71.59**	**328**	P	**P**	**14 01 39.9**	**+0.8**
	comp=Z,2.3nm,0.9s,baz=134,slow=6.4,SNR=8.8 comp=Z,2.3nm,0.9s						
AB31	**Akbulak array**	**76.22**	**321**	P	**P**	**14 02 05.4**	**-0.9**
AB31				IAmb	IAmb	14 02 13.2	
	comp=Z,1.6nm,0.9s						
ABKAR	**Akbulak array**	**76.22**	**321**	P	**P**	**14 02 05.5**	**-0.8**

*ISN **27** 14:38:50.9±0.4,32.67N×47.81E,h11km±8km,ML3.1*
*TEH **27** 14:38:51.6,32.69N×47.86E,h8km±28km*
ISC 27 14:38:53.2±1.0,32.67N±0.04×47.81E±0.04,h15km,n26, σ0.999/30,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.85**	**2**	Pg	**Pb**	**14 39 07.6**	**-2.1**
IDOB	**Doab**	**1.16**	**16**	Pg	**Pb**	**14 39 13.6**	**-1.5**
AHWZ	**Ahwaz**	**1.51**	**152**	Pg	**Pb**	**14 39 20.9**	**-0.1**
BDRS	**Dareh Seyedi**	**1.56**	**35**	Pg	**Pn**	**14 39 20.8**	**0.0**
IBDR	**Badra**	**1.64**	**286**	*e*Pn	**Pn**	**14 39 21.5**	**0.0**
IBDR				*e*Sn	**Sb**	**14 39 44.0**	**+0.4**
ILBA	**Ilam Banvizeh**	**1.64**	**306**	Pg	**Pn**	**14 39 21.9**	**+0.3**
RAFI	**Al-Rafai**	**1.72**	**237**	*e*Pn	**Pn**	**14 39 22.5**	**-0.1**
RAFI				*e*Sn	**Sb**	**14 39 46.0**	**+0.1**
RAFI				AML	AML	14 39 60.0	
	comp=N,194nm,0.9s						
RAFI				AML	AML	14 40 26.1	
	comp=E,200nm,0.5s						
KCHF	**Cheshme Sefid,**	**1.72**	**338**	Pg	**Pn**	**14 39 23.9**	**+1.0**
IGHG	**Ghaleghazi**	**1.95**	**328**	Pn	**Pn**	**14 39 27.4**	**+1.3**
GLG1	**Gilan-e-Gharb**	**2.14**	**313**	Pn	**Pn**	**14 39 30.1**	**+1.6**
SNQR	**Sonqor, Kerman**	**2.19**	**356**	Pn	**Pn**	**14 39 30.7**	**+1.4**
IDHR	**Dehrash**	**2.34**	**330**	Pn	**Pn**	**14 39 33.6**	**+2.2**
HAGD	**Aghdareh**	**2.42**	**27**	Pn	**Pn**	**14 39 33.1**	**+0.7**
JHBN	**Jahan bin**	**2.46**	**100**	Pn	**Pn**	**14 39 33.4**	**+0.4**
IPIR	**Pirpir**	**2.60**	**89**	Pn	**Pn**	**14 39 35.7**	**+0.7**
ZNGN	**Zangian**	**2.64**	**101**	Pn	**Pn**	**14 39 36.0**	**+0.5**
BHD	**Baghdad**	**2.94**	**283**	*e*Pn	**Pn**	**14 39 39.5**	**+0.1**
BHD				*e*Sn	**Sn**	**14 40 15.0**	**+0.6**
HGHA	**Hamedan- Ghaye**	**2.94**	**17**	Pn	**Pn**	**14 39 41.0**	**+1.4**
QABG	**Abgarm-Qazvin**	**3.37**	**25**	Pn	**Pn**	**14 39 46.6**	**+1.0**
IGAR	**Gharneh**	**3.59**	**93**	Pn	**Pn**	**14 39 48.7**	**+0.2**
KLNJ	**Kolanjah**	**3.62**	**116**	Pn	**Pn**	**14 39 49.6**	**+0.4**
IZEF	**Zefreh**	**3.82**	**85**	Pn	**Pn**	**14 39 52.6**	**+0.9**
KRSH	**Karshahi**	**3.85**	**69**	Pn	**Pn**	**14 39 52.6**	**+0.5**
IKRK	**Kirkuk**	**3.96**	**314**	*e*Pn	**Pn**	**14 39 54.0**	**+0.5**
IKRK				*e*Sn	**Sn**	**14 40 39.5**	**-0.2**
IKRK				AML	AML	14 40 46.1	
	comp=E,67nm,0.3s						
IKRK				AML	AML	14 41 03.2	
	comp=N,70nm,1.4s						
ISFB	**Sefidab**	**4.07**	**64**	Pn	**Pn**	**14 39 55.7**	**+0.7**
IFIR	**Firoozkooh**	**5.06**	**53**	Pn	**Pn**	**14 40 09.8**	**+1.0**

*ASRS **27** 14:50:11.1±0.3,48.7N±2.2×8.4E±,h9km,MLh3.4/10,Error ellipse: s-maj=5.2km s-min=2.7km az=145.4,confirmed*
ISC 27 14:50:10.2±1.0,47.62N±0.05×84.08E±0.04,h10km,n16, σ1.881/40,1C-1D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**1.47**	**236**	⇑P	**Pn**	**14 50 37.5**	**+0.7**
	19nm,0.3s,baz=61,slow=15,SNR=1608			⇓S			
MK31					**Sn**	**14 50 56.4**	**+0.2**
	61nm,0.5s,baz=67,slow=34,SNR=22						
MAKZ	**Makanchi**	**1.65**	**241**	P	**Pn**	**14 50 40.6**	**+1.4**
	13nm,0.3s						
MAKZ				S	**Sb**	**14 51 02.9**	**+1.4**
	46nm,0.4s						
MAKZ	**Makanchi**	**1.65**	**241**	Pg	**Pn**	**14 50 41.3**	**+2.1**
MAKZ				Sg	**Sb**	**14 51 03.7**	**+2.3**
DGZ	**Jazzator, Alta**	**3.04**	**46**	Pn	**Pb**	**14 51 01.6**	**-2.9**
DGZ				Pg	**Pg**	**14 51 08.6**	**+0.1**
DGZ				Sg	**Sg**	**14 51 50.7**	**+2.8**
CHBI	**Chibit, Altay**	**3.51**	**39**	Pn	**Pn**	**14 51 06.6**	**+1.6**
CHBI				Pg	**Pg**	**14 51 16.0**	**-1.5**
CHBI				S	**Sn**	**14 51 47.5**	**+1.0**
CHBI				Sg	**Sg**	**14 52 01.2**	**-1.8**
AKAR	**Aktash**	**3.57**	**40**	Pn	**Pn**	**14 51 08.9**	**+3.2**
AKAR				Pg	**Pg**	**14 51 17.7**	**-0.8**
AKAR				Sg	**Sg**	**14 52 03.6**	**-1.1**
CUR	**Chagan-Uzun**	**3.75**	**47**	Pg	**Pg**	**14 51 19.9**	**-2.2**
CUR				Sg	**Sg**	**14 52 12.0**	**+1.3**
ELDR	**Elanda**	**3.83**	**19**	Pg	**Pg**	**14 51 23.6**	**+0.1**
ELDR				Sg	**Sg**	**14 52 14.9**	**+1.8**
ULGR	**Ulagan, Altay**	**3.94**	**39**	Pn	**Pn**	**14 51 13.8**	**+3.0**
ULGR				Pg	**Pg**	**14 51 25.9**	**+0.3**
ULGR				Sg	**Sg**	**14 52 16.7**	**0.0**
GALT	**Gorno-Altaysk,**	**4.51**	**15**	Sg	**Sg**	**14 52 37.9**	**+3.1**
ARTR	**Artybash**	**4.67**	**25**	Pn	**Pn**	**14 51 21.8**	**+1.1**
ARTR				S	**Sn**	**14 52 13.5**	**-1.4**
ARTR				Sg	**Sg**	**14 52 40.8**	**+0.8**
KURK	**Kurchatov**	**4.73**	**313**	Pn	**Pn**	**14 51 23.4**	**+1.9**
KURK				Pg	**Pg**	**14 51 36.9**	**-3.9**
KURK				S	**Sn**	**14 52 17.5**	**+1.1**
KURK				Sg	**Sg**	**14 52 41.6**	**-0.4**
YALR	**Yailyu, Altay**	**4.74**	**28**	Pn	**Pn**	**14 51 21.4**	**-0.3**
YALR				S	**Sn**	**14 52 16.4**	**-0.3**
YALR				Sg	**Sg**	**14 52 41.5**	**-0.9**
TEL	**Teeli**	**5.25**	**47**	P	**Pn**	**14 51 28.4**	**-0.4**
TEL				Pg	**Pg**	**14 51 49.9**	**-0.8**
TEL				Sg	**Sg**	**14 52 56.2**	**-2.5**
TASR	**Tashtagol**	**5.69**	**24**	Sg	**Sg**	**14 53 15.0**	**+2.2**
ELT	**Eltsovka**	**5.81**	**13**	S	**Sn**	**14 52 44.4**	**+1.4**
ELT				Sg	**Sg**	**14 53 17.9**	**+1.3**

*DJA **27** 15:23:55.8±0.2,10.5S×123.3E±,h69km±9km,M4.8/31, mb5.0/31,mB5.3/16,MLv5.0/14,Mw(mB)4.7/16*
*IDC **27** 15:23:56.5±0.9,9.98S×123.21E,h56km±8km,mb4.2/15, mbtmp4.5/17,MS3.3/20,Error ellipse: s-maj=19.5km s-min=11.4km az=73.0*
*NEIC **27** 15:23:56.7±2.3,10.22S±0.07×123.19E±0.06,h61km±7km, mb4.7/37,Error ellipse: s-maj=10.3km s-min=8.2km az=214.0*
ISC 27 15:23:55.6±0.3,10.27S±0.04×123.19E±0.05,h50km,n177, σ1.874/160,mb4.6/39,MS3.5/18,4D,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.47**	**83**	P	**Pn**	**15 24 09.1**	**+2.6**
	29μm,0.5s,baz=308,slow=2.5,SNR=4620						
BATI				S	**Sn**	**15 24 19.1**	**+4.8**
	14μm,0.4s,baz=236,slow=22,SNR=9.9						
BATI				LR	LR	15 24 25.7	
	comp=Z,2μm,19.0s,baz=100,slow=59						
BATI	**Baumata**	**0.47**	**83**	P	**Pn**	**15 24 08.3**	**+1.8**
SOEI	**Soe**	**1.17**	**65**		**Pn**	**15 24 17.5**	**+1.7**
SOEI	**Soe**	**1.17**	**65**	P	**Pn**	**15 24 17.5**	**+1.5**
SOEI	**Soe**	**1.17**	**65**	P	**Pn**	**15 24 17.7**	**+1.9**
MMRI	**Maumere**	**1.87**	**330**		**Pn**	**15 24 27.1**	**+1.9**
MMRI	**Maumere**	**1.87**	**330**	P	**Pn**	**15 24 27.3**	**+2.1**
MMRI	**Maumere**	**1.87**	**330**	S	**Sn**	**15 24 50.1**	**+2.4**
MMRI	**Maumere**	**1.87**	**330**	P	**Pn**	**15 24 26.8**	**+1.6**
EDFI	**Ende, Flores**	**2.11**	**315**	P	**Pn**	**15 24 29.9**	**+1.3**
BASI	**Baing, Sumba**	**2.58**	**271**	P	**Pn**	**15 24 37.6**	**+2.8**
WSI	**Waingapu**	**2.91**	**281**	P	**Pn**	**15 24 42.5**	**+3.0**
WBSI	**Waikabubak, Su**	**3.80**	**279**	P	**Pn**	**15 24 53.8**	**+2.2**
BBSI	**Bau Bau**	**4.79**	**353**	P	**Pn**	**15 25 08.1**	**+2.9**
BSSI	**Bau Bau, Buton**	**4.89**	**327**	P	**Pn**	**15 25 08.6**	**+1.9**
	1.7nm4μm456nm,1.2s						
PLAI	**Plampang**	**5.53**	**285**	P	**Pn**	**15 25 18.1**	**+2.7**
PLAI	**Plampang**	**5.53**	**285**	P	**Pn**	**15 25 17.9**	**+2.5**
BKSI	**Bulukumba**	**5.78**	**328**	P	**Pn**	**15 25 21.6**	**+2.8**
	0.6nm2μm176nm,0.8s						
KAPI	**Kappang**	**6.23**	**327**		**Pn**	**15 25 28.8**	**+3.7**
KAPI	**Kappang**	**6.23**	**327**	P	**Pn**	**15 25 28.5**	**+3.4**
	91nm,0.6s,baz=133,slow=9.1,SNR=46						
KAPI	**Kappang**	**6.23**	**327**	P	**Pn**	**15 25 28.2**	**+3.2**
BNSI	**Bone**	**6.58**	**332**	P	**Pn**	**15 25 33.3**	**+3.5**
	0.7nm2μm150nm,0.7s						
SPSI	**Sidrap Palu**	**7.12**	**331**	P	**Pn**	**15 25 38.7**	**+1.5**
	0.2nm827nm57nm,0.8s						
KNRA	**Kununurra**	**7.64**	**135**		**Pn**	**15 25 43.5**	**-0.9**
KNRA	**Kununurra**	**7.64**	**135**	P	**Pn**	**15 25 43.7**	**-0.7**
	comp=Z,1μm,0.5s,comp=Z,3197μm						
TTSI	**Tana Toraja**	**7.92**	**335**	P	**Pn**	**15 25 52.8**	**+4.7**
	comp=Z,721nmcomp=Z,62nm,1.0s						
NLAI	**Namlea**	**7.98**	**29**	P	**Pn**	**15 25 49.8**	**+0.7**
	comp=Z,64nm,0.6s						
FITZ	**Fitzroy Crossi**	**8.14**	**163**		**Pn**	**15 25 51.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**8.14**	**163**	P	**Pn**	**15 25 51.8**	**+0.6**
	comp=Z,8.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**8.14**	**163**	P	**Pn**	**15 25 51.5**	**+0.4**
	comp=Z,15nm,0.4s,baz=348,slow=7.5,SNR=179						
FITZ				S	**Sn**	**15 27 16.2**	**-5.6**
	comp=Z,550nm,0.4s,baz=277,slow=23,SNR=39						
FITZ				LR	LR	15 29 41.0	
	comp=Z,150nm,19.7s,baz=355,slow=41						
FITZ	**Fitzroy Crossi**	**8.14**	**163**	P	**Pn**	**15 25 52.0**	**+0.8**
SRBI	**Singaraja**	**8.17**	**285**	P	**Pn**	**15 25 51.6**	**0.0**
	comp=Z,1μmcomp=Z,70nm,0.8s						
MTN	**Manton Dam**	**8.19**	**109**		**Pn**	**15 25 49.6**	**-2.3**
MTN	**Manton Dam**	**8.19**	**109**	P	**Pn**	**15 25 50.2**	**-1.7**
MTN	**Manton Dam**	**8.19**	**109**	P	**Pn**	**15 25 50.5**	**-1.4**
AAI	**Ambon**	**8.21**	**38**	P	**Pn**	**15 25 52.0**	**-0.1**
	comp=Z,36nm,0.4s						
SANI	**Sanana**	**8.62**	**19**	P	**Pn**	**15 25 58.2**	**+0.4**
	comp=Z,75nm,0.7s						
BNDI	**Bandanaira**	**8.76**	**50**	P	**Pn**	**15 25 59.2**	**-0.6**
	comp=Z,203nm,0.9s						
MSAI	**Masohi**	**8.92**	**40**	P	**Pn**	**15 26 01.4**	**-0.6**
	comp=Z,2μmcomp=Z,147nm,1.0s						
JAGI	**Jajag, Banyuwa**	**9.10**	**281**		**Pn**	**15 26 03.8**	**-0.6**
JAGI	**Jajag, Banyuwa**	**9.10**	**281**	P	**Pn**	**15 26 05.1**	**+0.7**
JAGI	**Jajag, Banyuwa**	**9.10**	**281**	P	**Pn**	**15 26 03.6**	**-0.8**
LUWI	**Luwuk**	**9.17**	**357**	P	**Pn**	**15 26 07.9**	**+2.5**
	comp=Z,79nm,1.1s						
KDU	**Kakadu**	**9.41**	**106**	P	**Pn**	**15 26 07.1**	**-1.4**
	comp=Z,73nm,0.5s						
KDU	**Kakadu**	**9.41**	**106**	P	**Pn**	**15 26 08.4**	**-0.2**
APSI	**Ampana**	**9.42**	**351**	P	**Pn**	**15 26 11.6**	**+2.9**
	comp=Z,1μmcomp=Z,78nm,1.0s						
KMMI	**Kalianget**	**9.66**	**289**	P	**Pn**	**15 26 13.9**	**+1.8**
	comp=Z,76nm,0.8s						
GMJI	**Gumukmas**	**9.82**	**281**	P	**Pn**	**15 26 11.7**	**-2.6**
	comp=Z,69nm,1.0s						
PCI	**Palu**	**9.88**	**340**	P	**Pn**	**15 26 17.5**	**+2.4**
	comp=Z,35nm,1.0s						
MPSI	**Mapaga**	**11.03**	**343**	P	**Pn**	**15 26 31.5**	**+0.7**
BWJI	**Bawean**	**11.31**	**292**	P	**Pn**	**15 26 36.2**	**+1.5**
MBWA	**Marble Bar**	**11.33**	**197**		**Pn**	**15 26 36.6**	**+1.7**
MBWA	**Marble Bar**	**11.33**	**197**	P	**Pn**	**15 26 35.8**	**+0.9**
	comp=Z,11nm,0.8s						
MBWA	**Marble Bar**	**11.33**	**197**	P	**Pn**	**15 26 36.3**	**+1.4**
TOLI2	**Tolitoli**	**11.55**	**348**		**Pn**	**15 26 38.0**	**+0.1**
TOLI2	**Tolitoli**	**11.55**	**348**	P	**Pn**	**15 26 39.9**	**+2.0**
FAKI	**Fak Fak**	**11.58**	**52**	Pn	**Pn**	**15 26 37.9**	**-0.5**
FAKI	**Fak Fak**	**11.58**	**52**	P	**Pn**	**15 26 37.6**	**-0.7**
PSA00	**Pilbara Seismi**	**11.69**	**196**		**Pn**	**15 26 39.7**	**-0.2**
PSA00	**Pilbara Seismi**	**11.69**	**196**		**Pn**	**15 26 40.1**	**+0.2**
PSA00	**Pilbara Seismi**	**11.69**	**196**	P	**Pn**	**15 26 40.3**	**+0.5**
	comp=Z,17nm,0.9s						
TNTI	**Ternate**	**11.72**	**21**	P	**Pn**	**15 26 41.7**	**+1.4**
TBJI	**Tambak Boyo**	**11.73**	**286**	P	**Pn**	**15 26 40.8**	**+0.4**
	comp=Z,275nm,1.4s						
NGJI	**Ngawi**	**11.95**	**283**	P	**Pn**	**15 26 46.0**	**+2.7**
	comp=Z,57nm,0.6s						
PCJI	**Pacitan**	**12.04**	**279**	P	**Pn**	**15 26 44.6**	**0.0**
WOJI	**Wonogiri, Jawa**	**12.36**	**280**	P	**Pn**	**15 26 48.7**	**-0.2**
UGM	**Wanagama**	**12.73**	**280**		**Pn**	**15 26 54.4**	**+0.3**
UGM	**Wanagama**	**12.73**	**280**	P	**Pn**	**15 26 54.9**	**+0.9**
BOXOZ	**Borroloola**	**14.00**	**116**	Pn	Pn	15 27 07.6	-3.7
WB0	**Warramunga Arr**	**14.35**	**132**		Pn	15 27 11.6	-4.4
WRA	**Warramunga Arr**	**14.43**	**133**		Pn	15 27 11.9	-5.1
WRA	**Warramunga Arr**	**14.43**	**133**	P	Pn	15 27 12.9	-4.1
	comp=Z,34nm,0.6s,baz=311,slow=14,SNR=338						
WRA				S	Sn	15 29 39.9	-16
	comp=Z,99nm,0.7s,baz=308,slow=23,SNR=20						
WRA				LR	LR	15 34 12.9	
	comp=Z,101nm,20.7s,baz=348,slow=42						
WRAB	**Tennant Creek**	**14.43**	**133**	Pn	Pn	15 27 12.9	-4.1
WR8	**Warramunga Arr**	**14.55**	**133**		Pn	15 27 14.1	-4.6
GIRL	**Giralia**	**15.00**	**214**	Pn	**Pn**	**15 27 26.0**	**+1.5**
GIRL				IAmb	IAmb	15 27 30.6

MJAR	**Matsushiro Arr**	**48.66**	**16**	P		**P**		**15 32 32.2**	**-2.5**
	comp=Z,1.3nm,0.6s,baz=197,slow=8.8,SNR=5.5								
	comp=Z,1.3nm,0.6s								
LZH	**Lanzhou**	**49.58**	**339**	*e*P		**P**		**15 32 40.8**	**-1.2**
LZH				pP		pP		15 32 56.8	+1.8
LZH				pmax		pmax			
	comp=Z,20nm,1.0s								
LSA	**Lhasa**	**50.31**	**323**	P		**P**		**15 32 47.0**	**-1.0**
EVN	**Everest**	**51.80**	**318**	P		**P**		**15 32 57.3**	**-2.1**
HHC	**Hu-ho-hao-te**	**51.98**	**349**	*e*P		**P**		**15 33 02.3**	**+2.4**
HHC				pmax		pmax			
	comp=Z,8.0nm,0.5s								
HHC				pmax		pmax			
	comp=Z,62nm,4.7s								
GTA	**Gaotai**	**53.99**	**338**	P		**P**		**15 33 14.8**	**0.0**
GTA				sP		sP		15 33 34.3	+0.9
GTA				pmax		pmax			
	comp=Z,9.0nm,1.4s								
USRK	**Ussuriysk Ar.**	**54.79**	**8**	P		**P**		**15 33 18.7**	**-1.6**
	comp=Z,2.6nm,0.5s,baz=188,slow=6.2,SNR=8.8								
USRK				LR		LR		15 58 10.4	
	comp=Z,15nm,19.8s,baz=160,slow=38								
	comp=Z,2.6nm,0.5s								
URZ	**Urewera**	**55.56**	**130**	LR		LR		15 57 41.6	
	comp=Z,70nm,18.3s,baz=300,slow=36								
CASY	**Casey**	**56.61**	**186**			**P**		**15 33 34.3**	**+1.3**
CASY				IAmb		IAmb		15 33 35.6	
	comp=Z,7.0nm,0.9s								
ASAJ	**Asahikawa**	**56.92**	**17**	LR		LR		16 01 11.5	
	comp=Z,16nm,18.8s,baz=158,slow=40								
SONM	**Songino Array**	**59.74**	**347**	P		**P**		**15 33 54.2**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=163,slow=9.0,SNR=6.8								
	comp=Z,1.4nm,0.5s								
HEH	**HeiHe**	**60.37**	**3**	*e*P		**P**		**15 34 00.3**	**+0.8**
WMQ	**Urumqi**	**62.75**	**332**	*e*P		**P**		**15 34 17.0**	**+1.2**
WMQ				LR		LR			
	comp=Z,150nm,21.7s								
KSH	**Kashi**	**66.12**	**322**	P		**P**		**15 34 37.3**	**-0.6**
KSH				pmax		pmax			
	comp=Z,17nm,0.7s								
TARG	**Taragay, Kyrgy**	**66.42**	**324**	IAmb		IAmb		15 34 48.7	
	comp=Z,4.6nm,0.7s								
KDJ	**Kajisay**	**67.04**	**324**	IAmb		IAmb		15 34 46.2	
	comp=Z,4.3nm,0.7s								
NRN	**Naryn**	**67.28**	**323**	IAmb		IAmb		15 34 46.2	
	comp=Z,4.6nm,0.6s								
MKAR	**Makanchi Array**	**67.51**	**331**	P		**P**		**15 34 45.5**	**-1.0**
	comp=Z,7.7nm,0.6s,baz=136,slow=7.2,SNR=71								
MKAR				LR		LR		16 09 53.5	
	comp=Z,15nm,18.2s,baz=142,slow=41								
	comp=Z,7.7nm,0.6s								
ARSB	**Arslanbob**	**69.03**	**322**	P		**P**		**15 34 55.7**	**-0.6**
MAW	**Mawson**	**69.50**	**201**	P		**P**		**15 35 00.5**	**+2.0**
	comp=Z,4.1nm,0.7s,baz=92,slow=5.7,SNR=7.1								
	comp=Z,4.1nm,0.7s								
PETK	**Petropavlovsk-**	**69.65**	**21**	P		**P**		**15 34 58.3**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=228,slow=1.7,SNR=13								
	comp=Z,1.0nm,0.5s								
SIMJ	**Simiganj**	**70.08**	**318**	P		**P**		**15 35 01.3**	**-1.5**
SIMJ				IAmb		IAmb		15 35 32.1	
	comp=Z,7.0nm,0.8s								
VNDA	**Vanda**	**70.12**	**172**			**P**		**15 35 04.0**	**+1.7**
VNDA				IAmb		IAmb		15 35 05.1	
	comp=Z,12nm,1.5s								
VNDA	**Vanda**	**70.12**	**172**	P		**P**		**15 35 03.7**	**+1.4**
	comp=Z,2.6nm,0.5s,baz=316,slow=6.8,SNR=45								
VNDA				LR		LR		16 04 58.7	
	comp=Z,24nm,19.5s,baz=314,slow=35								
	comp=Z,2.6nm,0.5s								
KK31	**Karatay Array**	**71.55**	**322**			**P**		**15 35 09.6**	**-1.9**
KKAR	**Karatay Array**	**71.55**	**322**	P		**P**		**15 35 10.5**	**-1.0**
ZALV	**Zalesovo Beam**	**71.74**	**337**	P		**P**		**15 35 10.4**	**-2.0**
	comp=Z,6.5nm,0.4s,baz=140,slow=5.1,SNR=34								
	comp=Z,6.5nm,0.4s								
KURBB	**Kurchatov Arra**	**71.98**	**332**	P		**P**		**15 35 12.3**	**-1.5**
	comp=Z,2.1nm,0.4s,baz=147,slow=5.2,SNR=31								
KURBB				LR		LR		16 09 35.5	
	comp=Z,46nm,21.9s,baz=185,slow=38								
	comp=Z,2.1nm,0.4s								
KURK	**Kurchatov**	**72.00**	**332**			**P**		**15 35 12.7**	**-1.2**
KURK				IAmb		IAmb		15 35 13.6	
	comp=Z,6.1nm,0.8s								
BVAR	**Borovoye Array**	**77.39**	**330**	P		**P**		**15 35 44.1**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=127,slow=9.4,SNR=6.3								
BVAR				LR		LR		16 14 23.0	
	comp=Z,24nm,18.1s,baz=129,slow=39								
	comp=Z,0.9nm,0.4s								
QSPA	**South Pole Qui**	**79.73**	**180**	P		**P**		**15 35 59.4**	**+1.3**
QSPA				IAmb		IAmb		15 36 01.9	
	comp=Z,8.6nm,1.0s								
QSPA	**South Pole Qui**	**79.73**	**180**	P		**P**		**15 35 59.9**	**+1.8**
	comp=Z,6.1nm,0.8s,baz=315,slow=2.8,SNR=27								
	comp=Z,6.1nm,0.8s								
ABKAR	**Akbulak array**	**81.00**	**324**	P		**P**		**15 36 04.0**	**-1.0**
TIXI	**Tiksi**	**81.82**	**2**	LR		LR		16 15 31.8	
	comp=Z,9.5nm,18.1s,baz=336,slow=38								
RAYN	**Ar Rayn**	**82.97**	**295**			**P**		**15 36 13.2**	**-2.7**
RAYN				IAmb		IAmb		15 36 17.6	
	comp=Z,4.2nm,0.7s								
PPT2	**Papeete2**	**84.34**	**107**	*e*LR		LR		16 02 57.4	
	comp=Z,67nm,25.5s								
PPT2				*e*LR		LR		16 03 00.9	
	comp=Z,133nm,34.8s								
ARTI	**Arti**	**85.08**	**330**	LR		LR		16 21 06.0	
	comp=Z,21nm,18.7s,baz=70,slow=40								
TROLL	**Troll, Antarti**	**89.30**	**196**	⇓P		**P**		**15 36 48.5**	**+2.2**
	comp=Z,225nm,0.8s								
BELG	**Belogornoye**	**89.40**	**324**	LR		LR		16 22 37.7	
	comp=Z,17nm,19.3s,baz=114,slow=40								
SNAA	**Sanae**	**90.87**	**195**	⇓P		**P**		**15 36 55.7**	**+2.2**
	comp=Z,154nm,0.8s								
SNAA	**Sanae**	**90.87**	**195**	P		**P**		**15 36 54.5**	**+1.0**
SNAA	**Sanae**	**90.87**	**195**	P		**P**		**15 36 55.6**	**+2.0**
	comp=Z,5.7nm,0.8s,baz=137,slow=4.2,SNR=35								
	comp=Z,5.7nm,0.8s								
BELA	**Belgrano 2**	**91.12**	**185**	P		**P**		**15 36 55.3**	**+0.8**
BOSA	**Boshof**	**92.02**	**241**	P		**P**		**15 37 00.8**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=117,slow=4.5,SNR=3.7								
	comp=Z,1.5nm,0.8s								
VNA3	**Neumayer Olymp**	**92.81**	**194**	⇓P		**P**		**15 37 04.3**	**+1.9**
	comp=Z,3.1nm,0.8s								
VNA1	**Neumayer--Stat**	**92.88**	**194**	⇓P		**P**		**15 37 04.9**	**+2.2**
	comp=Z,4.9nm,0.9s								
NVAR	**Mina Array Bea**	**118.58**	**52**	PKP		**PKPdf**		**15 42 38.0**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=230,slow=3.7,SNR=3.5								
TORD	**Torodi Ar. Bea**	**122.75**	**279**	PKP		**PKPdf**		**15 42 47.6**	**+0.6**
	comp=Z,2.8nm,0.5s,baz=60,slow=3.5,SNR=3.3								
TXAR	**Lajitas Array**	**132.37**	**60**	PKP		**PKPdf**		**15 43 05.6**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=180,slow=1.3,SNR=4.9								
TXAR				SKPbc		**SKPbc**		**15 46 27.7**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=322,slow=7.4,SNR=6.7								
LPAZ	**La Paz**	**151.34**	**157**	PKPbc		**PKPbc**		**15 43 46.2**	**+0.7**
	comp=Z,4.4nm,0.7s,baz=197,slow=1.4,SNR=16								
BDFB	**Brasilia**	**152.83**	**199**	PKPbc		**PKPbc**		**15 43 49.3**	**+1.1**
	comp=Z,3.6nm,0.7s,baz=143,slow=5.1,SNR=3.3								

NOU 27 15:26:02.1, 15°.63S × 167°.77E, h33 km, mb3.9/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**0.58**	**215**	P	Pn	15 26 15.3	+1.3
VLAKA	**Lakatoro**	**0.58**	**215**	S	Sn	15 26 23.8	+1.4
DVP	**Devils Point**	**2.12**	**169**	P	Pn	15 26 36.4	+1.1
YATNC	**Mamie plateau,**	**6.45**	**187**	P	Pn	15 27 35.4	+0.6
DZM	**Mont Dzumac**	**6.53**	**191**	P	Pn	15 27 34.2	-1.8
OUENC	**Ouen Island, N**	**6.81**	**187**	P	Pn	15 27 41.0	+1.3
PINNC	**Pines Island,**	**6.95**	**182**	P	Pn	15 27 40.9	-0.8

*NEIC **27** 15:50:42.5±1.8, 38°.37N±0°.03 × 115°.82W±0°.03, h10 km±2 km, Error ellipse: s-maj=4.9km s-min=3.6km az=192.0*

REN 27 15:50:43.8±2.1, 38°.32N±0°.01 × 115°.83W±0°.03, h12 km±8 km, ML3.1/6, ML2.7/48(NEIC), Error ellipse: s-maj=3.0km s-min=1.9km az=64.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R11B	**Troy Canyon, C**	**0.19**	**80**		Pg	15 50 46.5	-1.6
R11B				IAML		15 50 49.6	
	comp=N,910nm,0.5s						
S11A	**Rachel**	**0.67**	**175**		Pg	15 50 56.4	-0.5
S11A				IAML		15 51 07.4	
	comp=N,642nm,0.4s						
S11A	**Rachel**	**0.67**	**175**		Sb	15 51 06.4	-0.5
Q12A	**Willow Creek R**	**1.06**	**47**		Pb	15 51 03.7	-0.6
PRN	**Pahroc Range**	**1.09**	**146**		Pb	15 51 04.1	-0.6
PRN					Sn	15 51 19.8	-0.4
PRN	**Pahroc Range**	**1.09**	**146**	IAML		15 51 25.9	
	comp=E,298nm,0.5s						
TPH	**Tonopah**	**1.13**	**258**		Pb	15 51 03.8	-1.5
Q09A	**Carvers**	**1.18**	**296**		Pb	15 51 04.2	-2.0
SPR3	**Spring Creek 3**	**1.35**	**59**		Pn	15 51 06.9	-1.9
SPR3				IAML		15 51 25.5	
	comp=N,149nm,0.8s						
SPR3				IAML		15 51 25.9	
	comp=E,185nm,0.6s						
MZP	**Montezuma Peak**	**1.38**	**244**		Pn	15 51 08.8	-0.2
MZP	**Montezuma Peak**	**1.38**	**244**	IAML		15 51 28.1	
	comp=N,65nm,0.3s						
MZP				IAML		15 51 28.8	
	comp=E,84nm,0.4s						
CPY	**CP-1**	**1.39**	**188**		Pn	15 51 08.5	-0.7
TPNV	**Topopah Spring**	**1.41**	**194**		Pn	15 51 07.0	-2.4
TPNV				IAML		15 51 30.4	
	comp=E,170nm,0.3s						
TPNV				IAML		15 51 31.9	
	comp=E,144nm,0.4s						
GMN	**Gold Mountain**	**1.52**	**229**		Pb	15 51 11.6	-0.5
GMN	**Gold Mountain**	**1.52**	**229**	IAML		15 51 34.1	
	comp=N,94nm,0.2s						
GMN				IAML		15 51 35.7	
	comp=E,84nm,0.4s						
PSUT	**Pine Spring**	**1.56**	**81**		Pn	15 51 10.8	-0.8
PSUT				IAML		15 51 35.5	
	comp=E,88nm,0.5s						
PSUT				IAML		15 51 39.7	
	comp=N,80nm,0.6s						
NSP	**Numbskull Pass**	**1.61**	**191**		Pn	15 51 11.6	-0.6
SGV	**South Grapevin**	**1.64**	**216**		Pn	15 51 12.0	-0.6
WCT	**Wildcat Mounta**	**1.65**	**203**		Pn	15 51 11.0	-1.6
WCT				IAML		15 51 42.5	
	comp=E,50nm,0.4s						
MCY	**Mercury**	**1.65**	**184**		Pb	15 51 14.2	-0.1
SDH	**Striped Hills**	**1.72**	**194**		Pb	15 51 14.6	-0.7
NV11	**Mina Array Sit**	**1.83**	**274**		Pn	15 51 15.9	+0.6
NV11	**Mina Array Sit**	**1.83**	**274**	IAML		15 51 42.5	
	comp=N,58nm,0.8s						
NV11				IAML		15 51 42.8	
	comp=E,57nm,0.6s						
SHPR	**Sheep Range**	**1.88**	**163**	Pn	Pn	15 51 15.4	-0.6
AMDNV	**Amargosa**	**1.89**	**191**		Pb	15 51 17.1	-1.2
DSP	**Deep Springs**	**1.94**	**242**		Pb	15 51 18.5	-0.6
NVAR	**Mina Array Bea**	**1.95**	**274**		Pn	15 51 16.1	-0.9
NV08	**Mina Array Sit**	**1.96**	**273**		Pn	15 51 18.1	+1.0
NV09	**Mina Array Sit**	**1.98**	**274**		Pn	15 51 18.4	+1.2
CCUT	**Cedar City**	**2.09**	**111**		Pn	15 51 19.4	+0.5
LHV	**Little Huntoon**	**2.11**	**269**		Pb	15 51 20.9	-1.0
LCMT	**Little Creek M**	**2.43**	**122**		Pb	15 51 28.1	+0.6
ELK	**Elko**	**2.47**	**10**		Pn	15 51 25.2	+1.2
V12A	**Nelson**	**2.70**	**163**		Pg	15 51 36.5	+1.0
V12A				IAML		15 52 10.6	
	comp=N,21nm,0.8s						

*IDC **27** 15:54:19.7±2.6, 21°.66N × 143°.96E, h237 km±24 km, mb3.3/6, mbtmp3.8, Error ellipse: s-maj=93.6km s-min=14.8km az=79.0*

ISC 27 15:54:18.3±1.7, 21°.4N±0°.1 × 143°.4E±0°.6, h200 km, n8, σ1 9 03/8, mb3.8/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.77**	**349**	P	**Pn**	**15 55 42.9**	**+0.4**
	23nm,0.3s,baz=266,slow=24,SNR=19						
JCJ				S	**Sn**	**15 56 50.2**	**+1.0**
	37nm,0.4s,baz=264,slow=23,SNR=8.1						
MJAR	**Matsushiro Arr**	**15.74**	**344**	P	**P**	**15 57 48.2**	**-1.1**
	0.7nm,0.9s,baz=162,slow=7.1,SNR=5.9						
KSRS	**Korea Array**	**20.87**	**323**	P	**P**	**15 58 45.5**	**+0.7**
	0.6nm,0.6s,baz=149,slow=9.2,SNR=5.3						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**42.05**	**193**	P	**P**	**16 01 50.8**	**+0.3**
	0.9nm,0.3s,baz=16,slow=9.1,SNR=42						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**45.76**	**192**	P	**P**	**16 02 20.3**	**+0.3**
	0.4nm,0.3s,baz=10,slow=7.2,SNR=27						
	0.4nm,0.3s						
STKA	**Stephens Creek**	**53.02**	**182**	P	**P**	**16 03 15.0**	**+0.3**
	1.9nm,0.7s,baz=338,slow=7.0,SNR=5.2						
	1.9nm,0.7s						
BVAR	**Borovoye Array**	**63.02**	**320**	P	**P**	**16 04 22.5**	**-1.5**
	0.9nm,0.4s,baz=96,slow=7.1,SNR=5.1						
	0.9nm,0.4s						
FINES	**FINESS Array B**	**83.53**	**335**	P	P	16 06 20.1	-3.4
	1.9nm,1.1s,baz=63,slow=5.6,SNR=4.3						
	1.9nm,1.1s						

IDC 27 15:56:06.6±49.0, 17°.12S × 172°.18W, h0 km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=954.9km s-min=205.8km az=81.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.23**	**242**	P	P	16 04 18.3	+0.4
	0.9nm,0.7s,baz=84,slow=9.2,SNR=3.6						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**50.62**	**258**	P	P	16 05 07.4	-0.5
	0.9nm,1.3s,baz=97,slow=6.6,SNR=1.3						
	0.9nm,1.3s						
ASAR	**Alice Springs**	**50.72**	**253**	P	P	16 05 08.4	-0.2
	1.3nm,0.5s,baz=91,slow=8.4,SNR=48						
	1.3nm,0.5s						

*DNK **27** 16:02:58.1±1.5, 51°.42N × 15°.45E, h15 km±125 km, ML2.1*
*IPEC **27** 16:02:59.0±0.2, 51°.60N × 16°.20E, h1 km, ML2.6/7, Error ellipse: s-maj=1.6km s-min=1.2km az=68.0*
*IDC **27** 16:03:00.5±0.9, 51°.59N × 15°.72E, h0 km, mbtmp3.2/5, ML2.6/4, Error ellipse: s-maj=18.2km s-min=8.4km az=118.0*
*VIE **27** 16:03:02.8±0.6, 51°.34N × 15°.98E, h0 km, mb2.6/9, ml2.6/9, Error ellipse: s-maj=4.3km s-min=3.4km az=46.0 77 km WNW of Wroclaw Suspected Mining induced.*
*PRU **27** 16:03:02.3, 51°.47N × 16°.13E, h0 km*

ISC 27 16:02:58.2±0.8, 51°.60N±0°.03 × 16°.09E±0°.02, h0 km, n51, σ1 9 07/94, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.77**	**170**	*e*Pg	**Pb**	**16 03 13.8**	**-0.6**
KSP				*e*Sg	**Sg**	**16 03 23.4**	**+0.6**
CHVC	**Chvalec**	**1.01**	**181**	*e*PG	**Pb**	**16 03 18.7**	**+0.1**
CHVC				*e*SG	**Sg**	**16 03 31.7**	**+1.1**
OSTC	**Ostas**	**1.05**	**176**	*e*PG	**Pb**	**16 03 19.3**	**+0.1**
OSTC				*e*SG	**Sg**	**16 03 31.2**	**-0.5**
UPC	**Upice**	**1.09**	**183**	*e*PG	**Pb**	**16 03 20.0**	**+0.1**
UPC				*e*SG	**Sg**	**16 03 33.7**	**+0.4**
	comp=Z,75nm,0.4s						
DPC	**Dobruska-Polom**	**1.26**	**173**	*e*PG	**Pg**	**16 03 22.5**	**+0.2**
DPC				*e*SG	**Sg**	**16 03 38.1**	**-0.4**
	comp=Z,58nm,0.9s						
PVCC	**Panska Ves**	**1.44**	**222**	*e*PG	**Pb**	**16 03 26.9**	**+1.1**
PVCC				*e*SG	**Sn**	**16 03 46.1**	**+1.0**
	comp=Z,136nm,0.3s						
PIVO	**Bartosovice**	**1.44**	**168**	*e*Pn	**Pb**	**16 03 26.4**	**+0.5**
	baz=351						
PIVO				*e*Sg	**Sg**	**16 03 43.8**	**-0.7**
	94nm,0.4s,baz=351						
BRG	**Berggiesshubel**	**1.53**	**243**	Pg	**Pg**	**16 03 28.6**	**+1.1**
BRG				Sg	**Sb**	**16 03 49.3**	**+1.9**
BRG				Amp		16 03 50.7	
	comp=Z,62nm,0.5s						
KRLC	**Kraliky**	**1.59**	**164**	*e*PG	**Pn**	**16 03 27.9**	**+0.3**
KRLC				*e*SG	**Sn**	**16 03 47.8**	**-1.0**
	comp=Z,41nm,0.4s						
RICC	**Richard**	**1.64**	**231**	*e*PG	**Pg**	**16 03 30.6**	**+1.0**
RYBC	**Ceska Rybna**	**1.79**	**181**	*e*Pn	**Pn**	**16 03 30.8**	**+0.4**
RYBC	baz=2.6						
				*e*Sg	**Sb**	**16 03 55.1**	**+0.2**
	comp=Z,45nm,0.3s,baz=2.6						
PRA	**Prague**	**1.86**	**215**	*e*PG	**Pg**	**16 03 34.1**	**+0.4**
PRA				*e*SG	**Sg**	**16 03 58.3**	**+0.5**
	comp=Z,41nm,0.6s						
PRU	**Pruhonice**	**1.89**	**212**	*e*PN	**Pn**	**16 03 32.2**	**+0.5**
PRU				*e*PG	**Pb**	**16 03 33.9**	**+0.4**
PRU				*e*SG	**Sg**	**16 03 59.5**	**+0.7**
	comp=Z,26nm,0.5s						
CLL	**Collm**	**1.95**	**263**	*i* Pn	**Pn**	**16 03 32.9**	**+0.3**
CLL				*i* Pg	**Pg**	**16 03 36.0**	**+0.4**
CLL				*i* x	x	16 03 39.7	
CLL				*e*Sg	**Sg**	**16 04 02.0**	**+1.1**
	comp=Z,42nm,0.4s						
STEB	**Steborice**	**1.98**	**147**	*e*PG	**Pb**	**16 03 35.7**	**+0.7**
STEB				*e*SG	**Sb**	**16 04 00.9**	**+0.7**
MORC	**Moravsky Berou**	**2.04**	**153**	*e*Pn	**Pn**	**16 03 33.8**	**0.0**
	baz=335						
MORC				*e*Sg	**Sb**	**16 04 02.2**	**+0.1**
	comp=Z,32nm,0.5s,baz=335						
OKC	**Ostrava-Krasne**	**2.19**	**143**	*e*PG	**Pg**	**16 03 40.0**	**-0.2**
VRAC	**Vranov**	**2.31**	**172**	*e*Pn	**Pn**	**16 03 38.2**	**+0.7**
	baz=354						
VRAC				*e*Sg	**Sb**	**16 04 10.9**	**+1.0**
	comp=Z,30nm,0.6s,baz=354						
TREC	**Trest**	**2.34**	**190**	*e*PN	**Pn**	**16 03 38.6**	**+0.7**
ZVC	**Zvikov**	**2.48**	**210**	*e*SG	**Sg**	**16 04 18.8**	**+1.1**
MAUC	**Maruska**	**2.50**	**153**	*e*PN	**Pn**	**16 03 40.5**	**+0.5**
MAUC				*e*PG	**Pb**	**16 03 44.9**	**+1.0**
KRUC	**Moravsky**	**2.55**	**176**	*e*Pn	**Pn**	**16 03 41.4**	**+0.7**
	baz=357						
KRUC	**Moravsky**	**2.55**	**176**	*e*Pg	**Pb**	**16 03 45.4**	**+0.7**
	baz=357						
KRUC				*e*Sg	**Sg**	**16 04 18.6**	**-1.3**
	comp=Z,19nm,0.5s,baz=357						
OJC	**Ojcow**	**2.72**	**119**	*e*Pn	**Pn**	**16 03 41.7**	**-1.5**
OJC				*e*Pg	**Pg**	**16 03 50.1**	**-0.2**
OJC				*e*Sg	**Sg**	**16 04 25.6**	**+0.1**
JAVC	**Velka Javorina**	**2.92**	**159**	*e*Pn	**Pn**	**16 03 46.1**	**+0.1**
	baz=342						
JAVC				*e*Sg	**Sb**	**16 04 29.7**	**+2.2**
	comp=Z,28nm,1.3s,baz=342						
KHC	**Kasperske Hory**	**2.95**	**214**	*e*PN	**Pn**	**16 03 46.8**	**+0.5**
KHC				*e*PG	**Pb**	**16 03 53.1**	**+1.5**
KHC				*e*SG	**Sg**	**16 04 32.7**	**-0.1**
	comp=Z,15nm,0.4s						
CKRC	**Cesky Krumlov**	**3.01**	**203**	*e*PN	**Pn**	**16 03 48.4**	**+1.3**
CKRC				*e*PG	**Pg**	**16 03 54.3**	**-1.5**
CKRC				*e*SG	**Sg**	**16 04 33.6**	**-1.1**
	comp=Z,14nm,0.3s						
GERES	**GERESS Array B**	**3.15**	**210**	Pn	**Pn**	**16 03 49.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=28,slow=14,SNR=19						
GERES				Pg	**Pb**	**16 03 56.2**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=25,slow=17,SNR=26						
GERES				Sn	**Sn**	**16 04 24.5**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=28,slow=26,SNR=4.1						
GERES				Lg	Lg	16 04 38.1	
	comp=Z,0.5nm,0.3s,baz=35,slow=26,SNR=8.1						
	comp=Z,2.5nm,0.3s						
LANS	**Liptovska Anna**	**3.27**	**137**	*e*SG	**Sg**	**16 04 44.2**	**+1.1**
MODS	**Modra-Piesok**	**3.32**	**166**	*e*PN	**Pn**	**16 03 50.7**	**-0.6**
MODS				*e*PG	**Pg**	**16 04 00.6**	**-1.1**
MODS				*e*SG	**Sg**	**16 04 45.3**	**+0.6**
NIE	**Niedzica**	**3.46**	**127**	*e*Pg	**Pg**	**16 04 04.7**	**+0.2**
NIE				*e*SG	**Sg**	**16 04 49.2**	**-0.1**
VYHS	**Vyhne**	**3.58**	**149**	*e*PN	**Pn**	**16 03 55.0**	**+0.1**
VYHS				*e*PG	**Pg**	**16 04 07.9**	**+1.2**
VYHS				*e*SG	**Sg**	**16 04 54.9**	**+1.9**
BSD	**Bornholm Skovb**	**3.59**	**349**	*e*	**Pn**	**16 03 53.9**	**-1.1**
	baz=180,slow=18						
BSD				*i* P	Pb	16 03 55.0	-7.5
BSD				*i* S	**Sn**	**16 04 37.5**	**-0.7**
BSD				IAML		16 05 04.2	
	comp=Z,2.7nm,0.3s						
CONA	**Conrad Observa**	**3.68**	**182**	*i* Pn	**Pn**	**16 03 57.5**	**+1.2**
	comp=Z,1.0nm,0.1s,SNR=7.5						
CONA				*e*Sg	**Sg**	**16 04 54.9**	**-1.3**
	comp=Z,9.3nm,0.3s						
RONA	**Rosalia, Austr**	**3.91**	**178**	*e*Sg	**Sg**	**16 05 02.4**	**-1.2**
	comp=Z,2.3nm,0.2s						
MOA	**Molln**	**3.94**	**198**	*i* Pn	**Pn**	**16 04 00.8**	**+1.0**
	comp=Z,5.4nm,0.3s,SNR=5.6						
MOA				*e*Sg	**Sg**	**16 05 04.2**	**-0.3**
	comp=Z,7.3nm,0.4s						
STHS	**Stebnicka Huta**	**3.95**	**122**	*e*PN	**Pn**	**16 04 00.0**	**0.0**
STHS				*e*PG	**Pg**	**16 04 15.3**	**+1.5**
STHS				*e*SG	**Sg**	**16 05 05.8**	**+0.9**
BIOA	**Bad Ischl, Aus**	**4.22**	**203**	Pn	**Pn**	**16 04 04.7**	**+0.9**
	comp=Z,3.8nm,0.4s,SNR=9.6						
BIOA				*e*Sg	**Sg**	**16 05 11.7**	**-2.1**
	comp=Z,7.5nm,0.3s						
ARSA	**Arzberg**	**4.37**	**185**	*i* Pn	**Pn**	**16 04 07.5**	**+1.7**
	comp=Z,1.3nm,0.2s						
ARSA				*e*Sg	**Sg**	**16 05 16.4**	**-2.0**
	comp=Z,7.5nm,0.5s						
BLEU	**Blekinge**	**4.72**	**358**	*i* P	**Pn**	**16 04 11.2**	**+0.7**
BLEU				IAML		16 05 20.2	
	comp=Z,0.7nm,0.4s						
LESA	**Schwarzleotal**	**4.

VA03				*e*S		**Sb**	**16 04 33.6**	**0.0**
VA03				IAML			16 04 39.1	
	comp=E,526nm,0.3s							
VA03	**San Esteban**	**1.58**	**129**	*i* P		**Pb**	**16 04 12.4**	**-1.5**
VA03				*i* S		**Sb**	**16 04 34.3**	**+0.7**
VA03				IAML			16 04 41.3	
	comp=Z,280nm,0.6s							
PEL	**Peldehue**	**1.77**	**141**	*e*P		**Pb**	**16 04 15.7**	**-1.4**
VA05	**Santo Domingo**	**1.91**	**170**	*e*P		**Pb**	**16 04 19.6**	**+0.1**
MT10	**Hacienda Santa**	**1.95**	**141**	*e*P		**Pb**	**16 04 18.2**	**-2.0**
MT16	**CCHEN**	**2.07**	**143**	*e*P		**Pb**	**16 04 20.5**	**-1.8**
AUSP	**Uspallata**	**2.27**	**102**	*i* S		**Sb**	**16 04 56.2**	**+2.5**
RTLS	**Leoncito**	**2.31**	**91**	*i* P		**Pb**	**16 04 25.3**	**-1.2**
RTLS				*i* S		**Sb**	**16 04 57.4**	**+2.7**
RTLS				IAML			16 05 02.0	
	comp=Z,257nm,1.5s							
AROD	**Rodeo**	**2.70**	**54**	*i* P		**Pb**	**16 04 31.4**	**-1.8**
AROD				*i* S		**Sb**	**16 05 08.2**	**+2.2**
ACCO	**Cerro Coronel**	**2.79**	**66**	*i* P		**Pb**	**16 04 33.1**	**-1.5**
ACCO				*i* S		**Sb**	**16 05 10.6**	**+2.2**
ACDV	**Cuesta del Vie**	**2.95**	**58**	*i* P		**Pb**	**16 04 34.6**	**-2.7**
ACDV				*i* S		**Sb**	**16 05 13.4**	**+0.4**
ACDV				IAML			16 05 17.5	
	comp=Z,52nm,1.0s							

IDC ***27*** *16:08:55.0±6.8, 69˚.95N× 17˚.49W, h0km, mb3.2/2, mbtmp3.5/5, ML3.1/3, MS2.9/5, Error ellipse: s-maj=117.1km s-min=41.5km az=84.0*

ISC 27 16:08:59.9±1.1**, 69˚.9N**±0˚.2**× 16˚.30W**±0˚.08**, h10km, n11, σ3s03/8, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SCO	**Scoresbysund**	**2.01**	**290**	*i* P		**Pg**	**16 09 42.0**	**+3.5**
SCO				*e*S		**Sn**	**16 09 53.6**	**-5.5**
DAG	**Danmarks Havn**	**6.94**	**356**	*i* P		**Pn**	**16 10 42.0**	**+0.5**
SPITS	**Spitsbergen Ar**	**11.99**	**32**	Pn		**Pn**	**16 11 51.0**	**+0.5**
	baz=242,slow=12							
	1.4nm,0.5s							
SFJD	**Kangerlussuaq**	**12.83**	**273**	LR		LR	16 15 31.9	
	comp=Z,42nm,19.7s,baz=86,slow=32							
ARCES	**ARCESS Array B**	**14.30**	**72**	LR		LR	16 16 38.8	
	comp=Z,36nm,19.1s,baz=286,slow=32							
NOA	**NORSAR Array B**	**14.32**	**115**	LR		LR	16 17 20.2	
	comp=Z,24nm,18.1s,baz=315,slow=34							
HFS	**Hagfors**	**15.80**	**113**	Pn		**Pn**	**16 12 42.5**	**+0.3**
	0.1nm,0.3s,baz=322,slow=16,SNR=7.4							
HFS				LR		LR	16 17 45.1	
	comp=Z,48nm,19.9s,baz=328,slow=33							
	3.0nm,0.9s							
FINES	**FINESS Array B**	**18.98**	**95**	P		**P**	**16 13 21.1**	**+0.1**
	0.1nm,0.3s,baz=324,slow=9.3,SNR=7.9							
	1.4nm,0.7s							
GERES	**GERESS Array B**	**25.55**	**130**	P		**P**	**16 14 28.6**	**+0.1**
	0.2nm,0.3s,baz=339,slow=10.0,SNR=4.0							
	0.2nm,0.3s							
GNI	**Garni**	**43.03**	**101**	LR		LR	16 34 29.0	
	comp=Z,28nm,18.9s,baz=292,slow=35							
MKAR	**Makanchi Array**	**49.73**	**63**	P		**P**	**16 17 50.3**	**-1.6**
	0.1nm,0.4s,baz=349,slow=5.3,SNR=2.1							
	0.1nm,0.4s							

NOU ***27*** *16:13:55.9, 41˚.37S× 173˚.27E, h78km, MLv3.6/13, South Island, New Zealand*

WEL ***27*** *16:13:56.5±1.1, 41˚.5S±5˚× 17˚.3E±˚, h79km±8km, M2.6/16, ML2.6/7, MLv2.6/16, Error ellipse: s-maj=6.3km s-min=5.8km az=125.3, confirmed*

ISC 27 16:13:54.1±1.4**, 41˚.41S**±0˚.03**× 173˚.28E**±0˚.04**, h108**km±7km**, n70, σ0s78/81, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNZ	**Nelson**	**0.21**	**20**	P		**Pn**	**16 14 09.5**	**+0.2**
NNZ				S		**Sn**	**16 14 19.8**	**-0.9**
MRNZ	**Matariki Terra**	**0.40**	**272**	P		**Pn**	**16 14 10.5**	**+0.3**
MRNZ				S		**Sn**	**16 14 21.3**	**-0.9**
HAVS	**Havelock**	**0.40**	**70**	P		**Pn**	**16 14 10.9**	**+0.7**
HAVS				S		**Sn**	**16 14 21.4**	**-0.8**
THZ	**Tophouse**	**0.45**	**219**	P		**Pn**	**16 14 11.2**	**+0.6**
THZ				S		**Sn**	**16 14 22.5**	**-0.3**
TKNZ	**Takaka Hill**	**0.45**	**327**	P		**Pn**	**16 14 10.6**	**0.0**
BWRS	**Waikakaho Road**	**0.47**	**93**	P		**Pn**	**16 14 11.2**	**+0.7**
BWRS				S		**Sn**	**16 14 22.4**	**-0.5**
TUWZ	**Tuamarina**	**0.50**	**92**	P		**Pn**	**16 14 11.9**	**+1.2**
TUWZ				S		**Sn**	**16 14 23.2**	**0.0**
BSWZ	**Blackbirch Sta**	**0.54**	**124**	P		**Pn**	**16 14 11.8**	**+0.7**
MOLW	**Molesworth Sta**	**0.67**	**182**	P		**Pn**	**16 14 13.4**	**+1.2**
MOLW				S		**Sn**	**16 14 25.9**	**+0.1**
WDFS	**Ward Fire Stat**	**0.76**	**123**	P		**Pn**	**16 14 13.8**	**+1.0**
TCW	**Tory Channel**	**0.78**	**75**	P		**Pn**	**16 14 13.7**	**+0.7**
TCW				S		**Sn**	**16 14 26.7**	**-0.4**
DUWZ	**D'Urville Isla**	**0.78**	**38**	P		**Pn**	**16 14 13.8**	**+0.7**
DUWZ				S		**Sn**	**16 14 27.4**	**+0.2**
QRZ	**Quartz Range**	**0.82**	**316**	P		**Pn**	**16 14 13.5**	**+0.1**
QRZ	**Quartz Range**	**0.82**	**316**	P		**Sn**	**16 14 25.8**	**-2.1**
QRZ	**Quartz Range**	**0.82**	**316**	P		**Pn**	**16 14 13.5**	**+0.1**
QRZ				S		**Sn**	**16 14 26.6**	**-1.3**
KHZ	**Kahutara**	**1.02**	**169**	P		**Pn**	**16 14 16.3**	**+0.9**
KHZ	**Kahutara**	**1.02**	**169**	S		**Sn**	**16 14 30.9**	**-0.5**
KHZ	**Kahutara**	**1.02**	**169**	P		**Pn**	**16 14 16.4**	**+1.1**
KHZ				S		**Sn**	**16 14 31.1**	**-0.2**
WEL	**Wellington**	**1.13**	**84**	P		**Pn**	**16 14 16.9**	**+0.4**
DSZ	**Denniston Nort**	**1.16**	**253**	P		**Pn**	**16 14 17.2**	**+0.3**
BHW	**Baring Head**	**1.19**	**90**	P		**Pn**	**16 14 17.5**	**+0.2**
KIW	**Kapiti Island**	**1.35**	**66**	P		**Pn**	**16 14 19.4**	**+0.4**
CAW	**Cannon Point**	**1.38**	**78**	P		**Pn**	**16 14 19.5**	**+0.1**
MSWZ	**Moikau Station**	**1.48**	**91**	P		**Pn**	**16 14 20.6**	**0.0**
PLWZ	**Palliser**	**1.49**	**97**	P		**Pn**	**16 14 20.8**	**+0.1**
OGWZ	**Otaki Gorge**	**1.55**	**68**	P		**Pn**	**16 14 21.5**	**+0.1**
LTZ	**Lake Taylor**	**1.56**	**209**	P		**Pn**	**16 14 22.3**	**+0.7**
GVZ	**Greta Valley S**	**1.56**	**187**	P		**Pn**	**16 14 22.5**	**+0.9**
PAWZ	**Paruwai Farm**	**1.61**	**90**	P		**Pn**	**16 14 22.1**	**-0.1**
MTW	**Mount Morrison**	**1.69**	**82**	P		**Pn**	**16 14 22.9**	**-0.3**
HOWZ	**Holdsworth Sta**	**1.76**	**74**	P		**Pn**	**16 14 23.8**	**-0.3**
MRZ	**Mangatainoka R**	**1.89**	**67**	P		**Pn**	**16 14 25.3**	**-0.4**
INZ	**Inchbonnie**	**1.90**	**226**	P		**Pn**	**16 14 26.4**	**+0.7**
TMWZ	**Te Maipa**	**1.99**	**82**	P		**Pn**	**16 14 26.6**	**-0.4**
TIWZ	**Tintock**	**2.07**	**73**	P		**Pn**	**16 14 27.5**	**-0.5**
WAZ	**Wanganui**	**2.10**	**39**	P		**Pn**	**16 14 29.8**	**+1.4**
OXZ	**Oxford**	**2.12**	**205**	P		**Pn**	**16 14 28.7**	**+0.1**
POWZ	**Post Office Ro**	**2.14**	**62**	P		**Pn**	**16 14 28.2**	**-0.6**
NBEZ	**Newall Road No**	**2.19**	**12**	P		**Pn**	**16 14 31.0**	**+1.6**
KHEZ	**Kahui Hut**	**2.19**	**15**	P		**Pn**	**16 14 30.5**	**+0.9**
KHEZ	**Kahui Hut**	**2.19**	**15**	S		**Sn**	**16 14 56.8**	**+0.2**
KHEZ	**Kahui Hut**	**2.19**	**15**	P		**Pn**	**16 14 30.9**	**+1.4**
NEZ	**North Egmont**	**2.23**	**16**	P		**Pn**	**16 14 31.2**	**+1.1**
MQZ	**McQueen's Vall**	**2.34**	**191**	P		**Pn**	**16 14 31.3**	**-0.1**
BFZ	**Birch Farm**	**2.36**	**73**	P		**Pn**	**16 14 33.4**	**+1.8**
BFZ	**Birch Farm**	**2.36**	**73**	S		**Sn**	**16 14 59.4**	**-1.0**
TSZ	**Takapari Road**	**2.44**	**57**	P		**Pn**	**16 14 32.2**	**-0.6**
DVHZ	**Dannevirke**	**2.45**	**64**	P		**Pn**	**16 14 31.8**	**-1.1**
RAZ	**Rakaia**	**2.46**	**200**	P		**Pn**	**16 14 32.9**	**0.0**
MHCZ	**Mount Hutt**	**2.47**	**210**	P		**Pn**	**16 14 33.1**	**0.0**
WVZ	**Waitaha Valley**	**2.52**	**228**	P		**Pn**	**16 14 34.1**	**+0.5**
VRZ	**Vera Road**	**2.55**	**27**	P		**Pn**	**16 14 35.4**	**+1.3**
MTVZ	**Mangateitei**	**2.63**	**40**	P		**Pn**	**16 14 35.7**	**+0.4**
PNHZ	**Pukenui**	**2.68**	**57**	P		**Pn**	**16 14 34.8**	**-1.0**
WNVZ	**Wahianoa**	**2.73**	**41**	P		**Pn**	**16 14 37.0**	**+0.3**
FWVZ	**Far West T-bar**	**2.77**	**40**	P		**Pn**	**16 14 38.1**	**+0.8**
TUVZ	**Tukino**	**2.81**	**41**	P		**Pn**	**16 14 38.2**	**+0.5**
OTVZ	**Oturere**	**2.89**	**40**	P		**Pn**	**16 14 39.2**	**+0.4**
GCSZ	**Gaunt Creek Bo**	**2.90**	**228**	P		**Pn**	**16 14 39.3**	**+0.6**
HIZ	**Hauiti**	**3.14**	**23**	P		**Pn**	**16 14 43.0**	**+1.1**
HIZ	**Hauiti**	**3.14**	**23**	S		**Sn**	**16 15 18.2**	**-0.6**
HIZ	**Hauiti**	**3.14**	**23**	P		**Pn**	**16 14 42.6**	**+0.7**
BKZ	**Black Stump Fm**	**3.33**	**49**	P		**Pn**	**16 14 45.9**	**+1.4**
FOZ	**Fox Glacier**	**3.33**	**229**	P		**Pn**	**16 14 44.5**	**+0.1**
TMZ	**Timaru**	**3.41**	**209**	P		**Pn**	**16 14 45.3**	**-0.2**
TLZ	**Tolley Road**	**3.54**	**30**	P		**Pn**	**16 14 48.0**	**+0.7**
ODZ	**Otahua Downs**	**4.11**	**207**	P		**Pn**	**16 14 56.2**	**+1.3**
ODZ	**Otahua Downs**	**4.11**	**207**	P		**Pn**	**16 14 55.1**	**+0.2**
JCZ	**Jackson Bay**	**4.25**	**230**	P		**Pn**	**16 14 57.4**	**+0.6**
JCZ	**Jackson Bay**	**4.25**	**230**	P		**Pn**	**16 14 57.1**	**+0.3**

IDC ***27*** *16:32:46.3±7.6, 6˚.84S× 129˚.59E, h176km±75km, mb3.1/3, mbtmp4.0/7, Error ellipse: s-maj=70.1km s-min=20.3km az=46.0*

DJA ***27*** *16:33:00.7±0.5, 6˚S±4˚× 13˚0E±˚, h101km±22km, M4.4/12, mB5.3/2, mb4.6/7, MLv4.3/12, Mw(mB)4.7/2*

ISC 27 16:32:45.7±0.7**, 6˚.96S**±0˚.07**× 129˚.68E**±0˚.06**, h200km, n27, σ3s68/27, mb3.3/3, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**1.90**	**123**	P		Pn	16 33 40.6	+17
SAUI				S		**Sn**	**16 33 46.1**	**-6.3**
MSAI	**Masohi**	**3.67**	**348**	P		**Pn**	**16 33 41.6**	**-1.8**
NLAI	**Namlea**	**4.50**	**325**	P		Pn	16 33 58.0	+4.2
FAKI	**Fak Fak**	**4.76**	**33**	P		**Pn**	**16 33 53.2**	**-3.8**
FAKI	**Fak Fak**	**4.76**	**33**	P		**Pn**	**16 33 53.3**	**-3.8**
KMPI	**Kaimana, Papua**	**5.17**	**51**	P		**Pn**	**16 34 02.2**	**-0.2**
SOEI	**Soe**	**6.04**	**242**	P		**Pn**	**16 34 16.4**	**+2.8**
SWI	**Sorong**	**6.25**	**15**	P		**Pn**	**16 34 13.8**	**-2.5**
BATI	**Baumata**	**6.77**	**241**	P		**Pn**	**16 34 24.8**	**+1.8**
	89nm,0.6s,baz=65,slow=3.3,SNR=25							
BATI				S		**Sn**	**16 35 39.7**	**-0.6**
	18nm,0.5s,baz=47,slow=19,SNR=6.7							
RKPI	**Ransiki, Papua**	**7.03**	**40**	P		**Pn**	**16 34 25.1**	**-1.2**
BBSI	**Bau Bau**	**7.22**	**281**	P		Pn	16 34 48.3	+19
TNTI	**Ternate**	**8.02**	**343**	P		**Pn**	**16 34 40.8**	**+1.5**
	0.1nm22nm,1.5s							
BAKI	**Biak**	**8.59**	**48**	P		**Pn**	**16 34 44.5**	**-2.3**
	0.3nm1μm67nm,0.7s							
FITZ	**Fitzroy Crossi**	**11.75**	**199**	P		**Pn**	**16 35 28.3**	**+0.8**
	0.8nm,0.3s,baz=26,slow=12,SNR=21							
FITZ				S		**Sn**	**16 37 34.0**	**-4.6**
	3.9nm,0.4s,baz=18,slow=5.1,SNR=7.4							
PLAI	**Plampang**	**11.94**	**260**	P		**P**	**16 35 30.1**	**-4.6**
WRA	**Warramunga Arr**	**13.68**	**161**	P		**P**	**16 35 53.0**	**-1.0**
	1.6nm,0.6s,baz=342,slow=12,SNR=15							
WRA				S		S	16 38 09.5	-15
	0.4nm,0.7s,baz=337,slow=15,SNR=1.1							
COEN	**Coen**	**14.97**	**119**	P		**P**	**16 36 12.4**	**+4.0**
QIS	**Mount Isa**	**16.59**	**146**	P		**Pn**	**16 36 31.2**	**+4.0**
ASAR	**Alice Springs**	**17.10**	**167**	P		**Pn**	**16 36 36.3**	**+3.0**
	9.6nm,0.5s,baz=344,slow=10,SNR=129							
ASAR				S		**S**	**16 39 32.9**	**-6.9**
	0.3nm,0.5s,baz=340,slow=12,SNR=1.3							
AS01	**Alice Springs**	**17.11**	**167**	P		**Pn**	**16 36 37.9**	**+4.5**
MTSU	**Mount Surprise**	**18.08**	**129**	P		**Pn**	**16 36 47.9**	**+3.1**
KSM	**Kuching**	**21.07**	**293**	P		**P**	**16 37 11.4**	**-3.3**
QLP	**Quilpie**	**23.93**	**146**	P		**P**	**16 37 46.5**	**+4.9**
STKA	**Stephens Creek**	**27.17**	**157**	P		**P**	**16 38 15.3**	**+4.6**
	1.1nm,0.5s,baz=342,slow=11,SNR=3.8							
	1.1nm,0.5s							
CMSA	**Cobar Meteorol**	**28.67**	**151**	P		P	16 38 29.2	+5.2
MKAR	**Makanchi Array**	**68.02**	**327**	P		**P**	**16 43 25.6**	**+2.2**
	0.3nm,0.5s,baz=123,slow=6.8,SNR=4.2							
	0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**72.31**	**329**	P		**P**	**16 43 51.3**	**+1.9**
	0.1nm,0.5s,baz=128,slow=6.0,SNR=1.9							
	0.1nm,0.5s							

IDC ***27*** *16:37:16.0±0.6, 23˚.91N× 125˚.96E, h0km, mb4.0/17, mbtmp4.0/21, ML3.7/4, MS3.4/15, Error ellipse: s-maj=21.2km s-min=12.9km az=82.0*

NEIC ***27*** *16:37:17.8±2.6, 23˚.83N±0˚.08× 126˚.03E±0˚.08, h10km±1km, mb4.7/25, Error ellipse: s-maj=14.5km s-min=10.9km az=138.0*

NIED ***27*** *16:37:18.7, 23˚.90N× 126˚.07E, h87km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=2.87; $M_{\theta\theta}$=2.24; $M_{\phi\phi}$=0.63; $M_{r\theta}$=2.52; $M_{r\phi}$=-0.90; $M_{\theta\phi}$=0.16; Fault plane solution: $M_0$3.72000×10^{15} NP1: ϕ_s126.00000°, δ27.00000°, λ-63.00000°. NP2: ϕ_s277.00000°, δ66.00000°, λ-103.00000°.*

JMA ***27*** *16:37:18.7±0.2, 24˚.N±1˚× 126˚.1E±0˚.9, h87km±3km, MD4.5/21, MV4.0/21, NEAR MIYAKOJIMA ISLAND*

ISC 27 16:37:17.2±1.4**, 23˚.88N**±0˚.04**× 126˚.07E**±0˚.04**, h9km±8km, n134, σ2s26/135, mb4.6/44, MS3.5/17, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JOGS	**Gusukube**	**1.07**	**326**	P		**Pn**	**16 37 39.0**	**+0.6**
JOGS				*e*S		**Sn**	**16 37 54.6**	**+1.1**
JOGS	**Gusukube**	**1.07**	**326**	A		A	16 37 39.0	
	comp=N,25nm,2.0s,comp=E,39nm,1.8s							
JMJ2	**Miyako jima3**	**1.09**	**322**	*e*P		**Pn**	**16 37 39.3**	**+0.5**
JMJ2				S		**Sn**	**16 37 54.5**	**+0.4**
JMJ2	**Miyako jima3**	**1.09**	**322**	A		A	16 37 39.3	
	comp=N,29nm,2.0s,comp=E,29nm,2.2s							
JMJ	**Miyako jima 2**	**1.17**	**323**	P		**Pb**	**16 37 39.2**	**-0.5**
JMJ	**Miyako jima 2**	**1.17**	**323**	S		**Sn**	**16 37 58.8**	**+2.8**
JIRB	**Irabujima**	**1.25**	**319**	*e*P		**Pg**	**16 37 41.0**	**-0.3**
JIRB				*e*S		**Sn**	**16 37 58.1**	**+0.2**
JIRB	**Irabujima**	**1.25**	**319**	A		A	16 37 41.0	
	comp=N,14nm,1.0s,comp=E,21nm,1.4s							
JIKM	**Ikemajima**	**1.28**	**324**	*e*P		**Pg**	**16 37 41.7**	**-0.2**
JIKM				*e*S		**Sn**	**16 37 58.4**	**-0.4**
JIKM	**Ikemajima**	**1.28**	**324**	A		A	16 37 41.7	
	comp=N,19nm,2.3s,comp=E,26nm,2.0s							
JTJ	**Tarama**	**1.46**	**302**	*e*P		**Pn**	**16 37 44.0**	**+0.2**
JTJ				*e*S		**Sg**	**16 38 03.6**	**-0.7**
JTJ	**Tarama**	**1.46**	**302**	A		A	16 37 44.0	
	comp=N,23nm,2.1s,comp=E,13nm,4.1s							
JISG	**Ishigakijimahi**	**1.75**	**294**	P		**Pn**	**16 37 47.7**	**-0.1**
JISG				*e*S		**Sb**	**16 38 10.7**	**-1.1**
JIJ	**Ishigaki jima**	**1.83**	**286**	*e*P		**Pn**	**16 37 48.7**	**-0.2**
JIJ				*e*S		**Sn**	**16 38 11.2**	**-0.9**
JIJ	**Ishigaki jima**	**1.83**	**286**	A		A	16 37 48.7	
	comp=N,10.0nm,6.0s,comp=E,5.0nm,5.0s							
JKRS	**Kuro-shima**	**1.92**	**281**	P		**Pn**	**16 37 50.5**	**+0.4**
JKRS				*e*S		**Sn**	**16 38 14.2**	**-0.2**
JKRS	**Kuro-shima**	**1.92**	**281**	A		A	16 37 50.5	
	comp=N,24nm,7.0s,comp=E,13nm,3.0s							
HATJ	**Hateruma jima**	**2.08**	**275**	*e*P		**Pn**	**16 37 52.3**	**0.0**
HATJ				S		**Sn**	**16 38 17.9**	**-0.5**
HATJ	**Hateruma jima**	**2.08**	**275**	A		A	16 37 52.3	
	comp=N,9.0nm,2.8s,comp=E,9.0nm,2.8s							
IRIF	**Iriomote-Funau**	**2.19**	**283**	*e*P		**Pn**	**16 37 53.7**	**-0.1**
IRIF				*e*S		**Sn**	**16 38 19.6**	**-1.5**
IRIF	**Iriomote-Funau**	**2.19**	**283**	A		A	16 37 53.7	
	comp=N,11nm,7.1s,comp=E,6.0nm,2.2s							
JKE	**Kume jima 2**	**2.52**	**15**	*e*P		**Pn**	**16 37 58.2**	**-0.2**
JKE				S		**Sn**	**16 38 27.6**	**-1.8**
JJT3	**Tamagusuku3**	**2.74**	**34**	*e*P		**Pn**	**16 38 01.7**	**+0.2**
JJT3	**Tamagusuku3**	**2.74**	**34**	A		A	16 38 01.7	
	comp=N,11nm,3.4s,comp=E,10.0nm,2.8s							
YOJ	**Yonaguni jima**	**2.85**	**282**			**Pn**	**16 38 03.3**	**+0.3**
YOJ	**Yonaguni jima**	**2.85**	**282**	P		**Pn**	**16 38 03.2**	**+0.3**
YOJ	**Yonaguni jima**	**2.85**	**282**	*e*P		**Pn**	**16 38 03.3**	**+0.3**
JAGN	**Aguni-jima**	**2.90**	**21**	*e*P		**Pn**	**16 38 03.7**	**+0.1**
JAGN	**Aguni-jima**	**2.90**	**21**	A		A	16 38 03.7	
	comp=N,5.0nm,2.0s,comp=E,6.0nm,2.1s							
JNTH	**Nagotoyohara**	**3.17**	**33**	*e*P		**Pn**	**16 38 07.1**	**-0.2**
JOW	**Kunigami**	**3.56**	**34**	Pn		**Pn**	**16 38 12.4**	**-0.2**
	comp=E,24nm,0.3s,baz=215,slow=11,SNR=92							
JOW				Sn		**Sn**	**16 38 52.1**	**-2.7**
	comp=E,18nm,0.3s,baz=224,slow=22,SNR=4.1							
	comp=E,295nm,0.7s							
JOW	**Kunigami**	**3.56**	**34**	P		**Pn**	**16 38 12.8**	**+0.1**
JOW	**Kunigami**	**3.56**	**34**	*e*P		**Pn**	**16 38 12.8**	**+0.1**
JOW				*e*S		**Sn**	**16 38 52.2**	**-2.7**
JIH	**Iheya**	**3.58**	**28**	*e*P		**Pn**	**16 38 12.9**	**0.0**
JYRO	**Yoronjima**	**3.80**	**34**	*e*P		**Pn**	**16 38 15.9**	**-0.1**
NACB	**Ninganchiao**	**4.10**	**275**			**Pn**	**16 38 19.1**	**-1.1**
NACB	**Ninganchiao**	**4.10**	**275**	P		**Pn**	**16 38 19.2**	**-1.0**
TATO	**Taipei**	**4.32**	**286**			**Pn**	**16 38 23.8**	**+0.7**
TATO	**Taipei**	**4.32**	**286**	P		**Pn**	**16 38 23.6**	**+0.5**
YHNB	**Yeheng**	**4.36**	**281**			**Pn**	**16 38 24.5**	**+0.8**
YHNB	**Yeheng**	**4.36**	**281**	P		**Pn**	**16 38 24.6**	**+0.8**
YULB	**Yu-li**	**4.40**	**265**			**Pn**	**16 38 22.3**	**-2.1**
YULB	**Yu-li**	**4.40**	**265**	P		**Pn**	**16 38 22.8**	**-1.5**
SSLB	**Suanglung**	**4.69**	**270**			**Pn**	**16 38 26.9**	**-1.3**
SSLB	**Suanglung**	**4.69**	**270**	P		**Pn**	**16 38 27.8**	**-0.4**
TWGBT	**Beinan**	**4.71**	**258**	P		**Pn**	**16 38 26.9**	**-1.6**
TWG	**Pinlang**	**4.71**	**258**			**Pn**	**16 38 26.3**	**-2.2**
TPUB	**Ta-pu**	**5.02**	**265**			**Pn**	**16 38 32.4**	**-0.5**
TPUB	**Ta-pu**	**5.02**	**265**	P		**Pn**	**16 38 33.5**	**+0.6**
JMZ	**Minamidaito 2**	**5.07**	**66**	P		**Pn**	**16 38 33.3**	**-0.1**
JNU	**Nakatsue**	**10.13**	**24**	Pn		**Pn**	**16 39 42.4**	**-0.6**
	comp=E,0.6nm,0.3s,baz=212,slow=4.7,SNR=8.0							
JNU				Sn		**Sn**	**16 41 31.4**	**-5.5**
	comp=E,0.1nm,0.3s,baz=343,slow=16,SNR=1.0							
JNU				LR		LR	16 43 43.9	
	comp=E,138nm,20.5s,baz=200,slow=38							
	comp=E,5.6nm,0.6s							
JNU	**Nakatsue**	**10.13**	**24**	P		**Pn**	**16 39 44.6**	**+1.6**
TGY	**Tagaytay City**	**10.87**	**207**	Pn		**Pn**	**16 39 52.0**	**-1.1**
	comp=E,44nm,0.3s,baz=296,slow=4.0,SNR=4.2							
KSRS	**Korea Array**	**13.63**	**6**	Pn		**Pn**	**16 40 28.0**	**-2.7**
	comp=E,0.1nm,0.3s,baz=186,slow=14,SNR=5.6							
	comp=E,3.1nm,0.9s							
JCJ	**Chichijima**	**14.90**	**74**	LR		LR	16 45 15.1	
	comp=E,80nm,20.4s,baz=146,slow=32							
DL2	**Dalian**	**15.45**	**347**	P		**Pn**	**16 40 57.0**	**+1.6**
DL2				S		**Sn**	**16 43 52.5**	**+5.8**
DL2				pmax		pmax		
	comp=Z,35nm,0.9s							
DL2				pmax		pmax		
	comp=Z,240nm,4.1s							
DL2				LR		LR		
	comp=N,570nm,11.0s							
DL2				LR		LR		
	comp=E,870nm,11.8s							
DL2				LR		LR		
	comp=Z,780nm,10.2s							
QIZ	**Qiongzhong**	**15.86**	**255**	P		**Pn**	**16 41 01.3**	**+0.5**
QIZ				S		**Sn**	**16 43 49.5**	**-7.3**
QIZ				SS		**S**	**16 44 21.0**	**+10**
QIZ				pmax		pmax		
	comp=Z,24nm,1.0s							
QIZ				pmax		pmax		
	comp=Z,140nm,2.9s							
QIZ				LR		LR		
	comp=N,84nm,8.8s							
QIZ				LR		LR		
	comp=E,55nm,6.4s							
QIZ				LR		LR		
	comp=Z,200nm,13.4s							
MAJO	**Matsushiro**	**16.39**	**37**			**P**	**16 41 15.1**	**+4.6**
MJAR	**Matsushiro Arr**	**16.39**	**37**			**P**	**16 41 15.3**	**+4.8**
MJAR	**Matsushiro Arr**	**16.39**	**37**	Pn		**Pn**	**16 41 06.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=221,slow=9.6,SNR=34							
	comp=Z,0.4nm,0.4s							
DAV	**Davao City (W)**	**16.72**	**182**	LR		LR	16 47 14.6	
	comp=Z,56nm,20.6s,baz=4.0,slow=36							
SGSI	**Sangihe**	**20.08**	**182**	P		Pn	16 41 54.0	+1.0
	comp=Z,91nm,0.7s							
SLVN	**Son La**	**20.62**	**267**	P		**P**	**16 41 55.1**	**-2.0**
HHC	**Hu-ho-hao-te**	**20.84**	**328**	*e*P		**P**	**16 41 59.8**	**+0.3**
HHC				S		**S**	**16 45 44.0**	**-8.1**
HHC				sS		sS	16 45 53.0	-1.9
HHC				SS		**SnSn**	**16 46 19.3**	**+7.0**
HHC				pmax		pmax		
	comp=Z,13nm,0.6s							
HHC				pmax		pmax		
	comp=Z,68nm,5.5s							
HHC				LR		LR		
	comp=N,280nm,10.4s							
HHC				LR		LR		
	comp=E,360nm,10.5s							
HHC				LR

comp=Z,1.1nm,0.7s,baz=286,slow=11,SNR=6.3
comp=Z,1.1nm,0.7s
ZALV Zalesovo Beam 42.99 325 P **P** **16 45 15.8 -0.9**
comp=Z,1.4nm,0.6s,baz=113,slow=8.0,SNR=8.0
ZALV PcP **PcP** **16 47 05.8 -1.3**
comp=Z,1.1nm,0.7s,baz=98,slow=10,SNR=3.6
ZALV LR LR 17 03 59.7
comp=Z,38nm,18.1s,baz=56,slow=37
comp=Z,1.4nm,0.6s
WRAB Tennant Creek 44.29 169 P **P** **16 45 23.8 -3.8**
WRA Warramunga Arr 44.29 169 **P** **16 45 27.7 +0.1**
WRA Warramunga Arr 44.29 169 P **P** **16 45 27.9 +0.3**
comp=Z,22nm,0.8s,baz=350,slow=8.8,SNR=95
KSH Kashi 44.82 303 P **P** **16 45 35.5 +3.6**
KSH sP sP 16 45 42.5 +8.0
KSH pmax pmax
comp=Z,4.0nm,1.2s
KURK Kurchatov 45.23 319 **P** **16 45 35.1 +0.3**
KURBB Kurchatov Arra 45.26 319 P **P** **16 45 34.6 -0.3**
comp=Z,1.9nm,0.7s,baz=109,slow=8.3,SNR=15
KURBB PcP **PcP** **16 47 13.2 -1.6**
comp=Z,0.5nm,0.9s,baz=111,slow=2.1,SNR=1.9
comp=Z,1.9nm,0.7s
PSA00 Pilbara Seismi 45.58 188 **P** **16 45 37.6 -0.2**
PSA00 IAmb IAmb 16 45 38.5
comp=Z,5.5nm,0.9s
PSA00 Pilbara Seismi 45.58 188 IAmb IAmb 16 45 38.1
comp=Z,9.2nm,0.7s
AAK Ala-Archa 46.26 307 LR LR 17 05 49.2
comp=Z,48nm,18.2s,baz=129,slow=37
PALK Pallekele 46.48 257 LR LR 17 06 10.7
comp=Z,35nm,18.2s,baz=97,slow=37
TIXI Tiksi 47.83 1 LR LR 17 06 49.3
comp=Z,65nm,19.0s,baz=204,slow=37
AS31 Alice Springs 47.87 170 IAmb IAmb 16 45 59.0
comp=Z,1.8nm,0.5s
ASAR Alice Springs 47.87 170 **P** **16 45 56.9 +1.1**
comp=Z,2.7nm,0.6s,baz=354,slow=13,SNR=63
ASAR PcP **PcP** **16 47 22.4 -1.9**
comp=Z,0.7nm,0.8s,baz=2.9,slow=4.5,SNR=3.0
comp=Z,2.7nm,0.6s
KKAR Karatay Array 49.21 307 P **P** **16 46 06.1 0.0**
BVAR Borovoye Array 50.76 320 P **P** **16 46 17.7 +0.1**
comp=Z,0.9nm,0.6s
comp=Z,0.9nm,0.6s
BRVK Borovoye 50.83 320 **P** **16 46 18.4 +0.3**
BRVK IAmb IAmb 16 46 21.5
comp=Z,3.6nm,0.8s
AB31 Akbulak array 56.85 314 IAmb IAmb 16 47 04.4
comp=Z,5.1nm,0.8s
ABKAR Akbulak array 56.85 314 **P** **16 47 02.9 +0.7**
NWAO Narrogin (SRO) 57.11 189 P **P** **16 47 02.0 -2.1**
BBOO Buckleboo 57.17 170 P **P** **16 47 04.0 -0.6**
BBOO IAmb IAmb 16 47 06.5
comp=Z,20nm,1.1s
STKA Stephens Creek 57.39 164 IAmb IAmb 16 47 13.1
comp=Z,12nm,0.8s
STKA Stephens Creek 57.39 164 P **P** **16 47 07.0 +0.9**
comp=Z,2.4nm,0.8s,baz=316,slow=8.5,SNR=6.7
comp=Z,2.4nm,0.8s
ARTI Arti 58.14 323 **P** **16 47 11.3 +0.1**
ARTI IAmb IAmb 16 47 19.0
comp=Z,3.8nm,0.7s
BELG Belogornoye 64.51 318 LR LR 17 16 52.5
comp=Z,26nm,18.3s,baz=128,slow=37
KBZ Khabaz 69.14 310 P **P** **16 48 24.1 +0.1**
comp=Z,2.9nm,0.8s,baz=167,slow=2.5,SNR=5.4
comp=Z,2.9nm,0.8s
FINES FINESS Array B 73.94 330 P **P** **16 48 53.0 +0.4**
comp=Z,1.9nm,0.8s,baz=67,slow=5.6,SNR=13
comp=Z,1.9nm,0.8s
AKASG Malin Array Be 76.04 319 P **P** **16 49 05.4 +0.4**
comp=Z,0.3nm,0.2s,baz=60,slow=5.8,SNR=5.6
comp=Z,0.3nm,0.2s
BRTR Keskin Array B 76.92 308 P **P** **16 49 10.9 +0.5**
comp=Z,1.1nm,0.7s,baz=113,slow=5.1,SNR=7.5
comp=Z,1.1nm,0.7s
HFS Hagfors 79.98 332 P **P** **16 49 27.1 +0.4**
comp=Z,2.5nm,0.7s,baz=43,slow=6.7,SNR=6.8
HFS LR LR 17 27 00.2
comp=Z,34nm,18.2s,baz=269,slow=37
comp=Z,2.5nm,0.7s
NB2 NORSAR Subarra 80.54 333 P **P** **16 49 30.2 +0.4**
comp=Z,1.4nm,0.8s,baz=57,slow=5.3
NOA NORSAR Array B 80.54 333 P **P** **16 49 30.1 +0.3**
comp=Z,2.4nm,0.9s,baz=56,slow=5.4,SNR=10.0
NOA LR LR 17 28 19.9
comp=Z,37nm,18.4s,baz=240,slow=38
comp=Z,2.4nm,0.9s
STHS Stebnicka Huta 81.27 320 *eP* **P** **16 49 33.2 -0.7**
VYHS Vyhne 83.10 320 *eP* **P** **16 49 45.1 +1.6**
GERES GERESS Array B 85.87 322 P **P** **16 49 56.6 -1.0**
comp=Z,0.8nm,0.8s,baz=57,slow=4.9,SNR=5.7
comp=Z,0.8nm,0.8s

*TXNET **27** 16:41:52.3, 33.0°N ± 0.4° × 100.9°W ± 0.5°, h6 km ± 1 km, ML2.7/7, Error ellipse: s-maj=0.8km s-min=0.6km az=103.8, final*
*NEIC **27** 16:41:52.8 ± 1.7, 32.94°N ± 0.02° × 100.88°W ± 0.01°, h5 km ± 1 km, mb_Lg2.5/59, ML2.3/6, ML2.8/8, Error ellipse: s-maj=2.9km s-min=2.5km az=332.0*
*NEIC **27** 16:41:52.3 ± 1.5, 32.953°N ± 0.004° × 100.91°W ± 0.02°, h6 km ± 2 km, Error ellipse: s-maj=1.9km s-min=0.7km az=93.0*

ISC 27 16:41:52.4 ± 0.8, **32.95N** ± 0.02° × **100.89W** ± 0.02°, **h5** km ± 5 km, **n59**, σ 0 s **70**/78, **7C-1D**, **Western Texas**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SN03	**Snyder 3**	**0.05**	**241**			**Pg**	**16 41 53.5**	**-0.3**
SN03						**Sg**	**16 41 54.3**	**-0.3**
SN03	**Snyder 3**	**0.05**	**241**	⇓P		**Pg**	**16 41 53.4**	**-0.3**
SN03				S		**Sg**	**16 41 54.3**	**-0.3**
SN05	**Snyder 5**	**0.07**	**173**	Pg		**Pg**	**16 41 54.0**	**0.0**
SN05				IAML			16 41 55.4	
	5μm,0.1s							
SN05				IAML			16 41 55.5	
	8μm,0.3s							
SN05	**Snyder 5**	**0.07**	**173**	⇑P		**Pg**	**16 41 54.0**	**0.0**
SN05				S		**Sg**	**16 41 55.5**	**+0.3**
SN02	**Snyder 2**	**0.08**	**190**			**Pg**	**16 41 54.2**	**0.0**
SN02						**Sg**	**16 41 55.8**	**+0.2**
SN02	**Snyder 2**	**0.08**	**190**	⇑P		**Pg**	**16 41 54.2**	**0.0**
SN02				S		**Sg**	**16 41 55.8**	**+0.2**
SN01	**Snyder 1**	**0.09**	**178**			**Pg**	**16 41 54.3**	**0.0**
SN01						**Sg**	**16 41 55.7**	**+0.1**
SN01	**Snyder 1**	**0.09**	**178**	⇑P		**Pg**	**16 41 54.3**	**0.0**
SN01				S		**Sg**	**16 41 55.7**	**+0.1**
SN07	**Snyder 07**	**0.14**	**1**			**Pg**	**16 41 55.0**	**-0.3**
SN07				Sg		**Sg**	**16 41 57.4**	**+0.1**
SN07	**Snyder 07**	**0.14**	**1**	⇑P		**Pg**	**16 41 55.2**	**-0.2**
SN07				S		**Sg**	**16 41 57.3**	**0.0**
SN08	**Arah**	**0.22**	**221**	⇑P		**Pg**	**16 41 56.5**	**-0.1**
SN08				S		**Sg**	**16 41 59.6**	**+0.1**
POST	**Post**	**0.52**	**283**			**Pg**	**16 42 02.1**	**-0.4**
POST				Sg		**Sg**	**16 42 09.2**	**-0.1**
POST	**Post**	**0.52**	**283**	⇑P		**Pg**	**16 42 02.1**	**-0.4**
POST				S		**Sg**	**16 42 09.1**	**-0.3**
DKNS	**Dickens**	**0.72**	**358**			**Pg**	**16 42 05.5**	**-0.7**
DKNS						**Sg**	**16 42 15.1**	**-0.5**
DKNS	**Dickens**	**0.72**	**358**	⇑P		**Pg**	**16 42 05.5**	**-0.7**
DKNS				S		**Sg**	**16 42 15.1**	**-0.5**
APMT	**Aspermont**	**0.75**	**60**			**Pg**	**16 42 06.5**	**-0.3**
APMT						**Sg**	**16 42 16.4**	**-0.1**
APMT	**Aspermont**	**0.75**	**60**	P		**Pg**	**16 42 06.6**	**-0.3**
APMT				S		**Sg**	**16 42 16.4**	**-0.1**
TMB05	**Klondike**	**0.87**	**249**	P		**Pg**	**16 42 08.4**	**-0.8**
TMB05				S		**Sg**	**16 42 20.1**	**-0.5**
SGCY	**Sterling City**	**1.05**	**191**			**Pg**	**16 42 11.9**	**-0.6**
SGCY						**Sg**	**16 42 25.6**	**-0.5**
SGCY				IAML			16 42 33.7	
	184nm,0.3s							
SGCY	**Sterling City**	**1.05**	**191**	P		**Pg**	**16 42 11.9**	**-0.6**
SGCY				S		**Sg**	**16 42 25.7**	**-0.5**
ABTX	**Abilene, Hawle**	**1.10**	**107**			**Pg**	**16 42 13.0**	**-0.5**
ABTX						**Sg**	**16 42 27.8**	**-0.1**
ABTX	**Abilene, Hawle**	**1.10**	**107**	P		**Pg**	**16 42 13.0**	**-0.5**
ABTX				S		**Sg**	**16 42 27.8**	**-0.1**
TMB06	**Greenwood**	**1.23**	**219**	P		**Pg**	**16 42 16.0**	**0.0**
TMB06				S		**Sg**	**16 42 32.3**	**+0.3**
TMB04	**Seminole**	**1.38**	**257**	P		**Pn**	**16 42 17.3**	**-1.2**
TMB04				S		**Sb**	**16 42 35.7**	**-1.0**
TMB04				Sg		**Sg**	**16 42 37.1**	**+0.3**
ODSA	**Odessa**	**1.62**	**240**			**Pn**	**16 42 22.4**	**+0.6**
ODSA						**Sn**	**16 42 43.2**	**+0.1**
ODSA				Sg		**Sg**	**16 42 45.2**	**+0.6**
ODSA	**Odessa**	**1.62**	**240**	P		**Pn**	**16 42 22.4**	**+0.6**
ODSA				S		**Sn**	**16 42 43.2**	**+0.1**
ODSA				Sg		**Sg**	**16 42 45.2**	**+0.6**
TMB01	**Midkiff**	**1.62**	**219**	P		**Pn**	**16 42 22.5**	**+0.8**
TMB01				S		**Sn**	**16 42 43.1**	**0.0**
MSTX	**Muleshoe**	**1.87**	**304**			**Pn**	**16 42 25.8**	**+0.6**
MSTX						**Sn**	**16 42 50.8**	**+1.5**
MSTX	**Muleshoe**	**1.87**	**304**	P		**Pn**	**16 42 25.8**	**+0.6**
MSTX				S		**Sn**	**16 42 50.8**	**+1.5**
TMB02	**Rankin**	**2.00**	**209**	S		**Sb**	**16 42 53.9**	**-0.5**
AMTX	**Amarillo**	**2.04**	**341**			**Pn**	**16 42 28.8**	**+1.3**
AMTX	**Amarillo**	**2.04**	**341**	P		**Pn**	**16 42 28.9**	**+1.3**
PLPT	**Palo Pinto**	**2.17**	**93**			**Pb**	**16 42 31.2**	**-1.0**
WTFS	**Witchita Falls**	**2.19**	**67**	Pn		**Pn**	**16 42 30.2**	**+0.7**
SMWD	**Samnorwood**	**2.22**	**14**			**Pn**	**16 42 31.7**	**+1.7**
MNHN	**Monahans**	**2.25**	**225**	IAmb_Lg			16 43 07.1	
	comp=Z,23nm,0.9s							
BRDY	**Brady**	**2.31**	**135**			**Pn**	**16 42 32.1**	**+0.9**
CPRX	**Cap Rock**	**2.50**	**273**			**Pn**	**16 42 35.9**	**+2.0**
WMOK	**Wichita Mounta**	**2.51**	**44**			**Pn**	**16 42 34.5**	**+0.6**
JCT	**Junction City**	**2.63**	**159**			**Pn**	**16 42 36.8**	**+1.3**
FW06	**Azle**	**2.81**	**89**	IAmb_Lg			16 43 26.6	
	comp=Z,21nm,1.0s							
PECS	**Pecos**	**2.97**	**239**			**Pn**	**16 42 40.6**	**+0.3**
WHTX	**Lake Whitney,**	**3.06**	**107**			**Pn**	**16 42 41.9**	**+0.5**
Z35A	**Perchaven, San**	**3.08**	**82**	IAmb_Lg			16 43 36.4	
	comp=Z,12nm,0.7s							
SAND	**Sanderson**	**3.16**	**200**			**Pn**	**16 42 43.4**	**+0.5**
SAND				IAmb_Lg			16 43 35.7	
	comp=Z,9.6nm,0.8s							
ALPN	**Alpine**	**3.47**	**223**	IAmb_Lg			16 43 47.0	
	comp=Z,15nm,1.1s							
DRIO	**Del Rio**	**3.52**	**176**	IAmb_Lg			16 43 50.7	
	comp=Z,24nm,0.8s							
HNDO	**Hondo**	**3.68**	**158**			**Pn**	**16 42 51.1**	**+1.2**
HNDO				IAmb_Lg			16 43 53.3	
	comp=Z,16nm,1.0s							
MNTX	**Cornudas Mount**	**4.00**	**253**			**Pn**	**16 42 55.3**	**+0.9**
VHRN	**Van Horn**	**4.09**	**239**			**Pn**	**16 42 57.2**	**+1.4**
TX31	**Lajitas Ar. Si**	**4.32**	**214**			**Pn**	**16 42 59.4**	**+0.5**
TXAR	**Lajitas Array**	**4.32**	**214**			**Pn**	**16 42 59.0**	**+0.2**
OK052	**Battle Ridge R**	**4.54**	**47**	IAmb_Lg			16 44 25.6	
	comp=Z,6.2nm,1.0s							
833A	**Chaparral WMA,**	**4.79**	**164**	IAmb_Lg			16 44 31.1	
	comp=Z,15nm,0.7s							
Z38A	**Mt. Pleasant**	**4.97**	**85**	IAmb_Lg			16 44 38.7	
	comp=Z,16nm,0.7s							
ANMO	**Albuquerque**	**5.04**	**295**	IAmb_Lg			16 44 31.1	
	comp=Z,11nm,0.8s							
ANMO	**Albuquerque**	**5.04**	**295**	IAmb_Lg			16 44 31.1	
	comp=Z,12nm,0.8s							
MIAR	**Mount Ida**	**6.30**	**73**	IAmb_Lg			16 45 21.2	
	comp=Z,4.6nm,0.7s							
U38A	**Gravette**	**6.39**	**55**	IAmb_Lg			16 45 20.2	
	comp=Z,5.9nm,1.0s							

*IDC **27** 16:47:02.6 ± 4.0, 15.°90S × 66.°65E, h0 km, mb3.8/6, mbtmp3.8/6, MS3.5/1, Error ellipse: s-maj=118.1km s-min=31.3km az=60.0*

ISC 27 16:47:04.4 ± 4.1, **15.°9S** ± 0.4° × **66.7E** ± 0.7°, **h10** km, **n16**, σ 0 s **45**/6, **mb4.0**/6, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**9.96**	**35**	T		T	16 58 49.8	
	baz=214,slow=75,SNR=65							
H08S2	**Diego Garcia H**	**9.97**	**35**	T		T	16 58 50.0	
	baz=214,slow=75,SNR=214							
H08S3	**Diego Garcia H**	**9.98**	**35**	T		T	16 58 51.0	
	baz=214,slow=75,SNR=552							
H04N2	**CROZET ISLANDS**	**32.66**	**199**	T		T	17 29 02.2	
	baz=28,slow=75,SNR=5.1							
H04N1	**CROZET ISLANDS**	**32.66**	**199**	T		T	17 29 03.1	
	baz=28,slow=75,SNR=3.2							
H04N3	**CROZET ISLANDS**	**32.67**	**199**	T		T	17 29 02.5	
	baz=28,slow=75,SNR=3.9							
LSZ	**Lusaka**	**37.05**	**266**	LR		LR	17 07 46.7	
	comp=Z,73nm,19.8s,baz=157,slow=34							
H01W3	**Cape Leeuwin H**	**46.39**	**123**	T		T	17 45 00.4	
	baz=282,slow=75,SNR=21							
H01W2	**Cape Leeuwin H**	**46.39**	**123**	T		T	17 45 00.7	
	baz=282,slow=75,SNR=20							
H01W1	**Cape Leeuwin H**	**46.41**	**123**	T		T	17 45 01.7	
	baz=282,slow=75,SNR=22							
CMAR	**Chiang Mai Arr**	**46.62**	**44**	P		**P**	**16 55 33.2**	**0.0**
	0.3nm,0.4s,baz=235,slow=6.7,SNR=4.8							
	0.3nm,0.4s							
ASAR	**Alice Springs**	**63.25**	**109**	P		**P**	**16 57 34.1**	**+0.4**
	1.1nm,0.9s,baz=273,slow=5.5,SNR=5.6							
	1.1nm,0.9s							
MKAR	**Makanchi Array**	**63.95**	**12**	P		**P**	**16 57 38.0**	**+0.4**
	0.7nm,0.9s,baz=193,slow=5.6,SNR=2.2							
	0.7nm,0.9s							
WRA	**Warramunga Arr**	**64.13**	**105**	P		**P**	**16 57 39.1**	**-0.5**
	1.6nm,0.8s,baz=270,slow=5.8,SNR=5.8							
	1.6nm,0.8s							
KURBB	**Kurchatov Arra**	**67.03**	**8**	P		**P**	**16 57 57.1**	**-0.3**
	0.9nm,0.9s,baz=207,slow=6.8,SNR=2.7							
	0.9nm,0.9s							
ZALV	**Zalesovo Beam**	**71.26**	**11**	P		**P**	**16 58 23.7**	**0.0**
	1.5nm,1.0s,baz=196,slow=5.3,SNR=4.4							
	1.5nm,1.0s							

*IDC **27** 16:47:42.6 ± 2.2, 5.°26S × 151.°61E, h58 km ± 18 km, mb4.1/20, mbtmp4.4/21, ML2.5/1, MS3.3/20, Error ellipse: s-maj=17.4km s-min=11.7km az=99.0*
*NEIC **27** 16:47:43.9 ± 2.0, 5.°32S ± 0.07° × 151.°68E ± 0.09, h61 km ± 6 km, mb4.5/31, Error ellipse: s-maj=14.0km s-min=9.0km az=113.0*

ISC 27 16:47:42.8 ± 0.4, **5.°35S** ± 0.05° × **151.°68E** ± 0.08, **h57** km, **n84**, σ 1 s **33**/78, **mb4.5**/40, **MS3.3**/17, **1D**, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.25**	**23**			**Pn**	**16 48 05.7**	**+1.6**
MANU	**Manus Island**	**5.41**	**307**			**Pn**	**16 49 04.2**	**+3.2**
PMG	**Port Moresby**	**6.03**	**228**			**Pn**	**16 49 11.0**	**+1.6**
PMG	**Port Moresby**	**6.03**	**228**	P		**Pn**	**16 49 10.7**	**+1.3**
	7.2nm,0.3s,baz=44,slow=9.3,SNR=21							
PMG				S		**Sn**	**16 50 17.3**	**+0.2**
	149nm,0.6s,baz=49,slow=19,SNR=14							
PMG				LR		LR	16 51 41.5	
	comp=Z,393nm,18.9s,baz=4.0,slow=40							
	98nm,0.8s							
HNR	**Honiara**	**9.15**	**117**	LR		LR	16 53 16.8	
	comp=Z,134nm,19.2s,baz=293,slow=36							
JAY	**Jayapura**	**11.30**	**284**	LR		LR	16 54 04.2	
	0.3nm,2.1nm,0.8s,baz=60,slow=34							
COEN	**Coen**	**11.97**	**224**	Pn		**Pn**	**16 50 31.9**	**+1.1**
PATS	**Pohnpei**	**13.80**	**29**	Pn		**Pn**	**16 50 53.7**	**-2.0**
CTAO	**Charters Tower**	**15.57**	**199**	P		**P**	**16 51 24.2**	**+2.1**
EIDS	**Eidsvold**	**19.92**	**182**			**Pn**	**16 52 14.7**	**+2.7**
GUMO	**Guam**	**19.99**	**340**	LR		LR	16 58 55.9	
	comp=Z,26nm,18.9s,baz=180,slow=34							
MTN	**Manton Dam**	**21.60**	**248**			**P**	**16 52 28.3**	**+0.2**
MTN				IAmb		IAmb	16 52 40.4	
	comp=Z,22nm,0.8s							
DZM	**Mont Dzumac**	**21.92**	**141**	P		**P**	**16 52 31.5**	**-0.2**
DZM				IAmb		IAmb	16 52 57.0	
	comp=Z,24nm,1.3s							
DZM	**Mont Dzumac**	**21.92**	**141**	P		**P**	**16 52 32.8**	**+1.1**
	comp=Z,4.2nm,0.5s,baz=258,slow=4.8,SNR=11							
	comp=Z,4.2nm,0.5s							
WB0	**Warramunga Arr**	**22.10**	**228**			**P**	**16 52 33.0**	**-0.5**
WB0				IAmb		IAmb	16 52 35.7	
	comp=Z,19nm,0.8s							
WR8	**Warramunga Arr**	**22.14**	**227**			**P**	**16 52 33.4**	**-0.5**
WRAB	**Tennant Creek**	**22.23**	**228**	P		**P**	**16 52 34.1**	**-0.9**
WRA	**Warramunga Arr**	**22.25**	**228**			**P**	**16 52 34.4**	**-0.8**
WRA	**Warramunga Arr**	**22.25**	**228**	P		**P**	**16 52 34.3**	**-0.8**
	comp=Z,22nm,0.5s,baz=52,slow=9.8,SNR=92							
WRA				PcP		**PcP**	**16 56 30.2**	**+0.4**
	comp=Z,3.3nm,1.0s,baz=37,slow=1.9,SNR=9.4							
WRA				ScP		**ScP**	**17 00 02.2**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=55,slow=2.6,SNR=5.7							
WRA				LR		LR	17 00 48.1	
	comp=Z,122nm,20.0s,baz=354,slow=35							
	comp=Z,22nm,0.5s							
KNRA	**Kununurra**	**24.73**	**244**			**P**	**16 52 56.2**	**-2.9**
ARMA	**Armidale**	**24.94**	**180**	P		**P**	**16 53 01.1**	**+0.2**
ARMA				IAmb		IAmb	16 53 42.4	
	comp=Z,20nm,1.4s							
AS31	**Alice Springs**	**25.00**	**221**			**P**	**16 53 01.4**	**-0.2**
AS31				IAmb		IAmb	16 53 03.9	
	comp=Z,13nm,0.5s							
ASAR	**Alice Springs**	**25.00**	**221**			**P**	**16 53 01.5**	**0.0**
ASAR	**Alice Springs**	**25.00**	**221**	P		**P**	**16 53 01.2**	**-0.3**
	comp=Z,25nm,0.6s,baz=57,slow=8.7,SNR=205							
ASAR				PcP		**PcP**	**16 56 35.0**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=27,slow=3.5,SNR=2.3							
ASAR				S		**S**	**16 57 17.4**	**-4.2**
	comp=Z,0.3nm,0.6s,baz=46,slow=14,SNR=2.0							
ASAR				ScP		**ScP**	**17 00 10.3**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=41,slow=2.2,SNR=4.9							
ASAR				LR		LR	17 02 54.2	
	comp=Z,94nm,19.2s,baz=21,slow=36							
	comp=Z,25nm,0.6s							
STKA	**Stephens Creek**	**28.03**	**198**	P		**P**	**16 53 29.1**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=27,slow=15,SNR=4.0							
STKA				LR		LR	17 04 24.2	
	comp=Z,142nm,19.1s,baz=25,slow=36							
	comp=Z,1.3nm,0.5s							
BATI	**Baumata**	**28.16**	**258**	P		**P**	**16 53 29.6**	**-0.5**
	comp=Z,21nm,0.7s,baz=355,slow=1.2,SNR=4.1							
BATI				LR		LR	17 07 13.5	
	comp=Z,158nm,18.0s,baz=111,slow=42							
	comp=Z,21nm,0.7s							
FITZ	**Fitzroy Crossi**	**28.41**	**241**	P		**P**	**16 53 31.4**	**-0.9**
	comp=Z,28nm,0.6s,baz=56,slow=7.2,SNR=15							
FITZ				LR		LR	17 05 50.6	
	comp=Z,64nm,20.3s,baz=123,slow=38							
	comp=Z,28nm,0.6s							
DAV	**Davao City (W)**	**28.82**	**295**	LR		LR	17 03 33.2	
	comp=Z,34nm,21.8s,baz=152,slow=33							
BBOO	**Buckleboo**	**30.97**	**206**	P		**P**	**16 53 52.5**	**-2.2**
BBOO				IAmb		IAmb	16 54 25.9	
	comp=Z,28nm,1.5s							
MBWA	**Marble Bar**	**34.73**	**240**	P		**P**	**16 54 25.9**	**-1.9**
PSA00	**Pilbara Seismi**	**34.79**	**239**	P		**P**	**16 54 26.8**	**-1.5**
PSA00				IAmb		IAmb	16 54 28.7	
	comp=Z,18nm,1.4s							
JOW	**Kunigami**	**39.20**	**326**	LR		LR	17 07 49.5	
	comp=Z,47nm,21.2s,baz=118,slow=31							
GIRL	**Giralia**	**40.02**	**241**	P		**P**	**16 55 10.6**	**-2.0**
MJAR	**Matsushiro Arr**	**43.54**	**344**	P		**P**	**16 55 40.1**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=173,slow=6.6,SNR=5.3							
	comp=Z,1.3nm,0.7s							
KSRS	**Korea Array**	**47.99**	**334**	P		**P**	**16 56 16.2**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=160,slow=8.0,SNR=5.0							
	comp=Z,0.7nm,0.6s							
NJ2	**Nanjing**	**48.58**	**322**	*eP*		**P**	**16 56 21.5**	**+0.8**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
ASAJ	**Asahikawa**	**49.91**	**351**	LR		LR	17 15 24.2	
	comp=Z,23nm,21.2s,baz=224,slow=33							
USRK	**Ussuriysk Ar.**	**52.41**	**342**	LR		LR	17 17 04.1	
	comp=Z,29nm,21.4s,baz=164,slow=34							
BNX	**BinXian**	**55.28**	**339**	⇓P		**P**	**16 57 09.3**	**-1.1**
BNX				pmax		pmax		
	comp=Z,5.0nm,1.0s							
XAN	**Xi'an**	**56.25**	**317**	*eP*		**P**	**16 57 16.3**	**-1.4**
XAN				pP		pP	16 57 32.0	-1.2
XAN				pmax		pmax		
	comp=Z,8.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**57.10**	**296**	P		**P**	**16 57 23.8**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=117,slow=5.4,SNR=13							
CMAR				LR		LR	17 23 46.3	
	comp=Z,5.1nm,18.1s,baz=165,slow=38							
	comp=Z,2.2nm,0.9s							
PZH	**PanZhiHua**	**57.78**	**306**	P		**P**	**16 57 30.3**	**+1.6**
PETK	**Petropavlovsk-**	**58.46**	**4**	P		**P**	**16 57 31.9**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=158,slow=6.1,SNR=8.0							
PETK				LR		LR	17 17 50.9	
	comp=Z,20nm,20.4s,baz=193,slow=31							
	comp=Z,1.6nm,0.6s							
XLT	**XiLinHaoTe**	**58.58**	**330**	*eP*		**P**	**16 57 33.8**	**-0.1**
XLT				pmax		pmax		
	comp=Z,8.0nm,0.8s							
XLT				pmax		pmax		
	comp=Z,160nm,6.8s							
HHC	**Hu-ho-hao-te**	**58.84**	**325**	*eP*		**P**	**16 57 37.3**	**+1.5**
HHC				pmax		pmax		
	comp=Z,13nm,0.7s							
HHC				pmax		pmax		
	comp=Z,100nm,4.9s							
HEH	**HeiHe**	**59.22**	**342**	*eP*		**P**	**16 57 37.3**	**-0.8**
SHEM	**Shemya Is, Ala**	**60.90**	**15**	LR		LR	17 19 25.0	
	comp=Z,41nm,21.2s,baz=320,slow=31							
GTA	**Gaotai**	**65.30**	**318**	*eP*		**P**	**16 58 20.0**	**+0.8**
GTA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
SONM	**Songino Array**	**66.19**	**328**	P		**P**	**16 58 24.9**	**+0.1**
SONM				IAmb		IAmb	16 58 26.4	
	comp=Z,3.5nm,0.7s							
SONM	**Songino Array**	**66.19**	**328**	P		**P**	**16 58 24.6**	**-0.1**
	comp=Z,3.6nm,0.6s,baz=144,slow=5.4,SNR=13							
	comp=Z,3.6nm,0.6s							
SEY	**Seymchan**	**68.09**	**0**	P		**P**	**16 58 36.6**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=111,slow=14,SNR=1.6							
	comp=Z,0.9nm,0.6s							
YAK	**Yakutsk**	**69.29**	**349**	LR		LR	17 29 24.2	
	comp=Z,14nm,20.6s,baz=183,slow=36							
VNDA	**Vanda**	**72.33**	**178**	P		**P**	**16 59 03.0**	**+0.9**
VNDA	**Vanda**	**72.33**	**178**	P		**P**	**16 59 02.7**	**+0.7**
	comp=Z,2.8nm,0.8s,

ARTI	**Arti**	**96.24**	**326**	LR		LR	17 43 50.3		
	comp=Z,17nm,21.9s,baz=76,slow=35								
PDAR	**Pinedale Array**	**100.04**	**48**	P		**Pdif**	**17 01 22.1**	**-0.4**	
	comp=Z,0.2nm,0.3s,baz=231,slow=1.4,SNR=2.4								
GERES	**GERESS Array B**	**123.93**	**328**	PKP		**PKPdf**	**17 06 34.2**	**-0.7**	
	comp=Z,1.2nm,0.6s,baz=99,slow=1.8,SNR=12								
EKA	**Eskdalemuir Ar**	**126.22**	**342**	PKP		**PKPdf**	**17 06 38.6**	**-0.3**	
	comp=Z,0.2nm,0.4s,baz=24,slow=3.0,SNR=3.6								
BOAV	**Boa Vista**	**147.75**	**94**	PKPbc		**PKPbc**	**17 07 22.7**	**+0.3**	
TORD	**Torodi Ar. Bea**	**149.40**	**287**			**PKPbc**	**17 07 25.5**	**-1.1**	
TORD	**Torodi Ar. Bea**	**149.40**	**287**	PKPbc		**PKPdf**	**17 07 23.8**	**+1.7**	
	comp=Z,7.8nm,0.7s,baz=37,slow=2.7,SNR=19								
BDFB	**Brasilia**	**151.45**	**137**	PKPbc		**PKPbc**	**17 07 31.0**	**-0.5**	
	comp=Z,3.8nm,0.4s,baz=140,slow=1.2,SNR=7.4								

AUST 27 16:48:18.4±0.6, 18°S±6°×12°0E±°, h10km, mb4.0/9, ML2.8/3, MLS3.7/4, Error ellipse: s-maj=15.9km s-min=6.2km az=139.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.80**	**77**	P	Pn	16 48 50.4	+0.9
AUBRM				S	Sb	16 49 13.9	0.0
MBWA	**Marble Bar**	**2.85**	**193**	P	Pn	16 49 05.7	+1.8
PSA00	**Pilbara Seismi**	**3.23**	**189**	P	Pn	16 49 10.7	+1.5
PSA00				S	Sn	16 49 48.0	+0.2
FITZ	**Fitzroy Crossi**	**5.00**	**88**	P	Pn	16 49 33.6	+0.1
GIRL	**Giralia**	**7.17**	**233**	P	Pn	16 50 03.6	+0.3
	comp=Z,105µmcomp=Z,31nm,1.5s,comp=Z,0.1nm						
GIRL				S	Sn	16 51 18.9	-6.0
MEEK	**Meekatharra**	**8.39**	**191**	P	Pn	16 50 20.8	+0.6
	comp=Z,6.3nm,1.6s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.39**	**191**	S	Sn	16 51 50.6	-4.5
CVQOZ	**Cooralya Stati**	**8.44**	**223**	P	Pn	16 50 20.9	+0.2
	comp=Z,98nm,1.4s,comp=Z,0.4nm						
KNRA	**Kununurra**	**8.44**	**73**	P	Pn	16 50 19.2	-1.6
	comp=Z,6.5nm,1.5s,comp=Z,0.0nm						
KNRA				S	Sn	16 51 48.0	-8.3
WRKA	**Warakurna**	**9.90**	**133**	P	Pn	16 50 41.1	+0.3
	comp=Z,2.3nm,1.9s,comp=Z,0.0nm						
MORW	**Morawa**	**11.37**	**200**	P	Pn	16 50 59.6	-1.3
	comp=Z,15nm,2.3s						
MTN	**Manton Dam**	**11.71**	**64**	P	Pn	16 51 02.9	-2.8
BLDU	**Ballidu**	**12.64**	**195**	P	Pn	16 51 17.6	-0.7
	comp=Z,7.5nm,1.6s						
KLBR	**Kellerberrin**	**13.38**	**190**	P	Pn	16 51 28.1	-0.3
	comp=Z,12nm,1.0s						
MUN	**Mundaring**	**14.07**	**195**	P	Pn	16 51 36.2	-1.6
	comp=Z,14nm,1.8s						
NWAO	**Narrogin (SRO)**	**14.78**	**190**	P	Pn	16 51 44.7	-2.8

*IDC **27** 16:55:10.7±1.5, 38°12N×70°11E, h0km, mb3.7/7, mbtmp3.8/14, ML3.6/6, MS3.3/1, Error ellipse: s-maj=26.8km s-min=11.8km az=148.0*
*NNC **27** 16:55:11.9±1.2, 38°09N×69°98E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=9.9km s-min=7.1km az=179.0*
ISC 27 16:55:12.6±1.2, 38°1N±0°1×69°98E±0°08, h12km, n30, σ1§82/31, mb3.7/7, 5C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Boroldaу**	**4.97**	**359**	Pg	**Pb**	**16 56 37.4**	**-2.1**
	15nm,0.4s						
BRLS				Lg	Lg	16 57 41.3	
	50nm,0.6s						
KK31	**Karatay Array**	**5.06**	**4**	Pn	**Pn**	**16 56 29.3**	**+1.0**
	2.3nm,0.3s,baz=178,slow=12,SNR=72						
KK31				⇑Pg	**Pb**	**16 56 43.7**	**+2.6**
	6.1nm,0.3s,baz=185,slow=17,SNR=18						
KK31				⇑Lg	Lg	16 57 51.6	
	26nm,0.6s,baz=182,slow=29,SNR=5.7						
MRKS	**Merke**	**5.30**	**27**	Pg	**Pb**	**16 56 47.8**	**+2.6**
	29nm,0.4s						
MRKS				Lg	Lg	16 57 59.0	
	31nm,0.9s						
UCH	**Uchtor**	**5.42**	**38**	P	**Pn**	**16 56 34.0**	**+0.3**
	SNR=33						
EKS2	**Erkin-Say**	**5.44**	**31**	P	**Pn**	**16 56 35.4**	**+1.8**
	SNR=9.4						
AAK	**Ala-Archa**	**5.73**	**36**	P	**Pn**	**16 56 38.8**	**+1.2**
	SNR=7.3						
AAK	**Ala-Archa**	**5.73**	**36**	⇑Pn	**Pn**	**16 56 37.8**	**+0.2**
	2.9nm,0.5s						
AAK				⇑Pg	**Pb**	**16 56 54.5**	**+2.0**
	11nm,0.5s						
AAK				⇓Lg	Lg	16 58 14.6	
	47nm,1.5s						
AAK	**Ala-Archa**	**5.73**	**36**	Pn	**Pn**	**16 56 36.8**	**-0.7**
	2.1nm,0.3s,baz=208,slow=7.3,SNR=13						
AAK				Pg	**Pb**	**16 56 53.6**	**+1.0**
	8.8nm,0.3s,baz=161,slow=12,SNR=17						
AAK				Sn	**Sn**	**16 57 44.4**	**+1.0**
	2.0nm,0.3s,baz=166,slow=13,SNR=1.4						
AAK				Lg	Lg	16 58 10.8	
	1.4nm,0.3s,baz=151,slow=19,SNR=5.8						
	7.8nm,0.4s						
KBK	**Karagaybulak**	**5.96**	**38**	P	**Pn**	**16 56 41.7**	**+0.9**
	SNR=9.7						
CHMS	**Chumysh**	**6.13**	**35**	P	**Pn**	**16 56 43.4**	**+0.4**
	SNR=5.3						
TKM2	**Tokmak 2**	**6.47**	**40**	P	**Pn**	**16 56 47.8**	**-0.1**
	SNR=15						
KST	**Kastek**	**6.75**	**41**	Pg	Pb	16 57 15.2	+5.3
	17nm,0.6s						
KST				Lg	Lg	16 58 46.0	
	15nm,1.0s						
TNSS	**Tian-Shan**	**7.27**	**45**	Pg	Pb	16 57 24.3	+5.4
	2.4nm,0.8s						
TNSS				Lg	Lg	16 59 01.9	
	3.7nm,0.9s						
SATY	**Saty**	**8.13**	**49**	Pg	Pb	16 57 38.7	+5.3
	7.8nm,0.5s						
SATY				Lg	Lg	16 59 26.8	
	17nm,2.5s						
MKAR	**Makanchi Array**	**12.59**	**42**	Pn	**Pn**	**16 58 09.5**	**-2.0**
	0.1nm,0.3s,baz=233,slow=14,SNR=15						
MKAR				Lg	Lg	17 01 47.7	
	baz=326,slow=26,SNR=1.7						
	2.9nm,0.9s						
AB31	**Akbulak array**	**13.33**	**330**	⇑Pn	**Pn**	**16 58 21.2**	**-0.3**
	0.6nm,0.4s						
AB31				⇓Sn	**Sn**	**17 00 50.7**	**+1.1**
	1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**13.96**	**23**	Pn	Pn	16 58 25.4	-4.7
	0.1nm,0.3s,baz=214,slow=12,SNR=6.6						
KURBB				Lg	Lg	17 02 32.5	
	baz=231,slow=36,SNR=1.4						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**14.97**	**1**	Pn	**Pn**	**16 58 37.9**	**-6.0**
	0.5nm,0.4s						
AKTO	**Aktyubinsk**	**15.03**	**329**	Pn	**Pn**	**16 58 46.9**	**+2.2**
	0.7nm,0.3s,baz=161,slow=5.9,SNR=9.3						
ZALV	**Zalesovo Beam**	**18.88**	**28**	P	**P**	**16 59 30.2**	**-2.4**
	0.7nm,0.3s,baz=219,slow=11,SNR=15						
	4.0nm,0.5s						
GNI	**Garni**	**19.68**	**284**	P	**P**	**16 59 41.1**	**-0.6**
	1.0nm,0.3s,baz=107,slow=11,SNR=1.8						
	3.8nm,0.5s						
ARTI	**Arti**	**19.91**	**341**	P	**P**	**16 59 41.4**	**-2.4**
	0.4nm,0.3s,baz=152,slow=8.1,SNR=4.0						
	1.9nm,0.6s						
KBZ	**Khabaz**	**21.20**	**294**	P	**P**	**16 59 57.8**	**-0.1**
	0.6nm,0.4s,baz=142,slow=7.2,SNR=2.9						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**35.74**	**325**	P	**P**	**17 02 11.8**	**+0.9**
	0.9nm,0.7s,baz=123,slow=9.4,SNR=6.9						
	0.9nm,0.7s						
ARCES	**ARCESS Array B**	**39.40**	**337**	P	**P**	**17 02 41.3**	**-0.5**
	4.0nm,1.0s,baz=110,slow=7.9,SNR=3.8						
ARCES				LR	LR	17 20 58.8	
	comp=Z,38nm,18.4s,baz=60,slow=39						
	4.0nm,1.0s						
HFS	**Hagfors**	**41.35**	**321**	P	**P**	**17 02 58.6**	**+0.6**
	0.8nm,0.4s,baz=103,slow=11,SNR=12						
	0.8nm,0.4s						
NB2	**NORSAR Subarra**	**42.65**	**322**	P	**P**	**17 03 09.1**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=96,slow=8.6						
NOA	**NORSAR Array B**	**42.65**	**322**	P	**P**	**17 03 08.6**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=96,slow=8.1,SNR=5.0						
	comp=Z,0.4nm,0.5s						
ESDC	**Sonseca Array**	**56.02**	**297**	P	**P**	**17 04 52.4**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=58,slow=7.5,SNR=7.6						
	comp=Z,0.6nm,0.5s						
ASAR	**Alice Springs**	**85.81**	**124**	P	**P**	**17 07 52.3**	**+0.2**
	comp=Z,0.2nm,0.8s,baz=312,slow=4.8,SNR=1.7						
	comp=Z,0.2nm,0.8s						

*SJA **27** 16:59:15.1±0.7, 34°.83S×72°.50W, h12km±3km, ML3.5, MW3.4*
*GUC **27** 16:59:19.9±0.8, 34°.88S×72°.28W, h32km±5km, ML3.6*
ISC 27 16:59:17.2±1.5, 34°.87S±0°.02×72°.22W±0°.05, h7km±10km, n37, σ1§39/64, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.43**	**30**	⇑*i*P	**Pn**	**16 59 29.5**	**-0.2**
BO03				*i* S	**Sb**	**16 59 35.8**	**+2.1**
BO03				IAML		16 59 36.7	
	comp=E,8µm,0.2s						
BO01	**Tunca**	**1.05**	**63**	*e*P	**Pn**	**16 59 38.5**	**+0.2**
BO01				*i* S	**Sn**	**16 59 52.7**	**-0.5**
BO01				IAML		16 59 55.9	
	comp=N,2µm,0.3s						
BO01	**Tunca**	**1.05**	**63**	*e*P	**Pn**	**16 59 38.7**	**+0.4**
BO01				*e*S	**Sn**	**16 59 53.7**	**+0.5**
BO01				IAML		16 59 56.0	
	comp=Z,1µm,0.5s						
ML02	**Panimavida**	**1.11**	**144**	*e*P	**Pn**	**16 59 40.0**	**+0.9**
ML02				*i* S	**Sn**	**16 59 54.0**	**-0.7**
ML02				IAML		16 59 58.5	
	comp=E,3µm,0.6s						
ML02	**Panimavida**	**1.11**	**144**	*e*P	**Pn**	**16 59 43.4**	**+4.3**
ML02				IAML		17 00 07.1	
	comp=Z,742nm,0.5s						
BO02	**Sierra Bellavi**	**1.19**	**87**	⇑*i*P	**Pn**	**16 59 41.3**	**+1.1**
BO02				*i* S	**Sn**	**16 59 57.0**	**+0.3**
BO02	**Sierra Bellavi**	**1.19**	**87**	*e*P	**Pn**	**16 59 41.3**	**+1.1**
BO02				*e*S	**Sn**	**16 59 57.9**	**+1.2**
MT01	**Popeta**	**1.28**	**39**	*e*P	**Pg**	**16 59 41.7**	**-0.2**
MT01				*i* S	**Sb**	**16 59 58.9**	**+0.6**
MT01				IAML		17 00 03.9	
	comp=N,1µm,0.6s						
MT01	**Popeta**	**1.28**	**39**	*e*P	**Pb**	**16 59 41.9**	**+0.2**
MT01				*e*S	**Sn**	**16 59 59.8**	**+0.8**
MT01				IAML		17 00 03.9	
	comp=Z,719nm,0.4s						
VA05	**Santo Domingo**	**1.31**	**23**	*e*P	**Pn**	**16 59 42.5**	**+0.6**
VA05				*i* S	**Sb**	**16 59 59.8**	**+0.7**
VA05				IAML		17 00 01.3	
	comp=N,3µm,0.5s						
MT09	**Talagante**	**1.49**	**43**	*e*P	**Pb**	**16 59 45.4**	**+0.1**
MT09				*i* S	**Sb**	**17 00 04.3**	**-0.2**
MT09				IAML		17 00 10.6	
	comp=N,2µm,0.3s						
BO04	**La Punta**	**1.60**	**57**	*e*P	**Pg**	**16 59 47.5**	**-0.3**
BO04				*i* S	**Sg**	**17 00 08.1**	**-0.4**
BO04				IAML		17 00 11.1	
	comp=N,1µm,0.2s						
MT02	**Curacav**	**1.84**	**30**	*e*P	**Pn**	**16 59 49.3**	**+0.1**
MT02				*i* S	**Sn**	**17 00 11.7**	**-1.0**
MT02				IAML		17 00 22.8	
	comp=N,392nm,0.2s						
MT02	**Curacav**	**1.84**	**30**	*e*P	**Pn**	**16 59 49.6**	**+0.4**
MT02				*e*S	**Sn**	**17 00 13.7**	**+1.0**
MT02				IAML		17 00 17.4	
	comp=Z,270nm,0.6s						
VA01	**Torpederas**	**1.90**	**15**	*e*P	**Pn**	**16 59 50.1**	**+0.2**
VA01				IAML		17 00 25.5	
	comp=Z,200nm,0.5s						
MT05	**Renca**	**1.92**	**40**	*e*P	**Pb**	**16 59 52.8**	**+0.3**
MT05				*i* S	**Sb**	**17 00 17.2**	**+0.5**
MT05				IAML		17 00 20.3	
	comp=E,1µm,0.3s						
MT05	**Renca**	**1.92**	**40**	*e*P	**Pb**	**16 59 53.0**	**+0.5**
MT05				*e*S	**Sn**	**17 00 13.8**	**-0.9**
MT05				IAML		17 00 22.5	
	comp=Z,366nm,0.3s						
BI02	**San Fabin de**	**1.95**	**157**	⇑*i*P	**Pb**	**16 59 52.3**	**-0.8**
BI02				*i* S	**Sn**	**17 00 15.7**	**+0.2**
BI02				IAML		17 00 19.8	
	comp=N,388nm,0.4s						
BI02	**San Fabin de**	**1.95**	**157**	*e*P	**Pb**	**16 59 51.9**	**-1.2**
BI02				IAML		17 00 20.9	
	comp=Z,248nm,0.4s						
LMEL	**Las Melosas**	**1.96**	**59**	*e*P	**Pb**	**16 59 53.4**	**+0.2**
LMEL	**Las Melosas**	**1.96**	**59**	*e*P	**Pn**	**16 59 48.0**	**-3.0**
LMEL				*e*P	**Pb**	**16 59 53.2**	**0.0**
LMEL				*e*S	**Sg**	**17 00 20.8**	**+0.7**
LMEL				IAML		17 00 21.7	
	comp=Z,856nm,0.6s						
BI05	**Punta Hualpn**	**2.03**	**202**	*e*P	**Pn**	**16 59 51.2**	**-0.6**
BI05				IAML		17 00 24.1	
	comp=Z,258nm,0.5s						
ROC1	**El Roble**	**2.14**	**28**	*e*P	**Pn**	**16 59 54.2**	**+0.7**
ROC1				*e*S	**Sg**	**17 00 27.8**	**+1.9**
PEL	**Peldehue**	**2.14**	**37**	*e*P	**Pb**	**16 59 55.3**	**-1.0**
PEL				*e*S	**Sg**	**17 00 26.0**	**-0.1**
PEL				IAML		17 00 30.1	
	comp=Z,307nm,0.5s						
ROCH	**El Roble**	**2.14**	**28**	*e*P	**Pn**	**16 59 55.0**	**+1.5**
MT04	**Ro Olivares**	**2.26**	**50**	*e*P	**Pb**	**16 59 57.4**	**-1.1**
MT04				*e*S	**Sg**	**17 00 28.3**	**-1.7**
MT04				IAML		17 00 33.2	
	comp=Z,281nm,0.5s						
MT08	**Bocatoma Ro**	**2.32**	**53**	*e*P	**Pb**	**16 59 59.6**	**+0.2**
MT08				*e*S	**Sg**	**17 00 30.3**	**-1.3**
MT08				IAML		17 00 33.3	
	comp=Z,148nm,0.4s						
EDS3	**Malargue**	**2.48**	**112**	*e*P	**Pb**	**16 59 59.7**	**-2.4**
EDS3				*e*S	**Sg**	**17 00 39.7**	**+2.9**
VA03	**San Esteban**	**2.52**	**34**	*e*P	Pn	16 59 48.0	-11
VA03				IAML		17 00 40.9	
	comp=Z,329nm,0.5s						
RFA	**San Rafael**	**3.09**	**89**	*e*P	**Pb**	**17 00 10.0**	**-2.5**
RFA				*e*S	**Sb**	**17 00 50.9**	**+0.4**
RFA				IAML		17 01 03.5	
	comp=Z,53nm,0.7s						
CANA	**Caviahue**	**3.15**	**163**	*e*P	**Pb**	**17 00 12.4**	**-1.3**
CO02	**Combarbal**	**3.80**	**16**	*e*P	**Pn**	**17 00 16.5**	**+0.3**
CO02				*e*S	**Sg**	**17 01 20.2**	**+1.1**
CO02				IAML		17 01 25.0	
	comp=Z,99nm,0.7s						
CO03	**El Pedregal**	**4.22**	**18**	*e*P	**Pn**	**17 00 23.2**	**+1.2**
CO03				*e*S	**Sn**	**17 01 12.6**	**+1.0**
CO03				IAML		17 01 32.1	
	comp=Z,63nm,0.6s						
CFA	**Coronel Fontan**	**4.66**	**47**	*e*S	**Sb**	**17 01 32.5**	**-3.2**
GO04	**Tololo Observa**	**4.83**	**15**	*e*P	**Pn**	**17 00 31.0**	**+0.4**
GO04				*e*S	**Sn**	**17 01 24.4**	**-2.5**
GO04				IAML		17 01 55.9	
	comp=Z,62nm,0.8s						
ACCO	**Cerro Coronel**	**5.03**	**33**	*e*P	**Pn**	**17 00 36.4**	**+3.1**
CO01	**Juntas del Tor**	**5.20**	**21**	*e*P	**Pn**	**17 00 37.0**	**+1.4**
CO01				*e*S	**Sn**	**17 01 34.4**	**-1.6**
CO01				IAML		17 02 10.1	
	comp=Z,19nm,1.0s						

*NIC **27** 17:03:06.7, 35°.17N×33°.75E, h50km±1km, Ml1.7/9*
*ISK **27** 17:03:06.4, 35°.15N×33°.81E, h43km±1km, ML2.9/13*
ISC 27 17:03:07.2±1.9, 35°.15N±0°.06×33°.75E±0°.06, h49km±13km, n23, σ0§42/38, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVOU	**Mavrovouni**	**0.16**	**218**	P	**Pn**	**17 03 14.5**	**-0.7**
MVOU				S	**Sn**	**17 03 21.5**	**+0.6**
MVOU				AML	AML	17 03 22.2	
	0.3nm,0.3s						
MVOU				AML	AML	17 03 22.9	
	0.4nm,0.3s						
PAR1C	**Paralimni Civi**	**0.21**	**122**	S	**Sn**	**17 03 22.5**	**+1.0**
AKIN	**Akıncılar- Kıb**	**0.27**	**241**	Pg	**Pn**	**17 03 15.5**	**-0.5**
AKIN				Sg	**Sn**	**17 03 22.1**	**-0.2**
PARAL	**Paralimni**	**0.28**	**123**	P	**Pn**	**17 03 15.7**	**-0.4**
PARAL				S	**Sn**	**17 03 22.6**	**+0.2**
PARAL				AML	AML	17 03 24.7	
	0.2nm,0.3s						
PARAL				AML	AML	17 03 31.0	
	0.3nm,0.9s						
ATHAL	**Athalassa**	**0.29**	**269**	P	**Pn**	**17 03 16.5**	**+0.3**
ATHAL				S	**Sn**	**17 03 23.0**	**+0.4**
ATHAL				AML	AML	17 03 25.3	
	0.4nm,0.4s						
ATHAL				AML	AML	17 03 27.4	
	0.3nm,0.3s						
CSS	**Mathiatis**	**0.39**	**242**	Pg	**Pn**	**17 03 16.9**	**-0.3**
CSS				Sg	**Sn**	**17 03 24.6**	**+0.2**
CSS	**Mathiatis**	**0.39**	**242**	P	**Pn**	**17 03 16.8**	**-0.5**
CSS				S	**Sn**	**17 03 24.6**	**+0.2**
CSS				AML	AML	17 03 25.1	
	0.1nm,0.5s						
CSS				AML	AML	17 03 25.9	
	0.2nm,0.3s						
ASGA	**Asgata**	**0.55**	**229**	P	**Pn**	**17 03 19.2**	**+0.1**
ASGA				S	**Sn**	**17 03 28.1**	**+0.6**
ASGA				AML	AML	17 03 35.4	
	0.1nm,0.5s						
ASGA				AML	AML	17 03 35.5	
	0.1nm,0.4s						
XYLS	**Xyliatos**	**0.59**	**257**	P	**Pn**	**17 03 19.1**	**-0.5**
XYLS				S	**Sn**	**17 03 28.5**	**0.0**
XYLS				AML	AML	17 03 31.4	
	0.2nm,0.4s						
XYLS				AML	AML	17 03 32.4	
	0.1nm,0.1s						
TROD	**Troodos**	**0.75**	**255**	P	**Pn**	**17 03 21.7**	**-0.2**
TROD				S	**Sn**	**17 03 32.5**	**0.0**
TROD				AML	AML	17 03 41.6	
	0.1nm,0.6s						
TROD				AML	AML	17 03 42.4	
	0.1nm,0.7s						
ALFC	**Alefka**	**0.95**	**271**	P	**Pn**	**17 03 23.6**	**-0.7**
ALFC				S	**Sn**	**17 03 36.8**	**+0.1**
ALFC				AML	AML	17 03 37.1	
	0.1nm,0.3s						
ALFC				AML	AML	17 03 41.1	
	0.1nm,0.4s						
AKK1	**Akkuyu-Mersin**	**1.01**	**350**	Pg	**Pn**	**17 03 24.8**	**-0.3**
AKK1				Sg	**Sn**	**17 03 38.7**	**+0.5**
TISA	**Tisan-Mersin**	**1.02**	**357**	Pg	**Pn**	**17 03 24.9**	**-0.3**
TISA				Sg	**Sn**	**17 03 38.5**	**+0.1**
YORU	**Yoruktepe-Mers**	**1.05**	**344**	Pg	**Pn**	**17 03 25.5**	**-0.1**
YESI	**Yesilovacik-Me**	**1.05**	**355**	Pg	**Pn**	**17 03 25.5**	**-0.1**
YESI				Sg	**Sn**	**17 03 39.3**	**+0.1**
KARG	**Kargicak-Mersi**	**1.06**	**358**	Pg	**Pn**	**17 03 25.5**	**-0.2**
IKL	**Isikli**	**1.09**	**357**	Pn	**Pn**	**17 03 25.9**	**-0.3**
IKL				Sn	**Sn**	**17 03 40.2**	**0.0**
AKMS	**Akamas**	**1.17**	**264**	S	**Sn**	**17 03 43.2**	**+1.1**
AKMS				AML	AML	17 03 45.5	
	0.1nm,0.9s						
SILI	**Silifke-Mersin**	**1.23**	**6**	Pn	**Pn**	**17 03 27.9**	**-0.1**
SILI				Sn	**Sn**	**17 03 43.4**	**-0.1**
BERE	**Bereket-Mersin**	**1.27**	**340**	Pn	**Pn**	**17 03 28.8**	**0.0**
KEBE	**Keben-Mersin**	**1.30**	**359**	Pn	**Pn**	**17 03 28.9**	**-0.2**
TEVE	**Tevekalti-Mers**	**1.31**	**349**	Pn	**Pn**	**17 03 29.3**	**0.0**
KIZK	**Mersin**	**1.37**	**13**	Pn	**Pn**	**17 03 29.8**	**-0.2**

STR 27 17:10:20.2±2.4, 45°N±7°×±1°2, h5km, MLv0.3/4, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRN	**Grenoble**	**0.14**	**270**	Pg	Pg	17 10 22.9	-0.1

*IDC **27** 17:13:06.2±1.2, 7°.50S×120°.50E, h0km, mb3.4/4, mbtmp3.4/7, ML3.1/3, MS3.0/2, Error ellipse: s-maj=53.1km s-min=18.2km az=61.0*
*DJA **27** 17:13:10.4±2.8, 8°S±2°×12°0E±°, h13km±24km, M3.4/13, MLv3.4/13*
ISC 27 17:13:08.4±0.8, 7°.67S±0°.04×120°.34E±0°.06, h10km, n21, σ1§85/22, mb3.6/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	**Bau Bau, Buton**	**1.53**	**5**	P	**Pn**	**17 13 37.6**	**+1.8**
BSSI				S	**Sn**	**17 13 57.8**	**+2.1**
EDFI	**Ende, Flores**	**1.71**	**129**	P	**Pn**	**17 13 39.1**	**+0.7**
WSI	**Waingapu**	**1.98**	**181**	P	**Pn**	**17 13 43.8**	**+1.8**
MMRI	**Maumere**	**2.10**	**117**	P	**Pn**	**17 13 44.8**	**+1.1**
WBSI	**Waikabubak, Su**	**2.17**	**206**	P	**Pn**	**17 13 45.8**	**+1.1**
BKSI	**Bulukumba**	**2.35**	**355**	P	**Pn**	**17 13 49.7**	**+2.7**
BASI	**Baing, Sumba**	**2.54**	**175**	P	**Pn**	**17 13 51.5**	**+1.8**
KAPI	**Kappang**	**2.71**	**347**	Pn	**Pn**	**17 13 50.2**	**-1.8**
	7.6nm,0.3s,baz=150,slow=9.1,SNR=9.6						
KAPI				Sn	**Sn**	**17 14 22.7**	**-2.1**
	6.9nm,0.3s,baz=162,slow=20,SNR=6.2						
KAPI				LR	LR	17 15 03.4	
	comp=Z,88nm,19.3s,baz=296,slow=46						
	9.2nm,0.4s						
PLAI	**Plampang**	**2.79**	**246**	P	**Pn**	**17 13 54.9**	**+1.8**
BBSI	**Bau Bau**	**3.10**	**46**	P	**Pn**	**17 13 59.4**	**+2.0**
BNSI	**Bone**	**3.26**	**356**	P	**Pn**	**17 14 02.6**	**+3.0**
SPSI	**Sidrap Palu**	**3.73**	**351**	P	**Pn**	**17 14 07.7**	**+1.6**
KDI	**Kendari**	**4.33**	**32**	P	**Pn**	**17 14 16.1**	**+1.7**
FITZ	**Fitzroy Crossi**	**11.57**	**154**	Pn	**Pn**	**17 15 53.8**	**0.0**
	0.1nm,0.3s,baz=336,slow=12,SNR=2.2						
	1.5nm,0.9s						
LEM	**Lembang**	**12.65**	**273**	Pn	**Pn**	**17 16 10.1**	**+1.4**
	2.1nm,0.3s,baz=131,slow=20,SNR=2.0						
WRA	**Warramunga Arr**	**18.24**	**133**	P	**Pn**	**17 17 21.6**	**-0.3**
	0.1nm,0.3s,baz=304,slow=12,SNR=5.8						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**20.55**	**142**	P	**P**	**17 17 47.3**	**0.0**
	0.5nm,0.6s,baz=320,slow=11,SNR=14						
	0.5nm,0.6s						
NWAO	**Narrogin (SRO)**	**25.29**	**186**	LR	LR	17 28 24.1	
	comp=Z,84nm,18.9s,baz=303,slow=36						
SONM	**Songino Array**	**56.63**	**349**	P	**P**	**17 22 49.9**	**-1.9**
	0.3nm,0.6s,baz=166,slow=12,SNR=1.8						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**63.91**	**332**	P	**P**	**17 23 40.7**	**-0.8**
	0.3nm,0.7s,baz=131,slow=6.5,SNR=3.6						
	0.3nm,0.7s						
**Z

H11N3 WAKE ISLAND Hy 40.38 330 T T 18 08 26.7
baz=150,slow=76,SNR=16
H11N1 WAKE ISLAND Hy 40.38 330 T T 18 08 25.3
baz=150,slow=76,SNR=10
H11N2 WAKE ISLAND Hy 40.40 330 T T 18 08 26.1
baz=150,slow=76,SNR=14
STKA Stephens Creek 44.26 240 P **P** **17 26 19.8 +0.1**
comp=Z,1.0nm,0.4s,baz=26,slow=4.2,SNR=3.5
comp=Z,1.0nm,0.4s
INKA Innaminka 44.41 246 P **P** **17 26 19.5 -1.4**
BBOO Buckleboo 49.03 240 P **P** **17 26 55.9 -1.2**
WR8 Warramunga Arr 50.04 257 P **P** **17 27 03.4 -1.6**
WR8 IAmb IAmb 17 28 25.8
comp=Z,14nm,1.6s
WB0 Warramunga Arr 50.15 257 P **P** **17 27 04.3 -1.5**
WB0 IAmb IAmb 17 27 23.8
comp=Z,5.8nm,1.1s
WRA Warramunga Arr 50.19 257 P **P** **17 27 04.8 -1.3**
comp=Z,0.6nm,0.5s,baz=94,slow=6.2,SNR=14
WRA LR LR 17 48 10.4
comp=Z,76nm,18.7s,baz=14,slow=36
comp=Z,0.6nm,0.5s
AS31 Alice Springs 50.42 252 P **P** **17 27 06.3 -1.5**
ASAR Alice Springs 50.42 252 P **P** **17 27 06.4 -1.5**
ASAR Alice Springs 50.42 252 P **P** **17 27 05.7 -2.2**
comp=Z,2.3nm,0.5s,baz=91,slow=7.5,SNR=84
comp=Z,2.3nm,0.5s
MTN Manton Dam 54.13 265 P **P** **17 27 33.9 -1.6**
MTN IAmb IAmb 17 28 00.4
comp=Z,17nm,1.3s
KNRA Kununurra 55.94 261 P **P** **17 27 45.7 -2.8**
KNRA IAmb IAmb 17 27 50.7
comp=Z,19nm,1.6s
FITZ Fitzroy Crossi 58.56 258 P **P** **17 28 04.2 -2.9**
FITZ Fitzroy Crossi 58.56 258 LR LR 17 51 00.9
comp=Z,88nm,20.5s,baz=124,slow=34
SBA Scott Base 62.99 185 P **P** **17 28 37.6 +1.3**
SBA IAmb IAmb 17 29 17.5
comp=Z,13nm,1.9s
VNDA Vanda 63.13 186 P **P** **17 28 38.4 +1.2**
VNDA IAmb IAmb 17 29 28.0
comp=Z,9.0nm,1.8s
VNDA Vanda 63.13 186 P **P** **17 28 41.3 +4.1**
comp=Z,0.4nm,0.6s,baz=358,slow=4.7,SNR=5.4
comp=Z,0.4nm,0.6s
PSA00 Pilbara Seismi 63.53 253 P **P** **17 28 39.4 -1.5**
PSA00 IAmb IAmb 17 28 48.4
comp=Z,7.1nm,1.5s
PSA00 Pilbara Seismi 63.53 253 P **P** **17 28 39.5 -1.3**
PSA00 IAmb IAmb 17 29 34.5
comp=Z,16nm,1.4s
MBWA Marble Bar 63.69 254 P **P** **17 28 41.2 -0.6**
MBWA IAmb IAmb 17 29 44.9
comp=Z,14nm,1.4s
PFO Pinyon Flats O 72.81 47 LR LR 17 53 20.8
comp=Z,56nm,21.0s,baz=265,slow=29
LPIG La Paz 72.83 58 LR LR 17 53 20.0
comp=Z,39nm,20.6s,baz=256,slow=29
NVAR Mina Array Bea 74.27 42 P **P** **17 29 49.9 +2.3**
comp=Z,1.8nm,0.7s,baz=228,slow=9.9,SNR=9.8
NVAR LR LR 17 55 18.5
comp=Z,47nm,20.5s,baz=272,slow=30
comp=Z,1.8nm,0.7s
QSPA South Pole Qui 74.35 180 P **P** **17 29 50.2 +2.7**
comp=Z,1.7nm,0.8s,baz=54,slow=1.0,SNR=9.0
comp=Z,1.7nm,0.8s
J16K Anvik River 79.31 6 P **P** **17 30 17.6 +2.4**
TXAR Lajitas Array 80.43 56 P **P** **17 30 24.8 +2.7**
comp=Z,0.4nm,0.7s,baz=220,slow=7.6,SNR=5.0
comp=Z,0.4nm,0.7s
ANMO Albuquerque 80.67 50 LR LR 17 57 59.2
comp=Z,40nm,20.7s,baz=326,slow=30
NEW Newport 80.71 34 LR LR 18 00 40.5
comp=Z,28nm,18.1s,baz=155,slow=32
PDAR Pinedale Array 82.20 42 P **P** **17 30 32.5 +1.1**
comp=Z,0.7nm,0.8s,baz=228,slow=5.8,SNR=5.0
PDAR LR LR 18 02 45.0
comp=Z,26nm,18.1s,baz=257,slow=32
comp=Z,0.7nm,0.8s
ILAR Eielson Array 82.65 11 P **P** **17 30 34.2 +1.2**
comp=Z,0.4nm,0.6s,baz=230,slow=6.5,SNR=8.2
comp=Z,0.4nm,0.6s
CMIG Matias Romero 83.58 70 LR LR 17 59 05.7
comp=Z,35nm,20.6s,baz=174,slow=29
JTS Las Juntas de 90.85 80 LR LR 18 05 08.7
comp=Z,28nm,18.6s,baz=81,slow=31
ATAH Atahualpa 92.46 98 LR LR 18 04 28.5
comp=Z,54nm,20.9s,baz=256,slow=30
GERES GERESS Array B 146.49 352 PKPbc **PKiKP** **17 37 52.9 -1.5**
comp=Z,0.4nm,0.6s,baz=35,slow=4.9,SNR=4.1
BRTR Keskin Array B 146.65 321 PKPbc **PKPab** **17 37 52.6 -0.7**
comp=Z,1.4nm,0.6s,baz=141,slow=2.3,SNR=7.0

*BJI **27** 17:24:02.5,36˚.65N×70˚.90E,h113km,mB4.8/4,mb4.4/16*
*NNC **27** 17:24:03.9±4.4,37˚.00N×70˚.81E,h0km,mb4.6,mpv4.6, Error ellipse: s-maj=35.2km s-min=24.4km az=2.0*
*IDC **27** 17:24:03.8±3.9,36˚.52N×71˚.21E,h122km±35km,mb3.6/11, mbtmp4.1/17,Error ellipse: s-maj=27.3km s-min=12.7km az=27.0*
*NEIC **27** 17:24:03.8±2.2,36˚.48N±0˚.04×70˚.88E±0˚.07,h122km±7km, mb4.3/33,Error ellipse: s-maj=8.2km s-min=5.4km az=94.0*
*MOS **27** 17:24:03.2±0.9,36˚.51N×71˚.11E,h125km,mb4.0/18,Error ellipse: s-maj=8.5km s-min=5.0km az=85.4*

ISC 27 17:24:02.2±0.4,36˚47N±0˚.04×71˚00E±0˚.04,h100km,n141, σ1s64/146,mb4.0/34,16C-7D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.50**	**220**		**Pn**	**17 24 43.3**	**+1.8**
KBL				Sn	**Sn**	**17 25 13.2**	**+1.5**
GAR	**Garm**	**2.59**	**348**		**Pn**	**17 24 44.8**	**+2.2**
GAR				Sn	**Sn**	**17 25 14.3**	**+0.8**
SIMJ	**Simiganj**	**2.70**	**325**		**Pn**	**17 24 45.3**	**+1.2**
SIMJ				Sn	**Sn**	**17 25 15.8**	**-0.5**
DRK	**Karamyk**	**3.08**	**12**		**Pn**	**17 24 52.5**	**+3.3**
DRK				Sn	**Sn**	**17 25 27.1**	**+1.7**
NIL	**Nilore**	**3.36**	**146**		**Pn**	**17 24 55.4**	**+2.5**
NIL	**Nilore**	**3.36**	**146**	PN	**Pn**	**17 24 55.4**	**+2.5**
BTK	**Batken**	**3.59**	**358**		**Pn**	**17 24 59.0**	**+3.0**
BTK	**Batken**	**3.59**	**358**	PN	**Pn**	**17 24 59.0**	**+3.0**
SRNI	**Srinagar**	**3.93**	**126**	*eP*	Pn	17 24 55.2	-5.3
SRNI				*eS*	**Sn**	**17 25 47.5**	**+1.9**
SRNI				IAML		17 25 49.8	
	comp=N,954nm,0.6s						
SRNI				IAML		17 25 50.8	
	comp=E,879nm,0.2s						
JMU	**Jammu**	**4.93**	**138**	*eP*	Pn	17 25 09.1	-4.9
JMU				*eS*	**Sn**	**17 26 06.0**	**-3.8**
JMU				IAML		17 26 11.3	
	comp=N,806nm,0.7s						
JMU				IAML		17 26 12.3	
	comp=E,996nm,0.4s						
KSH	**Kashi**	**4.97**	**51**	P	**Pn**	**17 25 12.5**	**-2.1**
KSH				S	Sn	17 26 04.0	-6.9
KSH				smax	smax		
	comp=E,1μm,0.6s						
KSH				smax	smax		
	comp=E,540nm,0.7s						
ARSB	**Arslanbob**	**5.09**	**17**		**Pn**	**17 25 17.4**	**+1.1**
ARSB	**Arslanbob**	**5.09**	**17**	PN	**Pn**	**17 25 17.4**	**+1.1**
NRN	**Naryn**	**6.31**	**37**		**Pn**	**17 25 33.5**	**+0.6**
NRN	**Naryn**	**6.31**	**37**	PN	**Pn**	**17 25 33.5**	**+0.6**
UCH	**Uchtor**	**6.37**	**24**	P	**Pn**	**17 25 35.2**	**+1.4**
	SNR=87						
EKS2	**Erkin-Say**	**6.55**	**18**	P	**Pn**	**17 25 37.7**	**+1.6**
	SNR=55						
KK31	**Karatay Array**	**6.64**	**357**		**Pn**	**17 25 38.1**	**+0.9**
KK31	**Karatay Array**	**6.64**	**357**	⇑P	**Pn**	**17 25 38.0**	**+0.8**
	comp=E,26nm,0.3s,baz=176,slow=11,SNR=796						
KK31				⇑S	**Sn**	**17 26 47.5**	**-3.8**
	comp=E,25nm,0.3s,baz=187,slow=18,SNR=4.2						
KK31	**Karatay Array**	**6.64**	**357**	PN	**Pn**	**17 25 38.1**	**+0.9**
KKAR	**Karatay Array**	**6.64**	**357**		**Pn**	**17 25 37.9**	**+0.7**
KKAR	**Karatay Array**	**6.64**	**357**	PN	**Pn**	**17 25 37.9**	**+0.7**
AAK	**Ala-Archa**	**6.73**	**23**	P	**Pn**	**17 25 40.1**	**+1.6**
	SNR=54						
AAK	**Ala-Archa**	**6.73**	**23**		**Pn**	**17 25 40.1**	**+1.6**
AAK	**Ala-Archa**	**6.73**	**23**	⇑P	**Pn**	**17 25 39.9**	**+1.5**
	comp=E,12nm,0.4s						
AAK				⇓S	**Sn**	**17 26 52.2**	**-1.5**
	comp=E,25nm,0.6s						
AAK	**Ala-Archa**	**6.73**	**23**	P	**Pn**	**17 25 39.3**	**+0.8**
	comp=E,73nm,0.3s,baz=174,slow=5.5,SNR=74						
AAK				S	**Sn**	**17 26 52.0**	**-1.7**
	comp=E,27nm,0.5s,baz=127,slow=20,SNR=4.5						
AAK	**Ala-Archa**	**6.73**	**23**	*d* PN	**Pn**	**17 25 40.0**	**+1.5**
AAK				pmax	pmax		
	comp=Z,46nm,0.7s						
BHK	**Bhakra**	**6.75**	**137**	*eP*	**Pn**	**17 25 40.8**	**+2.0**
BHK				IAML		17 26 54.6	
	comp=E,249nm,0.2s						
BHK				IAML		17 26 55.2	
	comp=N,388nm,0.0s						
BHK				*eS*	**Sn**	**17 26 57.5**	**+3.3**
KBK	**Karagaybulak**	**6.89**	**25**	P	**Pn**	**17 25 43.0**	**+2.2**
	SNR=27						
FRU1	**Bishkek**	**6.93**	**23**		**Pn**	**17 25 43.1**	**+2.0**
FRU1	**Bishkek**	**6.93**	**23**	PN	**Pn**	**17 25 43.1**	**+2.0**
ULHL	**Ulahol**	**7.06**	**34**	P	**Pn**	**17 25 44.3**	**+1.3**
	SNR=13						
BOOM	**Boomskoye usch**	**7.12**	**31**		**Pn**	**17 25 45.3**	**+1.4**
BOOM	**Boomskoye usch**	**7.12**	**31**	PN	**Pn**	**17 25 45.3**	**+1.4**
CHMS	**Chumysh**	**7.13**	**23**	P	**Pn**	**17 25 45.3**	**+1.3**
	SNR=90						
USP	**Ospenovka**	**7.31**	**21**	P	**Pn**	**17 25 47.4**	**+1.2**
	SNR=25						
TKM2	**Tokmak 2**	**7.36**	**27**	P	**Pn**	**17 25 48.4**	**+1.3**
	SNR=17						
SMLA	**Simla**	**7.39**	**134**	*eP*	Pn	17 25 45.2	-2.2
SMLA				*eS*	Sn	17 27 02.0	-7.7
SMLA				IAML		17 27 10.6	
	comp=N,325nm,0.4s						
SMLA				IAML		17 27 16.5	
	comp=E,257nm,0.4s						
KDJ	**Kajisay**	**7.41**	**38**		**Pn**	**17 25 48.7**	**+0.9**
KDJ	**Kajisay**	**7.41**	**38**	PN	**Pn**	**17 25 48.7**	**+0.9**
TARG	**Taragay, Kyrgy**	**7.46**	**43**		**Pn**	**17 25 49.6**	**+0.9**
TARG	**Taragay, Kyrgy**	**7.46**	**43**	PN	**Pn**	**17 25 49.6**	**+0.9**
KLP	**Kalpa**	**7.77**	**127**	*eP*	Pn	17 25 50.4	-2.6
KLP				*eS*	Sn	17 27 11.0	-8.5
KLP				IAML		17 27 19.5	
	comp=E,289nm,0.4s						
KLP				IAML		17 27 21.6	
	comp=N,234nm,0.6s						
PRZ	**Przheval'sk**	**8.29**	**41**		**Pn**	**17 26 00.5**	**+0.7**
PRZ	**Przheval'sk**	**8.29**	**41**	PN	**Pn**	**17 26 00.5**	**+0.7**
DDI	**Dehra Dun**	**8.50**	**134**	*eP*	Pn	17 25 60.0	-2.6
DDI				*eS*	Sn	17 27 27.6	-9.3
DDI				IAML		17 27 36.6	
	comp=N,100nm,0.2s						
DDI				IAML		17 27 38.0	
	comp=E,88nm,0.3s						
BKNR	**BIKANER**	**8.64**	**166**	*eP*	Pn	17 25 58.5	-5.9
BKNR				*eS*	Sn	17 27 25.1	-15
BKNR				IAML		17 27 35.4	
	comp=N,97nm,0.7s						
BKNR				IAML		17 27 36.1	
	comp=E,90nm,0.5s						
PDGK	**Podgornoye**	**9.46**	**41**	⇑P	**Pn**	**17 26 15.3**	**-0.3**
	comp=E,10.0nm,0.6s						
PDGK				⇑S	**Sn**	**17 28 01.1**	**+1.1**
	comp=E,13nm,0.8s						
UGON	**Onchagaon**	**10.01**	**142**	*eP*	Pn	17 26 19.9	-3.1
UGON				*eS*	Sn	17 28 02.1	-11
UGON				IAML		17 28 11.8	
	comp=E,86nm,0.5s						
UGON				IAML		17 28 12.2	
	comp=N,95nm,0.5s						
PTH	**Pithoragarh**	**10.36**	**129**	*eP*	Pn	17 26 24.5	-3.5
PTH				*eS*	Sn	17 28 10.1	-12
PTH				IAML		17 28 20.5	
	comp=N,35nm,0.3s						
PTH				IAML		17 28 25.0	
	comp=E,35nm,0.4s						
LGTI	**Lohaghat**	**10.45**	**129**	*eP*	Pn	17 26 25.4	-3.6
LGTI				*eS*	Sn	17 28 11.6	-12
LGTI				IAML		17 28 18.0	
	comp=E,65nm,0.6s						
LGTI				IAML		17 28 21.3	
	comp=N,66nm,0.5s						
MAKZ	**Makanchi**	**13.18**	**35**	Pn	**Pn**	**17 27 04.6**	**-0.8**
MAKZ	**Makanchi**	**13.18**	**35**	P	**Pn**	**17 27 04.6**	**-0.8**
MK31	**Makanchi Array**	**13.32**	**36**	*c* P	**Pn**	**17 27 06.8**	**-0.4**
MKAR	**Makanchi Array**	**13.32**	**36**	P	**Pn**	**17 27 05.9**	**-1.3**
	comp=N,1.6nm,0.7s,baz=225,slow=15,SNR=12						
MKAR	**Makanchi Array**	**13.32**	**36**	*i* P	**Pn**	**17 27 07.0**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WMQ	**Urumqi**	**14.72**	**55**	*eP*	**Pn**	**17 27 27.5**	**+2.2**
AB31	**Akbulak array**	**15.12**	**331**		**Pn**	**17 27 29.5**	**-0.7**
AB31	**Akbulak array**	**15.12**	**331**	⇓P	**Pn**	**17 27 29.6**	**-0.7**
	comp=Z,1.8nm,0.3s						
AB31				⇓S	**Sn**	**17 30 13.7**	**-3.2**
	comp=Z,14nm,0.6s						
ABKAR	**Akbulak array**	**15.12**	**331**		**Pn**	**17 27 29.8**	**-0.4**
KURBB	**Kurchatov Arra**	**15.15**	**19**	P	**Pn**	**17 27 28.4**	**-2.3**
	comp=Z,1.4nm,0.8s,baz=208,slow=10,SNR=21						
KURK	**Kurchatov**	**15.26**	**19**		**Pn**	**17 27 32.0**	**0.0**
KURK				IAmb	IAmb	17 27 35.3	
	comp=Z,5.8nm,0.7s						
KURK	**Kurchatov**	**15.26**	**19**	*d* P	**Pn**	**17 27 34.4**	**+2.3**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
EVN	**Everest**	**15.83**	**118**		**Pn**	**17 27 37.0**	**-3.0**
BVAR	**Borovoye Array**	**16.56**	**359**	P	**Pn**	**17 27 47.4**	**-0.9**
	comp=Z,2.7nm,0.4s						
BRVK	**Borovoye**	**16.60**	**358**		**Pn**	**17 27 47.6**	**-1.1**
BRVK	**Borovoye**	**16.60**	**358**	⇑*i* P	**Pn**	**17 27 49.0**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKTO	**Aktyubinsk**	**16.81**	**330**	⇑P	**Pn**	**17 27 51.9**	**+0.6**
	comp=Z,4.1nm,0.7s						
AKTO				⇑S	**Sn**	**17 30 52.7**	**-5.2**
	comp=Z,6.0nm,0.6s						
AKTO	**Aktyubinsk**	**16.81**	**330**	P	**Pn**	**17 27 51.3**	**0.0**
	comp=Z,3.2nm,0.4s,baz=149,slow=7.5,SNR=16						
AKTO				S	Sn	17 30 46.6	-11
	comp=Z,9.5nm,0.5s,baz=212,slow=13,SNR=9.8						
UOSS	**Minazif**	**17.11**	**232**	Pn	**Pn**	**17 27 55.9**	**+0.7**
UOSS				IAmb	IAmb	17 27 58.8	
	comp=Z,42nm,1.4s						
LSA	**Lhasa**	**18.17**	**106**	P	**P**	**17 28 07.7**	**+0.3**
LSA				IAmb	IAmb	17 28 13.0	
	comp=Z,18nm,0.8s						
LSA	**Lhasa**	**18.17**	**106**	P	**P**	**17 28 07.7**	**+0.3**
LSA				pmax	pmax		
	comp=Z,18nm,0.8s						
ZAA0	**Zalesovo Array**	**19.95**	**24**	P	**P**	**17 28 25.7**	**-0.3**
ZALV	**Zalesovo Beam**	**19.95**	**24**	P	**P**	**17 28 25.8**	**-0.3**
	comp=Z,25nm,0.5s,baz=220,slow=10,SNR=114						
SHL	**Shillong**	**20.89**	**115**	P	**P**	**17 28 36.5**	**-0.2**
SHL				IAmb	IAmb	17 28 46.0	
	comp=Z,14nm,1.0s						
SHL	**Shillong**	**20.89**	**115**	P	**P**	**17 28 36.5**	**-0.2**
SHL				pmax	pmax		
	comp=Z,14nm,1.0s						
GNI	**Garni**	**20.91**	**288**	P	**P**	**17 28 38.8**	**+2.1**
GNI	**Garni**	**20.91**	**288**	P	**P**	**17 28 38.4**	**+1.6**
	comp=Z,14nm,0.5s,baz=145,slow=2.2,SNR=6.5						
	comp=Z,14nm,0.5s						
GNI	**Garni**	**20.91**	**288**	*c i* P	**P**	**17 28 38.5**	**+1.8**
GNI				pmax	pmax		
	comp=Z,37nm,1.2s						
SVE	**Sverdlovsk**	**21.53**	**344**	*eP*	**P**	**17 28 44.9**	**+1.9**
SVE				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ARTI	**Arti**	**21.68**	**341**	P	**P**	**17 28 43.9**	**-0.7**
ARTI				IAmb	IAmb	17 28 49.4	
	comp=Z,8.5nm,0.9s						
ARTI	**Arti**	**21.68**	**341**	*c i* P	**P**	**17 28 48.0**	**+3.4**
ARTI						17 29 20.3	
ARTI				S	**S**	**17 32 44.4**	**+5.8**
ARTI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KBZ	**Khabaz**	**22.62**	**297**	P	**P**	**17 28 54.8**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=165,slow=15,SNR=4.1						
	comp=Z,1.5nm,0.6s						
KBZ	**Khabaz**	**22.62**	**297**	*i* P	**P**	**17 28 55.1**	**+0.6**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KIV	**Kislovodsk**	**22.80**	**298**	P	**P**	**17 28 57.2**	**+0.6**
KIV	**Kislovodsk**	**22.80**	**298**	*eP*	**P**	**17 28 57.4**	**+0.8**
KIV				*eS*	**S**	**17 32 59.5**	**+1.4**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA	**Gaotai**	**22.87**	**74**	*eP*	**P**	**17 28 59.8**	**+2.4**
GTA				pP	pP	17 29 25.5	+7.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BELG	**Belogornoye**	**22.92**	**321**	*i* P	**P**	**17 28 57.7**	**+0.3**
BELG				pmax	pmax		
	comp=Z,2.0nm,1.5s						
RAYN	**Ar Rayn**	**25.48**	**247**	P	**P**	**17 29 18.7**	**-2.6**
RAYN	**Ar Rayn**	**25.48**	**247**	P	**P**	**17 29 18.7**	**-2.6**
RAYN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM	**Songino Array**	**28.35**	**55**	P	**P**	**17 29 44.7**	**-2.1**
	comp=Z,0.9nm,0.8s,baz=241,slow=11,SNR=3.5						
	comp=Z,0.9nm,0.8s						
BR131	**Keskin Array S**	**29.45**	**288**	⇑*i* P	**P**	**17 29 57.6**	**+1.0**
OBN	**Obninsk**	**29.96**	**319**	*i* P	**P**	**17 30 02.0**	**+1.2**
OBN				*i*		17 31 01.0	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CHTO	**Chiang Mai**	**30.20**	**118**	P	**P**	**17 30 03.9**	**+0.6**
CHTO	**Chiang Mai**	**30.20**	**118**	P	**P**	**17 30 03.9**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,3.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**30.44**	**119**	P	**P**	**17 30 05.5**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=299,slow=8.7,SNR=7.3						
	comp=Z,0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.44**	**119**	*ce* P	**P**	**17 30 06.1**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**31.77**	**70**	*eP*	**P**	**17 30 20.3**	**+3.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,79nm,5.2s						
AKASG	**Malin Array Be**	**32.97**	**309**	P	**P**	**17 30 27.2**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=81,slow=7.5,SNR=9.6						
	comp=Z,0.7nm,0.4s						
AKASG	**Malin Array Be**	**32.97**	**309**	*ce* P	**P**	**17 30 28.0**	**+0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKBB	**Malin Array Si**	**32.97**	**309**	P	**P**	**17 30 26.1**	**-1.1**
AKBB				IAmb	IAmb	17 31 08.1	
	comp=Z,5.5nm,1.4s						
AKBB	**Malin Array Si**	**32.97**	**309**	⇓*i* P	**P**	**17 30 27.0**	**-0.2**
AKBB				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KIEV	**Kiev**	**32.98**	**309**	P	**P**	**17 30 26.5**	**-0.8**
KIEV				IAmb	IAmb	17 31 08.0	
	comp=Z,4.9nm,1.4s						
KIEV	**Kiev**	**32.98**	**309**	P	**P**	**17 30 26.5**	**-0.8**
KIEV				pmax	pmax		
	comp=Z,5.0nm,1.5s						
TIA	**Tai'an**	**36.88**	**76**	P	P	17 30 51.5	-10
TIA				pmax	pmax		
	comp=Z,6.0nm,0.4s						
HIA	**Hailar**	**37.31**	**54**	*i* P	**P**	**17 31 04.6**	**0.0**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**37.51**	**326**	P	**P**	**17 31 05.6**	**-0.5**
FINES	**FINESS Array B**	**37.51**	**326**	P	**P**	**17 31 06.5**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=116,slow=12,SNR=9.2						
	comp=Z,0.6nm,0.4s						
FINES	**FINESS Array B**	**37.51**	**326**	*ce* P	**P**	**17 31 07.1**	**+1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**41.18**	**338**	P	**P**	**17 31 35.7**	**-0.7**
ARCES	**ARCESS Array B**	**41.18**	**338**	P	**P**	**17 31 36.3**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=118,slow=8.1,SNR=6.4						
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**41.18**	**338**	P	**P**	**17 31 35.7**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,18nm,1.4s						
HFS	**Hagfors**	**43.09**	**322**	P	**P**	**17 31 52.2**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=88,slow=11,SNR=14						
	comp=Z,2.0nm,0.6s						
NC405	**NORSAR Array S**	**44.17**	**323**	P	**P**	**17 32 00.9**	**+0.2**
NC405				IAmb	IAmb	17 32 39.1	
	comp=Z,8.2nm,1.4s						
NB2	**NORSAR Subarra**	**44.41**	**323**	P	**P**	**17 32 03.0**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=96,slow=7.9						
NB2	**NORSAR Subarra**	**44.41**	**323**	P	**P**	**17 32 04.2**	**+1.6**
NOA	**NORSAR Array B**	**44.41**	**323**	P	**P**	**17 32 02.5**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=97,slow=7.8,SNR=10						
	comp=Z,0.9nm,0.6s						
NC204	**NORSAR Array S**	**44.65**	**323**	P	**P**	**17 32 04.0**	**-0.6**
NC204				IAmb	IAmb	17 32 13.6	
	comp=Z,7.7nm,1.4s						
KS19	**Wonju Array Si**	**44.83**	**71**	P	**P**	**17 32 05.7**	**-0.6**
KS19				IAmb	IAmb	17 32 10.5	
	comp=Z,9.5nm,0.8s						
KSAR	**Wonju Array Be**	**44.86**	**71**	P	**P**	**17 32 06.1**	**-0.4**
KSAR	**Wonju Array Be**	**44.86**	**71**	P	**P**	**17 32 06.1**	**-0.4**
TIXI	**Tiksi**	**45.80**	**22**	P	**P**	**17 32 12.0**	**-1.5**
TIXI				IAmb	IAmb	17 32 25.6	
	comp=Z,4.5nm,0.9s						
TIXI	**Tiksi**	**45.80**	**22**	P	**P**	**17 32 12.0**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
JOW	**Kunigami**	**49.07**	**84**	P	**P**	**17 32 40.2**	**+0.7**
MAJO	**Matsushiro**	**52.96**	**68**	*i* P	**P**	**17 33 08.7**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SEY	**Seymchan**	**54.45**	**34**	*i* P	**P**	**17 33 19.7**	**+0.9**
SEY				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**65.72**	**269**	P	**P**	**17 34 33.8**	**-2.7**
C19K	**Lookout Ridge**	**68.36**	**17**	P	**P**	**17 34 51.5**	**-1.0**
D19K	**Kuna River**	**69.17**	**17**	P	**P**	**17 34 55.7**	**-1.8**
D19K				IAmb	IAmb	17 35 36.7	
	comp=Z,7.7nm,1.2s						
E21K	**Killik River**	**70.18**	**16**	P	**P**	**17 35 03.2**	**-0.5**
E21K				IAmb	IAmb	17 35 09.8	
	comp=Z,7.2nm,1.4s						
A36M	**Sachs Harbour**	**71.24**	**5**	P	**P**	**17 35 11.2**	**+1.2**
A36M				IAmb	IAmb	17 35 12.1	
	comp=Z,4.2nm,0.8s						
G24K	**Hadweenzic Riv**	**73.03**	**15**	P	**P**	**17 35 21.7**	**+0.9**
G24K				IAmb	IAmb	17 35 34.5	
	comp=Z,9.0nm,1.4s						
FITZ	**Fitzroy Crossi**	**74.87**	**127**	P	**P**	**17 35 31.6**	**-0.5**
G31M	**Satah River**	**75.14**	**10**	P	**P**	**17 35 33.8**	**+0.8**
G31M				IAmb	IAmb	17 35 34.2	
	comp=Z,2.1nm,0.8s						
WRA	**Warramunga Arr**	**81.97**	**122**	P	**P**	**17 36 09.0**	**-2.2**
	comp=Z,0.9nm,0.6s,baz=325,slow=4.9,SNR=40						
	comp=Z,0.9nm,0.6s						
WRA	**Warramunga Arr**	**81.97**	**122**	*ce* P	**P**	**17 36 09.8**	**-1.4**

4.4nm,0.5s,baz=23,slow=11,SNR=49
FITZ S **Sn** **17 54 54.5 -3.2**
3.1nm,0.3s,baz=85,slow=12,SNR=7.3
WB0 Warramunga Arr 14.11 159 Pn **Pn** **17 53 11.2 +0.1**
WRA Warramunga Arr 14.26 160 P **Pn** **17 53 13.6 +0.8**
0.7nm,0.4s,baz=340,slow=13,SNR=20
WRA S **S** **17 55 49.2 -2.4**
1.6nm,0.6s,baz=332,slow=22,SNR=6.3
JAGI Jajag, Banyuwa 14.95 262 **Pn** **17 53 21.4 +0.1**
COEN Coen 15.68 119 **Pn** **17 53 31.2 +0.9**
COEN Coen 15.68 119 P **Pn** **17 53 32.6 +2.4**
QIS Mount Isa 17.26 145 P **Pn** **17 53 50.2 +1.1**
PSA00 Pilbara Seismi 17.42 210 P **Pn** **17 53 52.1 +1.2**
AS31 Alice Springs 17.64 165 P **Pn** **17 53 54.2 +0.7**
AS31 IAmb IAmb 17 53 58.7
comp=Z,4.9nm,0.6s
ASAR Alice Springs 17.64 165 **Pn** **17 53 55.0 +1.4**
ASAR Alice Springs 17.64 165 P **Pn** **17 53 54.7 +1.1**
comp=Z,13nm,0.6s,baz=339,slow=9.4,SNR=203
ASAR S **S** **17 57 01.7 -2.9**
comp=Z,1.0nm,0.9s,baz=346,slow=19,SNR=5.5
AS01 Alice Springs 17.65 165 P **Pn** **17 53 55.4 +1.7**
MTSU Mount Surprise 18.78 129 P **Pn** **17 54 06.8 -0.2**
CHTO Chiang Mai 38.97 311 P **P** **17 57 05.9 -0.9**
CHTO IAmb IAmb 17 57 39.9
comp=Z,6.0nm,1.5s
MKAR Makanchi Array 67.36 327 P **P** **18 00 33.4 +0.1**
comp=Z,0.2nm,0.4s,baz=121,slow=6.6,SNR=1.7
comp=Z,0.2nm,0.4s
ZALV Zalesovo Beam 70.78 334 P **P** **18 00 53.7 -0.4**
comp=Z,0.3nm,0.3s,baz=116,slow=6.6,SNR=2.5
comp=Z,0.3nm,0.3s
SEY Seymchan 71.53 11 P **P** **18 00 58.0 -0.3**
comp=Z,1.2nm,0.6s,baz=236,slow=15,SNR=5.2
comp=Z,1.2nm,0.6s

*IDC **27** 18:00:59.7±0.7,55˚.49N×166˚.79E, h0km, mb3.7/14, mbtmp3.8/16, ML4.0/2, MS3.0/6, Error ellipse: s-maj=22.5km s-min=14.5km az=176.0*
*KRSC **27** 18:01:00.4±2.2,55˚.29N×166˚.69E, h50km±13km, Ml4.4*
ISC 27 18:01:00.7±0.7,55˚29N±0˚.07×166˚81E±0˚.05, h10km, n63, σ1§51/70, mb3.7/13, MS2.9/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.49**	**260**	*i* P		**Pg**	**18 01 10.9**	**+0.7**
BKI				*e*S		**Sg**	**18 01 17.7**	**+1.1**
KBTR	**Krutoberegovo**	**2.44**	**294**	*e*P		**Pn**	**18 01 38.6**	**-1.9**
KBG	**Krutoberegovo**	**2.51**	**294**	*e*P		**Pn**	**18 01 40.3**	**-1.2**
MKZ	**Mys Kozlova**	**3.02**	**258**	*e*P		**Pn**	**18 01 48.3**	**-0.3**
MKZ				*e*S		**Sn**	**18 02 23.3**	**-1.4**
SMKR	**Semkarok**	**3.27**	**295**	*e*P		**Pn**	**18 01 51.8**	**-0.3**
ZLN	**Zelenaya**	**3.48**	**285**	*e*P		**Pn**	**18 01 55.8**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**3.53**	**283**	*e*P		**Pn**	**18 01 56.3**	**+0.7**
CIRR	**Tsirk**	**3.53**	**286**	*e*P		**Pn**	**18 01 57.1**	**+1.5**
KLY	**Klyuchi**	**3.62**	**289**	*e*P		**Pn**	**18 01 54.0**	**-2.8**
BZMR	**Bezymyannaya**	**3.64**	**283**	*e*P		**Pn**	**18 01 58.0**	**+0.8**
BZWR	**Bezymyannyi-We**	**3.64**	**283**	*e*P		**Pn**	**18 01 58.0**	**+0.8**
TUMD	**Tumrok D**	**3.67**	**271**	*i* P		**Pn**	**18 01 58.4**	**+0.9**
TUMD				*e*S		**Sn**	**18 02 40.2**	**-0.6**
KIRR	**Kirishev**	**3.73**	**283**	*e*P		**Pn**	**18 01 59.0**	**+0.6**
KMNR	**Kamenistaya**	**3.77**	**280**	*e*P		**Pn**	**18 02 00.3**	**+1.4**
KPT	**Kopyto**	**3.80**	**283**	*e*P		**Pn**	**18 02 00.2**	**+0.9**
KOZ	**Kozyrevsk**	**4.00**	**284**	*e*P		**Pn**	**18 02 03.8**	**+1.8**
SRDR	**Sredinnyy**	**4.13**	**287**	*e*P		**Pn**	**18 02 04.5**	**+0.6**
KII	**Karymskiy**	**4.46**	**257**	*e*P		**Pn**	**18 02 09.0**	**+0.7**
OSSR	**Ossora**	**4.46**	**334**	*e*P		**Pn**	**18 02 07.4**	**-0.9**
SPN	**Mys Shipunski**	**4.55**	**244**	*e*P		**Pn**	**18 02 08.7**	**-0.9**
SPN				*e*S		**Sn**	**18 02 58.5**	**-4.0**
ESO	**Esso**	**4.64**	**281**	*e*P		**Pn**	**18 02 12.2**	**+1.4**
NLC	**Nalytchevo**	**4.87**	**247**	*e*P		**Pn**	**18 02 13.6**	**-0.3**
NLC				*e*S		**Sn**	**18 03 07.1**	**-3.1**
SHEM	**Shemya Is, Ala**	**5.01**	**118**	Pn		**Pn**	**18 02 15.8**	**0.0**
	22nm,0.3s,baz=20,slow=2.8,SNR=46							
SHEM				Sn		**Sn**	**18 03 12.0**	**-1.6**
	16nm,0.3s,baz=323,slow=20,SNR=12							
	46nm,0.4s							
SDLR	**Sedlovina**	**5.06**	**250**	*e*P		**Pn**	**18 02 17.7**	**+1.0**
SMAR	**Somma**	**5.11**	**250**	*e*P		**Pn**	**18 02 18.4**	**+0.9**
KRER	**Koryakskii**	**5.12**	**250**	*e*P		**Pn**	**18 02 18.6**	**+1.0**
UGLR	**Uglovaya**	**5.13**	**249**	*e*P		**Pn**	**18 02 18.2**	**+0.7**
AVH	**Avacha**	**5.15**	**250**	*e*P		**Pn**	**18 02 18.9**	**+1.1**
AVH				*e*S		**Sn**	**18 03 16.4**	**-0.9**
KRX	**Arik**	**5.15**	**251**	*e*P		**Pn**	**18 02 18.8**	**+0.8**
TILK	**Tilichiki**	**5.18**	**356**	*e*P		**Pn**	**18 02 18.6**	**+0.5**
KOK	**Koryaka**	**5.19**	**251**	*e*P		**Pn**	**18 02 19.2**	**+0.7**
DALK	**Dalny**	**5.25**	**248**	*e*P		**Pn**	**18 02 18.8**	**-0.3**
PET	**Petropavlovsk**	**5.30**	**248**	*e*P		**Pn**	**18 02 20.4**	**+0.6**
INSR	**Institute**	**5.31**	**249**	*e*S		**Sn**	**18 03 20.0**	**-1.1**
PALN	**Palana**	**5.32**	**318**	*e*P		**Pn**	**18 02 19.9**	**-0.2**
GNL	**Ganaly**	**5.41**	**256**	*e*P		**Pn**	**18 02 22.8**	**+1.3**
KRMR	**Karymshinskiy**	**5.68**	**248**	*e*P		**Pn**	**18 02 25.3**	**+0.3**
KRMR				*e*S		**Sn**	**18 03 26.6**	**-3.5**
RUS	**Russkaya**	**5.68**	**243**	*e*S		**Sn**	**18 03 27.0**	**-3.3**
PETK	**Petropavlovsk-**	**5.78**	**252**	Pn		**Pn**	**18 02 26.6**	**+0.2**
	6.1nm,0.3s,baz=71,slow=18,SNR=100							
PETK				Sn		**Sn**	**18 03 30.3**	**-2.4**
	1.5nm,0.3s,baz=97,slow=18,SNR=1.5							
PETK				LR		LR	18 04 53.4	
	comp=Z,99nm,20.4s,baz=38,slow=40							
	12nm,0.5s							
MTVR	**Mutnovka**	**5.83**	**245**	*e*P		**Pn**	**18 02 27.8**	**+0.6**
MTVR				*e*S		**Sn**	**18 03 32.0**	**-2.1**
GRL	**Gorelyy**	**5.85**	**246**	*e*P		**Pn**	**18 02 28.2**	**+0.8**
ASAK	**Asacha**	**6.03**	**245**	*e*P		**Pn**	**18 02 30.7**	**+0.9**
APC	**Apacha**	**6.15**	**251**	*e*P		**Pn**	**18 02 31.4**	**-0.1**
KMSK	**Kamenskaya**	**7.21**	**358**	*e*P		**Pn**	**18 02 46.3**	**+0.4**
SKR	**Severo-Kuril's**	**7.93**	**239**	*e*S		**Sn**	**18 04 20.4**	**-5.2**
MA2	**Magadan**	**9.65**	**303**	LR		LR	18 07 00.3	
	comp=Z,56nm,18.4s,baz=112,slow=38							
ASAJ	**Asahikawa**	**19.13**	**244**	LR		LR	18 12 19.2	
	comp=Z,50nm,20.1s,baz=342,slow=35							
YAK	**Yakutsk**	**20.22**	**305**	P		**P**	**18 05 34.4**	**-1.0**
	14nm,0.8s,baz=105,slow=3.5,SNR=10.0							
YAK				LR		LR	18 13 39.2	
	comp=Z,49nm,18.6s,baz=74,slow=38							
	14nm,0.8s							
TIXI	**Tiksi**	**22.94**	**330**	LR		LR	18 14 13.9	
	comp=Z,32nm,18.6s,baz=164,slow=35							
ILAR	**Eielson Array**	**24.43**	**49**	P		**P**	**18 06 18.9**	**-0.2**
	1.2nm,0.7s,baz=254,slow=8.0,SNR=14							
ILAR				LR		LR	18 17 33.0	
	comp=Z,53nm,18.2s,baz=286,slow=41							
	1.2nm,0.7s							
MJAR	**Matsushiro Arr**	**27.04**	**238**	P		**P**	**18 06 45.0**	**+2.1**
	1.8nm,0.8s,baz=25,slow=9.3,SNR=6.2							
	1.8nm,0.8s							
SONM	**Songino Array**	**37.21**	**284**	P		**P**	**18 08 12.1**	**+0.1**
	0.5nm,0.4s,baz=59,slow=5.6,SNR=3.0							
	0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**49.97**	**304**	P		**P**	**18 09 53.7**	**-0.8**
	2.1nm,0.8s,baz=53,slow=7.7,SNR=21							
	2.1nm,0.8s							
MKAR	**Makanchi Array**	**50.69**	**298**	P		**P**	**18 09 59.0**	**-1.0**
	0.7nm,0.5s,baz=54,slow=6.6,SNR=9.0							
	0.7nm,0.5s							
NVAR	**Mina Array Bea**	**51.33**	**76**	P		**P**	**18 10 04.0**	**-1.1**
	0.6nm,0.7s,baz=313,slow=6.0,SNR=3.6							
	0.6nm,0.7s							
BVAR	**Borovoye Array**	**52.04**	**310**	P		**P**	**18 10 09.1**	**-1.0**
	1.7nm,0.8s,baz=54,slow=7.5,SNR=8.1							
	1.7nm,0.8s							
PDAR	**Pinedale Array**	**53.01**	**66**	P		**P**	**18 10 19.1**	**+1.5**
	0.2nm,0.4s,baz=326,slow=7.9,SNR=1.9							
	0.2nm,0.4s							
NOA	**NORSAR Array B**	**62.42**	**347**	P		**P**	**18 11 23.1**	**-0.2**
	0.2nm,0.4s,baz=17,slow=6.6,SNR=2.0							
	0.2nm,0.4s							
CMAR	**Chiang Mai Arr**	**62.44**	**263**	P		**P**	**18 11 24.9**	**+0.9**
	0.3nm,0.3s,baz=35,slow=9.6,SNR=1.9							
	0.3nm,0.3s							
TXAR	**Lajitas Array**	**66.17**	**73**	P		**P**	**18 11 48.7**	**+0.3**
	0.7nm,0.7s,baz=314,slow=4.3,SNR=9.8							
	0.7nm,0.7s							
WRA	**Warramunga Arr**	**79.87**	**211**	P		**P**	**18 13 11.3**	**+2.0**
	0.2nm,0.5s,baz=18,slow=5.8,SNR=2.2							
	0.2nm,0.5s							
ASAR	**Alice Springs**	**83.52**	**210**	P		**P**	**18 13 29.9**	**+1.4**
	0.3nm,0.7s,baz=10,slow=4.8,SNR=4.4							
	0.3nm,0.7s							
QSPA	**South Pole Qui**	**145.04**	**180**	PKPbc		**PKPbc**	**18 20 36.5**	**+0.4**
	1.0nm,0.7s,baz=72,slow=3.2,SNR=6.9							

*IDC **27** 18:21:57.2±1.2,27˚.57N×104˚.39E, h0km, mb3.6/9, mbtmp3.6/9, MS2.7/1, Error ellipse: s-maj=40.0km s-min=20.2km az=57.0*
ISC 27 18:22:02.3±1.2,27˚.5N±0˚.2×104˚.3E±0˚.2, h35km, n11, σ1§37/10, mb3.5/8, Yunnan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.28**	**210**	LR		LR	18 28 38.0	
	comp=Z,42nm,19.2s,baz=25,slow=39							
SONM	**Songino Array**	**20.33**	**4**	P		**P**	**18 26 36.1**	**+0.6**
	2.1nm,0.9s,baz=187,slow=11,SNR=11							
	2.1nm,0.9s							
KSRS	**Korea Array**	**22.21**	**58**	P		**P**	**18 26 53.2**	**-2.4**
	0.9nm,0.8s,baz=243,slow=12,SNR=5.9							
	0.9nm,0.8s							
MKAR	**Makanchi Array**	**25.86**	**324**	P		**P**	**18 27 31.8**	**+1.3**
	0.5nm,0.7s,baz=123,slow=13,SNR=4.7							
	0.5nm,0.7s							
INU	**Inuyama**	**28.91**	**66**	S		**S**	**18 32 48.2**	**+2.1**
ZALV	**Zalesovo Beam**	**30.02**	**337**	P		**P**	**18 28 06.9**	**-0.7**
	1.1nm,0.7s,baz=142,slow=7.5,SNR=4.7							
	1.1nm,0.7s							
KURBB	**Kurchatov Arra**	**30.23**	**327**	P		**P**	**18 28 08.8**	**-0.7**
	0.3nm,0.6s,baz=130,slow=10,SNR=6.7							
	0.3nm,0.6s							
WRA	**Warramunga Arr**	**55.45**	**145**	P		**P**	**18 31 33.7**	**+0.1**
	0.6nm,0.9s,baz=334,slow=7.5,SNR=2.2							
	0.6nm,0.9s							
ASAR	**Alice Springs**	**58.39**	**148**	P		**P**	**18 31 54.4**	**+0.1**
	0.2nm,0.8s,baz=334,slow=8.3,SNR=2.2							
	0.2nm,0.8s							
FINES	**FINESS Array B**	**60.62**	**327**	P		**P**	**18 32 09.7**	**+0.4**
	1.2nm,1.0s,baz=115,slow=8.6,SNR=1.5							
	1.2nm,1.0s							
SPITS	**Spitsbergen Ar**	**62.83**	**347**	P		**P**	**18 32 24.0**	**0.0**
	1.9nm,0.5s,baz=173,slow=15,SNR=5.0							
	1.9nm,0.5s							

*BGR **27** 18:31:05.6, 33˚.04N×137˚.91E, h374km±3km, mb6.0*
*MOS **27** 18:31:06.3±0.9, 33˚.09N×137˚.33E, h374km, mb5.8/94, MS5.4/14, Error ellipse: s-maj=5.7km s-min=3.2km az=113.4*
*JMA **27** 18:31:06.7±0.3, 33˚N±1˚×13˚7E±˚, h393km±2km, MD6.6/39, MW6.3/39, SE OFF KII PENINSULA*
JMA Felt IV J1 at SE OFF KII PENINSULA .
*NIED **27** 18:31:06.7, 33˚.16N×137˚.40E, h393km, MW6.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁸Nm; Mrr0.79; Mθθ1.39; Mϕϕ-2.19; Mrθ0.49; Mθϕ-0.93; Mϕr-2.80; Fault plane solution: M₀3.46000×10¹⁸ NP1:ϕs58.00000°, δ30.00000°, λ162.00000°. NP2:ϕs164.00000°, δ81.00000°, λ61.00000°.*
*BJI **27** 18:31:07.9, 33˚.07N×137˚.37E, h380km, mB6.4/67, mb6.3/93*
*NEIC **27** 18:31:07.5±1.6, 33˚.15N±0˚.07×137˚.30E±0˚.07, h367km±1km, mb5.9/958, Mwb6.3/99, Mww6.3/32, Error ellipse: s-maj=11.3km s-min=10.0km az=347.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.35; Mθθ1.09; Mϕϕ-2.44; Mrθ0.85; Mθϕ-0.69; Mϕr-3.24; Fault plane solution: M₀4.02000×10¹⁸ NP1:ϕs46.20000°, δ24.38000°, λ148.72000°. NP2:ϕs165.16000°, δ77.62000°, λ68.83000°. Principal axes: T 3.6611, Plg53.0000°, Azm50.0000°; N 0.6430, Plg21.0000°, Azm170.0000°; P -4.3042, Plg30.0000°, Azm272.0000°;*
*IDC **27** 18:31:07.6±0.4, 33˚.13N×137˚.31E, h370km±3km, mb5.3/32, mbtmp6.0/39 Error ellipse: s-maj=7.5km s-min=6.0km az=63.0*
*OSUNB **27** 18:31:07.6±0.2, 33˚.12N×137˚.25E, h375km±1km, mb5.5/12, Error ellipse: s-maj=2.7km s-min=3.1km az=0.0*
*NEIC **27** 18:31:08, 33˚.11N×137˚.35E, h380km*
*NEIC **27** 18:31:08, 33˚.01N×137˚.71E, h380km, Moment Tensor Solution. Duration: 69 Moment tensor: Scale 10¹⁸Nm; Mrr1.01; Mθθ1.20; Mϕϕ-2.21; Mrθ1.18; Mθϕ-0.70; Mϕr-2.41; Fault plane solution: M₀3.37000×10¹⁸ NP1:ϕs49.58000°, δ32.13000°, λ159.90000°. NP2:ϕs156.79000°, δ79.47000°, λ59.47000°. Principal axes: T 3.2279, Plg47.0000°, Azm35.0000°; N 0.2730, Plg30.0000°, Azm163.0000°; P -3.5009, Plg28.0000°, Azm271.0000°;*
*NEIC **27** 18:31:08.2, 33˚.16N×137˚.27E, h372km*
*IPGP **27** 18:31:08.0, 33˚.11N×137˚.35E, h377km, Mw6.3, Fault plane solution: NP1:ϕs44.00000°, δ22.00000°, λ144.00000°. NP2:ϕs168.00000°, δ77.00000°, λ72.00000°.*
*GCMT **27** 18:31:10.5±0.1, 33˚.16N±0˚.01×137˚.13E±0˚.01, h377km, MW6.3/165, Moment Tensor Solution. s165,c419; s155,c282; Duration: 3s6 Moment tensor: Scale 10¹⁸Nm; Mrr1.27±.01; Mθθ1.33±.02; Mϕϕ-2.60±.02; Mrθ0.92±.02; Mθϕ-0.72±.02; Mϕr-3.15±.02; Best double couple: M₀3.99000×10¹⁸ NP1:ϕs48.00000°, δ27.00000°, λ153.00000°. NP2:ϕs162.00000°, δ78.00000°, λ65.00000°. Principal axes: T 3.6120, Plg51.0000°, Azm45.0000°; N 0.7560, Plg24.0000°, Azm168.0000°; P -4.3680, Plg29.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*
ISC 27 18:31:07.9±0.2, 33˚.13N±0˚.02×137˚.28E±0˚.02, h378km±1km, h378km:pP-P, n2716, σ1§75/2961, mb5.9/732, 133C-206D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.64**	**341**	P		**Pn**	**18 31 56.6**	**+1.6**
TTO2	**TONANKAI O.B.S**	**0.64**	**341**	A		A	18 31 56.6	
	comp=N,1µm,2.9s,comp=E,994nm,3.4s							
TTO1	**TONANKAI O.B.S**	**0.64**	**320**	P		**Pn**	**18 31 56.5**	**+1.5**
TTO1				*e*S		**S**	**18 32 35.7**	**+2.5**
TTO1	**TONANKAI O.B.S**	**0.64**	**320**	A		A	18 31 56.5	
	comp=N,2µm,4.2s,comp=E,766nm,2.6s							
TTO3	**TONANKAI O.B.S**	**0.74**	**8**	P		**Pn**	**18 31 57.0**	**+1.6**
TTO3				*e*S		**S**	**18 32 36.0**	**+2.1**
TTO3	**TONANKAI O.B.S**	**0.74**	**8**	A		A	18 31 57.0	
	comp=N,2µm,3.5s,comp=E,2µm,2.9s							
TTO4	**TONANKAI O.B.S**	**0.90**	**14**	P		**Pn**	**18 31 57.1**	**+1.2**
TTO4				*e*S		**S**	**18 32 36.6**	**+2.0**
TTO4	**TONANKAI O.B.S**	**0.90**	**14**	A		A	18 31 57.1	
	comp=N,695nm,3.0s,comp=E,2µm,4.6s							
TK02	**Tokai 2**	**0.91**	**26**	P		**Pn**	**18 31 57.1**	**+1.2**
TK02				*e*S		**S**	**18 32 37.1**	**+2.4**
JMMH	**Miemihama**	**1.25**	**304**	A		A	18 31 58.5	
	comp=N,359nm,2.8s,comp=E,175nm,3.6s							
JWKM	**Wakayamakushim**	**1.31**	**284**	A		A	18 31 58.9	
	comp=N,632nm,2.7s,comp=E,110nm,2.4s							
JIE	**Ise**	**1.34**	**339**	P		**Pn**	**18 31 58.8**	**+0.9**
JIE				*e*S		**S**	**18 32 38.9**	**+0.5**
JIE	**Ise**	**1.34**	**339**	A		A	18 31 58.8	
	comp=N,227nm,3.5s,comp=E,338nm,3.4s							
JKN2	**Miekihoku**	**1.39**	**323**	A		A	18 31 59.0	
	comp=N,239nm,3.5s,comp=E,234nm,3.7s							
JKN2	**Miekihoku**	**1.39**	**323**	P		**Pn**	**18 31 58.9**	**+0.7**
JKN2				S		**S**	**18 32 38.5**	**-0.2**
JAA	**Atsumi**	**1.50**	**356**	A		A	18 31 59.3	
	comp=N,181nm,2.9s,comp=E,649nm,3.0s							
JTNC	**Tanabenakahech**	**1.55**	**297**	P		**Pn**	**18 31 59.7**	**+0.7**
JTNC				*e*S		**S**	**18 32 40.8**	**+0.5**
JTNC	**Tanabenakahech**	**1.55**	**297**	A		A	18 31 59.7	
	comp=N,431nm,2.9s,comp=E,100nm,2.0s							
JNTK	**Naratenkawa**	**1.63**	**315**	A		A	18 32 00.3	
	comp=N,271nm,3.4s,comp=E,192nm,3.2s							
JSG	**Sagara**	**1.71**	**26**			**Pn**	**18 32 00.8**	**+0.9**
JSG					Sn	**S**	**18 32 42.7**	**+0.8**
JSG	**Sagara**	**1.71**	**26**	P		**Pn**	**18 32 01.1**	**+1.2**
JSG	**Sagara**	**1.71**	**26**	S		**S**	**18 32 44.5**	**+2.6**
JSG	**Sagara**	**1.71**	**26**	A		A	18 32 00.2	
	comp=N,561nm,2.1s,comp=E,986nm,4.2s							
JSG	**Sagara**	**1.71**	**26**	⇓P		**Pn**	**18 32 00.8**	**+0.9**
JKKS	**Kakegawashinom**	**1.72**	**20**	A		A	18 32 00.2	
	comp=N,767nm,2.1s,comp=E,978nm,3.7s							
TSUJ	**Tsu 2**	**1.73**	**336**	A		A	18 32 00.7	
	comp=N,273nm,3.5s,comp=E,265nm,3.2s							
TSUJ	**Tsu 2**	**1.73**	**336**	P		**Pn**	**18 32 00.9**	**+1.0**
TSUJ				S		**S**	**18 32 42.0**	**0.0**
HMMJ	**Hamamatsu 2**	**1.76**	**12**	A		A	18 32 00.5	
	comp=N,240nm,3.4s,comp=E,444nm,3.7s							
JWM	**Minabe**	**1.76**	**295**	A		A	18 32 01.3	
	comp=N,289nm,3.4s,comp=E,66nm,3.6s							
JWM	**Minabe**	**1.76**	**295**	P		**Pn**	**18 32 00.8**	**+0.6**
JWM				S		**S**	**18 32 42.4**	**0.0**
JWY	**Kouya**	**1.77**	**308**	P		**Pn**	**18 32 01.3**	**+1.0**
JWY				*e*S		**S**	**18 32 42.7**	**0.0**
JWY	**Kouya**	**1.77**	**308**	A		A	18 32 01.3	
	comp=N,298nm,3.6s,comp=E,154nm,3.2s							
JSSY	**Shinshiroyabe**	**1.79**	**6**	A		A	18 32 00.7	
	comp=N,192nm,2.1s,comp=E,339nm,4.0s							
JKO	**Kozu shima**	**1.87**	**55**	A		A	18 32 00.9	
	comp=N,808nm,3.1s,comp=E,2µm,3.5s							
JSKK	**Shikinejimakit**	**2.01**	**53**	A		A	18 32 01.7	
	comp=N,332nm,4.1s,comp=E,484nm,2.1s							
JHE	**Heguri**	**2.02**	**319**	A		A	18 32 02.6	
	comp=N,282nm,4.0s,comp=E,121nm,2.5s							
JNIO	**Niijimaoohara**	**2.06**	**53**	A		A	18 32 02.0	
	comp=N,379nm,7.4s,comp=E,658nm,2.4s							
JIZS	**Izushimoda**	**2.07**	**40**	A		A	18 32 02.1	
	comp=N,559nm,3.6s,comp=E,402nm,3.5s							
JIZS	**Izushimoda**	**2.07**	**40**	⇓P		**Pn**	**18 32 02.2**	**+0.1**
JIZS				⇓S		**S**	**18 32 45.7**	**-0.2**
JMKN	**Mikurajimanish**	**2.08**	**68**	A		A	18 32 02.0	
	comp=N,372nm,6.7s,comp=E,378nm,2.9s							
JMKN	**Mikurajimanish**	**2.08**	**68**	⇓P		**Pn**	**18 32 01.7**	**-0.5**
SHZ3	**Shizuoka 3**	**2.08**	**22**	A		A	18 32 02.3	
	comp=N,620nm,1.8s,comp=E,664nm,2.9s							
SHZ3	**Shizuoka 3**	**2.08**	**22**	P		**Pn**	**18 32 02.8**	**+0.5**
SHZ3				S		**S**	**18 32 46.2**	**0.0**
JHJ	**Hachijo jima 2**	**2.10**	**90**	P		**Pn**	**18 32 01.9**	**-0.5**
	comp=E,19µm,0.9s,baz=226,slow=11,SNR=252							
JHJ				S		**S**	**18 32 46.1**	**-0.3**
	comp=E,6µm,0.3s,baz=253,slow=19,SNR=4.6							
JMYK	**Miyake Tsubota**	**2.11**	**63**	A		A	18 32 02.3	
	comp=N,502nm,3.4s,comp=E,390nm,7.8s							
JHCJ	**Hachijojimakas**	**2.12**	**91**	A		A	18 32 02.3	
	comp=N,218nm,6.6s,comp=E,167nm,5.3s							
JHJ2	**Mitsune**	**2.13**	**90**			**Pn**	**18 32 01.7**	**-0.9**
JHJ2					Sn	**S**	**18 32 46.0**	**-0.7**
JHJ2	**Mitsune**	**2.13**	**90**	P		**Pn**	**18 32 02.3**	**-0.3**
JHJ2	**Mitsune**	**2.13**	**90**	⇓*e*P		**Pn**	**18 32 01.9**	**-0.7**
JHJ2				⇓*e*S		**S**	**18 32 45.2**	**-1.5**
JHJ2	**Mitsune**	**2.13**	**90**	A		A	18 32 01.9	
	comp=N,197nm,9.6s,comp=E,205nm,4.8s							
JHJ2	**Mitsune**	**2.13**	**90**	⇓P		**Pn**	**18 32 01.9**	**-0.7**
JAO	**Obara**	**2.13**	**360**	A		A	18 32 02.9	
	comp=N,285nm,2.9s,comp=E,405nm,3.8s							
JEG	**Eigenji**	**2.13**	**340**	A		A	18 32 03.2	
	comp=N,168nm,2.7s,comp=E,279nm,3.2s							
JTHY	**Toshimahigashi**	**2.17**	**50**	A		A	18 32 02.7	
	comp=N,467nm,6.1s,comp=E,546nm,4.3s							
JICN	**Ichinomiyachia**	**2.20**	**351**	A		A	18 32 03.4	
	comp=N,141nm,2.1s,comp=E,331nm,2.8s							
JAOM	**Aogashimamukai**	**2.20**	**107**	⇓P		**Pn**	**18 32 03.3**	**+0.2**
JAOM				⇓S		**S**	**18 32 47.2**	**-0.5**
JAOM	**Aogashimamukai**	**2.20**	**107**	A		A	18 32 03.3	
	comp=N,593nm,6.6s,comp=E,587nm,2.9s							
INU	**Inuyama**	**2.22**	**354**			**Pn**	**18 32 03.6**	**+0.5**
INU					Sn	**S**	**18 32 47.5**	**-0.3**
INU	**Inuyama**	**2.22**	**354**	P		**Pn**	**18 32 04.2**	**+1.0**
INU	**Inuyama**	**2.22**	**354**	⇓P		**Pn**	**18 32 03.7**	**+0.5**
JNY	**Yasuok**	**2.27**	**12**	A		A	18 32 03.7	
	comp=N,471nm,2.1s,comp=E,416nm,3.3s							
JHTM	**Izuhatsuma**	**2.32**	**38**	A		A	18 32 03.8	
	comp=N,961nm,1.7s,comp=E,982nm,3.3s							
JFNN	**Fujinakano**	**2.37**	**29**	P		**Pn**	**18 32 04.2**	
	comp=N,354nm,4.8s,comp=E,613nm,4.0s							
JFNN	**Fujinakano**	**2.37**	**29**	⇓P		**Pn**	**18 32 04.4**	**+0.2**
JFNN				⇓S		**S**	**18 32 50.0**	**+0.3**
JIM2	**Oshima 3**	**2.39**	**48**	A		A	18 32 04.2	
	comp=N,367nm,4.1s,comp=E,661nm,3.5s							
JAWN	**Awajishima-nag**	**2.40**	**305**	A		A	18 32 05.4	
	comp=N,258nm,3.1s,comp=E,144nm,4.5s							
JAWN	**Awajishima-nag**	**2.40**	**305**	P		**Pn**	**18 32 05.0**	**+0.5**
JAWN				S		**S**	**18 32 50.2**	**+0.1**
JAI	**Aioi**	**2.45**	**286**	P		**Pn**	**18 32 05.9**	**+1.0**
JAI				*e*S		**S**	**18 32 50.9**	**0.0**
JAI	**Aioi**	**2.45**	**286**	A		A	18 32 05.9	
	comp=N,267nm,3.3s,comp=E,

MAJO Matsushiro 3.49 12 S S 18 33 05.9 -0.9
MAJO Matsushiro 3.49 12d *i*P Pn 18 32 13.2 -0.5
MAJO Matsushiro 3.49 12 ⇓P Pn 18 32 13.1 -0.5
MAJO Matsushiro 3.49 12 P Pn 18 32 13.5 -0.1
MAJO S S 18 33 04.3 -2.5
MAT Matsushiro 3.49 12 P Pn 18 32 13.2 -0.4
MAT *e*S S 18 33 05.1 -1.7
MJAR Matsushiro Arr 3.49 12 Pn 18 32 12.7 -0.9
MJAR Matsushiro Arr 3.49 12 P Pn 18 32 12.8 -0.8
comp=E,3µm,0.4s,baz=183,slow=8.0,SNR=6115
MJAR S S **18 33 05.0 -1.8**
comp=E,10µm,1.1s,baz=189,slow=16,SNR=21
MJAR P3KPbc 19 10 07.5
comp=E,1.4nm,1.0s,baz=140,slow=1.0,SNR=4.1
MJB9 Matsu-Tunnel 3.49 12 Pn 18 32 14.2 +0.6
MJB9 Sn S **18 33 05.8 -1.1**
JKU Kubokawa 3.54 274 A A 18 32 15.2
comp=N,162nm,3.3s,comp=E,216nm,4.1s
JKU Kubokawa 3.54 274 P Pn 18 32 15.5 +1.4
JKU S S **18 33 09.2 +1.5**
JET Tanbara 3.59 282 A A 18 32 15.7
comp=N,198nm,3.8s,comp=E,193nm,4.3s
JET Tanbara 3.59 282 P Pn 18 32 16.1 +1.5
JET S S **18 33 10.6 +1.9**
JGK Kuni 3.60 18 A A 18 32 14.4
comp=N,298nm,2.1s,comp=E,274nm,3.0s
JSMT Sammumatsuo 3.63 45 A A 18 32 14.3
comp=N,862nm,3.5s,comp=E,937nm,2.7s
JKR Kurayoshi 3.64 309 A A 18 32 15.8
comp=N,218nm,3.5s,comp=E,124nm,5.1s
JAG Ashikaga 3.74 28 ⇓P Pn 18 32 14.1 -1.8
JAG Ashikaga 3.74 28 A A 18 32 14.1
comp=N,159nm,1.3s,comp=E,170nm,4.6s
JJG Jouge 3.75 295 A A 18 32 17.0
comp=N,156nm,5.4s,comp=E,348nm,3.9s
JTO Tosashimizu 3.77 267 P Pn 18 32 17.6 +1.2
JTO S S **18 33 11.4 -0.3**
JTO Tosashimizu 3.77 267 A A 18 32 17.6
comp=N,127nm,3.0s,comp=E,241nm,3.9s
JJH Hakui 3.81 354 A A 18 32 16.7
comp=N,114nm,3.9s,comp=E,178nm,3.6s
JIHU Itakohorinouch 3.90 43 A A 18 32 16.8
comp=N,1µm,2.5s,comp=E,1µm,1.0s
UWA2 Uwa jima 2 3.90 272 A A 18 32 18.7
comp=N,159nm,3.9s,comp=E,247nm,3.8s
UWA2 Uwa jima 2 3.90 272 P Pn 18 32 19.0 +1.4
UWA2 S S **18 33 15.2 +1.1**
JYT Yasato 3.91 37 A A 18 32 17.0
comp=N,425nm,2.7s,comp=E,352nm,2.0s
JHS Saijyo 3.92 299 P Pn 18 32 18.8 +1.0
JHS Saijyo 3.92 299 A A 18 32 18.8
comp=N,114nm,3.7s,comp=E,499nm,3.5s
JKT Katashina 3.97 23 A A 18 32 17.8
comp=N,145nm,1.0s,comp=E,183nm,1.8s
JKT Katashina 3.97 23 ⇓P Pn 18 32 16.9 -1.4
JJN Nakama 4.03 10 A A 18 32 18.5
comp=N,287nm,2.0s,comp=E,252nm,3.6s
JNA Nagahama 4.04 277 P Pn 18 32 20.5 +1.5
JNA Nagahama 4.04 277 A A 18 32 20.5
comp=N,111nm,3.4s,comp=E,286nm,4.0s
JHYU Hitachinakayam 4.20 39 A A 18 32 19.8
comp=N,917nm,1.3s,comp=E,431nm,1.5s
JNM Ikuma 4.23 305 A A 18 32 21.6
comp=N,202nm,4.4s,comp=E,275nm,3.1s
JSZ Suzu 4.31 1 A A 18 32 21.4
comp=N,118nm,4.5s,comp=E,167nm,2.7s
JSZ Suzu 4.31 1 ⇓P Pn 18 32 21.2 -0.3
JSZ ⇓S S **18 33 19.2 -2.0**
JHT Toyohira 4.32 292 A A 18 32 22.6
comp=N,190nm,4.4s,comp=E,387nm,3.4s
JHT Toyohira 4.32 292 P Pn 18 32 22.5 +0.8
JHT S S **18 33 22.5 +1.0**
JUON Uonuma 4.32 19 A A 18 32 21.2
comp=N,124nm,1.7s,comp=E,331nm,3.1s
JUON Uonuma 4.32 19 P Pn 18 32 20.9 -0.7
JUON S S **18 33 17.7 -3.7**
JISK Izumosakaura 4.36 304 A A 18 32 22.9
comp=N,187nm,7.8s,comp=E,271nm,6.9s
JISK Izumosakaura 4.36 304 P Pn 18 32 23.2 +1.1
JISK S S **18 33 22.8 +0.6**
JSB Shiboa 4.40 29 A A 18 32 21.9
comp=N,472nm,2.2s,comp=E,637nm,3.0s
JHO Hitachi 4.40 37 A A 18 32 21.8
comp=N,491nm,3.0s,comp=E,406nm,3.9s
JGT2 ShimaneMisato 4.40 297 A A 18 32 23.4
comp=N,199nm,3.5s,comp=E,405nm,3.2s
JGT2 ShimaneMisato 4.40 297 P Pn 18 32 23.3 +0.8
JGT2 S S **18 33 24.9 +1.9**
JSKE Saikikamae 4.53 267 A A 18 32 25.0
comp=N,117nm,3.2s,comp=E,238nm,4.2s
JIZZ Izumozaki 4.54 15 A A 18 32 23.5
comp=N,292nm,0.9s,comp=E,407nm,1.4s
JIZZ Izumozaki 4.54 15 S S 18 33 23.3 -2.2
JOI OKI 4.58 315 P Pn 18 32 24.9 +0.6
JOI *e*S S **18 33 26.9 +0.7**
JOI OKI 4.58 315 A A 18 32 24.9
comp=N,119nm,2.4s,comp=E,238nm,3.2s
JKD Kudamatsu 4.60 283 A A 18 32 25.6
comp=N,137nm,3.3s,comp=E,421nm,3.8s
JUS Usuki 4.64 271 A A 18 32 26.1
comp=N,152nm,2.5s,comp=E,330nm,3.8s
JHIK Hikimi 4.67 289 A A 18 32 26.2
comp=N,209nm,3.5s,comp=E,380nm,3.2s
JFY Yanaizu 4.71 24 A A 18 32 25.0
comp=N,184nm,2.6s,comp=E,251nm,3.4s
JFY Yanaizu 4.71 24 ⇓P Pn 18 32 24.2 -1.4
JFY ⇓S S **18 33 24.4 -4.2**
JHG Hegura jima 4.72 357 A A 18 32 25.6
comp=N,142nm,3.8s,comp=E,106nm,3.2s
JHG Hegura jima 4.72 357 P Pn 18 32 25.8 +0.1
JHG S S **18 33 27.0 -1.8**
JFFD Fukushimafurud 4.78 33 A A 18 32 25.6
comp=N,440nm,2.0s,comp=E,335nm,3.7s
JHHC Hyugahichiya 4.80 263 A A 18 32 27.7
comp=N,80nm,3.5s,comp=E,206nm,3.8s
JKI Kunimi 4.80 278 A A 18 32 27.7
comp=N,174nm,3.9s,comp=E,441nm,3.5s
ONAJ Iwakimizuishiy 4.90 35 A A 18 32 26.9
comp=N,969nm,2.3s,comp=E,706nm,2.3s
JBEP Beppuamama 4.92 274 A A 18 32 29.0
comp=N,332nm,3.4s,comp=E,283nm,4.1s
JKIT Kitakata 4.93 266 A A 18 32 29.1
comp=N,83nm,4.2s,comp=E,339nm,3.3s
JTSN Tsuno 4.95 261 A A 18 32 29.3
comp=N,74nm,3.7s,comp=E,161nm,3.4s
JSD Sado 4.96 9 P Pn 18 32 27.5 -0.7
JSD Sado 4.96 9 A A 18 32 27.9
comp=N,62nm,3.3s,comp=E,158nm,2.8s
JSD Sado 4.96 9 ⇓P Pn 18 32 27.2 -1.1
JSD ⇓S S **18 33 29.2 -4.3**
JSD Sado 4.96 9 ⇓P Pn 18 32 27.1 -1.1
JNS Sasagawa 4.96 19 A A 18 32 27.8
comp=N,160nm,2.4s,comp=E,180nm,2.2s
JNS Sasagawa 4.96 19 P Pn 18 32 27.0 -1.2
JOTO OTAMA OYAMA 5.08 29 A A 18 32 28.8
comp=N,704nm,0.9s,comp=E,648nm,3.0s
JFK Kawauchi 5.15 34 A A 18 32 29.5
comp=N,561nm,2.4s,comp=E,482nm,3.1s
JFK Kawauchi 5.15 34 P Pn 18 32 28.4 -1.9
JNKG Nichinankitago 5.20 355 A A 18 32 32.0
comp=N,144nm,3.1s,comp=E,361nm,3.7s
JTY Toyota 5.30 284 A A 18 32 32.9
comp=N,73nm,3.4s,comp=E,254nm,4.2s
JYAR Yonezawaarcadi 5.31 25 A A 18 32 31.3
comp=N,487nm,1.3s,comp=E,316nm,1.9s
JNAR Kushima--Naru 5.33 254 A A 18 32 33.4
comp=N,124nm,4.0s,comp=E,302nm,4.1s
JHGM Hagimishima 5.36 290 A A 18 32 33.5
comp=N,99nm,9.5s,comp=E,351nm,6.6s
JHGM Hagimishima 5.36 290 P Pn 18 32 33.6 +1.0
JHGM S S **18 33 42.2 +0.8**
JNU Nakatsue 5.37 272 P Pn 18 32 34.0 +1.2
comp=E,6µm,0.9s,baz=88,slow=5.5,SNR=2766
JNU S S **18 33 42.7 +1.0**
comp=E,5µm,1.2s,baz=58,slow=15,SNR=10
JNU Nakatsue 5.37 272 P Pn 18 32 34.3 +1.5
JNU Nakatsue 5.37 272 A A 18 32 33.7
comp=N,94nm,4.5s,comp=E,192nm,4.0s
JNU Nakatsue 5.37 272 ⇑P Pn 18 32 34.1 +1.4
JTZ Takazaki 5.37 258 A A 18 32 33.8
comp=N,114nm,3.5s,comp=E,226nm,4.2s
JTZ Takazaki 5.37 258 P Pn 18 32 34.7 +1.9
JTZ S S **18 33 44.4 +2.6**
JMST Minamisoumatoc 5.45 32 A A 18 32 32.7
comp=N,548nm,2.1s,comp=E,444nm,3.1s

JFA Akaike 5.45 278 A A 18 32 34.6
comp=N,77nm,3.7s,comp=E,328nm,3.3s
JIU3 Izumi3 5.47 266 A A 18 32 34.9
comp=N,111nm,4.1s,comp=E,234nm,4.1s
JIU3 Izumi3 5.47 266 P Pn 18 32 35.6 +1.7
JIU3 S S **18 33 45.5 +1.8**
JMM Marumori 5.53 30 Pn 18 32 32.5 -1.8
JMM Sn S **18 33 37.6 -7.0**
JMM Marumori 5.53 30 P Pn 18 32 32.6 -1.8
JMM Marumori 5.53 30 A A 18 32 33.5
comp=N,813nm,2.4s,comp=E,579nm,3.7s
JMM Marumori 5.53 30 ⇓P Pn 18 32 32.5 -1.8
JMM ⇓S S **18 33 38.3 -6.3**
JMM Marumori 5.53 30 ⇓P Pn 18 32 32.2 -2.1
JAW Awa shima 5.55 16 A A 18 32 34.0
comp=N,204nm,2.4s,comp=E,139nm,4.1s
JAW Awa shima 5.55 16 ⇓P Pn 18 32 33.4 -1.1
JYS Shirataka 5.56 23 A A 18 32 34.0
comp=N,441nm,3.0s,comp=E,308nm,2.1s
JYS Shirataka 5.56 23 ⇓P Pn 18 32 33.6 -1.1
JTA Tamana 5.67 270 A A 18 32 37.0
comp=N,89nm,4.6s,comp=E,182nm,4.2s
JZO Okuchi 5.72 262 A A 18 32 37.6
comp=N,84nm,3.6s,comp=E,178nm,5.3s
JTSR Tashiro 2 5.74 252 A A 18 32 37.8
comp=N,77nm,3.1s,comp=E,219nm,4.3s
JFI Itaya 5.78 275 A A 18 32 38.2
comp=N,38nm,4.0s,comp=E,148nm,8.9s
JYA Atsumi 5.80 19 A A 18 32 36.6
comp=N,337nm,2.7s,comp=E,319nm,2.6s
JYA Atsumi 5.80 19 ⇓P Pn 18 32 36.3 -1.0
JYA ⇓S S **18 33 45.9 -4.2**
JTN Tanegashima 3 5.90 247 A A 18 32 39.5
comp=N,63nm,8.2s,comp=E,214nm,4.6s
JTN Tanegashima 3 5.90 247 P Pn 18 32 40.8 +2.2
JOU Okura 5.90 27 A A 18 32 37.7
comp=N,920nm,2.7s,comp=E,550nm,2.9s
JOU Okura 5.90 27 ⇓P Pn 18 32 37.2 -1.3
JOU ⇓S S **18 33 48.4 -3.8**
JSU Suzuyama 6.00 256 A A 18 32 40.7
comp=N,67nm,6.1s,comp=E,99nm,9.4s
JHD Hondo 6.05 266 A A 18 32 41.2
comp=N,80nm,4.5s,comp=E,172nm,4.3s
JMTN Minamitane 6.08 245 A A 18 32 41.5
comp=N,96nm,4.6s,comp=E,230nm,4.4s
JMTN Minamitane 6.08 245 P Pn 18 32 42.6 +2.0
JUR Ureshino 6.15 272 A A 18 32 42.3
comp=N,53nm,8.8s,comp=E,167nm,5.5s
JIKH Ishinomakikobu 6.19 32 A A 18 32 40.7
comp=N,325nm,1.6s,comp=E,243nm,2.9s
JOFO Osakifurukawao 6.21 27 A A 18 32 41.0
comp=N,1µm,3.0s,comp=E,2µm,2.4s
JYYZ Yamagatayuza 6.25 19 A A 18 32 41.6
comp=N,482nm,2.4s,comp=E,431nm,2.8s
JIO Ouri 6.26 31 A A 18 32 41.5
comp=N,183nm,2.5s,comp=E,191nm,1.9s
JIO Ouri 6.26 31 P Pn 18 32 40.0 -2.4
JYK Kaneyama 6.29 22 A A 18 32 42.0
comp=N,298nm,2.2s,comp=E,167nm,2.5s
JYK Kaneyama 6.29 22 ⇓P Pn 18 32 41.3 -1.4
NGSJ Nagasakinomoza 6.31 268 A A 18 32 44.1
comp=N,61nm,3.3s,comp=E,159nm,5.4s
JTB Tobima 6.33 16 A A 18 32 42.5
comp=N,108nm,1.7s,comp=E,226nm,3.4s
JII Iki 6.34 278 A A 18 32 44.4
comp=N,85nm,3.6s,comp=E,124nm,4.0s
JII Iki 6.34 278 ⇓P Pn 18 32 45.1 +1.6
JYAK Yakushimahirau 6.45 245 A A 18 32 45.7
comp=N,83nm,3.9s,comp=E,191nm,4.5s
JYAK Yakushimahirau 6.45 245 P Pn 18 32 46.6 +1.9
JYAK S S **18 34 05.5 +1.9**
JSJ Shimokoshiki 6.56 259 A A 18 32 46.9
comp=N,33nm,3.7s,comp=E,121nm,4.4s
JSJ Shimokoshiki 6.56 259 P P 18 32 47.2 +0.3
JKC Kuchinoerabu 6.59 248 A A 18 32 47.2
comp=N,152nm,4.0s,comp=E,124nm,4.1s
JKMT Kesennumamotoy 6.61 30 A A 18 32 45.4
comp=N,174nm,2.5s,comp=E,121nm,4.9s
JMK Ichinoseki 6.63 28 A A 18 32 45.7
comp=N,163nm,3.1s,comp=E,127nm,1.9s
JMK Ichinoseki 6.63 28 ⇓P Pn 18 32 44.6 -1.9
JTSM Tsushimamitsus 6.69 283 A A 18 32 48.2
comp=N,66nm,3.6s,comp=E,128nm,3.3s
JTSM Tsushimamitsus 6.69 283 P P 18 32 48.9 +0.7
JTSM S S **18 34 09.6 +1.2**
JTU Tsushima 6.70 284 P P 18 32 48.8 +0.3
JTU Tsushima 6.70 284 A A 18 32 48.4
comp=N,46nm,4.5s,comp=E,148nm,3.7s
JTU Tsushima 6.70 284 ⇓P P 18 32 49.0 +0.5
JTU Tsushima 6.70 284 ⇓P P 18 32 49.0 +0.5
JRG Rokugo 6.81 22 A A 18 32 47.9
comp=N,209nm,2.0s,comp=E,159nm,3.7s
JRG Rokugo 6.81 22 ⇓P Pn 18 32 47.4 -1.3
JYW Yuwa 6.82 19 A A 18 32 48.0
comp=N,355nm,2.6s,comp=E,216nm,2.5s
OFUJ Ofunato 6.92 30 A A 18 32 48.9
comp=N,200nm,0.8s,comp=E,185nm,2.8s
JOG3 Oga3 6.93 12 A A 18 32 50.9
comp=N,229nm,2.6s,comp=E,192nm,2.2s
JOM Ohasama 7.11 26 A A 18 32 51.2
comp=N,176nm,2.7s,comp=E,88nm,1.2s
JOM Ohasama 7.11 26 ⇓P Pn 18 32 50.5 -1.5
JNN Nakanoshima 7.12 245 A A 18 32 53.3
comp=N,74nm,5.6s,comp=E,152nm,4.6s
JNN Nakanoshima 7.12 245 P P 18 32 53.8 +0.4
JFU Fukue jima 2 7.19 269 A A 18 32 54.0
comp=N,30nm,7.9s,comp=E,91nm,4.3s
JSZI Iwateshizukuis 7.23 23 A A 18 32 52.6
comp=N,383nm,2.2s,comp=E,450nm,2.5s
CBIJ Chichi jima 7.36 143 A A 18 32 54.4
comp=N,80nm,3.6s,comp=E,56nm,1.6s
JCJ Chichijima 7.36 143 Pn 18 32 50.7 -4.5
JCJ Sn S **18 34 14.0 -8.8**
JCJ Chichijima 7.36 143 P Pn 18 32 55.1 -0.1
JCJ Chichijima 7.36 143 ⇑P Pn 18 32 49.8 -5.5
MIYJ Miyakonagasawa 7.40 28 A A 18 32 54.4
comp=N,104nm,2.9s,comp=E,67nm,3.2s
JNTW Noshirotokiwa 7.49 17 A A 18 32 55.7
comp=N,433nm,2.5s,comp=E,328nm,2.6s
JAH Hinai 7.54 20 A A 18 32 56.2
comp=N,104nm,4.7s,comp=E,106nm,2.4s
JAH Hinai 7.54 20 ⇓P Pn 18 32 55.9 -1.1
JKZ Kuzumaki 7.58 24 A A 18 32 56.5
comp=N,164nm,3.4s,comp=E,103nm,3.2s
JTH Tanohata 7.73 27 A A 18 32 58.2
comp=N,142nm,2.1s,comp=E,113nm,1.1s
JHH2 Hama-NKT2 7.75 145 A A 18 32 58.9
comp=N,75nm,0.4s,comp=E,105nm,0.4s
JIW Iwasaki 7.76 16 A A 18 32 58.8
comp=N,122nm,2.6s,comp=E,73nm,3.1s
JIW Iwasaki 7.76 16 P Pn 18 32 58.8 -0.8
JHHS Hirosakihyakuz 7.90 17 A A 18 33 00.3
comp=N,362nm,2.7s,comp=E,214nm,3.8s
JKEN Kujiedanarisaw 7.91 25 A A 18 33 00.3
comp=N,222nm,1.6s,comp=E,156nm,4.0s
JZK Kishima 7.91 235 A A 18 33 02.2
comp=N,122nm,5.0s,comp=E,142nm,4.7s
JTAJ Takarajima 7.97 242 A A 18 33 03.0
comp=N,112nm,4.1s,comp=E,160nm,4.2s
JTAJ Takarajima 7.97 242 P P 18 33 04.0 +1.0
JANG Nango 7.99 24 A A 18 33 01.2
comp=N,138nm,3.8s,comp=E,146nm,2.0s
JANG Nango 7.99 24 P Pn 18 32 59.5 -2.7
JAM Amami Oshima 8.10 237 A A 18 33 04.5
comp=N,49nm,4.2s,comp=E,84nm,4.5s
JAM Amami Oshima 8.10 237 P P 18 33 04.8 -0.4
JAM S S **18 34 38.6 +0.1**
JTM Tenmabayashi 8.22 21 Pn 18 33 03.5 -1.3
JTM Sn S **18 34 33.3 -7.4**
JTM Tenmabayashi 8.22 21 P Pn 18 33 03.9 -1.0
JTM Tenmabayashi 8.22 21 A A 18 33 04.0
comp=N,139nm,3.6s,comp=E,165nm,3.1s
JTM Tenmabayashi 8.22 21 P Pn 18 33 03.6 -1.3
JTM S S **18 34 34.3 -6.4**
JTM Tenmabayashi 8.22 21 ⇓P Pn 18 33 03.5 -1.3
JSI2 Shiura 2 8.30 17 A A 18 33 04.9
comp=N,90nm,3.9s,comp=E,46nm,3.0s
JAMN Amaminishikomi 8.51 237 A A 18 33 09.2
comp=N,45nm,4.5s,comp=E,89nm,3.9s
JAMN Amaminishikomi 8.51 237 P P 18 33 09.3 -0.3
JAMN S S **18 34 47.6 +0.4**
JARK Aomorirokkasho 8.51 21 A A 18 33 07.3
comp=N,131nm,2.3s,comp=E,86nm,5.4s
JOMM Oshimamatsumae 8.65 14 A A 18 33 09.1
comp=N,52nm,3.7s,comp=E,41nm,4.0s
JOMM Oshimamatsumae 8.65 14 P Pn 18 33 09.2 -0.7

JAHD Aomorihigashid 8.74 21 A A 18 33 10.0
comp=N,150nm,3.3s,comp=E,187nm,2.0s
JSR Shiriuchi 8.75 16 A A 18 33 10.2
comp=N,55nm,3.3s,comp=E,70nm,3.3s
JSR Shiriuchi 8.75 16 P Pn 18 33 10.2 -0.7
JOT Ohata 8.77 19 A A 18 33 10.3
comp=N,38nm,3.1s,comp=E,99nm,3.4s
TJN Taejon 8.78 294 P 18 33 12.8 +0.4
TJN Taejon 8.78 294 P P 18 33 12.9 +0.4
TJN Taejon 8.78 294d *i*P P 18 33 13.0 +0.5
KSRS Korea Array 8.78 302 P P 18 33 12.3 -0.1
comp=E,4µm,0.8s,baz=117,slow=11,SNR=5504
KSRS S S **18 34 50.0 -2.8**
comp=E,440nm,1.0s,baz=104,slow=21,SNR=5.1
KSRS ScP ScP **18 41 52.5 +0.6**
comp=E,100nm,1.1s,baz=164,slow=0.7,SNR=20
KSRS PKiKP PKiKP **18 46 57.0 +0.2**
comp=E,1.5nm,0.7s,baz=78,slow=1.0,SNR=4.7
KSRS P3KPbc 19 09 46.2
comp=E,1.3nm,0.9s,baz=0.6,slow=3.2,SNR=5.2
KSAR Wonju Array Be 8.80 302 P 18 33 12.6 -0.1
KSAR Wonju Array Be 8.80 302 P P 18 33 12.6 -0.1
KS19 Wonju Array Si 8.84 302 P P 18 33 12.9 -0.2
JKDJ Kitadaitoujima 8.85 218 A A 18 33 13.0
comp=N,130nm,5.0s,comp=E,141nm,4.7s
JTK Tokunoshima 8.94 236 A A 18 33 14.3
comp=N,23nm,3.4s,comp=E,62nm,4.3s
JTK Tokunoshima 8.94 236 P P 18 33 14.6 +0.1
JMZ Minamidaito 2 8.99 217 P P 18 33 15.1 0.0
JMZ Minamidaito 2 8.99 217 P P 18 33 16.4 +1.4
JMZ Minamidaito 2 8.99 217 A A 18 33 14.7
comp=N,221nm,4.6s,comp=E,140nm,5.6s
JMZ Minamidaito 2 8.99 217 P P 18 33 15.6 +0.5
JMZ S S **18 34 59.5 +1.8**
JMZ Minamidaito 2 8.99 217 ⇑P P 18 33 15.3 +0.3
JOSM Okushiri--Mats 9.10 10 A A 18 33 14.4
comp=N,29nm,2.5s,comp=E,51nm,5.8s
JOSM Okushiri--Mats 9.10 10 P Pn 18 33 13.8 -1.3
JKB Kayabe 9.23 18 A A 18 33 15.8
comp=N,129nm,1.8s,comp=E,55nm,1.5s
JKB Kayabe 9.23 18 P Pn 18 33 15.4 -1.2
JYM2 Yakumo 2 9.30 14 A A 18 33 16.6
comp=N,108nm,2.4s,comp=E,64nm,4.0s
JYM2 Yakumo 2 9.30 14 P Pn 18 33 16.5 -1.0
JOKE Okinoerabujima 9.47 235 A A 18 33 20.4
comp=N,32nm,5.3s,comp=E,43nm,6.2s
JHST Hiyamasetana 9.50 12 A A 18 33 19.0
comp=N,96nm,2.8s,comp=E,83nm,4.3s
INCN Inchon 9.72 300 P 18 33 23.6 +0.6
INCN Inchon 9.72 300 P P 18 33 23.8 +0.8
INCN P P **18 33 23.8 +0.8**
INCN S S **18 35 13.7 +0.7**
INCN S S **18 35 13.7 +0.7**
INCN Inchon 9.72 300 P P 18 33 23.7 +0.6
INCN Inchon 9.72 300 P P 18 33 23.7 +0.6
INCN Inchon 9.72 300 ⇓P P 18 33 23.5 +0.6
JSH Shimam 9.74 12 A A 18 33 21.9
comp=N,36nm,2.5s,comp=E,36nm,5.1s
JSH Shimam 9.74 12 P Pn 18 33 22.0 -0.6
JYRO Yoronjima 9.77 234 A A 18 33 23.9
comp=N,45nm,4.9s,comp=E,30nm,6.9s
JYRO Yoronjima 9.77 234 P P 18 33 24.6 +0.9
JNB Noboribetsu 9.78 17 A A 18 33 22.3
comp=N,50nm,3.2s,comp=E,33nm,4.3s
JNB Noboribetsu 9.78 17 P Pn 18 33 21.7 -1.4
JOW Kunigami 10.01 234 P P 18 33 27.2 +0.8
JOW Kunigami 10.01 234 P P 18 33 26.7 +0.3
comp=E,710nm,0.5s,baz=58,slow=8.9,SNR=186
JOW S S **18 35 15.9 -3.5**
comp=E,98nm,0.6s,baz=134,slow=14,SNR=1.2
JOW ScP ScP **18 41 56.0 +2.3**
comp=E,38nm,0.9s,baz=50,slow=4.5,SNR=4.3
JOW Kunigami 10.01 234 P P 18 33 27.2 +0.8
JOW Kunigami 10.01 234 A A 18 33 26.8
comp=N,38nm,5.5s,comp=E,34nm,5.8s
JOW Kunigami 10.01 234 P P 18 33 27.3 +0.9
JOW Kunigami 10.01 234 ⇑P P 18 33 27.1 +0.8
ERM Erimo 10.02 26 Pn 18 33 24.2 -1.6
ERM Erimo 10.02 26 P Pn 18 33 24.9 -1.0
ERM Erimo 10.02 26c *i*P Pn 18 33 24.1 -1.8
ERM pmax pmax
comp=Z,2µm,0.8s
ERM Erimo 10.02 26 P Pn 18 33 24.3 -1.6
JEM Erimo 10.02 26 P Pn 18 33 25.1 -0.8
JEM Erimo 10.02 26 A A 18 33 24.9
comp=N,32nm,2.5s,comp=E,29nm,4.6s
JEM Erimo 10.02 26 P Pn 18 33 24.2 -1.7
JEM S S **18 35 13.4 -5.7**
JIH Iheya 10.09 235 A A 18 33 27.7
comp=N,34nm,3.7s,comp=E,41nm,7.1s
JIH Iheya 10.09 235 P P 18 33 28.1 +0.8
JNBK Urakawa-nobuka 10.11 24 A A 18 33 25.9
comp=N,121nm,1.4s,comp=E,82nm,1.9s
JSHD Hidakashinhida 10.13 22 A A 18 33 26.2
comp=N,101nm,1.9s,comp=E,144nm,1.5s
JIAM Iburiatsuma 10.16 20 A A 18 33 26.6
comp=N,133nm,1.3s,comp=E,123nm,1.5s
JIAM Iburiatsuma 10.16 20 P Pn 18 33 26.5 -1.0
JEW Eniwo 10.23 18 A A 18 33 27.5
comp=N,59nm,3.4s,comp=E,68nm,2.8s
JTHR Tokachihiroo 10.31 26 A A 18 33 28.3
comp=N,65nm,5.9s,comp=E,49nm,1.6s
JNTH Nagotoyohara 10.39 233 A A 18 33 31.2
comp=N,44nm,4.6s,comp=E,68nm,5.5s
JBT2 Biratori 2 10.43 21 A A 18 33 29.8
comp=N,40nm,1.8s,comp=E,39nm,7.3s
JSK Shakotan 10.51 13 A A 18 33 30.8
comp=N,54nm,2.4s,comp=E,34nm,3.2s
JSK Shakotan 10.51 13 P P 18 33 30.9 -0.7
MSHR Mys Shultsa 10.60 335d *i*P P 18 33 32.6 0.0
MSHR pmax pmax
comp=Z,1µm,2.5s
JCH Churui 10.61 25 A A 18 33 31.9
comp=N,39nm,2.5s,comp=E,99nm,2.2s
JCH Churui 10.61 25 P P 18 33 31.5 -1.3
JISS Ishikarishitsu 10.64 17 A A 18 33 32.3
comp=N,67nm,3.3s,comp=E,61nm,1.6s
JISS Ishikarishitsu 10.64 17 P P 18 33 32.2 -0.8
PSTR Posyet 10.79 334d *i*P P 18 33 34.4 -0.3
JJT3 Tamagusuku3 10.80 232 A A 18 33 36.0
comp=N,160nm,5.2s,comp=E,144nm,5.1s
JJT3 Tamagusuku3 10.80 232 P Pn 18 33 37.4 +2.1
VLA Vladivostok 10.84 339c *i*P Pn 18 33 35.7 +0.2
JFR Furan 10.85 21 A A 18 33 34.7
comp=N,57nm,1.9s,comp=E,61nm,2.0s
JFR Furan 10.85 21 P P 18 33 33.8 -1.7
JAGN Aguni-jima 10.88 236 A A 18 33 36.9
comp=N,67nm,5.2s,comp=E,138nm,5.0s
JAGN Aguni-jima 10.88 236 P Pn 18 33 37.0 +0.8
JOB Onbets 11.04 26 A A 18 33 36.8
comp=N,116nm,1.6s,comp=E,79nm,1.2s
JOB Onbets 11.04 26 P P 18 33 36.8 -0.6
JAB Ashibetsu 11.06 19 A A 18 33 37.2
comp=N,78nm,2.6s,comp=E,58nm,3.7s
JAB Ashibetsu 11.06 19 P P 18 33 37.1 -0.6
JHR Hokuryu 11.15 17 A A 18 33 38.3
comp=N,50nm,2.9s,comp=E,91nm,2.3s
JHR Hokuryu 11.15 17 P P 18 33 38.7 0.0
JAR Ashorobuto 11.36 25 A A 18 33 40.6
comp=N,57nm,1.0s,comp=E,72nm,1.1s
JAR Ashorobuto 11.36 25 P P 18 33 40.4 -0.7
JKE Kume jima 2 11.36 236 A A 18 33 42.6
comp=N,53nm,3.0s,comp=E,99nm,5.3s
JKE Kume jima 2 11.36 236 P Pn 18 33 41.8 -0.1
JAK Akkeshi 11.45 29 A A 18 33 41.6
comp=N,130nm,2.0s,comp=E,98nm,4.6s
JKK2 Kamakawa 2 11.54 20 A A 18 33 42.9
comp=N,26nm,1.7s,comp=E,36nm,2.1s
JKK2 Kamakawa 2 11.54 20 P P 18 33 42.6 -0.5
JKHN Kushirohamanak 11.71 30 A A 18 33 44.6
comp=N,203nm,2.8s,comp=E,125nm,1.1s
JKHN Kushirohamanak 11.71 30 P Pn 18 33 46.0 +0.3
ASAJ Asahikawa 11.73 19 P P 18 33 44.7 -0.4
comp=E,844nm,0.6s,baz=223,slow=12,SNR=446
ASAJ S S **18 35 48.2 -6.9**
comp=E,2µm,0.9s,baz=218,slow=17,SNR=13
ASAJ ScP ScP **18 41 57.0 +1.4**
comp=E,27nm,0.8s,baz=293,slow=1.1,SNR=3.8
ASAJ Asahikawa 11.73 19 A A 18 33 45.0
comp=N,21nm,2.5s,comp=E,25nm,2.5s
ASAJ Asahikawa 11.73 19 P P 18 33 44.6 -0.5
JKA Kamikawa-asahi 11.73 19 P P 18 33 44.6 -0.5
JYG Yagishiri 11.73 15 A A 18 33 45.2
comp=N,18nm,3.7s,comp=E,42nm,4.7s
JYG Yagishiri 11.73 15 P P 18 33 45.2 +0.1

USA0B	**Ussuriysk Arra**	**11.80**	**341**		**P**	**P**	**18 33 45.7**	**-0.2**
USA0B	**Ussuriysk Arra**	**11.80**	**341**	*d* *i*	**P**	**P**	**18 33 45.9**	**0.0**
USRK	**Ussuriysk Ar.**	**11.80**	**341**		**P**	**P**	**18 33 45.7**	**-0.2**
USRK	**Ussuriysk Ar.**	**11.80**	**341**	P		**P**	**18 33 46.0**	**+0.2**
	comp=E,680nm,0.8s,baz=159,slow=10,SNR=398							
USRK				S		**S**	**18 35 52.6**	**-3.9**
	comp=E,87nm,0.8s,baz=126,slow=4.3,SNR=1.1							
USRK				ScP		**ScP**	**18 41 57.0**	**+1.3**
	comp=E,18nm,0.7s,baz=99,slow=1.6,SNR=8.2							
USRK				P3KP			19 09 58.9	
	comp=E,4.1nm,0.9s,baz=338,slow=2.1,SNR=8.8							
JSS	**Shosan**	**11.80**	**16**	A		A	18 33 45.9	
	comp=N,70nm,4.3s,comp=E,61nm,4.8s							
JSS	**Shosan**	**11.80**	**16**	P		**Pn**	**18 33 46.4**	**-0.3**
JMP	**Maruseppu**	**11.85**	**22**	A		A	18 33 46.4	
	comp=N,35nm,5.4s,comp=E,29nm,7.6s							
JMP	**Maruseppu**	**11.85**	**22**	P		**P**	**18 33 46.7**	**+0.1**
TEY	**Ternei**	**11.90**	**358**⇑	*e*	P	**Pn**	**18 33 47.5**	**-0.4**
TEY					pmax	pmax		
	comp=Z,720nm,1.6s							
TEY					pmax	pmax		
	comp=E,300nm,3.8s							
TEY					pmax	pmax		
	comp=N,4μm,3.6s							
TEY					pmax	pmax		
	comp=Z,4μm,3.8s							
TEY					pmax	pmax		
	comp=E,90nm,1.6s							
TEY					pmax	pmax		
	comp=N,560nm,1.5s							
JNK	**Nakash**	**11.95**	**27**	A		A	18 33 47.5	
	comp=N,72nm,1.3s,comp=E,84nm,1.4s							
JNK	**Nakash**	**11.95**	**27**	P		**P**	**18 33 47.9**	**+0.2**
JTKR	**Abashiri--Toko**	**12.00**	**24**	A		A	18 33 48.1	
	comp=N,39nm,3.1s,comp=E,55nm,2.6s							
JTKR	**Abashiri--Toko**	**12.00**	**24**	P		**P**	**18 33 48.5**	**+0.5**
NMR	**Nemuro--Hokkai**	**12.18**	**31**⇑	*i*	P	**Pn**	**18 33 50.7**	**-0.5**
NMR				*i*	S	**S**	**18 35 59.7**	**-4.8**
NEM2	**Nemuro 2**	**12.18**	**31**		A	A	18 33 50.2	
	comp=N,62nm,4.4s,comp=E,51nm,4.8s							
NEM2	**Nemuro 2**	**12.18**	**31**		P	**P**	**18 33 50.6**	**+0.5**
JNSB	**Nemuroshibetsu**	**12.22**	**27**		A	A	18 33 50.7	
	comp=N,185nm,3.7s,comp=E,140nm,3.1s							
JRR	**Rishiri**	**12.39**	**13**		A	A	18 33 52.9	
	comp=N,178nm,3.4s,comp=E,147nm,3.3s							
GLVR	**Golovnino**	**12.40**	**29**⇑	*i*	P	**Pn**	**18 33 53.9**	**+0.2**
GLVR				*i*	S	**S**	**18 36 05.4**	**-3.5**
GLVR					pmax	pmax		
	comp=Z,2μm,1.0s							
GLVR					pmax	pmax		
	comp=N,182nm,0.3s							
GLVR					pmax	pmax		
	comp=E,99nm,0.4s							
GLVR					pmax	pmax		
	comp=Z,14μm,2.8s							
JRA	**Rausu**	**12.41**	**27**		A	A	18 33 52.8	
	comp=N,101nm,2.1s,comp=E,97nm,1.7s							
JRA	**Rausu**	**12.41**	**27**		P	**Pn**	**18 33 54.0**	**+0.2**
JSE	**Soyaes**	**12.51**	**18**		A	A	18 33 54.1	
	comp=N,45nm,3.8s,comp=E,38nm,4.3s							
JSE	**Soyaes**	**12.51**	**18**		P	**Pn**	**18 33 54.6**	**-0.3**
RUSJ	**Misakicho**	**12.60**	**27**⇑	*i*	P	**Pn**	**18 33 56.2**	**+0.1**
RUSJ				*i*	S	**S**	**18 36 11.4**	**-1.5**
JRBN	**Rebuntou**	**12.62**	**12**		A	A	18 33 55.5	
	comp=N,25nm,2.4s,comp=E,20nm,4.9s							
JRBN	**Rebuntou**	**12.62**	**12**		P	**P**	**18 33 55.4**	**+0.5**
JWK2	**Keihoku**	**12.68**	**15**		A	A	18 33 56.2	
	comp=N,89nm,3.0s,comp=E,51nm,5.4s							
JWK2	**Keihoku**	**12.68**	**15**		P	**Pn**	**18 33 57.2**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**12.78**	**29***c*	*i*	P	**Pn**	**18 33 58.1**	**-0.1**
YUK				*i*	S	**S**	**18 36 13.9**	**-2.7**
YUK					pmax	pmax		
	comp=Z,30μm,2.5s							
YUK					pmax	pmax		
	comp=Z,4μm,0.8s							
YUK					pmax	pmax		
	comp=N,3μm,0.4s							
YUK					pmax	pmax		
	comp=E,4μm,0.9s							
MDJ	**Mudanjiang**	**12.93**	**335**		P	**P**	**18 33 58.4**	**0.0**
MDJ	**Mudanjiang**	**12.93**	**335**		P	**P**	**18 33 58.3**	**-0.1**
MDJ					ScS	ScS	18 45 34.8	+0.8
MDJ					pmax	pmax		
	comp=E,250nm,1.1s							
MDJ					LR	LR		
	comp=E,16μm,13.7s							
MDJ					LR	LR		
	comp=E,20μm,14.9s							
MDJ					LR	LR		
	comp=E,30μm,14.7s							
MDJ	**Mudanjiang**	**12.93**	**335**		P	**P**	**18 33 58.6**	**+0.2**
SHO	**Shikotan**	**13.06**	**32***c*	*i*	P	**Pn**	**18 34 02.7**	**+1.2**
SHO				*i*	S	**S**	**18 36 22.4**	**+0.1**
SHO					pmax	pmax		
	comp=Z,7μm,2.8s							
SHO					pmax	pmax		
	comp=Z,730nm,0.8s							
SHO					pmax	pmax		
	comp=N,323nm,0.5s							
SHO					pmax	pmax		
	comp=E,605nm,0.7s							
JOGS	**Gusukube**	**13.32**	**234**		A	A	18 34 05.1	
	comp=N,62nm,3.7s,comp=E,115nm,4.1s							
JOGS	**Gusukube**	**13.32**	**234**		P	**Pn**	**18 34 04.5**	**-0.2**
JIKM	**Ikemajima**	**13.32**	**235**		A	A	18 34 05.2	
	comp=N,60nm,4.8s,comp=E,65nm,5.1s							
JMJ	**Miyako jima 2**	**13.36**	**235**		P	**Pn**	**18 34 05.3**	**+0.1**
JMJ2	**Miyako jima3**	**13.38**	**234**		A	A	18 34 05.9	
	comp=N,67nm,4.7s,comp=E,108nm,4.2s							
JIRB	**Irabujima**	**13.43**	**235**		A	A	18 34 06.5	
	comp=N,46nm,4.3s,comp=E,65nm,4.9s							
SSE	**Sheshan**	**13.79**	**266**		P	**P**	**18 34 07.3**	**-0.7**
SSE					S	**S**	**18 36 34.3**	**-2.9**
SSE					pmax	pmax		
	comp=E,190nm,1.0s							
SSE					pmax	pmax		
	comp=E,6μm,6.1s							
SSE					LR	LR		
	comp=E,10μm,11.3s							
SSE					LR	LR		
	comp=E,7μm,11.3s							
JTJ	**Tarama**	**13.88**	**236**		A	A	18 34 11.3	
	comp=N,32nm,5.2s,comp=E,45nm,2.3s							
JTJ	**Tarama**	**13.88**	**236**		P	**P**	**18 34 09.6**	**+0.5**
SNY	**Shenyang**	**13.90**	**313**	⇓	P	**P**	**18 34 10.0**	**+0.9**
SNY					S	**S**	**18 36 37.0**	**-2.2**
SNY					pmax	pmax		
	comp=E,3μm,1.5s							
SNY					pmax	pmax		
	comp=E,19μm,3.5s							
SNY					LR	LR		
	comp=E,12μm,7.8s							
SNY					LR	LR		
	comp=E,15μm,9.6s							
SNY					LR	LR		
	comp=E,16μm,9.2s							
DL2	**Dalian**	**13.91**	**299**		P	**P**	**18 34 10.0**	**+0.8**
DL2					S	**S**	**18 36 39.8**	**+0.4**
DL2					PcP	**PcP**	**18 39 07.8**	**+5.7**
DL2					ScP	**ScP**	**18 42 00.5**	**+1.3**
DL2					ScS	**ScS**	**18 45 35.8**	**-0.7**
DL2					pmax	pmax		
	comp=E,3μm,1.0s							
DL2					pmax	pmax		
	comp=E,22μm,7.3s							
CN2	**Changchun**	**14.10**	**322**	⇓	P	**P**	**18 34 11.8**	**+0.5**
CN2					sP		18 35 39.3	
CN2					S	**S**	**18 36 41.3**	**-1.9**
CN2					ScP	**ScP**	**18 42 00.3**	**+0.9**
CN2					pmax	pmax		
	comp=E,560nm,1.0s							
CN2					pmax	pmax		
	comp=E,5μm,3.0s							
JISG	**Ishigakijimahi**	**14.19**	**236**		A	A	18 34 14.6	
	comp=N,18nm,4.5s,comp=E,20nm,4.3s							
YSS	**Yuzhno-Sakhali**	**14.42**	**15**			**P**	**18 34 15.6**	**+0.9**
YSS	**Yuzhno-Sakhali**	**14.42**	**15**		P	**Pn**	**18 34 16.0**	**-1.0**
YSS	**Yuzhno-Sakhali**	**14.42**	**15***a*	*i*	P	**P**	**18 34 15.6**	**+0.9**
YSS				*e*	S	**S**	**18 36 49.7**	**+0.2**
YSS					pmax	pmax		
	comp=Z,34μm,5.7s							
YSS					pmax	pmax		
	comp=N,28μm,3.6s							
YSS					pmax	pmax		
	comp=E,12μm,4.8s							
YSS					pmax	pmax		
	comp=Z,12μm,0.8s							
YSS					pmax	pmax		
	comp=N,8μm,1.0s							
YSS					pmax	pmax		
	comp=E,2μm,0.8s							
YSS					smax	smax		
	comp=N,7μm,1.0s							
YSS					smax	smax		
	comp=E,5μm,1.1s							
YSS	**Yuzhno-Sakhali**	**14.42**	**15**	⇑	P	**P**	**18 34 15.6**	**+0.9**
JIJ	**Ishigaki jima**	**14.45**	**236**		A	A	18 34 17.4	
	comp=N,22nm,4.8s,comp=E,25nm,4.1s							
JIJ	**Ishigaki jima**	**14.45**	**236**		P	**P**	**18 34 15.2**	**-0.1**
KUR	**Kuril'sk**	**14.59**	**31***c*	*i*	P	**P**	**18 34 16.6**	**0.0**
KUR				*i*	S	**S**	**18 36 57.1**	**+4.2**
KUR					pmax	pmax		
	comp=Z,20μm,4.0s							
KUR					pmax	pmax		
	comp=E,12μm,3.3s							
KUR					pmax	pmax		
	comp=N,10μm,3.0s							
KUR					pmax	pmax		
	comp=Z,1μm,1.5s							
KUR					pmax	pmax		
	comp=N,523nm,0.8s							
KUR					pmax	pmax		
	comp=E,472nm,0.8s							
KUR					smax	smax		
	comp=N,115μm,7.4s							
KUR					smax	smax		
	comp=E,106μm,2.9s							
KUR					smax	smax		
	comp=E,5μm,0.8s							
KUR					smax	smax		
	comp=N,2μm,0.6s							
JKRS	**Kuro-shima**	**14.62**	**236**		A	A	18 34 19.3	
	comp=N,68nm,4.3s,comp=E,88nm,5.0s							
BNX	**BinXian**	**14.71**	**332**	⇓	P	**P**	**18 34 18.0**	**+0.2**
BNX					sP		18 35 50.0	
BNX					ScS	ScS	18 45 38.5	+0.2
BNX					pmax	pmax		
	comp=E,900nm,1.0s							
BNX					pmax	pmax		
	comp=E,2μm,5.4s							
IRIF	**Iriomote-Funau**	**14.76**	**237**		A	A	18 34 20.7	
	comp=N,21nm,6.7s,comp=E,33nm,2.3s							
HATJ	**Hateruma jima**	**14.88**	**236**		A	A	18 34 22.0	
	comp=N,59nm,4.0s,comp=E,54nm,4.1s							
HATJ	**Hateruma jima**	**14.88**	**236**		P	**P**	**18 34 20.1**	**+0.2**
HATJ					S	**S**	**18 36 58.4**	**-0.8**
YOJ	**Yonaguni jima**	**15.19**	**239**		P	**P**	**18 34 22.2**	**-1.1**
YOJ	**Yonaguni jima**	**15.19**	**239**		P	**P**	**18 34 22.3**	**-1.0**
YOJ	**Yonaguni jima**	**15.19**	**239**		P	**P**	**18 34 22.2**	**-1.1**
YOJ	**Yonaguni jima**	**15.19**	**239**	⇓	P	**P**	**18 34 21.9**	**-1.4**
JYNG	**Yonagunijimaku**	**15.24**	**239**		P	**P**	**18 34 22.8**	**-1.1**
NJ2	**Nanjing**	**15.57**	**271**	⇓	*i* P	**P**	**18 34 27.0**	**-0.4**
NJ2					S	**S**	**18 37 12.3**	**-0.4**
NJ2					ScP	**ScP**	**18 42 03.3**	**+1.0**
NJ2					ScS	**ScS**	**18 45 42.5**	**+1.5**
NJ2					pmax	pmax		
	comp=E,940nm,1.6s							
NJ2					pmax	pmax		
	comp=E,14μm,3.7s							
TATO	**Taipei**	**16.01**	**244**		P	**P**	**18 34 31.6**	**-0.6**
TATO	**Taipei**	**16.01**	**244**		P	**P**	**18 34 31.6**	**-0.6**
TATO					P	**P**	**18 34 31.6**	**-0.6**
TATO					S	**S**	**18 37 20.2**	**-1.3**
TATO					S	**S**	**18 37 20.2**	**-1.3**
TATO	**Taipei**	**16.01**	**244**		P	**P**	**18 34 32.1**	**-0.1**
YHNB	**Yeheng**	**16.27**	**243**		P	**P**	**18 34 33.0**	**-2.1**
YHNB	**Yeheng**	**16.27**	**243**		P	**P**	**18 34 34.4**	**-0.7**
NACB	**Ninganchiao**	**16.39**	**241**			**P**	**18 34 33.0**	**-3.3**
NACB	**Ninganchiao**	**16.39**	**241**		P	**P**	**18 34 34.2**	**-2.1**
TIA	**Tai'an**	**16.86**	**286**		P	**P**	**18 34 41.5**	**+0.2**
TIA					S	**S**	**18 37 38.8**	**+0.8**
TIA					pmax	pmax		
	comp=E,2μm,0.8s							
TIA					pmax	pmax		
	comp=E,29μm,3.6s							
TIA					LR	LR		
	comp=E,21μm,12.9s							
TIA					LR	LR		
	comp=E,17μm,12.4s							
TIA					LR	LR		
	comp=E,18μm,10.8s							
YULB	**Yu-li**	**17.08**	**239**		P	**P**	**18 34 40.9**	**-2.9**
YULB	**Yu-li**	**17.08**	**239**		P	**P**	**18 34 41.5**	**-2.2**
SSLB	**Suanglung**	**17.09**	**241**			**P**	**18 34 41.7**	**-2.2**
SSLB	**Suanglung**	**17.09**	**241**		P	**P**	**18 34 42.5**	**-1.4**
TWGBT	**Beinan**	**17.59**	**238**		P	**P**	**18 34 47.7**	**-1.5**
TWG	**Pinlang**	**17.60**	**238**		P	**P**	**18 34 47.3**	**-1.9**
TPUB	**Ta-pu**	**17.62**	**240**			**P**	**18 34 47.5**	**-2.0**
TPUB	**Ta-pu**	**17.62**	**240**		P	**P**	**18 34 48.3**	**-1.2**
GRNR	**Gornyy**	**17.64**	**358**⇑	*i*	P	**P**	**18 34 50.3**	**+1.0**
GRNR					pmax	pmax		
	comp=N,660nm,1.1s							
GRNR					pmax	pmax		
	comp=E,890nm,1.0s							
GRNR					MLR	MLR		
	comp=N,2μm,10.0s							
GRNR					MLR	MLR		
	comp=Z,5μm,10.0s							
TYV	**Tymovskoe**	**18.16**	**11**	*e*	P	**P**	**18 34 56.1**	**+1.3**
TYV				*e*	S	**S**	**18 38 02.9**	**+0.2**
TYV					pmax	pmax		
	comp=Z,13μm,4.6s							
TYV					pmax	pmax		
	comp=Z,732nm,1.6s							
TYV					smax	smax		
	comp=N,312nm,1.8s							
TYV					smax	smax		
	comp=E,374nm,1.8s							
TYV					smax	smax		
	comp=N,7μm,5.1s							
TYV					smax	smax		
	comp=E,25μm,5.1s							
QZH	**Quanzhou**	**18.25**	**248**	⇓	*i* P	**P**	**18 34 54.0**	**-2.1**
QZH					S	**S**	**18 38 02.0**	**-3.0**
QZH					pmax	pmax		
	comp=E,1μm,0.6s							
QZH					LR	LR		
	comp=E,17μm,18.5s							
QZH					LR	LR		
	comp=E,11μm,13.1s							
QZH					LR	LR		
	comp=E,17μm,17.5s							
BJT	**Baijiatuau**	**18.27**	**298**		P	**P**	**18 34 56.2**	**-0.1**
BJT	**Baijiatuau**	**18.27**	**298**		P	**P**	**18 34 56.4**	**+0.2**
BJT	**Baijiatuau**	**18.27**	**298**		P	**P**	**18 34 56.2**	**-0.1**
BJI	**Beijing**	**18.27**	**298**		P	**P**	**18 34 56.3**	**+0.1**
BJI					sP	**sP**	**18 36 38.0**	**+0.3**
BJI					S	**S**	**18 38 04.8**	**-0.5**
BJI					pmax	pmax		
	comp=E,4μm,1.1s							
BJI					pmax	pmax		
	comp=E,20μm,3.5s							
BJI					LR	LR		
	comp=E,5μm,15.5s							
BJI					LR	LR		
	comp=E,9μm,18.1s							
BJI					LR	LR		
	comp=E,15μm,16.3s							
HEH	**HeiHe**	**18.60**	**340**	*e*	P	**P**	**18 34 58.3**	**-1.2**
HEH					S	**S**	**18 38 08.5**	**-2.5**
HEH					ScP	**ScP**	**18 42 08.0**	**-0.2**
HEH					ScS	**ScS**	**18 45 48.3**	**-1.1**
HEH					pmax	pmax		
	comp=E,440nm,0.9s							
KNMB	**Chin-men Tao**	**18.65**	**247**		P	**P**	**18 34 58.2**	**-2.2**
HNS	**HongShan**	**18.91**	**289**	⇓	P	**P**	**18 35 01.8**	**-1.1**
HNS					S	**S**	**18 38 13.0**	**-3.8**
HNS					ScP	**ScP**	**18 42 14.8**	**+5.7**
HNS					ScS	**ScS**	**18 45 52.3**	**+1.4**
HNS					pmax	pmax		
	comp=E,1μm,1.1s							
HNS					LR	LR		
	comp=E,10μm,12.4s							
HNS					LR	LR		
	comp=E,15μm,12.6s							
HNS					LR	LR		
	comp=E,10μm,14.7s							
WHN	**Wuhan**	**19.64**	**269**	⇓	*i* P	**P**	**18 35 10.3**	**-0.2**
WHN					S	**S**	**18 38 26.8**	**-2.5**
WHN					ScS	**ScS**	**18 45 55.0**	**+1.4**
WHN					LR	LR		
	comp=E,31μm,7.6s							
WHN					LR	LR		
	comp=E,22μm,9.8s							
WHN					LR	LR		
	comp=E,49μm,15.3s							
XLT	**XiLinHaoTe**	**19.71**	**309**	*e*	P	**P**	**18 35 09.5**	**-1.6**
XLT					sP	sP	18 36 55.0	+1.7
XLT					S	**S**	**18 38 27.8**	**-2.5**
XLT					pmax	pmax		
	comp=E,920nm,1.2s							
XLT					pmax	pmax		
	comp=E,10μm,3.6s							
XLT					LR	LR		
	comp=E,13μm,12.6s							
XLT					LR	LR		
	comp=E,14μm,12.5s							
NKL	**Nikolayevsk**	**20.16**	**6**	*e*	P	**P**	**18 35 14.2**	**-0.8**
NKL				*e*	S	**S**	**18 38 38.5**	**+1.6**
NKL					pmax	pmax		
	comp=N,5μm,1.3s							
NKL					pmax	pmax		
	comp=E,5μm,1.3s							
NKL					pmax	pmax		
	comp=Z,13μm,1.3s							
NKL					smax	smax		
	comp=E,11μm,5.3s							
NKL					smax	smax		
	comp=N,14μm,2.2s							
LYN	**LuoYang**	**20.65**	**281**	⇓	*i* P	**P**	**18 35 19.3**	**-0.5**
LYN					sP	sP	18 37 04.0	-0.4
LYN					S	**S**	**18 38 42.5**	**-2.9**
LYN					ScP	**ScP**	**18 42 19.0**	**+5.7**
LYN					ScS	**ScS**	**18 45 57.5**	**+0.5**
LYN					pmax	pmax		
	comp=N,3μm,1.1s							
LYN					pmax	pmax		
	comp=N,31μm,5.0s							
GUMO	**Guam**	**20.65**	**159**		P	**P**	**18 35 19.6**	**-0.3**
	comp=N,558nm,0.5s,baz=32,slow=0.7,SNR=45							
GUMO					S	**S**	**18 38 45.5**	**-0.2**
	comp=N,139nm,0.9s,baz=342,slow=20,SNR=0.7							
GUMO					ScP	**ScP**	**18 42 14.6**	**+1.1**
	comp=N,24nm,0.6s,baz=288,slow=7.0,SNR=1.7							
	comp=N,558nm,0.5s							
GUMO	**Guam**	**20.65**	**159**		P	**P**	**18 35 22.1**	**+2.2**
GUMO	**Guam**	**20.65**	**159**	⇑	P	**P**	**18 35 19.6**	**-0.3**
TIY	**Taiyuan**	**20.73**	**290**		P	**P**	**18 35 20.0**	**-0.6**
TIY					sP	**sP**	**18 37 07.5**	**+2.1**
TIY					S	**S**	**18 38 47.8**	**+0.9**
TIY					pmax	pmax		
	comp=N,1μm,1.0s							
TIY					pmax	pmax		
	comp=N,18μm,4.0s							
TIY					LR	LR		
	comp=N,9μm,15.8s							
TIY					LR	LR		
	comp=N,9μm,14.4s							
TIY					LR	LR		
	comp=N,12μm,15.1s							
HIA	**Hailar**	**20.75**	**326**		P	**P**	**18 35 20.3**	**-0.3**
HIA	**Hailar**	**20.75**	**326**		P	**P**	**18 35 20.3**	**-0.3**
HIA	**Hailar**	**20.75**	**326**		P	**P**	**18 35 20.3**	**-0.3**
OKH	**Okha**	**20.81**	**10***d*	*i*	P	P	18 35 07.6	-13
OKH					pmax	pmax		
	comp=Z,5μm,11.9s							
OKH					MLR	MLR		
	comp=Z,3μm,11.0s							
OKH					MLR	MLR		
	comp=E,2μm,14.0s							
CNSH	**ChangSha**	**21.50**	**263**		P	**P**	**18 35 27.8**	**+0.3**
CNSH					S	**S**	**18 39 00.3**	**+1.0**
CNSH					pmax	pmax		
	comp=E,12μm,3.5s							
CNSH					LR	LR		
	comp=E,11μm,10.8s							
CNSH					LR	LR		
	comp=E,12μm,17.2s							
CNSH					LR	LR		
	comp=E,20μm,12.4s							
SZP	**Santa**	**21.67**	**228**		P	**P**	**18 35 29.2**	**0.0**
SZP	**Santa**	**21.67**	**228**	⇓	P	**P**	**18 35 28.0**	**-1.2**
HHC	**Hu-ho-hao-te**	**21.89**	**298**	*e*	P	**P**	**18 35 31.5**	**+0.4**
HHC					sP	sP	18 37 21.5	+4.0
HHC					S	**S**	**18 39 05.3**	**-0.2**
HHC					pmax	pmax		
	comp=E,2μm,0.8s							
HHC					pmax	pmax		
	comp=E,12μm,3.7s							
HHC					LR	LR		
	comp=E,6μm,10.3s							
HHC					LR	LR		
	comp=E,20μm,10.3s							
HHC					LR	LR		
	comp=E,25μm,10.8s							
SKR	**Severo-Kuril's**	**22.34**	**33**	*e*	P	**P**	**18 35 33.9**	**-1.0**
SKR				*e*	S	**S**	**18 39 18.0**	**+5.7**
SKR					pmax	pmax		
	comp=Z,5μm,5.3s							
SKR					pmax	pmax		
	comp=Z,583nm,1.2s							
SKR					MLR	MLR		
	comp=Z,9μm,14.0s							
BTO	**Baotou**	**22.99**	**297**	*e*	P	**P**	**18 35 43.3**	**+2.2**
BTO					sP	**sP**	**18 37 33.5**	**+3.5**
BTO					S	**S**	**18 39 28.5**	**+5.5**
BTO					pmax	pmax		
	comp=Z,6μm,0.9s							
BTO					pmax	pmax		
	comp=Z,41μm,3.7s							
BTO					LR	LR		
	comp=Z,18μm,18.1s							
BTO					LR	LR		
	comp=Z,49μm,15.8s							
BTO					LR	LR		
	comp=Z,69μm,15.7s							
HKC	**Hong Kong Obse**	**23.07**	**248**	⇑	P	**P**	**18 35 42.0**	**+0.1**
HKPS	**Hong Kong Po S**	**23.11**	**248**			**P**	**18 35 41.3**	**-1.0**
HKPS					IAmb	IAmb	18 35 45.3	
	comp=Z,916nm,1.1s							
GZH	**Guangzhou**	**23.32**	**251**		P	**P**	**18 35 39.5**	**-4.6**
XAN	**Xi'an**	**23.61**	**280**		P	**P**	**18 35 47.0**	**+0.3**
XAN					PcP	**PcP**	**18 39 22.8**	**+3.4**
XAN					S	**S**	**18 39 32.8**	**-0.1**
XAN					pmax	pmax		
	comp=Z,3μm,1.3s							
XAN					pmax	pmax		
	comp=Z,17μm,5.9s							
XAN					LR	LR		
	comp=Z,18μm,12.0s							
XAN					LR	LR		
	comp=Z,14μm,10.6s							
XAN					LR	LR		
	comp=Z,11μm,12.2s							
ENH	**Enshi**	**23.79**	**271**		P	**P**	**18 35 48.0**	**-0.3**
GULI	**GuiLin**	**24.71**	**259**		P	P	18 35 43.5	-13
GULI					pP	pP	18 36 43.8	-15
GULI					sP	sP	18 37 46.0	-2.5
GULI					S	S	18 39 36.0	-14
GULI					sS	sS	18 41 30.0	-16
GULI					pmax	pmax		
	comp=Z,1μm,0.9s							
GULI					AMB	AMB		
	comp=Z,6μm,7.6s							
GULI					LR	LR		
	comp=N,14μm,18.4s							
GULI					LR	LR		
	comp=E,11μm,21.7s							
GULI					LR	LR		
	comp=Z,14μm,20.6s							
PEA0B	**Petropavlovsk-**	**24.76**	**30**			**P**	**18 35 56.8**	**+0.1**
PEA0B					IAmb	IAmb	18 36 00.1	
	comp=Z,614nm,1.1s							
PEA0B	**Petropavlovsk-**	**24.76**	**30**	*c*	P	**P**	**18 35 57.0**	**+0.3**
PETK	**Petropavlovsk-**	**24.76**	**30**		P	**P**	**18 35 55.3**	**-1.3**
PETK	**Petropavlovsk-**	**24.76**	**30**		P	**P**	**18 35 56.7**	**0.0**
	comp=Z,162nm,0.9s,baz=212,slow=5.3,SNR=100							
PETK					PcP	**PcP**	**18 39 20.6**	**-0.9**
	comp=Z,32nm,1.0s,baz=186,slow=7.3,SNR=1.5							
PETK					ScP	**ScP**	**18 42 24.0**	**+0.2**
	comp=Z,17nm,0.7s,baz=170,slow=2.4,SNR=4.9							
	comp=Z,162nm,0.9s							
PET	**Petropavlovsk**	**25.11**	**31**		P	**P**	**18 35 59.9**	**+0.2**
PET					IAmb	IAmb	18 36 03.1	
	comp=Z,781nm,1.3s							
PET	**Petropavlovsk**	**25.11**	**31**		P	**P**	**18 36 00.4**	**+0.7**
PET	**Petropavlovsk**	**25.11**	**31**

PET e*SP **sP** 18 37 45.8 -6.6
PET eS **S** 18 39 56.2 +0.4
PET pmax pmax
comp=Z,5μm,3.1s
PET pmax pmax
comp=Z,3μm,4.5s
PET pmax pmax
comp=Z,455nm,1.2s
PET MLR MLR
comp=Z,5μm,15.0s
PET MLR MLR
comp=Z,6μm,14.0s
PET Petropavlovsk 25.11 31 P **P** 18 35 59.1 -0.6
comp=Z,15μmcomp=Z,641nm,1.9s
PET Petropavlovsk 25.11 31 ⇑P **P** 18 36 00.1 +0.3
ULN Ulaanbaatar 27.08 312 P **P** 18 36 19.3 +1.8
ULN Ulaanbaatar 27.08 312 P **P** 18 36 19.3 +1.8
ULN P **P** 18 36 19.3 +1.8
ULN S **S** 18 40 30.4 +3.0
ULN S **S** 18 40 30.4 +3.0
ULN Ulaanbaatar 27.08 312 *d* iP **P** 18 36 19.1 +1.5
ULN pmax pmax
comp=Z,549nm,0.9s
ULN Ulaanbaatar 27.08 312 ⇓P **P** 18 36 19.3 +1.8
GYA Guiyang 27.32 264 ⇓P **P** 18 36 19.8 -0.1
GYA pP PP 18 37 30.3 -0.8
GYA S **S** 18 40 29.0 -2.6
GYA ScP **ScP** 18 42 33.3 +1.3
GYA sS sS 18 42 37.3 +0.5
GYA ScS **ScS** 18 46 24.5 0.0
GYA pmax pmax
comp=Z,1μm,1.2s
SONM Songino Array 27.48 311 P **P** 18 36 22.5 +1.4
SONM IAmb IAmb 18 36 28.2
comp=Z,744nm,1.0s
SONM Songino Array 27.48 311 P **P** 18 36 22.3 +1.2
comp=Z,513nm,0.7s,baz=118,slow=8.5,SNR=1561
SONM PcP **PcP** 18 39 29.2 +1.0
comp=Z,24nm,0.6s,baz=123,slow=2.8,SNR=2.3
SONM S **S** 18 40 36.0 +2.4
comp=Z,10nm,1.0s,baz=112,slow=12,SNR=1.9
SONM ScP **ScP** 18 42 33.2 +1.1
comp=Z,23nm,0.6s,baz=150,slow=2.9,SNR=7.0
SONM ScS **ScS** 18 46 22.6 -1.9
comp=Z,6.4nm,0.9s,baz=96,slow=1.5,SNR=3.8
SONM P3KPbc 19 08 43.4
comp=Z,3.5nm,1.0s,baz=274,slow=6.0,SNR=11
SONM PKP2ab 19 12 48.0
comp=Z,0.3nm,0.6s,baz=316,slow=4.1,SNR=3.8
comp=Z,513nm,0.7s
LZH Lanzhou 27.60 286 ⇓P **P** 18 36 22.5 +0.2
LZH *i* 18 36 47.3
LZH pP PP 18 37 33.8 -0.3
LZH S **S** 18 40 33.3 -2.5
LZH sS sS 18 42 37.5 -3.7
LZH ScS **ScS** 18 46 25.8 +0.2
LZH pmax pmax
comp=Z,980nm,1.7s
LZH pmax pmax
comp=Z,7μm,4.5s
LZH LR LR
comp=Z,11μm,13.0s
LZH LR LR
comp=Z,13μm,14.3s
LZH LR LR
comp=Z,15μm,16.2s
MA2 Magadan 27.93 15 P **P** 18 36 24.5 -0.2
MA2 Magadan 27.93 15 P **P** 18 36 25.2 +0.5
MA2 Magadan 27.93 15 *d* iP **P** 18 36 25.2 +0.5
MA2 pmax pmax
comp=Z,1μm,0.9s
MA2 Magadan 27.93 15 P **P** 18 36 25.0 +0.3
comp=Z,30μmcomp=Z,3μm,0.9s
MA2 Magadan 27.93 15 ⇑P **P** 18 36 25.0 +0.3
DAV Davao City (W) 28.11 205 P **P** 18 36 25.6 -1.2
DAV IAmb IAmb 18 36 32.2
comp=Z,427nm,0.8s
DAV Davao City (W) 28.11 205 P **P** 18 36 26.0 -0.9
DAV Davao City (W) 28.11 205 P **P** 18 36 26.7 -0.1
DAV Davao City (W) 28.11 205 P **P** 18 36 26.1 -0.7
QIZ Qiongzhong 28.26 247 P **P** 18 36 28.9 +0.9
QIZ IAmb IAmb 18 36 30.6
comp=Z,750nm,1.6s
QIZ Qiongzhong 28.26 247 P **P** 18 36 29.0 +0.9
QIZ pP **pwP** 18 37 40.0 -0.4
QIZ S **S** 18 40 47.0 +0.9
QIZ sS **sS** 18 42 56.8 +5.2
QIZ pmax pmax
comp=Z,260nm,0.9s
QIZ pmax pmax
comp=Z,3μm,3.9s
QIZ Qiongzhong 28.26 247 P **P** 18 36 28.8 +0.7
CD2 Chengdu 28.44 275 P **P** 18 36 29.5 -0.2
CD2 pP pP 18 37 40.3 +1.3
CD2 sP sP 18 38 21.0 -2.1
CD2 S **S** 18 40 47.0 -1.9
CD2 sS sS 18 42 56.8 +2.4
CD2 pmax pmax
comp=Z,1μm,0.6s
CD2 pmax pmax
comp=Z,5μm,4.2s
CD2 LR LR
comp=Z,17μm,12.4s
CD2 LR LR
comp=Z,24μm,12.9s
CD2 LR LR
comp=Z,21μm,12.7s
BOD Bodaibo 29.30 334 *e*P **P** 18 36 36.7 -0.1
BOD pmax pmax
comp=Z,161nm,1.2s
YAK Yakutsk 29.32 353 P **P** 18 36 36.8 -0.2
YAK IAmb IAmb 18 36 39.2
comp=Z,800nm,0.8s
YAK Yakutsk 29.32 353 P **P** 18 36 36.7 -0.2
comp=Z,557nm,0.7s,baz=159,slow=8.2,SNR=204
YAK PcP **PcP** 18 39 32.9 +0.6
comp=Z,180nm,0.7s,baz=193,slow=1.5,SNR=5.3
YAK S **S** 18 40 59.4 -2.3
comp=Z,173nm,0.8s,baz=234,slow=21,SNR=11
YAK ScP **ScP** 18 42 38.0 +0.5
comp=Z,94nm,0.7s,baz=250,slow=2.9,SNR=5.4
comp=Z,557nm,0.7s
YAK Yakutsk 29.32 353 *c* iP **P** 18 36 36.6 -0.3
YAK *e* 18 37 46.5
YAK *e* 18 39 31.7
YAK eS **S** 18 41 02.2 +0.5
YAK *e* 18 46 29.6
YAK pmax pmax
comp=Z,749nm,0.9s
YAK pmax pmax
comp=E,40nm,0.9s
YAK pmax pmax
comp=N,377nm,1.3s
YAK pmax pmax
comp=Z,1μm,1.5s
YAK pmax pmax
comp=N,539nm,1.5s
YAK pmax pmax
comp=E,193nm,1.7s
YAK smax smax
comp=N,6μm,2.4s
YAK smax smax
comp=E,3μm,2.2s
YAK Yakutsk 29.32 353 ⇑P **P** 18 36 36.6 -0.3
H11N2 WAKE ISLAND Hy 29.57 109 P **P** 18 36 40.4 +1.0
baz=271,slow=9.9,SNR=31
H11N1 WAKE ISLAND Hy 29.58 109 P **P** 18 36 40.3 +0.9
baz=271,slow=9.9,SNR=35
H11N3 WAKE ISLAND Hy 29.59 109 P **P** 18 36 40.7 +1.1
baz=271,slow=9.9,SNR=28
H11S3 WAKE ISLAND Hy 30.09 112 P **P** 18 36 44.8 +0.8
baz=279,slow=4.4,SNR=19
H11S1 WAKE ISLAND Hy 30.10 112 P **P** 18 36 44.8 +0.8
baz=279,slow=4.4,SNR=36
H11S2 WAKE ISLAND Hy 30.11 112 P **P** 18 36 44.9 +0.8
baz=279,slow=4.4,SNR=24
ZAK Zakamensk 30.32 315 *e*P **P** 18 36 46.7 +0.8
ZAK *e* 18 41 20.8
ZAK pmax pmax
comp=Z,469nm,1.7s
IRK Irkutsk 30.50 319 *e*P **P** 18 36 48.2 +0.9
IRK *e* 18 38 11.6
IRK eS **S** 18 41 24.2 +3.9
IRK pmax pmax
comp=Z,917nm,2.7s

GTA Gaotai 30.69 293 P **P** 18 36 49.8 +0.4
GTA PP **PnPn** 18 38 11.3 +1.5
GTA S **S** 18 41 23.5 -0.4
GTA ScP **ScP** 18 42 45.0 +2.4
GTA SS **SS** 18 43 47.8 -7.1
GTA ScS **ScS** 18 46 39.0 -1.1
GTA pmax pmax
comp=Z,510nm,1.2s
GTA pmax pmax
comp=Z,6μm,6.4s
GTA LR LR
comp=Z,5μm,11.6s
GTA LR LR
comp=Z,10μm,13.8s
GTA LR LR
comp=Z,10μm,13.5s
KMI Kunming 31.10 264 ⇓P **P** 18 36 53.0 -0.2
KMI pP pP 18 38 05.3 +2.4
KMI PP **PnPn** 18 38 17.0 +2.1
KMI S **S** 18 41 27.8 -2.9
KMI ScP **ScP** 18 42 45.8 +1.5
KMI sS sS 18 43 43.3 +6.4
KMI ScS **ScS** 18 46 43.0 +0.2
KMI pmax pmax
comp=Z,400nm,0.9s
KMI pmax pmax
comp=Z,4μm,4.7s
KMI LR LR
comp=Z,10μm,15.8s
KMI LR LR
comp=Z,9μm,20.1s
KMI LR LR
comp=Z,14μm,11.2s
SGSI Sangihe 31.29 203 P **P** 18 36 54.3 -0.3
SEY Seymchan 31.32 13 *c* iP **P** 18 36 54.8 +0.5
SEY pmax pmax
comp=Z,280nm,0.9s
PZH PanZhiHua 31.43 267 P **P** 18 36 55.8 -0.1
PZH PP **PnPn** 18 38 19.0 +0.4
PZH S **S** 18 41 33.5 -2.0
PZH ScP **ScP** 18 42 49.3 +4.0
PZH sS **sS** 18 43 46.5 +4.7
PZH ScS **ScS** 18 46 45.5 +1.3
PZH pmax pmax
comp=Z,940nm,1.2s
PZH pmax pmax
comp=Z,7μm,4.4s
SLVN Son La 31.78 257 P **P** 18 36 59.4 +0.4
SLVN Son La 31.78 257 P **P** 18 36 59.2 +0.2
MOY Mondy 32.13 316 *e*P **P** 18 37 02.8 +1.2
MOY pmax pmax
comp=Z,608nm,2.5s
PATS Pohnpei 32.65 139 P **P** 18 37 07.2 +0.8
PATS Pohnpei 32.65 139 P **P** 18 37 07.5 +1.2
comp=Z,929nm,1.4s
PATS Pohnpei 32.65 139 P **P** 18 37 07.8 +1.5
SHEM Shemya Is, Ala 32.83 42 P **P** 18 37 08.8 +1.4
SHEM IAmb IAmb 18 37 09.9
comp=Z,1μm,1.4s
MYLDM Lahad Datu 32.86 216 P **P** 18 37 09.7 +1.5
MYLDM IAmb IAmb 18 37 15.6
comp=Z,1μm,1.2s
MYLDM Lahad Datu 32.86 216 P **P** 18 37 09.4 +1.3
MYLDM Lahad Datu 32.86 216 ⇓P **P** 18 37 09.7 +1.5
KKM Kota Kinabalu 33.32 221 P **P** 18 37 11.9 -0.3
KKM Kota Kinabalu 33.32 221 P **P** 18 37 12.7 +0.5
KKM Kota Kinabalu 33.32 221 ⇑P **P** 18 37 12.5 +0.3
TNTI Ternate 33.51 198 P **P** 18 37 13.0 -0.7
TNTI Ternate 33.51 198 P **P** 18 37 13.9 +0.2
TNTI Ternate 33.51 198 P **P** 18 37 13.6 -0.2
comp=Z,5μmcomp=Z,497nm,0.9s
TNTI Ternate 33.51 198 ⇓P **P** 18 37 13.5 -0.2
DLV Lat 33.75 238 P **P** 18 37 16.5 +0.6
DLV IAmb IAmb 18 37 22.4
comp=Z,543nm,0.9s
DLV Lat 33.75 238 P **P** 18 37 16.3 +0.3
DLV Lat 33.75 238 ⇓P **P** 18 37 16.7 +0.7
UBPT Khong Chiam 33.83 246 P **P** 18 37 16.8 +0.3
BAKI Biak 34.16 182 P **P** 18 37 19.5 +0.3
comp=Z,186nm,0.8s
SWI Sorong 34.28 191 P **P** 18 37 21.1 +0.8
comp=Z,5μmcomp=Z,741nm,0.9s
RKPI Ransiki, Papua 34.58 185 P **P** 18 37 22.3 -0.5
comp=Z,3μmcomp=Z,416nm,0.7s
TNCH TengChong 34.67 267 ⇓ *i* iP **P** 18 37 24.3 +0.6
TNCH pP pP 18 38 35.0 +0.6
TNCH PP **PP** 18 38 52.8 +0.8
TNCH sP sP 18 39 20.8 +2.8
TNCH S **S** 18 42 26.5 +1.1
TNCH sS sS 18 44 34.0 +1.2
TNCH SS **SS** 18 45 10.8 -4.3
TNCH pmax pmax
comp=Z,2μm,1.4s
TNCH pmax pmax
comp=Z,11μm,2.7s
TNCH LR LR
comp=Z,4μm,12.2s
TNCH LR LR
comp=Z,8μm,14.3s
TNCH LR LR
comp=Z,18μm,18.9s
KMSI Cibinong 34.72 204 P **P** 18 37 24.2 +0.2
SRPI Serui, Papua 34.83 182 P **P** 18 37 25.4 +0.5
GOMU GeErMu 34.86 287 P **P** 18 37 26.5 +1.0
GOMU pP pP 18 38 37.0 +0.5
GOMU PcP **PcP** 18 39 49.8 +1.1
GOMU S **S** 18 42 28.5 +0.1
GOMU SS **SS** 18 45 20.0 +1.1
GOMU pmax pmax
comp=Z,2μm,0.9s
GOMU pmax pmax
comp=Z,9μm,3.9s
GOMU LR LR
comp=Z,4μm,16.6s
GOMU LR LR
comp=Z,3μm,14.3s
GOMU LR LR
comp=Z,3μm,11.9s
SMPI Sarmi 34.96 178 P **P** 18 37 26.7 +0.7
comp=Z,5μmcomp=Z,294nm,0.8s
TOLI2 Tolitoli 35.42 209 P **P** 18 37 29.1 -0.9
TOLI2 Tolitoli 35.42 209 P **P** 18 37 29.1 -0.9
AMKA Amchitka 35.46 46 P **P** 18 37 30.3 +0.5
MRSI Marisa 35.54 207 P **P** 18 37 30.1 -0.8
comp=Z,7μmcomp=Z,10μmcomp=Z,1μm,1.1s
JAY Jayapura 35.60 174 P **P** 18 37 32.0 +0.5
comp=Z,3μmcomp=Z,267nm,0.9s
GENI Genyem 35.63 175 P **P** 18 37 33.4 +1.7
GENI Genyem 35.63 175 P **P** 18 37 33.9 +2.2
comp=Z,8μmcomp=Z,504nm,0.8s
GENI Genyem 35.63 175 ⇑P **P** 18 37 32.8 +1.1
FAKI Fak Fak 36.17 189 P **P** 18 37 36.2 -0.1
FAKI IAmb IAmb 18 37 39.6
comp=Z,474nm,0.8s
FAKI Fak Fak 36.17 189 P **P** 18 37 36.9 +0.7
FAKI Fak Fak 36.17 189 P **P** 18 37 36.7 +0.5
comp=Z,5μmcomp=Z,621nm,0.7s
FAKI Fak Fak 36.17 189 ⇑P **P** 18 37 36.1 -0.1
FAKI Fak Fak 36.17 189 ⇑P **P** 18 37 36.1 -0.1
MANU Manus Island 36.26 163 P **P** 18 37 37.3 +0.4
MANU Manus Island 36.26 163 ⇑P **P** 18 37 37.4 +0.4
MPSI Mapaga 36.49 210 P **P** 18 37 38.8 -0.1
comp=Z,8μmcomp=Z,4μmcomp=Z,245nm,0.7s
SANI Sanana 36.58 199 P **P** 18 37 39.4 -0.3
SANI S **S** 18 42 47.6 -6.4
SANI Sanana 36.58 199 P **P** 18 37 39.0 -0.6
SANI Sanana 36.58 199 P **P** 18 37 37.9 -1.7
comp=Z,6μmcomp=Z,9μmcomp=Z,1μm,1.0s
SANI Sanana 36.58 199 ⇓P **P** 18 37 38.4 -1.2
LUWI Luwuk 36.64 205 P **P** 18 37 38.5 -1.6
comp=Z,6μmcomp=Z,12μmcomp=Z,1μm,1.1s
KMPI Kaimana, Papua 36.75 186 P **P** 18 37 40.9 -0.1
comp=Z,5μmcomp=Z,644nm,0.8s
APSI Ampana 36.93 207 P **P** 18 37 42.2 -0.3
comp=Z,10μmcomp=Z,1μm,1.3s
CHTO Chiang Mai 37.08 257 P **P** 18 37 44.2 +0.4
CHTO IAmb IAmb 18 37 45.7
comp=Z,1μm,1.4s
CHTO Chiang Mai 37.08 257 P **P** 18 37 44.2 +0.4
CHTO P **P** 18 37 44.2 +0.4
CHTO S **S** 18 43 01.4 0.0
CHTO S **S** 18 43 01.4 0.0
CHTO Chiang Mai 37.08 257 P **P** 18 37 43.7 -0.1
CHTO Chiang Mai 37.08 257 P **P** 18 37 44.2 +0.4

CHTO pmax pmax
comp=Z,1μm,1.5s
CHTO Chiang Mai 37.08 257 ⇓P **P** 18 37 44.0 +0.2
CHTO Chiang Mai 37.08 257 P **P** 18 37 44.1 +0.4
CHTO pP **pP** 18 38 54.1 -1.2
CHTO Chiang Mai 37.08 257 P **P** 18 37 44.2 +0.4
CHTO S **S** 18 43 03.2 +1.7
MSAI Masohi 37.13 194 P **P** 18 37 46.3 +2.1
CM31 Chiang Mai Arr 37.26 257 P **P** 18 37 45.9 +0.6
CM31 Chiang Mai Arr 37.26 257 P **P** 18 37 45.6 +0.3
CM31 P **P** 18 37 45.6 +0.3
CM31 S **S** 18 43 04.2 0.0
CM31 S **S** 18 43 04.2 0.0
CMAR Chiang Mai Arr 37.26 257 P **P** 18 37 45.6 +0.3
CMAR Chiang Mai Arr 37.26 257 P **P** 18 37 45.8 +0.4
comp=Z,139nm,0.7s,baz=48,slow=8.0,SNR=896
CMAR ScP **ScP** 18 43 08.2 +2.0
comp=Z,12nm,0.9s,baz=22,slow=3.0,SNR=4.1
CMAR PKiKP **PKiKP** 18 47 10.0 -1.8
comp=Z,0.9nm,0.6s,baz=304,slow=1.1,SNR=4.0
CMAR P3KPbc 19 08 01.8
comp=Z,1.1nm,0.8s,baz=248,slow=4.7,SNR=5.9
comp=Z,139nm,0.7s
CMAR Chiang Mai Arr 37.26 257 *i* P **P** 18 37 45.7 +0.4
CMAR pmax pmax
comp=Z,151nm,0.6s
NLAI Namlea 37.43 197 P **P** 18 37 47.6 +0.9
comp=Z,7μmcomp=Z,4μmcomp=Z,587nm,0.7s
AAI Ambon 37.61 195 P **P** 18 37 49.1 +0.9
PCI Palu 37.64 209 P **P** 18 37 47.3 -1.2
comp=Z,7μmcomp=Z,767nm,1.2s
ZIRO ZIRO 37.70 273 *e*P P 18 37 39.3 -10
ZIRO IAmb IAmb 18 37 54.9
comp=Z,604nm,0.8s
ZIRO eS **S** 18 43 03.2 -7.7
KIWB Kanaga Island 37.72 46 P **P** 18 37 48.8 +0.1
ITAN ITANAGAR 37.93 273 IAML 18 37 07.4
comp=Z,497nm,0.6s
ITAN *e*P P 18 37 41.2 -10
ITAN eS **S** 18 43 06.7 -7.4
ADK Adak 38.01 46 P **P** 18 37 51.0 -0.1
ADK IAmb IAmb 18 37 56.9
comp=Z,286nm,0.6s
ADK Adak 38.01 46 P **P** 18 37 51.2 +0.1
ADK Adak 38.01 46 P **P** 18 37 51.0 -0.1
ADK pmax pmax
comp=Z,286nm,0.6s
ADK Adak 38.01 46 ⇑P **P** 18 37 51.0 -0.1
BNDI Bandanaira 38.09 192 P **P** 18 37 53.8 +1.6
BNDI Bandanaira 38.09 192 P **P** 18 37 53.8 +1.6
BNDI Bandanaira 38.09 192 ⇑P **P** 18 37 53.0 +0.8
KOHI KOHIMA 38.11 270 *e*P P 18 37 45.7 -6.8
KOHI IAmb IAmb 18 37 53.5
comp=Z,198nm,0.4s
KOHI eS S 18 43 06.5 -11
KRAR Krasnoyarsk 38.12 320 *d* iP **P** 18 37 52.7 +0.8
SMKI Samarinda 38.38 214 P **P** 18 37 55.7 +1.1
comp=Z,11μmcomp=Z,1μmcomp=Z,1μm,1.2s
GSTR Great Sitkin T 38.43 46 P **P** 18 37 54.5 -0.1
GSTR IAmb IAmb 18 38 00.6
comp=Z,939nm,1.2s
SBUM Sibu 38.51 223 P **P** 18 37 55.6 -0.1
SBUM Sibu 38.51 223 P **P** 18 37 55.5 -0.1
SBUM Sibu 38.51 223 ⇓P **P** 18 37 55.8 +0.1
IMP Imphal 38.58 269 *e*P P 18 37 43.6 -13
IMP IAmb IAmb 18 38 02.9
comp=Z,106nm,0.6s
IMP eS **S** 18 43 16.4 -7.5
BILL Bilibino 38.73 17 P **P** 18 37 57.5 +0.7
BILL Bilibino 38.73 17 *c* iP **P** 18 37 57.4 +0.6
BILL pmax pmax
comp=Z,968nm,0.9s
TIXI Tiksi 38.84 356 P **P** 18 37 57.4 -0.2
TIXI IAmb IAmb 18 37 60.0
comp=Z,419nm,0.8s
TIXI Tiksi 38.84 356 *c* iP **P** 18 37 57.5 -0.2
TIXI pmax pmax
comp=Z,387nm,0.9s
TIXI Tiksi 38.84 356 ⇓P **P** 18 37 57.4 -0.2
TIXI Tiksi 38.84 356 P **P** 18 37 57.4 -0.2
TIXI pP **pP** 18 39 09.7 -0.8
TEZP TEZPUR 38.89 272 *e*P P 18 37 53.0 -5.6
TEZP IAmb IAmb 18 38 03.8
comp=Z,433nm,0.8s
TEZP eS **S** 18 43 20.9 -7.4
MIDW Midway 39.08 85 P **P** 18 38 00.6 +0.4
MIDW IAmb IAmb 18 38 06.6
comp=Z,625nm,0.9s
MIDW Midway 39.08 85 P **P** 18 38 01.1 +0.9
MIDW Midway 39.08 85 ⇑P **P** 18 38 01.0 +0.8
BKB Balikpapan 39.24 213 P **P** 18 38 01.2 -0.4
BKB IAmb IAmb 18 38 03.7
comp=Z,1μm,1.1s
BKB Balikpapan 39.24 213 P **P** 18 38 02.8 +1.2
BKB Balikpapan 39.24 213 P **P** 18 38 02.6 +1.0
comp=Z,10μmcomp=Z,13μmcomp=Z,1μm,1.2s
BKB Balikpapan 39.24 213 ⇑P **P** 18 38 02.3 +0.7
LSA Lhasa 39.27 278 P **P** 18 38 03.3 +1.0
LSA Lhasa 39.27 278 P **P** 18 38 03.0 +0.6
LSA pmax pmax
comp=Z,390nm,0.7s
LSA LR LR
comp=Z,6μm,17.3s
LSA LR LR
comp=Z,7μm,14.0s
LSA Lhasa 39.27 278 P **P** 18 38 03.6 +1.3
LSA P **P** 18 38 03.6 +1.3
LSA Lhasa 39.27 278 P **P** 18 38 03.3 +1.0
LSA pmax pmax
comp=Z,286nm,0.8s
LSA Lhasa 39.27 278 P **P** 18 38 03.6 +1.3
LSA Lhasa 39.27 278 P **P** 18 38 03.0 +0.6
ATKA Atka Island 39.58 46 P **P** 18 38 03.2 -0.7
ATKA IAmb IAmb 18 38 09.7
comp=Z,808nm,1.0s
ATKA Atka Island 39.58 46 P **P** 18 38 03.7 -0.2
TTSI Tana Toraja 39.59 208 P **P** 18 38 03.9 -0.6
RABL Rabaul 39.71 156 P **P** 18 38 05.1 -0.3
RABL IAmb IAmb 18 38 12.0
comp=Z,525nm,0.8s
RABL Rabaul 39.71 156 ⇑P **P** 18 38 05.2 -0.3
WMQ Urumqi 39.73 300 ⇓P **P** 18 38 06.8 +1.4
WMQ ScP **ScP** 18 43 17.5 +2.1
WMQ S **S** 18 43 42.3 +1.9
WMQ ScS **ScS** 18 47 28.8 -0.6
WMQ pmax pmax
comp=Z,710nm,1.3s
WMQ pmax pmax
comp=Z,7μm,4.7s
WMQ LR LR
comp=Z,5μm,13.5s
WMQ LR LR
comp=Z,5μm,9.9s
WMQ LR LR
comp=Z,2μm,14.7s
GUWA GUWAHATI 39.97 272 *e*P P 18 37 53.9 -14
GUWA eS **S** 18 43 39.9 -4.3
SHL Shillong 40.03 271 P **P** 18 38 07.6 -0.7
SHL Shillong 40.03 271 P **P** 18 38 07.9 -0.4
SNR=58
SHL Shillong 40.03 271 P **P** 18 38 07.6 -0.7
SHL pmax pmax
comp=Z,270nm,0.7s
AZL Aizawl 40.06 268 *e*P P 18 37 58.7 -10
AZL IAmb IAmb 18 38 09.4
comp=Z,306nm,0.6s
AZL eS S 18 43 36.4 -9.5
SAIH SAIHA 40.33 266 *e*P P 18 38 00.9 -10
SAIH eS **S** 18 43 42.4 -7.5
KSM Kuching 40.40 224 P **P** 18 38 11.3 +0.2
KSM IAmb IAmb 18 38 14.6
comp=Z,332nm,0.6s
KSM Kuching 40.40 224 P **P** 18 38 11.9 +0.8
SPSI Sidrap Palu 40.45 208 P **P** 18 38 10.7 -0.7
BNSI Bone 40.72 207 P **P** 18 38 13.5 -0.1
comp=Z,6μmcomp=Z,6μmcomp=Z,477nm,1.3s
BBSI Bau Bau 40.86 203 P **P** 18 38 15.0 +0.2
comp=Z,7μmcomp=Z,3μmcomp=Z,319nm,1.1s
STKI Sintang 40.88 222 P **P** 18 38 13.1 -1.9
comp=Z,7μmcomp=Z,6μmcomp=Z,468nm,1.2s
SAUI Saumlaki 41.28 189 P **P** 18 38 18.3 +0.2
SAUI Saumlaki 41.28 189 P **P** 18 38 19.9 +1.8
SAUI Saumlaki 41.28 189 P **P** 18 38 19.9 +1.8
comp=Z,9μmcomp=Z,537nm,1.1s

KAPI	**Kappang**	**41.42 207**		P	**P**	**18 38 19.5**	**+0.2**
KAPI				IAmb	IAmb	18 38 25.6		
	comp=Z,1μm,1.2s							
KAPI	**Kappang**	**41.42 207**		P4KPbc		19 16 14.2		
	comp=Z,9.2nm,0.4s,baz=117,slow=6.1,SNR=4.9							
KAPI	**Kappang**	**41.42 207**		P	**P**	**18 38 19.4**	**+0.2**
KAPI				P	**P**	**18 38 19.4**	**+0.2**
KAPI				S	**S**	**18 44 07.1**	**+1.4**
KAPI				S	**S**	**18 44 07.1**	**+1.4**
KAPI	**Kappang**	**41.42 207**		P	**P**	**18 38 19.4**	**+0.2**
KAPI	**Kappang**	**41.42 207**	*d*	*i*P	**P**	**18 38 19.3**	**+0.2**
KAPI				pmax	pmax			
	comp=Z,663nm,1.2s							
KAPI	**Kappang**	**41.42 207**	⇓	P	**P**	**18 38 19.5**	**+0.2**
KAPI	**Kappang**	**41.42 207**		P	**P**	**18 38 19.5**	**+0.2**
KAPI				pP	**pP**	**18 39 30.5**	**-1.0**
KAPI				S	**S**	**18 44 04.3**	**-1.4**
BKSI	**Bulukumba**	**41.56 206**		P	**P**	**18 38 20.0**	**-0.4**
	comp=Z,6μmcomp=Z,181nm,0.7s							
GTK	**Tadong**	**42.16 275**	*e*	P	P	18 38 15.6	-10	
GTK				IAmb	IAmb	18 38 32.8		
	comp=Z,182nm,0.9s							
GTK			*e*	S	**S**	**18 44 09.0**	**-7.5**	
ZAA0	**Zalesovo Array**	**42.18 316**		P	**P**	**18 38 25.0**	**+0.1**	
ZALV	**Zalesovo Beam**	**42.18 316**		P	**P**	**18 38 25.1**	**+0.2**	
	comp=Z,114nm,0.6s,baz=101,slow=7.7,SNR=332							
ZALV				PcP	**PP**	**18 40 11.8**	**-0.1**	
	comp=Z,139nm,0.6s,baz=102,slow=3.1,SNR=15							
ZALV				ScP	**ScP**	**18 43 25.5**	**+0.7**	
	comp=Z,27nm,0.5s,baz=108,slow=4.0,SNR=6.7							
ZALV				S	**S**	**18 44 14.8**	**-1.1**	
	comp=Z,22nm,0.7s,baz=106,slow=11,SNR=3.0							
ZALV				ScS	**ScS**	**18 47 42.1**	**-1.8**	
	comp=Z,19nm,1.0s,baz=121,slow=5.7,SNR=6.2							
ZALV				P4KPbc		19 16 15.8		
	comp=Z,0.6nm,0.5s,baz=146,slow=4.3,SNR=3.8							
	comp=Z,114nm,0.6s							
BSSI	**Bau Bau, Buton**	**42.19 205**		P	**P**	**18 38 25.5**	**+0.1**	
SRIT	**Nakonsritamara**	**42.48 244**			**P**	**18 38 28.9**	**+1.2**	
SRIT				IAmb	IAmb	18 38 34.6		
	comp=Z,2μm,1.3s							
SRIT	**Nakonsritamara**	**42.48 244**		P	**P**	**18 38 28.8**	**+1.0**	
SPIA	**Saint Paul Isl**	**42.73 40**		P	**P**	**18 38 30.8**	**+1.6**	
SPIA	**Saint Paul Isl**	**42.73 40**		P	**P**	**18 38 30.3**	**+1.1**	
	baz=259,SNR=18							
NIKH	**Nikolski High**	**42.91 46**		P	**P**	**18 38 29.7**	**-1.0**	
NIKH				IAmb	IAmb	18 38 31.9		
	comp=Z,1μm,1.2s							
NIKH	**Nikolski High**	**42.91 46**		P	**P**	**18 38 30.3**	**-0.4**	
NIKH	**Nikolski High**	**42.91 46**		P	**P**	**18 38 29.9**	**-0.7**	
	baz=264,SNR=41							
P08K	**Saint George I**	**43.00 40**		P	**P**	**18 38 31.2**	**-0.1**	
P08K	**Saint George I**	**43.00 40**		P	**P**	**18 38 32.1**	**+0.8**	
	baz=260,SNR=5.8							
PMG	**Port Moresby**	**43.34 166**		P	**P**	**18 38 34.4**	**-0.1**	
PMG				IAmb	IAmb	18 38 40.5		
	comp=Z,379nm,0.6s							
PMG	**Port Moresby**	**43.34 166**		P	**P**	**18 38 34.8**	**+0.3**	
PMG	**Port Moresby**	**43.34 166**		P	**P**	**18 38 35.0**	**+0.5**	
PMG	**Port Moresby**	**43.34 166**	*ce*	P	**P**	**18 38 34.6**	**+0.1**	
PMG				pmax	pmax			
	comp=Z,106nm,0.8s							
EVN	**Everest**	**43.43 277**		P	**P**	**18 38 36.7**	**+0.8**	
EVN				IAmb	IAmb	18 38 42.7		
	comp=Z,697nm,0.6s							
EVN	**Everest**	**43.43 277**	⇓	P	**P**	**18 38 36.7**	**+0.8**	
MK31	**Makanchi Array**	**43.45 305**	*e*	P	**P**	**18 38 35.8**	**+0.7**	
MKAR	**Makanchi Array**	**43.45 305**		P	**P**	**18 38 35.6**	**+0.5**	
MKAR	**Makanchi Array**	**43.45 305**		P	**P**	**18 38 35.8**	**+0.6**	
	comp=Z,145nm,0.5s,baz=85,slow=10,SNR=2395							
MKAR				PcP	**PcP**	**18 40 16.1**	**+0.6**	
	comp=Z,42nm,0.7s,baz=76,slow=5.2,SNR=6.0							
MKAR				ScP	**ScP**	**18 43 30.5**	**+0.4**	
	comp=Z,30nm,0.7s,baz=83,slow=3.2,SNR=8.9							
MKAR				P3KPbc		19 07 35.9		
	comp=Z,0.9nm,0.8s,baz=250,slow=4.7,SNR=5.9							
MKAR				PKP2ab		19 11 37.1		
	comp=Z,0.7nm,0.9s,baz=277,slow=2.0,SNR=3.9							
MKAR				P4KPbc		19 16 24.0		
	comp=Z,0.4nm,0.5s,baz=77,slow=5.1,SNR=5.5							
	comp=Z,145nm,0.5s							
MKAR	**Makanchi Array**	**43.45 305**	*i*	P	**P**	**18 38 35.7**	**+0.6**	
MKAR				pmax	pmax			
	comp=Z,114nm,0.4s							
MAKZ	**Makanchi**	**43.66 305**		P	**P**	**18 38 37.2**	**+0.4**	
MAKZ				pP	**pP**	**18 39 49.8**	**-1.4**	
GAMB	**Gambell**	**43.79 30**	⇑	P	**P**	**18 38 38.8**	**+1.3**	
GAMB	**Gambell**	**43.79 30**		P	**P**	**18 38 39.0**	**+1.6**	
	baz=250,SNR=26							
GAMB				S	**S**	**18 44 42.6**	**+3.9**	
	baz=250							
KULM	**Kulim**	**43.91 239**		P	**P**	**18 38 39.3**	**+0.2**	
KULM	**Kulim**	**43.91 239**		P	**P**	**18 38 39.4**	**+0.2**	
KULM	**Kulim**	**43.91 239**	⇑	P	**P**	**18 38 39.5**	**+0.4**	
MMRI	**Maumere**	**43.93 202**		P	**P**	**18 38 38.7**	**-0.5**	
MMRI	**Maumere**	**43.93 202**		P	**P**	**18 38 39.1**	**-0.1**	
MMRI	**Maumere**	**43.93 202**		P	**P**	**18 38 39.2**	**0.0**	
	comp=Z,7μmcomp=Z,6μmcomp=Z,479nm,0.9s							
MMRI	**Maumere**	**43.93 202**	⇓	P	**P**	**18 38 38.8**	**-0.5**	
MYKOM	**Kota Tinggi**	**44.21 232**		P	**P**	**18 38 41.8**	**+0.4**	
MYKOM	**Kota Tinggi**	**44.21 232**	⇓	P	**P**	**18 38 42.0**	**+0.6**	
IPM	**Ipoh**	**44.21 238**		P	**P**	**18 38 41.3**	**-0.1**	
IPM				IAmb	IAmb	18 38 47.1		
	comp=Z,598nm,0.9s							
IPM	**Ipoh**	**44.21 238**		P	**P**	**18 38 41.0**	**-0.4**	
IPM	**Ipoh**	**44.21 238**	⇓	P	**P**	**18 38 41.4**	**-0.1**	
EDFI	**Ende, Flores**	**44.21 202**		P	**P**	**18 38 40.3**	**-1.2**	
	comp=Z,6μmcomp=Z,3μmcomp=Z,253nm,0.6s							
UNV	**Unalaska Valle**	**44.38 45**		P	**P**	**18 38 40.9**	**-1.4**	
UNV	**Unalaska Valle**	**44.38 45**		P	**P**	**18 38 41.4**	**-0.9**	
UNV	**Unalaska Valle**	**44.38 45**		P	**P**	**18 38 40.9**	**-1.4**	
	baz=266							
SOEI	**Soe**	**44.41 198**		P	**P**	**18 38 43.7**	**+0.6**	
SOEI				S	**S**	**18 44 44.1**	**-4.9**	
SOEI	**Soe**	**44.41 198**			**P**	**18 38 42.5**	**-0.6**	
SOEI				IAmb	IAmb	18 38 55.9		
	comp=Z,321nm,0.6s							
SOEI	**Soe**	**44.41 198**		P	**P**	**18 38 42.8**	**-0.3**	
SOEI	**Soe**	**44.41 198**		P	**P**	**18 38 43.1**	**0.0**	
	comp=Z,7μmcomp=Z,4μmcomp=Z,516nm,0.7s							
SOEI	**Soe**	**44.41 198**	⇑	P	**P**	**18 38 42.3**	**-0.8**	
TPRI	**Tanjung Pinang**	**44.42 231**		P	**P**	**18 38 43.6**	**+0.6**	
	comp=Z,9μmcomp=Z,6μmcomp=Z,470nm,1.3s							
AKUT	**Akutan**	**44.84 44**		P	**P**	**18 38 45.5**	**-0.3**	
AKUT	**Akutan**	**44.84 44**	⇑	P	**P**	**18 38 44.7**	**-1.1**	
BATI	**Baumata**	**45.01 199**		P	**P**	**18 38 48.0**	**+0.4**	
	comp=Z,6μmcomp=Z,6μmcomp=Z,738nm,0.9s							
BWJI	**Bawean**	**45.27 216**		P	**P**	**18 38 48.7**	**-0.9**	
	comp=Z,7μmcomp=Z,466nm,1.3s							
TPI	**Tanjungpandan**	**45.36 224**		P	**P**	**18 38 51.0**	**+0.6**	
	comp=Z,8μmcomp=Z,6μmcomp=Z,461nm,1.0s							
M11K	**Mekoryuk**	**45.41 36**		IAmb	IAmb	18 38 55.1		
	comp=Z,656nm,1.1s							
M11K	**Mekoryuk**	**45.41 36**		P	**P**	**18 38 52.2**	**+2.1**	
	baz=259,SNR=22							
M11K				S	**S**	**18 45 06.9**	**+5.0**	
	baz=259							
DSRI	**Dabo**	**45.45 229**		P	**P**	**18 38 51.9**	**+0.8**	
	comp=Z,9μmcomp=Z,5μmcomp=Z,263nm,1.4s							
WSI	**Waingapu**	**45.53 204**		P	**P**	**18 38 49.5**	**-2.2**	
	comp=Z,5μmcomp=Z,4μmcomp=Z,244nm,0.6s							
PLAI	**Plampang**	**45.67 207**		P	**P**	**18 38 50.8**	**-1.9**	
PLAI	**Plampang**	**45.67 207**		P	**P**	**18 38 51.3**	**-1.4**	
	comp=Z,7μmcomp=Z,176nm,0.8s							
KMMI	**Kalianget**	**45.69 213**		P	**P**	**18 38 53.2**	**+0.3**	
	comp=Z,9μmcomp=Z,4μmcomp=Z,328nm,1.4s							
PDGK	**Podgornoye**	**45.71 300**		P	**P**	**18 38 52.9**	**0.0**	
SHLS	**Shalkode**	**45.75 300**	*d*	*i*P	**P**	**18 38 51.0**	**-2.2**	
SHLS				*e*S	**S**	**18 45 03.9**	**-3.7**	
SHLS	**Shalkode**	**45.75 300**	⇓	*i*P	**P**	**18 38 51.0**	**-2.2**	
SHLS				*e*S	**S**	**18 45 04.0**	**-3.7**	
KURK	**Kurchatov**	**45.78 311**			**P**	**18 38 53.5**	**+0.3**	
KURK				IAmb	IAmb	18 38 54.7		
	comp=Z,803nm,1.0s							
KURK	**Kurchatov**	**45.78 311**		P	**P**	**18 38 53.7**	**+0.5**	
KURK				P	**P**	**18 38 53.7**	**+0.5**	
KURK	**Kurchatov**	**45.78 311**	*d*	*i*P	**P**	**18 38 53.3**	**+0.1**	
KURK				pmax	pmax			
	comp=Z,757nm,1.0s							
KURK	**Kurchatov**	**45.78 311**	⇓	P	**P**	**18 38 53.4**	**+0.3**	
KURK	**Kurchatov**	**45.78 311**		P	**P**	**18 38 53.2**	**+0.1**	
KURK				pP	**pP**	**18 40 08.1**	**-0.3**	
KDU	**Kakadu**	**45.79 187**		P	**P**	**18 38 53.0**	**-0.6**	
	comp=Z,0.0nmcomp=Z,186nm,0.6s							
KDU	**Kakadu**	**45.79 187**		P	**P**	**18 38 53.4**	**-0.2**	
PPBI	**Pangkal Pinang**	**45.79 226**		P	**P**	**18 38 54.8**	**+1.1**	
WBSI	**Waikabubak, Su**	**45.82 205**		P	**P**	**18 38 52.9**	**-1.0**	
	comp=Z,5μmcomp=Z,149nm,0.7s							
KURBB	**Kurchatov Arra**	**45.84 311**		P	**P**	**18 38 53.9**	**+0.2**	
	comp=Z,180nm,0.5s,baz=90,slow=8.9,SNR=2542							
KURBB				PcP	**PcP**	**18 40 24.2**	**+0.5**	
	comp=Z,84nm,1.0s,baz=96,slow=3.8,SNR=4.7							
KURBB				ScP	**ScP**	**18 43 40.5**	**+0.6**	
	comp=Z,9.2nm,0.5s,baz=91,slow=4.6,SNR=4.9							
KURBB				S	**S**	**18 45 06.0**	**-2.3**	
	comp=Z,8.8nm,0.7s,baz=76,slow=3.2,SNR=8.1							
KURBB				P3KPbc		19 07 29.0		
	comp=Z,0.4nm,0.6s,baz=264,slow=4.2,SNR=4.8							
KURBB				PKP2ab		19 11 23.4		
	comp=Z,1.0nm,0.9s,baz=272,slow=4.7,SNR=4.0							
	comp=Z,180nm,0.5s							
TNA	**Tin City**	**45.90 28**	⇑	P	**P**	**18 38 55.4**	**+1.5**	
TNA	**Tin City**	**45.90 28**		P	**P**	**18 38 55.6**	**+1.8**	
	baz=253,SNR=47							
TNA				S	**S**	**18 45 12.3**	**+3.5**	
	baz=253							
BASI	**Baing, Sumba**	**45.95 203**		P	**P**	**18 38 55.3**	**+0.4**	
	comp=Z,5μmcomp=Z,5μmcomp=Z,314nm,0.7s							
SRBI	**Singaraja**	**46.05 211**		P	**P**	**18 38 55.7**	**0.0**	
	comp=Z,8μmcomp=Z,4μmcomp=Z,327nm,1.2s							
UZB	**Uzynbulak**	**46.07 300**	*d*	*i*P	**P**	**18 38 55.8**	**+0.1**	
UZB				*e*S	**S**	**18 45 12.8**	**+0.7**	
UZB	**Uzynbulak**	**46.07 300**	⇓	*i*P	**P**	**18 38 55.9**	**+0.2**	
UZB				*e*S	**S**	**18 45 12.8**	**+0.7**	
MTN	**Manton Dam**	**46.09 188**		P	**P**	**18 38 55.3**	**-0.6**	
MTN				IAmb	IAmb	18 39 01.4		
	comp=Z,946nm,1.6s							
MTN	**Manton Dam**	**46.09 188**		P	**P**	**18 38 55.1**	**-0.8**	
	comp=Z,0.0nmcomp=Z,408nm,1.0s							
MTN	**Manton Dam**	**46.09 188**		P	**P**	**18 38 55.1**	**-0.8**	
FALS	**False Pass**	**46.25 43**		P	**P**	**18 38 56.9**	**+0.2**	
FALS	**False Pass**	**46.25 43**		P	**P**	**18 38 55.5**	**-1.2**	
	baz=267,SNR=8.7							
KPKS	**Kokpek**	**46.27 301**	*e*	P	**P**	**18 38 57.5**	**+0.3**	
KPKS	**Kokpek**	**46.27 301**	*e*	P	**P**	**18 38 57.5**	**+0.3**	
GRJI	**Gresik**	**46.27 215**		P	**P**	**18 38 57.6**	**+0.2**	
	comp=Z,8μmcomp=Z,9μmcomp=Z,805nm,1.0s							
TDK	**Taldyqorghan**	**46.28 303**	*d*	*i*P	**P**	**18 38 57.7**	**+0.5**	
TDK				*e*S	**S**	**18 45 16.0**	**+1.2**	
TDK	**Taldyqorghan**	**46.28 303**	⇓	*i*P	**P**	**18 38 57.7**	**+0.5**	
TDK				*e*S	**S**	**18 45 16.0**	**+1.2**	
K13K	**Kusilvak Mount**	**46.43 34**		IAmb	IAmb	18 39 02.7		
	comp=Z,1μm,1.6s							
K13K	**Kusilvak Mount**	**46.43 34**		P	**P**	**18 38 59.7**	**+1.7**	
	baz=259,SNR=109							
K13K				S	**S**	**18 45 18.4**	**+2.1**	
	baz=259							
F14K	**Arctic Creek**	**46.51 29**		P	**P**	**18 39 00.8**	**+2.3**	
	baz=254,SNR=92							
F14K				S	**S**	**18 45 21.7**	**+4.3**	
	baz=254							
TATA	**Tatamba Isabel**	**46.52 149**		P	**P**	**18 39 00.9**	**+1.6**	
SATY	**Saty**	**46.53 300**	*d*	*i*P	**P**	**18 38 59.5**	**+0.3**	
SATY				*e*S	**S**	**18 45 19.4**	**+0.8**	
SATY	**Saty**	**46.53 300**	⇓	*i*P	**P**	**18 38 59.6**	**+0.3**	
SATY				*e*S	**S**	**18 45 19.5**	**+0.8**	
PRZ	**Przheval'sk**	**46.62 299**		IAmb	IAmb	18 39 06.9		
	comp=Z,494nm,0.8s							
TSI	**Tuntungan**	**46.65 239**		P	**P**	**18 39 00.3**	**0.0**	
	comp=Z,9μmcomp=Z,8μmcomp=Z,383nm,0.9s							
LHMI	**Lhok Sumawe**	**46.66 242**			**P**	**18 39 00.7**	**+0.3**	
LHMI				IAmb	IAmb	18 39 07.5		
	comp=Z,696nm,0.9s							
LHMI	**Lhok Sumawe**	**46.66 242**		P	**P**	**18 39 02.0**	**+1.5**	
LHMI	**Lhok Sumawe**	**46.66 242**		P	**P**	**18 39 01.8**	**+1.4**	
	comp=Z,13μmcomp=Z,842nm,1.2s							
LHMI	**Lhok Sumawe**	**46.66 242**	⇓	P	**P**	**18 39 01.9**	**+1.5**	
ANM	**Nome**	**46.67 30**		P	**P**	**18 39 01.0**	**+1.2**	
ANM	**Nome**	**46.67 30**		P	**P**	**18 39 01.0**	**+1.2**	
ANM				pmax	pmax			
	comp=Z,430nm,1.0s							
ANM	**Nome**	**46.67 30**		P	**P**	**18 39 01.8**	**+1.9**	
	baz=256,SNR=54							
ANM				S	**S**	**18 45 23.6**	**+3.9**	
	baz=256							
M13K	**Dall Lake**	**46.81 36**		IAmb	IAmb	18 39 05.9		
	comp=Z,706nm,1.1s							
M13K	**Dall Lake**	**46.81 36**		P	**P**	**18 39 03.0**	**+2.1**	
	baz=262,SNR=84							
JAGI	**Jajag, Banyuwa**	**46.86 212**		P	**P**	**18 39 00.9**	**-1.0**	
JAGI	**Jajag, Banyuwa**	**46.86 212**		P	**P**	**18 39 00.8**	**-1.1**	
	comp=Z,7μmcomp=Z,3μmcomp=Z,212nm,1.1s							
JAGI	**Jajag, Banyuwa**	**46.86 212**	⇓	P	**P**	**18 38 59.8**	**-2.1**	
PSI	**Prapat**	**46.87 238**		P	**P**	**18 39 01.8**	**-0.4**	
GMJI	**Gumukmas**	**47.01 213**		P	**P**	**18 39 02.1**	**-0.9**	
	comp=Z,172nm,1.0s							
J14K	**Nanvaranak Lak**	**47.09 33**		IAmb	IAmb	18 39 07.5		
	comp=Z,1μm,1.5s							
J14K	**Nanvaranak Lak**	**47.09 33**		P	**P**	**18 39 04.8**	**+1.8**	
	baz=260							
J14K				S	**S**	**18 45 29.0**	**+3.5**	
	baz=260							
COEN	**Coen**	**47.16 172**			**P**	**18 39 05.2**	**+1.1**	
COEN				IAmb	IAmb	18 39 11.1		
	comp=Z,584nm,0.9s							
COEN	**Coen**	**47.16 172**		P	**P**	**18 39 04.9**	**+0.7**	
	comp=Z,703nm,0.9s							
COEN	**Coen**	**47.16 172**		P	**P**	**18 39 05.4**	**+1.3**	
COEN	**Coen**	**47.16 172**	⇓	P	**P**	**18 39 05.1**	**+1.0**	
NGJI	**Ngawi**	**47.16 216**		P	**P**	**18 39 05.2**	**+1.0**	
	comp=Z,225nm,1.3s							
BKNI	**Bangkinang**	**47.17 234**		P	**P**	**18 39 05.1**	**+0.8**	
BKNI				S	**S**	**18 45 25.5**	**-2.3**	
BKNI	**Bangkinang**	**47.17 234**		IAmb	IAmb	18 39 11.2		
	comp=Z,1μm,0.9s							
BKNI	**Bangkinang**	**47.17 234**		P	**P**	**18 39 04.9**	**+0.6**	
BKNI	**Bangkinang**	**47.17 234**		P	**P**	**18 39 04.9**	**+0.6**	
	comp=Z,10μmcomp=Z,1μm,1.1s							
BKNI	**Bangkinang**	**47.17 234**	⇓	P	**P**	**18 39 05.0**	**+0.7**	
SAVO	**Savo Central**	**47.20 149**		P	**P**	**18 39 05.7**	**+1.2**	
PMBI	**Palembang**	**47.22 227**		P	**P**	**18 39 05.9**	**+1.2**	
PMBI	**Palembang**	**47.22 227**		P	**P**	**18 39 06.5**	**+1.8**	
PMBI	**Palembang**	**47.22 227**		P	**P**	**18 39 06.3**	**+1.6**	
	comp=Z,10μmcomp=Z,1μm,1.1s							
ALEG	**Aligegeo Malai**	**47.24 148**		P	**P**	**18 39 07.0**	**+2.2**	
F15K	**North Star Dit**	**47.25 29**		IAmb	IAmb	18 39 09.0		
	comp=Z,762nm,0.9s							
F15K	**North Star Dit**	**47.25 29**		P	**P**	**18 39 06.2**	**+2.0**	
	baz=256,SNR=334							
F15K				S	**S**	**18 45 32.0**	**+4.3**	
	baz=256							
L14K	**Kuka Creek**	**47.27 35**		IAmb	IAmb	18 39 09.4		
	comp=Z,980nm,1.2s							
L14K	**Kuka Creek**	**47.27 35**		P	**P**	**18 39 06.2**	**+1.8**	
	baz=262,SNR=192							
L14K				S	**S**	**18 45 30.5**	**+2.5**	
	baz=262							
G15K	**Niukluk**	**47.33 30**		P	**P**	**18 39 06.6**	**+1.8**	
	baz=257,SNR=131							
G15K				S	**S**	**18 45 31.7**	**+2.8**	
	baz=257							
SMRI	**Semarang**	**47.41 217**			**P**	**18 39 06.1**	**0.0**	
SMRI	**Semarang**	**47.41 217**		P	**P**	**18 39 06.5**	**+0.4**	
SMRI	**Semarang**	**47.41 217**		P	**P**	**18 39 06.5**	**+0.4**	
	comp=Z,291nm,1.0s							
CHKK	**Chushkaly**	**47.44 301**	⇓	*i*P	**P**	**18 39 06.4**	**+0.4**	
CHKK	**Chushkaly**	**47.44 301**	⇓	*i*P	**P**	**18 39 06.5**	**+0.4**	
HNR	**Honiara**	**47.52 149**		P	**P**	**18 39 07.0**	**+0.1**	
HNR	**Honiara**	**47.52 149**		P	**P**	**18 39 09.2**	**+2.3**	
HNR	**Honiara**	**47.52 149**		P	**P**	**18 39 07.0**	**+0.1**	
HNR				pmax	pmax			
	comp=Z,1μm,1.0s							
HNR	**Honiara**	**47.52 149**	⇑	P	**P**	**18 39 06.1**	**-0.8**	
M14K	**Bethel**	**47.53 36**		IAmb	IAmb	18 39 09.8		
	comp=Z,1μm,1.4s							
M14K	**Bethel**	**47.53 36**		P	**P**	**18 39 08.2**	**+1.8**	
	baz=263,SNR=214							
M14K				S	**S**	**18 45 35.3**	**+3.6**	
	baz=263							
KNDC	**Almaty**	**47.55 301**		P	**P**	**18 39 08.1**	**+1.2**	
KDJ	**Kajisay**	**47.57 299**		P	**P**	**18 39 07.6**	**+0.3**	
KDJ	**Kajisay**	**47.57 299**		P	**P**	**18 39 07.6**	**+0.3**	
KDJ				pmax	pmax			
	comp=Z,165nm,0.9s							
N14K	**Kuskokwak Cree**	**47.58 37**		P	**P**	**18 39 07.6**	**+0.8**	
N14K	**Kuskokwak Cree**	**47.58 37**		P	**P**	**18 39 08.2**	**+1.5**	
	baz=264,SNR=57							
N14K				S	**S**	**18 45 34.7**	**+2.3**	
	baz=264							
AAA	**Alma-Ata**	**47.59 301**	*e*	P	**P**	**18 39 07.6**	**+0.4**	
AAA				pmax	pmax			
	comp=Z,539nm,1.4s							
AAA	**Alma-Ata**	**47.59 301**	*e*	P	**P**	**18 39 07.7**	**+0.5**	
	comp=Z,539nm,1.4s							
TNSS	**Tian-Shan**	**47.59 300**	*e*	P	**P**	**18 39 07.6**	**-0.1**	
TNSS	**Tian-Shan**	**47.59 300**	*e*	P	**P**	**18 39 07.7**	**0.0**	
C16K	**Lisburne Hills**	**47.68 25**		IAmb	IAmb	18 39 11.4		
	comp=Z,577nm,0.9s							
C16K	**Lisburne Hills**	**47.68 25**		P	**P**	**18 39 08.8**	**+1.4**	
	baz=253,SNR=120							
C16K				S	**S**	**18 45 35.9**	**+2.3**	
	baz=253							
MLSI	**Meulaboh, Aceh**	**47.70 242**		P	**P**	**18 39 07.5**	**-0.9**	
	comp=Z,8μmcomp=Z,8μmcomp=Z,676nm,1.0s							
O14K	**Tigyukauivet M**	**47.73 38**		P	**P**	**18 39 09.3**	**+1.4**	
	baz=265,SNR=41							
O14K				S	**S**	**18 45 36.5**	**+1.9**	
	baz=265							
MNSI	**Mandailing Nat**	**47.83 236**		P	**P**	**18 39 08.7**	**-0.6**	
	comp=Z,6μmcomp=Z,222nm,0.6s							
WOJI	**Wonogiri, Jawa**	**47.84 216**		P	**P**	**18 39 09.0**	**-0.3**	
L15K	**Ungalak Mounta**	**47.88 34**		P	**P**	**18 39 10.3**	**+1.2**	
	baz=263,SNR=82							
L15K				S	**S**	**18 45 38.3**	**+1.7**	
	baz=263							
KUU	**Kurty**	**47.90 302**	*e*	P	**P**	**18 39 09.8**	**+0.3**	
KUU			*e*	S	**S**	**18 45 38.4**	**+1.0**	
KUU				pmax	pmax			
	comp=Z,845nm,1.8s							
KUU	**Kurty**	**47.90 302**	*e*	P	**P**	**18 39 09.9**	**+0.3**	
	comp=Z,845nm,1.8s							
KUU			*e*	S	**S**	**18 45 38.4**	**+1.0**	
K15K	**Wolf Creek Mou**	**47.94 33**		IAmb	IAmb	18 39 14.4		
	comp=Z,1μm,1.6s							
K15K	**Wolf Creek Mou**	**47.94 33**		P	**P**	**18 39 11.3**	**+1.8**	
	baz=262,SNR=94							
K15K				S	**S**	**18 45 40.6**	**+3.1**	
	baz=262							
SDPT	**Sand Point**	**47.96 43**			**P**	**18 39 09.0**	**-0.7**	
SDPT				IAmb	IAmb	18 39 13.6		
	comp=Z,471nm,0.4s							
SDPT	**Sand Point**	**47.96 43**		P	**P**	**18 39 08.9**	**-0.8**	
SDPT	**Sand Point**	**47.96 43**		P	**P**	**18 39 08.4**	**-1.3**	
	baz=269,SNR=41							
H16K	**Elim**	**48.01 30**		P	**P**	**18 39 11.5**	**+1.5**	
	baz=259,SNR=102							
H16K				S	**S**	**18 45 41.8**	**+3.4**	
	baz=259							
PCJI	**Pacitan**	**48.02 216**		P	**P**	**18 39 11.1**	**+0.4**	
UGM	**Wanagama**	**48.10 217**		IAmb	IAmb	18 39 16.4		
	comp=Z,547nm,1.0s							
UGM	**Wanagama**	**48.10 217**		P	**P**	**18 39 10.7**	**-0.7**	
UGM	**Wanagama**	**48.10 217**		P	**P**	**18 39 10.7**	**-0.7**	
	comp=Z,7μmcomp=Z,6μmcomp=Z,574nm,1.2s							
G16K	**Koyuk River**	**48.11 29**		P	**P**	**18 39 11.9**	**+1.2**	
	baz=258,SNR=58							
G16K				S	**S**	**18 45 43.5**	**+3.8**	
	baz=258							
M15K	**Kasigluk River**	**48.15 36**		P	**P**	**18 39 12.3**	**+1.2**	
	baz=264,SNR=130							
M15K				S	**S**	**18 45 43.1**	**+2.7**	
	baz=264							
PPI	**Padang Panjang**	**48.18 234**		P	**P**	**18 39 11.9**	**0.0**	
	comp=Z,8μmcomp=Z,5μmcomp=Z,313nm,1.4s							
ULHL	**Ulahol**	**48.23 299**		P	**P**	**18 39 13.7**	**+1.4**	
	SNR=14							
D17K	**Noatak River**	**48.34 26**		P	**P**	**18 39 14.2**	**+1.8**	
	baz=256,SNR=

KSH LR LR
comp=Z,7μm,17.2s
M16K Timber Creek 49.02 35 IAmb IAmb 18 39 22.0
comp=Z,637nm,1.2s
M16K Timber Creek 49.02 35 P **P 18 39 19.1 +1.4**
M16K baz=266,SNR=148 S **S 18 45 54.0 +1.4**
baz=266
H17K Granite Mounta 49.04 30 P **P 18 39 19.4 +1.6**
H17K baz=261,SNR=172 S **S 18 45 55.1 +2.4**
baz=261
N16K Nishlik Lake 49.08 36 P **P 18 39 19.8 +1.7**
N16K baz=266 S **S 18 45 55.6 +2.3**
baz=266
KBK Karagaybulak 49.10 300 P **P 18 39 19.8 +1.0**
SNR=97
CHGN Chignik 49.12 42 IAmb IAmb 18 39 22.2
comp=Z,255nm,0.5s
CHGN Chignik 49.12 42 P **P 18 39 17.2 -1.3**
baz=270,SNR=42
KSI Kapahiang 49.14 229 P **P 18 39 18.7 -0.6**
comp=Z,9μmcomp=Z,7μmcomp=Z,361nm,0.9s
CHMS Chumysh 49.18 301 P **P 18 39 19.8 +0.5**
SNR=42
SGDS Sogindy 49.19 301 *e*P **P 18 39 19.7 +0.4**
J17K VABM Dome 49.20 32 IAmb IAmb 18 39 23.7
comp=Z,736nm,1.0s
J17K VABM Dome 49.20 32 P **P 18 39 20.8 +1.9**
baz=263,SNR=393
J17K S **S 18 45 58.1 +3.2**
baz=263
KNRA Kununurra 49.21 191 **P 18 39 19.7 +0.1**
KNRA IAmb IAmb 18 39 25.8
comp=Z,734nm,1.5s
KNRA Kununurra 49.21 191 P **P 18 39 19.3 -0.3**
comp=Z,0.0nmcomp=Z,330nm,0.7s
B18K Kokolik River 49.22 24 P **P 18 39 21.2 +2.2**
baz=256
B18K S **S 18 45 58.6 +3.7**
baz=256
BBJI Bungbulang 49.22 220 P **P 18 39 17.7 -2.2**
HURO Huro Makira 49.30 147 P **P 18 39 20.4 +0.1**
LWLI Liwa 49.30 226 P **P 18 39 19.4 -1.1**
comp=Z,9μmcomp=Z,9μmcomp=Z,745nm,0.5s
USP Ospenovka 49.32 301 P **P 18 39 20.9 +0.7**
SNR=43
KLP Kalpa 49.32 285 *e*P P 18 39 10.8 -10
KLP IAmb IAmb 18 39 22.0
comp=Z,350nm,1.1s
BTLS Baital 49.34 303 *d i*P **P 18 39 20.7 +0.4**
BTLS Baital 49.34 303 ⇓*i*P **P 18 39 20.7 +0.4**
O16K Kokwok River B 49.37 37 IAmb IAmb 18 39 24.5
comp=Z,562nm,1.2s
O16K Kokwok River B 49.37 37 P **P 18 39 21.6 +1.4**
baz=268,SNR=145
O16K S **S 18 45 59.9 +2.7**
baz=268
CNJI Cibinong 49.38 221 P **P 18 39 22.9 +2.0**
P16K Nushagak River 49.40 38 IAmb IAmb 18 39 25.0
comp=Z,1μm,1.2s
P16K Nushagak River 49.40 38 P **P 18 39 21.9 +1.5**
baz=268,SNR=26
P16K S **S 18 46 00.7 +3.1**
baz=268
F18K Selawik 49.42 28 P **P 18 39 22.1 +1.6**
baz=260,SNR=266
F18K S **S 18 45 58.9 +1.1**
baz=260
L17K Donlin 49.43 34 P **P 18 39 22.6 +1.9**
baz=265,SNR=187
L17K S **S 18 46 01.9 +3.9**
baz=265
AAK Ala-Archa 49.44 300 P **P 18 39 22.0 +0.6**
SNR=37
AAK Ala-Archa 49.44 300 P **P 18 39 21.8 +0.6**
AAK Ala-Archa 49.44 300 P **P 18 39 21.9 +0.6**
AAK P **P 18 39 21.9 +0.6**
AAK Ala-Archa 49.44 300 P **P 18 39 21.8 +0.6**
AAK pmax pmax
comp=Z,118nm,0.8s
AAK Ala-Archa 49.44 300 *i*P **P 18 39 21.9 +0.6**
SNR=43
AAK Ala-Archa 49.44 300 ⇓P **P 18 39 21.9 +0.6**
AAK Ala-Archa 49.44 300 P **P 18 39 21.5 +0.2**
AAK Ala-Archa 49.44 300 P **P 18 39 21.8 +0.6**
AAK S **S 18 46 00.6 +1.5**
KASI Kota Agung 49.44 225 P **P 18 39 19.7 -1.7**
comp=Z,7μmcomp=Z,3μmcomp=Z,250nm,1.0s
NGOA Tingoa Renbel 49.47 150 P **P 18 39 23.3 +1.8**
K17K Iditarod 49.48 33 IAmb IAmb 18 39 25.8
comp=Z,576nm,0.9s
K17K Iditarod 49.48 33 P **P 18 39 22.8 +1.7**
baz=265,SNR=416
K17K S **S 18 46 02.6 +3.9**
baz=265
UCH Uchtor 49.50 300 P **P 18 39 23.3 +1.2**
SNR=161
R16K Pilot Point 49.59 40 P **P 18 39 22.2 +0.3**
baz=270
R16K S **S 18 46 01.8 +1.5**
baz=270
CGJI Cibinong 49.62 223 P **P 18 39 20.6 -2.1**
BRZS Berezniki 49.62 310 *d i*P **P 18 39 22.7 +0.3**
BRZS Berezniki 49.62 310 ⇓*i*P **P 18 39 22.8 +0.3**
A19K Wainwright 49.67 23 P **P 18 39 24.4 +2.0**
baz=256
A19K S **S 18 46 03.2 +2.1**
baz=256
SISI Saibi 49.70 234 P **P 18 39 22.6 -0.7**
G18K Tagagawik 49.71 29 IAmb IAmb 18 39 26.9
comp=Z,712nm,1.1s
G18K Tagagawik 49.71 29 P **P 18 39 24.0 +1.3**
baz=262,SNR=587
G18K S **S 18 46 04.4 +2.5**
baz=262
H18K Honhosa River 49.73 30 P **P 18 39 24.2 +1.3**
baz=262,SNR=256
H18K S **S 18 46 04.8 +2.7**
baz=262
M17K Holitna River 49.78 35 P **P 18 39 25.3 +1.9**
baz=266,SNR=109
M17K S **S 18 46 07.7 +4.7**
baz=266
N17K Nushagak Hills 49.86 36 IAmb IAmb 18 39 28.7
comp=Z,876nm,1.2s
N17K Nushagak Hills 49.86 36 P **P 18 39 25.9 +1.9**
baz=268,SNR=218
N17K S **S 18 46 07.6 +3.6**
baz=268
DDI Dehra Dun 49.87 284 *e*P P 18 39 15.0 -10
DDI IAML 18 39 26.0
comp=Z,345nm,0.7s
O17K Koliganek Bris 49.88 37 P **P 18 39 25.5 +1.4**
baz=268,SNR=100
O17K S **S 18 46 04.9 +0.7**
baz=268
C19K Lookout Ridge 49.92 25 IAmb IAmb 18 39 29.1
comp=Z,806nm,0.8s
C19K Lookout Ridge 49.92 25 P **P 18 39 26.3 +1.9**
baz=258
C19K S **S 18 46 06.6 +1.9**
baz=258
EKS2 Erkin-Say 49.95 300 P **P 18 39 25.5 +0.4**
SNR=94
Q16K King Salmon 50.08 39 P **P 18 39 26.6 +1.1**
baz=270,SNR=53
Q16K S **S 18 46 08.3 +1.3**
baz=270
L18K Granite Mounta 50.19 34 P **P 18 39 28.2 +1.8**
baz=266,SNR=201
L18K S **S 18 46 11.3 +2.8**
baz=266
F19K Shaleruckik Mo 50.20 28 IAmb IAmb 18 39 32.5
comp=Z,913nm,1.7s
F19K Shaleruckik Mo 50.20 28 P **P 18 39 27.2 +0.9**
baz=262,SNR=168
F19K S **S 18 46 10.8 +2.4**
baz=262
P17K Kvichak River 50.20 38 P **P 18 39 27.7 +1.2**
baz=269,SNR=84
P17K S **S 18 46 11.6 +3.0**
baz=269
R17L Mt. Peulik Vol 50.24 40 P **P 18 39 26.5 -0.3**
baz=271,SNR=24
J18K Innoko River 50.26 32 P **P 18 39 28.1 +1.2**
baz=265,SNR=164
J18K S **S 18 46 11.8 +2.4**
baz=265
GCSA Galena City Sc 50.31 31 P **P 18 39 28.0 +0.8**
baz=264,SNR=61
GCSA S **S 18 46 11.2 +1.3**
baz=264
D19K Kuna River 50.33 26 IAmb IAmb 18 39 33.2
comp=Z,684nm,0.7s
D19K Kuna River 50.33 26 P **P 18 39 28.8 +1.5**
baz=260
D19K S **S 18 46 12.1 +1.8**
baz=260
G19K Purcell Mounta 50.38 29 IAmb IAmb 18 39 31.7
comp=Z,607nm,1.3s
G19K Purcell Mounta 50.38 29 P **P 18 39 28.9 +1.2**
baz=263,SNR=43
G19K S **S 18 46 12.7 +1.8**
baz=263
JOHN Johnston Islan 50.41 95 P **P 18 39 28.9 +0.3**
JOHN IAmb IAmb 18 39 35.1
comp=Z,751nm,0.9s
JOHN Johnston Islan 50.41 95 P **P 18 39 29.7 +1.1**
JOHN Johnston Islan 50.41 95 ⇑P **P 18 39 29.8 +1.1**
Q17K Contact Creek 50.49 39 P **P 18 39 28.5 -0.3**
baz=270,SNR=46
Q17K S **S 18 46 12.8 -0.1**
baz=270
E19K Redstone River 50.50 27 P **P 18 39 30.2 +1.6**
baz=262,SNR=660
E19K S **S 18 46 15.5 +2.9**
baz=262
N18K Kilae Creek 50.51 36 P **P 18 39 30.5 +1.7**
baz=268,SNR=132
N18K S **S 18 46 17.3 +4.4**
baz=268
M18K Stony River 50.56 35 P **P 18 39 30.8 +1.7**
baz=268,SNR=144
M18K S **S 18 46 15.9 +2.3**
baz=268
H19K Roundabout Mou 50.57 30 P **P 18 39 30.6 +1.6**
baz=264,SNR=482
H19K S **S 18 46 16.6 +3.1**
baz=264
CHIR Chirikof Islan 50.70 42 IAmb IAmb 18 39 35.4
comp=Z,592nm,0.6s
CHIR Chirikof Islan 50.70 42 P **P 18 39 31.0 +0.8**
CHIR Chirikof Islan 50.70 42 P **P 18 39 31.0 +0.8**
baz=273
CHIR S **S 18 46 16.9 +1.2**
baz=273
BVA0 Borovoye Array 50.77 314 P **P 18 39 31.3 +0.5**
BVAR Borovoye Array 50.77 314 P **P 18 39 31.2 +0.4**
comp=Z,326nm,0.6s,baz=92,slow=8.2,SNR=979
BVAR PcP **PcP 18 40 42.0 +0.4**
comp=Z,93nm,0.6s,baz=94,slow=2.0,SNR=5.8
BVAR ScP **ScP 18 44 01.4 +0.6**
comp=Z,29nm,0.7s,baz=104,slow=5.6,SNR=4.0
BVAR S **S 18 46 13.5 -3.2**
comp=Z,45nm,0.8s,baz=91,slow=12,SNR=7.0
BVAR P4KPbc 19 16 57.5
comp=Z,3.3nm,0.6s,baz=96,slow=3.9,SNR=23
comp=Z,326nm,0.6s
J19K Poorman 50.79 32 IAmb IAmb 18 39 34.8
comp=Z,452nm,0.9s
J19K Poorman 50.79 32 P **P 18 39 32.0 +1.3**
baz=266,SNR=461
J19K S **S 18 46 18.2 +1.6**
baz=266
ARSB Arslanbob 50.81 299 IAmb IAmb 18 39 34.0
comp=Z,938nm,1.4s
P18K Big Mountain, 50.82 38 IAmb IAmb 18 39 35.1
comp=Z,1μm,1.1s
P18K Big Mountain, 50.82 38 P **P 18 39 32.2 +1.1**
baz=270,SNR=150
P18K S **S 18 46 19.9 +2.7**
baz=270
BRVK Borovoye 50.83 314 P **P 18 39 31.7 +0.4**
BRVK Borovoye 50.83 314 P **P 18 39 31.6 +0.4**
BRVK P **P 18 39 31.6 +0.4**
BRVK Borovoye 50.83 314 P **P 18 39 31.7 +0.4**
BRVK pmax pmax
comp=Z,257nm,0.7s
O18K Koktuh Hills 50.83 37 IAmb IAmb 18 39 35.8
comp=Z,488nm,0.8s
O18K Koktuh Hills 50.83 37 P **P 18 39 32.7 +1.5**
baz=270,SNR=184
O18K S **S 18 46 20.0 +2.6**
baz=270
BHK Bhakra 50.84 286 *e*P P 18 39 19.2 -12
BHK IAmb IAmb 18 39 34.5
comp=Z,401nm,1.2s
D20K Etivluk River 50.91 25 IAmb IAmb 18 39 36.0
comp=Z,680nm,0.8s
D20K Etivluk River 50.91 25 P **P 18 39 33.2 +1.6**
baz=261,SNR=250
D20K S **S 18 46 21.3 +3.1**
baz=261
B20K Meade River 50.94 24 P **P 18 39 33.3 +1.6**
baz=260,SNR=202
B20K S **S 18 46 20.6 +2.2**
baz=260
Q18K Katmai Hardscr 50.94 39 P **P 18 39 32.0 -0.1**
baz=271,SNR=64
Q18K S **S 18 46 19.0 -0.1**
baz=271
BISR Bishrakh 50.98 282 *e*P P 18 39 23.2 -9.5
BISR IAmb IAmb 18 39 38.6
comp=Z,642nm,0.9s
F20K Avaraart Lake 51.02 28 P **P 18 39 33.8 +1.4**
baz=263,SNR=167
F20K S **S 18 46 21.8 +2.1**
baz=263
L19K White Mountain 51.05 34 P **P 18 39 34.4 +1.6**
baz=268,SNR=171
L19K S **S 18 46 22.5 +2.3**
baz=268
JMIU JAMIA UNIVERSI 51.10 282 *e*P P 18 39 24.1 -9.5
JMIU IAmb IAmb 18 39 34.7
comp=Z,634nm,0.9s
NDI New Delhi 51.12 282 *e*P P 18 39 24.4 -9.4
NDI IAmb IAmb 18 39 34.8
comp=Z,731nm,0.8s
LDR Lodi Road 51.16 282 *e*P P 18 39 24.6 -9.4
LDR IAmb IAmb 18 39 34.8
comp=Z,233nm,0.6s
N19K Bonanza Creek 51.20 36 P **P 18 39 35.4 +1.5**
baz=270,SNR=125
N19K S **S 18 46 25.2 +2.7**
baz=270
H20K Anotleneega Mo 51.21 30 P **P 18 39 35.2 +1.4**
baz=266,SNR=302
H20K S **S 18 46 26.0 +3.6**
baz=266
M19K Big River Lodg 51.26 34 P **P 18 39 35.9 +1.7**
baz=269
M19K S **S 18 46 26.5 +3.5**
baz=269
R18K Karluk 51.27 40 P **P 18 39 33.8 -0.5**
baz=272
R18K S **S 18 46 21.7 -1.6**
baz=272
O19K Port Alsworth 51.28 37 IAmb IAmb 18 39 40.3
comp=Z,393nm,0.8s
O19K Port Alsworth 51.28 37 P **P 18 39 35.7 +1.3**
baz=270
O19K S **S 18 46 27.6 +4.3**
baz=270
I20K Naaghedeneel 51.34 31 IAmb IAmb 18 39 39.4
comp=Z,793nm,0.8s
I20K Naaghedeneel 51.34 31 P **P 18 39 36.7 +2.0**
baz=266,SNR=238
I20K S **S 18 46 28.4 +4.5**
baz=266
A21K Barrow 51.36 22 P **P 18 39 36.3 +1.5**
baz=259,SNR=7.2
A21K S **S 18 46 25.8 +1.8**
baz=259
LUES Luesalemba Tem 51.40 143 P **P 18 39 38.1 +2.3**
MTSU Mount Surprise 51.42 171 P **P 18 39 37.5 +1.6**
J20K Nowinta River 51.45 31 P **P 18 39 37.3 +1.7**
baz=267,SNR=666
J20K S **S 18 46 28.3 +2.8**
baz=267
K20K Telida 51.45 32 IAmb IAmb 18 39 40.3
comp=Z,666nm,0.7s
K20K Telida 51.45 32 P **P 18 39 37.4 +1.8**
baz=268
K20K S **S 18 46 29.2 +3.6**
baz=268
SII Sitkinak Islan 51.47 41 IAmb IAmb 18 39 42.2
comp=Z,542nm,1.1s
SII Sitkinak Islan 51.47 41 P **P 18 39 36.9 +1.0**
SII Sitkinak Islan 51.47 41 P **P 18 39 36.5 +0.6**
baz=273,SNR=14
SII S **S 18 46 28.0 +2.0**
baz=273
L20K Farewell, AK 51.51 34 P **P 18 39 37.8 +1.7**
baz=269,SNR=271
L20K S **S 18 46 29.9 +3.4**
baz=269
C21K Knifeblade Rid 51.63 25 P **P 18 39 38.8 +1.9**
baz=263,SNR=116
C21K S **S 18 46 30.6 +2.7**
baz=263
JMU Jammu 51.64 288 *e*P P 18 39 28.3 -9.2
JMU IAmb IAmb 18 39 43.5
comp=Z,461nm,0.5s
Q19K Cape Douglas, 51.65 38 IAmb IAmb 18 39 41.5
comp=Z,573nm,1.0s
Q19K Cape Douglas, 51.65 38 P **P 18 39 37.2 0.0**
baz=272,SNR=71
RTK Rohtak 51.65 283 *e*P P 18 39 28.2 -9.4
RTK IAmb IAmb 18 39 38.7
comp=Z,161nm,0.8s
DZA Taraz 51.67 301 *e*P **P 18 39 37.9 +0.3**
DZA pmax pmax
comp=Z,153nm,0.6s
DZA Taraz 51.67 301 *e*P **P 18 39 38.0 +0.3**
comp=Z,153nm,0.6s
IMAR Indian Mountai 51.72 29 P **P 18 39 38.3 +0.8**
B21K Ikpikpuk River 51.75 24 P **P 18 39 39.6 +1.9**
baz=262,SNR=264
B21K S **S 18 46 32.7 +3.3**
baz=262
A22K Sinclair Lake 51.83 23 P **P 18 39 40.0 +1.7**
baz=261,SNR=26
A22K S **S 18 46 33.3 +2.9**
baz=261
P19K Oil Pt 51.84 37 IAmb IAmb 18 39 42.2
comp=Z,529nm,0.9s
P19K Oil Pt 51.84 37 P **P 18 39 39.5 +1.0**
baz=272,SNR=38
P19K S **S 18 46 31.1 +0.1**
baz=272
E21K Killik River 51.84 26 IAmb IAmb 18 39 42.5
comp=Z,590nm,0.9s
E21K Killik River 51.84 26 P **P 18 39 39.7 +1.2**
baz=264,SNR=294
E21K S **S 18 46 33.0 +2.2**
baz=264
G21K Allakaket 51.85 28 P **P 18 39 39.9 +1.4**
baz=266,SNR=210
G21K S **S 18 46 34.0 +3.1**
baz=266
M20K Styx River 51.85 34 P **P 18 39 40.5 +1.8**
baz=270,SNR=137
KUDL Kundal 51.91 282 *e*P P 18 39 30.2 -9.4
KUDL IAmb IAmb 18 39 40.7
comp=Z,345nm,1.1s
F21K Alatna River 51.91 28 P **P 18 39 40.1 +1.1**
baz=265,SNR=178
F21K S **S 18 46 34.5 +2.7**
baz=265
OHAK Old Harbor 51.92 40 P **P 18 39 39.6 +0.5**
OHAK Old Harbor 51.92 40 P **P 18 39 39.3 +0.2**
baz=274,SNR=47
OHAK S **S 18 46 32.3 +0.2**
baz=274
RED Redoubt Volcan 52.05 36 IAmb IAmb 18 39 42.2
comp=Z,618nm,1.1s
H21K Melozitna Rive 52.09 30 IAmb IAmb 18 39 44.8
comp=Z,501nm,1.1s
H21K Melozitna Rive 52.09 30 P **P 18 39 41.8 +1.5**
baz=267,SNR=343
H21K S **S 18 46 37.0 +2.8**
baz=267
O20K Slope Mountain 52.13 37 P **P 18 39 41.5 +0.8**
baz=272,SNR=35
O20K S **S 18 46 35.0 0.0**
baz=272
FITZ Fitzroy Crossi 52.14 194 P **P 18 39 41.6 +0.5**
FITZ Fitzroy Crossi 52.14 194 ScP **ScP 18 44 06.1 -1.0**
comp=Z,37nm,0.9s,baz=96,slow=9.2,SNR=2.4
FITZ S **S 18 46 32.5 -3.4**
comp=Z,41nm,1.1s,baz=8.4,slow=8.7,SNR=14
FITZ Fitzroy Crossi 52.14 194 P **P 18 39 41.8 +0.6**
KK31 Karatay Array 52.21 302 P **P 18 39 41.8 +0.3**
KK31 IAmb IAmb 18 39 47.1
comp=Z,352nm,0.8s
KK31 Karatay Array 52.21 302 P **P 18 39 41.8 +0.3**
KK31 pmax pmax
comp=Z,352nm,0.8s
KKAR Karatay Array 52.21 302 P **P 18 39 41.9 +0.4**
KKAR Karatay Array 52.21 302 P **P 18 39 41.9 +0.4**
CHUM Lake Minchumin 52.24 32 P **P 18 39 43.5 +2.1**
baz=269,SNR=194
CHUM S **S 18 46 39.3 +3.1**
baz=269
B22K Teshekpuk Lake 52.25 24 IAmb IAmb 18 39 45.6
comp=Z,1μm,1.0s
B22K Teshekpuk Lake 52.25 24 P **P 18 39 42.9 +1.6**
baz=263,SNR=66
B22K S **S 18 46 39.4 +3.3**
baz=263
KDAK Kodiak Island 52.26 40 P **P 18 39 41.9 +0.2**
KDAK Kodiak Island 52.26 40 *c i*P **P 18 39 41.7 +0.1**
KDAK pmax pmax
comp=Z,525nm,0.9s
KDAK Kodiak Island 52.26 40 ⇑P **P 18 39 41.8 +0.2**
KDAK Kodiak Island 52.26 40 P **P 18 39 42.2 +0.6**
baz=274
KDAK S **S 18 46 36.9 +0.3**
baz=274
KDAK Kodiak Island 52.26 40 P **P 18 39 42.1 +0.5**
KDAK PcP **PcP 18 40 47.3 +0.2**
PPLA Purkeypile 52.29 33 P **P 18 39 43.8 +1.8**
baz=270,SNR=372
PPLA S **S 18 46 40.0 +2.7**
baz=270
N20K Mount Spurr 52.30 35 P **P 18 39 43.4 +1.4**
baz=271,SNR=105
N20K S **S 18 46 40.0 +2.7**
baz=271
SPCR Spurr Chakacha 52.30 35 P **P 18 39 43.3 +1.3**
baz=271,SNR=98
SPCR S **S 18 46 40.0 +2.7**
baz=271
Q20K Shuyak Island 52.31 39 P **P 18 39 42.2 +0.2**
baz=273,SNR=40
Q20K S **S 18 46 35.7 -1.6**
baz=273
SYI Shuyak Island 52.31 39 P **P 18 39 42.2 +0.3**
SYI IAmb IAmb 18 39 48.0
comp=Z,804nm,1.2s
CAST Castle Rocks 52.34 32 IAmb IAmb 18 39 44.8
comp=Z,515nm,1.1s
CAST Castle Rocks 52.34 32 P **P 18 39 43.7 +1.6**
baz=270,SNR=383
CAST S **S 18 46 40.6 +3.0**
baz=270
D22K Ayikyak River 52.35 25 P **P 18 39 44.1 +1.9**
baz=265,SNR=291
D22K S **S 18 46 39.8 +2.2**
baz=265
SPU Mount Spurr 52.38 35 P **P 18 39 43.2 +0.7**
SPU IAmb IAmb 18 39 48.7
comp=Z,940nm,1.4s
F22K John River 52.44 27 P **P 18 39 44.5 +1.8**
baz=266,SNR=383
F22K S **S 18 46 41.4 +2.5**
baz=266
STLK Strandline Lak 52.48 35 IAmb IAmb 18 39 58.2
comp=Z,869nm,1.6s
SKT Skwentna 52.61 34 IAmb IAmb 18 39 49.8
comp=Z,595nm,1.2s
SKT Skwentna 52.61 34 P **P 18 39 44.9 +0.8**
baz=271,SNR=256
SKT S **S 18 46 43.2 +1.9**
baz=271
E22K Anaktuvuk Pass 52.61 26 P **P 18 39 45.8 +1.7**
baz=266,SNR=430
E22K S **S 18 46 43.3 +2.0**
baz=266
HOM Homer 52.64 37 P **P 18 39 44.1 -0.2**

HOM IAmb IAmb 18 39 46.4
comp=Z,831nm,1.0s
HOM Homer 52.64 37 P **P** **18 39 44.9 +0.5**
baz=273,SNR=15
NIL Nilore 52.66 289 P **P** **18 39 45.9 +0.9**
NIL IAmb IAmb 18 39 51.2
comp=Z,523nm,0.7s
NIL Nilore 52.66 289 P **P** **18 39 46.1 +1.1**
NIL Nilore 52.66 289 P **P** **18 39 45.9 +0.9**
NIL pmax pmax
comp=Z,523nm,0.7s
G22K Bettles 52.67 28 P **P** **18 39 45.9 +1.5**
baz=268
G22K S **S** **18 46 44.3 +2.4**
baz=268
H22K Ishtalitna Cre 52.68 29 P **P** **18 39 46.6 +2.0**
baz=268,SNR=616
H22K S **S** **18 46 44.4 +2.2**
baz=268
BRLS Borolday 52.71 302*d i*P **P** **18 39 46.7 +1.5**
BRLS Borolday 52.71 302⇓*i*P **P** **18 39 46.7 +1.5**
IUG luzhnay 52.77 301 *e*P **P** **18 39 46.3 +0.6**
IUG pmax pmax
comp=Z,787nm,1.2s
IUG luzhnay 52.77 301 *e*P **P** **18 39 46.4 +0.6**
comp=Z,787nm,1.2s
BPAW Bear Paw Mtn. 52.83 32 P **P** **18 39 47.3 +1.6**
baz=270,SNR=343
BPAW S **S** **18 46 48.2 +4.0**
baz=270
CAPN Captain Cook N 52.83 36 P **P** **18 39 47.2 +1.5**
baz=273
WRAB Tennant Creek 52.84 183 P **P** **18 39 45.8 -0.4**
WRAB Tennant Creek 52.84 183*d i*P **P** **18 39 46.1 -0.2**
WRAB pmax pmax
comp=Z,118nm,0.9s
WRA Warramunga Arr 52.85 183 P **P** **18 39 45.1 -1.2**
WRA Warramunga Arr 52.85 183 P **P** **18 39 45.5 -0.9**
comp=Z,81nm,0.3s,baz=1.0,slow=7.6,SNR=1077
WRA PcP **PcP** **18 40 50.9 +1.1**
comp=Z,16nm,0.5s,baz=358,slow=3.6,SNR=7.1
WRA ScP **ScP** **18 44 11.6 +1.4**
comp=Z,34nm,0.8s,baz=356,slow=4.6,SNR=4.7
WRA S **S** **18 46 41.5 -3.9**
comp=Z,31nm,1.0s,baz=1.1,slow=14,SNR=10
WRA P4KPbc 19 17 08.6
comp=Z,3.0nm,1.0s,baz=357,slow=5.2,SNR=9.8
comp=Z,81nm,0.3s
WRA Warramunga Arr 52.85 183 P **P** **18 39 45.2 -1.2**
WRA pmax pmax
comp=Z,29nm,1.0s
WR8 Warramunga Arr 52.85 183 IAmb IAmb 18 39 52.3
comp=Z,481nm,1.0s
CNPM China Poot 52.86 37 IAmb IAmb 18 39 52.4
comp=Z,326nm,0.5s
WB1 Warramunga Ar. 52.87 183 P **P** **18 39 46.7 +0.3**
MLY Manley 52.94 30 P **P** **18 39 48.3 +1.9**
baz=270,SNR=531
MLY S **S** **18 46 48.0 +2.3**
baz=270
SUA Susitna One 53.00 35 IAmb IAmb 18 39 50.2
comp=Z,792nm,1.1s
SUA Susitna One 53.00 35 P **P** **18 39 47.2 +0.2**
baz=272,SNR=253
SUA S **S** **18 46 46.6 -0.1**
baz=272
BRLK Bradley Lake 53.02 37 P **P** **18 39 46.7 -0.4**
BRLK IAmb IAmb 18 39 50.8
comp=Z,671nm,1.0s
CHM Chimkent 53.04 301 *e*P **P** **18 39 47.9 +0.4**
CHM pmax pmax
comp=Z,404nm,1.2s
CHM Chimkent 53.04 301 *e*P **P** **18 39 48.0 +0.4**
comp=Z,404nm,1.2s
BHPL Bhopal 53.05 276 *e*P P 18 39 38.5 -10
BHPL IAmb IAmb 18 39 48.6
comp=Z,110nm,0.9s
BHPL *e*S **S** **18 46 41.2 -7.2**
D23K Nanushuk River 53.08 25 IAmb IAmb 18 39 52.2
comp=Z,1μm,1.2s
D23K Nanushuk River 53.08 25 P **P** **18 39 49.1 +1.7**
baz=267,SNR=135
D23K S **S** **18 46 49.7 +2.3**
baz=267
TRF Thorofare Moun 53.15 32 P **P** **18 39 48.9 +0.7**
baz=271,SNR=158
TRF S **S** **18 46 50.2 +1.4**
baz=271
C23K Itkillik River 53.16 24 IAmb IAmb 18 39 52.4
comp=Z,913nm,1.0s
C23K Itkillik River 53.16 24 P **P** **18 39 49.5 +1.5**
baz=266,SNR=84
C23K S **S** **18 46 51.8 +3.5**
baz=266
CUT Chulitna 53.19 34 P **P** **18 39 48.7 +0.5**
CUT Chulitna 53.19 34 P **P** **18 39 48.9 +0.7**
baz=272,SNR=59
CUT S **S** **18 46 48.3 -0.6**
baz=272
COLD Coldfoot 53.19 28 P **P** **18 39 49.7 +1.5**
baz=268,SNR=98
COLD S **S** **18 46 51.1 +2.2**
baz=268
G23K Bananza Creek 53.25 28 P **P** **18 39 50.0 +1.4**
baz=269,SNR=259
G23K S **S** **18 46 52.8 +3.0**
baz=269
M22K Willow 53.28 34 P **P** **18 39 49.0 +0.1**
baz=273,SNR=170
M22K S **S** **18 46 50.8 +0.6**
baz=273
SLKM Skilak Lake 53.30 36 IAmb IAmb 18 39 54.4
comp=Z,582nm,1.2s
GAR Garm 53.36 297 P **P** **18 39 50.2 +0.2**
GAR IAmb IAmb 18 39 51.9
comp=Z,991nm,1.2s
QIS Mount Isa 53.43 177 P **P** **18 39 50.5 0.0**
E23K Chandalar 53.43 27 P **P** **18 39 51.9 +1.8**
baz=268,SNR=546
E23K S **S** **18 46 55.4 +3.0**
baz=268
H23K Yukon River 53.44 29 IAmb IAmb 18 39 55.1
comp=Z,1μm,1.4s
H23K Yukon River 53.44 29 P **P** **18 39 52.0 +2.0**
baz=270,SNR=338
H23K S **S** **18 46 57.5 +5.2**
baz=270
TOLK Toolik Lake Re 53.47 26 IAmb IAmb 18 39 54.7
comp=Z,828nm,1.2s
TOLK Toolik Lake Re 53.47 26 P **P** **18 39 51.8 +1.6**
baz=268,SNR=166
TOLK S **S** **18 46 55.9 +3.2**
baz=268
RC01 Rabbit Creek A 53.51 35 IAmb IAmb 18 39 56.7
comp=Z,796nm,1.2s
RC01 Rabbit Creek A 53.51 35 P **P** **18 39 50.8 +0.2**
baz=274,SNR=128
RC01 S **S** **18 46 53.3 0.0**
baz=274
I23K Minto, Yukon-K 53.52 30 P **P** **18 39 52.1 +1.5**
baz=271,SNR=301
I23K S **S** **18 46 56.6 +3.3**
baz=271
O22K Cooper Landing 53.55 36 IAmb IAmb 18 40 06.3
comp=Z,595nm,0.6s
O22K Cooper Landing 53.55 36 P **P** **18 39 51.4 +0.5**
baz=274
O22K S **S** **18 46 55.8 +2.0**
baz=274
CTAO Charters Tower 53.61 170 P **P** **18 39 51.8 0.0**
CTAO Charters Tower 53.61 170 P **P** **18 39 52.7 +0.9**
CTAO Charters Tower 53.61 170 P **P** **18 39 51.8 0.0**
CTAO pmax pmax
comp=Z,157nm,1.0s
CTAO Charters Tower 53.61 170 ⇑P **P** **18 39 52.1 +0.3**
NEA2 Nenana 53.66 31 IAmb IAmb 18 39 55.8
comp=Z,884nm,1.0s
NEA2 Nenana 53.66 31 P **P** **18 39 52.7 +1.1**
baz=272,SNR=730
NEA2 S **S** **18 46 57.2 +2.0**
baz=272
SEW Seward 53.72 37 IAmb IAmb 18 39 56.7
comp=Z,793nm,1.0s
SEW Seward 53.72 37 P **P** **18 39 52.5 +0.5**
baz=274,SNR=81
SEW S **S** **18 46 55.4 -0.6**
baz=274

MCK McKinley 53.74 32 P **P** **18 39 52.9 +0.7**
baz=272,SNR=360
MCK S **S** **18 46 56.3 -0.2**
baz=272
D24K Happy Valley 53.76 25 P **P** **18 39 54.0 +1.8**
baz=268,SNR=516
D24K S **S** **18 46 59.5 +3.1**
baz=268
PMR Palmer 53.77 35 IAmb IAmb 18 39 55.6
comp=Z,855nm,1.0s
PMR Palmer 53.77 35 P **P** **18 39 52.7 +0.3**
PMR Palmer 53.77 35 P **P** **18 39 52.7 +0.3**
baz=274,SNR=117
PMR S **S** **18 46 56.1 -0.5**
baz=274
RND Reindeer 53.79 32 P **P** **18 39 53.0 +0.3**
RND Reindeer 53.79 32 P **P** **18 39 53.0 +0.3**
RND pmax pmax
comp=Z,893nm,0.6s
C24K Franklin Bluff 53.82 25 P **P** **18 39 54.2 +1.6**
baz=268
C24K S **S** **18 46 59.6 +2.5**
baz=268
E24K Your Creek 53.86 27 IAmb IAmb 18 39 57.8
comp=Z,973nm,1.4s
E24K Your Creek 53.86 27 P **P** **18 39 54.8 +1.7**
baz=270,SNR=216
E24K S **S** **18 47 01.5 +3.6**
baz=270
WRH Wood River Hil 54.08 31 IAmb IAmb 18 39 57.6
comp=Z,726nm,1.4s
F24K Squaw Lake 54.09 27 IAmb IAmb 18 39 58.6
comp=Z,652nm,1.4s
F24K Squaw Lake 54.09 27 P **P** **18 39 56.5 +1.8**
baz=270,SNR=205
F24K S **S** **18 47 04.0 +3.1**
baz=270
KNK Knik Glacier 54.10 35 IAmb IAmb 18 39 58.4
comp=Z,834nm,0.9s
KNK Knik Glacier 54.10 35 P **P** **18 39 55.5 +0.6**
baz=274,SNR=203
KNK S **S** **18 47 01.9 +0.7**
baz=274
H24K Noodor Dome 54.12 29 IAmb IAmb 18 39 59.9
comp=Z,2μm,1.8s
H24K Noodor Dome 54.12 29 P **P** **18 39 56.9 +1.9**
baz=272,SNR=442
H24K S **S** **18 47 05.2 +3.7**
baz=272
COLA College 54.17 31 P **P** **18 39 55.9 +0.7**
COLA IAmb IAmb 18 39 58.3
comp=Z,811nm,1.2s
COLA College 54.17 31 P **P** **18 39 56.0 +0.7**
COLA College 54.17 31 P **P** **18 39 55.9 +0.7**
COLA pmax pmax
comp=Z,811nm,1.3s
COLA College 54.17 31 ⇑P **P** **18 39 55.8 +0.6**
COLA College 54.17 31 P **P** **18 39 56.5 +1.3**
baz=272
COLA S **S** **18 47 03.9 +2.0**
baz=272
COLA College 54.17 31 P **P** **18 39 56.2 +1.0**
PWL Port Wells 54.20 36 IAmb IAmb 18 39 58.8
comp=Z,489nm,0.7s
PWL Port Wells 54.20 36 P **P** **18 39 56.0 +0.4**
baz=275,SNR=68
PWL S **S** **18 47 03.9 +1.3**
baz=275
G24K Hadweenzic Riv 54.26 28 IAmb IAmb 18 40 03.2
comp=Z,2μm,1.9s
G24K Hadweenzic Riv 54.26 28 P **P** **18 39 58.0 +2.0**
baz=271,SNR=219
G24K S **S** **18 47 05.9 +2.7**
baz=271
POKR Poker Plat Res 54.34 30 IAmb IAmb 18 39 59.7
comp=Z,1μm,1.2s
POKR Poker Plat Res 54.34 30 P **P** **18 39 57.8 +1.3**
baz=273,SNR=304
POKR S **S** **18 47 06.4 +2.2**
baz=273
M23K Glacier View 54.42 34 P **P** **18 39 57.7 +0.6**
baz=275,SNR=203
M23K S **S** **18 47 07.2 +1.8**
baz=275
SIMJ Simiganj 54.43 297 P **P** **18 39 58.0 +0.3**
HDA Harding Lake 54.58 31 IAmb IAmb 18 40 01.1
comp=Z,481nm,0.8s
HDA Harding Lake 54.58 31 P **P** **18 39 58.3 +0.1**
baz=274,SNR=389
HDA S **S** **18 47 07.2 -0.3**
baz=274
ILAR Eielson Array 54.59 31 P **P** **18 39 58.0 -0.3**
ILAR Eielson Array 54.59 31 P **P** **18 39 58.2 0.0**
comp=Z,73nm,0.5s,baz=282,slow=5.6,SNR=555
ILAR PKPPKP P'P'df 19 09 45.3 -24
comp=Z,1.1nm,1.1s,baz=170,slow=2.1,SNR=4.6
ILAR P4KPbc 19 17 14.6
comp=Z,0.3nm,0.5s,baz=140,slow=6.8,SNR=4.3
comp=Z,73nm,0.5s
BKNR BIKANER 54.59 283 *e*P P 18 39 48.9 -10
BKNR IAmb IAmb 18 40 00.3
comp=Z,289nm,0.8s
SCM Sheep Creek Mo 54.60 34 P **P** **18 39 59.5 +1.1**
baz=275,SNR=233
SCM S **S** **18 47 10.4 +2.4**
baz=275
D25K Kavik River 54.63 25 IAmb IAmb 18 40 02.8
comp=Z,527nm,0.7s
D25K Kavik River 54.63 25 P **P** **18 40 00.1 +1.6**
baz=270,SNR=186
D25K S **S** **18 47 10.4 +2.3**
baz=270
HYB Hyderabad 54.71 269⇓ *e*P **P** **18 40 00.2 +0.4**
HYB IVmB_BB 18 40 00.7
comp=Z,7μm,3.5s
HYB *e*pP **pP** **18 41 16.4 -1.7**
HYB *e*PP **PP** **18 42 06.7 -0.5**
HYB *e*ScP **ScP** **18 44 19.1 +0.4**
HYB *e*S **S** **18 47 11.1 +0.6**
HYB *e*ScS **ScS** **18 49 10.1 +0.5**
P23K Montague Islan 54.75 37 P **P** **18 40 00.6 +1.1**
baz=276,SNR=39
P23K S **S** **18 47 13.0 +3.2**
baz=276
G25K Bearman Lake 54.80 28 P **P** **18 40 01.9 +2.2**
baz=273,SNR=180
G25K S **S** **18 47 14.7 +4.4**
baz=273
GLI Glacier Island 54.81 35 P **P** **18 40 00.5 +0.7**
baz=276,SNR=35
GLI S **S** **18 47 13.1 +2.5**
baz=276
H25L Birch Creek 54.94 29 P **P** **18 40 02.8 +2.1**
baz=273,SNR=180
H25L S **S** **18 47 17.2 +5.1**
baz=273
F25K Christian Rive 54.95 27 IAmb IAmb 18 40 05.3
comp=Z,590nm,1.1s
F25K Christian Rive 54.95 27 P **P** **18 40 03.0 +2.2**
baz=272,SNR=251
F25K S **S** **18 47 18.1 +5.8**
baz=272
PRP Porcupine Dome 55.11 30 IAmb IAmb 18 40 08.3
comp=Z,1μm,1.9s
PRP Porcupine Dome 55.11 30 P **P** **18 40 02.3 +0.2**
baz=274,SNR=267
PRP S **S** **18 47 16.8 +2.1**
baz=274
M24K Tolsona, Glenn 55.12 34 P **P** **18 40 03.7 +1.6**
baz=276,SNR=171
M24K S **S** **18 47 17.5 +2.7**
baz=276
C26K Camden Bay 55.13 24 P **P** **18 40 04.1 +2.1**
baz=272,SNR=15
C26K S **S** **18 47 17.6 +3.1**
baz=272
K24K Donnelly Dome 55.14 32 P **P** **18 40 02.4 +0.2**
K24K IAmb IAmb 18 40 08.4
comp=Z,370nm,0.7s
K24K Donnelly Dome 55.14 32 P **P** **18 40 02.6 +0.4**
baz=275,SNR=203
K24K S **S** **18 47 15.1 +0.2**
baz=275
J25K Salcha River, 55.25 31 P **P** **18 40 02.5 -0.5**
baz=275,SNR=198
J25K S **S** **18 47 16.2 -0.1**
baz=275

KLU Klutina 55.30 35 IAmb IAmb 18 40 07.5
comp=Z,707nm,1.2s
KLU Klutina 55.30 35 P **P** **18 40 04.5 +1.1**
baz=276,SNR=162
KLU S **S** **18 47 19.7 +2.5**
baz=276
Q23K Middleton Isla 55.35 37 IAmb IAmb 18 40 05.9
comp=Z,676nm,1.2s
Q23K Middleton Isla 55.35 37 P **P** **18 40 05.1 +1.5**
baz=278
Q23K S **S** **18 47 22.5 +4.9**
baz=278
Q23K S **S** **18 47 22.5 +4.9**
baz=278
PAX Paxson 55.36 33 IAmb IAmb 18 40 06.8
comp=Z,531nm,1.3s
PAX Paxson 55.36 33 P **P** **18 40 04.6 +0.8**
baz=276,SNR=257
PAX S **S** **18 47 21.0 +3.1**
baz=276
BMAR Burnt Mountain 55.36 27 P **P** **18 40 05.8 +2.1**
EYAK Cordova Ski Ar 55.50 36 P **P** **18 40 06.2 +1.5**
EYAK Cordova Ski Ar 55.50 36 P **P** **18 40 06.0 +1.2**
baz=277,SNR=36
EYAK S **S** **18 47 23.0 +3.4**
baz=277
F26K Sheenjek River 55.51 27 IAmb IAmb 18 40 11.5
comp=Z,460nm,0.7s
F26K Sheenjek River 55.51 27 P **P** **18 40 07.1 +2.3**
baz=274,SNR=343
F26K S **S** **18 47 26.6 +6.9**
baz=274
RIDG Independent Ri 55.56 32 IAmb IAmb 18 40 08.6
comp=Z,801nm,1.3s
RIDG Independent Ri 55.56 32 P **P** **18 40 05.4 +0.2**
baz=276,SNR=419
RIDG S **S** **18 47 21.1 +0.6**
baz=276
C27K Jago River 55.56 25 P **P** **18 40 06.8 +1.8**
baz=273,SNR=103
C27K S **S** **18 47 24.6 +4.4**
baz=273
HARP HAARP 55.56 33 P **P** **18 40 06.7 +1.5**
baz=276,SNR=286
HARP S **S** **18 47 25.5 +5.1**
baz=276
KBU Kabul Universi 55.61 292 P **P** **18 40 07.0 +0.7**
KBU S **S** **18 47 21.1 -1.3**
KBL Kabul 55.68 292 P **P** **18 40 06.7 0.0**
KBL Kabul 55.68 292 P **P** **18 40 07.1 +0.4**
SNR=138
KBL P **P** **18 40 07.1 +0.4**
SNR=138
KBL Kabul 55.68 292 P **P** **18 40 06.7 0.0**
KBL pmax pmax
comp=Z,349nm,1.2s
G26K Porcupine Rive 55.71 28 IAmb IAmb 18 40 11.2
comp=Z,613nm,1.3s
G26K Porcupine Rive 55.71 28 P **P** **18 40 08.2 +2.1**
baz=275,SNR=183
G26K S **S** **18 47 28.2 +6.0**
baz=275
SVE Sverdlovsk 55.88 320*c i*P **P** **18 40 08.4 +1.0**
SVE *e* 18 41 26.1
SVE *e* 18 42 08.0
SVE *e*PPP PPP 18 43 41.4
SVE *i* S **S** **18 47 25.0 +0.3**
SVE *e* 18 49 13.4
SVE pmax pmax
comp=Z,263nm,1.0s
SCRK Sand Creek 55.91 31 IAmb IAmb 18 40 11.2
comp=Z,674nm,1.0s
SCRK Sand Creek 55.91 31 P **P** **18 40 08.4 +0.6**
baz=276,SNR=1000
SCRK S **S** **18 47 26.7 +1.5**
baz=276
N25K Chitina, Valde 55.92 34 P **P** **18 40 09.3 +1.5**
baz=278,SNR=168
N25K S **S** **18 47 28.3 +3.0**
baz=278
BMRM Bremner River 56.00 35 P **P** **18 40 09.7 +1.3**
baz=278,SNR=291
BMRM S **S** **18 47 30.2 +3.9**
baz=278
J26L Joseph Creek 56.03 31 IAmb IAmb 18 40 14.6
comp=Z,273nm,0.6s
J26L Joseph Creek 56.03 31 P **P** **18 40 08.9 +0.3**
baz=276,SNR=650
J26L S **S** **18 47 27.6 +0.8**
baz=276
RAGM Ragged Mountai 56.05 36 IAmb IAmb 18 40 16.0
comp=Z,562nm,1.0s
I26K Coal Creek Min 56.12 30 P **P** **18 40 09.2 +0.2**
baz=276,SNR=97
I26K S **S** **18 47 29.7 +2.1**
baz=276
MENT Mentasta 56.15 33 IAmb IAmb 18 40 17.1
comp=Z,632nm,0.8s
MENT Mentasta 56.15 33 P **P** **18 40 10.9 +1.6**
KEKH Kekaha 56.23 84 IAmb IAmb 18 40 17.5
comp=Z,704nm,1.2s
KAIM Kayak Island 56.25 36 IAmb IAmb 18 40 14.4
comp=Z,479nm,0.9s
KAIM Kayak Island 56.25 36 P **P** **18 40 11.8 +1.8**
baz=279,SNR=15
KAIM S **S** **18 47 33.5 +4.1**
baz=279
HMT Hamilton 56.26 36 IAmb IAmb 18 40 16.7
comp=Z,817nm,1.3s
L26K Log Cabin Wild 56.31 33 IAmb IAmb 18 40 16.8
comp=Z,490nm,0.8s
L26K Log Cabin Wild 56.31 33 P **P** **18 40 12.0 +1.6**
baz=278,SNR=201
L26K S **S** **18 47 33.1 +2.9**
baz=278
GLB Gilahina Butte 56.32 35 IAmb IAmb 18 40 17.0
comp=Z,1μm,1.6s
E27K Coleen River 56.43 26 IAmb IAmb 18 40 16.0
comp=Z,375nm,0.8s
E27K Coleen River 56.43 26 P **P** **18 40 13.1 +1.9**
baz=276,SNR=156
E27K S **S** **18 47 35.3 +3.7**
baz=276
VRDI Verde Repeater 56.52 35 P **P** **18 40 13.1 +0.9**
VRDI IAmb IAmb 18 40 19.1
comp=Z,597nm,1.1s
MBWA Marble Bar 56.53 200 P **P** **18 40 12.2 -0.1**
MBWA Marble Bar 56.53 200 P **P** **18 40 13.4 +1.1**
MBWA P **P** **18 40 13.4 +1.1**
MBWA Marble Bar 56.53 200 P **P** **18 40 12.2 -0.1**
MBWA Marble Bar 56.53 200 ⇓P **P** **18 40 12.3 -0.1**
MBWA Marble Bar 56.53 200 P **P** **18 40 12.0 -0.4**
MBWA Marble Bar 56.53 200 P **P** **18 40 12.3 -0.1**
MBWA S **S** **18 47 32.8 -1.1**
D27M Malcolm River 56.56 25 IAmb IAmb 18 40 18.8
comp=Z,729nm,1.2s
D27M Malcolm River 56.56 25 P **P** **18 40 14.1 +2.0**
baz=276,SNR=97
D27M S **S** **18 47 36.5 +3.1**
baz=276
G27K Doyon Strip 56.56 28 P **P** **18 40 14.1 +2.0**
baz=277,SNR=165
G27K S **S** **18 47 37.2 +3.9**
baz=277
M26K Nabesna, AK 56.56 33 P **P** **18 40 13.6 +1.4**
baz=278,SNR=209
M26K S **S** **18 47 38.0 +4.5**
baz=278
AS01 Alice Springs 56.57 184 P **P** **18 40 12.7 0.0**
ASAR Alice Springs 56.57 184 P **P** **18 40 12.5 -0.2**
ASAR Alice Springs 56.57 184 P **P** **18 40 12.8 +0.1**
comp=Z,59nm,0.6s,baz=355,slow=4.0,SNR=2109
ASAR ScP **ScP** **18 44 27.2 +0.7**
comp=Z,17nm,0.7s,baz=1.7,slow=4.6,SNR=4.1
ASAR S **S** **18 47 34.7 +0.2**
comp=Z,14nm,0.9s,baz=21,slow=21,SNR=9.0
ASAR ScS **ScS** **18 49 23.2 +0.6**
comp=Z,2.9nm,0.8s,baz=92,slow=7.9,SNR=4.1
ASAR P4KPbc 19 17 24.1
comp=Z,0.6nm,0.9s,baz=8.9,slow=5.4,SNR=5.8
comp=Z,59nm,0.6s
H27K Steamboat Moun 56.68 29 P **P** **18 40 14.9 +1.9**
baz=277,SNR=375
H27K S **S** **18 47 39.1 +4.2**
baz=277
MCARA McCarthy VSAT 56.70 35 IAmb IAmb 18 40 17.5
comp=Z,887nm,1.0s

MCARA	**McCarthy VSAT**	**56.70**	**35**	P	**P**	**18 40 14.6 +1.5**
	baz=279,SNR=188					
MCARA				S	**S**	**18 47 38.5 +3.2**
	baz=279					
I27K	**Kandik River**	**56.72**	**29**	P	**P**	**18 40 14.7 +1.4**
	baz=277,SNR=318					
I27K				S	**S**	**18 47 38.9 +3.3**
	baz=277					
K27K	**Chicken**	**56.74**	**31**	IAmb	IAmb	18 40 17.7
	comp=Z,532nm,1.1s					
K27K	**Chicken**	**56.74**	**31**	P	**P**	**18 40 14.9 +1.6**
	baz=278					
K27K				S	**S**	**18 47 38.2 +2.5**
	baz=278					
CRQM	**Cirque**	**56.74**	**35**	IAmb	IAmb	18 40 17.9
	comp=Z,1µm,1.2s					
CRQE	**Cirque**	**56.77**	**35**	P	**P**	**18 40 14.9 +1.2**
	baz=279,SNR=106					
CRQE				S	**S**	**18 47 39.2 +2.7**
	baz=279					
BGLC	**Bering Glacier**	**56.78**	**36**	P	**P**	**18 40 15.4 +1.8**
	baz=280					
VLAKA	**Lakatoro**	**56.80**	**145**	P	**P**	**18 40 15.9 +1.6**
PSA00	**Pilbara Seismi**	**56.89**	**199**	P	**P**	**18 40 14.6 -0.3**
PSA00	**Pilbara Seismi**	**56.89**	**199**	IAmb	IAmb	18 40 21.5
	comp=Z,204nm,1.1s					
PSA00	**Pilbara Seismi**	**56.89**	**199**	P	**P**	**18 40 14.8 -0.1**
TGL	**Tana Glacier**	**56.89**	**35**	IAmb	IAmb	18 40 18.6
	comp=Z,557nm,1.0s					
L27K	**Beaver Creek,**	**56.99**	**32**	IAmb	IAmb	18 40 22.4
	comp=Z,344nm,0.6s					
L27K	**Beaver Creek,**	**56.99**	**32**	P	**P**	**18 40 16.6 +1.5**
	baz=279,SNR=630					
L27K				S	**S**	**18 47 42.6 +3.5**
	baz=279					
BCAR	**Beaver Creek A**	**57.01**	**32**	P	**P**	**18 40 16.4 +1.1**
M27K	**Edge Creek, AK**	**57.08**	**33**	IAmb	IAmb	18 40 23.4
	comp=Z,377nm,0.8s					
M27K	**Edge Creek, AK**	**57.08**	**33**	P	**P**	**18 40 17.3 +1.3**
	baz=279,SNR=310					
M27K				S	**S**	**18 47 44.2 +3.8**
	baz=279					
E28M	**Babbage River**	**57.14**	**26**	IAmb	IAmb	18 40 21.0
	comp=Z,847nm,1.4s					
E28M	**Babbage River**	**57.14**	**26**	P	**P**	**18 40 18.1 +2.0**
	baz=277,SNR=136					
E28M				S	**S**	**18 47 45.2 +4.4**
	baz=277					
F28M	**Old Crow**	**57.15**	**27**	IAmb	IAmb	18 40 21.0
	comp=Z,695nm,1.2s					
F28M	**Old Crow**	**57.15**	**27**	P	**P**	**18 40 18.1 +1.9**
	baz=278,SNR=232					
F28M				S	**S**	**18 47 45.0 +4.0**
	baz=278					
ISLE	**Juniper Island**	**57.16**	**35**	IAmb	IAmb	18 40 21.8
	comp=Z,844nm,1.3s					
ARTI	**Arti**	**57.18**	**320**	P	**P**	**18 40 16.5 -0.1**
ARTI				IAmb	IAmb	18 40 18.2
	comp=Z,235nm,0.6s					
ARTI	**Arti**	**57.18**	**320**	ScP	**ScP**	**18 44 28.9 0.0**
	comp=Z,40nm,0.6s,baz=100,slow=5.7,SNR=6.0					
ARTI				S	**S**	**18 47 40.0 -1.7**
	comp=Z,13nm,1.0s,baz=180,slow=20,SNR=9.4					
ARTI	**Arti**	**57.18**	**320**	*d* iP	**P**	**18 40 16.7 +0.2**
ARTI						18 41 06.4
ARTI				*PP	**pP**	**18 41 35.0 -0.8**
ARTI						18 42 26.6
ARTI				S	**S**	**18 47 42.0 +0.3**
ARTI						18 49 23.0
ARTI				SS	**SS**	**18 51 39.1 +2.1**
ARTI				SSS	SSS	18 54 24.1
ARTI				pmax	pmax	
	comp=Z,309nm,1.5s					
D28M	**Stokes Point**	**57.33**	**25**	P	**P**	**18 40 19.4 +2.1**
	baz=278					
D28M				S	**S**	**18 47 47.3 +4.2**
	baz=278					
BARN	**Barnard Glacie**	**57.40**	**35**	IAmb	IAmb	18 40 23.9
	comp=Z,234nm,0.6s					
MESA	**MESA**	**57.42**	**36**	IAmb	IAmb	18 40 24.9
	comp=Z,1µm,1.7s					
MESA	**MESA**	**57.42**	**36**	P	**P**	**18 40 19.7 +1.3**
	baz=281,SNR=31					
MESA				S	**S**	**18 47 47.9 +2.8**
	baz=281					
I28M	**Miner Creek**	**57.44**	**29**	IAmb	IAmb	18 40 22.8
	comp=Z,538nm,0.8s					
I28M	**Miner Creek**	**57.44**	**29**	P	**P**	**18 40 19.9 +1.6**
	baz=279,SNR=606					
I28M				S	**S**	**18 47 48.8 +3.9**
	baz=279					
FUNA	**Funafuti**	**57.49**	**128**	P	**P**	**18 40 20.0 +0.8**
FUNA				IAmb	IAmb	18 40 27.8
	comp=Z,930nm,1.2s					
FUNA	**Funafuti**	**57.49**	**128**	P	**P**	**18 40 21.3 +2.1**
YAH	**Yahtse**	**57.49**	**36**	IAmb	IAmb	18 40 23.1
	comp=Z,676nm,1.4s					
BVCY	**Beaver Creek**	**57.54**	**33**	P	**P**	**18 40 20.3 +1.4**
	baz=280,SNR=145					
BVCY				S	**S**	**18 47 49.2 +3.0**
	baz=280					
CTG	**Chitna Glacier**	**57.58**	**35**	P	**P**	**18 40 20.6 +1.2**
	baz=281,SNR=106					
CTG				S	**S**	**18 47 49.7 +2.8**
	baz=281					
MALK	**Mahakanadarawa**	**57.70**	**258**	P	**P**	**18 40 22.3 +1.5**
MALK				S	**S**	**18 47 47.3 -2.2**
E29M	**Blow River**	**57.77**	**26**	IAmb	IAmb	18 40 25.1
	comp=Z,425nm,1.1s					
E29M	**Blow River**	**57.77**	**26**	P	**P**	**18 40 22.2 +1.8**
	baz=279,SNR=134					
E29M				S	**S**	**18 47 53.2 +4.3**
	baz=279					
YUK3	**Moose Creek**	**57.84**	**34**	P	**P**	**18 40 22.4 +1.1**
	baz=281,SNR=138					
YUK3				S	**S**	**18 47 53.1 +2.7**
	baz=281					
KIP	**Kipapa**	**57.89**	**84**	P	**P**	**18 40 22.4 +0.4**
KIP				IAmb	IAmb	18 40 29.0
	comp=Z,484nm,0.9s					
KIP	**Kipapa**	**57.89**	**84**	P	**P**	**18 40 23.7 +1.7**
KIP	**Kipapa**	**57.89**	**84**	*ce*P	**P**	**18 40 22.9 +0.9**
KIP				pmax	pmax	
	comp=Z,549nm,1.4s					
AB31	**Akbulak array**	**57.89**	**311**	P	**P**	**18 40 21.9 +0.3**
AB31	**Akbulak array**	**57.89**	**311**	P	**P**	**18 40 22.1 +0.5**
ABKAR	**Akbulak array**	**57.89**	**311**	P	**P**	**18 40 21.8 +0.3**
DAWY	**Dawson**	**57.90**	**31**	P	**P**	**18 40 22.4 +1.0**
	baz=280,SNR=132					
DAWY				S	**S**	**18 47 53.0 +2.2**
	baz=280					
HON	**Honolulu**	**57.94**	**84**	IAmb	IAmb	18 40 29.4
	comp=Z,625nm,1.2s					
H29M	**Whitestone**	**57.95**	**28**	IAmb	IAmb	18 40 28.6
	comp=Z,1µm,1.6s					
H29M	**Whitestone**	**57.95**	**28**	P	**P**	**18 40 23.5 +1.9**
	baz=280,SNR=177					
H29M				S	**S**	**18 47 55.7 +4.5**
	baz=280					
G29M	**Pine Creek**	**57.96**	**28**	P	**P**	**18 40 23.9 +2.1**
	baz=280,SNR=327					
G29M				S	**S**	**18 47 56.1 +4.6**
	baz=280					
I29M	**Ogilvie Camp,**	**58.12**	**29**	IAmb	IAmb	18 40 29.5
	comp=Z,927nm,1.5s					
I29M	**Ogilvie Camp,**	**58.12**	**29**	P	**P**	**18 40 24.3 +1.4**
	baz=280,SNR=269					
I29M				S	**S**	**18 47 57.2 +3.6**
	baz=280					
DHH	**Diamond Head**	**58.14**	**84**	P	**P**	**18 40 24.5 +0.8**
DHH	**Diamond Head**	**58.14**	**84**	P	**P**	**18 40 24.5 +0.8**
O28M	**Mount Upton**	**58.16**	**35**	IAmb	IAmb	18 40 29.9
	comp=Z,442nm,1.1s					
O28M	**Mount Upton**	**58.16**	**35**	P	**P**	**18 40 24.9 +1.3**
	baz=282,SNR=58					
O28M				S	**S**	**18 47 56.9 +2.1**
	baz=282					
GD1S	**Gladstone Soft**	**58.18**	**165**	P	**P**	**18 40 25.0 +1.3**
PALK	**Pallekele**	**58.20**	**257**	P	**P**	**18 40 24.8 +0.6**
PALK	**Pallekele**	**58.20**	**257**	P	**P**	**18 40 25.2 +0.9**
PALK	**Pallekele**	**58.20**	**257**	P	**P**	**18 40 24.8 +0.6**
PALK				pmax	pmax	
	comp=Z,183nm,1.1s					
PALK	**Pallekele**	**58.20**	**257**	P	**P**	**18 40 24.4 +0.2**
PALK	**Pallekele**	**58.20**	**257**	P	**P**	**18 40 25.1 +0.9**
PALK				S	**S**	**18 47 55.5 -0.5**
YUK8	**Steele Glacier**	**58.26**	**34**	P	**P**	**18 40 26.0 +1.8**
	baz=282,SNR=75					
PCA	**Pinnacle**	**58.27**	**36**	IAmb	IAmb	18 40 29.7
	comp=Z,456nm,0.9s					
PINM	**Pinnacle**	**58.27**	**36**	P	**P**	**18 40 25.5 +1.4**
	baz=282,SNR=40					
J29N	**Klondike Camp**	**58.33**	**30**	IAmb	IAmb	18 40 28.9
	comp=Z,314nm,0.8s					
J29N	**Klondike Camp**	**58.33**	**30**	P	**P**	**18 40 26.1 +1.7**
	baz=281,SNR=41					
J29N				S	**S**	**18 47 59.1 +2.7**
	baz=281					
DVP	**Devils Point**	**58.56**	**145**	P	**P**	**18 40 28.4 +2.0**
EPYK	**Eagle Plains**	**58.57**	**28**	P	**P**	**18 40 27.4 +1.4**
	baz=281,SNR=1000					
EPYK				S	**S**	**18 48 02.3 +3.0**
	baz=281					
M29M	**Somme Creek**	**58.63**	**33**	IAmb	IAmb	18 40 30.6
	comp=Z,752nm,1.4s					
M29M	**Somme Creek**	**58.63**	**33**	P	**P**	**18 40 28.4 +1.9**
	baz=282,SNR=377					
M29M				S	**S**	**18 48 04.5 +4.2**
	baz=282					
L29M	**L29M**	**58.64**	**32**	IAmb	IAmb	18 40 33.7
	comp=Z,1µm,1.4s					
L29M	**L29M**	**58.64**	**32**	P	**P**	**18 40 28.5 +2.0**
	baz=282,SNR=515					
L29M				S	**S**	**18 48 04.6 +4.3**
	baz=282					
G30M	**tAoh Zraii Nji**	**58.65**	**27**	P	**P**	**18 40 27.7 +1.2**
	baz=281,SNR=353					
G30M				S	**S**	**18 48 03.4 +3.1**
	baz=281					
YKU2	**Yakutat**	**58.69**	**36**	IAmb	IAmb	18 40 33.1
	comp=Z,590nm,0.8s					
F30M	**Barrier River**	**58.69**	**27**	P	**P**	**18 40 28.4 +1.6**
	baz=281,SNR=457					
F30M				S	**S**	**18 48 03.9 +3.2**
	baz=281					
K29M	**Barlow Dome**	**58.75**	**31**	IAmb	IAmb	18 40 31.9
	comp=Z,511nm,1.2s					
K29M	**Barlow Dome**	**58.75**	**31**	P	**P**	**18 40 29.0 +1.7**
	baz=282,SNR=339					
K29M				S	**S**	**18 48 04.3 +2.5**
	baz=282					
YUK4	**Talbot Arm**	**58.78**	**34**	P	**P**	**18 40 29.4 +1.7**
	baz=283,SNR=110					
YUK4				S	**S**	**18 48 05.2 +2.8**
	baz=283					
PNL	**Peninsula**	**58.79**	**36**	P	**P**	**18 40 29.2 +1.7**
PNL	**Peninsula**	**58.79**	**36**	P	**P**	**18 40 28.9 +1.3**
	baz=283,SNR=58					
PNL				S	**S**	**18 48 05.3 +3.1**
	baz=283					
AKTO	**Aktyubinsk**	**58.79**	**313**	S	**S**	**18 48 00.6 -1.9**
	comp=Z,21nm,1.0s,baz=7.7,slow=11,SNR=15					
I30M	**Mount Dempster**	**58.95**	**29**	P	**P**	**18 40 29.9 +1.2**
	baz=282,SNR=966					
I30M				S	**S**	**18 48 07.0 +2.7**
	baz=282					
YUK6	**Outpost Mounta**	**59.00**	**35**	P	**P**	**18 40 31.1 +1.9**
	baz=283,SNR=108					
YUK6				S	**S**	**18 48 09.9 +4.6**
	baz=283					
O29M	**Mount Kennedy**	**59.05**	**35**	IAmb	IAmb	18 40 34.4
	comp=Z,866nm,1.1s					
O29M	**Mount Kennedy**	**59.05**	**35**	P	**P**	**18 40 31.4 +2.0**
	baz=283,SNR=84					
O29M				S	**S**	**18 48 10.5 +4.8**
	baz=283					
J30M	**Hart River**	**59.10**	**30**	P	**P**	**18 40 31.2 +1.5**
	baz=283,SNR=205					
J30M				S	**S**	**18 48 09.6 +3.3**
	baz=283					
KOUNC	**Koumac, New Ca**	**59.29**	**150**	P	**P**	**18 40 33.3 +2.0**
COCO	**West Island**	**59.32**	**228**	P	**P**	**18 40 32.1 +0.4**
COCO				IAmb	IAmb	18 40 33.3
	comp=Z,666nm,1.4s					
COCO	**West Island**	**59.32**	**228**	P	**P**	**18 40 31.5 -0.2**
COCO	**West Island**	**59.32**	**228**	P	**P**	**18 40 32.7 +1.0**
COCO	**West Island**	**59.32**	**228**	P	**P**	**18 40 32.1 +0.4**
COCO				pmax	pmax	
	comp=Z,666nm,1.5s					
M30M	**Minto, Yukon**	**59.35**	**32**	P	**P**	**18 40 33.1 +1.7**
	baz=283,SNR=173					
M30M				S	**S**	**18 48 14.2 +4.8**
	baz=283					
INK	**Inuvik**	**59.38**	**26**	IAmb	IAmb	18 40 36.9
	comp=Z,272nm,0.6s					
INK	**Inuvik**	**59.38**	**26**	P	**P**	**18 40 32.2 +0.9**
	baz=283,SNR=258					
INK				S	**S**	**18 48 11.7 +2.4**
	baz=283					
G31M	**Satah River**	**59.41**	**27**	IAmb	IAmb	18 40 36.7
	comp=Z,541nm,1.0s					
G31M	**Satah River**	**59.41**	**27**	P	**P**	**18 40 32.5 +1.0**
	baz=283,SNR=598					
G31M				S	**S**	**18 48 11.7 +1.9**
	baz=283					
HYT	**Haines Junctio**	**59.44**	**35**	P	**P**	**18 40 34.0 +1.9**
	baz=284,SNR=107					
HYT				S	**S**	**18 48 14.5 +3.8**
	baz=284					
N30M	**Aishikik Lake**	**59.48**	**34**	P	**P**	**18 40 33.8 +1.6**
	baz=284,SNR=69					
N30M				S	**S**	**18 48 14.8 +3.7**
	baz=284					
F31M	**Tsiigehtchic**	**59.49**	**27**	P	**P**	**18 40 32.8 +0.6**
F31M	**Tsiigehtchic**	**59.49**	**27**	P	**P**	**18 40 32.9 +0.8**
	baz=283,SNR=146					
F31M				S	**S**	**18 48 12.5 +1.7**
	baz=283					
MAYO	**Mayo, Yukon**	**59.51**	**31**	IAmb	IAmb	18 40 39.1
	comp=Z,409nm,0.6s					
MAYO	**Mayo, Yukon**	**59.51**	**31**	P	**P**	**18 40 34.0 +1.7**
	baz=284,SNR=11					
P29M	**Windy Craggy**	**59.62**	**36**	IAmb	IAmb	18 40 39.7
	comp=Z,413nm,0.6s					
P29M	**Windy Craggy**	**59.62**	**36**	P	**P**	**18 40 35.2 +2.0**
	baz=284,SNR=137					
P29M				S	**S**	**18 48 18.0 +5.2**
	baz=284					
H31M	**Peel River**	**59.64**	**29**	P	**P**	**18 40 34.5 +1.3**
	baz=284,SNR=640					
H31M				S	**S**	**18 48 15.6 +2.7**
	baz=284					
EIDS	**Eidsvold**	**59.64**	**166**	P	**P**	**18 40 34.7 +1.0**
HLK	**Haleakala**	**59.66**	**84**	IAmb	IAmb	18 40 38.6
	comp=Z,282nm,0.6s					
QLP	**Quilpie**	**59.75**	**173**	P	**P**	**18 40 34.5 +0.1**
P30M	**Million Dollar**	**59.87**	**35**	P	**P**	**18 40 36.7 +1.8**
	baz=285					
P30M				S	**S**	**18 48 21.0 +5.0**
	baz=285					
N31M	**Braeburn, Yuko**	**60.08**	**34**	P	**P**	**18 40 37.8 +1.6**
N31M				IAmb	IAmb	18 40 41.0
	comp=Z,463nm,1.1s					
N31M	**Braeburn, Yuko**	**60.08**	**34**	P	**P**	**18 40 38.1 +1.8**
	baz=285,SNR=162					
N31M				S	**S**	**18 48 22.5 +3.8**
	baz=285					
O30N	**Mendenhall**	**60.12**	**34**	P	**P**	**18 40 38.0 +1.5**
	baz=285,SNR=40					
O30N				S	**S**	**18 48 24.6 +5.4**
	baz=285					
RMQ	**Roma**	**60.28**	**168**	P	**P**	**18 40 40.0 +2.0**
HPAH	**Hawaii Prepara**	**60.45**	**84**	IAmb	IAmb	18 40 46.3
	comp=Z,629nm,1.2s					
HUH	**Hualalai**	**60.49**	**85**	IAmb	IAmb	18 40 47.0
	comp=Z,628nm,1.1s					
M31M	**Drury Creek, Y**	**60.53**	**33**	IAmb	IAmb	18 40 42.7
	comp=Z,613nm,1.6s					
M31M	**Drury Creek, Y**	**60.53**	**33**	P	**P**	**18 40 40.5 +1.3**
	baz=286,SNR=263					
M31M				S	**S**	**18 48 27.0 +2.8**
	baz=286					
INH	**Isangel**	**60.65**	**145**	P	**P**	**18 40 42.0 +1.5**
POHA	**Pohakuloa**	**60.71**	**85**	P	**P**	**18 40 42.0 +0.6**
POHA	**Pohakuloa**	**60.71**	**85**	P	**P**	**18 40 43.1 +1.7**
WHY	**Whitehorse**	**60.73**	**34**	P	**P**	**18 40 42.2 +1.5**
	baz=286,SNR=270					
WHY				S	**S**	**18 48 30.1 +3.2**
	baz=286					
S31K	**Pelican**	**60.81**	**38**	IAmb	IAmb	18 40 51.3
	comp=Z,348nm,1.1s					
S31K	**Pelican**	**60.81**	**38**	P	**P**	**18 40 42.7 +1.6**
	baz=286,SNR=67					
S31K				S	**S**	**18 48 31.0 +3.2**
	baz=286					
HMH	**Humu'ula Sheep**	**60.83**	**85**	P	**P**	**18 40 42.9 +0.7**
SKAG	**Skagway**	**60.84**	**36**	IAmb	IAmb	18 40 48.2
	comp=Z,759nm,1.3s					
SKAG	**Skagway**	**60.84**	**36**	P	**P**	**18 40 43.3 +2.0**
SKAG	**Skagway**	**60.84**	**36**	P	**P**	**18 40 42.9 +1.5**
	baz=286,SNR=112					
SKAG				S	**S**	**18 48 33.3 +5.2**
	baz=286					
R31K	**City Hall, Gus**	**60.94**	**37**	P	**P**	**18 40 43.2 +1.2**
	baz=286,SNR=7.8					
MLH	**Mauna Loa**	**60.96**	**85**	P	**P**	**18 40 43.3 +0.3**
RSD	**Rainshed**	**61.06**	**85**	P	**P**	**18 40 43.3 -0.3**
UWE	**Uwekahuna**	**61.07**	**85**	IAmb	IAmb	18 40 50.7
	comp=Z,883nm,1.4s					
HATHI	**Halema'uma'u T**	**61.09**	**85**	IAmb	IAmb	18 40 50.8
	comp=Z,546nm,1.2s					
BYL	**Byron's Ledge**	**61.10**	**85**	IAmb	IAmb	18 40 59.0
	comp=Z,492nm,1.1s					
A36M	**Sachs Harbour**	**61.12**	**21**	P	**P**	**18 40 43.8 +0.9**
A36M	**Sachs Harbour**	**61.12**	**21**	P	**P**	**18 40 44.2 +1.3**
	baz=288,SNR=300					
A36M				S	**S**	**18 48 34.1 +2.9**
	baz=288					
PUH	**Pauahi**	**61.15**	**85**	IAmb	IAmb	18 40 51.2
	comp=Z,548nm,1.1s					
STCH	**Steam Cracks**	**61.23**	**85**	P	**P**	**18 40 45.2 +0.6**
STCH				IAmb	IAmb	18 40 51.6
	comp=Z,528nm,1.0s					
JOKA	**Jonika Flow**	**61.30**	**85**	IAmb	IAmb	18 40 52.0
	comp=Z,414nm,0.9s					
KIRV	**Kirov**	**61.33**	**323**	S	**S**	**18 48 32.1 -2.1**
	comp=Z,10nm,0.8s,baz=297,slow=21,SNR=9.0					
KIRV	**Kirov**	**61.33**	**323**	*d* iP	**P**	**18 40 45.0 +0.5**
N32M	**Quiet Lake**	**61.43**	**34**	IAmb	IAmb	18 40 51.8
	comp=Z,1µm,1.9s					
N32M	**Quiet Lake**	**61.43**	**34**	P	**P**	**18 40 46.4 +1.2**
	baz=287					
N32M				S	**S**	**18 48 37.7 +2.2**
	baz=287					
NOUC	**Port Laguerre**	**61.51**	**149**	P	**P**	**18 40 47.9 +1.7**
DZM	**Mont Dzumac**	**61.55**	**149**	IAmb	IAmb	18 40 54.6
	comp=Z,677nm,1.1s					
DZM	**Mont Dzumac**	**61.55**	**149**	*e*P	**P**	**18 40 46.0 -0.6**
	comp=Z,1µm,1.2s					
DZM				*e*pP	**pP**	**18 42 01.9 -4.6**
	comp=Z,1µm,27.1s					
DZM				*e*S	**S**	**18 48 32.1 -5.9**
	comp=Z,1µm,26.6s					
DZM				*e*SS	**SS**	**18 52 48.8 +1.4**
	comp=Z,8µm,26.4s					
DZM				*e*LQ	LQ	18 56 56.5
	comp=Z,7µm,35.3s					
DZM				*e*LR	LR	18 59 39.7
	comp=Z,2µm,25.1s					
DZM	**Mont Dzumac**	**61.55**	**149**	P	**P**	**18 40 48.8 +2.2**
SIT	**Sitka**	**61.55**	**38**	IAmb	IAmb	18 40 53.0
	comp=Z,494nm,1.2s					
SIT	**Sitka**	**61.55**	**38**	P	**P**	**18 40 47.8 +1.8**
SIT	**Sitka**	**61.55**	**38**	P	**P**	**18 40 47.7 +1.8**
	baz=288,SNR=44					
SIT				S	**S**	**18 48 41.4 +4.4**
	baz=288					
P32M	**Atlin**	**61.59**	**35**	P	**P**	**18 40 47.4 +1.0**
P32M				IAmb	IAmb	18 40 53.2
	comp=Z,871nm,1.8s					
P32M	**Atlin**	**61.59**	**35**	P	**P**	**18 40 47.7 +1.4**
	baz=288,SNR=71					
P32M				S	**S**	**18 48 42.2 +4.5**
	baz=288					
R32K	**Eaglecrest**	**61.59**	**37**	IAmb	IAmb	18 40 53.4
	comp=Z,899nm,1.6s					
R32K	**Eaglecrest**	**61.59**	**37**	P	**P**	**18 40 48.1 +1.7**
	baz=288,SNR=84					
JIS	**Juneau Island**	**61.66**	**37**	P	**P**	**18 40 48.3 +1.6**
ONTNC	**Ouen Toro**	**61.76**	**149**	IAmb	IAmb	18 40 55.6
	comp=Z,530nm,1.0s					
ONTNC	**Ouen Toro**	**61.76**	**149**	P	**P**	**18 40 50.1 +2.3**
MMPY	**Sheldon Lake,**	**61.81**	**32**	IAmb	IAmb	18 40 52.6
	comp=Z,786nm,1.7s					
MMPY	**Sheldon Lake,**	**61.81**	**32**	P	**P**	**18 40 49.4 +1.6**
	baz=288,SNR=236					
MMPY				S	**S**	**18 48 44.1 +3.9**
	baz=288					
S32K	**Killisnoo**	**61.81**	**38**	IAmb	IAmb	18 40 54.4
	comp=Z,1µm,1.9s					
S32K	**Killisnoo**	**61.81**	**38**	P	**P**	**18 40 49.2 +1.5**
	baz=288,SNR=59					
P33M	**Teslin, Yukon**	**61.84**	**34**	IAmb	IAmb	18 40 52.5
	comp=Z,410nm,1.1s					
P33M	**Teslin, Yukon**	**61.84**	**34**	P	**P**	**18 40 49.4 +1.4**
	baz=288,SNR=191					
P33M				S	**S**	**18 48 45.1 +4.4**
	baz=288					
OUENC	**Ouen Island, N**	**62.02**	**149**	P	**P**	**18 40 51.6 +2.0**
MEEK	**Meekatharra**	**62.03**	**199**	P	**P**	**18 40 48.9 -0.7**
PINNC	**Pines Island,**	**62.46**	**148**	IAmb	IAmb	18 41 00.4
	comp=Z,512nm,1.5s					
PINNC	**Pines Island,**	**62.46**	**148**	P	**P**	**18 40 54.7 +2.3**
Q32M	**Nakina River**	**62.50**	**36**	P	**P**	**18 40 54.2 +1.7**
	baz=289,SNR=49					
Q32M				S	**S**	**18 48 53.9 +4.7**
	baz=289					
YSA	**Yasawairara**	**62.74**	**136**	P	**P**	**18 40 57.3 +2.9**
T33K	**Petersburg**	**62.86**	**38**	P	**P**	**18 40 56.4 +1.8**
	baz=290					
GC1S	**Gold Coast 1 S**	**62.88**	**164**	P	**P**	**18 40 56.9 +1.9**
R33M	**Jennings River**	**62.98**	**35**	P	**P**	**18 40 56.7 +1.1**
R33M	**Jennings River**	**62.98**	**35**	P	**P**	**18 40 57.5 +1.9**
	baz=290,SNR=94					
R33M				S	**S**	**18 48 58.4 +3.3**
	baz=290					
HOPEN	**Hopen**	**62.99**	**346**	*e*P	**P**	**18 40 56.4 +1.2**
HOPEN				IVmB_BB		18 40 57.6
	comp=Z,6µm,3.5s					
HOPEN				*e*S	**S**	**18 48 54.1 -0.2**
U33K	**Whale Pass**	**63.01**	**39**	IAmb	IAmb	18 41 00.3
	comp=Z,728nm,1.4s					
U33K	**Whale Pass**	**63.01**	**39**	P	**P**	**18 40 57.3 +1.7**
	baz=290,SNR=96					
U33K				S	**S**	**18 48 59.3 +4.3**
	baz=290					
CRAG	**Craig**	**63.22**	**40**	IAmb	IAmb	18 41 03.8
	comp=Z,211nm,0.7s					
CRAG	**Craig**	**63.22**	**40**	P	**P**	**18 40 58.6 +1.6**
CRAG	**Craig**	**63.22**	**40**	P	**P**	**18 40 58.3 +1.3**
	baz=290,SNR=92					
CRAG				S	**S**	**18 49 01.5 +3.8**
	baz=290					
WRAK	**Wrangell Islan**	**63.31**	**38**	IAmb	IAmb	18 41 02.2
	comp=Z,853nm,1.9s					
WRAK	**Wrangell Islan**	**63.31**	**38**	P	**P**	**18 40 59.3 +1.8**
	baz=290,SNR=18					
WRAK				S	**S**	**18 49 03.6 +4.9**
	baz=290					
S34M	**Telegraph Cree**	**63.41**	**37**	IAmb	IAmb	18 41 03.2
	comp=Z,444nm,1.6s					
S34M	**Telegraph Cree**	**63.41**	**37**	P	**P**	**18 41 00.0 +1.8**
	baz=290,SNR=78					
S34M				S	**S**	**18 49 04.8 +4.8**
	baz=290					
TGTN	**Hyland Airport**	**63.50**	**32**	P	**P**	**18 41 00.5 +1.7**
	baz=291,SNR=129					
TGTN				S	**S**	**18 49 02.5 +1.4**
	baz=291					
FUTU	**Fugatoga**	**63.54**	**131**	IAmb	IAmb	18 41 07.6
	comp=Z,569nm,1.1s					
FUTU	**Fugatoga**	**63.54**	**131**	P	**P**	**18 41 02.7 +3.1**
SPA0	**Spitsbergen Ar**	**63.68**	**349**	*e*P	**P**	**18 40 59.9 +0.2**
SPA0				IVmB_BB		18 41 01.0
	comp=Z,5µm,2.6s					
SPA0				*e*S	**S**	**18 49 00.7 -2.1**
SPB2	**Spitsbergen Ar**	**63.68**	**349**	IAmb	IAmb	18 41 02.3
	comp=Z,753nm,1.7s					
**

DLBC	**Dease Lake**	**63.77**	**36**	P		**P**	**18 41 02.5**	**+1.8**
	baz=291,SNR=86							
DLBC				S		**S**	**18 49 08.4**	**+3.8**
	baz=291							
MSVF	**Nonsavu**	**63.84**	**136**	P		**P**	**18 41 01.9**	**+0.4**
MSVF				IAmb		IAmb	18 41 10.4	
	comp=Z,522nm,1.1s							
MSVF	**Nonsavu**	**63.84**	**136**	P		**P**	**18 41 03.9**	**+2.3**
MSVF	**Nonsavu**	**63.84**	**136**	*ce*P		**P**	**18 41 03.6**	**+2.0**
MSVF				pmax		pmax		
	comp=Z,233nm,1.0s							
KBS	**Kingsbay**	**63.90**	**350**	P		**P**	**18 41 01.6**	**+0.5**
KBS				IAmb		IAmb	18 41 04.2	
	comp=Z,543nm,1.5s							
KBS	**Kingsbay**	**63.90**	**350**	*c i* P		**P**	**18 41 02.1**	**+1.0**
KBS				pmax		pmax		
	comp=Z,174nm,1.0s							
KBS	**Kingsbay**	**63.90**	**350**	*e* P		**P**	**18 41 02.0**	**+1.0**
KBS				IVmB_BB			18 41 03.9	
	comp=Z,4µm,3.3s							
KBS				*e*PP		**PP**	**18 43 26.9**	**+0.3**
KBS				*e*S		**S**	**18 49 05.1**	**-0.3**
KBS	**Kingsbay**	**63.90**	**350**	*i* P		**P**	**18 41 01.8**	**+0.7**
V35K	**Ketchikan**	**64.08**	**39**	P		**P**	**18 41 03.4**	**+0.8**
	baz=291,SNR=32							
V35K				S		**S**	**18 49 11.4**	**+3.3**
	baz=291							
ALE	**Alert**	**64.19**	**3**	P		**P**	**18 41 03.9**	**+1.0**
T35M	**Bob Quinn**	**64.19**	**37**	IAmb		IAmb	18 41 08.4	
	comp=Z,434nm,1.4s							
T35M	**Bob Quinn**	**64.19**	**37**	P		**P**	**18 41 05.3**	**+2.0**
	baz=291,SNR=107							
T35M				S		**S**	**18 49 14.5**	**+4.9**
	baz=291							
TAVE	**Taveuni**	**64.25**	**134**	P		**P**	**18 41 06.2**	**+2.0**
LVZ	**Lovozero**	**64.27**	**336**	P		**P**	**18 41 03.9**	**+0.3**
LVZ	**Lovozero**	**64.27**	**336**	*c i* P		**P**	**18 41 03.5**	**-0.2**
LVZ				pmax		pmax		
	comp=Z,115nm,1.3s							
LVZ	**Lovozero**	**64.27**	**336**	P		**P**	**18 41 03.5**	**-0.2**
	comp=Z,2µmcomp=Z,92nm,1.9s							
BELG	**Belogornoye**	**64.34**	**317**	S		**S**	**18 49 09.0**	**-2.5**
	comp=Z,18nm,1.0s,baz=17,slow=19,SNR=1.6							
BELG				PKP2bc			19 09 46.9	
	comp=Z,8.3nm,1.0s,baz=252,slow=7.4,SNR=3.8							
BELG	**Belogornoye**	**64.34**	**317**	*d i* P		**P**	**18 41 04.5**	**+0.2**
BELG				pmax		pmax		
	comp=Z,76nm,1.1s							
HSPB	**Hornsund (broa**	**64.54**	**348**	*e* P		**P**	**18 41 06.1**	**+0.9**
HSPB				*e*pP		**pP**	**18 42 29.1**	**+2.5**
HSPB				*e*S		**S**	**18 49 13.4**	**+0.2**
ARMA	**Armidale**	**64.65**	**166**	IAmb		IAmb	18 41 13.7	
	comp=Z,218nm,0.9s							
ARMA	**Armidale**	**64.65**	**166**	P		**P**	**18 41 08.0**	**+1.4**
HMDM	**Hanimaadhoo**	**64.67**	**261**	P		**P**	**18 41 06.6**	**-0.4**
HMDM				IAmb		IAmb	18 41 08.7	
	comp=Z,373nm,1.3s							
HMDM	**Hanimaadhoo**	**64.67**	**261**	P		**P**	**18 41 06.6**	**-0.4**
	SNR=5.1							
U35K	**Hyder**	**64.70**	**38**	P		**P**	**18 41 07.6**	**+1.1**
	baz=292							
NOR	**Nord**	**64.71**	**356**	*i* P		**P**	**18 41 06.9**	**+0.7**
NOR				IAmb		IAmb	18 41 10.0	
	comp=Z,47nm,0.8s							
STKA	**Stephens Creek**	**64.79**	**176**	P		**P**	**18 41 07.4**	**+0.1**
	comp=Z,47nm,0.4s,baz=343,slow=7.3,SNR=124							
STKA				S		**S**	**18 49 16.8**	**-0.5**
	comp=Z,6.9nm,1.0s,baz=41,slow=7.3,SNR=3.9							
STKA				PKP2bc			19 09 46.0	
	comp=Z,1.6nm,0.7s,baz=327,slow=8.6,SNR=2.9							
	comp=Z,47nm,0.4s							
STKA	**Stephens Creek**	**64.79**	**176**	P		**P**	**18 41 08.2**	**+0.9**
STKA	**Stephens Creek**	**64.79**	**176**	*ce*P		**P**	**18 41 08.0**	**+0.7**
CMSA	**Cobar Meteorol**	**64.81**	**172**	P		**P**	**18 41 08.7**	**+1.2**
APA	**Apatity**	**64.84**	**336**	*e* P		**P**	**18 41 06.4**	**-0.8**
APA				*e*			18 41 36.7	
APA				*e**PP		**pP**	**18 42 28.2**	**-0.6**
APA				*e*S		**S**	**18 49 15.9**	**-1.2**
APA				*e*			18 50 18.7	
APA				MLR		MLR		
	comp=Z,2µm,17.8s							
WRGLY	**Wrigley**	**64.92**	**30**	P		**P**	**18 41 09.2**	**+1.4**
	baz=294,SNR=123							
WRGLY				S		**S**	**18 49 21.3**	**+3.1**
	baz=294							
VADS	**Vadso**	**64.98**	**339**	IVmB_BB			18 41 09.1	
	comp=Z,4µm,2.7s							
VADS				*e*S		**S**	**18 49 15.9**	**-2.8**
MORW	**Morawa**	**65.06**	**200**	P		**P**	**18 41 09.3**	**+0.2**
MORW	**Morawa**	**65.06**	**200**	P		**P**	**18 41 09.1**	**0.0**
RUBB	**Prince Rupert**	**65.18**	**40**	IAmb		IAmb	18 41 16.1	
	comp=Z,500nm,1.8s							
KLMR	**Klimovskoe**	**65.24**	**328**	*e* P		**P**	**18 41 07.7**	**-2.2**
KLMR				*e**PP		**pP**	**18 42 30.1**	**-1.5**
KLMR				*e**SP		**sP**	**18 43 11.3**	**-1.1**
KLMR				*e*			18 43 37.7	
KLMR				S		**S**	**18 49 20.2**	**-1.8**
KLMR				pmax		pmax		
	comp=Z,259nm,1.5s							
LIRD	**Liard River Hi**	**65.29**	**34**	P		**P**	**18 41 11.8**	**+1.5**
	baz=293,SNR=48							
NGCH	**Negor - Chabah**	**65.57**	**285**	P		**P**	**18 41 13.9**	**+1.2**
BBOO	**Buckleboo**	**65.60**	**181**	IAmb		IAmb	18 41 19.0	
	comp=Z,242nm,0.8s							
BBOO	**Buckleboo**	**65.60**	**181**	P		**P**	**18 41 13.1**	**+0.6**
WHYH	**Whyalla**	**65.81**	**180**	P		**P**	**18 41 15.4**	**+1.6**
KEV	**Kevo**	**65.87**	**339**	P		**P**	**18 41 13.8**	**0.0**
KEV				IAmb		IAmb	18 41 16.2	
	comp=Z,396nm,1.5s							
KEV	**Kevo**	**65.87**	**339**	P		**P**	**18 41 13.8**	**0.0**
KEV				pmax		pmax		
	comp=Z,396nm,1.5s							
KEV	**Kevo**	**65.87**	**339**	P		**P**	**18 41 14.3**	**+0.6**
KEV				pP		**pP**	**18 42 34.7**	**-1.1**
KEV	**Kevo**	**65.87**	**339**	P		**P**	**18 41 13.9**	**+0.2**
KEV				pP		**pP**	**18 42 34.6**	**-1.1**
KEV				S		**S**	**18 49 29.7**	**+0.3**
TOAD	**Toad River Com**	**65.93**	**34**	P		**P**	**18 41 15.5**	**+1.1**
	baz=294,SNR=154							
TOAD				S		**S**	**18 49 32.6**	**+2.1**
	baz=294							
KOTAN	**Kotaneelee Air**	**65.94**	**33**	P		**P**	**18 41 15.6**	**+1.3**
	baz=295,SNR=9.3							
KOTAN				S		**S**	**18 49 33.5**	**+2.9**
	baz=295							
PTPS	**Port Pirie**	**65.95**	**179**	P		**P**	**18 41 17.4**	**+2.8**
LKBA	**Tubou, Lakemba**	**66.08**	**134**	P		**P**	**18 41 17.6**	**+1.8**
HTT	**Hallett**	**66.23**	**178**	P		**P**	**18 41 18.0**	**+1.5**
BLDU	**Ballidu**	**66.32**	**199**	P		**P**	**18 41 17.2**	**+0.1**
HAMF	**Hammerfest**	**66.37**	**341**	*e* P		**P**	**18 41 16.4**	**-0.4**
HAMF				IVmB_BB			18 41 17.5	
	comp=Z,3µm,2.9s							
HAMF				*e*S		**S**	**18 49 31.9**	**-3.4**
ARA0	**ARCESS Array S**	**66.44**	**339**	*e* P		**P**	**18 41 16.5**	**-0.8**
ARA0				IVmB_BB			18 41 18.9	
	comp=Z,4µm,1.6s							
ARA0				*e*S		**S**	**18 49 33.5**	**-2.7**
ARCES	**ARCESS Array B**	**66.44**	**339**	P		**P**	**18 41 17.3**	**0.0**
ARCES	**ARCESS Array B**	**66.44**	**339**	P		**P**	**18 41 17.7**	**+0.4**
	comp=Z,93nm,0.5s,baz=64,slow=7.8,SNR=465							
ARCES				S		**S**	**18 49 33.9**	**-2.3**
	comp=Z,3.7nm,0.9s,baz=42,slow=12,SNR=1.4							
ARCES				PKP2bc			19 09 44.6	
	comp=Z,5.6nm,0.9s,baz=219,slow=3.1,SNR=5.3							
	comp=Z,93nm,0.5s							
ARCES	**ARCESS Array B**	**66.44**	**339**	P		**P**	**18 41 17.3**	**0.0**
ARCES				pmax		pmax		
	comp=Z,100nm,0.6s							
KLBR	**Kellerberrin**	**66.96**	**198**	P		**P**	**18 41 21.1**	**0.0**
NTLH	**Newcastle Hard**	**67.07**	**167**	P		**P**	**18 41 24.2**	**+2.6**
BBB	**Bella Bella**	**67.22**	**42**	IAmb		IAmb	18 41 28.3	
	comp=Z,378nm,1.5s							
MGCD	**Mangrove Creek**	**67.26**	**167**	P		**P**	**18 41 25.4**	**+2.5**
KTK1	**Kautokeino**	**67.40**	**339**	*e* P		**P**	**18 41 22.2**	**-1.1**
KTK1				IVmB_BB			18 41 25.4	
	comp=Z,3µm,3.7s							
AFI	**Afiamalu**	**67.45**	**125**	P		**P**	**18 41 23.5**	**-1.0**
AFI				IAmb		IAmb	18 41 30.7	
	comp=Z,456nm,1.2s							
AFI	**Afiamalu**	**67.45**	**125**	P		**P**	**18 41 26.3**	**+1.8**
AFI	**Afiamalu**	**67.45**	**125**	P		**P**	**18 41 23.5**	**-1.0**
AFI				pmax		pmax		
	comp=Z,456nm,1.2s							
GHSS	**Government Hou**	**67.70**	**179**	P		**P**	**18 41 27.5**	**+2.0**
SYDH	**Sydney Hard Ro**	**67.73**	**168**	P		**P**	**18 41 27.8**	**+2.1**
MUN	**Mundaring**	**67.75**	**199**	P		**P**	**18 41 27.0**	**+1.1**
HOLB	**Holberg**	**67.87**	**43**	IAmb		IAmb	18 41 31.9	
	comp=Z,204nm,0.9s							
RIV	**Riverview**	**67.87**	**168**	P		**P**	**18 41 28.8**	**+2.2**
JETT	**Jettan, Norway**	**67.91**	**340**	*e* P		**P**	**18 41 26.1**	**-0.4**
JETT				IVmB_BB			18 41 28.0	
	comp=Z,4µm,1.6s							
JASK	**Jask - Hormozg**	**67.98**	**287**	P		**P**	**18 41 29.4**	**+1.7**
	SNR=10							
MAK	**Makhachkala**	**68.17**	**308**	*e* P		**P**	**18 41 27.5**	**-1.0**
MAK				*e**PP		**pP**	**18 42 48.8**	**-2.3**
MAK				*e**SP		**sP**	**18 43 29.5**	**-2.2**
MAK				*e*			18 44 02.5	
MAK				*e*PPP		PPP	18 45 46.9	
MAK				*e*S		**S**	**18 49 56.3**	**-1.2**
MAK				*e*SS		**SS**	**18 54 28.5**	**+0.3**
MAK				pmax		pmax		
	comp=Z,443nm,1.1s							
MAK				MLR		MLR		
	comp=Z,8µm,13.0s							
VRH	**Novokhopyorsk**	**68.18**	**318**	⇓ *i* P		**P**	**18 41 28.3**	**-0.1**
VRH				*e**PP		**pP**	**18 42 50.1**	**-0.8**
VRH				*e*S		**S**	**18 49 55.4**	**-1.9**
VRH				pmax		pmax		
	comp=Z,244nm,0.7s							
TRO	**Tromso**	**68.28**	**341**	*e* P		**P**	**18 41 26.6**	**-2.1**
TRO				IVmB_BB			18 41 29.5	
	comp=Z,3µm,2.7s							
TRO				*e*S		**S**	**18 49 56.6**	**-1.2**
XMAS	**Kiritimati**	**68.28**	**102**	P		**P**	**18 41 30.0**	**+0.3**
XMAS	**Kiritimati**	**68.28**	**102**	P		**P**	**18 41 31.6**	**+1.9**
MOS	**Moscow**	**68.34**	**323**	*e* P		**P**	**18 41 29.1**	**-0.2**
MOS				*e**PP		**pP**	**18 42 51.1**	**-0.9**
MOS				*e*			18 44 05.7	
MOS				*e*PPP		PPP	18 45 49.2	
MOS				*e*S		**S**	**18 49 57.3**	**-1.8**
MOS				*e*			18 50 48.8	
MOS				*e*SS		**SS**	**18 54 35.1**	**+4.9**
MOS				pmax		pmax		
	comp=Z,700nm,1.9s							
MOS				pmax		pmax		
	comp=N,200nm,1.1s							
MOS				pmax		pmax		
	comp=E,200nm,1.3s							
MOS				pmax		pmax		
	comp=Z,288nm,1.4s							
MOS				pmax		pmax		
	comp=N,155nm,1.1s							
MOS				pmax		pmax		
	comp=E,142nm,1.2s							
MOS				smax		smax		
	comp=E,6µm,3.0s							
MOS				smax		smax		
	comp=N,6µm,3.1s							
MOS				MLR		MLR		
	comp=E,3µm,16.0s							
MOS				MLR		MLR		
	comp=Z,2µm,16.0s							
KAAM	**Kaadhehdhoo**	**68.36**	**256**	IAmb		IAmb	18 41 37.1	
	comp=Z,234nm,1.2s							
NWAO	**Narrogin (SRO)**	**68.37**	**198**	P		**P**	**18 41 29.8**	**+0.1**
NWAO				IAmb		IAmb	18 41 36.5	
	comp=Z,403nm,1.9s							
NWAO	**Narrogin (SRO)**	**68.37**	**198**	P		**P**	**18 41 30.3**	**+0.6**
NWAO	**Narrogin (SRO)**	**68.37**	**198**	P		**P**	**18 41 30.2**	**+0.6**
NWAO	**Narrogin (SRO)**	**68.37**	**198**	P		**P**	**18 41 29.8**	**+0.1**
NWAO				pmax		pmax		
	comp=Z,403nm,1.9s							
NWAO	**Narrogin (SRO)**	**68.37**	**198**	P		**P**	**18 41 30.1**	**+0.4**
NWAO				pP		**pP**	**18 42 50.1**	**-0.8**
JLN	**Jalan Bani Buh**	**68.44**	**283**	P		**P**	**18 41 31.1**	**+0.6**
	SNR=12							
JLN				P		**P**	**18 41 31.1**	**+0.6**
	SNR=12							
AKT	**Akhty**	**68.66**	**306**	*e* P		**P**	**18 41 32.4**	**+0.7**
AKT				*e*			18 41 57.2	
AKT				*e**PP		**pP**	**18 42 57.3**	**+2.8**
AKT				*e*			18 44 11.4	
AKT				*e*PPP		PPP	18 45 55.7	
AKT				*e*S		**S**	**18 50 01.8**	**-1.8**
AKT				*e*SS		**SS**	**18 54 37.0**	**+1.0**
AKT				pmax		pmax		
	comp=Z,731nm,0.6s							
AKT				pmax		pmax		
	comp=Z,640nm,0.6s							
AKT				pmax		pmax		
	comp=E,260nm,0.5s							
AKT				pmax		pmax		
	comp=N,135nm,0.4s							
AKT				smax		smax		
	comp=N,4µm,3.4s							
AKT				MLR		MLR		
	comp=E,2µm,12.0s							
AKT				MLR		MLR		
	comp=Z,2µm,13.0s							
AKT				MLR		MLR		
	comp=N,2µm,14.0s							
YKAW3	**Yellowknife Wh**	**68.82**	**28**	IAmb		IAmb	18 41 37.9	
	comp=Z,304nm,1.2s							
BIDO	**Bidbid**	**68.85**	**285**	P		**P**	**18 41 34.1**	**+1.1**
	SNR=31							
BIDO				P		**P**	**18 41 34.1**	**+1.1**
	SNR=31							
YKA	**Yellowknife Ar**	**68.86**	**28**	P		**P**	**18 41 32.3**	**-0.1**
YKA	**Yellowknife Ar**	**68.86**	**28**	P		**P**	**18 41 32.7**	**+0.3**
	comp=Z,72nm,0.7s,baz=290,slow=12,SNR=281							
YKA				PKP2bc			19 09 38.6	
	comp=Z,1.7nm,0.8s,baz=101,slow=2.3,SNR=5.6							
	comp=Z,72nm,0.7s							
YKAW1	**Yellowknife Wh**	**68.91**	**28**	IAmb		IAmb	18 41 38.5	
	comp=Z,1µm,1.9s							
CAN	**Canberra**	**68.97**	**170**	IAmb		IAmb	18 41 40.8	
	comp=Z,283nm,1.1s							
CAN	**Canberra**	**68.97**	**170**	P		**P**	**18 41 35.1**	**+1.7**
CNB	**Canberra Magne**	**69.03**	**169**	P		**P**	**18 41 35.6**	**+1.8**
LPSR	**Galich'ya Gora**	**69.10**	**320**	⇓ *i* P		**P**	**18 41 34.3**	**+0.3**
LPSR				*e**PP		**pP**	**18 42 56.1**	**-0.7**
LPSR				*e*S		**S**	**18 50 06.7**	**-1.3**
LPSR				pmax		pmax		
	comp=Z,353nm,1.6s							
SMDO	**Samad**	**69.13**	**284**	P		**P**	**18 41 35.5**	**+0.6**
	SNR=22							
SMDO				P		**P**	**18 41 35.5**	**+0.6**
	SNR=22							
OBN	**Obninsk**	**69.17**	**323**	P		**P**	**18 41 34.2**	**-0.2**
OBN	**Obninsk**	**69.17**	**323**	S		**S**	**18 50 07.1**	**-1.5**
	comp=Z,12nm,0.5s,baz=52,slow=18,SNR=12							
OBN				PKP2bc			19 09 36.5	
	comp=Z,9.9nm,0.5s,baz=357,slow=10.0,SNR=3.6							
OBN	**Obninsk**	**69.17**	**323**	*di* P		**P**	**18 41 34.4**	**+0.1**
OBN				*i*			18 41 54.7	
OBN				*i* **P*		**pP**	**18 42 55.7**	**-1.5**
OBN				*i*			18 44 12.3	
OBN				*i* S		**S**	**18 50 04.6**	**-4.0**
OBN				*i* SS		**SS**	**18 54 45.7**	**+2.9**
OBN				pmax		pmax		
	comp=Z,118nm,1.0s							
OBN	**Obninsk**	**69.17**	**323**	P		**P**	**18 41 34.7**	**+0.3**
	comp=Z,2µmcomp=Z,159nm,1.2s							
OBN	**Obninsk**	**69.17**	**323**	⇓ P		**P**	**18 41 34.6**	**+0.3**
SHME	**Shamm**	**69.27**	**288**	P		**P**	**18 41 36.6**	**+1.0**
	SNR=22							
SHME				P		**P**	**18 41 36.6**	**+1.0**
	SNR=22							
SHME	**Shamm**	**69.27**	**288**	*i* P		**P**	**18 41 36.5**	**+1.0**
	SNR=76							
DAG	**Danmarks Havn**	**69.33**	**354**	P		**P**	**18 41 35.6**	**+0.6**
DAG				S		**S**	**18 50 09.6**	**-0.4**
DAG	**Danmarks Havn**	**69.33**	**354**	*i* P		**P**	**18 41 34.7**	**-0.4**
DAG				IAmb		IAmb	18 41 40.2	
	comp=Z,230nm,0.8s							
DAG				*i*			18 42 57.3	
TULEG	**Thule**	**69.37**	**6**	*i* P		**P**	**18 41 35.3**	**0.0**
VORR	**Voronezh**	**69.37**	**319**	*e* P		**P**	**18 41 36.0**	**+0.3**
VORR				*e**PP		**pP**	**18 42 58.4**	**-0.2**
VORR				*e*S		**S**	**18 50 09.6**	**-1.6**
VORR				pmax		pmax		
	comp=Z,135nm,0.4s							
JMDO	**Jabal Madar**	**69.41**	**284**	P		**P**	**18 41 37.0**	**+0.5**
	SNR=9.8							
JMDO				P		**P**	**18 41 37.0**	**+0.5**
	SNR=9.8							
HOQ	**Hoqain**	**69.48**	**285**	P		**P**	**18 41 37.7**	**+0.8**
	SNR=36							
HOQ				P		**P**	**18 41 37.7**	**+0.8**
	SNR=36							
NEEM	**North Greenlan**	**69.56**	**2**	*i* P		**P**	**18 41 37.2**	**+0.4**
NEEM				IAmb		IAmb	18 41 42.1	
	comp=Z,499nm,0.6s							
MASF	**Masafi**	**69.57**	**287**	P		**P**	**18 41 38.4**	**+0.9**
	SNR=6.4							
MASF				P		**P**	**18 41 38.4**	**+0.9**
	SNR=6.4							
MSFE	**Esma-Masafi**	**69.58**	**287**	*i* P		**P**	**18 41 38.0**	**+0.5**
	SNR=17							
VSR	**Storozhevoye**	**69.61**	**318**	*e* P		**P**	**18 41 35.3**	**-1.8**
VSR				*e**PP		**pP**	**18 42 58.0**	**-2.1**
VSR				*e*S		**S**	**18 50 07.6**	**-6.3**
VSR				pmax		pmax		
	comp=Z,170nm,0.6s							
VSR				smax		smax		
	comp=N,5µm,11.8s							
VORD	**Divnogorie**	**69.65**	**318**	*e* P		**P**	**18 41 35.9**	**-1.5**
VORD				*e**PP		**pP**	**18 42 57.2**	**-3.2**
VORD				*e*PPP		PPP	18 45 56.2	
VORD				*e*S		**S**	**18 50 09.5**	**-4.9**
VORD				pmax		pmax		
	comp=Z,140nm,1.0s							
VORD				smax		smax		
	comp=N,460nm,4.1s							
UOSS	**Minazif**	**69.74**	**287**	P		**P**	**18 41 37.7**	**-0.7**
UOSS	**Minazif**	**69.74**	**287**	P		**P**	**18 41 38.9**	**+0.5**
UOSS				P		**P**	**18 41 38.9**	**+0.5**
UOSS	**Minazif**	**69.74**	**287**	*i* P		**P**	**18 41 38.3**	**-0.1**
	SNR=15							
UOSS	**Minazif**	**69.74**	**287**	P		**P**	**18 41 38.1**	**-0.3**
UOSS				pP		**pP**	**18 42 59.6**	**-1.7**
UOSS	**Minazif**	**69.74**	**287**	P		**P**	**18 41 38.2**	**-0.3**
UOSS				pP		**pP**	**18 43 00.6**	**-0.7**
UOSS				S		**S**	**18 50 13.0**	**-3.4**
HATD	**Hatta, Dubai**	**69.85**	**287**	P		**P**	**18 41 39.8**	**+0.7**
	SNR=13							
HATD	**Hatta, Dubai**	**69.85**	**287**	*i* P		**P**	**18 41 39.6**	**+0.5**
	SNR=30							
SOHO	**SOHO**	**69.85**	**286**	P		**P**	**18 41 39.3**	**+0.2**
SOHO				P		**P**	**18 41 39.3**	**+0.2**
SOHO	**SOHO**	**69.85**	**286**	*i* P		**P**	**18 41 39.0**	**-0.1**
	SNR=13							
UMQ	**Umm Al-Quwin**	**69.90**	**288**	*i* P		**P**	**18 41 40.7**	**+1.4**
	SNR=5.0							
ASHO	**Ashiyiah**	**69.97**	**287**	P		**P**	**18 41 40.6**	**+0.7**
	SNR=18							
ASHO				P		**P**	**18 41 40.6**	**+0.7**
	SNR=18							
ASHO	**Ashiyiah**	**69.97**	**287**	*i* P		**P**	**18 41 40.6**	**+0.7**
	SNR=38							
GOF	**Gofitskoye**	**70.13**	**311**	*d i* P		**P**	**18 41 41.1**	**+0.7**
GOF				*e*S		**S**	**18 50 19.8**	**-0.5**
NAZ	**Nazwa, Dubai**	**70.15**	**287**	P		**P**	**18 41 41.4**	**+0.5**
	SNR=11							
NAZ				P		**P**	**18 41 41.4**	**+0.5**
	SNR=11							
NAZ	**Nazwa, Dubai**	**70.15**	**287**	*i* P		**P**	**18 41 41.2**	**+0.3**
	SNR=14							
MHTO	**MHTO**	**70.18**	**283**	P		**P**	**18 41 41.4**	**+0.4**
	SNR=23							
ARQ	**Araqi**	**70.23**	**285**	P		**P**	**18 41 42.3**	**+0.9**
	SNR=42							
FAQ	**Al Faqa, Dubai**	**70.32**	**287**	P		**P**	**18 41 42.2**	**+0.3**
	SNR=9.8							
FAQ	**Al Faqa, Dubai**	**70.32**	**287**	*i* P		**P**	**18 41 42.2**	**+0.3**
	SNR=8.7							
STEI	**Steigen**	**70.40**	**340**	*e* P		**P**	**18 41 39.2**	**-2.4**
STEI				IVmB_BB			18 41 43.8	
	comp=Z,4µm,3.6s							
STEI				*e*S		**S**	**18 50 19.6**	**-2.9**
ALNE	**Al Ain**	**70.52**	**286**	P		**P**	**18 41 43.8**	**+0.6**
	SNR=30							
ALNE	**Al Ain**	**70.52**	**286**	*i* P		**P**	**18 41 43.7**	**+0.6**
	SNR=11							
ASUD	**Al Ashush, Dub**	**70.59**	**287**	P		**P**	**18 41 44.3**	**+0.8**
	SNR=8.6							
ASUD	**Al Ashush, Dub**	**70.59**	**287**	P		**P**	**18 41 44.2**	**+0.8**
BRAT	**Ballarat**	**70.59**	**174**	P		**P**	**18 41 45.4**	**+2.4**
FINES	**FINESS Array B**	**70.66**	**332**	P		**P**	**18 41 43.2**	**0.0**
	comp=Z,133nm,0.5s,baz=68,slow=5.3,SNR=818							
FINES				PKPPKP		P'P'df	19 09 28.4	-14
	comp=Z,1.8nm,0.8s,baz=165,slow=7.9,SNR=5.1							
	comp=Z,133nm,0.5s							
KEF	**Keuruu**	**70.72**	**333**	*e* P		**P**	**18 41 42.5**	**-1.0**
LOF	**Lofoten**	**70.75**	**341**	*e* P		**P**	**18 41 42.3**	**-1.3**
LOF				IVmB_BB			18 41 44.3	
	comp=Z,2µm,2.9s							
FAUS	**Fauske**	**70.75**	**340**	*e* P		**P**	**18 41 42.5**	**-1.2**
FAUS				IVmB_BB			18 41 44.4	
	comp=Z,3µm,3.0s							
KBZ	**Khabaz**	**70.84**	**310**	P		**P**	**18 41 45.6**	**+1.0**
	comp=Z,256nm,0.8s,baz=72,slow=4.2,SNR=304							
KBZ				S		**S**	**18 50 27.0**	**-1.3**
	comp=Z,17nm,1.2s,baz=14,slow=21,SNR=12							
KBZ				PKPPKP		P'P'df	19 09 27.2	-14
	comp=Z,2.2nm,0.8s,baz=358,slow=9.3,SNR=3.6							
	comp=Z,256nm,0.8s							
KBZ	**Khabaz**	**70.84**	**310**	*d i* P		**P**	**18 41 45.3**	**+0.7**
KBZ				pmax		pmax		
	comp=Z,307nm,0.9s							
KVAR	**Kislovodsk Arr**	**70.86**	**310**	S		**S**	**18 50 25.7**	**-3.2**
	comp=Z,41nm,1.2s,baz=81,slow=17,SNR=3.8							
KIV	**Kislovodsk**	**70.87**	**310**	P		**P**	**18 41 45.7**	**+0.7**
KIV	**Kislovodsk**	**70.87**	**310**	P		**P**	**18 41 46.0**	**+1.0**
KIV	**Kislovodsk**	**70.87**	**310**	*e* P		**P**	**18 41 45.7**	**+0.7**
KIV				*e**PP		**pP**	**18 43 08.3**	**0.0**
KIV				*e*PPP		PPP	18 46 09.5	
KIV				*e*S		**S**	**18 50 29.4**	**+0.5**
KIV				*e*SS		**SS**	**18 55 07.8**	**-1.8**
KIV				pmax		pmax		
	comp=Z,

UMZA	Um Al Zommool	71.63	285		P		P	18 41 49.8	+0.1
POIN	Pond Inlet	71.70	10		IAmb		IAmb	18 41 54.1	
	comp=Z,181nm,0.6s								
VAGH	Vaagaholmen	71.78	340	*e*	P		P	18 41 48.3	-1.5
DBG	Daneborg	71.79	354	*i*	P		P	18 41 49.3	-0.4
MOR8	Moi Rana	71.81	339	*e*	P		P	18 41 47.5	-2.5
MOR8					IVmB_BB			18 41 50.9	
	comp=Z,4µm,3.6s								
MOR8				*e*				18 43 10.4	
KHAM	Kharkiv	71.82	318		P		P	18 41 50.9	+0.5
ARBE	Arbavere	71.83	330	*e*	P		P	18 41 50.8	+0.6
NLWA	Neilton Lookou	71.86	45		IAmb		IAmb	18 41 58.0	
	comp=Z,420nm,1.1s								
A04D	Lummi Island	71.88	43		P		P	18 41 51.6	+0.8
A04D					IAmb		IAmb	18 41 55.3	
	comp=Z,382nm,1.2s								
KONS	Konsvik	71.98	340	*e*	P		P	18 41 49.5	-1.4
MEF	Metsahovi	72.03	331	*e*	P		P	18 41 51.3	-0.1
VSU	Vasula	72.06	329	*ce*	P		P	18 41 50.6	-1.0
VSU					pmax		pmax		
	comp=Z,89nm,0.9s								
VSU	Vasula	72.06	329	*e*	P		P	18 41 51.0	-0.5
STOK	Stokkvaagen	72.12	339	*e*	P		P	18 41 49.6	-2.2
KULLO	Kullorsuaq	72.13	4	*i*	P		P	18 41 51.6	-0.2
KARS	Kars	72.18	307		IAmb		IAmb	18 42 00.4	
	comp=Z,318nm,1.3s								
LEIR	Leirfjorden	72.25	339	*e*	P		P	18 41 49.6	-2.9
LEIR					IVmB_BB			18 41 52.8	
	comp=Z,2µm,2.6s								
LEIR				*e*				18 43 13.7	
LEIR				*e*				18 50 42.4	
GNW	Green Mountain	72.39	44		IAmb		IAmb	18 42 00.8	
	comp=Z,396nm,1.4s								
JRN	Qarnain Island	72.42	289		P		P	18 41 54.0	-0.3
E03A	Lebam	72.45	46		P		P	18 41 54.8	+0.7
E03A					IAmb		IAmb	18 42 01.1	
	comp=Z,337nm,1.0s								
OZAP	Van, Ozalp-Mer	72.50	305	⇓	P		P	18 41 56.8	+1.9
RAF	Rauma	72.59	333	*e*	P		P	18 41 54.0	-0.6
F03A	Seaside	72.76	46		IAmb		IAmb	18 42 03.8	
	comp=Z,547nm,1.2s								
VSLR	Vesyoloye	72.80	311	*d i*	P		P	18 41 56.6	+0.4
VSLR					pmax		pmax		
	comp=Z,331nm,1.2s								
MZR	Muzera	72.85	287		P		P	18 41 57.1	+0.2
	SNR=17								
MZR	Muzera	72.85	287	*i*	P		P	18 41 57.1	+0.2
	SNR=53								
GHWR	Ruwais	72.87	288		P		P	18 41 56.9	0.0
SOC	Sochi	72.94	311	*e*	P		P	18 41 55.9	-1.1
SOC				*e*	*PP		pP	18 43 20.1	-0.8
SOC				*e*	*SP		sP	18 43 59.8	-1.4
SOC				*e*				18 44 43.1	
SOC				*e*	PPP		PPP	18 46 28.2	
SOC				*e*	S		S	18 50 51.1	-0.9
SOC				*e*	SS		SS	18 55 42.9	+2.1
SOC				*e*	SSS		SSS	18 58 55.0	
SOC					pmax		pmax		
	comp=Z,183nm,0.8s								
F04D	Rainier, OR	73.02	46		IAmb		IAmb	18 42 04.2	
	comp=Z,326nm,1.2s								
D05A	Enumclaw	73.07	44		IAmb		IAmb	18 42 05.0	
	comp=Z,684nm,1.6s								
HOMI	Horasan	73.24	307	⇓	P		P	18 42 00.8	+1.6
G03D	McMinnville, O	73.30	47		IAmb		IAmb	18 42 06.0	
	comp=Z,355nm,1.0s								
GEVA	Gevas	73.31	305		P		P	18 42 00.1	+0.7
GEVA					IAmb		IAmb	18 42 06.5	
	comp=Z,273nm,1.0s								
JMIC	Jan Mayen	73.35	349	*e*	P		P	18 41 59.1	+0.2
SHMA	Al-Shehemyia	73.47	290		P		P	18 42 00.1	-0.2
I02E	Swisshome, OR	73.50	48		IAmb		IAmb	18 42 07.4	
	comp=Z,293nm,1.1s								
SHAO	Shalim	73.55	281	*i*	P		P	18 42 02.0	+1.0
	SNR=6.6								
H08S3	Diego Garcia H	73.59	249		P		P	18 42 02.1	+1.2
	baz=20,slow=9.3,SNR=9.1								
COR	Corvallis	73.59	47		P		P	18 42 02.0	+1.2
COR	Corvallis	73.59	47		P		P	18 42 02.0	+1.2
COR					pmax		pmax		
	comp=Z,782nm,1.2s								
H08S2	Diego Garcia H	73.59	249		P		P	18 42 01.9	+1.0
	baz=20,slow=9.3,SNR=8.9								
H08S1	Diego Garcia H	73.61	249		P		P	18 42 03.0	+2.0
	baz=20,slow=9.3,SNR=4.5								
NSS	Namsos	73.69	338	*e*	P		P	18 42 00.3	-0.7
NSS					IVmB_BB			18 42 01.3	
	comp=Z,2µm,2.9s								
NSS				*e*				18 50 56.6	
SAKB	Bahrain	73.75	291		P		P	18 42 01.8	-0.2
ANN	Anapa	73.75	313	*d i*	P		P	18 42 01.9	+0.3
ANN				*i*	*PP		pP	18 43 24.9	-0.8
ANN				*e*	PPP		PPP	18 46 40.0	
ANN				*i*	S		S	18 50 59.0	-2.0
ANN				*e*				18 51 31.8	
ANN				*e*	SS		SS	18 55 57.1	+4.1
ANN					pmax		pmax		
	comp=Z,366nm,1.0s								
ANN					pmax		pmax		
	comp=E,62nm,0.8s								
ANN					pmax		pmax		
	comp=N,107nm,1.2s								
ANN					MLR		MLR		
	comp=E,1µm,15.0s								
ANN					MLR		MLR		
	comp=N,1µm,14.0s								
ANN					MLR		MLR		
	comp=Z,2µm,17.0s								
SLWR	Sila	73.76	288		P		P	18 42 02.2	+0.1
MNK	Minsk	73.78	325	*i*	P		P	18 42 02.9	+1.2
	comp=E,36nm,0.8s								
MNK				*i*	P		P	18 42 02.9	+1.2
	comp=N,39nm,1.0s								
MNK				*i*	P		P	18 42 02.9	+1.2
	comp=Z,82nm,0.9s,baz=55								
MNK				*i*	sP		sP	18 44 07.5	+1.5
MNK				*i*	PPP		PPP	18 46 40.3	
MNK				*i*	sS		sS	18 53 33.8	+5.2
MNK				*i*	SSS		SSS	18 59 21.2	
MNK				*i*	LQ		LQ	19 09 03.6	
MNK				*i*	LR		LR	19 16 34.3	
MNK				*i*	LRM		MLR	19 18 12.6	
	comp=E,2µm,14.4s								
MNK				*i*	LRM		MLR	19 18 15.6	
	comp=N,3µm,15.9s								
MNK				*i*	LRM		MLR	19 18 18.5	
	comp=Z,3µm,15.9s								
MNK	Minsk	73.78	325	*i*	P		P	18 42 02.8	+1.2
MNK				*i*				18 42 15.5	
MNK				*i*	*PP		pP	18 43 26.9	+1.2
MNK				*i*	*SP		sP	18 44 07.5	+1.5
MNK				*i*				18 44 53.2	
MNK				*i*	PPP		PPP	18 46 40.3	
MNK				*i*	S		S	18 51 00.4	-0.6
MNK				*i*	SS		SS	18 55 53.8	+0.9
MNK				*i*	SSS		SSS	18 59 21.2	
MNK					pmax		pmax		
	comp=Z,82nm,0.9s								
MNK					pmax		pmax		
	comp=N,39nm,1.0s								
MNK					pmax		pmax		
	comp=E,36nm,0.8s								
MNK					MLR		MLR		
	comp=E,2µm,14.0s								
MNK					MLR		MLR		
	comp=N,3µm,16.0s								
MNK					MLR		MLR		
	comp=Z,3µm,16.0s								
TRNA	Turayna	73.82	289		P		P	18 42 02.1	-0.3
J01E	Myrtle Point	73.92	49		IAmb		IAmb	18 42 08.6	
	comp=Z,506nm,1.4s								
UPNV	Upernavik	73.97	4	*i*	P		P	18 42 03.0	+0.7
H04D	Lebanon	73.97	47		IAmb		IAmb	18 42 21.4	
	comp=Z,483nm,1.4s								
ISAL	Salakas	73.99	327	*e*	P		P	18 42 03.3	+0.5
B08A	Colville Reser	74.00	42		IAmb		IAmb	18 42 09.3	
	comp=Z,551nm,1.5s								
NACGM	Naroch	74.07	326	⇑	*i*		P	18 42 03.8	+0.4
	comp=Z,74nm,0.9s,baz=55								
SMRA	Abu-Samra	74.12	289		P		P	18 42 04.0	-0.2
	SNR=5.4								
KOPT	Kop Dagi	74.20	308		IAmb		IAmb	18 42 12.3	
	comp=Z,422nm,1.5s								
H04A	Detroit Lake	74.23	47		IAmb		IAmb	18 42 11.0	
	comp=Z,537nm,1.3s								
DMTO	DMTO	74.26	281		P		P	18 42 05.3	+0.3
MXC	Moxie City	74.38	44		IAmb		IAmb	18 42 11.9	
	comp=Z,301nm,1.3s								
KBD	Kabd	74.39	295		P		P	18 42 05.9	+0.3
GLAD	Gladstone	74.41	172		P		P	18 42 07.5	+2.3
SLIT	Slitere, Latvi	74.46	330	*e*	P		P	18 42 05.6	+0.1
DOK	Doka	74.48	282		P		P	18 42 06.5	+0.2
	SNR=7.0								
SUMG	Summit	74.54	359		P		P	18 42 07.3	+1.1
SUMG	Summit	74.54	359		P		P	18 42 07.1	+0.9
SUMG	Summit	74.54	359		P		P	18 42 07.1	+0.9
SUMG					pmax		pmax		
	comp=Z,1µm,1.6s								
SUMG	Summit	74.54	359	*i*	P		P	18 42 07.5	+1.3
SUMG					IAmb		IAmb	18 42 09.1	
	comp=Z,210nm,0.7s								
E07A	Sunnyside	74.65	44		IAmb		IAmb	18 42 13.4	
	comp=Z,446nm,1.4s								
L02F	Cave Junction	74.68	50		IAmb		IAmb	18 42 13.9	
	comp=Z,465nm,1.5s								
VSVD	Vaisvydziai	74.75	328	*e*	P		P	18 42 07.1	-0.1
KRMB	Red Mountain	74.77	50		IAmb		IAmb	18 42 14.8	
	comp=Z,343nm,1.2s								
CORO	Coronation Par	74.77	172		P		P	18 42 09.4	+2.1
BBOR	Butler Butte	74.85	49		IAmb		IAmb	18 42 12.8	
	comp=Z,345nm,1.4s								
KRPM	Rodgers	74.88	51		IAmb		IAmb	18 42 15.6	
	comp=Z,626nm,1.5s								
G06A	Carlson Farm,	74.88	46		IAmb		IAmb	18 42 14.9	
	comp=Z,521nm,1.4s								
C09A	Chrisman Ranch	74.89	43		P		P	18 42 08.6	+0.4
D08A	Wollman Farm,	74.92	43		IAmb		IAmb	18 42 14.7	
	comp=Z,457nm,1.4s								
HAWA	Hanford	74.92	44		IAmb		IAmb	18 42 14.8	
	comp=Z,404nm,1.4s								
F07A	Phinny Hill Vi	74.95	45		IAmb		IAmb	18 42 15.2	
	comp=Z,572nm,1.5s								
RBK	Rabkut	74.98	281		P		P	18 42 09.4	+0.2
	SNR=5.2								
PABE	Paberze	75.02	327		P		P	18 42 09.0	+0.3
PABE					IAmb		IAmb	18 42 11.0	
	comp=Z,224nm,0.6s								
PABE	Paberze	75.02	327	*e*	P		P	18 42 09.6	+0.9
JCC	Jacoby Creek,	75.05	51		IAmb		IAmb	18 42 16.4	
	comp=Z,505nm,1.2s								
WHFO	Wadi Hawf	75.13	282		P		P	18 42 10.1	0.0
	SNR=5.1								
E08A	Dider Farm, El	75.15	44		IAmb		IAmb	18 42 16.0	
	comp=Z,575nm,1.6s								
RAO	Raoul Island	75.18	140		P		P	18 42 13.0	+3.1
KMPM	Mount Pierce	75.20	51		IAmb		IAmb	18 42 17.4	
	comp=Z,466nm,1.3s								
KHMM	Horse Mountain	75.22	51		IAmb		IAmb	18 42 17.5	
	comp=Z,322nm,1.1s								
AK03	Malin Array Si	75.25	321		P		P	18 42 10.2	+0.1
AKASG	Malin Array Be	75.26	321		P		P	18 42 10.1	0.0
AKASG	Malin Array Be	75.26	321		P		P	18 42 10.1	0.0
	comp=Z,86nm,0.6s,baz=53,slow=5.8,SNR=435								
AKASG					pP		pP	18 43 32.4	-2.3
	comp=Z,34nm,0.8s,baz=52,slow=6.1,SNR=2.5								
AKASG					S		S	18 51 13.7	-3.7
	comp=Z,1.4nm,0.9s,baz=68,slow=10,SNR=6.2								
AKASG					PKPPKP		P'P'df	19 09 28.6	-5.6
	comp=Z,0.8nm,0.7s,baz=19,slow=0.1,SNR=4.3								
AKBB	Malin Array Si	75.26	321		IAmb		IAmb	18 42 12.0	
	comp=Z,159nm,0.7s								
AKBB	Malin Array Si	75.26	321	*c i*	P		P	18 42 09.9	-0.2
AKBB	Malin Array Si	75.26	321		P		P	18 42 10.5	+0.4
AK01	Malin Array Si	75.27	321		P		P	18 42 10.6	+0.4
KIEV	Kiev	75.27	321		P		P	18 42 09.9	-0.3
KIEV					IAmb		IAmb	18 42 12.0	
	comp=Z,142nm,0.7s								
KIEV	Kiev	75.27	321	*i*	P		P	18 42 10.2	0.0
	SNR=26								
KIEV	Kiev	75.27	321		P		P	18 42 10.7	+0.5
	comp=Z,7µm,comp=Z,801nm,0.7s								
KIEV	Kiev	75.27	321	⇑	P		P	18 42 10.4	+0.2
AK09	Malin Array Si	75.28	321		P		P	18 42 10.5	+0.3
AK23	Malin Array Si	75.28	321		P		P	18 42 10.5	+0.3
AK04	Malin Array Si	75.28	321		P		P	18 42 10.5	+0.3
AK08	Malin Array Si	75.28	321		P		P	18 42 10.3	0.0
NEW	Newport	75.29	42		IAmb		IAmb	18 42 16.7	
	comp=Z,411nm,1.4s								
AK02	Malin Array Si	75.29	321		P		P	18 42 10.4	+0.1
AK11	Malin Array Si	75.30	321		P		P	18 42 10.4	0.0
AK10	Malin Array Si	75.30	321		P		P	18 42 10.4	0.0
AK22	Malin Array Si	75.31	321		P		P	18 42 10.4	0.0
AK21	Malin Array Si	75.31	321		P		P	18 42 10.5	+0.1
AK15	Malin Array Si	75.31	321		P		P	18 42 10.5	+0.1
AK05	Malin Array Si	75.32	321		P		P	18 42 10.5	0.0
AK12	Malin Array Si	75.33	321		P		P	18 42 10.6	+0.1
AK18	Malin Array Si	75.33	321		P		P	18 42 10.6	+0.1
AK06	Malin Array Si	75.34	321		P		P	18 42 10.6	0.0
AK16	Malin Array Si	75.34	321		P		P	18 42 10.6	0.0
NUUG	Nuugaatsiaq	75.36	3	*i*	P		P	18 42 10.1	-0.2
YBH	Yreka Blue Hor	75.43	50		IAmb		IAmb	18 42 18.4	
	comp=Z,476nm,1.4s								
YPT	Yellepit	75.44	44		IAmb		IAmb	18 42 17.9	
	comp=Z,403nm,1.4s								
KMRM	Mail Ridge	75.57	51		IAmb		IAmb	18 42 19.4	
	comp=Z,231nm,1.1s								
SCO	Scoresbysund	75.60	353		IAmb		IAmb	18 42 17.4	
	comp=Z,251nm,1.1s								
SCO	Scoresbysund	75.60	353	*i*	P		P	18 42 12.6	+0.9
SCO					IAmb		IAmb	18 42 17.4	
	comp=Z,109nm,0.9s								
PBUR	Paburge	75.61	328	*e*	P		P	18 42 11.3	-0.7
E09A	Wood Farm, Sta	75.67	44		P		P	18 42 13.3	+0.8
SIM	Simferopol'	75.68	314	*e*	P		P	18 42 13.1	+0.5
SIM				*e*	*PP		pP	18 43 36.6	-0.6
SIM				*e*	S		S	18 51 21.3	-0.9
SIM					pmax		pmax		
	comp=Z,753nm,1.3s								
MOO	Moorlands	75.75	172		P		P	18 42 15.1	+2.3
ABTO	Aybut	75.80	282		P		P	18 42 14.0	+0.2
	SNR=8.4								
KCPM	Cahto Peak	75.93	52		IAmb		IAmb	18 42 21.1	
	comp=Z,268nm,1.0s								
MI28	MI28,Pidlybu	75.94	322		P		P	18 42 14.3	+0.4
OUZ	Omahuta	76.04	150		P		P	18 42 16.8	+2.3
ARPR	Arapgir-MALATY	76.11	308		IAmb		IAmb	18 42 22.2	
	comp=Z,241nm,0.7s								
O02D	Mt. Diablo Mer	76.19	51		IAmb		IAmb	18 42 22.8	
	comp=Z,201nm,0.8s								
HFS	Hagfors	76.19	335		P		P	18 42 15.0	-0.2
	comp=Z,126nm,0.5s,baz=72,slow=4.8,SNR=587								
HFS					S		S	18 51 25.8	-1.4
	comp=Z,22nm,0.9s,baz=64,slow=17,SNR=13								
HFS					PKKP		PKKPdf	19 01 11.4	+0.6
	comp=Z,0.8nm,0.6s,baz=142,slow=5.1,SNR=4.7								
	comp=Z,126nm,0.5s								
NC405	NORSAR Array S	76.20	336		IAmb		IAmb	18 42 17.3	
	comp=Z,156nm,0.7s								
TAU	Tasmania Unive	76.23	172		P		P	18 42 16.2	+0.7
TAU					IAmb		IAmb	18 42 22.9	
	comp=Z,184nm,0.8s								
TAU	Tasmania Unive	76.23	172		P		P	18 42 17.5	+2.1
TAU	Tasmania Unive	76.23	172		P		P	18 42 16.2	+0.7
TAU					pmax		pmax		
	comp=Z,184nm,0.9s								
NC303	NORSAR Array S	76.23	336		P		P	18 42 15.1	-0.3
UMMG	Uummannaq	76.27	3	*i*	P		P	18 42 15.8	+0.4
SUW	Suwalki	76.29	326	*e*	P		P	18 42 16.5	+0.6
SUW				*e*	pP		pP	18 43 39.6	-1.1
SUW				*e*	S		S	18 51 26.9	-1.6
SUW	Suwalki	76.29	326	*e*	P		P	18 42 16.1	+0.2
NB201	NORSAR Array S	76.39	336		IAmb		IAmb	18 42 18.2	
	comp=Z,334nm,1.4s								
DOMB	Dombas	76.40	338	*e*	P		P	18 42 14.4	-2.0
DOMB					IVmB_BB			18 42 17.1	
	comp=Z,2µm,1.5s								
DOMB				*e*				18 43 41.0	
DOMB				*e*				18 51 24.6	
NC204	NORSAR Array S	76.40	336		IAmb		IAmb	18 42 18.5	
	comp=Z,136nm,0.6s								
NB2	NORSAR Subarra	76.42	336		P		P	18 42 16.5	0.0
	comp=Z,77nm,0.5s,baz=46,slow=5.9								
NB2					S		S	18 51 28.1	-1.6
	comp=Z,40nm,1.7s,baz=32,slow=6.5								
NB2	NORSAR Subarra	76.42	336		P		P	18 42 17.2	+0.7
NB2	NORSAR Subarra	76.42	336		P		P	18 42 16.5	0.0
	baz=46,slow=5.9								
NOA	NORSAR Array B	76.42	336		P		P	18 42 16.3	-0.2
	comp=Z,57nm,0.5s,baz=44,slow=5.5,SNR=677								
NOA					S		S	18 51 27.8	-1.9
	comp=Z,3.9nm,0.9s,baz=48,slow=10,SNR=6.6								
NOA					PKPPKP			19 09 25.1	
	comp=Z,0.1nm,0.3s,baz=42,slow=18,SNR=5.1								
	comp=Z,57nm,0.5s								
LUBAR	Lubar, Ukraine	76.48	321		P		P	18 42 17.1	+0.1
MOL	Molde	76.48	339	*e*	P		P	18 42 15.6	-1.1
MOL					IVmB_BB			18 42 18.9	
	comp=Z,3µm,3.7s								
MOL				*e*				18 43 39.9	
MOL				*e*				18 51 29.7	
NC602	NORSAR Array S	76.53	336	*e*	P		P	18 42 14.9	-2.2
NC602					IVmB_BB			18 42 18.1	
	comp=Z,1µm,3.7s								
NC602				*e*				18 51 15.1	
RNPP9	Sopachiv	76.56	323		P		P	18 42 17.9	+0.5
RNPP2	Kostyukhnivka	76.61	323		P		P	18 42 18.2	+0.5
RNPP8	Varash	76.62	323		P		P	18 42 18.1	+0.4
BAL3X	Bal3x, Balta	76.63	319		P		P	18 42 17.8	0.0
HOPS	Hopland Field	76.63	52		IAmb		IAmb	18 42 24.5	
	comp=Z,301nm,1.4s								
RNPP5	Staryi Chortor	76.67	323		P		P	18 42 18.3	+0.3
NAO01	NORSAR Array S	76.67	336		P		P	18 42 17.6	-0.3
TOKA	Tokat	76.68	309		IAmb		IAmb	18 42 25.5	
	comp=Z,692nm,1.8s								
DIKM	Dikmen	76.75	311		P		P	18 42 19.0	+0.3
	comp=Z,2µmcomp=Z,183nm,0.7s								
DIKM	Dikmen	76.75	311	⇑	P		P	18 42 20.6	+1.9
GDXM	Geysers	76.91	52		IAmb		IAmb	18 42 26.6	
	comp=Z,369nm,1.3s								
AKN	Aaknes	76.95	338	*e*	P		P	18 42 17.9	-1.5
AKN					IVmB_BB			18 42 21.7	
	comp=Z,3µm,3.1s								
AKN				*e*				18 43 45.2	
AKN				*e*				18 51 35.0	
WCZ	Waipu Caves	76.97	150		PcP		PcP	18 42 26.7	-2.2
SORM	Soroca	77.20	319	⇓	P		P	18 42 20.9	-0.1
SORM	Soroca	77.20	319		P		P	18 42 20.8	-0.2
	comp=Z,1µmcomp=Z,125nm,1.0s								
SORM	Soroca	77.20	319	⇓	P		P	18 42 20.9	-0.1
PURM	Purcari	77.28	318		P		P	18 42 21.4	0.0
	comp=Z,9µmcomp=Z,268nm,1.0s								
ORV	Oroville	77.36	51		P		P	18 42 22.3	+0.2
ORV					IAmb		IAmb	18 42 27.9	
	comp=Z,207nm,0.9s								
ORV	Oroville	77.36	51		P		P	18 42 22.3	+0.2
ORV					pmax		pmax		
	comp=Z,207nm,0.9s								
BZK	Bozkurt	77.37	312		IAmb		IAmb	18 42 23.6	
	comp=Z,136nm,0.6s								
BZK	Bozkurt	77.37	312		P		P	18 42 22.5	+0.5
	comp=Z,2µmcomp=Z,248nm,0.7s								
BZK	Bozkurt	77.37	312	⇓	P		P	18 42 23.0	+0.9
OSL	Oslo	77.39	336	*e*	P		P	18 42 19.8	-1.9
NDNU	Novodnistrovsk	77.46	320		P		P	18 42 22.7	+0.3
HORU	Horodok	77.59	321		P		P	18 42 23.4	+0.2
KIS	Kishinev	77.60	318	⇓	*e*	P	P	18 42 22.0	-1.2
KIS	Kishinev	77.60	318		PM1			18 42 23.0	
	comp=Z,50nm,0.6s								
KIS	Kishinev	77.60	318		PM2			18 42 28.0	
	comp=Z,160nm,1.1s								
KIS				⇓	*pP		pP	18 43 46.0	-2.4
KIS	Kishinev	77.60	318	*e*	PP		PP	18 45 18.0	-5.7
KIS				*i*	S		S	18 51 40.0	-2.7
KIS				*i*	sS		sS	18 54 08.0	-4.6
KIS				*e*	L		L	19 13 40.0	
KIS					LRM		MLR	19 22 19.0	
	comp=Z,950nm,15.5s								
KIS	Kishinev	77.60	318	*de*	P		P	18 42 22.0	-1.2
KIS				*i*	*PP		pP	18 43 46.0	-2.4
KIS				*i*	S		S	18 51 40.0	-2.7
KIS					pmax		pmax		
	comp=Z,160nm,1.1s								
KIS					MLR		MLR		
	comp=Z,950nm,15.5s								
KIS	Kishinev	77.60	318		P		P	18 42 23.3	+0.1
	comp=Z,82nm,0.6s								
WVOR	Wild Horse Val	77.61	47		IAmb		IAmb	18 42 30.2	
	comp=Z,166nm,0.9s								
MILM	Milestii Mici	77.65	318	⇓	*i*	P	P	18 42 22.0	-1.5
MILM	Milestii Mici	77.65	318		PM1			18 42 23.0	
	comp=Z,120nm,0.9s								
MILM	Milestii Mici	77.65	318		PM2			18 42 28.0	
	comp=Z,430nm,9.2s								
MILM				*i*	pP		pP	18 43 46.0	-2.7
MILM	Milestii Mici	77.65	318	⇑	*i*	PP	PP	18 45 18.0	-6.1
MILM				*i*	S		S	18 51 39.0	-4.2
MILM				*e*	L		L	19 14 35.0	
MILM					LRM		MLR	19 22 18.0	
	comp=Z,900nm,14.0s								
MILM	Milestii Mici	77.65	318	*d*	*P		P	18 42 22.0	-1.5
MILM				*i*	*PP		pP	18 43 46.0	-2.7
MILM				*i*	S		S	18 51 39.0	-4.2
MILM					pmax		pmax		
	comp=Z,120nm,0.9s								
MILM					MLR		MLR		
	comp=Z,900nm,14.0s								
MILM	Milestii Mici	77.65	318	⇑	P		P	18 42 23.4	-0.1
SKAR	Skarslia	77.66	337	*e*	P		P	18 42 23.4	0.0
SKAR					IVmB_BB			18 42 24.1	
	comp=Z,2µm,2.9s								
SKAR				*e*				18 51 36.0	
PLID	Pearl Lake	77.71	44		IAmb		IAm

VARL Varlezi 78.79 318 ⇑P P 18 42 30.9 +1.2
BEL Belsk 78.79 326 eP P 18 42 30.3 +0.7
BEL epP pP 18 43 55.5 +0.5
BEL eS S 18 51 55.1 0.0
FFC Flin Flon 78.80 31 P P 18 42 29.7 +0.1
FFC Flin Flon 78.80 31 P P 18 42 29.7 +0.1
FFC pmax pmax
comp=Z,811nm,1.8s
ASK Askoy 78.81 338 eP P 18 42 28.7 -0.8
PRAR RASCA 78.81 320 ⇓P P 18 42 30.6 +0.7
BR131 Keskin Array S 78.83 310 P P 18 42 31.2 +1.0
SNR=128
BR131 Keskin Array S 78.83 310 d iP P 18 42 30.8 +0.6
BRTR Keskin Array B 78.83 310 P P 18 42 30.9 +0.6
BRTR Keskin Array B 78.83 310 P P 18 42 31.0 +0.7
comp=Z,85nm,0.7s,baz=120,slow=4.2,SNR=462
BRTR pP pP 18 43 56.2 +0.4
comp=Z,69nm,0.9s,baz=97,slow=5.0,SNR=8.3
BRTR S S 18 51 54.6 -1.8
comp=Z,2.4nm,1.0s,baz=17,slow=2.0,SNR=6.6
BRTR PKKPbc PKKPbc 19 01 20.6 +0.7
comp=Z,2.1nm,0.7s,baz=203,slow=3.0,SNR=9.3
comp=Z,85nm,0.7s
SCTR Scanteiesti 78.84 318 ⇑P P 18 42 30.9 +0.9
BER Bergen 78.84 338 eP P 18 42 28.6 -1.0
BR104 Keskin Array S 78.84 310 P P 18 42 31.0 +0.7
comp=Z,2μmcomp=Z,171nm,1.0s
BR106 Keskin Array S 78.84 310 P P 18 42 30.8 +0.5
comp=Z,1μmcomp=Z,134nm,1.0s
BR105 Keskin Array S 78.85 310 P P 18 42 30.9 +0.5
comp=Z,1μmcomp=Z,159nm,1.0s
TATR Tatarca 78.85 317 ⇓P P 18 42 30.6 +0.5
KSV Kosov 78.86 321 P P 18 42 29.1 -0.9
JURR Jurilovca 78.87 316 ⇓P P 18 42 30.9 +0.8
SAO San Andreas Ge 78.91 53 IAmb IAmb 18 42 36.6
comp=Z,373nm,1.7s
STNU Starunia 78.91 322 P P 18 42 30.4 +0.1
RAYN Ar Rayn 78.93 291 P P 18 42 31.6 +0.7
RAYN IAmb IAmb 18 42 37.1
comp=Z,170nm,0.8s
RAYN Ar Rayn 78.93 291 P P 18 42 31.9 +0.9
RAYN Ar Rayn 78.93 291 P P 18 42 31.6 +0.7
RAYN pmax pmax
comp=Z,171nm,0.8s
RAYN Ar Rayn 78.93 291 i P P 18 42 31.6 +0.7
SNR=39
GHRR 78.94 318 P P 18 42 31.4 +0.9
GHRR 78.94 318 ⇑P P 18 42 31.9 +1.4
MORS Morshin 78.96 322 P P 18 42 31.5 +0.9
TOZ Tahuroa Road 78.98 150 IAmb IAmb 18 42 38.4
comp=Z,258nm,0.9s
TOZ Tahuroa Road 78.98 150 P P 18 42 32.7 +2.1
KIRS Kirsehir-Merke 78.98 310 ⇓P P 18 42 31.8 +0.7
NEGRR Negrea 78.99 318 ⇓P P 18 42 31.6 +0.8
IZVR Izvoarele 79.04 318 ⇓P P 18 42 31.9 +0.9
CFR Carcaliu 79.05 317 ⇑P P 18 42 31.4 +0.3
CFR Carcaliu 79.05 317 ⇑P P 18 42 31.4 +0.3
SCHLR Schela 79.05 317 ⇑P P 18 42 32.4 +1.3
TUDR 79.07 318 ⇑P P 18 42 32.6 +1.4
TPGR Topolog 79.08 317 ⇑P P 18 42 32.4 +1.1
TESR Tescani 79.09 319 P P 18 42 32.0 +0.7
comp=Z,2μmcomp=Z,166nm,0.8s
TESR Tescani 79.09 319 ⇑P P 18 42 31.8 +0.4
COSR Cosmesti PH 79.12 318 ⇓P P 18 42 32.9 +1.5
SHIU Shidnytsya 79.18 322 P P 18 42 32.8 +1.0
PANC Panciu 79.20 318 ⇑P P 18 42 33.8 +1.9
BURAR Bucovina Array 79.20 320 P P 18 42 32.7 +0.7
BURAR Bucovina Array 79.20 320 ⇑P P 18 42 33.1 +1.1
BURAR Bucovina Array 79.20 320 ⇑P P 18 42 33.1 +1.1
BSD Bornholm Skovb 79.21 330 eP P 18 42 31.1 -0.7
BSD Bornholm Skovb 79.21 330 i P P 18 42 31.1 -0.7
BSD IAmb IAmb 18 42 33.5
comp=Z,93nm,0.8s
BLS5 Blasjo 79.22 337 eP P 18 42 29.9 -1.9
KWP Kalwaria Pacla 79.26 323 eP P 18 42 33.6 +1.5
KWP epP pP 18 43 58.1 +0.4
KWP eS S 18 51 59.7 -0.5
KWP Kalwaria Pacla 79.26 323 P P 18 42 32.9 +0.7
comp=Z,3μmcomp=Z,323nm,1.2s
KMRZ Kaimai 79.26 150 P P 18 42 35.2 +3.0
BBGB Big Mountain B 79.28 53 IAmb IAmb 18 42 39.1
comp=Z,206nm,0.7s
ANTO Ankara 79.29 311 P P 18 42 33.6 +1.0
ANTO IAmb IAmb 18 42 38.8
comp=Z,180nm,0.8s
ANTO Ankara 79.29 311 P P 18 42 33.9 +1.3
ANTO Ankara 79.29 311 P P 18 42 33.6 +1.0
comp=Z,1μmcomp=Z,104nm,0.6s
ANTO Ankara 79.29 311 ⇑P P 18 42 33.6 +1.0
ANTO Ankara 79.29 311 P P 18 42 33.6 +1.0
ANTO pP pP 18 43 58.2 -0.1
ANTO S S 18 51 59.3 -1.7
TGRZ Tauranga 79.30 149 P P 18 42 34.4 +2.1
BJUU Bjuv 79.30 332 i P P 18 42 31.0 -1.2
ODBI Odobesti 79.31 318 P P 18 42 33.3 +0.8
comp=Z,1μmcomp=Z,96nm,0.7s
ODBI Odobesti 79.31 318 ⇓P P 18 42 34.8 +2.3
TIRR Tirgusor 79.32 316 P P 18 42 33.4 +0.9
comp=Z,1μmcomp=Z,98nm,1.3s
TIRR Tirgusor 79.32 316 ⇓P P 18 42 32.8 +0.2
ONER Baraj Valea Uz 79.34 319 ⇑P P 18 42 34.3 +1.6
HIZ Hauiti 79.38 151 P P 18 42 35.3 +2.6
HIZ Hauiti 79.38 151 P P 18 42 35.0 +2.3
HOMB Homborsund 79.39 335 eP P 18 42 30.5 -2.1
HOMB Homborsund 79.39 335 i P P 18 42 31.8 -0.9
EFOR EFORIE 79.41 316 ⇓P P 18 42 34.6 +1.6
VRI Vrincioaia 79.44 318 ⇑P P 18 42 34.5 +1.3
VRI Vrincioaia 79.44 318 P P 18 42 34.2 +1.0
comp=Z,3μmcomp=Z,277nm,1.3s
VRI Vrincioaia 79.44 318 ⇑P P 18 42 34.5 +1.3
VRI Vrincioaia 79.44 318 ⇓P P 18 42 34.8 +1.6
LUNU Lund 79.45 331 i P P 18 42 32.8 -0.2
HARR Harsova 79.46 317 ⇑P P 18 42 34.4 +1.1
HARR Harsova 79.46 317 ⇑P P 18 42 34.4 +1.1
GKP Gorka Klasztor 79.48 328 eP P 18 42 34.2 +1.0
GKP eS S 18 52 00.1 -2.1
GKP Gorka Klasztor 79.48 328 eP P 18 42 33.3 +0.1
OVD Ostervraa, Den 79.48 334 i P P 18 42 33.1 0.0
PLOR5 Plostina Array 79.48 318 P P 18 42 34.6 +1.1
comp=Z,1μmcomp=Z,94nm,1.2s
PLOR Plostina 79.49 318 ⇓P P 18 42 34.5 +1.0
PLOR Plostina 79.49 318 ⇓P P 18 42 34.5 +1.0
TLZ Tolley Road 79.50 150 P P 18 42 36.4 +2.9
RAKU Rahkiv 79.51 321 P P 18 42 33.8 +0.3
HLID Hailey 79.52 45 IAmb IAmb 18 42 40.8
comp=Z,364nm,1.6s
KARZ Kaharoa 79.54 150 P P 18 42 36.0 +2.3
KARZ PcP PcP 18 42 40.2 +0.1
MEZ Mezhgor'ye 79.55 322 P P 18 42 34.3 +0.6
GRER 79.59 318 ⇑P P 18 42 36.3 +2.2
MANR Mangalia 79.59 316 ⇓P P 18 42 35.1 +1.1
BISRR Bisoca 79.64 318 P P 18 42 35.1 +0.7
comp=Z,6μmcomp=Z,705nm,1.1s
BISRR Bisoca 79.64 318 ⇑P P 18 42 36.5 +2.1
PMPB Monarch Peak 79.64 54 IAmb IAmb 18 42 41.1
comp=Z,585nm,1.7s
KHEZ Kahui Hut 79.71 152 P P 18 42 37.8 +3.2
NEZ North Egmont 79.72 152 P P 18 42 39.1 +4.4
TURR Turia 79.72 319 ⇑P P 18 42 36.7 +1.9
COVR Voineasa-Covas 79.74 318 ⇓P P 18 42 36.0 +1.1
KMY Karmoy 79.78 337 eP P 18 42 34.0 -0.7
SNART Snartemo 79.79 336 eP P 18 42 34.1 -0.6
SNART Snartemo 79.79 336 i P P 18 42 34.9 +0.1
COP Copenhagen 79.81 332 i P P 18 42 35.8 +0.9
COP IAmb IAmb 18 42 38.4
comp=Z,135nm,0.7s
OZUR 79.82 319 ⇓P P 18 42 36.8 +1.5
ICOR Ion Corvin 79.87 316 ⇑P P 18 42 37.0 +1.5
BRIU Brid 79.91 322 P P 18 42 36.4 +0.8
KOLS Kolonicke sedl 79.92 323 eP P 18 42 36.7 +1.0
KOLS pmax pmax
comp=Z,191nm,1.8s
KOLS Kolonicke sedl 79.92 323 eP P 18 42 36.7 +1.0
KALB Balgarevo 79.94 316 ⇑P P 18 42 37.5 +1.6
NEHR Nehoiu 79.94 318 ⇓P P 18 42 37.3 +1.4
MDUB Mudurnu 79.96 312 IAmb IAmb 18 42 43.1
comp=Z,273nm,0.9s
MDUB pP 18 44 02.0 +0.1
PSN Preselentsi 79.96 316 i P P 18 42 37.0 +1.0
KORU Korolevo 79.97 322 P P 18 42 35.4 -0.5
HAZ Te Kaha 79.98 148 P P 18 42 35.7 -0.2
HAZ PcP PcP 18 42 42.6 +0.6
ISR Istrita 79.99 318 P P 18 42 36.8 +0.6
comp=Z,3μmcomp=Z,195nm,1.4s
ISR Istrita 79.99 318 ⇑P P 18 42 38.0 +1.8
ARCR ARCALIA 79.99 320 ⇑P P 18 42 38.0 +1.9
SFJD Kangerlussuaq 80.01 3 P P 18 42 36.2 +0.4
SFJD IAmb IAmb 18 42 40.6
comp=Z,155nm,0.7s
SFJD Kangerlussuaq 80.01 3 P P 18 42 36.2 +0.4
SFJD pmax pmax
comp=Z,155nm,0.7s
SFJD Kangerlussuaq 80.01 3 i P P 18 42 36.2 +0.4
SFJD Kangerlussuaq 80.01 3 P P 18 42 36.1 +0.4
SFJD S S 18 52 07.4 +0.2
MUKU Mukachevo 80.01 322 P P 18 42 36.4 +0.2
LHV Little Huntoon 80.03 51 IAmb IAmb 18 42 43.5
comp=Z,412nm,1.2s
NVAR Mina Array Bea 80.06 51 P P 18 42 37.6 +0.7
comp=Z,67nm,0.5s,baz=285,slow=5.7,SNR=291
NVAR S S 18 52 07.9 -1.4
comp=Z,0.3nm,0.5s,baz=283,slow=5.3,SNR=1.0
comp=Z,67nm,0.5s
BMR Baia Mare 80.08 321 ⇓P P 18 42 38.0 +1.4
MLR Muntele Rosu 80.10 318 IAmb IAmb 18 42 44.3
comp=Z,255nm,1.6s
MLR Muntele Rosu 80.10 318 S S 18 52 08.4 -0.9
comp=Z,3.8nm,0.9s,baz=90,slow=20,SNR=6.4
MLR PKKPbc PKKPbc 19 01 18.4 +1.0
comp=Z,6.2nm,0.8s,baz=185,slow=3.7,SNR=10
MLR PKPPKP P'P'df 19 09 26.3 +0.9
comp=Z,1.6nm,0.9s,baz=287,slow=11,SNR=4.2
MLR Muntele Rosu 80.10 318 ⇑P P 18 42 38.0 +1.1
MLR Muntele Rosu 80.10 318 P P 18 42 37.2 +0.3
comp=Z,991nmcomp=Z,74nm,1.3s
MLR Muntele Rosu 80.10 318 ⇑P P 18 42 38.0 +1.1
UZHM Uzhgorod 80.10 322 P P 18 42 37.1 +0.5
RUGZ Raukumara Rang 80.11 149 P P 18 42 36.2 -0.6
URZ Urewera 80.11 149 P P 18 42 36.8 +0.2
DOPR Dopca 80.12 319 ⇑P P 18 42 38.7 +1.8
HOLU Holmets 80.12 322 P P 18 42 37.3 +0.6
STHS Stebnicka Huta 80.13 323 eP P 18 42 37.2 +0.4
STHS pmax pmax
comp=Z,62nm,0.9s
STHS Stebnicka Huta 80.13 323 eP P 18 42 37.2 +0.4
STHS epP pP 18 44 02.7 +0.1
NV11 Mina Array Sit 80.15 50 IAmb IAmb 18 42 43.8
comp=Z,168nm,1.0s
BERU Beregovo 80.17 322 P P 18 42 37.3 +0.3
NGZ Ngauruhoe 80.25 151 P P 18 42 39.7 +2.2
OTVZ Oturere 80.26 151 P P 18 42 39.2 +1.6
CICN Ciocanesti 80.27 317 ⇑P P 18 42 39.2 +1.6
HWQ Hawqa 80.30 305 eP P 18 42 38.5 +0.3
OJC Ojcow 80.32 325 eP P 18 42 38.3 +0.5
OJC epP pP 18 44 03.3 -0.3
OJC eS S 18 52 09.8 -1.3
OJC Ojcow 80.32 325 P P 18 42 38.0 +0.2
MWZ Matawai 80.35 149 P P 18 42 38.0 +0.1
MWZ PcP PcP 18 42 43.2 -0.5
PLAR PLOIESTI 80.41 318 ⇓P P 18 42 39.9 +1.6
SULR 80.42 318 ⇑P P 18 42 39.9 +1.5
QRZ Quartz Range 80.46 154 IAmb IAmb 18 42 45.3
comp=Z,278nm,1.1s
QRZ Quartz Range 80.46 154 P P 18 42 39.9 +1.5
QRZ Quartz Range 80.46 154 P P 18 42 39.6 +1.2
QRZ PcP PcP 18 42 43.2 -0.9
WAZ Wanganui 80.49 151 P P 18 42 38.8 +0.2
MUD Monsted U'grnd 80.50 334 i P P 18 42 38.6 0.0
MUD IAmb IAmb 18 42 43.2
comp=Z,31nm,0.7s
Q09A Carvers 80.55 50 P P 18 42 40.1 +0.7
NIE Niedzica 80.60 324 eP P 18 42 40.4 +1.0
NIE epP pP 18 44 05.9 +0.7
NIE eS S 18 52 14.8 +0.7
BKZ Black Stump Fm 80.61 150 IAmb IAmb 18 42 46.0
comp=Z,282nm,1.1s
BKZ Black Stump Fm 80.61 150 P P 18 42 39.9 +0.6
BKZ Black Stump Fm 80.61 150 P P 18 42 38.8 -0.5
CBBR Cluj-Babes-Bol 80.62 320 ⇑P P 18 42 41.1 +1.6
CJR Cluj-Napoca 80.63 320 ⇑P P 18 42 40.9 +1.3
CJR Cluj-Napoca 80.63 320 ⇑P P 18 42 40.9 +1.3
VOIR 80.63 319 ⇑P P 18 42 40.5 +0.9
VOIR 80.63 319 ⇑P P 18 42 40.5 +0.9
ELK Elko 80.67 47 IAmb IAmb 18 42 48.3
comp=Z,188nm,1.1s
PRD Provadia 80.67 316 i P P 18 42 40.9 +1.2
NEF NEVSHA 80.69 316 i P P 18 42 41.0 +1.1
MESR Meseseni 80.70 321 ⇑P P 18 42 41.4 +1.6
BHL Bhannes 80.71 304 eP P 18 42 40.5 +0.2
MTUR Matau 80.75 318 ⇓P P 18 42 41.2 +0.9
MTUR Matau 80.75 318 ⇓P P 18 42 41.2 +0.9
RAR Rarotonga 80.77 123 P P 18 42 43.8 +3.3
ASF Jabal al Asfar 80.79 302 S S 18 52 16.9 +0.1
comp=Z,2.4nm,0.8s,baz=0.0,slow=2.0,SNR=6.2
KLYT Kilyos 80.83 313 ⇑P P 18 42 41.6 +0.9
DSP Deep Springs 80.88 51 IAmb IAmb 18 42 47.9
comp=Z,585nm,1.8s
TIN Tinemaha, Big 80.89 52 IAmb IAmb 18 42 47.0
comp=Z,182nm,0.7s
ARR Arges 80.90 319 ⇓P P 18 42 42.7 +1.7
MARR Marisel-Cluj 80.91 320 ⇓P P 18 42 42.1 +1.0
RAZG Razgrad 80.95 317 ⇑P P 18 42 42.1 +0.8
YNR Norris Junctio 80.97 42 IAmb IAmb 18 42 48.4
comp=Z,406nm,1.4s
KNZ Kokohu 80.98 149 P P 18 42 40.1 -1.1
DSZ Denniston Nort 81.00 155 IAmb IAmb 18 42 50.7
comp=Z,149nm,0.9s
DSZ Denniston Nort 81.00 155 P P 18 42 43.4 +2.1
DSZ PcP PcP 18 42 45.4 -1.1
VES Vestal, Richgr 81.00 53 P P 18 42 41.1 -0.5
VES pP 18 44 06.2 -1.0
BORG Borgarnes 81.01 351 P P 18 42 43.2 +2.1
BORG Borgarnes 81.01 351 P P 18 42 43.2 +2.1
BORG pmax pmax
comp=Z,82nm,0.9s
DRGR 81.05 321 ⇑P P 18 42 42.6 +0.8
DRGR 81.05 321 ⇑P P 18 42 42.6 +0.8
SSRD Sdr. Stenderup 81.06 333 i P P 18 42 40.9 -0.6
MZP Montezuma Peak 81.07 51 IAmb IAmb 18 42 48.5
comp=Z,362nm,1.8s
KECS Kecovo 81.11 323 eP P 18 42 43.0 +1.0
KECS pmax pmax
comp=Z,79nm,1.6s
KECS Kecovo 81.11 323 eP P 18 42 43.0 +1.0
NNZ Nelson 81.12 153 P P 18 42 42.0 +0.1
NNZ PcP PcP 18 42 47.2 +0.3
TSZ Takapari Road 81.14 151 P P 18 42 42.9 +0.8
CTYL Yalikoy Yolu 81.16 314 ⇑P P 18 42 42.9 +0.6
LANS Liptovska Anna 81.18 324 eP P 18 42 44.1 +1.7
LANS pmax pmax
comp=Z,44nm,0.8s
LANS Liptovska Anna 81.18 324 eP P 18 42 44.0 +1.7
LANS epP pP 18 44 10.1 +1.6
HUMR Humele 81.23 318 ⇓P P 18 42 43.2 +0.6
LOT Lotru 81.33 319 ⇑P P 18 42 44.4 +1.1
OKC Ostrava-Krasne 81.37 325 eP P 18 42 44.1 +0.8
OKC epP pP 18 44 09.2 -0.1
OKC eSKS S 18 52 21.4 -0.4
OKC Ostrava-Krasne 81.37 325 eP P 18 42 44.1 +0.8
OKC e*PP pP 18 44 09.2 -0.1
OKC e 18 52 21.4
MMAI Mount Meron Ar 81.38 304 P P 18 42 44.7 +0.9
comp=Z,22nm,0.5s,baz=51,slow=6.6,SNR=78
MMAI pP pP 18 44 09.7 -0.1
comp=Z,47nm,1.1s,baz=50,slow=7.8,SNR=4.3
MMAI PKKPbc PKKPbc 19 01 15.2 +1.2
comp=Z,0.5nm,0.3s,baz=90,slow=0.1,SNR=4.4
comp=Z,22nm,0.5s
GMN Gold Mountain 81.38 51 P P 18 42 44.6 +0.7
GMN IAmb IAmb 18 42 50.4
comp=Z,381nm,1.5s
GMN pP pP 18 44 08.9 -0.5
THZ Tophouse 81.41 154 IAmb IAmb 18 42 49.2
comp=Z,147nm,0.9s
THZ Tophouse 81.41 154 P P 18 42 44.4 +1.0
FXWY Fox Creek 81.44 43 IAmb IAmb 18 42 51.1
comp=Z,331nm,1.4s
SZH Strazhitsa 81.44 317 i P P 18 42 44.6 +0.8
TCW Tory Channel 81.45 153 P P 18 42 43.5 -0.1
STEB Steborice 81.48 325 eP P 18 42 44.8 +0.9
GRAC Grapevine Rang 81.49 51 IAmb IAmb 18 42 50.7
comp=Z,320nm,1.1s
PXZ Pawanui 81.49 150 P P 18 42 45.8 +2.0
MRZ Mangatainoka R 81.50 152 P P 18 42 43.9 +0.1
RLMT Red Lodge 81.50 41 IAmb IAmb 18 42 51.0
comp=Z,194nm,0.8s
PHSR Pinarhisar 81.52 314 ⇓P P 18 42 45.4 +1.2
DEV Deva 81.53 320 ⇓P P 18 42 45.5 +1.4
DEV Deva 81.53 320 ⇓P P 18 42 45.5 +1.4
RUE Ruedersdorf 81.54 329 eP P 18 42 42.3 -1.7
RUE Ruedersdorf 81.54 329 eP P 18 42 44.5 +0.5
comp=Z,303nm,1.4s,baz=43,slow=4.9
RUE epP pP 18 44 10.5 +0.4
HVU Hansel Valley 81.55 45 P P 18 42 45.3 +0.7
HVU IAmb IAmb 18 42 49.0
comp=Z,217nm,0.7s
HVU Hansel Valley 81.55 45 P P 18 42 45.3 +0.7
HVU pmax pmax
comp=Z,217nm,0.7s
KSP Ksiaz 81.56 327 eP P 18 42 44.9 +0.6
KSP epP pP 18 44 10.2 -0.1
KSP eS S 18 52 22.8 -0.9
JMB Yambol 81.59 316 i P P 18 42 45.7 +1.1
ISOG Isortoq, Green 81.60 358 i P P 18 42 43.2 -0.9
LOHW Long Hollow 81.70 43 IAmb IAmb 18 42 52.2
comp=Z,368nm,1.6s
MORC Moravsky Berou 81.70 325 ⇑i P P 18 42 45.4 +0.3
MORC epP pP 18 44 10.6 -0.6
MORC eS S 18 52 24.2 -1.1
MORC Moravsky Berou 81.70 325 ⇓P P 18 42 46.0 +0.9
SNOW Snow King Moun 81.70 43 IAmb IAmb 18 42 52.4
comp=Z,557nm,1.6s
ELND Elena 81.71 316 ⇑P P 18 42 46.1 +0.9
SNZO South Karori 81.71 152 P P 18 42 44.6 -0.3
SNZO IAmb IAmb 18 42 50.6
comp=Z,260nm,1.1s
SNZO South Karori 81.71 152 P P 18 42 45.4 +0.5
SNZO South Karori 81.71 152 P P 18 42 44.5 -0.3
CSS Mathiatis 81.71 306 IAmb IAmb 18 42 51.8
comp=Z,158nm,0.8s
INZ Inchbonnie 81.73 155 P P 18 42 45.0 0.0
INZ IAmb IAmb 18 42 50.8
comp=Z,323nm,1.2s
INZ Inchbonnie 81.73 155 P P 18 42 45.2 +0.2
BFZ Birch Farm 81.78 151 IAmb IAmb 18 42 51.5
comp=Z,206nm,0.8s
BFZ Birch Farm 81.78 151 P P 18 42 46.4 +1.1
BFZ Birch Farm 81.78 151 P P 18 42 46.2 +0.9
PSZ Piszkesteto 81.78 323 P P 18 42 45.8 +0.2
PSZ pP pP 18 44 09.9 -1.9
PSZ Piszkesteto 81.78 323 P P 18 42 45.8 +0.2
PSZ *PP pP 18 44 09.9 -1.9
PSZ pmax pmax
comp=Z,213nm,1.4s
PSZ Piszkesteto 81.78 323 eP P 18 42 46.3 +0.8
PSZ Piszkesteto 81.78 323 ⇓P P 18 42 46.6 +1.1
OSTC Ostas 81.79 326 eP P 18 42 46.5 +1.0
OSTC epP pP 18 44 11.6 0.0
OSTC eSKS S 18 52 26.1 -0.1
OSTC Ostas 81.79 326 eP P 18 42 46.5 +1.0
OSTC e*PP pP 18 44 11.6 0.0
OSTC e 18 52 26.1
WVZ Waitaha Valley 81.79 156 P P 18 42 45.7 +0.5
MAUC Maruska 81.84 325 eP P 18 42 46.8 +1.0
MAUC epP pP 18 44 12.7 +0.8
CHVC Chvalec 81.84 327 eP P 18 42 46.7 +0.9
CHVC epP pP 18 44 12.3 +0.4
CHVC eSKS S 18 52 26.3 -0.4
CHVC Chvalec 81.84 327 eP P 18 42 46.7 +0.9
CHVC e*PP pP 18 44 12.3 +0.4
CHVC e 18 52 26.3
R11B Troy Canyon, C 81.85 49 P P 18 42 46.3 +0.5
KRLC Kraliky 81.86 326 eP P 18 42 46.7 +0.8
KRLC epP pP 18 44 12.3 +0.3
KRLC eSKS S 18 52 27.2 +0.3
KRLC Kraliky 81.86 326 eP P 18 42 46.7 +0.8
KRLC e*PP pP 18 44 12.3 +0.3
KRLC e 18 52 27.2
DPC Dobruska-Polom 81.88 326 eP P 18 42 47.2 +1.2
DPC epP pP 18 44 12.3 +0.1
DPC eSKS S 18 52 27.5 +0.3
DPC AMS AMS 19 25 20.0
comp=Z,2μm,13.1s
DPC Dobruska-Polom 81.88 326 eP P 18 42 47.2 +1.2
DPC e*PP pP 18 44 12.3 +0.1
DPC e 18 52 27.5
DPC MLR MLR
comp=Z,2μm,13.1s
FOZ Fox Glacier 81.89 157 IAmb IAmb 18 42 52.5
comp=Z,268nm,1.0s
FOZ Fox Glacier 81.89 157 P P 18 42 47.8 +2.0
ISP Isparta 81.92 310 IAmb IAmb 18 42 52.1
comp=Z,551nm,1.8s
ISP Isparta 81.92 310 d iP P 18 42 46.4 -0.1
ISP pmax pmax
comp=Z,74nm,0.9s
UPC Upice 81.92 327 eP P 18 42 47.1 +1.0
UPC epP pP 18 44 12.7 +0.4
UPC eSKS S 18 52 27.3 -0.1
UPC Upice 81.92 327 eP P 18 42 47.1 +1.0
UPC e*PP pP 18 44 12.7 +0.4
UPC e 18 52 27.3
BSEG Bad Segeberg 81.93 331 eP P 18 42 46.2 +0.2
comp=Z,266nm,1.3s,baz=43,slow=4.9
VYHS Vyhne 81.93 324 eP P 18 42 47.3 +1.0
VYHS pmax pmax
comp=Z,236nm,1.6s
VYHS Vyhne 81.93 324 eP P 18 42 47.3 +1.0
VYHS epP pP 18 44 13.5 +1.0
VYHS eS S 18 52 25.1 -2.6
VYHS eSS sS 18 54 59.4 -0.2
VYHS eSS SS 18 57 51.7 -3.2
BAND Balkesir-Ban 81.94 313 ⇓P P 18 42 47.3 +0.9
OSI Osito Audit: C 81.94 54 IAmb IAmb 18 42 52.2
comp=Z,168nm,1.1s
SIRR Siria 81.94 321 ⇓P P 18 42 47.5 +1.1
MSWZ Moikau Station 82.01 152 P P 18 42 46.3 -0.2
JCZ Jackson Bay 82.03 158 P P 18 42 48.3 +1.6
LTZ Lake Taylor 82.07 155 P P 18 42 48.8 +2.0
WCT Wildcat Mounta 82.09 51 IAmb IAmb 18 42 53.6
comp=Z,210nm,1.0s
LAO LASA Array 82.14 38 IAmb IAmb 18 42 53.6
comp=Z,441nm,1.2s
SRE Strehaia 82.14 319 ⇓P P 18 42 48.8 +1.5
SRE Strehaia 82.14 319 ⇓P P 18 42 48.8 +1.5
PLVB Pleven 82.14 317 ⇑P P 18 42 48.7 +1.3
LRMC Laurel Mtn Rad 82.15 53 IAmb IAmb 18 42 53.7
comp=Z,326nm,1.4s
GHAJ Ghor Haditha 82.22 302 P P 18 42 48.4 +0.5
GHAJ pP pP 18 44 13.1 -1.2
KHZ Kahutara 82.22 154 IAmb IAmb 18 42 53.0
comp=Z,187nm,0.9s
KHZ Kahutara 82.22 154 P P 18 42 47.3 -0.2
GORT1 Trebel 82.22 330 eP P 18 42 48.1 +0.6
comp=Z,315nm,1.3s,baz=43,slow=4.9
JAVC Velka Javorina 82.26 325 i P P 18 42 49.6 +1.6
JAVC epP pP 18 44 15.8 +1.6
JAVC eS S 18 52 32.5 +1.5
SPR3 Spring Creek 3 82.26 48 IAmb IAmb 18 42 55.5
comp=Z,438nm,1.4s
MSZ Milford Sound 82.31 158 P P 18 42 50.3 +2.5
BZS Buzias 82.39 320 ⇑P P 18 42 49.0 +0.4
BZS Buzias 82.39 320 ⇑P P 18 42 49.0 +0.4
GWY Greenwater Val 82.41 52 IAmb IAmb 18 42 55.9
comp=Z,313nm,1.0s
DIM Dimitrovgrad 82.42 316 i P P 18 42 50.4 +1.6
HERR Herculane 82.43 319 ⇑P P 18 42 49.8 +1.0
OXZ Oxford 82.46 155 IAmb IAmb 18 42 55.3
comp=Z,344nm,1.0s
OXZ Oxford 82.46 155 P P 18 42 48.5 -0.2
RPZ Rata Peaks 82.47 156 P P 18 42 50.3 +1.6
VRAC Vranov 82.47 325 ⇑i P P 18 42 49.8 +0.8
VRAC epP pP 18 44 15.8 +0.5
VRAC eS S 18 52 32.9 -0.2
VRAC Vranov 82.47 325 S S 18 52 30.7 -2.4
comp=Z,0.9nm,0.3s,baz=317,slow=22,SNR=11
VRAC Vranov 82.47 325 ⇑P P 18 42 50.0 +1.0
VRAC Vranov 82.47 325 ⇑P P 18 42 50.0 +1.0
GVZ Greta Valley S 82.51 154 IAmb IAmb 18 42 56.4
comp=Z,182nm,0.8s
GVZ Greta Valley S 82.51 154 P P 18 42 49.8 +0.8
DJES Djerdap 82.51 319 ⇓P P 18 42 49.5 +0.2
PUNG Punghina 82.53 319 ⇓P P 18 42 50.7 +1.3
PASC Pasadena Art C 82.56 54 IAmb IAmb 18 42 55.6
comp=Z,266nm,1.4s
PVCC Panska Ves 82.57 327 eP P 18 42 50.4 +1.0
PVCC epP pP 18 44 16.5 +0.8
PVCC eSKS SKSac 18 52 33.3 -0.4

PVCC **Panska Ves** 82.57 327 *e*P **P** 18 42 50.4 +1.0
PVCC *e**PP **pP** 18 44 16.5 +0.8
PVCC *e* 18 52 33.3
BRG Berggiesshubel 82.61 328 *e*P **P** **18 42 49.9 +0.3**
comp=Z,87nm,0.7s,baz=43,slow=4.9
BRG *e*pP **pP** **18 44 16.3 +0.4**
BRG Berggiesshubel 82.61 328 *i* P **P** **18 42 50.1 +0.5**
BRG Amp 18 42 52.1
comp=Z,87nm,0.7s
BRG Berggiesshubel 82.61 328 P P 18 43 01.8 +12
BRG Amp 18 43 02.1
comp=Z,34nm,0.6s
BRG Berggiesshubel 82.61 328 P P 18 43 06.3 +17
BRG Amp 18 43 07.6
comp=Z,32nm,0.7s
BRG pP pP 18 44 16.4 +0.4
BRG Amp 18 44 22.8
comp=Z,34nm,1.0s
BRG PP **PP** **18 45 58.8 -5.8**
BRG Amp 18 46 08.3
comp=Z,19nm,1.1s
BRG Berggiesshubel 82.61 328 S **S** **18 52 35.0 +0.7**
BRG Berggiesshubel 82.61 328 sS sS 18 55 09.0 +2.9
BRG Berggiesshubel 82.61 328 SS SS 18 58 05.0 +0.5
BRG PKKP 19 01 04.4
BRG Amp 19 01 18.1
comp=Z,4.2nm,1.0s
BRG PKPPKP **P'P'df** **19 09 16.7 -4.4**
BRG Amp 19 09 19.3
comp=Z,1.8nm,0.9s
SMOL Smolenice 82.61 324 *e*P **P** **18 42 51.5 +1.8**
SMOL pmax pmax
comp=Z,53nm,0.7s
MWC Mount Wilson 82.61 54 P **P** **18 42 50.3 +0.1**
MWC IAmb IAmb 18 42 56.2
comp=Z,454nm,1.4s
MWC Mount Wilson 82.61 54 P **P** **18 42 50.3 +0.1**
MWC pmax pmax
comp=Z,454nm,1.5s
SRO Srobarova 82.65 324 *e*P **P** **18 42 51.9 +2.0**
SRO pmax pmax
comp=Z,100nm,1.5s
SRO Srobarova 82.65 324 *e*P **P** **18 42 51.9 +2.0**
MPEP Malo Peshtene 82.66 318 *i* P **P** **18 42 51.2 +1.1**
HLG Helgoland 82.70 333 *e*P **P** **18 42 50.0 0.0**
baz=43,slow=4.9
CLL Collm 82.71 328 IAmb IAmb 18 42 52.3
comp=Z,156nm,0.6s
CLL Collm 82.71 328 *i* P **P** **18 42 50.3 +0.2**
CLL *i* x x 18 42 53.1
comp=Z,278nm,1.4s
CLL *i* pP **pP** **18 44 16.3 -0.2**
CLL *e*PP **PP** **18 46 03.0 -2.4**
CLL *e*SKSac **SKSac** **18 52 34.0 -0.6**
CLL *e*S **S** **18 52 36.0 +0.7**
comp=N,4μm,17.6s
CLL *e*S **S** **18 52 36.0 +0.7**
comp=E,6μm,18.7s
CLL *e*SP **SPn** **18 53 28.0 +1.0**
CLL *e*sS **sS** **18 55 09.0 +1.9**
CLL *e*SS **SS** **18 58 08.0 +1.9**
CLL *e*SSS SSS 19 01 42.0
CLL *e*SSSS 19 04 37.0
CLL Collm 82.71 328 *e*P **P** **18 42 50.1 0.0**
comp=E,153nm,0.6s,baz=43,slow=4.9
FLTG Flechtingen 82.73 330 *e*P **P** **18 42 49.8 -0.4**
comp=E,169nm,0.7s,baz=43,slow=4.9
FLTG *e*pP **pP** **18 44 15.7 -0.8**
KRUC Moravsky 82.73 325 ⇑*i*P **P** **18 42 50.8 +0.5**
KRUC *e*pP **pP** **18 44 17.2 +0.5**
KRUC *e*S **SKSac** **18 52 35.3 +0.5**
NUUK Nuuk 82.75 4 *i* P **P** **18 42 49.9 -0.1**
LBZ Lake Benmore 82.77 157 IAmb IAmb 18 42 57.2
comp=Z,353nm,1.0s
RICC Richard 82.77 327 *e*P **P** **18 42 51.6 +1.1**
RICC *e*pP **pP** **18 44 16.8 0.0**
MODS Modra-Piesok 82.78 324 *e*P **P** **18 42 49.4 -1.2**
MODS pmax pmax
comp=Z,398nm,1.6s
MODS Modra-Piesok 82.78 324 *e*P **P** **18 42 49.4 -1.2**
MODS *e*pP **pP** **18 44 15.1 -1.9**
MODS *e*S **SKSac** **18 52 33.4 -1.8**
MODS *e*sS **sS** **18 55 11.5 +3.1**
MODS *e*SS **SS** **18 57 59.9 -7.4**
WKZ Wanaka 82.78 158 IAmb IAmb 18 43 00.8
comp=Z,434nm,1.9s
BW06 Boulder Array 82.82 43 IAmb IAmb 18 42 57.0
comp=Z,345nm,1.3s
PD31 Pinedale Array 82.82 43 IAmb IAmb 18 42 57.0
comp=Z,312nm,1.2s
PDAR Pinedale Array 82.82 43 P **P** **18 42 51.3 +0.1**
PDAR pP **pP** **18 44 16.1 -0.5**
PDAR Pinedale Array 82.82 43 P **P** **18 42 51.5 +0.3**
comp=Z,500nm,0.5s,baz=288,slow=2.2,SNR=213
PDAR S **SKSac** **18 52 33.1 -3.1**
comp=Z,2.7nm,0.5s,baz=344,slow=4.4,SNR=7.4
PDAR PKKPbc **PKKPbc** **19 01 11.2 -0.2**
comp=Z,1.3nm,0.4s,baz=42,slow=12,SNR=3.7
comp=Z,50nm,0.5s
CTU Camp Tracy 82.82 46 IAmb IAmb 18 42 54.3
comp=Z,635nm,1.8s
GSC Goldstone, Bar 82.83 52 IAmb IAmb 18 42 57.2
comp=Z,428nm,1.3s
BFSC Mount Baldy Ra 82.88 54 IAmb IAmb 18 42 57.2
comp=Z,266nm,1.2s
MDVR Moldovita 82.88 320 ⇑P **P** **18 42 52.0 +0.8**
GOPC GO Pecny, Ondr 82.90 327 *e*P **P** **18 42 52.0 +0.8**
GOPC *e*pP **pP** **18 44 17.8 +0.3**
GOPC GO Pecny, Ondr 82.90 327 *e*P **P** **18 42 52.0 +0.8**
GOPC *e**PP **pP** **18 44 17.8 +0.3**
CAVK Edirne/Enez-Ca 82.91 314 ⇓P **P** **18 42 52.2 +0.9**
ELL Elmali 82.94 309 IAmb IAmb 18 43 06.0
comp=Z,283nm,0.9s
PGB Panagyurishte 82.95 317 P **P** **18 42 52.7 +1.1**
PRA Prague 82.95 327 *e*P **P** **18 42 52.2 +0.8**
PRA *e*pP **pP** **18 44 18.5 +0.8**
PRA *e*SKS **SKSac** **18 52 37.7 +1.5**
PRA Prague 82.95 327 *e*P **P** **18 42 52.2 +0.8**
PRA *e**PP **pP** **18 44 18.5 +0.8**
PRA *e* 18 52 37.7
PRU Pruhonice 82.96 327 *e*P **P** **18 42 52.1 +0.7**
PRU *e*pP **pP** **18 44 17.8 0.0**
PRU *e*SKS **SKSac** **18 52 36.7 +0.5**
PRU AMS AMS 19 23 40.0
comp=Z,4μm,14.2s
PRU Pruhonice 82.96 327 *e*P **P** **18 42 52.1 +0.7**
PRU *e**PP **pP** **18 44 17.8 0.0**
PRU *e* 18 52 36.7
comp=Z,4μm,14.2s
PRU MLR MLR
MLZ Mavora Lakes 82.99 159 P **P** **18 42 52.0 +0.6**
MLZ IAmb IAmb 18 42 58.0
comp=Z,177nm,1.1s
MLZ Mavora Lakes 82.99 159 P **P** **18 42 53.7 +2.2**
RDO Rodhopi 83.00 315 P **P** **18 42 52.1 +0.3**
RDO IAmb IAmb 18 42 58.5
comp=Z,369nm,1.6s
RDO pP **pP** **18 44 17.4 -1.0**
TREC Trest 83.00 326 *e*P **P** **18 42 52.4 +0.7**
TREC *e*pP **pP** **18 44 17.8 -0.4**
TREC *e*SKS **SKSac** **18 52 38.0 +1.4**
TREC Trest 83.00 326 *e*P **P** **18 42 52.4 +0.7**
TREC *e**PP **pP** **18 44 17.8 -0.4**
TREC *e* 18 52 38.0
MQZ McQueen's Vall 83.01 155 IAmb IAmb 18 42 58.3
comp=Z,251nm,1.2s
MQZ McQueen's Vall 83.01 155 P **P** **18 42 52.6 +1.1**
TMZ Timaru 83.04 156 P **P** **18 42 53.2 +1.5**
JLU Jordanelle 83.06 46 IAmb IAmb 18 42 59.1
comp=Z,510nm,1.6s
NRDL Niedersach Rie 83.08 331 *e*P **P** **18 42 52.0 +0.1**
comp=Z,56nm,0.9s,baz=43,slow=4.9
ASSE Asse, Remlinge 83.11 330 *e*P **P** **18 42 52.2 +0.1**
comp=Z,74nm,1.0s,baz=43,slow=4.9
RZN Rozhen 83.13 316 *i* P **P** **18 42 54.2 +1.5**
BIGH Upper Bighouse 83.13 341 *e*P **P** **18 42 53.0 +0.9**
BIGH IAmb IAmb 18 42 54.5
comp=Z,26nm,0.7s

TAVA DENIZLI_Tavas 83.16 310 ⇓P **P** **18 42 53.6 +0.7**
RETH Rethem/Aller, 83.20 331 *e*P **P** **18 42 52.6 0.0**
comp=Z,72nm,0.8s,baz=43,slow=4.9
EAZ Earnscleugh 83.24 158 P **P** **18 42 54.4 +1.8**
PYZ Puysegur Point 83.29 160 IAmb IAmb 18 43 00.3
comp=Z,184nm,0.8s
PYZ Puysegur Point 83.29 160 P **P** **18 42 55.0 +2.1**
MPU Maple Canyon 83.31 46 IAmb IAmb 18 43 00.7
comp=Z,216nm,0.7s
NEUB Neuenburg 83.32 329 *e*P **P** **18 42 53.3 +0.1**
comp=Z,157nm,0.9s,baz=43,slow=4.9
EZN Ezine 83.34 314 ⇑P **P** **18 42 54.6 +1.0**
EZN Ezine 83.34 314 ⇑P **P** **18 42 54.6 +1.0**
ELS Elsinore Mount 83.38 54 IAmb IAmb 18 42 59.9
comp=Z,183nm,1.1s
PLNA Plana 83.40 317 *i* P **P** **18 42 55.8 +1.8**
WHZ Wether Hill Ro 83.41 159 P **P** **18 42 56.5 +3.0**
VTS Vitosha 83.42 317 *i* P **P** **18 42 55.8 +1.7**
CLZ Clausthal 83.45 330 *e*P **P** **18 42 54.2 +0.3**
comp=Z,123nm,0.8s,baz=43,slow=4.9
ODZ Otahua Downs 83.50 157 IAmb IAmb 18 43 01.5
comp=Z,196nm,1.1s
ODZ Otahua Downs 83.50 157 P **P** **18 42 55.5 +1.5**
ZVC Zvikov 83.51 327 *e*P **P** **18 42 54.9 +0.7**
MORH Mrgy, Hungar 83.56 322 ⇓P **P** **18 42 54.7 +0.2**
EIL Elat 83.57 301 PKKPbc PKKPbc 19 01 11.1 +2.2
comp=Z,6.3nm,0.7s,baz=301,slow=4.0,SNR=7.2
TANN Tannenbergstha 83.59 328 *e*P **P** **18 42 54.7 0.0**
comp=Z,36nm,0.9s,baz=43,slow=4.9
TANN *e*pP **pP** **18 44 21.0 -0.2**
BOVS Bovan 83.62 319 ⇑P **P** **18 42 55.1 +0.2**
RONA Rosalia, Austr 83.72 324 *e*P **P** **18 42 56.2 +0.8**
comp=Z,41nm,0.7s,SNR=23
RONA *e*pP **pP** **18 44 23.3 +1.3**
comp=Z,87nm,1.2s,SNR=6.2
RONA *e*PP **PP** **18 46 14.7 +0.9**
comp=Z,52nm,1.4s
RONA *e*S **SKSac** **18 52 43.9 +2.5**
comp=Z,24nm,2.4s
RONA *i* PKKP **PKKPbc** **19 01 09.7 +0.4**
comp=Z,4.2nm,1.1s
CONA Conrad Observa 83.78 325 *i* PcP **P** **18 42 56.5 +0.8**
comp=Z,37nm,0.6s,SNR=38
CONA *e*pP **pP** **18 44 23.7 +1.4**
comp=Z,122nm,1.4s,SNR=7.8
CONA *e*PP **PP** **18 46 15.0 +0.7**
comp=Z,67nm,1.8s
CONA *i* S **SKSac** **18 52 43.5 +1.7**
comp=Z,19nm,1.8s
CONA *e*PKKP **PKKPbc** **19 01 11.3 +2.1**
comp=Z,8.5nm,1.8s
MOX Moxa 83.80 329 *e*P **P** **18 42 55.8 +0.1**
comp=Z,43nm,0.7s,baz=43,slow=4.9
MMB Musomishta 83.80 316 *i* P **P** **18 42 56.7 +0.8**
GTTG Gottingen 83.84 330 *e*P **P** **18 42 56.0 +0.1**
comp=Z,186nm,1.3s,baz=43,slow=4.9
GTTG *e*PP **PP** **18 46 14.6 +0.1**
V12A Nelson 83.87 51 IAmb IAmb 18 43 02.8
comp=Z,542nm,1.7s
SZCU Shurtz Canyon 83.89 49 P **P** **18 42 56.6 0.0**
SZCU pP **pP** **18 44 19.9 -2.2**
CKRC Cesky Krumlov 83.89 326 *e*P **P** **18 42 56.6 +0.4**
CKRC *e*pP **pP** **18 44 22.6 -0.1**
CKRC *e*SKS **SKSac** **18 52 45.8 +3.4**
CKRC Cesky Krumlov 83.89 326 *e*P **P** **18 42 56.6 +0.4**
CKRC *e**PP **pP** **18 44 22.6 -0.1**
CKRC *e* 18 52 45.8
KKB Krupnik 83.97 317 *i* P **P** **18 42 57.9 +1.2**
TUZ Tuapeka 83.98 158 P **P** **18 42 58.3 +1.9**
KHC Kasperske Hory 84.01 327 *e*P **P** **18 42 57.3 +0.5**
KHC *e*pP **pP** **18 44 23.3 -0.1**
KHC *e*SKS **SKSac** **18 52 45.5 +2.3**
KHC *ex* x 19 00 53.0
KHC AMS AMS 19 24 20.0
comp=Z,4μm,16.7s
KHC Kasperske Hory 84.01 327*c* *i*P **P** **18 42 56.8 0.0**
KHC pmax pmax
comp=Z,33nm,0.7s
TMUT Trail Mountain 84.01 47 IAmb IAmb 18 43 03.9
comp=Z,153nm,0.6s
PFO Pinyon Flats O 84.05 54 P **P** **18 42 57.4 -0.1**
PFO Pinyon Flats O 84.05 54*c* *i*P **P** **18 42 57.6 +0.2**
PFO pmax pmax
comp=Z,388nm,1.0s
MANZ Manzenberg 84.06 328 *e*P **P** **18 42 57.2 +0.1**
comp=Z,15nm,0.6s,baz=43,slow=4.9
DPP Dos Picos Cty 84.08 54 IAmb IAmb 18 43 03.2
comp=Z,460nm,1.5s
BELC Belle Mtn. Jos 84.13 53 IAmb IAmb 18 43 03.5
comp=Z,474nm,1.5s
LCMT Little Creek M 84.14 49 IAmb IAmb 18 43 04.3
comp=Z,341nm,1.4s
GEC2 GERESS Array S 84.16 326 *e*P **P** **18 42 57.3 -0.3**
comp=Z,48nm,0.7s,baz=43,slow=4.9
GERES GERESS Array B 84.16 326 P **P** **18 42 57.0 -0.6**
GERES pP **pP** **18 44 22.6 -1.6**
GERES GERESS Array B 84.16 326 P **P** **18 42 57.5 -0.2**
comp=Z,33nm,0.6s,baz=44,slow=5.1,SNR=28
GERES pP **pP** **18 44 22.4 -1.8**
comp=Z,20nm,0.9s,baz=46,slow=3.9,SNR=4.9
GERES PKKP **PKKPdf** **19 00 56.2 -2.0**
comp=Z,0.1nm,0.3s,baz=268,slow=40,SNR=2.4
GERES PKKPbc **PKKPbc** **19 01 09.2 +0.8**
comp=Z,2.8nm,0.9s,baz=208,slow=2.6,SNR=8.4
GERES PKPPKP **P'P'df** **19 09 13.5 -4.9**
comp=Z,1.7nm,1.1s,baz=188,slow=4.0,SNR=5.0
comp=Z,33nm,0.6s
IBBN Ibbenburen 84.17 332 *e*P **P** **18 42 57.3 -0.1**
comp=Z,209nm,0.6s,baz=43,slow=4.9
ROTZ Rotzenmuhle 84.17 328 *e*P **P** **18 42 57.0 -0.6**
comp=Z,17nm,0.7s,baz=43,slow=4.9
LEWI Lewis, Hebride 84.23 342 *e*P **P** **18 42 58.5 +0.9**
LEWI IAmb IAmb 18 43 00.1
comp=Z,70nm,0.7s
APZ The Paps 84.27 159 P **P** **18 42 59.0 +1.2**
WET Wettzell 84.32 327 *e*P **P** **18 42 58.6 +0.2**
comp=Z,90nm,1.6s,baz=43,slow=4.9
WET *e*pP **pP** **18 44 24.5 -0.5**
BDRM Kayabasi 84.33 311 ⇓P **P** **18 42 58.6 0.0**
SYZ Scrubby Hill 84.35 159 P **P** **18 43 00.1 +2.0**
UBBA Unterbreizbach 84.37 330 *e*P **P** **18 42 58.6 +0.2**
comp=Z,87nm,1.5s,baz=43,slow=4.9
ARG Arkhangelos 84.41 310 P **P** **18 42 59.2 +0.2**
ARG IAmb IAmb 18 43 08.1
comp=Z,580nm,1.7s
ARG pP **pP** **18 44 24.6 -1.3**
ARSA Arzberg 84.41 324 *i* P **P** **18 42 59.1 +0.3**
comp=Z,16nm,0.5s,SNR=20
ARSA *e*pP **pP** **18 44 26.4 +0.9**
comp=Z,60nm,2.0s,SNR=6.4
ARSA *i* S **SKSac** **18 52 49.9 +4.2**
comp=Z,12nm,1.8s
ARSA *i* PKKP **PKKPbc** **19 01 11.5 +3.9**
comp=Z,10nm,1.2s
PKCU Pink Cliffs 84.47 49 IAmb IAmb 18 43 06.7
comp=Z,170nm,1.1s
TKX Tecate 84.56 55 IAmb IAmb 18 43 05.6
comp=Z,225nm,1.4s
MOA Molln 84.60 325 *e*P **P** **18 43 00.1 +0.4**
comp=Z,29nm,0.7s,SNR=18
MOA *i* pP **pP** **18 44 27.5 +1.1**
comp=Z,56nm,1.1s
MOA *e*S **S** **18 52 54.9 +0.7**
comp=Z,9.4nm,1.3s
MOA *i* PKKP **PKKPbc** **19 01 10.9 +3.7**
comp=Z,7.8nm,1.1s
KPL Plockton 84.61 341 *e*P **P** **18 42 59.9 +0.4**
KPL IAmb IAmb 18 43 03.8
comp=Z,84nm,0.8s
K22A Casper 84.61 42 IAmb IAmb 18 43 05.9
comp=Z,442nm,1.5s
IRM Iron Mountain 84.61 53 IAmb IAmb 18 43 06.3
comp=Z,160nm,1.1s
GRF Grafenberg Arr 84.67 328 *e*P **P** **18 43 00.6 +0.5**
comp=Z,277nm,1.6s,baz=43,slow=4.9
GRF *e*PP **PP** **18 46 22.0 +0.7**
GRFO Grafenberg 84.67 328 P **P** **18 43 00.0 0.0**
GRFO pP **pP** **18 44 23.1 -3.7**
KASTN Kahler Asten 84.74 331 *e*P **P** **18 43 00.3 -0.1**
comp=Z,125nm,1.4s,baz=43,slow=4.9
W13A Hualapai Mount 84.88 51 IAmb IAmb 18 43 07.6
comp=Z,234nm,1.4s
CCX Cicese 84.93 55 IAmb IAmb 18 43 07.4
comp=Z,305nm,1.4s
ESY Stoneypath 84.94 339 *e*P **P** **18 43 01.7 +0.5**
GROS Grobnik 84.97 324 *e*pP pP 18 44 28.1 -0.4

YUH Yuha Desert 84.98 54 IAmb IAmb 18 43 07.8
comp=Z,261nm,1.3s
RSSD Black Hills 84.99 39 P **P** **18 43 01.9 -0.1**
RSSD Black Hills 84.99 39 P **P** **18 43 01.9 -0.1**
RSSD pmax pmax
comp=Z,943nm,1.9s
BIOA Bad Ischl, Aus 85.01 326 *i* P **P** **18 43 02.0 +0.3**
comp=Z,33nm,0.7s,SNR=20
BIOA *e*pP **pP** **18 44 29.4 +0.8**
comp=Z,96nm,1.3s
BIOA *e*S **S** **18 52 59.3 +1.1**
comp=Z,20nm,1.4s
BIOA *i* PKKP **PKKPbc** **19 01 08.2 +2.0**
comp=Z,6.5nm,1.2s
BUG Bochum--Univer 85.03 331 *e*P **P** **18 43 01.4 -0.3**
comp=Z,133nm,1.2s,baz=43,slow=4.9
BUG *e*PP **PP** **18 46 25.5 +1.5**
PERS Pernice 85.04 324 *e*P **P** **18 43 01.8 -0.2**
PERS *e*pP **pP** **18 44 28.7 -0.2**
SOKA Soboth 85.05 324 *i* P **P** **18 43 02.0 0.0**
comp=Z,46nm,0.8s,SNR=20
SOKA *e*pP **pP** **18 44 28.7 -0.3**
comp=Z,128nm,1.6s,SNR=6.5
SOKA *e*S **S** **18 53 00.6 +1.8**
comp=Z,24nm,1.7s
SOKA *e*PKKP **PKKPbc** **19 01 06.4 +0.2**
comp=Z,8.6nm,1.4s
EDI Edinburgh 85.10 339 *e*P **P** **18 43 02.3 +0.3**
GOLS Golise 85.23 323 *e*P **P** **18 43 02.9 +0.1**
GOLS *e*pP **pP** **18 44 29.7 -0.1**
O20A White River Ci 85.26 44 IAmb IAmb 18 43 09.4
comp=Z,203nm,0.9s
BLY Banja Luka 85.31 322 ⇓P **P** **18 43 03.5 +0.3**
BCI Bajram Curri 85.36 319 P **P** **18 43 03.9 +0.3**
RJOB Jochberg 85.37 326 *e*P **P** **18 43 03.6 0.0**
comp=Z,63nm,1.3s,baz=43,slow=4.9
RJOB *e*pP **pP** **18 44 30.5 0.0**
OBKA Obir 85.41 324 *i* P **P** **18 43 02.5 -1.4**
comp=Z,12nm,0.6s
OBKA *i* pP **pP** **18 44 32.0 +1.2**
comp=Z,32nm,1.1s
OBKA *e*PP **PP** **18 46 27.5 0.0**
comp=Z,73nm,1.5s
OBKA *e*S **S** **18 53 02.3 0.0**
comp=Z,17nm,1.4s
KARP Karpathos 85.44 310 IAmb IAmb 18 43 18.7
comp=Z,186nm,0.7s
KARP Karpathos 85.44 310 *e*P **P** **18 43 03.6 -0.5**
LAWE Loch Awe, Argy 85.47 340 *e*P **P** **18 43 03.9 +0.1**
TNS Taunus Mts 85.47 330 *e*P **P** **18 43 04.1 +0.1**
comp=Z,23nm,0.6s,baz=43,slow=4.9
PGBU Glenifferbraes 85.58 339 *e*P **P** **18 43 04.6 +0.3**
PGBU IAmb IAmb 18 43 08.7
comp=Z,216nm,0.8s
KBA Koelnbreinsper 85.59 325 *i* P **P** **18 43 04.2 -0.6**
comp=Z,14nm,0.6s
KBA *e*pP **pP** **18 44 32.2 +0.5**
comp=Z,42nm,0.9s
KBA *e*S **S** **18 53 03.4 -0.8**
comp=Z,17nm,1.3s
KBA *i* PKKP **PKKPbc** **19 01 05.7 +0.6**
comp=Z,8.2nm,1.6s
EKA Eskdalemuir Ar 85.59 339 P **P** **18 43 04.4 0.0**
comp=Z,27nm,0.5s,baz=32,slow=4.8,SNR=165
EKA PP **PP** **18 46 28.4 -0.1**
comp=Z,17nm,0.9s,baz=36,slow=7.2,SNR=4.0
EKA PKKP **PKKPdf** **19 00 52.9 -2.7**
comp=Z,1.7nm,0.8s,baz=102,slow=6.1,SNR=3.9
comp=Z,27nm,0.5s
EKB Eskdalemuir 85.60 339 IAmb IAmb 18 43 06.5
comp=Z,366nm,2.0s
GDLE Glaisdale, N Y 85.61 337 *e*P **P** **18 43 05.4 +0.9**
ESK Eskdalemuir 85.62 339 P **P** **18 43 04.5 0.0**
ESK IAmb IAmb 18 43 06.6
comp=Z,355nm,1.9s
ESK pP **pP** **18 44 29.2 -2.2**
ESK Eskdalemuir 85.62 339 *e*P **P** **18 43 04.5 0.0**
ESK IAmb IAmb 18 43 06.3
comp=Z,399nm,1.9s
ESK Eskdalemuir 85.62 339 P **P** **18 43 04.6 0.0**
ESK **PP* **pP** **18 44 29.2 -2.2**
ESK pmax pmax
comp=Z,355nm,1.9s
EDMD Edmundbyers 85.64 338 *e*P **P** **18 43 04.9 +0.2**
EDMD IAmb IAmb 18 43 05.9
comp=Z,46nm,0.6s
LESA Schwarzleotal 85.65 326 *i* P **P** **18 43 04.8 -0.2**
comp=Z,40nm,0.7s,SNR=23
LESA *i* pP **pP** **18 44 32.5 +0.5**
comp=Z,72nm,1.0s
LESA *e*S **S** **18 53 03.7 -0.9**
comp=Z,36nm,2.2s
LESA *e*PKKP **PKKPbc** **19 01 03.4 -1.5**
comp=Z,5.2nm,1.1s
FNA Florina 85.66 317 P **P** **18 43 05.1 0.0**
PUK Puka 85.67 318 P **P** **18 43 05.4 +0.2**
MSEY Mahe Island 85.68 262 P **P** **18 43 04.3 -1.3**
MSEY Mahe Island 85.68 262 P **P** **18 43 04.3 -1.3**
MSEY pmax pmax
comp=Z,106nm,1.3s
MSEY Mahe Island 85.68 262 *i* P **P** **18 43 06.3 +0.6**
SNR=7.4
LJU Ljubljana 85.75 324 *i* P **P** **18 43 05.2 -0.2**
LJU *i* pP **pP** **18 44 31.7 -0.8**
LJU *e*SKSac **SKSac** **18 52 50.0 -4.1**
LJU *e*SKKSac **SKKSac** **18 53 02.4 0.0**
LJU *e* 18 54 02.8
LJU *e* 19 05 54.6
FUR Furstenfeldbru 85.76 327 *e*P **P** **18 43 05.4 0.0**
comp=Z,86nm,0.7s,baz=43,slow=4.9
FUR *e*pP **pP** **18 44 32.6 +0.2**
VISS Visnje 85.76 324 *e*P **P** **18 43 05.3 -0.1**
MYKA Terra Mystica 85.76 325 *e*P **P** **18 43 05.1 -0.5**
comp=Z,27nm,0.6s,SNR=9.1
MYKA *e*pP **pP** **18 44 32.2 -0.3**
comp=Z,34nm,1.2s
MYKA *e*PP **PP** **18 46 26.3 -4.0**
comp=Z,63nm,1.4s
MYKA *e*S **S** **18 53 03.9 -1.7**
comp=Z,9.3nm,1.0s
PDG Podgorica 85.77 319 IAmb IAmb 18 44 34.1
comp=Z,153nm,1.0s
PDG Podgorica 85.77 319 ⇓P **P** **18 43 05.6 0.0**
OHR Ohrid 85.78 317 *i* P **P** **18 43 06.1 +0.4**
VTX Valle De La Tr 85.82 55 IAmb IAmb 18 43 12.3
comp=Z,189nm,1.4s
PMOR Pomariorio Ree 85.86 111 *e*P **P** **18 43 07.6 +1.3**
comp=Z,598nm,1.2s
PMOR Pomariorio Ree 85.86 111 *e*LR LR 19 10 52.8
comp=Z,3μm,24.3s
IVI Ivigtut 85.90 3 *i* P **P** **18 43 05.2 -0.5**
PV22 Blue Mesa, Par 85.96 46 IAmb IAmb 18 43 13.2
comp=Z,146nm,0.7s
PV19 Morning Glory 85.98 46 P **P** **18 43 07.5 +0.6**
PV19 pP **pP** **18 44 31.7 -1.1**
NRS Narsarsuaq 86.02 1 IAmb IAmb 18 43 11.2
comp=Z,296nm,1.9s
NRS Narsarsuaq 86.02 1 *i* P **P** **18 43 04.9 -1.4**
PPT Papeete 86.05 114 P **P** **18 43 07.9 +0.7**
comp=Z,34nm,0.3s,baz=276,slow=11,SNR=6.9
comp=Z,34nm,0.3s
PPT2 Papeete2 86.06 114 *e*P **P** **18 43 09.3 +2.0**
comp=Z,246nm,1.1s
PPT2 Papeete2 86.06 114 *e*S **S** **18 53 11.3 +2.1**
comp=Z,2μm,33.8s
PPT2 *e*sS sS 18 55 35.6 -4.7
comp=Z,6μm,32.2s
PPT2 Papeete2 86.06 114 *e*LQ LQ 19 05 49.1
comp=Z,3μm,25.8s
PPTF Pamatai, Papee 86.07 114 P **P** **18 43 09.6 +2.2**
NEST Nestorio 86.09 317 P **P** **18 43 07.0 -0.3**
PAE Paea 86.10 114 *e*P **P** **18 43 08.7 +1.3**
comp=Z,101nm,1.2s
PV07 Paradox Valley 86.10 46 IAmb IAmb 18 43 11.9
comp=Z,209nm,1.4s
NEWG New Galloway 86.10 339 *e*P **P** **18 43 07.2 +0.3**
KBN Korca 86.11 317 P **P** **18 43 06.7 -0.7**
BTNL Ternell 86.15 331 *d*P **P** **18 43 07.2 -0.1**
comp=Z,22nm,1.0s
BTNL *d*pP **pP** **18 44 33.7 -0.6**
Y14A Wickenburg 86.16 52 P **P** **18 43 07.8 +0.1**
BEBN Eben Emael 86.17 332 *d*P **P** **18 43 07.2 0.0**
BEBN *d*pP **pP** **18 44 33.7 -0.6**
MEM Membach 86.18 331 *d*P **P** **18 43 07.3 -0.1**
MEM *d*pP **pP** **18 44 33.4 -1.0**
VAH Vaihoa 86.20 111 *e*P **P** **18 43 10.1 +2.2**

comp=Z,146nm,1.0s
KESW Keswick, Cumbr 86.21 338 *e*P P 18 43 08.6 +1.2
KESW IAmb IAmb 18 43 09.4
comp=Z,193nm,1.3s
ABTA Abfaltersbach 86.22 326 *i* P P 18 43 06.5 -1.2
comp=Z,36nm,0.9s,SNR=9.8
ABTA *e*pP **pP** 18 44 34.6 -0.3
comp=Z,49nm,1.3s
ABTA *e*S **S** 18 53 05.2 -4.9
comp=Z,22nm,1.2s
ABTA *i* PKKP **PKKPbc** 19 01 03.5 0.0
comp=Z,7.5nm,1.4s
WATA Walderalm 86.23 326 *i* P P 18 43 07.2 -0.7
comp=Z,18nm,0.6s,SNR=9.8
WATA *e*pP **pP** 18 44 35.0 0.0
comp=Z,19nm,1.0s
WATA *e*PP **PP** 18 46 32.1 -1.9
comp=Z,52nm,1.7s
WATA *e*S **S** 18 53 10.7 +0.4
comp=Z,9.6nm,1.3s
STU Stuttgart 86.24 329 *e*P P 18 43 05.6 -2.1
STU Stuttgart 86.24 329 *e*P P 18 43 07.6 -0.1
comp=Z,190nm,1.3s,baz=43,slow=4.9
WUAZ Wupatki 86.25 50 IAmb IAmb 18 43 14.6
comp=Z,251nm,1.3s
WTTA Wattenberg 86.26 326 *e*P P 18 43 07.6 -0.4
comp=Z,24nm,0.6s,SNR=20
WTTA *e*pP **pP** 18 44 35.4 +0.2
comp=Z,50nm,1.6s
WTTA *i* PP **PP** 18 46 33.3 -1.0
comp=Z,32nm,1.5s
WTTA *i* S **S** 18 53 08.8 -1.8
comp=Z,24nm,1.6s
WTTA *i* PKKP **PKKPbc** 19 01 03.0 -0.5
comp=Z,13nm,1.1s
PV15 Paradox Valley 86.26 46 IAmb IAmb 18 43 14.8
comp=Z,153nm,0.9s
PV01 Paradox Valley 86.34 46 IAmb IAmb 18 43 15.2
comp=Z,287nm,1.2s
113A Mohawk Valley, 86.37 53 IAmb IAmb 18 43 14.6
comp=Z,220nm,1.4s
BSTI Sart Tilman 86.38 332 *d*P P 18 43 08.9 +0.6
BSTI *d*pP **pP** 18 44 35.5 +0.1
BHOU Houvegnez 86.38 331 *d*P P 18 43 08.2 -0.2
comp=Z,22nm,0.7s
BHOU *d*pP **pP** 18 44 34.8 -0.7
TVO Taravao 86.42 114 *e*P P 18 43 11.2 +2.1
comp=Z,132nm,1.1s
MOTA Moosalm 86.44 327 *i* P P 18 43 08.3 -0.6
comp=Z,16nm,0.5s,SNR=16
MOTA *i* pP **pP** 18 44 33.6 -2.4
comp=Z,57nm,1.7s
MOTA *e*PP **PP** 18 46 36.0 +0.2
comp=Z,35nm,1.3s
MOTA *i* S **S** 18 53 13.0 +0.6
comp=Z,16nm,1.4s
MOTA *i* PKKP **PKKPbc** 19 01 04.8 +1.7
comp=Z,9.0nm,1.2s
SQTA Sankt Quirin 86.49 326 *i* P P 18 43 08.6 -0.5
comp=Z,26nm,0.5s,SNR=12
SQTA *e*pP **pP** 18 44 35.1 -1.2
comp=Z,32nm,1.2s
SQTA *e*PP **PP** 18 46 35.2 -0.9
comp=Z,53nm,1.5s
SQTA *e*S **S** 18 53 10.9 -1.8
comp=Z,14nm,1.5s
SQTA *e*PKKP **PKKPbc** 19 01 04.2 +1.2
comp=Z,3.8nm,0.6s
RETA Reutte 86.50 327 *i* P P 18 43 08.9 -0.2
comp=Z,34nm,0.5s,SNR=15
RETA *e*pP **pP** 18 44 34.0 -2.3
comp=Z,70nm,1.3s
RETA *i* S **S** 18 53 13.3 +0.7
comp=Z,12nm,1.4s
RETA *i* PKKP **PKKPbc** 19 01 03.9 +1.1
comp=Z,8.7nm,1.1s
SFX San Felipe 86.67 55 P P 18 43 09.9 -0.2
SFX IAmb IAmb 18 43 16.4
comp=Z,317nm,1.6s
UCC Uccle 86.69 332 P P 18 43 08.3 -1.5
UCC **pP** 18 44 34.9 -2.0
UCC Uccle 86.69 332 P P 18 43 08.3 -1.5
UCC *PP **pP** 18 44 34.9 -2.0
UCC pmax pmax
comp=Z,23nm,0.6s
UCC Uccle 86.69 332 *d*P P 18 43 09.9 +0.2
UCC *d*pP **pP** 18 44 34.9 -2.0
CLGH Cloghs, Cushen 86.69 340 *e*P P 18 43 10.8 +1.1
BGES Gesves 86.72 332 *d*P P 18 43 09.5 -0.5
comp=Z,25nm,0.6s
RCHB Rochefort 86.85 331 *d*P P 18 43 10.3 -0.2
comp=Z,48nm,0.7s
RCHB *d*pP **pP** 18 44 37.1 -0.6
WLF Walferdange 86.85 331 P P 18 43 10.8 +0.2
WLF S **S** 18 53 14.2 -1.5
WLF Walferdange 86.85 331 *d*P P 18 43 10.9 +0.4
WLF *d*pP **pP** 18 44 37.8 0.0
WLF Walferdange 86.85 331 *e*P P 18 43 11.1 +0.5
comp=Z,287nm,1.9s,baz=43,slow=4.9
WLF *e*pP **pP** 18 44 37.8 0.0
FETA Feichten 86.86 327 *i* P P 18 43 10.3 -0.6
comp=Z,27nm,0.6s,SNR=11
FETA *i* pP **pP** 18 44 38.4 +0.2
comp=Z,38nm,1.3s
FETA *i* PKKP **PKKPbc** 19 01 05.6 +3.5
comp=Z,7.2nm,1.3s
BMRD Maredsous 86.92 332 *d*P P 18 43 10.9 0.0
comp=Z,51nm,0.7s
BMRD *d*pP **pP** 18 44 35.8 -2.3
BFO Black Forest 86.95 329 P P 18 43 10.3 -0.9
BFO Black Forest 86.95 329 P P 18 43 10.3 -0.9
BFO pmax pmax
comp=Z,57nm,0.6s
BFO Black Forest 86.95 329 *e*P P 18 43 10.6 -0.5
comp=Z,41nm,0.6s,baz=43,slow=4.9
MVCO Mesa Verde 86.98 47 IAmb IAmb 18 43 19.6
comp=Z,193nm,1.4s
ISCO Idaho Springs 87.00 43 IAmb IAmb 18 43 15.2
comp=Z,557nm,1.9s
SRN Sarande 87.05 317 P P 18 43 10.9 -0.7
IDI Anoyia 87.05 311 S S 18 53 14.0 -4.4
IDI P P 18 43 11.3 -0.6
IGT Igoumenitsa 87.09 316 P P 18 43 11.2 -0.7
IDGL Inch Island, C 87.09 341 P P 18 43 12.0 +0.4
IDGL PP **pP** 18 44 39.6 +0.8
IDGL Inch Island, C 87.09 341 *e*P P 18 43 12.3 +0.7
IDGL IAmb IAmb 18 43 16.3
comp=Z,97nm,0.9s
DOU Dourbes 87.15 332 *d*P P 18 43 11.3 -0.7
comp=Z,10nm,0.8s
DOU *d*pP **pP** 18 44 36.4 -2.8
CWF Charnwood Fore 87.18 336 *e*P P 18 43 11.7 -0.3
CWF IAmb IAmb 18 43 14.5
comp=Z,69nm,0.6s
KEK Kerkira 87.28 317 IAmb IAmb 18 44 44.1
comp=Z,161nm,1.1s
PIX Pinacate 87.30 54 IAmb IAmb 18 43 19.2
comp=Z,276nm,1.6s
CTZ Chatham Island 87.31 148 IAmb IAmb 18 43 20.9
comp=Z,144nm,1.0s
CTZ Chatham Island 87.31 148 P P 18 43 14.8 +2.3
SUSD Miller 87.39 37 P P 18 43 13.4 +0.2
DAVOX Davos/Dischmat 87.42 327 PKKPbc PKKPbc 19 01 00.4 -0.4
comp=Z,4.3nm,0.8s,baz=206,slow=20,SNR=4.0
214A Organ Pipe Nat 87.50 53 IAmb IAmb 18 43 20.5
comp=Z,235nm,1.7s
ELSH Elham, Standar 87.63 334 *e*P P 18 43 14.8 +0.6
ELSH IAmb IAmb 18 43 15.5
comp=Z,116nm,0.8s
S22A 4UR Ranch, Cre 87.64 46 IAmb IAmb 18 43 21.8
comp=Z,190nm,1.4s
ILTH Belurgan, Co L 87.67 339 *e*P P 18 43 14.7 +0.4
ILTH IAmb IAmb 18 43 15.9
comp=Z,229nm,1.8s
FOEL Foel Wylfa 87.68 337 *e*P P 18 43 14.4 -0.1
FOEL IAmb IAmb 18 43 16.8
comp=Z,64nm,0.9s
ITM Ithomi 87.69 314 P P 18 43 13.7 -1.1
Q24A Divide 87.83 44 IAmb IAmb 18 43 22.1
comp=Z,213nm,1.5s
LLW Llanuwychllyn 87.86 338 *e*P P 18 43 15.3 +0.1
LLW IAmb IAmb 18 43 17.7
comp=Z,19nm,0.8s
TUE Stuetta 87.90 327 IAmb IAmb 18 43 18.6
comp=Z,79nm,0.6s
HMNX Herstmonceux 88.15 334 *e*P P 18 43 17.2 +0.6

EYMN Ely 88.23 30 P P 18 43 17.0 -0.1
STRD Stroud 88.27 336 *e*P P 18 43 17.7 +0.5
STRD IAmb IAmb 18 43 19.3
comp=Z,146nm,0.8s
WOL Wolverton 88.33 335 *e*P P 18 43 17.7 +0.2
DSB Dublin 88.36 339 P P 18 43 18.2 +0.6
DSB S S 18 53 27.3 -2.4
DSB Dublin 88.36 339 P P 18 43 18.2 +0.6
MCH1 Michaelchurch 88.36 337 *e*P P 18 43 17.6 -0.1
MCH1 IAmb IAmb 18 43 19.3
comp=Z,102nm,0.6s
SWN1 Swindon 88.37 336 *e*P P 18 43 17.8 +0.1
MATE Matera 88.38 319 *e*P P 18 43 17.9 -0.1
SDCO Great Sand Dun 88.43 45 IAmb IAmb 18 43 25.2
comp=Z,181nm,1.4s
MONM Monmouth 88.43 337 *e*P P 18 43 18.2 +0.3
MONM IAmb IAmb 18 43 19.7
comp=Z,77nm,0.7s
TBO Thunder Bay 88.55 29 IAmb IAmb 18 43 23.4
comp=Z,117nm,0.6s
FDMO Fiordimonte 88.61 323 P P 18 43 18.7 -0.4
FDMO **pP** 18 44 43.4 -3.2
TAOE Nuku Hiva Isla 88.62 101 P P 18 43 19.2 -0.4
TAOE Nuku Hiva Isla 88.62 101 *e*P P 18 43 21.2 +1.6
comp=Z,961nm,1.1s
TAOE Nuku Hiva Isla 88.62 101 *e*S S 18 53 27.9 -5.7
comp=Z,2µm,26.3s
TAOE *e*SS **SS** 18 59 27.4 -7.9
comp=Z,2µm,25.9s
TAOE *e*LQ LQ 19 08 13.2
comp=Z,2µm,26.0s
TAOE *e*LR LR 19 12 04.0
comp=Z,3µm,26.1s
TAOE Nuku Hiva Isla 88.62 101 P P 18 43 21.9 +2.3
TUC Tucson 88.63 52 P P 18 43 19.4 0.0
TUC IAmb IAmb 18 43 22.6
comp=Z,272nm,1.9s
TUC **pP** 18 44 44.0 -2.6
ZCCA Zocca 88.71 325 IAmb IAmb 18 43 34.3
comp=Z,194nm,1.4s
PRMA PARMA 88.72 325 IAmb IAmb 18 43 24.5
comp=Z,244nm,1.3s
NRCA Norcia 88.75 322 IAmb IAmb 18 43 24.7
comp=Z,187nm,1.5s
AQU L'Aquila 88.94 322 P P 18 43 22.0 +1.4
ECSD EROS Data Cent 89.07 36 IAmb IAmb 18 43 26.8
comp=Z,365nm,1.4s
IGLA Glengowla, Co 89.07 341 *e*P P 18 43 20.7 -0.2
IWEX Carrickbyrne, 89.24 339 P P 18 43 23.2 +1.5
IWEX Carrickbyrne, 89.24 339 *e*P P 18 43 22.0 +0.3
IWEX IAmb IAmb 18 43 24.1
comp=Z,86nm,1.2s
TIP Timpagrande 89.37 318 ⇑P P 18 43 23.2 +0.5
TIP Timpagrande 89.37 318 ⇑P PKKPbc 19 00 54.5 -1.2
T25A Trinidad 89.48 45 IAmb IAmb 18 43 29.8
comp=Z,352nm,1.6s
TBI Tubuai 89.56 118 *e*S S 18 53 37.8 -3.8
comp=Z,9µm,27.8s
TBI *e*sS sS 18 56 10.9 -4.9
comp=Z,24µm,49.0s
TBI Tubuai 89.56 118 *e*LQ LQ 19 07 35.2
comp=Z,11µm,44.5s
TBI *e*LR LR 19 12 29.3
comp=Z,2µm,30.8s
TBI *e*LR LR 19 12 29.7
comp=Z,9µm,30.2s
ANMO Albuquerque 89.70 47 P P 18 43 25.2 +0.7
ANMO pP **pP** 18 44 50.2 -0.8
HTL Hartland 89.71 337 *e*P P 18 43 24.4 +0.5
HTL IAmb IAmb 18 43 25.8
comp=Z,43nm,0.6s
CLF Chambon-Foret 89.73 332 IAmb IAmb 18 44 59.4
comp=Z,237nm,1.8s
SCHQ Schefferville 89.97 14 P P 18 43 25.1 0.0
comp=Z,37nm,0.6s,baz=352,slow=4.8,SNR=38
SCHQ pP **pP** 18 44 52.6 0.0
comp=Z,26nm,1.0s,baz=351,slow=3.5,SNR=1.9
SCHQ PKKP **PKKPdf** 19 00 47.1 -1.1
comp=Z,3.0nm,0.7s,baz=92,slow=18,SNR=2.8
SCHQ PKKPbc **PKKPbc** 19 00 53.8 -1.0
comp=Z,4.8nm,0.5s,baz=169,slow=1.4,SNR=6.4
comp=Z,37nm,0.6s
Y22D IRIS PASSCAL I 89.99 48 IAmb IAmb 18 43 32.5
baz=311
Y22D IRIS PASSCAL I 89.99 48 P P 18 43 27.3 +1.5
baz=311
DYA Yadsworthy 90.00 336 *e*P P 18 43 25.3 0.0
DYA IAmb IAmb 18 43 26.7
comp=Z,42nm,0.7s
Y22A Socorro 90.05 48 IAmb IAmb 18 43 30.6
comp=Z,298nm,2.0s
319A Douglas 90.21 52 IAmb IAmb 18 43 33.3
comp=Z,226nm,1.4s
121A Cows Peak, D 90.44 50 P P 18 43 29.0 +1.0
JSA Saint Aubin 90.45 335 *e*P P 18 43 27.7 +0.4
JSA IAmb IAmb 18 43 29.3
comp=Z,53nm,0.7s
HSIG 90.58 54 IAmb IAmb 18 43 34.8
comp=Z,187nm,1.3s
VAL Valentia 90.63 341 P P 18 43 29.1 +0.9
CCA1 Carnmenellis 90.65 337 *e*P P 18 43 28.6 +0.3
CCA1 IAmb IAmb 18 43 31.8
comp=Z,172nm,1.5s
COWI Conover 90.68 30 IAmb IAmb 18 43 34.1
comp=Z,169nm,1.4s
RTBA Rita Blanca 90.94 44 IAmb IAmb 18 43 36.3
comp=Z,382nm,1.4s
CBKS Cedar Bluff 90.99 41 IAmb IAmb 18 43 36.0
comp=Z,204nm,1.1s
F42A Maple Grove Fa 91.37 30 P P 18 43 31.5 -0.3
R32A Long Quarter, 91.83 41 IAmb IAmb 18 43 39.4
comp=Z,198nm,1.5s
RAFF Raffo Rosso 92.08 318 IAmb IAmb 18 43 41.4
comp=Z,419nm,1.9s
E46A Sault Ste Mari 92.42 27 P P 18 43 36.1 -0.5
E46A IAmb IAmb 18 43 40.3
comp=Z,401nm,1.8s
E46A pP **pP** 18 45 03.2 -0.9
MNTX Cornudas Mount 92.52 49 IAmb IAmb 18 43 43.6
comp=Z,158nm,1.4s
I42A Draeger Farm, 92.53 31 IAmb IAmb 18 43 42.9
comp=Z,356nm,1.8s
H43A Windswept, Lux 92.56 30 IAmb IAmb 18 43 43.1
comp=Z,313nm,1.7s
MSTX Muleshoe 92.61 46 IAmb IAmb 18 43 43.4
comp=Z,379nm,2.0s
JFWS Jewell Farm 92.70 33 IAmb IAmb 18 43 40.0
comp=Z,158nm,1.6s
L40A Anamosa 92.92 34 IAmb IAmb 18 43 44.8
comp=Z,87nm,0.8s
N38A Joes South For 92.93 36 P P 18 43 39.1 +0.1
N38A IAmb IAmb 18 43 42.4
comp=Z,100nm,0.7s
KAN12 Harper NE Stat 93.03 41 IAmb IAmb 18 43 45.3
comp=Z,213nm,1.3s
OK038 West end E0370 93.21 42 IAmb IAmb 18 43 46.5
comp=Z,126nm,1.1s
KAN01 Argonia South 93.27 41 IAmb IAmb 18 43 46.5
comp=Z,263nm,1.5s
KAN14 Manchester OK 93.30 41 IAmb IAmb 18 43 46.6
comp=Z,205nm,1.4s
SMWD Samnorwood 93.33 44 P P 18 43 41.3 +0.3
KAN13 South Haven SW 93.53 41 IAmb IAmb 18 43 47.6
comp=Z,130nm,1.2s
CROK Carrier 93.61 42 IAmb IAmb 18 43 44.8
comp=Z,90nm,0.6s
L42A Oliver, Polo 93.69 33 IAmb IAmb 18 43 47.3
comp=Z,131nm,1.5s
PECS Pecos 93.70 49 P P 18 43 42.8 -0.1
K43A Burlington 93.73 32 IAmb IAmb 18 43 47.9
comp=Z,230nm,1.7s
BLOK Blackwell 93.85 41 IAmb IAmb 18 43 49.1
comp=Z,293nm,1.6s
DKNS Dickens 93.93 45 IAmb IAmb 18 43 47.5
comp=Z,75nm,0.7s
POST Post 94.00 46 IAmb IAmb 18 43 46.7
comp=Z,272nm,1.8s
ODSA Odessa 94.02 47 IAmb IAmb 18 43 50.0
comp=Z,84nm,1.0s
N41A Harden Midland 94.15 35 IAmb IAmb 18 43 50.0
comp=Z,299nm,1.8s
OK051 E0350 and S346 94.25 41 IAmb IAmb 18 43 46.3
comp=Z,118nm,1.1s
SN07 Snyder 07 94.35 46 IAmb IAmb 18 43 51.5
comp=Z,173nm,1.7s
CCAS Cassa de la Se 94.38 328 *e*P P 18 43 46.4 +0.8

CCAS *e*pP **pP** 18 45 12.5 -1.0
CCAS *e*sP **sP** 18 45 52.5 -0.1
CCAS *e*PP PP 18 47 47.7 +10
CCAS *e*S **S** 18 54 19.8 -4.2
CCAS *e*ScS **ScS** 18 54 25.1 +0.4
CCAS *e*SP **SP** 18 55 43.5 +2.0
CCAS *e*PS PS 18 56 29.5 -1.1
CCAS *e*SS **SS** 19 00 54.6 +0.1
OK029 Liberty Lake 94.42 42 IAmb IAmb 18 43 51.2
comp=Z,110nm,0.7s
WMOK Wichita Mounta 94.43 43 IAmb IAmb 18 43 51.8
comp=Z,149nm,1.5s
P40A Paris 94.48 36 IAmb IAmb 18 43 52.3
comp=Z,91nm,0.7s
SN05 Snyder 5 94.51 46 IAmb IAmb 18 43 52.1
comp=Z,150nm,1.6s
ALPN Alpine 94.52 49 IAmb IAmb 18 43 52.7
comp=Z,176nm,1.7s
CEST Esterri de Car 94.53 329 *e*P P 18 43 46.8 +0.3
CEST *e*PP **PP** 18 47 40.4 +1.2
CEST *e*S **S** 18 54 23.2 -2.3
CEST *e*ScS **ScS** 18 54 26.4 +0.1
CEST *e*SP **SP** 18 55 43.5 +0.2
CEST *e*SS **SS** 19 01 00.3 +3.5
QUOK Quay 94.56 41 IAmb IAmb 18 43 52.2
comp=Z,156nm,1.3s
SLBS Sierra La Lagu 94.62 58 P P 18 43 47.8 +0.7
SLBS IAmb IAmb 18 43 54.3
comp=Z,245nm,1.6s
CFON Fontmartina 94.69 328 *e*P P 18 43 47.5 +0.3
CFON *e*pP **pP** 18 45 14.4 -0.6
CFON *e*sP **sP** 18 46 00.1 +5.9
CFON *e*PP **PP** 18 47 47.3 +7.0
CFON *e*S **S** 18 54 25.4 -1.4
CFON *e*ScS **ScS** 18 54 28.8 +1.3
CFON *e*SP SP 18 55 46.4 +1.5
CFON *e*PS PS 18 56 39.4 +5.4
CFON *e*SS **SS** 19 01 00.5 +1.5
CORI Orista 94.69 328 *e*P P 18 43 45.4 -1.7
CORI *e*pP **pP** 18 45 12.3 -2.6
CORI *e*sP **sP** 18 45 54.6 +0.6
CORI *e*PP **PP** 18 47 47.1 +6.9
CORI *e*S **S** 18 54 23.8 -2.9
CORI *e*ScS **ScS** 18 54 28.2 +0.9
CORI *e*SP SP 18 55 44.2 -0.6
CORI *e*PS PS 18 56 33.4 -0.5
CORI *e*SS **SS** 19 00 50.5 -8.3
CORG Organya 94.80 329 *e*P P 18 43 47.6 -0.1
CORG *e*pP **pP** 18 45 14.6 -1.0
CORG *e*PP **PP** 18 47 47.3 +6.2
CORG *e*S **S** 18 54 26.3 -1.4
CORG *e*ScS **ScS** 18 54 28.7 +0.3
CORG *e*SP **SP** 18 55 47.7 +1.6
CORG *e*PS **PS** 18 56 30.8 -4.4
CORG *e*SS **SS** 19 00 56.2 -4.3
FNO Franklin 94.84 42 IAmb IAmb 18 43 50.5
comp=Z,164nm,1.8s
M44A Midewin, Midew 94.91 32 IAmb IAmb 18 43 53.5
comp=Z,133nm,1.4s
DEOK Depew 94.92 41 IAmb IAmb 18 43 53.9
comp=Z,254nm,1.5s
HDIL Hopedale 95.00 34 IAmb IAmb 18 43 53.9
comp=Z,48nm,0.6s
BUKO Buck Lake 95.02 25 IAmb IAmb 18 43 53.6
comp=Z,152nm,1.8s
I49A Point Hope 95.02 28 IAmb IAmb 18 43 51.8
comp=Z,57nm,0.7s
SGCY Sterling City 95.03 47 P P 18 43 48.4 -0.5
SGCY IAmb IAmb 18 43 54.5
comp=Z,144nm,1.3s
SGCY pP **pP** 18 45 14.4 -1.2
TXAR Lajitas Array 95.20 50 P P 18 43 50.1 +0.3
comp=Z,67nm,0.6s,baz=284,slow=2.4,SNR=428
TXAR PP **PP** 18 47 46.9 +2.1
comp=Z,9.2nm,1.0s,baz=297,slow=5.5,SNR=3.9
comp=Z,67nm,0.6s
TXAR Lajitas Array 95.20 50 P P 18 43 50.0 +0.2
ABTX Abilene, Hawle 95.43 45 IAmb IAmb 18 43 56.5
comp=Z,109nm,1.3s
RLO Rose Lookout 95.49 40 IAmb IAmb 18 43 56.3
comp=Z,177nm,1.7s
HPIG 95.49 53 IAmb IAmb 18 43 57.8
comp=Z,251nm,1.8s
KEST Kesra 95.94 320 P P 18 43 52.8 -0.2
comp=Z,7.1nm,0.7s,baz=7.9,slow=3.6,SNR=9.5
KEST pP **pP** 18 45 19.1 -1.9
comp=Z,14nm,1.1s,baz=37,slow=4.0,SNR=4.4
KEST PKKPbc **PKKPdf** 19 00 37.7 -0.3
comp=Z,6.3nm,0.8s,baz=300,slow=2.6,SNR=5.8
comp=Z,7.1nm,0.7s
HHAR Hobbs 95.98 39 P P 18 43 52.2 -0.8
HHAR pP **pP** 18 45 19.0 -1.3
CCM Cathedral Cave 96.02 36 P P 18 43 52.0 -1.1
CCM Cathedral Cave 96.02 36 P P 18 43 52.0 -1.1
CCM pmax pmax
comp=Z,62nm,1.0s
SLM Saint Louis 96.06 36 IAmb IAmb 18 43 59.1
comp=Z,67nm,0.7s
PLPT Palo Pinto 96.08 44 IAmb IAmb 18 43 58.5
comp=Z,198nm,1.8s
SFIN Lafayette 96.15 33 IAmb IAmb 18 43 57.1
comp=Z,114nm,1.6s
MGMO Mountain Grove 96.19 38 IAmb IAmb 18 43 59.0
comp=Z,151nm,1.6s
Q44A Meyer Farm, Va 96.44 35 IAmb IAmb 18 43 58.3
comp=Z,86nm,1.4s
DELO Deloro Mine 96.44 24 P P 18 43 54.7 -0.3
BRDY Brady 96.76 46 IAmb IAmb 18 44 02.3
comp=Z,140nm,1.7s
JCT Junction City 96.84 47 IAmb IAmb 18 44 02.8
comp=Z,217nm,1.8s
Q48B Farmland 97.11 31 P P 18 43 57.1 -1.0
S44A Carbondale 97.28 35 IAmb IAmb 18 44 03.5
comp=Z,54nm,0.7s
SIUC Southern Illin 97.28 35 IAmb IAmb 18 44 03.5
comp=Z,52nm,0.8s
BLO Bloomington 97.39 33 IAmb IAmb 18 44 04.7
comp=Z,98nm,1.8s
PBMO Poplar Bluff 97.41 37 IAmb IAmb 18 44 04.8
comp=Z,131nm,1.5s
MIAR Mount Ida 97.48 40 P P 18 43 59.4 -0.4
MIAR pP **pP** 18 45 25.0 -2.2
MIAR Mount Ida 97.48 40 P P 18 43 59.4 -0.4
MIAR *PP **pP** 18 45 25.0 -2.2
MIAR pmax pmax
comp=Z,28nm,0.7s
O49A Covington 97.52 31 IAmb IAmb 18 44 02.0
comp=Z,149nm,2.0s
LCAR Lake Charles 97.60 38 IAmb IAmb 18 44 05.5
comp=Z,92nm,1.7s
WHAR Wooly Hollow 97.61 39 IAmb IAmb 18 44 05.6
comp=Z,71nm,1.3s
P48A Milroy 97.64 32 IAmb IAmb 18 47 59.8
comp=Z,114nm,1.9s
F64A Sherman 98.02 18 P P 18 44 01.5 -0.5
VT1 Waterbury 98.19 21 IAmb IAmb 18 44 08.4
comp=Z,94nm,1.9s
WCI Wyandotte Cave 98.25 33 P P 18 44 02.8 -0.4
WCI IAmb IAmb 18 44 08.7
comp=Z,89nm,1.6s
WCI Wyandotte Cave 98.25 33 P P 18 44 02.8 -0.4
WCI pmax pmax
comp=Z,89nm,1.7s
ECAL Calabor 98.30 334 P Pdif 18 44 04.1 +0.7
UCM Universidad Co 98.32 331 P P 18 44 04.2 +0.7
PBRG Braganca 98.42 334 *e*P P 18 44 04.2 +0.3
H62A Milan 98.45 20 IAmb IAmb 18 44 10.4
comp=Z,65nm,1.3s
PGAV Gavieira, Arco 98.84 335 *e*P P 18 44 06.3 +0.4
LMN Caledonia Moun 98.88 15 Pdif 18 44 05.2 -0.6
ESDC Sonseca Array 99.15 331 P Pdif 18 44 06.3 -0.9
comp=Z,2.7nm,0.6s,baz=22,slow=4.4,SNR=34
ESDC PKKPbc **PKKPbc** 19 00 30.1 -0.5
comp=Z,3.0nm,0.9s,baz=218,slow=3.3,SNR=8.8
ESDC PKKPab PKKPdf 19 01 01.7 +30
comp=Z,2.5nm,0.8s,baz=224,slow=4.2,SNR=6.1
comp=Z,2.7nm,0.6s
POLO Lamas de Olo 99.18 334 *e*P Pdif 18 44 07.8 +0.4
HBVL Hebbronville 99.95 49 Pdif 18 44 10.1 -0.9
HBVL IAmb IAmb 18 44 18.1
comp=Z,92nm,1.5s
PCAS Casmilo, Conde 100.60 334 *e*P Pdif 18 44 16.6 +3.0
PESTR Estremoz 101.29 333 *e*P Pdif 18 44 18.3 +1.6
M65A Busby, Falmout 101.35 21 Pdiff Pdif 18 44 17.1 +0.3
baz=336

PBAR	Barrancos	101.67	332	*eP*	Pdif	18 44 18.7	+0.3
EVO	Evora	101.74	333	*eP*	Pdif	18 44 22.9	+4.2
PMAFR	Mafra	101.85	334	P	Pdif	18 44 19.3	+0.1
PARRA	Arraiolos	101.88	334	*eP*	Pdif	18 44 17.5	-1.8
PAGU	Agualva, Azore	107.02	347	*ePP*	PP	18 49 18.4	+6.3
ROSA	Rosais	107.26	348	*ePP*	PP	18 49 18.4	+4.6
CALA	Caldeira	107.47	349	*ePP*	PP	18 49 18.7	+3.3
PICO	Pico	107.50	348	*ePP*	PP	18 49 16.6	+0.9
PSET	Sete Cidades	107.65	346	*ePP*	PP	18 49 17.8	+1.0
CMLA	Cha da Macela	107.67	346	*ePP*	PP	18 49 18.4	+1.6
PSMN	Pico do Norte,	108.31	345	*ePP*	PP	18 49 24.6	+3.1
VNDA	Vanda	111.41	174	PKiKP	PKiKP	18 48 57.5	+1.1
	comp=Z,4.5nm,0.8s,baz=317,slow=4.1,SNR=11						
VNDA				PP	PP	18 49 43.7	-0.7
	comp=Z,3.8nm,0.7s,baz=330,slow=9.8,SNR=5.0						
VNDA				PKKPbc	PKKPbc	18 59 51.4	-3.3
	comp=Z,3.0nm,0.6s,baz=239,slow=2.5,SNR=19						
LSZ	Lusaka	114.03	267	PKiKP	PKPdf	18 49 02.8	-0.6
	comp=Z,3.2nm,0.5s,baz=76,slow=2.7,SNR=6.4						
LSZ				PP	PP	18 50 02.9	-1.4
	comp=Z,14nm,0.8s,baz=58,slow=7.8,SNR=10						
MAW	Mawson	114.58	204	PKP	PKPdf	18 49 02.5	-0.1
	comp=Z,9.9nm,0.7s,baz=73,slow=1.9,SNR=22						
MAW				PKKPbc	PKKPbc	18 59 43.0	-0.8
	comp=Z,3.2nm,0.5s,baz=158,slow=6.6,SNR=10						
MAW				PKKPab	PKKPab	18 59 50.3	+3.4
	comp=Z,5.1nm,0.9s,baz=243,slow=6.6,SNR=5.1						
MATP	Matopo	116.24	262	PKP	PKiKP	18 49 07.8	+0.3
	comp=Z,3.8nm,0.5s,baz=40,slow=1.3,SNR=22						
MATP				SKP		18 52 08.6	
	comp=Z,5.2nm,0.9s,baz=100,slow=5.2,SNR=3.6						
TORD	Torodi Ar. Bea	117.44	310	PKP	PKPdf	18 49 09.2	-0.6
	comp=Z,8.4nm,0.5s,baz=71,slow=2.6,SNR=53						
TORD				pPKP	pPKPdf	18 50 42.3	+0.4
	comp=Z,6.9nm,0.8s,baz=44,slow=4.2,SNR=2.9						
TORD				SKP		18 52 11.6	
	comp=Z,4.3nm,0.5s,baz=29,slow=1.6,SNR=4.9						
TORD				PKKPbc	PKKPbc	18 59 33.3	+0.5
	comp=Z,7.4nm,0.9s,baz=222,slow=2.2,SNR=6.8						
ACON	Acoyapa	119.59	49		PKPdf	18 49 13.0	-1.0
LBTB	Lobatse	120.66	259	PKP	PKiKP	18 49 15.9	0.0
	comp=Z,28nm,0.7s,baz=118,slow=1.6,SNR=42						
LBTB				SKP		18 52 15.9	
	comp=Z,15nm,0.9s,baz=121,slow=1.7,SNR=5.0						
LBTB	Lobatse	120.66	259	PKiKP	PKiKP	18 49 16.0	0.0
JTS	Las Juntas de	120.99	50		PKPdf	18 49 15.5	-1.2
JTS	Las Juntas de	120.99	50	PKiKP	PKPdf	18 49 15.5	-1.2
BOSA	Boshof	122.40	255		PKPdf	18 49 17.6	-1.5
BOSA	Boshof	122.40	255	PKP	PKPdf	18 49 18.6	-0.5
	comp=Z,13nm,0.6s,baz=103,slow=2.4,SNR=19						
BOSA				PP	PP	18 51 01.9	+0.3
	comp=Z,8.8nm,0.8s,baz=44,slow=3.3,SNR=4.5						
BOSA				PKKPbc	PKKPbc	18 59 14.1	-0.8
	comp=Z,2.3nm,0.6s,baz=4.1,slow=0.4,SNR=8.3						
BOSA	Boshof	122.40	255	PKiKP	PKPdf	18 49 17.6	-1.5
QSPA	South Pole Qui	122.88	180		PKPdf	18 49 18.7	0.0
QSPA	South Pole Qui	122.88	180	PKP	PKiKP	18 49 19.3	+0.3
	comp=Z,48nm,0.7s,baz=293,slow=1.0,SNR=139						
QSPA				pPKP	pPKPdf	18 50 48.8	-1.4
	comp=Z,42nm,1.2s,baz=208,slow=1.3,SNR=3.8						
QSPA				PKKPbc	PKKPbc	18 59 13.3	-1.2
	comp=Z,3.4nm,0.6s,baz=254,slow=0.8,SNR=14						
SYO	Syowa Base	123.22	205‖	*e*Pdiff	Pdif	18 45 58.0	+4.8
SYO	Syowa Base	123.22	205‖	*e*PKPdf	PKiKP	18 49 20.2	+0.7
SYO	Syowa Base	123.22	205‖	*e*PKiKP	PKiKP	18 49 24.0	+4.5
SYO	Syowa Base	123.22	205‖	*e*pPKPdf	pPKPdf	18 50 49.0	-1.6
CELP	Cerrillos	124.21	28		PKPdf	18 49 21.2	-1.6
CELP				PP	PP	18 51 04.9	-7.1
TSUM	Tsumeb	124.80	269		PKPdf	18 49 23.7	-0.3
TSUM	Tsumeb	124.80	269	PKP	PKiKP	18 49 24.2	-0.1
	comp=Z,17nm,0.7s,baz=30,slow=3.6,SNR=23						
TSUM				pPKP	pPKPdf	18 50 54.3	-1.3
	comp=Z,7.3nm,0.9s,baz=102,slow=6.2,SNR=2.3						
TSUM				PP	PP	18 51 17.3	-0.4
	comp=Z,12nm,1.1s,baz=52,slow=4.3,SNR=4.4						
TSUM				PKKPbc	PKKPbc	18 59 04.9	-0.5
	comp=Z,8.4nm,0.6s,baz=250,slow=3.6,SNR=11						
DBIC	Dimbokro	126.53	311		PKPdf	18 49 26.9	-0.5
DBIC	Dimbokro	126.53	311	PKP	PKPdf	18 49 27.6	+0.2
	comp=Z,35nm,0.7s,baz=62,slow=2.3,SNR=36						
DBIC				PP	PP	18 51 25.9	-2.1
	comp=Z,16nm,0.8s,baz=98,slow=6.2,SNR=3.0						
DBIC				SKP		18 52 28.4	
	comp=Z,14nm,0.8s,baz=349,slow=3.7,SNR=3.1						
DBIC				PKKPbc	PKKPab	18 59 00.0	-0.6
	comp=Z,13nm,1.1s,baz=183,slow=7.1,SNR=4.0						
DBIC	Dimbokro	126.53	311	PKP	PKiKP	18 49 28.0	+0.2
SDV	Santo Domingo	130.48	37	*eP*	PKPdf	18 49 32.6	-2.5
SDV	Santo Domingo	130.48	37	PKP	PKPdf	18 49 35.1	0.0
ROSC	El Rosal	131.80	44	PKP	PKPdf	18 49 38.2	+0.3
	comp=Z,47nm,0.5s,baz=22,slow=1.8,SNR=19						
OTAV	Otavalo	132.76	53	PKP	PKPdf	18 49 40.1	+0.4
SNAA	Sanae	136.03	197	PKP	PKPdf	18 49 42.4	-1.2
	comp=Z,6.1nm,0.5s,baz=45,slow=1.4,SNR=9.9						
SNAA				SKPbc	SKPbc	18 52 40.3	+1.2
	comp=Z,54nm,1.0s,baz=102,slow=2.2,SNR=13						
MDP	Montagnes des	140.83	16	PKP	PKiKP	18 49 55.9	-0.9
	comp=Z,19nm,0.6s,baz=300,slow=2.1,SNR=6.3						
MDP				SKPbc	SKPbc	18 52 53.8	-0.6
	comp=Z,16nm,0.9s,baz=8.8,slow=5.3,SNR=6.3						
BOAV	Boa Vista	140.87	29		PKPpre	18 49 45.2	
BOAV				PKPdf	PKPdf	18 49 50.8	-3.3
NNA	Nana	142.37	64		PKPdf	18 49 53.0	-3.8
NNA	Nana	142.37	64	PKiKP	PKPdf	18 49 53.0	-3.8
CZSB	Cruzeiro do Su	142.46	54	*eP*	PKPdf	18 49 52.7	-4.2
CZSB	Cruzeiro do Su	142.46	54	PKP	PKPdf	18 49 52.5	-4.5
SHEL	Horse Pasture	142.51	288		PKPdf	18 49 54.1	-2.9
SHEL	Horse Pasture	142.51	288	PKiKP	PKPdf	18 49 54.1	-2.9
ASCN	Ascension	143.71	307		PKPbc	18 49 57.7	+0.1
H10N2	ASCENSION HYDR	143.71	308	PKP	PKPdf	18 49 58.8	0.0
	baz=81,slow=2.2,SNR=22						
H10N1	ASCENSION HYDR	143.72	308	PKP	PKPdf	18 49 58.8	0.0
	baz=81,slow=2.2,SNR=12						
H10N3	ASCENSION HYDR	143.73	308	PKP	PKPdf	18 49 58.9	+0.1
	baz=81,slow=2.2,SNR=11						
TEFE	Tefe	144.11	39	PKP	PKPab	18 49 58.3	-0.4
CN01	Coaracy Nunes	145.18	15	PKP	PKPdf	18 50 01.3	-0.4
PMSA	Palmer Station	145.74	164	PKPbc	PKPbc	18 50 01.8	-0.5
	comp=Z,50nm,0.7s,baz=181,slow=2.2,SNR=6.4						
PMSA	Palmer Station	145.74	164	*eP*	PKPdf	18 50 00.5	-0.5
MACA	Manacapuru-AM	145.77	33	*eP*	PKPdf	18 50 00.9	-1.8
MACA	Manacapuru-AM	145.77	33	PKP	PKPdf	18 50 03.1	+0.4
MAL2	Monte Alegre,	147.24	22	PKP	PKPdf	18 50 05.9	+0.7
LABB	Lıbrea	148.22	47	PKP	PKPdf	18 50 06.9	+0.2
ESPZ	Base Esperanza	148.41	168		PKPdf	18 50 05.7	+0.2
ESPZ				PKPbc	PKiKP	18 50 10.7	-0.1
ITTB	Itaituba	148.91	26	*eP*	PKPdf	18 50 06.0	-1.9
ITTB	Itaituba	148.91	26	PKP	PKPdf	18 50 08.3	+0.4
TMAB	Tom-Au,PA,Br	148.99	10	*eP*	PKPdf	18 50 04.9	-3.2
TMAB	Tom-Au,PA,Br	148.99	10	PKP	PKPdf	18 50 09.0	+1.0
BMO1	UHE Belo Monte	149.00	18	PKP	PKPdf	18 50 08.3	+0.3
ATM1	UHE Belo Monte	149.01	19	PKP	PKPdf	18 50 08.5	+0.4
BMO2	UHE Belo Monte	149.13	18	PKP	PKPdf	18 50 08.7	+0.5
TUC4	UHE Tucurui	150.57	14	PKP	PKPdf	18 50 09.6	-0.9
SBBR	Sobral	150.68	355	PKP	PKPdf	18 50 11.3	+0.7
NBCL	Cascavel-CE	150.94	351	*eP*	PKPdf	18 50 08.7	-2.4
NBCL	Cascavel-CE	150.94	351	PKP	PKPdf	18 50 12.0	+0.9
NBPS	Pedro II - PI	151.38	357	PKP	PKPdf	18 50 12.0	+0.1
MG03	Isla Dawson	151.43	145		PKiKP	18 50 18.3	+1.0
NPGB	Novo Progresso	151.52	27	*eP*	PKPdf	18 50 08.6	-3.4
NPGB	Novo Progresso	151.52	27	PKP	PKPdf	18 50 11.7	-0.2
LPAZ	La Paz	151.58	60	PKP	PKPdf	18 50 13.4	+0.7
	comp=Z,27nm,0.8s,baz=355,slow=3.6,SNR=31						
LPAZ				PKPbc	PKiKP	18 50 20.2	+0.6
	comp=Z,110nm,0.7s,baz=342,slow=5.0,SNR=44						
LPAZ	La Paz	151.58	60	*eP*	PKPdf	18 50 10.2	-2.4
LPAZ	La Paz	151.58	60	PKP	PKPdf	18 50 13.4	+0.7
GO09	Cerro Castillo	151.82	139		PKPbc	18 50 15.8	-2.2
RCBR	Riachuelo	152.10	345	PKP	PKPdf	18 50 13.9	+1.1
	comp=Z,10.0nm,0.6s,baz=34,slow=7.3,SNR=25						
RCBR				PKPbc	PKiKP	18 50 20.7	+0.6
	comp=Z,26nm,0.7s,baz=342,slow=2.7,SNR=29						
RCBR	Riachuelo	152.10	345	*eP*	PKPdf	18 50 10.1	-2.8
RCBR	Riachuelo	152.10	345	PKP	PKPdf	18 50 14.1	+1.2
NBPA	Parau_RN	152.26	348	PKP	PKPdf	18 50 13.9	+0.9
PRPB	Parauapebas	152.38	15	*eP*	PKPdf	18 50 11.2	-2.0
PRPB	Parauapebas	152.38	15	PKP	PKPdf	18 50 13.8	+0.6
NBPB	Pedra_Branca-C	152.40	353	*eP*	PKPdf	18 50 11.5	-1.8
NBPB	Pedra_Branca-C	152.40	353	PKP	PKPdf	18 50 13.8	+0.6
NBPV	Pedro Velho	152.54	344	PKP	PKPdf	18 50 14.2	+0.8
TA01	Diego Aracena	152.58	70		PKPdf	18 50 11.0	-2.3
PAL2	UHE Estreito -	153.40	10	PKP	PKPdf	18 50 16.1	+1.4
VILB	Vilhena	154.34	43	*eP*	PKPdf	18 50 13.6	-2.4
VILB	Vilhena	154.34	43	PKP	PKPdf	18 50 17.1	+1.2
CLDB	Colider	154.80	31	*eP*	PKPdf	18 50 14.7	-1.9
CLDB	Colider	154.80	31	PKP	PKPdf	18 50 17.1	+0.5
LL01	San Ignacio de	154.88	120		PKPdf	18 50 15.7	-0.1
PDRB	Porto dos Gac	155.03	34	PKP	PKPdf	18 50 17.1	+0.2
SMTB	Santa Maria do	155.43	12	*eP*	PKPdf	18 50 13.9	-3.6
SMTB	Santa Maria do	155.43	12	PKP	PKPdf	18 50 18.2	+0.7
AC06	Mina Casimiro	155.48	84		PKPdf	18 50 14.9	-2.3
AC06				PKPab	PKPab	18 50 44.3	-0.8
SIV	San Ignacio	156.20	49	PKP	PKPdf	18 50 18.4	0.0
	comp=Z,19nm,0.6s,baz=310,slow=2.6,SNR=55						
SIV				PKPab	PKPab	18 50 48.4	+0.1
	comp=Z,72nm,0.5s,baz=316,slow=2.9,SNR=5.9						
LAJE	UHE Lajeado	156.39	14	PKP	PKPdf	18 50 19.1	+0.4
MT09	Talagante	156.43	99		PKPdf	18 50 16.5	-1.9
MT09				PKPab	PKPab	18 50 49.8	+0.5
PLCA	Paso Flores	156.56	117	PKP	PKPdf	18 50 19.0	+0.8
	comp=Z,4.5nm,0.7s,baz=203,slow=3.2,SNR=22						
PLCA				PKPab	PKPab	18 50 51.1	+1.6
	comp=Z,26nm,0.6s,baz=222,slow=3.5,SNR=12						
PLCA	Paso Flores	156.56	117	*eP*	PKPdf	18 50 16.1	-2.1
PLCA	Paso Flores	156.56	117	PKP	PKPdf	18 50 18.5	+0.2
PTLB	Pontes e Lacer	156.95	44	*eP*	PKPdf	18 50 16.9	-2.4
PTLB	Pontes e Lacer	156.95	44	PKP	PKPdf	18 50 18.9	-0.4
BBSD	Serra de San D	157.38	50	*eP*	PKPdf	18 50 17.0	-2.9
SNDB	Serra Nova Dou	157.52	22	*eP*	PKPdf	18 50 18.1	-2.0
SNDB	Serra Nova Dou	157.52	22	PKP	PKPdf	18 50 20.4	+0.3
SSV2	Sao Salvador	159.20	15	PKP	PKPdf	18 50 22.8	+0.7
SALV	Santo Antonio	159.21	37	*eP*	PKPdf	18 50 19.4	-2.7
SALV	Santo Antonio	159.21	37	PKP	PKPdf	18 50 22.8	+0.7
SDBA	SAO DESIDERIO	159.28	6	*eP*	PKPdf	18 50 19.7	-2.5
SDBA	SAO DESIDERIO	159.28	6	PKP	PKPdf	18 50 23.0	+0.7
CAN3	Cana Brava	159.42	16	PKP	PKPdf	18 50 23.5	+1.1
GDU01	Guandu, BA	160.47	351	*eP*	PKPdf	18 50 20.9	-2.6
ARAG	Araguaiana, MT	160.80	28	*eP*	PKPdf	18 50 20.5	-3.3
ANA01	Lindo Horizont	161.40	354	PKP	PKPdf	18 50 25.2	+0.6
BDFB	Brasilia	161.94	17	PKP	PKPdf	18 50 25.4	+0.2
	comp=Z,27nm,0.9s,baz=330,slow=1.2,SNR=34						
BDFB				PKPab	PKPab	18 51 14.3	+1.0
	comp=Z,25nm,0.6s,baz=268,slow=4.8,SNR=11						
BDFB				PP	PP	18 54 55.9	-1.3
	comp=Z,38nm,1.1s,baz=334,slow=9.2,SNR=4.9						
JANB	Januaria	161.95	5	*eP*	PKPdf	18 50 22.2	-2.9
JANB	Januaria	161.95	5	PKP	PKPdf	18 50 25.6	+0.5
CMC01	Camacan, BA	162.07	350	*eP*	PKPdf	18 50 22.4	-2.8
CMC01	Camacan, BA	162.07	350	PKP	PKPdf	18 50 26.1	+0.9
BDQN	Bodoquena, MS	162.24	48	*eP*	PKPdf	18 50 22.6	-2.6
MURT	Porto Murtinho	162.55	53	*eP*	PKPdf	18 50 22.8	-2.6
AQDB	Aquidauana	162.90	46	*eP*	PKPdf	18 50 23.2	-2.6
AQDB	Aquidauana	162.90	46	PKP	PKPdf	18 50 26.5	+0.7
C2SB	Chapadao do Su	163.07	35	*eP*	PKPdf	18 50 23.8	-2.3
C2SB	Chapadao do Su	163.07	35	PKP	PKPdf	18 50 26.9	+0.9
GUA01	Guaratinga, BA	163.31	350	*eP*	PKPdf	18 50 23.7	-2.6
GUA01	Guaratinga, BA	163.31	350	PKP	PKPdf	18 50 27.2	+0.8
TRQA	Tornquist	163.59	113		PKPdf	18 50 23.7	-2.3
TRQA				PKPab	PKPab	18 51 20.5	+0.2
TRQA	Tornquist	163.59	113	PKiKP	PKPdf	18 50 23.7	-2.3
TRQA						18 51 20.5	
TRQA	Tornquist	163.59	113	*eP*	PKPdf	18 50 22.8	-3.2
TRQA	Tornquist	163.59	113	PKP	PKPdf	18 50 26.0	0.0
BAT2	UHE Batalha	163.72	16	PKP	PKPdf	18 50 26.9	+0.1
CAR01	Carai MG	163.95	355	PKP	PKPdf	18 50 27.6	+0.6
RPRD	Ribas do Rio P	164.05	41	*eP*	PKPdf	18 50 24.8	-2.1
JQT1	Jequitai-MG	164.11	6	PKP	PKPdf	18 50 27.4	+0.3
IPMB	Ipameri, GO	164.13	19	*eP*	PKPdf	18 50 26.5	-0.6
IPMB	Ipameri, GO	164.13	19	PKP	PKPdf	18 50 27.4	+0.3
ITU3	Corumbazu	164.16	22	PKP	PKPdf	18 50 27.7	+0.6
ITRB	Iturama	164.99	29	*eP*	PKPdf	18 50 27.3	-0.5
ITRB	Iturama	164.99	29	PKP	PKPdf	18 50 28.6	+0.8
PMNB	Patos De Minas	165.09	14	*eP*	PKPdf	18 50 27.9	-0.1
PMNB	Patos De Minas	165.09	14	PKP	PKPdf	18 50 28.7	+0.7
AMBA	Amambai (Brazi	165.16	50	*eP*	PKPdf	18 50 27.6	-0.3
DIAM	Diamantina, MG	165.20	4	*eP*	PKPdf	18 50 28.1	0.0
DIAM	Diamantina, MG	165.20	4	PKP	PKPdf	18 50 28.6	+0.4
SJMB	Sao Joao De Ma	165.57	354	*eP*	PKPdf	18 50 27.9	-0.4
SJMB	Sao Joao De Ma	165.57	354	PKP	PKPdf	18 50 28.8	+0.5
CPUP	Villa Florida	165.62	66	PKP	PKPdf	18 50 28.4	+0.3
	comp=Z,4.4nm,1.0s,baz=218,slow=1.6,SNR=12						
CPUP				PKPab	PKPab	18 51 29.8	+0.4
	comp=Z,3.6nm,0.7s,baz=228,slow=8.4,SNR=9.6						
CPUP				PP	PP	18 55 17.0	-0.6
	comp=Z,7.3nm,1.3s,baz=351,slow=1.0,SNR=3.6						
CPUP	Villa Florida	165.62	66	*eP*	PKPdf	18 50 27.8	-0.3
CPUP	Villa Florida	165.62	66	PKP	PKPdf	18 50 28.7	+0.6
SJPV	San Joaquin	165.78	59	*eP*	PKPdf	18 50 28.0	-0.3
RIB01	Linhares ES	166.08	351	*eP*	PKPdf	18 50 28.3	-0.3
RIB01	Linhares ES	166.08	351	PKP	PKPdf	18 50 29.9	+1.2
PCMB	Pacaembu	166.25	36	*eP*	PKPdf	18 50 28.5	-0.2
PCMB	Pacaembu	166.25	36	PKP	PKPdf	18 50 29.7	+1.0
TRCB	Terra Rica	166.49	43	*eP*	PKPdf	18 50 28.9	-0.1
TRCB	Terra Rica	166.49	43	PKP	PKPdf	18 50 29.8	+0.8
BB19B	Bebedouro	166.92	25	*eP*	PKPdf	18 50 28.7	-0.6
BB19B	Bebedouro	166.92	25	PKP	PKPdf	18 50 31.0	+1.7
BSCB	Bom Sucesso	167.78	9	*eP*	PKPdf	18 50 29.4	-0.6
BSCB	Bom Sucesso	167.78	9	PKP	PKPdf	18 50 30.8	+0.9
LDASE	Londrina, Braz	167.81	39	*eP*	PKPdf	18 50 24.2	-5.7
PTGB	Pitanga	168.29	47	PKP	PKPdf	18 50 31.0	+0.8
RCLB	Rio Claro- Sao	168.51	23	*eP*	PKPdf	18 50 27.8	-2.6
RCLB	Rio Claro- Sao	168.51	23	PKP	PKPdf	18 50 31.4	+1.0
FRTB	Fartura	168.54	33	*eP*	PKPdf	18 50 27.6	-2.8
FRTB	Fartura	168.54	33	PKP	PKPdf	18 50 31.5	+1.2
CAM01	Campos-RJ	168.70	355	*eP*	PKPdf	18 50 27.7	-2.8
CAM01	Campos-RJ	168.70	355	PKP	PKPdf	18 50 31.6	+1.2
DUB01	Friburgo-RJ	168.99	358	*eP*	PKPdf	18 50 28.1	-2.7
DUB01	Friburgo-RJ	168.99	358	PKP	PKPdf	18 50 31.2	+0.5
VAS01	Vassouras-RJ	169.17	4	*eP*	PKPdf	18 50 27.8	-3.0
VABB	Valinhos	169.24	21	PKP	PKPdf	18 50 31.8	+1.0
VAO	Valinhos	169.24	21	*eP*	PKPdf	18 50 28.2	-2.6
SPB	Sao Paulo	169.63	25	*eP*	PKPdf	18 50 31.2	+0.2
MAN01	Angra dos Reis	169.71	6	*eP*	PKPdf	18 50 28.6	-2.5
PARB	Paraibuna	169.91	15	*eP*	PKPdf	18 50 28.1	-3.1
PARB	Paraibuna	169.91	15	PKP	PKPdf	18 50 32.4	+1.2
ITAB	Concordia	169.96	57	*eP*	PKPdf	18 50 27.6	-3.5
ITAB	Concordia	169.96	57	PKP	PKPdf	18 50 32.2	+1.2
SLP01	Ubatuba-SP	170.00	13	*eP*	PKPdf	18 50 27.9	-3.4
SLP01	Ubatuba-SP	170.00	13	PKP	PKPdf	18 50 32.6	+1.3
PET01	Itanhaem-SP	170.33	26	*eP*	PKPdf	18 50 28.1	-3.2
PET01	Itanhaem-SP	170.33	26	PKP	PKPdf	18 50 32.3	+0.9
CPSB	Cacapava Do Su	170.48	76	*eP*	PKPdf	18 50 28.6	-2.6
CPSB	Cacapava Do Su	170.48	76	PKP	PKPdf	18 50 32.7	+1.4
TIJ01	Guaruva-PR	170.48	37	PKP	PKPdf	18 50 33.2	+1.6
PLTB	Pedras Altas	170.70	85		PKPdf	18 50 30.0	-1.4
PLTB					PKPab	18 51 49.9	-2.0
PLTB	Pedras Altas	170.70	85	*eP*	PKPdf	18 50 27.5	-3.9
PLTB	Pedras Altas	170.70	85	PKP	PKPdf	18 50 32.5	+1.1

NDI 27 18:36:56.5±2.1, 27.73N×92.80E, h5km±6km, ML3.3, MW3.3, 2D, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time		Res ISC
ZIRO	**ZIRO**	**0.96**	**102**		*eP*	Pg		18 37 14.7	-0.1	
ZIRO					*eS*	Sb		18 37 28.4	-0.3	
ZIRO					IAML			18 38 13.6		
	comp=E,2μm,1.1s									
ZIRO					IAML			18 38 16.8		
	comp=N,2μm,0.5s									
ITAN	**ITANAGAR**	**1.01**	**125**		*eP*	Pg		18 37 15.8	-0.1	
ITAN					*eS*	Sb		18 37 30.1	0.0	
ITAN					IAML			18 42 33.4		
	comp=N,355nm,1.4s									
ITAN					IAML			18 42 33.5		
	comp=E,510nm,2.5s									
TEZP	**TEZPUR**	**1.11**	**180**		*eP*	Pg		18 37 17.5	-0.3	
TEZP					*eS*	Sb		18 37 33.2	+0.2	
TEZP					IAML			18 43 29.2		
	comp=N,145nm,4.2s									
TEZP					IAML			18 43 35.8		
	comp=E,95nm,3.1s									
GUWA	**GUWAHATI**	**1.82**	**213**		*eP*	Pn		18 37 28.6	0.0	
GUWA					*eS*	Sn		18 37 52.3	+0.2	
GUWA					IAML			18 38 39.6		
	comp=E,79nm,0.7s									
GUWA					IAML			18 38 41.6		
	comp=N,73nm,0.9s									
KOHI	**KOHIMA**	**2.32**	**149**		*eP*	Pn		18 37 35.5	-0.1	
KOHI					*eS*	Sn		18 38 04.2	-0.4	
KOHI					IAML			18 43 29.7		
	comp=E,421nm,1.6s									
IMP	**Imphal**	**3.07**	**160**		*eP*	Pn		18 37 45.5	-0.2	
IMP					*eS*	Sn		18 38 21.7	-1.2	
IMP					IAML			18 43 29.6		
	comp=N,79nm,1.0s									
IMP					IAML			18 43 39.7		
	comp=E,110nm,1.3s									
GTK	**Tadong**	**3.75**	**265‖**		*eP*	Pn		18 37 54.6	-0.6	
GTK					*eS*	Sn		18 38 37.4	-2.4	
GTK					IAML			18 38 55.0		
	comp=E,134nm,0.9s									
GTK					IAML			18 39 01.3		
	comp=N,145nm,1.0s									
AZL	**Aizawl**	**3.98**	**181**		*eP*	Pn		18 38 01.1	+2.7	
AZL					*eS*	Sn		18 38 43.0	-2.4	
AZL					IAML			18 40 01.1		
	comp=E,145nm,1.2s									
AZL					IAML			18 40 05.0		
	comp=N,117nm,0.5s									
AGT	**Agartala**	**4.08**	**200‖**		*eP*	Pn		18 38 00.9	+1.3	
AGT					*eS*	Sn		18 38 46.3	-1.5	
AGT					*eS*			18 40 46.8		
AGT					IAML			18 40 51.9		
	comp=E,331nm,0.4s									
AGT					IAML			18 41 06.9		
	comp=N,372nm,2.6s									
SAIH	**SAIHA**	**5.22**	**178**		*eP*	Pn		18 38 15.9	+0.4	
SAIH					*eS*	Sn		18 39 12.4	-3.8	
SAIH					IAML			18 43 54.7		
	comp=N,116nm,2.1s									
SAIH					IAML			18 43 58.9		
	comp=E,163nm,2.1s									

IDC ***27*** *18:46:23.7±2.9, 7.55S×128.31E, h127km±28km, mb4.0/13, mbtmp4.5/17, MS4.6/1, Error ellipse: s-maj=24.3km s-min=15.1km az=58.0*
NEIC ***27*** *18:46:25.1±1.9,

MKAR	**Makanchi Array**	**67.85**	**328**	P	**P**	**18 57 07.9**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=117,slow=8.2,SNR=14						
	comp=Z,0.9nm,0.4s						
MAKZ	**Makanchi**	**68.03**	**328**	P	**P**	**18 57 08.4**	**0.0**
YAK	**Yakutsk**	**69.44**	**1**	P	**P**	**18 57 17.1**	**+0.4**
YAK	**Yakutsk**	**69.44**	**1**	P	**P**	**18 57 17.0**	**+0.4**
	comp=Z,8.5nm,0.5s,baz=187,slow=2.9,SNR=6.1						
	comp=Z,8.5nm,0.5s						
ZAA0	**Zalesovo Array**	**71.42**	**335**	P	**P**	**18 57 28.2**	**-0.6**
ZALV	**Zalesovo Beam**	**71.42**	**335**	P	**P**	**18 57 28.9**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=140,slow=4.9,SNR=9.9						
	comp=Z,3.0nm,0.7s						
KURBB	**Kurchatov Arra**	**72.19**	**329**	P	**P**	**18 57 34.2**	**+0.7**
	comp=Z,4.2nm,0.6s,baz=131,slow=5.0,SNR=31						
	comp=Z,4.2nm,0.6s						
KKAR	**Karatay Array**	**72.73**	**320**	P	**P**	**18 57 37.6**	**+0.6**
KIWB	**Kanaga Island**	**75.29**	**31**	P	**P**	**18 57 52.2**	**+0.6**
KIWB				IAmb	IAmb	18 58 00.0	
	comp=Z,18nm,1.1s						
BVAR	**Borovoye Array**	**77.72**	**328**	P	**P**	**18 58 05.7**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=126,slow=8.5,SNR=14						
	comp=Z,2.8nm,0.7s						
BRVK	**Borovoye**	**77.79**	**328**	P	**P**	**18 58 05.8**	**+0.1**
BRVK				IAmb	IAmb	18 58 07.0	
	comp=Z,4.2nm,0.8s						
AB31	**Akbulak array**	**81.98**	**322**	P	**P**	**18 58 28.0**	**-0.3**
ABKAR	**Akbulak array**	**81.98**	**322**	P	**P**	**18 58 28.3**	**0.0**
AKTO	**Aktyubinsk**	**83.56**	**323**	P	**P**	**18 58 36.5**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=135,slow=2.5,SNR=4.6						
	comp=Z,0.7nm,0.3s						
ARTI	**Arti**	**85.44**	**328**	P	**P**	**18 58 45.5**	**-0.3**
ARTI				IAmb	IAmb	18 58 46.3	
	comp=Z,7.6nm,0.6s						
ARTI	**Arti**	**85.44**	**328**	P	**P**	**18 58 44.9**	**-0.8**
	comp=Z,3.8nm,0.6s,baz=99,slow=2.2,SNR=8.2						
	comp=Z,3.8nm,0.6s						
LPAZ	**La Paz**	**151.19**	**146**	PKPbc	**PKiKP**	**19 06 05.2**	**+2.1**
	comp=Z,1.5nm,0.4s,baz=121,slow=1.7,SNR=9.6						

*IDC **27** 18:46:32.5±14.0, 1°.77S×126°.80E, h0km, mb4.0/4, mbtmp4.0/4, MS4.7/2, Error ellipse: s-maj=651.1km s-min=193.2km az=34.0*
*DJA **27** 18:46:55.1±0.3, 1°.1N±4°×12°.6E±°, h10km, M4.3/12, mb4.3/4, MLv4.2/12*

ISC 27 18:46:55.8±1.1, **1°.0N**±0°.1×**125°.97E**±0°.07, **h44**km, **n15, σ2.36/13, mb3.9/4, Northern Moluca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.41**	**98**	P	**Pn**	**18 47 18.7**	**-0.3**
KMSI	**Cibinong**	**2.03**	**259**	P	**Pn**	**18 47 28.7**	**+1.2**
SGSI	**Sangihe**	**2.73**	**351**	P	**Pn**	**18 47 41.1**	**+3.9**
LUWI	**Luwuk**	**3.77**	**238**	P	**Pn**	**18 47 53.5**	**+2.0**
MRSI	**Marisa**	**4.06**	**263**	P	**Pn**	**18 47 52.5**	**-2.9**
APSI	**Ampana**	**4.71**	**247**	P	**Pn**	**18 48 05.6**	**+1.2**
TTSI	**Tana Toraja**	**7.33**	**237**	P	**Pn**	**18 48 40.8**	**+0.4**
	0.1nm20nm,1.0s						
FAKI	**Fak Fak**	**7.37**	**122**	P	**Pn**	**18 48 42.8**	**+1.9**
	0.2nm44nm,0.9s						
SPSI	**Sidrap Palu**	**7.91**	**232**	P	**Pn**	**18 48 48.0**	**-0.3**
ASAR	**Alice Springs**	**25.68**	**163**	LR	LR	18 59 56.4	
	comp=Z,1μm,20.1s,baz=14,slow=35						
MKAR	**Makanchi Array**	**59.40**	**327**	P	**P**	**18 56 55.0**	**+1.2**
	0.5nm,0.5s,baz=121,slow=8.4,SNR=9.7						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**62.70**	**334**	P	**P**	**18 57 17.7**	**+1.6**
	0.4nm,0.3s,baz=118,slow=6.1,SNR=1.8						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**63.66**	**328**	P	**P**	**18 57 23.8**	**+1.3**
	0.5nm,0.6s,baz=135,slow=6.7,SNR=6.3						
	0.5nm,0.6s						
VNDA	**Vanda**	**80.81**	**173**	LR	LR	19 31 15.2	
	comp=Z,684nm,20.8s,baz=340,slow=34						
ARCES	**ARCESS Array B**	**92.75**	**340**	P	**P**	**18 59 59.2**	**-3.9**
	2.6nm,0.9s,baz=77,slow=4.9,SNR=3.6						
	2.6nm,0.9s						

IDC 27 19:16:14.8±7.0, **11°.97N**×**143°.65E, h0**km, **mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=291.5km s-min=24.3km az=82.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.01**	**196**	P	P	19 22 50.4	-1.5
	0.2nm,0.7s,baz=18,slow=9.3,SNR=1.9						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**36.68**	**195**	P	P	19 23 24.4	+0.8
	0.4nm,0.7s,baz=18,slow=10,SNR=8.9						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**61.84**	**317**	P	P	19 26 36.5	+0.7
	0.2nm,0.6s,baz=99,slow=7.5,SNR=3.6						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**65.10**	**320**	P	P	19 26 56.8	-0.5
	0.3nm,0.6s,baz=104,slow=7.0,SNR=4.3						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**70.46**	**322**	P	P	19 27 30.9	-0.2
	0.7nm,0.4s,baz=90,slow=7.5,SNR=5.8						
	0.7nm,0.4s						

*IDC **27** 19:51:08.3±0.9, 58°.00N×59°.66E, h0km, mb3.2/3, mbtmp3.5/12, ML3.1/9, MS3.2/1, Error ellipse: s-maj=12.2km s-min=10.0km az=35.0*
*MIRAS **27** 19:51:09.9, 57°.97N×59°.79E, h0km, ML3.1/8*
*NNC **27** 19:51:17.4±2.8, 57°.43N×60°.60E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=22.8km s-min=10.5km az=158.0*

ISC 27 19:51:08.3±1.2, **58°.02N**±0°.04×**59°.95E**±0°.04, **h10**km±9km, **n25, σ1.48/56, mb3.2/3, 10C-2D, Ural Mountains region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PR7R	**Sarany**	**0.82**	**311**	*i* P	**Pn**	**19 51 24.4**	**-1.6**
PR7R				*i* S	**Sb**	**19 51 34.8**	**-1.0**
PR7R				*i* S	**Sb**	**19 51 34.8**	**-1.0**
PR7R				*i* S	**Sb**	**19 51 34.8**	**-1.0**
PR7R				*i* AML	AML	19 51 42.1	
	1μm,0.8s						
PR0R	**Verkhnechusovs**	**1.50**	**278**	*i* P	**Pg**	**19 51 36.8**	**-0.2**
PR0R				*i* S	**Sg**	**19 51 55.1**	**-1.3**
PR0R				*i* S	**Sg**	**19 51 55.1**	**-1.3**
PR0R				*i* S	**Sg**	**19 51 55.1**	**-1.3**
PR0R				*i* AML	AML	19 51 59.3	
	2μm,0.2s						
PR3R	**Kungur**	**1.68**	**251**	*i* P	**Pb**	**19 51 39.1**	**-0.1**
PR3R				*i* S	**Sb**	**19 52 01.0**	**+0.6**
PR3R				*i* S	**Sb**	**19 52 01.0**	**+0.6**
PR3R				*i* S	**Sb**	**19 52 01.0**	**+0.6**
PR3R				*i* AML	AML	19 52 04.3	
	135nm,0.4s						
KAUR	**Kamensk Uralsk**	**1.80**	**151**	*i* P	**Pg**	**19 51 41.9**	**-0.9**
KAUR				*i* S	**Sg**	**19 52 05.6**	**-0.5**
KAUR				*i* S	**Sg**	**19 52 05.6**	**-0.5**
KAUR				*i* S	**Sg**	**19 52 05.6**	**-0.5**
KAUR				*i* AML	AML	19 52 07.5	
	106nm,0.7s						
ARTI	**Arti**	**1.84**	**208**	Pg	**Pb**	**19 51 41.2**	**-0.8**
	24nm,0.3s,baz=38,slow=4.4,SNR=142						
ARTI				Lg	Lg	19 52 05.4	
	10nm,0.3s,baz=20,slow=22,SNR=12						
ARTI	**Arti**	**1.84**	**208**	*i* P	**Pb**	**19 51 41.6**	**-0.5**
ARTI				*i* S	**Sb**	**19 52 05.7**	**+0.5**
ARTI				*i* S	**Sb**	**19 52 05.7**	**+0.5**
ARTI				*i* S	**Sb**	**19 52 05.7**	**+0.5**
ARTI				*i* AML	AML	19 52 08.1	
	137nm,0.8s						
PR1R	**Pomanovo**	**2.04**	**306**	*i* P	**Pg**	**19 51 48.1**	**+0.8**
PR1R				*i* S	**Sg**	**19 52 14.4**	**+0.5**
PR1R				*i* S	**Sg**	**19 52 14.4**	**+0.5**
PR1R				*i* S	**Sg**	**19 52 14.4**	**+0.5**
PR1R				*i* AML	AML	19 52 18.3	
	289nm,0.4s						
PR6R	**Ekimyata**	**2.05**	**276**	*i* P	**Pb**	**19 51 44.7**	**-0.9**
PR6R				*i* S	**Sb**	**19 52 10.6**	**-0.5**
PR6R				*i* S	**Sb**	**19 52 10.6**	**-0.5**
PR6R				*i* S	**Sb**	**19 52 10.6**	**-0.5**
PR6R				*i* AML	AML	19 52 13.6	
	254nm,0.2s						
PR4R	**Vlasy**	**2.28**	**269**	*i* P	**Pn**	**19 51 46.1**	**+0.2**
PR4R				*i* S	**Sn**	**19 52 14.8**	**+0.8**
PR4R				*i* S	**Sn**	**19 52 14.8**	**+0.8**
PR4R				*i* S	**Sn**	**19 52 14.8**	**+0.8**
PR4R				*i* AML	AML	19 52 17.6	
	324nm,0.3s						
KIRV	**Kirov**	**5.58**	**280**	Pn	**Pn**	**19 52 31.4**	**+0.2**
	0.4nm,0.3s,baz=134,slow=23,SNR=2.2						
KIRV				Lg	Lg	19 53 58.8	
	0.8nm,0.3s,baz=64,slow=4.1,SNR=6.4						
	3.6nm,0.6s						
AKTO	**Aktyubinsk**	**7.68**	**189**	⇑Pn	**Pn**	**19 53 02.6**	**+2.4**
	1.1nm,0.6s						
AKTO				⇓Sn	**Sn**	**19 54 28.7**	**+1.5**
	1.8nm,0.6s						
AKTO				⇑Lg	Lg	19 55 05.0	
	4.5nm,0.7s						
AKTO	**Aktyubinsk**	**7.68**	**189**	Pn	**Pn**	**19 52 59.6**	**-0.6**
	0.5nm,0.3s,baz=49,slow=9.9,SNR=4.4						
AKTO				Sn	**Sn**	**19 54 24.8**	**-2.4**
	0.7nm,0.3s,baz=45,slow=9.1,SNR=3.6						
AKTO				Lg	Lg	19 55 10.9	
	0.6nm,0.3s,baz=332,slow=18,SNR=4.2						
	0.8nm,0.3s						
BRVK	**Borovoye**	**7.68**	**126**	⇑Pn	**Pn**	**19 53 02.4**	**+2.3**
	1.7nm,0.5s						
BRVK				⇑Sn	**Sn**	**19 54 23.5**	**-3.6**
	2.0nm,0.4s						
BRVK				⇑Lg	Lg	19 55 01.7	
	3.8nm,0.7s						
BVA0	**Borovoye Array**	**7.75**	**126**	⇑Pn	**Pn**	**19 53 03.6**	**+2.5**
	0.8nm,0.4s,baz=314,slow=13,SNR=18						
BVA0				⇑Sn	**Sn**	**19 54 25.6**	**-3.3**
	3.2nm,0.5s,baz=319,slow=24,SNR=6.5						
BVA0				⇑Lg	Lg	19 55 03.0	
	3.5nm,0.7s,baz=333,slow=30,SNR=4.1						
BVAR	**Borovoye Array**	**7.75**	**126**	Pn	**Pn**	**19 53 04.0**	**+2.9**
	0.2nm,0.3s,baz=310,slow=15,SNR=19						
BVAR				Pg	**Pb**	**19 53 22.9**	**+0.3**
	0.1nm,0.3s,baz=321,slow=16,SNR=4.2						
BVAR				Sn	**Sn**	**19 54 26.7**	**-2.2**
	0.2nm,0.3s,baz=320,slow=24,SNR=7.8						
BVAR				LR	LR	19 56 14.6	
	comp=Z,159nm,20.7s,baz=85,slow=39						
	1.6nm,0.3s						
AB31	**Akbulak array**	**8.78**	**180**	⇑Pn	**Pn**	**19 53 16.4**	**+1.3**
	0.7nm,0.3s						
AB31				⇑Sn	**Sn**	**19 54 49.9**	**-4.2**
	0.5nm,0.4s						
AB31				⇓Lg	Lg	19 55 39.8	
	9.1nm,0.6s						
BELG	**Belogornoye**	**9.01**	**237**	Pn	**Pn**	**19 53 17.8**	**-0.6**
	1.0nm,0.3s,baz=0.0,slow=1.0,SNR=7.6						
	6.6nm,0.6s						
KURBB	**Kurchatov Arra**	**13.10**	**116**	Pn	**Pn**	**19 54 14.5**	**+0.2**
	baz=273,slow=10,SNR=4.2						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**17.29**	**296**	P	**Pn**	**19 55 08.3**	**-1.1**
	0.1nm,0.3s,baz=73,slow=13,SNR=4.1						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**17.57**	**120**	P	**P**	**19 55 16.4**	**+2.2**
	0.1nm,0.3s,baz=316,slow=8.3,SNR=5.3						
	0.3nm,0.5s						
ARCES	**ARCESS Array B**	**18.76**	**322**	P	**Pn**	**19 55 26.6**	**-0.9**
	0.1nm,0.3s,baz=111,slow=13,SNR=2.4						
	3.8nm,0.9s						
AKASG	**Malin Array Be**	**19.21**	**261**	P	**Pn**	**19 55 32.4**	**-0.7**
	0.5nm,0.3s,baz=58,slow=9.8,SNR=4.1						
	0.6nm,0.4s						
HFS	**Hagfors**	**23.49**	**295**	P	**P**	**19 56 18.8**	**+1.0**
	0.6nm,0.6s,baz=96,slow=12,SNR=1.6						
	0.6nm,0.6s						
NOA	**NORSAR Array B**	**24.43**	**298**	P	**P**	**19 56 27.2**	**+0.4**
	0.3nm,0.7s,baz=76,slow=9.5,SNR=3.6						
	0.3nm,0.7s						
BRTR	**Keskin Array B**	**24.93**	**234**	P	**P**	**19 56 32.9**	**+1.3**
	0.2nm,0.3s,baz=35,slow=7.8,SNR=2.0						
	0.2nm,0.3s						

*NOU **27** 20:09:36.4, 38°.25S×178°.80E, h50km, ML3.7/8, Off E. Coast of N. Island, N.Z.*
*WEL **27** 20:09:38.1±0.7, 38°.5S±3°×17°.8E±°, h14km±4km, M3.5/12, ML3.8/13, MLv3.5/12, Error ellipse: s-maj=5.6km s-min=3.8km az=91.4, confirmed*

ISC 27 20:09:35.9±1.5, **38°.24S**±0°.03×**178°.62E**±0°.06, **h15**km±9km, **n76, σ0.92/88, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBAS	**Tolaga Bay Are**	**0.28**	**243**	P	**Pb**	**20 09 44.0**	**+1.2**
PUZ	**Puketiti**	**0.33**	**301**	P	**Pg**	**20 09 43.0**	**+0.2**
PUZ				S	**Sg**	**20 09 46.7**	**-0.8**
CNGZ	**Carnagh Statio**	**0.41**	**233**	P	**Pn**	**20 09 46.7**	**-0.6**
CNGZ				S	**Sn**	**20 09 55.4**	**+0.8**
WMGZ	**Waiomatatini S**	**0.45**	**339**	P	**Pn**	**20 09 48.0**	**+0.1**
TWGZ	**Tauwhareparae**	**0.51**	**277**	P	**Pg**	**20 09 45.7**	**-0.4**
PKGZ	**Pakihiroa**	**0.57**	**311**	P	**Pb**	**20 09 47.4**	**-0.2**
GKBS	**Kaiti Beach**	**0.64**	**226**	P	**Pn**	**20 09 50.8**	**+0.4**
GKBS				S	**Sn**	**20 10 02.2**	**+1.9**
TKGZ	**Te Karaka**	**0.64**	**252**	P	**Pb**	**20 09 48.7**	**0.0**
MXZ	**Matakaoa Point**	**0.72**	**340**	P	**Pn**	**20 09 52.9**	**+1.3**
MXZ	**Matakaoa Point**	**0.72**	**340**	P	**Sn**	**20 10 03.7**	**+1.3**
MXZ	**Matakaoa Point**	**0.72**	**340**	P	**Pn**	**20 09 52.6**	**+1.0**
MXZ				S	**Sn**	**20 10 03.9**	**+1.5**
RUGZ	**Raukumara Rang**	**0.79**	**290**	P	**Pb**	**20 09 50.6**	**-0.9**
RUGZ				S	**Sb**	**20 09 59.8**	**-2.3**
RIGZ	**Rimuhau**	**0.82**	**235**	P	**Pg**	**20 09 53.0**	**+1.2**
RIGZ				S	**Sn**	**20 10 05.4**	**+0.5**
HAZ	**Te Kaha**	**0.82**	**306**	P	**Pb**	**20 09 51.6**	**-0.3**
HAZ				S	**Sb**	**20 10 01.4**	**-1.3**
MWZ	**Matawai**	**0.86**	**264**	P	**Pb**	**20 09 52.0**	**-0.7**
MWZ				S	**Sb**	**20 10 02.5**	**-1.6**
PRGZ	**Paritu Road**	**0.89**	**220**	P	**Pn**	**20 09 54.5**	**+0.5**
RAGZ	**Rawiri**	**0.98**	**255**	P	**Pn**	**20 09 54.8**	**+0.1**
RAGZ				S	**Sg**	**20 10 08.4**	**+0.6**
MHGZ	**Mahia Peninsul**	**1.07**	**211**	P	**Pn**	**20 09 57.1**	**+0.7**
KNZ	**Kokohu**	**1.07**	**223**	P	**Pb**	**20 09 56.2**	**0.0**
SNGZ	**Shannon Statio**	**1.14**	**241**	P	**Pn**	**20 09 57.3**	**-0.1**
SNGZ				S	**Sg**	**20 10 14.0**	**+1.1**
URZ	**Urewera**	**1.19**	**269**	P	**Pn**	**20 09 57.8**	**-0.2**
URZ	**Urewera**	**1.19**	**269**	P	**Pn**	**20 09 57.7**	**-0.4**
URZ				S	**Sn**	**20 10 14.1**	**+0.2**
RTZ	**Ruatahuna**	**1.34**	**253**	P	**Pn**	**20 10 00.6**	**+0.4**
WHRZ	**Whale Island**	**1.36**	**286**	P	**Pn**	**20 10 00.7**	**+0.4**
RAHZ	**Arahi**	**1.38**	**240**	P	**Pn**	**20 10 00.5**	**-0.2**
MUGZ	**Murupara**	**1.47**	**260**	P	**Pn**	**20 10 02.2**	**+0.2**
EDRZ	**Edgecumbe**	**1.49**	**275**	P	**Pn**	**20 10 02.4**	**+0.1**
MTHZ	**Maungataniwha**	**1.52**	**246**	P	**Pn**	**20 10 02.5**	**-0.2**
MARZ	**Manawahe**	**1.56**	**279**	P	**Pn**	**20 10 03.2**	**+0.1**
NMHZ	**Naumai**	**1.66**	**238**	P	**Pn**	**20 10 05.6**	**+1.1**
RRRZ	**Republican Roa**	**1.66**	**266**	P	**Pn**	**20 10 05.4**	**+0.8**
TARZ	**Mount Tarawera**	**1.67**	**270**	P	**Pn**	**20 10 04.9**	**+0.3**
MKRZ	**Makatiti**	**1.70**	**273**	P	**Pb**	**20 10 06.8**	**-0.1**
PRRZ	**Plateau Road**	**1.77**	**261**	P	**Pn**	**20 10 07.1**	**+1.0**
ALRZ	**Allen Road**	**1.82**	**259**	P	**Pn**	**20 10 06.9**	**+0.2**
MRHZ	**Matea Rd**	**1.83**	**250**	P	**Pn**	**20 10 06.9**	**0.0**
HRRZ	**Handcock Road**	**1.84**	**265**	P	**Pn**	**20 10 08.1**	**+1.0**
HSRZ	**Hossack Road**	**1.87**	**267**	P	**Pn**	**20 10 08.5**	**+1.1**
BKZ	**Black Stump Fm**	**1.90**	**240**	P	**Pn**	**20 10 08.1**	**+0.2**
BKZ	**Black Stump Fm**	**1.90**	**240**	P	**Pn**	**20 10 07.9**	**0.0**
MCHZ	**McNeill Hill**	**1.92**	**231**	P	**Pn**	**20 10 08.2**	**0.0**
NGRZ	**Ngongotaha**	**1.92**	**273**	P	**Pn**	**20 10 09.1**	**+0.9**
TGRZ	**Tauranga**	**1.93**	**285**	P	**Pn**	**20 10 07.8**	**-0.5**
WPRZ	**Whakapapatarin**	**1.95**	**261**	P	**Pb**	**20 10 10.3**	**-0.9**
GRRZ	**Galatos Road**	**1.98**	**266**	P	**Pn**	**20 10 09.9**	**+1.0**
KAHZ	**Kahuranaki**	**2.06**	**221**	P	**Pn**	**20 10 09.4**	**-0.7**
KWHZ	**Kaweka Forest**	**2.08**	**235**	P	**Pn**	**20 10 10.2**	**-0.2**
KUTZ	**Kaahu Road**	**2.21**	**263**	P	**Pn**	**20 10 13.1**	**+0.9**
RITZ	**Rihia Road**	**2.29**	**250**	P	**Pn**	**20 10 14.3**	**+1.1**
RATZ	**Rangitukua**	**2.32**	**254**	P	**Pn**	**20 10 14.0**	**+0.4**
TLZ	**Tolley Road**	**2.43**	**267**	P	**Pn**	**20 10 15.5**	**+0.4**
TMVZ	**Te Maari**	**2.44**	**248**	P	**Pn**	**20 10 15.3**	**-0.1**
ETVZ	**East Tongariro**	**2.45**	**248**	P	**Pn**	**20 10 15.4**	**-0.1**
OTVZ	**Oturere**	**2.49**	**247**	P	**Pn**	**20 10 16.1**	**0.0**
NNVZ	**North Ngauruho**	**2.51**	**248**	P	**Pn**	**20 10 17.0**	**+0.6**
SNVZ	**South Ngauruho**	**2.52**	**247**	P	**Pn**	**20 10 16.7**	**+0.3**
PNHZ	**Pukenui**	**2.52**	**228**	P	**Pn**	**20 10 15.1**	**-1.2**
MOVZ	**Moawhango**	**2.52**	**242**	P	**Pn**	**20 10 16.6**	**+0.2**
TUVZ	**Tukino**	**2.54**	**245**	P	**Pn**	**20 10 17.2**	**+0.5**
NGZ	**Ngauruhoe**	**2.54**	**248**	P	**Pn**	**20 10 17.0**	**+0.3**
WHVZ	**Whangaehu Hut**	**2.59**	**245**	P	**Pn**	**20 10 17.8**	**+0.3**
FWVZ	**Far West T-bar**	**2.60**	**246**	P	**Pn**	**20 10 17.8**	**+0.1**
KUZ	**Kuaotunu**	**2.75**	**302**	P	**Pn**	**20 10 18.6**	**-0.9**
KUZ	**Kuaotunu**	**2.75**	**302**	P	**Pn**	**20 10 18.9**	**-0.6**
TSZ	**Takapari Road**	**2.75**	**228**	P	**Pn**	**20 10 18.3**	**-1.2**
PKVZ	**Pokaka**	**2.77**	**247**	P	**Pn**	**20 10 20.3**	**+0.5**
MKAZ	**Moumakai**	**2.97**	**291**	P	**Pn**	**20 10 22.3**	**-0.2**
HIZ	**Hauiti**	**2.97**	**264**	P	**Pn**	**20 10 23.8**	**+1.2**
BFZ	**Birch Farm**	**3.05**	**216**	P	**Pn**	**20 10 22.2**	**-1.5**
VRZ	**Vera Road**	**3.15**	**253**	P	**Pn**	**20 10 25.7**	**+0.7**
WAZ	**Wanganui**	**3.21**	**241**	P	**Pn**	**20 10 26.2**	**+0.3**
NEZ	**North Egmont**	**3.68**	**252**	P	**Pn**	**20 10 33.7**	**+1.3**
PKE	**Pukeiti**	**3.75**	**254**	P	**Pn**	**20 10 34.4**	**+1.2**
KHEZ	**Kahui Hut**	**3.75**	**252**	P	**Pn**	**20 10 34.7**	**+1.4**
KHEZ	**Kahui Hut**	**3.75**	**252**	P	**Pn**	**20 10 34.5**	**+1.2**
CTZ	**Chatham Island**	**6.56**	**148**	P	**Pn**	**20 11 14.9**	**+3.0**
CTZ				S	**Sn**	**20 12 24.0**	**-2.4**

*AFAD **27** 20:41:56.3, 36°.74N×29°.75E, h5km±3km, ML2.7*
*ISK **27** 20:41:56.8, 36°.72N×29°.62E, h5km, ML2.8/24*

ISC 27 20:41:56.9±1.2, **36°.73N**±0°.03×**29°.69E**±0°.02, **h3**km±11km, **n51, σ0.88/58, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNIK	**Mula-Seydike**	**0.15**	**321**	P	**Pg**	**20 42 00.4**	**+0.6**
KNIK				S	**Sg**	**20 42 02.9**	**+1.0**
KNIK				*i* IAML		20 42 03.0	
	comp=N,4μm,0.2s						
CAME	**Cameli-Denizli**	**0.38**	**305**	Pg	**Pg**	**20 42 04.7**	**+0.5**
IZZE	**Mula-Seydike**	**0.47**	**232**	P	**Pb**	**20 42 07.0**	**-0.9**
CAEL	**Denizli, Camel**	**0.49**	**323**	P	**Pg**	**20 42 06.8**	**+0.5**
FETY	**Fethiye**	**0.50**	**259**	Pg	**Pg**	**20 42 06.7**	**+0.3**
FETY	**Fethiye**	**0.50**	**259**	P	**Pg**	**20 42 06.7**	**+0.3**
FETY				S	**Sb**	**20 42 16.3**	**+0.3**
AKAS	**Kas**	**0.50**	**188**	Pg	**Pb**	**20 42 07.3**	**-1.1**
AKAS	**Kas**	**0.50**	**188**	P	**Pg**	**20 42 06.9**	**+0.4**
GOLH	**Golhisar**	**0.52**	**349**	P	**Pb**	**20 42 07.4**	**-1.3**
SABU	**Mula-Dalaman**	**0.59**	**279**	P	**Pg**	**20 42 08.5**	**+0.3**
SABU				S	**Sb**	**20 42 18.0**	**-0.5**
SABU				*i* IAML		20 42 19.0	
	comp=N,592nm,0.4s						
SABU				*i* IAML		20 42 23.0	
	comp=E,510nm,0.4s						
KORT	**Korkueli**	**0.59**	**63**	Pg	**Pb**	**20 42 10.5**	**+0.5**
KORT	**Korkueli**	**0.59**	**63**	P	**Pn**	**20 42 12.3**	**-0.1**
DNZT	**Denizli-Tavas-**	**0.76**	**316**	P	**Pg**	**20 42 11.0**	**-0.6**
DNZT				S	**Sg**	**20 42 21.5**	**+0.1**
ANTB	**Antalya**	**0.79**	**77**	Pg	**Pb**	**20 42 14.6**	**-0.3**
APMY	**Acipayam-Deniz**	**0.80**	**337**	Pg	**Pb**	**20 42 13.3**	**-0.3**
DALY	**Dalyan (Mula)**	**0.84**	**276**	Pg	**Pb**	**20 42 13.1**	**-0.9**
BUCA	**Burdur, Bucak-**	**0.92**	**49**	P	**Pn**	**20 42 15.9**	**-0.9**
TAVA	**DENIZLI_Tavas**	**0.96**	**320**	P	**Pg**	**20 42 14.4**	**-1.0**
TAVA				S	**Sn**	**20 42 30.9**	**-0.8**
TAVA				*i* IAML		20 42 33.0	
	comp=E,123nm,0.6s						
INCE	**Denizli-Bozkur**	**0.98**	**355**	P	**Pn**	**20 42 17.5**	**-0.2**
BCK	**Bucak**	**1.02**	**44**	Pg	**Pn**	**20 42 18.3**	**+0.1**
DNIZ	**Denizli-Tavas-**	**1.03**	**330**	P	**Pg**	**20 42 16.3**	**-0.4**
TURN	**Turunc**	**1.16**	**273**	Pn	**Pb**	**20 42 19.2**	**-0.4**
TURN	**Turunc**	**1.16**	**273**	P	**Pb**	**20 42 19.2**	**-0.4**
TURN				S	**Sn**	**20 42 38.5**	**+2.2**
TURN				*i* IAML		20 42 41.0	
	comp=E,99nm,0.3s						
MULA	**Mugla, Merkez-**	**1.22**	**296**	P	**Pn**	**20 42 20.8**	**-0.1**
MULA				S	**Sn**	**20 42 39.4**	**+1.5**
BASM	**Basmaki-Afyon**	**1.22**	**13**	Pn	**Pn**	**20 42 21.6**	**+0.6**
ISP	**Isparta**	**1.28**	**31**	Pn	**Pn**	**20 42 22.9**	**+1.2**
ESEN	**Aydn-Nazilli**	**1.51**	**315**	P	**Pg**	**20 42 26.2**	**+0.3**
KZIL	**AFYON_Kizioren**	**1.57**	**13**	P	**Pg**	**20 42 28.1**	**+1.1**
PASA	**Karahalli, USA**	**1.62**	**354**	P	**Pg**	**20 42 27.5**	**-0.5**
MLSB	**Milas**	**1.63**	**291**	Pn	**Pb**	**20 42 27.1**	**-0.6**
NAZL	**Nazilli-Aydin**	**1.66**	**318**	Pn	**Pb**

PTBC				S	**Sn**	**21 00 40.3**	**-2.3**	
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	P	**Pn**	**21 00 24.9**	**-0.4**	
ZARC				S	**Sn**	**21 00 50.8**	**-0.6**	
NORC	**Norcasia**	**2.19**	**234**	P	**Pn**	**21 00 27.9**	**-1.2**	
NORC				S	**Sn**	**21 00 56.3**	**-2.0**	
ROSC	**El Rosal**	**2.36**	**211**	P	**Pn**	**21 00 32.6**	**+1.2**	
	801nm,0.3s,baz=302,slow=20,SNR=504							
ROSC				S	**Sn**	**21 01 02.0**	**-0.4**	
	1µm,0.5s,baz=19,slow=23,SNR=15							
ROSC	**El Rosal**	**2.36**	**211**	P	**Pn**	**21 00 32.3**	**+0.9**	
ROSC				S	**Sn**	**21 01 02.0**	**-0.4**	
HELC	**Santa Helena**	**2.52**	**255**	P	**Pn**	**21 00 32.7**	**-0.6**	
HELC				S	**Sn**	**21 01 03.4**	**-2.3**	
CVER	**Cruz Verde, Cu**	**2.53**	**203**	P	**Pn**	**21 00 34.1**	**+0.5**	
CVER				S	**Sn**	**21 01 06.4**	**+0.2**	
UREC	**San Jose de Ur**	**2.58**	**290**	P	**Pn**	**21 00 32.5**	**-1.2**	
UREC				S	**Sn**	**21 01 03.9**	**-2.6**	
GUY2C	**Guyana, Caldas**	**2.79**	**234**	P	**Pn**	**21 00 36.5**	**-0.3**	
GUY2C				S	**Sn**	**21 01 09.9**	**-2.0**	
VILC	**Villavicencio,**	**2.80**	**192**	P	**Pn**	**21 00 35.9**	**-0.7**	
VILC				S	**Sn**	**21 01 10.3**	**-1.5**	
PTGC	**Puerto Gaitan,**	**2.82**	**160**	P	**Pn**	**21 00 35.9**	**-0.8**	
PTGC				S	**Sn**	**21 01 08.4**	**-3.5**	
NIZA	**Niza - Manizal**	**2.97**	**233**	P	**Pn**	**21 00 40.8**	**+1.9**	
NIZA				S	**Sn**	**21 01 16.9**	**+1.2**	
CBOC	**Ciudad Bolivar**	**3.07**	**251**	P	**Pn**	**21 00 40.2**	**+0.2**	
CBOC				S	**Sn**	**21 01 16.6**	**-1.1**	
DBBC	**Dabeiba**	**3.10**	**273**	P	**Pn**	**21 00 40.1**	**-0.2**	
DBBC				S	**Sn**	**21 01 14.9**	**-3.3**	
ARGC	**Ariguani, Magd**	**3.18**	**339**	P	**Pn**	**21 00 42.7**	**+1.4**	
ARGC				S	**Sn**	**21 01 21.4**	**+1.3**	
PRAC	**Prado**	**3.61**	**210**	P	**Pn**	**21 00 45.6**	**-1.1**	
PRAC				S	**Sn**	**21 01 27.8**	**-2.0**	
APAC	**Apartado, Choc**	**3.61**	**287**	P	**Pn**	**21 00 46.5**	**-0.2**	
APAC				S	**Sn**	**21 01 29.1**	**-0.6**	
ORTC	**Ortega, Tolima**	**3.64**	**216**	P	**Pn**	**21 00 46.4**	**-0.7**	
ORTC				S	**Sn**	**21 01 30.1**	**-0.5**	
SJCC	**San Jacinto, C**	**3.65**	**326**	P	**Pn**	**21 00 46.4**	**-0.9**	
SJCC				S	**Sn**	**21 01 27.2**	**-3.6**	
PLMC	**San Jos del P**	**3.73**	**239**	P	**Pn**	**21 00 48.0**	**-0.3**	
PLMC				S	**Sn**	**21 01 30.5**	**-2.1**	
URMC	**La Uribe, Meta**	**3.82**	**200**	P	**Pn**	**21 00 49.4**	**-0.1**	
URMC				S	**Sn**	**21 01 33.5**	**-1.3**	
CRJC	**Cerrejon, Guaj**	**4.13**	**3**	P	**Pn**	**21 00 51.9**	**-1.6**	
CRJC				S	**Sn**	**21 01 40.6**	**-1.5**	
GUVC	**San Jose del G**	**4.32**	**174**	P	**Pn**	**21 00 55.0**	**-0.9**	
GUVC				S	**Sn**	**21 01 43.9**	**-2.5**	
YOTC	**Yotoco, Valle**	**4.33**	**229**	P	**Pn**	**21 00 55.1**	**-1.0**	
SMRC	**Santa Marta, M**	**4.41**	**345**	P	**Pn**	**21 00 57.5**	**+0.4**	
CAPC	**Capurgana**	**4.57**	**293**	P	**Pn**	**21 00 57.0**	**-2.2**	
PIZC	**Pizarro, Choco**	**4.65**	**246**	P	**Pn**	**21 01 01.1**	**+0.9**	
PTAC	**Punta Ardita,**	**4.69**	**274**	P	**Pn**	**21 00 59.6**	**-1.2**	
MACC	**Macarena, Meta**	**4.75**	**189**	P	**Pn**	**21 00 59.4**	**-2.2**	
BETC	**Betania**	**4.77**	**210**	P	**Pn**	**21 01 00.8**	**-1.1**	
URIC	**Uribia, Colomb**	**4.92**	**13**	P	**Pn**	**21 01 03.0**	**-0.8**	
JAMC	**Jamundi, Valle**	**5.09**	**225**	P	**Pn**	**21 01 05.4**	**-0.9**	
	2µm35nm,0.5s							
GARC	**Garzon, Huila**	**5.23**	**207**	P	**Pn**	**21 01 06.7**	**-1.4**	
POPC	**Popayan, Colom**	**5.59**	**220**	P	**Pn**	**21 01 11.3**	**-1.6**	
	666nm60nm,0.7s							
FLOC	**Florencia**	**5.84**	**206**	P	**Pn**	**21 01 14.8**	**-1.2**	
	2µm113nm,0.6s							
GR1C	**Gorgona, Isla**	**6.35**	**233**	P	**Pn**	**21 01 21.0**	**-1.7**	
BBAC	**Balboa, Cauca**	**6.35**	**221**	P	**Pn**	**21 01 22.3**	**-0.7**	
CRUC	**La Cruz**	**6.52**	**216**	P	**Pn**	**21 01 28.3**	**+2.9**	
GCUF	**Volcan Galeras**	**7.03**	**217**	P	**Pn**	**21 01 32.8**	**+0.5**	
	37nm,0.5s							
BCIP	**Isla Barro Col**	**7.06**	**289**	P	**Pn**	**21 01 29.8**	**-2.4**	
AZU	**Azuero**	**7.18**	**278**	P	**Pn**	**21 01 32.9**	**-0.9**	
PCRV	**Puerto La Cruz**	**8.98**	**68**	P	**Pn**	**21 01 55.1**	**-2.7**	
	6.8nm,0.6s,baz=227,slow=11,SNR=11							
PCRV				S	**Sn**	**21 03 33.6**	**-4.2**	
	4.0nm,0.4s,baz=210,slow=20,SNR=1.6							
STH	**Stony Hill**	**11.72**	**342**	*e*P	**Pn**	**21 02 36.5**	**+2.7**	
MTDJ	**Mount Denham**	**12.09**	**339**	*e*P	**Pn**	**21 02 41.7**	**+3.0**	
JTS	**Las Juntas de**	**12.21**	**287**	P	**P**	**21 02 47.7**	**+1.6**	
	8.0nm,0.5s,baz=43,slow=4.7,SNR=8.1							
GTBY	**Guantanamo Bay**	**13.13**	**352**	*e*P	**P**	**21 02 55.6**	**-0.7**	
MASC	**Masc**	**13.28**	**355**	*e*P	**P**	**21 02 56.1**	**-1.8**	
QMBU	**Quimbuelo**	**13.36**	**353**	*e*P	**P**	**21 02 58.4**	**-0.4**	
PILO	**Pilon**	**13.62**	**343**	*e*P	**P**	**21 03 02.6**	**+0.8**	
LMGC	**Las Mercedes**	**13.66**	**344**	*e*P	**P**	**21 03 02.6**	**+0.5**	
PINC	**Pinares de May**	**13.79**	**349**	*e*P	**P**	**21 03 04.2**	**+0.6**	
YAR	**Yar**	**13.79**	**347**	*e*P	**P**	**21 03 03.7**	**0.0**	
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**21 06 42.4**	**+1.0**	
	0.7nm,0.7s,baz=126,slow=8.5,SNR=9.3							
	0.7nm,0.7s							
SCHQ	**Schefferville**	**48.09**	**5**	P	**P**	**21 08 16.5**	**+1.6**	
	4.2nm,0.5s,baz=189,slow=7.1,SNR=5.1							
	4.2nm,0.5s							
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	**PKPbc**	**21 19 20.0**	**-2.1**	
	0.4nm,0.5s,baz=122,slow=3.5,SNR=8.7							
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc	**PKPbc**	**21 19 24.1**	**-1.0**	
	0.4nm,0.3s,baz=106,slow=3.0,SNR=14							
CMAR	**Chiang Mai Arr**	**153.64**	**17**	PKPbc	**PKiKP**	**21 19 31.9**	**-0.6**	
	0.4nm,0.6s,baz=1.7,slow=2.1,SNR=2.9							

*ISN **27** 21:04:51.6±0.4,32.°38N×48.°00E,h5km±8km,ML2.8*
*TEH **27** 21:04:52.8,32.°50N×47.°98E,h10km±465km*
ISC 27 21:04:53.9±1.2**,32.°43N**±0.°07×**48.°07E**±0.°06**,h15**km**,n10,**
σ1s05/14,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.10**	**350**	Pg	**Pb**	**21 05 12.4**	**-2.3**
BDRS	**Dareh Seyedi**	**1.66**	**24**	Pg	**Pb**	**21 05 24.3**	**-0.1**
RAFI	**Al-Rafai**	**1.81**	**247**	*e*Pn	**Pn**	**21 05 24.0**	**-0.5**
RAFI				*e*Sn	**Sn**	**21 05 48.0**	**+0.9**
IBDR	**Badra**	**1.93**	**291**	*e*Pn	**Pn**	**21 05 26.5**	**+0.4**
IBDR				*e*Sn	**Sn**	**21 05 51.5**	**+1.4**
ILBA	**Ilam Banvizeh**	**1.97**	**308**	Pn	**Pn**	**21 05 27.5**	**+0.8**
JHBN	**Jahan bin**	**2.20**	**95**	Pn	**Pb**	**21 05 33.4**	**-0.2**
IPIR	**Pirpir**	**2.39**	**83**	Pn	**Pb**	**21 05 35.6**	**-1.2**
GLG1	**Gilan-e-Gharb**	**2.47**	**313**	Pn	**Pn**	**21 05 34.3**	**+0.6**
BHD	**Baghdad**	**3.22**	**286**	*e*Pn	**Pn**	**21 05 44.0**	**+0.1**
BHD				*e*Sn	**Sn**	**21 06 22.2**	**+0.3**
IKRK	**Kirkuk**	**4.29**	**315**	*e*Pn	**Pn**	**21 05 59.3**	**+0.7**
IKRK				*e*Sn	**Sn**	**21 06 49.0**	**+0.6**

*NEIC **27** 21:41:40.0±1.1,36.°207N±0.°009×118.°07W±0.°01,*
h2km±1km,Error ellipse: s-maj=1.4km s-min=1.4km
az=106.0
PAS 27 21:41:40.7±1.1**,36.°213N**±0.°009×**118.°08W**±0.°01**,**
h3km±2km,ML3.3/105**,ML3.0**/132(NEIC)**,Error ellipse:**
s-maj=1.5km s-min=1.3km az=90.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.20**	**118**		Pg	21 41 44.9	+0.2
MFS					Sg	21 41 48.0	+0.6
CWC	**Cottonwood Cre**	**0.23**	**360**		Pg	21 41 45.1	0.0
WRVM	**Rose V. Centra**	**0.26**	**143**		Pg	21 41 45.9	+0.2
WRVM					Sg	21 41 49.6	+0.6
WCSM	**Coso Springs S**	**0.31**	**126**		Pg	21 41 46.9	+0.1
WCSM					Sg	21 41 51.3	+0.5
JRC2	**Joshua Ridge**	**0.32**	**136**		Pg	21 41 47.0	+0.1
JRC2					Sg	21 41 51.6	+0.6
WVPM	**Volcano Peak E**	**0.34**	**141**		Pg	21 41 47.4	+0.2
WVPM					Sg	21 41 52.2	+0.5
WNMM	**Nine Mile Cany**	**0.40**	**159**		Pg	21 41 48.2	-0.1
WNMM					Sg	21 41 53.5	+0.1
CGO	**Cerro Gordo**	**0.40**	**33**		Pg	21 41 48.4	-0.1
CGO					Sg	21 41 54.1	+0.3
TOW	**Tower One**	**0.48**	**148**		Pg	21 41 50.2	+0.4
TOW					Sg	21 41 56.5	+0.5
MPMC	**Manual Prospec**	**0.50**	**108**		Pg	21 41 50.2	-0.1
MPMC					Sg	21 41 57.0	+0.1
MPMC				IAML		21 41 59.0	
	comp=E,653nm,0.4s						
WORM	**Onyx Ranch**	**0.53**	**194**		Pg	21 41 50.7	-0.2
WORM					Sg	21 41 57.7	-0.1
CLC	**China Lake**	**0.56**	**135**		Pg	21 41 51.4	0.0
CLC				Sg	Sg	21 41 58.8	+0.2
SPG2	**Springville 2**	**0.56**	**269**		Sg	21 41 58.6	0.0
WHFM	**Hanning Flat**	**0.56**	**203**		Pg	21 41 51.4	-0.1
WHFM					Sg	21 41 58.8	+0.1
SRTC	**Snort**	**0.58**	**153**		Pg	21 41 52.3	+0.4
SRTC					Sg	21 42 00.9	+1.4
WASM	**Alta Sierra Ca**	**0.61**	**219**		Pg	21 41 52.4	-0.1
WASM					Sg	21 42 01.0	+0.6
ISA	**Isabella, Lake**	**0.64**	**210**		Pg	21 41 52.7	-0.2
ISA				Sg	Sg	21 42 01.0	-0.2
ISA				IAML		21 42 02.3	
	comp=N,746nm,0.2s						
ISA				IAML		21 42 02.9	
	comp=E,801nm,0.3s						
WBSM	**Bird Springs**	**0.68**	**184**		Sg	21 42 02.5	+0.1
WSHM	**Spangler Hills**	**0.78**	**142**		Pg	21 41 55.1	-0.4
WSHM				Sg	Sg	21 42 05.4	-0.2
WSHM				IAML		21 42 06.0	
	comp=E,644nm,0.4s						
WSHM				IAML		21 42 07.8	
	comp=E,627nm,0.1s						
LRMC	**Laurel Mtn Rad**	**0.80**	**156**		Pg	21 41 55.6	-0.4
LRMC					Sg	21 42 06.3	-0.1
TIN	**Tinemaha, Big**	**0.85**	**352**		Pg	21 41 56.7	-0.3
TIN					Sg	21 42 08.3	+0.3
VES	**Vestal, Richgr**	**0.90**	**246**		Pg	21 41 57.7	-0.2
VES					Sg	21 42 09.8	+0.3
VES				IAML		21 42 19.3	
	comp=N,660nm,0.4s						
CCCA	**Chr Cany lake**	**0.90**	**140**		Pg	21 41 57.8	-0.1
CCCA				IAML		21 42 11.9	
	comp=E,518nm,0.4s						
CCCA	**Chr Cany lake**	**0.90**	**140**		Sg	21 42 10.2	+0.6
DTP	**Desert Tortois**	**0.96**	**169**		Pg	21 41 58.6	-0.6
DTP					Sg	21 42 11.2	-0.4
GRAC	**Grapevine Rang**	**0.97**	**36**		Pg	21 41 58.8	-0.5
GRAC				IAML		21 42 16.6	
	comp=N,721nm,0.4s						
GRAC	**Grapevine Rang**	**0.97**	**36**		Sg	21 42 11.9	0.0
QSM	**Queen of Sheba**	**1.01**	**104**		Pg	21 41 59.5	-0.5
QSM				IAML		21 42 14.6	
	comp=E,374nm,0.2s						
QSM				IAML		21 42 18.2	
	comp=N,317nm,0.8s						
QSM	**Queen of Sheba**	**1.01**	**104**		Sg	21 42 12.8	-0.4
FURC	**Furnace Creek,**	**1.01**	**75**		Pg	21 41 59.8	-0.4
FURC				IAML		21 42 15.4	
	comp=N,431nm,0.3s						
FURC				IAML		21 42 16.8	
	comp=E,695nm,0.6s						
FURC	**Furnace Creek,**	**1.01**	**75**		Sg	21 42 13.5	+0.2
CCAC	**Calif City Air**	**1.06**	**177**		Pg	21 42 00.3	-0.7
CCAC					Sg	21 42 14.3	-0.4
VOG	**Valley Oaks Go**	**1.06**	**276**		Pg	21 42 00.4	-0.6
VOG					Sg	21 42 15.0	+0.3
LCH	**Last Change Ra**	**1.08**	**19**		Sg	21 42 14.3	-1.0
TEJ	**El Tejon**	**1.10**	**207**		Pg	21 42 00.9	-0.9
TEJ					Sg	21 42 15.3	-0.7
SGV	**South Grapevin**	**1.14**	**47**		Pg	21 42 01.7	-0.8
GWY	**Greenwater Val**	**1.14**	**91**		Pg	21 42 02.0	-0.5
GWY					Sg	21 42 17.5	+0.2
GWY				IAML		21 42 20.4	
	comp=E,438nm,0.6s						
GWY				IAML		21 42 24.1	
	comp=N,277nm,0.5s						
DSP	**Deep Springs**	**1.16**	**4**		Pg	21 42 02.1	-0.9
DSP					Sg	21 42 17.6	-0.3
DSP				IAML		21 42 18.0	
	comp=N,306nm,0.4s						
DSP				IAML		21 42 19.1	
	comp=E,213nm,0.4s						
GMN	**Gold Mountain**	**1.27**	**31**		Pg	21 42 04.2	-0.9
GMN					Sg	21 42 21.2	-0.3
GMN				IAML		21 42 22.2	
	comp=N,155nm,0.3s						
WCT	**Wildcat Mounta**	**1.31**	**63**		Pg	21 42 04.8	-0.9
WCT					Sg	21 42 22.7	+0.1
TPO	**Tropico Hills**	**1.34**	**185**		Pg	21 42 05.5	-0.9
TPO				IAML		21 42 25.8	
	comp=N,408nm,0.8s						
TPO				IAML		21 42 26.9	
	comp=E,389nm,0.5s						
KCC	**Kaiser Creek**	**1.49**	**318**		Pn	21 42 07.8	-0.7
SHOC	**Shoshone, Teco**	**1.49**	**102**		Pn	21 42 08.5	0.0
MLAC	**Mammoth, Mammo**	**1.54**	**337**		Pn	21 42 09.3	0.0
MCSM	**Casa Diablo Ho**	**1.58**	**336**		Pn	21 42 10.1	+0.1
MZP	**Montezuma Peak**	**1.59**	**20**		Pn	21 42 09.4	-0.6
TPNV	**Topopah Spring**	**1.65**	**63**		Pn	21 42 09.9	-0.8
TPNV				IAML		21 42 17.9	
	comp=E,107nm,0.5s						
OSI	**Osito Audit: C**	**1.68**	**198**		Pn	21 42 10.9	-0.2
TSCN	**Private Proper**	**1.96**	**251**		Pn	21 42 15.2	+0.3
TPH	**Tonopah**	**1.98**	**20**		Pn	21 42 14.7	-0.7
MWC	**Mount Wilson**	**1.98**	**180**		Pn	21 42 14.9	-0.5
MWC				IAML		21 42 45.5	
	comp=E,150nm,0.5s						
MWC				IAML		21 42 47.6	
	comp=N,182nm,0.6s						
BFSC	**Mount Baldy Ra**	**2.00**	**170**		Pn	21 42 14.6	-1.0
BFSC				IAML		21 42 44.0	
	comp=E,162nm,0.5s						
BFSC				IAML		21 42 45.9	
	comp=N,117nm,0.6s						
PASC	**Pasadena Art C**	**2.04**	**182**		Pn	21 42 14.4	-1.6
PASC				IAML		21 42 49.7	
	comp=N,105nm,0.6s						
PASC				IAML		21 42 50.9	
	comp=E,103nm,0.6s						
LHV	**Little Huntoon**	**2.06**	**351**		Pn	21 42 16.1	-0.2
LHV				IAML		21 42 53.1	
	comp=N,86nm,0.9s						
LHV				IAML		21 42 54.5	
	comp=E,169nm,0.7s						
MTPC	**Mountain Pass**	**2.18**	**109**		Pn	21 42 16.6	-1.5
MTPC				IAML		21 42 50.4	
	comp=N,66nm,0.8s						
MTPC				IAML		21 42 50.8	
	comp=E,66nm,0.5s						
PMPB	**Monarch Peak**	**2.20**	**271**		Pn	21 42 18.3	0.0
PMPB				IAML		21 42 59.6	
	comp=E,174nm,0.7s						
MYLM	**Yosemite Lake**	**2.21**	**303**		Pb	21 42 21.6	+0.2
NV11	**Mina Array Sit**	**2.22**	**358**		Pn	21 42 18.5	-0.1
NVAR	**Mina Array Bea**	**2.22**	**355**		Pn	21 42 18.2	-0.5
SHPR	**Sheep Range**	**2.37**	**82**		Pn	21 42 20.3	-0.5
BBGB	**Brig Mountain B**	**2.42**	**280**		Pn	21 42 20.2	-1.1
ELS	**Elsinore Mount**	**2.62**	**168**		Pn	21 42 23.3	-0.6
ELS				IAML		21 43 04.2	
	comp=E,46nm,0.4s						
ELS				IAML		21 43 05.4	
	comp=N,35nm,0.8s						
V12A	**Nelson**	**2.66**	**100**		Pn	21 42 24.6	0.0
V12A				IAML		21 43 12.3	
	comp=N,32nm,0.6s						
DANC	**Danby, Needles**	**2.71**	**125**		Pn	21 42 23.4	-1.8
DANC				IAML		21 43 13.4	
	comp=E,51nm,0.4s						
DANC				IAML		21 43 13.8	
	comp=N,68nm,0.7s						
PRN	**Pahroc Range**	**2.71**	**63**		Pn	21 42 25.2	-0.1
PRN				IAML		21 42 41.9	
	comp=E,46nm,0.8s						
PRN				IAML		21 42 42.6	
	comp=N,40nm,0.5s						
Q09A	**Carvers**	**2.71**	**15**		Pn	21 42 24.3	-1.1
Q09A				IAML		21 43 09.8	
	comp=N,99nm,0.6s						
SAO	**San Andreas Ge**	**2.77**	**282**		Pn	21 42 25.8	-0.3
BELC	**Belle Mtn. Jos**	**2.79**	**142**		Pn	21 42 25.1	-1.3
BELC				IAML		21 43 12.2	
	comp=N,26nm,0.7s						
BELC				IAML		21 43 22.9	
	comp=E,26nm,0.7s						
R11B	**Troy Canyon, C**	**2.92**	**42**		Pn	21 42 27.3	-0.9
PFO	**Pinyon Flats O**	**2.92**	**152**		Pn	21 42 27.0	-1.1
PMD	**Palm Desert**	**2.92**	**151**		Pn	21 42 26.6	-1.4
BORC	**Borrego Spring**	**3.24**	**155**		Pn	21 42 30.8	-1.7
BORC				IAML		21 43 24.2	
	comp=E,24nm,0.3s						
BORC				IAML		21 43 26.5	
	comp=N,22nm,0.7s						
DPP	**Dos Picos Cty**	**3.34**	**163**		Pn	21 42 33.2	-0.7
DPP				IAML		21 43 28.4	
	comp=E,26nm,0.5s						
W13A	**Hualapai Mount**	**3.59**	**107**		Pn	21 42 37.4	-0.2
W13A				IAML		21 43 38.7	
	comp=E,13nm,1.2s						
W13A				IAML		21 43 41.6	
	comp=N,16nm,1.0s						
LCMT	**Little Creek M**	**3.97**	**77**		Pn	21 42 41.7	-0.9
CCUT	**Cedar City**	**4.01**	**69**		Pn	21 42 43.2	-0.1
CBX	**Cerro Bola**	**4.06**	**163**	Pn	Pn	21 42 44.0	0.0
SPR3	**Spring Creek 3**	**4.07**	**46**	Pn	Pn	21 42 43.4	-0.8
SPR3				IAML		21 43 56.1	
	comp=E,9.1nm,1.4s						
Y14A	**Wickenburg**	**4.74**	**117**	Pn	Pn	21 42 52.2	-1.0
Y14A				IAML		21 44 18.9	
	comp=E,6.9nm,0.8s						
Y14A				IAML		21 44 21.9	
	comp=N,9.8nm,1.0s						
PKCU	**Pink Cliffs**	**4.79**	**73**		Pn	21 42 53.5	-0.6
PKCU				IAML		21 44 15.1	
	comp=N,13nm,3.3s						
PKCU				IAML		21 45 54.8	
	comp=E,16nm,0.3s						
ELK	**Elko**	**5.04**	**25**		Pn	21 42 57.7	+0.2
MTPU	**Mount Pierson**	**5.05**	**67**		Pn	21 42 58.0	+0.2
MTPU				IAML		21 45 23.4	
	comp=E,4.8nm,4.8s						

IDC 27 21:44:32.3±1.4**,3.°10N**×**127.°86E,h0km,mb3.6/6,**
mbtmp3.6/6,MS3.4/1,Error ellipse: s-maj=103.9km
s-min=18.0km az=70.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.18**	**186**	P	P	21 49 19.2	-0.2
	0.8nm,0.8s,baz=21,slow=8.6,SNR=1.1						
	0.8nm,0.8s						
PMG	**Port Moresby**	**22.90**	**123**	LR	LR	22 00 51.7	
	comp=Z,77nm,18.0s,baz=120,slow=43						
WRA	**Warramunga Arr**	**23.77**	**165**	P	P	21 49 47.1	+0.5
	0.3nm,0.4s,baz=345,slow=10,SNR=8.5						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**27.25**	**168**	P	P	21 50 17.2	-1.1
	0.2nm,0.8s,baz=359,slow=8.5,SNR=5.9						
ASAR				PcP	PcP	21 53 39.2	+0.6
	0.3nm,0.5s,baz=346,slow=2.3,SNR=6.1						
	0.2nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**40.96**	**65**	T	T	22 35 06.0	
	baz=253,slow=74						
H11S2	**WAKE ISLAND Hy**	**40.98**	**65**	T	T	22 35 11.6	
	baz=253,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.98**	**65**	T	T	22 35 12.5	
	baz=253						
H11N1	**WAKE ISLAND Hy**	**41.52**	**64**	T	T	22 35 49.6	
	baz=250						
H11N2	**WAKE ISLAND Hy**	**41.53**	**64**	T	T	22 35 49.4	
	baz=250						
H11N3	**WAKE ISLAND Hy**	**41.54**	**64**	T	T	22 35 51.6	
	baz=250						
MKAR	**Makanchi Array**	**58.71**	**325**	P	P	21 54 32.5	+0.6
	1.2nm,0.4s,baz=113,slow=7.9,SNR=28						
	1.2nm,0.4s						
KURBB	**Kurchatov Arra**	**62.87**	**327**	P	P	21 54 59.4	-0.7
	1.1nm,0.6s,baz=123,slow=6.2,SNR=9.5						
	1.1nm,0.6s						
BVAR	**Borovoye Array**	**68.46**	**327**	P	P	21 55 36.0	-0.2
	0.9nm,0.8s,baz=102,slow=6.1,SNR=5.5						
	0.9nm,0.8s						

*IDC **27** 21:58:38.1±2.9,22.°07N×143.°49E,h144km±24km,*
mb3.7/17,mbtmp4.1/20,Error ellipse: s-maj=23.7km
s-min=17.8km az=70.0
*JMA **27** 21:58:45.5±0.6,22.°2N±3.°×14.°3E±.°,h199km,IOTO*
ISLANDS REGION
ISC 27 21:58:44.1±0.8**,22.°07N**±0.°09×**143.°3E**±0.°2**,h200**km**,n26,**
σ1s29/29,mb3.7/16,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**4.67**	**347**	P	**Pn**	**21 59 55.7**	**+1.5**
JHH2				*e*S	**Sn**	**22 00 50.2**	**+0.6**
CBIJ	**Chichi jima**	**5.11**	**349**	P	**Pn**	**22 00 00.5**	**+0.6**
CBIJ				*e*S	**Sn**	**22 00 59.5**	**-0.4**
JCJ	**Chichijima**	**5.11**	**349**	P	Pn	21 59 51.9	-8.0
	69nm,0.4s,baz=277,slow=22,SNR=26						
JCJ				S	Sn	22 00 43.9	-16
	175nm,0.4s,baz=289,slow=23,SNR=11						
JIE	**Ise**	**13.59**	**336**	*e*P	**P**	**22 01 51.2**	**-0.1**
JOD2	**Odawara 2**	**13.66**	**345**	*e*P	**Pn**	**22 01 50.9**	**+1.0**
JNY	**Yasuok**	**14.08**	**341**	*e*P	**P**	**22 01 56.8**	**-0.1**
MJAR	**Matsushiro Arr**	**15.09**	**344**	P	**Pn**	**22 02 02.5**	**-4.9**
	0.9nm,0.6s,baz=173,slow=11,SNR=4.1						
JNU	**Nakatsue**	**15.57**	**318**	P	**Pn**	**22 02 11.8**	**-1.5**
	5.3nm,1.1s,baz=94,slow=13,SNR=2.3						
KSRS	**Korea Array**	**20.30**	**322**	P	**P**	**22 03 04.7**	**0.0**
	2.3nm,0.6s,baz=150,slow=9.0,SNR=24						
	2.3nm,0.6s						
SONM	**Songino Array**	**39.14**	**320**	P	**P**	**22 05 53.0**	**+0.6**
	0.4nm,0.4s,baz=121,slow=5.2,SNR=6.3						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**42.66**	**193**	P	**P**	**22 06 20.9**	**-0.4**
	0.9nm,0.6s,baz=15,slow=8.6,SNR=2.9						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**46.37**	**192**	P	**P

NIUE Niue 9.49 106 P P 22 02 54.7 0.0
VLAKA Lakatoro 12.47 271 P P 22 03 28.3 +2.4
PINNC Pines Island, 13.52 242 P P 22 03 36.4 -0.4
DZM Mont Dzumac 14.19 246 P P 22 03 43.7 -0.3
DZM Mont Dzumac 14.19 246 eS S 22 06 07.0 -6.7
106nm,24.4s
DZM Mont Dzumac 14.19 246 P P 22 03 43.8 -0.2
6.7nm,0.7s,baz=50,slow=20,SNR=17
DZM S S 22 06 13.0 -0.7
3.4nm,0.8s,baz=306,slow=19,SNR=1.9
ONTNC Ouen Toro 14.26 245 P P 22 03 45.5 +0.9
LUES Luesalemba Tem 15.31 291 P P 22 03 56.3 +0.6
ALEG Aligegeo Malai 20.78 290 P P 22 04 49.5 +2.3
HNR Honiara 21.19 288 P P 22 04 51.7 +0.7
HNR Honiara 21.19 288 P P 22 04 51.4 +0.5
196nm,0.7s,baz=269,slow=0.1,SNR=8.6
196nm,0.7s
HNR Honiara 21.19 288 P P 22 04 53.3 +2.3
SAVO Savo Central 21.42 288 P P 22 04 55.0 +1.9
URZ Urewera 21.62 187 P P 22 04 51.6 -2.9
7.8nm,0.6s,baz=355,slow=11,SNR=3.7
URZ S S 22 08 17.7 -0.7
6.1nm,0.8s,baz=311,slow=9.3,SNR=1.6
TATA Tatamba Isabel 21.73 290 P P 22 04 58.2 +2.3
QRZ Quartz Range 24.94 194 P P 22 05 25.4 +1.3
NNZ Nelson 25.13 193 P P 22 05 24.2 -1.5
THZ Tophouse 25.75 193 P P 22 05 30.6 -0.7
THZ IAmb IAmb 22 05 54.1
comp=Z,18nm,1.2s
KHZ Kahutara 26.25 192 P P 22 05 37.6 +2.0
EIDS Eidsvold 28.62 248 P P 22 05 56.5 -0.2
EIDS IAmb IAmb 22 06 02.2
comp=Z,15nm,1.4s
PPT2 Papeete2 28.68 96 esS sS 22 12 52.4 +0.3
comp=Z,208nm,26.2s
TBI Tubuai 29.03 108 esS sS 22 12 50.3 -7.1
comp=Z,710nm,27.0s
ARMA Armidale 29.57 237 P P 22 06 04.5 -0.5
ARMA IAmb IAmb 22 06 17.1
comp=Z,13nm,1.1s
PMOR Pomariorio Ree 30.53 91 eP P 22 06 13.8 +0.5
comp=Z,176nm,1.1s
PATS Pohnpei 32.04 315 P P 22 06 25.8 -0.5
CTAO Charters Tower 32.53 259 P P 22 06 29.5 -1.0
CTAO IAmb IAmb 22 06 34.0
comp=Z,18nm,1.4s
PMG Port Moresby 33.15 278 P P 22 06 36.8 +1.0
comp=Z,16nm,0.7s,baz=98,slow=5.8,SNR=3.9
comp=Z,16nm,0.7s
JOHN Johnston Islan 34.72 17 P P 22 06 48.0 -0.8
COEN Coen 35.97 269 P P 22 06 59.4 0.0
COEN IAmb IAmb 22 07 25.9
comp=Z,14nm,1.1s
TOO Toolangi 37.04 229 P P 22 07 07.8 -0.2
STKA Stephens Creek 38.21 240 P P 22 07 17.6 0.0
STKA IAmb IAmb 22 07 55.1
comp=Z,20nm,0.8s
STKA Stephens Creek 38.21 240 P P 22 07 17.5 -0.1
comp=Z,2.9nm,0.8s,baz=90,slow=9.1,SNR=6.4
comp=Z,2.9nm,0.8s
GENI Genyem 41.96 285 P P 22 07 50.0 +2.1
GENI Genyem 41.96 285 P P 22 07 48.3 +0.4
comp=Z,67nm,0.6s
KEKH Kekaha 43.14 28 P P 22 07 56.2 -0.7
STCH Steam Cracks 43.22 35 P P 22 07 57.5 -0.2
WB0 Warramunga Arr 43.70 259 P P 22 08 00.5 -0.9
WRA Warramunga Arr 43.73 258 P P 22 08 00.9 -0.9
WRA Warramunga Arr 43.73 258 P P 22 08 00.7 -1.0
comp=Z,1.1nm,0.4s,baz=91,slow=6.8,SNR=8.5
WRA PcP PcP 22 09 37.2 0.0
comp=Z,0.5nm,0.5s,baz=100,slow=5.5,SNR=1.7
WRA ScP ScP 22 12 39.6 +0.3
comp=Z,1.8nm,0.9s,baz=84,slow=3.8,SNR=6.3
WRA S S 22 13 45.4 -8.9
comp=Z,0.3nm,0.7s,baz=90,slow=13,SNR=2.2
AS01 Alice Springs 43.98 253 P P 22 08 03.6 0.0
AS31 Alice Springs 44.02 253 P P 22 08 03.3 -0.6
ASAR Alice Springs 44.02 253 P P 22 08 03.0 -1.0
ASAR Alice Springs 44.02 253 P P 22 08 03.6 -0.3
comp=Z,6.6nm,0.5s,baz=85,slow=8.6,SNR=38
ASAR ScP ScP 22 12 41.8 +1.2
comp=Z,3.5nm,0.7s,baz=90,slow=3.4,SNR=16
ASAR S S 22 13 55.2 -3.1
comp=Z,1.3nm,0.7s,baz=91,slow=14,SNR=7.5
comp=Z,6.6nm,0.5s
GUMO Guam 46.27 309 P P 22 08 20.8 -0.3
comp=Z,58nm,0.5s,baz=194,slow=12,SNR=6.4
comp=Z,58nm,0.5s
MTN Manton Dam 47.70 268 P 22 08 32.0 0.0
MTN IAmb IAmb 22 08 32.8
comp=Z,12nm,0.8s
KNRA Kununurra 49.48 263 P 22 08 45.0 -0.2
SWI Sorong 50.87 283 P P 22 08 56.6 +1.1
comp=Z,68nm,0.9s
FITZ Fitzroy Crossi 52.10 260 P 22 09 04.8 +0.4
FITZ Fitzroy Crossi 52.10 260 P P 22 09 05.2 +0.8
SOEI Soe 54.93 270 P P 22 09 25.7 +1.0
SOEI Soe 54.93 270 P P 22 09 26.6 +1.9
SOEI Soe 54.93 270 P P 22 09 26.3 +1.6
PSA00 Pilbara Seismi 57.10 255 P P 22 09 39.1 -0.4
MMRI Maumere 57.15 270 P P 22 09 39.8 -0.1
MMRI IAmb IAmb 22 09 40.5
comp=Z,27nm,0.7s
MBWA Marble Bar 57.26 255 P P 22 09 40.2 -0.3
EDFI Ende, Flores 57.64 270 P P 22 09 43.0 -0.4
comp=Z,34nm,0.9s
NWAO Narrogin (SRO) 58.76 241 P P 22 09 50.2 -0.3
NWAO IAmb IAmb 22 10 07.2
comp=Z,32nm,1.4s
MORW Morawa 59.91 246 P P 22 09 57.5 -0.8
TOLI2 Tolitoli 61.38 281 P P 22 10 07.7 -0.5
VNDA Vanda 61.50 185 P 22 10 08.4 +0.5
VNDA Vanda 61.50 185 P P 22 10 08.2 +0.3
comp=Z,3.7nm,0.8s,baz=359,slow=7.3,SNR=23
comp=Z,3.7nm,0.8s
SBA Scott Base 61.50 183 P 22 10 09.4 +1.5
SBA IAmb IAmb 22 10 10.8
comp=Z,15nm,1.0s
PCI Palu 61.62 278 P P 22 10 10.4 +0.6
comp=Z,35nm,1.0s
JHJ2 Mitsune 62.94 322 P P 22 10 17.3 -0.6
JAGI Jajag, Banyuwa 64.93 268 P P 22 10 29.7 -1.4
JAGI IAmb IAmb 22 10 31.2
comp=Z,32nm,1.0s
JMM Marumori 65.85 326 P P 22 10 35.7 -0.6
JMM IAmb IAmb 22 10 37.0
comp=Z,27nm,1.0s
JGF Kuroka 66.13 323 P P 22 10 37.8 -0.4
JGF IAmb IAmb 22 10 39.0
comp=Z,19nm,0.8s
MJAR Matsushiro Arr 66.30 324 P 22 10 38.4 -0.8
MJAR IAmb IAmb 22 10 39.7
comp=Z,17nm,0.7s
MJAR Matsushiro Arr 66.30 324 P P 22 10 38.8 -0.3
comp=Z,23nm,0.7s,baz=157,slow=5.9,SNR=72
comp=Z,23nm,0.7s
MAJO Matsushiro 66.30 324 P 22 10 38.8 -0.4
MAJO Matsushiro 66.30 324 P P 22 10 39.1 -0.1
CASY Casey 66.71 204 P 22 10 41.3 +0.1
CASY IAmb IAmb 22 10 42.5
comp=Z,15nm,0.9s
JMN Monobe 66.97 319 P P 22 10 43.9 +0.5
JMN IAmb IAmb 22 10 45.4
comp=Z,28nm,0.9s
JMN Monobe 66.97 319 P P 22 10 44.7 +1.3
KKM Kota Kinabalu 67.36 284 P P 22 10 46.2 -0.1
KKM IAmb IAmb 22 11 00.5
comp=Z,30nm,1.2s
AMKA Amchitka 67.84 359 P P 22 10 47.3 -1.0
JTM Tenmabayashi 67.89 329 P P 22 10 48.6 -0.2
JTM IAmb IAmb 22 10 49.7
comp=Z,23nm,1.1s
ADK Adak 68.39 2 P 22 10 50.7 -0.8
ADK Adak 68.39 2 P P 22 10 50.9 -0.6
JNU Nakatsue 68.52 317 P P 22 10 52.1 -0.8
JNU IAmb IAmb 22 10 53.5
comp=Z,13nm,0.7s
JNU Nakatsue 68.52 317 P P 22 10 52.7 -0.2
comp=Z,11nm,0.7s,baz=80,slow=1.1,SNR=11
comp=Z,11nm,0.7s
UGM Wanagama 68.55 268 P P 22 10 53.1 -0.4
ATKA Atka Island 68.82 4 P 22 10 53.1 -1.0
ATKA Atka Island 68.82 4 P P 22 10 53.3 -0.8
YOJ Yonaguni jima 69.35 305 P P 22 10 57.8 -0.2
SHEM Shemya Is, Ala 69.40 356 P P 22 10 56.7 -0.9
SHEM Shemya Is, Ala 69.40 356 P P 22 10 56.5 -1.1
comp=Z,56nm,0.8s,baz=129,slow=15,SNR=6.2
comp=Z,56nm,0.8s
JKA Kamikawa-asahi 69.72 332 P 22 11 00.9 +1.1
ASAJ Asahikawa 69.72 332 P P 22 11 00.7 +0.9
comp=Z,33nm,0.8s,baz=219,slow=6.5,SNR=34
comp=Z,33nm,0.8s
NIKH Nikolski High 70.05 7 P 22 11 00.8 -0.7
NIKH Nikolski High 70.05 7 P P 22 11 00.8 -0.7
NIKH Nikolski High 70.05 7 P P 22 11 00.5 -1.0
baz=191
YULB Yu-li 70.19 303 P P 22 11 02.2 -0.9
YULB IAmb IAmb 22 11 06.0
comp=Z,8.6nm,0.8s
NACB Ninganchiao 70.33 304 P P 22 11 03.2 -0.6
NACB IAmb IAmb 22 11 04.5
comp=Z,24nm,1.0s
NACB Ninganchiao 70.33 304 P P 22 11 03.8 -0.1
SSLB Suanglung 70.65 303 P P 22 11 05.3 -0.5
TPUB Ta-pu 70.68 303 P P 22 11 05.3 -0.7
UNV Unalaska Valle 71.20 8 P P 22 11 07.0 -1.3
baz=193
KSM Kuching 71.41 277 P 22 11 10.2 -0.2
KSM IAmb IAmb 22 11 12.2
comp=Z,23nm,0.9s
KSM Kuching 71.41 277 P P 22 11 11.5 +1.0
YSS Yuzhno-Sakhali 71.88 334 P 22 11 12.7 +0.3
YSS IAmb IAmb 22 11 14.3
comp=Z,28nm,0.8s
YSS Yuzhno-Sakhali 71.88 334 P P 22 11 13.2 +0.8
PET Petropavlovsk 71.98 346 P P 22 11 12.0 -0.9
comp=Z,34nm,1.3s
PEA0B Petropavlovsk- 72.28 346 P 22 11 14.3 -0.3
PETK Petropavlovsk- 72.28 346 P 22 11 13.5 -1.1
PETK Petropavlovsk- 72.28 346 P P 22 11 13.8 -0.8
comp=Z,32nm,0.9s,baz=97,slow=9.8,SNR=39
comp=Z,32nm,0.9s
FALS False Pass 72.64 10 P P 22 11 15.2 -1.4
baz=196
KSRS Korea Array 73.08 319 P P 22 11 20.1 +0.4
comp=Z,7.3nm,0.8s,baz=138,slow=6.5,SNR=30
comp=Z,7.3nm,0.8s
KSAR Wonju Array Be 73.10 319 P 22 11 19.8 0.0
KS19 Wonju Array Si 73.15 319 P P 22 11 20.1 +0.1
KS19 IAmb IAmb 22 11 21.1
comp=Z,18nm,1.1s
QSPA South Pole Qui 73.30 180 P 22 11 21.1 +0.5
QSPA IAmb IAmb 22 11 22.5
comp=Z,30nm,0.9s
QSPA South Pole Qui 73.30 180 P P 22 11 21.2 +0.5
comp=Z,22nm,0.8s,baz=2.5,slow=0.7,SNR=81
comp=Z,22nm,0.8s
CHNA Chernabura Isl 73.30 12 P P 22 11 19.1 -1.3
baz=200
SDPT Sand Point 73.62 11 P P 22 11 21.0 -1.2
SDPT Sand Point 73.62 11 P P 22 11 21.1 -1.2
baz=199
S14K Fog Glacier 74.68 11 P P 22 11 27.5 -0.9
baz=200
CHGN Chignik 74.92 12 P P 22 11 28.4 -1.1
CHGN IAmb IAmb 22 11 29.3
comp=Z,24nm,0.8s
CHGN Chignik 74.92 12 P P 22 11 29.0 -0.6
baz=201
USA0B Ussuriysk Arra 75.02 326 P P 22 11 30.5 +0.1
USA0B IAmb IAmb 22 11 32.6
comp=Z,14nm,0.9s
USRK Ussuriysk Ar. 75.02 326 P 22 11 30.8 +0.3
USRK Ussuriysk Ar. 75.02 326 P P 22 11 31.1 +0.7
comp=Z,7.6nm,0.8s,baz=149,slow=3.5,SNR=15
comp=Z,7.6nm,0.8s
CHIR Chirikof Islan 75.07 14 P P 22 11 30.0 -0.5
baz=204
SII Sitkinak Islan 76.08 14 P P 22 11 35.8 -0.2
baz=205
NJ2 Nanjing 76.33 310 eP P P 22 11 39.3 +1.3
NJ2 pmax pmax
comp=Z,14nm,0.5s
PMPB Monarch Peak 76.53 45 P P 22 11 38.9 -0.2
PMPB IAmb IAmb 22 11 47.8
comp=Z,22nm,1.3s
R17L Mt. Peulik Vol 76.58 13 P P 22 11 38.4 -0.4
baz=203,SNR=13
PLK4 Peulik 4 76.58 13 P 22 11 38.2 -0.6
MDJ Mudanjiang 76.59 325 P P 22 11 39.2 +0.1
MDJ IAmb IAmb 22 11 41.3
comp=Z,30nm,0.9s
MDJ Mudanjiang 76.59 325 P P 22 11 40.5 +1.4
MDJ pmax pmax
comp=Z,42nm,0.9s
MDJ Mudanjiang 76.59 325 P P 22 11 40.1 +1.0
KMRM Mail Ridge 76.87 41 P P 22 11 41.7 +0.8
OHAK Old Harbor 76.89 14 P 22 11 39.9 -0.6
OHAK IAmb IAmb 22 11 41.1
comp=Z,25nm,0.8s
OHAK Old Harbor 76.89 14 P P 22 11 40.3 -0.1
OHAK Old Harbor 76.89 14 P P 22 11 40.1 -0.4
baz=206
R18K Karluk 76.93 14 P P 22 11 40.4 -0.3
baz=205
O14K Tigyukauivet M 77.20 10 P P 22 11 41.2 -0.9
baz=198
Q17K Contact Creek 77.26 13 P P 22 11 41.8 -0.8
baz=203,SNR=14
ACHA Angle Creek He 77.33 13 P P 22 11 42.1 -0.9
O15K Ungalikthiuk R 77.36 10 P P 22 11 42.2 -0.9
baz=199
VES Vestal, Richgr 77.51 46 P P 22 11 44.0 -0.4
VES IAmb IAmb 22 11 45.4
comp=Z,17nm,1.0s
P16K Nushagak River 77.55 11 P P 22 11 43.6 -0.4
baz=201
KDAK Kodiak Island 77.56 14 P 22 11 43.7 -0.4
KDAK Kodiak Island 77.56 14 P P 22 11 44.0 -0.1
comp=Z,33nm,1.1s,baz=277,slow=7.7,SNR=9.5
comp=Z,33nm,1.1s
KDAK Kodiak Island 77.56 14 P P 22 11 43.8 -0.3
baz=206
M11K Mekoryuk 77.62 7 P P 22 11 44.6 +0.3
baz=193
N14K Kuskwak Cree 77.77 9 P P 22 11 45.3 +0.1
baz=198,SNR=14
CMB Columbia Colle 77.79 44 P 22 11 45.6 -0.3
Q18K Katmai Hardscr 77.80 13 P P 22 11 44.8 -0.7
baz=204,SNR=11
ISA Isabella, Lake 77.85 47 P P 22 11 46.3 -0.1
ISA IAmb IAmb 22 11 47.8
comp=Z,13nm,0.9s
AFDM Forest Hills D 77.90 43 P 22 11 46.3 -0.1
M13K Dall Lake 78.00 8 P P 22 11 45.7 -0.7
baz=196
P17K Kwiniuk River 78.00 12 P P 22 11 45.9 -0.6
baz=203,SNR=10.0
O16K Kokwok River B 78.06 11 P 22 11 45.3 -1.5
O16K IAmb IAmb 22 11 46.3
comp=Z,15nm,0.8s
O16K Kokwok River B 78.06 11 P P 22 11 45.5 -1.3
baz=201,SNR=7.7
BORC Borrego Spring 78.12 50 P P 22 11 47.6 -0.2
YUH Yuha Desert 78.19 51 P P 22 11 47.3 -0.8
N15K Kwethluk River 78.26 10 P P 22 11 47.7 -0.2
baz=199,SNR=10
Q20K Shuyak Island 78.35 14 P P 22 11 48.0 -0.3
baz=206
Q19K Cape Douglas, 78.35 13 P P 22 11 47.9 -0.5
baz=205
YBH Yreka Blue Hor 78.36 40 P 22 11 49.1 +0.1
YBH Yreka Blue Hor 78.36 40 P P 22 11 48.7 -0.3
comp=Z,0.7nm,0.9s,baz=214,slow=1.4,SNR=17
CN2 Changchun 78.41 323 P P 22 11 50.0 +0.9
CN2 pmax pmax
comp=Z,20nm,1.0s
O17K Koliganek Bris 78.42 11 P P 22 11 47.8 -0.8
baz=202,SNR=7.5
P18K Big Mountain, 78.43 12 P P 22 11 48.1 -0.8
baz=204,SNR=12
BNX BinXian 78.50 325 ⇓P P 22 11 49.5 0.0
BNX pmax pmax
comp=Z,44nm,0.7s
M14K Bethel 78.53 9 P P 22 11 49.5 +0.2
baz=197,SNR=11
M15K Kasigluk River 78.66 9 P P 22 11 50.1 +0.1
baz=198,SNR=10
N16K Nishlik Lake 78.77 10 P P 22 11 50.7 +0.1
baz=200
BEKR Beckworth 78.80 42 P P 22 11 51.2 -0.3
O18K Koktuh Hills 78.86 12 P P 22 11 50.6 -0.5
baz=204,SNR=20
L04D Klamath Falls 78.88 40 P 22 11 51.8 0.0
L04D IAmb IAmb 22 11 53.2
comp=Z,21nm,0.9s
L14K Kuka Creek 78.99 8 P P 22 11 51.5 -0.1
baz=196
WHN Wuhan 79.00 307 P P 22 11 53.5 +1.0
WHN pmax pmax
comp=Z,44nm,1.0s
P19K Oil Pt 79.09 13 P P 22 11 51.9 -0.5
baz=206
N17K Nushagak Hills 79.10 11 P P 22 11 52.1 -0.2
baz=202
M16K Timber Creek 79.25 10 P 22 11 53.6 +0.4
M16K IAmb IAmb 22 11 54.4
comp=Z,26nm,0.9s
M16K Timber Creek 79.25 10 P P 22 11 53.7 +0.6
baz=210,SNR=19
K13K Kusilvak Mount 79.31 7 P P 22 11 53.7 +0.3
baz=195,SNR=9.5
O19K Port Alsworth 79.36 13 P P 22 11 53.1 -0.5
baz=205,SNR=21
NVAR Mina Array Bea 79.39 44 P 22 11 54.6 -0.1
NVAR Mina Array Bea 79.39 44 P P 22 11 55.0 +0.3
comp=Z,6.7nm,0.8s,baz=245,slow=4.5,SNR=27
comp=Z,6.7nm,0.8s
L15K Ungalak Mounta 79.48 9 P P 22 11 54.2 -0.1
baz=198,SNR=18
N18K Kilae Creek 79.48 12 P P 22 11 53.8 -0.6
baz=203,SNR=5.3
PIX Pinacate 79.53 53 P P 22 11 55.5 +0.2
O20K Slope Mountain 79.62 13 P P 22 11 54.4 -0.8
baz=206
TIA Tai'an 79.63 313 P P 22 11 56.0 +0.3
TIA pmax pmax
comp=Z,15nm,0.9s
BRLK Bradley Lake 79.73 14 P P 22 11 55.4 -0.4
BRLK IAmb IAmb 22 11 56.1
comp=Z,30nm,0.9s
MA2 Magadan 79.78 345 P 22 11 55.0 -1.0
MA2 IAmb IAmb 22 11 56.1
comp=Z,23nm,0.9s
MA2 Magadan 79.78 345 P P 22 11 55.3 -0.7
MA2 Magadan 79.78 345 P P 22 11 55.2 -0.7
comp=Z,35nm,1.1s
113A Mohawk Valley, 79.85 51 P P 22 11 57.1 +0.1
M17K Holitna River 79.87 11 P P 22 11 57.3 +0.9
baz=202,SNR=22
N19K Bonanza Creek 79.89 12 P P 22 11 55.7 -0.9
baz=204,SNR=7.7
TPH Tonopah 79.94 45 P P 22 11 57.4 -0.2
TPH IAmb IAmb 22 11 59.0
comp=Z,46nm,1.1s
K05A Summer Lake 80.03 40 P 22 11 57.9 -0.1
K05A IAmb IAmb 22 11 59.6
comp=Z,21nm,0.9s
K15K Wolf Creek Mou 80.06 8 P P 22 11 57.9 +0.6
baz=198,SNR=22
J14K Nanvaranak Lak 80.23 7 P P 22 11 58.3 +0.1
baz=196
M18K Stony River 80.25 11 P P 22 11 58.4 +0.1
baz=203,SNR=8.8
SEW Seward 80.38 15 P P 22 11 58.9 -0.1
baz=209
L17K Donlin 80.41 10 P P 22 12 00.1 +0.9
baz=201,SNR=24
GAMB Gambell 80.50 4 P P 22 11 59.8 +0.2
GAMB IAmb IAmb 22 12 00.8
comp=Z,31nm,0.9s
GAMB Gambell 80.50 4 P P 22 11 59.3 -0.3
baz=188
SLKM Skilak Lake 80.55 14 P P 22 11 59.4 -0.6
SHPR Sheep Range 80.59 47 P 22 12 00.8 -0.2
E03A Lebam 80.66 35 P 22 12 01.2 +0.3
E03A IAmb IAmb 22 12 02.4
comp=Z,40nm,1.0s
I05D Terrebonne, OR 80.66 38 P P 22 12 01.0 0.0
I05D IAmb IAmb 22 12 02.4
comp=Z,16nm,1.0s
N20K Mount Spurr 80.71 13 P P 22 11 59.5 -1.4
baz=206
SPCR Spurr Chakacha 80.71 13 P P 22 11 59.6 -1.3
baz=206
L18K Granite Mounta 80.76 11 P 22 12 01.4 +0.4
L18K Granite Mounta 80.76 11 P P 22 12 01.8 +0.8
baz=202,SNR=32
P23K Montague Islan 80.80 16 P P 22 12 01.0 -0.2
baz=211
M19K Big River Lodg 80.90 12 P P 22 12 01.4 -0.4
baz=204
K17K Iditarod 80.95 10 P P 22 12 02.5 +0.5
baz=201,SNR=12
L19K White Mountain 81.07 11 P 22 12 02.4 -0.2
L19K IAmb IAmb 22 12 04.6
comp=Z,29nm,1.1s
L19K White Mountain 81.07 11 P P 22 12 02.5 -0.1
baz=204,SNR=15
M20K Styx River 81.13 12 P P 22 12 01.9 -1.2
baz=206
J16K Anvik River 81.14 9 P P 22 12 03.6 +0.6
baz=198,SNR=35
IPM Ipoh 81.15 277 P 22 12 04.3 +0.2
IPM IAmb IAmb 22 12 05.6
comp=Z,18nm,0.8s
IPM Ipoh 81.15 277 P P 22 12 04.8 +0.6
RC01 Rabbit Creek A 81.17 14 P P 22 12 02.6 -0.6
baz=209
SUA Susitna One 81.27 14 P P 22 12 03.2 -0.6
SUA Susitna One 81.27 14 P P 22 12 03.1 -0.7
baz=208
WVOR Wild Horse Val 81.27 41 P P 22 12 04.0 -0.3
WVOR IAmb IAmb 22 12 05.8
comp=Z,16nm,1.0s
PWL Port Wells 81.31 15 P P 22 12 03.2 -0.7
baz=210
HEH HeiHe 81.33 329 eP P 22 12 04.5 +0.3
HEH pmax pmax
comp=Z,16nm,0.7s
J17K VABM Dome 81.47 9 P P 22 12 05.2 +0.5
baz=200,SNR=19
L20K Farewell, AK 81.53 12 P P 22 12 04.7 -0.3
baz=205,SNR=12
KAIM Kayak Island 81.55 17 P P 22 12 05.0 -0.1
baz=214
SKT Skwentna 81.56 13 P P 22 12 04.2 -1.0
baz=207
GLI Glacier Island 81.64 15 P P 22 12 04.7 -0.9
GLI Glacier Island 81.64 15 P P 22 12 04.2 -1.3
baz=211
M22K Willow 81.67 14 P P 22 12 05.2 -0.4
baz=208,SNR=7.9
I17K Unalakleet 81.70 8 P P 22 12 06.4 +0.6
baz=198,SNR=8.9
EYAK Cordova Ski Ar 81.70 16 P P 22 12 05.6 -0.2
baz=213
KULM Kulim 81.75 278 P P 22 12 07.4 +0.2
PMR Palmer 81.75 14 P P 22 12 06.1 0.0
PMR Palmer 81.75 14 P P 22 12 05.5 -0.6
baz=209
KNK Knik Glacier 81.76 15 P P 22 12 05.7 -0.5
KNK IAmb IAmb 22 12 06.5
comp=Z,16nm,0.7s
KNK Knik Glacier 81.76 15 P P 22 12 05.6 -0.6
baz=210
ANM Nome 81.79 6 P P 22 12 06.1 -0.1
baz=194
CBB Campbell River 81.82 32 P 22 12 06.6 -0.1
CBB IAmb IAmb 22 12 08.1
comp=Z,22nm,1.0s
BBB Bella Bella 81.86 29 P P 22 12 06.7 -0.1
comp=Z,17nm,0.8s,baz=254,slow=2.8,SNR=4.8
comp=Z,17nm,0.8s
J08A Circle Bar Ran 81.86 40 P 22 12 07.0 -0.3
J08A IAmb IAmb 22 12 08.7
comp=Z,18nm,1.1s
HNS HongShan 81.90 313 ⇑P P 22 12 08.8 +1.4
HNS pmax pmax
comp=Z,12nm,0.9s
TUC Tucson 81.90 53 P 22 12 08.6 +0.9
D05A Enumclaw 81.92 36 P P 22 12 07.6 +0.3
D05A IAmb IAmb 22 12 09.1
comp=Z,31nm,1.0s
J18K Innoko River 81.92 10 P P 22 12 07.0 +0.1
baz=202,SNR=39
CRAG Craig 81.93 25 P P 22 12 07.0 -0.2
baz=224

BJT Baijiatuau 82.16 316 P P 22 12 08.7 0.0
BJT IAmb IAmb 22 12 10.2
comp=Z,18nm,0.7s
BJT Baijiatuau 82.16 316 P P 22 12 09.5 +0.8
CUT Chulitna 82.21 13 P P 22 12 07.7 -0.8
CUT Chulitna 82.21 13 P P 22 12 07.6 -0.8
baz=208,SNR=6.3
H16K Elim 82.22 7 P P 22 12 08.6 +0.2
baz=197,SNR=15
PPLA Purkeypile 82.24 12 P P 22 12 08.0 -0.8
baz=206
SIT Sitka 82.24 23 P P 22 12 08.6 -0.1
baz=222
M23K Glacier View 82.26 15 P P 22 12 07.8 -1.0
baz=211
K20K Telida 82.29 11 P P 22 12 08.7 -0.1
baz=205,SNR=38
G15K Niukluk 82.35 7 P P 22 12 09.2 +0.1
baz=195,SNR=20
BMRM Bremner River 82.36 16 P P 22 12 08.8 -0.5
baz=214,SNR=8.1
SCM Sheep Creek Mo 82.40 15 P P 22 12 08.8 -0.7
SCM Sheep Creek Mo 82.40 15 P P 22 12 09.0 -0.5
baz=211,SNR=8.9
U33K Whale Pass 82.40 24 P P 22 12 09.5 0.0
baz=224
V35K Ketchikan 82.44 25 P P 22 12 09.5 -0.2
baz=226
KLU Klutina 82.46 16 P P 22 12 09.2 -0.7
baz=212
MESA MESA 82.47 18 P P 22 12 09.5 -0.6
baz=216
TNA Tin City 82.53 5 P P 22 12 10.2 +0.2
baz=191,SNR=5.8
F14K Arctic Creek 82.59 6 P P 22 12 10.7 +0.4
baz=193,SNR=13
S31K Pelican 82.59 22 P P 22 12 10.2 -0.2
baz=222
J19K Poorman 82.59 10 P P 22 12 10.5 +0.1
baz=203,SNR=18
U15A North Rim 82.60 49 P 22 12 11.9 +0.5
U15A IAmb IAmb 22 12 13.3
comp=Z,15nm,0.8s
CRQE Cirque 82.60 17 P P 22 12 09.7 -0.9
baz=215
RPSI Rantau Prapat 82.62 275 P P 22 12 10.9 -0.7
SMAI San Martin Ant 82.64 160 P 22 12 11.1 +0.5
SMAI IAmb IAmb 22 12 12.6
comp=Z,21nm,1.0s
PSI Prapat 82.65 275 P P 22 12 11.9 -0.1
ENH Enshi 82.68 304 P P 22 12 11.6 -0.1
ENH IAmb IAmb 22 12 13.5
comp=Z,21nm,0.8s
ENH Enshi 82.68 304 P P 22 12 13.0 +1.4
CAST Castle Rocks 82.73 12 P 22 12 09.4 -1.7
CAST Castle Rocks 82.73 12 P P 22 12 09.4 -1.7
baz=206,SNR=61
H17K Granite Mounta 82.81 8 P P 22 12 11.1 -0.3
baz=199,SNR=11
S32K Killisnoo 82.82 23 P P 22 12 11.3 -0.2
baz=223
PNL Peninsula 82.84 19 P P 22 12 11.0 -0.7
baz=218
WUAZ Wupatki 82.86 50 P 22 12 13.0 +0.4
HAWA Hanford 82.86 37 P P 22 12 12.5 +0.4
HAWA IAmb IAmb 22 12 13.5
comp=Z,17nm,0.9s
N25K Chitina, Valde 82.90 16 P P 22 12 11.8 -0.2
baz=214,SNR=15
PINM Pinnacle 82.91 19 P P 22 12 11.8 -0.3
baz=218
M24K Tolsona, Glenn 82.92 15 P P 22 12 12.1 0.0
baz=212,SNR=5.1
WRAK Wrangell Islan 82.92 24 P P 22 12 12.3 +0.2
baz=225
G16K Koyuk River 82.93 7 P P 22 12 11.9 -0.1
baz=197,SNR=11
GLB Gilahina Butte 82.97 16 P P 22 12 11.6 -0.8
GLB IAmb IAmb 22 12 12.7
comp=Z,23nm,0.6s
F15K North Star Dit 82.98 6 P P 22 12 12.2 0.0
baz=194,SNR=5.3
J20K Nowinta River 83.02 11 P P 22 12 12.2 -0.3
baz=204,SNR=27
GCSA Galena City Sc 83.08 10 P P 22 12 12.7 0.0
baz=202
CHUM Lake Minchumin 83.10 12 P P 22 12 11.7 -1.2
baz=206,SNR=21
TRF Thorofare Moun 83.13 13 P 22 12 12.1 -1.2
TRF Thorofare Moun 83.13 13 P P 22 12 12.3 -1.0
baz=208,SNR=32
MCARA McCarthy VSAT 83.14 17 P P 22 12 12.0 -1.2
baz=215
H18K Honhosa River 83.23 9 P P 22 12 12.7 -0.9
baz=200,SNR=6.4
G17K Kiwalik Mounta 83.25 8 P P 22 12 13.3 -0.3
baz=198,SNR=15
CTG Chitna Glacier 83.28 18 P P 22 12 13.6 -0.5
baz=217
P29M Windy Craggy 83.34 20 P P 22 12 14.3 0.0
baz=220
BMO Blue Mountains 83.36 39 P 22 12 14.7 -0.1
RND Reindeer 83.40 13 P 22 12 13.6 -0.9
HARP HAARP 83.42 15 P P 22 12 14.3 -0.3
baz=213,SNR=7.2
R32K Eaglecrest 83.43 22 P P 22 12 14.7 0.0
baz=223
BELA Belgrano 2 83.45 173 P P 22 12 14.1 -0.5
BELA IAmb IAmb 22 12 15.1
comp=Z,19nm,0.9s
O28M Mount Upton 83.47 18 P P 22 12 15.0 -0.2
baz=218
GYA Guiyang 83.47 300 P P 22 12 16.8 +1.0
GYA pmax pmax
comp=Z,9.0nm,0.8s
GSI Gunungsitoli 83.50 273 P P 22 12 16.2 +0.2
I20K Naaghedeneel 83.53 11 P P 22 12 14.6 -0.4
baz=204,SNR=7.5
BPAW Bear Paw Mtn. 83.56 12 P P 22 12 13.4 -1.9
baz=208,SNR=13
D08A Wollman Farm, 83.58 37 P P 22 12 16.0 +0.3
D08A IAmb IAmb 22 12 17.0
comp=Z,12nm,0.9s
MCK McKinley 83.67 13 P P 22 12 14.7 -1.1
baz=209,SNR=13
PAX Paxson 83.82 15 P 22 12 15.5 -1.2
PAX IAmb IAmb 22 12 16.6
comp=Z,13nm,0.9s
PAX Paxson 83.82 15 P P 22 12 15.6 -1.0
baz=213,SNR=8.3
H19K Roundabout Mou 83.88 9 P P 22 12 16.6 -0.1
baz=202,SNR=14
G18K Tagagawik 83.89 8 P P 22 12 15.9 -0.9
baz=200,SNR=8.2
LLLB Lillooet 83.95 33 P P 22 12 16.7 -0.8
SLVN Son La 83.97 294 P 22 12 18.4 +0.1
SLVN Son La 83.97 294 P P 22 12 19.3 +1.0
P30M Million Dollar 83.97 20 P P 22 12 16.7 -0.7
baz=221,SNR=6.1
M26K Nabesna, AK 83.98 16 P P 22 12 17.2 -0.2
baz=215,SNR=19
YUK8 Steele Glacier 84.00 18 P P 22 12 17.9 +0.1
baz=218
SKAG Skagway 84.02 21 P P 22 12 17.7 +0.1
baz=222
F17K Baldwin Pennin 84.07 7 P P 22 12 17.6 0.0
baz=198,SNR=8.1
H20K Anotlenenega Mo 84.10 10 P P 22 12 17.5 -0.4
baz=204,SNR=10
XLT XiLinHaoTe 84.13 319 *e*P P 22 12 19.0 +0.4
XLT pmax pmax
comp=Z,16nm,1.0s
T35M Bob Quinn 84.14 25 P P 22 12 18.5 +0.2
baz=227
YUK6 Outpost Mounta 84.16 19 P P 22 12 17.9 -0.6
baz=219
YUK3 Moose Creek 84.18 18 P P 22 12 18.3 -0.3
baz=217,SNR=13
M27K Edge Creek, AK 84.25 17 P P 22 12 18.7 -0.2
baz=216,SNR=18
PLID Pearl Lake 84.28 40 P 22 12 19.0 -0.5
HYT Haines Junctio 84.33 19 P P 22 12 19.1 -0.2
HYT IAmb IAmb 22 12 20.1
comp=Z,12nm,0.9s
HYT Haines Junctio 84.33 19 P P 22 12 19.3 0.0
baz=220
G19K Purcell Mounta 84.35 9 P P 22 12 18.5 -0.6
baz=202,SNR=5.4
YUK4 Talbot Arm 84.38 19 P P 22 12 19.6 +0.1
baz=219
NEA2 Nenana 84.39 13 P P 22 12 17.8 -1.5
baz=209,SNR=5.7
L26K Log Cabin Wild 84.41 16 P P 22 12 19.4 0.0
baz=215
F18K Selawik 84.42 8 P P 22 12 17.9 -1.4
baz=199,SNR=5.4
S34M Telegraph Cree 84.44 24 P P 22 12 19.8 +0.2
baz=226,SNR=13
MLY Manley 84.44 12 P 22 12 18.2 -1.3
MLY IAmb IAmb 22 12 19.9
comp=Z,13nm,0.8s
MLY Manley 84.44 12 P P 22 12 18.3 -1.3
baz=208,SNR=21
K24K Donnelly Dome 84.45 14 P P 22 12 19.5 -0.2
baz=212,SNR=15
WRH Wood River Hil 84.50 13 P P 22 12 18.5 -1.3
HLID Hailey 84.51 42 P 22 12 21.0 +0.4
HLID IAmb IAmb 22 12 22.3
comp=Z,7.5nm,0.8s
MAW Mawson 84.56 200 P P 22 12 20.6 +0.4
comp=Z,7.0nm,0.6s,baz=131,slow=5.8,SNR=22
comp=Z,7.0nm,0.6s
BVCY Beaver Creek 84.58 17 P P 22 12 20.2 -0.1
baz=217,SNR=12
H21K Melozitna Rive 84.61 11 P P 22 12 20.0 -0.3
baz=206,SNR=11
E17K Hotham Inlet 84.62 7 P P 22 12 20.2 -0.2
baz=197,SNR=15
RIDG Independent Ri 84.62 15 P 22 12 20.0 -0.5
RIDG IAmb IAmb 22 12 20.9
comp=Z,30nm,1.0s
RIDG Independent Ri 84.62 15 P P 22 12 19.8 -0.8
baz=213,SNR=13
XAN Xi'an 84.65 308 ⇓P P 22 12 22.5 +1.1
XAN pP pwP 22 14 17.8 +0.3
XAN pmax pmax
comp=Z,40nm,1.1s
P32M Atlin 84.68 22 P P 22 12 20.5 -0.4
baz=224
HDA Harding Lake 84.70 14 P P 22 12 19.8 -1.0
HDA IAmb IAmb 22 12 20.9
comp=Z,18nm,0.8s
HDA Harding Lake 84.70 14 P P 22 12 20.1 -0.8
baz=217,SNR=11
HVU Hansel Valley 84.72 44 P P 22 12 21.8 +0.1
IMAR Indian Mountai 84.74 10 P P 22 12 20.1 -0.8
Q32M Nakina River 84.75 22 P P 22 12 21.6 +0.2
baz=225,SNR=14
O30N Mendenhall 84.75 20 P P 22 12 18.9 -2.3
baz=221,SNR=13
I23K Minto, Yukon-K 84.82 12 P P 22 12 20.2 -1.1
baz=209,SNR=10
L27K Beaver Creek, 84.84 16 P P 22 12 20.8 -0.8
baz=216,SNR=7.2
BCAR Beaver Creek A 84.85 16 P 22 12 21.0 -0.7
COLA College 84.90 13 P P 22 12 20.5 -1.2
COLA College 84.90 13 P P 22 12 21.6 -0.1
COLA College 84.90 13 P P 22 12 20.8 -0.9
baz=210
F19K Shaleruckik Mo 84.90 8 P P 22 12 20.8 -0.9
baz=201,SNR=10
N30M Aishikik Lake 84.95 19 P P 22 12 20.9 -1.3
baz=220
IL31 85.02 13 P P 22 12 20.9 -1.4
IL31 IAmb IAmb 22 12 22.9
comp=Z,20nm,0.9s
ILAR Eielson Array 85.02 13 P 22 12 20.9 -1.5
ILAR Eielson Array 85.02 13 P P 22 12 21.1 -1.3
comp=Z,13nm,0.9s,baz=230,slow=5.7,SNR=43
comp=Z,13nm,0.9s
SCRK Sand Creek 85.03 15 P 22 12 21.8 -0.8
SCRK IAmb IAmb 22 12 23.1
comp=Z,14nm,0.7s
SCRK Sand Creek 85.03 15 P P 22 12 22.3 -0.3
baz=214,SNR=20
WHY Whitehorse 85.06 20 P P 22 12 22.4 -0.4
baz=223,SNR=6.8
D17K Noatak River 85.07 6 P P 22 12 22.9 +0.4
baz=196,SNR=6.1
H22K Ishtalitna Cre 85.09 11 P P 22 12 21.9 -0.8
baz=207,SNR=17
BILL Bilibino 85.17 355 P P 22 12 22.8 -0.2
POKR Poker Plat Res 85.20 13 P P 22 12 21.7 -1.5
baz=211
DLBC Dease Lake 85.22 24 P P 22 12 23.4 -0.2
comp=Z,0.9nm,0.7s,baz=179,slow=6.2,SNR=15
comp=Z,0.9nm,0.7s
DLBC Dease Lake 85.22 24 P P 22 12 23.9 +0.3
baz=227,SNR=8.7
J25K Salcha River, 85.23 14 P P 22 12 22.5 -1.0
baz=213,SNR=17
NEW Newport 85.25 36 P 22 12 23.4 -0.5
NEW Newport 85.25 36 P P 22 12 23.4 -0.5
comp=Z,4.9nm,0.7s,baz=224,slow=6.2,SNR=5.6
comp=Z,4.9nm,0.7s
G21K Allakaket 85.27 10 P P 22 12 23.1 -0.4
baz=205,SNR=11
M29M Somme Creek 85.29 18 P P 22 12 23.6 -0.3
baz=219,SNR=6.0
H23K Yukon River 85.38 12 P P 22 12 23.9 -0.2
baz=209
N31M Braeburn, Yuko 85.38 19 P P 22 12 24.1 -0.2
baz=222
F20K Avaraart Lake 85.40 9 P P 22 12 24.0 -0.1
baz=203
C16K Lisburne Hills 85.41 5 P P 22 12 25.2 +1.0
baz=194
P33M Teslin, Yukon 85.44 21 P P 22 12 24.6 0.0
baz=224
BSUT Blindstream Ca 85.51 45 P 22 12 25.4 -0.4
R33M Jennings River 85.53 23 P P 22 12 25.3 +0.2
baz=226,SNR=9.0
K27K Chicken 85.56 16 P P 22 12 24.6 -0.4
baz=216
J26L Joseph Creek 85.57 15 P P 22 12 24.9 -0.2
baz=214,SNR=22
HHC Hu-ho-hao-te 85.65 315 *e*P P 22 12 27.5 +1.4
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,54nm,4.3s
H24K Nondor Dome 85.73 13 P P 22 12 25.1 -0.8
baz=210
VHRN Van Horn 85.82 56 P 22 12 27.3 +0.1
M30M Minto, Yukon 85.89 18 P P 22 12 26.2 -0.5
baz=221,SNR=19
L29M L29M 85.91 18 P P 22 12 26.4 -0.3
baz=220,SNR=10
F21K Alatna River 85.92 10 P P 22 12 26.0 -0.7
baz=205,SNR=5.3
PRP Porcupine Dome 85.96 14 P P 22 12 26.0 -1.1
baz=212,SNR=6.4
G22K Bettles 85.98 11 P P 22 12 26.4 -0.6
baz=207
N32M Quiet Lake 86.03 21 P P 22 12 26.3 -1.0
baz=224
G23K Bananza Creek 86.07 11 P P 22 12 26.8 -0.6
baz=208
ANMO Albuquerque 86.28 52 P 22 12 28.8 -0.6
KMI Kunming 86.29 297 ⇓P P 22 12 31.0 +1.3
KMI pmax pmax
comp=Z,13nm,0.9s
DAWY Dawson 86.30 17 P P 22 12 28.0 -0.6
DAWY IAmb IAmb 22 12 29.7
comp=Z,8.4nm,0.8s
DAWY Dawson 86.30 17 P P 22 12 28.0 -0.6
baz=218,SNR=9.0
I26K Coal Creek Min 86.34 14 P P 22 12 28.2 -0.5
baz=215
TX31 Lajitas Ar. Si 86.34 58 P P 22 12 30.2 +0.5
TXAR Lajitas Array 86.34 58 P P 22 12 30.4 +0.8
TXAR Lajitas Array 86.34 58 P P 22 12 30.3 +0.6
comp=Z,1.7nm,0.9s,baz=208,slow=4.5,SNR=14
comp=Z,1.7nm,0.9s
M31M Drury Creek, Y 86.36 19 P P 22 12 28.1 -0.8
baz=223
F22K John River 86.39 10 P P 22 12 28.3 -0.7
baz=206
D19K Kuna River 86.41 8 P P 22 12 28.2 -0.8
baz=201
COLD Coldfoot 86.49 11 P P 22 12 29.0 -0.4
baz=208,SNR=17
BPMT Black Pine Rid 86.50 39 P 22 12 29.7 -0.6
H25L Birch Creek 86.53 13 P P 22 12 28.6 -0.9
baz=212
G24K Hadweenzic Riv 86.56 12 P P 22 12 28.9 -0.8
baz=211
K29M Barlow Dome 86.65 17 P P 22 12 29.5 -0.8
baz=220,SNR=7.9
C19K Lookout Ridge 86.81 7 P P 22 12 30.3 -0.6
baz=199
B18K Kokolik River 86.81 6 P P 22 12 30.2 -0.6
baz=197
D20K Etivluk River 86.82 8 P P 22 12 30.5 -0.4
baz=202
G25K Bearman Lake 86.90 13 P P 22 12 30.7 -0.6
baz=212
J29N Klondike Camp 86.92 17 P P 22 12 31.2 -0.3
baz=219
E21K Killik River 86.95 9 P P 22 12 30.9 -0.6
baz=204
I27K Kandik River 86.95 15 P P 22 12 31.0 -0.6
baz=216,SNR=5.5
E22K Anaktuvuk Pass 87.02 10 P P 22 12 31.5 -0.4
baz=207,SNR=9.4
S22A 4UR Ranch, Cre 87.11 49 P 22 12 33.4 +0.1
YHL Hebgen Lake 87.17 41 P P 22 12 34.1 +0.7
YHL IAmb IAmb 22 12 35.5
comp=Z,8.4nm,0.9s
F24K Squaw Lake 87.19 12 P P 22 12 32.1 -0.5
baz=210,SNR=12
BOZ Bozeman (W) 87.23 41 P P 22 12 32.5 -1.1
BOZ IAmb IAmb 22 12 35.0
comp=Z,11nm,1.4s
I28M Miner Creek 87.25 15 P P 22 12 32.2 -0.9
baz=218,SNR=9.5
BW06 Boulder Array 87.30 44 P P 22 12 33.2 -0.8
BW06 IAmb IAmb 22 12 34.8
comp=Z,5.5nm,0.7s
PDAR Pinedale Array 87.30 44 P P 22 12 33.6 -0.4
PDAR Pinedale Array 87.30 44 P P 22 12 34.2 +0.2
comp=Z,4.4nm,0.6s,baz=216,slow=3.4,SNR=10
comp=Z,4.4nm,0.6s
E23K Chandalar 87.33 11 P P 22 12 32.8 -0.6
baz=209,SNR=6.8
TOAD Toad River Com 87.39 25 P P 22 12 33.6 -0.3
baz=231,SNR=7.7
CMAR Chiang Mai Arr 87.42 290 P 22 12 34.9 +0.1
CMAR Chiang Mai Arr 87.42 290 P P 22 12 35.6 +0.8
comp=Z,2.3nm,0.8s,baz=105,slow=2.6,SNR=20
comp=Z,2.3nm,0.8s
H27K Steamboat Moun 87.48 14 P P 22 12 33.8 -0.4
baz=216,SNR=11
C21K Knifeblade Rid 87.49 9 P P 22 12 34.2 +0.2
baz=204
CHTO Chiang Mai 87.53 290 P 22 12 35.4 0.0
CHTO Chiang Mai 87.53 290 P P 22 12 36.3 +0.9
J30M Hart River 87.54 17 P P 22 12 34.4 -0.1
baz=221
D22K Ayikyak River 87.55 9 P P 22 12 34.3 -0.1
baz=206
G26K Porcupine Rive 87.55 13 P P 22 12 34.4 0.0
baz=214,SNR=17
E24K Your Creek 87.56 11 P P 22 12 34.1 -0.4
baz=210,SNR=5.7
I29M Ogilvie Camp, 87.61 16 P P 22 12 33.9 -0.7
baz=219,SNR=6.5
PZH PanZhiHua 87.61 298 P P 22 12 36.5 +0.8
PZH pmax pmax
comp=Z,10.0nm,0.9s
MMPY Sheldon Lake, 87.68 20 P 22 12 35.0 0.0
MMPY IAmb IAmb 22 12 36.2
comp=Z,22nm,1.2s
MMPY Sheldon Lake, 87.68 20 P P 22 12 35.1 0.0
baz=226,SNR=12
A19K Wainwright 87.69 6 P P 22 12 34.7 -0.2
baz=198
F25K Christian Rive 87.70 12 P P 22 12 34.8 -0.3
baz=212,SNR=5.5
BMAR Burnt Mountain 87.78 13 P 22 12 35.6 +0.1
TOLK Toolik Lake Re 87.86 11 P P 22 12 35.1 -0.7
baz=209
G27K Doyon Strip 87.92 14 P P 22 12 35.5 -0.6
baz=216,SNR=7.2
B21K Ikpikpuk River 87.94 9 P P 22 12 35.7 -0.3
baz=204
D23K Nanushuk River 87.95 10 P P 22 12 36.3 +0.1
baz=208,SNR=5.9
TGTN Hyland Airport 87.96 22 P P 22 12 36.8 +0.3
baz=228
I30M Mount Dempster 88.02 17 P P 22 12 35.8 -0.9
baz=221,SNR=10.0
F26K Sheenjek River 88.09 13 P P 22 12 36.6 -0.4
baz=214,SNR=5.2
H29M Whitestone 88.26 16 P P 22 12 37.2 -0.5
baz=219,SNR=9.1
D24K Happy Valley 88.44 11 P P 22 12 38.2 -0.2
baz=209
KOTAN Kotaneelee Air 88.66 24 P P 22 12 39.5 -0.1
baz=232
ESPZ Base Esperanza 88.67 158 P P 22 12 40.4 +0.7
C23K Itkillik River 88.74 10 P P 22 12 40.0 +0.2
baz=208
B22K Teshekpuk Lake 88.77 9 P P 22 12 39.8 -0.1
baz=205
EPYK Eagle Plains 88.80 16 P P 22 12 39.4 -0.9
baz=221
G29M Pine Creek 88.88 15 P P 22 12 39.6 -1.0
baz=220
C24K Franklin Bluff 88.95 10 P P 22 12 40.0 -0.8
baz=210
F28M Old Crow 88.98 14 P P 22 12 40.1 -0.9
baz=218
H31M Peel River 89.02 17 P P 22 12 40.0 -1.3
baz=223
D25K Kavik River 89.03 11 P P 22 12 40.4 -0.9
baz=212
E27K Coleen River 89.05 13 P P 22 12 40.6 -0.8
baz=216
A22K Sinclair Lake 89.16 8 P P 22 12 40.2 -1.6
baz=204
A21K Barrow 89.25 7 P P 22 12 40.8 -1.3
baz=202
LZH Lanzhou 89.28 308 *e*P P 22 12 45.3 +1.9
LZH sP sP 22 15 32.8 +2.8
LZH pmax pmax
comp=Z,25nm,1.0s
G30M tAoh Zraii Nji 89.39 16 P P 22 12 42.0 -1.0
baz=221,SNR=6.8
C27K Jago River 89.79 12 P P 22 12 44.4 -0.4
baz=214
C26K Camden Bay 89.81 11 P P 22 12 44.8 0.0
baz=213
E28M Babbage River 89.85 14 P P 22 12 44.7 -0.3
baz=218
G31M Satah River 89.86 16 P P 22 12 44.5 -0.6
baz=223,SNR=7.8
COYC Coyhaique 89.93 138 P 22 12 47.5 +1.4
F30M Barrier River 89.98 15 P P 22 12 44.8 -0.9
baz=222
HNDO Hondo 90.00 59 P P 22 12 47.1 +0.5
HNDO IAmb IAmb 22 12 49.2
comp=Z,9.9nm,0.9s
D27M Malcolm River 90.04 13 P P 22 12 45.1 -0.8
baz=217
E29M Blow River 90.06 14 P P 22 12 45.1 -0.9
baz=220
F31M Tsiigehtchic 90.39 16 P P 22 12 46.8 -0.7
baz=223,SNR=7.7
WRGLY Wrigley 90.78 22 P P 22 12 48.8 -0.6
baz=233
LL02 Futaleuf 91.05 136 P P 22 12 51.7 +0.4
LL02 IAmb IAmb 22 12 53.5
comp=Z,9.4nm,0.8s
INK Inuvik 91.07 16 P P 22 12 50.4 -0.2
baz=224
LAO LASA Array 91.09 41 P 22 12 51.9 +0.6
TROLL Troll, Antarti 91.45 181 ⇓P P 22 12 52.3 -0.4
comp=Z,956nm,0.7s
RSSD Black Hills 91.53 44 P P 22 12 53.3 -0.3
RSSD IAmb IAmb 22 12 54.3
comp=Z,6.6nm,0.9s
SNAA Sanae 91.78 179 ⇓P P 22 12 53.5 -0.6
comp=Z,126nm,0.6s
SNAA Sanae 91.78 179 P 22 12 53.6 -0.6
SNAA IAmb IAmb 22 12 54.4
comp=Z,8.8nm,0.9s
SNAA Sanae 91.78 179 P P 22 12 53.8 -0.3
comp=Z,6.2nm,0.7s,baz=219,slow=3.1,SNR=14
comp=Z,6.2nm,0.7s
SONM Songino Array 91.93 320 P 22 12 54.8 -0.5

SONM IAmb IAmb 22 12 56.2
comp=Z,4.7nm,1.0s
SONM Songino Array 91.93 320 P **P** **22 12 55.1 -0.2**
comp=Z,3.3nm,1.0s,baz=122,slow=4.2,SNR=13
comp=Z,3.3nm,1.0s
VNA3 Neumayer Olymp 91.96 177 ⇓P **P** **22 12 54.5 -0.4**
comp=Z,28nm,0.8s
VNA1 Neumayer–Stat 92.62 177 ⇓P **P** **22 12 57.4 -0.5**
comp=Z,10.0nm,0.7s
GTA Gaotai 93.42 310 *e*P **P** **22 13 03.3 +1.0**
GTA pmax pmax
comp=Z,7.0nm,1.0s
YKA Yellowknife Ar 93.76 25 P **P** **22 13 02.6 -0.5**
comp=Z,3.7nm,0.8s,baz=256,slow=4.6,SNR=9.3
comp=Z,3.7nm,0.8s
A36M Sachs Harbour 95.65 15 P **P** **22 13 10.6 -0.9**
baz=232
MKAR Makanchi Array 107.51 314 Pdiff **Pdif** **22 14 05.3 +0.4**
comp=Z,0.4nm,0.7s,baz=111,slow=3.6,SNR=4.5
MKAR PKiKP **PKiKP** **22 18 09.1 -0.9**
comp=Z,0.3nm,0.6s,baz=256,slow=0.5,SNR=5.2
KURBB Kurchatov Arra 110.26 318 PKiKP **PKiKP** **22 18 13.9 -1.1**
comp=Z,0.7nm,0.7s,baz=100,slow=1.8,SNR=6.5
BVAR Borovoye Array 115.23 321 PKP **PKPdf** **22 18 23.5 -0.9**
comp=Z,1.6nm,0.5s,baz=100,slow=1.1,SNR=17
SPITS Spitsbergen Ar 118.04 356 PKP **PKPdf** **22 18 28.3 -0.9**
comp=Z,2.3nm,0.5s,baz=60,slow=8.5,SNR=5.8
SPB2 Spitsbergen Ar 118.05 356 PKPdf **PKPdf** **22 18 28.6 -0.6**
ARTI Arti 121.36 326 **PKPdf** **22 18 35.4 -0.7**
ABKAR Akbulak array 122.31 318 PKPdf **PKPdf** **22 18 37.8 -0.4**
ARCES ARCESS Array B 124.97 350 PKPdf **PKPdf** **22 18 42.4 -0.3**
ARCES ARCESS Array B 124.97 350 PKP **PKPdf** **22 18 42.0 -0.7**
comp=Z,3.2nm,0.5s,baz=15,slow=1.9,SNR=30
FINES FINESS Array B 131.76 344 PKhKP PKPpre 22 18 46.3
comp=Z,0.4nm,0.5s,baz=46,slow=5.5,SNR=6.6
FINES PKP **PKPdf** **22 18 54.9 -0.9**
comp=Z,2.0nm,0.5s,baz=46,slow=4.0,SNR=21
FINES SKPab **SKPab** **22 21 34.6 +0.3**
comp=Z,11nm,0.7s,baz=62,slow=3.0,SNR=43
NB2 NORSAR Subarra 135.09 353 PKP **PKPdf** **22 19 02.6 +0.5**
comp=Z,1.1nm,0.6s,baz=16,slow=3.2
NB2 pPKP **PP** **22 21 45.2 +1.0**
comp=Z,16nm,1.2s,baz=13,slow=3.0
NOA NORSAR Array B 135.09 353 PKP **PKPdf** **22 19 02.6 +0.5**
comp=Z,1.0nm,0.5s,baz=13,slow=4.1,SNR=11
NOA SKP 22 21 45.6
comp=Z,4.1nm,1.0s,baz=7.3,slow=2.3,SNR=13
HFS Hagfors 135.61 351 PKhKP PKPpre 22 18 49.4
comp=Z,2.2nm,0.8s,baz=116,slow=3.4,SNR=6.6
HFS PKP **PKPdf** **22 19 02.8 -0.3**
comp=Z,1.5nm,0.6s,baz=339,slow=2.0,SNR=7.4
HFS SKPbc **SKPbc** **22 21 46.7 +1.1**
comp=Z,3.6nm,0.7s,baz=100,slow=1.7,SNR=8.8
HFS SKPab **SKiKP** **22 21 51.7 +0.3**
comp=Z,2.4nm,0.7s,baz=54,slow=6.1,SNR=4.6
AKASG Malin Array Be 139.01 332 PKhKP PKPpre 22 18 58.9
comp=Z,0.7nm,0.5s,baz=49,slow=3.3,SNR=6.5
AKASG PKP **PKPdf** **22 19 09.4 -0.2**
comp=Z,2.2nm,0.7s,baz=47,slow=2.8,SNR=8.6
AKASG SKPbc **SKPbc** **22 21 55.5 -0.1**
comp=Z,0.6nm,0.6s,baz=45,slow=3.3,SNR=5.0
AKASG SKPab **SKPab** **22 22 06.5 +0.1**
comp=Z,1.8nm,0.7s,baz=48,slow=4.0,SNR=7.4
AKBB Malin Array Si 139.01 332 PKP **PKPdf** **22 19 09.3 -0.3**
KIEV Kiev 139.02 332 PKP **PKPdf** **22 19 09.5 -0.1**
AK10 Malin Array Si 139.07 332 PKP **PKPdf** **22 19 10.9 +1.2**
AK20 Malin Array Si 139.07 332 PKP **PKiKP** **22 19 11.2 -0.9**
AK12 Malin Array Si 139.08 332 PKP **PKiKP** **22 19 11.2 -0.9**
AK16 Malin Array Si 139.08 332 PKP **PKiKP** **22 19 11.2 -0.9**
AK17 Malin Array Si 139.09 332 PKP **PKiKP** **22 19 11.4 -0.7**
AK06 Malin Array Si 139.10 332 PKP **PKiKP** **22 19 11.5 -0.6**
EKA Eskdalemuir Ar 141.39 3 PKhKP PKPpre 22 19 06.7
comp=Z,1.7nm,0.6s,baz=332,slow=2.0,SNR=7.8
ILGA Ilgaz 142.46 317 **PKPdf** **22 19 14.4 -2.0**
RUE Ruedersdorf 142.81 346 *e*PKPbc **PKPdf** **22 19 13.2 -3.1**
baz=19,slow=3.2
TLCR 142.98 326 ⇑P **PKPdf** **22 19 14.6 -2.2**
BUR08 Bucovina Ar. S 143.04 332 PKPbc 22 19 15.4 +0.4
BURAR Bucovina Array 143.06 332 PKPbc 22 19 15.4 +0.4
BURAR Bucovina Array 143.06 332 ⇓P PKPbc 22 19 15.8 +0.7
SCTR Scanteiesti 143.09 327 ⇑P **PKPdf** **22 19 16.7 -0.3**
TATR Tataraca 143.11 327 ⇓P PKPbc 22 19 15.9 +0.8
GHRR 143.12 328 ⇓P **PKPdf** **22 19 16.9 -0.2**
OJC Ojcow 143.13 339 *e*PKP PKPab 22 19 14.6 0.0
BRTR Keskin Array B 143.16 315 PKPab 22 19 15.4 +0.1
BRTR Keskin Array B 143.16 315 PKP PKPab 22 19 15.6 +0.3
comp=Z,13nm,0.9s,baz=114,slow=3.1,SNR=73
BRTR SKPbc **SKPbc** **22 22 07.4 +0.6**
comp=Z,1.5nm,1.0s,baz=132,slow=2.1,SNR=3.8
TESR Tescani 143.19 329 ⇑P PKPbc 22 19 16.3 +1.0
LODK Lodwar 143.21 253 PKPab 22 19 16.3 +0.2
JUR Jurilovca 143.22 325 ⇑P PKPbc 22 19 16.1 +0.7
NEGRR Negrea 143.24 327 ⇑P PKPbc 22 19 16.1 +0.6
KIRS Kirsehir-Merke 143.25 314 ⇓P PKPab 22 19 15.9 +0.4
KOLS Kolonicke sedl 143.28 336 *e*PKP PKPbc 22 19 16.0 +0.4
STHS Stebnicka Huta 143.29 337 *e*PKP PKPab 22 19 15.0 -0.2
SCHL Schela 143.29 327 ⇓P PKPbc 22 19 16.3 +0.7
IZVR Izvoarele 143.29 327 ⇑P PKPbc 22 19 16.3 +0.6
SCHLR Schela 143.31 327 ⇑P PKPbc 22 19 16.1 +0.4
TUDR 143.31 327 ⇓P PKPbc 22 19 16.3 +0.6
COSR Cosmesti PH 143.31 328 ⇓P **PKPdf** **22 19 17.1 -0.3**
CFR Carcaliu 143.34 327 ⇓P PKPab 22 19 15.9 +0.4
TPGR Topolog 143.41 326 ⇑P PKPbc 22 19 16.7 +0.6
FLTG Flechtingen 143.47 349 *e*PKPbc PKPab 22 19 15.1 -0.7
baz=19,slow=3.2
ODBI Odobesti 143.51 328 ⇓P **PKPdf** **22 19 17.4 -0.3**
NRDL Niedersach Rie 143.52 350 *e*PKPbc PKPab 22 19 15.3 -0.6
baz=19,slow=3.2
VRI Vrincioaia 143.60 329 ⇑P PKPbc 22 19 17.3 +0.6
NIE Niedzica 143.63 338 *e*PKP PKPbc 22 19 17.2 +0.5
PLOR Plostina 143.65 329 ⇑P PKPab 22 19 17.1 +0.3
ANTO Ankara 143.66 316 PKPbc 22 19 17.6 +0.4
ANTO Ankara 143.66 316 ⇓P PKPbc 22 19 17.7 +0.6
TIRR Tirgusor 143.67 325 ⇓P PKPbc 22 19 17.4 +0.6
KSP Ksiaz 143.68 343 *e*PKP PKPbc 22 19 17.0 +0.2
ASSE Asse, Remlinge 143.77 349 *e*PKPbc PKPab 22 19 16.6 -0.2
baz=19,slow=3.2
BMR Baia Mare 143.77 333 ⇑P PKPab 22 19 17.1 0.0
HARR Harsova 143.78 326 ⇑P PKPbc 22 19 17.3 0.0
GRER 143.81 328 ⇑P **PKPdf** **22 19 18.9 +0.6**
TLBR Topalu 143.81 326 ⇑P PKPab 22 19 17.8 +0.5
TURR Turia 143.82 329 ⇑P **PKPdf** **22 19 18.4 0.0**
BISRR Bisoca 143.83 328 ⇑P PKPab 22 19 18.2 +0.7
ARCR ARCALIA 143.84 332 ⇑P PKPab 22 19 18.0 +0.6
MFTR Murfatlar 143.85 325 ⇓P PKPbc 22 19 17.6 +0.2
COVR Voineasa-Covas 143.88 329 ⇑P PKPbc 22 19 17.6 +0.1
OZUR 143.90 330 ⇑P **PKPdf** **22 19 18.9 +0.4**
CVDA Cernavoda 143.96 326 ⇓P **PKPdf** **22 19 18.6 0.0**
OSTC Ostas 143.96 343 *e*PKP PKPab 22 19 18.2 +0.5
OSTC *e*SKP 22 22 10.0
CHVC Chvalec 143.97 343 *e*PKP PKPab 22 19 18.1 +0.3
BOSR Bodos 143.98 330 ⇑P **PKPdf** **22 19 18.6 -0.1**
MANR Mangalia 143.99 324 ⇓P **PKPab** **22 19 18.4 +0.4**
OKC Ostrava-Krasne 144.01 340 *e*PKP PKPbc 22 19 17.9 +0.1
STEB Steborice 144.04 341 *e*PKP PKPbc 22 19 18.0 +0.1
STEB *e*SKP 22 22 09.9
IBBN Ibbenburen 144.04 352 *e*PKPbc PKPbc 22 19 17.7 -0.1
baz=19,slow=3.2
UPC Upice 144.06 343 *e*PKP **PKPab** **22 19 18.4 +0.3**
CLL Collm 144.08 346 PKPbc 22 19 17.3 -0.7
CLL Collm 144.08 346 ⇓*i*PKPbc PKPbc 22 19 17.9 -0.1
comp=Z,69nm,0.9s
CLL *ex* x 22 19 29.0
CLL *i* SKPbc **SKiKP** **22 22 10.1 +1.0**
comp=Z,11nm,0.9s
CLL Collm 144.08 346 *e*PKPbc PKPbc 22 19 17.6 -0.3
baz=19,slow=3.2
CLZ Clausthal 144.10 349 *e*PKPbc PKPbc 22 19 18.1 0.0
baz=19,slow=3.2
DPC Dobruska-Polom 144.11 343 *e*PKP **PKPab** **22 19 18.6 +0.2**
DPC *e*SKP 22 22 10.8
AMRR Amara 144.15 326 ⇑P **PKPdf** **22 19 19.8 +0.9**
LANS Liptovska Anna 144.15 339 *e*PKP **PKPdf** **22 19 19.4 +0.5**
DOPR Dopca 144.19 330 ⇑P **PKPdf** **22 19 20.1 +1.1**
CEI Carei 144.20 334 ⇑P **PKPab** **22 19 18.9 +0.2**
ISR Istrita 144.21 328 ⇑P **PKPdf** **22 19 19.3 +0.2**
KRLC Kraliky 144.22 342 *e*PKP PKPbc 22 19 18.7 +0.2
KRLC *e*SKP 22 22 10.7
ICOR Ion Corvin 144.23 325 ⇓P **PKPdf** **22 19 20.1 +1.0**
MORC Moravsky Berou 144.25 341 *e*PKP PKPbc 22 19 18.5 -0.1
MORC *e* 22 22 10.5
MORC Moravsky Berou 144.25 341 ⇑P PKPbc 22 19 18.8 +0.1
MLR Muntele Rosu 144.25 329 PKPbc 22 19 18.4 -0.5
MLR Muntele Rosu 144.25 329 ⇓P **PKPdf** **22 19 19.5 +0.2**

BRG Berggiesshubel 144.26 345 *e*PKPbc PKPbc 22 19 18.7 +0.1
baz=19,slow=3.2
BRG Berggiesshubel 144.26 345 *i* PKP PKPbc 22 19 18.8 +0.2
BRG Amp 22 19 19.8
comp=Z,44nm,0.8s
BRG Berggiesshubel 144.26 345 P **PKiKP** **22 19 25.6 +2.8**
BRG Amp 22 19 25.9
comp=Z,8.5nm,0.7s
BRG SKP 22 22 10.8
BRG Amp 22 22 11.6
comp=Z,6.7nm,0.9s
PVCC Panska Ves 144.43 344 *e*PKP **PKPab** **22 19 19.7 +0.2**
NEUB Neuenburg 144.44 348 *e*PKPbc PKPbc 22 19 18.9 -0.2
baz=19,slow=3.2
CBBR Cluj-Babes-Bol 144.44 332 ⇓P **PKPdf** **22 19 19.7 +0.3**
GTTG Gottingen 144.46 350 *e*PKPbc PKPbc 22 19 19.1 0.0
baz=19,slow=3.2
CJR Cluj-Napoca 144.47 332 ⇑P **PKPdf** **22 19 19.7 +0.2**
LEHL Lehliu 144.51 327 ⇑P **PKPab** **22 19 20.1 +0.1**
MAUC Maruska 144.52 340 *e*PKP **PKPab** **22 19 20.0 +0.1**
MAUC *e*SKP 22 22 11.7
RICC Richard 144.53 345 *e*PKP **PKPab** **22 19 20.9 +1.0**
MDB Medias 144.54 331 ⇑P **PKPab** **22 19 20.6 +0.6**
MMAI Mount Meron Ar 144.56 304 PKP PKPbc 22 19 20.8 +0.6
comp=Z,12nm,0.6s,baz=74,slow=3.8,SNR=45
PLAR PLOIESTI 144.62 328 ⇓P PKPbc 22 19 20.3 +0.4
SULR 144.67 327 ⇑P **PKPdf** **22 19 19.9 +0.1**
MARR Marisel-Cluj 144.71 333 ⇓P PKPbc 22 19 20.6 +0.4
VOIR 144.73 329 ⇑P PKPbc 22 19 20.4 +0.1
DRGR 144.80 333 ⇑P PKPbc 22 19 21.0 +0.5
PRA Prague 144.88 344 *e*PKP PKPbc 22 19 20.6 +0.1
PRU Pruhonice 144.93 344 *e*PKP PKPbc 22 19 21.0 +0.3
GOPC GO Pecny, Ondr 144.93 344 *e*PKP PKPbc 22 19 20.8 +0.1
VYHS Vyhne 144.93 339 *e*PKP PKPbc 22 19 21.3 +0.6
BORR Bors 144.95 334 ⇓P PKPbc 22 19 21.0 +0.2
BUG Bochum–Univer 144.96 353 *e*PKPbc **PKPdf** **22 19 20.4 +0.3**
baz=19,slow=3.2
VRAC Vranov 144.96 341 *e*PKP PKPbc 22 19 20.9 +0.1
VRAC Vranov 144.96 341 ⇓P PKPbc 22 19 21.2 +0.4
ARR Arges 144.99 330 ⇑P **PKPbc** **22 19 21.4 +0.3**
MOX Moxa 145.00 348 *e*PKPbc **PKPbc** **22 19 20.8 -0.1**
baz=19,slow=3.2
JAVC Velka Javorina 145.01 340 *e*PKP **PKPab** **22 19 22.0 +0.1**
JAVC *e* 22 22 13.2
PSZ Piszkesteto 145.03 337 PKPdf **PKPdf** **22 19 20.0 -0.5**
PSZ Piszkesteto 145.03 337 ⇓P **PKPdf** **22 19 21.0 +0.6**
KASTN Kahler Asten 145.03 351 *e*PKPbc **PKPdf** **22 19 20.8 +0.5**
baz=19,slow=3.2
TANN Tannenbergstha 145.04 347 *e*PKPbc **PKPbc** **22 19 21.2 +0.1**
baz=19,slow=3.2
SGRR Singureni 145.13 327 ⇓P **PKPdf** **22 19 20.4 -0.1**
UBBA Unterbreizbach 145.15 349 *e*PKPbc **PKPbc** **22 19 21.0 -0.1**
baz=19,slow=3.2
KRUC Moravsky 145.24 341 *e*PKP **PKPdf** **22 19 21.3 +0.6**
KRUC *e* 22 22 12.6
TREC Trest 145.30 343 *e*PKP **PKPbc** **22 19 21.9 +0.1**
LOT Lotru 145.34 331 ⇑P **PKPdf** **22 19 21.8 +0.7**
LOZB Loznitsa 145.38 325 ⇑P **PKPdf** **22 19 21.8 +0.7**
BSZH Besenyszg 145.40 336 ⇑P **PKPbc** **22 19 22.5 +0.4**
HUMR Humele 145.42 328 ⇑P **PKPdf** **22 19 21.4 +0.3**
CSS Mathiatis 145.47 308 **PKPdf** **22 19 22.2 +0.6**
MANZ Manzenberg 145.52 347 *e*PKPbc **PKPbc** **22 19 22.5 +0.1**
baz=19,slow=3.2
ZVC Zvikov 145.52 344 *e*PKP **PKPbc** **22 19 22.5 +0.1**
ZVC *e*SKP 22 22 13.3
MODS Modra-Piesok 145.56 340 *e*PKP **PKPdf** **22 19 21.3 0.0**
SIRR Siria 145.66 334 ⇑P **PKPbc** **22 19 23.3 +0.3**
SRO Srobarova 145.69 338 *e*PKP **PKPab** **22 19 24.7 +0.3**
ROTZ Rotzenmuhle 145.70 346 *e*PKPbc **PKPdf** **22 19 22.1 +0.6**
baz=19,slow=3.2
GZR Gura Zlata 145.84 331 ⇓P **PKPbc** **22 19 23.1 -0.5**
UCC Uccle 145.88 356 **PKPbc** **22 19 22.9 -0.5**
UCC Uccle 145.88 356 *d*PKPdf **PKPdf** **22 19 21.7 0.0**
UCC *d*PKP **PKPbc** **22 19 23.1 -0.3**
MEM Membach 145.92 354 *d*PKP **PKPbc** **22 19 22.9 -0.6**
BTKL Ternell 145.93 353 *d*PKP **PKPbc** **22 19 23.6 +0.1**
KHC Kasperske Hory 145.97 344 *e*PKP **PKPbc** **22 19 24.0 +0.2**
KHC *e*SKP 22 22 14.8
PHSR Pinarhisar 145.97 322 ⇑P **PKiKP** **22 19 26.8 +0.3**
TNS Taunus Mts 145.98 351 *e*PKPbc **PKPbc** **22 19 23.8 0.0**
baz=19,slow=3.2
GRF Grafenberg Arr 145.99 347 *e*PKPbc **PKPbc** **22 19 24.2 +0.4**
baz=19,slow=3.2
BSTI Sart Tilman 145.99 354 *d*PKP **PKPbc** **22 19 23.7 -0.1**
CKRC Cesky Krumlov 146.06 343 *e*PKP **PKPbc** **22 19 24.3 +0.3**
CKRC *e*SKP 22 22 14.9
ELND Elena 146.06 326 ⇓P **PKPbc** **22 19 24.2 0.0**
VLAD Vladila 146.09 328 ⇑P **PKPbc** **22 19 24.9 +0.8**
WET Wettzell 146.13 345 *e*PKPbc **PKPbc** **22 19 24.4 +0.2**
baz=19,slow=3.2
BHOU Houvenez 146.17 354 *d*PKP **PKPbc** **22 19 24.6 +0.3**
BZS Buzias 146.19 333 ⇓P **PKPbc** **22 19 24.2 -0.2**
SRE Strehaia 146.19 330 ⇑P **PKPab** **22 19 26.5 -0.1**
GEC2 GERESS Array S 146.20 344 **PKPbc** **22 19 23.9 -0.6**
GEC2 GERESS Array S 146.20 344 *e*PKPbc **PKPbc** **22 19 24.5 -0.1**
baz=19,slow=3.2
GERES GERESS Array B 146.20 344 **PKPdf** **22 19 23.5 +1.1**
GERES GERESS Array B 146.20 344 PKPbc **PKPbc** **22 19 24.4 -0.1**
comp=Z,6.7nm,0.8s,baz=40,slow=2.3,SNR=8.8
GERES SKPbc **SKiKP** **22 22 14.8 +1.2**
comp=Z,1.5nm,0.9s,baz=355,slow=1.2,SNR=5.3
BGES Gesves 146.23 355 *d*PKP **PKPbc** **22 19 25.3 +0.9**
BMRD Maredsous 146.34 355 *d*PKP **PKPdf** **22 19 22.9 +0.5**
HERR Herculane 146.40 331 ⇓P **PKPbc** **22 19 24.8 -0.3**
BAND Balkesir-Ban 146.41 320 ⇑P **PKPbc** **22 19 25.3 +0.1**
CONA Conrad Observa 146.41 341 *i* PKP **PKPbc** **22 19 25.5 +0.4**
comp=Z,23nm,0.7s,SNR=11
PLVB Pleven 146.41 327 ⇑P **PKPbc** **22 19 25.7 +0.6**
RCHB Rochefort 146.45 354 *d*PKP **PKPbc** **22 19 24.3 -0.7**
RONA Rosalia, Austr 146.47 340 *i* PKP **PKPbc** **22 19 25.6 +0.4**
comp=Z,26nm,0.9s,SNR=8.9
DOU Dourbes 146.56 355 *d*PKP **PKPbc** **22 19 25.2 -0.1**
BANR Banloc 146.58 333 ⇑P **PKPbc** **22 19 26.6 +1.1**
MDVR Moldovita 146.79 332 ⇓P **PKPbc** **22 19 26.1 -0.1**
WLF Walferdange 146.84 353 **PKPbc** **22 19 25.1 -1.0**
WLF Walferdange 146.84 353 *d*PKP **PKPbc** **22 19 26.6 +0.6**
WLF Walferdange 146.84 353 *e*PKPbc **PKPbc** **22 19 26.7 +0.6**
baz=19,slow=3.2
MORH Mrgy, Hungar 146.92 337 *e*P **PKPbc** **22 19 25.4 -1.0**
MORH Mrgy, Hungar 146.92 337 ⇓P **PKPbc** **22 19 26.1 -0.3**
MOA Molln 146.95 343 *i* PKP **PKPbc** **22 19 26.3 -0.2**
comp=Z,21nm,1.1s,SNR=5.6
ARSA Arzberg 147.11 341 *e*PKP **PKPbc** **22 19 26.7 -0.3**
comp=Z,8.0nm,0.7s
STU Stuttgart 147.26 349 *e*PKPbc **PKPbc** **22 19 28.2 +1.0**
baz=19,slow=3.2
BIOA Bad Ischl, Aus 147.27 343 *i* PKP **PKPbc** **22 19 27.0 -0.3**
comp=Z,12nm,1.0s
ALN Alexandroupoli 147.30 323 PKPbc **PKPbc** **22 19 26.8 -0.7**
BEHE Becsehely 147.38 339 *e*P **PKPbc** **22 19 27.6 0.0**
FUR Furstenfeldbru 147.42 346 *e*PKPbc **PKPbc** **22 19 27.9 +0.2**
baz=19,slow=3.2
RDO Rodhopi 147.43 323 **PKPbc** **22 19 27.3 -0.6**
TAVA DENIZLI_Tavas 147.50 315 ⇑P **PKPbc** **22 19 28.5 +0.2**
BOVS Bovan 147.68 330 ⇑P **PKPbc** **22 19 28.0 -0.5**
LESA Schwarzleotal 147.77 344 *i* PKP **PKPbc** **22 19 28.2 -0.5**
comp=Z,8.1nm,0.5s,SNR=5.4
SOKA Soboth 147.78 341 *i* PKP **PKPbc** **22 19 28.2 -0.5**
comp=Z,17nm,0.9s
EZN Ezine 147.81 321 ⇑P **PKPbc** **22 19 28.5 -0.4**
BFO Black Forest 147.84 350 **PKPbc** **22 19 27.6 -1.2**
BFO Black Forest 147.84 350 *e*PKPbc **PKPbc** **22 19 28.7 -0.1**
baz=19,slow=3.2
KBA Koelnbreinsper 147.91 343 *e*PKP **PKPbc** **22 19 28.2 -1.0**
comp=Z,11nm,0.6s
OBKA Obir 148.08 341 *i* PKP **PKPbc** **22 19 28.5 -1.1**
comp=Z,14nm,1.6s
WATA Walderalm 148.13 346 *i* PKP **PKPbc** **22 19 29.3 -0.4**
comp=Z,9.9nm,0.6s,SNR=6.6
MOSL Moslavina 148.13 338 *e*P **PKPbc** **22 19 29.2 -0.4**
RETA Reutte 148.18 347 *i* PKP **PKPbc** **22 19 29.5 -0.2**
comp=Z,5.8nm,0.5s
WTTA Wattenberg 148.18 345 *i* PKP **PKPbc** **22 19 29.7 -0.1**
comp=Z,18nm,0.5s,SNR=8.2
MOTA Moosalm 148.23 346 *i* PKP **PKPbc** **22 19 29.5 -0.5**
comp=Z,19nm,1.0s,SNR=5.0
MYKA Terra Mystica 148.24 343 *i* PKP **PKPbc** **22 19 29.1 -0.8**
comp=Z,13nm,0.6s
SQTA Sankt Quirin 148.32 346 *i* PKP **PKPbc** **22 19 30.0 -0.2**
comp=Z,15nm,0.6s,SNR=6.8
ABTA Abfaltersbach 148.44 344 *i* PKP **PKPbc** **22 19 29.5 -0.9**
comp=Z,21nm,0.9s
FETA Feichten 148.62 346 *i* PKP **PKPbc** **22 19 30.9 -0.1**
comp=Z,11nm,0.7s,SNR=5.9

BLY Banja Luka 148.71 337 ⇑*i*P **PKPbc** **22 19 31.3 +0.3**
BLY Banja Luka 148.71 337 ⇑P **PKPbc** **22 19 31.1 +0.1**
RUDO Rudo 148.75 333 ⇑*i*P **PKPbc** **22 19 30.5 -0.7**
SABO M.te Sabotino 148.84 342 PKPbc **PKPbc** **22 19 30.9 -0.5**
TUE Stuetta 149.44 348 **PKPbc** **22 19 32.5 -0.5**
PDG Podgorica 149.74 332 ⇓P **PKPbc** **22 19 33.4 -0.2**
TREB Trebinje 149.92 333 ⇑*i*P **PKPbc** **22 19 32.4 -1.6**
FNA Florina 149.96 327 **PKPbc** **22 19 33.4 -0.9**
OHR Ohrid 150.01 328 *i* P **PKiKP** **22 19 35.0 0.0**
ESDC Sonseca Array 156.84 9 PKPab **PKPab** **22 20 09.3 -2.1**
comp=Z,2.7nm,0.9s,baz=337,slow=3.7,SNR=11
KEST Kesra 159.48 339 PKPab **PKPab** **22 20 21.5 -1.6**
comp=Z,6.3nm,0.9s,baz=45,slow=4.3,SNR=6.2
TORD Torodi Ar. Bea 176.21 199 PKPab **PKPab** **22 21 36.9 -0.4**
comp=Z,1.0nm,0.9s,baz=154,slow=2.5,SNR=4.6

WEL 27 22:04:15.1±1.7, **39°S**±6″×**17°4E**±°, **h8**km±10km, **Error ellipse: s-maj=11.0km s-min=4.3km az=130.9, confirmed, Off west coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PKE	**Pukeiti**	**0.09**	**146**	P		22 04 17.6	+0.2
PKE				S		22 04 19.6	+0.6
NPCS	**New Plymouth C**	**0.13**	**66**	P		22 04 18.1	+0.2
NPCS				S		22 04 21.8	+1.9
NBEZ	**Newall Road No**	**0.16**	**195**	P		22 04 19.2	+0.8
NBEZ				S		22 04 22.3	+1.6
KHEZ	**Kahui Hut**	**0.19**	**158**	P		22 04 19.8	+0.7
NEZ	**North Egmont**	**0.21**	**138**	S		22 04 23.6	+1.4
DREZ	**Durham Road**	**0.23**	**108**	P		22 04 20.9	+1.2
DREZ				S		22 04 25.3	+2.4
NMEZ	**Namu Road**	**0.30**	**186**	P		22 04 22.1	-0.6
NMEZ				S		22 04 27.2	-0.6

IDC ***27*** *22:10:47.1±1.8, 37°33S×78°23E, h0km, mb3.9/5, mbtmp3.9/5, MS3.8/23, Error ellipse: s-maj=44.7km s-min=36.9km az=115.0*
NEIC ***27*** *22:10:49.4±1.5, 37°6S±0°2×78°34E±0°08, h10km±1km, mb4.5/8, Error ellipse: s-maj=31.3km s-min=3.0km az=160.0*
ISC 27 22:10:49.3±0.7, **37°5S**±0°1×**78°32E**±0°09, **h10**km, **n48, σ0°94/18, mb4.2/8, MS3.8/23, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AIS	**Amsterdam Isla**	**0.66**	**244**		**Pg**	**22 11 01.7**	**-0.5**
AIS				Sg	**Sg**	**22 11 10.4**	**-0.4**
H04N2	**CROZET ISLANDS**	**21.49**	**238**	T	T	22 38 03.8	
baz=76,slow=75,SNR=2193							
H04N1	**CROZET ISLANDS**	**21.51**	**238**	T	T	22 38 02.0	
baz=76,slow=75,SNR=1688							
H04N3	**CROZET ISLANDS**	**21.51**	**238**	T	T	22 38 02.7	
baz=76,slow=75,SNR=2332							
H04S1	**CROZET ISLANDS**	**21.59**	**236**	T	T	22 38 11.7	
baz=72,slow=75,SNR=34							
H04S3	**CROZET ISLANDS**	**21.61**	**236**	T	T	22 38 08.9	
baz=72,slow=75,SNR=57							
H04S2	**CROZET ISLANDS**	**21.61**	**236**	T	T	22 38 10.1	
baz=72,slow=75,SNR=41							
H01W2	**Cape Leeuwin H**	**28.91**	**96**	T	T	22 46 58.7	
baz=254,slow=75,SNR=108							
H01W3	**Cape Leeuwin H**	**28.92**	**96**	T	T	22 46 59.2	
baz=254,slow=75,SNR=123							
H01W1	**Cape Leeuwin H**	**28.93**	**96**	T	T	22 47 00.0	
baz=254,slow=75,SNR=111							
H08S2	**Diego Garcia H**	**30.19**	**348**	T	T	22 48 06.7	
baz=171,slow=76,SNR=611							
H08S1	**Diego Garcia H**	**30.19**	**348**	T	T	22 48 08.7	
baz=171,slow=76,SNR=1092							
H08S3	**Diego Garcia H**	**30.21**	**348**	T	T	22 48 22.5	
baz=171,slow=76,SNR=945							
MAW	**Mawson**	**31.38**	**191**	LR	LR	22 27 20.7	
comp=Z,159nm,19.2s,baz=340,slow=32							
NWAO	**Narrogin (SRO)**	**31.96**	**94**	LR	LR	22 26 55.4	
comp=Z,299nm,20.3s,baz=151,slow=30							
OPO	**Ambohidratompo**	**33.11**	**296**	LR	LR	22 27 08.5	
comp=Z,121nm,21.4s,baz=339,slow=30							
LEM	**Lembang**	**40.51**	**48**	LR	LR	22 31 53.3	
comp=Z,83nm,19.0s,baz=181,slow=31							
PALK	**Pallekele**	**44.60**	**3**	LR	LR	22 32 54.6	
comp=Z,98nm,21.6s,baz=169,slow=30							
BOSA	**Boshof**	**44.84**	**265**	LR	LR	22 33 33.1	
comp=Z,100nm,20.4s,baz=133,slow=30							
FITZ	**Fitzroy Crossi**	**45.58**	**78**	LR	LR	22 35 24.2	
comp=Z,104nm,21.0s,baz=226,slow=32							
LBTB	**Lobatse**	**46.22**	**270**	LR	LR	22 35 04.9	
comp=Z,151nm,20.0s,baz=126,slow=32							
MATP	**Matopo**	**46.25**	**277**	LR	LR	22 34 29.5	
comp=Z,49nm,20.8s,baz=120,slow=31							
SUR	**Sutherland**	**46.80**	**258**	P	**P**	**22 19 20.2**	**+0.8**
BATI	**Baumata**	**48.93**	**68**	LR	LR	22 38 14.1	
comp=Z,63nm,19.0s,baz=230,slow=34							
ASAR	**Alice Springs**	**49.15**	**90**	P	**P**	**22 19 37.7**	**+0.2**
ASAR	**Alice Springs**	**49.15**	**90**	P	**P**	**22 19 37.2**	**-0.3**
1.5nm,1.1s,baz=244,slow=6.4,SNR=7.9							
ASAR				LR	LR	22 37 60.0	
comp=Z,158nm,19.7s,baz=220,slow=33							
1.5nm,1.1s							
LSZ	**Lusaka**	**49.40**	**283**	LR	LR	22 37 04.2	
comp=Z,101nm,19.3s,baz=154,slow=32							
KNRA	**Kununurra**	**49.41**	**78**	P	**P**	**22 19 36.5**	**-2.9**
KNRA				IAmb	IAmb	22 19 40.4	
comp=Z,7.9nm,1.1s							
KAPI	**Kappang**	**49.71**	**60**	LR	LR	22 36 27.6	
comp=Z,67nm,21.5s,baz=274,slow=31							
WRA	**Warramunga Arr**	**51.41**	**86**	P	**P**	**22 19 55.2**	**+0.5**
WRA	**Warramunga Arr**	**51.41**	**86**	P	**P**	**22 19 54.3**	**-0.3**
comp=Z,1.4nm,0.8s,baz=239,slow=6.9,SNR=7.5							
WRA				LR	LR	22 39 24.4	
comp=Z,177nm,19.4s,baz=42,slow=33							
comp=Z,1.4nm,0.8s							
STKA	**Stephens Creek**	**51.47**	**104**	P	**P**	**22 19 55.4**	**+0.4**
comp=Z,1.6nm,0.9s,baz=282

SVAN				S	Sg	22 32 21.9	+0.6		
SVAN				*i* IAML		22 32 22.0			
	comp=N,1μm,0.2s								
BTMN	**Batman**	**0.51**	**150**	P	Pb	**22 32 22.8**	**-1.0**		
MUSM	**Mu-Merkez**	**0.59**	**48**	P	Pg	**22 32 23.6**	**-0.2**		
SLHN	**Bingol, Solhan**	**0.63**	**5**	P	Pg	**22 32 23.9**	**-0.7**		
BNGB	**Bingl**	**0.69**	**342**	Pg	Pb	**22 32 26.3**	**-0.6**		
BNGB				Sg	Sb	**22 32 36.6**	**-0.1**		
SRTM	**Siirt_Merkez**	**0.84**	**114**	P	Pb	**22 32 29.1**	**-0.3**		
SRTM				S	Sb	**22 32 41.7**	**+0.7**		
GURO	**Guroymak-BITLI**	**0.88**	**75**	Pg	Pg	**22 32 29.1**	**-0.2**		
GURO				Sg	Sb	**22 32 42.9**	**+0.7**		
VRTB	**Varto-Mus**	**0.92**	**26**	Pg	Pg	**22 32 30.1**	**0.0**		
VRTB				Sg	Sn	**22 32 44.6**	**-0.9**		
VRTB	**Varto-Mus**	**0.92**	**26**	P	Pg	**22 32 29.6**	**-0.5**		
BLIS	**Bitlis-Merkez**	**0.92**	**85**	P	Pg	**22 32 29.7**	**-0.5**		
BLIS				S	Sg	**22 32 42.5**	**+0.4**		
KOVA	**Elazig, Kovanc**	**0.96**	**293**	P	Pb	**22 32 31.6**	**0.0**		
KARO	**Karliova-Bingo**	**0.98**	**5**	Pg	Pb	**22 32 31.4**	**-0.5**		
MIDY	**Mardin/Midyat-**	**0.99**	**159**	P	Pn	**22 32 32.2**	**-0.6**		
MIDY				S	Sb	**22 32 44.5**	**-0.8**		
MIDY				*i* IAML		22 32 48.0			
	comp=N,239nm,0.6s								
MIDY				*i* IAML		22 32 48.0			
	comp=E,286nm,0.3s								
YEDI	**Yedisu-Bingol**	**1.15**	**344**	Pn	Pb	**22 32 34.7**	**0.0**		
ECAT	**Cat-ERZURUM**	**1.27**	**1**	P	Pb	**22 32 36.7**	**-0.2**		
PERV	**Siirt/Pervari-**	**1.31**	**107**	P	Pb	**22 32 37.3**	**-0.2**		
PERV				S	Sn	**22 32 56.5**	**+1.2**		
PERV				*i* IAML		22 32 57.0			
	comp=N,357nm,0.3s								
PERV				*i* IAML		22 32 57.0			
	comp=E,458nm,0.7s								
TNCL	**Tunceli-Merkez**	**1.35**	**306**	P	Pn	**22 32 37.8**	**-0.1**		
TNCL				S	Sn	**22 32 56.7**	**+0.6**		
SIRN	**Sırnak**	**1.43**	**125**	P	Pg	**22 32 39.4**	**-0.5**		
SIRN				S	Sn	**22 32 58.5**	**+0.5**		
SIRN				*i* IAML		22 33 01.0			
	comp=N,242nm,0.3s								
SIRN				*i* IAML		22 33 01.0			
	comp=E,165nm,0.3s								
ETEKE	**Tekederesi - E**	**1.47**	**6**	P	Pn	**22 32 39.6**	**0.0**		
MLAZ	**Malazgirt-MUS**	**1.49**	**57**	Pn	Pb	**22 32 40.5**	**-0.1**		
MLAZ				Sn	Sg	**22 33 01.6**	**+1.2**		
AKDM	**Akdamar-Van**	**1.60**	**90**	Pn	Pb	**22 32 41.9**	**-0.5**		
AKDM				Sn	Sg	**22 33 03.9**	**+0.1**		
GEVA	**Gevas**	**1.66**	**90**	P	Pg	**22 32 43.8**	**-0.5**		
KOPR	**Koprukoy-ERZUR**	**1.80**	**23**	Pn	Pb	**22 32 45.0**	**-0.9**		
URFA	**Urfa**	**1.90**	**243**	Pn	Pn	**22 32 45.7**	**+0.3**		
VANB	**Van**	**1.93**	**81**	Pn	Pb	**22 32 46.9**	**-1.2**		
AGRB	**Hanur-Agry**	**2.02**	**51**	Pn	Pb	**22 32 48.4**	**-1.2**		
CUKT	**Cukurca**	**2.37**	**116**	Pn	Pn	**22 32 52.7**	**+0.8**		

DJA 27 22:44:34.3±0.6, 2°S±7°×14°0E±°, h11km±7km, M4.5/9, mB5.7/2, mb4.6/4, MLv4.4/9, Mw(mB)5.2/2, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.56**	**144**	P	Pb	22 44 45.9	-0.2
JAY	**Jayapura**	**0.94**	**113**	P	Pg	22 44 52.0	-0.5
JAY				S	Sb	22 45 05.6	+0.4
SMPI	**Sarmi**	**1.14**	**277**	P	Pb	22 44 55.6	-0.4
WAMI	**Wamena**	**2.07**	**213**	P	Pb	22 45 10.9	-1.0
SRPI	**Serui, Papua**	**3.61**	**274**	P	Pn	22 45 31.7	+1.5
BAKI	**Biak**	**3.85**	**284**	P	Pn	22 45 33.3	-0.2
MMPI	**Merauke**	**6.31**	**175**	P	Pn	22 46 07.9	+0.6
KMPI	**Kaimana, Papua**	**6.31**	**256**	P	Pn	22 46 07.3	-0.1
	0.8nm219nm,0.8s						
FAKI	**Fak Fak**	**7.62**	**264**	P	Pn	22 46 25.0	-0.4
	0.2nm47nm,1.3s						
SWI	**Sorong**	**8.67**	**278**	P	Pn	22 46 40.4	+0.6

*IDC **27** 22:51:46.8±11.0, 34°91N×25°56E, h0km, mb3.7/3, mbtmp3.6/5, ML3.1/2, MS3.3/2, Error ellipse: s-maj=227.5km s-min=32.6km az=34.0*
*ISK **27** 22:51:47.7, 34°65N×24°94E, h86km, ML3.1/15*
*GII **27** 22:51:47.9±0.0, 34°23N±0°02×25°394E±0°006, h30km, Md3.3/1, confirmed*
*THE **27** 22:51:52.7, 35°N±4°×2°5E±°, h44km±6km, M2.6/7, MLh2.6/7*
*AFAD **27** 22:51:52.0, 34°69N×25°48E, h91km, ML2.8*

ISC 27 22:51:50.8±1.3, 34°67N±0°09×25°08E±0°04, h63km±9km, n87, σ1ᵠ83/62, mb3.4/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TMBK	**Timbaki Herakl**	**0.48**	**327**	P	Pn	**22 52 01.6**	**-1.2**
IDI	**Anoyia**	**0.64**	**346**	Pg	Pn	**22 52 03.6**	**-1.0**
IDI				Sg	Sn	**22 52 15.9**	**+1.3**
IDI	**Anoyia**	**0.64**	**346**	P	Pn	**22 52 04.0**	**-0.5**
IDI				S	Sn	**22 52 12.4**	**-2.2**
GVD	**Gavdhos**	**0.84**	**282**	Pg	Pn	**22 52 04.9**	**-2.0**
PRNS	**Prines Rethymn**	**0.84**	**325**	P	Pn	**22 52 06.8**	**-0.1**
ZKR	**Zakros**	**1.03**	**64**	Pn	Pn	**22 52 09.8**	**+0.4**
ZKR				Sn	Sn	**22 52 25.7**	**+2.6**
ZKR	**Zakros**	**1.03**	**64**	P	Pn	**22 52 10.4**	**+1.0**
CHAN	**Chania**	**1.20**	**315**	P	Pn	**22 52 11.5**	**-0.1**
CHAN				S	Sn	**22 52 25.9**	**-1.1**
THR6	**Thira Island,**	**1.70**	**9**	P	Pn	**22 52 17.9**	**-0.3**
THERA	**Ancient Thera,**	**1.72**	**11**	P	Pn	**22 52 18.5**	**0.0**
THERA				S	Sn	**22 52 38.8**	**-0.8**
SNT5	**Nea Kammeni, S**	**1.75**	**8**	P	Pn	**22 52 18.9**	**0.0**
SNT5				S	Sn	**22 52 39.8**	**-0.4**
THR3	**Thira Island,**	**1.75**	**8**	P	Pn	**22 52 18.9**	**0.0**
THR5	**Thira Island,**	**1.75**	**7**	P	Pn	**22 52 19.2**	**+0.2**
ANKY	**Antikythira Is**	**1.88**	**310**	P	Pn	**22 52 21.1**	**+0.4**
ANKY				S	Sn	**22 52 44.0**	**+0.6**
KARP	**Karpathos**	**1.91**	**62**	Pn	Pn	**22 52 22.3**	**+1.1**
KARP				Sn	Sn	**22 52 46.4**	**+2.2**
KARP	**Karpathos**	**1.91**	**62**	P	Pn	**22 52 22.5**	**+1.3**
KARP				S	Sn	**22 52 46.5**	**+2.2**
MHLO	**Agia Marina, M**	**2.09**	**345**	P	Pn	**22 52 23.6**	**+0.1**
MHLO				S	Sn	**22 52 48.8**	**+0.4**
KTHA	**Kythira Island**	**2.29**	**314**	Pn	Pn	**22 52 24.3**	**-1.9**
YAZI	**Mula-Dat§a-**	**2.78**	**43**	P	Pn	**22 52 32.5**	**-0.5**
DAT	**Datca**	**2.89**	**44**	Pn	Pn	**22 52 34.7**	**+0.2**
ARG	**Arkhangelos**	**2.92**	**57**	Pn	Pn	**22 52 35.3**	**+0.4**
BDRM	**Kayabasi**	**3.06**	**36**	P	Pn	**22 52 35.5**	**-1.3**
TURN	**Turunc**	**3.32**	**50**	Pn	Pn	**22 52 40.0**	**-0.2**
TURN				Sn	Sn	**22 53 19.2**	**+0.7**
TURN	**Turunc**	**3.32**	**50**	P	Pn	**22 52 40.1**	**-0.2**
TURN				S	Sn	**22 53 15.5**	**-3.0**
TURN				*i* IAML		22 53 20.0	
	comp=E,19nm,0.8s						
TURN				*i* IAML		22 53 24.0	
	comp=N,22nm,0.3s						
MLSB	**Milas**	**3.41**	**39**	Pn	Pn	**22 52 41.4**	**-0.1**
DALY	**Dalyan (Mula)**	**3.61**	**53**	Pn	Pn	**22 52 44.4**	**+0.2**
MULA	**Mugla, Merkez-**	**3.68**	**45**	P	Pn	**22 52 45.1**	**-0.2**
AYDN	**Tasoluk**	**3.74**	**36**	P	Pn	**22 52 45.6**	**-0.5**
FETY	**Fethiye**	**3.80**	**58**	Pn	Pn	**22 52 46.3**	**-0.6**
FETY	**Fethiye**	**3.80**	**58**	P	Pn	22 52 41.6	-5.2
IZZE	**Mula-Seydike**	**3.81**	**61**	P	Pn	**22 52 44.6**	**-2.4**
IZZE				S	Sn	**22 53 23.5**	**-7.0**
IZZE				*i* IAML		22 53 30.0	
	comp=N,72nm,0.6s						
IZZE				*i* IAML		22 53 32.0	
	comp=E,109nm,0.3s						
SABU	**Mula-Dalaman**	**3.82**	**55**	P	Pn	**22 52 46.4**	**-0.8**
SABU				S	Sn	**22 53 27.2**	**-3.6**
SABU				*i* IAML		22 53 31.0	
	comp=N,27nm,0.2s						
SABU				*i* IAML		22 53 32.0	
	comp=E,18nm,0.2s						
AKAS	**Kas**	**4.01**	**66**	Pn	Pn	**22 52 49.7**	**-0.1**
AKAS	**Kas**	**4.01**	**66**	P	Pn	**22 52 46.8**	**-3.0**
ESEN	**Aydn-Nazilli**	**4.09**	**39**	P	Pn	**22 52 49.3**	**-1.4**
CAME	**Cameli-Denizli**	**4.11**	**55**	Pn	Pn	**22 52 51.2**	**0.0**
DNZT	**Denizli-Tavas-**	**4.12**	**50**	P	Pn	**22 52 50.5**	**-0.8**
DNZT				S	Sn	**22 53 34.7**	**-3.6**
TAVA	**DENIZLI_Tavas**	**4.17**	**47**	P	Pn	**22 52 52.5**	**+0.5**
TAVA				S	Sn	**22 53 36.4**	**-3.1**
CAEL	**Denizli, Camel**	**4.22**	**53**	P	Pn	**22 52 52.9**	**+0.2**
CAEL				S	Sn	**22 53 35.3**	**-5.5**
CAEL				*i* IAML		22 53 50.0	
	comp=N,24nm,0.5s						
KNIK	**Mula-Seydike**	**4.25**	**58**	P	Pn	**22 52 51.7**	**-1.4**
APMY	**Acipayam-Deniz**	**4.41**	**50**	Pn	Pn	**22 52 55.9**	**+0.6**

ELL	**Elmali**	**4.44**	**61**	Pn	Pn	**22 52 55.6**	**-0.1**		
CSS	**Mathiatis**	**6.79**	**85**	S	Sn	22 54 37.2	-6.5		
CSS	**Mathiatis**	**6.79**	**85**	P	Pn	22 53 23.1	-4.7		
OFRI	**`Ofer**	**8.51**	**101**	S	Sn	22 55 16.7	-9.1		
OFRI	**`Ofer**	**8.51**	**101**	P	Pn	22 53 44.4	-6.9		
HNTI	**Hanita**	**8.54**	**98**	S	Sn	22 55 18.0	-8.6		
HNTI	**Hanita**	**8.54**	**98**	P	Pn	22 53 45.9	-5.8		
SLTI	**Sal'it**	**8.66**	**103**	S	Sn	22 55 20.2	-9.4		
SLTI	**Sal'it**	**8.66**	**103**	P	Pn	22 53 46.4	-7.1		
KZIT	**Kziot**	**8.69**	**113**	S	Sn	22 55 19.0	-11		
KZIT	**Kziot**	**8.69**	**113**	P	Pn	22 53 46.9	-6.9		
MMAI	**Mount Meron Ar**	**8.74**	**98**	Pn	Pn	22 53 49.2	-5.3		
	0.8nm,0.3s,baz=283,slow=13,SNR=7.0								
MMAI				Sn	Sn	22 55 21.6	-10		
	1.2nm,0.3s,baz=261,slow=18,SNR=2.2 0.6nm,0.4s								
AMAZ	**Amatzia**	**8.82**	**108**	S	Sn	22 55 22.7	-11		
AMAZ	**Amatzia**	**8.82**	**108**	P	Pn	22 53 49.1	-6.5		
GEM	**Giv'at Ha'Em**	**8.91**	**96**	S	Sn	22 55 27.2	-8.4		
GEM	**Giv'at Ha'Em**	**8.91**	**96**	P	Pn	22 53 50.9	-5.9		
MMLI	**Mount Malkishu**	**8.91**	**102**	S	Sn	22 55 26.2	-10		
MMLI	**Mount Malkishu**	**8.91**	**102**	P	Pn	22 53 49.9	-7.0		
NATI	**Neve Ativ**	**8.96**	**96**	S	Sn	22 55 29.0	-7.8		
NATI	**Neve Ativ**	**8.96**	**96**	P	Pn	22 53 51.9	-5.6		
YTIR	**Yattir**	**9.05**	**109**	S	Sn	22 55 29.0	-10		
YTIR	**Yattir**	**9.05**	**109**	P	Pn	22 53 51.6	-7.1		
HMDT	**Nahal Hemdat**	**9.05**	**103**	S	Sn	22 55 29.7	-9.4		
HMDT	**Nahal Hemdat**	**9.05**	**103**	P	Pn	22 53 52.1	-6.6		
DSI	**Dead Sea**	**9.17**	**107**	S	Sn	22 55 31.7	-10		
DSI	**Dead Sea**	**9.17**	**107**	P	Pn	22 53 53.6	-6.7		
MSBI	**Mazada**	**9.26**	**108**	S	Sn	22 55 33.7	-10		
MSBI	**Mazada**	**9.26**	**108**	P	Pn	22 53 54.7	-6.8		
KRMI	**Paran Flat**	**9.33**	**116**	S	Sn	22 55 34.5	-11		
KRMI	**Paran Flat**	**9.33**	**116**	P	Pn	22 53 54.9	-7.7		
PRNI	**Paran**	**9.42**	**114**	S	Sn	22 55 37.0	-11		
PRNI	**Paran**	**9.42**	**114**	P	Pn	22 53 56.4	-7.4		
GHAJ	**Ghor Haditha**	**9.42**	**108**	S	Sn	22 55 37.7	-10		
GHAJ	**Ghor Haditha**	**9.42**	**108**	P	Pn	22 53 56.9	-6.9		
HRFI	**Mount Harif**	**9.60**	**116**	S	Sn	22 55 41.2	-11		
HRFI	**Mount Harif**	**9.60**	**116**	P	Pn	22 53 58.7	-7.6		
MBRI	**Mt Berech**	**9.64**	**118**	S	Sn	22 55 42.2	-11		
MBRI	**Mt Berech**	**9.64**	**118**	P	Pn	22 53 58.9	-8.0		
EIL	**Elat**	**9.73**	**118**	S	Sn	22 55 44.0	-12		
EIL	**Elat**	**9.73**	**118**	P	Pn	22 54 00.2	-7.9		
GERES	**GERESS Array B**	**16.48**	**333**	Pn	Pn	**22 55 40.1**	**+2.2**		
	baz=140,slow=13,SNR=2.9 0.4nm,0.5s								
FINES	**FINESS Array B**	**26.80**	**1**	P	P	**22 57 25.8**	**+1.1**		
	0.6nm,0.6s,baz=172,slow=10,SNR=4.1 0.6nm,0.6s								
AKTO	**Aktyubinsk**	**28.63**	**47**	LR	LR	23 10 34.1			
	comp=Z,34nm,18.4s,baz=84,slow=40								
MKAR	**Makanchi Array**	**44.10**	**56**	P	P	**22 59 53.6**	**+0.9**		
	0.2nm,0.3s,baz=265,slow=8.6,SNR=7.8 0.2nm,0.3s								
ZALV	**Zalesovo Beam**	**45.39**	**46**	P	P	**23 00 02.8**	**0.0**		
	1.2nm,0.4s,baz=270,slow=8.4,SNR=6.3 1.2nm,0.4s								
TKL	**Tuckaleechee C**	**83.59**	**309**	LR	LR	23 44 14.4			
	comp=Z,21nm,18.1s,baz=72,slow=38								

*JMA **27** 22:53:56.7±0.9, 21°N±4°×12°2E±°, h1km, MV3.8/12, TAIWAN REGION*
*IDC **27** 22:54:06.7±1.6, 22°01N×120°80E, h0km, mb3.8/7, mbtmp3.7/8, ML3.2/1, MS3.2/2, Error ellipse: s-maj=44.4km s-min=26.7km az=74.0*

ISC 27 22:54:01.1±3.3, 21°5N±0°4×121°6E±0°2, h10km, n16, σ1ᵠ39/17, mb3.7/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**3.23**	**24**	*e*P	**Pb**	**22 54 55.9**	**-2.8**
HATJ	**Hateruma jima**	**3.27**	**38**	*e*S	**Sn**	**22 55 32.8**	**+1.3**
IRIF	**Iriomote-Funau**	**3.45**	**34**	*e*P	**Pn**	**22 54 55.3**	**+0.3**
IRIF				*e*S	**Sn**	**22 55 38.6**	**+2.7**
JKRS	**Kuro-shima**	**3.53**	**39**	*e*P	**Pn**	**22 54 55.9**	**-0.2**
JIJ	**Ishigaki jima**	**3.70**	**39**	*e*P	**Pn**	**22 54 57.8**	**-0.7**
JIJ				*e*S	**Sn**	**22 55 42.9**	**+0.7**
JISG	**Ishigakijimahi**	**3.97**	**39**	*e*P	**Pn**	**22 55 01.6**	**-0.6**
JISG				*e*S	**Sn**	**22 55 49.1**	**+0.3**
JTJ	**Tarama**	**4.25**	**42**	*e*S	**Sn**	**22 55 55.8**	**+0.2**
KSRS	**Korea Array**	**16.83**	**18**	Pn	P	**22 58 01.8**	**+2.8**
	0.1nm,0.3s,baz=195,slow=12,SNR=2.4 0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**21.49**	**266**	P	P	**22 58 50.0**	**-0.3**
	0.3nm,0.3s,baz=80,slow=11,SNR=4.1 0.3nm,0.3s						
SONM	**Songino Array**	**28.99**	**339**	P	P	**23 00 00.8**	**-0.3**
	0.8nm,0.7s,baz=169,slow=10,SNR=5.3						
SONM				LR	LR	23 13 21.0	
	comp=Z,36nm,18.8s,baz=82,slow=41 0.8nm,0.7s						
MKAR	**Makanchi Array**	**40.55**	**318**	P	P	**23 01 41.2**	**+0.5**
	1.0nm,0.6s,baz=115,slow=9.6,SNR=12 1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**42.71**	**329**	P	P	**23 01 58.1**	**-0.1**
	1.9nm,0.6s,baz=120,slow=9.1,SNR=8.1 1.9nm,0.6s						
KURBB	**Kurchatov Arra**	**44.42**	**322**	P	P	**23 02 12.7**	**+0.7**
	1.5nm,0.2s,baz=116,slow=7.5,SNR=1.9 1.5nm,0.2s						
AAK	**Ala-Archa**	**44.47**	**310**	LR	LR	23 22 52.0	
	comp=Z,32nm,18.6s,baz=296,slow=40						
ASAR	**Alice Springs**	**46.46**	**164**	P	P	23 02 40.9	+12
	0.3nm,0.8s,baz=335,slow=8.7,SNR=2.7 0.3nm,0.8s						
BVAR	**Borovoye Array**	**50.00**	**322**	P	P	**23 02 55.5**	**0.0**
	0.6nm,0.6s,baz=106,slow=7.2,SNR=7.2 0.6nm,0.6s						

IDC 27 23:01:15.8±13.0, 15°26S×178°77W, h442km±151km, mb3.1/4, mbtmp3.9/4, Error ellipse: s-maj=46.9km s-min=42.4km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.83**	**257**	P	P	23 08 48.8	-0.4
	0.2nm,0.5s,baz=92,slow=7.5,SNR=5.1 0.2nm,0.5s						
ASAR	**Alice Springs**	**45.23**	**252**	P	P	23 08 52.4	0.0
	3.6nm,0.5s,baz=84,slow=8.3,SNR=92						
ASAR				PcP	PcP	23 10 23.2	-0.3
	0.2nm,0.6s,baz=88,slow=4.9,SNR=1.7 3.6nm,0.5s						
QSPA	**South Pole Qui**	**74.78**	**180**	P	P	23 12 09.4	+0.1
	2.4nm,0.6s,baz=333,slow=0.7,SNR=18 2.4nm,0.6s						
TXAR	**Lajitas Array**	**84.88**	**58**	P	P	23 13 03.3	0.0
	0.3nm,0.8s,baz=238,slow=4.6,SNR=3.0 0.3nm,0.8s						

*NEIC **27** 23:04:06.4±1.0, 35°826N±0°007×98°088W±0°008, h5km±1km, mb_Lg2.5/60, ML2.2/19, ML2.4/58, Error ellipse: s-maj=2.8km s-min=1.6km az=309.0*

NEIC 27 23:04:06.8±0.7, 35°839N±0°009×98°08W±0°01, h8km±8km, Error ellipse: s-maj=1.5km s-min=1.4km az=98.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCOK	**Bluff Creek, N**	**0.43**	**115**		Pg	23 04 15.2	+0.2
OK029	**Liberty Lake**	**0.51**	**95**		Pg	23 04 16.7	+0.1
OK029				Sg	Sg	23 04 24.1	+0.7
CSTR	**Hydro, Custer**	**0.53**	**249**		Pg	23 04 16.1	-0.9
CROK	**Carrier**	**0.67**	**7**		Pg	23 04 19.6	-0.1
CROK					Sg	23 04 29.3	+0.8
CROK				IAML		23 04 34.7	
	comp=N,150nm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.68**	**129**		Pg	23 04 19.1	-0.8
OKCSW				Sg	Sg	23 04 28.5	-0.3
OKCSW				IAML		23 04 31.8	
	comp=E,189nm,0.6s						
FNO	**Franklin**	**0.80**	**136**		Pg	23 04 22.0	-0.2
FNO					Sg	23 04 33.3	+0.6
FNO				IAML		23 04 36.1	
	comp=E,158nm,0.6s						
OK038	**West end E0370**	**0.83**	**320**	Pg	Pg	23 04 22.5	-0.3
OK038					Sg	23 04 33.7	+0.1
GC02	**Grant County #**	**1.03**	**10**		Pg	23 04 25.8	-0.7
OK052	**Battle Ridge R**	**1.05**	**81**		Pg	23 04 26.3	-0.7
OK052				IAML		23 04 43.8	
	comp=E,73nm,0.4s						

OK052				IAML		23 04 47.4			
	comp=E,77nm,0.4s								
ELIS	**Ellis County**	**1.11**	**282**		Pg	23 04 27.1	-0.9		
ELIS				IAmb_Lg		23 04 40.9			
	comp=Z,22nm,0.8s								
ELIS				IAML		23 04 58.3			
	comp=E,100nm,0.2s								
KAN14	**Manchester OK**	**1.12**	**5**		Pg	23 04 27.2	-1.1		
KAN14				IAML		23 04 50.2			
	comp=E,74nm,0.1s								
KAN14				IAML		23 04 50.8			
	comp=N,72nm,0.1s								
BLOK	**Blackwell**	**1.16**	**37**		Pg	23 04 28.4	-0.6		
QUOK	**Quay**	**1.16**	**73**		Pg	23 04 28.0	-1.1		
OK051	**E0350 and S346**	**1.21**	**56**		Pb	23 04 29.3	-0.5		
KAN17	**Caldwell West**	**1.23**	**12**		Pb	23 04 29.2	-1.1		
KAN17				IAML		23 04 50.3			
	comp=E,84nm,0.3s								
KAN17				IAML		23 04 54.8			
	comp=N,83nm,0.3s								
WMOK	**Wichita Mounta**	**1.24**	**208**		Pn	23 04 29.0	-1.4		
X34A	**Smith Ranch, M**	**1.25**	**171**		Pn	23 04 29.2	-1.4		
X34A				IAML		23 04 49.5			
	comp=E,68nm,0.4s								
X34A				IAML		23 05 10.2			
	comp=N,69nm,0.9s								
DEOK	**Depew**	**1.29**	**89**		Pn	23 04 30.3	-0.7		
DEOK				IAML		23 04 51.4			
	comp=E,56nm,0.4s								
DEOK				IAML		23 04 53.7			
	comp=N,60nm,0.5s								
KAN01	**Argonia South**	**1.34**	**11**		Pn	23 04 30.7	-1.1		
KAN09	**Caldwell North**	**1.35**	**16**		Pn	23 04 31.4	-0.5		
T35A	**Sooner Cattle**	**1.66**	**49**		Pn	23 04 35.7	-0.5		
T35A				IAmb_Lg		23 05 01.5			
	comp=Z,16nm,0.7s								
TUL3	**Leonard**	**1.86**	**87**		Pn	23 04 38.7	-0.3		
TUL3				IAmb_Lg		23 05 07.0			
	comp=Z,33nm,1.1s								
SMWD	**Samnorwood**	**1.91**	**248**		Pn	23 04 39.6	-0.1		
SMWD				IAmb_Lg		23 05 10.1			
	comp=Z,30nm,1.0s								
LOOK	**Love County**	**1.99**	**158**		Pn	23 04 40.6	0.0		
LOOK				IAmb_Lg		23 05 13.7			
	comp=Z,34nm,0.9s								
WTFS	**Witchita Falls**	**2.09**	**189**		Pn	23 04 42.7	+0.6		
RLO	**Rose Lookout**	**2.50**	**82**	Pn	Pn	23 04 48.6	+0.8		
R32A	**Long Quarter,**	**2.63**	**349**		Pn	23 04 50.2	+0.7		
APMT	**Aspermont**	**3.02**	**214**		Pn	23 04 55.5	+0.6		
U38A	**Gravette**	**3.05**	**78**		Pn	23 04 56.5	+1.2		
AMTX	**Amarillo**	**3.09**	**253**	IAmb_Lg		23 05 42.7			
	comp=Z,18nm,0.7s								
DKNS	**Dickens**	**3.19**	**228**	IAmb_Lg		23 05 49.5			
	comp=Z,9.2nm,0.8s								
HHAR	**Hobbs**	**3.38**	**81**	IAmb_Lg		23 05 59.9			
	comp=Z,10nm,0.7s								
TREL	**Terrell**	**3.51**	**151**	IAmb_Lg		23 05 59.7			
	comp=Z,14nm,0.8s								
SN07	**Snyder 07**	**3.59**	**221**	IAmb_Lg		23 06 09.4			
	comp=Z,8.1nm,0.8s								
Z38A	**Mt. Pleasant**	**3.63**	**134**	IAmb_Lg		23 06 09.0			
	comp=Z,20nm,0.9s								
SN05	**Snyder 5**	**3.75**	**219**	IAmb_Lg		23 06 09.5			
	comp=Z,17nm,1.0s								
MIAR	**Mount Ida**	**3.91**	**108**	Pn	Pn	23 05 08.2	+1.1		
MIAR				IAmb_Lg		23 06 21.1			
	comp=Z,11nm,0.9s								
POST	**Post**	**3.95**	**227**	IAmb_Lg		23 06 18.1			
	comp=Z,11nm,0.8s								
MSTX	**Muleshoe**	**4.28**	**246**	IAmb_Lg		23 06 27.2			
	comp=Z,7.5nm,1.0s								
X40A	**Basin Creek Fa**	**4.51**	**106**	Pn	Pn	23 05 15.7	+0.4		
X40A				IAmb_Lg		23 06 33.9			
	comp=Z,9.9nm,0.7s								
WLAR	**White Oak Lake**	**4.62**	**116**	IAmb_Lg		23 06 38.0			
	comp=Z,11nm,0.8s								
SGCY	**Sterling City**	**4.66**	**214**	IAmb_Lg		23 06 42.1			
	comp=Z,13nm,1.0s								
WHAR	**Wooly Hollow**	**4.75**	**95**	IAmb_Lg		23 06 34.5			
	comp=Z,13nm,1.1s								
KSCO	**Kaye Shedlock'**	**4.81**	**313**	IAmb_Lg		23 06 45.4			
	comp=Z,12nm,0.7s								
FCAR	**Ozark Folk Cen**	**4.84**	**88**	IAmb_Lg		23 06 45.9			
	comp=Z,5.5nm,0.8s

HOPEN	**Hopen**	**5.00**	**108**	*e*P	**Pn**	**23 17 43.8**	**+1.8**
HOPEN				*e*S	**Sn**	**23 18 36.9**	**-2.8**
HOPEN				IAML		23 18 40.1	
	comp=Z,36nm,0.3s						
DAG	**Danmarks Havn**	**5.29**	**258**	*e*	Pn	23 17 43.3	-2.7
	baz=59,slow=14						
DAG				*i* P	**Pn**	**23 17 46.8**	**+0.8**
DAG				*i*		23 18 40.4	
DAG				IAML		23 18 45.5	
	comp=Z,3.7nm,0.4s						
DBG	**Daneborg**	**7.27**	**244**	Pn	**Pn**	**23 18 13.1**	**0.0**
DBG				Sn	Sn	23 19 27.9	-7.7
DBG	**Daneborg**	**7.27**	**244**	Pn	**Pn**	**23 18 13.1**	**0.0**
DBG				Sn	Sn	23 19 27.9	-7.7
DBG	**Daneborg**	**7.27**	**244**	*i* P	**Pn**	**23 18 13.5**	**+0.4**
DBG				*i* S	Sn	23 19 26.6	-9.0
DBG				IAML		23 19 35.0	
	comp=Z,2.4nm,0.4s						
ZFI2	**Zemlya Franca-**	**7.70**	**55**	*e*P	**Pn**	**23 18 21.4**	**+2.4**
ZFI2				*e*S	**Sn**	**23 19 42.0**	**-4.1**
	comp=Z,43nm,1.4s						
OMEGA	**Omega**	**7.72**	**55**	*e*P	**Pn**	**23 18 21.7**	**+2.5**
OMEGA				*e*S	**Sn**	**23 19 42.0**	**-4.5**
	comp=Z,37nm,2.5s						
NEEM	**North Greenlan**	**11.09**	**290**	*e*	Pn	23 19 00.0	-5.6
NEEM				IAML		23 21 05.8	
	comp=Z,1.4nm,0.4s						
SUMG	**Summit**	**11.96**	**261**	*i* P	**Pn**	**23 19 17.3**	**-0.4**
SUMG				IAML		23 23 21.3	
	comp=Z,0.6nm,0.4s						

CATAC ***27*** *23:40:33.4±0.8, 13°N±6°×9°0W±°, h12km±9km, M3.8/9, MLv3.8/9, Error ellipse: s-maj=13.3km s-min=8.6km az=144.7, confirmed*
SNET ***27*** *23:40:35.8±1.8, 13°.46N×89°.94W, h84km, ML3.5*
GCG ***27*** *23:40:35.6±1.4, 13°.59N×89°.96W, h92km±9km, MD3.8, ML4.1*

ISC 27 23:40:39.5±1.9, 13°60N±0°.09×89°88W±0°.05, h74km±10km, n30, σ2§21/42, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FAME	**Alcaldia de Sa**	**0.28**	**332**	P		**Pn**	**23 40 48.7**	**-2.3**
NUBE	**Las Nubes**	**0.32**	**18**	*e*P		**Pn**	**23 40 49.8**	**-1.6**
NUBE				*e*S		**Sn**	**23 41 00.9**	**+0.7**
NUBE	**Las Nubes**	**0.32**	**18**	*i* P		**Pn**	**23 40 49.8**	**-1.6**
NUBE				*i* S		**Sn**	**23 41 01.2**	**+1.1**
NUBE	**Las Nubes**	**0.32**	**18**	P		**Pn**	**23 40 49.4**	**-2.0**
CEVE	**Cerro Verde**	**0.34**	**47**	*e*P		**Pn**	**23 40 50.5**	**-1.1**
CEVE				*e*S		**Sn**	**23 41 02.2**	**+1.6**
CEVE	**Cerro Verde**	**0.34**	**47**	P		**Pn**	**23 40 50.4**	**-1.3**
JAYA	**Jayaque - finc**	**0.42**	**82**	*e*P		**Pn**	**23 40 50.9**	**-1.3**
JAYA				*e*S		**Sn**	**23 41 02.6**	**+1.1**
JAYA	**Jayaque - finc**	**0.42**	**82**	*i* P		**Pn**	**23 40 50.9**	**-1.3**
JAYA				*i* S		**Sn**	**23 41 02.5**	**+1.0**
JAYA	**Jayaque - finc**	**0.42**	**82**	P		**Pn**	**23 40 50.6**	**-1.6**
CEDA	**San Andres**	**0.51**	**66**	*e*P		**Pn**	**23 40 51.6**	**-1.2**
CEDA				*e*S		**Sn**	**23 41 03.9**	**+1.2**
CEDA	**San Andres**	**0.51**	**66**	P		**Pn**	**23 40 51.7**	**-1.2**
PMON	**Piamonte**	**0.56**	**78**	P		**Pn**	**23 40 51.8**	**-1.6**
PMON	**Piamonte**	**0.56**	**78**	S		**Sn**	**23 41 05.7**	**+2.1**
BOQS	**Boqueron**	**0.60**	**77**	*e*P		**Pn**	**23 40 52.5**	**-1.3**
PANCS	**Alcalda de**	**0.68**	**89**	P		**Pn**	**23 40 53.0**	**-1.6**
PANCS	**Alcalda de**	**0.68**	**89**	S		**Sn**	**23 41 06.1**	**+0.4**
LOMA	**Loma Larga**	**0.69**	**86**	*e*P		**Pn**	**23 40 53.3**	**-1.4**
LOMA				*e*S		**Sn**	**23 41 07.2**	**+1.2**
LOMA	**Loma Larga**	**0.69**	**86**	P		**Pn**	**23 40 53.0**	**-1.7**
LFRS	**El Faro**	**0.80**	**88**	*e*P		**Pn**	**23 40 54.6**	**-1.2**
FG16	**Alotenango, Sa**	**0.91**	**318**	*i* P		**Pn**	**23 40 58.6**	**+1.3**
FG16				*i* S		**Sn**	**23 41 17.7**	**+7.1**
FG16				IAML			23 41 21.7	
	comp=E,6µm,0.2s							
PAVA	**Las Pavas**	**0.92**	**83**	P		**Pn**	**23 40 56.1**	**-1.3**
FG8	**Yepocapa, Chim**	**0.93**	**315**	*i* P		**Pn**	**23 40 59.3**	**+1.8**
MTO3	**Montecristo**	**0.94**	**32**	*e*P		**Pn**	**23 40 56.1**	**-1.6**
MTO3				*e*S		**Sn**	**23 41 11.5**	**+0.2**
MTO3	**Montecristo**	**0.94**	**32**	*i* P		**Pn**	**23 40 56.2**	**-1.6**
MTO3				*i* S		**Sn**	**23 41 11.7**	**+0.4**
ESQI	**Esquipulas**	**1.09**	**29**	*e*P		**Pn**	**23 40 58.1**	**-1.3**
ESQI				*e*S		**Sn**	**23 41 15.0**	**+0.7**
SCLA	**Alcaldia de Sa**	**1.12**	**85**	P		**Pn**	**23 40 58.2**	**-1.6**
SCLA	**Alcaldia de Sa**	**1.12**	**85**	S		**Sn**	**23 41 21.0**	**+6.1**
ESSG	**Sabana Grande**	**1.21**	**310**	*i* P		**Pn**	**23 40 57.2**	**-3.7**
ESSG				*i* S		**Sn**	**23 41 13.6**	**-3.4**
PACA	**Pacayal**	**1.52**	**95**	P		**Pn**	**23 41 03.9**	**-1.1**
BLLM	**Bellamira**	**1.60**	**95**	*e*P		**Pn**	**23 41 04.4**	**-1.6**

AUST 27 23:49:55.4±1.2, 18°S±12°×12°0E±°, h10km, mb3.8/3, ML2.5/2, ML3.0/4, Error ellipse: s-maj=27.2km s-min=11.0km az=154.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AUBRM	**Broome Senior**	**2.01**	**86**	S		Sb	23 50 58.5	+1.3
MBWA	**Marble Bar**	**3.06**	**187**	P		Pn	23 50 44.4	+0.5
MBWA				S		Sn	23 51 18.8	-1.8
PSAC1	**Pilbara Seismi**	**3.43**	**185**	P		Pn	23 50 49.1	+0.2
PSAC1				S		Sn	23 51 27.3	-2.4
PSA00	**Pilbara Seismi**	**3.46**	**184**	P		Pn	23 50 49.9	+0.5
FITZ	**Fitzroy Crossi**	**5.25**	**91**	P		Pn	23 51 14.3	+0.3
GIRL	**Giralia**	**7.13**	**230**	P		Pn	23 51 39.6	-0.3
	comp=Z,92µmcomp=Z,49nm,1.7s,comp=Z,0.1nm							
MEEK	**Meekatharra**	**8.61**	**189**	P		Pn	23 51 59.4	-0.7
	comp=Z,13nm,2.6s,comp=Z,0.1nm							
MEEK				S		Sn	23 53 30.6	-6.8
WRKA	**Warakurna**	**10.27**	**134**	P		Pn	23 52 22.1	-0.8
	comp=Z,2.1nm,1.7s,comp=Z,0.0nm							
WRKA				S		Sn	23 54 13.1	-5.1

NOU ***27*** *23:58:41.5, 21°.71S×170°.42E, h60km, mb4.3/14, Southeast of Loyalty Islands*
IDC ***27*** *23:58:44.5±6.7, 21°.13S×170°.00E, h112km±39km, mb3.6/3, mbtmp4.0/4, Error ellipse: s-maj=189.6km s-min=47.7km az=157.0*

ISC 27 23:58:33.8±1.9, 22°0S±0°.1×170°9E±0°.1, h50km, n18, σ2§37/19, mb3.9/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
INH	**Isangel**	**2.82**	**328**	P		**Pn**	**23 59 18.9**	**+2.5**
PINNC	**Pines Island,**	**3.22**	**258**	P		**Pn**	**23 59 25.1**	**+3.3**
PINNC	**Pines Island,**	**3.22**	**258**	S		**Sn**	**23 59 59.9**	**+1.0**
YATNC	**Mamie plateau,**	**3.67**	**268**	P		**Pn**	**23 59 29.5**	**+1.4**
YATNC	**Mamie plateau,**	**3.67**	**268**	S		**Sn**	**00 00 09.3**	**-0.9**
OUENC	**Ouen Island, N**	**3.74**	**262**	P		**Pn**	**23 59 31.9**	**+2.9**
OUENC	**Ouen Island, N**	**3.74**	**262**	S		**Sn**	**00 00 12.3**	**+0.5**
DZM	**Mont Dzumac**	**4.09**	**268**	P		**Pn**	**23 59 36.4**	**+2.5**
	42nm,0.4s,baz=122,slow=7.5,SNR=791							
DZM				S		**Sn**	**00 00 16.9**	**-3.6**
	83nm,0.7s,baz=296,slow=19,SNR=4.7							
DZM	**Mont Dzumac**	**4.09**	**268**	P		**Pn**	**23 59 36.4**	**+2.5**
DZM	**Mont Dzumac**	**4.09**	**268**	S		**Sn**	**00 00 18.6**	**-1.9**
ONTNC	**Ouen Toro**	**4.09**	**264**	P		**Pn**	**23 59 36.5**	**+2.7**
ONTNC	**Ouen Toro**	**4.09**	**264**	S		**Sn**	**00 00 19.1**	**-1.3**
DVP	**Devils Point**	**4.91**	**329**	P		**Pn**	**23 59 47.3**	**+2.3**
KOUNC	**Koumac, New Ca**	**6.28**	**282**	P		**Pn**	**00 00 06.9**	**+3.0**
ASAR	**Alice Springs**	**34.04**	**260**	P		**P**	**00 05 12.2**	**-1.2**
	0.8nm,0.5s,baz=88,slow=9.1,SNR=20							
	0.8nm,0.5s							
WRA	**Warramunga Arr**	**34.11**	**267**	P		**P**	**00 05 11.8**	**-2.2**
	0.7nm,0.5s,baz=96,slow=8.3,SNR=16							
	0.7nm,0.5s							
FITZ	**Fitzroy Crossi**	**42.54**	**267**	P		**P**	**00 06 24.2**	**-0.6**
	3.2nm,0.7s,baz=132,slow=14,SNR=5.6							
	3.2nm,0.7s							
GERES	**GERESS Array B**	**147.60**	**331**	PKPbc		**PKPbc**	**00 18 11.9**	**-0.7**
	0.7nm,0.6s,baz=23,slow=4.4,SNR=7.2							

DJA ***28*** *00:02:30.0±0.3, 9°S±6°×11°2E±°, h67km±19km, M4.8/23, mB5.1/1, mb4.9/6, MLv4.7/23, Mw(mB)4.5/1*
NEIC ***28*** *00:02:31.5±1.0, 8°.8S±0°.1×111°.98E±0°.06, h78km±8km, mb4.4/9, Error ellipse: s-maj=17.0km s-min=5.9km az=206.0*
IDC ***28*** *00:02:32.5±1.8, 8°.76S×111°.93E, h92km±17km, mb3.8/15, mbtmp4.2/18, MS3.1/6, Error ellipse: s-maj=20.0km s-min=10.3km az=42.0*

ISC 28 00:02:32.6±0.5, 8°81S±0°.07×111°96E±0°.04, h100km, n71, σ1§82/67, mb4.0/18, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCJI	**Pacitan**	**0.99**	**308**	P		**Pn**	**00 02 48.3**	**-4.6**
WOJI	**Wonogiri, Jawa**	**1.41**	**313**	P		**Pn**	**00 02 55.2**	**-2.6**
NGJI	**Ngawi**	**1.52**	**341**	P		**Pn**	**00 03 00.6**	**+1.5**
GMJI	**Gumukmas**	**1.56**	**70**	P		**Pn**	**00 02 58.0**	**-1.6**
UGM	**Wanagama**	**1.68**	**302**			**Pn**	**00 02 58.4**	**-2.7**
UGM					Sn	**Sn**	**00 03 18.6**	**-4.3**
UGM	**Wanagama**	**1.68**	**302**	P		**Pn**	**00 02 58.6**	**-2.5**
UGM	**Wanagama**	**1.68**	**302**	P		**Pn**	**00 02 58.3**	**-2.8**
UGM				S		**Sn**	**00 03 19.5**	**-3.3**
GRJI	**Gresik**	**1.96**	**15**	P		**Pn**	**00 03 04.9**	**+0.3**
TBJI	**Tambak Boyo**	**1.99**	**357**	P		**Pn**	**00 03 04.6**	**-0.4**
JAGI	**Jajag, Banyuwa**	**2.19**	**81**			**Pn**	**00 03 05.9**	**-1.8**
JAGI					Sn	**Sn**	**00 03 31.6**	**-3.0**
JAGI	**Jajag, Banyuwa**	**2.19**	**81**	P		**Pn**	**00 03 06.4**	**-1.3**
JAGI	**Jajag, Banyuwa**	**2.19**	**81**	P		**Pn**	**00 03 06.0**	**-1.7**
JAGI				S		**Sn**	**00 03 31.4**	**-3.2**
SMRI	**Semarang**	**2.31**	**319**			**Pn**	**00 03 08.6**	**-0.6**
SMRI	**Semarang**	**2.31**	**319**	P		**Pn**	**00 03 09.2**	**0.0**
SMRI	**Semarang**	**2.31**	**319**	P		**Pn**	**00 03 09.3**	**0.0**
KMMI	**Kalianget**	**2.65**	**49**	P		**Pn**	**00 03 13.3**	**-0.4**
BWJI	**Bawean**	**3.02**	**13**	P		**Pn**	**00 03 17.6**	**-1.1**
SRBI	**Singaraja**	**3.30**	**78**	P		**Pn**	**00 03 21.0**	**-1.3**
BBJI	**Bungbulang**	**4.47**	**287**	P		**Pn**	**00 03 35.3**	**-3.0**
LEM	**Lembang**	**4.73**	**294**	P		**Pn**	**00 03 40.2**	**-1.6**
	28nm,0.4s,baz=304,slow=22,SNR=8.2							
LEM				S		**Sn**	**00 04 35.2**	**-0.6**
	130nm,0.6s,baz=14,slow=16,SNR=7.2							
LEM				LR		LR	00 05 46.6	
	comp=Z,129nm,20.0s,baz=134,slow=41							
LEM	**Lembang**	**4.73**	**294**	P		**Pn**	**00 03 39.0**	**-2.9**
CNJI	**Cibinong**	**5.01**	**287**	P		**Pn**	**00 03 41.6**	**-3.9**
DBJI	**Dramaga**	**5.63**	**293**	P		**Pn**	**00 03 51.6**	**-2.3**
	0.6nm94nm,0.6s							
SKJI	**Sukabumi**	**5.65**	**288**	P		**Pn**	**00 03 51.3**	**-2.8**
PLAI	**Plampang**	**5.75**	**91**	P		**Pn**	**00 03 55.0**	**-0.5**
PLAI	**Plampang**	**5.75**	**91**	P		**Pn**	**00 03 54.8**	**-0.7**
	0.4nm63nm,1.2s							
SBJI	**Serang**	**6.37**	**294**	P		**Pn**	**00 04 01.7**	**-2.2**
	87nm,0.4s							
XMI	**Christmas Isla**	**6.39**	**255**	P		Pn	00 03 59.3	-5.0
CGJI	**Cibinong**	**6.58**	**289**	P		**Pn**	**00 04 06.6**	**-0.3**
	0.3nm2µm68nm,0.5s							
WBSI	**Waikabubak, Su**	**7.38**	**97**	P		**Pn**	**00 04 16.1**	**-1.7**
KASI	**Kota Agung**	**8.09**	**293**	P		Pn	00 04 20.7	-6.7
KAPI	**Kappang**	**8.61**	**64**	P		**Pn**	**00 04 35.0**	**+0.6**
	1.9nm,0.3s,baz=245,slow=8.1,SNR=1.8							
KAPI				LR		LR	00 08 18.6	
	comp=Z,37nm,18.8s,baz=318,slow=40							
MNAI	**Manna**	**9.98**	**296**	Pn		**Pn**	**00 04 51.5**	**-1.6**
SBUM	**Sibu**	**11.19**	**1**	Pn		**Pn**	**00 05 07.5**	**-2.0**
BATI	**Batumata**	**11.63**	**98**	P		**Pn**	**00 05 15.4**	**0.0**
	10.0nm,0.3s,baz=161,slow=14,SNR=2.9							
GIRL	**Giralia**	**13.92**	**171**	Pn		Pn	00 05 39.0	-6.6
MBWA	**Marble Bar**	**14.38**	**149**	Pn		Pn	00 05 43.8	-7.7
FITZ	**Fitzroy Crossi**	**16.18**	**126**	P		**Pn**	**00 06 11.5**	**-2.7**
	0.9nm,0.3s,baz=170,slow=1.8,SNR=3.7							
FITZ				S		Sn	00 08 57.6	-16
	3.2nm,0.4s,baz=169,slow=14,SNR=5.5							
FITZ				LR		LR	00 11 46.5	
	comp=Z,94nm,21.9s,baz=328,slow=34							
PSI	**Prapat**	**17.38**	**311**	LR		LR	00 13 15.6	
	comp=Z,69nm,19.6s,baz=171,slow=37							
FAKI	**Fak Fak**	**21.01**	**75**	P		**P**	**00 07 07.2**	**-1.1**
WB0	**Warramunga Arr**	**24.28**	**119**			**P**	**00 07 41.8**	**+1.0**
WB0				IAmb		IAmb	00 07 42.7	
	comp=Z,5.7nm,0.7s							
WRA	**Warramunga Arr**	**24.30**	**120**			**P**	**00 07 41.9**	**+0.9**
WRA	**Warramunga Arr**	**24.30**	**120**	P		**P**	**00 07 42.2**	**+1.2**
	comp=Z,3.1nm,0.7s,baz=293,slow=12,SNR=32							
	comp=Z,3.1nm,0.7s							
ASAR	**Alice Springs**	**25.67**	**128**	P		**P**	**00 07 53.9**	**+0.5**
ASAR	**Alice Springs**	**25.67**	**128**	P		**P**	**00 07 54.5**	**+1.0**
	comp=Z,4.9nm,0.5s,baz=304,slow=8.2,SNR=53							
	comp=Z,4.9nm,0.5s							
AS31	**Alice Springs**	**25.67**	**128**			**P**	**00 07 53.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**29.99**	**335**	P		**P**	**00 08 32.2**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=155,slow=8.2,SNR=5.6							
CMAR				LR		LR	00 21 46.0	
	comp=Z,39nm,18.8s,baz=135,slow=38							
	comp=Z,0.3nm,0.3s							
BBOO	**Buckleboo**	**32.66**	**140**	P		**P**	**00 08 55.5**	**+0.2**
STKA	**Stephens Creek**	**35.82**	**134**	P		**P**	**00 09 24.4**	**+1.8**
	comp=Z,4.0nm,0.6s,baz=289,slow=10,SNR=7.5							
	comp=Z,4.0nm,0.6s							
BRDH	**Bariadhala**	**37.09**	**328**	LR		LR	00 26 22.1	
	comp=Z,43nm,18.6s,baz=180,slow=39							
H08S2	**Diego Garcia H**	**39.07**	**269**	T		T	00 51 15.2	
	baz=95,slow=75,SNR=12							
H08S3	**Diego Garcia H**	**39.08**	**269**	T		T	00 51 14.8	
	baz=95,slow=75,SNR=16							
H08S1	**Diego Carcia H**	**39.08**	**269**	T		T	00 51 14.8	
	baz=95,slow=75,SNR=13							
MJAR	**Matsushiro Arr**	**51.42**	**27**	P		**P**	**00 11 27.1**	**-0.4**
	comp=Z,4.0nm,0.4s,baz=171,slow=8.6,SNR=2.1							
	comp=Z,0.4nm,0.4s							
SONM	**Songino Array**	**56.61**	**356**	P		**P**	**00 12 06.3**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=178,slow=8.7,SNR=5.1							
	comp=Z,0.7nm,0.5s							
MKAR	**Makanchi Array**	**61.35**	**337**	P		**P**	**00 12 38.3**	**+0.4**
MKAR	**Makanchi Array**	**61.35**	**337**	P		**P**	**00 12 38.5**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=152,slow=7.0,SNR=41							
	comp=Z,1.6nm,0.4s							
KK31	**Karatay Array**	**63.96**	**327**	P		**P**	**00 12 55.3**	**0.0**
KK31				IAmb		IAmb	00 12 57.6	
	comp=Z,3.2nm,1.2s							
KKAR	**Karatay Array**	**63.96**	**327**	P		**P**	**00 12 55.4**	**+0.1**
KURBB	**Kurchatov Arra**	**65.92**	**337**	P		**P**	**00 13 07.6**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=156,slow=5.5,SNR=5.7							
	comp=Z,0.7nm,0.6s							
ZALV	**Zalesovo Beam**	**66.60**	**343**	P		**P**	**00 13 12.2**	**+0.1**
	comp=Z,2.0nm,0.4s,baz=161,slow=4.5,SNR=12							
	comp=Z,2.0nm,0.4s							
BVAR	**Borovoye Array**	**71.02**	**335**	P		**P**	**00 13 39.1**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=119,slow=12,SNR=8.4							
	comp=Z,0.9nm,0.5s							
VNDA	**Vanda**	**73.32**	**170**	P		**P**	**00 13 52.9**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=299,slow=6.1,SNR=5.0							
	comp=Z,1.0nm,0.9s							
AB31	**Akbulak array**	**73.53**	**327**	P		**P**	**00 13 55.4**	**+0.9**
AB31				IAmb		IAmb	00 13 56.1	
	comp=Z,7.2nm,0.8s							
ABKAR	**Akbulak array**	**73.53**	**327**	P		**P**	**00 13 55.3**	**+0.8**
QSPA	**South Pole Qui**	**81.18**	**180**	P		**P**	**00 14 38.5**	**+1.4**
QSPA				IAmb		IAmb	00 14 59.9	
	comp=Z,3.0nm,0.9s							
QSPA	**South Pole Qui**	**81.18**	**180**	P		**P**	**00 14 38.0**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=243,slow=19,SNR=5.1							
	comp=Z,0.9nm,0.7s							
KBZ	**Khabaz**	**81.30**	**317**	P		**P**	**00 14 39.3**	**+1.4**
	comp=Z,2.3nm,0.8s,baz=140,slow=5.3,SNR=5.2							
	comp=Z,2.3nm,0.8s							
BRTR	**Keskin Array B**	**86.71**	**311**	P		**P**	**00 15 06.2**	**+0.5**
	comp=Z,0.7nm,1.0s,baz=155,slow=4.8,SNR=4.2							
	comp=Z,0.7nm,1.0s							
SNAA	**Sanae**	**89.24**	**197**	P		**P**	**00 15 19.0**	**+1.9**
SNAA				IAmb		IAmb	00 15 40.6	
	comp=Z,6.8nm,1.2s							
SNAA	**Sanae**	**89.24**	**197**	P		**P**	**00 15 19.2**	**+2.1**
	comp=Z,2.2nm,0.5s,baz=166,slow=4.2,SNR=5.5							
	comp=Z,2.2nm,0.5s							

IDC ***28*** *00:12:51.4±1.2, 0°.45S×127°.64E, h0km, mb3.9/7, mbtmp3.9/8, ML4.0/1, MS2.8/2, Error ellipse: s-maj=115.3km s-min=16.5km az=70.0*
DJA ***28*** *00:12:55.2±0.2, 1°S±2°×12°8E±°, h10km, M4.2/13, mB5.0/1, mb4.6/7, MLv4.0/13, Mw(mB)4.4/1*

ISC 28 00:12:57.5±0.8, 0°58S±0°.06×127°47E±0°.08, h41km, n25, σ1§40/23, mb4.2/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**1.35**	**355**	P		**Pn**	**00 13 18.6**	**-1.2**
TNTI				S		**Sn**	**00 13 36.8**	**+0.3**
SANI	**Sanana**	**2.08**	**225**	P		**Pn**	**00 13 29.7**	**-0.2**
NLAI	**Namlea**	**2.67**	**188**	P		**Pn**	**00 13 40.3**	**+2.3**
MSAI	**Masohi**	**3.11**	**152**	P		**Pn**	**00 13 45.4**	**+1.3**
AAI	**Ambon**	**3.17**	**167**	P		**Pn**	**00 13 45.9**	**+1.0**
KMSI	**Cibinong**	**3.68**	**288**	P		**Pn**	**00 13 51.8**	**0.0**
SWI	**Sorong**	**3.80**	**94**	P		**Pn**	**00 13 54.5**	**+1.0**
LUWI	**Luwuk**	**4.72**	**264**	P		**Pn**	**00 14 07.8**	**+1.6**
APSI	**Ampana**	**5.83**	**267**	P		**Pn**	**00 14 21.6**	**+0.1**
	0.4nm1µm53nm,0.9s							
KMPI	**Kaimana, Papua**	**6.94**	**116**	P		**Pn**	**00 14 36.0**	**-0.7**
	256nm,0.8s							
TTSI	**Tana Toraja**	**8.03**	**252**	P		**Pn**	**00 14 51.7**	**0.0**
	18nm,0.7s							
SAUI	**Saumlaki**	**8.28**	**153**	P		**Pn**	**00 14 51.0**	**-4.2**
SPSI	**Sidrap Palu**	**8.40**	**246**	P		**Pn**	**00 14 58.7**	**+2.0**
	66nm,0.6s							
KAPI	**Kappang**	**8.88**	**240**	LR		LR	00 18 44.6	
	comp=Z,37nm,21.2s,baz=58,slow=39							
JAY	**Jayapura**	**13.37**	**98**	LR		LR	00 21 20.6	
	comp=Z,76nm,18.4s,baz=328,slow=38							
FITZ	**Fitzroy Crossi**	**17.50**	**186**	P		**P**	**00 16 59.5**	**+0.1**
	0.4nm,0.3s,baz=14,slow=8.6,SNR=12							
	1.5nm,0.5s							
WRA	**Warramunga Arr**	**20.38**	**161**	P		**P**	**00 17 29.7**	**-1.3**
	0.6nm,0.4s,baz=341,slow=11,SNR=11							
	0.6nm,0.4s							
ASAR	**Alice Springs**	**23.78**	**165**	P		**P**	**00 18 06.7**	**+0.2**
	3.2nm,0.9s,baz=346,slow=12,SNR=40							
	3.2nm,0.9s							
STKA	**Stephens Creek**	**33.87**	**158**	P		**P**	**00 19 37.3**	**+1.0**
	2.0nm,0.9s,baz=343,slow=11,SNR=2.9							
	2.0nm,0.9s							
LZH	**Lanzhou**	**42.59**	**331**	*e*P		**P**	**00 20 49.5**	**-0.4**
LZH				pP		pP	00 20 55.3	-6.1
LZH				pmax		pmax		
	comp=Z,19nm,1.4s							
GTA	**Gaotai**	**47.17**	**331**	*e*P		P	00 21 30.3	+4.0
GTA				pmax		pmax		
	comp=Z,5.0nm,1.1s							
SONM	**Songino Array**	**51.60**	**342**	P		**P**	**00 21 59.7**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=155,slow=10,SNR=2.2							
	comp=Z,0.4nm,0.3s							
MKAR	**Makanchi Array**	**61.51**	**326**	P		**P**	**00 23 10.5**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=123,slow=8.4,SNR=13							
	comp=Z,1.7nm,0.6s							
ZALV	**Zalesovo Beam**	**64.75**	**334**	P		**P**	**00 23 30.5**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=92,slow=4.6,SNR=3.9							
	comp=Z,0.6nm,0.7s							
KURBB	**Kurchatov Arra**	**65.76**	**328**	P		**P**	**00 23 37.8**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=126,slow=5.9,SNR=19							
	comp=Z,2.1nm,0.7s							

SLM ***28*** *00:16:18.8±0.7, 35°.80N±0°.01×88°.55W±0°.01, h10km±8km, Error ellipse: s-maj=2.1km s-min=1.7km az=202.0*

NEIC 28 00:16:18.9±0.7, 35°81N±0°.01×88°54W±0°.02, h5km±1km, mb_Lg1.8/3, ML2.3/22, Md2.1/34(SLM), Error ellipse: s-maj=2.7km s-min=2.4km az=33.0, Tennessee

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WVT	**Waverly**	**0.66**	**61**			Pg	00 16 31.2	-0.2
WVT						Sg	00 16 39.9	-0.1
HALT	**Halls**	**0.66**	**279**			Pg	00 16 30.5	-1.0
HALT						Sg	00 16 39.4	-0.7
RELT	**Roellen**	**0.66**	**290**			Pg	00 16 30.6	-1.0
GLAT	**Glass**	**0.76**	**307**			Pg	00 16 32.9	-0.6
GLAT				Sg		Sg	00 16 42.7	-0.7
GLAT				IAML			00 16 54.5	
	comp=N,92nm,0.4s							
FPST	**Four Points**	**0.76**	**283**			Pg	00 16 32.7	-0.8
LNXT	**Lenox**	**0.83**	**291**			Pg	00 16 33.9	-0.9
LNXT				Sg		Sg	00 16 45.4	-0.1
LNXT				IAML			00 16 45.4	
	comp=N,108nm,0.4s		

σ3'35/22, **mb3.9**/6, **South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PLAI	**Plampang**	**2.63**	**351**	P		**Pn**	**00 25 18.5**	**+0.5**
BATI	**Baumata**	**5.54**	**78**	Pn		**Pn**	**00 26 00.6**	**+2.7**
	9.0nm,0.3s,baz=272,slow=7.3,SNR=6.0							
BATI					Sn	**Sn**	**00 27 02.7**	**+2.3**
	7.7nm,0.3s,baz=15,slow=18,SNR=6.0							
	11nm,0.3s							
SOEI	**Soe**	**6.22**	**75**	P		**Pn**	**00 26 12.1**	**+4.6**
	34nm,0.7s							
KAPI	**Kappang**	**6.58**	**14**	Pn		**Pn**	**00 26 11.3**	**-0.9**
	3.4nm,0.3s,baz=209,slow=8.1,SNR=22							
KAPI					Sn	**Sn**	**00 27 21.7**	**-4.4**
	19nm,0.3s,baz=336,slow=21,SNR=15							
	17nm,0.6s							
MBWA	**Marble Bar**	**9.77**	**171**	P		**Pn**	**00 26 58.7**	**+2.7**
FITZ	**Fitzroy Crossi**	**9.79**	**133**	Pn		**Pn**	**00 26 59.5**	**+3.2**
	1.6nm,0.3s,baz=346,slow=9.9,SNR=59							
FITZ					Sn	**Sn**	**00 28 41.0**	**-3.9**
	2.3nm,0.3s,baz=182,slow=20,SNR=9.2							
	9.9nm,0.6s							
FITZ	**Fitzroy Crossi**	**9.79**	**133**	P		**Pn**	**00 26 59.2**	**+2.9**
	29nm,0.8s							
PSA00	**Pilbara Seismi**	**10.19**	**171**	P		**Pn**	**00 27 04.5**	**+2.7**
	15nm,0.5s							
WRA	**Warramunga Arr**	**17.70**	**120**	P		**P**	**00 28 43.3**	**+1.0**
	0.4nm,0.3s,baz=296,slow=13,SNR=16							
WRA					S	**Sn**	**00 31 52.2**	**-5.8**
	0.5nm,0.5s,baz=292,slow=23,SNR=5.2							
	0.4nm,0.3s							
ASAR	**Alice Springs**	**19.28**	**131**	P		**Pn**	**00 29 04.0**	**+3.0**
	0.5nm,0.3s,baz=319,slow=14,SNR=22							
ASAR					S	**S**	**00 32 30.6**	**-5.6**
	1.0nm,0.5s,baz=297,slow=22,SNR=5.1							
	0.8nm,0.5s							
NWAO	**Narrogin (SRO)**	**21.39**	**182**	P		**P**	**00 29 24.8**	**+2.2**
	3.4nm,0.6s,baz=5.3,slow=11,SNR=18							
NWAO					S	**S**	**00 33 12.8**	**-5.4**
	5.3nm,0.3s,baz=147,slow=19,SNR=7.8							
	3.4nm,0.6s							
KSRS	**Korea Array**	**49.50**	**10**	P		**P**	**00 33 24.1**	**-0.8**
	0.6nm,0.6s,baz=188,slow=7.7,SNR=2.5							
	0.6nm,0.6s							
SONM	**Songino Array**	**59.94**	**351**	P		**P**	**00 34 41.0**	**+0.4**
	0.4nm,0.4s,baz=165,slow=12,SNR=1.4							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	**66.27**	**334**	P		**P**	**00 35 23.1**	**+0.6**
	1.4nm,0.5s,baz=145,slow=7.1,SNR=23							
	1.4nm,0.5s							
KURBB	**Kurchatov Arra**	**70.80**	**335**	P		**P**	**00 35 50.4**	**-0.3**
	0.4nm,0.5s,baz=137,slow=5.2,SNR=7.1							
	0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**71.04**	**340**	P		**P**	**00 35 51.6**	**-0.4**
	0.9nm,0.4s,baz=154,slow=6.3,SNR=5.3							
	0.9nm,0.4s							

IDC 28 00:31:21.8±1.6, **3'.42S**×**130'.44E**, **h0**km, **mb3.8**/3, **mbtmp4.0**/6, **ML4.0**/3, **Error ellipse: s-maj=55.0km s-min=24.1km az=75.0, Seram**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KAPI	**Kappang**	**10.78**	**261**	Pn		**Pn**	00 33 57.0	-0.5
	3.7nm,0.3s,baz=153,slow=18,SNR=4.5							
	7.2nm,0.3s							
FITZ	**Fitzroy Crossi**	**15.33**	**198**	Pn		Pn	00 34 59.0	-0.6
	0.3nm,0.3s,baz=21,slow=8.0,SNR=2.9							
	1.0nm,0.3s							
WRA	**Warramunga Arr**	**16.86**	**167**	Pn		Pn	00 35 20.4	+1.0
	0.5nm,0.3s,baz=350,slow=9.9,SNR=14							
WRA					Sn	Sn	00 38 10.7	-17
	0.3nm,0.3s,baz=331,slow=22,SNR=5.7							
	0.5nm,0.3s							
ASAR	**Alice Springs**	**20.40**	**171**	P		P	00 36 00.3	-0.2
	7.7nm,0.6s,baz=350,slow=11,SNR=63							
ASAR					S	S	00 39 35.2	-15
	0.5nm,0.8s,baz=349,slow=24,SNR=3.7							
	7.7nm,0.6s							
MKAR	**Makanchi Array**	**65.51**	**326**	P		P	00 42 07.2	+0.2
	0.2nm,0.4s,baz=111,slow=8.4,SNR=5.5							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**69.72**	**328**	P		P	00 42 33.5	-0.1
	0.4nm,0.5s,baz=130,slow=5.9,SNR=7.2							
	0.4nm,0.5s							

*IDC **28** 00:31:30.1±1.4, 20°.93N×122°.25E, h0km, mb3.7/7, mbtmp3.7/9, ML3.7/2, MS3.1/4, Error ellipse: s-maj=32.0km s-min=26.3km az=80.0*
*JMA **28** 00:31:31.3±0.8, 21°.N±4°×12°2E±°, h34km, MV3.7/10, PHILIPPINE ISL REGION*
ISC 28 00:31:34.8±1.1, **20'.93N**±0'.10×**122'.16E**±0'.08, **h35**km, **n30**, σ1'**00**/22, **mb3.7**/7, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
TWGBT	**Beinan**	**2.13**	**332**	P		**Pn**	**00 32 06.6**	**-1.3**
YULB	**Yu-li**	**2.58**	**342**	P		**Pn**	**00 32 12.5**	**-1.6**
TPUB	**Ta-pu**	**2.75**	**329**	P		**Pn**	**00 32 17.4**	**+0.9**
SSLB	**Suanglung**	**3.05**	**339**	P		Pn	00 32 23.0	+2.3
NACB	**Ningan chiao**	**3.27**	**351**	P		**Pn**	**00 32 23.0**	**-0.6**
HATJ	**Hateruma jima**	**3.46**	**26**	*eP*		**Pn**	**00 32 26.3**	**+0.1**
HATJ					*eS*	**Sn**	**00 33 06.3**	**+0.3**
YOJ	**Yonaguni jima**	**3.60**	**12**	P		Pn	00 32 30.3	+2.2
IRIF	**Iriomote-Funau**	**3.68**	**23**	P		**Pn**	**00 32 29.5**	**+0.2**
IRIF					*eS*	**Sn**	**00 33 12.2**	**+0.8**
JKRS	**Kuro-shima**	**3.70**	**27**	*eS*		**Sn**	**00 33 13.8**	**+1.8**
JIJ	**Ishigaki jima**	**3.87**	**28**	*eP*		**Pn**	**00 32 31.8**	**-0.1**
JIJ					*eS*	**Sn**	**00 33 16.8**	**+0.6**
JISG	**Ishigakijimahi**	**4.14**	**28**	*eP*		**Pn**	**00 32 35.7**	**+0.1**
JISG					*eS*	**Sn**	**00 33 23.2**	**+0.4**
JTJ	**Tarama**	**4.37**	**32**	*eS*		**Sn**	**00 33 29.6**	**+1.2**
JOW	**Kunigami**	**8.11**	**42**	Pn		**Pn**	**00 33 28.7**	**-1.4**
	3.0nm,0.3s,baz=123,slow=24,SNR=6.2							
	6.9nm,0.4s							
DAV	**Davao City (W)**	**14.17**	**166**	LR		LR	00 40 15.3	
	comp=Z,63nm,19.8s,baz=345,slow=37							
JNU	**Nakatsue**	**14.40**	**31**	LR		LR	00 39 56.8	
	comp=Z,59nm,18.6s,baz=208,slow=35							
KSRS	**Korea Array**	**17.21**	**16**	P		**P**	**00 35 31.9**	**-1.8**
	0.2nm,0.3s,baz=194,slow=11,SNR=5.2							
	0.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**22.00**	**268**	P		**P**	**00 36 27.5**	**+1.4**
	0.3nm,0.3s,baz=62,slow=9.8,SNR=5.2							
	0.3nm,0.3s							
SONM	**Songino Array**	**29.70**	**338**	P		**P**	**00 37 37.4**	**-0.2**
	0.3nm,0.5s,baz=152,slow=13,SNR=2.0							
SONM					LR	LR	00 51 03.8	
	comp=Z,32nm,19.9s,baz=178,slow=40							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**41.32**	**318**	P		**P**	**00 39 17.0**	**-0.1**
	1.0nm,0.7s,baz=108,slow=10,SNR=7.8							
	1.0nm,0.7s							
H11N1	**WAKE ISLAND Hy**	**41.86**	**83**	T		T	01 24 14.7	
	baz=281,slow=75,SNR=95							
H11N2	**WAKE ISLAND Hy**	**41.86**	**83**	T		T	01 24 11.5	
	baz=281,slow=75,SNR=110							
H11N3	**WAKE ISLAND Hy**	**41.88**	**83**	T		T	01 24 15.3	
	baz=281,slow=75,SNR=118							
H11S3	**WAKE ISLAND Hy**	**41.89**	**85**	T		T	01 24 12.9	
	baz=281,slow=75,SNR=527							
H11S1	**WAKE ISLAND Hy**	**41.90**	**85**	T		T	01 24 13.7	
	baz=281,slow=75,SNR=504							
H11S2	**WAKE ISLAND Hy**	**41.90**	**85**	T		T	01 24 14.1	
	baz=281,slow=75,SNR=304							
WRA	**Warramunga Arr**	**42.34**	**163**	P		**P**	**00 39 25.6**	**-0.1**
	0.4nm,0.5s,baz=343,slow=8.3,SNR=2.4							
	0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**43.47**	**329**	P		P	00 39 36.9	+2.4
	0.9nm,0.6s,baz=131,slow=10,SNR=6.1							
	0.9nm,0.6s							
MA2	**Magadan**	**43.66**	**21**	LR		LR	00 57 28.9	
	comp=Z,23nm,19.2s,baz=198,slow=36							
KURBB	**Kurchatov Arra**	**45.19**	**322**	P		**P**	**00 39 48.2**	**-0.1**
	1.3nm,0.7s,baz=114,slow=7.8,SNR=14							
	1.3nm,0.7s							
BVAR	**Borovoye Array**	**50.77**	**322**	P		**P**	**00 40 32.3**	**+0.9**
	0.7nm,0.6s,baz=116,slow=9.8,SNR=3.5							
	0.7nm,0.6s							

*NEIC **28** 00:46:39.1±0.9, 19°.35N±0°.03×155°.03W±0°.02, h5km±1km, Error ellipse: s-maj=5.7km s-min=2.7km az=147.0*
HVO 28 00:46:38.7±0.8, **19'.35N**±0'.03×**155'.04W**±0'.02, **h7**km±2km, **ML2.9**/34, **ML3.0**/40(NEIC), **Error ellipse: s-maj=4.8km s-min=0.9km az=150.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JCUZ	**Jacuzzi**	**0.07**	**301**			Pg	00 46 41.0	+0.5
JCUZ						Sg	00 46 42.5	+0.6
NPOC	**North of Pu'u**	**0.08**	**304**			Pg	00 46 41.2	+0.5
NPOC						Sg	00 46 42.9	+0.7
STCH	**Steam Cracks**	**0.09**	**295**			Pg	00 46 41.3	+0.5
STCH					Sg	Sg	00 46 43.1	+0.7
STCH					IAML		00 46 43.4	
	comp=E,8μm,0.2s							
STCH					IAML		00 46 44.3	
	comp=N,7μm,0.3s							
JOKA	**Jonika Flow**	**0.09**	**22**			Pg	00 46 41.2	+0.3
JOKA					Sg	Sg	00 46 43.2	+0.9
JOKA					IAML		00 46 43.5	
	comp=E,10μm,0.5s							
KNHH	**Kane Nui o Ham**	**0.13**	**284**			Pg	00 46 41.9	+0.5
PUH	**Pauahi**	**0.17**	**279**			Pg	00 46 42.5	+0.3
PUH					Sg	Sg	00 46 45.3	+0.7
BYL	**Byron's Ledge**	**0.22**	**287**			Pg	00 46 43.3	+0.2
BYL					Sg	Sg	00 46 46.5	+0.5
BYL					IAML		00 46 50.2	
	comp=N,2μm,0.6s							
KKO	**Keanakako'i**	**0.22**	**283**			Pg	00 46 43.4	+0.3
KKO						Sg	00 46 47.0	+0.9
HATHI	**Halema'uma'u T**	**0.22**	**290**			Pg	00 46 43.4	+0.2
RIM	**Rim**	**0.23**	**282**			Pg	00 46 43.5	+0.3
RIM						Sg	00 46 46.8	+0.5
SBLHI	**Steaming Bluff**	**0.23**	**290**			Pg	00 46 43.4	+0.1
SBLHI						Sg	00 46 47.1	+0.7
UWB	**Uwekahuna Bluf**	**0.24**	**289**			Pg	00 46 43.5	+0.1
UWB						Sg	00 46 47.2	+0.6
OBL	**Observatory Le**	**0.24**	**287**			Pg	00 46 43.7	+0.2
SDHHI	**Sand Hill**	**0.24**	**280**			Pg	00 46 43.8	+0.2
SDHHI						Sg	00 46 47.5	+0.7
UWE	**Uwekahuna**	**0.25**	**287**			Pg	00 46 43.9	+0.2
UWE					Sg	Sg	00 46 48.7	+1.7
UWE					IAML		00 46 52.2	
	comp=N,2μm,0.3s							
UWE					IAML		00 46 52.2	
	comp=E,3μm,0.3s							
RSD	**Rainshed**	**0.25**	**297**			Pg	00 46 44.0	+0.3
RSD						Sg	00 46 47.8	+0.6
WRMHI	**West Rim**	**0.25**	**283**			Pg	00 46 43.8	+0.1
WRMHI						Sg	00 46 47.6	+0.5
HLP	**Hilina Pali**	**0.26**	**258**			Pg	00 46 44.3	+0.5
HLP					Sg	Sg	00 46 48.7	+1.4
HLP					IAML		00 46 50.0	
	comp=E,2μm,0.2s							
HTC	**Hot Caves**	**0.35**	**252**			Pg	00 46 46.0	+0.3
MLH	**Mauna Loa**	**0.36**	**294**			Pg	00 46 46.2	+0.4
AIN	**Ainahou**	**0.40**	**273**			Sg	00 46 52.5	+0.9
AIN	**Ainahou**	**0.40**	**273**			Pg	00 46 46.7	+0.2
AIN					IAML		00 46 54.4	
	comp=N,13μm,0.4s							
AIN					IAML		00 46 54.4	
	comp=E,7μm,0.3s							
MWH	**Mokuaweoweo**	**0.54**	**285**			Sg	00 46 56.3	-0.2
MWH	**Mokuaweoweo**	**0.54**	**285**			Pg	00 46 49.0	-0.3
MWH					IAML		00 47 06.3	
	comp=N,1μm,0.5s							
MWH					IAML		00 47 07.5	
	comp=E,2μm,0.7s							
HPO	**Honuapo**	**0.55**	**242**			Pg	00 46 49.2	-0.2
HPO	**Honuapo**	**0.55**	**242**			Sg	00 46 56.5	0.0
KHU	**Kahuku**	**0.55**	**259**			Pg	00 46 48.8	-0.6
KHU						Sg	00 46 56.5	-0.2
ALEP	**Alea Permanent**	**0.60**	**289**			Pg	00 46 49.6	-0.8
ALEP						Sg	00 46 57.3	-1.0
POHA	**Pohakuloa**	**0.62**	**311**			Pg	00 46 50.0	-0.7
POHA					IAML		00 47 04.1	
	comp=E,1μm,0.5s							
POHA					IAML		00 47 05.5	
	comp=E,803nm,0.4s							
POHA	**Pohakuloa**	**0.62**	**311**			Sg	00 46 58.4	-0.4
HUH	**Hualalai**	**0.82**	**294**			Pg	00 46 53.1	-1.5
HUH	**Hualalai**	**0.82**	**294**			Sg	00 47 03.7	-1.6
HPAH	**Hawaii Prepara**	**0.92**	**318**			Pg	00 46 53.6	-2.8
HPAH	**Hawaii Prepara**	**0.92**	**318**			Sg	00 47 06.7	-1.6
HPAH					IAML		00 47 08.9	
	comp=N,374nm,0.3s							
WMR	**Waimanalo Ridg**	**3.16**	**309**			Pn	00 47 24.9	-4.1

*IDC **28** 00:50:58.8±7.1, 17°.68S×178°.37W, h615km±79km, mb2.7/4, mbtmp3.7/4, Error ellipse: s-maj=109.1km s-min=36.1km az=152.0*
ISC 28 00:50:57.5±1.9, **17'.5S**±0'.7×**178'.4W**±0'.4, **h600**km, **n7**, σ0**'78**/8, **mb3.2**/4, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
WRA	**Warramunga Arr**	**44.69**	**259**	P		**P**	**00 58 19.4**	**+0.6**
	0.5nm,0.4s,baz=95,slow=7.1,SNR=21							
	0.5nm,0.4s							
ASAR	**Alice Springs**	**44.88**	**254**	P		**P**	**00 58 20.4**	**+0.2**
	1.0nm,0.4s,baz=90,slow=7.9,SNR=17							
ASAR				PcP		**PcP**	**00 59 47.5**	**-1.1**
	0.1nm,0.3s,baz=104,slow=3.6,SNR=4.1							
	1.0nm,0.4s							
ILAR	**Eielson Array**	**85.54**	**13**	P		**P**	**01 02 32.7**	**-0.1**
	0.2nm,0.5s,baz=203,slow=5.0,SNR=2.6							
	0.2nm,0.5s							
TXAR	**Lajitas Array**	**85.81**	**58**	P		**P**	**01 02 35.6**	**+0.6**
	0.2nm,0.6s,baz=207,slow=5.2,SNR=4.1							
	0.2nm,0.6s							
BRTR	**Keskin Array B**	**144.52**	**315**	PKP		**PKPdf**	**01 09 26.7**	**-0.3**
	0.4nm,0.6s,baz=90,slow=3.0,SNR=3.8							
MMAI	**Mount Meron Ar**	**145.93**	**303**	PKPbc		**PKPbc**	**01 09 32.0**	**+0.5**
	0.7nm,0.4s,baz=72,slow=8.0,SNR=4.4							
GERES	**GERESS Array B**	**147.26**	**345**	PKPbc		**PKPbc**	**01 09 33.8**	**-0.8**
	0.4nm,0.5s,baz=323,slow=2.0,SNR=4.2							

*IDC **28** 00:53:25.3±0.9, 29°.81N×141°.12E, h0km, mb3.5/6, mbtmp3.5/8, ML3.1/2, Error ellipse: s-maj=42.1km s-min=20.3km az=79.0*
*JMA **28** 00:53:31.2±0.2, 30°.N±1°×14°2E±°, h54km, MV3.9/20, NEAR TORISHIMA IS*
ISC 28 00:53:31.1±0.7, **30'.17N**±0'.06×**141'.5E**±0'.2, **h35**km, **n15**, σ2**'57**/17, **mb3.5**/6, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JAOM	**Aogashimamukai**	**2.74**	**327**	*eS*		**Sn**	**00 54 45.3**	**+0.7**
CBIJ	**Chichi jima**	**3.11**	**169**	*eP*		**Pn**	**00 54 19.8**	**+2.1**
CBIJ					*eS*	**Sn**	**00 54 53.6**	**-0.2**
JCJ	**Chichijima**	**3.11**	**169**	Pn		Pn	00 54 11.1	-6.7
	5.1nm,0.3s,baz=14,slow=23,SNR=13							
JCJ					Sn	Sn	00 54 44.7	-9.0
	26nm,0.3s,baz=281,slow=23,SNR=7.5							
	21nm,0.4s							
JHJ2	**Mitsune**	**3.28**	**334**	*eP*		**Pn**	**00 54 21.4**	**+1.4**
JHJ2					*eS*	**Sn**	**00 54 57.9**	**+0.2**
JHH2	**Haha-jima-NKT2**	**3.57**	**171**	*eS*		**Sn**	**00 55 06.2**	**+1.3**
BSO1	**Boso 1**	**4.50**	**354**	*eS*		**Sn**	**00 55 26.7**	**-0.4**
JHO	**Hitachi**	**6.48**	**353**	*eP*		**Pn**	**00 55 05.0**	**+1.1**
JHO					*eS*	**Sn**	**00 56 11.8**	**-4.8**
MJAR	**Matsushiro Arr**	**6.94**	**337**	Pn		**Pn**	**00 55 11.8**	**+1.5**
	0.2nm,0.3s,baz=162,slow=11,SNR=14							
	1.0nm,0.4s							
JMK	**Ichinoseki**	**8.77**	**358**	*eS*		**Sn**	**00 57 08.2**	**-4.8**
WRA	**Warramunga Arr**	**50.30**	**189**	P		**P**	**01 02 20.9**	**-3.4**
	0.2nm,0.4s,baz=4.5,slow=7.6,SNR=6.8							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**50.51**	**313**	P		**P**	**01 02 23.9**	**-1.8**
	0.2nm,0.5s,baz=91,slow=6.9,SNR=2.3							
	0.2nm,0.5s							
ASAR	**Alice Springs**	**54.02**	**189**	P		**P**	**01 02 48.9**	**-3.2**
	0.1nm,0.4s,baz=4.5,slow=6.1,SNR=1.8							
	0.1nm,0.4s							
FINES	**FINESS Array B**	**74.95**	**333**	P		**P**	**01 05 08.9**	**+0.6**
	1.8nm,1.0s,baz=60,slow=4.6,SNR=7.3							
	1.8nm,1.0s							
NVAR	**Mina Array Bea**	**79.08**	**52**	P		**P**	**01 05 34.5**	**+2.2**
	0.2nm,0.5s,baz=279,slow=7.6,SNR=3.7							
	0.2nm,0.5s							
TXAR	**Lajitas Array**	**94.22**	**53**	P		**P**	**01 06 49.2**	**+2.2**
	0.3nm,0.7s,baz=308,slow=4.6,SNR=4.8							
	0.3nm,0.7s							

AUST 28 00:53:36.7±0.8, **18°S**±7°×**12°0E**±°, **h10**km, **mb4.2**/2, **ML2.6**/3, **ML3.1**/3, **Error ellipse: s-maj=20.0km s-min=10.4km az=134.4, Western Australia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
AUBRM	**Broome Senior**	**1.84**	**74**	S		Sn	00 54 32.4	+0.8
MBWA	**Marble Bar**	**2.75**	**193**	P		Pn	00 54 21.6	+0.7
MBWA				S		Sn	00 54 54.8	+0.6
PSA00	**Pilbara Seismi**	**3.13**	**189**	P		Pn	00 54 27.1	+0.9
PSA00				S		Sn	00 55 03.5	-0.2
FITZ	**Fitzroy Crossi**	**5.02**	**87**	P		Pn	00 54 51.6	-0.5
GIRL	**Giralia**	**7.10**	**233**	P		Pn	00 55 19.8	-0.8
	comp=Z,94μmcomp=Z,44nm,1.3s,comp=Z,0.1nm							
MEEK	**Meekatharra**	**8.30**	**191**	P		Pn	00 55 37.8	+0.6
	comp=Z,13nm,1.9s,comp=Z,0.1nm							

*SNET **28** 01:08:25.8±2.1, 13°.01N×89°.32W, h46km, ML4.3*
*GCG **28** 01:08:28.0±0.9, 13°.18N×89°.26W, h50km±5km, MD3.7, ML4.2*
*CATAC **28** 01:08:28.2±0.2, 13°N±1°×8°9W±°, h35km±2km, M4.4/58, mb4.5/5, MLv4.3/58, Error ellipse: s-maj=3.6km s-min=1.5km az=30.6, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.49; $M_{\theta\theta}$-1.96; $M_{\phi\phi}$ 1.47; $M_{r\theta}$0.25; $M_{\phi\theta}$0.24; $M_{\phi r}$-0.11; Fault plane solution: $M_0$1.80473×10^{15} NP1:ϕ_s318.85478°, δ89.70798°, λ-172.06040°. NP2:ϕ_s228.81406°, δ82.06051°, λ-0.29485°. Principal axes: T 1.4937, Plg5.3976°, Azm93.5591°; N 0.5116, Plg82.0551°, Azm320.9477°; P -2.0053, Plg5.8126°, Azm184.1102°; confirmed*
*UCR **28** 01:08:37.9±1.1, 12°.93N×88°.64W, h89km±68km, MW3.9*
ISC 28 01:08:28.2±1.2, **13'.14N**±0'.04×**89'.25W**±0'.03, **h41**km±11km, **n159**, σ1**'21**/199, **1C-4D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
LALI	**Alcalda de L**	**0.35**	**348**	*eP*		**Pn**	**01 08 37.5**	**+0.3**
LALI					*eS*	**Sn**	**01 08 44.4**	**+0.9**
LALI	**Alcalda de L**	**0.35**	**348**	*iP*		**Pn**	**01 08 37.5**	**+0.3**
LALI					*iS*	**Sn**	**01 08 44.3**	**+0.9**
LALI	**Alcalda de L**	**0.35**	**348**	P		**Pn**	**01 08 37.5**	**+0.3**
PANCS	**Alcalda de**	**0.47**	**8**	P		**Pn**	**01 08 38.8**	**+0.1**
PANCS	**Alcalda de**	**0.47**	**8**	S		**Sn**	**01 08 47.1**	**+1.1**
LOMA	**Loma Larga**	**0.50**	**8**	*iP*		**Pn**	**01 08 39.2**	**-0.1**
LOMA					*eS*	**Sn**	**01 08 48.2**	**+1.3**
LOMA	**Loma Larga**	**0.50**	**8**	P		**Pn**	**01 08 39.1**	**-0.1**
LFRS	**El Faro**	**0.51**	**21**	*iP*		**Pn**	**01 08 39.3**	**0.0**
JAYA	**Jayaque - finc**	**0.55**	**339**	*eP*		**Pn**	**01 08 39.6**	**-0.2**
JAYA					*eS*	**Sn**	**01 08 48.0**	**0.0**
JAYA	**Jayaque - finc**	**0.55**	**339**	*iP*		**Pn**	**01 08 39.6**	**-0.2**
JAYA					*iS*	**Sn**	**01 08 47.8**	**-0.1**
JAYA	**Jayaque - finc**	**0.55**	**339**	P		**Pn**	**01 08 39.8**	**0.0**
JAYA	**Jayaque - finc**	**0.55**	**339**	S		**Sn**	**01 08 48.4**	**+0.5**
UTEC	**Universidad Te**	**0.56**	**4**	*eP*		**Pn**	**01 08 40.0**	**+0.2**
UTEC					*eS*	**Sn**	**01 08 49.1**	**+1.1**
UTEC	**Universidad Te**	**0.56**	**4**	P		**Pn**	**01 08 40.1**	**+0.2**
AEIL	**Aeropuerto Ilo**	**0.56**	**13**	*iP*		**Pn**	**01 08 40.3**	**+0.3**
AEIL					*eS*	**Sn**	**01 08 49.6**	**+1.3**
PMON	**Piamonte**	**0.57**	**353**	*iP*		**Pn**	**01 08 40.0**	**0.0**
PMON					*eS*	**Sn**	**01 08 49.6**	**+1.2**
PMON	**Piamonte**	**0.57**	**353**	P		**Pn**	**01 08 40.1**	**+0.1**
UEES	**Universidad Ev**	**0.57**	**1**	*eP*		**Pn**	**01 08 40.0**	**0.0**
UEES					*eS*	**Sn**	**01 08 49.7**	**+1.3**
UEES	**Universidad Ev**	**0.57**	**1**	P		**Pn**	**01 08 40.1**	**+0.1**
IGN	**Direccin Gen**	**0.57**	**7**	*eP*		**Pn**	**01 08 40.2**	**+0.2**
IGN					*eS*	**Sn**	**01 08 49.8**	**+1.4**
IGN	**Direccin Gen**	**0.57**	**7**	P		**Pn**	**01 08 40.3**	**+0.2**
IGN	**Direccin Gen**	**0.57**	**7**	S		**Sn**	**01 08 50.1**	**+1.7**
UDBS	**Universidad Do**	**0.57**	**9**	*eP*		**Pn**	**01 08 40.2**	**+0.2**
UDBS					*eS*	**Sn**	**01 08 50.0**	**+1.5**
UDBS	**Universidad Do**	**0.57**	**9**	P		**Pn**	**01 08 40.3**	**+0.2**
UESS	**Universidad de**	**0.57**	**4**	*eP*		**Pn**	**01 08 40.4**	**+0.3**
BOQS	**Boqueron**	**0.59**	**357**	*iP*		**Pn**	**01 08 40.5**	**+0.1**
PIC2	**El Picacho**	**0.60**	**359**	*eP*		**Pn**	**01 08 40.8**	**+0.2**
PIC2					*eS*	**Sn**	**01 08 51.2**	**+1.9**
TECO	**Alcaldia de Te**	**0.60**	**49**	*eP*		**Pn**	**01 08 40.1**	**-0.3**
TECO					*eS*	**Sn**	**01 08 49.6**	**+0.6**
TECO	**Alcaldia de Te**	**0.60**	**49**	P		**Pn**	**01 08 40.2**	**-0.2**
SNVI	**San Vicente**	**0.61**	**40**	*eP*		**Pn**

TGUH	Tegucigalpa,Un	2.12	64	P		Pn	01 09 00.9	-0.4
TGUH				S		Sn	01 09 26.5	-0.1
CRIN	San Cristobal	2.19	101	eP		Pn	01 09 02.8	+0.7
CRIN	San Cristobal	2.19	101	P		Pn	01 09 02.8	+0.7
CRIN	San Cristobal	2.19	101	S		Sn	01 09 29.2	+1.2
QUEN	Al S del Volca	2.40	103	P		Pn	01 09 05.0	-0.1
TEL3	Telica 3	2.41	103	P		Pn	01 09 03.1	-2.0
HERN	Volcan Telica	2.41	102	P		Pn	01 09 05.0	-0.3
HOYN	Al Sur del Vol	2.42	103	P		Pn	01 09 05.8	+0.5
POLN	Al Sur del Vol	2.42	101	P		Pn	01 09 05.0	-0.3
POLN				S		Sn	01 09 32.0	-1.8
YUSH	Yuscaran	2.47	71	S		Sn	01 09 05.8	-0.3
YUSH	Yuscaran	2.47	71	S		Sn	01 09 36.1	+0.9
PLRN	Geotermica Pol	2.48	103	P		Pn	01 09 05.9	-0.2
PLRN				S		Sn	01 09 33.1	-2.1
CNGA	Al SSO del Vol	2.56	104	P		Pn	01 09 06.9	-0.4
CNGA				S		Sn	01 09 37.2	-0.1
CNGN	Cerro Negro	2.56	104	P		Pn	01 09 07.4	+0.1
CNGN	Cerro Negro	2.56	104	S		Sn	01 09 38.2	+0.9
OCON	Estacion meteo	2.74	79	P		Pn	01 09 09.3	-0.5
OCON				S		Sn	01 09 41.4	-0.2
MOMN	Momotombo	2.74	105	P		Pn	01 09 09.8	+0.1
MOMN				S		Sn	01 09 42.0	+0.3
RTAL	Retalhuleu	2.75	300	P		Pn	01 09 15.9	+6.1
RTAL	Retalhuleu	2.75	300	S		Sn	01 09 44.7	+3.0
COPN	Copaltepe	2.76	110	eP		Pn	01 09 09.2	-0.8
COPN				eS		Sn	01 09 38.7	-3.5
COPN	Copaltepe	2.76	110	P		Pn	01 09 09.9	-0.1
MOM2	El Cardon	2.78	104	P		Pn	01 09 09.7	-0.5
MOM2				S		Sn	01 09 43.2	+0.6
APQ3	Volcan Apoyequ	2.94	107	P		Pn	01 09 13.9	+1.5
APQ3				S		Sn	01 09 47.6	+1.1
SAPS	Ciudad Sandino	2.94	109	P		Pn	01 09 13.5	+1.1
SAPS	Ciudad Sandino	2.94	109	S		Sn	01 09 45.1	-1.3
APQ2	Apoyeque	3.00	108	P		Pn	01 09 13.5	+0.2
APQ2				S		Sn	01 09 47.1	-1.0
RCVN	Varillal2	3.00	81	P		Pn	01 09 13.5	0.0
RCVN	Varillal2	3.00	81	S		Sn	01 09 47.4	-0.9
TISN	Laguna Tiscapa	3.07	109	P		Pn	01 09 14.3	0.0
UNAN	Cigeo UNAN	3.08	109	P		Pn	01 09 15.1	+0.8
UNAN				S		Sn	01 09 51.7	+1.7
MGAN	Managua	3.09	108	P		Pn	01 09 14.4	-0.1
MGAN	Managua	3.09	108	S		Sn	01 09 48.5	-1.8
RCPN	Sur Rio San Ju	3.09	83	P		Pn	01 09 12.9	-1.8
WILN	Americas 2	3.14	108	P		Pn	01 09 14.3	-0.9
WILN				S		Sn	01 09 49.6	-1.9
MATN	Matagalpa	3.24	93	P		Pn	01 09 15.0	-1.7
MATN	Matagalpa	3.24	93	S		Sn	01 09 53.2	-0.9
NANN	Nandasmo	3.28	111	P		Pn	01 09 19.5	+2.4
NANN	Nandasmo	3.28	111	S		Sn	01 09 55.8	+0.9
BOAB	BOACO BROADBAN	3.56	101	P		Pn	01 09 16.7	-1.3
BOAB	BOACO BROADBAN	3.56	101	S		Sn	01 10 03.8	+2.0
PETF	Flores	3.80	351	P		Pn	01 09 25.2	+1.0
JAPN	Al SSO del Vol	3.84	114	eP		Pn	01 09 25.9	+1.1
JAPN	Al SSO del Vol	3.84	114	P		Pn	01 09 27.2	+2.4
ACON	Acoyapa	4.14	106	P		Pn	01 09 29.3	+0.3
ACON	Acoyapa	4.14	106	S		Sn	01 10 17.3	+1.1
CCIG	Comitan	4.19	318	P		Pn	01 09 29.4	-0.4
ELI1	Hacienda Flor	4.38	124	P		Pn	01 09 34.7	+2.4
ELI1	Hacienda Flor	4.38	124	S		Sn	01 10 23.7	+1.5
SIUN	Universidad Ur	4.39	82	P		Pn	01 09 32.2	-0.2
SIUN				S		Sn	01 10 22.7	+0.5
LAPC	Finca la Perla	4.42	122	eP		Pn	01 09 35.4	+2.6
JUD3	Juan Diaz 3	4.68	129	eP		Pn	01 09 37.8	+1.3
CUI	Cuipilapa	4.70	121	eP		Pn	01 09 38.6	+1.9
CMARA	Lajas Hojancha	4.86	129	P		Pn	01 09 39.8	+0.8
CMARA	Lajas Hojancha	4.86	129	S		Sn	01 10 32.2	-1.9
JTS	Las Juntas de	5.07	124	eP		Pn	01 09 44.1	+2.3
JTS	Las Juntas de	5.07	124	P		Pn	01 09 49.1	+7.3
VARE2	V. Arenal	5.17	121	eP		Pn	01 09 45.5	+2.3
SOCE	Pocosol	5.30	121	P		Pn	01 09 45.5	+0.6
PAR1A	Puntarenas Pro	6.03	125	eP		Pn	01 09 57.7	+2.7
PICV	PH. Pirrs	6.06	125	eP		Pn	01 09 57.2	+1.8
ABRB	Las Abras (San	6.25	119	eP		Pn	01 10 02.2	+4.0
VERH	Veragua Rainfo	6.74	118	eP		Pn	01 10 08.2	+3.5
SAJE	San Jernim	6.78	123	eP		Pn	01 10 07.9	+2.6
DRK0	Durika	7.04	123	eP		Pn	01 10 11.5	+2.6
DRK0	Durika	7.04	123	P		Pn	01 10 10.1	+1.2
TEIG	Tepich	7.11	7	P		Pn	01 10 09.9	+0.3
EDP2	Potrero Grande	7.23	124	eP		Pn	01 10 14.7	+3.2
ALCO	Alturas Coton,	7.55	123	eP		Pn	01 10 19.1	+3.1
CLLRA	Cordillera,	7.84	123	eP		Pn	01 10 22.8	+2.8

*SNET **28** 01:11:40.4±0.6, 13°.95N×90°.02W, h3km±2km, ML2.2*
*GCG **28** 01:11:40.7±0.3, 13°.99N×89°.99W, h6km±2km, MD3.3*
ISC 28 01:11:39.5±4.6, **13°.9N**±0°.1×**90°.1W**±0°.2, **h17**km±12km, **n8, σ0s22/13, 1C-1D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	Las Nubes	0.30	98	⇓P	Pg	01 11 46.1	+0.1
NUBE				eS	Sg	01 11 50.3	-0.2
NUBE				IAML		01 11 51.0	
	comp=Z,879nm,0.3s						
NUBE	Las Nubes	0.30	98	*i* P	Pg	01 11 46.1	+0.1
NUBE				*i* S	Sg	01 11 50.3	-0.2
LOAL	Lomas de Alarc	0.30	80	eP	Pg	01 11 46.3	+0.3
LOAL				eS	Sg	01 11 50.1	-0.3
SLOZ	Alcaldia de Sa	0.30	74⇑	eP	Pg	01 11 46.2	+0.2
SLOZ				eS	Sg	01 11 50.6	+0.1
SLOZ				IAML		01 11 53.0	
	comp=Z,285nm,0.3s						
RTR	El Retiro	0.43	96	eP	Pb	01 11 48.8	+0.1
SNJE	San Jose	0.47	99	eP	Pb	01 11 49.5	+0.1
JAYA	Jayaque - finc	0.68	115	*i* P	Pg	01 11 52.8	-0.1
JAYA				*i* S	Sb	01 12 02.3	+0.1
MTO3	Montecristo	0.83	57	*i* P	Pb	01 11 55.4	-0.3

IDC 28 01:20:40.1±8.0, **31°.16S**×**179°.39W, h111**km±63km, **mb3.4/3, mbtmp3.8/4, Error ellipse: s-maj=59.2km s-min=28.4km az=48.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.64	201	P	Pn	01 22 29.7	+1.0
URZ	9.1nm,1.0s,baz=65,slow=5.1,SNR=2.4			S	Sn	01 23 52.5	-1.1
	8.1nm,0.7s,baz=316,slow=17,SNR=6.4						
ASAR	Alice Springs	41.88	268	P	P	01 28 19.6	0.0
	0.5nm,0.5s,baz=107,slow=7.6,SNR=7.9						
	0.5nm,0.5s						
WRA	Warramunga Arr	42.94	274	P	P	01 28 28.2	0.0
	0.5nm,0.3s,baz=111,slow=8.1,SNR=14						
	0.5nm,0.3s						
QSPA	South Pole Qui	58.95	180	P	P	01 30 27.8	+0.3
	0.9nm,0.6s,baz=46,slow=1.1,SNR=7.2						
	0.9nm,0.6s						
FINES	FINESS Array B	145.43	339	PKPbc	PKPdf	01 40 02.9	-1.2
	0.4nm,0.4s,baz=44,slow=4.0,SNR=9.0						

*IDC **28** 01:54:27.6±1.2, 30°.84N×141°.12E, h178km±8km, mb3.4/6, mbtmp3.9/10, Error ellipse: s-maj=64.6km s-min=8.7km az=72.0*
*JMA **28** 01:54:30.0±0.3, 31°N±1°×14°0E±°, h211km±3km, MV3.4/40, NEAR TORISHIMA IS*
ISC 28 01:54:31.4±0.8, **30°.86N**±0°.06×**140°.3E**±0°.1, **h200**km, **n24, σ1s00/27, mb3.6/6, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	2.24	350	eP	Pn	01 55 12.8	+0.4
JHCJ				eS	Sn	01 55 43.9	-0.8
JHJ2	Mitsune	2.28	351	P	Pn	01 55 13.4	+0.6
JHJ	Hachijo jima 2	2.29	350	P	Pn	01 55 12.5	-0.5
	78nm,0.4s,baz=358,slow=18,SNR=4.7						
JHJ				S	Sn	01 55 44.2	-1.3
	81nm,0.4s,baz=63,slow=23,SNR=2.9						
BSO1	Boso 1	3.83	9	P	Pn	01 55 31.1	+0.6
BSO1				eS	Sn	01 56 15.6	-1.6
TTO1	TONANKAI O.B.S	4.03	314	eP	Pn	01 55 32.7	-0.6
CBIJ	Chichi jima	4.11	155	eP	Pn	01 55 33.6	-0.9
CBIJ				eS	Sn	01 55 32.8	-1.5
JCJ	Chichijima	4.11	155	P	Pn	01 55 25.0	-10
	57nm,0.8s,baz=1.8,slow=20,SNR=15						
JCJ				S	Sn	01 56 13.4	-11
	69nm,0.3s,baz=15,slow=23,SNR=15						
JHMK	Hamakita	4.47	333	eP	Pn	01 55 38.8	-0.1
JOD2	Odawara 2	4.50	348	P	Pn	01 55 40.2	+0.7
HMMJ	Hamamatsu 2	4.52	332	eP	Pn	01 55 39.6	-0.1
JNY	Yasuok	4.92	336	eP	Pn	01 55 45.1	+0.3
JTNC	Tanabenakahech	4.92	308	P	Pn	01 55 43.8	-1.0
JAO	Obara	5.07	331	eP	Pn	01 55 46.9	+0.2
JAG	Ashikaga	5.59	353	eP	Pn	01 55 51.6	-1.8
JHO	Hitachi	5.74	2	eP	Pn	01 55 53.9	-1.4
MJAR	Matsushiro Arr	5.92	344	P	Pn	01 55 55.5	-2.1
	1.8nm,0.4s,baz=162,slow=12,SNR=15						
KSRS	Korea Array	12.15	306	P	P	01 57 22.6	0.0
	1.1nm,0.5s,baz=115,slow=11,SNR=6.4						
WRA	Warramunga Arr	50.83	187	P	P	02 03 11.2	-0.5
	0.5nm,0.7s,baz=4.0,slow=7.4,SNR=7.0						
	0.5nm,0.7s						
FINES	FINESS Array B	73.84	333	P	P	02 05 44.6	+0.8
	0.8nm,0.4s,baz=61,slow=4.5,SNR=22						
	0.8nm,0.4s						
AKASG	Malin Array Be	78.60	323	P	P	02 06 11.4	+0.6
	0.8nm,0.5s,baz=55,slow=4.0,SNR=5.5						
	0.8nm,0.5s						
HFS	Hagfors	79.31	336	P	P	02 06 15.1	+0.7
	1.0nm,0.6s,baz=68,slow=6.0,SNR=6.6						
	1.0nm,0.6s						
NB2	NORSAR Subarra	79.50	337	P	P	02 06 16.2	+0.6
	comp=Z,0.4nm,0.5s,baz=51,slow=5.6						
NOA	NORSAR Array B	79.50	337	P	P	02 06 16.1	+0.5
	comp=Z,0.7nm,0.7s,baz=47,slow=5.2,SNR=4.7						
	comp=Z,0.7nm,0.7s						
BRTR	Keskin Array B	82.23	312	P	P	02 06 31.8	+1.2
	comp=Z,0.2nm,0.3s,baz=60,slow=8.5,SNR=2.9						
	comp=Z,0.2nm,0.3s						

*SOME **28** 02:29:28.3, 44°.13N×86°.20E, h15km*
*NNC **28** 02:29:31.7±1.8, 43°.86N×86°.12E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=13.5km s-min=7.9km az=110.0*
ISC 28 02:29:31.0±2.7, **44°.24N**±0°.08×**86°.0E**±0°.1, **h17**km, **n13, σ3s14/17, 3C-7D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	Zaisan	3.30	347	Pg	Pg	02 30 31.2	-3.1
	5.8nm,0.2s						
ZSN				Lg	Lg	02 31 16.5	
	9.6nm,0.2s						
ZSN	Zaisan	3.30	347	eP	Pg	02 30 31.2	-3.1
	5.8nm,0.2s						
ZSN				eS	Sg	02 31 16.5	-0.4
	9.6nm,0.2s						
MK31	Makanchi Array	3.63	316	⇓Pn	Pb	02 30 34.7	0.0
	2.3nm,0.3s,baz=234,slow=16,SNR=57						
MK31				⇓Sn	Sb	02 31 22.9	+4.4
	1.6nm,0.3s,baz=129,slow=27,SNR=5.1						
MK31				⇓Lg	Lg	02 31 38.0	
	3.6nm,0.3s,baz=131,slow=27,SNR=8.3						
MAKZ	Makanchi	3.80	314	Pn	Pb	02 30 36.8	-0.9
	5.1nm,0.3s						
MAKZ				⇓Sn	Sb	02 31 26.0	+2.5
	7.4nm,0.5s						
MAKZ				Lg	Lg	02 31 44.4	
	16nm,0.9s						
KTMS	Ketmen	4.14	261	Pg	Pb	02 30 46.5	+2.9
	0.9nm,0.2s						
KTMS				Lg	Lg	02 31 42.8	
	3.5nm,0.2s						
KTMS	Ketmen	4.14	261	eP	Pb	02 30 46.5	+2.9
	0.9nm,0.2s						
KTMS				eS	Sg	02 31 42.8	-1.2
	3.5nm,0.2s						
PDGK	Podgornoye	4.78	261	⇑Pn	Pn	02 30 46.0	+3.7
	1.4nm,0.7s						
PDGK				⇓Sn	Sb	02 31 45.8	-5.9
	5.1nm,0.6s						
PDGK				⇓Lg	Lg	02 32 06.7	
	15nm,0.9s						
SHLS	Shalkode	4.84	259	Pg	Pb	02 30 54.3	-1.1
	4.9nm,0.2s						
SHLS				Lg	Lg	02 31 56.1	
	22nm,0.3s						
SHLS	Shalkode	4.84	259	eP	Pb	02 30 54.3	-1.1
	4.9nm,0.2s						
SHLS				eS	Sb	02 31 56.1	+2.7
	22nm,0.3s						
KPKS	Kokpek	5.33	264	Pg	Pg	02 31 10.7	-2.3
	0.3nm,0.2s						
KPKS				Lg	Lg	02 32 24.4	
	11nm,0.4s						
KTBS	Karatobe	6.72	269	Pg	Pg	02 31 36.4	-3.3
	0.8nm,0.3s						
KTBS				Lg	Lg	02 33 08.5	
	6.3nm,0.5s						
KURBB	Kurchatov Arra	8.13	324	⇓Lg	Lg	02 34 01.0	
	13nm,0.8s						
KURK	Kurchatov	8.16	325	⇑Pn	Pn	02 31 35.8	+7.2
	1.3nm,0.5s						
KURK				⇑Lg	Lg	02 34 02.7	
	3.3nm,0.6s						

*NEIC **28** 02:40:16.3±2.0, 22°.5S±0°.1×177°.8W±0°.1, h324km±10km, mb4.0/11, Error ellipse: s-maj=17.9km s-min=12.6km az=133.0*
*IDC **28** 02:40:26.2±6.5, 22°.42S×178°.12W, h435km±68km, mb3.3/8, mbtmp4.1/9, Error ellipse: s-maj=64.5km s-min=25.9km az=153.0*
ISC 28 02:40:17.7±0.6, **22°.4S**±0°.1×**177°.80W**±0°.08, **h352**km, **n29, σ1s31/28, mb3.8/15, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.08	319		Pn	02 41 48.5	-1.2
NIUE	Niue	8.08	67		Pn	02 42 11.2	-1.6
DZM	Mont Dzumac	14.60	268	P	Pn	02 43 31.8	+1.7
DZM	Mont Dzumac	14.60	268	P	Pn	02 43 31.4	+1.3
	13nm,0.9s,baz=75,slow=19,SNR=10						
URZ	Urewera	16.39	194	S	S	02 46 38.6	-2.2
	14nm,0.6s,baz=67,slow=22,SNR=13						
CTAO	Charters Tower	33.54	267	P	P	02 46 25.9	0.0
CTAO				IAmb	IAmb	02 46 40.6	
	comp=Z,20nm,1.4s						
PMG	Port Moresby	35.99	285	P	P	02 46 46.7	0.0
	comp=Z,22nm,0.8s,baz=28,slow=2.0,SNR=4.3						
	comp=Z,22nm,0.8s						
STKA	Stephens Creek	37.16	246	P	P	02 46 56.0	-0.4
STKA	Stephens Creek	37.16	246	P	P	02 46 55.9	-0.5
	comp=Z,0.9nm,0.4s,baz=76,slow=9.7,SNR=3.2						
	comp=Z,0.9nm,0.4s						
BBOO	Buckleboo	41.90	245	P	P	02 47 34.0	-1.1
BBOO				IAmb	IAmb	02 48 04.8	
	comp=Z,28nm,1.4s						
ASAR	Alice Springs	44.30	259	P	P	02 47 53.8	-0.4
	comp=Z,1.1nm,0.9s,baz=84,slow=8.9,SNR=9.9						
	comp=Z,1.1nm,0.9s						
WR8	Warramunga Arr	44.41	264	P	P	02 47 54.4	-0.7
WR8				IAmb	IAmb	02 48 20.4	
	comp=Z,6.2nm,1.4s						
WRA	Warramunga Arr	44.56	264	P	P	02 47 55.2	-1.1
WRA	Warramunga Arr	44.56	264	P	P	02 47 54.9	-1.4
	comp=Z,0.9nm,0.7s,baz=96,slow=8.3,SNR=12						
	comp=Z,0.9nm,0.7s						
FITZ	Fitzroy Crossi	52.99	264	P	P	02 48 59.2	-0.5
RPN	Rapa Nui	61.66	110	P	P	02 49 58.7	-1.0
CASY	Casey	62.32	206	P	P	02 50 03.8	+0.5
CASY				IAmb	IAmb	02 50 04.5	
	comp=Z,2.3nm,1.1s						
QSPA	South Pole Qui	67.66	180	P	P	02 50 39.6	+2.1
QSPA				IAmb	IAmb	02 50 50.6	
	comp=Z,3.8nm,1.4s						
NVAR	Mina Array Bea	82.28	43	P	P	02 52 02.5	+1.5
NVAR	Mina Array Bea	82.28	43	P	P	02 52 01.9	+0.9
	comp=Z,1.1nm,0.7s,baz=221,slow=8.8,SNR=8.9						
	comp=Z,1.1nm,0.7s						
MTPU	Mount Pierson	86.04	46	P	P	02 52 22.3	+2.4
MTPU				IAmb	IAmb	02 52 23.0	
	comp=Z,1.8nm,0.8s						
MNTX	Cornudas Mount	87.70	54	P	P	02 52 29.3	+1.8
MNTX				IAmb	IAmb	02 52 30.2	
	comp=Z,2.4nm,0.9s						
TXAR	Lajitas Array	87.93	57	P	P	02 52 30.4	+1.7
	comp=Z,0.8nm,0.8s,baz=212,slow=6.7,SNR=11						
	comp=Z,0.8nm,0.8s						
ILAR	Eielson Array	90.13	13	P	P	02 52 37.6	-0.3
	comp=Z,0.3nm,0.4s,baz=223,slow=5.4,SNR=6.2						
	comp=Z,0.3nm,0.4s						
PDAR	Pinedale Array	90.22	43	P	P	02 52 40.2	+0.9
	comp=Z,0.8nm,0.6s,baz=225,slow=3.8,SNR=6.4						
	comp=Z,0.8nm,0.6s						
ARCES	ARCESS Array B	130.83	349	PKP	PKPdf	02 58 46.5	-0.2
	comp=Z,3.5nm,1.0s,baz=45,slow=1.9,SNR=3.7						
HFS	Hagfors	141.45	351	PKhKP	PKPpre	02 59 01.5	
	comp=Z,0.5nm,0.4s,baz=79,slow=3.2,SNR=9.1						
AKASG	Malin Array Be	144.77	330	PKP	PKPdf	02 59 11.4	-1.3
	comp=Z,0.5nm,0.3s,baz=43,slow=4.0,SNR=8.8						
EKA	Eskdalemuir Ar	146.88	6	PKPbc	PKPbc	02 59 18.5	-0.2
	comp=Z,2.5nm,0.8s,baz=15,slow=3.5,SNR=5.3						

*DJA **28** 02:53:41.6±0.3, 4°N±2°×12°7E±°, h10km, M4.5/15, mB5.3/5, mb4.5/9, MLv4.4/15, Mw(mB)4.8/5, MwMwp5.8/1, Mwp5.8/1*
*NEIC **28** 02:53:46.1±2.0, 3°.66N±0°.06×126°.4E±0°.1, h48km±10km, mb4.3/15, Error ellipse: s-maj=16.3km s-min=5.4km az=61.0*
*IDC **28** 02:53:51.9±8.3, 3°.38N×125°.81E, h114km±82km, mb3.6/13, mbtmp4.0/13, MS2.8/2, Error ellipse: s-maj=51.1km s-min=16.1km az=77.0*
ISC 28 02:53:45.6±0.5, **3°.66N**±0°.06×**126°.46E**±0°.08, **h53**km, **n49, σ1s61/48, mb4.1/18, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	0.93	272	P	Pn	02 54 01.0	-1.4
SGSI				S	Sn	02 54 14.6	-0.2
TNTI	Ternate	3.01	162	Pn	Pn	02 54 31.9	+1.1
TNTI	Ternate	3.01	162	P	Pn	02 54 30.8	0.0
DAV	Davao City (W)	3.50	346	LR	LR	02 56 12.1	
	comp=Z,106nm,18.6s,baz=140,slow=38						
KMSI	Cibinong	3.94	219	P	Pn	02 54 45.8	+2.3
MRSI	Marisa	5.51	235	P	Pn	02 55 07.4	+2.3
	0.2nm1µm54nm,0.5s						
SANI	Sanana	5.69	185	P	Pn	02 55 05.9	-1.7
	0.1nm27nm,1.1s						
LUWI	Luwuk	5.95	218	P	Pn	02 55 13.5	+2.4
	0.5nm10µm94nm,0.8s						
TOLI2	Tolitoli	6.21	246		Pn	02 55 14.6	-0.1
SWI	Sorong	6.57	133	P	Pn	02 55 17.9	-1.8
	0.1nm24nm,0.7s						
APSI	Ampana	6.61	227	P	Pn	02 55 20.8	+0.6
NLAI	Namlea	6.88	175	P	Pn	02 55 21.5	-2.4
	0.2nm33nm,0.9s						
MPSI	Mapaga	7.34	243	P	Pn	02 55 32.0	+1.8
MSAI	Masohi	7.38	160	P	Pn	02 55 27.8	-3.0
	42nm,0.7s						
MYLDM	Lahad Datu	8.08	281	Pn	Pn	02 55 43.1	+2.8
FAKI	Fak Fak	8.73	138	Pn	Pn	02 55 49.6	+0.3
MTN	Manton Dam	17.04	164		Pn	02 57 38.0	-2.3
MTN				IAmb	IAmb	02 57 45.8	
	comp=Z,18nm,1.4s						
KNRA	Kununurra	19.35	173	P	P	02 58 05.8	-1.0
KNRA				IAmb	IAmb	02 58 19.8	
	comp=Z,9.1nm,1.1s						
TPUB	Ta-pu	20.32	344	P	P	02 58 14.9	-2.5
TPUB				IAmb	IAmb	02 58 16.6	
	comp=Z,12nm,0.8s						
GUMO	Guam	20.69	60	LR	LR	03 07 03.2	
	comp=Z,26nm,18.5s,baz=312,slow=37						
FITZ	Fitzroy Crossi	21.63	182	P	P	02 58 31.8	+0.2
FITZ	Fitzroy Crossi	21.63	182	P	P	02 58 30.3	-1.2
	comp=Z,1.3nm,0.3s,baz=19,slow=12,SNR=9.7						
	comp=Z,1.3nm,0.3s						
WRA	Warramunga Arr	24.70	162	P	P	02 59 00.2	-1.7
WRA	Warramunga Arr	24.70	162	P	P	02 59 01.6	-0.3
	comp=Z,4.8nm,0.8s,baz=340,slow=11,SNR=40						
	comp=Z,4.8nm,0.8s						
WR8	Warramunga Arr	24.76	162	P	P	02 59 02.2	-0.2
WR8				IAmb	IAmb	02 59 12.3	
	comp=Z,11nm,1.2s						
MBWA	Marble Bar	25.53	195	P	P	02 59 10.9	+1.6
MBWA				IAmb	IAmb	02 59 11.3	
	comp=Z,5.3nm,0.7s						
PSA00	Pilbara Seismi	25.90	194	P	P	02 59 14.0	+1.3
PSA00				IAmb	IAmb	02 59 15.2	
	comp=Z,18nm,0.7s						
PSA00	Pilbara Seismi	25.90	194	P	P	02 59 13.9	+1.1
PSA00				IAmb	IAmb	02 59 14.7	
	comp=Z,8.9nm,0.9s						
ASAR	Alice Springs	28.11	165	P	P	02 59 33.3	+0.6
ASAR	Alice Springs	28.11	165	P	P	02 59 32.5	-0.2
	comp=Z,0.4nm,0.4s,baz=344,slow=7.1,SNR=14						
	comp=Z,0.4nm,0.4s						
KSRS	Korea Array	33.66	2	P	P	03 00 22.9	+1.5
	comp=Z,0.4nm,0.4s,baz=177,slow=9.1,SNR=2.6						
	comp=Z,0.4nm,0.4s						
BBOO	Buckleboo	37.39	167	P	P	03 00 54.1	+0.6
NWAO	Narrogin (SRO)	37.42	193	P	P	03 00 53.5	-0.2
STKA	Stephens Creek	38.16	159	P	P	03 01 00.1	+0.2
STKA	Stephens Creek	38.16	159	P	P	03 01 00.3	+0.3
	comp=Z,1.3nm,0.4s,baz=356,slow=6.2,SNR=6.8						
	comp=Z,1.3nm,0.4s						
USRK	Ussuriysk Ar.	40.67	6	P	P	03 01 24.8	+4.1
	comp=Z,1.0nm,0.6s,baz=225,slow=8.3,SNR=4.8						
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	47.28	342	P	P	03 02 14.6	+0.8
	comp=Z,0.5nm,0.5s,baz=166,slow=7.4,SNR=2.5						
	comp=Z,0.5nm,0.5s						
MKAR	Makanchi Array	57.46	325	P	P	03 03 28.4	-0.7
MKAR	Makanchi Array	57.46	325	P	P	03 03 27.7	-1.5
	comp=Z,1.0nm,0.5s,baz=122,slow=7.2,SNR=11						
	comp=Z,1.0nm,0.5s						
KURBB	Kurchatov

δ79.21000°,λ-51.21000°. Principal axes: T 1.7977, Plg24.0000°, Azm1.0000°; N 0.0166, Plg38.0000°, Azm111.0000°; P -1.8142, Plg42.0000°, Azm247.0000°;

*NEIC **28** 03:19:20.6±2.5,3°.69S×0°.07×151°.47E±0°.07,h10km±1km, mb5.4/231,Mww5.4/24 Error ellipse: s-maj=15.3km s-min=8.4km az=43.0*

*NEIC **28** 03:19:20.7,3°.69S×151°.44E,h12km*

*DJA **28** 03:19:21.7±1.0,4°.3×3°.15×1E±°,h14km±6km,M5.3/73, mB5.8/43,mb5.4/73,MLv5.5/1,Mw(mB)5.3/43, MwMwp5.1/8,Mwp5.3/8*

*GCMT **28** 03:19:22.6±0.1,3°.65S×151°.28E,h12km,MW5.4/151, Moment Tensor Solution. s110,c180; s151,c294; Duration: 1s2 Moment tensor: Scale 10^17^Nm; Mrr=0.41±.02; Mθθ 1.70±.02; Mϕϕ-1.29±.02; Mrθ-0.05±.04; Mθϕ0.59±.02; Mϕr-0.08±.05; Best double couple: M=1.61100×10^17^ NP1:ϕs304.00000°,δ86.00000°, λ-2.00000°. NP2:ϕs34.00000°,δ88.00000°,λ-176.00000°. Principal axes: T 1.8150, Plg2.0000°, Azm169.0000°; N -0.4070, Plg86.0000°, Azm56.0000°; P -1.4080, Plg4.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 03:19:21.5±0.5,3°.74S×0°.04×151°.52E×0°.04,h16km±2km, h16km:pP-P,n815,c1s82/732,mb5.3/222,MS4.8/97, 19C-8D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**0.78**	**125**			**Pg**	**03 19 36.5**	**-0.3**
MANU	**Manus Island**	**4.48**	**292**			**Pn**	**03 20 26.4**	**-2.4**
PMG	**Port Moresby**	**7.10**	**217**			**Pn**	**03 21 05.3**	**+0.6**
PMG	**Port Moresby**	**7.10**	**217**	Pn		**Pn**	**03 21 03.5**	**-1.2**
	12nm,0.3s,baz=35,slow=5.6,SNR=24							
PMG				LR		LR	03 23 43.4	
	comp=Z,8μm,21.8s,baz=26,slow=38							
	134nm,0.8s							
PMG	**Port Moresby**	**7.10**	**217**	P		**Pn**	**03 21 06.0**	**+1.3**
PMG	**Port Moresby**	**7.10**	**217**	P		**Pn**	**03 21 05.7**	**+1.0**
PMG	**Port Moresby**	**7.10**	**217**	*c iP*		**Pn**	**03 21 05.3**	**+0.6**
PMG				pmax		pmax		
	comp=Z,244nm,0.8s							
TATA	**Tatamba Isabel**	**9.44**	**120**	P		**Pn**	**03 21 39.2**	**+2.3**
HNR	**Honiara**	**10.10**	**124**	LR		LR	03 25 50.0	
	comp=Z,10μm,21.3s,baz=296,slow=38							
ALEG	**Aligegeo Malai**	**10.39**	**119**	P		**Pn**	**03 21 52.1**	**+2.2**
JAY	**Jayapura**	**10.87**	**276**	Pn		**Pn**	**03 21 54.2**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=149,slow=14,SNR=4.4							
JAY				LR		LR	03 25 25.8	
	comp=Z,12μm,18.1s,baz=73,slow=34							
	comp=Z,118nm,1.0s							
JAY	**Jayapura**	**10.87**	**276**	P		**Pn**	**03 21 57.9**	**+1.4**
	comp=Z,4μmcomp=Z,2μmcomp=Z,68nm,1.1s							
GENI	**Genyem**	**11.39**	**275**	P		**Pn**	**03 22 06.3**	**+2.7**
GENI	**Genyem**	**11.39**	**275**	P		**Pn**	**03 22 05.7**	**+2.1**
	comp=Z,6μmcomp=Z,4μmcomp=Z,179nm,1.1s							
MMPI	**Merauke**	**12.02**	**247**	P		**Pn**	**03 22 14.2**	**+1.9**
	comp=Z,262nm,0.9s							
PATS	**Pohnpei**	**12.51**	**33**			**Pn**	**03 22 14.5**	**-4.4**
PATS	**Pohnpei**	**12.51**	**33**	P		**Pn**	**03 22 15.4**	**-3.5**
PATS	**Pohnpei**	**12.51**	**33**	P		**Pn**	**03 22 22.0**	**+3.1**
SMPI	**Sarmi**	**12.91**	**277**	P		**Pn**	**03 22 24.0**	**-0.4**
COEN	**Coen**	**13.07**	**219**			**Pn**	**03 22 27.2**	**+0.6**
COEN	**Coen**	**13.07**	**219**	P		**Pn**	**03 22 28.3**	**+1.7**
	comp=Z,41nm,1.5s							
COEN	**Coen**	**13.07**	**219**	P		**Pn**	**03 22 28.2**	**+1.6**
SRPI	**Serui, Papua**	**15.37**	**277**	P		**Pn**	**03 23 00.0**	**+2.1**
	comp=Z,4μmcomp=Z,378nm,0.9s							
BAKI	**Biak**	**15.60**	**279**	P		**P**	**03 23 03.6**	**-1.5**
	comp=Z,4μmcomp=Z,2μmcomp=Z,156nm,1.0s							
LUES	**Luesalemba Tem**	**15.84**	**116**	P		**Pn**	**03 23 05.7**	**+1.7**
MTSU	**Mount Surprise**	**15.95**	**206**	P		**Pn**	**03 23 06.4**	**+1.0**
	comp=Z,118nm,1.3s							
MTSU	**Mount Surprise**	**15.95**	**206**	P		**P**	**03 23 07.3**	**-1.6**
TV1H	**Townsville Har**	**16.10**	**196**	P		**Pn**	**03 23 07.9**	**+0.6**
CTAO	**Charters Tower**	**17.04**	**197**			**Pn**	**03 23 19.3**	**+0.1**
CTAO				IAmb		IAmb	03 23 25.3	
	comp=Z,605nm,1.6s							
CTAO	**Charters Tower**	**17.04**	**197**	P		**P**	**03 23 20.4**	**-0.6**
CTAO	**Charters Tower**	**17.04**	**197**	P		**Pn**	**03 23 19.3**	**+0.1**
CTAO				pmax		pmax		
	comp=Z,605nm,1.7s							
RKPI	**Ransiki, Papua**	**17.46**	**277**	P		**Pn**	**03 23 25.0**	**+0.4**
	comp=Z,13μmcomp=Z,451nm,1.1s							
KMPI	**Kaimana, Papua**	**17.78**	**270**	P		**Pn**	**03 23 28.3**	**-0.1**
	comp=Z,4μmcomp=Z,308nm,0.8s							
GUMO	**Guam**	**18.44**	**339**			**P**	**03 23 35.2**	**-1.2**
GUMO	**Guam**	**18.44**	**339**	P		**P**	**03 23 34.5**	**-2.0**
	comp=Z,199nm,0.9s,baz=181,slow=9.3,SNR=17							
GUMO				LR		LR	03 30 51.5	
	comp=Z,754nm,18.2s,baz=156,slow=38							
GUMO	**Guam**	**18.44**	**339**	P		**Pn**	**03 23 37.3**	**+0.7**
GUMO	**Guam**	**18.44**	**339**	P		**P**	**03 23 35.2**	**-1.2**
GUMO				pmax		pmax		
	comp=Z,624nm,1.2s							
FAKI	**Fak Fak**	**19.25**	**272**	P		**P**	**03 23 42.9**	**-2.6**
FAKI				IAmb		IAmb	03 23 49.9	
	comp=Z,191nm,1.0s							
FAKI	**Fak Fak**	**19.25**	**272**	P		**P**	**03 23 45.8**	**+0.4**
FAKI	**Fak Fak**	**19.25**	**272**	P		**P**	**03 23 43.8**	**-1.6**
	comp=Z,4μmcomp=Z,3μmcomp=Z,205nm,1.3s							
GD1S	**Gladstone Soft**	**19.98**	**181**	P		**Pn**	**03 23 54.9**	**-0.2**
QIS	**Mount Isa**	**20.34**	**214**	P		**P**	**03 23 56.5**	**-0.8**
	comp=Z,146nm,1.4s							
QIS	**Mount Isa**	**20.34**	**214**	P		**P**	**03 23 56.7**	**-0.6**
SWI	**Sorong**	**20.44**	**278**	P		**P**	**03 23 58.0**	**-0.4**
	comp=Z,2μmcomp=Z,273nm,0.9s							
SAUI	**Saumlaki**	**20.54**	**257**	P		**P**	**03 24 00.2**	**+0.7**
	comp=Z,511nm,1.5s							
KDU	**Kakadu**	**20.82**	**244**	P		**P**	**03 23 59.4**	**-3.1**
KDU	**Kakadu**	**20.82**	**244**	P		**P**	**03 24 00.7**	**-1.8**
EIDS	**Eidsvold**	**21.51**	**181**	P		**P**	**03 24 09.9**	**+0.1**
EIDS				IAmb		IAmb	03 24 17.1	
	comp=Z,262nm,1.6s							
EIDS	**Eidsvold**	**21.51**	**181**	P		**P**	**03 24 09.9**	**+0.1**
	comp=Z,94nm,1.6s							
EIDS	**Eidsvold**	**21.51**	**181**	P		**P**	**03 24 10.8**	**+1.0**
BNDI	**Bandanaira**	**21.57**	**267**	P		**P**	**03 24 10.0**	**-0.6**
BNDI	**Bandanaira**	**21.57**	**267**	P		**P**	**03 24 09.7**	**-0.9**
MTN	**Manton Dam**	**22.09**	**245**	P		**P**	**03 24 13.3**	**-2.8**
MTN				IAmb		IAmb	03 24 23.0	
	comp=Z,182nm,1.5s							
MTN	**Manton Dam**	**22.09**	**245**	P		**P**	**03 24 13.0**	**-3.1**
MTN	**Manton Dam**	**22.09**	**245**	P		**P**	**03 24 14.4**	**-1.7**
MSAI	**Masohi**	**22.55**	**270**	P		**P**	**03 24 18.9**	**-2.2**
	comp=Z,115nm,0.8s							
WR8	**Warramunga Arr**	**23.13**	**224**	P		**P**	**03 24 24.3**	**-2.8**
WR8				IAmb		IAmb	03 24 32.8	
	comp=Z,73nm,0.8s							
WRAB	**Tennant Creek**	**23.22**	**225**	*c iP*		**P**	**03 24 25.4**	**-2.7**
WRAB				pmax		pmax		
	comp=Z,42nm,1.0s							
WRA	**Warramunga Arr**	**23.23**	**225**	P		**P**	**03 24 24.6**	**-3.7**
WRA	**Warramunga Arr**	**23.23**	**225**	P		**P**	**03 24 25.5**	**-2.7**
	comp=Z,18nm,0.8s,baz=49,slow=10,SNR=63							
WRA				LR		LR	03 33 35.6	
	comp=Z,1μm,21.7s,baz=46,slow=37							
	comp=Z,18nm,0.8s							
DZM	**Mont Dzumac**	**23.27**	**143**	P		**P**	**03 24 29.7**	**+1.0**
DZM	**Mont Dzumac**	**23.27**	**143**	*eP*		**P**	**03 24 27.5**	**-1.1**
	comp=Z,456nm,1.7s							
DZM				*eS*		**S**	**03 28 36.9**	**-3.7**
	comp=Z,929nm,24.8s							
DZM				*e*LR		LR	03 30 06.9	
	comp=Z,10μm,24.9s							
DZM	**Mont Dzumac**	**23.27**	**143**	LR		LR	03 32 45.7	
	comp=Z,2μm,21.3s,baz=318,slow=34							
DZM	**Mont Dzumac**	**23.27**	**143**	P		**P**	**03 24 30.1**	**+1.5**
AAI	**Ambon**	**23.27**	**269**	P		**P**	**03 24 26.9**	**-1.8**
	comp=Z,3μmcomp=Z,212nm,0.9s							
ONTNC	**Ouen Toro**	**23.46**	**143**	P		**P**	**03 24 31.1**	**+0.8**
ONTNC	**Ouen Toro**	**23.46**	**143**	P		**P**	**03 24 32.1**	**+1.7**
QLP	**Quilpie**	**23.76**	**196**	P		**P**	**03 24 32.2**	**-1.1**
	comp=Z,284nm,1.4s							
QLP	**Quilpie**	**23.76**	**196**	P		**P**	**03 24 33.5**	**+0.2**
OUENC	**Ouen Island, N**	**23.77**	**143**	P		**P**	**03 24 35.1**	**+1.6**
LBMI	**Labuha**	**24.19**	**277**	P		**P**	**03 24 38.2**	**+0.7**
PINNC	**Pines Island,**	**24.29**	**142**	P		**P**	**03 24 39.5**	**+1.3**
PINNC	**Pines Island,**	**24.29**	**142**	P		**P**	**03 24 40.2**	**+1.9**
NLAI	**Namlea**	**24.38**	**270**	P		**P**	**03 24 37.9**	**-1.3**
	comp=Z,3μmcomp=Z,113nm,1.2s							
TNTI	**Ternate**	**24.55**	**280**	P		**P**	**03 24 42.2**	**+1.4**
TNTI	**Ternate**	**24.55**	**280**	P		**P**	**03 24 39.7**	**-1.1**
	comp=Z,83nm,1.2s							
KNRA	**Kununurra**	**25.33**	**241**	P		**P**	**03 24 46.2**	**-1.6**
KNRA	**Kununurra**	**25.33**	**241**	P		**P**	**03 24 45.4**	**-2.4**
SANI	**Sanana**	**25.55**	**273**	P		**P**	**03 24 48.9**	**-0.9**
SANI	**Sanana**	**25.55**	**273**	P		**P**	**03 24 48.4**	**-1.4**
	comp=Z,1μmcomp=Z,173nm,0.8s							
AS01	**Alice Springs**	**26.08**	**219**	P		**P**	**03 24 52.6**	**-2.0**
	comp=Z,91nm,0.9s							
AS01	**Alice Springs**	**26.08**	**219**	P		**P**	**03 24 54.0**	**-0.6**
AS31	**Alice Springs**	**26.11**	**219**	P		**P**	**03 24 53.3**	**-1.6**
AS31	**Alice Springs**	**26.11**	**219**	P		**P**	**03 24 52.8**	**-2.1**
	comp=Z,28nm,1.1s							
ASAR	**Alice Springs**	**26.11**	**219**	P		**P**	**03 24 53.0**	**-1.9**
ASAR	**Alice Springs**	**26.11**	**219**	P		**P**	**03 24 53.2**	**-1.6**
	comp=Z,22nm,1.0s,baz=53,slow=8.5,SNR=72							
ASAR				LR		LR	03 35 20.7	
	comp=Z,2μm,19.0s,baz=46,slow=37							
	comp=Z,22nm,1.0s							
ASAR	**Alice Springs**	**26.11**	**219**	P		**P**	**03 24 53.0**	**-1.9**
ARMA	**Armidale**	**26.53**	**180**	P		**P**	**03 24 58.6**	**-0.1**
ARMA				IAmb		IAmb	03 25 01.6	
	comp=Z,109nm,1.9s							
ARMA	**Armidale**	**26.53**	**180**	P		**P**	**03 24 58.2**	**-0.5**
	comp=Z,29nm,1.4s							
SOEI	**Soe**	**27.70**	**256**	P		**P**	**03 25 07.8**	**-1.6**
SOEI	**Soe**	**27.70**	**256**	P		**P**	**03 25 11.6**	**+2.2**
SOEI	**Soe**	**27.70**	**256**	P		**P**	**03 25 10.0**	**+0.6**
DAV	**Davao City (W)**	**28.03**	**293**	LR		LR	03 35 50.0	
	comp=Z,1μm,18.4s,baz=88,slow=36							
CMSA	**Cobar Meteorol**	**28.19**	**191**	P		**P**	**03 25 11.8**	**-1.6**
	comp=Z,18nm,1.4s							
CMSA	**Cobar Meteorol**	**28.19**	**191**	P		**P**	**03 25 13.1**	**-0.3**
BATI	**Baumata**	**28.37**	**255**	P		**P**	**03 25 12.5**	**-2.7**
	comp=Z,87nm,0.8s,baz=191,slow=2.6,SNR=8.6							
BATI				LR		LR	03 38 51.3	
	comp=Z,2μm,19.7s,baz=98,slow=42							
	comp=Z,87nm,0.8s							
BATI	**Baumata**	**28.37**	**255**	P		**P**	**03 25 14.5**	**-0.7**
	comp=Z,1μmcomp=Z,172nm,1.3s							
BBSI	**Bau Bau**	**28.90**	**265**	P		**P**	**03 25 19.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**29.07**	**239**	P		**P**	**03 25 19.6**	**-1.9**
	comp=Z,23nm,1.1s,baz=65,slow=8.7,SNR=30							
FITZ				LR		LR	03 36 48.1	
	comp=Z,1μm,21.5s,baz=68,slow=36							
	comp=Z,23nm,1.1s							
STKA	**Stephens Creek**	**29.50**	**197**	P		**P**	**03 25 23.4**	**-1.7**
	comp=Z,137nm,1.3s							
STKA	**Stephens Creek**	**29.50**	**197**	P		**P**	**03 25 24.0**	**-1.0**
	comp=Z,6.5nm,0.6s,baz=354,slow=9.4,SNR=11							
STKA				LR		LR	03 36 38.1	
	comp=Z,2μm,20.6s,baz=12,slow=35							
	comp=Z,6.5nm,0.6s							
STKA	**Stephens Creek**	**29.50**	**197**	P		**P**	**03 25 24.4**	**-0.7**
STKA	**Stephens Creek**	**29.50**	**197**	*c iP*		**P**	**03 25 23.6**	**-1.5**
MMRI	**Maumere**	**29.50**	**259**	P		**P**	**03 25 26.9**	**+1.6**
MMRI	**Maumere**	**29.50**	**259**	P		**P**	**03 25 29.1**	**+3.8**
	comp=Z,2μmcomp=Z,132nm,0.9s							
MRSI	**Marisa**	**29.85**	**277**	P		**P**	**03 25 28.2**	**-0.2**
	comp=Z,38nm,0.6s							
WRKA	**Warakurna**	**30.78**	**224**	P		**P**	**03 25 33.5**	**-3.0**
BSSI	**Bau Bau, Buton**	**31.00**	**264**	P		**P**	**03 25 35.4**	**-3.2**
	comp=Z,105nm,1.3s							
TOLI2	**Tolitoli**	**31.09**	**278**	P		**P**	**03 25 40.0**	**+0.6**
BNSI	**Bone**	**31.34**	**268**	P		**P**	**03 25 42.0**	**+0.5**
	comp=Z,1μmcomp=Z,38nm,0.8s							
CNB	**Canberra Magne**	**31.48**	**183**	P		**P**	**03 25 44.0**	**+1.4**
CAN	**Canberra**	**31.51**	**184**	P		**P**	**03 25 38.9**	**-3.9**
WSI	**Waingapu**	**31.54**	**258**	P		**P**	**03 25 46.8**	**+3.5**
TTSI	**Tana Toraja**	**31.65**	**270**	P		**P**	**03 25 43.3**	**-1.0**
	comp=Z,1μmcomp=Z,45nm,1.2s							
SPSI	**Sidrap Palu**	**31.68**	**269**	P		P	03 25 39.6	-4.9
	comp=Z,4μmcomp=Z,37nm,1.1s							
KAPI	**Kappang**	**31.70**	**267**	P		**P**	**03 25 41.8**	**-2.9**
KAPI	**Kappang**	**31.70**	**267**	P		**P**	**03 25 44.3**	**-0.4**
KAPI	**Kappang**	**31.70**	**267**	*d iP*		**P**	**03 25 42.3**	**-2.4**
KAPI				pmax		pmax		
	comp=Z,26nm,0.9s							
PCI	**Palu**	**31.78**	**274**	P		**P**	**03 25 47.2**	**+1.8**
	comp=Z,103nm,0.9s							
HTT	**Hallett**	**31.79**	**200**	P		**P**	**03 25 44.6**	**-0.8**
	comp=Z,7.4nm,1.5s							
HTT	**Hallett**	**31.79**	**200**	P		**P**	**03 25 45.1**	**-0.3**
MPSI	**Mapaga**	**31.86**	**277**	P		**P**	**03 25 44.7**	**-1.4**
	comp=Z,34nm,1.0s							
JCJ	**Chichijima**	**31.96**	**344**	LR		LR	03 38 26.0	
	comp=Z,1μm,19.8s,baz=177,slow=36							
WBSI	**Waikabubak, Su**	**32.42**	**258**	P		**P**	**03 25 48.9**	**-2.2**
PLAI	**Plampang**	**33.90**	**260**	P		**P**	**03 26 05.3**	**+1.3**
PLAI	**Plampang**	**33.90**	**260**	P		**P**	**03 26 05.5**	**+1.5**
	comp=Z,906nmcomp=Z,100nm,1.1s							
ARPS	**Mount Arapiles**	**34.05**	**194**	P		**P**	**03 26 03.8**	**-1.2**
	comp=Z,20nm,1.2s							
TOO	**Toolangi**	**34.12**	**189**	P		**P**	**03 26 05.9**	**+0.3**
TOO	**Toolangi**	**34.12**	**189**	P		**P**	**03 26 05.2**	**-0.4**
	comp=Z,8.0nm,1.3s							
TOO	**Toolangi**	**34.12**	**189**	P		**P**	**03 26 05.9**	**+0.3**
TOO				pmax		pmax		
	comp=Z,35nm,1.9s							
MYLDM	**Lahad Datu**	**34.15**	**285**	P		**P**	**03 26 05.7**	**-0.5**
MYLDM				IAmb		IAmb	03 26 39.6	
	comp=Z,84nm,1.2s							
MYLDM	**Lahad Datu**	**34.15**	**285**	P		**P**	**03 26 07.7**	**+1.5**
BRAT	**Ballarat**	**34.36**	**19**	P		**P**	**03 26 08.6**	**+1.0**
TGY	**Tagaytay City**	**35.13**	**301**	LR		LR	03 38 58.1	
	comp=Z,632nm,20.1s,baz=152,slow=34							
MBWA	**Marble Bar**	**35.41**	**238**	P		**P**	**03 26 15.0**	**-2.0**
MBWA				IAmb		IAmb	03 26 21.6	
	comp=Z,83nm,1.2s							
MBWA	**Marble Bar**	**35.41**	**238**	P		**P**	**03 26 14.4**	**-2.6**
MBWA	**Marble Bar**	**35.41**	**238**	P		**P**	**03 26 15.4**	**-1.6**
PSA00	**Pilbara Seismi**	**35.49**	**237**	P		**P**	**03 26 15.6**	**-2.1**
PSA00				IAmb		IAmb	03 26 25.8	
	comp=Z,81nm,1.4s							
PSA00	**Pilbara Seismi**	**35.49**	**237**	IAmb		IAmb	03 26 22.9	
	comp=Z,56nm,0.9s							
PSA00	**Pilbara Seismi**	**35.49**	**237**	P		**P**	**03 26 15.3**	**-2.4**
PSA00	**Pilbara Seismi**	**35.49**	**237**	P		**P**	**03 26 18.1**	**+0.4**
KKM	**Kota Kinabalu**	**36.57**	**285**	P		**P**	**03 26 23.8**	**-3.3**
KKM				IAmb		IAmb	03 26 31.4	
	comp=Z,69nm,0.8s							
KKM	**Kota Kinabalu**	**36.57**	**285**	P		**P**	**03 26 30.3**	**+3.2**
OUZ	**Omahuta**	**37.41**	**150**	P		**P**	**03 26 36.8**	**+3.0**
JAGI	**Jajag, Banyuwa**	**37.43**	**261**	IAmb		IAmb	03 26 36.7	
	comp=Z,100nm,1.3s							
JAGI	**Jajag, Banyuwa**	**37.43**	**261**	P		**P**	**03 26 36.1**	**+1.7**
JAGI	**Jajag, Banyuwa**	**37.43**	**261**	P		**P**	**03 26 36.6**	**+2.2**
	comp=Z,61nm,1.1s							
JOW	**Kunigami**	**37.80**	**325**	LR		LR	03 38 47.1	
	comp=Z,2μm,22.0s,baz=121,slow=31							
JHJ	**Hachijo jima 2**	**38.31**	**344**	LR		LR	03 39 21.0	
	comp=Z,1μm,22.0s,baz=171,slow=32							
RAO	**Raoul Island**	**38.52**	**134**	LR		LR	03 39 56.5	
	comp=Z,2μm,20.8s,baz=307,slow=32							
MEEK	**Meekatharra**	**38.85**	**231**	P		**P**	**03 26 43.9**	**-2.3**
MEEK	**Meekatharra**	**38.85**	**231**	P		**P**	**03 26 44.2**	**-2.0**
KMBL	**Kambalda**	**39.15**	**222**	P		P	03 26 42.7	-5.9
TWGBT	**Bainan**	**39.75**	**313**	P		**P**	**03 26 55.6**	**+1.9**
SBUM	**Sibu**	**39.76**	**278**	P		**P**	**03 26 54.3**	**+0.4**
YULB	**Yu-li**	**39.95**	**314**	P		**P**	**03 26 54.0**	**-1.4**
YULB				IAmb		IAmb	03 27 00.6	
	comp=Z,61nm,1.0s							
YULB	**Yu-li**	**39.95**	**314**	P		**P**	**03 26 59.5**	**+4.2**
NACB	**Ninganchiao**	**40.23**	**315**	P		**P**	**03 26 55.8**	**-1.8**
NACB	**Ninganchiao**	**40.23**	**315**	P		**P**	**03 27 01.6**	**+4.0**
TOZ	**Tahuroa Road**	**40.32**	**150**	P		**P**	**03 26 58.5**	**+0.2**
PCJI	**Pacitan**	**40.35**	**262**	P		**P**	**03 26 58.4**	**-0.4**
TPUB	**Ta-pu**	**40.37**	**313**	P		**P**	**03 26 59.0**	**+0.1**
TPUB	**Ta-pu**	**40.37**	**313**	P		**P**	**03 27 00.8**	**+1.9**
SSLB	**Suanglung**	**40.44**	**314**	P		**P**	**03 27 01.5**	**+2.1**
GIRL	**Giralia**	**40.68**	**239**	P		**P**	**03 27 05.6**	**+4.2**
TATO	**Taipei**	**40.81**	**316**	P		**P**	**03 27 04.7**	**+2.3**
JMN	**Monobe**	**40.83**	**337**	P		**P**	**03 27 05.0**	**+2.5**
INU	**Inuyama**	**41.20**	**342**	P		**P**	**03 27 02.3**	**-3.2**
INU	**Inuyama**	**41.20**	**342**	P		**P**	**03 27 07.5**	**+2.0**
JGF	**Kuroka**	**41.33**	**342**	P		**P**	**03 27 08.8**	**+2.2**
KSM	**Kuching**	**41.51**	**276**	P		**P**	**03 27 06.7**	**-1.7**
KSM				IAmb		IAmb	03 27 14.0	
	comp=Z,117nm,1.2s							
KSM	**Kuching**	**41.51**	**276**	P		**P**	**03 27 07.9**	**-0.5**
URZ	**Urewera**	**41.54**	**149**	LR		LR	03 44 31.3	
	comp=Z,2μm,18.2s,baz=320,slow=36							
JNU	**Nakatsue**	**41.55**	**334**	LR		LR	03 42 55.0	
	comp=Z,820nm,20.5s,baz=162,slow=34							
JNU	**Nakatsue**	**41.55**	**334**	P		**P**	**03 27 11.1**	**+2.7**
RTZ	**Ruatahuna**	**41.75**	**150**	P		**P**	**03 27 10.8**	**+0.7**
	comp=Z,4nm,1.2s,baz=160,slow=8.3,SNR=13							
MJAR	**Matsushiro Arr**	**41.96**	**344**	P		**P**	**03 27 08.4**	**-3.4**
MJAR	**Matsushiro Arr**	**41.96**	**344**	P		**P**	**03 27 08.3**	**-3.4**
	comp=Z,14nm,1.2s,baz=160,slow=8.3,SNR=13							
MJAR				PcP		**PcP**	**03 29 07.3**	**+0.3**
	comp=Z,5.2nm,0.7s,baz=157,slow=3.9,SNR=6.7							
MJAR				LR		LR	03 43 07.0	
	comp=Z,1μm,20.3s,baz=168,slow=34							
	comp=Z,14nm,1.2s							
MAJO	**Matsushiro**	**41.96**	**344**	P		**P**	**03 27 08.3**	**-3.5**
MAJO	**Matsushiro**	**41.96**	**344**	P		**P**	**03 27 13.3**	**+1.6**
MAJO	**Matsushiro**	**41.96**	**344**	*c iP*		**P**	**03 27 08.1**	**-3.6**
MAJO				pmax		pmax		
	comp=Z,25nm,1.6s							
MORW	**Morawa**	**42.03**	**229**	P		**P**	**03 27 11.1**	**-1.4**
	comp=Z,27nm,1.6s							
MORW	**Morawa**	**42.03**	**229**	P		**P**	**03 27 13.5**	**+1.0**
BLDU	**Ballidu**	**42.34**	**227**	P		**P**	**03 27 11.6**	**-3.3**
BLDU	**Ballidu**	**42.34**	**227**	P		**P**	**03 27 14.9**	**0.0**
TUWZ	**Tuamarina**	**42.58**	**155**	P		**P**	**03 27 17.9**	**+1.2**
QZH	**Quanzhou**	**42.84**	**313**	P		**P**	**03 27 19.0**	**-0.1**
QZH				S		**S**	**03 33 42.0**	**-1.1**
QZH				SS		**SS**	**03 36 48.8**	**-5.9**
QZH				pmax		pmax		
	comp=Z,180nm,4.3s							
QZH				LR		LR		
	comp=Z,940nm,15.5s							
QZH				LR		LR		
	comp=Z,1μm,19.2s							
QZH				LR		LR		
	comp=Z,1μm,19.2s							
NWAO	**Narrogin (SRO)**	**43.24**	**224**	LR		LR	03 44 48.9	
	comp=Z,1μm,21.1s,baz=54,slow=36							
JSD	**Sado**	**43.35**	**345**	P		**P**	**03 27 26.3**	**+3.3**
RPZ	**Rata Peaks**	**43.40**	**159**	LR		LR	03 44 12.9	
	comp=Z,4μm,19.8s,baz=320,slow=34							
BBJI	**Bungbulang**	**43.80**	**263**	P		**P**	**03 27 25.8**	**-1.3**
LEM	**Lembang**	**43.81**	**264**	LR		LR	03 47 37.2	
	comp=Z,518nm,21.8s,baz=58,slow=39							
SSE	**Sheshan**	**45.13**	**322**	P		**P**	**03 27 36.5**	**-0.8**
SSE				S		**S**	**03 34 15.0**	**-1.2**
SSE				pmax		pmax		
	comp=Z,21nm,1.2s							
SSE				pmax		pmax		
	comp=Z,110nm,5.9s							
SSE				LR		LR		
	comp=Z,350nm,20.7s							
SSE				LR		LR		
	comp=Z,400nm,20.6s							
DLV	**Lat**	**45.53**	**291**	P		**P**	**03 27 40.4**	**-0.6**
TJN	**Taejon**	**45.85**	**333**	P		**P**	**03 27 47.6**	**+4.6**
TJN	**Taejon**	**45.85**	**333**	*eP*		**P**	**03 27 42.0**	**-1.0**
ERM	**Erimo**	**46.17**	**351**	*i P*		**P**	**03 27 44.5**	**-0.9**
ERM				*i* *PP		**pP**	**03 27 48.7**	**-1.1**
ERM				pmax		pmax		
	comp=Z,20nm,1.2s							
KSRS	**Korea Array**	**46.49**	**334**	P		**P**	**03 27 46.5**	**-1.4**
	comp=Z,3.5nm,0.9s,baz=151,slow=9.6,SNR=13							
KSRS				PcP		**PcP**	**03 29 22.4**	**0.0**
	comp=Z,3.3nm,0.8s,baz=176,slow=3.3,SNR=5.0							
	comp=Z,3.5nm,0.9s							
KSAR	**Won

PPI	**Padang Panjang**	**51.18**	**272**	P	**P**	**03**	**28**	**25.3 +0.8**
	comp=N,83nm,0.7s							
KULM	**Kulim**	**51.60**	**280**	IAmb	IAmb	03	28	32.2
	comp=Z,36nm,0.7s							
KULM	**Kulim**	**51.60**	**280**	P	**P**	**03**	**28**	**28.7 +1.1**
SNY	**Shenyang**	**51.99**	**334**	⇑P	**P**	**03**	**28**	**34.3 +4.3**
SNY				S	**S**	**03**	**35**	**52.8 0.0**
SNY				pmax	pmax			
	comp=Z,29nm,1.0s							
SNY				pmax	pmax			
	comp=Z,220nm,6.3s							
SNY				LR	LR			
	comp=Z,410nm,19.6s							
SNY				LR	LR			
	comp=Z,550nm,16.5s							
SNY				LR	LR			
	comp=Z,510nm,16.5s							
MDJ	**Mudanjiang**	**51.99**	**340**	IAmb	IAmb	03	28	35.9
	comp=Z,76nm,1.1s							
MDJ	**Mudanjiang**	**51.99**	**340**	P	**P**	**03**	**28**	**29.3 -0.7**
MDJ				sP	pP	03	28	34.5 +0.1
MDJ				S	**S**	**03**	**35**	**53.3 +0.6**
MDJ				pmax	pmax			
	comp=Z,14nm,1.3s							
MDJ				pmax	pmax			
	comp=Z,410nm,4.6s							
MDJ				LR	LR			
	comp=Z,830nm,24.0s							
MDJ				LR	LR			
	comp=Z,570nm,22.0s							
MDJ				LR	LR			
	comp=Z,2µm,24.4s							
MDJ	**Mudanjiang**	**51.99**	**340**	P	**P**	**03**	**28**	**29.8 -0.2**
MNSI	**Mandailing Nat**	**52.10**	**274**	P	**P**	**03**	**28**	**34.6 +3.2**
	comp=Z,63nm,0.9s							
ENH	**Enshi**	**52.50**	**313**	P	**P**	**03**	**28**	**37.3 +3.2**
GYA	**Guiyang**	**52.74**	**307**	P	**P**	**03**	**28**	**38.3 +2.3**
GYA				S	**S**	**03**	**36**	**03.3 -0.5**
GYA				pmax	pmax			
	comp=Z,16nm,1.0s							
GYA				pmax	pmax			
	comp=Z,210nm,4.2s							
GYA				LR	LR			
	comp=Z,590nm,18.6s							
GYA				LR	LR			
	comp=Z,630nm,17.5s							
GYA				LR	LR			
	comp=Z,1µm,16.9s							
CN2	**Changchun**	**52.82**	**336**	*e*P	**P**	**03**	**28**	**34.8 -1.3**
CN2				*e*S	**S**	**03**	**36**	**03.3 -0.8**
CN2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CN2				pmax	pmax			
	comp=Z,200nm,5.1s							
CN2				LR	LR			
	comp=Z,700nm,26.0s							
CN2				LR	LR			
	comp=Z,500nm,26.0s							
CN2				LR	LR			
	comp=Z,500nm,28.6s							
SLVN	**Son La**	**52.86**	**300**	P	**P**	**03**	**28**	**39.0 +2.0**
LYN	**LuoYang**	**52.91**	**319**	P	**P**	**03**	**28**	**40.8 +3.8**
LYN				pP	pwP	03	28	45.3 +0.7
LYN				S	**S**	**03**	**36**	**03.0 -2.7**
LYN				sS	sS	03	36	15.8 +2.8
LYN				pmax	pmax			
	comp=Z,26nm,0.5s							
LYN				pmax	pmax			
	comp=Z,250nm,4.8s							
LYN				LR	LR			
	comp=Z,940nm,20.3s							
LYN				LR	LR			
	comp=Z,970nm,19.6s							
LYN				LR	LR			
	comp=Z,2µm,20.6s							
RPSI	**Rantau Prapat**	**52.95**	**276**	P	**P**	**03**	**28**	**35.1 -2.6**
PSI	**Prapat**	**52.96**	**276**	P	**P**	**03**	**28**	**39.5 +1.6**
PSI	**Prapat**	**52.96**	**276**	P	**P**	**03**	**28**	**35.1 -2.8**
PSI				pmax	pmax			
	comp=Z,19nm,1.1s							
SRIT	**Nakonsritamara**	**53.20**	**284**	P	**P**	**03**	**28**	**43.2 +3.8**
HNS	**HongShan**	**53.34**	**324**	⇑P	**P**	**03**	**28**	**40.8 +0.7**
HNS				S	**S**	**03**	**36**	**11.3 -0.1**
HNS				pmax	pmax			
	comp=Z,37nm,1.2s							
HNS				LR	LR			
	comp=Z,880nm,19.9s							
HNS				LR	LR			
	comp=Z,800nm,18.1s							
HNS				LR	LR			
	comp=Z,1µm,22.2s							
BNX	**BinXian**	**53.73**	**339**	⇓P	**P**	**03**	**28**	**41.8 -1.0**
BNX				pP	**pP**	**03**	**28**	**46.8 -0.4**
BNX				PP	**PP**	**03**	**30**	**45.8 +1.9**
BNX				S	**S**	**03**	**36**	**16.5 +0.1**
BNX				sS	**sS**	**03**	**36**	**22.8 -0.9**
BNX				pmax	pmax			
	comp=Z,81nm,1.0s							
BNX				pmax	pmax			
	comp=Z,260nm,7.1s							
BNX				LR	LR			
	comp=Z,350nm,20.1s							
BNX				LR	LR			
	comp=Z,300nm,25.5s							
BNX				LR	LR			
	comp=Z,1µm,33.6s							
GSI	**Gunungsitoli**	**54.14**	**274**	P	**P**	**03**	**28**	**43.3 -3.1**
GSI	**Gunungsitoli**	**54.14**	**274**	P	**P**	**03**	**28**	**48.2 +1.8**
GSI	**Gunungsitoli**	**54.14**	**274**	P	**P**	**03**	**28**	**49.4 +3.0**
	comp=Z,74nm,0.9s							
BJT	**Baijiatuau**	**54.30**	**327**	P	**P**	**03**	**28**	**48.8 +1.7**
BJI	**Beijing**	**54.31**	**327**	P	**P**	**03**	**28**	**48.3 +1.2**
BJI				S	**S**	**03**	**36**	**22.5 -1.9**
BJI				pmax	pmax			
	comp=Z,10.0nm,1.1s							
BJI				pmax	pmax			
	comp=Z,130nm,5.3s							
BJI				LR	LR			
	comp=Z,380nm,20.0s							
BJI				LR	LR			
	comp=Z,240nm,21.2s							
BJI				LR	LR			
	comp=Z,630nm,23.0s							
TIY	**Taiyuan**	**54.91**	**322**	P	**P**	**03**	**28**	**50.0 -1.7**
TIY				S	**S**	**03**	**36**	**34.8 +2.0**
TIY				SS	**SS**	**03**	**40**	**14.5 -2.1**
TIY				pmax	pmax			
	comp=Z,150nm,6.3s							
TIY				LR	LR			
	comp=Z,780nm,24.0s							
TIY				LR	LR			
	comp=Z,830nm,22.0s							
TIY				LR	LR			
	comp=Z,1µm,24.7s							
TYV	**Tymovskoe**	**54.92**	**353**	*e*P	**P**	**03**	**28**	**52.0 +0.6**
TYV				*e*S	**S**	**03**	**36**	**28.5 -3.8**
TYV				pmax	pmax			
	comp=Z,300nm,4.1s							
TYV				pmax	pmax			
	comp=Z,34nm,1.2s							
TYV				smax	smax			
	comp=N,400nm,6.8s							
TYV				smax	smax			
	comp=E,200nm,6.8s							
XAN	**Xi'an**	**54.98**	**317**	P	**P**	**03**	**28**	**50.8 -1.4**
XAN				S	**S**	**03**	**36**	**33.5 -0.3**
XAN				pmax	pmax			
	comp=E,43nm,1.1s							
XAN				LR	LR			
	comp=E,840nm,21.3s							
XAN				LR	LR			
	comp=E,860nm,20.6s							
XAN				LR	LR			
	comp=E,2µm,20.3s							
LHMI	**Lhok Sumawe**	**55.23**	**279**	P	**P**	**03**	**28**	**57.9 +3.6**
KMI	**Kunming**	**55.34**	**304**	P	P	03	29	01.0 +5.8
KMI				sP	pwP	03	29	05.3 +2.5
KMI				S	**S**	**03**	**36**	**42.8 +3.6**
KMI				SS	**SS**	**03**	**40**	**22.0 -2.0**
KMI				pmax	pmax			
	comp=E,24nm,1.3s							
KMI				pmax	pmax			
	comp=E,200nm,5.6s							
KMI				LR	LR			
	comp=E,220nm,24.6s							
KMI				LR	LR			
	comp=E,570nm,19.3s							
KMI				LR	LR			
	comp=E,750nm,26.1s							
KLR	**Kul'dur**	**55.48**	**344**	LR	LR	03	48	42.8
	comp=E,548nm,21.6s,baz=205,slow=32							
MLSI	**Meulaboh, Aceh**	**55.64**	**278**	P	**P**	**03**	**29**	**01.5 +4.2**
GRNR	**Gornyy**	**55.83**	**346**	⇓*i*P	**P**	**03**	**28**	**56.3 -1.6**
GRNR				pmax	pmax			
	comp=Z,3.0nm,1.3s							
CMAR	**Chiang Mai Arr**	**56.27**	**295**	P	**P**	**03**	**29**	**01.6 -0.1**
CMAR	**Chiang Mai Arr**	**56.27**	**295**	P	**P**	**03**	**29**	**00.3 -1.4**
	comp=Z,5.3nm,0.5s,baz=117,slow=5.6,SNR=36							
CMAR				LR	LR	03	53	27.7
	comp=Z,281nm,18.4s,baz=135,slow=36							
	comp=Z,5.3nm,0.5s							
CMAR	**Chiang Mai Arr**	**56.27**	**295**	*ce*P	**P**	**03**	**29**	**01.7 0.0**
CMAR				pmax	pmax			
	comp=Z,6.0nm,0.5s							
CHTO	**Chiang Mai**	**56.38**	**295**	P	**P**	**03**	**29**	**00.2 -2.3**
CHTO				IAmb	IAmb	03	29	09.0
	comp=Z,65nm,1.1s							
CHTO	**Chiang Mai**	**56.38**	**295**	P	**P**	**03**	**29**	**02.5 0.0**
CHTO	**Chiang Mai**	**56.38**	**295**	P	**P**	**03**	**29**	**00.2 -2.3**
CHTO				pmax	pmax			
	comp=Z,65nm,1.2s							
PZH	**PanZhiHua**	**56.72**	**305**	P	**P**	**03**	**29**	**08.5 +3.6**
PZH				S	**S**	**03**	**36**	**56.3 -1.1**
PZH				pmax	pmax			
	comp=Z,7.0nm,0.8s							
PZH				pmax	pmax			
	comp=Z,140nm,6.7s							
PZH				LR	LR			
	comp=Z,540nm,23.9s							
PZH				LR	LR			
	comp=Z,540nm,20.0s							
PZH				LR	LR			
	comp=Z,590nm,22.6s							
PET	**Petropavlovsk**	**56.88**	**5**	*e*P	**P**	**03**	**29**	**03.7 -1.6**
PET				*e*S	**S**	**03**	**36**	**56.2 -2.0**
PET				pmax	pmax			
	comp=Z,100nm,9.5s							
PET				pmax	pmax			
	comp=Z,200nm,9.9s							
PET				pmax	pmax			
	comp=Z,37nm,1.5s							
PET				MLR	MLR			
	comp=Z,500nm,19.0s							
PEA0B	**Petropavlovsk-**	**56.88**	**4**	P	**P**	**03**	**29**	**04.5 -0.9**
PEA0B				IAmb	IAmb	03	29	27.7
	comp=Z,57nm,1.0s							
PEA0B	**Petropavlovsk-**	**56.88**	**4**	P	**P**	**03**	**29**	**04.5 -0.9**
PEA0B				pmax	pmax			
	comp=Z,57nm,1.0s							
PETK	**Petropavlovsk-**	**56.88**	**4**		**P**	**03**	**29**	**04.9 -0.5**
PETK	**Petropavlovsk-**	**56.88**	**4**	P	**P**	**03**	**29**	**04.3 -1.0**
	comp=Z,21nm,0.8s,baz=168,slow=5.9,SNR=23							
PETK				LR	LR	03	49	37.1
	comp=Z,794nm,21.0s,baz=186,slow=32							
	comp=Z,21nm,0.8s							
PETK	**Petropavlovsk-**	**56.88**	**4**	P	**P**	**03**	**29**	**04.9 -0.5**
CD2	**Chengdu**	**57.08**	**311**	P	**P**	**03**	**29**	**07.8 +0.5**
CD2				S	**S**	**03**	**37**	**02.5 +0.6**
CD2				LR	LR			
	comp=Z,1µm,20.4s							
CD2				LR	LR			
	comp=Z,2µm,20.2s							
CD2				LR	LR			
	comp=Z,2µm,18.2s							
XLT	**XiLinHaoTe**	**57.12**	**330**	*e*P	**P**	**03**	**29**	**06.5 -0.9**
XLT				pP	sP	03	29	12.3 -1.2
XLT				sP	pwP	03	29	15.0 0.0
XLT				S	**S**	**03**	**36**	**59.3 -2.7**
XLT				pmax	pmax			
	comp=Z,33nm,1.1s							
XLT				pmax	pmax			
	comp=Z,260nm,4.1s							
XLT				LR	LR			
	comp=Z,790nm,22.0s							
XLT				LR	LR			
	comp=Z,1µm,25.5s							
HHC	**Hu-ho-hao-te**	**57.45**	**325**	*e*P	**P**	**03**	**29**	**13.5 +3.7**
HHC				pP	pwP	03	29	18.0 +0.5
HHC				S	**S**	**03**	**37**	**07.5 +1.0**
HHC				sS	sS	03	37	16.8 +2.9
HHC				pmax	pmax			
	comp=Z,38nm,1.2s							
HHC				pmax	pmax			
	comp=Z,170nm,4.5s							
HHC				LR	LR			
	comp=Z,620nm,21.0s							
HHC				LR	LR			
	comp=Z,640nm,20.2s							
HHC				LR	LR			
	comp=Z,1µm,21.9s							
HEH	**HeiHe**	**57.66**	**342**	*e*P	**P**	**03**	**29**	**09.5 -1.4**
HEH				pP	**pP**	**03**	**29**	**15.3 -0.2**
HEH				PcP	**PcP**	**03**	**30**	**08.0 +4.1**
HEH				S	**S**	**03**	**37**	**07.8 -0.8**
HEH				pmax	pmax			
	comp=Z,21nm,0.8s							
HEH				pmax	pmax			
	comp=Z,300nm,4.8s							
HEH				LR	LR			
	comp=Z,730nm,21.0s							
HEH				LR	LR			
	comp=Z,320nm,20.9s							
HEH				LR	LR			
	comp=Z,840nm,19.2s							
BTO	**Baotou**	**58.20**	**324**	*e*P	P	03	29	19.8 +4.8
BTO				pP	pwP	03	29	24.5 +1.8
BTO				sP	sP	03	29	26.5 +5.3
BTO				PP	**PP**	**03**	**31**	**30.5 +6.4**
BTO				S	**S**	**03**	**37**	**18.0 +1.7**
BTO				sS	sS	03	37	28.0 +4.3
BTO				pmax	pmax			
	comp=Z,43nm,1.9s							
BTO				pmax	pmax			
	comp=Z,290nm,6.6s							
BTO				LR	LR			
	comp=Z,2µm,24.3s							
BTO				LR	LR			
	comp=Z,1µm,19.4s							
BTO				LR	LR			
	comp=Z,3µm,23.3s							
TNCH	**TengChong**	**58.83**	**302**	*e*P	**P**	**03**	**29**	**21.0 +1.1**
TNCH				S	**S**	**03**	**37**	**25.0 -0.3**
TNCH				pmax	pmax			
	comp=Z,230nm,4.7s							
TNCH				LR	LR			
	comp=Z,670nm,21.8s							
TNCH				LR	LR			
	comp=Z,580nm,21.8s							
TNCH				LR	LR			
	comp=Z,680nm,22.0s							
PPT	**Papeete**	**59.27**	**108**	LR	LR	03	51	20.6
	comp=Z,247nm,19.5s,baz=294,slow=32							
PPT2	**Papeete2**	**59.27**	**108**	*e*PKP1	**P**	**03**	**29**	**23.2 +0.3**
	comp=Z,35nm,21.8s							
PPT2				*e*S	**S**	**03**	**37**	**25.8 -5.1**
	comp=Z,172nm,32.2s							
PPT2				*e*SS	**SS**	**03**	**41**	**23.9 -1.8**
	comp=Z,140nm,26.0s							
PPT2				*e*LQ	LQ	03	44	09.3
	comp=Z,2µm,31.0s							
PPT2				*e*LR	LR	03	46	40.6
	comp=Z,573nm,24.8s							
PPT2				*e*LR	LR	03	46	50.5
	comp=Z,527nm,35.5s							
SHEM	**Shemya Is, Ala**	**59.41**	**16**	LR	LR	03	50	29.6
	comp=Z,717nm,21.9s,baz=199,slow=32							
SMY	**Shemya**	**59.41**	**16**	P	**P**	**03**	**29**	**19.0 -4.1**
SMY	**Shemya**	**59.41**	**16**	P	**P**	**03**	**29**	**19.0 -4.1**
SMY				pmax	pmax			
	comp=Z,134nm,1.4s							
LZH	**Lanzhou**	**59.59**	**316**	*e*P	P	03	29	30.0 +5.1
LZH				sP	pwP	03	29	37.3 +4.7
LZH				S	**S**	**03**	**37**	**32.0 -2.6**
LZH				pmax	pmax			
	comp=Z,45nm,1.7s							
LZH				pmax	pmax			
	comp=Z,210nm,3.7s							
LZH				LR	LR			
	comp=Z,560nm,15.9s							
LZH				LR	LR			
	comp=Z,710nm,17.5s							
LZH				LR	LR			
	comp=Z,1µm,18.1s							
TBI	**Tubuai**	**60.16**	**115**	*e*S	**S**	**03**	**37**	**39.9 -2.2**
	comp=Z,2µm,30.0s							
TBI				*e*SS	**SS**	**03**	**41**	**37.3 -2.1**
	comp=Z,572nm,28.2s							
TBI				*e*LQ	LQ	03	44	35.7
	comp=Z,16µm,30.5s							
TBI				*e*LR	LR	03	47	05.5
	comp=Z,884nm,35.2s							
TBI				*e*LR	LR	03	47	06.2
	comp=Z,5µm,29.8s							
KIWB	**Kanaga Island**	**61.46**	**22**	P	**P**	**03**	**29**	**36.4 -0.7**
MA2	**Magadan**	**63.13**	**360**	P	**P**	**03**	**29**	**45.5 -2.7**
MA2				IAmb	IAmb	03	29	54.2
	comp=Z,26nm,1.0s							
MA2	**Magadan**	**63.13**	**360**	*c i*P	**P**	**03**	**29**	**46.8 -1.4**
MA2				pmax	pmax			
	comp=Z,14nm,0.8s							
GTA	**Gaotai**	**64.02**	**317**	*e*P	**P**	**03**	**29**	**59.3 +4.7**
GTA				sP	pwP	03	30	07.8 +5.4
GTA				S	**S**	**03**	**38**	**33.0 +2.4**
GTA				pmax	pmax			
	comp=Z,33nm,1.2s							
GTA				LR	LR			
	comp=Z,400nm,19.6s							
GTA				LR	LR			
	comp=Z,790nm,20.0s							
GTA				LR	LR			
	comp=Z,1µm,20.0s							
ULN	**Ulaanbaatar**	**64.43**	**328**	P	**P**	**03**	**29**	**56.6 -0.6**
ULN				IAmb	IAmb	03	30	03.5
	comp=Z,42nm,1.1s							
ULN	**Ulaanbaatar**	**64.43**	**328**	*c i*P	**P**	**03**	**29**	**57.1 -0.1**
ULN				pmax	pmax			
	comp=Z,29nm,1.8s							
SONM	**Songino Array**	**64.76**	**328**	P	**P**	**03**	**29**	**58.8 -0.5**
SONM	**Songino Array**	**64.76**	**328**	P	**P**	**03**	**29**	**58.5 -0.8**
	comp=Z,4.5nm,0.8s,baz=151,slow=6.2,SNR=14							
SONM				LR	LR	03	56	22.9
	comp=Z,1µm,21.6s,baz=128,slow=34							
	comp=Z,4.5nm,0.8s							
SONM	**Songino Array**	**64.76**	**328**	P	**P**	**03**	**29**	**58.8 -0.5**
SONM				pmax	pmax			
	comp=Z,62nm,1.5s							
NIKH	**Nikolski High**	**65.59**	**25**	P	**P**	**03**	**30**	**04.5 0.0**
	baz=224							
GOMU	**GeErMu**	**66.11**	**312**	P	**P**	**03**	**30**	**09.0 +0.4**
GOMU				S	**S**	**03**	**38**	**58.0 +1.1**
GOMU				pmax	pmax			
	comp=Z,6.0nm,1.0s							
GOMU				pmax	pmax			
	comp=Z,130nm,5.0s							
GOMU				LR	LR			
	comp=Z,370nm,20.2s							
GOMU				LR	LR			
	comp=Z,670nm,20.2s							
GOMU				LR	LR			
	comp=Z,940nm,20.4s							
SEY	**Seymchan**	**66.50**	**0**	LR	LR	03	53	26.1
	comp=Z,514nm,21.6s,baz=168,slow=31							
SEY	**Seymchan**	**66.50**	**0**	⇓*i*P	**P**	**03**	**30**	**09.6 -0.4**
SEY				pmax	pmax			
	comp=Z,22nm,2.7s							
UNV	**Unalaska Valle**	**67.21**	**25**	P	**P**	**03**	**30**	**14.5 -0.2**
	baz=226							
YAK	**Yakutsk**	**67.70**	**349**	P	**P**	**03**	**30**	**16.8 -0.9**
YAK	**Yakutsk**	**67.70**	**349**	LR	LR	03	57	37.3
	comp=Z,660nm,22.0s,baz=148,slow=34							
YAK	**Yakutsk**	**67.70**	**349**	*e*P	**P**	**03**	**30**	**17.1 -0.6**
YAK				*e**PP	**pP**	**03**	**30**	**22.0 -0.3**
YAK				*e*		03	30	43.5
YAK				*e*		03	32	41.2
YAK				*e*PPP	PPP	03	34	24.8
YAK				*e*S	**S**	**03**	**39**	**15.0 +0.7**
YAK				*e*		03	40	15.7
YAK				*e*SS	**SS**	**03**	**43**	**36.7 +1.1**
YAK				pmax	pmax			
	comp=Z,33nm,1.5s							
YAK				pmax	pmax			
	comp=N,9.0nm,1.3s							
YAK				pmax	pmax			
	comp=E,5.0nm,1.5s							
YAK				pmax	pmax			
	comp=Z,213nm,4.3s							
YAK				pmax	pmax			
	comp=N,52nm,4.2s							
YAK				pmax	pmax			
	comp=E,49nm,3.8s							
YAK				smax	smax			
	comp=N,223nm,5.9s							
YAK				smax	smax			
	comp=E,168nm,4.3s							
YAK				MLR	MLR			
	comp=Z,486nm,22.0s							
YAK				MLR	MLR			
	comp=N,326nm,19.0s							
YAK				MLR	MLR			
	comp=E,203nm,22.0s							
ZAK	**Zakamensk**	**67.93**	**329**	*e*P	**P**	**03**	**30**	**19.0 -0.6**
ZAK				pmax	pmax			
	comp=Z,8.0nm,1.2s							
P08K	**Saint George I**	**67.96**	**22**	P	**P**	**03**	**30**	**19.3 -0.1**
	baz=222							
TAOE	**Nuku Hiva Isla**	**68.04**	**98**	*e*LR	LR	03	50	36.4
	comp=Z,1µm,26.1s							
SPIA	**Saint Paul Isl**	**68.13**	**21**	P	**P**	**03**	**30**	**21.1 +0.6**
	baz=222							
BOD	**Bodaibo**	**68.36**	**339**	*e*P	**P**	**03**	**30**	**21.0 -0.9**
BOD				pmax	pmax			
	comp=Z,41nm,1.7s							
CASY	**Casey**	**68.65**	**197**	P	**P**	**03**	**30**	**22.5 -1.1**
CASY				IAmb	IAmb	03	30	34.1
	comp=Z,30nm,1.0s							
FALS	**False Pass**	**69.23**	**26**	P	**P**	**03**	**30**	**26.9 -0.5**
	baz=229							
EVN	**Everest**	**69.70**	**301**	P	**P**	**03**	**30**	**31.2 -0.5**
MOY	**Mondy**	**69.86**	**329**	*e*P	**P**	**03**	**30**	**31.6 +0.1**
MOY				pmax	pmax			
	comp=Z,72nm,1.7s							
S12K	**Black Hills**	**70.37**	**26**	P	**P**	**03**	**30**	**33.8 -0.6**
	baz=230							
SDPT	**Sand Point**	**70.85**	**27**	P	**P**	**03**	**30**	**37.4 +0.1**
	baz=232							
CHNA	**Chernabura Isl**	**70.93**	**27**	P	**P**	**03**	**30**	**38.7 +0.8**
	baz=233							
S14K	**Fog Glacier**	**71.83**	**26**	P	**P**	**03**	**30**	**43.7 +0.2**
	baz=232							
M11K	**Mekoryuk**	**71.92**	**21**	P	**P**	**03**	**30**	**44.0 +0.3**
	baz=225							
CHGN	**Chignik**	**72.35**	**27**	P	**P**	**03**	**30**	**46.2 -0.2**
	baz=233							
BILL	**Bilibino**	**72.37**	**6**	*ce*P	**P**	**03**	**30**	**46.6 +0.3**
BILL				pmax	pmax			
	comp=Z,9.0nm,0.9s							
GAMB	**Gambell**	**72.72**	**16**	P	**P**	**03**	**30**	**48.5 +0.1**
	baz=219							
M13K	**Dall Lake**	**72.96**	**22**	P	**P**	**03**	**30**	**49.7 -0.2**
	baz=228							
O14K	**Tigyukauivet M**	**72.99**	**23**	IAmb	IAmb	03	31	21.4
	comp=Z,31nm,1.1s							
O14K	**Tigyukauivet M**	**72.99**	**23**	P	**P**	**03**	**30**	**50.1 0.0**
	baz=230							
N14K	**Kuskokwak Cree**	**73.26**	**23**	P	**P**	**03**	**30**	**52.3 +0.6**
	baz=229							
CHIR	**Chirikof Islan**	**73.35**	**28**	P	**P**	**03**	**30**	**52.9 +0.5**
	baz=236							
R16K	**Pilot Point**	**73.47**	**26**	P	**P**	**03**	**30**	**53.6 +0.6**
	baz=234							
O15K	**Ungalikthiuk R**	**73.51**	**24**	P	**P**	**03**	**30**	**53.6 +0.4**
	baz=231,SNR=11							
K13K	**Kusilvak Mount**	**73.54**	**20**	P	**P**	**03**	**30**	**53.9 +0.6**
	baz=226							
M14K	**Bethel**	**73.70**	**22**	IAmb	IAmb	03	31	01.6
	comp=Z,53nm,1.4s							
M14K	**Bethel**	**73.70**	**22**	P	**P**	**03**	**30**	**54.6 +0.4**
	baz=229							
L14K	**Kuka Creek**	**73.83**	**21**	IAmb	IAmb	03	31	07.5
	comp=Z,29nm,0.8s							
L14K	**Kuka Creek**	**73.83**	**21**	P	**P**	**03**	**30**	**54.9 -0.1**
	baz=228							
VNDA	**Vanda**	**73.93**	**178**	P	**P**	**03**	**30**	**54.7 -0.7**
VNDA	**Vanda**	**73.93**	**178**	P	**P**	**03**	**30**	**55.1 -0.3**
	comp=Z,0.7nm,0.6s,baz=338,slow=8.9,SNR=8.8							
VNDA				LR	LR	03	59	31.3
	comp=Z,436nm,19.7s,baz=349,slow=33							
	comp=Z,0.7nm,0.6s							
VNDA	**Vanda**	**73.93**	**178**	P	**P**	**03**	**30**	**54.7 -0.7**

VNDA pmax pmax
comp=Z,11nm,1.3s
N15K Kwethluk River 74.03 23 IAmb IAmb 03 31 05.8
comp=Z,21nm,0.8s
N15K Kwethluk River 74.03 23 P **P 03 30 56.7 +0.4**
baz=231
R17L Mt. Peulik Vol 74.04 26 P **P 03 30 56.9 +0.5**
baz=235,SNR=11
WMQ Urumqi 74.10 318 *e*P P 03 31 02.0 +4.9
WMQ pmax pmax
comp=Z,60nm,1.1s
WMQ LR LR
comp=Z,470nm,15.3s
WMQ LR LR
comp=Z,380nm,16.5s
WMQ LR LR
comp=Z,690nm,20.7s
M15K Kasigluk River 74.14 22 P **P 03 30 57.2 +0.3**
baz=230
P16K Nushagak River 74.17 24 P **P 03 30 57.3 +0.3**
baz=233
SII Sitkinak Islan 74.43 28 P **P 03 30 58.8 +0.1**
baz=237
O16K Kokwok River B 74.47 24 P **P 03 30 59.3 +0.5**
baz=233
J14K Nanvaranak Lak 74.48 20 IAmb IAmb 03 31 11.8
comp=Z,32nm,1.1s
J14K Nanvaranak Lak 74.48 20 P **P 03 30 59.4 +0.6**
baz=227,SNR=6.7
L15K Ungalak Mounta 74.48 21 P **P 03 30 59.7 +0.9**
baz=229
SBA Scott Base 74.50 177 P **P 03 30 59.6 +0.9**
SBA IAmb IAmb 03 31 02.5
comp=Z,83nm,2.0s
SBA Scott Base 74.50 177 P **P 03 30 59.6 +0.9**
SBA pmax pmax
comp=Z,83nm,2.0s
Q17K Contact Creek 74.61 26 P **P 03 31 00.2 +0.4**
baz=235,SNR=15
N16K Nishlik Lake 74.74 23 P **P 03 31 01.1 +0.7**
baz=232
ACHA Angle Creek He 74.83 26 P **P 03 31 01.4 +0.4**
ACHA IAmb IAmb 03 31 09.3
comp=Z,28nm,0.8s
R18K Karluk 74.86 27 P **P 03 31 01.5 +0.5**
baz=237
K15K Wolf Creek Mou 74.87 21 IAmb IAmb 03 31 13.7
comp=Z,39nm,1.0s
K15K Wolf Creek Mou 74.87 21 P **P 03 31 01.9 +0.8**
baz=229,SNR=14
P17K Kvichak River 74.91 25 P **P 03 31 01.8 +0.4**
baz=234
HYB Hyderabad 74.94 289 *e*P **P 03 31 01.6 -0.8**
O17K Koliganek Bris 74.98 24 P **P 03 31 02.4 +0.6**
baz=234,SNR=12
M16K Timber Creek 75.00 23 IAmb IAmb 03 31 14.6
comp=Z,34nm,0.9s
M16K Timber Creek 75.00 23 P **P 03 31 02.6 +0.7**
baz=232,SNR=8.6
TNA Tin City 75.14 16 P **P 03 31 03.1 +0.6**
baz=222
ANM Nome 75.16 18 P **P 03 31 02.8 +0.1**
baz=225
OHAK Old Harbor 75.20 28 P **P 03 31 03.9 +0.8**
OHAK IAmb IAmb 03 31 32.3
comp=Z,78nm,1.6s
OHAK Old Harbor 75.20 28 P **P 03 31 02.8 -0.3**
baz=238
Q18K Katmai Hardscr 75.21 26 P **P 03 31 03.4 +0.1**
baz=236,SNR=18
N17K Nushagak Hills 75.39 24 P **P 03 31 04.1 -0.1**
baz=234,SNR=8.4
F14K Arctic Creek 75.53 17 P **P 03 31 04.8 0.0**
baz=224
P18K Big Mountain, 75.54 25 P **P 03 31 05.0 -0.1**
baz=236
O18K Koktuh Hills 75.81 25 P **P 03 31 06.3 -0.3**
baz=236
M17K Holitna River 75.82 23 IAmb IAmb 03 31 15.3
comp=Z,46nm,1.2s
M17K Holitna River 75.82 23 P **P 03 31 06.8 +0.3**
baz=233,SNR=11
KDAK Kodiak Island 75.82 27 P **P 03 31 07.0 +0.4**
KDAK IAmb IAmb 03 31 14.9
comp=Z,38nm,1.1s
KDAK Kodiak Island 75.82 27 LR LR 04 01 45.5
comp=Z,435nm,19.3s,baz=225,slow=34
KDAK Kodiak Island 75.82 27 P **P 03 31 07.0 +0.4**
KDAK pmax pmax
comp=Z,38nm,1.1s
KDAK Kodiak Island 75.82 27 P **P 03 31 06.7 +0.1**
baz=238
J16K Anvik River 75.84 20 P **P 03 31 06.6 0.0**
baz=230
G15K Niukluk 75.87 18 P **P 03 31 06.9 +0.2**
baz=226
L17K Donlin 75.94 22 P **P 03 31 07.6 +0.4**
baz=232,SNR=18
Q19K Cape Douglas, 75.96 26 P **P 03 31 06.9 -0.5**
baz=237
N18K Kilae Creek 76.00 24 P **P 03 31 07.9 +0.2**
baz=235,SNR=17
F15K North Star Dit 76.19 17 P **P 03 31 09.6 +1.0**
baz=225,SNR=8.0
H16K Elim 76.19 19 P **P 03 31 08.5 -0.1**
baz=228
I17K Unalakleet 76.20 20 IAmb IAmb 03 31 16.6
comp=Z,31nm,1.3s
I17K Unalakleet 76.20 20 P **P 03 31 08.6 -0.1**
baz=230
K17K Iditarod 76.30 21 IAmb IAmb 03 31 17.7
comp=Z,44nm,1.2s
K17K Iditarod 76.30 21 P **P 03 31 09.4 +0.2**
baz=232,SNR=11
Q20K Shuyak Island 76.34 27 P **P 03 31 09.1 -0.5**
baz=238
J17K VABM Dome 76.44 21 IAmb IAmb 03 31 18.6
comp=Z,44nm,1.1s
J17K VABM Dome 76.44 21 P **P 03 31 10.8 +0.8**
baz=231,SNR=17
M18K Stony River 76.50 23 P **P 03 31 11.0 +0.6**
baz=235,SNR=16
P19K Oil Pt 76.53 25 P **P 03 31 10.7 0.0**
baz=237,SNR=13
L18K Granite Mounta 76.59 22 IAmb IAmb 03 31 20.3
comp=Z,50nm,1.2s
L18K Granite Mounta 76.59 22 P **P 03 31 11.9 +1.0**
baz=234,SNR=16
N19K Bonanza Creek 76.64 24 IAmb IAmb 03 31 19.4
comp=Z,36nm,1.3s
N19K Bonanza Creek 76.64 24 P **P 03 31 11.6 +0.2**
baz=236
G16K Koyuk River 76.66 18 P **P 03 31 11.5 +0.3**
baz=228
TIXI Tiksi 76.69 353 LR LR 04 05 16.9
comp=Z,331nm,19.6s,baz=173,slow=36
TIXI Tiksi 76.69 353 *e*P **P 03 31 12.0 +0.7**
TIXI pmax pmax
comp=Z,9.0nm,0.9s
ILSW Iliamna Southw 76.75 25 IAmb IAmb 03 31 19.3
comp=Z,44nm,1.2s
O20K Slope Mountain 77.02 25 P **P 03 31 12.8 -0.7**
baz=238
H17K Granite Mounta 77.14 19 IAmb IAmb 03 31 29.4
comp=Z,20nm,0.8s
H17K Granite Mounta 77.14 19 P **P 03 31 14.8 +0.8**
baz=230,SNR=21
ZSN Zaisan 77.24 320 *e*P **P 03 31 14.2 -0.7**
ZSN pmax pmax
comp=Z,13nm,1.2s
ZSN Zaisan 77.24 320 *e*P **P 03 31 14.3 -0.7**
comp=Z,13nm,1.2s
G17K Kiwalik Mounta 77.27 18 P **P 03 31 15.1 +0.5**
baz=229,SNR=15
L19K White Mountain 77.27 23 P **P 03 31 16.0 +1.2**
baz=235,SNR=58
M19K Big River Lodg 77.29 23 IAmb IAmb 03 31 35.0
comp=Z,27nm,0.9s
M19K Big River Lodg 77.29 23 P **P 03 31 15.3 +0.3**
baz=236
J18K Innoko River 77.32 21 IAmb IAmb 03 31 24.1
comp=Z,23nm,0.9s
J18K Innoko River 77.32 21 P **P 03 31 15.7 +0.6**
baz=233,SNR=16
BRLK Bradley Lake 77.60 26 IAmb IAmb 03 31 24.6
comp=Z,45nm,1.0s
F17K Baldwin Pennin 77.70 18 P **P 03 31 17.0 -0.1**
baz=228

M20K Styx River 77.78 24 IAmb IAmb 03 31 33.6
comp=Z,36nm,0.9s
M20K Styx River 77.78 24 P **P 03 31 17.7 0.0**
baz=237
H18K Honhosa River 77.78 19 P **P 03 31 17.1 -0.5**
baz=232
N20K Mount Spurr 77.79 24 P **P 03 31 17.4 -0.4**
baz=238
SPCR Spurr Chakacha 77.79 24 P **P 03 31 17.4 -0.4**
baz=238
L20K Farewell, AK 77.81 23 P **P 03 31 16.9 -1.0**
baz=236,SNR=20
C16K Lisburne Hills 77.82 15 P **P 03 31 17.5 -0.3**
baz=224
E17K Hotham Inlet 77.96 17 P **P 03 31 19.7 +1.2**
baz=228,SNR=13
CAPN Captain Cook N 78.00 25 P **P 03 31 18.5 -0.3**
D17K Noatak River 78.03 16 P **P 03 31 19.1 +0.3**
baz=226
J19K Poorman 78.03 21 IAmb IAmb 03 31 27.3
comp=Z,53nm,1.4s
J19K Poorman 78.03 21 P **P 03 31 19.2 +0.3**
baz=234,SNR=18
GCSA Galena City Sc 78.04 20 P **P 03 31 18.9 0.0**
baz=233
G18K Tagagawik 78.16 19 IAmb IAmb 03 31 27.2
comp=Z,43nm,1.4s
G18K Tagagawik 78.16 19 P **P 03 31 19.7 +0.1**
baz=231,SNR=20
K20K Telida 78.23 22 P **P 03 31 21.0 +0.9**
baz=236,SNR=29
F18K Selawik 78.29 18 P **P 03 31 20.5 +0.1**
baz=230
RDOG Red Dog Mine 78.32 16 IAmb IAmb 03 31 48.9
comp=Z,40nm,1.1s
RDOG Red Dog Mine 78.32 16 P **P 03 31 21.1 +0.6**
baz=227
SEW Seward 78.40 26 P **P 03 31 21.0 0.0**
baz=241
O22K Cooper Landing 78.47 26 P **P 03 31 21.4 0.0**
baz=240
SKT Skwentna 78.47 24 P **P 03 31 21.1 -0.4**
baz=239
SUA Susitna One 78.53 24 IAmb IAmb 03 31 30.0
comp=Z,23nm,0.9s
SUA Susitna One 78.53 24 P **P 03 31 21.1 -0.8**
baz=239
C17K DeLong Mountai 78.54 16 P **P 03 31 21.4 -0.3**
baz=226
E18K Tukpahlearik C 78.54 17 P **P 03 31 22.1 +0.3**
baz=229
H19K Roundabout Mou 78.65 20 P **P 03 31 22.7 +0.3**
baz=233,SNR=20
J20K Nowinta River 78.67 21 P **P 03 31 22.7 +0.2**
baz=236,SNR=24
MK31 Makanchi Array 78.69 319 *c i*P **P 03 31 22.5 -0.6**
MKAR Makanchi Array 78.69 319 **P 03 31 22.4 -0.7**
MKAR Makanchi Array 78.69 319 P **P 03 31 21.6 -1.5**
comp=Z,5.2nm,0.8s,baz=99,slow=7.9,SNR=21
MKAR LR LR 04 05 05.6
comp=Z,545nm,20.8s,baz=56,slow=35
comp=Z,5.2nm,0.8s
MKAR Makanchi Array 78.69 319 *i*P **P 03 31 22.2 -0.9**
MKAR pmax pmax
comp=Z,8.0nm,0.9s
PPLA Purkeypile 78.70 23 IAmb IAmb 03 31 33.6
comp=Z,62nm,1.4s
PPLA Purkeypile 78.70 23 P **P 03 31 22.4 -0.4**
baz=238
RC01 Rabbit Creek A 78.76 25 P **P 03 31 22.4 -0.7**
baz=240
G19K Purcell Mounta 78.81 19 IAmb IAmb 03 31 31.4
comp=Z,45nm,1.2s
G19K Purcell Mounta 78.81 19 P **P 03 31 23.0 -0.3**
baz=233,SNR=19
I20K Naaghedeneel 78.90 21 P **P 03 31 23.8 +0.1**
baz=235
MAKZ Makanchi 78.90 319 P **P 03 31 23.4 -0.8**
MAKZ IAmb IAmb 03 31 30.0
comp=Z,35nm,0.8s
MAKZ Makanchi 78.90 319 P **P 03 31 23.4 -0.8**
MAKZ pmax pmax
comp=Z,35nm,0.9s
M22K Willow 78.93 24 P **P 03 31 24.2 +0.2**
baz=240
CAST Castle Rocks 79.02 22 IAmb IAmb 03 31 31.6
comp=Z,66nm,1.3s
CAST Castle Rocks 79.02 22 P **P 03 31 24.5 0.0**
baz=238,SNR=42
F19K Shalerucki Mo 79.02 18 IAmb IAmb 03 31 33.0
comp=Z,21nm,0.8s
F19K Shalerucki Mo 79.02 18 P **P 03 31 24.5 +0.1**
baz=232,SNR=16
H20K Anotleneega Mo 79.16 20 P **P 03 31 25.4 +0.2**
baz=235,SNR=23
CHUM Lake Minchumin 79.18 22 P **P 03 31 25.4 +0.1**
baz=238,SNR=16
C18K Utukok River 79.19 16 P **P 03 31 25.6 +0.3**
baz=228
CUT Chulitna 79.20 24 P **P 03 31 25.3 -0.1**
baz=240
PWL Port Wells 79.25 26 P **P 03 31 25.3 -0.5**
baz=242
P23K Montague Islan 79.25 27 P **P 03 31 25.2 -0.6**
baz=243
PMR Palmer 79.26 25 IAmb IAmb 03 31 32.9
comp=Z,53nm,1.3s
PMR Palmer 79.26 25 P **P 03 31 25.6 -0.2**
baz=241,SNR=6.3
KNK Knik Glacier 79.46 25 P **P 03 31 26.3 -0.6**
baz=242,SNR=5.8
Q23K Middleton Isla 79.47 27 P **P 03 31 26.8 -0.2**
baz=244
B18K Kokolik River 79.51 15 P **P 03 31 26.7 -0.3**
baz=228
KTH Kantishna Hill 79.53 23 IAmb IAmb 03 31 34.0
comp=Z,55nm,1.2s
ZALV Zalesovo Beam 79.57 326 P **P 03 31 25.7 -2.0**
ZALV Zalesovo Beam 79.57 326 P **P 03 31 26.4 -1.2**
comp=Z,3.4nm,0.7s,baz=134,slow=4.6,SNR=13
ZALV LR LR 04 06 35.0
comp=Z,552nm,20.6s,baz=106,slow=36
comp=Z,3.4nm,0.7s
E19K Redstone River 79.57 18 IAmb IAmb 03 31 39.2
comp=Z,48nm,0.9s
E19K Redstone River 79.57 18 P **P 03 31 27.2 -0.2**
baz=232
SHLS Shalkode 79.58 315 *e*P **P 03 31 25.7 -2.5**
SHLS pmax pmax
comp=Z,18nm,0.9s
SHLS Shalkode 79.58 315 *e*P **P 03 31 25.7 -2.5**
comp=Z,18nm,0.9s
TRF Thorofare Moun 79.72 23 IAmb IAmb 03 31 39.4
comp=Z,63nm,1.6s
TRF Thorofare Moun 79.72 23 P **P 03 31 27.7 -0.8**
baz=240,SNR=6.0
BPAW Bear Paw Mtn. 79.79 22 IAmb IAmb 03 31 35.6
comp=Z,48nm,1.4s
BPAW Bear Paw Mtn. 79.79 22 P **P 03 31 28.0 -0.6**
baz=239,SNR=21
GLI Glacier Island 79.79 26 P **P 03 31 27.5 -1.3**
baz=243
F20K Avaraart Lake 79.79 18 IAmb IAmb 03 31 37.9
comp=Z,28nm,0.8s
F20K Avaraart Lake 79.79 18 P **P 03 31 29.1 +0.5**
baz=234
IMAR Indian Mountai 79.83 20 P **P 03 31 29.4 +0.6**
UZB Uzynbulak 79.89 315 *e*P **P 03 31 28.8 -1.0**
UZB pmax pmax
comp=Z,21nm,1.1s
UZB Uzynbulak 79.89 315 *e*P **P 03 31 28.9 -1.0**
comp=Z,21nm,1.1s
C19K Lookout Ridge 79.93 16 P **P 03 31 30.0 +0.6**
baz=230
M23K Glacier View 79.95 25 P **P 03 31 30.0 +0.4**
baz=242
D19K Kuna River 79.95 17 IAmb IAmb 03 31 44.3
comp=Z,28nm,1.0s
D19K Kuna River 79.95 17 P **P 03 31 29.6 +0.1**
baz=231
H21K Melozitna Rive 79.97 20 P **P 03 31 30.0 +0.4**
baz=237,SNR=17
SCM Sheep Creek Mo 80.13 25 P **P 03 31 30.8 +0.1**
baz=242
G21K Allakaket 80.21 19 P **P 03 31 30.1 -0.8**
baz=236
KPKS Kokpek 80.21 315 *e*P **P 03 31 30.3 -1.2**

KPKS Kokpek 80.21 315 *e*P **P 03 31 30.4 -1.2**
EYAK Cordova Ski Ar 80.24 26 P **P 03 31 30.3 -0.8**
baz=244
RND Reindeer 80.26 23 IAmb IAmb 03 31 37.9
comp=Z,41nm,0.9s
A19K Wainwright 80.26 15 P **P 03 31 31.3 +0.3**
baz=228
SATY Saty 80.31 315 *e*P **P 03 31 31.1 -1.0**
SATY pmax pmax
comp=Z,16nm,1.2s
SATY Saty 80.31 315 *e*P **P 03 31 31.1 -1.0**
comp=Z,16nm,1.2s
MLY Manley 80.37 21 IAmb IAmb 03 31 47.5
comp=Z,42nm,1.1s
MLY Manley 80.37 21 P **P 03 31 31.5 -0.3**
baz=239,SNR=24
MCK McKinley 80.39 23 P **P 03 31 31.9 -0.1**
baz=241,SNR=21
D20K Etivluk River 80.52 17 IAmb IAmb 03 31 40.2
comp=Z,54nm,1.5s
D20K Etivluk River 80.52 17 P **P 03 31 32.9 +0.4**
baz=233,SNR=6.2
KAIM Kayak Island 80.57 27 P **P 03 31 32.5 -0.4**
baz=245
KLU Klutina 80.58 26 IAmb IAmb 03 31 41.0
comp=Z,71nm,1.2s
KLU Klutina 80.58 26 P **P 03 31 33.0 0.0**
baz=244,SNR=5.5
H22K Ishtalitna Cre 80.59 20 P **P 03 31 33.6 +0.6**
baz=238,SNR=6.4
F21K Alatna River 80.61 19 P **P 03 31 33.2 +0.2**
baz=236
M24K Tolsona, Glenn 80.74 25 P **P 03 31 33.6 -0.3**
baz=244
NEA2 Nenana 80.76 22 IAmb IAmb 03 31 40.4
comp=Z,45nm,1.2s
NEA2 Nenana 80.76 22 P **P 03 31 33.7 -0.2**
baz=240,SNR=25
BMRM Bremner River 80.93 26 IAmb IAmb 03 32 01.3
comp=Z,84nm,1.4s
BMRM Bremner River 80.93 26 P **P 03 31 34.4 -0.5**
baz=245
I23K Minto, Yukon-K 80.93 22 P **P 03 31 34.5 -0.3**
baz=240
KDJ Kajisay 80.96 314 IAmb IAmb 03 31 42.6
comp=Z,55nm,1.0s
WRH Wood River Hil 81.07 22 IAmb IAmb 03 31 42.0
comp=Z,56nm,1.3s
G22K Bettles 81.09 20 P **P 03 31 35.0 -0.6**
baz=238,SNR=7.7
E21K Killik River 81.15 18 IAmb IAmb 03 31 50.9
comp=Z,44nm,1.1s
E21K Killik River 81.15 18 P **P 03 31 35.9 0.0**
baz=235
B20K Meade River 81.17 16 P **P 03 31 35.5 -0.4**
baz=232
BGLC Bering Glacier 81.17 27 P **P 03 31 36.1 0.0**
baz=246
F22K John River 81.19 19 P **P 03 31 35.5 -0.6**
baz=237
N25K Chitina, Valde 81.20 26 P **P 03 31 35.8 -0.6**
baz=245
H23K Yukon River 81.20 21 IAmb IAmb 03 31 44.1
comp=Z,34nm,1.4s
H23K Yukon River 81.20 21 P **P 03 31 36.5 +0.2**
baz=240,SNR=6.0
CCB Clear Creek Bu 81.26 22 IAmb IAmb 03 31 42.8
comp=Z,58nm,1.5s
KSH Kashi 81.28 311 P **P 03 31 40.8 +3.4**
KSH sP pwP 03 31 44.5 -0.7
KSH S **S 03 41 50.3 +2.7**
KSH pmax pmax
comp=Z,30nm,1.2s
KSH LR LR
comp=Z,330nm,16.5s
KSH LR LR
comp=Z,340nm,19.2s
KSH LR LR
comp=Z,500nm,17.2s
HARP HAARP 81.30 25 P **P 03 31 36.2 -0.6**
baz=244
C21K Knifeblade Rid 81.32 17 P **P 03 31 36.2 -0.6**
baz=234
COLA College 81.36 22 *d i*P **P 03 31 36.8 -0.2**
COLA pmax pmax
comp=Z,13nm,0.8s
COLA College 81.36 22 P **P 03 31 36.3 -0.6**
baz=242
PAX Paxson 81.42 24 P **P 03 31 36.9 -0.6**
baz=244
GLB Gilahina Butte 81.47 26 IAmb IAmb 03 31 45.5
comp=Z,37nm,1.0s
HDA Harding Lake 81.48 23 P **P 03 31 38.2 +0.5**
baz=242,SNR=5.5
G23K Bananza Creek 81.48 20 IAmb IAmb 03 31 45.6
comp=Z,37nm,1.3s
G23K Bananza Creek 81.48 20 P **P 03 31 38.1 +0.3**
baz=239,SNR=6.8
CRQM Cirque 81.49 27 IAmb IAmb 03 31 57.4
comp=Z,46nm,1.0s
CRQE Cirque 81.51 27 P **P 03 31 37.6 -0.5**
baz=246
POKR Poker Plat Res 81.63 22 P **P 03 31 37.9 -0.6**
baz=242
B21K Ikpikpuk River 81.64 17 P **P 03 31 38.6 +0.2**
baz=234
E22K Anaktuvuk Pass 81.65 18 IAmb IAmb 03 31 58.9
comp=Z,27nm,1.1s
E22K Anaktuvuk Pass 81.65 18 P **P 03 31 38.5 -0.1**
baz=237,SNR=6.5
K24K Donnelly Dome 81.66 23 IAmb IAmb 03 31 55.6
comp=Z,57nm,1.1s
K24K Donnelly Dome 81.66 23 P **P 03 31 38.4 -0.3**
baz=244
ULHL Ulahol 81.67 313 P P 03 31 45.2 +5.7
SNR=10.0
ILAR Eielson Array 81.67 22 P **P 03 31 37.1 -1.6**
ILAR Eielson Array 81.67 22 P **P 03 31 38.1 -0.6**
comp=Z,6.8nm,0.9s,baz=246,slow=5.2,SNR=40
ILAR LR LR 04 08 11.6
comp=Z,192nm,18.2s,baz=252,slow=36
comp=Z,6.8nm,0.9s
COLD Coldfoot 81.69 20 P **P 03 31 38.4 -0.4**
baz=239
D22K Ayikyak River 81.79 18 IAmb IAmb 03 31 48.1
comp=Z,23nm,0.9s
D22K Ayikyak River 81.79 18 P **P 03 31 38.8 -0.5**
baz=236
MCARA McCarthy VSAT 81.80 26 P **P 03 31 39.0 -0.4**
baz=246
H24K Noodor Dome 81.81 21 P **P 03 31 38.5 -0.9**
baz=241
MESA MESA 81.81 28 P **P 03 31 38.5 -1.3**
baz=248
BOOM Boomskoye usch 81.94 314 IAmb IAmb 03 31 47.8
comp=Z,27nm,1.0s
KUU Kurty 81.97 315 *e*P **P 03 31 39.8 -1.0**
KUU pmax pmax
comp=Z,19nm,1.0s
KUU Kurty 81.97 315 *e*P **P 03 31 39.9 -0.9**
comp=Z,19nm,1.0s
RIDG Independent Ri 82.01 24 IAmb IAmb 03 31 48.7
comp=Z,44nm,1.2s
RIDG Independent Ri 82.01 24 P **P 03 31 39.9 -0.7**
baz=244,SNR=5.4
A21K Barrow 82.12 15 P **P 03 31 40.2 -0.7**
baz=232
KURK Kurchatov 82.15 322 P **P 03 31 40.6 -0.9**
KURK IAmb IAmb 03 31 46.9
comp=Z,35nm,1.1s
KURK Kurchatov 82.15 322 *c i*P **P 03 31 40.6 -0.9**
KURK pmax pmax
comp=Z,7.0nm,0.7s
J25K Salcha River, 82.18 23 P **P 03 31 40.5 -1.0**
baz=244,SNR=30
KURBB Kurchatov Arra 82.18 322 P **P 03 31 40.7 -1.0**
comp=Z,2.5nm,0.2s,baz=107,slow=4.5,SNR=20
KURBB LR LR 04 07 44.6
comp=Z,564nm,20.6s,baz=150,slow=35
comp=Z,2.5nm,0.2s
M26K Nabesna, AK 82.22 25 P **P 03 31 41.4 -0.3**
baz=246
TKM2 Tokmak 2 82.28 314 P P 03 31 48.1 +5.4
SNR=11
E23K Chandalar 82.31 19 IAmb IAmb 03 31 54.6
comp=Z,38nm,1.1s
E23K Chandalar 82.31 19 P **P 03 31 41.5 -0.6**
baz=240

L26K **Log Cabin Wild** 82.32 25 P P 03 31 41.6 -0.6
baz=246,SNR=8.6
NIL **Nilore** 82.33 305 P P 03 31 42.2 -0.7
NIL **Nilore** 82.33 305 P P 03 31 42.2 -0.7
NIL pmax pmax
comp=Z,87nm,0.8s
A22K **Sinclair Lake** 82.35 15 P P 03 31 41.6 -0.5
baz=234
G24K **Hadweenzic Riv** 82.36 21 IAmb IAmb 03 31 57.9
comp=Z,34nm,1.1s
G24K **Hadweenzic Riv** 82.36 21 P P 03 31 41.3 -1.0
baz=242
CTG **Chitna Glacier** 82.39 27 P P 03 31 41.7 -1.0
baz=248
CTGM **Chitina Glacie** 82.39 27 IAmb IAmb 03 32 02.2
comp=Z,36nm,1.0s
B22K **Teshekpuk Lake** 82.39 16 P P 03 31 41.3 -1.1
baz=236
D23K **Nanushuk River** 82.44 18 IAmb IAmb 03 31 52.2
comp=Z,32nm,0.8s
D23K **Nanushuk River** 82.44 18 P P 03 31 41.5 -1.2
baz=238
SCRK **Sand Creek** 82.45 24 IAmb IAmb 03 31 54.8
comp=Z,53nm,1.7s
SCRK **Sand Creek** 82.45 24 P P 03 31 42.0 -1.0
baz=245
PRP **Porcupine Dome** 82.52 22 P P 03 31 42.6 -0.8
baz=244
PINM **Pinnacle** 82.57 28 P P 03 31 42.2 -1.4
baz=249
F24K **Squaw Lake** 82.61 20 IAmb IAmb 03 32 00.8
comp=Z,23nm,1.0s
F24K **Squaw Lake** 82.61 20 P P 03 31 42.7 -0.9
baz=241
TOLK **Toolik Lake Re** 82.62 18 P P 03 31 42.7 -1.0
baz=240
M27K **Edge Creek, AK** 82.68 26 P P 03 31 42.9 -1.3
baz=247,SNR=17
E24K **Your Creek** 82.69 19 P P 03 31 42.9 -1.2
baz=241
H25L **Birch Creek** 82.75 21 P P 03 31 43.0 -1.3
baz=243
PNL **Peninsula** 82.82 29 P P 03 31 44.1 -0.8
baz=250
O28M **Mount Upton** 82.84 27 P P 03 31 44.1 -1.2
baz=249
J26L **Joseph Creek** 82.84 23 P P 03 31 43.6 -1.3
baz=246,SNR=12
G25K **Bearman Lake** 82.88 21 P P 03 31 44.2 -0.7
baz=243,SNR=6.2
CHMS **Chumysh** 82.90 314 P P 03 31 51.1 +5.4
SNR=7.1
UCH **Uchtor** 82.92 313 P P 03 31 46.9 +0.5
SNR=24
C23K **Itkillik River** 82.92 17 P P 03 31 44.3 -0.8
baz=238
L27K **Beaver Creek,** 82.97 25 IAmb IAmb 03 32 05.0
comp=Z,17nm,1.0s
L27K **Beaver Creek,** 82.97 25 P P 03 31 44.3 -1.3
baz=247,SNR=7.7
BCAR **Beaver Creek A** 82.99 25 P P 03 31 46.5 +0.8
AAK **Ala-Archa** 83.02 314 P P 03 31 52.5 +6.1
SNR=6.0
AAK **Ala-Archa** 83.02 314 LR LR 04 09 20.6
comp=Z,418nm,19.7s,baz=100,slow=36
YUK3 **Moose Creek** 83.08 26 P P 03 31 44.6 -1.8
baz=249
SGDS **Sogindy** 83.08 314 *eP* P 03 31 46.0 -0.6
comp=Z,12nm,1.2s
D24K **Happy Valley** 83.11 18 P P 03 31 45.5 -0.6
baz=240
BVCY **Beaver Creek** 83.14 26 P P 03 31 44.9 -1.5
baz=248
USP **Ospenovka** 83.14 314 P P 03 31 52.4 +5.5
SNR=20
YUK8 **Steele Glacier** 83.22 27 P P 03 31 45.3 -1.8
baz=249
K27K **Chicken** 83.25 24 IAmb IAmb 03 31 54.7
comp=Z,30nm,1.2s
K27K **Chicken** 83.25 24 P P 03 31 45.6 -1.3
baz=247
I26K **Coal Creek Min** 83.33 23 IAmb IAmb 03 31 53.8
comp=Z,24nm,1.4s
I26K **Coal Creek Min** 83.33 23 P P 03 31 45.6 -1.7
baz=246
F25K **Christian Rive** 83.41 20 P P 03 31 45.3 -2.5
baz=243
O29M **Mount Kennedy** 83.43 28 P P 03 31 45.8 -2.3
baz=251
C24K **Franklin Bluff** 83.44 18 P P 03 31 47.2 -0.6
baz=240
EKS2 **Erkin-Say** 83.54 313 P P 03 31 55.1 +6.0
SNR=7.4
P29M **Windy Craggy** 83.61 29 P P 03 31 48.0 -0.9
baz=251
BMAR **Burnt Mountain** 83.70 20 P P 03 31 49.9 +0.6
YUK6 **Outpost Mounta** 83.74 28 P P 03 31 47.9 -2.0
baz=251
YUK4 **Talbot Arm** 83.74 27 P P 03 31 49.3 -0.5
baz=250
G26K **Porcupine Rive** 83.78 21 P P 03 31 48.6 -1.0
baz=245,SNR=12
BTLS **Baital** 83.81 316 *eP* P 03 31 49.6 -0.7
BTLS pmax pmax
comp=Z,7.0nm,1.1s
BTLS **Baital** 83.81 316 *e* P 03 31 49.6 -0.7
comp=Z,7.2nm,1.1s
S31K **Pelican** 83.84 31 P P 03 31 49.2 -0.9
baz=253
D25K **Kavik River** 83.96 18 P P 03 31 48.8 -1.8
baz=242
F26K **Sheenjek River** 83.97 20 P P 03 31 49.8 -0.9
baz=245
I27K **Kandik River** 84.04 23 P P 03 31 50.0 -1.1
baz=247,SNR=19
SIT **Sitka** 84.05 32 P P 03 31 49.9 -1.3
baz=254
HYT **Haines Junctio** 84.10 28 P P 03 31 50.7 -0.8
baz=252,SNR=8.2
P30M **Million Dollar** 84.13 29 P P 03 31 50.9 -0.7
baz=252
M29M **Somme Creek** 84.19 26 P P 03 31 50.9 -1.1
baz=250
R31K **City Hall, Gus** 84.22 30 P P 03 31 51.2 -0.8
baz=253
H27K **Steamboat Moun** 84.32 22 IAmb IAmb 03 32 09.5
comp=Z,22nm,1.0s
H27K **Steamboat Moun** 84.32 22 P P 03 31 51.7 -0.7
baz=247
DAWY **Dawson** 84.36 24 IAmb IAmb 03 32 05.8
comp=Z,20nm,1.1s
DAWY **Dawson** 84.36 24 P P 03 31 52.1 -0.5
baz=250,SNR=10
N30M **Aishikik Lake** 84.49 27 P P 03 31 52.5 -1.0
baz=252
G27K **Doyon Strip** 84.49 21 P P 03 31 52.6 -0.7
baz=247
S32K **Killisnoo** 84.55 31 P P 03 31 52.4 -1.3
baz=254
L29M **L29M** 84.56 25 IAmb IAmb 03 32 01.3
comp=Z,23nm,1.2s
L29M **L29M** 84.56 25 P P 03 31 52.4 -1.4
baz=251,SNR=9.7
I28M **Miner Creek** 84.63 23 IAmb IAmb 03 32 06.9
comp=Z,62nm,1.9s
I28M **Miner Creek** 84.63 23 P P 03 31 53.3 -0.8
baz=249
C26K **Camden Bay** 84.69 18 P P 03 31 53.3 -0.9
baz=244
O30N **Mendenhall** 84.74 28 P P 03 31 52.8 -1.9
baz=253
R32K **Eaglecrest** 84.80 31 P P 03 31 53.2 -1.8
baz=254
CRAG **Craig** 84.82 34 P P 03 31 53.4 -1.7
baz=256
C27K **Jago River** 84.94 19 P P 03 31 54.1 -1.4
baz=245
J29N **Klondike Camp** 84.97 24 P P 03 31 54.6 -1.3
baz=250
M30M **Minto, Yukon** 84.97 26 IAmb IAmb 03 32 06.2
comp=Z,34nm,1.4s
M30M **Minto, Yukon** 84.97 26 P P 03 31 54.3 -1.5
baz=252
U33K **Whale Pass** 84.98 33 P P 03 31 54.1 -1.8
baz=256
E27K **Coleen River** 85.05 20 P P 03 31 54.3 -1.8
baz=247
K29M **Barlow Dome** 85.06 25 IAmb IAmb 03 32 03.9
comp=Z,39nm,1.3s
K29M **Barlow Dome** 85.06 25 P P 03 31 54.6 -1.7
baz=251,SNR=20
N31M **Braeburn, Yuko** 85.10 27 P P 03 31 54.6 -1.9
baz=253
I29M **Ogilvie Camp,** 85.24 23 IAmb IAmb 03 32 13.7
comp=Z,31nm,1.3s
I29M **Ogilvie Camp,** 85.24 23 P P 03 31 55.4 -1.6
baz=250
WHY **Whitehorse** 85.28 28 P P 03 31 56.1 -1.4
baz=254
DZA **Taraz** 85.35 313 *eP* P 03 31 57.4 -0.7
DZA pmax pmax
comp=Z,11nm,0.9s
DZA **Taraz** 85.35 313 *eP* P 03 31 57.5 -0.7
comp=Z,11nm,0.9s
F28M **Old Crow** 85.44 21 P P 03 31 57.1 -0.9
baz=249
WRAK **Wrangell Islan** 85.47 33 P P 03 31 57.5 -0.9
baz=256
H29M **Whitestone** 85.50 22 P P 03 31 57.3 -1.0
baz=250
P32M **Atlin** 85.55 29 P P 03 31 56.7 -2.0
baz=255
V35K **Ketchikan** 85.62 34 P P 03 31 56.8 -2.3
baz=257
D27M **Malcolm River** 85.67 19 P P 03 31 57.4 -1.8
baz=248
BRZS **Berezniki** 85.69 321 *eP* P 03 31 58.7 -0.9
BRZS **Berezniki** 85.69 321 *eP* P 03 31 58.8 -0.9
J30M **Hart River** 85.78 24 IAmb IAmb 03 32 07.4
comp=Z,29nm,1.1s
J30M **Hart River** 85.78 24 P P 03 31 57.9 -2.0
baz=252
G29M **Pine Creek** 85.87 22 IAmb IAmb 03 32 07.4
comp=Z,38nm,1.1s
G29M **Pine Creek** 85.87 22 P P 03 31 58.8 -1.4
baz=250,SNR=9.0
E28M **Babbage River** 85.92 20 IAmb IAmb 03 32 07.8
comp=Z,34nm,1.4s
E28M **Babbage River** 85.92 20 P P 03 31 59.1 -1.2
baz=249,SNR=7.2
M31M **Drury Creek, Y** 85.93 27 P P 03 31 59.0 -1.6
baz=254
I30M **Mount Dempster** 85.96 24 IAmb IAmb 03 32 14.1
comp=Z,28nm,1.4s
I30M **Mount Dempster** 85.96 24 P P 03 31 59.0 -1.8
baz=252
KKAR **Karatay Array** 85.98 314 P P 03 32 01.2 -0.1
KKAR **Karatay Array** 85.98 314 P P 03 32 01.2 -0.1
MAW **Mawson** 86.05 203 P P 03 31 59.6 -1.4
comp=Z,2.3nm,0.7s,baz=62,slow=4.6,SNR=4.7
MAW LR LR 04 07 27.6
comp=Z,937nm,21.9s,baz=92,slow=34
comp=Z,2.3nm,0.7s
Q32M **Nakina River** 86.11 30 P P 03 32 00.3 -1.5
baz=256
P33M **Teslin, Yukon** 86.15 29 P P 03 32 00.1 -1.6
baz=256
EPYK **Eagle Plains** 86.19 23 P P 03 31 60.0 -1.8
baz=252,SNR=19
IUG **luzhnay** 86.19 313 *eP* P 03 32 01.5 -0.9
IUG pmax pmax
comp=Z,20nm,1.4s
IUG **luzhnay** 86.19 313 *eP* P 03 32 01.5 -0.9
comp=Z,20nm,1.4s
QSPA **South Pole Qui** 86.21 180 P P 03 32 00.8 -1.3
QSPA IAmb IAmb 03 32 10.8
comp=Z,31nm,1.2s
QSPA **South Pole Qui** 86.21 180 P P 03 32 01.4 -0.6
comp=Z,11nm,1.1s,baz=3.2,slow=2.7,SNR=14
QSPA LR LR 04 09 33.8
comp=Z,255nm,19.3s,baz=19,slow=35
comp=Z,11nm,1.1s
N32M **Quiet Lake** 86.26 28 P P 03 32 00.6 -1.7
baz=255
E29M **Blow River** 86.41 20 P P 03 32 01.0 -1.8
baz=250
D28M **Stokes Point** 86.44 19 P P 03 32 01.8 -1.1
baz=250
S34M **Telegraph Cree** 86.46 31 IAmb IAmb 03 32 11.6
comp=Z,26nm,1.1s
S34M **Telegraph Cree** 86.46 31 P P 03 32 01.3 -1.9
baz=257
BRLS **Borolday** 86.46 313 *eP* P 03 32 02.8 -0.8
BRLS pmax pmax
comp=Z,7.0nm,0.8s
BRLS **Borolday** 86.46 313 *eP* P 03 32 02.8 -0.8
comp=Z,7.3nm,0.8s
SIMJ **Simiganj** 86.47 309 P P 03 32 02.8 -1.2
G30M **tAoh Zraii Nji** 86.56 22 IAmb IAmb 03 32 11.0
comp=Z,41nm,1.4s
G30M **tAoh Zraii Nji** 86.56 22 P P 03 32 02.4 -1.2
baz=252
T35M **Bob Quinn** 86.72 32 P P 03 32 02.7 -1.9
baz=258
R33M **Jennings River** 86.87 30 IAmb IAmb 03 32 14.1
comp=Z,27nm,1.2s
R33M **Jennings River** 86.87 30 P P 03 32 03.1 -2.3
baz=257
F30M **Barrier River** 86.92 21 P P 03 32 03.8 -1.5
baz=253
H31M **Peel River** 86.94 23 IAmb IAmb 03 32 24.0
comp=Z,32nm,1.2s
H31M **Peel River** 86.94 23 P P 03 32 03.8 -1.7
baz=254
DLBC **Dease Lake** 87.14 31 LR LR 04 06 09.2
comp=Z,53nm,19.5s,baz=228,slow=32
DLBC **Dease Lake** 87.14 31 P P 03 32 04.7 -1.9
baz=258
G31M **Satah River** 87.28 22 IAmb IAmb 03 32 13.6
comp=Z,32nm,1.2s
G31M **Satah River** 87.28 22 P P 03 32 05.9 -1.1
baz=254
MMPY **Sheldon Lake,** 87.45 27 IAmb IAmb 03 32 25.3
comp=Z,27nm,1.2s
MMPY **Sheldon Lake,** 87.45 27 P P 03 32 06.7 -1.4
baz=257
F31M **Tsiigehtchic** 87.62 22 IAmb IAmb 03 32 15.0
comp=Z,27nm,1.3s
F31M **Tsiigehtchic** 87.62 22 P P 03 32 07.2 -1.5
baz=254
BVAR **Borovoye Array** 87.63 323 P P 03 32 07.2 -1.9
comp=Z,9.0nm,0.8s,baz=76,slow=6.3,SNR=20
BVAR LR LR 04 13 28.6
comp=Z,593nm,18.1s,baz=87,slow=37
comp=Z,9.0nm,0.8s
BRVK **Borovoye** 87.70 323 P P 03 32 06.5 -2.9
BRVK IAmb IAmb 03 32 14.8
comp=Z,23nm,1.0s
BRVK **Borovoye** 87.70 323 *ce* P 03 32 08.0 -1.4
BRVK pmax pmax
comp=Z,6.0nm,1.0s
INK **Inuvik** 87.93 21 IAmb IAmb 03 32 22.2
comp=Z,16nm,1.0s
INK **Inuvik** 87.93 21 LR LR 04 10 15.8
comp=Z,296nm,18.9s,baz=252,slow=35
INK **Inuvik** 87.93 21 P P 03 32 08.7 -1.4
baz=255
WTLY **Watson Lake, Y** 88.09 30 P P 03 32 09.8 -1.3
baz=259
TGTN **Hyland Airport** 88.60 28 P P 03 32 11.4 -2.1
baz=260
YBH **Yreka Blue Hor** 89.31 48 LR LR 04 08 27.8
comp=Z,26nm,18.2s,baz=268,slow=33
LIRD **Liard River Hi** 89.32 30 P P 03 32 16.0 -0.9
baz=262
TOAD **Toad River Com** 89.68 31 P P 03 32 17.8 -0.8
baz=262
KOTAN **Kotaneelee Air** 90.44 30 P P 03 32 21.4 -0.7
baz=263
J05D **Fort Rock, OR** 90.53 47 IAmb IAmb 03 32 33.5
comp=Z,18nm,1.1s
K05A **Summer Lake** 90.74 47 IAmb IAmb 03 32 33.9
comp=Z,17nm,1.0s
WRGLY **Wrigley** 91.07 27 P P 03 32 24.1 -0.8
baz=264
A36M **Sachs Harbour** 91.44 18 P P 03 32 25.5 -1.0
baz=262
G08A **Pilot Rock** 92.30 45 P P 03 32 31.9 +0.7
NVAR **Mina Array Bea** 92.44 52 P P 03 32 33.9 +1.7
NVAR **Mina Array Bea** 92.44 52 P P 03 32 33.0 +0.7
comp=Z,1.7nm,0.9s,baz=260,slow=6.4,SNR=10
NVAR PP PP 03 36 17.2 +3.9
comp=Z,0.3nm,0.7s,baz=232,slow=4.9,SNR=3.8
comp=Z,1.7nm,0.9s
E09A **Wood Farm, Sta** 92.92 44 IAmb IAmb 03 32 41.1
comp=Z,15nm,1.2s
BMO **Blue Mountains** 93.45 45 P P 03 32 37.3 +0.7
BMO **Blue Mountains** 93.45 45 P P 03 32 37.3 +0.7
BMO pmax pmax
comp=Z,31nm,1.3s
SVE **Sverdlovsk** 93.59 327 *eP* P 03 32 40.5 +3.7
SVE pmax pmax
comp=Z,23nm,1.5s
NEW **Newport** 93.67 42 LR LR 04 07 28.3
comp=Z,201nm,20.9s,baz=286,slow=31
PFO **Pinyon Flats O** 93.73 57 LR LR 04 06 11.5
comp=Z,460nm,21.6s,baz=260,slow=30
PFO **Pinyon Flats O** 93.73 57 ⇑*iP* P 03 32 36.7 -1.5
PFO pmax pmax
comp=Z,5.0nm,1.0s
ABKAR **Akbulak array** 93.84 319 P P 03 32 35.9 -2.2
SYO **Syowa Base** 94.23 200 ⇑*e*PcP PcP 03 32 40.8 +0.9
SYO **Syowa Base** 94.23 200 ⇓*i*sP sP 03 32 46.0 +0.1
ARTI **Arti** 94.83 326 P P 03 32 41.2 -1.3
ARTI **Arti** 94.83 326 P P 03 32 41.9 -0.6
comp=Z,4.5nm,0.6s,baz=46,slow=1.8,SNR=8.5
ARTI LR LR 04 14 46.7
comp=Z,949nm,21.6s,baz=93,slow=35
comp=Z,4.5nm,0.6s
ARTI **Arti** 94.83 326 *c i*P P 03 32 42.1 -0.4
ARTI 03 36 30.5
ARTI S SKSac 03 43 17.2 -0.1
ARTI SS SS 03 50 22.6 +2.7
ARTI pmax pmax
comp=Z,13nm,1.1s
ARTI MLR MLR
comp=Z,935nm,21.0s
PRN **Pahroc Range** 94.98 53 IAmb IAmb 03 32 55.5
comp=Z,11nm,1.2s
YKA **Yellowknife Ar** 95.09 28 P P 03 32 43.6 +0.1
comp=Z,3.1nm,1.0s,baz=276,slow=5.5,SNR=4.9
YKA LR LR 04 12 08.3
comp=Z,388nm,20.6s,baz=296,slow=33
comp=Z,3.1nm,1.0s
YKA **Yellowknife Ar** 95.09 28 *i*P P 03 32 44.7 +1.2
YKA pmax pmax
comp=Z,2.0nm,0.9s
AKTO **Aktyubinsk** 95.10 320 P P 03 32 43.5 -0.3
comp=Z,6.2nm,1.0s,baz=63,slow=4.1,SNR=9.3
AKTO LR LR 04 16 38.9
comp=Z,557nm,20.1s,baz=75,slow=36
comp=Z,6.2nm,1.0s
LPIG **La Paz** 98.97 66 LR LR 04 12 08.6
comp=Z,722nm,18.9s,baz=235,slow=32
PDAR **Pinedale Array** 99.08 47 P Pdif 03 33 01.4 -1.0
PDAR **Pinedale Array** 99.08 47 P Pdif 03 33 02.0 -0.4
comp=Z,0.7nm,0.7s,baz=264,slow=1.5,SNR=6.2
PDAR PP PP 03 37 11.6 +6.9
comp=Z,0.9nm,0.9s,baz=267,slow=5.3,SNR=5.8
PDAR LR LR 04 11 19.4
comp=Z,126nm,20.8s,baz=261,slow=32
comp=Z,0.7nm,0.7s
KIRV **Kirov** 99.49 329 LR LR 04 18 58.2
comp=Z,426nm,20.8s,baz=86,slow=36
RES **Resolute Bay** 99.71 14 LR LR 04 15 14.1
comp=Z,312nm,21.7s,baz=320,slow=34
TROLL **Troll, Antarti** 101.78 189 ⇑P Pdif 03 33 13.9 +0.2
comp=Z,62nm,0.7s
MAK **Makhachkala** 102.79 313 *i*P Pdif 03 33 16.1 -2.4
MAK *i* 03 37 31.5
MAK *e*PPP PPP 03 39 41.2
MAK *e* 03 43 48.2
MAK *e*PS PS 03 46 30.0 -10
MAK *e*SS SS 03 52 08.7 -3.5
MAK *e*SSS SSS 03 55 57.0
MAK pmax pmax
comp=Z,181nm,1.4s
AKT **Akhty** 102.80 312 *e*P Pdif 03 33 15.4 -3.4
AKT pmax pmax
comp=Z,9.0nm,0.9s
AKT MLR MLR
comp=Z,562nm,23.0s
KLMR **Klimovskoe** 103.86 332 *e*P Pdif 03 33 19.2 -3.6
KLMR *e* 03 37 36.7
KLMR pmax pmax
comp=Z,12nm,1.5s
KLMR MLR MLR
comp=Z,602nm,19.0s
TXAR **Lajitas Array** 104.74 61 PP PP 03 37 50.2 +2.7
comp=Z,0.6nm,1.1s,baz=235,slow=4.4,SNR=3.6
FINES **FINESS Array B** 109.57 335 Pdiff Pdif 03 33 47.1 -1.1
comp=Z,0.9nm,0.7s,baz=134,slow=4.0,SNR=3.9
MNK **Minsk** 112.03 328 *i*P Pdif 03 33 58.4 -0.9
MNK *i* 03 38 35.8
MNK *i*PPP PPP 03 40 58.0
MNK *i*PS PS 03 48 05.4 -7.6
MNK *i*SS SS 03 54 18.3 +2.0
MNK *i*SSS SSS 03 58 24.1
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK MLR MLR
comp=N,454nm,20.0s
MNK MLR MLR
comp=Z,459nm,16.0s
MNK MLR MLR
comp=E,329nm,22.0s
AKASG **Malin Array Be** 112.90 324 PP PP 03 38 46.8 +0.9
comp=E,0.4nm,0.5s,baz=55,slow=4.9,SNR=4.9
BRTR **Keskin Array B** 113.65 312 PP PP 03 38 56.1 +4.3
comp=E,1.3nm,1.0s,baz=134,slow=7.1,SNR=3.8
RNPP9 **Sopachiv** 114.49 326 P Pdif 03 34 09.1 -1.3
NB2 **NORSAR Subarra** 115.49 340 PKPdf PKPdf 03 38 06.8 +4.3
comp=Z,0.6nm,0.8s,baz=44,slow=1.9
NB2 PP PP 03 39 05.4 +1.7
comp=Z,10nm,1.4s,baz=41,slow=7.4
NOA **NORSAR Array B** 115.49 340 PKP PKiKP 03 38 02.3 -0.2
comp=Z,1.2nm,0.8s,baz=46,slow=1.9,SNR=7.1
NOA PP PP 03 39 04.9 +1.2
comp=Z,5.8nm,1.2s,baz=41,slow=7.0,SNR=4.6
KOLS **Kolonicke sedl** 117.71 325 *e*PKiKP PKiKP 03 38 10.4 +3.3
KOLS **Kolonicke sedl** 117.71 325 *e*PKP PKiKP 03 38 10.4 +3.3
LANS **Liptovska Anna** 119.19 326 *e*PKiKP PKiKP 03 38 15.8 +5.8
LANS **Liptovska Anna** 119.19 326 *e*PKP PKiKP 03 38 15.8 +5.8
BOSA **Boshof** 119.21 234 PKP PKPdf 03 38 10.6 -0.2
comp=Z,1.0nm,0.6s,baz=80,slow=2.8,SNR=5.1
OKC **Ostrava-Krasne** 119.55 327 AMS AMS 04 30 00.0
comp=Z,600nm,19.4s
VYHS **Vyhne** 119.89 326 *e*PKiKP PKiKP 03 38 16.3 +4.9
VYHS **Vyhne** 119.89 326 *e*PKP PKiKP 03 38 16.3 +4.9
VYHS *e* 03 44 51.2
MORC **Moravsky Berou** 119.91 327 *e*PKP PKPdf 03 38 10.6 -0.7
MAUC **Maruska** 119.98 327 *e*PKPDF PKiKP 03 38 16.3 +4.7
OSTC **Ostas** 120.16 329 AMS AMS 04 30 40.0
comp=Z,600nm,19.2s
CHVC **Chvalec** 120.22 329 AMS AMS 04 30 50.0
comp=Z,600nm,19.5s
DPC **Dobruska-Polom** 120.22 329 *e*PKPDF PKiKP 03 38 15.8 +3.8
DPC AMS AMS 04 30 20.0
comp=Z,500nm,19.3s
DPC **Dobruska-Polom** 120.22 329 *e*PKiKP PKiKP 03 38 15.8 +3.8
DPC MLR MLR
comp=Z,500nm,19.3s
UPC **Upice** 120.29 329 AMS AMS 04 30 50.0
comp=Z,700nm,19.8s
JAVC **Velka Javorina** 120.35 327 *e*PKP PKPdf 03 38 11.7 -0.5
VRAC **Vranov** 120.68 327 *e*PKP PKPdf 03 38 10.9 -1.9
MODS **Modra-Piesok** 120.83 326 *e*PKiKP PKiKP 03 38 17.2 +4.0
MODS **Modra-Piesok** 120.83 326 *e*PKP PKiKP 03 38 17.2 +4.0
MODS *e* 03 44 52.7
KRUC **Moravsky** 120.93 327 *e*PKP PKPdf 03 38 12.5 -0.8
PVCC **Panska Ves** 121.02 329 AMS AMS 04 32 10.0
comp=Z,400nm,21.7s
BRG **Berggiesshubel** 121.12 330 *e*PKP PKiKP 03 38 19.1 +5.4
BRG Amp 03 38 20.2
comp=Z,3.4nm,0.8s
BRG **Berggiesshubel** 121.12 330 SP SP 03 49 38.0 +5.4
GOPC **GO Pecny, Ondr** 121.28 329 AMS AMS 04 30 50.0
comp=Z,500nm,21.1s
TREC **Trest** 121.28 328 *e*PKPDF PKiKP 03 38 19.0 +4.9
TREC **Trest** 121.28 328 *e*PKIKP PKiKP 03 38 19.0 +4.9
CLL **Collm** 121.31 331 *e*PKIKP PKPdf 03 38 13.0 -0.9
CLL *i* 03 38 19.1
PRU **Pruhonice** 121.36 329 *e*PKPDF PKiKP 03 38 19.4 +5.2
PRU AMS AMS 04 32 00.0
comp=Z,400nm,19.2s
PRU **Pruhonice** 121.36 329 *e*PKIKP PKiKP 03 38 19.4 +5.2
PRU MLR MLR
comp=Z,400nm,19.2s
PLCA **Paso Flores** 121.39 143 PKP PKiKP 03 38 15.8 +1.1
comp=Z,0.9nm,0.6s,baz=260,slow=6.8,SNR=4.0
CONA **Conrad Observa** 121.87 326 *i* pPKP PKiKP 03 38 16.3 +0.9

comp=Z,4.5nm,0.8s
ZVC Zvikov 121.87 329 *e*PKPDF **PKiKP** **03 38 17.4 +2.2**
ZVC AMS AMS 04 31 20.0
comp=Z,600nm,21.1s
CKRC Cesky Krumlov 122.19 328 *e*PKPDF **PKiKP** **03 38 16.0 +0.1**
CKRC AMS AMS 04 31 00.0
comp=Z,700nm,21.7s
CKRC Cesky Krumlov 122.19 328 *e*PKIKP **PKiKP** **03 38 17.4 +1.5**
CKRC MLR MLR
comp=Z,600nm,21.1s
KHC Kasperske Hory 122.38 329 *e*PKPDF **PKiKP** **03 38 18.4 +2.1**
KHC *ep*PKP **sPKPdf** **03 38 21.6 -1.1**
KHC *ex* x 03 51 53.3
KHC *e*PKPPKP **P'P'df** **03 56 54.5 -4.2**
KHC AMS AMS 04 31 30.0
comp=Z,700nm,21.0s
KHC Kasperske Hory 122.38 329 *e*PKIKP **PKiKP** **03 38 18.4 +2.1**
KHC *e* 03 38 21.6
KHC *e* 03 56 54.5
KHC MLR MLR
comp=Z,700nm,21.0s
ARSA Arzberg 122.44 326 *ep*PKP pPKPdf 03 38 18.8 -2.4
comp=Z,2.6nm,0.9s
GERES GERESS Array B 122.49 328 PKP **PKiKP** **03 38 16.7 +0.1**
comp=Z,3.2nm,1.0s,baz=90,slow=1.3,SNR=11
MOA Molln 122.79 327 *ep*PKP **PKiKP** **03 38 19.1 +2.0**
comp=Z,2.1nm,0.7s
LESA Schwarzleotal 123.90 327 *ep*PKP **PKiKP** **03 38 20.7 +1.2**
comp=Z,4.6nm,0.8s
ABTA Abfaltersbach 124.40 327 *ep*PKP **PKiKP** **03 38 21.2 +0.7**
comp=Z,3.9nm,0.9s
WATA Walderalm 124.54 328 *e*PKiKP **PKiKP** **03 38 20.9 +0.1**
comp=Z,7.7nm,1.0s
WTTA Wattenberg 124.56 328 *e*PKiKP **PKPdf** **03 38 20.7 +0.1**
comp=Z,9.6nm,0.8s
EKA Eskdalemuir Ar 124.65 343 PKP **PKiKP** **03 38 21.1 +0.5**
comp=Z,4.1nm,0.8s,baz=26,slow=4.0,SNR=5.9
MOTA Moosalm 124.79 328 *ep*PKP pPKPdf 03 38 23.4 -2.4
comp=Z,7.0nm,0.8s
SQTA Sankt Quirin 124.81 328 *i* PKiKP **PKiKP** **03 38 21.6 +0.3**
comp=Z,8.2nm,1.0s
RETA Reutte 124.88 328 PKiKP **PKPdf** **03 38 20.9 -0.1**
comp=Z,5.1nm,1.1s
FETA Feichten 125.19 328 *e*PKiKP **PKiKP** **03 38 22.3 +0.2**
comp=Z,11nm,1.0s
LPAZ La Paz 136.04 118 PKP **PKiKP** **03 38 45.0 -0.3**
comp=Z,1.7nm,0.8s,baz=16,slow=12,SNR=6.5
ESDC Sonseca Array 137.90 331 PKP **PKPdf** **03 38 45.6 -0.2**
comp=Z,0.5nm,0.8s,baz=46,slow=2.9,SNR=4.1
ESDC PP **PP** **03 41 36.0 +3.5**
comp=Z,3.4nm,1.1s,baz=14,slow=5.6,SNR=6.5
CPUP Villa Florida 139.10 139 PKP **PKPdf** **03 38 48.3 0.0**
comp=Z,0.5nm,0.7s,baz=230,slow=4.4,SNR=3.9
TORD Torodi Ar. Bea 148.76 289 **PKPbc** **03 39 07.8 -1.4**
TORD Torodi Ar. Bea 148.76 289 PKPbc **PKPbc** **03 39 07.9 -1.4**
comp=Z,56nm,1.2s,baz=37,slow=2.8,SNR=10
BDFB Brasilia 152.71 135 PKPbc **PKPbc** **03 39 17.9 -0.9**
comp=Z,11nm,0.9s,baz=166,slow=5.2,SNR=5.0
DBIC Dimbokro 156.29 278 PKPab **PKPab** **03 39 43.6 -1.0**
comp=Z,53nm,0.9s,baz=99,slow=4.0,SNR=16

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*IDC **28** 03:33:29.4±1.6, 16.˚34S×14.˚30W, h0km, mb4.0/8, mbtmp4.0/8, MS3.7/14, Error ellipse: s-maj=126.2km s-min=28.4km az=102.0*

ISC 28 03:33:31.3±1.5, 16.˚4S±0.˚3×14.˚1W±0.˚8, h10km, n27, σ1°01/9, mb3.9/8, MS3.7/14, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**7.37**	**356**	T		T	03 42 41.2	
	baz=44,slow=74,SNR=176							
H10S3	**ASCENSION HYDR**	**7.38**	**356**	T		T	03 42 37.5	
	baz=176,slow=74,SNR=116							
H10N1	**ASCENSION HYDR**	**8.46**	**357**	T		T	03 44 06.0	
	baz=182,slow=77,SNR=7.8							
H10N3	**ASCENSION HYDR**	**8.47**	**357**	T		T	03 43 58.9	
	baz=182,slow=77,SNR=20							
H10N2	**ASCENSION HYDR**	**8.48**	**357**	T		T	03 44 01.4	
	baz=182,slow=77,SNR=8.5							
RCBR	**Riachuelo**	**23.79**	**294**	LR		LR	03 45 28.7	
	comp=Z,41nm,21.4s,baz=74,slow=30							
DBIC	**Dimbokro**	**24.63**	**22**	LR		LR	03 45 57.7	
	comp=Z,125nm,19.4s,baz=208,slow=30							
TSUM	**Tsumeb**	**30.27**	**100**	LR		LR	03 49 21.7	
	comp=Z,140nm,21.2s,baz=304,slow=31							
BDFB	**Brasilia**	**32.60**	**266**	LR		LR	03 50 30.0	
	comp=Z,140nm,20.2s,baz=68,slow=32							
TORD	**Torodi Ar. Bea**	**33.21**	**29**	P		**P**	**03 40 07.7 -0.8**	
	4.1nm,0.5s,baz=211,slow=8.5,SNR=1.5 4.1nm,0.5s							
LBTB	**Lobatse**	**38.01**	**110**	LR		LR	03 53 44.0	
	comp=Z,151nm,19.6s,baz=268,slow=32							
BOSA	**Boshof**	**38.18**	**116**	LR		LR	03 53 31.3	
	comp=Z,119nm,19.7s,baz=283,slow=31							
MATP	**Matopo**	**40.54**	**102**	LR		LR	03 55 58.8	
	comp=Z,55nm,19.1s,baz=278,slow=33							
LSZ	**Lusaka**	**40.64**	**95**	LR		LR	03 56 58.5	
	comp=Z,138nm,18.9s,baz=288,slow=34							
MDP	**Montagnes des**	**43.68**	**296**	LR		LR	03 58 53.8	
	comp=Z,53nm,20.9s,baz=126,slow=35							
SIV	**San Ignacio**	**45.04**	**264**	LR		LR	03 57 23.0	
	comp=Z,55nm,21.8s,baz=92,slow=32							
ESDC	**Sonseca Array**	**56.53**	**9**	P		**P**	**03 43 14.6 +0.7**	
	0.6nm,0.9s,baz=193,slow=7.3,SNR=2.5 0.6nm,0.9s							
PCRV	**Puerto La Cruz**	**56.53**	**294**	LR		LR	04 06 58.2	
	comp=Z,56nm,18.7s,slow=36							
OPO	**Ambohidratompo**	**58.25**	**102**	LR		LR	04 03 05.2	
	comp=Z,79nm,21.6s,baz=294,slow=30							
GERES	**GERESS Array B**	**69.45**	**19**	P		**P**	**03 44 40.9 +1.1**	
	0.6nm,0.8s,baz=213,slow=6.5,SNR=4.3							
BRTR	**Keskin Array B**	**71.34**	**37**	P		**P**	**03 44 52.6 +1.0**	
	0.5nm,0.6s,baz=222,slow=8.6,SNR=5.1 0.5nm,0.6s							
MLR	**Muntele Rosu**	**71.45**	**29**	P		**P**	**03 44 52.8 +0.7**	
	2.2nm,0.9s,baz=190,slow=16,SNR=4.6 2.2nm,0.9s							
QSPA	**South Pole Qui**	**73.82**	**180**	P		**P**	**03 45 05.9 0.0**	
	1.0nm,0.6s,baz=255,slow=0.8,SNR=5.4 1.0nm,0.6s							
AKASG	**Malin Array Be**	**76.81**	**27**	P		**P**	**03 45 23.2 +0.2**	
	2.2nm,0.7s,baz=226,slow=5.4,SNR=11 2.2nm,0.7s							
KBZ	**Khabaz**	**79.25**	**38**	LR		LR	04 23 04.6	
	comp=Z,206nm,20.2s,baz=67,slow=38							
NOA	**NORSAR Array B**	**79.75**	**12**	P		**P**	**03 45 38.0 -1.2**	
	0.5nm,0.9s,baz=213,slow=8.2,SNR=1.3 0.5nm,0.9s							
FINES	**FINESS Array B**	**83.85**	**18**	P		**P**	**03 45 59.9 -0.9**	
	1.3nm,0.7s,baz=186,slow=2.8,SNR=4.4							
FINES				LR		LR	04 26 14.8	
	comp=Z,227nm,18.3s,baz=58,slow=38 1.3nm,0.7s							

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*IDC **28** 03:34:57.0±2.6, 21.˚64N×144.˚07E, h84km±22km, mb4.3/31, mbtmp4.6/33, Error ellipse: s-maj=16.1km s-min=11.7km az=89.0*

*NEIC **28** 03:35:04.6±1.9, 21.˚63N±0.˚08×144.˚0E±0.˚1, h145km±8km, mb4.6/229, Error ellipse: s-maj=17.9km s-min=12.0km az=87.0*

ISC 28 03:35:04.2±0.4, 21.˚59N±0.˚06×144.˚09E±0.˚08, h150km, n452, σ0.˚74/362, mb4.6/141**, 1C, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.75**	**343**			**Pn**	**03 36 26.5**	**-1.0**
JCJ	**Chichijima**	**5.75**	**343**	P		Pn	03 36 17.8	-10
	80nm,0.3s,baz=313,slow=23,SNR=42							
JCJ				S		Sn	03 37 20.3	-12
	293nm,0.4s,baz=251,slow=22,SNR=8.9							
GUMO	**Guam**	**8.00**	**175**			**Pn**	**03 36 58.4**	**+0.8**
INU	**Inuyama**	**15.04**	**337**	Pn		**Pn**	**03 38 28.1**	**-1.0**
JGF	**Kuroka**	**15.15**	**339**			**Pn**	**03 38 28.9**	**-1.5**
JOW	**Kunigami**	**15.34**	**293**	P		**P**	**03 38 35.7**	**+1.6**
JOW				IAmb		IAmb	03 38 52.3	
	comp=Z,29nm,1.1s							
JOW	**Kunigami**	**15.34**	**293**	P		**Pn**	**03 38 33.0**	**+0.1**
	comp=Z,6.7nm,0.4s,baz=120,slow=14,SNR=7.7							
MJAR	**Matsushiro Arr**	**15.75**	**342**			**Pn**	**03 38 37.4**	**-0.4**
MJAR	**Matsushiro Arr**	**15.75**	**342**	P		**Pn**	**03 38 34.5**	**-3.3**
	comp=Z,2.2nm,0.7s,baz=167,slow=10,SNR=11							
MAJO	**Matsushiro**	**15.75**	**342**	P		**Pn**	**03 38 36.8**	**-1.0**
MJB9	**Matsu-Tunnel**	**15.76**	**342**	P		**Pn**	**03 38 37.6**	**-0.3**
JMM	**Marumori**	**16.46**	**351**	P		**P**	**03 38 46.5**	**+0.1**
JTM	**Tenmabayashi**	**19.30**	**353**	P		**Pn**	**03 39 19.0**	**-1.2**
JTM					IAmb	IAmb	03 39 25.1	
	comp=Z,34nm,1.0s							
KSRS	**Korea Array**	**21.11**	**322**	P		**P**	**03 39 35.6**	**-1.3**
	comp=Z,15nm,0.8s,baz=145,slow=8.6,SNR=56 comp=Z,15nm,0.8s							
KSAR	**Wonju Array Be**	**21.12**	**322**			**P**	**03 39 35.8**	**-1.3**
YULB	**Yu-li'**	**21.13**	**279**	P		**P**	**03 39 37.9**	**+0.5**
KS19	**Wonju Array Si**	**21.17**	**322**	P		**P**	**03 39 39.7**	**+2.1**
KS19					IAmb	IAmb	03 39 41.3	
	comp=Z,23nm,0.9s							
H11N1	**WAKE ISLAND Hy**	**21.42**	**91**	T		T	04 02 31.2	
	baz=283							
H11N2	**WAKE ISLAND Hy**	**21.42**	**91**	T		T	04 02 34.0	
	baz=283							
H11N3	**WAKE ISLAND Hy**	**21.43**	**91**	T		T	04 02 33.5	
	baz=283							
H11S3	**WAKE ISLAND Hy**	**21.45**	**94**	T		T	04 02 39.0	
	baz=283,slow=75,SNR=6.3							
SSLB	**Suanglung**	**21.45**	**280**	P		**P**	**03 39 42.0**	**+1.1**
SSLB					IAmb	IAmb	03 39 43.9	
	comp=Z,31nm,1.1s							
H11S1	**WAKE ISLAND Hy**	**21.46**	**94**	T		T	04 02 39.8	
	baz=283,slow=75,SNR=6.9							
H11S2	**WAKE ISLAND Hy**	**21.47**	**94**	T		T	04 02 40.5	
	baz=283,slow=75,SNR=3.8							
USRK	**Ussuriysk Ar.**	**24.67**	**339**	P		**P**	**03 40 10.8**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=142,slow=10.0,SNR=4.0 comp=Z,1.5nm,0.7s							
NJ2	**Nanjing**	**24.76**	**300**	*e*P		**P**	**03 40 12.0**	**+0.1**
NJ2				pmax		pmax		
	comp=Z,12nm,0.6s							
KLR	**Kul'dur**	**29.27**	**343**	P		**P**	**03 40 52.0**	**-0.1**
	baz=102,slow=2.7							
HNS	**HongShan**	**29.88**	**308**	⇑P		**P**	**03 40 58.0**	**+0.4**
HNS				pmax		pmax		
	comp=Z,12nm,0.9s							
TOLI2	**Tolitoli**	**30.50**	**231**	P		**P**	**03 41 01.6**	**-1.7**
TOLI2					IAmb	IAmb	03 41 04.5	
	comp=Z,28nm,1.5s							
HEH	**HeiHe**	**31.48**	**339**	*e*P		**P**	**03 41 11.8**	**+0.3**
HEH				pP		**pwP**	**03 41 45.0**	**-2.2**
HEH				PcP		**PcP**	**03 44 00.8**	**-0.1**
HEH				pmax		pmax		
	comp=Z,10.0nm,1.1s							
XAN	**Xi'an**	**33.32**	**299**	*e*P		**P**	**03 41 27.8**	**-0.1**
HHC	**Hu-ho-hao-te**	**33.52**	**312**	*e*P		**P**	**03 41 31.8**	**+2.2**
HHC				pmax		pmax		
	comp=Z,6.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,49nm,4.0s							
COEN	**Coen**	**35.34**	**182**	P		**P**	**03 41 45.1**	**-0.2**
COEN					IAmb	IAmb	03 42 03.3	
	comp=Z,12nm,1.1s							
MA2	**Magadan**	**38.24**	**5**	P		**P**	**03 42 11.0**	**+1.6**
MA2					IAmb	IAmb	03 42 11.7	
	comp=Z,6.4nm,0.7s							
MA2	**Magadan**	**38.24**	**5**	P		**P**	**03 42 10.0**	**+0.6**
	comp=Z,6.6nm,0.7s,baz=188,slow=8.4,SNR=5.1 comp=Z,6.6nm,0.7s							
PZH	**PanZhiHua**	**38.85**	**286**	P		**P**	**03 42 15.8**	**+0.7**
SONM	**Songino Array**	**39.96**	**320**	P		**P**	**03 42 24.9**	**+0.9**
SONM	**Songino Array**	**39.96**	**320**	P		**P**	**03 42 23.6**	**-0.4**
	comp=Z,2.6nm,0.5s,baz=134,slow=8.8,SNR=10 comp=Z,2.6nm,0.5s							
KNRA	**Kununurra**	**39.97**	**203**			**P**	**03 42 23.7**	**-0.5**
YAK	**Yakutsk**	**41.61**	**350**	P		**P**	**03 42 36.7**	**-0.4**
	comp=Z,11nm,0.3s,baz=144,slow=1.1,SNR=4.1 comp=Z,11nm,0.3s							
GTA	**Gaotai**	**41.62**	**305**	*e*P		**P**	**03 42 38.5**	**+0.8**
GTA				pmax		pmax		
	comp=Z,16nm,0.7s							
SEY	**Seymchan**	**41.70**	**6**	P		**P**	**03 42 37.8**	**-0.1**
	comp=Z,2.5nm,0.3s,baz=174,slow=5.6,SNR=6.1 comp=Z,2.5nm,0.3s							
WR8	**Warramunga Arr**	**42.35**	**193**	P		**P**	**03 42 43.0**	**-0.6**
WRA	**Warramunga Arr**	**42.37**	**194**			**P**	**03 42 43.2**	**-0.6**
WRA	**Warramunga Arr**	**42.37**	**194**	P		**P**	**03 42 43.2**	**-0.6**
	comp=Z,3.0nm,0.4s,baz=17,slow=8.8,SNR=69 comp=Z,3.0nm,0.4s							
CMAR	**Chiang Mai Arr**	**42.42**	**274**	P		**P**	**03 42 44.2**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=62,slow=7.0,SNR=11							
CMAR				PcP		**PcP**	**03 44 36.0**	**+1.2**
	comp=Z,0.9nm,0.4s,baz=88,slow=1.4,SNR=7.1 comp=Z,2.2nm,0.6s							
FITZ	**Fitzroy Crossi**	**43.39**	**206**			**P**	**03 42 51.7**	**-0.3**
ATKA	**Atka Island**	**44.28**	**36**	P		**P**	**03 42 59.2**	**+0.5**
KULM	**Kulim**	**45.05**	**255**	P		**P**	**03 43 07.0**	**+1.6**
KULM					IAmb	IAmb	03 43 07.4	
	comp=Z,10nm,0.8s							
ASAR	**Alice Springs**	**46.07**	**193**	P		**P**	**03 43 12.3**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=17,slow=12,SNR=15							
ASAR				S		**S**	**03 49 44.8**	**-2.6**
	comp=Z,0.8nm,0.8s,baz=18,slow=19,SNR=5.6 comp=Z,0.9nm,0.6s							
NIKH	**Nikolski High**	**47.56**	**37**	P		**P**	**03 43 24.6**	**+0.3**
	baz=247							
SPIA	**Saint Paul Isl**	**48.62**	**31**	P		**P**	**03 43 33.0**	**+0.6**
	baz=242							
P08K	**Saint George I**	**48.70**	**32**	P		**P**	**03 43 33.7**	**+0.7**
	baz=244							
UNV	**Unalaska Valle**	**49.19**	**36**	P		**P**	**03 43 36.9**	**0.0**
	baz=249							
AKUT	**Akutan**	**49.70**	**36**	P		**P**	**03 43 40.6**	**0.0**
TIXI	**Tiksi**	**50.84**	**354**	P		**P**	**03 43 48.3**	**-0.7**
	comp=Z,8.7nm,0.8s,baz=165,slow=9.6,SNR=3.2 comp=Z,8.7nm,0.8s							
FALS	**False Pass**	**51.23**	**36**	P		**P**	**03 43 52.1**	**-0.1**
	baz=251							
WMQ	**Urumqi**	**51.30**	**309**	*e*P		**P**	**03 43 56.0**	**+3.0**
WMQ					LR	LR		
	comp=N,440nm,19.5s							
WMQ					LR	LR		
	comp=E,450nm,22.1s							
WMQ					LR	LR		
	comp=Z,730nm,24.5s							
GAMB	**Gambell**	**51.38**	**23**	P		**P**	**03 43 53.5**	**+0.4**
	baz=236							
M11K	**Mekoryuk**	**51.94**	**29**	P		**P**	**03 43 57.0**	**-0.3**
	baz=244							
EVN	**Everest**	**52.00**	**289**			**P**	**03 43 59.4**	**+0.3**
S12K	**Black Hills**	**52.24**	**35**	P		**P**	**03 43 59.8**	**+0.1**
	baz=252							
SDPT	**Sand Point**	**52.99**	**36**	P		**P**	**03 44 05.3**	**+0.1**
	baz=254							
STKA	**Stephens Creek**	**53.22**	**183**	P		**P**	**03 44 07.7**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=341,slow=13,SNR=3.5 comp=Z,1.3nm,0.6s							
M13K	**Dall Lake**	**53.24**	**29**	P		**P**	**03 44 07.5**	**+0.6**
	baz=247							
K13K	**Kusilvak Mount**	**53.28**	**27**	P		**P**	**03 44 07.0**	**-0.2**
	baz=245							
CHNA	**Chernabura Isl**	**53.34**	**37**	P		**P**	**03 44 08.1**	**+0.3**
	baz=255							
TNA	**Tin City**	**53.71**	**23**	P		**P**	**03 44 10.2**	**0.0**
	baz=239							
S14K	**Fog Glacier**	**53.76**	**35**	P		**P**	**03 44 10.2**	**-0.7**
	baz=254							
O14K	**Tigyukauivet M**	**53.80**	**31**	P		**P**	**03 44 11.6**	**+0.5**
	baz=250							
N14K	**Kuskokwak Cree**	**53.83**	**30**	P		**P**	**03 44 11.2**	**0.0**
	baz=249							
L14K	**Kuka Creek**	**53.90**	**29**	P		**P**	**03 44 12.6**	**+0.9**
L14K					IAmb	IAmb	03 44 14.6	
	comp=Z,9.8nm,1.1s							
L14K	**Kuka Creek**	**53.90**	**29**	P		**P**	**03 44 12.2**	**+0.5**
	baz=247							
M14K	**Bethel**	**54.01**	**29**	P		**P**	**03 44 13.0**	**+0.6**
	baz=248							
J14K	**Nanvaranak Lak**	**54.09**	**27**	P		**P**	**03 44 13.5**	**+0.4**
	baz=246							
F14K	**Arctic Creek**	**54.24**	**23**	P		**P**	**03 44 14.2**	**+0.1**
	baz=241							
CHGN	**Chignik**	**54.37**	**35**	P		**P**	**03 44 15.3**	**+0.1**
	baz=255							
O15K	**Ungalikthiuk R**	**54.48**	**32**	P		**P**	**03 44 16.3**	**+0.4**
	baz=252							
L15K	**Ungalak Mounta**	**54.56**	**28**	P		**P**	**03 44 16.9**	**+0.4**
	baz=248							
M15K	**Kasigluk River**	**54.57**	**30**	P		**P**	**03 44 16.1**	**-0.5**
	baz=250							
N15K	**Kwethluk River**	**54.67**	**30**	P		**P**	**03 44 17.0**	**-0.3**
	baz=251							
K15K	**Wolf Creek Mou**	**54.77**	**28**	P		**P**	**03 44 17.9**	**-0.1**
	baz=248							
ZAA0	**Zalesovo Array**	**54.81**	**322**			**P**	**03 44 18.0**	**-0.4**
ZAA0					IAmb	IAmb	03 44 18.7	
	comp=Z,5.3nm,0.7s							
ZALV	**Zalesovo Beam**	**54.81**	**322**			**P**	**03 44 18.2**	**-0.3**
ZALV	**Zalesovo Beam**	**54.81**	**322**	P		**P**	**03 44 17.9**	**-0.5**
	comp=Z,5.0nm,0.5s,baz=108,slow=8.0,SNR=23							
ZALV				PcP		**PcP**	**03 45 17.5**	**-1.4**
	comp=Z,2.7nm,0.6s,baz=118,slow=4.6,SNR=5.2 comp=Z,5.0nm,0.5s							
G15K	**Niukluk**	**54.87**	**24**	P		**P**	**03 44 18.2**	**-0.5**
	baz=244							
F15K	**North Star Dit**	**54.97**	**23**			**P**	**03 44 20.8**	**+1.4**
F15K					IAmb	IAmb	03 44 21.7	
	comp=Z,8.9nm,1.1s							
F15K	**North Star Dit**	**54.97**	**23**	P		**P**	**03 44 19.7**	**+0.3**
	baz=242							
R16K	**Pilot Point**	**55.15**	**34**	P		**P**	**03 44 20.8**	**0.0**
	baz=255							
P16K	**Nushagak River**	**55.34**	**32**	P		**P**	**03 44 21.4**	**-0.6**
	baz=254							
MKAR	**Makanchi Array**	**55.39**	**313**	P		**P**	**03 44 23.1**	**+0.3**
	comp=Z,8.1nm,0.7s,baz=92,slow=9.1,SNR=67							
MKAR				PcP		**PcP**	**03 45 20.2**	**-1.1**
	comp=Z,3.5nm,0.8s,baz=96,slow=4.5,SNR=6.5 comp=Z,8.1nm,0.7s							
N16K	**Nishlik Lake**	**55.39**	**30**	P		**P**	**03 44 21.9**	**-0.7**
	baz=252							
H16K	**Elim**	**55.41**	**25**	P		**P**	**03 44 22.3**	**-0.3**
	baz=246							
O16K	**Kokwok River B**	**55.45**	**32**	P		**P**	**03 44 22.7**	**-0.2**
	baz=253							
M16K	**Timber Creek**	**55.48**	**30**	P		**P**	**03 44 22.9**	**-0.2**
	baz=251							
J16K	**Anvik River**	**55.54**	**27**	IAmb		IAmb	03 44 25.9	
	comp=Z,5.8nm,0.8s							
J16K	**Anvik River**	**55.54**	**27**	P		**P**	**03 44 23.9**	**+0.3**
	baz=248							
MAKZ	**Makanchi**	**55.60**	**313**			**P**	**03 44 24.2**	**-0.1**
G16K	**Koyuk River**	**55.68**	**24**	P		**P**	**03 44 24.6**	**+0.2**
	baz=245							
I17K	**Unalakleet**	**55.73**	**26**	P		**P**	**03 44 25.3**	**+0.5**
	baz=248							
CHIR	**Chirikof Islan**	**55.78**	**36**	P		**P**	**03 44 25.5**	**+0.2**
	baz=258							
R17L	**Mt. Peulik Vol**	**55.80**	**34**	P		**P**	**03 44 25.4**	**-0.1**
	baz=256							
Q16K	**King Salmon**	**55.91**	**33**	P		**P**	**03 44 26.8**	**+0.6**
	baz=255							
C16K	**Lisburne Hills**	**55.97**	**20**	P		**P**	**03 44 27.2**	**+0.8**
	baz=240							
O17K	**Koliganek Bris**	**55.98**	**31**	P		**P**	**03 44 26.7**	**0.0**
	baz=254							
L17K	**Donlin**	**56.14**	**29**	P		**P**	**03 44 28.2**	**+0.4**
	baz=251							
P17K	**Kvichak River**	**56.15**	**32**	P		**P**	**03 44 28.3**	**+0.4**
	baz=255							
N17K	**Nushagak Hills**	**56.15**	**31**	P		**P**	**03 44 27.8**	**-0.1**
	baz=253							
Q17K	**Contact Creek**	**56.19**	**33**	P		**P**	**03 44 28.3**	**0.0**
	baz=256							
J17K	**VABM Dome**	**56.22**	**27**	P		**P**	**03 44 28.9**	**+0.5**
	baz=250							
M17K	**Holitna River**	**56.30**	**30**	P		**P**	**03 44 29.8**	**+0.8**
	baz=252							
K17K	**Iditarod**	**56.33**	**28**			**P**	**03 44 30.8**	**+1.7**
K17K	**Iditarod**	**56.33**	**28**	P		**P**	**03 44 30.1**	**+1.0**
	baz=251,SNR=9.5							
G17K	**Kiwalik Mounta**	**56.38**	**24**	P		**P**	**03 44 30.2**	**+0.8**
	baz=247							
D17K	**Noatak River**	**56.44**	**21**	P		**P**	**03 44 30.6**	**+0.8**
	baz=243							
H17K	**Granite Mounta**	**56.45**	**25**	IAmb		IAmb	03 44 32.2	
	comp=Z,5.6nm,0.8s							
H17K	**Granite Mounta**	**56.45**	**25**	P		**P**	**03 44 30.2**	**+0.2**
	baz=248,SNR=5.4							
F17K	**Baldwin Pennin**	**56.54**	**23**	P		**P**	**03 44 31.3**	**+0.8**
	baz=246							
E17K	**Hotham Inlet**	**56.60**	**22**	P		**P**	**03 44 31.8**	**+0.9**
	baz=244							
RDOG	**Red Dog Mine**	**56.66**	**21**	P		**P**	**03 44 31.9**	**+0.5**
	baz=243							
SII	**Sitkinak Islan**	**56.72**	**36**	P		**P**	**03 44 32.3**	**+0.2**
	baz=259							
Q18K	**Katmai Hardscr**	**56.73**	**33**	P		**P**	**03 44 32.3**	**+0.1**
	baz=256							
C17K	**DeLong Mountai**	**56.77**	**21**	P		**P**	**03 44 32.2**	**0.0**
	baz=242							
R18K	**Karluk**	**56.78**	**34**	P		**P**	**03 44 32.2**	**-0.1**
	baz=258							
P18K	**Big Mountain,**	**56.80**	**32**	P		**P**	**03 44 32.9**	**+0.3**
	baz=256							
N18K	**Kilae Creek**	**56.81**	**31**	P		**P**	**03 44 32.5**	**-0.1**
	baz=254							
L18K	**Granite Mounta**	**56.88**	**29**	P		**P**	**03 44 33.4**	**+0.4**
	baz=253							
O18K	**Koktuh Hills**	**56.93**	**32**			**P**	**03 44 34.9**	**+1.4**
O18K	**Koktuh Hills**	**56.93**	**32**	P		**P**	**03 44 33.3**	**-0.2**
	baz=256							
M18K	**Stony River**	**57.06**	**30**	P		**P**	**03 44 34.5**	**+0.1**
	baz=254							
H18K	**Honhosa River**	**57.14**	**25**	P		**P**	**03 44 34.9**	**+0.1**
	baz=249							
E18K	**Tukpahlearik C**	**57.18**	**22**	IAmb		IAmb	03 44 37.5	
	comp=Z,5.2nm,0.7s							
E18K	**Tukpahlearik C**	**57.18**	**22**	P		**P**	**03 44 35.6**	**+0.6**
	baz=246							
F18K	**Selawik**	**57.19**	**23**	P		**P**	**03 44 35.5**	**+0.4**
	baz=247							
J18K	**Innoko River**	**57.25**	**27**	P		**P**	**03 44 36.2**	**+0.6**
	baz=252							
G18K	**Tagagawik**	**57.29**	**24**	IAmb		IAmb	03 44 37.7	
	comp=Z,6.4nm,0.8s							
G18K	**Tagagawik**	**57.29**	**24**	P		**P**	**03 44 36.4**	**+0.5**
	baz=248,SNR=6.9							
O19K	**Port Alsworth**	**57.44**	**31**	P		**P**	**03 44 37.0**	**0.0**
	baz=256							
Q19K	**Cape Douglas,**	**

comp=Z,6.2nm,0.8s

E19K	**Redstone River** baz=249	58.39	23	P	P	03 44 44.1	+0.6
M20K	**Styx River** comp=Z,11nm,1.4s	58.41	30	IAmb	IAmb	03 44 46.6	
M20K	**Styx River** baz=256	58.41	30	P	P	03 44 44.2	+0.3
D19K	**Kuna River** baz=248	58.47	21	P	P	03 44 44.6	+0.5
J20K	**Nowinta River** comp=Z,13nm,1.2s	58.55	27	IAmb	IAmb	03 44 47.1	
J20K	**Nowinta River** baz=254,SNR=8.6	58.55	27	P	P	03 44 45.2	+0.5
I20K	**Naaghedeneel** baz=253	58.59	26	P	P	03 44 45.5	+0.7
H20K	**Anotleneega Mo** baz=252,SNR=8.9	58.63	25	P	P	03 44 45.7	+0.5
HOM	**Homer** baz=259	58.64	32	P	P	03 44 45.5	+0.2
F20K	**Avaraart Lake** comp=Z,4.9nm,0.8s	58.80	23	IAmb	IAmb	03 44 48.5	
F20K	**Avaraart Lake** baz=251	58.80	23	P	P	03 44 46.7	+0.4
D20K	**Etivluk River** baz=249,SNR=5.2	59.06	21	P	P	03 44 48.5	+0.3
PPLA	**Purkeypile** baz=257	59.07	29	P	P	03 44 48.4	-0.1
SKT	**Skwentna** baz=258	59.16	30	P	P	03 44 48.9	0.0
IMAR	**Indian Mountai**	59.22	25	P	P	03 44 50.1	+0.8
CAST	**Castle Rocks** baz=256,SNR=12	59.24	28	P	P	03 44 49.8	+0.3
CHUM	**Lake Minchumin** baz=256	59.25	27	P	P	03 44 49.5	+0.1
B20K	**Meade River** baz=248	59.36	20	P	P	03 44 50.2	+0.1
SUA	**Susitna One** baz=259	59.43	30	P	P	03 44 50.7	-0.2
G21K	**Allakaket** comp=Z,6.3nm,1.0s	59.47	24	IAmb	IAmb	03 44 53.3	
G21K	**Allakaket** baz=253	59.47	24	P	P	03 44 51.3	+0.3
H21K	**Melozitna Rive** comp=Z,7.8nm,0.8s	59.50	25	IAmb	IAmb	03 44 53.6	
H21K	**Melozitna Rive** baz=254,SNR=6.7	59.50	25	P	P	03 44 51.4	+0.2
F21K	**Alatna River** baz=253	59.69	24	P	P	03 44 51.8	-0.6
O22K	**Cooper Landing** baz=260	59.74	32	P	P	03 44 52.4	-0.5
KTH	**Kantishna Hill** comp=Z,7.2nm,1.0s	59.78	28	IAmb	IAmb	03 44 55.3	
SEW	**Seward** baz=261	59.81	32	P	P	03 44 53.1	-0.2
CUT	**Chulitna** baz=259	59.83	29	P	P	03 44 53.5	+0.1
C21K	**Knifeblade Rid** baz=250	59.84	21	P	P	03 44 53.7	+0.2
RC01	**Rabbit Creek A** baz=260	59.84	31	P	P	03 44 53.2	-0.4
BPAW	**Bear Paw Mtn.** baz=257,SNR=18	59.87	27	P	P	03 44 53.5	-0.2
E21K	**Killik River** baz=252	59.88	22	P	P	03 44 53.6	-0.2
KSH	**Kashi**	59.99	304	P	P	03 44 59.0	+3.9
KSH	comp=Z,9.0nm,0.6s			pmax	pmax		
TRF	**Thorofare Moun** baz=258,SNR=5.4	60.03	28	P	P	03 44 54.4	-0.7
B21K	**Ikpikpuk River** baz=250	60.05	21	P	P	03 44 55.0	+0.2
H22K	**Ishtalitna Cre** baz=256	60.13	25	P	P	03 44 55.9	+0.4
MLY	**Manley**	60.19	26		P	03 44 57.0	+1.1
MLY	comp=Z,7.6nm,1.0s			IAmb	IAmb	03 44 57.8	
MLY	**Manley** baz=257,SNR=7.5	60.19	26	P	P	03 44 55.7	-0.3
PMR	**Palmer** baz=260	60.21	30	P	P	03 44 55.5	-0.5
F22K	**John River** baz=254	60.25	23	P	P	03 44 56.6	+0.3
G22K	**Bettles** baz=255	60.34	24	P	P	03 44 57.2	+0.3
A22K	**Sinclair Lake** baz=249	60.41	19	P	P	03 44 57.6	+0.3
D22K	**Ayikyak River** baz=253,SNR=5.0	60.47	22	P	P	03 44 57.9	+0.2
PWL	**Port Wells** baz=261	60.47	31	P	P	03 44 57.4	-0.5
KNK	**Knik Glacier** baz=261	60.50	31	P	P	03 44 58.3	+0.2
E22K	**Anaktuvuk Pass** baz=254	60.56	23	P	P	03 44 58.3	-0.1
MCK	**McKinley** comp=Z,6.8nm,0.8s	60.68	28	IAmb	IAmb	03 45 00.3	
MCK	**McKinley** baz=259	60.68	28	P	P	03 44 59.8	+0.5
I23K	**Minto, Yukon-K** comp=Z,6.1nm,0.7s	60.78	26	IAmb	IAmb	03 45 02.3	
I23K	**Minto, Yukon-K** baz=258,SNR=5.6	60.78	26	P	P	03 45 00.3	+0.4
NEA2	**Nenana** comp=Z,6.7nm,0.7s	60.79	27	IAmb	IAmb	03 45 01.7	
NEA2	**Nenana** baz=259,SNR=9.8	60.79	27	P	P	03 45 00.2	+0.2
P23K	**Montague Islan** baz=263	60.81	32	P	P	03 45 00.0	-0.2
H23K	**Yukon River** comp=Z,5.9nm,0.8s	60.85	26	IAmb	IAmb	03 45 02.8	
H23K	**Yukon River** baz=258,SNR=5.6	60.85	26	P	P	03 45 01.0	+0.6
G23K	**Bananza Creek** comp=Z,11nm,1.1s	60.86	25	IAmb	IAmb	03 45 03.0	
G23K	**Bananza Creek** baz=256,SNR=7.0	60.86	25	P	P	03 45 00.3	-0.2
M23K	**Glacier View** baz=261	60.90	30	P	P	03 45 01.4	+0.6
COLD	**Coldfoot** comp=Z,8.1nm,1.0s	60.92	24	IAmb	IAmb	03 45 03.3	
COLD	**Coldfoot** baz=256	60.92	24	P	P	03 45 01.7	+0.9
GLI	**Glacier Island** baz=262	61.08	31	P	P	03 45 02.7	+0.7
SCM	**Sheep Creek Mo** baz=262	61.10	30	P	P	03 45 03.1	+0.9
D23K	**Nanushuk River** baz=255	61.19	22	P	P	03 45 03.7	+1.1
Q23K	**Middleton Isla** baz=264	61.27	33	P	P	03 45 03.4	+0.1
E23K	**Chandalar** baz=256,SNR=6.7	61.34	23	P	P	03 45 04.2	+0.5
COLA	**College** baz=260	61.36	27	P	P	03 45 04.2	+0.5
C23K	**Itkillik River** baz=254	61.44	21	P	P	03 45 04.4	+0.1
TOLK	**Toolik Lake Re** baz=256	61.49	22	P	P	03 45 04.3	-0.4
H24K	**Noodor Dome** baz=259,SNR=6.2	61.53	26	P	P	03 45 04.0	-0.9
POKR	**Poker Plat Res** baz=260	61.58	27	P	P	03 45 05.7	+0.5
HDA	**Harding Lake** comp=Z,5.0nm,0.7s	61.66	27	IAmb	IAmb	03 45 06.5	
HDA	**Harding Lake** baz=261,SNR=5.2	61.66	27	P	P	03 45 05.6	-0.2
M24K	**Tolsona, Glenn** baz=263	61.67	30	P	P	03 45 05.5	-0.6
EYAK	**Cordova Ski Ar** baz=264	61.69	32	P	P	03 45 05.8	-0.2
KLU	**Klutina** baz=263	61.72	31	P	P	03 45 06.2	-0.2
IL31	comp=Z,6.0nm,0.8s	61.75	27	IAmb	IAmb	03 45 06.7	
ILAR	**Eielson Array**	61.75	27		P	03 45 05.6	-0.8
ILAR	**Eielson Array** comp=Z,5.2nm,0.8s,baz=260,slow=5.5,SNR=69 comp=Z,5.2nm,0.8s	61.75	27	P	P	03 45 05.7	-0.7
E24K	**Your Creek** comp=Z,6.6nm,0.7s	61.75	23	IAmb	IAmb	03 45 09.0	
E24K	**Your Creek** baz=257	61.75	23	P	P	03 45 05.7	-0.8
G24K	**Hadweenzic Riv** baz=259	61.85	25	P	P	03 45 07.0	-0.1
F24K	**Squaw Lake** baz=258	61.86	24	P	P	03 45 06.6	-0.6
D24K	**Happy Valley** baz=256	61.88	22	P	P	03 45 07.3	+0.1
C24K	**Franklin Bluff** baz=256	62.05	21	P	P	03 45 08.5	+0.1
K24K	**Donnelly Dome** baz=262	62.08	28	P	P	03 45 08.6	-0.1
PAX	**Paxson** baz=263	62.11	29	P	P	03 45 08.9	0.0
HARP	**HAARP** baz=263	62.18	30	P	P	03 45 09.4	0.0
BMRM	**Bremner River** baz=265	62.30	31	P	P	03 45 10.3	+0.1
KAIM	**Kayak Island** baz=265	62.30	33	P	P	03 45 10.3	+0.2
N25K	**Chitina, Valde** baz=264	62.36	31	P	P	03 45 10.3	-0.4
J25K	**Salcha River,** baz=262,SNR=6.8	62.37	27	P	P	03 45 09.5	-1.1
G25K	**Bearman Lake** baz=260	62.40	25	P	P	03 45 09.7	-0.9
H25L	**Birch Creek** baz=261	62.43	25	P	P	03 45 10.2	-0.7
PRP	**Porcupine Dome** baz=262	62.43	26	P	P	03 45 10.3	-0.8
RIDG	**Independent Ri** comp=Z,9.6nm,0.8s	62.48	28	IAmb	IAmb	03 45 12.5	
RIDG	**Independent Ri** baz=263	62.48	28	P	P	03 45 11.1	-0.3
FYU	**Fort Yukon** comp=Z,8.1nm,0.8s	62.71	25	IAmb	IAmb	03 45 15.2	
F25K	**Christian Rive** comp=Z,5.4nm,0.9s	62.72	24	IAmb	IAmb	03 45 15.7	
F25K	**Christian Rive** baz=260	62.72	24	P	P	03 45 12.9	0.0
D25K	**Kavik River** baz=259	62.77	22	P	P	03 45 13.2	0.0
BGLC	**Bering Glacier** baz=266	62.88	32	P	P	03 45 14.0	+0.1
SCRK	**Sand Creek** baz=264,SNR=13	62.89	28	P	P	03 45 13.6	-0.5
CRQE	**Cirque** baz=266	63.02	32	P	P	03 45 14.9	-0.1
L26K	**Log Cabin Wild** baz=265	63.08	29	P	P	03 45 15.5	+0.1
MCARA	**McCarthy VSAT** baz=266	63.09	31	P	P	03 45 15.3	-0.1
J26L	**Joseph Creek** comp=Z,9.0nm,0.8s	63.13	28	IAmb	IAmb	03 45 17.2	
J26L	**Joseph Creek** baz=264,SNR=12	63.13	28	P	P	03 45 15.5	-0.2
M26K	**Nabesna, AK** baz=265	63.18	30	P	P	03 45 15.6	-0.5
BVAR	**Borovoye Array** comp=Z,16nm,0.6s,baz=88,slow=7.2,SNR=57 comp=Z,16nm,0.6s	63.30	320	P	P	03 45 17.0	+0.1
F26K	**Shsek River** comp=Z,9.7nm,0.8s	63.30	24	IAmb	IAmb	03 45 19.5	
F26K	**Sheenjek River** baz=262,SNR=7.6	63.30	24	P	P	03 45 16.8	+0.1
G26K	**Porcupine Rive** comp=Z,7.6nm,0.7s	63.33	25	IAmb	IAmb	03 45 21.0	
G26K	**Porcupine Rive** baz=262,SNR=7.1	63.33	25	P	P	03 45 16.9	+0.1
BRVK	**Borovoye**	63.36	320		P	03 45 17.2	-0.1
BRVK	comp=Z,10nm,0.8s			IAmb	IAmb	03 45 19.4	
C26K	**Camden Bay** baz=260	63.38	21	P	P	03 45 16.8	-0.3
I26K	**Coal Creek Min** baz=264	63.39	27	P	P	03 45 17.4	+0.1
MESA	**MESA** baz=268	63.55	32	P	P	03 45 18.4	-0.2
M27K	**Edge Creek, AK** baz=266	63.70	30	P	P	03 45 19.0	-0.6
K27K	**Chicken** baz=265	63.73	28	P	P	03 45 19.7	+0.2
C27K	**Jago River** baz=261	63.75	22	P	P	03 45 19.5	-0.1
L27K	**Beaver Creek,** baz=266,SNR=5.0	63.77	29	P	P	03 45 20.1	+0.2
KKAR	**Karatay Array**	63.78	308		P	03 45 20.7	+0.4
BCAR	**Beaver Creek A**	63.79	29	P	P	03 45 20.8	+0.8
CTG	**Chitna Glacier** baz=268	63.88	32	P	P	03 45 20.9	+0.1
I27K	**Handik River** baz=265	64.06	26	P	P	03 45 21.4	-0.3
H27K	**Steamboat Moun** comp=Z,8.7nm,0.8s	64.15	26	IAmb	IAmb	03 45 24.5	
H27K	**Steamboat Moun** baz=265,SNR=11	64.15	26	P	P	03 45 22.4	+0.1
G27K	**Doyon Strip** baz=264	64.15	25	P	P	03 45 22.5	+0.2
BVCY	**Beaver Creek** baz=267	64.18	30	P	P	03 45 22.2	-0.3
E27K	**Coleen River** baz=264	64.32	24	P	P	03 45 23.6	+0.2
YUK3	**Moose Creek** baz=268	64.34	31	P	P	03 45 23.1	-0.7
PINM	**Pinnacle** baz=269	64.39	33	P	P	03 45 23.3	-0.8
O28M	**Mount Upton** baz=269	64.44	32	P	P	03 45 23.3	-1.2
D27M	**Malcolm River** baz=264	64.66	22	P	P	03 45 25.3	-0.3
YUK8	**Steele Glacier** baz=269	64.66	31	P	P	03 45 24.5	-1.4
I28M	**Miner Creek** baz=267,SNR=5.4	64.74	27	P	P	03 45 25.3	-0.9
PNL	**Peninsula** baz=270	64.82	33	P	P	03 45 27.9	+1.1
DAWY	**Dawson** baz=268,SNR=5.2	64.91	28	P	P	03 45 28.1	+0.8
F28M	**Old Crow** comp=Z,5.6nm,0.8s	64.91	24	IAmb	IAmb	03 45 29.5	
F28M	**Old Crow** baz=266	64.91	24	P	P	03 45 28.0	+0.8
E28M	**Babbage River** baz=266	65.11	23	P	P	03 45 29.7	+1.3
YUK4	**Talbot Arm** baz=270	65.20	31	P	P	03 45 29.8	+0.4
O29M	**Mount Kennedy** baz=270	65.23	32	P	P	03 45 29.5	0.0
M29M	**Somme Creek** comp=Z,8.5nm,0.8s	65.29	30	IAmb	IAmb	03 45 32.2	
M29M	**Somme Creek** baz=269,SNR=7.8	65.29	30	P	P	03 45 30.3	+0.5
YUK6	**Outpost Mounta** baz=270	65.34	32	P	P	03 45 30.3	-0.1
I29M	**Ogilvie Camp,** comp=Z,5.2nm,0.9s	65.42	27	IAmb	IAmb	03 45 43.2	
I29M	**Ogilvie Camp,** baz=268	65.42	27	P	P	03 45 31.2	+0.6
H29M	**Whitestone** comp=Z,7.5nm,0.9s	65.43	26	IAmb	IAmb	03 45 32.5	
H29M	**Whitestone** baz=268,SNR=5.8	65.43	26	P	P	03 45 31.2	+0.7
L29M	**L29M** comp=Z,9.3nm,0.8s	65.45	29	IAmb	IAmb	03 45 33.3	
L29M	**L29M** baz=269,SNR=7.2	65.45	29	P	P	03 45 31.2	+0.4
D28M	**Stokes Point** baz=266	65.45	22	P	P	03 45 31.1	+0.5
SIMJ	**Simiganj**	65.47	304	P	P	03 45 31.7	+0.3
G29M	**Pine Creek** baz=268	65.59	25	P	P	03 45 32.0	+0.4
P29M	**Windy Craggy** baz=271	65.67	33	P	P	03 45 31.7	-0.5
E29M	**Blow River** baz=267	65.70	23	P	P	03 45 32.6	+0.4
K29M	**Barlow Dome** comp=Z,6.8nm,1.0s	65.73	28	IAmb	IAmb	03 45 34.9	
K29M	**Barlow Dome** baz=270,SNR=5.2	65.73	28	P	P	03 45 33.3	+0.6
HYT	**Haines Junctio** comp=Z,7.8nm,1.0s	65.76	32	IAmb	IAmb	03 45 37.3	
HYT	**Haines Junctio** baz=271	65.76	32	P	P	03 45 33.9	+1.0
N30M	**Aishikik Lake** baz=271	65.95	31	P	P	03 45 34.4	+0.4
P30M	**Million Dollar** baz=272	66.04	33	P	P	03 45 35.1	+0.5
M30M	**Minto, Yukon** baz=271	66.07	30	P	P	03 45 35.2	+0.4
EPYK	**Eagle Plains** baz=269,SNR=5.5	66.10	26	P	P	03 45 35.1	+0.3
KBL	**Kabul**	66.12	299	P	P	03 45 35.8	-0.1
I30M	**Mount Dempster** baz=270	66.23	27	P	P	03 45 36.0	+0.1
J30M	**Hart River** baz=270	66.25	28	P	P	03 45 36.3	+0.3
G30M	**tAoh Zraii Nji** baz=269	66.30	25	P	P	03 45 36.7	+0.5
O30N	**Mendenhall** baz=272	66.45	32	P	P	03 45 37.6	+0.4
F30M	**Barrier River** baz=270,SNR=5.9	66.48	24	P	P	03 45 37.5	+0.3
S31K	**Pelican** baz=273	66.52	35	P	P	03 45 37.9	+0.4
N31M	**Braeburn, Yuko** baz=272	66.57	31	P	P	03 45 38.5	+0.5
SKAG	**Skagway** baz=274	66.90	33	P	P	03 45 40.0	0.0
WHY	**Whitehorse** baz=273	67.05	32	P	P	03 45 40.6	-0.5
H31M	**Peel River** comp=Z,9.8nm,1.0s	67.07	26	IAmb	IAmb	03 45 42.9	
H31M	**Peel River** baz=272,SNR=5.1	67.07	26	P	P	03 45 41.3	+0.3
SIT	**Sitka** baz=274	67.07	36	P	P	03 45 40.8	-0.2
G31M	**Satah River** baz=271,SNR=11	67.07	25	P	P	03 45 40.8	-0.1
M31M	**Drury Creek, Y** baz=273	67.20	30	P	P	03 45 41.6	-0.3
F31M	**Tsiigehtchic** baz=272	67.26	24	P	P	03 45 42.7	+0.6
INK	**Inuvik** comp=Z,10.0nm,1.1s	67.32	24	IAmb	IAmb	03 45 43.9	
INK	**Inuvik** baz=271,SNR=6.1	67.32	24	P	P	03 45 42.4	-0.1
R32K	**Eaglecrest** baz=275	67.40	34	P	P	03 45 42.9	-0.3
S32K	**Killisnoo** baz=275	67.44	35	P	P	03 45 43.9	+0.4
P32M	**Atlin** baz=275	67.71	33	P	P	03 45 45.8	+0.6
N32M	**Quiet Lake** baz=275	67.89	31	P	P	03 45 46.9	+0.6
P33M	**Teslin, Yukon** baz=275	68.11	32	P	P	03 45 47.9	+0.2
U33K	**Whale Pass** baz=277	68.38	37	P	P	03 45 49.7	+0.4
CRAG	**Craig** baz=277	68.45	37	P	P	03 45 49.9	+0.2
Q32M	**Nakina River** baz=276	68.51	34	P	P	03 45 50.5	+0.1
MMPY	**Sheldon Lake,** baz=276	68.62	30	P	P	03 45 51.5	+0.7
WRAK	**Wrangell Islan** baz=277	68.77	36	P	P	03 45 52.5	+0.8
R33M	**Jennings River** baz=277	69.12	33	P	P	03 45 54.3	+0.2
S34M	**Telegraph Cree** baz=278	69.23	35	P	P	03 45 54.6	+0.1
V35K	**Ketchikan** baz=278	69.32	37	P	P	03 45 55.3	+0.2
DLBC	**Dease Lake** baz=278	69.74	34	P	P	03 45 58.6	+0.9
T35M	**Bob Quinn** baz=279	69.83	36	P	P	03 45 58.9	+0.6
A36M	**Sachs Harbour** baz=278	69.86	19	P	P	03 45 59.2	+1.1
WTLY	**Watson Lake, Y** baz=279	70.11	32	P	P	03 46 00.9	+0.9
U35K	**Hyder** baz=279	70.12	37	P	P	03 46 01.1	+1.1
TGTN	**Hyland Airport** baz=279	70.15	31	P	P	03 46 01.0	+0.8
ABKAR	**Akbulak array**	70.21	316		P	03 46 00.5	-0.2
AKTO	**Aktyubinsk** comp=Z,3.6nm,0.6s,baz=98,slow=5.6,SNR=13 comp=Z,3.6nm,0.6s	71.21	318	P	P	03 46 06.3	-0.5
WRGLY	**Wrigley** baz=282	72.05	28	P	P	03 46 13.0	+1.5
TOAD	**Toad River Com** baz=282	72.13	33	P	P	03 46 13.3	+1.1
KIRV	**Kirov** comp=Z,8.9nm,0.5s,baz=28,slow=2.3,SNR=4.3 comp=Z,8.9nm,0.5s	74.22	327	P	P	03 46 24.0	-0.3
SPITS	**Spitsbergen Ar** comp=Z,1.9nm,0.6s,baz=82,slow=6.8,SNR=8.9 comp=Z,1.9nm,0.6s	76.08	350	P	P	03 46 34.3	-0.5
YKA	**Yellowknife Ar** comp=Z,2.8nm,0.6s,baz=294,slow=6.3,SNR=16 comp=Z,2.8nm,0.6s	76.15	28	P	P	03 46 36.0	+0.6
GNW	**Green Mountain** comp=Z,12nm,1.1s	76.39	44	IAmb	IAmb	03 46 39.7	
BELG	**Belogornoye** comp=Z,32nm,0.7s,baz=126,slow=1.9,SNR=10 comp=Z,32nm,0.7s	77.00	321	P	P	03 46 40.4	+0.1
H04A	**Detroit Lake** comp=Z,10nm,1.0s	77.69	47	IAmb	IAmb	03 46 46.3	
HOOD	**Mount Hood Mea** comp=Z,14nm,1.0s	77.84	46	IAmb	IAmb	03 46 47.6	
YBH	**Yreka Blue Hor** comp=Z,7.0nm,0.8s	78.24	50	IAmb	IAmb	03 46 49.9	
K05A	**Summer Lake** comp=Z,20nm,1.1s	79.20	48	IAmb	IAmb	03 46 55.2	
ARA0	**ARCESS Array S**	79.28	342	eP	P	03 46 52.9	+0.3
ARCES	**ARCESS Array B** comp=Z,4.3nm,0.5s,baz=72,slow=8.1,SNR=45 comp=Z,4.3nm,0.5s	79.28	342	P	P	03 46 52.7	+0.1
J08A	**Circle Bar Ran** comp=Z,8.5nm,0.6s	80.65	47	IAmb	IAmb	03 47 02.6	
TRO	**Tromso**	81.08	343	eP	P	03 47 01.6	-0.5
CMB	**Columbia Colle** comp=Z,11nm,0.8s	81.16	53	IAmb	IAmb	03 47 05.1	
WAKR	**Walker**	81.69	52		P	03 47 06.7	+0.4
RYN	**Ryan** comp=Z,8.1nm,0.9s	82.31	52	IAmb	IAmb	03 47 11.4	
MFID	**Camas Ranch** comp=Z,10nm,0.8s	82.42	46	IAmb	IAmb	03 47 11.8	
LHV	**Little Huntoon** comp=Z,9.5nm,1.0s	82.47	52	IAmb	IAmb	03 47 12.5	
NVAR	**Mina Array Bea** comp=Z,8.7nm,0.8s,baz=269,slow=5.8,SNR=64 comp=Z,8.7nm,0.8s	82.55	52	P	P	03 47 11.8	+1.1
KBZ	**Khabaz** comp=Z,22nm,0.9s,baz=81,slow=3.7,SNR=30 comp=Z,22nm,0.9s	83.05	314	P	P	03 47 13.7	+0.8
KIV	**Kislovodsk**	83.10	315		P	03 47 12.7	-0.6
STEI	**Steigen**	83.22	343	eP	P	03 47 13.1	-0.2
ILON	**Igloolik, Nuna** comp=Z,8.2nm,0.7s	83.53	15	IAmb	IAmb	03 47 15.7	
FAUS	**Fauske**	83.58	342	eP	P	03 47 14.7	-0.5
FINES	**FINESS Array B**	83.64	335		P	03 47 14.0	-1.5
FINES	**FINESS Array B** comp=Z,13nm,0.4s,baz=67,slow=4.7,SNR=238 comp=Z,13nm,0.4s	83.64	335	P	P	03 47 14.5	-1.1
GMN	**Gold Mountain** comp=Z,5.8nm,0.8s	83.73	52	IAmb	IAmb	03 47 18.6	
ELK	**Elko** comp=Z,11nm,1.2s	83.86	49	IAmb	IAmb	03 47 19.4	
MPMC	**Manual Prospec** comp=Z,6.6nm,0.9s	84.03	54	IAmb	IAmb	03 47 20.1	
CLC	**China Lake** comp=Z,7.3nm,0.8s	84.04	54	IAmb	IAmb	03 47 19.9	
LRMC	**Laurel Mtn Rad** comp=Z,8.6nm,0.8s	84.11	54	IAmb	IAmb	03 47 20.3	
FURC	**Furnace Creek,** comp=Z,16nm,1.3s	84.34	53	IAmb	IAmb	03 47 22.2	
WCT	**Wildcat Mounta** comp=Z,6.9nm,1.0s	84.39	53	IAmb	IAmb	03 47 21.8	
QSM	**Queen of Sheba** comp=Z,10nm,0.9s	84.53	54	IAmb	IAmb	03 47 22.4	
GWY	**Greenwater Val** comp=Z,11nm,0.8s	84.60	53	IAmb	IAmb	03 47 22.8	
TPNV	**Topopah Spring** comp=Z,15nm,1.3s	84.61	52	IAmb	IAmb	03 47 23.1	
MOR8	**Moi Rana**	84.66	342	eP	P	03 47 18.7	-2.0
GSC	**Goldstone, Bar** comp=Z,8.5nm,1.1s	84.83	54	IAmb	IAmb	03 47 24.0	
YHL	**Hebgen Lake** comp=Z,11nm,0.9s	84.90	44	IAmb	IAmb	03 47 25.1	
STOK	**Stokkvaagen**	84.96	342	eP	P	03 47 21.4	-0.8
SPR3	**Spring Creek 3** comp=Z,7.6nm,1.1s	85.19	50	IAmb	IAmb	03 47 26.4	
PRN	**Pahroc Range** comp=Z,6.5nm,0.9s	85.31	52	IAmb	IAmb	03 47 26.7	
FFC	**Flin Flon**	85.47	32		P	03 47 25.6	+0.6
FFC	comp=Z,11nm,0.9s			IAmb	IAmb	03 47 26.6	
YMP	**Mirror Lake Pl** comp=Z,6.7nm,0.8s	85.61	43	IAmb	IAmb	03 47 28.6	
PSUT	**Pine Spring** comp=Z,10.0nm,0.8s	85.72	50	IAmb	IAmb	03 47 28.4	
HWUT	**Hardware Ranch** comp=Z,11nm,0.8s	86.04	47	IAmb	IAmb	03 47 30.0	

V12A	**Nelson**	**86.13**	**53**	IAmb	IAmb	03 47 30.7	
	comp=Z,5.9nm,0.8s						
DANC	**Danby, Needles**	**86.17**	**54**	IAmb	IAmb	03 47 30.9	
	comp=Z,11nm,1.0s						
CTU	**Camp Tracy**	**86.30**	**48**	IAmb	IAmb	03 47 31.1	
	comp=Z,7.9nm,0.9s						
CCUT	**Cedar City**	**86.48**	**51**		**P**	**03 47 31.0**	**+0.4**
CCUT				IAmb	IAmb	03 47 32.6	
	comp=Z,4.9nm,0.8s						
BC3	**Big Chuckawall**	**86.51**	**55**	IAmb	IAmb	03 47 32.3	
	comp=Z,7.5nm,0.9s						
JLU	**Jordanelle**	**86.55**	**48**	IAmb	IAmb	03 47 32.5	
	comp=Z,11nm,0.8s						
NSS	**Namsos**	**86.56**	**341**	*e*P	**P**	**03 47 28.7**	**-1.4**
LCMT	**Little Creek M**	**86.79**	**51**	IAmb	IAmb	03 47 34.0	
	comp=Z,6.6nm,0.8s						
PDAR	**Pinedale Array**	**86.87**	**45**	P	**P**	**03 47 32.5**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=255,slow=4.0,SNR=9.3						
	comp=Z,1.4nm,0.7s						
Q16A	**Castle Valley**	**87.47**	**49**	IAmb	IAmb	03 47 36.7	
	comp=Z,5.6nm,0.7s						
U15A	**North Rim**	**87.73**	**52**	IAmb	IAmb	03 47 38.7	
	comp=Z,7.0nm,0.7s						
P18A	**Preston Nutter**	**87.80**	**48**	IAmb	IAmb	03 47 39.2	
	comp=Z,4.5nm,0.7s						
AKASG	**Malin Array Be**	**88.08**	**325**	P	**P**	**03 47 36.2**	**-1.4**
	comp=Z,2.0nm,0.6s,baz=53,slow=4.9,SNR=14						
	comp=Z,2.0nm,0.6s						
AKBB	**Malin Array Si**	**88.08**	**325**	P	**P**	**03 47 36.1**	**-1.5**
AKBB				IAmb	IAmb	03 47 36.8	
	comp=Z,5.0nm,0.8s						
KIEV	**Kiev**	**88.09**	**325**	P	**P**	**03 47 36.1**	**-1.6**
KIEV				IAmb	IAmb	03 47 36.8	
	comp=Z,4.5nm,0.8s						
113A	**Mohawk Valley,**	**88.16**	**55**	IAmb	IAmb	03 47 40.1	
	comp=Z,6.9nm,1.2s						
HMU	**Henry Mountain**	**88.20**	**50**	IAmb	IAmb	03 47 41.4	
	comp=Z,5.6nm,0.7s						
WUAZ	**Wupatki**	**88.79**	**52**	IAmb	IAmb	03 47 43.7	
	comp=Z,6.4nm,0.8s						
O20A	**White River Ci**	**88.95**	**47**	IAmb	IAmb	03 47 43.5	
	comp=Z,5.4nm,0.8s						
HFS	**Hagfors**	**89.15**	**338**	P	**P**	**03 47 40.9**	**-1.5**
	comp=Z,3.1nm,0.4s,baz=92,slow=4.5,SNR=52						
	comp=Z,3.1nm,0.4s						
PV05	**Paradox Valley**	**89.30**	**49**	IAmb	IAmb	03 47 45.4	
	comp=Z,6.6nm,1.0s						
NB2	**NORSAR Subarra**	**89.34**	**339**	P	**P**	**03 47 41.3**	**-2.1**
	comp=Z,1.3nm,0.7s,baz=42,slow=4.6						
NOA	**NORSAR Array B**	**89.34**	**339**	P	**P**	**03 47 42.0**	**-1.5**
	comp=Z,1.4nm,0.7s,baz=46,slow=4.5,SNR=12						
	comp=Z,1.4nm,0.7s						
HAYD	**Hayden**	**89.43**	**46**	IAmb	IAmb	03 47 46.3	
	comp=Z,5.7nm,0.7s						
PV13	**Radium Mtn., P**	**89.45**	**49**	IAmb	IAmb	03 47 45.9	
	comp=Z,6.3nm,0.7s						
PV01	**Paradox Valley**	**89.64**	**49**	IAmb	IAmb	03 47 46.8	
	comp=Z,5.3nm,0.7s						
MVCO	**Mesa Verde**	**90.11**	**50**	IAmb	IAmb	03 47 49.4	
	comp=Z,7.2nm,1.4s						
ISCO	**Idaho Springs**	**90.88**	**46**	IAmb	IAmb	03 47 53.3	
	comp=Z,4.0nm,0.8s						
BRTR	**Keskin Array B**	**91.02**	**314**	P	**P**	**03 47 51.2**	**-0.7**
BRTR	**Keskin Array B**	**91.02**	**314**	P	**P**	**03 47 50.7**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=86,slow=2.6,SNR=7.9						
	comp=Z,1.4nm,0.8s						
S22A	**4UR Ranch, Cre**	**91.04**	**49**	IAmb	IAmb	03 47 54.0	
	comp=Z,3.2nm,0.9s						
TXAR	**Lajitas Array**	**97.43**	**55**	P	**P**	**03 48 21.0**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=304,slow=4.3,SNR=5.5						
	comp=Z,0.2nm,0.5s						
PLCA	**Paso Flores**	**145.06**	**131**	PKPbc	**PKPbc**	**03 54 23.9**	**+0.2**
	comp=Z,3.8nm,0.6s,baz=233,slow=4.1,SNR=22						
LPAZ	**La Paz**	**149.11**	**86**	PKP	**PKPdf**	**03 54 32.5**	**+0.5**
	comp=Z,4.7nm,0.5s,baz=110,slow=1.0,SNR=5.5						
LPAZ				PKPbc	**PKPbc**	**03 54 37.0**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=11,slow=9.8,SNR=3.6						

NEIC 28 03:47:11.7±2.0, 39.22N±0.03×99.43W±0.06, h5km±2km, mb_Lg2.2/13, Error ellipse: s-maj=8.0km s-min=4.5km az=275.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBKS	**Cedar Bluff**	**0.47**	**211**	Pg	Pg	03 47 20.7	-0.1
CBKS				Sg	Sg	03 47 27.5	+0.5
R32A	**Long Quarter,**	**0.97**	**145**	Pg	Pg	03 47 30.2	-0.1
R32A					Sb	03 47 43.7	-0.5
KSU1	**Kansas State U**	**2.19**	**92**	Pn	Pn	03 47 48.4	-0.4
BGNE	**Belgrade**	**2.39**	**24**	Pn	Pn	03 47 51.1	-0.5
KSCO	**Kaye Shedlock'**	**2.50**	**266**	Pn	Pn	03 47 50.6	-2.6
KAN09	**Caldwell North**	**2.52**	**145**	Pn	Pn	03 47 50.9	-2.4
OGNE	**Ogallala**	**2.64**	**312**	Pn	Pn	03 47 55.1	0.0
OGNE				IAmb_Lg		03 48 34.0	
	comp=Z,13nm,0.8s						
OK038	**West end E0370**	**2.79**	**169**	Pn	Pn	03 47 55.0	-2.1
CROK	**Carrier**	**2.94**	**157**	Pn	Pn	03 47 58.1	-1.0
T35A	**Sooner Cattle**	**3.25**	**134**	Pn	Pn	03 48 02.4	-1.0
N35A	**Tabor**	**3.33**	**59**	Pn	Pn	03 48 05.1	+0.6
N35A				IAmb_Lg		03 49 04.4	
	comp=Z,9.9nm,0.8s						
RTBA	**Rita Blanca**	**3.82**	**224**	IAmb_Lg		03 49 21.0	
	comp=Z,5.9nm,0.9s						
N38A	**Joes South For**	**5.01**	**70**	IAmb_Lg		03 49 56.8	
	comp=Z,4.7nm,0.7s						

*IDC **28** 03:59:08.6±21.0, 22.52S×179.60W, h384km±235km, mb3.4/5, mbtmp4.2/6, Error ellipse: s-maj=146.4km s-min=29.4km az=5.0*
*NEIC **28** 03:59:23.3±1.7, 23.5S±0.2×179.6W±0.1, h560km±15km, mb4.4/17, Error ellipse: s-maj=23.2km s-min=18.7km az=166.0*
ISC 28 03:59:17.3±1.8, 23.1S±0.2×179.0W±0.2, h550km, n28, σ0.9 69/26, mb4.1/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.24**	**171**	P	**P**	**04 00 57.9**	**-0.1**
PINNC	**Pines Island,**	**12.50**	**269**	P	**P**	**04 02 01.1**	**+0.1**
TOZ	**Tahuroa Road**	**15.36**	**197**	P	**P**	**04 02 31.4**	**+1.2**
URZ	**Urewera**	**15.51**	**191**	P	**P**	**04 02 30.8**	**-1.0**
	5.5nm,0.5s,baz=12,slow=2.9,SNR=5.4						
MRZ	**Mangatainoka R**	**18.13**	**193**	P	**P**	**04 02 55.1**	**-1.0**
MRZ				IAmb	IAmb	04 03 00.0	
	comp=Z,22nm,1.3s						
THZ	**Tophouse**	**19.84**	**198**	P	**P**	**04 03 13.2**	**+1.4**
GVZ	**Greta Valley S**	**20.92**	**197**	P	**P**	**04 03 22.5**	**+1.0**
LTZ	**Lake Taylor**	**20.96**	**198**	P	**P**	**04 03 21.8**	**-0.1**
CTAO	**Charters Tower**	**32.39**	**269**	P	**P**	**04 05 02.8**	**+0.5**
TOO	**Toolangi**	**33.67**	**236**	P	**P**	**04 05 13.1**	**+0.2**
TOO				IAmb	IAmb	04 05 44.8	
	comp=Z,6.2nm,1.3s						
STKA	**Stephens Creek**	**35.88**	**247**	P	**P**	**04 05 31.3**	**-0.1**
STKA				IAmb	IAmb	04 06 06.2	
	comp=Z,20nm,1.2s						
STKA	**Stephens Creek**	**35.88**	**247**	P	**P**	**04 05 30.9**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=83,slow=9.8,SNR=7.9						
	comp=Z,1.4nm,0.5s						
BBOO	**Buckleboo**	**40.61**	**246**	P	**P**	**04 06 08.7**	**-1.1**
BBOO				IAmb	IAmb	04 06 09.8	
	comp=Z,32nm,1.5s						
AS31	**Alice Springs**	**43.07**	**260**		**P**	**04 06 29.4**	**+0.1**
ASAR	**Alice Springs**	**43.07**	**259**	P	**P**	**04 06 29.2**	**-0.2**
ASAR	**Alice Springs**	**43.07**	**259**	P	**P**	**04 06 29.4**	**0.0**
	comp=Z,4.0nm,0.8s,baz=95,slow=8.2,SNR=37						
	comp=Z,4.0nm,0.8s						
WR8	**Warramunga Arr**	**43.23**	**265**	P	**P**	**04 06 30.1**	**-0.4**
WRA	**Warramunga Arr**	**43.38**	**265**	P	**P**	**04 06 31.3**	**-0.5**
WRA	**Warramunga Arr**	**43.38**	**265**	P	**P**	**04 06 31.3**	**-0.5**
	comp=Z,2.8nm,0.4s,baz=95,slow=8.5,SNR=61						
	comp=Z,2.8nm,0.4s						
KNRA	**Kununurra**	**49.61**	**269**	P	**P**	**04 07 19.0**	**+0.2**
KNRA				IAmb	IAmb	04 07 20.1	
	comp=Z,11nm,1.2s						
FITZ	**Fitzroy Crossi**	**51.80**	**265**	P	**P**	**04 07 35.4**	**+0.6**
FITZ	**Fitzroy Crossi**	**51.80**	**265**	P	**P**	**04 07 36.0**	**+1.2**
	comp=Z,2.4nm,0.4s,baz=87,slow=8.2,SNR=4.8						
	comp=Z,2.4nm,0.4s						
MBWA	**Marble Bar**	**56.42**	**259**	P	**P**	**04 08 07.5**	**+0.2**
MBWA				IAmb	IAmb	04 08 47.4	
	comp=Z,11nm,1.2s						
MORW	**Morawa**	**58.02**	**249**	P	**P**	**04 08 18.1**	**0.0**
MORW				IAmb	IAmb	04 08 39.3	
	comp=Z,23nm,1.4s						
KAPI	**Kappang**	**61.62**	**277**	P	**P**	**04 08 41.6**	**-0.5**
KAPI				IAmb	IAmb	04 08 47.9	
	comp=Z,24nm,1.1s						
TXAR	**Lajitas Array**	**89.22**	**58**	P	P	04 11 24.6	+9.4
	comp=Z,0.2nm,0.7s,baz=226,slow=6.7,SNR=3.7						
	comp=Z,0.2nm,0.7s						
HFS	**Hagfors**	**141.89**	**350**	PKhKP	PKPpre	04 17 47.2	
	comp=Z,0.7nm,0.3s,baz=56,slow=3.8,SNR=18						
EKA	**Eskdalemuir Ar**	**147.62**	**4**	PKPbc	**PKPab**	**04 18 04.2**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=344,slow=2.7,SNR=3.5						

*IDC **28** 04:03:21.2±1.1, 20.83N×122.22E, h0km, mb3.6/6, mbtmp3.7/8, ML3.6/2, Error ellipse: s-maj=41.7km s-min=20.5km az=68.0*
ISC 28 04:03:26.3±1.1, 20.9N±0.1×122.3E±0.2, h35km, n14, σ0.8 82/8, mb3.6/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**8.06**	**41**	Pn	**Pn**	**04 05 21.5**	**+0.6**
	1.8nm,0.3s,baz=224,slow=17,SNR=5.5						
	7.4nm,0.5s						
KSRS	**Korea Array**	**17.23**	**15**	Pn	**Pn**	**04 07 23.1**	**-1.1**
	0.3nm,0.3s,baz=200,slow=13,SNR=4.6						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**41.47**	**318**	P	**P**	**04 11 09.5**	**-0.3**
	0.6nm,0.6s,baz=108,slow=9.4,SNR=6.3						
	0.6nm,0.6s						
H11N1	**WAKE ISLAND Hy 41.72**	**83**		T	T	04 56 11.5	
	baz=283,slow=75,SNR=67						
H11N2	**WAKE ISLAND Hy 41.72**	**83**		T	T	04 56 11.7	
	baz=283,slow=75,SNR=64						
H11N3	**WAKE ISLAND Hy 41.74**	**83**		T	T	04 56 11.4	
	baz=283,slow=75,SNR=63						
H11S3	**WAKE ISLAND Hy 41.74**	**85**		T	T	04 56 06.8	
	baz=280,slow=75,SNR=371						
H11S1	**WAKE ISLAND Hy 41.75**	**85**		T	T	04 56 06.7	
	baz=280,slow=75,SNR=246						
H11S2	**WAKE ISLAND Hy 41.76**	**85**		T	T	04 56 08.1	
	baz=280,slow=75,SNR=198						
WRA	**Warramunga Arr**	**42.23**	**163**	P	**P**	**04 11 16.1**	**-0.1**
	0.5nm,0.8s,baz=344,slow=8.1,SNR=4.2						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**43.60**	**329**	P	**P**	**04 11 26.2**	**-0.7**
	0.6nm,0.6s,baz=110,slow=8.6,SNR=5.6						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**45.33**	**322**	P	**P**	**04 11 40.3**	**-0.5**
	0.9nm,0.6s,baz=120,slow=8.6,SNR=4.4						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**45.68**	**165**	P	**P**	**04 11 43.6**	**-0.3**
	0.3nm,0.7s,baz=350,slow=9.3,SNR=2.4						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**50.91**	**322**	P	**P**	**04 12 24.8**	**+0.9**
	0.6nm,0.6s,baz=101,slow=7.7,SNR=4.7						
	0.6nm,0.6s						

*IDC **28** 04:10:02.2±2.9, 7.42S×128.85E, h122km±27km, mb3.7/12, mbtmp4.1/16, Error ellipse: s-maj=30.7km s-min=13.1km az=77.0*
*NEIC **28** 04:10:04.5±1.9, 7.42S±0.06×128.69E±0.08, h132km±6km, mb4.3/12, Error ellipse: s-maj=12.0km s-min=8.8km az=105.0*
*DJA **28** 04:10:48.7±1.5, 9.3S±6.2×126.2E±, h13km±13km, M4.4/6, mB5.5/1, mb4.9/4, MLv4.1/6, Mw(mB)5.0/1*
ISC 28 04:10:05.6±0.5, 7.49S±0.06×128.73E±0.07, h151km, n59, σ1.9 67/59, mb4.0/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.60**	**101**		**Pn**	**04 10 48.6**	**+0.6**
SOEI	**Soe**	**4.95**	**243**		**Pn**	**04 11 16.6**	**-2.0**
SOEI	**Soe**	**4.95**	**243**	P	**Pn**	**04 11 17.6**	**-1.0**
BATI	**Baumata**	**5.69**	**241**	P	**Pn**	**04 11 27.6**	**-0.6**
	169nm,0.4s,baz=106,slow=2.9,SNR=27						
BATI				S	**Sn**	**04 12 28.9**	**-3.9**
	117nm,0.3s,baz=232,slow=5.3,SNR=10						
BATI	**Baumata**	**5.69**	**241**	P	**Pn**	**04 11 28.1**	**-0.1**
FAKI	**Fak Fak**	**5.74**	**38**		**Pn**	**04 11 26.3**	**-2.6**
MTN	**Manton Dam**	**5.83**	**156**		**Pn**	**04 11 28.9**	**-1.2**
MTN	**Manton Dam**	**5.83**	**156**	P	**Pn**	**04 11 29.1**	**-1.0**
KDU	**Kakadu**	**6.35**	**145**	P	**Pn**	**04 11 35.6**	**-1.4**
	27nm,0.7s						
KNRA	**Kununurra**	**8.14**	**180**		**Pn**	**04 11 59.3**	**-1.6**
BSSI	**Bau Bau, Buton**	**8.29**	**279**	P	Pn	04 12 18.8	+16
	0.2nm57nm,1.6s						
BASI	**Baing, Sumba**	**8.50**	**251**	P	**Pn**	**04 12 07.9**	**+2.2**
	0.6nm152nm,1.6s						
FITZ	**Fitzroy Crossi**	**10.97**	**196**		**Pn**	**04 12 34.9**	**-3.5**
FITZ	**Fitzroy Crossi**	**10.97**	**196**	P	**Pn**	**04 12 35.4**	**-3.0**
	3.2nm,0.4s,baz=21,slow=11,SNR=26						
FITZ				S	Sn	04 14 29.3	-10
	24nm,0.3s,baz=77,slow=22,SNR=11						
FITZ	**Fitzroy Crossi**	**10.97**	**196**	P	**Pn**	**04 12 35.8**	**-2.6**
	26nm,0.7s						
WRA	**Warramunga Arr**	**13.52**	**157**	P	**Pn**	**04 13 07.7**	**-3.9**
	2.7nm,0.5s,baz=323,slow=13,SNR=38						
WRA				S	Sn	04 15 29.8	-12
	17nm,0.7s,baz=329,slow=24,SNR=12						
WR8	**Warramunga Arr**	**13.60**	**156**		**Pn**	**04 13 08.4**	**-4.1**
PSA00	**Pilbara Seismi**	**16.42**	**211**	P	**P**	**04 13 47.8**	**+0.3**
PSA00				IAmb	IAmb	04 13 53.9	
	comp=Z,9.3nm,0.7s						
PSA00	**Pilbara Seismi**	**16.42**	**211**	P	**Pn**	**04 13 47.6**	**+0.1**
PSA00				IAmb	IAmb	04 14 03.8	
	comp=Z,3.7nm,0.9s						
PSA00	**Pilbara Seismi**	**16.42**	**211**	P	**P**	**04 13 48.9**	**+1.4**
	comp=Z,14nm,0.8s						
QIS	**Mount Isa**	**16.73**	**142**	P	**Pn**	**04 13 51.4**	**+0.1**
	comp=Z,4.3nm,1.1s						
AS31	**Alice Springs**	**16.84**	**163**		**P**	**04 13 51.8**	**-0.4**
AS31				IAmb	IAmb	04 13 53.8	
	comp=Z,3.9nm,0.6s						
ASAR	**Alice Springs**	**16.84**	**163**	P	**P**	**04 13 52.0**	**-0.1**
	comp=Z,8.4nm,0.6s,baz=339,slow=10,SNR=111						
ASAR				S	S	04 16 48.5	-11
	comp=Z,2.9nm,0.8s,baz=336,slow=23,SNR=6.2						
AS01	**Alice Springs**	**16.85**	**163**	P	**Pn**	**04 13 53.3**	**+0.6**
	comp=Z,18nm,0.8s						
GIRL	**Giralia**	**20.53**	**221**	P	**P**	**04 14 33.3**	**+1.0**
MEEK	**Meekatharra**	**21.33**	**206**	P	**P**	**04 14 42.0**	**+1.1**
	comp=Z,8.2nm,2.5s						
QLP	**Quilpie**	**24.04**	**144**	P	**P**	**04 15 09.1**	**+2.2**
	comp=Z,18nm,0.7s						
MORW	**Morawa**	**24.57**	**208**	P	**P**	**04 15 12.2**	**+0.5**
MORW				IAmb	IAmb	04 15 14.0	
	comp=Z,12nm,0.6s						
MORW	**Morawa**	**24.57**	**208**	P	**P**	**04 15 12.4**	**+0.7**
	comp=Z,15nm,1.3s						
BLDU	**Ballidu**	**25.61**	**205**	P	**P**	**04 15 22.0**	**+0.9**
BBOO	**Buckleboo**	**26.10**	**166**	P	**P**	**04 15 25.6**	**+0.2**
BBOO				IAmb	IAmb	04 15 53.2	
	comp=Z,25nm,1.4s						
BBOO	**Buckleboo**	**26.10**	**166**	P	**P**	**04 15 26.4**	**+0.9**
	comp=Z,17nm,0.8s						
STKA	**Stephens Creek**	**27.07**	**155**	P	**P**	**04 15 34.7**	**+0.6**
STKA	**Stephens Creek**	**27.07**	**155**	P	**P**	**04 15 34.3**	**+0.1**
	comp=Z,3.4nm,0.7s,baz=332,slow=9.6,SNR=9.9						
	comp=Z,3.4nm,0.7s						
NWAO	**Narrogin (SRO)**	**27.47**	**201**	P	**P**	**04 15 38.0**	**+0.3**
HTT	**Hallett**	**27.49**	**161**	P	**P**	**04 15 42.5**	**+4.6**
	comp=Z,16nm,2.4s						
TOO	**Toolangi**	**33.59**	**156**	P	**P**	**04 16 33.0**	**+1.4**
TOO				IAmb	IAmb	04 17 17.0	
	comp=Z,8.0nm,1.5s						
PZH	**PanZhiHua**	**42.75**	**323**	P	**P**	**04 17 50.5**	**+2.1**
MJAR	**Matsushiro Arr**	**44.69**	**11**	P	**P**	**04 18 01.6**	**-2.1**
	comp=Z,3.2nm,1.1s,baz=182,slow=8.7,SNR=5.2						
	comp=Z,3.2nm,1.1s						
KSRS	**Korea Array**	**44.71**	**359**	P	**P**	**04 18 03.2**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=180,slow=10,SNR=2.6						
	comp=Z,0.5nm,0.5s						
HHC	**Hu-ho-hao-te**	**50.63**	**343**	*e*P	**P**	**04 18 52.0**	**+2.6**
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,63nm,4.5s						
GTA	**Gaotai**	**53.80**	**332**	*e*P	**P**	**04 19 13.8**	**+0.9**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SONM	**Songino Array**	**58.51**	**343**	P	**P**	**04 19 46.0**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=157,slow=6.8,SNR=4.8						
	comp=Z,0.5nm,0.5s						
PETK	**Petropavlovsk-**	**65.18**	**19**	P	**P**	**04 20 29.8**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=194,slow=3.3,SNR=5.7						
	comp=Z,1.6nm,0.6s						
MK31	**Makanchi Array**	**67.95**	**328**	P	**P**	**04 20 48.6**	**+0.4**
MKAR	**Makanchi Array**	**67.95**	**328**	P	**P**	**04 20 47.7**	**-0.5**
MKAR	**Makanchi Array**	**67.95**	**328**	P	**P**	**04 20 48.1**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=120,slow=7.9,SNR=10						
	comp=Z,0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**71.47**	**334**	P	**P**	**04 21 08.7**	**-0.9**
ZALV	**Zalesovo Beam**	**71.47**	**334**	P	**P**	**04 21 08.8**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=110,slow=4.7,SNR=5.1						
	comp=Z,1.1nm,0.6s						
VNDA	**Vanda**	**72.12**	**173**	P	**P**	**04 21 13.3**	**+0.2**
VNDA	**Vanda**	**72.12**	**173**	P	**P**	**04 21 13.4**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=316,slow=6.1,SNR=4.3						
	comp=Z,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**72.27**	**329**	P	**P**	**04 21 14.4**	**0.0**
	comp=Z,1.3nm,0.3s,baz=125,slow=5.1,SNR=5.3						
	comp=Z,1.3nm,0.3s						
MAW	**Mawson**	**74.04**	**201**	P	**P**	**04 21 25.2**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=80,slow=8.8,SNR=3.6						
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**77.81**	**328**	P	**P**	**04 21 45.7**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=128,slow=4.0,SNR=1.8						
	comp=Z,0.4nm,0.4s						
QSPA	**South Pole Qui**	**82.49**	**180**	P	**P**	**04 22 10.4**	**-0.8**
QSPA				IAmb	IAmb	04 22 33.1	
	comp=Z,5.7nm,1.4s						
QSPA	**South Pole Qui**	**82.49**	**180**	P	**P**	**04 22 10.4**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=12,slow=0.9,SNR=7.3						
	comp=Z,0.9nm,0.6s						
ITAB	**Concordia**	**145.47**	**179**	PKPdf	**PKPbc**	**04 29 26.8**	**0.0**
LPAZ	**La Paz**	**151.08**	**145**	PKPbc	**PKiKP**	**04 29 43.5**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=233,slow=1.5,SNR=2.5						
AQDB	**Aquidauana**	**151.87**	**171**	PKPbc	**PKPbc**	**04 29 43.0**	**-0.6**

IDC 28 04:31:19.4±1.8, 3.96S×151.73E, h0km, mb3.7/4, mbtmp3.8/5, ML1.8/1, MS3.6/1, Error ellipse: s-maj=59.9km s-min=24.9km az=120.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.06**	**220**	Pn	Pn	04 33 04.5	+0.4
	1.1nm,0.3s,baz=23,slow=7.7,SNR=3.1						
	7.4nm,0.5s						
WRA	**Warramunga Arr**	**23.23**	**225**	P	P	04 36 27.6	-0.9
	1.1nm,0.8s,baz=47,slow=9.7,SNR=10						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**26.08**	**220**	P	P	04 36 55.2	+0.3
	1.2nm,1.1s,baz=51,slow=8.9,SNR=11						
	1.2nm,1.1s						
DAV	**Davao City (W)**	**28.31**	**293**	LR	LR	04 48 51.7	
	comp=Z,122nm,18.4s,baz=136,slow=37						
CMAR	**Chiang Mai Arr**	**56.56**	**295**	P	P	04 41 05.0	+0.7
	0.9nm,0.4s,baz=112,slow=4.6,SNR=7.5						
	0.9nm,0.4s						
ILAR	**Eielson Array**	**81.79**	**22**	P	P	04 43 39.5	-0.4
	0.4nm,0.6s,baz=245,slow=5.6,SNR=7.4						
	0.4nm,0.6s						

*IDC **28** 04:33:02.3±0.9, 3.83S×151.64E, h0km, mb3.9/10, mbtmp3.9/11, ML2.2/1, MS3.8/19, Error ellipse: s-maj=29.0km s-min=18.1km az=100.0*
*NEIC **28** 04:33:06.7±1.7, 3.71S±0.09×151.42E±0.08, h10km±1km, mb4.5/15, Error ellipse: s-maj=18.8km s-min=6.0km az=42.0*
*GCMT **28** 04:33:08.7±0.3, 3.64S±0.02×151.23E±0.02, h18km±1km, MW4.9/92, Moment Tensor Solution. s14,c14; s92,c114; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.33±.11; $M_{\theta\theta}$2.13±.11; $M_{\phi\phi}$-1.80±.09; $M_{r\theta}$1.10±.27; $M_{r\phi}$0.93±.11; $M_{\theta\phi}$-1.24±.33; Best double couple: M_o2.73800×10^{16} NP1:ϕ=36.00000°, δ55.00000°, λ-170.00000°. NP2: ϕ=300.00000°, δ82.00000°, λ-36.00000°. Principal axes: T 2.5990, Plg18.0000°, Azm353.0000°; N 0.2800, Plg53.0000°, Azm109.0000°; P -2.8770, Plg31.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 28 04:33:05.9±0.5, 3.86S±0.08×151.47E±0.08, h10km, n55, σ1.9 72/41, mb4.3/24, MS3.8/17, 1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.77**	**116**	Pg	**Pn**	**04 33 23.4**	**+0.6**
PMG	**Port Moresby**	**6.98**	**218**	Pn	**Pn**	**04 34 50.0**	**+1.8**
PMG	**Port Moresby**	**6.98**	**218**	Pn	**Pn**	**04 34 48.7**	**+0.5**
	2.4nm,0.3s,baz=346,slow=18,SNR=4.3						
PMG				LR	LR	04 37 51.8	
	comp=Z,518nm,18.3s,baz=320,slow=41						
	11nm,0.5s						
HNR	**Honiara**	**10.08**	**124**	LR	LR	04 39 51.8	
	comp=Z,764nm,

PEA0B	**Petropavlovsk-**	57.00	4	P		**P**	04 42 51.7	+0.1	
PETK	**Petropavlovsk-**	57.00	4	P		**P**	04 42 50.2	-1.4	
	comp=Z,1.7nm,0.8s,baz=175,slow=7.4,SNR=5.9								
	comp=Z,1.7nm,0.8s								
HHC	**Hu-ho-hao-te**	57.51	325	*e*P		**P**	04 42 57.5	+1.9	
HHC					pmax	pmax			
	comp=Z,14nm,0.5s								
HHC					pmax	pmax			
	comp=Z,41nm,4.1s								
HEH	**HeiHe**	57.75	342	*e*P		**P**	04 42 59.5	+2.6	
PPT	**Papeete**	59.28	108	LR		LR	05 05 01.5		
	comp=Z,43nm,19.5s,baz=322,slow=32								
SHEM	**Shemya Is, Ala**	59.53	16	LR		LR	05 04 14.1		
	comp=Z,63nm,21.4s,baz=148,slow=32								
GTA	**Gaotai**	64.07	317	*e*P		**P**	04 43 41.5	+1.1	
GTA				pP		pwP	04 43 45.5	-0.4	
GTA				pmax		pmax			
	comp=Z,3.0nm,1.4s								
WMQ	**Urumqi**	74.15	318	*e*P		**P**	04 44 43.5	+0.7	
WMQ				pmax		pmax			
	comp=Z,50nm,0.7s								
J17K	**VABM Dome**	76.56	21	P		**P**	04 44 58.7	+2.5	
J17K				IAmb		IAmb	04 45 09.6		
	comp=Z,5.0nm,1.1s								
TIXI	**Tiksi**	76.80	353	LR		LR	05 19 51.6		
	comp=Z,40nm,19.1s,baz=174,slow=37								
L19K	**White Mountain**	77.39	23			**P**	04 45 01.6	+0.7	
L19K				IAmb		IAmb	04 45 09.0		
	comp=Z,4.8nm,0.9s								
G18K	**Tagagawik**	78.28	19			**P**	04 45 04.9	-0.8	
G18K				IAmb		IAmb	04 45 12.2		
	comp=Z,2.4nm,0.8s								
MKAR	**Makanchi Array**	78.75	319	P		**P**	04 45 06.9	-1.8	
MKAR	**Makanchi Array**	78.75	319	P		**P**	04 45 06.6	-2.2	
	comp=Z,0.3nm,0.7s,baz=77,slow=5.4,SNR=4.1								
	comp=Z,0.3nm,0.7s								
H19K	**Roundabout Mou**	78.77	20	P		**P**	04 45 08.7	+0.3	
H19K				IAmb		IAmb	04 45 16.3		
	comp=Z,3.2nm,0.9s								
J20K	**Nowinta River**	78.79	21	P		**P**	04 45 08.6	0.0	
J20K				IAmb		IAmb	04 45 42.5		
	comp=Z,9.0nm,1.4s								
E19K	**Redstone River**	79.69	18	P		**P**	04 45 13.3	-0.2	
MLY	**Manley**	80.49	21			**P**	04 45 17.2	-0.7	
MLY				IAmb		IAmb	04 45 40.5		
	comp=Z,7.1nm,1.1s								
KSH	**Kashi**	81.32	311	P		**P**	04 45 22.5	-0.5	
KSH				pmax		pmax			
	comp=Z,4.0nm,0.8s								
ILAR	**Eielson Array**	81.79	22	P		**P**	04 45 21.6	-3.1	
	comp=Z,0.4nm,0.6s,baz=248,slow=5.2,SNR=6.4								
	comp=Z,0.4nm,0.6s								
KURK	**Kurchatov**	82.21	322	P		**P**	04 45 26.8	-0.4	
MAW	**Mawson**	85.92	203	LR		LR	05 22 43.0		
	comp=Z,86nm,18.0s,baz=62,slow=35								
KKAR	**Karatay Array**	86.02	314			**P**	04 45 42.9	-4.0	
QSPA	**South Pole Qui**	86.10	180	P		**P**	04 45 44.8	-2.1	
	comp=Z,1.6nm,0.9s,baz=342,slow=1.8,SNR=3.7								
	comp=Z,1.6nm,0.9s								
BVAR	**Borovoye Array**	87.69	323	P		**P**	04 45 53.4	-1.4	
	comp=Z,0.4nm,0.7s,baz=95,slow=8.8,SNR=2.5								
	comp=Z,0.4nm,0.7s								

OSPL ***28*** *04:36:47.0±1.6, 18°.23N×70°.28W, h54km±14km, ML1.9*
SDD ***28*** *04:36:48.3±1.4, 18°.26N×70°.44W, h21km±5km, MD2.9, ML2.1, MW2.7*

ISC 28 04:36:46.3±1.3, 18°.18N±0°.06×70°.37W±0°.04, h20km±3km, n12, σ1s60/23, 6C-6D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BANI	**BANI**	0.21	3	⇑*e*Pg		**Pb**	**04 36 52.1**	**+0.2**
BANI				⇑*e*Pg			04 36 52.2	
BANI				IAML			04 36 56.0	
	comp=N,781nm,0.2s							
BANI				IAML			04 36 56.1	
	comp=N,100nm,0.1s							
BANI				⇓*e*Sg		**Sb**	**04 36 56.1**	**+0.2**
BANI				*e*Sg			04 36 56.1	
LOSC1	**San Cristbal**	0.34	47	*e*S		**Sn**	**04 37 01.7**	**-0.6**
ABDR	**Alto Bandera**	0.68	339	⇓*e*Pg		**Pb**	**04 36 59.5**	**-0.1**
ABDR				⇓*e*Sg		**Sb**	**04 37 07.3**	**-1.5**
ABDR				IAML			04 37 07.4	
	comp=N,130nm,0.3s							
DR08	**Loma La Naviza**	0.85	23	⇓*e*Pg		**Pb**	**04 37 02.1**	**-0.3**
DR08				⇓*e*Sg		**Sb**	**04 37 12.8**	**-0.5**
DR08				IAML			04 37 13.8	
	comp=N,590nm,0.2s							
PODR	**Polo**	0.87	269	⇓*e*Pg		**Pb**	**04 37 02.7**	**-0.1**
PODR				*e*Sg		**Sb**	**04 37 13.9**	**-0.2**
PODR				IAML			04 37 18.1	
	comp=N,41nm,0.2s							
PODR	**Polo**	0.87	269	*i* P		**Pb**	**04 37 02.4**	**-0.4**
PODR				*e*S		**Sb**	**04 37 13.8**	**-0.3**
LOVI	**El Cajuil, Ovi**	1.02	249	*i* P		**Pn**	**04 37 06.1**	**+0.6**
LOVI				*e*S		**Sn**	**04 37 18.7**	**-0.5**
LOVI				IAML			04 37 19.1	
	comp=Z,67nm,1.1s							
LODU1	**El Espartillar**	1.06	280	*i* P		**Pb**	**04 37 05.7**	**-0.3**
LODU1				*e*S		**Sn**	**04 37 20.4**	**+0.1**
LODU1				IAML			04 37 21.2	
	comp=Z,31nm,1.7s							
HATOM	**Hato Mayor del**	1.12	57	⇑*e*Pg		**Pb**	**04 37 07.7**	**+0.8**
HATOM				*e*Sg		**Sn**	**04 37 22.8**	**+1.1**
HATOM				IAML			04 37 24.4	
	comp=N,20nm,0.6s							
SDDR	**Presa de Saban**	1.18	313	⇑*e*Pg		**Pn**	**04 37 06.2**	**-1.5**
SDDR				⇑*e*Sg		**Sb**	**04 37 21.5**	**-1.5**
SDDR				IAML			04 37 22.4	
	comp=N,38nm,0.5s							
SDDR	**Presa de Saban**	1.18	313	*i* P		**Pn**	**04 37 06.7**	**-1.0**
SDDR				*e*S		**Sb**	**04 37 21.0**	**-2.0**
SDDR				IAML			04 37 22.9	
	comp=Z,16nm,0.4s							
REDR	**Restauracion**	1.38	315	⇑*e*Pg		**Pb**	**04 37 14.8**	**+3.3**
REDR				*e*Sg		**Sb**	**04 37 33.4**	**+4.6**
REDR				IAML			04 37 34.4	
	comp=N,31nm,0.2s							

IDC ***28*** *04:47:40.9±1.2, 59°.99N×152°.54W, h96km±18km, mb3.9/10, mbtmp4.2/15, Error ellipse: s-maj=24.0km s-min=10.1km az=117.0*

NEIC ***28*** *04:47:42.7±1.0, 60°.01N±0°.03×152°.74W±0°.05, h110km±3km, Error ellipse: s-maj=5.3km s-min=1.2km az=137.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.34; $M_{\theta\theta}$-1.08; $M_{\phi\phi}$0.74; $M_{r\theta}$0.03; $M_{\theta\phi}$0.48; $M_{r\phi}$0.65; Fault plane solution: $M_0$1.25000×10^{15} NP1:ϕ_s323.68000°, δ70.71000°, λ150.58000°. Principal axes: T 1.2891, Plg34.0000°, Azm282.0000°; N -0.0787, Plg55.0000°, Azm113.0000°; P -1.2104, Plg5.0000°, Azm15.0000°;*

AEIC ***28*** *04:47:43.8±1.6, 60°.00N±0°.04×152°.68W±0°.07, h104km±3km, ML3.8, mb4.3/16(NEIC), ML4.0/212(NEIC), Mwr4.0/36(NEIC) Error ellipse: s-maj=6.1km s-min=4.7km az=204.0*

NEIC ***28*** *04:47:44, 60°.00N×152°.66W, h102km*

ISC 28 04:47:42.5±0.6, 59°.99N±0°.04×152°.67W±0°.04, h111km±5km, n244, σ0s84/223, mb4.2/16, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	0.10	15			**Pn**	**04 47 58.1**	**+0.2**
O20K						**Sn**	**04 48 10.0**	**+0.5**
IVE	**Iliamna Volcan**	0.17	280			**Pn**	**04 47 58.0**	**-0.1**
IVE						**Sn**	**04 48 09.6**	**-0.2**
ILS	**Iliamna Low So**	0.20	261			**Pn**	**04 47 58.1**	**-0.1**
ILS						**Sn**	**04 48 09.8**	**-0.1**
ILSW	**Iliamna Southw**	0.24	269			**Pn**	**04 47 58.0**	**-0.3**
ILSW					Sn	**Sn**	**04 48 09.2**	**-0.9**
ILSW					IAML		04 48 10.7	
	comp=E,2μm,1.0s							
ILSW					IAML		04 48 11.2	
	comp=N,2μm,0.5s							
RED	**Redoubt Volcan**	0.43	354			**Pn**	**04 47 59.1**	**-0.1**
RED					Sn	**Sn**	**04 48 11.0**	**-0.7**
RED					IAML		04 48 11.7	
	comp=E,5μm,0.7s							
RED					IAML		04 48 12.1	
	comp=N,3μm,0.9s							
P19K	**Oil Pt**	0.44	220			**Pn**	**04 47 59.2**	**+0.1**
P19K					Sn	**Sn**	**04 48 11.6**	**0.0**
P19K					IAML		04 48 12.6	
	comp=E,11μm,0.6s							
P19K					IAML		04 48 12.6	
	comp=N,10μm,0.6s							
RDSO	**Redoubt South**	0.47	356			**Pn**	**04 47 59.3**	**-0.1**
RDWB	**Redoubt West**	0.51	351			**Pn**	**04 47 59.5**	**-0.2**
NCT	**North Crescent**	0.59	348			**Pn**	**04 48 00.0**	**-0.1**
RDT	**Redoubt**	0.60	13			**Pn**	**04 48 00.1**	**-0.1**
RDT						**Sn**	**04 48 13.0**	**-0.6**
DFR	**Drift River**	0.61	359			**Sn**	**04 48 13.2**	**-0.5**
HOM	**Homer**	0.62	122			**Pn**	**04 48 00.9**	**+0.7**
HOM					Sn	**Sn**	**04 48 14.5**	**+0.9**
AU22	**Augustine Moun**	0.71	210			**Pn**	**04 48 01.1**	**+0.2**
AU22						**Sn**	**04 48 15.1**	**+0.2**
AUL	**Augustine Lava**	0.72	213			**Pn**	**04 48 01.4**	**+0.3**
AUL						**Sn**	**04 48 15.6**	**+0.5**
O19K	**Port Alsworth**	0.85	285			**Pn**	**04 48 02.3**	**0.0**
O19K					Sn	**Sn**	**04 48 16.0**	**-1.1**
O19K					IAML		04 48 18.1	
	comp=N,5μm,0.4s							
CNPM	**China Poot**	0.86	122			**Pn**	**04 48 02.9**	**+0.5**
CNPM					Sn	**Sn**	**04 48 17.6**	**+0.2**
BRLK	**Bradley Lake**	0.93	103			**Pn**	**04 48 03.4**	**+0.4**
BRLK					IAML		04 48 20.8	
	comp=E,5μm,0.3s							
CAPN	**Captain Cook N**	1.09	43			**Pn**	**04 48 06.6**	**+2.0**
Q19K	**Cape Douglas,**	1.17	205			**Pn**	**04 48 05.4**	**-0.2**
Q19K					IAML		04 48 28.6	
	comp=E,2μm,0.8s							
Q19K					IAML		04 48 46.2	
	comp=N,2μm,0.7s							
N19K	**Bonanza Creek**	1.22	313			**Pn**	**04 48 06.1**	**-0.1**
N19K					IAML		04 48 24.0	
	comp=E,1μm,0.8s							
SPU	**Mount Spurr**	1.24	14			**Pn**	**04 48 06.4**	**+0.1**
SPU					IAML		04 48 24.5	
	comp=E,3μm,0.5s							
SPU					IAML		04 48 24.9	
	comp=N,2μm,0.4s							
O18K	**Koktuh Hills**	1.28	265			**Sn**	**04 48 24.8**	**-0.5**
O18K	**Koktuh Hills**	1.28	265			**Pn**	**04 48 06.9**	**0.0**
O18K					IAML		04 48 25.4	
	comp=E,2μm,0.6s							
O18K					IAML		04 48 25.4	
	comp=N,971nm,0.8s							
SLKM	**Skilak Lake**	1.33	66			**Pn**	**04 48 07.1**	**-0.3**
SYI	**Shuyak Island**	1.39	174			**Sn**	**04 48 27.2**	**-0.2**
SYI	**Shuyak Island**	1.39	174			**Pn**	**04 48 08.2**	**+0.2**
SYI					IAML		04 48 28.4	
	comp=E,2μm,0.7s							
SYI					IAML		04 48 28.8	
	comp=N,2μm,0.7s							
P18K	**Big Mountain,**	1.43	246			**Sn**	**04 48 27.2**	**-1.0**
P18K	**Big Mountain,**	1.43	246			**Pn**	**04 48 08.3**	**-0.2**
O22K	**Cooper Landing**	1.55	70			**Pn**	**04 48 10.2**	**+0.3**
STLK	**Strandline Lak**	1.57	15			**Pn**	**04 48 10.4**	**+0.1**
STLK					IAML		04 48 34.3	
	comp=E,995nm,0.5s							
SEW	**Seward**	1.62	84			**Pn**	**04 48 10.4**	**-0.3**
SEW					IAML		04 48 32.0	
	comp=N,1μm,0.6s							
SEW					IAML		04 48 37.3	
	comp=E,2μm,0.4s							
KAPH	**Katmai Pasha**	1.64	212			**Pn**	**04 48 11.6**	**+0.5**
FIS	**Fire Island**	1.68	45			**Pn**	**04 48 11.7**	**+0.2**
FIS	**Fire Island**	1.68	45		IAML		04 48 43.1	
	comp=N,3μm,0.6s							
N18K	**Kilae Creek**	1.74	295			**Pn**	**04 48 12.2**	**-0.1**
SUA	**Susitna One**	1.76	32			**Pn**	**04 48 13.0**	**+0.4**
KAHC	**Katmai Hardscr**	1.80	223			**Pn**	**04 48 13.4**	**+0.3**
RC01	**Rabbit Creek A**	1.82	51			**Pn**	**04 48 13.2**	**0.0**
M20K	**Styx River**	1.91	353			**Pn**	**04 48 14.9**	**+0.4**
SKT	**Skwentna**	2.08	15			**Pn**	**04 48 16.3**	**-0.1**
SKT					IAML		04 48 50.0	
	comp=E,628nm,0.3s							
SKT					IAML		04 48 50.3	
	comp=N,482nm,0.4s							
M19K	**Big River Lodg**	2.10	337			**Pn**	**04 48 16.9**	**+0.2**
KDAK	**Kodiak Island**	2.21	179			**Pn**	**04 48 17.2**	**-0.9**
KDAK					IAML		04 48 44.8	
	comp=N,640nm,0.5s							
KDAK					IAML		04 48 46.0	
	comp=N,795nm,0.6s							
KDAK	**Kodiak Island**	2.21	179	P		**Pn**	**04 48 17.2**	**-0.9**
	comp=N,500nm,0.7s,baz=36,slow=4.1,SNR=382							
KDAK					S	**Sn**	**04 48 42.9**	**-2.6**
	comp=N,179nm,0.3s,baz=150,slow=21,SNR=5.9							
ACHA	**Angle Creek He**	2.25	219			**Pn**	**04 48 19.1**	**+0.4**
N17K	**Nushagak Hills**	2.31	285			**Pn**	**04 48 19.5**	**0.0**
PWL	**Port Wells**	2.32	66			**Pn**	**04 48 18.8**	**-0.9**
PWL					IAML		04 48 50.4	
	comp=E,2μm,0.4s							
PMR	**Palmer**	2.37	46			**Pn**	**04 48 19.3**	**-0.8**
PMR					IAML		04 48 48.4	
	comp=E,1μm,0.6s							
PMR					IAML		04 48 49.5	
	comp=N,935nm,0.5s							
PMR	**Palmer**	2.37	46	P		**Pn**	**04 48 19.3**	**-0.8**
PMR	**Palmer**	2.37	46	S		**Sn**	**04 48 47.2**	**-1.8**
L19K	**White Mountain**	2.44	335	IAML			04 48 52.5	
	comp=N,297nm,0.8s							
KJL	**Kejulik**	2.45	219			**Pn**	**04 48 22.2**	**+0.8**
R18K	**Karluk**	2.60	202			**Pn**	**04 48 22.7**	**-0.5**
R18K	**Karluk**	2.60	202	IAML			04 48 54.3	
	comp=E,931nm,0.5s							
R18K					IAML		04 48 56.0	
	comp=N,661nm,0.5s							
P23K	**Montague Islan**	2.65	88			**Pn**	**04 48 24.3**	**+0.4**
P23K					IAML		04 48 57.0	
	comp=E,1μm,0.5s							
CUT	**Chulitna**	2.69	25	IAML			04 48 57.7	
	comp=N,1μm,0.4s							
CUT					IAML		04 49 00.4	
	comp=E,1μm,0.6s							
M17K	**Holitna River**	2.74	303	IAML			04 49 05.8	
	comp=N,258nm,0.8s							
M17K					IAML		04 49 15.5	
	comp=E,239nm,0.8s							
O16K	**Kokwok River B**	2.77	264			**Pn**	**04 48 25.8**	**+0.4**
OHAK	**Old Harbor**	2.79	187			**Pn**	**04 48 24.5**	**-1.2**
OHAK	**Old Harbor**	2.79	187	P		**Pn**	**04 48 24.4**	**-1.3**
OHAK	**Old Harbor**	2.79	187	S		**Sn**	**04 48 57.5**	**-1.5**
P16K	**Nushagak River**	2.88	253	IAML			04 49 03.6	
	comp=E,257nm,0.8s							
P16K					IAML		04 49 17.1	
	comp=N,338nm,1.0s							
GLI	**Glacier Island**	2.91	70	IAML			04 49 02.1	
	comp=E,1μm,0.5s							
GLI					IAML		04 49 02.9	
	comp=N,577nm,0.4s							
PLK5	**Peulik 5**	2.95	229			**Pn**	**04 48 28.7**	**+0.9**
L18K	**Granite Mounta**	2.97	321			**Pn**	**04 48 28.0**	**-0.1**
PLK4	**Peulik 4**	3.04	221			**Pn**	**04 48 29.8**	**+0.7**
PLK4					IAML		04 49 09.4	
	comp=N,249nm,0.8s							
HIN	**Hinchinbrook I**	3.11	80			**Pn**	**04 48 28.8**	**-1.1**
HIN					IAML		04 49 07.3	
	comp=N,714nm,0.3s							
HIN					IAML		04 49 07.5	
	comp=E,693nm,0.4s							
FID	**Port Fidalgo**	3.17	73	IAML			04 49 08.0	
	comp=E,999nm,0.3s							
Q23K	**Middleton Isla**	3.25	97			**Pn**	**04 48 31.6**	**-0.1**
Q23K	**Middleton Isla**	3.25	97	IAML			04 49 11.1	
	comp=N,314nm,1.1s							
Q23K					IAML		04 49 15.8	
	comp=E,314nm,0.7s							
K20K	**Telida**	3.45	349	IAML			04 49 14.2	
	comp=E,164nm,1.1s							
CAST	**Castle Rocks**	3.46	4			**Pn**	**04 48 34.3**	**-0.2**
EYAK	**Cordova Ski Ar**	3.50	78			**Pn**	**04 48 33.9**	**-1.1**
EYAK	**Cordova Ski Ar**	3.50	78	IAML			04 49 16.2	
	comp=N,331nm,0.4s							
EYAK					IAML		04 49 18.6	
	comp=E,230nm,0.3s							
EYAK	**Cordova Ski Ar**	3.50	78	P		**Pn**	**04 48 35.1**	**+0.1**
EYAK	**Cordova Ski Ar**	3.50	78	S		**Sn**	**04 49 14.4**	**-1.2**
SII	**Sitkinak Islan**	3.53	194			**Pn**	**04 48 34.6**	**-1.0**
SII					IAML		04 49 15.9	
	comp=E,351nm,0.6s							
SII					IAML		04 49 17.4	
	comp=N,358nm,0.7s							
SII	**Sitkinak Islan**	3.53	194	P		**Pn**	**04 48 34.5**	**-1.0**
DIV	**Divide**	3.59	68	IAML			04 49 18.6	
	comp=N,548nm,0.3s							
DIV					IAML		04 49 20.8	
	comp=E,266nm,0.3s							
TRF	**Thorofare Moun**	3.66	17			**Pn**	**04 48 36.6**	**-0.7**
TRF					IAML		04 49 42.7	
	comp=N,179nm,0.8s							
TRF					IAML		04 49 43.7	
	comp=E,192nm,0.7s							
KTH	**Kantishna Hill**	3.67	12	IAML			04 49 45.6	
	comp=N,185nm,0.9s							
KTH					IAML		04 49 50.1	
	comp=E,183nm,0.9s							
N15K	**Kwethluk River**	3.72	276			**Pn**	**04 48 39.2**	**+1.1**
N15K					IAML		04 49 22.0	
	comp=N,106nm,1.0s							
O15K	**Ungalikthiuk R**	3.73	260			**Pn**	**04 48 39.1**	**+1.0**
K17K	**Iditarod**	3.85	318	IAML			04 49 41.4	
	comp=E,151nm,0.9s							
K17K					IAML		04 49 54.5	
	comp=N,102nm,0.8s							
RND	**Reindeer**	3.88	26			**Pn**	**04 48 40.0**	**-0.3**
RND	**Reindeer**	3.88	26	IAML			04 49 28.1	
	comp=E,170nm,0.3s							
RND					IAML		04 49 28.6	
	comp=N,157nm,0.5s							
CHUM	**Lake Minchumin**	3.91	2			**Pn**	**04 48 40.4**	**-0.2**
J18K	**Innoko River**	3.98	333			**Pn**	**04 48 41.5**	**-0.1**
GOAT	**Goat Mountain**	4.00	78			**Pn**	**04 48 40.8**	**-1.1**
M15K	**Kasigluk River**	4.05	284			**Pn**	**04 48 42.0**	**-0.4**
BMRM	**Bremner River**	4.11	73			**Pn**	**04 48 42.2**	**-1.2**
BMRM	**Bremner River**	4.11	73	IAML			04 49 30.4	
	comp=N,296nm,0.4s							
BMRM					IAML		04 49 33.0	
	comp=E,264nm,0.4s							
KAIM	**Kayak Island**	4.15	87			**Pn**	**04 48 44.2**	**+0.4**
KAIM					IAML		04 49 32.6	
	comp=E,447nm,0.6s							
KAIM					IAML		04 49 38.9	
	comp=N,384nm,0.9s							
MCK	**McKinley**	4.15	24	IAML			04 49 33.4	
	comp=N,139nm,0.4s							
MCK					IAML		04 49 52.9	
	comp=E,135nm,0.7s							
HMT	**Hamilton**	4.22	82			**Pn**	**04 48 45.1**	**+0.3**
N25K	**Chitina, Valde**	4.28	64	IAML			04 49 34.5	
	comp=E,308nm,0.7s							
N25K					IAML		04 49 35.5	
	comp=N,252nm,0.6s							
ANPB	**Aniakchak Plen**	4.35	225			**Pn**	**04 48 46.6**	**+0.1**
NICHA	**Nichawak Mount**	4.36	83			**Pn**	**04 48 45.8**	**-0.9**
O14K	**Tigyukauivet M**	4.42	264			**Pn**	**04 48 47.4**	**-0.1**
O14K	**Tigyukauivet M**	4.42	264	IAML			04 50 09.7	
	comp=N,66nm,1.3s							
BWN	**Browne**	4.46	18	IAML			04 50 08.9	
	comp=N,182nm,0.6s							
BWN					IAML		04 50 35.1	
	comp=E,243nm,1.0s							
CHIR	**Chirikof Islan**	4.46	202			**Pn**	**04 48 46.9**	**-1.2**
CHIR	**Chirikof Islan**	4.46	202	IAML			04 49 36.6	
	comp=E,79nm,1.0s							
CHIR					IAML		04 49 52.9	
	comp=N,108nm,1.4s							
CHIR	**Chirikof Islan**	4.46	202	P		**Pn**	**04 48 46.5**	**-1.5**
BERG	**Berg Lake**	4.50	81			**Pn**	**04 48 47.5**	**-1.0**
WACK	**Wrangell Chich**	4.53	60			**Pn**	**04 48 48.5**	**-0.6**
N14K	**Kuskokwak Cree**	4.53	273			**Pn**	**04 48 50.1**	**+1.2**
N14K					IAML		04 50 23.3	
	comp=N,76nm,1.2s							
N14K					IAML		04 50 26.3	
	comp=E,97nm,1.3s							
PAX	**Paxson**	4.57	46	IAML			04 49 43.3	
	comp=N,232nm,0.6s							
PAX					IAML		04 49 43.5	
	comp=E,221nm,0.7s							
J17K	**VABM Dome**	4.58	321			**Pn**	**04 48 49.2**	**-0.4**
J17K					IAML		04 50 11.6	
	comp=N,59nm,0.9s							
GLB	**Gilahina Butte**	4.59	68	IAML			04 49 42.9	
	comp=E,226nm,0.9s							
GLB					IAML		04 49 42.9	
	comp=N,254nm,0.8s							
M14K	**Bethel**	4.67	283			**Pn**	**04 48 51.0**	**+0.3**
GRIN	**Grindle Hills**	4.69	82			**Pn**	**04 48 50.8**	**-0.2**
VRDI	**Verde Repeater**	4.71	71			**Pn**	**04 48 50.8**	**-0.8**
VRDI	**Verde Repeater**	4.71	71	IAML			04 49 44.0	
	comp=E,98nm,0.5s							
VRDI					IAML		04 49 45.8	
	comp=N,168nm,0.6s							
CHGN	**Chignik**	4.79	222			**Pn**	**04 48 52.5**	**+0.1**
CHGN					IAML		04 49 48.0	
	comp=E,65nm,0.4s							
CHGN					IAML		04 49 48.0	
	comp=N,67nm,0.6s							
I20K	**Naaghedeneel**	4.90	351			**Pn**	**04 48 54.0**	**+0.2**
I20K					IAML		04 50 02.4	
	comp=E,173nm,1.4s							
I20K					IAML		04 50 16.1	
	comp=N,185nm,1.0s							
NEA2	**Nenana**	4.92	18	IAML			04 49 49.5	
	comp=N,51nm,0.9s							
WAX	**Waxell Ridge**	4.92	80			**Pn**	**04 48 54.4**	**+0.1**
MCARA	**McCarthy VSAT**	4.95	69			**Pn**	**04 48 54.0**	**-0.5**
MCARA	**McCarthy VSAT**	4.95	69	IAML			04 49 53.9	
	comp=N,253nm,0.3s							
TGL	**Tana Glacier**	4.95	77			**Pn**	**04 48 53.8**	**-0.8**
TGL	**Tana Glacier**	4.95	77	IAML			04 49 50.2	
	comp=E,208nm,0.4s							
TGL					IAML		04 49 51.0	
	comp=N,190nm,0.4s							
WRH	**Wood River Hil**	4.98	23	IAML			04 49 50.3	
	comp=E,85nm,0.4s							
WRH					IAML		04 50 14.4	
	comp=N,64nm,0.7s							
K24K	**Donnelly Dome**	5.03	37			**Pn**	**04 48 55.9**	**+0.2**
L14K	**Kuka Creek**	5.11	290			**Pn**	**04 48 57.3**	**+0.7**
L14K					IAML		04 50 20.3	
	comp=E,38nm,1.1s							
MLY	**Manley**	5.14	9			**Pn**	**04 48 56.2**	**-0.9

YUK2	White River	6.05	68			Pn	04 49 09.2	-0.3
BCAR	Beaver Creek A	6.05	55			Pn	04 49 08.7	-0.8
SDPT	Sand Point	6.25	225			Pn	04 49 11.3	-0.9
SDPT	Sand Point	6.25	225		P	Pn	04 49 11.5	-0.7
SDPT	Sand Point	6.25	225		S	Sn	04 50 19.4	-2.8
CHNA	Chernabura Isl	6.38	219		P	Pn	04 49 12.7	-1.1
YKU2	Yakutat	6.59	89		S	Sn	04 50 31.0	+0.8
PNL	Peninsula	6.70	87		P	Pn	04 49 18.5	+0.2
H25L	Birch Creek	7.02	23			Pn	04 49 21.6	-0.9
G24K	Hadweenzic Riv	7.13	17			Pn	04 49 23.2	-0.8
F20K	Avaraart Lake	7.22	350			Pn	04 49 25.3	+0.1
F19K	Shaleruckik Mo	7.24	344			Pn	04 49 25.7	+0.2
F21K	Alatna River	7.27	358			Pn	04 49 26.0	+0.1
M29M	Somme Creek	7.29	64			Pn	04 49 26.3	0.0
COLD	Coldfoot	7.35	8			Pn	04 49 26.4	-0.6
G25K	Bearman Lake	7.41	21			Pn	04 49 26.6	-1.1
DAWY	Dawson	7.46	51			Pn	04 49 27.9	-0.6
I27K	Kandik River	7.57	37			Pn	04 49 28.8	-1.2
N30M	Aishikik Lake	7.78	72			Pn	04 49 32.0	-0.9
F24K	Squaw Lake	7.85	14			Pn	04 49 33.1	-0.7
F15K	North Star Dit	7.92	321			Pn	04 49 34.0	-0.7
I28M	Miner Creek	8.00	41			Pn	04 49 34.9	-1.0
G26K	Porcupine Rive	8.03	26			Pn	04 49 34.6	-1.6
K29M	Barlow Dome	8.12	55			Pn	04 49 36.9	-0.7
E22K	Anaktuvuk Pass	8.19	2			Pn	04 49 39.0	+0.6
E23K	Chandalar	8.21	8			Pn	04 49 38.0	-0.7
F25K	Christian Rive	8.24	19			Pn	04 49 37.5	-1.5
O30N	Mendenhall	8.25	77			Pn	04 49 39.2	-0.1
BMAR	Burnt Mountain	8.28	22			Pn	04 49 38.7	-0.9
F14K	Arctic Creek	8.33	317			Pn	04 49 40.7	+0.4
G27K	Doyon Strip	8.43	31			Pn	04 49 40.1	-1.6
F20K	Nigu River	8.44	351			Pn	04 49 42.9	+1.0
E21K	Killik River	8.51	357			Pn	04 49 42.8	+0.2
F26K	Sheenjek River	8.59	22			Pn	04 49 42.1	-1.7
S31K	Pelican	8.73	96			Pn	04 49 46.1	+0.4
TOLK	Toolik Lake Re	8.79	7			Pn	04 49 47.2	+0.7
D19K	Kuna River	8.86	347			Pn	04 49 48.1	+0.7
J30M	Hart River	8.88	52			Pn	04 49 48.1	+0.2
D20K	Etivluk River	8.92	351			Pn	04 49 48.6	+0.3
D22K	Ayikyak River	8.93	360			Pn	04 49 48.7	+0.3
H29M	Whitestone	8.99	40			Pn	04 49 48.3	-0.9
D23K	Nanushuk River	9.06	5			Pn	04 49 50.5	+0.4
C21K	Kniefelbade Rid	9.25	355			Pn	04 49 52.9	+0.2
B21K	Ikpikpuk River	9.71	356			Pn	04 49 58.3	-0.6
UNV	Unalaska Valle	9.74	237			Pn	04 49 58.5	-0.9
D25K	Kavik River	9.75	13			Pn	04 49 58.5	-1.0
C24K	Franklin Bluff	9.91	8			Pn	04 50 00.8	-0.9
C23K	Itkillik River	9.93	4			Pn	04 50 01.4	-0.4
G30M	tAoh Zrail Nji	10.13	39			Pn	04 50 03.8	-0.9
H31M	Peel River	10.17	47			Pn	04 50 05.0	-0.1
Q32M	Nakina River	10.43	87			Pn	04 50 09.6	+0.7
E29M	Blow River	10.57	31			Pn	04 50 09.4	-1.1
MMPY	Sheldon Lake,	10.61	66			Pn	04 50 11.8	+0.5
F30M	Barrier River	10.65	37			Pn	04 50 09.4	-2.2
R33M	Jennings River	10.98	84			Pn	04 50 17.3	+1.1
U33K	Whale Pass	11.05	102			Pn	04 50 16.6	-0.4
F31M	Tsiigehtchic	11.19	40			Pn	04 50 16.7	-2.1
DLBC	Dease Lake	11.69	88		P	Pn	04 50 25.2	-0.5
	comp=N,0.3nm,0.3s,baz=217,slow=4.0,SNR=37							
INK	Inuvik	11.75	37		P	Pn	04 50 25.1	-1.2
	comp=N,7.2nm,0.7s,baz=239,slow=16,SNR=23							
ADK	Adak	15.63	249			P	04 51 18.8	+0.5
A36M	Sachs Harbour	16.18	31			Pn	04 51 22.1	-1.0
A36M					IAmb	IAmb	04 51 26.0	
	comp=Z,28nm,0.8s							
YKAW3	Yellowknife Wh	18.29	65		P	P	04 51 48.6	+1.2
YKAW3					IAmb	IAmb	04 51 48.9	
	comp=Z,6.4nm,0.5s							
YKA	Yellowknife Ar	18.31	66		P	P	04 51 47.1	-0.4
YKA	Yellowknife Ar	18.31	66		P	P	04 51 48.0	+0.4
	comp=Z,2.8nm,0.5s,baz=262,slow=14,SNR=26							
YKAW1	Yellowknife Wh	18.36	66		P	P	04 51 49.4	+1.2
YKAW1					IAmb	IAmb	04 52 30.4	
	comp=Z,7.0nm,0.9s							
PETK	Petropavlovsk-	27.62	278		P	P	04 53 18.7	-0.5
	comp=Z,1.3nm,0.5s,baz=62,slow=13,SNR=4.5							
	comp=Z,1.3nm,0.5s							
ILON	Igloolik, Nuna	29.91	42		P	P	04 53 38.9	-0.3
ILON					IAmb	IAmb	04 53 41.0	
	comp=Z,8.0nm,1.2s							
SUMG	Summit	40.34	25		P	P	04 55 09.1	0.0
SUMG					IAmb	IAmb	04 55 38.0	
	comp=Z,3.3nm,0.9s							
SPITS	Spitsbergen Ar	41.92	3		P	P	04 55 21.9	+0.5
	comp=Z,1.0nm,0.4s,baz=19,slow=8.1,SNR=5.3							
	comp=Z,1.0nm,0.4s							
D62A	Allapoint, All	47.99	66		P	P	04 56 10.6	+0.9
D62A					IAmb	IAmb	04 56 34.8	
	comp=Z,5.9nm,1.5s							
E62A	Clayton Lake	48.12	67		P	P	04 56 11.2	+0.5
E62A					IAmb	IAmb	04 56 30.2	
	comp=Z,4.9nm,1.2s							
SSPA	Standing Stone	48.61	78		P	P	04 56 16.0	+1.4
BATG	Bathurst New B	49.21	64		P	P	04 56 19.8	+0.7
F64A	Sherman	49.22	67		P	P	04 56 19.4	+0.2
F64A					IAmb	IAmb	04 56 40.8	
	comp=Z,8.8nm,1.4s							
KSRS	Korea Array	53.34	283		P	P	04 56 51.4	+1.4
	comp=Z,3.6nm,0.7s,baz=40,slow=6.2,SNR=13							
	comp=Z,3.6nm,0.7s							
SONM	Songino Array	54.93	306		P	P	04 57 02.9	+1.3
SONM					IAmb	IAmb	04 57 03.4	
	comp=Z,3.3nm,0.7s							
SONM	Songino Array	54.93	306		P	P	04 57 03.1	+1.5
	comp=Z,4.4nm,0.8s,baz=43,slow=7.0,SNR=13							
	comp=Z,4.4nm,0.8s							
ZAA0	Zalesovo Array	57.48	324		P	P	04 57 19.4	0.0
ZALV	Zalesovo Beam	57.48	324		P	P	04 57 19.9	+0.5
ZALV	Zalesovo Beam	57.48	324		P	P	04 57 19.8	+0.4
	comp=Z,3.3nm,0.5s,baz=31,slow=7.2,SNR=14							
	comp=Z,3.3nm,0.5s							
HFS	Hagfors	59.74	8		P	P	04 57 34.1	-0.9
	comp=Z,2.5nm,1.0s,baz=45,slow=6.3,SNR=5.0							
	comp=Z,2.5nm,1.0s							
KURK	Kurchatov	62.13	326		P	P	04 57 51.5	+0.2
KURK					IAmb	IAmb	04 57 52.3	
	comp=Z,1.8nm,0.7s							
BVAR	Borovoye Array	62.16	332		P	P	04 57 51.5	+0.1
	comp=Z,2.6nm,0.5s,baz=35,slow=7.0,SNR=14							
	comp=Z,2.6nm,0.5s							
KURBB	Kurchatov Arra	62.24	326		P	P	04 57 52.0	0.0
	comp=Z,1.9nm,0.6s,baz=29,slow=6.6,SNR=15							
	comp=Z,1.9nm,0.6s							
EKA	Eskdalemuir Ar	62.49	19		P	P	04 57 52.6	-1.0
	comp=Z,0.2nm,0.4s,baz=333,slow=5.5,SNR=5.4							
	comp=Z,0.2nm,0.4s							
MKAR	Makanchi Array	64.54	321		P	P	04 58 07.0	-0.3
	comp=Z,1.0nm,0.5s,baz=38,slow=6.3,SNR=14							
	comp=Z,1.0nm,0.5s							
MAKZ	Makanchi	64.63	322		P	P	04 58 07.7	-0.2
AB31	Akbulak array	67.94	338		P	P	04 58 29.4	+0.5
ABKAR	Akbulak array	67.94	338		P	P	04 58 29.2	+0.4
KKAR	Karatay Array	71.33	328		P	P	04 58 50.3	+0.5
BOSA	Boshof	148.60	3		PKPbc	PKPbc	05 07 15.2	-0.9
	comp=Z,1.9nm,1.0s,baz=287,slow=2.1,SNR=3.6							

*HVO **28** 04:51:20.5±0.8, 19°.18N±0°.01×155°.485W±0°.009, h-0km±8km, Error ellipse: s-maj=2.1km s-min=0.8km az=148.0*

NEIC 28 04:51:21.4±0.7, 19°.17N±0°.02×155°.47W±0°.02, h8km±4km, ML2.1/36, **ML2.1**/12(HVO), **Error ellipse: s-maj=3.2km s-min=0.9km az=139.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.10	45		Pg	04 51 23.8	0.0
HPO	Honuapo	0.11	225		Pg	04 51 24.1	+0.2
HPO	Honuapo	0.11	225		Sg	04 51 26.6	+0.9
KHU	Kahuku	0.16	300		Pg	04 51 24.8	-0.1
KHU					Sg	04 51 27.6	+0.3
HLP	Hilina Pali	0.20	50		Pg	04 51 26.1	+0.6
HLP					Sg	04 51 29.4	+1.1
HLP	Hilina Pali	0.20	50	IAML		04 51 31.8	
	comp=E,554nm,1.2s						
HLP				IAML		04 51 32.1	
	comp=N,400nm,0.2s						
AIN	Ainahou	0.20	3		Pg	04 51 25.8	+0.1
AIN					Sg	04 51 29.6	+1.0
AIN	Ainahou	0.20	3	IAML		04 51 30.9	
	comp=E,411nm,0.2s						
AIN				IAML		04 51 30.9	
	comp=N,809nm,0.1s						
SDHHI	Sand Hill	0.28	37		Pg	04 51 26.9	-0.1
SDHHI					Sg	04 51 31.5	+0.8
WRMHI	West Rim	0.29	34		Pg	04 51 27.0	-0.1
WRMHI					Sg	04 51 31.7	+0.6
RIM	Rim	0.29	39		Pg	04 51 27.1	-0.1
RIM					Sg	04 51 32.1	+0.9
KKO	Keanakako'i	0.30	40		Pg	04 51 27.3	-0.1
KKO					Sg	04 51 32.2	+0.8
UWE	Uwekahuna	0.30	34		Pg	04 51 27.3	-0.2
UWE					Sg	04 51 32.3	+0.8
UWE	Uwekahuna	0.30	34	IAML		04 51 35.7	
	comp=N,286nm,0.6s						
UWE				IAML		04 51 37.0	
	comp=E,380nm,0.3s						
OBL	Observatory Le	0.30	35		Pg	04 51 27.4	-0.1
OBL					Sg	04 51 32.6	+1.0
BYL	Byron's Ledge	0.31	39		Pg	04 51 27.5	-0.1
BYL					Sg	04 51 32.7	+0.8
BYL	Byron's Ledge	0.31	39	IAML		04 51 33.5	
	comp=N,201nm,2.1s						
BYL				IAML		04 51 38.6	
	comp=E,230nm,2.3s						
UWB	Uwekahuna Bluf	0.31	35		Pg	04 51 27.4	-0.3
UWB					Sg	04 51 32.7	+0.9
PUH	Pauahi	0.32	49		Pg	04 51 27.5	-0.2
PUH					Sg	04 51 32.4	+0.5
PUH	Pauahi	0.32	49	IAML		04 51 32.9	
	comp=E,136nm,0.3s						
PUH				IAML		04 51 36.6	
	comp=N,182nm,1.1s						
SBLHI	Steaming Bluff	0.32	36		Pg	04 51 27.5	-0.3
SBLHI					Sg	04 51 32.8	+0.7
HATHI	Halema'uma'u T	0.32	38		Pg	04 51 27.6	-0.2
HATHI					Sg	04 51 32.9	+0.8
HATHI	Halema'uma'u T	0.32	38	IAML		04 51 37.5	
	comp=N,212nm,1.1s						
MLH	Mauna Loa	0.33	14		Pg	04 51 27.7	-0.4
MLH					Sg	04 51 33.3	+0.8
MLH	Mauna Loa	0.33	14	IAML		04 51 39.3	
	comp=N,261nm,1.0s						
MWH	Mokuaweoweo	0.34	339		Pg	04 51 27.5	-0.8
MWH					Sg	04 51 33.2	+0.4
MWH	Mokuaweoweo	0.34	339	IAML		04 51 35.3	
	comp=N,286nm,1.8s						
MWH				IAML		04 51 35.8	
	comp=E,298nm,1.6s						
RSD	Rainshed	0.35	32		Pg	04 51 28.0	-0.3
RSD					Sg	04 51 33.3	+0.5
KNHH	Kane Nui o Ham	0.35	53		Pg	04 51 28.1	-0.3
STCH	Steam Cracks	0.39	56		Pg	04 51 28.5	-0.6
STCH					Sg	04 51 34.8	+0.5
STCH	Steam Cracks	0.39	56	IAML		04 51 35.0	
	comp=N,139nm,0.5s						
STCH				IAML		04 51 37.0	
	comp=E,110nm,0.3s						
ALEP	Alea Permanent	0.41	336		Pg	04 51 28.3	-1.2
ALEP					Sg	04 51 34.8	-0.1
NPOC	North of Pu'u	0.41	57		Pg	04 51 29.0	-0.3
NPOC					Sg	04 51 35.5	+0.8
JCUZ	Jacuzzi	0.41	58		Pg	04 51 29.0	-0.4
JCUZ					Sg	04 51 35.4	+0.5
JOKA	Jonika Flow	0.51	59		Pg	04 51 30.8	-0.5
JOKA	Jonika Flow	0.51	59		Sg	04 51 38.8	+0.7
JOKA	Jonika Flow	0.51	59	IAML		04 51 33.4	
	comp=E,105nm,1.4s						
JOKA				IAML		04 51 35.2	
	comp=N,151nm,2.0s						
CPH	Captain Cook	0.53	307		Pg	04 51 30.7	-0.9
POHA	Pohakuloa	0.59	354		Pn	04 51 40.2	+3.9
POHA	Pohakuloa	0.59	354	IAML		04 51 45.3	
	comp=N,156nm,1.0s						
POHA				IAML		04 51 50.1	
	comp=N,115nm,0.7s						
HUH	Hualalai	0.62	326		Pg	04 51 32.5	-0.9
HUH					Sg	04 51 41.7	+0.1
HPAH	Hawaii Prepara	0.89	346		Pg	04 51 35.9	-2.5
HPAH					Sg	04 51 47.7	-2.3
WMR	Waimanalo Ridg	2.98	316		Pn	04 52 04.5	-4.5

*ATH **28** 05:02:53.3, 37°.60N×20°.57E, h13km±1km, ML3.9/11, Manual Solution by A.Moschou First location: 2019/07/28 05:04:02, This location: 2019/07/28 05:18:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*IDC **28** 05:02:54.6±1.5, 38°.06N×20°.93E, h0km, mb3.8/9, mbtmp3.6/16, ML3.1/5, MS3.1/3, Error ellipse: s-maj=27.2km s-min=17.0km az=18.0*
*THE **28** 05:02:54.4, 38°N±2°×2°.1E±°, h7km±1km, M3.8/22, ML3.8/22*
*BEO **28** 05:02:54.7±2.4, 37°.56N×20°.31E, h13km±1km, ML3.7/11*
*NAO **28** 05:03:17.0, 39°.85N×20°.47E, h10km, mb3.7*

ISC 28 05:02:54.6±0.9, 37°.66N±0°.03×20°.65E±0°.03, h16km±5km, n107, σ1°$40/146, mb3.7/9, 4C-10D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.14	87	P	Pg	05 02 58.0	-0.4
KRI1				S	Sg	05 03 00.6	-0.3
KRI1	kERI	0.14	87	P	Pg	05 02 58.0	-0.4
KRI1				S	Sg	05 03 00.3	-0.6
KYPS	Kipseli, Zakin	0.22	41	P	Pg	05 02 59.6	+0.1
KYPS				S	Sg	05 03 03.4	+0.5
RTZL	Ratzakli, Kefa	0.43	13	P	Pg	05 03 03.0	-0.3
CLEM	Kyllini,Ilia,G	0.45	58	P	Pg	05 03 03.8	+0.2
CLEM				S	Sb	05 03 10.8	+0.1
PSDA	Pessada-Kefalo	0.46	354	P	Pg	05 03 03.5	-0.3
PSDA				S	Sb	05 03 10.9	-0.1
PSDA	Pessada-Kefalo	0.46	354	P	Pg	05 03 03.5	-0.3
PSDA				S	Sg	05 03 10.6	+0.5
VLS	Valsamata	0.52	355	P	Pg	05 03 04.4	-0.6
VLS				S	Sg	05 03 12.5	+0.5
VLS	Valsamata	0.52	355	P	Pg	05 03 04.5	-0.6
VLS				S	Sg	05 03 12.3	+0.3
ARG2	Argostoli	0.54	347	P	Pg	05 03 05.0	-0.3
ARG2				S	Sb	05 03 13.3	+0.2
ARG2	Argostoli	0.54	347	P	Pg	05 03 04.9	-0.3
ARG2				S	Sb	05 03 13.3	+0.2
LCHA	Lechaina	0.56	60	P	Pb	05 03 06.0	-0.1
LCHA				S	Sb	05 03 14.9	+1.0
LXR1	Lixouri, Cepha	0.57	343	P	Pg	05 03 05.9	+0.1
LXR1				S	Sb	05 03 14.7	+0.7
DMLN	Damoulianata-K	0.62	340	P	Pg	05 03 06.3	-0.6
DMLN				S	Sg	05 03 15.1	-0.1
DMLN	Damoulianata-K	0.62	340	P	Pg	05 03 06.5	-0.3
DMLN				S	Sg	05 03 15.0	-0.1
YRMI	Loutra Irminis	0.71	51	P	Pb	05 03 08.1	-0.5
YRMI				S	Sg	05 03 18.7	+0.7
RLS	Riolos of Patr	0.76	58	P	Pb	05 03 09.1	-0.4
RLS				S	Sn	05 03 21.6	-0.4
RLS	Riolos of Patr	0.76	58	P	Pb	05 03 08.8	-0.7
RLS				S	Sn	05 03 20.8	-1.1
AXS	Araxos	0.79	47	P	Pb	05 03 09.6	-0.4
FSK	Fiskardo	0.81	355	P	Pb	05 03 09.7	-0.5
FSK	Fiskardo	0.81	355	P	Pb	05 03 09.2	-1.0
FSK				S	Sg	05 03 21.8	+0.9
ZARO	Zacharo	0.81	102	P	Pg	05 03 10.8	+0.3
ZARO				S	Sn	05 03 22.2	-0.9
AMT	Artemida-Makis	0.85	98	P	Pg	05 03 11.1	-0.1
AMT				S	Sn	05 03 23.2	-1.0
DRO	Drossia	0.89	70	P	Pb	05 03 11.7	-0.1
DRO	Drossia	0.89	70	P	Pb	05 03 11.7	-0.1
DRO				S	Sn	05 03 24.5	-0.7
EVGI	Lefkada island	0.96	0	P	Pb	05 03 12.7	-0.3
EVGI				S	Sn	05 03 27.6	+0.7
EVGI	Lefkada island	0.96	0	P	Pb	05 03 12.4	-0.6
EVGI				S	Sn	05 03 27.2	+0.3
NYDR	Nydri-Lefkada	1.06	2	P	Pn	05 03 14.6	-0.1
NYDR				S	Sg	05 03 29.7	+0.8
NYDR	Nydri-Lefkada	1.06	2	P	Pb	05 03 13.8	-0.7
NYDR				S	Sg	05 03 29.9	+1.1
ITM	Ithomi	1.12	115	P	Pn	05 03 15.7	0.0
ITM				S	Sg	05 03 31.7	+0.7
LKD2	Lefkada island	1.13	0	P	Pb	05 03 15.9	+0.1
LKD2				S	Sg	05 03 33.1	+1.9
TSLK	Tsoukalades, L	1.17	0	P	Pb	05 03 16.5	+0.1
TSLK				S	Sg	05 03 35.0	+2.6
PVO	Paravola	1.19	36	P	Pb	05 03 16.9	+0.2
PVO				S	Sg	05 03 35.7	+2.8
PVO	Paravola	1.19	36	P	Pb	05 03 16.6	-0.1
PVO				S	Sg	05 03 33.5	+0.6
EFP	Efpalio	1.26	52	P	Pn	05 03 17.6	+0.1
EFP				S	Sg	05 03 36.3	+1.0
EFP	Efpalio	1.26	52	P	Pn	05 03 17.6	+0.1
EFP				S	Sg	05 03 35.4	+0.1
AMPL	Ampelaki	1.34	19	P	Pb	05 03 19.3	-0.1
AMPL				S	Sg	05 03 38.2	+0.2
SERG	Sergoula	1.35	55	P	Pn	05 03 18.9	+0.2
SERG				S	Sg	05 03 37.6	-0.5
GUR	Goura	1.37	78	P	Pb	05 03 20.0	+0.1
GUR	Goura	1.37	78	P	Pb	05 03 19.8	-0.1
GUR				S	Sg	05 03 38.9	0.0
ANX	Ano Chora	1.38	47	P	Pb	05 03 19.6	-0.4
ANX				S	Sg	05 03 39.6	+0.6
ANX	Ano Chora	1.38	47	P	Pb	05 03 19.5	-0.4
ANX				S	Sg	05 03 39.2	+0.3
KALE	Kalithea	1.39	58	P	Pb	05 03 20.0	-0.2
KALE				S	Sg	05 03 41.0	+1.6
KALE	Kalithea	1.39	58	P	Pn	05 03 19.4	0.0
KALE				S	Sb	05 03 38.1	+0.4
VLX	Vlachokerasia	1.41	101	P	Pb	05 03 20.4	-0.2
VLX	Vlachokerasia	1.41	101	P	Pb	05 03 20.3	-0.2
VLX				S	Sb	05 03 38.5	+0.2
IGT	Igoumenitsa	1.89	353	*e*Pg	Pg	05 03 30.3	-0.6
IGT				*e*Sg	Sg	05 03 57.0	+1.6
FNA	Florina	3.18	10	*e*Pn	Pn	05 03 47.0	+3.0
TIP	Timpagrande	3.41	298	⇓P	Pb	05 03 53.7	-1.0
OHR	Ohrid	3.45	2	/ Pn	Pn	05 03 50.5	+2.7
SRS	Serrai	4.14	33	*e*Pn	Pn	05 03 59.2	+2.0
IDI	Anoyia	4.16	123	Pn	Pn	05 04 00.4	+3.0
	2.6nm,0.4s,baz=302,slow=8.0,SNR=10.0						
IDI				Sn	Sn	05 04 47.6	+1.8
	5.8nm,0.3s,baz=5.5,slow=7.4,SNR=9.7						
IDI				LR	LR	05 05 46.5	
	comp=Z,297nm,20.8s,baz=306,slow=41						
PDG	Podgorica	4.89	348	*e*Pn	Pn	05 04 07.6	+0.2
PDG	Podgorica	4.89	348	⇓P	Pn	05 04 09.3	+1.9
EZN	Ezine	4.94	62	⇑P	Pb	05 04 19.1	-1.6
VAE	Valguarnera	4.96	270	Pn	Pb	05 04 15.2	-5.8
	6.4nm,0.6s,baz=149,slow=18,SNR=1.7						
VAE				Sn	Sn	05 05 08.8	+3.4
	2.8nm,0.3s,baz=250,slow=20,SNR=3.8						
BOSS	Bosilegrad	5.04	16	*e*Pn	Pn	05 04 11.5	+2.0
BARS	Barje	5.23	9	*e*Pn	Pn	05 04 13.2	+1.0
VTS	Vitosha	5.34	21	*e*Pn	Pn	05 04 16.7	+2.9
TREB	Trebinje	5.35	342	*e*Pn	Pn	05 04 12.4	-1.4
SELS	Selova	5.57	4	*e*Pn	Pn	05 04 17.4	+0.6
SJES	Sjenica	5.62	355	*e*Pn	Pn	05 04 20.0	+2.4
STON	Ston	5.68	338	*e*Pn	Pn	05 04 17.1	-1.1
ZAPS	Zavoj	5.81	14	*e*Pn	Pn	05 04 22.3	+2.1
BOVS	Bovan	6.03	7	⇓P	Pn	05 04 26.4	+3.3
GRUS	Gruza	6.23	0	*e*Pn	Pn	05 04 27.0	+1.2
ZAGS	Zajecar	6.27	11	*e*Pn	Pn	05 04 27.8	+1.4
BBLS	Lazi&#263i	6.28	352	*e*Pn	Pn	05 04 28.2	+1.7
PLVB	Pleven	6.48	27	⇓P	Pn	05 04 34.9	+5.6
TRUS	Trudelj	6.56	358	*e*Pn	Pn	05 04 33.0	+2.6
ELND	Elena	6.61	36	⇓P	Pn	05 04 36.7	+5.6
TEKS	Tekeris	6.94	353	*e*Pn	Pn	05 04 35.7	+0.1
MDVR	Moldovita	7.17	6	⇓P	Pn	05 04 41.5	+2.8
FRGS	Fruska Gora	7.52	355	*e*Pn	Pn	05 04 44.7	+1.1
BZS	Buzias	7.99	5	⇓P	Pn	05 04 53.9	+3.9
VOIR		8.45	22	⇓P	Pn	05 05 01.1	+4.8
MORH	Mrgy, Hungar	8.68	351	⇑P	Pn	05 05 01.8	+2.3
MLR	Muntele Rosu	8.78	25	Pn	Pn	05 04 58.5	-2.4
	0.2nm,0.3s,baz=234,slow=13,SNR=3.8						
	0.6nm,0.3s						
MLR	Muntele Rosu	8.78	25	⇓P	Pn	05 05 06.0	+5.1
BISRR	Bisoca	9.10	28	⇑P	Pn	05 05 09.9	+4.7
PLOR	Plostina	9.34	27	⇑P	Pn	05 05 13.1	+4.6
VRI	Vrincioaia	9.38	27	⇓P	Pn	05 05 13.7	+4.7
OBKA	Obir	9.94	335	*e*Pn	Pn	05 05 17.1	+0.3
	2.5nm,0.5s						
OBKA				*e*Sn	Sn	05 07 07.9	-0.1
	7.3nm,0.8s						
BRTR	Keskin Array B	10.37	75	Pn	Pn	05 05 24.6	+1.9
	0.1nm,0.3s,baz=246,slow=14,SNR=1.4						
	0.3nm,0.5s						
ABTA	Abfaltersbach	10.90	329	*e*Pn	Pn	05 05 31.8	+1.8
	1.7nm,0.6s						
ABTA				*e*Sn	Sn	05 07 29.5	-2.0
	8.1nm,0.7s						
MOA	Molln	11.21	337	*e*Pn	Pn	05 05 33.9	-0.2
	0.5nm,0.2s						
BIOA	Bad Ischl, Aus	11.27	335	*e*Pn	Pn	05 05 35.9	+0.9
	1.7nm,0.4s						
LESA	Schwarzleotal	11.39	332	*e*Pn	Pn	05 05 36.9	+0.3
	3.0nm,0.6s						
LESA				*e*Sn	Sn	05 07 39.4	-4.2

*NOU **28** 05:05:36.2, 15°.18S×167°.13E, h46km, MLv4.9/5, Vanuatu Islands*

ISC 28 05:05:33.3±1.8, 15°.2S±0°.1×166°.9E±0°.2, h50km, n6, σ3s26/5, mb3.5/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLAKA	Lakatoro	1.06	151	P	Pn	05 05 53.5	+1.6
DZM	Mont Dzumac	6.88	183	P	Pn	05 07 12.2	+0.5
	2.0nm,0.3s,baz=71,slow=9.0,SNR=25						
DZM				S	Sn	05 08 26.7	-2.0
	15nm,0.4s,baz=116,slow=18,SNR=13						
	4.4nm,0.3s						
ASAR	Alice Springs	32.17	250	P	P	05 11 58.4	+1.7
	0.6nm,0.6s,baz=82,slow=9.0,SNR=5.7						
	0.6nm,0.6s						
VNDA	Vanda	62.41	181	P	P	05 15 46.6	-4.0
	0.2nm,0.5s,baz=349,slow=5.1,SNR=1.8						
	0.2nm,0.5s						
ILAR	Eielson Array	87.06	18	P	P	05 18 08.4	-4.7
	0.1nm,0.5s,baz=243,slow=3.6,SNR=1.8						
	0.1nm,0.5s						
ARCES	ARCESS Array B	120.58	345	PKP	PKPdf	05 24 15.5	-3.4
	4.0nm,1.0s,baz=24,slow=1.9,SNR=5.2						

IDC 28 05:15:55.2±443.0, 0°.33N×77°.42W, h0km, Error ellipse: s-maj=247.4km s-min=157.7km az=16.0, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I20EC	Galapagos	12.99	266	I	I	06 33 30.0	
	baz=87,slow=318,SNR=0.9						
I08BO	LAS PENAS INFR	18.67	152	I	I	07 12 20.0	
	baz=329,slow=327,SNR=5.2						
I09BR	BRASILIA INFRA	33.09	120	I	I	08 36 05.0	
	baz=296,slow=322,SNR=1.7						

*ATH **28** 05:38:58.6, 37°.36N×21°.66E, h14km, ML3.3/8, Manual Solution by A.Moschou First location: 2019/07/28 05:40:00, This location: 2019/07/28 05:58:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*

*THE **28** 05:38:59.4, 37°.1N±1°.2×2°.2E±°.1, h0km±2km, M3.1/12, MLh3.1/12*

*IDC **28** 05:39:03.5±19.0, 38°.10N×22°.45E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=363.7km s-min=42.5km az=36.0*

ISC 28 05:38:58.8±1.0, 37°.35N±0°.02×21°.64E±0°.04, h14km±6km, n33, σ0s85/57, mb3.4/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZARO	Zacharo	0.13	4	P	Pg	05 39 02.2	-0.2
ZARO				S	Sg	05 39 04.7	-0.1
AMT	Artemida-Makis	0.19	18	P	Pg	05 39 03.0	-0.2
AMT				S	Sg	05 39 06.4	+0.1
ITM	Ithomi	0.29	127	P	Pg	05 39 04.4	-0.5
ITM				S	Sg	05 39 09.0	0.0
PYL2	Kinigos	0.45	171	P	Pg	05 39 07.0	-0.9
PYL2				S	Sg	05 39 14.0	0.0
MTHA	Methoni	0.54	174	P	Pg	05 39 09.3	-0.1
MTHA				S	Sg	05 39 17.0	+0.5
VLX	Vlachokerasia	0.59	88	P	Pg	05 39 10.5	+0.1
VLX				S	Sg	05 39 18.9	+0.6
VLX	Vlachokerasia	0.59	88	P	Pg	05 39 10.3	-0.1
VLX				S	Sg	05 39 18.4	+0.1
DRO	Drossia	0.60	6	P	Pg	05 39 10.8	+0.2
DRO				S	Sg	05 39 19.6	+1.0
DRO	Drossia	0.60	6	P	Pg	05 39 10.8	+0.2
DRO				S	Sg	05 39 18.5	-0.1
RLS	Riolos of Patr	0.72	349	P	Pg	05 39 12.9	+0.1
RLS				S	Sg	05 39 22.2	-0.1
RLS	Riolos of Patr	0.72	349	P	Pg	05 39 12.8	+0.1
RLS				S	Sg	05 39 22.3	0.0
KLV1	Kalavrita	0.77	29	P	Pg	05 39 13.7	-0.2
KLV1				S	Sg	05 39 23.6	-0.5
YRMI	Loutra Irminis	0.78	343	P	Pg	05 39 14.3	+0.3
YRMI				S	Sg	05 39 23.9	-0.4
GUR	Goura	0.81	44	P	Pg	05 39 13.8	-0.8
GUR				S	Sg	05 39 25.5	+0.3
GUR	Goura	0.81	44	P	Pg	05 39 13.6	-0.9
GUR				S	Sg	05 39 25.0	-0.2
AXS	Araxos	0.87	346	P	Pg	05 39 15.7	+0.1
AXS				S	Sb	05 39 28.7	+1.7
ARS1	Argos	0.91	72	P	Pg	05 39 15.9	-0.6
EFP	Efpalio	1.09	11	P	Pg	05 39 19.9	0.0
EFP				S	Sb	05 39 35.0	+1.5
EFP	Efpalio	1.09	11	P	Pg	05 39 19.5	-0.4
EFP				S	Sg	05 39 33.4	-0.8
KALE	Kalithea	1.11	21	P	Pg	05 39 19.7	-0.5
KALE				S	Sb	05 39 36.1	+2.0
KALE	Kalithea	1.11	21	P	Pg	05 39 19.6	-0.7
SERG	Sergoula	1.11	17	P	Pg	05 39 19.7	-0.5
SERG				S	Sb	05 39 36.6	+2.6
SERG	Sergoula	1.11	17	P	Pg	05 39 19.5	-0.7
SERG				S	Sg	05 39 34.4	-0.3
VLI	Veliai	1.22	121	P	Pg	05 39 21.9	-0.4
VLI				S	Sb	05 39 39.4	+2.3
ANX	Ano Chora	1.26	10	P	Pg	05 39 22.9	-0.1
ANX	Ano Chora	1.26	10	P	Pg	05 39 22.0	-1.1
ANX				S	Sg	05 39 38.4	-1.0
PVO	Paravola	1.26	356	P	Pg	05 39 23.2	0.0
PVO	Paravola	1.26	356	P	Pg	05 39 21.2	-1.9
PVO				S	Sg	05 39 39.2	-0.4
HFS	Hagfors	23.36	350	P	P	05 44 06.7	+0.2
	1.0nm,0.8s,baz=152,slow=10.0,SNR=4.6						
	1.0nm,0.8s						
FINES	FINESS Array B	24.27	5	P	P	05 44 14.7	-0.6
	0.5nm,0.5s,baz=180,slow=10,SNR=3.8						
	0.5nm,0.5s						
KURBB	Kurchatov Arra	42.02	53	P	P	05 46 48.3	-1.1
	0.4nm,0.3s,baz=278,slow=9.1,SNR=2.6						
	0.4nm,0.3s						
MKAR	Makanchi Array	44.98	58	P	P	05 47 12.7	-0.8
	0.2nm,0.4s,baz=284,slow=7.8,SNR=2.8						
	0.2nm,0.4s						
ZALV	Zalesovo Beam	45.59	48	P	P	05 47 17.1	-1.0
	0.7nm,0.5s,baz=268,slow=8.8,SNR=3.9						
	0.7nm,0.5s						

IDC 28 06:05:08.2±2.3, 0°.10S×133°.32E, h0km, mb3.5/3, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=100.8km s-min=23.4km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	19.42	202	P	Pn	06 09 36.9	-0.4
	baz=42,slow=14,SNR=1.9						
	0.8nm,0.7s						
WRA	Warramunga Arr	19.75	177	P	P	06 09 39.5	-0.3
	0.1nm,0.3s,baz=356,slow=11,SNR=6.1						
	0.2nm,0.4s						
ASAR	Alice Springs	23.43	179	P	P	06 10 19.2	0.0
	0.5nm,0.3s,baz=360,slow=11,SNR=15						
	0.5nm,0.3s						
MKAR	Makanchi Array	64.48	324	P	P	06 15 47.1	+0.3
	0.2nm,0.4s,baz=122,slow=7.6,SNR=2.5						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	68.53	326	P	P	06 16 12.2	-0.4
	0.4nm,0.7s,baz=116,slow=6.3,SNR=3.3						
	0.4nm,0.7s						

*IDC **28** 06:14:38.4±3.1, 7°.57S×108°.82E, h49km±50km, mb3.4/4, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=111.6km s-min=19.3km az=43.0*

*DJA **28** 06:14:40.4±0.4, 8°.5S±4°.1×10°.8E±°.1, h74km±5km, M3.7/13, MLv3.7/13*

ISC 28 06:14:37.6±1.0, 8°.26S±0°.09×108°.12E±0°.06, h50km, n21, σ2s09/18, mb3.4/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMJI	Cimerak	0.58	35	P	Pn	06 14 53.2	+3.4
CMJI				S	Sn	06 15 02.6	+4.0
CNJI	Cibinong	1.36	314	P	Pn	06 15 02.0	+1.8
CNJI				S	Sn	06 15 18.7	+1.6
LEM	Lembang	1.51	341	P	Pn	06 15 01.2	-1.2
	182nm,0.8s,baz=90,slow=6.5,SNR=18						
LEM				S	Sn	06 15 19.2	-1.8
	385nm,0.8s,baz=144,slow=17,SNR=17						
LEM	Lembang	1.51	341	P	Pn	06 15 02.5	+0.1
SKJI	Sukabumi	1.99	309	P	Pn	06 15 10.4	+1.6
UGM	Wanagama	2.41	82	P	Pn	06 15 15.5	+0.9
SMRI	Semarang	2.60	63	P	Pn	06 15 16.4	-0.8
WOJI	Wonogiri, Jawa	2.81	82	P	Pn	06 15 21.4	+1.3
CGJI	Cibinong	2.91	304	P	Pn	06 15 24.6	+3.2
PCJI	Pacitan	3.03	89	P	Pn	06 15 25.3	+2.2
FITZ	Fitzroy Crossi	19.65	122	P	P	06 19 02.0	-0.4
	0.1nm,0.3s,baz=284,slow=6.1,SNR=13						
	4.1nm,0.8s						
WRA	Warramunga Arr	27.91	117	P	P	06 20 21.4	-1.9
	0.4nm,0.5s,baz=293,slow=12,SNR=8.1						
	0.4nm,0.5s						
ASAR	Alice Springs	29.06	125	P	P	06 20 32.6	-0.9
	0.4nm,0.6s,baz=296,slow=9.0,SNR=6.6						
	0.4nm,0.6s						
H08S2	Diego Garcia H	35.28	268	T	T	06 58 49.8	
	baz=92,slow=75,SNR=10						
H08S3	Diego Garcia H	35.29	268	T	T	06 58 50.6	
	baz=92,slow=75,SNR=9.8						
H08S1	Diego Carcia H	35.30	268	T	T	06 58 51.1	
	baz=92,slow=75,SNR=11						
STKA	Stephens Creek	38.98	132	P	P	06 21 59.0	-0.2
	1.4nm,0.6s,baz=286,slow=11,SNR=3.2						
	1.4nm,0.6s						
MKAR	Makanchi Array	59.44	340	P	P	06 24 33.6	-1.7
	0.2nm,0.6s,baz=134,slow=8.3,SNR=1.2						
	0.2nm,0.6s						
H04N2	CROZET ISLANDS	61.04	221	T	T	07 32 01.8	
	baz=70,slow=75,SNR=6.2						
H04N1	CROZET ISLANDS	61.06	221	T	T	07 32 01.2	
	baz=70,slow=75,SNR=8.2						
H04N3	CROZET ISLANDS	61.06	221	T	T	07 31 54.6	
	baz=70,slow=75,SNR=8.1						

*IDC **28** 06:35:54.7±1.1, 30°.00S×176°.38W, h0km, mb3.8/5, mbtmp3.8/5, MS3.3/4, Error ellipse: s-maj=33.8km s-min=21.0km az=31.0*

*NEIC **28** 06:35:56.4±0.7, 30°.05S±0°.10×176°.5W±0°.1, h10km±1km, mb4.2/10, Error ellipse: s-maj=18.4km s-min=15.2km az=49.0*

ISC 28 06:35:58.0±0.7, 29°.98S±0°.06×176°.45W±0°.07, h24km, n46, σ1s42/56, mb4.2/13, 4C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	1.47	299	P	Pn	06 36 23.3	+0.3
GLKZ				S	Sb	06 36 43.2	+0.5
GLKZ				T	T	06 38 11.6	
RAO	Raoul Island	1.47	299	Pn	Pn	06 36 22.6	-0.4
RAO	Raoul Island	1.47	299	Pn	Pb	06 36 24.5	-0.2
	129nm,0.3s,baz=117,slow=14,SNR=6.2						
RAO				Sn	Sb	06 36 45.1	+2.2
	266nm,0.3s,baz=280,slow=23,SNR=6.6						
RIZ	Raoul Island	1.48	299	P	Pb	06 36 24.0	-0.8
RIZ				S	Sb	06 36 44.8	+1.6
WMGZ	Waiomatatini S	8.90	207	P	Pn	06 38 06.4	+1.3
WMGZ				S	Sn	06 39 47.5	+2.9
PKGZ	Pakihiroa	9.08	209	P	Pn	06 38 05.1	-2.5
PKGZ				S	Sn	06 39 51.9	+3.0
HAZ	Te Kaha	9.11	210	P	Pn	06 38 06.2	-1.8
HAZ				S	Sn	06 39 51.0	+1.2
PUZ	Puketiti	9.18	207	S	Sn	06 39 52.8	+1.3
RUGZ	Raukumara Rang	9.33	210	P	Pn	06 38 10.0	-1.1
RUGZ				S	Sn	06 39 57.7	+2.3
TWGZ	Tauwhareparae	9.38	208	P	Pn	06 38 10.7	-1.1
TWGZ				S	Sn	06 39 58.9	+2.4
TKGZ	Te Karaka	9.66	208	P	Pn	06 38 17.2	+1.7
TKGZ				S	Sn	06 40 04.3	+1.1
MWZ	Matawai	9.71	209	P	Pn	06 38 14.3	-1.8
MWZ				S	Sn	06 40 05.0	+0.6
URZ	Urewera	9.82	211	P	Pn	06 38 16.2	-1.5
URZ				S	Sn	06 40 08.0	+0.7
RAGZ	Rawiri	9.89	209	P	Pn	06 38 16.1	-2.6
RAGZ				S	Sn	06 40 08.9	0.0
RIGZ	Rimuhau	9.93	207	P	Pn	06 38 17.3	-1.9
RIGZ				S	Sn	06 40 09.0	-0.8
MUGZ	Murupara	10.16	212	S	Sn	06 40 15.0	-0.4
SNGZ	Shannon Statio	10.16	209	P	Pn	06 38 20.5	-1.8
SNGZ				S	Sn	06 40 17.4	+1.8
MRHZ	Matea Rd	10.61	212	S	Sn	06 40 24.3	-2.3
BKZ	Black Stump Fm	10.84	210	Pn	Pn	06 38 30.0	-1.7
NIUE	Niue	12.37	30	Pn	Pn	06 38 53.2	+0.5
DZM	Mont Dzumac	17.26	293	LR	LR	06 44 33.2	
	comp=Z,76nm,19.1s,baz=66,slow=30						
RAR	Rarotonga	17.38	64	LR	LR	06 43 59.5	
	comp=Z,77nm,21.1s,baz=208,slow=28						
TOO	Toolangi	32.36	246	P	P	06 42 23.9	-1.8
TOO				IAmb	IAmb	06 42 47.7	
	comp=Z,1.1nm,0.9s						
CTAO	Charters Tower	35.06	278	P	P	06 42 48.9	-0.4
STKA	Stephens Creek	35.88	256	P	P	06 42 57.1	+0.9
	comp=Z,0.4nm,0.4s,baz=101,slow=16,SNR=1.1						
	comp=Z,0.4nm,0.4s						
COEN	Coen	40.45	284	P	P	06 43 33.7	-1.2
COEN				IAmb	IAmb	06 43 39.4	
	comp=Z,9.5nm,1.1s						
AS31	Alice Springs	44.47	266		P	06 44 06.0	-1.6
ASAR	Alice Springs	44.47	266	P	P	06 44 07.4	-0.2
	comp=Z,0.3nm,0.4s,baz=101,slow=6.9,SNR=4.9						
	comp=Z,0.3nm,0.4s						
WR8	Warramunga Arr	45.28	271	P	P	06 44 13.6	-0.4
WR8				IAmb	IAmb	06 44 38.3	
	comp=Z,1.9nm,0.9s						
WB2	Warramunga Arr	45.41	271	P	P	06 44 15.2	+0.1
WB2				IAmb	IAmb	06 44 34.1	
	comp=Z,3.5nm,1.0s						
WRA	Warramunga Arr	45.42	271	P	P	06 44 14.3	-0.8
WRA	Warramunga Arr	45.42	271	P	P	06 44 14.8	-0.4
	comp=Z,1.4nm,0.6s,baz=111,slow=7.6,SNR=12						
	comp=Z,1.4nm,0.6s						
WB0	Warramunga Arr	45.45	271	P	P	06 44 14.3	-1.0
WB0				IAmb	IAmb	06 44 19.5	
	comp=Z,3.7nm,1.0s						
SBA	Scott Base	48.55	185	P	P	06 44 38.7	-0.1
SBA				IAmb	IAmb	06 45 00.5	
	comp=Z,4.6nm,1.4s						
GUMO	Guam	57.15	314	LR	LR	07 09 11.5	
	comp=Z,22nm,18.2s,baz=158,slow=35						
QSPA	South Pole Qui	60.13	180	P	P	06 46 03.5	+0.2
QSPA	South Pole Qui	60.13	180	P	P	06 46 04.2	+0.9
	comp=Z,3.6nm,1.0s,baz=88,slow=1.7,SNR=7.5						
	comp=Z,3.6nm,1.0s						
TROLL	Troll, Antarti	78.28	180	⇑P	P	06 47 56.7	+1.0
	comp=Z,90nm,0.9s						
SNAA	Sanae	78.53	178	⇑P	P	06 47 57.6	+0.7
	comp=Z,34nm,0.8s						
VNA3	Neumayer Olymp	78.62	176	⇑P	P	06 47 58.0	+0.6
	comp=Z,5.1nm,0.8s						
VNA1	Neumayer--Stat	79.30	176	⇑P	P	06 48 01.6	+0.6
	comp=Z,3.9nm,0.9s						
ASAJ	Asahikawa	82.70	332	LR	LR	07 19 00.9	
	comp=Z,22nm,20.3s,baz=143,slow=31						
NVAR	Mina Array Bea	87.03	42	P	P	06 48 40.5	-1.2
	comp=Z,0.6nm,0.8s,baz=220,slow=7.6,SNR=4.0						
	comp=Z,0.6nm,0.8s						
FINES	FINESS Array B	145.20	341	PKPbc	PKPdf	06 55 34.1	+1.3
	comp=Z,1.4nm,0.8s,baz=31,slow=5.1,SNR=4.5						
AKASG	Malin Array Be	151.76	324	PKPbc	PKiKP	06 55 51.5	+0.9
	comp=Z,0.3nm,0.4s,baz=53,slow=1.1,SNR=1.6						
TORD	Torodi Ar. Bea	163.16	174	PKPab	PKPab	06 56 49.3	+0.3
	comp=Z,2.1nm,0.8s,baz=194,slow=2.9,SNR=9.8						

*AZER **28** 06:38:17.9, 38°.38N×46°.66E, h13km, ml2.8*

*TEH **28** 06:38:19.3, 38°.37N×46°.69E, h13km±7.7km*

ISC 28 06:38:19.4±1.0, 38°.39N±0°.03×46°.69E±0°.02, h16km±10km, n23, σ1s23/41, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHRS	Heris	0.29	103	Pg	Pb	06 38 25.4	-0.9
IHRS				Sg	Sb	06 38 30.1	-1.0
ITBZ	Tabriz	0.45	251	Pg	Pg	06 38 27.7	-0.7
ORD	Ordubad	0.77	315	P	Pb	06 38 34.0	-0.4
ORD				S	Sb	06 38 44.3	-0.4
ISHB	Shabestar	0.85	263	Pg	Pb	06 38 35.1	-0.8
IAZR	Azarshahr	0.90	219	Pg	Pn	06 38 38.5	+0.9
GRMI	Germi	1.04	66	Pg	Pg	06 38 38.9	-0.5
GRMI				Sg	Sn	06 38 53.2	-0.5
IHSH	Hashtrud	1.17	157	Pg	Pg	06 38 41.2	-0.8
NAX	Nakhchivan	1.22	311	P	Pg	06 38 43.0	+0.1
NAX				S	Sg	06 38 60.0	+1.1
LRK	Lerik	1.32	78	P	Pg	06 38 45.0	+0.1
LRK				S	Sg	06 39 03.6	+1.4
YRD	Yardimli	1.33	66	P	Pg	06 38 45.0	0.0
YRD				S	Sg	06 39 03.6	+1.2
SBZ	Shahbuz	1.34	319	P	Pg	06 38 44.5	-0.8
SBZ				S	Sg	06 39 03.5	+0.8
BLQ	Beylaqan	1.50	27	P	Pg	06 38 47.5	-0.7
BLQ				S	Sg	06 39 09.2	+1.5
GLBA	Clilabad	1.58	57	P	Pg	06 38 49.3	-0.5
GLBA				S	Sg	06 39 12.4	+1.9
ASTR	Astara	1.66	83	P	Pg	06 38 50.6	-0.7
ASTR				S	Sg	06 39 14.3	+1.4
LKRN	Lenkeran, Azer	1.67	78	P	Pg	06 38 50.7	-0.8
LKRN				S	Sg	06 39 14.8	+1.5
AGDM	Agdam	1.75	11	P	Pb	06 38 50.6	-0.6
AGDM				S	Sg	06 39 16.5	+0.7
BRDA	Brd	1.92	11	P	Pb	06 38 52.6	-1.3
BRDA				S	Sg	06 39 19.0	-2.0
HYR	Heyderabad	1.95	314	P	Pb	06 38 54.5	-0.1
HYR				S	Sg	06 39 21.6	-0.6
GANJ	Ganja	2.28	353	P	Pb	06 38 58.8	-1.4
GANJ				S	Sb	06 39 29.4	+1.3
GNI	Garni	2.32	320	Pn	Pg	06 39 03.3	-0.6
GDB	GEDABAY	2.44	343	P	Pb	06 39 01.4	-1.7
GDB				S	Sb	06 39 34.4	+1.4
QZX	Qazax, Azerbai	2.86	340	P	Pn	06 39 06.7	+2.4
QZX				S	Sb	06 39 43.5	-1.3
XNQ	Khinaliq	3.00	21	P	Pb	06 39 09.5	-3.0
XNQ				S	Sb	06 39 48.5	-0.6

*IDC **28** 06:40:27.1±2.8, 20°.89N×122°.32E, h0km, mb3.5/4, mbtmp3.5/4, MS2.9/1, Error ellipse: s-maj=244.2km s-min=22.4km az=63.0*

*JMA **28** 06:40:27.9±0.7, 21°.1N±3°.3×12°.2E±°.1, h20km, MV4.0/12, PHILIPPINE ISL REGION*

ISC 28 06:40:32.3±1.2, 20°.80N±0°.10×122°.1E±0°.2, h35km, n13, σ0s58/16, mb3.4/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	Hateruma jima	3.60	25	eS	Sn	06 42 07.2	+0.3
YOJ	Yonaguni jima	3.74	13	eP	Pn	06 41 26.6	-1.0
YOJ				eS	Sn	06 42 10.8	+0.5
IRIF	Iriomote-Funau	3.82	23	eP	Pn	06 41 29.2	+0.5
JKRS	Kuro-shima	3.84	27	eP	Pn	06 41 28.5	-0.5
JKRS				eS	Sn	06 42 13.5	+0.6
JIJ	Ishigaki jima	4.01	27	eP	Pn	06 41 31.5	+0.2
JIJ				eS	Sn	06 42 16.9	-0.2
JISG	Ishigakijimahi	4.28	28	eP	Pn	06 41 34.5	-0.5
JISG				eS	Sn	06 42 23.4	-0.4
JTJ	Tarama	4.51	31	eS	Sn	06 42 29.7	+0.4
DAV	Davao City (W)	14.05	166	LR	LR	06 49 37.0	
	comp=Z,41nm,18.4s,baz=189,slow=39						
MKAR	Makanchi Array	41.39	318	P	P	06 48 15.8	+0.6
	0.4nm,0.6s,baz=111,slow=9.2,SNR=6.1						
	0.4nm,0.6s						
WRA	Warramunga Arr	42.22	163	P	P	06 48 21.5	-0.7
	0.5nm,0.7s,baz=343,slow=8.4,SNR=3.5						
	0.5nm,0.7s						
ZALV	Zalesovo Beam	43.56	329	P	P	06 48 32.2	-0.5
	0.6nm,0.5s,baz=114,slow=7.1,SNR=3.9						
	0.6nm,0.5s						
KURBB	Kurchatov Arra	45.27	322	P	P	06 48 46.6	+0.2
	0.6nm,0.3s,baz=118,slow=7.4,SNR=2.2						
ASAR	Alice Springs	45.66	165	P	P	06 48 50.6	+0.8
	0.3nm,0.6s,baz=348,slow=8.5,SNR=2.5						
	0.3nm,0.6s						

*JMA **28** 06:49:30.4±0.6, 21°.2N±2°.1×12°.2E±°.1, h8km, MV4.1/10, PHILIPPINE ISL REGION*

*IDC **28** 06:49:31.5±0.8, 20°.69N×122°.00E, h0km, mb3.8/11, mbtmp3.9/13, ML3.7/2, MS3.2/7, Error ellipse: s-maj=24.0km s-min=15.6km az=71.0*

ISC 28 06:49:36.5±0.8, 20°.76N±0°.08×122°.1E±0°.1, h35km, n32, σ0s95/23, mb3.6/11, MS3.4/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	3.78	13	eP	Pn	06 50 33.0	+0.7
YOJ				eS	Sn	06 51 16.2	+0.7
IRIF	Iriomote-Funau	3.86	23	eP	Pn	06 50 32.6	-0.8
IRIF				S	Sn	06 51 17.6	0.0
JKRS	Kuro-shima	3.88	27	eP	Pn	06 50 33.0	-0.8
JKRS				eS	Sn	06 51 17.3	-0.9
JIJ	Ishigaki jima	4.05	27	eP	Pn	06 50 34.9	-1.1
JISG	Ishigakijimahi	4.32	28	eP	Pn	06 50 39.0	-0.7
JISG				eS	Sn	06 51 27.6	-1.3
JTJ	Tarama	4.55	31	eS	Sn	06 51 33.1	-1.4
JOW	Kunigami	8.27	42	Pn	Pn	06 51 34.7	+0.6
	2.5nm,0.3s,baz=148,slow=27,SNR=11						
	5.0nm,0.3s						
DAV	Davao City (W)	14.02	166	LR	LR	06 58 28.0	
	comp=Z,82nm,18.1s,baz=54,slow=38						
JNU	Nakatsue	14.58	31	LR	LR	06 58 36.3	
	comp=Z,61nm,18.5s,baz=210,slow=37						
KSRS	Korea Array	17.39	16	P	Pn	06 53 36.9	+0.5
	0.2nm,0.3s,baz=198,slow=12,SNR=10						
	3.4nm,1.0s						
MJAR	Matsushiro Arr	21.09	38	P	P	06 54 20.2	+2.2
	1.0nm,0.7s,baz=229,slow=12,SNR=4.4						
	1.0nm,0.7s						
CMAR	Chiang Mai Arr	21.93	268	P	P	06 54 26.9	-0.2
	0.8nm,0.3s,baz=68,slow=9.1,SNR=7.1						
	0.8nm,0.3s						
SONM	Songino Array	29.84	338	P	P	06 55 39.3	-1.3
	0.5nm,0.4s,baz=170,slow=12,SNR=3.7						
	0.5nm,0.4s						
MKAR	Makanchi Array	41.41	318	P	P	06 57 19.6	+0.1
	1.4nm,0.5s,baz=114,slow=9.6,SNR=16						
	1.4nm,0.5s						
YAK	Yakutsk	41.57	5	LR	LR	07 14 28.8	
	comp=Z,20nm,19.4s,baz=44,slow=36						
H11N1	WAKE ISLAND Hy	41.94	83	T	T	07 42 23.7	
	baz=283,slow=74,SNR=146						
H11N2	WAKE ISLAND Hy	41.94	83	T	T	07 42 25.1	
	baz=283,slow=74,SNR=193						
H11N3	WAKE ISLAND Hy	41.95	83	T	T	07 42 21.1	
	baz=283,slow=74,SNR=153						
H11S3	WAKE ISLAND Hy	41.96	85	T	T

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**3.05**	**71**	P	Pn	06 56 26.5	-0.8
RIZ				S	Sn	06 57 05.3	+1.5
GLKZ	**Green Lake**	**3.05**	**71**	P	Pn	06 56 26.7	-0.7
GLKZ				S	Sn	06 57 05.3	+1.5
HAZ	**Te Kaha**	**7.50**	**186**	P	Pn	06 57 29.5	+1.1
HAZ				S	Sn	06 58 55.7	+2.4
WMGZ	**Waiomatatini S**	**7.52**	**182**	P	Pn	06 57 29.7	+1.0
PKGZ	**Pakihiroa**	**7.58**	**184**	P	Pn	06 57 29.1	-0.6
PKGZ				S	Sn	06 58 56.6	+1.0
RUGZ	**Raukumara Rang**	**7.71**	**186**	P	Pn	06 57 30.7	-0.9
RUGZ				S	Sn	06 58 59.1	+0.2
PUZ	**Puketiti**	**7.78**	**183**	P	Pn	06 57 33.4	+1.1
PUZ				S	Sn	06 59 00.7	+0.4
TWGZ	**Tauwhareparae**	**7.90**	**185**	P	Pn	06 57 36.6	+2.6
TWGZ				S	Sn	06 59 06.3	+2.9
URZ	**Urewera**	**8.07**	**189**	P	Pn	06 57 36.5	+0.1
URZ				S	Sn	06 59 09.4	+1.9
MWZ	**Matawai**	**8.09**	**187**	P	Pn	06 57 34.3	-2.4
TKGZ	**Te Karaka**	**8.17**	**185**	P	Pn	06 57 36.9	-0.7
TKGZ				S	Sn	06 59 10.6	+0.7
CNGZ	**Carnagh Statio**	**8.19**	**183**	P	Pn	06 57 36.4	-1.5
RAGZ	**Rawiri**	**8.27**	**187**	P	Pn	06 57 37.6	-1.5
RAGZ				S	Sn	06 59 11.8	-0.6
MUGZ	**Murupara**	**8.34**	**191**	P	Pn	06 57 42.0	+2.0
MUGZ				S	Sn	06 59 17.2	+3.1
RTZ	**Ruatahuna**	**8.44**	**190**	P	Pn	06 57 42.2	+0.7
RIGZ	**Rimuhau**	**8.44**	**185**	P	Pn	06 57 41.7	+0.2
RIGZ				S	Sn	06 59 14.6	-2.1
SNGZ	**Shannon Statio**	**8.56**	**188**	P	Pn	06 57 43.3	+0.2
SNGZ				S	Sn	06 59 19.7	+0.2
MTHZ	**Maungataniwha**	**8.69**	**190**	P	Pn	06 57 45.5	+0.6
MTHZ				S	Sn	06 59 24.9	+2.0

IDC 28 07:02:08.7±2.9, 3°87'S×126°79E, h0km, mb3.4/2, mbtmp3.5/3, ML3.6/1, MS4.3/1, Error ellipse: s-maj=362.7km s-min=29.2km az=65.0, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.59**	**156**	P	Pn	07 06 15.7	+0.2
	0.2nm,0.3s,baz=334,slow=12,SNR=14 1.1nm,0.7s						
ASAR	**Alice Springs**	**20.85**	**161**	P	P	07 06 52.2	-0.1
	0.8nm,0.4s,baz=342,slow=12,SNR=15 0.8nm,0.4s						
URZ	**Urewera**	**57.12**	**134**	LR	LR	07 34 50.3	
	comp=Z,279nm,21.8s,baz=45,slow=34						
MKAR	**Makanchi Array**	**63.88**	**328**	P	P	07 12 43.3	0.0
	0.2nm,0.5s,baz=132,slow=8.0,SNR=2.9 0.2nm,0.5s						

IDC 28 07:15:52.8±14.0, 1°58N×127°47E, h170km±138km, mb2.9/3, mbtmp3.5/5, ML3.7/2, MS3.3/1, Error ellipse: s-maj=125.2km s-min=23.8km az=58.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**10.12**	**230**	P	Pn	07 18 14.1	0.0
	1.5nm,0.3s,baz=25,slow=14,SNR=4.7 4.1nm,0.4s						
TGY	**Tagaytay City**	**14.02**	**333**	LR	LR	07 25 23.9	
	comp=Z,121nm,19.2s,baz=131,slow=41						
FITZ	**Fitzroy Crossi**	**19.64**	**185**	P	P	07 20 08.6	0.0
	0.1nm,0.3s,baz=1.3,slow=11,SNR=1.5 0.7nm,0.8s						
WRA	**Warramunga Arr**	**22.43**	**163**	P	P	07 20 37.5	-0.2
	0.6nm,0.6s,baz=343,slow=11,SNR=16 0.6nm,0.6s						
ASAR	**Alice Springs**	**25.86**	**166**	P	P	07 21 09.1	+0.2
	0.3nm,0.5s,baz=339,slow=8.1,SNR=7.1 0.3nm,0.5s						
MKAR	**Makanchi Array**	**59.73**	**326**	P	P	07 25 39.5	-0.2
	0.2nm,0.4s,baz=119,slow=8.4,SNR=2.8 0.2nm,0.4s						

IDC 28 07:23:43.4±7.3, 18°86S×173°82W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=316.3km s-min=37.5km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**48.74**	**255**	P	P	07 32 30.8	+0.5
	3.7nm,0.6s,baz=92,slow=8.2,SNR=67 3.7nm,0.6s						
WRA	**Warramunga Arr**	**48.75**	**260**	P	P	07 32 29.7	-0.7
	0.6nm,0.5s,baz=98,slow=7.4,SNR=25 0.6nm,0.5s						
ILAR	**Eielson Array**	**85.90**	**11**	P	P	07 36 24.7	0.0
	0.2nm,0.5s,baz=207,slow=1.4,SNR=6.2 0.2nm,0.5s						

*IDC **28** 07:23:54.3±0.6, 57°87S×25°12W, h0km, mb4.3/9, mbtmp4.4/10, ML4.8/1, MS3.6/8, Error ellipse: s-maj=22.9km s-min=16.9km az=70.0*

*NEIC **28** 07:23:59.3±1.0, 58°00S±0°02×25°34W±0°2, h35km±2km, mb4.6/33, Error ellipse: s-maj=15.9km s-min=4.0km az=94.0*

ISC 28 07:23:59.0±0.4, 57°93S±0°08×25°33W±0°09, h35km, n68, σ0s82/56, mb4.5/21, MS3.6/6, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.23**	**296**	Pn	**Pn**	**07 25 42.6**	**+0.6**
VNA1	**Neumayer--Stat**	**14.66**	**157**	⇑P	**Pn**	**07 27 22.5**	**-1.0**
	comp=Z,0.2nm,0.2s						
VNA3	**Neumayer Olymp**	**14.87**	**160**	⇑P	**Pn**	**07 27 24.3**	**-2.0**
	comp=Z,15nm,0.5s						
ESPZ	**Base Esperanza**	**16.33**	**237**	Pn	**Pn**	**07 27 44.9**	**-0.3**
SNAA	**Sanae**	**16.60**	**155**	⇑P	**Pn**	**07 27 48.0**	**-0.7**
	comp=Z,241nm,0.4s						
SNAA	**Sanae**	**16.60**	**155**		**Pn**	**07 27 48.5**	**-0.2**
SNAA	**Sanae**	**16.60**	**155**	Pn	**Pn**	**07 27 48.3**	**-0.4**
	comp=Z,3.5nm,0.3s,baz=315,slow=13,SNR=60						
SNAA				LR	LR	07 32 19.3	
	comp=Z,173nm,19.2s,baz=330,slow=30 comp=Z,8.7nm,0.4s						
TROLL	**Troll, Antarti**	**18.10**	**152**	⇑P	**P**	**07 28 07.3**	**-0.2**
	comp=Z,166nm,0.5s						
PMSA	**Palmer Station**	**19.51**	**233**	LR	LR	07 34 56.6	
	comp=Z,322nm,18.1s,baz=82,slow=34						
MG02	**Cerro Sombrero**	**25.12**	**263**	P	**P**	**07 29 20.1**	**-0.1**
QSPA	**South Pole Qui**	**32.31**	**180**	P	**P**	**07 30 25.0**	**+0.6**
QSPA				IAmb	IAmb	07 30 27.7	
	comp=Z,9.7nm,1.2s						
QSPZ	**South Pole Qui**	**32.31**	**180**	P	**P**	**07 30 25.8**	**+1.5**
	comp=Z,4.3nm,0.6s,baz=214,slow=4.2,SNR=21						
QSPA				LR	LR	07 43 43.8	
	comp=Z,118nm,18.5s,baz=196,slow=37 comp=Z,4.3nm,0.6s						
PLTB	**Pedras Altas**	**32.51**	**311**	P	**P**	**07 30 26.4**	**+0.2**
PLTB				IAmb	IAmb	07 30 42.1	
	comp=Z,19nm,1.5s						
GO07	**Milladeo Hill,**	**33.31**	**275**	P	**P**	**07 30 33.0**	**-0.1**
PLCA	**Paso Flores**	**33.35**	**281**	P	**P**	**07 30 33.9**	**+0.4**
PLCA				IAmb	IAmb	07 30 46.1	
	comp=Z,13nm,1.4s						
PLCA	**Paso Flores**	**33.35**	**281**	P	**P**	**07 30 35.0**	**+1.5**
	comp=Z,3.7nm,1.0s,baz=118,slow=8.6,SNR=5.6						
PLCA				LR	LR	07 43 24.9	
	comp=Z,49nm,18.5s,baz=186,slow=35 comp=Z,3.7nm,1.0s						
LR04	**Corral**	**35.48**	**279**	P	**P**	**07 30 51.0**	**-0.8**
ITAB	**Concordia**	**36.00**	**317**	P	**P**	**07 30 56.4**	**0.0**
ITAB				IAmb	IAmb	07 31 24.6	
	comp=Z,15nm,1.3s						
MAW	**Mawson**	**38.03**	**142**	P	**P**	**07 31 13.0**	**-0.2**
	comp=Z,3.6nm,0.5s,baz=230,slow=7.6,SNR=21 comp=Z,3.6nm,0.5s						
MT01	**Popeta**	**38.93**	**288**	P	**P**	**07 31 19.8**	**-1.4**
MT01				IAmb	IAmb	07 31 44.8	
	comp=Z,10nm,1.2s						
MT02	**Curacav**	**39.35**	**289**	P	**P**	**07 31 22.0**	**-2.7**
MT02				IAmb	IAmb	07 31 49.7	
	comp=Z,9.7nm,1.1s						
AQDB	**Aquidauana**	**43.48**	**316**	P	**P**	**07 31 59.1**	**+0.5**
SBA	**Scott Base**	**44.27**	**184**	P	**P**	**07 32 05.2**	**+0.9**
SBA				IAmb	IAmb	07 32 07.7	
	comp=Z,9.2nm,1.1s						

VNDA	**Vanda**	**44.73**	**182**		**P**	**07 32 07.7**	**-0.4**
VNDA	**Vanda**	**44.73**	**182**	P	**P**	**07 32 09.6**	**+1.6**
	comp=Z,2.8nm,0.8s,baz=186,slow=8.1,SNR=22 comp=Z,2.8nm,0.8s						
BDFB	**Brasilia**	**45.51**	**329**	P	**P**	**07 32 15.5**	**+0.5**
BDFB				IAmb	IAmb	07 32 53.6	
	comp=Z,8.3nm,1.2s						
BDFB	**Brasilia**	**45.51**	**329**	P	**P**	**07 32 15.7**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=9.5,slow=3.7,SNR=3.0 comp=Z,2.6nm,0.9s						
BOSA	**Boshof**	**45.51**	**72**	P	**P**	**07 32 14.9**	**-0.1**
BOSA				IAmb	IAmb	07 32 20.2	
	comp=Z,14nm,1.4s						
BOSA	**Boshof**	**45.51**	**72**	P	**P**	**07 32 14.4**	**-0.5**
	comp=Z,3.7nm,0.7s,baz=208,slow=8.0,SNR=7.6						
BOSA				LR	LR	07 46 58.9	
	comp=Z,130nm,20.1s,baz=204,slow=30 comp=Z,3.7nm,0.7s						
H04S2	**CROZET ISLANDS**	**45.88**	**111**	T	T	08 22 52.6	
	baz=226,slow=75,SNR=8.0						
H04S3	**CROZET ISLANDS**	**45.89**	**111**	T	T	08 22 51.9	
	baz=226,slow=75,SNR=8.1						
H04S1	**CROZET ISLANDS**	**45.90**	**111**	T	T	08 22 51.9	
	baz=226,slow=75,SNR=9.6						
LBTB	**Lobatse**	**48.64**	**70**	P	**P**	**07 32 39.4**	**0.0**
LBTB				IAmb	IAmb	07 32 40.1	
	comp=Z,5.0nm,0.9s						
LBTB	**Lobatse**	**48.64**	**70**	LR	LR	07 49 00.9	
	comp=Z,118nm,19.4s,baz=176,slow=31						
PTLB	**Pontes e Lacer**	**49.36**	**315**		**P**	**07 32 44.8**	**0.0**
PTLB				IAmb	IAmb	07 32 46.6	
	comp=Z,3.9nm,0.8s						
PB08	**IPOC Station P**	**49.37**	**301**	P	**P**	**07 32 45.4**	**+0.1**
PB08				IAmb	IAmb	07 33 18.7	
	comp=Z,5.6nm,0.9s						
H10S2	**ASCENSION HYDR**	**49.55**	**14**	T	T	08 26 29.5	
	baz=188,slow=74,SNR=21						
H10S3	**ASCENSION HYDR**	**49.55**	**14**	T	T	08 26 30.0	
	baz=32,slow=74,SNR=20						
SIV	**San Ignacio**	**49.61**	**312**	LR	LR	07 53 37.0	
	comp=Z,35nm,20.5s,baz=109,slow=36						
GO01	**Chusmiza**	**49.80**	**301**	P	**P**	**07 32 48.5**	**-0.2**
GO01				IAmb	IAmb	07 33 05.4	
	comp=Z,3.0nm,0.8s						
PB11	**IPOC Station P**	**49.93**	**301**	P	**P**	**07 32 48.7**	**-0.6**
PB11				IAmb	IAmb	07 33 27.8	
	comp=Z,12nm,1.1s						
H10N1	**ASCENSION HYDR**	**50.67**	**14**	T	T	08 27 58.6	
	baz=193						
H10N3	**ASCENSION HYDR**	**50.67**	**14**	T	T	08 27 54.6	
	baz=193,SNR=4.8						
H10N2	**ASCENSION HYDR**	**50.69**	**14**	T	T	08 27 55.0	
	baz=193,slow=74,SNR=3.4						
PB16	**IPOC Station P**	**51.11**	**302**	P	**P**	**07 32 58.8**	**+0.1**
PB16				IAmb	IAmb	07 33 34.9	
	comp=Z,6.4nm,1.4s						
CASY	**Casey**	**51.78**	**159**	P	**P**	**07 33 03.2**	**+0.7**
VILB	**Vilhena**	**52.04**	**315**	P	**P**	**07 33 05.0**	**0.0**
VILB				IAmb	IAmb	07 33 06.6	
	comp=Z,8.1nm,0.8s						
LPAZ	**La Paz**	**52.29**	**304**		**P**	**07 33 06.9**	**-0.7**
LPAZ	**La Paz**	**52.29**	**304**	P	**P**	**07 33 08.2**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=80,slow=6.2,SNR=8.5 comp=Z,0.7nm,0.5s						
RCBR	**Riachuelo**	**52.62**	**347**	P	**P**	**07 33 07.5**	**-1.9**
MATP	**Matopo**	**53.93**	**69**	LR	LR	07 52 31.1	
	comp=Z,48nm,20.7s,baz=214,slow=32						
MAL2	**Monte Alegre,**	**60.23**	**326**	P	**P**	**07 34 03.5**	**0.0**
MACA	**Manacapuru-AM**	**61.26**	**319**		**P**	**07 34 09.5**	**-1.0**
BOAV	**Boa Vista**	**66.39**	**321**		**P**	**07 34 44.8**	**+0.5**
DBIC	**Dimbokro**	**66.49**	**22**	P	**P**	**07 34 45.3**	**+0.5**
	comp=Z,4.3nm,0.8s,baz=264,slow=4.2,SNR=3.7 comp=Z,4.3nm,0.8s						
COHC	**Cochancay**	**69.51**	**300**	P	**P**	**07 35 04.0**	**+0.1**
OTAV	**Otavalo**	**71.54**	**303**	P	**P**	**07 35 16.5**	**-0.3**
OTAV				IAmb	IAmb	07 35 20.3	
	comp=Z,4.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**74.23**	**27**	P	**P**	**07 35 33.2**	**+1.1**
TORD	**Torodi Ar. Bea**	**74.23**	**27**	P	**P**	**07 35 33.1**	**+1.1**
	comp=Z,3.4nm,0.6s,baz=200,slow=5.7,SNR=28 comp=Z,3.4nm,0.6s						
BAUV	**El Baul**	**75.13**	**316**		**P**	**07 35 37.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**123.46**	**110**	PKP	**PKPdf**	**07 42 51.5**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=244,slow=3.3,SNR=6.6						
FINES	**FINESS Array B**	**125.58**	**28**	PKP	**PKPdf**	**07 42 55.0**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=135,slow=1.1,SNR=11						
ARCES	**ARCESS Array B**	**132.32**	**22**	PKP	**PKPdf**	**07 43 07.7**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=327,slow=2.0,SNR=4.4						
BVAR	**Borovoye Array**	**134.92**	**58**	PKP	**PKPdf**	**07 43 13.2**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=301,slow=6.4,SNR=4.7						
MKAR	**Makanchi Array**	**136.51**	**72**	PKP	**PKPdf**	**07 43 15.8**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=98,slow=2.5,SNR=3.7						
KURBB	**Kurchatov Arra**	**137.17**	**65**	PKP	**PKiKP**	**07 43 18.6**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=244,slow=2.5,SNR=6.0						
SONM	**Songino Array**	**149.80**	**88**	PKPbc	**PKPbc**	**07 43 44.3**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=218,slow=2.1,SNR=11						
ILAR	**Eielson Array**	**152.11**	**309**	PKPbc	**PKiKP**	**07 43 49.4**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=146,slow=2.1,SNR=13						

*IDC **28** 07:27:34.5±0.5, 30°38S×177°77W, h0km, mb4.5/14, mbtmp4.5/15, ML4.5/1, MS3.8/21, Error ellipse: s-maj=21.9km s-min=12.8km az=90.0*

*NOU **28** 07:27:36.2, 31°05S×176°57W, h55km, mb4.7/20, Kermadec Islands Region*

*NEIC **28** 07:27:40.8±1.8, 30°30S±0°02×177°7W±0°2, h35km±1km, mb4.9/28, Error ellipse: s-maj=22.0km s-min=3.7km az=89.0*

*GCMT **28** 07:27:42.8±0.4, 30°40S±0°04×177°44W±0°02, h41km±1km, MW5.0/51, Moment Tensor Solution. s42,c55; s51,c68; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.17±.21; $M_{\theta\theta}$0.23±.17; $M_{\phi\phi}$-2.39±.14; $M_{r\theta}$-0.26±.15; $M_{\theta\phi}$-2.38±.15; $M_{\phi r}$1.42±.11; Best double couple: M_o3.49700×10^{16} NP1:ϕ243.00000°,δ45.00000°,λ141.00000°. NP2: ϕ3.00000°,δ63.00000°,λ52.00000°. Principal axes: T 2.9990, Plg55.0000°, Azm224.0000°; N 1.0040, Plg33.0000°, Azm22.0000°; P -3.9950, Plg10.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 07:27:38.4±0.3, 30°53S±0°04×177°42W±0°06, h33km, n218, σ2s26/193, mb4.9/43, MS3.9/21, 5C-1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.34**	**341**	P	**Pn**	**07 27 58.8**	**-1.9**
GLKZ				S	**Sn**	**07 28 13.5**	**-3.9**
RAO	**Raoul Island**	**1.35**	**341**		**Pn**	**07 27 59.3**	**-1.5**
RAO	**Raoul Island**	**1.35**	**341**	Pn	**Pn**	**07 27 59.5**	**-1.3**
	628nm,0.3s,baz=85,slow=11,SNR=33						
RAO				Sn	**Sn**	**07 28 13.9**	**-3.6**
	3μm,0.3s,baz=185,slow=23,SNR=10						
RIZ	**Raoul Island**	**1.36**	**341**	P	**Pn**	**07 27 59.5**	**-1.4**
RIZ				S	**Sn**	**07 28 14.8**	**-3.0**
MXZ	**Matakaoa Point**	**7.86**	**206**	P	**Pn**	**07 29 27.2**	**-3.2**
MXZ				S	**Sn**	**07 30 55.3**	**-2.9**
WMGZ	**Waiomatatini S**	**8.05**	**204**	P	**Pn**	**07 29 30.6**	**-2.3**
HAZ	**Te Kaha**	**8.23**	**208**	P	**Pn**	**07 29 32.3**	**-3.1**
HAZ	**Te Kaha**	**8.23**	**208**	P	**Pn**	**07 29 32.4**	**-3.1**
HAZ				S	**Sn**	**07 31 08.0**	**+0.7**
PUZ	**Puketiti**	**8.33**	**204**	P	**Pn**	**07 29 32.5**	**-4.3**
PUZ	**Puketiti**	**8.33**	**204**	S	**Sn**	**07 31 07.3**	**-2.4**
PUZ	**Puketiti**	**8.33**	**204**	P	**Pn**	**07 29 32.3**	**-4.6**
RUGZ	**Raukumara Rang**	**8.46**	**207**	P	**Pn**	**07 29 35.4**	**-3.3**
RUGZ				S	**Sn**	**07 31 07.3**	**-5.7**
TWGZ	**Tauwhareparae**	**8.52**	**205**	P	**Pn**	**07 29 35.8**	**-3.7**
TWGZ				S	**Sn**	**07 31 11.2**	**-3.3**
CNGZ	**Carnagh Statio**	**8.72**	**203**	P	**Pn**	**07 29 38.3**	**-3.8**
CNGZ				S	**Sn**	**07 31 15.8**	**-3.4**
WCZ	**Waipu Caves**	**8.76**	**230**	P	Pn	07 29 48.1	+5.4
TKGZ	**Te Karaka**	**8.80**	**205**	P	**Pn**	**07 29 38.9**	**-4.4**
OUZ	**Omahuta**	**8.89**	**236**	P	**Pn**	**07 29 48.3**	**+3.9**
OUZ	**Omahuta**	**8.89**	**236**	S	**Sn**	**07 31 29.9**	**+6.5**
OUZ	**Omahuta**	**8.89**	**236**	P	Pn	07 29 48.9	+4.5
URZ	**Urewera**	**8.94**	**209**	Pn	**Pn**	**07 29 41.6**	**-3.5**
	3.7nm,0.3s,baz=257,slow=5.3,SNR=10						
URZ				Sn	**Sn**	**07 31 20.2**	**-4.3**
	8.0nm,0.3s,baz=153,slow=16,SNR=11						
URZ	**Urewera**	**8.94**	**209**	P	**Pn**	**07 29 41.4**	**-3.7**
URZ	**Urewera**	**8.94**	**209**	S	**Sn**	**07 31 20.3**	**-4.3**
URZ	**Urewera**	**8.94**	**209**	P	**Pn**	**07 29 41.7**	**-3.5**

RAGZ	**Rawiri**	**9.02**	**207**	P	**Pn**	**07 29 42.6**	**-3.7**
RIGZ	**Rimuhau**	**9.07**	**205**	P	**Pn**	**07 29 43.0**	**-4.0**
TOZ	**Tahuroa Road**	**9.27**	**217**	P	**Pn**	**07 29 50.9**	**+1.2**
RTZ	**Ruatahuna**	**9.29**	**208**	P	Pn	07 29 45.4	-4.7
SNGZ	**Shannon Statio**	**9.29**	**206**	P	**Pn**	**07 29 45.9**	**-4.1**
KNZ	**Kokohu**	**9.38**	**204**	P	Pn	07 29 46.3	-4.9
MHGZ	**Mahia Peninsul**	**9.42**	**203**	P	**Pn**	**07 29 47.2**	**-4.5**
BKZ	**Black Stump Fm**	**9.96**	**208**	P	**Pn**	**07 29 54.8**	**-4.4**
HIZ	**Hauiti**	**10.20**	**217**	P	**Pn**	**07 30 00.5**	**-1.9**
HIZ	**Hauiti**	**10.20**	**217**	P	**Pn**	**07 30 04.9**	**+2.5**
NGZ	**Ngauruhoe**	**10.36**	**212**	P	**Pn**	**07 30 02.5**	**-2.2**
PXZ	**Pawanui**	**10.57**	**205**	P	Pn	07 30 01.6	-5.8
TSZ	**Takapari Road**	**10.94**	**208**	P	Pn	07 30 05.9	-6.6
WAZ	**Wanganui**	**11.10**	**212**	P	**Pn**	**07 30 11.8**	**-3.0**
BFZ	**Birch Farm**	**11.36**	**205**	P	Pn	07 30 12.4	-5.9
SNZO	**South Karori**	**12.50**	**208**	P	**Pn**	**07 30 30.0**	**-3.9**
QRZ	**Quartz Range**	**13.12**	**216**	P	**Pn**	**07 30 39.5**	**-2.8**
CTZ	**Chatham Island**	**13.20**	**177**	P	Pn	07 30 34.3	-9.1
CTZ	**Chatham Island**	**13.20**	**177**	S	Sn	07 32 53.6	-15
NIUE	**Niue**	**13.27**	**32**	P	**Pn**	**07 30 42.7**	**-1.8**
NIUE	**Niue**	**13.27**	**32**	P	**Pn**	**07 30 42.0**	**-2.5**
KHZ	**Kahutara**	**13.90**	**209**	P	Pn	**07 30 49.0**	**-4.0**
RPZ	**Rata Peaks**	**16.03**	**212**	Pn	**Pn**	**07 31 18.8**	**-2.5**
	1.7nm,0.3s,baz=354,slow=1.8,SNR=11						
RPZ				Sn	Sn	07 34 03.1	-15
	1.4nm,0.3s,baz=71,slow=21,SNR=7.7 16nm,0.7s						
RPZ	**Rata Peaks**	**16.03**	**212**	P	**Pn**	**07 31 18.0**	**-3.3**
OUENC	**Ouen Island, N**	**16.23**	**296**	P	**P**	**07 31 31.8**	**+5.0**
INH	**Isangel**	**16.27**	**309**	P	**P**	**07 31 32.0**	**+4.9**
YATNC	**Mamie plateau,**	**16.39**	**297**	P	**P**	**07 31 34.5**	**+5.9**
DZM	**Mont Dzumac**	**16.73**	**296**		**Pn**	**07 31 28.6**	**-1.8**
DZM	**Mont Dzumac**	**16.73**	**296**	*e*Pn	**P**	**07 31 32.2**	**-0.2**
	81nm,1.1s						
DZM				*e*LR	LR	07 35 14.7	
	1μm,24.5s						
DZM	**Mont Dzumac**	**16.73**	**296**	P	**P**	**07 31 37.0**	**+4.6**
ODZ	**Otahua Downs**	**17.26**	**210**	P	**Pn**	**07 31 32.4**	**-4.4**
AFI	**Afiamalu**	**17.34**	**19**	P	**Pn**	**07 31 37.8**	**-0.2**
JCZ	**Jackson Bay**	**17.38**	**215**	P	Pn	**07 31 34.9**	**-3.5**
RAR	**Rarotonga**	**18.37**	**64**	LR	LR	07 37 18.4	
	comp=Z,243nm,20.8s,baz=240,slow=31						
TBI	**Tubuai**	**25.88**	**81**	*e*S	**S**	**07 37 33.7**	**-1.4**
	1μm,25.5s						
TBI				*e*LR	LR	07 39 34.5	
	2μm,26.8s						
ARMA	**Armidale**	**26.64**	**262**	P	**P**	**07 33 14.5**	**+0.3**
ARMA				IAmb	IAmb	07 33 17.3	
	comp=Z,16nm,0.7s						
ARMA	**Armidale**	**26.64**	**262**	P	**P**	**07 33 15.7**	**+1.5**
	comp=Z,31nm,1.0s						
MGCD	**Mangrove Creek**	**26.81**	**256**	P	**P**	**07 33 17.8**	**+2.1**
	comp=Z,93nm,0.7s						
CNB	**Canberra Magne**	**28.21**	**251**	P	**P**	**07 33 29.6**	**+1.3**
	comp=Z,31nm,1.1s						
EIDS	**Eidsvold**	**28.25**	**273**		**P**	**07 33 28.4**	**-0.1**
EIDS				IAmb	IAmb	07 33 29.7	
	comp=Z,19nm,0.8s						
EIDS	**Eidsvold**	**28.25**	**273**	P	**P**	**07 33 28.8**	**+0.3**
	comp=Z,30nm,0.9s						
PPT2	**Papeete2**	**28.41**	**69**	*e*S	**S**	**07 38 13.3**	**-1.9**
	comp=Z,77nm,25.2s						
PPT2				*e*LQ	LQ	07 39 28.5	
	comp=Z,166nm,20.8s						
PPT2				*e*LR	LR	07 40 39.2	
	comp=Z,502nm,26.2s						
PPT2				*e*LR	LR	07 40 46.4	
	comp=Z,394nm,28.0s						
PPT	**Papeete**	**28.42**	**69**	LR	LR	07 41 57.5	
	comp=Z,127nm,21.2s,baz=248,slow=30						
CAN	**Canberra**	**28.51**	**251**		**P**	**07 33 31.4**	**+0.5**
CAN				IAmb	IAmb	07 33 33.0	
	comp=Z,16nm,0.7s						
CAN	**Canberra**	**28.51**	**251**	P	**P**	**07 33 32.2**	**+1.3**
	comp=Z,23nm,0.9s						
YNG	**Young**	**29.02**	**253**	P	**P**	**07 33 36.5**	**+1.1**
	comp=Z,28nm,1.5s						
HNR	**Honiara**	**29.77**	**310**	P	**P**	**07 33 40.4**	**-1.7**
TOO	**Toolangi**	**31.38**	**247**		**P**	**07 33 55.5**	**-0.7**
TOO				IAmb	IAmb	07 33 58.5	
	comp=Z,15nm,1.2s						
TOO	**Toolangi**	**31.38**	**247**	P	**P**	**07 33 56.8**	**+0.7**
	comp=Z,12nm,1.2s						
CMSA	**Cobar Meteorol**	**31.54**	**259**	P	**P**	**07 33 58.3**	**+0.7**
	comp=Z,46nm,1.2s						
QLP	**Quilpie**	**33.81**	**267**	P	**P**	**07 34 15.9**	**-1.6**
	comp=Z,43nm,1.3s						
ARPS	**Mount Arapiles**	**34.29**	**248**	P	**P**	**07 34 17.6**	**-4.0**
CTAO	**Charters Tower**	**34.32**	**279**		**P**	**07 34 22.7**	**+0.6**
CTAO	**Charters Tower**	**34.32**	**279**	P	**P**	**07 34 22.9**	**+0.2**
CTAO				pP	**sP**	**07 34 32.1**	**-1.5**
STKA	**Stephens Creek**	**34.94**	**257**

CASY	Casey	55.26	208	P	P	07 37 08.6	+0.6
CASY	Casey	55.26	208	P	P	07 37 07.9	-0.1
CASY				pP	sP	07 37 19.0	-1.0
MBWA	Marble Bar	56.71	264	P	P	07 37 16.7	-2.4
MBWA				IAmb	IAmb	07 39 05.0	
	comp=Z,23nm,1.5s						
GUMO	Guam	56.93	315	LR	LR	07 59 31.2	
	comp=Z,59nm,19.3s,baz=138,slow=34						
BATI	Baumata	58.17	277	LR	LR	08 02 52.9	
	comp=Z,408nm,18.2s,baz=147,slow=37						
QSPA	South Pole Qui	59.58	180	P	P	07 37 42.7	+4.0
	comp=Z,7.0nm,0.9s,baz=38,slow=1.7,SNR=20						
QSPA				LR	LR	08 02 26.9	
	comp=Z,53nm,18.3s,baz=44,slow=35						
	comp=Z,7.0nm,0.9s						
QSPA	South Pole Qui	59.58	180	P	P	07 37 42.6	+3.9
QSPA				pP	pwP	07 37 53.6	-0.4
LBMI	Labuha	60.04	289	P	P	07 37 41.0	-1.4
KAPI	Kappang	64.13	280	LR	LR	08 06 41.4	
	comp=Z,74nm,18.1s,baz=118,slow=37						
MAW	Mawson	72.36	200	P	P	07 39 00.7	+0.2
	comp=Z,5.6nm,0.7s,baz=115,slow=6.5,SNR=14						
	comp=Z,5.6nm,0.7s						
TGY	Tagaytay City	74.03	297	LR	LR	08 08 56.6	
	comp=Z,113nm,21.7s,baz=232,slow=34						
SYO	Syowa Base	77.10	193⇑	eP	P	07 39 29.1	+1.1
SYO	Syowa Base	77.10	193⇓	ePcP	PcP	07 39 40.6	+1.9
TROLL	Troll, Antarti	77.74	180	⇑P	P	07 39 33.8	+2.0
	comp=Z,594nm,0.9s						
MDSI	Maura Dua	77.75	272	P	P	07 39 30.3	-2.3
SNAA	Sanae	78.01	178	⇑P	P	07 39 34.8	+1.7
	comp=Z,64nm,0.5s						
SNAA	Sanae	78.01	178	P	P	07 39 35.5	+2.4
SNAA				IAmb	IAmb	07 39 44.0	
	comp=Z,33nm,1.9s						
SNAA	Sanae	78.01	178	P	P	07 39 34.2	+1.1
	comp=Z,2.1nm,0.8s,baz=334,slow=21,SNR=6.4						
	comp=Z,2.1nm,0.8s						
VNA3	Neumayer Olymp	78.14	176	⇑P	P	07 39 35.4	+1.6
	comp=Z,25nm,0.7s						
MJAR	Matsushiro Ar	78.64	325	P	P	07 39 36.7	-0.2
MJAR	Matsushiro Arr	78.64	325	P	P	07 39 35.6	-1.3
	comp=Z,1.5nm,0.5s,baz=165,slow=5.4,SNR=6.2						
MJAR				LR	LR	08 11 48.4	
	comp=Z,26nm,18.2s,baz=156,slow=34						
	comp=Z,1.5nm,0.5s						
VNA1	Neumayer--Stat	78.81	176	⇑P	P	07 39 39.5	+2.1
	comp=Z,15nm,0.8s						
H03S2	Juan Fernandez	79.97	123	T	T	09 09 00.0	
	baz=238,slow=74,SNR=32						
H03S1	Juan Fernandez	79.98	123	T	T	09 09 01.6	
	baz=238,slow=74,SNR=37						
H03S3	Juan Fernandez	79.99	123	T	T	09 09 03.2	
	baz=238,slow=74,SNR=31						
JNU	Nakatsue	79.99	318	LR	LR	08 13 15.7	
	comp=Z,35nm,18.9s,baz=112,slow=34						
H03N3	Juan Fernandez	80.16	123	T	T	09 09 16.3	
	baz=242,slow=72,SNR=13						
H03N2	Juan Fernandez	80.17	123	T	T	09 08 44.5	
	baz=242,slow=72,SNR=37						
H03N1	Juan Fernandez	80.18	123	T	T	09 09 15.0	
	baz=242,slow=72,SNR=20						
PLCA	Paso Flores	82.05	133	P	P	07 39 59.0	+3.5
	comp=Z,1.7nm,0.9s,baz=241,slow=7.9,SNR=3.8						
	comp=Z,1.7nm,0.9s						
ASAJ	Asahikawa	82.79	332	LR	LR	08 14 17.9	
	comp=Z,68nm,18.4s,baz=174,slow=34						
SHEM	Shemya Is, Ala	83.24	355	LR	LR	08 10 46.6	
	comp=Z,54nm,20.3s,baz=102,slow=31						
LPIG	La Paz	84.17	58	LR	LR	08 13 04.4	
	comp=Z,72nm,18.3s,baz=209,slow=32						
KSRS	Korea Array	84.77	319	LR	LR	08 15 45.3	
	comp=Z,15μm,18.9s,baz=140,slow=34						
PFO	Pinyon Flats O	85.92	47	LR	LR	08 11 50.1	
	comp=Z,49nm,19.7s,baz=252,slow=31						
PETK	Petropavlovsk-	86.30	345	P	P	07 40 15.4	+0.2
	comp=Z,9.0nm,0.7s,baz=118,slow=7.6,SNR=22						
PETK				LR	LR	08 12 08.9	
	comp=Z,40nm,21.5s,baz=135,slow=31						
	comp=Z,9.0nm,0.7s						
NJ2	Nanjing	86.71	310	eP	P	07 40 19.8	+0.8
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,140nm,6.5s						
USRK	Ussuriysk Ar.	87.55	326	P	P	07 40 23.5	+0.8
	comp=Z,1.1nm,0.6s,baz=60,slow=11,SNR=4.0						
USRK				LR	LR	08 20 03.9	
	comp=Z,21nm,18.2s,baz=143,slow=36						
	comp=Z,1.1nm,0.6s						
NVAR	Mina Array Bea	87.99	42	P	P	07 40 28.5	+3.2
	comp=Z,1.2nm,0.8s,baz=226,slow=8.3,SNR=10						
	comp=Z,1.2nm,0.8s						
U15A	North Rim	90.35	47	P	P	07 40 38.3	+1.8
WUAZ	Wupatki	90.37	48	P	P	07 40 36.9	+0.4
WUAZ				IAmb	IAmb	07 40 50.1	
	comp=Z,7.9nm,1.4s						
BBB	Bella Bella	92.97	28	LR	LR	08 13 55.6	
	comp=Z,41nm,21.8s,baz=207,slow=30						
ANMO	Albuquerque	93.27	51	LR	LR	08 23 13.8	
	comp=Z,26nm,18.1s,baz=310,slow=36						
MA2	Magadan	93.55	344	LR	LR	08 17 06.6	
	comp=Z,63nm,21.9s,baz=166,slow=32						
CMAR	Chiang Mai Arr	93.92	289	P	P	07 40 54.2	+1.1
	comp=Z,1.1nm,0.3s,baz=127,slow=5.0,SNR=1.9						
	comp=Z,1.1nm,0.3s						
PZH	PanZhiHua	95.81	297	P	P	07 41 03.5	+1.8
PDAR	Pinedale Array	95.88	43	PKKPbc	PKKPbc	07 57 51.9	+0.3
	comp=Z,0.6nm,0.6s,baz=96,slow=4.0,SNR=8.0						
CD2	Chengdu	96.58	302	eP	P	07 41 06.0	+1.0
HHC	Hu-ho-hao-te	96.69	314	eP	P	07 41 07.3	+2.0
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,61nm,4.7s						
ILAR	Eielson Array	97.94	13	P	Pdif	07 41 11.8	+1.5
	comp=Z,0.2nm,0.7s,baz=210,slow=7.1,SNR=2.0						
ILAR				LR	LR	08 19 25.1	
	comp=Z,19nm,20.1s,baz=242,slow=32						
	comp=Z,0.2nm,0.7s						
WMQ	Urumqi	113.70	308	PKP	PKiKP	07 46 14.5	+1.2
WMQ				sPKP		07 46 33.8	
BOSA	Boshof	117.34	202	PKP	PKiKP	07 46 21.6	+0.5
	comp=Z,1.2nm,0.8s,baz=144,slow=2.5,SNR=3.9						
MKAR	Makanchi Array	118.24	310	PKP	PKPdf	07 46 21.6	-0.3
	comp=Z,1.7nm,0.6s,baz=199,slow=1.0,SNR=17						
MAKZ	Makanchi	118.45	310		PKPdf	07 46 21.9	-0.5
ZALV	Zalesovo Beam	118.47	318		PKPdf	07 46 22.0	0.0
ZALV	Zalesovo Beam	118.47	318	PKP	PKPdf	07 46 21.2	-0.8
	comp=Z,1.4nm,0.7s,baz=146,slow=1.4,SNR=6.2						
KSH	Kashi	120.74	300	PKP	PKiKP	07 46 28.0	+0.8
KURK	Kurchatov	121.50	314		PKiKP	07 46 28.1	-0.1
BOOM	Boomskoye usch	121.53	304		PKiKP	07 46 29.5	+0.8
KURBB	Kurchatov Arra	121.54	314	PKP	PKPdf	07 46 27.7	-0.4
	comp=Z,5.4nm,0.7s,baz=105,slow=1.9,SNR=61						
KBL	Kabul	124.73	293		PKiKP	07 46 35.7	+0.4
KK31	Karatay Array	125.57	303		PKiKP	07 46 36.6	+0.1
KKAR	Karatay Array	125.57	303		PKiKP	07 46 36.6	+0.2
BVAR	Borovoye Array	126.85	316	PKP	PKiKP	07 46 38.6	-0.1
	comp=Z,9.4nm,0.7s,baz=83,slow=1.5,SNR=42						
BRVK	Borovoye	126.92	316		PKPdf	07 46 38.5	+0.2
ARTI	Arti	133.62	321		PKiKP	07 46 52.1	-0.1
ARCES	ARCESS Array B	138.82	348	PKhKP	PKPpre	07 46 51.4	
	comp=Z,2.3nm,0.8s,baz=38,slow=6.1,SNR=4.7						
ARCES				PKP	PKPdf	07 47 00.6	+0.3
	comp=Z,2.9nm,0.8s,baz=46,slow=3.5,SNR=5.6						
FIA1	FINESS Array S	145.44	340		PKPab	07 47 12.7	+0.3
FINES	FINESS Array B	145.44	340		PKPab	07 47 12.8	+0.3
FINES	FINESS Array B	145.44	340	PKPbc	PKPbc	07 47 12.3	0.0
	comp=Z,61nm,0.8s,baz=58,slow=3.7,SNR=276						
NSS	Namsos	145.47	353	eP	PKPab	07 47 12.6	+0.1
KBZ	Khabaz	145.60	304	PKPbc	PKPbc	07 47 13.3	0.0
	comp=Z,3.9nm,0.7s,baz=210,slow=0.9,SNR=7.2						
GEVA	Gevas	145.94	294		PKPab	07 47 15.5	+0.2
MOL	Molde	147.79	356	eP	PKPbc	07 47 19.9	+0.9
KOPT	Kop Dagi	147.84	298		PKiKP	07 47 22.0	-0.3
NC405	NORSAR Array S	148.82	351		PKiKP	07 47 23.0	-0.2
FOO	Floro	148.88	358	eP	PKiKP	07 47 22.8	-0.5
NB201	NORSAR Array S	148.93	352		PKiKP	07 47 22.9	-0.6
NB2	NORSAR Subarra	148.95	352	PKP	PKPbc	07 47 22.3	+0.1
	comp=Z,14nm,1.0s,baz=14,slow=2.7						
NOA	NORSAR Array B	148.95	352	PKPbc	PKPbc	07 47 22.0	-0.2
	comp=Z,6.2nm,0.8s,baz=15,slow=4.3,SNR=32						
NC602	NORSAR Array S	149.21	351	eP	PKPbc	07 47 23.1	+0.3
SUE	Sulen	149.43	358	eP	PKiKP	07 47 24.3	-0.1
HFS	Hagfors	149.47	349	PKPbc	PKPbc	07 47 23.7	+0.2
	comp=Z,9.1nm,0.8s,baz=14,slow=0.6,SNR=20						
SKAR	Skarslia	149.60	354	eP	PKiKP	07 47 24.9	0.0
ASK	Askoy	149.99	357	eP	PKiKP	07 47 25.4	-0.2
BER	Bergen	150.09	357	eP	PKiKP	07 47 26.4	+0.6
ODD1	Odda	150.49	356	eP	PKiKP	07 47 26.4	-0.3
KONO	Kongsberg	150.50	353	eP	PKiKP	07 47 26.8	+0.2
AKASG	Malin Array Be	151.71	323	PKPbc	PKiKP	07 47 29.3	-0.2
	comp=Z,26nm,0.7s,baz=50,slow=2.8,SNR=87						
KIEV	Kiev	151.72	323		PKPbc	07 47 29.2	+0.1
MMAI	Mount Meron Ar	152.05	284	PKPbc	PKiKP	07 47 31.9	+1.0
	comp=Z,9.2nm,0.6s,baz=122,slow=3.0,SNR=8.8						
BR131	Keskin Array S	153.10	298		PKiKP	07 47 32.9	0.0
BRTR	Keskin Array B	153.10	298		PKPbc	07 47 32.8	0.0
BRTR	Keskin Array B	153.10	298	PKPbc	PKPbc	07 47 32.6	-0.2
	comp=Z,2.4nm,0.6s,baz=127,slow=3.3,SNR=16						
EKA	Eskdalemuir Ar	154.87	8	PKPab	PKPab	07 47 52.0	+0.9
	comp=Z,2.9nm,0.8s,baz=8.9,slow=5.9,SNR=3.9						
KOLS	Kolonicke sedl	156.31	326	ePKP	PKPab	07 47 45.2	-12
CLL	Collm	157.84	342	ePKPdf	PKPdf	07 47 31.0	-0.2
CLL				i PKPab	PKPab	07 48 03.9	-0.1
	comp=Z,6.0nm,0.8s						
CLL				i pPKPab	pPKPab	07 48 09.7	-3.5
BRG	Berggiesshubel	157.98	341	ePKP	PKPab	07 48 05.2	+0.6
BRG				Amp		07 48 05.9	
	comp=Z,4.1nm,0.7s						
VYHS	Vyhne	158.19	330	ePKP	PKPab	07 47 50.9	-15
VYHS				e		07 48 06.2	
MODS	Modra-Piesok	158.94	332	ePKP	PKPab	07 48 09.9	+1.0
GERES	GERESS Array B	159.85	338	PKPab	PKPab	07 48 11.4	-1.5
	comp=Z,0.9nm,0.8s,baz=53,slow=5.2,SNR=6.0						
TORD	Torodi Ar. Bea	162.68	177		PKPab	07 48 27.5	+1.6
TORD	Torodi Ar. Bea	162.68	177	PKPab	PKPab	07 48 27.0	+1.1
	comp=Z,2.4nm,0.8s,baz=166,slow=2.8,SNR=7.4						

WEL 28 07:28:56.2±0.5,39°S±4°×17°6E±°, h36km±6km, M1.9/14, ML2.0/17, MLv1.9/14, Error ellipse: s-maj=4.6km s-min=3.4km az=0.6, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOVZ	Moawhango	0.30	236	P	Pn	07 29 05.4	+0.9
MOVZ				S	Sn	07 29 11.6	0.0
ETVZ	East Tongariro	0.30	291	P	Pn	07 29 06.0	+1.4
ETVZ				S	Sn	07 29 13.0	+1.4
RITZ	Rihia Road	0.31	328	P	Pn	07 29 06.1	+1.7
TMVZ	Te Maari	0.31	294	P	Pn	07 29 06.0	+1.5
TMVZ				S	Sn	07 29 13.3	+1.8
OTVZ	Oturere	0.32	284	P	Pn	07 29 06.2	+1.6
OTVZ				S	Sn	07 29 13.4	+1.8
TUVZ	Tukino	0.32	265	P	Pn	07 29 06.1	+1.5
TUVZ				S	Sn	07 29 13.5	+2.0
KWHZ	Kaweka Forest	0.33	124	P	Pn	07 29 05.7	+1.2
KWHZ				S	Sn	07 29 13.5	+2.0
BKZ	Black Stump Fm	0.34	77	P	Pn	07 29 05.7	+1.1
SNVZ	South Ngauruho	0.34	279	P	Pn	07 29 05.1	+0.3
SNVZ				S	Sn	07 29 13.4	+1.8
NGZ	Ngauruhoe	0.37	280	P	Pn	07 29 06.6	+1.6
NGZ				S	Sn	07 29 14.2	+2.4
NNVZ	North Ngauruho	0.37	287	P	Pn	07 29 06.8	+1.8
NNVZ				S	Sn	07 29 14.5	+2.7
WHVZ	Whangaehu Hut	0.38	264	P	Pn	07 29 06.6	+1.4
WHVZ				S	Sn	07 29 13.8	+1.7
WNVZ	Wahianoa	0.38	257	P	Pn	07 29 06.4	+1.3
FWVZ	Far West T-bar	0.40	268	P	Pn	07 29 06.8	+1.3
FWVZ				S	Sn	07 29 14.3	+1.9
KRHZ	Kereru	0.46	150	P	Pn	07 29 07.3	+1.1
KRHZ				S	Sn	07 29 16.3	+2.9
MTVZ	Mangateitei	0.49	253	P	Pn	07 29 07.5	+0.9
MRHZ	Matea Rd	0.49	34	P	Pn	07 29 07.1	+0.5
MRHZ				S	Sn	07 29 15.6	+1.6
MCHZ	McNeill Hill	0.53	113	P	Pn	07 29 09.0	+1.7
PKVZ	Pokaka	0.56	265	P	Pn	07 29 08.6	+0.7
NMHZ	Naumai	0.59	76	P	Pn	07 29 09.5	+1.3
NMHZ				S	Sn	07 29 20.2	+3.6
PNHZ	Pukenui	0.68	172	P	Pn	07 29 09.6	+0.2
PNHZ				S	Sn	07 29 20.6	+1.8
MTHZ	Maungataniwha	0.71	57	P	Pn	07 29 10.1	+0.3
MTHZ				S	Sn	07 29 20.9	+1.3
TSZ	Takapari Road	0.82	186	P	Pn	07 29 11.9	+0.6
RAHZ	Arahi	0.85	68	P	Pn	07 29 12.4	+0.6
RAHZ				S	Sn	07 29 26.9	+3.9
MUGZ	Murupara	0.94	36	P	Pn	07 29 12.4	-0.4
RTZ	Ruatahuna	0.95	49	P	Pn	07 29 12.9	-0.2
WAZ	Wanganui	0.98	238	P	Pn	07 29 14.2	+0.7
URZ	Urewera	1.27	40	P	Pn	07 29 17.0	-0.5
MWZ	Matawai	1.46	52	P	Pn	07 29 20.0	+0.1
WHRZ	Whale Island	1.56	27	P	Pn	07 29 19.5	-1.8
OGWZ	Otaki Gorge	1.72	203	P	Pn	07 29 22.6	-1.0

*UCR **28** 07:30:09.6±1.1,8°.42N×82°.89W, h29km±1km, MW4.0, Fault plane solution: NP1:φ±270.58000°, δ50.73000°, λ77.04000°.*
*UPA **28** 07:30:09.2±1.6,8°.47N×82°.85W, h40km±5km, MD4.1, ML4.1*
*CATAC **28** 07:30:09.8±0.5,8°.7N±3°×8°.3W±°, h14km±1km, M3.8/12, MLv3.8/12, Error ellipse: s-maj=6.8km s-min=4.4km az=4.4, confirmed*

ISC 28 07:30:09.2±0.9, 8°.41N±0°.03×82°.88W±0°.02, h33km±4km, n93, σ1s07/112, 6C-26D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LESP3	La Esperanza,	0.09	91⇑	i P	Pb	07 30 14.6	-0.3
LESP3				AMP		07 30 14.8	
	comp=Z,58μm,0.3s						
LPPC	Paso Canoas	0.13	18⇑	eP	Pn	07 30 14.7	+0.2
CDITO	Canoas	0.17	3	P	Pn	07 30 14.9	-0.2
CDITO	Canoas	0.17	3	S	Sb	07 30 20.1	+0.4
PTPM	Petroterminale	0.20	179	i P	Pb	07 30 15.9	+0.1
PTPM				AMP		07 30 16.3	
	comp=Z,34μm,0.2s						
PTPA	Petro Terminal	0.21	177⇓	eP	Pn	07 30 15.9	0.0
PTPA				eS	Sb	07 30 22.0	+1.7
NELY	Ciudad Neily	0.25	345⇑	eP	Pb	07 30 15.8	-0.6
NELY				eS	Sb	07 30 21.3	+0.1
FITO	Golfito	0.35	309⇑	eP	Pb	07 30 16.0	-1.5
FITO				eS	Sb	07 30 21.7	-1.6
EDAD	Golfito	0.37	311⇑	eP	Pb	07 30 16.6	-1.4
EDAD				eS	Sb	07 30 22.4	-1.5
PRISO	Paraso	0.38	49⇓	eP	Pb	07 30 18.1	0.0
MLIR3	Monte Lirio, C	0.39	8	i P	Pb	07 30 18.4	+0.1
RSRNO	Rio Sereno	0.41	3	eP	Pb	07 30 18.6	+0.1
VITO	San Vito	0.42	348	eP	Pb	07 30 18.6	-0.1
CLLRA	Cordillera,	0.43	38⇓	eP	Pb	07 30 18.8	-0.1
DVD	David	0.43	86	eP	Pb	07 30 18.6	0.0
DVD				AMP		07 30 20.1	
	comp=Z,15μm,0.1s						
DVD				eS	Sn	07 30 26.0	+0.2
BRU2	Volcan	0.43	26⇓	eP	Pb	07 30 18.6	-0.2
BRU2				eS	Sn	07 30 26.3	+0.3
SCLRA	Santa Clara, W	0.43	13⇓	eP	Pb	07 30 18.9	0.0
PTJ1	Puerto Jimnez	0.44	287⇓	eP	Pb	07 30 18.0	-0.8
PTJ1				eS	Sn	07 30 26.1	+0.1
PTJ1	Puerto Jimnez	0.44	287	P	Pb	07 30 18.3	-0.5
TBS2		0.44	30	eP	Pn	07 30 19.8	+0.3
PEDE3	Pedregal, Chir	0.46	93	eP	Pb	07 30 19.0	-0.1
PEDE3				AMP		07 30 20.3	
	comp=Z,3μm,0.1s						
PEDE3				eS	Sb	07 30 26.1	+0.2
LOCO3	Loma Colorada,	0.46	90	eP	Pb	07 30 18.8	-0.4
LOCO3				eS	Sn	07 30 26.5	-0.1
LOMA3	Las Lomas, Chi	0.48	87	eP	Pb	07 30 19.7	+0.1
LOMA3				eS	Sn	07 30 27.7	+0.4
BC3P	Paso Ancho	0.49	33⇓	i P	Pb	07 30 19.5	-0.2
BC3P				eS	Sb	07 30 26.0	-1.0
ALCO	Alturas Coton,	0.54	5⇓	eP	Pb	07 30 19.9	-0.7
BQTLY	Boquete Panama	0.54	50⇓	eP	Pb	07 30 20.2	-0.4
BQSF3	Alto Boquete,	0.55	53⇓	i P	Pb	07 30 20.4	-0.4
BQSF3				eS	Sb	07 30 28.1	-0.6
LNBQ3	Los Naranjos,	0.58	49	eP	Pb	07 30 20.5	-0.7
LNBQ3				eS	Sb	07 30 28.2	-1.2
PSOM3	Paja de Sombre	0.62	63	i P	Pn	07 30 21.1	-0.6
PSOM3				AMP		07 30 23.7	
	comp=Z,8μm,0.1s						
PSOM3				eS	Sb	07 30 27.5	-2.8
EDP2	Potrero Grande	0.67	334⇓	eP	Pn	07 30 21.9	-0.6
EDP2				eS	Sn	07 30 32.2	+0.4
FIMO	Fila Mora	0.74	321⇓	eP	Pn	07 30 22.9	-0.7
PBNVO	Pueblo Nuevo,	0.83	55⇓	eP	Pn	07 30 24.3	-0.4
RBALA	Bur	0.86	57⇓	eP	Pn	07 30 24.9	-0.1
BURE	Buenos Aires	0.89	329⇓	eP	Pn	07 30 24.8	-0.6
DRK0	Durika	0.92	337⇓	eP	Pn	07 30 25.2	-0.9
DRK0	Durika	0.92	337	eP	Pn	07 30 25.2	-0.9
DRK0				eS	Sn	07 30 36.9	-1.4
DRK0	Durika	0.92	337	P	Pn	07 30 25.5	-0.6
DRK0	Durika	0.92	337	S	Sn	07 30 38.5	+0.1
EDPE	Pejibaye, P	1.01	318⇓	eP	Pn	07 30 26.7	-0.5
OCHAL	Ojochal	1.02	312	P	Pn	07 30 27.0	-0.3
OCHAL	Ojochal	1.02	312	S	Sn	07 30 40.8	+0.3
RMDIO	Remedios, Chir	1.05	100	eP	Pn	07 30 28.1	+0.4
SAJE	San Jernim	1.12	326⇓	eP	Pn	07 30 28.0	-0.8
PDCAN	Manzana , Fuen	1.18	96	eP	Pn	07 30 29.6	+0.1
RGM0	Gandoca	1.21	13	eP	Pn	07 30 31.9	+0.3
RGM0	Gandoca	1.21	13	P	Pb	07 30 32.0	+0.4
RGM0	Gandoca	1.21	13	S	Sb	07 30 48.7	+1.9
CEUA	Cerro Uatsi, L	1.21	357	eP	Pb	07 30 31.2	-0.4
CVEJO	Cerro Viej	1.30	97	eP	Pn	07 30 31.3	+0.2
LAES	El Progreso Va	1.36	353⇓	eP	Pn	07 30 32.9	+1.0
VERH	Veragua Rainfo	1.54	349⇓	eP	Pn	07 30 35.0	+0.6
LLNJ	Naranjito	1.60	311	eP	Pn	07 30 35.8	+0.5
PIEC	Cerro El Cedra	1.61	319	eP	Pn	07 30 35.9	+0.3
QUEP	Quepos	1.62	309	P	Pn	07 30 36.7	+1.1
QUEP	Quepos	1.62	309	S	Sb	07 30 57.4	-1.4
RAZU	San Marcos de	1.68	318	eP	Pn	07 30 36.5	0.0
VINA	Juan Vinas	1.71	330	eP	Pn	07 30 37.8	+0.9
VERB	Verbena	1.73	332⇓	eP	Pn	07 30 37.9	+0.8
RVSTA	Santa Teresita	1.73	334⇓	eP	Pn	07 30 38.2	+1.0
GMAL	Guarumal, Vera	1.75	111	eP	Pn	07 30 38.1	+0.8
GMAL	Guarumal, Vera	1.75	111	eP	Pn	07 30 37.6	+0.2
GMAL				eS	Sn	07 30 57.2	-1.3
PCAYA	Pacayas	1.76	329	eP	Pn	07 30 38.4	+0.7
VTCV	VTCV, Calle Va	1.77	332⇓	eP	Pn	07 30 38.7	+0.8
PICV	PH. Pirrs	1.78	313	eP	Pn	07 30 38.2	+0.5
RESJ	San Isidro (Tu	1.78	335⇓	eP	Pn	07 30 38.9	+1.1
IRES	Siquirres	1.79	340⇓	eP	Pn	07 30 39.0	+1.2
ABRB	Las Abras (San	1.79	333	eP	Pn	07 30 39.1	+1.0
PAR1A	Puntarenas Pro	1.80	311	eP	Pn	07 30 39.6	+1.6
CVTV	Tajo	1.80	332⇓	eP	Pn	07 30 39.2	+0.9
CVTQ	Turrialba Volc	1.81	331	eP	Pn	07 30 39.5	+1.0
RVLA	Villa Bonita	1.83	338	eP	Pn	07 30 39.6	+1.2
AMPA	Desamparados	1.88	322	eP	Pn	07 30 39.8	+0.5
EGUB	Earth Gu¡pi	1.93	339⇓	eP	Pn	07 30 40.9	+1.2
PILE	Guapiles	2.01	334	eP	Pn	07 30 42.7	+1.8
BELE	Belen	2.02	320	eP	Pn	07 30 42.3	+1.1
CARI	Cariari	2.12	337	eP	Pn	07 30 43.9	+1.5
TCS1	Tacares	2.15	319	P	Pb	07 30 45.6	-1.9
TCS1	Tacares	2.15	319	S	Sb	07 31 13.8	+0.1
ATEO	Atenas	2.15	317	eP	Pn	07 30 43.8	+0.9
CACAO	El Cacao, Vera	2.26	118	eP	Pn	07 30 44.0	-0.3
CACAO				eS	Sn	07 31 10.0	-1.1
SOCE	Pocosol	2.61	319	P	Pn	07 30 52.0	+2.9
SOCE	Pocosol	2.61	319	S	Sb	07 31 25.1	-1.8
CASO	Castillo	2.72	318	eP	Pn	07 30 51.8	+1.1
COVE	Coope Vega, Sa	2.74	327	P	Pn	07 30 53.4	+2.4
JTS	Las Juntas de	2.77	313	eP	Pn	07 30 52.0	+0.6
JTS	Las Juntas de	2.77	313	eP	Pn	07 30 51.4	0.0
JTS	Las Juntas de	2.77	313	P	Pn	07 30 54.6	+3.2
JTS				S	Sn	07 31 25.9	+2.1
CMARA	Lajas Hojancha	2.98	303	eP	Pn	07 30 54.8	+0.5
CMARA	Lajas Hojancha	2.98	303	P	Pn	07 30 55.4	+1.1
CMARA	Lajas Hojancha	2.98	303	S	Sn	07 31 30.1	+1.2
JUD3	Juan Diaz 3	3.15	304	eP	Pn	07 30 57.9	+1.2
ALIBA	Li

KOTS	**Kotyrbulak**	**4.69**	**32**	Pg	**Pg**	**07 56 14.0**	**+0.4**
	6.4nm,0.7s							
KOTS				Lg	Lg	07 57 13.6		
	12nm,0.6s							
KOTS	**Kotyrbulak**	**4.69**	**32**	*eP*	**Pg**	**07 56 14.0**	**+0.4**
	6.4nm,0.7s							
KOTS				*eS*	**Sg**	**07 57 13.6**	**-0.8**
	12nm,0.6s							
BRLS	**Borolday**	**4.76**	**323**	Pg	**Pg**	**07 56 14.3**	**-0.6**
	2.4nm,0.4s							
BRLS				Lg	Lg	07 57 14.2		
	2.3nm,0.4s							
BRLS	**Borolday**	**4.76**	**323**	*eP*	**Pg**	**07 56 14.3**	**-0.6**
	2.4nm,0.4s							
BRLS				*eS*	**Sg**	**07 57 14.2**	**-2.4**
	2.3nm,0.4s							
KTBS	**Karatobe**	**4.94**	**26**	Pg	**Pg**	**07 56 18.8**	**+0.5**
	4.5nm,0.6s							
KTBS				Lg	Lg	07 57 22.1		
	6.4nm,0.8s							
SATY	**Saty**	**5.16**	**42**	Pg	**Pg**	**07 56 23.3**	**+0.8**
	2.8nm,0.3s							
SATY				Lg	Lg	07 57 29.8		
	5.2nm,0.2s							
ARXS	**Arharly**	**5.79**	**31**	Pg	**Pg**	**07 56 35.6**	**+0.9**
	2.6nm,0.5s							
ARXS				Lg	Lg	07 57 50.7		
	3.8nm,0.6s							

*IDC **28** 08:10:54.9±3.2, 18°.42S×71°.65W, h0km, mb3.9/2, mbtmp3.9/4, ML3.5/2, MS3.6/3, Error ellipse: s-maj=79.6km s-min=25.8km az=128.0*

*GUC **28** 08:11:00.7±0.8, 18°.59S×71°.08W, h28km±8km, ML3.7*

ISC 28 08:11:01.7±1.5, 18°.58S±0°.07×71°.3W±0°.1, h35km, n26, σ1§29/20, 6C-3D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**0.88**	**77**	⇓*iP*	**Pn**	**08 11 14.6**	**-3.0**
AP01				IAML		08 11 41.0	
	comp=E,5µm,0.5s						
PB16	**IPOC Station P**	**1.67**	**82**	⇓*iP*	**Pn**	**08 11 27.2**	**-1.7**
PB16				IAML		08 11 56.5	
	comp=N,822nm,0.4s						
PB11	**IPOC Station P**	**1.91**	**128**	⇑*iP*	**Pn**	**08 11 31.7**	**-0.2**
PB11				*eS*	**Sn**	**08 11 54.6**	**-0.3**
PB11				IAML		08 12 01.9	
	comp=N,1µm,0.4s						
PB18	**Visviri**	**1.94**	**60**	⇓*iP*	**Pn**	**08 11 33.8**	**+1.1**
PB18				IAML		08 12 08.2	
	comp=E,1µm,0.5s						
TA02	**Huaiquique**	**1.99**	**148**	*eP*	**Pn**	**08 11 32.8**	**-0.1**
TA01	**Diego Aracena**	**2.22**	**153**	*iP*	**Pn**	**08 11 35.7**	**-0.3**
GO01	**Chusmiza**	**2.22**	**120**	*eP*	**Pn**	**08 11 36.5**	**-0.1**
GO01				IAML		08 12 09.8	
	comp=N,872nm,0.2s						
PB08	**IPOC Station P**	**2.52**	**129**	*eP*	**Pn**	**08 11 40.4**	**-0.1**
PB08				IAML		08 12 19.8	
	comp=N,345nm,0.3s						
PB01	**IPOC Station P**	**2.96**	**146**	⇑*iP*	**Pn**	**08 11 46.0**	**-0.3**
PB01				IAML		08 12 21.7	
	comp=E,431nm,0.2s						
PB02	**IPOC Station P**	**3.01**	**155**	⇑*iP*	**Pn**	**08 11 46.9**	**-0.2**
PB09	**IPOC Station P**	**3.72**	**150**	⇑*iP*	**Pn**	**08 11 57.2**	**+0.4**
PB03	**IPOC Station P**	**3.73**	**158**	⇑*iP*	**Pn**	**08 11 56.4**	**-0.6**
LPAZ	**La Paz**	**3.74**	**53**	Pn	**Pn**	**08 11 58.7**	**+1.1**
	comp=E,1.1nm,0.3s,baz=244,slow=15,SNR=40						
LPAZ				Sn	Sn	08 12 48.3	+7.5
	comp=E,0.5nm,0.3s,baz=304,slow=25,SNR=1.1						
	comp=E,6.5nm,0.7s						
PB05	**IPOC Station P**	**4.37**	**167**	⇑*iP*	**Pn**	**08 12 04.2**	**-1.6**
SIV	**San Ignacio**	**10.05**	**77**	Pn	**Pn**	**08 13 23.6**	**-0.1**
	comp=E,0.1nm,0.3s,baz=258,slow=10,SNR=14						
SIV				Sn	**Sn**	**08 15 18.1**	**+2.7**
	baz=253,slow=10						
SIV				LR	LR	08 17 54.8	
	comp=E,194nm,20.3s,baz=284,slow=40						
	comp=E,2.0nm,0.3s						
PLCA	**Paso Flores**	**22.09**	**179**	P	**P**	**08 15 54.6**	**+0.7**
	comp=E,3.4nm,0.8s,baz=350,slow=9.4,SNR=8.1						
	comp=E,3.4nm,0.8s						
MDP	**Montagnes des**	**29.83**	**40**	LR	LR	08 29 35.7	
	comp=E,123nm,18.0s,baz=172,slow=37						
SNAA	**Sanae**	**65.74**	**161**	P	**P**	**08 21 42.5**	**-0.2**
	comp=E,1.2nm,0.7s,baz=263,slow=6.2,SNR=5.1						
	comp=E,1.2nm,0.7s						
KEST	**Kesra**	**93.32**	**54**	LR	LR	09 05 08.6	
	comp=E,54nm,19.7s,baz=240,slow=35						
H11S2	**WAKE ISLAND Hyl**	**25.28**	**280**	T	T	10 47 51.7	
	baz=100,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hyl**	**25.28**	**280**	T	T	10 47 45.8	
	baz=100,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hyl**	**25.29**	**281**	T	T	10 47 49.0	
	baz=99,slow=74,SNR=4.0						
H11S3	**WAKE ISLAND Hyl**	**25.29**	**280**	T	T	10 47 47.0	
	baz=100,slow=75,SNR=19						
H11N2	**WAKE ISLAND Hyl**	**25.30**	**281**	T	T	10 47 53.7	
	baz=99,slow=74,SNR=7.4						
H11N1	**WAKE ISLAND Hyl**	**25.30**	**281**	T	T	10 47 49.4	
	baz=99,slow=74,SNR=4.2						
MKAR	**Makanchi Array**	**144.44**	**32**	PKP	**PKPdf**	**08 30 32.9**	**-1.5**
	comp=E,0.5nm,0.5s,baz=322,slow=4.8,SNR=5.0						

DJA 28 08:17:09.8±0.2, 0°.5±2°×10°.0E±°, h10km, M3.6/13, mb3.8/1, MLv3.6/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**0.50**	**149**	P	Pg	08 17 20.0	+0.4
PPI				S	Sg	08 17 26.9	+0.6
PDSI	**Padang**	**0.94**	**160**	P	Pg	08 17 27.7	-0.3
PDSI				S	Sb	08 17 40.9	+0.1
BKNI	**Bangkinang**	**0.96**	**69**	P	Pb	08 17 28.7	+0.1
BKNI				S	Sb	08 17 41.4	0.0
MNSI	**Mandailing Nat**	**0.98**	**325**	P	Pg	08 17 28.7	-0.1
MNSI				S	Sg	08 17 41.6	0.0
SISI	**Saibi**	**1.67**	**219**	P	Pb	08 17 40.5	-0.2
SISI				S	Sb	08 18 01.6	-0.2
PPSI	**Pulau Pagai**	**2.73**	**183**	P	Pn	08 17 54.1	+0.4
GSI	**Gunungsitoli**	**2.88**	**297**	P	Pn	08 17 56.9	+1.1

*NEIC **28** 08:22:59.5±1.5, 35°.689N±0°.010×117°.51W±0°.01, h11km±2km, Error ellipse: s-maj=1.6km s-min=1.3km az=63.0*

PAS 28 08:23:00.1±1.1, 35°.684N±0°.008×117°.53W±0°.01, h9km±4km, ML3.0/19, ML2.8/80(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=73.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.09**	**163**	Pg	Pg	08 23 02.4	0.0
WSHM				Sg	Sg	08 23 04.3	+0.1
CLC	**China Lake**	**0.14**	**336**		Pg	08 23 03.2	-0.1
CLC				Sg	Sg	08 23 05.8	+0.2
CLC				IAML		08 23 06.2	
	comp=N,3µm,0.3s						
CCCA	**Chr Cany lake**	**0.20**	**140**		Sg	08 23 08.4	+1.2
CCCA	**Chr Cany lake**	**0.20**	**140**		Pg	08 23 04.7	+0.4
CCCA				IAML		08 23 08.5	
	comp=E,9µm,0.3s						
CCCA				IAML		08 23 08.8	
	comp=N,13µm,0.5s						
TOW	**Tower One**	**0.23**	**303**		Sg	08 23 09.7	+1.6
LRMC	**Laurel Mtn Rad**	**0.24**	**212**		Sg	08 23 08.7	+0.4
LRMC	**Laurel Mtn Rad**	**0.24**	**212**	Pg	Pg	08 23 04.8	-0.2
LRMC				IAML		08 23 08.7	
	comp=E,2µm,0.4s						
LRMC				IAML		08 23 09.1	
	comp=N,3µm,0.3s						
WNMM	**Nine Mile Camy**	**0.35**	**297**		Pg	08 23 06.8	-0.1
WNMM					Sg	08 23 12.2	+0.7
WVPM	**Volcano Peak E**	**0.36**	**318**		Pg	08 23 06.9	-0.3
WVPM					Sg	08 23 12.2	+0.3
MPMC	**Manual Prospec**	**0.38**	**4**		Pg	08 23 07.2	-0.3
MPMC				IAML		08 23 15.6	
	comp=E,545nm,0.5s						
JRC2	**Joshua Ridge**	**0.38**	**322**		Sg	08 23 12.8	+0.3
WCSM	**Coso Springs S**	**0.39**	**330**		Pg	08 23 07.6	-0.2
WCSM					Sg	08 23 13.1	0.0
WRVM	**Rose V. Centra**	**0.44**	**318**		Pg	08 23 08.3	-0.4
DTP	**Desert Tortois**	**0.49**	**212**		Pg	08 23 09.1	-0.5
DTP					Sg	08 23 16.1	0.0
MFS	**McCloud Flat S**	**0.51**	**328**		Pg	08 23 09.8	-0.3
WBSM	**Bird Springs**	**0.52**	**254**		Sg	08 23 17.0	-0.2
WORM	**Onyx Ranch**	**0.58**	**271**		Pg	08 23 10.9	-0.6
WORM					Sg	08 23 18.6	-0.5
QSM	**Queen of Sheba**	**0.60**	**62**		Pg	08 23 11.4	-0.4
QSM					Sg	08 23 19.4	-0.3
QSM				IAML		08 23 19.9	
	comp=E,617nm,0.4s						
CCAC	**Calif City Air**	**0.67**	**217**		Pg	08 23 12.5	-0.5
CCAC					Sg	08 23 21.7	+0.1
WHFM	**Hanning Flat**	**0.67**	**271**		Pg	08 23 12.5	-0.6
WHFM					Sg	08 23 21.5	-0.3
GSC	**Goldstone, Bar**	**0.70**	**123**		Sg	08 23 12.6	-0.1
GSC	**Goldstone, Bar**	**0.70**	**123**	Pg	Pg	08 23 13.0	-0.6
GSC				IAML		08 23 23.0	
	comp=E,501nm,0.4s						
GSC				IAML		08 23 23.8	
	comp=N,316nm,0.6s						
ISA	**Isabella, Lake**	**0.77**	**269**		Sg	08 23 24.5	-0.6
ISA	**Isabella, Lake**	**0.77**	**269**		Pg	08 23 14.2	-0.8
ISA				IAML		08 23 26.6	
	comp=E,340nm,0.2s						
ISA				IAML		08 23 26.6	
	comp=N,251nm,0.3s						
HYS	**Haystack Butte**	**0.82**	**183**		Pg	08 23 15.0	-0.8
WASM	**Alta Sierra Ca**	**0.84**	**274**		Pg	08 23 15.6	-0.7
WASM					Sg	08 23 27.0	-0.3
GWY	**Greenwater Val**	**0.86**	**54**		Pg	08 23 16.1	-0.5
GWY				IAML		08 23 29.9	
	comp=N,393nm,0.3s						
GWY				IAML		08 23 32.3	
	comp=E,458nm,0.5s						
CWC	**Cottonwood Cre**	**0.88**	**329**		Pg	08 23 16.6	-0.4
CWC				IAML		08 23 29.6	
	comp=N,211nm,0.2s						
CWC				IAML		08 23 31.6	
	comp=E,230nm,0.2s						
EDW2	**Edwards Air Fo**	**0.89**	**206**		Pg	08 23 16.2	-1.0
RRX	**Edison Barstow**	**0.92**	**152**		Pg	08 23 17.2	-0.4
RRX					Sb	08 23 30.0	-0.4
FURC	**Furnace Creek,**	**0.95**	**34**		Pg	08 23 18.2	-0.1
FURC				IAML		08 23 36.9	
	comp=N,337nm,0.4s						
TPO	**Tropico Hills**	**0.99**	**216**		Pg	08 23 18.4	-0.7
TPO				IAML		08 23 38.5	
	comp=N,269nm,0.5s						
SBB	**Saddle Back Bu**	**1.02**	**194**		Pg	08 23 18.7	-1.1
SHOC	**Shoshone, Teco**	**1.04**	**78**		Pg	08 23 19.3	-0.7
TEJ	**El Tejon**	**1.05**	**245**		Pg	08 23 19.0	-1.3
SPG2	**Springville 2**	**1.13**	**297**		Pg	08 23 20.6	-1.2
SPG2					Sg	08 23 35.7	-0.9
ALPC	**Antelope**	**1.18**	**213**		Sn	08 23 38.6	-0.5
THC	**Tehachapi Micr**	**1.21**	**231**		Pb	08 23 22.5	-0.8
LRRC	**Littlerock Res**	**1.23**	**200**		Pn	08 23 22.0	-1.3
LEOC	**Leona Valley**	**1.23**	**212**		Pb	08 23 23.1	-0.5
HOLC	**Holcomb Ridge**	**1.25**	**192**		Pn	08 23 22.4	-1.5
HOLC					Sn	08 23 40.6	-0.2
CJV	**Casa Juvan**	**1.26**	**204**		Pn	08 23 23.6	-0.4
AMDNV	**Amargosa**	**1.27**	**52**		Pn	08 23 22.4	-1.6
AMDNV					Sg	08 23 40.7	-0.1
VES	**Vestal, Richgr**	**1.28**	**277**		Pn	08 23 23.6	-0.6
VES				IAML		08 23 43.4	
	comp=E,195nm,0.5s						
VES				IAML		08 23 47.2	
	comp=N,195nm,0.4s						
DSCC	**Desert Studies**	**1.28**	**115**		Pn	08 23 23.2	-0.9
DSCC					Sb	08 23 39.9	-1.1
JNH	**Juniper Hills**	**1.28**	**196**		Pn	08 23 22.9	-1.4
GRAC	**Grapevine Rang**	**1.32**	**6**		Pn	08 23 24.2	-0.5
GRAC				IAML		08 23 51.1	
	comp=N,130nm,0.7s						
GRAC				IAML		08 23 51.4	
	comp=E,124nm,0.6s						
TUQ	**Turquoise Moun**	**1.33**	**100**		Pn	08 23 23.4	-1.6
SGV	**South Grapevin**	**1.35**	**17**		Pn	08 23 24.2	-1.1
CHFC	**Chilao Flat St**	**1.41**	**197**		Pn	08 23 24.9	-1.2
CHFC					Sg	08 23 45.3	-0.1
SSK	**Sunset Peak**	**1.48**	**185**		Pn	08 23 26.3	-0.7
BBRC	**Big Bear Solar**	**1.50**	**161**		Pn	08 23 27.7	+0.3
MWC	**Mount Wilson**	**1.52**	**197**		Pn	08 23 26.9	-0.7
MWC				IAML		08 23 52.2	
	comp=E,91nm,0.5s						
MWC				IAML		08 23 52.6	
	comp=N,120nm,0.4s						
PSRC	**Puddingstone R**	**1.60**	**188**		Pg	08 23 30.5	-0.4
MTPC	**Mountain Pass**	**1.62**	**96**		Pn	08 23 27.4	-1.6
MTPC				IAML		08 23 51.3	
	comp=N,79nm,0.3s						
MTPC				IAML		08 23 52.2	
	comp=E,82nm,0.4s						
GMN	**Gold Mountain**	**1.63**	**7**		Pn	08 23 28.5	-0.6
TPNV	**Topopah Spring**	**1.63**	**39**		Pn	08 23 28.2	-0.9
TPNV				IAML		08 23 53.9	
	comp=E,110nm,0.5s						
TPNV				IAML		08 23 55.6	
	comp=E,147nm,0.4s						
DSP	**Deep Springs**	**1.72**	**348**		Pn	08 23 29.9	-0.3
DJJ	**Donna J Jenkin**	**1.75**	**206**		Pg	08 23 33.1	-0.5
GMRC	**Granite Mounta**	**1.77**	**120**		Pn	08 23 28.8	-2.3
GMRC					Sb	08 23 55.5	+0.3
CRGC	**Crocker Grade**	**1.85**	**257**		Pb	08 23 33.9	-0.2
BLAC	**Blackrock camp**	**1.86**	**150**		Pn	08 23 31.3	-0.9
TPC	**Twentynine Pal**	**1.99**	**142**		Pn	08 23 31.5	-2.4
HMTC	**Hemet**	**2.02**	**168**		Pn	08 23 33.6	-0.7
MZP	**Montezuma Peak**	**2.02**	**3**		Pn	08 23 34.1	-0.5
ELS	**Elsinore Mount**	**2.03**	**178**		Pn	08 23 33.7	-0.8
POB	**Polly Butte**	**2.05**	**166**		Pn	08 23 34.2	-0.7
SHPR	**Sheep Range**	**2.08**	**66**	Pn	Pn	08 23 34.8	-0.6
BELC	**Belle Mtn. Jos**	**2.10**	**143**		Pn	08 23 34.6	-0.9
BELC				IAML		08 24 07.8	
	comp=E,88nm,0.4s						
BELC				IAML		08 24 09.6	
	comp=N,81nm,0.6s						
V12A	**Nelson**	**2.18**	**88**		Pn	08 23 35.1	-1.5
V12A				IAML		08 24 14.4	
	comp=N,28nm,0.5s						
MLAC	**Mammoth, Mammo**	**2.21**	**332**		Pb	08 23 40.9	+0.6
PFO	**Pinyon Flats O**	**2.25**	**157**	Pn	Pn	08 23 36.3	-1.3
TPH	**Tonopah**	**2.40**	**6**		Pn	08 23 39.4	-0.4
TPH				IAML		08 24 22.5	
	comp=N,70nm,0.9s						
TPH				IAML		08 24 26.1	
	comp=E,49nm,1.0s						
BC3	**Big Chuckawall**	**2.65**	**139**	Pn	Pn	08 23 41.6	-1.4
BC3				IAML		08 24 26.7	
	comp=N,44nm,0.5s						
BC3				IAML		08 24 33.1	
	comp=E,26nm,0.8s						
DPP	**Dos Picos Cty**	**2.72**	**170**	Pn	Pn	08 23 43.2	-0.8
DPP				IAML		08 24 25.4	
	comp=E,22nm,0.4s						
NV11	**Mina Array Sit**	**2.79**	**350**		Pn	08 23 44.8	-0.2
RYN	**Ryan**	**3.04**	**345**	Pn	Pn	08 23 48.6	0.0

*UCR **28** 08:25:10.2±1.1, 10°.97N×86°.48W, h16km±4km, MW3.6*
*CATAC **28** 08:25:11.6±0.6, 11°.N±2°×8°.6W±°, h28km±5km, M3.0/17, MLv3.0/17, Error ellipse: s-maj=6.7km s-min=3.1km az=54.6, confirmed*

ISC 28 08:25:11.1±1.4, 11°.00N±0°.04×86°.46W±0°.06, h22km±12km, n58, σ0§84/79, 13C-11D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	**Granada**	**0.85**	**30**	*eP*	**Pb**	**08 25 27.0**	**-0.3**
NADN	**Granada**	**0.85**	**30**	⇑P	**Pb**	**08 25 27.1**	**-0.2**
NADN				S	**Sn**	**08 25 41.0**	**+1.4**
JAPN	**Al SSO del Vol**	**0.93**	**56**	⇑*iP*	**Pb**	**08 25 28.4**	**-0.2**
JAPN	**Al SSO del Vol**	**0.93**	**56**	⇑P	**Pb**	**08 25 28.5**	**-0.1**
JAPN				S	**Sn**	**08 25 41.8**	**+0.3**
CARN	**Rivas**	**0.94**	**79**	*eP*	**Pb**	**08 25 28.5**	**-0.3**
CARN				*eS*	**Sn**	**08 25 43.6**	**+1.7**
ELI1	**Hacienda Flor**	**0.96**	**112**	*eP*	**Pb**	**08 25 28.6**	**-0.6**
ELI1				*eS*	**Sn**	**08 25 42.6**	**+0.2**
ELI1	**Hacienda Flor**	**0.96**	**112**	⇓P	**Pb**	**08 25 29.0**	**-0.1**
NANN	**Nandasmo**	**0.99**	**20**	⇓P	**Pn**	**08 25 30.3**	**+0.6**
ALIBA	**Liberia Airpor**	**0.99**	**114**	⇓*iP*	**Pb**	**08 25 29.1**	**-0.5**
ALIBA				*eS*	**Sn**	**08 25 43.6**	**+0.5**
LAPC	**Finca la Perla**	**1.04**	**103**	*eP*	**Pn**	**08 25 29.3**	**-1.1**
LAPC				*eS*	**Sb**	**08 25 43.3**	**-0.4**
VRLE	**La Escondida,**	**1.10**	**101**	*eP*	**Pn**	**08 25 30.3**	**-1.0**
VRLE				*eS*	**Sn**	**08 25 45.7**	**-0.2**
GPS3	**Bodega del ICE**	**1.11**	**103**	*eP*	**Pb**	**08 25 31.9**	**+0.3**
GPS3				*eS*	**Sn**	**08 25 47.2**	**+1.2**
GPS1	**Guardaparques**	**1.12**	**102**	⇓*eP*	**Pn**	**08 25 30.7**	**-0.8**
GPS1				*eS*	**Sb**	**08 25 45.5**	**-0.5**
BUAI	**Buenos Aires**	**1.12**	**96**	*eP*	**Pn**	**08 25 30.9**	**-0.6**
GPS2	**Hotel Rincn d**	**1.12**	**103**	*eP*	**Pn**	**08 25 30.6**	**-1.0**
GPS2				*eS*	**Sb**	**08 25 46.0**	**0.0**
MGAN	**Managua**	**1.16**	**11**	⇓*iP*	**Pn**	**08 25 31.6**	**-0.3**
MGAN	**Managua**	**1.16**	**11**	⇓P	**Pn**	**08 25 31.3**	**-0.6**
MGAN	**Managua**	**1.16**	**11**	S	**Sn**	**08 25 47.6**	**+0.5**
SAPS	**Ciudad Sandino**	**1.16**	**3**	S	**Sn**	**08 25 47.5**	**+0.3**
SAPS	**Ciudad Sandino**	**1.16**	**3**	⇑P	**Pn**	**08 25 32.2**	**+0.2**
COPN	**Copaltepe**	**1.18**	**354**	⇑*iP*	**Pn**	**08 25 32.1**	**-0.2**
COPN				*eS*	**Sn**	**08 25 49.0**	**+1.4**
COPN	**Copaltepe**	**1.18**	**354**	⇑P	**Pn**	**08 25 32.0**	**-0.2**
WILN	**Americas 2**	**1.18**	**13**	⇓P	**Pn**	**08 25 30.4**	**-1.9**
APQ2	**Apoyeque**	**1.19**	**7**	⇑P	**Pn**	**08 25 32.1**	**-0.4**
APQ2				S	**Sb**	**08 25 48.7**	**+0.6**
JUD3	**Juan Diaz 3**	**1.23**	**132**	*eP*	**Pn**	**08 25 31.5**	**-1.6**
BAGA	**Bagaces**	**1.27**	**112**	*eP*	**Pn**	**08 25 33.1**	**-0.4**
MESS	**Mesas**	**1.27**	**102**	⇑*iP*	**Pn**	**08 25 33.3**	**-0.4**
MESS				*eS*	**Sb**	**08 25 53.8**	**+3.3**
COLC	**Colonia**	**1.28**	**105**	*eP*	**Pn**	**08 25 33.2**	**-0.5**
COLC				*eS*	**Sb**	**08 25 50.6**	**-0.1**
NICO	**Nicoya**	**1.32**	**131**	*eP*	**Pn**	**08 25 34.1**	**-0.2**
CUI	**Cuipilapa**	**1.32**	**105**	⇓*iP*	**Pn**	**08 25 33.8**	**-0.5**
CUI				*eS*	**Sn**	**08 25 51.4**	**+0.1**
CMARA	**Lajas Hojancha**	**1.42**	**134**	*eP*	**Pn**	**08 25 35.2**	**-0.4**
CMARA	**Lajas Hojancha**	**1.42**	**134**	P	**Pn**	**08 25 35.4**	**-0.3**
CMARA	**Lajas Hojancha**	**1.42**	**134**	S	**Sb**	**08 25 54.9**	**+0.3**
UPAL	**Upala**	**1.43**	**94**	*eP*	**Pn**	**08 25 35.2**	**-0.5**
UPAL				*eS*	**Sb**	**08 25 55.4**	**+0.6**
UPAL	**Upala**	**1.43**	**94**	P	**Pn**	**08 25 35.4**	**-0.3**
UPAL	**Upala**	**1.43**	**94**	S	**Sb**	**08 25 54.9**	**0.0**
TIMP	**Tierras Morena**	**1.48**	**106**	⇑*eP*	**Pn**	**08 25 35.8**	**-0.7**
CNGN	**Cerro Negro**	**1.50**	**351**	P	**Pn**	**08 25 36.7**	**-0.1**
TILA	**Tilaran**	**1.56**	**110**	*eP*	**Pn**	**08 25 37.7**	**+0.1**
ACON	**Acoyapa**	**1.59**	**53**	⇑*iP*	**Pn**	**08 25 36.5**	**-1.5**
ACON				*eS*	**Sn**	**08 25 57.2**	**-0.5**
ACON	**Acoyapa**	**1.59**	**53**	⇓P	**Pn**	**08 25 36.4**	**-1.5**
QUEB	**Quebradon, Cot**	**1.59**	**104**	*eP*	**Pn**	**08 25 38.5**	**+0.6**
HOYN	**Al Sur del Vol**	**1.62**	**347**	⇑P	**Pn**	**08 25 38.8**	**+0.3**
HOYN				S	**Sn**	**08 25 57.0**	**-1.8**
BOAB	**BOACO BROADBAN**	**1.63**	**28**	P	**Pn**	**08 25 37.9**	**-0.6**
BOAB	**BOACO BROADBAN**	**1.63**	**28**	S	**Sn**	**08 25 59.1**	**+0.1**
HERN	**Volcan Telica**	**1.64**	**347**	⇑P	**Pn**	**08 25 38.7**	**+0.1**
JTS	**Las Juntas de**	**1.65**	**115**	*eP*	**Pn**	**08 25 38.4**	**-0.4**
JTS				*eS*	**Sb**	**08 26 02.5**	**+1.3**
JTS	**Las Juntas de**	**1.65**	**115**	P	**Pn**	**08 25 38.5**	**-0.3**
JTS				S	**Sb**	**08 26 00.2**	**-1.0**
POLN	**Al Sur del Vol**	**1.67**	**348**	⇓P	**Pn**	**08 25 39.3**	**+0.2**
LCHIL	**Los Chiles**	**1.72**	**89**	*eP*	**Pn**	**08 25 40.1**	**+0.4**
LCHIL				*eS*	**Sn**	**08 26 01.7**	**+0.7**
TABAC	**Tabacon**	**1.74**	**107**	*eP*	**Pn**	**08 25 41.1**	**+1.0**
CRIN	**San Cristobal**	**1.78**	**341**	*eP*	**Pn**	**08 25 41.1**	**+0.5**
CRIN	**San Cristobal**	**1.78**	**341**	S	**Sn**	**08 26 02.0**	**-0.6**
CRIN	**San Cristobal**	**1.78**	**341**	⇑P	**Pn**	**08 25 41.3**	**+0.6**
CASO	**Castillo**	**1.79**	**108**	*eP*	**Pn**	**08 25 41.7**	**+1.0**
VARE2	**V. Arenal**	**1.80**	**107**	*eP*	**Pn**	**08 25 41.7**	**+0.8**
MATN	**Matagalpa**	**1.98**	**15**	⇓P	**Pn**	**08 25 42.3**	**-1.2**
MATN	**Matagalpa**	**1.98**	**15**	S	**Sn**	**08 26 07.8**	**+0.1**

*NNC **28** 08:38:37.9±2.2, 41°.84N×78°.38E, h0km, mb3.6, mpv2.9, Error ellipse: s-maj=16.4km s-min=6.7km az=170.0, Suspected Mining explosion.*

*SOME **28** 08:38:37.6, 41°.88N×78°.27E*

ISC 28 08:38:36.5±4.4, 41°.8N±0°.2×78°.4E±0°.1, h0km, n6, σ1§09/9, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**1.64**	**320**	P	**Pb**	**08 39 07.2**	**-0.6**
	1.3nm,0.1s						
TNSS				S	**Sn**	**08 39 28.7**	**-0.2**
	2.1nm,0.4s						
KPKS	**Kokpek**	**1.69**	**8**	P	**Pb**	**08 39 08.6**	**-0.1**
	0.2nm,0.1s						
KPKS				S	**Sb**	**08 39 30.7**	**+0.2**
	4.5nm,0.3s						
IZV	**Izvestkoviy**	**1.81**	**314**	P	**Pg**	**08 39 10.7**	**-0.4**
	3.3nm,0.1s						
IZV				S	**Sg**	**08 39 34.5**	**-0.1**
	7.0nm,0.1s						
KST	**Kastek**	**2.18**	**306**	Pg	**Pb**	**08 39 16.4**	**-0.5**
	1.4nm,0.2s						
KST				Lg	Lg	08 39 44.3	
	20nm,1.3s						
KUU	**Kurty**	**2.58**	**325**	Pg	**Pb**	**08 39 23.5**	**-0.2**
	3.5nm,0.1s					

K13K	**Kusilvak Mount**	**14.15**	**34**	Pn		**Pn**	**08 48 35.8**	**-0.1**
CHGN	**Chignik**	**14.48**	**60**	Pn		**Pn**	**08 48 40.1**	**-0.2**
O15K	**Ungalikthiuk R**	**14.64**	**48**	Pn		**Pn**	**08 48 43.3**	**+0.8**
K15K	**Wolf Creek Mou**	**15.52**	**36**			**P**	**08 48 56.7**	**-1.6**
K15K				IAmb	IAmb		08 49 17.7	
	comp=Z,16nm,1.4s							
PLK4	**Peulik 4**	**15.87**	**56**	Pn		**Pn**	**08 49 00.1**	**+1.3**
PLK4				IAmb	IAmb		08 49 02.9	
	comp=Z,14nm,1.1s							
F15K	**North Star Dit**	**16.94**	**24**	P		**Pn**	**08 49 11.6**	**-0.7**
K17K	**Iditarod**	**16.99**	**38**	P		**Pn**	**08 49 13.3**	**+0.5**
K17K				IAmb	IAmb		08 49 48.6	
	comp=Z,9,9nm,1.3s							
N18K	**Kilae Creek**	**17.06**	**46**	P		**P**	**08 49 15.4**	**0.0**
O18K	**Koktuh Hills**	**17.08**	**49**	P		**Pn**	**08 49 13.5**	**-0.5**
O18K				IAmb	IAmb		08 49 36.7	
	comp=Z,11nm,1.1s							
J17K	**VABM Dome**	**17.08**	**35**			**Pn**	**08 49 14.0**	**+0.1**
G16K	**Koyuk River**	**17.33**	**27**	P		**P**	**08 49 19.9**	**+1.6**
N19K	**Bonanza Creek**	**17.75**	**46**	P		**Pn**	**08 49 22.2**	**-0.2**
H17K	**Granite Mounta**	**17.75**	**31**	P		**Pn**	**08 49 21.6**	**-0.7**
MA2	**Magadan**	**17.88**	**309**	LR		LR	08 56 03.6	
	comp=Z,64nm,18.1s,baz=120,slow=36							
KDAK	**Kodiak Island**	**17.89**	**57**			**Pn**	**08 49 22.6**	**-1.4**
KDAK	**Kodiak Island**	**17.89**	**57**	P		**Pn**	**08 49 22.2**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=69,slow=0.9,SNR=14							
	comp=Z,1.3nm,0.3s							
J18K	**Innoko River**	**18.00**	**37**	P		**P**	**08 49 27.1**	**+1.4**
L19K	**White Mountain**	**18.13**	**42**	P		**Pn**	**08 49 27.0**	**0.0**
J19K	**Poorman**	**18.69**	**37**	P		**Pn**	**08 49 34.7**	**+0.9**
C16K	**Lisburne Hills**	**18.89**	**18**	P		**P**	**08 49 35.4**	**0.0**
STLK	**Strandline Lak**	**19.19**	**46**	P		**Pn**	**08 49 40.0**	**0.0**
STLK				IAmb	IAmb		08 49 41.4	
	comp=Z,4.7nm,0.6s							
J20K	**Nowinta River**	**19.34**	**37**	P		**P**	**08 49 41.0**	**+0.6**
G19K	**Purcell Mounta**	**19.43**	**30**			**Pn**	**08 49 43.0**	**+0.3**
G19K				IAmb	IAmb		08 49 48.7	
	comp=Z,4.9nm,0.9s							
SKT	**Skwentna**	**19.49**	**45**	P		**Pn**	**08 49 43.1**	**-0.4**
SKT				IAmb	IAmb		08 50 01.0	
	comp=Z,7.9nm,1.0s							
PPLA	**Purkeypile**	**19.55**	**42**	P		**P**	**08 49 43.5**	**+0.6**
F19K	**Shaleruckik Mo**	**19.67**	**28**			**Pn**	**08 49 45.9**	**+0.3**
F19K				IAmb	IAmb		08 49 49.6	
	comp=Z,4.5nm,0.8s							
CAST	**Castle Rocks**	**19.81**	**40**			**Pn**	**08 49 47.4**	**+0.1**
CAST				IAmb	IAmb		08 49 47.8	
	comp=Z,4.3nm,0.7s							
KTH	**Kantishna Hill**	**20.34**	**41**	P		**P**	**08 49 51.4**	**-0.1**
KTH				IAmb	IAmb		08 49 53.1	
	comp=Z,7.6nm,0.9s							
IMAR	**Indian Mountai**	**20.44**	**33**	P		**P**	**08 49 51.5**	**-0.9**
BPAW	**Bear Paw Mtn.**	**20.54**	**39**	P		**P**	**08 49 54.2**	**+0.7**
BPAW				IAmb	IAmb		08 50 20.5	
	comp=Z,5.5nm,1.2s							
TRF	**Thorofare Moun**	**20.56**	**41**	P		**P**	**08 49 53.5**	**-0.4**
TRF				IAmb	IAmb		08 50 10.3	
	comp=Z,7.5nm,1.1s							
H21K	**Melozitna Rive**	**20.59**	**34**	P		**P**	**08 49 55.2**	**+1.2**
H21K				IAmb	IAmb		08 49 59.8	
	comp=Z,3.2nm,0.8s							
PWL	**Port Wells**	**20.64**	**49**	P		**P**	**08 49 51.4**	**-3.2**
G21K	**Allakaket**	**20.82**	**32**	P		**P**	**08 49 56.5**	**+0.1**
G21K				IAmb	IAmb		08 50 19.3	
	comp=Z,8.3nm,1.4s							
MLY	**Manley**	**21.04**	**37**	P		**P**	**08 49 58.9**	**-0.1**
MLY				IAmb	IAmb		08 50 09.2	
	comp=Z,4.1nm,1.2s							
RND	**Reindeer**	**21.15**	**42**	P		**P**	**08 49 59.4**	**-0.8**
RND				IAmb	IAmb		08 50 09.8	
	comp=Z,3.4nm,1.0s							
D20K	**Etivluk River**	**21.27**	**25**			**P**	**08 50 01.1**	**-0.3**
NEA2	**Nenana**	**21.50**	**39**	P		**P**	**08 50 03.6**	**-0.3**
NEA2				IAmb	IAmb		08 50 04.6	
	comp=Z,3.3nm,0.5s							
I23K	**Minto, Yukon-K**	**21.62**	**37**	P		**P**	**08 50 04.9**	**-0.1**
I23K				IAmb	IAmb		08 50 22.1	
	comp=Z,6.6nm,1.4s							
WRH	**Wood River Hil**	**21.85**	**40**	P		**P**	**08 50 06.0**	**-1.5**
ILAR	**Eielson Array**	**22.44**	**39**	P		**P**	**08 50 11.2**	**-2.7**
	comp=Z,0.3nm,0.5s,baz=241,slow=8.8,SNR=5.3							
	comp=Z,0.3nm,0.5s							
H24K	**Noodor Dome**	**22.47**	**36**	P		**P**	**08 50 14.5**	**+0.2**
H24K				IAmb	IAmb		08 50 24.2	
	comp=Z,4.3nm,1.0s							
GLB	**Gilahina Butte**	**22.90**	**49**	P		**P**	**08 50 17.5**	**-1.4**
G24K	**Hadweenzic Riv**	**22.99**	**35**	P		**P**	**08 50 20.4**	**+0.7**
D23K	**Nanushuk River**	**23.10**	**28**	P		**P**	**08 50 20.9**	**+0.1**
F24K	**Squaw Lake**	**23.23**	**32**	IAmb	IAmb		08 50 24.3	
	comp=Z,3.5nm,0.8s							
PRP	**Porcupine Dome**	**23.25**	**38**	IAmb	IAmb		08 50 23.8	
	comp=Z,2.0nm,0.7s							
SCRK	**Sand Creek**	**23.39**	**42**	P		**P**	**08 50 21.9**	**-1.9**
SCRK				IAmb	IAmb		08 50 39.5	
	comp=Z,3.1nm,0.9s							
C23K	**Itkillik River**	**23.64**	**26**	P		**P**	**08 50 24.9**	**-1.1**
J26L	**Joseph Creek**	**23.71**	**41**	IAmb	IAmb		08 50 30.3	
	comp=Z,4.6nm,0.8s							
G26K	**Porcupine Rive**	**24.43**	**35**			**P**	**08 50 33.0**	**-0.4**
DAWY	**Dawson**	**25.38**	**43**	P		**P**	**08 50 42.1**	**0.0**
DAWY				IAmb	IAmb		08 50 48.5	
	comp=Z,3.0nm,0.7s							
I28M	**Miner Creek**	**25.45**	**40**	P		**P**	**08 50 41.5**	**-1.3**
I28M				IAmb	IAmb		08 50 56.6	
	comp=Z,3.8nm,0.8s							
M29M	**Somme Creek**	**25.55**	**47**	P		**P**	**08 50 42.1**	**-1.7**
NVAR	**Mina Array Bea**	**45.14**	**81**	P		**P**	**08 53 32.0**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=293,slow=7.8,SNR=4.6							
	comp=Z,0.3nm,0.7s							
SONM	**Songino Array**	**45.35**	**296**	P		**P**	**08 53 33.8**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=57,slow=5.5,SNR=2.4							
SONM				LR		LR	09 12 17.1	
	comp=Z,30nm,21.5s,baz=60,slow=36							
	comp=Z,0.8nm,0.7s							
PDAR	**Pinedale Array**	**47.88**	**71**	P		**P**	**08 53 52.3**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=296,slow=3.4,SNR=7.3							
	comp=Z,0.6nm,0.7s							
KURBB	**Kurchatov Arra**	**58.16**	**312**	P		**P**	**08 55 08.1**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=45,slow=6.5,SNR=13							
	comp=Z,1.7nm,0.7s							
BVAR	**Borovoye Array**	**60.06**	**319**	P		**P**	**08 55 22.8**	**+1.0**
	comp=Z,3.0nm,0.8s,baz=56,slow=8.3,SNR=11							
	comp=Z,3.0nm,0.8s							
TXAR	**Lajitas Array**	**60.25**	**79**	P		**P**	**08 55 23.4**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=310,slow=5.6,SNR=4.2							
	comp=Z,0.2nm,0.5s							
AKTO	**Aktyubinsk**	**66.98**	**323**	LR		LR	09 28 01.8	
	comp=Z,47nm,18.3s,baz=254,slow=38							
RAR	**Rarotonga**	**74.46**	**159**	LR		LR	09 25 03.0	
	comp=Z,69nm,18.6s,baz=7.0,slow=32							
AKASG	**Malin Array Be**	**75.30**	**340**	LR		LR	09 34 22.1	
	comp=Z,17nm,18.0s,baz=224,slow=39							
WRA	**Warramunga Arr**	**80.75**	**222**	P		**P**	**08 57 27.5**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=31,slow=5.8,SNR=5.4							
	comp=Z,0.2nm,0.5s							
ASAR	**Alice Springs**	**84.25**	**220**	P		**P**	**08 57 47.4**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=31,slow=5.1,SNR=4.1							
	comp=Z,0.3nm,0.8s							

*IDC **28** 08:46:25.7±18.0,36.41N×70.80E,h242km±151km, mb3.1/5,mbtmp3.8/7,Error ellipse: s-maj=182.6km s-min=74.2km az=167.0*

ISC 28 08:46:24.9±2.3,36.7N±0.2×70.7E±0.2,h200km,n9, σ0.87/10,mb3.5/4,1C,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
KK31	**Karatay Array**	**6.36**	**359**	P		**Pn**	**08 47 57.7**			**+1.0**
	1.3nm,0.2s,baz=171,slow=10,SNR=45									
KK31				S		**Sn**	**08 49 08.7**			**-1.0**
	2.8nm,0.2s,baz=193,slow=21,SNR=12									
AAK	**Ala-Archa**	**6.60**	**25**	⇑S		**Sn**	**08 49 14.9**			**-0.4**
	13nm,0.8s									
MKAR	**Makanchi Array**	**13.27**	**37**	P		**P**	**08 49 27.9**			**-0.6**
	1.9nm,0.7s,baz=220,slow=12,SNR=14									
BVAR	**Borovoye Array**	**15.29**	**359**	P		**Pn**	**08 50 03.4**			**+0.9**
	0.8nm,0.4s,baz=163,slow=9.4,SNR=7.0									
ZALV	**Zalesovo Beam**	**19.82**	**25**	P		**P**	**08 50 40.5**			**+0.5**
	1.6nm,0.4s,baz=219,slow=10,SNR=7.3									
	1.6nm,0.4s									
FINES	**FINESS Array B**	**37.13**	**326**	P		**P**	**08 53 15.3**			**-0.7**
	1.8nm,0.9s,baz=111,slow=15,SNR=4.4									
	1.8nm,0.9s									
ARCES	**ARCESS Array B**	**40.82**	**338**	P		**P**	**08 53 46.6**			**+0.1**
	1.8nm,0.9s,baz=115,slow=7.9,SNR=1.0									
	1.8nm,0.9s									
HFS	**Hagfors**	**42.71**	**322**	P		**P**	**08 54 01.6**			**-0.2**
	0.6nm,0.5s,baz=103,slow=12,SNR=4.8									
	0.6nm,0.5s									
NOA	**NORSAR Array B**	**44.03**	**323**	P		**P**	**08 54 11.2**			**-1.2**
	0.2nm,0.4s,baz=98,slow=8.1,SNR=1.9									
	0.2nm,0.4s									

*SOME **28** 08:52:54.8,44.05N×84.22E,h15km*
*NNC **28** 08:53:01.7±2.9,43.58N×83.81E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=24.2km s-min=11.9km az=134.0*

ISC 28 08:52:53.2±2.8,44.2N±0.1×84.1E±0.1,h10km,n15, σ1§19/17,3C-4D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
KTMS	**Ketmen**	**2.80**	**257**	Pg		**Pg**	**08 53 47.8**			**+1.0**
	2.8nm,0.2s									
KTMS				Lg		Lg	08 54 25.8			
	11nm,0.3s									
KTMS	**Ketmen**	**2.80**	**257**	*e*P		**Pg**	**08 53 47.8**			**+1.0**
	2.8nm,0.2s									
KTMS				*e*S		**Sg**	**08 54 25.8**			**+2.7**
	11nm,0.3s									
MK31	**Makanchi Array**	**2.93**	**335**	⇑Pn		Pg	08 53 56.8			+7.4
	0.1nm,0.1s,baz=101,slow=19,SNR=17									
MK31				⇑Pg		Pb	08 54 04.5			+19
	0.9nm,0.3s,baz=157,slow=16,SNR=7.8									
MK31				⇓Lg		Lg	08 54 49.2			
	1.0nm,0.2s,baz=148,slow=29,SNR=14									
MAKZ	**Makanchi**	**3.05**	**331**	⇓Pg		Pg	08 54 06.7			+15
	0.9nm,0.5s									
MAKZ				⇑Lg		Lg	08 54 51.7			
	4.2nm,0.6s									
ZSN	**Zaisan**	**3.34**	**9**	Pg		**Pg**	**08 53 57.2**			**-0.1**
	3.0nm,0.3s									
ZSN				Lg		Lg	08 54 42.3			
	7.6nm,0.3s									
ZSN	**Zaisan**	**3.34**	**9**	*e*P		**Pg**	**08 53 57.2**			**-0.1**
	3.0nm,0.3s									
ZSN				*e*S		**Sg**	**08 54 42.3**			**+1.7**
	7.6nm,0.3s									
PDGK	**Podgornoye**	**3.44**	**258**	⇓Pn		**Pb**	**08 53 53.6**			**-0.6**
	1.2nm,0.3s									
PDGK				⇓Lg		Lg	08 54 42.0			
	7.3nm,0.6s									
SHLS	**Shalkode**	**3.50**	**255**	Pg		**Pb**	**08 53 54.4**			**-1.1**
	9.6nm,0.4s									
SHLS				Lg		Lg	08 54 37.4			
	35nm,0.3s									
SHLS	**Shalkode**	**3.50**	**255**	*e*P		**Pb**	**08 53 54.4**			**-1.1**
	9.6nm,0.4s									
SHLS				*e*S		**Sb**	**08 54 37.4**			**-0.7**
	35nm,0.3s									
KNOS	**Konyrlen**	**3.54**	**275**	Pg		**Pg**	**08 54 00.8**			**-0.2**
	3.0nm,0.2s									
KNOS				Lg		Lg	08 54 48.5			
	17nm,0.4s									
KPKS	**Kokpek**	**3.98**	**262**	Pg		**Pg**	**08 54 09.2**			**-0.2**
	0.4nm,0.2s									
KPKS				Lg		Lg	08 55 02.8			
	12nm,0.3s									
ARXS	**Arharly**	**4.51**	**273**	Pg		**Pg**	**08 54 18.9**			**-0.7**
	2.3nm,0.5s									
ARXS				Lg		Lg	08 55 19.5			
	9.7nm,0.5s									
CHKK	**Chushkaly**	**5.13**	**269**	Pg		**Pg**	**08 54 30.2**			**-1.3**
	14nm,0.4s									
CHKK				Lg		Lg	08 55 38.8			
	4.3nm,0.3s									
CHKK	**Chushkaly**	**5.13**	**269**	*e*P		**Pg**	**08 54 30.2**			**-1.3**
	14nm,0.4s									
CHKK				*e*S		**Sg**	**08 55 38.8**			**+0.7**
	4.3nm,0.3s									
KTBS	**Karatobe**	**5.37**	**268**	Pg		**Pg**	**08 54 36.5**			**+0.4**
	0.8nm,0.3s									
KTBS				Lg		Lg	08 55 49.5			
	4.4nm,0.5s									

*MOS **28** 08:59:44.6±0.9,8.50S×160.00E,h10km,mb5.1/25,Error ellipse: s-maj=11.8km s-min=8.5km az=87.3*
*NEIC **28** 08:59:51.3±1.7,8.42S±0.06×160.0E±0.1,h35km±2km, mb5.0/256,Error ellipse: s-maj=17.4km s-min=9.2km az=79.0*
*BJI **28** 08:59:52.3,8.17S×160.20E,h56km,mB4.9/12,mb4.9/47, Ms4.9/3*
*IDC **28** 08:59:53.8±0.5,8.57S×159.98E,h68km±4km,mb4.3/22, mbtmp4.6/22,MS3.5/27,Error ellipse: s-maj=17.2km s-min=6.9km az=85.0*

ISC 28 08:59:52.0±0.4,8.54S±0.04×160.02E±0.05,h49km±3km, h50km:pP-P,n576,σ1§25/461,mb5.0/172,MS3.6/26,8C-3D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
TATA	**Tatamba Isabel**	**0.26**	**305**	P		**Pn**	**09 00 04.2**			**+3.5**
TATA	**Tatamba Isabel**	**0.26**	**305**	S		**Sn**	**09 00 12.6**			**+5.7**
SAVO	**Savo Central**	**0.64**	**199**	P		**Pn**	**09 00 07.7**			**+2.7**
SAVO	**Savo Central**	**0.64**	**199**	S		**Sn**	**09 00 18.9**			**+4.6**
ALEG	**Aligegeo Malai**	**0.70**	**108**	P		**Pn**	**09 00 07.2**			**+1.5**
ALEG	**Aligegeo Malai**	**0.70**	**108**	S		**Sn**	**09 00 17.8**			**+2.2**
HNR	**Honiara**	**0.89**	**185**			**Pn**	**09 00 10.9**			**+2.7**
HNR						**Sn**	**09 00 24.4**			**+4.3**
HNR	**Honiara**	**0.89**	**185**	P		**Pn**	**09 00 10.9**			**+2.7**
	6μm,0.3s,baz=44,slow=3.9,SNR=629									
HNR				S		**Sn**	**09 00 23.8**			**+3.7**
	20μm,0.8s,baz=146,slow=21,SNR=13									
HNR	**Honiara**	**0.89**	**185**	P		**Pn**	**09 00 11.0**			**+2.7**
HNR	**Honiara**	**0.89**	**185**	S		**Sn**	**09 00 24.9**			**+4.8**
HURO	**Huro Makira**	**2.67**	**136**	P		**Pn**	**09 00 34.8**			**+2.3**
HURO	**Huro Makira**	**2.67**	**136**	S		**Sn**	**09 01 06.0**			**+2.4**
NGOA	**Tingoa Renbel**	**3.00**	**179**	P		**Pn**	**09 00 38.9**			**+1.9**
NGOA	**Tingoa Renbel**	**3.00**	**179**	S		**Sn**	**09 01 14.2**			**+2.5**
RABL	**Rabaul**	**8.92**	**298**	Pn		**Pn**	**09 01 59.0**			**+0.7**
PMG	**Port Moresby**	**12.74**	**265**	LR		LR	09 07 45.3			
	comp=Z,420nm,19.9s,baz=157,slow=37									
DZM	**Mont Dzumac**	**14.81**	**156**			**Pn**	**09 03 20.1**			**+1.6**
DZM	**Mont Dzumac**	**14.81**	**156**	*e*P		**Pn**	**09 03 14.8**			**-3.7**
	77nm,0.9s									
DZM				*e*LR		LR	09 06 35.1			
	511nm,26.8s									
DZM	**Mont Dzumac**	**14.81**	**156**	P		**P**	**09 03 22.3**			**-1.1**
	29nm,0.6s,baz=65,slow=8.8,SNR=37									
ONTNC	**Ouen Toro**	**15.02**	**156**			**Pn**	**09 03 22.3**			**+1.0**
ONTNC					IAmb	IAmb	09 03 28.1			
	comp=Z,61nm,0.7s									
PATS	**Pohnpei**	**15.37**	**354**			**Pn**	**09 03 23.6**			**-2.1**
PINNC	**Pines Island,**	**15.71**	**154**	Pn		**Pn**	**09 03 31.1**			**+1.1**
COEN	**Coen**	**17.37**	**250**			**Pn**	**09 03 50.2**			**-0.9**
CTAO	**Charters Tower**	**17.58**	**228**			**Pn**	**09 03 53.9**			**+0.3**
CTAO	**Charters Tower**	**17.58**	**228**	P		**Pn**	**09 03 53.9**			**+0.3**
CTAO				pmax		pmax				
	comp=Z,14nm,0.8s									
EIDS	**Eidsvold**	**18.78**	**206**			**P**	**09 04 07.3**			**0.0**
JAY	**Jayapura**	**20.13**	**286**	P		**P**	**09 04 21.4**			**-0.7**
	comp=Z,12nm,0.5s,baz=160,slow=4.6,SNR=9.2									
JAY				LR		LR	09 12 34.7			
	comp=Z,118nm,20.0s,baz=1.0,slow=38									
	comp=Z,12nm,0.5s									
JAY	**Jayapura**	**20.13**	**286**	P		**P**	**09 04 22.4**			**+0.3**
	comp=Z,548nmcomp=Z,68nm,1.1s									
SMPI	**Sarmi**	**22.19**	**286**	P		**P**	**09 04 47.0**			**+2.8**
	comp=Z,50nm,1.1s									
ARMA	**Armidale**	**23.14**	**199**			**P**	**09 04 54.7**			**+0.5**
GUMO	**Guam**	**26.64**	**325**	LR		LR	09 15 06.5			
	comp=Z,65nm,21.6s,baz=148,slow=34									
WR8	**Warramunga Arr**	**27.17**	**243**			**P**	**09 05 30.7**			**-0.4**
WR8					IAmb	IAmb	09 05 48.9			
	comp=Z,36nm,1.2s									
WB0	**Warramunga Arr**	**27.20**	**243**			**P**	**09 05 31.3**			**0.0**
WB0					IAmb	IAmb	09 05 33.3			
	comp=Z,41nm,1.2s									
WRAB	**Tennant Creek**	**27.29**	**243**	P		**P**	**09 05 32.1**			**-0.1**
WRAB	**Tennant Creek**	**27.29**	**243**	*i* P		**P**	**09 05 30.0**			**-2.2**
WRAB				pmax		pmax				
	comp=Z,17nm,0.9s									
WRA	**Warramunga Arr**	**27.31**	**243**			**P**	**09 05 31.1**			**-1.2**
WRA	**Warramunga Arr**	**27.31**	**243**	P		**P**	**09 05 32.1**			**-0.1**
	comp=Z,10.0nm,0.7s,baz=72,slow=9.0,SNR=106									
WRA				S		**S**	**09 10 05.2**			**-3.5**
	comp=Z,5.9nm,1.0s,baz=72,slow=15,SNR=8.5									
WRA				LR		LR	09 16 02.0			
	comp=Z,146nm,20.4s,baz=348,slow=36									
	comp=Z,10.0nm,0.7s									
H11S2	**WAKE ISLAND Hy**	**27.66**	**14**	T		T	09 34 17.7			
	baz=194,slow=76,SNR=920									
H11S3	**WAKE ISLAND Hy**	**27.66**	**14**	T		T	09 34 21.8			
	baz=194,slow=76,SNR=989									
H11S1	**WAKE ISLAND Hy**	**27.67**	**14**	T		T	09 34 23.0			
	baz=194,slow=76,SNR=674									
CAN	**Canberra**	**28.50**	**199**	P		**P**	**09 05 42.3**			**-0.5**
CAN	**Canberra**	**28.50**	**199**	P		**P**	**09 05 42.3**			**-0.5**
CAN				pmax		pmax				
	comp=Z,25nm,1.3s									
MTN	**Manton Dam**	**28.70**	**259**	P		**P**	**09 05 43.3**			**-1.4**
STKA	**Stephens Creek**	**28.86**	**214**			**P**	**09 05 45.4**			**-0.6**
STKA	**Stephens Creek**	**28.86**	**214**	P		**P**	**09 05 45.5**			**-0.4**
	comp=Z,3.7nm,0.5s,baz=23,slow=7.9,SNR=18									
STKA				ScP		**ScP**	**09 12 29.4**			**-2.8**
	comp=Z,1.0nm,0.6s,baz=37,slow=5.1,SNR=3.4									
STKA				LR		LR	09 16 42.7			
	comp=Z,128nm,18.9s,baz=42,slow=35									
	comp=Z,3.7nm,0.5s									
STKA	**Stephens Creek**	**28.86**	**214**	*i* P		**P**	**09 05 45.3**			**-0.6**
H11N1	**WAKE ISLAND Hy**	**28.88**	**13**	T		T	09 35 52.2			
	baz=194,slow=76,SNR=1462									
H11N3	**WAKE ISLAND Hy**	**28.89**	**14**	T		T	09 35 52.8			
	baz=194,slow=76,SNR=1180									
H11N2	**WAKE ISLAND Hy**	**28.90**	**13**	T		T	09 35 53.6			
	baz=194,slow=76,SNR=1290									
AS31	**Alice Springs**	**29.17**	**236**			**P**	**09 05 48.1**			**-0.8**
ASAR	**Alice Springs**	**29.18**	**236**	P		**P**	**09 05 48.0**			**-0.9**
ASAR	**Alice Springs**	**29.18**	**236**	P		**P**	**09 05 48.0**			**-0.9**
	comp=Z,3.1nm,0.3s,baz=63,slow=9.9,SNR=100									
ASAR				S		**S**	**09 10 35.8**			**-2.3**
	comp=Z,0.8nm,0.8s,baz=68,slow=13,SNR=4.4									
ASAR				ScP		**ScP**	**09 12 31.1**			**-2.3**
	comp=Z,0.9nm,0.7s,baz=66,slow=2.7,SNR=7.9									
ASAR				LR		LR	09 16 52.0			
	comp=Z,196nm,21.5s,baz=68,slow=35									
	comp=Z,3.1nm,0.3s									
RAO	**Raoul Island**	**29.22**	**138**	LR		LR	09 15 13.5			
	comp=Z,58nm,20.1s,baz=123,slow=32									
KNRA	**Kununurra**	**31.35**	**254**			**P**	**09 06 07.9**			**-0.2**
TOO	**Toolangi**	**31.75**	**202**	P		**P**	**09 06 12.2**			**+0.7**
TOO	**Toolangi**	**31.75**	**202**	P		**P**	**09 06 12.3**			**+0.7**
TOO				pmax		pmax				
	comp=Z,15nm,1.6s									
BBOO	**Buckleboo**	**32.79**	**219**	P		**P**	**09 06 20.2**			**-0.4**
BBOO				IAmb		IAmb	09 06 20.9			
	comp=Z,19nm,0.7s									
URZ	**Urewera**	**33.36**	**155**	LR		LR	09 18 05.2			
	comp=Z,108nm,18.9s,baz=314,slow=33									
BATI	**Baumata**	**35.90**	**264**	LR		LR	09 23 15.6			
	comp=Z,111nm,18.6s,baz=130,slow=39									
LUWI	**Luwuk**	**37.83**	**279**	P		**P**	**09 07 03.2**			**-1.0**
EDFI	**Ende, Flores**	**37.89**	**267**	P		**P**	**09 07 03.7**			**-1.1**
	comp=Z,13nm,0.9s									
PSA00	**Pilbara Seismi**	**40.77**	**247**	P		**P**	**09 07 28.6**			**-0.1**
MBWA	**Marble Bar**	**40.79**	**248**	P		**P**	**09 07 28.0**			**-0.8**
JHJ	**Hachijo jima 2**	**45.69**	**336**	LR		LR	09 25 55.4			
	comp=Z,32nm,21.4s,baz=322,slow=34									
KKM	**Kota Kinabalu**	**46.02**	**287**	P		**P**	**09 08 09.6**			**-1.6**
MORW	**Morawa**	**46.03**	**238**	P		**P**	**09 08 10.6**			**-0.3**
NWAO	**Narrogin (SRO)**	**46.35**	**232**	P		**P**	**09 08 12.2**			**-1.2**
NWAO	**Narrogin (SRO)**	**46.35**	**232**	P		**P**	**09 08 12.2**			**-1.2**
NWAO				pmax		pmax				
	comp=Z,56nm,1.6s									
JOW	**Kunigami**	**46.74**	**320**	LR		LR	09 26 20.8			
	comp=Z,37nm,20.2s,baz=118,slow=34									
JMN	**Monobe**	**

XAN pmax pmax
comp=Z,13nm,1.0s
KMI Kunming 65.02 303 P P 09 10 29.8 +2.1
KMI sP PcP 09 10 54.3 -6.1
KMI pmax pmax
comp=Z,11nm,1.0s
HEH HeiHe 65.06 338 *eP* **P 09 10 27.0 -0.1**
HEH pmax pmax
comp=Z,12nm,1.0s
XLT XiLinHaoTe 65.61 327 *eP* **P 09 10 32.3 +1.3**
XLT sP sP 09 10 51.8 +1.3
XLT PcP **PcP 09 11 06.5 +4.2**
XLT PP **PP 09 12 56.0 -0.1**
XLT pmax pmax
comp=Z,21nm,1.0s
XLT pmax pmax
comp=Z,74nm,5.0s
CMAR Chiang Mai Arr 65.95 295 P P 09 10 32.6 -1.0
CMAR Chiang Mai Arr 65.95 295 P **P 09 10 33.6 +0.1**
comp=Z,3.2nm,0.6s,baz=122,slow=5.1,SNR=19
CMAR pP **sP 09 10 51.5 -1.6**
comp=Z,1.9nm,0.5s,baz=107,slow=4.7,SNR=3.4
CMAR LR LR 09 40 11.1
comp=Z,8.8nm,18.5s,baz=200,slow=37
comp=Z,3.2nm,0.6s
CMAR Chiang Mai Arr 65.95 295 P P 09 10 32.6 -1.0
HHC Hu-ho-hao-te 66.33 322 *eP* **P 09 10 40.0 +4.3**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,25nm,4.7s
PZH PanZhiHua 66.39 304 P P 09 10 38.5 +2.1
CD2 Chengdu 66.63 309 P P 09 10 38.5 +0.7
CD2 pmax pmax
comp=Z,30nm,0.5s
CASY Casey 66.74 200 P P 09 10 37.5 -0.3
NIKH Nikolski High 66.76 20 P 09 10 38.2 +0.1
NIKH Nikolski High 66.76 20 P P 09 10 38.4 +0.4
baz=214
HIA Hailar 67.49 333 P P 09 10 43.6 +0.8
HIA IAmb IAmb 09 10 44.6
comp=Z,12nm,0.7s
HIA Hailar 67.49 333 P P 09 10 43.7 +0.8
HIA pmax pmax
comp=Z,12nm,0.7s
UNV Unalaska Valle 68.28 21 P P 09 10 47.9 +0.3
UNV Unalaska Valle 68.28 21 P P 09 10 48.4 +0.8
baz=216
MA2 Magadan 68.30 355 P P 09 10 46.6 -1.0
MA2 IAmb IAmb 09 10 48.5
comp=Z,16nm,1.0s
MA2 Magadan 68.30 355 *ceP* **P 09 10 46.2 -1.4**
MA2 pmax pmax
comp=Z,8.0nm,1.0s
MA2 Magadan 68.30 355 P P 09 10 47.2 -0.4
LZH Lanzhou 68.94 314 *eP* **P 09 10 53.8 +1.5**
LZH pP pP 09 11 08.3 +2.0
LZH pmax pmax
comp=Z,23nm,1.2s
VNDA Vanda 68.96 180 P P 09 10 51.7 +0.1
VNDA Vanda 68.96 180 P P 09 10 51.2 -0.3
comp=Z,5.0nm,0.8s,baz=340,slow=6.4,SNR=41
VNDA LR LR 09 37 26.9
comp=Z,69nm,18.5s,baz=319,slow=33
comp=Z,5.0nm,0.8s
VNDA Vanda 68.96 180 P P 09 10 51.7 +0.1
VNDA pmax pmax
comp=Z,5.0nm,0.8s
VNDA Vanda 68.96 180 P P 09 10 50.5 -1.0
SBA Scott Base 69.38 178 P P 09 10 54.7 +0.6
SBA Scott Base 69.38 178 P P 09 10 54.7 +0.6
SBA pmax pmax
comp=Z,7.0nm,1.1s
P08K Saint George I 69.59 17 P P 09 10 56.2 +0.5
baz=212
CCD Concordia, Ant 69.66 189 P P 09 10 55.9 -0.6
SPIA Saint Paul Isl 69.88 17 P P 09 10 58.3 +0.9
baz=212
FALS False Pass 70.18 21 P P 09 11 00.1 +0.8
baz=219
S12K Black Hills 71.33 22 P P 09 11 07.5 +1.1
baz=220
SEY Seymchan 71.50 356 *i* P **P 09 11 05.3 -1.9**
SEY pmax pmax
comp=Z,17nm,1.4s
CHNA Chernabura Isl 71.61 23 P P 09 11 08.1 +0.1
baz=222
SDPT Sand Point 71.65 23 P P 09 11 09.1 +0.8
baz=222
S14K Fog Glacier 72.70 22 P P 09 11 15.1 +0.4
baz=222
ULN Ulaanbaatar 73.02 326 P P 09 11 17.9 +1.1
ULN IAmb IAmb 09 11 19.3
comp=Z,14nm,1.1s
ULN Ulaanbaatar 73.02 326 *ceP* **P 09 11 16.9 0.0**
ULN pmax pmax
comp=Z,24nm,1.7s
CHGN Chignik 73.14 23 P P 09 11 18.0 +0.9
baz=223
GTA Gaotai 73.30 315 *eP* **P 09 11 20.3 +1.7**
GTA pP PcP 09 11 35.3 +0.5
GTA sP sP 09 11 44.0 +5.7
GTA pmax pmax
comp=Z,13nm,1.3s
SONM Songino Array 73.37 326 P P 09 11 19.4 +0.5
SONM Songino Array 73.37 326 P P 09 11 20.0 +1.1
comp=Z,8.7nm,0.8s,baz=135,slow=5.6,SNR=36
SONM pP **sP 09 11 38.5 +0.3**
comp=Z,3.4nm,0.8s,baz=147,slow=5.1,SNR=4.3
comp=Z,8.7nm,0.8s
SONM Songino Array 73.37 326 P P 09 11 19.4 +0.5
SONM pmax pmax
comp=Z,10.0nm,0.9s
M11K Mekoryuk 73.72 17 P P 09 11 21.4 +1.0
baz=215
CHIR Chirikof Islan 73.90 24 P P 09 11 22.3 +0.7
baz=226
YAK Yakutsk 74.20 346 P P 09 11 23.8 +0.6
YAK Yakutsk 74.20 346 LR LR 09 42 10.6
comp=Z,40nm,20.8s,baz=120,slow=34
YAK Yakutsk 74.20 346 *eP* **P 09 11 23.7 +0.6**
YAK *e**PP pP 09 11 27.0 -10
YAK *e* 09 11 38.2
YAK *e* 09 14 09.0
YAK *e*PPP PPP 09 15 54.3
YAK *e*S **S 09 20 57.9 +5.2**
YAK *e* 09 21 34.9
YAK *e*SS **SS 09 25 43.5 +4.2**
YAK pmax pmax
comp=Z,41nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,126nm,5.1s
YAK pmax pmax
comp=N,66nm,5.9s
YAK pmax pmax
comp=E,46nm,5.4s
YAK smax smax
comp=E,35nm,3.8s
YAK smax smax
comp=N,15nm,2.5s
O14K Tigyukauivet M 74.34 19 P P 09 11 24.8 +0.7
O14K IAmb IAmb 09 11 25.6
comp=Z,24nm,0.9s
O14K Tigyukauivet M 74.34 19 P P 09 11 24.3 +0.2
baz=220
R16K Pilot Point 74.38 22 P P 09 11 25.4 +1.1
baz=224
M13K Dall Lake 74.58 18 P P 09 11 26.9 +1.4
baz=218
N14K Kuskokwak Cree 74.72 19 P P 09 11 27.0 +0.7
baz=220
O15K Ungalikthiuk R 74.76 20 P P 09 11 26.9 +0.3
baz=221
R17L Mt. Peulik Vol 74.88 23 P P 09 11 28.3 +1.0
baz=225
SII Sitkinak Islan 74.99 24 P P 09 11 28.1 +0.1
baz=227
GAMB Gambell 75.24 13 P P 09 11 29.6 +0.4
baz=209
M14K Bethel 75.28 18 IAmb IAmb 09 11 31.3
comp=Z,24nm,1.1s
M14K Bethel 75.28 18 P P 09 11 29.9 +0.5
baz=219
P16K Nushagak River 75.29 21 P P 09 11 30.4 +0.8
baz=223
K13K Kusilvak Mount 75.42 16 IAmb IAmb 09 11 32.3
comp=Z,13nm,0.9s
K13K Kusilvak Mount 75.42 16 P P 09 11 30.8 +0.5
baz=216,SNR=6.1
N15K Kvethluk River 75.42 19 P P 09 11 31.2 +0.9
baz=221
Q17K Contact Creek 75.51 22 P P 09 11 30.8 -0.2
baz=225
Q16K King Salmon 75.52 22 P P 09 11 31.4 +0.5
baz=224
L14K Kuka Creek 75.52 18 IAmb IAmb 09 11 33.0
comp=Z,16nm,1.1s
L14K Kuka Creek 75.52 18 P P 09 11 31.8 +0.9
baz=218
R18K Karluk 75.57 23 P P 09 11 32.4 +1.2
baz=227
GOMU GeErMu 75.60 311 P P 09 11 33.5 +1.1
GOMU pP sP 09 11 50.0 -2.1
GOMU sP pP 09 11 57.3 +11
GOMU pmax pmax
comp=Z,3.0nm,0.9s
M15K Kasigluk River 75.63 19 P P 09 11 31.8 +0.3
baz=220
O16K Kokwok River B 75.67 21 P P 09 11 32.3 +0.5
baz=223
OHAK Old Harbor 75.80 24 P P 09 11 32.8 +0.2
baz=228
N16K Nishlik Lake 76.09 20 P P 09 11 34.4 +0.2
baz=222
Q18K Katmai Hardscr 76.11 22 P P 09 11 34.8 +0.3
baz=226,SNR=6.4
L15K Ungalak Mounta 76.14 18 P P 09 11 35.1 +0.7
baz=219
O17K Koliganek Bris 76.15 21 P P 09 11 35.0 +0.5
baz=224
J14K Nanvaranak Lak 76.39 16 IAmb IAmb 09 11 38.0
comp=Z,20nm,0.9s
J14K Nanvaranak Lak 76.39 16 P P 09 11 36.6 +0.8
baz=217,SNR=8.5
M16K Timber Creek 76.44 19 IAmb IAmb 09 11 38.3
comp=Z,13nm,0.8s
M16K Timber Creek 76.44 19 P P 09 11 36.8 +0.7
baz=222
KDAK Kodiak Island 76.46 24 LR LR 09 38 13.6
comp=Z,34nm,20.9s,baz=231,slow=30
KDAK Kodiak Island 76.46 24 P P 09 11 37.1 +0.8
baz=228
ZAK Zakamensk 76.47 327 *eP* **P 09 11 36.4 -0.3**
BILL Bilibino 76.52 2*ce*P **P 09 11 37.3 +0.9**
BILL pmax pmax
comp=Z,38nm,1.3s
P18K Big Mountain, 76.55 22 P P 09 11 36.4 -0.4
baz=226
K15K Wolf Creek Mou 76.61 17 IAmb IAmb 09 11 39.2
comp=Z,24nm,1.0s
K15K Wolf Creek Mou 76.61 17 P P 09 11 38.3 +1.2
baz=219,SNR=8.2
N17K Nushagak Hills 76.66 20 P P 09 11 38.0 +0.6
baz=224
L16K Owhat River 76.79 19 P P 09 11 38.5 +0.4
baz=221
Q19K Cape Douglas, 76.82 23 P P 09 11 38.5 +0.2
baz=227
O18K Koktuh Hills 76.88 21 P P 09 11 39.2 +0.5
baz=226
Q20K Shuyak Island 77.09 23 P P 09 11 40.4 +0.5
baz=228
M17K Holitna River 77.21 19 P P 09 11 41.3 +0.8
baz=223
N18K Kilae Creek 77.22 21 P P 09 11 41.0 +0.4
baz=225
ANM Nome 77.38 15 P P 09 11 41.7 +0.3
baz=215
O19K Port Alsworth 77.44 21 P P 09 11 41.5 -0.2
baz=226
P19K Oil Pt 77.46 22 P P 09 11 41.9 -0.1
baz=228
L17K Donlin 77.48 19 P P 09 11 42.5 +0.6
baz=222,SNR=5.1
TNA Tin City 77.61 13 P P 09 11 43.0 +0.5
baz=212
J16K Anvik River 77.64 17 IAmb IAmb 09 11 45.4
comp=Z,22nm,1.1s
J16K Anvik River 77.64 17 P P 09 11 43.7 +0.8
baz=220,SNR=9.1
N19K Bonanza Creek 77.80 21 P P 09 11 44.8 +0.9
baz=226
M18K Stony River 77.82 20 P P 09 11 45.1 +1.3
baz=225
F14K Arctic Creek 77.90 14 P P 09 11 45.2 +1.0
baz=214
K17K Iditarod 77.91 18 IAmb IAmb 09 11 47.2
comp=Z,18nm,1.1s
K17K Iditarod 77.91 18 P P 09 11 45.5 +1.2
baz=222,SNR=5.9
O20K Slope Mountain 77.98 22 P P 09 11 45.8 +0.9
baz=228
L18K Granite Mounta 78.05 19 IAmb IAmb 09 11 47.6
comp=Z,15nm,1.1s
L18K Granite Mounta 78.05 19 P P 09 11 46.2 +1.0
baz=224,SNR=7.9
G15K Niukluk 78.06 15 P P 09 11 45.8 +0.6
baz=216
HOM Homer 78.07 23 P P 09 11 46.0 +0.7
baz=229
I17K Unalakleet 78.08 17 IAmb IAmb 09 11 47.8
comp=Z,13nm,1.1s
I17K Unalakleet 78.08 17 P P 09 11 46.3 +1.1
baz=220
J17K VABM Dome 78.18 18 IAmb IAmb 09 11 48.2
comp=Z,13nm,1.0s
J17K VABM Dome 78.18 18 P P 09 11 47.0 +1.2
baz=221,SNR=9.3
H16K Elim 78.25 16 P P 09 11 46.5 +0.4
baz=218
F15K North Star Dit 78.49 14 IAmb IAmb 09 11 49.4
comp=Z,18nm,1.3s
F15K North Star Dit 78.49 14 P P 09 11 48.2 +0.7
baz=216,SNR=5.2
M19K Big River Lodg 78.59 20 IAmb IAmb 09 11 50.6
comp=Z,22nm,1.1s
M19K Big River Lodg 78.59 20 P P 09 11 49.1 +1.0
baz=226
L19K White Mountain 78.63 20 IAmb IAmb 09 11 50.6
comp=Z,15nm,1.0s
L19K White Mountain 78.63 20 P P 09 11 49.3 +0.9
baz=226,SNR=9.8
G16K Koyuk River 78.81 15 IAmb IAmb 09 11 51.3
comp=Z,15nm,0.9s
G16K Koyuk River 78.81 15 P P 09 11 49.8 +0.5
baz=218,SNR=12
N20K Mount Spurr 78.88 21 P P 09 11 50.8 +1.0
baz=228
SPCR Spurr Chakacha 78.88 21 P P 09 11 50.4 +0.5
baz=228
J18K Innoko River 78.95 18 P P 09 11 50.4 +0.3
baz=224,SNR=7.1
CAPN Captain Cook N 78.98 22 P P 09 11 50.6 +0.3
baz=229
M20K Styx River 79.01 21 P P 09 11 50.7 +0.2
baz=227
H17K Granite Mounta 79.11 16 P P 09 11 51.3 +0.3
baz=220,SNR=8.2
SLKM Skilak Lake 79.17 23 IAmb IAmb 09 11 52.5
comp=Z,22nm,0.9s
L20K Farewell, AK 79.17 20 P P 09 11 52.2 +0.9
baz=226,SNR=7.1
SEW Seward 79.20 23 P P 09 11 52.3 +0.8
baz=231
O22K Cooper Landing 79.34 23 P P 09 11 52.4 +0.1
baz=231
G17K Kiwalik Mounta 79.34 16 P P 09 11 52.7 +0.6
baz=220,SNR=10
SUA Susitna One 79.59 22 P P 09 11 54.6 +0.9
baz=230
SKT Skwentna 79.64 21 P P 09 11 54.1 +0.2
baz=229
J19K Poorman 79.67 18 P P 09 11 54.7 +0.7
baz=225,SNR=5.9
H18K Honhosa River 79.70 17 P P 09 11 54.8 +0.6
baz=222
K20K Telida 79.71 19 IAmb IAmb 09 11 56.3
comp=Z,14nm,1.1s
K20K Telida 79.71 19 P P 09 11 54.7 +0.5
baz=226
RC01 Rabbit Creek A 79.72 22 P P 09 11 54.5 +0.2
baz=231
GCSA Galena City Sc 79.83 17 P P 09 11 55.5 +0.7
baz=223
F17K Baldwin Pennin 79.92 15 IAmb IAmb 09 11 57.2
comp=Z,13nm,0.8s
F17K Baldwin Pennin 79.92 15 P P 09 11 56.0 +0.8
baz=219,SNR=5.0
P23K Montague Islan 79.95 24 P P 09 11 55.7 +0.2
baz=233
M22K Willow 80.00 22 P P 09 11 56.4 +0.6
baz=230
PPLA Purkeypile 80.02 20 P P 09 11 56.1 0.0
baz=228
Q23K Middleton Isla 80.04 25 P P 09 11 56.6 +0.6
baz=234
PWL Port Wells 80.11 23 IAmb IAmb 09 11 57.9
comp=Z,25nm,1.0s
PWL Port Wells 80.11 23 P P 09 11 56.9 +0.4
baz=232
G18K Tagagawik 80.18 16 P P 09 11 57.2 +0.5
baz=222,SNR=9.2
J20K Nowinta River 80.26 19 P P 09 11 58.0 +0.8
baz=226,SNR=11
PMR Palmer 80.27 22 IAmb IAmb 09 11 58.4
comp=Z,12nm,0.8s
PMR Palmer 80.27 22 P P 09 11 57.6 +0.4
baz=231,SNR=5.7
E17K Hotham Inlet 80.28 14 P P 09 11 57.9 +0.7
baz=218,SNR=12
KNK Knik Glacier 80.41 22 P P 09 11 58.7 +0.6
baz=232
CAST Castle Rocks 80.41 20 IAmb IAmb 09 11 58.8
comp=Z,10nm,0.8s
CAST Castle Rocks 80.41 20 P P 09 11 57.9 -0.2
baz=228,SNR=11
C16K Lisburne Hills 80.44 12 P P 09 11 58.9 +0.8
baz=215
F18K Selawik 80.45 15 P P 09 11 58.8 +0.8
baz=220,SNR=9.8
D17K Noatak River 80.47 13 P P 09 11 58.8 +0.6
baz=217
H19K Roundabout Mou 80.53 17 IAmb IAmb 09 12 00.4
comp=Z,13nm,1.0s
H19K Roundabout Mou 80.53 17 P P 09 11 59.4 +0.9
baz=224,SNR=11
I20K Naaghedeneel 80.59 18 IAmb IAmb 09 12 01.8
comp=Z,41nm,1.6s
I20K Naaghedeneel 80.59 18 P P 09 11 59.5 +0.6
baz=226
GLI Glacier Island 80.60 23 P P 09 11 59.8 +0.7
baz=233
CHUM Lake Minchumin 80.65 19 P P 09 11 59.8 +0.6
baz=228
G19K Purcell Mounta 80.80 16 IAmb IAmb 09 12 01.9
comp=Z,16nm,0.8s
G19K Purcell Mounta 80.80 16 P P 09 12 01.0 +1.0
baz=223,SNR=19
RDOG Red Dog Mine 80.80 13 P P 09 12 00.9 +0.9
baz=217
E18K Tukpahlearik C 80.84 14 IAmb IAmb 09 12 02.0
comp=Z,9.0nm,0.8s
E18K Tukpahlearik C 80.84 14 P P 09 12 01.2 +1.0
baz=220
M23K Glacier View 80.92 22 P P 09 12 01.4 +0.6
baz=232
EYAK Cordova Ski Ar 80.94 24 P P 09 12 01.6 +0.8
baz=234
H20K Anotleneega Mo 80.96 17 P P 09 12 01.8 +0.9
baz=225,SNR=9.9
TRF Thorofare Moun 81.04 20 P P 09 12 01.7 +0.1
baz=230,SNR=6.3
SCM Sheep Creek Mo 81.09 22 P P 09 12 02.2 +0.4
baz=233
F19K Shaleruckik Mo 81.12 16 IAmb IAmb 09 12 03.1
comp=Z,11nm,0.8s
F19K Shaleruckik Mo 81.12 16 P P 09 12 02.1 +0.5
baz=222,SNR=9.9
KAIM Kayak Island 81.13 25 P P 09 12 02.1 +0.2
baz=236
BPAW Bear Paw Mtn. 81.23 20 P P 09 12 03.2 +0.8
baz=229
KLU Klutina 81.42 23 P P 09 12 04.0 +0.4
baz=234
QSPA South Pole Qui 81.45 180 P P 09 12 04.0 +0.3
QSPA South Pole Qui 81.45 180 P P 09 12 02.8 -1.0
comp=Z,3.8nm,0.9s,baz=339,slow=1.5,SNR=10.0
QSPA LR LR 09 45 32.1
comp=Z,59nm,18.3s,baz=353,slow=34
comp=Z,3.8nm,0.9s
RND Reindeer 81.51 21 IAmb IAmb 09 12 04.8
comp=Z,35nm,1.5s
I21K Tanana 81.63 18 P P 09 12 05.1 +0.7
baz=228
IMAR Indian Mountai 81.64 17 P P 09 12 05.2 +0.7
BMRM Bremner River 81.64 24 P P 09 12 05.0 +0.3
baz=235
C18K Utukok River 81.66 13 P P 09 12 04.9 +0.2
baz=219
MCK McKinley 81.69 20 IAmb IAmb 09 12 05.6
comp=Z,21nm,0.9s
MCK McKinley 81.69 20 P P 09 12 04.6 -0.2
baz=231,SNR=7.4
M24K Tolsona, Glenn 81.69 23 P P 09 12 05.5 +0.5
baz=234
H21K Melozitna Rive 81.69 18 P P 09 12 05.8 +1.0
baz=227,SNR=6.1
E19K Redstone River 81.72 15 P P 09 12 05.9 +1.0
baz=223
BWN Browne 81.78 20 IAmb IAmb 09 12 07.8
comp=Z,27nm,1.2s
F20K Avaraart Lake 81.83 16 P P 09 12 06.1 +0.7
baz=224
MLY Manley 81.92 19 P P 09 12 06.3 +0.2
MLY Manley 81.92 19 P P 09 12 06.4 +0.4
baz=229,SNR=12
N25K Chitina, Valde 82.01 23 P P 09 12 07.5 +0.8
baz=235
G21K Allakaket 82.08 17 P P 09 12 07.6 +0.8
G21K Allakaket 82.08 17 P P 09 12 07.6 +0.8
baz=226,SNR=6.7
B18K Kokolik River 82.09 13 P P 09 12 07.4 +0.6
baz=218
CRQE Cirque 82.14 25 P P 09 12 07.8 +0.5
baz=237
NEA2 Nenana 82.19 20 P P 09 12 07.3 -0.1
NEA2 IAmb IAmb 09 12 08.0
comp=Z,12nm,1.0s
NEA2 Nenana 82.19 20 P P 09 12 07.1 -0.3
baz=231,SNR=12
HARP HAARP 82.25 23 P P 09 12 08.1 +0.3
baz=235
D19K Kuna River 82.27 14 IAmb IAmb 09 12 09.3
comp=Z,13nm,0.8s
D19K Kuna River 82.27 14 P P 09 12 08.5 +0.7
baz=222
H22K Ishtalitna Cre 82.29 18 P P 09 12 08.6 +0.6
baz=228,SNR=6.4
MESA MESA 82.30 25 P P 09 12 08.1 -0.2
baz=238
C19K Lookout Ridge 82.38 14 P P 09 12 08.9 +0.5
baz=220
WRH Wood River Hil 82.44 20 IAmb IAmb 09 12 09.3
comp=Z,17nm,1.2s
I23K Minto, Yukon-K 82.44 19 P P 09 12 08.7 0.0
baz=230
MCARA McCarthy VSAT 82.51 24 P P 09 12 09.5 +0.3
baz=237
F21K Alatna River 82.57 17 P P 09 12 10.0 +0.6
baz=226
E20K Nigu River 82.58 15 P P 09 12 09.6 +0.2
baz=224
COLA College 82.77 20 P **P 09 12 10.2 -0.2**
COLA IAmb IAmb 09 12 10.9
comp=Z,17nm,0.8s
COLA College 82.77 20 *i* P **P 09 12 09.4 -1.0**
COLA pmax pmax
comp=Z,19nm,0.9s
COLA College 82.77 20 P P 09 12 10.4 0.0
baz=232
HDA Harding Lake 82.79 20 P P 09 12 10.8 +0.3
HDA IAmb IAmb 09 12 11.6
comp=Z,17nm,1.0s
HDA Harding Lake 82.79 20 P P 09 12 10.5 -0.1
baz=233,SNR=10
D20K Etivluk River 82.81 15 P P 09 12 11.3 +0.7
baz=223
H23K Yukon River 82.82 19 IAmb IAmb 09 12 12.4

comp=Z,18nm,1.0s
H23K **Yukon River** 82.82 19 P P 09 12 11.2 +0.5
baz=230,SNR=19
K24K **Donnelly Dome** 82.84 21 P P 09 12 11.5 +0.6
baz=234
A19K **Wainwright** 82.91 12 P P 09 12 11.6 +0.6
baz=219
G22K **Bettles** 82.94 17 P P 09 12 11.8 +0.5
baz=228,SNR=6.4
CTG **Chitna Glacier** 82.97 25 P P 09 12 11.9 +0.2
baz=238
PINM **Pinnacle** 82.98 26 P P 09 12 11.4 -0.3
baz=239
IL31 83.03 20 IAmb IAmb 09 12 12.4
comp=Z,13nm,1.0s
ILAR **Eielson Array** 83.03 20 P 09 12 11.4 -0.3
ILAR **Eielson Array** 83.03 20 P P 09 12 11.2 -0.7
comp=Z,4.7nm,0.7s,baz=244,slow=5.1,SNR=53
comp=Z,4.7nm,0.7s
ILAR **Eielson Array** 83.03 20 P P 09 12 11.5 -0.3
POKR **Poker Plat Res** 83.06 20 IAmb IAmb 09 12 13.1
comp=Z,21nm,1.4s
POKR **Poker Plat Res** 83.06 20 P P 09 12 11.6 -0.3
baz=232
M26K **Nabesna, AK** 83.08 23 P P 09 12 12.6 +0.4
baz=237
F22K **John River** 83.14 17 P P 09 12 12.8 +0.5
baz=228
PNL **Peninsula** 83.14 26 P P 09 12 12.8 +0.3
baz=240
RIDG **Independent Ri** 83.14 22 IAmb IAmb 09 12 14.1
comp=Z,20nm,1.2s
RIDG **Independent Ri** 83.14 22 P P 09 12 12.7 +0.2
baz=235,SNR=7.7
G23K **Bananza Creek** 83.24 18 IAmb IAmb 09 12 14.8
comp=Z,9.3nm,0.9s
G23K **Bananza Creek** 83.24 18 P P 09 12 13.4 +0.5
baz=230,SNR=9.5
E21K **Killik River** 83.29 16 IAmb IAmb 09 12 14.8
comp=Z,9.5nm,0.8s
E21K **Killik River** 83.29 16 P P 09 12 13.6 +0.5
baz=226
L26K **Log Cabin Wild** 83.29 23 P P 09 12 13.8 +0.6
baz=236
O28M **Mount Upton** 83.35 25 P P 09 12 14.1 +0.2
baz=239
H24K **Noodor Dome** 83.36 19 P P 09 12 14.0 +0.5
baz=232
WMQ **Urumqi** 83.36 316 *e*P P 09 12 15.0 +0.9
J25K **Salcha River,** 83.46 21 IAmb IAmb 09 12 15.6
comp=Z,29nm,1.4s
J25K **Salcha River,** 83.46 21 P P 09 12 14.6 +0.5
baz=234,SNR=15
M27K **Edge Creek, AK** 83.50 23 IAmb IAmb 09 12 16.6
comp=Z,7.5nm,0.8s
M27K **Edge Creek, AK** 83.50 23 P P 09 12 15.0 +0.5
baz=238,SNR=5.3
COLD **Coldfoot** 83.53 17 P P 09 12 15.2 +0.9
baz=230
C21K **Knifeblade Rid** 83.59 15 P P 09 12 15.1 +0.5
baz=225
SCRK **Sand Creek** 83.59 22 IAmb IAmb 09 12 16.4
comp=Z,11nm,0.8s
SCRK **Sand Creek** 83.59 22 P P 09 12 15.2 +0.4
baz=236,SNR=11
B20K **Meade River** 83.63 14 P P 09 12 15.6 +0.9
baz=223
E22K **Anaktuvuk Pass** 83.67 16 P P 09 12 15.9 +0.9
baz=228
YUK3 **Moose Creek** 83.76 24 P P 09 12 16.4 +0.5
baz=239
S31K **Pelican** 83.78 29 P P 09 12 16.6 +0.9
baz=243
YUK8 **Steele Glacier** 83.79 25 P P 09 12 16.8 +0.7
baz=240
O29M **Mount Kennedy** 83.81 26 P P 09 12 16.8 +0.7
baz=241
SIT **Sitka** 83.81 30 P P 09 12 16.9 +1.0
baz=244
P29M **Windy Craggy** 83.86 27 P P 09 12 16.7 +0.5
baz=242
L27K **Beaver Creek,** 83.89 23 P P 09 12 17.2 +0.9
baz=238,SNR=5.9
BCAR **Beaver Creek A** 83.91 23 P P 09 12 17.8 +1.4
BVCY **Beaver Creek** 83.93 24 P P 09 12 17.1 +0.6
baz=239
D22K **Ayikyak River** 83.94 16 P P 09 12 17.2 +0.8
baz=227
PRP **Porcupine Dome** 83.94 20 P P 09 12 17.7 +1.0
baz=234
B21K **Ikpikpuk River** 83.96 15 P P 09 12 17.4 +1.0
baz=225
G24K **Hadweenzic Riv** 84.02 19 IAmb IAmb 09 12 18.7
comp=Z,20nm,1.1s
G24K **Hadweenzic Riv** 84.02 19 P P 09 12 17.3 +0.5
baz=232,SNR=13
J26L **Joseph Creek** 84.04 21 P P 09 12 17.6 +0.5
baz=236,SNR=11
YUK6 **Outpost Mounta** 84.22 26 P P 09 12 18.8 +0.6
baz=241
E23K **Chandalar** 84.24 17 IAmb IAmb 09 12 20.1
comp=Z,18nm,1.4s
E23K **Chandalar** 84.24 17 P P 09 12 18.8 +0.8
baz=230
CRAG **Craig** 84.25 32 P P 09 12 18.8 +0.6
baz=246
YUK4 **Talbot Arm** 84.29 25 P P 09 12 20.3 +1.7
baz=241,SNR=5.3
K27K **Chicken** 84.32 22 P P 09 12 19.5 +1.1
baz=237
S32K **Killisnoo** 84.36 30 P P 09 12 20.3 +1.6
baz=245
F24K **Squaw Lake** 84.40 18 IAmb IAmb 09 12 21.1
comp=Z,26nm,1.6s
F24K **Squaw Lake** 84.40 18 P P 09 12 19.9 +1.1
baz=232,SNR=6.9
G25K **Bearman Lake** 84.50 19 P P 09 12 20.3 +1.1
baz=233,SNR=6.4
U33K **Whale Pass** 84.52 31 P P 09 12 19.9 +0.4
baz=246
HYT **Haines Junctio** 84.53 26 P P 09 12 20.4 +0.8
baz=242
D23K **Nanushuk River** 84.53 16 P P 09 12 20.5 +1.1
baz=229
E24K **Your Creek** 84.57 17 P P 09 12 20.6 +0.9
baz=231
TOLK **Toolik Lake Re** 84.62 16 IAmb IAmb 09 12 21.7
comp=Z,9.9nm,0.7s
TOLK **Toolik Lake Re** 84.62 16 P P 09 12 20.8 +0.8
baz=230
I26K **Coal Creek Min** 84.64 21 IAmb IAmb 09 12 21.7
comp=Z,17nm,1.3s
I26K **Coal Creek Min** 84.64 21 P P 09 12 20.8 +0.8
baz=236
A21K **Barrow** 84.72 13 P P 09 12 21.2 +1.0
baz=223
R32K **Eaglecrest** 84.73 29 P P 09 12 21.5 +0.9
baz=245
B22K **Teshekpuk Lake** 84.76 14 P P 09 12 22.2 +1.8
baz=226
A22K **Sinclair Lake** 84.86 13 P P 09 12 22.7 +1.8
baz=225
SKAG **Skagway** 84.87 28 P P 09 12 22.0 +0.7
baz=244
MAW **Mawson** 84.89 202 P P 09 12 20.6 -0.6
comp=Z,5.1nm,0.8s,baz=107,slow=4.4,SNR=12
comp=Z,5.1nm,0.8s
M29M **Somme Creek** 84.91 24 P P 09 12 23.2 +1.6
baz=241
V35K **Ketchikan** 84.99 32 P P 09 12 23.3 +1.4
baz=247
N30M **Aishikik Lake** 85.00 25 P P 09 12 23.2 +1.2
baz=242
O30N **Mendenhall** 85.12 26 IAmb IAmb 09 12 25.3
comp=Z,19nm,1.4s
O30N **Mendenhall** 85.12 26 P P 09 12 23.8 +1.2
baz=243
C23K **Itkillik River** 85.12 15 P P 09 12 23.6 +1.3
baz=229
F25K **Christian River** 85.13 18 P P 09 12 24.1 +1.6
baz=234
D24K **Happy Valley** 85.16 16 P P 09 12 24.1 +1.6
baz=231
I27K **Kandik River** 85.34 21 P P 09 12 24.8 +1.3
baz=238,SNR=9.5
DAWY **Dawson** 85.35 23 IAmb IAmb 09 12 26.7
comp=Z,9.0nm,1.0s
DAWY **Dawson** 85.35 23 P P 09 12 24.9 +1.2
baz=240,SNR=8.4
G26K **Porcupine Rive** 85.35 19 P P 09 12 24.9 +1.5
baz=236,SNR=17
L29M **L29M** 85.37 24 IAmb IAmb 09 12 26.9
comp=Z,8.0nm,0.9s
L29M **L29M** 85.37 24 P P 09 12 25.3 +1.6
baz=241,SNR=6.3
C24K **Franklin Bluff** 85.56 16 P P 09 12 26.2 +1.7
baz=231
N31M **Braeburn, Yuko** 85.58 26 P P 09 12 26.6 +1.8
baz=243,SNR=6.1
WHY **Whitehorse** 85.60 27 P P 09 12 26.6 +1.6
baz=244
M30M **Minto, Yukon** 85.65 24 P P 09 12 26.5 +1.4
baz=242
F26K **Sheenjek River** 85.66 18 P P 09 12 26.7 +1.6
baz=235
P32M **Atlin** 85.67 28 P P 09 12 26.5 +1.2
baz=245
H27K **Steamboat Moun** 85.70 20 IAmb IAmb 09 12 27.8
comp=Z,23nm,1.4s
H27K **Steamboat Moun** 85.70 20 P P 09 12 26.4 +1.0
baz=238,SNR=7.2
K02D **Willamette Mer** 85.82 46 IAmb IAmb 09 12 29.1
comp=Z,14nm,0.8s
I28M **Miner Creek** 85.85 21 IAmb IAmb 09 12 28.2
comp=Z,16nm,1.6s
I28M **Miner Creek** 85.85 21 P P 09 12 27.1 +0.9
baz=239
D25K **Kavik River** 85.95 17 P P 09 12 27.4 +0.9
baz=233
K29M **Barlow Dome** 85.96 23 IAmb IAmb 09 12 29.3
comp=Z,14nm,1.0s
K29M **Barlow Dome** 85.96 23 P P 09 12 28.3 +1.5
baz=242,SNR=12
G27K **Doyon Strip** 85.97 20 IAmb IAmb 09 12 29.1
comp=Z,11nm,1.4s
G27K **Doyon Strip** 85.97 20 P P 09 12 27.8 +1.1
baz=238
J29N **Klondike Camp** 85.99 23 P P 09 12 27.7 +0.9
baz=241
Q32M **Nakina River** 86.09 29 P P 09 12 28.0 +0.4
baz=247
S34M **Telegraph Cree** 86.23 30 P P 09 12 29.7 +1.6
baz=248
YBH **Yreka Blue Hor** 86.25 47 IAmb IAmb 09 12 30.9
comp=Z,6.2nm,0.8s
T35M **Bob Quinn** 86.32 31 P P 09 12 29.9 +1.3
baz=248
I29M **Ogilvie Camp,** 86.40 22 IAmb IAmb 09 12 30.7
comp=Z,14nm,0.9s
I29M **Ogilvie Camp,** 86.40 22 P P 09 12 30.1 +1.3
baz=241,SNR=17
M31M **Drury Creek, Y** 86.48 25 IAmb IAmb 09 12 30.9
comp=Z,11nm,1.1s
M31M **Drury Creek, Y** 86.48 25 P P 09 12 30.0 +0.7
baz=244,SNR=5.3
C26K **Camden Bay** 86.72 16 P P 09 12 32.0 +1.8
baz=234
E27K **Coleen River** 86.73 19 P P 09 12 31.9 +1.5
baz=238,SNR=7.1
J30M **Hart River** 86.76 23 IAmb IAmb 09 12 33.1
comp=Z,11nm,1.1s
J30M **Hart River** 86.76 23 P P 09 12 32.1 +1.4
baz=243,SNR=8.9
H29M **Whitestone** 86.80 21 P P 09 12 31.8 +1.1
baz=241
AFDM **Forest Hills D** 86.86 50 IAmb IAmb 09 12 33.8
comp=Z,12nm,1.3s
R33M **Jennings River** 86.88 29 P P 09 12 32.5 +1.1
baz=248
C27K **Jago River** 86.89 17 P P 09 12 32.7 +1.6
baz=236
DLBC **Dease Lake** 86.97 30 P P 09 12 32.9 +1.2
baz=248
F28M **Old Crow** 86.99 19 IAmb IAmb 09 12 34.0
comp=Z,10nm,1.2s
F28M **Old Crow** 86.99 19 P P 09 12 32.6 +1.0
baz=239,SNR=5.8
I30M **Mount Dempster** 87.05 22 P P 09 12 32.7 +0.6
baz=242,SNR=18
J04A **Umpqua Nationa** 87.07 46 P P 09 12 32.6 -0.2
G29M **Pine Creek** 87.26 20 P P 09 12 33.9 +0.9
baz=241,SNR=9.9
EPYK **Eagle Plains** 87.46 21 P P 09 12 34.7 +0.7
baz=242,SNR=15
D27M **Malcolm River** 87.50 18 P P 09 12 35.3 +1.3
baz=238
BEKR **Beckworth** 87.54 49 IAmb IAmb 09 12 37.2
comp=Z,20nm,1.5s
E28M **Babage River** 87.61 19 P P 09 12 35.9 +1.3
baz=240,SNR=7.8
K05A **Summer Lake** 87.81 46 IAmb IAmb 09 12 39.0
comp=Z,13nm,0.9s
MK31 **Makanchi Array** 87.87 318 *i* P P 09 12 35.9 -0.4
MKAR **Makanchi Array** 87.87 318 P 09 12 36.0 -0.3
MKAR **Makanchi Array** 87.87 318 P P 09 12 36.2 -0.1
comp=Z,5.8nm,0.7s,baz=98,slow=5.9,SNR=48
MKAR pP **sP** 09 12 53.7 -2.4
comp=Z,2.7nm,0.7s,baz=98,slow=6.2,SNR=6.5
comp=Z,5.8nm,0.7s
I05D **Terrebonne, OR** 87.88 45 IAmb IAmb 09 12 39.0
comp=Z,5.2nm,0.7s
G30M **tAoh Zraii Nji** 87.92 21 P P 09 12 36.6 +0.4
baz=243,SNR=6.0
MMPY **Sheldon Lake,** 87.98 26 P P 09 12 36.9 +0.3
baz=247
E29M **Blow River** 88.02 19 P P 09 12 37.3 +0.8
baz=241
PINE **Pine Mountain** 88.02 45 IAmb IAmb 09 12 40.7
comp=Z,8.3nm,0.9s
H31M **Peel River** 88.07 22 IAmb IAmb 09 13 06.4
comp=Z,20nm,1.5s
H31M **Peel River** 88.07 22 P P 09 12 37.5 +0.6
baz=244,SNR=5.2
MAKZ **Makanchi** 88.08 318 P P 09 12 37.0 -0.3
MAKZ IAmb IAmb 09 12 38.2
comp=Z,8.4nm,0.9s
MAKZ **Makanchi** 88.08 318 P P 09 12 37.0 -0.3
MAKZ pmax pmax
comp=Z,8.0nm,1.0s
PAHR **Pah Rah Range** 88.23 50 IAmb IAmb 09 12 40.8
comp=Z,9.9nm,1.0s
ZALV **Zalesovo Beam** 88.26 325 P P 09 12 36.7 -1.2
comp=Z,2.2nm,0.7s,baz=115,slow=6.7,SNR=8.0
ZALV pP **sP** 09 12 55.3 -2.5
comp=Z,1.0nm,0.6s,baz=98,slow=4.5,SNR=2.7
ZALV LR LR 09 54 06.0
comp=Z,20nm,18.4s,baz=94,slow=37
comp=Z,2.2nm,0.7s
ZALV **Zalesovo Beam** 88.26 325 *i* P P 09 12 35.5 -2.4
ZALV pmax pmax
comp=Z,2.0nm,0.7s
F30M **Barrier River** 88.36 20 IAmb IAmb 09 12 40.1
comp=Z,14nm,1.1s
F30M **Barrier River** 88.36 20 P P 09 12 39.2 +1.1
baz=243,SNR=5.6
G31M **Satah River** 88.58 21 IAmb IAmb 09 12 40.9
comp=Z,17nm,1.3s
G31M **Satah River** 88.58 21 P P 09 12 39.9 +0.7
baz=244
LHV **Little Huntoon** 88.60 51 IAmb IAmb 09 12 43.8
comp=Z,7.5nm,1.0s
NVAR **Mina Array Bea** 88.79 51 P 09 12 41.0 -0.1
NVAR **Mina Array Bea** 88.79 51 P P 09 12 41.9 +0.8
comp=Z,2.5nm,0.7s,baz=239,slow=6.9,SNR=29
comp=Z,2.5nm,0.7s
DSP **Deep Springs** 88.83 52 IAmb IAmb 09 12 43.7
comp=Z,12nm,1.4s
TGTN **Hyland Airport** 88.89 27 P P 09 12 41.8 +0.9
baz=250
F31M **Tsiigehtchic** 88.99 21 IAmb IAmb 09 12 44.1
comp=Z,11nm,1.2s
F31M **Tsiigehtchic** 88.99 21 P P 09 12 41.8 +0.7
baz=245
LIRD **Liard River Hi** 89.22 29 P P 09 12 43.1 +0.8
baz=252
GRAC **Grapevine Rang** 89.23 53 IAmb IAmb 09 12 50.0
comp=Z,18nm,1.6s
BORC **Borrego Spring** 89.29 56 IAmb IAmb 09 12 45.8
comp=Z,12nm,1.1s
PFO **Pinyon Flats O** 89.32 56 P P 09 12 43.6 0.0
PFO IAmb IAmb 09 12 46.1
comp=Z,12nm,1.4s
PFO **Pinyon Flats O** 89.32 56 LR LR 09 44 48.6
baz=257,SNR=30
PFO **Pinyon Flats O** 89.32 56 *i* P P 09 12 42.2 -1.4
PFO pmax pmax
comp=Z,17nm,1.4s
MZP **Montezuma Peak** 89.35 52 P P 09 12 44.0 +0.2
WVOR **Wild Horse Val** 89.37 47 IAmb IAmb 09 12 46.2
comp=Z,5.7nm,0.9s
PMD **Palm Desert** 89.39 56 IAmb IAmb 09 12 46.1
comp=Z,8.0nm,1.1s
QSM **Queen of Sheba** 89.43 54 IAmb IAmb 09 12 46.1
comp=Z,16nm,1.5s
INK **Inuvik** 89.43 20 IAmb IAmb 09 12 45.9
comp=Z,6.6nm,1.1s
INK **Inuvik** 89.43 20 P P 09 12 44.0 +0.9
baz=245
TOAD **Toad River Com** 89.47 30 P P 09 12 43.9 +0.3
baz=253
YUH **Yuha Desert** 89.59 57 IAmb IAmb 09 12 46.9
comp=Z,6.8nm,0.9s
J08A **Circle Bar Ran** 89.68 46 IAmb IAmb 09 12 47.3
comp=Z,4.1nm,0.6s
WCT **Wildcat Mounta** 89.78 53 IAmb IAmb 09 12 48.1
comp=Z,12nm,1.3s
TPNV **Topopah Spring** 90.10 53 IAmb IAmb 09 12 49.6
comp=Z,20nm,1.5s
BC3 **Big Chuckawall** 90.15 56 IAmb IAmb 09 12 50.1
comp=Z,12nm,1.0s
MTPC **Mountain Pass** 90.39 54 IAmb IAmb 09 12 51.0
comp=Z,14nm,1.3s
KDJ **Kajisay** 90.40 312 IAmb IAmb 09 12 49.7
comp=Z,9.9nm,0.8s
E09A **Wood Farm, Sta** 90.55 43 IAmb IAmb 09 12 50.8
comp=Z,10nm,1.0s
S11A **Rachel** 90.62 52 IAmb IAmb 09 12 51.9
comp=Z,8.0nm,0.8s
BMO **Blue Mountains** 90.80 45 IAmb IAmb 09 12 52.1
comp=Z,5.7nm,0.8s
KSH **Kashi** 90.81 310 P P 09 12 52.5 +2.1
KSH pmax pmax
comp=Z,4.0nm,0.4s
SHPR **Sheep Range** 90.88 53 IAmb IAmb 09 12 53.7
comp=Z,7.8nm,1.2s
KURK **Kurchatov** 91.14 321 *ce*P P 09 12 50.7 -0.8
KURK pmax pmax
comp=Z,7.0nm,1.7s
KURBB **Kurchatov Arra** 91.17 321 P P 09 12 50.8 -0.8
comp=Z,1.2nm,0.7s,baz=100,slow=3.9,SNR=9.2
comp=Z,1.2nm,0.7s
BOOM **Boomskoye usch** 91.37 313 IAmb IAmb 09 12 54.2
comp=Z,5.5nm,0.9s
113A **Mohawk Valley,** 91.40 57 IAmb IAmb 09 12 55.7
comp=Z,5.2nm,1.0s
ELK **Elko** 91.55 49 IAmb IAmb 09 12 56.5
comp=Z,9.8nm,1.1s
WRGLY **Wrigley** 91.55 26 P P 09 12 53.8 +0.7
baz=254
NEW **Newport** 91.58 42 LR LR 09 45 50.2
comp=Z,40nm,21.1s,baz=252,slow=30
MFID **Camas Ranch** 91.58 46 IAmb IAmb 09 12 56.4
comp=Z,11nm,1.6s
PLID **Pearl Lake** 91.75 45 IAmb IAmb 09 12 56.2
comp=Z,7.4nm,0.8s
AAK **Ala-Archa** 92.44 313 *i* P P 09 12 56.9 -1.1
SYO **Syowa Base** 92.46 198 ǁ *i*P P 09 12 59.0 +1.7
SYO **Syowa Base** 92.46 198 ǁ *e*pP pP 09 13 08.2 -3.6
CCUT **Cedar City** 92.47 53 IAmb IAmb 09 13 01.2
comp=Z,5.5nm,0.9s
LCMT **Little Creek M** 92.48 53 IAmb IAmb 09 13 01.0
comp=Z,5.4nm,1.1s
HLID **Hailey** 92.62 47 IAmb IAmb 09 13 01.5
comp=Z,7.4nm,1.1s
LPIG **La Paz** 93.14 66 LR LR 09 46 07.9
comp=Z,38nm,21.4s,baz=227,slow=30
U15A **North Rim** 93.15 54 IAmb IAmb 09 13 05.5
comp=Z,7.5nm,1.1s
BGU **Big Grassy Mou** 93.23 49 IAmb IAmb 09 13 04.0
comp=Z,6.2nm,1.1s
PKCU **Pink Cliffs** 93.28 53 IAmb IAmb 09 13 05.2
comp=Z,9.4nm,1.1s
A36M **Sachs Harbour** 93.39 17 P P 09 13 01.6 +0.2
baz=253
MPU **Maple Canyon** 94.16 50 IAmb IAmb 09 13 08.7
comp=Z,17nm,1.7s
JLU **Jordanelle** 94.38 50 IAmb IAmb 09 13 09.4
comp=Z,6.4nm,1.1s
TMUT **Trail Mountain** 94.39 51 IAmb IAmb 09 13 09.4
comp=Z,13nm,1.8s
HWUT **Hardware Ranch** 94.42 49 IAmb IAmb 09 13 09.0
comp=Z,3.8nm,0.8s
BSUT **Blindstream Ca** 94.89 50 IAmb IAmb 09 13 11.9
comp=Z,7.7nm,1.1s
LOHW **Long Hollow** 95.37 47 IAmb IAmb 09 14 41.4
comp=Z,9.9nm,1.9s
YKA **Yellowknife Ar** 95.37 28 P P 09 13 10.6 -0.1
comp=Z,2.5nm,0.8s,baz=267,slow=4.6,SNR=12
YKA LR LR 09 48 50.3
comp=Z,44nm,21.3s,baz=262,slow=31
comp=Z,2.5nm,0.8s
PV23 **Carpenter Ridg** 96.00 52 IAmb IAmb 09 13 39.4
comp=Z,13nm,1.5s
PD31 **Pinedale Array** 96.04 48 IAmb IAmb 09 13 15.9
comp=Z,3.6nm,0.9s
PDAR **Pinedale Array** 96.04 48 P P 09 13 14.2 -0.3
PDAR **Pinedale Array** 96.04 48 P P 09 13 14.5 -0.1
comp=Z,1.9nm,0.6s,baz=211,slow=2.3,SNR=25
PDAR LR LR 09 50 01.8
comp=Z,13nm,20.0s,baz=356,slow=31
comp=Z,1.9nm,0.6s
BVAR **Borovoye Array** 96.53 323 P P 09 13 15.3 -0.9
comp=Z,2.3nm,0.7s,baz=99,slow=4.8,SNR=12
BVAR pP **sP** 09 13 33.2 -2.9
comp=Z,1.7nm,0.7s,baz=91,slow=5.9,SNR=4.4
comp=Z,2.3nm,0.7s
BRVK **Borovoye** 96.60 323 *ce*P P 09 13 14.2 -2.3
BRVK pmax pmax
comp=Z,4.0nm,1.1s
TROLL **Troll, Antarti** 98.26 187 ⇑P P 09 13 23.8 -0.1
comp=Z,18nm,0.2s
SNAA **Sanae** 99.15 185 LR LR 09 53 58.0
comp=Z,91nm,20.8s,baz=49,slow=33
TXAR **Lajitas Array** 99.60 62 P Pdif 09 13 30.9 +0.2
comp=Z,0.2nm,0.6s,baz=234,slow=3.5,SNR=3.6
comp=Z,0.2nm,0.6s
MNK **Minsk** 120.45 330 *i* PKIKP PKPdf 09 18 36.0 -1.9
MNK *i* 09 20 05.2
MNK *i* PPP PPP 09 22 36.7
MNK *i* 09 25 48.0
MNK *i* PS PS 09 29 51.3 -4.9
MNK *i* SS SS 09 36 34.8 +5.1
MNK *i* SSS SSS 09 41 02.2
MNK pmax pmax
comp=E,17nm,0.7s
MNK pmax pmax
comp=Z,15nm,0.7s
MNK pmax pmax
comp=N,5.0nm,0.6s
AKASG **Malin Array Be** 121.66 326 PKP PKPdf 09 18 39.5 -0.8
comp=N,0.6nm,0.4s,baz=46,slow=2.2,SNR=4.9
NB2 **NORSAR Subarra** 122.73 343 PKPdf PKPdf 09 18 41.8 -0.4
comp=Z,1.1nm,0.7s,baz=31,slow=1.7
NOA **NORSAR Array B** 122.73 343 PKP PKPdf 09 18 40.4 -1.8
comp=Z,1.0nm,0.8s,baz=33,slow=2.0,SNR=4.3
LPAZ **La Paz** 126.34 117 PKP PKPdf 09 18 50.6 -0.5
comp=Z,1.2nm,0.9s,baz=249,slow=2.5,SNR=4.8
VYHS **Vyhne** 128.52 328 *i* P Pdif 09 15 35.8 -3.0
VYHS **Vyhne** 128.52 328 *e*PDIFF Pdif 09 15 35.8 -3.0
CPUP **Villa Florida** 129.83 135 PKP PKPdf 09 18 54.9 -1.9
comp=Z,0.7nm,0.9s,baz=334,slow=5.6,SNR=3.7
GERES **GERESS Array B** 130.88 331 PKP PKPdf 09 18 56.6 -1.6
comp=Z,0.3nm,0.6s,baz=318,slow=1.8,SNR=3.6
BDFB **Brasilia** 143.28 131 PKhKP PKPpre 09 19 18.1
comp=Z,4.5nm,0.7s,baz=168,slow=2.4,SNR=5.9
PBRG **Braganca** 144.86 343 *e*PKP PKPbc 09 19 23.5 +0.4
PGAV **Cavieira, Arco** 145.14 345 *e*PKP PKPdf 09 19 24.9 +0.3
PCAB **Cabril** 145.31 344 *e*PKP PKPdf 09 19 25.2 +0.5
MVO **Moncorvo** 145.54 343 *e*PKP PKPab 09 19 26.0 +0.4
POLO **Lamas de Olo** 145.56 344 *e*PKP PKPab 09 19 26.6 +0.9
PVRL **Vila Real** 145.63 344 *e*PKP PKPab 09 19 26.6 +0.7
ESDC **Sonseca Array** 145.84 338 PKPbc PKPdf 09 19 25.9 +0.1
comp=Z,7.5nm,0.9s,baz=12,slow=3.6,SNR=34
PVIS **Viseu** 146.20 343 *e*PKP PKPab 09 19 28.3 +0.2
PCBR **Castelo Branco** 146.89 342 *e*PKP PKPab 09 19 30.1 -0.5
PMRV **Marv??o** 147.24 342 *e*PKP PKPbc 09 19 31.2 +0.8
PSARD **Sardoal** 147.31 343 *e*PKP PKPbc 09 19 31.4 +0.8
PESTR **Estremoz** 147.81 342 *e*PKP PKPbc 09 19 32.7 +0.7
EVO **Evora** 148.25 342 *e*PKP PKPbc 09 19 33.8 +0.7
PARRA **Arraiolos** 148.29 344 *e*PKP PKPbc 09 19 33.0 -0.2

GCG 28 09:02:33.2±0.8, 14°01N×91°09W, h93km±7km, MD3.6,

ML3.2, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESSG	**Sabana Grande**	**0.44**	**34**	*i* P	Pn	09 02 48.2	+0.2
ESSG				*i* S	Sn	09 02 59.8	+0.8
ESSG				IAML		09 03 00.6	
	comp=N,514nm,0.1s						
FG8	**Yepocapa, Chim**	**0.56**	**64**	*i* P	Pn	09 02 48.4	-0.5
FG16	**Alotenango, Sa**	**0.61**	**65**	*i* P	Pn	09 02 48.9	-0.5

*NIED **28** 09:06:19.9, 26˚.80N×127˚.75E, h15km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}-5.77; $M_{\theta\theta}$3.44; $M_{\phi\phi}$2.33; $M_{r\theta}$-1.15; $M_{\theta\phi}$-1.87; $M_{\phi r}$-2.06; Fault plane solution: $M_0$5.68000×10^{14} NP1: ϕ_s111.00000°, δ46.00000°, λ-115.00000°. NP2: ϕ_s324.00000°, δ49.00000°, λ-67.00000°.*
*JMA **28** 09:06:19.9±0.1, 26˚.8N±0˚.4×127˚.8E±0˚.3, h15km±3km, MD4.0/19, MV3.7/19, NEAR OKINAWAJIMA ISLAND*
JMA Felt I J1 at NEAR OKINAWAJIMA ISLAND .
*IDC **28** 09:06:20.1±1.4, 26˚.47N×126˚.88E, h0km, mb3.6/4, mbtmp3.6/5, ML2.6/1, MS3.3/2, Error ellipse: s-maj=54.9km s-min=23.7km az=67.0*

ISC 28 09:06:19.5±1.1, 26˚.82N±0˚.04×127˚.73E±0˚.03, h11km±9km, n27, σ1§23/31, mb3.7/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIH	**Iheya**	**0.30**	**45**	*i* P	**Pb**	**09 06 26.3**	**-0.5**
JIH				*e*S	**Sb**	**09 06 30.7**	**-1.0**
JIH	**Iheya**	**0.30**	**45**	A	A	09 06 26.3	
	comp=N,13nm,2.3s,comp=E,15nm,0.4s						
JNTH	**Nagotoyohara**	**0.40**	**139**	*i* P	**Pg**	**09 06 27.5**	**+0.1**
JNTH				*e*S	**Sg**	**09 06 32.6**	**-0.1**
JNTH	**Nagotoyohara**	**0.40**	**139**	A	A	09 06 27.5	
	comp=N,4.0nm,5.7s,comp=E,5.0nm,1.7s						
JOW	**Kunigami**	**0.48**	**89**	*i* P	**Pg**	**09 06 29.3**	**+0.3**
JOW				S	**Sg**	**09 06 35.4**	**0.0**
JOW	**Kunigami**	**0.48**	**89**	A	A	09 06 29.3	
	comp=N,9.0nm,5.4s,comp=E,12nm,0.5s						
JAGN	**Aguni-jima**	**0.50**	**242**	*i* P	**Pb**	**09 06 29.8**	**-0.4**
JAGN				S	**Sb**	**09 06 36.5**	**-0.9**
JAGN	**Aguni-jima**	**0.50**	**242**	A	A	09 06 29.8	
	comp=N,15nm,0.4s,comp=E,27nm,0.5s						
JYRO	**Yoronjima**	**0.67**	**73**	*i* P	**Pb**	**09 06 32.8**	**-0.4**
JYRO				S	**Sg**	**09 06 41.4**	**+0.1**
JJT3	**Tamagusuku3**	**0.68**	**176**	*i* P	**Pg**	**09 06 33.1**	**+0.5**
JJT3				S	**Sg**	**09 06 42.3**	**+0.8**
JJT3	**Tamagusuku3**	**0.68**	**176**	A	A	09 06 33.1	
	comp=N,23nm,5.5s,comp=E,22nm,4.9s						
JOKE	**Okinoerabujima**	**0.92**	**54**	*i* P	**Pb**	**09 06 36.8**	**-0.6**
JOKE				*e*S	**Sn**	**09 06 50.7**	**-0.9**
JKE	**Kume jima 2**	**0.98**	**240**	P	**Pg**	**09 06 37.5**	**-0.8**
JKE				*e*S	**Sg**	**09 06 50.6**	**-0.5**
JTK	**Tokunoshima**	**1.45**	**48**	*i* P	**Pb**	**09 06 45.6**	**-0.9**
JTK				*e*S	**Sg**	**09 07 04.7**	**-1.4**
JAMN	**Amaminishikomi**	**1.91**	**42**	P	**Pn**	**09 06 52.1**	**+0.2**
JAMN				S	**Sn**	**09 07 14.9**	**-1.0**
JAM	**Amami Oshima**	**2.29**	**46**	*e*P	**Pn**	**09 06 58.3**	**+1.1**
JZK	**Kikaishima**	**2.48**	**53**	*e*P	**Pb**	**09 07 02.9**	**-1.2**
JTAJ	**Takarajima**	**2.66**	**29**	*e*P	**Pn**	**09 07 02.9**	**+0.6**
JTAJ				S	**Sn**	**09 07 35.1**	**+0.5**
JMZ	**Minamidaito 2**	**3.29**	**107**	*e*S	**Sn**	**09 07 46.9**	**-3.1**
JKDJ	**Kitadaitoujima**	**3.31**	**104**	*e*S	**Sn**	**09 07 48.3**	**-2.4**
JHJ	**Hachijo jima 2**	**12.18**	**56**	LR	LR	09 13 49.5	
	comp=E,43nm,21.6s,baz=3.0,slow=34						
MJAR	**Matsushiro Arr**	**13.16**	**40**	Pn	**P**	**09 09 39.6**	**+3.1**
	baz=223,slow=9.3,SNR=6.5						
	comp=E,1.6nm,0.8s						
MKAR	**Makanchi Array**	**40.81**	**311**	P	**P**	**09 14 00.0**	**-0.9**
	comp=E,0.8nm,0.6s,baz=98,slow=10,SNR=1.9						
	comp=E,0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**44.12**	**316**	P	**P**	**09 14 27.9**	**+0.2**
	comp=E,0.5nm,0.4s,baz=102,slow=7.9,SNR=5.2						
	comp=E,0.5nm,0.4s						
WRA	**Warramunga Arr**	**46.93**	**171**	P	**P**	**09 14 49.8**	**-0.5**
	comp=E,0.5nm,0.6s,baz=354,slow=8.8,SNR=4.7						
	comp=E,0.5nm,0.6s						
ASAR	**Alice Springs**	**50.55**	**173**	P	**P**	**09 15 19.4**	**+1.3**
	comp=E,0.3nm,0.6s,baz=356,slow=10,SNR=10						
	comp=E,0.3nm,0.6s						
FRB	**Frobisher Bay**	**88.82**	**7**	LR	LR	10 00 52.3	
	comp=E,50nm,21.4s,baz=306,slow=37						

*SNET **28** 09:08:28.5±0.7, 13˚.28N×87˚.81W, h4km, ML3.0, ML3.5*
*CATAC **28** 09:08:29.1±0.3, 13˚N±2˚×87˚8W±1˚, h4km±1km, M2.4/10, MLv2.4/10, Error ellipse: s-maj=4.3km s-min=2.8km az=14.9, confirmed*

ISC 28 09:08:28.6±0.9, 13˚.24N±0˚.05×87˚.85W±0˚.03, h8km±5km, n20, σ0§70/24, 1D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.04**	**27**	*e*P	**Pg**	**09 08 29.5**	**-0.8**
CNCH				*e*P		09 08 30.1	
	comp=Z,53μm,0.1s						
CNCH				*e*S	**Sg**	**09 08 31.1**	**-0.5**
CNCH				IAML		09 08 31.9	
	comp=Z,53μm,0.1s						
CNCH	**Conchagua**	**0.04**	**27**	P	**Pg**	**09 08 30.1**	**-0.2**
LCND	**La Caada**	**0.08**	**332**	⇓*i*P	**Pg**	**09 08 30.9**	**+0.3**
LCND				*e*P		09 08 31.0	
LCND				*e*S	**Sg**	**09 08 32.7**	**+0.6**
LCND				IAML		09 08 33.3	
	comp=Z,4μm,0.2s						
LCND	**La Caada**	**0.08**	**332**	P	**Pg**	**09 08 30.9**	**+0.3**
CSGN	**Cosiguina Volc**	**0.39**	**132**	P	**Pb**	**09 08 37.7**	**-0.1**
CSGN				S	**Sb**	**09 08 43.6**	**-0.4**
PACA	**Pacayal**	**0.51**	**296**	P	**Pg**	**09 08 36.4**	**-2.1**
ALJI	**Alcalda de J**	**0.70**	**277**	S	**Sg**	**09 08 52.8**	**+1.4**
ALJI	**Alcalda de J**	**0.70**	**277**	P	**Pg**	**09 08 42.5**	**+0.4**
CHOHN	**Orocuina**	**0.72**	**71**	P	**Pg**	**09 08 42.4**	**0.0**
PQSS	**Presa 15 de Se**	**0.79**	**299**	P	**Pb**	**09 08 44.8**	**+0.3**
CRIN	**San Cristobal**	**0.95**	**124**	P	**Pb**	**09 08 47.7**	**+0.4**
SCLA	**Alcaldia de Sa**	**0.97**	**298**	P	**Pg**	**09 08 46.7**	**-0.5**
TGUH	**Tegucigalpa,Un**	**0.99**	**35**	P	**Pg**	**09 08 47.5**	**-0.1**
TGUH				S	**Sb**	**09 09 01.1**	**-0.2**
YUSH	**Yuscaran**	**1.21**	**54**	P	**Pg**	**09 08 51.5**	**-0.4**
YUSH	**Yuscaran**	**1.21**	**54**	S	**Sb**	**09 09 07.3**	**-0.4**
LOMA	**Loma Larga**	**1.34**	**288**	P	**Pn**	**09 08 53.3**	**-0.4**
LOMA	**Loma Larga**	**1.34**	**288**	S	**Sg**	**09 09 12.2**	**+0.3**
RCPN	**Sur Rio San Ju**	**1.73**	**80**	P	**Pn**	**09 08 59.5**	**+0.4**
SARH	**Santa Rosa de**	**1.76**	**330**	P	**Pg**	**09 09 02.1**	**-0.3**
SARH	**Santa Rosa de**	**1.76**	**330**	S	**Sg**	**09 09 25.8**	**+0.5**

AUST 28 09:33:21.9±1.4, 18˚S±7˚×12˚0E±1˚5, h10km, mb4.1/2, ML2.6/3, ML2.9/4, Error ellipse: s-maj=31.8km s-min=13.7km az=77.1, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior**	**2.04**	**75**	S	Sn	09 34 18.3	-3.4
MBWA	**Marble Bar**	**2.69**	**189**	P	Pn	09 34 04.7	-0.5
MBWA				S	Sn	09 34 39.2	+1.3
PSAC1	**Pilbara Seismi**	**3.05**	**186**	P	Pn	09 34 10.6	+0.4
PSAC1				S	Sn	09 34 47.3	+0.6
PSA00	**Pilbara Seismi**	**3.08**	**186**	P	Pn	09 34 11.1	+0.4
PSA00				S	Sn	09 34 48.3	+0.7
GIRL	**Giralia**	**6.92**	**232**	P	Pn	09 35 03.5	0.0
	comp=Z,97μmcomp=Z,38nm,1.5s,comp=Z,0.1nm						
GIRL				S	Sn	09 36 18.3	-4.0
MEEK	**Meekatharra**	**8.24**	**190**	P	Pn	09 35 21.1	-0.5
	comp=Z,18nm,2.8s,comp=Z,0.1nm						

*KRSC **28** 09:53:04.0±0.8, 53˚.70N×160˚.88E, h52km±15km, Ml5.0, Felt [IV] at kordon Kronoki; [II-III] at HMS Semyachik; [II] at Petropavlovsk.*
*MOS **28** 09:53:06.0±1.3, 53˚.82N×160˚.53E, h78km, mb4.7/23, Error ellipse: s-maj=7.8km s-min=3.7km az=77.3*
*NEIC **28** 09:53:07.3±1.0, 53˚.9N±0˚.1×160˚.4E±0˚.2, h69km±8km, mb4.4/61, Error ellipse: s-maj=16.9km s-min=11.7km az=137.0*
*IDC **28** 09:53:08.6±1.4, 53˚.95N×160˚.36E, h78km±12km, mb4.1/30, mbtmp4.4/33, MS3.3/21, Error ellipse: s-maj=12.8km s-min=9.5km az=131.0*

ISC 28 09:53:05.2±0.7, 53.76N±0˚.03×160˚.73E±0˚.03, h57km±6km, n532, σ1§33/540, mb4.5/88, MS3.5/17, 10C-4D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.79**	**213**	PN	**Pn**	**09 53 20.4**	**+0.1**
SPN				S	**Sn**	**09 53 31.1**	**-0.2**
SPN	**Mys Shipunski**	**0.79**	**213**	*i* P	**Pn**	**09 53 20.4**	**+0.1**
SPN				*e*S	**Sn**	**09 53 31.2**	**-0.2**
KII	**Karymskiy**	**0.81**	**291**	PN	**Pn**	**09 53 21.6**	**+1.0**
KII	**Karymskiy**	**0.81**	**291**	*i* P	**Pn**	**09 53 21.7**	**+1.0**
MKZ	**Mys Kozlova**	**0.99**	**36**	PN	**Pn**	**09 53 23.4**	**+0.5**
MKZ	**Mys Kozlova**	**0.99**	**36**	*i* P	**Pn**	**09 53 23.4**	**+0.5**
NLC	**Nalytchevo**	**1.02**	**235**	PN	**Pn**	**09 53 23.9**	**+0.7**
NLC				S	**Sn**	**09 53 37.6**	**+1.0**
NLC	**Nalytchevo**	**1.02**	**235**	*i* P	**Pn**	**09 53 23.9**	**+0.7**
NLC				*e*S	**Sn**	**09 53 37.6**	**+1.0**
SDLR	**Sedlovina**	**1.20**	**247**	*i* P	**Pn**	**09 53 27.3**	**+1.4**
SMAR	**Somma**	**1.25**	**247**	PN	**Pn**	**09 53 27.9**	**+1.3**
SMAR	**Somma**	**1.25**	**247**	*e*P	**Pn**	**09 53 28.0**	**+1.3**
UGLR	**Uglovaya**	**1.27**	**245**	PN	**Pn**	**09 53 28.3**	**+1.6**
UGLR	**Uglovaya**	**1.27**	**245**	*i* P	**Pn**	**09 53 28.3**	**+1.6**
KRER	**Koryakskii**	**1.27**	**250**	PN	**Pn**	**09 53 28.6**	**+1.8**
KRER	**Koryakskii**	**1.27**	**250**	*e*P	**Pn**	**09 53 28.6**	**+1.8**
AVH	**Avacha**	**1.29**	**248**	PN	**Pn**	**09 53 28.7**	**+1.7**
AVH	**Avacha**	**1.29**	**248**	*e*P	**Pn**	**09 53 28.7**	**+1.7**
KRX	**Arik**	**1.30**	**253**	PN	**Pn**	**09 53 28.8**	**+1.5**
KRX	**Arik**	**1.30**	**253**	*i* P	**Pn**	**09 53 28.8**	**+1.5**
KOK	**Koryaka**	**1.33**	**250**	PN	**Pn**	**09 53 29.1**	**+1.5**
KOK	**Koryaka**	**1.33**	**250**	*e*P	**Pn**	**09 53 29.1**	**+1.5**
DALK	**Dalny**	**1.39**	**239**	PN	**Pn**	**09 53 29.4**	**+1.2**
DALK				S	**Sn**	**09 53 46.8**	**+1.3**
DALK	**Dalny**	**1.39**	**239**	*e*P	**Pn**	**09 53 29.5**	**+1.2**
DALK				*e*S	**Sn**	**09 53 46.9**	**+1.3**
PET	**Petropavlovsk**	**1.45**	**240**	PN	**Pn**	**09 53 30.2**	**+1.3**
PET	**Petropavlovsk**	**1.45**	**240**	K *i*PN	**Pn**	**09 53 30.3**	**+1.3**
PET				*e*S	**Sn**	**09 53 47.9**	**+1.0**
PET				pmax	pmax		
	comp=Z,531nm,0.5s						
PET				smax	smax		
	comp=E,8μm,0.7s						
PET				smax	smax		
	comp=N,10μm,0.6s						
PET	**Petropavlovsk**	**1.45**	**240**	*e*P	**Pn**	**09 53 30.2**	**+1.3**
PET				*e*S	**Sn**	**09 53 48.3**	**+1.4**
TUMD	**Tumrok D**	**1.46**	**353**	PN	**Pn**	**09 53 30.4**	**+1.2**
TUMD				S	**Sn**	**09 53 48.5**	**+1.2**
TUMD	**Tumrok D**	**1.46**	**353**	*i* P	**Pn**	**09 53 30.4**	**+1.2**
TUMD				*e*S	**Sn**	**09 53 48.5**	**+1.2**
GNL	**Ganaly**	**1.66**	**269**	PN	**Pn**	**09 53 33.7**	**+1.7**
GNL	**Ganaly**	**1.66**	**269**	*e*P	**Pn**	**09 53 33.7**	**+1.7**
KRMR	**Karymshinskiy**	**1.82**	**240**	PN	**Pn**	**09 53 35.7**	**+1.7**
KRMR				S	**Sn**	**09 53 58.1**	**+2.2**
KRMR	**Karymshinskiy**	**1.82**	**240**	*i* P	**Pn**	**09 53 35.8**	**+1.7**
KRMR				*e*S	**Sn**	**09 53 58.2**	**+2.2**
RUS	**Russkaya**	**1.89**	**226**	PN	**Pn**	**09 53 35.6**	**+0.7**
RUS	**Russkaya**	**1.89**	**226**	*e*P	**Pn**	**09 53 35.6**	**+0.7**
PEA0B	**Petropavlovsk-**	**1.93**	**251**		**Pn**	**09 53 36.9**	**+1.4**
PEA0B	**Petropavlovsk-**	**1.93**	**251**	*i* PN	**Pn**	**09 53 37.4**	**+1.8**
PETK	**Petropavlovsk-**	**1.93**	**251**		**Pn**	**09 53 37.0**	**+1.4**
PETK	**Petropavlovsk-**	**1.93**	**251**	P	**Pn**	**09 53 36.3**	**+0.7**
	comp=N,228nm,0.3s,baz=75,slow=20,SNR=128						
PETK				S	**Sn**	**09 54 00.9**	**+2.3**
	comp=N,352nm,0.4s,baz=116,slow=22,SNR=6.4						
PETK				LR	LR	09 54 28.1	
	comp=N,340nm,20.3s,baz=61,slow=44						
MTVR	**Mutnovka**	**2.00**	**231**	PN	**Pn**	**09 53 38.0**	**+1.4**
MTVR	**Mutnovka**	**2.00**	**231**	*e*P	**Pn**	**09 53 38.0**	**+1.4**
GRL	**Gorelyy**	**2.01**	**234**	PN	**Pn**	**09 53 38.6**	**+1.9**
GRL	**Gorelyy**	**2.01**	**234**	*e*P	**Pn**	**09 53 38.6**	**+1.9**
KMNR	**Kamenistaya**	**2.02**	**352**	PN	**Pn**	**09 53 39.3**	**+2.4**
KMNR	**Kamenistaya**	**2.02**	**352**	*e*P	**Pn**	**09 53 39.4**	**+2.4**
BZGR	**Bezymyannyi-Gr**	**2.19**	**359**	PN	**Pn**	**09 53 41.7**	**+2.5**
BZGR	**Bezymyannyi-Gr**	**2.19**	**359**	*e*P	**Pn**	**09 53 41.7**	**+2.5**
ASAK	**Asacha**	**2.19**	**232**	PN	**Pn**	**09 53 41.4**	**+2.2**
ASAK	**Asacha**	**2.19**	**232**	*e*P	**Pn**	**09 53 41.5**	**+2.2**
KIRR	**Kirishev**	**2.21**	**354**	PN	**Pn**	**09 53 41.9**	**+2.4**
KIRR	**Kirishev**	**2.21**	**354**	*e*P	**Pn**	**09 53 42.0**	**+2.4**
BZWR	**Bezymyannyi-We**	**2.21**	**357**	PN	**Pn**	**09 53 41.8**	**+2.2**
BZWR	**Bezymyannyi-We**	**2.21**	**357**	*e*P	**Pn**	**09 53 41.9**	**+2.2**
KPT	**Kopyto**	**2.23**	**353**	PN	**Pn**	**09 53 42.1**	**+2.3**
KPT	**Kopyto**	**2.23**	**353**	*e*P	**Pn**	**09 53 42.1**	**+2.3**
ZLN	**Zelenaya**	**2.26**	**1**	PN	**Pn**	**09 53 43.1**	**+2.9**
ZLN	**Zelenaya**	**2.26**	**1**	*e*P	**Pn**	**09 53 43.1**	**+2.9**
APC	**Apacha**	**2.30**	**250**	PN	**Pn**	**09 53 43.5**	**+2.9**
APC				S	**Sn**	**09 54 10.9**	**+3.2**
APC	**Apacha**	**2.30**	**250**	*e*P	**Pn**	**09 53 43.5**	**+2.9**
APC				*e*S	**Sn**	**09 54 10.9**	**+3.2**
KOZ	**Kozyrevsk**	**2.36**	**348**	PN	**Pn**	**09 53 43.6**	**+2.2**
KOZ	**Kozyrevsk**	**2.36**	**348**	*e*P	**Pn**	**09 53 43.6**	**+2.2**
CIRR	**Tsirk**	**2.36**	**0**	PN	**Pn**	**09 53 44.5**	**+2.9**
CIRR	**Tsirk**	**2.36**	**0**	*e*P	**Pn**	**09 53 44.6**	**+2.9**
ESO	**Esso**	**2.47**	**332**	PN	**Pn**	**09 53 44.7**	**+1.8**
ESO	**Esso**	**2.47**	**332**	*e*P	**Pn**	**09 53 44.8**	**+1.8**
KLY	**Klyuchi**	**2.56**	**359**	PN	**Pn**	**09 53 46.2**	**+2.4**
KLY				S	**Sn**	**09 54 17.5**	**+3.4**
KLY	**Klyuchi**	**2.56**	**359**	*e*P	**Pn**	**09 53 46.6**	**+2.4**
KLY				*e*S	**Sn**	**09 54 17.6**	**+3.4**
SRDR	**Sredinnyy**	**2.63**	**348**	PN	**Pn**	**09 53 46.5**	**+1.3**
SRDR	**Sredinnyy**	**2.63**	**348**	*e*P	**Pn**	**09 53 46.6**	**+1.3**
KBTR	**Krutoberegovo**	**2.73**	**25**	PN	**Pn**	**09 53 48.4**	**+1.9**
KBTR	**Krutoberegovo**	**2.73**	**25**	*e*P	**Pn**	**09 53 48.4**	**+1.9**
KBG	**Krutoberegovo**	**2.75**	**24**	PN	**Pn**	**09 53 49.4**	**+2.7**
KBG	**Krutoberegovo**	**2.75**	**24**	*e*P	**Pn**	**09 53 49.5**	**+2.7**
MIPR	**Malaya Ipel'ka**	**2.82**	**240**	PN	**Pn**	**09 53 50.6**	**+2.8**
MIPR	**Malaya Ipel'ka**	**2.82**	**240**	*e*P	**Pn**	**09 53 50.6**	**+2.8**
SMKR	**Semkarok**	**2.86**	**8**	PN	**Pn**	**09 53 50.8**	**+2.5**
SMKR	**Semkarok**	**2.86**	**8**	*e*P	**Pn**	**09 53 50.9**	**+2.5**
PAU	**Pauzhetka**	**3.31**	**228**	PN	**Pn**	**09 53 57.4**	**+2.9**
PAU	**Pauzhetka**	**3.31**	**228**	*e*P	**Pn**	**09 53 57.4**	**+2.9**
BKI	**Bering**	**3.38**	**63**	PN	**Pn**	**09 53 56.2**	**+0.8**
BKI				S	**Sn**	**09 54 31.8**	**-2.4**
BKI	**Bering**	**3.38**	**63**	*e*P	**Pn**	**09 53 56.2**	**+0.8**
BKI				*e*S	**Sn**	**09 54 31.8**	**-2.4**
SKR	**Severo-Kuril's**	**4.19**	**224**	*e*PN	Pn	09 54 11.7	+5.3
SKR				*e*S	**Sn**	**09 54 55.8**	**+1.8**
SKR				pmax	pmax		
	comp=Z,75nm,0.6s						
SKR				smax	smax		
	comp=N,359nm,0.6s						
SKR				smax	smax		
	comp=E,567nm,0.5s						
SKR				MLR	MLR		
	comp=Z,500nm,10.0s						
SKR	**Severo-Kuril's**	**4.19**	**224**	*e*P	**Pn**	**09 54 09.3**	**+2.9**
PALN	**Palana**	**5.36**	**356**	PN	**Pn**	**09 54 26.6**	**+4.2**
PALN	**Palana**	**5.36**	**356**	*e*P	**Pn**	**09 54 26.7**	**+4.2**
OSSR	**Ossora**	**5.65**	**12**	PN	**Pn**	**09 54 30.0**	**+3.6**
OSSR	**Ossora**	**5.65**	**12**	*e*P	**Pn**	**09 54 30.0**	**+3.6**
MA2	**Magadan**	**8.00**	**321**		**Pn**	**09 54 58.2**	**-0.3**
MA2	**Magadan**	**8.00**	**321**	P	**Pn**	**09 54 57.8**	**-0.8**
	comp=Z,7.6nm,0.5s,baz=124,slow=10,SNR=10						
MA2				LR	LR	09 58 25.2	
	comp=Z,153nm,20.7s,baz=154,slow=41						
MA2	**Magadan**	**8.00**	**321**	*ce*PN	**Pn**	**09 54 57.6**	**-1.0**
MA2				pmax	pmax		
	comp=Z,16nm,1.7s						
SHEM	**Shemya Is, Ala**	**8.09**	**92**	Pn	**Pn**	**09 55 00.6**	**+0.8**
SHEM	**Shemya Is, Ala**	**8.09**	**92**	P	**Pn**	**09 55 00.7**	**+1.0**
	comp=Z,11nm,0.5s,baz=90,slow=5.5,SNR=5.9						
SHEM				S	**Sn**	**09 56 25.9**	**-3.8**
	comp=Z,19nm,0.4s,baz=246,slow=17,SNR=9.7						
SHEM				LR	LR	09 57 59.8	
	comp=Z,133nm,21.4s,baz=316,slow=35						
SEY	**Seymchan**	**10.18**	**338**	P	**Pn**	**09 55 26.6**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=144,slow=15,SNR=4.3						
SEY				LR	LR	09 59 57.2	
	comp=Z,169nm,20.2s,baz=192,slow=41						
SEY	**Seymchan**	**10.18**	**338**	*e*PN	**Pn**	**09 55 27.5**	**-0.9**
SEY				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ADK	**Adak**	**13.78**	**89**	Pn	**Pn**	**09 56 16.4**	**-0.9**
ADK	**Adak**	**13.78**	**89**	P	**Pn**	**09 56 16.5**	**-0.9**
BILL	**Bilibino**	**14.57**	**8**	*ce*P	**Pn**	**09 56 27.0**	**-0.8**
BILL				pmax	pmax		
	comp=Z,11nm,1.7s						
GRNR	**Gornyy**	**15.16**	**268**	⇑*i*P	**P**	**09 56 42.3**	**+2.8**
GRNR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
GRNR				MLR	MLR		
	comp=Z,6.0nm,14.0s						
JKA	**Kamikawa-asahi**	**15.29**	**238**	Pn	**Pn**	**09 56 35.7**	**-1.5**
ASAJ	**Asahikawa**	**15.29**	**238**	P	**Pn**	**09 56 38.0**	**+0.8**
	comp=Z,8.1nm,1.1s,baz=59,slow=7.3,SNR=5.1						
ASAJ				LR	LR	10 01 41.3	
	comp=Z,88nm,21.3s,baz=56,slow=34						
ASAJ	**Asahikawa**	**15.29**	**238**	P	**Pn**	**09 56 35.7**	**-1.5**
ASAJ				pmax	pmax		
	comp=Z,15nm,1.1s						
ERM	**Erimo**	**16.59**	**232**	Pn	**Pn**	**09 56 51.8**	**-1.9**
ERM				IAmb	IAmb	09 57 26.5	
	comp=Z,55nm,1.4s						
ERM	**Erimo**	**16.59**	**232**	*i* P	**Pn**	**09 56 51.8**	**-1.9**
SPIA	**Saint Paul Isl**	**16.74**	**67**	P	**P**	**09 56 57.1**	**+0.1**
	baz=271						
P08K	**Saint George I**	**17.14**	**68**	P	**P**	**09 57 01.8**	**+0.4**
	baz=273						
GAMB	**Gambell**	**17.31**	**44**	P	**Pn**	**09 57 02.5**	**+0.1**
	baz=248						
NIKH	**Nikolski High**	**18.11**	**80**	P	**Pn**	**09 57 13.2**	**+0.9**
NIKH				IAmb	IAmb	09 57 55.4	
	comp=Z,38nm,1.3s						
NIKH	**Nikolski High**	**18.11**	**80**	P	**P**	**09 57 12.9**	**+0.9**
	baz=285						
YAK	**Yakutsk**	**18.30**	**309**		**P**	**09 57 12.4**	**-1.6**
YAK	**Yakutsk**	**18.30**	**309**	P	**P**	**09 57 12.5**	**-1.6**
	comp=Z,39nm,0.4s,baz=358,slow=1.1,SNR=6.1						
YAK				LR	LR	10 05 13.8	
	comp=Z,77nm,18.1s,baz=106,slow=40						
YAK	**Yakutsk**	**18.30**	**309**	*e*P	**P**	**09 57 13.5**	**-0.6**
YAK				*e*S	**Sn**	**10 00 37.4**	**-0.5**
YAK				pmax	pmax		
	comp=Z,21nm,1.0s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.2s						
YAK				smax	smax		
	comp=E,31nm,4.3s						
YAK				smax	smax		
	comp=N,22nm,3.4s						
M11K	**Mekoryuk**	**19.00**	**56**	P	**P**	**09 57 21.5**	**-0.3**
	baz=265						
UNV	**Unalaska Valle**	**19.26**	**76**	P	**P**	**09 57 25.8**	**+1.1**
	baz=283						
TNA	**Tin City**	**19.50**	**40**		**P**	**09 57 28.2**	**+1.1**
TNA				IAmb	IAmb	09 57 31.0	
	comp=Z,14nm,0.9s						
TNA	**Tin City**	**19.50**	**40**	P	**P**	**09 57 27.4**	**+0.3**
	baz=248						
K13K	**Kusilvak Mount**	**19.94**	**52**	P	**P**	**09 57 32.1**	**+0.1**
K13K	**Kusilvak Mount**	**19.94**	**52**	P	**P**	**09 57 33.1**	**+1.2**
	baz=262						
F14K	**Arctic Creek**	**20.08**	**41**	P	**P**	**09 57 34.0**	**+0.5**
	baz=250						
ANM	**Nome**	**20.19**	**44**	P	**P**	**09 57 34.9**	**+0.3**
	baz=254						
M13K	**Dall Lake**	**20.41**	**57**	P	**P**	**09 57 37.7**	**+0.6**
	baz=267						
J14K	**Nanvaranak Lak**	**20.57**	**50**	P	**P**	**09 57 40.4**	**+1.6**
J14K	**Nanvaranak Lak**	**20.57**	**50**	P	**P**	**09 57 39.8**	**+1.0**
	baz=261						
L14K	**Kuka Creek**	**20.80**	**54**	P	**P**	**09 57 42.4**	**+1.1**
	baz=266						
FALS	**False Pass**	**20.81**	**72**	P	**P**	**09 57 43.1**	**+1.7**
	baz=282						
F15K	**North Star Dit**	**20.82**	**41**	P	**P**	**09 57 43.2**	**+1.6**
F15K	**North Star Dit**	**20.82**	**41**	P	**P**	**09 57 41.6**	**+0.1**
	baz=252,SNR=5.9						
G15K	**Niukluk**	**20.86**	**44**	P	**P**	**09 57 42.2**	**+0.3**
	baz=255						
USRK	**Uesuriysk Ar.**	**21.02**	**255**	LR	LR	10 06 55.5	
	comp=Z,67nm,20.0s,baz=41,slow=40						
M14K	**Bethel**	**21.12**	**56**	P	**P**	**09 57 45.4**	**+0.7**
	baz=268			

MJAR **Matsushiro Arr** 23.26 231 P 09 58 06.6 -0.9
MJAR **Matsushiro Arr** 23.26 231 P P 09 58 08.9 +1.4
comp=Z,5.1nm,0.8s,baz=22,slow=11,SNR=18
MJAR LR LR 10 08 25.8
comp=Z,37nm,19.3s,baz=90,slow=40
comp=Z,5.1nm,0.8s
MJAR **Matsushiro Arr** 23.26 231 P P 09 58 06.6 -0.9
MJAR pmax pmax
comp=Z,4.0nm,1.0s
MAJO **Matsushiro** 23.26 231 P 09 58 07.4 -0.1
MAJO IAmb IAmb 09 58 22.1
comp=Z,13nm,0.8s
MAJO **Matsushiro** 23.26 231 *i* P P 09 58 06.9 -0.6
MAJO pmax pmax
comp=Z,8.0nm,0.7s
CHGN **Chignik** 23.31 67 P P 09 58 07.7 0.0
baz=281
M17K **Holitna River** 23.33 54 P P 09 58 09.5 +1.5
M17K IAmb IAmb 09 58 11.8
comp=Z,23nm,0.9s
M17K **Holitna River** 23.33 54 P P 09 58 07.2 -0.7
baz=270,SNR=7.2
N17K **Nushagak Hills** 23.47 56 P P 09 58 08.2 -1.0
baz=272
R16K **Pilot Point** 23.55 64 P P 09 58 10.2 +0.2
baz=279
O17K **Koliganek Bris** 23.55 58 P P 09 58 10.0 -0.1
baz=274
L18K **Granite Mounta** 23.70 52 P P 09 58 10.5 -0.9
baz=269
A19K **Wainwright** 23.73 32 P P 09 58 09.6 -1.9
baz=246
J18K **Innoko River** 23.74 49 P P 09 58 13.3 +1.5
J18K IAmb IAmb 09 58 14.5
comp=Z,12nm,1.1s
J18K **Innoko River** 23.74 49 P P 09 58 11.9 +0.1
baz=266,SNR=7.8
C19K **Lookout Ridge** 23.79 35 P P 09 58 10.8 -1.4
baz=250
GCSA **Galena City Sc** 23.80 46 P P 09 58 12.3 +0.1
baz=263
F19K **Shaleruckik Mo** 23.80 41 P
F19K IAmb IAmb 09 58 15.4
comp=Z,9.1nm,0.7s
F19K **Shaleruckik Mo** 23.80 41 P P 09 58 12.1 -0.1
baz=258,SNR=9.8
Q16K **King Salmon** 23.88 61 P P 09 58 14.2 +1.2
baz=277
G19K **Purcell Mounta** 23.93 42 P
G19K IAmb IAmb 09 58 15.9
comp=Z,9.8nm,0.8s
G19K **Purcell Mounta** 23.93 42 P P 09 58 13.1 -0.3
baz=260,SNR=12
P17K **Kvichak River** 23.93 60 P P 09 58 14.4 +0.9
baz=276
H19K **Roundabout Mou** 24.09 44 P P 09 58 15.8 +1.0
H19K **Roundabout Mou** 24.09 44 P P 09 58 15.0 +0.1
baz=262,SNR=21
N18K **Kilae Creek** 24.10 56 P P 09 58 15.2 +0.1
baz=273
M18K **Stony River** 24.10 54 P P 09 58 15.1 +0.1
baz=271
D19K **Kuna River** 24.11 36 P P 09 58 15.1 0.0
baz=253
E19K **Redstone River** 24.15 39 P P 09 58 15.5 0.0
baz=257
R17L **Mt. Peulik Vol** 24.18 63 P P 09 58 16.3 +0.5
baz=280
J19K **Poorman** 24.27 48 P P 09 58 17.1 +0.6
J19K **Poorman** 24.27 48 P P 09 58 17.1 +0.6
baz=266
Q17K **Contact Creek** 24.34 62 P P 09 58 16.5 -0.8
baz=279
O18K **Koktuh Hills** 24.50 58 P P 09 58 18.0 -0.6
baz=276
P18K **Big Mountain,** 24.53 59 P P 09 58 18.9 -0.2
baz=277
L19K **White Mountain** 24.55 52 P P 09 58 19.5 +0.3
baz=271
F20K **Avaraart Lake** 24.64 40 P P 09 58 20.2 +0.3
baz=259,SNR=8.8
D20K **Etivluk River** 24.70 36 P P 09 58 20.3 -0.1
baz=255,SNR=12
H20K **Anotleneega Mo** 24.73 44 P P 09 58 20.9 +0.2
baz=264,SNR=9.5
Q18K **Katmai Hardscr** 24.74 61 P P 09 58 21.7 +0.7
baz=278
M19K **Big River Lodg** 24.78 53 P P 09 58 21.2 0.0
baz=272
N19K **Bonanza Creek** 24.78 55 P P 09 58 22.4 +1.0
baz=274
I20K **Naaghedeneel** 24.83 46 P P 09 58 22.2 +0.6
baz=265,SNR=8.3
B20K **Meade River** 24.90 33 P P 09 58 22.1 0.0
baz=251,SNR=8.2
O19K **Port Alsworth** 24.91 57 P P 09 58 23.5 +1.1
baz=276
J20K **Nowinta River** 24.93 47 P P 09 58 23.5 +1.0
J20K IAmb IAmb 09 58 25.9
comp=Z,13nm,0.7s
J20K **Nowinta River** 24.93 47 P P 09 58 22.7 +0.2
baz=267,SNR=15
K20K **Telida** 24.93 49 P P 09 58 23.0 +0.4
baz=269,SNR=11
CHIR **Chirikof Islan** 24.94 67 P P 09 58 23.9 +1.2
baz=284
L20K **Farewell, AK** 25.01 51 P P 09 58 24.1 +0.8
baz=271
R18K **Karluk** 25.20 63 P P 09 58 26.3 +1.3
baz=281
M20K **Styx River** 25.37 53 P P 09 58 27.4 +0.7
baz=273
Q19K **Cape Douglas,** 25.40 60 P P 09 58 27.1 +0.2
baz=279
G21K **Allakaket** 25.42 42 P P 09 58 28.2 +1.2
G21K **Allakaket** 25.42 42 P P 09 58 27.4 +0.4
baz=263,SNR=7.6
C21K **Knifeblade Rid** 25.45 36 P P 09 58 27.3 +0.1
baz=256
P19K **Oil Pt** 25.51 58 P P 09 58 27.6 -0.3
baz=278
A21K **Barrow** 25.52 30 P P 09 58 27.6 -0.1
baz=249
F21K **Alatna River** 25.53 40 P P 09 58 29.8 +1.8
F21K IAmb IAmb 09 58 31.8
comp=Z,8.2nm,0.8s
F21K **Alatna River** 25.53 40 P P 09 58 28.0 0.0
baz=261,SNR=6.5
SII **Sitkinak Islan** 25.55 65 P P 09 58 28.7 +0.4
baz=283
E21K **Killik River** 25.57 37 P P 09 58 28.3 -0.1
baz=258
H21K **Melozitna Rive** 25.61 44 P P 09 58 28.7 0.0
baz=265,SNR=11
B21K **Ikpikpuk River** 25.63 35 P P 09 58 30.1 +1.3
B21K **Ikpikpuk River** 25.63 35 P P 09 58 28.1 -0.7
baz=255
CHUM **Lake Minchumin** 25.72 48 P P 09 58 29.9 +0.2
baz=269
O20K **Slope Mountain** 25.77 57 P P 09 58 30.5 +0.3
baz=277
PPLA **Purkeypile** 25.78 50 P P 09 58 30.4 0.0
baz=272
CAST **Castle Rocks** 25.82 49 P 09 58 32.4 +1.7
CAST **Castle Rocks** 25.82 49 P P 09 58 30.8 +0.2
baz=271,SNR=5.3
N20K **Mount Spurr** 25.86 54 P P 09 58 31.0 -0.1
baz=275
SPCR **Spurr Chakacha** 25.86 54 P P 09 58 31.1 0.0
baz=275
OHAK **Old Harbor** 25.89 64 P P 09 58 31.6 +0.4
baz=282
I21K **Tanana** 25.91 45 P P 09 58 31.1 -0.4
baz=267
A22K **Sinclair Lake** 25.91 32 P P 09 58 30.4 -0.9
baz=252
F22K **John River** 26.07 40 P P 09 58 33.1 +0.2
baz=262
Q20K **Shuyak Island** 26.09 60 P P 09 58 33.8 +0.7
baz=280
SKT **Skwentna** 26.12 53 P P 09 58 33.4 0.0
baz=274
D22K **Ayikyak River** 26.13 37 P P 09 58 33.0 -0.4
baz=259
KDAK **Kodiak Island** 26.15 62 P P 09 58 34.0 +0.4
baz=282
H22K **Ishtalitna Cre** 26.21 44 P P 09 58 34.1 0.0
baz=266

B22K **Teshekpuk Lake** 26.22 33 P P 09 58 33.9 -0.2
baz=255
G22K **Bettles** 26.26 41 P P 09 58 33.6 -0.9
baz=264
E22K **Anaktuvuk Pass** 26.31 39 P P 09 58 36.3 +1.3
E22K IAmb IAmb 09 58 37.4
comp=Z,18nm,1.1s
E22K **Anaktuvuk Pass** 26.31 39 P P 09 58 34.2 -0.8
baz=261,SNR=8.4
BPAW **Bear Paw Mtn.** 26.31 48 P P 09 58 35.1 +0.1
baz=270
HOM **Homer** 26.31 58 P P 09 58 34.6 -0.5
baz=279
CAPN **Captain Cook N** 26.41 55 P P 09 58 36.3 +0.4
baz=277
MLY **Manley** 26.43 46 P P 09 58 37.7 +1.5
MLY **Manley** 26.43 46 P P 09 58 36.8 +0.6
baz=268,SNR=5.6
SUA **Susitna One** 26.54 54 P P 09 58 37.2 -0.1
baz=276
TRF **Thorofare Moun** 26.63 49 P P 09 58 39.2 +1.1
TRF IAmb IAmb 09 58 40.5
comp=Z,10nm,1.0s
TRF **Thorofare Moun** 26.63 49 P P 09 58 38.2 +0.1
baz=272
CUT **Chulitna** 26.69 51 P P 09 58 39.0 +0.6
baz=274
COLD **Icefoot** 26.80 41 P P 09 58 39.2 -0.1
baz=265,SNR=9.4
M22K **Willow** 26.81 53 P P 09 58 39.9 +0.4
baz=276
G23K **Bananza Creek** 26.82 42 P P 09 58 39.1 -0.6
baz=266,SNR=6.7
D23K **Nanushuk River** 26.85 37 P P 09 58 39.0 -0.8
baz=261
H23K **Yukon River** 26.96 44 P P 09 58 42.4 +1.5
H23K IAmb IAmb 09 58 43.7
comp=Z,12nm,1.2s
H23K **Yukon River** 26.96 44 P P 09 58 40.8 -0.1
baz=268,SNR=6.4
I23K **Minto, Yukon-K** 27.02 45 P P 09 58 41.2 -0.2
baz=270
C23K **Itkillik River** 27.04 35 P P 09 58 40.9 -0.5
baz=259
RC01 **Rabbit Creek A** 27.06 54 P P 09 58 41.9 +0.1
baz=277
E23K **Chandalar** 27.11 39 P P 09 58 41.9 -0.4
baz=264,SNR=9.0
NEA2 **Nenana** 27.14 47 P P 09 58 42.1 -0.4
baz=271,SNR=7.7
O22K **Cooper Landing** 27.15 56 P P 09 58 42.5 -0.1
baz=278
TOLK **Toolik Lake Re** 27.20 38 P P 09 58 42.6 -0.4
baz=262
MCK **McKinley** 27.22 48 P P 09 58 43.0 -0.3
baz=273
RND **Reindeer** 27.27 49 P P 09 58 44.7 +0.9
RND IAmb IAmb 09 58 45.5
comp=Z,11nm,0.9s
RND **Reindeer** 27.27 49 P P 09 58 44.7 +0.9
RND pmax pmax
comp=Z,11nm,0.9s
PMR **Palmer** 27.30 53 P P 09 58 43.8 0.0
baz=277
SEW **Seward** 27.34 56 P P 09 58 44.7 +0.4
baz=279
E24K **Your Creek** 27.54 39 P P 09 58 47.2 +1.1
E24K IAmb IAmb 09 58 48.6
comp=Z,16nm,1.1s
E24K **Your Creek** 27.54 39 P P 09 58 46.8 +0.7
baz=265,SNR=7.9
D24K **Happy Valley** 27.54 37 P P 09 58 45.5 -0.5
baz=262
KNK **Knik Glacier** 27.64 53 P P 09 58 47.8 +0.8
baz=278
H24K **Noodor Dome** 27.65 44 P P 09 58 47.6 +0.5
baz=270
COLA **College** 27.66 46 *i* P P 09 58 48.2 +1.1
COLA pmax pmax
comp=Z,10.0nm,1.1s
COLA **College** 27.66 46 P P 09 58 47.7 +0.6
baz=271
C24K **Franklin Bluff** 27.67 35 P P 09 58 47.4 +0.3
baz=261
CCB **Clear Creek Bu** 27.69 46 P P 09 58 48.4 +1.1
F24K **Squaw Lake** 27.71 40 P P 09 58 47.5 -0.1
baz=266,SNR=6.2
PWL **Port Wells** 27.77 55 P P 09 58 48.8 +0.6
baz=279
KSRS **Korea Array** 27.82 247 P P 09 58 49.2 +0.5
comp=Z,1.1nm,0.8s,baz=38,slow=9.9,SNR=5.5
comp=Z,1.1nm,0.8s
G24K **Hadweenzic Riv** 27.83 42 P P 09 58 50.1 +1.5
G24K **Hadweenzic Riv** 27.83 42 P P 09 58 49.4 +0.8
baz=268,SNR=17
POKR **Poker Plat Res** 27.83 45 P P 09 58 48.7 0.0
baz=271
M23K **Glacier View** 27.94 53 P P 09 58 49.9 +0.3
baz=277
HDA **Harding Lake** 28.07 47 P P 09 58 51.7 +0.9
HDA IAmb IAmb 09 58 52.8
comp=Z,7.1nm,0.5s
HDA **Harding Lake** 28.07 47 P P 09 58 51.6 +0.8
baz=273,SNR=7.8
ILAR **Eielson Array** 28.08 46 P P 09 58 51.8 +0.9
comp=Z,4.6nm,0.7s,baz=264,slow=8.2,SNR=74
comp=Z,4.6nm,0.7s
SCM **Sheep Creek Mo** 28.12 52 P P 09 58 51.7 +0.3
baz=278
GLI **Glacier Island** 28.37 54 P P 09 58 53.9 +0.5
baz=280
P23K **Montague Islan** 28.37 56 P P 09 58 53.9 +0.4
baz=281
G25K **Bearman Lake** 28.38 42 P P 09 58 53.2 -0.2
baz=269
D25K **Kavik River** 28.43 37 P P 09 58 54.3 +0.3
baz=264,SNR=6.6
H25L **Birch Creek** 28.49 43 P P 09 58 54.4 -0.1
baz=271
F25K **Christian Rive** 28.58 40 P P 09 58 56.1 +0.7
baz=268,SNR=5.7
K24K **Donnelly Dome** 28.62 48 P P 09 58 55.8 +0.1
baz=275
M24K **Tolsona, Glenn** 28.62 52 P P 09 58 56.1 +0.3
baz=278
PRP **Porcupine Dome** 28.62 45 P P 09 58 56.1 +0.2
baz=272,SNR=14
J25K **Salcha River,** 28.74 46 P P 09 58 56.9 +0.1
baz=274,SNR=8.6
KLU **Klutina** 28.83 53 P P 09 58 57.1 -0.6
baz=279
PAX **Paxon** 28.84 50 P P 09 58 57.7 0.0
baz=277
C26K **Camden Bay** 29.00 35 P P 09 58 58.5 -0.5
baz=265
Q23K **Middleton Isla** 29.00 57 P P 09 58 59.5 +0.4
baz=283
RIDG **Independent Ri** 29.04 48 P P 09 58 59.4 -0.1
baz=276
HARP **HAARP** 29.06 51 P P 09 58 59.7 +0.1
baz=278
EYAK **Cordova Ski Ar** 29.08 55 P P 09 59 00.1 +0.4
baz=281
F26K **Sheenjek River** 29.16 40 P P 09 59 00.6 +0.1
baz=270
G26K **Porcupine Rive** 29.30 42 P P 09 59 01.6 0.0
baz=271,SNR=11
SCRK **Sand Creek** 29.39 48 P P 09 59 03.2 +0.5
baz=276,SNR=7.2
C27K **Jago River** 29.39 36 P P 09 59 02.4 -0.1
baz=266
N25K **Chitina, Valde** 29.44 53 P P 09 59 02.8 -0.3
baz=280
J26L **Joseph Creek** 29.52 47 P P 09 59 03.8 +0.1
baz=276
BMRM **Bremner River** 29.55 54 P P 09 59 03.7 -0.3
baz=281
JNU **Nakatsue** 29.57 238 P P 09 59 04.1 -0.3
JNU IAmb IAmb 09 59 06.2
comp=Z,19nm,1.3s
JNU **Nakatsue** 29.57 238 LR LR 10 11 08.9
comp=Z,34nm,19.2s,baz=1.5,slow=37
I26K **Coal Creek Min** 29.63 45 P P 09 59 05.2 +0.6
baz=275
L26K **Log Cabin Wild** 29.79 49 P P 09 59 06.6 +0.4
baz=278
KAIM **Kayak Island** 29.85 56 P P 09 59 07.2 +0.6
baz=283

M26K **Nabesna, AK** 30.05 51 P P 09 59 09.0 +0.5
baz=280
E27K **Coleen River** 30.12 39 P P 09 59 09.4 +0.4
baz=271
G27K **Doyon Strip** 30.14 42 P P 09 59 10.8 +1.7
G27K IAmb IAmb 09 59 12.5
comp=Z,3.9nm,0.7s
G27K **Doyon Strip** 30.14 42 P P 09 59 09.5 +0.4
baz=273,SNR=5.0
K27K **Chicken** 30.22 47 P P 09 59 10.0 +0.2
baz=278
MCARA **McCarthy VSAT** 30.22 53 P P 09 59 10.0 +0.1
baz=282
H27K **Steamboat Moun** 30.23 43 P P 09 59 10.0 +0.1
baz=274,SNR=9.5
I27K **Kandik River** 30.24 44 P P 09 59 09.9 -0.3
baz=275
CRQE **Cirque** 30.32 54 P P 09 59 10.7 -0.2
baz=283
D27M **Malcolm River** 30.35 37 P P 09 59 10.8 -0.2
baz=270
BGLC **Bering Glacier** 30.36 55 P P 09 59 10.9 -0.2
baz=284
L27K **Beaver Creek,** 30.47 49 P P 09 59 12.5 +0.4
baz=280,SNR=11
M27K **Edge Creek, AK** 30.57 51 P P 09 59 15.4 +2.2
M27K IAmb IAmb 09 59 16.6
comp=Z,7.3nm,0.7s
M27K **Edge Creek, AK** 30.57 51 P P 09 59 13.7 +0.5
baz=281,SNR=5.4
F28M **Old Crow** 30.79 40 P P 09 59 14.7 -0.1
baz=274,SNR=7.8
E28M **Babbage River** 30.87 38 P P 09 59 15.1 -0.4
baz=272
I28M **Miner Creek** 30.95 44 P P 09 59 16.1 -0.3
baz=277,SNR=5.7
MESA **MESA** 31.00 55 P P 09 59 16.9 -0.1
baz=284
BVCY **Beaver Creek** 31.03 50 P P 09 59 17.5 +0.5
baz=281
CTG **Chitna Glacier** 31.11 53 P P 09 59 18.3 +0.5
baz=283
D28M **Stokes Point** 31.14 37 P P 09 59 18.0 +0.1
baz=272
YUK3 **Moose Creek** 31.34 51 P P 09 59 20.3 +0.3
baz=283
DAWY **Dawson** 31.38 47 P P 09 59 20.5 +0.3
baz=280
E29M **Blow River** 31.48 39 P P 09 59 21.3 +0.4
baz=274
H29M **Whitestone** 31.50 43 P P 09 59 22.0 +0.8
baz=277,SNR=8.3
G29M **Pine Creek** 31.56 41 P P 09 59 22.4 +0.8
baz=276,SNR=13
I29M **Ogilvie Camp,** 31.64 44 P P 09 59 23.0 +0.6
baz=279,SNR=5.5
O28M **Mount Upton** 31.70 53 P P 09 59 23.5 +0.3
baz=284
YUK8 **Steele Glacier** 31.78 52 P P 09 59 24.4 +0.5
baz=284
J29N **Klondike Camp** 31.82 46 P P 09 59 24.3 +0.3
baz=280
PINM **Pinnacle** 31.84 55 P P 09 59 25.2 +0.9
baz=286
M29M **Somme Creek** 32.11 50 P P 09 59 26.7 +0.1
baz=283,SNR=7.2
L29M **L29M** 32.12 49 P P 09 59 27.8 +1.2
baz=282,SNR=9.9
EPYK **Eagle Plains** 32.15 42 P P 09 59 27.4 +0.6
baz=278,SNR=7.1
K29M **Barlow Dome** 32.24 47 P P 09 59 27.8 +0.1
baz=282
G30M **tAoh Zaii Nji** 32.26 41 P P 09 59 28.9 +1.1
baz=278,SNR=7.2
YUK4 **Talbot Arm** 32.29 52 P P 09 59 28.9 +0.6
baz=285
F30M **Barrier River** 32.35 40 P P 09 59 29.3 +0.8
baz=277,SNR=7.6
PNL **Peninsula** 32.38 55 P P 09 59 29.9 +1.0
baz=287
I30M **Mount Dempster** 32.47 44 P P 09 59 30.2 +0.5
baz=280,SNR=11
YUK6 **Outpost Mounta** 32.52 53 P P 09 59 31.0 +0.6
baz=286
O29M **Mount Kennedy** 32.59 54 P P 09 59 31.3 +0.4
baz=286
J30M **Hart River** 32.60 46 P P 09 59 30.9 -0.1
baz=281
M30M **Minto, Yukon** 32.84 49 P P 09 59 33.1 +0.2
baz=284
HYT **Haines Junctio** 32.96 53 P P 09 59 34.3 +0.2
baz=286
N30M **Aishikik Lake** 32.98 51 P P 09 59 35.1 +1.0
baz=286
MAYO **Mayo, Yukon** 33.00 47 P P 09 59 34.4 +0.2
baz=283
G31M **Satah River** 33.03 41 P P 09 59 34.7 +0.3
baz=279,SNR=6.2
INK **Inuvik** 33.11 38 P P 09 59 36.1 +1.0
baz=278,SNR=5.9
F31M **Tsiigehtchic** 33.15 40 P P 09 59 36.4 +0.9
baz=279,SNR=11
P29M **Windy Craggy** 33.19 55 P P 09 59 35.6 -0.4
baz=288
H31M **Peel River** 33.19 43 P P 09 59 36.3 +0.4
baz=281
P30M **Million Dollar** 33.42 54 P P 09 59 37.5 -0.5
baz=288
N31M **Braeburn, Yuko** 33.58 51 P P 09 59 38.8 -0.5
baz=286
O30N **Mendenhall** 33.64 52 P P 09 59 39.7 -0.2
baz=287
ULN **Ulaanbaatar** 33.73 282 *i* P P 09 59 37.7 -3.2
ULN pmax pmax
comp=Z,2.0nm,0.5s
M31M **Drury Creek, Y** 34.01 49 P P 09 59 43.4 +0.3
baz=286
SONM **Songino Array** 34.12 283 P P 09 59 43.0 -1.3
comp=Z,0.7nm,0.4s,baz=45,slow=8.0,SNR=4.0
SONM PcP PcP 10 02 21.1 +0.8
comp=Z,0.9nm,0.5s,baz=85,slow=3.1,SNR=4.5
SONM LR LR 10 14 28.7
comp=Z,46nm,19.8s,baz=68,slow=38
comp=Z,0.7nm,0.4s
WHY **Whitehorse** 34.24 52 P P 09 59 45.2 0.0
baz=288
H11N2 **WAKE ISLAND Hy** 34.30 170 T T 10 36 27.6
baz=354,slow=76,SNR=625
H11N3 **WAKE ISLAND Hy** 34.31 170 T T 10 36 28.7
baz=354,slow=76,SNR=783
H11N1 **WAKE ISLAND Hy** 34.31 170 T T 10 36 28.9
baz=354,slow=76,SNR=824
SKAG **Skagway** 34.41 54 P P 09 59 46.9 +0.4
baz=290
S31K **Pelican** 34.48 57 P P 09 59 47.5 +0.4
baz=291
R31K **City Hall, Gus** 34.57 56 P P 09 59 49.1 +1.3
baz=291
N32M **Quiet Lake** 34.92 51 P P 09 59 51.7 +0.7
baz=289
HHC **Hu-ho-hao-te** 35.04 269 *e* P P 09 59 51.8 -0.5
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,82nm,4.4s
P32M **Atlin** 35.14 54 P P 09 59 53.5 +0.6
baz=290
R32K **Eaglecrest** 35.22 56 P P 09 59 54.1 +0.6
baz=292
SIT **Sitka** 35.27 58 P P 09 59 54.9 +1.0
baz=293
MMPY **Sheldon Lake,** 35.29 48 P P 09 59 54.1 0.0
baz=288
P33M **Teslin, Yukon** 35.35 52 P P 09 59 54.5 -0.2
baz=290
A36M **Sachs Harbour** 35.36 31 P P 09 59 54.2 -0.3
baz=280
H11S1 **WAKE ISLAND Hy** 35.48 170 T T 10 37 29.6
baz=352,slow=76,SNR=14
H11S3 **WAKE ISLAND Hy** 35.50 170 T T 10 37 42.8
baz=352,slow=76,SNR=31
H11S2 **WAKE ISLAND Hy** 35.50 170 T T 10 37 30.3
baz=352,slow=76,SNR=10
Q32M **Nakina River** 36.06 54 P P 10 00 00.1 -0.9
baz=292
R33M **Jennings River** 36.52 53 P P 10 00 04.7 -0.1
baz=292
T33K **Petersburg** 36.56 58 P P 10 00 05.5 +0.5

	baz=294								
U33K	**Whale Pass**	**36.77**	**59**	P		**P**	**10 00 07.3**	**+0.6**
	baz=295								
S34M	**Telegraph Cree**	**37.02**	**55**	P		**P**	**10 00 09.4**	**+0.5**
	baz=294								
WRAK	**Wrangell Islan**	**37.03**	**58**	P		**P**	**10 00 09.0**	**+0.1**
	baz=295								
CRAG	**Craig**	**37.04**	**60**	P		**P**	**10 00 08.6**	**-0.4**
	baz=296								
DLBC	**Dease Lake**	**37.34**	**54**	P		**P**	**10 00 11.4**	**-0.3**
	baz=294								
T35M	**Bob Quinn**	**37.84**	**56**	P		**P**	**10 00 15.9**	**0.0**
	baz=296								
WRGLY	**Wrigley**	**38.44**	**45**	P		**P**	**10 00 20.8**	**+0.1**
	baz=292								
LIRD	**Liard River Hi**	**38.80**	**51**	P		**P**	**10 00 24.7**	**+0.8**
	baz=295								
TOAD	**Toad River Com**	**39.44**	**52**	P		**P**	**10 00 29.6**	**+0.3**
	baz=296,SNR=8.5								
GUMO	**Guam**	**41.99**	**203**	LR		LR	10 17 27.1		
	comp=Z,20nm,20.7s,baz=123,slow=35								
YKA	**Yellowknife Ar**	**42.41**	**43**	P		**P**	**10 00 53.5**	**0.0**
	comp=Z,4.0nm,0.7s,baz=300,slow=8.5,SNR=37								
	comp=Z,4.0nm,0.7s								
ZALV	**Talesovo Beam**	**42.74**	**302**	P		**P**	**10 00 54.1**	**-2.2**
	comp=Z,0.7nm,0.4s,baz=62,slow=7.4,SNR=4.4								
ZALV				LR		LR	10 19 46.6		
	comp=Z,52nm,19.5s,baz=62,slow=38								
	comp=Z,0.7nm,0.4s								
GTA	**Gaotai**	**42.91**	**276**	*e*P		**P**	**10 00 57.5**	**-0.6**
GTA				pmax		pmax			
	comp=Z,6.0nm,1.3s								
SPITS	**Spitsbergen Ar**	**46.54**	**350**	P		**P**	**10 01 26.0**	**-0.3**
	comp=Z,5.6nm,0.6s,baz=51,slow=8.1,SNR=14								
	comp=Z,5.6nm,0.6s								
KURK	**Kurchatov**	**47.71**	**302**	P		**P**	**10 01 33.5**	**-2.2**
KURK	**Kurchatov**	**47.71**	**302**	*ce*P		**P**	**10 01 32.5**	**-3.2**
KURK				pmax		pmax			
	comp=Z,3.0nm,0.6s								
KURBB	**Kurchatov Arra**	**47.81**	**302**	P		**P**	**10 01 34.4**	**-2.1**
	comp=Z,2.7nm,0.5s,baz=58,slow=7.6,SNR=29								
KURBB				PcP		**PcP**	**10 03 04.2**	**-0.2**	
	comp=Z,0.3nm,0.4s,baz=51,slow=3.2,SNR=4.4								
KURBB				LR		LR	10 22 39.5		
	comp=Z,56nm,19.5s,baz=181,slow=37								
	comp=Z,2.7nm,0.5s								
MK31	**Makanchi Array**	**48.21**	**295**	*i* P		**P**	**10 01 37.2**	**-2.5**
MKAR	**Makanchi Array**	**48.21**	**295**	P		**P**	**10 01 37.6**	**-2.1**
MKAR	**Makanchi Array**	**48.21**	**295**	P		**P**	**10 01 37.7**	**-2.0**
	comp=Z,1.3nm,0.5s,baz=58,slow=7.3,SNR=16								
	comp=Z,1.3nm,0.5s								
BVAR	**Borovoye Array**	**50.27**	**308**	P		**P**	**10 01 53.5**	**-1.8**
	comp=Z,1.9nm,0.4s,baz=52,slow=9.7,SNR=8.1								
BVAR				LR		LR	10 25 28.9		
	comp=Z,51nm,18.9s,baz=63,slow=39								
	comp=Z,1.9nm,0.4s								
BRVK	**Borovoye**	**50.30**	**308**	*ce*P		**P**	**10 01 52.9**	**-2.6**
BRVK				pmax		pmax			
	comp=Z,6.0nm,1.7s								
PZH	**PanZhiHua**	**50.86**	**262**	P		**P**	**10 02 00.3**	**+0.1**
BPMT	**Black Pine Rid**	**52.33**	**61**	P		**P**	**10 02 13.0**	**+1.9**
ARCES	**ARCESS Array B**	**52.77**	**342**	P		**P**	**10 02 13.2**	**-0.6**
	comp=Z,5.8nm,1.0s,baz=45,slow=12,SNR=5.8								
	comp=Z,5.8nm,1.0s								
SUMG	**Summit**	**53.25**	**7**	P		**P**	**10 02 18.6**	**+0.9**
SUMG	**Summit**	**53.25**	**7**	P		**P**	**10 02 18.6**	**+0.9**
SUMG				pmax		pmax			
	comp=Z,18nm,1.0s								
ARTI	**Arti**	**53.27**	**317**	LR		LR	10 27 43.0		
	comp=Z,42nm,18.5s,baz=15,slow=39								
ARTI	**Arti**	**53.27**	**317**	*d* P		P	10 02 13.2	-4.3	
ARTI				*PP		pP	10 02 32.9	+0.3	
ARTI							10 03 18.1		
ARTI				S		**S**	**10 09 37.7**	**-6.5**	
ARTI				SS		SS	10 13 13.3	-10	
ARTI				pmax		pmax			
	comp=Z,3.0nm,0.7s								
KIRV	**Kirov**	**55.08**	**323**	LR		LR	10 29 17.5		
	comp=Z,46nm,19.3s,baz=60,slow=40								
NVAR	**Mina Array Bea**	**55.16**	**71**	P		**P**	**10 02 34.8**	**+2.9**
	comp=Z,4.4nm,0.7s,baz=300,slow=7.3,SNR=16								
	comp=Z,4.4nm,0.7s								
KLMR	**Klimovskoe**	**56.56**	**330**	*e*P		**P**	**10 02 37.4**	**-3.8**
KLMR				*e*PP		**pP**	**10 02 55.4**	**-0.9**	
KLMR				pmax		pmax			
	comp=Z,10.0nm,1.2s								
PDAR	**Pinedale Array**	**56.87**	**62**	P		**P**	**10 02 46.4**	**+2.4**
	comp=Z,4.6nm,0.8s,baz=313,slow=2.7,SNR=47								
	comp=Z,4.6nm,0.8s								
AB31	**Akbulak array**	**57.65**	**310**	P		**P**	**10 02 47.8**	**-1.3**
AB31				IAmb		IAmb	10 02 48.3		
	comp=Z,2.1nm,0.8s								
ABKAR	**Akbulak array**	**57.65**	**310**	P		**P**	**10 02 48.1**	**-1.0**
AKTO	**Aktyubinsk**	**57.66**	**312**	LR		LR	10 31 00.4		
	comp=Z,42nm,18.5s,baz=77,slow=40								
ULM	**Lac du Bonnet**	**58.09**	**47**	*i* P		**P**	**10 02 50.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**58.69**	**258**	P		**P**	**10 02 57.6**	**+0.9**
	comp=Z,1.7nm,0.3s,baz=25,slow=7.2,SNR=7.1								
CMAR				LR		LR	10 30 35.3		
	comp=Z,22nm,18.1s,baz=65,slow=38								
	comp=Z,1.7nm,0.3s								
FINES	**FINESS Array B**	**59.66**	**337**	P		**P**	**10 03 02.3**	**-0.5**
	comp=Z,5.3nm,0.5s,baz=35,slow=7.3,SNR=41								
	comp=Z,5.3nm,0.5s								
PV04	**Paradox Valley**	**60.35**	**65**	P		**P**	**10 03 10.2**	**+2.0**
BELG	**Belogornoye**	**60.46**	**320**	LR		LR	10 32 39.4		
	comp=Z,56nm,19.1s,baz=73,slow=39								
S22A	**4UR Ranch, Cre**	**61.94**	**64**	P		**P**	**10 03 21.1**	**+2.1**
VSU	**Vasula**	**62.11**	**335**	*ce*P		**P**	**10 03 16.7**	**-2.8**
VSU				pmax		pmax			
	comp=Z,20nm,2.5s								
OBN	**Obninsk**	**62.16**	**327**	⇓*e*P		**P**	**10 03 19.4**	**-0.5**
OBN				*e*			10 03 39.0		
OBN							10 03 58.0		
OBN				pmax		pmax			
	comp=Z,7.0nm,0.5s								
OBN				MLR		MLR			
	comp=Z,44nm,18.0s								
NB201	**NORSAR Array S**	**62.99**	**344**	P		**P**	**10 03 25.1**	**-0.3**
NB2	**NORSAR Subarra**	**63.01**	**344**	P		**P**	**10 03 25.4**	**-0.1**
	comp=Z,2.9nm,0.5s,baz=20,slow=6.9								
NB2	**NORSAR Subarra**	**63.01**	**344**	P		**P**	**10 03 22.0**	**-3.5**
NOA	**NORSAR Array B**	**63.01**	**344**	P		**P**	**10 03 25.7**	**+0.1**
	comp=Z,3.3nm,0.5s,baz=21,slow=6.7,SNR=28								
	comp=Z,3.3nm,0.5s								
HFS	**Hagfors**	**63.43**	**342**	P		**P**	**10 03 28.1**	**-0.2**
	comp=Z,3.4nm,0.4s,baz=52,slow=5.8,SNR=42								
	comp=Z,3.4nm,0.4s								
ANMO	**Albuquerque**	**64.22**	**66**	*ce*P		**P**	**10 03 33.8**	**-0.3**
ANMO				pmax		pmax			
	comp=Z,4.0nm,1.3s								
SCHQ	**Schefferville**	**64.88**	**28**	P		**P**	**10 03 38.7**	**+0.8**
	comp=Z,6.5nm,0.7s,baz=340,slow=5.5,SNR=9.8								
	comp=Z,6.5nm,0.7s								
NACGM	**Naroch**	**65.24**	**333**	*e*P		**P**	**10 03 41.1**	**+1.0**
	comp=Z,9.0nm,0.9s,baz=28								
N35A	**Tabor**	**65.27**	**54**	P		**P**	**10 03 42.0**	**+1.4**
MNTX	**Cornudas Mount**	**67.27**	**67**	P		**P**	**10 03 56.1**	**+2.6**
MNTX				IAmb		IAmb	10 03 57.0		
	comp=Z,4.8nm,0.8s								
AKASG	**Malin Array Be**	**68.24**	**329**	P		**P**	**10 03 58.6**	**-0.7**
	comp=Z,2.3nm,0.4s,baz=32,slow=5.8,SNR=17								
	comp=Z,2.3nm,0.4s								
AKBB	**Malin Array Si**	**68.24**	**329**	*i* P		**P**	**10 03 57.2**	**-2.1**
AKBB				pmax		pmax			
	comp=Z,8.0nm,0.9s								
KIEV	**Kiev**	**68.25**	**329**	P		**P**	**10 03 58.0**	**-1.4**
KIEV				IAmb		IAmb	10 04 00.1		
	comp=Z,6.7nm,0.9s								
KIEV	**Kiev**	**68.25**	**329**	P		**P**	**10 03 58.0**	**-1.4**
KIEV				pmax		pmax			
	comp=Z,7.0nm,1.0s								
WMOK	**Wichita Mounta**	**68.44**	**61**	P		**P**	**10 04 02.1**	**+1.2**
WMOK	**Wichita Mounta**	**68.44**	**61**	P		**P**	**10 04 02.1**	**+1.2**
R40A	**Maddies Statio**	**68.91**	**54**	P		**P**	**10 04 04.4**	**+0.7**
KBZ	**Khabaz**	**69.31**	**317**	P		**P**	**10 04 05.7**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=97,slow=5.0,SNR=4.1								
KBZ				LR		LR	10 37 29.6		
	comp=Z,42nm,18.1s,baz=52,slow=39								
	comp=Z,2.0nm,0.7s								
KBZ	**Khabaz**	**69.31**	**317**	*i* P		**P**	**10 04 04.7**	**-1.4**
KBZ				pmax		pmax			
	comp=Z,3.0nm,0.8s								
MGMO	**Mountain Grove**	**69.81**	**54**	P		**P**	**10 04 09.7**	**+0.4**
MGMO				IAmb		IAmb	10 04 10.7		
	comp=Z,6.1nm,0.8s								
TXAR	**Lajitas Array**	**70.03**	**68**	P		**P**	**10 04 12.7**	**+1.8**

TXAR	**Lajitas Array**	**70.03**	**68**	P		**P**	**10 04 13.2**	**+2.3**
	comp=Z,6.8nm,0.6s,baz=300,slow=4.6,SNR=76							
	comp=Z,6.8nm,0.6s							
TXAR	**Lajitas Array**	**70.03**	**68**	P		**P**	**10 04 12.7**	**+1.8**
EKA	**Eskdalemuir Ar**	**70.46**	**350**	P		**P**	**10 04 13.4**	**+0.4**
	comp=Z,4.5nm,0.7s,baz=19,slow=5.3,SNR=18							
	comp=Z,4.5nm,0.7s							
D62A	**Allapoint, All**	**71.01**	**33**	P		**P**	**10 04 17.3**	**+0.9**
E62A	**Clayton Lake**	**71.26**	**34**	P		**P**	**10 04 18.7**	**+0.7**
STHS	**Stebnicka Huta**	**71.67**	**333**	*e*P		**P**	**10 04 21.3**	**+0.8**
STHS				pmax		pmax		
	comp=Z,3.0nm,0.6s							
STHS	**Stebnicka Huta**	**71.67**	**333**	*e*P		**P**	**10 04 21.2**	**+0.8**
KOLS	**Kolonicke sedl**	**71.83**	**333**	*e*P		**P**	**10 04 22.4**	**+1.0**
KOLS				pmax		pmax		
	comp=Z,4.0nm,0.7s							
KOLS	**Kolonicke sedl**	**71.83**	**333**	*e*P		**P**	**10 04 22.4**	**+1.0**
CLL	**Collm**	**71.87**	**339**	⇑*i*P		**P**	**10 04 22.2**	**+0.7**
CLL				pmax		pmax		
	comp=Z,15nm,1.3s							
CLL	**Collm**	**71.87**	**339**	⇑*i*P		**P**	**10 04 22.2**	**+0.7**
	comp=Z,15nm,1.3s							
CLL				*e*PP		**PP**	**10 06 56.0**	**-4.9**
BUR08	**Bucovina Ar. S**	**72.17**	**330**	P		**P**	**10 04 23.4**	**-0.1**
BUR08				IAmb		IAmb	10 04 24.9	
	comp=Z,4.0nm,0.7s							
MORC	**Moravsky Berou**	**72.28**	**336**	*e*P		**P**	**10 04 25.3**	**+1.2**
LANS	**Liptovska Anna**	**72.38**	**334**	*e*P		**P**	**10 04 26.8**	**+2.1**
LANS				pmax		pmax		
	comp=Z,5.0nm,0.5s							
LANS	**Liptovska Anna**	**72.38**	**334**	*e*P		**P**	**10 04 26.8**	**+2.1**
WVT	**Waverly**	**72.74**	**52**	P		**P**	**10 04 28.0**	**+1.0**
WVT				IAmb		IAmb	10 04 29.3	
	comp=Z,5.3nm,0.7s							
WVT	**Waverly**	**72.74**	**52**	P		**P**	**10 04 28.0**	**+1.0**
WVT				pmax		pmax		
	comp=Z,5.0nm,0.7s							
VRAC	**Vranov**	**72.94**	**336**	*e*P		**P**	**10 04 29.2**	**+1.2**
VRAC	**Vranov**	**72.94**	**336**	LR		LR	10 41 19.2	
	comp=Z,33nm,18.9s,baz=27,slow=40							
JAVC	**Velka Javorina**	**73.10**	**335**	*e*P		**P**	**10 04 31.2**	**+2.2**
VYHS	**Vyhne**	**73.14**	**335**	*e*P		**P**	**10 04 30.3**	**+1.1**
VYHS				pmax		pmax		
	comp=Z,3.0nm,0.5s							
VYHS	**Vyhne**	**73.14**	**335**	*e*P		**P**	**10 04 30.3**	**+1.1**
KRUC	**Moravsky**	**73.22**	**336**	*e*P		**P**	**10 04 30.9**	**+1.3**
GERES	**GERESS Array B**	**74.04**	**338**	P		**P**	**10 04 35.5**	**+1.0**
	comp=Z,2.4nm,0.6s,baz=34,slow=5.7,SNR=22							
	comp=Z,2.4nm,0.6s							
CONA	**Conrad Observa**	**74.40**	**336**	*e*P		**P**	**10 04 38.2**	**+1.5**
	comp=Z,1.2nm,0.4s							
RONA	**Rosalia, Austr**	**74.51**	**336**	*e*P		**P**	**10 04 38.7**	**+1.4**
	comp=Z,0.8nm,0.4s							
MOA	**Molln**	**74.85**	**337**	*e*P		**P**	**10 04 40.1**	**+0.9**
	comp=Z,0.8nm,0.5s							
ARSA	**Arzberg**	**75.12**	**336**	*i* P		**P**	**10 04 41.9**	**+1.1**
	comp=Z,1.5nm,0.5s							
LESA	**Schwarzleotal**	**75.61**	**338**	*e*P		**P**	**10 04 45.2**	**+1.5**
	comp=Z,5.9nm,0.7s							
SOKA	**Soboth**	**75.77**	**336**	*e*P		**P**	**10 04 45.9**	**+1.3**
	comp=Z,3.5nm,0.5s							
KBA	**Koelnbreinsper**	**75.78**	**338**	*e*P		**P**	**10 04 46.7**	**+1.9**
	comp=Z,11nm,0.6s							
RETA	**Reutte**	**75.96**	**340**	*i* P		**P**	**10 04 46.6**	**+1.0**
	comp=Z,3.0nm,0.9s							
WTTA	**Wattenberg**	**75.98**	**339**	*e*P		**P**	**10 04 47.3**	**+1.4**
	comp=Z,4.5nm,0.6s,SNR=4.2							
MOTA	**Moosalm**	**76.02**	**339**	*e*P		**P**	**10 04 47.0**	**+0.9**
	comp=Z,4.9nm,0.7s,SNR=4.5							
SQTA	**Sankt Quirin**	**76.12**	**339**	*i* P		**P**	**10 04 47.9**	**+1.3**
	comp=Z,4.6nm,0.6s,SNR=5.2							
ABTA	**Abfaltersbach**	**76.28**	**338**	*e*P		**P**	**10 04 48.6**	**+1.1**
	comp=Z,5.4nm,0.8s							
BRTR	**Keskin Array B**	**76.35**	**321**	P		**P**	**10 04 47.6**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=90,slow=1.2,SNR=5.3							
	comp=Z,0.7nm,0.5s							
FETA	**Feichten**	**76.41**	**339**	*i* P		**P**	**10 04 49.7**	**+1.4**
	comp=Z,5.0nm,0.6s							
WRA	**Warramunga Arr**	**76.85**	**205**	P		**P**	**10 04 51.3**	**+0.6**
	comp=Z,2.0nm,0.9s,baz=20,slow=6.0,SNR=13							
	comp=Z,2.0nm,0.9s							
TUE	**Stuetta**	**77.22**	**340**	P		**P**	**10 04 53.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**77.66**	**214**	P		**P**	**10 04 56.4**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=22,slow=11,SNR=4.0							
	comp=Z,1.9nm,0.6s							
AS31	**Alice Springs**	**80.52**	**205**	P		**P**	**10 05 11.9**	**+1.0**
ASAR	**Alice Springs**	**80.52**	**205**	P		**P**	**10 05 11.8**	**+0.9**
ASAR	**Alice Springs**	**80.52**	**205**	P		**P**	**10 05 12.7**	**+1.8**
	comp=Z,2.3nm,0.8s,baz=16,slow=5.9,SNR=29							
	comp=Z,2.3nm,0.8s							
ASAR	**Alice Springs**	**80.52**	**205**	P		**P**	**10 05 11.8**	**+0.9**
ESDC	**Sonseca Array**	**86.01**	**348**	P		**P**	**10 05 39.5**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=4.0,slow=4.9,SNR=19							
	comp=Z,1.9nm,0.7s							
STKA	**Stephens Creek**	**86.88**	**196**	P		**P**	**10 05 44.5**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=2.6,slow=6.5,SNR=3.1							
	comp=Z,1.6nm,0.8s							
KEST	**Kesra**	**87.49**	**337**	P		**P**	**10 05 47.1**	**+0.6**
	comp=Z,4.1nm,0.5s,baz=353,slow=3.3,SNR=6.7							
	comp=Z,4.1nm,0.5s							
LPAZ	**La Paz**	**126.83**	**65**	PKP		**PKPdf**	**10 12 04.0**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=339,slow=4.5,SNR=4.2							
VNDA	**Vanda**	**131.01**	**180**	PKP		**PKPdf**	**10 12 09.7**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=268,slow=4.4,SNR=3.7							
QSPA	**South Pole Qui**	**143.50**	**180**	PKP	PKPab		10 12 30.0	+1.7
	comp=Z,5.2nm,0.9s,baz=228,slow=0.4,SNR=23							
PLCA	**Paso Flores**	**143.63**	**90**	PKP	PKPbc		10 12 31.9	+1.4
	comp=Z,1.3nm,0.7s,baz=294,slow=4.4,SNR=5.4							

*HEL **28** 09:57:44.5±0.3,67.58N×20.73E,h0km,ML1.9, Explosion Hypocentre not reviewed by the ISC*
*IDC **28** 09:57:47.0±1.0,67.60N×21.26E,h0km,mbtmp2.8/4, ML1.7/4, Error ellipse: s-maj=19.8km s-min=8.0km az=120.0*
ISC 28 09:57:45.4±1.0,67.70N±0.08×20.94E±0.07,h10km,n7, σ1s32/10,Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.53**	**49**	PG		09 57 56.8	
LANU				SG		09 58 04.9	
SALU	**Saltoluokta**	**0.99**	**252**	*e*P	**Pg**	**09 58 05.1**	**+0.7**
PAJU	**Pajala**	**1.08**	**128**	PG		09 58 04.5	
	baz=301						
PAJU				SB		09 58 18.8	
HEF	**Hetta**	**1.24**	**54**	*e*P	**Pg**	**09 58 09.6**	**+0.4**
HEF	**Hetta**	**1.24**	**54**	PG		09 58 08.9	
	baz=235						
HEF				MSG		09 58 26.2	
	comp=Z,9.4nm,0.2s						
HEF				SB		09 58 27.1	
ERTU	**Ertsjaerv**	**1.25**	**156**	PN		09 58 07.5	
ERTU				SN		09 58 24.0	
KIF	**Kilpisjarvi**	**1.31**	**358**	PN		09 58 12.1	
KIF				MSG		09 58 28.8	
	comp=Z,16nm,0.2s						
KIF				SN		09 58 31.1	
KTK1	**Kautokeino**	**1.57**	**32**	PG		09 58 15.6	
KTK1				SN		09 58 38.6	
I37NO	**I37NO**	**1.62**	**329**	I	I	10 09 00.0	
	baz=149,slow=318,SNR=8.2						
TRO	**Tromso**	**2.07**	**340**	SG		09 58 53.0	
RNF	**Rovaniemi**	**2.27**	**117**	PG		09 58 25.0	
	baz=295						
RNF				SG		09 58 54.9	
ARA0	**ARCESS Array S**	**2.49**	**40**	PB		09 58 29.7	
ARA0				SB		09 59 02.3	
ARCES	**ARCESS Array B**	**2.49**	**40**	Pn	**Pb**	**09 58 29.0**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=216,slow=14,SNR=17						
ARCES				Sn	**Sb**	**09 59 01.2**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=219,slow=24,SNR=14						
	comp=Z,0.9nm,0.3s						
RANF	**Ranua**	**2.87**	**124**	PG		09 58 34.2	
	baz=310						
RANF				SG		09 59 12.4	
RAJF	**Raja-Jooseppi**	**2.87**	**71**	PB		09 58 34.0	
RAJF				SB		09 59 14.0	
VRF	**Varrio**	**3.30**	**85**	SG		09 59 26.0	
KU2	**Taivalkoski**	**3.52**	**121**	PB		09 58 42.8	
	baz=301						
OLKF	**Oulanka, Finla**	**3.60**	**109**	PB		09 58 44.1	
MSF	**Maaselka**	**3.68**	**116**	PB		09 58 45.4	
UMAU	**Umeaa**	**3.84**	**182**	PB		09 58 47.3	
UMAU				SB		09 59 31.8	
KU1	**Kurvinen**	**4.05**	**118**	SN		09 59 36.6	

FINES	**FINESS Array B**	**6.66**	**158**	Pn		**Pn**	**09 59 24.6**	**+1.5**
	baz=346,slow=13,SNR=2.0							
FINES				Sn		**Sn**	**10 00 38.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=341,slow=22,SNR=2.6							
FINES				Lg		Lg	10 01 05.3	
	comp=Z,0.2nm,0.3s,baz=355,slow=29,SNR=4.0							
	comp=Z,2.2nm,1.0s							
NOA	**NORSAR Array B**	**7.90**	**217**	Pn		**Pn**	**09 59 40.8**	**+0.7**
	baz=34,slow=12,SNR=1.1							
NOA				Sn		**Sn**	**10 01 08.0**	**-1.5**
	baz=16,slow=20,SNR=1.2							
	comp=Z,0.2nm,0.7s							
HFS	**Hagfors**	**8.23**	**206**	Pn		**Pn**	**09 59 45.6**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=19,slow=14,SNR=1.1							
HFS				Sn		**Sn**	**10 01 15.8**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=24,slow=28,SNR=3.1							
	comp=Z,1.0nm,0.8s							

*IDC **28** 09:58:33.2±2.0,58.55S×24.67W,h0km,mb3.6/3, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=111.8km s-min=26.5km az=69.0*
ISC 28 09:58:34.3±1.7,58.5S±0.3×24.5W±0.5,h10km,n18, σ0s46/10,mb3.7/3,4C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.94**	**157**	⇑P	**Pn**	**10 01 51.7**	**+0.1**
	comp=Z,2.0nm,0.3s						
VNA3	**Neumayer Olymp**	**14.16**	**160**	⇑P	**Pn**	**10 01 53.7**	**-0.9**
	comp=Z,2.5nm,0.2s						
SNAA	**Sanae**	**15.88**	**155**	⇑P	**Pn**	**10 02 17.6**	**0.0**
	comp=Z,22nm,0.2s						
SNAA	**Sanae**	**15.88**	**155**	Pn	**Pn**	**10 02 17.1**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=319,slow=14,SNR=20						
SNAA				Sn	Sn	10 05 01.0	-12
	comp=Z,0.1nm,0.3s,baz=33,slow=19,SNR=1.9						
	comp=Z,1.0nm,0.3s						
TROLL	**Troll, Antarti**	**17.37**	**152**	⇑P	**P**	**10 02 37.9**	**0.0**
	comp=Z,43nm,0.3s						
QSPA	**South Pole Qui**	**31.71**	**180**	P	**P**	**10 04 58.4**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=199,slow=2.5,SNR=8.1						
	comp=Z,0.6nm,0.6s						
VNDA	**Vanda**	**44.15**	**182**	P	**P**	**10 06 42.5**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=180,slow=8.7,SNR=3.6						
	comp=Z,0.4nm,0.6s						
H04S2	**CROZET ISLANDS**	**45.27**	**110**	T	T	10 56 22.0	
	baz=225,slow=75,SNR=12						
H04S3	**CROZET ISLANDS**	**45.28**	**110**	T	T	10 56 25.2	
	baz=225,slow=75,SNR=11						
H04S1	**CROZET ISLANDS**	**45.29**	**110**	T	T	10 56 24.4	
	baz=225,slow=75,SNR=11						
H10S2	**ASCENSION HYDR**	**50.04**	**13**	T	T	11 01 50.3	
	baz=187,slow=74,SNR=28						
H10S3	**ASCENSION HYDR**	**50.04**	**13**	T	T	11 01 51.2	
	baz=33,slow=74,SNR=34						
H10N1	**ASCENSION HYDR**	**51.16**	**13**	T	T	11 03 13.3	
	baz=180,slow=72,SNR=4.0						
H10N3	**ASCENSION HYDR**	**51.16**	**13**	T	T	11 03 14.5	
	baz=180,slow=72,SNR=12						
H10N2	**ASCENSION HYDR**	**51.17**	**13**	T	T	11 03 15.1	
	baz=180,slow=72,SNR=13						
LPAZ	**La Paz**	**52.98**	**304**	P	**P**	**10 07 51.3**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=180,slow=6.1,SNR=2.6						
	comp=Z,0.6nm,0.7s						
INK	**Inuvik**	**148.63**	**318**	PKPbc	**PKPbc**	**10 18 19.9**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=115,slow=2.5,SNR=7.8						
ILAR	**Eielson Array**	**152.82**	**308**	PKPbc	**PKiKP**	**10 18 30.3**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=132,slow=1.3,SNR=11						

NEIC 28 10:12:15.0±0.7,37.48N±0.01×102.79W±0.03,h5km±2km, ML1.8/20, Error ellipse: s-maj=4.0km s-min=3.0km az=99.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTBA	**Rita Blanca**	**1.04**	**178**	Pg	Pg	10 12 33.8	-1.2
RTBA				Sg	Sg	10 12 47.8	-0.7
R

MCK	**McKinley**	**0.89**	**54**			**Pn**	**10 19 18.6**	**-0.5**
MCK				IAML			10 19 36.7	
	comp=E,4µm,0.6s							
MCK				IAML			10 19 36.8	
	comp=N,5µm,0.4s							
MCK	**McKinley**	**0.89**	**54**			**Sn**	**10 19 35.1**	**-0.7**
MCK	**McKinley**	**0.89**	**54**	P		**Pn**	**10 19 19.0**	**-0.1**
	baz=233,SNR=1000							
MCK				S		**Sn**	**10 19 34.6**	**-1.1**
	baz=233							
BPAW	**Bear Paw Mtn.**	**0.91**	**348**			**Pn**	**10 19 18.2**	**-1.0**
BPAW				IAML			10 19 35.7	
	comp=E,9µm,0.8s							
BPAW				IAML			10 19 35.9	
	comp=N,7µm,0.7s							
BPAW	**Bear Paw Mtn.**	**0.91**	**348**			**Sn**	**10 19 35.1**	**-0.9**
BPAW	**Bear Paw Mtn.**	**0.91**	**348**	P		**Pn**	**10 19 18.9**	**-0.3**
	baz=167,SNR=1000							
BPAW				S		**Sn**	**10 19 34.5**	**-1.5**
	baz=167							
CHUM	**Lake Minchumin**	**1.03**	**311**			**Pn**	**10 19 20.2**	**-0.1**
CHUM						**Sn**	**10 19 37.3**	**-0.6**
CHUM	**Lake Minchumin**	**1.03**	**311**	P		**Pn**	**10 19 20.2**	**-0.1**
	baz=130,SNR=838							
CHUM				S		**Sn**	**10 19 37.0**	**-0.9**
	baz=130							
BWN	**Browne**	**1.07**	**26**			**Pn**	**10 19 20.6**	**-0.1**
BWN				IAML			10 19 39.3	
	comp=E,5µm,1.4s							
BWN				IAML			10 19 40.0	
	comp=N,6µm,1.2s							
BWN	**Browne**	**1.07**	**26**			**Sn**	**10 19 38.8**	**+0.2**
SKT	**Skwentna**	**1.32**	**200**			**Pn**	**10 19 22.2**	**-1.1**
SKT				IAML			10 19 45.1	
	comp=E,3µm,0.6s							
SKT				IAML			10 19 46.3	
	comp=N,3µm,0.4s							
SKT	**Skwentna**	**1.32**	**200**			**Sn**	**10 19 42.0**	**-1.1**
SKT	**Skwentna**	**1.32**	**200**	P		**Pn**	**10 19 22.6**	**-0.7**
	baz=21,SNR=384							
SKT				S		**Sn**	**10 19 41.7**	**-1.4**
	baz=21							
M22K	**Willow**	**1.48**	**172**			**Pn**	**10 19 23.8**	**-1.2**
M22K	**Willow**	**1.48**	**172**			**Sn**	**10 19 45.4**	**-0.8**
M22K	**Willow**	**1.48**	**172**	P		**Pn**	**10 19 24.3**	**-0.7**
	baz=353,SNR=160							
M22K				S		**Sn**	**10 19 45.1**	**-1.1**
	baz=353							
NEA2	**Nenana**	**1.53**	**25**			**Pn**	**10 19 24.7**	**-0.9**
NEA2				IAML			10 19 46.7	
	comp=E,3µm,0.8s							
NEA2				IAML			10 19 47.1	
	comp=N,3µm,1.0s							
NEA2	**Nenana**	**1.53**	**25**			**Sn**	**10 19 45.7**	**-1.5**
NEA2	**Nenana**	**1.53**	**25**	P		**Pn**	**10 19 25.0**	**-0.6**
	baz=205,SNR=1000							
NEA2				S		**Sn**	**10 19 45.6**	**-1.5**
	baz=205							
K20K	**Telida**	**1.59**	**277**			**Pn**	**10 19 25.6**	**-0.7**
K20K				IAML			10 19 48.6	
	comp=E,4µm,1.1s							
K20K	**Telida**	**1.59**	**277**			**Sn**	**10 19 47.2**	**-1.3**
K20K	**Telida**	**1.59**	**277**	P		**Pn**	**10 19 26.0**	**-0.3**
	baz=94,SNR=901							
K20K				S		**Sn**	**10 19 46.8**	**-1.7**
	baz=94							
GHO	**Glory Hole Cre**	**1.64**	**152**			**Pn**	**10 19 25.9**	**-1.0**
GHO				IAML			10 19 50.9	
	comp=E,4µm,0.4s							
WRH	**Wood River Hil**	**1.67**	**40**			**Pn**	**10 19 26.5**	**-0.6**
WRH				IAML			10 19 50.7	
	comp=N,2µm,1.7s							
L20K	**Farewell, AK**	**1.69**	**246**			**Pn**	**10 19 26.8**	**-0.7**
L20K						**Sn**	**10 19 49.1**	**-1.5**
L20K	**Farewell, AK**	**1.69**	**246**	P		**Pn**	**10 19 27.0**	**-0.5**
	baz=64,SNR=478							
L20K				S		**Sn**	**10 19 49.1**	**-1.5**
	baz=64							
PMR	**Palmer**	**1.76**	**157**			**Pn**	**10 19 26.9**	**-1.3**
PMR				IAML			10 19 57.8	
	comp=N,2µm,0.8s							
PMR	**Palmer**	**1.76**	**157**	P		**Pn**	**10 19 27.1**	**-1.1**
PMR	**Palmer**	**1.76**	**157**	P		**Pn**	**10 19 27.2**	**-1.0**
	baz=339,SNR=198							
PMR				S		**Sn**	**10 19 50.1**	**-1.8**
	baz=339							
SUA	**Susitna One**	**1.76**	**183**			**Pn**	**10 19 27.6**	**-0.8**
SUA				IAML			10 19 56.4	
	comp=N,2µm,1.0s							
SUA				IAML			10 20 00.4	
	comp=E,2µm,0.6s							
SUA	**Susitna One**	**1.76**	**183**	P		**Pn**	**10 19 27.9**	**-0.5**
	baz=3.5,SNR=163							
SUA				S		**Sn**	**10 19 50.6**	**-1.5**
	baz=3.5							
M20K	**Styx River**	**1.79**	**223**			**Pn**	**10 19 27.4**	**-1.3**
M20K	**Styx River**	**1.79**	**223**	P		**Pn**	**10 19 27.9**	**-0.8**
	baz=41,SNR=437							
M20K				S		**Sn**	**10 19 51.1**	**-1.7**
	baz=41							
MLY	**Manley**	**1.82**	**358**			**Pn**	**10 19 28.3**	**-0.7**
MLY				IAML			10 19 53.7	
	comp=N,2µm,1.4s							
MLY	**Manley**	**1.82**	**358**			**Sn**	**10 19 51.8**	**-1.5**
MLY	**Manley**	**1.82**	**358**	P		**Pn**	**10 19 28.8**	**-0.2**
	baz=177,SNR=793							
MLY				S		**Sn**	**10 19 51.9**	**-1.5**
	baz=177							
STLK	**Strandline Lak**	**1.82**	**200**			**Pn**	**10 19 28.5**	**-0.6**
STLK				IAML			10 19 54.2	
	comp=N,2µm,0.5s							
STLK				IAML			10 19 55.5	
	comp=E,2µm,0.6s							
J20K	**Nowinta River**	**1.87**	**303**			**Pn**	**10 19 28.9**	**-0.5**
J20K				IAML			10 19 54.5	
	comp=N,2µm,1.6s							
J20K				IAML			10 19 54.9	
	comp=E,2µm,1.6s							
J20K	**Nowinta River**	**1.87**	**303**	P		**Pn**	**10 19 29.2**	**-0.2**
	baz=120,SNR=1000							
J20K				S		**Sn**	**10 19 52.7**	**-1.5**
	baz=120							
CCB	**Clear Creek Bu**	**1.88**	**39**			**Pn**	**10 19 29.0**	**-0.6**
CCB				IAML			10 19 54.2	
	comp=N,1µm,0.7s							
CCB	**Clear Creek Bu**	**1.88**	**39**			**Sn**	**10 19 52.7**	**-1.8**
M23K	**Glacier View**	**1.94**	**136**			**Pn**	**10 19 29.2**	**-1.2**
M23K	**Glacier View**	**1.94**	**136**	P		**Pn**	**10 19 29.2**	**-1.2**
	baz=319,SNR=289							
M23K				S		**Sn**	**10 19 54.9**	**-0.9**
	baz=319							
HDA	**Harding Lake**	**2.00**	**52**			**Pn**	**10 19 30.1**	**-0.9**
HDA				IAML			10 19 56.0	
	comp=E,1µm,1.0s							
HDA				IAML			10 19 57.5	
	comp=N,3µm,0.8s							
HDA	**Harding Lake**	**2.00**	**52**	P		**Pn**	**10 19 30.5**	**-0.5**
	baz=234,SNR=985							
HDA				S		**Sn**	**10 19 55.6**	**-1.4**
	baz=234							
I23K	**Minto, Yukon-K**	**2.01**	**15**			**Pn**	**10 19 30.6**	**-0.5**
I23K	**Minto, Yukon-K**	**2.01**	**15**			**Sn**	**10 19 56.1**	**-1.0**
I23K	**Minto, Yukon-K**	**2.01**	**15**	P		**Pn**	**10 19 31.1**	**-0.1**
	baz=195,SNR=614							
I23K				S		**Sn**	**10 19 55.7**	**-1.5**
	baz=195							
SCM	**Sheep Creek Mo**	**2.04**	**131**			**Pn**	**10 19 30.4**	**-1.2**
SCM				IAML			10 20 05.6	
	comp=N,4µm,1.0s							
SCM				IAML			10 20 17.9	
	comp=E,2µm,1.0s							
SCM	**Sheep Creek Mo**	**2.04**	**131**	P		**Pn**	**10 19 30.6**	**-1.0**
	baz=314,SNR=211							
SCM				S		**Sn**	**10 19 57.2**	**-0.9**
	baz=314							
COLA	**College**	**2.04**	**34**			**Pn**	**10 19 30.9**	**-0.7**
COLA				IAML			10 19 58.2	
	comp=E,1µm,0.6s							
COLA				IAML			10 20 02.3	
	comp=E,2µm,0.5s							
COLA	**College**	**2.04**	**34**	P		**Pn**	**10 19 31.3**	**-0.2**
COLA	**College**	**2.04**	**34**	P		**Pn**	**10 19 31.4**	**-0.2**
	baz=216							
COLA				S		**Sn**	**10 19 56.4**	**-1.6**
	baz=216							
SPCG	**Spurr Capps Gl**	**2.05**	**200**			**Pn**	**10 19 31.2**	**-0.6**
KNK	**Knik Glacier**	**2.06**	**151**			**Pn**	**10 19 30.9**	**-0.9**
KNK				IAML			10 20 05.8	
	comp=N,2µm,0.7s							
KNK	**Knik Glacier**	**2.06**	**151**	P		**Pn**	**10 19 30.9**	**-0.9**
	baz=333,SNR=115							
KNK				S		**Sn**	**10 19 57.6**	**-0.8**
	baz=333							
I21K	**Tanana**	**2.07**	**343**			**Pn**	**10 19 31.9**	**0.0**
I21K	**Tanana**	**2.07**	**343**	IAML			10 19 58.5	
	comp=E,2µm,1.1s							
I21K				IAML			10 20 00.3	
	comp=N,2µm,1.4s							
I21K	**Tanana**	**2.07**	**343**	P		**Pn**	**10 19 31.9**	**0.0**
	baz=162							
I21K				S		**Sn**	**10 19 57.1**	**-1.3**
	baz=162							
FIS	**Fire Island**	**2.09**	**176**			**Pn**	**10 19 31.9**	**-0.2**
SPBG	**Spurr Blockage**	**2.14**	**204**			**Pn**	**10 19 32.7**	**-0.2**
SPCN	**Chakachatna No**	**2.14**	**202**			**Pn**	**10 19 33.3**	**+0.5**
SPU	**Mount Spurr**	**2.16**	**200**			**Pn**	**10 19 32.2**	**-0.9**
SPWE	**Spurr West**	**2.16**	**207**			**Pn**	**10 19 32.7**	**-0.5**
SPCR	**Spurr Chakacha**	**2.17**	**202**			**Pn**	**10 19 33.3**	**+0.1**
SPCR	**Spurr Chakacha**	**2.17**	**202**			**Pn**	**10 19 32.4**	**-0.9**
SPCR	**Spurr Chakacha**	**2.17**	**202**	P		**Pn**	**10 19 32.3**	**-0.9**
	baz=21							
SPCR				S		**Sn**	**10 19 59.1**	**-1.7**
	baz=21							
N20K	**Mount Spurr**	**2.17**	**202**	P		**Pn**	**10 19 32.4**	**-0.9**
	baz=21							
N20K				S		**Sn**	**10 19 59.0**	**-1.8**
	baz=21							
RC01	**Rabbit Creek A**	**2.17**	**169**			**Pn**	**10 19 32.2**	**-1.0**
RC01				IAML			10 20 01.0	
	comp=N,2µm,0.3s							
RC01				IAML			10 20 01.0	
	comp=E,2µm,0.5s							
RC01	**Rabbit Creek A**	**2.17**	**169**	P		**Pn**	**10 19 32.6**	**-0.6**
	baz=351,SNR=30							
RC01				S		**Sn**	**10 19 58.4**	**-2.3**
	baz=351							
CKL	**Chakachamna La**	**2.19**	**203**			**Pn**	**10 19 32.7**	**-0.9**
M19K	**Big River Lodg**	**2.21**	**235**			**Pn**	**10 19 32.5**	**-1.2**
M19K	**Big River Lodg**	**2.21**	**235**	P		**Pn**	**10 19 32.8**	**-0.9**
	baz=52,SNR=57							
M19K				S		**Sn**	**10 19 59.7**	**-2.0**
	baz=52							
K24K	**Donnelly Dome**	**2.22**	**72**			**Pn**	**10 19 33.2**	**-0.6**
K24K				IAML			10 20 07.3	
	comp=E,3µm,0.5s							
K24K	**Donnelly Dome**	**2.22**	**72**	P		**Pn**	**10 19 33.8**	**-0.1**
	baz=256							
K24K				S		**Sn**	**10 20 00.8**	**-1.2**
	baz=256							
L19K	**White Mountain**	**2.24**	**244**			**Pn**	**10 19 33.2**	**-0.9**
L19K	**White Mountain**	**2.24**	**244**	P		**Pn**	**10 19 33.4**	**-0.6**
	baz=61,SNR=214							
L19K				S		**Sn**	**10 20 00.4**	**-1.9**
	baz=61							
IL31		**2.25**	**44**			**Pn**	**10 19 33.4**	**-0.7**
ILAR	**Eielson Array**	**2.25**	**44**	P		**Pn**	**10 19 33.1**	**-1.0**
	comp=E,578nm,0.5s,baz=228,slow=13,SNR=6001							
ILAR				S		**Sn**	**10 20 00.5**	**-2.0**
	comp=E,103nm,0.5s,baz=233,slow=17,SNR=5.4							
M24K	**Tolsona, Glenn**	**2.31**	**117**			**Pn**	**10 19 34.3**	**-0.6**
M24K	**Tolsona, Glenn**	**2.31**	**117**	P		**Pn**	**10 19 34.7**	**-0.2**
	baz=301,SNR=230							
M24K				S		**Sn**	**10 20 04.0**	**+0.1**
	baz=301							
PAX	**Paxson**	**2.33**	**94**			**Pn**	**10 19 34.7**	**-0.5**
PAX				IAML			10 20 09.3	
	comp=E,1µm,0.6s							
PAX				IAML			10 20 12.4	
	comp=N,2µm,0.7s							
PAX	**Paxson**	**2.33**	**94**	P		**Pn**	**10 19 34.9**	**-0.2**
	baz=278,SNR=739							
PAX				S		**Sn**	**10 20 02.2**	**-2.1**
	baz=278							
I20K	**Naaghedeneel**	**2.34**	**314**			**Pn**	**10 19 35.1**	**-0.2**
I20K				IAML			10 20 14.0	
	comp=N,2µm,1.9s							
I20K	**Naaghedeneel**	**2.34**	**314**	P		**Pn**	**10 19 35.2**	**-0.1**
	baz=131,SNR=341							
I20K				S		**Sn**	**10 20 02.8**	**-1.8**
	baz=131							
POKR	**Poker Plat Res**	**2.35**	**34**			**Pn**	**10 19 34.9**	**-0.4**
POKR	**Poker Plat Res**	**2.35**	**34**	P		**Pn**	**10 19 35.3**	**0.0**
	baz=216,SNR=263							
POKR				S		**Sn**	**10 20 03.0**	**-1.7**
	baz=216							
J19K	**Poorman**	**2.39**	**291**			**Pn**	**10 19 35.5**	**-0.4**
J19K				IAML			10 20 06.1	
	comp=E,2µm,1.2s							
J19K				IAML			10 20 06.2	
	comp=N,2µm,1.0s							
J19K	**Poorman**	**2.39**	**291**	P		**Pn**	**10 19 35.8**	**-0.1**
	baz=107,SNR=1000							
J19K				S		**Sn**	**10 20 03.8**	**-1.9**
	baz=107							
CAPN	**Captain Cook N**	**2.47**	**187**			**Pn**	**10 19 38.4**	**+1.4**
CAPN	**Captain Cook N**	**2.47**	**187**	P		**Pn**	**10 19 38.7**	**+1.7**
	baz=6.8,SNR=14							
CAPN				S		**Sn**	**10 20 08.7**	**+1.2**
	baz=6.8							
PWL	**Port Wells**	**2.59**	**155**	Pn		**Pn**	**10 19 37.3**	**-1.1**
PWL	**Port Wells**	**2.59**	**155**	P		**Pn**	**10 19 37.5**	**-0.9**
	baz=337,SNR=62							
PWL				S		**Sn**	**10 20 07.7**	**-2.5**
	baz=337							
HARP	**HAARP**	**2.61**	**106**			**Pn**	**10 19 38.4**	**-0.4**
HARP	**HAARP**	**2.61**	**106**	P		**Pn**	**10 19 38.5**	**-0.3**
	baz=290,SNR=186							
RIDG	**Independent Ri**	**2.62**	**76**			**Pn**	**10 19 38.7**	**-0.1**
RIDG				IAML			10 20 19.5	
	comp=N,1µm,0.6s							
RIDG	**Independent Ri**	**2.62**	**76**	P		**Pn**	**10 19 38.6**	**-0.1**
	baz=260,SNR=596							
RIDG				S		**Sn**	**10 20 08.6**	**-2.3**
	baz=260							
H21K	**Melozitna Rive**	**2.64**	**339**			**Pn**	**10 19 38.2**	**-0.8**
H21K				IAML			10 20 10.8	
	comp=E,779nm,1.4s							
H21K				IAML			10 20 12.3	
	comp=N,724nm,0.8s							
H21K	**Melozitna Rive**	**2.64**	**339**	P		**Pn**	**10 19 38.9**	**-0.1**
	baz=157,SNR=1000							
H21K				S		**Sn**	**10 20 09.0**	**-2.3**
	baz=157							
H23K	**Yukon River**	**2.66**	**9**			**Pn**	**10 19 39.1**	**-0.2**
H23K				IAML			10 20 12.4	
	comp=N,855nm,0.9s							
H23K	**Yukon River**	**2.66**	**9**	P		**Pn**	**10 19 39.3**	**0.0**
	baz=190,SNR=436							
H23K				S		**Sn**	**10 20 09.9**	**-1.8**
	baz=190							
J25K	**Salcha River,**	**2.69**	**56**			**Pn**	**10 19 39.0**	**-0.7**
J25K				IAML			10 20 13.2	
	comp=E,1µm,0.3s							
J25K				IAML			10 20 16.6	
	comp=N,913nm,0.7s							
J25K	**Salcha River,**	**2.69**	**56**	P		**Pn**	**10 19 39.2**	**-0.5**
	baz=240,SNR=650							
J25K				S		**Sn**	**10 20 09.6**	**-2.8**
	baz=240							
H22K	**Ishtalitna Cre**	**2.71**	**353**			**Pn**	**10 19 40.0**	**0.0**
H22K	**Ishtalitna Cre**	**2.71**	**353**	P		**Pn**	**10 19 40.0**	**0.0**
	baz=172,SNR=586							
H22K				S		**Sn**	**10 20 12.0**	**-1.0**
	baz=172							
SLKM	**Skilak Lake**	**2.72**	**177**			**Pn**	**10 19 39.1**	**-1.1**
SLKM				IAML			10 20 13.6	
	comp=E,1µm,0.4s							
SLKM				IAML			10 20 26.5	
	comp=N,771nm,0.7s							
KLU	**Klutina**	**2.77**	**127**			**Pn**	**10 19 39.6**	**-1.2**
KLU				IAML			10 20 24.6	
	comp=E,2µm,0.8s							
KLU	**Klutina**	**2.77**	**127**	P		**Pn**	**10 19 39.4**	**-1.4**
	baz=311,SNR=91							
KLU				S		**Sn**	**10 20 11.7**	**-2.7**
	baz=311							
O22K	**Cooper Landing**	**2.77**	**171**			**Pn**	**10 19 39.7**	**-1.1**
O22K	**Cooper Landing**	**2.77**	**171**	P		**Pn**	**10 19 40.0**	**-0.8**
	baz=352,SNR=39							
O22K				S		**Sn**	**10 20 11.8**	**-2.5**
	baz=352							
J18K	**Innoko River**	**2.79**	**278**	Pn		**Pn**	**10 19 40.1**	**-0.8**
J18K				IAML			10 20 15.2	
	comp=N,781nm,0.8s							
J18K				IAML			10 20 15.7	
	comp=E,2µm,1.7s							
J18K	**Innoko River**	**2.79**	**278**	P		**Pn**	**10 19 40.8**	**-0.2**
	baz=93,SNR=280							
J18K				S		**Sn**	**10 20 12.2**	**-2.5**
	baz=93							
RDT	**Redoubt**	**2.79**	**199**			**Pn**	**10 19 40.4**	**-0.7**
DFR	**Drift River**	**2.82**	**202**			**Pn**	**10 19 40.8**	**-0.7**
RDJH	**Redoubt Jeurge**	**2.84**	**203**			**Pn**	**10 19 41.3**	**-0.5**
GLI	**Glacier Island**	**2.86**	**144**			**Pn**	**10 19 39.8**	**-2.1**
GLI	**Glacier Island**	**2.86**	**144**	P		**Pn**	**10 19 40.4**	**-1.4**
	baz=327,SNR=58							
GLI				S		**Sn**	**10 20 14.2**	**-2.1**
	baz=327							
H24K	**Noodor Dome**	**2.87**	**23**			**Pn**	**10 19 41.8**	**-0.2**
H24K	**Noodor Dome**	**2.87**	**23**	P		**Pn**	**10 19 41.9**	**-0.2**
	baz=204,SNR=231							
H24K				S		**Sn**	**10 20 15.1**	**-1.7**
	baz=204							
NCT	**North Crescent**	**2.89**	**204**			**Pn**	**10 19 41.9**	**-0.5**
RDWB	**Redoubt West**	**2.94**	**203**			**Pn**	**10 19 42.5**	**-0.6**
H20K	**Anotleneega Mo**	**2.96**	**322**			**Pn**	**10 19 42.8**	**-0.4**
H20K	**Anotleneega Mo**	**2.96**	**322**	P		**Pn**	**10 19 42.9**	**-0.3**
	baz=139,SNR=210							
H20K				S		**Sn**	**10 20 15.9**	**-2.7**
	baz=139							
RDSO	**Redoubt South**	**2.96**	**201**			**Pn**	**10 19 42.5**	**-0.9**
L18K	**Granite Mounta**	**3.00**	**253**			**Pn**	**10 19 42.9**	**-0.7**
L18K				IAML			10 20 20.0	
	comp=E,546nm,1.7s							
L18K	**Granite Mounta**	**3.00**	**253**	P		**Pn**	**10 19 43.4**	**-0.3**
	baz=68,SNR=236							
L18K				S		**Sn**	**10 20 15.0**	**-4.5**
	baz=68							
RED	**Redoubt Volcan**	**3.00**	**202**			**Pn**	**10 19 43.7**	**-0.1**
M18K	**Stony River**	**3.01**	**237**			**Pn**	**10 19 42.8**	**-1.0**
M18K	**Stony River**	**3.01**	**237**	P		**Pn**	**10 19 43.0**	**-0.8**
	baz=53,SNR=192							
M18K				S		**Sn**	**10 20 13.6**	**-6.1**
	baz=53							
SCRK	**Sand Creek**	**3.03**	**73**			**Pn**	**10 19 43.4**	**-0.8**
SCRK				IAML			10 20 22.9	
	comp=E,674nm,1.0s							
SCRK				IAML			10 20 24.9	
	comp=N,2µm,0.8s							
SCRK	**Sand Creek**	**3.03**	**73**	P		**Pn**	**10 19 43.6**	**-0.6**
	baz=258,SNR=937							
SCRK				S		**Sn**	**10 20 15.0**	**-5.6**
	baz=258							
N19K	**Bonanza Creek**	**3.04**	**219**			**Pn**	**10 19 43.3**	**-1.0**
N19K	**Bonanza Creek**	**3.04**	**219**	P		**Pn**	**10 19 44.0**	**-0.4**
	baz=36,SNR=314							
N19K				S		**Sn**	**10 20 17.0**	**-3.8**
	baz=36							
DIV	**Divide**	**3.07**	**131**			**Pn**	**10 19 42.9**	**-1.7**
MENT	**Mentasta**	**3.12**	**92**			**Pn**	**10 19 44.5**	**-0.8**
MENT	**Mentasta**	**3.12**	**92**	P		**Pn**	**10 19 45.0**	**-0.3**
WACK	**Wrangell Chich**	**3.13**	**110**			**Pn**	**10 19 44.7**	**-1.0**
FID	**Port Fidalgo**	**3.13**	**140**			**Pn**	**10 19 43.6**	**-1.9**
SEW	**Seward**	**3.17**	**170**			**Pn**	**10 19 44.7**	**-1.2**
SEW				IAML			10 20 22.9	
	comp=N,998nm,0.4s							
SEW				IAML			10 20 23.8	
	comp=E,1µm,0.7s							
SEW	**Seward**	**3.17**	**170**	P		**Pn**	**10 19 44.9**	**-0.9**
	baz=351,SNR=32							
SEW				S		**Sn**	**10 20 19.9**	**-3.5**
	baz=351							
PRP	**Porcupine Dome**	**3.18**	**41**			**Pn**	**10 19 45.5**	**-0.7**
PRP	**Porcupine Dome**	**3.18**	**41**	P		**Pn**	**10 19 45.7**	**-0.4**
	baz=225,SNR=302							
PRP				S		**Sn**	**10 20 21.1**	**-2.9**
	baz=225							
GCSA	**Galena City Sc**	**3.18**	**302**			**Pn**	**10 19 45.9**	**-0.1**
GCSA	**Galena City Sc**	**3.18**	**302**	P		**Pn**	**10 19 45.9**	**-0.1**
	baz=116,SNR=17							
GCSA				S		**Sn**	**10 20 19.7**	**-4.1**
	baz=116							
N25K	**Chitina, Valde**	**3.21**	**118**			**Pn**	**10 19 45.7**	**-0.8**
N25K				IAML			10 20 25.9	
	comp=N,1µm,0.6s							
N25K				IAML			10 20 26.5	
	comp=E,1µm,0.7s							
N25K	**Chitina, Valde**	**3.21**	**118**	P		**Pn**	**10 19 45.8**	**-0.8**
	baz=303,SNR=109							
N25K				S		**Sn**	**10 20 22.8**	**-1.8**
	baz=303							
L26K	**Log Cabin Wild**	**3.28**	**90**			**Pn**	**10 19 46.6**	**-0.8**
L26K				IAML			10 20 33.2	
	comp=N,1µm,0.5s							
L26K				IAML			10 20 51.9	
	comp=E,897nm,0.5s							
L26K	**Log Cabin Wild**	**3.28**	**90**	P		**Pn**	**10 19 47.0**	**-0.4**
	baz=276,SNR=554							
L26K				S		**Sn**	**10 20 25.5**	**-0.7**
	baz=276							
O20K	**Slope Mountain**	**3.30**	**198**			**Pn**	**10 19 47.4**	**-0.2**
O20K	**Slope Mountain**	**3.30**	**198**	P		**Pn**	**10 19 47.8**	**+0.2**
	baz=17,SNR=24							
O20K				S		**Sn**	**10 20 26.4**	**-0.3**
	baz=17							
J26L	**Joseph Creek**	**3.35**	**64**	Pn		**Pn**	**10 19 48.3**	**0.0**
J26L				IAML			10 20 32.1	
	comp=E,906nm,0.8s							
J26L	**Joseph Creek**	**3.35**	**64**	P		**Pn**	**10 19 48.2**	**-0.2**
	baz=250,SNR=1000							
J26L				S		**Sn**	**10 20 26.6**	**-1.4**
	baz=250							
IVE	**Iliamna Volcan**	**3.42**	**201**			**Pn**	**10 19 49.1**	**-0.2**
HIN	**Hinchinbrook I**	**3.42**	**144**			**Pn**	**10 19 47.8**	**-1.4**
HIN				IAML			10 20 53.3	
	comp=N,1µm,1.0s							
H19K	**Roundabout Mou**	**3.46**	**315**			**Pn**	**10 19 48.9**	**-0.7**
H19K	**Roundabout Mou**	**3.46**	**315**	P		**Pn**	**10 19 49.3**	**-0.3**
	baz=130,SNR=429							
H19K				S		**Sn**	**10 20 28.6**	**-1.6**
	baz=130							
ILSW	**Iliamna Southw**	**3.47**	**202**			**Pn**	**10 19 49.3**	**-0.7**
ILS	**Iliamna Low So**	**3.48**	**201**			**Pn**	**10 19 50.0**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.51**	**137**			**Pn**	**10 19 49.6**	**-0.8**
EYAK				IAML			10 20 33.1	
	comp=N,885nm,0.5s							
EYAK				IAML			10 20 49.6	
	comp=E,734nm,0.6s							
EYAK	**Cordova Ski Ar**	**3.51**	**137**	P		**Pn**	**10 19 49.3**	**-1.1**
EYAK	**Cordova Ski Ar**	**3.51**

K17K Iditarod 3.57 265 P Pn 10 19 50.9 -0.2
baz=79,SNR=87
K17K S Sn 10 20 31.3 -1.6
baz=79
N18K Kilae Creek 3.58 227 Pn 10 19 50.6 -0.7
N18K Kilae Creek 3.58 227 P Pn 10 19 50.6 -0.7
baz=43,SNR=140
N18K S Sn 10 20 27.8 -5.4
baz=43
BMRM Bremner River 3.59 126 Pn 10 19 49.8 -1.7
BMRM Bremner River 3.59 126 P Pn 10 19 49.7 -1.9
baz=311,SNR=58
BMRM S Sn 10 20 30.9 -2.7
baz=311
HOM Homer 3.61 189 Pn 10 19 51.4 -0.3
HOM Homer 3.61 189 P Pn 10 19 51.8 +0.2
baz=8.2,SNR=17
HOM S Sn 10 20 32.3 -1.5
baz=8.2
GLB Gilahina Butte 3.62 116 Pn 10 19 50.8 -1.0
H25L Birch Creek 3.67 31 Pn 10 19 52.6 +0.2
H25L Birch Creek 3.67 31 P Pn 10 19 52.7 +0.2
baz=215,SNR=232
H25L S Sn 10 20 35.0 -0.3
baz=215
M17K Holitna River 3.69 244 P Pn 10 19 51.9 -0.9
baz=58,SNR=54
M17K S Sn 10 20 33.7 -2.1
baz=58
CNPM China Poot 3.72 185 Pn 10 19 52.1 -1.0
CNPM IAML 10 20 47.2
comp=E,849nm,0.8s
CNPM IAML 10 20 49.2
comp=N,600nm,0.7s
L17K Donlin 3.73 257 Pn 10 19 52.7 -0.6
L17K Donlin 3.73 257 P Pn 10 19 52.9 -0.4
baz=70,SNR=137
L17K S Sn 10 20 35.2 -1.5
baz=70
G24K Hadweenzic Riv 3.73 19 Pn 10 19 53.2 -0.1
G24K Hadweenzic Riv 3.73 19 P Pn 10 19 53.2 -0.1
baz=202,SNR=256
G24K S Sn 10 20 35.7 -1.1
baz=202
G22K Bettles 3.74 354 Pn 10 19 53.4 0.0
G22K Bettles 3.74 354 P Pn 10 19 53.5 +0.1
baz=173
G22K S Sn 10 20 36.6 -0.3
baz=173
P19K Oil Pt 3.80 201 Pn 10 19 54.1 -0.2
P19K Oil Pt 3.80 201 IAML 10 20 42.6
comp=N,483nm,0.6s
P19K IAML 10 20 42.6
comp=E,452nm,0.7s
P19K Oil Pt 3.80 201 P Pn 10 19 54.6 +0.4
baz=19,SNR=13
P19K S Sn 10 20 36.7 -1.7
baz=19
GOAT Goat Mountain 3.82 131 Pn 10 19 53.2 -1.3
I26K Coal Creek Min 3.85 54 Pn 10 19 54.3 -0.5
I26K Coal Creek Min 3.85 54 IAML 10 20 44.6
comp=N,476nm,0.8s
I26K IAML 10 20 58.3
comp=E,486nm,1.2s
I26K Coal Creek Min 3.85 54 P Pn 10 19 54.5 -0.3
baz=240
I26K S Sn 10 20 37.4 -2.1
baz=240
J17K VABM Dome 3.85 276 P Pn 10 19 54.5 -0.4
baz=89,SNR=70
J17K S Sn 10 20 37.1 -2.4
baz=89
K27K Chicken 3.87 74 Pn 10 19 54.5 -0.6
K27K Chicken 3.87 74 IAML 10 20 43.2
comp=E,607nm,0.7s
K27K Chicken 3.87 74 P Pn 10 19 54.6 -0.6
baz=261
K27K S Sn 10 20 37.3 -2.8
baz=261
VRDI Verde Repeater 3.88 118 Pn 10 19 54.4 -1.0
VRDI IAML 10 20 40.6
comp=N,786nm,0.9s
VRDI IAML 10 20 41.3
comp=E,622nm,0.7s
H18K Honhosa River 3.93 303 P Pn 10 19 55.9 0.0
baz=116,SNR=199
H18K S Sn 10 20 39.4 -2.0
baz=116
L27K Beaver Creek, 3.96 88 P Pn 10 19 55.4 -1.0
baz=276,SNR=416
MCARA McCarthy VSAT 3.97 114 Pn 10 19 55.6 -0.8
MCARA McCarthy VSAT 3.97 114 P Pn 10 19 56.1 -0.3
baz=301,SNR=38
MCARA S Sn 10 20 40.7 -1.7
baz=301
RAGM Ragged Mountai 3.98 133 Pn 10 19 55.3 -1.3
BCAR Beaver Creek A 3.98 88 Pn 10 19 55.4 -1.3
COLD Coldfoot 4.03 2 P Pn 10 19 57.3 +0.1
baz=182,SNR=77
COLD S Sn 10 20 41.3 -2.5
baz=182
G25K Bearman Lake 4.03 26 Pn 10 19 57.2 +0.1
G25K Bearman Lake 4.03 26 P Pn 10 19 57.4 +0.2
baz=210,SNR=160
G25K S Sn 10 20 42.8 -1.0
baz=210
O18K Koktuh Hills 4.04 216 Pn 10 19 56.4 -1.0
O18K Koktuh Hills 4.04 216 P Pn 10 19 56.9 -0.6
baz=32,SNR=46
O18K S Sn 10 20 41.6 -2.5
baz=32
FYU Fort Yukon 4.06 32 Pn 10 19 57.4 -0.1
FYU Fort Yukon 4.06 32 IAML 10 21 15.1
comp=E,458nm,1.5s
FYU IAML 10 21 31.8
comp=N,316nm,1.5s
G19K Purcell Mounta 4.06 319 P Pn 10 19 56.8 -0.8
baz=133,SNR=75
M27K Edge Creek, AK 4.08 98 P Pn 10 19 58.0 +0.1
baz=286,SNR=185
N17K Nushagak Hills 4.14 232 P Pn 10 19 58.0 -0.7
baz=47,SNR=148
HMT Hamilton 4.16 131 Pn 10 19 57.4 -1.5
F21K Alatna River 4.21 344 P Pn 10 20 00.0 +0.5
baz=162,SNR=380
F21K S Sn 10 20 45.8 -2.2
baz=162
CRQM Cirque 4.28 122 Pn 10 19 59.2 -1.5
CRQE Cirque 4.30 122 P Pn 10 19 59.9 -1.1
baz=308,SNR=27
CRQE S Sn 10 20 47.6 -2.8
baz=308
PTPK Patty Peak 4.30 115 Pn 10 20 00.5 -0.5
Q23K Middleton Isla 4.31 150 Pn Pn 10 20 00.1 -0.7
Q23K IAML 10 21 15.8
comp=N,595nm,1.1s
Q23K IAML 10 21 34.4
comp=E,499nm,2.9s
Q23K Middleton Isla 4.31 150 P Pn 10 20 00.4 -0.5
baz=334
BERG Berg Lake 4.31 128 Pn 10 19 59.7 -1.3
NICHA Nichawak Mount 4.33 131 Pn 10 19 59.5 -1.8
F22K John River 4.36 352 Pn 10 20 01.8 +0.2
F22K John River 4.36 352 P Pn 10 20 01.8 +0.2
baz=170
F22K S Sn 10 20 51.1 -0.6
baz=170
G18K Tagagawik 4.41 311 Pn 10 20 01.5 -0.7
G18K Tagagawik 4.41 311 P Pn 10 20 02.0 -0.2
baz=124,SNR=122
G18K S Sn 10 20 50.2 -2.6
baz=124
L16K Owhat River 4.41 254 Pn 10 20 01.8 -0.4
L16K Owhat River 4.41 254 IAML 10 20 53.5
comp=N,283nm,1.2s
L16K IAML 10 21 24.5
comp=E,206nm,1.1s
L16K Owhat River 4.41 254 P Pn 10 20 01.8 -0.4
baz=66
L16K S Sn 10 20 52.0 -0.7
baz=66
KAIM Kayak Island 4.42 136 Pn 10 20 00.7 -1.6
KAIM Kayak Island 4.42 136 IAML 10 21 19.2
comp=E,525nm,1.2s
KAIM IAML 10 21 42.3
comp=N,426nm,2.4s
KAIM Kayak Island 4.42 136 P Pn 10 20 01.5 -0.9
baz=321
KAIM S Sn 10 20 51.0 -1.9
baz=321
F20K Avaraart Lake 4.42 333 P Pn 10 20 02.7 +0.3
baz=148,SNR=239
F20K S Sn 10 20 50.6 -2.5
baz=148
BALM Baldy 4.43 116 Pn 10 20 01.4 -1.2
P18K Big Mountain, 4.45 213 P Pn 10 20 02.2 -0.7
baz=29,SNR=20
P18K S Sn 10 20 51.9 -2.0
baz=29
H17K Granite Mounta 4.46 297 P Pn 10 20 03.3 +0.5
baz=109,SNR=88
H17K S Sn 10 20 51.5 -2.4
baz=109
F24K Squaw Lake 4.46 13 Pn 10 20 02.4 -0.5
F24K Squaw Lake 4.46 13 P Pn 10 20 02.9 -0.1
baz=195,SNR=37
F24K S Sn 10 20 52.1 -2.0
baz=195
KIAG Kiagna River 4.49 117 Pn 10 20 01.9 -1.5
SUCK Suckling Hills 4.52 131 Pn 10 20 02.3 -1.4
M16K Timber Creek 4.52 245 Pn 10 20 02.7 -1.0
M16K Timber Creek 4.52 245 P Pn 10 20 03.1 -0.6
baz=58,SNR=64
M16K S Sn 10 20 50.9 -4.5
baz=58
BVCY Beaver Creek 4.52 96 Pn 10 20 02.9 -0.9
BVCY Beaver Creek 4.52 96 P Pn 10 20 02.9 -0.9
baz=284,SNR=76
GRIN Grindle Hills 4.53 127 Pn 10 20 03.0 -0.9
J16K Anvik River 4.54 275 Pn Pn 10 20 03.3 -0.7
J16K IAML 10 20 56.6
comp=E,186nm,1.9s
J16K Anvik River 4.54 275 P Pn 10 20 03.8 -0.2
baz=87,SNR=77
J16K S Sn 10 20 53.7 -2.3
baz=87
I27K Kandik River 4.56 54 Pn 10 20 03.3 -0.9
I27K Kandik River 4.56 54 P Pn 10 20 03.5 -0.7
baz=242,SNR=185
I27K S Sn 10 20 53.9 -2.5
baz=242
Q19K Cape Douglas, 4.56 201 Pn Pn 10 20 03.3 -1.0
Q19K IAML 10 21 34.0
comp=N,429nm,1.1s
Q19K Cape Douglas, 4.56 201 P Pn 10 20 03.8 -0.5
baz=18,SNR=12
I17K Unalakleet 4.58 283 Pn Pn 10 20 04.7 +0.1
I17K IAML 10 20 59.2
comp=N,196nm,1.3s
I17K IAML 10 20 59.5
comp=E,338nm,1.0s
I17K Unalakleet 4.58 283 P Pn 10 20 04.8 +0.3
baz=94,SNR=63
I17K S Sn 10 20 54.5 -2.4
baz=94
WAX Waxell Ridge 4.59 124 Pn 10 20 03.7 -1.0
BGLC Bering Glacier 4.65 129 Pn 10 20 04.9 -0.6
BGLC Bering Glacier 4.65 129 P Pn 10 20 05.2 -0.2
baz=315
BGLC S Sn 10 20 57.2 -1.4
baz=315
O17K Koliganek Bris 4.66 225 Pn 10 20 04.8 -0.8
O17K Koliganek Bris 4.66 225 P Pn 10 20 05.0 -0.6
baz=40,SNR=32
O17K S Sn 10 20 56.4 -2.4
baz=40
ISLE Juniper Island 4.69 120 Pn 10 20 04.6 -1.5
ISLE IAML 10 21 23.2
comp=E,472nm,1.1s
BARN Barnard Glacie 4.70 113 Pn 10 20 05.5 -0.8
BARN IAML 10 21 04.7
comp=E,294nm,0.9s
BARN IAML 10 21 31.9
comp=N,312nm,1.0s
Q20K Shuyak Island 4.71 192 P Pn 10 20 05.8 -0.4
baz=10,SNR=12
Q20K S Sn 10 20 56.2 -3.8
baz=10
SYI Shuyak Island 4.71 192 Pn Pn 10 20 05.6 -0.7
SYI IAML 10 21 01.7
comp=N,237nm,0.6s
SYI IAML 10 21 02.2
comp=E,383nm,0.8s
G26K Porcupine Rive 4.71 34 Pn 10 20 05.2 -1.1
G26K IAML 10 21 35.2
comp=N,357nm,1.4s
G26K IAML 10 21 52.6
comp=E,184nm,1.2s
G26K Porcupine Rive 4.71 34 P Pn 10 20 05.5 -0.7
baz=220,SNR=79
G26K S Sn 10 20 57.8 -2.2
baz=220
YUK2 White River 4.73 103 Pn 10 20 06.3 -0.2
F19K Shaleruckik Mo 4.75 323 Pn 10 20 05.9 -0.8
F19K Shaleruckik Mo 4.75 323 P Pn 10 20 06.4 -0.3
baz=136,SNR=96
F19K S Sn 10 20 58.1 -2.6
baz=136
BARK Barkley Ridge 4.75 123 Pn 10 20 06.1 -0.8
N16K Nishlik Lake 4.76 238 Pn 10 20 06.2 -0.8
N16K Nishlik Lake 4.76 238 P Pn 10 20 06.2 -0.8
baz=52,SNR=38
GRNC Granite Creek 4.84 117 Pn 10 20 06.7 -1.5
GRNC IAML 10 21 14.1
comp=E,217nm,1.0s
GRNC IAML 10 21 26.3
comp=N,267nm,0.7s
F25K Christian Rive 4.85 23 P Pn 10 20 08.1 0.0
baz=207,SNR=148
F25K S Sn 10 21 01.7 -1.6
baz=207
BAGL Bagley Icefiel 4.85 121 Pn 10 20 06.8 -1.3
E23K Chandalar 4.88 4 Pn Pn 10 20 08.7 +0.2
E23K Chandalar 4.88 4 P Pn 10 20 08.7 +0.2
baz=185,SNR=28
E23K S Sn 10 21 03.9 -0.2
baz=185
CTG Chitna Glacier 4.88 113 P Pn 10 20 08.0 -0.7
baz=301,SNR=36
CTG S Sn 10 21 03.0 -1.4
baz=301
CTGM Chitina Glacie 4.89 113 Pn 10 20 07.8 -0.9
CTGM IAML 10 21 16.2
comp=N,208nm,1.3s
YUK3 Moose Creek 4.90 103 Pn 10 20 08.9 -0.1
YUK3 Moose Creek 4.90 103 P Pn 10 20 08.9 -0.1
baz=291,SNR=150
YUK3 S Sn 10 21 04.4 -0.5
baz=291
H27K Steamboat Moun 4.91 48 Pn Pn 10 20 08.0 -1.0
H27K Steamboat Moun 4.91 48 P Pn 10 20 07.8 -1.1
baz=236,SNR=72
H27K S Sn 10 21 02.6 -2.3
baz=236
P17K Kvichak River 4.94 218 Pn 10 20 09.0 -0.3
P17K Kvichak River 4.94 218 P Pn 10 20 09.0 -0.3
baz=33,SNR=23
P17K S Sn 10 21 05.1 -0.3
baz=33
G17K Kiwalik Mounta 4.95 302 Pn 10 20 09.3 -0.1
G17K Kiwalik Mounta 4.95 302 P Pn 10 20 09.5 +0.1
baz=113,SNR=55
G17K S Sn 10 21 05.6 0.0
baz=113
E24K Your Creek 4.95 9 P Pn 10 20 09.7 +0.2
baz=191,SNR=46
E24K S Sn 10 21 04.9 -1.0
baz=191
E22K Anaktuvuk Pass 4.97 355 P Pn 10 20 10.1 +0.4
baz=173,SNR=23
E22K S Sn 10 21 06.0 -0.1
baz=173
DAWY Dawson 5.05 75 Pn 10 20 09.9 -1.0
DAWY IAML 10 21 25.6
comp=N,263nm,0.8s
DAWY IAML 10 21 26.5
comp=E,225nm,0.8s
DAWY Dawson 5.05 75 P Pn 10 20 10.3 -0.6
baz=265,SNR=739
DAWY S Sn 10 21 04.2 -4.0
baz=265
YAH Yahtse 5.07 120 Pn 10 20 10.0 -1.2
YAH IAML 10 21 34.2
comp=E,304nm,0.8s
KAHC Katmai Hardscr 5.07 207 Pn 10 20 10.4 -0.8
KAHC Katmai Hardscr 5.07 207 Pn 10 20 10.3 -0.8
Q18K Katmai Hardscr 5.07 207 P Pn 10 20 10.6 -0.7
baz=24,SNR=31
Q18K S Sn 10 21 05.5 -3.4
baz=24
E19K Redstone River 5.09 330 Pn 10 20 11.5 +0.2
E19K Redstone River 5.09 330 IAML 10 21 30.8
comp=N,134nm,1.1s
E19K Redstone River 5.09 330 P Pn 10 20 11.6 +0.2
baz=144
E19K S Sn 10 21 07.3 -1.8
baz=144
MESA MESA 5.10 123 Pn 10 20 10.6 -1.1
MESA MESA 5.10 123 P Pn 10 20 10.8 -0.9
baz=310,SNR=9.1
MESA S Sn 10 21 07.6 -2.2
baz=310
KAHG Katmai Hook Gl 5.12 204 Pn 10 20 11.3 -0.6
K15K Wolf Creek Mou 5.13 265 P Pn 10 20 11.6 -0.2
baz=75,SNR=62
K15K S Sn 10 21 09.5 -0.5
baz=75
O16K Kokwok River B 5.13 228 Pn 10 20 10.9 -1.0
O16K Kokwok River B 5.13 228 P Pn 10 20 11.0 -0.8
baz=42,SNR=15
O16K S Sn 10 21 07.7 -2.3
baz=42
I28M Miner Creek 5.13 59 Pn 10 20 11.6 -0.4
I28M IAML 10 21 12.5
comp=E,197nm,1.0s
I28M IAML 10 21 39.9
comp=N,220nm,1.1s
I28M Miner Creek 5.13 59 P Pn 10 20 11.4 -0.6
baz=249,SNR=195
I28M S Sn 10 21 08.6 -1.6
baz=249
F18K Selawik 5.15 315 Pn 10 20 11.7 -0.4
F18K Selawik 5.15 315 P Pn 10 20 11.8 -0.2
baz=127,SNR=23
F18K S Sn 10 21 09.0 -1.4
baz=127
G27K Doyon Strip 5.22 42 Pn 10 20 11.4 -1.6
G27K Doyon Strip 5.22 42 P Pn 10 20 11.9 -1.1
baz=230,SNR=48
G27K S Sn 10 21 08.8 -3.3
baz=230
F26K Sheenjek River 5.23 28 P Pn 10 20 12.8 -0.4
baz=213,SNR=78
F26K S Sn 10 21 10.0 -2.4
baz=213
RKAV Rock Avalanche 5.26 120 Pn 10 20 12.8 -1.0
L15K Ungalak Mounta 5.30 258 Pn 10 20 13.6 -0.6
L15K Ungalak Mounta 5.30 258 P Pn 10 20 13.7 -0.6
baz=68,SNR=61
L15K S Sn 10 21 12.5 -1.7
baz=68
H16K Elim 5.35 291 Pn 10 20 14.7 0.0
H16K Elim 5.35 291 P Pn 10 20 14.8 0.0
baz=100,SNR=21
H16K S Sn 10 21 13.7 -1.5
baz=100
YUK8 Steele Glacier 5.40 106 Pn 10 20 15.3 -0.5
YUK8 Steele Glacier 5.40 106 P Pn 10 20 15.1 -0.7
baz=296,SNR=28
M15K Kasigluk River 5.41 247 Pn 10 20 15.0 -0.5
M15K Kasigluk River 5.41 247 P Pn 10 20 15.1 -0.5
baz=58,SNR=57
M15K S Sn 10 21 14.1 -2.6
baz=58
E21K Killik River 5.43 347 Pn 10 20 16.6 +0.7
E21K Killik River 5.43 347 P Pn 10 20 16.5 +0.6
baz=163
E21K S Sn 10 21 18.7 +1.4
baz=163
Q16K King Salmon 5.44 216 P Pn 10 20 15.7 -0.3
baz=31,SNR=8.4
TOLK Toolik Lake Re 5.46 4 Pn 10 20 17.2 +0.9
TOLK Toolik Lake Re 5.46 4 P Pn 10 20 16.9 +0.6
baz=184,SNR=20
TOLK S Sn 10 21 19.5 +1.5
baz=184
O28M Mount Upton 5.46 112 P Pn 10 20 16.0 -0.6
baz=301,SNR=26
O28M S Sn 10 21 16.1 -2.5
baz=301
N15K Kwethluk River 5.47 240 P Pn 10 20 15.7 -0.8
baz=52,SNR=24
CHX Chaix Hills 5.50 121 Pn 10 20 16.6 -0.3
P16K Nushagak River 5.53 224 Pn 10 20 16.7 -0.6
P16K Nushagak River 5.53 224 P Pn 10 20 17.1 -0.2
baz=38,SNR=6.0
ACHA Angle Creek He 5.54 207 Pn 10 20 16.7 -0.8
KDAK Kodiak Island 5.54 191 Pn 10 20 15.7 -1.7
KDAK Kodiak Island 5.54 191 P Pn 10 20 14.4 -3.0
comp=N,18nm,0.4s,baz=7.6,slow=10.0,SNR=256
KDAK S Sn 10 21 13.7 -6.3
comp=N,40nm,0.2s,baz=293,slow=7.7,SNR=9.0
KDAK Kodiak Island 5.54 191 P Pn 10 20 15.7 -1.7
baz=9.8
KDAK S Sn 10 21 13.7 -6.3
baz=9.8
E20K Nigu River 5.57 338 Pn 10 20 18.5 +0.8
E20K Nigu River 5.57 338 P Pn 10 20 18.6 +0.8
baz=153
G16K Koyuk River 5.58 298 P Pn 10 20 18.0 +0.1
baz=108,SNR=71
ANCK Angle Creek 5.59 208 Pn 10 20 17.5 -0.6
SAMH Samovar Hills 5.59 119 Pn 10 20 17.8 -0.4
F17K Baldwin Pennin 5.59 310 Pn 10 20 18.0 +0.1
F17K Baldwin Pennin 5.59 310 P Pn 10 20 18.1 +0.1
baz=120,SNR=10.0
F17K S Sn 10 21 21.6 +0.6
baz=120
M29M Somme Creek 5.60 93 Pn 10 20 17.3 -0.9
M29M Somme Creek 5.60 93 P Pn 10 20 17.6 -0.6
baz=283,SNR=116
M29M S Sn 10 21 19.7 -1.7
baz=283
J29N Klondike Camp 5.60 72 Pn 10 20 17.7 -0.5
J29N Klondike Camp 5.60 72 P Pn 10 20 17.9 -0.4
baz=262,SNR=34
J29N S Sn 10 21 20.1 -1.3
baz=262
CNTC Contact Creek 5.61 210 Pn 10 20 17.9 -0.6
Q17K Contact Creek 5.61 210 P Pn 10 20 17.9 -0.6
baz=26,SNR=28
Q17K S Sn 10 21 19.9 -2.0
baz=26
L29M L29M 5.63 86 P Pn 10 20 18.1 -0.5
baz=276,SNR=101
CAHL Cahill 5.68 206 Pn 10 20 18.9 -0.5
KJL Kejulik 5.74 208 Pn 10 20 19.7 -0.4
I29M Ogilvie Camp, 5.75 63 Pn 10 20 19.4 -0.7
I29M Ogilvie Camp, 5.75 63 P Pn 10 20 19.0 -1.1
baz=253,SNR=231
I29M S Sn 10 21 23.3 -1.6
baz=253
D22K Ayikyak River 5.75 352 Pn 10 20 21.3 +1.1
D22K Ayikyak River 5.75 352 P Pn 10 20 21.0 +0.8
baz=170
D22K S Sn 10 21 25.1 +0.1
baz=170
D23K Nanushuk River 5.78 360 Pn 10 20 22.1 +1.7
D23K Nanushuk River 5.78 360 P Pn 10 20 22.1 +1.7
baz=179,SNR=24
D23K S Sn 10 21 28.1 +2.6
baz=179
PCA Pinnacle 5.82 118 Pn 10 20 20.0 -1.2
PINM Pinnacle 5.82 118 P Pn 10 20 20.5 -0.7
baz=307,SNR=17
PINM S Sn 10 21 24.5 -2.2
baz=307
K29M Barlow Dome 5.87 78 P Pn 10 20 21.1 -0.7
baz=270,SNR=105
YUK4 Talbot Arm 5.87 103 P Pn 10 20 21.1 -0.9
baz=293,SNR=15
M14K Bethel 5.92 250 P Pn 10 20 22.5 +0.2
baz=61,SNR=105
M14K S Sn 10 21 29.0 +0.1
baz=61
J14K Nanvaranak Lak 5.95 271 P Pn 10 20 22.7 0.0
baz=80,SNR=25
J14K S Sn 10 21 29.7 +0.1
baz=80
E18K Tukpahlearik C 5.96 320 Pn 10 20 22.9 0.0

E18K **Tukpahlearik C** 5.96 320 P Pn 10 20 23.3 +0.4
baz=130
E18K S Sn 10 21 29.5 -0.3
baz=130
L14K **Kuka Creek** 5.96 257 Pn 10 20 23.4 +0.3
L14K **Kuka Creek** 5.96 257 P Pn 10 20 23.2 +0.2
baz=66
L14K S Sn 10 21 28.7 -1.3
baz=66
R18K **Karluk** 5.99 201 Pn 10 20 21.0 -2.3
R18K **Karluk** 5.99 201 P Pn 10 20 21.1 -2.3
baz=17
D24K **Happy Valley** 6.00 6 Pn 10 20 25.0 +1.5
D24K **Happy Valley** 6.00 6 P Pn 10 20 24.8 +1.3
baz=187,SNR=13
H29M **Whitestone** 6.03 55 P Pn 10 20 22.9 -0.9
baz=245,SNR=41
H29M S Sn 10 21 30.3 -1.2
baz=245
O15K **Ungalikthiuk R** 6.04 232 Pn 10 20 24.0 -0.1
O15K **Ungalikthiuk R** 6.04 232 P Pn 10 20 23.8 -0.2
baz=44,SNR=8.4
D20K **Etivluk River** 6.05 339 P Pn 10 20 24.4 +0.3
baz=153,SNR=47
D20K S Sn 10 21 31.8 -0.2
baz=153
E17K **Hotham Inlet** 6.13 314 Pn 10 20 25.2 0.0
E17K **Hotham Inlet** 6.13 314 P Pn 10 20 25.6 +0.3
baz=124,SNR=23
D19K **Kuna River** 6.14 333 Pn 10 20 25.8 +0.5
D19K **Kuna River** 6.14 333 P Pn 10 20 25.9 +0.5
baz=146
D19K S Sn 10 21 36.0 +1.8
baz=146
BCPM **Bancas Point** 6.15 117 Pn 10 20 24.8 -0.9
YUK6 **Outpost Mounta** 6.16 106 P Pn 10 20 25.3 -0.7
baz=297
YUK6 S Sn 10 21 35.1 -0.2
baz=297
OHAK **Old Harbor** 6.17 194 Pn 10 20 23.2 -2.6
OHAK **Old Harbor** 6.17 194 P Pn 10 20 23.2 -2.6
OHAK **Old Harbor** 6.17 194 P Pn 10 20 23.6 -2.1
baz=12,SNR=7.1
G15K **Niukluk** 6.17 293 Pn 10 20 25.9 +0.1
G15K **Niukluk** 6.17 293 P Pn 10 20 25.9 +0.1
baz=101,SNR=37
PLK1 **Peulik 1** 6.20 212 Pn 10 20 26.2 0.0
C21K **Knifeblade Rid** 6.21 346 Pn 10 20 27.1 +0.9
C21K **Knifeblade Rid** 6.21 346 P Pn 10 20 26.6 +0.4
baz=162,SNR=36
C21K S Sn 10 21 37.6 +1.8
baz=162
E27K **Coleen River** 6.21 33 P Pn 10 20 25.5 -0.8
baz=220,SNR=19
E27K S Sn 10 21 34.3 -1.6
baz=220
N14K **Kuskokwak Cree** 6.26 243 Pn 10 20 26.0 -0.9
N14K **Kuskokwak Cree** 6.26 243 P Pn 10 20 26.5 -0.5
baz=54,SNR=9.2
F28M **Old Crow** 6.27 41 P Pn 10 20 26.2 -0.9
baz=230,SNR=33
PLK4 **Peulik 4** 6.29 210 Pn 10 20 27.2 -0.4
R17L **Mt. Peulik Vol** 6.29 210 P Pn 10 20 27.1 -0.5
baz=25,SNR=21
R17L S Sn 10 21 38.0 -0.2
baz=25
M30M **Minto, Yukon** 6.32 90 Pn 10 20 26.4 -1.5
M30M **Minto, Yukon** 6.32 90 P Pn 10 20 26.9 -1.0
baz=282,SNR=36
D25K **Kavik River** 6.36 14 P Pn 10 20 29.1 +0.8
baz=197,SNR=26
O29M **Mount Kennedy** 6.39 112 Pn 10 20 28.1 -0.9
O29M **Mount Kennedy** 6.39 112 P Pn 10 20 28.0 -0.9
baz=302,SNR=7.5
PNL **Peninsula** 6.42 119 Pn 10 20 28.3 -1.0
PNL **Peninsula** 6.42 119 P Pn 10 20 28.7 -0.6
PNL **Peninsula** 6.42 119 P Pn 10 20 28.2 -1.0
baz=308
PNL S Sn 10 21 39.5 -1.7
baz=308
J30M **Hart River** 6.42 71 P Pn 10 20 29.2 -0.2
baz=264,SNR=107
J30M S Sn 10 21 39.9 -1.4
baz=264
G29M **Pine Creek** 6.46 49 Pn 10 20 28.6 -1.2
G29M **Pine Creek** 6.46 49 P Pn 10 20 28.9 -0.9
baz=241,SNR=24
G29M S Sn 10 21 39.7 -2.4
baz=241
I30M **Mount Dempster** 6.50 66 Pn 10 20 29.3 -1.1
I30M **Mount Dempster** 6.50 66 P Pn 10 20 29.3 -1.1
baz=258,SNR=92
I30M S Sn 10 21 42.1 -1.1
baz=258
N30M **Aishikik Lake** 6.51 100 Pn 10 20 29.5 -1.0
N30M **Aishikik Lake** 6.51 100 P Pn 10 20 29.7 -0.9
baz=291,SNR=19
N30M S Sn 10 21 40.3 -3.2
baz=291
O14K **Tigyukauivet M** 6.52 237 Pn 10 20 30.1 -0.4
O14K **Tigyukauivet M** 6.52 237 P Pn 10 20 30.1 -0.4
baz=48
C24K **Franklin Bluff** 6.57 6 Pn 10 20 32.0 +0.8
C24K **Franklin Bluff** 6.57 6 P Pn 10 20 31.4 +0.3
baz=187
F15K **North Star Dit** 6.58 299 Pn 10 20 31.7 +0.3
F15K **North Star Dit** 6.58 299 P Pn 10 20 31.5 +0.2
baz=106,SNR=28
HYT **Haines Junctio** 6.59 105 Pn 10 20 30.4 -1.2
HYT **Haines Junctio** 6.59 105 P Pn 10 20 30.7 -1.0
baz=297,SNR=15
MAYO **Mayo, Yukon** 6.60 80 P Pn 10 20 30.8 -0.7
baz=273,SNR=15
B21K **Ikpikpuk River** 6.63 348 Pn 10 20 31.7 -0.3
B21K **Ikpikpuk River** 6.63 348 P Pn 10 20 31.7 -0.3
baz=164,SNR=11
K13K **Kusilvak Mount** 6.64 265 Pn 10 20 31.4 -0.8
K13K **Kusilvak Mount** 6.64 265 P Pn 10 20 32.0 -0.1
baz=73,SNR=23
R16K **Pilot Point** 6.65 215 P Pn 10 20 31.8 -0.5
baz=29
C23K **Ikiliik River** 6.65 360 P Pn 10 20 32.4 +0.2
baz=180,SNR=6.9
ANM **Nome** 6.68 288 P Pn 10 20 33.0 +0.4
baz=95,SNR=16
M13K **Dall Lake** 6.68 251 P Pn 10 20 33.2 +0.6
baz=60,SNR=16
EPYK **Eagle Plains** 6.70 56 Pn 10 20 31.9 -1.0
EPYK **Eagle Plains** 6.70 56 P Pn 10 20 31.8 -1.2
baz=248,SNR=113
D17K **Noatak River** 6.88 316 P Pn 10 20 35.7 +0.4
baz=125,SNR=9.0
SII **Sitkinak Islan** 6.92 197 Pn 10 20 33.7 -2.3
SII **Sitkinak Islan** 6.92 197 P Pn 10 20 33.9 -2.1
SII **Sitkinak Islan** 6.92 197 P Pn 10 20 34.3 -1.7
baz=14
C19K **Lookout Ridge** 6.95 332 Pn 10 20 36.2 0.0
C19K **Lookout Ridge** 6.95 332 P Pn 10 20 36.2 0.0
baz=144
C18K **Utukok River** 6.97 326 Pn 10 20 36.8 +0.2
C18K **Utukok River** 6.97 326 P Pn 10 20 36.7 +0.2
baz=136
C27K **Jago River** 6.99 20 Pn 10 20 37.5 +0.7
C27K **Jago River** 6.99 20 P Pn 10 20 37.2 +0.3
baz=206,SNR=31
E28M **Babbage River** 7.03 35 P Pn 10 20 36.6 -0.7
baz=225,SNR=7.9
RDOG **Red Dog Mine** 7.04 319 Pn 10 20 38.6 +1.2
RDOG **Red Dog Mine** 7.04 319 P Pn 10 20 38.4 +0.9
baz=128,SNR=12
N31M **Braeburn, Yuko** 7.09 98 Pn 10 20 37.7 -0.5
N31M **Braeburn, Yuko** 7.09 98 P Pn 10 20 38.1 -0.2
baz=290,SNR=14
C26K **Camden Bay** 7.09 16 P Pn 10 20 38.3 +0.2
baz=201
P29M **Windy Craggy** 7.12 115 Pn 10 20 37.8 -0.9
P29M **Windy Craggy** 7.12 115 P Pn 10 20 38.3 -0.3
baz=306,SNR=15
G30M **tAoh Zraii Nji** 7.12 52 P Pn 10 20 36.7 -1.9
baz=244,SNR=30
P30M **Million Dollar** 7.17 110 Pn 10 20 38.6 -0.8
P30M **Million Dollar** 7.17 110 P Pn 10 20 38.5 -0.8
baz=301
D27M **Malcolm River** 7.18 28 P Pn 10 20 39.4 +0.1
baz=217,SNR=12
F14K **Arctic Creek** 7.21 295 Pn 10 20 40.0 +0.3

F14K **Arctic Creek** 7.21 295 P Pn 10 20 39.8 0.0
baz=101,SNR=24
O30N **Mendenhall** 7.24 103 Pn 10 20 39.3 -1.0
O30N **Mendenhall** 7.24 103 P Pn 10 20 38.8 -1.4
baz=296
B22K **Teshekpuk Lake** 7.24 352 Pn 10 20 40.4 +0.3
B22K **Teshekpuk Lake** 7.24 352 P Pn 10 20 39.8 -0.3
baz=170,SNR=5.3
B20K **Meade River** 7.30 342 Pn 10 20 40.3 -0.7
B20K **Meade River** 7.30 342 P Pn 10 20 40.7 -0.2
baz=156,SNR=6.3
E29M **Blow River** 7.34 39 Pn 10 20 40.3 -1.1
E29M **Blow River** 7.34 39 P Pn 10 20 40.5 -0.9
baz=231,SNR=9.6
C17K **DeLong Mountai** 7.38 321 Pn 10 20 42.5 +0.4
C17K **DeLong Mountai** 7.38 321 P Pn 10 20 42.4 +0.4
baz=130,SNR=14
H31M **Peel River** 7.46 62 Pn 10 20 41.3 -1.8
H31M **Peel River** 7.46 62 P Pn 10 20 41.5 -1.6
baz=257,SNR=25
M31M **Drury Creek, Y** 7.50 91 Pn 10 20 42.5 -1.3
M31M **Drury Creek, Y** 7.50 91 P Pn 10 20 43.3 -0.5
baz=285,SNR=48
F30M **Barrier River** 7.56 48 P Pn 10 20 43.4 -1.1
baz=241,SNR=7.2
B18K **Kokolik River** 7.64 329 Pn 10 20 46.1 +0.5
B18K **Kokolik River** 7.64 329 P Pn 10 20 45.4 -0.2
baz=138
D28M **Stokes Point** 7.75 33 P Pn 10 20 46.2 -0.8
baz=223
G31M **Satah River** 7.81 54 Pn 10 20 46.3 -1.5
G31M **Satah River** 7.81 54 P Pn 10 20 46.0 -1.8
baz=249,SNR=24
WHY **Whitehorse** 7.82 102 Pn 10 20 46.7 -1.4
WHY **Whitehorse** 7.82 102 P Pn 10 20 46.8 -1.4
baz=296
CHIR **Chirikof Islan** 7.85 201 Pn 10 20 45.0 -3.5
CHIR **Chirikof Islan** 7.85 201 P Pn 10 20 45.3 -3.1
CHIR **Chirikof Islan** 7.85 201 P Pn 10 20 45.6 -2.8
baz=17
TNA **Tin City** 7.88 295 Pn 10 20 49.2 +0.5
TNA **Tin City** 7.88 295 P Pn 10 20 49.3 +0.6
baz=99,SNR=16
C16K **Lisburne Hills** 7.91 316 Pn 10 20 49.7 +0.6
C16K **Lisburne Hills** 7.91 316 P Pn 10 20 49.4 +0.2
baz=123
M11K **Mekoryuk** 7.93 256 Pn 10 20 50.4 +0.9
M11K **Mekoryuk** 7.93 256 P Pn 10 20 49.9 +0.4
baz=62,SNR=17
CHGN **Chignik** 7.99 213 P Pn 10 20 48.8 -1.5
baz=27
A22K **Sinclair Lake** 8.01 350 Pn 10 20 49.6 -0.8
A22K **Sinclair Lake** 8.01 350 P Pn 10 20 49.6 -0.8
baz=165
A19K **Wainwright** 8.14 334 P Pn 10 20 51.8 -0.5
baz=144
F31M **Tsiigehtchic** 8.20 52 Pn 10 20 52.0 -1.0
F31M **Tsiigehtchic** 8.20 52 P Pn 10 20 50.9 -2.1
baz=247,SNR=15
SKAG **Skagway** 8.22 110 Pn 10 20 51.9 -1.5
SKAG **Skagway** 8.22 110 P Pn 10 20 53.7 +0.3
SKAG **Skagway** 8.22 110 P Pn 10 20 52.8 -0.6
baz=304,SNR=5.5
S14K **Fog Glacier** 8.30 217 P Pn 10 20 53.9 -0.6
baz=30
N32M **Quiet Lake** 8.43 96 P Pn 10 20 54.9 -1.3
baz=292
A21K **Barrow** 8.47 347 P Pn 10 20 56.1 -0.5
baz=161
INK **Inuvik** 8.65 46 Pn 10 20 57.2 -1.8
INK **Inuvik** 8.65 46 P Pn 10 20 58.4 -0.7
comp=N,16nm,0.9s,baz=242,slow=14,SNR=30
INK S Sn 10 22 35.6 +0.9
comp=N,16nm,0.9s,baz=236,slow=3.6,SNR=3.9
INK **Inuvik** 8.65 46 P Pn 10 20 58.3 -0.7
baz=242,SNR=18
R31K **City Hall, Gus** 8.68 117 P Pn 10 20 58.8 -0.8
baz=310
S31K **Pelican** 8.79 120 Pn 10 21 00.3 -0.7
S31K **Pelican** 8.79 120 P Pn 10 21 00.3 -0.7
baz=313
MMPY **Sheldon Lake,** 8.82 85 Pn 10 21 00.4 -1.0
MMPY **Sheldon Lake,** 8.82 85 P Pn 10 21 01.2 -0.3
baz=282,SNR=17
P32M **Atlin** 8.85 107 Pn 10 21 00.8 -1.1
P32M **Atlin** 8.85 107 P Pn 10 21 01.3 -0.6
baz=301
P33M **Teslin, Yukon** 8.94 102 P Pn 10 21 02.4 -0.7
baz=297,SNR=11
R32K **Eaglecrest** 9.27 115 P Pn 10 21 06.3 -1.2
baz=309
JIS **Juneau Island** 9.32 115 Pn 10 21 07.2 -1.0
JIS **Juneau Island** 9.32 115 P Pn 10 21 07.5 -0.7
SDPT **Sand Point** 9.37 217 P Pn 10 21 08.4 -0.4
baz=29
GAMB **Gambell** 9.46 283 Pn 10 21 11.1 +1.1
GAMB **Gambell** 9.46 283 P Pn 10 21 10.9 +0.9
baz=84,SNR=8.5
S12K **Black Hills** 9.53 223 P Pn 10 21 10.8 -0.2
baz=33
CHNA **Chernabura Isl** 9.60 213 P Pn 10 21 12.0 0.0
baz=25
SIT **Sitka** 9.77 122 Pn 10 21 13.5 -0.7
SIT **Sitka** 9.77 122 P Pn 10 21 14.2 0.0
SIT **Sitka** 9.77 122 P Pn 10 21 13.7 -0.5
baz=316
S32K **Killisnoo** 9.78 119 P Pn 10 21 13.8 -0.5
baz=313
Q32M **Nakina River** 9.81 107 Pn 10 21 13.9 -1.1
Q32M **Nakina River** 9.81 107 P Pn 10 21 14.6 -0.4
baz=304
R33M **Jennings River** 10.15 103 Pn 10 21 19.2 -0.2
R33M **Jennings River** 10.15 103 P Pn 10 21 19.5 +0.1
baz=300,SNR=5.3
TGTN **Hyland Airport** 10.47 89 P Pn 10 21 23.7 +0.1
baz=289
FALS **False Pass** 10.66 224 P Pn 10 21 26.7 +0.6
baz=33
WTLY **Watson Lake, Y** 10.78 97 P Pn 10 21 27.8 +0.1
baz=296
T33K **Petersburg** 10.87 118 P Pn 10 21 28.7 -0.2
baz=313
S34M **Telegraph Cree** 10.91 110 P Pn 10 21 29.0 -0.5
baz=307
DLBC **Dease Lake** 11.08 106 P Pn 10 21 31.4 -0.3
baz=299,slow=10
DLBC LR LR 10 26 16.6
comp=N,4.8nm,20.7s,baz=336,slow=39
DLBC **Dease Lake** 11.08 106 P Pn 10 21 31.4 -0.3
baz=304
U33K **Whale Pass** 11.30 121 P Pn 10 21 34.2 -0.4
baz=316
WRAK **Wrangell Islan** 11.39 118 Pn 10 21 35.5 -0.2
WRAK **Wrangell Islan** 11.39 118 P Pn 10 21 35.5 -0.2
baz=314,SNR=5.3
SPIA **Saint Paul Isl** 11.48 247 P Pn 10 21 36.7 -0.3
baz=50
P08K **Saint George I** 11.58 244 P Pn 10 21 37.8 -0.4
baz=47
CRAG **Craig** 11.77 123 P Pn 10 21 41.9 +1.1
CRAG **Craig** 11.77 123 P Pn 10 21 41.2 +0.4
baz=318
T35M **Bob Quinn** 11.87 112 Pn 10 21 42.5 +0.4
T35M **Bob Quinn** 11.87 112 P Pn 10 21 42.0 -0.1
baz=310,SNR=5.1
WRGLY **Wrigley** 12.18 78 P Pn 10 21 46.3 +0.1
baz=282
LIRD **Liard River Hi** 12.31 97 P Pn 10 21 48.0 +0.1
baz=298
V35K **Ketchikan** 12.46 121 Pn 10 21 49.7 0.0
V35K **Ketchikan** 12.46 121 P Pn 10 21 49.8 +0.1
baz=317
KOTAN **Kotaneelee Air** 12.91 92 P Pn 10 21 55.0 -0.6
baz=295
A36M **Sachs Harbour** 12.92 36 P Pn 10 21 54.1 -1.6
baz=240
TOAD **Toad River Com** 12.98 98 P Pn 10 21 56.7 +0.1
baz=300
NIKH **Nikolski High** 14.04 231 P Pn 10 22 10.3 +0.1
NIKH **Nikolski High** 14.04 231 P Pn 10 22 10.9 +0.7
baz=36
BBB **Bella Bella** 16.20 123 P P 10 22 38.9 +1.2
comp=N,13nm,0.8s,baz=321,slow=13,SNR=7.6
YKAW3 **Yellowknife Wh** 16.27 76 P Pn 10 22 36.8 -1.0
YKAW3 IAmb IAmb 10 22 43.1
comp=Z,17nm,1.3s

YKA **Yellowknife Ar** 16.29 76 P Pn 10 22 37.1 -1.0
comp=Z,1.5nm,0.7s,baz=289,slow=12,SNR=31
YKA ScP ScP 10 30 45.0 0.0
comp=Z,1.3nm,0.8s,baz=286,slow=2.2,SNR=4.1
ATKA **Atka Island** 16.65 239 P Pn 10 22 42.4 -0.2
ATKA IAmb IAmb 10 22 45.2
comp=Z,20nm,0.6s
ADK **Adak** 17.88 243 P Pn 10 22 58.2 +0.8
CLRS **Cowichan Lake** 20.42 123 P Pn 10 23 27.2 0.0
GNW **Green Mountain** 21.95 123 P P 10 23 39.5 -0.6
RES **Resolute Bay** 21.97 36 P P 10 23 40.5 +0.5
comp=Z,2.2nm,0.3s,baz=260,slow=11,SNR=16
comp=Z,2.2nm,0.3s
NEW **Newport** 23.67 113 P P 10 23 56.7 +0.2
NEW **Newport** 23.67 113 LR LR 10 33 18.6
comp=Z,73nm,18.5s,baz=13,slow=36
D08A **Wollman Farm,** 23.89 118 P P 10 23 58.9 +0.4
D08A IAmb IAmb 10 24 00.3
comp=Z,13nm,0.8s
JTMT **Jette** 25.26 111 P P 10 24 12.1 +0.9
OVMT **Ovando** 26.34 110 P P 10 24 21.2 +0.4
BPMT **Black Pine Rid** 26.65 112 P P 10 24 23.8 +0.1
LYMT **Lyon Mountain** 26.72 109 P P 10 24 25.0 +0.7
MFID **Camas Ranch** 28.13 118 P P 10 24 37.9 +1.1
YHL **Hebgen Lake** 28.87 111 P P 10 24 44.3 +0.8
YHL IAmb IAmb 10 24 46.6
comp=Z,12nm,1.0s
RLMT **Red Lodge** 29.47 108 P P 10 24 49.9 +1.1
RLMT IAmb IAmb 10 24 51.7
comp=Z,17nm,1.1s
BEKR **Beckworth** 29.48 128 P P 10 24 49.5 +0.7
SNOW **Snow King Moun** 30.18 112 P P 10 24 55.4 +0.4
AHID **Auburn Hatcher** 30.60 113 P P 10 25 00.7 +1.9
AHID IAmb IAmb 10 25 01.8
comp=Z,9.6nm,1.0s
BW06 **Boulder Array** 31.25 111 P P 10 25 04.7 +0.3
BW06 IAmb IAmb 10 25 07.1
comp=Z,12nm,0.9s
PDAR **Pinedale Array** 31.25 111 P P 10 25 05.4 +0.9
PDAR **Pinedale Array** 31.25 111 P P 10 25 06.0 +1.5
comp=Z,10.0nm,0.9s,baz=323,slow=11,SNR=65
PDAR pP pP 10 25 35.1 +2.4
comp=Z,1.3nm,0.8s,baz=331,slow=7.6,SNR=2.3
PDAR PcP PcP 10 27 55.5 0.0
comp=Z,0.9nm,0.5s,baz=329,slow=1.0,SNR=7.2
PDAR LR LR 10 37 31.8
comp=Z,43nm,19.3s,baz=349,slow=36
comp=Z,10.0nm,0.9s
NVAR **Mina Array Bea** 31.49 127 P P 10 25 07.9 +1.3
NVAR **Mina Array Bea** 31.49 127 P P 10 25 08.2 +1.6
comp=Z,4.8nm,0.7s,baz=330,slow=11,SNR=54
NVAR PcP PcP 10 27 57.5 +1.2
comp=Z,1.3nm,0.7s,baz=338,slow=4.9,SNR=7.8
comp=Z,4.8nm,0.7s
TPH **Tonopah** 32.20 126 P P 10 25 14.0 +1.2
RSSD **Black Hills** 32.54 104 P P 10 25 16.8 +1.0
DSP **Deep Springs** 32.55 127 P P 10 25 17.6 +2.1
DSP IAmb IAmb 10 25 18.9
comp=Z,10.0nm,1.0s
EPLO **Experimental L** 32.99 87 P P 10 25 19.8 +0.4
EPLO IAmb IAmb 10 25 20.8
comp=Z,8.8nm,0.8s
P18A **Preston Nutter** 33.58 115 P P 10 25 25.9 +1.0
P18A IAmb IAmb 10 25 28.2
comp=Z,13nm,0.9s
CCUT **Cedar City** 34.12 121 P P 10 25 30.7 +1.2
CCUT IAmb IAmb 10 25 32.3
comp=Z,9.2nm,0.8s
FRB **Frobisher Bay** 34.26 51 P P 10 25 29.4 -0.7
comp=Z,3.0nm,0.6s,baz=308,slow=11,SNR=1.8
FRB LR LR 10 41 27.2
comp=Z,85nm,18.1s,baz=80,slow=40
comp=Z,3.0nm,0.6s
CCCA **Chr Cany lake** 34.42 128 P P 10 25 33.5 +1.7
PFO **Pinyon Flats O** 36.46 128 LR LR 10 42 23.9
comp=Z,38nm,18.1s,baz=270,slow=38
CBX **Cerro Bola** 37.56 129 P P 10 25 59.7 +0.9
L34A **Svendsen Farm,** 37.66 98 P P 10 25 59.4 +0.1
ESJX **Sierra Juarez** 38.09 129 P P 10 26 04.5 +1.3
ESJX IAmb IAmb 10 26 06.0
comp=Z,10.0nm,1.0s
SPITS **Spitsbergen Ar** 38.62 4 P P 10 26 07.1 +0.2
comp=Z,2.9nm,0.3s,baz=0.0,slow=5.8,SNR=44
comp=Z,2.9nm,0.3s
L40A **Anamosa** 39.91 93 P P 10 26 18.3 +0.3
L40A IAmb IAmb 10 26 19.2
comp=Z,14nm,1.0s
SCHQ **Schefferville** 40.91 61 P P 10 26 26.9 +0.8
comp=Z,0.9nm,0.3s,baz=342,slow=20,SNR=1.7
comp=Z,0.9nm,0.3s
P40A **Paris** 41.57 96 P P 10 26 32.1 +0.4
P40A IAmb IAmb 10 26 32.3
comp=Z,8.9nm,0.7s
HEH **HeiHe** 43.62 293 eP P 10 26 47.5 -0.6
O48B **Farmland** 44.10 89 P P 10 26 51.4 -0.6
PLPT **Palo Pinto** 44.40 108 P P 10 26 55.2 +0.6
TXAR **Lajitas Array** 45.18 116 P P 10 27 02.3 +1.4
comp=Z,7.4nm,0.9s,baz=332,slow=7.5,SNR=20
TXAR PcP PcP 10 28 39.2 +0.4
comp=Z,1.6nm,0.8s,baz=326,slow=2.6,SNR=5.8
TXAR ScP ScP 10 32 19.7 +0.8
comp=Z,0.3nm,0.8s,baz=292,slow=3.4,SNR=3.5
comp=Z,7.4nm,0.9s
BRDY **Brady** 45.42 110 P P 10 27 02.9 +0.2
BRDY IAmb IAmb 10 27 04.1
comp=Z,12nm,0.8s
ARCES **ARCESS Array B** 47.50 2 P P 10 27 18.0 -0.4
comp=Z,1.4nm,0.5s,baz=359,slow=7.2,SNR=13
ARCES pP pP 10 27 46.0 -2.2
comp=Z,4.8nm,0.9s,baz=358,slow=13,SNR=3.0
ARCES PcP PcP 10 28 46.9 +0.6
comp=Z,3.0nm,0.8s,baz=353,slow=4.5,SNR=2.3
comp=Z,1.4nm,0.5s
TKL **Tuckaleechee C** 48.48 92 LR LR 10 46 49.5
comp=Z,45nm,19.5s,baz=5.5,slow=34
CN2 **Changchun** 49.52 289 eP P 10 27 34.0 -0.1
CN2 pmax pmax 10 27 47.1
comp=Z,10.0nm,0.7s
MJAR **Matsushiro Arr** 49.77 273 P P 10 27 36.7 +0.5
comp=Z,1.8nm,0.8s,baz=9.3,slow=7.8,SNR=7.3
MJAR LR LR 10 51 32.2
comp=Z,18nm,18.3s,baz=34,slow=39
comp=Z,1.8nm,0.8s
JGF **Kuroka** 50.93 273 P P 10 27 45.5 +0.5
JGF IAmb IAmb 10 27 47.1
comp=Z,9.3nm,0.9s
KSRS **Korea Array** 53.63 282 P P 10 28 05.2 +0.5
comp=Z,2.0nm,0.7s,baz=32,slow=7.4,SNR=8.2
KSRS pP pP 10 28 35.7 +0.5
comp=Z,2.1nm,0.9s,baz=31,slow=7.7,SNR=4.1
comp=Z,2.0nm,0.7s
SONM **Songino Array** 53.85 306 P P 10 28 07.0 +0.6
comp=Z,2.4nm,0.6s,baz=30,slow=7.3,SNR=11
SONM pP pP 10 28 38.6 +1.8
comp=Z,1.4nm,0.8s,baz=38,slow=7.3,SNR=2.9
comp=Z,2.4nm,0.6s
NOA **NORSAR Array B** 55.29 11 P P 10 28 16.0 -0.4
comp=Z,0.3nm,0.5s,baz=359,slow=7.1,SNR=4.7
NOA pP pP 10 28 47.8 +0.6
comp=Z,1.0nm,1.0s,baz=349,slow=7.3,SNR=2.9
comp=Z,0.3nm,0.5s
ZAA0 **Zalesovo Array** 55.47 324 P P 10 28 17.2 -0.5
ZAA0 IAmb IAmb 10 28 49.3
comp=Z,6.3nm,1.1s
ZALV **Zalesovo Beam** 55.47 324 P P 10 28 17.0 -0.7
comp=Z,2.3nm,0.4s,baz=24,slow=7.0,SNR=16
ZALV pP pP 10 28 47.6 -0.7
comp=Z,3.8nm,0.9s,baz=27,slow=8.1,SNR=3.6
comp=Z,2.3nm,0.4s
FINES **FINESS Array B** 55.63 2 P P 10 28 17.8 -1.0
comp=Z,6.2nm,1.1s,baz=3.0,slow=7.4,SNR=13
comp=Z,6.2nm,1.1s
JNU **Nakatsue** 55.93 277 LR LR 10 54 41.1
comp=Z,25nm,18.2s,baz=211,slow=38
HFS **Hagfors** 56.39 9 P P 10 28 22.8 -1.4
comp=Z,0.8nm,0.3s,baz=0.0,slow=5.8,SNR=17
HFS pP pP 10 28 55.0 +0.1
comp=Z,2.0nm,0.9s,baz=23,slow=12,SNR=2.2
comp=Z,0.8nm,0.3s
HHC **Hu-ho-hao-te** 57.74 297 eP P 10 28 36.5 +2.3
HHC pmax pmax
comp=Z,3.0nm,0.6s
HHC pmax pmax
comp=Z,88nm,5.1s
ARTI **Arti** 58.64 342 P P 10 28 39.8 -0.3
EKA **Eskdalemuir Ar** 59.10 21 P P 10 28 42.6 -0.5
comp=Z,0.7nm,0.3s,baz=344,slow=7.2,SNR=16

comp=Z,0.7nm,0.3s
BVAR Borovoye Array 59.75 333 P **P** **10 28 47.6 -0.1**
comp=Z,2.0nm,0.4s,baz=38,slow=8.7,SNR=11
BVAR pP **pP** **10 29 17.6 -1.1**
comp=Z,3.1nm,0.8s,baz=44,slow=7.0,SNR=4.8
BVAR LR LR 10 57 45.0
comp=Z,21nm,18.8s,baz=279,slow=39
comp=Z,2.0nm,0.4s
KURBB Kurchatov Arra 60.12 326 P **P** **10 28 49.6 -0.6**
comp=Z,1.4nm,0.4s,baz=25,slow=6.4,SNR=25
KURBB pP **pP** **10 29 21.0 -0.3**
comp=Z,1.9nm,0.9s,baz=23,slow=6.8,SNR=4.5
comp=Z,1.4nm,0.4s
MKAR Makanchi Array 62.63 322 P **P** **10 29 06.0 -1.2**
MKAR Makanchi Array 62.63 322 P **P** **10 29 06.2 -1.1**
comp=Z,1.7nm,0.4s,baz=38,slow=6.9,SNR=24
MKAR pP **pP** **10 29 37.9 -0.6**
comp=Z,0.5nm,0.5s,baz=38,slow=10.0,SNR=2.3
comp=Z,1.7nm,0.4s
MAKZ Makanchi 62.70 322 P **P** **10 29 06.9 -0.8**
GTA Gaotai 63.52 305 *eP* **P** **10 29 13.3 -0.1**
GTA pP pP 10 29 45.0 +0.2
GTA pmax pmax
comp=Z,4.0nm,0.9s
WMQ Urumqi 63.73 317 *eP* **P** **10 29 18.0 +3.4**
WMQ LR LR
comp=N,340nm,18.5s
AKTO Aktyubinsk 64.47 340 LR LR 10 58 51.2
comp=N,20nm,18.4s,baz=218,slow=37
AB31 Akbulak array 65.31 339 P **P** **10 29 24.4 -0.3**
AB31 IAmb IAmb 10 29 56.8
comp=Z,6.5nm,0.9s
ABKAR Akbulak array 65.31 339 P **P** **10 29 24.7 +0.1**
AKASG Malin Array Be 66.43 0 P **P** **10 29 30.9 -0.9**
comp=Z,1.5nm,0.3s,baz=4.5,slow=6.9,SNR=14
comp=Z,1.5nm,0.3s
AKBB Malin Array Si 66.43 0 P **P** **10 29 31.0 -0.8**
AKBB IAmb IAmb 10 29 31.8
comp=Z,5.5nm,0.9s
KIEV Kiev 66.43 0 P **P** **10 29 30.9 -0.9**
GERES GERESS Array B 67.59 11 P **P** **10 29 39.0 -0.3**
comp=Z,0.1nm,0.3s,baz=327,slow=7.0,SNR=2.5
GERES pP **pP** **10 30 09.4 -1.6**
comp=Z,0.4nm,0.8s,baz=358,slow=2.3,SNR=2.1
comp=Z,0.1nm,0.3s
BUR08 Bucovina Ar. S 69.44 3 P **P** **10 29 50.5 -0.2**
KBZ Khabaz 72.86 350 P **P** **10 30 11.8 +0.5**
comp=Z,5.1nm,0.9s,baz=333,slow=2.3,SNR=6.5
comp=Z,5.1nm,0.9s
ESDC Sonseca Array 74.04 26 P **P** **10 30 18.2 -0.2**
comp=Z,0.6nm,0.8s,baz=350,slow=5.7,SNR=5.2
ESDC pP **pP** **10 30 51.3 +0.6**
comp=Z,2.1nm,1.0s,baz=345,slow=6.0,SNR=6.5
comp=Z,0.6nm,0.8s
BRTR Keskin Array B 77.35 357 P **P** **10 30 37.0 -0.3**
comp=Z,1.0nm,1.0s,baz=356,slow=2.2,SNR=4.2
comp=Z,1.0nm,1.0s
CMAR Chiang Mai Arr 82.53 296 P **P** **10 31 04.2 -1.1**
comp=Z,0.7nm,0.3s,baz=24,slow=4.9,SNR=8.4
comp=Z,0.7nm,0.3s
ASAR Alice Springs 104.60 247 PKKPbc PKKPbc 10 48 30.0 +0.5
comp=Z,0.1nm,0.4s,baz=208,slow=2.2,SNR=4.2
PLCA Paso Flores 121.31 119 PKP **PKPdf** **10 37 34.4 +0.5**
comp=Z,1.6nm,0.8s,baz=297,slow=2.3,SNR=3.0
VNDA Vanda 143.48 196 PKhKP PKPpre 10 38 11.6
comp=Z,2.2nm,1.1s,baz=0.1,slow=3.6,SNR=7.0
BOSA Boshof 145.28 6 PKPbc **PKPbc** **10 38 19.0 0.0**
comp=Z,3.3nm,0.6s,baz=354,slow=3.6,SNR=8.1
BOSA pPKPbc **pPKPdf** **10 38 52.9 -1.1**
comp=Z,4.5nm,1.0s,baz=18,slow=6.4,SNR=3.6
QSPA South Pole Qui 153.03 180 PKPbc **PKPbc** **10 38 37.8 +0.4**
comp=Z,1.5nm,0.7s,baz=345,slow=2.1,SNR=3.7
QSPA PKPab **PKPab** **10 38 50.8 +1.2**
comp=Z,4.0nm,1.0s,baz=20,slow=5.4,SNR=8.0

*IDC **28** 10:31:07.5±0.7,0.°69N×125.°53E,h0km,mb3.9/10, mbtmp3.9/11,ML3.0/1,MS3.8/1,Error ellipse: s-maj=67.6km s-min=14.2km az=71.0*
*DJA **28** 10:31:14.1±1.4,1.°1N±2.°2×12.°6E±.°,h31km±21km,M4.3/15, mb4.3/6,MLv4.2/15*
ISC 28 10:31:13.6±0.7,0.°76N±0.°08×126.°03E±0.°07,h44km,n24, σ1§17/25,mb3.9/10,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.34**	**90**	P	**Pn**	**10 31 36.3**	**+0.4**
KMSI	**Cibinong**	**2.06**	**265**	P	**Pn**	**10 31 45.5**	**-0.2**
KMSI				S	**Sn**	**10 32 10.8**	**+0.6**
SANI	**Sanana**	**2.79**	**181**	P	**Pn**	**10 31 55.4**	**-0.5**
SGSI	**Sangihe**	**2.95**	**350**	P	**Pn**	**10 31 58.6**	**+0.6**
LUWI	**Luwuk**	**3.72**	**241**	P	**Pn**	**10 32 07.9**	**-0.7**
MRSI	**Marisa**	**4.10**	**266**	P	**Pn**	**10 32 12.2**	**-1.6**
APSI	**Ampana**	**4.69**	**249**	P	**Pn**	**10 32 23.1**	**+1.2**
MPSI	**Mapaga** 0.1nm15nm,0.9s	**6.15**	**266**	P	**Pn**	**10 32 44.1**	**+2.2**
TTSI	**Tana Toraja**	**7.27**	**239**	P	**Pn**	**10 32 58.4**	**+1.0**
SPSI	**Sidrap Palu** 0.1nm29nm,0.6s	**7.82**	**233**	P	**Pn**	**10 33 05.4**	**+0.4**
BNSI	**Bone** 0.1nm27nm,0.7s	**7.83**	**229**	P	**Pn**	**10 33 06.0**	**+0.9**
BKSI	**Bulukumba** 8.4nm,0.5s	**8.45**	**224**	P	**Pn**	**10 33 13.2**	**-0.3**
FITZ	**Fitzroy Crossi** baz=355,slow=11,SNR=1.7 1.6nm,0.9s	**18.75**	**181**	P	**P**	**10 35 26.9**	**-2.1**
WRA	**Warramunga Arr** 2.2nm,0.4s,baz=337,slow=10,SNR=19 2.2nm,0.4s	**22.13**	**159**	P	**P**	**10 36 05.3**	**-0.4**
ASAR	**Alice Springs** 1.0nm,0.4s,baz=344,slow=12,SNR=53	**25.46**	**163**	P	**P**	**10 36 39.0**	**+1.2**
ASAR	0.2nm,0.5s,baz=350,slow=2.5,SNR=4.4 1.0nm,0.4s			PcP	**PcP**	**10 40 10.3**	**+1.3**
STKA	**Stephens Creek** 1.1nm,0.3s,baz=335,slow=10,SNR=5.6 1.1nm,0.3s	**35.66**	**157**	P	**P**	**10 38 08.2**	**+0.5**
USRK	**Ussuriysk Ar.** 1.9nm,0.6s,baz=197,slow=5.7,SNR=6.1 1.9nm,0.6s	**43.57**	**6**	P	**P**	**10 39 14.4**	**+1.1**
KLR	**Kul'dur** comp=Z,110nm,21.5s,baz=216,slow=34	**48.53**	**5**	LR	LR	10 58 54.3	
SONM	**Songino Array** 0.2nm,0.4s,baz=159,slow=4.5,SNR=1.5 0.2nm,0.4s	**49.89**	**343**	P	**P**	**10 40 01.6**	**-1.2**
MKAR	**Makanchi Array** 1.1nm,0.5s,baz=122,slow=8.2,SNR=14 1.1nm,0.5s	**59.60**	**327**	P	**P**	**10 41 12.4**	**-0.7**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=156,slow=8.6,SNR=2.0 0.3nm,0.3s	**62.91**	**334**	P	**P**	**10 41 33.9**	**-1.4**
KURBB	**Kurchatov Arra** 1.5nm,0.7s,baz=129,slow=5.9,SNR=14 1.5nm,0.7s	**63.86**	**328**	P	**P**	**10 41 40.5**	**-1.1**
BVAR	**Borovoye Array** 0.9nm,0.8s,baz=120,slow=8.5,SNR=2.2 0.9nm,0.8s	**69.43**	**328**	P	**P**	**10 42 15.6**	**-1.5**
VNDA	**Vanda** 0.3nm,0.5s,baz=297,slow=7.3,SNR=2.6 0.3nm,0.5s	**80.59**	**173**	P	**P**	**10 43 21.6**	**+0.5**

*IDC **28** 10:44:04.3±2.0,25.°64N×89.°80E,h0km,mb3.6/5, mbtmp3.6/6,Error ellipse: s-maj=81.1km s-min=20.3km az=66.0*
*DMN **28** 10:44:10.9±0.0,25.°24N×90.°20E,h10km,Ml4.1/7,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NDI **28** 10:44:12.2±2.2,25.°58N×90.°48E,h61km±48km,ML3.6, MW3.6*
ISC 28 10:44:10.0±1.3,25.°72N±0.°07×90.°37E±0.°03,h31km±11km, n26,σ2§07/45,mb3.6/5,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUWA	**GUWAHATI**	**1.28**	**68**	*eP*	**Pb**	**10 44 33.6**	**+0.1**
GUWA				*eS*	**Sb**	**10 44 49.9**	**+0.3**
GUWA				IAML		10 44 50.3	
	comp=N,1μm,0.4s						
GUWA				IAML		10 44 50.4	
	comp=E,473nm,0.2s						
SHL	**Shillong**	**1.37**	**96**	*eP*	**Pb**	**10 44 34.9**	**-0.3**
SHL				*eS*	**Sb**	**10 44 52.0**	**-0.5**
SHL				IAML		10 44 52.5	
	comp=N,666nm,0.1s						
SHL				IAML		10 44 53.6	
	comp=E,979nm,0.1s						
GTK	**Tadong**	**2.25**	**316**	*eP*	**Pb**	**10 44 48.9**	**-1.2**
GTK				*eS*	**Sb**	**10 45 16.4**	**-1.3**
GTK				IAML		10 45 20.5	
	comp=E,866nm,0.4s						
GTK				IAML		10 45 20.9	
	comp=N,518nm,0.4s						
TEZP	**TEZPUR**	**2.36**	**67**	*eP*	**Pn**	**10 44 47.9**	**+1.2**
TEZP				*eS*	**Sn**	**10 45 14.5**	**0.0**
TEZP				IAML		10 45 24.6	
	comp=E,458nm,0.3s						
TEZP				IAML		10 45 24.8	
	comp=N,669nm,0.4s						
AZL	**Aizawl**	**2.88**	**133**	*eP*	**Pn**	**10 44 53.7**	**-0.3**
AZL				*eS*	**Sn**	**10 45 22.7**	**-5.0**
AZL				IAML		10 45 41.0	
	comp=N,91nm,0.6s						
AZL				IAML		10 45 45.1	
	comp=E,134nm,0.3s						
ODAN	**Odare** baz=303,slow=0.0	**2.91**	**294**	Sn	**Sn**	**10 45 30.5**	**+2.0**
ITAN	**ITANAGAR**	**3.32**	**64**	*eP*	**Pn**	**10 45 01.1**	**+1.2**
ITAN				IAML		10 45 18.4	
	comp=E,286nm,0.1s						
ITAN				IAML		10 45 20.5	
	comp=N,401nm,0.3s						
ITAN				*eS*	**Sn**	**10 45 37.4**	**-1.0**
IMP	**Imphal**	**3.35**	**104**	*eP*	**Pn**	**10 44 59.7**	**-0.7**
IMP				*eS*	**Sn**	**10 45 35.0**	**-4.3**
IMP				IAML		10 46 05.2	
	comp=E,229nm,1.1s						
IMP				IAML		10 46 11.9	
	comp=N,334nm,0.6s						
KOHI	**KOHIMA**	**3.37**	**89**	*eP*	**Pn**	**10 45 00.6**	**-0.1**
KOHI				*eS*	**Sn**	**10 45 36.5**	**-3.3**
KOHI				IAML		10 45 59.6	
	comp=E,246nm,0.7s						
KOHI				IAML		10 46 01.8	
	comp=N,214nm,0.4s						
ZIRO	**ZIRO**	**3.60**	**59**	*eP*	**Pn**	**10 45 05.0**	**+1.1**
ZIRO				*eS*	**Sn**	**10 45 44.1**	**-1.3**
ZIRO				IAML		10 46 03.6	
	comp=N,1μm,0.6s						
ZIRO				IAML		10 46 12.2	
	comp=E,965nm,0.6s						
RAMN	**Ramite** baz=299,slow=0.0	**3.60**	**291**	Pn	**Pn**	**10 45 05.8**	**+1.8**
RAMN				Sn	**Sn**	**10 45 46.1**	**+0.5**
	comp=E,287nm,0.4s,baz=299,slow=0.0						
SAIH	**SAIHA**	**4.00**	**143**	*eP*	**Pn**	**10 45 11.7**	**+2.3**
SAIH				*eS*	**Sn**	**10 45 48.7**	**-6.7**
SAIH				IAML		10 46 03.2	
	comp=N,236nm,0.4s						
SAIH				IAML		10 46 03.4	
	comp=E,344nm,0.6s						
GUN	**Gumba** baz=306,slow=0.0	**4.57**	**300**	Pn	**Pn**	**10 45 19.2**	**+1.8**
GUN				Sn	**Sn**	**10 46 10.4**	**+0.7**
	comp=E,60nm,0.3s,baz=306,slow=0.0						
PKI	**Pulchoki** baz=300,slow=0.0	**4.81**	**294**	Pn	**Pn**	**10 45 21.7**	**+1.0**
PKI				Sn	**Sn**	**10 46 15.2**	**-0.4**
	comp=E,84nm,0.5s,baz=300,slow=0.0						
PKIN	**Phulchoki** baz=300,slow=0.0	**4.82**	**294**	Pn	**Pn**	**10 45 22.1**	**+1.3**
PKIN				Sn	**Sn**	**10 46 15.5**	**-0.3**
	comp=E,50nm,0.3s,baz=300,slow=0.0						
KKN	**Kakani** baz=301,slow=0.0	**5.00**	**296**	Pn	**Pn**	**10 45 24.5**	**+1.3**
KKN				Sn	**Sn**	**10 46 19.8**	**-0.3**
	baz=301,slow=0.0						
GKN	**Gorkha** baz=300,slow=0.0	**5.61**	**295**	Pn	**Pn**	**10 45 32.8**	**+1.3**
GKN				Sn	**Sn**	**10 46 34.3**	**-0.6**
	comp=E,77nm,0.3s,baz=300,slow=0.0						
KOLN	**Koldanda** baz=294,slow=0.0	**6.39**	**290**	Pn	**Pn**	**10 45 42.9**	**+0.6**
KOLN				Sn	**Sn**	**10 46 51.6**	**-2.7**
	baz=294,slow=0.0						
DANN	**Dangsing** baz=300,slow=0.0	**6.45**	**295**	Pn	**Pn**	**10 45 43.8**	**+0.6**
DANN				Sn	**Sn**	**10 46 54.1**	**-1.9**
	comp=E,26nm,0.3s,baz=300,slow=0.0						
PYUN	**Piuthan** baz=295,slow=0.0	**7.00**	**291**	Pn	**Pn**	**10 45 50.9**	**+0.2**
PYUN				Sn	**Sn**	**10 47 06.5**	**-3.0**
	comp=E,16nm,0.4s,baz=295,slow=0.0						
CMAR	**Chiang Mai Arr** comp=E,0.4nm,0.4s,baz=326,slow=13,SNR=1.3	**10.73**	**131**	Pn	**Pn**	**10 46 44.5**	**+2.8**
MKAR	**Makanchi Array** comp=E,1.1nm,0.5s,baz=161,slow=10,SNR=12 comp=E,1.1nm,0.5s	**22.00**	**345**	P	**P**	**10 49 00.6**	**-1.0**
SONM	**Songino Array** comp=E,0.9nm,0.5s,baz=212,slow=8.3,SNR=3.7 comp=E,0.9nm,0.5s	**25.44**	**26**	P	**P**	**10 49 36.3**	**+1.1**
KURBB	**Kurchatov Arra** comp=E,0.2nm,0.4s,baz=150,slow=9.6,SNR=2.2 comp=E,0.2nm,0.4s	**26.49**	**343**	P	**P**	**10 49 41.3**	**-3.1**
WRA	**Warramunga Arr** comp=E,0.5nm,0.6s,baz=317,slow=6.8,SNR=8.8 comp=E,0.5nm,0.6s	**62.32**	**132**	P	**P**	**10 54 30.6**	**+0.8**
ASAR	**Alice Springs** comp=E,0.6nm,0.8s,baz=313,slow=6.3,SNR=9.5 comp=E,0.6nm,0.8s	**64.70**	**136**	P	**P**	**10 54 46.9**	**+1.5**

*GCG **28** 10:55:15.8±0.9,14.°41N×91.°13W,h104km±3km,MD3.6, ML3.6,MW3.0*
*CATAC **28** 10:55:17.0±0.5,14.°N±4.°×9.°1W±.°,h84km±5km,M3.0/11, MLv3.0/11,Error ellipse: s-maj=9.8km s-min=3.4km az=30.1,confirmed*
ISC 28 10:55:18.4±2.0,14.°3N±0.°1×91.°09W±0.°07,h89km±11km, n24,σ1§59/29,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.28**	**69**	*i* P	**Pn**	**10 55 31.1**	**-0.6**
ESSG				*i* S	**Sn**	**10 55 42.7**	**+1.1**
ESSG				IAML		10 55 43.1	
	comp=N,816nm,0.2s						
STG2	**El Palmar, Qui**	**0.31**	**299**	*i* P	**Pn**	**10 55 33.1**	**+1.1**
STG2				*i* S	**Sn**	**10 55 46.0**	**+3.9**
FG8	**Yepocapa, Chim**	**0.52**	**93**	*i* P	**Pn**	**10 55 31.3**	**-2.1**
FG8				*i* S	**Sn**	**10 55 43.1**	**-1.4**
FG16	**Alotenango, Sa**	**0.57**	**91**	*i* P	**Pn**	**10 55 31.5**	**-2.4**
FG16				*i* S	**Sn**	**10 55 44.0**	**-1.4**
FG16				IAML		10 55 54.5	
	comp=N,5μm,0.2s						
SOKI	**Kika Raxquin**	**0.61**	**331**	*i* P	**Pn**	**10 55 33.7**	**-0.9**
SOKI				*i* S	**Sn**	**10 55 47.3**	**+0.8**
SOKI				IAML		10 55 51.2	
	comp=N,586nm,0.5s						
RTAL	**Retalhuleu**	**0.63**	**292**	P	**Pn**	**10 55 32.8**	**-1.4**
RTAL	**Retalhuleu**	**0.63**	**292**	S	**Sn**	**10 55 45.2**	**-0.8**
HUEH	**Huehuetenango**	**1.10**	**339**	P	**Pn**	**10 55 38.7**	**-0.9**
HUEH	**Huehuetenango**	**1.10**	**339**	S	**Sn**	**10 55 56.2**	**+0.9**
FAME	**Alcaldia de Sa**	**1.14**	**113**	P	**Pn**	**10 55 39.2**	**-0.4**
FAME	**Alcaldia de Sa**	**1.14**	**113**	S	**Sn**	**10 55 57.5**	**+1.8**
SLOZ	**Alcaldia de Sa**	**1.30**	**101**	P	**Pn**	**10 55 41.6**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.30**	**101**	S	**Sn**	**10 56 01.9**	**+2.7**
NUBE	**Las Nubes**	**1.33**	**106**	*i* P	**Pn**	**10 55 41.7**	**-0.5**
NUBE	**Las Nubes**	**1.33**	**106**	P	**Pn**	**10 55 41.6**	**-0.6**
NUBE	**Las Nubes**	**1.33**	**106**	S	**Sn**	**10 56 01.8**	**+1.7**
MTO3	**Montecristo**	**1.68**	**86**	*i* P	**Pn**	**10 55 46.3**	**-0.4**
MTO3	**Montecristo**	**1.68**	**86**	P	**Pn**	**10 55 46.3**	**-0.4**
MTO3	**Montecristo**	**1.68**	**86**	S	**Sn**	**10 56 10.4**	**+2.2**
JAYA	**Jayaque - finc**	**1.71**	**111**	*i* P	**Pn**	**10 55 45.6**	**-1.4**
JAYA	**Jayaque - finc**	**1.71**	**111**	P	**Pn**	**10 55 45.1**	**-2.0**
JAYA	**Jayaque - finc**	**1.71**	**111**	S	**Sn**	**10 56 09.4**	**+0.6**
CCIG	**Comitan**	**2.23**	**333**	P	**Pn**	**10 55 53.2**	**-0.6**
CCIG	**Comitan**	**2.23**	**333**	S	**Sn**	**10 56 21.0**	**+0.2**

NOU 28 11:04:59.9,10.°69S×166.°34E,h85km,MLv4.4/11,Santa Cruz Islands,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**0.42**	**274**	P	Pn	11 05 14.5	+1.0
LUES	**Luesalemba Tem**	**0.42**	**274**	S	Sn	11 05 26.7	+3.1
HURO	**Huro Makira**	**4.37**	**273**	P	Pn	11 06 03.8	-0.1
VLAKA	**Lakatoro**	**5.49**	**169**	P	Pn	11 06 19.8	+0.7
VLAKA	**Lakatoro**	**5.49**	**169**	S	Sn	11 07 21.3	+0.4
ALEG	**Aligegeo Malai**	**5.89**	**289**	P	Pn	11 06 24.6	0.0
SAVO	**Savo Central**	**6.61**	**283**	P	Pn	11 06 35.1	+0.6
TATA	**Tatamba Isabel**	**6.84**	**289**	P	Pn	11 06 37.1	-0.5
DZM	**Mont Dzumac**	**11.32**	**180**	P	Pn	11 07 38.5	-0.3
YATNC	**Mamie plateau,**	**11.32**	**177**	P	Pn	11 07 38.3	-0.4
OUENC	**Ouen Island, N**	**11.67**	**178**	P	Pn	11 07 43.8	+0.3

*IDC **28** 11:16:55.9±1.9,24.°11S×66.°79W,h168km±22km,mb3.5/3, mbtmp3.9/8,MS2.8/1,Error ellipse: s-maj=34.2km s-min=15.5km az=104.0*
*SJA **28** 11:16:55.1±0.7,24.°14S×66.°98W,h215km,ML3.8,MW3.7*
*GUC **28** 11:16:55.7±0.7,24.°23S×66.°97W,h209km±9km,ML4.0*
*NEIC **28** 11:16:56.5±1.4,24.°13S±0.°02×67.°1W±0.°1,h205km±10km, mb4.1/6,ML3.9(GUC),Error ellipse: s-maj=18.7km s-min=2.0km az=95.0*
ISC 28 11:16:56.2±0.7,24.°11S±0.°04×67.°01W±0.°04,h203km±6km, n73,σ1§47/95,mb3.4/3,7C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.62**	**101**	⇓*i* P	**Pn**	**11 17 24.6**	**-0.1**
SALTA		**0.62**	**101**	*eP*	Pn	11 17 18.9	-5.8
SALTA				*eP*	**Pn**	**11 17 24.6**	**-0.1**
SALTA				*eS*	**S**	**11 17 47.9**	**+1.1**
SLA	**San Lorenzo**	**1.50**	**114**	*eP*	**Pn**	**11 17 30.6**	**+0.3**
SLA				*eS*	**S**	**11 17 55.9**	**-0.5**
AF01	**San Pedro de A**	**1.57**	**317**		**Pn**	**11 17 31.8**	**+0.7**
AF01	**San Pedro de A**	**1.57**	**317**	*eP*	**Pn**	**11 17 32.1**	**+1.0**
AF01	**San Pedro de A**	**1.57**	**317**	*eP*	**Pn**	**11 17 32.5**	**+1.4**
AF01				*eS*	**S**	**11 17 59.9**	**+2.0**
FSA	**Cafayete**	**2.20**	**155**	*eP*	**Pn**	**11 17 37.2**	**0.0**
FSA				*eS*	**S**	**11 18 07.4**	**-1.3**
YJA	**Yavi**	**2.36**	**36**	*eP*	**Pn**	**11 17 40.0**	**+0.8**
YJA				*eS*	**S**	**11 18 12.4**	**+0.3**
GO02	**Mina Guanaco**	**2.58**	**245**		**Pn**	**11 17 41.7**	**+0.3**
GO02	**Mina Guanaco**	**2.58**	**245**	⇑*i* P	**Pn**	**11 17 41.9**	**+0.5**
GO02				IAML		11 18 16.9	
	comp=N,488nm,0.3s						
GO02	**Mina Guanaco**	**2.58**	**245**	*eP*	**Pn**	**11 17 42.0**	**+0.5**
GO02				*eS*	**S**	**11 18 16.4**	**+0.2**
PB06	**IPOC Station P**	**2.74**	**300**		**Pn**	**11 17 43.7**	**+0.5**
PB06	**IPOC Station P**	**2.74**	**300**	⇑*i* P	**Pn**	**11 17 43.8**	**+0.7**
PB06				*eS*	**S**	**11 18 18.0**	**-1.1**
PB06				IAML		11 18 21.0	
	comp=E,604nm,0.2s						
PB06	**IPOC Station P**	**2.74**	**300**	*eP*	**Pn**	**11 17 43.9**	**+0.7**
PB06				*eS*	**S**	**11 18 19.1**	**0.0**
PB06				IAML		11 18 21.0	
	comp=Z,344nm,0.2s						
AHML	**Horco Molle**	**3.07**	**151**	*eP*	**Pn**	**11 17 47.0**	**+0.3**
PB09	**IPOC Station P**	**3.09**	**318**		**Pn**	**11 17 48.5**	**+1.2**
PB09	**IPOC Station P**	**3.09**	**318**	⇑*i* P	**Pn**	**11 17 48.4**	**+1.1**
PB09				IAML		11 18 27.8	
	comp=N,203nm,0.5s						
PB09	**IPOC Station P**	**3.09**	**318**	*eP*	**Pn**	**11 17 48.0**	**+0.7**
PB09				*eS*	**S**	**11 18 26.8**	**+0.3**
PB09				IAML		11 18 27.7	
	comp=Z,190nm,0.3s						
PB05	**IPOC Station P**	**3.19**	**292**		**Pn**	**11 17 48.3**	**0.0**
PB05	**IPOC Station P**	**3.19**	**292**	⇑*i* P	**Pn**	**11 17 48.4**	**+0.1**
PB05	**IPOC Station P**	**3.19**	**292**	*eP*	**Pn**	**11 17 48.7**	**+0.4**
PB05				*eS*	**S**	**11 18 26.7**	**-1.8**
PB05				IAML		11 18 30.1	
	comp=Z,95nm,0.2s						
PB03	**IPOC Station P**	**3.25**	**308**		**Pn**	**11 17 49.2**	**0.0**
PB03	**IPOC Station P**	**3.25**	**308**	⇑*i* P	**Pn**	**11 17 49.5**	**+0.3**
PB03	**IPOC Station P**	**3.25**	**308**	*eP*	**Pn**	**11 17 49.2**	**0.0**
PB03				*eS*	**S**	**11 18 28.4**	**-1.6**
PB03				IAML		11 18 30.0	
	comp=Z,272nm,0.2s						
PB10	**IPOC Station P**	**3.30**	**280**		**Pn**	**11 17 49.5**	**-0.1**
PB10	**IPOC Station P**	**3.30**	**280**	⇑*i* P	**Pn**	**11 17 50.1**	**+0.5**
PB10	**IPOC Station P**	**3.30**	**280**	*eP*	**Pn**	**11 17 50.0**	**+0.5**
PB10				*eS*	**S**	**11 18 31.0**	**+0.2**
AC02	**Maricunga**	**3.33**	**215**		**Pn**	**11 17 50.5**	**+0.2**
AC02	**Maricunga**	**3.33**	**215**	⇑*i* P	**Pn**	**11 17 50.9**	**+0.6**
AC02	**Maricunga**	**3.33**	**215**	*eP*	**Pn**	**11 17 51.0**	**+0.6**
AC02				*eS*	**S**	**11 18 34.0**	**+1.9**
PB01	**IPOC Station P**	**3.81**	**323**		**Pn**	**11 17 55.5**	**-0.3**
PB01	**IPOC Station P**	**3.81**	**323**	*eP*	**Pn**	**11 17 55.8**	**-0.1**
PB01	**IPOC Station P**	**3.81**	**323**	*eP*	**Pn**	**11 17 55.6**	**-0.3**
PB01				*eS*	**S**	**11 18 41.3**	**-0.9**
PB01				IAML		11 18 45.5	
	comp=Z,89nm,0.1s						
AC01	**Pan de Azucar**	**3.84**	**237**		**Pn**	**11 17 55.0**	**-1.0**
AC01	**Pan de Azucar**	**3.84**	**237**	*i* P	**Pn**	**11 17 55.2**	**-0.8**
AC01	**Pan de Azucar**	**3.84**	**237**	*eP*	**Pn**	**11 17 55.3**	**-0.8**
AC01				*eS*	**S**	**11 18 40.4**	**-2.2**
AC01				IAML		11 18 41.9	
	comp=Z,73nm,0.3s						
PB02	**IPOC Station P**	**3.85**	**316**		**Pn**	**11 17 56.1**	**-0.2**
PB02	**IPOC Station P**	**3.85**	**316**	*i* P	**Pn**	**11 17 56.0**	**-0.3**
PB02	**IPOC Station P**	**3.85**	**316**	*eP*	**Pn**	**11 17 56.0**	**-0.3**
PB02				*eS*	**S**	**11 18 41.4**	**-1.5**
PB02				IAML		11 18 47.0	
	comp=Z,331nm,0.4s						
PATCX	**Punta Patache**	**4.38**	**318**		**Pn**	**11 18 02.7**	**-0.2**
AC06	**Mina Casimiro**	**4.43**	**222**		**Pn**	**11 18 02.4**	**-1.0**
AC06	**Mina Casimiro**	**4.43**	**222**	*i* P	**Pn**	**11 18 02.4**	**-1.0**
CYA	**Choya**	**4.45**	**166**	*eP*	**Pn**	**11 17 59.9**	**-3.8**
GO03	**Copiapo**	**4.53**	**219**		**Pn**	**11 18 03.5**	**-1.2**
GO03	**Copiapo**	**4.53**	**219**	*eP*	**Pn**	**11 18 03.5**	**-1.2**
GO03	**Copiapo**	**4.53**	**219**	*eP*	**Pn**	**11 18 04.1**	**-0.6**
GO03				*eS*	**S**	**11 18 55.9**	**-2.4**
TA01	**Diego Aracena**	**4.59**	**320**	*eP*	**Pn**	**11 18 05.6**	**+0.1**
TA01				*eS*	**S**	**11 18 56.9**	**-2.6**
TA01				IAML		11 19 00.3	
	comp=Z,35nm,0.5s						
VCA	**Vinchina**	**4.74**	**193**	*eP*	**Pn**	**11 18 09.7**	**+2.3**
GO01	**Chusmiza**	**4.86**	**335**		**Pn**	**11 18 09.0**	**-0.4**
GO01	**Chusmiza**	**4.86**	**335**	*eP*	**Pn**	**11 18 10.3**	**+0.9**
GO01				*eS*	**S**	**11 19 06.0**	**-0.6**
PB11	**IPOC Station P**	**4.97**	**330**		**Pn**	**11 18 10.0**	**-0.5**
PB11	**IPOC Station P**	**4.97**	**330**	*eS*	**S**	**11 19 06.5**	**-2.2**
PB11				IAML		11 19 11.2	
	comp=Z,62nm,0.2s						
ACLC	**CERRO LA CRUZ**	**5.30**	**179**	*eP*	**Pn**	**11 18 13.3**	**-1.2**
ACLC				*eS*	**S**	**11 19 15.8**	**-0.4**
AC04	**Llanos de Chal**	**5.48**	**221**	*eP*	**Pn**	**11 18 15.3**	**-1.5**

comp=Z,1.1nm,0.2s
MKAR Makanchi Array 146.61 40 PKPbc **PKiKP 11 36 16.5 +0.2**
comp=Z,0.3nm,0.6s,baz=298,slow=3.1,SNR=3.1

GCG 28 12:30:16.0±0.6, 14°.35N×91°.29W, h77km±6km, MD3.5, ML3.6, MW3.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ESSG	**Sabana Grande**	**0.44**	**86**	*i* P	Pn		12 30 29.1	+0.1
ESSG				*i* S	Sn		12 30 39.3	+0.6
ESSG				IAML			12 30 39.6	
	comp=E,1µm,0.2s							
SOKI	**Kika Raxquin**	**0.48**	**346**	*i* P	Pn		12 30 30.7	+0.9
SOKI				*i* S	Sn		12 30 42.0	+2.2
SOKI				IAML			12 30 43.1	
	comp=N,1µm,0.2s							
FG8	**Yepocapa, Chim**	**0.71**	**98**	*i* P	Pn		12 30 28.6	-3.0
FG8				*i* S	Sn		12 30 38.8	-4.5
FG16	**Alotenango, Sa**	**0.76**	**96**	*i* P	Pn		12 30 29.6	-2.7
FG16				*i* S	Sn		12 30 40.4	-3.8
FG16				IAML			12 30 45.4	
	comp=E,9µm,0.2s							
NUBE	**Las Nubes**	**1.53**	**107**	*i* P	Pn		12 30 42.7	+1.0
NUBE				*i* S	Sn		12 31 02.2	+1.1

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*IDC **28** 12:32:34.0±0.5, 55°.66S×125°.18W, h0km, mb4.0/13, mbtmp4.0/13, MS4.6/38, Error ellipse: s-maj=21.7km s-min=16.4km az=153.0*
*NEIC **28** 12:32:39.7, 55°.86S×124°.82W, h26km*
*NEIC **28** 12:32:39.7±1.3, 55°.9S±0°.2×124°.8W±0°.2, h10km±1km, mb5.0/29, Ms_20 5.1/280, Mww5.6/20, Error ellipse: s-maj=26.5km s-min=16.4km az=163.0*
*NEIC **28** 12:32:39.7, 55°.66S×124°.82W, h26km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^17^Nm; Mrr=0.17; Mθθ=1.71; Mϕϕ=-1.54; Mrθ=0.77; Mθϕ=1.96; Mϕr=0.36; Fault plane solution: M0=2.69000×10^17^ NP1: ϕs=200.26000°, δ=71.55000°, λ=-176.92000°. NP2: ϕs=109.28000°, δ=87.08000°, λ=-18.47000°. Principal axes: T 2.7373, Plg11.0000°, Azm156.0000°; N -0.1007, Plg71.0000°, Azm281.0000°; P -2.6366, Plg15.0000°, Azm63.0000°;*
*GCMT **28** 12:32:40.7±0.1, 55°.63S±0°.01×124°.80W±0°.01, h22km, MW5.5/149, Moment Tensor Solution. s132,c243; s149,c287; Duration: 1s5 Moment tensor: Scale 10^17^ Nm; Mrr=0.21±.03; Mθθ=1.62±.03; Mϕϕ=-1.42±.03; Mrθ=0.01±.05; Mθϕ=2.23±.02; Mϕr=-0.10±.05; Best double couple: M0=2.70100×10^17^ NP1:ϕs=287.00000°, δ=88.00000°, λ=-1.00000°. NP2:ϕs=17.00000°, δ=89.00000°, λ=-178.00000°. Principal axes: T 2.7990, Plg1.0000°, Azm152.0000°; N -0.2050, Plg88.0000°, Azm42.0000°; P -2.6030, Plg2.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 28 12:32:37.6±0.4, 55°.73S±0°.07×125°.02W±0°.07, h10km, n249, σ2.916/76, mb4.8/28, MS5.1/177, 5C-1D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PMSA	**Palmer Station**	**30.38**	**132**	LR	LR		12 48 31.3	
	comp=Z,274nm,21.7s,baz=252,slow=31							
MG05	**Puerto Natales**	**30.73**	**105**	P	**P**		**12 38 53.4**	**+1.0**
MG03	**Isla Dawson**	**30.84**	**110**	P	**P**		**12 38 53.6**	**+0.3**
VNDA	**Vanda**	**32.80**	**203**	P	**P**		**12 39 12.2**	**+1.8**
VNDA	**Vanda**	**32.80**	**203**	P	**P**		**12 39 10.1**	**-0.3**
	0.6nm,0.9s,baz=102,slow=11,SNR=4.8							
VNDA				LR	LR		12 48 24.1	
	comp=Z,1µm,21.9s,baz=88,slow=29							
	0.6nm,0.9s							
AY03	**Cochrane**	**33.00**	**98**	P	**P**		**12 39 12.7**	**+0.2**
COYC	**Coyhaique**	**34.27**	**95**	P	**P**		**12 39 25.1**	**+1.6**
COYC				IAmb	IAmb		12 39 58.3	
	comp=Z,48nm,1.7s							
QSPA	**South Pole Qui**	**34.45**	**180**	P	**P**		**12 39 26.9**	**+1.8**
QSPA				IAmb	IAmb		12 39 32.4	
	comp=Z,17nm,1.4s							
QSPA	**South Pole Qui**	**34.45**	**180**	P	**P**		**12 39 24.5**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=114,slow=2.2,SNR=15							
QSPA				LR	LR		12 51 15.4	
	comp=Z,964nm,20.1s,baz=86,slow=32							
	comp=Z,1.8nm,0.9s							
TBI	**Tubuai**	**37.03**	**321**	*e*P	**P**		**12 39 47.8**	**+0.4**
	comp=Z,483nm,28.8s							
TBI				*e*S	**S**		**12 45 37.0**	**+4.1**
	comp=Z,2µm,28.5s							
TBI				*e*SS	**SS**		**12 48 13.7**	**-1.1**
	comp=Z,5µm,23.0s							
TBI				*e*LR	LR		12 49 47.2	
	comp=Z,19µm,26.8s							
TBI				*e*LR	LR		12 49 49.6	
	comp=Z,4µm,25.0s							
PLCA	**Paso Flores**	**38.20**	**90**	P	**P**		**12 39 58.2**	**+0.9**
PLCA	**Paso Flores**	**38.20**	**90**	P	**P**		**12 39 57.4**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=209,slow=13,SNR=3.1							
PLCA				LR	LR		12 51 35.3	
	comp=Z,790nm,19.8s,baz=228,slow=30							
	comp=Z,1.3nm,0.9s							
H03S2	**Juan Fernandez**	**38.41**	**75**	T	T		13 20 40.9	
	baz=219,slow=74,SNR=3545							
H03S1	**Juan Fernandez**	**38.41**	**75**	T	T		13 20 42.3	
	baz=219,slow=74,SNR=2659							
H03S3	**Juan Fernandez**	**38.43**	**75**	T	T		13 20 41.4	
	baz=219,slow=74,SNR=3741							
H03N3	**Juan Fernandez**	**38.70**	**74**	T	T		13 21 01.6	
	baz=222,slow=72,SNR=6329							
H03N2	**Juan Fernandez**	**38.70**	**74**	T	T		13 20 58.5	
	baz=222,slow=72,SNR=8162							
H03N1	**Juan Fernandez**	**38.72**	**74**	T	T		13 21 07.8	
	baz=222,slow=72							
ODZ	**Otahua Downs**	**40.95**	**257**	P	**P**		**12 40 22.7**	**+2.7**
ODZ				IAmb	IAmb		12 40 27.3	
	comp=Z,69nm,1.7s							
BKZ	**Black Stump Fm**	**41.54**	**268**	IAMs_20	IAMs_20		12 53 07.3	
	comp=Z,3µm,20.0s							
RPZ	**Rata Peaks**	**41.57**	**259**	LR	LR		12 53 59.0	
	comp=Z,744nm,19.5s,baz=131,slow=31							
MXZ	**Matakaoa Point**	**41.62**	**271**	IAMs_20	IAMs_20		12 52 37.7	
	comp=Z,2µm,21.0s							
PPT2	**Papeete2**	**42.40**	**324**	*e*P	P		12 40 27.8	-4.4
	comp=Z,127nm,25.0s							
PPT2	**Papeete2**	**42.40**	**324**	*e*PP	PP		12 42 04.5	-5.9
	comp=Z,108nm,25.0s							
PPT2				*e*S	**S**		**12 46 54.8**	**+1.2**
	comp=Z,939nm,26.2s							
PPT2				*e*SS	**SS**		**12 50 04.1**	**+1.6**
	comp=Z,5µm,27.0s							
PPT2				*e*LR	LR		12 52 09.1	
	comp=Z,3µm,24.5s							
PPT2				*e*LR	LR		12 52 15.3	
	comp=Z,5µm,25.8s							
PPT	**Papeete**	**42.42**	**324**	LR	LR		12 53 49.9	
	comp=Z,1µm,18.7s,baz=152,slow=30							
QRZ	**Quartz Range**	**42.65**	**263**	P	**P**		**12 40 36.9**	**+3.0**
RAR	**Rarotonga**	**43.09**	**309**	LR	LR		12 56 29.6	
	comp=Z,710nm,18.1s,baz=150,slow=33							
TOZ	**Tahuroa Road**	**43.09**	**269**	IAMs_20	IAMs_20		12 54 38.4	
	comp=Z,2µm,19.0s							
MT05	**Renca**	**43.28**	**82**	P	**P**		**12 40 40.1**	**+0.9**
MT05				IAmb	IAmb		12 40 40.9	
	comp=Z,86nm,1.8s							
CO02	**Combarbal**	**44.77**	**80**	P	**P**		**12 40 51.9**	**+0.6**
CO02				IAmb	IAmb		12 41 52.6	
	comp=Z,66nm,1.9s							
VNA3	**Neumayer Olymp**	**45.42**	**156**	⇑P	**P**		**12 40 55.7**	**-0.2**
	comp=Z,13nm,0.6s							
CFA	**Coronel Fontan**	**46.01**	**83**	LR	LR		12 56 03.9	
	comp=Z,378nm,20.5s,baz=191,slow=31							
VNA1	**Neumayer--Stat**	**46.17**	**156**	⇑P	**P**		**12 40 59.5**	**-2.2**
	comp=Z,19nm,0.8s							
SNAA	**Sanae**	**46.62**	**158**	⇑P	**P**		**12 41 05.3**	**0.0**
	comp=Z,205nm,1.3s							
SNAA	**Sanae**	**46.62**	**158**	P	**P**		**12 41 05.6**	**+0.3**
SNAA				IAmb	IAmb		12 41 09.7	
	comp=Z,8.7nm,0.9s							
SNAA	**Sanae**	**46.62**	**158**	P	**P**		**12 41 03.2**	**-2.1**
	comp=Z,3.8nm,0.8s,baz=248,slow=4.9,SNR=26							
SNAA				LR	LR		12 59 01.7	
	comp=Z,544nm,21.8s,baz=251,slow=34							
	comp=Z,3.8nm,0.8s							
TROLL	**Troll, Antarti**	**47.42**	**160**	⇑P	**P**		**12 41 09.7**	**-1.9**
	comp=Z,383nm,0.8s							
TAOE	**Nuku Hiva Isla**	**48.26**	**340**	*e*P	P		12 41 12.9	-5.8
	comp=Z,105nm,24.8s							
TAOE				*e*S	**S**		**12 48 12.6**	**-5.6**
	comp=Z,906nm,25.3s							
TAOE				*e*SS	**SS**		**12 51 46.3**	**-1.4**
	comp=Z,437nm,26.9s							
TAOE				*e*LQ	LQ		12 53 01.1	
	comp=Z,2µm,31.0s							
TAOE				*e*LR	LR		12 54 51.9	
	comp=Z,4µm,27.8s							
AC02	**Maricunga**	**49.18**	**78**	P	**P**		**12 41 26.8**	**+0.6**
AC02				IAmb	IAmb		12 41 58.9	
	comp=Z,30nm,1.9s							
PB10	**IPOC Station P**	**51.03**	**74**	P	**P**		**12 41 41.6**	**+2.0**
PB10				IAmb	IAmb		12 41 49.9	
	comp=Z,32nm,1.1s							
PLTB	**Pedras Altas**	**54.16**	**95**	P	**P**		**12 42 01.7**	**-1.1**
PLTB				IAmb	IAmb		12 42 16.3	
	comp=Z,59nm,1.9s							
SYO	**Syowa Base**	**55.06**	**173⇑**	*e*P	**P**		**12 42 07.4**	**-1.4**
SYO	**Syowa Base**	**55.06**	**173⇓**	*e*pP	**P**		**12 42 11.5**	**+2.7**
CPUP	**Villa Florida**	**56.19**	**88**	P	**P**		**12 42 16.3**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=168,slow=9.3,SNR=2.9							
CPUP				LR	LR		13 03 04.0	
	comp=Z,254nm,19.1s,baz=84,slow=32							
	comp=Z,0.2nm,0.4s							
MAW	**Mawson**	**56.85**	**184**	P	**P**		**12 42 19.9**	**-1.6**
	comp=Z,2.1nm,0.6s,baz=176,slow=7.8,SNR=8.1							
MAW				LR	LR		13 04 31.4	
	comp=Z,1µm,21.6s,baz=166,slow=34							
	comp=Z,2.1nm,0.6s							
LHI	**Lord Howe Isla**	**56.87**	**262**	P	**P**		**12 42 25.3**	**+3.0**
LPAZ	**La Paz**	**58.22**	**71**	P	**P**		**12 42 33.7**	**+1.0**
LPAZ	**La Paz**	**58.22**	**71**	P	**P**		**12 42 29.6**	**-3.0**
	comp=Z,0.5nm,0.6s,baz=163,slow=3.8,SNR=8.0							
LPAZ				LR	LR		13 01 45.9	
	comp=Z,500nm,21.1s,baz=198,slow=30							
	comp=Z,0.5nm,0.6s							
TOO	**Toolangi**	**59.69**	**247**	P	**P**		**12 42 44.5**	**+2.4**
TOO				IAmb	IAmb		12 43 46.7	
	comp=Z,21nm,2.0s							
DZM	**Mont Dzumac**	**60.00**	**275**	*e*P	P		12 42 35.0	-9.3
	comp=Z,36nm,22.2s							
DZM				*e*S	**S**		**12 50 53.2**	**-3.6**
	comp=Z,290nm,24.2s							
DZM				*e*SS	**SS**		**12 54 47.7**	**-5.3**
	comp=Z,154nm,25.1s							
DZM				*e*LQ	LQ		12 57 39.9	
	comp=Z,2µm,31.6s							
DZM				*e*LR	LR		13 00 23.4	
	comp=Z,2µm,25.5s							
ATAH	**Atahualpa**	**60.84**	**56**	LR	LR		13 02 49.8	
	comp=Z,365nm,19.4s,baz=216,slow=30							
SIV	**San Ignacio**	**62.31**	**77**	LR	LR		13 06 32.0	
	comp=Z,13nm,19.1s,baz=256,slow=33							
STKA	**Stephens Creek**	**66.11**	**248**	P	**P**		**12 43 27.5**	**+2.7**
STKA	**Stephens Creek**	**66.11**	**248**	P	**P**		**12 43 21.0**	**-3.8**
	comp=Z,1.2nm,0.5s,baz=154,slow=8.6,SNR=4.5							
STKA				LR	LR		13 06 08.4	
	comp=Z,386nm,20.6s,baz=134,slow=30							
	comp=Z,1.2nm,0.5s							
BBOO	**Buckleboo**	**68.24**	**244**	P	**P**		**12 43 41.0**	**+2.7**
ROSC	**El Rosal**	**73.26**	**54**	LR	LR		13 09 51.5	
	comp=Z,418nm,21.2s,baz=238,slow=30							
JTS	**Las Juntas de**	**73.75**	**41**	LR	LR		13 09 20.5	
	comp=Z,408nm,20.8s,baz=192,slow=30							
BOAB	**BOACO BROADBA**	**76.48**	**40**	IAMs_20	IAMs_20		13 09 38.0	
	comp=Z,876nm,21.0s							
TLIG	**Tlapa**	**76.36**	**26**	P	**P**		**12 44 28.4**	**+1.6**
TLIG				IAmb	IAmb		12 47 05.5	
	comp=Z,41nm,1.9s							
H01W1	**Cape Leeuwin H**	**76.63**	**227**	T	T		14 09 52.4	
	baz=149,slow=76,SNR=881							
H01W2	**Cape Leeuwin H**	**76.63**	**226**	T	T		14 09 52.7	
	baz=149,slow=76,SNR=928							
H01W3	**Cape Leeuwin H**	**76.65**	**227**	T	T		14 09 53.7	
	baz=149,slow=76,SNR=894							
AS31	**Alice Springs**	**76.73**	**248**	P	**P**		**12 44 31.1**	**+2.0**
ASAR	**Alice Springs**	**76.73**	**248**	P	**P**		**12 44 28.9**	**-0.2**
ASAR	**Alice Springs**	**76.73**	**248**	P	**P**		**12 44 26.8**	**-2.3**
	comp=Z,2.5nm,1.0s,baz=148,slow=6.3,SNR=13							
ASAR				LR	LR		13 12 33.5	
	comp=Z,782nm,21.9s,baz=143,slow=31							
	comp=Z,2.5nm,1.0s							
NWAO	**Narrogin (SRO)**	**77.02**	**230**	LR	LR		13 11 41.0	
	comp=Z,190nm,19.7s,baz=156,slow=30							
SDV	**Santo Domingo**	**78.52**	**55**	LR	LR		13 14 54.9	
	comp=Z,283nm,20.5s,baz=208,slow=32							
WR8	**Warramunga Arr**	**79.46**	**250**	P	**P**		**12 44 45.4**	**+1.2**
WRA	**Warramunga Arr**	**79.56**	**250**	P	**P**		**12 44 42.0**	**-2.7**
	comp=Z,3.3nm,0.9s,baz=145,slow=5.0,SNR=14							
WRA				LR	LR		13 16 16.4	
	comp=Z,770nm,19.4s,baz=142,slow=33							
	comp=Z,3.3nm,0.9s							
LPIG	**La Paz**	**80.49**	**14**	LR	LR		13 11 34.7	
	comp=Z,438nm,20.5s,baz=198,slow=29							
PMG	**Port Moresby**	**81.08**	**266**	IAMs_20	IAMs_20		13 16 50.5	
	comp=Z,859nm,18.0s							
PMG	**Port Moresby**	**81.08**	**266**	LR	LR		13 17 12.0	
	comp=Z,668nm,18.2s,baz=152,slow=33							
PCRV	**Puerto La Cruz**	**82.50**	**60**	LR	LR		13 16 23.1	
	comp=Z,195nm,21.5s,slow=32							
MDP	**Montagnes des**	**84.39**	**73**	LR	LR		13 17 37.6	
	comp=Z,240nm,19.0s,baz=240,slow=32							
PSA00	**Pilbara Seismi**	**85.54**	**238**	P	**P**		**12 45 15.8**	**-0.1**
PSA00				IAmb	IAmb		12 45 29.5	
	comp=Z,24nm,1.9s							
FITZ	**Fitzroy Crossi**	**85.62**	**244**	P	**P**		**12 45 16.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**85.62**	**244**	P	**P**		**12 45 13.8**	**-2.4**
	comp=Z,1.7nm,0.5s,baz=175,slow=11,SNR=6.1							
FITZ				LR	LR		13 17 28.7	
	comp=Z,523nm,21.8s,baz=135,slow=32							
	comp=Z,1.7nm,0.5s							
MBWA	**Marble Bar**	**85.95**	**238**	P	**P**		**12 45 18.2**	**+0.3**
MBWA				IAmb	IAmb		12 46 19.5	
	comp=Z,28nm,1.8s							
TX31	**Lajitas Ar. Si**	**86.66**	**19**	P	**P**		**12 45 23.2**	**+2.1**
TX31				IAmb	IAmb		12 46 21.1	
	comp=Z,7.2nm,1.5s							
TXAR	**Lajitas Array**	**86.66**	**19**	P	**P**		**12 45 23.1**	**+2.0**
TXAR	**Lajitas Array**	**86.66**	**19**	P	**P**		**12 45 20.0**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=198,slow=4.1,SNR=6.8							
TXAR				LR	LR		13 15 48.2	
	comp=Z,154nm,21.2s,baz=192,slow=30							
	comp=Z,0.7nm,0.9s							
SJG	**San Juan**	**88.66**	**55**	LR	LR		13 19 56.4	
	comp=Z,123nm,20.4s,baz=170,slow=32							
PFO	**Pinyon Flats O**	**89.28**	**7**	LR	LR		13 16 02.4	
	comp=Z,497nm,21.7s,baz=189,slow=29							
PASC	**Pasadena Art C**	**89.73**	**6**	IAMs_20	IAMs_20		13 16 45.5	
	comp=Z,498nm,18.0s							
JAY	**Jayapura**	**90.36**	**265**	LR	LR		13 23 36.5	
	comp=Z,198nm,18.2s,baz=113,slow=34							
545A	**Edgard**	**90.38**	**29**	IAMs_20	IAMs_20		13 25 55.4	
	comp=Z,802nm,18.0s							
ANMO	**Albuquerque**	**91.70**	**15**	P	**P**		**12 45 47.5**	**+2.7**
ANMO	**Albuquerque**	**91.70**	**15**	LR	LR		13 19 47.2	
	comp=Z,253nm,18.3s,baz=289,slow=31							
SCZ	**Santa Cruz**	**92.01**	**3**	IAMs_20	IAMs_20		13 17 13.2	
	comp=Z,706nm,21.0s							
SAO	**San Andreas Ge**	**92.18**	**3**	IAMs_20	IAMs_20		13 18 31.4	
	comp=Z,669nm,19.0s							
BOSA	**Boshof**	**92.24**	**154**	LR	LR		13 20 48.9	
	comp=Z,260nm,21.1s,baz=204,slow=31							
U15A	**North Rim**	**92.43**	**10**	P	**P**		**12 45 49.9**	**+1.6**
U15A				IAmb	IAmb		12 46 06.1	
	comp=Z,10nm,1.8s							
MTOS	**Mt Oso, Westle**	**92.92**	**3**	IAMs_20	IAMs_20		13 17 33.2	
	comp=Z,642nm,21.0s							
BUCR	**Buckhorn Ranch**	**93.12**	**4**	IAMs_20	IAMs_20		13 17 34.6	
	comp=Z,524nm,20.0s							
CMB	**Columbia Colle**	**93.48**	**4**	IAMs_20	IAMs_20		13 18 03.8	
	comp=Z,574nm,22.0s							
H11S2	**WAKE ISLAND Hy**	**93.51**	**298**	T	T		14 29 42.5	
	baz=148,slow=76,SNR=199							
H11S3	**WAKE ISLAND Hy**	**93.52**	**298**	T	T		14 29 38.7	
	baz=148,slow=76,SNR=173							
H11S1	**WAKE ISLAND Hy**	**93.53**	**298**	T	T		14 29 41.2	
	baz=148,slow=76,SNR=178							
NVAR	**Mina Aray Bea**	**93.96**	**5**	P	**P**		**12 45 54.1**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=196,slow=7.5,SNR=4.4							
NVAR				LR	LR		13 18 14.3	
	comp=Z,500nm,21.6s,baz=189,slow=29							
	comp=Z,0.3nm,0.8s							
H11N3	**WAKE ISLAND Hy**	**94.45**	**299**	T	T		14 30 43.1	
	baz=148,slow=76,SNR=57							
H11N1	**WAKE ISLAND Hy**	**94.45**	**299**	T	T		14 30 51.3	
	baz=148,slow=76,SNR=40							
H11N2	**WAKE ISLAND Hy**	**94.46**	**299**	T	T		14 30 44.5	
	baz=148,slow=76,SNR=46							
O02D	**Mt. Diablo Mer**	**95.55**	**2**	IAMs_20	IAMs_20		13 19 45.8	
	comp=Z,744nm,20.0s							
LBTB	**Lobatse**	**95.77**	**153**	LR	LR		13 23 43.3	
	comp=Z,233nm,19.3s,baz=194,slow=32							
N02D	**Trinity Center**	**96.35**	**2**	IAMs_20	IAMs_20		13 18 53.0	
	comp=Z,837nm,22.0s							
M02C	**Callahan**	**96.76**	**2**	IAMs_20	IAMs_20		13 19 05.0	
	comp=Z,806nm,22.0s							
YBH	**Yreka Blue Hor**	**97.11**	**2**	LR	LR		13 19 27.1	
	comp=Z,46nm,21.7s,baz=189,slow=29							
TSUM	**Tsumeb**	**98.93**	**144**	LR	LR		13 24 14.1	
	comp=Z,162nm,21.3s,baz=147,slow=31							
BW06	**Boulder Array**	**98.99**	**11**	IAMs_20	IAMs_20		13 22 36.4	
	comp=Z,473nm,20.0s							
PDAR	**Pinedale Array**	**98.99**	**11**	LR	LR		13 22 56.7	
	comp=Z,282nm,19.4s,baz=190,slow=30							
MFID	**Camas Ranch**	**99.08**	**7**	IAMs_20	IAMs_20		13 21 30.8	
	comp=Z,531nm,21.0s							
KAPI	**Kappang**	**99.71**	**246**	LR	LR		13 26 52.5	
	comp=Z,332nm,21.5s,baz=153,slow=33							
V61A	**Roper**	**100.08**	**38**	IAMs_20	IAMs_20		13 23 58.6	
	comp=Z,484nm,20.0s							
PLID	**Pearl Lake**	**100.73**	**6**	IAMs_20	IAMs_20		13 22 20.6	
	comp=Z,510nm,20.0s							
RLMT	**Red Lodge**	**101.35**	**11**	IAMs_20	IAMs_20		13 23 17.9	
	comp=Z,502nm,21.0s							
MSO	**Missoula**	**102.61**	**8**	IAMs_20	IAMs_20		13 24 39.2	
	comp=Z,630nm,20.0s							
E28A	**Huff**	**103.97**	**17**	IAMs_20	IAMs_20		13 26 12.7	
	comp=Z,487nm,20.0s							
U35K	**Hyder**	**111.36**	**357**	IAMs_20	IAMs_20		13 25 44.4	
	comp=Z,591nm,20.0s							
T35M	**Bob Quinn**	**112.43**	**357**	IAMs_20	IAMs_20		13 27 42.8	
	comp=Z,622nm,20.0s							
S34M	**Telegraph Cree**	**113.39**	**356**	IAMs_20	IAMs_20		13 28 09.3	
	comp=Z,479nm,20.0s							
CNBA	**Chernabura Isl**	**113.76**	**339**	IAMs_20	IAMs_20		13 27 32.2	
	comp=Z,606nm,20.0s							
R32K	**Eaglecrest**	**113.91**	**355**	IAMs_20	IAMs_20		13 26 19.0	
	comp=Z,492nm,20.0s							
Q32M	**Nakina River**	**114.48**	**356**	IAMs_20	IAMs_20		13 29 14.2	
	comp=Z,429nm,19.0s							
R33M	**Jennings River**	**114.87**	**357**	IAMs_20	IAMs_20		13 27 19.3	
	comp=Z,469nm,22.0s							
P32M	**Atlin**	**115.18**	**355**	IAMs_20	IAMs_20		13 28 08.6	
	comp=Z,415nm,21.0s							
ADK	**Adak**	**115.44**	**327**	IAMs_20	IAMs_20		13 29 05.9	
	comp=Z,631nm,21.0s							
P29M	**Windy Craggy**	**115.45**	**353**	IAMs_20	IAMs_20		13 28 31.1	
	comp=Z,575nm,20.0s							
P33M	**Teslin, Yukon**	**115.76**	**356**	IAMs_20	IAMs_20		13 30 00.7	
	comp=Z,449nm,20.0s							
O30N	**Mendenhall**	**116.48**	**354**	IAMs_20	IAMs_20		13 28 45.2	
	comp=Z,477nm,22.0s							
O28M	**Mount Upton**	**116.77**	**352**	IAMs_20	IAMs_20		13 29 49.0	
	comp=Z,584nm,20.0s							
ISLE	**Juniper Island**	**116.79**	**351**	IAMs_20	IAMs_20		13 29 04.6	
	comp=Z,576nm,20.0s							
N31M	**Braeburn, Yuko**	**117.18**	**354**	IAMs_20	IAMs_20		13 28 56.5	
	comp=Z,487nm,20.0s							
N30M	**Aishikik Lake**	**117.23**	**354**	IAMs_20	IAMs_20		13 29 49.9	
	comp=Z,524nm,20.0s							
P18K	**Big Mountain,**	**117.28**	**343**	IAMs_20	IAMs_20		13 30 29.6	
	comp=Z,594nm,20.0s							
BMRM	**Bremner River**	**117.38**	**349**	IAMs_20	IAMs_20		13 32 21.9	
	comp=Z,583nm,20.0s							
O22K	**Cooper Landing**	**117.51**	**347**	IAMs_20	IAMs_20		13 29 21.4	
	comp=Z,591nm,20.0s							
VRDI	**Verde Repeater**	**117.52**	**350**	IAMs_20	IAMs_20		13 30 04.7	
	comp=Z,504nm,19.0s							
O18K	**Koktuh Hills**	**117.71**	**343**	IAMs_20	IAMs_20		13 29 51.1	
	comp=Z,554nm,21.0s							
GLB	**Gilahina Butte**	**117.76**	**350**	IAMs_20	IAMs_20		13 30 23.2	
	comp=Z,521nm,20.0s							
M31M	**Drury Creek, Y**	**117.82**	**355**	IAMs_20	IAMs_20		13 29 42.4	
	comp=Z,544nm,22.0s							
O16K	**Kokwok River B**	**117.96**	**342**	IAMs_20	IAMs_20		13 32 51.7	
	comp=Z,450nm,19.0s							
N25K	**Chitina, Valde**	**118.00**	**350**	IAMs_20	IAMs_20		13 31 58.4	
	comp=Z,495nm,19.0s							
RC01	**Rabbit Creek A**	**118.10**	**347**	IAMs_20	IAMs_20		13 29 17.1	
	comp=Z,505nm,20.0s							
O14K	**Tigyukauivet M**	**118.23**	**340**	IAMs_20	IAMs_20		13 31 26.2	
	comp=Z,413nm,20.0s							
KNK	**Knik Glacier**	**118.25**	**347**	IAMs_20	IAMs_20		13 28 35.0	
	comp=Z,584nm,22.0s							
M30M	**Minto, Yukon**	**118.32**	**354**	IAMs_20

COLA	**College**	**121.53**	**349**	IAMs_20	IAMs_20	13 36 13.9
	comp=Z,501nm,18.0s					
J17K	**VABM Dome**	**121.69**	**343**	IAMs_20	IAMs_20	13 34 09.2
	comp=Z,497nm,20.0s					
POKR	**Poker Flat Res**	**121.73**	**349**	IAMs_20	IAMs_20	13 35 45.9
	comp=Z,509nm,19.0s					
J16K	**Anvik River**	**121.84**	**342**	IAMs_20	IAMs_20	13 35 42.4
	comp=Z,474nm,19.0s					
J14K	**Nanvaranak Lak**	**121.89**	**340**	IAMs_20	IAMs_20	13 39 01.8
	comp=Z,408nm,18.0s					
PRP	**Porcupine Dome**	**121.92**	**350**	IAMs_20	IAMs_20	13 31 43.2
	comp=Z,385nm,22.0s					
I23K	**Minto, Yukon-K**	**121.97**	**348**	IAMs_20	IAMs_20	13 32 35.4
	comp=Z,354nm,22.0s					
EPYK	**Eagle Plains**	**122.09**	**354**	IAMs_20	IAMs_20	13 33 17.5
	comp=Z,550nm,20.0s					
H27K	**Steamboat Moun**	**122.27**	**352**	IAMs_20	IAMs_20	13 34 33.3
	comp=Z,553nm,20.0s					
I21K	**Tanana**	**122.32**	**347**	IAMs_20	IAMs_20	13 32 43.8
	comp=Z,401nm,20.0s					
I17K	**Unalakleet**	**122.42**	**342**	IAMs_20	IAMs_20	13 33 20.6
	comp=Z,481nm,21.0s					
G31M	**Satah River**	**122.53**	**356**	IAMs_20	IAMs_20	13 32 52.8
	comp=Z,370nm,21.0s					
H23K	**Yukon River**	**122.65**	**348**	IAMs_20	IAMs_20	13 36 07.3
	comp=Z,446nm,19.0s					
G30M	**tAoh Zrali Nji**	**122.68**	**355**	IAMs_20	IAMs_20	13 33 45.8
	comp=Z,466nm,21.0s					
G29M	**Pine Creek**	**122.71**	**354**	IAMs_20	IAMs_20	13 31 56.7
	comp=Z,463nm,21.0s					
G27K	**Doyon Strip**	**122.85**	**352**	IAMs_20	IAMs_20	13 34 51.7
	comp=Z,496nm,20.0s					
H21K	**Melozitna Rive**	**122.88**	**347**	IAMs_20	IAMs_20	13 32 10.7
	comp=Z,365nm,22.0s					
FYU	**Fort Yukon**	**122.92**	**351**	IAMs_20	IAMs_20	13 36 29.5
	comp=Z,469nm,18.0s					
F31M	**Tsiigehtchic**	**123.02**	**356**	IAMs_20	IAMs_20	13 33 07.9
	comp=Z,351nm,21.0s					
H18K	**Honhosa River**	**123.21**	**344**	IAMs_20	IAMs_20	13 34 29.4
	comp=Z,515nm,20.0s					
G24K	**Hadweenzic Riv**	**123.27**	**350**	IAMs_20	IAMs_20	13 36 52.6
	comp=Z,420nm,19.0s					
F30M	**Barrier River**	**123.28**	**355**	IAMs_20	IAMs_20	13 34 04.8
	comp=Z,415nm,21.0s					
G23K	**Bananza Creek**	**123.55**	**348**	IAMs_20	IAMs_20	13 32 33.3
	comp=Z,382nm,21.0s					
G21K	**Allakaket**	**123.79**	**347**	IAMs_20	IAMs_20	13 32 16.7
	comp=Z,424nm,22.0s					
ANM	**Nome**	**123.89**	**340**	IAMs_20	IAMs_20	13 40 30.7
	comp=Z,308nm,18.0s					
COLD	**Coldfoot**	**124.07**	**348**	IAMs_20	IAMs_20	13 38 11.9
	comp=Z,392nm,18.0s					
G16K	**Koyuk River**	**124.09**	**342**	IAMs_20	IAMs_20	13 35 15.8
	comp=Z,439nm,20.0s					
F24K	**Squaw Lake**	**124.10**	**350**	IAMs_20	IAMs_20	13 33 43.7
	comp=Z,420nm,22.0s					
E29M	**Blow River**	**124.17**	**354**	IAMs_20	IAMs_20	13 34 31.3
	comp=Z,569nm,22.0s					
E28M	**Babbage River**	**124.48**	**354**	IAMs_20	IAMs_20	13 33 34.5
	comp=Z,437nm,21.0s					
GAMB	**Gambell**	**124.49**	**337**	IAMs_20	IAMs_20	13 38 17.8
	comp=Z,374nm,19.0s					
E24K	**Your Creek**	**124.70**	**350**	IAMs_20	IAMs_20	13 34 02.5
	comp=Z,382nm,21.0s					
E23K	**Chandalar**	**124.81**	**349**	IAMs_20	IAMs_20	13 37 44.3
	comp=Z,477nm,19.0s					
F17K	**Baldwin Pennin**	**124.86**	**343**	IAMs_20	IAMs_20	13 35 42.2
	comp=Z,411nm,20.0s					
E22K	**Anaktuvuk Pass**	**125.13**	**348**	IAMs_20	IAMs_20	13 34 46.8
	comp=Z,388nm,21.0s					
D27M	**Malcolm River**	**125.20**	**353**	IAMs_20	IAMs_20	13 35 58.7
	comp=Z,502nm,20.0s					
TNA	**Tin City**	**125.27**	**340**	IAMs_20	IAMs_20	13 41 11.3
	comp=Z,349nm,18.0s					
TOLK	**Toolik Lake Re**	**125.36**	**349**	IAMs_20	IAMs_20	13 38 11.0
	comp=Z,436nm,19.0s					
E18K	**Tukpahlearik C**	**125.66**	**344**	IAMs_20	IAMs_20	13 35 37.1
	comp=Z,538nm,21.0s					
E21K	**Killik River**	**125.68**	**347**	IAMs_20	IAMs_20	13 33 55.5
	comp=Z,314nm,20.0s					
D25K	**Kavik River**	**125.71**	**351**	PKPdf	**PKiKP**	**12 51 41.6 +3.5**
D25K				IAMs_20	IAMs_20	13 36 21.2
	comp=Z,507nm,20.0s					
D22K	**Ayikyak River**	**125.94**	**348**	IAMs_20	IAMs_20	13 35 11.3
	comp=Z,401nm,20.0s					
RDOG	**Red Dog Mine**	**126.60**	**343**	IAMs_20	IAMs_20	13 36 39.2
	comp=Z,537nm,21.0s					
C16K	**Lisburne Hills**	**127.21**	**342**	IAMs_20	IAMs_20	13 38 25.2
	comp=Z,468nm,20.0s					
A36M	**Sachs Harbour**	**127.42**	**360**	IAMs_20	IAMs_20	13 39 25.6
	comp=Z,369nm,19.0s					
MA2	**Magadan**	**132.90**	**316**	IAMs_20	IAMs_20	13 38 22.1
	comp=Z,357nm,22.0s					
BILL	**Bilibino**	**133.37**	**331**	IAMs_20	IAMs_20	13 40 37.1
	comp=Z,307nm,21.0s					
ESDC	**Sonseca Array**	**138.55**	**87**	PKP	**PKPdf**	**12 52 01.4 -1.4**
	comp=Z,0.4nm,0.8s,baz=312,slow=4.4,SNR=2.8					
TIXI	**Tiksi**	**146.29**	**327**	IAMs_20	IAMs_20	13 48 20.4
	comp=Z,289nm,21.0s					
GTA	**Gaotai**	**146.33**	**260**	ePKPbc	**PKPbc**	**12 52 18.0 0.0**
ULN	**Ulaanbaatar**	**147.54**	**278**	PKPbc	**PKiKP**	**12 52 22.8 -0.5**
SONM	**Songino Array**	**147.89**	**278**	PKPdf	**PKPdf**	**12 52 20.9 +1.8**
SONM	**Songino Array**	**147.89**	**278**	PKPbc	**PKPdf**	**12 52 19.4 +0.3**
	comp=Z,0.5nm,0.5s,baz=156,slow=2.9,SNR=2.4					
EKA	**Eskdalemuir Ar**	**147.92**	**66**	PKPbc	**PKPdf**	**12 52 19.4 +0.7**
	comp=Z,1.7nm,0.7s,baz=251,slow=2.2,SNR=5.7					
CAMP	**Campotosto**	**150.25**	**99**	PKPdf	**PKPdf**	**12 52 24.0 +1.0**
GERES	**GERESS Array B**	**154.15**	**88**	PKP	**PKPdf**	**12 52 26.2 -2.3**
	comp=Z,20nm,0.3s,baz=197,slow=3.1,SNR=28					
GERES				PKPbc	**sPKPdf**	**12 52 34.1 +2.4**
	comp=Z,19nm,0.3s,baz=183,slow=3.6,SNR=30					
GERES				PKPab	**PKPab**	**12 52 46.3 -4.3**
	comp=Z,0.1nm,0.3s,baz=231,slow=6.2,SNR=0.3					
ISP	**Isparta**	**155.69**	**127**	IAMs_20	IAMs_20	14 18 29.1
	comp=Z,247nm,22.0s					
KONO	**Kongsberg**	**155.80**	**62**	IAMs_20	IAMs_20	14 00 20.6
	comp=Z,276nm,21.0s					
BRTR	**Keskin Array B**	**158.64**	**130**	PKPab	**PKPab**	**12 53 08.6 -1.6**
	comp=Z,0.2nm,0.3s,baz=193,slow=5.9,SNR=1.4					
MLR	**Muntele Rosu**	**159.07**	**107**	IAMs_20	IAMs_20	14 16 27.5
	comp=Z,335nm,21.0s					
MKAR	**Makanchi Array**	**160.82**	**254**	PKPab	**PKPab**	**12 53 16.6 -2.8**
	comp=Z,0.5nm,0.6s,baz=147,slow=3.8,SNR=5.2					
ZALV	**Zalesovo Beam**	**162.78**	**277**	PKPab	**PKPab**	**12 53 25.1 -2.7**
	comp=Z,0.4nm,0.5s,baz=113,slow=3.7,SNR=1.9					
KURBB	**Kurchatov Arra**	**165.02**	**260**	PKPab	**PKPab**	**12 53 35.9 -1.7**
	comp=Z,0.1nm,0.3s,baz=120,slow=3.7,SNR=3.0					
BVAR	**Borovoye Array**	**170.61**	**260**	PKPab	**PKPab**	**12 53 59.6 -2.8**
	comp=Z,0.3nm,0.4s,baz=152,slow=6.5,SNR=2.3					

*IDC **28** 12:34:08.0±11.0, 6°.10N×126°.30E, h198km±111km, **mb2.9/4, mbtmp3.4/4, Error ellipse: s-maj=123.1km s-min=27.0km az=64.0, Mindanao***

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**24.06**	**182**	P	P	12 39 05.8	+0.6
	1.6nm,0.9s,baz=6.3,slow=9.5,SNR=3.3						
	1.6nm,0.9s						
WRA	**Warramunga Arr**	**27.06**	**163**	P	P	12 39 32.2	-0.1
	0.2nm,0.4s,baz=342,slow=10,SNR=12						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**30.50**	**166**	P	P	12 40 02.4	-0.3
	0.2nm,0.6s,baz=342,slow=8.7,SNR=4.6						
ASAR				PcP	PcP	12 42 56.7	-0.3
	0.2nm,0.7s,baz=335,slow=2.7,SNR=4.9						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**55.38**	**325**	P	P	12 43 21.6	-0.1
	0.2nm,0.5s,baz=129,slow=9.0,SNR=2.1						
	0.2nm,0.5s						

*IDC **28** 12:37:59.6±4.7, 5°.28S×130°.14E, h263km±47km, **mb2.8/1, mbtmp3.5/4, Error ellipse: s-maj=78.1km s-min=18.3km az=73.0, Banda Sea***

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.48**	**199**	P	Pn	12 40 59.1	-1.9
	1.0nm,0.7s,baz=19,slow=12,SNR=6.2						
FITZ				S	S	12 43 19.4	-11
	1.1nm,0.8s,baz=311,slow=19,SNR=1.7						
WRA	**Warramunga Arr**	**15.14**	**165**	P	P	12 41 18.5	-1.8
	0.3nm,0.5s,baz=346,slow=11,SNR=7.2						
WRA				S	S	12 44 01.9	-5.2
	0.4nm,0.5s,baz=342,slow=22,SNR=7.0						
ASAR	**Alice Springs**	**18.64**	**169**	P	P	12 41 59.2	+0.8
	1.1nm,0.5s,baz=345,slow=11,SNR=24						
ASAR				S	S	12 45 17.7	+1.0
	0.3nm,0.8s,baz=347,slow=25,SNR=1.8						
MKAR	**Makanchi Array**	**66.88**	**326**	P	P	12 48 23.9	+0.3
	0.2nm,0.4s,baz=122,slow=6.0,SNR=2.4						
	0.2nm,0.4s						

*IDC **28** 13:07:24.7±1.4, 28°.78N×139°.93E, h308km±14km, mb3.2/11, mbtmp3.9/15, Error ellipse: s-maj=25.0km s-min=12.2km az=78.0*
*JMA **28** 13:07:24.4±0.1, 29°.1N±1°.1×14°.1E±°, h344km, MV3.8/35, W OFF OGASAWARA*
ISC 28 13:07:25.6±0.8, 28°.93N±0°.08×140°.6E±0°.2, h350km, n29, σ1s91°/30, mb3.4/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.29**	**143**	P	**Pn**	**13 08 17.7**	**-1.5**
CBIJ				S	**S**	**13 08 59.0**	**-3.1**
JCJ	**Chichijima**	**2.29**	**143**	P	Pn	13 08 09.0	-10
	146nm,0.3s,baz=299,slow=10,SNR=90						
JCJ				S	S	13 08 50.4	-12
	131nm,0.4s,baz=304,slow=23,SNR=21						
JHH2	**Haha-jima-NKT2**	**2.67**	**149**	P	**Pn**	**13 08 20.7**	**-1.5**
JHH2				S	**S**	**13 09 03.9**	**-3.7**
JAOM	**Aogashimamukai**	**3.60**	**348**	*eP*	**Pn**	**13 08 30.8**	**+0.2**
JHCJ	**Hachijojimakas**	**4.19**	**350**	*eP*	**Pn**	**13 08 35.9**	**-0.5**
JHJ2	**Mitsune**	**4.22**	**351**	*eP*	**Pn**	**13 08 36.4**	**-0.5**
JHJ2				*eS*	**S**	**13 09 32.0**	**-2.3**
JHJ	**Hachijo jima 2**	**4.24**	**350**	P	**Pn**	**13 08 36.2**	**-0.8**
	64nm,0.3s,baz=93,slow=19,SNR=28						
JHJ				S	**S**	**13 09 29.0**	**-5.6**
	76nm,0.9s,baz=242,slow=22,SNR=2.5						
BSO1	**Boso 1**	**5.71**	**3**	*eP*	**Pn**	**13 08 53.5**	**+1.0**
BSO1				*eS*	**S**	**13 10 01.0**	**-2.0**
BSO3	**Boso 3**	**5.85**	**359**	*eP*	**Pn**	**13 08 55.1**	**+0.7**
BSO4	**Boso 4**	**6.04**	**358**	*eP*	**Pn**	**13 08 57.1**	**+0.4**
JHMK	**Hamakita**	**6.35**	**338**	*eP*	**Pn**	**13 08 59.8**	**-0.5**
JIE	**Ise**	**6.39**	**329**	*eP*	**Pn**	**13 09 00.3**	**-0.5**
JNY	**Yasuok**	**6.82**	**341**	*eP*	**Pn**	**13 09 06.9**	**+1.0**
JHO	**Hitachi**	**7.66**	**360**	*eP*	**Pn**	**13 09 15.7**	**+0.1**
MJAR	**Matsushiro Arr**	**7.86**	**346**	P	**Pn**	**13 09 17.8**	**-0.2**
	0.8nm,0.3s,baz=167,slow=12,SNR=7.6						
KSRS	**Korea Array**	**13.61**	**312**	P	**P**	**13 10 23.3**	**-1.6**
	1.5nm,0.5s,baz=130,slow=12,SNR=15						
ASAJ	**Asahikawa**	**15.23**	**5**	P	**Pn**	**13 10 47.9**	**+2.9**
	1.7nm,0.5s,baz=244,slow=12,SNR=5.7						
PETK	**Petropavlovsk-**	**27.23**	**23**	P	P	13 12 47.6	+9.2
	1.1nm,0.4s,baz=208,slow=6.0,SNR=1.8						
ZALV	**Zalesovo Beam**	**47.21**	**318**	P	**P**	**13 15 24.6**	**+0.4**
	0.6nm,0.3s,baz=94,slow=6.4,SNR=4.0						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**48.26**	**308**	P	**P**	**13 15 32.0**	**-0.4**
	0.3nm,0.4s,baz=84,slow=9.9,SNR=6.0						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**48.97**	**188**	P	**P**	**13 15 38.9**	**+0.9**
	1.0nm,0.4s,baz=3.0,slow=7.7,SNR=30						
	1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**50.78**	**313**	P	**P**	**13 15 51.5**	**+0.4**
	1.4nm,0.4s,baz=93,slow=7.0,SNR=19						
	1.4nm,0.4s						
ASAR	**Alice Springs**	**52.70**	**188**	P	**P**	**13 16 06.5**	**+1.0**
	0.3nm,0.4s,baz=360,slow=5.1,SNR=28						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**55.77**	**317**	P	**P**	**13 16 28.0**	**+0.9**
	3.9nm,0.4s,baz=95,slow=7.4,SNR=25						
	3.9nm,0.4s						
ILAR	**Eielson Array**	**56.77**	**29**	P	P	13 16 40.1	+6.2
	0.2nm,0.8s,baz=279,slow=6.3,SNR=2.8						
	0.2nm,0.8s						
FINES	**FINESS Array B**	**75.70**	**333**	P	**P**	**13 18 34.8**	**+1.8**
	1.5nm,0.9s,baz=77,slow=5.9,SNR=6.4						
	1.5nm,0.9s						
NVAR	**Mina Array Bea**	**80.45**	**51**	P	P	13 19 06.5	+6.9
	0.3nm,0.7s,baz=339,slow=6.6,SNR=2.9						
	0.3nm,0.7s						
HFS	**Hagfors**	**81.20**	**336**	P	**P**	**13 19 05.0**	**+2.2**
	1.0nm,0.7s,baz=83,slow=4.5,SNR=1.9						
	1.0nm,0.7s						
NOA	**NORSAR Array B**	**81.40**	**338**	P	**P**	**13 19 06.0**	**+2.1**
	0.2nm,0.6s,baz=49,slow=4.7,SNR=1.8						
	0.2nm,0.6s						

*IDC **28** 13:22:57.1±8.1, 18°.06S×177°.96W, h552km±79km, mb3.4/4, mbtmp4.3/5, Error ellipse: s-maj=63.9km s-min=35.2km az=35.0*
*NEIC **28** 13:23:00.7±0.7, 18°.0S±0°.2×178°.1W±0°.2, h590km±13km, mb4.1/22, Error ellipse: s-maj=33.5km s-min=21.8km az=132.0*
ISC 28 13:23:00.4±1.0, 18°.1S±0°.2×178°.1W±0°.2, h590km, n33, σ0s71°/35, mb4.1/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.65**	**275**	P	**P**	**13 24 23.0**	**+0.1**
DZM	**Mont Dzumac**	**15.01**	**252**	P	**P**	**13 26 08.7**	**-0.3**
	3.9nm,1.0s,baz=22,slow=8.2,SNR=1.7						
TOZ	**Tahuroa Road**	**20.32**	**195**	P	**P**	**13 26 56.8**	**-0.4**
TOZ				IAmb	IAmb	13 26 57.1	
	comp=Z,11nm,1.1s						
URZ	**Urewera**	**20.49**	**191**	P	**P**	**13 26 57.3**	**-1.5**
	comp=Z,19nm,1.2s,baz=19,slow=18,SNR=2.0						
	comp=Z,19nm,1.2s						
EIDS	**Eidsvold**	**29.44**	**250**	P	**P**	**13 28 18.2**	**+0.3**
EIDS				IAmb	IAmb	13 28 44.5	
	comp=Z,11nm,1.4s						
ARMA	**Armidale**	**30.06**	**240**	P	**P**	**13 28 24.5**	**+1.2**
CAN	**Canberra**	**33.78**	**233**	P	**P**	**13 28 55.7**	**+1.0**
TOO	**Toolangi**	**37.24**	**231**	P	**P**	**13 29 23.0**	**-0.2**
TOO				IAmb	IAmb	13 29 45.8	
	comp=Z,5.7nm,1.4s						
COEN	**Coen**	**37.36**	**271**	P	**P**	**13 29 23.5**	**-1.0**
COEN				IAmb	IAmb	13 29 58.2	
	comp=Z,12nm,1.2s						
STKA	**Stephens Creek**	**38.75**	**241**	P	**P**	**13 29 36.6**	**+1.1**
STKA	**Stephens Creek**	**38.75**	**241**	P	**P**	**13 29 36.8**	**+1.2**
	comp=Z,2.3nm,0.7s,baz=75,slow=9.2,SNR=6.0						
	comp=Z,2.3nm,0.7s						
BBOO	**Buckleboo**	**43.53**	**241**	P	**P**	**13 30 13.9**	**+0.7**
BBOO				IAmb	IAmb	13 30 14.7	
	comp=Z,9.2nm,0.9s						
WR8	**Warramunga Arr**	**44.70**	**260**	P	**P**	**13 30 22.4**	**0.0**
WB0	**Warramunga Arr**	**44.81**	**260**	P	**P**	**13 30 23.3**	**0.0**
WB0				IAmb	IAmb	13 30 44.0	
	comp=Z,9.0nm,1.4s						
WRAB	**Tennant Creek**	**44.84**	**260**	P	**P**	**13 30 23.3**	**-0.1**
WRA	**Warramunga Arr**	**44.85**	**260**	P	**P**	**13 30 23.3**	**-0.2**
WRA	**Warramunga Arr**	**44.85**	**260**	P	**P**	**13 30 23.6**	**0.0**
	comp=Z,1.5nm,0.5s,baz=94,slow=7.3,SNR=85						
WRA				PcP	**PcP**	**13 31 52.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=94,slow=3.4,SNR=1.1						
	comp=Z,1.5nm,0.5s						
AS31	**Alice Springs**	**44.98**	**254**	P	**P**	**13 30 25.0**	**+0.5**
AS31				IAmb	IAmb	13 30 26.2	
	comp=Z,2.4nm,0.5s						
ASAR	**Alice Springs**	**44.98**	**254**	P	**P**	**13 30 24.6**	**0.0**
ASAR	**Alice Springs**	**44.98**	**254**	P	**P**	**13 30 25.2**	**+0.6**
	comp=Z,4.2nm,0.4s,baz=91,slow=8.0,SNR=167						
ASAR				PcP	**PcP**	**13 31 53.0**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=95,slow=3.6,SNR=5.7						
	comp=Z,4.2nm,0.4s						
MTN	**Manton Dam**	**49.05**	**269**	P	**P**	**13 30 55.0**	**-0.1**
MTN				IAmb	IAmb	13 31 34.2	
	comp=Z,11nm,1.2s						
KNRA	**Kununurra**	**50.72**	**264**	P	**P**	**13 31 07.4**	**+0.1**
KNRA				IAmb	IAmb	13 31 33.6	
	comp=Z,7.5nm,1.3s						
FITZ	**Fitzroy Crossi**	**53.25**	**261**	P	**P**	**13 31 25.6**	**+0.3**
SOEI	**Soe**	**56.33**	**270**	P	**P**	**13 31 46.5**	**-0.6**
MBWA	**Marble Bar**	**58.27**	**256**	P	**P**	**13 31 59.9**	**-0.1**
LVA	**Lava Point**	**72.73**	**7**	P	**P**	**13 33 27.7**	**-1.6**
K15K	**Wolf Creek Mou**	**81.22**	**8**	P	**P**	**13 34 15.4**	**+0.3**
K15K				IAmb	IAmb	13 34 51.4	
	comp=Z,8.2nm,1.3s						
L18K	**Granite Mounta**	**81.86**	**10**	P	**P**	**13 34 18.7**	**+0.3**
L18K				IAmb	IAmb	13 34 23.2	
	comp=Z,6.6nm,1.2s						
BPAW	**Bear Paw Mtn.**	**84.61**	**12**	P	**P**	**13 34 32.2**	**+0.1**
BPAW				IAmb	IAmb	13 35 08.5	
	comp=Z,4.6nm,1.3s						
BMAR	**Burnt Mountain**	**88.81**	**12**	P	**P**	**13 34 52.0**	**+0.1**
BRTR	**Keskin Array B**	**145.11**	**315**	PKPbc	**PKPdf**	**13 41 32.1**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=42,slow=2.3,SNR=2.6						
GERES	**GERESS Array B**	**147.88**	**345**	PKPbc	**PKPbc**	**13 41 39.9**	**-0.1**
	comp=Z,6.6nm,0.3s,baz=41,slow=3.1,SNR=2.8						
DBIC	**Dimbokro**	**166.87**	**149**	PKP	**PKPdf**	**13 42 01.8**	**+1.8**
	comp=Z,3.0nm,0.5s,baz=270,slow=2.0,SNR=6.2						

*IDC **28** 13:32:38.2±1.5, 7°.99S×104°.80E, h0km, mb3.8/9, mbtmp3.8/10, ML3.7/1, Error ellipse: s-maj=53.6km s-min=18.1km az=47.0*
*DJA **28** 13:32:38.7±0.5, 8°.5S±5°.1×10°.5E±°, h10km, M4.1/13, mB4.9/1, mb4.2/5, MLv4.0/13, Mw(mB)4.2/1*
*NEIC **28** 13:32:46.3±1.7, 7°.7S±0°.1×105°.19E±0°.10, h35km±1km, mb4.3/7, Error ellipse: s-maj=24.6km s-min=13.2km az=26.0*
ISC 28 13:32:44.3±0.9, 7°.86S±0°.09×105°.10E±0°.09, h35km, n43, σ1s54°/39, mb3.9/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**1.37**	**25**	P	**Pn**	**13 33 08.2**	**+1.3**
SKJI	**Sukabumi**	**1.67**	**60**	P	**Pn**	**13 33 12.8**	**+1.7**
CNJI	**Cibinong**	**2.08**	**75**	P	**Pn**	**13 33 17.7**	**+1.0**
DBJI	**Dramaga**	**2.09**	**52**	P	**Pn**	**13 33 19.3**	**+2.5**
KASI	**Kota Agung**	**2.40**	**345**	P	**Pn**	**13 33 21.1**	**0.0**
LEM	**Lembang**	**2.70**	**68**	Pn	**Pn**	**13 33 28.0**	**+2.7**
	11nm,0.3s,baz=180,slow=23,SNR=10						
LEM				Sn	**Sn**	**13 33 54.4**	**-2.5**
	12nm,0.3s,baz=199,slow=11,SNR=6.1						
	49nm,0.5s						
LWLI	**Liwa**	**3.01**	**340**	P	**Pn**	**13 33 28.0**	**-1.6**
CMJI	**Cimerak**	**3.32**	**89**	P	**Pn**	**13 33 33.7**	**0.0**
MNAI	**Manna**	**4.08**	**328**	Pn	**Pn**	**13 33 42.8**	**-1.5**
MNAI	**Manna**	**4.08**	**328**	P	**Pn**	**13 33 42.6**	**-1.6**
UGM	**Wanagama**	**5.37**	**91**	Pn	**Pn**	**13 34 03.7**	**+1.7**
UGM	**Wanagama**	**5.37**	**91**	P	**Pn**	**13 34 03.5**	**+1.5**
TPI	**Tanjungpandan**	**5.67**	**27**	P	**Pn**	**13 34 08.3**	**+2.2**
WOJI	**Wonogiri, Jawa**	**5.77**	**90**	P	**Pn**	**13 34 08.1**	**+0.7**
PCJI	**Pacitan**	**6.03**	**94**	P	**Pn**	**13 34 11.9**	**+1.0**
	0.2nm40nm,1.7s						
GMJI	**Gumukmas**	**8.27**	**93**	P	**Pn**	**13 34 42.2**	**+0.4**
KULM	**Kulim**	**13.80**	**341**	Pn	**Pn**	**13 35 58.5**	**+1.0**
KKM	**Kota Kinabalu**	**17.71**	**39**	Pn	**Pn**	**13 36 46.0**	**-2.4**
KKM				IAmb	IAmb	13 37 24.2	
	comp=Z,80nm,1.4s						
FITZ	**Fitzroy Crossi**	**22.43**	**119**	P	**P**	**13 37 42.3**	**+2.1**
FITZ	**Fitzroy Crossi**	**22.43**	**119**	P	**P**	**13 37 41.6**	**+1.4**
	comp=Z,1.7nm,1.0s,baz=270,slow=12,SNR=2.2						
FITZ				S	**S**	**13 41 40.1**	**-4.4**
	comp=Z,4.5nm,1.2s,baz=312,slow=19,SNR=2.5						
	comp=Z,1.7nm,1.0s						
MTN	**Manton Dam**	**26.07**	**103**	P	**P**	**13 38 15.5**	**+0.7**
MTN				IAmb	IAmb	13 38 20.1	
	comp=Z,17nm,1.4s						
CMAR	**Chiang Mai Arr**	**26.85**	**347**	P	**P**	**13 38 20.8**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=180,slow=8.8,SNR=8.1						
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**30.75**	**116**	P	**P**	**13 38 55.5**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=290,slow=7.8,SNR=2.8						
	comp=Z,0.5nm,0.9s						
WR8	**Warramunga Arr**	**30.90**	**116**	P	**P**	**13 38 58.1**	**+0.3**
WR8				IAmb	IAmb	13 39 34.2	
	comp=Z,7.0nm,1.4s						
H08S2	**Diego Garcia H**	**32.31**	**268**	T	T	14 13 01.3	
	baz=88,slow=75						
H08S3	**Diego Garcia H**	**32.32**	**268**	T	T	14 13 03.0	
	baz=88						
H08S1	**Diego Carcia H**	**32.33**	**268**	T	T	14 13 02.6	
	baz=88,slow=75						
STKA	**Stephens Creek**	**41.49**	**130**	P	**P**	**13 40 29.8**	**+1.6**
STKA	**Stephens Creek**	**41.49**	**130**	P	**P**	**13 40 28.9**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=324,slow=10,SNR=4.0						
	comp=Z,0.9nm,0.5s						
SONM	**Songino Array**	**55.47**	**1**	P	**P**	**13 42 15.7**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=157,slow=4.7,SNR=2.5						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**58.08**	**342**	P	**P**	**13 42 34.4**	**+0.3**
MKAR	**Makanch

RSUS3	**Rio de Jesus,**	**1.44**	**53**	*e*P		**Pb**	**14 22 53.9**	**+0.4**
RSUS3				eS		**Sn**	**14 23 11.8**	**-1.0**
CACAO	**El Cacao, Vera**	**1.47**	**80**	*e*P		**Pb**	**14 22 54.0**	**+0.1**
CACAO				eS		**Sn**	**14 23 13.1**	**-0.2**
LPPC	**Paso Canoas**	**1.51**	**340**	*e*P		**Pn**	**14 22 53.8**	**-0.3**
LPPC				eS		**Sn**	**14 23 12.8**	**-1.7**
MESA3	**La Mesa, Verag**	**1.53**	**47**	*e*P		**Pn**	**14 22 54.7**	**+0.4**
MESA3				eS		**Sn**	**14 23 14.2**	**-0.7**
PSOM3	**Paja de Sombre**	**1.57**	**360**	*e*P		**Pn**	**14 22 55.5**	**+0.5**
PSOM3				eS		**Sn**	**14 23 15.1**	**-1.0**
PRISO	**Paraso**	**1.57**	**350**	*e*P		**Pn**	**14 22 55.1**	**0.0**
PRISO				eS		**Sb**	**14 23 17.4**	**+1.1**
BQTLY	**Boquete Panama**	**1.65**	**355**	*e*P		**Pn**	**14 22 56.4**	**+0.2**
BQTLY				eS		**Sn**	**14 23 18.8**	**+0.6**
CLLRA	**Cordillera,**	**1.66**	**350**	*e*P		**Pn**	**14 22 56.4**	**+0.1**
CLLRA				eS		**Sn**	**14 23 18.6**	**+0.3**
NELY	**Ciudad Neily**	**1.66**	**338**⇓	*i*P		**Pn**	**14 22 56.2**	**+0.1**
NELY				eS		**Sb**	**14 23 19.4**	**+0.7**
STIA3	**Santiago, Vera**	**1.66**	**53**	*e*P		**Pb**	**14 22 57.6**	**+0.3**
STIA3				eS		**Sn**	**14 23 17.6**	**-0.6**
LNBQ3	**Los Naranjos,**	**1.68**	**356**	*e*P		**Pn**	**14 22 56.6**	**0.0**
LNBQ3				eS		**Sn**	**14 23 17.9**	**-1.0**
BRU2	**Volcan**	**1.72**	**348**⇑	*e*P		**Pn**	**14 22 57.0**	**-0.2**
BRU2				eS		**Sb**	**14 23 21.0**	**+0.4**
FITO	**Golfito**	**1.73**	**331**	*e*P		**Pn**	**14 22 55.9**	**-1.1**
PTJ1	**Puerto Jimnez**	**1.73**	**326**	*e*P		**Pn**	**14 22 56.9**	**-0.2**
MLIR3	**Monte Lirio, C**	**1.75**	**343**	*e*P		**Pb**	**14 22 58.3**	**-0.6**
MLIR3				eS		**Sn**	**14 23 18.8**	**-1.8**
EDAD	**Golfito**	**1.75**	**331**	*e*P		**Pn**	**14 22 56.7**	**-0.8**
RBALA	**Bur**	**1.77**	**5**⇓	*e*P		**Pn**	**14 22 58.6**	**+0.9**
RBALA				eS		**Sn**	**14 23 21.5**	**+0.5**
SCLRA	**Santa Clara, W**	**1.78**	**345**	*e*P		**Pb**	**14 23 21.0**	**-0.4**
PBNVO	**Pueblo Nuevo,**	**1.78**	**4**	*e*P		**Pn**	**14 22 58.3**	**+0.5**
PBNVO				eS		**Sn**	**14 23 20.8**	**-0.4**
KKNTU	**Kakint**[e]	**1.80**	**16**⇑	*i*P		**Pn**	**14 22 59.2**	**+1.2**
KKNTU				eS		**Sn**	**14 23 22.1**	**+0.5**
VITO	**San Vito**	**1.82**	**339**	*e*P		**Pb**	**14 22 59.7**	**-0.4**
PESE3	**Pese, Herrera**	**1.87**	**65**	*e*P		**Pb**	**14 23 00.4**	**-0.5**
PESE3				eS		**Sn**	**14 23 23.5**	**+0.1**
ALCO	**Alturas Coton,**	**1.91**	**344**	*e*P		**Pn**	**14 22 59.7**	**0.0**
ALCO				eS		**Sn**	**14 23 25.0**	**+0.5**
CRIS3	**El Cristo, Coc**	**2.04**	**56**	*e*P		**Pn**	**14 23 01.9**	**+0.6**
CRIS3				eS		**Sn**	**14 23 27.1**	**-0.4**
CHIT3	**Chitre**	**2.07**	**66**	*e*P		**Pb**	**14 23 03.4**	**-0.8**
CHIT3				eS		**Sn**	**14 23 28.2**	**0.0**
EDP2	**Potrero Grande**	**2.08**	**336**	*e*P		**Pb**	**14 23 03.0**	**-1.4**
EDP2				eS		**Sn**	**14 23 29.1**	**+0.4**
FIMO	**Fila Mora**	**2.14**	**331**⇑	*e*P		**Pn**	**14 23 03.3**	**+0.5**
FIMO				eS		**Sn**	**14 23 30.2**	**+0.1**
AZU	**Azuero**	**2.14**	**71**	*e*P		**Pb**	**14 23 04.3**	**-1.1**
AZU				eS		**Sn**	**14 23 28.6**	**-1.3**
AZU	**Azuero**	**2.14**	**71**	*e*P		**Pb**	**14 23 04.3**	**-1.1**
AZU				eS		**Sn**	**14 23 29.8**	**-0.2**
ACHO3	**Achotines, Los**	**2.15**	**82**	*e*P		**Pn**	**14 23 03.4**	**+0.5**
ACHO3				eS		**Sn**	**14 23 29.9**	**-0.4**
PCRI3	**Pocri, Los San**	**2.25**	**76**	*e*P		**Pb**	**14 23 06.0**	**-1.3**
PEDA3	**Pedasi**	**2.31**	**79**	*e*P		**Pn**	**14 23 05.5**	**+0.4**
DRK0	**Durika**	**2.33**	**337**⇑	*e*P		**Pn**	**14 23 06.1**	**+0.5**
DRK0				eS		**Sn**	**14 23 35.0**	**-0.1**
EDPE	**Pejibaye, P**	**2.39**	**329**⇑	*i*P		**Pn**	**14 23 06.8**	**+0.5**
EDPE				eS		**Sn**	**14 23 36.2**	**0.0**
SAJE	**San Jernim**	**2.52**	**332**⇓	*e*P		**Pn**	**14 23 08.8**	**+0.6**
SAJE				eS		**Sn**	**14 23 39.0**	**-0.7**
CEUA	**Cerro Uatsi, L**	**2.58**	**346**⇓	*i*P		**Pb**	**14 23 12.4**	**-0.5**
CEUA				eS		**Sb**	**14 23 46.0**	**+0.8**
LAES	**El Progreso Va**	**2.74**	**345**⇑	*e*P		**Pb**	**14 23 13.5**	**-2.2**
LAES				eS		**Sb**	**14 23 47.7**	**-2.2**
VERH	**Veragua Rainfo**	**2.94**	**343**	*e*P		**Pn**	**14 23 15.0**	**+1.3**
VERH				eS		**Sn**	**14 23 51.1**	**+1.4**
PIEC	**Cerro El Cedra**	**2.98**	**327**⇓	*e*P		**Pn**	**14 23 15.8**	**+1.2**
ZANG	**Zanguenga, Cho**	**3.05**	**53**⇑	*i*P		**Pn**	**14 23 17.7**	**+2.4**
ZANG	**Zanguenga, Cho**	**3.05**	**53**	*e*P		**Pn**	**14 23 17.4**	**+2.1**
ZANG				eS		**Sn**	**14 23 50.8**	**-1.7**
CHOR3	**La Chorrera**	**3.09**	**55**	*e*P		**Pn**	**14 23 16.0**	**+0.1**
CHOR3				eS		**Sn**	**14 23 52.5**	**-1.1**
REPA	**Paraso**	**3.11**	**331**	*e*P		**Pn**	**14 23 17.8**	**+1.5**
VINA	**Juan Vinas**	**3.11**	**333**	*e*P		**Pn**	**14 23 18.4**	**+2.1**
PICV	**PH. Pirrs**	**3.12**	**324**⇑	*e*P		**Pn**	**14 23 16.7**	**+0.3**
PICV				eS		**Sn**	**14 23 55.7**	**+1.3**
PAR1A	**Puntarenas Pro**	**3.13**	**322**	*e*P		**Pn**	**14 23 17.2**	**+0.8**
VERB	**Verbena**	**3.14**	**334**	*e*P		**Pn**	**14 23 18.2**	**+1.6**
RVSTA	**Santa Teresita**	**3.14**	**335**	*e*P		**Pn**	**14 23 18.6**	**+1.9**
RVSTA				eS		**Sn**	**14 23 56.7**	**+1.8**
VTCV	**VTCV, Calle Va**	**3.18**	**334**	*e*P		**Pn**	**14 23 18.0**	**+0.7**
IRES	**Siquirres**	**3.20**	**339**⇓	*i*P		**Pn**	**14 23 19.3**	**+1.7**
ABRB	**Las Abras (San**	**3.20**	**334**	*e*P		**Pn**	**14 23 19.3**	**+1.7**
CVTV	**Tajo**	**3.21**	**334**	*e*P		**Pn**	**14 23 19.3**	**+1.4**
CVTQ	**Turrialba Volc**	**3.22**	**334**	*e*P		**Pn**	**14 23 19.6**	**+1.7**
VTLA	**Turrialba Volc**	**3.22**	**334**	*e*P		**Pn**	**14 23 19.6**	**+1.7**
VICA	**Volcano Irazu**	**3.24**	**332**	*e*P		**Pn**	**14 23 18.9**	**+0.7**
RVLA	**Villa Bonita**	**3.24**	**337**	*e*P		**Pn**	**14 23 20.1**	**+2.2**
UPA	**Univ. de Panam**	**3.33**	**56**	*e*P		**Pn**	**14 23 20.6**	**+1.5**
UPA				eS		**Sn**	**14 23 58.5**	**-0.8**
HDC	**Heredia**	**3.38**	**328**⇑	*i*P		**Pn**	**14 23 21.4**	**+1.4**
HEME	**Heredia, Merce**	**3.39**	**328**⇓	*i*P		**Pn**	**14 23 21.8**	**+1.7**
JCR1	**Jicaral**	**3.88**	**315**	*e*P		**Pn**	**14 23 27.3**	**+0.5**
SOCE	**Pocosol**	**3.97**	**325**	*e*P		**Pn**	**14 23 29.9**	**+1.8**
VACR	**Volcan Arenal**	**4.08**	**325**	*e*P		**Pn**	**14 23 31.9**	**+2.4**
VARE2	**V. Arenal**	**4.09**	**325**	*e*P		**Pn**	**14 23 32.9**	**+3.2**
JTS	**Las Juntas de**	**4.10**	**321**	*e*P		**Pn**	**14 23 31.5**	**+1.7**
JTS				eS		**Sn**	**14 24 16.2**	**-2.3**
TABAC	**Tabacon**	**4.15**	**325**	*e*P		**Pn**	**14 23 34.0**	**+3.4**
COLC	**Colonia**	**4.55**	**321**	*e*P		**Pn**	**14 23 37.9**	**+2.0**
LAPC	**Finca la Perla**	**4.77**	**320**	*e*P		**Pn**	**14 23 40.4**	**+1.4**

IDC ***28*** *14:23:29.7±31.0, 5˚.46N×125˚.69E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=527.4km s-min=116.9km az=150.0*

DJA ***28*** *14:23:52.5±0.9, 4˚.N±7˚×12˚6E±˚, h77km±7km, M4.1/6, mB5.0/1, mb4.7/1, MLv3.8/6, Mw(mB)4.2/1*

ISC 28 14:23:51.0±3.2, **3.8N**±0.3×**126.5E**±0.1, **h35**km, **n6,** σ0**81**/7, **mb3.4**/4, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.95**	**264**	P	**Pn**	**14 24 08.0**	**+0.1**
SGSI				S	**Sn**	**14 24 20.3**	**0.0**
MRSI	**Marisa**	**5.60**	**234**	P	**Pn**	**14 25 11.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**21.76**	**182**	P	**P**	**14 28 41.1**	**+1.4**
	1.9nm,0.9s,baz=360,slow=10,SNR=9.0 1.9nm,0.9s						
WRA	**Warramunga Arr**	**24.81**	**162**	P	**P**	**14 29 09.7**	**-0.3**
	0.6nm,0.7s,baz=340,slow=9.6,SNR=7.7 0.6nm,0.7s						
ASAR	**Alice Springs**	**28.23**	**165**	P	**P**	**14 29 40.4**	**-0.5**
	0.2nm,0.6s,baz=342,slow=8.7,SNR=9.6 0.2nm,0.6s						
STKA	**Stephens Creek**	**38.27**	**159**	P	**P**	**14 31 07.8**	**-0.2**
	0.9nm,0.6s,baz=349,slow=10,SNR=2.9 0.9nm,0.6s						

MOS ***28*** *14:24:59.1±1.1, 6˚.74S×106˚.35E, h41km, mb5.3/39, Error ellipse: s-maj=13.4km s-min=5.3km az=122.4*

DJA ***28*** *14:25:01.7±0.2, 7˚S±2˚×10˚6E±˚, h47km±3km, M5.0/48, mb5.1/48, mB5.5/28, MLv5.2/31, Mw(mB)4.9/28, MwMwp4.5/1, Mwp4.9/1*

NEIC ***28*** *14:25:02.6±1.7, 6˚.98S±0.˚10×106˚.14E±0.˚06, h58km±3km, mb5.1/77, Error ellipse: s-maj=14.6km s-min=7.3km az=198.0*

IDC ***28*** *14:25:03.7±1.1, 6˚.94S×106˚.20E, h69km±9km, mb4.4/30, mbtmp4.6/31, MS3.8/49, Error ellipse: s-maj=11.6km s-min=8.4km az=44.0*

GCMT ***28*** *14:25:05.6±0.3, 7˚.43S±0.˚02×106˚.01E±0.˚02, h62km±2km, MW4.9/71, Moment Tensor Solution. s44,c51; s71,c100; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.27±.14; Mθθ-2.31±.11; Mφφ0.03±.14; Mrθ1.14±.08; Mθφ1.42±.09; Mφr0.16±.09; Best double couple: M₀2.89700×10¹⁶ NP1:φs314.00000°, δ38.00000°, λ119.00000°. NP2: φs99.00000°, δ57.00000°, λ70.00000°. Principal axes: T 2.6390, Plg70.0000°, Azm323.0000°; N 0.5050, Plg17.0000°, Azm110.0000°; P -3.1540, Plg10.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 14:25:02.0±0.4, **7˚.14S**±0.˚04×**106˚.12E**±0.˚04, **h58**km±3km,

h58km**:pP-P, n503,** σ1s**42**/501, **mb5.0**/118, **MS3.9**/58, **32C-19D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.45**	**73**	P	**Pn**	**14 25 13.8**	**+0.5**
SKJI				S	**Sn**	**14 25 22.7**	**+1.2**
CGJI	**Cibinong**	**0.68**	**321**	P	**Pn**	**14 25 17.3**	**+1.4**
CGJI				S	**Sn**	**14 25 28.7**	**+2.8**
DBJI	**Dramaga**	**0.85**	**47**	P	**Pn**	**14 25 20.5**	**+2.4**
CNJI	**Cibinong**	**1.01**	**100**	P	**Pn**	**14 25 19.7**	**-0.5**
CNJI				S	**Sn**	**14 25 32.9**	**-0.7**
SBJI	**Serang**	**1.01**	**1**	P	**Pn**	**14 25 22.8**	**+2.6**
SBJI				S	**Sn**	**14 25 38.5**	**+4.9**
TNG	**Tangerang**	**1.10**	**28**	P	**Pn**	**14 25 24.1**	**+2.8**
LEM	**Lembang**	**1.52**	**78**	P	**Pn**	**14 25 29.2**	**+2.1**
	5µm,0.4s,baz=273,slow=5.0,SNR=232			S			
LEM	10µm,0.4s,baz=311,slow=20,SNR=13			LR	LR	14 26 07.5	
	comp=Z,4µm,18.1s,baz=258,slow=45						
LEM	**Lembang**	**1.52**	**78**	P	**Pn**	**14 25 29.1**	**+2.0**
BBJI	**Bungbulang**	**1.55**	**102**	P	**Pn**	**14 25 27.6**	**+0.2**
BBJI	**Bungbulang**	**1.55**	**102**	S	**Sn**	**14 25 46.2**	**-0.3**
BLSI	**Bandar Lampung**	**1.96**	**334**	P	**Pn**	**14 25 35.5**	**+2.5**
JCJI	**Jatiwangi**	**2.23**	**73**	P	**Pn**	**14 25 37.9**	**+1.3**
JCJI				S	**Sn**	**14 26 06.1**	**+3.1**
KASI	**Kota Agung**	**2.28**	**315**	P	**Pn**	**14 25 39.6**	**+2.4**
CMJI	**Cimerak**	**2.40**	**106**	P	**Pn**	**14 25 38.5**	**-0.3**
KLJ	**Kotabumi**	**2.59**	**331**	P	**Pn**	**14 25 44.9**	**+3.4**
LWLI	**Liwa**	**2.94**	**316**	P	**Pn**	**14 25 49.7**	**+3.3**
MDSI	**Maura Dua**	**3.27**	**324**	P	**Pn**	**14 25 53.9**	**+3.1**
LHSI	**Lahat**	**4.19**	**322**	P	**Pn**	**14 26 06.9**	**+3.5**
MNAI	**Manna**	**4.19**	**311**		**Pn**	**14 26 04.7**	**+1.2**
MNAI	**Manna**	**4.19**	**311**	P	**Pn**	**14 26 02.2**	**-1.2**
MNAI	**Manna**	**4.19**	**311**	P	**Pn**	**14 26 05.5**	**+2.1**
SMRI	**Semarang**	**4.29**	**89**	P	**Pn**	**14 26 06.9**	**+2.1**
SMRI	**Semarang**	**4.29**	**89**	P	**Pn**	**14 26 08.7**	**+3.9**
PMBI	**Palembang**	**4.40**	**342**		**Pn**	**14 26 09.4**	**+3.2**
PMBI	**Palembang**	**4.40**	**342**	P	**Pn**	**14 26 09.5**	**+3.2**
UGM	**Wanagama**	**4.43**	**100**		**Pn**	**14 26 07.1**	**+0.3**
UGM	**Wanagama**	**4.43**	**100**	P	**Pn**	**14 26 07.2**	**+0.5**
UGM	**Wanagama**	**4.43**	**100**	S	**Sn**	**14 26 59.4**	**+2.3**
UGM	**Wanagama**	**4.43**	**100**	P	**Pn**	**14 26 07.3**	**+0.5**
TPI	**Tanjungpandan**	**4.62**	**19**	P	**Pn**	**14 26 11.9**	**+2.6**
WOJI	**Wonogiri, Jawa**	**4.81**	**99**	P	**Pn**	**14 26 12.8**	**+0.8**
KSI	**Kapahiang**	**4.94**	**314**	P	**Pn**	**14 26 16.8**	**+3.1**
PPBI	**Pangkal Pinang**	**4.95**	**0**	P	**Pn**	**14 26 17.7**	**+3.9**
PCJI	**Pacitan**	**5.12**	**102**	P	**Pn**	**14 26 16.7**	**+0.5**
	2.7nm6µm253nm,0.4s						
NGJI	**Ngawi**	**5.30**	**93**	P	**Pn**	**14 26 21.6**	**+2.9**
	6µm121nm,0.5s						
GRJI	**Gresik**	**6.32**	**88**	P	**Pn**	**14 26 33.3**	**+0.7**
	0.8nm167nm,0.6s						
DSRI	**Dabo**	**6.79**	**347**	P	**Pn**	**14 26 43.2**	**+4.0**
	0.8nm3µm282nm,0.9s						
GMJI	**Gumukmas**	**7.34**	**99**	P	**Pn**	**14 26 50.3**	**+3.6**
	0.4m2µm51nm,0.9s						
PPSI	**Pulau Pagai**	**7.48**	**305**	P	**Pn**	**14 26 48.6**	**0.0**
KMMI	**Kalianget**	**7.79**	**90**	P	**Pn**	**14 26 56.9**	**+4.2**
	0.3nm102nm,1.0s						
JAGI	**Jajag, Banyuwa**	**8.07**	**100**		**Pn**	**14 26 58.8**	**+2.2**
JAGI	**Jajag, Banyuwa**	**8.07**	**100**	P	**Pn**	**14 26 57.6**	**+1.0**
JAGI	**Jajag, Banyuwa**	**8.07**	**100**	P	**Pn**	**14 26 58.5**	**+1.9**
	4µm161nm,0.6s						
TPRI	**Tanjung Pinang**	**8.16**	**349**	P	**Pn**	**14 27 01.1**	**+3.2**
	102nm,0.7s						
PPI	**Padang Panjang**	**8.76**	**319**	P	**Pn**	**14 27 07.3**	**+1.3**
	42nm,0.7s						
STKI	**Sintang**	**8.93**	**37**	P	**Pn**	**14 27 12.4**	**+3.9**
	83nm,1.2s						
SRBI	**Singaraja**	**9.06**	**97**	P	**Pn**	**14 27 13.2**	**+3.0**
	3µm124nm,0.5s						
SISI	**Saibi**	**9.08**	**309**	P	**Pn**	**14 27 09.0**	**-1.5**
	2µm185nm,0.8s						
MYKOM	**Kota Tinggi**	**9.16**	**346**		**Pn**	**14 27 12.5**	**+1.0**
MYKOM	**Kota Tinggi**	**9.16**	**346**	P	**Pn**	**14 27 10.5**	**-1.0**
KSM	**Kuching**	**9.52**	**26**		**Pn**	**14 27 13.5**	**-3.0**
MNSI	**Mandailing Nat**	**10.23**	**320**	P	**Pn**	**14 27 26.9**	**+0.6**
	2µm33nm,0.5s						
COCO	**West Island**	**10.44**	**241**		**Pn**	**14 27 27.7**	**-1.3**
COCO	**West Island**	**10.44**	**241**	P	**Pn**	**14 27 27.7**	**-1.3**
PLAI	**Plampang**	**11.66**	**99**	P	**Pn**	**14 27 46.5**	**+0.7**
PLAI	**Plampang**	**11.66**	**99**	P	**Pn**	**14 27 45.6**	**-0.2**
	67nm,0.9s						
GSI	**Gunungsitoli**	**11.96**	**314**		**Pn**	**14 27 46.3**	**-3.6**
GSI	**Gunungsitoli**	**11.96**	**314**	P	**Pn**	**14 27 48.1**	**-1.8**
GSI	**Gunungsitoli**	**11.96**	**314**	P	**Pn**	**14 27 49.7**	**-0.2**
RPSI	**Rantau Prapat**	**12.13**	**323**		**Pn**	**14 27 48.5**	**-3.6**
PSI	**Prapat**	**12.21**	**324**	P	Pn	**14 27 48.5**	**-4.8**
	3.2nm,0.4s,baz=169,slow=12,SNR=8.9						
PSI				LR	LR	14 33 39.2	
	comp=Z,576nm,19.4s,baz=142,slow=43						
IPM	**Ipoh**	**12.61**	**336**		**Pn**	**14 27 59.3**	**+0.5**
IPM	**Ipoh**	**12.61**	**336**	P	**Pn**	**14 27 58.1**	**-0.7**
WBSI	**Waikabubak, Su**	**13.36**	**102**	P	**Pn**	**14 28 06.6**	**-2.4**
	48nm,0.6s						
KULM	**Kulim**	**13.50**	**336**		**Pn**	**14 28 10.1**	**-0.7**
KULM	**Kulim**	**13.50**	**336**	P	**Pn**	**14 28 09.7**	**-1.2**
KAPI	**Kappang**	**13.72**	**82**	P	**Pn**	**14 28 14.0**	**+0.2**
	3.2nm,0.4s,baz=222,slow=4.3,SNR=4.4						
KAPI				LR	LR	14 34 14.6	
	comp=Z,334nm,19.9s,baz=262,slow=40						
KAPI	**Kappang**	**13.72**	**82**	*i* P	**Pn**	**14 28 10.1**	**-3.7**
BKSI	**Bulukumba**	**14.04**	**83**	P	**Pn**	**14 28 20.4**	**+2.3**
WSI	**Waingapu**	**14.25**	**101**	P	**Pn**	**14 28 22.3**	**+1.4**
MPSI	**Mapaga**	**15.62**	**62**	P	**P**	**14 28 44.5**	**+2.7**
	592nm28nm,1.0s						
MMRI	**Maumere**	**16.03**	**96**	Pn	**Pn**	**14 28 43.1**	**-0.8**
MMRI				IAmb	IAmb	14 28 51.3	
	comp=Z,120nm,0.4s						
MMRI	**Maumere**	**16.03**	**96**	P	**P**	**14 28 45.9**	**-0.5**
MMRI	**Maumere**	**16.03**	**96**	P	**P**	**14 28 45.8**	**-0.6**
KKM	**Kota Kinabalu**	**16.52**	**38**		**Pn**	**14 28 51.2**	**+1.0**
KKM	**Kota Kinabalu**	**16.52**	**38**	P	**Pn**	**14 28 50.6**	**+0.4**
TOLI2	**Tolitoli**	**16.77**	**61**	P	**P**	**14 28 54.2**	**-0.3**
TOLI2	**Tolitoli**	**16.77**	**61**	P	**P**	**14 28 55.2**	**+0.7**
MYLDM	**Lahad Datu**	**17.39**	**46**	P	**P**	**14 29 01.3**	**-0.1**
MYLDM	**Lahad Datu**	**17.39**	**46**	P	**Pn**	**14 29 01.2**	**+0.4**
BATI	**Baumata**	**17.61**	**101**	P	**Pn**	**14 29 03.4**	**-0.1**
	comp=Z,116nm,0.4s,baz=296,slow=4.3,SNR=22						
BATI				S	**Sn**	**14 32 21.4**	**+2.3**
	comp=Z,40nm,0.5s,baz=261,slow=19,SNR=4.9						
BATI				LR	LR	14 36 57.8	
	comp=Z,356nm,20.5s,baz=334,slow=41						
BATI	**Baumata**	**17.61**	**101**	P	**P**	**14 29 05.0**	**+1.2**
SOEI	**Soe**	**18.14**	**99**	P	**Pn**	**14 29 10.1**	**0.0**
SOEI				IAmb	IAmb	14 29 19.6	
	comp=Z,81nm,0.5s						
SOEI	**Soe**	**18.14**	**99**	P	**Pn**	**14 29 10.7**	**+0.6**
SOEI	**Soe**	**18.14**	**99**	P	**Pn**	**14 29 10.6**	**+0.5**
	comp=Z,2µmcomp=Z,115nm,0.6s						
MBWA	**Marble Bar**	**19.17**	**138**	P	**P**	**14 29 21.3**	**+0.4**
MBWA	**Marble Bar**	**19.17**	**138**	P	**Pn**	**14 29 22.0**	**-0.3**
	comp=Z,13nm,0.8s						
MBWA	**Marble Bar**	**19.17**	**138**	P	**P**	**14 29 21.4**	**+0.4**
PSA00	**Pilbara Seismi**	**19.54**	**139**	P	**P**	**14 29 25.6**	**+0.6**
PSA00	**Pilbara Seismi**	**19.54**	**139**	P	**P**	**14 29 25.4**	**+0.5**
PSA00				IAmb	IAmb	14 29 39.5	
	comp=Z,15nm,1.3s						
PSA00	**Pilbara Seismi**	**19.54**	**139**	P	**Pn**	**14 29 25.9**	**-0.8**
	comp=Z,26nm,0.9s						
PSA00	**Pilbara Seismi**	**19.54**	**139**	P	**Pn**	**14 29 26.1**	**-0.6**
NLAI	**Namlea**	**21.25**	**81**	P	**P**	**14 29 45.5**	**+2.0**
FITZ	**Fitzroy Crossi**	**21.91**	**122**	P	**P**	**14 29 51.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**21.91**	**122**	P	**P**	**14 29 51.1**	**+0.5**
	comp=Z,6.3nm,0.6s,baz=303,slow=7.8,SNR=20						
FITZ				S	**S**	**14 33 46.6**	**-3.0**
	comp=Z,3.1nm,0.7s,baz=288,slow=17,SNR=3.0 comp=Z,6.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.91**	**122**	P	**P**	**14 29 51.9**	**+1.3**
TNTI	**Ternate**	**22.61**	**70**	P	**P**	**14 29 56.8**	**-1.3**
TNTI				IAmb	IAmb	14 30 00.7	
	comp=Z,138nm,1.2s						
TNTI	**Ternate**	**22.61**	**70**	P	**P**	**14 29 58.1**	**0.0**
TNTI	**Ternate**	**22.61**	**70**	P	**P**	**14 30 00.7**	**+2.6**
	comp=Z,1µmcomp=Z,100nm,1.2s						
MEEK	**Meekatharra**	**22.74**	**150**	P	**P**	**14 30 00.7**	**+1.2**
MORW	**Morawa**	**23.73**	**158**	P	**P**	**14 30 10.1**	**+1.1**
KNRA	**Kununurra**	**23.74**	**113**	P	**P**	**14 30 09.2**	**0.0**
KNRA				IAmb	IAmb	14 30 10.4	
	comp=Z,28nm,0.6s						
MTN	**Manton Dam**	**25.26**	**105**	P	**P**	**14 30 21.2**	**-1.8**
MTN				IAmb	IAmb	14 30 48.9	
	comp=Z,41nm,0.4s						
MTN	**Manton Dam**	**25.26**	**105**	P	**P**	**14 30 24.3**	**+1.2**
TGY	**Tagaytay City**	**25.72**	**35**	LR	LR	14 42 51.6	
	comp=Z,72nm,21.1s,baz=296,slow=42						
SWI	**Sorong**	**25.83**	**77**	P	**P**	**14 30 27.9**	**-0.3**
	comp=Z,69nm,0.8s						
QIZ	**Qiongzhong**	**26.26**	**8**	P	**P**	**14 30 33.3**	**+1.3**
QIZ				sP	**sP**	**14 30 51.8**	**-1.6**
QIZ				S	**S**	**14 35 03.0**	**+2.5**
QIZ				pmax	pmax		
	comp=Z,21nm,1.9s						
QIZ				LR	LR		
	comp=Z,370nm,18.7s						
QIZ				LR	LR		
	comp=Z,150nm,18.7s						
QIZ				LR	LR		
	comp=Z,1µm,20.6s						
FAKI	**Fak Fak**	**26.36**	**82**	P	**P**	**14 30 32.9**	**-0.1**
FAKI				IAmb	IAmb	14 31 05.7	
	comp=Z,116nm,1.5s						
FAKI	**Fak Fak**	**26.36**	**82**	P	**P**	**14 30 33.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**26.40**	**345**	P	**P**	**14 30 31.6**	**-1.6**
CMAR	**Chiang Mai Arr**	**26.40**	**345**	P	**P**	**14 30 31.3**	**-2.0**
	comp=Z,2.8nm,0.7s,baz=179,slow=8.5,SNR=24						
CMAR				PcP	**PcP**	**14 33 58.6**	**+0.8**
	comp=Z,3.5nm,0.8s,baz=198,slow=3.2,SNR=12						
CMAR				ScP	**ScP**	**14 37 32.5**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=192,slow=4.6,SNR=5.1 comp=Z,2.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**26.40**	**345**	*ce*P	**P**	**14 30 32.4**	**-0.9**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KDU	**Kakadu**	**26.52**	**104**	P	**P**	**14 30 34.7**	**+0.2**
CHTO	**Chiang Mai**	**26.74**	**345**	P	**P**	**14 30 35.0**	**-1.4**
CHTO	**Chiang Mai**	**26.74**	**345**	P	**P**	**14 30 37.0**	**+0.6**
CHTO	**Chiang Mai**	**26.74**	**345**	P	**P**	**14 30 35.0**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
NWAO	**Narrogin (SRO)**	**27.66**	**160**	LR	LR	14 41 18.3	
	comp=Z,266nm,20.0s,baz=318,slow=35						
RKPI	**Ransiki, Papua**	**28.52**	**80**	P	**P**	**14 30 52.6**	**+0.2**
	comp=Z,1µmcomp=Z,48nm,0.8s						
H01W3	**Cape Leeuwin H**	**28.58**	**166**	T	T	15 00 32.3	
	baz=343,slow=76,SNR=467						
H01W1	**Cape Leeuwin H**	**28.59**	**166**	T	T	15 00 31.6	
	baz=343,slow=76,SNR=66						
H01W2	**Cape Leeuwin H**	**28.59**	**166**	T	T	15 00 33.5	
	baz=343,slow=76,SNR=229						
PALK	**Pallekele**	**29.

LYN LR LR
comp=Z,22nm,0.9s
LYN LR LR
comp=Z,150nm,16.1s
LYN LR LR
comp=Z,220nm,15.1s
LYN LR LR
comp=Z,380nm,28.5s
LZH Lanzhou 43.05 357 *eP* **P 14 32 55.5 -0.8**
LZH pP pP 14 33 10.0 -1.4
LZH pmax pmax
comp=Z,17nm,1.1s
LZH LR LR
comp=Z,240nm,14.0s
LZH LR LR
comp=Z,180nm,15.9s
LZH LR LR
comp=Z,240nm,14.6s
GUMO Guam 43.64 62 LR LR 14 52 36.5
comp=Z,40nm,20.2s,baz=258,slow=38
GUMO Guam 43.64 62 P **P 14 33 02.0 +0.8**
CMSA Cobar Meteorol 44.16 129 P **P 14 33 06.0 +0.8**
TIA Tai'an 44.34 13 P **P 14 33 05.5 -1.0**
TIA pmax pmax
comp=Z,8.0nm,0.8s
GOMU GeErMu 44.40 347 P **P 14 33 06.0 -1.4**
GOMU pmax pmax
comp=Z,5.0nm,0.7s
JNU Nakatsue 46.44 29 P **P 14 33 23.7 +0.4**
EIDS Eidsvold 46.54 118 P **P 14 33 24.7 +0.6**
EIDS IAmb IAmb 14 33 39.3
comp=Z,46nm,1.8s
GTA Gaotai 46.68 353 *eP* **P 14 33 25.5 +0.4**
GTA PcP **PcP 14 34 59.5 +1.5**
GTA pmax pmax
comp=Z,18nm,1.0s
GTA LR LR
comp=Z,240nm,18.5s
GTA LR LR
comp=Z,92nm,15.6s
GTA LR LR
comp=Z,370nm,17.1s
JTU Tsushima 46.92 27 P **P 14 33 26.7 -0.2**
BJI Beijing 47.85 10 P **P 14 33 33.5 -0.5**
BJI sP **sP 14 33 54.8 -1.2**
BJI PcP **PcP 14 35 02.5 +0.5**
BJI pmax pmax
comp=Z,5.0nm,0.6s
HHC Hu-ho-hao-te 48.02 6 *eP* **P 14 33 35.0 -0.4**
HHC pmax pmax
comp=Z,25nm,0.6s
HHC pmax pmax
comp=Z,51nm,6.1s
HHC LR LR
comp=Z,110nm,23.5s
HHC LR LR
comp=Z,95nm,22.7s
HHC LR LR
comp=Z,160nm,21.9s
JMN Monobe 48.43 31 P **P 14 33 39.4 +0.8**
ARMA Armidale 48.47 125 P **P 14 33 40.1 +0.8**
JCJ Chichijima 48.76 44 LR LR 14 53 39.0
comp=Z,57nm,21.9s,baz=116,slow=35
KSRS Korea Array 48.82 23 P **P 14 33 41.0 -0.5**
comp=Z,2.8nm,0.8s,baz=214,slow=9.3,SNR=13
KSRS PcP **PcP 14 35 06.1 +0.6**
comp=Z,6.1nm,0.9s,baz=200,slow=3.6,SNR=15
comp=Z,2.8nm,0.8s
NIL Nilore 51.16 324 P **P 14 33 58.3 -1.2**
NIL Nilore 51.16 324 P **P 14 33 58.3 -1.2**
NIL pmax pmax
comp=Z,42nm,0.9s
JHJ Hachijo jima 2 51.25 37 LR LR 14 57 16.7
comp=Z,40nm,19.9s,baz=10.0,slow=38
XLT XiLinHaoTe 51.60 9 *eP* **P 14 34 02.0 -0.6**
XLT PcP **PcP 14 35 15.8 +0.1**
XLT pmax pmax
comp=Z,11nm,0.7s
XLT pmax pmax
comp=Z,53nm,4.7s
MJAR Matsushiro Arr 52.85 32 P **P 14 34 09.8 -2.1**
comp=Z,1.1nm,0.4s,baz=196,slow=9.3,SNR=11
MJAR PcP **PcP 14 35 20.3 -0.3**
comp=Z,3.2nm,0.8s,baz=200,slow=3.8,SNR=8.9
comp=Z,1.1nm,0.4s
TATA Tatamba Isabel 53.17 95 P **P 14 34 15.6 +0.9**
HNR Honiara 53.27 96 LR LR 14 58 30.6
comp=Z,56nm,20.0s,baz=235,slow=38
WMQ Urumqi 53.40 343 *eP* **P 14 34 17.8 +1.9**
WMQ LR LR
comp=Z,480nm,6.9s
WMQ LR LR
comp=Z,310nm,11.5s
CN2 Changchun 53.64 17 *eP* **P 14 34 16.3 -1.2**
CN2 *eS* **S 14 41 46.8 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,11.0s
CN2 LR LR
comp=Z,300nm,11.0s
CN2 LR LR
comp=Z,200nm,12.0s
ALEG Aligegeo Malai 54.04 96 P **P 14 34 21.5 +0.5**
KSH Kashi 54.16 331 P **P 14 34 19.5 -2.1**
KSH pmax pmax
comp=Z,7.0nm,0.9s
KBL Kabul 54.28 322 P **P 14 34 21.6 -1.1**
KBL IAmb IAmb 14 34 23.0
comp=Z,32nm,0.8s
KBL Kabul 54.28 322 P **P 14 34 21.6 -1.1**
KBL pmax pmax
comp=Z,32nm,0.8s
SONM Songino Array 54.74 0 P **P 14 34 24.6 -1.1**
SONM IAmb IAmb 14 35 28.8
comp=Z,16nm,0.8s
SONM Songino Array 54.74 0 P **P 14 34 25.1 -0.6**
comp=Z,3.2nm,0.4s,baz=175,slow=8.7,SNR=21
SONM PcP **PcP 14 35 27.8 +0.2**
comp=Z,16nm,0.6s,baz=181,slow=3.5,SNR=26
SONM ScP **ScP 14 39 19.0 -2.3**
comp=Z,0.5nm,0.4s,baz=177,slow=2.9,SNR=2.5
SONM LR LR 14 59 51.2
comp=Z,297nm,20.4s,baz=178,slow=38
comp=Z,3.2nm,0.4s
SONM Songino Array 54.74 0 P **P 14 34 24.6 -1.1**
SONM pmax pmax
comp=Z,16nm,0.8s
ULN Ulaanbaatar 54.77 1 P **P 14 34 24.9 -1.0**
ULN IAmb IAmb 14 35 28.8
comp=Z,10.0nm,0.8s
ULN Ulaanbaatar 54.77 1 *ce*P **P 14 34 24.6 -1.3**
ULN pmax pmax
comp=Z,5.0nm,0.7s
ULN Ulaanbaatar 54.77 1 P **P 14 34 25.4 -0.5**
ULN pP **pP 14 34 40.8 -0.6**
JMM Marumori 55.22 33 P **P 14 34 29.9 +0.8**
SHLS Shalkode 55.61 337 *eP* **P 14 34 29.2 -2.8**
SHLS Shalkode 55.61 337 *eP* **P 14 34 29.2 -2.8**
KDJ Kajisay 55.70 334 IAmb IAmb 14 34 33.7
comp=Z,21nm,1.1s
UZB Uzynbulak 55.78 336 *eP* **P 14 34 31.5 -1.8**
UZB pmax pmax
comp=Z,4.0nm,0.5s
UZB Uzynbulak 55.78 336 *eP* **P 14 34 31.5 -1.8**
comp=Z,3.6nm,0.5s
SATY Saty 55.95 336 *eP* **P 14 34 32.9 -1.6**
SATY Saty 55.95 336 *eP* **P 14 34 32.9 -1.6**
BNX BinXian 55.98 18 ⇓P **P 14 34 34.3 -0.2**
BNX pmax pmax
comp=Z,5.0nm,0.6s
USRK Ussuriysk Ar. 56.19 22 P **P 14 34 35.0 -1.0**
comp=Z,2.2nm,0.6s,baz=178,slow=5.1,SNR=10
USRK PcP **PcP 14 35 32.5 -0.6**
comp=Z,1.5nm,0.4s,baz=220,slow=1.8,SNR=4.5
USRK LR LR 15 00 10.8
comp=Z,49nm,20.1s,baz=221,slow=38
comp=Z,2.2nm,0.6s
OHH Osh 56.49 330 P **P 14 34 38.1 -0.2**
GAR Garm 56.65 327 P **P 14 34 37.8 -1.7**
AAA Alma-Ata 56.70 335 *eP* **P 14 34 38.2 -1.5**
AAA pmax pmax
comp=Z,7.0nm,0.4s
AAA Alma-Ata 56.70 335 *eP* **P 14 34 38.3 -1.5**
comp=Z,7.5nm,0.4s

ARSB Arslanbob 57.00 331 IAmb IAmb 14 34 42.5
comp=Z,18nm,0.7s
SIMJ Simiganj 57.13 326 P **P 14 34 41.0 -2.0**
SIMJ sP **sP 14 35 03.9 -0.9**
AAK Ala-Archa 57.30 333 P **P 14 34 43.5 -0.6**
comp=Z,2.2nm,0.3s,baz=175,slow=5.1,SNR=2.1
AAK PcP **PcP 14 35 38.1 +0.3**
comp=Z,7.3nm,0.6s,baz=183,slow=2.7,SNR=5.6
comp=Z,2.2nm,0.3s
AAK Ala-Archa 57.30 333 *ce*P **P 14 34 44.5 +0.4**
AAK pmax pmax
comp=Z,6.0nm,1.7s
JTM Tenmabayashi 57.50 31 P **P 14 34 46.4 +1.1**
ZSN Zaisan 57.52 343 *eP* **P 14 34 43.9 -1.4**
ZSN Zaisan 57.52 343 *eP* **P 14 34 44.0 -1.4**
TDK Taldyqorghan 57.57 337 *eP* **P 14 34 44.2 -1.6**
TDK pmax pmax
comp=Z,7.0nm,0.6s
TDK Taldyqorghan 57.57 337 *eP* **P 14 34 44.3 -1.6**
comp=Z,7.4nm,0.6s
MK31 Makanchi Array 57.73 341 *i* P **P 14 34 44.9 -1.9**
MKAR Makanchi Array 57.73 341 P **P 14 34 44.6 -2.3**
MKAR Makanchi Array 57.73 341 P **P 14 34 45.5 -1.3**
comp=Z,5.4nm,0.3s,baz=153,slow=8.4,SNR=99
MKAR PcP **PcP 14 35 38.9 -0.3**
comp=Z,2.6nm,0.7s,baz=150,slow=5.1,SNR=3.6
MKAR LR LR 15 03 24.7
comp=Z,110nm,21.1s,baz=134,slow=40
comp=Z,5.4nm,0.3s
MKAR Makanchi Array 57.73 341 *i* P **P 14 34 45.5 -1.3**
MKAR pmax pmax
comp=Z,6.0nm,0.3s
MAKZ Makanchi 57.84 341 P **P 14 34 46.1 -1.5**
MAKZ Makanchi 57.84 341 P **P 14 34 46.1 -1.5**
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
SGDS Sogindy 57.89 333 *eP* **P 14 34 46.7 -1.4**
DZA Taraz 58.99 331 *eP* **P 14 34 54.3 -1.4**
DZA pmax pmax
comp=Z,9.0nm,0.7s
DZA Taraz 58.99 331 *eP* **P 14 34 54.4 -1.4**
comp=Z,8.9nm,0.7s
IUG luzhnay 59.08 329 *eP* **P 14 34 55.1 -1.4**
IUG pmax pmax
comp=Z,7.0nm,0.6s
IUG luzhnay 59.08 329 *eP* **P 14 34 55.2 -1.4**
comp=Z,7.2nm,0.6s
BTLS Baital 59.40 334 *eP* **P 14 34 56.9 -1.5**
BTLS Baital 59.40 334 *eP* **P 14 34 57.0 -1.5**
CHM Chimkent 59.43 329 *eP* **P 14 34 57.4 -1.3**
CHM Chimkent 59.43 329 *eP* **P 14 34 57.5 -1.3**
ERM Erimo 59.47 31 P **P 14 34 59.6 +0.6**
KKAR Karatay Array 59.55 330 P **P 14 34 57.7 -1.9**
KKAR Karatay Array 59.55 330 P **P 14 34 57.7 -1.9**
BRLS Borolday 59.83 330 *eP* **P 14 34 59.4 -2.1**
BRLS pmax pmax
comp=Z,6.0nm,1.0s
BRLS Borolday 59.83 330 *eP* **P 14 34 59.5 -2.1**
comp=Z,6.0nm,1.0s
DZM Mont Dzumac 59.88 111 *e*LR LR 14 52 43.6
comp=Z,198nm,24.4s
HEH HeiHe 60.08 16 *eP* **P 14 35 01.0 -2.0**
HEH pmax pmax
comp=Z,9.0nm,0.8s
HEH LR LR
comp=Z,170nm,21.6s
YATNC Mamie plateau, 60.29 111 P **P 14 35 06.1 +1.0**
H04N2 CROZET ISLANDS 60.59 220 T T 15 41 01.0
baz=66,slow=75,SNR=370
H04N1 CROZET ISLANDS 60.60 220 T T 15 41 01.3
baz=66,slow=75,SNR=339
H04N3 CROZET ISLANDS 60.61 220 T T 15 40 59.9
baz=66,slow=75,SNR=316
ASAJ Asahikawa 60.72 29 LR LR 15 04 41.8
comp=Z,31nm,18.2s,baz=228,slow=39
H04S1 CROZET ISLANDS 60.78 220 T T 15 41 33.5
baz=63,slow=77,SNR=9.5
H04S3 CROZET ISLANDS 60.79 220 T T 15 41 36.1
baz=63,slow=77,SNR=8.7
H04S2 CROZET ISLANDS 60.79 220 T T 15 41 38.1
baz=63,slow=77,SNR=8.3
KURBB Kurchatov Arra 62.29 341 P **P 14 35 16.9 -1.0**
comp=Z,2.7nm,0.3s,baz=160,slow=5.9,SNR=20
KURBB PcP **PcP 14 35 57.3 0.0**
comp=Z,4.6nm,0.5s,baz=152,slow=3.7,SNR=11
KURBB LR LR 15 05 30.5
comp=Z,138nm,20.6s,baz=175,slow=39
comp=Z,2.7nm,0.3s
KURK Kurchatov 62.34 341 P **P 14 35 16.7 -1.6**
KURK IAmb IAmb 14 35 18.9
comp=Z,17nm,1.1s
KURK Kurchatov 62.34 341 *ce*P **P 14 35 17.2 -1.1**
KURK pmax pmax
comp=Z,21nm,1.3s
KURK Kurchatov 62.34 341 P **P 14 35 16.8 -1.5**
KURK pP **pP 14 35 32.3 -1.7**
YSS Yuzhno-Sakhali 62.90 27 *ce*P **P 14 35 21.3 -0.8**
YSS pmax pmax
comp=Z,16nm,1.7s
ZALV Zalesovo Beam 63.46 346 P **P 14 35 23.4 -2.3**
ZALV Zalesovo Beam 63.46 346 P **P 14 35 24.0 -1.6**
comp=Z,5.6nm,0.4s,baz=157,slow=6.2,SNR=26
ZALV LR LR 15 05 48.4
comp=Z,108nm,19.2s,baz=158,slow=39
comp=Z,5.6nm,0.4s
ZALV Zalesovo Beam 63.46 346 *i* P **P 14 35 24.0 -1.6**
ZALV pmax pmax
comp=Z,5.0nm,0.3s
BRZS Berezniki 63.88 337 *eP* **P 14 35 27.3 -1.2**
BRZS Berezniki 63.88 337 *eP* **P 14 35 27.4 -1.2**
MLZ Mavora Lakes 65.42 137 P **P 14 35 40.6 +1.8**
WHZ Wether Hill Ro 65.44 137 P **P 14 35 40.3 +1.3**
JCZ Jackson Bay 65.54 135 P **P 14 35 40.1 +0.4**
JCZ Jackson Bay 65.54 135 P **P 14 35 41.4 +1.7**
RAYN Ar Rayn 66.55 299 P **P 14 35 46.8 +0.3**
RAYN IAmb IAmb 14 35 48.3
comp=Z,21nm,1.1s
RAYN Ar Rayn 66.55 299 P **P 14 35 46.8 +0.3**
RAYN pmax pmax
comp=Z,21nm,1.2s
RAYN Ar Rayn 66.55 299 P **P 14 35 47.2 +0.7**
MAW Mawson 66.98 197 P **P 14 35 49.8 +1.5**
comp=Z,2.8nm,0.5s,baz=78,slow=1.6,SNR=9.7
MAW LR LR 14 57 24.0
comp=Z,123nm,21.9s,baz=44,slow=29
comp=Z,2.8nm,0.5s
BVAR Borovoye Array 67.16 337 P **P 14 35 48.8 -0.9**
comp=Z,32nm,0.7s,baz=139,slow=7.9,SNR=110
BVAR LR LR 15 10 34.4
comp=Z,54nm,19.7s,baz=137,slow=41
comp=Z,32nm,0.7s
BRVK Borovoye 67.23 337 P **P 14 35 48.3 -1.7**
BRVK IAmb IAmb 14 35 50.6
comp=Z,17nm,0.8s
BRVK Borovoye 67.23 337 *ce*P **P 14 35 49.2 -0.9**
BRVK pmax pmax
comp=Z,19nm,0.8s
BRVK Borovoye 67.23 337 P **P 14 35 49.2 -0.9**
BRVK pP **pP 14 36 05.0 -0.8**
QRZ Quartz Range 67.55 131 P **P 14 35 53.2 +0.7**
QRZ Quartz Range 67.55 131 P **P 14 35 54.3 +1.8**
THZ Tophouse 68.00 132 P **P 14 35 56.7 +1.3**
MQZ McQueen's Vall 68.19 134 P **P 14 35 58.2 +1.9**
NNZ Nelson 68.26 131 P **P 14 35 57.3 +0.4**
NEZ North Egmont 68.49 129 P **P 14 36 01.0 +2.5**
KHZ Kahutara 68.58 133 P **P 14 35 59.6 +0.7**
comp=Z,45nm,1.9s
KHZ Kahutara 68.58 133 P **P 14 35 59.7 +0.9**
DUWZ D'Urville Isla 68.59 131 P **P 14 36 00.3 +1.2**
HIZ Hauiti 68.97 128 P **P 14 36 02.1 +0.7**
HIZ Hauiti 68.97 128 P **P 14 36 03.7 +2.4**
VRZ Vera Road 68.97 129 P **P 14 36 03.7 +2.3**
ABKAR Akbulak array 69.09 330 P **P 14 36 01.0 -0.9**
WAZ Wanganui 69.24 130 P **P 14 36 05.0 +1.9**
SNZO South Karori 69.26 131 P **P 14 36 04.7 +1.6**
KIW Kapiti Island 69.34 131 P **P 14 36 04.3 +0.6**
TLZ Tolley Road 69.47 128 P **P 14 36 06.5 +1.9**
OGWZ Otaki Gorge 69.53 131 P **P 14 36 05.6 +0.7**
FWVZ Far West T-bar 69.60 129 P **P 14 36 07.2 +1.6**
NGZ Ngauruhoe 69.63 129 P **P 14 36 07.0 +1.3**
WNVZ Wahianoa 69.65 129 P **P 14 36 07.2 +1.4**
MOVZ Moawhango 69.78 129 P **P 14 36 07.2 +0.8**
HOWZ Holdsworth Sta 69.80 131 P **P 14 36 07.3 +0.7**
MRZ Mangatainoka R 69.81 131 P **P 14 36 07.1 +0.5**
MTW Mount Morrison 69.83 131 P **P 14 36 08.0 +1.4**

LKRN Lenkeran, Azer 70.00 315 P **P 14 36 08.9 +1.2**
TSZ Takapari Road 70.02 130 P **P 14 36 08.9 +0.9**
BKZ Black Stump Fm 70.32 129 P **P 14 36 10.4 +0.6**
BKZ IAmb IAmb 14 36 12.0
comp=Z,41nm,1.2s
BKZ Black Stump Fm 70.32 129 P **P 14 36 10.1 +0.3**
BKZ Black Stump Fm 70.32 129 P **P 14 36 10.5 +0.7**
BFZ Birch Farm 70.32 131 P **P 14 36 10.9 +1.2**
BFZ Birch Farm 70.32 131 P **P 14 36 10.9 +1.2**
RTZ Ruatahuna 70.63 128 P **P 14 36 11.4 -0.3**
RTZ IAmb IAmb 14 36 13.6
comp=Z,39nm,1.1s
RTZ Ruatahuna 70.63 128 P **P 14 36 12.2 +0.4**
URZ Urewera 70.69 128 LR LR 15 08 09.3
comp=Z,131nm,19.5s,baz=280,slow=36
URZ Urewera 70.69 128 P **P 14 36 13.0 +1.0**
URZ Urewera 70.69 128 P **P 14 36 13.4 +1.4**
AKTO Aktyubinsk 70.80 330 LR LR 15 11 26.6
comp=Z,57nm,20.3s,baz=326,slow=39
HAZ Te Kaha 71.17 127 P **P 14 36 15.0 +0.2**
YAK Yakutsk 71.34 11 P **P 14 36 13.7 -1.5**
YAK IAmb IAmb 14 36 15.6
comp=Z,25nm,0.8s
YAK Yakutsk 71.34 11 LR LR 15 10 21.3
comp=Z,50nm,18.7s,baz=204,slow=38
YAK Yakutsk 71.34 11 *eP* **P 14 36 13.8 -1.5**
YAK *e* 14 36 32.7
YAK *e* 14 38 51.9
YAK *e*PPP PPP 14 40 32.9
YAK *e*S **S 14 45 28.8 +0.3**
YAK *e**SS **SKiKP 14 45 51.4 +1.0**
YAK *e* 14 46 11.9
YAK *e*SS **SS 14 50 05.0 +0.9**
YAK pmax pmax
comp=Z,26nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,69nm,4.8s
YAK pmax pmax
comp=N,46nm,4.9s
YAK pmax pmax
comp=E,42nm,4.8s
YAK smax smax
comp=E,21nm,4.0s
YAK smax smax
comp=N,24nm,3.0s
AKT Akhty 71.98 318 *eP* **P 14 36 17.5 -2.3**
AKT *e* 14 36 35.9
AKT pmax pmax
comp=Z,20nm,0.7s
MNGR Mingechevir, A 72.10 317 P **P 14 36 21.5 +1.2**
SEKA Sheki 72.22 317 P **P 14 36 21.9 +0.8**
NAX Nakhchivan 72.50 315 P **P 14 36 23.9 +1.0**
GANJ Ganja 72.56 316 P **P 14 36 23.9 +0.7**
OZAP Van, Ozalp-Mer 73.36 314 ⇓P **P 14 36 29.0 +0.8**
GNI Garni 73.44 315 LR LR 15 10 51.8
comp=Z,35nm,21.7s,baz=123,slow=38
SVE Sverdlovsk 73.78 336 *de*P **P 14 36 30.4 +0.5**
SVE pmax pmax
comp=Z,78nm,1.0s
PETK Petropavlovsk- 74.14 29 P **P 14 36 30.5 -1.6**
comp=Z,4.1nm,0.8s,baz=270,slow=2.9,SNR=5.3
PETK LR LR 15 11 21.8
comp=Z,31nm,18.6s,baz=247,slow=38
comp=Z,4.1nm,0.8s
ARTI Arti 74.42 335 P **P 14 36 33.3 -0.4**
ARTI Arti 74.42 335 LR LR 15 12 48.6
comp=Z,70nm,21.5s,baz=137,slow=39
ARTI Arti 74.42 335 *c i*P **P 14 36 33.8 +0.1**
ARTI *PP **PcP 14 36 48.5 +0.4**
ARTI 14 39 17.3
ARTI S **S 14 46 07.1 +3.3**
ARTI SS **SS 14 50 51.2 -0.2**
ARTI pmax pmax
comp=Z,67nm,0.8s
GURO Guroymak-BITLI 74.73 313 IAmb IAmb 14 36 37.9
comp=Z,22nm,0.7s
SYO Syowa Base 75.07 200 ⇓*e*P **P 14 36 39.3 +2.0**
SYO Syowa Base 75.07 200 ⇓*e*PcP **PcP 14 36 51.6 +0.9**
MA2 Magadan 75.34 22 LR LR 15 10 16.4
comp=Z,33nm,21.3s,baz=243,slow=36
MA2 Magadan 75.34 22 P **P 14 36 39.3 +0.3**
HOMI Horasan 75.39 314 ⇑P **P 14 36 41.3 +1.3**
NCK Nalchik 75.61 318 *i* P **P 14 36 41.1 +0.2**
NCK pmax pmax
comp=Z,29nm,0.6s
MATP Matopo 75.97 251 LR LR 15 07 07.3
comp=Z,56nm,18.0s,baz=80,slow=33
VNDA Vanda 75.99 169 P **P 14 36 43.6 +1.2**
VNDA Vanda 75.99 169 P **P 14 36 44.0 +1.5**
comp=Z,1.5nm,0.4s,baz=316,slow=6.6,SNR=16
VNDA LR LR 15 07 31.5
comp=Z,60nm,19.4s,baz=295,slow=33
comp=Z,1.5nm,0.4s
VNDA Vanda 75.99 169 P **P 14 36 43.6 +1.2**
VNDA pmax pmax
comp=Z,3.0nm,1.0s
KBZ Khabaz 76.17 318 P **P 14 36 44.5 +0.6**
comp=Z,32nm,0.9s,baz=121,slow=4.9,SNR=51
KBZ Khabaz 76.17 318 *i* P **P 14 36 44.3 +0.3**
KBZ pmax pmax
comp=Z,33nm,0.9s
KIV Kislovodsk 76.40 318 P **P 14 36 45.2 -0.2**
KIV IAmb IAmb 14 36 47.8
comp=Z,30nm,0.7s
KIV Kislovodsk 76.40 318 *eP* **P 14 36 45.7 +0.2**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,21nm,18.0s
KIV Kislovodsk 76.40 318 P **P 14 36 46.1 +0.6**
comp=Z,222nmcomp=Z,22nm,0.8s
KIV Kislovodsk 76.40 318 ⇑P **P 14 36 46.5 +1.0**
ASF Jabal al Asfar 76.52 305 LR LR 15 10 50.5
comp=Z,96nm,20.3s,baz=138,slow=36
LSZ Lusaka 76.55 256 LR LR 15 06 13.1
comp=Z,184nm,19.8s,baz=123,slow=32
BELG Belogornoye 77.28 328 *i* P **P 14 36 49.0 -1.0**
BELG pmax pmax
comp=Z,12nm,1.0s
EIL Elat 77.41 302 LR LR 15 11 33.7
comp=Z,37nm,18.6s,baz=69,slow=36
GAZ Gaziantep 77.82 310 IAmb IAmb 14 36 55.6
comp=Z,24nm,0.8s
MMAI Mount Meron Ar 77.97 306 P **P 14 36 55.1 +0.6**
comp=Z,12nm,0.7s,baz=113,slow=6.5,SNR=16
MMAI LR LR 15 13 14.6
comp=Z,85nm,19.4s,baz=119,slow=37
comp=Z,12nm,0.7s
VSLR Vesyoloye 77.98 317 *i* P **P 14 36 54.6 +0.4**
VSLR pmax pmax
comp=Z,44nm,0.8s
SEY Seymchan 78.23 20 *i* P **P 14 36 53.4 -1.7**
SEY pmax pmax
comp=Z,10.0nm,2.0s
LBTB Lobatse 78.45 246 LR LR 15 06 07.0
comp=Z,122nm,18.0s,baz=75,slow=31
BOSA Boshof 78.62 242 P **P 14 36 59.6 +1.4**
comp=Z,1.8nm,0.6s,baz=200,slow=3.0,SNR=4.9
comp=Z,1.8nm,0.6s
KIRV Kirov 79.62 334 *i* P **P 14 37 02.8 0.0**
VRH Novokhopyorsk 79.99 325 *eP* **P 14 37 03.6 -1.4**
VRH pmax pmax
comp=Z,30nm,0.8s
TIXI Tiksi 80.05 7 LR LR 15 15 58.7
comp=Z,52nm,18.4s,baz=190,slow=38
TIXI Tiksi 80.05 7 *ce*P **P 14 37 04.4 -0.5**
TIXI pmax pmax
comp=Z,8.0nm,0.7s
CSS Mathiatis 80.17 307 P **P 14 37 06.8 +0.4**
comp=Z,736nmcomp=Z,82nm,1.1s
KIRS Kirsehir-Merke 80.89 311 ⇓P **P 14 37 10.9 +0.7**
BR104 Keskin Array S 81.26 312 P **P 14 37 12.4 +0.1**
comp=Z,178nmcomp=Z,24nm,0.8s
BR131 Keskin Array S 81.27 312 P **P 14 37 12.2 -0.2**
BR131 IAmb IAmb 14 37 13.5
comp=Z,21nm,0.8s
BR131 Keskin Array S 81.27 312 *i* P **P 14 37 11.6 -0.7**
BRTR Keskin Array B 81.27 312 P **P 14 37 12.0 -0.3**
BRTR Keskin Array B 81.27 312 P **P 14 37 12.4 +0.1**
comp=Z,16nm,0.8s,baz=132,slow=7.1,SNR=94
BRTR PP **PP 14 40 17.0 -1.7**

comp=Z,1.1nm,0.8s,baz=137,slow=7.8,SNR=3.7
comp=Z,16nm,0.8s
BR105 Keskin Array S 81.28 312 P **P** **14 37 12.5 +0.1**
comp=Z,195nmcomp=Z,23nm,0.8s
BR106 Keskin Array S 81.29 312 P **P** **14 37 12.6 +0.2**
comp=Z,157nmcomp=Z,22nm,0.8s
VORD Divnogorie 81.30 324 *e*P **P** **14 37 10.7 -1.3**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 81.47 324 *e*P **P** **14 37 10.9 -2.0**
VSR pmax pmax
comp=Z,20nm,0.8s
VORR Voronezh 81.62 325 *e*P **P** **14 37 12.6 -1.1**
VORR pmax pmax
comp=Z,20nm,0.8s
ANTO Ankara 81.94 312 P **P** **14 37 16.5 +0.7**
ANTO Ankara 81.94 312 P **P** **14 37 16.4 +0.7**
comp=Z,11nm,1.0s
ANTO Ankara 81.94 312 ⇑P **P** **14 37 16.5 +0.7**
LPSR Galich'ya Gora 82.14 325 *e*P **P** **14 37 15.1 -1.3**
LPSR pmax pmax
comp=Z,30nm,0.8s
SIM Simferopol' 82.49 317 *e*P **P** **14 37 19.6 +1.2**
SIM pmax pmax
comp=Z,25nm,0.8s
SHEM Shemya Is, Ala 82.63 35 LR LR 15 13 15.2
comp=Z,19nm,20.6s,baz=286,slow=35
QSPA South Pole Qui 82.85 180 P **P** **14 37 21.1 +1.0**
comp=Z,0.9nm,0.3s,baz=302,slow=1.5,SNR=16
QSPA LR LR 15 10 07.9
comp=Z,36nm,20.7s,baz=301,slow=33
comp=Z,0.9nm,0.3s
MOS Moscow 84.04 328 *e*P **P** **14 37 25.4 -0.7**
MOS pmax pmax
comp=Z,47nm,0.6s
TAVA DENIZLI_Tavas 84.26 309 ⇑P **P** **14 37 29.0 +1.2**
OBN Obninsk 84.37 327 P **P** **14 37 27.8 0.0**
OBN Obninsk 84.37 327 *c*/P **P** **14 37 28.0 +0.2**
OBN *PP **pP** **14 37 44.0 -0.2**
OBN *e*S S **14 47 49.0 -0.1**
OBN *e*SSS SSS 14 56 44.9
OBN pmax pmax
comp=Z,41nm,0.7s
OBN MLR MLR
comp=Z,57nm,21.0s
OBN Obninsk 84.37 327 P **P** **14 37 28.4 +0.6**
comp=Z,626nmcomp=Z,69nm,0.8s
OBN Obninsk 84.37 327 ⇓P **P** **14 37 28.7 +0.9**
NVL N'lazarevskaya 84.72 199 *e*P **P** **14 37 33.1 +3.7**
NVL pmax pmax
comp=Z,10.0nm,0.9s
MANT Manisa 84.77 310 IAmb IAmb 14 37 32.5
comp=Z,13nm,0.9s
KLMR Klimovskoe 85.11 333 *e*P **P** **14 37 28.8 -2.6**
KLMR pmax pmax
comp=Z,71nm,1.1s
TLCR 86.16 316 P **P** **14 37 38.2 +1.2**
TLCR 86.16 316 ⇓P **P** **14 37 38.2 +1.2**
TIRR Tirgusor 86.27 315 IAmb IAmb 14 37 39.3
comp=Z,111nm,0.8s
TIRR Tirgusor 86.27 315 P **P** **14 37 38.1 +0.6**
TIRR Tirgusor 86.27 315 ⇑P **P** **14 37 38.2 +0.6**
TSUM Tsumeb 86.31 251 LR LR 15 10 49.3
comp=Z,171nm,18.7s,baz=148,slow=32
TPGR Topolog 86.36 316 ⇑P **P** **14 37 38.2 +0.2**
MILM Milestii Mici 86.59 318 P **P** **14 37 39.3 +0.3**
MILM Milestii Mici 86.59 318 ⇑P **P** **14 37 39.4 +0.3**
CFR Carcaliu 86.63 316 P **P** **14 37 40.5 +1.2**
CFR Carcaliu 86.63 316 ⇓P **P** **14 37 40.5 +1.2**
HARR Harsova 86.66 316 P **P** **14 37 40.9 +1.5**
HARR Harsova 86.66 316 ⇑P **P** **14 37 41.0 +1.5**
SORM Soroca 87.18 319 P **P** **14 37 42.1 +0.2**
SORM Soroca 87.18 319 P **P** **14 37 42.2 +0.2**
comp=Z,27nm,1.0s
SORM Soroca 87.18 319 ⇑P **P** **14 37 42.2 +0.2**
AK09 Malin Array Si 87.20 322 P **P** **14 37 41.9 -0.1**
AK10 Malin Array Si 87.22 322 P **P** **14 37 41.9 -0.2**
AK08 Malin Array Si 87.23 322 P **P** **14 37 41.9 -0.2**
AK07 Malin Array Si 87.24 322 P **P** **14 37 42.0 -0.1**
AK06 Malin Array Si 87.25 322 P **P** **14 37 42.3 +0.1**
AK05 Malin Array Si 87.25 322 P **P** **14 37 42.1 -0.1**
AK02 Malin Array Si 87.26 322 P **P** **14 37 42.1 -0.2**
AKASG Malin Array Be 87.26 322 P **P** **14 37 41.2 -1.0**
AKASG Malin Array Be 87.26 322 P **P** **14 37 41.8 -0.4**
comp=Z,4.2nm,0.7s,baz=88,slow=4.9,SNR=20
AKASG PP **PP** **14 41 04.6 -2.5**
comp=Z,1.4nm,0.6s,baz=96,slow=6.5,SNR=8.4
AKASG LR LR 15 23 37.1
comp=Z,27nm,18.2s,baz=101,slow=40
comp=Z,4.2nm,0.7s
AKASG Malin Array Be 87.26 322 *i*P **P** **14 37 41.7 -0.6**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 87.26 322 IAmb IAmb 14 37 42.9
comp=Z,9.2nm,0.8s
AKBB Malin Array Si 87.26 322 *i*P **P** **14 37 40.1 -2.2**
AKBB pmax pmax
comp=Z,10.0nm,0.8s
AKBB Malin Array Si 87.26 322 P **P** **14 37 41.9 -0.4**
AK01 Malin Array Si 87.27 322 P **P** **14 37 42.1 -0.2**
AK03 Malin Array Si 87.27 322 P **P** **14 37 41.9 -0.4**
KIEV Kiev 87.27 322 P **P** **14 37 41.4 -0.9**
KIEV IAmb IAmb 14 37 42.9
comp=Z,8.7nm,0.8s
KIEV Kiev 87.27 322 P **P** **14 37 41.4 -0.9**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 87.27 322 P **P** **14 37 41.9 -0.4**
comp=Z,48nm,1.0s
KIEV Kiev 87.27 322 ⇓P **P** **14 37 42.4 +0.1**
AK16 Malin Array Si 87.33 322 P **P** **14 37 42.3 -0.3**
GHRR 87.33 317 ⇑P **P** **14 37 43.1 +0.4**
AK18 Malin Array Si 87.36 322 P **P** **14 37 42.5 -0.2**
AK21 Malin Array Si 87.39 322 P **P** **14 37 42.6 -0.3**
RAZG Razgrad 87.41 314 ⇑P **P** **14 37 44.3 +1.2**
TROLL Troll, Antarti 87.43 198 ⇑P **P** **14 37 45.0 +2.1**
comp=Z,49nm,0.6s
ODBI Odobesti 87.50 317 ⇓P **P** **14 37 45.2 +1.7**
RDO Rodhopi 87.61 312 IAmb IAmb 14 37 45.8
comp=Z,13nm,1.2s
ELND Elena 87.73 314 ⇑P **P** **14 37 45.4 +0.7**
VRI Vrincioaia 87.75 317 P **P** **14 37 46.0 +1.3**
VRI Vrincioaia 87.75 317 P **P** **14 37 46.1 +1.3**
VRI Vrincioaia 87.75 317 ⇓P **P** **14 37 46.1 +1.3**
PLOR5 Plostina Array 87.79 317 P **P** **14 37 46.4 +1.4**
PLOR Plostina 87.80 317 P **P** **14 37 46.5 +1.5**
PLOR Plostina 87.80 317 ⇓P **P** **14 37 46.5 +1.5**
MI30 MI30,Zelenitsa 87.91 322 P **P** **14 37 45.2 -0.2**
NDNU Novodnistrovsk 87.93 319 P **P** **14 37 45.6 +0.1**
TESR Tescani 87.94 317 P **P** **14 37 46.6 +1.0**
TESR Tescani 87.94 317 ⇑P **P** **14 37 46.8 +1.1**
LUBAR Lubar, Ukraine 87.98 321 P **P** **14 37 45.5 -0.2**
COVR Voineasa-Covas 88.10 316 ⇑P **P** **14 37 47.8 +1.3**
MLR Muntele Rosu 88.20 316 LR LR 15 22 17.9
comp=Z,35nm,20.6s,baz=90,slow=39
MLR Muntele Rosu 88.20 316 P **P** **14 37 48.4 +1.3**
MLR Muntele Rosu 88.20 316 P **P** **14 37 48.4 +1.3**
MLR Muntele Rosu 88.20 316 ⇓P **P** **14 37 48.5 +1.3**
MI28 Mi28,Pidlybu 88.28 322 P **P** **14 37 47.1 0.0**
PRAR RASCA 88.41 318 ⇓P **P** **14 37 48.8 +1.0**
KMPD K-Podol'skiy 88.51 319 P **P** **14 37 47.7 -0.5**
PLVB Pleven 88.72 314 ⇑P **P** **14 37 50.7 +1.3**
VOIR 88.81 316 P **P** **14 37 50.4 +0.6**
VOIR 88.81 316 ⇑P **P** **14 37 50.5 +0.6**
MNK Minsk 88.99 325 *i*P **P** **14 37 50.5 +0.1**
MNK *i *PP **pP** **14 38 08.7 +2.3**
MNK *i* 14 41 24.3
MNK *i* PPP PPP 14 43 20.6
MNK *i*S **SKSac** **14 48 14.1 -0.9**
MNK *i*SS **SS** **14 54 26.5 -1.6**
MNK pmax pmax
comp=E,15nm,0.9s
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=Z,22nm,0.8s
ARR Arges 89.08 316 ⇑P **P** **14 37 51.7 +0.5**
BURAR Bucovina Array 89.13 318 P **P** **14 37 51.9 +0.6**
BURAR IAmb IAmb 14 37 54.0
comp=Z,5.7nm,0.8s
BURAR Bucovina Array 89.13 318 P **P** **14 37 53.0 +1.7**
BURAR Bucovina Array 89.13 318 ⇑P **P** **14 37 53.1 +1.7**
SNAA Sanae 89.13 197 ⇑P **P** **14 37 53.1 +2.2**
comp=Z,89nm,1.1s
SNAA Sanae 89.13 197 P **P** **14 37 52.7 +1.8**
SNAA IAmb IAmb 14 38 05.6
comp=Z,8.6nm,1.2s
SNAA Sanae 89.13 197 P **P** **14 37 52.7 +1.8**
comp=Z,0.8nm,0.3s,baz=171,slow=0.9,SNR=21
SNAA LR LR 15 11 27.1
comp=Z,98nm,21.1s,baz=113,slow=31
comp=Z,0.8nm,0.3s
SNAA Sanae 89.13 197 P **P** **14 37 52.4 +1.5**
SNAA pmax pmax
comp=Z,9.0nm,1.2s
BUR08 Bucovina Ar. S 89.15 318 IAmb IAmb 14 37 53.8
comp=Z,7.3nm,0.9s
RNPP5 Staryi Chortor 89.44 322 P **P** **14 37 52.9 +0.4**
RNPP9 Sopachiv 89.47 322 P **P** **14 37 52.8 +0.1**
MARR Marisel-Cluj 90.36 317 ⇓P **P** **14 37 58.6 +1.5**
GZR Gura Zlata 90.38 316 P **P** **14 37 58.4 +1.2**
GZR Gura Zlata 90.38 316 ⇓P **P** **14 37 58.4 +1.2**
VSU Vasula 90.52 329 *c*/P **P** **14 37 57.6 +0.2**
VSU pmax pmax
comp=Z,24nm,1.0s
DRGR 90.66 317 P **P** **14 37 59.6 +1.1**
DRGR 90.66 317 ⇓P **P** **14 37 59.6 +1.1**
VNA1 Neumayer--Stat 91.15 198 ⇑P **P** **14 38 02.2 +2.0**
comp=Z,3.0nm,0.8s
BZS Buzias 91.22 316 P **P** **14 38 01.6 +0.6**
BZS Buzias 91.22 316 ⇓P **P** **14 38 01.6 +0.6**
KOLS Kolonicke sedl 91.30 319 *e*P **P** **14 38 02.0 +0.7**
KOLS Kolonicke sedl 91.30 319 *e*P **P** **14 38 02.0 +0.7**
KOLS *e* 14 49 10.0
FINES FINESS Array B 91.48 332 P **P** **14 38 01.6 -0.2**
comp=Z,9.8nm,0.8s,baz=100,slow=7.9,SNR=19
FINES LR LR 15 24 19.1
comp=Z,44nm,21.8s,baz=72,slow=39
comp=Z,9.8nm,0.8s
FINES FINESS Array B 91.48 332 *i*P **P** **14 38 02.2 +0.4**
FINES pmax pmax
comp=Z,10.0nm,0.8s
ARCES ARCESS Array B 93.36 340 P **P** **14 38 10.2 -0.1**
ARCES ARCESS Array B 93.36 340 P **P** **14 38 10.1 -0.3**
comp=Z,8.6nm,0.8s,baz=102,slow=5.6,SNR=23
ARCES LR LR 15 23 44.7
comp=Z,51nm,21.2s,baz=79,slow=38
comp=Z,8.6nm,0.8s
ARCES ARCESS Array B 93.36 340 P **P** **14 38 10.3 -0.1**
ARCES pmax pmax
comp=Z,58nm,1.7s
VYHS Vyhne 93.49 318 *e*P **P** **14 38 12.2 +0.7**
VYHS Vyhne 93.49 318 *e*P **P** **14 38 12.2 +0.7**
VRAC Vranov 95.05 319 LR LR 15 26 09.2
comp=Z,26nm,20.4s,baz=54,slow=39
SPITS Spitsbergen Ar 96.89 348 P **P** **14 38 25.7 -0.7**
comp=Z,14nm,0.7s,baz=104,slow=6.1,SNR=12
SPITS LR LR 15 30 03.0
comp=Z,57nm,18.4s,baz=84,slow=40
SPITS Spitsbergen Ar 96.89 348 P **P** **14 38 25.6 -0.8**
SPITS pmax pmax
comp=Z,26nm,1.0s
GERES GERESS Array B 96.91 318 P **P** **14 38 26.3 -0.9**
comp=Z,0.1nm,0.3s,baz=167,slow=9.1,SNR=2.0
GERES PP **PP** **14 42 20.2 -3.0**
comp=Z,0.5nm,0.8s,baz=79,slow=6.9,SNR=4.4
comp=Z,0.1nm,0.3s
HFS Hagfors 97.35 330 P **P** **14 38 28.2 -0.5**
comp=Z,4.1nm,0.8s,baz=108,slow=3.3,SNR=9.2
HFS LR LR 15 28 33.3
comp=Z,33nm,18.3s,baz=153,slow=39
comp=Z,4.1nm,0.8s
NOA NORSAR Array B 98.58 331 P Pdif 14 38 34.7 +0.3
comp=Z,0.3nm,0.6s,baz=83,slow=4.6,SNR=2.1
NOA LR LR 15 27 42.2
comp=Z,49nm,21.9s,baz=65,slow=38
comp=Z,0.3nm,0.6s
DAVOX Davos/Dischmat 99.43 316 LR LR 15 31 30.1
comp=Z,19nm,20.0s,baz=84,slow=40
TBI Tubuai 100.28 115 *e*LR LR 15 11 22.7
comp=Z,686nm,39.8s
PPT2 Papeete2 101.35 109 *e*LR LR 15 11 51.7
comp=Z,142nm,25.2s
PPT2 *e*LR LR 15 11 54.4
comp=Z,99nm,23.5s
YKA Yellowknife Ar 117.29 20 PKP **PKPdf** **14 43 40.0 -0.5**
comp=Z,0.4nm,0.3s,baz=309,slow=6.5,SNR=6.7
NVAR Mina Array Bea 129.28 45 PKP **PKPdf** **14 44 04.5 -0.1**
comp=Z,1.4nm,0.7s,baz=307,slow=1.4,SNR=4.8
SCHQ Schefferville 132.11 355 PKP **PKiKP** **14 44 09.9 -0.3**
comp=Z,2.0nm,0.5s,baz=0.0,slow=5.1,SNR=2.1
PDAR Pinedale Array 132.62 36 PKP **PKPdf** **14 44 11.2 +0.3**
comp=Z,0.9nm,0.5s,baz=327,slow=6.8,SNR=10
PDAR SKPbc **SKPbc** **14 47 30.2 -2.9**
comp=Z,0.4nm,0.7s,baz=288,slow=1.4,SNR=5.5
CPUP Villa Florida 143.05 205 PKP **PKPdf** **14 44 28.6 -1.6**
comp=Z,0.7nm,0.4s,baz=180,slow=19,SNR=6.3
TXAR Lajitas Array 144.31 48 PKP **PKPdf** **14 44 32.0 -0.4**
comp=Z,3.0nm,0.4s,baz=237,slow=0.5,SNR=119
TXAR SKPbc **SKPbc** **14 48 06.5 -0.2**
comp=Z,0.6nm,0.8s,baz=324,slow=2.2,SNR=4.4
TRY Troy 144.55 360 **PKPab** **14 44 30.4 -0.3**
HRV Adam Dziewonsk 144.72 357 **PKPab** **14 44 31.2 -0.2**
HRV Adam Dziewonsk 144.72 357 PKIKP **PKPab** **14 44 31.2 -0.2**
BDFB Brasilia 145.81 228 PKPbc **PKPab** **14 44 37.8 +1.5**
comp=Z,8.6nm,0.4s,baz=127,slow=3.1,SNR=21

*NNC **28** 14:37:31.1±4.1,34.°61N×70.°42E,h66km±75km,mb3.9, mpv4.1,Error ellipse: s-maj=40.3km s-min=30.0km az=104.0*
*IDC **28** 14:37:33.8±5.5,34.°74N×70.°80E,h99km±50km,mb3.4/12, mbtmp3.8/17,MS3.0/2,Error ellipse: s-maj=32.7km s-min=14.4km az=22.0*
ISC 28 14:37:27.4±0.8,34.°50N±0.°08×70.°62E±0.°09,h42km,n23, σ2§22/26,mb3.7/11,4C-1D,Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KK31	**Karatay Array**	**8.59**	**359**	⇑P		**Pn**	**14 39 31.2**	**+2.1**
	9.1nm,0.6s,baz=182,slow=13,SNR=79							
KK31				⇑S		**Sn**	**14 41 07.0**	**+2.4**
	11nm,0.9s,baz=195,slow=28,SNR=5.0							
AAK	**Ala-Archa**	**8.67**	**19**	⇑P		**Pn**	**14 39 33.3**	**+3.0**
	3.4nm,0.7s							
AAK				⇑S		**Sn**	**14 41 08.9**	**+2.1**
	10nm,0.9s							
AAK	**Ala-Archa**	**8.67**	**19**	P		**Pn**	**14 39 33.7**	**+3.4**
	2.8nm,0.3s,baz=196,slow=7.4,SNR=4.0							
AAK				S		**Sn**	**14 41 06.7**	**-0.1**
	7.1nm,0.7s,baz=207,slow=4.5,SNR=6.0							
AAK				LR		LR	14 43 11.6	
	comp=Z,48nm,21.2s,baz=244,slow=40							
MK31	**Makanchi Array**	**15.12**	**32**	P		**P**	**14 41 02.0**	**-0.5**
	0.8nm,0.5s,baz=212,slow=11,SNR=12							
MKAR	**Makanchi Array**	**15.12**	**32**	P		**Pn**	**14 40 59.3**	**+1.4**
	1.0nm,0.6s,baz=212,slow=11,SNR=8.4							
AB31	**Akbulak array**	**16.72**	**335**	⇓P		**Pn**	**14 41 18.0**	**-0.4**
	2.5nm,0.7s							
KURBB	**Kurchatov Arra**	**17.11**	**17**	P		**P**	**14 41 24.7**	**+0.2**
	0.4nm,0.3s,baz=210,slow=11,SNR=4.3							
AKTO	**Aktyubinsk**	**18.39**	**334**	P		**P**	**14 41 39.1**	**+0.4**
	4.0nm,0.7s,baz=147,slow=12,SNR=5.7							
AKTO				S		**Sn**	**14 44 56.0**	**-7.5**
	0.9nm,0.7s,baz=214,slow=14,SNR=1.7							
BVAR	**Borovoye Array**	**18.52**	**360**	P		**P**	**14 41 39.9**	**-0.1**
	1.2nm,0.6s,baz=165,slow=12,SNR=6.2							
ZALV	**Zalesovo Beam**	**21.86**	**23**	P		**P**	**14 42 14.7**	**-1.6**
	1.6nm,0.5s,baz=232,slow=9.8,SNR=6.7							
	1.6nm,0.5s							
SONM	**Songino Array**	**29.76**	**53**	P		**P**	**14 43 27.2**	**-2.7**
	0.3nm,0.4s,baz=258,slow=7.2,SNR=2.6							
	0.3nm,0.4s							
BRTR	**Keskin Array B**	**29.80**	**291**	P		**P**	**14 43 30.8**	**+0.3**
	0.2nm,0.3s,baz=113,slow=11,SNR=1.8							
	0.2nm,0.3s							
CMAR	**Chiang Mai Arr**	**29.83**	**115**	P		**P**	**14 43 30.8**	**+0.1**
	0.4nm,0.3s,baz=305,slow=8.4,SNR=5.8							
	0.4nm,0.3s							
AKASG	**Malin Array Be**	**33.99**	**311**	P		**P**	**14 44 08.5**	**+1.7**
	0.2nm,0.3s,baz=96,slow=6.7,SNR=1.9							
	0.2nm,0.3s							
HFS	**Hagfors**	**44.46**	**323**	P		**P**	**14 45 34.8**	**+0.7**
	1.6nm,0.6s,baz=74,slow=11,SNR=2.5							
	1.6nm,0.6s							
NB2	**NORSAR Subarra**	**45.80**	**324**	P		**P**	**14 45 44.5**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=96,slow=8.6							
NOA	**NORSAR Array B**	**45.80**	**324**	P		**P**	**14 45 43.6**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=98,slow=7.9,SNR=5.6							
	comp=Z,0.8nm,0.7s							
KSRS	**Korea Array**	**45.85**	**69**	P		**P**	**14 45 43.4**	**-2.0**
	comp=Z,0.9nm,0.8s,baz=294,slow=5.5,SNR=3.6							
	comp=Z,0.9nm,0.8s							
ESDC	**Sonseca Array**	**58.13**	**299**	P		**P**	**14 47 17.7**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=74,slow=6.5,SNR=6.4							
	comp=Z,0.6nm,0.8s							
JCJ	**Chichijima**	**60.77**	**76**	LR		LR	15 17 07.6	
	comp=Z,33nm,20.6s,baz=114,slow=39							
TORD	**Torodi Ar. Bea**	**65.37**	**269**	P		**P**	**14 48 05.8**	**0.0**
	comp=Z,1.1nm,0.3s,baz=54,slow=5.5,SNR=1.2							
	comp=Z,1.1nm,0.3s							
WRA	**Warramunga Arr**	**81.21**	**121**	P		**P**	**14 49 39.0**	**0.0**
	comp=Z,0.7nm,0.8s,baz=314,slow=6.4,SNR=5.8							
	comp=Z,0.7nm,0.8s							
ASAR	**Alice Springs**	**83.38**	**124**	P		**P**	**14 49 51.3**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=308,slow=5.0,SNR=17							
	comp=Z,0.8nm,0.7s							

*SJA **28** 14:48:17.2±0.8,21.°72S×69.°45W,h84km±3km,ML3.5, MW3.6*
*GUC **28** 14:48:19.2±0.6,21.°71S×69.°38W,h78km±2km,ML3.6*
ISC 28 14:48:20.1±1.3,21.°69S±0.°02×69.°45W±0.°05,h71km±7km, n31,σ1§46/56,4C-3D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.22**	**118**	⇓/P		**Pn**	**14 48 30.8**	**-0.3**
PB09				*i*S		**Sn**	**14 48 40.0**	**+0.8**
PB09	**IPOC Station P**	**0.22**	**118**	*e*P		**Pn**	**14 48 30.6**	**-0.5**
PB09				*e*S		**Sn**	**14 48 40.4**	**+1.3**
PB09				IAML			14 48 41.3	
	comp=Z,1μm,0.1s							
PB03	**IPOC Station P**	**0.45**	**219**	⇓/P		**Pn**	**14 48 32.2**	**-0.5**
PB03				*i*S		**Sn**	**14 48 41.9**	**0.0**
PB03	**IPOC Station P**	**0.45**	**219**	*e*P		**Pn**	**14 48 32.0**	**-0.7**
PB03				*e*S		**Sn**	**14 48 41.9**	**0.0**
PB03				IAML			14 48 42.6	
	comp=Z,1μm,0.1s							
PB02	**IPOC Station P**	**0.56**	**312**	⇓/P		**Pn**	**14 48 33.3**	**-0.3**
PB02				*i*S		**Sn**	**14 48 44.3**	**+0.7**
PB02				IAML			14 48 46.2	
	comp=E,5μm,0.1s							
PB02	**IPOC Station P**	**0.56**	**312**	*e*P		**Pn**	**14 48 33.1**	**-0.6**
PB02				*e*S		**Sn**	**14 48 44.4**	**+0.7**
PB02				IAML			14 48 49.3	
	comp=Z,4μm,0.3s							
PB01	**IPOC Station P**	**0.65**	**357**	⇑/P		**Pn**	**14 48 33.9**	**-0.7**
PB01				*i*S		**Sn**	**14 48 45.4**	**+0.1**
PB01				IAML			14 48 46.5	
	comp=N,4μm,0.4s							
PB01	**IPOC Station P**	**0.65**	**357**	*e*P		**Pn**	**14 48 33.9**	**-0.7**
PB01				*e*S		**Sn**	**14 48 45.8**	**+0.5**
PB01				IAML			14 48 46.0	
	comp=Z,2μm,0.3s							
PB06	**IPOC Station P**	**1.01**	**186**	⇑/P		**Pn**	**14 48 38.2**	**-0.8**
PB06				*e*S		**Sn**	**14 48 53.0**	**0.0**
PB06				IAML			14 48 53.8	
	comp=E,3μm,0.3s							
PB06	**IPOC Station P**	**1.01**	**186**	*e*P		**Pn**	**14 48 38.0**	**-1.0**
PB06				*e*S		**Sn**	**14 48 53.3**	**+0.3**
PB06				IAML			14 48 54.0	
	comp=Z,1μm,0.2s							
PATCX	**Punta Patache**	**1.09**	**323**	*e*P		**Pn**	**14 48 39.4**	**-0.4**
PATCX				*e*S		**Sn**	**14 48 55.5**	**+1.0**
PATCX				IAML			14 48 57.1	
	comp=E,2μm,0.3s							
PATCX	**Punta Patache**	**1.09**	**323**	*e*P		**Pn**	**14 48 38.7**	**-1.1**
PATCX				*e*S		**Sn**	**14 48 55.2**	**+0.7**
PATCX				IAML			14 48 56.7	
	comp=Z,953nm,0.2s							
TA01	**Diego Aracena**	**1.31**	**329**	*e*P		**Pn**	**14 48 41.8**	**-0.8**
TA01				*i*S		**Sn**	**14 49 00.5**	**+1.0**
TA01				IAML			14 49 02.9	
	comp=E,770nm,0.5s							
TA01	**Diego Aracena**	**1.31**	**329**	*e*P		**Pn**	**14 48 41.4**	**-1.2**
TA01				*e*S		**Sn**	**14 49 00.7**	**+1.1**
TA01				IAML			14 49 03.3	
	comp=Z,375nm,0.2s							
PB05	**IPOC Station P**	**1.35**	**211**	⇑/P		**Pn**	**14 48 42.3**	**-0.9**
PB05				*i*S		**Sn**	**14 49 00.3**	**-0.2**
PB05				IAML			14 49 04.6	
	comp=E,979nm,0.3s							
PB05	**IPOC Station P**	**1.35**	**211**	*e*P		**Pn**	**14 48 41.6**	**-1.6**
PB05				*e*S		**Sn**	**14 49 01.0**	**+0.5**
PB05				IAML			14 49 06.7	
	comp=Z,378nm,0.1s							
HMBC	**Humberstone**	**1.47**	**344**	*e*P		**Pn**	**14 48 43.8**	**-1.0**
HMBC				*i*S		**Sn**	**14 49 03.5**	**+0.1**
HMBC				IAML			14 49 05.6	
	comp=N,1μm,0.4s							
HMBC	**Humberstone**	**1.47**	**344**	*e*P		**Pn**	**14 48 43.4**	**-1.4**
HMBC				*e*S		**Sn**	**14 49 04.2**	**+0.8**
HMBC				IAML			14 49 09.9	
	comp=Z,866nm,0.4s							
TA02	**Huaiquique**	**1.55**	**336**	*e*P		**Pn**	**14 48 44.7**	**-1.1**
TA02				*e*S		**Sn**	**14 49 05.3**	**+0.1**
TA02				IAML			14 49 10.6	
	comp=N,1μm,0.1s							
TA02	**Huaiquique**	**1.55**	**336**	*e*P		**Pn**	**14 48 45.2**	**-0.6**
TA02				*e*S		**Sn**	**14 49 07.2**	**+2.0**
TA02				IAML			14 49 10.6	
	comp=Z,392nm,0.1s							
PB08	**IPOC Station P**	**1.57**	**10**	⇑/P		**Pn**	**14 48 45.6**	**-0.8**
PB08	**IPOC Station P**	**1.57**	**10**	*e*P		**Pn**	**14 48 45.5**	**-0.9**
PB08				*e*S		**Sn**	**14 49 06.6**	**+0.5**
PB08				IAML			14 49 09.3	
	comp=Z,253nm,0.2s							
AF01	**San Pedro de A**	**1.72**	**137**	*e*P		**Pn**	**14 48 49.0**	**+0.8**
AF01				*i*S		**Sn**	**14 49 10.7**	**+1.1**
AF01	**San Pedro de A**	**1.72**	**137**	*e*P		**Pn**	**14 48 46.3**	**-1.9**
AF01				*e*S		Sn	14 48 55.2	-14
AF01				IAML			14 49 21.1	
	comp=Z,666nm,0.3s							
PB11	**IPOC Station P**	**1.93**	**354**	*e*P		**Pn**	**14 48 50.0**	**-1.0**
PB11				*i*S		**Sn**	**14 49 14.0**	**-0.5**
PB11				IAML			14 49 21.2	
	comp=E,612nm,0.2s							
PB11	**IPOC Station P**	**1.93**	**354**	*e*P		**Pn**	**14 48 50.1**	**-1.0**
PB11				*e*S		**Sn**	**14 49 17.4**	**+2.9**
PB11				IAML			14 49 18.8	
	comp=Z,323nm,0.5s							
GO01	**Chusmiza**	**2.03**	**7**	*e*P		**Pn**	**14 48 51.9**	**-0.8**
PB10	**IPOC Station P**	**2.08**	**209**	*e*P		**Pn**	**14 48 51.1**	**-1.7**
PB10				*e*S		**Sn**	**14 49 25.2**	**+7.5**
PB10				IAML			14 49 26.6	
	comp=Z,143nm,0.4s							
PB16	**IPOC Station P**	**3.34**	**359**	*e*P		**Pn**	**14 49 10.6**	**+0.1**
PB16				*e*S		Sn	14 50 02.2	+13
PB16				IAML			14 50 04.3	
	comp=Z,71nm,0.5s							
GO02	**Mina Guanaco**	**3.46**	**182**	*e*P		**Pn**	**14 49 09.9**	**-1.9**
GO02				*e*S		Sn	14 50 06.1	+14
AC02	**Maricunga**	**5.13**	**177**	*e*P		**Pn**	**14 49 33.4**	**-1.4**
AC02				*e*S		Sn	14 50 44.2	+11
AC02				*e*S			14 50 45.5	
AC02				IAML			14 51 01.2	
	comp=Z,33nm,0.5s							

*NIED **28** 14:51:52.8,40.°92N×142.°71E,h18km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr4.87; Mθθ-1.04; Mϕϕ-3.83; Mrθ0.97; Mrϕ-1.99; Mθϕ4.91; Fault plane solution: M₀6.98000×10¹⁴ NP1: ϕs218.00000°,δ23.00000°,λ110.00000°. NP2: ϕs16.00000°,δ68.00000°,λ81.00000°.*
*JMA **28** 14:51:52.8±0.3,40.°9N±0.°4×142.°7E±0.°7,h18km±3km, MV3.9/39,E OFF AOMORI PREF*
*IDC **28** 14:51:55.5±1.7,40.°93N×142.°71E,h53km±14km,mb3.5/15, mbtmp3.7/20,ML3.4/5,Error ellipse: s-maj=19.9km s-min=9.2km az=102.0*
ISC 28 14:51:54.5±1.3,40.°90N±0.°04×142.°76E±0.°06,h44km±12km, n46,σ1§03/48,mb3.6/16,13D,Near east coast of eastern Honshu

| Code | Station Name | Δ° | AZ° | Phase

JTM			⇓*eS*		**Sn**	14 52 31.7	-0.3
JOT	**Ohata**	**1.38 291**	⇓*iP*		**Pn**	14 52 16.4	-0.8
JNBK	**Urakawa-nobuka**	**1.38 360**	*eP*		**Pn**	14 52 17.4	+0.2
JKB	**Kayabe**	**1.63 308**	⇓*iP*		**Pn**	14 52 19.9	-0.7
JAH	**Hinai**	**1.77 247**	⇓*iP*		**Pn**	14 52 23.2	+0.7
JAH			⇓*eS*		**Sn**	14 52 44.9	+1.1
JCH	**Churui**	**1.77 15**	P		**Pn**	14 52 22.5	-0.1
JCH			*eS*		**Sn**	14 52 44.0	+0.1
JSI2	**Shiura 2**	**1.78 276**	A		A	14 52 22.9	
	comp=N,2.0nm,0.9s,comp=E,2.0nm,0.9s						
JOM	**Ohasama**	**1.81 219**	P		**Pn**	14 52 23.8	+0.6
JSR	**Shiriuchi**	**1.87 290**	*iP*		**Pn**	14 52 24.2	+0.3
JSR			*eS*		**Sn**	14 52 47.0	+0.6
JBT2	**Biratori 2**	**1.90 351**	P		**Pn**	14 52 25.2	+0.8
JNB	**Noboribetsu**	**2.03 321**	*i* P		**Pn**	14 52 25.4	-0.7
JOMM	**Oshimamatsumae**	**2.17 288**	P		**Pn**	14 52 27.7	-0.3
JEW	**Eniwo**	**2.17 334**	⇓*iP*		**Pn**	14 52 28.8	+0.7
JEW			⇓*eS*		**Sn**	14 52 55.2	+1.5
ASAJ	**Asahikawa**	**3.21 358**	P		**Pn**	14 52 43.3	+0.9
	comp=E,6.2nm,0.3s,baz=204,slow=13,SNR=97						
ASAJ			S		**Sn**	14 53 20.1	+0.6
	comp=E,34nm,0.5s,baz=109,slow=32,SNR=7.6						
	comp=E,17nm,0.3s						
MJAR	**Matsushiro Arr**	**5.62 221**	P		**Pn**	14 53 18.2	+2.6
	comp=E,0.2nm,0.3s,baz=28,slow=12,SNR=13						
MJAR			S		**Sn**	14 54 20.9	+2.1
	comp=E,0.7nm,0.4s,baz=4.9,slow=16,SNR=0.7						
	comp=E,1.8nm,0.4s						
JHJ	**Hachijo jima 2**	**8.12 198**	P		**Pn**	14 53 50.1	+0.3
	comp=E,3.2nm,0.3s,baz=70,slow=19,SNR=1.7						
JHJ			S		**Sn**	14 55 16.8	-3.5
	comp=E,64nm,1.0s,baz=64,slow=21,SNR=2.1						
	comp=E,52nm,0.9s						
USRK	**Ussuriysk Ar.**	**8.60 296**	P		**Pn**	14 53 55.1	-1.2
	comp=E,0.3nm,0.3s,baz=100,slow=15,SNR=5.6						
	comp=E,2.3nm,0.6s						
KSRS	**Korea Array**	**12.02 258**	P		**Pn**	14 54 44.5	+1.5
	comp=E,0.2nm,0.3s,baz=63,slow=14,SNR=6.1						
	comp=E,0.5nm,0.6s						
SONM	**Songino Array**	**26.71 297**	P		**P**	14 57 29.2	-0.5
	comp=E,0.7nm,0.6s,baz=86,slow=8.2,SNR=5.3						
	comp=E,0.7nm,0.6s						
H11N2	**WAKE ISLAND Hy 29.48 128**		T		T	15 29 07.4	
	baz=319,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy 29.50 129**		T		T	15 29 14.8	
	baz=319,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy 29.50 128**		T		T	15 29 09.0	
	baz=319,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy 30.32 130**		T		T	15 30 41.4	
	baz=323,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy 30.33 130**		T		T	15 30 43.9	
	baz=323,slow=76,SNR=9.2						
H11S2	**WAKE ISLAND Hy 30.34 130**		T		T	15 30 38.2	
	baz=323,slow=76,SNR=7.3						
ZALV	**Zalesovo Beam**	**40.19 309**	P		**P**	14 59 26.2	0.0
	comp=E,1.8nm,0.4s,baz=108,slow=7.5,SNR=7.6						
	comp=E,1.8nm,0.4s						
MKAR	**Makanchi Array**	**43.06 299**	P		**P**	14 59 50.0	+0.2
	comp=E,0.8nm,0.5s,baz=86,slow=10.0,SNR=10						
	comp=E,0.8nm,0.5s						
JAY	**Jayapura**	**43.25 183**	P		**P**	14 59 50.9	-0.8
	comp=E,8.3nm,1.0s,baz=352,slow=19,SNR=2.6						
	comp=E,8.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**43.58 252**	P		**P**	14 59 54.4	+0.1
	comp=E,0.3nm,0.4s,baz=68,slow=8.8,SNR=1.3						
	comp=E,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**44.54 305**	P		**P**	15 00 01.4	-0.2
	comp=E,2.1nm,0.4s,baz=78,slow=8.9,SNR=14						
	comp=E,2.1nm,0.4s						
ILAR	**Eielson Array**	**45.69 34**	P		**P**	15 00 11.6	+0.9
	comp=E,0.2nm,0.6s,baz=266,slow=6.7,SNR=4.5						
	comp=E,0.2nm,0.6s						
BVAR	**Borovoye Array**	**48.81 310**	P		**P**	15 00 34.6	-0.4
	comp=E,0.4nm,0.4s,baz=62,slow=7.4,SNR=4.0						
	comp=E,0.4nm,0.4s						
WRA	**Warramunga Arr**	**61.04 189**	P		**P**	15 02 02.8	-0.8
	comp=E,0.3nm,0.7s,baz=6.2,slow=6.9,SNR=7.7						
	comp=E,0.3nm,0.7s						
ASAR	**Alice Springs**	**64.76 189**	P		**P**	15 02 28.7	+0.4
	comp=E,0.2nm,0.7s,baz=0.5,slow=6.4,SNR=5.6						
	comp=E,0.2nm,0.7s						
FINES	**FINESS Array B**	**65.89 332**	P		**P**	15 02 34.7	-0.5
	comp=E,20nm,1.4s,baz=55,slow=7.7,SNR=11						
HFS	**Hagfors**	**71.00 336**	P		**P**	15 03 06.7	-0.4
	comp=E,0.8nm,0.3s,baz=43,slow=5.4,SNR=11						
	comp=E,0.8nm,0.3s						
NOA	**NORSAR Array B**	**71.03 337**	P		**P**	15 03 07.2	-0.2
	comp=E,0.3nm,0.5s,baz=38,slow=5.1,SNR=2.7						
	comp=E,0.3nm,0.5s						
AKASG	**Malin Array Be**	**71.88 322**	P		**P**	15 03 12.6	-0.1
	comp=E,0.4nm,0.5s,baz=56,slow=13,SNR=1.4						
	comp=E,0.4nm,0.5s						
PDAR	**Pinedale Array**	**74.23 47**	P		**P**	15 03 28.0	+0.9
	comp=E,0.1nm,0.3s,baz=298,slow=11,SNR=1.3						
	comp=E,0.1nm,0.3s						
GERES	**GERESS Array B**	**79.97 329**	P		**P**	15 03 58.3	-0.6
	comp=E,0.2nm,0.5s,baz=30,slow=6.6,SNR=2.3						
	comp=E,0.2nm,0.5s						
SNAA	**Sanae**	**144.75 198**	PKP		**PKPab**	15 11 24.7	+0.5
	comp=E,0.7nm,0.8s,baz=205,slow=9.0,SNR=5.2						

IDC ***28*** *15:00:08.8±1.4,3˚82N×125˚66E,h0km,mb3.3/5, mbtmp3.4/5,Error ellipse: s-maj=109.8km s-min=20.6km az=69.0*

DJA ***28*** *15:00:21.0±0.4,4˚N×4˚×12˚6E±˚,h51km±7km,M4.2/14, mB4.9/3,mb4.3/10,MLv4.2/14,Mw(mB)4.2/3*

ISC 28 15:00:14.3±1.3,4˚1N±0˚1×126˚41E±0˚09,h45km,n13, σ1°32/15,mb3.4/5,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.99**	**243**	P		**Pn**	**15 00 33.8**	**+2.0**
SGSI				S		**Sn**	**15 00 44.6**	**0.0**
TNTI	**Ternate**	**3.47**	**164**	P		**Pn**	**15 01 08.8**	**+3.0**
TNTI				S		**Sn**	**15 01 46.0**	**+0.3**
MRSI	**Marisa**	**5.76**	**231**	P		**Pn**	**15 01 37.3**	**+0.1**
SANI	**Sanana**	**6.16**	**184**	P		**Pn**	**15 01 42.8**	**+0.1**
	0.2nm27nm,0.7s							
LUWI	**Luwuk**	**6.30**	**215**	P		**Pn**	**15 01 45.8**	**+1.1**
	0.2nm639nm48nm,0.5s							
APSI	**Ampana**	**6.91**	**224**	P		**Pn**	**15 01 54.4**	**+1.3**
	0.2nm35nm,0.9s							
SWI	**Sorong**	**6.93**	**136**	P		Pn	15 02 00.0	+6.6
	0.1nm20nm,0.7s							
NLAI	**Namlea**	**7.35**	**175**	P		**Pn**	**15 01 59.2**	**0.0**
	972nm26nm,1.1s							
FITZ	**Fitzroy Crossi**	**22.10**	**182**	P		**P**	**15 05 04.0**	**-2.0**
	0.5nm,0.4s,baz=358,slow=9.1,SNR=10							
	0.5nm,0.4s							
WRA	**Warramunga Arr**	**25.16**	**162**	P		**P**	**15 05 35.0**	**-0.6**
	0.4nm,0.3s,baz=336,slow=11,SNR=19							
	0.4nm,0.3s							
ASAR	**Alice Springs**	**28.58**	**166**	P		**P**	**15 06 05.6**	**-0.7**
	0.2nm,0.8s,baz=339,slow=7.2,SNR=8.5							
ASAR				PcP		**PcP**	**15 09 17.0**	**+0.1**
	0.1nm,0.5s,baz=346,slow=2.6,SNR=1.7							
	0.2nm,0.8s							
MKAR	**Makanchi Array**	**57.05**	**325**	P		**P**	**15 09 56.1**	**+0.2**
	0.2nm,0.4s,baz=118,slow=7.5,SNR=5.2							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**61.23**	**327**	P		**P**	**15 10 24.2**	**-0.5**
	0.2nm,0.5s,baz=124,slow=6.2,SNR=1.7							
	0.2nm,0.5s							

SJA ***28*** *15:01:30.1±0.7,22˚45S×68˚51W,h122km±3km,ML3.6, MW3.6*

GUC ***28*** *15:01:31.9±0.8,22˚45S×68˚52W,h117km±3km,ML3.4*

ISC 28 15:01:31.8±1.3,22˚46S±0˚03×68˚56W±0˚04,h119km±8km, n39,σ1°42/63,8C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.60**	**144**	*eP*		**Pn**	**15 01 50.4**	**-0.3**
AF01				*eS*		**Sn**	**15 02 04.2**	**-0.7**
AF01				IAML			15 02 13.3	
AF01	**San Pedro de A**	**0.60**	**144**	*eP*		**Pn**	**15 01 50.0**	**-0.7**
AF01				*eS*		**Sn**	**15 02 04.3**	**-0.5**
AF01				IAML			15 02 22.3	
	comp=Z,2μm,0.5s							
PB09	**IPOC Station P**	**0.92**	**316**	⇑*iP*		**Pn**	**15 01 53.4**	**+0.2**
PB09				*eS*		**Sn**	**15 02 09.1**	**-0.2**
PB09				IAML			15 02 10.8	
	comp=E,2μm,0.8s							
PB09	**IPOC Station P**	**0.92**	**316**	*eP*		**Pn**	**15 01 53.3**	**+0.2**
PB09				*eS*		**Sn**	**15 02 09.9**	**+0.6**
PB09				IAML			15 02 10.3	
	comp=Z,1μm,0.9s							
PB06	**IPOC Station P**	**0.97**	**255**	⇑*iP*		**Pn**	**15 01 53.5**	**0.0**
PB06				*eS*		**Sn**	**15 02 10.5**	**+0.5**
PB06				IAML			15 02 13.8	
	comp=N,1μm,0.2s							
PB06	**IPOC Station P**	**0.97**	**255**	*eP*		**Pn**	**15 01 53.6**	**0.0**
PB06				*eS*		**Sn**	**15 02 09.9**	**-0.1**
PB06				IAML			15 02 13.5	
	comp=Z,788nm,0.2s							
PB03	**IPOC Station P**	**1.18**	**290**	⇑*iP*		**Pn**	**15 01 55.7**	**-0.1**
PB03				*eS*		**Sn**	**15 02 13.8**	**-0.1**
PB03	**IPOC Station P**	**1.18**	**290**	*eP*		**Pn**	**15 01 55.7**	**-0.1**
PB03				*eS*		**Sn**	**15 02 13.9**	**0.0**
PB03				IAML			15 02 15.2	
	comp=Z,2μm,0.3s							
PB05	**IPOC Station P**	**1.57**	**255**	*eP*		**Pn**	**15 01 60.0**	**-0.1**
PB05				*eS*		**Sn**	**15 02 21.8**	**+0.2**
PB05				IAML			15 02 30.0	
	comp=E,228nm,0.5s							
PB05	**IPOC Station P**	**1.57**	**255**	*eP*		**Pn**	**15 02 00.1**	**0.0**
PB05				*eS*		**Sn**	**15 02 22.3**	**+0.7**
PB01	**IPOC Station P**	**1.66**	**328**	⇑*iP*		**Pn**	**15 02 01.0**	**-0.1**
PB01				*eS*		**Sn**	**15 02 23.1**	**-0.3**
PB01				IAML			15 02 26.0	
	comp=N,590nm,0.4s							
PB01	**IPOC Station P**	**1.66**	**328**	*eP*		**Pn**	**15 02 00.3**	**-0.8**
PB01				*eS*		**Sn**	**15 02 23.5**	**+0.1**
PB01				IAML			15 02 26.1	
	comp=Z,508nm,0.2s							
PB02	**IPOC Station P**	**1.68**	**312**	⇑*iP*		**Pn**	**15 02 01.4**	**0.0**
PB02				*eS*		**Sn**	**15 02 23.4**	**-0.6**
PB02	**IPOC Station P**	**1.68**	**312**	*eP*		**Pn**	**15 02 01.5**	**0.0**
PB02				*eS*		**Sn**	**15 02 23.8**	**-0.2**
PB02				IAML			15 02 27.1	
	comp=Z,930nm,0.2s							
PB10	**IPOC Station P**	**2.11**	**240**	*eP*		**Pn**	**15 02 06.7**	**+0.1**
PB10				*eS*		**Sn**	**15 02 38.5**	**+5.2**
PATCX	**Punta Patache**	**2.21**	**318**	*eP*		**Pn**	**15 02 07.4**	**-0.5**
PATCX	**Punta Patache**	**2.21**	**318**	*eP*		**Pn**	**15 02 07.4**	**-0.5**
PATCX				*eS*		**Sn**	**15 02 34.7**	**-0.8**
PATCX				IAML			15 02 42.8	
	comp=Z,234nm,0.5s							
PB08	**IPOC Station P**	**2.38**	**346**	⇑*iP*		**Pn**	**15 02 11.0**	**+0.6**
PB08	**IPOC Station P**	**2.38**	**346**	*eP*		**Pn**	**15 02 09.9**	**-0.5**
PB08				*eS*		**Sn**	**15 02 43.6**	**+3.8**
TA01	**Diego Aracena**	**2.42**	**321**	*eP*		**Pn**	**15 02 09.4**	**-1.1**
TA01				*eS*		**Sn**	**15 02 39.9**	**-0.3**
TA01	**Diego Aracena**	**2.42**	**321**	*eP*		**Pn**	**15 02 09.9**	**-0.6**
TA01				*eS*		**Sn**	**15 02 44.5**	**+4.4**
TA01				IAML			15 02 47.4	
	comp=Z,133nm,0.4s							
HMBC	**Humberstone**	**2.50**	**330**	⇑*iP*		**Pn**	**15 02 10.6**	**-1.1**
HMBC				*eS*		**Sn**	**15 02 40.1**	**-2.2**
HMBC	**Humberstone**	**2.50**	**330**	*eP*		**Pn**	**15 02 10.6**	**-1.1**
HMBC				*eS*		**Sn**	**15 02 42.1**	**-0.3**
HMBC				IAML			15 02 47.6	
	comp=Z,260nm,0.4s							
TA02	**Huaiquique**	**2.63**	**326**	*eP*		**Pn**	**15 02 12.1**	**-1.2**
TA02				IAML			15 02 55.3	
	comp=Z,128nm,0.5s							
SALTA		**2.69**	**131**	*eP*		**Pn**	**15 02 15.6**	**+1.2**
SALTA		**2.69**	**131**	*eP*		**Pn**	**15 02 15.3**	**+0.9**
SALTA				*eP*			15 02 16.0	
SALTA				*eP*			15 02 16.1	
SALTA				*eP*			15 02 16.3	
YJA	**Yavi**	**2.83**	**85**	*eP*		**Pn**	**15 02 14.5**	**-1.8**
GO01	**Chusmiza**	**2.84**	**348**	*eP*		**Pn**	**15 02 16.6**	**+0.1**
GO01	**Chusmiza**	**2.84**	**348**	*eP*		**Pn**	**15 02 16.8**	**+0.3**
GO02	**Mina Guanaco**	**2.85**	**199**	⇑*iP*		**Pn**	**15 02 16.2**	**-0.1**
GO02	**Mina Guanaco**	**2.85**	**199**	*eP*		**Pn**	**15 02 16.2**	**-0.1**
GO02				*eS*		**Sn**	**15 02 51.1**	**+0.5**
PB11	**IPOC Station P**	**2.88**	**339**	*eP*		**Pn**	**15 02 15.8**	**-0.8**
PB11	**IPOC Station P**	**2.88**	**339**	*eP*		**Pn**	**15 02 16.3**	**-0.3**
PB11				IAML			15 02 54.4	
	comp=Z,89nm,0.6s							
SLA	**San Lorenzo**	**3.59**	**129**	*eP*		Pn	15 02 13.7	-12
AZAP	**Zapla**	**3.66**	**119**	*eP*		**Pn**	**15 02 28.3**	**+1.4**
AC01	**Pan de Azucar**	**4.11**	**206**	*eP*		**Pn**	**15 02 31.1**	**-1.7**
AC01				*eS*		**Sn**	**15 03 17.5**	**-2.7**
AC01				IAML			15 03 17.8	
	comp=Z,80nm,0.1s							
PB16	**IPOC Station P**	**4.20**	**348**	*eP*		**Pn**	**15 02 34.5**	**-0.1**
AC02	**Maricunga**	**4.38**	**187**	*eP*		**Pn**	**15 02 36.8**	**-0.1**
AC02				*eS*		**Sn**	**15 03 30.9**	**+3.5**
AC02				IAML			15 03 35.4	
	comp=Z,42nm,0.2s							
GO03	**Copiapo**	**5.33**	**196**	*eP*		**Pn**	**15 02 47.3**	**-1.9**
GO03				*eS*		**Sn**	**15 03 46.8**	**-2.7**

NEIC ***28*** *15:02:20.1±0.8,36˚002N±0˚006×117˚43W±0˚01, h5km±1km,Error ellipse: s-maj=2.3km s-min=1.4km az=293.0*

PAS 28 15:02:20.3±0.5,35˚997N±0˚007×117˚41W±0˚01, h-0km±1km,ML3.5/142,ML3.2/180(NEIC),Error ellipse: s-maj=1.5km s-min=0.6km az=55.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.09**	**313**			Pg	15 02 22.1	+0.2
MPMC				IAML			15 02 24.9	
	comp=E,13μm,0.3s							
CLC	**China Lake**	**0.24**	**220**			Pg	15 02 25.2	+0.4
CLC				IAML			15 02 28.9	
	comp=E,5μm,0.5s							
CLC				IAML			15 02 29.0	
	comp=N,6μm,0.5s							
WCSM	**Coso Springs S**	**0.29**	**276**			Pg	15 02 26.3	+0.5
WCSM						Sg	15 02 30.6	+1.0
JRC2	**Joshua Ridge**	**0.33**	**268**			Pn	15 02 31.9	-0.5
WVPM	**Volcano Peak E**	**0.34**	**262**			Pg	15 02 27.2	+0.6
WVPM						Sg	15 02 32.3	+1.3
TOW	**Tower One**	**0.34**	**237**			Pg	15 02 27.8	+1.0
TOW						Sg	15 02 33.6	-1.7
MFS	**McCloud Flat S**	**0.38**	**288**			Pg	15 02 28.0	+0.4
MFS						Sg	15 02 33.5	+1.0
WRVM	**Rose V. Centra**	**0.39**	**272**			Pg	15 02 28.2	+0.4
WRVM						Sg	15 02 33.7	+0.9
WSHM	**Spangler Hills**	**0.40**	**190**			Pg	15 02 28.3	+0.3
WSHM				IAML			15 02 36.7	
	comp=N,2μm,0.2s							
SRTC	**Snort**	**0.41**	**222**			Pg	15 02 28.9	+0.8
SRTC						Sb	15 02 35.7	-1.5
WNMM	**Nine Mile Cany**	**0.43**	**249**			Sg	15 02 35.3	+1.1
QSM	**Queen of Sheba**	**0.44**	**94**			Pg	15 02 29.0	+0.3
QSM				IAML			15 02 36.6	
	comp=E,3μm,0.3s							
QSM	**Queen of Sheba**	**0.44**	**94**			Sg	15 02 35.1	+0.7
CCCA	**Chr Cany lake**	**0.47**	**176**			Pg	15 02 30.0	+0.7
CCCA				IAML			15 02 39.7	
	comp=E,2μm,0.3s							
CCCA	**Chr Cany lake**	**0.47**	**176**			Sb	15 02 37.5	-1.6
LRMC	**Laurel Mtn Rad**	**0.56**	**203**			Sg	15 02 38.9	+0.6
LRMC	**Laurel Mtn Rad**	**0.56**	**203**			Pg	15 02 31.3	+0.2
LRMC				IAML			15 02 40.0	
	comp=E,2μm,0.2s							
LRMC				IAML			15 02 40.2	
	comp=N,2μm,0.2s							
GWY	**Greenwater Val**	**0.63**	**72**			Pg	15 02 32.7	+0.4
GWY				IAML			15 02 42.5	
	comp=N,1μm,0.3s							
GWY				IAML			15 02 46.0	
	comp=E,2μm,0.4s							
GWY	**Greenwater Val**	**0.63**	**72**			Sg	15 02 41.5	+1.0
CGO	**Cerro Gordo**	**0.64**	**330**			Pg	15 02 32.5	0.0
CGO						Sg	15 02 41.2	+0.4
FURC	**Furnace Creek,**	**0.64**	**43**			Pg	15 02 33.1	+0.4
FURC				IAML			15 02 43.3	
	comp=E,2μm,0.6s							
FURC				IAML			15 02 47.6	
	comp=N,2μm,0.7s							
FURC	**Furnace Creek,**	**0.64**	**43**			Sg	15 02 42.2	+1.2
CWC	**Cottonwood Cre**	**0.70**	**309**			Sg	15 02 43.6	+0.9
CWC	**Cottonwood Cre**	**0.70**	**309**			Pg	15 02 33.9	+0.2
CWC				IAML			15 02 43.9	
	comp=N,710nm,0.4s							
WORM	**Onyx Ranch**	**0.74**	**246**			Pg	15 02 34.6	+0.1
WORM						Sg	15 02 44.5	+0.4
DTP	**Desert Tortois**	**0.81**	**206**			Pg	15 02 35.7	-0.1
DTP						Sg	15 02 46.9	+0.6
WHFM	**Hanning Flat**	**0.82**	**249**			Pg	15 02 36.1	+0.1
WHFM						Sg	15 02 47.1	+0.5
GSC	**Goldstone, Bar**	**0.85**	**145**			Pg	15 02 36.6	0.0
SHOC	**Shoshone, Teco**	**0.93**	**96**			Pg	15 02 38.0	0.0
SHOC	**Shoshone, Teco**	**0.93**	**96**			Sg	15 02 50.6	+0.6
ISA	**Isabella, Lake**	**0.93**	**249**			Pg	15 02 38.1	+0.1
ISA				IAML			15 02 54.5	
	comp=E,813nm,0.6s							
ISA				IAML			15 02 54.5	
	comp=N,670nm,0.7s							
ISA	**Isabella, Lake**	**0.93**	**249**			Sg	15 02 50.1	+0.1
WASM	**Alta Sierra Ca**	**0.97**	**255**			Pg	15 02 38.9	+0.1
WASM						Sg	15 02 51.6	+0.2
CCAC	**Calif City Air**	**0.98**	**211**			Pg	15 02 38.9	-0.1
CCAC						Sb	15 02 53.0	-0.6
GRAC	**Grapevine Rang**	**1.00**	**2**			Pg	15 02 39.2	-0.2
GRAC				IAML			15 02 57.0	
	comp=E,1μm,0.6s							
GRAC				IAML			15 03 00.7	
	comp=N,930nm,0.8s							
GRAC	**Grapevine Rang**	**1.00**	**2**			Sb	15 02 53.5	-0.7
WCT	**Wildcat Mounta**	**1.01**	**38**			Pg	15 02 39.4	-0.3
WCT				IAML			15 02 54.6	
	comp=E,559nm,0.4s							
WCT	**Wildcat Mounta**	**1.01**	**38**			Sg	15 02 52.9	0.0
AMDNV	**Amargosa**	**1.02**	**63**			Sg	15 02 52.9	-0.2
SGV	**South Grapevin**	**1.03**	**17**			Pg	15 02 39.9	-0.1
SGV						Sg	15 02 53.5	+0.2
SPG2	**Springville 2**	**1.12**	**281**			Pg	15 02 41.2	-0.5
TIN	**Tinemaha, Big**	**1.25**	**328**	Pg		Pg	15 02 44.0	-0.1
TPO	**Tropico Hills**	**1.30**	**211**			Pg	15 02 44.6	-0.6
TPO				IAML			15 03 12.7	
	comp=N,637nm,0.7s							
GMN	**Gold Mountain**	**1.31**	**5**			Pg	15 02 44.9	-0.5
GMN				IAML			15 03 08.1	
	comp=N,327nm,0.5s							
TPNV	**Topopah Spring**	**1.33**	**44**			Pg	15 02 45.4	-0.4
TPNV				IAML			15 03 05.1	
	comp=N,606nm,0.6s							
TPNV				IAML			15 03 05.2	
	comp=N,608nm,0.8s							
VES	**Vestal, Richgr**	**1.37**	**264**	Pg		Pg	15 02 46.1	-0.4
VES				IAML			15 03 13.1	
	comp=E,522nm,0.7s							
VES				IAML			15 03 13.1	
	comp=N,607nm,0.8s							
DSP	**Deep Springs**	**1.44**	**342**			Pn	15 02 47.0	-0.6
MTPC	**Mountain Pass**	**1.59**	**108**			Pn	15 02 48.6	-1.3
MTPC				IAML			15 03 13.4	
	comp=E,474nm,0.2s							
MTPC				IAML			15 03 14.8	
	comp=N,368nm,0.5s							
MZP	**Montezuma Peak**	**1.70**	**1**			Pn	15 02 51.0	-0.5
OSI	**Osito Audit: C**	**1.75**	**218**	IAML			15 03 21.3	
	comp=N,294nm,1.0s							
OSI				IAML			15 03 23.0	
	comp=E,301nm,0.8s							
BFSC	**Mount Baldy Ra**	**1.77**	**187**			Pn	15 02 51.3	-0.9
MWC	**Mount Wilson**	**1.85**	**197**			Pn	15 02 52.5	-0.9
MWC				IAML			15 03 23.3	
	comp=N,201nm,0.7s							
MWC				IAML			15 03 27.8	
	comp=E,195nm,0.7s							
SHPR	**Sheep Range**	**1.89**	**74**			Pn	15 02 53.2	-0.7
GTM	**Goat Mountain**	**1.91**	**153**			Pb	15 02 55.6	-0.3
PASC	**Pasadena Art C**	**1.93**	**199**	IAML			15 03 27.1	
	comp=E,126nm,0.8s							
PASC				IAML			15 03 29.2	
	comp=N,130nm,0.9s							
V12A	**Nelson**	**2.10**	**97**	IAML			15 03 32.5	
	comp=N,109nm,0.7s							
V12A				IAML			15 03 35.9	
	comp=E,176nm,0.6s							
BELC	**Belle Mtn. Jos**	**2.30**	**149**	IAML			15 03 42.4	
	comp=N,174nm,0.7s							
PRN	**Pahroc Range**	**2.36**	**53**	IAML			15 03 46.4	
	comp=E,164nm,1.0s							
PRN				IAML			15 03 53.9	
	comp=N,131nm,0.7s							
LHV	**Little Huntoon**	**2.41**	**339**	IAML			15 03 41.1	
	comp=N,106nm,0.6s							
LHV				IAML			15 03 42.7	
	comp=E,88nm,1.1s							
IRM	**Iron Mountain**	**2.61**	**134**	IAML			15 03 45.5	
	comp=N,83nm,0.5s							
IRM				IAML			15 03 52.9	
	comp=E,109nm,0.5s							
PMPB	**Monarch Peak**	**2.76**	**276**	IAML			15 03 58.1	
	comp=E,136nm,0.9s							
PMPB				IAML			15 04 03.2	
	comp=N,142nm,1.0s							
R11B	**Troy Canyon, C**	**2.76**	**31**	IAML			15 03 48.8	
	comp=E,60nm,0.7s							
BC3	**Big Ch

MD4.0/25,MV3.9/25,NW OFF OKINAWAJIMA IS
JMA Felt I J1 at NW OFF OKINAWAJIMA IS .
ISC 28 15:05:07.6±1.6,28°.01N±0°.04×128°.23E±0°.05,h14km±10km,
n46,σ1§44/40,mb3.5/8,MS3.4/11,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.68**	**109**	*i* P	**Pg**	**15 05 20.5**	**-0.4**
JTK				S	**Sg**	**15 05 30.4**	**+0.6**
JTK	**Tokunoshima**	**0.68**	**109**	A	A	15 05 20.5	
	comp=N,26nm,0.6s,comp=E,25nm,0.5s						
JOKE	**Okinoerabujima**	**0.72**	**155**	*i* P	**Pg**	**15 05 21.5**	**-0.1**
JOKE				*e*S	**Sb**	**15 05 32.1**	**+0.5**
JOKE	**Okinoerabujima**	**0.72**	**155**	A	A	15 05 21.5	
	comp=N,4.0nm,1.0s,comp=E,6.0nm,0.2s						
JAMN	**Amaminishikomi**	**0.87**	**74**	P	**Pb**	**15 05 23.1**	**-1.4**
JAMN				S	**Sb**	**15 05 35.0**	**-0.9**
JAMN	**Amaminishikomi**	**0.87**	**74**	A	A	15 05 23.1	
	comp=N,7.0nm,2.2s,comp=E,7.0nm,0.2s						
JIH	**Iheya**	**1.00**	**194**	*i* P	**Pb**	**15 05 26.4**	**-0.4**
JIH				S	**Sn**	**15 05 40.9**	**-0.3**
JYRO	**Yoronjima**	**1.00**	**169**	P	**Pb**	**15 05 26.5**	**-0.3**
JYRO				S	**Sb**	**15 05 40.2**	**+0.3**
JOW	**Kunigami**	**1.18**	**178**	Pn	**Pn**	**15 05 29.2**	**-0.5**
	comp=E,144nm,0.3s,baz=69,slow=16,SNR=534						
JOW				Sn	**Sb**	**15 05 45.1**	**+0.2**
	comp=E,248nm,0.3s,baz=148,slow=29,SNR=15						
JOW	**Kunigami**	**1.18**	**178**	*i* P	**Pn**	**15 05 29.2**	**-0.5**
JOW				S	**Sn**	**15 05 45.6**	**+0.1**
JAM	**Amami Oshima**	**1.28**	**72**	*i* P	**Pn**	**15 05 30.0**	**-1.1**
JAM				S	**Sb**	**15 05 47.2**	**-0.5**
JAM	**Amami Oshima**	**1.28**	**72**	A	A	15 05 30.0	
	comp=N,5.0nm,2.3s,comp=E,3.0nm,1.4s						
JTAJ	**Takarajima**	**1.42**	**37**	P	**Pn**	**15 05 31.3**	**-1.7**
JNTH	**Nagotoyohara**	**1.50**	**187**	P	**Pn**	**15 05 34.3**	**+0.2**
JNTH				*e*S	**Sb**	**15 05 53.8**	**-0.4**
JZK	**Kikaishima**	**1.57**	**79**	*e*P	**Pn**	**15 05 36.0**	**+1.0**
JZK	**Kikaishima**	**1.57**	**79**	A	A	15 05 36.0	
	comp=N,20nm,2.0s,comp=E,16nm,1.3s						
JAGN	**Aguni-jima**	**1.67**	**212**	P	**Pn**	**15 05 36.2**	**-0.2**
JJT3	**Tamagusuku3**	**1.90**	**192**	P	**Pn**	**15 05 41.0**	**+1.3**
JJT3	**Tamagusuku3**	**1.90**	**192**	A	A	15 05 41.0	
	comp=N,5.0nm,1.4s,comp=E,6.0nm,3.2s						
JKE	**Kume jima 2**	**2.12**	**218**	*e*P	**Pn**	**15 05 42.4**	**-0.2**
JNN	**Nakanoshima**	**2.32**	**38**	*e*P	**Pn**	**15 05 45.4**	**-0.1**
JMTN	**Minamitane**	**3.33**	**44**	*e*P	**Pn**	**15 05 59.4**	**0.0**
JKDJ	**Kitadaitoujima**	**3.42**	**126**	P	**Pn**	**15 06 00.5**	**-0.1**
JKDJ				*e*S	**Sn**	**15 06 41.9**	**+0.9**
JMZ	**Minamidaito 2**	**3.45**	**129**	P	**Pn**	**15 06 00.6**	**-0.4**
JTN	**Tanegashima 3**	**3.56**	**42**	P	**Pn**	**15 06 03.0**	**+0.5**
JNU	**Nakatsue**	**5.58**	**24**	Pn	**Pn**	**15 06 34.6**	**+4.3**
	comp=E,3.8nm,0.3s,baz=190,slow=5.8,SNR=46						
JNU				LR	LR	15 08 34.3	
	comp=E,100nm,21.5s,baz=201,slow=35 comp=E,85nm,0.8s						
KSRS	**Korea Array**	**9.42**	**359**	Pn	**Pn**	**15 07 24.4**	**+1.5**
	comp=E,0.1nm,0.3s,baz=177,slow=14,SNR=1.4 comp=E,0.2nm,0.3s						
JHJ	**Hachijo jima 2**	**11.18**	**60**	LR	LR	15 12 00.2	
	comp=E,84nm,21.1s,baz=260,slow=36						
MJAR	**Matsushiro Arr**	**11.98**	**42**	Pn	**Pn**	**15 08 01.8**	**+3.8**
	baz=241,slow=13,SNR=6.1						
MJAR				LR	LR	15 13 24.0	
	comp=E,86nm,18.0s,baz=203,slow=40 comp=E,1.1nm,0.7s						
ASAJ	**Asahikawa**	**19.78**	**32**	LR	LR	15 18 29.1	
	comp=E,56nm,18.4s,baz=209,slow=40						
GUMO	**Guam**	**21.13**	**129**	LR	LR	15 16 40.6	
	comp=E,90nm,19.5s,baz=326,slow=32						
SONM	**Songino Array**	**26.08**	**325**	P	**P**	**15 10 40.3**	**-0.6**
	comp=E,1.1nm,0.6s,baz=134,slow=11,SNR=6.3						
SONM				LR	LR	15 21 52.3	
	comp=E,70nm,18.5s,baz=116,slow=39 comp=E,1.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**28.48**	**257**	LR	LR	15 23 30.4	
	comp=E,45nm,18.2s,baz=225,slow=39						
PETK	**Petropavlovsk-**	**33.19**	**33**	LR	LR	15 25 28.9	
	comp=E,36nm,18.0s,baz=231,slow=36						
MKAR	**Makanchi Array**	**40.37**	**310**	P	**P**	**15 12 42.5**	**-2.5**
	comp=E,0.6nm,0.8s,baz=104,slow=8.9,SNR=4.2 comp=E,0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**43.58**	**315**	P	**P**	**15 13 10.0**	**-1.1**
	comp=E,0.4nm,0.7s,baz=99,slow=7.9,SNR=4.1						
KURBB				LR	LR	15 32 16.9	
	comp=E,52nm,18.0s,baz=169,slow=38 comp=E,0.4nm,0.7s						
TIXI	**Tiksi**	**43.68**	**0**	LR	LR	15 33 36.5	
	comp=E,27nm,18.1s,baz=192,slow=39						
FITZ	**Fitzroy Crossi**	**45.91**	**183**	P	**P**	**15 13 28.5**	**-1.4**
	comp=E,2.6nm,1.0s,baz=84,slow=9.7,SNR=3.6 comp=E,2.6nm,1.0s						
WRA	**Warramunga Ar**	**48.04**	**172**	P	**P**	**15 13 44.4**	**-2.2**
	comp=E,0.7nm,0.8s,baz=354,slow=8.1,SNR=8.1 comp=E,0.7nm,0.8s						
BVAR	**Borovoye Array**	**48.96**	**317**	P	**P**	**15 13 53.0**	**-0.4**
	comp=E,0.4nm,0.6s,baz=97,slow=9.4,SNR=4.6						
BVAR				LR	LR	15 36 22.8	
	comp=E,81nm,19.8s,baz=113,slow=38 comp=E,0.4nm,0.6s						
ASAR	**Alice Springs**	**51.67**	**173**	P	**P**	**15 14 14.0**	**-0.2**
	comp=E,0.4nm,0.8s,baz=2.5,slow=13,SNR=7.1 comp=E,0.4nm,0.8s						
ARTI	**Arti**	**56.10**	**321**	LR	LR	15 39 10.8	
	comp=E,31nm,18.4s,baz=133,slow=36						
KIRV	**Kirov**	**60.80**	**324**	LR	LR	15 44 03.3	
	comp=E,30nm,18.1s,baz=23,slow=38						
BELG	**Belogornoye**	**62.76**	**317**	LR	LR	15 44 54.9	
	comp=E,64nm,20.5s,baz=84,slow=38						
ILAR	**Eielson Array**	**62.88**	**29**	P	**P**	**15 15 36.2**	**+3.3**
	comp=E,0.1nm,0.6s,baz=287,slow=8.5,SNR=7.0 comp=E,0.1nm,0.6s						
AKASG	**Malin Array Be**	**74.18**	**319**	LR	LR	15 51 46.1	
	comp=E,66nm,18.4s,baz=34,slow=38						

*UCR **28** 15:18:32.6±1.1,8°.40N×82°.83W,h28km±2km,MW3.5*
*UPA **28** 15:18:32.4±0.9,8°.46N×82°.85W,h7km±2km,MW3.0*
ISC 28 15:18:32.3±0.9,8°.43N±0°.03×82°.84W±0°.02,h17km±5km,
n38,σ0§95/55,1C-1D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LESP3	**La Esperanza,**	**0.06**	**112**	*e*P	**Pg**	**15 18 35.3**	**-0.2**
LESP3				*e*S	**Sg**	**15 18 36.1**	**-1.4**
LPPC	**Paso Canoas**	**0.11**	**1**	*e*P	**Pg**	**15 18 37.8**	**+1.9**
PTPM	**Petroterminale**	**0.22**	**190**	*e*P	**Pb**	**15 18 38.2**	**+0.2**
PTPM				*e*S	**Sb**	**15 18 42.6**	**+0.8**
PTPA	**Petro Terminal**	**0.23**	**187**	*e*P	**Pb**	**15 18 38.4**	**+0.4**
PTPA				*e*S	**Sb**	**15 18 44.0**	**+2.2**
NELY	**Ciudad Neily**	**0.24**	**335**	*e*P	**Pb**	**15 18 39.3**	**+0.9**
NELY				*e*S	**Sb**	**15 18 45.2**	**+2.8**
PRISO	**Paraso**	**0.34**	**47**	*e*P	**Pb**	**15 18 40.9**	**+0.8**
MLIR3	**Monte Lirio, C**	**0.36**	**3⇑**	*e*P	**Pb**	**15 18 41.8**	**+1.3**
MLIR3				*e*S	**Sb**	**15 18 45.6**	**-0.3**
DVD	**David**	**0.39**	**89**	*e*P	**Pb**	**15 18 41.0**	**+0.2**
DVD				*e*S	**Sb**	**15 18 47.2**	**+0.8**
CLLRA	**Cordillera,**	**0.39**	**35**	*e*P	**Pb**	**15 18 41.7**	**+0.8**
EDAD	**Golfito**	**0.39**	**305**	*e*P	**Pg**	**15 18 40.4**	**0.0**
EDAD				*e*S	**Sb**	**15 18 47.1**	**+0.4**
PEDE3	**Pedregal, Chir**	**0.42**	**96**	*e*P	**Pg**	**15 18 40.9**	**0.0**
PEDE3				*e*S	**Sb**	**15 18 48.2**	**+0.8**
BC3P	**Paso Ancho**	**0.45**	**31**	*e*P	**Pb**	**15 18 42.5**	**+0.5**
BC3P				*e*S	**Sb**	**15 18 49.2**	**+0.7**
PTJ1	**Puerto Jimnez**	**0.47**	**283**	*e*P	**Pg**	**15 18 41.7**	**-0.1**
PTJ1				*e*S	**Sb**	**15 18 49.0**	**+0.2**
BQTLY	**Boquete Panama**	**0.50**	**49**	*e*P	**Pb**	**15 18 43.1**	**+0.3**
CHIR3	**Chiriqui UPA,**	**0.51**	**93**	*e*P	**Pg**	**15 18 42.6**	**+0.1**
CHIR3				*e*S	**Sb**	**15 18 51.1**	**+1.1**
BQSF3	**Alto Boquete,**	**0.51**	**52**	*e*P	**Pb**	**15 18 43.0**	**0.0**
BQSF3				*e*S	**Sb**	**15 18 50.9**	**+0.7**
ALCO	**Alturas Coton,**	**0.52**	**1**	*e*P	**Pb**	**15 18 43.5**	**+0.3**
LNBQ3	**Los Naranjos,**	**0.54**	**48**	*e*P	**Pb**	**15 18 43.4**	**0.0**
LNBQ3				*e*S	**Sb**	**15 18 50.9**	**0.0**
PSOM3	**Paja de Sombre**	**0.57**	**63**	*e*P	**Pg**	**15 18 43.7**	**-0.1**
PSOM3				*e*S	**Sb**	**15 18 52.7**	**+0.7**
EDP2	**Potrero Grande**	**0.67**	**331**	*e*P	**Pb**	**15 18 45.9**	**+0.2**
FIMO	**Fila Mora**	**0.76**	**318**	*e*P	**Pb**	**15 18 46.9**	**-0.3**
FIMO				*e*S	**Sn**	**15 18 58.8**	**-0.8**
PBNVO	**Pueblo Nuevo,**	**0.79**	**54**	*e*P	**Pb**	**15 18 47.0**	**-0.7**
PANP	**Palmar Norte**	**0.81**	**311**	*e*P	**Pb**	**15 18 47.3**	**-0.7**
RBALA	**Bur**	**0.82**	**57**	*e*P	**Pb**	**15 18 47.6**	**-0.5**
DRK0	**Durika**	**0.92**	**334**	*e*P	**Pb**	**15 18 49.3**	**-0.7**
DRK0	**Durika**	**0.92**	**334**	*e*P	**Pb**	**15 18 49.4**	**-0.6**
DRK0				*e*S	**Sb**	**15 19 00.7**	**-1.4**
EDPE	**Pejibaye, P**	**1.02**	**315**	*e*P	**Pb**	**15 18 50.8**	**-0.9**
KKNTU	**Kakint²**	**1.10**	**68**	*e*P	**Pb**	**15 18 51.4**	**-1.7**
SAJE	**San Jernim**	**1.13**	**324**	*e*P	**Pb**	**15 18 52.1**	**-1.4**
CEUA	**Cerro Uatsi, L**	**1.19**	**355**	*e*P	**Pb**	**15 18 55.0**	**+0.4**
LAES	**El Progreso Va**	**1.34**	**351**	*e*P	**Pb**	**15 18 56.9**	**-0.2**
VERH	**Veragua Rainfo**	**1.53**	**347**	*e*P	**Pn**	**15 18 58.9**	**-0.1**
VTCV	**VTCV, Calle Va**	**1.78**	**331**	*e*P	**Pn**	**15 19 03.0**	**+0.5**
ABRB	**Las Abras (San**	**1.79**	**331**	*e*P	**Pn**	**15 19 03.2**	**+0.4**
PICV	**PH. Pirrs**	**1.79**	**312**	*e*P	**Pn**	**15 19 02.6**	**0.0**
CVTV	**Tajo**	**1.81**	**330**	*e*P	**Pn**	**15 19 03.4**	**+0.4**
PAR1A	**Puntarenas Pro**	**1.81**	**310**	*e*P	**Pn**	**15 19 02.8**	**-0.1**
AZU	**Azuero**	**2.62**	**104**	*e*Pn	**Pn**	**15 19 15.0**	**+1.1**
AZU				*e*Sn	**Sb**	**15 19 48.3**	**-2.5**

*IDC **28** 15:22:06.9±1.3,38°.02N×22°.59E,h0km,mb3.5/6,*
mbtmp3.5/8,ML3.3/2,Error ellipse: s-maj=43.6km
s-min=21.7km az=157.0
*THE **28** 15:22:08.9,37°.9N±0°.9×22°.6E±0°.9,h8km±2km,M3.0/21,*
MLh3.0/21
*ATH **28** 15:22:08.3,37°.92N×22°.56E,h15km±1km,ML3.1/17,*
Manual Solution by A.Papageorgiou First location:
2019/07/28 15:23:05, This location: 2019/07/28 15:35:50
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 0
km; Longitude uncertainty: 0 km
ISC 28 15:22:08.7±0.8,37°.93N±0°.02×22°.58E±0°.02,h13km±6km,
n56,σ0§58/92,mb3.5/4,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUR	**Goura**	**0.18**	**273**	P	**Pg**	**15 22 13.0**	**+0.1**
GUR				S	**Sg**	**15 22 15.7**	**-0.1**
GUR	**Goura**	**0.18**	**273**	P	**Pg**	**15 22 12.8**	**-0.2**
GUR				S	**Sg**	**15 22 15.5**	**-0.4**
ARS1	**Argos**	**0.32**	**157**	P	**Pg**	**15 22 15.0**	**-0.1**
ARS1				S	**Sg**	**15 22 19.3**	**-0.1**
LOUT	**Loutraki**	**0.32**	**79**	P	**Pg**	**15 22 15.4**	**+0.2**
LOUT				S	**Sg**	**15 22 20.0**	**+0.4**
KLV1	**Kalavrita**	**0.39**	**286**	P	**Pg**	**15 22 16.3**	**-0.1**
KLV1				S	**Sg**	**15 22 21.8**	**+0.2**
VLX	**Vlachokerasia**	**0.58**	**196**	P	**Pg**	**15 22 19.6**	**-0.3**
KALE	**Kalithea**	**0.58**	**324**	P	**Pg**	**15 22 20.0**	**0.0**
KALE				S	**Sg**	**15 22 28.1**	**+0.4**
KALE	**Kalithea**	**0.58**	**324**	P	**Pg**	**15 22 19.7**	**-0.3**
KALE				S	**Sg**	**15 22 27.7**	**0.0**
VIL2	**Platees**	**0.62**	**62**	P	**Pb**	**15 22 21.1**	**-0.3**
VIL2				S	**Sb**	**15 22 30.1**	**+0.2**
VILL	**Villia**	**0.63**	**68**	P	**Pb**	**15 22 21.0**	**-0.5**
SERG	**Sergoula**	**0.64**	**320**	P	**Pg**	**15 22 21.1**	**0.0**
SERG				S	**Sb**	**15 22 30.1**	**-0.4**
SERG	**Sergoula**	**0.64**	**320**	P	**Pg**	**15 22 20.9**	**-0.2**
SERG				S	**Sg**	**15 22 29.0**	**-0.5**
DRO	**Drossia**	**0.69**	**272**	P	**Pg**	**15 22 21.9**	**-0.1**
DRO				S	**Sb**	**15 22 32.7**	**+0.7**
DRO	**Drossia**	**0.69**	**272**	P	**Pg**	**15 22 21.6**	**-0.4**
DRO				S	**Sb**	**15 22 31.7**	**-0.2**
EFP	**Efpalio**	**0.73**	**314**	P	**Pg**	**15 22 22.7**	**-0.1**
EFP				S	**Sb**	**15 22 33.7**	**+0.6**
EFP	**Efpalio**	**0.73**	**314**	P	**Pg**	**15 22 22.7**	**-0.1**
EFP				S	**Sb**	**15 22 32.9**	**-0.3**
MAGU	**Magoula**	**0.76**	**78**	P	**Pb**	**15 22 23.8**	**+0.1**
MAGU				S	**Sg**	**15 22 33.3**	**0.0**
AMT	**Artemida-Makis**	**0.79**	**241**	P	**Pb**	**15 22 24.2**	**-0.2**
AMT				S	**Sb**	**15 22 34.6**	**-0.4**
LKR	**Lokris**	**0.80**	**25**	P	**Pg**	**15 22 23.6**	**-0.5**
STFN	**Stefani**	**0.80**	**72**	P	**Pb**	**15 22 24.4**	**-0.2**
STFN				S	**Sb**	**15 22 35.0**	**-0.4**
AXAR	**Agios Charalam**	**0.84**	**4**	P	**Pg**	**15 22 24.5**	**-0.5**
AXAR				S	**Sb**	**15 22 37.9**	**+1.4**
AXAR	**Agios Charalam**	**0.84**	**4**	P	**Pg**	**15 22 24.2**	**-0.7**
AXAR				S	**Sb**	**15 22 37.0**	**+0.5**
ANX	**Ano Chora**	**0.84**	**322**	P	**Pg**	**15 22 24.5**	**-0.5**
ANX				S	**Sg**	**15 22 35.9**	**-0.2**
RLS	**Riolos of Patr**	**0.89**	**279**	P	**Pg**	**15 22 25.2**	**-0.6**
RLS				S	**Sb**	**15 22 38.6**	**+0.9**
RLS	**Riolos of Patr**	**0.89**	**279**	P	**Pg**	**15 22 24.8**	**-1.0**
RLS				S	**Sb**	**15 22 38.0**	**+0.3**
ATH	**Athens Observa**	**0.90**	**87**	P	**Pb**	**15 22 26.7**	**+0.5**
ATH				S	**Sb**	**15 22 39.0**	**+0.9**
ATH	**Athens Observa**	**0.90**	**87**	P	**Pb**	**15 22 26.4**	**+0.1**
ATH				S	**Sb**	**15 22 38.1**	**0.0**
ITM	**Ithomi**	**0.91**	**215**	P	**Pg**	**15 22 25.7**	**-0.5**
ITM	**Ithomi**	**0.91**	**215**	P	**Pg**	**15 22 25.4**	**-0.8**
ATH5	**Athens Parliam**	**0.92**	**87**	P	**Pb**	**15 22 26.7**	**+0.2**
ATHU	**Athens Univers**	**0.96**	**87**	P	**Pb**	**15 22 27.4**	**+0.3**
ATHU				S	**Sb**	**15 22 39.8**	**+0.1**
ATHU	**Athens Univers**	**0.96**	**87**	P	**Pb**	**15 22 27.3**	**+0.2**
ATHU				S	**Sg**	**15 22 39.3**	**-0.3**
YRMI	**Loutra Irminis**	**0.98**	**281**	P	**Pg**	**15 22 26.3**	**-1.3**
YRMI				S	**Sb**	**15 22 41.0**	**+0.5**
PTL	**Penteli**	**1.03**	**83**	P	**Pb**	**15 22 28.3**	**0.0**
PTL				S	**Sb**	**15 22 41.7**	**0.0**
PTL	**Penteli**	**1.03**	**83**	P	**Pb**	**15 22 28.2**	**-0.2**
PTL				S	**Sg**	**15 22 41.4**	**-0.4**
PVO	**Paravola**	**1.08**	**310**	P	**Pn**	**15 22 29.7**	**+0.2**
DION	**Dionisos Attik**	**1.08**	**82**	P	**Pg**	**15 22 29.1**	**-0.4**
DION				S	**Sb**	**15 22 43.5**	**+0.1**
DION	**Dionisos Attik**	**1.08**	**82**	P	**Pg**	**15 22 29.1**	**-0.4**
DION				S	**Sg**	**15 22 43.0**	**-0.6**
AGG	**Agios Georgios**	**1.11**	**350**	P	**Pg**	**15 22 29.3**	**-0.8**
AGG				S	**Sg**	**15 22 44.2**	**-0.4**
AGG	**Agios Georgios**	**1.11**	**350**	P	**Pg**	**15 22 29.0**	**-1.1**
AGG				S	**Sg**	**15 22 43.7**	**-0.9**
MAKR	**Makrakomi, Fth**	**1.14**	**342**	P	**Pn**	**15 22 30.8**	**+0.3**
MAKR				S	**Sn**	**15 22 47.0**	**+1.0**
MAKR	**Makrakomi, Fth**	**1.14**	**342**	P	**Pn**	**15 22 30.6**	**+0.1**
MAKR				S	**Sn**	**15 22 46.5**	**+0.5**
EVR	**Evrytania**	**1.16**	**329**	P	**Pg**	**15 22 30.6**	**-0.3**
VLI	**Velia**	**1.24**	**166**	P	**Pn**	**15 22 31.2**	**-0.5**
KYMI	**Kymi, Euboea I**	**1.39**	**59**	P	**Pn**	**15 22 33.3**	**-0.5**
KYMI	**Kymi, Euboea I**	**1.39**	**59**	P	**Pn**	**15 22 33.1**	**-0.7**
KYMI				S	**Sb**	**15 22 51.7**	**-0.6**
NEO	**Neokhori**	**1.47**	**20**	P	**Pn**	**15 22 34.6**	**-0.3**
KARY	**Karystos**	**1.47**	**85**	P	**Pn**	**15 22 34.9**	**-0.1**
BRTR	**Keskin Array B**	**8.82**	**75**	Pn	**Pn**	**15 24 18.4**	**+2.4**
	0.1nm,0.3s,baz=255,slow=12,SNR=1.9 0.3nm,0.3s						
MMAI	**Mount Meron Ar**	**11.55**	**111**	Pn	**Pn**	**15 24 53.4**	**+0.1**
	0.7nm,0.3s,baz=302,slow=22,SNR=6.6 0.5nm,0.4s						
ESDC	**Sonseca Array**	**20.74**	**283**	P	**P**	**15 26 49.1**	**+0.1**
	0.2nm,0.7s,baz=84,slow=12,SNR=1.7 0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**30.90**	**223**	P	**P**	**15 28 26.0**	**+0.9**
	1.3nm,0.3s,baz=27,slow=10,SNR=1.7 1.3nm,0.3s						
BVAR	**Borovoye Array**	**36.04**	**50**	P	**P**	**15 29 10.0**	**+0.4**
	0.2nm,0.4s,baz=274,slow=10.0,SNR=2.0 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**41.08**	**53**	P	**P**	**15 29 52.2**	**+0.3**
	0.7nm,0.6s,baz=276,slow=8.6,SNR=5.3 0.7nm,0.6s						
MKAR	**Makanchi Array**	**44.05**	**59**	P	**P**	**15 30 14.8**	**-1.4**
	0.4nm,0.7s,baz=280,slow=7.2,SNR=4.1 0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**44.65**	**48**	P	**P**	**15 30 19.6**	**-1.2**
	1.1nm,0.5s,baz=272,slow=9.5,SNR=5.9 1.1nm,0.5s						

*IDC **28** 15:34:54.9±0.5,35°.75N×140°.98E,h0km,mb4.1/24,*
mbtmp4.1/29,ML3.6/6,MS3.6/28,Error ellipse:
s-maj=14.6km s-min=11.7km az=88.0
*MOS **28** 15:34:56.6±1.2,35°.83N×141°.12E,h30km,mb4.6/19,Error*
ellipse: s-maj=9.5km s-min=5.4km az=96.2
*NIED **28** 15:34:57.5,35°.81N×140°.94E,h24km,MW4.3,Moment*
Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm;
M_{rr}-1.35; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$1.48; $M_{r\theta}$2.41; $M_{\theta\phi}$-0.14; $M_{\phi r}$1.91;
Fault plane solution: $M_0$3.31000×10^{15} NP1:
ϕ_s343.00000°,δ18.00000°,λ-148.00000°. NP2:
ϕ_s223.00000°,δ81.00000°,λ-75.00000°.
*JMA **28** 15:34:57.5±0.2,35°.8N±0°.5×140°.9E±1°.0,h24km±1km,*
MD4.3/38,MW4.3/38,NEAR CHOSHI CITY
JMA Felt III J1 at NEAR CHOSHI CITY .
*NEIC **28** 15:35:00.1±1.6,35°.83N±0°.05×140°.96E±0°.09,h35km±2km,*
mb4.6/32,Error ellipse: s-maj=12.6km s-min=7.8km
az=111.0
ISC 28 15:34:56.9±0.8,35°.81N±0°.03×141°.04E±0°.04,h17km±4km,
n207,σ1§67/159,mb4.4/56,MS3.7/28,8C-1D,Near east
coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIHU	**Itakohorinouch**	**0.45**	**291**	*i* P	**Pb**	**15 35 06.1**	**-0.2**
JIHU				*e*S	**Sb**	**15 35 11.9**	**-0.9**
JIHU	**Itakohorinouch**	**0.45**	**291**	A	A	15 35 06.1	
	comp=N,188nm,2.0s,comp=E,333nm,0.8s						
JSMT	**Sammumatsuo**	**0.51**	**251**	P	**Pb**	**15 35 06.7**	**-0.7**
JSMT				S	**Sb**	**15 35 14.0**	**-0.6**
JSMT	**Sammumatsuo**	**0.51**	**251**	A	A	15 35 06.7	
	comp=N,86nm,0.9s,comp=E,98nm,3.0s						
JHYU	**Hitachinakayam**	**0.65**	**325**	*i* P	**Pb**	**15 35 09.5**	**-0.3**
JHYU				S	**Sb**	**15 35 18.2**	**-0.3**
JHYU	**Hitachinakayam**	**0.65**	**325**	A	A	15 35 09.5	
	comp=N,47nm,0.4s,comp=E,31nm,0.9s						
JYT	**Yasato**	**0.80**	**302**	*i* P	**Pg**	**15 35 10.8**	**-1.8**
JYT				S	**Sg**	**15 35 20.4**	**-2.8**
JYT	**Yasato**	**0.80**	**302**	A	A	15 35 10.8	
	comp=N,30nm,0.3s,comp=E,25nm,0.4s						
JHO	**Hitachi**	**0.89**	**335**	*i* P	**Pb**	**15 35 12.8**	**-1.1**
JHO	**Hitachi**	**0.89**	**335**	A	A	15 35 12.8	
	comp=N,10.0nm,7.3s,comp=E,7.0nm,3.6s						
JKUC	**kamogawauchiur**	**0.94**	**227**	A	A	15 35 13.9	
	comp=N,16nm,1.2s,comp=E,12nm,2.0s						
BSO4	**Boso 4**	**1.00**	**215**	P	**Pn**	**15 35 16.3**	**+0.2**
TOK	**Tokyo**	**1.05**	**264**	A	A	15 35 15.2	
	comp=N,44nm,2.0s,comp=E,32nm,1.8s						
BSO3	**Boso 3**	**1.09**	**203**	*i* P	**Pg**	**15 35 17.0**	**-1.1**
BSO1	**Boso 1**	**1.16**	**183**	P	**Pb**	**15 35 17.4**	**-0.7**
TATJ	**Tateyama 2**	**1.22**	**231**	A	A	15 35 18.2	
	comp=N,13nm,3.7s,comp=E,16nm,2.0s						
JYO	**Yokosk**	**1.27**	**243**	A	A	15 35 18.8	
	comp=N,17nm,1.4s,comp=E,19nm,3.3s						
ONAJ	**Iwakimizuishiy**	**1.30**	**351**	A	A	15 35 20.3	
	comp=N,5.0nm,0.3s,comp=E,9.0nm,0.3s						
JAG	**Ashikaga**	**1.42**	**296**	A	A	15 35 21.2	
	comp=N,5.0nm,3.8s,comp=E,5.0nm,2.8s						
JSB	**Shiboa**	**1.47**	**322**	A	A	15 35 22.3	
	comp=N,21nm,4.6s,comp=E,13nm,1.5s						
JSGW	**Sagamiharawaka**	**1.50**	**263**	A	A	15 35 22.3	
	comp=N,6.0nm,1.1s,comp=E,5.0nm,1.0s						
JOD2	**Odawara 2**	**1.68**	**252**	A	A	15 35 25.0	
	comp=N,5.0nm,1.8s,comp=E,5.0nm,1.6s						
JIM2	**Oshima 3**	**1.71**	**231**	A	A	15 35 25.6	
	comp=N,6.0nm,2.0s,comp=E,6.0nm,1.6s						
JKT	**Katashina**	**1.73**	**304**	A	A	15 35 25.9	
	comp=N,8.0nm,0.4s,comp=E,10.0nm,1.2s						
JHTM	**Izuhatsuma**	**1.86**	**244**	A	A	15 35 27.8	
	comp=N,10.0nm,1.9s,comp=E,13nm,1.2s						
JMM	**Marumori**	**2.06**	**355**	Pn	**Pn**	**15 35 30.4**	**-0.4**
JMM	**Marumori**	**2.06**	**355**	P	**Pn**	**15 35 30.5**	**-0.4**
JMM	**Marumori**	**2.06**	**355**	A	A	15 35 31.6	
	comp=N,4.0nm,1.1s,comp=E,4.0nm,6.2s						
JGK	**Kuni**	**2.08**	**292**	A	A	15 35 30.9	
	comp=N,4.0nm,1.6s,comp=E,4.0nm,2.9s						
JYAR	**Yonezawaarcadi**	**2.22**	**341**	A	A	15 35 33.5	
	comp=N,10.0nm,1.1s,comp=E,6.0nm,3.1s						
MJAR	**Matsushiro Arr**	**2.41**	**289**		**Pn**	**15 35 33.3**	**-2.3**
MJAR	**Matsushiro Arr**	**2.41**	**289**	Pn	**Pn**	**15 35 34.1**	**-1.5**
	comp

MDJ S **Sn** **15 40 15.3 +5.0**
MDJ SS **SnSn** **15 40 31.3 +8.9**
MDJ pmax pmax
comp=Z,9.0nm,1.2s
MDJ LR LR
comp=N,390nm,13.1s
MDJ LR LR
comp=E,310nm,15.8s
MDJ LR LR
comp=Z,520nm,17.9s
BNX **BinXian** **14.30 318** ⇑P **Pn** **15 38 19.3 +0.7**
BNX pmax pmax
comp=Z,9.0nm,0.8s
CN2 **Changchun** **14.38 308** *e*P **Pn** **15 38 20.3 +0.5**
CN2 *e*S **Sn** **15 40 56.5 -2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,300nm,15.0s
CN2 LR LR
comp=Z,200nm,15.6s
TYV **Tymovskoe** **15.09 4** *e*P **Pn** **15 38 28.6 -0.7**
TYV pmax pmax
comp=Z,100nm,3.8s
TYV pmax pmax
comp=Z,7.0nm,1.1s
HEH **HeiHe** **17.50 330** *e*P **Pn** **15 38 53.3 -6.7**
HEH LR LR
comp=N,280nm,16.4s
HEH LR LR
comp=E,310nm,14.4s
HEH LR LR
comp=Z,410nm,16.0s
NJ2 **Nanjing** **18.78 265** *e*P **Pn** **15 39 16.5 +0.6**
NJ2 pmax pmax
comp=Z,11nm,0.6s
XLT **XiLinHaoTe** **20.74 301** *e*P **P** **15 39 35.5 -1.3**
XLT pmax pmax
comp=Z,5.0nm,0.8s
XLT pmax pmax
comp=Z,76nm,4.6s
XLT LR LR
comp=N,16nm,14.0s
XLT LR LR
comp=E,240nm,19.1s
XLT LR LR
comp=Z,260nm,17.5s
PETK **Petropavlovsk-** **20.90 29** Pn Pn 15 39 41.6 +0.7
PETK **Petropavlovsk-** **20.90 29** P **P** **15 39 39.1 +0.8**
comp=Z,3.4nm,0.8s,baz=206,slow=9.7,SNR=4.7
PETK LR LR 15 48 30.4
comp=Z,56nm,18.2s,baz=175,slow=39
comp=Z,3.4nm,0.8s
PET **Petropavlovsk** **21.22 30** *ce*P **P** **15 39 42.5 +0.8**
PET pmax pmax
comp=Z,41nm,2.5s
HHC **Hu-ho-hao-te** **23.61 291** *e*P **P** **15 40 06.5 -0.6**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,87nm,6.3s
MA2 **Magadan** **24.61 12** P **P** **15 40 16.9 +0.8**
MA2 IAmb IAmb 15 40 20.1
comp=Z,14nm,0.8s
MA2 **Magadan** **24.61 12** LR LR 15 50 29.7
comp=Z,107nm,20.1s,baz=196,slow=38
MA2 **Magadan** **24.61 12** *ce*P **P** **15 40 15.6 -0.5**
MA2 pmax pmax
comp=Z,10.0nm,1.3s
XAN **Xi'an** **26.34 276** P **P** **15 40 31.3 -0.8**
XAN pP sP 15 40 41.0 +1.8
XAN pmax pmax
comp=Z,9.0nm,0.9s
XAN LR LR
comp=N,130nm,17.9s
XAN LR LR
comp=E,210nm,20.6s
XAN LR LR
comp=Z,270nm,20.6s
ENH **Enshi** **26.95 267** **P** **15 40 36.6 -1.1**
YAK **Yakutsk** **27.20 348** P **P** **15 40 39.8 +0.3**
YAK **Yakutsk** **27.20 348** LR LR 15 51 32.2
comp=Z,111nm,19.2s,baz=149,slow=37
YAK **Yakutsk** **27.20 348** *eP* **P** **15 40 39.1 -0.4**
YAK *e**PP **sP** **15 40 49.8 +3.2**
YAK *e* 15 41 23.5
YAK *e*PPP PPP 15 41 32.2
YAK *e* 15 43 54.8
YAK *e*S **S** **15 45 15.8 -1.6**
YAK *e**SS sS 15 45 34.7 +9.1
YAK *e*SS **SnSn** **15 46 26.8 +1.6**
YAK *e*SSS SSS 15 46 41.7
YAK *e* 15 51 26.7
YAK pmax pmax
comp=Z,19nm,1.3s
YAK pmax pmax
comp=N,16nm,1.6s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK pmax pmax
comp=Z,96nm,4.7s
YAK pmax pmax
comp=N,26nm,3.3s
YAK pmax pmax
comp=E,30nm,3.5s
YAK smax smax
comp=E,33nm,3.3s
YAK smax smax
comp=N,31nm,3.9s
H11N2 **WAKE ISLAND Hy** **27.81 118** T T 16 09 46.2
baz=311,slow=75,SNR=151
ULN **Ulaanbaatar** **27.81 306** P **P** **15 40 44.2 -1.1**
ULN **Ulaanbaatar** **27.81 306** *i* P **P** **15 40 45.6 +0.2**
ULN pmax pmax
comp=Z,5.0nm,0.8s
H11N1 **WAKE ISLAND Hy** **27.81 118** T T 16 09 40.1
baz=311,slow=75,SNR=96
H11N3 **WAKE ISLAND Hy** **27.82 118** T T 16 09 41.0
baz=311,slow=75,SNR=145
SEY **Seymchan** **28.05 11** *i* P **P** **15 40 48.2 +1.1**
SEY pmax pmax
comp=Z,8.0nm,1.1s
SONM **Songino Array** **28.24 306** P **P** **15 40 48.2 -0.9**
comp=Z,1.0nm,0.6s,baz=111,slow=8.3,SNR=5.5
SONM LR LR 15 52 28.8
comp=Z,176nm,18.4s,baz=96,slow=37
comp=Z,1.0nm,0.6s
H11S1 **WAKE ISLAND Hy** **28.47 120** T T 16 10 39.2
baz=312,slow=76,SNR=426
H11S3 **WAKE ISLAND Hy** **28.47 121** T T 16 10 35.2
baz=312,slow=76,SNR=370
H11S2 **WAKE ISLAND Hy** **28.49 120** T T 16 10 37.0
baz=312,slow=76,SNR=336
QIZ **Qiongzhong** **32.16 247** P **P** **15 41 24.3 +0.4**
QIZ S **S** **15 46 35.5 -0.6**
QIZ LR LR
comp=N,110nm,14.2s
QIZ LR LR
comp=E,110nm,14.2s
QIZ LR LR
comp=Z,300nm,14.9s
GTA **Gaotai** **32.65 289** *e*P **P** **15 41 28.3 +0.1**
GTA pmax pmax
comp=Z,3.0nm,1.3s
GTA LR LR
comp=N,110nm,13.5s
GTA LR LR
comp=E,140nm,14.9s
GTA LR LR
comp=Z,130nm,16.4s
PZH **PanZhiHua** **34.69 266** P **P** **15 41 45.3 -0.8**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,110nm,5.1s
BILL **Bilibino** **35.28 16** *i* P **P** **15 41 50.5 -0.1**
BILL pmax pmax
comp=Z,4.0nm,1.0s
TIXI **Tiksi** **36.47 354** LR LR 15 58 46.1
comp=Z,91nm,18.1s,baz=164,slow=39
TIXI **Tiksi** **36.47 354** *i* P **P** **15 41 59.3 -1.3**
TIXI pmax pmax
comp=Z,8.0nm,0.9s
CMAR **Chiang Mai Arr** **40.91 256** P **P** **15 42 38.5 0.0**
comp=Z,0.6nm,0.4s,baz=52,slow=5.3,SNR=5.8
CMAR LR LR 16 00 43.5
comp=Z,50nm,18.3s,baz=60,slow=38
comp=Z,0.6nm,0.4s
ZALV **Zalesovo Beam** **42.52 313** P **P** **15 42 51.5 +0.1**
ZALV **Zalesovo Beam** **42.52 313** P **P** **15 42 51.9 +0.5**
comp=Z,3.3nm,0.6s,baz=94,slow=6.7,SNR=16
ZALV LR LR 16 00 51.9
comp=Z,48nm,19.1s,baz=82,slow=37
comp=Z,3.3nm,0.6s
ZALV **Zalesovo Beam** **42.52 313** *i* P **P** **15 42 52.5 +1.1**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
MK31 **Makanchi Array** **44.52 303** *i* P **P** **15 43 07.9 +0.3**
MKAR **Makanchi Array** **44.52 303** P **P** **15 43 07.2 -0.4**
MKAR **Makanchi Array** **44.52 303** P **P** **15 43 08.1 +0.5**
comp=Z,2.4nm,0.7s,baz=86,slow=10.0,SNR=19
MKAR LR LR 16 02 24.0
comp=Z,110nm,18.1s,baz=12,slow=37
comp=Z,2.4nm,0.7s
K17K **Iditarod** **45.53 34** P **P** **15 43 16.1 +0.8**
K17K IAmb IAmb 15 43 39.2
comp=Z,12nm,1.3s
KURK **Kurchatov** **46.46 309** P **P** **15 43 22.9 +0.1**
KURK **Kurchatov** **46.46 309** *ce*P **P** **15 43 24.2 +1.4**
KURK pmax pmax
comp=Z,24nm,1.3s
KURBB **Kurchatov Arra** **46.52 309** P **P** **15 43 23.4 0.0**
comp=Z,3.0nm,0.3s,baz=84,slow=8.5,SNR=37
KURBB LR LR 16 03 31.8
comp=Z,100nm,19.6s,baz=173,slow=37
comp=Z,3.0nm,0.3s
B20K **Meade River** **47.23 24** P **P** **15 43 30.1 +1.6**
HNR **Honiara** **48.40 155** LR LR 16 02 47.1
comp=Z,50nm,21.2s,baz=348,slow=35
NEA2 **Nenana** **49.75 32** IAmb IAmb 15 43 53.3
comp=Z,7.6nm,1.3s
KSH **Kashi** **50.64 295** P P 15 44 00.8 +5.5
KSH pmax pmax
comp=Z,3.0nm,1.2s
ILAR **Eielson Array** **50.69 32** P **P** **15 43 56.6 +1.5**
comp=Z,1.7nm,0.9s,baz=271,slow=5.9,SNR=18
comp=Z,1.7nm,0.9s
AAK **Ala-Archa** **50.81 299** LR LR 16 06 34.0
comp=Z,137nm,19.2s,baz=80,slow=37
BVAR **Borovoye Array** **51.18 313** P **P** **15 43 59.9 +0.8**
comp=Z,2.2nm,0.7s,baz=77,slow=6.4,SNR=14
BVAR LR LR 16 05 59.2
comp=Z,48nm,18.9s,baz=76,slow=36
comp=Z,2.2nm,0.7s
BRVK **Borovoye** **51.23 313** P **P** **15 43 59.5 0.0**
BRVK **Borovoye** **51.23 313** *ce*P **P** **15 43 59.2 -0.3**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
HMT **Hamilton** **52.26 37** P **P** **15 44 07.0 -0.1**
ARSB **Arslanbob** **52.27 298** IAmb IAmb 15 44 31.9
comp=Z,5.1nm,0.9s
KNRA **Kununurra** **52.51 195** P **P** **15 44 09.7 +0.5**
KNRA IAmb IAmb 15 44 14.7
comp=Z,7.9nm,1.1s
KKAR **Karatay Array** **53.48 301** P **P** **15 44 16.6 +0.2**
KKAR **Karatay Array** **53.48 301** P **P** **15 44 16.6 +0.2**
L29M **L29M** **54.71 33** IAmb IAmb 15 44 32.2
comp=Z,9.7nm,1.1s
EPYK **Eagle Plains** **54.74 29** IAmb IAmb 15 44 38.6
comp=Z,14nm,1.2s
I30M **Mount Dempster** **55.08 31** IAmb IAmb 15 44 48.1
comp=Z,6.3nm,1.0s
FITZ **Fitzroy Crossi** **55.56 198** P **P** **15 44 32.2 +0.7**
comp=Z,2.8nm,0.7s,baz=15,slow=7.9,SNR=10.0
comp=Z,2.8nm,0.7s
G31M **Satah River** **55.60 28** P **P** **15 44 31.7 +0.4**
WB0 **Warramunga Arr** **55.63 188** P **P** **15 44 31.6 -0.4**
WB0 IAmb IAmb 15 44 34.2
comp=Z,12nm,1.3s
H31M **Peel River** **55.79 30** IAmb IAmb 15 44 39.0
comp=Z,14nm,1.3s
WRAB **Tennant Creek** **55.80 188** *i* P **P** **15 44 31.6 -1.6**
WRAB pmax pmax
comp=Z,10.0nm,1.4s
WR8 **Warramunga Arr** **55.80 187** P **P** **15 44 32.6 -0.6**
WR8 IAmb IAmb 15 44 33.7
comp=Z,5.0nm,0.9s
WRA **Warramunga Arr** **55.81 188** P **P** **15 44 32.7 -0.7**
WRA **Warramunga Arr** **55.81 188** P **P** **15 44 32.6 -0.7**
comp=Z,1.9nm,0.5s,baz=5.5,slow=7.5,SNR=22
comp=Z,1.8nm,0.5s
SVE **Sverdlovsk** **55.87 319** *e*P **P** **15 44 34.7 +1.3**
SVE pmax pmax
comp=Z,10.0nm,1.1s
ARTI **Arti** **57.19 319** P **P** **15 44 43.2 +0.4**
ARTI IAmb IAmb 15 44 44.4
comp=Z,9.2nm,0.8s
ARTI **Arti** **57.19 319** *d i*P **P** **15 44 43.5 +0.7**
ARTI 15 45 33.7
ARTI 15 46 46.8
ARTI S **S** **15 52 40.0 +2.6**
ARTI SS **SS** **15 56 24.8 -1.1**
ARTI pmax pmax
comp=Z,10.0nm,1.1s
AB31 **Akbulak array** **58.50 311** P **P** **15 44 52.3 +0.2**
AB31 IAmb IAmb 15 44 54.4
comp=Z,2.4nm,0.6s
ABKAR **Akbulak array** **58.50 311** P **P** **15 44 51.9 -0.2**
ASA1 **Alice Springs** **59.54 188** P **P** **15 44 58.8 -0.7**
ASAR **Alice Springs** **59.54 188** P **P** **15 44 58.4 -1.1**
ASAR **Alice Springs** **59.54 188** P **P** **15 44 59.3 -0.2**
comp=Z,1.5nm,0.8s,baz=24,slow=11,SNR=20
comp=Z,1.5nm,0.8s
ASAR **Alice Springs** **59.54 188** P **P** **15 44 58.4 -1.1**
KIRV **Kirov** **61.04 323** LR LR 16 13 44.8
comp=Z,85nm,18.1s,baz=46,slow=38
KIRV **Kirov** **61.04 323** *i* P **P** **15 45 09.7 +0.3**
SPITS **Spitsbergen Ar** **61.66 349** P **P** **15 45 15.2 +1.8**
comp=Z,2.7nm,0.8s,baz=86,slow=13,SNR=1.2
comp=Z,2.7nm,0.8s
PALK **Pallekele** **61.82 258** LR LR 16 12 56.8
comp=Z,48nm,19.5s,baz=92,slow=37
DZM **Mont Dzumac** **62.39 153** *e*LR LR 16 03 52.4
comp=Z,140nm,27.2s
DZM **Mont Dzumac** **62.39 153** LR LR 16 11 34.4
comp=Z,36nm,19.4s,baz=184,slow=35
RES **Resolute Bay** **63.86 14** LR LR 16 16 20.7
comp=Z,29nm,18.3s,baz=16,slow=39
ARCES **ARCESS Array B** **65.03 340** P **P** **15 45 36.1 +0.3**
comp=Z,6.3nm,1.0s,baz=59,slow=10,SNR=3.7
comp=Z,6.3nm,1.0s
STKA **Stephens Creek** **67.33 179** P **P** **15 45 51.4 +0.5**
STKA **Stephens Creek** **67.33 179** P **P** **15 45 50.4 -0.5**
comp=Z,2.1nm,0.7s,baz=323,slow=5.4,SNR=5.3
comp=Z,2.1nm,0.7s
STKA **Stephens Creek** **67.33 179** *i* P **P** **15 45 49.9 -1.0**
FINES **FINESS Array B** **69.76 332** P **P** **15 46 06.8 +1.0**
FINES **FINESS Array B** **69.76 332** P **P** **15 46 06.1 +0.4**
comp=Z,2.1nm,0.7s,baz=62,slow=6.8,SNR=11
comp=Z,2.1nm,0.7s
FINES **FINESS Array B** **69.76 332** *i* P **P** **15 46 06.8 +1.0**
FINES pmax pmax
comp=Z,2.0nm,0.7s
KBZ **Khabaz** **71.47 311** P **P** **15 46 17.0 +0.5**
comp=Z,3.4nm,0.8s,baz=27,slow=6.8,SNR=6.1
comp=Z,3.4nm,0.8s
KIV **Kislovodsk** **71.48 311** *eP* **P** **15 46 15.1 -1.7**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,50nm,18.0s
O02D **Mt. Diablo Mer** **72.10 53** P **P** **15 46 20.6 +0.1**
NC405 **NORSAR Array S** **74.98 337** P **P** **15 46 37.9 +0.9**
NC405 IAmb IAmb 15 46 39.6
comp=Z,8.3nm,1.1s
HFS **Hagfors** **75.08 336** P **P** **15 46 38.2 +0.6**
comp=Z,0.9nm,0.7s,baz=102,slow=6.1,SNR=4.6
comp=Z,0.9nm,0.7s
AKASG **Malin Array Be** **75.08 322** P **P** **15 46 38.4 +0.7**
comp=Z,1.7nm,0.7s,baz=49,slow=6.3,SNR=8.8
AKASG LR LR 16 22 26.2
comp=Z,135nm,18.3s,baz=56,slow=38
comp=Z,1.7nm,0.7s
AKASG **Malin Array Be** **75.08 322** *ce*P **P** **15 46 38.5 +0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
NC204 **NORSAR Array S** **75.16 338** P **P** **15 46 39.0 +1.0**
NC204 IAmb IAmb 15 47 02.6
comp=Z,10nm,1.3s
NB2 **NORSAR Subarra** **75.20 337** P **P** **15 46 39.4 +1.1**
comp=Z,1.9nm,0.7s,baz=42,slow=5.9
NOA **NORSAR Array B** **75.20 337** P **P** **15 46 38.9 +0.6**
comp=Z,1.5nm,0.7s,baz=38,slow=5.8,SNR=8.4
comp=Z,1.5nm,0.7s
DLMT **Dillon** **75.42 44** P **P** **15 46 40.7 +0.7**
DLMT IAmb IAmb 15 46 46.1
comp=Z,4.7nm,1.1s
NVAR **Mina Array Bea** **75.96 53** P **P** **15 46 42.8 -0.6**
comp=Z,0.8nm,0.8s,baz=292,slow=5.1,SNR=4.0
comp=Z,0.8nm,0.8s
PDAR **Pinedale Array** **78.74 45** P **P** **15 47 00.7 +1.9**
comp=Z,0.6nm,0.7s,baz=264,slow=2.1,SNR=6.9
comp=Z,0.6nm,0.7s
BR131 **Keskin Array S** **79.44 312** *i* P **P** **15 47 02.6 0.0**
BRTR **Keskin Array B** **79.44 312** P **P** **15 47 04.1 +1.5**
comp=Z,1.0nm,0.8s,baz=50,slow=3.9,SNR=6.4
comp=Z,1.0nm,0.8s
RAR **Rarotonga** **79.69 125** LR LR 16 13 56.0
comp=Z,37nm,21.4s,baz=337,slow=29
VRAC **Vranov** **81.98 327** LR LR 16 25 59.2
comp=Z,57nm,20.5s,baz=291,slow=37
CLL **Collm** **82.00 330** *i* P **P** **15 47 18.1 +2.2**
CLL pmax pmax
comp=Z,8.0nm,1.3s
CLL **Collm** **82.00 330** *i* P **P** **15 47 18.1 +2.2**
comp=Z,8.0nm,1.3s
MMAI **Mount Meron Ar** **82.43 305** LR LR 16 27 26.8
comp=Z,52nm,18.6s,baz=49,slow=38
KHC **Kasperske Hory** **83.43 328** *eP* **P** **15 47 23.5 +0.1**
GERES **GERESS Array B** **83.59 328** P **P** **15 47 25.5 +1.1**
comp=Z,0.2nm,0.3s,baz=90,slow=1.5,SNR=4.4
comp=Z,0.2nm,0.3s
PPT **Papeete** **84.36 116** LR LR 16 17 41.6
comp=Z,60nm,21.8s,baz=328,slow=30
PPT2 **Papeete2** **84.37 116** *e*LR LR 16 14 00.9
comp=Z,74nm,22.0s
PPT2 *e*LR LR 16 14 08.3
comp=Z,138nm,27.5s
ANMO **Albuquerque** **85.61 50** *ce*P **P** **15 47 32.8 -2.1**
ANMO pmax pmax
comp=Z,1.0nm,0.8s
TAOE **Nuku Hiva Isla** **86.17 104** *e*LR LR 16 14 52.7
comp=Z,94nm,28.5s
SCHQ **Schefferville** **86.59 16** LR LR 16 29 28.9
comp=Z,24nm,18.1s,baz=132,slow=38
TBI **Tubuai** **88.16 121** *e*LR LR 16 15 54.8
comp=Z,561nm,29.0s
TXAR **Lajitas Array** **91.11 52** P **P** **15 48 03.2 +2.1**
comp=Z,0.6nm,0.8s,baz=297,slow=3.6,SNR=6.6
comp=Z,0.6nm,0.8s
H06N1 **SOCORRO T-PHAS** **92.89 64** T T 17 31 32.3
SNR=8.3
ESDC **Sonseca Array** **98.25 333** LR LR 16 36 56.2
comp=Z,54nm,18.9s,baz=42,slow=38
H03N2 **Juan Fernandez** **147.18 98** T T 18 39 08.1
baz=289,slow=76,SNR=215
H03N3 **Juan Fernandez** **147.19 98** T T 18 39 09.2
baz=289,slow=76,SNR=227
H03N1 **Juan Fernandez** **147.19 98** T T 18 39 05.8
baz=289,slow=76,SNR=169
LPAZ **La Paz** **147.56 61** PKPbc **PKPbc** **15 54 42.9 +1.4**
comp=Z,2.3nm,0.9s,baz=0.6,slow=6.1,SNR=9.2

IDC 28 15:41:06.5±5.6, 6°.89S×129°.68E, h222km±57km, mb2.8/1, mbtmp3.3/4, Error ellipse: s-maj=62.2km s-min=26.3km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.82**	**199**	P	Pn	15 43 48.8	+0.2
	1.9nm,1.1s,baz=39,slow=13,SNR=10.0						
FITZ				S	S	15 46 00.9	+1.7
	0.8nm,0.8s,baz=69,slow=12,SNR=0.9						
WRA	**Warramunga Arr**	**13.74**	**161**	P	Pn	15 44 10.6	-1.9
	0.3nm,0.6s,baz=342,slow=13,SNR=5.0						
WRA				S	S	15 46 35.3	-9.3
	0.1nm,0.4s,baz=329,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**17.17**	**167**	P	P	15 44 52.8	+0.8
	0.2nm,0.3s,baz=348,slow=10,SNR=8.4						
ASAR				S	S	15 47 59.3	0.0
	0.1nm,0.7s,baz=333,slow=10,SNR=2.2						
MKAR	**Makanchi Array**	**67.96**	**327**	P	P	15 51 41.4	-0.1
	0.1nm,0.4s,baz=130,slow=7.9,SNR=2.3						
	0.1nm,0.4s						

*IDC **28** 15:46:35.4±4.3, 6°.55S×128°.59E, h234km±42km, mb3.2/3, mbtmp3.8/7, MS3.0/3, Error ellipse: s-maj=47.1km s-min=14.9km az=62.0*
*NEIC **28** 15:46:36.3±1.7, 6°.55S±0°.09×128°.60E±0°.10, h235km±11km, mb4.2/5, Error ellipse: s-maj=15.0km s-min=11.8km az=129.0*
ISC 28 15:46:35.9±0.6, 6°.68S±0°.06×128°.59E±0°.07, h250km, n29, σ1s60/30, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.99**	**116**	Pn	**Pn**	**15 47 28.9**	**+0.6**
FAKI	**Fak Fak**	**5.22**	**45**	Pn	**Pn**	**15 47 52.0**	**-2.5**
SOEI	**Soe**	**5.25**	**234**	Pn	**Pn**	**15 47 56.2**	**+1.3**
BATI	**Baumata**	**6.00**	**234**	P	**Pn**	**15 48 05.2**	**+1.1**
	16nm,0.6s,baz=37,slow=5.1,SNR=6.6						
BATI				S	**S**	**15 49 14.6**	**0.0**
	25nm,0.4s,baz=64,slow=18,SNR=9.1						
MTN	**Manton Dam**	**6.62**	**158**		**Pn**	**15 48 12.0**	**+0.2**
KNRA	**Kununurra**	**8.94**	**179**	Pn	**Pn**	**15 48 42.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**11.71**	**194**	Pn	**Pn**	**15 49 16.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**11.71**	**194**	P	**P**	**15 49 18.1**	**-1.2**
	1.1nm,0.3s,baz=24,slow=14,SNR=20						
FITZ				S	**S**	**15 51 21.9**	**-4.8**
	2.3nm,0.7s,baz=92,slow=20,SNR=5.7						
JAY	**Jayapura**	**12.77**	**72**	LR	LR	15 54 49.9	
	comp=Z,47nm,21.0s,baz=301,slow=39						
BKB	**Balikpapan**	**12.84**	**294**	Pn	**Pn**	**15 49 29.9**	**-0.1**
DAV	**Davao City (W)**	**13.98**	**348**	Pn	**Pn**	**15 49 41.8**	**-2.1**
WB0	**Warramunga Arr**	**14.18**	**157**	Pn	**Pn**	**15 49 46.5**	**+0.2**
WRA	**Warramunga Arr**	**14.32**	**158**	Pn	**Pn**	**15 49 46.4**	**-1.6**
WRA	**Warramunga Arr**	**14.32**	**158**	P	**Pn**	**15 49 47.8**	**-0.1**
	0.4nm,0.5s,baz=334,slow=13,SNR=11						
WRA				S	**S**	**15 52 25.8**	**-0.8**
	0.1nm,0.3s,baz=337,slow=20,SNR=4.9						
WR8	**Warramunga Arr**	**14.39**	**157**	Pn	**Pn**	**15 49 49.0**	**+0.2**
JAGI	**Jajag, Banyuwa**	**14.42**	**262**		**P**	**15 49 49.5**	**+0.1**
COEN	**Coen**	**16.07**	**118**	P	**Pn**	**15 50 09.2**	**+0.2**
COEN				IAmb	IAmb	15 50 18.6	
	comp=Z,22nm,1.4s						
PSA00	**Pilbara Seismi**	**17.05**	**209**		**Pn**	**15 50 20.6**	**+0.2**
PSA00				IAmb	IAmb	15 50 54.2	
	comp=Z,11nm,1.2s						
AS31	**Alice Springs**	**17.64**	**164**	P	**Pn**	**15 50 27.3**	**-0.1**
ASAR	**Alice Springs**	**17.64**	**164**	P	**Pn**	**15 50 27.6**	**+0.1**
ASAR	**Alice Springs**	**17.64**	**164**	P	**Pn**	**15 50 27.3**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=335,slow=9.4,SNR=31						
ASAR				S	**S**	**15 53 39.4**	**+4.4**
	comp=Z,0.1nm,0.4s,baz=350,slow=27,SNR=1.1						
GUMO	**Guam**	**25.83**	**39**	LR	LR	16 02 36.6	
	comp=Z,24nm,18.9s,baz=105,slow=37						
PSI	**Prapat**	**31.07**	**287**	LR	LR	16 05 35.7	
	comp=Z,60nm,18.4s,baz=102,slow=37						
ERM	**Erimo**	**50.26**	**14**	P	**P**	**15 55 08.6**	**+1.7**
PETK	**Petropavlovsk-**	**64.47**	**19**	P	**P**	**15 56 46.6**	**+0.9**
MKAR	**Makanchi Array**	**67.20**	**327**	P	**P**	**15 57 03.9**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=138,slow=8.2,SNR=6.3						
	comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**70.68**	**334**	P	**P**	**15 57 24.3**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=142,slow=7.3,SNR=2.2						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**71.51**	**329**	P	**P**	**15 57 30.2**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=128,slow=5.2,SNR=6.8						
	comp=Z,0.5nm,0.5s						
J17K	**VABM Dome**	**88.14**	**25**	P	**P**	**15 58 59.3**	**+1.2**
J17K				IAmb	IAmb	15 59 29.3	
	comp=Z,4.6nm,1.2s						

NOU 28 15:54:19.8, 15°.60S×167°.46E, h62km, MLv4.4/15, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLAKA	**Lakatoro**	**0.50**	**184**	P	Pn	15 54 34.0	+2.0
DVP	**Devils Point**	**2.23**	**162**	P	Pn	15 54 55.1	+0.7
LUES	**Luesalemba Tem**	**5.13**	**343**	P	Pn	15 55 33.8	-0.4
	66nm,1.4s						
YATNC	**Mamie plateau,**	**6.45**	**185**	P	Pn	15 55 51.8	-0.4

	19nm,0.8s								
YATNC	**Mamie plateau,**	**6.45**	**185**	S		Sn	15 57 03.8		-0.6
	19nm,0.8s								
DZM	**Mont Dzumac**	**6.51**	**188**	P		Pn	15 55 53.5		+0.4
	9.5nm,1.4s								
DZM	**Mont Dzumac**	**6.51**	**188**	S		Sn	15 57 05.4		-0.6
	9.5nm,1.4s								
ONTNC	**Ouen Toro**	**6.74**	**188**	P		Pn	15 55 57.5		+1.4
OUENC	**Ouen Island, N**	**6.81**	**185**	P		Pn	15 55 58.4		+1.3
PINNC	**Pines Island,**	**6.98**	**180**	P		Pn	15 55 59.5		+0.1
	24nm,1.3s								

*IDC **28** 16:01:41.7±10.0, 37°.18N×54°.30E, h0^{km}, mb3.3/3, mbtmp3.5/5, ML3.3/2, MS3.2/3, Error ellipse: s-maj=185.0km s-min=25.9km az=6.0*
*TEH **28** 16:01:45.4, 37°.37N×54°.49E, h22^{km}±15^{km}*
ISC 28 16:01:47.6±0.8, 37°.39N±0°.06×54°.51E±0°.04, h30^{km}, n52, σ1^{s}47/54, mb3.3/3, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.73**	**100**	Pg		**Pn**	**16 01 59.9**	**-1.9**
IMND				Sg		**Sb**	**16 02 10.1**	**-1.4**
IGLO	**Ghaloghah**	**1.04**	**212**	Pg		**Pn**	**16 02 04.6**	**-1.7**
MRVT	**Maraveh tapeh**	**1.29**	**77**	Pg		**Pn**	**16 02 09.5**	**-0.1**
IKIA	**Kiasar**	**1.35**	**209**	Pg		**Pn**	**16 02 10.3**	**-0.4**
IALA	**Alasht**	**1.89**	**227**	Pn		**Pn**	**16 02 18.1**	**+0.1**
IANJ	**Anjilo**	**1.98**	**194**	Pn		**Pn**	**16 02 19.3**	**+0.1**
IPRN	**Peran**	**2.08**	**237**	Pn		**Pn**	**16 02 20.4**	**-0.2**
IFIR	**Firoozkooh**	**2.24**	**219**	Pn		**Pn**	**16 02 23.2**	**+0.2**
ILAS	**Lasjerd**	**2.36**	**212**	Pn		**Pn**	**16 02 25.1**	**+0.5**
SBZV	**Sabzevar**	**2.68**	**111**	Pn		**Pn**	**16 02 29.2**	**+0.3**
ISFR	**Sfrayin**	**2.81**	**96**	Pn		**Pn**	**16 02 31.4**	**+0.7**
IVRN	**Varamin**	**3.28**	**224**	Pn		**Pn**	**16 02 37.5**	**+0.5**
TAPT	**Tabas- Tapeh t**	**3.30**	**139**	Pn		**Pn**	**16 02 36.9**	**-0.4**
IEMG	**Emamgholi**	**3.30**	**88**	Pn		**Pn**	**16 02 37.9**	**+0.4**
IAKL	**Akhelmad**	**3.49**	**102**	Pn		**Pn**	**16 02 40.4**	**+0.2**
ISFB	**Sefidab**	**3.54**	**212**	Pn		**Pn**	**16 02 40.7**	**0.0**
IGZV	**Ghazvin**	**3.58**	**255**	Pn		**Pn**	**16 02 41.5**	**+0.2**
IPAY	**Payeh**	**3.72**	**103**	Pn		**Pn**	**16 02 43.3**	**+0.1**
IQOM	**Qom**	**3.77**	**229**	Pn		**Pn**	**16 02 43.1**	**-0.8**
TNSJ	**Nastanj**	**3.82**	**153**	Pn		**Pn**	**16 02 44.3**	**-0.3**
KRSH	**Karshahi**	**3.92**	**210**	Pn		**Pn**	**16 02 45.8**	**-0.1**
IKRD	**Kardeh**	**4.05**	**97**	Pn		**Pn**	**16 02 48.3**	**+0.5**
ANAR	**Anarak**	**4.24**	**189**	Pn		**Pn**	**16 02 50.1**	**-0.2**
TKDS	**Koohdasht(Taba**	**4.33**	**150**	Pn		**Pn**	**16 02 51.5**	**0.0**
QAMS	**Qamsar**	**4.44**	**216**	Pn		**Pn**	**16 02 52.9**	**-0.3**
GAS1	**Astara - Iran**	**4.59**	**284**	Pn		**Pn**	**16 02 55.1**	**+0.2**
TPRV	**Parvadeh(Tabas**	**4.70**	**157**	Pn		**Pn**	**16 02 56.7**	**+0.1**
IKLH	**Kolahrood**	**4.71**	**211**	Pn		**Pn**	**16 02 56.5**	**-0.4**
IZEF	**Zefreh**	**4.83**	**202**	Pn		**Pn**	**16 02 58.9**	**+0.4**
ICHK	**Chekchek**	**5.13**	**181**	Pn		**Pn**	**16 03 02.5**	**-0.2**
TBJM	**Torbat-e-JAM**	**5.16**	**113**	Pn		**Pn**	**16 03 03.3**	**+0.3**
GRMI	**Germi**	**5.40**	**287**	Pn		**Pn**	**16 03 05.7**	**-0.6**
AFRZ	**Afriz**	**5.40**	**136**	Pn		**Pn**	**16 03 06.7**	**+0.4**
ISAD	**Sadrabad**	**5.50**	**187**	Pn		**Pn**	**16 03 08.4**	**+0.6**
ITEG	**Tejag**	**5.67**	**141**	Pn		**Pn**	**16 03 10.4**	**+0.4**
IRAM	**Ramesheh**	**5.84**	**198**	Pn		**Pn**	**16 03 12.3**	**0.0**
IBAF	**Bafgh**	**5.85**	**171**	Pn		**Pn**	**16 03 12.2**	**-0.2**
IHRS	**Heris**	**5.98**	**281**	Pn		**Pn**	**16 03 14.4**	**+0.2**
IKOO	**Kooshah**	**6.18**	**142**	Pn		**Pn**	**16 03 17.2**	**+0.2**
VSHL	**Vashlovani**	**7.36**	**304**	P		**Pn**	**16 03 34.0**	**+1.0**
VSHL				S		**Sn**	**16 04 52.9**	**-2.7**
LGD	**Lagodekhi**	**7.77**	**307**	P		Pn	16 03 46.9		+8.2
LGD				S		**Sn**	**16 05 10.2**		**+4.7**
GNI	**Garni**	**8.11**	**293**	LR		LR	16 08 07.5		
	comp=Z,32nm,20.5s,baz=116,slow=48								
DGRG	**David-gareji**	**8.15**	**303**	P		**Pn**	**16 03 43.9**		**+0.1**
DGRG				S		**Sn**	**16 05 11.6**		**-3.3**
SHTL	**Shatili**	**8.89**	**309**	P		**Pn**	**16 03 54.8**		**+0.7**
SHTL				S		**Sn**	**16 05 32.3**		**-1.0**
KBZ	**Khabaz**	**10.86**	**309**	Pn		**Pn**	**16 04 20.4**		**-0.5**
	0.3nm,0.3s,baz=162,slow=9.6,SNR=2.7								
KBZ				Sn		**Sn**	**16 06 14.4**		**-6.9**
	0.8nm,0.3s,baz=336,slow=22,SNR=4.7								
	1.1nm,0.5s								
AKTO	**Aktyubinsk**	**13.28**	**10**	LR		LR	16 11 39.5		
	comp=Z,92nm,18.4s,baz=62,slow=44								
BVAR	**Borovoye Array**	**19.16**	**30**	P		**P**	**16 06 09.8**		**+1.4**
	0.1nm,0.3s,baz=215,slow=9.9,SNR=11								
	1.2nm,0.5s								
KURBB	**Kurchatov Arra**	**21.64**	**45**	P		**P**	**16 06 36.0**		**+0.7**
	0.9nm,0.6s,baz=244,slow=10,SNR=6.6								
	0.9nm,0.6s								
MKAR	**Makanchi Array**	**22.56**	**57**	P		**P**	**16 06 46.6**		**+1.4**
	0.4nm,0.6s,baz=248,slow=12,SNR=5.3								
	0.4nm,0.6s								
ZALV	**Zalesovo Beam**	**26.60**	**42**	P		**P**	**16 07 23.6**		**+0.6**
	0.3nm,0.4s,baz=260,slow=8.1,SNR=2.1								
	0.3nm,0.4s								
CLL	**Collm**	**32.31**	**309**	*eP*		**P**	**16 08 15.0**		**+1.2**
SFJD	**Kangerlussuaq**	**61.69**	**334**	LR		LR	16 39 10.2		
	comp=Z,65nm,18.3s,baz=144,slow=36								

*IDC **28** 16:02:10.7±0.7, 18°.33N×68°.98W, h140^{km}±6^{km}, mb3.8/20, mbtmp4.2/21, MS3.3/3, Error ellipse: s-maj=13.3km s-min=8.1km az=54.0*
*OSPL **28** 16:02:11.6±4.5, 18°.45N×68°.91W, h151^{km}±24^{km}, ML4.6*
*RSPR **28** 16:02:11.3, 18°.55N×68°.96W, h144^{km}±2^{km}, MD4.1/24*
*NEIC **28** 16:02:11.0±2.4, 18°.49N±0°.08×68°.98W±0°.05, h140^{km}±7^{km}, mb4.4/96, ML5.0/32, Md4.1/24(RSPR), Error ellipse: s-maj=11.6km s-min=5.9km az=194.0*
*SDD **28** 16:02:12.3±2.3, 18°.49N×69°.00W, h148^{km}±9^{km}, MD4.3, ML4.8, MW4.5*
*SSNC **28** 16:02:28.6, 19°.35N×70°.52W, h120^{km}, MB4.3, MD4.4, ML3.8*
ISC 28 16:02:10.5±0.5, 18°.40N±0°.04×68°.99W±0°.03, h140^{km}±4^{km}, n336, σ1^{s}71/342, mb4.3/58, 31C-16D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SADR	**Isla Saona**	**0.28**	**135**	*e*P		**Pn**	**16 02 30.8**	**+1.0**
SADR				↑*e*Sg		**Sn**	**16 02 46.0**	**+1.7**
SADR					IAML		16 02 48.1	
	comp=N,20μm,0.4s							
HIDR	**Higuey Centro**	**0.32**	**53**	↑*e*P		**Pn**	**16 02 30.9**	**+1.0**
HIDR	**Higuey Centro**	**0.32**	**53**	*e*S		**Sn**	**16 02 45.3**	**+0.7**
HIDR	**Higuey Centro**	**0.32**	**53**	↑*e*Pg		**Pn**	**16 02 30.3**	**+0.4**
HIDR				↓*e*Sg		**Sn**	**16 02 45.4**	**+0.7**
HIDR					IAML		16 02 47.5	
	comp=N,48μm,0.3s							
DR12	**Loma Pena Alta**	**0.54**	**316**			**Pn**	**16 02 30.6**	**-0.3**
MIDR	**Miches**	**0.59**	**354**	↑*e*Pg		**Pn**	**16 02 31.6**	**+0.4**
MIDR				↓*e*Sg		**Sn**	**16 02 47.2**	**+0.2**
MIDR					IAML		16 02 49.0	
	comp=N,12μm,0.2s							
SDD	**Santo Domingo**	**0.88**	**274**	Pn		**Pn**	**16 02 33.6**	**+0.3**
SDD	**Santo Domingo**	**0.88**	**274**			**Sn**	**16 02 51.4**	**+0.9**
SDD	**Santo Domingo**	**0.88**	**274**	↑*e*P		**Pn**	**16 02 33.7**	**+0.5**
SDD	**Santo Domingo**	**0.88**	**274**	*e*S		**Sn**	**16 02 51.4**	**+0.9**
SDD	**Santo Domingo**	**0.88**	**274**	↓*e*Pg		**Pn**	**16 02 33.8**	**+0.5**
SDD				*e*Sg		**Sn**	**16 02 50.6**	**0.0**
SDD					IAML		16 02 53.8	
	comp=N,2μm,0.2s							
SDD	**Santo Domingo**	**0.88**	**274**	*i* P		**Pn**	**16 02 33.6**	**+0.3**
SDD				*e*S		**Sn**	**16 02 50.5**	**0.0**
SMDR	**Samana, DR**	**0.91**	**348**	↓*e*P		**Pn**	**16 02 33.2**	**-0.3**
SMDR	**Samana, DR**	**0.91**	**348**	*e*S		**Sn**	**16 02 50.8**	**-0.2**
SMDR	**Samana, DR**	**0.91**	**348**	↑*e*Pg		**Pn**	**16 02 33.1**	**-0.3**
SMDR				*e*Sg		**Sn**	**16 02 49.2**	**-1.9**
SMDR					IAML		16 02 55.8	
	comp=N,10μm,0.6s							
LOSC1	**San Cristbal**	**1.06**	**271**	*i* P		**Pn**	**16 02 35.8**	**+1.0**
LOSC1				*e*S		**Sn**	**16 02 54.3**	**+0.9**
NADR	**Nagua**	**1.26**	**319**	↑*e*Pg		**Pn**	**16 02 36.7**	**0.0**
NADR				↑*e*Sg		**Sn**	**16 02 56.5**	**-0.2**
NADR					IAML		16 03 03.6	
	comp=N,42μm,0.3s							
LONA1	**Toro Cenizo, N**	**1.28**	**320**	*i* P		**Pn**	**16 02 37.0**	**0.0**
LONA1				*e*S		**Sn**	**16 02 56.7**	**-0.6**
LONA1					IAML		16 03 00.1	
	comp=Z,8μm,0.3s							
BANI	**BANI**	**1.30**	**270**	Pn		**Pn**	**16 02 38.1**	**+0.8**
BANI	**BANI**	**1.30**	**270**	↓*e*Pg		**Pn**	**16 02 38.3**	**+1.0**
BANI				*e*Sg		**Sn**	**16 02 57.4**	**-0.3**
BANI					IAML		16 03 05.6	
	comp=N,11μm,0.2s							
IDE	**Isla Desecheo**	**1.44**	**90**			**Pn**	**16 02 38.9**	**+0.3**
IDE						**Sn**	**16 03 02.7**	**+2.6**

IDE	**Isla Desecheo**	**1.44**	**90**	↑*e*P		**Pn**	**16 02 38.9**	**+0.3**
IDE	**Isla Desecheo**	**1.44**	**90**	*e*S		**Sn**	**16 03 02.7**	**+2.6**
ABDR	**Alto Bandera**	**1.61**	**285**	↓*e*Pg		**Pn**	**16 02 41.4**	**+0.6**
ABDR				↓*e*Sg		**Sn**	**16 03 04.2**	**+0.2**
ABDR					IAML		16 03 09.5	
	comp=N,7μm,0.6s							
PRSN	**Puerto Rico Se**	**1.76**	**96**			**Sn**	**16 03 09.1**	**+2.7**
PRSN	**Puerto Rico Se**	**1.76**	**96**			**Pn**	**16 02 42.7**	**+0.5**
PRSN					IAML		16 03 14.7	
	comp=E,12μm,0.2s							
PRSN	**Puerto Rico Se**	**1.76**	**96**	↑*e*P		**Pn**	**16 02 44.0**	**+1.8**
PRSN	**Puerto Rico Se**	**1.76**	**96**	*e*S		**Sn**	**16 03 09.1**	**+2.7**
PRSN	**Puerto Rico Se**	**1.76**	**96**	↓*e*Pg		**Pn**	**16 02 42.8**	**+0.6**
PRSN				↓*e*Sg		**Sn**	**16 03 09.0**	**+2.5**
PRSN					IAML		16 03 15.5	
	comp=N,11μm,0.2s							
AGPR	**Aguadilla, PR**	**1.79**	**87**			**Sn**	**16 03 08.1**	**+1.1**
AGPR	**Aguadilla, PR**	**1.79**	**87**			**Pn**	**16 02 42.8**	**+0.4**
AGPR					IAML		16 03 12.9	
	comp=N,10μm,0.7s							
AGPR					IAML		16 03 13.8	
	comp=E,8μm,0.5s							
AGPR	**Aguadilla, PR**	**1.79**	**87**	↑*e*P		**Pn**	**16 02 43.6**	**+1.1**
AGPR	**Aguadilla, PR**	**1.79**	**87**	*e*S		**Sn**	**16 03 08.1**	**+1.1**
AGPR	**Aguadilla, PR**	**1.79**	**87**	↓*e*Pg		**Pn**	**16 02 43.2**	**+0.7**
AGPR				↓*e*Sg		**Sn**	**16 03 07.9**	**+0.9**
AGPR					IAML		16 03 14.5	
	comp=N,8μm,0.7s							
AGPR	**Aguadilla, PR**	**1.79**	**87**	*i* P		**Pn**	**16 02 42.9**	**+0.4**
AGPR				*e*S		**Sn**	**16 03 07.7**	**+0.7**
AGPR					IAML		16 03 12.5	
	comp=Z,4μm,0.7s							
LSP	**Las Mesas**	**1.82**	**97**			**Pn**	**16 02 44.2**	**+1.2**
LSP						**Sn**	**16 03 10.0**	**+2.2**
LSP	**Las Mesas**	**1.82**	**97**	↑*e*P		**Pn**	**16 02 44.2**	**+1.2**
LSP	**Las Mesas**	**1.82**	**97**	*e*S		**Sn**	**16 03 10.0**	**+2.2**
CRPR	**Cabo Rojo, PR**	**1.83**	**102**			**Pn**	**16 02 43.3**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.83**	**102**			**Sn**	**16 03 09.1**	**+1.3**
CRPR	**Cabo Rojo, PR**	**1.83**	**102**	↑*e*P		**Sn**	**16 02 43.5**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.83**	**102**	*e*S		**Sn**	**16 03 09.1**	**+1.3**
CRPR	**Cabo Rojo, PR**	**1.83**	**102**	*i* P		**Pn**	**16 02 43.4**	**+0.3**
CRPR				*e*S		**Sn**	**16 03 02.8**	**-5.1**
CRPR					IAML		16 03 25.2	
	comp=Z,5μm,1.1s							
MLPR	**Magueyes Islan**	**1.90**	**103**	↑*e*P		**Pn**	**16 02 44.1**	**+0.3**
MLPR	**Magueyes Islan**	**1.90**	**103**	*e*S		**Sn**	**16 03 11.3**	**+2.0**
MLPR	**Magueyes Islan**	**1.90**	**103**	↓*e*Pg		**Pn**	**16 02 44.1**	**+0.3**
MLPR				↓*e*Sg		**Sn**	**16 03 09.7**	**+0.4**
MLPR					IAML		16 03 17.4	
	comp=N,1μm,0.2s							
SC01	**Santiago de Io**	**1.94**	**302**			**Sn**	**16 03 12.2**	**+2.0**
SC01	**Santiago de Io**	**1.94**	**302**	Pn		**Pn**	**16 02 44.7**	**+0.3**
SC01					IAML		16 03 13.2	
	comp=E,7μm,0.5s							
SC01					IAML		16 03 17.2	
	comp=N,6μm,0.5s							
SC01	**Santiago de Io**	**1.94**	**302**	↑*e*P		**Pn**	**16 02 45.0**	**+0.6**
SC01	**Santiago de Io**	**1.94**	**302**	*e*S		**Sn**	**16 03 12.2**	**+2.0**
SC01	**Santiago de Io**	**1.94**	**302**	*e*Pg		**Pn**	**16 02 44.8**	**+0.6**
SC01					IAML		16 03 17.1	
	comp=N,6μm,0.3s							
SC01	**Santiago de Io**	**1.94**	**302**	*i* P		**Pn**	**16 02 44.9**	**+0.6**
SC01				*e*S		**Sn**	**16 03 11.3**	**+1.1**
SC01					IAML		16 03 19.3	
	comp=Z,3μm,0.6s							
SODR	**Sosua Marina B**	**2.02**	**312**	*e*Pg		**Pn**	**16 02 44.2**	**-1.0**
SODR				*e*Sg		**Sn**	**16 03 10.5**	**-1.4**
SODR					IAML		16 03 31.8	
	comp=N,7μm,0.9s							
GBPR	**Guanica, Bosqu**	**2.05**	**101**			**Pn**	**16 02 46.9**	**+1.3**
GBPR	**Guanica, Bosqu**	**2.05**	**101**	↓*e*P		**Pn**	**16 02 46.9**	**+1.3**
AOPR	**Arecibo Observ**	**2.12**	**91**			**Pn**	**16 02 46.2**	**-0.3**
AOPR	**Arecibo Observ**	**2.12**	**91**			**Sn**	**16 03 14.9**	**+0.7**
AOPR	**Arecibo Observ**	**2.12**	**91**	↑*e*P		**Pn**	**16 02 46.9**	**+0.4**
AOPR	**Arecibo Observ**	**2.12**	**91**	↑*e*Pg		**Pn**	**16 02 46.6**	**+0.1**
AOPR				*e*Sg		**Sn**	**16 03 14.2**	**+0.1**
AOPR					IAML		16 03 25.0	
	comp=N,19μm,0.3s							
AOPR	**Arecibo Observ**	**2.12**	**91**	*e*P		**Pn**	**16 02 46.5**	**-0.1**
AOPR				*e*S		**Sn**	**16 03 14.8**	**+0.6**
UUPR	**Utuado, UPR, P**	**2.16**	**93**			**Pn**	**16 02 47.0**	**0.0**
UUPR	**Utuado, UPR, P**	**2.16**	**93**			**Sn**	**16 03 16.6**	**+1.6**
UUPR	**Utuado, UPR, P**	**2.16**	**93**	↑*e*P		**Pn**	**16 02 49.4**	**+2.5**
UUPR	**Utuado, UPR, P**	**2.16**	**93**	*e*S		**Sn**	**16 03 16.6**	**+1.6**
PODR	**Polo**	**2.19**	**264**	*i* P		**Pn**	**16 02 48.0**	**+0.5**
PODR				*e*S		**Sn**	**16 03 11.9**	**-4.0**
SDDR	**Presa de Saban**	**2.25**	**285**	Pn		**Pn**	**16 02 48.9**	**+0.7**
SDDR	**Presa de Saban**	**2.25**	**285**	*e*P		**Pn**	**16 02 48.4**	**+0.3**
SDDR				*e*S		**Sn**	**16 03 16.8**	**-0.3**
SDDR					IAML		16 03 22.9	
	comp=N,2μm,1.0s							
SDDR					IAML		16 03 24.0	
	comp=N,1μm,0.5s							
SDDR	**Presa de Saban**	**2.25**	**285**	↑*e*P		**Pn**	**16 02 49.7**	**+1.6**
SDDR	**Presa de Saban**	**2.25**	**285**	↓*e*Pg		**Pn**	**16 02 48.8**	**+0.7**
SDDR				*e*Sg		**Sn**	**16 03 17.0**	**-0.1**
SDDR					IAML		16 03 22.4	
	comp=N,2μm,1.3s							
SDDR	**Presa de Saban**	**2.25**	**285**	*i* P		**Pn**	**16 02 48.7**	**+0.5**
SDDR				*e*S		**Sn**	**16 03 19.6**	**+2.5**
SDDR					IAML		16 03 29.2	
	comp=Z,1μm,0.6s							
SDDR	**Presa de Saban**	**2.25**	**285**	P		**Pn**	**16 02 47.2**	**-1.0**
SDDR				S		**Sn**	**16 03 18.3**	**+1.2**
OBIP	**Obispado Ponce**	**2.29**	**98**			**Sn**	**16 03 19.7**	**+1.9**
OBIP	**Obispado Ponce**	**2.29**	**98**			**Pn**	**16 02 48.6**	**0.0**
OBIP	**Obispado Ponce**	**2.29**	**98**	↓*e*P		**Pn**	**16 02 48.9**	**+0.4**
OBIP	**Obispado Ponce**	**2.29**	**98**	*e*S		**Sn**	**16 03 19.7**	**+1.9**
CELP	**Cerrillos**	**2.31**	**98**			**Sn**	**16 03 20.3**	**+2.0**
CELP	**Cerrillos**	**2.31**	**98**			**Pn**	**16 02 48.9**	**+0.1**
CELP					IAML		16 03 28.3	
	comp=N,5μm,0.3s							
CELP					IAML		16 03 29.4	
	comp=E,4μm,0.3s							
CELP	**Cerrillos**	**2.31**	**98**	↑*e*P		**Pn**	**16 02 50.2**	**+1.4**
CELP	**Cerrillos**	**2.31**	**98**	*e*S		**Sn**	**16 03 20.3**	**+2.0**
CELP	**Cerrillos**	**2.31**	**98**	↓*e*Pg		**Pn**	**16 03 20.6**	**+0.8**
CELP				*e*Sg		**Sn**	**16 03 18.8**	**+0.5**
CELP					IAML		16 03 28.2	
	comp=N,5μm,0.3s							
EMPR	**Esperanza - Ma**	**2.34**	**88**			**Sn**	**16 03 18.5**	**-0.3**
EMPR	**Esperanza - Ma**	**2.34**	**88**			**Pn**	**16 02 48.6**	**-0.5**
EMPR	**Esperanza - Ma**	**2.34**	**88**	↑*e*P		**Pn**	**16 02 48.7**	**-0.5**
EMPR	**Esperanza - Ma**	**2.34**	**88**	*e*S		**Sn**	**16 03 18.5**	**-0.3**
LODU1	**El Espartillar**	**2.36**	**269**	*i* P		**Pn**	**16 02 50.6**	**+1.2**
ECPR	**Experimental S**	**2.50**	**91**	↑*e*P		**Pn**	**16 02 52.1**	**+1.0**
ECPR	**Experimental S**	**2.50**	**91**	*e*S		**Sn**	**16 03 24.9**	**+2.6**
LOPP1	**Punta Rusia, P**	**2.54**	**305**	*i* P		**Pn**	**16 02 50.7**	**-1.0**
LOPP1				*e*S		**Sn**	**16 03 21.7**	**-1.6**
LOPP1					IAML		16 03 36.3	
	comp=Z,2μm,0.3s							
SJG	**San Juan**	**2.71**	**96**	Pn		**Pn**	**16 02 53.0**	**-0.8**
SJG					IAML		16 03 35.3	
	comp=Z,5μm,0.5s							
SJG					IAML		16 03 36.0	
	comp=Z,6μm,0.4s							
SJG	**San Juan**	**2.71**	**96**	P		**Pn**	**16 02 52.9**	**-0.8**
	comp=Z,344nm,0.4s,baz=301,slow=8.9,SNR=127							
SJG				S		**Sn**	**16 03 24.7**	**-2.4**
	comp=Z,901nm,0.5s,baz=54,slow=19,SNR=19							
SJG	**San Juan**	**2.71**	**96**	*e*P		**Pn**	**16 02 54.2**	**+0.4**
SJG	**San Juan**	**2.71**	**96**	*e*S		**Sn**	**16 03 29.2**	**+2.0**
SJG	**San Juan**	**2.71**	**96**	*e*P		**Pn**	**16 02 53.1**	**-0.8**
SJG				*e*S		**Sn**	**16 03 26.4**	**-0.8**
SJG	**San Juan**	**2.71**	**96**	*i* P		**Pn**	**16 02 53.4**	**-0.4**
SJG					IAML		16 03 37.8	
	comp=Z,2μm,0.3s							
SJG	**San Juan**	**2.71**	**96**	P		**Pn**	**16 02 53.4**	**-0.4**
SJG				S		**Sn**	**16 03 25.5**	**-1.7**
GCPR	**Guaynabo City**	**2.76**	**91**			**Sn**	**16 03 28.7**	**+0.4**
GCPR	**Guaynabo City**	**2.76**	**91**			**Pn**	**16 02 53.4**	**-1.0**
GCPR					IAML		16 03 36.6	
	comp=N,5μm,0.5s							
GCPR					IAML		16 03 36.7	
	comp=E,4μm,0.5s							
GCPR	**Guaynabo City**	**2.76**	**91**	↑*e*P		**Pn**	**16 02 54.9**	**+0.4**
GCPR	**Guaynabo City**	**2.76**	**91**	*e*S		**Sn**	**16 03 28.7**	**+0.4**
IGPR	**InterUniversit**	**2.77**	**98**			**Pn**	**16 02 55.1**	**+0.5**
IGPR						**Sn**	**16 03 29.7**	**+1.1**
IGPR	**InterUniversit**	**2.77**	**98**	↑*e*P		**Pn**	**16 02 55.1**	**+0.5**
IGPR	**InterUniversit**	**2.77**	**98**	*e*S		**Sn**	**16 03 29.7**	**+1.1**
PDPR	**Patillas Dam,**	**2.85**	**97**			**Pn**	**16 02 54.9**	**-0.6**

PDPR					IAML		16 03 38.1	
	comp=N,5μm,0.7s							
PDPR					IAML		16 03 39.4	
	comp=E,4μm,0.6s							
PDPR	**Patillas Dam,**	**2.85**	**97**	↑*e*P		**Pn**	**16 02 55.4**	**-0.1**
PDPR	**Patillas Dam,**	**2.85**	**97**	*e*S		**Sn**	**16 03 31.4**	**+1.2**
HUMP	**Col San Antoni**	**2.99**	**94**			**Sn**	**16 03 32.6**	**-1.0**
HUMP	**Col San Antoni**	**2.99**	**94**			**Pn**	**16 02 56.3**	**-1.1**
HUMP					IAML		16 03 42.9	
	comp=E,6μm,0.3s							
HUMP	**Col San Antoni**	**2.99**	**94**	↑*e*P		**Pn**	**16 02 57.1**	**-0.3**
HUMP	**Col San Antoni**	**2.99**	**94**	*e*S		**Sn**	**16 03 32.6**	**-1.0**
PAPH	**Port-au-Prince**	**3.14**	**273**	*i* P		**Pn**	**16 02 59.9**	**+0.6**
PAPH	**Port-au-Prince**	**3.14**	**273**	*i* P		**Pn**	**16 03 00.2**	**+0.8**
PAPH				*e*S		**Sn**	**16 03 37.9**	**+0.8**
GRTK	**Grand Turk**	**3.70**	**327**	Pn		**Pn**	**16 03 04.1**	**-2.4**
GRTK					IAML		16 03 46.5	
	comp=E,3μm,0.4s							
GRTK					IAML		16 03 47.7	
	comp=E,3μm,0.5s							
GRTK	**Grand Turk**	**3.70**	**327**	*i* P		**Pn**	**16 03 04.3**	**-2.2**
GRTK				*e*S		**Sn**	**16 03 43.2**	**-6.8**
GRTK	**Grand Turk**	**3.70**	**327**	*i* P		**Pn**	**16 03 04.4**	**-2.1**
GRTK				*e*S		**Sn**	**16 03 44.8**	**-5.1**
GRTK					IAML		16 03 52.5	
	comp=Z,1μm,0.6s							
MASC	**Masc**	**5.26**	**291**	*i* P		**Pn**	**16 03 23.5**	**-3.6**
MASC	**Masc**	**5.26**	**291**	*i* P		**Pn**	**16 03 23.9**	**-3.3**
MASC				*e*S		**Sn**	**16 04 22.5**	**-4.4**
MASC					IAML		16 04 28.2	
	comp=Z,88nm,0.6s							
SABA	**Saba**	**5.52**	**97**			**Pn**	**16 03 32.9**	**+2.2**
SABA						**Sn**	**16 04 36.4**	**+3.0**
SABA	**Saba**	**5.52**	**97**	↑*e*P		**Sn**	**16 03 32.9**	**+2.2**
SABA	**Saba**	**5.52**	**97**	*e*S		**Sn**	**16 04 36.4**	**+3.0**
QMBU	**Quimbuelo**	**5.78**	**289**	*i* P		Pn	16 03 29.7		-4.6
GTBY	**Guantanamo Bay**	**5.98**	**286**	*i* P		Pn	16 03 33.2		-4.6
NMDO	**Nuevo Mundo**	**6.05**	**292**	*i* P		Pn	16 03 33.3		-4.7
SKOC	**St. Kitts, UWI**	**6.06**	**99**	*e*P		**Pn**	**16 03 36.5**		**-1.4**
SKOC	**St. Kitts, UWI**	**6.06**	**99**	*e*S		**Sn**	**16 04 45.8**		**-0.4**
MOAC	**Moa**	**6.06**	**293**	*i* P		Pn	16 03 33.3		-4.7
RCC	**Rio Carpintero**	**6.53**	**285**	*i* P		**Pn**	**16 03 40.4**		**-3.9**
MBFL	**Flemmings, Mon**	**6.67**	**103**	*e*P		**Pn**	**16 03 46.2**		**+0.1**
MBFL	**Flemmings, Mon**	**6.67**	**103**	*e*S		**Sn**	**16 05 04.6**		**+3.7**
MBWH		**6.69**	**103**	*e*P		**Pn**	**16 03 46.6**		**+0.1**
MBWH		**6.69**	**103**	*e*S		**Sn**	**16 05 00.3**		**-1.2**
MLYT

comp=Z,1µmcomp=Z,155nm,0.9s
PRAC Prado 15.69 202 P **P** **16 05 46.4 +1.1**
comp=Z,858nmcomp=Z,88nm,0.8s
YOTC Yotoco, Valle 16.03 208 P **P** **16 05 50.0 +0.9**
comp=Z,21nm,0.8s
HDC Heredia 16.86 242 *eP* **Pn** **16 06 03.2 +4.7**
JAMC Jamundi, Valle 16.86 207 P **Pn** **16 05 59.1 +0.5**
comp=Z,46nm,1.2s
GARC Garzon, Huila 17.32 202 P **Pn** **16 06 05.6 +1.4**
comp=Z,56nm,0.7s
POPC Popayan, Colom 17.47 206 P **P** **16 06 05.1 +0.1**
comp=Z,24nm,0.8s
BOAV Boa Vista 17.94 151 **P** **16 06 10.6 +0.6**
BOAV Boa Vista 17.94 151 *eP* **Pn** **16 06 11.1 -0.2**
BOAV Boa Vista 17.94 151 P **P** **16 06 09.7 -0.3**
comp=Z,44nm,1.1s
FLOC Florencia 17.94 202 Pn **Pn** **16 06 12.1 +0.8**
FLOC Florencia 17.94 202 P **Pn** **16 06 12.2 +0.8**
comp=Z,1µmcomp=Z,81nm,0.8s
BBAC Balboa, Cauca 18.18 207 P **Pn** **16 06 14.1 -0.2**
comp=Z,662nmcomp=Z,48nm,1.0s
SGC2 Sao Gabriel da 18.54 174 P **Pn** **16 06 17.8 -0.6**
comp=Z,1µmcomp=Z,124nm,0.7s
GCUF Volcan Galeras 18.93 207 P **P** **16 06 22.1 +0.8**
comp=Z,28nm,0.8s
JSC Jenkinsville 19.24 328 P **P** **16 06 24.3 +0.3**
W57A Gilead 19.34 332 P **P** **16 06 25.6 +0.5**
W57A IAmb IAmb 16 06 45.2
comp=Z,9.9nm,0.6s
HODGE Hodges 19.72 326 IAmb IAmb 16 06 34.3
comp=Z,14nm,1.4s
GOGA Godfrey 19.79 322 P **P** **16 06 29.9 0.0**
GOGA IAmb IAmb 16 06 35.4
comp=Z,14nm,0.8s
MTO3 Montecristo 19.94 262 P **P** **16 06 31.3 -0.6**
MTO3 IAmb IAmb 16 06 41.6
comp=Z,9.3nm,0.8s
PAULI Pauline 19.94 328 IAmb IAmb 16 06 36.2
comp=Z,13nm,1.1s
T59A Double "B" Far 19.98 340 P **P** **16 06 29.5 -2.4**
T59A IAmb IAmb 16 06 56.5
comp=Z,8.7nm,0.7s
152A Waverly Hall 20.05 318 P **P** **16 06 33.4 +0.7**
152A IAmb IAmb 16 06 35.0
comp=Z,12nm,0.7s
CUSE Cuicocha Este 20.21 208 P Pn 16 06 37.3 -1.2
comp=Z,2µmcomp=Z,114nm,0.9s
OTAV Otavalo 20.30 208 P **P** **16 06 36.0 -0.1**
OTAV Otavalo 20.30 208 *eP* Pn 16 06 38.9 -0.6
OTAV Otavalo 20.30 208 P Pn 16 06 38.1 -1.4
comp=Z,618nmcomp=Z,69nm,1.0s
250A Grady 20.63 314 IAmb IAmb 16 06 40.8
comp=Z,17nm,0.9s
MDP Montagnes des 20.73 128 P **P** **16 06 39.7 -0.5**
comp=Z,9.4nm,0.9s,baz=356,slow=7.2,SNR=5.6
MDP S **S** **16 10 22.9 -1.2**
comp=Z,6.2nm,0.9s,baz=73,slow=13,SNR=2.5
comp=Z,9.4nm,0.9s
S57A Dark Hollow, R 21.17 338 IAmb IAmb 16 07 03.0
comp=Z,10.0nm,0.6s
TKL Tuckaleechee C 21.61 326 P **P** **16 06 49.8 +0.4**
comp=Z,2.7nm,0.7s,baz=143,slow=9.8,SNR=5.0
TKL S **S** **16 10 40.7 +0.6**
comp=Z,4.2nm,0.6s,baz=252,slow=18,SNR=3.6
comp=Z,2.7nm,0.7s
TZTN Tazewell 22.17 328 IAmb IAmb 16 07 40.7
comp=Z,10nm,1.0s
TEFE Tefe 22.19 168 *eP* **P** **16 06 56.7 +1.2**
CCIG Comitan 22.19 268 P **P** **16 06 56.4 +0.5**
CCIG IAmb IAmb 16 06 58.8
comp=Z,14nm,0.6s
TBTG Tabatinga, AM 22.46 182 *eP* **P** **16 06 58.5 +0.3**
Z47A Carrollton 22.58 314 IAmb IAmb 16 07 31.1
comp=Z,8.5nm,0.8s
MACA Manacapuru-AM 22.93 158 *eP* **P** **16 07 03.5 +0.8**
COHC Cochancay 23.06 207 P **P** **16 07 05.6 +1.7**
COHC Cochancay 23.06 207 P **P** **16 07 04.4 +0.5**
comp=Z,607nmcomp=Z,8.9nm,0.9s
T50A Nancy 23.20 326 IAmb IAmb 16 07 39.5
comp=Z,15nm,1.5s
U49A Red Boiling Sp 23.34 324 IAmb IAmb 16 07 52.8
comp=Z,16nm,1.4s
PLAL Pickwick Lake 23.67 318 IAmb IAmb 16 07 12.8
comp=Z,7.3nm,0.6s
R50A Paris 23.91 329 IAmb IAmb 16 07 15.3
comp=Z,7.1nm,0.6s
WVT Waverly 24.26 320 P **P** **16 07 15.5 +0.9**
WVT IAmb IAmb 16 07 17.7
comp=Z,11nm,0.7s
CZSB Cruzeiro do Su 26.22 188 P **P** **16 07 33.8 +1.3**
CZSB Cruzeiro do Su 26.22 188 *eP* **P** **16 07 34.4 +1.9**
N47A Urbana 26.61 331 P **P** **16 07 35.8 0.0**
BRDY Brady 30.00 301 P **P** **16 08 05.8 -0.3**
JFWS Jewell Farm 30.35 328 P **P** **16 08 09.2 +0.1**
JFWS IAmb IAmb 16 08 10.3
comp=Z,8.9nm,0.7s
PDRB Porto dos Gac 32.18 157 *eP* **P** **16 08 25.4 +0.1**
VILB Vilhena 32.33 164 P **P** **16 08 26.8 +0.2**
VILB Vilhena 32.33 164 *eP* **P** **16 08 26.5 -0.2**
TXAR Lajitas Array 33.41 296 P **P** **16 08 37.0 +0.8**
TXAR Lajitas Array 33.41 296 P **P** **16 08 37.1 +1.0**
comp=Z,1.0nm,0.4s,baz=118,slow=8.3,SNR=49
TXAR PcP **PcP** **16 11 14.7 +0.2**
comp=Z,0.4nm,0.7s,baz=98,slow=4.2,SNR=3.2
TXAR ScP **ScP** **16 14 45.8 -0.2**
comp=Z,1.4nm,0.9s,baz=83,slow=3.2,SNR=11
comp=Z,1.0nm,0.4s
ALPN Alpine 33.60 297 IAmb IAmb 16 08 39.3
comp=Z,7.0nm,0.7s
MSTX Muleshoe 33.87 304 IAmb IAmb 16 08 41.1
comp=Z,8.2nm,0.8s
SMTB Santa Maria do 34.35 140 *eP* **P** **16 08 43.7 -0.4**
LPAZ La Paz 34.48 179 IAmb IAmb 16 08 50.6
comp=Z,6.2nm,0.9s
LPAZ La Paz 34.48 179 P **P** **16 08 45.5 -0.4**
comp=Z,4.7nm,0.7s,baz=1.2,slow=0.7,SNR=16
LPAZ PcP **PcP** **16 11 17.9 -0.3**
comp=Z,2.0nm,0.9s,baz=26,slow=4.3,SNR=3.0
comp=Z,4.7nm,0.7s
LPAZ La Paz 34.48 179 *eP* **P** **16 08 45.4 -0.5**
LPAZ La Paz 34.48 179 P **P** **16 08 42.9 -3.0**
RTBA Rita Blanca 34.70 308 IAmb IAmb 16 08 48.4
comp=Z,4.8nm,0.8s
VHRN Van Horn 34.83 298 IAmb IAmb 16 08 50.6
comp=Z,11nm,1.2s
PTLB Pontes e Lacer 35.00 163 *eP* **P** **16 08 49.7 -0.1**
SIV San Ignacio 35.05 167 P **P** **16 08 50.0 -0.1**
comp=Z,2.9nm,0.6s,baz=358,slow=9.6,SNR=17
comp=Z,2.9nm,0.6s
MNTX Cornudas Mount 35.36 299 IAmb IAmb 16 08 55.4
comp=Z,8.4nm,1.4s
BBSD Serra de San D 36.31 166 *eP* **P** **16 09 00.6 -0.3**
SCHQ Schefferville 36.41 2 P **P** **16 09 02.3 +1.0**
comp=Z,2.1nm,0.4s,baz=180,slow=9.7,SNR=3.7
comp=Z,2.1nm,0.4s
PB16 IPOC Station P 36.51 181 IAmb IAmb 16 09 02.6
comp=Z,8.4nm,0.7s
SALV Santo Antonio 36.51 158 *eP* **P** **16 09 03.1 +0.6**
ANMO Albuquerque 37.06 304 P **P** **16 09 07.7 +0.3**
GO01 Chusmiza 37.83 180 P **P** **16 09 12.7 -1.5**
ARAG Araguaiana, MT 37.88 152 *eP* **P** **16 09 13.8 -0.3**
S22A 4UR Ranch, Cre 38.22 308 IAmb IAmb 16 09 20.0
comp=Z,6.1nm,1.4s
SDBA SAO DESIDERIO 38.75 140 *eP* **P** **16 09 20.6 -0.9**
BDFB Brasilia 39.63 147 P **P** **16 09 28.3 -0.6**
comp=Z,1.6nm,0.5s,baz=350,slow=13,SNR=4.0
comp=Z,1.6nm,0.5s
PV15 Paradox Valley 39.65 308 IAmb IAmb 16 09 32.3
comp=Z,8.6nm,0.8s
PV02 Paradox Valley 39.79 308 IAmb IAmb 16 09 32.9
comp=Z,6.4nm,0.9s
PV13 Radium Mtn., P 39.84 308 IAmb IAmb 16 09 33.2
comp=Z,5.9nm,1.1s
PV12 Saucer Basin, 39.88 308 IAmb IAmb 16 09 33.5
comp=Z,10nm,0.9s
PV18 Skein Mesa, Pa 39.94 308 IAmb IAmb 16 09 33.7
comp=Z,9.5nm,1.0s
PV22 Blue Mesa, Par 39.94 309 IAmb IAmb 16 09 33.5
comp=Z,3.6nm,0.7s
PV16 Nyswonger Mesa 39.96 308 IAmb IAmb 16 09 34.0
comp=Z,4.4nm,0.9s
PV17 East Wray Mesa 39.98 308 IAmb IAmb 16 09 34.0
comp=Z,5.4nm,1.0s
PV05 Paradox Valley 40.02 308 IAmb IAmb 16 09 33.8
comp=Z,4.4nm,0.9s
PV23 Carpenter Ridg 40.08 308 IAmb IAmb 16 09 34.7
comp=Z,7.5nm,0.9s

PV21 Cone Mtn., Par 40.08 309 IAmb IAmb 16 09 34.7
comp=Z,5.2nm,0.9s
BDQN Bodoquena, MS 40.43 162 *eP* **P** **16 09 35.5 +0.3**
RCBR Riachuelo 40.55 123 *eP* **P** **16 09 36.4 -0.1**
AQDB Aquidauana 40.77 161 *eP* **P** **16 09 38.7 +0.7**
MURT Porto Murtinho 41.34 164 *eP* **P** **16 09 42.6 -0.1**
PDAR Pinedale Array 41.98 314 P **P** **16 09 48.4 +0.4**
comp=Z,0.3nm,0.3s,baz=96,slow=9.4,SNR=2.1
PDAR pP **pP** **16 10 18.7 -0.6**
comp=Z,1.9nm,1.1s,baz=114,slow=6.2,SNR=5.2
PDAR PcP **PcP** **16 11 40.6 -0.1**
comp=Z,1.0nm,0.9s,baz=121,slow=3.6,SNR=4.1
comp=Z,0.3nm,0.3s
AMBA Amambai (Brazi 43.29 161 *eP* **P** **16 09 58.5 0.0**
GO02 Mina Guanaco 43.30 181 IAmb IAmb 16 09 58.8
comp=Z,9.8nm,0.9s
PCMB Pacaembu 43.38 156 *eP* **P** **16 09 59.6 +0.3**
PSUT Pine Spring 43.74 307 P **P** **16 10 01.3 -1.1**
PSUT IAmb IAmb 16 10 05.5
comp=Z,6.4nm,0.8s
IRM Iron Mountain 43.88 300 IAmb IAmb 16 10 07.1
comp=Z,9.2nm,1.5s
V12A Nelson 43.91 303 P **P** **16 10 04.0 +0.4**
CMC01 Camacan, BA 44.36 137 *eP* **P** **16 10 06.8 -0.3**
SJPY San Joaquin 44.92 163 *eP* **P** **16 10 11.1 -0.4**
TPNV Topopah Spring 45.25 304 IAmb IAmb 16 10 17.7
comp=Z,4.3nm,0.8s
CPUP Villa Florida 45.88 165 P **P** **16 10 18.1 -0.8**
comp=Z,2.6nm,0.9s,baz=328,slow=17,SNR=15
comp=Z,2.6nm,0.9s
CPUP Villa Florida 45.88 165 *eP* **P** **16 10 17.8 -1.2**
TPH Tonopah 46.23 305 IAmb IAmb 16 10 24.3
comp=Z,15nm,1.1s
NV11 Mina Array Sit 47.02 306 P **P** **16 10 29.3 +1.3**
NV11 IAmb IAmb 16 10 32.9
comp=Z,7.2nm,1.2s
NVAR Mina Array Bea 47.13 306 P **P** **16 10 29.6 +0.6**
comp=Z,1.7nm,0.9s,baz=98,slow=5.6,SNR=6.7
NVAR pP **pP** **16 11 02.2 +1.4**
comp=Z,2.2nm,0.8s,baz=88,slow=9.7,SNR=4.8
comp=Z,1.7nm,0.9s
LCO Las Campanas 47.16 182 P **P** **16 10 28.7 -0.5**
LHV Little Huntoon 47.25 305 IAmb IAmb 16 10 58.9
comp=Z,8.9nm,1.5s
CO01 Juntas del Tor 48.10 181 P **P** **16 10 36.7 +0.2**
CO01 IAmb IAmb 16 10 38.1
comp=Z,10nm,0.8s
CFA Coronel Fontan 49.72 179 P **P** **16 10 48.1 -0.4**
comp=Z,4.3nm,0.7s,baz=352,slow=7.9,SNR=14
comp=Z,4.3nm,0.7s
CPSB Cacapava Do Su 50.78 163 *eP* **P** **16 10 55.4 -1.1**
MT09 Talagante 51.91 182 IAmb IAmb 16 11 04.8
comp=Z,8.9nm,1.1s
PLTB Pedras Altas 52.01 163 *eP* **P** **16 11 04.4 -1.3**
BO01 Tunca 52.53 182 IAmb IAmb 16 11 09.8
comp=Z,6.7nm,0.8s
YKA Yellowknife Ar 54.11 336 pP pP 16 11 54.0 +0.8
comp=Z,2.8nm,0.9s,baz=116,slow=6.5,SNR=8.8
PLCA Paso Flores 58.84 181 P **P** **16 11 54.2 -0.2**
comp=Z,3.3nm,0.9s,baz=354,slow=7.3,SNR=6.6
comp=Z,3.3nm,0.9s
ESDC Sonseca Array 59.41 54 P **P** **16 11 59.5 +0.9**
comp=Z,0.9nm,0.9s,baz=275,slow=7.4,SNR=6.3
ESDC sP **sP** **16 12 47.3 +0.4**
comp=Z,1.1nm,0.9s,baz=273,slow=7.8,SNR=3.4
comp=Z,0.9nm,0.9s
DBIC Dimbokro 63.41 92 P **P** **16 12 25.9 +0.3**
comp=Z,4.3nm,0.6s,baz=336,slow=5.8,SNR=4.9
comp=Z,4.3nm,0.6s
TORD Torodi Ar. Bea 67.86 83 P **P** **16 12 54.3 0.0**
comp=Z,1.2nm,0.3s,baz=304,slow=7.2,SNR=1.4
comp=Z,1.2nm,0.3s
ILAR Eielson Array 68.36 333 P **P** **16 12 57.2 +0.7**
comp=Z,0.4nm,0.6s,baz=100,slow=3.8,SNR=4.1
comp=Z,0.4nm,0.6s
HFS Hagfors 70.61 32 LR LR 16 43 30.7
comp=Z,28nm,18.1s,baz=158,slow=35
ARCES ARCESS Array B 74.49 21 P **P** **16 13 33.1 -0.1**
comp=Z,4.0nm,1.1s,baz=284,slow=3.6,SNR=3.8
comp=Z,4.0nm,1.1s
FINES FINESS Array B 76.42 29 P **P** **16 13 45.2 +0.9**
comp=Z,1.1nm,0.7s,baz=268,slow=9.5,SNR=6.4
comp=Z,1.1nm,0.7s
IDI Anoyia 82.66 55 P **P** **16 14 20.3 +1.6**
comp=Z,9.9nm,0.6s,baz=286,slow=6.3,SNR=3.1
comp=Z,9.9nm,0.6s
BRTR Keskin Array B 87.73 49 P **P** **16 14 44.9 +0.8**
comp=Z,0.9nm,0.8s,baz=275,slow=5.4,SNR=2.6
comp=Z,0.9nm,0.8s
PETK Petropavlovsk- 98.19 334 LR LR 17 01 38.7
comp=Z,19nm,19.5s,baz=294,slow=36
MAW Mawson 122.18 160 PKP **PKPdf** **16 20 47.9 -0.1**
comp=Z,1.0nm,0.6s,baz=211,slow=5.9,SNR=2.2
KSRS Korea Array 122.21 344 PKP **PKPdf** **16 20 48.8 -0.3**
comp=Z,0.5nm,0.6s,baz=353,slow=0.6,SNR=4.8
CMAR Chiang Mai Arr 141.50 19 SKP 16 24 48.3
comp=Z,0.4nm,0.3s,baz=34,slow=1.9,SNR=4.8
STKA Stephens Creek 149.35 238 PKPbc **PKPbc** **16 21 42.9 -0.5**
comp=Z,2.7nm,0.8s,baz=89,slow=4.5,SNR=4.3
WRA Warramunga Arr 157.91 262 PKP **PKPdf** **16 21 50.6 -0.8**
comp=Z,0.5nm,0.9s,baz=61,slow=1.8,SNR=4.8
WRA PKPab **PKPab** **16 22 24.6 -0.5**
comp=Z,0.6nm,0.7s,baz=88,slow=4.1,SNR=5.7
ASAR Alice Springs 158.01 252 PKP **PKPdf** **16 21 51.0 -0.5**
comp=Z,0.3nm,0.8s,baz=76,slow=0.9,SNR=4.6
ASAR PKPab **PKPab** **16 22 25.2 -0.3**
comp=Z,1.0nm,0.7s,baz=105,slow=4.5,SNR=10

MOS ***28*** *16:09:06.6±1.0,38.˚11N×23.˚43E,h11km,mb4.5/20,Error ellipse: s-maj=7.0km s-min=3.5km az=80.1*
ISK ***28*** *16:09:06.2,38.˚19N×23.˚49E,h4km,ML4.3/20*
NAO ***28*** *16:09:07.6,38.˚10N×23.˚54E,h10km,mb4.5*
HLW ***28*** *16:09:07.5,38.˚16N×23.˚77E,h10km±6km,Ml4.1*
THE ***28*** *16:09:08.9,38.˚1N±0.˚8×23.˚6E±0.˚5,h5km±1km,M4.2/35, MLh4.2/35*
ATH ***28*** *16:09:08.6,38.˚10N×23.˚54E,h9km,Mw4.2,Moment Tensor Solution. s10 Moment tensor: Mrr=2.33; Mθθ2.35; Mϕϕ-0.02; Mrθ-0.39; Mθϕ-0.42; Mϕr0.25; Fault plane solution: NP1:ϕs104.00000°,δ50.00000°, λ-84.00000°. NP2:ϕs275.00000°,δ40.00000°, λ-97.00000°.*
NEIC ***28*** *16:09:08.6±1.9,38.˚14N±0.˚04×23.˚55E±0.˚07,h10km±1km, mb4.6/36 Error ellipse: s-maj=9.1km s-min=7.2km az=112.0*
MED_RC ***28*** *16:09:08.0±0.5,38.˚10N×23.˚54E,h12km±2km,MW4.2/13, Moment Tensor Solution.Mantle waves: s13,c17; Duration: 1s0 Moment tensor: Scale 10¹⁵Nm; Mrr-2.52±.61; Mθθ2.84±.41; Mϕϕ-0.32±.27; Mrθ-0.66±.44; Mθϕ-0.97±.18; Mϕr0.70±.44; Best double couple: M₀2.99000×10¹⁵ NP1:ϕs272.00000°,δ38.00000°, λ-111.00000°. NP2:ϕs118.00000°,δ54.00000°, λ-74.00000°. Principal axes: T 3.2400, Plg8.0000°, Azm197.0000°; N -0.4900, Plg13.0000°, Azm289.0000°; P -2.7500, Plg75.0000°, Azm74.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
MCSM ***28*** *16:09:10.6±0.8,38.˚N±3.˚×2.˚4E±.˚,h13km±6km,mb4.6, mB4.7,MLv4.7,Mw(mB)3.9*
BEO ***28*** *16:09:11.3±0.6,38.˚31N×23.˚48E,h0km,ML3.8/6*
IDC ***28*** *16:09:12.7±1.3,38.˚18N×23.˚52E,h47km±13km,mb4.0/22, mbtmp4.2/31,ML3.9/7,MS3.2/13,Error ellipse: s-maj=12.8km s-min=10.3km az=158.0*

ISC 28 16:09:08.4±0.5,38.13N±0.02×23.57E±0.01,h13km±2km, n458,σ1§44/543,mb4.4/53,MS3.2/9,49C-22D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STFN	**Stefani**	**0.05**	**340**	P		**Pg**		**16 09 10.9**	**-0.1**
STFN				S		**Sg**		**16 09 12.5**	**-0.3**
MAGU	**Magoula**	**0.06**	**221**	P		**Pg**		**16 09 10.4**	**-0.6**
MAGU				S		**Sg**		**16 09 11.9**	**-1.0**
PARN3	**Mandra,Attica,**	**0.07**	**222**	P		**Pg**		**16 09 10.6**	**-0.5**
PARN3				S		**Sg**		**16 09 11.9**	**-1.1**
PARN1	**Fyli,Attica,Gr**	**0.09**	**107**	P		**Pg**		**16 09 11.1**	**-0.1**
PARN1				S		**Sg**		**16 09 13.1**	**-0.2**
PARN2	**Moni Osiou Mel**	**0.11**	**307**	P		**Pg**		**16 09 11.5**	**-0.1**
PARN2				S		**Sg**		**16 09 13.3**	**-0.5**
ATH	**Athens Observa**	**0.20**	**142**	P		**Pg**		**16 09 13.1**	**+0.3**
ATH				S		**Sg**		**16 09 16.4**	**+0.6**
ATH	**Athens Observa**	**0.20**	**142**	P		**Pg**		**16 09 12.9**	**+0.2**
ATH				S		**Sg**		**16 09 15.7**	**0.0**
ATH5	**Athens Parliam**	**0.20**	**138**	P		**Pg**		**16 09 13.2**	**+0.3**
ATH5				S		**Sg**		**16 09 16.0**	**+0.1**
VILL	**Villia**	**0.20**	**281**	P		**Pg**		**16 09 12.9**	**-0.1**
VILL				S		**Sg**		**16 09 15.9**	**-0.2**
ATHU	**Athens Univers**	**0.23**	**133**	P		**Pg**		**16 09 13.8**	**+0.3**
ATHU				S		**Sg**		**16 09 17.1**	**+0.2**
ATHU	**Athens Univers**	**0.23**	**133**	P		**Pg**		**16 09 13.6**	**+0.1**
ATHU				S		**Sg**		**16 09 16.8**	**-0.1**
PTL	**Penteli**	**0.25**	**108**	P		**Pg**		**16 09 14.2**	**+0.4**
PTL				S		**Sg**		**16 09 18.0**	**+0.7**
PTL	**Penteli**	**0.25**	**108**	P		**Pg**		**16 09 14.0**	**+0.3**
PTL				S		**Sg**		**16 09 17.2**	**-0.1**
VIL2	**Platees**	**0.25**	**290**	P		**Pg**		**16 09 12.7**	**-1.0**
VIL2				S		**Sg**		**16 09 15.6**	**-1.8**
DION	**Dionisos Attik**	**0.29**	**100**	P		**Pg**		**16 09 15.0**	**+0.5**
DION				S		**Sg**		**16 09 19.5**	**+0.8**
DION	**Dionisos Attik**	**0.29**	**100**	P		**Pg**		**16 09 14.9**	**+0.4**
DION				S		**Sg**		**16 09 19.0**	**+0.4**
LOUT	**Loutraki**	**0.49**	**254**	P		**Pg**		**16 09 17.5**	**-0.5**
LOUT				S		**Sg**		**16 09 24.1**	**-0.5**
KYMI	**Kymi, Euboea I**	**0.66**	**40**	P		**Pg**		**16 09 21.3**	**0.0**
KYMI				S		**Sb**		**16 09 31.0**	**+0.2**
KYMI	**Kymi, Euboea I**	**0.66**	**40**	P		**Pg**		**16 09 21.2**	**0.0**
KYMI				S		**Sb**		**16 09 31.6**	**+0.7**
LKR	**Lokris**	**0.69**	**320**	P		**Pg**		**16 09 21.1**	**-0.7**
LKR				S		**Sb**		**16 09 31.5**	**-0.1**
LKR	**Lokris**	**0.69**	**320**	P		**Pg**		**16 09 21.1**	**-0.7**
LKR				S		**Sb**		**16 09 31.3**	**-0.4**
KARY	**Karystos**	**0.69**	**98**	P		**Pg**		**16 09 22.0**	**+0.1**
KARY				S		**Sb**		**16 09 31.8**	**0.0**
KARY	**Karystos**	**0.69**	**98**	P		**Pg**		**16 09 22.3**	**+0.4**
KARY				S		**Sg**		**16 09 31.3**	**+0.3**
ARS1	**Argos**	**0.82**	**234**	P		**Pg**		**16 09 24.1**	**-0.3**
ARS1				S		**Sg**		**16 09 34.9**	**-0.3**
AXAR	**Agios Charalam**	**0.96**	**312**	P		**Pb**		**16 09 26.1**	**-0.8**
AXAR	**Agios Charalam**	**0.96**	**312**	P		**Pb**		**16 09 26.1**	**-0.8**
AXAR				S		**Sn**		**16 09 41.4**	**+0.3**
GUR	**Goura**	**0.98**	**259**	P		**Pb**		**16 09 26.8**	**-0.6**
GUR				S		**Sn**		**16 09 41.1**	**-0.8**
GUR	**Goura**	**0.98**	**259**	P		**Pb**		**16 09 27.0**	**-0.4**
GUR				S		**Sg**		**16 09 40.0**	**-0.3**
KALE	**Kalithea**	**1.15**	**284**	P		**Pb**		**16 09 29.9**	**-0.3**
KALE	**Kalithea**	**1.15**	**284**	P		**Pb**		**16 09 30.0**	**-0.3**
KALE				S		**Sn**		**16 09 46.8**	**+0.8**
KLV1	**Kalavrita**	**1.16**	**266**	P		**Pb**		**16 09 30.0**	**-0.2**
KLV1				S		**Sg**		**16 09 45.7**	**0.0**
LAM2	**Lamia**	**1.18**	**311**	P		**Pn**		**16 09 30.1**	**-0.5**
LAM2				S		**Sn**		**16 09 47.6**	**+1.0**
VLX	**Vlachokerasia**	**1.21**	**232**	P		**Pn**		**16 09 30.8**	**-0.3**
VLX	**Vlachokerasia**	**1.21**	**232**	P		**Pn**		**16 09 30.7**	**-0.4**
VLX				S		**Sb**		**16 09 46.5**	**-0.2**
NEO	**Neokhori**	**1.21**	**347**	P		**Pn**		**16 09 31.0**	**0.0**
NEO				S		**Sg**		**16 09 47.6**	**+0.2**
NEO	**Neokhori**	**1.21**	**347**	P		**Pn**		**16 09 30.7**	**-0.4**
NEO				S		**Sb**		**16 09 46.1**	**-0.6**
SERG	**Sergoula**	**1.22**	**284**	P		**Pn**		**16 09 30.8**	**-0.5**
SERG	**Sergoula**	**1.22**	**284**	P		**Pn**		**16 09 30.9**	**-0.3**
SERG				S		**Sg**		**16 09 48.4**	**+0.5**
AGG	**Agios Georgios**	**1.32**	**313**	P		**Pn**		**16 09 32.2**	**-0.4**
AGG				S		**Sg**		**16 09 51.5**	**+0.6**
AGG	**Agios Georgios**	**1.32**	**313**	P		**Pn**		**16 09 31.9**	**-0.7**
AGG				S		**Sg**		**16 09 51.3**	**+0.4**
EFP	**Efpalio**	**1.34**	**283**	P		**Pn**		**16 09 33.0**	**+0.2**
EFP				S		**Sg**		**16 09 51.7**	**+0.1**
EFP	**Efpalio**	**1.34**	**283**	P		**Pn**		**16 09 32.8**	**0.0**
EFP				S		**Sg**		**16 09 51.5**	**-0.2**
ANX	**Ano Chora**	**1.38**	**290**	P		**Pn**		**16 09 33.5**	**+0.1**
ANX				S		**Sg**		**16 09 52.4**	**-0.4**
ANX	**Ano Chora**	**1.38**	**290**	P		**Pn**		**16 09 33.5**	**+0.1**
ANX				S		**Sg**		**16 09 53.6**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.43**	**309**	P		**Pb**		**16 09 34.9**	**0.0**
MAKR				S		**Sg**		**16 09 54.0**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.43**	**309**	P		**Pb**		**16 09 34.8**	**-0.2**
MAKR				S		**Sb**		**16 09 53.5**	**+0.4**
DRO	**Drossia**	**1.48**	**264**	P		**Pn**		**16 09 35.0**	**+0.3**
DRO				S		**Sg**		**16 09 55.5**	**-0.5**
DRO	**Drossia**	**1.48**	**264**	P		**Pb**		**16 09 35.3**	**-0.4**
DRO				S		**Sg**		**16 09 55.5**	**-0.5**
VLI	**Veliai**	**1.49**	**200**	P		**Pn**		**16 09 34.5**	**-0.5**
VLI				S		**Sg**		**16 09 56.5**	**0.0**
VLI	**Veliai**	**1.49**	**200**	P		**Pn**		**16 09 34.0**	**-0.9**
VLI				S		**Sb**		**16 09 55.0**	**+0.1**
AMT	**Artemida-Makis**	**1.59**	**249**	P		**Pb**		**16 09 37.7**	**+0.1**
AMT				S		**Sn**		**16 09 56.8**	**+0.1**
EVR	**Evrytania**	**1.59**	**300**	P		**Pb**		**16 09 37.2**	**-0.5**
EVR				S		**Sg**		**16 09 58.5**	**-1.1**
EVR	**Evrytania**	**1.59**	**300**	P		**Pn**		**16 09 36.9**	**+0.6**
EVR				S		**Sg**		**16 09 59.8**	**+0.3**
ITM	**Ithomi**	**1.61**	**234**	Pn		**Pn**		**16 09 36.2**	**-0.4**
ITM				Sn		**Sn**		**16 09 57.6**	**+0.4**
ITM	**Ithomi**	**1.61**	**234**			**Pn**		**16 09 36.9**	**+0.4**
ITM	**Ithomi**	**1.61**	**234**	P		**Pb**		**16 09 37.4**	**-0.6**
ITM				S		**Sb**		**16 09 58.5**	**+0.3**
ITM	**Ithomi**	**1.61**	**234**	P		**Pn**		**16 09 36.7**	**+0.2**
ITM				S		**Sn**		**16 09 57.3**	**+0.1**
RLS	**Riolos of Patr**	**1.66**	**268**	P		**Pn**		**16 09 37.8**	**+0.6**
RLS				S		**Sb**		**16 09 59.8**	**+0.2**
RLS	**Riolos of Patr**	**1.66**	**268**	P		**Pb**		**16 09 38.4**	**-0.4**
RLS				S		**Sb**		**16 10 00.1**	**+0.5**
PVO	**Paravola**	**1.68**	**288**	P		**Pb**		**16 09 38.7**	**-0.4**
AXS	**Araxos**	**1.73**	**273**	P		**Pn**		**16 09 39.1**	**-0.9**
AXS				S		**Sb**		**16 10 02.4**	**+0.8**
AXS	**Araxos**	**1.73**	**273**	P		**Pb**		**16 09 39.8**	**-0.2**
AXS				S		**Sb**		**16 10 01.3**	**+0.3**
YRMI	**Loutra Irminis**	**1.75**	**270**	P		**Pb**		**16 09 40.0**	**-0.4**
YRMI				S		**Sb**		**16 10 02.3**	**+0.1**
LRSO	**Larissa Observ**	**1.79**	**330**	P		**Pn**		**16 09 39.1**	**0.0**
PAIG	**Palioui**	**1.80**	**3**	P		**Pn**		**16 09 39.1**	**0.0**
THL	**Klokotos Trika**	**1.88**	**320**	P		**Pn**		**16 09 40.7**	**+0.5**
THL				S		**Sn**		**16 10 04.4**	**+0.6**
THL	**Klokotos Trika**	**1.88**	**320**	P		**Pn**		**16 09 40.5**	**+0.3**
THL				S		**Sn**		**16 10 02.3**	**-1.5**
TYRN	**Tyrnavos**	**1.89**	**327**	P		**Pn**		**16 09 41.2**	**+0.8**
TYRN				S		**Sb**		**16 10 05.9**	**-0.5**
TYRN	**Tyrnavos**	**1.89**	**327**	P		**Pn**		**16 09 40.7**	**+0.2**
TYRN				S		**Sn**		**16 10 04.3**	**+0.1**
PYL2	**Kinigos**	**1.91**	**231**	P		**Pn**		**16 09 41.4**	**+0.8**
PYL2				S		**Sb**		**16 10 06.2**	**-0.6**
CHOS	**Chios island**	**1.98**	**82**	Pn		**Pn**		**16 09 41.9**	**+0.2**
CHOS				Sn		**Sn**		**16 10 08.9**	**0.0**
CHOS	**Chios island**	**1.98**	**82**	P		**Pb**		**16 09 42.1**	**+0.5**
AMPL	**Ampelaki**	**2.01**	**294**	P		**Pb**		**16 09 43.5**	**-1.3**
SIGR	**SIGRI**	**2.09**	**58**	Pn		**Pn**		**16 09 43.4**	**+0.2**
SIGR	**SIG

IDI	**Anoyia**	**3.03**	**159**			**Pn**	**16 09 56.4 +0.3**	BRTR					pmax	pmax			
IDI	**Anoyia**	**3.03**	**159**		P	**Pn**	**16 09 58.1 +2.0**		comp=Z,8.0nm,0.6s								
	95nm,0.5s,baz=322,slow=13,SNR=46							**MDB**	**Medias**	**8.03**	**4**		P	**Pn**	**16 11 06.7 +1.9**		
IDI					S	**Sn**	**16 10 31.1 -1.1**	**MDB**	**Medias**	**8.03**	**4**	⇓	P	**Pn**	**16 11 06.8 +2.0**		
	254nm,0.7s,baz=288,slow=20,SNR=11							**PLOR5**	**Plostina Array**	**8.05**	**16**		P	**Pn**	**16 11 07.4 +2.4**		
YAYO	**Edremit-Balk**	**3.11**	**60**		Pn	**Pn**	**16 09 57.9 +0.7**		comp=Z,597nmcomp=Z,64nm,0.8s								
FNA	**Florina**	**3.15**	**328**			**Pn**	**16 09 58.1 +0.3**	**PLOR**	**Plostina**	**8.05**	**16**		P	**Pn**	**16 11 07.6 +2.5**		
FNA	**Florina**	**3.15**	**328**		P	**Pn**	**16 09 58.1 +0.3**	**PLOR**	**Plostina**	**8.05**	**16**	⇓	P	**Pn**	**16 11 07.6 +2.6**		
FNA	**Florina**	**3.15**	**328**	*e*	Pn	**Pn**	**16 09 59.3 +1.5**	**ODBI**	**Odobesti**	**8.06**	**18**		P	**Pn**	**16 11 07.9 +2.8**		
FNA	**Florina**	**3.15**	**328**	*e*	Pg	**Pb**	**16 10 03.2 -1.1**		comp=Z,805nmcomp=Z,27nm,1.1s								
FNA					eSn	**Sn**	**16 10 36.7 +1.5**	**ODBI**	**Odobesti**	**8.06**	**18**	⇑	P	**Pn**	**16 11 07.2 +2.0**		
ENZZ	**Sultanice-Enez**	**3.18**	**38**		Pn	**Pn**	**16 09 57.9 -0.2**	**TLCR**		**8.07**	**27**		P	**Pn**	**16 11 07.4 +2.1**		
BDRM	**Kayabasi**	**3.26**	**108**	⇑	P	**Pb**	**16 10 00.4 -1.7**	**TLCR**		**8.07**	**27**	⇑	P	**Pn**	**16 11 07.5 +2.2**		
CAVK	**Edirne/Enez-Ca**	**3.26**	**37**	⇑	P	**Pn**	**16 10 00.8 +1.6**	**VRI**	**Vrincioaia**	**8.08**	**16**		P	**Pn**	**16 11 07.9 +2.4**		
CAVK				⇑	S	**Sn**	**16 10 40.9 +3.1**	**VRI**	**Vrincioaia**	**8.08**	**16**		P	**Pn**	**16 11 07.8 +2.3**		
SOMA	**Soma-Manisa**	**3.27**	**70**		Pn	**Pn**	**16 10 00.4 +1.0**		comp=Z,618nmcomp=Z,42nm,0.8s								
ALN	**Alexandroupoli**	**3.37**	**34**		Pn	**Pn**	**16 10 00.9 +0.2**	**VRI**	**Vrincioaia**	**8.08**	**16**	⇑	P	**Pn**	**16 11 07.9 +2.5**		
ALN	**Alexandroupoli**	**3.37**	**34**			**Pn**	**16 10 00.4 -0.3**	**BOSR**	**Bodos**	**8.09**	**10**	⇑	P	**Pn**	**16 11 07.5 +1.9**		
ALN	**Alexandroupoli**	**3.37**	**34**		P	**Pn**	**16 10 00.4 -0.3**	**OZUR**		**8.13**	**11**	⇓	P	**Pn**	**16 11 08.5 +2.3**		
RDO	**Rodhopi**	**3.38**	**26**		Pn	**Pn**	**16 10 00.9 +0.1**	**KIRS**	**Kirsehir-Merke**	**8.16**	**80**	⇓	P	**Pn**	**16 11 10.0 +3.3**		
RDO	**Rodhopi**	**3.38**	**26**			**Pn**	**16 10 00.5 -0.3**	**BLY**	**Banja Luka**	**8.17**	**326**	*e*	Pn	**Pn**	**16 11 06.2 -0.4**		
ERIK	**Erikli-Kesan**	**3.42**	**41**		Pn	**Pn**	**16 10 01.9 +0.6**	**BLY**	**Banja Luka**	**8.17**	**326**	*e*	Pn	**Pn**	**16 11 09.6 +3.0**		
DAT	**Datca**	**3.48**	**112**		Pn	**Pn**	**16 10 03.1 +0.7**	BLY				*e*	Sn	**Sn**	**16 12 37.1 -1.6**		
ODEM	**Odemis-Izmir**	**3.56**	**86**		Pn	**Pn**	**16 10 04.7 +1.3**	**BLY**	**Banja Luka**	**8.17**	**326**	⇑	P	**Pn**	**16 11 07.0 +0.4**		
OHR	**Ohrid**	**3.67**	**325**	*i*	Pn	**Pn**	**16 10 08.1 +3.2**	**SIRR**	**Siria**	**8.26**	**351**	⇑	P	**Pn**	**16 11 09.7 +1.8**		
OHR				*i*	Sn	**Sn**	**16 10 51.1 +3.1**	**A050A**	**Klekovaca**	**8.26**	**322**	*e*	Pn	**Pn**	**16 11 08.8 +0.8**		
MANT	**Manisa**	**3.94**	**83**			**Pn**	**16 10 10.1 +1.3**	**VARL**	**Varlezi**	**8.39**	**21**	⇑	P	**Pn**	**16 11 12.2 +2.5**		
PLD	**Plovdiv**	**4.12**	**12**	*e*	Pn	**Pn**	**16 10 12.1 +1.1**	**ONER**	**Baraj Valea Uz**	**8.46**	**13**	⇑	P	**Pn**	**16 11 12.7 +2.0**		
PLD				*e*	Sn	**Sn**	**16 10 59.9 +0.9**	**A051A**	**Mrakovica**	**8.50**	**326**	*e*	Pn	**Pn**	**16 11 08.5 -2.7**		
BAND	**Balkesir-Ban**	**4.16**	**56**	⇓	P	**Pn**	**16 10 13.4 +1.7**	**MARR**	**Marisel-Cluj**	**8.55**	**358**	⇓	P	**Pn**	**16 11 12.4 +0.5**		
SKO	**Skopje**	**4.17**	**338**	*i*	Pn	**Pn**	**16 10 14.7 +2.9**	**DRGR**		**8.68**	**356**		P	**Pn**	**16 11 14.0 +0.3**		
BOSS	**Bosilegrad**	**4.44**	**350**	*e*	Pn	**Pn**	**16 10 16.6 +1.1**	**DRGR**		**8.68**	**356**	*e*	Pn	**Pn**	**16 11 12.9 -0.8**		
VTS	**Vitosha**	**4.49**	**357**	*e*	Pn	**Pn**	**16 10 17.5 +1.2**	**DRGR**		**8.68**	**356**	⇑	P	**Pn**	**16 11 14.0 +0.3**		
VTS				*e*	Sn	**Sn**	**16 11 05.6 -2.9**	**TESR**	**Tescani**	**8.68**	**14**		P	**Pn**	**16 11 16.4 +2.7**		
PHSR	**Pinarhisar**	**4.64**	**40**	⇑	P	**Pn**	**16 10 20.4 +2.2**		comp=Z,427nmcomp=Z,29nm,0.7s								
BARS	**Barje**	**4.87**	**345**	*e*	Pn	**Pn**	**16 10 22.8 +1.4**	**TESR**	**Tescani**	**8.68**	**14**	⇑	P	**Pn**	**16 11 16.2 +2.5**		
CTYL	**Yalíkoy Yolu**	**4.94**	**46**	⇑	P	**Pn**	**16 10 25.4 +3.1**	**AQU**	**L'Aquila**	**8.84**	**302**	*e*	Pn	**Pn**	**16 11 19.1 +3.1**		
ELND	**Elena**	**5.11**	**19**	⇑	P	**Pn**	**16 10 25.5 +0.9**	**MORH**	**Mrgy, Hungar**	**8.87**	**337**	*e*	Pn	**Pn**	**16 11 17.7 +1.5**		
KLYT	**Kilyos**	**5.25**	**52**		P	**Pn**	**16 10 27.7 +1.1**	**MORH**	**Mrgy, Hungar**	**8.87**	**337**		P	**Pn**	**16 11 18.0 +1.8**		
	0.5nm127nm,1.0s								comp=Z,15nm,0.9s								
KLYT					S	**Sn**	**16 11 29.1 +2.1**	**MORH**	**Mrgy, Hungar**	**8.87**	**337**	⇑	P	**Pn**	**16 11 18.0 +1.8**		
	0.5nm127nm,1.0s							**ARCR**	**ARCALIA**	**8.97**	**3**	⇓	P	**Pn**	**16 11 19.5 +1.8**		
KLYT	**Kilyos**	**5.25**	**52**	⇑	P	**Pn**	**16 10 28.2 +1.6**	**SWA2**		**9.00**	**169**		P	**Pn**	**16 11 17.8 -0.3**		
PLVB	**Pleven**	**5.32**	**8**	⇑	P	**Pn**	**16 10 29.2 +1.7**	**MOSL**	**Moslavina**	**9.04**	**328**	*e*	Pn	**Pn**	**16 11 17.7 -0.9**		
PDG	**Podgorica**	**5.42**	**324**			**Pn**	**16 10 28.5 -0.3**	**PRAR**	**RASCA**	**9.43**	**11**	⇑	P	**Pn**	**16 11 24.8 +0.8**		
PDG	**Podgorica**	**5.42**	**324**	*e*	Pn	**Pn**	**16 10 29.0 +0.2**	**BURAR**	**Bucovina Array**	**9.56**	**7**			**Pn**	**16 11 27.5 +1.7**		
PDG	**Podgorica**	**5.42**	**324**	⇓	P	**Pn**	**16 10 30.6 +1.7**	**BURAR**	**Bucovina Array**	**9.56**	**7**		P	**Pn**	**16 11 28.0 +2.2**		
SELS	**Selova**	**5.42**	**341**	*e*	Pn	**Pn**	**16 10 30.7 +1.8**	**BURAR**	**Bucovina Array**	**9.56**	**7**	⇑	P	**Pn**	**16 11 28.0 +2.2**		
TIP	**Timpagrande**	**5.43**	**283**			**Pn**	**16 10 30.3 +1.2**	**MILM**	**Milestii Mici**	**9.60**	**22**	*e*	P	**Pn**	**16 11 23.0 -3.2**		
TIP	**Timpagrande**	**5.43**	**283**		P	**Pn**	**16 10 30.0 +0.8**	MILM				*e*	L	L	16 12 56.0		
	0.4nm82nm,0.8s							MILM					LRM	MLR	16 15 37.0		
TIP					S	**Sn**	**16 11 33.4 +1.9**		comp=Z,340nm,10.4s								
	0.4nm82nm,0.8s							**MILM**	**Milestii Mici**	**9.60**	**22**		P	**Pn**	**16 11 28.4 +2.2**		
TIP	**Timpagrande**	**5.43**	**283**	⇑	P	**Pn**	**16 10 30.9 +1.7**	**MILM**	**Milestii Mici**	**9.60**	**22**	⇓	P	**Pn**	**16 11 28.4 +2.2**		
ISP	**Isparta**	**5.50**	**91**			**Pn**	**16 10 31.8 +1.6**	**OZLJ**	**Ozalj**	**9.61**	**324**	*e*	Pn	**Pn**	**16 11 26.4 0.0**		
ISP	**Isparta**	**5.50**	**91**	*ce*	P	**Pn**	**16 10 32.4 +2.2**	**CRES**	**Cresnjevec Ost**	**9.77**	**324**	*i*	Pn	**Pn**	**16 11 28.7 0.0**		
ISP					pmax	pmax		**VISS**	**Visnje**	**10.05**	**323**	*i*	Pn	**Pn**	**16 11 32.3 -0.1**		
	comp=Z,14nm,0.8s							**BERU**	**Beregovo**	**10.12**	**356**		P	**Pn**	**16 11 35.6 +2.2**		
BLKB	**Belogradchik**	**5.53**	**353**	*e*	Pn	**Pn**	**16 10 31.6 +1.1**	**BRIU**	**Brid**	**10.21**	**358**		P	**Pn**	**16 11 36.8 +2.2**		
BLKB				*e*	Sn	**Sn**	**16 11 32.6 -1.3**	**HOLU**	**Holmets**	**10.43**	**356**		P	**Pn**	**16 11 39.5 +1.9**		
BOVS	**Bovan**	**5.68**	**346**	*e*	Pn	**Pn**	**16 10 33.3 +0.8**	**SIM**	**Simferopol'**	**10.43**	**46**	*e*	P	**Pn**	**16 11 42.4 +4.7**		
BOVS	**Bovan**	**5.68**	**346**	⇓	P	**Pn**	**16 10 33.7 +1.2**	SIM					pmax	pmax			
LOZB	**Loznitsa**	**5.72**	**23**	⇑	P	**Pn**	**16 10 34.0 +1.0**		comp=Z,12nm,0.8s								
ZAGS	**Zajecar**	**5.77**	**350**	*e*	Pn	**Pn**	**16 10 34.8 +1.1**	**PERS**	**Pernice**	**10.55**	**326**	*i*	Pn	**Pn**	**16 11 38.5 -0.8**		
SJES	**Sjenica**	**5.81**	**333**	*e*	Pn	**Pn**	**16 10 36.4 +2.0**	**STNU**	**Starunia**	**10.60**	**3**		P	**Pn**	**16 11 42.9 +2.9**		
VLAD	**Vladila**	**5.90**	**6**	⇑	P	**Pn**	**16 10 36.7 +1.2**	**RYAN**	**Fayoum**	**10.61**	**146**		P	**Pn**	**16 11 40.3 +0.1**		
CEL	**Celeste**	**6.04**	**274**			**Pn**	**16 10 38.8 +1.2**	RYAN					S	**Sn**	**16 13 33.5 -5.4**		
CEL	**Celeste**	**6.04**	**274**		P	**Pn**	**16 10 39.3 +1.7**	**SOKA**	**Soboth**	**10.62**	**326**	*e*	Pn	**Pn**	**16 11 39.5 -0.7**		
	comp=Z,0.3nmcomp=Z,60nm,1.0s								comp=Z,5.8nm,0.6s,SNR=6.1								
CEL					S	**Sn**	**16 11 51.2 +4.6**	**KMPD**	**K-Podol'skiy**	**10.64**	**10**		P	**Pn**	**16 11 44.4 +3.9**		
	comp=Z,0.3nmcomp=Z,60nm,1.0s							**OBKA**	**Obir**	**10.70**	**324**	*e*	Pn	**Pn**	**16 11 41.8 +0.3**		
TREB	**Trebinje**	**6.07**	**321**	*e*	Pn	**Pn**	**16 10 37.6 -0.2**		comp=Z,3.9nm,0.6s								
GRUS	**Gruza**	**6.15**	**340**	*e*	Pn	**Pn**	**16 10 39.8 +0.9**	**NDNU**	**Novodnistrovsk**	**10.82**	**14**		P	**Pn**	**16 11 44.2 +1.3**		
SAHE	**Sakarya_HENDEK**	**6.26**	**62**	⇓	P	**Pn**	**16 10 43.0 +2.6**	**KOLS**	**Kolonicke sedl**	**10.84**	**355**	*e*	P	**Pn**	**16 11 45.6 +2.3**		
KLINJ	**Klinje**	**6.30**	**325**	*e*	Pn	**Pn**	**16 10 41.3 +0.2**	**KOLS**	**Kolonicke sedl**	**10.84**	**355**	*e*	PN	**Pn**	**16 11 45.6 +2.3**		
CUC	**Castrocucco**	**6.31**	**290**			**Pn**	**16 10 42.9 +1.7**	**ARSA**	**Arzberg**	**10.86**	**330**			**Pn**	**16 11 44.2 +0.6**		
RUDO	**Rudo**	**6.34**	**331**	*e*	Pn	**Pn**	**16 10 43.1 +1.5**	**ARSA**	**Arzberg**	**10.86**	**330**	*e*	Pn	**Pn**	**16 11 43.8 +0.2**		
SGRR	**Singureni**	**6.36**	**16**	⇑	P	**Pn**	**16 10 43.7 +1.9**		comp=Z,3.5nm,0.5s								
ACER	**Acerenza**	**6.47**	**297**			**Pn**	**16 10 44.3 +0.9**	**MMAI**	**Mount Meron Ar**	**10.90**	**114**		P	**Pn**	**16 11 44.4 +0.2**		
HUMR	**Humele**	**6.48**	**9**	⇑	P	**Pn**	**16 10 45.3 +1.8**		comp=Z,8.5nm,0.8s,baz=308,slow=14,SNR=6.4								
STON	**Ston**	**6.51**	**319**	*e*	Pn	**Pn**	**16 10 42.3 -1.6**	**VYHS**	**Vyhne**	**10.92**	**343**	*e*	P	**Pn**	**16 11 47.2 +2.9**		
STON	**Ston**	**6.51**	**319**	*e*	Pn	**Pn**	**16 10 44.1 +0.2**	VYHS				*e*			16 13 49.9		
STON				*e*	Sn	**Sn**	**16 11 54.3 -3.7**	**VYHS**	**Vyhne**	**10.92**	**343**	*e*	PN	**Pn**	**16 11 47.2 +2.9**		
BBLS	**Lazi&#263i**	**6.54**	**333**	*e*	Pn	**Pn**	**16 10 46.4 +2.0**	**VYHS**	**Vyhne**	**10.92**	**343**	*e*	SN	**Sn**	**16 13 49.9 +3.7**		
TRUS	**Trudelj**	**6.54**	**340**	*e*	Pn	**Pn**	**16 10 45.6 +1.3**	**RONA**	**Rosalia, Austr**	**10.95**	**333**	*e*	Pn	**Pn**	**16 11 46.2 +1.4**		
ICOR	**Ion Corvin**	**6.78**	**27**	⇓	P	**Pn**	**16 10 48.5 +0.9**		comp=Z,1.1nm,0.5s								
MDVR	**Moldovita**	**6.79**	**349**	*e*	Pn	**Pn**	**16 10 48.2 +0.4**	**MODS**	**Modra-Piesok**	**11.22**	**338**	*e*	P	**Pn**	**16 11 51.6 +3.2**		
MDVR	**Moldovita**	**6.79**	**349**	⇑	P	**Pn**	**16 10 48.3 +0.5**	**MODS**	**Modra-Piesok**	**11.22**	**338**	*e*	PN	**Pn**	**16 11 51.6 +3.2**		
HERR	**Herculane**	**6.80**	**353**	⇓	P	**Pn**	**16 10 48.1 +0.2**	**CONA**	**Conrad Observa**	**11.29**	**333**	*i*	Pn	**Pn**	**16 11 50.2 +0.7**		
MANR	**Mangalia**	**6.83**	**32**	⇓	P	**Pn**	**16 10 49.8 +1.4**		comp=Z,0.3nm,0.3s								
SULR		**6.85**	**16**	⇑	P	**Pn**	**16 10 49.9 +1.4**	**KEST**	**Kesra**	**11.63**	**262**		P	**Pn**	**16 11 55.5 +1.3**		
SGRT	**San Giovanni R**	**7.02**	**304**			**Pn**	**16 10 51.4 +0.5**		comp=Z,1.3nm,0.3s,baz=143,slow=5.1,SNR=4.8								
TEKS	**Tekeris**	**7.10**	**336**	*e*	Pn	**Pn**	**16 10 51.6 -0.4**		comp=Z,4.6nm,0.5s								
MTUR	**Matau**	**7.18**	**8**		P	**Pn**	**16 10 54.4 +1.3**	**MOA**	**Molln**	**11.86**	**328**	*i*	Pn	**Pn**	**16 11 56.9 -0.2**		
MTUR	**Matau**	**7.18**	**8**	⇑	P	**Pn**	**16 10 54.5 +1.3**		comp=Z,5.7nm,0.9s,SNR=6.0								
TLBR	**Topalu**	**7.24**	**26**	⇓	P	**Pn**	**16 10 55.0 +1.1**	**ABTA**	**Abfaltersbach**	**11.86**	**320**	*e*	Pn	**Pn**	**16 11 57.6 +0.3**		
VAE	**Valguarnera**	**7.28**	**268**		P	**Pn**	**16 10 58.1 +3.6**		comp=Z,6.9nm,0.6s,SNR=5.8								
	comp=Z,11nm,0.7s,baz=173,slow=5.3,SNR=4.2							**BIOA**	**Bad Ischl, Aus**	**12.00**	**326**	*i*	Pn	**Pn**	**16 11 58.7 -0.5**		
VAE					S	**Sn**	**16 12 17.4 +0.4**		comp=Z,6.4nm,0.6s,SNR=4.7								
	comp=Z,50nm,0.9s,baz=233,slow=20,SNR=4.4							**LUBAR**	**Lubar, Ukraine**	**12.17**	**13**		P	**Pn**	**16 12 02.7 +1.4**		
ARR	**Arges**	**7.28**	**6**	⇓	P	**Pn**	**16 10 55.2 +0.7**	**LESA**	**Schwarzleotal**	**12.25**	**323**	*e*	Pn	**Pn**	**16 12 02.3 -0.3**		
GZR	**Gura Zlata**	**7.28**	**356**			**Pn**	**16 10 54.9 +0.3**		comp=Z,3.9nm,0.7s								
GZR	**Gura Zlata**	**7.28**	**356**	*e*	Pn	**Pn**	**16 10 54.5 -0.1**	**VRAC**	**Vranov**	**12.26**	**338**		P	**Pn**	**16 12 04.1 +1.5**		
GZR	**Gura Zlata**	**7.28**	**356**	⇓	P	**Pn**	**16 10 55.0 +0.4**		comp=Z,0.2nm,0.3s,baz=128,slow=11,SNR=4.1								
TIRR	**Tirgusor**	**7.30**	**28**			**Pn**	**16 10 55.5 +0.8**	VRAC					LR	LR	16 17 10.4		
TIRR	**Tirgusor**	**7.30**	**28**		P	**Pn**	**16 10 55.5 +0.8**		comp=Z,59nm,20.3s,baz=252,slow=39								
TIRR	**Tirgusor**	**7.30**	**28**		P	**Pn**	**16 10 56.5 +1.8**		comp=Z,0.7nm,0.4s								
	comp=Z,0.2nmcomp=Z,22nm,1.0s							**ASF**	**Jabal al Asfar**	**12.42**	**115**		P	**Pn**	**16 12 07.4 +2.5**		
LOT	**Lotru**	**7.32**	**1**	⇑	P	**Pn**	**16 10 55.6 +0.6**		comp=Z,0.3nm,0.3s,baz=355,slow=13,SNR=5.0								
HARR	**Harsova**	**7.33**	**25**		P	**Pn**	**16 10 57.4 +2.3**		comp=Z,0.7nm,0.3s								
HARR	**Harsova**	**7.33**	**25**	⇑	P	**Pn**	**16 10 57.4 +2.3**	**WTTA**	**Wattenberg**	**12.65**	**320**	*e*	Pn	**Pn**	**16 12 08.3 +0.2**		
ISR	**Istrita**	**7.33**	**17**		P	**Pn**	**16 10 57.2 +2.0**		comp=Z,1.4nm,0.3s								
ISR	**Istrita**	**7.33**	**17**		P	**Pn**	**16 10 56.9 +1.7**	**EIL**	**Elat**	**12.66**	**128**		P	**Pn**	**16 12 07.8 -0.4**		
	comp=Z,0.2nmcomp=Z,43nm,0.7s								comp=Z,6.2nm,0.7s,baz=334,slow=16,SNR=7.4								
ISR	**Istrita**	**7.33**	**17**	⇑	P	**Pn**	**16 10 57.2 +2.0**	EIL					S	**Sn**	**16 14 23.6 -5.5**		
RAFF	**Raffo Rosso**	**7.36**	**266**			**Pn**	**16 10 56.9 +1.4**		comp=Z,6.1nm,0.7s,baz=155,slow=19,SNR=4.4								
VOIR		**7.39**	**8**		P	**Pn**	**16 10 57.0 +1.0**	EIL					LR	LR	16 19 43.8		
VOIR		**7.39**	**8**		P	**Pn**	**16 10 56.7 +0.7**		comp=Z,48nm,18.1s,baz=248,slow=50								
	comp=Z,0.2nmcomp=Z,440nmcomp=Z,50nm,0.9s							**WATA**	**Walderalm**	**12.73**	**320**	*e*	Pn	**Pn**	**16 12 09.2 0.0**		
VOIR					S	**Sn**	**16 12 22.2 +2.5**		comp=Z,6.4nm,0.7s,SNR=4.2								
	comp=Z,0.2nmcomp=Z,440nmcomp=Z,50nm,0.9s							**SQTA**	**Sankt Quirin**	**12.84**	**319**	*e*	Pn	**Pn**	**16 12 10.7 0.0**		
VOIR		**7.39**	**8**	⇓	P	**Pn**	**16 10 57.1 +1.1**		comp=Z,1.6nm,0.3s								
ANTO	**Ankara**	**7.39**	**74**		P	**Pn**	**16 10 59.9 +3.8**	**GERES**	**GERESS Array B**	**12.87**	**329**		P	**Pn**	**16 12 11.3 +0.2**		
ANTO	**Ankara**	**7.39**	**74**	⇑	P	**Pn**	**16 10 60.0 +3.8**		comp=Z,1.2nm,0.8s,baz=150,slow=14,SNR=7.4								
FRGS	**Fruska Gora**	**7.57**	**339**	*e*	Pn	**Pn**	**16 11 00.9 +2.5**	**FETA**	**Feichten**	**12.97**	**317**	*e*	Pn	**Pn**	**16 12 12.6 +0.2**		
MLR	**Muntele Rosu**	**7.57**	**13**			**Pn**	**16 10 59.9 +1.3**		comp=Z,4.8nm,0.8s								
MLR	**Muntele Rosu**	**7.57**	**13**		P	**Pn**	**16 10 59.6 +1.1**	**MOTA**	**Moosalm**	**12.98**	**319**	*e*	Pn	**Pn**	**16 12 12.8 +0.2**		
	comp=Z,2.1nm,0.3s,baz=206,slow=6.2,SNR=32								comp=Z,3.3nm,0.5s								
MLR					S	Sn	16 12 15.2 -9.0	**AK07**	**Malin Array Si**	**13.05**	**16**		P	**Pn**	**16 12 14.4 +1.0**		
	comp=Z,8.4nm,0.7s,baz=90,slow=21,SNR=0.6							**AK14**	**Malin Array Si**	**13.11**	**16**		P	**Pn**	**16 12 15.4 +1.2**		
MLR					LR	LR	16 13 46.4	**AK10**	**Malin Array Si**	**13.11**	**16**		P	**Pn**	**16 12 15.7 +1.5**		
	comp=Z,187nm,20.9s,baz=225,slow=36							**MI28**	**MI28,Pidlybu**	**13.13**	**11**		P	**Pn**	**16 12 15.8 +1.3**		
MLR	**Muntele Rosu**	**7.57**	**13**		P	**Pn**	**16 11 00.5 +2.0**	**AK12**	**Malin Array Si**	**13.13**	**16**		P	**Pn**	**16 12 16.4 +1.9**		
MLR	**Muntele Rosu**	**7.57**	**13**	*e*	Pn	**Pn**	**16 11 01.1 +2.6**	**AK09**	**Malin Array Si**	**13.13**	**16**		P	**Pn**	**16 12 15.8 +1.3**		
MLR	**Muntele Rosu**	**7.57**	**13**		P	**Pn**	**16 11 00.3 +1.8**	**AK08**	**Malin Array Si**	**13.14**	**16**		P	**Pn**	**16 12 16.7 +2.0**		
	comp=Z,0.2nmcomp=Z,622nmcomp=Z,84nm,1.0s							**AK16**	**Malin Array Si**	**13.14**	**16**		P	**Pn**	**16 12 16.5 +1.8**		
MLR	**Muntele Rosu**	**7.57**	**13**	⇑	P	**Pn**	**16 11 00.6 +2.0**	**AK17**	**Malin Array Si**	**13.15**	**16**		P	**Pn**	**16 12 16.3 +1.6**		
NEHR	**Nehoiu**	**7.57**	**15**	⇑	P	**Pn**	**16 11 00.6 +2.1**	**HC**	**Kasperske Hory**	**13.15**	**330**	*e*	Pn	**Pn**	**16 12 15.4 +0.6**		
BZS	**Buzias**	**7.62**	**350**		P	**Pn**	**16 10 59.7 +0.5**	KHC				*e*	SN	**Sn**	**16 14 42.0 +1.1**		
BZS	**Buzias**	**7.62**	**350**	*e*	Pn	**Pn**	**16 10 59.4 +0.2**	**KHC**	**Kasperske Hory**	**13.15**	**330**	*e*	P	**Pn**	**16 12 15.4 +0.6**		
BZS	**Buzias**	**7.62**	**350**	⇑	P	**Pn**	**16 10 59.8 +0.6**	KHC				*e*	S	**Sn**	**16 14 42.0 +1.1**		
TPGR	**Topolog**	**7.64**	**27**	⇑	P	**Pn**	**16 11 01.6 +2.2**	**KHC**	**Kasperske Hory**	**13.15**	**330**		P	**Pn**	**16 12 16.5 +1.7**		
SURR	**Surduc**	**7.70**	**352**	⇑	P	**Pn**	**16 11 01.0 +0.9**		comp=Z,7.2nm,0.9s								
BISRR	**Bisoca**	**7.78**	**17**		P	**Pn**	**16 11 02.6 +1.3**	**AK19**	**Malin Array Si**	**13.17**	**15**		P	**Pn**	**16 12 17.0 +1.9**		
	comp=Z,1.4nmcomp=Z,20µmcomp=Z,130nm,1.3s							**AK18**	**Malin Array Si**	**13.19**	**15**		P	**Pn**	**16 12 17.3 +2.1**		
BISRR	**Bisoca**	**7.78**	**17**	⇑	P	**Pn**	**16 11 02.7 +1.4**	**KIEV**	**Kiev**	**13.19**	**16**			**Pn**	**16 12 17.4 +2.2**		
CFR	**Carcaliu**	**7.83**	**24**		P	**Pn**	**16 11 03.1 +1.2**	**KIEV**	**Kiev**	**13.19**	**16**		P	**Pn**	**16 12 17.5 +2.2**		
CFR	**Carcaliu**	**7.83**	**24**	⇓	P	**Pn**	**16 11 03.1 +1.2**	**AKASG**	**Malin Array Be**	**13.20**	**16**		P	**Pn**	**16 12 17.0 +1.5**		
DOPR	**Dopca**	**7.95**	**9**	⇓	P	**Pn**	**16 11 05.1 +1.4**		comp=Z,0.3nm,0.3s,baz=204,slow=13,SNR=7.6								
COVR	**Voineasa-Covas**	**7.96**	**13**	⇑	P	**Pn**	**16 11 06.2 +2.4**		comp=Z,2.1nm,0.7s								
KIJV	**Kijevo**	**7.98**	**320**	*e*	Pn	**Pn**	**16 11 03.4 -0.7**	**AKASG**	**Malin Array Be**	**13.20**	**16**	*i*	P	**Pn**	**16 12 17.8 +2.4**		
BR105	**Keskin Array S**	**8.00**	**75**		P	**Pn**	**16 11 07.2 +2.8**	AKASG					pmax	pmax			
	comp=Z,0.0nmcomp=Z,124nmcomp=Z,18nm,0.8s								comp=Z,4.0nm,0.9s								
BR106	**Keskin Array S**	**8.00**	**75**		P	**Pn**	**16 11 07.5 +3.0**	**AKBB**	**Malin Array Si**	**13.20**	**16**			**Pn**	**16 12 17.4 +1.9**		
	comp=Z,105nmcomp=Z,13nm,0.8s							**AKBB**	**Malin Array Si**	**13.20**	**16**	*i*	P	**Pn**	**16 12 16.9 +1.5**		
BR104	**Keskin Array S**	**8.01**	**76**		P	**Pn**	**16 11 07.0 +2.4**	**AKBB**	**Malin Array Si**	**13.20**	**16**		P	**Pn**	**16 12 16.9 +1.5**		
	comp=Z,93nmcomp=Z,12nm,0.9s							**RNPP5**	**Stanyi Chortor**	**13.20**	**6**		P	**Pn**	**16 12 18.2 +2.7**		
BR131	**Keskin Array S**	**8.01**	**75**	*i*	P	**Pn**	**16 11 08.2 +3.5**	**AK04**	**Malin Array Si**	**13.21**	**16**		P	**Pn**	**16 12 18.0 +2.5**		
BRTR	**Keskin Array B**	**8.01**	**75**	*i*	P	**Pn**	**16 11 06.7 +2.0**	**DAVOX**	**Davos/Dischmat**	**13.29**	**315**		P	**Pn**	**16 12 16.5 -0.3**		
	comp=Z,0.7nm,0.3s,baz=253,slow=12,SNR=21								comp=Z,0.4nm,0.3s,baz=135,slow=21,SNR=4.4								
	comp=Z,3.6nm,0.7s							DAVOX					LR	LR	16 19 05.4		
BRTR	**Keskin Array B**	**8.01**	**75**	*i*	P	Pn	16 11 09.5 +4.8		comp=Z,115nm,18.2s,baz=93,slow=45								
									comp=Z,1.3nm,0.4s								
								RNPP9	**Sopachiv**	**13.38**	**6**		P	**Pn**	**16 12 21.7 +3.7**		
								BRG	**Berggiesshubel**	**14.46**	**335**	*e*	P	**P**	**16 12 41.0 +1.6**		
								BRG					Amp		16 12 44.1		
									comp=Z,3.0nm,0.8s								
								SENIN	**Lac Senin/Sane**	**14.57**	**310**		Pn	**Pn**	**16 12 36.1 +1.7**		
								BFO	**Black Forest**	**15.05**	**318**		Pn	**Pn**	**16 12 42.1 +1.4**		
								BFO					IAmb	IAmb	16 12 50.6		

MESJ Messejana 25.00 279 *e*P P 16 14 31.9 0.0
PARRA Arraiolos 25.47 282 *e*P P 16 14 28.4 -7.7
KIRV Kirov 26.43 31 *i* P P 16 14 45.3 +0.7
AKTO Aktyubinsk 27.30 52 LR LR 16 29 14.2
comp=Z,31nm,18.0s,baz=74,slow=44
ARTI Arti 29.42 40 P P 16 15 11.3 -0.1
ARTI IAmb IAmb 16 15 23.4
comp=Z,7.2nm,1.0s
ARTI Arti 29.42 40 LR LR 16 27 45.9
comp=Z,40nm,18.3s,baz=238,slow=38
ARTI Arti 29.42 40 *d i* P P 16 15 11.5 +0.1
ARTI S S 16 20 05.2 +0.4
ARTI pmax pmax
comp=Z,7.0nm,1.2s
SVE Sverdlovsk 30.74 40 *e*P P 16 15 24.4 +1.4
SVE pmax pmax
comp=Z,14nm,1.5s
ARCES ARCESS Array B 31.49 1 LR LR 16 28 52.4
comp=Z,98nm,19.8s,baz=232,slow=38
TORD Torodi Ar. Bea 31.58 224 P P 16 15 30.4 -0.4
TORD IAmb IAmb 16 15 36.1
comp=Z,5.4nm,0.8s
TORD Torodi Ar. Bea 31.58 224 P P 16 15 31.2 +0.4
comp=Z,10nm,0.6s,baz=29,slow=10,SNR=8.5
comp=Z,10nm,0.6s
BRVK Borovoye 35.26 50 *ce*P P 16 16 03.9 +1.4
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BVAR Borovoye Array 35.32 50 P P 16 16 03.8 +0.8
comp=Z,1.0nm,0.8s,baz=260,slow=5.7,SNR=5.4
BVAR LR LR 16 31 28.6
comp=Z,29nm,20.7s,baz=258,slow=38
comp=Z,1.0nm,0.8s
GAR Garm 36.25 74 P P 16 16 12.6 +1.2
AAK Ala-Archa 38.58 67 *i* P P 16 16 33.0 +1.9
AAK pmax pmax
comp=Z,3.0nm,1.0s
KURBB Kurchatov Arra 40.33 54 P P 16 16 45.8 +0.4
comp=Z,3.5nm,0.7s,baz=281,slow=8.7,SNR=22
KURBB LR LR 16 36 03.7
comp=Z,30nm,18.1s,baz=168,slow=40
comp=Z,3.5nm,0.7s
KSH Kashi 40.38 71 P P 16 16 45.5 -0.6
KSH pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 40.38 54 *ce*P P 16 16 46.2 +0.4
KURK pmax pmax
comp=Z,4.0nm,0.9s
DBIC Dimbokro 40.55 227 P P 16 16 48.9 +1.4
comp=Z,21nm,0.8s,baz=54,slow=9.1,SNR=17
DBIC LR LR 16 33 45.1
comp=Z,49nm,18.2s,baz=124,slow=36
comp=Z,21nm,0.8s
KBS Kingsbay 41.19 357 *ce*P P 16 16 53.0 +0.9
KBS pmax pmax
comp=Z,9.0nm,1.3s
MKAR Makanchi Array 43.28 59 P P 16 17 09.9 +0.3
MKAR Makanchi Array 43.28 59 P P 16 17 10.2 +0.6
comp=Z,6.3nm,0.7s,baz=283,slow=6.5,SNR=52
MKAR LR LR 16 37 54.0
comp=Z,22nm,18.5s,baz=257,slow=40
comp=Z,6.3nm,0.7s
MKAR Makanchi Array 43.28 59 *i* P P 16 17 10.1 +0.5
MKAR pmax pmax
comp=Z,6.0nm,0.7s
ZAA0 Zalesovo Array 43.93 48 P P 16 17 14.8 0.0
ZAA0 IAmb IAmb 16 17 16.8
comp=Z,5.1nm,0.8s
ZALV Zalesovo Beam 43.93 48 P P 16 17 14.8 0.0
ZALV Zalesovo Beam 43.93 48 P P 16 17 15.2 +0.4
comp=Z,4.2nm,0.8s,baz=280,slow=8.4,SNR=19
comp=Z,4.2nm,0.8s
ZALV Zalesovo Beam 43.93 48 *i* P P 16 17 15.1 +0.3
ZALV pmax pmax
comp=Z,4.0nm,0.8s
GTA Gaotai 57.72 63 *e*P P 16 18 59.0 0.0
GTA sP sP 16 19 13.8 +8.8
GTA pmax pmax
comp=Z,4.0nm,1.3s
SONM Songino Array 58.62 52 P P 16 19 05.7 +0.5
comp=Z,1.7nm,0.9s,baz=284,slow=9.9,SNR=7.6
comp=Z,1.7nm,0.9s
SCHQ Schefferville 60.11 318 P P 16 19 14.7 -0.6
comp=Z,3.0nm,0.5s,baz=74,slow=6.2,SNR=7.8
comp=Z,3.0nm,0.5s
YAK Yakutsk 63.96 30 P P 16 19 39.1 -1.8
YAK Yakutsk 63.96 30 *e*P P 16 19 39.7 -1.2
YAK *e**PP **pP** 16 19 44.5 -0.7
YAK *e* 16 20 13.7
YAK *e* 16 22 00.3
YAK *e*PPP PPP 16 23 30.7
YAK *e*S S 16 28 15.8 -0.4
YAK *e* 16 29 32.7
YAK *e*SS SS 16 32 25.7 +1.8
YAK pmax pmax
comp=Z,6.0nm,1.1s
YAK pmax pmax
comp=N,1.0nm,1.5s
YAK pmax pmax
comp=E,2.0nm,1.2s
YAK pmax pmax
comp=Z,86nm,5.5s
YAK pmax pmax
comp=N,65nm,5.3s
YAK pmax pmax
comp=E,74nm,5.4s
YAK smax smax
comp=N,53nm,4.8s
YAK smax smax
comp=E,67nm,7.3s
HHC Hu-ho-hao-te 65.07 57 *e*P P 16 19 49.3 +0.6
BOSA Boshof 66.41 178 P P 16 19 57.9 +0.6
comp=E,2.5nm,1.0s,baz=41,slow=9.3,SNR=3.6
BOSA LR LR 16 54 00.4
comp=E,58nm,19.0s,baz=40,slow=40
comp=E,2.5nm,1.0s
CMAR Chiang Mai Arr 67.51 84 P P 16 20 03.6 -0.9
comp=E,1.5nm,0.7s,baz=298,slow=8.2,SNR=11
comp=E,1.5nm,0.7s
HEH HeiHe 69.50 42 *e*P P 16 20 15.5 -0.9
HEH pmax pmax
comp=Z,4.0nm,0.9s
BILL Bilibino 70.51 14 *i* P P 16 20 24.9 +2.6
BILL pmax pmax
comp=Z,6.0nm,1.0s
SEY Seymchan 71.30 22 *e*P P 16 20 26.7 -0.5
SEY pmax pmax
comp=Z,6.0nm,1.2s
E29M Blow River 72.90 353 P P 16 20 36.9 +0.2
F31M Tsiigehtchic 73.35 351 P P 16 20 39.0 -0.4
SSPA Standing Stone 73.76 309 P P 16 20 41.9 -0.4
SSPA IAmb IAmb 16 20 47.3
comp=Z,7.5nm,0.9s
YKA Yellowknife Ar 74.23 341 P P 16 20 44.7 0.0
comp=Z,0.8nm,0.7s,baz=34,slow=5.6,SNR=4.6
comp=Z,0.8nm,0.7s
G29M Pine Creek 74.34 353 P P 16 20 44.9 -0.3
G29M IAmb IAmb 16 21 15.3
comp=Z,7.1nm,1.1s
NJ2 Nanjing 74.75 61 *e*P P 16 20 48.5 +0.3
USRK Ussurivsk Ar. 75.65 45 P P 16 20 52.2 -0.9
comp=Z,2.7nm,0.8s,baz=248,slow=5.8,SNR=5.7
comp=Z,2.7nm,0.8s
I30M Mount Dempster 75.80 351 IAmb IAmb 16 20 58.1
comp=Z,4.9nm,1.1s
J30M Hart River 76.41 351 IAmb IAmb 16 21 02.2
comp=Z,5.7nm,1.0s
H21K Melozitna Rive 76.51 358 IAmb IAmb 16 21 03.2
comp=Z,8.3nm,1.4s
ILAR Eielson Array 77.16 356 P P 16 21 00.5 -0.9
comp=Z,0.2nm,0.6s,baz=2.9,slow=6.5,SNR=2.9
comp=Z,0.2nm,0.6s
KSRS Korea Array 77.48 52 P P 16 21 01.9 -1.7
comp=Z,2.2nm,0.9s,baz=304,slow=3.7,SNR=6.6
comp=Z,2.2nm,0.9s
KSRS Korea Array 77.48 52 P P 16 21 02.0 -1.7
MMPY Sheldon Lake, 77.57 348 IAmb IAmb 16 21 09.2
comp=Z,5.9nm,1.1s
U49A Red Boiling Sp 81.15 310 IAmb IAmb 16 21 28.2
comp=Z,6.1nm,1.0s
T47A Sharon Grove 81.64 311 P P 16 21 26.3 0.0
T47A IAmb IAmb 16 21 30.5
comp=Z,7.4nm,0.9s
W50A Signal Mountai 81.73 308 P P 16 21 27.0 +0.1
W50A IAmb IAmb 16 21 28.5
comp=Z,6.3nm,0.9s
MJAR Matsushiro Arr 84.28 47 P P 16 21 38.0 -2.0
comp=Z,1.8nm,0.9s,baz=319,slow=3.9,SNR=5.7
comp=Z,1.8nm,0.9s
TXAR Lajitas Array 96.72 316 P P 16 22 38.8 -0.2
comp=Z,0.3nm,0.7s,baz=103,slow=5.6,SNR=4.2
comp=Z,0.3nm,0.7s
WRA Warramunga Arr 118.14 94 PKP PKPdf 16 27 53.4 -2.1
comp=Z,0.2nm,0.8s,baz=304,slow=2.0,SNR=1.8
ASAR Alice Springs 119.78 98 PKP PKPdf 16 27 56.6 -2.0
comp=Z,0.3nm,0.7s,baz=311,slow=1.6,SNR=7.8
QSPA South Pole Qui 127.98 180 PKP PKPdf 16 28 11.4 -1.6
comp=Z,0.9nm,1.0s,baz=264,slow=3.1,SNR=1.7

*RSPR **28** 16:13:17.8, 18°.53N×68°.98W, h140km, MD3.4/23*
*SDD **28** 16:13:18.1±2.3, 18°.50N×69°.00W, h153km±11km, MD3.8, ML3.8, MW3.7*
*NEIC **28** 16:13:18.3±1.0, 18°.5N±0°.2×68°.96W±0°.06, h127km±11km, ML3.8/32, Md3.4/23(RSPR), Error ellipse: s-maj=24.3km s-min=7.6km az=187.0*
*OSPL **28** 16:13:18.9±3.4, 18°.44N×68°.98W, h148km±21km, ML3.5*
ISC 28 16:13:16.6±1.4, **18°.52N**±0°.06×**68°.98W**±0°.03, **h147**km±7km, **n95**, σ0°.99/124, **22C-22D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HIDR	**Higuey Centro**	**0.26**	**73**	⇓*e*P	**Pn**	**16 13 36.7**	**-0.1**
HIDR	**Higuey Centro**	**0.26**	**73**	*e*S	**Sn**	**16 13 51.3**	**-0.7**
HIDR	**Higuey Centro**	**0.26**	**73**	⇑*e*Pg	**Pn**	**16 13 36.6**	**-0.1**
HIDR				⇓*e*Sg	**Sn**	**16 13 51.6**	**-0.4**
HIDR				IAML		16 13 53.9	
comp=N,4μm,0.2s							
SADR	**Isla Saona**	**0.37**	**150**	⇑*e*Pg	**Pn**	**16 13 37.2**	**+0.1**
SADR				⇑*e*Sg	**Sn**	**16 13 52.2**	**-0.4**
SADR				IAML		16 14 04.4	
comp=N,930nm,0.4s							
DR12	**Loma Pena Alta**	**0.47**	**305**		**Pn**	**16 13 37.0**	**-0.6**
MIDR	**Miches**	**0.47**	**352**	*e*Pg	**Pn**	**16 13 37.8**	**+0.3**
MIDR				⇑*e*Sg	**Sn**	**16 13 53.4**	**-0.1**
MIDR				IAML		16 13 54.4	
comp=N,2μm,0.3s							
SMDR	**Samana, DR**	**0.80**	**346**	⇑*e*P	**Pn**	**16 13 39.4**	**-0.1**
SMDR	**Samana, DR**	**0.80**	**346**	*e*S	**Sn**	**16 13 56.8**	**-0.2**
SMDR	**Samana, DR**	**0.80**	**346**	⇑*e*Pg	**Pn**	**16 13 39.4**	**-0.1**
SMDR				⇑*e*Sg	**Sn**	**16 13 57.5**	**+0.4**
SMDR				IAML		16 14 02.6	
comp=N,975nm,0.5s							
SDD	**Santo Domingo**	**0.89**	**266**		**Pn**	**16 13 40.0**	**-0.2**
SDD	**Santo Domingo**	**0.89**	**266**		**Sn**	**16 13 56.9**	**-1.2**
SDD	**Santo Domingo**	**0.89**	**266**	⇑*e*P	**Pn**	**16 13 40.2**	**0.0**
SDD	**Santo Domingo**	**0.89**	**266**	⇑*e*Pg	**Pn**	**16 13 40.2**	**0.0**
SDD				⇓*e*Sg	**Sn**	**16 13 56.8**	**-1.4**
SDD				IAML		16 13 59.5	
comp=N,94nm,0.8s							
SDD	**Santo Domingo**	**0.89**	**266**	*i* P	**Pn**	**16 13 40.2**	**0.0**
SDD				*e*S	**Sn**	**16 13 56.5**	**-1.6**
LOSC1	**San Cristbal**	**1.08**	**264**	*i* P	**Pn**	**16 13 42.5**	**+0.7**
LOSC1				*e*S	**Sn**	**16 13 59.8**	**-1.2**
NADR	**Nagua**	**1.18**	**315**	⇑*e*Pg	**Pn**	**16 13 42.9**	**+0.2**
NADR				⇓*e*Sg	**Sn**	**16 14 02.3**	**-0.4**
NADR				IAML		16 14 09.8	
comp=N,3μm,0.2s							
LONA1	**Toro Cenizo, N**	**1.20**	**316**	*i* P	**Pn**	**16 13 43.3**	**+0.3**
LONA1				*e*S	**Sn**	**16 14 03.0**	**-0.2**
LONA1				IAML		16 14 12.1	
comp=Z,1μm,2.1s							
BANI	**BANI**	**1.32**	**265**		**Pn**	**16 13 44.5**	**+0.3**
BANI	**BANI**	**1.32**	**265**	⇑*e*Pg	**Pn**	**16 13 44.7**	**+0.4**
BANI				⇓*e*Sg	**Sn**	**16 14 06.7**	**+1.4**
BANI				IAML		16 14 11.0	
comp=N,1μm,0.2s							
IDE	**Isla Desecheo**	**1.43**	**95**		**Pn**	**16 13 45.3**	**0.0**
IDE					**Sn**	**16 14 07.6**	**+0.5**
IDE	**Isla Desecheo**	**1.43**	**95**	⇓*e*P	**Pn**	**16 13 45.3**	**0.0**
IDE	**Isla Desecheo**	**1.43**	**95**	*e*S	**Sn**	**16 14 07.6**	**+0.5**
ABDR	**Alto Bandera**	**1.59**	**281**	⇑*e*Pg	**Pn**	**16 13 47.9**	**+0.6**
ABDR				⇑*e*Sg	**Sn**	**16 14 10.1**	**-0.7**
ABDR				IAML		16 14 15.3	
comp=N,621nm,0.6s							
PRSN	**Puerto Rico Se**	**1.77**	**99**		**Pn**	**16 13 49.3**	**+0.4**
PRSN				IAML		16 14 18.9	
comp=N,1μm,0.2s							
PRSN				IAML		16 14 22.6	
comp=E,1μm,0.3s							
PRSN	**Puerto Rico Se**	**1.77**	**99**		**Sn**	**16 14 15.7**	**+2.1**
PRSN	**Puerto Rico Se**	**1.77**	**99**	⇑*e*P	**Pn**	**16 13 50.0**	**+1.1**
PRSN	**Puerto Rico Se**	**1.77**	**99**	*e*S	**Sn**	**16 14 15.7**	**+2.1**
PRSN	**Puerto Rico Se**	**1.77**	**99**	*e*Pg	**Pn**	**16 13 49.8**	**+0.9**
PRSN				*e*Sg	**Sn**	**16 14 14.0**	**+0.4**
PRSN				IAML		16 14 19.0	
comp=N,689nm,0.2s							
AGPR	**Aguadilla, PR**	**1.77**	**91**		**Pn**	**16 13 49.7**	**+0.7**
AGPR					**Sn**	**16 14 14.3**	**+0.6**
AGPR	**Aguadilla, PR**	**1.77**	**91**	IAML		16 14 20.0	
comp=N,627nm,0.6s							
AGPR				IAML		16 14 20.0	
comp=E,796nm,0.5s							
AGPR	**Aguadilla, PR**	**1.77**	**91**	⇑*e*P	**Pn**	**16 13 49.7**	**+0.7**
AGPR	**Aguadilla, PR**	**1.77**	**91**	*e*Pg	**Pn**	**16 13 49.6**	**+0.7**
AGPR				*e*Sg	**Sn**	**16 14 14.0**	**+0.3**
AGPR				IAML		16 14 19.9	
comp=N,602nm,0.3s							
AGPR	**Aguadilla, PR**	**1.77**	**91**	*i* P	**Pn**	**16 13 49.6**	**+0.7**
AGPR				*e*S	**Sn**	**16 14 14.1**	**+0.3**
AGPR				IAML		16 14 19.1	
comp=Z,355nm,0.6s							
LSP	**Las Mesas**	**1.83**	**100**		**Pn**	**16 13 50.6**	**+0.9**
LSP					**Sn**	**16 14 18.4**	**+3.5**
LSP	**Las Mesas**	**1.83**	**100**	⇓*e*P	**Pn**	**16 13 50.6**	**+0.9**
LSP	**Las Mesas**	**1.83**	**100**	*e*S	**Sn**	**16 14 18.4**	**+3.5**
CRPR	**Cabo Rojo, PR**	**1.85**	**106**		**Pn**	**16 13 49.9**	**+0.1**
CRPR					**Sn**	**16 14 15.9**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.85**	**106**	⇑*e*P	**Pn**	**16 13 49.9**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.85**	**106**	*i* P	**Pn**	**16 13 50.0**	**+0.2**
CRPR				*e*S	**Sn**	**16 14 15.4**	**+0.2**
CRPR				IAML		16 14 27.1	
comp=Z,193nm,0.5s							
SC01	**Santiago de Io**	**1.89**	**299**		**Pn**	**16 13 51.0**	**+0.6**
SC01				IAML		16 14 19.3	
comp=E,739nm,0.5s							
SC01				IAML		16 14 26.1	
comp=N,492nm,0.3s							
SC01	**Santiago de Io**	**1.89**	**299**		**Sn**	**16 14 18.2**	**+2.0**
SC01	**Santiago de Io**	**1.89**	**299**	⇓*e*P	**Pn**	**16 13 51.3**	**+1.0**
SC01	**Santiago de Io**	**1.89**	**299**	*i* P	**Pn**	**16 13 51.3**	**+1.0**
SC01				*e*S	**Sn**	**16 14 18.0**	**+1.9**
SC01				IAML		16 14 26.9	
comp=Z,268nm,0.4s							
MLPR	**Magueyes Islan**	**1.92**	**106**	⇓*e*P	**Pn**	**16 13 50.4**	**-0.2**
MLPR	**Magueyes Islan**	**1.92**	**106**	*e*S	**Sn**	**16 14 17.7**	**+1.1**
MLPR	**Magueyes Islan**	**1.92**	**106**	⇓*e*Pg	**Pn**	**16 13 50.4**	**-0.2**
MLPR				⇓*e*Sg	**Sn**	**16 14 15.2**	**-1.4**
MLPR				IAML		16 14 25.0	
comp=N,72nm,0.2s							
AOPR	**Arecibo Observ**	**2.12**	**94**		**Pn**	**16 13 53.0**	**-0.1**
AOPR					**Sn**	**16 14 20.4**	**-0.5**
AOPR	**Arecibo Observ**	**2.12**	**94**	⇑*e*P	**Pn**	**16 13 53.0**	**-0.1**
AOPR	**Arecibo Observ**	**2.12**	**94**	*e*S	**Sn**	**16 14 20.4**	**-0.5**
AOPR	**Arecibo Observ**	**2.12**	**94**	⇓*e*Pg	**Pn**	**16 13 52.9**	**-0.1**
AOPR				⇓*e*Sg	**Sn**	**16 14 20.4**	**-0.5**
AOPR				IAML		16 14 32.4	
comp=N,962nm,0.3s							
UUPR	**Utuado, UPR, P**	**2.16**	**97**		**Pn**	**16 13 53.8**	**+0.3**
UUPR	**Utuado, UPR, P**	**2.16**	**97**		**Sn**	**16 14 22.4**	**+0.6**
UUPR	**Utuado, UPR, P**	**2.16**	**97**	⇑*e*P	**Pn**	**16 13 54.2**	**+0.7**
UUPR	**Utuado, UPR, P**	**2.16**	**97**	*e*S	**Sn**	**16 14 22.4**	**+0.6**
PODR	**Polo**	**2.21**	**261**	*i* P	**Pn**	**16 13 54.5**	**+0.1**
PODR				*e*S	**Sn**	**16 14 23.2**	**-0.2**
SDDR	**Presa de Saban**	**2.24**	**282**		**Pn**	**16 13 54.9**	**+0.4**
SDDR	**Presa de Saban**	**2.24**	**282**	⇓*e*P	**Pn**	**16 13 55.6**	**+1.1**
SDDR	**Presa de Saban**	**2.24**	**282**	*e*S	**Sn**	**16 14 25.6**	**+2.0**
SDDR	**Presa de Saban**	**2.24**	**282**	*i* P	**Pn**	**16 13 55.2**	**+0.7**
SDDR				*e*S	**Sn**	**16 14 24.0**	**+0.4**
SDDR				IAML		16 14 29.6	
comp=Z,107nm,0.5s							
OBIP	**Obispado Ponce**	**2.30**	**101**		**Pn**	**16 13 55.4**	**+0.2**
OBIP	**Obispado Ponce**	**2.30**	**101**		**Sn**	**16 14 26.0**	**+1.1**
OBIP	**Obispado Ponce**	**2.30**	**101**	⇑*e*P	**Pn**	**16 13 55.6**	**+0.4**
OBIP	**Obispado Ponce**	**2.30**	**101**	*e*S	**Sn**	**16 14 26.0**	**+1.1**
CELP	**Cerrillos**	**2.32**	**100**		**Pn**	**16 13 55.6**	**+0.2**
CELP				IAML		16 14 30.0	
comp=E,235nm,0.7s							
CELP				IAML		16 14 32.4	
comp=N,413nm,0.4s							
CELP	**Cerrillos**	**2.32**	**100**		**Sn**	**16 14 26.2**	**+1.0**
CELP	**Cerrillos**	**2.32**	**100**	⇑*e*P	**Pn**	**16 13 55.9**	**+0.4**
CELP	**Cerrillos**	**2.32**	**100**	*e*S	**Sn**	**16 14 26.2**	**+1.0**
CELP	**Cerrillos**	**2.32**	**100**	⇓*e*Pg	**Pn**	**16 13 55.8**	**+0.4**
CELP				⇓*e*Sg	**Sn**	**16 14 24.9**	**-0.3**
CELP				IAML		16 14 32.3	
comp=N,394nm,0.5s							
EMPR	**Esperanza - Ma**	**2.32**	**91**		**Pn**	**16 13 55.2**	**-0.3**
EMPR					**Sn**	**16 14 24.8**	**-0.5**
EMPR	**Esperanza - Ma**	**2.32**	**91**	⇓*e*P	**Pn**	**16 13 55.2**	**-0.3**
EMPR	**Esperanza - Ma**	**2.32**	**91**	*e*S	**Sn**	**16 14 24.8**	**-0.5**
LODU1	**El Espartillar**	**2.38**	**266**	*i* P	**Sn**	**16 13 56.9**	**+0.8**
LODU1				*e*S	**Sn**	**16 14 27.2**	**+0.7**
LOVI	**El Cajuil, Ovi**	**2.38**	**253**	*i* P	**Pn**	**16 13 55.9**	**-0.3**
LOVI				*e*S	**Sn**	**16 14 23.7**	**-2.8**
LOVI				IAML		16 14 27.1	
comp=Z,182nm,0.2s							
LOPP1	**Punta Rusia, P**	**2.49**	**303**	*i* P	**Pn**	**16 13 57.1**	**-0.4**
LOPP1				*e*S	**Sn**	**16 14 27.8**	**-1.1**
LOPP1				IAML		16 14 37.1	
comp=Z,160nm,0.4s							
ECPR	**Experimental S**	**2.49**	**94**	⇓*e*P	**Pn**	**16 13 56.8**	**-0.7**
ECPR	**Experimental S**	**2.49**	**94**	*e*S	**Sn**	**16 14 26.5**	**-2.5**
SJG	**San Juan**	**2.72**	**98**		**Pn**	**16 13 59.8**	**-0.5**
SJG	**San Juan**	**2.72**	**98**	IAML		16 14 39.1	
comp=Z,258nm,0.4s							
SJG				IAML		16 14 40.2	
comp=Z,286nm,0.4s							
SJG	**San Juan**	**2.72**	**98**	⇓*e*P	**Pn**	**16 13 59.8**	**-0.5**
SJG	**San Juan**	**2.72**	**98**	*e*S	**Sn**	**16 14 32.6**	**-1.4**
GCPR	**Guaynabo City**	**2.75**	**94**		**Pn**	**16 14 00.4**	**-0.4**
GCPR				IAML		16 14 41.1	
comp=E,170nm,0.5s							
GCPR				IAML		16 14 41.7	
comp=N,142nm,0.3s							
GCPR	**Guaynabo City**	**2.75**	**94**		**Sn**	**16 14 33.0**	**-1.8**
GCPR	**Guaynabo City**	**2.75**	**94**	⇓*e*P	**Pn**	**16 14 00.7**	**-0.1**
GCPR	**Guaynabo City**	**2.75**	**94**	*e*S	**Sn**	**16 14 33.0**	**-1.8**
IGPR	**InterUniversit**	**2.78**	**101**		**Pn**	**16 14 01.8**	**+0.6**
IGPR					**Sn**	**16 14 36.0**	**+0.5**
IGPR	**InterUniversit**	**2.78**	**101**	⇑*e*P	**Pn**	**16 14 01.8**	**+0.6**
IGPR	**InterUniversit**	**2.78**	**101**	*e*S	**Sn**	**16 14 36.0**	**+0.5**
PDPR	**Patillas Dam,**	**2.85**	**100**		**Pn**	**16 14 02.0**	**0.0**
PDPR				IAML		16 14 45.0	
comp=N,196nm,0.3s							
PDPR				IAML		16 14 46.4	
comp=E,210nm,0.4s							
PDPR	**Patillas Dam,**	**2.85**	**100**	⇓*e*P	**Pn**	**16 14 02.0**	**0.0**
PDPR	**Patillas Dam,**	**2.85**	**100**	*e*S	**Sn**	**16 14 36.5**	**-0.5**
HUMP	**Col San Antoni**	**2.99**	**97**		**Pn**	**16 14 03.2**	**-0.6**
HUMP				IAML		16 14 49.2	
comp=N,315nm,0.2s							
HUMP				IAML		16 14 49.2	
comp=E,396nm,0.4s							
HUMP	**Col San Antoni**	**2.99**	**97**		**Sn**	**16 14 38.3**	**-2.0**
HUMP	**Col San Antoni**	**2.99**	**97**	⇓*e*P	**Pn**	**16 14 03.5**	**-0.3**
HUMP	**Col San Antoni**	**2.99**	**97**	*e*S	**Sn**	**16 14 38.3**	**-2.0**
GRTK	**Grand Turk**	**3.60**	**326**	Pn	**Pn**	**16 14 10.8**	**-0.9**

IDC 28 16:26:40.3±1.6, **20°.89N**×**122°.02E**, **h0**km, **mb3.4**/3, **mbtmp3.6**/4, **ML3.0**/1, **Error ellipse: s-maj=51.0km s-min=30.8km az=69.0, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**8.23**	**43**	Pn	Pn	16 28 41.2	+0.2
0.5nm,0.3s,baz=173,slow=8.1,SNR=2.3							
15nm,1.0s							
MKAR	**Makanchi Array**	**41.27**	**318**	P	P	16 34 27.6	+0.2
0.4nm,0.7s,baz=104,slow=10,SNR=3.7							
0.4nm,0.7s							
H11N1	**WAKE ISLAND Hy**	**41.99**	**83**	T	T	17 19 30.3	
baz=277,slow=74,SNR=11							
H11N2	**WAKE ISLAND Hy**	**42.00**	**83**	T	T	17 19 32.7	
baz=277,slow=74,SNR=8.8							
H11N3	**WAKE ISLAND Hy**	**42.01**	**83**	T	T	17 19 32.4	
baz=277,slow=74,SNR=9.0							
H11S3	**WAKE ISLAND Hy**	**42.02**	**85**	T	T	17 19 30.4	
baz=281,slow=75,SNR=24							
H11S1	**WAKE ISLAND Hy**	**42.03**	**85**	T	T	17 19 25.9	
baz=281,slow=75,SNR=14							
H11S2	**WAKE ISLAND Hy**	**42.04**	**85**	T	T	17 19 28.8	
baz=281,slow=75,SNR=13							
ZALV	**Zalesovo Beam**	**43.43**	**329**	P	P	16 34 44.2	-0.6
0.7nm,0.5s,baz=125,slow=7.2,SNR=2.9							
0.7nm,0.5s							
ASAR	**Alice Springs**	**45.77**	**165**	P	P	16 35 03.7	-0.1
0.2nm,0.8s,baz=344,slow=8.5,SNR=1.7							
0.2nm,0.8s							

*ISK **28** 16:30:31.1, 36°.79N×44°.80E, h5km, ML3.1/6*
*ISN **28** 16:30:32.5±2.1, 37°.02N×44°.52E, h10km, ML3.2*
*AFAD **28** 16:30:33.8, 36°.86N×44°.92E, h13km±6km, ML2.8*
*TEH **28** 16:30:35.7, 37°.18N×45°.01E, h6km±41km*
ISC 28 16:30:33.3±1.2, **37°.02N**±0°.03×**44°.96E**±0°.03, **h7**km±11km, **n23**, σ1°.63/34, **Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAHB	**Mahabad**	**0.65**	**113**	Pg	**Pn**	**16 30 49.4**	**+0.4**
MAHB				Sg	**Sb**	**16 30 58.3**	**+1.9**
YOVA	**Hakkari_Yksek**	**0.78**	**317**	P	**Pb**	**16 30 49.9**	**+0.6**
YOVA				S	**Sn**	**16 31 01.2**	**-1.7**
YOVA				*i* IAML		16 31 02.0	
comp=N,254nm,0.5s							
YOVA				*i* IAML		16 31 04.0	
comp=E,338nm,0.4s							
YOVA	**Hakkari_Yksek**	**0.78**	**317**	Pg	**Pb**	**16 30 49.9**	**+0.6**
IAZR	**Azarshahr**	**1.05**	**51**	Sg	**Sg**	**16 31 06.7**	**-0.4**
CUKT	**Cukurca**	**1.10**	**282**	Pg	**Pg**	**16 30 52.3**	**-2.2**
CUKT				Sg	**Sg**	**16 31 08.1**	**-0.7**
CUKT	**Cukurca**	**1.10**	**282**	P	**Pg**	**16 30 52.1**	**-2.4**
CUKT				S	**Sb**	**16 31 08.8**	**-0.6**
CUKT				*i* IAML		16 31 13.0	
comp=N,279nm,0.4s							
CUKT				*i* IAML		16 31 13.0	
comp=E,563nm,0.7s							
HAKT	**HAKKARI**	**1.13**	**299**	P	**Pn**	**16 30 56.2**	**+0.3**
HAKT				*i* IAML		16 31 14.0	
comp=E,240nm,0.4s							
HAKT				S	**Sn**	**16 31 14.6**	**+2.9**
HAKT				*i* IAML		16 31 16.0	
comp=N,453nm,0.6s							
HAKT	**HAKKARI**	**1.13**	**299**	Pg	**Pn**	**16 30 56.1**	**+0.3**
ISHB	**Shabestar**	**1.37**	**22**	Pg	**Pn**	**16 30 58.1**	**-0.8**
ISHB				Sg	**Sb**	**16 31 15.1**	**-1.9**
ITBZ	**Tabriz**	**1.54**	**38**	Pg	**Pn**	**16 31 01.4**	**+0.1**
ITBZ				Sg	**Sn**	**16 31 20.9**	**-0.6**
IKRK	**Kirkuk**	**1.69**	**197**	*e*Pg	**Pn**	**16 31 00.0**	**-3.2**
baz=5.0							
IKRK				*e*Sg	**Sn**	**16 31 24.0**	**-1.1**
IKRK				AML	AML	16 31 40.0	
comp=E,72nm,0.9s							

FAKI	**Fak Fak**	**3.96**	**21**	P	**Pn**	**16 32 40.7**	**-1.9**
KDU	**Kakadu**	**6.24**	**165**	P	**Pn**	**16 33 10.7**	**+0.4**
BATI	**Baumata**	**7.90**	**243**	P	Pn	16 33 13.6	-18
	25nm,0.4s,baz=91,slow=2.5,SNR=13						
BATI				S	S	16 34 23.6	-38
	5.8nm,0.4s,baz=31,slow=17,SNR=1.5						
KAPI	**Kappang**	**11.11**	**278**	P	**Pn**	**16 34 11.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**12.46**	**203**	P	Pn	16 34 18.9	-10
	1.6nm,0.4s,baz=41,slow=11,SNR=8.4						
FITZ				S	S	16 36 21.1	-26
	2.6nm,0.4s,baz=301,slow=22,SNR=5.1						
WRA	**Warramunga Arr**	**13.67**	**166**	P	**P**	**16 34 47.9**	**+3.5**
	0.8nm,0.6s,baz=336,slow=12,SNR=8.2						
WRA				S	**S**	**16 37 12.5**	**-2.5**
	1.6nm,0.7s,baz=333,slow=23,SNR=8.0						
ASAR	**Alice Springs**	**17.20**	**170**	P	**Pn**	**16 35 28.2**	**+2.7**
	1.1nm,0.7s,baz=348,slow=11,SNR=8.8						
ASAR				S	**S**	**16 38 23.4**	**-6.0**
	0.1nm,0.6s,baz=318,slow=12,SNR=1.4						
AS01	**Alice Springs**	**17.21**	**170**	P	**Pn**	**16 35 25.2**	**-0.3**
MKAR	**Makanchi Array**	**68.36**	**326**	P	**P**	**16 42 14.1**	**+0.4**
	0.2nm,0.4s,baz=111,slow=7.9,SNR=5.7						
	0.2nm,0.4s						

TEH ***28*** *16:43:56.6, 37˚.31N×44˚.90E, h10km±37km*
ISN ***28*** *16:43:58.6±2.8, 37˚.21N×44˚.95E, h10km, ML2.7*
ISC 28 16:43:56.8±1.6, 37°32N±0°.07×45°.0E±0°.1, h10km, n6, σ0°36/8, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAHB	**Mahabad**	**0.82**	**132**	Pg	**Pg**	**16 44 13.0**	**+0.3**
IAZR	**Azarshahr**	**0.89**	**66**	Pg	**Pn**	**16 44 15.4**	**-0.4**
IAZR				Sg	**Sn**	**16 44 28.7**	**-0.2**
ISHB	**Shabestar**	**1.10**	**29**	Pg	**Pn**	**16 44 18.5**	**0.0**
ITBZ	**Tabriz**	**1.32**	**46**	Pg	**Pg**	**16 44 22.4**	**+0.3**
IHRS	**Heris**	**1.93**	**58**	Pn	**Pb**	**16 44 32.3**	**-0.1**
IKRK	**Kirkuk**	**1.98**	**195**	*e*Pg	**Pn**	**16 44 30.0**	**-0.4**
	baz=15						
IKRK				*e*Sg	**Sb**	**16 44 58.0**	**+0.3**
IKRK				AML	AML	16 45 04.1	
	comp=N,10.0nm,0.5s						

UCR ***28*** *16:44:54.6±1.0, 11˚.27N×86˚.69W, h24km±11km, MW3.8*
CATAC ***28*** *16:44:55.4±0.7, 11˚.3N×87˚.7W±˚, h23km±5km, M3.5/19, MLv3.5/19, Error ellipse: s-maj=7.3km s-min=5.0km az=32.6, confirmed*
ISC 28 16:44:54.5±1.7, 11°28N±0°.06×86°.71W±0°.07, h21km±5km, n40, σ0°43/47, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	**Granada**	**0.81**	**55**	*e*P	**Pb**	**16 45 09.8**	**-0.1**
NADN				*e*S	**Sn**	**16 45 21.9**	**-0.2**
NADN	**Granada**	**0.81**	**55**	P	**Pb**	**16 45 09.7**	**-0.1**
NADN				S	**Sn**	**16 45 21.7**	**-0.4**
SABN	**Sabanita**	**0.86**	**39**	P	**Pb**	**16 45 10.5**	**-0.3**
NANN	**Nandasmo**	**0.87**	**41**	P	**Pn**	**16 45 12.3**	**+0.7**
NANN	**Nandasmo**	**0.87**	**41**	S	**Sn**	**16 45 23.7**	**0.0**
COPN	**Copaltepe**	**0.90**	**7**	*e*P	**Pb**	**16 45 11.5**	**+0.1**
COPN	**Copaltepe**	**0.90**	**7**	P	**Pb**	**16 45 11.6**	**+0.1**
UNAN	**Cigeo UNAN**	**0.93**	**27**	P	**Pn**	**16 45 12.3**	**-0.1**
UNAN				S	**Sn**	**16 45 25.1**	**0.0**
SAPS	**Ciudad Sandino**	**0.93**	**19**	P	**Pb**	**16 45 12.1**	**+0.2**
TISN	**Laguna Tiscapa**	**0.96**	**27**	P	**Pb**	**16 45 11.5**	**-0.9**
MGAN	**Managua**	**0.97**	**28**	*e*P	**Pn**	**16 45 12.8**	**-0.1**
MGAN	**Managua**	**0.97**	**28**	P	**Pn**	**16 45 13.0**	**0.0**
MGAN	**Managua**	**0.97**	**28**	S	**Sn**	**16 45 25.8**	**-0.3**
WILN	**Americas 2**	**1.01**	**30**	P	**Pn**	**16 45 13.3**	**-0.2**
WILN				S	**Sn**	**16 45 27.3**	**+0.2**
APQ3	**Volcan Apoyequ**	**1.04**	**19**	P	**Pn**	**16 45 13.8**	**0.0**
APQ3				S	**Sn**	**16 45 28.2**	**+0.4**
JAPN	**AI SSO del Vol**	**1.04**	**76**	P	**Pb**	**16 45 14.2**	**+0.4**
MORN	**AI O del Volca**	**1.07**	**76**	P	**Pb**	**16 45 15.4**	**+1.1**
MOMN	**Momotombo**	**1.13**	**8**	P	**Pn**	**16 45 14.8**	**-0.4**
MOMN				S	**Sb**	**16 45 29.4**	**-0.3**
CARN	**Rivas**	**1.17**	**95**	*e*P	**Pb**	**16 45 16.0**	**0.0**
MOM2	**El Cardon**	**1.17**	**11**	P	**Pn**	**16 45 15.5**	**-0.1**
MOM2				S	**Sn**	**16 45 29.9**	**-1.1**
CNGA	**AI SSO del Vol**	**1.21**	**0**	P	**Pn**	**16 45 16.2**	**0.0**
CNGN	**Cerro Negro**	**1.21**	**0**	*e*P	**Pn**	**16 45 16.2**	**-0.1**
CNGN	**Cerro Negro**	**1.21**	**0**	P	**Pn**	**16 45 16.2**	**-0.1**
CNGN	**Cerro Negro**	**1.21**	**0**	S	**Sb**	**16 45 32.0**	**+0.1**
ALIBA	**Liberia Airpor**	**1.33**	**121**	*e*P	**Pn**	**16 45 18.2**	**+0.3**
LAPC	**Finca la Perla**	**1.35**	**112**	*e*P	**Pn**	**16 45 18.0**	**-0.2**
POLN	**AI Sur del Vol**	**1.36**	**356**	P	**Pn**	**16 45 18.2**	**-0.1**
VRLE	**La Escondida,**	**1.41**	**110**	*e*P	**Pn**	**16 45 18.9**	**-0.1**
CRIN	**San Cristobal**	**1.45**	**347**	*e*P	**Pn**	**16 45 19.8**	**+0.2**
CRIN	**San Cristobal**	**1.45**	**347**	P	**Pn**	**16 45 19.6**	**0.0**
JUD3	**Juan Diaz 3**	**1.60**	**134**	*e*P	**Pn**	**16 45 20.6**	**-1.0**
COLC	**Colonia**	**1.60**	**112**	*e*P	**Pn**	**16 45 21.8**	**+0.2**
ACON	**Acoyapa**	**1.65**	**65**	*e*P	**Pn**	**16 45 21.2**	**-1.1**
ACON	**Acoyapa**	**1.65**	**65**	P	**Pn**	**16 45 22.5**	**+0.2**
ACON	**Acoyapa**	**1.65**	**65**	S	**Sn**	**16 45 43.1**	**+0.2**
POTN	**Potosi Cosigui**	**1.88**	**336**	*e*P	**Pn**	**16 45 25.4**	**0.0**
JTS	**Las Juntas de**	**1.99**	**120**	*e*P	**Pn**	**16 45 27.0**	**0.0**
VARE2	**V. Arenal**	**2.12**	**112**	*e*P	**Pn**	**16 45 29.1**	**+0.2**
YUSH	**Yuscaran**	**2.66**	**357**	P	**Pn**	**16 45 36.9**	**+0.6**
TGUH	**Tegucigalpa,Un**	**2.81**	**349**	P	**Pn**	**16 45 39.1**	**+0.7**

IDC ***28*** *16:45:33.1±1.5, 2˚.59N×127˚.22E, h0km, mb3.4/5, mbtmp3.5/5, MS2.6/1, Error ellipse: s-maj=103.4km s-min=21.2km az=70.0*
DJA ***28*** *16:45:35.7±0.4, 3˚N±3˚×12˚8E±˚, h10km, M4.2/11, mB5.2/1, mb4.4/3, MLv4.0/11, Mw(mB)4.5/1*
ISC 28 16:45:37.5±1.2, 2°9N±0°.1×128°1E±0°.1, h35km, n12, σ1°93/14, mb3.5/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.20**	**199**	P	**Pn**	**16 46 12.1**	**+0.6**
SGSI	**Sangihe**	**2.66**	**288**	P	**Pn**	**16 46 19.3**	**+1.5**
SGSI				S	**Sn**	**16 46 50.3**	**+1.4**
KMSI	**Cibinong**	**4.68**	**241**	P	**Pn**	**16 46 45.3**	**-0.3**
DAV	**Davao City (W)**	**4.85**	**329**	LR	LR	16 48 57.8	
	comp=Z,71nm,20.5s,baz=102,slow=43						
SWI	**Sorong**	**4.89**	**139**	P	**Pn**	**16 46 48.7**	**+0.1**
SWI				S	**Sn**	**16 47 46.7**	**+2.6**
MRSI	**Marisa**	**6.57**	**249**	P	**Pn**	**16 47 12.9**	**+1.3**
	0.2nm2µm44nm,0.7s						
FAKI	**Fak Fak**	**7.11**	**144**	P	**Pn**	**16 47 21.0**	**+1.9**
FITZ	**Fitzroy Crossi**	**20.97**	**186**	P	**P**	**16 50 13.2**	**-4.6**
	1.6nm,1.1s,baz=0.0,slow=10,SNR=3.4						
	1.6nm,1.1s						
WRA	**Warramunga Arr**	**23.49**	**165**	P	**P**	**16 50 43.8**	**-0.5**
	0.9nm,0.8s,baz=344,slow=10,SNR=8.4						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**26.98**	**168**	P	**P**	**16 51 16.4**	**+0.3**
	0.5nm,1.1s,baz=342,slow=7.4,SNR=6.5						
ASAR				PcP	**PcP**	**16 54 38.9**	**+1.5**
	0.2nm,0.9s,baz=2.1,slow=2.3,SNR=2.1						
	0.5nm,1.1s						
MKAR	**Makanchi Array**	**59.02**	**325**	P	**P**	**16 55 32.9**	**-1.0**
	0.3nm,0.5s,baz=119,slow=8.9,SNR=4.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**63.18**	**327**	P	**P**	**16 56 01.9**	**0.0**
	0.3nm,0.2s,baz=132,slow=6.9,SNR=2.6						
	0.3nm,0.2s						

IDC ***28*** *17:21:59.5±1.1, 6˚.74N×73˚.00W, h166km±13km, mb3.1/1, mbtmp4.0/4, Error ellipse: s-maj=52.2km s-min=13.7km az=133.0*
RSNC ***28*** *17:22:00.4±0.0, 7˚N±1˚×73˚W±˚, h149km±2km, M3.6, mB4.8, mb4.0, ML3.2, Mw(mB)4.1*
ISC 28 17:21:58.6±0.9, 6.86N±0.03×73.10W±0.04, h157km±6km, n43, σ1°24/73, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**197**	P	**Pn**	**17 22 20.2**	**0.0**
BARC				S	**Sn**	**17 22 35.6**	**-1.1**
PAMC	**Pamplona, Colo**	**0.62**	**40**	P	**Pn**	**17 22 23.2**	**+1.3**
PAMC				S	**Sn**	**17 22 40.4**	**+0.7**
BRJC	**Barrancabermej**	**0.65**	**280**	P	**Pn**	**17 22 22.0**	**+0.5**
BRJC				S	**Sn**	**17 22 39.0**	**0.0**
RUSC	**La Rusia**	**0.96**	**179**	P	**Pn**	**17 22 24.1**	**-0.2**
RUSC				S	**Sn**	**17 22 42.9**	**-1.1**
TAMC	**Tame, Arauca**	**1.37**	**108**	P	**Pn**	**17 22 28.8**	**+1.4**
TAMC				S	**Sn**	**17 22 50.3**	**+0.9**
OCAC	**Ocana**	**1.38**	**351**	P	**Pn**	**17 22 28.5**	**+0.8**
OCAC				S	**Sn**	**17 22 50.3**	**+0.2**
PTBC	**PUERTO BERRIO,**	**1.39**	**257**	P	**Pn**	**17 22 27.0**	**-0.5**
PTBC				S	**Sn**	**17 22 48.0**	**-1.7**
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	P	**Pn**	**17 22 32.7**	**+0.2**
ZARC				S	**Sn**	**17 22 58.0**	**-0.6**
NORC	**Norcasia**	**2.18**	**234**	P	**Pn**	**17 22 36.4**	**+0.1**
NORC				S	**Sn**	**17 23 04.4**	**-1.0**
ROSC	**El Rosal**	**2.35**	**211**	P	**Pn**	**17 22 40.1**	**+1.5**
	173nm,0.3s,baz=302,slow=18,SNR=162						
ROSC				S	**Sn**	**17 23 10.5**	**+1.0**
	493nm,0.5s,baz=22,slow=19,SNR=18						
ROSC	**El Rosal**	**2.35**	**211**	P	**Pn**	**17 22 39.9**	**+1.2**
ROSC				S	**Sn**	**17 23 09.8**	**+0.3**
HELC	**Santa Helena**	**2.51**	**255**	P	**Pn**	**17 22 40.1**	**-0.4**
HELC				S	**Sn**	**17 23 12.9**	**+0.1**
CVER	**Cruz Verde, Cu**	**2.52**	**203**	P	**Pn**	**17 22 41.8**	**+1.0**
CVER				S	**Sn**	**17 23 14.0**	**+0.6**
UREC	**San Jos de Ur**	**2.57**	**290**	P	**Pn**	**17 22 40.7**	**-0.2**
UREC				S	**Sn**	**17 23 10.8**	**-2.8**
GUY2C	**Guyana, Caldas**	**2.78**	**234**	P	**Pn**	**17 22 44.6**	**+0.6**
GUY2C				S	**Sn**	**17 23 21.5**	**+2.5**
VILC	**Villavicencio,**	**2.80**	**192**	P	**Pn**	**17 22 43.3**	**-0.6**
VILC				S	**Sn**	**17 23 19.4**	**+0.5**
PTGC	**Puerto Gaitan,**	**2.82**	**160**	P	**Pn**	**17 22 43.5**	**-0.5**
PTGC				S	**Sn**	**17 23 16.8**	**-2.3**
CBOC	**Ciudad Bolivar**	**3.06**	**251**	P	**Pn**	**17 22 47.8**	**+0.6**
CBOC				S	**Sn**	**17 23 24.5**	**-0.3**
DBBC	**Dabeiba**	**3.09**	**273**	P	**Pn**	**17 22 47.6**	**+0.1**
DBBC				S	**Sn**	**17 23 23.0**	**-2.3**
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**17 22 50.2**	**+1.7**
	56nm,0.3s,baz=232,slow=12,SNR=10						
SDV				S	**Sn**	**17 23 25.3**	**-1.8**
	56nm,0.5s,baz=236,slow=22,SNR=14						
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**17 22 49.9**	**+1.4**
SDV				S	**Sn**	**17 23 27.2**	**+0.1**
ARGC	**Ariguani, Magd**	**3.18**	**339**	P	**Pn**	**17 22 50.7**	**+2.1**
ARGC				S	**Sn**	**17 23 29.2**	**+1.8**
PRAC	**Prado**	**3.60**	**210**	P	**Pn**	**17 22 53.7**	**-0.3**
PRAC				S	**Sn**	**17 23 35.5**	**-1.5**
APAC	**Apartado, Choc**	**3.60**	**287**	P	**Pn**	**17 22 54.1**	**+0.2**
ORTC	**Ortega, Tolima**	**3.63**	**216**	P	**Pn**	**17 22 54.5**	**+0.1**
ORTC				S	**Sn**	**17 23 38.0**	**+0.3**
SJCC	**San Jacinto, C**	**3.65**	**326**	P	**Pn**	**17 22 53.9**	**-0.7**
SJCC				S	**Sn**	**17 23 35.3**	**-2.8**
PLMC	**San Jos del P**	**3.72**	**239**	P	**Pn**	**17 22 55.8**	**+0.3**
PLMC				S	**Sn**	**17 23 39.7**	**0.0**
URMC	**La Uribe, Meta**	**3.81**	**200**	P	**Pn**	**17 22 57.2**	**+0.5**
URMC				S	**Sn**	**17 23 40.9**	**-1.0**
CRJC	**Cerrejon, Guaj**	**4.13**	**3**	P	**Pn**	**17 23 00.1**	**-0.8**
CRJC				S	**Sn**	**17 23 48.2**	**-1.3**
GUVC	**San Jose del G**	**4.32**	**174**	P	**Pn**	**17 23 02.7**	**-0.5**
YOTC	**Yotoco, Valle**	**4.32**	**229**	P	**Pn**	**17 23 03.0**	**-0.3**
SMRC	**Santa Marta, M**	**4.42**	**345**	P	**Pn**	**17 23 05.1**	**+0.6**
SMRC				S	**Sn**	**17 23 53.7**	**-2.2**
CAPC	**Capurgana**	**4.57**	**293**	P	**Pn**	**17 23 10.2**	**+3.7**
PTAC	**Punta Ardita,**	**4.68**	**274**	P	**Pn**	**17 23 07.6**	**-0.4**
MACC	**Macarena, Meta**	**4.75**	**189**	P	**Pn**	**17 23 07.2**	**-1.7**
URIC	**Uribia, Colomb**	**4.93**	**13**	P	**Pn**	**17 23 10.9**	**-0.3**
JAMC	**Jamundi, Valle**	**5.08**	**225**	P	**Pn**	**17 23 13.2**	**-0.3**
	13nm,0.6s						
GARC	**Garzon, Huila**	**5.22**	**207**	P	**Pn**	**17 23 14.0**	**-1.4**
FLOC	**Florencia**	**5.83**	**206**	P	**Pn**	**17 23 23.3**	**+0.1**
PCRV	**Puerto La Cruz**	**8.99**	**68**	P	**Pn**	**17 24 05.6**	**+0.3**
	15nm,0.9s,baz=315,slow=6.1,SNR=6.5						
PCRV				S	**Sn**	**17 25 43.3**	**-2.0**
	5.5nm,0.8s,baz=222,slow=16,SNR=1.1						
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**17 32 10.8**	**+0.8**
	0.3nm,0.5s,baz=133,slow=5.9,SNR=4.3						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPbc**	**17 41 29.1**	**-0.4**
	0.1nm,0.5s,baz=121,slow=3.4,SNR=7.6						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**17 41 31.8**	**-0.6**
	0.2nm,0.4s,baz=109,slow=2.3,SNR=7.4						

IDC 28 17:26:33.7±1.6, 0.97N×127.23E, h0km, mb3.8/4, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=114.1km s-min=19.8km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.02**	**185**	P	P	17 30 57.6	+0.3
	0.1nm,0.3s,baz=0.0,slow=10,SNR=3.3						
	3.7nm,1.2s						
WRA	**Warramunga Arr**	**21.93**	**162**	P	P	17 31 28.2	-0.7
	2.5nm,0.8s,baz=340,slow=11,SNR=19						
	2.5nm,0.8s						
ASAR	**Alice Springs**	**25.34**	**166**	P	P	17 32 03.0	+0.4
	2.8nm,0.9s,baz=343,slow=10,SNR=46						
	2.8nm,0.9s						
MKAR	**Makanchi Array**	**60.10**	**326**	P	P	17 36 42.8	-0.2
	0.4nm,0.4s,baz=115,slow=7.7,SNR=6.9						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.32**	**328**	P	P	17 37 11.2	+0.1
	0.5nm,0.6s,baz=130,slow=5.7,SNR=6.3						
	0.5nm,0.6s						

IDC 28 17:32:55.0±1.9, 0.86N×127.08E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=177.3km s-min=22.9km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.87**	**161**	P	P	17 37 48.8	-0.7
	0.9nm,0.7s,baz=340,slow=11,SNR=10						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**25.27**	**165**	P	P	17 38 23.6	+0.5
	1.5nm,1.0s,baz=342,slow=9.8,SNR=20						
	1.5nm,1.0s						
MKAR	**Makanchi Array**	**60.11**	**326**	P	P	17 43 05.2	+1.0
	0.2nm,0.5s,baz=119,slow=7.7,SNR=1.7						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**64.33**	**328**	P	P	17 43 31.4	-1.0
	0.1nm,0.4s,baz=134,slow=6.7,SNR=2.4						
	0.1nm,0.4s						

IDC ***28*** *17:50:28.7±0.7, 26˚.51N×128˚.87E, h0km, mb4.2/23, mbtmp4.3/28, ML3.9/5, MS3.7/35, Error ellipse: s-maj=15.1km s-min=13.0km az=29.0*
NEIC ***28*** *17:50:29.4±2.0, 26˚.36N±0˚.07×128˚.92E±0˚.05, h10km±1km, mb4.9/70, Error ellipse: s-maj=13.2km s-min=3.4km az=209.0*
BJI ***28*** *17:50:29.3, 26˚.30N×128˚.94E, h26km, mB4.5/23, mb4.6/61, Ms4.0/47, Ms7 3.9/48*
MOS ***28*** *17:50:30.6±1.0, 26˚.54N×128˚.90E, h24km, mb4.8/32, Error ellipse: s-maj=8.5km s-min=5.2km az=106.2*
NIED ***28*** *17:50:32.6, 26˚.49N×128˚.93E, h45km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.21; Mθθ-1.04; Mφφ1.25; Mrθ-0.25; Mφr4.38; Mθr2.50; Fault plane solution: Mo5.18000×10¹⁵ NP1:φs83.00000°, δ61.00000°, λ-1.00000°. NP2:φs173.00000°, δ89.00000°, λ-151.00000°.*
JMA ***28*** *17:50:32.6±0.2, 26˚.5N±0˚.8×12˚9E±˚, h45km±3km, MD4.3/30, MV4.3/30, NEAR OKINAWAJIMA ISLAND*
JMA Felt I J1 at NEAR OKINAWAJIMA ISLAND .
ISC 28 17:50:32.8±0.5, 26.41N±0.03×128.96E±0.03, h35km±2km, h36km:pP-P, n514, σ1°43/495, mb4.7/98, MS3.8/48, 7C-4D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.75**	**305**	Pn	**Pb**	**17 50 46.1**	**-1.5**
JOW	**Kunigami**	**0.75**	**305**	Pn	**Pb**	**17 50 45.4**	**-2.1**
	3µm,0.3s,baz=119,slow=19						
JOW				Sn	**Sb**	**17 50 55.5**	**-2.0**
	baz=105,slow=20						
JOW				LR	LR	17 51 02.0	
	comp=Z,998nm,19.3s,baz=236,slow=53						
JOW	**Kunigami**	**0.75**	**305**	P	**Pb**	**17 50 46.0**	**-1.5**
JOW	**Kunigami**	**0.75**	**305**	*i* P	**Pb**	**17 50 46.0**	**-1.5**
JOW				S	**Sb**	**17 50 55.5**	**-2.0**
JOW	**Kunigami**	**0.75**	**305**	A	A	17 50 46.0	
	comp=N,12nm,0.6s,comp=E,12nm,0.5s						
JYRO	**Yoronjima**	**0.77**	**324**	*i* P	**Pb**	**17 50 46.1**	**-1.8**
JYRO				S	**Sb**	**17 50 55.5**	**-2.5**
JYRO	**Yoronjima**	**0.77**	**324**	A	A	17 50 46.1	
	comp=N,17nm,0.8s,comp=E,22nm,1.5s						
JNTH	**Nagotoyohara**	**0.85**	**278**	*i* P	**Pb**	**17 50 47.6**	**-1.6**
JNTH				S	**Sb**	**17 50 58.4**	**-1.9**
JNTH	**Nagotoyohara**	**0.85**	**278**	A	A	17 50 47.6	
	comp=N,9.0nm,2.0s,comp=E,15nm,0.7s						
JOKE	**Okinoerabujima**	**1.01**	**340**	*i* P	**Pn**	**17 50 49.8**	**-0.8**
JOKE				S	**Sn**	**17 51 01.6**	**-2.1**
JOKE	**Okinoerabujima**	**1.01**	**340**	A	A	17 50 49.8	
	comp=N,24nm,2.3s,comp=E,25nm,3.1s						
JIH	**Iheya**	**1.09**	**305**	*i* P	**Pn**	**17 50 51.2**	**-0.4**
JIH				*e*S	**Sn**	**17 51 04.7**	**-0.7**
JIH	**Iheya**	**1.09**	**305**	A	A	17 50 51.2	
	comp=N,15nm,1.7s,comp=E,10.0nm,3.1s						
JJT3	**Tamagusuku3**	**1.09**	**256**	*i* P	**Pb**	**17 50 51.9**	**-1.3**
JJT3				S	**Sb**	**17 51 06.2**	**-1.0**
JJT3	**Tamagusuku3**	**1.09**	**256**	A	A	17 50 51.9	
	comp=N,49nm,1.1s,comp=E,18nm,1.7s						
JTK	**Tokunoshima**	**1.38**	**360**	*i* P	**Pn**	**17 50 54.5**	**-1.1**
JTK				S	**Sn**	**17 51 09.6**	**-3.0**
JTK	**Tokunoshima**	**1.38**	**360**	A	A	17 50 54.5	
	comp=N,8.0nm,2.3s,comp=E,7.0nm,1.0s						
JAGN	**Aguni-jima**	**1.55**	**277**	*i* P	**Pn**	**17 50 58.3**	**+0.3**
JAGN				S	**Sn**	**17 51 17.3**	**+0.4**
JAGN	**Aguni-jima**	**1.55**	**277**	A	A	17 50 58.3	
	comp=N,23nm,4.1s,comp=E,14nm,2.2s						
JAMN	**Amaminishikomi**	**1.84**	**6**	*i* P	**Pn**	**17 51 00.9**	**-1.0**
JAMN				*e*S	**Sn**	**17 51 21.9**	**-2.1**
JKE	**Kume jima 2**	**1.95**	**268**	*i* P	**Pn**	**17 51 03.2**	**-0.3**
JKE				*e*S	**Sn**	**17 51 25.7**	**-1.1**
JKE	**Kume jima 2**	**1.95**	**268**	A	A	17 51 03.2	
	comp=N,4.0nm,4.9s,comp=E,4.0nm,4.8s						
JAM	**Amami Oshima**	**2.08**	**16**	P	**Pn**	**17 51 03.9**	**-1.3**
JAM				*e*S	**Sn**	**17 51 27.8**	**-2.1**
JZK	**Kikaishima**	**2.10**	**25**	P	**Pn**	**17 51 04.8**	**-0.7**
JZK				*e*S	**Sn**	**17 51 29.9**	**-0.7**
JMZ	**Minamidaito 2**	**2.12**	**105**	P	**Pn**	**17 51 05.1**	**-0.7**
JMZ	**Minamidaito 2**	**2.12**	**105**	P	**Pn**	**17 51 04.9**	**-0.8**
JMZ	**Minamidaito 2**	**2.12**	**105**	P	**Pn**	**17 51 05.0**	**-0.7**
JMZ				S	**Sn**	**17 51 27.9**	**-2.9**
JMZ	**Minamidaito 2**	**2.12**	**105**	A	A	17 51 05.0	
	comp=N,7.0nm,1.1s,comp=E,7.0nm,0.7s						
JKDJ	**Kitadaitoujima**	**2.15**	**102**	*i* P	**Pn**	**17 51 05.7**	**-0.5**
JKDJ				S	**Sn**	**17 51 29.3**	**-2.3**
JKDJ	**Kitadaitoujima**	**2.15**	**102**	A	A	17 51 05.7	
	comp=N,16nm,1.1s,comp=E,10.0nm,1.2s						
JTAJ	**Takarajima**	**2.75**	**4**	P	**Pn**	**17 51 12.8**	**-1.6**
JTAJ				*e*S	**Sn**	**17 51 43.9**	**-2.5**
JNN	**Nakanoshima**	**3.52**	**13**	*e*P	**Pn**	**17 51 23.4**	**-1.6**
JOGS	**Gusukube**	**3.60**	**244**	P	**Pn**	**17 51 26.7**	**+0.5**
JOGS				S	**Sn**	**17 52 06.1**	**-1.5**
JIKM	**Ikemajima**	**3.66**	**247**	*e*P	**Pn**	**17 51 27.1**	**+0.1**
JIKM				S	**Sn**	**17 52 07.2**	**-1.8**
JMJ2	**Miyako jima3**	**3.68**	**244**	P	**Pn**	**17 51 27.2**	**0.0**
JMJ2				*e*S	**Sn**	**17 52 08.1**	**-1.3**
JIRB	**Irabujima**	**3.76**	**246**	P	**Pn**	**17 51 28.0**	**-0.4**
JIRB				*e*S	**Sn**	**17 52 09.0**	**-2.5**
JKC	**Kuchinoerabu**	**4.18**	**15**	P	**Pn**	**17 51 32.8**	**-1.4**
JKC				*e*S	**Sn**	**17 52 18.5**	**-3.4**
JTJ	**Tarama**	**4.23**	**246**	P	**Pn**	**17 51 34.1**	**-0.7**
JTJ				*e*S	**Sn**	**17 52 19.7**	**-3.3**
JMTN	**Minamitane**	**4.33**	**23**	P	**Pn**	**17 51 34.7**	**-1.5**
JMTN				*e*S	**Sn**	**17 52 22.2**	**-3.2**
JISG	**Ishigakijimahi**	**4.58**	**248**	P	**Pn**	**17 51 38.3**	**-1.2**
JISG				S	**Sn**	**17 52 26.9**	**-4.6**
YOJ	**Yonaguni jima**	**5.72**	**252**	P	**Pn**	**17 51 52.7**	**-2.6**
JNU	**Nakatsue**	**6.90**	**14**		**Pn**	**17 52 11.8**	**+0.3**
JNU	**Nakatsue**	**6.90**	**14**	Pn	**Pn**	**17 52 11.6**	**+0.1**
	comp=E,8.1nm,0.3s,baz=192,slow=6.7,SNR=119						
JNU				Sn	**Sn**	**17 53 26.4**	**-2.4**
	comp=E,2.4nm,0.3s,baz=204,slow=20,SNR=1.6						
	comp=E,25nm,0.4s						
JNU	**Nakatsue**	**6.90**	**14**	P	**Pn**	**17 52 11.8**	**+0.3**
NACB	**Ninganchiao**	**7.03**

XAN LR LR
comp=Z,450nm,15.2s
QIZ Qiongzhong 19.09 251 P **P** **17 54 51.8 -0.8**
QIZ sP **pP** **17 55 00.0 -1.1**
QIZ S **Sn** **17 58 24.5 -2.1**
QIZ LR LR
comp=Z,140nm,14.6s
QIZ LR LR
comp=Z,160nm,18.5s
QIZ LR LR
comp=Z,510nm,12.8s
BNX BinXian 19.34 357 ⇑P **P** **17 54 55.5 +0.4**
BNX pmax pmax
comp=Z,7.0nm,0.5s
ERM Erimo 19.46 33 P **P** **17 54 55.2 -1.2**
ERM Erimo 19.46 33 *ce*P **P** **17 54 55.0 -1.4**
ERM pmax pmax
comp=Z,47nm,1.3s
DAV Davao City (W) 19.50 190 LR LR 18 01 57.4
comp=Z,49nm,21.7s,baz=352,slow=35
GUMO Guam 19.62 127 LR LR 18 01 19.0
comp=Z,81nm,18.9s,baz=312,slow=33
GYA Guiyang 19.97 275 P **Pn** **17 55 03.5 -0.7**
GYA pmax pmax
comp=Z,14nm,1.5s
GYA LR LR
comp=Z,530nm,16.2s
XLT XiLinHaoTe 20.34 332 *e*P Pn 17 55 07.8 -0.6
XLT sP pwP 17 55 20.0 +1.9
XLT pmax pmax
comp=Z,6.0nm,0.7s
XLT LR LR
comp=Z,210nm,14.1s
XLT LR LR
comp=Z,240nm,17.6s
HHC Hu-ho-hao-te 20.38 319 *e*P **P** **17 55 07.5 +0.9**
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,96nm,5.4s
HHC LR LR
comp=Z,270nm,16.8s
HHC LR LR
comp=Z,180nm,14.3s
HHC LR LR
comp=Z,380nm,15.1s
ASAJ Asahikawa 20.84 29 P **P** **17 55 12.2 +0.7**
comp=Z,22nm,1.0s,baz=209,slow=10,SNR=12
comp=Z,22nm,1.0s
BTO Baotou 21.15 317 *e*P **P** **17 55 16.0 +1.0**
BTO pP **pP** **17 55 23.0 -0.4**
BTO sP **pwP** **17 55 26.5 -0.5**
BTO PP **PnPn** **17 55 40.3 +5.5**
BTO S **S** **17 59 07.8 -0.6**
BTO sS Sn 17 59 17.5 +1.4
BTO SS **SnSn** **17 59 42.8 +12**
BTO pmax pmax
comp=Z,17nm,1.0s
BTO pmax pmax
comp=Z,220nm,5.8s
BTO LR LR
comp=Z,560nm,16.0s
BTO LR LR
comp=Z,440nm,16.8s
BTO LR LR
comp=Z,510nm,20.7s
YUK Yuzh-Kuril'sk 22.29 34 *i*P **P** **17 55 27.8 +0.8**
CD2 Chengdu 22.55 287 P **P** **17 55 28.3 -1.7**
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 LR LR
comp=Z,300nm,12.7s
CD2 LR LR
comp=Z,610nm,13.3s
CD2 LR LR
comp=Z,580nm,14.6s
YSS Yuzhno-Sakhali 23.23 24 P **P** **17 55 37.6 +0.8**
YSS Yuzhno-Sakhali 23.23 24 *de*P **P** **17 55 37.1 +0.3**
YSS *e*S **S** **17 59 47.2 +0.8**
YSS pmax pmax
comp=Z,40nm,1.3s
YSS pmax pmax
comp=Z,200nm,2.2s
YSS pmax pmax
comp=N,100nm,2.7s
SLVN Son La 23.45 263 P **P** **17 55 39.0 -0.3**
LZH Lanzhou 23.49 300 *e*P **P** **17 55 39.0 -0.6**
LZH pP pP 17 55 47.0 -1.4
LZH pmax pmax
comp=N,25nm,1.5s
LZH LR LR
comp=N,320nm,14.3s
LZH LR LR
comp=N,250nm,16.5s
LZH LR LR
comp=N,350nm,15.9s
KMI Kunming 23.64 273 P **P** **17 55 42.8 +1.5**
KMI sP pwP 17 55 55.5 +1.8
KMI pmax pmax
comp=N,27nm,0.9s
KMI pmax pmax
comp=N,110nm,3.0s
KMI LR LR
comp=N,140nm,7.9s
KMI LR LR
comp=N,410nm,15.1s
KMI LR LR
comp=N,370nm,14.6s
HEH HeiHe 23.84 358 *e*P **P** **17 55 42.3 -0.3**
HEH LR LR
comp=N,75nm,16.8s
HEH LR LR
comp=N,330nm,17.2s
HEH LR LR
comp=N,160nm,17.3s
PZH PanZhiHua 24.36 276 P **P** **17 55 48.0 +0.2**
PZH S **S** **17 59 56.0 -9.1**
PZH pmax pmax
comp=N,20nm,1.4s
PZH pmax pmax
comp=N,100nm,4.7s
PZH LR LR
comp=N,370nm,16.3s
PZH LR LR
comp=N,300nm,13.1s
PZH LR LR
comp=N,440nm,15.1s
GRNR Gornyy 24.99 11 ⇓*i*P **P** **17 55 53.9 +0.7**
GRNR pmax pmax
comp=Z,20nm,1.0s
TYV Tymovskoe 26.57 20 *e*P **P** **17 56 12.0 +4.5**
TYV pmax pmax
comp=Z,100nm,4.1s
TYV pmax pmax
comp=Z,24nm,1.2s
TNCH TengChong 27.43 274 P **P** **17 56 16.5 +0.8**
TNCH S **S** **18 00 55.0 +0.9**
TNCH pmax pmax
comp=Z,19nm,1.3s
TNCH pmax pmax
comp=Z,140nm,3.0s
TNCH LR LR
comp=Z,320nm,13.0s
TNCH LR LR
comp=Z,540nm,9.7s
TNCH LR LR
comp=Z,790nm,13.4s
ULN Ulaanbaatar 27.46 327 P **P** **17 56 14.2 -1.6**
ULN Ulaanbaatar 27.46 327 *ce*P **P** **17 56 16.0 +0.3**
ULN pmax pmax
comp=Z,14nm,1.6s
GTA Gaotai 27.56 305 *e*P **P** **17 56 16.3 -0.4**
GTA sP pwP 17 56 27.5 -1.7
GTA pmax pmax
comp=Z,32nm,1.1s
GTA LR LR
comp=Z,240nm,13.1s
GTA LR LR
comp=Z,280nm,14.2s
GTA LR LR
comp=Z,400nm,16.7s
SONM Songino Array 27.77 326 P **P** **17 56 16.5 -1.9**
SONM Songino Array 27.77 326 P **P** **17 56 19.7 +1.3**
comp=Z,7.0nm,0.9s,baz=138,slow=11,SNR=27
SONM LR LR 18 09 03.9
comp=Z,131nm,18.4s,baz=132,slow=40
comp=Z,7.0nm,0.9s
SONM Songino Array 27.77 326 P **P** **17 56 16.5 -1.9**
SONM pmax pmax
comp=Z,6.0nm,0.9s
CMAR Chiang Mai Arr 28.80 260 P **P** **17 56 27.1 -0.7**
CMAR Chiang Mai Arr 28.80 260 P **P** **17 56 29.3 +1.5**
comp=Z,1.6nm,0.7s,baz=58,slow=7.8,SNR=12
CMAR LR LR 18 09 33.0
comp=Z,88nm,18.3s,baz=110,slow=40
comp=Z,1.6nm,0.7s
CMAR Chiang Mai Arr 28.80 260 P **P** **17 56 27.1 -0.7**
GOMU GeErMu 30.63 297 P **P** **17 56 44.5 +0.2**
GOMU pP pP 17 56 50.5 -3.0
GOMU pmax pmax
comp=Z,10.0nm,0.9s
SKR Severo-Kuril's 31.91 33 *e*P P 17 56 45.8 -9.0
SKR *e*S S 18 01 54.2 -9.2
SKR pmax pmax
comp=Z,300nm,2.2s
SKR pmax pmax
comp=Z,61nm,1.1s
LSA Lhasa 33.43 285 P **P** **17 57 08.9 -0.1**
LSA Lhasa 33.43 285 P **P** **17 57 09.0 -0.1**
LSA pmax pmax
comp=Z,5.0nm,0.7s
PETK Petropavlovsk- 34.21 31 P **P** **17 57 12.9 -2.1**
PETK Petropavlovsk- 34.21 31 P **P** **17 57 15.3 +0.4**
comp=Z,6.6nm,0.9s,baz=208,slow=5.9,SNR=6.3
PETK LR LR 18 13 04.7
comp=Z,51nm,19.4s,baz=230,slow=40
comp=Z,6.6nm,0.9s
PET Petropavlovsk 34.60 32 *e*P **P** **17 57 18.9 +0.6**
PET *e*S **S** **18 02 44.3 -0.8**
PET pmax pmax
comp=Z,27nm,1.2s
PET MLR MLR
comp=Z,200nm,14.0s
PET MLR MLR
comp=Z,100nm,19.0s
YAK Yakutsk 35.62 1 P **P** **17 57 24.4 -2.5**
YAK IAmb IAmb 17 57 28.1
comp=Z,11nm,0.7s
YAK Yakutsk 35.62 1 LR LR 18 13 04.3
comp=Z,42nm,19.9s,baz=182,slow=38
YAK Yakutsk 35.62 1 *e*P **P** **17 57 26.6 -0.4**
YAK *e**PP **sP** **17 57 36.4 -3.1**
YAK *e* 17 58 46.7
YAK *e*PPP PPP 17 59 00.9
YAK *e* 17 59 53.3
YAK *e*S **S** **18 03 01.2 +0.6**
YAK *e**SS **sS** **18 03 17.5 +1.2**
YAK *e*SS **SnSn** **18 05 24.3 +1.1**
YAK *e* 18 07 43.0
YAK pmax pmax
comp=Z,13nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,38nm,3.3s
YAK pmax pmax
comp=N,50nm,4.8s
YAK pmax pmax
comp=E,81nm,6.9s
YAK smax smax
comp=E,61nm,5.8s
YAK smax smax
comp=N,41nm,4.0s
YAK MLR MLR
comp=Z,54nm,20.0s
YAK MLR MLR
comp=N,39nm,26.0s
YAK MLR MLR
comp=E,24nm,23.0s
MA2 Magadan 36.44 19 LR LR 18 12 29.5
comp=E,34nm,19.0s,baz=222,slow=36
PSI Prapat 37.16 236 LR LR 18 11 46.6
comp=E,102nm,20.4s,baz=52,slow=34
WMQ Urumqi 37.52 308 *e*P **P** **17 57 44.8 +1.3**
WMQ LR LR
comp=E,250nm,19.9s
SEY Seymchan 39.66 17 *e*P **P** **17 58 00.9 -0.2**
SEY pmax pmax
comp=Z,6.0nm,1.3s
ZSN Zaisan 40.36 313 *e*P **P** **17 58 07.3 +0.1**
ZSN Zaisan 40.36 313 *e*P **P** **17 58 07.4 +0.1**
MK31 Makanchi Array 41.91 312 *i*P **P** **17 58 18.9 -1.0**
MKAR Makanchi Array 41.91 312 P **P** **17 58 18.5 -1.5**
MKAR Makanchi Array 41.91 312 P **P** **17 58 19.4 -0.6**
comp=Z,1.1nm,0.6s,baz=90,slow=10.0,SNR=15
MKAR LR LR 18 18 24.7
comp=Z,65nm,18.4s,baz=84,slow=40
comp=Z,1.1nm,0.6s
MAKZ Makanchi 42.12 312 P **P** **17 58 20.4 -1.3**
MAKZ Makanchi 42.12 312 P **P** **17 58 20.4 -1.3**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
ZAA0 Zalesovo Array 42.51 322 P **P** **17 58 22.5 -2.1**
ZALV Zalesovo Beam 42.51 322 P **P** **17 58 22.3 -2.3**
ZALV Zalesovo Beam 42.51 322 P **P** **17 58 23.2 -1.4**
comp=Z,2.7nm,0.7s,baz=113,slow=8.8,SNR=12
ZALV LR LR 18 18 01.9
comp=Z,125nm,18.0s,baz=113,slow=39
comp=Z,2.7nm,0.7s
SHLS Shalkode 43.31 306 *e*P **P** **17 58 29.0 -2.4**
SHLS Shalkode 43.31 306 *e*P **P** **17 58 29.1 -2.4**
UZB Uzynbulak 43.62 306 *e*P **P** **17 58 34.2 +0.1**
UZB Uzynbulak 43.62 306 *e*P **P** **17 58 34.2 +0.1**
KPKS Kokpek 43.90 306 *e*P **P** **17 58 36.4 +0.2**
KPKS Kokpek 43.90 306 *e*P **P** **17 58 36.5 +0.2**
SATY Saty 44.06 306 *e*P **P** **17 58 37.7 +0.1**
SATY Saty 44.06 306 *e*P **P** **17 58 37.8 +0.1**
TDK Taldyqorghan 44.28 308 *e*P **P** **17 58 39.4 +0.3**
TDK pmax pmax
comp=Z,17nm,0.9s
TDK Taldyqorghan 44.28 308 *e*P **P** **17 58 39.5 +0.3**
comp=Z,17nm,0.9s
KDJ Kajisay 44.90 304 **P** **17 58 44.2 -0.1**
KDJ IAmb IAmb 17 58 46.7
comp=Z,12nm,1.0s
KDJ Kajisay 44.90 304 P **P** **17 58 44.2 -0.1**
KDJ pmax pmax
comp=Z,13nm,1.0s
TNSS Tian-Shan 45.13 305 *e*P **P** **17 58 46.1 -0.3**
TNSS Tian-Shan 45.13 305 *e*P **P** **17 58 46.2 -0.3**
KURK Kurchatov 45.14 316 P P 17 58 40.3 -5.6
KURK IAmb IAmb 17 58 58.2
comp=Z,7.0nm,0.8s
KURK Kurchatov 45.14 316 *ce*P **P** **17 58 45.7 -0.2**
KURK pmax pmax
comp=Z,4.0nm,1.2s
KURBB Kurchatov Arra 45.18 316 P **P** **17 58 45.3 -0.9**
comp=Z,1.0nm,0.4s,baz=103,slow=8.9,SNR=14
KURBB LR LR 18 19 38.3
comp=Z,147nm,18.0s,baz=161,slow=39
comp=Z,1.0nm,0.4s
TIXI Tiksi 45.28 360 LR LR 18 17 40.0
comp=Z,73nm,20.5s,baz=194,slow=36
KSH Kashi 45.74 300 P P 17 58 55.8 +4.9
KSH sP pwP 17 59 06.8 +3.0
KSH pmax pmax
comp=Z,4.0nm,1.1s
WRA Warramunga Arr 46.37 173 P **P** **17 58 57.5 +1.7**
comp=Z,1.2nm,0.5s,baz=353,slow=8.4,SNR=18
comp=Z,1.2nm,0.5s
WR8 Warramunga Arr 46.40 173 P **P** **17 58 57.4 +1.4**
WR8 IAmb IAmb 17 59 10.1
comp=Z,9.9nm,1.2s
SGDS Sogindy 46.84 306 *e*P **P** **17 58 59.8 +0.3**
AAK Ala-Archa 46.91 305 LR LR 18 22 15.1
comp=Z,80nm,18.1s,baz=57,slow=41
AAK Ala-Archa 46.91 305 *ce*P **P** **17 59 00.0 -0.2**
AAK pmax pmax
comp=Z,4.0nm,0.9s
BILL Bilibino 47.30 18 *ce*P **P** **17 59 04.0 +1.4**
BILL pmax pmax
comp=Z,6.0nm,1.0s
DZA Taraz 49.24 305 *e*P **P** **17 59 18.4 +0.4**
DZA Taraz 49.24 305 *e*P **P** **17 59 18.4 +0.4**
PALK Pallekele 49.61 256 LR LR 18 22 48.8
comp=Z,72nm,19.1s,baz=64,slow=39
KK31 Karatay Array 49.84 305 P **P** **17 59 23.3 +0.7**
KK31 Karatay Array 49.84 305 P **P** **17 59 23.3 +0.7**
KK31 pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 49.84 305 P **P** **17 59 23.0 +0.4**
KKAR Karatay Array 49.84 305 P **P** **17 59 23.0 +0.4**
AS31 Alice Springs 50.01 174 P **P** **17 59 24.1 +0.2**
ASAR Alice Springs 50.01 174 P **P** **17 59 23.0 -0.9**
ASAR Alice Springs 50.01 174 P **P** **17 59 25.9 +2.0**
comp=Z,1.4nm,0.8s,baz=7.3,slow=10,SNR=23
comp=Z,1.4nm,0.8s
GAR Garm 50.14 300 P **P** **17 59 23.6 -1.4**
GAR IAmb IAmb 17 59 27.0
comp=Z,13nm,1.0s
IUG luzhnay 50.21 304 *e*P **P** **17 59 25.8 +0.3**
IUG pmax pmax
comp=Z,5.0nm,0.6s
IUG luzhnay 50.21 304 *e*P **P** **17 59 25.8 +0.3**
comp=Z,4.7nm,0.6s
BRLS Boroldaу 50.34 305 *e*P **P** **17 59 27.6 +1.3**
BRLS Boroldaу 50.34 305 *e*P **P** **17 59 27.7 +1.3**
CHM Chimkent 50.53 304 *e*P **P** **17 59 28.0 +0.3**
CHM Chimkent 50.53 304 *e*P **P** **17 59 28.1 +0.3**
BVAR Borovoye Array 50.58 318 P **P** **17 59 28.0 0.0**
comp=Z,1.5nm,0.5s,baz=86,slow=7.6,SNR=14
BVAR LR LR 18 22 54.3
comp=Z,259nm,18.6s,baz=95,slow=39
comp=Z,1.5nm,0.5s
BRVK Borovoye 50.65 318 P **P** **17 59 28.1 -0.4**
BRVK Borovoye 50.65 318 *ce*P **P** **17 59 28.7 +0.2**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
KBL Kabul 51.63 294 P **P** **17 59 37.2 +0.8**
KBL IAmb IAmb 17 59 39.4
comp=Z,13nm,0.7s
KBL Kabul 51.63 294 P **P** **17 59 37.2 +0.8**
KBL pmax pmax
comp=Z,13nm,0.7s
NIKH Nikolski High 52.74 42 P **P** **17 59 43.5 -0.6**
baz=265
UNV Unalaska Valle 54.21 41 P **P** **17 59 54.4 -0.4**
baz=266
TNA Tin City 55.18 27 P **P** **18 00 02.1 +0.4**
baz=257
F14K Arctic Creek 55.81 27 P **P** **18 00 06.0 -0.2**
baz=259
K13K Kusilvak Mount 55.97 32 P **P** **18 00 07.1 -0.3**
baz=262
ANM Nome 56.05 28 P **P** **18 00 07.3 -0.6**
baz=260
M13K Dall Lake 56.43 33 P **P** **18 00 09.7 -1.0**
baz=265
SVE Sverdlovsk 56.52 322 *e*P **pP** **18 00 24.1 +3.1**
SVE pmax pmax
comp=Z,14nm,0.9s
F15K North Star Dit 56.54 27 P **P** **18 00 12.7 +1.2**
F15K IAmb IAmb 18 00 14.3
comp=Z,12nm,1.1s
F15K North Star Dit 56.54 27 P **P** **18 00 11.0 -0.5**
baz=260
J14K Nanvaranak Lak 56.58 31 P **P** **18 00 10.9 -0.8**
baz=263
G15K Niukluk 56.68 28 P **P** **18 00 12.1 -0.4**
baz=261
L14K Kuka Creek 56.84 32 P **P** **18 00 15.0 +1.4**
L14K IAmb IAmb 18 00 16.6
comp=Z,12nm,0.9s
L14K Kuka Creek 56.84 32 P **P** **18 00 13.4 -0.2**
baz=265,SNR=5.2
ABKAR Akbulak array 57.01 313 P **P** **18 00 14.9 -0.1**
M14K Bethel 57.14 33 P **P** **18 00 15.7 0.0**
M14K IAmb IAmb 18 00 18.5
comp=Z,15nm,0.9s
M14K Bethel 57.14 33 P **P** **18 00 15.4 -0.3**
baz=266
H16K Elim 57.39 28 P **P** **18 00 17.6 +0.1**
baz=263
O14K Tigyukauivet M 57.40 35 P **P** **18 00 17.8 +0.2**
baz=267
L15K Ungalak Mounta 57.44 32 P **P** **18 00 17.8 -0.1**
baz=266
G16K Koyuk River 57.44 28 P **P** **18 00 17.2 -0.6**
baz=262
K15K Wolf Creek Mou 57.47 31 P **P** **18 00 18.2 +0.1**
baz=265
D17K Noatak River 57.50 25 P **P** **18 00 18.0 -0.2**
baz=260,SNR=5.0
C17K DeLong Mountai 57.60 24 P **P** **18 00 18.7 -0.2**
baz=260
SDPT Sand Point 57.76 40 P **P** **18 00 20.0 -0.2**
baz=270
ARTI Arti 57.76 322 P **P** **18 00 19.8 -0.4**
comp=Z,1.6nm,0.5s,baz=49,slow=4.9,SNR=3.6
ARTI LR LR 18 27 49.1
comp=Z,165nm,18.3s,baz=68,slow=39
comp=Z,1.6nm,0.5s
ARTI Arti 57.76 322 P **P** **18 00 20.2 0.0**
ARTI 18 02 24.4
ARTI S **S** **18 08 16.2 -0.5**
ARTI SS **SS** **18 12 00.7 -6.4**
E17K Hotham Inlet 57.88 26 P **P** **18 00 21.1 +0.2**
baz=262
J16K Anvik River 57.97 30 P **P** **18 00 21.2 -0.4**
baz=265
I17K Unalakleet 57.98 29 P **P** **18 00 20.5 -1.1**
baz=265
F17K Baldwin Pennin 58.02 26 P **P** **18 00 21.9 0.0**
baz=263
N15K Kwethluk River 58.03 34 P **P** **18 00 21.7 -0.4**
baz=268
O15K Ungalikthiuk R 58.14 35 P **P** **18 00 22.8 0.0**
baz=269
G17K Kiwalik Mounta 58.16 28 P **P** **18 00 23.1 +0.3**
baz=264,SNR=5.2
AKTO Aktyubinsk 58.18 315 P **P** **18 00 23.1 -0.1**
comp=Z,1.4nm,0.6s,baz=88,slow=13,SNR=4.7
AKTO LR LR 18 29 44.1
comp=Z,36nm,18.7s,baz=147,slow=41
comp=Z,1.4nm,0.6s
B18K Kokolik River 58.24 23 P **P** **18 00 23.4 0.0**
baz=260
CHNA Chernabura Isl 58.27 40 P **P** **18 00 23.6 -0.2**
baz=272
C18K Utukok River 58.35 24 P **P** **18 00 24.5 +0.3**
baz=262
L16K Owhat River 58.40 32 P **P** **18 00 23.9 -0.7**
baz=267
E18K Tukpahlearik C 58.40 25 P **P** **18 00 23.5 -1.0**
baz=263
H17K Granite Mounta 58.41 28 P **P** **18 00 24.2 -0.4**
baz=265
M16K Timbr Creek 58.62 33 P **P** **18 00 26.0 -0.2**
baz=268
A19K Wainwright 58.63 22 P **P** **18 00 26.1 +0.1**
baz=261
J17K VABM Dome 58.67 30 P **P** **18 00 27.0 +0.5**
J17K IAmb IAmb 18 00 29.4
comp=Z,8.3nm,0.8s
J17K VABM Dome 58.67 30 P **P** **18 00 25.9 -0.6**
baz=267
F18K Selawik 58.68 26 P **P** **18 00 26.5 +0.1**
baz=264,SNR=6.2
N16K Nishlik Lake 58.70 34 P **P** **18 00 26.6 -0.2**
baz=269
CHGN Chignik 58.90 38 P **P** **18 00 27.9 -0.2**
baz=272
L17K Donlin 58.97 32 P **P** **18 00 27.5 -1.0**
baz=268
C19K Lookout Ridge 58.99 23 P **P** **18 00 28.4 -0.2**
baz=263
K17K Iditarod 58.99 31 P **P** **18 00 28.0 -0.7**
baz=268
G18K Tagagawik 59.02 27 IAmb IAmb 18 00 31.2
comp=Z,13nm,1.3s
G18K Tagagawik 59.02 27 P **P** **18 00 28.3 -0.5**
baz=266,SNR=5.5
H18K Honhosa River 59.09 28 P **P** **18 00 29.2 -0.1**
baz=266
M17K Holitna River 59.36 32 P **P** **18 00 30.7 -0.6**
baz=269
F19K Shaleruckik Mo 59.44 26 P **P** **18 00 31.1 -0.6**
baz=266
D19K Kuna River 59.45 24 P **P** **18 00 31.5 -0.3**
baz=265
N17K Nushagak Hills 59.48 33 P **P** **18 00 32.0 -0.2**
baz=270
O17K Koliganek Bris 59.53 34 P **P** **18 00 32.3 -0.2**
baz=271
G19K Purcell Mounta 59.67 27 P **P** **18 00 33.5 +0.1**
baz=267
E19K Redstone River 59.70 25 P **P** **18 00 33.2 -0.3**

	baz=266							
L18K	**Granite Mounta**	59.73	31	P	P	18 00 33.8	0.0	
	baz=270							
J18K	**Innoko River**	59.73	30	P	P	18 00 33.2	-0.6	
	baz=269							
P17K	**Kvichak River**	59.88	35	P	P	18 00 33.8	-1.1	
	baz=272							
H19K	**Roundabout Mou**	59.91	28	P	P	18 00 34.3	-0.6	
	baz=268,SNR=9.4							
B20K	**Meade River**	59.94	22	P	P	18 00 34.5	-0.6	
	baz=265							
R17L	**Mt. Peulik Vol**	59.98	37	P	P	18 00 35.3	-0.3	
	baz=272							
D20K	**Etivluk River**	60.02	24	P	P	18 00 35.1	-0.7	
	baz=266							
N18K	**Kilae Creek**	60.12	33	P	P	18 00 36.0	-0.6	
	baz=271							
M18K	**Stony River**	60.14	32	P	P	18 00 36.7	+0.1	
	baz=271							
E20K	**Nigu River**	60.15	24	P	P	18 00 36.6	0.0	
	baz=266							
Q17K	**Contact Creek**	60.20	36	P	P	18 00 37.0	-0.2	
	baz=272							
J19K	**Poorman**	60.23	29	IAmb	IAmb	18 00 39.8		
	comp=Z,11nm,0.8s							
J19K	**Poorman**	60.23	29	P	P	18 00 37.4	+0.2	
	baz=270,SNR=7.2							
A21K	**Barrow**	60.24	21	P	P	18 00 37.4	+0.3	
	baz=264							
F20K	**Avaraart Lake**	60.26	26	P	P	18 00 37.6	+0.3	
	baz=268							
O18K	**Koktuh Hills**	60.48	34	P	P	18 00 39.7	+0.7	
	baz=272							
CHIR	**Chirikof Islan**	60.49	39	P	P	18 00 39.3	+0.2	
	baz=274							
P18K	**Big Mountain,**	60.49	35	P	P	18 00 39.9	+0.8	
	baz=272							
H20K	**Anotleneega Mo**	60.56	28	P	P	18 00 39.8	+0.3	
	baz=269							
L19K	**White Mountain**	60.59	32	P	P	18 00 41.3	+1.6	
L19K				IAmb	IAmb	18 00 42.6		
	comp=Z,8.7nm,0.9s							
L19K	**White Mountain**	60.59	32	P	P	18 00 40.1	+0.4	
	baz=271							
Q18K	**Katmai Hardscr**	60.64	36	P	P	18 00 39.8	-0.5	
	baz=273							
C21K	**Knifeblade Rid**	60.71	23	P	P	18 00 41.0	+0.6	
	baz=267							
I20K	**Naaghedeneel**	60.73	29	P	P	18 00 40.7	+0.1	
	baz=270,SNR=8.4							
B21K	**Ikpikpuk River**	60.79	23	P	P	18 00 41.5	+0.5	
	baz=267							
N19K	**Bonanza Creek**	60.81	33	P	P	18 00 41.7	+0.4	
	baz=272							
M19K	**Big River Lodg**	60.81	32	P	P	18 00 41.8	+0.6	
	baz=272							
J20K	**Nowinta River**	60.87	29	P	P	18 00 41.9	+0.3	
	baz=271,SNR=13							
O19K	**Port Alsworth**	60.91	34	P	P	18 00 42.4	+0.5	
	baz=273							
K20K	**Telida**	60.92	30	P	P	18 00 42.2	+0.3	
	baz=271							
E21K	**Killik River**	60.98	24	P	P	18 00 42.1	-0.2	
E21K				IAmb	IAmb	18 01 01.3		
	comp=Z,7.7nm,0.9s							
E21K	**Killik River**	60.98	24	P	P	18 00 42.6	+0.3	
	baz=268							
L20K	**Farewell, AK**	61.03	31	P	P	18 00 43.0	+0.2	
	baz=272							
G21K	**Allakaket**	61.13	27	IAmb	IAmb	18 00 46.1		
	comp=Z,5.4nm,0.8s							
G21K	**Allakaket**	61.13	27	P	P	18 00 43.3	0.0	
	baz=270							
F21K	**Alatna River**	61.14	26	P	P	18 00 43.4	0.0	
	baz=270							
B22K	**Teshekpuk Lake**	61.23	22	P	P	18 00 43.2	-0.7	
	baz=268							
SII	**Sitkinak Islan**	61.23	38	P	P	18 00 43.3	-0.9	
	baz=275							
Q19K	**Cape Douglas,**	61.33	35	P	P	18 00 44.0	-0.9	
	baz=274							
M20K	**Styx River**	61.41	32	P	P	18 00 44.1	-1.3	
	baz=273							
H21K	**Melozitna Rive**	61.42	28	P	P	18 00 44.3	-1.1	
	baz=271,SNR=14							
D22K	**Ayikyak River**	61.45	24	P	P	18 00 45.0	-0.5	
	baz=270							
P19K	**Oil Pt**	61.49	34	P	P	18 00 45.4	-0.5	
	baz=274							
F22K	**John River**	61.64	25	P	P	18 00 46.4	-0.4	
	baz=271,SNR=5.2							
OHAK	**Old Harbor**	61.66	37	P	P	18 00 46.7	-0.3	
	baz=275							
CHUM	**Lake Minchumin**	61.69	30	P	P	18 00 47.2	+0.1	
	baz=272							
O20K	**Slope Mountain**	61.77	34	P	P	18 00 47.5	-0.3	
	baz=274							
E22K	**Anaktuvuk Pass**	61.78	25	P	P	18 00 47.2	-0.5	
	baz=271,SNR=6.7							
I21K	**Tanana**	61.78	28	P	P	18 00 47.6	-0.1	
	baz=272							
PPLA	**Purkeypile**	61.79	31	P	P	18 00 47.0	-1.1	
	baz=273							
CAST	**Castle Rocks**	61.81	30	P	P	18 00 47.5	-0.6	
	baz=273,SNR=9.2							
N20K	**Mount Spurr**	61.89	33	P	P	18 00 47.4	-1.2	
	baz=274							
SPCR	**Spurr Chakacha**	61.89	33	P	P	18 00 47.8	-0.9	
	baz=274							
G22K	**Bettles**	61.92	26	P	P	18 00 48.3	-0.3	
	baz=272							
KDAK	**Kodiak Island**	61.99	36	P	P	18 00 49.1	-0.1	
	baz=276							
H22K	**Ishtalitna Cre**	62.01	27	P	P	18 00 49.2	-0.1	
	baz=272,SNR=12							
Q20K	**Shuyak Island**	62.01	36	P	P	18 00 47.9	-1.5	
	baz=275							
SKT	**Skwentna**	62.16	32	IAmb	IAmb	18 00 52.6		
	comp=Z,8.6nm,1.0s							
SKT	**Skwentna**	62.16	32	P	P	18 00 49.5	-0.8	
	baz=274							
D23K	**Nanushuk River**	62.18	24	P	P	18 00 50.1	-0.2	
	baz=271							
C23K	**Itkillik River**	62.19	23	P	P	18 00 50.1	-0.3	
	baz=271							
BPAW	**Bear Paw Mtn.**	62.26	29	IAmb	IAmb	18 00 53.7		
	comp=Z,13nm,1.2s							
BPAW	**Bear Paw Mtn.**	62.26	29	P	P	18 00 49.8	-1.2	
	baz=274							
MLY	**Manley**	62.31	28	P	P	18 00 53.1	+1.8	
MLY				IAmb	IAmb	18 00 54.8		
	comp=Z,9.6nm,1.1s							
MLY	**Manley**	62.31	28	P	P	18 00 51.1	-0.2	
	baz=273,SNR=10							
KTH	**Kantishna Hill**	62.33	30	IAmb	IAmb	18 00 55.4		
	comp=Z,9.0nm,1.0s							
COLD	**Coldfoot**	62.42	26	P	P	18 00 51.7	-0.3	
	baz=273							
G23K	**Bananza Creek**	62.51	26	IAmb	IAmb	18 00 56.2		
	comp=Z,8.6nm,1.1s							
G23K	**Bananza Creek**	62.51	26	P	P	18 00 51.7	-1.0	
	baz=273							
SUA	**Susitna One**	62.57	32	P	P	18 00 53.2	0.0	
	baz=275,SNR=5.3							
TOLK	**Toolik Lake Re**	62.59	24	P	P	18 00 52.4	-0.7	
	baz=272							
E23K	**Chandalar**	62.60	25	IAmb	IAmb	18 00 56.4		
	comp=Z,13nm,1.3s							
E23K	**Chandalar**	62.60	25	P	P	18 00 52.9	-0.4	
	baz=273							
TRF	**Thorofare Moun**	62.62	30	P	P	18 00 52.4	-1.2	
	baz=274							
CUT	**Chulitna**	62.71	31	P	P	18 00 53.6	-0.4	
	baz=275							
H23K	**Yukon River**	62.76	27	P	P	18 00 54.5	+0.1	
	baz=274,SNR=12							
D24K	**Happy Valley**	62.84	23	P	P	18 00 55.4	+0.7	
	baz=273							
M22K	**Willow**	62.84	32	P	P	18 00 55.4	+0.5	
	baz=276							
C24K	**Franklin Bluff**	62.85	23	P	P	18 00 55.3	+0.5	
	baz=273							
I23K	**Minto, Yukon-K**	62.89	28	P	P	18 00 55.8	+0.7	
	baz=274,SNR=5.4							
E24K	**Your Creek**	63.02	25	P	P	18 00 56.3	+0.2	
	baz=274							
NEA2	**Nenana**	63.06	29	P	P	18 00 56.3	0.0	
	baz=275,SNR=8.3							
RC01	**Rabbit Creek A**	63.10	33	P	P	18 00 56.8	+0.2	
	baz=276							
MCK	**McKinley**	63.20	30	P	P	18 00 57.4	+0.2	
	baz=276,SNR=6.9							
F24K	**Squaw Lake**	63.29	25	IAmb	IAmb	18 01 00.7		
	comp=Z,4.6nm,0.8s							
F24K	**Squaw Lake**	63.29	25	P	P	18 00 57.6	-0.2	
	baz=275,SNR=6.5							
PMR	**Palmer**	63.33	32	P	P	18 00 58.3	+0.2	
	baz=276							
SEW	**Seward**	63.35	34	P	P	18 00 58.4	+0.1	
	baz=277							
H24K	**Noodor Dome**	63.44	27	IAmb	IAmb	18 01 02.1		
	comp=Z,6.7nm,1.1s							
H24K	**Noodor Dome**	63.44	27	P	P	18 00 59.0	+0.1	
	baz=275,SNR=7.3							
G24K	**Hadweenzic Riv**	63.52	26	P	P	18 00 58.9	-0.4	
	baz=275							
COLA	**College**	63.55	28	*i* P	P	18 01 00.4	+0.9	
COLA				pmax	pmax			
	comp=Z,10.0nm,1.6s							
KNK	**Knik Glacier**	63.67	32	P	P	18 00 59.9	-0.5	
	baz=277							
D25K	**Kavik River**	63.70	23	P	P	18 01 00.1	-0.4	
	baz=275							
POKR	**Poker Plat Res**	63.70	28	P	P	18 00 59.9	-0.7	
	baz=276							
PWL	**Port Wells**	63.80	33	P	P	18 01 00.3	-1.0	
	baz=278							
M23K	**Glacier View**	63.97	32	P	P	18 01 01.9	-0.5	
	baz=278							
ILAR	**Eielson Array**	63.97	28	P	P	18 01 02.2	-0.1	
	comp=Z,1.5nm,0.8s,baz=272,slow=6.0,SNR=16							
ILAR				LR	LR	18 30 08.0		
	comp=Z,34nm,18.7s,baz=306,slow=37							
	comp=Z,1.5nm,0.8s							
HDA	**Harding Lake**	63.99	29	P	P	18 01 02.3	-0.1	
	baz=277,SNR=7.4							
G25K	**Bearman Lake**	64.06	26	P	P	18 01 02.9	+0.1	
	baz=277							
F25K	**Christian Rive**	64.14	25	P	P	18 01 03.6	+0.1	
	baz=277							
C26K	**Camden Bay**	64.15	23	P	P	18 01 02.7	-0.7	
	baz=276							
SCM	**Sheep Creek Mo**	64.15	32	P	P	18 01 03.7	+0.1	
	baz=278							
H25L	**Birch Creek**	64.23	27	P	P	18 01 03.3	-0.6	
	baz=277							
P23K	**Montague Islan**	64.38	34	P	P	18 01 04.6	-0.5	
	baz=279							
BELG	**Belogornoye**	64.39	318	P	P	18 01 04.8	-0.3	
	comp=Z,10nm,0.9s,baz=49,slow=11,SNR=3.0							
BELG				LR	LR	18 31 17.6		
	comp=Z,112nm,18.1s,baz=76,slow=38							
	comp=Z,10nm,0.9s							
GLI	**Glacier Island**	64.40	33	P	P	18 01 05.2	+0.1	
	baz=278							
PRP	**Porcupine Dome**	64.45	27	P	P	18 01 05.8	+0.2	
	baz=278							
K24K	**Donnelly Dome**	64.58	29	P	P	18 01 06.4	+0.1	
	baz=278							
C27K	**Jago River**	64.60	23	P	P	18 01 06.0	-0.4	
	baz=277							
J25K	**Salcha River,**	64.64	28	P	P	18 01 06.2	-0.5	
	baz=278							
M24K	**Tolsona, Glenn**	64.65	31	P	P	18 01 06.3	-0.6	
	baz=279							
F26K	**Sheenjek River**	64.70	25	P	P	18 01 06.2	-0.9	
	baz=278							
PAX	**Paxson**	64.84	30	P	P	18 01 07.5	-0.6	
	baz=279							
KLU	**Klutina**	64.87	32	P	P	18 01 07.5	-0.8	
	baz=279							
G26K	**Porcupine Rive**	64.94	26	P	P	18 01 08.0	-0.6	
	baz=279							
RIDG	**Independent Ri**	65.00	29	P	P	18 01 09.1	0.0	
	baz=279							
Q23K	**Middleton Isla**	65.00	34	P	P	18 01 08.3	-0.8	
	baz=280							
HARP	**HAARP**	65.08	31	P	P	18 01 08.7	-0.9	
	baz=280							
EYAK	**Cordova Ski Ar**	65.11	33	P	P	18 01 09.4	-0.3	
	baz=280							
SCRK	**Sand Creek**	65.34	29	IAmb	IAmb	18 01 13.1		
	comp=Z,3.8nm,0.7s							
SCRK	**Sand Creek**	65.34	29	P	P	18 01 11.5	+0.2	
	baz=280							
J26L	**Joseph Creek**	65.43	28	IAmb	IAmb	18 01 13.3		
	comp=Z,6.7nm,0.8s							
J26L	**Joseph Creek**	65.43	28	P	P	18 01 12.1	+0.2	
	baz=280,SNR=7.4							
I26K	**Coal Creek Min**	65.46	27	P	P	18 01 12.6	+0.6	
	baz=280							
N25K	**Chitina, Valde**	65.47	32	P	P	18 01 12.3	+0.1	
	baz=280							
E27K	**Coleen River**	65.57	24	P	P	18 01 12.6	-0.1	
	baz=280							
BMRM	**Bremner River**	65.58	32	P	P	18 01 12.9	0.0	
	baz=281							
D27M	**Malcolm River**	65.62	23	P	P	18 01 13.4	+0.4	
	baz=280							
G27K	**Doyon Strip**	65.80	26	P	P	18 01 14.6	+0.4	
	baz=280							
KAIM	**Kayak Island**	65.87	33	P	P	18 01 15.6	+0.8	
	baz=281							
H27K	**Steamboat Moun**	65.95	26	P	P	18 01 15.6	+0.4	
	baz=281							
I27K	**Kandik River**	66.04	27	P	P	18 01 15.8	0.0	
	baz=281,SNR=12							
M26K	**Nabesna, AK**	66.06	31	P	P	18 01 16.3	+0.3	
	baz=281							
K27K	**Chicken**	66.15	29	P	P	18 01 16.7	+0.2	
	baz=281							
E28M	**Babbage River**	66.25	24	P	P	18 01 17.5	+0.5	
	baz=282							
MCARA	**McCarthy VSAT**	66.26	32	P	P	18 01 17.3	+0.1	
	baz=282							
F28M	**Old Crow**	66.32	25	P	P	18 01 18.2	+0.7	
	baz=282							
CRQE	**Cirque**	66.35	32	P	P	18 01 17.9	-0.1	
	baz=282							
D28M	**Stokes Point**	66.38	23	P	P	18 01 17.6	-0.2	
	baz=282							
BGLC	**Bering Glacier**	66.39	33	P	P	18 01 17.4	-0.6	
	baz=282							
L27K	**Beaver Creek,**	66.46	30	P	P	18 01 18.9	+0.3	
	baz=282							
M27K	**Edge Creek, AK**	66.58	31	P	P	18 01 18.8	-0.7	
	baz=282							
I28M	**Miner Creek**	66.76	27	IAmb	IAmb	18 01 22.8		
	comp=Z,5.9nm,0.9s							
I28M	**Miner Creek**	66.76	27	P	P	18 01 20.6	+0.2	
	baz=283							
E29M	**Blow River**	66.88	24	P	P	18 01 21.2	+0.1	
	baz=283							
BVCY	**Beaver Creek**	67.03	30	P	P	18 01 21.9	-0.2	
	baz=283							
CTG	**Chitna Glacier**	67.14	32	P	P	18 01 22.8	-0.3	
	baz=283							
G29M	**Pine Creek**	67.18	25	P	P	18 01 22.8	-0.2	
	baz=284							
H29M	**Whitestone**	67.21	26	P	P	18 01 23.1	0.0	
	baz=284							
DAWY	**Dawson**	67.30	28	P	P	18 01 23.9	+0.1	
	baz=284							
I29M	**Ogilvie Camp,**	67.44	27	P	P	18 01 24.6	-0.1	
	baz=284							
O28M	**Mount Upton**	67.74	32	P	P	18 01 26.9	0.0	
	baz=284							
EPYK	**Eagle Plains**	67.82	26	P	P	18 01 26.7	-0.3	
	baz=285							
F30M	**Barrier River**	67.84	24	P	P	18 01 27.3	+0.1	
	baz=285							
G30M	**tAoh Zraii Nji**	67.85	25	IAmb	IAmb	18 01 29.3		
	comp=Z,8.5nm,0.9s							
G30M	**tAoh Zraii Nji**	67.85	25	P	P	18 01 26.9	-0.3	
	baz=285							
PINM	**Pinnacle**	67.88	33	P	P	18 01 27.0	-0.6	
	baz=284							
L29M	**L29M**	68.08	29	P	P	18 01 29.0	+0.2	
	baz=285							
M29M	**Somme Creek**	68.11	30	P	P	18 01 29.3	+0.2	
	baz=285							
K29M	**Barlow Dome**	68.15	28	P	P	18 01 29.4	+0.1	
	baz=285							
I30M	**Mount Dempster**	68.26	27	P	P	18 01 29.5	-0.5	
	baz=286							
YUK4	**Talbot Arm**	68.31	31	P	P	18 01 29.7	-0.8	
	baz=285							
PNL	**Peninsula**	68.40	33	P	P	18 01 31.1	+0.3	
	baz=285							
J30M	**Hart River**	68.46	28	IAmb	IAmb	18 01 46.4		
	comp=Z,7.4nm,1.4s							
J30M	**Hart River**	68.46	28	P	P	18 01 31.9	+0.7	
	baz=286							
INK	**Inuvik**	68.47	23	LR	LR	18 32 53.8		
	comp=Z,36nm,20.1s,baz=77,slow=37							
INK	**Inuvik**	68.47	23	P	P	18 01 31.5	+0.5	
	baz=287							
YUK6	**Outpost Mounta**	68.56	32	P	P	18 01 31.4	-0.6	
	baz=286							
G31M	**Satah River**	68.60	25	P	P	18 01 31.9	0.0	
	baz=287							
O29M	**Mount Kennedy**	68.63	32	P	P	18 01 32.0	-0.4	
	baz=286							
F31M	**Tsiigehtchic**	68.65	24	P	P	18 01 32.0	-0.1	
	baz=287							
M30M	**Minto, Yukon**	68.82	30	P	P	18 01 33.0	-0.4	
	baz=286							
H31M	**Peel River**	68.91	26	IAmb	IAmb	18 01 36.0		
	comp=Z,8.6nm,0.9s							
H31M	**Peel River**	68.91	26	P	P	18 01 33.9	0.0	
	baz=287							
HYT	**Haines Junctio**	68.99	32	P	P	18 01 34.3	-0.3	
	baz=286							
N30M	**Aishikik Lake**	69.00	31	P	P	18 01 34.2	-0.4	
	baz=287							
P29M	**Windy Craggy**	69.22	33	P	P	18 01 35.2	-0.8	
	baz=287							
GNI	**Garni**	69.31	305	LR	LR	18 36 20.4		
	comp=Z,33nm,18.3s,baz=124,slow=40							
KBZ	**Khabaz**	69.55	309	P	P	18 01 39.1	+0.9	
	comp=Z,7.0nm,0.9s,baz=100,slow=3.8,SNR=11							
KBZ				LR	LR	18 35 57.4		
	comp=Z,74nm,18.4s,baz=124,slow=39							
	comp=Z,7.0nm,0.9s							
KBZ	**Khabaz**	69.55	309	*i* P	P	18 01 38.2	0.0	
KBZ				pmax	pmax			
	comp=Z,10.0nm,0.9s							
N31M	**Braeburn, Yuko**	69.60	31	P	P	18 01 37.6	-0.6	
	baz=288							
KIV	**Kislovodsk**	69.63	310	*e* P	P	18 01 39.7	+0.8	
KIV				pmax	pmax			
	comp=Z,11nm,1.1s							
KIV				MLR	MLR			
	comp=Z,48nm,17.0s							
O30N	**Mendenhall**	69.67	31	P	P	18 01 38.7	0.0	
	baz=288							
SHA1	**Shidzhatmaz**	69.72	310	*i* P	P	18 01 39.7	+0.1	
A36M	**Sachs Harbour**	69.85	19	P	P	18 01 40.1	+0.6	
	baz=293							
M31M	**Drury Creek, Y**	70.00	30	P	P	18 01 40.7	+0.1	
	baz=289							
ARCES	**ARCSS Array B**	70.08	339	LR	LR	18 36 07.7		
	comp=Z,32nm,20.2s,baz=339,slow=39							
WHY	**Whitehorse**	70.27	31	P	P	18 01 41.6	-0.9	
	baz=289							
SKAG	**Skagway**	70.44	33	P	P	18 01 43.5	+0.1	
	baz=289							
GEVA	**Gevas**	71.12	304	P	P	18 01 47.8	-0.4	
GEVA				IAmb	IAmb	18 02 02.2		
	comp=Z,5.2nm,0.7s							
P32M	**Atlin**	71.18	32	P	P	18 01 47.9	-0.1	
	baz=290							
MMPY	**Sheldon Lake,**	71.23	29	P	P	18 01 48.2	0.0	
	baz=291							
R32K	**Eaglecrest**	71.23	34	P	P	18 01 47.0	-1.2	
	baz=290							
P33M	**Teslin, Yukon**	71.39	31	P	P	18 01 49.4	+0.2	
P33M				IAmb	IAmb	18 01 51.9		
	comp=Z,9.9nm,1.1s							
P33M	**Teslin, Yukon**	71.39	31	P	P	18 01 48.4	-0.9	
	baz=290							
S32K	**Killisnoo**	71.48	34	P	P	18 01 49.5	-0.2	
	baz=290							
SOC	**Sochi**	71.79	310	*e* P	P	18 01 49.5	-2.4	
SOC				*e*		18 04 29.4		
SOC				*e* PPP	PPP	18 06 12.0		
SOC				*e* S	S	18 11 08.4	-1.5	
SOC				*e* SS	SS	18 15 48.2	+2.4	
SOC				pmax	pmax			
	comp=Z,10.0nm,0.8s							
SOC				MLR	MLR			
	comp=Z,35nm,19.0s							
Q32M	**Nakina River**	72.09	33	P	P	18 01 53.6	0.0	
	baz=291							
KOPT	**Kop Dagi**	72.44	306	IAmb	IAmb	18 02 00.9		
	comp=Z,13nm,1.2s							
R33M	**Jennings River**	72.56	32	P	P	18 01 55.9	-0.4	
	baz=292							
U33K	**Whale Pass**	72.71	36	P	P	18 01 56.4	-0.6	
	baz=292							
CRAG	**Craig**	72.95	36	P	P	18 01 57.5	-1.0	
	baz=292							
TGTN	**Hyland Airport**	72.95	29	P	P	18 01 58.4	-0.2	
	baz=294							
WRAK	**Wrangell Islan**	73.00	35	P	P	18 01 57.9	-0.9	
	baz=292							
FINES	**FINESS Array B**	73.03	331	P	P	18 01 59.1	+0.2	
	comp=Z,2.4nm,0.8s,baz=46,slow=5.5,SNR=6.6							
FINES				LR	LR	18 39 55.6		
	comp=Z,47nm,18.1s,baz=62,slow=41							
	comp=Z,2.4nm,0.8s							
DLBC	**Dease Lake**	73.38	33	P	P	18 02 00.1	-1.0	
	baz=293							
V35K	**Ketchikan**	73.80	36	P	P	18 02 02.8	-0.7	
	baz=293							
T35M	**Bob Quinn**	73.85	34	P	P	18 02 02.7	-1.1	
	baz=294							
RAYN	**Ar Rayn**	74.38	289		P	18 02 08.7	+1.1	
RAYN				IAmb	IAmb	18 02 21.9		
	comp=Z,14nm,1.1s							
RAYN	**Ar Rayn**	74.38	289	P	P	18 02 08.7	+1.1	
RAYN				pmax	pmax			
	comp=Z,14nm,1.1s							
MNK	**Minsk**	75.00	324	*i* P	P	18 02 13.1	+2.6	
MNK				*i* PPP	PPP	18 06 46.7		
MNK				*i* S	S	18 11 52.2	+6.4	
MNK				pmax	pmax			
	comp=E,13nm,0.8s							
MNK				pmax	pmax			
	comp=N,16nm,1.0s							
MNK				pmax	pmax			
	comp=Z,9.0nm,1.1s							
MNK				MLR	MLR			
	comp=Z,100nm,16.0s							
MNK				MLR	MLR			
	comp=E,32nm,15.0s							
MNK				MLR	MLR			
	comp=N,114nm,18.0s							
RES	**Resolute Bay**	75.25	11	LR	LR	18 38 08.2		
	comp=N,29nm,18.1s,baz=6.0,slow=38							
KOTAN	**Kotaneelee Air**	75.42	30	P	P	18 02 11.6	-1.3	
	baz=298							
AKASG	**Malin Array Be**	75.82	320	P	P	18 02 15.8	+0.5	
	comp=N,0.8nm,0.3s,baz=58,slow=5.5,SNR=15							
AKASG				LR	LR	18 38 18.0		
	comp=N,198nm,18.7s,baz=60,slow=38							
	comp=N,0.8nm,0.3s							
AKASG	**Malin Array Be**	75.82	320	*i* P	P	18 02 15.8	+0.5	
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.5s							
AKBB	**Malin Array Si**	75.82	320		P	18 02 14.7	-0.6	
AKBB				IAmb	IAmb	18 02 28.4		
	comp=Z,7.8nm,0.6s							
AKBB	**Malin Array Si**	75.82	320	*i* P	P	18 02 14.2	-1.1	
AKBB				pmax	pmax			
	comp=Z,7.0nm,1.2s							
KIEV	**Kiev**	75.83	320		P	18 02 15.0	-0.4	
KIEV				IAmb	IAmb	18 02 28.4		
	comp=Z,6.8nm,0.7s							
KIEV	**Kiev**	75.83	320	P	P	18 02 15.0	-0.4	
KIEV				pmax	pmax			
	comp=Z,7.0nm,0.7s	

YKA	**Yellowknife Ar**	**78.09**	**25**	*i* P	**P**	**18 02 29.1**	**+1.2**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MMAI	**Mount Meron Ar**	**78.87**	**301**	LR	LR	18 42 14.5	
	comp=Z,28nm,20.3s,baz=98,slow=39						
HFS	**Hagfors**	**78.97**	**333**	P	**P**	**18 02 33.0**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=77,slow=6.4,SNR=2.4						
HFS				LR	LR	18 39 37.3	
	comp=Z,35nm,18.7s,baz=98,slow=37						
	comp=Z,1.8nm,0.8s						
HFS	**Hagfors**	**78.97**	**333**	P	**P**	**18 02 33.0**	**+0.2**
NB2	**NORSAR Subarra**	**79.44**	**334**	P	**P**	**18 02 35.5**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=52,slow=5.9						
NOA	**NORSAR Array B**	**79.44**	**334**	P	**P**	**18 02 35.7**	**+0.3**
	comp=Z,1.7nm,1.0s,baz=50,slow=5.4,SNR=4.0						
NOA				LR	LR	18 42 28.5	
	comp=Z,51nm,19.2s,baz=65,slow=39						
	comp=Z,1.7nm,1.0s						
BURAR	**Bucovina Array**	**79.54**	**318**		**P**	**18 02 36.3**	**+0.1**
OJC	**Ojcow**	**81.38**	**322**	P	**P**	**18 02 46.5**	**+0.5**
OJC	**Ojcow**	**81.38**	**322**	P	**P**	**18 02 46.5**	**+0.5**
STEB	**Steborice**	**82.64**	**323**	*e*P	pP	18 03 06.4	+3.8
VYHS	**Vyhne**	**82.82**	**321**	*e*P	**P**	**18 02 55.6**	**+2.0**
VYHS				*e*		18 03 08.5	
VYHS	**Vyhne**	**82.82**	**321**	*e*P	**P**	**18 02 55.6**	**+2.0**
VYHS				*e*		18 03 08.5	
MORC	**Moravsky Berou**	**82.85**	**323**	*e*P	**P**	**18 02 53.0**	**-0.8**
DPC	**Dobruska-Polom**	**83.19**	**323**	*e*P	**pP**	**18 03 11.2**	**+5.7**
DPC				AMS	AMS	18 43 40.0	
	comp=Z,100nm,19.6s						
JAVC	**Velka Javorina**	**83.28**	**322**	*e*P	**P**	**18 02 56.5**	**+0.5**
VRAC	**Vranov**	**83.62**	**322**	*e*P	**P**	**18 02 57.6**	**-0.1**
VRAC	**Vranov**	**83.62**	**322**	LR	LR	18 43 57.1	
	comp=Z,96nm,18.3s,baz=59,slow=38						
MODS	**Modra-Piesok**	**83.76**	**321**	*e*P	**P**	**18 03 00.6**	**+2.2**
MODS				*e*		18 03 12.2	
MODS	**Modra-Piesok**	**83.76**	**321**	*e*P	**P**	**18 03 00.6**	**+2.2**
MODS				*e*		18 03 12.2	
KRUC	**Moravsky**	**83.87**	**322**	*e*P	**P**	**18 02 58.9**	**0.0**
CLL	**Collm**	**84.38**	**325**	*e*P	**P**	**18 03 02.0**	**+0.5**
CLL				*e*		18 03 15.0	
CLL				*e*S	**SKSac**	**18 13 27.0**	**+4.4**
CLL	**Collm**	**84.38**	**325**	*e*P	**P**	**18 03 02.0**	**+0.5**
CLL				*ex*	x	18 03 15.0	
CLL				*e*S	**SKSac**	**18 13 27.0**	**+4.4**
CLL				*ex*	x	18 24 42.0	
CLL				AMS	AMS	18 37 00.0	
	comp=N,200nm,20.8s						
CLL				AMS	AMS	18 37 00.0	
	comp=E,200nm,20.7s						
CONA	**Conrad Observa**	**84.80**	**322**	*e*pP	pP	18 03 18.0	+4.2
	comp=E,8.7nm,1.0s						
ZVC	**Zvikov**	**84.85**	**323**	*e*P	pP	18 03 17.7	+3.8
CKRC	**Cesky Krumlov**	**85.14**	**323**	*e*P	pP	18 03 19.2	+3.8
KHC	**Kasperske Hory**	**85.35**	**323**	*e*P	pP	18 03 20.0	+3.5
KHC	**Kasperske Hory**	**85.35**	**323**	*e*P	pP	18 03 20.0	+3.5
GERES	**GERESS Array B**	**85.45**	**323**	P	**P**	**18 03 07.7**	**+0.7**
	comp=E,0.4nm,0.6s,baz=76,slow=5.6,SNR=5.4						
GERES				LR	LR	18 44 28.0	
	comp=E,83nm,18.5s,baz=67,slow=38						
	comp=E,0.4nm,0.6s						
MOA	**Molln**	**85.72**	**322**	*e*pP	pP	18 03 22.5	+4.1
	comp=E,3.3nm,0.9s						
SOKA	**Soboth**	**85.97**	**321**	*e*pP	pP	18 03 23.1	+3.4
	comp=E,1.5nm,0.5s						
BIOA	**Bad Ischl, Aus**	**86.16**	**322**	*e*pP	pP	18 03 24.2	+3.7
	comp=E,4.2nm,1.0s						
OBKA	**Obir**	**86.34**	**321**	*e*pP	pP	18 03 25.1	+3.6
	comp=E,0.5nm,0.2s						
ABTA	**Abfaltersbach**	**87.34**	**322**	*e*pP	pP	18 03 31.4	+5.0
	comp=E,2.3nm,0.6s						
WATA	**Walderalm**	**87.50**	**323**	*e*pP	pP	18 03 30.7	+3.5
	comp=E,3.7nm,0.8s						
WTTA	**Wattenberg**	**87.51**	**323**	*e*pP	pP	18 03 30.7	+3.4
	comp=E,1.3nm,0.5s						
MOTA	**Moosalm**	**87.75**	**323**	*e*pP	pP	18 03 31.6	+3.2
	comp=E,3.2nm,0.7s						
SQTA	**Sankt Quirin**	**87.77**	**323**	*e*pP	pP	18 03 32.3	+3.8
	comp=E,3.9nm,1.1s						
FETA	**Feichten**	**88.15**	**323**	*e*pP	pP	18 03 33.7	+3.4
	comp=E,5.8nm,1.0s						
DAVA	**Damuels**	**88.44**	**323**	*e*pP	pP	18 03 35.3	+3.5
	comp=E,0.8nm,0.2s						
DAVOX	**Davos/Dischmat**	**88.75**	**323**	LR	LR	18 46 52.9	
	comp=E,116nm,18.1s,baz=81,slow=38						
EKA	**Eskdalemuir Ar**	**88.89**	**335**	P	**P**	**18 03 25.2**	**+1.7**
	comp=E,0.2nm,0.3s,baz=46,slow=4.5,SNR=4.4						
	comp=E,0.2nm,0.3s						
PPT2	**Papeete2**	**90.34**	**109**	*e*LR	LR	18 32 20.5	
	comp=E,67nm,23.5s						
Y22D	**IRIS PASSCAL I**	**99.84**	**44**	P	**Pdif**	**18 04 12.4**	**-1.8**
	baz=311						

*IDC **28** 17:52:44.8±1.3,6°.24S×154°.49E, h0km, mb3.4/5, mbtmp3.5/5, MS3.5/1, Error ellipse: s-maj=58.7km s-min=28.0km az=123.0*

ISC 28 17:52:50.1±1.3,6°.3S±0°.3×154°.5E±0°.4, h35km, n7, σ1§17/6, mb3.5/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.85**	**233**	P	**P**	**17 57 60.0**	**-0.4**
	1.0nm,0.6s,baz=58,slow=9.4,SNR=13						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**26.30**	**227**	P	**P**	**17 58 21.9**	**-0.8**
	0.2nm,0.4s,baz=52,slow=9.2,SNR=7.5						
	0.2nm,0.4s						
BATI	**Baumata**	**30.79**	**261**	LR	LR	18 13 11.6	
	comp=Z,77nm,19.2s,baz=228,slow=40						
ILAR	**Eielson Array**	**82.91**	**22**	P	**P**	**18 05 10.2**	**-0.8**
	0.3nm,0.8s,baz=258,slow=5.7,SNR=4.3						
	0.3nm,0.8s						
QSPA	**South Pole Qui**	**83.66**	**180**	P	**P**	**18 05 15.2**	**+0.2**
	0.5nm,0.6s,baz=352,slow=6.7,SNR=5.3						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**86.05**	**322**	P	**P**	**18 05 27.2**	**+0.1**
	0.1nm,0.4s,baz=103,slow=4.2,SNR=1.5						
	0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**152.41**	**286**	PKPbc	**PKiKP**	**18 12 45.5**	**+1.7**
	1.4nm,0.4s,baz=99,slow=2.6,SNR=2.0						

*IDC **28** 18:27:50.6±6.8, 16°.65N×148°.08E, h0km, mb3.8/7, mbtmp3.9/8, ML4.0/1, MS3.2/3, Error ellipse: s-maj=154.5km s-min=33.5km az=112.0*
*NEIC **28** 18:27:52.3±1.2, 16°.5N±0°.1×147°.8E±0°.1, h10km±2km, mb4.2/11, Error ellipse: s-maj=24.3km s-min=14.3km az=147.0*

ISC 28 18:27:55.9±1.6, 16°.49N±0°.10×147°.7E±0°.2, h35km, n23, σ0§93/22, mb4.0/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.97**	**224**	Pn	**Pn**	**18 28 54.7**	**+0.4**
GUMO				Sn	**Sn**	**18 29 38.8**	**-0.9**
GUMO	**Guam**	**3.97**	**224**	Pn	Pn	18 28 58.6	+4.3
	8.3nm,0.3s,baz=33,slow=5.6,SNR=8.6						
GUMO				Sn	**Sn**	**18 29 40.5**	**+0.8**
	11nm,0.3s,baz=20,slow=23,SNR=6.2						
GUMO				LR	LR	18 30 39.5	
	comp=Z,126nm,18.4s,baz=35,slow=39						
	23nm,0.3s						
JMZ	**Minamidaito 2**	**17.93**	**304**		**Pn**	**18 32 01.8**	**-0.7**
JOW	**Kunigami**	**20.75**	**303**	P	**P**	**18 32 33.0**	**-0.7**
JOW				IAmb	IAmb	18 32 43.4	
	comp=Z,23nm,1.1s						
JGF	**Kuroka**	**21.15**	**336**	P	**P**	**18 32 37.1**	**-0.8**
JGF				IAmb	IAmb	18 32 46.0	
	comp=Z,6.1nm,0.9s						
MJAR	**Matsushiro Arr**	**21.67**	**339**		**P**	**18 32 42.9**	**-0.6**
MJAR	**Matsushiro Arr**	**21.67**	**339**	P	**P**	**18 32 43.3**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=164,slow=10,SNR=8.4						
	comp=Z,1.6nm,0.6s						
MAJO	**Matsushiro**	**21.67**	**339**		**P**	**18 32 42.9**	**-0.6**
MAJO				IAmb	IAmb	18 32 49.3	
	comp=Z,5.6nm,0.8s						
MJB9	**Matsu-Tunnel**	**21.68**	**339**	P	**P**	**18 32 42.9**	**-0.7**
MJB9				IAmb	IAmb	18 32 49.3	
	comp=Z,5.5nm,0.8s						
JNU	**Nakatsue**	**22.46**	**321**	LR	LR	18 39 50.6	
	comp=Z,43nm,18.7s,baz=268,slow=32						
WB0	**Warramunga Arr**	**38.33**	**200**	P	**P**	**18 35 12.9**	**-0.7**
WB0				IAmb	IAmb	18 35 36.7	
	comp=Z,13nm,0.7s						
WRAB	**Tennant Creek**	**38.50**	**200**	P	**P**	**18 35 14.5**	**-0.4**
WRAB				IAmb	IAmb	18 35 38.1	
	comp=Z,8.0nm,0.6s						
WRA	**Warramunga Arr**	**38.51**	**200**	P	**P**	**18 35 14.3**	**-0.8**
SONM	**Songino Array**	**46.04**	**322**	P	**P**	**18 36 15.9**	**-0.4**
SONM				IAmb	IAmb	18 36 21.3	
	comp=Z,0.6nm,0.8s						
SONM	**Songino Array**	**46.04**	**322**	P	**P**	**18 36 17.6**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=121,slow=7.2,SNR=3.1						
	comp=Z,0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**46.43**	**280**	P	**P**	**18 36 18.7**	**-0.9**
CMAR	**Chiang Mai Arr**	**46.43**	**280**	P	**P**	**18 36 21.9**	**+2.2**
	comp=Z,2.2nm,0.9s,baz=70,slow=5.9,SNR=12						
	comp=Z,2.2nm,0.9s						
GSI	**Gunungsitoli**	**51.58**	**258**	P	**P**	**18 36 58.8**	**-0.3**
ZALV	**Zalesovo Beam**	**60.91**	**323**	P	**P**	**18 38 04.9**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=94,slow=5.8,SNR=3.9						
	comp=Z,0.8nm,0.7s						
MKAR	**Makanchi Array**	**61.35**	**315**	P	**P**	**18 38 09.2**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=94,slow=6.3,SNR=4.4						
	comp=Z,0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**64.22**	**319**	P	**P**	**18 38 28.0**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=98,slow=6.7,SNR=21						
	comp=Z,2.6nm,0.8s						
BVAR	**Borovoye Array**	**69.38**	**321**	P	**P**	**18 39 01.1**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=93,slow=7.2,SNR=8.2						
	comp=Z,1.3nm,0.6s						
GNI	**Garni**	**89.06**	**312**	LR	LR	19 24 08.4	
	comp=Z,29nm,20.7s,baz=145,slow=38						

*DJA **28** 18:29:30.4±0.2, 7°.5S±2°×12°.9E±°, h255km, M4.4/19, mb4.2/19, mB5.0/7, MLv4.6/19, Mw(mB)4.4/7*

ISC 28 18:29:30.2±0.9, 6°.55S±0°.07×129°.21E±0°.06, h250km, n29, σ1§04/32, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.13**	**19**	P	**Pn**	**18 30 13.9**	**0.0**
SAUI	**Saumlaki**	**2.51**	**125**	P	**Pn**	**18 30 18.3**	**+0.7**
SAUI	**Saumlaki**	**2.51**	**125**	P	**Pn**	**18 30 18.3**	**+0.7**
SAUI				S	**S**	**18 30 55.7**	**+0.7**
AAI	**Ambon**	**3.02**	**340**	P	**Pn**	**18 30 23.7**	**+0.8**
MSAI	**Masohi**	**3.19**	**355**	P	**Pn**	**18 30 25.3**	**+0.4**
MSAI				S	**S**	**18 31 08.4**	**+0.2**
NLAI	**Namlea**	**3.90**	**327**	P	**Pn**	**18 30 34.7**	**+1.8**
FAKI	**Fak Fak**	**4.71**	**40**	P	**Pn**	**18 30 41.8**	**-0.7**
FAKI	**Fak Fak**	**4.71**	**40**	P	**Pn**	**18 30 41.7**	**-0.7**
KMPI	**Kaimana, Papua**	**5.31**	**58**	P	**Pn**	**18 30 50.8**	**+0.9**
SANI	**Sanana**	**5.50**	**324**	P	**Pn**	**18 30 53.9**	**+1.6**
SANI	**Sanana**	**5.50**	**324**	P	**Pn**	**18 30 54.9**	**+2.6**
	0.2nm40nm,1.1s						
SOEI	**Soe**	**5.84**	**237**	P	**Pn**	**18 30 56.0**	**-0.6**
SOEI	**Soe**	**5.84**	**237**	P	**Pn**	**18 30 55.9**	**-0.6**
	0.4nm32nm,0.7s						
SWI	**Sorong**	**6.00**	**20**	P	**Pn**	**18 30 57.8**	**-0.7**
	0.5nm3µm71nm,0.6s						
MTN	**Manton Dam**	**6.54**	**163**	P	**Pn**	**18 31 05.1**	**0.0**
BATI	**Baumata**	**6.58**	**236**	P	**Pn**	**18 31 05.3**	**-0.4**
	0.6nm2µm134nm,0.7s						
KDU	**Kakadu**	**6.89**	**152**	P	**Pn**	**18 31 09.6**	**0.0**
RKPI	**Ransiki, Papua**	**7.04**	**45**	P	**Pn**	**18 31 12.1**	**+0.7**
MMRI	**Maumere**	**7.22**	**253**	P	**Pn**	**18 31 16.2**	**+2.5**
	0.2nm24nm,1.0s						
MMRI				S	**S**	**18 32 37.2**	**+0.4**
	0.2nm24nm,1.0s						
TNTI	**Ternate**	**7.50**	**346**	P	**Pn**	**18 31 18.1**	**+0.8**
	0.1nm22nm,1.0s						
EDFI	**Ende, Flores**	**7.77**	**253**	P	**Pn**	**18 31 20.2**	**-0.6**
SRPI	**Serui, Papua**	**8.41**	**57**	P	**Pn**	**18 31 28.9**	**+0.2**
	19nm,0.9s						
BAKI	**Biak**	**8.69**	**53**	P	**Pn**	**18 31 34.0**	**+1.6**
	35nm,0.8s						
WSI	**Waingapu**	**9.36**	**250**	P	**Pn**	**18 31 39.4**	**-1.3**
	57nm,0.7s						
SPSI	**Sidrap Palu**	**9.75**	**285**	P	**Pn**	**18 31 45.8**	**+0.1**
	8.7nm,1.0s						
WBSI	**Waikabubak, Su**	**10.20**	**252**	P	**Pn**	**18 31 51.5**	**+0.1**
	38nm,1.1s						
PLAI	**Plampang**	**11.56**	**258**	P	**Pn**	**18 32 08.8**	**+0.4**
JAGI	**Jajag, Banyuwa**	**15.05**	**262**	P	**Pn**	**18 32 52.1**	**+0.9**
GMJI	**Gumukmas**	**15.73**	**263**	P	**P**	**18 32 58.2**	**0.0**

*JMA **28** 18:35:19.9±0.1, 24°.9N±0°.6×122°.4E±0°.3, h18km±2km, MV1.8/8, NW OFF ISHIGAKIJIMA IS*
*TAP **28** 18:35:19.8, 24°.90N×122°.43E, h26km±1km, ML2.8, D*

ISC 28 18:35:17.8±1.2, 24°.91N±0°.04×122°.49E±0°.02, h10km±11km, n33, σ0§47/45, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.46**	**282**	*e*P	**Pb**	**18 35 28.2**	**+0.2**
TWB1				*e*S	**Sb**	**18 35 34.4**	**-0.6**
EOS2	**EOS2**	**0.54**	**205**	*e*P	**Pb**	**18 35 30.2**	**+0.9**
EOS2				*e*S	**Sb**	**18 35 38.0**	**+0.9**
SXI1	**Grass Mountain**	**0.58**	**288**	P	**Pb**	**18 35 30.9**	**+0.7**
TIPB	**Shuangxi**	**0.60**	**276**	P	**Pb**	**18 35 31.1**	**+0.6**
TIPB				*e*S	**Sb**	**18 35 38.6**	**-0.5**
EOS3	**EOS3**	**0.64**	**194**	*e*P	**Pn**	**18 35 32.2**	**-0.6**
TWC	**Suao**	**0.65**	**243**	P	**Pb**	**18 35 31.1**	**-0.2**
YOJ	**Yonaguni jima**	**0.66**	**133**	*e*P	**Pn**	**18 35 32.4**	**-0.8**
YOJ				*e*S	**Sb**	**18 35 41.4**	**+0.9**
YOJ	**Yonaguni jima**	**0.66**	**133**	P	**Pn**	**18 35 33.0**	**-0.2**
NWF	**Wu-fen Shan**	**0.66**	**284**	*e*S	**Sb**	**18 35 40.9**	**+0.2**
WFSB	**Wu-fen Shan**	**0.66**	**284**	*e*S	**Sb**	**18 35 40.9**	**+0.2**
ESAO	**Su ao**	**0.67**	**240**	*e*P	**Pb**	**18 35 31.8**	**+0.1**
ESAO				*e*S	**Sg**	**18 35 39.5**	**-0.2**
TNOU	**National Taiwa**	**0.69**	**290**	*e*P	**Pb**	**18 35 32.4**	**+0.5**
TWE	**Neicheng**	**0.77**	**256**	P	**Pb**	**18 35 33.3**	**0.0**
EOS4	**EOS4**	**0.80**	**191**	*e*P	**Pn**	**18 35 35.0**	**+0.2**
FUSB	**Fushanzhiwuyua**	**0.83**	**260**	*e*P	**Pb**	**18 35 34.5**	**+0.1**
YM08	**YM08**	**0.86**	**289**	*e*P	**Pb**	**18 35 35.0**	**+0.2**
YM01	**YM01**	**0.86**	**286**	*e*P	**Pb**	**18 35 35.4**	**+0.4**
NHDH	**Hsindian Distri**	**0.87**	**273**	*e*S	**Sg**	**18 35 46.5**	**+0.4**
ENTT	**Nioudou**	**0.88**	**252**	*e*P	**Pb**	**18 35 35.5**	**+0.3**
ZUZH	**Zhuzihu**	**0.89**	**286**	*e*P	**Pn**	**18 35 36.2**	**-0.3**
NWLT	**Wulai**	**0.90**	**262**	P	**Pb**	**18 35 36.0**	**+0.4**
NWLT				S	**Sg**	**18 35 47.0**	**-0.1**
LATG	**Datong**	**0.95**	**247**	*e*P	**Pb**	**18 35 36.8**	**+0.3**
NSK	**Sanguang**	**1.05**	**257**	*i* P	**Pb**	**18 35 38.4**	**+0.2**
NACB	**Ninganchiao**	**1.10**	**228**	*i* P	**Pb**	**18 35 38.7**	**-0.2**
NACB				S	**Sb**	**18 35 52.1**	**-1.1**
NNS	**Nan Shan**	**1.12**	**245**	*e*P	**Pg**	**18 35 39.5**	**+0.2**
NNS				*e*S	**Sg**	**18 35 53.2**	**-0.6**
ETLH	**Xiulin Townshi**	**1.15**	**233**	*e*P	**Pb**	**18 35 40.0**	**+0.1**
ETLH				*e*S	**Sb**	**18 35 54.3**	**-0.6**
LXIB	**Xiulin Townshi**	**1.32**	**228**	*e*P	**Pg**	**18 35 43.4**	**+0.1**
LXIB				S	**Sn**	**18 36 00.3**	**+0.1**
OWD	**Renai**	**1.53**	**232**	*e*P	**Pb**	**18 35 46.5**	**+0.2**
OWD				*e*S	**Sn**	**18 36 05.6**	**+0.3**
WHP	**Taichung City**	**1.54**	**246**	*e*P	**Pg**	**18 35 47.8**	**+0.4**
JKRS	**Kuro-shima**	**1.54**	**116**	*e*P	**Pb**	**18 35 46.8**	**+0.4**
WUSB	**Renai**	**1.55**	**234**	*e*P	**Pb**	**18 35 47.0**	**+0.3**
JIJ	**Ishigaki jima**	**1.60**	**110**	*e*P	**Pg**	**18 35 48.2**	**-0.4**
JIJ				*e*S	**Sg**	**18 36 09.5**	**+0.1**
JISG	**Ishigakijimahi**	**1.69**	**101**	*e*P	**Pg**	**18 35 49.9**	**-0.3**

IDC 28 18:38:54.7±1.4, 36°.87S×78°.19E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=43.2km s-min=33.8km az=88.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04N2	**CROZET ISLANDS**	**21.75**	**236**	T	T	19 06 20.1	
	baz=77,slow=75						
H04N1	**CROZET ISLANDS**	**21.77**	**236**	T	T	19 06 20.1	
	baz=77,slow=75						
H04N3	**CROZET ISLANDS**	**21.77**	**236**	T	T	19 06 18.3	
	baz=77,slow=75						
H04S1	**CROZET ISLANDS**	**21.87**	**235**	T	T	19 06 26.9	
	baz=73,slow=76,SNR=7.7						
H04S3	**CROZET ISLANDS**	**21.89**	**235**	T	T	19 06 23.3	
	baz=73,slow=76,SNR=8.1						
H04S2	**CROZET ISLANDS**	**21.89**	**235**	T	T	19 06 26.5	
	baz=73,slow=76,SNR=8.1						
H01W2	**Cape Leeuwin H**	**29.08**	**97**	T	T	19 15 07.5	
	baz=254,slow=75						
H01W3	**Cape Leeuwin H**	**29.09**	**97**	T	T	19 15 07.4	
	baz=254,slow=75						
H01W1	**Cape Leeuwin H**	**29.10**	**97**	T	T	19 15 08.8	
	baz=254,slow=75						
H08S2	**Diego Garcia H**	**29.55**	**348**	T	T	19 16 13.1	
	baz=171,slow=76						
H08S1	**Diego Carcia H**	**29.55**	**348**	T	T	19 16 11.1	
	baz=171,slow=76						
H08S3	**Diego Garcia H**	**29.57**	**348**	T	T	19 16 12.7	
	baz=171,slow=76						
ASAR	**Alice Springs**	**49.26**	**91**	P	P	18 47 46.1	+0.9
	0.4nm,0.8s,baz=250,slow=5.9,SNR=4.8						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**51.48**	**87**	P	P	18 48 01.1	-1.0
	1.4nm,0.8s,baz=240,slow=7.4,SNR=6.0						
	1.4nm,0.8s						
QSPA	**South Pole Qui**	**53.29**	**180**	P	P	18 48 14.9	-0.2
	2.0nm,0.9s,baz=280,slow=6.1,SNR=6.6						
	2.0nm,0.9s						
MKAR	**Makanchi Array**	**83.36**	**3**	P	P	18 51 23.4	+0.2
	0.8nm,0.7s,baz=183,slow=7.0,SNR=5.8						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**87.12**	**0**	P	P	18 51 41.8	-0.1
	0.2nm,0.2s,baz=187,slow=4.5,SNR=2.3						
	0.2nm,0.2s						

*IDC **28** 18:45:33.4±2.7, 20°.27S×177°.77W, h534km±29km, mb3.3/12, mbtmp4.1/13, Error ellipse: s-maj=17.2km s-min=13.4km az=151.0*

ISC 28 18:45:29.9±0.6, 20°.3S±0°.1×177°.7W±0°.1, h500km, n23, σ1§14/24, mb3.6/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.91**	**260**	P	**P**	**18 48 40.8**	**+1.5**
	5.1nm,0.8s,baz=124,slow=15,SNR=6.5						
URZ	**Urewera**	**18.46**	**193**	P	**P**	**18 49 12.4**	**-1.9**
	3.1nm,0.3s,baz=285,slow=2.5,SNR=8.0						
ASAR	**Alice Springs**	**44.85**	**256**	P	P	**18 52 59.6**	**+0.4**
	12nm,0.9s,baz=98,slow=7.7,SNR=172						
ASAR				PcP	**PcP**	**18 54 30.6**	**+0.1**
	1.1nm,0.6s,baz=102,slow=4.2,SNR=8.8						
ASAR				S	**S**	**18 58 58.4**	**-1.7**
	1.7nm,0.9s,baz=94,slow=14,SNR=12						
	12nm,0.9s						
WRA	**Warramunga Arr**	**44.92**	**262**	P	P	**18 52 59.7**	**-0.1**
	5.1nm,0.7s,baz=97,slow=8.6,SNR=49						
WRA				PcP	**PcP**	**18 54 30.9**	**+0.1**
	1.1nm,0.3s,baz=98,slow=2.9,SNR=32						
	5.1nm,0.7s						
VNDA	**Vanda**	**58.13**	**185**	P	P	**18 54 36.0**	**+1.5**
	0.5nm,0.8s,baz=36,slow=8.7,SNR=3.5						
	0.5nm,0.8s						
QSPA	**South Pole Qui**	**69.77**	**180**	P	P	**18 55 50.4**	**+1.3**
	3.3nm,0.7s,baz=18,slow=0.6,SNR=23						
	3.3nm,0.7s						
MJAR	**Matsushiro Arr**	**70.22**	**323**	P	P	**18 55 52.5**	**+0.4**
	2.4nm,0.6s,baz=157,slow=5.7,SNR=13						
	2.4nm,0.6s						
NVAR	**Mina Array Bea**	**80.68**	**43**	P	P	**18 56 51.1**	**+0.5**
	0.6nm,0.5s,baz=238,slow=5.0,SNR=4.3						
	0.6nm,0.5s						
MAW	**Mawson**	**81.85**	**200**	P	P	**18 56 56.0**	**0.0**
	2.4nm,1.1s,baz=73,slow=11,SNR=2.4						
	2.4nm,1.1s						
TXAR	**Lajitas Array**	**86.70**	**57**	P	P	**18 57 21.7**	**+1.1**
	0.7nm,0.8s,baz=213,slow=7.2,SNR=9.8						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**88.06**	**13**	P	P	**18 57 25.4**	**-0.6**
	0.5nm,0.7s,baz=212,slow=5.3,SNR=5.8						
	0.5nm,0.7s						
SNAA	**Sanae**	**88.20**	**178**	P	P	**18 57 25.6**	**-1.3**
	0.5nm,0.6s,baz=198,slow=15,SNR=2.3						
	0.5nm,0.6s						
PDAR	**Pinedale Array**	**88.62**	**43**	P	P	**18 57 29.4**	**-0.1**
	0.3nm,0.4s,baz=249,slow=4.0,SNR=4.5						
	0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**90.32**	**289**	P	P	**18 57 38.5**	**+0.9**
	0.8nm,0.7s,baz=132,slow=3.3,SNR=7.8						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**111.27**	**313**	PKiKP	**PKiKP**	**19 03 04.4**	**-2.1**
	2.0nm,1.1s,baz=150,slow=2.7,SNR=5.0						
KURBB	**Kurchatov Arra**	**114.10**	**317**	PKP	**PKiKP**	**19 03 09.5**	**-2.2**
	0.2nm,0.3s,baz=74,slow=1.5,SNR=6.0						
BVAR	**Borovoye Array**	**119.11**	**320**	PKP	**PKPdf**	**19 03 20.6**	**-0.7**
	0.9nm,0.5s,baz=177,slow=3.0,SNR=4.6						
HFS	**Hagfors**	**139.39**	**351**	PKhKP	PKPpre	19 03 50.8	
	1.0nm,0.8s,baz=46,slow=8.5,SNR=4.1		

*IDC **28** 19:11:09.8±6.1,31˚.40N×50˚.19E,h0km,mb3.9/4, mbtmp3.8/5,ML3.0/1,Error ellipse: s-maj=124.4km s-min=44.9km az=115.0*
*TEH **28** 19:11:16.7,31˚.65N×49˚.51E,h11km±21km*
ISC 28 19:11:16.7±0.8,31˚.63N±0˚.05×49˚.50E±0˚.04,h10km,n39, σ1s72/39,mb3.8/3,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.79**	**248**	Pg	**Pb**	**19 11 32.7**	**+0.1**
JHBN	**Jahan bin**	**1.16**	**59**	Pg	**Pb**	**19 11 38.4**	**-0.6**
ABEH	**Behbahan**	**1.22**	**148**	Pg	**Pg**	**19 11 40.6**	**+0.6**
ZNGN	**Zangian**	**1.25**	**67**	Pg	**Pn**	**19 11 40.7**	**+0.2**
IBRJ	**Brojen**	**1.52**	**79**	Pg	**Pn**	**19 11 45.2**	**+1.0**
IPIR	**Pirpir**	**1.58**	**48**	Pg	**Pn**	**19 11 46.2**	**+1.2**
KLNJ	**Kolanjah**	**1.90**	**109**	Pn	**Pn**	**19 11 50.4**	**+1.0**
IGAR	**Gharneh**	**2.29**	**70**	Pn	**Pn**	**19 11 56.7**	**+1.9**
BDRS	**Dareh Seyedi**	**2.37**	**347**	Pn	**Pn**	**19 11 57.6**	**+1.7**
IDOB	**Doab**	**2.42**	**333**	Pn	**Pn**	**19 11 58.1**	**+1.6**
IKLH	**Kolahrood**	**2.43**	**46**	Pn	**Pn**	**19 11 59.2**	**+2.5**
IRAM	**Ramesheh**	**2.46**	**85**	Pn	**Pn**	**19 11 59.1**	**+1.9**
QAMS	**Qamsar**	**2.64**	**37**	Pn	**Pn**	**19 12 01.5**	**+2.0**
IZEF	**Zefreh**	**2.71**	**62**	Pn	**Pn**	**19 12 02.5**	**+1.9**
IBZA	**Bozab**	**3.15**	**334**	Pn	**Pn**	**19 12 08.3**	**+1.7**
HAGD	**Aghdareh**	**3.19**	**355**	Pn	**Pn**	**19 12 08.9**	**+1.7**
KRSH	**Karshahi**	**3.22**	**43**	Pn	**Pn**	**19 12 09.8**	**+2.3**
ILBA	**Ilam Banvizeh**	**3.42**	**306**	Pn	**Pn**	**19 12 11.6**	**+1.5**
IQOM	**Qom**	**3.46**	**22**	Pn	**Pn**	**19 12 12.7**	**+1.8**
ISFB	**Sefidab**	**3.56**	**40**	Pn	**Pn**	**19 12 13.7**	**+1.6**
ISAD	**Sadrabad**	**3.58**	**84**	Pn	**Pn**	**19 12 14.2**	**+1.8**
SNQR	**Sonqor, Kerman**	**3.58**	**335**	Pn	**Pn**	**19 12 14.3**	**+1.7**
DSBU	**Dashti - Bushe**	**3.60**	**154**	Pn	**Pn**	**19 12 14.7**	**+2.1**
IVRN	**Varamin**	**3.84**	**28**	Pn	**Pn**	**19 12 18.1**	**+2.2**
HGHA	**Hamedan- Ghaye**	**3.88**	**352**	Pn	**Pn**	**19 12 18.3**	**+1.6**
ANAR	**Anarak**	**3.90**	**65**	Pn	**Pn**	**19 12 18.5**	**+1.7**
GLG1	**Gilan-e-Gharb**	**3.91**	**310**	Pn	**Pn**	**19 12 18.8**	**+1.9**
IDHR	**Dehrash**	**4.02**	**320**	Pn	**Pn**	**19 12 19.9**	**+1.4**
QABG	**Abgarm-Qazvin**	**4.07**	**1**	Pn	**Pn**	**19 12 21.3**	**+2.1**
IMEH	**Mehriz**	**4.37**	**92**	Pn	**Pn**	**19 12 24.9**	**+1.5**
IDMV	**Damavand**	**4.46**	**28**	Pn	**Pn**	**19 12 26.5**	**+1.8**
ILAS	**Lasjerd**	**4.72**	**37**	Pn	**Pn**	**19 12 29.6**	**+1.4**
IPRN	**Peran**	**5.17**	**26**	Pn	**Pn**	**19 12 36.3**	**+2.1**
IGLO	**Ghaloghah**	**6.04**	**35**	Pn	**Pn**	**19 12 48.6**	**+2.3**
BRTR	**Keskin Array B**	**15.20**	**306**	Pn	**P**	**19 14 56.5**	**-0.1**
	0.1nm,0.3s,baz=122,slow=14,SNR=3.8 0.7nm,0.8s						
FINES	**FINESS Array B**	**33.51**	**340**	P	**P**	**19 17 54.8**	**-1.2**
	1.8nm,0.7s,baz=139,slow=8.0,SNR=12 1.8nm,0.7s						
HFS	**Hagfors**	**37.05**	**331**	P	**P**	**19 18 25.2**	**-1.4**
	0.7nm,0.4s,baz=116,slow=9.8,SNR=10 0.7nm,0.4s						
NOA	**NORSAR Array B**	**38.57**	**331**	P	**P**	**19 18 37.4**	**-2.1**
	0.2nm,0.5s,baz=122,slow=8.2,SNR=2.4 0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**47.46**	**258**	P	**P**	**19 19 50.8**	**-1.2**
	1.6nm,0.4s,baz=57,slow=8.6,SNR=1.4 1.6nm,0.4s						

IDC 28 19:41:39.5±2.1,0˚.41N×126˚.10E,h0km,mb3.1/3, mbtmp3.1/3,Error ellipse: s-maj=173.2km s-min=28.9km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.78**	**159**	P	P	19 46 31.9	-1.2
	0.2nm,0.5s,baz=337,slow=11,SNR=5.3 0.2nm,0.5s						
ASAR	**Alice Springs**	**25.11**	**163**	P	P	19 47 07.2	+1.0
	0.2nm,0.5s,baz=344,slow=11,SNR=5.2 0.2nm,0.5s						
MKAR	**Makanchi Array**	**59.93**	**327**	P	P	19 51 47.4	-0.2
	0.3nm,0.8s,baz=133,slow=8.0,SNR=2.0 0.3nm,0.8s						

*ISK **28** 19:43:58.5,35˚.29N×31˚.60E,h6km,ML2.5/8*
*NIC **28** 19:44:00.7,35˚.33N×31˚.58E,h24km±1km,Ml2.0/9*
ISC 28 19:43:59.6±2.3,35˚.30N±0˚.06×31˚.6E±0˚.1,h12km±11km, n17,σ0s46/29,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKMS	**Akamas**	**0.68**	**114**	P	**Pg**	**19 44 12.7**	**0.0**
AKMS				S	**Sn**	**19 44 25.1**	**-0.3**
AKMS				AML	AML	19 44 25.5	
	0.8nm,0.3s						
AKMS				AML	AML	19 44 25.8	
	0.6nm,0.5s						
ALFC	**Alefka**	**0.84**	**100**	P	**Pn**	**19 44 17.2**	**-0.1**
ALFC				S	**Sn**	**19 44 29.6**	**0.0**
ALFC				AML	AML	19 44 30.0	
	0.2nm,0.3s						
ALFC				AML	AML	19 44 39.2	
	0.2nm,0.5s						
NATA	**Nata**	**0.96**	**122**	P	**Pn**	**19 44 18.9**	**0.0**
NATA				S	**Sn**	**19 44 33.3**	**+0.8**
NATA				AML	AML	19 44 39.8	
	0.5nm,0.9s						
NATA				AML	AML	19 44 42.0	
	0.8nm,0.6s						
GAZI	**Gazipasa**	**1.11**	**32**	Pn	**Pb**	**19 44 19.9**	**-0.7**
GAZI				Sn	**Sn**	**19 44 35.7**	**-0.4**
TROD	**Troodos**	**1.11**	**108**	P	**Pb**	**19 44 20.5**	**-0.3**
TROD				S	**Sg**	**19 44 35.6**	**+0.2**
TROD				AML	AML	19 44 47.2	
	0.1nm,0.4s						
TROD				AML	AML	19 44 48.0	
	0.1nm,0.4s						
APOL	**The Sanctuary**	**1.22**	**121**	P	**Pb**	**19 44 22.4**	**-0.2**
APOL				S	**Sg**	**19 44 38.9**	**-0.1**
APOL				AML	AML	19 44 55.0	
	0.1nm,0.5s						
APOL				AML	AML	19 45 02.3	
	0.1nm,0.7s						
XYLS	**Xyliatos**	**1.23**	**103**	P	**Pn**	**19 44 21.9**	**-0.7**
XYLS				S	**Sg**	**19 44 39.8**	**+0.4**
XYLS				AML	AML	19 44 46.9	
	0.1nm,0.3s						
XYLS				AML	AML	19 44 50.3	
	0.1nm,0.6s						
ASGA	**Asgata**	**1.46**	**110**	P	**Pn**	**19 44 25.8**	**+0.1**
ASGA				S	**Sb**	**19 44 45.3**	**+0.2**
ASGA				AML	AML	19 44 54.3	
	0.1nm,0.8s						
ASGA				AML	AML	19 44 54.6	
	0.1nm,0.8s						
CSS	**Mathiatis**	**1.47**	**103**	Pn	**Pn**	**19 44 25.5**	**-0.4**
CSS				Sn	**Sb**	**19 44 45.9**	**+0.4**
CSS	**Mathiatis**	**1.47**	**103**	P	**Pn**	**19 44 26.1**	**+0.1**
CSS				S	**Sb**	**19 44 45.6**	**+0.1**
CSS				AML	AML	19 45 02.2	
	0.1nm,0.6s						
CSS				AML	AML	19 45 03.4	
BERE	**Bereket-Mersin**	**1.69**	**51**	Pn	**Pn**	**19 44 29.4**	**+0.3**
BERE				Sn	**Sb**	**19 44 51.5**	**-0.5**
MVOU	**Mavrovouni**	**1.70**	**99**	P	**Pn**	**19 44 29.2**	**+0.1**
MVOU				S	**Sn**	**19 44 50.8**	**+0.1**
MVOU				AML	AML	19 45 06.9	
MVOU				AML	AML	19 45 18.0	
	0.1nm,1.2s						
TEVE	**Tevekalti-Mers**	**1.89**	**53**	Pn	**Pn**	**19 44 32.2**	**+0.5**
KEBE	**Keben-Mersin**	**2.07**	**56**	Pn	**Pn**	**19 44 34.4**	**+0.2**
SEYD	**Seydisehir-KON**	**2.11**	**5**	Pn	**Pn**	**19 44 35.2**	**+0.4**
SILI	**Silifke-Mersin**	**2.18**	**60**	Pn	**Pn**	**19 44 36.6**	**+1.0**
KRMN	**Karaman**	**2.31**	**35**	Pn	**Pn**	**19 44 38.4**	**+0.9**

*HVO **28** 19:46:19.0±0.7, 19˚.465N±0˚.004×155˚.606W±0˚.009, h-2km±7km,ML2.2/17,ML2.2/24(NEIC),Error ellipse: s-maj=1.1km s-min=0.7km az=72.0*
NEIC 28 19:46:19.8±0.8,19˚.465N±0˚.004×155˚.597W±0˚.008, h2km±5km,Error ellipse: s-maj=1.1km s-min=0.4km az=87.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MWH	**Mokuaweoweo**	**0.02**	**359**		Pg	19 46 20.1	-0.7
ALEP	**Alea Permanent**	**0.09**	**329**		Pg	19 46 21.6	-0.1
ALEP					Sg	19 46 23.7	+0.8
AIN	**Ainahou**	**0.16**	**125**		Pg	19 46 23.4	+0.4
AIN				IAML		19 46 27.4	
	comp=E,568nm,0.6s						
AIN				IAML		19 46 27.8	
	comp=N,968nm,0.7s						
MLH	**Mauna Loa**	**0.20**	**82**		Pg	19 46 24.2	+0.5
MLH				IAML		19 46 26.4	
	comp=E,407nm,0.5s						
MLH				IAML		19 46 29.7	
	comp=N,494nm,0.4s						
KHU	**Kahuku**	**0.22**	**185**		Pg	19 46 23.9	-0.2
KHU					Sg	19 46 27.5	+0.6
WRMHI	**West Rim**	**0.29**	**102**		Pg	19 46 25.4	+0.1
UWE	**Uwekahuna**	**0.29**	**99**		Pg	19 46 25.9	+0.6
HTC	**Hot Caves**	**0.29**	**140**		Pg	19 46 25.4	-0.1
SDHHI	**Sand Hill**	**0.29**	**105**		Pg	19 46 25.6	+0.1
SDHHI					Sg	19 46 30.0	+0.6
POHA	**Pohakuloa**	**0.30**	**12**		Sg	19 46 30.1	+0.6
POHA	**Pohakuloa**	**0.30**	**12**	Pg	Pg	19 46 25.5	0.0
POHA				IAML		19 46 34.0	
	comp=N,167nm,1.1s						
POHA				IAML		19 46 34.6	
	comp=N,210nm,0.7s						
UWB	**Uwekahuna Bluf**	**0.30**	**97**		Pg	19 46 25.7	+0.1
UWB					Sg	19 46 30.2	+0.6
CPH	**Captain Cook**	**0.30**	**274**		Pg	19 46 25.6	-0.1
RIM	**Rim**	**0.31**	**103**		Pg	19 46 25.8	-0.1
SBLHI	**Steaming Bluff**	**0.31**	**97**		Pg	19 46 25.7	-0.2
SBLHI					Sg	19 46 30.3	+0.4
HUH	**Hualalai**	**0.31**	**314**		Pg	19 46 26.7	+0.8
HUH				IAML		19 46 30.9	
	comp=N,309nm,0.8s						
HUH				IAML		19 46 33.0	
	comp=E,324nm,0.4s						
HATHI	**Halema'uma'u T**	**0.32**	**97**	Pg	Pg	19 46 26.0	+0.1
HATHI				IAML		19 46 36.5	
	comp=N,290nm,0.7s						
KKO	**Keanakako'i**	**0.32**	**102**		Pg	19 46 25.6	-0.3
HLP	**Hilina Pali**	**0.32**	**122**	Pg	Pg	19 46 26.1	+0.1
HLP				IAML		19 46 26.9	
	comp=N,318nm,2.6s						
PUH	**Pauahi**	**0.37**	**104**	Pg	Pg	19 46 26.8	-0.1
PUH	**Pauahi**	**0.37**	**104**		Sg	19 46 32.4	+0.6
KNHH	**Kane Nui o Ham**	**0.41**	**102**		Pg	19 46 27.5	-0.3
STCH	**Steam Cracks**	**0.45**	**100**		Pg	19 46 28.0	-0.5
STCH					Sg	19 46 34.2	-0.2
NPOC	**North of Pu'u**	**0.47**	**99**		Pg	19 46 28.3	-0.4
NPOC					Sg	19 46 35.2	+0.4
JCUZ	**Jacuzzi**	**0.47**	**100**		Sg	19 46 35.6	+0.6
JOKA	**Jonika Flow**	**0.56**	**93**		Pg	19 46 30.1	-0.5

*IDC **28** 20:14:06.3±1.0,30˚.69N×103˚.37E,h0km,mb3.5/6, mbtmp3.5/7,ML3.5/1,Error ellipse: s-maj=36.1km s-min=20.4km az=57.0*
ISC 28 20:14:11.2±1.0,30˚.7N±0˚.1×103˚.4E±0˚.2,h35km,n7, σ0s98/7,mb3.6/6,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.84**	**199**	Pn	**Pn**	**20 17 11.4**	**0.0**
	0.1nm,0.3s,baz=22,slow=12,SNR=4.2 0.4nm,0.5s						
KSRS	**Korea Array**	**21.38**	**65**	P	**P**	**20 18 55.9**	**+0.2**
	2.5nm,0.7s,baz=246,slow=9.2,SNR=12 2.5nm,0.7s						
MKAR	**Makanchi Array**	**22.88**	**321**	P	**P**	**20 19 12.7**	**+1.1**
	0.4nm,0.8s,baz=121,slow=12,SNR=3.8 0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**27.18**	**324**	P	**P**	**20 19 52.2**	**+0.9**
	0.6nm,0.7s,baz=130,slow=9.1,SNR=3.0 0.6nm,0.7s						
WRA	**Warramunga Arr**	**58.50**	**145**	P	**P**	**20 24 04.2**	**0.0**
	1.0nm,0.8s,baz=337,slow=7.4,SNR=10 1.0nm,0.8s						
ASAR	**Alice Springs**	**61.48**	**148**	P	**P**	**20 24 24.8**	**+0.3**
	0.4nm,0.6s,baz=341,slow=6.7,SNR=5.2 0.4nm,0.6s						
NOA	**NORSAR Array B**	**64.65**	**327**	P	**P**	**20 24 43.9**	**-1.3**
	0.4nm,0.7s,baz=72,slow=7.0,SNR=1.6 0.4nm,0.7s						

*IDC **28** 20:14:33.9±3.0,6.34S×147.83E,h54km±27km,mb3.6/8, mbtmp3.8/11,ML3.7/2,MS3.2/2,Error ellipse: s-maj=34.6km s-min=16.5km az=90.0*
ISC 28 20:14:33.5±0.9,6.35S±0.07×147.8E±0.2,h51km,n13, σ1s18/15,mb3.7/8,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.10**	**192**	P	**Pn**	**20 15 20.1**	**+0.1**
	62nm,0.5s,baz=18,slow=14,SNR=21						
PMG				S	**Sn**	**20 15 57.4**	**+1.4**
	60nm,0.8s,baz=202,slow=20,SNR=3.6						
PMG				LR	LR	20 16 42.0	
	comp=Z,225nm,18.4s,baz=348,slow=41						
JAY	**Jayapura**	**8.04**	**298**	P	**Pn**	**20 16 28.9**	**+1.1**
	0.7nm,0.3s,baz=113,slow=10,SNR=6.2 3.5nm,0.7s						
WRA	**Warramunga Arr**	**18.81**	**223**	P	**P**	**20 18 48.9**	**-0.2**
	0.3nm,0.3s,baz=49,slow=11,SNR=21 0.9nm,0.5s						
ASAR	**Alice Springs**	**21.80**	**216**	P	**P**	**20 19 21.8**	**+0.3**
	3.8nm,0.6s,baz=53,slow=9.2,SNR=126						
ASAR				S	**S**	**20 23 16.6**	**-3.3**
	1.3nm,0.9s,baz=30,slow=23,SNR=6.0 3.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.57**	**240**	P	**P**	**20 19 49.6**	**+0.7**
	4.8nm,0.5s,baz=52,slow=9.0,SNR=31 4.8nm,0.5s						
STKA	**Stephens Creek**	**26.05**	**192**	P	**P**	**20 20 02.7**	**+0.5**
	1.2nm,0.6s,baz=16,slow=7.8,SNR=3.5						
STKA				LR	LR	20 31 34.9	
	comp=Z,86nm,18.4s,baz=24,slow=39						
MJAR	**Matsushiro Arr**	**43.60**	**349**	P	**P**	**20 22 32.5**	**-0.4**
	1.5nm,0.8s,baz=170,slow=8.0,SNR=4.6 1.5nm,0.8s						
PETK	**Petropavlovsk-**	**59.82**	**7**	P	**P**	**20 24 33.9**	**+0.3**
	1.2nm,0.7s,baz=187,slow=7.0,SNR=1.8 1.2nm,0.7s						
SONM	**Songino Array**	**65.10**	**331**	P	**P**	**20 25 08.8**	**-0.3**
	0.2nm,0.4s,baz=130,slow=4.5,SNR=1.9 0.2nm,0.4s						
MKAR	**Makanchi Array**	**78.27**	**320**	P	**P**	**20 26 27.3**	**-0.9**
	0.2nm,0.4s,baz=95,slow=9.7,SNR=4.5 0.2nm,0.4s						
ILAR	**Eielson Array**	**85.48**	**23**	P	**P**	**20 27 05.9**	**+0.3**
	0.2nm,0.6s,baz=264,slow=5.1,SNR=2.1 0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**145.95**	**284**	PKPbc	**PKPbc**	**20 34 08.3**	**-0.3**
	1.4nm,0.3s,baz=62,slow=4.2,SNR=1.4						
BDFB	**Brasilia**	**153.11**	**144**	PKPbc	**PKPbc**	**20 34 26.2**	**-0.5**
	1.5nm,0.5s,baz=187,slow=8.1,SNR=3.2						

*NEIC **28** 20:23:10.5±1.6,8.7S±0.2×114.5E±0.1,h99km±7km, mb4.4/16,Error ellipse: s-maj=31.5km s-min=6.6km az=210.0*
*DJA **28** 20:23:10.0±0.2,9˚.S±3˚×11˚.5E±˚,h58km±7km,M4.7/25, mB5.3/10,mb4.9/18,MLv4.7/25,Mw(mB)4.7/10*
*IDC **28** 20:23:11.1±1.9,8˚.63S×114˚.71E,h102km±16km,mb3.8/13, mbtmp4.2/16,MS2.5/1,Error ellipse: s-maj=21.8km s-min=12.1km az=54.0*
ISC 28 20:23:10.0±0.7,9.04S±0.05×114.55E±0.04,h88km±6km, n106,σ1s89/120,mb4.2/18,South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**0.69**	**325**		**Pn**	**20 23 25.6**	**-0.6**
JAGI				Sn	**Sn**	**20 23 37.4**	**-0.9**
JAGI	**Jajag, Banyuwa**	**0.69**	**325**	P	**Pn**	**20 23 25.7**	**-0.6**
JAGI	**Jajag, Banyuwa**	**0.69**	**325**	P	**Pn**	**20 23 25.8**	**-0.4**
JAGI				S	**Sn**	**20 23 36.7**	**-1.6**
SRBI	**Singaraja**	**1.16**	**35**	P	**Pn**	**20 23 32.5**	**+1.1**
SRBI				S	**Sn**	**20 23 48.5**	**+1.1**
GMJI	**Gumukmas**	**1.33**	**305**	P	**Pn**	**20 23 33.6**	**+0.1**
GMJI				S	**Sn**	**20 23 50.4**	**-0.9**
KMMI	**Kalianget**	**2.06**	**344**	P	**Pn**	**20 23 43.7**	**+0.8**
KMMI				S	**Sn**	**20 24 09.8**	**+1.7**
GRJI	**Gresik**	**2.94**	**316**	P	**Pn**	**20 23 55.1**	**+0.4**
PLAI	**Plampang**	**3.20**	**86**	P	**Pn**	**20 24 00.3**	**+2.2**
PLAI	**Plampang**	**3.20**	**86**	P	**Pn**	**20 24 00.9**	**+2.8**
PCJI	**Pacitan**	**3.44**	**284**	P	**Pn**	**20 24 01.7**	**+0.3**
PCJI				S	**Sn**	**20 24 41.5**	**+0.4**
TBJI	**Tambak Boyo**	**3.47**	**309**	P	**Pn**	**20 24 03.1**	**+1.3**
TBJI				S	**Sn**	**20 24 43.3**	**+1.4**
NGJI	**Ngawi**	**3.48**	**298**	P	**Pn**	**20 24 03.6**	**+1.7**
NGJI				S	**Sn**	**20 24 43.1**	**+1.0**
BWJI	**Bawean**	**3.68**	**329**	P	**Pn**	**20 24 05.4**	**+0.7**
WOJI	**Wonogiri, Jawa**	**3.78**	**288**	P	**Pn**	**20 24 06.6**	**+0.6**
WOJI				S	**Sn**	**20 24 50.5**	**+1.0**
UGM	**Wanagama**	**4.14**	**285**		**Pn**	**20 24 11.4**	**+0.5**
UGM	**Wanagama**	**4.14**	**285**	P	**Pn**	**20 24 11.4**	**+0.5**
UGM	**Wanagama**	**4.14**	**285**	P	**Pn**	**20 24 11.3**	**+0.4**
UGM				S	**Sn**	**20 24 58.5**	**+0.3**
WBSI	**Waikabubak, Su**	**4.82**	**97**	P	**Pn**	**20 24 18.5**	**-1.6**
WSI	**Waingapu**	**5.71**	**97**	P	**Pn**	**20 24 32.7**	**+0.5**
WSI				S	**Sn**	**20 25 37.3**	**+0.9**
BASI	**Baing, Sumba**	**6.06**	**102**	P	**Pn**	**20 24 38.4**	**+1.4**
	148nm,0.8s						
KAPI	**Kappang**	**6.53**	**53**		**Pn**	**20 24 45.0**	**+1.5**
KAPI	**Kappang**	**6.53**	**53**	P	**Pn**	**20 24 44.5**	**+1.0**
	56nm,0.3s,baz=238,slow=4.0,SNR=40						
KAPI				S	**Sn**	**20 25 51.8**	**-4.8**
	22nm,0.6s,baz=77,slow=23,SNR=1.5						
KAPI				LR	LR	20 26 42.0	
	comp=Z,41nm,20.7s,baz=286,slow=34						
KAPI	**Kappang**	**6.53**	**53**	P	**Pn**	**20 24 45.0**	**+1.5**
BSSI	**Bau Bau, Buton**	**6.56**	**64**	P	**Pn**	**20 24 45.5**	**+1.7**
BKSI	**Bulukumba**	**6.65**	**57**	P	**Pn**	**20 24 46.4**	**+1.3**
	0.4nm2µm84nm,0.8s						
BBJI	**Bungbulang**	**7.01**	**282**	P	**Pn**	**20 24 49.8**	**-0.2**
EDFI	**Ende, Flores**	**7.06**	**88**	P	**Pn**	**20 24 50.1**	**-0.7**
	0.2nm1µm39nm,0.6s						
EDFI				S	**Sn**	**20 26 10.9**	**+1.2**
	0.2nm1µm39nm,0.6s						
BNSI	**Bone**	**7.19**	**50**	P	**Pn**	**20 24 55.3**	**+2.8**
	3µm172nm,0.5s						
BNSI				S	**Sn**	**20 26 16.6**	**+3.9**
	3µm172nm,0.5s						
LEM	**Lembang**	**7.21**	**287**	P	**Pn**	**20 24 54.8**	**+1.9**
	15nm,0.5s,baz=104,slow=8.3,SNR=2.0						
SPSI	**Sidrap Palu**	**7.24**	**46**	P	**Pn**	**20 24 54.7**	**+1.6**
	0.1nm22nm,0.4s						
CNJI	**Cibinong**	**7.54**	**283**	P	**Pn**	**20 24 57.3**	**0.0**
MMRI	**Maumere**	**7.61**	**88**		**Pn**	**20 24 57.4**	**-0.8**
MMRI	**Maumere**	**7.61**	**88**	P	**Pn**	**20 24 57.7**	**-0.5**
MMRI	**Maumere**	**7.61**	**88**	P	**Pn**	**20 24 57.4**	**-0.8**
	0.2nm65nm,0.9s						
TTSI	**Tana Toraja**	**7.93**	**42**	P	**Pn**	**20 25 05.6**	**+3.0**
	38nm,0.8s						
XMI	**Christmas Isla**	**8.84**	**260**	P	**Pn**	**20 25 13.1**	**-2.0**
BATI	**Baumata**	**9.06**	**98**	P	**Pn**	**20 25 16.9**	**-1.1**
	12nm,0.3s,baz=261,slow=2.3,SNR=9.8						
BATI				S	**Sn**	**20 26 54.5**	**-3.9**
	17nm,0.3s,baz=19,slow=23,SNR=8.1						
BATI	**Baumata**	**9.06**	**98**	P	**Pn**	**20 25 17.5**	**-0.5**
	29nm,0.6s						
CGJI	**Cibinong**	**9.10**	**285**	P	**Pn**	**20 25 18.0**	**-0.5**
STKI	**Sintang**	**9.55**	**341**	P	**Pn**	**20 25 26.1**	**+1.4**
SOEI	**Soe**	**9.62**	**95**	P	**Pn**	**20 25 26.6**	**+0.9**
SOEI	**Soe**	**9.62**	**95**	P	**Pn**	**20 25 26.4**	**+0.7**
MNAI	**Manna**	**12.42**	**291**	Pn	**Pn**	**20 26 01.1**	**-2.5**
MNAI	**Manna**	**12.42**	**291**	P	**Pn**	**20 26 01.7**	**-1.9**
MBWA	**Marble Bar**	**13.04**	**158**		**Pn**	**20 26 11.5**	**-0.4**
MBWA	**Marble Bar**	**13.04**	**158**	P	**Pn**	**20 26 12.2**	**+0.3**
PSA00	**Pilbara Seismi**	**13.46**	**158**	P	**Pn**	**20 26 18.5**	**+1.1**
GIRL	**Giralia**	**13.53**	**181**	Pn	**Pn**	**20 26 17.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**14.04**	**131**	Pn	**Pn**	**20 26 25.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**14.04**	**131**	P	**Pn**	**20 26 25.7**	**+0.8**
	6.1nm,0.6s,baz=319,slow=8.0,SNR=40						
FITZ				S	**Sn**	**20 28 51.3**	**-8.1**
	7.9nm,0.4s,baz=177,slow=19,SNR=12						
KKM	**Kota Kinabalu**	**15.08**	**6**		**Pn**	**20 26 39.3**	**+0.8**
KNRA	**Kununurra**	**15.37**	**117**		**Pn**	**20 26 41.0**	**-1.0**
KNRA				IAmb	IAmb	20 26 47.7	
	comp=Z,9.8nm,0.5s						
MTN	**Manton Dam**	**16.71**	**105**		**Pn**	**20 26 58.3**	**-0.5**
MTN				IAmb	IAmb	20 27 03.4	
	comp=Z,16nm,0.5s						
MTN	**Manton Dam**	**16.71**	**105**	P	**P**	**20 27 00.5**	**+0.8**
MEEK	**Meekatharra**	**17.92**	**168**	P	**Pn**	**20 27 15.5**	**+2.0**
FAKI	**Fak Fak**	**18.62**	**72**	P	**P**	**20 27 19.2**	**-1.4**
FAKI				IAmb	IAmb	20 27 25.8	
	comp=Z,52nm,1.2s						
MORW	**Morawa**	**19.97**	**176**	P	**Pn**	**20 27 38.8**	**+1.0**
BLDU	**Balliduu**	**21.56**	**175**	P	**P**	**20 27 54.9**	**+2.6**
WB0	**Warramunga Arr**	**21.95**	**121**		**P**	**20 27 57.4**	**+0.7**
WRA	**Warramunga Arr**	**21.98**	**122**	P	**P**	**20 27 57.5**	**+0.5**
WRA	**Warramunga Arr**	**21.98**	**122**	P	**P**	**20 27 57.8**	**+0.8**
	comp=Z,6.5nm,0.5s,baz=291,slow=12,SNR=143						
WRA				PcP	**PcP**	**20 31 51.7**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=280,slow=5.1,SNR=2.7						
WRA				ScP	**ScP**	**20 35 19.0**	**-3.2**
	comp=Z,0.6nm,0.3s,baz=310,slow=2.0,SNR=2.4 comp=Z,6.5nm,0.5s						
WRAB	**Tennant Creek**	**21.99**	**122**	P	**P**	**20 27 57.0**	**-0.1**
WRAB				IAmb	IAmb	20 27 59.9	
	comp=Z,9.1nm,0.5s						
WR8	**Warramunga Arr**	**22.12**	**122**		**P**	**20 27 59.3**	**+0.8**
WR8				IAmb	IAmb	20 28 02.5	
	comp=Z,7

QSPA	**South Pole Qui**	**80.95**	**180**	P	**P**	**20 35 15.3 +0.6**
QSPA				IAmb	IAmb	20 35 23.1
	comp=Z,6.6nm,1.4s					
QSPA	**South Pole Qui**	**80.95**	**180**	P	**P**	**20 35 16.1 +1.4**
	comp=Z,1.1nm,0.7s,baz=333,slow=2.3,SNR=12					
	comp=Z,1.1nm,0.7s					
BOSA	**Boshof**	**85.12**	**242**	P	**P**	**20 35 38.2 +1.2**
	comp=Z,1.1nm,0.4s,baz=124,slow=2.0,SNR=7.1					
	comp=Z,1.1nm,0.4s					
BRTR	**Keskin Array B**	**88.80**	**310**	P	**P**	**20 35 52.5 -2.1**
	comp=Z,1.1nm,0.8s,baz=104,slow=5.2,SNR=6.8					
	comp=Z,1.1nm,0.8s					
SNAA	**Sanae**	**89.75**	**196**	P	**P**	**20 36 00.0 +1.7**
	comp=Z,1.0nm,0.4s,baz=135,slow=1.4,SNR=15					
	comp=Z,1.0nm,0.4s					
TXAR	**Lajitas Array**	**138.91**	**55**	SKPbc	**SKPbc**	**20 45 50.9 -3.5**
	comp=Z,0.3nm,0.6s,baz=325,slow=2.5,SNR=6.4					
CPUP	**Villa Florida**	**143.96**	**192**	PKP	**PKPdf**	**20 42 35.2 -0.9**
	comp=Z,0.7nm,0.7s,baz=211,slow=3.3,SNR=7.3					
BDFB	**Brasilia**	**150.00**	**215**	PKPbc	**PKiKP**	**20 42 52.3 -0.1**
	comp=Z,1.9nm,0.5s,baz=82,slow=8.9,SNR=3.1					
LPAZ	**La Paz**	**154.69**	**174**	PKPab	**PKPab**	**20 43 19.4 +1.9**
	comp=Z,2.0nm,0.4s,baz=172,slow=3.3,SNR=10					

*SOME **28** 20:28:11.3, 38°.93N×71°.98E, h0km*
*NNC **28** 20:28:15.0±16.0, 38°.30N×72°.15E, h0km, mb3.9, mpv3.8,*
Error ellipse: s-maj=140.3km s-min=83.5km az=155.0

ISC 28 20:28:13.4±4.0, 38°.2N±0°.2×71°.9E±0°.2, h10km, n5, σ1°89/8, 1C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**4.69**	**12**	*e*P	**Pn**	**20 29 25.2**	**+0.8**
	1.9nm,0.3s						
MRKS				*e*S	**Sn**	**20 30 18.2**	**-0.8**
	16nm,0.4s						
AAK	**Ala-Archa**	**4.89**	**23**	⇑S	**Sn**	**20 30 23.0**	**-0.9**
	3.5nm,0.6s						
KK31	**Karatay Array**	**5.06**	**348**	⇓P	**Pn**	**20 29 32.0**	**+2.6**
	4.1nm,0.3s,baz=152,slow=11,SNR=145						
KK31				S	**Sn**	**20 30 30.0**	**+2.1**
	3.0nm,0.3s,baz=171,slow=24,SNR=23						
BRLS	**Borolday**	**5.13**	**343**	*e*P	**Pn**	**20 29 30.4**	**+0.1**
	17nm,0.2s						
BRLS				*e*S	**Sn**	**20 30 27.7**	**-1.9**
	4.7nm,0.2s						
AB31	**Akbulak array**	**14.06**	**326**	⇓P	**Pn**	**20 31 31.4**	**-1.2**
	0.7nm,0.6s						

*IDC **28** 20:36:42.9±1.4, 0°.59N×126°.38E, h0km, mb3.9/5,*
mbtmp3.9/6, ML3.0/1, Error ellipse: s-maj=110.6km
s-min=19.6km az=67.0

ISC 28 20:36:48.3±1.5, 0°.5N±0°.3×126°.2E±0°.6, h35km, n6, σ0°94/6, mb3.9/5, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.44**	**182**	P	**P**	**20 41 00.3**	**-0.7**
	baz=5.2,slow=11,SNR=2.3						
	1.4nm,0.9s						
WRA	**Warramunga Arr**	**21.80**	**159**	P	**P**	**20 41 36.6**	**-0.9**
	2.2nm,0.7s,baz=339,slow=11,SNR=16						
	2.2nm,0.7s						
ASAR	**Alice Springs**	**25.13**	**163**	P	**P**	**20 42 11.5**	**+1.2**
	3.5nm,1.0s,baz=342,slow=9.7,SNR=6.1						
	3.5nm,1.0s						
STKA	**Stephens Creek**	**35.33**	**157**	P	**P**	**20 43 40.5**	**+0.1**
	2.2nm,0.9s,baz=325,slow=12,SNR=3.0						
	2.2nm,0.9s						
MKAR	**Makanchi Array**	**59.92**	**327**	P	**P**	**20 46 51.0**	**0.0**
	0.4nm,0.4s,baz=125,slow=7.7,SNR=5.6						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.19**	**328**	P	**P**	**20 47 19.3**	**-0.2**
	0.5nm,0.3s,baz=132,slow=6.2,SNR=4.8						
	0.5nm,0.3s						

*BEO **28** 20:43:33.6±0.3, 43°.27N×17°.79E, h0km±2km, ML2.5/14*
*RHSSO **28** 20:43:33.5±0.2, 43°.24N×17°.88E, h6km±2km, ML2.7/12*
*PDG **28** 20:43:33.4±0.2, 43°.22N×17°.86E, h11km, MD2.7/1,*
ML2.6/12, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0
*VIE **28** 20:43:37.6±1.2, 43°.48N×17°.93E, h8km, mb2.6/5, ml2.3/7,*
Error ellipse: s-maj=13.0km s-min=11.7km az=48.0 55
km SW of Sarajevo

ISC 28 20:43:33.3±1.0, 43°.20N±0°.02×17°.83E±0°.02, h9km±9km, n71, σ1°48/120, 5C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.34**	**196**	⇑*i*Pg	**Pb**	**20 43 40.3**	**-1.2**
STON				*e*Sg	**Sb**	**20 43 46.6**	**-0.5**
STON	**Ston**	**0.34**	**196**	*e*Pg	**Pb**	**20 43 40.4**	**-1.1**
STON				*e*Sg	**Sb**	**20 43 46.5**	**-0.5**
STON	**Ston**	**0.34**	**196**	*e*Pg	**Pb**	**20 43 40.4**	**-1.1**
STON				Sg	**Sb**	**20 43 46.7**	**-0.3**
KLINJ	**Klinje**	**0.55**	**93**	*e*Pg	**Pg**	**20 43 43.0**	**-1.0**
KLINJ				*e*Sg	**Sg**	**20 43 51.1**	**-0.2**
DBRK	**Dubrovnik**	**0.58**	**156**	*e*Pg	**Pb**	**20 43 44.6**	**-1.0**
DBRK				Sg	**Sb**	**20 43 54.1**	**+0.1**
RICI	**Ricice**	**0.59**	**300**	*e*Pg	**Pg**	**20 43 44.1**	**-0.6**
MAKA	**Makarska**	**0.60**	**279**	*e*Pg	**Pg**	**20 43 44.3**	**-0.6**
BRY	**Bratogost**	**0.60**	**120**	⇑*i*Pg	**Pg**	**20 43 44.2**	**-0.7**
BRY				*i*Sg	**Sb**	**20 43 53.9**	**-0.7**
TREB	**Trebinje**	**0.62**	**142**	*e*Pg	**Pg**	**20 43 44.6**	**-0.6**
TREB				*e*Sg	**Sb**	**20 43 54.4**	**-0.6**
TREB	**Trebinje**	**0.62**	**142**	*e*Pg	**Pb**	**20 43 44.9**	**-1.3**
TREB				Sg	**Sb**	**20 43 54.6**	**-0.4**
UPM	**Unac-Piva**	**0.79**	**90**	⇓*i*Pg	**Pg**	**20 43 47.6**	**-0.9**
UPM				*i*Sg	**Sb**	**20 44 00.0**	**-0.1**
LSTV	**Lastovo**	**0.81**	**238**	*e*Pg	**Pg**	**20 43 48.4**	**-0.6**
HCY	**Herceg Novi**	**0.90**	**147**	⇓*i*Pg	**Pb**	**20 43 50.3**	**-0.7**
HCY				*i*Sg	**Sn**	**20 44 04.5**	**-0.7**
NKME	**Niksic**	**0.93**	**117**	⇓*i*Pg	**Pg**	**20 43 50.2**	**-1.0**
NKME				*i*Sg	**Sn**	**20 44 05.1**	**-1.0**
HVAR	**Hvar**	**1.01**	**269**	*e*Pg	**Pb**	**20 43 51.6**	**-1.3**
CEME	**Cevo**	**1.03**	**129**	⇓*i*Pg	**Pg**	**20 43 52.2**	**-0.9**
CEME				*i*Sg	**Sn**	**20 44 08.2**	**-0.4**
PLE	**Pljevlja**	**1.15**	**83**	*e*Pg	**Pb**	**20 43 54.3**	**-1.0**
PLE				*i*Sg	**Sn**	**20 44 11.8**	**+0.3**
BUM	**Brajici-Budva**	**1.19**	**139**	*e*Pg	**Pg**	**20 43 55.5**	**-0.7**
BUM				*i*Sg	**Sn**	**20 44 14.0**	**+1.5**
RUDO	**Rudo**	**1.20**	**69**	*e*Pg	**Pn**	**20 43 54.3**	**-1.9**
RUDO				*e*Sg	**Sb**	**20 44 09.6**	**-2.1**
RUDO	**Rudo**	**1.20**	**69**	*e*Pg	**Pn**	**20 43 54.5**	**-1.7**
RUDO				*e*Sg	**Sb**	**20 44 10.8**	**-0.9**
KOME	**Kolasin**	**1.28**	**105**	⇑*i*Pg	**Pb**	**20 43 56.9**	**-0.8**
KOME				*i*Sg	**Sg**	**20 44 16.6**	**+2.0**
PDG	**Podgorica**	**1.30**	**126**	*e*Pg	**Pg**	**20 43 58.5**	**+0.2**
PDG				*e*Sg	**Sg**	**20 44 17.9**	**+2.8**
PDG	**Podgorica**	**1.30**	**126**	⇓*i*Pg	**Pb**	**20 43 57.3**	**-0.6**
PDG				*i*Sg	**Sg**	**20 44 17.3**	**+2.2**
KIJV	**Kijevo**	**1.31**	**308**	⇑*i*Pg	**Pn**	**20 43 56.4**	**-1.4**
KIJV				*e*Sg	**Sn**	**20 44 15.5**	**+0.1**
KIJV	**Kijevo**	**1.31**	**308**	*e*Pg	**Pn**	**20 43 57.1**	**-0.7**
BBLS	**Lazi&#263i**	**1.32**	**59**	*e*Pg	**Pn**	**20 43 57.6**	**-0.4**
BBLS				*e*Sg	**Sb**	**20 44 14.8**	**-0.6**
VINV	**Vinovac**	**1.35**	**287**	*e*Pg	**Pn**	**20 43 57.2**	**-1.1**
VINV				Sg	**Sg**	**20 44 17.4**	**+0.7**
DRME	**Dracevica, Mon**	**1.42**	**135**	⇓*i*Pg	**Pg**	**20 43 59.5**	**-1.1**
DRME				*i*Sg	**Sg**	**20 44 21.3**	**+2.3**
DOB	**Doboj**	**1.54**	**7**	*e*Pg	**Pn**	**20 44 01.6**	**-0.3**
DOB				*e*Sg	**Sn**	**20 44 21.3**	**+0.2**
IVA	**Berane**	**1.55**	**102**	*e*Pg	**Pb**	**20 44 01.5**	**-0.7**
IVA				*i*Sg	**Sg**	**20 44 24.0**	**+0.9**
SJES	**Sjenica**	**1.57**	**87**	*e*Pg	**Pb**	**20 44 02.1**	**-0.4**
SJES				*e*Sg	**Sg**	**20 44 25.3**	**+1.6**
A050A	**Klekovaca**	**1.59**	**324**	*e*Pn	**Pn**	**20 44 01.8**	**+0.2**
A050A				*e*Sn	**Sb**	**20 44 23.7**	**+0.7**
BLY	**Banja Luka**	**1.62**	**343**	⇑*i*Pn	**Pn**	**20 44 02.5**	**+0.6**
BLY				*e*Sn	**Sn**	**20 44 23.3**	**+0.4**
BLY	**Banja Luka**	**1.62**	**343**	*e*Pg	**Pb**	**20 44 02.8**	**-0.5**
BLY				*e*Sg	**Sb**	**20 44 24.8**	**+1.1**
ULC	**Ulcinj**	**1.62**	**139**	*e*Pn	**Pg**	**20 44 03.0**	**-1.3**
ULC				*i*Sn	**Sg**	**20 44 26.2**	**+0.9**
TEKS	**Tekeris**	**1.82**	**42**	*e*Pg	**Pn**	**20 44 05.2**	**+0.4**
TEKS				*e*Sg	**Sb**	**20 44 30.2**	**+0.5**
A051A	**Mrakovica**	**1.93**	**340**	*e*Pn	**Pn**	**20 44 06.8**	**+0.5**
A051A				*e*Sn	**Sn**	**20 44 30.8**	**+0.1**
UDBI	**Udbina**	**2.00**	**312**	*e*Pn	**Pb**	**20 44 10.5**	**+0.7**
UDBI				Sn	**Sg**	**20 44 36.8**	**-0.7**
TRUS	**Trudelj**	**2.13**	**60**	*e*Pn	**Pn**	**20 44 09.3**	**+0.3**
TRUS				*e*Sn	**Sb**	**20 44 37.7**	**-0.8**
DUGI	**Dugi Otok**	**2.16**	**292**	*e*Pn	**Pb**	**20 44 11.4**	**-1.2**
GRUS	**Gruza**	**2.21**	**71**	*e*Pn	**Pn**	**20 44 10.9**	**+0.8**
GRUS				*e*Sn	**Sb**	**20 44 39.6**	**-1.2**
VIRC	**Vir**	**2.29**	**299**	*e*Pn	**Pb**	**20 44 14.3**	**-0.4**
VIRC				Sn	**Sb**	**20 44 42.5**	**-0.6**
PLIT	**Plitvice**	**2.31**	**317**	*e*Pn	**Pb**	**20 44 14.7**	**-0.4**
SELS	**Selova**	**2.41**	**88**	*e*Pn	**Pn**	**20 44 14.1**	**+1.3**
SELS				*e*Sn	**Sb**	**20 44 45.4**	**-1.1**
FRGS	**Fruska Gora**	**2.42**	**35**	*e*Pn	**Pn**	**20 44 14.1**	**+1.1**
FRGS				*e*Sn	**Sn**	**20 44 44.0**	**+1.3**
MOSL	**Moslavina**	**2.53**	**343**	*e*Pn	**Pn**	**20 44 14.5**	**-0.1**
MOSL				*e*Sn	**Sn**	**20 44 46.0**	**+0.5**
MOSL	**Moslavina**	**2.53**	**343**	*e*Pn	**Pn**	**20 44 15.8**	**+1.2**
NVLJ	**Novalja**	**2.54**	**303**	*e*Pn	**Pn**	**20 44 16.6**	**+2.0**
NVLJ				Sn	**Sb**	**20 44 48.2**	**-1.9**
BOVS	**Bovan**	**2.86**	**80**	*e*Pn	**Pn**	**20 44 20.9**	**+1.9**
BOVS				*e*Sn	**Sn**	**20 44 55.2**	**+1.7**
BARS	**Barje**	**2.95**	**96**	*e*Pn	**Pn**	**20 44 22.4**	**+2.1**
BARS				*e*Sn	**Sb**	**20 44 58.4**	**-3.7**
OZLJ	**Ozalj**	**2.95**	**326**	*e*Pn	**Pn**	**20 44 21.3**	**+1.1**
OZLJ				*e*Sn	**Sn**	**20 44 56.5**	**+0.8**
OZLJ	**Ozalj**	**2.95**	**326**	*e*Pn	**Pn**	**20 44 22.7**	**+2.5**
PTJ	**Puntijarka**	**3.02**	**334**	*e*Pn	**Pn**	**20 44 22.7**	**+1.4**
MORH	**Mrgy, Hungar**	**3.07**	**11**	*e*Pn	**Pn**	**20 44 21.4**	**-0.5**
MORH				*e*Sn	**Sn**	**20 44 58.2**	**-0.5**
KALN	**Kalnik**	**3.09**	**342**	*e*Pn	**Pn**	**20 44 22.8**	**+0.5**
LOBO	**Lobor**	**3.21**	**338**	*e*Pn	**Pn**	**20 44 24.9**	**+1.0**
ZAGS	**Zajecar**	**3.26**	**78**	*e*Pn	**Pn**	**20 44 25.8**	**+1.3**
ZAGS				*e*Sn	**Sn**	**20 45 05.6**	**+2.2**
BEHE	**Becsehely**	**3.35**	**347**	*e*Pn	**Pn**	**20 44 26.1**	**+0.3**
BEHE				*e*Sn	**Sn**	**20 45 05.2**	**-0.5**
DOBS	**Dobrina**	**3.40**	**331**	*i*Pn	**Pn**	**20 44 28.0**	**+1.6**
BRJN	**Brijuni**	**3.40**	**301**	*e*Pn	**Pn**	**20 44 27.4**	**+1.0**
BRJN				*e*Sn	**Sn**	**20 45 07.7**	**+0.9**
PERS	**Pernice**	**3.94**	**332**	*i*Pn	**Pn**	**20 44 35.2**	**+1.3**
SOKA	**Soboth**	**4.00**	**331**	*e*Pn	**Pn**	**20 44 36.6**	**+1.8**
	2.8nm,0.4s						
OBKA	**Obir**	**4.05**	**326**	*e*Pn	**Pn**	**20 44 38.3**	**+2.9**
	0.3nm,0.1s						
CADS	**Cadrg**	**4.20**	**317**	*i*Pn	**Pn**	**20 44 40.0**	**+2.4**
ARSA	**Arzberg**	**4.36**	**339**	*e*Pn	**Pn**	**20 44 40.9**	**+1.1**
	0.5nm,0.2s						
CONA	**Conrad Observa**	**4.92**	**344**	*e*Pn	**Pn**	**20 44 49.5**	**+2.0**
	0.1nm,0.2s						
CONA				*e*Sn	**Sn**	**20 45 44.0**	**-0.6**
	1.9nm,0.4s						
MODS	**Modra-Piesok**	**5.19**	**356**	*e*PN	**Pn**	**20 44 53.0**	**+2.0**
MODS				*e*SN	**Sn**	**20 45 42.7**	**-8.3**
MOA	**Molln**	**5.28**	**333**	*e*Pn	**Pn**	**20 44 54.5**	**+2.2**
	0.5nm,0.2s						
VYHS	**Vyhne**	**5.34**	**7**	*e*PN	Pn	20 44 58.5	+5.4
VYHS				*e*SN	**Sn**	**20 45 56.9**	**+2.2**
BIOA	**Bad Ischl, Aus**	**5.37**	**328**	*e*Pn	**Pn**	**20 44 55.7**	**+2.1**
	1.1nm,0.4s						
LESA	**Schwarzleotal**	**5.57**	**321**	*e*Pn	**Pn**	**20 44 58.5**	**+2.1**
	1.5nm,0.4s						

IDC 28 20:47:06.2±434.0, 0°.36N×78°.06W, h0km, Error ellipse: s-maj=239.7km s-min=156.3km az=17.0, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I20EC	**Galapagos**	**12.35**	**266**	I	I	22 00 40.0	
	baz=86,slow=318,SNR=1.7						
I08BO	**LAS PENAS INFR**	**19.00**	**151**	I	I	22 42 10.0	
	baz=329,slow=324,SNR=3.3						
I09BR	**BRASILIA INFRA**	**33.66**	**120**	I	I	00 12 30.0	
	baz=297,slow=316,SNR=2.0						

*HEL **28** 20:56:24.7, 67°.16N×20°.50E, h0km, ML2.5, ML3.0(UPP),*
Confirmed Induced event Hypocentre not reviewed by the
ISC
*DNK **28** 20:56:25.9±0.5, 67°.17N×20°.64E, h0km, ML3.0(UPP),*
Suspected explosion
*UPP **28** 20:56:25.5±0.1, 67°.18N×20°.63E, h0km, ML3.0, Confirmed*
Induced event
*HEL **28** 20:56:26.1±0.1, 67°.17N×20°.69E, h1km, ML2.5,*
ML3.0(UPP), ML2.8(BER), Confirmed Induced event
Hypocentre not reviewed by the ISC
*IDC **28** 20:56:26.0±0.8, 67°.14N×20°.93E, h0km, mbtmp3.4/6,*
ML2.9/6, Error ellipse: s-maj=13.1km s-min=6.9km
az=109.0
*BER **28** 20:56:28.3±2.2, 67°.17N×20°.51E, h0km±15km, ML2.8,*
Confirmed Induced event

ISC 28 20:56:24.8±0.7, 67°.16N±0°.02×20°.62E±0°.02, h0km, n39, σ1°09/57, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.61**	**60**	P	**Pg**	**20 56 27.0**	**+0.6**
MASU				S	**Sg**	**20 56 45.2**	**+0.9**
MASU	**Masugnsbyn**	**0.61**	**60**	P	**Pg**	**20 56 37.0**	**+0.6**
MASU				S	**Sg**	**20 56 45.2**	**+0.9**
MASU	**Masugnsbyn**	**0.61**	**60**	*i*P		20 56 37.0	
MASU				*i*S		20 56 45.2	
RATU	**Laukkuluspa**	**0.77**	**330**	P	**Pg**	**20 56 39.8**	**+0.2**
RATU				S	**Sg**	**20 56 50.1**	**+0.5**
RATU	**Laukkuluspa**	**0.77**	**330**	P	**Pg**	**20 56 39.8**	**+0.2**
RATU				S	**Sg**	**20 56 50.1**	**+0.5**
RATU	**Laukkuluspa**	**0.77**	**330**	*i*P		20 56 39.8	
RATU				*i*S		20 56 50.1	
KUA	**Kurravaara**	**0.80**	**352**	P	**Pg**	**20 56 40.1**	**0.0**
KUA				S	**Sg**	**20 56 51.1**	**+0.6**
KUA	**Kurravaara**	**0.80**	**352**	P	**Pg**	**20 56 40.1**	**0.0**
KUA				S	**Sg**	**20 56 51.1**	**+0.6**
KUA	**Kurravaara**	**0.80**	**352**	*i*P		20 56 40.1	
KUA				*i*S		20 56 51.1	
SALU	**Saltoluokta**	**0.85**	**286**	P	**Pg**	**20 56 41.7**	**+0.7**
SALU				S	**Sg**	**20 56 53.2**	**+1.1**
SALU	**Saltoluokta**	**0.85**	**286**	*e*P	**Pg**	**20 56 41.7**	**+0.7**
SALU				*e*S	**Sg**	**20 56 52.7**	**+0.6**
SALU	**Saltoluokta**	**0.85**	**286**	P	**Pg**	**20 56 41.7**	**+0.7**
SALU				S	**Sg**	**20 56 53.2**	**+1.1**
SALU	**Saltoluokta**	**0.85**	**286**	*i*P		20 56 41.7	
SALU				*i*S		20 56 53.2	
ERTU	**Ertsjaerv**	**0.87**	**134**	P	**Pg**	**20 56 41.8**	**+0.4**
ERTU				S	**Sg**	**20 56 53.6**	**+1.0**
ERTU	**Ertsjaerv**	**0.87**	**134**	P	**Pg**	**20 56 41.8**	**+0.4**
ERTU				S	**Sg**	**20 56 53.6**	**+1.0**
ERTU	**Ertsjaerv**	**0.87**	**134**	*e*P		20 56 41.1	
ERTU				*e*SB		20 56 53.7	
NIKU	**Nikkaluokta**	**0.94**	**320**	P	**Pg**	**20 56 42.8**	**+0.2**
NIKU	**Nikkaluokta**	**0.94**	**320**	P	**Pg**	**20 56 42.8**	**+0.2**
NIKU	**Nikkaluokta**	**0.94**	**320**	*e*P		20 56 42.8	
PAJU	**Pajala**	**0.98**	**97**	P	**Pg**	**20 56 43.7**	**+0.1**
PAJU	**Pajala**	**0.98**	**97**	P	**Pg**	**20 56 43.7**	**+0.1**
PAJU	**Pajala**	**0.98**	**97**	*e*P		20 56 43.0	
PAJU				*e*SB		20 56 57.3	
HARU	**Harads**	**1.01**	**172**	P	**Pg**	**20 56 44.5**	**+0.4**
HARU	**Harads**	**1.01**	**172**	P	**Pg**	**20 56 44.5**	**+0.4**
HARU	**Harads**	**1.01**	**172**	*e*P		20 56 44.5	
LANU	**Lannavaara**	**1.03**	**30**	P	**Pg**	**20 56 44.3**	**-0.2**
LANU	**Lannavaara**	**1.03**	**30**	P	**Pg**	**20 56 44.3**	**-0.2**
LANU	**Lannavaara**	**1.03**	**30**	*e*P		20 56 44.1	
LANU				*e*SB		20 56 58.2	
HEF	**Hetta**	**1.70**	**41**	*e*P		20 56 55.3	
HEF				MSG		20 57 16.8	
	comp=Z,26nm,0.2s						
HEF				*e*S		20 57 18.1	
KIF	**Kilpisjarvi**	**1.85**	**2**	*e*P	**Pn**	**20 56 59.0**	**+1.3**
KIF				*e*S	**Sg**	**20 57 24.4**	**+0.3**
KIF	**Kilpisjarvi**	**1.85**	**2**	*e*P		20 56 58.8	
KIF				MSG		20 57 21.5	
	comp=Z,146nm,0.2s						
KIF				*e*SG		20 57 24.4	
FAUS	**Fauske**	**2.08**	**279**	*e*P	**Pb**	**20 57 02.8**	**-0.5**
FAUS				*e*Sg	**Sg**	**20 57 31.8**	**+0.2**
FAUS				IAML		20 57 35.0	
	comp=Z,151nm,0.4s						
FAUS	**Fauske**	**2.08**	**279**	*e*P		20 57 02.8	
FAUS				*e*SG		20 57 31.8	
FAUS				IAML		20 57 35.0	
	comp=Z,151nm,0.4s						
KTK1	**Kautokeino**	**2.10**	**27**	*e*P	**Pn**	**20 57 02.6**	**+1.5**
KTK1				*e*S	**Sb**	**20 57 29.9**	**-0.3**
KTK1				IAML		20 57 33.7	
	comp=Z,98nm,0.3s						
KTK1	**Kautokeino**	**2.10**	**27**	*e*PB		20 57 02.8	
KTK1				*e*SG		20 57 30.5	
RNF	**Rovaniemi**	**2.20**	**102**	*e*P		20 57 03.5	
RNF				*e*SG		20 57 33.5	
STEI	**Steigen**	**2.21**	**293**	*e*P	**Pn**	**20 57 03.6**	**+1.1**
STEI	**Steigen**	**2.21**	**293**	*e*P		20 57 03.6	
JETT	**Jettan, Norway**	**2.41**	**358**	*e*P	**Pb**	**20 57 07.8**	**-1.1**
JETT				IAML		20 57 41.0	
	comp=Z,128nm,0.3s						
JETT	**Jettan, Norway**	**2.41**	**358**	*e*P		20 57 07.8	
JETT				IAML		20 57 41.0	
	comp=Z,128nm,0.3s						
TRO	**Tromso**	**2.56**	**347**	*e*P	**Pn**	**20 57 09.0**	**+1.6**
TRO	**Tromso**	**2.56**	**347**	*e*P		20 57 09.1	
TRO				*e*SB		20 57 42.7	
RANF	**Ranua**	**2.72**	**112**	*e*P		20 57 10.4	
RANF				*e*SG		20 57 48.4	
LOF	**Lofoten**	**2.88**	**293**	*e*P	**Pn**	**20 57 12.0**	**+0.3**
LOF	**Lofoten**	**2.88**	**293**	*e*P		20 57 12.0	
VAGH	**Vaagaholmen**	**2.93**	**265**	*e*P	**Pn**	**20 57 13.7**	**+1.2**
VAGH	**Vaagaholmen**	**2.93**	**265**	*e*P		20 57 13.7	
ARA0	**ARCESS Array S**	**2.99**	**35**	*e*P	**Pn**	**20 57 14.7**	**+1.3**
ARA0	**ARCESS Array S**	**2.99**	**35**	*e*P		20 57 14.3	
ARA0				*e*SB		20 57 54.7	
ARCES	**ARCESS Array B**	**2.99**	**35**	Pn	**Pn**	**20 57 14.1**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=215,slow=13,SNR=150						
ARCES				Sn	**Sn**	**20 57 50.4**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=213,slow=22,SNR=9.1						
	comp=Z,5.7nm,0.4s						
KONS	**Konsvik**	**3.04**	**261**	*e*P	**Pn**	**20 57 15.7**	**+1.7**
KONS	**Konsvik**	**3.04**	**261**	*e*P		20 57 15.7	
OBF0	**Syolatti, Pyha**	**3.06**	**149**	*e*P		20 57 15.8	
OBF0				MSG		20 57 54.4	
	comp=Z,9.5nm,0.2s						
STOK	**Stokkvaagen**	**3.13**	**258**	*e*P	**Pn**	**20 57 17.2**	**+2.0**
STOK	**Stokkvaagen**	**3.13**	**258**	*e*P		20 57 17.2	
LEIR	**Leirfjorden**	**3.17**	**254**	*e*P	**Pn**	**20 57 17.7**	**+1.9**
LEIR	**Leirfjorden**	**3.17**	**254**	*e*P		20 57 17.7	
RAJF	**Raja-Jooseppi**	**3.20**	**62**	*e*P		20 57 16.2	
UMAU	**Umeaa**	**3.29**	**180**	*e*P		20 57 19.1	
UMAU				*e*S		20 57 58.4	
KU2	**Taivalkoski**	**3.39**	**112**	*e*P		20 57 19.8	
VRF	**Varrio**	**3.51**	**76**	*e*P		20 57 20.8	
VRF				*e*SG		20 58 12.8	
OLKF	**Oulanka, Finla**	**3.58**	**100**	*e*P		20 57 22.2	
MSF	**Maaselka**	**3.59**	**107**	*e*P		20 57 22.6	
MSF				*e*SG		20 58 17.1	
HAMF	**Hammerfest**	**3.67**	**16**	*e*P	**Pn**	**20 57 24.0**	**+1.4**
HAMF	**Hammerfest**	**3.67**	**16**	*e*P		20 57 24.0	
KU6	**Riekki**	**3.87**	**103**	*e*P		20 57 26.4	
KU6				*e*S		20 58 12.5	
KU1	**Kurvinen**	**3.94**	**110**	*e*P		20 57 27.9	
VADS	**Vadso**	**4.36**	**43**	*e*P	**Pn**	**20 57 32.7**	**+0.6**
VADS	**Vadso**	**4.36**	**43**	*e*P		20 57 32.7	
FINES	**FINESS Array B**	**6.21**	**155**	Pn	**Pn**	**20 57 58.8**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=346,slow=13,SNR=34						
FINES				Sn	**Sn**	**20 59 07.9**	**-1.2**
	comp=Z,1.3nm,0.3s,baz=348,slow=22,SNR=8.6						
FINES				Lg	Lg	20 59 37.5	
	comp=Z,2.6nm,0.3s,baz=344,slow=29,SNR=12						
	comp=Z,1.8nm,0.4s						
NOA	**NORSAR Array B**	**7.39**	**218**	Pn	**Pn**	**20 58 14.9**	**+1.1**
	baz=27,slow=11,SNR=12						
NOA				Sn	**Sn**	**20 59 34.6**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=26,slow=21,SNR=4.9						
NOA				Lg	Lg	21 00 14.4	
	comp=Z,0.1nm,0.3s,baz=37,slow=24,SNR=6.4						
	comp=Z,0.1nm,0.3s						
HFS	**Hagfors**	**7.70**	**207**	Pn	**Pn**	**20 58 17.7**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=23,slow=13,SNR=25						
HFS				Sn	**Sn**	**20 59 42.8**	**-2.8**

comp=E,1μm,0.3s
VA03 San Esteban 1.74 74 ↓*i* P **Pg** **21 11 30.8 -0.1**
VA03 *e*S **Sg** **21 11 52.6 -0.8**
VA03 IAML 21 11 56.1
comp=E,936nm,0.2s
BO04 La Punta 1.76 115 *e*P **Pb** **21 11 29.7 +0.3**
BO04 *e*S **Sb** **21 11 50.9 -0.5**
FCH Farellones 1.88 92 *e*P **Pb** **21 11 32.4 +0.8**
MT04 Ro Olivares 2.01 95 *e*P **Pb** **21 11 34.6 +0.7**
MT04 *e*S **Sb** **21 11 59.5 +0.7**
MT04 IAML 21 12 00.6
comp=E,432nm,0.4s
LMEL Las Melosas 2.03 107 *e*P **Pb** **21 11 34.4 +0.2**
LMEL *e*S **Sb** **21 11 59.2 -0.1**
LMEL IAML 21 12 01.7
comp=N,556nm,0.3s
BO02 Sierra Bellavi 2.10 137 *i* P **Pb** **21 11 36.4 +1.0**
BO02 *e*S **Sg** **21 12 04.6 -0.6**
BO02 IAML 21 12 09.8
comp=Z,335nm,0.3s
MT08 Bocatoma Ro 2.11 95 *i* P **Pb** **21 11 36.3 +0.6**
AUSP Uspallata 2.85 69 *i* P **Pb** **21 11 49.5 +1.3**
AUSP *e*S **Sg** **21 12 26.4 -2.6**
RTLS Leoncito 3.10 63 *i* P **Pb** **21 11 53.4 +0.9**
RTLS *e*S **Sg** **21 12 34.3 -2.8**
RTLS IAML 21 12 43.8
comp=Z,259nm,0.6s
ASAL Salagasta 3.18 79 *i* P **Pb** **21 11 54.6 +0.8**
ASAL *e*S **Sb** **21 12 35.1 +2.7**
GO04 Tololo Observa 3.42 26 *e*P **Pb** **21 11 55.7 -2.2**
EDS3 Malargue 3.59 135 *i* P **Pb** **21 11 57.6 -3.3**
ZON Zonda 3.68 63 *i* P **Pb** **21 12 01.0 -1.3**
ZON *e*S **Sb** **21 12 46.6 -0.2**
ZON IAML 21 13 04.6
comp=Z,47nm,0.7s
RFA San Rafael 3.69 115 *i* P **Pb** **21 12 00.2 -2.3**
RFA *e*S **Sb** **21 12 45.2 -2.0**
RFA IAML 21 13 01.6
comp=Z,24nm,1.8s
ACCO Cerro Coronel 3.98 49 *i* P **Pb** **21 12 05.6 -1.9**
VCA Vinchina 5.85 41 *i* P Pn 21 12 30.5 +6.7
VCA IAML 21 14 21.0
comp=Z,41nm,0.8s

*PRE **28** 21:18:51.3±0.7, 21°.07S×32°.55E, h5km, ML2.9*
*BGSI **28** 21:18:58.7±1.2, 20°.79S×31°.97E, h0km±241km, ML3.5*
ISC 28 21:18:53.5±2.9, 21°.1S±0°.1×32°.3E±0°.1, h10km, n22,
σ1§86/35, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.54**	**199**	*e*P	**Pn**	**21 19 35.5**	**+0.6**
MOPA				*e*S	**Sn**	**21 20 07.6**	**+1.6**
MOPA				IAML		21 20 26.6	
	comp=Z,258nm,0.2s						
MUSN	**Musina, Limpop**	**2.56**	**242**	*e*P	**Pn**	**21 19 37.7**	**+2.5**
MUSN				*e*S	**Sb**	**21 20 10.6**	**-0.7**
MUSN				IAML		21 20 24.6	
	comp=Z,133nm,0.4s						
PILG	**Pilgrimsrest,**	**4.08**	**201**	*e*P	**Pn**	**21 19 57.3**	**+1.1**
PILG				*e*S	**Sn**	**21 20 45.0**	**+0.8**
PILG				IAML		21 21 24.7	
	comp=Z,34nm,0.4s						
BROLN	**Tlhalogang**	**4.65**	**269**	*i* P	**Pn**	**21 20 03.3**	**-0.6**
BROLN				IAML		21 21 24.2	
	comp=N,141nm,0.8s						
MREMI	**Moremi**	**4.75**	**251**	*i* P	**Pn**	**21 20 07.2**	**+1.9**
MREMI				IAML		21 21 31.3	
	comp=E,478nm,0.5s						
LEPH	**Lephalale, Lim**	**4.99**	**236**	*e*P	**Pn**	**21 20 10.1**	**+1.5**
LEPH				*e*S	**Sn**	**21 21 09.3**	**+2.8**
LEPH				IAML		21 21 52.0	
	comp=Z,50nm,0.4s						
CRLN	**Carolina, Mapu**	**5.30**	**203**	*e*P	**Pn**	**21 20 14.0**	**+1.0**
CRLN				*e*S	**Sn**	**21 21 14.0**	**-0.2**
CRLN				IAML		21 22 02.9	
	comp=Z,13nm,0.5s						
HRAO	**HartRAO**	**6.38**	**221**	*e*P	**Pn**	**21 20 30.0**	**+2.2**
HRAO				*e*S	**Sn**	**21 21 40.8**	**0.0**
HRAO				IAML		21 22 36.0	
	comp=Z,18nm,0.6s						
LPHEP	**Lephephe**	**6.38**	**248**	*i* P	**Pn**	**21 20 29.2**	**+1.4**
LPHEP				IAML		21 22 33.8	
	comp=N,29nm,1.1s						
NWCL	**Newcastle**	**6.96**	**198**	*e*P	**Pn**	**21 20 36.6**	**+0.9**
NWCL				*e*S	**Sn**	**21 21 53.9**	**-1.0**
NWCL				IAML		21 22 49.4	
	comp=Z,18nm,0.5s						
LBTB	**Lobatse**	**7.30**	**237**	*e*P	**Pn**	**21 20 42.0**	**+1.6**
LBTB				*e*S	**Sn**	**21 22 04.5**	**+1.0**
LBTB				IAML		21 22 50.4	
	comp=Z,12nm,0.5s						
KDWAN	**Kaudwane**	**7.44**	**251**	*i* P	**Pn**	**21 20 43.0**	**+0.7**
KDWAN				IAML		21 23 03.1	
	comp=N,53nm,2.1s						
KSANE	**Kasane**	**7.50**	**295**	*i* P	**Pn**	**21 20 40.7**	**-2.5**
KSANE				IAML		21 23 01.2	
	comp=N,62nm,0.4s						
SNKL	**Senekal, Frees**	**8.24**	**209**	*e*P	**Pn**	**21 20 54.8**	**+1.4**
SNKL				*e*S	**Sn**	**21 22 24.7**	**-2.0**
SNKL				IAML		21 22 44.1	
	comp=Z,5.9nm,0.3s						
SKOMA	**Sekoma**	**8.44**	**245**	*i* P	**Pn**	**21 20 56.5**	**+0.4**
SKOMA				IAML		21 23 29.3	
	comp=N,28nm,1.2s						
PMBG	**Pietermaritzbu**	**8.53**	**191**	*e*P	**Pn**	**21 20 57.6**	**+0.5**
PMBG				*e*S	**Sn**	**21 22 31.1**	**-2.4**
PMBG				IAML		21 22 36.3	
	comp=Z,4.1nm,0.6s						
KGCAE	**Kacgae**	**9.54**	**258**	*i* P	**Pn**	**21 21 09.8**	**-1.3**
KGCAE				IAML		21 24 18.1	
	comp=E,47nm,1.0s						
BOSA	**Boshof**	**9.84**	**219**	*e*P	**Pn**	**21 21 17.2**	**+2.0**
BOSA				*e*S	**Sn**	**21 23 04.6**	**-1.3**
BOSA				IAML		21 23 08.7	
	comp=N,3.2nm,0.3s						
KSTD	**Kokstad**	**9.85**	**195**	*e*P	**Pn**	**21 21 16.8**	**+1.4**
KSTD				*e*S	**Sn**	**21 23 02.4**	**-3.8**
KSTD				IAML		21 23 07.5	
	comp=Z,2.2nm,0.4s						
GRTLG	**Ghanzi**	**10.35**	**267**	*i* P	**Pn**	**21 21 20.4**	**-1.9**
GRTLG				IAML		21 24 37.7	
	comp=N,25nm,1.0s						
KOOLE	**Kule**	**11.39**	**258**	*i* P	**Pn**	**21 21 35.0**	**-1.6**
KOOLE				IAML		21 25 11.6	
	comp=N,25nm,0.9s						
BRAK	**Brakfontein**	**13.56**	**216**	*e*P	**Pn**	**21 22 09.0**	**+2.9**
BRAK				*e*S	**Sn**	**21 24 33.1**	**-3.8**
BRAK				IAML		21 24 45.7	
	comp=Z,1.4nm,0.4s						

*NEIC **28** 21:20:01.6±1.8, 4°.65S±0°.06×152°.50E±0°.03, h10km±1km, mb4.4/15, Error ellipse: s-maj=9.6km s-min=5.9km az=355.0*
*IDC **28** 21:20:11.6±5.7, 4°.55S×152°.27E, h64km±46km, mb3.6/8, mbtmp4.0/10, ML2.7/2, MS3.3/4, Error ellipse: s-maj=48.1km s-min=23.3km az=95.0*
ISC 28 21:20:02.5±0.9, 4°.61S±0°.08×152°.5E±0°.1, h10km, n31,
σ2§20/29, mb4.3/16, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.55**	**319**	Pg	**Pg**	**21 20 12.8**	**-0.4**
MANU	**Manus Island**	**5.74**	**296**	Pn	**Pn**	**21 21 25.7**	**-2.2**
PMG	**Port Moresby**	**7.14**	**228**		**Pn**	**21 21 46.7**	**-0.4**
PMG	**Port Moresby**	**7.14**	**228**	P	Pn	21 21 51.6	+4.5
	3.2nm,0.3s,baz=58,slow=14,SNR=7.2						
PMG				S	**Sn**	**21 23 10.0**	**+1.6**
	16nm,0.7s,baz=118,slow=21,SNR=1.0						
PMG				LR	LR	21 24 36.3	
	comp=Z,206nm,18.9s,baz=52,slow=38 14nm,0.5s						
HNR	**Honiara**	**8.79**	**123**	LR	LR	21 26 14.1	
	comp=Z,101nm,18.3s,baz=316,slow=40						
JAY	**Jayapura**	**11.98**	**280**	P	**Pn**	**21 22 57.2**	**+3.7**
	0.1nm,0.3s,baz=90,slow=15,SNR=3.3 10.0nm,1.0s						
FAKI	**Fak Fak**	**20.30**	**274**	Pn	**P**	**21 24 38.5**	**-0.3**
FAKI				IAmb	IAmb	21 25 13.5	
	comp=Z,47nm,1.2s						
WB0	**Warramunga Arr**	**23.22**	**228**		**P**	**21 25 09.3**	**-0.7**
WB0				IAmb	IAmb	21 25 12.9	
	comp=Z,10nm,1.1s						
WR0	**Warramunga Arr**	**23.23**	**227**	P	**P**	**21 25 06.5**	**-3.6**
WR0				IAmb	IAmb	21 25 13.6	
	comp=Z,12nm,1.1s						
WR8	**Warramunga Arr**	**23.25**	**227**		**P**	**21 25 09.2**	**-1.1**
WR8				IAmb	IAmb	21 25 13.8	
	comp=Z,10nm,1.1s						
WRAB	**Tennant Creek**	**23.35**	**228**	P	**P**	**21 25 09.4**	**-1.9**
WRAB				IAmb	IAmb	21 25 14.6	
	comp=Z,9.4nm,0.9s						
WB2	**Warramunga Arr**	**23.36**	**228**	P	**P**	**21 25 08.6**	**-2.8**
WB2				IAmb	IAmb	21 25 14.8	
	comp=Z,9.3nm,0.9s						
WRA	**Warramunga Arr**	**23.37**	**228**		**P**	**21 25 08.5**	**-3.0**
WRA	**Warramunga Arr**	**23.37**	**228**	P	**P**	**21 25 12.7**	**+1.2**
	comp=Z,8.7nm,0.9s,baz=50,slow=9.7,SNR=44 comp=Z,8.7nm,0.9s						
KNRA	**Kununurra**	**25.81**	**243**	P	**P**	**21 25 31.3**	**-2.8**
KNRA				IAmb	IAmb	21 25 46.5	
	comp=Z,10nm,1.2s						
AS31	**Alice Springs**	**26.10**	**222**		**P**	**21 25 33.3**	**-3.5**
ASAR	**Alice Springs**	**26.11**	**222**		**P**	**21 25 34.6**	**-2.2**
ASAR	**Alice Springs**	**26.11**	**222**	P	**P**	**21 25 39.2**	**+2.4**
	comp=Z,8.9nm,0.7s,baz=56,slow=8.0,SNR=63						
ASAR				LR	LR	21 35 28.6	
	comp=Z,99nm,18.6s,baz=40,slow=35 comp=Z,8.9nm,0.7s						
STKA	**Stephens Creek**	**29.00**	**199**	P	**P**	**21 26 05.8**	**+3.2**
	comp=Z,0.4nm,0.3s,baz=25,slow=14,SNR=1.3 comp=Z,0.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**29.51**	**241**	P	**P**	**21 26 05.0**	**-2.3**
BBOO	**Buckleboo**	**32.00**	**207**	P	**P**	**21 26 26.8**	**-2.3**
TOLI2	**Tolitoli**	**32.22**	**279**	P	**P**	**21 26 28.9**	**-2.4**
TOLI2				IAmb	IAmb	21 26 42.6	
	comp=Z,7.7nm,1.0s						
KAPI	**Kappang**	**32.66**	**268**	P	**P**	**21 26 33.9**	**-1.3**
CMAR	**Chiang Mai Arr**	**57.55**	**295**	P	**P**	**21 29 53.8**	**+1.0**
	comp=Z,1.2nm,0.9s,baz=109,slow=5.1,SNR=7.5 comp=Z,1.2nm,0.9s						
SHEM	**Shemya Is, Ala**	**59.98**	**15**	LR	LR	21 50 59.1	
	comp=Z,36nm,21.2s,baz=118,slow=31						
SONM	**Songino Array**	**66.02**	**328**	P	**P**	**21 30 50.3**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=116,slow=5.0,SNR=2.1 comp=Z,0.3nm,0.3s						
O15K	**Ungalikthiuk R**	**73.90**	**23**	P	**P**	**21 31 37.6**	**+0.1**
ZALV	**Zalesovo Beam**	**80.84**	**326**	P	**P**	**21 32 17.0**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=111,slow=7.9,SNR=4.0 comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**82.09**	**22**	P	**P**	**21 32 25.2**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=253,slow=5.3,SNR=4.5 comp=Z,0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**83.48**	**322**	P	**P**	**21 32 31.2**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=109,slow=5.5,SNR=2.4 comp=Z,0.3nm,0.6s						
QSPA	**South Pole Qui**	**85.35**	**180**	P	**P**	**21 32 38.5**	**-1.4**
QSPA				IAmb	IAmb	21 33 09.1	
	comp=Z,1.5nm,0.9s						

*DMN **28** 21:24:58.1±0.0, 22°.44N×86°.51E, h10km, Ml4.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*IDC **28** 21:25:02.4±0.9, 22°.55N×86°.45E, h0km, mb3.7/11, mbtmp3.7/13, ML3.9/3, MS3.2/4, Error ellipse: s-maj=28.8km s-min=15.6km az=45.0*
*NEIC **28** 21:25:03.3±1.8, 22°.54N±0°.07×86°.44E±0°.09, h10km±1km, mb4.5/21, Error ellipse: s-maj=17.9km s-min=5.9km az=233.0*
*NDI **28** 21:25:15.6±1.7, 22°.58N×86°.45E, h10km, ML4.3, MW4.4*
ISC 28 21:25:05.2±0.6, 23°.00N±0°.06×86°.53E±0°.04, h10km, n63,
σ2§09/71, mb4.3/23, MS3.6/3, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODAN	**Odare**	**3.92**	**11**	Pn	**Pn**	**21 26 04.3**	**-1.4**
	baz=10,slow=0.0						
ODAN				Sn	**Sn**	**21 26 52.8**	**+0.8**
	baz=10,slow=0.0						
RAMN	**Ramite**	**3.93**	**1**	Pn	**Pn**	**21 26 04.9**	**-1.0**
	baz=1.0,slow=0.0						
RAMN				Sn	**Sn**	**21 26 54.4**	**+2.1**
	356nm,0.3s,baz=1.0,slow=0.0						
VAR	**Varanasi**	**3.94**	**306**	*e*P	**Pg**	**21 26 19.0**	**-1.8**
VAR				*e*S	**Sb**	**21 27 05.3**	**+2.7**
VAR				IAML		21 27 07.5	
	comp=N,1μm,0.3s						
VAR				IAML		21 27 07.6	
	comp=E,1μm,0.8s						
BLSP	**Bilaspur**	**4.16**	**259**	*e*P	**Pb**	**21 26 17.6**	**-0.9**
BLSP				*e*S	**Sn**	**21 27 02.6**	**+5.1**
BLSP				IAML		21 27 09.4	
	comp=N,1μm,0.4s						
BLSP				IAML		21 27 09.7	
	comp=E,1μm,0.4s						
PKI	**Pulchoki**	**4.66**	**348**	Pn	**Pn**	**21 26 13.9**	**-2.1**
	baz=349,slow=0.0						
PKI				Sn	**Sn**	**21 27 10.6**	**+0.2**
	baz=349,slow=0.0						
PKIN	**Phulchoki**	**4.67**	**348**	Pn	**Pn**	**21 26 14.2**	**-1.9**
	baz=349,slow=0.0						
BRDH	**Bariadhala**	**4.73**	**93**	Pn	**Pn**	**21 26 15.9**	**-0.6**
	comp=E,12nm,0.3s,baz=253,slow=17,SNR=1.0						
BRDH				Sn	**Sn**	**21 27 11.6**	**+0.2**
	comp=E,53nm,0.3s,baz=265,slow=19,SNR=1.8						
DMN	**Daman**	**4.77**	**345**	Pn	**Pn**	**21 26 15.2**	**-2.2**
	baz=346,slow=0.0						
KKN	**Kakani**	**4.90**	**347**	Pn	**Pn**	**21 26 17.6**	**-1.6**
	baz=348,slow=0.0						
KKN				Sn	**Sn**	**21 27 16.3**	**+0.2**
	comp=E,117nm,0.2s,baz=348,slow=0.0						
EVN	**Everest**	**4.94**	**3**	Pn	**Pn**	**21 26 24.5**	**+4.4**
GKN	**Gorkha**	**5.27**	**341**	Pn	**Pn**	**21 26 22.1**	**-2.1**
	baz=343,slow=0.0						
GKN				Sn	**Sn**	**21 27 24.8**	**-0.2**
	comp=E,168nm,0.3s,baz=343,slow=0.0						
KOLN	**Koldanda**	**5.44**	**331**	Pn	**Pn**	**21 26 24.7**	**-1.9**
	baz=334,slow=0.0						
KOLN				Sn	**Sn**	**21 27 27.6**	**-1.7**
	baz=334,slow=0.0						
KOLN				Sn	**Sn**	**21 27 27.6**	**-1.7**
	comp=E,304nm,0.3s,baz=334,slow=0.0						
SHL	**Shillong**	**5.51**	**61**	Pn	**Pn**	**21 26 29.5**	**+2.0**
DANN	**Dangsing**	**5.88**	**335**	Pn	**Pn**	**21 26 30.6**	**-2.2**
	baz=338,slow=0.0						
DANN				Sn	**Sn**	**21 27 38.9**	**-1.6**
	comp=E,101nm,0.3s,baz=338,slow=0.0						
PYUN	**Piuthan**	**6.00**	**329**	Pn	**Pn**	**21 26 31.3**	**-3.0**
	baz=331,slow=0.0						
PYUN				Sn	**Sn**	**21 27 41.5**	**-1.7**
	comp=E,444nm,0.4s,baz=331,slow=0.0						
JHNI	**Jhansi**	**7.70**	**290**	*e*P	Pn	21 27 07.2	+10
JHNI				*e*S	**Sn**	**21 28 30.1**	**+5.5**
JHNI				IAML		21 28 56.5	
	comp=E,168nm,1.0s						
JHNI				IAML		21 29 02.8	
	comp=N,213nm,0.8s						
LSA	**Lhasa**	**7.85**	**31**	Pn	**Pn**	**21 27 03.0**	**+3.0**
BHPL	**Bhopal**	**8.39**	**273**	*e*P	Pn	21 27 15.6	+8.7
BHPL				*e*S	**Sn**	**21 28 42.5**	**+0.8**
BHPL				IAML		21 29 25.6	
	comp=N,229nm,0.9s						
BHPL				IAML		21 29 33.1	
	comp=E,256nm,0.6s						
NRDN	**NARMADA NAGAR**	**8.64**	**270**	*e*P	Pn	21 27 18.9	+8.6
NRDN				*e*S	**Sn**	**21 28 49.2**	**+1.2**
NRDN				IAML		21 29 56.5	
	comp=N,156nm,0.9s						
NRDN				IAML		21 29 59.5	
	comp=E,109nm,0.8s						
HYB	**Hyderabad**	**9.32**	**235**	*e*P	Pn	21 27 12.3	-7.5
HYB				*e*S	Sn	21 28 55.3	-10
CMAR	**Chiang Mai Arr**	**12.46**	**109**	Pn	**Pn**	**21 27 59.0**	**-3.7**
CMAR	**Chiang Mai Arr**	**12.46**	**109**	Pn	**Pn**	**21 28 00.8**	**-1.9**
	comp=E,0.1nm,0.3s,baz=293,slow=12,SNR=1.7						
CMAR				LR	LR	21 33 35.0	
	comp=E,18nm,20.4s,baz=190,slow=41 comp=E,0.4nm,0.6s						
PZH	**PanZhiHua**	**14.25**	**73**	P	**Pn**	**21 28 27.0**	**-0.3**
NIL	**Nilore**	**15.77**	**315**	Pn	**Pn**	**21 28 47.5**	**0.0**
PALK	**Pallekele**	**16.61**	**201**	Pn	Pn	21 28 51.0	-7.4
	comp=E,0.4nm,0.3s,baz=16,slow=13,SNR=5.5 comp=E,5.8nm,0.8s						
KBL	**Kabul**	**19.13**	**311**	P	**Pn**	**21 29 29.7**	**+0.2**
KDJ	**Kajisay**	**20.61**	**340**	P	**P**	**21 29 46.0**	**+1.2**
WMQ	**Urumqi**	**20.79**	**2**	*e*P	**P**	**21 29 47.5**	**+0.9**
GAR	**Garm**	**21.10**	**323**		**P**	**21 29 50.5**	**+0.4**
GAR				IAmb	IAmb	21 29 53.7	
	comp=Z,16nm,1.1s						
BOOM	**Boomskoye usch**	**21.35**	**338**	P	**P**	**21 29 54.3**	**+1.6**
ARSB	**Arslanbob**	**21.52**	**331**	P	**P**	**21 29 56.0**	**+1.4**
ARSB				IAmb	IAmb	21 29 59.8	
	comp=Z,11nm,0.7s						
SIMJ	**Simiganj**	**21.62**	**320**	P	**P**	**21 29 56.5**	**+0.9**
SIMJ				IAmb	IAmb	21 29 59.1	
	comp=Z,6.0nm,0.6s						
XAN	**Xi'an**	**22.49**	**56**	P	**P**	**21 30 09.0**	**+4.1**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MKAR	**Makanchi Array**	**23.99**	**353**	P	**P**	**21 30 22.2**	**+2.3**
	comp=Z,0.4nm,0.6s,baz=176,slow=10.0,SNR=7.6 comp=Z,0.4nm,0.6s						
KK31	**Karatay Array**	**24.05**	**330**	P	**P**	**21 30 21.9**	**+1.4**
KKAR	**Karatay Array**	**24.05**	**330**	P	**P**	**21 30 21.4**	**+0.9**
HHC	**Hu-ho-hao-te**	**27.57**	**44**	*e*P	**P**	**21 30 52.0**	**-0.5**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,90nm,5.4s						
KURBB	**Kurchatov Arra**	**28.27**	**349**	P	**P**	**21 31 01.4**	**+2.9**
	comp=Z,0.2nm,0.6s,baz=177,slow=8.3,SNR=1.9 comp=Z,0.2nm,0.6s						
SONM	**Songino Array**	**29.43**	**28**	P	**P**	**21 31 11.9**	**+2.9**
	comp=Z,0.5nm,0.4s,baz=210,slow=8.3,SNR=3.7 comp=Z,0.5nm,0.4s						
ABKAR	**Akbulak array**	**33.55**	**328**	P	**P**	**21 31 46.5**	**+1.3**
INCN	**Inchon**	**37.24**	**58**	P	**P**	**21 32 15.7**	**-1.4**
INCN				IAmb	IAmb	21 32 18.3	
	comp=Z,21nm,0.9s						
JNU	**Nakatsue**	**40.16**	**65**	LR	LR	21 49 48.6	
	comp=Z,29nm,19.6s,baz=188,slow=37						
BRTR	**Keskin Array B**	**47.47**	**303**	P	**P**	**21 33 41.2**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=115,slow=6.5,SNR=2.1 comp=Z,0.2nm,0.5s						
JHJ2	**Mitsune**	**47.66**	**66**	P	**P**	**21 33 42.3**	**+0.4**
MLR	**Muntele Rosu**	**53.53**	**310**	P	**P**	**21 34 25.5**	**-0.7**
MLR				IAmb	IAmb	21 34 28.7	
	comp=Z,3.1nm,1.0s						
IDI	**Anoyia**	**54.45**	**298**	LR	LR	22 03 13.5	
	comp=Z,63nm,21.4s,baz=296,slow=42						
FINES	**FINESS Array B**	**56.01**	**330**	P	**P**	**21 34 44.6**	**+0.9**
FINES	**FINESS Array B**	**56.01**	**330**	P	**P**	**21 34 44.5**	**+0.7**
	comp=Z,4.6nm,1.1s,baz=112,slow=7.1,SNR=6.9 comp=Z,4.6nm,1.1s						
ARCES	**ARCESS Array B**	**58.62**	**339**	P	**P**	**21 35 03.8**	**+1.7**
ARCES	**ARCESS Array B**	**58.62**	**339**	P	**P**	**21 35 05.0**	**+2.9**
	comp=Z,2.8nm,0.8s,baz=92,slow=9.4,SNR=2.3 comp=Z,2.8nm,0.8s						
HFS	**Hagfors**	**61.81**	**327**	P	**P**	**21 35 24.4**	**+0.3**
	comp=Z,2.3nm,1.0s,baz=94,slow=7.8,SNR=2.2 comp=Z,2.3nm,1.0s						
GERES	**GERESS Array B**	**61.88**	**314**	P	**P**	**21 35 25.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=61,slow=6.0,SNR=2.3 comp=Z,0.2nm,0.3s						
NOA	**NORSAR Array B**	**63.06**	**328**	P	**P**	**21 35 33.0**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=89,slow=6.5,SNR=2.0 comp=Z,0.2nm,0.6s						
WB0	**Warramunga Arr**	**63.15**	**128**	P	**P**	**21 35 29.4**	**-4.2**
WB0				IAmb	IAmb	21 35 47.6	
	comp=Z,7.0nm,1.4s						
NAO01	**NORSAR Array S**	**63.22**	**328**	P	**P**	**21 35 32.3**	**-1.2**
NAO01				IAmb	IAmb	21 35 49.3	
	comp=Z,3.7nm,0.9s						
WRA	**Warramunga Arr**	**63.23**	**129**	P	**P**	**21 35 31.4**	**-2.7**
	comp=Z,1.0nm,0.9s,baz=321,slow=6.6,SNR=8.8						
WRA				LR	LR	22 08 29.8	
	comp=Z,50nm,18.3s,baz=7.0,slow=41 comp=Z,1.0nm,0.9s						
WR8	**Warramunga Arr**	**63.35**	**129**	P	**P**	**21 35 30.7**	**-4.2**
WR8				IAmb	IAmb	21 35 41.6	
	comp=Z,7.1nm,1.3s						
ASAR	**Alice Springs**	**65.35**	**132**	P	**P**	**21 35 45.2**	**-2.8**
	comp=Z,1.0nm,0.5s,baz=310,slow=6.5,SNR=13 comp=Z,1.0nm,0.5s						
GHO	**Glory Hole Cre**	**84.64**	**23**	P	**P**	**21 37 38.3**	**-0.7**
GHO				IAmb	IAmb	21 37 48.8	
	comp=Z,7.3nm,1.2s						
CNPM	**China Poot**	**85.19**	**26**	P	**P**	**21 37 42.3**	**+0.6**
HMT	**Hamilton**	**87.29**	**23**	P	**P**	**21 37 51.2**	**-0.8**
NRS	**Narsarsuaq**	**87.64**	**339**	P	**P**	**21 37 52.5**	**-1.1**
M30M	**Minto, Yukon**	**88.05**	**19**	P	**P**	**21 37 54.9**	**-0.8**
M30M				IAmb	IAmb	21 37 57.7	
	comp=Z,3.1nm,1.3s						

*IDC **28** 21:28:01.1±6.1, 5°.12S×151°.35E, h64km±50km, mb3.6/6, mbtmp3.9/7, ML1.8/1, MS3.1/1, Error ellipse: s-maj=67.1km s-min=31.4km az=121.0*
ISC 28 21:27:58.3±1.8, 4°.9S±0°.3×151°.3E±0°.5, h35km, n8, σ1§35/9,
mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.10**	**222**	P	**Pn**	**21 29 27.9**	**+1.8**
	1.6nm,0.3s,baz=22,slow=5.4,SNR=2.5						
PMG				S	**Sn**	**21 30 34.5**	**-0.2**
	26nm,0.5s,baz=127,slow=22,SNR=9.4 6.5nm,0.4s						
WRA	**Warramunga Arr**	**22.30**	**226**	P	**P**	**21 32 51.3**	**-1.7**
	3.6nm,0.6s,baz=52,slow=9.8,SNR=43						
WRA				PcP	**PcP**	**21 36 48.7**	**+0.5**
	0.4nm,1.1s,baz=44,slow=2.1,SNR=1.6 3.6nm,0.6s						
ASAR	**Alice Springs**	**25.12**	**220**	P	**P**	**21 33 18.3**	**-1.9**
	3.5nm,0.5s,baz=57,slow=8.7,SNR=55 3.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**28.33**	**240**	P	**P**	**21 33 48.2**	**-0.9**
	3.4nm,0.5s,baz=48,slow=8.3,SNR=21 3.4nm,0.5s						
KAPI	**Kappang**	**31.44**	**268**	LR	LR	21 49 05.2	
	comp=Z,28nm,18.1s,baz=285,slow=40						
ILAR	**Eielson Array**	**82.79**	**22**	P	**P**	**21 40 18.6**	**0.0**
	0.2nm,0.6s,baz=252,slow=4.9,SNR=4.2 0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**82.95**	**322**	P	**P**	**21 40 20.1**	**+0.4**
	0.1nm,0.3s,baz=117,slow=3.2,SNR=1.9 0.1nm,0.3s						
BVAR	**Borovoye Array**	**88.41**	**323**	P	**P**	**21 40 46.8**	**0.0**
	0.4nm,0.6s,baz=98,slow=2.9,SNR=2.5 0.4nm,0.6s						

IDC 28 21:33:26.0±11.0, 22°.72S×179°.49W, h412km±101km,
mb3.3/5, mbtmp4.2/6, Error ellipse: s-maj=92.4km
s-min=23.1km az=40.0, South of Fiji Islands

| Code | Station Name | Δ° | AZ

0.6nm,0.8s,baz=99,slow=8.9,SNR=5.3
0.6nm,0.8s
WRA Warramunga Arr 34.91 160 P **P** **21 42 19.0 +0.7**
0.7nm,0.9s,baz=331,slow=9.2,SNR=2.8
0.7nm,0.9s
SONM Songino Array 37.07 342 P **P** **21 42 36.6 -0.1**
0.3nm,0.4s,baz=158,slow=7.4,SNR=1.9
SONM LR LR 21 57 55.4
comp=Z,26nm,20.3s,baz=68,slow=36
0.3nm,0.4s
ASAR Alice Springs 38.28 163 P **P** **21 42 47.0 0.0**
0.2nm,0.6s,baz=343,slow=7.7,SNR=4.1
0.2nm,0.6s
MKAR Makanchi Array 47.52 323 P **P** **21 44 01.8 +0.1**
1.1nm,0.9s,baz=103,slow=6.2,SNR=5.1
1.1nm,0.9s
KURBB Kurchatov Arra 51.62 326 P **P** **21 44 33.2 +0.3**
1.4nm,1.0s,baz=126,slow=6.4,SNR=8.4
1.4nm,1.0s
BVAR Borovoye Array 57.21 325 P **P** **21 45 13.7 +0.2**
0.6nm,0.7s,baz=106,slow=4.7,SNR=5.1
0.6nm,0.7s
TIXI Tiksi 58.54 2 LR LR 22 10 29.4
comp=Z,30nm,20.9s,baz=198,slow=36
BRTR Keskin Array B 80.89 309 LR LR 22 29 15.8
comp=Z,139nm,19.6s,baz=254,slow=40

IDC ***28*** *21:41:38.4±0.9, 18.45N×64.96W, h0km, mb3.7/7, mbtmp3.9/11, ML3.5/4, MS3.2/4, Error ellipse: s-maj=22.4km s-min=17.6km az=119.0*
NEIC ***28*** *21:41:42.7±1.7, 18.40N±0.05×65.01W±0.03, h35km±2km, mb4.1/13, ML4.3/44, ML4.2/20(RSPR), Error ellipse: s-maj=9.3km s-min=4.5km az=200.0*
RSPR ***28*** *21:41:43.6, 18.50N×65.00W, h14km±3km, MD3.5/20*
OSPL ***28*** *21:41:44.2±3.2, 18.51N×65.15W, h0km±23km, ML4.1*
ISC 28 21:41:40.5±1.4, 18.48N±0.06×64.99W±0.03, h15km±9km, n168, σ1§40/169, mb3.8/10, 10C-15D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**0.88**	**248**			**Pg**		**21 41 57.6**	**-0.1**
HUMP						**Sg**		**21 42 09.3**	**0.0**
HUMP				IAML				21 42 12.0	
	comp=N,12μm,0.2s								
HUMP				IAML				21 42 12.3	
	comp=E,13μm,0.2s								
HUMP	**Col San Antoni**	**0.88**	**248**	*i*	*eP*	**Pg**		**21 41 57.8**	**+0.2**
HUMP	**Col San Antoni**	**0.88**	**248**	*e*	*eS*	**Sg**		**21 42 09.7**	**+0.4**
GCPR	**Guaynabo City**	**1.05**	**261**			**Pb**		**21 41 59.6**	**-0.8**
GCPR				Sn		**Sb**		**21 42 13.3**	**-0.7**
GCPR	**Guaynabo City**	**1.05**	**261**	*i*	*eP*	**Pb**		**21 41 59.8**	**-0.6**
GCPR	**Guaynabo City**	**1.05**	**261**	*e*	*eS*	**Sb**		**21 42 13.6**	**-0.4**
PDPR	**Patillas Dam,**	**1.08**	**245**	Pn		**Pb**		**21 42 01.1**	**+0.1**
PDPR				Sn		**Sb**		**21 42 14.6**	**-0.3**
PDPR				IAML				21 42 19.9	
	comp=E,6μm,0.1s								
PDPR				IAML				21 42 20.4	
	comp=N,5μm,0.1s								
PDPR	**Patillas Dam,**	**1.08**	**245**	*i*	*eP*	**Pb**		**21 42 01.0**	**+0.1**
PDPR	**Patillas Dam,**	**1.08**	**245**	*e*	*eS*	**Sb**		**21 42 14.8**	**-0.1**
SJG	**San Juan**	**1.16**	**252**	Pn		**Pn**		**21 42 01.4**	**-0.8**
SJG				IAML				21 42 19.5	
	comp=N,7μm,0.2s								
SJG				IAML				21 42 24.6	
	comp=N,6μm,0.3s								
SJG	**San Juan**	**1.16**	**252**	Pn		**Pn**		**21 42 01.0**	**-1.2**
	comp=N,435nm,0.3s,baz=79,slow=14,SNR=445								
SJG				Sn		**Sb**		**21 42 16.8**	**-0.3**
	comp=N,906nm,0.3s,baz=76,slow=15,SNR=24								
SJG	**San Juan**	**1.16**	**252**	*i*	*eP*	**Pn**		**21 42 01.6**	**-0.6**
SJG	**San Juan**	**1.16**	**252**	*e*	*eP*	**Pn**		**21 42 01.6**	**-0.6**
SJG				*e*	*eS*	**Sb**		**21 42 17.8**	**+0.6**
SJG	**San Juan**	**1.16**	**252**	*i*	*P*	**Pn**		**21 42 01.7**	**-0.5**
SJG				*e*	*S*	**Sb**		**21 42 16.4**	**-0.7**
SJG				IAML				21 42 20.1	
	comp=Z,3μm,0.1s								
IGPR	**InterUniversit**	**1.18**	**244**			**Pn**		**21 42 02.4**	**-0.1**
IGPR						**Sb**		**21 42 17.4**	**-0.3**
IGPR	**InterUniversit**	**1.18**	**244**	*i*	*eP*	**Pn**		**21 42 02.4**	**-0.1**
IGPR	**InterUniversit**	**1.18**	**244**	*e*	*eS*	**Sb**		**21 42 17.4**	**-0.3**
ECPR	**Experimental S**	**1.31**	**263**	*i*	*eP*	**Pn**		**21 42 03.8**	**-0.5**
ECPR	**Experimental S**	**1.31**	**263**	*e*	*eS*	**Sb**		**21 42 20.3**	**-1.3**
EMPR	**Esperanza - Ma**	**1.46**	**270**			**Pn**		**21 42 06.2**	**-0.1**
EMPR	**Esperanza - Ma**	**1.46**	**270**			**Sn**		**21 42 24.4**	**-0.7**
EMPR	**Esperanza - Ma**	**1.46**	**270**	*i*	*eP*	**Pn**		**21 42 06.6**	**+0.3**
EMPR	**Esperanza - Ma**	**1.46**	**270**	*e*	*eS*	**Sn**		**21 42 24.4**	**-0.7**
CELP	**Cerrillos**	**1.56**	**255**			**Pn**		**21 42 07.3**	**-0.4**
CELP				IAML				21 42 33.4	
	comp=E,2μm,0.5s								
CELP				IAML				21 42 33.6	
	comp=N,3μm,0.5s								
CELP	**Cerrillos**	**1.56**	**255**			**Sn**		**21 42 27.9**	**+0.2**
CELP	**Cerrillos**	**1.56**	**255**	*i*	*eP*	**Pn**		**21 42 08.3**	**+0.5**
CELP	**Cerrillos**	**1.56**	**255**	*e*	*eS*	**Sn**		**21 42 27.9**	**+0.2**
OBIP	**Obispado Ponce**	**1.60**	**254**			**Pn**		**21 42 07.5**	**-0.7**
OBIP				IAML				21 42 29.9	
	comp=E,3μm,0.3s								
OBIP				IAML				21 42 34.8	
	comp=N,2μm,0.8s								
OBIP	**Obispado Ponce**	**1.60**	**254**			**Sn**		**21 42 28.9**	**+0.4**
OBIP	**Obispado Ponce**	**1.60**	**254**	*i*	*eP*	**Pn**		**21 42 08.9**	**+0.7**
OBIP	**Obispado Ponce**	**1.60**	**254**	*e*	*eS*	**Sn**		**21 42 28.9**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.66**	**262**			**Pn**		**21 42 08.6**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.66**	**262**			**Sn**		**21 42 30.6**	**+0.6**
UUPR	**Utuado, UPR, P**	**1.66**	**262**	*i*	*eP*	**Pn**		**21 42 09.3**	**+0.3**
UUPR	**Utuado, UPR, P**	**1.66**	**262**	*e*	*eS*	**Sn**		**21 42 30.6**	**+0.6**
AOPR	**Arecibo Observ**	**1.68**	**266**			**Pn**		**21 42 08.8**	**-0.6**
AOPR				IAML				21 42 40.2	
	comp=N,8μm,0.3s								
AOPR	**Arecibo Observ**	**1.68**	**266**			**Sn**		**21 42 32.1**	**+1.4**
AOPR	**Arecibo Observ**	**1.68**	**266**	*i*	*eP*	**Pn**		**21 42 10.0**	**+0.6**
AOPR	**Arecibo Observ**	**1.68**	**266**	*e*	*eS*	**Sn**		**21 42 32.1**	**+1.4**
AOPR	**Arecibo Observ**	**1.68**	**266**	*e*	*eP*	**Pn**		**21 42 09.3**	**0.0**
AOPR				*e*	*eS*	**Sn**		**21 42 31.2**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.86**	**255**			**Pn**		**21 42 13.8**	**+2.0**
GBPR	**Guanica, Bosqu**	**1.86**	**255**	*i*	*eP*	**Pn**		**21 42 13.8**	**+2.0**
SABA	**Saba**	**1.87**	**117**			**Pn**		**21 42 12.1**	**+0.1**
SABA				IAML				21 42 45.6	
	comp=N,5μm,0.4s								
SABA				IAML				21 42 50.7	
	comp=E,5μm,0.5s								
SABA	**Saba**	**1.87**	**117**			**Sn**		**21 42 35.7**	**+0.3**
SABA	**Saba**	**1.87**	**117**	*i*	*eP*	**Pn**		**21 42 12.8**	**+0.9**
SABA	**Saba**	**1.87**	**117**	*e*	*eS*	**Sn**		**21 42 35.7**	**+0.3**
AGPR	**Aguadilla, PR**	**2.01**	**270**			**Pn**		**21 42 13.3**	**-0.6**
AGPR				IAML				21 42 42.6	
	comp=E,3μm,0.4s								
AGPR				IAML				21 42 50.6	
	comp=N,2μm,0.3s								
AGPR	**Aguadilla, PR**	**2.01**	**270**			**Sn**		**21 42 37.9**	**-0.9**
AGPR	**Aguadilla, PR**	**2.01**	**270**	*i*	*eP*	**Pn**		**21 42 14.2**	**+0.3**
AGPR	**Aguadilla, PR**	**2.01**	**270**	*i*	*P*	**Pn**		**21 42 14.0**	**+0.1**
AGPR				*e*	*S*	**Sn**		**21 42 38.0**	**-0.9**
AGPR				IAML				21 42 44.4	
	comp=Z,1μm,0.3s								
LSP	**Las Mesas**	**2.01**	**262**			**Pn**		**21 42 14.8**	**+0.8**
LSP						**Sn**		**21 42 39.0**	**+0.1**
LSP	**Las Mesas**	**2.01**	**262**	*i*	*eP*	**Pn**		**21 42 14.8**	**+0.8**
LSP	**Las Mesas**	**2.01**	**262**	*e*	*eS*	**Sn**		**21 42 39.0**	**+0.1**
MLPR	**Magueyes Islan**	**2.02**	**256**	*i*	*eP*	**Pn**		**21 42 15.5**	**+1.5**
MLPR	**Magueyes Islan**	**2.02**	**256**	*e*	*eS*	**Sn**		**21 42 39.6**	**+0.7**
PRSN	**Puerto Rico Se**	**2.06**	**263**			**Pn**		**21 42 14.2**	**-0.4**
PRSN	**Puerto Rico Se**	**2.06**	**263**			**Sn**		**21 42 39.9**	**-0.2**
PRSN	**Puerto Rico Se**	**2.06**	**263**	*i*	*eP*	**Pn**		**21 42 15.4**	**+0.8**
PRSN	**Puerto Rico Se**	**2.06**	**263**	*e*	*eS*	**Sn**		**21 42 39.9**	**-0.2**
CRPR	**Cabo Rojo, PR**	**2.07**	**257**			**Pn**		**21 42 14.8**	**+0.1**
CRPR	**Cabo Rojo, PR**	**2.07**	**257**			**Sn**		**21 42 41.1**	**+1.0**
CRPR	**Cabo Rojo, PR**	**2.07**	**257**	*i*	*eP*	**Pn**		**21 42 16.0**	**+1.3**
CRPR	**Cabo Rojo, PR**	**2.07**	**257**	*e*	*eS*	**Sn**		**21 42 41.1**	**+1.0**
CRPR	**Cabo Rojo, PR**	**2.07**	**257**	*i*	*P*	**Pn**		**21 42 15.7**	**+1.0**
CRPR				*e*	*S*	**Sn**		**21 42 40.9**	**+0.7**
CRPR				IAML				21 42 55.2	
	comp=Z,2μm,0.8s								
SEUS	**St. Eustatius**	**2.15**	**117**	Pn		**Pn**		**21 42 16.4**	**+0.6**
SEUS				IAML				21 42 54.4	
	comp=N,3μm,0.7s								
SEUS				IAML				21 42 57.0	
	comp=E,2μm,0.4s								
IDE	**Isla Desecheo**	**2.36**	**268**			**Pn**		**21 42 18.9**	**+0.2**
IDE						**Sn**		**21 42 45.8**	**-1.6**
IDE	**Isla Desecheo**	**2.36**	**268**	*i*	*P*	**Pn**		**21 42 18.9**	**+0.2**
IDE	**Isla Desecheo**	**2.36**	**268**	*e*	*S*	**Sn**		**21 42 45.8**	**-1.6**
ANWB	**Willy Bob**	**3.15**	**104**			**Pn**		**21 42 29.4**	**-0.2**
ANWB	**Willy Bob**	**3.15**	**104**	*e*	*P*	**Pn**		**21 42 29.4**	**-0.2**
ANWB				*e*	*S*	**Sn**		**21 43 05.1**	**-1.9**
MBFL	**Flemmings, Mon**	**3.16**	**123**	*e*	*P*	**Pn**		**21 42 29.5**	**-0.2**
MBFL				*e*	*S*	**Sn**		**21 43 05.5**	**-1.7**
MLYT	**Lee's Yard**	**3.19**	**123**	*e*	*P*	**Pn**		**21 42 30.9**	**+0.7**
MLYT				*e*	*S*	**Sn**		**21 43 07.0**	**-1.1**
HIDR	**Higuey Centro**	**3.54**	**272**	*i*	*eP*	**Pn**		**21 42 36.8**	**+1.9**
HIDR	**Higuey Centro**	**3.54**	**272**	*e*	*S*	**Sn**		**21 43 15.4**	**-1.0**
DHSZ	**Broadband at M**	**3.78**	**125**	*e*	*P*	**Pn**		**21 42 37.8**	**-0.5**
DHSZ				*e*	*S*	**Sn**		**21 43 20.1**	**-2.4**
GDHS	**Morne Mazeau,**	**3.78**	**125**			**Pn**		**21 42 37.5**	**-0.9**
GDHS				IAML				21 43 52.8	
	comp=N,986nm,0.6s								
ABD	**La Joyeuse, An**	**3.89**	**120**			**Pn**		**21 42 40.3**	**+0.5**
ABD				IAML				21 43 26.6	
	comp=E,359nm,0.6s								
ABD				IAML				21 43 34.4	
	comp=N,342nm,0.7s								
ABD	**La Joyeuse, An**	**3.89**	**120**	*i*	*eP*	**Pn**		**21 42 41.2**	**+1.4**
ABD	**La Joyeuse, An**	**3.89**	**120**	*e*	*S*	**Sn**		**21 43 25.4**	**+0.1**
ATGZ	**Broadband at L**	**3.92**	**127**	*e*	*P*	**Pn**		**21 42 40.1**	**0.0**
ATGZ				*e*	*S*	**Sn**		**21 43 22.3**	**-3.6**
MMLZ	**Guadeloupe Bro**	**3.99**	**127**	*e*	*P*	**Pn**		**21 42 40.9**	**-0.2**
MMLZ				*e*	*S*	**Sn**		**21 43 24.4**	**-3.3**
CBE	**Ff, Capester**	**4.03**	**126**			**Pn**		**21 42 41.5**	**-0.2**
CBE				IAML				21 43 33.6	
	comp=E,978nm,0.5s								
CBE	**Ff, Capester**	**4.03**	**126**			**Sn**		**21 43 26.6**	**-2.0**
CBE	**Ff, Capester**	**4.03**	**126**	*i*	*eP*	**Pn**		**21 42 42.5**	**+0.8**
CBE	**Ff, Capester**	**4.03**	**126**	*e*	*S*	**Sn**		**21 43 26.6**	**-2.0**
SMDR	**Samana, DR**	**4.05**	**282**	*i*	*eP*	**Pn**		**21 42 44.1**	**+2.1**
SMDR	**Samana, DR**	**4.05**	**282**	*e*	*S*	**Sn**		**21 43 31.1**	**+1.9**
TBG	**Guadaloupe-3**	**4.13**	**129**	*e*	*P*	**Pn**		**21 42 42.6**	**-0.5**
TBG				*e*	*S*	**Sn**		**21 43 26.2**	**-4.9**
TDBA	**Terre de Bas,**	**4.14**	**129**			**Pn**		**21 42 43.1**	**-0.1**
DR12	**Loma Pena Alta**	**4.17**	**275**			**Pn**		**21 42 45.2**	**+1.4**
DSDZ	**La Diserade, G**	**4.32**	**119**	*e*	*P*	**Pn**		**21 42 46.7**	**+1.0**
DSDZ	**La Diserade, G**	**4.32**	**119**	*e*	*S*	**Sn**		**21 43 34.9**	**-0.9**
GDSD	**La Dsirade Is**	**4.32**	**119**			**Pn**		**21 42 46.3**	**+0.6**
DWS	**Wesley**	**4.56**	**129**	*e*	*P*	**Pn**		**21 42 52.9**	**+4.0**
DWS	**Wesley**	**4.56**	**129**	*e*	*S*	**Sn**		**21 43 39.0**	**-2.7**
SDD	**Santo Domingo**	**4.67**	**270**			**Pn**		**21 42 50.2**	**-0.3**
DLDT	**Laudat, Domini**	**4.69**	**131**	*e*	*P*	**Pn**		**21 42 53.5**	**+2.7**
BANI	**BANI**	**5.10**	**270**			**Pn**		**21 42 58.7**	**+2.2**
SVN	**Savane Anatole**	**5.15**	**134**			**Pn**		**21 42 56.3**	**-0.8**
SVN	**Savane Anatole**	**5.15**	**134**	*e*	*P*	**Pn**		**21 42 56.7**	**-0.5**
SVN	**Savane Anatole**	**5.15**	**134**	*e*	*S*	**Sn**		**21 43 53.2**	**-3.1**
FDF	**Fort de France**	**5.24**	**135**			**Pn**		**21 42 57.7**	**-0.7**
FDF				IAML				21 44 40.1	
	comp=N,138nm,2.3s								
BIM	**Bigot**	**5.45**	**136**			**Pn**		**21 43 00.5**	**-0.8**
BIM	**Bigot**	**5.45**	**136**	*e*	*P*	**Pn**		**21 43 00.7**	**-0.5**
BIM	**Bigot**	**5.45**	**136**	*e*	*S*	Sn		21 43 56.2	-7.5
SC01	**Santiago de lo**	**5.51**	**281**			**Pn**		**21 43 01.2**	**-0.9**
SC01	**Santiago de lo**	**5.51**	**281**			**Sn**		**21 44 07.1**	**+2.0**
SC01	**Santiago de lo**	**5.51**	**281**	*i*	*eP*	**Pn**		**21 43 05.7**	**+3.7**
SC01	**Santiago de lo**	**5.51**	**281**	*e*	*S*	**Sn**		**21 44 07.1**	**+2.0**
SC01	**Santiago de lo**	**5.51**	**281**	*i*	*P*	**Pn**		**21 43 05.4**	**+3.3**
SC01				IAML				21 44 28.3	
	comp=Z,127nm,0.5s								
MPOM	**Morne Pois Mar**	**5.64**	**135**			**Pn**		**21 43 03.6**	**-0.3**
SDDR	**Presa de Saban**	**5.99**	**276**			**Pn**		**21 43 09.2**	**+0.5**
SDDR	**Presa de Saban**	**5.99**	**276**	*e*	*P*	**Pn**		**21 43 11.3**	**+2.7**
SDDR				*e*	*S*	**Sn**		**21 44 20.2**	**+3.1**
SDDR				IAML				21 44 25.0	
	comp=Z,45nm,0.6s								
SDDR				IAML				21 44 30.2	
	comp=Z,50nm,0.5s								
SDDR	**Presa de Saban**	**5.99**	**276**	*i*	*eP*	**Pn**		**21 43 11.4**	**+2.7**
SDDR	**Presa de Saban**	**5.99**	**276**	*i*	*P*	**Pn**		**21 43 11.6**	**+2.9**
SDDR				IAML				21 44 43.4	
	comp=Z,44nm,0.6s								
LOPP1	**Punta Rusia, P**	**6.02**	**284**	*i*	*P*	**Pn**		**21 43 09.8**	**+0.7**
LOPP1				IAML				21 44 39.5	
	comp=Z,70nm,0.4s								
LOVI	**El Cajuil, Ovi**	**6.10**	**265**	*i*	*P*	**Pn**		**21 43 11.6**	**+1.4**
LOVI				IAML				21 44 21.4	
	comp=Z,82nm,2.3s								
LODU1	**El Espartillar**	**6.16**	**270**	*i*	*P*	**Pn**		**21 43 13.2**	**+2.3**
LODU1				IAML				21 44 48.4	
	comp=Z,69nm,0.7s								
SVT	**Saint Vincent**	**6.40**	**145**	*e*	*P*	Pn		21 43 12.9	-1.4
GRTK	**Grand Turk**	**6.51**	**299**			**Pn**		**21 43 15.0**	**-0.8**
GRTK	**Grand Turk**	**6.51**	**299**	*e*	*P*	**Pn**		**21 43 14.9**	**-0.9**
GRTK				*e*	*S*	Sn		21 44 23.4	-6.5
GRTK				IAML				21 44 27.4	
	comp=Z,80nm,0.2s								
GRTK				IAML				21 44 27.6	
	comp=Z,102nm,0.2s								
GRTK	**Grand Turk**	**6.51**	**299**	*i*	*P*	**Pn**		**21 43 14.9**	**-0.9**
GRTK				IAML				21 44 21.8	
	comp=Z,52nm,0.1s								
GRW	**Mount Saint Ca**	**7.06**	**152**	*e*	*P*	Pn		21 43 21.6	-1.8
GRGR	**Grenville**	**7.09**	**153**	*e*	*P*	Pn		21 43 20.7	-3.0
PCRV	**Puerto La Cruz**	**8.27**	**178**			Pn		21 43 38.6	-1.3
	comp=Z,1.2nm,0.3s,baz=16,slow=2.9,SNR=22								
PCRV				Sn		Sn		21 45 03.8	-9.3
	comp=Z,3.7nm,0.3s,baz=330,slow=14,SNR=5.6								
PCRV				LR		LR		21 46 43.6	
	comp=Z,72nm,18.7s,slow=37								
	comp=Z,4.6nm,0.3s								
PCRV	**Puerto La Cruz**	**8.27**	**178**	*e*	*P*	**Pn**		**21 43 39.0**	**-0.9**
PCRV	**Puerto La Cruz**	**8.27**	**178**	*e*	*S*	Sn		21 45 01.2	-12
TRN	**Trinidad (W)**	**8.53**	**155**	*e*	*P*	**Pn**		**21 43 44.5**	**+1.0**
MASC	**Masc**	**8.88**	**282**	*e*	*P*	Pn		21 43 45.8	-2.6
MASC				*e*	*S*	**Sn**		**21 45 22.9**	**-5.4**
MASC				IAML				21 45 31.6	
	comp=E,17nm,0.5s								
MASC				IAML				21 45 40.6	
	comp=N,20nm,0.5s								
QMBU	**Quimbuelo**	**9.43**	**282**	*e*	*P*	Pn		21 43 52.4	-3.5
QMBU				*e*	*S*	Sn		21 45 31.0	-11
QMBU				IAML				21 45 40.8	
	comp=N,28nm,0.6s								
QMBU				IAML				21 45 40.9	
	comp=E,23nm,0.3s								
URIC	**Uribia, Colomb**	**9.55**	**226**	P		Pn		21 43 54.7	-2.8
NMDO	**Nuevo Mundo**	**9.65**	**284**	*e*	*P*	Pn		21 43 56.1	-2.8
NMDO				*e*	*S*	Sn		21 45 33.3	-14
NMDO				IAML				21 45 42.3	
	comp=E,16nm,0.1s								
NMDO				IAML				21 46 06.1	
	comp=N,18nm,0.3s								
BAUV	**El Baul**	**9.93**	**198**			Pn		21 44 00.4	-2.4
BAUV	**El Baul**	**9.93**	**198**	*e*	*P*	**Pn**		**21 44 02.8**	**0.0**
BAUV	**El Baul**	**9.93**	**198**	*e*	*S*	Sn		21 45 46.2	-7.9
RCC	**Rio Carpintero**	**10.22**	**280**	*e*	*P*	Pn		21 44 02.0	-4.8
RCC				*e*	*S*	Sn		21 45 55.3	-5.9
RCC				IAML				21 46 09.3	
	comp=E,13nm,1.1s								
RCC				IAML				21 46 16.0	
	comp=N,10.0nm,1.1s								
CRJC	**Cerrejon, Guaj**	**10.64**	**227**	P		Pn		21 44 10.4	-2.2
SDV	**Santo Domingo**	**11.00**	**211**			Pn		21 44 15.2	-2.4
SDV	**Santo Domingo**	**11.00**	**211**	Pn		**Pn**		**21 44 16.6**	**-1.0**
	comp=N,5.9nm,0.3s,baz=41,slow=15,SNR=6.9								
SDV				Sn		Sn		21 46 11.0	-10
	comp=N,3.7nm,0.3s,baz=339,slow=19,SNR=2.6								
	comp=N,16nm,0.5s								
SMRC	**Santa Marta, M**	**11.51**	**232**	Pn		**Pn**		**21 44 25.5**	**+1.0**
OCAC	**Ocana**	**13.01**	**220**	P		Pn		21 44 42.5	-2.5
PAMC	**Pamplona, Colo**	**13.38**	**215**	P		**Pn**		**21 44 50.2**	**-0.2**
BBSR	**BB Station**	**13.83**	**1**	Pn		Pn		21 44 54.3	-1.7
RUSC	**La Rusia**	**14.79**	**213**			Pn		21 45 07.9	-1.8
PTBC	**PUERTO BERRIO,**	**15.03**	**219**	P		**Pn**		**21 45 10.5**	**-2.1**
ROSC	**El Rosal**	**16.34**	**215**	Pn		**Pn**		**21 45 29.7**	**-0.2**
	comp=N,2.5nm,0.3s,baz=152,slow=23,SNR=5.7								
ROSC				LR		LR		21 52 40.9	
	comp=N,99nm,18.6s,baz=46,slow=41								
	comp=N,3.9nm,0.3s								
BOAV	**Boa Vista**	**16.58**	**164**	Pn		**Pn**		**21 45 30.4**	**-2.1**
MDP	**Montagnes des**	**17.95**	**136**	P		**Pn**		**21 45 48.1**	**-1.6**
	comp=N,0.1nm,0.3s,baz=337,slow=15,SNR=1.4								
	comp=N,2.1nm,0.6s								
NHSC	**New Hope**	**19.94**	**320**	P		**P**		**21 46 10.2**	**-1.7**
NHSC				IAmb		IAmb		21 46 13.2	
	comp=Z,12nm,0.8s								
V61A	**Roper**	**20.06**	**332**	P		**P**		**21 46 13.2**	**0.0**
Y58A	**Scranton**	**20.20**	**322**	P		**P**		**21 46 13.6**	**-1.1**
Y58A				IAmb		IAmb		21 46 18.1	
	comp=Z,13nm,0.8s								
X58A	**Rowland**	**20.48**	**324**	P		**P**		**21 46 16.8**	**-1.0**
X58A				IAmb		IAmb		21 46 18.0	
	comp=Z,7.2nm,0.8s								
W57A	**Gilead**	**21.28**	**324**	P		**P**		**21 46 25.4**	**-1.1**
T59A	**Double "B" Far**	**21.48**	**332**	P		**P**		**21 46 27.9**	**-0.5**
V53A	**Saluda**	**23.28**	**321**	P		**P**		**21 46 45.6**	**-2.0**
V53A				IAmb		IAmb		21 46 54.0	
	comp=Z,5.9nm,1.3s								
S51A	**Beattyville**	**25.09**	**323**	P		**P**		**21 47 04.2**	**-0.3**
S51A				IAmb		IAmb		21 47 09.8	
	comp=Z,4.1nm,0.9s								
O54A	**Avella**	**25.37**	**332**	P		**P**		**21 47 05.5**	**-1.6**
O54A				IAmb		IAmb		21 47 11.6	
	comp=Z,6.1nm,1.2s								
I63A	**Otisfield**	**25.92**	**351**	P		**P**		**21 47 11.4**	**-0.6**
ATAH	**Atahualpa**	**28.68**	**209**	LR		LR		22 00 28.1	
	comp=Z,42nm,20.5s,baz=25,slow=39								
PBMO	**Poplar Bluff**	**28.84**	**314**	P		**P**		**21 47 37.3**	**-1.0**
SIV	**San Ignacio**	**34.47**	**173**	LR		LR		22 04 04.2	
	comp=Z,85nm,18.4s,baz=113,slow=39								
LPAZ	**La Paz**	**34.69**	**185**	P		**P**		**21 48 31.8**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=4.3,slow=4.8,SNR=5.0								
	comp=Z,0.5nm,0.7s								
TXAR	**Lajitas Array**	**36.82**	**294**	P		**P**		**21 48 49.2**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=87,slow=9.9,SNR=6.4								
	comp=Z,0.3nm,0.6s								
PDAR	**Pinedale Array**	**44.68**	**313**	P		**P**		**21 49 54.0**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=126,slow=10,SNR=3.9								
	comp=Z,0.2nm,0.4s								
EKA	**Eskdalemuir Ar**	**59.03**	**36**	P		**P**		**21 51 39.8**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=259,slow=4.7,SNR=4.4								
	comp=Z,0.2nm,0.4s								
ILAR	**Eielson Array**	**70.00**	**333**	P		**P**		**21 52 52.3**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=104,slow=3.8,SNR=2.8								
	comp=Z,0.3nm,0.7s								
ARCES	**ARCESS Array B**	**73.02**	**22**	P		**P**		**21 53 09.4**	**0.0**
	comp=Z,6.6nm,1.1s,baz=349,slow=2.5,SNR=4.0								
	comp=Z,6.6nm,1.1s								
FINES	**FINESS Array B**	**74.46**	**30**	P		**P**		**21 53 18.2**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=270,slow=4.2,SNR=4.7								
	comp=Z,1.7nm,0.9s								

IDC ***28*** *21:49:06.5±5.1, 38.17N×21.57E, h0km, mb3.3/5, mbtmp3.3/6, ML2.7/1, MS3.2/1, Error ellipse: s-maj=102.7km s-min=27.6km az=23.0*
THE ***28*** *21:49:10.8, 38.3N±0.6×21.8E±0.5, h0km±1km, M2.8/36, MLh2.8/36*
ATH ***28*** *21:49:10.1, 38.35N×21.81E, h15km±1km, ML2.9/13, Manual Solution by F

0.4nm,0.5s,baz=271,slow=8.0,SNR=8.3
0.4nm,0.5s

IDC ***28*** *22:35:08.1±1.6,5°.59S×147°.43E,h174km±14km,mb3.5/7, mbtmp4.2/10,Error ellipse: s-maj=25.3km s-min=10.5km az=113.0*

NEIC ***28*** *22:35:09.8±1.4,5°.61S±0°.05×147°.5E±0°.1,h182km±8km, mb4.3/23,Error ellipse: s-maj=21.9km s-min=5.0km az=103.0*

ISC 28 22:35:07.8±0.6,5°.56S±0°.06×147°.42E±0°.10,h170km,n37, σ1§02/41,mb4.0/12,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.83**	**184**	Pn	**Pn**	**22 36 08.1**	**+1.6**
PMG				Sn	**Sn**	**22 36 52.6**	**+0.2**
PMG	**Port Moresby**	**3.83**	**184**	P	**Pn**	**22 36 07.9**	**+1.4**
	117nm,0.3s,baz=360,slow=5.6,SNR=46						
PMG				S	**Sn**	**22 36 51.3**	**-1.1**
	67nm,0.4s,baz=210,slow=20,SNR=8.9						
COEN	**Coen**	**9.34**	**206**	Pn	**Pn**	**22 37 19.8**	**+1.0**
HNR	**Honiara**	**13.00**	**108**	P	**Pn**	**22 38 06.2**	**-0.3**
	108nm,0.4s,baz=157,slow=6.9,SNR=3.6						
CTAO	**Charters Tower**	**14.49**	**184**	Pn	**Pn**	**22 38 25.7**	**+0.6**
WB0	**Warramunga Arr**	**18.98**	**221**		**P**	**22 39 17.2**	**+0.7**
WB0				IAmb	IAmb	22 39 21.8	
	comp=Z,7.1nm,0.8s						
WR0	**Warramunga Arr**	**19.02**	**220**	P	**P**	**22 39 18.1**	**+1.1**
WR0				IAmb	IAmb	22 39 22.4	
	comp=Z,10nm,0.9s						
WR8	**Warramunga Arr**	**19.04**	**220**		**P**	**22 39 18.6**	**+1.4**
WR8				IAmb	IAmb	22 39 19.2	
	comp=Z,11nm,0.5s						
WRAB	**Tennant Creek**	**19.12**	**220**	P	**P**	**22 39 19.2**	**+1.1**
WRAB				IAmb	IAmb	22 39 23.4	
	comp=Z,9.6nm,0.8s						
WB2	**Warramunga Arr**	**19.13**	**220**	P	**P**	**22 39 19.4**	**+1.3**
WB2				IAmb	IAmb	22 39 23.6	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**19.14**	**220**	P	**P**	**22 39 17.3**	**-0.9**
WRA	**Warramunga Arr**	**19.14**	**220**	P	**P**	**22 39 19.5**	**+1.2**
	comp=Z,7.4nm,0.7s,baz=48,slow=11,SNR=119						
WRA				S	**S**	**22 42 44.4**	**-1.8**
	comp=Z,2.3nm,0.9s,baz=42,slow=20,SNR=6.3						
EIDS	**Eidsvold**	**20.01**	**170**	P	**P**	**22 39 27.8**	**+0.2**
EIDS				IAmb	IAmb	22 39 36.6	
	comp=Z,12nm,1.4s						
KNRA	**Kununurra**	**20.89**	**240**	P	**P**	**22 39 37.4**	**+0.4**
KNRA				IAmb	IAmb	22 39 40.6	
	comp=Z,6.2nm,1.1s						
AS31	**Alice Springs**	**22.21**	**215**	P	**P**	**22 39 51.4**	**+0.7**
AS31				IAmb	IAmb	22 39 52.6	
	comp=Z,3.0nm,0.3s						
ASAR	**Alice Springs**	**22.22**	**215**	P	**P**	**22 39 51.1**	**+0.4**
ASAR	**Alice Springs**	**22.22**	**215**	P	**P**	**22 39 52.0**	**+1.3**
	comp=Z,2.7nm,0.5s,baz=48,slow=8.7,SNR=58						
ASAR				S	**S**	**22 43 43.6**	**+0.7**
	comp=Z,2.2nm,0.8s,baz=32,slow=22,SNR=12						
	comp=Z,2.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**24.65**	**238**	P	**P**	**22 40 13.8**	**+0.8**
ARMA	**Armidale**	**25.05**	**171**	P	**P**	**22 40 15.2**	**-1.4**
ARMA				IAmb	IAmb	22 41 01.3	
	comp=Z,15nm,1.4s						
MORW	**Morawa**	**37.77**	**228**	P	**P**	**22 42 06.1**	**-1.6**
MORW				IAmb	IAmb	22 42 22.0	
	comp=Z,14nm,1.2s						
RAO	**Raoul Island**	**40.34**	**130**	P	**P**	**22 42 27.5**	**-1.5**
KS19	**Wonju Array Si**	**46.55**	**338**	P	**P**	**22 43 18.1**	**-0.5**
KS19				IAmb	IAmb	22 44 01.5	
	comp=Z,20nm,1.4s						
SONM	**Songino Array**	**64.22**	**331**	P	**P**	**22 45 24.4**	**-0.4**
SONM				IAmb	IAmb	22 45 27.3	
	comp=Z,2.5nm,1.4s						
SONM	**Songino Array**	**64.22**	**331**	P	**P**	**22 45 25.8**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=149,slow=3.1,SNR=4.3						
	comp=Z,0.5nm,0.5s						
ADK	**Adak**	**64.89**	**24**	P	**P**	**22 45 29.2**	**+0.4**
P08K	**Saint George I**	**71.20**	**23**	P	**P**	**22 46 09.2**	**+1.2**
VNDA	**Vanda**	**72.33**	**177**	P	**P**	**22 46 15.0**	**+0.5**
VNDA	**Vanda**	**72.33**	**177**	P	**P**	**22 46 14.4**	**0.0**
	comp=Z,0.6nm,0.5s,baz=344,slow=5.9,SNR=5.6						
	comp=Z,0.6nm,0.5s						
GAMB	**Gambell**	**75.63**	**17**	P	**P**	**22 46 34.1**	**+0.4**
L14K	**Kuka Creek**	**77.01**	**22**	P	**P**	**22 46 42.6**	**+1.1**
L14K				IAmb	IAmb	22 46 58.4	
	comp=Z,10nm,1.3s						
MKAR	**Makanchi Array**	**77.42**	**320**	P	**P**	**22 46 44.1**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=96,slow=8.7,SNR=5.3						
	comp=Z,0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**78.86**	**328**	P	**P**	**22 46 50.8**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=104,slow=5.1,SNR=4.1						
	comp=Z,0.8nm,0.4s						
H23K	**Yukon River**	**84.36**	**22**	P	**P**	**22 47 22.3**	**+1.7**
BMRM	**Bremner River**	**84.37**	**27**	P	**P**	**22 47 21.0**	**+0.2**
QSPA	**South Pole Qui**	**84.41**	**180**	P	**P**	**22 47 20.8**	**-0.3**
QSPA	**South Pole Qui**	**84.41**	**180**	P	**P**	**22 47 20.9**	**-0.1**
	comp=Z,1.3nm,1.0s,baz=24,slow=2.9,SNR=8.5						
	comp=Z,1.3nm,1.0s						
ILAR	**Eielson Array**	**84.91**	**23**	P	**P**	**22 47 22.6**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=254,slow=5.1,SNR=16						
	comp=Z,1.2nm,0.6s						

CATAC 28 22:46:09.8±0.2,14°N±1°×8°7W±°,h5km±1km,M3.0/10, MLv3.0/10,Error ellipse: s-maj=2.8km s-min=2.3km az=178.7,confirmed,Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGUH	**Tegucigalpa,Un**	**0.28**	**327**	P	Pg	22 46 15.9	+0.6
TGUH				S	Sg	22 46 20.0	+1.1
YUSH	**Yuscaran**	**0.30**	**64**	S	Sg	22 46 20.9	+1.4
YUSH	**Yuscaran**	**0.30**	**64**	P	Pg	22 46 16.3	+0.8
CHOHN	**Orocuina**	**0.34**	**187**	P	Pg	22 46 17.2	+0.7
CHOHN	**Orocuina**	**0.34**	**187**	S	Sg	22 46 22.4	+1.4
OCON	**Estacion meteo**	**0.65**	**107**	P	Pg	22 46 22.3	0.0
OCON				S	Sg	22 46 30.9	+0.1
CNCH	**Conchagua**	**0.88**	**232**	S	Sg	22 46 38.5	+0.3
CNCH	**Conchagua**	**0.88**	**232**	P	Pg	22 46 27.1	+0.4
LCND	**La Caada**	**0.91**	**236**	P	Pg	22 46 27.1	-0.2
LCND	**La Caada**	**0.91**	**236**	S	Sg	22 46 39.6	+0.6
RCVN	**Varillal2**	**0.93**	**105**	S	Sb	22 46 40.7	-0.5
RCVN	**Varillal2**	**0.93**	**105**	P	Pg	22 46 27.4	-0.2
CSGN	**Cosiguina Volc**	**0.94**	**207**	S	Sb	22 46 41.3	-0.3
CRIN	**San Cristobal**	**1.12**	**177**	P	Pg	22 46 29.9	-1.3
CRIN	**San Cristobal**	**1.12**	**177**	S	Sn	22 46 47.3	-0.7
POLN	**Al Sur del Vol**	**1.20**	**166**	S	Sb	22 46 48.8	-0.2
PACA	**Pacayal**	**1.22**	**253**	P	Pg	22 46 32.7	-0.6
CNGN	**Cerro Negro**	**1.38**	**163**	S	Sb	22 46 53.4	-0.6
PQSS	**Presa 15 de Se**	**1.42**	**262**	P	Pn	22 46 35.0	-1.3
PQSS	**Presa 15 de Se**	**1.42**	**262**	S	Sb	22 46 54.6	-0.5
MATN	**Matagalpa**	**1.46**	**127**	P	Pn	22 46 35.9	-1.1
MATN	**Matagalpa**	**1.46**	**127**	S	Sb	22 46 55.5	-1.0
SCLA	**Alcaldia de Sa**	**1.57**	**266**	P	Pn	22 46 38.3	-0.1
SCLA	**Alcaldia de Sa**	**1.57**	**266**	S	Sb	22 46 59.7	+0.1
BOAB	**BOACO BROADBAN**	**.96**	**134**	P	Pn	22 46 43.5	-0.3
BOAB	**BOACO BROADBAN**	**.96**	**134**	S	Sb	22 47 10.4	-0.5

NEIC ***28*** *22:49:29.3±1.3,5°.50N±0°.06×127°.39E±0°.08,h10km±1km, mb4.8/99,Error ellipse: s-maj=14.2km s-min=9.3km az=70.0*

BJI ***28*** *22:49:33.0,5°.50N×127°.40E,h41km,mB4.7/15,mb4.8/55, Ms4.2/32,Ms7 4.1/32*

DJA ***28*** *22:49:34.5±1.1,5°N±5°×12°7E±°,h18km±10km,M4.9/12, mB5.3/5,mb5.0/8,MLv5.0/12,Mw(mB)4.7/5,MwMwp4.9/1, Mwp5.2/1*

IDC ***28*** *22:49:35.8±1.6,5°.38N×127°.40E,h69km±13km,mb4.3/29, mbtmp4.6/33,MS3.8/46,Error ellipse: s-maj=17.1km s-min=9.1km az=68.0*

ISC 28 22:49:34.3±0.4,5°.42N±0°.04×127°.44E±0°.06,h53km,n204, σ1§12/179,mb4.7/88,MS3.9/51,2C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.47**	**312**		**Pn**	**22 50 09.0**	**-3.2**
DAV	**Davao City (W)**	**2.47**	**312**	P	**Pn**	**22 50 14.0**	**+1.8**
	623nm,0.4s,baz=61,slow=1.9,SNR=14						
DAV				S	**Sn**	**22 50 43.8**	**+2.6**
	836nm,0.5s,baz=253,slow=20,SNR=5.7						
DAV				LR	LR	22 50 58.9	
	comp=Z,2µm,20.8s,baz=269,slow=34						
DAV	**Davao City (W)**	**2.47**	**312**	⇑*i*P	**Pn**	**22 50 12.0**	**-0.2**
SGSI	**Sangihe**	**2.57**	**228**	P	**Pn**	**22 50 13.5**	**-0.1**
SGSI				S	**Sn**	**22 50 46.3**	**+2.6**
TNTI	**Ternate**	**4.62**	**181**		Pn	22 50 37.9	-3.7
TNTI	**Ternate**	**4.62**	**181**	P	**Pn**	**22 50 40.8**	**-0.8**
KMSI	**Cibinong**	**5.93**	**216**	P	**Pn**	**22 50 58.7**	**-0.9**
MRSI	**Marisa**	**7.37**	**228**	P	**Pn**	**22 51 20.0**	**+0.6**
	0.5nm2µm141nm,0.6s						
MRSI				S	**Sn**	**22 52 41.1**	**-0.6**
	0.5nm2µm141nm,0.6s						
SANI	**Sanana**	**7.56**	**191**	P	**Pn**	**22 51 20.2**	**-1.8**
	0.3nm949nm92nm,1.0s						
TOLI2	**Tolitoli**	**7.91**	**237**		Pn	22 51 23.8	-3.0
LUWI	**Luwuk**	**7.94**	**216**	P	**Pn**	**22 51 26.3**	**-0.8**
	174nm,1.2s						
NLAI	**Namlea**	**8.61**	**182**	P	**Pn**	**22 51 35.8**	**-0.6**
	74nm,0.8s						
MYLDM	**Lahad Datu**	**8.91**	**269**		**Pn**	**22 51 40.2**	**-0.2**
FAKI	**Fak Fak**	**9.57**	**150**	Pn	Pn	22 51 48.2	-1.4
FAKI	**Fak Fak**	**9.57**	**150**	P	**Pn**	**22 51 50.7**	**+1.1**
TGY	**Tagaytay City**	**10.75**	**324**	LR	LR	22 57 24.7	
	comp=Z,841nm,18.6s,baz=138,slow=44						
KAPI	**Kappang**	**12.90**	**217**	P	**Pn**	**22 52 35.8**	**+0.7**
	13nm,0.8s,baz=71,slow=3.0,SNR=3.6						
KAPI				LR	LR	22 58 21.8	
	comp=Z,681nm,19.4s,baz=35,slow=41						
SOEI	**Soe**	**15.41**	**192**		**Pn**	**22 53 09.2**	**+0.6**
SOEI				IAmb	IAmb	22 53 13.9	
	comp=Z,49nm,1.3s						
JAY	**Jayapura**	**15.41**	**120**	P	**Pn**	**22 53 10.8**	**+2.2**
	comp=Z,29nm,1.0s,baz=276,slow=7.6,SNR=15						
JAY				LR	LR	22 59 04.6	
	comp=Z,570nm,19.1s,baz=292,slow=37						
SBUM	**Sibu**	**15.47**	**260**		**Pn**	**22 53 09.3**	**0.0**
BATI	**Baumata**	**15.97**	**194**	P	**Pn**	**22 53 16.6**	**+0.9**
	comp=Z,12nm,0.3s,baz=45,slow=4.3,SNR=2.1						
KSM	**Kuching**	**17.55**	**258**		**Pn**	**22 53 33.7**	**-1.6**
MTN	**Manton Dam**	**18.51**	**169**		**P**	**22 53 47.4**	**+1.0**
TPUB	**Ta-pu**	**18.95**	**340**		**P**	**22 53 50.6**	**-0.7**
GUMO	**Guam**	**18.99**	**63**	LR	LR	23 00 09.9	
	comp=Z,356nm,19.8s,baz=241,slow=33						
SSLB	**Sungglung**	**19.30**	**342**		**P**	**22 53 50.5**	**-4.5**
KNMB	**Chin-men Tao**	**20.84**	**336**	P	**P**	**22 54 11.0**	**-0.7**
KNMB				IAmb	IAmb	22 54 18.5	
	comp=Z,56nm,0.8s						
KNRA	**Kununurra**	**21.00**	**176**		**P**	**22 54 14.2**	**+0.7**
KNRA				IAmb	IAmb	22 54 21.7	
	comp=Z,21nm,0.6s						
JOW	**Kunigami**	**21.31**	**2**	P	**P**	**22 54 16.0**	**-0.7**
JOW				IAmb	IAmb	22 54 23.2	
	comp=Z,36nm,1.0s						
JOW	**Kunigami**	**21.31**	**2**	P	**P**	**22 54 17.9**	**+1.2**
	comp=Z,24nm,0.9s,baz=205,slow=12,SNR=6.4						
JOW				LR	LR	23 04 05.9	
	comp=Z,201nm,19.8s,baz=148,slow=41						
	comp=Z,24nm,0.9s						
QIZ	**Qiongzhong**	**21.85**	**310**	P	**P**	**22 54 26.0**	**+3.4**
QIZ				S	**S**	**22 58 21.0**	**-0.4**
QIZ				pmax	pmax		
	comp=Z,27nm,1.0s						
QIZ				LR	LR		
	comp=Z,240nm,14.5s						
QIZ				LR	LR		
	comp=Z,150nm,15.9s						
QIZ				LR	LR		
	comp=Z,590nm,19.3s						
LEM	**Lembang**	**23.23**	**239**	LR	LR	23 04 45.2	
	comp=Z,344nm,20.6s,baz=340,slow=39						
FITZ	**Fitzroy Crossi**	**23.44**	**184**	P	**P**	**22 54 40.4**	**+1.4**
MYKOM	**Kota Tinggi**	**23.82**	**262**	P	**P**	**22 54 42.3**	**-0.4**
MYKOM				IAmb	IAmb	22 55 02.9	
	comp=Z,21nm,1.0s						
PMG	**Port Moresby**	**24.56**	**127**	LR	LR	23 05 38.7	
	comp=Z,156nm,18.8s,baz=343,slow=39						
JCJ	**Chichijima**	**25.73**	**32**	P	**P**	**22 54 59.9**	**0.0**
JCJ	**Chichijima**	**25.73**	**32**	LR	LR	23 03 49.5	
	comp=Z,247nm,20.1s,baz=209,slow=33						
WB0	**Warramunga Arr**	**25.95**	**165**	P	**P**	**22 55 02.4**	**+0.4**
WRAB	**Tennant Creek**	**26.09**	**165**	P	**P**	**22 55 03.9**	**+0.6**
WRAB				IAmb	IAmb	22 55 08.8	
	comp=Z,17nm,0.7s						
WRA	**Warramunga Arr**	**26.10**	**165**	P	**P**	**22 55 04.7**	**+1.4**
WRA	**Warramunga Arr**	**26.10**	**165**	P	**P**	**22 55 02.0**	**-1.3**
	comp=Z,4.1nm,0.9s,baz=343,slow=10,SNR=28						
WRA				ScP	**ScP**	**23 02 05.3**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=342,slow=2.6,SNR=3.6						
WRA				LR	LR	23 08 28.7	
	comp=Z,324nm,18.8s,baz=6.5,slow=43						
	comp=Z,4.1nm,0.9s						
WR8	**Warramunga Arr**	**26.16**	**165**	P	**P**	**22 55 03.5**	**-0.3**
WR8				IAmb	IAmb	22 55 09.5	
	comp=Z,17nm,0.8s						
MBWA	**Marble Bar**	**27.48**	**196**	P	**P**	**22 55 14.1**	**-1.6**
MBWA				IAmb	IAmb	22 55 28.0	
	comp=Z,13nm,1.0s						
NJ2	**Nanjing**	**27.69**	**344**	*e*P	**P**	**22 55 20.5**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
JNU	**Nakatsue**	**27.75**	**6**		**P**	**22 55 17.5**	**-0.6**
JNU				IAmb	IAmb	22 55 21.1	
	comp=Z,18nm,1.1s						
JNU	**Nakatsue**	**27.75**	**6**	LR	LR	23 08 09.6	
	comp=Z,142nm,19.9s,baz=174,slow=40						
PSA00	**Pilbara Seismi**	**27.84**	**195**	P	**P**	**22 55 18.6**	**-0.4**
PSI	**Prapat**	**28.56**	**266**	LR	LR	23 09 29.3	
	comp=Z,156nm,19.7s,baz=74,slow=42						
AS31	**Alice Springs**	**29.59**	**168**	P	**P**	**22 55 35.4**	**+0.9**
ASAR	**Alice Springs**	**29.59**	**168**	P	**P**	**22 55 35.0**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=347,slow=9.7,SNR=15						
ASAR				PcP	**PcP**	**22 58 38.2**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=339,slow=2.3,SNR=1.6						
ASAR				LR	LR	23 08 30.5	
	comp=Z,192nm,18.1s,baz=5.0,slow=38						
	comp=Z,1.3nm,0.6s						
JHJ	**Hachijo jima 2**	**29.86**	**21**	LR	LR	23 06 59.5	
	comp=Z,217nm,19.9s,baz=119,slow=35						
ENH	**Enshi**	**29.95**	**328**	P	**P**	**22 55 36.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**30.68**	**297**	P	**P**	**22 55 43.1**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=109,slow=7.4,SNR=6.7						
CMAR				LR	LR	23 07 39.7	
	comp=Z,107nm,21.9s,baz=115,slow=35						
	comp=Z,0.7nm,0.3s						
KMI	**Kunming**	**30.74**	**312**	P	**P**	**22 55 45.5**	**+0.6**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KMI				LR	LR		
	comp=Z,150nm,19.1s						
KMI				LR	LR		
	comp=Z,220nm,13.8s						
KMI				LR	LR		
	comp=Z,230nm,19.7s						
INU	**Inuyama**	**31.06**	**15**	P	**P**	**22 55 46.6**	**-0.8**
INU				IAmb	IAmb	22 55 48.7	
	comp=Z,16nm,0.9s						
JGF	**Kuroka**	**31.39**	**16**		**P**	**22 55 49.3**	**-1.1**
KSRS	**Korea Array**	**31.89**	**1**	P	**P**	**22 55 54.2**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=178,slow=10,SNR=9.4						
	comp=Z,2.4nm,0.8s						
PZH	**PanZhiHua**	**32.27**	**313**	P	**P**	**22 56 00.5**	**+2.2**
MAJO	**Matsushiro**	**32.51**	**16**		**P**	**22 55 58.8**	**-1.3**
MAJO				IAmb	IAmb	22 56 02.2	
	comp=Z,16nm,1.1s						
MJAR	**Matsushiro Arr**	**32.51**	**16**		**P**	**22 55 59.0**	**-1.1**
MJAR	**Matsushiro Arr**	**32.51**	**16**	P	**P**	**22 55 59.5**	**-0.6**
	comp=Z,4.4nm,0.8s,baz=188,slow=7.3,SNR=5.9						
MJAR				LR	LR	23 07 14.9	
	comp=Z,197nm,21.2s,baz=204,slow=32						
	comp=Z,4.4nm,0.8s						
MJB9	**Matsu-Tunnel**	**32.51**	**16**	P	**P**	**22 55 58.8**	**-1.3**
MJB9				IAmb	IAmb	22 56 02.2	
	comp=Z,15nm,1.1s						
XAN	**Xi'an**	**33.26**	**331**	P	**P**	**22 56 06.3**	**-0.4**
XAN				pP	pP	22 56 16.5	-2.1
XAN				S	**S**	**23 01 24.5**	**+1.1**
XAN				pmax	pmax		
	comp=Z,32nm,1.0s						
XAN				LR	LR		
	comp=Z,330nm,18.5s						
XAN				LR	LR		
	comp=Z,170nm,16.5s						
XAN				LR	LR		
	comp=Z,370nm,19.2s						
CD2	**Chengdu**	**33.74**	**322**	P	**P**	**22 56 10.5**	**-0.5**
CD2				sP	sP	22 56 27.0	-1.4
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
CD2				LR	LR		
	comp=Z,220nm,17.8s						
CD2				LR	LR		
	comp=Z,270nm,12.1s						
CD2				LR	LR		
	comp=Z,320nm,15.9s						
HNS	**HongShan**	**33.89**	**342**	⇓P	**P**	**22 56 12.0**	**-0.1**
HNS				pmax	pmax		
	comp=Z,18nm,0.9s						
HNS				LR	LR		
	comp=Z,210nm,16.2s						
HNS				LR	LR		
	comp=Z,160nm,16.7s						
HNS				LR	LR		
	comp=Z,250nm,16.2s						
JMM	**Marumori**	**34.51**	**19**	P	**P**	**22 56 16.4**	**-1.1**
HNR	**Honiara**	**35.59**	**114**	LR	LR	23 11 11.4	
	comp=Z,104nm,18.3s,baz=310,slow=36						
BJT	**Baijiatuan**	**35.91**	**345**	P	**P**	**22 56 28.5**	**-1.0**
BJT				IAmb	IAmb	22 56 37.3	
	comp=Z,15nm,0.7s						
JTM	**Tenmabayashi**	**37.27**	**17**	P	**P**	**22 56 40.4**	**-0.6**
JTM				IAmb	IAmb	22 56 43.6	
	comp=Z,33nm,1.1s						
LZH	**Lanzhou**	**37.44**	**328**	*e*P	**P**	**22 56 43.5**	**+0.7**
LZH				sP	pP	22 56 56.0	+1.3
LZH				pmax	pmax		
	comp=Z,32nm,1.2s						
LZH				LR	LR		
	comp=Z,310nm,15.9s						
LZH				LR	LR		
	comp=Z,300nm,17.1s						
LZH				LR	LR		
	comp=Z,430nm,17.5s						
HHC	**Hu-ho-hao-te**	**38.04**	**340**	*e*P	**P**	**22 56 50.5**	**+2.8**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,91nm,5.6s						
HHC				LR	LR		
	comp=Z,140nm,21.0s						
HHC				LR	LR		
	comp=Z,110nm,19.3s						
HHC				LR	LR		
	comp=Z,160nm,20.2s						
USRK	**Ussuriysk Ar.**	**38.83**	**5**	P	**P**	**22 56 53.9**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=183,slow=7.1,SNR=4.8						
	comp=Z,3.3nm,0.8s						
NWAO	**Narrogin (SRO)**	**39.35**	**194**	LR	LR	23 14 42.9	
	comp=Z,109nm,19.5s,baz=214,slow=38						
STKA	**Stephens Creek**	**39.47**	**161**		**P**	**22 57 01.2**	**+1.6**
STKA	**Stephens Creek**	**39.47**	**161**	P	**P**	**22 56 59.0**	**-0.6**
	comp=Z,18nm,0.6s,baz=335,slow=8.6,SNR=34						
STKA				LR	LR	23 15 22.4	
	comp=Z,222nm,19.1s,baz=353,slow=39						
	comp=Z,18nm,0.6s						
SHL	**Shillong**	**39.48**	**304**		**P**	**22 56 58.8**	**-1.4**
SHL				IAmb	IAmb	22 57 30.2	
	comp=Z,19nm,0.9s						
XLT	**XiLinHaoTe**	**39.61**	**347**	*e*P	**P**	**22 57 05.0**	**+4.2**
XLT				sP	pwP	22 57 21.3	+0.3
XLT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,110nm,5.2s						
BNX	**BinXian**	**40.16**	**360**	⇑P	**P**	**22 57 05.8**	**+0.6**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ASAJ	**Asahikawa**	**40.78**	**17**	P	**P**	**22 57 11.1**	**+0.8**
	comp=Z,17nm,1.2s,baz=211,slow=15,SNR=6.4						
ASAJ				LR	LR	23 14 15.8	
	comp=Z,196nm,19.9s,baz=182,slow=36						
	comp=Z,17nm,1.2s						
GTA	**Gaotai**	**42.04**	**328**	P	**P**	**22 57 22.0**	**+1.1**
GTA				sP	pP	22 57 37.0	+3.8
GTA				pmax	pmax		
	comp=Z,15nm,1.0s						
GTA				LR	LR		
	comp=Z,160nm,16.7s						
GTA				LR	LR		
	comp=Z,250nm,19.3s						
GTA				LR	LR		
	comp=Z,340nm,20.4s						
HEH	**HeiHe**	**44.68**	**360**	*e*P	**P**	**22 57 41.8**	**0.0**
HEH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HEH				LR	LR		
	comp=Z,160nm,17.1s						
HEH				LR	LR		
	comp=Z,100nm,18.3s						
HEH				LR	LR		
	comp=Z,250nm,20.2s						
ULN	**Ulaanbaatar**	**45.75**	**341**	P	**P**	**22 57 49.8**	**-0.8**
ULN				IAmb	IAmb	22 57 53.2	
	comp=Z,9.4nm,0.8s						
SONM	**Songino Array**	**45.94**	**340**		**P**	**22 57 51.3**	**-0.8**
SONM				IAmb	IAmb	22 58 12.0	
	comp=Z,14nm,1.8s						
SONM	**Songino Array**	**45.94**	**340**	P	**P**	**22 57 51.6**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=161,slow=8.5,SNR=12						
SONM				LR	LR	23 19 51.6	
	comp=Z,118nm,18.8s,baz=162,slow=40						
	comp=Z,2.3nm,0.8s						
PALK	**Pallekele**	**46.48**	**275**	LR	LR	23 17 16.4	
	comp=Z,91nm,20.2s,baz=96,slow=36						
DZM	**Mont Dzumac**	**46.95**	**127**	*e*LR	LR	23 11 16.6	
	comp=Z,141nm,25.4s						
DZM	**Mont Dzumac**	**46.95**	**127**	P	**P**	**22 57 59.4**	**-0.9**
	comp=Z,3.9nm,0.6s,baz=285,slow=12,SNR=4.1						
	comp=Z,3.9nm,0.6s						
WMQ	**Urumqi**	**51.77**	**324**	*e*P	**P**	**22 58 38.3**	**+1.5**
WMQ				sP	pP	22 58 51.5	+2.2
WMQ				pmax	pmax		
	comp=Z,29nm,1.1s						
WMQ				LR	LR		
	comp=Z,250nm,22.3s						
WMQ				LR	LR		
	comp=Z,220nm,11.3s						
WMQ				LR	LR		
	comp=Z,270nm,19.5s						
PETK	**Petropavlovsk-**	**53.60**	**22**

comp=Z,4.6nm,0.7s
UCH Uchtor 59.43 317 P P 22 59 33.1 +0.8
SNR=26
AAK Ala-Archa 59.60 317 LR LR 23 28 42.0
comp=Z,83nm,19.4s,baz=97,slow=39
USP Ospenovka 59.85 318 P P 22 59 34.7 +0.1
SNR=24
EKS2 Erkin-Say 60.10 317 P P 22 59 37.1 +0.6
SNR=18
ARSB Arslanbob 60.16 315 P P 22 59 35.9 -1.0
ARSB IAmb IAmb 22 59 38.1
comp=Z,10.0nm,0.8s
SHEM Shemya Is, Ala 60.65 30 LR LR 23 21 36.5
comp=Z,77nm,21.6s,baz=70,slow=32
KURK Kurchatov 60.72 327 P 22 59 40.0 -0.3
KURBB Kurchatov Arra 60.72 327 P P 22 59 40.4 0.0
comp=Z,25nm,0.8s,baz=125,slow=6.0,SNR=146
comp=Z,25nm,0.8s
KBL Kabul 61.08 307 P 22 59 42.5 -0.9
KBL IAmb IAmb 22 59 44.0
comp=Z,7.9nm,0.8s
GAR Garm 61.32 312 P 22 59 44.1 -0.7
KK31 Karatay Array 62.50 316 P 22 59 51.6 -0.9
KKAR Karatay Array 62.50 316 P 22 59 51.6 -0.9
URZ Urewera 63.30 138 LR LR 23 26 09.8
comp=Z,98nm,21.5s,baz=306,slow=35
TIXI Tiksi 66.15 0 LR LR 23 35 16.6
comp=Z,59nm,18.0s,baz=188,slow=41
BVAR Borovoye Array 66.31 326 P P 23 00 17.1 -0.1
comp=Z,27nm,0.8s,baz=123,slow=8.2,SNR=120
BVAR LR LR 23 32 30.6
comp=Z,89nm,18.9s,baz=120,slow=39
comp=Z,27nm,0.8s
BRVK Borovoye 66.38 326 P 23 00 16.7 -0.9
AB31 Akbulak array 71.31 320 P 23 00 47.6 -0.7
ABKAR Akbulak array 71.31 320 P 23 00 47.8 -0.6
AKTO Aktyubinsk 72.79 321 LR LR 23 35 29.7
comp=Z,124nm,20.9s,baz=100,slow=38
ARTI Arti 73.98 327 P 23 01 03.5 -0.7
ARTI IAmb IAmb 23 01 09.9
comp=Z,13nm,1.1s
ARTI Arti 73.98 327 LR LR 23 37 39.8
comp=Z,62nm,18.1s,baz=118,slow=39
K13K Kusilvak Mount 74.94 27 P P 23 01 09.7 +0.2
K13K IAmb IAmb 23 01 31.9
comp=Z,7.8nm,1.1s
J16K Anvik River 77.11 26 P P 23 01 22.7 +0.8
H17K Granite Mounta 77.79 25 P P 23 01 25.8 +0.1
J17K VABM Dome 77.80 26 P P 23 01 27.5 +1.8
K17K Iditarod 78.01 27 P 23 01 26.3 -0.6
K17K IAmb IAmb 23 02 09.6
comp=Z,9.0nm,1.1s
H19K Roundabout Mou 79.34 24 P 23 01 35.7 +1.5
H19K IAmb IAmb 23 01 37.8
comp=Z,9.8nm,1.1s
E19K Redstone River 79.41 22 P 23 01 35.6 +1.1
E19K IAmb IAmb 23 01 38.0
comp=Z,12nm,1.1s
BELG Belogornoye 79.51 322 LR LR 23 39 11.2
comp=Z,36nm,19.0s,baz=71,slow=37
D20K Etivluk River 79.88 21 P 23 01 38.2 +1.1
D20K IAmb IAmb 23 01 40.4
comp=Z,12nm,1.1s
F20K Avaraart Lake 79.90 23 P P 23 01 37.9 +0.7
K20K Telida 80.02 27 P P 23 01 38.4 +0.4
KDAK Kodiak Island 80.09 32 LR LR 23 31 04.7
comp=Z,96nm,21.1s,baz=234,slow=31
RAYN Ar Rayn 80.48 293 P 23 01 40.7 -0.6
RAYN IAmb IAmb 23 01 42.2
comp=Z,12nm,0.7s
IMAR Indian Mountai 80.52 24 P P 23 01 41.3 +0.8
G21K Allakaket 80.69 23 P P 23 01 42.1 +0.6
H21K Melozitna Rive 80.86 24 P P 23 01 43.3 +0.9
CAST Castle Rocks 80.91 27 P P 23 01 43.0 +0.3
GNI Garni 80.95 310 P 23 01 42.8 -0.8
I21K Tanana 81.15 25 P P 23 01 44.8 +0.9
I21K IAmb IAmb 23 01 48.0
comp=Z,9.8nm,1.0s
SUA Susitna One 81.35 29 P P 23 01 44.6 -0.6
SUA IAmb IAmb 23 01 46.8
comp=Z,8.9nm,1.0s
BPAW Bear Paw Mtn. 81.46 26 P 23 01 45.6 0.0
BPAW IAmb IAmb 23 01 49.2
comp=Z,8.3nm,1.1s
E22K Anaktuvuk Pass 81.55 22 P 23 01 46.7 +0.7
MLY Manley 81.66 25 P 23 01 46.9 +0.2
TRF Thorofare Moun 81.72 27 P 23 01 47.3 +0.1
TRF IAmb IAmb 23 02 29.8
comp=Z,24nm,1.6s
COLD Coldfoot 82.07 23 P P 23 01 49.3 +0.6
COLD IAmb IAmb 23 01 52.4
comp=Z,8.1nm,1.0s
G23K Bananza Creek 82.09 23 P 23 01 49.0 0.0
H23K Yukon River 82.22 24 P P 23 01 49.6 0.0
H23K IAmb IAmb 23 01 53.2
comp=Z,5.5nm,0.9s
I23K Minto, Yukon-K 82.25 25 P P 23 01 50.4 +0.8
I23K IAmb IAmb 23 01 53.0
comp=Z,19nm,1.4s
GEVA Gevas 82.27 308 P 23 01 49.8 -0.8
NEA2 Nenana 82.33 26 P P 23 01 50.8 +0.6
MCK McKinley 82.34 26 P 23 01 50.5 +0.3
MCK IAmb IAmb 23 01 53.2
comp=Z,8.5nm,0.8s
KBZ Khabaz 82.34 313 P P 23 01 50.5 -0.2
comp=Z,2.8nm,0.9s,baz=96,slow=4.0,SNR=6.7
KBZ LR LR 23 44 58.8
comp=Z,60nm,18.8s,baz=68,slow=40
comp=Z,2.8nm,0.9s
E23K Chandalar 82.36 22 P P 23 01 50.1 -0.3
E23K IAmb IAmb 23 01 54.8
comp=Z,14nm,1.2s
KIV Kislovodsk 82.50 313 P P 23 01 50.8 -0.8
KIV IAmb IAmb 23 02 06.5
comp=Z,7.1nm,0.8s
D24K Happy Valley 82.73 21 P 23 01 53.2 +1.1
WRH Wood River Hil 82.75 26 P 23 01 52.1 -0.2
CCB Clear Creek Bu 82.88 26 P 23 01 52.5 -0.5
CCB IAmb IAmb 23 01 55.0
comp=Z,7.8nm,1.2s
H24K Noodor Dome 82.90 24 P 23 01 53.2 0.0
H24K IAmb IAmb 23 02 13.2
comp=Z,5.5nm,0.9s
F24K Squaw Lake 82.98 23 P 23 01 54.2 +0.7
F24K IAmb IAmb 23 01 57.3
comp=Z,12nm,1.4s
GURO Guroymak-BITLI 83.07 308 P P 23 01 55.8 +1.1
IL31 83.28 25 P P 23 01 55.2 +0.2
IL31 IAmb IAmb 23 01 57.1
comp=Z,6.2nm,1.1s
ILAR Eielson Array 83.28 25 P P 23 01 55.1 0.0
comp=Z,3.3nm,1.1s,baz=246,slow=5.3,SNR=13
ILAR LR LR 23 40 31.4
comp=Z,23nm,19.0s,baz=92,slow=37
comp=Z,3.3nm,1.1s
F25K Christian Rive 83.84 23 P P 23 01 58.4 +0.4
F25K IAmb IAmb 23 02 36.3
comp=Z,18nm,1.9s
KOPT Kop Dagi 84.21 310 P 23 01 59.6 -1.1
BMAR Burnt Mountain 84.25 23 P P 23 02 00.5 +0.5
G26K Porcupine Rive 84.57 23 P 23 02 00.8 -0.8
GLB Gilahina Butte 84.68 29 P 23 02 03.0 +0.7
J26L Joseph Creek 84.71 26 P P 23 02 01.8 -0.7
J26L IAmb IAmb 23 02 57.9
comp=Z,8.6nm,1.4s
I26K Coal Creek Min 84.86 25 P P 23 02 02.9 -0.3
I26K IAmb IAmb 23 02 16.9
comp=Z,6.9nm,1.1s
PPT2 Papeete2 84.96 108 *e*LR LR 23 28 53.9
comp=Z,113nm,24.0s
PPT2 eLR LR 23 28 54.6
comp=Z,67nm,23.0s
VNDA Vanda 85.00 173 P P 23 02 03.5 0.0
comp=Z,1.4nm,1.0s,baz=326,slow=3.4,SNR=4.9
VNDA LR LR 23 40 33.1
comp=Z,107nm,18.3s,baz=304,slow=36
comp=Z,1.4nm,1.0s
E27K Coleen River 85.36 22 P 23 02 05.6 0.0
E27K IAmb IAmb 23 02 11.8
comp=Z,5.2nm,1.1s
K27K Chicken 85.38 26 P P 23 02 06.6 +0.9
K27K IAmb IAmb 23 02 10.2
comp=Z,5.8nm,1.1s
TBI Tubuai 85.81 114 *e*LR LR 23 29 10.5
comp=Z,679nm,32.5s
TBI *e*LR LR 23 29 21.7
comp=Z,930nm,26.5s
I28M Miner Creek 86.20 25 P 23 02 09.2 -0.7
GAZ Gaziantep 86.95 307 P P 23 02 13.8 -0.3
TOKA Tokat 87.27 310 P P 23 02 14.7 -0.9
INK Inuvik 88.34 22 LR LR 23 47 57.9
comp=Z,28nm,18.4s,baz=144,slow=40
MMAI Mount Meron Ar 88.79 303 P P 23 02 22.7 -0.3
comp=Z,4.8nm,1.0s,baz=82,slow=3.1,SNR=5.8
comp=Z,4.8nm,1.0s
SPITS Spitsbergen Ar 88.97 349 P P 23 02 22.8 -0.1
comp=Z,4.0nm,0.8s,baz=88,slow=9.3,SNR=4.6
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 89.12 340 P P 23 02 22.2 -1.5
comp=Z,3.4nm,0.8s,baz=76,slow=4.9,SNR=5.9
comp=Z,3.4nm,0.8s
BR131 Keskin Array S 89.50 310 P 23 02 25.5 -0.8
BR131 IAmb IAmb 23 02 28.9
comp=Z,5.4nm,1.0s
BRTR Keskin Array B 89.50 310 P 23 02 25.5 -0.8
BRTR Keskin Array B 89.50 310 P P 23 02 24.8 -1.5
comp=Z,2.7nm,0.9s,baz=102,slow=4.7,SNR=12
comp=Z,2.7nm,0.9s
FINES FINESS Array B 90.69 332 P P 23 02 29.5 -1.7
comp=Z,2.1nm,0.9s,baz=64,slow=4.7,SNR=10
comp=Z,2.1nm,0.9s
AKASG Malin Array Be 91.04 321 P P 23 02 31.3 -1.7
comp=Z,0.8nm,0.5s,baz=74,slow=3.7,SNR=4.9
comp=Z,0.8nm,0.5s
KIEV Kiev 91.05 321 P P 23 02 31.6 -1.5
KIEV IAmb IAmb 23 02 32.6
comp=Z,6.6nm,1.2s
DLBC Dease Lake 91.94 31 LR LR 23 39 40.7
comp=Z,7.2nm,20.8s,baz=234,slow=33
TAOE Nuku Hiva Isla 93.19 99 *e*LR LR 23 32 41.6
comp=Z,121nm,26.3s
MLR Muntele Rosu 94.18 316 LR LR 23 50 46.1
comp=Z,106nm,21.0s,baz=68,slow=39
BURAR Bucovina Array 94.22 318 P 23 02 46.9 -1.0
BUR08 Bucovina Ar. S 94.22 318 P 23 02 46.8 -1.1
BUR08 IAmb IAmb 23 03 06.0
comp=Z,4.3nm,1.0s
SYO Syowa Base 94.25 201⇓ *e*P **P 23 02 48.0 +0.7**
QSPA South Pole Qui 95.32 180 LR LR 23 48 24.7
comp=Z,100nm,18.6s,baz=6.5,slow=37
HFS Hagfors 96.86 333 P P 23 02 57.3 -2.2
comp=Z,2.2nm,0.9s,baz=97,slow=7.6,SNR=7.8
HFS LR LR 23 51 50.4
comp=Z,93nm,18.3s,baz=62,slow=39
comp=Z,2.2nm,0.9s
NB2 NORSAR Subarra 97.59 334 P Pdif 23 03 06.2 +3.3
comp=Z,1.3nm,0.8s,baz=65,slow=4.4
NOA NORSAR Array B 97.59 334 P P 23 03 04.2 +1.3
comp=Z,0.6nm,0.8s,baz=62,slow=1.9,SNR=2.5
NOA LR LR 23 52 19.3
comp=Z,61nm,18.4s,baz=60,slow=39
comp=Z,0.6nm,0.8s
YKA Yellowknife Ar 97.67 24 LR LR 23 50 09.3
comp=Z,22nm,19.1s,baz=328,slow=37

*NEIC **28** 23:04:16.8±0.5, 5.52S±0.09×150.27E±0.06, h127km±13km, mb4.3/17, Error ellipse: s-maj=13.2km s-min=6.9km az=200.0*
*IDC **28** 23:04:17.4±1.8, 5.54S×150.17E, h138km±14km, mb3.7/13, mbtmp4.1/15, MS3.6/1, Error ellipse: s-maj=22.9km s-min=8.9km az=110.0*
ISC 28 23:04:18.1±0.5, 5.55S±0.06×150.28E±0.08, h150km, n42, σ1s22/44, mb4.1/20, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.31**	**54**		**Pn**	**23 04 54.4**	**-2.5**
MANU	**Manus Island**	**4.54**	**320**		**Pn**	**23 05 23.6**	**-1.9**
PMG	**Port Moresby**	**4.93**	**219**		**Pn**	**23 05 29.4**	**-1.2**
PMG	**Port Moresby**	**4.93**	**219**	P	**Pn**	**23 05 30.1**	**-0.5**
	33nm,0.3s,baz=52,slow=7.0,SNR=13						
PMG				S	**Sn**	**23 06 23.8**	**-3.4**
	213nm,0.4s,baz=330,slow=16,SNR=18						
JAY	**Jayapura**	**10.02**	**287**	P	**Pn**	**23 06 36.4**	**-2.1**
	8.6nm,1.0s,baz=154,slow=4.1,SNR=4.4						
COEN	**Coen**	**10.90**	**219**	Pn	**Pn**	**23 06 48.9**	**-1.2**
CTAO	**Charters Tower**	**14.98**	**195**	P	**P**	**23 07 43.7**	**-0.4**
EIDS	**Eidsvold**	**19.73**	**178**		**Pn**	**23 08 37.5**	**-1.6**
EIDS				IAmb	IAmb	23 08 38.6	
	comp=Z,11nm,0.8s						
WB0	**Warramunga Arr**	**20.95**	**226**		**P**	**23 08 48.9**	**-0.4**
WB0				IAmb	IAmb	23 08 49.8	
	comp=Z,9.7nm,0.5s						
WR8	**Warramunga Arr**	**21.00**	**226**		**P**	**23 08 49.4**	**-0.4**
WR8				IAmb	IAmb	23 08 49.9	
	comp=Z,8.6nm,0.6s						
WR8					**S**	**23 12 36.0**	**+0.5**
WRAB	**Tennant Creek**	**21.09**	**226**	P	**P**	**23 08 50.4**	**-0.4**
WRAB				IAmb	IAmb	23 08 51.1	
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**21.10**	**226**		**P**	**23 08 49.8**	**-1.1**
WRA	**Warramunga Arr**	**21.10**	**226**	P	**P**	**23 08 50.4**	**-0.6**
	comp=Z,10nm,0.5s,baz=50,slow=10,SNR=113						
WRA				S	**S**	**23 12 37.4**	**0.0**
	comp=Z,3.0nm,1.1s,baz=52,slow=21,SNR=4.8						
	comp=Z,10nm,0.5s						
DZM	**Mont Dzumac**	**22.68**	**138**	P	**P**	**23 09 08.2**	**+1.1**
DZM				IAmb	IAmb	23 09 09.2	
	comp=Z,9.7nm,0.6s						
KNRA	**Kununurra**	**23.40**	**243**		**P**	**23 09 13.7**	**0.0**
KNRA				IAmb	IAmb	23 09 14.9	
	comp=Z,12nm,0.7s						
AS31	**Alice Springs**	**23.94**	**220**		**P**	**23 09 19.4**	**+0.8**
ASAR	**Alice Springs**	**23.95**	**220**	P	**P**	**23 09 18.6**	**-0.1**
ASAR	**Alice Springs**	**23.95**	**220**	P	**P**	**23 09 19.3**	**+0.7**
	comp=Z,3.3nm,0.6s,baz=50,slow=9.3,SNR=40						
ASAR				S	**S**	**23 13 25.1**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=46,slow=13,SNR=8.7						
	comp=Z,3.3nm,0.6s						
ARMA	**Armidale**	**24.77**	**177**	P	**P**	**23 09 26.8**	**+0.6**
ARMA				IAmb	IAmb	23 10 01.3	
	comp=Z,8.8nm,1.1s						
BATI	**Baumata**	**26.76**	**258**	LR	LR	23 22 38.7	
	comp=Z,127nm,19.0s,baz=60,slow=41						
FITZ	**Fitzroy Crossi**	**27.11**	**241**	P	**P**	**23 09 47.0**	**-0.1**
STKA	**Stephens Creek**	**27.43**	**196**	P	**P**	**23 09 49.8**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=26,slow=16,SNR=3.5						
	comp=Z,0.8nm,0.4s						
MBWA	**Marble Bar**	**33.43**	**239**	P	**P**	**23 10 42.6**	**-0.3**
PSA00	**Pilbara Seismi**	**33.50**	**239**	P	**P**	**23 10 43.2**	**-0.2**
PSA00				IAmb	IAmb	23 10 44.0	
	comp=Z,6.9nm,1.0s						
GIRL	**Giralia**	**38.72**	**240**	P	**P**	**23 11 29.5**	**+1.7**
MORW	**Morawa**	**39.94**	**230**	P	**P**	**23 11 37.9**	**0.0**
NWAO	**Narrogin (SRO)**	**41.09**	**224**	P	**P**	**23 11 47.0**	**-0.2**
MJAR	**Matsushiro Arr**	**43.37**	**346**	P	**P**	**23 12 04.3**	**-1.3**
	comp=Z,2.3nm,0.8s,baz=163,slow=8.1,SNR=5.3						
	comp=Z,2.3nm,0.8s						
KSRS	**Korea Array**	**47.59**	**336**	P	**P**	**23 12 38.9**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=159,slow=8.0,SNR=5.6						
	comp=Z,1.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**52.19**	**343**	P	**P**	**23 13 14.1**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=158,slow=7.8,SNR=9.1						
	comp=Z,2.2nm,0.6s						
XAN	**Xi'an**	**55.47**	**318**	*e*P	**P**	**23 13 38.3**	**+0.8**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
PZH	**PanZhiHua**	**56.77**	**307**	P	**P**	**23 13 49.5**	**+2.5**
HHC	**Hu-ho-hao-te**	**58.23**	**326**	*e*P	P	23 14 01.0	+4.1
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,62nm,6.6s						
PETK	**Petropavlovsk-**	**58.77**	**5**	P	**P**	**23 14 01.0**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=160,slow=6.8,SNR=4.7						
	comp=Z,1.8nm,0.7s						
SONM	**Songino Array**	**65.65**	**329**	P	**P**	**23 14 47.6**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=144,slow=6.6,SNR=7.0						
	comp=Z,0.7nm,0.3s						
VNDA	**Vanda**	**72.19**	**177**	P	**P**	**23 15 27.8**	**+1.7**
VNDA	**Vanda**	**72.19**	**177**	P	**P**	**23 15 27.2**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=346,slow=7.1,SNR=6.6						
	comp=Z,0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**80.39**	**327**	P	**P**	**23 16 12.7**	**0.0**
	comp=Z,0.7nm,0.4s,baz=133,slow=5.2,SNR=4.1						
	comp=Z,0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**82.85**	**322**	P	**P**	**23 16 26.3**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=106,slow=4.1,SNR=4.3						
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**83.80**	**23**	P	**P**	**23 16 29.2**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=249,slow=5.0,SNR=8.8						
	comp=Z,0.4nm,0.6s						
QSPA	**South Pole Qui**	**84.42**	**180**	P	**P**	**23 16 35.0**	**+1.4**
QSPA				IAmb	IAmb	23 17 05.5	
	comp=Z,5.4nm,1.1s						
QSPA	**South Pole Qui**	**84.42**	**180**	P	**P**	**23 16 34.9**	**+1.3**
	comp=Z,2.0nm,0.6s,baz=293,slow=0.8,SNR=26						
	comp=Z,2.0nm,0.6s						

*SOME **28** 23:06:34.7, 38.35N×71.83E, h20km*
*NEIC **28** 23:06:36.7±1.1, 37.34N±0.02×71.95E±0.09, h192km±4km, mb4.2/26, Error ellipse: s-maj=10.0km s-min=2.6km az=94.0*
*IDC **28** 23:06:38.2±4.2, 37.52N×71.93E, h194km±32km, mb3.3/9, mbtmp4.0/15, Error ellipse: s-maj=38.3km s-min=18.9km az=176.0*
*NNC **28** 23:06:42.5±4.2, 37.82N×71.78E, h207km±43km, mb3.0, mpv3.7, Error ellipse: s-maj=41.6km s-min=22.0km az=17.0*
ISC 28 23:06:37.0±0.5, 37.40N±0.05×71.88E±0.06, h200km, n88, σ1s78/92, mb4.1/22, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.01**	**323**		**Pn**	**23 07 16.0**	**+0.3**
GAR				Sn	**Sn**	**23 07 44.6**	**-1.4**
KBL	**Kabul**	**3.67**	**220**		**Pn**	**23 07 33.6**	**-1.2**
KBL				Sn	**Sn**	**23 08 17.1**	**-3.0**
KSH	**Kashi**	**3.85**	**55**	Pn	Pn	23 07 31.5	-5.4
KSH				Sn	Sn	23 08 11.5	-13
KSH				smax	smax		
	comp=N,360nm,0.6s						
KSH				smax	smax		
	comp=E,240nm,0.7s						
NIL	**Nilore**	**3.91**	**163**		**Pn**	**23 07 35.7**	**-2.1**
NIL				Sn	**Sn**	**23 08 22.3**	**-3.1**
ARSB	**Arslanbob**	**4.01**	**12**		**Pn**	**23 07 38.8**	**-0.2**
ARSB				Sn	**Sn**	**23 08 26.1**	**-1.6**
UCH	**Uchtor**	**5.23**	**22**	P	**Pn**	**23 07 54.2**	**-0.5**
	SNR=37						
JMU	**Jammu**	**5.29**	**151**	*e*P	Pn	23 07 38.5	-17
JMU				*e*S	Sn	23 08 37.6	-19
JMU				IAML		23 08 50.9	
	comp=E,227nm,0.3s						
JMU				IAML		23 08 52.4	
	comp=N,175nm,0.5s						
MRKS	**Merke**	**5.43**	**11**	*e*P	**Pn**	**23 07 57.3**	**+0.4**
	comp=N,18nm,0.4s						
MRKS				*e*S	**Sn**	**23 08 56.4**	**-3.8**
	comp=N,110nm,0.7s						
EKS2	**Erkin-Say**	**5.45**	**15**	P	**Pn**	**23 07 57.6**	**+0.4**
	SNR=26						
DZA	**Taraz**	**5.50**	**356**	*e*P	**Pn**	**23 07 58.8**	**+1.1**
	comp=N,143nm,0.2s						
DZA				*e*S	**Sn**	**23 08 59.4**	**-2.2**
	comp=N,208nm,0.5s						
AAK	**Ala-Archa**	**5.60**	**20**	P	**Pn**	**23 08 00.1**	**+0.9**
	SNR=9.6						
AAK	**Ala-Archa**	**5.60**	**20**		**Pn**	**23 07 59.5**	**+0.4**
AAK	**Ala-Archa**	**5.60**	**20**	⇓P	**Pn**	**23 07 59.5**	**+0.4**
	comp=N,3.7nm,0.4s						
AAK				⇑S	**Sn**	**23 09 02.4**	**-1.8**
	comp=N,27nm,0.7s						
AAK	**Ala-Archa**	**5.60**	**20**	P	**Pn**	**23 07 58.4**	**-0.7**
	comp=N,16nm,0.3s,baz=160,slow=4.9,SNR=14						
AAK				S	**Sn**	**23 09 02.3**	**-1.8**
	comp=N,32nm,0.7s,baz=327,slow=22,SNR=20						
KK31	**Karatay Array**	**5.79**	**350**		**Pn**	**23 08 01.9**	**+0.4**
KK31	**Karatay Array**	**5.79**	**350**	P	**Pn**	**23 08 01.8**	**+0.4**
	comp=N,3.9nm,0.3s,baz=159,slow=9.7,SNR=70						
KK31				⇓S	**Sn**	**23 09 04.8**	**-3.5**
	comp=N,6.1nm,0.2s,baz=172,slow=15,SNR=13						
KKAR	**Karatay Array**	**5.79**	**350**		**Pn**	**23 08 01.8**	**+0.4**
KKAR				Sn	**Sn**	**23 09 05.5**	**-2.8**
BRLS	**Borolday**	**5.83**	**345**	*e*P	**Pn**	**23 07 59.6**	**-2.4**
	comp=N,30nm,0.2s						
BRLS				*e*S	**Sn**	**23 09 00.7**	**-8.6**
	comp=N,91nm,0.4s						
ULHL	**Ulahol**	**5.89**	**33**	P	**Pn**	**23 08 02.4**	**-0.5**
	SNR=11						
BOOM	**Boomskoye usch**	**5.96**	**30**		**Pn**	**23 08 03.8**	**-0.1**
CHMS	**Chumysh**	**6.01**	**21**	P	**Pn**	**23 08 04.5**	**+0.3**
	SNR=5.3						
USP	**Ospenovka**	**6.19**	**18**	P	**Pn**	**23 08 07.4**	**+0.7**
	SNR=7.8						
TKM2	**Tokmak 2**	**6.20**	**26**	P	**Pn**	**23 08 07.3**	**+0.3**
	SNR=15						
KDJ	**Kajisay**	**6.24**	**39**		**Pn**	**23 08 07.1**	**-0.4**
BHK	**Bhakra**	**7.05**	**147**	*e*P	Pn	23 08 08.0	-10
BHK				*e*S	Sn	23 09 24.1	-14
BHK				IAML		23 09 32.6	
	comp=N,84nm,0.3s						
BHK				IAML		23 09 34.4	
	comp=E,82nm,0.4s						
SMLA	**Simla**	**7.64**	**143**	*e*P	Pn	23 08 12.3	-13
SMLA				*e*S	Sn	23 09 31.5	-20
SMLA				IAML		23 09 43.9	
	comp=N,114nm,0.3s						
SMLA				IAML		23 09 45.8	
	comp=E,83nm,0.5s						
BTLS	**Baital**	**7.80**	**11**	*e*P	Pn	23 08 42.7	+15
	comp=E,1.9nm,0.2s						
BTLS				*e*S	Sn	23 10 14.1	+19
	comp=E,13nm,0.7s						
KLP	**Kalpa**	**7.87**	**136**	*e*P	Pn	23 08 16.3	-13
KLP				*e*S	Sn	23 09 37.7	-20
KLP				IAML		23 09 50.3	
	comp=E,97nm,0.3s						
KLP				IAML		23 09 53.2	
	comp=N,66nm,0.4s						
KUDL	**Kundal**	**10.01**	**156**	*e*P	Pn	23 08 43.9	-12
KUDL				*e*S	Sn	23 10 26.2	-22
KUDL				IAML		23 10 36.4	
	comp=E,86nm,0.6s						
KUDL				IAML		23 10 41.3	
	comp=N,90nm,0.3s						
PTH	**Pithoragarh**	**10.48**	**136**	*e*P	Pn	23 08 49.4	-13
PTH				*e*S	Sn	23 10 32.8	-27
PTH				IAML		23 10 50.9	
	comp=N,93nm,0.7s						
PTH				IAML		23 10 51.6	
	comp=E,84nm,0.1s						
MAKZ	**Makanchi**	**12.01**	**35**	Pn	**Pn**	**23 09 20.7**	**-1.2**
MK31	**Makanchi Array**	**12.15**	**36**	P	**Pn**	**23 09 23.8**	**+0.2**
	comp=E,2.9nm,0.7s,baz=202,slow=10,SNR=16						
MKAR	**Makanchi Array**	**12.15**	**36**	Pn	**Pn**	**23 09 23.6**	**0.0**
MKAR	**Makanchi Array**	**12.15**	**36**	P	**Pn**	**23 09 23.1**	**-0.5**
	comp=E,0.5nm,0.5s,baz=212,slow=10.0,SNR=9.0						
WMQ	**Urumqi**	**13.61**	**57**	*e*P	**Pn**	**23 09 43.0**	**+1.0**
WMQ				LR	LR		
	comp=N,190nm,16.7s						
WMQ				LR	LR		
	comp=E,260nm,14.7s						
WMQ				LR	LR		
	comp=Z,270nm,18.7s						
KURBB	**Kurchatov Arra**	**14.05**	**18**	⇑P	**P**	**23 09 49.8**	**+0.7**
	comp=Z,6.5nm,0.8s						
KURBB	**Kurchatov Arra**	**14.05**	**18**	P	**Pn**	**23 09 47.8**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=203,slow=11,SNR=9.5						
KURK	**Kurchatov**	**14.15**	**18**	P	**P**	**23 09 51.3**	**+1.0**
AB31	**Akbulak array**	**14.66**	**328**	P	**Pn**	**23 09 55.5**	**+0.6**
AB31	**Akbulak array**	**14.66**	**328**	⇑P	**Pn**	**23 09 56.1**	**+1.3**
	comp=Z,1.2nm,0.5s						
AB31				⇓S	**S**	**23 12 31.4**	**-6.3**
	comp=Z,3.0nm,0.6s						
ABKAR	**Akbulak array**	**14.66**	**328**	P	**P**	**23 09 57.6**	**+1.6**
BVAR	**Borovoye Array**	**15.66**	**357**	P	**Pn**	**23 10 08.1**	**+1.2**
	comp=Z,1.2nm,0.5s,baz=164,slow=11,SNR=7.2						
BRVK	**Borovoye**	**15.70**	**356**	P	**P**	**23 10 06.8**	**-0.4**
EVN	**Everest**	**15.70**	**123**		**P**	**23 10 06.4**	**-1.9**
EVN				IAmb	IAmb	23 10 13.7	
	comp=Z,9.3nm,1.2s						
AKTO	**Aktyubinsk**	**16.38**	**327**	⇑P	**Pn**	**23 10 17.2**	**+1.6**
	comp=Z,5.1nm,0.5s						
AKTO	**Aktyubinsk**	**16.38**	**327**	P	**Pn**	**23 10 16.8**	**+1.2**
	comp=Z,11nm,0.4s,baz=125,slow=8.8,SNR=40						
AKTO				S	**S**	**23 13 12.1**	**-3.9**
	comp=Z,2.9nm,0.8s,baz=249,slow=4.1,SNR=5.5						
ZAA0	**Zalesovo Array**	**18.80**	**24**	P	**P**	**23 10 41.9**	**+0.6**
ZAA0				IAmb	IAmb	23 10 42.8	
	comp=Z,18nm,1.3s						
ZALV	**Zalesovo Beam**	**18.80**	**24**		**P**	**23 10 41.6**	**+0.4**
ZALV	**Zalesovo Beam**	**18.80**	**24**	P	**P**	**23 10 41.9**	**+0.7**
	comp=Z,5.3nm,0.3s,baz=210,slow=10.0,SNR=49						

GTA	**Gaotai**	**21.95**	**76**	*eP*	**P**	**23 11 14.5**	**-0.3**
GTA				pP	pP	23 11 54.3	+4.0
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LZH	**Lanzhou**	**25.59**	**83**	*eP*	P	23 11 37.0	-11
LZH				pP	pP	23 11 43.5	-46
LZH				pmax	pmax		
	comp=Z,19nm,1.4s						
SONM	**Songino Array**	**27.25**	**57**	P	**P**	**23 12 03.2**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=261,slow=9.9,SNR=7.2						
	comp=Z,1.2nm,0.6s						
PZH	**PanZhiHua**	**27.47**	**105**	P	**P**	**23 12 05.3**	**+0.6**
BR131	**Keskin Array S**	**29.84**	**286**	P	**P**	**23 12 27.1**	**+1.5**
BR131				IAmb	IAmb	23 12 59.1	
	comp=Z,3.4nm,1.4s						
BRTR	**Keskin Array B**	**29.84**	**286**	P	**P**	**23 12 26.2**	**+0.6**
BRTR	**Keskin Array B**	**29.84**	**286**	P	**P**	**23 12 27.9**	**+2.3**
	comp=Z,0.9nm,0.6s,baz=108,slow=6.3,SNR=8.4						
	comp=Z,0.9nm,0.6s						
HHC	**Hu-ho-hao-te**	**30.80**	**71**	*eP*	**P**	**23 12 34.8**	**+0.8**
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,57nm,4.8s						
AKASG	**Malin Array Be**	**32.94**	**308**	P	**P**	**23 12 53.7**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=108,slow=8.8,SNR=4.7						
	comp=Z,0.3nm,0.3s						
AKBB	**Malin Array Si**	**32.94**	**308**	P	**P**	**23 12 51.7**	**-0.6**
KIEV	**Kiev**	**32.95**	**308**	P	**P**	**23 12 51.6**	**-0.9**
ARG	**Arkhangelos**	**34.81**	**282**	P	**P**	**23 13 09.9**	**+1.2**
BURAR	**Bucovina Array**	**35.39**	**302**	P	**P**	**23 13 15.0**	**+1.3**
ALN	**Alexandroupoli**	**35.40**	**290**	P	**P**	**23 13 13.8**	**+0.1**
BUR08	**Bucovina Ar. S**	**35.41**	**302**	P	**P**	**23 13 15.2**	**+1.4**
PABE	**Paberze**	**36.76**	**315**	P	**P**	**23 13 25.4**	**+0.4**
PABE				IAmb	IAmb	23 13 51.9	
	comp=Z,8.7nm,1.1s						
FIA1	**FINESS Array S**	**37.13**	**325**	P	**P**	**23 13 27.9**	**-0.1**
FINES	**FINESS Array B**	**37.13**	**325**	P	**P**	**23 13 29.3**	**+1.3**
FINES	**FINESS Array B**	**37.13**	**325**	P	**P**	**23 13 29.2**	**+1.2**
	comp=Z,2.7nm,0.9s,baz=119,slow=8.3,SNR=7.4						
	comp=Z,2.7nm,0.9s						
IDI	**Anoyia**	**37.60**	**281**	P	**P**	**23 13 33.1**	**+0.7**
KEK	**Kerkira**	**40.32**	**290**	P	**P**	**23 13 51.4**	**-3.4**
ARCES	**ARCESS Array B**	**40.58**	**337**	P	**P**	**23 13 57.7**	**+1.1**
ARCES				IAmb	IAmb	23 14 09.6	
	comp=Z,7.8nm,1.1s						
ARCES	**ARCESS Array B**	**40.58**	**337**	P	**P**	**23 13 58.2**	**+1.6**
	comp=Z,1.5nm,0.6s,baz=113,slow=8.1,SNR=12						
	comp=Z,1.5nm,0.6s						
HFS	**Hagfors**	**42.80**	**321**	P	**P**	**23 14 15.7**	**+1.1**
	comp=Z,3.2nm,0.5s,baz=97,slow=11,SNR=31						
	comp=Z,3.2nm,0.5s						
YAK	**Yakutsk**	**42.83**	**36**	P	**P**	**23 14 14.6**	**-0.1**
GERES	**GERESS Array B**	**42.99**	**305**	P	**P**	**23 14 18.1**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=84,slow=12,SNR=2.1						
	comp=Z,0.2nm,0.4s						
GSI	**Gunungsitoli**	**43.03**	**141**	P	**P**	**23 14 16.5**	**-0.5**
NC405	**NORSAR Array S**	**43.85**	**323**	P	**P**	**23 14 23.9**	**+0.9**
NC405				IAmb	IAmb	23 15 06.8	
	comp=Z,14nm,1.4s						
NC602	**NORSAR Array S**	**43.91**	**322**	P	**P**	**23 14 24.0**	**+0.6**
NC602				IAmb	IAmb	23 14 50.4	
	comp=Z,6.3nm,1.1s						
NC303	**NORSAR Array S**	**44.02**	**323**	P	**P**	**23 14 25.7**	**+1.3**
NC303				IAmb	IAmb	23 14 39.7	
	comp=Z,8.0nm,1.1s						
NB201	**NORSAR Array S**	**44.05**	**322**	P	**P**	**23 14 25.7**	**+1.0**
NB201				IAmb	IAmb	23 14 47.7	
	comp=Z,7.9nm,1.1s						
NB2	**NORSAR Subarra**	**44.09**	**322**	P	**P**	**23 14 25.9**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.09**	**322**	P	**P**	**23 14 25.9**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=108,slow=7.2,SNR=7.4						
	comp=Z,1.2nm,0.7s						
NAO01	**NORSAR Array S**	**44.23**	**322**	P	**P**	**23 14 26.7**	**+0.6**
NAO01				IAmb	IAmb	23 14 42.0	
	comp=Z,13nm,1.3s						
NBO00	**NORSAR Array S**	**44.30**	**322**	P	**P**	**23 14 27.3**	**+0.7**
NBO00				IAmb	IAmb	23 14 56.2	
	comp=Z,8.8nm,1.2s						
NC204	**NORSAR Array S**	**44.32**	**323**	P	**P**	**23 14 28.0**	**+1.2**
NC204				IAmb	IAmb	23 14 57.0	
	comp=Z,4.7nm,1.1s						
TIXI	**Tiksi**	**44.67**	**22**	P	**P**	**23 14 29.9**	**+0.5**
TIXI				IAmb	IAmb	23 15 08.0	
	comp=Z,9.3nm,0.8s						
KONO	**Kongsberg**	**44.83**	**320**	P	**P**	**23 14 31.9**	**+1.1**
KONO				IAmb	IAmb	23 14 57.1	
	comp=Z,16nm,1.4s						
ESDC	**Sonseca Array**	**57.66**	**298**	P	**P**	**23 16 07.3**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=54,slow=6.9,SNR=6.5						
	comp=Z,0.5nm,0.7s						

ISK ***28*** *23:43:03.8,35˙84N×30˙52E,h20km,ML3.5/37*
IDC ***28*** *23:43:05.1±1.1,35˙91N×30˙53E,h50km±17km,mb3.5/4,*
mbtmp3.5/11,ML3.1/6,MS2.8/3,Error ellipse:
s-maj=13.5km s-min=10.3km az=13.0
AFAD ***28*** *23:43:05.3,35˙91N×30˙40E,h19km±1km,MW3.7*
GII ***28*** *23:43:09.1±0.0,35˙719N±0˙006×30˙786E±0˙002,h20km,*
Mws3.4,confirmed

ISC 28 23:43:05.0±1.1,35˙90N±0˙03×30˙51E±0˙02,h34km±3km,
n124,σ1°78/174,mb3.6/4,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.44**	**342**	P		**Pb**	**23 43 13.7**	**-1.0**
AKUM				*i*	IAML		23 43 20.0	
	comp=E,667nm,0.3s							
AKUM				*i*	IAML		23 43 20.0	
	comp=N,600nm,0.3s							
AKUM				S		**Sn**	**23 43 20.3**	**-1.5**
DEMR	**Demre-Antalya**	**0.59**	**304**	Pg		**Pn**	**23 43 18.0**	**+1.0**
DEMR				Sg		**Sb**	**23 43 26.7**	**+1.3**
KEMT	**Kemer-ANTALYA**	**0.70**	**3**	Pg		**Pn**	**23 43 18.0**	**-0.5**
KEMT				Sg		**Sb**	**23 43 30.6**	**+2.3**
ANTB	**Antalya**	**1.00**	**7**	Pg		**Pb**	**23 43 24.4**	**+0.5**
ANTB				Sg		**Sb**	**23 43 38.7**	**+1.9**
MNVG	**Manavgat-Antal**	**1.15**	**39**	Pn		**Pn**	**23 43 26.0**	**+1.3**
IZZE	**Mula-Seydike**	**1.17**	**297**	P		**Pn**	**23 43 26.2**	**+1.2**
IZZE				*i*	IAML		23 43 41.0	
	comp=E,277nm,0.3s							
IZZE				S		**Sb**	**23 43 41.5**	**-0.1**
IZZE				*i*	IAML		23 43 43.0	
	comp=N,453nm,0.4s							
KNIK	**Mula-Seydike**	**1.21**	**321**	P		**Pn**	**23 43 27.3**	**+1.7**
KNIK				*i*	IAML		23 43 44.0	
	comp=N,340nm,0.7s							
KNIK				S		**Sb**	**23 43 44.6**	**+1.8**
KNIK				*i*	IAML		23 43 45.0	
	comp=E,244nm,0.4s							
ALAN	**Alanya-ANTALYA**	**1.39**	**62**	Pn		**Pn**	**23 43 29.1**	**+1.0**
ALAN				Sn		**Sn**	**23 43 47.6**	**+2.3**
BUCA	**Burdur, Bucak-**	**1.42**	**2**	P		**Pn**	**23 43 30.1**	**+1.5**
BUCA				*i*	IAML		23 43 52.0	
	comp=E,95nm,1.1s							
BUCA				S		**Sb**	**23 43 52.8**	**+3.9**
BUCA				*i*	IAML		23 43 53.0	
	comp=N,14nm,0.2s							
CAME	**Cameli-Denizli**	**1.43**	**317**	Pn		**Pn**	**23 43 30.1**	**+1.4**
GAZI	**Gazipasa**	**1.50**	**77**	Pn		**Pn**	**23 43 29.3**	**-0.2**
GAZI				Sn		**Sn**	**23 43 49.7**	**+1.8**
GAZI	**Gazipasa**	**1.50**	**77**	P		**Pn**	**23 43 29.8**	**+0.2**
GAZI				S		**Sn**	**23 43 49.9**	**+1.9**
GAZI				*i*	IAML		23 43 50.0	
	comp=E,374nm,0.9s							
GAZI				*i*	IAML		23 43 50.0	
	comp=N,283nm,0.7s							
GOLH	**Golhisar**	**1.54**	**330**	P		**Pn**	**23 43 32.5**	**+2.3**
GOLH				*i*	IAML		23 43 54.0	
	comp=E,137nm,0.4s							
GOLH				S		**Sb**	**23 43 54.2**	**+2.1**
GOLH				*i*	IAML		23 43 55.0	
	comp=N,240nm,1.0s							
SABU	**Mula-Dalaman**	**1.55**	**307**	P		**Pn**	**23 43 31.6**	**+1.4**
SABU				S		**Sn**	**23 43 50.0**	**+0.8**
SABU				*i*	IAML		23 43 50.0	
	comp=N,73nm,0.7s							
SABU				*i*	IAML		23 43 51.0	
	comp=E,42nm,0.3s							
CAEL	**Denizli, Camel**	**1.55**	**322**	P		**Pb**	**23 43 33.8**	**+0.6**
CAEL				S		**Sb**	**23 43 55.1**	**+2.5**
CAEL				*i*	IAML		23 43 56.0	
	comp=E,214nm,0.5s							
CAEL				*i*	IAML		23 43 56.0	
	comp=N,150nm,0.4s							
DNZT	**Denizli-Tavas-**	**1.82**	**319**	P		**Pn**	**23 43 35.3**	**+1.3**
DNZT				*i*	IAML	**Sb**	**23 43 59.0**	**-1.3**
	comp=E,28nm,0.5s							
DNZT				S		**Sb**	**23 43 59.0**	**-1.3**
DNZT				*i*	IAML		23 44 00.0	
	comp=N,64nm,0.4s							
SEDI	**Konya, Seydise**	**1.84**	**33**	P		**Pn**	**23 43 36.0**	**+1.6**
SEDI				S		**Sb**	**23 44 01.7**	**+0.8**
SEDI				*i*	IAML		23 44 02.0	
	comp=E,96nm,0.5s							
SEDI				*i*	IAML		23 44 04.0	
	comp=N,234nm,0.4s							
SEYD	**Seydisehir-KON**	**1.84**	**35**	Pn		**Pn**	**23 43 35.9**	**+1.6**
APMY	**Acipayam-Deniz**	**1.84**	**329**	Pn		**Pn**	**23 43 35.9**	**+1.5**
HDMB	**Hadim**	**1.91**	**56**	Pn		**Pn**	**23 43 36.9**	**+1.5**
ISP	**Isparta**	**1.92**	**0**	Pn		**Pn**	**23 43 37.2**	**+1.8**
INCE	**Denizli-Bozkur**	**1.95**	**338**	P		**Pn**	**23 43 37.9**	**+2.0**
INCE				*i*	IAML	**Sn**	**23 43 57.0**	**-2.3**
	comp=E,62nm,0.5s							
INCE				S		**Sn**	**23 43 57.0**	**-2.3**
INCE				*i*	IAML		23 44 00.0	
	comp=N,57nm,0.9s							
ARG	**Arkhangelos**	**1.96**	**280**	Pn		**Pn**	**23 43 36.6**	**+0.8**
BOZY	**Bozyazi-Mersin**	**2.01**	**83**	Pn		**Pn**	**23 43 37.8**	**+1.3**
TAVA	**DENIZLI_Tavas**	**2.02**	**321**	P		**Pn**	**23 43 38.2**	**+1.4**
TAVA				S		**Sn**	**23 44 02.5**	**+1.6**
TAVA				*i*	IAML		23 44 03.0	
	comp=E,62nm,0.5s							
TAVA				*i*	IAML		23 44 03.0	
	comp=N,37nm,0.4s							
TURN	**Turunc**	**2.03**	**296**	Pn		**Pn**	**23 43 38.3**	**+1.5**
TURN	**Turunc**	**2.03**	**296**	P		**Pn**	**23 43 38.2**	**+1.5**
TURN				*i*	IAML		23 44 02.0	
	comp=E,38nm,0.4s							
TURN				S		**Sn**	**23 44 02.1**	**+1.1**
TURN				*i*	IAML		23 44 03.0	
	comp=N,68nm,0.4s							
BASM	**Basmaki-Afyon**	**2.05**	**350**	Pn		**Pn**	**23 43 38.9**	**+1.7**
DNIZ	**Denizli-Tavas-**	**2.09**	**326**	P		**Pn**	**23 43 39.1**	**+1.4**
DNIZ				*i*	IAML		23 44 09.0	
	comp=E,233nm,0.3s							
DNIZ				*i*	IAML		23 44 09.0	
	comp=N,236nm,0.3s							
DNIZ				S		**Sb**	**23 44 09.1**	**+1.2**
BAGO	**Egridir - ISPA**	**2.10**	**6**	P		**Pn**	**23 43 39.8**	**+1.9**
BAGO				*i*	IAML		23 44 10.0	
	comp=E,19nm,0.6s							
BAGO				S		**Sb**	**23 44 10.2**	**+2.1**
BAGO				*i*	IAML		23 44 12.0	
	comp=N,45nm,0.6s							
TEKE	**Tekeli-Mersin**	**2.12**	**83**	Pn		**Pn**	**23 43 39.6**	**+1.5**
MULA	**Mugla, Merkez-**	**2.22**	**308**	P		**Pn**	**23 43 43.0**	**+3.4**
MULA				S		**Sn**	**23 44 07.3**	**+1.4**
MULA				*i*	IAML		23 44 08.0	
	comp=E,82nm,0.5s							
MULA				*i*	IAML		23 44 08.0	
	comp=N,43nm,0.6s							
BERE	**Bereket-Mersin**	**2.24**	**78**	Pn		**Pn**	**23 43 41.2**	**+1.3**
KKBE	**Karaman, Kazim**	**2.36**	**55**	P		**Pn**	**23 43 44.0**	**+2.5**
KKBE				*i*	IAML		23 44 15.0	
	comp=E,35nm,0.3s							
KKBE				*i*	IAML		23 44 15.0	
	comp=N,53nm,0.5s							
KKBE				S		**Sb**	**23 44 15.2**	**-0.4**
YORU	**Yoruktepe-Mers**	**2.36**	**83**	Pn		**Pn**	**23 43 42.8**	**+1.4**
AFYN	**Afyon-Dinar-K**	**2.36**	**360**	P		**Pn**	**23 43 40.9**	**-0.7**
AFYN				*i*	IAML		23 44 13.0	
	comp=E,67nm,0.6s							
AFYN				S		**Sb**	**23 44 13.8**	**-2.0**
AFYN				*i*	IAML		23 44 14.0	
	comp=N,31nm,0.4s							
KZIL	**AFYON_Kizioren**	**2.37**	**353**	P		**Pn**	**23 43 43.1**	**+1.4**
KZIL				*i*	IAML		23 44 11.0	
	comp=N,17nm,0.4s							
KZIL				S		**Sn**	**23 44 12.1**	**+2.5**
KZIL				*i*	IAML		23 44 13.0	
	comp=E,62nm,1.1s							
DOGA	**KONYA_Doganhis**	**2.39**	**22**	P		**Pn**	**23 43 44.2**	**+2.3**
DOGA				*i*	IAML		23 44 15.0	
	comp=E,31nm,0.4s							
DOGA				S		**Sb**	**23 44 15.8**	**-0.7**
DOGA				*i*	IAML		23 44 16.0	
	comp=N,77nm,0.4s							
TEVE	**Tevekalti-Mers**	**2.43**	**76**	Pn		**Pn**	**23 43 43.8**	**+1.4**
YVAC	**Isparta, Yalva**	**2.43**	**14**	P		**Pn**	**23 43 44.8**	**+2.3**
YVAC				*i*	IAML		23 44 14.0	
	comp=N,14nm,0.4s							
YVAC				S		**Sn**	**23 44 14.8**	**+3.6**
YVAC				*i*	IAML		23 44 15.0	
	comp=E,12nm,0.3s							
AKK1	**Akkuyu-Mersin**	**2.47**	**84**	Pn		**Pn**	**23 43 44.3**	**+1.5**
AKK2	**Akkuyu-Mersin**	**2.47**	**84**	Pn		**Pn**	**23 43 44.6**	**+1.7**
GULN	**MERSIN_Gulnar**	**2.47**	**83**	P		**Pn**	**23 43 44.8**	**+1.9**
GULN				S		**Sb**	**23 44 17.9**	**-0.9**
GULN				*i*	IAML		23 44 18.0	
	comp=E,19nm,0.4s							
GULN				*i*	IAML		23 44 18.0	
	comp=N,64nm,0.7s							
BECE	**Buyukeceli-Mer**	**2.48**	**83**	Pn		**Pn**	**23 43 44.4**	**+1.3**
CSS	**Mathiatis**	**2.48**	**111**	Pn		**Pn**	**23 43 44.2**	**+1.1**
CSS	**Mathiatis**	**2.48**	**111**	P		**Pn**	**23 43 45.7**	**+2.6**
DAT	**Datca**	**2.51**	**290**	Pn		**Pn**	**23 43 45.3**	**+1.8**
KHL	**Karahalli**	**2.54**	**342**	Pn		**Pn**	**23 43 46.0**	**+2.0**
KRMN	**Karaman**	**2.55**	**59**	Pn		**Pn**	**23 43 45.9**	**+1.8**
SDAG	**Sultandagi-AFY**	**2.55**	**7**	Pn		**Pn**	**23 43 46.0**	**+1.9**
ESEN	**Aydn-Nazilli**	**2.57**	**318**	P		**Pn**	**23 43 47.0**	**+2.8**
ESEN				S		**Sb**	**23 44 26.8**	**+5.3**
ESEN				*i*	IAML		23 44 27.0	
	comp=E,30nm,0.4s							
ESEN				*i*	IAML		23 44 27.0	
	comp=N,22nm,0.6s							
PASA	**Karahalli, USA**	**2.57**	**342**	P		**Pn**	**23 43 45.0**	**+0.6**
PASA				*i*	IAML		23 44 15.0	
	comp=E,29nm,0.5s							
PASA				S		**Sn**	**23 44 15.5**	**+0.9**
PASA				*i*	IAML		23 44 16.0	
	comp=N,24nm,0.3s							
TISA	**Tisan-Mersin**	**2.58**	**83**	Pn		**Pn**	**23 43 45.9**	**+1.5**
YAZI	**Mula-Dat§a-**	**2.59**	**288**	P		**Pn**	**23 43 46.6**	**+2.1**
YAZI				*i*	IAML		23 44 14.0	
	comp=E,5.8nm,0.2s							
YAZI				*i*	IAML		23 44 14.0	
	comp=N,12nm,0.2s							
YAZI				S		**Sn**	**23 44 14.5**	**-0.4**
KARG	**Kargicak-Mersi**	**2.61**	**82**	Pn		**Pn**	**23 43 46.2**	**+1.4**
KEBE	**Keben-Mersin**	**2.65**	**77**	Pn		**Pn**	**23 43 46.9**	**+1.5**
NAZL	**Nazilli-Aydin**	**2.72**	**320**	Pn		**Pn**	**23 43 48.2**	**+1.8**
BDRM	**Kayabasi**	**2.73**	**296**	P		**Pn**	**23 43 48.1**	**+1.6**
BDRM				S		**Sn**	**23 44 18.9**	**+0.6**
BDRM				*i*	IAML		23 44 19.0	
	comp=E,36nm,0.4s							
AYDN	**Tasoluk**	**2.75**	**310**	P		**Pn**	**23 43 43.9**	**-2.8**
AYDN				*i*	IAML		23 44 18.0	
	comp=E,31nm,0.5s							
AYDN				*i*	IAML		23 44 18.0	
	comp=N,7.1nm,0.2s							
AYDN				S		**Sn**	**23 44 18.4**	**-0.4**
BNAZ	**Uak-Banaz**	**2.82**	**350**	P		**Pn**	**23 43 48.3**	**+0.5**
BNAZ				*i*	IAML		23 44 20.0	
	comp=N,66nm,0.5s							
BNAZ				S		**Sn**	**23 44 20.5**	**-0.1**
BNAZ				*i*	IAML		23 44 21.0	
	comp=E,60nm,0.6s							
UCKU	**Afyonkarahisar**	**2.82**	**15**	P		**Pn**	**23 43 49.7**	**+1.8**
UCKU				S		**Sn**	**23 44 18.4**	**-2.3**
UCKU				*i*	IAML		23 44 19.0	
	comp=E,16nm,0.5s							
UCKU				*i*	IAML		23 44 19.0	
	comp=N,13nm,0.4s							
KIRA	**zmir-Kiraz**	**2.84**	**324**	P		**Pn**	**23 43 50.0**	**+1.8**
KIRA				*i*	IAML		23 44 20.0	
	comp=E,16nm,0.6s							
KIRA				*i*	IAML		23 44 20.0	
	comp=N,13nm,0.3s							
KIRA				S		**Sn**	**23 44 20.4**	**-0.9**
KURO	**Afyon-Bolvadin**	**2.85**	**7**	P		**Pn**	**23 43 50.4**	**+2.2**
KURO				S		**Sn**	**23 44 24.6**	**+3.3**
KURO				*i*	IAML		23 44 25.0	
	comp=E,9.9nm,0.9s							
KURO				*i*	IAML		23 44 25.0	
	comp=N,15nm,0.8s							
YKAV	**Yalikavak-Bodr**	**2.88**	**296**	Pn		**Pn**	**23 43 50.3**	**+1.9**
KDHN	**Kadinhani**	**2.91**	**26**	P		**Pn**	**23 43 50.3**	**+1.3**
KDHN				*i*	IAML		23 44 25.0	
	comp=E,17nm,0.5s							
KDHN				S		**Sn**	**23 44 25.2**	**+2.2**
BLVD	**Bolvadin-AFYON**	**2.92**	**9**	Pn		**Pn**	**23 43 50.8**	**+1.5**
KIZK	**Mersin**	**2.99**	**78**	P		Pn	23 43 47.0	-3.0
KIZK				*i*	IAML		23 44 28.0	
	comp=E,22nm,0.5s							
KIZK				*i*	IAML		23 44 28.0	
	comp=N,24nm,0.8s							
KIZK				S		**Sn**	**23 44 28.4**	**+3.6**
KULA	**Kula-Manisa**	**3.00**	**331**	Pn		**Pn**	**23 43 50.2**	**0.0**
MANT	**Manisa**	**3.02**	**329**	P		**Pn**	**23 43 50.8**	**+0.2**
MANT				*i*	IAML		23 44 12.0	
	comp=E,9.3nm,0.4s							
MANT				*i*	IAML		23 44 12.0	
	comp=N,2.1nm,0.2s							
MANT				S		Sn	23 44 12.8	-13
IZMR	**zmir-demi**	**3.03**	**318**	P		**Pn**	**23 43 50.7**	**+0.1**
IZMR				S		**Sn**	**23 44 23.8**	**-1.9**
IZMR				*i*	IAML		23 44 24.0	
	comp=N,7.2nm,0.4s							
IZMR				*i*	IAML		23 44 24.0	
	comp=E,8.9nm,0.9s							
ALIN	**Konya, Altinte**	**3.05**	**38**	P		**Pn**	**23 43 52.7**	**+1.7**
ALIN				*i*	IAML		23 44 30.0	
	comp=E,8.0nm,0.3s							
ALIN				*i*	IAML		23 44 30.0	
	comp=N,16nm,0.7s							
ALIN				S		**Sn**	**23 44 30.3**	**+4.0**
USAK	**Uak-Merkez**	**3.05**	**337**	P		**Pn**	**23 43 51.3**	**+0.4**
DDIM	**Aydin, Didim**	**3.05**	**302**	P		**Pn**	**23 43 52.1**	**+1.2**
DDIM				*i*	IAML		23 44 26.0	
	comp=E,30nm,0.5s							
DDIM				*i*	IAML		23 44 26.0	
	comp=N,33nm,0.4s							
DDIM				S		**Sn**	**23 44 26.4**	**+0.1**
BYAT	**Afyon-Bayat**	**3.06**	**7**	P		**Pn**	**23 43 52.2**	**+1.1**
BYAT				*i*	IAML		23 44 25.0	
	comp=N,19nm,0.8s							
BYAT				S		**Sn**	**23 44 26.2**	**-0.4**
BYAT				*i*	IAML		23 44 27.0	
	comp=E,15nm,0.4s							
ODEM	**Odemis-Izmir**	**3.07**	**321**	Pn		**Pn**	**23 43 53.2**	**+2.0**
GCAM	**G?zelcaml?**	**3.19**	**305**	Pn		**Pn**	**23 43 53.9**	**+1.2**
GCAM	**G?zelcaml?**	**3.19**	**305**	P		**Pn**	**23 43 54.0**	**+1.3**
GCAM				S		**Sn**	**23 44 28.6**	**-0.9**
GCAM				*i*	IAML		23 44 29.0	
	comp=E,26nm,0.4s							
GCAM				*i*	IAML		23 44 29.0	
	comp=N,35nm,0.4s							
CTIK	**Konya-Celtik**	**3.25**	**16**	P		Pn	23 43 45.5	-8.2
CTIK				S		**Sn**	**23 44 34.7**	**+3.5**
CTIK				*i*	IAML		23 44 35.0	
	comp=N,22nm,0.6s							
CTIK				*i*	IAML		23 44 36.0	
	comp=E,20nm,0.5s							
GEDZ	**Gediz**	**3.26**	**345**	Pn		**Pn**	**23 43 56.1**	**+2.3**
KERG	**Konya-Eregli**	**3.27**	**61**	P		**Pn**	**23 43 55.7**	**+1.6**
KERG				*i*	IAML		23 44 09.0	
	comp=E,16nm,0.4s							
KERG				*i*	IAML		23 44 09.0	
	comp=N,12nm,0.2s							
KERG				S		Sn	23 44 09.1	-23
SHAP	**Saphane-Kutahy**	**3.28**	**342**	Pn		**Pn**	**23 43 56.4**	**+2.3**
GDZ	**Gediz**	**3.29**	**346**	P		**Pn**	**23 43 55.0**	**+0.7**
GDZ				S		**Sn**	**23 44 28.5**	**-3.7**
GDZ				*i*	IAML		23 44 29.0	
	comp=E,6.6nm,0.6s							
GDZ				*i*	IAML		23 44 30.0	
	comp=N,14nm,1.1s							
CBEY	**Konya-Cihanbey**	**3.32**	**32**	P		**Pn**	**23 43 56.3**	**+1.7**
CBEY				*i*	IAML		23 44 33.0	
	comp=N,48nm,0.5s							
CBEY				*i*	IAML		23 44 33.0	
	comp=E,38nm,0.5s							
CBEY				S		**Sn**	**23 44 33.2**	**+0.2**
SIMA	**Simav-Kutahya**	**3.40**	**339**	Pn		**Pn**	**23 43 58.2**	**+2.4**
DEMI	**Demirci**	**3.44**	**336**	P		**Pn**	**23 43 56.3**	**-0.1**
DEMI				*i*	IAML		23 44 30.0	
	comp=N,4.7nm,0.4s							
DEMI				S		**Sn**	**23 44 31.0**	**-5.1**
DEMI				*i*	IAML		23 44 31.0	
	comp=E,11nm,0.8s							
GORD	**Gordes-Manisa**	**3.53**	**329**	Pn		**Pn**	**23 43 59.9**	**+2.4**
GMLD	**Gumuldur**	**3.60**	**308**	Pn		**Pn**	**23 44 01.3**	**+2.8**
SGAZ	**Eskisehir, Sey**	**3.63**	**4**	P		**Pn**	**23 44 00.2**	**+1.3**
SGAZ				*i*	IAML		23 44 09.0	
	comp=N,11nm,0.4s							
SGAZ				S		Sn	23 44 09.3	-31
SGAZ				*i*	IAML		23 44 10.0	
	comp=E,11nm,0.2s							
BLCB	**Balcova**	**3.72**	**313**	Pn		**Pn**	**23 44 01.7**	**+1.7**
KKUL	**Konya-Kulu**	**3.78**	**30**	P		**Pn**	**23 44 02.8**	**+1.8**
KKUL				*i*	IAML		23 44 44.0	
	comp=N,6.8nm,0.9s							
KKUL				*i*	IAML		23 44 45.0	
	comp=E,11nm,1.6s							
KKUL				S		**Sn**	**23 44 45.1**	**+0.7**
DOMA	**Ktahya-Doman**	**3.93**	**351**	P		**Pn**	**23 44 02.4**	**-0.7**
DOMA		

MKAR	**Makanchi Array**	**39.71**	**58**	P		**P**	**23 50 32.5**	**-1.5**
	0.3nm,0.6s,baz=275,slow=8.0,SNR=2.1							
	0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**41.33**	**47**	P		**P**	**23 50 45.4**	**-1.9**
	0.5nm,0.5s,baz=256,slow=5.8,SNR=2.8							
	0.5nm,0.5s							

SJA 28 23:45:43.3±0.8, 27°.83S × 66°.72W, h182km±4km, ML3.0, MW3.5, 1D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CYA	**Choya**	**1.01**	**127**	*i* P		Pn	23 46 12.0	+0.7
CYA				*i* S		Sn	23 46 32.3	-0.8
CYA				IAML			23 46 34.7	
	comp=Z,117nm,0.5s							
VCA	**Vinchina**	**1.59**	**235**	*i* P		Pn	23 46 17.2	+0.8
VCA				*i* S		Sn	23 46 41.4	-0.8
VCA				IAML			23 46 43.5	
	comp=Z,444nm,0.3s							
ACLC	**CERRO LA CRUZ**	**1.60**	**187**	*i* P		Pn	23 46 17.4	+0.8
ACLC				*i* S		Sn	23 46 42.0	-0.5
ACLC				IAML			23 46 42.5	
	comp=Z,48nm,0.9s							
AHML	**Horco Molle**	**1.62**	**50**	*i* P		Pn	23 46 17.4	+0.7
AHML				ǁ *i* S		Sn	23 46 42.3	-0.2
AHML				IAML			23 46 42.4	
	comp=Z,56nm,0.4s							
FSA	**Cafayete**	**1.84**	**21**	*i* P		Pn	23 46 19.9	+0.8
FSA				*i* S		Sn	23 46 47.0	+0.2
APLL	**PUNTA DE LOS L**	**2.56**	**176**	*i* P		Pn	23 46 27.6	+0.8
APLL				*i* S		Sn	23 47 00.4	-0.4
ACDV	**Cuesta del Vie**	**3.14**	**221**	*i* P		Pn	23 46 34.7	+0.9
ACDV				*i* S		Sn	23 47 13.4	+0.1
ACDV				IAML			23 47 14.1	
	comp=Z,73nm,0.4s							
SLA	**San Lorenzo**	**3.29**	**20**	*i* P		Pn	23 46 36.1	+0.3
SLA				IAML			23 47 22.8	
	comp=Z,9.9nm,1.1s							
AROD	**Rodeo**	**3.35**	**225**	*i* P		Pn	23 46 37.6	+1.0
AROD				*i* S		Sn	23 47 18.7	+0.4
ACCO	**Cerro Coronel**	**3.42**	**216**	*i* P		Pn	23 46 38.1	+0.6
ACCO				*i* S		Sn	23 47 19.9	-0.1
AZAP	**Zapla**	**3.89**	**23**	*i* P		Pn	23 46 44.4	+1.0
AZAP				IAML			23 47 39.8	
	comp=Z,15nm,1.3s							
AUSP	**Uspallata**	**4.95**	**207**	*i* P		Pn	23 46 57.8	+1.0
AUSP				*i* S		Sn	23 47 53.3	-1.4
ASAL	**Salagasta**	**5.08**	**201**	*i* P		Pn	23 46 59.0	+0.6
ASAL				*i* S		Sn	23 47 55.4	-2.1

*AUST **28** 23:48:05.9±0.3, 20°S × 13°4E±°, h10km, mb3.8/5, ML3.2/5, ML4.2/6, Error ellipse: s-maj=8.0km s-min=5.4km az=64.3*
*IDC **28** 23:48:05.7±2.1, 19°.92S × 134°.04E, h0km, mbtmp3.7/2, ML3.9/2, Error ellipse: s-maj=11.9km s-min=2.3km az=96.0*
ISC 28 23:48:04.9±0.8, 19°.77S±0°.06 × 134°.04E±0°.05, h12km, n19, σ1s91/21, Northern Territory

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**0.33**	**121**	Pg		**Pg**	**23 48 11.3**	**-0.3**
	44nm,0.3s,baz=275,slow=30,SNR=1366							
WRA				Lg		Lg	23 48 15.2	
	172nm,0.3s,baz=275,slow=30,SNR=50							
WB10	**Warramunga Arr**	**0.34**	**89**	P		**Pg**	**23 48 11.9**	**+0.2**
WB10	**Warramunga Arr**	**0.34**	**89**	S		**Sg**	**23 48 16.3**	**+0.1**
WR0	**Warramunga Arr**	**0.51**	**112**	P		**Pg**	**23 48 14.5**	**-0.4**
WR0	**Warramunga Arr**	**0.51**	**112**	S		**Sg**	**23 48 20.0**	**-1.6**
AS31	**Alice Springs**	**3.88**	**182**	P		**Pn**	**23 49 07.2**	**+2.8**
AS31	**Alice Springs**	**3.88**	**182**	S		**Sn**	**23 49 51.0**	**+1.1**
ASAR	**Alice Springs**	**3.88**	**182**	Pn		**Pn**	**23 49 05.4**	**+1.0**
	4.8nm,0.3s,baz=3.2,slow=7.2,SNR=105							
ASAR				Sn		**Sn**	**23 49 50.2**	**+0.2**
	5.8nm,0.3s,baz=2.9,slow=27,SNR=10							
ASAR				Lg		Lg	23 50 03.7	
	8.0nm,0.3s,baz=1.7,slow=29,SNR=12							
	4.8nm,0.3s							
AS10	**Alice Springs**	**3.91**	**182**	P		**Pn**	**23 49 07.0**	**+2.2**
AS09	**Alice Springs**	**3.91**	**181**	P		**Pn**	**23 49 07.4**	**+2.6**
QIS	**Mount Isa**	**5.29**	**99**	P		**Pn**	**23 49 25.8**	**+2.0**
	comp=Z,0.1nmcomp=Z,107µmcomp=Z,4.4nm,2.4s							
QIS	**Mount Isa**	**5.29**	**99**	S		**Sn**	**23 50 24.0**	**-0.7**
KNRA	**Kununurra**	**6.47**	**308**	P		**Pn**	**23 49 42.7**	**+2.7**
	comp=Z,0.1nmcomp=Z,61µmcomp=Z,6.5nm,0.5s							
KNRA				S		**Sn**	**23 50 51.1**	**-2.6**
KDU	**Kakadu**	**7.20**	**348**	P		**Pn**	**23 49 51.0**	**+1.0**
	comp=Z,0.1nmcomp=Z,151µmcomp=Z,13nm,0.5s							
MTN	**Manton Dam**	**7.43**	**338**	P		**Pn**	**23 49 53.7**	**+0.4**
	comp=Z,0.1nmcomp=Z,132µmcomp=Z,7.3nm,1.9s							
WRKA	**Warakurna**	**7.46**	**224**	S		**Sn**	**23 51 14.2**	**-4.0**
DRS	**Darwin Rock St**	**7.90**	**337**	P		**Pn**	**23 50 00.6**	**+1.0**
	comp=Z,70µmcomp=Z,7.7nm,1.1s,comp=Z,0.0nm							
FITZ	**Fitzroy Crossi**	**8.12**	**280**	P		**Pn**	**23 50 03.9**	**+1.2**
STKA	**Stephens Creek**	**13.84**	**152**	Pn		**Pn**	**23 51 19.3**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=329,slow=13,SNR=5.9							
	comp=Z,1.1nm,0.4s							

*NEIC **28** 23:51:06.5±2.2, 36°.01N±0°.03 × 120°.19W±0°.03, h22km±7km, Error ellipse: s-maj=4.6km s-min=3.5km az=203.0*
NCEDC 28 23:51:06.9±2.5, 36°.00N±0°.02 × 120°.20W±0°.02, h20km±6km, ML3.1/41, ML2.9/117(NEIC), Error ellipse: s-maj=3.3km s-min=2.1km az=45.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTM	**Castle Mountai**	**0.13**	**240**			Pb	23 51 11.6	-0.1
PHFM	**Heflinger Ranc**	**0.20**	**235**			Pb	23 51 12.6	+0.4
GHC	**Gold Hill**	**0.21**	**217**			Pb	23 51 12.4	0.0
PMRM	**Maxey Ranch**	**0.21**	**189**			Pb	23 51 12.8	+0.4
PKLM	**Kerr Lake**	**0.25**	**208**			Pb	23 51 13.3	+0.4
PSTM	**Stockdale Moun**	**0.26**	**255**			Pb	23 51 13.6	+0.5
PAGB	**Antelope Grade**	**0.27**	**189**			Pb	23 51 13.4	+0.2
THS	**South End of C**	**0.27**	**185**			Pb	23 51 13.9	+0.7
PKD	**Bear Valley Ra**	**0.28**	**260**			Pb	23 51 13.8	+0.4
PKD						Sb	23 51 19.3	+1.5
PVCM	**Vineyard Canyo**	**0.28**	**255**			Pb	23 51 13.9	+0.4
PWKM	**Work Ranch**	**0.31**	**235**			Pb	23 51 14.4	+0.5
TRAM	**Private Proper**	**0.33**	**191**			Pb	23 51 14.5	+0.4
TRAM	**Private Proper**	**0.33**	**191**	IAML			23 51 22.2	
	comp=N,2µm,0.6s							
PSMM	**Smith Mountain**	**0.33**	**283**			Pb	23 51 14.8	+0.7
WSRE	**Westside REC,**	**0.35**	**10**			Pb	23 51 14.9	+0.6
TCHL	**Shandon**	**0.35**	**208**			Pb	23 51 15.1	+0.7
PPO	**Portuguese Can**	**0.36**	**249**			Pb	23 51 15.3	+0.6
TRAY	**Twisselman Ran**	**0.45**	**173**			Pb	23 51 16.5	+0.4
TSCN	**Private Proper**	**0.47**	**195**			Pb	23 51 17.2	+0.7
TCAS	**Cass Winery, P**	**0.49**	**217**			Pb	23 51 17.1	+0.3
PMPB	**Monarch Peak**	**0.54**	**294**	Pg		Pb	23 51 17.8	0.0
PMPB				Sg		Sb	23 51 25.3	+0.3
PMPB				IAML			23 51 29.8	
	comp=E,747nm,0.7s							
PMPB				IAML			23 51 33.1	
	comp=N,697nm,0.8s							
LCUV	**Le Cuvier**	**0.56**	**232**			Pb	23 51 18.1	+0.1
PSAM	**San Ardo**	**0.56**	**273**			Pb	23 51 18.3	+0.2
PANM	**San Antonio Re**	**0.62**	**250**			Pb	23 51 19.4	+0.3
RAMR	**Ramage Ranch**	**0.66**	**237**			Pb	23 51 20.1	+0.3
SMMC	**Simmler**	**0.70**	**166**			Pb	23 51 20.8	+0.3
VOG	**Valley Oaks Go**	**0.73**	**64**			Pb	23 51 20.1	-0.9
LRV	**Little Rabbit**	**0.79**	**303**			Pb	23 51 22.0	0.0
PCCM	**Crazy Canyon**	**0.79**	**277**			Pb	23 51 22.3	+0.3
BMSB	**Mercy Hot Spri**	**0.82**	**324**			Pb	23 51 22.5	0.0
KARE	**Kearney REC, C**	**0.82**	**43**			Pb	23 51 21.4	-1.1
HULI	**Fort Hunter Li**	**0.84**	**272**			Pb	23 51 23.1	+0.2
HULI	**Fort Hunter Li**	**0.84**	**272**	IAML			23 51 35.8	
	comp=N,307nm,0.9s							
CRGC	**Crocker Grade**	**0.85**	**153**			Pb	23 51 23.4	+0.4
LSDC	**Los Osos Digit**	**0.87**	**217**			Pn	23 51 24.1	0.0
BBGB	**Big Mountain B**	**0.90**	**311**			Pb	23 51 23.8	-0.1
BBGB						Sn	23 51 36.8	-0.1
BBGB				IAML			23 51 40.1	
	comp=N,623nm,0.6s							
DPD	**Davis Peak**	**0.90**	**212**			Pn	23 51 24.3	-0.2
VES	**Vestal, Richgr**	**0.92**	**99**			Pb	23 51 22.9	-1.2
VES				IAML			23 51 36.8	
	comp=N,403nm,0.4s							
VES				IAML			23 51 38.1	
	comp=E,396nm,0.3s							

DCD	**Diablo Creek**	**0.94**	**214**			Pn	23 51 25.8	+0.8
BSGM	**Shirttail Gulc**	**0.95**	**296**			Pb	23 51 24.4	-0.4
BSMM	**Soledad Missio**	**1.07**	**292**			Pb	23 51 26.3	-0.5
FRI	**Friant**	**1.07**	**21**			Pb	23 51 25.3	-1.4
BJOM	**Mount Johnson**	**1.10**	**305**			Pn	23 51 26.9	-0.3
BJCM	**Johnson Can.**	**1.11**	**300**			Pn	23 51 27.1	-0.3
MHDM	**Hidden Dam**	**1.14**	**12**			Pn	23 51 26.6	-1.2
SCZ	**Santa Cruz**	**1.14**	**302**			Pn	23 51 27.1	-0.7
SPG2	**Springville 2**	**1.18**	**80**			Pn	23 51 26.9	-1.4
LEGD	**La Grand CA**	**1.22**	**2**			Pn	23 51 27.7	-1.1
BCW	**Bitter Crk WRg**	**1.23**	**149**			Pn	23 51 28.4	-0.7
SAO	**San Andreas Ge**	**1.27**	**308**			Pn	23 51 29.5	0.0
SAO					Sg	Sb	23 51 47.9	+1.9
FIGC	**Figueroa Mtn.**	**1.28**	**172**			Pb	23 51 30.4	+0.1
BPRM	**Ponciano Ridge**	**1.31**	**289**			Pn	23 51 29.0	-1.1
SLD	**San Luis Dam**	**1.35**	**323**			Pn	23 51 29.9	-0.8
WASM	**Alta Sierra Ca**	**1.36**	**100**			Pn	23 51 30.6	-0.4
HPCM	**Pacheco Lake**	**1.37**	**321**			Pn	23 51 29.9	-1.0
HFEM	**San Felipe**	**1.38**	**316**			Pn	23 51 29.9	-1.2
MYLM	**Yosemite Lake**	**1.40**	**353**			Pn	23 51 30.6	-0.6
ISA	**Isabella, Lake**	**1.44**	**103**			Pn	23 51 31.6	-0.3
ISA						Sn	23 51 50.0	-0.3
ISA					IAML		23 51 52.1	
	comp=N,165nm,0.4s							
ISA					IAML		23 51 55.4	
	comp=E,221nm,0.4s							
TEJ	**El Tejon**	**1.45**	**121**			Pn	23 51 30.7	-1.4
MMIM	**Miami Mountain**	**1.47**	**14**			Pn	23 51 32.1	-0.2
GHS	**Gilroy Hot Spr**	**1.49**	**318**			Pn	23 51 31.9	-0.7
KCC	**Kaiser Creek**	**1.50**	**28**			Pn	23 51 32.8	0.0
TJR	**Tejon Ranch**	**1.53**	**129**			Pn	23 51 31.7	-1.4
THC	**Tehachapi Micr**	**1.66**	**130**			Pn	23 51 33.0	-2.1
CWC	**Cottonwood Cre**	**1.77**	**75**			Pn	23 51 37.3	+0.7
OSI	**Osito Audit: C**	**1.83**	**138**			Pn	23 51 36.0	-1.3
MRDM	**Red Cones**	**1.84**	**29**			Pn	23 51 38.7	+1.0
MMPM	**Mammoth Pass**	**1.86**	**30**			Pn	23 51 39.2	+1.1
WNMM	**Nine Mile Cany**	**1.87**	**94**			Pn	23 51 38.8	+1.1
MTUM	**Tungsten Hills**	**1.89**	**44**			Pn	23 51 39.4	+1.2
MFS	**McCloud Flat S**	**1.90**	**86**			Pb	23 51 39.8	-1.3
TIN	**Tinemaha, Big**	**1.90**	**56**			Pn	23 51 39.0	+0.6
MDYM	**Dry Creek**	**1.91**	**29**			Pb	23 51 40.3	-1.0
MLCM	**Laurel Creek C**	**1.91**	**32**			Pn	23 51 39.9	+1.3
MMLB	**Mammoth Lakes**	**1.93**	**30**			Pb	23 51 40.6	-0.9
MCVM	**Convict Lake**	**1.93**	**34**			Pb	23 51 40.4	-1.3
MDCM	**Deadman Creek**	**1.94**	**28**			Pn	23 51 40.4	+1.3
MCBM	**Casa Benchmark**	**1.95**	**32**			Pb	23 51 40.7	-1.2
MEMM	**East Mammoth H**	**1.95**	**31**			Pb	23 51 40.5	-1.4
MCSM	**Casa Diablo Ho**	**1.95**	**32**			Pb	23 51 40.9	-1.1
TPO	**Tropico Hills**	**1.96**	**124**			Pn	23 51 39.1	0.0
TPO					IAML		23 52 07.3	
	comp=E,65nm,0.7s							
MLAC	**Mammoth, Mammo**	**1.96**	**33**			Pb	23 51 41.2	-0.9
MDRNC	**Doe Ridge**	**1.97**	**33**			Pb	23 51 41.1	-1.1
SRTC	**Snort**	**2.01**	**98**			Pn	23 51 40.8	+1.0
CMB	**Columbia Colle**	**2.04**	**356**			Pn	23 51 40.0	-0.2
CMB					IAML		23 52 09.2	
	comp=E,58nm,0.8s							
CMB					IAML		23 52 09.5	
	comp=N,62nm,0.5s							
MCDM	**Chidago Canyon**	**2.09**	**42**			Pb	23 51 42.9	-1.4
LRMC	**Laurel Mtn Rad**	**2.11**	**103**			Pn	23 51 40.0	-1.2
LRMC					IAML		23 52 12.0	
	comp=E,68nm,0.2s							
LRMC					IAML		23 52 13.4	
	comp=N,100nm,0.4s							
CLC	**China Lake**	**2.12**	**94**			Pn	23 51 41.2	-0.1
CLC					IAML		23 52 11.5	
	comp=E,70nm,0.4s							
CLC					IAML		23 52 11.5	
	comp=N,94nm,0.3s							
MPMC	**Manual Prospec**	**2.20**	**88**			Pn	23 51 42.8	+0.4
WSHM	**Spangler Hills**	**2.23**	**99**			Pn	23 51 42.5	-0.3
DSP	**Deep Springs**	**2.25**	**52**			Pn	23 51 43.9	+0.8
DSP					IAML		23 52 15.4	
	comp=N,55nm,0.9s							
CCCA	**Chr Cany lake**	**2.35**	**101**			Pn	23 51 44.2	-0.2
GRAC	**Grapevine Rang**	**2.49**	**66**	Pg		Pb	23 51 52.5	+1.6
WAKR	**Walker**	**2.58**	**13**			Pn	23 51 48.6	+1.0
LHV	**Little Huntoon**	**2.62**	**31**			Pn	23 51 49.0	+0.9
LHV					IAML		23 52 30.2	
	comp=N,73nm,1.0s							
LHV					IAML		23 52 40.4	
	comp=E,91nm,0.8s							
GMN	**Gold Mountain**	**2.70**	**60**			Pn	23 51 50.3	+0.9
GMN					IAML		23 52 33.1	
	comp=E,34nm,0.5s							
GMN					IAML		23 52 33.4	
	comp=N,35nm,0.8s							
QSM	**Queen of Sheba**	**2.70**	**90**			Pn	23 51 48.5	-0.8
QSM					IAML		23 52 35.1	
	comp=E,38nm,0.4s							
QSM					IAML		23 52 42.2	
	comp=N,38nm,0.9s							
BFSC	**Mount Baldy Ra**	**2.72**	**129**			Pn	23 51 49.5	-0.1
BFSC					IAML		23 53 34.5	
	comp=E,30nm,0.1s							
FURC	**Furnace Creek,**	**2.74**	**79**			Pn	23 51 49.7	0.0
FURC					IAML		23 52 39.7	
	comp=E,57nm,0.9s							
FURC					IAML		23 52 40.7	
	comp=N,58nm,0.2s							
MZP	**Montezuma Peak**	**2.83**	**52**			Pn	23 51 49.9	-1.3
GSC	**Goldstone, Bar**	**2.85**	**103**			Pn	23 51 50.9	-0.4
GSC					IAML		23 52 40.5	
	comp=E,43nm,0.6s							
NVAR	**Mina Array Bea**	**2.86**	**31**			Pn	23 51 50.2	-1.4
GWY	**Greenwater Val**	**2.86**	**85**			Pn	23 51 51.4	-0.2
GWY					IAML		23 52 39.8	
	comp=N,36nm,0.5s							
NV11	**Mina Array Sit**	**2.93**	**33**			Pb	23 52 00.6	+2.1
RYN	**Ryan**	**2.95**	**26**			Pb	23 51 57.7	-1.2
RYN					IAML		23 52 36.3	
	comp=E,49nm,0.4s							
RYN					IAML		23 52 36.5	
	comp=N,51nm,0.4s							
WCT	**Wildcat Mounta**	**2.99**	**74**			Pn	23 51 59.7	+0.2
WCT					IAML		23 52 41.5	
	comp=E,24nm,0.7s							
AFDM	**Forest Hills D**	**3.01**	**348**			Pn	23 51 53.9	+0.4
AFDM					IAML		23 52 42.6	
	comp=E,40nm,0.5s							
AFDM					IAML		23 52 45.8	
	comp=N,28nm,0.7s							
TPNV	**Topopah Spring**	**3.32**	**72**		IAML		23 52 52.0	
	comp=N,22nm,0.5s							
TPNV					IAML		23 53 02.6	
	comp=N,20nm,0.9s							
PAHR	**Pah Rah Range**	**3.76**	**10**		IAML		23 53 04.9	
	comp=E,23nm,0.7s							
PAHR					IAML		23 53 06.7	
	comp=N,21nm,1.1s							
MTPC	**Mountain Pass**	**3.81**	**96**		IAML		23 53 43.8	
	comp=E,15nm,0.1s							
BEKR	**Beckworth**	**3.87**	**358**		IAML		23 53 09.0	
	comp=N,19nm,0.7s							
S11A	**Rachel**	**3.93**	**64**		IAML		23 53 09.2	
	comp=N,32nm,1.1s							
S11A					IAML		23 53 12.0	
	comp=E,33nm,1.1s							
DPP	**Dos Picos Cty**	**4.02**	**137**		IAML		23 54 01.2	
	comp=E,29nm,0.1s							
PRN	**Pahroc Range**	**4.37**	**70**		IAML		23 53 23.6	
	comp=N,19nm,0.7s							
PRN					IAML		23 53 36.5	
	comp=E,14nm,0.7s							
BC3	**Big Chuckawall**	**4.55**	**120**		IAML		23 53 24.9	
	comp=N,7.3nm,0.1s							

*CATAC **29** 00:12:34.8±0.6, 13°N±4°×8°9W±°, h28km±3km, M3.4/13, MLv3.4/13, Error ellipse: s-maj=8.2km s-min=4.6km az=19.3, confirmed*
*GCG **29** 00:12:35.2±0.6, 13°.05N × 89°.57W, h54km±13km, MD3.8, ML2.5*
*SNET **29** 00:12:35.1±1.1, 13°.01N × 89°.48W, h42km, ML3.4*
ISC 29 00:12:35.2±2.3, 13°.0N±0°.1 × 89°.48W±0°.07, h44km±25km, n41, σ0s34/49, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LALI	**Alcalda de L**	**0.52**	**18**	*eP*		**Pn**	**00 12 46.4**	**0.0**
LALI				*eS*		**Sn**	**00 12 54.5**	**+0.3**
LALI	**Alcalda de L**	**0.52**	**18**	*i* P		**Pn**	**00 12 46.4**	**0.0**
LALI					IAML		00 12 56.9	
	comp=E,212nm,0.2s							
LALI	**Alcalda de L**	**0.52**	**18**	P		**Pn**	**00 12 46.3**	**0.0**
JAYA	**Jayaque - finc**	**0.66**	**3**	*eP*		**Pn**	**00 12 48.0**	**-0.3**
JAYA				*eS*		**Sn**	**00 12 57.8**	**0.0**
JAYA	**Jayaque - finc**	**0.66**	**3**	*i* P		**Pn**	**00 12 48.1**	**-0.3**
JAYA				*i* S		**Sn**	**00 12 58.1**	**+0.3**
JAYA	**Jayaque - finc**	**0.66**	**3**	P		**Pn**	**00 12 48.0**	**-0.3**
LOMA	**Loma Larga**	**0.71**	**25**	P		**Pn**	**00 12 48.5**	**-0.6**
LOMA	**Loma Larga**	**0.71**	**25**	S		**Sn**	**00 12 58.9**	**-0.1**
PMON	**Piamonte**	**0.73**	**13**	S		**Sn**	**00 12 59.9**	**+0.4**
PMON	**Piamonte**	**0.73**	**13**	P		**Pn**	**00 12 49.1**	**-0.2**
UEES	**Universidad Ev**	**0.76**	**18**	P		**Pn**	**00 12 49.3**	**-0.3**
UEES	**Universidad Ev**	**0.76**	**18**	S		**Sn**	**00 13 00.0**	**0.0**
PIC2	**El Picacho**	**0.78**	**16**	*eP*		**Pn**	**00 12 49.9**	**-0.2**
CEVE	**Cerro Verde**	**0.84**	**351**	*eP*		**Pn**	**00 12 50.5**	**-0.4**
CEVE	**Cerro Verde**	**0.84**	**351**	P		**Pn**	**00 12 50.8**	**-0.1**
CEVE	**Cerro Verde**	**0.84**	**351**	S		**Sn**	**00 13 02.9**	**+0.6**
LBRS	**Las Brisas**	**0.85**	**30**	*i* P		**Pn**	**00 12 51.1**	**+0.1**
TECO	**Alcaldia de Te**	**0.87**	**52**	P		**Pn**	**00 12 50.4**	**-0.7**
TECO	**Alcaldia de Te**	**0.87**	**52**	S		**Sn**	**00 13 02.4**	**-0.3**
PAVA	**Las Pavas**	**0.89**	**37**	*eP*		**Pn**	**00 12 51.2**	**-0.2**
PAVA				*eS*		**Sn**	**00 13 03.5**	**+0.2**
PAVA	**Las Pavas**	**0.89**	**37**	P		**Pn**	**00 12 51.3**	**-0.2**
UESV	**Universidad de**	**0.93**	**47**	S		**Sn**	**00 13 03.9**	**-0.3**
UESV	**Universidad de**	**0.93**	**47**	P		**Pn**	**00 12 51.3**	**-0.6**
NUBE	**Las Nubes**	**0.95**	**342**	*eP*		**Pn**	**00 12 52.0**	**-0.3**
NUBE				*eS*		**Sn**	**00 13 04.9**	**+0.1**
NUBE	**Las Nubes**	**0.95**	**342**	*i* P		**Pn**	**00 12 52.1**	**-0.3**
NUBE				*i* S		**Sn**	**00 13 04.6**	**-0.1**
NUBE	**Las Nubes**	**0.95**	**342**	P		**Pn**	**00 12 52.0**	**-0.3**
FAME	**Alcaldia de Sa**	**0.99**	**329**	P		**Pn**	**00 12 52.6**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.02**	**46**	P		**Pn**	**00 12 53.2**	**0.0**
SCLA	**Alcaldia de Sa**	**1.02**	**46**	S		**Sn**	**00 13 06.9**	**+0.6**
PQSS	**Presa 15 de Se**	**1.09**	**55**	S		**Sn**	**00 13 08.0**	**-0.1**
PQSS	**Presa 15 de Se**	**1.09**	**55**	P		**Pn**	**00 12 53.7**	**-0.4**
PACA	**Pacayal**	**1.22**	**67**	P		**Pn**	**00 12 56.4**	**+0.4**
PACA	**Pacayal**	**1.22**	**67**	S		**Sn**	**00 13 12.1**	**+0.6**
BLLM	**Bellamira**	**1.29**	**70**	*eP*		**Pn**	**00 12 56.9**	**0.0**
MTO3	**Montecristo**	**1.40**	**5**	*i* P		**Pn**	**00 12 58.6**	**0.0**
MTO3	**Montecristo**	**1.40**	**5**	P		**Pn**	**00 12 58.5**	**0.0**
MTO3	**Montecristo**	**1.40**	**5**	S		**Sn**	**00 13 16.6**	**+0.6**
LCND	**La Caada**	**1.58**	**78**	*eP*		**Pn**	**00 13 00.7**	**-0.1**
LCND				*eS*		**Sn**	**00 13 20.4**	**+0.3**
LCND	**La Caada**	**1.58**	**78**	P		**Pn**	**00 13 00.9**	**+0.1**
CNCH	**Conchagua**	**1.63**	**80**	*eP*		**Pn**	**00 13 01.1**	**-0.4**
CNCH				*eS*		**Sn**	**00 13 21.5**	**+0.1**
CNCH	**Conchagua**	**1.63**	**80**	P		**Pn**	**00 13 01.5**	**-0.1**

*IDC **29** 00:30:15.9±1.0, 38°.68N × 22°.50E, h0km, mb3.5/9, mbtmp3.6/12, ML3.7/2, Error ellipse: s-maj=19.1km s-min=18.5km az=31.0*
*THE **29** 00:30:18.6, 38°.7N±0°.7 × 22°.5E±0°.6, h10km±1km, M3.3/27, ML3.3/27*
*ATH **29** 00:30:18.3, 38°.67N × 22°.53E, h14km, ML3.4/28, Manual Solution by F.Xalaris First location: 2019/07/29 00:31:09, This location: 2019/07/29 00:58:53 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
ISC 29 00:30:18.5±0.7, 38°.68N±0°.02 × 22°.54E±0°.02, h17km±5km, n107, σ0s84/123, mb3.5/7, 4C-10D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AXAR	**Agios Charalam**	**0.13**	**48**	P		**Pg**	**00 30 22.3**	**-0.2**
AXAR	**Agios Charalam**	**0.13**	**48**	P		**Pg**	**00 30 22.1**	**-0.3**
AXAR				S		**Sg**	**00 30 24.6**	**-0.5**
DLFA	**Delphi**	**0.20**	**189**	P		**Pg**	**00 30 23.0**	**-0.4**
DLFA				S		**Sg**	**00 30 26.4**	**-0.3**
LAM2	**Lamia**	**0.24**	**340**	P		**Pg**	**00 30 23.9**	**-0.1**
LAM2				S		**Sg**	**00 30 27.7**	**0.0**
LKR	**Lokris**	**0.36**	**94**	P		**Pg**	**00

OHR	**Ohrid**	**2.77**	**332**	*i* Pn	**Pb**	**00 31 07.3**	**-0.4**
OHR				*i* Sn	**Sb**	**00 31 40.2**	**-1.2**
CHOS	**Chios island**	**2.78**	**95**	P	**Pn**	**00 31 02.9**	**+0.6**
EZN	**Ezine**	**3.16**	**68**	⇓P	**Pn**	**00 31 08.0**	**+0.6**
IDI	**Anoyia**	**3.87**	**150**	Pn	**Pn**	**00 31 17.5**	**+0.1**
	15nm,0.4s,baz=313,slow=16,SNR=28						
IDI				Sn	**Sn**	**00 32 03.2**	**+0.7**
	6.3nm,0.3s,baz=80,slow=14,SNR=4.5						
ELND	**Elena**	**4.95**	**30**	⇑P	**Pn**	**00 31 32.4**	**+0.4**
PLVB	**Pleven**	**4.96**	**18**	⇓P	**Pn**	**00 31 33.8**	**+1.6**
HERR	**Herculane**	**6.20**	**359**	⇓P	**Pn**	**00 31 50.1**	**+0.9**
GZR	**Gura Zlata**	**6.71**	**1**	⇑P	**Pn**	**00 31 57.9**	**+1.6**
BZS	**Buzias**	**6.97**	**355**	⇓P	**Pn**	**00 32 01.4**	**+1.6**
VOIR		**7.01**	**15**	⇑P	**Pn**	**00 32 01.7**	**+1.3**
HARR	**Harsova**	**7.24**	**32**	⇓P	**Pn**	**00 32 05.8**	**+2.3**
MLR	**Muntele Rosu**	**7.26**	**19**	Pn	**Pn**	**00 32 05.9**	**+1.9**
	0.7nm,0.3s,baz=110,slow=5.8,SNR=5.9						
	2.7nm,0.5s						
MLR	**Muntele Rosu**	**7.26**	**19**	⇓P	**Pn**	**00 32 06.3**	**+2.3**
BLY	**Banja Luka**	**7.27**	**328**	⇓P	**Pn**	**00 32 04.8**	**+0.9**
NEHR	**Nehoiu**	**7.30**	**21**	⇓P	**Pn**	**00 32 06.6**	**+2.2**
PLOR	**Plostina**	**7.79**	**22**	⇑P	**Pn**	**00 32 13.9**	**+2.8**
VRI	**Vrincioaia**	**7.83**	**22**	⇓P	**Pn**	**00 32 14.3**	**+2.7**
MORH	**Mrgy, Hungar**	**8.06**	**340**	⇓P	**Pn**	**00 32 17.1**	**+2.4**
BRTR	**Keskin Array B**	**8.69**	**80**	Pn	**Pn**	**00 32 25.6**	**+2.1**
	0.4nm,0.3s,baz=261,slow=12,SNR=16						
	1.0nm,0.4s						
VYHS	**Vyhne**	**10.17**	**346**	*e*PN	Pn	00 32 48.6	+4.9
ESDC	**Sonseca Array**	**20.55**	**281**	P	**P**	**00 34 55.6**	**-0.7**
	1.2nm,1.0s,baz=84,slow=12,SNR=4.8						
	1.2nm,1.0s						
HFS	**Hagfors**	**22.19**	**348**	P	**P**	**00 35 12.4**	**-1.3**
	0.6nm,0.6s,baz=162,slow=15,SNR=4.6						
	0.6nm,0.6s						
NOA	**NORSAR Array B**	**23.48**	**346**	P	**P**	**00 35 26.0**	**-1.1**
	0.2nm,0.6s,baz=155,slow=9.3,SNR=4.0						
	0.2nm,0.6s						
EKA	**Eskdalemuir Ar**	**23.97**	**322**	P	**P**	**00 35 31.6**	**-0.1**
	2.0nm,0.7s,baz=121,slow=9.2,SNR=7.2						
	2.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**31.43**	**222**	P	**P**	**00 36 39.4**	**+0.3**
	1.0nm,0.3s,baz=29,slow=8.4,SNR=3.1						
	1.0nm,0.3s						
KURBB	**Kurchatov Arra**	**40.66**	**54**	P	**P**	**00 37 57.8**	**+0.2**
	0.2nm,0.5s,baz=279,slow=9.0,SNR=2.3						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**43.69**	**59**	P	**P**	**00 38 22.2**	**-0.2**
	0.5nm,0.5s,baz=274,slow=8.6,SNR=9.7						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**44.18**	**49**	P	**P**	**00 38 25.1**	**-1.1**
	0.3nm,0.3s,baz=274,slow=5.6,SNR=1.9						
	0.3nm,0.3s						
SCHQ	**Schefferville**	**59.16**	**318**	P	**P**	**00 40 18.4**	**+0.2**
	1.6nm,0.8s,baz=0.0,slow=8.1,SNR=1.7						
	1.6nm,0.8s						

*IDC **29** 00:36:09.9±2.2,21˝.01N×122˝.66E,h0km,mb3.6/6, mbtmp3.6/6,Error ellipse: s-maj=173.4km s-min=27.2km az=65.0*

ISC 29 00:36:14.7±1.8,21˚.1N±0˚.5×12˚.3E±˚,h35km,n12,σ0°20/6, mb3.6/6,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**29.81**	**337**	P	**P**	**00 42 18.4**	**0.0**
	0.3nm,0.7s,baz=148,slow=8.4,SNR=2.2						
	0.3nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**41.23**	**84**	T	T	01 29 05.6	
	baz=275,slow=75,SNR=20						
H11N2	**WAKE ISLAND Hy**	**41.24**	**84**	T	T	01 29 01.0	
	baz=275,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**41.25**	**84**	T	T	01 29 02.9	
	baz=275,slow=75,SNR=24						
H11S3	**WAKE ISLAND Hy**	**41.27**	**86**	T	T	01 29 01.0	
	baz=280,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**41.27**	**86**	T	T	01 28 59.1	
	baz=280,slow=75,SNR=26						
H11S2	**WAKE ISLAND Hy**	**41.28**	**86**	T	T	01 29 01.8	
	baz=280,slow=75,SNR=25						
MKAR	**Makanchi Array**	**41.63**	**318**	P	**P**	**00 43 59.6**	**+0.1**
	0.6nm,0.6s,baz=112,slow=9.8,SNR=4.8						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**42.29**	**164**	P	**P**	**00 44 05.1**	**0.0**
	0.4nm,0.8s,baz=341,slow=8.0,SNR=2.3						
	0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**43.67**	**328**	P	**P**	**00 44 15.8**	**-0.1**
	0.7nm,0.5s,baz=118,slow=8.6,SNR=5.5						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**45.46**	**321**	P	**P**	**00 44 30.1**	**-0.1**
	1.3nm,0.9s,baz=119,slow=7.5,SNR=6.7						
	1.3nm,0.9s						
BVAR	**Borovoye Array**	**51.04**	**322**	P	**P**	**00 45 13.5**	**+0.3**
	0.3nm,0.4s,baz=115,slow=7.5,SNR=2.0						
	0.3nm,0.4s						

IDC 29 00:36:18.9±7.7,6˚.09S×148˚.50E,h149km±45km,mb3.0/2, mbtmp3.6/4,Error ellipse: s-maj=70.9km s-min=57.1km az=175.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.55**	**202**	P	Pn	00 37 12.3	-1.0
	13nm,0.2s,baz=44,slow=11,SNR=4.8						
PMG				S	Sn	00 37 56.5	+0.9
	35nm,0.3s,baz=332,slow=21,SNR=7.1						
WRA	**Warramunga Arr**	**19.47**	**224**	P	P	00 40 33.7	-0.6
	2.9nm,0.7s,baz=50,slow=10,SNR=22						
ASAR	**Alice Springs**	**22.42**	**217**	P	P	00 41 05.0	-0.4
	0.4nm,0.6s,baz=55,slow=8.4,SNR=5.3						
	0.4nm,0.6s						
VNDA	**Vanda**	**71.74**	**177**	P	P	00 47 25.2	+0.9
	0.5nm,0.8s,baz=275,slow=12,SNR=2.8						
	0.5nm,0.8s						

*IDC **29** 00:54:50.5±9.4,45˚.64S×166˚.40E,h278km±113km, mb3.0/2,mbtmp3.7/3,Error ellipse: s-maj=210.9km s-min=30.7km az=34.0*

ISC 29 00:54:21.6±1.4,48˚.6S±0˚.1×164˚.8E±0˚.1,h35km,n16, σ1°41/25,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**2.74**	**28**	P	**Pn**	**00 55 01.1**	**-1.9**
PYZ				S	**Sn**	**00 55 37.0**	**+2.2**
APZ	**The Paps**	**2.77**	**51**	P	**Pn**	**00 55 02.3**	**-1.2**
APZ				S	**Sn**	**00 55 35.6**	**-0.1**
WHZ	**Wether Hill Ro**	**3.44**	**39**	P	**Pn**	**00 55 11.2**	**-1.5**
WHZ				S	**Sn**	**00 55 50.4**	**-1.8**
DCZ	**Deep Cove**	**3.51**	**28**	P	**Pn**	**00 55 10.9**	**-2.7**
SYZ	**Scrubby Hill**	**3.57**	**56**	P	**Pn**	**00 55 13.6**	**-0.8**
SYZ				S	**Sn**	**00 55 53.9**	**-1.4**
MLZ	**Mavora Lakes**	**3.94**	**36**	P	**Pn**	**00 55 19.0**	**-0.6**
MLZ				S	**Sn**	**00 56 05.8**	**+1.3**
TUZ	**Tuapeka**	**4.20**	**53**	P	**Pn**	**00 55 23.4**	**+0.2**
TUZ				S	**Sn**	**00 56 12.3**	**+1.3**
EAZ	**Earnscleugh**	**4.55**	**44**	P	**Pn**	**00 55 27.6**	**-0.4**
EAZ				S	**Sn**	**00 56 21.7**	**+2.0**
WKZ	**Wanaka**	**4.74**	**39**	P	**Pn**	**00 55 31.1**	**+0.5**
WKZ				S	**Sn**	**00 56 25.2**	**+0.8**
JCZ	**Jackson Bay**	**5.29**	**33**	P	**Pn**	**00 55 39.7**	**+1.6**
ODZ	**Otahua Downs**	**5.34**	**50**	P	**Pn**	**00 55 37.3**	**-1.5**
ODZ				S	**Sn**	**00 56 40.0**	**+0.9**
RPZ	**Rata Peaks**	**6.52**	**44**	P	**Pn**	**00 55 53.6**	**-1.4**
	5.4nm,0.3s,baz=53,slow=12,SNR=6.4						
RPZ				S	Sn	00 56 55.4	-13
	12nm,0.7s,baz=68,slow=7.1,SNR=3.8						
ASAR	**Alice Springs**	**34.86**	**304**	P	**P**	**01 01 09.4**	**0.0**
	0.7nm,0.6s,baz=135,slow=8.4,SNR=7.3						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**37.66**	**309**	P	**P**	**01 01 32.6**	**-0.7**
	0.8nm,0.6s,baz=140,slow=8.1,SNR=8.1						
	0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**141.99**	**207**	PKPbc	**PKiKP**	**01 13 54.1**	**+1.2**
	0.5nm,0.3s,baz=161,slow=4.5,SNR=1.1						
BRTR	**Keskin Array B**	**144.42**	**274**	PKPbc	**PKPdf**	**01 13 54.4**	**+0.6**
	0.5nm,0.7s,baz=118,slow=4.8,SNR=4.1						

*SOME **29** 00:59:38.2,44˚.63N×81˚.80E,h5km*
*NNC **29** 00:59:38.1±2.7,44˚.28N×82˚.26E,h0km,mb2.4,mpv2.6, Error ellipse: s-maj=34.5km s-min=13.4km az=135.0*

ISC 29 00:59:37.8±1.4,44˚.6N±0˚.1×82˚.0E±0˚.1,h10km,n8, σ1°22/12,3C,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.60**	**227**	P	**Pg**	**01 00 08.3**	**-0.3**
	1.0nm,0.1s						
KTMS				S	**Sg**	**01 00 30.1**	**+0.8**
	8.2nm,0.1s						
KTMS	**Ketmen**	**1.60**	**227**	*e*P	**Pg**	**01 00 08.3**	**-0.3**
	1.0nm,0.1s						
KTMS				*e*S	**Sg**	**01 00 30.1**	**+0.8**
	8.2nm,0.1s						
MK31	**Makanchi Array**	**2.25**	**6**	⇑Pn	**Pg**	**01 00 21.5**	**+0.5**
	0.1nm,0.1s,baz=184,slow=16,SNR=26						
MK31				⇑Pg	Pb	01 00 25.1	+6.4
	0.6nm,0.1s,baz=179,slow=17,SNR=7.7						
MK31				⇑Lg	Lg	01 00 53.9	
	2.4nm,0.2s,baz=175,slow=25,SNR=6.0						
SHLS	**Shalkode**	**2.28**	**233**	Pg	**Pn**	**01 00 16.5**	**+0.8**
	4.5nm,0.2s						
SHLS				Lg	Lg	01 00 44.0	
	24nm,0.3s						
SHLS	**Shalkode**	**2.28**	**233**	*e*P	**Pn**	**01 00 16.5**	**+0.8**
	4.4nm,0.1s						
SHLS				*e*S	**Sn**	**01 00 44.0**	**+0.1**
	18nm,0.3s						
KPKS	**Kokpek**	**2.60**	**246**	Pg	**Pg**	**01 00 25.5**	**-2.1**
	0.2nm,0.2s						
KPKS				Lg	Lg	01 00 59.6	
	16nm,0.5s						
SATY	**Saty**	**2.97**	**241**	Pg	**Pg**	**01 00 32.9**	**-1.9**
	0.6nm,0.1s						
SATY				Lg	Lg	01 01 12.1	
	4.7nm,0.1s						
ZSN	**Zaisan**	**3.54**	**34**	*e*P	**Pg**	**01 00 44.0**	**-1.6**
	2.1nm,0.1s						
ZSN				*e*S	**Sg**	**01 01 31.4**	**0.0**
	3.9nm,0.2s						

*SJA **29** 01:06:50.2±0.6,33˚.36S×72˚.50W,h14km±2km,ML3.6, MW3.8*
*IDC **29** 01:06:52.6±1.2,33˚.29S×72˚.38W,h0km,mb3.7/5, mbtmp3.7/8,ML3.6/3,Error ellipse: s-maj=35.4km s-min=20.4km az=105.0*
*GUC **29** 01:06:54.7±0.7,33˚.37S×72˚.24W,h14km±5km,ML3.6*

ISC 29 01:06:52.3±1.6,33˚.35S±0˚.03×72˚.23W±0˚.05,h1km±10km, n48,σ1°44/64,mb3.8/3,2C-16D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.59**	**57**	⇓*e*P	**Pb**	**01 07 06.4**	**+1.0**
VA01				*e*S	**Sb**	**01 07 15.6**	**+1.3**
VA01	**Torpederas**	**0.59**	**57**	*e*P	**Pb**	**01 07 05.9**	**+0.5**
VA01				*e*S	**Sn**	**01 07 17.2**	**-0.9**
VA05	**Santo Domingo**	**0.60**	**121**	⇓*i*P	**Pb**	**01 07 06.5**	**+0.9**
VA05				*e*S	**Sn**	**01 07 15.3**	**-3.0**
VA05				IAML		01 07 18.6	
	comp=E,11μm,0.5s						
MT02	**Curacav**	**0.92**	**85**	⇓*i*P	**Pn**	**01 07 11.8**	**-0.6**
MT02				*e*S	**Sn**	**01 07 24.7**	**-1.6**
MT02				IAML		01 07 28.7	
	comp=E,3μm,0.4s						
MT02	**Curacav**	**0.92**	**85**	*e*P	**Pn**	**01 07 11.8**	**-0.6**
MT02				*e*S	**Sn**	**01 07 25.1**	**-1.2**
MT02				IAML		01 07 28.2	
	comp=Z,2μm,0.8s						
MT01	**Popeta**	**0.97**	**122**	⇓*i*P	**Pb**	**01 07 12.2**	**+0.4**
MT01				*e*S	**Sn**	**01 07 25.7**	**-1.7**
MT01	**Popeta**	**0.97**	**122**	*e*P	**Pb**	**01 07 12.2**	**+0.4**
MT01				IAML		01 07 28.2	
	comp=Z,1μm,0.9s						
MT01				*e*S	**Sn**	**01 07 28.4**	**+1.0**
ROCH	**El Roble**	**1.09**	**70**	⇓*i*P	**Pn**	**01 07 14.8**	**-0.1**
ROCH				⇓*i*P	**Pn**	**01 07 14.8**	**-0.1**
ROCH				*e*S	**Sn**	**01 07 30.4**	**-0.4**
ROCH				IAML		01 07 34.6	
	comp=N,3μm,0.3s						
VA06	**Catapilco**	**1.11**	**45**	⇑*e*P	**Pb**	**01 07 15.1**	**+0.8**
VA06				*e*S	**Sn**	**01 07 30.6**	**-0.3**
VA06				IAML		01 07 34.7	
	comp=E,4μm,0.4s						
MT09	**Talagante**	**1.12**	**113**	⇓*i*P	**Pn**	**01 07 14.8**	**-0.4**
MT09				*e*S	**Sn**	**01 07 30.5**	**-1.0**
MT09				IAML		01 07 35.2	
	comp=N,4μm,0.4s						
BO03	**Pichilemu**	**1.17**	**169**	⇑*i*P	**Pb**	**01 07 15.8**	**+0.6**
BO03				*e*S	**Sb**	**01 07 30.9**	**+0.1**
BO03				IAML		01 07 37.9	
	comp=E,2μm,0.5s						
MT05	**Renca**	**1.25**	**92**	⇓*e*P	**Pn**	**01 07 17.3**	**+0.3**
MT05				IAML		01 07 39.7	
	comp=E,4μm,0.5s						
PEL	**Peldehue**	**1.31**	**81**	⇓*e*P	**Pn**	**01 07 18.4**	**+0.6**
PEL				IAML		01 07 39.7	
	comp=N,1μm,0.3s						
BO01	**Tunca**	**1.41**	**138**	⇓*e*P	**Pb**	**01 07 19.6**	**+0.2**
BO01	**Tunca**	**1.41**	**138**	*e*P	**Pb**	**01 07 19.5**	**+0.1**
BO01				IAML		01 07 45.1	
	comp=Z,345nm,0.5s						
MT14	**Cerro Cal¡n**	**1.42**	**92**	⇓*e*P	**Pb**	**01 07 20.2**	**+0.6**
MT14				IAML		01 07 50.2	
	comp=N,2μm,0.5s						
MT10	**Hacienda Santa**	**1.42**	**87**	⇓*e*P	**Pb**	**01 07 20.4**	**+0.7**
MT10				IAML		01 07 44.6	
	comp=E,4μm,0.7s						
MT15	**Las Vizcachas**	**1.47**	**100**	IAML		01 07 48.2	
	comp=N,2μm,0.3s						
BO04	**La Punta**	**1.50**	**116**	⇓*e*P	**Pb**	**01 07 20.6**	**-0.3**
BO04				*e*S	**Sn**	**01 07 41.4**	**+0.9**
VA03	**San Esteban**	**1.53**	**68**	⇓*e*P	**Pb**	**01 07 22.0**	**+0.5**
VA03				IAML		01 07 47.4	
	comp=E,3μm,0.5s						
VA03	**San Esteban**	**1.53**	**68**	*e*P	**Pb**	**01 07 22.0**	**+0.5**
VA03				*e*S	**Sn**	**01 07 45.6**	**+4.2**
VA03				IAML		01 07 54.7	
	comp=Z,901nm,0.8s						
FCH	**Farellones**	**1.63**	**90**	⇓*e*P	**Pg**	**01 07 23.5**	**+0.1**
FCH				*e*S	**Sn**	**01 07 46.0**	**+1.9**
FCH				IAML		01 07 52.3	
	comp=E,781nm,0.2s						
LMEL	**Las Melosas**	**1.77**	**107**	*e*P	**Pg**	**01 07 25.6**	**-0.5**
LMEL				IAML		01 07 55.5	
	comp=N,761nm,0.2s						
LMEL	**Las Melosas**	**1.77**	**107**	*e*P	**Pg**	**01 07 25.6**	**-0.5**
LMEL				*e*S	**Sg**	**01 07 51.6**	**+2.6**
LMEL				IAML		01 07 51.6	
	comp=Z,484nm,1.0s						
MT08	**Bocatoma Ro**	**1.86**	**94**	⇓*e*P	**Pg**	**01 07 27.3**	**-0.5**
MT08				IAML		01 07 55.9	
	comp=N,536nm,0.5s						
MT08	**Bocatoma Ro**	**1.86**	**94**	*e*P	**Pg**	**01 07 27.2**	**-0.7**
MT08				*e*S	**Sg**	**01 07 54.9**	**+3.0**
MT08				IAML		01 07 59.5	
	comp=Z,342nm,0.3s						
BO02	**Sierra Bellavi**	**1.88**	**140**	*e*P	**Pn**	**01 07 26.4**	**+0.8**
BO02				*e*S	**Sg**	**01 07 51.3**	**-1.3**
BO02				IAML		01 08 00.6	
	comp=Z,599nm,0.6s						
CO02	**Combarbal**	**2.38**	**26**	*e*P	**Pn**	**01 07 33.1**	**+0.5**
CO02				*e*S	**Sb**	**01 08 06.8**	**+0.8**
CO02				IAML		01 08 19.9	
	comp=Z,343nm,0.5s						
CO03	**El Pedregal**	**2.83**	**28**	*e*P	**Pn**	**01 07 39.1**	**+0.5**
CO03				*e*S	**Sn**	**01 08 16.0**	**+2.6**
CO03				IAML		01 08 30.0	
	comp=Z,127nm,1.1s						
GO04	**Tololo Observa**	**3.40**	**21**	*e*P	**Pn**	**01 07 47.2**	**+0.6**
GO04				*e*S	**Sg**	**01 08 40.8**	**-0.6**
GO04				IAML		01 08 46.8	
	comp=Z,140nm,0.4s						
BI02	**San Fabin de**	**3.40**	**167**	*e*P	**Pn**	**01 07 47.4**	**+0.9**
BI02				IAML		01 08 53.7	
	comp=Z,75nm,0.7s						
CFA	**Coronel Fontan**	**3.80**	**64**	Pn	**Pn**	**01 07 54.9**	**+2.8**
	comp=Z,2.9nm,0.3s,baz=250,slow=14,SNR=35						
CFA				Sn	**Sb**	**01 08 42.6**	**-4.1**
	comp=Z,1.6nm,0.3s,baz=32,slow=21,SNR=4.9						
	comp=Z,2.5nm,0.3s						
LCO	**Las Campanas**	**4.52**	**17**	*e*P	**Pn**	**01 08 02.2**	**+0.1**
LCO				*e*S	**Sn**	**01 08 55.1**	**-0.4**
LCO				IAML		01 09 22.3	
	comp=Z,91nm,1.0s						
AC04	**Llanos de Chal**	**5.22**	**11**	*e*P	**Pn**	**01 08 10.8**	**-0.8**
AC04				IAML		01 09 43.7	
	comp=Z,32nm,1.4s						
H03N1	**Juan Fernandez**	**5.59**	**267**	T	T	01 14 05.8	
	baz=89,slow=74,SNR=10						
H03S1	**Juan Fernandez**	**5.59**	**263**	T	T	01 14 06.1	
	baz=92,slow=74						
H03S3	**Juan Fernandez**	**5.59**	**263**	T	T	01 13 50.6	
	baz=92						
H03N3	**Juan Fernandez**	**5.60**	**267**	T	T	01 14 04.5	
	baz=89,slow=74,SNR=12						
H03N2	**Juan Fernandez**	**5.60**	**267**	T	T	01 14 06.8	
	baz=89,slow=74,SNR=8.4						
H03S2	**Juan Fernandez**	**5.61**	**263**	T	T	01 13 53.9	
	baz=92,slow=74						
PLCA	**Paso Flores**	**7.49**	**170**	Pn	**Pn**	**01 08 44.5**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=342,slow=13,SNR=6.1						
	comp=Z,1.2nm,0.5s						
CPUP	**Villa Florida**	**14.70**	**65**	Pn	**Pn**	**01 10 17.5**	**-3.8**
	baz=274,slow=12,SNR=2.8						
LPAZ	**La Paz**	**17.39**	**13**	Pn	**Pn**	**01 10 57.8**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=193,slow=5.7,SNR=6.7						
	comp=Z,1.2nm,0.7s						
SIV	**San Ignacio**	**20.01**	**33**	P	**P**	**01 11 26.0**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=217,slow=14,SNR=7.0						
	comp=Z,1.7nm,0.9s						
SNAA	**Sanae**	**52.25**	**158**	P	**P**	**01 16 04.7**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=281,slow=10,SNR=2.4						
	comp=Z,1.1nm,0.8s						
QSPA	**South Pole Qui**	**56.88**	**180**	P	**P**	**01 16 39.9**	**+1.4**
	comp=Z,2.0nm,0.9s,baz=151,slow=2.2,SNR=11						
	comp=Z,2.0nm,0.9s						
TXAR	**Lajitas Array**	**69.09**	**331**	P	**P**	**01 18 00.2**	**+0.2**
	comp=Z,0.2nm,0.9s,baz=126,slow=4.0,SNR=2.0						
	comp=Z,2.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**84.14**	**70**	P	**P**	**01 19 25.8**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=242,slow=4.0,SNR=2.3						
	comp=Z,1.0nm,0.4s						

*IGIL **29** 01:14:52.9,37˚.01N×5˚.31W,h1km,ML3.4*
*MDD **29** 01:14:52.5±0.2,37˚.02N×5˚.31W,h0km,mb_Lg3.5/46, Error ellipse: s-maj=1.6km s-min=1.1km az=174.0*
*INMG **29** 01:14:53.6±1.9,36˚.92N×5˚.25W,h21km±3km,ML3.3,Error ellipse: s-maj=2.2km s-min=2.0km az=15.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
*SFS **29** 01:14:53.5,36˚.95N×5˚.25W,h14km,ML3.7/21,ML3.5/28, MLv3.3/28*

ISC 29 01:14:52.0±0.9,37˚.00N±0˚.02×5˚.26W±0˚.01,h17km±8km, n89,σ1°40/227,4D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.50**	**255**	Pg	**Pb**	**01 15 03.1**	**+0.7**
ESPR				Sg	**Sb**	**01 15 09.7**	**+0.3**
ESPR	**Espera**	**0.50**	**255**	Pg	**Pb**	**01 15 03.0**	**+0.7**
ESPR				Sg	**Sg**	**01 15 08.5**	**-0.2**
ESPR				*i* IVmb_Lg		01 15 16.3	
EJIF	**Jimena Fronter**	**0.57**	**197**	Pg	**Pg**	**01 15 02.6**	**-0.8**
EJIF				Sg	**Sg**	**01 15 10.7**	**-0.4**
EMIJ	**Mijas**	**0.58**	**138**	Pg	**Pg**	**01 15 02.1**	**-1.5**
EMIJ				Sg	**Sg**	**01 15 09.7**	**-1.7**
EMIJ	**Mijas**	**0.58**	**138**	⇓Pg	**Pg**	**01 15 02.1**	**-1.5**
EMIJ				Sg	**Sg**	**01 15 10.7**	**-0.6**
EGOR	**Sierra Gorda,**	**0.92**	**83**	Pg	**Pg**	**01 15 10.2**	**+0.2**
EGOR				Sg	**Sn**	**01 15 23.7**	**+0.4**
EGOR	**Sierra Gorda,**	**0.92**	**83**	Pg	**Pn**	**01 15 10.4**	**0.0**
EGOR				Sg	**Sn**	**01 15 23.9**	**+0.6**
EGOR				*i* IVmb_Lg		01 15 29.0	
SFS	**San Fernando**	**0.93**	**235**	Pg	**Pn**	**01 15 11.2**	**+1.4**
SFS				Sg	**Sn**	**01 15 24.1**	**+0.9**
ECAB	**El Cabril**	**1.08**	**353**	Pn	**Pg**	**01 15 12.9**	**-0.1**
ECAB				Sn	**Sn**	**01 15 27.0**	**-0.1**
ECAB	**El Cabril**	**1.08**	**353**	Pg	**Pg**	**01 15 12.9**	**-0.1**
ECAB				Sg	**Sg**	**01 15 27.3**	**+0.1**
ECAB				*i* IVmb_Lg		01 15 30.9	
ECEU	**Ceuta**	**1.10**	**185**	Sg	**Sb**	**01 15 25.8**	**-1.0**
ECEU				Pg	**Pg**	**01 15 13.4**	**+0.1**
ECEU	**Ceuta**	**1.10**	**185**	Pg	**Pg**	**01 15 13.5**	**+0.1**
ECEU				Sg	**Sn**	**01 15 27.9**	**+0.3**
ARNO	**Arenosillo**	**1.19**	**275**	Pn	**Pb**	**01 15 14.8**	**+0.7**
ARNO				Sn	**Sg**	**01 15 31.5**	**+1.1**
EADA	**Adamuz**	**1.28**	**25**	Pn	**Pb**	**01 15 16.2**	**+0.4**
EADA				Sn	**Sg**	**01 15 33.8**	**+0.2**
EADA	**Adamuz**	**1.28**	**25**	Pg	**Pb**	**01 15 16.3**	**+0.4**
EADA				Sg	**Sg**	**01 15 33.8**	**+0.2**
EADA				*i* IVmb_Lg		01 15 36.2	
ELGU	**Los Guajares,**	**1.31**	**95**	Pn	**Pb**	**01 15 16.4**	**+0.1**
ELGU	**Los Guajares,**	**1.31**	**95**	Pg	**Pb**	**01 15 16.7**	**+0.4**
ELGU				Sg	**Sg**	**01 15 36.2**	**+1.7**
ELGU				*i* IVmb_Lg		01 15 39.3	
EMIN	**Mina Concepcio**	**1.36**	**305**	Pn	**Pn**	**01 15 16.6**	**+0.3**
EMIN	**Mina Concepcio**	**1.36**	**305**	Pg	**Pn**	**01 15 16.5**	**+0.3**
EMIN				Sg	**Sb**	**01 15 34.7**	**+0.4**
EMIN				*i* IVmb_Lg		01 15 40.1	
EQTA	**Presa de Quent**	**1.46**	**81**	Pn	**Pb**	**01 15 19.5**	**+0.6**
EQUE	**Quentar**	**1.47**	**81**	Pg	**Pb**	**01 15 19.6**	**+0.7**
EQUE

PCVE				*i* IAML		01 16 15.3	
PCVE				*i* IAML		01 16 15.6	
PBEJ	**Beja**	**2.31**	**297**	*e*Pn	**Pn**	**01 15 29.8**	**+0.4**
PBEJ				*e*Pg	**Pg**	**01 15 35.5**	**-1.0**
PBEJ				*e*Sn	**Sn**	**01 15 57.7**	**+0.2**
PBEJ				*e*Sg	**Sg**	**01 16 06.4**	**-0.1**
PBEJ				*i* IAML		01 16 12.7	
PBEJ				*i* IAML		01 16 13.8	
PBEJ				*i* IAML		01 16 15.4	
ENIJ	**Nijar**	**2.44**	**90**	Pn	**Pn**	**01 15 32.2**	**+1.0**
ENIJ	**Nijar**	**2.44**	**90**	Pn	**Pn**	**01 15 32.6**	**+1.4**
ENIJ				Pg	**Pg**	**01 15 37.7**	**-1.2**
ENIJ				Sg	**Sg**	**01 16 08.7**	**-1.9**
ENIJ				*i* IVmb_Lg		01 16 25.5	
MESJ	**Messejana**	**2.50**	**290**	*e*P	**Pn**	**01 15 32.4**	**+0.4**
MESJ	**Messejana**	**2.50**	**290**↓	*e*Pn	**Pn**	**01 15 32.4**	**+0.4**
MESJ				*e*Sn	**Sn**	**01 16 00.9**	**-1.2**
MESJ				*e*Sg	**Sg**	**01 16 13.1**	**+0.6**
MESJ				*i* IAML		01 16 18.4	
MESJ				*i* IAML		01 16 19.6	
MESJ				*i* IAML		01 16 22.9	
PESTR	**Estremoz**	**2.62**	**316**	Pn	**Pn**	**01 15 34.4**	**+0.7**
PESTR	**Estremoz**	**2.62**	**316**	*e*Pn	**Pn**	**01 15 34.4**	**+0.7**
PESTR				*e*Pg	**Pg**	**01 15 41.5**	**-0.9**
PESTR				*e*Sn	**Sn**	**01 16 05.8**	**+0.7**
PESTR				*e*Sg	**Sg**	**01 16 15.6**	**-0.8**
PESTR				*i* IAML		01 16 20.2	
PESTR				*i* IAML		01 16 23.1	
PESTR				*i* IAML		01 16 25.8	
PAB	**San Pablo**	**2.64**	**15**	Pn	**Pn**	**01 15 36.4**	**+2.5**
PAB				Sn	**Sn**	**01 16 06.9**	**+1.2**
PAB				*i* IVmb_Lg		01 16 20.6	
EVO	**Evora**	**2.67**	**306**	Pn	**Pn**	**01 15 35.0**	**+0.8**
EVO	**Evora**	**2.67**	**306**	*e*Pn	**Pn**	**01 15 35.0**	**+0.8**
EVO				*e*Pg	**Pg**	**01 15 43.1**	**-0.1**
EVO				*e*Sn	**Sn**	**01 16 05.9**	**-0.3**
EVO				*e*Sg	**Sg**	**01 16 17.6**	**-0.1**
EVO				*i* IAML		01 16 20.9	
EVO				*i* IAML		01 16 23.4	
EVO				*i* IAML		01 16 24.3	
MORF	**Marmelete**	**2.73**	**277**	*e*P	**Pn**	**01 15 35.4**	**+0.2**
MORF				*e*S	**Sn**	**01 16 06.5**	**-1.3**
MORF				IAML		01 16 26.8	
	comp=N,176nm,0.3s						
MORF	**Marmelete**	**2.73**	**277**	*e*Pn	**Pn**	**01 15 35.4**	**+0.2**
MORF				*e*Pg	**Pg**	**01 15 43.5**	**-0.9**
MORF				*e*Sn	**Sn**	**01 16 08.4**	**+0.6**
MORF				*e*Sg	**Sg**	**01 16 18.2**	**-1.7**
MORF				*i* IAML		01 16 20.8	
MORF				*i* IAML		01 16 28.2	
MORF				*i* IAML		01 16 30.8	
PTEO	**Sao Teotonio**	**2.82**	**282**	*e*Pn	**Pn**	**01 15 36.8**	**+0.4**
PTEO				*e*Pg	**Pg**	**01 15 44.4**	**-1.7**
PTEO				*e*Sn	**Sn**	**01 16 10.7**	**+0.8**
PTEO				*e*Sg	**Sg**	**01 16 24.3**	**+1.7**
PTEO				*i* IAML		01 16 30.8	
PTEO				*i* IAML		01 16 37.7	
PTEO				*i* IAML		01 16 39.1	
ESDC	**Sonseca Array**	**2.86**	**20**	Pn	**Pn**	**01 15 38.1**	**+1.2**
ESDC				Pg	**Pg**	**01 15 46.8**	**-0.1**
ESDC				Sn	**Sn**	**01 16 11.9**	**+1.0**
ESDC				Sg	**Sg**	**01 16 22.9**	**-1.0**
ESDC				*i* IVmb_Lg		01 16 26.8	
ESBB	**Sonseca Array**	**2.86**	**20**	Pn	**Pn**	**01 15 38.0**	**+1.1**
ESBB				Pg	**Pg**	**01 15 45.7**	**-1.1**
ESBB				Sn	**Sn**	**01 16 10.8**	**-0.2**
ESBB				Sg	**Sg**	**01 16 23.3**	**-0.6**
PFVI	**Vila Bisbo**	**2.86**	**274**	Pn	**Pn**	**01 15 36.8**	**0.0**
PFVI				Sn	**Sn**	**01 16 09.2**	**-1.7**
PFVI	**Vila Bisbo**	**2.86**	**274**	*e*Pn	**Pn**	**01 15 36.9**	**0.0**
PFVI				*e*Pg	**Pg**	**01 15 45.5**	**-1.3**
PFVI				*e*Sn	**Sn**	**01 16 10.3**	**-0.6**
PFVI				*i* IAML		01 16 24.5	
PFVI				*e*Sg	**Sg**	**01 16 24.7**	**+0.7**
PFVI				*i* IAML		01 16 33.2	
PFVI				*i* IAML		01 16 36.6	
TLOR	**Lorca, Murcia**	**2.92**	**76**	Pn	**Pn**	**01 15 39.0**	**+1.3**
PMRV	**Marv??o**	**2.95**	**326**	*e*Pn	**Pn**	**01 15 38.9**	**+0.8**
PMRV				*e*Sn	**Sn**	**01 16 13.9**	**+0.7**
PMRV				*e*Sg	**Sg**	**01 16 25.0**	**-1.9**
PMRV				*i* IAML		01 16 30.2	
PMRV				*i* IAML		01 16 30.5	
PMRV				*i* IAML		01 16 38.1	
PMTG	**Montargil**	**3.12**	**312**	*e*Pn	**Pn**	**01 15 40.9**	**+0.4**
PMTG				*e*Pg	**Pg**	**01 15 51.2**	**-0.7**
PMTG				*e*Sn	**Sn**	**01 16 18.3**	**+0.8**
PMTG				*e*Sg	**Sg**	**01 16 31.5**	**-0.9**
PMTG				*i* IAML		01 16 41.2	
PMTG				*i* IAML		01 16 41.9	
PMTG				*i* IAML		01 16 44.8	
EPLA	**Plasencia**	**3.13**	**348**	Pn	**Pn**	**01 15 40.8**	**+0.2**
EPLA				Pg	**Pb**	**01 15 49.3**	**+2.1**
EPLA				Sn	**Sn**	**01 16 16.8**	**-0.8**
EPLA				Sg	**Sg**	**01 16 29.2**	**-3.3**
EPLA				*i* IVmb_Lg		01 16 34.1	
RTC	**Rabat Centre**	**3.28**	**204**	Sn	**Sn**	**01 16 18.2**	**-3.0**
PCBR	**Castelo Branco**	**3.33**	**329**	*e*Pn	**Pn**	**01 15 44.2**	**+0.9**
PCBR				*e*Sn	**Sn**	**01 16 22.1**	**-0.4**
PCBR				*e*Sg	**Sg**	**01 16 37.9**	**-1.1**
PCBR				*i* IAML		01 16 41.7	
PCBR				*i* IAML		01 16 46.6	
PCBR				*i* IAML		01 16 48.0	
CART	**Cartagena**	**3.44**	**79**	Pn	**Pn**	**01 15 45.1**	**+0.3**
PSARD	**Sardoal**	**3.46**	**320**	*e*Pn	**Pn**	**01 15 45.9**	**+0.7**
PSARD				*e*Sn	**Sn**	**01 16 26.1**	**+0.3**
PSARD				*e*Sg	**Sg**	**01 16 40.8**	**-2.3**
PSARD				*i* IAML		01 16 50.3	
PSARD				*i* IAML		01 16 51.1	
PSARD				*i* IAML		01 16 52.5	
PARRA	**Arraiolos**	**3.50**	**302**	*e*Pn	Pn	01 15 37.3	-8.4
PARRA				*e*Pg	Pb	01 15 46.3	-7.2
PARRA				*e*Sn	Sn	01 16 11.8	-15
PARRA				*e*Sg	Sb	01 16 23.1	-13
PARRA				*i* IAML		01 16 32.3	
PARRA				*i* IAML		01 16 36.9	
PARRA				*i* IAML		01 16 39.2	
LIS	**Lisbon**	**3.53**	**300**	*e*Sn	**Sb**	**01 16 33.6**	**-2.9**
LIS				*e*Sg	**Sg**	**01 16 48.5**	**+3.2**
LIS				*i* IAML		01 16 58.0	
LIS				*i* IAML		01 17 02.1	
LIS				*i* IAML		01 17 03.0	
PMAFR	**Mafra**	**3.73**	**303**	Pn	**Pn**	**01 15 49.7**	**+0.8**
PMAFR				Sn	**Sn**	**01 16 32.4**	**0.0**
PMAFR	**Mafra**	**3.73**	**303**	*e*Pn	**Pn**	**01 15 49.7**	**+0.8**
PMAFR				*e*Sn	**Sn**	**01 16 33.1**	**+0.6**
PMAFR				*e*Sg	**Sg**	**01 16 51.7**	**-0.2**
PMAFR				*i* IAML		01 17 00.8	
PMAFR				*i* IAML		01 17 05.9	
PMAFR				*i* IAML		01 17 08.7	
PCAS	**Casmilo, Conde**	**3.97**	**321**	*e*Pn	**Pn**	**01 15 53.7**	**+1.6**
PCAS				*e*Sn	**Sn**	**01 16 38.0**	**-0.2**
PCAS				*e*Sg	**Sg**	**01 16 59.4**	**-0.1**
PCAS				*i* IAML		01 17 06.2	
PCAS				*i* IAML		01 17 07.0	
PCAS				*i* IAML		01 17 07.2	
COI	**Coimbra**	**4.05**	**323**	*e*Pn	**Pn**	**01 15 54.7**	**+1.5**
COI				*e*Sn	**Sn**	**01 16 39.4**	**-0.7**
COI				*e*Sg	**Sg**	**01 17 00.2**	**-1.8**
COI				*i* IAML		01 17 09.0	
COI				*i* IAML		01 17 13.5	
COI				*i* IAML		01 17 13.7	
AVE	**Averroes**	**4.09**	**206**	Pn	**Pn**	**01 15 53.4**	**-0.4**
AVE				Sn	**Sn**	**01 16 39.1**	**-2.3**
EJUZ	**Juzbado, Salam**	**4.11**	**353**	Pn	**Pn**	**01 15 55.8**	**+1.6**
EJUZ				Sn	**Sn**	**01 16 39.9**	**-1.9**
EJUZ				Sg	**Sg**	**01 17 00.9**	**-3.1**
PVIS	**Viseu**	**4.24**	**332**	*e*Pn	**Pn**	**01 15 57.6**	**+1.7**
PVIS				*e*Sn	**Sn**	**01 16 45.1**	**0.0**
PVIS				*e*Sg	**Sg**	**01 17 06.3**	**-1.9**
ECHE	**Chera**	**4.25**	**51**	Pn	**Pn**	**01 15 56.4**	**+0.4**
ECHE	**Chera**	**4.25**	**51**	Pn	**Pn**	**01 15 56.6**	**+0.6**
ECHE				Pg	**Pb**	**01 16 08.5**	**+2.2**
ECHE				Sn	**Sn**	**01 16 45.5**	**+0.3**
ECHE				Sg	**Sg**	**01 17 08.9**	**+0.3**
ECHE				*i* IVmb_Lg		01 17 15.9	
MVO	**Moncorvo**	**4.38**	**342**	*e*Pn	**Pn**	**01 15 58.5**	**+0.7**
MVO				*e*Sn	**Sn**	**01 16 47.2**	**-1.3**
MVO				*e*Sg	**Sg**	**01 17 10.8**	**-1.9**
MVO				*i* IAML		01 17 17.1	
MVO				*i* IAML		01 17 19.3	
MVO				*i* IAML		01 17 23.9	
ETOR	**Torete**	**4.56**	**32**	Pn	**Pn**	**01 16 01.5**	**+1.2**
ETOR				Pg	**Pb**	**01 16 12.7**	**+1.0**
ETOR				Sn	**Sn**	**01 16 50.6**	**-2.3**
ETOR				Sg	**Sg**	**01 17 17.0**	**-1.4**
ETOR				*i* IVmb_Lg		01 17 36.8	
PVRL	**Vila Real**	**4.68**	**337**	*e*Pn	**Pn**	**01 16 01.7**	**-0.2**
PVRL				*e*Sn	**Sn**	**01 16 54.8**	**-1.0**
PVRL				*i* IAML		01 16 56.9	
PVRL				*i* IAML		01 16 57.0	
PVRL				*e*Sg	**Sg**	**01 17 20.6**	**-1.6**
PVRL				*i* IAML		01 17 28.2	
POLO	**Lamas de Olo**	**4.79**	**336**	*e*Pn	**Pn**	**01 16 04.5**	**+0.9**
POLO				*e*Sn	**Sn**	**01 16 57.1**	**-1.6**
POLO				*e*Sg	**Sg**	**01 17 25.4**	**-0.5**
POLO				*i* IAML		01 17 28.3	
POLO				*i* IAML		01 17 29.0	
POLO				*i* IAML		01 17 32.5	
PBRG	**Braganca**	**4.94**	**347**	*e*Pn	**Pn**	**01 16 06.2**	**+0.8**
PBRG				*e*Sn	**Sn**	**01 17 00.8**	**-1.4**
PBRG				*e*Sg	**Sg**	**01 17 27.6**	**-2.8**
PBRG				*i* IAML		01 17 32.5	
PBRG				*i* IAML		01 17 36.5	
PBRG				*i* IAML		01 17 42.3	
ECAL	**Calabor**	**5.07**	**347**	Pn	**Pn**	**01 16 08.6**	**+1.3**
ECAL				Sn	**Sn**	**01 17 04.8**	**-0.7**
PCAB	**Cabril**	**5.17**	**336**	*e*Pn	**Pn**	**01 16 09.3**	**+0.7**
PCAB				*e*Sn	**Sn**	**01 17 06.3**	**-1.7**
PCAB				*e*Sg	**Sg**	**01 17 39.7**	**+1.7**
PCAB				*i* IAML		01 17 42.4	
PCAB				*i* IAML		01 17 50.4	
PCAB				*i* IAML		01 17 52.4	
ELOB	**Lobios**	**5.32**	**337**	Pn	**Pn**	**01 16 11.6**	**+0.8**
ELOB				Sn	**Sn**	**01 17 08.9**	**-2.8**
ELOB				Sg	**Sg**	**01 17 38.3**	**-4.6**
ELOB				*i* IVmb_Lg		01 17 48.1	
PGAV	**Gavieira, Arco**	**5.48**	**336**	*e*Pn	**Pn**	**01 16 13.9**	**+0.9**
PGAV				*e*Sn	**Sn**	**01 17 12.7**	**-2.9**
PGAV				*e*Sg	**Sg**	**01 17 47.7**	**-0.1**
PGAV				*i* IAML		01 17 53.1	
PGAV				*i* IAML		01 18 00.1	
PGAV				*i* IAML		01 18 05.7	
ESAC	**San Caprasio**	**6.00**	**37**	Pn	**Pn**	**01 16 21.7**	**+1.6**
ESAC				Sn	**Sn**	**01 17 29.6**	**+1.2**
ESAC				Sg	**Sg**	**01 18 01.3**	**-3.2**
TIO	**Tiouine**	**6.28**	**196**	Pn	**Pn**	**01 16 23.6**	**-0.5**
TIO				Sn	**Sn**	**01 17 30.5**	**-5.0**
EARI	**Arriondas**	**6.29**	**0**	Pn	**Pn**	**01 16 25.8**	**+1.7**
EARI				Pg	**Pb**	**01 16 43.5**	**+2.4**
EARI				Sn	**Sn**	**01 17 32.0**	**-3.6**
EARI				Sg	**Sg**	**01 18 09.0**	**-5.0**
EARI				*i* IVmb_Lg		01 18 31.6	
ELAN	**Lanestosa**	**6.38**	**12**	Pn	**Pn**	**01 16 26.8**	**+1.5**
ELAN				Pg	**Pb**	**01 16 44.3**	**+1.7**
ELAN				Sn	**Sn**	**01 17 33.6**	**-4.1**
ELAN				Sg	**Sg**	**01 18 14.4**	**-2.3**
ELAN				*i* IVmb_Lg		01 18 36.2	
EORO	**Oroz-Betelu**	**6.62**	**26**	Pn	**Pn**	**01 16 30.4**	**+1.8**
EORO				Sn	**Sn**	**01 17 43.7**	**0.0**
EORO				Sg	**Sg**	**01 18 24.2**	**-0.2**
EORO				*i* IVmb_Lg		01 18 32.9	
EALK	**Alkurruntz**	**6.84**	**24**	Pn	**Pn**	**01 16 33.4**	**+1.7**
EALK				Sn	**Sn**	**01 17 46.2**	**-3.0**
EALK				*i* IVmb_Lg		01 18 42.0	

FUNV ***29*** *01:26:11.8, 10°.60N×71°.75W, h7km, MW2.9*
RSNC ***29*** *01:26:12.0±0.0, 11°.1N±1°×7°.2W±°, h4km±1km, M2.3, ML2.1*

ISC 29 01:26:09.0±1.7, 10°.54N±0°.04×71°.70W±0°.03, h1km±14km, n15, σ1s56/29, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**0.95**	**240**	*e*P	**Pn**	**01 26 29.2**	**-0.4**
MCQV				*e*S	**Sn**	**01 26 41.6**	**-2.3**
URIC	**Uribia, Colomb**	**1.19**	**346**	P	**Pg**	**01 26 32.9**	**+1.0**
URIC				S	**Sn**	**01 26 49.3**	**-0.5**
CRJC	**Cerrejon, Guaj**	**1.26**	**293**	P	**Pg**	**01 26 33.9**	**+0.8**
CRJC				S	**Sn**	**01 26 50.7**	**-0.8**
SDV	**Santo Domingo**	**1.95**	**147**	P	**Pb**	**01 26 44.7**	**-0.7**
SDV				S	**Sb**	**01 27 09.7**	**-0.7**
SOCV	**Socops**	**2.39**	**160**	*e*P	**Pb**	**01 26 51.4**	**-1.4**
SOCV				*e*S	**Sb**	**01 27 21.8**	**-1.1**
ARGC	**Ariguani, Magd**	**2.60**	**255**	P	**Pb**	**01 26 54.6**	**-1.8**
ARGC				S	**Sb**	**01 27 27.6**	**-1.3**
CAPV	**Capacho**	**2.72**	**193**	*e*P	**Pb**	**01 26 56.4**	**-2.3**
CAPV				*e*S	**Sn**	**01 27 28.4**	**+0.5**
OCAC	**Ocana**	**2.79**	**215**	P	**Pb**	**01 26 58.6**	**-1.2**
OCAC				S	**Sb**	**01 27 34.0**	**-0.5**
PAMC	**Pamplona, Colo**	**3.33**	**197**	P	**Pn**	**01 27 02.9**	**+0.2**
PAMC				S	**Sn**	**01 27 45.5**	**+2.3**
SJCC	**San Jacinto, C**	**3.48**	**260**	P	**Pn**	**01 27 05.8**	**+1.3**
SJCC				S	**Sn**	**01 27 47.9**	**+1.4**
BAUV	**El Baul**	**3.94**	**113**	*e*P	**Pn**	**01 27 11.0**	**+0.3**
BAUV				*e*S	**Sn**	**01 27 56.6**	**-1.0**
BENV	**Beln**	**4.08**	**98**	*e*P	**Pn**	**01 27 14.3**	**+1.7**
ZARC	**Zaragoza, Cauc**	**4.35**	**226**	P	**Pn**	**01 27 18.7**	**+2.4**
ZARC				S	**Sn**	**01 28 09.4**	**+1.7**
RUSC	**La Rusia**	**4.81**	**197**	P	**Pn**	**01 27 22.9**	**-0.2**
RUSC				S	**Sn**	**01 28 19.9**	**0.0**
PTBC	**PUERTO BERRIO,**	**4.82**	**215**	P	**Pn**	**01 27 24.4**	**+1.6**
PTBC				S	**Sn**	**01 28 22.8**	**+3.5**

NNC ***29*** *01:30:53.9±2.7, 43°.75N×83°.73E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=21.3km s-min=10.2km az=125.0*
SOME ***29*** *01:30:55.0, 43°.77N×83°.70E, h15km*

ISC 29 01:30:56.6±2.6, 43°.9N±0°.1×83°.6E±0°.1, h10km, n10, σ1s62/11, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.38**	**260**	Pg	**Pb**	**01 31 40.0**	**+0.4**
	6.1nm,0.2s						
KTMS				Lg	Lg	01 32 14.1	
	12nm,0.2s						
KTMS	**Ketmen**	**2.38**	**260**	*e*P	**Pb**	**01 31 40.5**	**+0.8**
	5.7nm,0.1s						
KTMS				*e*S	**Sg**	**01 32 13.7**	**+0.6**
	9.8nm,0.2s						
PDGK	**Podgornoye**	**3.02**	**260**	⇑Pg	**Pb**	**01 31 50.6**	**+0.1**
	3.0nm,0.5s						
PDGK				⇓Lg	Lg	01 32 31.3	
	11nm,0.6s						
MK31	**Makanchi Array**	**3.02**	**343**	⇓Pg	**Pg**	**01 31 54.4**	**-0.2**
	0.6nm,0.3s,baz=156,slow=16,SNR=7.0						
MK31				⇓Lg	Lg	01 32 34.8	
	1.0nm,0.2s,baz=159,slow=29,SNR=12						
SHLS	**Shalkode**	**3.08**	**257**	Pg	**Pn**	**01 31 45.6**	**+0.2**
	12nm,0.2s						
SHLS				Lg	Lg	01 32 25.9	
	54nm,0.3s						
SHLS	**Shalkode**	**3.08**	**257**	*e*P	**Pn**	**01 31 47.8**	**+2.4**
	12nm,0.1s						
SHLS				*e*S	**Sb**	**01 32 26.3**	**-2.9**
	36nm,0.2s						
KPKS	**Kokpek**	**3.58**	**265**	Pg	**Pb**	**01 31 59.9**	**0.0**
	1.4nm,0.2s						
KPKS				Lg	Lg	01 32 50.1	
	4.9nm,0.2s						
ZSN	**Zaisan**	**3.66**	**14**	*e*P	**Pg**	**01 32 04.8**	**-1.8**
	1.8nm,0.1s						
ZSN				*e*S	**Sg**	**01 32 55.3**	**+1.4**
	6.7nm,0.2s						
KURBB	**Kurchatov Arra**	**7.54**	**335**	⇑Lg	Lg	01 35 00.9	
	3.3nm,0.8s						
KURK	**Kurchatov**	**7.60**	**335**	⇑Lg	Lg	01 34 59.7	
	2.0nm,0.6s						

IDC 29 01:31:55.7±2.5, 31°.50S×177°.58W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=64.9km s-min=45.3km az=53.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.42**	**268**	P	P	01 40 00.8	+0.4
	0.4nm,0.7s,baz=110,slow=7.9,SNR=4.3						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**44.51**	**273**	P	P	01 40 08.4	-0.7
	0.3nm,0.5s,baz=114,slow=8.3,SNR=2.5						
	0.3nm,0.5s						
VNDA	**Vanda**	**47.04**	**186**	P	P	01 40 28.2	-0.2
	0.3nm,0.4s,baz=278,slow=15,SNR=2.3						
	0.3nm,0.4s						
H03N3	**Juan Fernandez**	**79.76**	**123**	T	T	03 12 29.0	
	baz=234						
H03N2	**Juan Fernandez**	**79.76**	**123**	T	T	03 12 29.2	
	baz=234,slow=74						
H03N1	**Juan Fernandez**	**79.78**	**123**	T	T	03 12 28.6	
	baz=234,slow=74						
FINES	**FINESS Array B**	**146.30**	**340**	PKPbc	PKPdf	01 51 36.7	+0.4
	8.2nm,1.3s,baz=27,slow=3.4,SNR=3.7						

GCG ***29*** *02:59:48.6±0.9, 13°.64N×90°.08W, h85km±9km, MD3.9, ML3.5, MW3.0*
CATAC ***29*** *02:59:49.7±0.5, 13°.N±4°×9°.0W±°, h36km±5km, M3.1/15, MLv3.1/15, Error ellipse: s-maj=9.5km s-min=4.7km az=26.4, confirmed*
SNET ***29*** *02:59:51.8±2.2, 13°.72N×90°.09W, h48km, ML2.9*

ISC 29 02:59:54.1±1.7, 13°.68N±0°.08×89°.91W±0°.08, h58km, n42, σ1s66/46, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.26**	**30**	*e*P	**Pn**	**03 00 02.1**	**-1.8**
NUBE	**Las Nubes**	**0.26**	**30**	*i* P	**Pn**	**03 00 02.1**	**-1.8**
NUBE	**Las Nubes**	**0.26**	**30**	P	**Pn**	**03 00 02.1**	**-1.8**
NUBE	**Las Nubes**	**0.26**	**30**	S	**Sn**	**03 00 11.6**	**+0.6**
CEVE	**Cerro Verde**	**0.32**	**63**	P	**Pn**	**03 00 02.9**	**-1.5**
LOAL	**Lomas de Alarc**	**0.34**	**22**	P	**Pn**	**03 00 02.3**	**-2.2**
SLOZ	**Alcaldia de Sa**	**0.36**	**20**	P	**Pn**	**03 00 02.8**	**-1.9**
SLOZ	**Alcaldia de Sa**	**0.36**	**20**	S	**Sn**	**03 00 14.7**	**+2.4**
JAYA	**Jayaque - finc**	**0.45**	**93**	*e*P	**Pn**	**03 00 04.2**	**-1.5**
JAYA				*e*S	**Sn**	**03 00 15.8**	**+1.9**
JAYA	**Jayaque - finc**	**0.45**	**93**	*i* P	**Pn**	**03 00 04.1**	**-1.5**
JAYA				*i* S	**Sn**	**03 00 15.8**	**+1.9**
JAYA	**Jayaque - finc**	**0.45**	**93**	P	**Pn**	**03 00 04.2**	**-1.5**
UNIC	**Universidad Ca**	**0.46**	**50**	P	**Pn**	**03 00 04.1**	**-1.6**
UNIC	**Universidad Ca**	**0.46**	**50**	S	**Sn**	**03 00 15.1**	**+1.2**
CEDA	**San Andres**	**0.52**	**76**	*e*S	**Sn**	**03 00 17.1**	**+2.2**
CEDA	**San Andres**	**0.52**	**76**	S	**Sn**	**03 00 16.2**	**+1.2**
CEDA	**San Andres**	**0.52**	**76**	P	**Pn**	**03 00 04.8**	**-1.3**
PMON	**Piamonte**	**0.58**	**87**	P	**Pn**	**03 00 05.6**	**-1.4**
PMON	**Piamonte**	**0.58**	**87**	S	**Sn**	**03 00 18.5**	**+2.1**
LALI	**Alcalda de L**	**0.61**	**108**	*e*S	**Sn**	**03 00 18.6**	**+2.0**
LALI	**Alcalda de L**	**0.61**	**108**	P	**Pn**	**03 00 05.5**	**-1.6**
LALI	**Alcalda de L**	**0.61**	**108**	S	**Sn**	**03 00 17.9**	**+1.3**
BOQS	**Boqueron**	**0.62**	**85**	*e*P	**Pn**	**03 00 05.8**	**-1.7**
UEES	**Universidad Ev**	**0.66**	**87**	P	**Pn**	**03 00 06.6**	**-1.3**
UEES	**Universidad Ev**	**0.66**	**87**	S	**Sn**	**03 00 20.0**	**+2.2**
PANCS	**Alcalda de**	**0.72**	**95**	S	**Sn**	**03 00 20.7**	**+1.6**
PANCS	**Alcalda de**	**0.72**	**95**	P	**Pn**	**03 00 07.3**	**-1.2**
LOMA	**Loma Larga**	**0.72**	**93**	*e*P	**Pn**	**03 00 07.6**	**-1.1**
LOMA				*e*S	**Sn**	**03 00 21.6**	**+2.3**
LOMA	**Loma Larga**	**0.72**	**93**	P	**Pn**	**03 00 07.5**	**-1.2**
LOMA	**Loma Larga**	**0.72**	**93**	S	**Sn**	**03 00 20.7**	**+1.4**
FG16	**Alotenango, Sa**	**0.83**	**315**	*i* P	**Pn**	**03 00 09.9**	**-0.1**
LFRS	**El Faro**	**0.83**	**94**	*e*P	**Pn**	**03 00 08.9**	**-1.1**
MTO3	**Montecristo**	**0.89**	**37**	*i* P	**Pn**	**03 00 09.3**	**-1.7**
MTO3				*e*S	**Sn**	**03 00 24.4**	**+1.1**
MTO3	**Montecristo**	**0.89**	**37**	*i* P	**Pn**	**03 00 09.3**	**-1.7**
MTO3	**Montecristo**	**0.89**	**37**	P	**Pn**	**03 00 09.3**	**-1.7**
PAVA	**Las Pavas**	**0.95**	**88**	P	**Pn**	**03 00 10.3**	**-1.3**
PAVA	**Las Pavas**	**0.95**	**88**	S	**Sn**	**03 00 25.8**	**+1.4**
TECO	**Alcaldia de Te**	**1.11**	**97**	P	**Pn**	**03 00 12.8**	**-0.8**
TECO	**Alcaldia de Te**	**1.11**	**97**	S	**Sn**	**03 00 29.2**	**+1.2**
SARH	**Santa Rosa de**	**1.56**	**46**	P	**Pn**	**03 00 19.0**	**-0.6**
LCND	**La Caada**	**2.00**	**100**	P	**Pn**	**03 00 23.8**	**-1.8**
CNCH	**Conchagua**	**2.06**	**101**	P	**Pn**	**03 00 23.9**	**-2.6**
CNCH	**Conchagua**	**2.06**	**101**	S	**Sn**	**03 00 52.7**	**+1.5**

GCG 29 03:28:05.5±1.3, 15°.57N×91°.13W, h0km±7km, MD3.8, ML2.4, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUIS	**Sacapulas**	**0.28**	**173**	*i* P	Pb	03 28 12.3	-1.2
QUIS				*i* S	Sb	03 28 18.2	-0.7
QUIS				IAML		03 28 20.8	
	comp=E,798nm,0.4s						
SOKI	**Kika Raxquin**	**0.79**	**200**	*i* P	Pb	03 28 22.3	-0.1
CCIG	**Comitan**	**1.20**	**306**	*i* P	Pb	03 28 29.0	-0.3
CCIG				IAML		03 28 55.6	
	comp=N,60nm,0.5s						
MTO3	**Montecristo**	**2.07**	**124**	*i* P	Pn	03 28 41.4	-0.2
MTO3				*i* S	Sb	03 29 10.8	+0.4

IDC ***29*** *03:33:48.9±0.7, 32°.66N×76°.54E, h0km, mb4.1/21, mbtmp4.1/24, ML4.1/3, MS3.2/15, Error ellipse: s-maj=16.7km s-min=13.2km az=34.0*
*N

PTH IAML 03 36 17.0
comp=N,881nm,0.9s
LGTI Lohaghat 4.61 137 *e*P **Pn 03 35 03.4 +0.7**
LGTI *e*S **Sn 03 35 52.7 -2.3**
LGTI IAML 03 35 57.9
comp=N,789nm,0.6s
LGTI IAML 03 36 08.5
comp=E,851nm,0.8s
SONA Sohna 4.64 175 *e*P **Pn 03 35 05.0 +1.8**
SONA *e*S **Sn 03 35 55.2 -0.5**
SONA IAML 03 36 15.8
comp=N,894nm,1.2s
SONA IAML 03 36 24.9
comp=E,756nm,1.2s
KUDL Kundal 4.73 182 *e*P **Pn 03 35 06.4 +1.9**
KUDL *e*S **Sn 03 35 57.8 -0.2**
KUDL IAML 03 36 18.2
comp=E,810nm,0.8s
KUDL IAML 03 36 26.3
comp=N,964nm,0.7s
KBL Kabul 6.55 287 Pn Pn 03 35 28.8 -0.9
AJM Ajmer 6.62 196 *e*P **Pn 03 35 33.1 +2.6**
AJM *e*S **Sn 03 36 44.0 -0.7**
AJM IAML 03 37 19.5
comp=E,820nm,0.7s
AJM IAML 03 37 20.3
comp=N,473nm,1.2s
KSH Kashi 6.64 355 P **Pn 03 35 32.0 +1.2**
KSH S **Sn 03 36 41.5 -3.7**
KSH pmax pmax
comp=Z,120nm,0.6s
KSH LR LR
comp=N,260nm,4.5s
KSH LR LR
comp=E,290nm,4.8s
KSH LR LR
comp=Z,410nm,7.9s
GAR Garm 7.97 322 Pn **Pn 03 35 47.9 -1.2**
SIMJ Simiganj 8.47 315 Pn **Pn 03 35 56.1 +0.2**
ARSB Arslanbob 8.92 342 Pn **Pn 03 36 01.3 -0.7**
KDJ Kajisay 9.24 2 Pn **Pn 03 36 07.5 +1.1**
UCH Uchtor 9.48 350 P **Pn 03 36 11.6 +1.6**
SNR=87
BOOM Boomskoye usch 9.60 357 Pn **Pn 03 36 12.8 +1.4**
KBK Karagaybulak 9.85 353 P **Pn 03 36 16.6 +1.8**
SNR=11
AAK Ala-Archa 9.88 351 P **Pn 03 36 17.3 +2.1**
SNR=9.2
AAK Ala-Archa 9.88 351 Pn **Pn 03 36 16.7 +1.4**
AAK Ala-Archa 9.88 351 Pn **Pn 03 36 16.9 +1.6**
comp=Z,3.0nm,0.3s,baz=171,slow=9.5,SNR=15
AAK Sn **Sn 03 38 07.4 +2.5**
comp=Z,0.9nm,0.3s,baz=13,slow=21,SNR=4.6
AAK LR LR 03 40 34.8
comp=Z,146nm,19.3s,baz=170,slow=40
comp=Z,16nm,0.7s
EKS2 Erkin-Say 10.02 348 P **Pn 03 36 18.8 +1.7**
SNR=14
EVN Everest 10.05 117 Pn **Pn 03 36 16.1 -1.9**
TKM2 Tokmak 2 10.05 356 P **Pn 03 36 19.6 +2.0**
SNR=20
KK31 Karatay Array 11.29 336 Pn **Pn 03 36 32.5 -1.8**
KKAR Karatay Array 11.29 336 Pn **Pn 03 36 32.3 -2.0**
WMQ Urumqi 13.92 35 *e*P **Pn 03 37 09.0 -1.3**
MAKZ Makanchi 14.49 15 Pn **Pn 03 37 16.0 -1.9**
MKAR Makanchi Array 14.54 16 Pn **Pn 03 37 16.3 -2.3**
MKAR Makanchi Array 14.54 16 Pn **Pn 03 37 17.2 -1.5**
comp=Z,0.8nm,0.3s,baz=198,slow=11,SNR=18
MKAR Sn **Sn 03 39 56.9 -1.6**
comp=Z,0.7nm,0.3s,baz=199,slow=26,SNR=7.6
MKAR LR LR 03 43 39.5
comp=Z,91nm,18.2s,baz=249,slow=40
comp=Z,14nm,0.4s
HYB Hyderabad 15.50 173 *e*P **Pn 03 37 25.2 -6.1**
BRDH Bariadhala 16.70 124 LR LR 03 46 12.7
comp=Z,50nm,19.4s,baz=38,slow=45
KURBB Kurchatov Arra 17.78 4 P **Pn 03 37 58.7 -1.0**
comp=Z,0.3nm,0.3s,baz=193,slow=10,SNR=21
KURBB LR LR 03 46 01.2
comp=Z,35nm,20.2s,baz=172,slow=41
comp=Z,5.2nm,0.7s
KURK Kurchatov 17.87 4 Pn **Pn 03 37 59.4 -1.5**
GTA Gaotai 19.78 64 *e*P **P 03 38 23.5 +1.2**
GTA pmax pmax
comp=Z,6.0nm,0.7s
GTA LR LR
comp=Z,120nm,13.1s
GTA LR LR
comp=Z,86nm,14.2s
GTA LR LR
comp=Z,110nm,14.9s
AB31 Akbulak array 20.57 328 P **P 03 38 30.6 -0.1**
AB31 IAmb IAmb 03 38 36.3
comp=Z,8.9nm,0.7s
ABKAR Akbulak array 20.57 328 P **P 03 38 30.7 +0.1**
BVAR Borovoye Array 20.63 349 P **P 03 38 32.1 +0.8**
comp=Z,6.7nm,0.4s,baz=155,slow=11,SNR=36
BVAR LR LR 03 47 09.3
comp=Z,67nm,21.4s,baz=159,slow=38
comp=Z,6.7nm,0.4s
BRVK Borovoye 20.68 349 P **P 03 38 32.2 +0.5**
BRVK IAmb IAmb 03 38 33.5
comp=Z,12nm,0.7s
ZAA0 Zalesovo Array 21.84 13 P **P 03 38 43.8 -0.4**
ZALV Zalesovo Beam 21.84 13 P **P 03 38 43.1 -1.1**
ZALV Zalesovo Beam 21.84 13 P **P 03 38 44.5 +0.3**
comp=Z,4.6nm,0.6s,baz=206,slow=11,SNR=12
ZALV LR LR 03 48 11.7
comp=Z,66nm,21.4s,baz=215,slow=39
comp=Z,4.6nm,0.6s
AKTO Aktyubinsk 22.28 327 LR LR 03 48 10.3
comp=Z,62nm,18.4s,baz=242,slow=38
KMI Kunming 24.05 102 P **P 03 39 12.0 +4.9**
KMI pmax pmax
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 24.63 120 P **P 03 39 11.5 -0.7**
CMAR Chiang Mai Arr 24.63 120 P **P 03 39 12.1 -0.1**
comp=Z,4.2nm,0.9s,baz=307,slow=10,SNR=20
comp=Z,4.2nm,0.9s
PALK Pallekele 25.76 171 LR LR 03 49 51.8
comp=Z,129nm,18.0s,baz=12,slow=38
GNI Garni 26.55 295 P **P 03 39 29.8 +0.2**
GNI IAmb IAmb 03 39 41.0
comp=Z,10nm,1.0s
ARTI Arti 26.69 337 LR LR 03 50 50.7
comp=Z,75nm,19.6s,baz=148,slow=38
XAN Xi'an 26.89 79 *e*P **P 03 39 28.5 -4.1**
XAN pmax pmax
comp=Z,6.0nm,1.2s
SONM Songino Array 26.93 48 P **P 03 39 34.3 +1.4**
SONM Songino Array 26.93 48 P **P 03 39 35.0 +2.1**
comp=Z,5.6nm,0.8s,baz=246,slow=9.5,SNR=24
SONM LR LR 03 51 14.0
comp=Z,38nm,19.4s,baz=18,slow=38
comp=Z,5.6nm,0.8s
ULN Ulaanbaatar 27.35 48 P **P 03 39 38.2 +1.5**
ULN IAmb IAmb 03 39 40.1
comp=Z,7.0nm,1.1s
HHC Hu-ho-hao-te 28.89 64 *e*P **P 03 39 50.3 -0.2**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,87nm,5.4s
KIRV Kirov 31.55 333 LR LR 03 54 15.2
comp=Z,70nm,18.7s,baz=149,slow=39
MMAI Mount Meron Ar 34.46 282 LR LR 03 57 38.0
comp=Z,31nm,20.0s,baz=150,slow=42
BR131 Keskin Array S 35.07 294 P **P 03 40 44.5 -0.2**
BRTR Keskin Array B 35.07 294 P **P 03 40 44.1 -0.6**
BRTR Keskin Array B 35.07 294 P **P 03 40 44.7 0.0**
comp=Z,1.4nm,0.8s,baz=96,slow=9.1,SNR=11
comp=Z,1.4nm,0.8s
EIL Elat 35.62 276 LR LR 03 58 37.6
comp=Z,30nm,20.5s,baz=357,slow=42
AKASG Malin Array Be 38.83 312 P **P 03 41 15.5 -0.8**
comp=Z,0.5nm,0.5s,baz=82,slow=6.9,SNR=5.2
comp=Z,0.5nm,0.5s
AKBB Malin Array Si 38.83 312 P 03 41 15.3 -1.0
KIEV Kiev 38.84 312 P **P 03 41 15.3 -1.1**
MLR Muntele Rosu 40.63 303 P **P 03 41 32.1 +0.6**
MLR IAmb IAmb 03 41 34.0
comp=Z,4.0nm,0.7s
BURAR Bucovina Array 41.17 307 P **P 03 41 35.8 -0.1**
BUR08 Bucovina Ar. S 41.18 307 P **P 03 41 35.7 -0.3**
KSRS Korea Array 41.74 69 P **P 03 41 41.3 +0.8**
comp=Z,0.8nm,0.5s,baz=284,slow=7.9,SNR=1.7
comp=Z,0.8nm,0.5s
FIA1 FINESS Array S 43.06 327 P **P 03 41 51.6 +0.7**
FINES FINESS Array B 43.06 327 P **P 03 41 51.7 +0.8**
FINES FINESS Array B 43.06 327 P **P 03 41 51.6 +0.7**
comp=Z,4.2nm,0.6s,baz=112,slow=8.7,SNR=27
comp=Z,4.2nm,0.6s
JNU Nakatsue 45.03 74 LR LR 04 03 06.7
comp=Z,38nm,18.2s,baz=209,slow=39
ARCES ARCESS Array B 46.25 338 P **P 03 42 17.3 +1.0**
ARCES ARCESS Array B 46.25 338 P **P 03 42 17.6 +1.2**
comp=Z,6.4nm,0.7s,baz=107,slow=8.9,SNR=27
comp=Z,6.4nm,0.7s
MORC Moravsky Berou 46.25 310 P **P 03 42 16.9 +0.2**
MORC IAmb IAmb 03 42 18.8
comp=Z,3.5nm,1.1s
HFS Hagfors 48.75 324 P **P 03 42 36.3 +0.5**
comp=Z,2.1nm,0.4s,baz=99,slow=9.2,SNR=32
comp=Z,2.1nm,0.4s
GERES GERESS Array B 48.82 309 P **P 03 42 36.6 0.0**
comp=Z,0.2nm,0.5s,baz=78,slow=9.3,SNR=2.7
comp=Z,0.2nm,0.5s
NC405 NORSAR Array S 49.80 325 P **P 03 42 44.0 +0.1**
MJAR Matsushiro Arr 49.97 68 P **P 03 42 45.4 -0.1**
comp=Z,0.8nm,0.4s,baz=294,slow=8.3,SNR=6.3
comp=Z,0.8nm,0.4s
NB2 NORSAR Subarra 50.04 325 P **P 03 42 45.8 +0.1**
comp=Z,2.2nm,0.6s,baz=94,slow=7.9
NOA NORSAR Array B 50.04 325 P **P 03 42 46.0 +0.4**
comp=Z,2.1nm,0.6s,baz=95,slow=7.5,SNR=19
NOA LR LR 04 05 36.4
comp=Z,20nm,18.2s,baz=295,slow=38
comp=Z,2.1nm,0.6s
ERM Erimo 52.38 60 P **P 03 43 06.3 +2.8**
SENIN Lac Senin/Sane 53.47 306 P **P 03 43 11.3 -0.4**
SENIN IAmb IAmb 03 43 12.8
comp=Z,2.8nm,0.8s
SEY Seymchan 54.87 33 P **P 03 43 22.8 +1.4**
comp=Z,2.0nm,0.2s,baz=250,slow=8.9,SNR=5.5
comp=Z,2.0nm,0.2s
EKA Eskdalemuir Ar 58.09 319 P **P 03 43 44.4 0.0**
comp=Z,4.1nm,0.9s,baz=91,slow=7.5,SNR=14
comp=Z,4.1nm,0.9s
ESDC Sonseca Array 63.29 302 P **P 03 44 19.3 -0.9**
comp=Z,0.3nm,0.6s,baz=60,slow=7.2,SNR=4.0
comp=Z,0.3nm,0.6s
C18K Utukok River 70.19 19 P **P 03 45 05.2 +1.6**
C19K Lookout Ridge 70.32 18 P **P 03 45 05.9 +1.5**
C19K IAmb IAmb 03 45 08.6
comp=Z,4.0nm,1.0s
TORD Torodi Ar. Bea 70.44 273 P **P 03 45 03.7 -2.2**
TORD IAmb IAmb 03 45 16.0
comp=Z,4.0nm,1.2s
TORD Torodi Ar. Bea 70.44 273 P **P 03 45 03.7 -2.2**
comp=Z,2.0nm,0.6s,baz=40,slow=5.7,SNR=7.9
comp=Z,0.7nm,0.6s
D19K Kuna River 71.13 19 P **P 03 45 10.6 +1.3**
E18K Tukpahlearik C 71.17 20 P **P 03 45 11.3 +1.8**
E18K IAmb IAmb 03 45 12.6
comp=Z,2.8nm,0.8s
D22K Ayikyak River 72.25 17 P **P 03 45 17.3 +1.3**
D22K IAmb IAmb 03 45 45.2
comp=Z,4.9nm,1.1s
E22K Anaktuvuk Pass 73.02 17 P **P 03 45 22.4 +1.7**
TOLK Toolik Lake Re 73.17 16 P **P 03 45 22.4 +0.9**
IMAR Indian Mountai 74.12 19 P **P 03 45 27.5 +0.5**
K17K Iditarod 75.11 23 P **P 03 45 34.3 +1.4**
BMAR Burnt Mountain 75.27 15 P **P 03 45 34.9 +1.1**
H24K Noodor Dome 75.78 17 P **P 03 45 38.0 +1.3**
H24K IAmb IAmb 03 46 06.3
comp=Z,4.1nm,1.3s
L18K Granite Mounta 75.99 23 P **P 03 45 39.8 +1.9**
L18K IAmb IAmb 03 45 52.3
comp=Z,5.8nm,1.3s
WRA Warramunga Arr 76.12 125 P **P 03 45 38.1 -1.1**
comp=Z,0.2nm,0.3s,baz=316,slow=6.5,SNR=3.0
comp=Z,0.2nm,0.3s
CAST Castle Rocks 76.53 20 P **P 03 45 41.9 +1.0**
CAST IAmb IAmb 03 45 43.5
comp=Z,6.3nm,1.2s
ILAR Eielson Array 76.89 18 P **P 03 45 43.5 +0.6**
comp=Z,1.1nm,0.9s,baz=318,slow=5.2,SNR=12
comp=Z,1.1nm,0.9s
H27K Steamboat Moun 76.94 15 P **P 03 45 45.6 +2.3**
H27K IAmb IAmb 03 46 28.1
comp=Z,3.1nm,1.3s
G29M Pine Creek 77.07 13 P **P 03 45 45.3 +1.3**
G29M IAmb IAmb 03 46 13.9
comp=Z,7.6nm,1.4s
J26L Joseph Creek 77.93 17 P **P 03 45 49.8 +0.9**
J26L IAmb IAmb 03 45 57.7
comp=Z,2.7nm,0.9s
BOSA Boshof 78.22 225 P **P 03 45 49.5 -1.5**
comp=Z,3.6nm,1.1s,baz=75,slow=3.9,SNR=3.6
comp=Z,3.6nm,1.1s
ASAR Alice Springs 78.37 128 P **P 03 45 50.2 -1.6**
comp=Z,0.6nm,0.9s,baz=324,slow=6.8,SNR=5.8
comp=Z,0.6nm,0.9s
H31M Peel River 78.75 12 P **P 03 45 53.3 0.0**
H31M IAmb IAmb 03 46 04.8
comp=Z,3.7nm,1.0s
I30M Mount Dempster 78.88 14 P **P 03 45 53.9 -0.2**
I30M IAmb IAmb 03 46 06.8
comp=Z,2.1nm,0.8s
SLKM Skilak Lake 79.34 22 P **P 03 45 56.9 +0.3**
J30M Hart River 79.47 14 P **P 03 45 58.6 +1.2**
J30M IAmb IAmb 03 46 08.6
comp=Z,5.6nm,1.3s
M29M Somme Creek 80.89 16 P **P 03 46 06.2 +1.1**
LPAZ La Paz 144.18 289 PKP PKPbc 03 53 27.7 +1.4
comp=Z,0.5nm,0.6s,baz=0.0,slow=1.0,SNR=1.9
PB16 IPOC Station P 146.39 287 PKPbc **PKPdf 03 53 32.8 +0.9**
GO01 Chusmiza 146.82 285 PKPbc **PKPdf 03 53 34.4 +2.0**

WB0 IAmb IAmb 03 53 51.7
comp=Z,6.5nm,1.4s
WB2 Warramunga Arr 31.55 261 P **P 03 53 33.5 -1.4**
WB2 IAmb IAmb 03 53 37.6
comp=Z,4.5nm,1.1s
WRA Warramunga Arr 31.56 261 P **P 03 53 33.9 -1.1**
comp=Z,1.0nm,0.8s,baz=93,slow=8.8,SNR=9.1
WRA LR LR 04 05 01.5
comp=Z,82nm,18.7s,baz=50,slow=34
comp=Z,1.0nm,0.8s
AS31 Alice Springs 32.02 254 P **P 03 53 38.6 -0.3**
ASAR Alice Springs 32.02 254 P **P 03 53 39.5 +0.5**
ASAR Alice Springs 32.02 254 P **P 03 53 38.4 -0.6**
comp=Z,2.0nm,0.5s,baz=81,slow=8.8,SNR=22
ASAR LR LR 04 05 54.4
comp=Z,101nm,18.7s,baz=116,slow=35
comp=Z,2.0nm,0.5s
KNRA Kununurra 37.28 268 P **P 03 54 23.4 -1.0**
KNRA IAmb IAmb 03 54 40.8
comp=Z,13nm,1.4s
GUMO Guam 38.63 323 LR LR 04 08 02.9
comp=Z,25nm,20.8s,baz=164,slow=33
FITZ Fitzroy Crossi 39.91 263 P **P 03 54 46.4 -0.1**
FITZ Fitzroy Crossi 39.91 263 LR LR 04 10 49.7
comp=Z,100nm,18.8s,baz=89,slow=36
PPT Papeete 40.63 96 LR LR 04 09 51.6
comp=Z,71nm,19.8s,baz=198,slow=34
NWAO Narrogin (SRO) 47.48 242 P **P 03 55 46.5 -0.8**
MORW Morawa 48.28 247 P **P 03 55 52.1 -1.5**
JCJ Chichijima 51.21 331 P **P 03 56 13.2 -2.5**
VNDA Vanda 59.61 181 P P 03 57 11.2 -4.4
comp=Z,0.8nm,0.9s,baz=25,slow=2.5,SNR=3.9
QSPA South Pole Qui 72.04 180 P **P 03 58 36.7 +0.7**
QSPA IAmb IAmb 03 58 37.8
comp=Z,5.7nm,0.8s
QSPA South Pole Qui 72.04 180 P **P 03 58 36.4 +0.4**
comp=Z,5.9nm,0.8s,baz=357,slow=1.2,SNR=29
comp=Z,5.9nm,0.8s
CMAR Chiang Mai Arr 76.66 295 P **P 03 59 02.9 -0.6**
MAW Mawson 79.01 202 P **P 03 59 16.4 +0.6**
comp=Z,1.9nm,0.8s,baz=116,slow=7.5,SNR=4.1
comp=Z,1.9nm,0.8s
J18K Innoko River 85.81 15 P **P 03 59 50.8 -0.4**
J18K IAmb IAmb 04 00 10.4
comp=Z,2.3nm,1.1s
ILAR Eielson Array 89.51 18 P **P 04 00 07.0 -1.8**
comp=Z,0.3nm,0.7s,baz=213,slow=5.4,SNR=3.2
comp=Z,0.3nm,0.7s
TROLL Troll, Antarti 89.64 185 ⇑P **P 04 00 09.8 0.0**
comp=Z,137nm,0.7s
SNAA Sanae 90.31 183 ⇑P **P 04 00 12.2 -0.6**
comp=Z,50nm,1.2s
SNAA Sanae 90.31 183 P **P 04 00 12.2 -0.6**
comp=Z,1.3nm,0.8s,baz=136,slow=6.1,SNR=5.7
comp=Z,1.3nm,0.8s
WTTA Wattenberg 144.82 331 *i* PKP **PKiKP 04 06 55.2 +2.1**
comp=Z,2.5nm,1.2s
MOTA Moosalm 145.00 332 *i* PKP **PKiKP 04 06 55.6 +2.2**
comp=Z,3.9nm,0.9s
RETA Reutte 145.04 332 *i* PKP **PKiKP 04 06 55.8 +2.4**
comp=Z,1.3nm,0.7s
SQTA Sankt Quirin 145.04 332 *e*PKP **PKiKP 04 06 55.7 +2.2**
comp=Z,1.2nm,0.7s
FUORN Ofenpass-Fuorn 145.92 332 PKPdf 04 06 51.8 +0.5

*IDC **29** 03:47:09.2±1.5, 17°.79S×167°.69E, h0km, mb4.1/6, mbtmp4.1/7, ML4.0/1, MS3.3/9, Error ellipse: s-maj=35.6km s-min=33.6km az=41.0*
*NEIC **29** 03:47:12.1±1.9, 17°.8S±0°.1×167°.7E±0°.2, h10km±1km, mb4.4/12, Error ellipse: s-maj=27.8km s-min=19.1km az=101.0*
*NOU **29** 03:47:16.1, 17°.98S×167°.77E, h30km, MLv4.8/21, Vanuatu Islands*
ISC 29 03:47:13.9±0.6, 18°.01S±0°.06×167°.69E±0°.08, h23km, n53, σ1s84/47, mb4.2/13, MS3.4/7, 2C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLAKA	**Lakatoro**	**1.91**	**352**	P	**Pn**	**03 47 44.7**	**-0.4**
INH	**Isangel**	**2.15**	**136**	P	**Pn**	**03 47 49.7**	**+1.3**
KOUNC	**Koumac, New Ca**	**4.09**	**231**	P	**Pn**	**03 48 16.8**	**+1.8**
YATNC	**Mamie plateau,**	**4.10**	**190**	P	**Pn**	**03 48 16.2**	**+1.0**
DZM	**Mont Dzumac**	**4.21**	**196**		**Pn**	**03 48 18.5**	**+1.7**
DZM	**Mont Dzumac**	**4.21**	**196**	Pn	**Pn**	**03 48 17.9**	**+1.2**
	7.8nm,0.3s,baz=76,slow=11,SNR=95						
DZM				Sn	**Sn**	**03 49 01.8**	**-3.4**
	34nm,0.3s,baz=312,slow=21,SNR=14						
DZM				LR	LR	03 49 48.5	
	comp=Z,256nm,19.1s,baz=49,slow=36						
	17nm,0.3s						
DZM	**Mont Dzumac**	**4.21**	**196**	P	**Pn**	**03 48 18.9**	**+2.1**
ONTNC	**Ouen Toro**	**4.43**	**195**	Pn	**Pn**	**03 48 22.1**	**+2.3**
ONTNC	**Ouen Toro**	**4.43**	**195**	P	**Pn**	**03 48 22.1**	**+2.3**
OUENC	**Ouen Island, N**	**4.46**	**190**	P	**Pn**	**03 48 23.1**	**+2.9**
PINNC	**Pines Island,**	**4.59**	**183**	Pn	**Pn**	**03 48 24.5**	**+2.6**
PINNC	**Pines Island,**	**4.59**	**183**	P	**Pn**	**03 48 24.0**	**+2.1**
LUES	**Luesalemba Tem**	**7.50**	**347**	P	**Pn**	**03 49 03.5**	**+1.5**
HURO	**Huro Makira**	**9.36**	**322**	P	**Pn**	**03 49 29.3**	**+1.8**
NGOA	**Tingoa Renbel**	**9.77**	**310**	P	**Pn**	**03 49 34.7**	**+1.6**
MSVF	**Nonsavu**	**9.87**	**90**	Pn	Pn	03 49 40.7	+6.1
HNR	**Honiara**	**11.36**	**318**	LR	LR	03 53 29.9	
	comp=Z,63nm,18.8s,baz=234,slow=34						
ALEG	**Aligegeo Malai**	**11.44**	**323**	P	**Pn**	**03 49 59.2**	**+3.2**
SAVO	**Savo Central**	**11.66**	**318**	P	**Pn**	**03 50 01.7**	**+2.6**
TATA	**Tatamba Isabel**	**12.26**	**320**	P	**Pn**	**03 50 10.1**	**+2.9**
EIDS	**Eidsvold**	**17.07**	**242**	P	**Pn**	**03 51 12.3**	**+1.1**
PMG	**Port Moresby**	**21.68**	**291**	LR	LR	03 57 26.1	
	comp=Z,24nm,21.8s,baz=124,slow=28						
STKA	**Stephens Creek**	**27.30**	**235**	P	**P**	**03 52 52.8**	**-4.2**
	1.7nm,0.5s,baz=5.8,slow=2.0,SNR=3.7						
STKA				LR	LR	04 03 21.7	
	comp=Z,78nm,18.9s,baz=33,slow=35						
WR8	**Warramunga Arr**	**31.41**	**261**	P	**P**	**03 53 33.8**	**+0.2**
WR8				IAmb	IAmb	03 53 34.2	
	comp=Z,9.5nm,1.5s						
WB0	**Warramunga Arr**	**31.52**	**261**	P	**P**	**03 53 34.4**	**-0.2**

GCG 29 04:16:45.3±1.2, 14°.90N×91°.38W, h167km±7km, MD3.9, ML3.3, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOKI	**Kika Raxquin**	**0.08**	**195**	*i* P	Pn	04 17 09.3	+1.2
QUEO	**Labor Ovalle**	**0.13**	**259**	*i* P	Pn	04 17 09.4	+1.4
STG2	**El Palmar, Qui**	**0.46**	**179**	*i* P	Pn	04 17 08.5	-0.1
QUIS	**Sacapulas**	**0.48**	**36**	*i* P	Pn	04 17 09.8	+1.0
QUIS				*i* S	Sn	04 17 27.9	+1.2
QUIS				IAML		04 17 28.5	
	comp=E,557nm,0.5s						
FG8	**Yepocapa, Chim**	**1.02**	**128**	*i* P	Pn	04 17 09.9	-2.1
CCIG	**Comitan**	**1.56**	**332**	*i* P	Pn	04 17 18.8	+1.8
CCIG				*i* S	Sn	04 17 43.3	+1.8
CCIG				IAML		04 17 45.0	
	comp=N,185nm,0.4s						
NUBE	**Las Nubes**	**1.84**	**122**	*i* P	Pn	04 17 20.4	+0.4
NUBE				*i* S	Sn	04 17 48.3	+1.7
MTO3	**Montecristo**	**2.02**	**104**	*i* P	Pn	04 17 22.7	+0.7
JAYA	**Jayaque - finc**	**2.25**	**123**	*i* P	Pn	04 17 24.9	+0.4
TGIG		**2.51**	**318**	*i* P	Pn	04 17 27.9	+0.4
TGIG				*i* S	Sn	04 18 01.0	+0.7
TGIG				IAML		04 18 01.6	
	comp=N,39nm,0.4s						

*MEX **29** 04:30:29.9±1.2, 15°.02N×92°.31W, h38km±11km, MD4.1*
*CATAC **29** 04:30:29.1±0.3, 15°.N±3°.×92°.2W±°, h7km±1km, M3.7/19, MLv3.7/19, Error ellipse: s-maj=6.9km s-min=2.7km az=41.1, confirmed*
*GCG **29** 04:30:30.0±2.9, 15°.04N×92°.39W, h15km±9km, MD3.8, ML3.7*
ISC 29 04:30:28.1±1.0, 15°.01N±0°.04×92°.55W±0°.03, h15km±7km, n46, σ1s58/65, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.29**	**111**	*e*P	**Pg**	**04 30 35.1**	**+0.9**
THIG				*e*S	**Sg**	**04 30 39.6**	**+1.2**
THIG		**0.29**	**111**	*i* P	**Pg**	**04 30 34.8**	**+0.5**
THIG				*i* S	**Sb**	**04 30 39.9**	**+0.3**
THIG				IAML		04 30 40.3	
	comp=E,26μm,0.4s						
PATR	**El Naranjo**	**0.32**	**71**	*e*P	**Pg**	**04 30 34.9**	**+0.1**
PATR				*e*S	**Sg**	**04 30 39.0**	**-0.4**
PAVE	**Pavencul**	**0.40**	**63**	*e*P	**Pg**	**04 30 36.2**	**-0.1**
PAVE				*e*S	**Sg**	**04 30 41.3**	**-0.6**
SMCA	**Catarina**	**0.48**	**109**	*i* P	**Pg**	**04 30 37.2**	**-0.5**
SMCA				*i* S	**Sg**	**04 30 43.5**	**-0.7**
SMCA				IAML		04 30 43.7	
	comp=E,9μm,0.1s						
PCIG		**0.95**	**317**	*e*P	**Pn**	**04 30 47.0**	**+0.2**
PCIG				*e*S	**Sn**	**04 31 00.7**	**+0.7**
QUEO	**Labor Ovalle**	**1.01**	**98**	*i* P	**Pb**	**04 30 46.2**	**-1.2**
QUEO				*i* S	**Sb**	**04 30 58.9**	**-1.6**
SOKI	**Kika Raxquin**	**1.12**	**100**	*i* P	**Pb**	**04 30 47.8**	**-1.6**
SOKI				*i* S	**Sb**	**04 31 01.7**	**-2.2**
STG2	**El Palmar, Qui**	**1.27**	**117**	*i* P	Pn	04 30 43.9	-7.5
STG2				*i* S	Sb	04 30 55.3	-13
CCIG	**Comitan**	**1.32**	**17**	*e*P	**Pb**	**04 30 52.9**	**+0.2**
CCIG				*e*S	**Sb**	**04 31 09.3**	**-0.2**
CCIG	**Comitan**	**1.32**	**17**	*i* P	**Pg**	**04 30 53.1**	**-0.5**
CCIG				*i* S	**Sg**	**04 31 10.9**	**0.0**
CCIG				IAML		04 31 13.1	
	comp=N,594nm,0.4s						
CCIG	**Comitan**	**1.32**	**17**	P	**Pg**	**04 30 53.3**	**-0.3**
CCIG				S	**Sb**	**04 31 09.2**	**-0.4**
QUIS	**Sacapulas**	**1.43**	**79**	*i* P	**Pn**	**04 30 53.8**	**+0.2**
QUIS				*i* S	**Sn**	**04 31 12.7**	**+0.5**
QUIS				IAML		04 31 15.7	
	comp=E,1μm,0.3s						
ESSG	**Sabana Grande**	**1.77**	**110**	*i* P	**Pn**	**04 30 58.1**	**-0.2**
ESSG				*i* S	**Sn**	**04 31 20.9**	**+0.3**
TGIG		**1.84**	**343**	*e*P	**Pb**	**04 31 00.3**	**-1.2**
TGIG				*e*S	**Sb**	**04 31 24.4**	**0.0**
TGIG		**1.84**	**343**	*i* P	**Pb**	**04 31 00.5**	**-1.0**
TGIG				IAML		04 31 33.5	
	comp=E,155nm,0.4s						
FG16	**Alotenango, Sa**	**2.10**	**110**	*i* P	Pn	04 30 57.9	-5.1
FG16				IAML		04 31 28.1	
	comp=E,3μm,0.3s						
NILT	**Santiago Nilte**	**2.52**	**308**	*e*P	**Pb**	**04 31 12.1**	**-1.0**
NILT				*i* S	**Sb**	**04 31 44.9**	**+1.0**
SLOZ	**Alcaldia de Sa**	**2.85**	**110**	P	Pn	**04 31 14.7**	**+1.7**
NUBE	**Las Nubes**	**2.90**	**112**	*i* P	Pn	**04 31 15.6**	**+1.8**
NUBE	**Las Nubes**	**2.90**	**112**	S	Sn	**04 31 50.1**	**+1.6**
NUBE	**Las Nubes**	**2.90**	**112**	P	Pn	**04 31 15.8**	**+2.0**
CMIG	**Matias Romero**	**3.05**	**313**	*e*P	Pn	**04 31 18.0**	**+2.2**
CMIG				*e*S	Sb	**04 31 56.6**	**-2.6**
UNIC	**Universidad Ca**	**3.08**	**109**	P	Pn	**04 31 18.0**	**+1.7**
MTO3	**Montecristo**	**3.14**	**101**	P	Pn	**04 31 17.5**	**+0.2**
JAYA	**Jayaque - finc**	**3.29**	**114**	*i* P	Pn	**04 31 20.5**	**+1.3**
JAYA	**Jayaque - finc**	**3.29**	**114**	S	Sn	**04 31 58.4**	**+0.2**
JAYA	**Jayaque - finc**	**3.29**	**114**	P	Pn	**04 31 20.7**	**+1.5**
PMON	**Piamonte**	**3.39**	**112**	P	Pn	**04 31 21.1**	**+0.6**
HUIG	**Huatulco**	**3.52**	**283**	*e*P	Pn	**04 31 22.0**	**-0.2**
HUIG				*e*S	Sn	**04 32 00.5**	**-3.1**

SARH	Santa Rosa de	3.67	93	P	Pn	04 31 25.1 +0.8
PAVA	Las Pavas	3.73	110	P	Pn	04 31 25.9 +0.7
TECO	Alcaldia de Te	3.93	111	P	Pn	04 31 28.2 +0.2
TECO	Alcaldia de Te	3.93	111	S	Sn	04 32 15.8 +1.9
PQSS	Presa 15 de Se	4.10	109	P	Pn	04 31 32.3 +2.0
NEUV	Arroyo Zacate	4.12	311	*eP*	Pn	04 31 33.0 +2.5
NEUV				*eS*	Sn	04 32 22.2 +3.7
SCIG	Sabancuy	4.14	18	*eP*	Pn	04 31 30.6 -0.2
SCIG				*eS*	Sn	04 32 17.9 -1.1
ALJI	Alcalda de J	4.20	113	P	Pn	04 31 33.3 +1.6
PACA	Pacayal	4.37	110	S	Sn	04 32 26.6 +1.7
PACA	Pacayal	4.37	110	P	Pn	04 31 30.5 -3.6
MARCA	Marcala la Paz	4.45	100	P	Pn	04 31 36.6 +1.5
VHO	Vista Hermosa	4.52	298	*eP*	Pn	04 31 39.8 +3.6
PEIG	Puerto Escondi	4.54	283	*eP*	Pn	04 31 36.4 +0.1
PEIG				*eS*	Sn	04 32 26.4 -2.5
LCND	La Caada	4.82	110	P	Pn	04 31 42.7 +2.5
CNCH	Conchagua	4.88	110	P	Pn	04 31 42.7 +1.5
YOIG	Yosondua	5.15	292	*eP*	Pn	04 31 46.9 +2.0
YOIG				*eS*	Sn	04 32 46.8 +2.6

BJI **29** *04:43:35.2,9.˝47N×81.˝58W,h10km,Ms4.9/3,Ms7 4.6/3*
IDC **29** *04:43:35.6±0.4,9.˝72N×81.˝92W,h0km,mb4.7/21, mbtmp4.6/27,ML3.6/7,MS3.8/44,Error ellipse: s-maj=17.1km s-min=11.6km az=49.0*
MOS **29** *04:43:36.5±1.0,9.˝63N×81.˝98W,h17km,mb5.1/23,Error ellipse: s-maj=9.7km s-min=7.0km az=117.9*
BGR **29** *04:43:37.8,8.˝96N×81.˝26W,h34km±1km,mb4.7*
NEIC **29** *04:43:38.7,9.˝71N×81.˝82W,h24km,Moment Tensor Solution. Duration: 1ş1 Moment tensor: Scale 10¹⁶Nm; Mrr1.33; Mθθ-1.38; Mφφ0.05; Mrθ-0.14; Mθφ0.69; Mφr0.25; Fault plane solution: M₀1.54000×10¹⁶ NP1: φs101.87000°,δ41.57000°,λ75.16000°. NP2: φs301.37000°,δ50.11000°,λ102.80000°. Principal axes: T 1.3759, Plg79.0000°, Azm269.0000°; N 0.2939, Plg10.0000°, Azm113.0000°; P -1.6698, Plg4.0000°, Azm22.0000°;*
NEIC **29** *04:43:38.7,9.˝71N×81.˝92W,h24km*
NEIC **29** *04:43:38.4±2.0,9.˝67N±0.˝06×81.˝92W±0.˝04,h10km±1km, mb5.0/578,Mww4.7/12,Error ellipse: s-maj=9.5km s-min=7.5km az=176.0*
UCR **29** *04:43:38.1±1.1,9.˝76N×81.˝90W,h13km±11km,MW5.2*
CATAC **29** *04:43:39.7±0.5,10.˝1N±1.˝×81.˝8W±0.˝9,h32km±5km,M4.7/42, mb5.0/25,mB5.2/13,MLv5.0/42,Mw(mB)4.5/13,Error ellipse: s-maj=2.8km s-min=1.8km az=14.7,confirmed*
UPA **29** *04:43:39.9±1.9,9.˝72N×81.˝90W,h32km±13km,MW5.0*
GCMT **29** *04:43:43.4±0.3,9.˝83N±0.˝02×81.˝88W±0.˝02,h32km, MW4.9/84,Moment Tensor Solution. s52,c72; s84,c117; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.44±.12; Mθθ-2.15±.08; Mφφ-0.28±.09; Mrθ-0.94±.08; Mθφ0.84±.05; Mφr0.23±.11; Best double couple: M₀2.63900×10¹⁶ NP1:φs114.00000°,δ34.00000°,λ95.00000°. NP2: φs288.00000°,δ56.00000°,λ87.00000°. Principal axes: T 2.6250, Plg79.0000°, Azm187.0000°; N 0.0310, Plg3.0000°, Azm290.0000°; P -2.6540, Plg11.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 04:43:39.5±0.7, 9.71N±0.˝02×81.˝90W±0.˝02, h23km±5km, n1114, σ1ş13/930, mb5.0/345, MS3.9/40, 47C-71D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBALA	Bur	0.86	197	*eP*	Pb	04 43 54.1	-1.7
RBALA	Bur	0.86	197	*iP*	Pb	04 43 54.3	-1.6
RBALA				*eS*	Sb	04 44 05.0	-2.0
PBNVO	Pueblo Nuevo,	0.86	200	*eP*	Pb	04 43 54.6	-1.3
KKNTU	Kakint²	0.87	174	*eP*	Pb	04 43 54.7	-1.2
KKNTU	Kakint²	0.87	174	*iP*	Pb	04 43 54.8	-1.2
KKNTU				*eS*	Sb	04 44 05.9	-1.2
CEUA	Cerro Uatsi, L	1.03	265	*eP*	Pn	04 43 58.3	-0.3
CEUA				*eS*	Sb	04 44 11.8	-0.1
LNBQ3	Los Naranjos,	1.06	210	*iP*	Pn	04 43 57.7	-1.4
LNBQ3				*eS*	Sb	04 44 11.0	-1.8
LNBQ3	Los Naranjos,	1.06	210	*iP*	Pn	04 43 57.6	-1.4
LNBQ3				*eS*	Sb	04 44 11.0	-1.8
BQTLY	Boquete Panama	1.10	210	*eP*	Pn	04 43 58.3	-1.3
BQTLY	Boquete Panama	1.10	210	*iP*	Pn	04 43 58.4	-1.2
BQSF3	Alto Boquete,	1.10	209	*eP*	Pn	04 43 58.3	-1.2
BQSF3				*eS*	Sb	04 44 13.2	-0.6
BQSF3	Alto Boquete,	1.10	209	*iP*	Pn	04 43 58.4	-1.2
PSOM3	Paja de Sombre	1.10	202	*eP*	Pn	04 43 58.2	-1.3
PSOM3				*eS*	Sb	04 44 11.9	-2.0
PSOM3	Paja de Sombre	1.10	202	*iP*	Pn	04 43 58.1	-1.4
PSOM3				*eS*	Sb	04 44 11.7	-2.2
BC3P	Paso Ancho	1.13	218	*iP*	Pn	04 43 58.8	-1.4
BC3P				*eS*	Sb	04 44 12.4	-2.5
BC3P	Paso Ancho	1.13	218	*iP*	Pn	04 43 58.8	-1.4
LAES	El Progreso Va	1.14	273	*eP*	Pn	04 43 59.0	-1.0
LAES				*eS*	Sn	04 44 13.3	-1.5
TBS2		1.18	220	*eP*	Pn	04 43 59.1	-2.6
CLLRA	Cordillera,	1.19	216	*eP*	Pn	04 43 59.8	-1.0
CLLRA	Cordillera,	1.19	216	*iP*	Pn	04 43 59.9	-1.0
ALCO	Alturas Coton,	1.19	231	*eP*	Pn	04 43 59.2	-1.7
BRU2	Volcan	1.20	221		Pn	04 43 59.8	-1.3
BRU2					Sn	04 44 14.6	-2.1
BRU2	Volcan	1.20	221	*eP*	Pn	04 43 59.7	-1.3
BRU2	Volcan	1.20	221	*iP*	Pn	04 43 59.8	-1.3
BRU2				*i S*	Sn	04 44 13.5	-3.2
BRU2	Volcan	1.20	221	*iP*	Pn	04 43 59.7	-1.3
BRU2				*eS*	Sn	04 44 15.7	-0.9
BRU2	Volcan	1.20	221	P	Pn	04 43 59.8	-1.3
SCLRA	Santa Clara, W	1.23	225	*eP*	Pn	04 44 00.4	-1.0
SCLRA	Santa Clara, W	1.23	225	*iP*	Pn	04 44 00.6	-0.9
PRISO	Paraso	1.24	213	*eP*	Pn	04 44 00.9	-0.7
MLIR3	Monte Lirio, C	1.29	225	*iP*	Pn	04 44 01.9	-0.3
MLIR3				*eS*	Sb	04 44 19.8	+0.4
MLIR3	Monte Lirio, C	1.29	225	*iP*	Pn	04 44 01.9	-0.3
MLIR3				*eS*	Sn	04 44 16.9	-1.9
VERH	Veragua Rainfo	1.29	280	*eP*	Pn	04 44 01.0	-1.2
RSRNO	Rio Sereno	1.30	227	*eP*	Pn	04 44 01.8	-0.6
RSRNO	Rio Sereno	1.30	227	*iP*	Pn	04 44 01.9	-0.5
RSRNO				*eS*	Sn	04 44 17.6	-1.5
LOMA3	Las Lomas, Chi	1.36	201	*iP*	Pn	04 44 02.9	-0.2
LOMA3				*eS*	Sb	04 44 21.0	-0.3
LOMA3	Las Lomas, Chi	1.36	201	*iP*	Pn	04 44 02.9	-0.2
CHIR3	Chiriqui UPA,	1.37	198	*iP*	Pn	04 44 03.0	-0.3
CHIR3				*eS*	Sn	04 44 20.5	-0.2
CHIR3	Chiriqui UPA,	1.37	198	*iP*	Pn	04 44 03.0	-0.3
DVD	David	1.38	203	*eP*	Pn	04 44 03.1	-0.2
DVD				*eS*	Sn	04 44 20.3	-0.6
DVD	David	1.38	203	*iP*	Pn	04 44 03.0	-0.3
DVD				*eS*	Sn	04 44 20.8	-0.1
LOCO3	Loma Colorada,	1.39	202	*iP*	Pn	04 44 03.3	-0.2
LOCO3				*eS*	Sn	04 44 20.8	-0.3
LOCO3	Loma Colorada,	1.39	202	*iP*	Pn	04 44 03.4	-0.2
LOCO3				*eS*	Sn	04 44 19.0	-2.1
DRK0	Durika	1.40	252	*eP*	Pn	04 44 02.9	-0.9
DRK0	Durika	1.40	252	*iP*	Pn	04 44 02.9	-0.9
DRK0				*eS*	Sn	04 44 19.7	-2.0
DRK0	Durika	1.40	252	*iP*	Pn	04 44 02.9	-0.9
DRK0				*eS*	Sn	04 44 20.6	-1.0
DRK0	Durika	1.40	252	P	Pn	04 44 02.9	-0.9
DRK0	Durika	1.40	252	S	Sn	04 44 19.9	-1.8
PEDE3	Pedregal, Chir	1.42	201	*eP*	Pn	04 44 03.9	0.0
PEDE3				*i S*	Sn	04 44 21.9	+0.1
PEDE3	Pedregal, Chir	1.42	201	*iP*	Pn	04 44 03.8	0.0
PEDE3				*eS*	Sn	04 44 19.5	-2.3
PDCAN	Manzana , Fuen	1.42	172	*eP*	Pn	04 44 03.1	-0.9
PDCAN	Manzana , Fuen	1.42	172	*iP*	Pn	04 44 03.3	-0.7
RMDIO	Remedios, Chir	1.47	177	*eP*	Pn	04 44 04.7	0.0
RMDIO	Remedios, Chir	1.47	177	*iP*	Pn	04 44 04.8	+0.1
TAAN	Batan	1.48	285	*eP*	Pn	04 44 03.8	-0.8
NELY	Ciudad Neily	1.48	225	*iP*	Pn	04 44 04.7	0.0
CVEJO	Cerro Viej	1.48	168	*eP*	Pn	04 44 03.8	-0.9
CVEJO	Cerro Viej	1.48	168	*eP*	Pn	04 44 03.9	-0.9
CDITO	Canoas	1.48	221	*iP*	Pn	04 44 04.7	-0.1
CDITO	Canoas	1.48	221	S	Sb	04 44 24.4	-0.4
LPPC	Paso Canoas	1.49	219	*eP*	Pn	04 44 04.7	-0.2
BURE	Buenos Aires	1.52	250	*iP*	Pn	04 44 04.6	-0.7
LESP3	La Esperanza,	1.57	214	*iP*	Pn	04 44 05.9	0.0
LESP3				*i S*	Sn	04 44 25.6	+0.1
LESP3	La Esperanza,	1.57	214	*iP*	Pn	04 44 05.7	-0.2
FIMO	Fila Mora	1.60	244	*eP*	Pn	04 44 06.7	+0.1
SAJE	San Jernim	1.63	257	*eP*	Pn	04 44 06.2	-0.7
EDAD	Golfito	1.63	230	*iP*	Pn	04 44 06.4	-0.5
FITO	Golfito	1.64	229	*iP*	Pn	04 44 06.5	-0.5
MESA3	La Mesa, Verag	1.70	156	*eP*	Pn	04 44 07.5	-0.4
MESA3				*eS*	Sn	04 44 29.3	+0.4
MESA3	La Mesa, Verag	1.70	156	*iP*	Pn	04 44 07.4	-0.4
MESA3				*eS*	Sn	04 44 28.5	-0.4
CALO3	Calobre, Verag	1.73	143	*eP*	Pn	04 44 07.7	-0.5
CALO3				*eS*	Sn	04 44 28.4	-1.1
CALO3	Calobre, Verag	1.73	143	*iP*	Pn	04 44 07.7	-0.5
RVSTA	Santa Teresita	1.74	279	*eP*	Pn	04 44 07.3	-1.2
RESJ	San Isidro (Tu	1.75	281	*eP*	Pn	04 44 07.9	-0.6
PTPA	Petro Terminal	1.78	213	*eP*	Pn	04 44 09.1	+0.2
PTPM	Petroterminale	1.78	213	*iP*	Pn	04 44 09.2	+0.3
PTPM				*eS*	Sn	04 44 31.7	+0.9
PTPM	Petroterminale	1.78	213	*iP*	Pn	04 44 09.2	+0.3
PTPM				*eS*	Sn	04 44 29.1	-1.8
VERB	Verbena	1.79	278	*eP*	Pn	04 44 08.4	-0.7
ABRB	Las Abras (San	1.82	279	*eP*	Pn	04 44 09.0	-0.6
OCHAL	Ojochal	1.83	251	*iP*	Pn	04 44 10.1	+0.5
OCHAL	Ojochal	1.83	251	S	Sb	04 44 34.0	-0.8
VINA	Juan Vinas	1.83	276	*eP*	Pn	04 44 08.9	-0.8
STIA3	Santiago, Vera	1.84	150	*eP*	Pn	04 44 09.4	-0.4
STIA3				*eS*	Sn	04 44 32.2	-0.1
STIA3	Santiago, Vera	1.84	150	*iP*	Pn	04 44 09.3	-0.4
RSUS3	Rio de Jesus,	1.86	157	*eP*	Pn	04 44 09.6	-0.5
RSUS3				*eS*	Sn	04 44 32.3	-0.6
RSUS3	Rio de Jesus,	1.86	157	*iP*	Pn	04 44 09.6	-0.5
CVTQ	Turrialba Volc	1.86	279	*eP*	Pn	04 44 09.6	-0.7
RAFA	San Farael, Vo	1.90	278	*eP*	Pn	04 44 10.1	-0.7
CRIS3	El Cristo, Coc	1.92	139	*eP*	Pn	04 44 10.4	-0.4
CRIS3				*eS*	Sn	04 44 34.5	+0.3
CRIS3	El Cristo, Coc	1.92	139	*iP*	Pn	04 44 10.5	-0.4
PIEC	Cerro El Cedra	2.03	268	*eP*	Pn	04 44 12.3	-0.3
GMAL	Guarumal, Vera	2.04	161	*eP*	Pn	04 44 11.4	-1.1
GMAL				*eS*	Sn	04 44 35.5	-1.8
GMAL	Guarumal, Vera	2.04	161	*iP*	Pn	04 44 11.3	-1.1
GMAL				*eS*	Sn	04 44 34.8	-2.5
GMAL	Guarumal, Vera	2.04	161	P	Pn	04 44 11.3	-1.2
CORON	Coronado	2.09	277	*eP*	Pn	04 44 13.4	+0.1
RAZU	San Marcos de	2.10	269	*eP*	Pn	04 44 10.9	-2.5
BCIP	Isla Barro Col	2.10	105		Pn	04 44 12.9	-0.4
BCIP	Isla Barro Col	2.10	105	P	Pn	04 44 12.9	-0.4
BCIP	Isla Barro Col	2.10	105	*iP*	Pn	04 44 12.9	-0.4
BCIP	Isla Barro Col	2.10	105	*eP*	Pn	04 44 13.2	-0.2
BCIP				*eS*	Sn	04 44 37.1	-1.7
BCIP	Isla Barro Col	2.10	105	*iP*	Pn	04 44 12.8	-0.4
BCIP				*eS*	Sn	04 44 36.2	-2.6
BCIP	Isla Barro Col	2.10	105	P	Pn	04 44 12.7	-0.6
ECI	Escuela Centro	2.13	276	*eP*	Pn	04 44 13.5	-0.4
ZANG	Zanguenga, Cho	2.14	110	*eP*	Pn	04 44 13.4	-0.4
ZANG	Zanguenga, Cho	2.14	110	*iP*	Pn	04 44 13.5	-0.3
ZANG				*eS*	Sn	04 44 39.3	-0.3
ZANG	Zanguenga, Cho	2.14	110	*iP*	Pn	04 44 13.5	-0.3
ZANG				*eS*	Sn	04 44 39.7	0.0
PESE3	Pese, Herrera	2.19	145	*eP*	Pn	04 44 14.1	-0.5
PESE3				*eS*	Sn	04 44 40.8	-0.2
PESE3	Pese, Herrera	2.19	145	*iP*	Pn	04 44 14.3	-0.3
FRIJ	El Hiral	2.20	103	*eP*	Pn	04 44 14.3	-0.3
FRIJ				*eS*	Sn	04 44 38.1	-3.0
FRIJ	El Hiral	2.20	103	*iP*	Pn	04 44 14.2	-0.3
HDC	Heredia	2.20	278	Pn	Pn	04 44 14.7	-0.1
HDC	Heredia	2.20	278	*eP*	Pn	04 44 14.9	+0.1
HDC				*eS*	Sn	04 44 42.0	+0.6
ACOS	Acosta	2.23	272	*eP*	Pn	04 44 15.1	-0.1
MARI3	Mariato, Verag	2.23	156	*eP*	Pn	04 44 15.2	+0.1
GAMB1	Gamboa	2.24	105	*eP*	Pn	04 44 14.7	-0.5
GAMB1				*eS*	Sn	04 44 40.5	-1.6
QUEP	Quepos	2.25	263	P	Pn	04 44 15.7	+0.4
QUEP	Quepos	2.25	263	S	Sn	04 44 43.1	+0.6
CHOR3	La Chorrera	2.25	111	*eP*	Pn	04 44 16.3	+0.9
CHOR3				*eS*	Sn	04 44 42.5	+0.1
CHOR3	La Chorrera	2.25	111	*iP*	Pn	04 44 16.2	+0.8
BELE	Belen	2.27	277	*eP*	Pn	04 44 15.7	-0.1
CHIT3	Chitre	2.27	140	*eP*	Pn	04 44 15.2	-0.5
CHIT3				*eS*	Sn	04 44 42.8	-0.2
CHIT3	Chitre	2.27	140	*iP*	Pn	04 44 15.0	-0.7
CHIT3				*eS*	Sn	04 44 41.8	-1.2
ARRA3	Arraijan, Pana	2.33	108	*eP*	Pn	04 44 16.1	-0.3
ARRA3				*eS*	Sn	04 44 42.3	-2.1
ARRA3	Arraijan, Pana	2.33	108	*eP*	Pn	04 44 16.1	-0.3
TCS1	Tacares	2.39	278	*iP*	Pn	04 44 17.8	+0.4
UPA	Univ. de Panam	2.44	107	*eP*	Pn	04 44 17.8	-0.2
UPA				*eS*	Sn	04 44 45.7	-1.5
UPA	Univ. de Panam	2.44	107	*eP*	Pn	04 44 18.1	+0.1
UPA				*eS*	Sn	04 44 46.0	-1.1
FLAM	Flamenco Islan	2.46	109	*eP*	Pn	04 44 19.0	+0.7
AZU	Azuero	2.49	140	*eP*	Pn	04 44 17.6	-1.1
AZU	Azuero	2.49	140	*iP*	Pn	04 44 17.9	-0.8
AZU				*eS*	Sn	04 44 47.6	-0.8
AZU	Azuero	2.49	140	*iP*	Pn	04 44 17.8	-0.9
AZU				*eS*	Sn	04 44 46.4	-1.9
AZU	Azuero	2.49	140	P	Pn	04 44 17.7	-0.9
CAZU	Cerro Azul, Pa	2.50	101	*eP*	Pn	04 44 18.5	-0.4
CACAO	El Cacao, Vera	2.56	156	*iP*	Pn	04 44 19.9	+0.2
CACAO				*eS*	Sn	04 44 52.5	+2.3
CACAO	El Cacao, Vera	2.56	156	P	Pn	04 44 19.4	-0.3
COVE	Coope Vega, Sa	2.66	292	P	Pn	04 44 20.5	-0.5
PCRI3	Pocri, Los San	2.69	139	*eP*	Pn	04 44 21.2	-0.2
PCRI3				*eS*	Sn	04 44 50.7	-2.6
SOCE	Pocosol	2.76	284	Pn	Pn	04 44 22.5	+0.1
SOCE	Pocosol	2.76	284	P	Pn	04 44 22.6	+0.1
SAIC	Isla e San And	2.82	4	P	Pn	04 44 22.2	-0.9
ACHO3	Achotines, Los	2.85	143	*eP*	Pn	04 44 23.2	-0.3
PEDA3	Pedasi	2.85	139	*eP*	Pn	04 44 24.2	+0.6
PEDA3				*eS*	Sn	04 44 56.1	-1.1
JTS	Las Juntas de	3.06	281	Pn	Pn	04 44 25.2	-1.3
JTS	Las Juntas de	3.06	281	Pn	Pn	04 44 26.9	+0.4
	35nm,0.3s,baz=68,slow=8.8,SNR=86						
JTS					Sn	04 44 56.3	-6.3
	115nm,0.3s,baz=127,slow=10,SNR=8.4						
JTS				LR	LR	04 45 50.1	
	comp=Z,4µm,18.4s,baz=97,slow=44 139nm,0.4s						
JTS	Las Juntas de	3.06	281	P	Pn	04 44 25.3	-1.3
JTS	Las Juntas de	3.06	281	*eP*	Pn	04 44 26.8	+0.2
JTS	Las Juntas de	3.06	281	*iP*	Pn	04 44 26.9	+0.4
JTS				*eS*	Sn	04 45 04.8	+2.3
JTS	Las Juntas de	3.06	281	P	Pn	04 44 24.7	-1.8
JTS	Las Juntas de	3.06	281	P	Pn	04 44 27.3	+0.7
UPAL	Upala	3.28	291	P	Pn	04 44 29.1	-0.4
ESPN	Las Esperanzas	3.42	317	Pn	Pn	04 44 31.0	-0.4
ESPN	Las Esperanzas	3.42	317	P	Pn	04 44 31.6	+0.2
ESPN	Las Esperanzas	3.42	317	P	Pn	04 44 30.5	-0.9
CMARA	Lajas Hojancha	3.49	275	P	Pn	04 44 32.9	+0.5
INDI	Punta indio, G	3.56	273	P	Pn	04 44 33.9	+0.6
PRVC	Isla de Provid	3.68	8	Pn	Pn	04 44 34.3	-0.7
PRVC	Isla de Provid	3.68	8	*iP*	Pn	04 44 34.5	-0.5
PRVC	Isla de Provid	3.68	8	*iP*	Pn	04 44 34.5	-0.5
PRVC				*eS*	Sn	04 45 15.6	-2.1
PRVC	Isla de Provid	3.68	8	*iP*	Pn	04 44 34.5	-0.5
PRVC				S	Sn	04 45 15.1	-2.6
PRVC	Isla de Provid	3.68	8	P	Pn	04 44 34.1	-0.9
ELI1	Hacienda Flor	3.72	285	P	Pn	04 44 35.1	-0.4
CARN	Rivas	3.85	293	P	Pn	04 44 37.6	+0.2
ACON	Acoyapa	3.92	305	Pn	Pn	04 44 37.6	-0.8
ACON	Acoyapa	3.92	305	P	Pn	04 44 38.1	-0.3
ACON	Acoyapa	3.92	305	P	Pn	04 44 37.3	-1.1
MORN	Al O´del Volca	4.11	297	P	Pn	04 44 41.3	+0.3
JAPN	Al SSO del Vol	4.13	296	P	Pn	04 44 41.2	0.0
RNCC	Cayo Roncador,	4.23	25	P	Pn	04 44 41.4	-1.2
BILN	Bilwi Airport	4.55	342	Pn	Pn	04 44 46.1	-0.8
BILN	Bilwi Airport	4.55	342	P	Pn	04 44 46.3	-0.7
BOAB	BOACO BROADBAN	4.59	307	Pn	Pn	04 44 47.2	-0.3
BOAB	BOACO BROADBAN	4.59	307	P	Pn	04 44 47.3	-0.3
CAP2	Capurgana	4.60	103	P	Pn	04 44 48.0	+0.2
CAP2				S	Sn	04 45 39.4	-1.1
CAPC	Capurgana	4.61	103	P	Pn	04 44 47.3	-0.6
NANN	Nandasmo	4.70	298	P	Pn	04 44 50.0	+0.9
PTAC	Punta Ardita,	4.78	122	*eP*	Pn	04 44 49.3	-0.8
PTAC	Punta Ardita,	4.78	122	P	Pn	04 44 48.7	-1.5
SERC	Banco Serrana,	4.79	18	P	Pn	04 44 48.9	-1.4
WILN	Americas 2	4.87	300	P	Pn	04 44 50.6	-0.7
WILN				S	Sn	04 45 54.3	+7.3
SIUN	Universidad Ur	4.88	325	Pn	Pn	04 44 51.1	-0.4
SIUN	Universidad Ur	4.88	325	P	Pn	04 44 51.2	-0.4
UNAN	Cigeo UNAN	4.91	299	P	Pn	04 44 52.1	+0.1
TISN	Laguna Tiscapa	4.93	300	P	Pn	04 44 52.3	+0.1
SAPS	Ciudad Sandino	5.06	299	P	Pn	04 44 54.0	+0.1
APQ3	Volcan Apoyequ	5.08	301	P	Pn	04 44 54.4	+0.2
MATN	Matagalpa	5.08	309	P	Pn	04 44 53.2	-1.2
COPN	Copaltepe	5.22	298	P	Pn	04 44 56.3	0.0
MOM2	El Cardon	5.25	301	P	Pn	04 44 56.0	-0.7
MOM2				S	Sb	04 46 05.7	-7.7
MOMN	Momotombo	5.29	301	P	Pn	04 44 52.8	-4.4
CNGA	Al SSO del Vol	5.47	301	P	Pn	04 45 00.0	+0.4
CNGN	Cerro Negro	5.47	301	Pn	Pn	04 44 59.1	-0.5
CNGN	Cerro Negro	5.47	301	P	Pn	04 44 59.9	+0.2
CNGN	Cerro Negro	5.47	301	P	Pn	04 45 01.2	+1.6
	16µm3µm,0.7s						
ROCN	Rota Cerro Neg	5.51	301	P	Pn	04 45 00.4	+0.2
LCBC	Los crdobas,	5.52	98	P	Pn	04 45 02.8	+2.4
APAC	Apartado, Choc	5.55	108	P	Pn	04 45 03.1	+2.3
	1µm176nm,1.1s						
RCPN	Sur Rio San Ju	5.59	313	P	Pn	04 45 01.1	-0.4
HERN	Volcan Telica	5.63	301	Pn	Pn	04 45 02.0	0.0
POLN	Al Sur del Vol	5.64	302	P	Pn	04 45 01.5	-0.5
RCVN	Varillal2	5.70	313	P	Pn	04 45 03.2	+0.2
CRIN	San Cristobal	5.86	301	Pn	Pn	04 45 05.2	+0.1
CRIN	San Cristobal	5.86	301	P	Pn	04 45 05.6	+0.5
OCON	Estacion meteo	5.94	311	P	Pn	04 45 07.0	+0.8
DBBC	Dabeiba	6.23	115	P	Pn	04 45 10.9	+0.7
CHOHN	Orocuina	6.37	307	P	Pn	04 45 12.7	+0.6
YUSH	Yuscaran	6.42	312	P	Pn	04 45 13.2	+0.4
CSGN	Cosiguina Volc	6.43	301	P	Pn	04 45 12.6	-0.3
UREC	San Jos de Ur	6.59	107	*eP*	Pn	04 45 16.1	+1.1
UREC	San Jos de Ur	6.59	107	P	Pn	04 45 15.6	+0.6
	497nm49nm,0.7s						
SJCC	San Jacinto, C	6.62	88	P	Pn	04 45 16.6	+1.0
SJCC	San Jacinto, C	6.62	88	P	Pn	04 45 16.3	+0.7
	3µm89nm,0.6s						
TGUH	Tegucigalpa,Un	6.81	310	Pn	Pn	04 45 18.2	+0.1
TGUH	Tegucigalpa,Un	6.81	310	P	Pn	04 45 18.6	+0.5
TGUH	Tegucigalpa,Un	6.81	310	P	Pn	04 45 18.6	+0.5
	1µm226nm,0.7s						
CNCH	Conchagua	6.81	302	P	Pn	04 45 19.0	+0.8
LCND	La Caada	6.88	302	P	Pn	04 45 19.6	+0.6
CBOC	Ciudad Bolivar	6.97	123	P	Pn	04 45 19.2	-1.3
	441nm37nm,1.0s						
HELC	Santa Helena	7.21	119	P	Pn	04 45 24.4	+0.5
HELC				S	Sn	04 46 44.4	-0.9
HELC	Santa Helena	7.21	119	P	Pn	04 45 24.6	+0.7
	365nm100nm,0.9s						
ZARC	Zaragoza, Cauc	7.30	107	P	Pn	04 45 26.3	+1.5
	3µm67nm,0.7s						
PLMC	San Jos del P	7.33	130	P	Pn	04 45 24.0	-1.4
MARCA	Marcala la Paz	7.46	307	P	Pn	04 45 28.2	+1.1
ALJI	Alcalda de J	7.46	299	P	Pn	04 45 30.3	+3.3
ARGC	Ariguani, Magd	7.54	88	P	Pn	04 45 30.5	+2.3
	1µm57nm,1

comp=Z,1.2nm,0.3s,baz=251,slow=10,SNR=7.1
SJG S Sn 04 50 40.9 -13
comp=Z,10nm,0.8s,baz=234,slow=23,SNR=2.1
SJG LR LR 04 53 46.7
comp=Z,494nm,18.7s,baz=242,slow=35
comp=Z,21nm,0.8s
SJG San Juan 17.41 60 P **Pn 04 47 41.5 +0.5**
HUMP Col San Antoni 17.68 60 Pn **Pn 04 47 42.5 -1.8**
TBTG Tabatinga, AM 18.26 139 **P 04 47 52.2 +0.6**
TBTG Tabatinga, AM 18.26 139 *eP* **P 04 47 52.9 +1.3**
CZSB Cruzeiro do Su 19.59 152 P **P 04 48 06.9 +0.7**
CZSB Cruzeiro do Su 19.59 152 *eP* **Pn 04 48 08.2 +0.5**
JRQG Juriquilla Cam 20.95 304 **P 04 48 21.7 +0.5**
TEFE Tefe 21.64 127 *eP* **P 04 48 28.4 0.0**
TIGA Tifton 21.68 356 P **P 04 48 29.5 +0.8**
TIGA IAmb IAmb 04 48 46.4
comp=Z,90nm,1.3s
BRAL Brewton 21.88 348 P **P 04 48 32.1 +1.2**
BRAL IAmb IAmb 04 48 45.4
comp=Z,80nm,1.0s
NNA Nana 22.13 167 *i* P **P 04 48 31.5 -2.2**
NNA pmax pmax
comp=Z,62nm,1.8s
BOAV Boa Vista 22.45 108 P **P 04 48 37.0 -0.2**
BOAV IAmb IAmb 04 48 48.1
comp=Z,36nm,1.0s
BOAV Boa Vista 22.45 108 *eP* **P 04 48 37.9 +0.7**
250A Grady 22.53 350 P **P 04 48 39.7 +1.9**
250A IAmb IAmb 04 48 51.5
comp=Z,64nm,1.4s
154A Montrose 22.82 357 P **P 04 48 42.6 +1.7**
154A IAmb IAmb 04 48 46.3
comp=Z,59nm,0.8s
152A Waverly Hall 23.00 354 P **P 04 48 45.4 +2.6**
152A IAmb IAmb 04 49 01.9
comp=Z,38nm,1.2s
441A DeRidder 23.43 335 P **P 04 48 47.9 +0.8**
HBVL Hebbronville 23.43 320 P **P 04 48 46.6 -0.5**
HBVL IAmb IAmb 04 49 02.2
comp=Z,27nm,1.0s
GOGA Godfrey 23.63 357 IAmb IAmb 04 49 01.6
comp=Z,28nm,1.1s
HKT Hockley 23.98 329 P **P 04 48 53.1 +0.8**
HKT IAmb IAmb 04 48 55.6
comp=Z,36nm,1.2s
HKT Hockley 23.98 329 *i* P **P 04 48 53.3 +1.0**
HKT pmax pmax
comp=Z,52nm,1.7s
HKT Hockley 23.98 329 P **P 04 48 52.8 +0.5**
Y52A Lilburn 24.12 356 IAmb IAmb 04 49 05.8
comp=Z,22nm,0.9s
Y58A Scranton 24.17 5 P **P 04 48 55.1 +1.1**
Y58A IAmb IAmb 04 49 07.3
comp=Z,41nm,0.8s
735A Kenedy 24.20 324 P **P 04 48 54.1 -0.3**
735A IAmb IAmb 04 48 56.9
comp=Z,33nm,0.7s
HODGE Hodges 24.41 359 IAmb IAmb 04 49 08.2
comp=Z,22nm,0.7s
EF04 Eagle Ford 04 24.46 325 P **P 04 48 57.0 +0.2**
EF04 IAmb IAmb 04 48 58.0
comp=Z,24nm,0.7s
JSC Jenkinsville 24.46 1 IAmb IAmb 04 49 09.2
comp=Z,31nm,1.1s
143A Socs Landing, 24.51 340 P **P 04 48 58.2 +1.0**
143A IAmb IAmb 04 49 35.2
comp=Z,36nm,1.1s
MACA Manacapuru-AM 24.70 120 P **P 04 48 59.7 +0.6**
MACA Manacapuru-AM 24.70 120 *eP* **P 04 49 00.7 +1.5**
X58A Rowland 24.84 5 P **P 04 49 00.4 +0.3**
X58A IAmb IAmb 04 49 13.9
comp=Z,26nm,0.8s
BIRD Birdtown, Kers 24.86 3 IAmb IAmb 04 49 14.1
comp=Z,28nm,1.1s
X51A Calhoun 24.89 354 IAmb IAmb 04 49 13.9
comp=Z,27nm,1.2s
NATX Nacogdoches 24.93 333 P **P 04 49 01.1 0.0**
NATX IAmb IAmb 04 49 13.4
comp=Z,40nm,1.0s
PAULI Pauline 25.00 0 IAmb IAmb 04 49 06.9
comp=Z,22nm,0.8s
X48A Hartselle 25.07 350 IAmb IAmb 04 49 14.2
comp=Z,27nm,0.8s
BG3 Lake Jocassee 25.18 358 IAmb IAmb 04 49 16.0
comp=Z,34nm,1.0s
KMSC Kings Mountain 25.32 1 IAmb IAmb 04 49 17.1
comp=Z,17nm,0.9s
W52A Murphy 25.34 356 IAmb IAmb 04 49 17.5
comp=Z,25nm,1.0s
W57A Gilead 25.39 4 IAmb IAmb 04 49 17.2
comp=Z,23nm,1.1s
Z41A Richland Creek 25.50 338 IAmb IAmb 04 49 25.9
comp=Z,36nm,1.1s
HNDO Hondo 25.56 323 IAmb IAmb 04 49 08.1
comp=Z,39nm,0.8s
W50A Signal Mountai 25.57 354 P **P 04 49 08.2 +1.4**
SWET Sewanee 25.66 352 IAmb IAmb 04 49 19.4
comp=Z,36nm,0.8s
CPCT Cooper Cave 25.73 355 IAmb IAmb 04 49 22.3
comp=Z,27nm,1.1s
CCAR Cane Creek 25.75 341 IAmb IAmb 04 49 20.7
comp=Z,47nm,1.0s
PLAL Pickwick Lake 25.78 348 P **P 04 49 09.8 +1.0**
V53A Saluda 25.86 358 IAmb IAmb 04 49 23.8
comp=Z,35nm,1.1s
TKL Tuckaleechee C 25.89 356 IAmb IAmb 04 49 32.2
comp=Z,28nm,1.0s
TKL Tuckaleechee C 25.89 356 LR LR 04 59 54.0
comp=Z,528nm,18.4s,baz=176,slow=38
DRIO Del Rio 26.30 321 IAmb IAmb 04 49 16.9
comp=Z,21nm,0.8s
U56A King 26.55 3 P **P 04 49 19.2 +3.5**
U56A IAmb IAmb 04 49 30.9
comp=Z,39nm,1.0s
JCT Junction City 26.56 324 IAmb IAmb 04 49 17.4
comp=Z,29nm,0.9s
U54A Nelsons Funny 26.69 0 P **P 04 49 18.5 +1.5**
U54A IAmb IAmb 04 49 32.1
comp=Z,36nm,0.7s
BRDY Brady 26.71 326 IAmb IAmb 04 49 18.2
comp=Z,16nm,0.8s
UALR University of 26.72 341 IAmb IAmb 04 49 19.0
comp=Z,21nm,0.9s
TZTN Tazewell 26.76 357 IAmb IAmb 04 49 40.7
comp=Z,50nm,1.4s
WVT Waverly 26.85 349 P **P 04 49 18.6 +0.2**
WVT IAmb IAmb 04 49 29.4
comp=Z,18nm,0.7s
WVT Waverly 26.85 349 P **P 04 49 18.6 +0.2**
WVT pmax pmax
comp=Z,18nm,0.7s
WHAR Wooly Hollow 27.17 341 IAmb IAmb 04 49 33.0
comp=Z,30nm,1.0s
T57A Hurt 27.27 5 P **P 04 49 24.3 +2.1**
Z35A Perchaven, San 27.43 331 P **P 04 49 24.4 +0.7**
Z35A IAmb IAmb 04 49 25.4
comp=Z,13nm,0.8s
PLPT Palo Pinto 27.54 329 IAmb IAmb 04 49 26.8
comp=Z,44nm,1.3s
LCAR Lake Charles 27.56 344 IAmb IAmb 04 49 35.9
comp=Z,21nm,0.7s
SAND Sanderson 27.61 320 P **P 04 49 26.0 +0.5**
FCAR Ozark Folk Cen 27.67 342 IAmb IAmb 04 49 36.7
comp=Z,16nm,0.8s
S51A Beattyville 27.85 357 P **P 04 49 28.5 +1.2**
S51A IAmb IAmb 04 49 39.4
comp=Z,30nm,0.8s
PBMO Poplar Bluff 28.04 345 IAmb IAmb 04 49 45.0
comp=Z,14nm,0.9s
ABTX Abilene, Hawle 28.08 327 IAmb IAmb 04 49 30.6
comp=Z,22nm,0.7s
TXAR Lajitas Array 28.22 317 P **P 04 49 30.8 -0.1**
TXAR Lajitas Array 28.22 317 P **P 04 49 31.2 +0.3**
comp=Z,4.5nm,0.9s,baz=132,slow=7.8,SNR=32
TXAR PcP **PcP 04 52 44.7 +0.4**
comp=Z,1.8nm,0.8s,baz=156,slow=5.7,SNR=7.7
TXAR ScP **ScP 04 56 24.0 -0.1**
comp=Z,0.4nm,0.9s,baz=105,slow=2.3,SNR=3.5
comp=Z,4.5nm,0.9s
TXAR Lajitas Array 28.22 317 P **P 04 49 31.2 +0.3**
TXAR 04 52 44.7
CGM3 Cape Girardeau 28.35 347 IAmb IAmb 04 49 43.2
comp=Z,12nm,0.7s
SGCY Sterling City 28.38 324 IAmb IAmb 04 49 32.8
comp=Z,15nm,0.7s
R55A Marlinton 28.50 3 P **P 04 49 35.2 +2.0**

R49A Shelbyville 28.61 355 P **P 04 49 34.8 +0.7**
R49A IAmb IAmb 04 49 45.8
comp=Z,27nm,1.1s
WCI Wyandotte Cave 28.67 353 P **P 04 49 35.5 +0.8**
WCI IAmb IAmb 04 49 46.3
comp=Z,19nm,0.8s
WCI Wyandotte Cave 28.67 353 P **P 04 49 35.5 +0.8**
WCI pmax pmax
comp=Z,19nm,0.9s
ALPN Alpine 28.87 318 P **P 04 49 37.2 +0.4**
APMT Aspermont 28.88 327 IAmb IAmb 04 49 37.7
comp=Z,21nm,0.8s
MGMO Mountain Grove 28.89 343 IAmb IAmb 04 49 47.8
comp=Z,13nm,0.9s
SN05 Snyder 5 28.96 326 IAmb IAmb 04 49 39.1
comp=Z,17nm,0.7s
TUL3 Leonard 28.98 336 P **P 04 49 37.1 -0.4**
SN07 Snyder 07 29.12 326 IAmb IAmb 04 49 39.7
comp=Z,29nm,1.2s
Q52A Bidwell 29.13 359 IAmb IAmb 04 49 51.0
comp=Z,29nm,1.0s
Q54A Coxs Mills 29.17 2 P **P 04 49 41.9 +2.8**
LPAZ La Paz 29.20 152 P **P 04 49 39.9 -0.4**
LPAZ La Paz 29.20 152 P **P 04 49 41.0 +0.7**
comp=Z,5.1nm,1.0s,baz=340,slow=11,SNR=15
LPAZ LR LR 05 03 27.0
comp=Z,228nm,19.5s,baz=312,slow=41
comp=Z,5.1nm,1.0s
LPAZ La Paz 29.20 152 P **P 04 49 39.9 -0.4**
LPAZ pmax pmax
comp=Z,10.0nm,1.2s
LPAZ La Paz 29.20 152 *eP* **P 04 49 41.4 +1.1**
Q51A Peebles 29.22 358 IAmb IAmb 04 49 51.7
comp=Z,31nm,0.8s
Q56A Snyder Ridge, 29.31 4 P **P 04 49 42.9 +2.6**
MDP Montagnes des 29.36 97 LR LR 05 02 47.9
comp=Z,194nm,18.4s,baz=284,slow=39
POST Post 29.44 325 P **P 04 49 41.0 -0.7**
POST IAmb IAmb 04 49 42.6
comp=Z,25nm,0.8s
CCM Cathedral Cave 29.45 345 P **P 04 49 41.5 -0.1**
CCM IAmb IAmb 04 49 52.3
comp=Z,26nm,0.7s
CCM Cathedral Cave 29.45 345 P **P 04 49 41.5 -0.1**
CCM pmax pmax
comp=Z,26nm,0.7s
CCM Cathedral Cave 29.45 345 P **P 04 49 41.0 -0.6**
OK052 Battle Ridge R 29.47 335 IAmb IAmb 04 49 43.2
comp=Z,16nm,0.7s
DKNS Dickens 29.57 327 P **P 04 49 42.1 -0.7**
DKNS IAmb IAmb 04 49 44.0
comp=Z,22nm,0.9s
ITTB Itaituba 29.58 117 *eP* **P 04 49 43.9 +0.9**
P53A Whipple 29.66 1 IAmb IAmb 04 49 48.5
comp=Z,20nm,0.7s
P51A Williamsport 29.67 358 IAmb IAmb 04 49 54.9
comp=Z,13nm,0.7s
Q44A Meyer Farm, Va 29.76 349 IAmb IAmb 04 49 55.4
comp=Z,28nm,0.7s
P48A Milroy 29.79 354 IAmb IAmb 04 49 55.4
comp=Z,24nm,0.7s
R40A Maddies Statio 29.95 344 P **P 04 49 46.0 0.0**
MAL2 Monte Alegre, 29.96 111 P **P 04 49 47.5 +1.1**
MAL2 IAmb IAmb 04 49 58.6
comp=Z,40nm,1.0s
SLBS Sierra La Lagu 30.16 301 P **P 04 49 50.4 +2.2**
SLBS IAmb IAmb 04 49 51.7
comp=Z,36nm,1.1s
SMWD Samnorwood 30.33 329 IAmb IAmb 04 49 51.5
comp=Z,15nm,0.8s
O54A Avella 30.38 2 IAmb IAmb 04 50 01.9
comp=Z,21nm,0.9s
ACSO Alum Creek Sta 30.41 358 IAmb IAmb 04 50 02.7
comp=Z,25nm,0.8s
O53A New Philadelph 30.42 1 IAmb IAmb 04 50 02.4
comp=Z,20nm,0.8s
O49A Covington 30.43 356 IAmb IAmb 04 50 01.6
comp=Z,18nm,0.8s
PB16 IPOC Station P 30.43 156 IAmb IAmb 04 49 54.5
comp=Z,24nm,1.2s
O48B Farmland 30.56 355 IAmb IAmb 04 50 02.7
comp=Z,31nm,0.9s
LPIG La Paz 30.63 301 LR LR 05 01 42.3
comp=Z,233nm,21.2s,baz=166,slow=36
MNTX Cornudas Mount 30.87 319 IAmb IAmb 04 49 55.4
comp=Z,11nm,0.9s
SFIN Lafayette 30.89 352 IAmb IAmb 04 50 05.1
comp=Z,18nm,0.7s
AMTX Amarillo 30.90 327 IAmb IAmb 04 49 55.3
comp=Z,16nm,0.6s
SSPA Standing Stone 31.00 6 P **P 04 49 57.3 +2.0**
N51A Ashland 31.09 359 IAmb IAmb 04 49 59.6
comp=Z,22nm,0.7s
VILB Vilhena 31.16 136 P **P 04 49 56.9 -0.1**
VILB IAmb IAmb 04 49 58.4
comp=Z,16nm,1.2s
VILB Vilhena 31.16 136 *eP* **P 04 49 57.4 +0.4**
NPGB Novo Progresso 31.24 121 *eP* **P 04 49 58.1 +0.4**
P38A Dawn 31.55 343 IAmb IAmb 04 50 11.6
comp=Z,13nm,0.8s
PB11 IPOC Station P 31.67 158 IAmb IAmb 04 50 06.0
comp=Z,21nm,0.9s
GO01 Chusmiza 31.76 157 IAmb IAmb 04 50 06.9
comp=Z,22nm,0.8s
M57A Sunshine Farm, 31.78 7 P **P 04 50 04.0 +1.9**
M57A IAmb IAmb 04 50 06.6
comp=Z,18nm,1.0s
N41A Harden Midland 31.88 347 IAmb IAmb 04 50 13.5
comp=Z,23nm,0.8s
M44A Midewin, Midew 32.02 351 IAmb IAmb 04 50 14.3
comp=Z,18nm,0.7s
R32A Long Quarter, 32.33 335 P **P 04 50 07.7 +0.7**
R32A IAmb IAmb 04 50 08.3
comp=Z,35nm,1.3s
L46A Eue Claire 32.41 354 IAmb IAmb 04 50 17.2
comp=Z,14nm,0.6s
PDRB Porto dos Gac 32.78 130 *eP* **P 04 50 11.1 -0.2**
SIV San Ignacio 32.82 141 LR LR 05 03 54.4
comp=Z,338nm,18.6s,baz=320,slow=37
PB01 IPOC Station P 32.91 158 IAmb IAmb 04 50 15.1
comp=Z,19nm,1.1s
CLDB Colider 33.05 128 *eP* **P 04 50 13.3 -0.2**
MMNY Mt. Morris Dam 33.08 5 IAmb IAmb 04 50 25.8
comp=Z,34nm,1.2s
CBKS Cedar Bluff 33.10 334 IAmb IAmb 04 50 15.4
comp=Z,16nm,0.9s
K57A Scipio Center 33.23 7 IAmb IAmb 04 50 31.3
comp=Z,28nm,1.2s
319A Douglas 33.33 314 P **P 04 50 16.7 +0.8**
319A IAmb IAmb 04 50 18.5
comp=Z,19nm,0.9s
N35A Tabor 33.33 341 IAmb IAmb 04 50 26.1
comp=Z,13nm,0.7s
K43A Burlington 33.35 351 IAmb IAmb 04 50 29.8
comp=Z,18nm,0.9s
PTLB Pontes e Lacer 33.66 138 *eP* **P 04 50 18.3 -0.5**
ANMO Albuquerque 33.68 322 P **P 04 50 19.2 +0.1**
ANMO Albuquerque 33.68 322 LR LR 05 06 53.5
comp=Z,114nm,18.4s,baz=238,slow=42
ANMO Albuquerque 33.68 322 *i* P **P 04 50 19.5 +0.4**
ANMO pmax pmax
comp=Z,9.0nm,0.9s
PB03 IPOC Station P 33.73 159 P **P 04 50 19.8 +0.2**
PB03 IAmb IAmb 04 50 22.5
comp=Z,33nm,1.3s
BBSD Serra de San D 34.02 142 *eP* **P 04 50 21.5 -0.4**
T25A Trinidad 34.05 327 IAmb IAmb 04 50 24.8
comp=Z,25nm,0.9s
J59A Piesco 34.24 10 IAmb IAmb 04 50 28.0
comp=Z,19nm,1.1s
KSCO Kaye Shedlock' 34.57 331 IAmb IAmb 04 50 28.6
comp=Z,24nm,0.8s
I40A Norwalk 34.89 349 IAmb IAmb 04 50 39.4
comp=Z,22nm,0.9s
TUC Tucson 34.91 314 P **P 04 50 30.0 +0.4**
TUC Tucson 34.91 314 P **P 04 50 30.0 +0.4**
TUC pmax pmax
comp=Z,9.0nm,1.1s
SADO Sadowa 35.01 3 LR LR 05 05 26.2
comp=Z,451nm,18.0s,baz=193,slow=37
SDCO Great Sand Dun 35.09 326 P **P 04 50 32.2 +0.8**
SDCO IAmb IAmb 04 50 33.7
comp=Z,16nm,0.8s
WBO Williamsburg 35.62 8 P **P 04 50 37.2 +1.8**
WBO IAmb IAmb 04 50 39.2
comp=Z,16nm,1.2s

X18A Snowflake 35.62 318 P **P 04 50 36.1 +0.2**
PRPB Parauapebas 35.65 115 *eP* **P 04 50 36.8 +0.7**
BUKO Buck Lake 35.67 3 IAmb IAmb 04 50 47.3
comp=Z,17nm,1.0s
TMAB Tom-Au,PA,Br 35.74 108 *eP* **P 04 50 38.6 +1.7**
Q24A Divide 35.80 328 IAmb IAmb 04 50 39.5
comp=Z,32nm,1.3s
W18A Petrified Fore 35.84 319 IAmb IAmb 04 50 40.4
comp=Z,18nm,0.8s
SALV Santo Antonio 36.34 134 *eP* **P 04 50 42.1 +0.1**
MNTQ Montreal, Queb 36.37 10 P **P 04 50 42.6 +0.7**
MNTQ IAmb IAmb 04 50 45.8
comp=Z,14nm,1.0s
MVCO Mesa Verde 36.42 323 IAmb IAmb 04 50 44.8
comp=Z,23nm,1.2s
E46A Sault Ste Mari 36.59 357 IAmb IAmb 04 50 56.5
comp=Z,10nm,0.7s
SPMN Marine on St. 36.61 347 IAmb IAmb 04 50 53.7
comp=Z,21nm,0.8s
ISCO Idaho Springs 36.66 329 IAmb IAmb 04 50 47.0
comp=Z,10nm,0.7s
COWI Conover 36.79 352 IAmb IAmb 04 50 55.6
comp=Z,12nm,0.7s
TRQ Mont Tremblant 36.92 8 IAmb IAmb 04 50 58.8
comp=Z,17nm,0.9s
PV01 Paradox Valley 37.09 324 P **P 04 50 49.3 +0.9**
WUAZ Wupatki 37.15 318 IAmb IAmb 04 50 51.5
comp=Z,19nm,0.9s
PV15 Paradox Valley 37.17 324 IAmb IAmb 04 50 51.7
comp=Z,21nm,1.1s
PV02 Paradox Valley 37.23 324 IAmb IAmb 04 50 52.7
comp=Z,25nm,0.9s
PV13 Radium Mtn., P 37.25 324 IAmb IAmb 04 50 52.7
comp=Z,32nm,1.3s
SNDB Serra Nova Dou 37.27 125 *eP* **P 04 50 49.6 -0.4**
PV03 Paradox Valley 37.33 324 IAmb IAmb 04 50 52.4
comp=Z,34nm,1.4s
PV07 Paradox Valley 37.34 324 IAmb IAmb 04 50 52.9
comp=Z,29nm,1.2s
PV05 Paradox Valley 37.36 324 IAmb IAmb 04 51 01.7
comp=Z,32nm,1.4s
PV11 David Mesa, Pa 37.37 324 IAmb IAmb 04 51 02.3
comp=Z,60nm,1.5s
PV16 Nyswonger Mesa 37.41 324 P **P 04 50 51.4 +0.3**
PV16 IAmb IAmb 04 50 53.1
comp=Z,32nm,1.4s
PV17 East Wray Mesa 37.41 324 IAmb IAmb 04 51 02.4
comp=Z,14nm,0.8s
PV19 Morning Glory 37.44 324 IAmb IAmb 04 50 53.3
comp=Z,62nm,1.5s
PV04 Paradox Valley 37.45 324 IAmb IAmb 04 51 03.8
comp=Z,26nm,1.3s
PV20 West Nyswonger 37.46 324 IAmb IAmb 04 50 53.4
comp=Z,57nm,1.4s
PV22 Blue Mesa, Par 37.48 324 IAmb IAmb 04 50 53.9
comp=Z,32nm,1.4s
PV14 Lion Creek, Pa 37.51 324 IAmb IAmb 04 51 02.6
comp=Z,24nm,1.4s
PV10 Paradox Valley 37.52 324 IAmb IAmb 04 50 53.5
comp=Z,45nm,1.3s
PV23 Carpenter Ridg 37.56 324 IAmb IAmb 04 50 54.4
comp=Z,26nm,1.3s
SUSD Miller 37.62 340 IAmb IAmb 04 50 53.5
comp=Z,17nm,0.7s
HAYD Hayden 38.04 328 IAmb IAmb 04 50 59.2
comp=Z,19nm,1.1s
E62A Clayton Lake 38.27 14 P **P 04 51 00.9 +2.9**
O20A White River Ci 38.29 327 IAmb IAmb 04 51 16.1
comp=Z,18nm,0.9s
AC02 Maricunga 38.38 161 P **P 04 50 60.0 +0.2**
AC02 IAmb IAmb 04 51 02.7
comp=Z,18nm,1.1s
SMTB Santa Maria do 38.82 117 *eP* **P 04 51 03.8 +0.8**
BDQN Bodoquena, MS 38.86 141 *eP* **P 04 51 02.4 -0.9**
PKCU Pink Cliffs 38.91 320 IAmb IAmb 04 51 06.6
comp=Z,25nm,1.2s
LMQ La Malbaie 38.97 12 IAmb IAmb 04 51 08.4
comp=Z,26nm,1.0s
ARAG Araguaiana, MT 39.06 130 *eP* **P 04 51 04.5 -0.5**
Q16A Castle Valley 39.13 323 P **P 04 51 06.6 +1.0**
K22A Casper 39.26 331 IAmb IAmb 04 51 08.6
comp=Z,18nm,0.8s
RSSD Black Hills 39.29 335 P **P 04 51 08.0 +1.1**
RSSD Black Hills 39.29 335 P **P 04 51 08.0 +1.1**
RSSD pmax pmax
comp=Z,15nm,0.9s
RSSD Black Hills 39.29 335 P **P 04 51 07.6 +0.7**
TBO Thunder Bay 39.32 352 IAmb IAmb 04 51 17.5
comp=Z,39nm,0.7s
TMUT Mail Mountain 39.40 323 P **P 04 51 07.9 0.0**
AQDB Aquidauana 39.55 139 *eP* **P 04 51 08.7 -0.3**
PFO Pinyon Flats O 39.66 312 P **P 04 51 10.0 0.0**
PFO Pinyon Flats O 39.66 312 LR LR 05 08 52.9
comp=Z,194nm,20.3s,baz=130,slow=38
PFO Pinyon Flats O 39.66 312 *i* P **P 04 51 09.2 -0.8**
PFO pmax pmax
comp=Z,10.0nm,1.0s
BSUT Blindstream Ca 39.96 325 P **P 04 51 12.4 -0.3**
E28A Huff 40.08 340 IAmb IAmb 04 51 14.0
comp=Z,26nm,0.7s
SHPR Sheep Range 40.23 317 P **P 04 51 15.3 +0.5**
SHOC Shoshone, Teco 40.67 315 P **P 04 51 19.1 +0.8**
BW06 Boulder Array 40.85 328 IAmb IAmb 04 51 30.9
comp=Z,24nm,1.1s
PD31 Pinedale Array 40.85 328 IAmb IAmb 04 51 30.9
comp=Z,24nm,1.1s
PDAR Pinedale Array 40.85 328 P **P 04 51 19.7 -0.2**
PDAR Pinedale Array 40.85 328 P **P 04 51 20.1 +0.3**
comp=Z,9.7nm,0.8s,baz=134,slow=10,SNR=82
PDAR PcP **PcP 04 53 18.8 -1.8**
comp=Z,2.3nm,0.9s,baz=119,slow=5.5,SNR=4.4
PDAR LR LR 05 10 37.3
comp=Z,105nm,19.1s,baz=119,slow=40
comp=Z,9.7nm,0.8s
RPRD Ribas do Rio P 40.86 137 *eP* **P 04 51 20.1 +0.2**
EPLO Experimental L 41.04 348 IAmb IAmb 04 51 30.8
comp=Z,34nm,0.7s
HWUT Hardware Ranch 41.13 326 IAmb IAmb 04 51 23.8
comp=Z,37nm,1.4s
CCCA Chr Cany lake 41.25 314 IAmb IAmb 04 51 25.5
comp=Z,24nm,1.1s
S11A Rachel 41.25 318 IAmb IAmb 04 51 26.0
comp=Z,21nm,1.1s
FURC Furnace Creek, 41.37 316 IAmb IAmb 04 51 26.6
comp=Z,28nm,1.1s
CO03 El Pedregal 41.73 165 IAmb IAmb 04 51 29.4
comp=Z,25nm,1.1s
CO03 El Pedregal 41.73 165 P **P 04 51 26.2 -0.8**
AMBA Amambai (Brazi 41.79 141 *eP* **P 04 51 26.9 -0.6**
BDFB Brasilia 41.96 127 P **P 04 51 29.8 +0.7**
BDFB Brasilia 41.96 127 P **P 04 51 28.9 -0.2**
comp=Z,6.0nm,1.0s,baz=290,slow=7.2,SNR=6.3
BDFB LR LR 05 09 50.9
comp=Z,230nm,18.6s,baz=335,slow=38
comp=Z,6.0nm,1.0s
BDFB Brasilia 41.96 127 P **P 04 51 29.8 +0.7**
BDFB pmax pmax
comp=Z,7.0nm,1.0s
SNOW Snow King Moun 41.97 328 IAmb IAmb 04 51 31.0
comp=Z,36nm,1.4s
CO02 Combarbal 42.00 166 IAmb IAmb 04 51 31.7
comp=Z,33nm,0.8s
ULM Lac du Bonnet 42.04 347 *i* P **P 04 51 27.8 -1.4**
GMN Gold Mountain 42.08 316 P **P 04 51 31.2 +1.1**
FXWY Fox Creek 42.23 328 P **P 04 51 30.9 -0.2**
LAO LASA Array 42.27 335 IAmb IAmb 04 51 33.5
comp=Z,21nm,1.1s
RLMT Red Lodge 42.42 331 IAmb IAmb 04 51 34.3
comp=Z,30nm,0.8s
VES Vestal, Richgr 42.62 314 IAmb IAmb 04 51 36.7
comp=Z,37nm,1.3s
ITRB Ituiutaba 42.65 133 *eP* **P 04 51 33.9 -0.7**
SJPY San Joaquin 42.69 144 *eP* **P 04 51 34.3 -0.5**
SDBA SAO DESIDERIO 42.82 120 *eP* **P 04 51 36.1 0.0**
ZON Zonda 42.93 163 IAmb IAmb 04 51 39.3
comp=Z,22nm,1.2s
DGMT Dagmar 42.94 338 IAmb IAmb 04 51 38.0
comp=Z,33nm,0.8s
YHH Holmes Hill 42.95 330 P **P 04 51 37.5 +0.4**
CPUP Villa Florida 43.05 147 P **P 04 51 36.2 -1.5**
comp=Z,0.5nm,1.0s,baz=185,slow=8.6,SNR=3.0
CPUP LR LR 05 12 35.4
comp=Z,39nm,18.9s,baz=196,slow=40
CPUP Villa Florida 43.05 147 P **P 04 51 36.2 -1.5**
YHL Hebgen Lake 43.16 329 IAmb IAmb 04 51 42.3
comp=Z,44nm,1.5s

IPMB **Ipameri, GO** 43.17 130 *e*P P 04 51 38.8 -0.1
PCMB **Pacaembu** 43.28 136 *e*P P 04 51 39.0 -0.6
NVAR **Mina Array Bea** 43.37 317 P P 04 51 41.1 +0.6
NVAR **Mina Array Bea** 43.37 317 P P 04 51 41.6 +1.1
comp=Z,7.2nm,0.7s,baz=133,slow=7.1,SNR=49
NVAR PcP PcP 04 53 29.5 +0.5
comp=Z,3.9nm,0.8s,baz=126,slow=4.7,SNR=6.5
comp=Z,7.2nm,0.7s
VA03 **San Esteban** 43.60 166 IAmb IAmb 04 51 44.7
comp=Z,29nm,0.8s
BOZ **Bozeman (W)** 43.92 330 IAmb IAmb 04 51 46.8
comp=Z,27nm,1.3s
PEL **Peldehue** 43.93 166 P P 04 51 44.1 -0.7
WAKR **Walker** 44.17 317 IAmb IAmb 04 51 49.2
comp=Z,13nm,1.0s
DLMT **Dillon** 44.24 329 IAmb IAmb 04 51 59.7
comp=Z,38nm,1.3s
DRLN **Deer Lake** 44.37 23 P P 04 51 48.9 +0.9
DRLN IAmb IAmb 04 52 00.4
comp=Z,24nm,0.9s
MT08 **Bocatoma Ro** 44.38 166 IAmb IAmb 04 51 51.8
comp=Z,22nm,0.8s
MT09 **Talagante** 44.47 167 P P 04 51 49.9 +0.7
MT09 IAmb IAmb 04 51 51.1
comp=Z,19nm,1.0s
BO04 **La Punta** 44.76 167 IAmb IAmb 04 51 53.5
comp=Z,32nm,1.2s
EGMT **Eagleton** 44.82 334 IAmb IAmb 04 51 53.5
comp=Z,40nm,1.4s
BB19B **Bebedouro** 44.84 133 *e*P P 04 51 52.0 -0.2
PMNB **Patos De Minas** 44.85 129 *e*P P 04 51 52.4 -0.1
MPK **Martis Peak** 44.97 317 IAmb IAmb 04 51 56.0
comp=Z,23nm,1.0s
BO01 **Tunca** 45.04 167 P P 04 51 54.3 +0.8
BO01 IAmb IAmb 04 51 56.3
comp=Z,34nm,1.4s
PLID **Pearl Lake** 45.85 326 IAmb IAmb 04 52 00.9
comp=Z,11nm,0.9s
MSO **Missoula** 45.92 330 IAmb IAmb 04 52 02.0
comp=Z,15nm,1.2s
ORV **Oroville** 46.09 317 IAmb IAmb 04 52 04.5
comp=Z,22nm,1.2s
J08A **Circle Bar Ran** 46.20 323 IAmb IAmb 04 52 03.9
comp=Z,16nm,1.2s
SCHQ **Schefferville** 46.57 12 P P 04 52 06.2 +0.7
HATC **Hat Creek Radi** 46.69 318 P P 04 52 07.3 +0.6
HATC IAmb IAmb 04 52 08.5
comp=Z,20nm,0.9s
ITAB **Concordia** 46.71 143 *e*P P 04 52 07.1 +0.3
DIAM **Diamantina, MG** 46.88 126 *e*P P 04 52 08.2 -0.3
VAO **Valinhos** 47.19 134 P P 04 52 09.9 -0.9
LNOR **Lincton Mounta** 47.59 326 IAmb IAmb 04 52 16.4
comp=Z,8.0nm,1.0s
FFC **Flin Flon** 47.65 344 P P 04 52 13.5 -0.4
FFC IAmb IAmb 04 52 15.0
comp=Z,12nm,1.1s
FFC **Flin Flon** 47.65 344 P P 04 52 13.5 -0.4
FFC pmax pmax
comp=Z,12nm,1.2s
J05D **Fort Rock, OR** 47.83 321 IAmb IAmb 04 52 16.2
comp=Z,8.3nm,1.0s
PINE **Pine Mountain** 47.93 322 IAmb IAmb 04 52 17.5
comp=Z,12nm,0.9s
YBH **Yreka Blue Hor** 47.96 319 LR LR 05 15 39.4
comp=Z,13nm,19.1s,baz=126,slow=40
RCBR **Riachuelo** 48.36 107 LR LR 05 14 27.3
comp=Z,109nm,18.4s,baz=260,slow=38
CPSB **Cacapava Do Su** 48.36 147 *e*P P 04 52 19.1 -0.5
E08A **Dider Farm, El** 48.40 326 IAmb IAmb 04 52 20.3
comp=Z,9.6nm,0.9s
I05D **Terrebonne, OR** 48.47 322 IAmb IAmb 04 52 22.9
comp=Z,9.3nm,1.0s
NEW **Newport** 48.49 329 IAmb IAmb 04 52 21.4
comp=Z,16nm,1.1s
NEW **Newport** 48.49 329 LR LR 05 16 04.2
comp=Z,64nm,18.8s,baz=120,slow=40
F07A **Phinny Hill Vi** 48.53 325 IAmb IAmb 04 52 22.0
comp=Z,16nm,0.9s
G06A **Carlson Farm,** 48.55 324 IAmb IAmb 04 52 23.0
comp=Z,12nm,1.1s
HAWA **Hanford** 48.60 326 IAmb IAmb 04 52 22.2
comp=Z,11nm,0.9s
C09A **Chrisman Ranch** 48.78 328 IAmb IAmb 04 52 23.8
comp=Z,8.4nm,0.9s
E07A **Sunnyside** 48.88 326 IAmb IAmb 04 52 24.6
comp=Z,11nm,0.7s
MXC **Moxie City** 49.13 325 IAmb IAmb 04 52 27.1
comp=Z,14nm,0.9s
H04A **Detroit Lake** 49.16 322 IAmb IAmb 04 52 27.1
comp=Z,10nm,0.7s
PLTB **Pedras Altas** 49.33 148 P P 04 52 26.8 -0.3
PLTB **Pedras Altas** 49.33 148 *e*P P 04 52 27.5 +0.3
B08A **Colville Reser** 49.69 328 IAmb IAmb 04 52 30.6
comp=Z,10nm,1.0s
LTY **Liberty** 49.74 326 IAmb IAmb 04 52 30.7
comp=Z,7.7nm,0.7s
RIB01 **Linhares ES** 50.05 125 *e*P P 04 52 32.3 -0.4
CAM01 **Campos-RJ** 50.41 129 *e*P P 04 52 35.9 +0.5
D05A **Enumclaw** 50.44 325 IAmb IAmb 04 52 36.3
comp=Z,16nm,1.0s
GNW **Green Mountain** 51.12 325 IAmb IAmb 04 52 40.7
comp=Z,11nm,1.0s
PLCA **Paso Flores** 51.27 169 P P 04 52 42.1 +0.4
comp=Z,12nm,0.9s,baz=340,slow=7.7,SNR=16
PLCA PcP PcP 04 53 56.5 -0.1
comp=Z,4.3nm,0.9s,baz=323,slow=6.3,SNR=3.2
comp=Z,12nm,0.9s
PLCA **Paso Flores** 51.27 169 P P 04 52 42.1 +0.4
PLCA 04 53 56.6
PLCA **Paso Flores** 51.27 169 *e*P P 04 52 42.3 +0.6
NLWA **Neilton Lookou** 51.61 325 IAmb IAmb 04 52 46.0
comp=Z,40nm,1.4s
LLLB **Lillooet** 52.38 329 IAmb IAmb 04 52 51.4
comp=Z,21nm,1.0s
CBB **Campbell River** 53.88 327 IAmb IAmb 04 53 03.0
comp=Z,21nm,1.1s
FRB **Frobisher Bay** 54.78 7 LR LR 05 17 28.5
comp=Z,165nm,18.3s,baz=182,slow=37
BLKN **Baker Lake** 55.43 353 IAmb IAmb 04 53 13.1
comp=Z,17nm,1.2s
BBB **Bella Bella** 56.49 328 LR LR 05 20 57.3
comp=Z,83nm,18.3s,baz=154,slow=40
YKAW1 **Yellowknife Wh** 57.71 343 IAmb IAmb 04 53 29.0
comp=Z,18nm,0.8s
YKA **Yellowknife Ar** 57.75 343 P P 04 53 28.0 -0.4
comp=Z,15nm,0.7s,baz=135,slow=6.8,SNR=45
comp=Z,15nm,0.7s
YKA **Yellowknife Ar** 57.75 343 P P 04 53 28.0 -0.4
YKAW3 **Yellowknife Wh** 57.81 343 P P 04 53 29.0 +0.2
YKAW3 IAmb IAmb 04 53 29.8
comp=Z,32nm,0.8s
NUUK **Nuuk** 58.41 15 *e*P P 04 53 41.7 +8.8
NUUK IAmb IAmb 04 53 44.0
comp=Z,22nm,0.9s
TOAD **Toad River Com** 58.94 335 P P 04 53 36.5 -0.4
baz=128
ILON **Igloolik, Nuna** 59.60 0 P P 04 53 40.4 -0.7
LIRD **Liard River Hi** 59.64 336 P P 04 53 41.7 +0.1
baz=127
V35K **Ketchikan** 59.88 330 P P 04 53 44.2 +0.9
baz=120
T35M **Bob Quinn** 60.07 332 IAmb IAmb 04 53 47.8
comp=Z,11nm,0.9s
T35M **Bob Quinn** 60.07 332 P P 04 53 45.6 +1.0
baz=122
CRAG **Craig** 60.70 329 P P 04 53 49.5 +0.6
baz=118
DLBC **Dease Lake** 60.75 333 LR LR 05 23 01.1
comp=Z,12nm,18.6s,baz=74,slow=39
DLBC **Dease Lake** 60.75 333 P P 04 53 50.4 +1.0
baz=123
TAOE **Nuku Hiva Isla** 60.85 254 *e*LR LR 05 11 51.6
comp=Z,293nm,27.0s
S34M **Telegraph Cree** 60.97 332 P P 04 53 51.6 +0.9
baz=122
SFJD **Kangerlussuaq** 60.97 13 LR LR 05 21 48.1
comp=Z,122nm,19.8s,baz=236,slow=38
U33K **Whale Pass** 61.01 330 P P 04 53 51.7 +0.7
baz=119
WRGLY **Wrigley** 61.09 340 P P 04 53 51.6 +0.2
baz=132,SNR=9.8
WTLY **Watson Lake, Y** 61.16 335 P P 04 53 51.7 -0.3
WTLY **Watson Lake, Y** 61.16 335 P P 04 53 52.7 +0.7
baz=125
R33M **Jennings River** 61.68 334 IAmb IAmb 04 53 57.4
comp=Z,12nm,0.8s
R33M **Jennings River** 61.68 334 P P 04 53 56.5 +0.9
baz=122
TGTN **Hyland Airport** 61.77 337 P P 04 53 57.2 +1.0
baz=126
Q32M **Nakina River** 62.02 333 IAmb IAmb 04 53 59.6
comp=Z,16nm,0.9s
Q32M **Nakina River** 62.02 333 P P 04 53 58.9 +0.8
baz=121
SIT **Sitka** 62.53 330 P P 04 54 02.0 +0.8
baz=117
P33M **Teslin, Yukon** 62.90 334 IAmb IAmb 04 54 05.2
comp=Z,11nm,0.8s
P33M **Teslin, Yukon** 62.90 334 P P 04 54 04.4 +0.6
baz=121,SNR=6.2
P32M **Atlin** 62.98 333 P P 04 54 04.7 +0.4
baz=120
S31K **Pelican** 63.37 331 P P 04 54 07.4 +0.5
baz=116
MMPY **Sheldon Lake,** 63.55 337 IAmb IAmb 04 54 19.6
comp=Z,19nm,1.2s
MMPY **Sheldon Lake,** 63.55 337 P P 04 54 08.8 +0.8
baz=123,SNR=8.2
SKAG **Skagway** 63.64 333 P P 04 54 09.2 +0.7
baz=118
WHY **Whitehorse** 64.01 334 P P 04 54 11.4 +0.2
baz=119
M31M **Drury Creek, Y** 64.57 336 IAmb IAmb 04 54 26.1
comp=Z,6.7nm,0.8s
M31M **Drury Creek, Y** 64.57 336 P P 04 54 15.5 +0.8
baz=120
O30N **Mendenhall** 64.59 334 P P 04 54 15.5 +0.6
baz=118,SNR=5.3
P30M **Million Dollar** 64.68 333 P P 04 54 16.4 +0.9
baz=117
N31M **Braeburn, Yuko** 64.80 335 P P 04 54 16.7 +0.5
baz=118
P29M **Windy Craggy** 64.81 332 P P 04 54 17.2 +0.8
baz=116
HYT **Haines Junctio** 65.23 334 P P 04 54 20.0 +0.8
baz=116
N30M **Aishikik Lake** 65.34 334 P P 04 54 20.8 +1.0
baz=117,SNR=5.5
O29M **Mount Kennedy** 65.48 333 P P 04 54 21.4 +0.7
baz=115
YUK6 **Outpost Mounta** 65.66 333 P P 04 54 22.8 +0.8
baz=116
M30M **Minto, Yukon** 65.73 335 IAmb IAmb 04 54 23.7
comp=Z,13nm,0.9s
M30M **Minto, Yukon** 65.73 335 P P 04 54 22.8 +0.5
baz=118,SNR=8.6
MAYO **Mayo, Yukon** 65.86 337 P P 04 54 23.8 +0.8
baz=119
YUK4 **Talbot Arm** 65.96 334 P P 04 54 24.9 +0.9
baz=116
M29M **Somme Creek** 66.36 335 IAmb IAmb 04 54 28.3
comp=Z,16nm,1.0s
M29M **Somme Creek** 66.36 335 P P 04 54 27.3 +0.9
baz=116,SNR=10
H31M **Peel River** 66.40 339 IAmb IAmb 04 54 40.5
comp=Z,12nm,0.9s
H31M **Peel River** 66.40 339 P P 04 54 27.2 +0.7
baz=122,SNR=9.2
O28M **Mount Upton** 66.40 333 P P 04 54 27.5 +0.6
baz=114
YUK8 **Steele Glacier** 66.42 333 P P 04 54 27.8 +0.8
baz=114
J30M **Hart River** 66.50 337 IAmb IAmb 04 54 29.4
comp=Z,17nm,1.1s
J30M **Hart River** 66.50 337 P P 04 54 28.2 +0.9
baz=119,SNR=16
L29M **L29M** 66.52 336 P P 04 54 28.3 +1.0
baz=117,SNR=9.6
K29M **Barlow Dome** 66.61 337 P P 04 54 28.5 +0.5
baz=118,SNR=12
I30M **Mount Dempster** 66.84 338 P P 04 54 30.4 +1.0
baz=119,SNR=33
YUK3 **Moose Creek** 66.93 334 P P 04 54 30.8 +0.7
baz=114
G31M **Satah River** 66.97 340 P P 04 54 30.5 +0.5
baz=122,SNR=36
CTG **Chitna Glacier** 67.00 333 P P 04 54 31.6 +1.1
baz=113
F31M **Tsigehtchic** 67.07 341 P P 04 54 31.2 +0.6
baz=123,SNR=5.6
J29N **Klondike Camp** 67.17 337 P P 04 54 32.3 +0.9
baz=117
TULEG **Thule** 67.18 3 *i* P P 04 54 30.5 -0.7
TULEG IAmb IAmb 04 54 41.5
comp=Z,45nm,1.3s
BVCY **Beaver Creek** 67.36 334 P P 04 54 33.7 +1.0
baz=114,SNR=6.6
DAWY **Dawson** 67.45 336 IAmb IAmb 04 54 34.2
comp=Z,11nm,0.9s
DAWY **Dawson** 67.45 336 P P 04 54 33.4 +0.2
baz=116,SNR=13
INK **Inuvik** 67.48 342 LR LR 05 27 35.2
comp=Z,117nm,18.1s,baz=76,slow=39
INK **Inuvik** 67.48 342 P P 04 54 33.8 +0.6
baz=123,SNR=27
A36M **Sachs Harbour** 67.53 347 P P 04 54 32.8 -0.7
A36M **Sachs Harbour** 67.53 347 P P 04 54 33.0 -0.5
baz=133,SNR=8.2
EPYK **Eagle Plains** 67.53 339 P P 04 54 34.3 +0.7
baz=119,SNR=14
I29M **Ogilvie Camp,** 67.62 338 P P 04 54 34.9 +0.6
baz=117,SNR=18
G30M **tAoh Zraii Nji** 67.66 340 IAmb IAmb 04 54 46.8
comp=Z,18nm,1.1s
G30M **tAoh Zraii Nji** 67.66 340 P P 04 54 34.6 +0.2
baz=120,SNR=8.4
CRQE **Cirque** 67.71 332 P P 04 54 35.8 +0.8
baz=111
M27K **Edge Creek, AK** 67.77 334 P P 04 54 36.3 +0.9
baz=113,SNR=9.1
F30M **Barrier River** 67.83 340 P P 04 54 36.4 +0.9
baz=121,SNR=33
MCARA **McCarthy VSAT** 67.91 333 P P 04 54 37.2 +1.1
baz=111,SNR=6.3
SUMG **Summit** 67.95 13 *i* P P 04 54 36.0 -0.6
SUMG IAmb IAmb 04 54 47.5
comp=Z,31nm,0.8s
BCAR **Beaver Creek A** 68.01 335 P P 04 54 37.2 +0.4
L27K **Beaver Creek,** 68.03 335 P P 04 54 37.8 +0.9
baz=113,SNR=24
H29M **Whitestone** 68.04 339 P P 04 54 37.9 +1.0
baz=118,SNR=12
KAIM **Kayak Island** 68.05 331 P P 04 54 38.1 +1.1
baz=110
VRDI **Verde Repeater** 68.05 333 IAmb IAmb 04 54 38.5
comp=Z,14nm,0.9s
G29M **Pine Creek** 68.24 339 P P 04 54 39.0 +0.9
baz=118,SNR=27
I28M **Miner Creek** 68.27 338 IAmb IAmb 04 54 41.2
comp=Z,14nm,1.1s
I28M **Miner Creek** 68.27 338 P P 04 54 39.0 +0.6
baz=116,SNR=9.4
M26K **Nabesna, AK** 68.27 334 IAmb IAmb 04 54 40.2
comp=Z,14nm,1.1s
M26K **Nabesna, AK** 68.27 334 P P 04 54 38.9 +0.5
baz=112,SNR=5.0
BMRM **Bremner River** 68.48 332 P P 04 54 40.7 +0.9
baz=110,SNR=6.0
K27K **Chicken** 68.51 336 IAmb IAmb 04 54 51.9
comp=Z,11nm,0.9s
K27K **Chicken** 68.51 336 P P 04 54 40.9 +1.1
baz=113
L26K **Log Cabin Wild** 68.66 335 P P 04 54 41.8 +1.0
baz=112,SNR=12
N25K **Chitina, Valde** 68.70 333 P P 04 54 42.0 +0.9
baz=110,SNR=6.2
Q23K **Middleton Isla** 68.82 330 P P 04 54 43.3 +1.5
baz=108
EYAK **Cordova Ski Ar** 68.88 332 P P 04 54 43.0 +0.9
baz=108
E29M **Blow River** 68.91 341 P P 04 54 43.0 +0.7
baz=119,SNR=11
I27K **Kandik River** 68.97 337 P P 04 54 43.9 +1.2
baz=114,SNR=28
H27K **Steamboat Moun** 69.19 338 P P 04 54 44.9 +0.8
baz=115,SNR=12
F28M **Old Crow** 69.20 340 P P 04 54 44.4 +0.3
baz=117,SNR=17
HARP **HAARP** 69.21 334 P P 04 54 45.0 +0.8
baz=110
KLU **Klutina** 69.26 333 P P 04 54 45.4 +0.8
KLU **Klutina** 69.26 333 P P 04 54 45.1 +0.5
baz=109,SNR=6.8
SCRK **Sand Creek** 69.27 335 IAmb IAmb 04 54 56.8
comp=Z,26nm,1.4s
SCRK **Sand Creek** 69.27 335 P P 04 54 45.6 +0.9
baz=111,SNR=9.9
J26L **Joseph Creek** 69.29 336 P P 04 54 45.9 +1.1
baz=112,SNR=23
I26K **Coal Creek Min** 69.44 337 IAmb IAmb 04 54 47.3
comp=Z,23nm,1.3s
I26K **Coal Creek Min** 69.44 337 P P 04 54 46.2 +0.6
baz=113
G27K **Doyon Strip** 69.48 339 IAmb IAmb 04 54 57.0
comp=Z,6.5nm,0.8s
G27K **Doyon Strip** 69.48 339 P P 04 54 46.0 +0.2
baz=115,SNR=14
P23K **Montague Islan** 69.50 331 P P 04 54 46.7 +0.7
baz=107
PAX **Paxson** 69.54 334 IAmb IAmb 04 54 47.7
comp=Z,14nm,0.8s
PAX **Paxson** 69.54 334 P P 04 54 46.7 +0.4
baz=110,SNR=14
RIDG **Independent Ri** 69.54 335 P P 04 54 47.3 +1.0
baz=110,SNR=13
E28M **Babbage River** 69.54 341 P P 04 54 46.5 +0.4
baz=117,SNR=18
M24K **Tolsona, Glenn** 69.57 333 P P 04 54 47.4 +0.9
baz=109
NEEM **North Greenlan** 69.59 7 *i* P P 04 54 46.2 -0.5
NEEM IAmb IAmb 04 54 57.3
comp=Z,46nm,0.8s
GLI **Glacier Island** 69.61 332 P P 04 54 47.7 +1.0
baz=107
D28M **Stokes Point** 69.63 342 P P 04 54 46.9 +0.3
baz=118
K24K **Donnelly Dome** 69.95 335 P P 04 54 49.3 +0.5
baz=110,SNR=13
SCM **Sheep Creek Mo** 70.00 333 P P 04 54 49.7 +0.5
baz=108,SNR=5.4
E27K **Coleen River** 70.04 340 P P 04 54 49.2 0.0
E27K IAmb IAmb 04 54 50.7
comp=Z,14nm,1.0s
E27K **Coleen River** 70.04 340 P P 04 54 49.8 +0.5
baz=115,SNR=10
J25K **Salcha River,** 70.06 336 P P 04 54 50.4 +0.9
baz=110,SNR=24
M23K **Glacier View** 70.17 333 P P 04 54 50.4 +0.3
baz=107,SNR=8.7
PWL **Port Wells** 70.18 332 P P 04 54 50.1 -0.2
baz=106
D27M **Malcolm River** 70.29 341 P P 04 54 51.5 +0.6
baz=116
G26K **Porcupine Rive** 70.31 338 IAmb IAmb 04 55 02.1
comp=Z,11nm,0.8s
G26K **Porcupine Rive** 70.31 338 P P 04 54 51.2 +0.3
baz=113,SNR=9.9
KNK **Knik Glacier** 70.40 332 P P 04 54 51.7 +0.2
baz=106,SNR=8.5
PRP **Porcupine Dome** 70.44 337 IAmb IAmb 04 54 53.3
comp=Z,12nm,1.0s
PRP **Porcupine Dome** 70.44 337 P P 04 54 52.3 +0.4
baz=110,SNR=11
SEW **Seward** 70.51 331 P P 04 54 51.9 -0.3
baz=105
PARRA **Arraiolos** 70.63 52 *e*P P 04 54 59.8 +6.4
PARRA *e*tx tx 04 55 09.6
HDA **Harding Lake** 70.64 335 P P 04 54 53.3 +0.3
baz=109,SNR=25
FYU **Fort Yukon** 70.70 338 IAmb IAmb 04 55 35.5
comp=Z,20nm,1.1s
F26K **Sheenjek River** 70.72 339 IAmb IAmb 04 55 05.2
comp=Z,11nm,0.8s
F26K **Sheenjek River** 70.72 339 P P 04 54 54.1 +0.6
baz=112,SNR=13
IL31 **70.73 336** IAmb IAmb 04 54 54.7
comp=Z,18nm,1.1s
ILAR **Eielson Array** 70.73 336 P P 04 54 52.7 -0.8
ILAR **Eielson Array** 70.73 336 P P 04 54 53.0 -0.4
comp=Z,7.9nm,0.9s,baz=114,slow=4.5,SNR=74
ILAR LR LR 05 32 25.8
comp=Z,50nm,18.5s,baz=72,slow=41
comp=Z,7.9nm,0.9s
ILAR **Eielson Array** 70.73 336 P P 04 54 53.1 -0.4
PMR **Palmer** 70.75 332 IAmb IAmb 04 55 04.3
comp=Z,9.6nm,0.9s
PMR **Palmer** 70.75 332 P P 04 54 53.7 +0.1
baz=106,SNR=5.3
BMAR **Burnt Mountain** 70.78 339 P P 04 54 54.0 +0.2
H25L **Birch Creek** 70.81 337 P P 04 54 54.9 +1.0
baz=110,SNR=11
RC01 **Rabbit Creek A** 70.90 332 P P 04 54 54.9 +0.3
baz=105
SLKM **Skilak Lake** 70.99 331 IAmb IAmb 04 54 56.2
comp=Z,19nm,0.9s
POKR **Poker Plat Res** 71.06 336 P P 04 54 55.8 +0.3
baz=108
G25K **Bearman Lake** 71.09 338 P P 04 54 56.7 +1.1
baz=110,SNR=12
PCAS **Casmilo, Conde** 71.12 51 *e*P P 04 54 58.1 +1.7
PCAS *e*tx tx 04 55 08.1
PCAS *i* IAmb IAmb 04 55 09.8
comp=Z,32nm,1.4s
WRH **Wood River Hil** 71.13 335 IAmb IAmb 04 54 56.6
comp=Z,10nm,1.0s
COLA **College** 71.15 336 P P 04 54 55.4 -0.6
COLA IAmb IAmb 04 55 07.0
comp=Z,14nm,0.8s
COLA **College** 71.15 336 *i* P P 04 54 55.2 -0.8
COLA pmax pmax
comp=Z,16nm,1.0s
COLA **College** 71.15 336 P P 04 54 56.2 +0.2
baz=108
COI **Coimbra** 71.19 51 *e*P P 04 54 58.3 +1.5
COI *e*tx tx 04 55 08.4
COI *i* IAmb IAmb 04 55 09.2
comp=Z,53nm,1.1s
F25K **Christian Rive** 71.22 339 IAmb IAmb 04 55 08.5
comp=Z,15nm,0.8s
F25K **Christian Rive** 71.22 339 P P 04 54 57.7 +1.2
baz=111,SNR=16
MESJ **Messejana** 71.23 53 *e*P P 04 54 59.0 +1.9
MESJ *e*tx tx 04 55 09.0
MCK **McKinley** 71.27 334 P P 04 54 57.2 +0.4
baz=107,SNR=11
PMTG **Montargil** 71.28 52 *e*P P 04 54 58.6 +1.3
PMTG *e*tx tx 04 55 08.8
C27K **Jago River** 71.34 341 P P 04 54 57.6 +0.5
baz=114
EVO **Evora** 71.42 53 *e*P P 04 54 59.6 +1.4
EVO *e*tx tx 04 55 09.7
EVO *i* IAmb IAmb 04 55 12.3
comp=Z,18nm,2.0s
PBDV **Barranco-do-Ve** 71.44 54 *e*tx tx 04 55 10.7
H24K **Noodor Dome** 71.47 337 IAmb IAmb 04 55 09.6
comp=Z,24nm,1.4s
H24K **Noodor Dome** 71.47 337 P P 04 54 58.5 +0.5
baz=108,SNR=11
SUA **Susitna One** 71.47 332 P P 04 54 58.5 +0.3
baz=104,SNR=7.5
CUT **Chulitna** 71.49 333 P P 04 54 58.2 +0.1
baz=105
KDAK **Kodiak Island** 71.57 328 LR LR 05 29 43.4
comp=Z,54nm,18.6s,baz=98,slow=39
KDAK **Kodiak Island** 71.57 328 *i* P P 04 54 57.7 -1.0
KDAK pmax pmax
comp=Z,144nm,2.5s
KDAK **Kodiak Island** 71.57 328 P P 04 54 58.6 0.0
baz=101
NEA2 **Nenana** 71.57 335 P P 04 54 58.7 +0.1
baz=107,SNR=24
G24K **Hadweenzic Riv** 71.59 338 IAmb IAmb 04 55 10.6
comp=Z,19nm,0.9s
G24K **Hadweenzic Riv** 71.59 338 P P 04 54 59.4 +0.7
baz=109,SNR=15
Q20K **Shuyak Island** 71.64 329 P P 04 54 59.6 +0.5
baz=102
PESTR **Estremoz** 71.77 52 *e*P P 04 55 01.9 +1.6
PESTR *e*tx tx 04 55 12.0
PESTR *i* IAmb IAmb 04 55 12.4
comp=Z,16nm,1.0s
TRF **Thorofare Moun** 71.77 334 P P 04 55 00.2 +0.1
baz=105,SNR=14
PVRL **Vila Real** 71.78 50 *e*P P 04 55 02.4 +2.0
C26K **Camden Bay** 71.83 341 P P 04 55 01.0 +1.0
baz=112
OHAK **Old Harbor** 71.84 327 P P 04 55 00.5 +0.3
baz=100
I23K **Minto, Yukon-K** 71.85 336 P P 04 55 00.8 +0.7
baz=107,SNR=24
PCBR **Castelo Branco** 71.89 51 *e*P P 04 55 02.4 +1.3
PCBR *i* IAmb IAmb 04 55 08.5

comp=Z,27nm,1.7s
PCBR etx tx 04 55 12.4
PMRV Marv??o 71.94 52 *e*P **P 04 55 02.5 +1.2**
PMRV *i* IAmb IAmb 04 55 06.0
comp=Z,15nm,1.7s
PMRV etx tx 04 55 12.6
SKT Skwentna 71.96 332 P **P 04 55 00.6 -0.4**
SKT Skwentna 71.96 332 P **P 04 55 01.1 +0.1**
baz=104,SNR=12
STLK Strandline Lak 71.98 332 IAmb IAmb 04 55 02.4
comp=Z,9.2nm,1.0s
F24K Squaw Lake 72.00 338 IAmb IAmb 04 55 02.8
comp=Z,6.0nm,0.8s
F24K Squaw Lake 72.00 338 P **P 04 55 02.1 +0.9**
baz=109,SNR=7.1
SPU Mount Spurr 72.02 331 IAmb IAmb 04 55 02.4
comp=Z,14nm,1.0s
O20K Slope Mountain 72.06 330 P **P 04 55 01.8 +0.1**
baz=102
D25K Kavik River 72.09 340 P **P 04 55 02.4 +0.8**
baz=111
N20K Mount Spurr 72.09 331 P **P 04 55 02.5 +0.6**
baz=103
SPCR Spurr Chakacha 72.09 331 P **P 04 55 02.4 +0.5**
baz=103
H23K Yukon River 72.11 336 IAmb IAmb 04 55 13.4
comp=Z,9.9nm,0.8s
H23K Yukon River 72.11 336 P **P 04 55 02.3 +0.5**
baz=107,SNR=14
PPT Papeete 72.13 248 LR LR 05 17 33.4
comp=Z,20nm,19.9s,baz=1.5,slow=28
PPT2 Papeete2 72.13 248 *e*LR LR 05 16 54.5
comp=Z,80nm,28.8s
PPT2 *e*LR LR 05 17 03.7
comp=Z,142nm,16.0s
PBAR Barrancos 72.18 53 *e*P **P 04 55 04.1 +1.4**
PBAR *i* IAmb IAmb 04 55 05.9
comp=Z,20nm,1.6s
PBAR etx tx 04 55 14.3
SII Sitkinak Islan 72.20 326 P **P 04 55 02.9 +0.4**
baz=100
BPAW Bear Paw Mtn. 72.24 334 P **P 04 55 02.8 +0.2**
baz=105,SNR=39
P19K Oil Pt 72.27 330 P **P 04 55 02.8 -0.1**
baz=101
ILSW Iliamna Southw 72.29 330 IAmb IAmb 04 55 03.8
comp=Z,21nm,1.0s
MVO Moncorvo 72.29 50 *e*P **P 04 55 04.8 +1.3**
MVO *i* IAmb IAmb 04 55 07.5
comp=Z,40nm,2.1s
MVO etx tx 04 55 15.2
Q19K Cape Douglas, 72.34 329 P **P 04 55 03.0 -0.3**
baz=101
MLY Manley 72.38 335 P **P 04 55 03.6 +0.2**
baz=105,SNR=52
E24K Your Creek 72.40 339 IAmb IAmb 04 55 15.6
comp=Z,13nm,1.2s
E24K Your Creek 72.40 339 P **P 04 55 04.2 +0.6**
baz=108
PPLA Purkeypile 72.47 333 P **P 04 55 03.9 -0.2**
baz=103,SNR=7.8
R18K Karluk 72.52 327 P **P 04 55 04.2 -0.1**
baz=100
PBRG Braganca 72.54 49 *e*P **P 04 55 06.4 +1.5**
CAST Castle Rocks 72.54 334 IAmb IAmb 04 55 05.1
comp=Z,19nm,1.0s
CAST Castle Rocks 72.54 334 P **P 04 55 04.2 -0.3**
baz=104,SNR=13
G23K Bananza Creek 72.56 337 IAmb IAmb 04 55 16.6
comp=Z,19nm,1.1s
G23K Bananza Creek 72.56 337 P **P 04 55 05.6 +1.1**
baz=106,SNR=19
M20K Styx River 72.67 332 P **P 04 55 04.5 -0.9**
M20K Styx River 72.67 332 P **P 04 55 05.2 -0.1**
baz=102
CHUM Lake Minchumin 72.75 334 P **P 04 55 05.4 -0.2**
baz=104,SNR=8.1
COLD Coldfoot 72.77 338 IAmb IAmb 04 55 18.1
comp=Z,18nm,1.0s
COLD Coldfoot 72.77 338 P **P 04 55 07.0 +1.3**
baz=106,SNR=15
E23K Chandalar 72.80 339 P **P 04 55 07.0 +1.0**
baz=107,SNR=16
D24K Happy Valley 72.86 340 IAmb IAmb 04 55 17.6
comp=Z,12nm,1.1s
D24K Happy Valley 72.86 340 P **P 04 55 06.5 +0.3**
baz=108
H22K Ishtalitna Cre 72.86 336 P **P 04 55 06.5 +0.2**
baz=105,SNR=11
O19K Port Alsworth 72.91 330 IAmb IAmb 04 55 07.0
comp=Z,17nm,0.9s
O19K Port Alsworth 72.91 330 P **P 04 55 06.2 -0.4**
baz=101
I21K Tanana 72.92 335 P **P 04 55 06.8 +0.2**
baz=104
TOLK Toolik Lake Re 72.96 339 IAmb IAmb 04 55 18.2
comp=Z,10nm,0.8s
TOLK Toolik Lake Re 72.96 339 P **P 04 55 07.2 +0.3**
baz=108
Q18K Katmai Hardscr 72.99 328 P **P 04 55 07.0 -0.3**
baz=100
C24K Franklin Bluff 73.00 340 P **P 04 55 07.6 +0.7**
baz=109
N19K Bonanza Creek 73.10 331 IAmb IAmb 04 55 08.5
comp=Z,19nm,0.9s
N19K Bonanza Creek 73.10 331 P **P 04 55 07.7 -0.3**
baz=101,SNR=6.8
L20K Farewell, AK 73.14 333 P **P 04 55 07.8 -0.2**
baz=102,SNR=15
G22K Bettles 73.18 337 P **P 04 55 08.9 +0.8**
baz=105
P18K Big Mountain, 73.22 329 P **P 04 55 07.8 -0.7**
baz=100
M19K Big River Lodg 73.26 332 IAmb IAmb 04 55 19.6
comp=Z,9.1nm,0.8s
M19K Big River Lodg 73.26 332 P **P 04 55 08.6 -0.2**
baz=101
O18K Koktuh Hills 73.29 330 P **P 04 55 08.1 -0.8**
O18K Koktuh Hills 73.29 330 P **P 04 55 08.7 -0.2**
baz=100,SNR=7.6
H21K Melozitna Rive 73.37 336 IAmb IAmb 04 55 20.2
comp=Z,12nm,0.9s
H21K Melozitna Rive 73.37 336 P **P 04 55 09.2 -0.1**
baz=104,SNR=12
Q17K Contact Creek 73.38 328 P **P 04 55 09.5 -0.1**
baz=99,SNR=5.1
K20K Telida 73.40 333 IAmb IAmb 04 55 10.4
comp=Z,21nm,1.1s
K20K Telida 73.40 333 P **P 04 55 09.3 -0.2**
baz=102,SNR=13
D23K Nanushuk River 73.44 339 P **P 04 55 10.6 +1.0**
baz=106,SNR=6.1
L19K White Mountain 73.53 332 P **P 04 55 10.0 -0.3**
baz=101
R17L Mt. Peulik Vol 73.54 327 P **P 04 55 10.5 +0.1**
baz=98
F22K John River 73.58 338 P **P 04 55 11.3 +0.8**
baz=105
J20K Nowinta River 73.60 334 IAmb IAmb 04 55 11.8
comp=Z,19nm,0.9s
J20K Nowinta River 73.60 334 P **P 04 55 10.6 -0.1**
baz=102,SNR=31
E22K Anaktuvuk Pass 73.61 338 IAmb IAmb 04 55 22.1
comp=Z,11nm,0.8s
E22K Anaktuvuk Pass 73.61 338 P **P 04 55 11.1 +0.4**
baz=105,SNR=7.9
C23K Itkillik River 73.67 340 P **P 04 55 11.7 +0.8**
baz=107,SNR=13
TBI Tubuai 73.75 242 *e*LR LR 05 17 46.9
comp=Z,617nm,42.0s
N18K Kilae Creek 73.76 330 IAmb IAmb 04 55 12.3
comp=Z,22nm,0.9s
N18K Kilae Creek 73.76 330 P **P 04 55 11.2 -0.5**
baz=99,SNR=10
P17K Kvichak River 73.81 329 P **P 04 55 11.3 -0.6**
baz=98
IMAR Indian Mountai 73.83 336 P **P 04 55 11.7 -0.2**
G21K Allakaket 73.85 337 P **P 04 55 13.2 +1.1**
baz=103,SNR=33
M18K Stony River 73.86 331 P **P 04 55 11.7 -0.5**
baz=100,SNR=13
I20K Naaghedeneel 73.87 335 P **P 04 55 12.2 0.0**
baz=102,SNR=9.9
F21K Alatna River 74.00 337 P **P 04 55 14.1 +1.0**
baz=103,SNR=20
D22K Ayikyak River 74.11 339 IAmb IAmb 04 55 25.4
comp=Z,14nm,0.8s
D22K Ayikyak River 74.11 339 P **P 04 55 14.1 +0.5**
baz=105,SNR=5.1
MDT Midelt 74.16 59 LR LR 05 22 33.1
comp=Z,40nm,19.4s,baz=279,slow=32
H20K Anotleneega Mo 74.18 336 P **P 04 55 14.1 0.0**
baz=102,SNR=11
J19K Poorman 74.20 334 IAmb IAmb 04 55 24.9
comp=Z,8.4nm,0.9s
J19K Poorman 74.20 334 P **P 04 55 13.9 -0.3**
baz=100,SNR=6.7
O17K Koliganek Bris 74.22 329 P **P 04 55 14.1 -0.2**
baz=98,SNR=11
PAB San Pablo 74.30 52 P **P 04 55 16.5 +1.1**
PAB IAmb IAmb 04 55 27.9
comp=Z,20nm,1.3s
PAB San Pablo 74.30 52 P **P 04 55 16.5 +1.1**
PAB pmax pmax
comp=Z,20nm,1.3s
N17K Nushagak Hills 74.37 330 IAmb IAmb 04 55 16.0
comp=Z,16nm,0.9s
N17K Nushagak Hills 74.37 330 P **P 04 55 14.9 -0.3**
baz=98,SNR=6.8
L18K Granite Mounta 74.38 332 IAmb IAmb 04 55 16.1
comp=Z,15nm,1.3s
L18K Granite Mounta 74.38 332 P **P 04 55 14.9 -0.4**
baz=99
E21K Killik River 74.46 339 IAmb IAmb 04 55 26.9
comp=Z,7.1nm,0.8s
E21K Killik River 74.46 339 P **P 04 55 15.8 +0.1**
baz=103
CHGN Chignik 74.50 326 P **P 04 55 15.9 -0.2**
baz=96
P16K Nushagak River 74.58 329 P **P 04 55 16.2 -0.3**
baz=97
J18K Innoko River 74.59 333 P **P 04 55 16.4 -0.1**
baz=99,SNR=7.8
ESDC Sonseca Array 74.60 52 P **P 04 55 18.2 +1.1**
ESDC IAmb IAmb 04 55 29.7
comp=Z,14nm,0.9s
ESDC Sonseca Array 74.60 52 P **P 04 55 18.1 +1.1**
comp=Z,10nm,0.8s,baz=278,slow=5.8,SNR=53
ESDC LR LR 05 25 58.9
comp=Z,60nm,18.2s,baz=270,slow=34
comp=Z,10nm,0.8s
ESBB Sonseca Array 74.60 52 IAmb IAmb 04 55 29.6
comp=Z,16nm,0.8s
M17K Holitna River 74.61 331 P **P 04 55 16.9 +0.3**
baz=98
DAG Danmarks Havn 74.62 12 *i* P **P 04 55 15.3 -1.1**
DAG IAmb IAmb 04 55 25.9
comp=Z,9.0nm,0.9s
B22K Teshekpuk Lake 74.73 341 P **P 04 55 17.7 +0.6**
baz=104
F20K Avaraart Lake 74.82 337 IAmb IAmb 04 55 29.1
comp=Z,8.0nm,0.7s
F20K Avaraart Lake 74.82 337 P **P 04 55 17.9 +0.2**
baz=101
H19K Roundabout Mou 74.83 335 P **P 04 55 18.3 +0.5**
baz=100,SNR=21
C21K Knifeblade Rid 74.91 339 P **P 04 55 18.6 +0.4**
baz=103
B21K Ikpikpuk River 74.96 340 P **P 04 55 18.6 +0.2**
baz=103
L17K Donlin 75.12 332 P **P 04 55 19.3 -0.2**
baz=98
N16K Nishlik Lake 75.14 330 P **P 04 55 19.6 -0.1**
baz=97
G19K Purcell Mounta 75.19 336 P **P 04 55 20.5 +0.6**
baz=100,SNR=18
K17K Iditarod 75.20 332 P **P 04 55 19.8 -0.2**
baz=98,SNR=6.1
E20K Nigu River 75.23 338 P **P 04 55 20.9 +0.8**
baz=101,SNR=14
M16K Timber Creek 75.30 331 P **P 04 55 20.8 +0.2**
baz=97
D20K Etivluk River 75.47 339 P **P 04 55 22.3 +0.8**
baz=101,SNR=14
E19K Redstone River 75.47 337 IAmb IAmb 04 55 32.6
comp=Z,9.3nm,0.7s
E19K Redstone River 75.47 337 P **P 04 55 21.7 +0.2**
baz=100,SNR=9.0
O15K Ungalikthiuk R 75.53 329 P **P 04 55 22.9 +0.9**
baz=95
H18K Honhosa River 75.56 335 P **P 04 55 23.0 +1.0**
baz=98,SNR=15
F19K Shaleruckik Mo 75.58 337 IAmb IAmb 04 55 33.2
comp=Z,12nm,1.1s
F19K Shaleruckik Mo 75.58 337 P **P 04 55 22.4 +0.3**
baz=99,SNR=6.3
SDPT Sand Point 75.58 325 P **P 04 55 22.2 -0.1**
baz=94
J17K VABM Dome 75.64 333 P **P 04 55 23.2 +0.7**
baz=97,SNR=7.9
ESK Eskdalemuir 75.64 35 P **P 04 55 22.4 -0.3**
ESK Eskdalemuir 75.64 35 P **P 04 55 22.4 -0.3**
ESK pmax pmax
comp=Z,21nm,0.8s
EKA Eskdalemuir Ar 75.67 35 P **P 04 55 22.6 -0.2**
comp=Z,8.8nm,0.8s,baz=258,slow=6.0,SNR=24
comp=Z,8.8nm,0.8s
EKA Eskdalemuir Ar 75.67 35 P **P 04 55 22.6 -0.2**
N15K Kwethluk River 75.76 330 P **P 04 55 23.4 +0.1**
baz=95
G18K Tagagawik 75.79 336 P **P 04 55 24.1 +0.8**
baz=98,SNR=19
B20K Meade River 75.90 340 P **P 04 55 24.7 +0.8**
baz=101
D19K Kuna River 75.97 338 IAmb IAmb 04 55 36.1
comp=Z,18nm,0.8s
D19K Kuna River 75.97 338 P **P 04 55 24.9 +0.5**
baz=99,SNR=8.6
A21K Barrow 75.98 341 P **P 04 55 24.9 +0.6**
baz=102
M15K Kasigluk River 76.10 330 P **P 04 55 25.6 +0.4**
baz=95,SNR=6.7
DBIC Dimbokro 76.18 85 P **P 04 55 27.1 +0.6**
comp=Z,13nm,0.9s,baz=321,slow=4.4,SNR=7.5
comp=Z,13nm,0.9s
DBIC Dimbokro 76.18 85 P **P 04 55 27.1 +0.6**
H17K Granite Mounta 76.18 335 IAmb IAmb 04 55 37.4
comp=Z,13nm,0.9s
H17K Granite Mounta 76.18 335 P **P 04 55 26.4 +0.8**
baz=97,SNR=7.7
F18K Selawik 76.28 336 P **P 04 55 26.5 +0.5**
baz=97
J16K Anvik River 76.31 333 IAmb IAmb 04 55 38.4
comp=Z,10.0nm,0.8s
J16K Anvik River 76.31 333 P **P 04 55 27.3 +1.0**
baz=96,SNR=5.3
I17K Unalakleet 76.41 333 P **P 04 55 27.8 +1.0**
baz=96
S12K Black Hills 76.50 325 P **P 04 55 27.7 +0.1**
baz=93
N14K Kuskokwak Cree 76.54 329 P **P 04 55 27.6 0.0**
baz=94
G17K Kiwalik Mounta 76.56 335 P **P 04 55 28.6 +0.9**
baz=96,SNR=10
L15K Ungalak Mounta 76.57 331 P **P 04 55 28.5 +0.7**
baz=95,SNR=7.0
C19K Lookout Ridge 76.60 339 P **P 04 55 29.0 +1.0**
baz=98
K15K Wolf Creek Mou 76.64 332 IAmb IAmb 04 55 30.3
comp=Z,12nm,0.9s
K15K Wolf Creek Mou 76.64 332 P **P 04 55 29.2 +1.0**
baz=95,SNR=5.8
M14K Bethel 76.73 330 P **P 04 55 29.4 +0.7**
baz=94,SNR=8.3
E18K Tukpahlearik C 76.75 337 P **P 04 55 28.4 -0.4**
E18K IAmb IAmb 04 55 39.9
comp=Z,8.0nm,0.9s
E18K Tukpahlearik C 76.75 337 P **P 04 55 28.9 +0.1**
baz=97
F17K Baldwin Pennin 76.90 336 P **P 04 55 29.8 +0.2**
baz=96
C18K Utukok River 77.12 338 IAmb IAmb 04 55 42.4
comp=Z,14nm,1.0s
C18K Utukok River 77.12 338 P **P 04 55 31.2 +0.4**
baz=96
L14K Kuka Creek 77.12 331 IAmb IAmb 04 55 32.0
comp=Z,10.0nm,0.8s
L14K Kuka Creek 77.12 331 P **P 04 55 31.0 +0.1**
baz=93,SNR=5.1
H16K Elim 77.15 334 P **P 04 55 32.3 +1.3**
baz=95
E17K Hotham Inlet 77.19 337 P **P 04 55 31.7 +0.4**
baz=96
FALS False Pass 77.25 324 P **P 04 55 31.7 0.0**
baz=91
A19K Wainwright 77.25 340 P **P 04 55 32.4 +0.9**
baz=97
G16K Koyuk River 77.26 335 IAmb IAmb 04 55 43.6
comp=Z,17nm,1.1s
G16K Koyuk River 77.26 335 P **P 04 55 32.3 +0.7**
baz=95
M13K Dall Lake 77.40 330 P **P 04 55 33.2 +0.7**
baz=93
B18K Kokolik River 77.41 339 P **P 04 55 33.5 +1.1**
baz=96
J14K Nanvaranak Lak 77.61 332 P **P 04 55 34.9 +1.3**
baz=93,SNR=17
D17K Noatak River 77.73 337 P **P 04 55 34.5 +0.3**
baz=94
C17K DeLong Mountai 77.83 338 P **P 04 55 35.2 +0.4**
baz=95
G15K Niukluk 77.94 334 P **P 04 55 36.6 +1.2**
baz=93,SNR=7.2
K13K Kusilvak Mount 78.09 331 IAmb IAmb 04 55 37.9
comp=Z,10.0nm,0.8s
K13K Kusilvak Mount 78.09 331 P **P 04 55 37.0 +0.7**
baz=92,SNR=5.5
F15K North Star Dit 78.23 335 P **P 04 55 38.2 +1.2**
baz=93,SNR=12
CEST Esterri de Car 78.48 48 P **P 04 55 40.6 +1.6**
ANM Nome 78.49 334 IAmb IAmb 04 55 50.2
comp=Z,20nm,0.8s
ANM Nome 78.49 334 P **P 04 55 39.3 +0.7**
baz=92
C16K Lisburne Hills 78.61 338 P **P 04 55 40.0 +0.9**
baz=92
M11K Mekoryuk 78.81 330 P **P 04 55 41.1 +0.8**
baz=90
F14K Arctic Creek 78.92 335 P **P 04 55 41.9 +1.0**
baz=91
UNV Unalaska Valle 79.05 323 P **P 04 55 42.3 +0.5**
baz=89,SNR=5.4
TNA Tin City 79.58 335 P **P 04 55 45.3 +0.9**
baz=90
DOU Dourbes 80.39 41 *d*P **P 04 55 49.1 0.0**
comp=Z,6.2nm,0.8s
BMRD Maredsous 80.48 40 *d*P **P 04 55 50.0 +0.3**
BGES Gesves 80.68 40 *d*P **P 04 55 51.3 +0.6**
RCHB Rochefort 80.79 41 *d*P **P 04 55 51.8 +0.5**
comp=Z,6.0nm,0.9s
BSTI Sart Tilman 80.97 40 *d*P **P 04 55 53.1 +0.9**
MEM Membach 81.25 40 *d*P **P 04 55 54.7 +0.9**
comp=Z,8.2nm,1.0s
KBS Kingsbay 81.28 11 P **P 04 55 54.5 +1.1**
KBS IAmb IAmb 04 55 56.5
comp=Z,15nm,0.9s
KBS Kingsbay 81.28 11 P **P 04 55 54.5 +1.1**
KBS pmax pmax
comp=Z,15nm,0.9s
KBS Kingsbay 81.28 11 *i* P **P 04 55 52.4 -0.9**
GAMB Gambell 81.28 333 P **P 04 55 54.0 +0.4**
baz=86
WLF Walferdange 81.42 41 *d*P **P 04 55 56.0 +1.3**
comp=Z,14nm,1.0s
WLF Walferdange 81.42 41 *e*P **P 04 55 56.0 +1.3**
comp=Z,8.0nm,0.8s,baz=278,slow=5.0
TORD Torodi Ar. Bea 81.66 78 P **P 04 55 56.7 +0.1**
TORD Torodi Ar. Bea 81.66 78 P **P 04 55 57.0 +0.3**
comp=Z,1.7nm,0.7s,baz=310,slow=5.4,SNR=7.1
comp=Z,1.7nm,0.7s
IBBN Ibbenburen 82.19 38 *e*P **P 04 55 59.9 +1.3**
comp=Z,10nm,0.9s,baz=278,slow=5.0
ECH Echery 82.22 42 IAmb IAmb 04 56 10.8
comp=Z,16nm,1.0s
SPITS Spitsbergen Ar 82.26 12 P **P 04 55 56.6 -1.9**
comp=Z,4.8nm,0.7s,baz=272,slow=6.3,SNR=6.1
comp=Z,4.8nm,0.7s
SPITS Spitsbergen Ar 82.26 12 P **P 04 55 56.7 -1.9**
KASTN Kahler Asten 82.71 39 *e*P **P 04 56 02.6 +1.1**
comp=Z,3.1nm,0.9s,baz=278,slow=5.0
NC204 NORSAR Array S 82.84 29 IAmb IAmb 04 56 13.7
comp=Z,13nm,0.9s
NBO00 NORSAR Array S 82.88 29 IAmb IAmb 04 56 14.2
comp=Z,15nm,0.9s
NB2 NORSAR Subarra 83.09 29 P **P 04 56 03.7 +0.5**
comp=Z,12nm,0.8s,baz=278,slow=5.1
NB2 NORSAR Subarra 83.09 29 P **P 04 56 02.5 -0.7**
NOA NORSAR Array B 83.09 29 P **P 04 56 03.3 +0.1**
comp=Z,4.4nm,0.8s,baz=276,slow=5.0,SNR=18
NOA LR LR 05 30 16.1
comp=Z,39nm,19.6s,baz=280,slow=34
comp=Z,4.4nm,0.8s
NOA NORSAR Array B 83.09 29 P **P 04 56 03.3 +0.1**
NB201 NORSAR Array S 83.13 29 IAmb IAmb 04 56 15.4
comp=Z,11nm,0.8s
BSEG Bad Segeberg 83.53 36 *e*pP pP 04 56 16.9 +4.4
NRDL Niedersach Rie 83.60 38 *e*P **P 04 56 07.5 +1.6**
comp=Z,7.3nm,1.0s,baz=278,slow=5.0
CLZ Clausthal 83.85 39 *e*P **P 04 56 08.0 +0.7**
comp=Z,7.9nm,0.9s,baz=278,slow=5.0
DAVA Damuels 84.15 43 *e*P **P 04 56 10.1 +0.9**
comp=Z,13nm,0.8s
DAVOX Davos/Dischmat 84.22 44 LR LR 05 29 28.8
comp=Z,73nm,19.0s,baz=284,slow=33
FLTG Flechtingen 84.31 38 *e*P **P 04 56 10.4 +0.8**
comp=Z,5.9nm,0.7s,baz=278,slow=5.0
HFS Hagfors 84.44 30 P **P 04 56 09.9 -0.2**
comp=Z,3.9nm,0.9s,baz=262,slow=3.0,SNR=4.6
HFS LR LR 05 31 05.2
comp=Z,46nm,19.7s,baz=276,slow=34
comp=Z,3.9nm,0.9s
HFS Hagfors 84.44 30 P **P 04 56 09.9 -0.2**
RETA Reutte 84.72 43 *i* P **P 04 56 12.2 +0.3**
comp=Z,5.3nm,0.8s
FETA Feichten 84.76 43 *i* P **P 04 56 13.0 +0.7**
comp=Z,15nm,1.2s
MOX Moxa 84.79 40 *e*P **P 04 56 13.1 +1.0**
comp=Z,3.4nm,1.0s,baz=278,slow=5.0
MOX *e*pP **pwP 04 56 22.8 +0.8**
MOTA Moosalm 84.97 43 *e*P **P 04 56 13.6 +0.3**
comp=Z,6.0nm,0.7s
SQTA Sankt Quirin 85.06 43 *e*P **P 04 56 13.9 +0.2**
comp=Z,11nm,0.8s
MANZ Manzenberg 85.21 40 *e*P **P 04 56 15.2 +1.0**
comp=Z,0.9nm,1.0s,baz=278,slow=5.0
WATA Walderalm 85.29 43 *i* P **P 04 56 15.2 +0.3**
comp=Z,4.4nm,0.7s
ROTZ Rotzenmuhle 85.31 40 *e*P **P 04 56 14.3 -0.4**
comp=Z,0.5nm,0.8s,baz=278,slow=5.0
ROTZ *e*pP **pwP 04 56 24.5 0.0**
WTTA Wattenberg 85.34 43 *i* P **P 04 56 15.8 +0.6**
comp=Z,2.3nm,0.6s
TANN Tannenbergstha 85.36 40 *e*P **P 04 56 16.1 +1.1**
comp=Z,6.7nm,0.9s,baz=278,slow=5.0
KEST Kesra 85.41 55 P **P 04 56 16.4 +0.7**
comp=Z,15nm,1.0s,baz=294,slow=4.3,SNR=10
KEST LR LR 05 35 34.5
comp=Z,30nm,18.9s,baz=257,slow=36
comp=Z,15nm,1.0s
CLL Collm 85.55 39 *i* P **P 04 56 16.3 +0.4**
CLL *i* 04 56 26.8
CLL pmax pmax
comp=Z,14nm,1.0s
CLL Collm 85.55 39 *i* P **P 04 56 16.3 +0.4**
comp=Z,14nm,1.0s
CLL *i* x x 04 56 24.4
CLL *i* x x 04 56 26.8
comp=Z,24nm,1.0s
CLL Collm 85.55 39 *e*P **P 04 56 16.6 +0.8**
comp=Z,7.4nm,0.9s,baz=278,slow=5.0
WET Wettzell 85.84 41 *e*P **P 04 56 18.8 +1.3**
comp=Z,9.1nm,0.9s,baz=278,slow=5.0
WET *e*pP **pwP 04 56 29.1 +1.8**
LESA Schwarzleotal 86.01 43 *i* P **P 04 56 19.2 +0.8**
comp=Z,8.9nm,1.1s
ABTA Abfaltersbach 86.01 43 *i* P **P 04 56 19.4 +1.0**
comp=Z,16nm,1.0s
BRG Berggiesshubel 86.21 39 *e*P **P 04 56 20.5 +1.4**
comp=Z,5.8nm,0.8s,baz=278,slow=5.0
BRG *e*pP **pwP 04 56 30.3 +1.3**
BRG Berggiesshubel 86.21 39 *e*P **P 04 56 20.5 +1.4**
BRG Amp 04 56 21.3
comp=Z,9.3nm,0.9s
BRG Berggiesshubel 86.21 39 P P 04 56 30.4 +11
BRG Amp 04 56 31.1
comp=Z,14nm,0.9s
KHC Kasperske Hory 86.30 41 *e*P **P 04 56 20.7 +1.0**
KHC *ex* x 04 56 28.9
KHC AMS AMS 05 29 50.0
comp=Z,200nm,22.5s
KHC Kasperske Hory 86.30 41 *i* P **P 04 56 18.9 -0.8**
KHC pmax pmax
comp=Z,14nm,1.0s

GEC2	**GERESS Array S**	**86.43**	**41**	P	**P**	**04 56 20.6**	**+0.2**
GEC2				IAmb	IAmb	04 56 32.3	
	comp=Z,19nm,1.2s						
GEC2	**GERESS Array S**	**86.43**	**41**	*e*P	**P**	**04 56 21.0**	**+0.5**
	comp=Z,13nm,1.2s,baz=278,slow=5.0						
GERES	**GERESS Array B**	**86.43**	**41**	P	**P**	**04 56 20.5**	**+0.1**
GERES	**GERESS Array B**	**86.43**	**41**	P	**P**	**04 56 20.9**	**+0.5**
	comp=Z,3.5nm,0.8s,baz=266,slow=3.9,SNR=21						
GERES				LR	LR	05 29 51.9	
	comp=Z,112nm,20.6s,baz=284,slow=32						
	comp=Z,3.5nm,0.8s						
GERES	**GERESS Array B**	**86.43**	**41**	P	**P**	**04 56 20.5**	**+0.1**
KBA	**Koelnbreinsper**	**86.52**	**43**	*e*P	**P**	**04 56 21.6**	**+0.6**
	comp=Z,6.3nm,0.8s						
ZVC	**Zvikov**	**86.64**	**41**	*e*P	**P**	**04 56 22.8**	**+1.5**
PVCC	**Panska Ves**	**86.67**	**39**	*e*P	P	04 56 29.9	+8.5
PRU	**Pruhonice**	**86.76**	**40**	*e*P	**P**	**04 56 22.4**	**+0.6**
PRU				AMS	AMS	05 31 00.0	
	comp=Z,200nm,20.2s						
PRU	**Pruhonice**	**86.76**	**40**	*e*P	**P**	**04 56 22.4**	**+0.6**
PRU				MLR	MLR		
	comp=Z,200nm,20.2s						
MYKA	**Terra Mystica**	**86.80**	**43**	*e*P	**P**	**04 56 23.0**	**+0.7**
	comp=Z,9.6nm,0.9s						
ARCES	**ARCESS Array B**	**86.95**	**20**	P	**P**	**04 56 22.0**	**-0.4**
	comp=Z,5.1nm,0.7s,baz=330,slow=7.0,SNR=7.9						
	comp=Z,5.1nm,0.7s						
ARCES	**ARCESS Array B**	**86.95**	**20**	P	**P**	**04 56 22.0**	**-0.4**
MOA	**Molln**	**86.99**	**42**	*i* P	**P**	**04 56 23.4**	**+0.3**
	comp=Z,5.1nm,0.7s						
OBKA	**Obir**	**87.44**	**43**	*e*P	**P**	**04 56 25.8**	**+0.5**
	comp=Z,18nm,2.0s						
CHVC	**Chvalec**	**87.58**	**39**	*e*P	**P**	**04 56 26.9**	**+1.0**
CHVC				*ex*	x	04 56 36.9	
CHVC	**Chvalec**	**87.58**	**39**	*e*P	**P**	**04 56 26.9**	**+1.0**
CHVC				*e*		04 56 36.9	
DPC	**Dobruska-Polom**	**87.80**	**39**	*e*P	**P**	**04 56 28.1**	**+1.1**
DPC				*ex*	x	04 56 36.5	
DPC	**Dobruska-Polom**	**87.80**	**39**	*e*P	**P**	**04 56 28.1**	**+1.1**
DPC				*e*		04 56 36.5	
ARSA	**Arzberg**	**87.94**	**43**	*i* P	**P**	**04 56 28.8**	**+1.1**
	comp=Z,0.2nm,0.4s						
CONA	**Conrad Observa**	**88.03**	**42**	*e*P	**P**	**04 56 28.9**	**+0.8**
	comp=Z,8.4nm,1.0s						
KRUC	**Moravsky**	**88.13**	**41**	*e*P	**P**	**04 56 28.7**	**+0.2**
KRUC				*e*		04 56 39.6	
KRLC	**Kraliky**	**88.15**	**40**	*e*P	**P**	**04 56 30.9**	**+2.3**
KRLC	**Kraliky**	**88.15**	**40**	*e*P	**P**	**04 56 30.9**	**+2.3**
VRAC	**Vranov**	**88.20**	**40**	*e*P	**P**	**04 56 28.5**	**-0.3**
VRAC				*e*		04 56 39.8	
VRAC	**Vranov**	**88.20**	**40**	LR	LR	05 31 18.7	
	comp=Z,151nm,20.1s,baz=276,slow=32						
RONA	**Rosalia, Austr**	**88.36**	**42**	*e*P	**P**	**04 56 30.1**	**+0.4**
	comp=Z,5.4nm,0.9s						
MORC	**Moravsky Berou**	**88.70**	**40**	*e*P	**P**	**04 56 31.6**	**+0.4**
MORC				*e*		04 56 42.3	
MODS	**Modra-Piesok**	**88.85**	**41**	*e*P	**P**	**04 56 31.5**	**-0.4**
MODS				*e*		04 56 41.1	
MODS	**Modra-Piesok**	**88.85**	**41**	*e*P	**P**	**04 56 31.5**	**-0.4**
MODS				*e*		04 56 41.0	
JAVC	**Velka Javorina**	**88.99**	**41**	*e*P	**P**	**04 56 28.3**	**-4.3**
BILL	**Bilibino**	**89.01**	**340**	*i* P	**P**	**04 56 31.7**	**-0.5**
BILL				pmax	pmax		
	comp=Z,29nm,1.1s						
VAE	**Valguarnera**	**89.12**	**52**	LR	LR	05 30 46.8	
	comp=Z,79nm,21.3s,baz=314,slow=32						
VYHS	**Vyhne**	**89.83**	**41**	*e*P	**P**	**04 56 37.5**	**+1.0**
VYHS				*e*		04 56 48.3	
VYHS	**Vyhne**	**89.83**	**41**	*e*P	**P**	**04 56 37.5**	**+1.0**
VYHS				*e*		04 56 48.3	
FINES	**FINESS Array B**	**89.96**	**27**	P	**P**	**04 56 36.5**	**-0.3**
	comp=Z,3.2nm,0.9s,baz=240,slow=2.7,SNR=4.5						
FINES				LR	LR	05 31 58.1	
	comp=Z,56nm,21.9s,baz=296,slow=32						
	comp=Z,3.2nm,0.9s						
FINES	**FINESS Array B**	**89.96**	**27**	*i* P	**P**	**04 56 38.0**	**+1.2**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
APA	**Apatity**	**90.40**	**20**	*e*P	**P**	**04 56 41.5**	**+2.8**
APA				MLR	MLR		
	comp=Z,696nm,4.4s						
SHEM	**Shemya Is, Ala**	**90.69**	**324**	LR	LR	05 37 49.3	
	comp=Z,11nm,20.9s,baz=110,slow=36						
STHS	**Stebnicka Huta**	**91.12**	**40**	*e*P	**P**	**04 56 47.3**	**+4.8**
STHS	**Stebnicka Huta**	**91.12**	**40**	*e*P	**P**	**04 56 47.3**	**+4.8**
MLR	**Muntele Rosu**	**95.36**	**42**	P	**P**	**04 57 02.6**	**+0.3**
MLR	**Muntele Rosu**	**95.36**	**42**	P	**P**	**04 57 02.6**	**+0.3**
MLR				pmax	pmax		
	comp=Z,12nm,1.1s						
AKASG	**Malin Array Be**	**95.54**	**37**	LR	LR	05 37 23.4	
	comp=Z,81nm,19.9s,baz=276,slow=34						
SNAA	**Sanae**	**95.72**	**162**	P	**P**	**04 57 02.9**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=259,slow=5.4,SNR=8.4						
	comp=Z,2.0nm,0.7s						
SNAA	**Sanae**	**95.72**	**162**	*i* P	**P**	**04 57 01.3**	**-1.9**
SNAA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KLMR	**Klimovskoe**	**96.05**	**25**	*e*P	**P**	**04 57 02.9**	**-2.0**
KLMR				pmax	pmax		
	comp=Z,16nm,1.1s						
TIXI	**Tiksi**	**96.28**	**351**	LR	LR	05 42 14.7	
	comp=Z,93nm,20.8s,baz=8.0,slow=37						
SEY	**Seymchan**	**96.56**	**338**	*i* P	**P**	**04 57 06.3**	**-0.9**
SEY				pmax	pmax		
	comp=Z,4.0nm,1.0s						
OBN	**Obninsk**	**97.63**	**31**	*i* P	**P**	**04 57 10.4**	**-1.7**
OBN				*e*		05 01 09.6	
OBN				*e*SS	SS	05 15 30.8	+16
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,57nm,18.0s						
MA2	**Magadan**	**99.21**	**336**	LR	LR	05 49 01.9	
	comp=Z,48nm,18.4s,baz=90,slow=40						
PETK	**Petropavlovsk-**	**99.62**	**328**	LR	LR	05 46 08.1	
	comp=Z,12nm,18.1s,baz=57,slow=38						
QSPA	**South Pole Qui**	**99.69**	**180**	P	**Pdif**	**04 57 22.2**	**+1.0**
	comp=Z,1.8nm,1.0s,baz=138,slow=1.2,SNR=3.2						
	comp=Z,1.8nm,1.0s						
ZALV	**Zalesovo Beam**	**115.59**	**9**	PKP	**PKiKP**	**05 02 18.7**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=256,slow=4.3,SNR=2.4						
ZALV	**Zalesovo Beam**	**115.59**	**9**	PKIKP	**PKiKP**	**05 02 18.7**	**-1.0**
KURK	**Kurchatov**	**117.48**	**14**	PKIKP	**PKPdf**	**05 02 22.3**	**-1.2**
KURBB	**Kurchatov Arra**	**117.55**	**14**	PKP	**PKPdf**	**05 02 22.3**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=333,slow=2.5,SNR=6.1						
BNX	**BinXian**	**118.85**	**337**	⇑P	**Pdif**	**04 58 45.0**	**-1.8**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MKAR	**Makanchi Array**	**122.00**	**13**	PKP	**PKPdf**	**05 02 30.4**	**-1.9**
	comp=Z,1.0nm,0.9s,baz=345,slow=3.6,SNR=3.8						
MKAR	**Makanchi Array**	**122.00**	**13**	PKIKP	**PKPdf**	**05 02 30.5**	**-1.9**
SONM	**Songino Array**	**122.24**	**353**	PKP	**PKPdf**	**05 02 32.0**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=316,slow=4.0,SNR=8.5						
SONM	**Songino Array**	**122.24**	**353**	PKIKP	**PKPdf**	**05 02 32.0**	**-0.9**
XLT	**XiLinHaoTe**	**124.20**	**344**	*e*PKP	**PKPdf**	**05 02 36.0**	**-0.7**
KSRS	**Korea Array**	**125.39**	**331**		**PKPdf**	**05 02 38.4**	**-0.7**
KSRS	**Korea Array**	**125.39**	**331**	PKP	**PKPdf**	**05 02 38.4**	**-0.7**
	comp=Z,4.4nm,0.8s,baz=42,slow=0.5,SNR=16						
KSRS	**Korea Array**	**125.39**	**331**	PKIKP	**PKPdf**	**05 02 38.4**	**-0.7**
WMQ	**Urumqi**	**125.89**	**9**	*e*PKP	**PKiKP**	**05 02 41.5**	**+1.1**
HHC	**Hu-ho-hao-te**	**128.18**	**347**	*e*PKP	**PKPdf**	**05 02 40.5**	**-4.0**
GTA	**Gaotai**	**131.11**	**358**	PKP	**PKPdf**	**05 02 49.0**	**-1.1**
NJ2	**Nanjing**	**133.98**	**335**	*e*PKP	**PKPdf**	**05 02 55.0**	**-0.5**
STKA	**Stephens Creek**	**134.15**	**235**	PKP	**PKPdf**	**05 02 54.3**	**-1.5**
	comp=Z,3.0nm,0.9s,baz=254,slow=7.4,SNR=5.2						
STKA	**Stephens Creek**	**134.15**	**235**	PKIKP	**PKPdf**	**05 02 54.3**	**-1.5**
XAN	**Xi'an**	**135.29**	**347**	*e*PKP	**PKPdf**	**05 02 57.3**	**-0.7**
ASAR	**Alice Springs**	**143.13**	**243**	PKhKP	PKPpre	05 03 08.3	
	comp=Z,3.1nm,0.6s,baz=107,slow=2.8,SNR=26						
WRA	**Warramunga Arr**	**143.60**	**250**	PKhKP	PKPpre	05 03 10.2	
	comp=Z,16nm,1.1s,baz=97,slow=2.9,SNR=35						
PZH	**PanZhiHua**	**143.83**	**354**	PKP	**PKPdf**	**05 03 13.3**	**-0.6**
KMI	**Kunming**	**145.09**	**353**	PKPbc	**PKPbc**	**05 03 14.8**	**-0.7**
TNCH	**TengChong**	**145.47**	**359**	PKPbc	**PKPbc**	**05 03 16.0**	**-0.7**
TNCH				PP	**PP**	**05 06 39.3**	**+4.3**
CMAR	**Chiang Mai Arr**	**152.00**	**358**	PKP	**PKPdf**	**05 03 26.9**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=336,slow=1.8,SNR=11						
CMAR				PKPbc	**PKPbc**	**05 03 32.9**	**-0.9**
	comp=Z,9.1nm,0.7s,baz=331,slow=2.8,SNR=40						
CMAR	**Chiang Mai Arr**	**152.00**	**358**	PKIKP	**PKPdf**	**05 03 26.9**	**-0.4**
CMAR						05 03 32.9	
FITZ	**Fitzroy Crossi**	**152.03**	**250**	PKP	**PKPdf**	**05 03 25.9**	**-1.4**
	comp=Z,2.3nm,1.0s,baz=304,slow=3.6,SNR=3.3						
FITZ				PKPbc	**PKPbc**	**05 03 32.9**	**-0.9**
	comp=Z,7.1nm,0.8s,baz=150,slow=4.7,SNR=14						

DJA ***29*** *04:50:43.2±1.0, 4.7°N±10.7°×12.7°E±°, h10km, M4.4/8, mB4.7/2, mb4.9/5, MLv4.2/8, Mw(mB)4.0/2*
NEIC ***29*** *04:50:48.7±1.9, 3.99N±0.07°×126.4E±0.1, h57km±8km, mb4.3/20, Error ellipse: s-maj=16.9km s-min=9.7km az=73.0*
IDC ***29*** *04:51:01.3±2.3, 3.72N×126.33E, h186km±24km, mb3.4/9, mbtmp4.0/11, MS3.2/2, Error ellipse: s-maj=52.9km s-min=10.9km az=69.0*

ISC 29 04:50:47.2±0.6, 4.08N±0.06×126.71E±0.08, h45km, n48, σ1°69/43, mb4.1/16, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.24**	**252**	P	**Pn**	**04 51 09.7**	**+1.6**
DAV	**Davao City (W)**	**3.18**	**339**	Pn	**Pn**	**04 51 36.7**	**+1.9**
DAV	**Davao City (W)**	**3.18**	**339**	P	Pn	04 51 56.2	+21
	176nm,0.5s,baz=234,slow=19,SNR=1.6						
TNTI	**Ternate**	**3.35**	**169**	Pn	**Pn**	**04 51 38.1**	**+1.1**
TNTI	**Ternate**	**3.35**	**169**	P	**Pn**	**04 51 36.0**	**-1.0**
KMSI	**Cibinong**	**4.42**	**218**	P	**Pn**	**04 51 52.6**	**+0.8**
MRSI	**Marisa**	**5.96**	**233**	P	**Pn**	**04 52 15.7**	**+2.8**
	0.3nm1μm71nm,0.5s						
LUWI	**Luwuk**	**6.43**	**218**	P	Pn	04 52 28.8	+9.4
TOLI2	**Tolitoli**	**6.61**	**244**	Pn	**Pn**	**04 52 22.8**	**+0.9**
APSI	**Ampana**	**7.08**	**226**	P	Pn	04 52 37.0	+8.7
FAKI	**Fak Fak**	**8.88**	**141**	Pn	**Pn**	**04 52 56.6**	**+3.6**
JAY	**Jayapura**	**15.44**	**115**	P	**P**	**04 54 30.2**	**+4.2**
	5.4nm,0.7s,baz=249,slow=9.3,SNR=3.5						
MTN	**Manton Dam**	**17.37**	**165**	Pn	**Pn**	**04 54 44.2**	**-2.3**
MTN				IAmb	IAmb	04 54 50.6	
	comp=Z,32nm,1.5s						
NGJI	**Ngawi**	**18.99**	**233**	P	**Pn**	**04 55 09.5**	**+3.2**
KNRA	**Kununurra**	**19.73**	**174**	P	**P**	**04 55 13.1**	**-0.1**
YULB	**Yu-li**	**19.90**	**345**	P	**P**	**04 55 13.2**	**-1.9**
YULB				IAmb	IAmb	04 55 53.2	
	comp=Z,26nm,1.5s						
TPUB	**Ta-pu**	**20.00**	**343**	P	**P**	**04 55 14.3**	**-1.9**
TPUB				IAmb	IAmb	04 55 50.0	
	comp=Z,31nm,1.4s						
GUMO	**Guam**	**20.26**	**61**	LR	LR	05 03 33.3	
	comp=Z,26nm,18.5s,baz=284,slow=36						
SSLB	**Sanglung**	**20.37**	**345**	P	**P**	**04 55 19.8**	**-0.4**
LEM	**Lembang**	**21.92**	**240**	LR	LR	05 04 32.9	
	comp=Z,127nm,19.4s,baz=208,slow=38						
FITZ	**Fitzroy Crossi**	**22.06**	**183**	P	**P**	**04 55 36.4**	**-1.9**
FITZ	**Fitzroy Crossi**	**22.06**	**183**	P	**P**	**04 55 37.1**	**-1.2**
	comp=Z,1.9nm,0.5s,baz=8.8,slow=7.1,SNR=12						
	comp=Z,1.9nm,0.5s						
WB0	**Warramunga Arr**	**24.87**	**163**	P	**P**	**04 56 04.7**	**-1.1**
WB0				IAmb	IAmb	04 56 12.0	
	comp=Z,7.7nm,0.8s						
WRAB	**Tennant Creek**	**25.01**	**163**	P	**P**	**04 56 06.5**	**-0.6**
WRAB				IAmb	IAmb	04 56 13.1	
	comp=Z,11nm,0.9s						
WRA	**Warramunga Arr**	**25.02**	**163**	P	**P**	**04 56 07.9**	**+0.7**
WRA	**Warramunga Arr**	**25.02**	**163**	P	**P**	**04 56 05.5**	**-1.6**
	comp=Z,3.8nm,0.8s,baz=345,slow=10,SNR=24						
	comp=Z,3.8nm,0.8s						
WR8	**Warramunga Arr**	**25.08**	**162**	P	**P**	**04 56 05.9**	**-1.8**
WR8				IAmb	IAmb	04 56 14.2	
	comp=Z,18nm,1.2s						
MBWA	**Marble Bar**	**26.00**	**195**	P	**P**	**04 56 14.7**	**-1.3**
ASAR	**Alice Springs**	**28.45**	**166**	P	**P**	**04 56 37.5**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=348,slow=7.1,SNR=6.0						
	comp=Z,0.5nm,0.8s						
BBOO	**Buckleboo**	**37.74**	**167**	P	**P**	**04 57 58.2**	**-0.6**
STKA	**Stephens Creek**	**38.46**	**159**	P	**P**	**04 58 04.0**	**-0.9**
STKA	**Stephens Creek**	**38.46**	**159**	P	**P**	**04 58 04.3**	**-0.6**
	comp=Z,3.7nm,0.9s,baz=342,slow=9.8,SNR=6.4						
	comp=Z,3.7nm,0.9s						
ARMA	**Armidale**	**41.77**	**147**	P	**P**	**04 58 33.2**	**+0.7**
SONM	**Songino Array**	**46.97**	**341**	P	**P**	**04 59 15.4**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=158,slow=12,SNR=2.0						
	comp=Z,0.5nm,0.5s						
MK31	**Makanchi Array**	**57.26**	**325**	P	**P**	**05 00 29.6**	**-0.6**
MK31				IAmb	IAmb	05 00 40.7	
	comp=Z,1.8nm,0.8s						
MKAR	**Makanchi Array**	**57.26**	**325**	P	**P**	**05 00 29.2**	**-1.0**
MKAR	**Makanchi Array**	**57.26**	**325**	P	**P**	**05 00 28.8**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=117,slow=8.2,SNR=8.8						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**61.44**	**327**	P	**P**	**05 00 58.0**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=127,slow=6.1,SNR=9.3						
	comp=Z,0.9nm,0.6s						
KURK	**Kurchatov**	**61.44**	**327**	P	**P**	**05 00 59.8**	**+0.8**
KURK				IAmb	IAmb	05 01 04.9	
	comp=Z,3.3nm,0.8s						
BVAR	**Borovoye Array**	**67.02**	**327**	P	**P**	**05 01 36.1**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=141,slow=9.3,SNR=6.6						
	comp=Z,0.8nm,0.5s						
ABKAR	**Akbulak array**	**71.87**	**321**	P	**P**	**05 02 04.4**	**-1.1**
C19K	**Lookout Ridge**	**80.43**	**20**	P	**P**	**05 02 55.7**	**+1.9**
D19K	**Kuna River**	**80.81**	**21**	P	**P**	**05 02 56.6**	**+0.7**
D19K				IAmb	IAmb	05 03 01.1	
	comp=Z,6.5nm,1.2s						
IMAR	**Indian Mountai**	**82.04**	**24**	P	**P**	**05 03 00.6**	**-1.8**
G21K	**Allakaket**	**82.21**	**23**	P	**P**	**05 03 04.3**	**+1.0**
E22K	**Anaktuvuk Pass**	**83.06**	**22**	P	**P**	**05 03 07.5**	**-0.2**
E22K				IAmb	IAmb	05 03 32.6	
	comp=Z,3.3nm,1.1s						
VNDA	**Vanda**	**83.77**	**173**	P	**P**	**05 03 08.5**	**-2.6**
	comp=Z,0.5nm,0.9s,baz=323,slow=4.0,SNR=4.4						
	comp=Z,0.5nm,0.9s						
BMAR	**Burnt Mountain**	**85.77**	**23**	P	**P**	**05 03 22.4**	**+0.9**

DJA 29 04:53:07.6±1.6, 12.7°S±15.7°×11.2°E±°, h10km, M4.3/13, mB4.8/1, mb4.3/5, MLv4.3/13, Mw(mB)4.1/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**3.71**	**19**	P	Pn	04 54 03.6	-1.5
PCJI	**Pacitan**	**3.75**	**344**	P	Pn	04 54 04.3	-1.3
JAGI	**Jajag, Banyuwa**	**3.82**	**30**	P	Pn	04 54 06.5	0.0
WOJI	**Wonogiri, Jawa**	**4.17**	**342**	P	Pn	04 54 08.9	-2.4
UGM	**Wanagama**	**4.24**	**336**	P	Pn	04 54 11.5	-0.8
NGJI	**Ngawi**	**4.49**	**350**	P	Pn	04 54 16.9	+1.1
SRBI	**Singaraja**	**4.72**	**38**	P	Pn	04 54 18.1	-0.8
TWSI	**Taliwang, Sumb**	**5.49**	**57**	P	Pn	04 54 29.1	-0.4
PLAI	**Plampang**	**6.20**	**62**	P	Pn	04 54 39.6	+0.4
	0.2nm31nm,0.9s						
CNJI	**Cibinong**	**6.75**	**311**	P	Pn	04 54 47.1	+0.3

ISK ***29*** *05:00:39.6, 39.4N×25.84E, h10km, ML2.8/32*
AFAD ***29*** *05:00:39.4, 39.45N×25.83E, h7km±2km, ML2.8*
THE ***29*** *05:00:40.3, 39.7N±5.2°×2.6E±°, h7km±5km, M2.7/7, MLh2.7/7*
ATH ***29*** *05:00:41.1, 39.44N×25.79E, h27km±11km, ML2.7/5, Manual Solution by I.Dede First location: 2019/07/29 05:01:14, This location: 2020/10/17 07:25:20 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

ISC 29 05:00:40.1±0.9, 39.48N±0.02×25.83E±0.02, h12km±7km, n59, σ0°50/81, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.24**	**96**	Pg	**Pg**	**05 00 44.8**	**-0.3**
GPNR				Sg	**Sg**	**05 00 48.8**	**+0.3**
KOCA	**Canakkale, Ayv**	**0.24**	**85**	P	**Pg**	**05 00 45.0**	**-0.2**
KOCA				S	**Sg**	**05 00 48.4**	**-0.3**
KOCA				*i* IAML		05 00 49.0	
	comp=N,2μm,0.3s						
KOCA				*i* IAML		05 00 49.0	
	comp=E,3μm,0.5s						
SIGR	**SIGRI**	**0.27**	**175**	Pg	**Pg**	**05 00 45.6**	**-0.1**
SIGR				Sg	**Sg**	**05 00 49.9**	**+0.5**
SIGR	**SIGRI**	**0.27**	**175**	P	**Pg**	**05 00 45.5**	**-0.2**
SIGR				S	**Sg**	**05 00 49.4**	**0.0**
BOZC	**Bozcaada**	**0.40**	**26**	Pg	**Pg**	**05 00 47.7**	**-0.4**
BOZC				Sg	**Sg**	**05 00 53.9**	**+0.5**
BOZC	**Bozcaada**	**0.40**	**26**	P	**Pg**	**05 00 47.7**	**-0.4**
BOZC				S	**Sg**	**05 00 54.0**	**+0.5**
BOZC				*i* IAML		05 00 55.0	
	comp=E,894nm,0.3s						
BOZC				*i* IAML		05 00 57.0	
	comp=N,835nm,0.3s						
EZNE	**Ezine-Canakkal**	**0.50**	**56**	Pg	**Pg**	**05 00 49.8**	**-0.1**
EZNE				Sg	**Sg**	**05 00 56.8**	**+0.2**
EZN	**Ezine**	**0.52**	**48**	Pg	**Pg**	**05 00 49.8**	**-0.5**
EZN				Sg	**Sg**	**05 00 56.6**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**0.61**	**65**	P	**Pg**	**05 00 51.4**	**-0.7**
BAYC				*i* IAML		05 01 00.0	
	comp=N,594nm,0.2s						
BAYC				*i* IAML		05 01 00.0	
	comp=E,510nm,0.2s						
ECEA	**Canakkale, Ece**	**0.62**	**25**	P	**Pg**	**05 00 52.0**	**-0.3**
ECEA				S	**Sb**	**05 01 01.7**	**+0.1**
ECEA				*i* IAML		05 01 02.0	
	comp=N,779nm,0.5s						
ECEA				*i* IAML		05 01 05.0	
	comp=E,1μm,0.3s						
EFSA	**Agios Efstrati**	**0.65**	**276**	P	**Pg**	**05 00 53.3**	**+0.6**
EFSA				S	**Sg**	**05 01 02.1**	**+0.8**
GOAD	**anakkale-G¶**	**0.68**	**5**	P	**Pg**	**05 00 53.0**	**-0.4**
GOAD				*i* IAML		05 01 06.0	
	comp=N,1μm,0.2s						
GOAD				*i* IAML		05 01 06.0	
	comp=E,1μm,0.2s						
AYVA	**Ayvalik**	**0.69**	**104**	P	**Pg**	**05 00 53.0**	**-0.5**
AYVA				S	**Sg**	**05 01 02.7**	**+0.1**
AYVA				*i* IAML		05 01 05.0	
	comp=N,339nm,0.3s						
AYVA				*i* IAML		05 01 09.0	
	comp=E,257nm,0.2s						
CNKL	**anakkale-Mer**	**0.73**	**36**	P	**Pg**	**05 00 53.3**	**-0.9**
CNKL				*i* IAML		05 01 04.0	
	comp=N,389nm,0.4s						
CNKL				S	**Sb**	**05 01 04.7**	**+0.1**
CNKL				*i* IAML		05 01 07.0	
	comp=E,366nm,0.5s						
CAND	**Candarli**	**0.92**	**124**	Pg	**Pb**	**05 00 58.5**	**+0.5**
DKL	**Dikili**	**0.93**	**116**	Pg	**Pb**	**05 00 58.3**	**+0.2**
EAG2	**Marmaro, Chios**	**0.96**	**167**	P	**Pg**	**05 00 58.5**	**-0.1**
EAG2				S	**Sg**	**05 01 10.9**	**-0.2**
BUHA	**Balikesir, Bur**	**0.97**	**88**	P	**Pg**	**05 00 58.1**	**-0.7**
BUHA				S	**Sg**	**05 01 10.9**	**-0.5**
BUHA				*i* IAML		05 01 13.0	
	comp=E,333nm,0.3s						
BUHA				*i* IAML		05 01 14.0	
	comp=N,320nm,0.5s						
YAYO	**Edremit-Balk**	**0.97**	**82**	Pg	**Pg**	**05 00 58.9**	**+0.1**
YAYO				Sg	**Sg**	**05 01 11.4**	**-0.1**
IZMD	**zmir-Dikili-**	**0.99**	**120**	P	**Pg**	**05 00 58.9**	**-0.3**
IZMD				S	**Sn**	**05 01 13.7**	**-0.1**
IZMD				*i* IAML		05 01 23.0	
	comp=E,104nm,0.5s						
FOCM	**Foa**	**1.04**	**137**	Pg	**Pb**	**05 01 00.2**	**+0.2**
CANM	**Can-anakkale**	**1.08**	**60**	Pg	**Pg**	**05 01 00.4**	**-0.6**
CHOS	**Chios island**	**1.11**	**171**	Pn	**Pg**	**05 01 00.9**	**-0.5**
CHOS	**Chios island**	**1.11**	**171**	P	**Pg**	**05 01 00.9**	**-0.5**
CHOS				S	**Sn**	**05 01 17.4**	**+0.7**
CHOS	**Chios island**	**1.11**	**171**	P	**Pg**	**05 01 00.5**	**-0.9**
CHOS				S	**Sg**	**05 01 14.3**	**-1.4**
SKY1	**Skyros Island**	**1.14**	**240**	P	**Pb**	**05 01 00.8**	**-0.8**
ENZZ	**Sultanice-Enez**	**1.15**	**12**	Pn	**Pb**	**05 01 02.2**	**+0.3**
YENI	**Yenice-Canakka**	**1.18**	**67**	Pn	**Pb**	**05 01 01.8**	**-0.6**
CESE	**eme**	**1.21**	**162**	Pn	**Pb**	**05 01 02.9**	**+0.1**
URLA	**Izmir**	**1.27**	**152**	Pn	**Pb**	**05 01 03.0**	**-0.6**
ERIK	**Erikli-Kesan**	**1.30**	**24**	Pn	**Pn**	**05 01 03.6**	**-0.4**
SOMA	**Soma-Manisa**	**1.36**	**103**	Pn	**Pn**	**05 01 05.2**	**+0.3**
THAS	**Thassos island**	**1.41**	**323**	P	**Pn**	**05 01 05.3**	**-0.3**
THAS	**Thassos island**	**1.41**	**323**	P	**Pn**	**05 01 05.2**	**-0.3**
THAS				S	**Sn**	**05 01 23.5**	**-0.5**
ALN	**Alexandroupoli**	**1.43**	**7**	Pn	**Pn**	**05 01 06.0**	**+0.3**
ALN	**Alexandroupoli**	**1.43**	**7**	P	**Pn**	**05 01 05.7**	**-0.1**
ALN				S	**Sn**	**05 01 24.8**	**+0.4**
ALN	**Alexandroupoli**	**1.43**	**7**	P	**Pn**	**05 01 05.6**

IDC 29 05:43:45.3±3.0, 53°96N×86°43E, h0km, mbtmp2.6/2, ML2.1/2, Error ellipse: s-maj=23.6km s-min=14.5km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**270**	I	I	05 49 30.0	
	baz=91,slow=315,SNR=3.8						
ZALV	**Zalesovo Beam**	**0.95**	**270**	Pg	Pg	05 44 01.8	-1.8
	0.6nm,0.3s,baz=88,slow=20,SNR=6.2						
ZALV				Lg	Lg	05 44 18.4	
	0.7nm,0.3s,baz=87,slow=29,SNR=4.8						
KURBB	**Kurchatov Arra**	**5.89**	**239**	Pn	Pn	05 45 13.8	0.0
	baz=52,slow=14,SNR=2.1						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**7.65**	**202**	Pn	Pn	05 45 40.0	+2.1
	0.1nm,0.3s,baz=13,slow=15,SNR=1.8						
	0.2nm,0.4s						

*IDC **29** 05:46:33.0±0.4, 2°77S×100°39E, h0km, mb4.6/29, mbtmp4.6/31, ML4.1/2, MS4.0/44, Error ellipse: s-maj=15.0km s-min=8.9km az=55.0*

*BJI **29** 05:46:35.3, 2°95S×100°27E, h36km, mB4.9/23, mb5.0/64, Ms4.6/47, Ms7 4.4/47*

*MOS **29** 05:46:36.4±1.0, 2°65S×100°25E, h33km, mb5.1/52, MS4.1/5, Error ellipse: s-maj=9.5km s-min=4.8km az=112.1*

*DJA **29** 05:46:37.3±0.3, 3°S±3°×10°0E±°, h32km±3km, M4.8/26, mb5.1/17, mB5.2/11, MLv5.1/26, Mw(mB)4.6/11, MwMwp4.5/1, Mwp4.9/1*

*NEIC **29** 05:46:39.3±1.8, 2°73S±0°06×100°22E±0°07, h35km±1km, mb5.1/93, Error ellipse: s-maj=12.2km s-min=9.3km az=62.0*

ISC 29 05:46:38.2±0.5, 2°80S±0°04×100°17E±0°03, h34km±1km, h34km:pP-P,n380,σ1§41/368,mb4.9/125,MS4.1/63,6C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.16**	**282**	P	**Pn**	**05 46 43.5**	**+1.2**
PPSI				S	**Sb**	**05 46 48.1**	**-0.8**
SISI	**Saibi**	**1.81**	**324**	P	**Pn**	**05 47 06.2**	**-0.9**
SISI				S	**Sn**	**05 47 27.9**	**-1.0**
PPI	**Padang Panjang**	**2.33**	**6**	P	**Pn**	**05 47 14.6**	**+0.4**
KSI	**Kapahiang**	**2.57**	**109**	P	**Pb**	**05 47 20.5**	**-3.2**
MNAI	**Manna**	**3.19**	**119**		**Pn**	**05 47 26.5**	**+0.5**
MNAI	**Manna**	**3.19**	**119**	P	**Pn**	**05 47 26.5**	**+0.5**
BKNI	**Bangkinang**	**3.22**	**16**		**Pn**	**05 47 27.0**	**+0.6**
BKNI	**Bangkinang**	**3.22**	**16**	P	**Pn**	**05 47 27.5**	**+1.0**
BKNI	**Bangkinang**	**3.22**	**16**	P	**Pn**	**05 47 27.1**	**+0.6**
LHSI	**Lahat**	**3.51**	**107**	P	**Pn**	**05 47 33.3**	**+2.9**
MNSI	**Mandailing Nat**	**3.62**	**351**	P	**Pn**	**05 47 30.9**	**-1.0**
MDSI	**Maura Dua**	**4.34**	**113**	P	**Pn**	**05 47 43.4**	**+1.5**
LWLI	**Liwa**	**4.47**	**120**	P	**Pn**	**05 47 45.2**	**+1.5**
PMBI	**Palembang**	**4.60**	**92**	P	**Pn**	**05 47 46.5**	**+1.0**
GSI	**Gunungsitoli**	**4.83**	**328**		**Pn**	**05 47 47.1**	**-1.4**
GSI	**Gunungsitoli**	**4.83**	**328**	P	**Pn**	**05 47 46.1**	**-2.4**
GSI	**Gunungsitoli**	**4.83**	**328**	S	**Sn**	**05 48 40.3**	**-3.0**
GSI	**Gunungsitoli**	**4.83**	**328**	P	**Pn**	**05 47 47.2**	**-1.4**
DSRI	**Dabo**	**4.97**	**63**	P	**Pn**	**05 47 51.6**	**+1.0**
	1.4nm3μm129nm,0.8s						
KASI	**Kota Agung**	**5.10**	**122**	P	**Pn**	**05 47 52.5**	**+0.2**
	0.8nm4μm176nm,0.8s						
KLI	**Kotabumi**	**5.11**	**114**	P	**Pn**	**05 47 54.4**	**+1.9**
RPSI	**Rantau Prapat**	**5.59**	**347**		**Pn**	**05 47 57.7**	**-1.4**
RPSI	**Rantau Prapat**	**5.59**	**347**		**Pn**	**05 47 57.1**	**-2.0**
BLSI	**Bandar Lampung**	**5.67**	**117**	P	**Pn**	**05 48 01.4**	**+1.2**
	0.9nm129nm,0.4s						
PSI	**Prapat**	**5.70**	**347**	Pn	**Pn**	**05 47 57.1**	**-3.5**
	2.1nm,0.3s,baz=151,slow=11,SNR=9.4						
PSI				LR	LR	05 50 40.3	
	comp=Z,3μm,20.8s,baz=166,slow=44						
	18nm,0.7s						
PSI	**Prapat**	**5.70**	**347**	P	**Pn**	**05 47 58.2**	**-2.4**
TPRI	**Tanjung Pinang**	**5.71**	**50**	P	**Pn**	**05 48 00.9**	**+0.2**
	1.0nm258nm,0.7s						
MYKOM	**Kota Tinggi**	**5.86**	**39**		**Pn**	**05 48 03.3**	**+0.6**
MYKOM	**Kota Tinggi**	**5.86**	**39**	P	**Pn**	**05 48 03.6**	**+0.9**
SNSI	**Sinabang, Aceh**	**6.44**	**323**	P	**Pn**	**05 48 10.8**	**+0.1**
	0.9nm173nm,1.6s						
TSI	**Tuntungan**	**6.46**	**346**	P	**Pn**	**05 48 10.2**	**-0.7**
	1.4nm179nm,0.8s						
CGJI	**Cibinong**	**6.69**	**125**	P	**Pn**	**05 48 13.0**	**-1.1**
	0.7nm4μm251nm,0.9s						
IPM	**Ipoh**	**7.28**	**7**		**Pn**	**05 48 23.0**	**+0.7**
IPM	**Ipoh**	**7.28**	**7**	P	**Pn**	**05 48 23.4**	**+1.1**
TPI	**Tanjungpandan**	**7.48**	**90**	P	**Pn**	**05 48 26.6**	**+1.6**
DBJI	**Dramaga**	**7.55**	**120**	P	**Pn**	**05 48 26.9**	**+0.9**
	1.1nm128nm,0.7s						
MLSI	**Meulaboh, Aceh**	**7.96**	**332**	P	**Pn**	**05 48 30.6**	**-1.0**
	0.8nm61nm,0.5s						
KULM	**Kulim**	**8.05**	**3**		**Pn**	**05 48 32.3**	**-0.6**
KULM	**Kulim**	**8.05**	**3**	P	**Pn**	**05 48 32.2**	**-0.6**
CNJI	**Cibinong**	**8.26**	**123**	P	**Pn**	**05 48 33.9**	**-1.8**
	999nm77nm,0.7s						
LEM	**Lembang**	**8.44**	**119**	Pn	**Pn**	**05 48 36.4**	**-1.9**
	5.2nm,0.3s,baz=227,slow=13,SNR=11						
	25nm,0.6s						
LEM	**Lembang**	**8.44**	**119**	P	**Pn**	**05 48 39.2**	**+0.9**
	141nm,0.8s						
LHMI	**Lhok Sumawe**	**8.59**	**338**	Pn	**Pn**	**05 48 38.2**	**-2.2**
CMJI	**Cimerak**	**9.62**	**121**	P	**Pn**	**05 48 52.4**	**-2.0**
COCO	**West Island**	**9.90**	**199**	Pn	**Pn**	**05 48 58.1**	**-0.1**
COCO	**West Island**	**9.90**	**199**	P	**Pn**	**05 48 58.1**	**-0.1**
SMRI	**Semarang**	**11.07**	**113**	Pn	**Pn**	**05 49 14.4**	**0.0**
SMRI	**Semarang**	**11.07**	**113**	P	**Pn**	**05 49 17.2**	**+2.9**
UGM	**Wanagama**	**11.49**	**117**	Pn	**Pn**	**05 49 19.6**	**-0.5**
SBUM	**Sibu**	**13.13**	**67**		**Pn**	**05 49 45.7**	**+3.2**
SBUM	**Sibu**	**13.13**	**67**	P	**Pn**	**05 49 45.5**	**+3.1**
JAGI	**Jajag, Banyuwa**	**15.01**	**113**	Pn	**Pn**	**05 50 06.4**	**-1.7**
UBPT	**Khong Chiam**	**18.71**	**16**	P	**P**	**05 50 52.1**	**-1.9**
UBPT	**Khong Chiam**	**18.71**	**16**	P	**P**	**05 50 51.9**	**-2.1**
KAPI	**Kappang**	**19.66**	**97**	P	**P**	**05 51 03.8**	**-0.7**
KAPI	**Kappang**	**19.66**	**97**	P	**P**	**05 51 05.1**	**+0.7**
	43nm,0.9s,baz=252,slow=10,SNR=12						
KAPI	**Kappang**	**19.66**	**97**	P	**Pn**	**05 51 06.5**	**+0.4**
KAPI	**Kappang**	**19.66**	**97**	*i* P	**Pn**	**05 51 05.7**	**-0.4**
MYLDM	**Lahad Datu**	**19.96**	**67**	P	**P**	**05 51 06.6**	**-1.1**
MYLDM				IAmb	IAmb	05 51 14.4	
	comp=Z,62nm,1.0s						
MYLDM	**Lahad Datu**	**19.96**	**67**	P	**Pn**	**05 51 09.8**	**+0.3**
TOLI2	**Tolitoli**	**20.97**	**80**		**P**	**05 51 18.4**	**-0.4**
TOLI2				IAmb	IAmb	05 51 23.7	
	comp=Z,84nm,1.1s						
TOLI2	**Tolitoli**	**20.97**	**80**	P	**P**	**05 51 19.2**	**+0.5**
CM31	**Chiang Mai Arr**	**21.15**	**357**	P	**P**	**05 51 18.7**	**-1.9**
CMAR	**Chiang Mai Arr**	**21.15**	**357**	P	**P**	**05 51 18.9**	**-1.6**
CMAR	**Chiang Mai Arr**	**21.15**	**357**	P	**P**	**05 51 17.9**	**-2.7**
	comp=Z,7.9nm,0.6s,baz=187,slow=10,SNR=31						
CMAR				PcP	**PcP**	**05 55 26.9**	**+1.0**
	comp=Z,1.8nm,0.4s,baz=178,slow=3.1,SNR=8.5						
CMAR				LR	LR	05 59 45.6	
	comp=Z,499nm,20.4s,baz=175,slow=38						
	comp=Z,7.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**21.15**	**357**	*i* P	**P**	**05 51 18.7**	**-1.9**
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CHTO	**Chiang Mai**	**21.51**	**357**		**P**	**05 51 22.9**	**-1.5**
CHTO	**Chiang Mai**	**21.51**	**357**	P	**P**	**05 51 22.5**	**-1.9**
CHTO	**Chiang Mai**	**21.51**	**357**	P	**P**	**05 51 22.9**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PALK	**Pallekele**	**21.85**	**297**	P	**P**	**05 51 28.2**	**+0.1**
	comp=Z,7.8nm,0.9s,baz=94,slow=13,SNR=1.8						
PALK				LR	LR	05 58 44.8	
	comp=Z,401nm,20.1s,baz=118,slow=33						
	comp=Z,7.8nm,0.9s						
QIZ	**Qiongzhong**	**23.68**	**23**	P	**P**	**05 51 45.7**	**-1.3**
QIZ	**Qiongzhong**	**23.68**	**23**	P	**P**	**05 51 45.8**	**-1.3**
QIZ				S	**S**	**05 56 03.8**	**+3.9**
QIZ				pmax	pmax		
	comp=Z,40nm,0.8s						
QIZ				LR	LR		
	comp=Z,340nm,15.5s						
QIZ				LR	LR		
	comp=Z,300nm,13.7s						
QIZ				LR	LR		
	comp=Z,1μm,13.7s						
QIZ	**Qiongzhong**	**23.68**	**23**	P	**P**	**05 51 45.7**	**-1.3**
SLVN	**Son La**	**24.26**	**9**	P	**P**	**05 51 51.9**	**-0.5**
SLVN				IAmb	IAmb	05 51 53.0	
	comp=Z,26nm,0.8s						
SLVN	**Son La**	**24.26**	**9**	P	**P**	**05 51 51.5**	**-0.9**
SOEI	**Soe**	**24.92**	**107**	P	**P**	**05 51 58.3**	**-0.3**
SOEI				IAmb	IAmb	05 52 13.1	
	comp=Z,21nm,0.7s						
TGY	**Tagaytay City**	**26.57**	**50**	LR	LR	06 04 15.3	
	comp=Z,311nm,18.6s,baz=182,slow=40						
BRDH	**Bariadhala**	**26.65**	**342**	LR	LR	06 06 05.4	
	comp=Z,418nm,19.8s,baz=162,slow=44						
PSA00	**Pilbara Seismi**	**26.73**	**136**	P	**P**	**05 52 14.9**	**+0.1**
DAV	**Davao City (W)**	**27.19**	**69**	LR	LR	06 04 27.2	
	comp=Z,402nm,20.2s,baz=192,slow=40						
H08S2	**Diego Garcia H**	**27.97**	**259**	T	T	06 21 23.9	
	baz=82,slow=75,SNR=8811						
H08S3	**Diego Garcia H**	**27.97**	**259**	T	T	06 21 24.4	
	baz=82,slow=75						
H08S1	**Diego Carcia H**	**27.98**	**259**	T	T	06 21 25.3	
	baz=82,slow=75						
FITZ	**Fitzroy Crossi**	**29.24**	**123**	P	**P**	**05 52 37.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**29.24**	**123**	LR	LR	06 06 04.1	
	comp=Z,321nm,19.7s,baz=319,slow=40						
SHL	**Shillong**	**29.31**	**345**	P	**P**	**05 52 38.0**	**0.0**
SHL	**Shillong**	**29.31**	**345**	P	**P**	**05 52 38.0**	**0.0**
SHL				pmax	pmax		
	comp=Z,19nm,0.9s						
MEEK	**Meekatharra**	**29.58**	**145**	P	**P**	**05 52 41.2**	**+1.0**
KNRA	**Kununurra**	**30.93**	**116**	P	**P**	**05 52 50.9**	**-1.3**
FAKI	**Fak Fak**	**32.04**	**91**	P	**P**	**05 53 01.6**	**-0.5**
TPUB	**Ta-pu**	**32.72**	**36**	P	**P**	**05 53 07.8**	**-0.1**
TPUB				IAmb	IAmb	05 53 09.6	
	comp=Z,64nm,1.4s						
CNSH	**ChangSha**	**33.16**	**21**	P	**P**	**05 53 11.5**	**-0.1**
CNSH				S	**S**	**05 58 34.3**	**+5.3**
CNSH				pmax	pmax		
	comp=Z,18nm,1.3s						
CNSH				LR	LR		
	comp=Z,800nm,17.2s						
CNSH				LR	LR		
	comp=Z,370nm,17.9s						
CNSH				LR	LR		
	comp=Z,1μm,17.0s						
EVN	**Everest**	**33.16**	**338**	P	**P**	**05 53 10.0**	**-2.5**
EVN				IAmb	IAmb	05 53 29.9	
	comp=Z,17nm,0.8s						
SSLB	**Suanglung**	**33.28**	**36**	P	**P**	**05 53 12.1**	**-0.8**
SSLB				IAmb	IAmb	05 54 20.0	
	comp=Z,23nm,0.9s						
LSA	**Lhasa**	**33.44**	**346**	P	**P**	**05 53 13.4**	**-1.2**
LSA				IAmb	IAmb	05 53 18.1	
	comp=Z,26nm,0.7s						
LSA	**Lhasa**	**33.44**	**346**	P	**P**	**05 53 13.4**	**-1.2**
LSA				pmax	pmax		
	comp=Z,26nm,0.7s						
NWAO	**Narrogin (SRO)**	**33.98**	**154**	P	**P**	**05 53 19.1**	**+0.3**
NWAO				IAmb	IAmb	05 53 20.4	
	comp=Z,42nm,1.1s						
NWAO	**Narrogin (SRO)**	**33.98**	**154**	LR	LR	06 06 01.9	
	comp=Z,428nm,20.5s,baz=311,slow=34						
NWAO	**Narrogin (SRO)**	**33.98**	**154**	P	**P**	**05 53 19.3**	**+0.5**
NWAO	**Narrogin (SRO)**	**33.98**	**154**	P	**P**	**05 53 19.1**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,42nm,1.2s						
ENH	**Enshi**	**34.07**	**14**	P	**P**	**05 53 18.1**	**-1.5**
ENH				IAmb	IAmb	05 53 19.3	
	comp=Z,23nm,1.1s						
ENH	**Enshi**	**34.07**	**14**	P	**P**	**05 53 18.4**	**-1.2**
H01W3	**Cape Leeuwin H**	**34.47**	**159**	T	T	06 29 34.4	
	baz=335,slow=76,SNR=31						
H01W2	**Cape Leeuwin H**	**34.48**	**159**	T	T	06 29 33.2	
	baz=335,slow=76,SNR=34						
H01W1	**Cape Leeuwin H**	**34.48**	**159**	T	T	06 29 56.1	
	baz=335,slow=76,SNR=46						
WHN	**Wuhan**	**35.81**	**21**	P	**P**	**05 53 34.3**	**-0.2**
WHN				pmax	pmax		
	comp=Z,62nm,1.1s						
WB0	**Warramunga Arr**	**37.43**	**119**		**P**	**05 53 47.9**	**-0.7**
WB0				IAmb	IAmb	05 54 07.7	
	comp=Z,15nm,1.0s						
WRA	**Warramunga Arr**	**37.45**	**120**	P	**P**	**05 53 47.8**	**-1.0**
WRA	**Warramunga Arr**	**37.45**	**120**	P	**P**	**05 53 47.9**	**-1.0**
	comp=Z,3.7nm,0.6s,baz=302,slow=9.0,SNR=29						
WRA				PcP	**PcP**	**05 56 07.5**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=302,slow=2.3,SNR=4.7						
WRA				S	**S**	**05 59 32.5**	**-2.9**
	comp=Z,4.1nm,1.1s,baz=294,slow=16,SNR=9.4						
WRA				LR	LR	06 11 37.3	
	comp=Z,152nm,19.2s,baz=238,slow=40						
	comp=Z,3.7nm,0.6s						
WRAB	**Tennant Creek**	**37.46**	**120**	P	**P**	**05 53 48.3**	**-0.5**
WRAB	**Tennant Creek**	**37.46**	**120**	*i* P	**P**	**05 53 47.8**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,11nm,1.4s						
XAN	**Xi'an**	**37.56**	**12**	P	**P**	**05 53 48.0**	**-1.4**
XAN				pP	pP	05 53 58.0	-1.4
XAN				pmax	pmax		
	comp=Z,32nm,0.8s						
XAN				LR	LR		
	comp=Z,710nm,15.8s						
XAN				LR	LR		
	comp=Z,410nm,16.5s						
XAN				LR	LR		
	comp=Z,970nm,16.5s						
WR8	**Warramunga Arr**	**37.60**	**120**		**P**	**05 53 49.5**	**-0.5**
WR8				IAmb	IAmb	05 54 09.4	
	comp=Z,16nm,0.9s						
AS31	**Alice Springs**	**38.66**	**125**		**P**	**05 53 59.0**	**0.0**
ASAR	**Alice Springs**	**38.66**	**125**	P	**P**	**05 53 59.1**	**+0.2**
ASAR	**Alice Springs**	**38.66**	**125**	P	**P**	**05 53 59.0**	**0.0**
	comp=Z,8.0nm,0.9s,baz=302,slow=8.0,SNR=59						
ASAR				PcP	**PcP**	**05 56 11.3**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=314,slow=2.8,SNR=7.3						
ASAR				S	**S**	**05 59 52.1**	**-1.5**
	comp=Z,1.7nm,0.8s,baz=296,slow=15,SNR=10.0						
ASAR				LR	LR	06 11 46.9	
	comp=Z,327nm,20.0s,baz=308,slow=39						
	comp=Z,8.0nm,0.9s						
LZH	**Lanzhou**	**38.83**	**5**	*e*P	**P**	**05 53 59.8**	**-0.5**
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				LR	LR		
	comp=Z,170nm,17.9s						
LZH				LR	LR		
	comp=Z,660nm,18.7s						
LZH				LR	LR		
	comp=Z,580nm,17.9s						
LYN	**LuoYang**	**38.91**	**16**	⇑P	**P**	**05 54 00.5**	**-0.3**
LYN				S	**S**	**06 00 01.8**	**+4.9**
LYN				LR	LR		
	comp=Z,610nm,15.1s						
LYN				LR	LR		
	comp=Z,230nm,16.5s						
LYN				LR	LR		
	comp=Z,700nm,16.5s						
NJ2	**Nanjing**	**38.94**	**26**	*e*P	**P**	**05 54 04.5**	**+3.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
GOMU	**GeErMu**	**39.11**	**353**	P	**P**	**05 54 03.0**	**+0.1**
GOMU				pP	sP	05 54 13.5	-3.5
GOMU				S	**S**	**06 00 05.3**	**+4.6**
GOMU				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GOMU				LR	LR		
	comp=Z,170nm,15.9s						
GOMU				LR	LR		
	comp=Z,140nm,15.8s						
GOMU				LR	LR		
	comp=Z,160nm,15.1s						
SSE	**Sheshan**	**39.20**	**29**	P	**P**	**05 54 04.0**	**+0.7**
SSE				S	**S**	**06 00 02.3**	**+0.9**
SSE				pmax	pmax		
	comp=Z,14nm,0.7s						
SSE				pmax	pmax		
	comp=Z,68nm,4.6s						
SSE				LR	LR		
	comp=Z,120nm,18.4s						
SSE				LR	LR		
	comp=Z,180nm,18.2s						
TIY	**Taiyuan**	**41.88**	**15**	*e*P	**P**	**05 54 25.3**	**-0.1**
TIY				S	**S**	**06 00 40.5**	**-0.9**
TIY				pmax	pmax		
	comp=Z,17nm,0.5s						
TIY				LR	LR		
	comp=Z,250nm,17.2s						
TIY				LR	LR		
	comp=Z,180nm,17.2s						
TIY				LR	LR		
	comp=Z,240nm,17.2s						
TIA	**Tai'an**	**41.91**	**21**	P	**P**	**05 54 24.8**	**-0.8**
TIA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TIA				LR	LR		
	comp=Z,420nm,21.6s						
TIA				LR	LR		
	comp=Z,380nm,17.7s						
TIA				LR	LR		
	comp=Z,470nm,21.6s						
GTA	**Gaotai**	**42.00**	**360**	P	**P**	**05 54 26.5**	**+0.1**
GTA				sP	sP	05 54 40.5	0.0
GTA				pmax	pmax		
	comp=Z,16nm,1.0s						
GTA				LR	LR		
	comp=Z,310nm,18.5s						
GTA				LR	LR		
	comp=Z,230nm,14.9s						
GTA				LR	LR		
	comp=Z,400nm,15.3s						
HNS	**HongShan**	**42.21**	**17**	⇑P	**P**	**05 54 27.8**	**-0.2**
HNS				S	**S**	**06 00 43.0**	**-3.1**
HNS				pmax	pmax		
	comp=Z,26nm,0.8s						
HNS				LR	LR		
	comp=Z,260nm,18.2s						
HNS				LR	LR		
	comp=Z,200nm,17.4s						
HNS				LR	LR		
	comp=Z,290nm,18.6s						
BTO	**Baotou**	**44.12**	**11**	*e*P	**P**	**05 54 44.5**	**+0.9**
BTO				pP	**sP**	**05 54 54.5**	**-3.0**
BTO				sP	**pP**	**05 54 58.5**	**+4.9**
BTO				PP	**PcP**	**05 56 29.0**	**+0.7**
BTO				S	**S**	**06 01 15.8**	**+1.5**
BTO				sS	**sS**	**06 01 35.0**	**+5.0**
BTO				SS	**SS**	**06 04 26.3**	**-6.5**
BTO				pmax	pmax		
	comp=Z,27nm,1.5s						
BTO				pmax	pmax		
	comp=Z,250nm,8.3s						
BTO				LR	LR		
	comp=Z,1μm,19.7s						
BTO				LR	LR		
	comp=Z,1μm,17.9s						
BTO				LR	LR		
	comp=Z,1μm,17.1s						
NIL	**Nilore**	**44.26**	**327**	P	**P**	**05 54 44.8**	**+0.1**
NIL				IAmb	IAmb	05 54 54.5	
	comp=Z,30nm,0.9s						
NIL	**Nilore**	**44.26**	**327**	P	**P**	**05 54 44.8**	**+0.1**
NIL				pmax	pmax		
	comp=Z,30nm,1.0s						
HHC	**Hu-ho-hao-te**	**44.67**	**12**	*e*P	**P**	**05 54 48.5**	**+0.6**
HHC				pP	sP	05 54 59.0	-2.9
HHC				S	**S**	**06 01 23.0**	**+0.8**
HHC				pmax	pmax		
	comp=Z,30nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,5.2s						
HHC				LR	LR		
	comp=Z,320nm,16.8s						
HHC				LR	LR		
	comp=Z,250nm,16.5s						
HHC				LR	LR		
	comp=Z,370nm,16.8s						
BJT	**Baijiatuan**	**45.06**	**17**	P	**P**	**05 54 51.1**	**+0.1**
BJT				IAmb	IAmb	05 54 52.1	
	comp=Z,68nm,1.7s						
BJT	**Baijiatuan**	**45.06**	**17**	P	**P**	**05 54 51.3**	**+0.4**
BJT	**Baijiatuan**	**45.06**	**17**	P	**P**	**05 54 51.1**	**+0.1**
BJT				pmax	pmax		
	comp=Z,69nm,1.7s						
BJT	**Baijiatuan**	**45.06**	**17**	P	**P**	**05 54 50.9**	**-0.1**
BJT				pP	**sP**	**05 55 01.1**	**-4.0**
INKA	**Innaminka**	**45.99**	**127**	P	**P**	**05 54 58.8**	**+0.3**
JNU	**Nakatsue**	**46.03**	**37**	P	**P**	**05 54 58.0**	**-0.8**
JNU				IAmb	IAmb	05 54 59.3	
	comp=Z,23nm,1.0s						
JNU	**Nakatsue**	**46.03**	**37**	LR	LR	06 15 01.2	
	comp=Z,211nm,20.7s,baz=208,slow=37						
PMG	**Port Moresby**	**47.15**	**100**	LR	LR	06 17 20.8	
	comp=Z,139nm,19.8s,baz=289,slow=39						
GUMO	**Guam**	**47.23**	**69**	LR	LR	06 14 54.4	
	comp=Z,67nm,20.5s,baz=261,slow=36						
KSAR	**Wonju Array Be**	**47.59**	**30**	P	**P**	**05 55 10.9**	**+0.1**
KSAR	**Wonju Array Be**	**47.59**	**30**	P	**P**	**05 55 11.0**	**+0.1**
KSH	**Kashi**	**47.62**	**335**	P	**P**	**05 55 10.5**	**-0.7**
KSH				pP	sP	05 55 22.3	-3.1
KSH				pmax	pmax		
	comp=Z,12nm,1.0s						
KSRS	**Korea Array**	**47.62**	**30**	P	**P**	**05 55 10.1**	**-0.9**
	comp=Z,5.3nm,0.8s,baz=225,slow=8.2,SNR=16						
	comp=Z,5.3nm,0.8s						
WMQ	**Urumqi**	**47.74**	**348**	*e*P	**P**	**05 55 14.0**	**+2.0**
WMQ				LR	LR		
	comp=Z,150nm,24.1s						
JMN	**Monobe**	**48.27**	**38**		**P**	**05 55 16.0**	**-0.2**
JMN				IAmb	IAmb	05 55 17.0	
	comp=Z,22nm,1.0s						
JMN	**Monobe**	**48.27**	**38**	P	**P**	**05 55 15.8**	**-0.4**
STKA	**Stephens Creek**	**48.50**	**131**	P	**P**	**05 55 18.6**	**+0.6**
STKA	**Stephens Creek**	**48.50**	**131**	P	**P**	**05 55 18.4**	**+0.4**
	comp=Z,14nm,0.8s,baz=307,slow=9.0,SNR=24						
STKA				LR	LR	06 17 06.0	
	comp=Z,290nm,20.3s,baz=272,slow=38						
	comp=Z,14nm,0.8s						
STKA	**Stephens Creek**	**48.50**	**131**	*i* P	**P**	**05 55 18.3**	**+0.2**
XLT	**XiLinHaoTe**	**48.63**	**15**	*e*P	**P**	**05 55 19.0**	**+0.1**
XLT				pmax	pmax		
	comp=Z,30nm,0.9s						
XLT				LR	LR		
	comp=Z,21nm,14.0s						
XLT				LR	LR		
	comp=Z,210nm,16.9s						
XLT				LR	LR		
	comp=Z,280nm,16.7s						
KDJ	**Kajisay**	**49.34**	**337**		**P**	**05 55 25.7**	**+1.2**
KDJ	**Kajisay**	**49.34**	**337**	P	**P**	**05 55 25.7**	**+1.2**
KDJ				pmax	pmax		
	comp=Z,31nm,0.9s						
SHLS	**Shalkode**	**49.41**	**340**	*e*P	**P**	**05 55 23.1**	**-1.8**
SHLS				pmax	pmax		
	comp=Z,7.0nm,0.5s						
SHLS	**Shalkode**	**49.41**	**340**	*e*P	**P**	**05 55 23.1**	**-1.8**
	comp=Z,6.5nm,0.5s						
UZB	**Uzynbulak**	**49.55**	**340**	*e*P	**P**	**05 55 25.3**	**-0.7**
UZB				pmax	pmax		
	comp=Z,6.0nm,0.6s						
UZB	**Uzynbulak**	**49.55**	**340**	*e*P	**P**	**05 55 25.4**	**-0.7**
	comp=Z,5.9nm,0.6s						
SATY	**Saty**	**49.69**	**339**	*e*P	**P**	**05 55 26.4**	**-0.7**
SATY				pm

comp=Z,18nm,1.3s
AAK Ala-Archa 50.83 336 LR LR 06 21 09.4
comp=Z,78nm,19.2s,baz=172,slow=41
AAK Ala-Archa 50.83 336 *i* P **P** **05 55 34.5 -1.2**
AAK pmax pmax
comp=Z,6.0nm,0.9s
KUU Kurty 51.16 338 *e*P **P** **05 55 37.6 -0.5**
KUU pmax pmax
comp=Z,11nm,1.1s
KUU Kurty 51.16 338 *e*P **P** **05 55 37.6 -0.5**
comp=Z,11nm,1.1s
TDK Taldyqorghan 51.39 340 *e*P **P** **05 55 39.2 -0.6**
TDK pmax pmax
comp=Z,7.0nm,0.6s
TDK Taldyqorghan 51.39 340 *e*P **P** **05 55 39.2 -0.6**
comp=Z,7.5nm,0.6s
SGDS Sogindy 51.45 336 *e*P **P** **05 55 39.6 -0.7**
CN2 Changchun 51.65 23 P **P** **05 55 40.5 -1.1**
CN2 pmax pmax
comp=Z,30nm,0.7s
JGF Kuroka 51.66 39 P **P** **05 55 40.3 -1.7**
ZSN Zaisan 51.81 347 *e*P **P** **05 55 42.3 -0.5**
ZSN pmax pmax
comp=Z,5.0nm,0.7s
ZSN Zaisan 51.81 347 *e*P **P** **05 55 42.4 -0.5**
comp=Z,5.0nm,0.7s
MK31 Makanchi Array 51.83 344 *i* P **P** **05 55 42.8 -0.2**
MKAR Makanchi Array 51.83 344 P **P** **05 55 43.2 +0.2**
comp=Z,12nm,0.6s,baz=150,slow=7.7,SNR=89
MKAR LR LR 06 22 40.3
comp=Z,74nm,19.9s,baz=174,slow=42
comp=Z,12nm,0.6s
MAKZ Makanchi 51.93 344 P **P** **05 55 43.7 -0.1**
MAKZ IAmb IAmb 05 55 44.8
comp=Z,12nm,1.0s
MAKZ Makanchi 51.93 344 P **P** **05 55 43.7 -0.1**
MAKZ pmax pmax
comp=Z,12nm,1.0s
MAKZ Makanchi 51.93 344 P **P** **05 55 44.0 +0.2**
IUG luzhnay 52.41 332 *e*P **P** **05 55 46.8 -0.7**
IUG pmax pmax
comp=Z,12nm,1.1s
IUG luzhnay 52.41 332 *e*P **P** **05 55 46.8 -0.7**
comp=Z,12nm,1.1s
CHM Chimkent 52.74 332 *e*P **P** **05 55 49.4 -0.5**
CHM Chimkent 52.74 332 *e*P **P** **05 55 49.4 -0.5**
MAJO Matsushiro 52.79 39 P **P** **05 55 49.0 -1.2**
MAJO Matsushiro 52.79 39 P **P** **05 55 49.7 -0.6**
MAJO Matsushiro 52.79 39 *i* P **P** **05 55 48.5 -1.8**
MAJO pmax pmax
comp=Z,11nm,1.1s
MJB9 Matsu-Tunnel 52.79 39 P **P** **05 55 49.1 -1.2**
MJAR Matsushiro Arr 52.79 39 **P** **05 55 49.0 -1.3**
MJAR Matsushiro Arr 52.79 39 P **P** **05 55 48.3 -2.0**
comp=Z,8.1nm,1.0s,baz=217,slow=7.3,SNR=18
MJAR LR LR 06 19 50.2
comp=Z,113nm,18.9s,baz=234,slow=38
comp=Z,8.1nm,1.0s
MJAR Matsushiro Arr 52.79 39 P **P** **05 55 49.0 -1.3**
MJAR pmax pmax
comp=Z,11nm,1.2s
KK31 Karatay Array 52.93 333 P **P** **05 55 50.5 -0.8**
KK31 Karatay Array 52.93 333 P **P** **05 55 50.5 -0.8**
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 52.93 333 P **P** **05 55 51.0 -0.3**
KKAR Karatay Array 52.93 333 P **P** **05 55 51.0 -0.3**
BTLS Baital 53.01 337 *e*P **P** **05 55 51.3 -0.5**
BTLS Baital 53.01 337 *e*P **P** **05 55 51.3 -0.5**
BRLS Boroldaу 53.19 332 *e*P **P** **05 55 51.6 -1.5**
BRLS Boroldaу 53.19 332 *e*P **P** **05 55 51.6 -1.5**
EIDS Eidsvold 53.82 120 P **P** **05 55 58.1 0.0**
EIDS IAmb IAmb 05 56 17.9
comp=Z,37nm,1.7s
MDJ Mudanjiang 54.03 26 P **P** **05 55 59.0 -0.2**
MDJ IAmb IAmb 05 55 59.8
comp=Z,12nm,0.9s
MDJ Mudanjiang 54.03 26 P **P** **05 55 59.0 -0.2**
MDJ pmax pmax
comp=Z,17nm,0.9s
MDJ Mudanjiang 54.03 26 P **P** **05 55 59.3 +0.1**
BNX BinXian 54.03 23 ⇓P **P** **05 55 59.0 -0.2**
BNX pP **pP** **05 56 08.3 -1.2**
BNX S **S** **06 03 36.0 +3.0**
BNX sS **sS** **06 03 51.5 +2.9**
BNX pmax pmax
comp=Z,17nm,0.5s
BNX pmax pmax
comp=Z,85nm,5.7s
BNX LR LR
comp=Z,310nm,16.7s
BNX LR LR
comp=Z,94nm,17.2s
BNX LR LR
comp=Z,260nm,15.5s
USA0B Ussuriysk Arra 54.78 28 **P** **05 56 04.8 +0.1**
USA0B Ussuriysk Arra 54.78 28 *i* P **P** **05 56 02.4 -2.3**
USRK Ussuriysk Ar. 54.78 28 P **P** **05 56 03.4 -1.2**
comp=Z,33nm,0.8s,baz=214,slow=5.8,SNR=33
USRK LR LR 06 21 57.6
comp=Z,187nm,19.1s,baz=224,slow=39
comp=Z,33nm,0.8s
JMM Marumori 55.23 39 P **P** **05 56 07.1 -1.0**
KURBB Kurchatov Arra 56.35 344 P **P** **05 56 15.3 -0.5**
comp=Z,11nm,0.9s,baz=162,slow=6.7,SNR=61
KURBB LR LR 06 23 24.8
comp=Z,153nm,21.7s,baz=168,slow=39
comp=Z,11nm,0.9s
KURK Kurchatov 56.41 344 **P** **05 56 16.3 0.0**
KURK IAmb IAmb 05 56 17.3
comp=Z,21nm,0.9s
KURK Kurchatov 56.41 344 *i* P **P** **05 56 15.5 -0.8**
KURK pmax pmax
comp=Z,28nm,1.0s
KURK Kurchatov 56.41 344 P **P** **05 56 16.3 0.0**
HEH HeiHe 57.80 20 *e*P **P** **05 56 26.3 +0.2**
HEH pmax pmax
comp=Z,25nm,1.3s
HEH LR LR
comp=Z,230nm,20.2s
HEH LR LR
comp=Z,190nm,17.8s
HEH LR LR
comp=Z,230nm,22.8s
ZAA0 Zalesovo Array 57.98 349 **P** **05 56 26.9 -0.4**
ZALV Zalesovo Beam 57.98 349 P **P** **05 56 26.9 -0.3**
comp=Z,20nm,0.8s,baz=171,slow=6.8,SNR=34
comp=Z,20nm,0.8s
ZALV Zalesovo Beam 57.98 349 *i* P **P** **05 56 27.0 -0.3**
ZALV pmax pmax
comp=Z,20nm,0.8s
KLR Kul'dur 58.59 24 P **P** **05 56 31.6 0.0**
RAYN Ar Rayn 59.27 299 P **P** **05 56 36.8 -0.1**
RAYN IAmb IAmb 05 56 47.4
comp=Z,7.9nm,0.8s
RAYN Ar Rayn 59.27 299 P **P** **05 56 36.8 -0.1**
RAYN pmax pmax
comp=Z,8.0nm,0.8s
H04N2 CROZET ISLANDS 60.26 217 T T 07 01 55.2
baz=59,slow=75
H04N1 CROZET ISLANDS 60.27 217 T T 07 01 57.3
baz=59,slow=75
H04N3 CROZET ISLANDS 60.28 217 T T 07 01 56.0
baz=59,slow=75
H04S1 CROZET ISLANDS 60.54 216 T T 07 02 20.5
baz=58,slow=76,SNR=2251
H04S3 CROZET ISLANDS 60.55 216 T T 07 02 20.2
baz=58,slow=76,SNR=3091
H04S2 CROZET ISLANDS 60.56 216 T T 07 02 22.4
baz=58,slow=76,SNR=2512
BVAR Borovoye Array 60.98 340 P **P** **05 56 47.3 -0.8**
comp=Z,2.1nm,0.4s,baz=134,slow=8.4,SNR=12
BVAR LR LR 06 26 03.3
comp=Z,99nm,21.9s,baz=137,slow=39
comp=Z,2.1nm,0.4s
BRVK Borovoye 61.05 340 P **P** **05 56 47.8 -0.7**
BRVK IAmb IAmb 05 56 58.2
comp=Z,8.9nm,0.9s
BRVK Borovoye 61.05 340 *i* P **P** **05 56 48.0 -0.5**
BRVK pmax pmax
comp=Z,11nm,1.0s
BOD Bodaibo 61.44 8 *e*P **P** **05 56 50.1 -0.9**
BOD pmax pmax
comp=Z,28nm,1.1s
YSS Yuzhno-Sakhali 62.07 32 P **P** **05 56 55.3 -0.2**
YSS Yuzhno-Sakhali 62.07 32 *e*P **P** **05 56 55.2 -0.2**
YSS *e*S **S** **06 05 19.1 +1.1**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS pmax pmax
comp=Z,100nm,3.5s
AB31 Akbulak array 62.41 331 **P** **05 56 57.3 -0.5**
ABKAR Akbulak array 62.41 331 P **P** **05 56 57.2 -0.6**
AKTO Aktyubinsk 64.13 332 LR LR 06 27 34.2
comp=Z,67nm,19.6s,baz=248,slow=38
TYV Tymovskoe 64.58 28 *e*P **P** **05 57 12.5 +0.5**
TYV pmax pmax
comp=Z,300nm,5.5s
TYV pmax pmax
comp=Z,13nm,1.4s
AKT Akhty 64.81 319 *e*P **P** **05 57 13.4 -0.5**
AKT *e* 05 57 47.6
AKT pmax pmax
comp=Z,38nm,1.4s
LODK Lodwar 65.06 275 P **P** **05 57 16.7 +0.6**
GNI Garni 66.21 316 *i* P **P** **05 57 21.7 -1.4**
GNI pmax pmax
comp=Z,33nm,1.6s
DZM Mont Dzumac 67.00 113 P **P** **05 57 28.4 +0.1**
DZM IAmb IAmb 05 59 18.1
comp=Z,27nm,1.7s
DZM Mont Dzumac 67.00 113 *e*LR LR 06 17 43.9
comp=Z,138nm,20.8s
SVE Sverdlovsk 67.48 338 *e*P P 05 57 38.7 +8.1
SVE pmax pmax
comp=Z,44nm,1.4s
ARTI Arti 68.04 336 P **P** **05 57 33.8 -0.3**
ARTI IAmb IAmb 05 57 41.1
comp=Z,14nm,0.6s
ARTI Arti 68.04 336 LR LR 06 29 59.7
comp=Z,110nm,20.8s,baz=108,slow=38
ARTI Arti 68.04 336*c i*P **P** **05 57 33.4 -0.7**
ARTI 05 57 56.7
ARTI 05 59 59.4
ARTI S **S** **06 06 33.8 +2.7**
ARTI SS **SS** **06 10 50.7 -3.3**
ARTI pmax pmax
comp=Z,5.0nm,0.7s
YAK Yakutsk 68.47 14 LR LR 06 30 52.2
comp=Z,239nm,18.0s,baz=208,slow=39
YAK Yakutsk 68.47 14 *e*P **P** **05 57 36.0 -0.6**
YAK *e**PP **pP** **05 57 46.0 -1.2**
YAK *e* 05 58 01.1
YAK *e* 06 00 05.3
YAK *e*PPP PPP 06 01 45.5
YAK *e*S **S** **06 06 36.3 +0.4**
YAK *e**SS **sS** **06 06 52.9 +0.6**
YAK *e* 06 07 33.1
YAK pmax pmax
comp=Z,57nm,1.4s
YAK pmax pmax
comp=N,9.0nm,1.5s
YAK pmax pmax
comp=E,10.0nm,1.8s
YAK pmax pmax
comp=Z,196nm,6.1s
YAK pmax pmax
comp=N,110nm,6.5s
YAK pmax pmax
comp=E,51nm,5.4s
YAK smax smax
comp=E,36nm,5.2s
YAK smax smax
comp=N,29nm,3.0s
YAK MLR MLR
comp=Z,306nm,25.0s
YAK MLR MLR
comp=N,99nm,21.0s
YAK MLR MLR
comp=E,119nm,15.0s
YAK smax smax
comp=N,3.0nm,1.1s
YAK smax smax
comp=E,2.0nm,0.7s
YAK smax smax
comp=N,39nm,1.2s
YAK smax smax
comp=E,23nm,1.6s
KBZ Khabaz 69.01 319 P **P** **05 57 40.3 -0.1**
comp=E,4.2nm,0.8s,baz=106,slow=4.6,SNR=7.6
comp=E,4.2nm,0.8s
KBZ Khabaz 69.01 319 *i* P **P** **05 57 40.3 -0.1**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
SHA1 Shidzhatmaz 69.17 319 *i* P **P** **05 57 40.9 -0.9**
ASF Jabal al Asfar 69.19 306 LR LR 06 29 15.1
comp=Z,104nm,18.2s,baz=131,slow=37
KIV Kislovodsk 69.25 319 *e*P **P** **05 57 41.8 -0.3**
KIV pmax pmax
comp=Z,27nm,1.0s
DRV Dumont d'Urvil 69.52 164 P **P** **05 57 43.2 +0.1**
MAW Mawson 69.56 194 P **P** **05 57 44.9 +1.5**
comp=Z,5.8nm,0.9s,baz=22,slow=7.2,SNR=10
MAW LR LR 06 21 38.8
comp=Z,164nm,21.7s,baz=46,slow=30
comp=Z,5.8nm,0.9s
EIL Elat 70.09 303 LR LR 06 28 00.7
comp=Z,153nm,19.4s,baz=70,slow=35
ARPR Arapgir-MALATY 70.33 313 P **P** **05 57 48.6 -0.4**
ARPR IAmb IAmb 05 58 00.3
comp=Z,26nm,0.9s
BELG Belogornoye 70.49 329 LR LR 06 32 58.3
comp=Z,79nm,21.1s,baz=120,slow=40
BELG Belogornoye 70.49 329 *i* P **P** **05 57 50.5 +1.2**
BELG pmax pmax
comp=Z,6.0nm,1.3s
GAZ Gaziantep 70.51 311 P **P** **05 57 50.0 +0.1**
GAZ IAmb IAmb 05 58 01.3
comp=Z,26nm,0.8s
MMAI Mount Meron Ar 70.64 306 LR LR 06 29 08.2
comp=Z,120nm,19.9s,baz=98,slow=36
SOC Sochi 71.05 318 *e*P **P** **05 57 51.3 -1.7**
SOC *e* 06 00 24.8
SOC *e*PPP PPP 06 02 10.8
SOC *e*S **S** **06 07 06.8 -0.3**
SOC *e*SS **SS** **06 11 42.0 +1.1**
SOC MLR MLR
comp=Z,39nm,17.0s
MATP Matopo 71.85 250 LR LR 06 24 41.3
comp=Z,71nm,20.7s,baz=62,slow=32
PYZ Puysegur Point 71.85 138 P **P** **05 57 58.2 +0.4**
LSZ Lusaka 71.88 255 P **P** **05 57 59.2 +0.5**
LSZ Lusaka 71.88 255 LR LR 06 25 15.1
comp=Z,123nm,19.4s,baz=93,slow=32
LSZ Lusaka 71.88 255 P **P** **05 57 59.2 +0.5**
LSZ pmax pmax
comp=Z,13nm,1.4s
MREMI Moremi 72.98 247 P **P** **05 58 05.8 +0.7**
MREMI IAmb IAmb 05 58 06.9
comp=Z,9.5nm,0.8s
VRH Novokhopyorsk 73.07 326 *e*P **P** **05 58 03.6 -1.3**
VRH pmax pmax
comp=Z,20nm,0.9s
KIRV Kirov 73.16 335 LR LR 06 33 27.9
comp=Z,74nm,20.7s,baz=133,slow=38
KIRV Kirov 73.16 335 *i* P **P** **05 58 05.0 -0.2**
PETK Petropavlovsk- 73.47 32 P **P** **05 58 06.7 -0.6**
PETK Petropavlovsk- 73.47 32 P **P** **05 58 06.5 -0.8**
comp=Z,1.7nm,0.5s,baz=217,slow=6.4,SNR=1.9
comp=Z,1.7nm,0.5s
MA2 Magadan 73.68 24 P **P** **05 58 08.4 +0.1**
comp=Z,7.4nm,0.7s,baz=158,slow=7.0,SNR=4.1
comp=Z,7.4nm,0.7s
MA2 Magadan 73.68 24 *i* P **P** **05 58 07.4 -1.0**
MA2 pmax pmax
comp=Z,20nm,1.2s
BR131 Keskin Array S 73.98 313 **P** **05 58 10.0 -0.8**
BR131 IAmb IAmb 05 58 21.0
comp=Z,19nm,0.8s
BR131 Keskin Array S 73.98 313 *i* P **P** **05 58 09.1 -1.6**
BRTR Keskin Array B 73.98 313 P **P** **05 58 10.1 -0.6**
BRTR Keskin Array B 73.98 313 P **P** **05 58 09.9 -0.8**
comp=Z,3.3nm,0.8s,baz=130,slow=7.0,SNR=17
comp=Z,3.3nm,0.8s
BRTR Keskin Array B 73.98 313 *i* P **P** **05 58 09.8 -0.9**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
VORD Divnogorie 74.34 325 *e*P **P** **05 58 08.6 -3.8**
VORD pmax pmax
comp=Z,20nm,1.0s
LPHEP Lephephe 74.49 247 P **P** **05 58 13.1 -0.9**
VSR Storozhevoye 74.52 325 *e*P **P** **05 58 11.7 -1.7**
VSR pmax pmax
comp=Z,20nm,0.9s
VORR Voronezh 74.69 326 *e*P **P** **05 58 11.7 -2.7**
VORR pmax pmax
comp=Z,20nm,0.8s
LBTB Lobatse 74.84 245 LR LR 06 27 29.4
comp=Z,164nm,18.9s,baz=90,slow=33
LPSR Galich'ya Gora 75.24 326 *e*P **P** **05 58 16.3 -1.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SIM Simferopol' 75.30 318 *e*P **P** **05 58 17.1 -0.9**
SIM *e* 05 58 31.0
SIM pmax pmax
comp=Z,6.0nm,0.6s
BOSA Boshof 75.42 241 P **P** **05 58 19.4 +0.1**
BOSA IAmb IAmb 05 58 49.9
comp=Z,17nm,1.4s
BOSA Boshof 75.42 241 P **P** **05 58 19.1 -0.3**
comp=Z,4.8nm,0.9s,baz=79,slow=8.6,SNR=6.6
BOSA LR LR 06 27 18.5
comp=Z,162nm,19.3s,baz=60,slow=32
comp=Z,4.8nm,0.9s
BOSA Boshof 75.42 241 P **P** **05 58 19.4 +0.1**
BOSA pmax pmax
comp=Z,17nm,1.4s
KDWAN Kaudwane 75.59 247 P **P** **05 58 21.5 +1.2**
KDWAN IAmb IAmb 05 58 21.9
comp=Z,15nm,1.0s
SEY Seymchan 76.30 22 P **P** **05 58 22.9 -0.5**
comp=Z,1.3nm,0.3s,baz=258,slow=5.6,SNR=14
comp=Z,1.3nm,0.3s
SEY Seymchan 76.30 22 *i* P **P** **05 58 22.8 -0.6**
SEY pmax pmax
comp=Z,8.0nm,0.9s
TIXI Tiksi 76.61 9 P **P** **05 58 23.3 -1.7**
TIXI IAmb IAmb 05 58 40.0
comp=Z,20nm,1.0s
TIXI Tiksi 76.61 9 *i* P **P** **05 58 26.1 +1.1**
TIXI pmax pmax
comp=Z,19nm,0.9s
SYO Syowa Base 77.17 199⇑ *e*P **P** **05 58 29.5 +1.3**
SYO Syowa Base 77.17 199⇓ *e*PcP **PcP** **05 58 40.0 +1.1**
MOS Moscow 77.26 329 *e*P P 05 58 37.5 +8.6
MOS pmax pmax
comp=Z,37nm,0.7s
OBN Obninsk 77.55 328⇓ *e*P **P** **05 58 31.7 +1.1**
OBN *i* 05 58 39.8
OBN *e* 06 01 29.7
OBN *e*S **SKSac** **06 08 37.5 -3.7**
OBN pmax pmax
comp=Z,36nm,1.2s
OBN MLR MLR
comp=Z,57nm,20.0s
BFZ Birch Farm 77.63 131 P **P** **05 58 31.6 +0.2**
BFZ IAmb IAmb 05 59 29.5
comp=Z,27nm,1.0s
BKZ Black Stump Fm 77.64 129 P **P** **05 58 32.2 +0.6**
BKZ IAmb IAmb 05 58 32.7
comp=Z,27nm,0.9s
RTZ Ruatahuna 77.96 129 P **P** **05 58 33.8 +0.4**
RTZ IAmb IAmb 05 58 34.1
comp=Z,33nm,1.0s
KLMR Klimovskoe 78.61 334 *e*P **P** **05 58 33.1 -3.2**
KLMR *e* 05 58 42.4
KLMR *e* 06 01 29.0
KLMR pmax pmax
comp=Z,14nm,1.2s
SUR Sutherland 79.52 238 P **P** **05 58 40.7 -1.5**
AKASG Malin Array Be 80.21 322 P **P** **05 58 44.8 -0.5**
comp=Z,0.7nm,0.6s,baz=92,slow=3.6,SNR=2.1
AKASG LR LR 06 38 28.1
comp=Z,61nm,20.1s,baz=94,slow=39
AKBB Malin Array Si 80.21 322 *i* P **P** **05 58 44.2 -1.1**
AKBB pmax pmax
comp=Z,16nm,2.2s
MLR Muntele Rosu 80.99 317 **P** **05 58 49.4 -0.4**
MLR Muntele Rosu 80.99 317 P **P** **05 58 49.4 -0.4**
MLR pmax pmax
comp=Z,66nm,1.5s
VNDA Vanda 81.35 169 **P** **05 58 51.4 +0.5**
VNDA Vanda 81.35 169 P **P** **05 58 51.0 0.0**
comp=Z,4.1nm,1.0s,baz=309,slow=4.2,SNR=12
VNDA LR LR 06 29 37.3
comp=Z,67nm,20.7s,baz=325,slow=32
comp=Z,4.1nm,1.0s
VNDA Vanda 81.35 169 P **P** **05 58 51.4 +0.5**
VNDA pmax pmax
comp=Z,8.0nm,1.2s
RAO Raoul Island 81.59 119 LR LR 06 36 02.6
comp=Z,111nm,19.6s,baz=86,slow=36
BURAR Bucovina Array 81.96 319 **P** **05 58 56.0 +1.2**
BURAR IAmb IAmb 05 59 06.9
comp=Z,10nm,0.9s
BUR08 Bucovina Ar. S 81.98 319 **P** **05 58 55.9 +0.9**
BUR08 IAmb IAmb 05 59 06.7
comp=Z,14nm,1.1s
MNK Minsk 82.07 326 *i* P **P** **05 58 50.9 -4.2**
MNK *i* 06 01 58.4
MNK *i* PPP PPP 06 03 48.9
MNK *i* S **S** **06 09 03.6 -3.6**
MNK *i* SS **SS** **06 14 25.0 -2.0**
MNK *i* SSS SSS 06 17 52.0
MNK pmax pmax
comp=N,11nm,1.0s
MNK pmax pmax
comp=Z,7.0nm,0.6s
MNK pmax pmax
comp=E,14nm,0.8s
MNK MLR MLR
comp=Z,30nm,15.0s
TSUM Tsumeb 82.08 251 P **P** **05 58 57.1 +1.0**
SBA Scott Base 82.45 169 P **P** **05 58 58.6 +1.9**
SBA Scott Base 82.45 169 P **P** **05 58 58.6 +1.9**
SBA pmax pmax
comp=Z,9.0nm,1.0s
APA Apatity 83.89 339 *e*P P 05 59 09.2 +5.0
APA MLR MLR
comp=Z,575nm,4.6s
KOLS Kolonicke sedl 84.16 320 *e*P **P** **05 59 07.7 +1.6**
KOLS *e* 05 59 17.4
KOLS Kolonicke sedl 84.16 320 *e*P **P** **05 59 07.6 +1.5**
KOLS *e* 05 59 17.4
FINES FINESS Array B 84.89 332 P **P** **05 59 09.5 +0.1**
FINES FINESS Array B 84.89 332 P **P** **05 59 09.2 -0.2**
comp=Z,1.9nm,0.7s,baz=94,slow=5.7,SNR=5.3
FINES LR LR 06 39 22.8
comp=Z,39nm,21.7s,baz=62,slow=37
comp=Z,1.9nm,0.7s
FINES FINESS Array B 84.89 332 *i* P **P** **05 59 10.8 +1.4**
FINES pmax pmax
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 84.91 320 *e*P pP 05 59 20.1 -0.6
VYHS Vyhne 86.33 319 *e*P pP 05 59 27.6 -0.1
JAVC Velka Javorina 87.15 319 *e*P pP 05 59 31.4 -0.4
QSPA South Pole Qui 87.17 180 P **P** **05 59 22.1 +1.3**
QSPA IAmb IAmb 05 59 22.6
comp=Z,7.2nm,0.9s
QSPA South Pole Qui 87.17 180 P **P** **05 59 21.5 +0.7**
comp=Z,6.6nm,1.0s,baz=306,slow=2.1,SNR=21
QSPA LR LR 06 35 39.6
comp=Z,119nm,18.5s,baz=312,slow=34
comp=Z,6.6nm,1.0s
ARCES ARCESS Array B 87.27 340 P **P** **05 59 21.0 -0.1**
ARCES ARCESS Array B 87.27 340 P **P** **05 59 21.2 +0.1**
comp=Z,1.9nm,0.7s,baz=130,slow=5.1,SNR=4.3
ARCES LR LR 06 43 49.3
comp=Z,49nm,18.5s,baz=94,slow=39
comp=Z,1.9nm,0.7s
ARCES ARCESS Array B 87.27 340 P **P** **05 59 21.0 -0.1**
ARCES pmax pmax
comp=Z,84nm,2.0s
MODS Modra-Piesok 87.34 319 *e*P pP 05 59 30.6 -2.1
MORC Moravsky Berou 87.35 320 *e*P pP 05 59 32.2 -0.5
KIWB Kanaga Island 87.66 38 P **P** **05 59 23.3 0.0**
KIWB IAmb IAmb 06 01 51.7
comp=Z,22nm,1.2s
ATKA Atka Island 89.51 38 P **P** **05 59 31.9 0.0**
GERES GERESS Array B 89.75 319 P **P** **05 59 33.9 +0.5**
comp=Z,1.1nm,0.9s,baz=85,slow=4.3,SNR=5.1
comp=Z,1.1nm,0.9s
KHC Kasperske Hory 89.86 319 *i* P **P** **05 59 34.2 +0.4**
KHC pmax pmax
comp=Z,3.0nm,1.4s
CLL Collm 90.38 321 *e*P **P** **05 59 36.0 -0.1**
CLL *i* *PP **pP** **05 59 45.7 -1.3**

CLL	**Collm**	**90.38**	**321**	*e*P	**P**	**05 59 36.0**	**-0.1**
CLL				*i* pP	**pP**	**05 59 45.7**	**-1.3**
HFS	**Hagfors**	**90.64**	**330**	LR	LR	06 45 28.8	
	comp=Z,55nm,18.2s,baz=70,slow=39						
SNAA	**Sanae**	**91.44**	**198**	⇑P	**P**	**05 59 42.2**	**+1.4**
	comp=Z,49nm,0.8s						
SNAA	**Sanae**	**91.44**	**198**		**P**	**05 59 42.2**	**+1.4**
SNAA				IAmb	IAmb	05 59 53.8	
	comp=Z,17nm,1.5s						
SNAA	**Sanae**	**91.44**	**198**	P	**P**	**05 59 41.8**	**+1.1**
	comp=Z,3.1nm,1.0s,baz=102,slow=2.8,SNR=9.4						
	comp=Z,3.1nm,1.0s						
SNAA	**Sanae**	**91.44**	**198**	P	**P**	**05 59 42.2**	**+1.4**
SNAA				pmax	pmax		
	comp=Z,17nm,1.5s						
SPITS	**Spitsbergen Ar**	**91.44**	**348**	P	**P**	**05 59 42.4**	**+1.9**
	comp=Z,5.4nm,1.1s,baz=100,slow=4.8,SNR=5.1						
SPITS				LR	LR	06 49 49.7	
	comp=Z,59nm,19.4s,baz=102,slow=42						
	comp=Z,5.4nm,1.1s						
NB2	**NORSAR Subarra**	**91.92**	**331**	P	**P**	**05 59 43.0**	**-0.1**
	comp=Z,4.9nm,1.0s,baz=92,slow=5.1						
NOA	**NORSAR Array B**	**91.92**	**331**	P	**P**	**05 59 45.2**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=90,slow=4.5,SNR=5.2						
NOA				LR	LR	06 45 10.8	
	comp=Z,37nm,20.7s,baz=90,slow=38						
	comp=Z,0.4nm,0.7s						
KEST	**Kesra**	**92.28**	**305**	P	**P**	**05 59 47.2**	**+1.8**
	comp=Z,6.5nm,1.0s,baz=82,slow=5.0,SNR=4.3						
	comp=Z,6.5nm,1.0s						
J16K	**Anvik River**	**96.64**	**27**	P	**P**	**06 00 05.5**	**+0.9**
J16K				IAmb	IAmb	06 00 15.6	
	comp=Z,7.9nm,0.9s						
J17K	**VABM Dome**	**97.31**	**26**	P	Pdif	06 00 08.2	+0.4
J17K				IAmb	IAmb	06 00 27.2	
	comp=Z,11nm,1.4s						
D20K	**Etivluk River**	**97.38**	**21**	P	Pdif	06 00 08.6	+0.6
H19K	**Roundabout Mou**	**98.07**	**24**	P	Pdif	06 00 11.6	+0.5
H19K				IAmb	IAmb	06 00 30.5	
	comp=Z,8.0nm,1.1s						
RAR	**Rarotonga**	**98.36**	**112**	P	**P**	**06 00 12.5**	**-0.8**
RAR	**Rarotonga**	**98.36**	**112**	P	**P**	**06 00 12.5**	**-0.8**
RAR				pmax	pmax		
	comp=Z,329nm,1.9s						
TORD	**Torodi Ar. Bea**	**98.87**	**283**	LR	LR	06 44 57.4	
	comp=Z,62nm,18.1s,baz=116,slow=35						
IMAR	**Indian Mountai**	**99.06**	**23**	P	**Pdif**	**06 00 15.8**	**+0.4**
TBI	**Tubuai**	**107.49**	**115**	*e*LR	LR	06 36 22.4	
	comp=Z,1μm,41.5s						
TBI				*e*LR	LR	06 36 24.0	
	comp=Z,1μm,30.0s						
PPT2	**Papeete2**	**108.38**	**109**	*e*S	Sdif	06 12 44.7	-19
	comp=Z,77nm,26.0s						
PPT2	**Papeete2**	**108.38**	**109**	*e*LR	LR	06 36 49.0	
	comp=Z,89nm,24.5s						
PPT2				*e*LR	LR	06 36 53.8	
	comp=Z,104nm,29.0s						
NVAR	**Mina Array Bea**	**130.10**	**40**	PKP	**PKiKP**	**06 05 47.5**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=250,slow=3.6,SNR=5.5						
PDAR	**Pinedale Array**	**132.19**	**30**	PKP	**PKiKP**	**06 05 51.1**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=338,slow=1.6,SNR=5.6						
ANMO	**Albuquerque**	**139.57**	**35**	PKP	**PKPdf**	**06 06 03.9**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=11,slow=5.2,SNR=1.9						
CPUP	**Villa Florida**	**143.78**	**216**	PKP	PKPbc	06 06 08.8	+0.5
	comp=Z,2.1nm,0.9s,baz=345,slow=3.7,SNR=17						
APMT	**Aspermont**	**144.18**	**30**		PKPbc	06 06 09.6	+0.2
SGCY	**Sterling City**	**144.78**	**32**		**PKPdf**	**06 06 12.1**	**-0.3**
R58B	**Mineral**	**144.95**	**357**		**PKPab**	**06 06 11.6**	**0.0**
TXAR	**Lajitas Array**	**145.22**	**38**	PKPbc	**PKPdf**	**06 06 13.5**	**+0.2**
	comp=Z,2.9nm,0.5s,baz=234,slow=0.9,SNR=70						
T59A	**Double "B" Far**	**145.93**	**357**	PKPbc	**PKPbc**	**06 06 14.9**	**+0.2**
WVT	**Waverly**	**146.02**	**12**		**PKPdf**	**06 06 14.7**	**+0.4**
WVT	**Waverly**	**146.02**	**12**	PKP2	**PKPdf**	**06 06 14.7**	**+0.4**
AQDB	**Aquidauana**	**146.91**	**225**		**PKPbc**	**06 06 17.9**	**-0.1**
AC02	**Maricunga**	**148.78**	**199**		**PKiKP**	**06 06 25.0**	**-0.1**
PTLB	**Pontes e Lacer**	**152.65**	**228**	PKPdf	**PKPdf**	**06 06 24.3**	**-1.1**
PTLB					**PKPbc**	**06 06 32.3**	**-0.1**
PTLB				PKPab	**PKPab**	**06 06 42.5**	**-0.4**
LPAZ	**La Paz**	**157.79**	**211**	PKP	**PKPdf**	**06 06 33.1**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=122,slow=3.0,SNR=5.4						

IDC 29 05:52:14.2±3.9, 4°.07S×105°.11W, h0km, mb3.4/5, mbtmp3.4/5, MS3.5/18, Error ellipse: s-maj=134.4km s-min=31.5km az=50.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**23.32**	**25**	LR	LR	06 04 16.1	
	comp=Z,140nm,20.3s,baz=204,slow=31						
JTS	**Las Juntas de**	**24.62**	**54**	LR	LR	06 04 23.2	
	comp=Z,177nm,20.4s,baz=242,slow=30						
ATAH	**Atahualpa**	**26.76**	**98**	LR	LR	06 05 26.2	
	comp=Z,128nm,18.1s,baz=274,slow=30						
LPIG	**La Paz**	**28.45**	**350**	LR	LR	06 06 37.7	
	comp=Z,90nm,19.7s,baz=188,slow=30						
ROSC	**El Rosal**	**32.00**	**74**	LR	LR	06 07 49.2	
	comp=Z,86nm,18.9s,baz=70,slow=29						
TXAR	**Lajitas Array**	**33.24**	**2**	P	P	05 58 53.5	+0.2
	0.4nm,1.0s,baz=174,slow=4.2,SNR=3.7						
	0.4nm,1.0s						
SDV	**Santo Domingo**	**36.70**	**69**	LR	LR	06 10 38.3	
	comp=Z,63nm,21.1s,baz=250,slow=30						
H03N2	**Juan Fernandez**	**38.08**	**143**	T	T	06 39 42.0	
	baz=317,slow=78,SNR=19						
H03N1	**Juan Fernandez**	**38.09**	**143**	T	T	06 39 45.8	
	baz=317,slow=78,SNR=31						
H03N3	**Juan Fernandez**	**38.09**	**143**	T	T	06 40 01.2	
	baz=317,slow=78,SNR=16						
LPAZ	**La Paz**	**38.29**	**111**	P	P	05 59 37.3	-0.1
	0.9nm,0.9s,baz=300,slow=8.1,SNR=3.4						
LPAZ				LR	LR	06 11 47.0	
	comp=Z,71nm,22.0s,baz=264,slow=31						
	0.9nm,0.9s						
ANMO	**Albuquerque**	**38.82**	**358**	LR	LR	06 13 09.9	
	comp=Z,50nm,18.2s,baz=283,slow=32						
PFO	**Pinyon Flats O**	**38.98**	**345**	LR	LR	06 11 57.8	
	comp=Z,138nm,19.2s,baz=185,slow=30						
PCRV	**Puerto La Cruz**	**42.72**	**70**	LR	LR	06 16 52.1	
	comp=Z,63nm,18.4s,slow=35						
NVAR	**Mina Array Bea**	**44.01**	**345**	P	P	06 00 23.8	0.0
	0.2nm,0.6s,baz=169,slow=8.6,SNR=3.6						
	0.2nm,0.6s						
SJG	**San Juan**	**44.28**	**59**	LR	LR	06 16 51.9	
	comp=Z,31nm,20.1s,baz=251,slow=33						
TKL	**Tuckaleechee C**	**44.29**	**25**	LR	LR	06 20 39.3	
	comp=Z,28nm,18.4s,baz=168,slow=38						
SIV	**San Ignacio**	**44.85**	**109**	LR	LR	06 16 59.6	
	comp=Z,79nm,20.2s,baz=291,slow=33						
PPT	**Papeete**	**45.56**	**249**	LR	LR	06 14 21.3	
	comp=Z,46nm,20.2s,baz=59,slow=29						
PDAR	**Pinedale Array**	**46.79**	**356**	P	P	06 00 45.2	-0.5
	0.5nm,0.8s,baz=167,slow=7.0,SNR=4.7						
	0.5nm,0.8s						
PLCA	**Paso Flores**	**47.93**	**144**	LR	LR	06 15 40.2	
	comp=Z,166nm,19.7s,baz=272,slow=29						
CPUP	**Villa Florida**	**50.76**	**121**	LR	LR	06 19 26.7	
	comp=Z,16nm,18.7s,baz=50,slow=32						
NEW	**Newport**	**53.16**	**350**	LR	LR	06 21 33.0	
	comp=Z,62nm,18.3s,baz=201,slow=33						
SADO	**Sadowa**	**53.89**	**23**	LR	LR	06 24 14.8	
	comp=Z,20nm,18.3s,baz=268,slow=36						
ILAR	**Eielson Array**	**75.22**	**343**	P	P	06 03 58.5	+0.1
	0.5nm,0.8s,baz=133,slow=7.2,SNR=5.1						
	0.5nm,0.8s						
H11N3	**WAKE ISLAND Hy**	**89.46**	**290**	T	T	07 44 53.8	
	baz=95,slow=75,SNR=17						
H11N2	**WAKE ISLAND Hy**	**89.47**	**290**	T	T	07 44 55.0	
	baz=95,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**89.47**	**290**	T	T	07 44 56.3	
	baz=95,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**89.55**	**288**	T	T	07 44 59.0	
	baz=94,slow=75,SNR=39						
H11S1	**WAKE ISLAND Hy**	**89.56**	**288**	T	T	07 44 58.6	
	baz=94,slow=75,SNR=42						
H11S3	**WAKE ISLAND Hy**	**89.57**	**288**	T	T	07 44 60.0	
	baz=94,slow=75,SNR=32						

*ASRS **29** 05:59:19.0±0.6, 54°.37N×86°.87E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 29 05:59:21.2±3.1, 54°.37N×86°.88E, h0km, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=27.2km s-min=17.8km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**252**	I	I	06 07 10.0	
	baz=71,slow=312,SNR=4.1						
ZALV	**Zalesovo Beam**	**1.28**	**252**	Pg	Pg	05 59 44.4	-1.4
	3.5nm,0.3s,baz=68,slow=17,SNR=18						
ZALV				Lg	Lg	06 00 02.7	
	2.7nm,0.3s,baz=75,slow=27,SNR=7.6						
KURBB	**Kurchatov Arra**	**6.33**	**237**	Pn	Pn	06 00 56.2	+0.5
	0.2nm,0.3s,baz=52,slow=14,SNR=7.1						
KURBB				Lg	Lg	06 02 43.5	
	baz=49,slow=31,SNR=3.4						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**8.12**	**203**	Pn	Pn	06 01 21.8	+1.5
	0.3nm,0.3s,baz=19,slow=13,SNR=6.8						
	0.4nm,0.3s						

ASRS 29 05:59:38.0±1.0, 54°.18N×86°.42E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*IDC **29** 06:03:41.1±2.8, 20°.80N×122°.28E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=250.0km s-min=21.1km az=63.0*
*JMA **29** 06:03:44.4±0.7, 21°.N±3°.×12°.2E±°, h24km, MV4.0/10, PHILIPPINE ISL REGION*
ISC 29 06:03:46.4±1.2, 20°.8N±0°.1×122°.2E±0°.2, h35km, n18, σ0°68/16, mb3.7/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**3.60**	**24**	*e*P	**Pn**	**06 04 40.5**	**+0.8**
HATJ				*e*S	**Sn**	**06 05 21.4**	**+0.4**
YOJ	**Yonaguni jima**	**3.76**	**11**	*e*S	**Sn**	**06 05 24.3**	**-0.6**
IRIF	**Iriomote-Funau**	**3.83**	**21**	*e*P	**Pn**	**06 04 43.2**	**+0.4**
IRIF				*e*S	**Sn**	**06 05 26.1**	**-0.5**
JKRS	**Kuro-shima**	**3.84**	**26**	*e*P	**Pn**	**06 04 43.6**	**+0.6**
JKRS				*e*S	**Sn**	**06 05 26.1**	**-0.9**
JIJ	**Ishigaki jima**	**4.01**	**26**	*e*P	**Pn**	**06 04 46.0**	**+0.7**
JIJ				*e*S	**Sn**	**06 05 30.7**	**-0.4**
JISG	**Ishigakijimahi**	**4.28**	**27**	*e*S	**Sn**	**06 05 36.6**	**-1.1**
JTJ	**Tarama**	**4.50**	**30**	*e*S	**Sn**	**06 05 43.3**	**+0.2**
MKAR	**Makanchi Array**	**41.47**	**318**	P	**P**	**06 11 29.9**	**0.0**
	0.5nm,0.5s,baz=106,slow=12,SNR=5.7						
	0.5nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**41.85**	**83**	T	T	06 56 34.5	
	baz=274,slow=75,SNR=52						
H11N2	**WAKE ISLAND Hy**	**41.85**	**83**	T	T	06 56 35.7	
	baz=274,slow=75,SNR=53						
H11N3	**WAKE ISLAND Hy**	**41.86**	**83**	T	T	06 56 34.9	
	baz=274,slow=75,SNR=57						
H11S3	**WAKE ISLAND Hy**	**41.87**	**85**	T	T	06 56 28.4	
	baz=281,slow=75,SNR=212						
H11S1	**WAKE ISLAND Hy**	**41.88**	**85**	T	T	06 56 29.2	
	baz=281,slow=75,SNR=388						
H11S2	**WAKE ISLAND Hy**	**41.89**	**85**	T	T	06 56 29.8	
	baz=281,slow=75,SNR=187						
WRA	**Warramunga Arr**	**42.16**	**163**	P	**P**	**06 11 34.8**	**-1.0**
	0.3nm,0.5s,baz=343,slow=8.3,SNR=2.1						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**43.63**	**329**	P	**P**	**06 11 46.9**	**-0.3**
	0.8nm,0.5s,baz=117,slow=9.3,SNR=4.1						
	0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**45.34**	**322**	P	**P**	**06 12 01.2**	**+0.2**
	0.3nm,0.3s,baz=119,slow=7.2,SNR=5.7						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**45.61**	**165**	P	**P**	**06 12 04.0**	**+0.5**
	0.4nm,0.4s,baz=344,slow=6.8,SNR=7.8						
	0.4nm,0.4s						

*ISK **29** 06:16:52.8, 39°.48N×25°.85E, h11km, ML2.7/26*
*THE **29** 06:16:53.4, 39°.N±104°.2°.6E±5°.7, h2km±45km, MLh2.4/3*
*ATH **29** 06:16:53.4, 39°.48N×25°.86E, h11km±3km, ML2.5/5, Manual Solution by A.Moschou First location: 2019/07/29 06:17:29, This location: 2019/07/29 06:23:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
*AFAD **29** 06:16:54.0, 39°.51N×25°.90E, h24km±1km, ML2.7*
ISC 29 06:16:53.4±0.9, 39°.48N±0°.02×25°.85E±0°.02, h13km±7km, n52, σ0°43/74, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.22**	**96**	Pg	**Pg**	**06 16 58.1**	**-0.1**
GPNR				Sg	**Sg**	**06 17 01.5**	**+0.1**
SIGR	**SIGRI**	**0.27**	**179**	Pg	**Pg**	**06 16 58.8**	**-0.2**
SIGR	**SIGRI**	**0.27**	**179**	P	**Pg**	**06 16 58.8**	**-0.2**
SIGR				S	**Sg**	**06 17 03.3**	**+0.6**
SIGR	**SIGRI**	**0.27**	**179**	P	**Pg**	**06 16 58.7**	**-0.4**
SIGR				S	**Sg**	**06 17 02.9**	**+0.1**
BOZC	**Bozcaada**	**0.39**	**23**	Pg	**Pg**	**06 17 00.9**	**-0.4**
BOZC				Sg	**Sg**	**06 17 06.9**	**+0.3**
EZNE	**Ezine-Canakkal**	**0.48**	**55**	Pg	**Pg**	**06 17 02.9**	**0.0**
EZNE				Sg	**Sb**	**06 17 10.1**	**-0.7**
EZN	**Ezine**	**0.50**	**46**	Pg	**Pg**	**06 17 03.1**	**-0.2**
EZN				Sg	**Sb**	**06 17 10.4**	**-0.9**
EZN	**Ezine**	**0.50**	**46**	P	**Pg**	**06 17 03.0**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**0.60**	**64**	P	**Pg**	**06 17 04.8**	**-0.2**
BAYC				S	**Sb**	**06 17 13.3**	**-0.8**
BAYC				*i* IAML		06 17 14.0	
	comp=N,466nm,0.4s						
BAYC				*i* IAML		06 17 14.0	
	comp=E,418nm,0.2s						
EFSA	**Agios Efstrati**	**0.67**	**275**	P	**Pg**	**06 17 06.4**	**-0.1**
EFSA				S	**Sg**	**06 17 15.4**	**+0.1**
AYVA	**Ayvalik**	**0.67**	**104**	P	**Pg**	**06 17 06.4**	**0.0**
AYVA				S	**Sb**	**06 17 16.9**	**+0.7**
AYVA				*i* IAML		06 17 20.0	
	comp=N,250nm,0.3s						
CNKL	**anakkale-Mer**	**0.72**	**35**	P	**Pg**	**06 17 06.9**	**-0.5**
CNKL				S	**Sb**	**06 17 17.6**	**+0.1**
CNKL				*i* IAML		06 17 20.0	
	comp=E,322nm,0.3s						
CAND	**Candarli**	**0.91**	**125**	Pg	**Pg**	**06 17 10.6**	**-0.3**
DKL	**Dikili**	**0.91**	**116**	Pg	**Pb**	**06 17 11.2**	**+0.1**
BUHA	**Balikesir, Bur**	**0.95**	**88**	P	**Pb**	**06 17 11.8**	**+0.1**
BUHA				S	**Sb**	**06 17 24.1**	**0.0**
BUHA				*i* IAML		06 17 27.0	
	comp=E,298nm,0.3s						
YAYO	**Edremit-Balk**	**0.95**	**82**	Pg	**Pg**	**06 17 11.5**	**-0.3**
FOCM	**Foa**	**1.03**	**138**	Pg	**Pb**	**06 17 12.9**	**-0.1**
CANM	**Can-anakkale**	**1.07**	**60**	Pg	**Pg**	**06 17 13.7**	**-0.3**
CHOS	**Chios island**	**1.10**	**172**	Pn	**Pb**	**06 17 14.2**	**-0.2**
CHOS	**Chios island**	**1.10**	**172**	P	**Pb**	**06 17 14.1**	**-0.2**
CHOS	**Chios island**	**1.10**	**172**	P	**Pb**	**06 17 14.2**	**-0.2**
CHOS				S	**Sg**	**06 17 29.3**	**+0.3**
ENZZ	**Sultanice-Enez**	**1.15**	**11**	Pn	**Pb**	**06 17 15.1**	**0.0**
YENI	**Yenice-Canakka**	**1.17**	**66**	Pn	**Pb**	**06 17 15.3**	**-0.1**
CESE	**eme**	**1.20**	**163**	Pn	**Pn**	**06 17 15.8**	**0.0**
URLA	**Izmir**	**1.26**	**152**	Pn	**Pn**	**06 17 16.6**	**-0.1**
ERIK	**Erikli-Kesan**	**1.29**	**23**	Pn	**Pn**	**06 17 17.2**	**0.0**
SOMA	**Soma-Manisa**	**1.34**	**103**	Pn	**Pn**	**06 17 17.8**	**-0.1**
BALY	**Balya**	**1.39**	**79**	P	**Pg**	**06 17 20.0**	**-0.1**
BALY				S	**Sn**	**06 17 36.9**	**+0.1**
BALY				*i* IAML		06 17 39.0	
	comp=N,161nm,0.3s						
BALY				*i* IAML		06 17 40.0	
	comp=E,151nm,0.6s						
THAS	**Thassos island**	**1.42**	**323**	P	**Pb**	**06 17 20.0**	**+0.3**
THAS				S	**Sn**	**06 17 37.0**	**-0.5**
ALN	**Alexandroupoli**	**1.42**	**6**	Pn	**Pn**	**06 17 19.0**	**+0.1**
ALN	**Alexandroupoli**	**1.42**	**6**	P	**Pn**	**06 17 19.1**	**+0.1**
ALN	**Alexandroupoli**	**1.42**	**6**	P	**Pn**	**06 17 19.0**	**+0.1**
ALN				S	**Sb**	**06 17 38.3**	**+0.4**
BLCB	**Balcova**	**1.43**	**139**	Pn	**Pn**	**06 17 19.0**	**-0.1**
KRBG	**Karabiga-Canak**	**1.44**	**50**	Pn	**Pn**	**06 17 19.2**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.45**	**93**	P	**Pb**	**06 17 20.2**	**-0.1**
STEP				S	**Sg**	**06 17 41.1**	**+1.0**
STEP				*i* IAML		06 17 44.0	
	comp=N,89nm,0.6s						
STEP				*i* IAML		06 17 46.0	
	comp=E,94nm,0.4s						
KESN	**Edirne-Kesan**	**1.49**	**25**	P	**Pb**	**06 17 20.9**	**-0.2**
KESN				S	**Sb**	**06 17 40.4**	**+0.3**
KESN				*i* IAML		06 17 43.0	
	comp=N,104nm,0.3s						
KESN				*i* IAML		06 17 45.0	
	comp=E,158nm,0.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYMI	**Kymi, Euboea I**	**1.60**	**239**	P	**Pn**	**06 17 20.5**	**-0.9**
KYMI				S	**Sn**	**06 17 42.9**	**+0.8**
BKES	**Balkesir-Mer**	**1.62**	**80**	P	**Pg**	**06 17 24.8**	**+0.2**
BKES				S	**Sg**	**06 17 44.8**	**-0.9**
BKES				*i* IAML		06 17 53.0	
	comp=E,74nm,0.4s						
OUR	**Ouranopolis**	**1.67**	**301**	Pn	**Pn**	**06 17 22.6**	**+0.2**
BLKS	**Balkesir-Sus**	**1.68**	**76**	P	**Pb**	**06 17 24.0**	**-0.1**
BLKS				S	**Sn**	**06 17 43.1**	**-0.8**
RDO	**Rodhopi**	**1.68**	**352**	Pn	**Pn**	**06 17 22.7**	**+0.2**
RDO	**Rodhopi**	**1.68**	**352**	P	**Pn**	**06 17 22.9**	**+0.4**
UKOP	**Ucumkopru-Edir**	**1.75**	**20**	Pn	**Pn**	**06 17 23.6**	**+0.1**
EDC	**Edincik**	**1.77**	**60**	Pn	**Pn**	**06 17 23.8**	**0.0**
GORD	**Gordes-Manisa**	**1.89**	**107**	Pn	**Pn**	**06 17 25.5**	**0.0**
BAND	**Balkesir-Ban**	**1.94**	**62**	P	**Pb**	**06 17 28.7**	**+0.2**
BAND				S	**Sg**	**06 17 54.9**	**-0.8**
BAND				*i* IAML		06 17 56.0	
	comp=N,87nm,0.2s						
BAND				*i* IAML		06 17 58.0	
	comp=E,91nm,0.3s						
TKR	**Tekirdag**	**1.98**	**40**	Pn	**Pn**	**06 17 27.1**	**+0.4**
DURS	**Dursunbey**	**2.03**	**86**	P	**Pn**	**06 17 28.4**	**+1.0**
DURS				S	**Sn**	**06 17 53.6**	**+0.9**
DURS				*i* IAML		06 18 01.0	
	comp=E,56nm,0.3s						
DURS				*i* IAML		06 18 02.0	
	comp=N,50nm,0.3s						
ODEM	**Odemis-Izmir**	**2.11**	**124**	Pn	**Pn**	**06 17 28.6**	**+0.1**
KDZ	**Kurdzhali**	**2.18**	**350**	Pn	**Pn**	**06 17 29.9**	**+0.5**
EDRB	**Edirne**	**2.46**	**16**	Pn	**Pn**	**06 17 33.9**	**+0.7**
SLVT	**Silivri**	**2.51**	**45**	Pn	**Pn**	**06 17 34.1**	**+0.2**

*IDC **29** 06:21:03.6±0.8, 4°.36N×127°.24E, h0km, mb4.0/11, mbtmp4.0/11, MS3.6/11, Error ellipse: s-maj=48.3km s-min=14.0km az=70.0*
*NEIC **29** 06:21:06.6±1.6, 4°.15N±0°.09×126°.8E±0°.1, h10km±1km, mb4.5/42, Error ellipse: s-maj=20.6km s-min=13.0km az=61.0*
*DJA **29** 06:21:08.1±1.6, 4°.N±15°.×12°.7E±°, h10km, M4.5/13, mb4.7/7, mB5.5/3, MLv4.4/13, Mw(mB)5.0/3*
ISC 29 06:21:09.6±0.6, 4°.20N±0°.06×126°.9E±0°.1, h36km, n78, σ1°20/68, mb4.4/31, MS3.7/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.42**	**249**	P	**Pn**	**06 21 34.2**	**+1.4**
TNTI	**Ternate**	**3.44**	**171**	Pn	**Pn**	**06 21 59.0**	**-1.7**
TNTI	**Ternate**	**3.44**	**171**	P	**Pn**	**06 22 02.1**	**+1.4**
KMSI	**Cibinong**	**4.60**	**219**	P	**Pn**	**06 22 16.8**	**+0.1**
MRSI	**Marisa**	**6.14**	**233**	P	**Pn**	**06 22 39.4**	**+1.5**
	0.2nm4μm60nm,0.6s						
SANI	**Sanana**	**6.26**	**188**	P	**Pn**	**06 22 40.5**	**+0.9**
	0.1nm18nm,0.6s						
LUWI	**Luwuk**	**6.61**	**218**	P	**Pn**	**06 22 45.9**	**+1.6**
TOLI2	**Tolitoli**	**6.79**	**243**		**Pn**	**06 22 44.4**	**-2.5**
APSI	**Ampana**	**7.27**	**226**	P	**Pn**	**06 22 54.7**	**+1.4**
MYLDM	**Lahad Datu**	**8.38**	**277**	Pn	**Pn**	**06 23 07.0**	**-1.7**
KAPI	**Kappang**	**11.58**	**218**	LR	LR	06 29 03.5	
	comp=Z,299nm,18.1s,baz=62,slow=40						
JAY	**Jayapura**	**15.36**	**115**	LR	LR	06 29 07.2	
	comp=Z,96nm,18.4s,baz=350,slow=32						
MTN	**Manton Dam**	**17.45**	**166**		**Pn**	**06 25 09.6**	**-0.8**
YULB	**Yu-li**	**19.82**	**345**	P	**P**	**06 25 36.6**	**-0.8**
KNRA	**Kununurra**	**19.84**	**175**	P	**P**	**06 25 36.2**	**-1.3**
TPUB	**Ta-pu**	**19.92**	**343**	P	**P**	**06 25 38.5**	**+0.1**
TPUB				IAmb	IAmb	06 26 20.2	
	comp=Z,23nm,1.1s						
NACB	**Ninganchiao**	**20.50**	**346**	P	**P**	**06 25 44.7**	**+0.1**
NACB				IAmb	IAmb	06 26 27.3	
	comp=Z,11nm,0.7s						
FITZ	**Fitzroy Crossi**	**22.19**	**183**	P	**P**	**06 26 02.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**22.19**	**183**	P	**P**	**06 26 02.2**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=9.0,slow=8.1,SNR=12						
	comp=Z,2.0nm,0.5s						
WB0	**Warramunga Arr**	**24.94**	**163**	P	**P**	**06 26 29.2**	**-0.6**
WB0				IAmb	IAmb	06 26 34.1	
	comp=Z,16nm,1.2s						
WRA	**Warramunga Arr**	**25.09**	**163**	P	**P**	**06 26 29.4**	**-1.7**
WRA	**Warramunga Arr**	**25.09**	**163**	P	**P**	**06 26 30.0**	**-1.1**
	comp=Z,5.0nm,0.8s,baz=339,slow=11,SNR=23						
	comp=Z,5.0nm,0.8s						
WB2	**Warramunga Arr**	**25.10**	**163**	P	**P**	**06 26 30.1**	**-1.0**
WB2				IAmb	IAmb	06 26 41.6	
	comp=Z,9.5nm,0.8s						
WR8	**Warramunga Arr**	**25.15**	**163**	P	**P**	**06 26 31.5**	**-0.1**
AS31	**Alice Springs**	**28.53**	**166**	P	**P**	**06 27 01.6**	**-0.5**
ASAR

CAST	**Castle Rocks**	**82.26**	**27**	P	**P**	**06 33 26.9 -0.2**
CAST				IAmb	IAmb	06 33 58.4
	comp=Z,4.5nm,1.3s					
D22K	**Ayikyak River**	**82.67**	**21**	P	**P**	**06 33 30.7 +1.6**
D22K				IAmb	IAmb	06 33 34.1
	comp=Z,5.7nm,1.2s					
SUA	**Susitna One**	**82.70**	**29**	P	**P**	**06 33 29.9 +0.3**
KBZ	**Khabaz**	**82.75**	**313**	LR	LR	07 15 45.2
	comp=Z,30nm,18.1s,baz=170,slow=40					
E22K	**Anaktuvuk Pass**	**82.89**	**22**	P	**P**	**06 33 32.5 +2.1**
E22K				IAmb	IAmb	06 34 12.4
	comp=Z,5.6nm,1.3s					
PMR	**Palmer**	**83.48**	**29**	P	**P**	**06 33 33.8 +0.4**
C23K	**Itkillik River**	**83.50**	**20**	P	**P**	**06 33 33.9 +0.5**
GHO	**Glory Hole Cre**	**83.59**	**28**	P	**P**	**06 33 34.2 +0.1**
TOLK	**Toolik Lake Re**	**83.77**	**21**	P	**P**	**06 33 34.1 -0.7**
TOLK				IAmb	IAmb	06 33 37.6
	comp=Z,5.4nm,1.1s					
KNK	**Knik Glacier**	**83.79**	**29**	P	**P**	**06 33 35.5 +0.4**
CCB	**Clear Creek Bu**	**84.23**	**26**	P	**P**	**06 33 38.0 +0.8**
CCB				IAmb	IAmb	06 33 40.0
	comp=Z,4.1nm,1.2s					
G24K	**Hadweenzic Riv**	**84.45**	**23**	P	**P**	**06 33 39.7 +1.4**
G24K				IAmb	IAmb	06 33 44.8
	comp=Z,3.9nm,0.9s					
ILAR	**Eielson Array**	**84.63**	**25**	P	**P**	**06 33 37.7 -1.5**
	comp=Z,0.6nm,0.9s,baz=259,slow=5.3,SNR=6.0					
	comp=Z,0.6nm,0.9s					
M24K	**Tolsona, Glenn**	**84.90**	**28**	P	**P**	**06 33 40.0 -0.7**
BMAR	**Burnt Mountain**	**85.60**	**23**	P	**P**	**06 33 45.9 +1.8**
J26L	**Joseph Creek**	**86.06**	**26**	P	**P**	**06 33 47.6 +1.1**
J26L				IAmb	IAmb	06 34 02.9
	comp=Z,2.9nm,1.2s					
I28M	**Miner Creek**	**87.55**	**25**	P	**P**	**06 33 55.4 +1.7**
FINES	**FINESS Array B**	**91.48**	**332**	LR	LR	07 18 36.7
	comp=Z,35nm,18.3s,baz=93,slow=38					
MLR	**Muntele Rosu**	**94.65**	**316**	LR	LR	07 21 11.1
	comp=Z,30nm,21.1s,baz=282,slow=38					
NOA	**NORSAR Array B**	**98.42**	**334**	LR	LR	07 24 51.3
	comp=Z,28nm,18.4s,baz=65,slow=39					

UCR ***29*** *06:39:16.3±1.6, 12°.58N×87°.89W, h70km±35km, MW3.6*
GCG ***29*** *06:39:16.2±1.7, 12°.15N×88°.71W, h1km±27km, MD4.1, ML2.8*
CATAC ***29*** *06:39:16.6±0.3, 12°.N±2°×8°.8W±°, h36km±5km, M3.7/34, MLv3.7/34, Error ellipse: s-maj=5.8km s-min=1.7km az=26.6, confirmed*
SNET ***29*** *06:39:18.4±2.1, 12°.61N×87°.95W, h47km, ML3.6*

ISC 29 06:39:14.0±1.4, 12°.48N±0°.04×87°.95W±0°.03, h12km±10km, n96, σ0s95/115, 9C-21D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.63**	**37**	**⇓*iP***	**Pn**	**06 39 29.2**	**+0.4**
CSGN	**Cosiguina Volc**	**0.63**	**37**	**⇓P**	**Pn**	**06 39 29.3**	**+0.4**
POTN	**Potosi Cosigui**	**0.68**	**40**	**⇓*eP***	**Pn**	**06 39 29.9**	**+0.5**
POTN				*eS*	**Sn**	**06 39 39.9**	**0.0**
POTN	**Potosi Cosigui**	**0.68**	**40**	**⇓P**	**Pn**	**06 39 29.9**	**+0.5**
POTN				S	**Sn**	**06 39 40.2**	**+0.2**
CNCH	**Conchagua**	**0.80**	**8**	***eP***	**Pn**	**06 39 31.9**	**+0.5**
CNCH	**Conchagua**	**0.80**	**8**	S	**Sn**	**06 39 44.1**	**+0.8**
CNCH	**Conchagua**	**0.80**	**8**	⇓P	**Pn**	**06 39 32.0**	**+0.7**
LCND	**La Caada**	**0.83**	**4**	***eP***	**Pn**	**06 39 32.4**	**+0.7**
LCND	**La Caada**	**0.83**	**4**	⇓P	**Pn**	**06 39 32.3**	**+0.7**
CRIN	**San Cristobal**	**0.91**	**76**	**⇓*iP***	**Pn**	**06 39 33.3**	**+0.7**
CRIN				*eS*	**Sn**	**06 39 46.9**	**+1.1**
CRIN	**San Cristobal**	**0.91**	**76**	⇓P	**Pn**	**06 39 33.4**	**+0.7**
LCY	**Lacayo**	**1.00**	**340**	***eP***	**Pn**	**06 39 34.9**	**+0.8**
BLLM	**Bellamira**	**1.00**	**344**	***eP***	**Pn**	**06 39 34.6**	**+0.6**
CNRM	**Centro Naciona**	**1.02**	**348**	***eP***	**Pn**	**06 39 34.7**	**+0.5**
CNRM				*eS*	**Sn**	**06 39 49.0**	**+0.6**
CNRM	**Centro Naciona**	**1.02**	**348**	P	**Pn**	**06 39 35.0**	**+0.9**
ALJI	**Alcalda de J**	**1.04**	**324**	S	**Sn**	**06 39 49.5**	**+0.5**
ALJI	**Alcalda de J**	**1.04**	**324**	⇑P	**Pn**	**06 39 36.9**	**+2.4**
PACA	**Pacayal**	**1.05**	**340**	***eP***	**Pn**	**06 39 36.0**	**+1.2**
PACA	**Pacayal**	**1.05**	**340**	S	**Sn**	**06 39 49.6**	**+0.1**
PACA	**Pacayal**	**1.05**	**340**	⇑P	**Pn**	**06 39 35.8**	**+1.0**
POLN	**Al Sur del Vol**	**1.12**	**81**	⇓P	**Pb**	**06 39 35.6**	**+0.2**
POLN				S	**Sg**	**06 39 49.7**	**-0.5**
ROCN	**Rota Cerro Neg**	**1.18**	**88**	⇓P	**Pb**	**06 39 36.5**	**+0.2**
ROCN				S	**Sn**	**06 39 52.7**	**+0.3**
CNGA	**Al SSO del Vol**	**1.22**	**89**	⇓P	**Pb**	**06 39 37.1**	**+0.1**
CNGA				S	**Sb**	**06 39 52.7**	**-0.1**
CNGN	**Cerro Negro**	**1.22**	**89**	S	**Sb**	**06 39 52.8**	**0.0**
CNGN	**Cerro Negro**	**1.22**	**89**	⇓P	**Pb**	**06 39 36.8**	**-0.3**
PQSS	**Presa 15 de Se**	**1.29**	**332**	***eP***	**Pg**	**06 39 39.0**	**+0.2**
PQSS	**Presa 15 de Se**	**1.29**	**332**	S	**Sn**	**06 39 54.5**	**-0.6**
PQSS	**Presa 15 de Se**	**1.29**	**332**	⇓P	**Pg**	**06 39 38.8**	**0.0**
CAHU	**Cacacuatique**	**1.31**	**349**	***eP***	**Pg**	**06 39 39.7**	**+0.5**
CAHU				*eS*	**Sn**	**06 39 57.3**	**+1.3**
TECO	**Alcaldia de Te**	**1.33**	**323**	S	**Sb**	**06 39 54.9**	**-1.1**
TECO	**Alcaldia de Te**	**1.33**	**323**	⇑P	**Pn**	**06 39 38.8**	**+0.3**
COPN	**Copaltepe**	**1.36**	**102**	**⇓*iP***	**Pn**	**06 39 38.5**	**-0.3**
COPN				*eS*	**Sb**	**06 39 56.0**	**-0.7**
COPN	**Copaltepe**	**1.36**	**102**	⇓P	**Pn**	**06 39 38.6**	**-0.2**
MOMN	**Momotombo**	**1.38**	**93**	⇓P	**Pn**	**06 39 39.0**	**-0.2**
MOMN				S	**Sb**	**06 39 55.9**	**-1.5**
UESV	**Universidad de**	**1.41**	**325**	S	**Sn**	**06 39 57.9**	**-0.4**
UESV	**Universidad de**	**1.41**	**325**	⇓P	**Pb**	**06 39 40.0**	**0.0**
MOM2	**El Cardon**	**1.43**	**91**	⇓P	**Pn**	**06 39 39.9**	**+0.1**
MOM2				S	**Sn**	**06 39 57.9**	**-0.7**
SCLA	**Alcaldia de Sa**	**1.44**	**328**	S	**Sg**	**06 39 59.5**	**-0.8**
SCLA	**Alcaldia de Sa**	**1.44**	**328**	⇑P	**Pb**	**06 39 40.9**	**+0.1**
SAPS	**Ciudad Sandino**	**1.54**	**101**	S	**Sn**	**06 40 00.0**	**-1.3**
SAPS	**Ciudad Sandino**	**1.54**	**101**	⇑P	**Pn**	**06 39 41.2**	**-0.1**
APQ3	**Volcan Apoyequ**	**1.56**	**97**	⇑P	**Pn**	**06 39 41.8**	**+0.2**
APQ3				S	**Sn**	**06 40 00.8**	**-0.9**
PAVA	**Las Pavas**	**1.56**	**322**	***eP***	**Pb**	**06 39 42.9**	**-0.1**
PAVA	**Las Pavas**	**1.56**	**322**	P	**Pn**	**06 39 42.7**	**+0.9**
PAVA	**Las Pavas**	**1.56**	**322**	S	**Sb**	**06 40 02.4**	**-0.4**
LFRS	**El Faro**	**1.57**	**317**	***eP***	**Pn**	**06 39 42.4**	**+0.5**
LBRS	**Las Brisas**	**1.65**	**320**	***eP***	**Pb**	**06 39 44.1**	**-0.3**
LOMA	**Loma Larga**	**1.66**	**314**	***eP***	**Pn**	**06 39 42.8**	**-0.3**
LOMA	**Loma Larga**	**1.66**	**314**	S	**Sn**	**06 40 04.0**	**-0.6**
LOMA	**Loma Larga**	**1.66**	**314**	⇓P	**Pn**	**06 39 43.4**	**+0.3**
LALI	**Alcalda de L**	**1.67**	**307**	***iP***	**Pn**	**06 39 41.4**	**-1.8**
LALI				*iS*	**Sn**	**06 40 03.1**	**-1.5**
LALI				IAML		06 40 09.2	
	comp=E,126nm,0.3s						
TISN	**Laguna Tiscapa**	**1.67**	**101**	⇓P	**Pn**	**06 39 43.1**	**-0.1**
UNAN	**Cigeo UNAN**	**1.68**	**102**	⇑P	**Pn**	**06 39 43.2**	**-0.1**
UNAN				S	**Sn**	**06 40 03.7**	**-1.1**
UTEC	**Universidad Te**	**1.72**	**315**	P	**Pn**	**06 39 44.2**	**+0.2**
UTEC	**Universidad Te**	**1.72**	**315**	S	**Sn**	**06 40 04.7**	**-1.2**
WILN	**Americas 2**	**1.75**	**100**	P	**Pn**	**06 39 44.4**	**+0.2**
WILN				S	**Sn**	**06 40 05.4**	**-1.0**
UEES	**Universidad Ev**	**1.76**	**315**	P	**Pn**	**06 39 45.3**	**+0.9**
UEES	**Universidad Ev**	**1.76**	**315**	S	**Sn**	**06 40 07.0**	**+0.1**
BOQS	**Boqueron**	**1.80**	**314**	***eP***	**Pn**	**06 39 45.8**	**+0.7**
PMON	**Piamonte**	**1.81**	**313**	***eP***	**Pn**	**06 39 45.2**	**0.0**
PMON	**Piamonte**	**1.81**	**313**	S	**Sn**	**06 40 08.2**	**0.0**
PMON	**Piamonte**	**1.81**	**313**	⇑P	**Pn**	**06 39 45.8**	**+0.6**
SABN	**Sabanita**	**1.82**	**106**	⇑P	**Pn**	**06 39 45.1**	**-0.1**
OCON	**Estacion meteo**	**1.84**	**51**	⇓P	**Pn**	**06 39 45.8**	**+0.4**
OCON				S	**Sn**	**06 40 07.8**	**-0.9**
NANN	**Nandasmo**	**1.86**	**106**	P	**Pn**	**06 39 46.9**	**+1.1**
NANN	**Nandasmo**	**1.86**	**106**	S	**Sn**	**06 40 08.8**	**-0.6**
JAYA	**Jayaque - finc**	**1.87**	**309**	***eP***	**Pn**	**06 39 46.4**	**+0.3**
JAYA				*eS*	**Sn**	**06 40 07.8**	**-2.0**
JAYA	**Jayaque - finc**	**1.87**	**309**	***iP***	**Pn**	**06 39 46.5**	**+0.5**
JAYA				*iS*	**Sn**	**06 40 09.9**	**+0.2**
JAYA	**Jayaque - finc**	**1.87**	**309**	S	**Sn**	**06 40 08.5**	**-1.3**
JAYA	**Jayaque - finc**	**1.87**	**309**	P	**Pn**	**06 39 46.5**	**+0.5**
CEDA	**San Andres**	**1.93**	**313**	***eP***	**Pn**	**06 39 47.3**	**+0.5**
MATN	**Matagalpa**	**2.02**	**77**	P	**Pn**	**06 39 47.0**	**-1.1**
RCVN	**Varillal2**	**2.03**	**57**	P	**Pn**	**06 39 49.2**	**+0.9**
RCVN	**Varillal2**	**2.03**	**57**	S	**Sn**	**06 40 13.6**	**-0.1**
RCPN	**Sur Rio San Ju**	**2.09**	**60**	P	**Pn**	**06 39 49.0**	**0.0**
UNIC	**Universidad Ca**	**2.16**	**314**	P	**Pn**	**06 39 50.9**	**+0.9**
UNIC	**Universidad Ca**	**2.16**	**314**	S	**Sn**	**06 40 17.5**	**+0.8**
BOAB	**BOACO BROADBAN**	**2.23**	**90**	P	**Pn**	**06 39 50.6**	**-0.3**
NUBE	**Las Nubes**	**2.28**	**309**	***iP***	**Pn**	**06 39 52.3**	**+0.7**
NUBE				*iS*	**Sn**	**06 40 18.9**	**-0.9**
NUBE	**Las Nubes**	**2.28**	**309**	P	**Pn**	**06 39 52.8**	**+1.1**
MTO3	**Montecristo**	**2.35**	**324**	***eP***	**Pn**	**06 39 53.7**	**+0.9**
MTO3	**Montecristo**	**2.35**	**324**	***iP***	**Pb**	**06 39 56.2**	**-0.4**
MTO3	**Montecristo**	**2.35**	**324**	P	**Pn**	**06 39 53.6**	**+0.8**
SLOZ	**Alcaldia de Sa**	**2.36**	**311**	P	**Pn**	**06 39 53.6**	**+1.0**
ACON	**Acoyapa**	**2.76**	**100**	***eP***	**Pn**	**06 39 58.1**	**0.0**
ACON	**Acoyapa**	**2.76**	**100**	P	**Pn**	**06 39 57.6**	**-0.5**
JUD3	**Juan Diaz 3**	**3.29**	**134**	***eP***	**Pn**	**06 40 06.3**	**+0.7**
SIUN	**Universidad Ur**	**3.33**	**68**	P	**Pn**	**06 40 06.6**	**+0.6**
CMARA	**Lajas Hojancha**	**3.48**	**134**	***eP***	**Pn**	**06 40 08.3**	**+0.3**
JTS	**Las Juntas de**	**3.65**	**126**	***eP***	**Pn**	**06 40 12.7**	**+2.2**
TCS1	**Tacares**	**4.32**	**124**	***eP***	**Pn**	**06 40 23.5**	**+3.8**
PAR1A	**Puntarenas Pro**	**4.62**	**128**	***eP***	**Pn**	**06 40 25.8**	**+2.0**
PISJ	**San Jernim**	**4.70**	**127**	***eP***	**Pn**	**06 40 26.5**	**+1.5**
PIEC	**Cerro El Cedra**	**4.84**	**126**	***eP***	**Pn**	**06 40 29.5**	**+2.5**
SAJE	**San Jernim**	**5.36**	**125**	***eP***	**Pn**	**06 40 36.4**	**+2.4**
DRK0	**Durika**	**5.62**	**124**	***eP***	**Pn**	**06 40 39.3**	**+1.7**

NNC ***29*** *06:51:20.2±0.8, 42°.99N×78°.34E, h0km, mb2.6, mpv2.4, Error ellipse: s-maj=6.7km s-min=4.2km az=7.0*
SOME ***29*** *06:51:21.2, 43°.07N×78°.30E, h15km*
KRNET ***29*** *06:51:23.6±0.1, 42°.94N×78°.11E, h18km, mb2.2*

ISC 29 06:51:21.0±0.8, 43°.01N±0°.04×78°.29E±0°.02, h10km, n19, σ1s75/37, 6C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.10**	**59**	P	**Pg**	**06 51 22.2**	**-1.5**
	38nm,0.1s						
SATY				S	**Sg**	**06 51 23.7**	**-2.0**
	428nm,0.1s						
KPKS	**Kokpek**	**0.54**	**32**	P	**Pg**	**06 51 30.3**	**-1.3**
	0.3nm,0.1s						
KPKS				S	**Sg**	**06 51 37.4**	**-1.4**
	11nm,0.2s						
UZB	**Uzynbulak**	**0.56**	**75**	***eP***	**Pg**	**06 51 30.3**	**-1.5**
	4.4nm,0.1s						
UZB				*eS*	**Sg**	**06 51 37.3**	**-1.9**
	8.4nm,0.1s						
SHLS	**Shalkode**	**0.87**	**80**	P	**Pn**	**06 51 41.5**	**+2.1**
	1.8nm,0.2s						
SHLS				S	**Sn**	**06 51 56.9**	**+4.6**
	4.7nm,0.2s						
SHLS	**Shalkode**	**0.87**	**80**	***eP***	**Pn**	**06 51 41.5**	**+2.1**
	0.7nm,0.1s						
SHLS				*eS*	**Sn**	**06 51 56.7**	**+4.4**
	4.5nm,0.1s						
KOTS	**Kotyrbulak**	**0.89**	**285**	***eP***	**Pg**	**06 51 37.2**	**-1.0**
	0.5nm,0.1s						
KOTS				*eS*	**Sg**	**06 51 49.0**	**-0.7**
	5.3nm,0.2s						
PDGK	**Podgornoye**	**0.94**	**69**	⇑P	**Pg**	**06 51 36.9**	**-2.1**
	1.1nm,0.3s						
PDGK				⇑S	**Sg**	**06 51 48.8**	**-2.4**
	2.3nm,0.4s						
KDJ	**Kajisay**	**1.20**	**223**	⇑*eP*	**Pn**	**06 51 43.7**	**-0.3**
KDJ				⇑*eS*	**Sb**	**06 51 58.3**	**-1.2**
ARXS	**Arharly**	**1.25**	**345**	P	**Pg**	**06 51 46.2**	**+1.2**
	0.7nm,0.1s						
ARXS				S	**Sn**	**06 52 04.5**	**+2.9**
	7.1nm,0.1s						
ARXS	**Arharly**	**1.25**	**345**	***eP***	**Pb**	**06 51 43.6**	**-1.2**
ARXS				*eS*	**Sg**	**06 51 60.0**	**-1.3**
CHKK	**Chushkaly**	**1.27**	**312**	***eP***	**Pn**	**06 51 44.2**	**-0.6**
	0.4nm,0.0s						
CHKK				*eS*	**Sg**	**06 52 01.1**	**-0.8**
	3.4nm,0.2s						
KTBS	**Karatobe**	**1.37**	**302**	P	**Pn**	**06 51 45.7**	**-0.5**
	1.7nm,0.2s						
KTBS				S	**Sb**	**06 52 03.7**	**-0.5**
	3.1nm,0.2s						
KNOS	**Konyrlen**	**1.50**	**25**	P	**Pn**	**06 51 47.8**	**-0.2**
	1.2nm,0.1s						
KNOS				S	**Sg**	**06 52 07.4**	**-1.8**
	11nm,0.3s						
ULHL	**Ulahol**	**1.69**	**244**	**⇓*iP***	**Pn**	**06 51 51.9**	**+1.1**
ULHL				⇓*eS*	**Sn**	**06 52 12.8**	**+0.2**
BOOM	**Boomskoye usch**	**1.81**	**254**	**⇓*iP***	**Pb**	**06 51 54.2**	**0.0**
BOOM				⇓*eS*	**Sn**	**06 52 16.5**	**+1.1**
DGS	**Degeres**	**1.86**	**278**	P	**Pb**	**06 51 55.0**	**-0.1**
	1.6nm,0.3s						
DGS				S	**Sb**	**06 52 19.6**	**+1.2**
	3.0nm,0.3s						
TKM2	**Tokmak 2**	**1.98**	**268**	⇓*iP*	**Pb**	**06 51 57.5**	**+0.3**
TKM2				⇓*iS*	**Sb**	**06 52 22.7**	**+0.7**
KRBS	**Karabastau**	**2.03**	**291**	Pg	**Pb**	**06 51 57.7**	**-0.3**
	0.8nm,0.3s						
KRBS				Lg	Lg	06 52 24.3	
	2.9nm,0.2s						
UCH	**Uchtor**	**2.89**	**256**	⇑*iP*	**Pn**	**06 52 09.5**	**+2.0**
UCH				⇑*iS*	**Sn**	**06 52 42.9**	**+0.3**

NOU ***29*** *07:00:01.4, 38°.74S×175°.87E, h135km, MLv3.5/17, North Island, New Zealand*
WEL ***29*** *07:00:03.8±0.9, 39°.S±5°×17°.6E±°, h116km±7km, M3.0/68, ML2.5/16, MLv3.0/68, Error ellipse: s-maj=9.0km s-min=5.8km az=127.6, confirmed*

ISC 29 07:00:00.1±1.5, 38°.65S±0°.04×175°.84E±0°.04, h151km±7km, n117, σ1s08/127, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTZ	**Whakaora**	**0.09**	**100**	P	**Pn**	**07 00 21.1**	**+0.7**
WATZ	**Wairara**	**0.10**	**235**	P	**Pn**	**07 00 21.0**	**+0.6**
KUTZ	**Kaahu Road**	**0.16**	**355**	P	**Pn**	**07 00 21.1**	**+0.5**
RATZ	**Rangitukua**	**0.22**	**194**	P	**Pn**	**07 00 21.1**	**+0.5**
WPRZ	**Whakapapatarin**	**0.28**	**63**	P	**Pn**	**07 00 21.2**	**+0.4**
HATZ	**Hinemaiaia**	**0.31**	**141**	P	**Pn**	**07 00 21.3**	**+0.4**
RITZ	**Rihia Road**	**0.33**	**178**	P	**Pn**	**07 00 21.8**	**+0.9**
KATZ	**Kakaramea**	**0.34**	**199**	P	**Pn**	**07 00 22.1**	**+1.0**
GRRZ	**Galatos Road**	**0.37**	**35**	P	**Pn**	**07 00 21.6**	**+0.5**
TLZ	**Tolley Road**	**0.40**	**323**	P	**Pn**	**07 00 21.8**	**+0.6**
ALRZ	**Allen Road**	**0.40**	**78**	P	**Pn**	**07 00 21.4**	**+0.2**
HRRZ	**Handcock Road**	**0.43**	**53**	P	**Pn**	**07 00 21.8**	**+0.4**
PRRZ	**Plateau Road**	**0.46**	**71**	P	**Pn**	**07 00 21.6**	**+0.2**
HSRZ	**Hossack Road**	**0.46**	**43**	P	**Pn**	**07 00 22.0**	**+0.5**
KRVZ	**Karewarewa**	**0.47**	**199**	P	**Pn**	**07 00 22.4**	**+0.8**
TMVZ	**Te Maari**	**0.48**	**193**	P	**Pn**	**07 00 22.7**	**+1.0**
TMVZ				S	**Sn**	**07 00 37.2**	**-1.0**
MRHZ	**Matea Rd**	**0.49**	**112**	P	**Pn**	**07 00 22.0**	**+0.4**
MRHZ				S	**Sn**	**07 00 36.2**	**-1.8**
ETVZ	**East Tongariro**	**0.50**	**192**	P	**Pn**	**07 00 22.8**	**+1.0**
ETVZ				S	**Sn**	**07 00 37.6**	**-0.8**
WTVZ	**West Tongariro**	**0.51**	**203**	P	**Pn**	**07 00 22.5**	**+0.7**
WTVZ				S	**Sn**	**07 00 37.5**	**-0.8**
NNVZ	**North Ngauruho**	**0.51**	**200**	P	**Pn**	**07 00 22.4**	**+0.5**
TWVZ	**Taurewa**	**0.53**	**217**	P	**Pn**	**07 00 22.7**	**+0.8**
OTVZ	**Oturere**	**0.53**	**195**	P	**Pn**	**07 00 23.0**	**+1.0**
OTVZ				S	**Sn**	**07 00 38.0**	**-0.7**
UTU	**Utuhina**	**0.55**	**31**	P	**Pn**	**07 00 22.5**	**+0.6**
NGZ	**Ngauruhoe**	**0.56**	**200**	P	**Pn**	**07 00 23.1**	**+1.0**
SNVZ	**South Ngauruho**	**0.56**	**196**	P	**Pn**	**07 00 23.4**	**+1.2**
SNVZ				S	**Sn**	**07 00 38.5**	**-0.5**
HLRZ	**Highlands Stat**	**0.56**	**45**	P	**Pn**	**07 00 23.0**	**+1.0**
COVZ	**Chateau Observ**	**0.60**	**203**	P	**Pn**	**07 00 23.2**	**+0.9**
NGRZ	**Ngongotaha**	**0.61**	**27**	P	**Pn**	**07 00 22.8**	**+0.5**
TUVZ	**Tukino**	**0.63**	**193**	P	**Pn**	**07 00 23.6**	**+1.0**
TUVZ				S	**Sn**	**07 00 38.8**	**-0.9**
FWVZ	**Far West T-bar**	**0.65**	**200**	P	**Pn**	**07 00 23.6**	**+0.9**
MAVZ	**Matarangi**	**0.66**	**199**	P	**Pn**	**07 00 23.9**	**+1.1**
WHVZ	**Whangaehu Hut**	**0.66**	**197**	P	**Pn**	**07 00 23.8**	**+1.0**
TARZ	**Mount Tarawera**	**0.67**	**52**	P	**Pn**	**07 00 23.1**	**+0.5**
OMRZ	**Omania**	**0.68**	**38**	P	**Pn**	**07 00 23.3**	**+0.5**
WNVZ	**Wahianoa**	**0.70**	**196**	P	**Pn**	**07 00 24.0**	**+1.0**
KARZ	**Kaharoa**	**0.70**	**27**	P	**Pn**	**07 00 23.2**	**+0.4**
MKRZ	**Makatiti**	**0.71**	**44**	P	**Pn**	**07 00 24.0**	**+1.1**
BKZ	**Black Stump Fm**	**0.72**	**136**	P	**Pn**	**07 00 23.7**	**+0.7**
BKZ	**Black Stump Fm**	**0.72**	**136**	S	**Sn**	**07 00 39.5**	**-1.0**
BKZ	**Black Stump Fm**	**0.72**	**136**	P	**Pn**	**07 00 23.8**	**+0.8**
PKVZ	**Pokaka**	**0.75**	**211**	P	**Pn**	**07 00 24.1**	**+1.0**
MUGZ	**Murupara**	**0.75**	**77**	P	**Pn**	**07 00 23.2**	**+0.1**
MOVZ	**Moawhango**	**0.76**	**185**	P	**Pn**	**07 00 24.1**	**+0.8**
HIZ	**Hauiti**	**0.78**	**280**	P	**Pn**	**07 00 24.2**	**+0.8**
HIZ	**Hauiti**	**0.78**	**280**	S	**Sn**	**07 00 41.1**	**+0.1**
HIZ	**Hauiti**	**0.78**	**280**	P	**Pn**	**07 00 24.1**	**+0.8**
MTVZ	**Mangateitei**	**0.79**	**201**	P	**Pn**	**07 00 24.5**	**+1.1**
KMRZ	**Kaimai**	**0.81**	**6**	P	**Pn**	**07 00 24.1**	**+0.5**
MTHZ	**Maungataniwha**	**0.81**	**105**	P	**Pn**	**07 00 24.3**	**+0.8**
NMHZ	**Naumai**	**0.88**	**121**	P	**Pn**	**07 00 25.8**	**+1.7**
EDRZ	**Edgecumbe**	**0.89**	**53**	P	**Pn**	**07 00 24.4**	**+0.2**
RTZ	**Ruatahuna**	**0.89**	**88**	P	**Pn**	**07 00 24.8**	**+0.5**
KWHZ	**Kaweka Forest**	**0.90**	**150**	P	**Pn**	**07 00 25.4**	**+1.2**
MARZ	**Manawahe**	**0.93**	**45**	P	**Pn**	**07 00 25.0**	**+0.5**
TOZ	**Tahuroa Road**	**0.95**	**344**	P	**Pn**	**07 00 25.4**	**+0.7**
VRZ	**Vera Road**	**0.97**	**240**	P	**Pn**	**07 00 26.0**	**+1.3**
TGRZ	**Tauranga**	**0.98**	**20**	P	**Pn**	**07 00 25.4**	**+0.5**
OPRZ	**Ohinepanea**	**0.98**	**35**	P	**Pn**	**07 00 25.3**	**+0.4**
RAHZ	**Arahi**	**1.01**	**106**	P	**Pn**	**07 00 26.3**	**+1.2**
MCHZ	**McNeill Hill**	**1.04**	**140**	P	**Pn**	**07 00 27.3**	**+2.0**
URZ	**Urewera**	**1.07**	**69**	P	**Pn**	**07 00 25.6**	**0.0**
URZ	**Urewera**	**1.07**	**69**	P	**Sn**	**07 00 43.2**	**-1.8**
URZ	**Urewera**	**1.07**	**69**	P	**Pn**	**07 00 25.7**	**+0.1**
KRHZ	**Kereru**	**1.07**	**158**	P	**Pn**	**07 00 27.1**	**+1.4**
ARHZ	**Aropaoanui**	**1.09**	**125**	P	**Pn**	**07 00 27.5**	**+1.7**
WHHZ	**Waihua**	**1.17**	**112**	P	**Pn**	**07 00 28.1**	**+1.6**
SNGZ	**Shannon Statio**	**1.18**	**97**	P	**Pn**	**07 00 28.0**	**+1.4**
RAGZ	**Rawiri**	**1.24**	**83**	P	**Pn**	**07 00 28.0**	**+0.8**
WAZ	**Wanganui**	**1.29**	**211**	P	**Pn**	**07 00 29.1**	**+1.5**
PNHZ	**Pukenui**	**1.29**	**168**	P	**Pn**	**07 00 28.9**	**+1.2**
MWHZ	**Matawai**	**1.36**	**77**	P	**Pn**	**07 00 29.0**	**+0.6**
LREZ	**Lake Rotokare**	**1.38**	**234**	P	**Pn**	**07 00 30.3**	**+1.7**
CKHZ	**Cape Kidnapper**	**1.39**	**137**	P	**Pn**	**07 00 30.5**	**+1.8**
KAHZ	**Kahuranaki**	**1.40**	**145**	P	**Pn**	**07 00 30.5**	**+1.8**
TSZ	**Takapari Road**	**1.41**	**176**	P	**Pn**	**07 00 30.1**	**+1.3**
KNZ	**Kokohu**	**1.48**	**105**	P	**Pn**	**07 00 30.7**	**+1.2**
PREZ	**Palmer Road**	**1.48**	**242**	P	**Pn**	**07 00 31.5**	**+1.9**
WPHZ	**Waipukurau**	**1.49**	**162**	P	**Pn**	**07 00 31.0**	**+1.4**
NEZ	**North Egmont**	**1.50**	**245**	P	**Pn**	**07 00 31.6**	**+1.8**
RIGZ	**Rimuhau**	**1.50**	**93**	P	**Pn**	**07 00 31.1**	**+1.3**
PKE	**Pukeiti**	**1.54**	**249**	P	**Pn**	**07 00 31.9**	**+1.6**
KHEZ	**Kahui Hut**	**1.56**	**245**	P	**Pn**	**07 00 32.2**	**+1.7**
KHEZ	**Kahui Hut**	**1.56**	**245**	P	**Pn**	**07 00 32.3**	**+1.7**
TKGZ	**Te Karaka**	**1.59**	**83**	P	**Pn**	**07 00 32.2**	**+1.5**
PXZ	**Pawanui**	**1.59**	**150**	P	**Pn**	**07 00 32.1**	**+1.4**
RUGZ	**Raukumara Rang**	**1.60**	**65**	P	**Pn**	**07 00 30.7**	**-0.2**
OHWZ	**Ohakea**	**1.61**	**195**	P	**Pn**	**07 00 32.6**	**+1.8**
OHWZ

	comp=N,198nm,0.6s							
TPO				IAML		07 03 36.4		
	comp=E,167nm,0.5s							
TEJ	**El Tejon**	**1.04**	**241**		Pg	07 03 16.8	-0.9	
TEJ					Sg	07 03 30.4	-1.0	
SBB	**Saddle Back Bu**	**1.07**	**191**		Pg	07 03 17.6	-0.7	
SHOC	**Shoshone, Teco**	**1.07**	**81**		Pg	07 03 18.3	0.0	
SHOC					Sb	07 03 32.5	+0.1	
SPG2	**Springville 2**	**1.07**	**296**		Pg	07 03 17.7	-0.7	
VES	**Vestal, Richgr**	**1.23**	**275**		Pn	07 03 20.9	-0.1	
VES				IAML		07 03 40.2		
	comp=E,221nm,0.6s							
VES				IAML		07 03 42.1		
	comp=N,143nm,0.5s							
LEOC	**Leona Valley**	**1.25**	**209**		Pn	07 03 21.4	-0.1	
LRRC	**Littlerock Res**	**1.26**	**197**		Pb	07 03 21.8	+0.1	
LRRC					Sn	07 03 39.1	+0.6	
GRAC	**Grapevine Rang**	**1.27**	**8**		Pn	07 03 21.5	-0.1	
GRAC				IAML		07 03 45.8		
	comp=N,134nm,0.7s							
GRAC				IAML		07 03 46.0		
	comp=E,152nm,0.4s							
AMDNV	**Amargosa**	**1.27**	**55**		Pn	07 03 20.5	-1.0	
AMDNV					Sn	07 03 38.9	+0.3	
CJV	**Casa Juvan**	**1.29**	**201**		Pg	07 03 23.0	+0.4	
HOLC	**Holcomb Ridge**	**1.29**	**190**		Pn	07 03 22.1	0.0	
WCT	**Wildcat Mounta**	**1.30**	**36**		Pn	07 03 21.4	-0.7	
WCT					Sg	07 03 39.8	0.0	
WCT				IAML		07 03 41.5		
	comp=E,121nm,0.4s							
WCT				IAML		07 03 41.7		
	comp=N,98nm,0.7s							
SGV	**South Grapevin**	**1.32**	**19**		Pn	07 03 21.9	-0.5	
JNH	**Juniper Hills**	**1.32**	**194**		Pn	07 03 22.5	0.0	
DSCC	**Desert Studies**	**1.34**	**116**		Pn	07 03 21.1	-1.4	
CHFC	**Chilao Flat St**	**1.45**	**195**		Pb	07 03 25.0	0.0	
OSI	**Osito Audit: C**	**1.46**	**220**		Pn	07 03 24.7	+0.4	
OSI				IAML		07 03 47.2		
	comp=N,100nm,1.1s							
LCH	**Last Change Ra**	**1.49**	**358**		Pn	07 03 24.6	-0.2	
BFSC	**Mount Baldy Ra**	**1.50**	**183**		Pn	07 03 25.2	+0.4	
BFSC				IAML		07 03 46.9		
	comp=N,67nm,0.2s							
BFSC				IAML		07 03 50.0		
	comp=E,70nm,0.3s							
SIL	**Silver Peak**	**1.52**	**156**		Pg	07 03 26.8	-0.1	
SSK	**Sunset Peak**	**1.53**	**184**		Pg	07 03 27.0	-0.1	
MWC	**Mount Wilson**	**1.56**	**195**		Pn	07 03 25.7	-0.1	
MWC				IAML		07 03 49.7		
	comp=E,98nm,0.3s							
MWC				IAML		07 03 51.3		
	comp=N,113nm,0.3s							
VOG	**Valley Oaks Go**	**1.58**	**292**		Pb	07 03 27.1	+0.1	
GMN	**Gold Mountain**	**1.58**	**9**		Pn	07 03 26.0	-0.1	
TPNV	**Topopah Spring**	**1.61**	**41**		Pn	07 03 26.1	-0.3	
TPNV				IAML		07 03 52.8		
	comp=N,91nm,0.6s							
TPNV				IAML		07 03 53.4		
	comp=N,103nm,0.8s							
PASC	**Pasadena Art C**	**1.64**	**198**		Pn	07 03 27.1	+0.4	
PASC				IAML		07 03 51.5		
	comp=E,58nm,0.4s							
PSRC	**Puddingstone R**	**1.65**	**187**		Pg	07 03 29.5	0.0	
DSP	**Deep Springs**	**1.66**	**349**		Pn	07 03 26.9	0.0	
MTPC	**Mountain Pass**	**1.67**	**98**		Pn	07 03 26.1	-1.1	
MTPC				IAML		07 03 53.8		
	comp=E,69nm,0.3s							
GTM	**Goat Mountain**	**1.75**	**145**		Pb	07 03 30.6	+0.5	
GMRC	**Granite Mounta**	**1.83**	**121**		Pn	07 03 27.7	-1.7	
BLAC	**Blackrock camp**	**1.93**	**149**		Pn	07 03 30.3	-0.5	
MZP	**Montezuma Peak**	**1.96**	**4**		Pn	07 03 31.5	+0.1	
TPC	**Twentynine Pal**	**2.06**	**142**		Pn	07 03 31.6	-0.9	
ELS	**Elsinore Mount**	**2.09**	**177**		Pn	07 03 32.8	-0.2	
ELS				IAML		07 04 05.6		
	comp=E,76nm,0.2s							
SHPR	**Sheep Range**	**2.10**	**68**		Pn	07 03 33.3	+0.1	
POB	**Polly Butte**	**2.12**	**165**		Pn	07 03 33.3	0.0	
BELC	**Belle Mtn. Jos**	**2.17**	**143**	Pn	Pn	07 03 33.2	-0.9	
BELC				IAML		07 04 09.8		
	comp=N,52nm,0.6s							
BELC				IAML		07 04 10.7		
	comp=E,62nm,0.8s							
V12A	**Nelson**	**2.22**	**89**		Pn	07 03 33.9	-0.8	
PMD	**Palm Desert**	**2.31**	**154**		Pn	07 03 35.0	-0.8	
PFO	**Pinyon Flats O**	**2.31**	**156**		Pn	07 03 35.3	-0.8	
TPH	**Tonopah**	**2.35**	**7**		Pn	07 03 36.9	+0.3	
TPH				IAML		07 04 21.3		
	comp=E,62nm,1.3s							
S11A	**Rachel**	**2.40**	**37**	Pn	Pn	07 03 37.6	+0.3	
S11A				IAML		07 04 19.5		
	comp=E,42nm,0.6s							
S11A				IAML		07 04 24.7		
	comp=N,44nm,0.8s							
IRM	**Iron Mountain**	**2.54**	**128**		Pn	07 03 37.5	-1.7	
IRM				IAML		07 04 19.2		
	comp=E,37nm,0.5s							
IRM				IAML		07 04 19.5		
	comp=N,32nm,0.4s							
NEE2	**Needles Airpor**	**2.61**	**111**		Pn	07 03 38.6	-1.3	
NEE2				IAML		07 04 25.0		
	comp=N,46nm,0.5s							
NEE2				IAML		07 04 26.2		
	comp=E,55nm,0.8s							
LHV	**Little Huntoon**	**2.62**	**344**		Pn	07 03 40.9	+0.8	
PRN	**Pahroc Range**	**2.63**	**50**		Pn	07 03 40.6	+0.2	
PRN				IAML		07 04 26.7		
	comp=E,26nm,0.6s							
PRN				IAML		07 04 30.2		
	comp=N,33nm,0.8s							
NV11	**Mina Array Sit**	**2.73**	**350**		Pn	07 03 42.3	+0.5	
NVAR	**Mina Array Bea**	**2.75**	**348**		Pn	07 03 42.6	+0.4	
RYN	**Ryan**	**2.98**	**346**	Pn	Pn	07 03 45.8	+0.5	
W13A	**Hualapai Mount**	**3.08**	**101**	Pn	Pn	07 03 45.9	-0.8	
CMB	**Columbia Colle**	**3.21**	**316**		Pn	07 03 50.6	+2.2	
CMB				IAML		07 04 43.6		
	comp=N,18nm,0.6s							
CMB				IAML		07 04 43.6		
	comp=E,13nm,0.6s							
LCMT	**Little Creek M**	**3.72**	**69**	Pn	Pn	07 03 55.8	+0.4	
CCUT	**Cedar City**	**3.84**	**61**		Pn	07 03 57.9	+0.7	
KNB	**Kanab**	**4.04**	**70**	Pn	Pn	07 04 00.3	+0.4	
U15A	**North Rim**	**4.33**	**79**	Pn	Pn	07 04 04.6	+0.6	
PKCU	**Pink Cliffs**	**4.57**	**67**	Pn	Pn	07 04 07.8	+0.6	
MSU	**Marysvale**	**5.13**	**56**	Pn	Pn	07 04 15.3	+0.4	

*AZER **29** 07:28:14.8, 38.48N×46.63E, h10km, ml2.6*
*TEH **29** 07:28:15.4, 38.46N×46.60E, h6km≡85km*
ISC 29 07:28:15.8±1.1, 38.41N±0.03×46.61E±0.02, h5km±11km, n25, σ0≡84/43, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.35**	**105**	Pg	**Pg**	**07 28 22.7**	**0.0**
ITBZ	**Tabriz**	**0.41**	**244**	Pg	**Pg**	**07 28 23.2**	**-0.4**
ORD	**Ordubad**	**0.70**	**317**	P	**Pg**	**07 28 29.1**	**-0.2**
ORD				S	**Sg**	**07 28 39.3**	**+0.8**
ISHB	**Shabestar**	**0.79**	**261**	Pg	**Pg**	**07 28 30.4**	**-0.5**
IAZR	**Azarshahr**	**0.89**	**214**	Pg	**Pg**	**07 28 33.5**	**+0.7**
GRMI	**Germi**	**1.08**	**68**	Pg	**Pg**	**07 28 35.6**	**-0.9**
NAX	**Nakhchivan**	**1.16**	**311**	P	**Pb**	**07 28 37.7**	**-0.6**
NAX				S	**Sg**	**07 28 54.1**	**+1.2**
QRD	**Qoradiz**	**1.19**	**28**	P	**Pb**	**07 28 37.7**	**-1.1**
QRD				S	**Sn**	**07 28 54.8**	**-0.8**
IHSH	**Hashtrud**	**1.22**	**155**	Pg	**Pb**	**07 28 38.8**	**-0.8**
SBZ	**Shahbuz**	**1.28**	**320**	P	**Pb**	**07 28 40.0**	**-0.5**
SBZ				S	**Sn**	**07 28 58.1**	**0.0**
YRD	**Yardimli**	**1.37**	**68**	P	**Pn**	**07 28 41.1**	**-0.7**
YRD				S	**Sg**	**07 29 00.3**	**+0.4**
LRK	**Lerik**	**1.38**	**80**	P	**Pn**	**07 28 41.2**	**-0.7**
LRK				S	**Sg**	**07 29 01.2**	**+1.1**
BLQ	**Beylaqan**	**1.50**	**29**	P	**Pb**	**07 28 43.9**	**-0.3**
BLQ				S	**Sg**	**07 29 04.9**	**+0.9**
GLBA	**Clilabad**	**1.62**	**59**	P	**Pb**	**07 28 46.3**	**+0.1**
GLBA				S	**Sg**	**07 29 09.1**	**+1.2**
ASTR	**Astara**	**1.72**	**84**	P	**Pb**	**07 28 47.3**	**-0.5**
ASTR				S	**Sg**	**07 29 11.7**	**+0.7**
LKRN	**Lenkeran, Azer**	**1.73**	**79**	P	**Pb**	**07 28 47.7**	**-0.3**
LKRN				S	**Sg**	**07 29 11.1**	**-0.2**
AGDM	**Agdam**	**1.74**	**13**	P	**Pb**	**07 28 47.5**	**-0.7**
AGDM				S	**Sb**	**07 29 10.3**	**0.0**
GAS1	**Astara - Iran**	**1.75**	**90**	Pg	**Pb**	**07 28 48.2**	**-0.3**
HYR	**Heyderabad**	**1.89**	**314**	P	**Pb**	**07 28 49.9**	**-0.9**
HYR				S	**Sg**	**07 29 16.2**	**-0.2**
BRDA	**Brd**	**1.90**	**13**	P	**Pn**	**07 28 49.5**	**+0.7**
BRDA				S	**Sg**	**07 29 18.1**	**+1.3**
ZRD	**Zardab**	**2.04**	**24**	P	**Pb**	**07 28 52.7**	**-0.7**
ZRD				S	**Sg**	**07 29 20.2**	**-1.2**
GANJ	**Ganja**	**2.24**	**354**	P	**Pb**	**07 28 55.4**	**-1.4**
GANJ				S	**Sb**	**07 29 24.4**	**-0.5**
GDB	**GEDABAY**	**2.40**	**344**	P	**Pn**	**07 28 57.1**	**+1.2**
GDB				S	**Sb**	**07 29 29.1**	**-0.4**
XNQ	**Khinaliq**	**3.00**	**23**	P	**Pn**	**07 29 05.7**	**+1.5**
XNQ				S	**Sn**	**07 29 41.7**	**+1.0**
ZKTA	**Zakatala**	**3.22**	**0**	P	**Pn**	**07 29 08.5**	**+1.4**
ZKTA				S	**Sn**	**07 29 46.8**	**+0.9**

*IDC **29** 07:30:11.6±3.4, 54.22N×87.33E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=29.2km s-min=20.3km az=49.0*
ASRS 29 07:30:10.0±1.1, 54.07N×87.17E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**266**	I	I	07 39 10.0	
	baz=79,slow=313,SNR=5.7						
ZALV	**Zalesovo Beam**	**1.39**	**266**	Pg	Pb	07 30 38.4	+1.5
	1.0nm,0.3s,baz=80,slow=18,SNR=14						
ZALV				Lg	Lg	07 30 59.4	
	1.7nm,0.3s,baz=79,slow=26,SNR=4.8						
KURBB	**Kurchatov Arra**	**6.32**	**240**	Pn	Pn	07 31 49.0	+4.6
	0.1nm,0.3s,baz=56,slow=11,SNR=1.8						
KURBB				Lg	Lg	07 33 38.0	
	baz=48,slow=32,SNR=1.7						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.92**	**205**	Pn	Pn	07 32 11.6	+5.2
	0.1nm,0.3s,baz=24,slow=13,SNR=1.2						
	0.1nm,0.3s						

*GCG **29** 08:19:02.2±0.8, 13.04N×90.47W, h14km±15km, MD4.1*
SNET 29 08:19:13.2±8.6, 13.38N×90.12W, h33km, ML2.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.62**	**33**	*e*P	Pn	08 19 21.9	-3.9
NUBE				*e*S	Sn	08 19 38.9	+4.3
NUBE	**Las Nubes**	**0.62**	**33**	*i* P	Pn	08 19 21.8	-3.9
NUBE				*i* S	Sn	08 19 37.6	+2.9
CEVE	**Cerro Verde**	**0.66**	**47**	*e*S	Sn	08 19 43.6	+7.8
JAYA	**Jayaque - finc**	**0.71**	**67**	*e*P	Pn	08 19 23.0	-4.0
JAYA	**Jayaque - finc**	**0.71**	**67**	*i* P	Pn	08 19 22.9	-4.2
JUAM	**Asuncion Mita**	**1.03**	**23**	*i* P	Pn	08 19 28.6	-2.8
MTO3	**Montecristo**	**1.25**	**36**	*e*P	Pn	08 19 32.0	-2.7
MTO3	**Montecristo**	**1.25**	**36**	*i* P	Pn	08 19 31.7	-2.9

*RSNC **29** 08:36:08.1±0.7, 11.1N±4.1×6.9W±.1, h184km±9km, M2.9, mB4.6, mb3.7, ML2.8, Mw(mB)3.8*
*FUNV **29** 08:36:08.8, 10.61N×68.54W, h20km, MW3.0*
ISC 29 08:36:01.1±1.0, 10.81N±0.06×68.82W±0.03, h12km, n18, σ2≡76/26, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BENV	**Beln**	**1.47**	**125**	*e*P	**Pg**	**08 36 30.2**	**+1.0**
BENV				*e*S	**Sn**	**08 36 45.5**	**-1.1**
TACV	**Tcata**	**1.88**	**111**	*e*P	**Pb**	**08 36 34.0**	**-1.4**
TACV				*e*S	**Sn**	**08 36 55.0**	**-1.9**
FUNV	**FUNVISIS**	**2.00**	**100**	*e*P	**Pb**	**08 36 37.4**	**-0.1**
FUNV				*e*S	**Sn**	**08 36 58.1**	**-1.8**
BAUV	**El Baul**	**2.01**	**158**	*e*P	**Pb**	**08 36 37.1**	**-0.4**
BAUV				*e*S	**Sn**	**08 36 58.4**	**-1.4**
SDV	**Santo Domingo**	**2.62**	**223**	P	**Pg**	**08 36 53.9**	**+2.6**
SDV				S	**Sg**	**08 37 28.2**	**+2.9**
URIC	**Uribia, Colomb**	**3.24**	**286**	P	**Pn**	**08 36 52.3**	**+0.6**
URIC				S	**Sn**	**08 37 29.2**	**-1.1**
CACV	**CAICARA DEL OR**	**3.93**	**145**	*e*P	**Pb**	**08 37 07.4**	**-2.9**
CACV				*e*S	**Sn**	**08 37 50.9**	**+3.5**
CRJC	**Cerrejon, Guaj**	**4.00**	**273**	P	Pb	08 37 04.3	-7.2
CRJC				S	**Sn**	**08 37 50.0**	**+0.9**
PCRV	**Puerto La Cruz**	**4.16**	**98**	*e*P	**Pn**	**08 37 06.7**	**+2.2**
CAPV	**Capacho**	**4.52**	**230**	*e*P	**Pb**	**08 37 16.1**	**-4.5**
CAPV				*e*S	**Sb**	**08 38 07.0**	**-8.2**
OCAC	**Ocana**	**5.12**	**240**	P	Pn	08 37 20.6	+2.8
OCAC				S	**Sn**	**08 38 19.4**	**+2.4**
PAMC	**Pamplona, Colo**	**5.16**	**228**	P	Pn	08 37 22.4	+3.8
	5μm10nm,0.7s						
PAMC				S	**Sn**	**08 38 21.8**	**+3.5**
	5μm10nm,0.7s						
SMRC	**Santa Marta, M**	**5.32**	**274**	P	**Pn**	**08 37 22.5**	**+2.1**
ARGC	**Ariguani, Magd**	**5.42**	**260**	P	**Pn**	**08 37 22.7**	**+0.9**
	15nm,0.4s						
SJCC	**San Jacinto, C**	**6.32**	**262**	P	**Pn**	**08 37 35.6**	**+1.3**
	16nm,1.2s						
SJCC				S	**Sn**	**08 38 46.5**	**0.0**
	16nm,1.2s						
RUSC	**La Rusia**	**6.46**	**221**	P	**Pn**	**08 37 38.9**	**+2.5**
RUSC				S	**Sn**	**08 38 50.8**	**+0.5**
ZARC	**Zaragoza, Cauc**	**6.81**	**242**	P	Pn	08 37 44.5	+3.6
	2μm7.3nm,0.7s						
PTBC	**PUERTO BERRIO,**	**7.00**	**233**	P	Pn	08 37 47.3	+3.7

IDC 29 08:38:37.7±50.0, 22.17S×173.48W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=957.1km s-min=179.6km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.93**	**247**	P	P	08 46 20.2	-1.8
	0.9nm,0.4s,baz=72,slow=9.6,SNR=4.1						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**48.26**	**258**	P	P	08 47 20.8	0.0
	0.4nm,0.4s,baz=87,slow=6.6,SNR=18						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**48.55**	**262**	P	P	08 47 24.0	+0.9
	2.1nm,0.5s,baz=99,slow=7.3,SNR=74						
	2.1nm,0.5s						

GCG 29 08:44:48.2±1.4, 14.71N×93.78W, h40km±739km, MD4.2, ML3.3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.48**	**82**	*i* P	Pn	08 45 10.3	-2.0
THIG				*i* S	Sn	08 45 30.0	-0.3
TGIG		**2.15**	**17**	*i* P	Pn	08 45 21.8	+0.1
TGIG				*i* S	Sn	08 45 47.7	+0.5
TGIG				IAML		08 45 49.7	
	comp=E,147nm,0.2s						
CCIG	**Comitan**	**2.23**	**45**	*i* P	Pn	08 45 24.4	+1.6
CCIG				*i* S	Sn	08 45 51.1	+1.9
CCIG				IAML		08 45 57.4	
	comp=N,186nm,0.4s						

*BEO **29** 08:53:35.9±0.3, 43.33N×17.91E, h7km±2km, ML2.1/11*
*PDG **29** 08:53:35.1±0.0, 43.32N×17.92E, h15km, ML2.5/11, Error ellipse: s-maj=0.1km s-min=0.1km az=90.0*
*RHSSO **29** 08:53:36.2±0.2, 43.30N×17.97E, h5km±2km, ML2.3/8*
ISC 29 08:53:35.5±1.1, 43.32N±0.02×17.96E±0.02, h2km±10km, n45, σ0≡88/88, 5C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.48**	**203**	*i* Pg	**Pg**	**08 53 44.4**	**-0.2**
STON				*e*Sg	**Sg**	**08 53 51.6**	**+0.7**
STON	**Ston**	**0.48**	**203**	*e*Pg	**Pg**	**08 53 44.5**	**-0.2**
STON				*e*Sg	**Sg**	**08 53 51.9**	**+1.0**
STON	**Ston**	**0.48**	**203**	*i* Pg	**Pg**	**08 53 44.5**	**-0.2**
STON				Sg	**Sg**	**08 53 51.3**	**+0.3**
KLINJ	**Klinje**	**0.48**	**107**	*e*Pg	**Pg**	**08 53 44.6**	**-0.1**
KLINJ				*e*Sg	**Sg**	**08 53 52.0**	**+1.0**
BRY	**Bratogost**	**0.59**	**134**	*i* Pg	**Pg**	**08 53 46.6**	**-0.3**
BRY				*i* Sg	**Sg**	**08 53 56.6**	**+2.0**
RICI	**Ricice**	**0.62**	**287**	*e*Pg	**Pg**	**08 53 47.8**	**+0.3**
RICI				Sg	**Sb**	**08 53 58.3**	**-0.1**
DBRK	**Dubrovnik**	**0.66**	**168**	*e*Pg	**Pg**	**08 53 48.1**	**0.0**
DBRK				Sg	**Sg**	**08 53 57.2**	**+0.5**
TREB	**Trebinje**	**0.67**	**154**	*i* Pg	**Pg**	**08 53 47.4**	**-0.8**
TREB				*e*Sg	**Sg**	**08 53 57.6**	**+0.8**
TREB	**Trebinje**	**0.67**	**154**	*e*Pg	**Pg**	**08 53 47.6**	**-0.6**
TREB				*e*Sg	**Sg**	**08 53 57.8**	**+1.0**
MAKA	**Makarska**	**0.68**	**268**	*e*Pg	**Pg**	**08 53 48.9**	**+0.3**
MAKA				Sg	**Sb**	**08 53 59.5**	**-0.4**
UPM	**Unac-Piva**	**0.70**	**99**	*i* Pg	**Pg**	**08 53 48.8**	**-0.2**
UPM				*i* Sg	**Sb**	**08 54 00.7**	**-0.1**
NKME	**Niksic**	**0.91**	**127**	*i* Pg	**Pg**	**08 53 52.5**	**-0.5**
NKME				*i* Sg	**Sb**	**08 54 07.5**	**+0.8**
LSTV	**Lastovo**	**0.95**	**235**	*e*Pg	**Pg**	**08 53 53.2**	**-0.5**
LSTV				Sg	**Sb**	**08 54 07.2**	**-0.5**
HCY	**Herceg Novi**	**0.95**	**155**	*i* Pg	**Pg**	**08 53 53.0**	**-0.8**
HCY				*i* Sg	**Sb**	**08 54 08.5**	**+0.7**
CEME	**Cevo**	**1.04**	**137**	*i* Pg	**Pg**	**08 53 54.8**	**-0.7**
CEME				*i* Sg	**Sn**	**08 54 11.8**	**-0.6**
PLE	**Pljevlja**	**1.05**	**89**	*i* Pg	**Pg**	**08 53 55.0**	**-0.5**
PLE				*i* Sg	**Sn**	**08 54 11.9**	**-0.6**
RUDO	**Rudo**	**1.07**	**73**	*i* Pg	**Pg**	**08 53 55.0**	**-1.0**
RUDO				*e*Sg	**Sg**	**08 54 09.6**	**-0.4**
RUDO	**Rudo**	**1.07**	**73**	*e*Pg	**Pg**	**08 53 55.1**	**-1.0**
RUDO				*e*Sg	**Sg**	**08 54 09.6**	**-0.4**
BBLS	**Lazi&#263i**	**1.19**	**62**	*e*Pg	**Pg**	**08 53 57.7**	**-0.6**
BBLS				*e*Sg	**Sg**	**08 54 13.4**	**-0.3**
BUM	**Brajici-Budva**	**1.23**	**145**	*e*Pg	**Pb**	**08 53 58.2**	**-1.2**
BUM				*i* Sg	**Sn**	**08 54 17.5**	**+0.6**
KOME	**Kolasin**	**1.23**	**112**	*e*Pg	**Pn**	**08 53 58.5**	**-1.3**
KOME				*i* Sg	**Sn**	**08 54 18.1**	**+1.0**
PDG	**Podgorica**	**1.30**	**132**	*e*Pg	**Pn**	**08 53 59.5**	**-1.1**
PDG				*e*Sg	**Sn**	**08 54 19.7**	**+1.1**
PDG	**Podgorica**	**1.30**	**132**	*e*Pg	**Pn**	**08 53 59.6**	**-1.1**
PDG				*i* Sg	**Sn**	**08 54 20.0**	**+1.4**
KLIV	**Kijevo**	**1.32**	**302**	*e*Pg	**Pb**	**08 54 00.6**	**-0.4**
KLIV				*e*Sg	**Sn**	**08 54 19.0**	**-0.1**
KIJV	**Kijevo**	**1.32**	**302**	*e*Pg	**Pg**	**08 54 01.3**	**+0.5**
KIJV				Sg	**Sn**	**08 54 21.6**	**+2.5**
VINV	**Vinovac**	**1.41**	**282**	*e*Pg	**Pn**	**08 54 01.6**	**-0.6**
VINV				Sg	**Sg**	**08 54 22.7**	**+2.0**
DRME	**Dracevica, Mon**	**1.45**	**141**	*e*Pg	**Pn**	**08 54 02.0**	**-0.7**
DRME				*i* Sg	**Sg**	**08 54 23.7**	**+1.8**
SJES	**Sjenica**	**1.48**	**91**	*e*Pg	**Pn**	**08 54 02.7**	**-0.5**
SJES				*e*Sg	**Sg**	**08 54 24.2**	**+1.3**
IVA	**Berane**	**1.49**	**107**	*i* Pg	**Pn**	**08 54 02.7**	**-0.6**
IVA				*i* Sg	**Sg**	**08 54 24.6**	**+1.3**
BLY	**Banja Luka**	**1.54**	**339**	*e*Pn	**Pb**	**08 54 04.5**	**-0.2**
BLY				*e*Sn	**Sg**	**08 54 24.7**	**-0.2**
BLY	**Banja Luka**	**1.54**	**339**	*e*Pg	**Pb**	**08 54 04.5**	**-0.2**
BLY				*e*Sg	**Sb**	**08 54 24.1**	**-0.5**
A050A	**Klekovaca**	**1.56**	**319**	*i* Pn	**Pb**	**08 54 04.8**	**-0.2**
A050A				*e*Sn	**Sg**	**08 54 25.5**	**+0.1**
TEKS	**Tekeris**	**1.68**	**42**	*e*Pg	**Pb**	**08 54 07.2**	**+0.1**
TEKS				*e*Sg	**Sg**	**08 54 30.4**	**+1.0**
A051A	**Mrakovica**	**1.86**	**336**	*e*Pn	**Pn**	**08 54 09.0**	**+0.6**
A051A				*e*Sn	**Sb**	**08 54 32.8**	**-1.1**
UDBI	**Udbina**	**1.99**	**308**	*e*Pn	**Pg**	**08 54 13.3**	**-0.4**
UDBI				Sn	**Sg**	**08 54 39.9**	**+0.4**
TRUS	**Trudelj**	**1.99**	**62**	*e*Pg	**Pb**	**08 54 13.3**	**+0.8**
TRUS				*e*Sn	**Sn**	**08 54 35.2**	**-0.5**
GRUS	**Gruza**	**2.08**	**73**	*e*Pn	**Pn**	**08 54 12.8**	**+1.3**
GOCS	**Kraljevo Serbi**	**2.14**	**82**	*e*Pn	**Pn**	**08 54 12.6**	**+0.3**
GOCS				*e*Sn	**Sn**	**08 54 39.0**	**-0.5**
DUGI	**Dugi Otok**	**2.21**	**289**	*e*Pn	**Pb**	**08 54 16.1**	**-0.1**
DUGI				Sn	**Sg**	**08 54 44.8**	**-1.6**
SELS	**Selova**	**2.31**	**91**	*e*Pn	**Pn**	**08 54 14.8**	**+0.2**
SELS				*e*Sn	**Sn**	**08 54 43.3**	**-0.3**
VIRC	**Vir**	**2.32**	**296**	*e*Pn	**Pb**	**08 54 17.1**	**-0.8**
VIRC				Sn	**Sb**	**08 54 47.1**	**+0.2**
MOSL	**Moslavina**	**2.45**	**340**	*e*Pn	**Pn**	**08 54 17.0**	**+0.5**
MOSL				*e*Sn	**Sn**	**08 54 37.9**	**+0.8**
NVLJ	**Novalja**	**2.55**	**300**	*e*Pn	**Pb**	**08 54 19.7**	**-2.3**
NVLJ				Sn	**Sb**	**08 54 52.7**	**-1.1**
BARS	**Barje**	**2.87**	**99**	*e*Pn	**Pn**	**08 54 23.3**	**+1.0**
BRJN	**Brijuni**	**3.42**	**299**	*e*Pn	**Pn**	**08 54 30.6**	**+0.8**
BRJN				*e*Sn	**Sn**	**08 55 11.1**	**+0.2**

*ASRS **29** 09:09:51.0±1.1, 53.98N×86.63E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 29 09:09:52.1±3.1, 54.02N×86.79E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=25.3km s-min=16.1km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.17**	**267**	I	I	09 17 00.0	
	baz=86,slow=310,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.17**	**267**	Pg	Pg	09 10 13.8	-0.6
	0.5nm,0.3s,baz=86,slow=17,SNR=5.9						
ZALV				Lg

mbtmp3.7/10,ML3.7/6,MS3.0/5,Error ellipse: s-maj=29.1km s-min=17.2km az=178.0
*TEH **29** 09:27:47.0,38.°40N×57.°09E,h7km±58km*
*NNC **29** 09:27:55.6±5.7,39.°19N×57.°83E,h0km,mb4.1,Error ellipse: s-maj=51.2km s-min=26.7km az=34.0*

ISC 29 09:27:45.6±0.6,**38.°59N**±0.°05×**57.°04E**±0.°04,**h10**km,**n41,** σ2ŝ**29**/41,**mb3.4**/3,**1C-4D,Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**1.19**	**219**	Pg	**Pn**	**09 28 08.7**	**+0.2**
MRVT				Sg	**Sn**	**09 28 24.3**	**-0.4**
ISFR	**Sfrayin**	**1.71**	**153**	Pg	**Pg**	**09 28 17.3**	**-1.1**
IEMG	**Emamgholi**	**1.73**	**132**	Pg	**Pb**	**09 28 16.8**	**-0.8**
IMND	**Minoodasht**	**1.85**	**225**	Pg	**Pg**	**09 28 20.2**	**-0.9**
SBZV	**Sabzevar**	**2.24**	**168**	Pn	**Pb**	**09 28 24.9**	**-1.5**
IAKL	**Akhelmad**	**2.40**	**145**	Pn	**Pb**	**09 28 27.8**	**-1.3**
IPAY	**Payeh**	**2.64**	**143**	Pn	**Pb**	**09 28 30.5**	**-2.6**
IKRD	**Kardeh**	**2.67**	**132**	Pn	**Pb**	**09 28 31.3**	**-2.3**
IGLO	**Ghaloghah**	**3.29**	**232**	Pn	**Pb**	**09 28 41.5**	**-2.8**
IMYA	**Miami**	**3.31**	**132**	Pn	**Pn**	**09 28 39.9**	**+2.3**
IKIA	**Kiasar**	**3.58**	**229**	Pn	**Pn**	**09 28 45.3**	**+3.9**
TAPT	**Tabas- Tapeh t**	**3.70**	**178**	Pn	**Pn**	**09 28 45.4**	**+2.4**
IALA	**Alasht**	**4.20**	**235**	Pn	**Pn**	**09 28 53.7**	**+3.8**
TBJM	**Torbat-e-JAM**	**4.23**	**140**	Pn	**Pn**	**09 28 52.6**	**+2.3**
IFIR	**Firoozkooh**	**4.51**	**231**	Pn	**Pn**	**09 28 57.8**	**+3.5**
ILAS	**Lasjerd**	**4.57**	**227**	Pn	**Pn**	**09 28 58.5**	**+3.5**
TNSJ	**Nastanj**	**4.63**	**184**	Pn	**Pn**	**09 28 57.8**	**+2.1**
TKDS	**Koohdasht(Taba**	**4.96**	**179**	Pn	**Pn**	**09 29 02.2**	**+1.9**
IDMV	**Damavand**	**5.00**	**235**	Pn	**Pn**	**09 29 04.7**	**+3.7**
AFRZ	**Afriz**	**5.39**	**162**	Pn	**Pn**	**09 29 08.5**	**+2.2**
TPRV	**Parvadeh(Tabas**	**5.55**	**183**	Pn	**Pn**	**09 29 11.0**	**+2.5**
ISFB	**Sefidab**	**5.73**	**224**	Pn	**Pn**	**09 29 14.2**	**+3.4**
ANAR	**Anarak**	**6.02**	**208**	Pn	**Pn**	**09 29 17.4**	**+2.6**
KRSH	**Karshahi**	**6.08**	**222**	Pn	**Pn**	**09 29 18.6**	**+3.0**
IRAM	**Ramesheh**	**7.76**	**211**	Pn	**Pn**	**09 29 42.4**	**+3.5**
AB31	**Akbulak array** 1.1nm,0.4s,baz=185,slow=13	**10.87**	**10**	⇓Pn	**Pn**	**09 30 22.5**	**+1.4**
AB31	6.5nm,0.6s,baz=187,slow=27			⇓Sn	**Sn**	**09 32 20.3**	**-2.5**
KK31	**Karatay Array** 2.5nm,0.6s,baz=250,slow=16,SNR=17	**11.15**	**62**	Pn	**Pn**	**09 30 26.1**	**+0.9**
KK31	3.4nm,0.6s,baz=93,slow=3.8,SNR=4.7			⇑Sn	Sn	09 32 22.7	-7.1
KBZ	**Khabaz** 0.3nm,0.3s,baz=98,slow=11,SNR=2.2	**11.83**	**300**	Pn	**Pn**	**09 30 33.4**	**-0.9**
KBZ	0.2nm,0.3s,baz=134,slow=19,SNR=1.4			Sn	Sn	09 32 40.9	-5.5
AKTO	**Aktyubinsk** 5.5nm,0.9s	**11.87**	**3**	⇓Pn	**Pn**	**09 30 36.3**	**+1.5**
AKTO	4.1nm,0.7s			⇓Sn	**Sn**	**09 32 44.7**	**-2.5**
AKTO	**Aktyubinsk** 1.0nm,0.3s,baz=176,slow=14,SNR=11	**11.87**	**3**	Pn	**Pn**	**09 30 36.0**	**+1.2**
AKTO	1.2nm,0.3s,baz=69,slow=17,SNR=5.7			Sn	Sn	09 32 43.4	-3.8
AKTO	comp=Z,94nm,18.4s,baz=60,slow=43 2.2nm,0.3s			LR	LR	09 36 25.9	
AAK	**Ala-Archa** comp=Z,86nm,18.1s,baz=250,slow=40	**13.86**	**67**	LR	LR	09 37 04.8	
BELG	**Belogornoye** 1.0nm,0.3s,baz=148,slow=13,SNR=2.7	**15.29**	**338**	Pn	**Pn**	**09 31 21.5**	**+0.2**
BELG	comp=Z,38nm,18.8s,baz=116,slow=45 9.9nm,0.6s			LR	LR	09 39 11.0	
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=227,slow=15,SNR=9.1	**17.13**	**28**	P	**Pn**	**09 31 45.3**	**+0.3**
BVAR	1.5nm,0.4s,baz=210,slow=22,SNR=5.5 2.6nm,0.5s			S	Sn	09 34 49.1	-6.4
ARTI	**Arti** 0.6nm,0.3s,baz=193,slow=4.9,SNR=6.9	**17.83**	**2**	P	**Pn**	**09 31 55.7**	**+2.0**
ARTI	1.1nm,0.3s,baz=73,slow=20,SNR=1.9 4.2nm,0.5s			S	Sn	09 35 04.5	-7.9
KURBB	**Kurchatov Arra** baz=251,slow=12,SNR=3.0 0.5nm,0.8s	**19.38**	**45**	P	**P**	**09 32 13.1**	**+1.6**
MKAR	**Makanchi Array** 0.9nm,0.5s,baz=248,slow=11,SNR=7.1 0.9nm,0.5s	**20.23**	**58**	P	**P**	**09 32 22.1**	**+1.3**
EIL	**Elat** comp=Z,17nm,19.2s,baz=248,slow=42	**20.30**	**251**	LR	LR	09 41 51.2	
AKASG	**Malin Array Be** 0.1nm,0.3s,baz=107,slow=9.6,SNR=1.7 0.1nm,0.3s	**23.05**	**311**	P	**P**	**09 32 50.5**	**-0.4**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=266,slow=5.8,SNR=1.7 0.3nm,0.3s	**24.37**	**42**	P	**P**	**09 33 04.3**	**+0.5**
NOA	**NORSAR Array B** 0.6nm,0.7s,baz=109,slow=8.3,SNR=4.4 0.6nm,0.7s	**36.06**	**324**	P	**P**	**09 34 46.0**	**-1.1**
ESDC	**Sonseca Array** comp=Z,20nm,18.5s,baz=140,slow=45	**46.52**	**292**	LR	LR	10 02 48.2	

*IDC **29** 09:35:03.1±1.9,36.°74N×141.°79E,h0km,mb3.6/5, mbtmp3.6/7,ML3.0/2,MS1.8/1,Error ellipse: s-maj=41.6km s-min=24.0km az=70.0*
*JMA **29** 09:35:06.4±0.3,36.°7N±0.°7×14.°2E±°,h57km±3km, MV3.3/37,E OFF IBARAKI PREF*

ISC 29 09:35:05.2±1.9,**36.°75N**±0.°04×**141.°71E**±0.°07,**h14**km±10km, **n26,** σ0ŝ**84**/29,**mb3.6**/5,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.81**	**296**	*i* P	**Pg**	**09 35 21.1**	**+0.3**
JFK	**Kawauchi**	**0.91**	**313**	P	**Pg**	**09 35 23.0**	**+0.3**
JFK				*e*S	**Sg**	**09 35 34.9**	**+0.3**
JHO	**Hitachi**	**0.93**	**262**	*i* P	**Pb**	**09 35 22.3**	**-0.7**
JHO				S	**Sb**	**09 35 34.3**	**-0.8**
JFFD	**Fukushimafurud**	**0.98**	**291**	*i* P	**Pb**	**09 35 23.5**	**-0.4**
JHYU	**Hitachinakayam**	**0.99**	**246**	*i* P	**Pb**	**09 35 23.3**	**-0.8**
JHYU				S	**Sb**	**09 35 35.7**	**-1.3**
JMM	**Marumori**	**1.33**	**327**	*i* P	**Pn**	**09 35 29.0**	**-0.3**
JOTO	**OTAMA OYAMA**	**1.36**	**307**	P	**Pb**	**09 35 30.3**	**-0.1**
JIO	**Ouri**	**1.72**	**351**	P	**Pn**	**09 35 34.4**	**-0.3**
JIO				*e*S	**Sn**	**09 35 55.6**	**-0.8**
JFY	**Yanaizu**	**1.73**	**293**	P	**Pb**	**09 35 36.0**	**-0.7**
JOU	**Okura**	**1.81**	**333**	*i* P	**Pb**	**09 35 37.1**	**-1.0**
JOU				S	**Sb**	**09 36 00.2**	**-0.5**
JAG	**Ashikaga**	**1.84**	**260**	*i* P	**Pn**	**09 35 36.0**	**-0.4**
JAG				S	**Sn**	**09 35 57.7**	**-1.7**
JYS	**Shirataka**	**1.96**	**319**	P	**Pb**	**09 35 39.3**	**-1.4**
JKT	**Katashina**	**1.98**	**271**	P	**Pn**	**09 35 38.7**	**+0.5**
JKT				S	**Sn**	**09 36 02.8**	**0.0**
MJAR	**Matsushiro Arr** 0.5nm,0.3s,baz=102,slow=10,SNR=35	**2.82**	**267**	Pn	**Pn**	**09 35 50.5**	**+0.7**
MJAR	0.5nm,0.3s,baz=85,slow=15,SNR=4.9			Sn	**Sn**	**09 36 24.4**	**+0.9**
MJAR	comp=Z,16nm,18.3s,baz=48,slow=34 8.8nm,0.6s			LR	LR	09 36 41.1	
JHJ	**Hachijo jima 2** 11nm,0.3s,baz=343,slow=21,SNR=21	**3.95**	**204**	Pn	**Pn**	**09 36 05.5**	**+0.2**
JHJ	4.8nm,0.3s,baz=76,slow=22,SNR=1.6 22nm,0.3s			Sn	**Sn**	**09 36 50.6**	**-0.9**
H11N2	**WAKE ISLAND Hy** baz=313,slow=75,SNR=35	**27.80**	**121**	T	T	10 09 58.1	
H11N1	**WAKE ISLAND Hy** baz=313,slow=75,SNR=31	**27.81**	**121**	T	T	10 09 57.7	
H11N3	**WAKE ISLAND Hy** baz=313,slow=75,SNR=33	**27.82**	**121**	T	T	10 09 58.6	
SONM	**Songino Array** 0.5nm,0.6s,baz=111,slow=7.9,SNR=2.4 0.5nm,0.6s	**28.14**	**304**	P	**P**	**09 40 58.6**	**+1.8**
H11S1	**WAKE ISLAND Hy** baz=315,slow=76,SNR=16	**28.51**	**123**	T	T	10 10 48.5	
H11S3	**WAKE ISLAND Hy** baz=315,slow=76,SNR=21	**28.51**	**123**	T	T	10 10 47.7	
H11S2	**WAKE ISLAND Hy** baz=315,slow=76,SNR=14	**28.52**	**123**	T	T	10 10 49.3	
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=94,slow=9.1,SNR=1.3 0.5nm,0.3s	**42.28**	**313**	P	**P**	**09 42 58.6**	**+0.7**
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=83,slow=7.4,SNR=4.3 0.5nm,0.6s	**44.47**	**302**	P	**P**	**09 43 15.3**	**-0.4**
KURBB	**Kurchatov Arra** 0.3nm,0.4s,baz=85,slow=8.9,SNR=7.2	**46.36**	**308**	P	**P**	**09 43 30.9**	**+0.3**
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=6.2,slow=7.3,SNR=7.2 0.3nm,0.4s	**56.82**	**188**	P	**P**	**09 44 49.1**	**0.0**

*IDC **29** 10:01:35.7±1.6,28.°22S×67.°37W,h105km±15km,mb3.8/7, mbtmp4.1/12,Error ellipse: s-maj=19.0km s-min=12.1km az=121.0*
*SJA **29** 10:01:35.9±0.7,28.°24S×67.°54W,h143km±3km,ML4.3, MW4.2*
*NEIC **29** 10:01:36.9±1.9,28.°25S±0.°06×67.°47W±0.°09,h118km±5km, mb4.5/91,Error ellipse: s-maj=11.7km s-min=9.0km az=75.0*
*VAO **29** 10:01:38.1±0.4,28.°22S×67.°69W,h175km,mb4.1*

ISC 29 10:01:37.0±0.6,**28.°22S**±0.°03×**67.°51W**±0.°04,**h127**km±6km, **n173,** σ1ŝ**42**/166,**mb4.5**/46,**La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.80**	**230**	*e*P	**Pn**	**10 01 59.1**	**+1.1**
VCA				*e*S	**Sn**	**10 02 15.7**	**+1.8**
VCA	comp=Z,13μm,0.7s			IAML		10 02 16.6	
ACLC	**CERRO LA CRUZ**	**1.30**	**158**	*e*P	**Pn**	**10 02 03.6**	**+0.7**
CYA	**Choya**	**1.52**	**99**	*e*P	**Pn**	**10 02 06.5**	**+1.3**
CYA				*e*S	**Sn**	**10 02 27.6**	**+1.0**
CYA	comp=Z,2μm,0.7s			IAML		10 02 28.6	
AC02	**Maricunga**	**1.99**	**313**		**Pn**	**10 02 12.9**	**+1.7**
AC02	**Maricunga**	**1.99**	**313**	*e*P	**Pn**	**10 02 12.2**	**+1.0**
AC02				*e*S	**Sn**	**10 02 37.1**	**-0.2**
APLL	**PUNTA DE LOS L**	**2.33**	**159**	*e*P	**Pn**	**10 02 15.4**	**+0.4**
APLL				*e*S	**Sn**	**10 02 44.3**	**+0.1**
GUSE	**Guasayan**	**2.38**	**83**	*e*P	**Pn**	**10 02 16.5**	**+0.9**
ACDV	**Cuesta del Vie**	**2.40**	**216**	*e*P	**Pn**	**10 02 16.7**	**+0.7**
ACDV				*e*S	**Sn**	**10 02 47.6**	**+1.7**
ACDV	comp=Z,1μm,0.5s			IAML		10 02 49.4	
GO03	**Copiapo**	**2.49**	**284**		**Pn**	**10 02 17.3**	**+0.3**
GO03	**Copiapo**	**2.49**	**284**	*e*P	**Pn**	**10 02 17.4**	**+0.3**
GO03				*e*S	**Sn**	**10 02 47.2**	**-0.5**
FSA	**Cafayete**	**2.50**	**33**	*e*P	**Pn**	**10 02 19.8**	**+2.5**
FSA				*e*S	**Sn**	**10 02 51.7**	**+3.5**
AROD	**Rodeo**	**2.59**	**221**	*e*P	**Pn**	**10 02 19.4**	**+0.8**
AROD				*e*S	**Sn**	**10 02 52.0**	**+1.6**
ACO6	**Mina Casimiro**	**2.66**	**288**		**Pn**	**10 02 19.1**	**0.0**
ACCO	**Cerro Coronel**	**2.72**	**210**	*e*P	**Pn**	**10 02 20.8**	**+0.6**
ACCO				*e*S	**Sn**	**10 02 54.0**	**+0.5**
ACCO				*e*S		10 02 54.6	
CO01	**Juntas del Tor**	**2.86**	**232**		**Pn**	**10 02 23.3**	**+1.4**
CO01	**Juntas del Tor**	**2.86**	**232**	*e*P	**Pn**	**10 02 22.7**	**+0.8**
CO01				*e*S	**Sn**	**10 02 53.1**	**-3.4**
CO01	comp=Z,445nm,0.6s			IAML		10 03 02.5	
LCO	**Las Campanas**	**2.91**	**254**		**Pn**	**10 02 22.8**	**+0.2**
LCO	**Las Campanas**	**2.91**	**254**	*e*P	**Pn**	**10 02 22.7**	**0.0**
LCO				*e*S	**Sn**	**10 02 57.5**	**-0.2**
LCO	comp=Z,1μm,0.3s			IAML		10 02 59.4	
AC04	**Llanos de Chal**	**3.14**	**269**		**Pn**	**10 02 24.8**	**-0.6**
AC04	**Llanos de Chal**	**3.14**	**269**	*e*P	**Pn**	**10 02 24.8**	**-0.6**
AC04				*e*S	**Sn**	**10 03 01.6**	**-1.2**
RTLL	**Cerro Villicun**	**3.21**	**195**	*e*P	**Pn**	**10 02 26.7**	**+0.4**
RTLL				*e*S	**Sn**	**10 03 04.6**	**+0.2**
SJA	**San Juan**	**3.42**	**195**	*e*P	**Pn**	**10 02 30.1**	**+1.1**
SJA				*e*S	**Sn**	**10 03 09.3**	**0.0**
SJA	comp=Z,379nm,0.4s			IAML		10 03 13.9	
CFA	**Coronel Fontan** comp=Z,90nm,0.3s,baz=22,slow=14,SNR=708	**3.43**	**190**	P	**Pn**	**10 02 29.2**	**0.0**
CFA	comp=Z,285nm,0.3s,baz=79,slow=12,SNR=32			S	**Sn**	**10 03 08.1**	**-1.5**
CFA	**Coronel Fontan**	**3.43**	**190**	*e*P	**Pn**	**10 02 29.2**	**0.0**
CFA				*e*S	**Sn**	**10 03 03.6**	**-6.0**
CFA				*e*S		10 03 08.9	
AC01	**Pan de Azucar**	**3.44**	**306**		**Pn**	**10 02 29.1**	**-0.2**
AC01	**Pan de Azucar**	**3.44**	**306**	*e*P	**Pn**	**10 02 29.2**	**-0.1**
AC01				*e*S	**Sn**	**10 03 07.3**	**-2.4**
AC01	comp=Z,451nm,0.5s			IAML		10 03 12.3	
ZON	**Zonda**	**3.47**	**197**		**Pn**	**10 02 29.6**	**-0.1**
ZON	**Zonda**	**3.47**	**197**	*e*P	**Pn**	**10 02 29.8**	**+0.1**
ZON				*e*S	Sn	10 02 57.1	-13
ZON	comp=Z,469nm,0.7s			IAML		10 03 11.6	
GO04	**Tololo Observa**	**3.47**	**235**		**Pn**	**10 02 29.5**	**-0.4**
GO04	**Tololo Observa**	**3.47**	**235**	*e*P	**Pn**	**10 02 29.6**	**-0.4**
GO04				*e*S	**Sn**	**10 03 10.8**	**0.0**
GO02	**Mina Guanaco**	**3.57**	**328**		**Pn**	**10 02 32.4**	**+1.1**
GO02	**Mina Guanaco**	**3.57**	**328**	*e*P	**Pn**	**10 02 31.8**	**+0.5**
GO02				*e*S	**Sn**	**10 03 13.1**	**-0.2**
CO05	**La Serena**	**3.68**	**242**		**Pn**	**10 02 31.0**	**-1.3**
CO03	**El Pedregal**	**3.81**	**226**		**Pn**	**10 02 34.0**	**-0.2**
CO03	**El Pedregal**	**3.81**	**226**	*e*P	**Pn**	**10 02 34.0**	**-0.2**
CO03				*e*S	Sn	10 03 05.6	-13
CO03	comp=Z,536nm,0.6s			IAML		10 03 24.3	
RTLS	**Leoncito**	**3.89**	**203**	*e*P	**Pn**	**10 02 35.6**	**+0.1**
RTLS				*e*S	**Sn**	**10 03 21.6**	**+0.8**
RTLS	comp=Z,609nm,0.2s			IAML		10 03 22.9	
SLA	**San Lorenzo**	**3.92**	**28**	*e*P	**Pn**	**10 02 38.5**	**+2.7**
SLA				*e*S	**Sn**	**10 03 21.6**	**+0.2**
CO02	**Combarbal**	**4.25**	**225**		**Pn**	**10 02 39.0**	**-1.1**
CO02	**Combarbal**	**4.25**	**225**	*e*P	**Pn**	**10 02 39.1**	**-1.0**
CO02				*e*S	**Sn**	**10 03 28.5**	**-0.5**
CO06	**Fray Jorge**	**4.35**	**235**		**Pn**	**10 02 39.0**	**-2.3**
MRA	**San Martin**	**4.46**	**160**	*e*P	Pn	10 02 37.1	-5.9
MRA				*e*P		10 02 42.9	
MRA				*e*S	**Sn**	**10 03 32.4**	**-1.8**
ASAL	**Salagasta**	**4.50**	**194**	*e*P	**Pn**	**10 02 43.4**	**-0.1**
ASAL				*e*S	Sn	10 03 20.6	-15
VA03	**San Esteban**	**5.23**	**209**		**Pn**	**10 02 52.7**	**-0.5**
VA03	**San Esteban**	**5.23**	**209**	*e*P	**Pn**	**10 02 52.9**	**-0.4**
VA03				*e*S	**Sn**	**10 03 54.6**	**+1.9**
AF01	**San Pedro de A**	**5.28**	**353**		**Pn**	**10 02 54.9**	**+0.8**
PB10	**IPOC Station P**	**5.43**	**329**		**Pn**	**10 02 55.7**	**-0.2**
PEL	**Peldehue**	**5.62**	**208**		**Pn**	**10 02 57.1**	**-1.3**
PB06	**IPOC Station P**	**5.80**	**341**		**Pn**	**10 03 00.7**	**-0.3**
MT16	**CCHEN**	**5.80**	**206**		**Pn**	**10 03 00.4**	**-0.4**
MT05	**Renca**	**5.85**	**208**		**Pn**	**10 03 00.2**	**-1.3**
MT02	**Curacav**	**5.91**	**211**		**Pn**	**10 02 59.9**	**-2.4**
MT01	**Popeta**	**6.48**	**209**		**Pn**	**10 03 06.9**	**-3.0**
BO01	**Tunca**	**6.87**	**206**		**Pn**	**10 03 12.8**	**-2.3**
TA01	**Diego Aracena**	**8.00**	**342**		**Pn**	**10 03 27.7**	**-2.8**
PB11	**IPOC Station P**	**8.65**	**346**		**Pn**	**10 03 40.0**	**+0.6**
BI02	**San Fabin de**	**9.00**	**200**		**Pn**	**10 03 42.0**	**-1.9**
CPUP	**Villa Florida**	**9.25**	**81**		**Pn**	**10 03 46.3**	**-1.0**
CPUP	**Villa Florida** comp=Z,1.6nm,0.5s,baz=114,slow=12,SNR=17	**9.25**	**81**	P	**Pn**	**10 03 44.3**	**-3.0**
CPUP	comp=Z,2.6nm,0.8s,baz=128,slow=14,SNR=1.3			S	**Sn**	**10 05 24.7**	**-5.0**
CPUP	**Villa Florida**	**9.25**	**81**	*e*P	**Pn**	**10 03 47.1**	**-0.2**
PB16	**IPOC Station P**	**10.01**	**349**		**Pn**	**10 03 57.3**	**-0.8**
SJPY	**San Joaquin**	**10.70**	**75**	*e*P	**Pn**	**10 04 08.2**	**+1.4**
TRQA	**Tornquist**	**10.85**	**156**		**Pn**	**10 04 07.7**	**-1.0**
TRQA	**Tornquist**	**10.85**	**156**	*e*P	**Pn**	**10 04 10.2**	**+1.5**
MURT	**Porto Murtinho**	**11.10**	**56**	*e*P	**Pn**	**10 04 09.8**	**-2.4**
LPAZ	**La Paz**	**11.89**	**357**		**Pn**	**10 04 23.1**	**-0.1**
LPAZ	**La Paz** comp=Z,3.0nm,0.5s,baz=160,slow=8.6,SNR=20	**11.89**	**357**	P	**Pn**	**10 04 22.2**	**-1.0**
LPAZ	**La Paz**	**11.89**	**357**	*e*P	**Pn**	**10 04 21.9**	**-1.3**
AMBA	**Amambai (Brazi**	**12.47**	**68**	*e*P	**Pn**	**10 04 30.5**	**+0.4**
CPSB	**Cacapava Do Su**	**12.47**	**103**	*e*P	**Pn**	**10 04 29.8**	**-0.4**
BDQN	**Bodoquena, MS**	**12.49**	**54**	*e*P	**Pn**	**10 04 30.4**	**0.0**
PLTB	**Pedras Altas**	**12.56**	**110**	P	Pn	**10 04 29.7**	**-1.6**
PLTB	**Pedras Altas**	**12.56**	**110**	*e*P	**Pn**	**10 04 29.1**	**-2.2**
BBSD	**Serra de San D**	**12.69**	**32**	*e*P	**Pn**	**10 04 32.0**	**-1.0**
PLCA	**Paso Flores**	**12.73**	**191**	Pn	**Pn**	**10 04 31.6**	**-1.9**
PLCA	**Paso Flores** comp=Z,1.2nm,0.7s,baz=14,slow=6.3,SNR=3.3	**12.73**	**191**	P	**Pn**	**10 04 31.4**	**-2.1**
PLCA	comp=Z,1.3nm,0.7s,baz=105,slow=22,SNR=1.4			S	**Sn**	**10 06 56.3**	**+2.5**
PLCA	**Paso Flores**	**12.73**	**191**	*e*P	**Pn**	**10 04 31.9**	**-1.6**
AQDB	**Aquidauana**	**13.23**	**57**		**Pn**	**10 04 39.8**	**-0.3**
AQDB	**Aquidauana**	**13.23**	**57**	*e*P	**Pn**	**10 04 39.5**	**-0.6**
SIV	**San Ignacio** comp=Z,1.7nm,0.6s,baz=189,slow=12,SNR=12	**13.55**	**27**	P	**Pn**	**10 04 42.0**	**-2.2**
ITAB	**Concordia**	**13.66**	**89**	P	**P**	**10 04 50.4**	**+0.4**
ITAB	**Concordia**	**13.66**	**89**	*e*P	**P**	**10 04 48.1**	**-1.8**
PTGB	**Pitanga**	**14.27**	**79**	*e*P	**P**	**10 04 56.1**	**-0.7**
CNLB	**Canela**	**14.65**	**98**	*e*P	**Pn**	**10 04 59.2**	**+1.0**
RPRD	**Ribas do Rio P**	**14.75**	**62**	*e*P	**P**	**10 05 00.7**	**-1.4**
PTLB	**Pontes e Lacer**	**14.89**	**33**	*e*P	**Pn**	**10 05 00.2**	**-1.0**
LDASE	**Londrina, Braz**	**15.52**	**76**	*e*P	**Pn**	**10 05 09.6**	**+0.4**
PCMB	**Pacaembu**	**16.14**	**70**	*e*P	**P**	**10 05 17.5**	**0.0**
SALV	**Santo Antonio**	**16.42**	**44**	*e*P	**Pn**	**10 05 19.5**	**-0.7**
VILB	**Vilhena**	**16.65**	**26**	*e*P	**Pn**	**10 05 22.5**	**-0.5**
FRTB	**Fartura**	**16.87**	**77**	*e*P	**P**	**10 05 25.9**	**+0.3**
ITRB	**Iturama**	**17.81**	**65**	*e*P	**P**	**10 05 36.0**	**+0.1**
PET01	**Itanhaem-SP**	**18.56**	**82**	*e*P	**P**	**10 05 44.3**	**+0.1**
SPB	**Sao Paulo**	**18.64**	**80**	*e*P	**P**	**10 05 45.5**	**+0.5**
BB19B	**Bebedouro**	**18.66**	**72**	*e*P	**P**	**10 05 45.5**	**+0.2**
RCLB	**Rio Claro- Sao**	**18.95**	**77**	*e*P	**P**	**10 05 48.3**	**-0.2**
ARAG	**Araguaiana, MT**	**19.13**	**53**	*e*P	**P**	**10 05 49.9**	**-0.5**
VAO	**Valinhos**	**19.23**	**79**	P	**P**	**10 05 51.7**	**+0.1**
VAO	**Valinhos**	**19.23**	**79**	*e*P	**P**	**10 05 51.6**	**+0.1**
PDRB	**Porto dos Gac**	**19.36**	**34**	*e*P	**P**	**10 05 52.0**	**-0.9**
PARB	**Paraibuna**	**20.29**	**81**	*e*P	**P**	**10 06 02.6**	**-0.4**
IPMB	**Ipameri, GO**	**20.44**	**64**	*e*P	**P**	**10 06 04.0**	**-0.6**
CLDB	**Colider**	**20.46**	**35**	*e*P	**P**	**10 06 03.6**	**-1.1**
SLP01	**Ubatuba-SP**	**20.70**	**81**	*e*P	**P**	**10 06 05.9**	**-1.6**
CZSB	**Cruzeiro do Su**	**20.96**	**345**		**P**	**10 06 11.2**	**+1.1**
CZSB	**Cruzeiro do Su**	**20.96**	**345**	*e*P	**P**	**10 06 06.8**	**-3.3**
PMNB	**Patos De Minas**	**21.58**	**68**	*e*P	**P**	**10 06 15.9**	**-1.0**
BSCB	**Bom Sucesso**	**21.87**	**76**	*e*P	**P**	**10 06 18.7**	**-1.2**
BDFB	**Brasilia** comp=Z,2.7nm,0.4s,baz=234,slow=9.8,SNR=5.9	**21.95**	**59**	P	**P**	**10 06 19.8**	**-1.0**
	comp=Z,2.7nm,0.4s						
SNDB	**Serra Nova Dou**	**22.16**	**46**	*e*P	**P**	**10 06 21.4**	**-1.5**
DIAM	**Diamantina, MG**	**23.98**	**71**	*e*P	**P**	**10 06 39.1**	**-1.0**
TBTG	**Tabatinga, AM**	**24.01**	**354**	P	**P**	**10 06 40.5**	**+0.3**
TEFE	**Tefe**	**24.73**	**7**	*e*P	**P**	**10 06 43.5**	**-3.2**
MACA	**Manacapuru-AM**	**25.76**	**16**		**P**	**10 06 57.3**	**+1.3**
MACA	comp=Z,15nm,0.6s			IAmb	IAmb	10 06 59.4	
BOAV	**Boa Vista**	**31.17**	**14**		**P**	**10 07 44.8**	**+0.6**
BOAV	comp=Z,5.3nm,0.8s			IAmb	IAmb	10 07 45.8	
BOAV	**Boa Vista**	**31.17**	**14**	*e*P	**P**	**10 07 41.0**	**-3.1**
RUSC	**La Rusia**	**34.34**	**350**		**P**	**10 08 13.1**	**+0.9**
BAUV	**El Baul**	**36.95**	**359**		**P**	**10 08 33.9**	**-0.1**
CELP	**Cerrillos**	**46.03**	**1**	P	**P**	**10 09 47.2**	**-0.8**
TEIG	**Tepich**	**52.18**	**335**	P	**P**	**10 10 35.6**	**+0.9**
SNAA	**Sanae**	**55.55**	**160**	P	**P**	**10 10 59.9**	**+1.1**
SNAA	comp=Z,4.8nm,0.5s			IAmb	IAmb	10 11 01.5	
JSC	**Jenkinsville**	**63.51**	**347**	P	**P**	**10 11 54.7**	**+1.0**
JSC	comp=Z,5.7nm,0.5s			IAmb	IAmb	10 11 54.9	
W57A	**Gilead** comp=Z,8.0nm,0.8s	**64.13**	**349**	IAmb	IAmb	10 11 59.3	
Y49A	**Blount Mountai** comp=Z,5.3nm,0.8s	**64.29**	**343**	IAmb	IAmb	10 12 00.3	
V58A	**Windy Hill, Pi** comp=Z,6.6nm,0.8s	**64.61**	**350**	IAmb	IAmb	10 12 02.5	
FPAL	**Fort Paine** comp=Z,3.3nm,0.7s	**64.73**	**344**	IAmb	IAmb	10 12 02.7	
HNDO	**Hondo** comp=Z,7.1nm,0.7s	**64.96**	**330**	IAmb	IAmb	10 12 05.7	
X48A	**Hartselle** comp=Z,8.7nm,0.9s	**65.02**	**342**	IAmb	IAmb	10 12 04.8	
V55A	**Taylorsville**	**65.03**	**348**	P	**P**	**10 12 04.8**	**+1.3**
V55A	comp=Z,7.4nm,0.8s			IAmb	IAmb	10 12 05.4	
V53A	**Saluda** comp=Z,7.2nm,1.0s	**65.17**	**346**	IAmb	IAmb	10 12 05.8	
W50A	**Signal Mountai** comp=Z,9.3nm,0.9s	**65.28**	**344**	IAmb	IAmb	10 12 06.7	
CPCT	**Cooper Cave** comp=Z,6.2nm,0.6s	**65.33**	**345**	IAmb	IAmb	10 12 06.8	
TKL	**Tuckaleechee C** comp=Z,9.6nm,0.8s	**65.36**	**345**	IAmb	IAmb	10 12 06.7	
U54A	**Nelsons Funny** comp=Z,11nm,0.9s	**65.79**	**347**	IAmb	IAmb	10 12 10.0	
JCT	**Junction City** comp=Z,6.0nm,0.

ϕ_s308.00000°, δ43.00000°, λ-16.00000°. NP2:ϕ_s49.00000°, δ79.00000°, λ-132.00000°.

JMA 29 10:01:54.4±0.2, 28°1.1′N±0.04″×128°0.0′E±0.06″, h10km±2km, MV3.5/18, NW OFF OKINAWAJIMA IS, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.86**	**112**	*i* P	Pg	10 02 10.7	-0.3
JTK				S	Sg	10 02 22.0	-0.3
JOKE	**Okinoerabujima**	**0.88**	**148**	P	Pg	10 02 11.1	-0.2
JOKE				*e*S	Sg	10 02 22.9	+0.1
JAMN	**Amaminishikomi**	**1.01**	**82**	*i* P	Pg	10 02 13.4	-0.4
JAMN				S	Sg	10 02 26.9	0.0
JIH	**Iheya**	**1.07**	**184**	*i* P	Pg	10 02 14.4	-0.5
JIH				S	Sg	10 02 28.8	-0.1
JYRO	**Yoronjima**	**1.14**	**161**	*i* P	Pb	10 02 15.6	-0.6
JYRO				S	Sg	10 02 31.2	+0.2
JOW	**Kunigami**	**1.29**	**171**	*i* P	Pn	10 02 17.9	-0.6
JAM	**Amami Oshima**	**1.41**	**77**	P	Pb	10 02 20.6	-0.2
JAM				S	Sn	10 02 38.6	-0.2
JTAJ	**Takarajima**	**1.46**	**44**	*e*P	Pn	10 02 20.6	-0.2
JTAJ				S	Sn	10 02 39.4	-0.6
JNTH	**Nagotoyohara**	**1.58**	**181**	P	Pn	10 02 22.6	+0.1
JAGN	**Aguni-jima**	**1.67**	**205**	P	Pn	10 02 23.5	-0.3
JZK	**Kikaishima**	**1.71**	**83**	*e*P	Pg	10 02 26.7	-0.6
JJT3	**Tamagusuku3**	**1.97**	**187**	P	Pb	10 02 29.4	-1.0
JKE	**Kume jima 2**	**2.10**	**213**	P	Pb	10 02 32.8	+0.2
JKDJ	**Kitadaitoujima**	**3.61**	**126**	P	Pn	10 02 50.4	-0.1

*IDC **29** 10:02:40.4±1.1, 26°.50N×55°.33E, h0km, mb3.8/12, mbtmp3.9/13, ML1.4/1, MS3.1/2, Error ellipse: s-maj=25.4km s-min=18.3km az=39.0*
*TEH **29** 10:02:43.1, 26°.56N×55°.45E, h10km±42km*
*OMAN **29** 10:02:44.3±0.6, 26°.61N×55°.50E, h11km±2km, ml3.4/22, Error ellipse: s-maj=8.1km s-min=2.3km az=24.0*
*DSN **29** 10:02:44.3±1.1, 26°.68N×55°.58E, h15km, ML3.3/14, Error ellipse: s-maj=13.5km s-min=3.6km az=19.0*

ISC 29 10:02:44.1±1.2, 26°.59N±0.03″×55°.46E±0.04″, h17km±7km, n79, σ1§54/87, mb3.8/11, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHME	**Shamm**	**0.81**	**131**	P	**Pg**	**10 02 59.6**	**-0.5**
SHME				S	**Sb**	**10 03 10.8**	**+0.3**
SHME	**Shamm**	**0.81**	**131**	*e*P	**Pg**	**10 02 59.3**	**-0.7**
	SNR=20						
BANOM	**Banah**	**1.00**	**131**	P	**Pg**	**10 03 03.4**	**-0.3**
BANOM				S	**Sb**	**10 03 17.2**	**+1.2**
BANOM	**Banah**	**1.00**	**131**	*e*P	**Pg**	**10 03 03.0**	**-0.6**
	SNR=155						
BANOM				S	**Sb**	**10 03 17.0**	**+1.0**
UMQ	**Umm Al-Quwin**	**1.08**	**170**	P	**Pn**	**10 03 05.9**	**+1.5**
	SNR=14						
UMQ	**Umm Al-Quwin**	**1.08**	**170**	*e*P	**Pn**	**10 03 05.7**	**+1.3**
	SNR=14						
IBND	**Bandar-abas**	**1.29**	**48**	Pg	**Pg**	**10 03 08.4**	**-0.6**
MASF	**Masafi**	**1.37**	**153**	P	**Pb**	**10 03 09.6**	**+0.3**
	SNR=103						
MASF				S	**Sg**	**10 03 28.8**	**+0.5**
MSFE	**Esma-Masafi**	**1.38**	**153**	*e*P	**Pn**	**10 03 09.6**	**+1.0**
	SNR=103						
LAR1	**LAR**	**1.45**	**318**	Pg	**Pn**	**10 03 10.8**	**+1.1**
LAR1				Sg	**Sg**	**10 03 31.7**	**+0.8**
MDH	**Madha**	**1.49**	**149**	P	**Pb**	**10 03 11.6**	**+0.2**
	SNR=31						
MDH				S	**Sg**	**10 03 31.9**	**-0.3**
MDH	**Madha**	**1.49**	**149**	*e*P	**Pn**	**10 03 11.2**	**+1.0**
	SNR=32						
NAZ	**Nazwa, Dubai**	**1.60**	**174**	P	**Pn**	**10 03 13.4**	**+1.6**
	SNR=6.8						
NAZ	**Nazwa, Dubai**	**1.60**	**174**	*e*P	**Pn**	**10 03 13.4**	**+1.6**
	SNR=22						
UOSS	**Minazif**	**1.77**	**158**	P	**Pb**	**10 03 15.9**	**-0.2**
UOSS	**Minazif**	**1.77**	**158**	*e*P	**Pn**	**10 03 15.1**	**+1.1**
	SNR=60						
FAQ	**Al Faqa, Dubai**	**1.84**	**176**	P	**Pn**	**10 03 16.4**	**+1.4**
FAQ	**Al Faqa, Dubai**	**1.84**	**176**	P	**Pn**	**10 03 16.8**	**+1.9**
HATD	**Hatta, Dubai**	**1.86**	**161**	P	**Pn**	**10 03 16.7**	**+1.5**
	SNR=23						
HATD	**Hatta, Dubai**	**1.86**	**161**	P	**Pn**	**10 03 16.7**	**+1.5**
ASUD	**Al Ashush, Dub**	**1.96**	**184**	P	**Pn**	**10 03 19.0**	**+2.4**
	SNR=41						
ASUD	**Al Ashush, Dub**	**1.96**	**184**	*e*P	**Pn**	**10 03 18.8**	**+2.2**
	SNR=41						
ASHO	**Ashiyiah**	**1.97**	**164**	P	**Pn**	**10 03 18.4**	**+1.6**
	SNR=52						
ASHO	**Ashiyiah**	**1.97**	**164**	*e*P	**Pn**	**10 03 18.4**	**+1.6**
	SNR=52						
AJN	**Ajban**	**2.06**	**192**	P	**Pn**	**10 03 19.7**	**+1.7**
	SNR=8.6						
AJN	**Ajban**	**2.06**	**192**	*e*P	**Pn**	**10 03 19.6**	**+1.5**
	SNR=8.6						
LMD1	**Lamerd**	**2.18**	**291**	Pn	**Pn**	**10 03 21.7**	**+2.0**
JASK	**Jask - Hormozg**	**2.28**	**108**	Pn	**Pn**	**10 03 22.0**	**+1.0**
KHNJ	**Kahnooj**	**2.41**	**55**	Pn	**Pn**	**10 03 23.9**	**+1.0**
ALNE	**Al Ain**	**2.54**	**174**	P	**Pn**	**10 03 26.1**	**+1.5**
	SNR=12						
ALNE	**Al Ain**	**2.54**	**174**	*e*P	**Pn**	**10 03 26.1**	**+1.5**
	SNR=7.7						
JHRM	**Jahrom**	**2.54**	**319**	Pn	**Pn**	**10 03 26.6**	**+1.9**
SOHO	**SOHO**	**2.63**	**158**	P	**Pn**	**10 03 26.7**	**+0.9**
SOHO	**SOHO**	**2.63**	**158**	*e*P	**Pn**	**10 03 26.5**	**+0.7**
	SNR=12						
JRN	**Qarnain Island**	**2.87**	**236**	P	**Pn**	**10 03 30.4**	**+1.2**
ARQ	**Araqi**	**3.38**	**163**	P	**Pn**	**10 03 37.0**	**+0.8**
	SNR=30						
HOQ	**Hoqain**	**3.43**	**150**	P	**Pn**	**10 03 38.0**	**+1.1**
GHWR	**Ruwais**	**3.51**	**222**	P	**Pn**	**10 03 37.9**	**-0.1**
KRBR	**Kerman**	**3.57**	**18**	Pn	**Pn**	**10 03 41.7**	**+2.7**
KBAM	**BAM**	**3.67**	**46**	Pn	**Pn**	**10 03 42.5**	**+2.3**
UMZA	**Um Al Zommool**	**3.87**	**184**	P	**Pn**	**10 03 43.7**	**+0.8**
KHGB	**Koh Gabri**	**3.88**	**13**	Pn	**Pn**	**10 03 45.7**	**+2.5**
BIDO	**Bidbid**	**3.90**	**141**	P	**Pn**	**10 03 44.0**	**+0.8**
BIDO				S	**Sn**	**10 04 29.7**	**+1.1**
MZR	**Muzera**	**4.00**	**207**	P	**Pn**	**10 03 47.0**	**+2.3**
DSBU	**Dashti - Bushe**	**4.13**	**296**	Pn	**Pn**	**10 03 48.7**	**+2.2**
SMDO	**Samad**	**4.23**	**146**	P	**Pn**	**10 03 49.4**	**+1.5**
SMDO				S	**Sn**	**10 04 39.4**	**+2.4**
TRNA	**Turayna**	**4.26**	**245**	P	**Pn**	**10 03 49.3**	**+1.2**
	SNR=6.8						
TRNA				S	**Sn**	**10 04 39.6**	**+2.1**
	SNR=5.8						
WSAR	**Wadi Sarin**	**4.41**	**139**	Pn	**Pn**	**10 03 50.3**	**+0.1**
	baz=347,slow=24,SNR=14						
WSAR				Sn	**Sn**	**10 04 41.1**	**-0.1**
	baz=89,slow=24,SNR=6.1						
ZRDN	**Zarand Kerman**	**4.46**	**12**	Pn	**Pn**	**10 03 53.8**	**+2.5**
SMRA	**Abu-Samra**	**4.57**	**247**	P	**Pn**	**10 03 54.4**	**+1.9**
IMEH	**Mehriz**	**4.84**	**351**	Pn	**Pn**	**10 03 58.9**	**+2.5**
JMDO	**Jabal Madar**	**4.84**	**150**	P	**Pn**	**10 03 57.3**	**+1.1**
WBK	**Wadi Bani Khal**	**5.09**	**140**	P	**Pn**	**10 04 00.5**	**+0.8**
ISAD	**Sadrabad**	**5.53**	**344**	Pn	**Pn**	**10 04 08.5**	**+2.6**
KLNJ	**Kolanjah**	**5.56**	**323**	Pn	**Pn**	**10 04 08.0**	**+1.6**
JLN	**Jalan Bani Buh**	**5.70**	**140**	P	**Pn**	**10 04 09.6**	**+1.6**
IRAM	**Ramesheh**	**5.86**	**333**	Pn	**Pn**	**10 04 12.2**	**+1.8**
NHDN	**Nehbandan**	**6.25**	**39**	Pn	**Pn**	**10 04 18.0**	**+2.3**
TPRV	**Parvadeh(Tabas**	**6.50**	**9**	Pn	**Pn**	**10 04 21.7**	**+2.5**
IGAR	**Gharneh**	**6.51**	**334**	Pn	**Pn**	**10 04 20.8**	**+1.4**
TKDS	**Koohdasht(Taba**	**7.15**	**11**	Pn	**Pn**	**10 04 30.5**	**+2.5**
KRSH	**Karshahi**	**7.90**	**339**	Pn	**Pn**	**10 04 39.6**	**+1.2**
ISFB	**Sefidab**	**8.22**	**341**	Pn	**Pn**	**10 04 44.8**	**+2.1**
IVRN	**Varamin**	**8.97**	**340**	Pn	**Pn**	**10 04 54.7**	**+1.7**
MMAI	**Mount Meron Ar**	**18.54**	**295**	LR	LR	10 15 56.1	
	comp=Z,31nm,18.5s,baz=120,slow=43						
KBZ	**Khabaz**	**19.91**	**332**	P	**P**	**10 07 15.5**	**+0.7**
	2.9nm,0.7s,baz=149,slow=8.9,SNR=7.0						
BRTR	**Keskin Array B**	**22.41**	**311**	P	**P**	**10 07 38.7**	**-3.4**
	0.6nm,0.5s,baz=133,slow=14,SNR=3.4						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**28.66**	**19**	P	**P**	**10 08 39.6**	**-0.3**
	2.5nm,0.9s,baz=230,slow=9.0,SNR=5.1						
	2.5nm,0.9s						
MKAR	**Makanchi Array**	**29.25**	**39**	P	**P**	**10 08 45.8**	**+0.6**
	0.7nm,0.4s,baz=223,slow=7.8,SNR=9.4						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**29.78**	**30**	P	**P**	**10 08 50.0**	**+0.3**
	0.6nm,0.5s,baz=230,slow=8.5,SNR=2.4						
	0.6nm,0.5s						
BRDH	**Bariadhala**	**33.05**	**89**	LR	LR	10 22 34.9	
	comp=Z,62nm,18.4s,baz=107,slow=36						
ZALV	**Zalesovo Beam**	**34.87**	**30**	P	**P**	**10 09 33.8**	**-0.5**
	2.9nm,0.3s,baz=242,slow=9.8,SNR=12						
	2.9nm,0.3s						

FINES	**FINESS Array B**	**40.06**	**339**	P	**P**	**10 10 17.8**	**-0.5**
	1.3nm,0.5s,baz=148,slow=11,SNR=9.7						
	1.3nm,0.5s						
HFS	**Hagfors**	**43.97**	**331**	P	**P**	**10 10 49.3**	**-0.8**
	1.4nm,0.8s,baz=111,slow=7.9,SNR=2.0						
	1.4nm,0.8s						
SONM	**Songino Array**	**44.83**	**48**	P	**P**	**10 10 57.5**	**+0.1**
	1.1nm,0.8s,baz=256,slow=5.8,SNR=3.8						
	1.1nm,0.8s						
NOA	**NORSAR Array B**	**45.48**	**332**	P	**P**	**10 11 00.8**	**-1.5**
	0.4nm,0.5s,baz=121,slow=7.4,SNR=3.4						
	0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**51.96**	**266**	P	**P**	**10 11 51.1**	**-1.5**
	0.9nm,0.5s,baz=63,slow=7.7,SNR=2.2						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**89.34**	**113**	P	**P**	**10 15 38.9**	**-1.2**
	0.3nm,0.9s,baz=304,slow=4.8,SNR=1.5						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**90.76**	**116**	P	**P**	**10 15 45.4**	**-1.2**
	0.2nm,0.5s,baz=302,slow=5.0,SNR=2.1						
	0.2nm,0.5s						

*IDC **29** 10:21:44.2±0.8, 0°.44N×126°.02E, h0km, mb4.0/9, mbtmp4.0/10, ML3.1/1, Error ellipse: s-maj=50.7km s-min=15.4km az=73.0*
*DJA **29** 10:21:46.5±0.2, 1°.N±2°×12°.6E±°, h10km, M3.9/12, mB5.1/1, mb4.2/2, MLv3.8/12, Mw(mB)4.5/1*

ISC 29 10:21:50.2±0.7, 0°.49N±0.06″×126°.28E±0.05, h47km, n18, σ1§46/21, mb3.9/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.12**	**75**	P	**Pn**	**10 22 07.7**	**-1.9**
TNTI				S	**Sn**	**10 22 23.4**	**-0.6**
KMSI	**Cibinong**	**2.30**	**272**	P	**Pn**	**10 22 26.1**	**+0.4**
KMSI				S	**Sn**	**10 22 52.7**	**-0.1**
SANI	**Sanana**	**2.54**	**187**	P	**Pn**	**10 22 27.7**	**-1.2**
SANI				S	**Sn**	**10 22 58.6**	**0.0**
SGSI	**Sangihe**	**3.27**	**347**	P	**Pn**	**10 22 37.8**	**-1.2**
MRSI	**Marisa**	**4.34**	**270**	P	**Pn**	**10 22 51.2**	**-2.5**
APSI	**Ampana**	**4.83**	**253**	P	**Pn**	**10 22 59.1**	**-1.4**
MPSI	**Mapaga**	**6.38**	**269**	P	**Pn**	**10 23 18.8**	**-3.0**
	0.0nm11nm,1.4s						
SPSI	**Sidrap Palu**	**7.86**	**236**	P	**Pn**	**10 23 42.1**	**0.0**
FITZ	**Fitzroy Crossi**	**18.48**	**182**	P	**P**	**10 25 59.5**	**-2.9**
	baz=7.3,slow=7.8,SNR=1.8						
	1.1nm,0.9s						
WRA	**Warramunga Arr**	**21.79**	**159**	P	**P**	**10 26 38.0**	**-0.4**
	3.0nm,0.5s,baz=335,slow=11,SNR=38						
	3.0nm,0.5s						
ASAR	**Alice Springs**	**25.12**	**163**	P	**P**	**10 27 11.7**	**+0.7**
	2.1nm,0.6s,baz=343,slow=11,SNR=49						
	2.1nm,0.6s						
STKA	**Stephens Creek**	**35.30**	**157**	P	**P**	**10 28 42.6**	**+1.7**
	1.8nm,0.7s,baz=334,slow=10,SNR=3.0						
	1.8nm,0.7s						
USRK	**Ussuriysk Ar.**	**43.82**	**6**	P	**P**	**10 29 52.9**	**+1.2**
	1.0nm,0.5s,baz=201,slow=6.0,SNR=5.1						
	1.0nm,0.5s						
SONM	**Songino Array**	**50.23**	**343**	P	**P**	**10 30 42.2**	**+0.6**
	0.8nm,0.7s,baz=134,slow=4.2,SNR=3.1						
	0.8nm,0.7s						
PETK	**Petropavlovsk-**	**58.59**	**22**	P	**P**	**10 31 43.0**	**+0.8**
	0.5nm,0.5s,baz=201,slow=5.5,SNR=5.3						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**59.97**	**327**	P	**P**	**10 31 52.1**	**+0.2**
	1.3nm,0.4s,baz=119,slow=8.1,SNR=14						
	1.3nm,0.4s						
KURBB	**Kurchatov Arra**	**64.23**	**328**	P	**P**	**10 32 20.3**	**-0.1**
	2.0nm,0.2s,baz=127,slow=6.3,SNR=8.5						
	2.0nm,0.2s						
BVAR	**Borovoye Array**	**69.79**	**328**	P	**P**	**10 32 55.5**	**-0.2**
	0.4nm,0.4s,baz=154,slow=8.2,SNR=3.7						
	0.4nm,0.4s						

*NAO **29** 10:24:24.6±1.2, 78°.48N×7°.49E, h17km±11km, ML2.9*
*BER **29** 10:24:26.0±2.7, 78°.41N×7°.54E, h20km±10km, mb(Pn)3.9, ML2.9(NAO), Confirmed Earthquake*
*FCIAR **29** 10:24:30.0, 78°.18N×8°.38E, h10km, station ZFI2 has station magnitude of 3.40*

ISC 29 10:24:23.5±1.4, 78°.32N±0.07″×7°.84E±0.08, h10km, n20, σ1§55/34, 2C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.01**	**51**	Pn	**Pg**	**10 24 43.4**	**+0.4**
KBS				Sb	**Sg**	**10 24 55.0**	**-1.1**
KBS	**Kingsbay**	**1.01**	**51**	⇑*iP*	**Pg**	**10 24 43.3**	**+0.4**
KBS				*e*S	**Sg**	**10 24 55.0**	**-1.1**
KBS				IAML		10 24 57.1	
	comp=Z,236nm,0.1s						
BRBA	**Barentsburg A**	**1.34**	**98**	Pb	**Pn**	**10 24 49.5**	**+1.4**
BRBA				Sn	**Sn**	**10 25 05.8**	**-0.1**
BRBA	**Barentsburg A**	**1.34**	**98**	*e*P	**Pn**	**10 24 48.7**	**+0.6**
BRBA				*e*S	**Sn**	**10 25 05.5**	**-0.4**
BRBA				IAML		10 25 09.1	
	comp=Z,154nm,0.2s						
SPA0	**Spitsbergen Ar**	**1.75**	**91**	Pn	**Pn**	**10 24 55.5**	**+1.7**
	baz=272,slow=14						
SPA0				Sn	**Sn**	**10 25 17.8**	**+1.6**
	baz=273,slow=18						
SPA0	**Spitsbergen Ar**	**1.75**	**91**	⇑*iP*	**Pn**	**10 24 55.5**	**+1.7**
SPA0				*i* S	**Sn**	**10 25 16.6**	**+0.4**
SPA0	**Spitsbergen Ar**	**1.75**	**91**	Pn	**Pn**	**10 24 55.5**	**+1.7**
	baz=272,slow=14						
SPA0				Sn	**Sn**	**10 25 17.8**	**+1.6**
	baz=273,slow=18						
HSPB	**Hornsund (broa**	**2.12**	**125**	Pn	**Pn**	**10 24 59.6**	**+0.8**
HSPB				Sn	**Sn**	**10 25 24.2**	**-0.9**
HSPB	**Hornsund (broa**	**2.12**	**125**	*e*P	**Pn**	**10 24 59.3**	**+0.5**
HSPB				*e*S	**Sn**	**10 25 23.6**	**-1.5**
HSPB	**Hornsund (broa**	**2.12**	**125**	*e*P	**Pn**	**10 24 59.6**	**+0.8**
HSPB				*e*S	**Sn**	**10 25 24.2**	**-0.9**
HSPB				IAML		10 25 25.9	
	comp=Z,54nm,0.4s						
HOPEN	**Hopen**	**4.16**	**107**	Pn	**Pn**	**10 25 28.0**	**+1.1**
HOPEN				Sn	**Sn**	**10 26 14.0**	**-1.5**
HOPEN	**Hopen**	**4.16**	**107**	*e*P	**Pn**	**10 25 27.0**	**+0.1**
HOPEN				*e*S	**Sn**	**10 26 11.6**	**-3.9**
HOPEN	**Hopen**	**4.16**	**107**	*e*P	**Pn**	**10 25 27.8**	**+0.9**
HOPEN				*e*S	**Sn**	**10 26 13.7**	**-1.8**
HOPEN				IAML		10 26 16.0	
	comp=Z,30nm,0.2s						
BJO1	**Bjornoya**	**4.64**	**140**	P	**Pn**	**10 25 35.5**	**+2.0**
BJO1				S	**Sn**	**10 26 24.3**	**-3.0**
ZFI2	**Zemlya Franca-**	**7.50**	**52**	*e*P	**Pn**	**10 26 12.6**	**0.0**
ZFI2				*e*S	Sn	10 27 30.5	-7.0
	comp=Z,10.0nm,2.0s						
OMEGA	**Omega**	**7.51**	**52**	*e*P	**Pn**	**10 26 13.2**	**+0.4**
OMEGA				*e*S	Sn	10 27 30.8	-7.0
DBG	**Daneborg**	**7.69**	**253**	Pn	**Pn**	**10 26 14.7**	**-0.7**
DBG				Sn	Sn	10 27 33.2	-9.1
DBG	**Daneborg**	**7.69**	**253**	Pn	**Pn**	**10 26 14.7**	**-0.7**
DBG				*e*S	Sn	10 27 33.4	-8.9
ARA0	**ARCESS Array S**	**10.02**	**142**	Pn	**Pn**	**10 26 49.7**	**+2.6**
	baz=342,slow=11						
ARA0				Sn	Sn	10 28 34.9	-4.5
	baz=347,slow=22						
ARA0	**ARCESS Array S**	**10.02**	**142**	Pn	**Pn**	**10 26 49.7**	**+2.6**
	baz=342,slow=11						
ARA0				Sn	Sn	10 28 34.9	-4.5
	baz=347,slow=22						

*SOME **29** 10:34:03.3, 43°.70N×69°.73E*
*NNC **29** 10:34:05.7±1.9, 43°.59N×69°.78E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=13.2km s-min=6.6km az=137.0, Suspected Mining explosion.*

ISC 29 10:34:02.9±2.7, 43°.38N±0.1″×69°.38E±0.1″, h0km, n10, σ0§99/13, 4C, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRLS	**Borolday**	**0.78**	**179**	P	**Pn**	**10 34 21.4**	**+0.3**
	4.4nm,0.3s						
BRLS				S	**Sb**	**10 34 30.9**	**+0.5**
	0.4nm,0.3s						
KK31	**Karatay Array**	**0.87**	**144**	⇑P	**Pg**	**10 34 18.9**	**-0.7**
	0.7nm,0.2s						
KK31				⇑S	**Sg**	**10 34 30.4**	**-0.4**
	11nm,0.3s,baz=313,slow=31,SNR=20						
IUG	**luzhnay**	**1.67**	**174**	P	**Pn**	**10 34 33.7**	**+0.2**
	17nm,0.2s						
IUG				S	**Sn**	**10 34 54.3**	**-1.3**
	65nm,0.5s						
MRKS	**Merke**	**2.71**	**112**	Pg	**Pg**	**10 34 55.8**	**+0.9**
	4.3nm,0.4s						
MRKS				Lg	Lg	10 35 30.8	
	7.8nm,0.4s						
AAK	**Ala-Archa**	**3.62**	**107**	⇑Pg	**Pb**	**10 35 09.1**	**+1.2**
	0.9nm,0.4s						
AAK				⇑Lg	Lg	10 35 58.5	
	5.5nm,0.9s						
KRBS	**Karabastau**	**4.25**	**89**	Pg	**Pg**	**10 35 23.3**	**-1.1**
	2.3nm,0.6s						
KRBS				Lg	Lg	10 36 17.3	
	4.3nm,0.6s						
DGS	**Degeres**	**4.37**	**95**	Pg	**Pg**	**10 35 25.6**	**-1.1**
	2.8nm,0.5s						
DGS				Lg	Lg	10 36 23.3	
	6.9nm,0.7s						
KST	**Kastek**	**4.55**	**98**	Pg	**Pg**	**10 35 30.0**	**-0.1**
	2.2nm,0.3s						
KST				Lg	Lg	10 36 29.4	
	6.3nm,0.5s						
KTBS	**Karatobe**	**4.98**	**89**	Pg	**Pg**	**10 35 38.0**	**-0.3**
	1.1nm,0.4s						
KTBS				Lg	Lg	10 36 43.2	
	8.1nm,0.5s						
TNSS	**Tian-Shan**	**5.25**	**96**	Pg	**Pg**	**10 35 42.1**	**-1.5**
	1.0nm,0.6s						
TNSS				Lg	Lg	10 36 50.1	
	0.9nm,0.7s						

*RSPR **29** 10:56:32.7, 18°.14N×66°.73W, h22km, MD2.0/9*
*SDD **29** 10:56:32.5±0.6, 18°.15N×66°.70W, h26km±6km, MD2.7, ML1.8, MW2.4*

ISC 29 10:56:31.0±1.6, 18°.13N±0.05″×66°.71W±0.03″, h31km±8km, n22, σ0§51/25, 13C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UUPR	**Utuado, UPR, P**	**0.13**	**354**	⇑*eP*	**Pb**	**10 56 36.8**	**0.0**
UUPR	**Utuado, UPR, P**	**0.13**	**354**	*eS*	**Sb**	**10 56 39.7**	**-1.0**
OBIP	**Obispado Ponce**	**0.13**	**131**	⇑*eP*	**Pb**	**10 56 37.2**	**+0.4**
OBIP	**Obispado Ponce**	**0.13**	**131**	*eS*	**Sb**	**10 56 40.5**	**-0.2**
CELP	**Cerrillos**	**0.13**	**113**	⇑*eP*	**Pb**	**10 56 37.2**	**+0.4**
CELP	**Cerrillos**	**0.13**	**113**	*eS*	**Sb**	**10 56 40.9**	**+0.1**
CELP	**Cerrillos**	**0.13**	**113**	⇓*ePg*	**Pb**	**10 56 37.2**	**+0.4**
CELP				⇓*eSg*	**Sb**	**10 56 40.9**	**+0.1**
CELP				IAML		10 56 41.3	
	comp=N,221nm,0.1s						
AOPR	**Arecibo Observ**	**0.22**	**348**	⇑*eP*	**Pb**	**10 56 37.7**	**-0.1**
AOPR	**Arecibo Observ**	**0.22**	**348**	*eS*	**Sb**	**10 56 41.7**	**-0.6**
AOPR	**Arecibo Observ**	**0.22**	**348**	⇓*ePg*	**Pb**	**10 56 37.6**	**-0.1**
AOPR				⇑*eSg*	**Sb**	**10 56 41.7**	**-0.6**
AOPR				IAML		10 56 44.0	
	comp=N,186nm,0.2s						
ECPR	**Experimental S**	**0.38**	**60**	⇑*eP*	**Pb**	**10 56 40.1**	**+0.4**
ECPR	**Experimental S**	**0.38**	**60**	*eS*	**Sb**	**10 56 45.8**	**+0.1**
EMPR	**Esperanza - Ma**	**0.39**	**26**	⇓*eP*	**Pb**	**10 56 40.4**	**+0.6**
EMPR	**Esperanza - Ma**	**0.39**	**26**	*eS*	**Sb**	**10 56 46.7**	**+0.9**
CRPR	**Cabo Rojo, PR**	**0.40**	**253**	⇑*eP*	**Pb**	**10 56 40.3**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.40**	**253**	*eS*	**Sb**	**10 56 45.9**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.40**	**253**	⇓*ePg*	**Pb**	**10 56 40.3**	**+0.2**
CRPR				⇑*eSg*	**Sb**	**10 56 46.1**	**-0.1**
CRPR				IAML		10 56 46.4	
	comp=N,42nm,0.2s						
AGPR	**Aguadilla, PR**	**0.51**	**311**	⇑*eSg*	**Sb**	**10 56 49.4**	**+0.3**
AGPR				IAML		10 57 05.4	
	comp=N,81nm,1.6s						
PDPR	**Patillas Dam,**	**0.66**	**99**	⇑*eP*	**Pb**	**10 56 44.5**	**+0.3**
PDPR	**Patillas Dam,**	**0.66**	**99**	*eS*	**Sb**	**10 56 52.0**	**-1.1**
HUMP	**Col San Antoni**	**0.81**	**89**	⇑*eP*	**Pb**	**10 56 46.3**	**-0.4**
HUMP	**Col San Antoni**	**0.81**	**89**	*eS*	**Sb**	**10 56 57.2**	**-0.2**

*UCR **29** 11:02:24.2±1.2, 9°.55N×84°.84W, h2km±3km, MW3.6*
*CATAC **29** 11:02:25.1±0.4, 10°.N±3°×8°.5W±°, h2km±2km, M3.4/10, MLv3.4/10, Error ellipse: s-maj=6.2km s-min=3.4km az=13.4, confirmed*

ISC 29 11:02:24.7±1.2, 9°.55N±0.03″×84°.82W±0.02″, h8km±9km, n104, σ0§86/141, 6C-23D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBL1	**Cabuya**	**0.27**	**279**	⇑*iP*	**Pb**	**11 02 31.9**	**0.0**

QUEB	Quebradon, Cot	1.07	356	⇑	*i* P	Pg	11 02 44.8 -0.6
RAFA	San Farael, Vo	1.08	67		*e* P	Pg	11 02 45.2 -0.2
RAFA					*e* S	Sn	11 03 01.6 0.0
VINA	Juan Vinas	1.11	72		*e* P	Pg	11 02 45.8 -0.4
VTLA	Turrialba Volc	1.13	66		*e* P	Pg	11 02 46.2 -0.3
CVTQ	Turrialba Volc	1.13	66		*e* P	Pb	11 02 46.9 +0.1
CVTV	Tajo	1.15	67		*e* P	Pg	11 02 46.7 -0.2
CUI	Cuipilapa	1.16	343	⇓	*e* P	Pg	11 02 45.9 -1.1
CUI					*e* S	Sb	11 03 02.6 +0.5
MOTZ	Rio Naranjo	1.16	348	⇓	*e* P	Pg	11 02 46.4 -0.7
MOTZ					*e* S	Sb	11 03 02.9 +0.6
TENO	El Achiote	1.16	352	⇓	*i* P	Pg	11 02 45.5 -1.6
TENO					*e* S	Sg	11 03 00.6 -1.6
VTCV	VTCV, Calle Va	1.16	68		*e* P	Pg	11 02 46.5 -0.6
VTCV					*e* S	Sn	11 03 04.1 +0.5
COLC	Colonia	1.18	341	⇓	*e* P	Pg	11 02 46.2 -1.2
COLC					*e* S	Sb	11 03 03.7 +0.9
VERB	Verbena	1.18	70		*e* P	Pg	11 02 47.0 -0.4
ABRB	Las Abras (San	1.18	67	⇑	*i* P	Pg	11 02 47.1 -0.3
HORNC	Hornillas	1.21	343		*e* P	Pg	11 02 46.7 -1.3
HORNC					*e* S	Sg	11 03 03.8 0.0
PILE	Guapiles	1.22	57		*e* P	Pg	11 02 47.7 -0.4
RVSTA	Santa Teresita	1.23	70		*e* P	Pg	11 02 48.3 -0.1
COVE	Coope Vega, Sa	1.24	19		S	Sg	11 03 03.8 -0.8
COVE	Coope Vega, Sa	1.24	19		P	Pg	11 02 47.1 -1.4
MESS	Mesas	1.24	343	⇓	*i* P	Pg	11 02 47.5 -1.2
MESS					*e* S	Sb	11 03 05.0 +0.3
RESJ	San Isidro (Tu	1.26	67		*e* P	Pg	11 02 47.6 -1.3
ALIBA	Liberia Airpor	1.26	326	⇓	*e* P	Pg	11 02 48.2 -0.8
EDPE	Pejibaye, P	1.29	107		*e* P	Pg	11 02 48.0 -1.5
ELI1	Hacienda Flor	1.31	327		*e* P	Pg	11 02 48.7 -1.2
ELI1	Hacienda Flor	1.31	327		P	Pg	11 02 48.9 -1.0
ELI1	Hacienda Flor	1.31	327		S	Sb	11 03 07.3 +0.7
GPS2	Hotel Rincn d	1.31	336		*e* P	Pg	11 02 48.4 -1.5
SAJE	San Jernim	1.31	99	⇓	*e* P	Pg	11 02 48.7 -1.2
GPS3	Bodega del ICE	1.32	336		*e* P	Pg	11 02 49.1 -0.9
GPS1	Guardaparques	1.33	337		*e* P	Pg	11 02 48.5 -1.8
VRLE	La Escondida,	1.35	337		*e* P	Pg	11 02 48.9 -1.7
LAPC	Finca la Perla	1.36	334	⇓	*i* P	Pn	11 02 49.0 -1.0
LAPC					*e* S	Sg	11 03 07.1 -1.3
UPAL	Upala	1.36	352		*e* P	Pn	11 02 49.4 -0.6
BUAI	Buenos Aires	1.42	339		*e* P	Pn	11 02 49.8 -1.0
PEJA	Penjamo Buenos	1.43	340		*e* P	Pn	11 02 50.5 -0.4
LCHIL	Los Chiles	1.48	4		*e* P	Pn	11 02 52.1 +0.4
FIMO	Fila Mora	1.55	111		*e* P	Pn	11 02 52.3 -0.5
DRK0	Durika	1.58	100	⇑	*i* P	Pn	11 02 52.6 -0.6
DRK0					*e* S	Sn	11 03 13.1 -0.9
DRK0	Durika	1.58	100		S	Sn	11 03 13.0 -0.9
DRK0	Durika	1.58	100		P	Pn	11 02 52.7 -0.4
VERH	Veragua Rainfo	1.65	77		*e* P	Pn	11 02 54.2 +0.2
EDP2	Potrero Grande	1.71	108		*e* P	Pn	11 02 54.4 -0.3
LAES	El Progreso Va	1.76	83		*e* P	Pn	11 02 56.3 +0.8
ALCO	Alturas Coton,	2.05	107		*e* P	Pn	11 02 57.5 -2.1
CLLRA	Cordillera,	2.32	110		*e* P	Pn	11 03 03.5 +0.1
ACON	Acoyapa	2.43	352		*e* P	Pn	11 03 01.3 -3.5
ACON	Acoyapa	2.43	352		P	Pn	11 03 04.0 -0.7
ACON	Acoyapa	2.43	352		S	Sb	11 03 38.5 -0.4
PBNVO	Pueblo Nuevo,	2.67	104		*e* P	Pn	11 03 08.1 0.0
RBALA	Bur	2.72	104		*e* P	Pn	11 03 08.3 -0.3
BOAB	BOACO BROADBAN	3.00	344		P	Pn	11 03 13.5 +0.9
BOAB	BOACO BROADBAN	3.00	344		S	Sn	11 03 50.6 +1.8
COPN	Copaltepe	3.14	327		*e* P	Pn	11 03 17.1 +2.5
COPN	Copaltepe	3.14	327		P	Pn	11 03 17.5 +2.9

IDC ***29*** *11:04:12.9±1.2,30°.59S×177°.60W,h0km,mb4.2/5, mbtmp4.2/6,ML3.8/1,Error ellipse: s-maj=37.2km s-min=20.7km az=124.0*

NEIC ***29*** *11:04:17.0±2.5,30°.52S±0°.07×177°.8W±0°.2,h17km±6km, mb4.4/12,Error ellipse: s-maj=27.9km s-min=9.6km az=97.0*

ISC 29 11:04:20.5±0.8,30°.45S±0°.07×177°.9W±0°.2,h46km,n38, σ1s54/32,mb4.3/11,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.19	360			Pn	11 04 40.0	-0.7
RAO	Raoul Island	1.19	360	Pn		Pn	11 04 39.0	-1.7
	284nm,0.3s,baz=34,slow=21,SNR=9.3							
RAO				Sn		Sn	11 04 53.3	-2.4
	720nm,0.3s,baz=357,slow=23,SNR=11							
URZ	Urewera	8.81	207	Pn		Pn	11 06 22.4	-2.8
	1.0nm,0.3s,baz=270,slow=5.1,SNR=11							
URZ				Sn		Sn	11 08 01.9	-1.3
	1.4nm,0.3s,baz=173,slow=21,SNR=12							
	2.2nm,0.5s							
RTZ	Ruatahuna	9.17	206	Pn		Pn	11 06 27.5	-2.7
RTZ						Sn	11 08 09.9	-2.2
BKZ	Black Stump Fm	9.84	206	Pn		Pn	11 06 37.5	-1.9
CTAO	Charters Tower	33.88	279	P		P	11 11 01.3	+2.2
STKA	Stephens Creek	34.55	257	P		P	11 11 06.1	+1.5
STKA	Stephens Creek	34.55	257	P		P	11 11 06.4	+1.8
	6.0nm,0.8s,baz=93,slow=9.1,SNR=12							
	6.0nm,0.8s							
BBOO	Buckleboo	39.03	254	P		P	11 11 44.1	+1.3
BBOO				IAmb		IAmb	11 12 14.7	
	comp=Z,23nm,1.5s							
AS31	Alice Springs	43.19	267	P		P	11 12 17.5	+0.4
ASAR	Alice Springs	43.19	267	P		P	11 12 17.5	+0.4
ASAR	Alice Springs	43.19	267	P		P	11 12 17.4	+0.3
	comp=Z,1.4nm,0.6s,baz=103,slow=7.3,SNR=30							
	comp=Z,1.4nm,0.6s							
WR8	Warramunga Arr	44.03	272	P		P	11 12 23.1	-0.9
WR8				IAmb		IAmb	11 12 26.4	
	comp=Z,5.7nm,1.2s							
WRAB	Tennant Creek	44.17	272	P		P	11 12 25.5	+0.5
WRAB				IAmb		IAmb	11 12 28.8	
	comp=Z,3.2nm,0.8s							
WRA	Warramunga Arr	44.18	272	P		P	11 12 25.4	+0.3
WRA	Warramunga Arr	44.18	272	P		P	11 12 25.1	0.0
	comp=Z,3.3nm,0.4s,baz=111,slow=8.0,SNR=5.4							
	comp=Z,3.3nm,0.4s							
WB0	Warramunga Arr	44.20	272	P		P	11 12 24.4	-0.8
KNRA	Kununurra	50.79	274	P		P	11 13 16.6	+0.2
KNRA				IAmb		IAmb	11 13 19.0	
	comp=Z,9.6nm,1.4s							
FITZ	Fitzroy Crossi	52.44	270	P		P	11 13 30.1	+1.3
QSPA	South Pole Qui	59.66	180	P		P	11 14 22.7	+2.8
QSPA				IAmb		IAmb	11 14 31.6	
	comp=Z,3.4nm,1.0s							
SNAA	Sanae	78.11	178	P		P	11 16 15.2	+1.0
SNAA				IAmb		IAmb	11 16 28.7	
	comp=Z,4.9nm,1.5s							
H03S2	Juan Fernandez	80.37	124	T		T	12 45 33.1	
	baz=238,slow=74,SNR=20							
H03S1	Juan Fernandez	80.38	124	T		T	12 45 37.0	
	baz=238,slow=74,SNR=16							
H03S3	Juan Fernandez	80.39	123	T		T	12 45 36.1	
	baz=238,slow=74,SNR=19							
H03N3	Juan Fernandez	80.56	123	T		T	12 45 47.0	
	baz=241,slow=72,SNR=14							
H03N2	Juan Fernandez	80.57	123	T		T	12 45 51.0	
	baz=241,slow=72,SNR=13							
H03N1	Juan Fernandez	80.58	123	T		T	12 45 48.3	
	baz=241,slow=72,SNR=19							
PETK	Petropavlovsk-	85.88	346	P		P	11 16 56.8	+1.9
	comp=Z,1.7nm,0.8s,baz=160,slow=4.9,SNR=3.9							
	comp=Z,1.7nm,0.8s							
NVAR	Mina Array Bea	88.22	43	P		P	11 17 07.0	+0.1
	comp=Z,0.4nm,0.6s,baz=244,slow=7.0,SNR=3.0							
	comp=Z,0.4nm,0.6s							
KURBB	Kurchatov Arra	121.18	314	PKP		PKPdf	11 23 06.3	-1.5
	comp=Z,0.5nm,0.3s,baz=103,slow=2.0,SNR=6.5							
H10N3	ASCENSION HYDR	138.73	155	T		T	13 59 30.1	
	baz=203,slow=75,SNR=22							
H10N1	ASCENSION HYDR	138.74	155	T		T	13 59 30.4	
	baz=203,slow=75,SNR=31							
H10N2	ASCENSION HYDR	138.75	155	T		T	13 59 31.4	
	baz=203,slow=75,SNR=28							
FINES	FINESS Array B	145.22	340	PKPbc		PKPbc	11 23 51.5	-0.4
	comp=Z,3.0nm,0.4s,baz=63,slow=4.7,SNR=19							
NB2	NORSAR Subarra	148.81	351	PKP		PKPbc	11 24 02.3	0.0
	comp=Z,0.8nm,0.6s,baz=18,slow=4.3							
NOA	NORSAR Array B	148.81	351	PKPbc		PKPbc	11 24 01.4	-0.9
	comp=Z,0.4nm,0.5s,baz=14,slow=4.2,SNR=3.7							
HFS	Hagfors	149.31	349	PKPbc		PKPbc	11 24 02.6	-0.9
	comp=Z,1.1nm,0.5s,baz=70,slow=4.9,SNR=6.0							
AKASG	Malin Array Be	151.39	323	PKPbc		PKPbc	11 24 07.2	-1.6
	comp=Z,1.1nm,0.6s,baz=51,slow=2.7,SNR=7.3							

JMA 29 11:16:43.3±0.5,24°N±2°×12°4E±°,h28km±3km,MV1.1/8, NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.29	62	P		Pb	11 16 50.3	-0.2
HATJ				*e* S		Sb	11 16 55.8	+0.4
IRIF	Iriomote-Funau	0.45	25	*e* P		Pb	11 16 52.5	-0.4
JKRS	Kuro-shima	0.55	55	P		Pb	11 16 54.4	-0.1
JKRS				*e* S		Sb	11 17 02.4	+0.4
YOJ	Yonaguni jima	0.71	319	P		Pb	11 16 57.3	+0.1
JIJ	Ishigaki jima	0.72	52	*e* S		Sb	11 17 06.8	-0.1
JISG	Ishigakijimahi	0.98	47	*e* P		Pn	11 17 00.9	-0.3
JTJ	Tarama	1.29	56	*e* S		Sb	11 17 24.7	+1.4

TAP 29 11:17:13.4,24°.93N×122°.25E,h14km,ML2.5,1D,C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.25	287	⇓ *i* P		Pg	11 17 19.2	+0.4
TWB1				*i* S		Sg	11 17 23.2	+0.7
EGS		0.31	253	P		Pb	11 17 20.5	-0.1
EGS				*i* S		Sg	11 17 24.7	+0.7
SXI1	Grass Mountain	0.38	295	*i* P		Pb	11 17 21.9	0.0
SXI1				*i* S		Sb	11 17 27.4	-0.3
TIPB	Shuangxi	0.39	276	*i* P		Pb	11 17 22.0	-0.1
TIPB				S		Sb	11 17 27.8	-0.2
NWF	Wu-fen Shan	0.45	288	*i* P		Pb	11 17 23.4	+0.3
NWF				*i* S		Sb	11 17 29.5	-0.3
WFSB	Wu-fen Shan	0.45	288	P		Pb	11 17 23.1	0.0
WFSB				S		Sb	11 17 30.1	+0.4
TNOU	National Taiwa	0.49	296	P		Pb	11 17 23.9	+0.2
TNOU				S		Sb	11 17 31.1	+0.4
TWC	Suao	0.49	229	*i* P		Pg	11 17 22.7	-0.4
EOS2	EOS2	0.51	182	*i* P		Pb	11 17 24.1	+0.1
EOS2				*i* S		Sb	11 17 31.5	+0.2
ESAO	Su ao	0.52	226	*e* P		Pb	11 17 24.2	0.0
ESAO				*e* S		Sb	11 17 32.2	+0.7
NDS	Dongshan	0.57	239	P		Pg	11 17 24.1	-0.5
NDS				*e* S		Sb	11 17 33.3	+0.1
TWE	Neicheng	0.57	248	*i* P		Pg	11 17 24.9	+0.2
TWE				S		Sb	11 17 34.0	+0.8
TWA	Mucha	0.61	274	*e* S		Sb	11 17 34.9	+0.6
FUSB	Fushanzhiwuyua	0.63	254	*e* P		Pb	11 17 26.2	0.0
FUSB				*e* S		Sb	11 17 36.1	+1.2
EOS3	EOS3	0.65	175	P		Pb	11 17 26.4	0.0
EOS3				S		Sb	11 17 36.1	+0.9
EWUT	Wuta	0.65	222	*e* P		Pb	11 17 27.0	+0.5
EWUT				*e* S		Sg	11 17 34.7	0.0
YM08	YM08	0.65	293	P		Pn	11 17 27.4	-0.8
YM08				S		Sb	11 17 35.8	+0.3
YM01	YM01	0.66	289	*e* P		Pb	11 17 26.9	+0.3
YM01				*e* S		Sb	11 17 36.8	+1.2
NHDH	Xindian Distri	0.66	273	*e* P		Pb	11 17 27.1	+0.4
ZUZH	Zhuzihu	0.68	290	*e* P		Pb	11 17 27.9	+0.8
ZUZH				*e* S		Sb	11 17 37.2	+0.8
TWY	Chenhua	0.68	300	*i* P		Pb	11 17 27.7	+0.6
TWY				*i* S		Sb	11 17 37.0	+0.6
ENA	Nanau	0.69	223	*i* P		Pg	11 17 26.8	0.0
ENA				*i* S		Sg	11 17 35.8	-0.1
ENTT	Nioudou	0.69	245	*e* P		Pb	11 17 27.5	+0.3
ENTT				*e* S		Sn	11 17 38.0	-1.3
NWLT	Wulai	0.70	257	*i* P		Pb	11 17 27.7	+0.3
NWLT				*e* S		Sb	11 17 37.6	+0.7
ANP	Anpu	0.71	291	*e* P		Pb	11 17 27.6	0.0
ANP				*e* S		Sb	11 17 38.4	+1.1
PCYT	Pengchaiyu	0.71	347	*e* P		Pg	11 17 27.1	-0.1
NTST	Danshui	0.77	288	*e* P		Pn	11 17 30.0	+0.3
NTST				S		Sn	11 17 40.8	-0.3
LATG	Datong	0.77	239	*e* P		Pb	11 17 28.8	+0.2
LATG				*i* S		Sn	11 17 40.5	-0.9
TWS1	Kuangyinshan	0.78	283	*e* P		Pn	11 17 29.9	0.0
TWS1				*e* S		Sb	11 17 39.9	+0.8
EOS4	EOS4	0.81	176	*e* P		Pn	11 17 29.7	-0.3
YOJ	Yonaguni jima	0.83	124	P		Pg	11 17 29.5	-0.1
YHNB	Yeheng	0.84	252	*e* P		Pn	11 17 30.0	+0.2
NSK	Sanguang	0.85	253	*e* P		Pn	11 17 30.6	-0.4
NNSB	Datong	0.94	238	*e* P		Pg	11 17 44.7	+0.2
NNSB				*e* S		Sg	11 17 44.4	+0.1
NNS	Nan Shan	0.94	239	*e* P		Pn	11 17 32.2	-0.1
NNS				*e* S		Sn	11 17 44.9	-0.7
ETL	Fush Village	0.96	217	*e* P		Pn	11 17 32.3	-0.2
NACB	Ninganchiao	0.97	219	*e* P		Pg	11 17 32.0	-0.1
NACB				*i* S		Sb	11 17 44.6	0.0
KSHI	Guanxi Townshi	0.99	261	*e* P		Pn	11 17 33.5	+0.6
ETLH	Xiulin Townshi	1.01	224	P		Pg	11 17 32.8	-0.1
ETLH				S		Sb	11 17 45.9	0.0
TWD	Chiawan	1.04	215	*e* P		Pn	11 17 33.5	0.0
NFF	Wufeng Townshi	1.08	254	*e* P		Pg	11 17 35.5	+1.3
NFF				*i* S		Sn	11 17 49.0	+0.1
FUSS	Fushou	1.15	234	*e* P		Pg	11 17 36.2	+0.7
LIOB	Emei	1.16	256	*e* P		Pg	11 17 36.7	+0.9
NSTT	Nanjuang	1.18	255	P		Pg	11 17 36.9	+0.8
NSTT				*e* S		Sg	11 17 51.4	-0.1
ETM	Tongmen	1.19	216	*e* P		Pg	11 17 36.1	-0.2
LXIB	Xiulin Townshi	1.19	220	*e* P		Pg	11 17 36.7	+0.4
LXIB				*e* S		Sg	11 17 52.2	+0.4
WHF	Hehuan Shan	1.20	229	P		Pg	11 17 36.4	-0.1
WHF				S		Sn	11 17 52.9	+0.6
ESL	Shilin	1.34	214	*e* P		Pb	11 17 38.1	-0.2
WHP	Taichung City	1.36	242	*e* P		Pg	11 17 39.7	+0.1
OWD	Renai	1.38	225	*e* P		Pg	11 17 39.7	-0.4
OWD				*e* S		Sg	11 17 57.8	-0.3
WUSB	Renai	1.40	228	*i* P		Pg	11 17 40.3	0.0
WARBT	Fenglin Townsh	1.45	213	*e* P		Pn	11 17 39.1	0.0
WCS	Beigang Elemen	1.50	235	*e* P		Pb	11 17 41.1	0.0
VWDT	VWDT	1.55	221	*e* P		Pb	11 17 41.5	-0.4
HGSD	Ruisui	1.62	208	*e* P		Pb	11 17 42.9	-0.2
SSLB	Suanglung	1.65	226	*e* P		Pg	11 17 44.4	-0.6
WHYT	Xinyi Township	1.77	226	*e* P		Pn	11 17 44.7	+1.0

IDC 29 11:40:03.3±2.9,20°.83N×122°.25E,h0km,mb3.5/4, mbtmp3.5/4,MS2.8/2,Error ellipse: s-maj=250.1km s-min=24.4km az=63.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	22.07	268		LR	LR	11 53 24.6	
	comp=Z,20nm,19.1s,baz=135,slow=36							
MKAR	Makanchi Array	41.45	318	P		P	11 47 51.8	-0.1
	0.4nm,0.5s,baz=114,slow=8.0,SNR=4.6							
	0.4nm,0.5s							
H11N1	WAKE ISLAND Hy	41.79	83	T		T	12 32 59.8	
	baz=278,slow=74,SNR=25							
H11N2	WAKE ISLAND Hy	41.80	83	T		T	12 32 58.1	
	baz=278,slow=74,SNR=19							
H11N3	WAKE ISLAND Hy	41.81	83	T		T	12 32 58.4	
	baz=278,slow=74,SNR=23							
H11S3	WAKE ISLAND Hy	41.82	85	T		T	12 32 52.3	
	baz=281,slow=75,SNR=91							
H11S1	WAKE ISLAND Hy	41.83	85	T		T	12 32 53.1	
	baz=281,slow=75,SNR=141							
H11S2	WAKE ISLAND Hy	41.84	85	T		T	12 32 53.8	
	baz=281,slow=75,SNR=115							
WRA	Warramunga Arr	42.21	163	P		P	11 47 57.6	-0.6
	0.4nm,0.8s,baz=343,slow=8.2,SNR=1.8							
	0.4nm,0.8s							
ZALV	Zalesovo Beam	43.60	329	P		P	11 48 09.1	-0.1
	0.5nm,0.3s,baz=116,slow=9.8,SNR=1.7							
	0.5nm,0.3s							
MA2	Magadan	43.73	21	LR		LR	12 06 08.3	
	comp=Z,14nm,19.1s,baz=242,slow=36							
ASAR	Alice Springs	45.66	165	P		P	11 48 26.2	+0.2
	0.6nm,1.1s,baz=344,slow=8.8,SNR=4.1							
	0.6nm,1.1s							

TEH ***29*** *11:49:27.4,31°.76N×50°.85E,h7km±45km*

IDC ***29*** *11:49:43.5±7.7,31°.88N×50°.38E,h120km±71km,mb3.7/10, mbtmp4.1/12,MS3.0/4,Error ellipse: s-maj=35.5km s-min=18.1km az=157.0*

ISC 29 11:49:29.6±0.6,31°.77N±0°.03×50°.81E±0°.04,h10km,n41, σ2s12/37,mb4.0/9,MS2.9/3,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ZNGN	Zangian	0.35	6		Pg	Pb	11 49 35.5	-2.7
IBRJ	Brojen	0.41	70		Pg	Pb	11 49 36.9	-2.2
JHBN	Jahan bin	0.48	345		Pg	Pb	11 49 38.4	-2.0
IPIR	Pirpir	0.92	4		Pg	Pn	11 49 46.6	-2.3
KLNJ	Kolanjah	1.01	138		Pg	Pg	11 49 46.4	-2.7
ABEH	Behbahan	1.26	202		Pg	Pg	11 49 52.5	-1.3
IRAM	Ramesheh	1.34	88		Pg	Pg	11 49 53.6	-1.7
IKLH	Kolahrood	1.68	23		Pg	Pg	11 50 00.2	-1.6
IZEF	Zefreh	1.71	48		Pg	Pg	11 50 01.5	-0.9
AHWZ	Ahwaz	1.90	257		Pn	Pb	11 50 03.1	-1.3
QAMS	Qamsar	2.02	14		Pn	Pg	11 50 05.9	-2.6
KRSH	Karshahi	2.46	27		Pn	Pb	11 50 12.5	-1.6
SHI	Shiraz	2.58	145		Pn	Pb	11 50 13.3	-2.8
BDRS	Dareh Seyedi	2.72	324		Pn	Pb	11 50 15.1	-3.5
ISFB	Sefidab	2.84	25		Pn	Pb	11 50 17.8	-2.7
ANAR	Anarak	2.84	59		Pn	Pb	11 50 17.6	-3.0
IQOM	Qom	3.07	4		Pn	Pb	11 50 19.4	-5.2
HAGD	Aghdareh	3.35	336		Pn	Pn	11 50 23.6	+1.3
DSBU	Dashti - Bushe	3.42	173		Pn	Pn	11 50 24.2	+1.2
IDMV	Damavand	3.93	15		Pn	Pn	11 50 32.4	+2.1
ILAS	Lasjerd	4.03	26		Pn	Pb	11 50 34.1	-6.7
QABG	Abgarm-Qazvin	4.06	346		Pn	Pn	11 50 33.9	+1.9
SNQR	Sonqor, Kerman	4.07	320		Pn	Pn	11 50 34.0	+1.7
IFIR	Firoozkooh	4.19	22		Pn	Pn	11 50 36.0	+2.2
ILBA	Ilam Banvizeh	4.30	297		Pn	Pn	11 50 36.0	+0.8
KRBR	Kerman	5.42	108		Pn	Pn	11 50 52.8	+2.1
GNI	Garni	9.70	331		LR	LR	11 56 05.3	
	comp=Z,108nm,20.8s,baz=174,slow=40							
BRTR	Keskin Array B	16.03	304	P		P	11 53 18.3	-0.4
	2.7nm,0.6s,baz=131,slow=14,SNR=12							
AKTO	Aktyubinsk	19.41	14	P		Pn	11 53 59.5	+2.6
	0.8nm,0.3s,baz=180,slow=11,SNR=4.0							
BELG	Belogorsnoye	20.74	354	LR		LR	12 04 34.3	
	comp=Z,20nm,20.7s,baz=241,slow=43							
IDI	Anoyia	21.87	286	P		P	11 54 22.1	-0.6
	21nm,0.8s,baz=124,slow=10.0,SNR=5.9							
	21nm,0.8s							
AKASG	Malin Array Be	24.77	326	P		P	11 54 50.5	-0.9
	1.3nm,0.4s,baz=136,slow=8.7,SNR=12							
	1.3nm,0.4s							
BVAR	Borovoye Array	25.54	28	P		P	11 55 01.6	+3.3
	0.9nm,0.7s,baz=222,slow=8.0,SNR=4.1							
	0.9nm,0.7s							
KURBB	Kurchatov Arra	27.85	39	P		P	11 55 23.7	+4.6
	0.5nm,0.2s,baz=242,slow=9.7,SNR=5.0							
	0.5nm,0.2s							
FINES	FINESS Array B	33.78	339	P		P	11 56 10.9	-0.4
	1.8nm,0.6s,baz=132,slow=8.5,SNR=6.0							
	1.8nm,0.6s							
HFS	Hagfors	37.48	330	P		P	11 56 43.0	-0.2
	7.2nm,0.7s,baz=142,slow=7.5,SNR=15							
HFS					LR	LR	12 12 14.6	
	comp=Z,36nm,18.7s,baz=148,slow=36							
	7.2nm,0.7s							
NB2	NORSAR Subarra	39.00	330	P		P	11 56 55.1	-0.9
	comp=Z,3.4nm,0.8s,baz=121,slow=8.6							
NOA	NORSAR Array B	39.00	330	P		P	11 56 55.2	-0.8
	comp=Z,2.1nm,0.7s,baz=122,slow=8.3,SNR=14							
NOA					LR	LR	12 13 56.8	
	comp=Z,21nm,21.6s,baz=115,slow=38							
	comp=Z,2.1nm,0.7s							
ARCES	ARCESS Array B	40.42	347	P		P	11 57 08.8	+1.1
	comp=Z,2.7nm,1.0s,baz=146,slow=7.6,SNR=1.4							
	comp=Z,2.7nm,1.0s							
TORD	Torodi Ar. Bea	48.59	259	P		P	11 58 12.8	-0.8
	comp=Z,1.8nm,0.8s,baz=50,slow=8.7,SNR=11							
	comp=Z,1.8nm,0.8s							
KSRS	Korea Array	62.07	61	P		P	11 59 51.9	+1.4
	comp=Z,0.8nm,0.6s,baz=288,slow=5.7,SNR=3.3							
	comp=Z,0.8nm,0.6s							

AUST 29 11:52:06.9±0.8,18°S±9°×12°0E±°,h10km,mb3.7/6, ML2.7/3,ML3.4/5,Error ellipse: s-maj=22.8km s-min=8.0km az=151.1,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AUBRM	Broome Senior

PRE 29 12:25:24.7±1.0, 26°01'S×29°20'E, h0km, ML2.6, Suspected explosion, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**0.74**	**89**	*e*P	Pg	12 25 38.7	-0.2
CRLN				*e*S	Sg	12 25 49.2	+0.8
CRLN				IAML		12 25 57.1	
	comp=Z,96nm,0.6s						
HRAO	**HartRAO**	**1.37**	**275**	*e*P	Pg	12 25 50.6	-0.4
HRAO				*e*S	Sn	12 26 10.2	0.0
HRAO				IAML		12 26 14.4	
	comp=Z,59nm,0.3s						
WDLM	**Western Deep L**	**1.65**	**255**	*e*P	Pb	12 25 56.0	-0.2
WDLM				*e*S	Sg	12 26 18.3	+0.4
WDLM				IAML		12 26 20.6	
	comp=Z,99nm,0.3s						
PILG	**Pilgrimsrest,**	**1.73**	**52**	*e*P	Pb	12 25 56.9	-0.6
PILG				*e*S	Sg	12 26 20.4	0.0
PILG				IAML		12 26 23.8	
	comp=Z,137nm,0.6s						
NWCL	**Newcastle**	**1.83**	**160**	*e*P	Pb	12 25 58.5	-0.7
NWCL				*e*S	Sn	12 26 21.8	+0.3
NWCL				IAML		12 26 23.1	
	comp=Z,204nm,0.4s						
LEPH	**Lephalale, Lim**	**2.49**	**329**	*e*P	Pn	12 26 07.4	+0.8
LEPH				*e*S	Sn	12 26 38.2	+0.4
LEPH				IAML		12 26 48.2	
	comp=Z,32nm,0.6s						
SNKL	**Senekal, Frees**	**2.59**	**209**	*e*P	Pn	12 26 09.7	+1.6
SNKL				*e*S	Sn	12 26 41.4	+0.9
SNKL				IAML		12 26 53.8	
	comp=Z,32nm,0.3s						
MOPA	**Mopani**	**3.18**	**39**	*e*P	Pn	12 26 17.4	+1.4
MOPA				*e*S	Sn	12 26 55.0	+0.3
MOPA				IAML		12 27 10.0	
	comp=Z,55nm,0.5s						
LBTB	**Lobatse**	**3.41**	**286**	*e*P	Pn	12 26 20.3	+1.1
LBTB				*e*S	Sn	12 27 00.7	+0.3
LBTB				IAML		12 27 15.2	
	comp=Z,24nm,0.4s						
PMBG	**Pietermaritzbu**	**3.68**	**162**	*e*P	Pn	12 26 23.9	+0.9
PMBG				*e*S	Sn	12 27 06.3	-0.7
PMBG				IAML		12 27 22.1	
	comp=Z,36nm,0.3s						
MREMI	**Moremi**	**3.78**	**335**	*i* P	Pb	12 26 32.1	-0.3
MREMI				IAML		12 27 31.1	
	comp=E,88nm,0.3s						
BOSA	**Boshof**	**4.37**	**233**	*e*P	Pn	12 26 33.2	+0.8
BOSA				*e*S	Sn	12 27 22.7	-1.4
BOSA				IAML		12 27 42.4	
	comp=Z,19nm,0.4s						
KSTD	**Kokstad**	**4.59**	**179**	*e*P	Pn	12 26 37.3	+1.7
KSTD				*e*S	Sn	12 27 29.9	+0.1
KSTD				IAML		12 27 49.6	
	comp=Z,12nm,0.4s						
KDWAN	**Kaudwane**	**4.89**	**301**	*i* P	Pg	12 26 59.8	+1.3
KDWAN				IAML		12 28 08.8	
	comp=E,18nm,0.5s						
BROLN	**Tlhalogang**	**5.18**	**340**	*i* P	Pn	12 26 44.7	+1.1
BROLN				*i* S	Sn	12 27 42.9	-1.2
BROLN				IAML		12 28 17.1	
	comp=N,8.8nm,2.1s						
GRAF	**Camdeboo Natio**	**7.49**	**212**	*e*P	Pn	12 27 16.3	+1.1
GRAF				*e*S	Sn	12 28 37.7	-3.2
GRAF				IAML		12 29 23.8	
	comp=Z,4.1nm,0.5s						

WEL 29 12:30:03.4±1.2, 38°S±9°×17°9E±°, h12km, M2.7/15, ML3.0/15, MLv2.7/15, Error ellipse: s-maj=11.3km s-min=8.8km az=9.1, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**0.64**	**262**	P	Pb	12 30 16.9	+0.5
MXZ	**Matakaoa Point**	**0.73**	**283**	P	Pb	12 30 18.5	+0.4
MXZ	**Matakaoa Point**	**0.73**	**283**	P	Pb	12 30 18.4	+0.3
PUZ	**Puketiti**	**0.83**	**245**	P	Pb	12 30 20.0	+0.3
PUZ				S	Sb	12 30 31.8	+1.0
PKGZ	**Pakihiroa**	**0.91**	**261**	P	Pg	12 30 20.8	0.0
TBAS	**Tolaga Bay Are**	**0.96**	**228**	P	Pn	12 30 23.0	+0.3
TWGZ	**Tauwhareparae**	**1.07**	**245**	P	Pb	12 30 23.8	-0.1
TWGZ				S	Sn	12 30 38.7	-0.4
CNGZ	**Carnagh Statio**	**1.09**	**226**	P	Pn	12 30 24.5	0.0
HAZ	**Te Kaha**	**1.13**	**268**	P	Pb	12 30 24.4	-0.5
HAZ				S	Sb	12 30 39.2	-0.3
RUGZ	**Raukumara Rang**	**1.23**	**258**	P	Pn	12 30 26.0	-0.6
RUGZ				S	Sb	12 30 42.0	-0.6
TKGZ	**Te Karaka**	**1.29**	**236**	P	Pn	12 30 26.8	-0.4
TKGZ				S	Sb	12 30 43.7	-0.3
MWZ	**Matawai**	**1.46**	**245**	P	Pn	12 30 28.6	-0.9
RIGZ	**Rimuhau**	**1.50**	**229**	P	Pn	12 30 29.6	-0.5
RAGZ	**Rawiri**	**1.61**	**241**	P	Pn	12 30 31.4	-0.3
URZ	**Urewera**	**1.74**	**252**	P	Pn	12 30 33.3	-0.1
URZ	**Urewera**	**1.74**	**252**	P	Pn	12 30 33.4	0.0
MHGZ	**Mahia Peninsul**	**1.75**	**215**	P	Pn	12 30 32.9	-0.7
KNZ	**Kokohu**	**1.77**	**223**	P	Pn	12 30 32.8	-1.0
SNGZ	**Shannon Statio**	**1.81**	**234**	P	Pn	12 30 33.6	-0.8
RTZ	**Ruatahuna**	**1.97**	**243**	P	Pn	12 30 36.5	-0.1
RAHZ	**Arahi**	**2.05**	**234**	P	Pn	12 30 37.4	-0.2
MUGZ	**Murupara**	**2.06**	**248**	P	Pn	12 30 37.5	-0.3
MTHZ	**Maungataniwha**	**2.17**	**238**	P	Pn	12 30 39.2	-0.2
TARZ	**Mount Tarawera**	**2.19**	**256**	P	Pn	12 30 39.8	+0.1
ARHZ	**Aropaoanui**	**2.32**	**228**	P	Pn	12 30 41.2	-0.1
NMHZ	**Naumai**	**2.33**	**233**	P	Pn	12 30 41.4	-0.1
BKZ	**Black Stump Fm**	**2.57**	**235**	P	Pn	12 30 44.2	-0.7
BKZ	**Black Stump Fm**	**2.57**	**235**	P	Pn	12 30 44.2	-0.7
MCHZ	**McNeill Hill**	**2.61**	**228**	P	Pn	12 30 44.7	-0.6
KAHZ	**Kahuranaki**	**2.75**	**221**	P	Pn	12 30 46.2	-1.2
KWHZ	**Kaweka Forest**	**2.76**	**231**	P	Pn	12 30 46.5	-1.0
KRHZ	**Kereru**	**2.93**	**228**	P	Pn	12 30 48.8	-1.0
PNHZ	**Pukenui**	**3.21**	**226**	P	Pn	12 30 51.7	-1.9
TSZ	**Takapari Road**	**3.44**	**226**	P	Pn	12 30 54.6	-2.2

BJI ***29*** *12:42:29.0, 9.°90S×118.°00E, h60km, mB5.0/10, mb5.0/54, Ms4.2/5, Ms7 4.0/5*

IDC ***29*** *12:42:29.6±1.9, 9.°70S×117.°95E, h40km±15km, mb4.4/21, mbtmp4.6/25, ML4.5/4, MS3.5/40, Error ellipse: s-maj=20.9km s-min=12.7km az=59.0*

MOS ***29*** *12:42:29.7±1.1, 9.°72S×118.°09E, h61km, mb5.0/27, Error ellipse: s-maj=12.1km s-min=6.7km az=104.9*

NEIC ***29*** *12:42:29.4±2.6, 9.°77S±0.°07×118.°00E±0.°06, h35km±2km, mb5.0/53, Error ellipse: s-maj=12.8km s-min=10.1km az=196.0*

DJA ***29*** *12:42:31.9±0.2, 10°S±2°×11°8E±°, h51km±4km, M4.7/44, mb4.9/44, mB5.2/22, MLv5.1/25, Mw(mB)4.7/22, MwMwp4.4/4, Mwp4.8/4*

ISC 29 12:42:30.8±0.5, 9.°84S±0.°05×118.°05E±0.°05, h58km±4km, h58km: pP-P, n236, σ1§61/206, mb4.9/77, MS3.6/40, 15C-14D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.04**	**345**	P	**Pn**	**12 42 47.8**	**-1.5**
WBSI	**Waikabubak, Su**	**1.34**	**82**	P	**Pn**	**12 42 52.3**	**-1.0**
WSI	**Waingapu**	**2.23**	**86**	P	**Pn**	**12 43 05.7**	**+0.4**
BASI	**Baing, Sumba**	**2.52**	**99**	P	**Pn**	**12 43 10.8**	**+1.4**
SRBI	**Singaraja**	**3.30**	**302**	P	**Pn**	**12 43 22.0**	**+2.0**
EDFI	**Ende, Flores**	**3.76**	**74**	P	**Pn**	**12 43 27.3**	**+0.9**
JAGI	**Jajag, Banyuwa**	**4.08**	**289**		**Pn**	**12 43 30.7**	**0.0**
JAGI	**Jajag, Banyuwa**	**4.08**	**289**	P	**Pn**	**12 43 31.0**	**+0.3**
MMRI	**Maumere**	**4.31**	**74**		**Pn**	**12 43 35.6**	**+1.8**
MMRI	**Maumere**	**4.31**	**74**	P	**Pn**	**12 43 36.0**	**+2.2**
BSSI	**Bau Bau, Buton**	**4.40**	**34**	P	**Pn**	**12 43 35.5**	**+0.4**
GMJI	**Gumukmas**	**4.80**	**289**	P	**Pn**	**12 43 41.6**	**+1.0**
KMMI	**Kalianget**	**4.89**	**304**	P	**Pn**	**12 43 44.8**	**+2.9**
BKSI	**Bulukumba**	**4.94**	**25**	P	**Pn**	**12 43 43.0**	**+0.5**
KAPI	**Kappang**	**5.08**	**20**		**Pn**	**12 43 45.3**	**+0.8**
KAPI	**Kappang**	**5.08**	**20**	Pn	**Pn**	**12 43 43.6**	**-0.8**
	29nm,0.3s,baz=199,slow=9.4,SNR=48						
KAPI				Sn	**Sn**	**12 44 41.5**	**-0.4**
	84nm,0.3s,baz=16,slow=23,SNR=12						
KAPI				LR	LR	12 46 06.0	
	comp=Z,1μm,18.0s,baz=177,slow=43						
	129nm,0.5s						
KAPI	**Kappang**	**5.08**	**20**	*d* iP	**Pn**	**12 43 45.0**	**+0.5**
BATI	**Baumata**	**5.54**	**94**	Pn	**Pn**	**12 43 52.5**	**+1.6**
	53nm,0.3s,baz=65,slow=2.6,SNR=8.2						
BATI				Sn	**Sn**	**12 44 52.6**	**-0.7**
	26nm,0.3s,baz=90,slow=14,SNR=3.9						
	128nm,0.4s						
BATI	**Baumata**	**5.54**	**94**	P	**Pn**	**12 43 51.8**	**+1.0**
	0.8nm2μm187nm,0.6s						
BNSI	**Bone**	**5.78**	**21**	P	**Pn**	**12 43 55.8**	**+1.8**
	1.2nm2μm3μm253nm,0.8s						
SPSI	**Sidrap Palu**	**6.08**	**16**	P	**Pn**	**12 43 59.4**	**+1.3**
	0.5nm110nm,0.8s						
SOEI	**Soe**	**6.13**	**90**		**Pn**	**12 44 00.4**	**+1.5**
SOEI	**Soe**	**6.13**	**90**	P	**Pn**	**12 44 00.3**	**+1.3**
GRJI	**Gresik**	**6.23**	**297**	P	**Pn**	**12 44 02.8**	**+2.7**
BBSI	**Bau Bau**	**6.23**	**46**	P	**Pn**	**12 44 01.8**	**+1.6**
	0.7nm2μm185nm,1.3s						
TTSI	**Tana Toraja**	**6.97**	**15**	P	**Pn**	**12 44 12.2**	**+1.8**
	0.5nm2μm103nm,0.6s						
PCJI	**Pacitan**	**6.98**	**283**	P	**Pn**	**12 44 12.1**	**+1.6**
	1.0nm2μm207nm,1.1s						
WOJI	**Wonogiri, Jawa**	**7.31**	**285**	P	**Pn**	**12 44 17.5**	**+2.5**
	75nm,0.7s						
UGM	**Wanagama**	**7.67**	**284**		**Pn**	**12 44 18.9**	**-1.2**
UGM	**Wanagama**	**7.67**	**284**	P	**Pn**	**12 44 21.5**	**+1.4**
	139nm,0.8s						
PCI	**Palu**	**9.05**	**11**	P	**Pn**	**12 44 39.8**	**+0.9**
	2μm108nm,1.1s						
APSI	**Ampana**	**9.56**	**22**	P	**Pn**	**12 44 44.8**	**-1.1**
	725nm45nm,1.0s						
CMJI	**Cimerak**	**9.70**	**281**	P	**Pn**	**12 44 48.8**	**+1.0**
	42nm,1.2s						
MPSI	**Mapaga**	**10.27**	**10**	P	**Pn**	**12 44 57.1**	**+1.5**
	3μm19nm,0.7s						
MRSI	**Marisa**	**10.96**	**21**	P	**Pn**	**12 45 06.5**	**+1.6**
	517nm56nm,1.0s						
FITZ	**Fitzroy Crossi**	**11.03**	**139**		**Pn**	**12 45 04.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.03**	**139**	Pn	**Pn**	**12 45 05.2**	**-0.7**
	1.9nm,0.3s,baz=330,slow=8.3,SNR=84						
FITZ				Sn	**Sn**	**12 47 00.6**	**-7.2**
	3.8nm,0.3s,baz=174,slow=15,SNR=10						
FITZ				LR	LR	12 49 39.0	
	comp=Z,468nm,19.3s,baz=320,slow=38						
	17nm,0.6s						
SANI	**Sanana**	**11.05**	**46**	P	**Pn**	**12 45 10.3**	**+4.1**
	906nm77nm,1.3s						
NLAI	**Namlea**	**11.13**	**55**	P	**Pn**	**12 45 12.0**	**+4.8**
	1μm154nm,0.9s						
TOLI2	**Tolitoli**	**11.21**	**14**		**Pn**	**12 45 05.5**	**-2.9**
MBWA	**Marble Bar**	**11.37**	**172**		**Pn**	**12 45 09.1**	**-1.5**
PSA00	**Pilbara Seismi**	**11.80**	**172**		**Pn**	**12 45 15.8**	**-0.6**
PSA00	**Pilbara Seismi**	**11.80**	**172**		**Pn**	**12 45 15.3**	**-1.1**
STKI	**Sintang**	**11.81**	**326**	P	**Pn**	**12 45 19.5**	**+2.9**
KNRA	**Kununurra**	**11.95**	**120**		**Pn**	**12 45 17.5**	**-1.0**
MTN	**Manton Dam**	**13.18**	**104**		**Pn**	**12 45 32.9**	**-2.3**
GIRL	**Giralia**	**13.25**	**196**		**Pn**	**12 45 36.4**	**+0.2**
SBUM	**Sibu**	**13.52**	**334**		**Pn**	**12 45 38.8**	**-1.1**
KSM	**Kuching**	**13.62**	**325**	Pn	**Pn**	**12 45 40.8**	**-0.5**
MYLDM	**Lahad Datu**	**14.93**	**2**		**P**	**12 46 01.8**	**-1.0**
SGSI	**Sangihe**	**15.36**	**29**	P	**P**	**12 46 07.8**	**0.0**
	116nm,0.9s						
LHSI	**Lahat**	**15.60**	**292**	P	**P**	**12 46 10.0**	**-0.4**
	2μm45nm,1.1s						
FAKI	**Fak Fak**	**15.69**	**65**		**Pn**	**12 46 07.7**	**-0.7**
KKM	**Kota Kinabalu**	**15.88**	**353**		**P**	**12 46 13.7**	**+0.1**
SWI	**Sorong**	**15.88**	**57**	P	**Pn**	**12 46 12.0**	**+1.2**
	1μm60nm,1.1s						
DAV	**Davao City (W)**	**18.40**	**24**	LR	LR	12 54 44.9	
	comp=Z,106nm,19.0s,baz=190,slow=40						
WB0	**Warramunga Arr**	**18.62**	**124**		**Pn**	**12 46 44.8**	**+0.2**
WRA	**Warramunga Arr**	**18.66**	**124**	P	**P**	**12 46 44.3**	**+0.1**
	0.9nm,0.3s,baz=291,slow=14,SNR=34						
WRA				S	Sn	12 49 57.0	-16
	3.2nm,0.8s,baz=290,slow=23,SNR=4.9						
WRA				LR	LR	12 54 33.9	
	comp=Z,270nm,18.8s,baz=324,slow=38						
WRA				ScP	**ScP**	**12 54 44.5**	**+2.7**
	1.9nm,0.9s,baz=296,slow=2.1,SNR=4.6						
	2.1nm,0.5s						
WRAB	**Tennant Creek**	**18.66**	**124**	P	**Pn**	**12 46 45.6**	**+0.4**
WRAB	**Tennant Creek**	**18.66**	**124**	*i* iP	**P**	**12 46 44.1**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WR8	**Warramunga Arr**	**18.80**	**124**		**Pn**	**12 46 46.2**	**-0.6**
MORW	**Morawa**	**19.23**	**185**		**Pn**	**12 46 50.9**	**-0.8**
PPI	**Padang Panjang**	**19.88**	**297**	P	**Pn**	**12 47 00.4**	**+0.8**
	comp=Z,1μmcomp=Z,34nm,0.8s						
AS31	**Alice Springs**	**20.46**	**134**		Pn	12 47 06.1	-0.3
ASAR	**Alice Springs**	**20.46**	**134**		Pn	12 47 05.9	-0.5
ASAR	**Alice Springs**	**20.46**	**134**	P	Pn	12 47 06.0	-0.3
	comp=Z,10nm,0.9s,baz=304,slow=9.9,SNR=161						
ASAR				S	**S**	**12 50 46.3**	**-3.4**
	comp=Z,3.5nm,0.7s,baz=308,slow=23,SNR=6.0						
ASAR				ScP	**ScP**	**12 54 48.5**	**+2.6**
	comp=Z,1.8nm,0.9s,baz=310,slow=2.4,SNR=6.8						
ASAR				LR	LR	12 54 49.3	
	comp=Z,300nm,21.3s,baz=308,slow=36						
	comp=Z,10nm,0.9s						
SISI	**Saibi**	**20.66**	**293**	P	Pn	12 47 08.1	-0.7
	comp=Z,57nm,1.0s						
IPM	**Ipoh**	**22.13**	**309**	P	**P**	**12 47 22.2**	**+0.4**
RPSI	**Rantau Prapat**	**22.75**	**302**		**P**	**12 47 28.2**	**-0.3**
RPSI				IAmb	IAmb	12 47 31.1	
	comp=Z,97nm,1.6s						
RPSI	**Rantau Prapat**	**22.75**	**302**	P	**P**	**12 47 27.3**	**-1.1**
PSI	**Prapat**	**22.81**	**302**	P	**P**	**12 47 27.3**	**-1.9**
	comp=Z,12nm,0.7s,baz=155,slow=9.4,SNR=16						
PSI				LR	LR	12 58 03.4	
	comp=Z,169nm,19.1s,baz=134,slow=41						
	comp=Z,12nm,0.7s						
PSI	**Prapat**	**22.81**	**302**	P	**P**	**12 47 28.2**	**-1.0**
PSI				pmax	pmax		
	comp=Z,97nm,1.6s						
KULM	**Kulim**	**22.94**	**310**	P	**P**	**12 47 29.1**	**-1.3**
NWAO	**Narrogin (SRO)**	**22.99**	**182**	LR	LR	12 56 32.3	
	comp=Z,251nm,21.2s,baz=295,slow=36						
TSI	**Tuntungan**	**23.50**	**303**	P	**P**	**12 47 36.3**	**+0.5**
TGY	**Tagaytay City**	**23.96**	**7**	P	**P**	**12 47 40.4**	**+0.4**
	comp=Z,153nm,0.5s,baz=323,slow=1.6,SNR=4.2						
COEN	**Coen**	**24.92**	**102**	P	**P**	**12 47 50.8**	**+2.0**
COEN				IAmb	IAmb	12 48 05.6	
	comp=Z,20nm,0.8s						
MLSI	**Meulaboh, Aceh**	**25.71**	**302**	P	**P**	**12 47 57.1**	**+1.1**
	comp=Z,87nm,1.2s						
PMG	**Port Moresby**	**28.70**	**92**	LR	LR	13 04 23.0	
	comp=Z,114nm,18.9s,baz=237,slow=46						
STKA	**Stephens Creek**	**30.93**	**139**	LR	LR	13 01 35.3	
	comp=Z,194nm,22.0s,baz=294,slow=37						
CMAR	**Chiang Mai Arr**	**33.85**	**326**		**P**	**12 49 06.4**	**-1.6**
CMAR	**Chiang Mai Arr**	**33.85**	**326**	P	**P**	**12 49 08.3**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=153,slow=6.4,SNR=12						
CMAR				PcP	**PcP**	**12 51 47.8**	**+1.8**
	comp=Z,3.5nm,0.8s,baz=135,slow=3.5,SNR=13						
CMAR				ScP	**ScP**	**12 55 27.6**	**+1.6**
	comp=Z,0.6nm,0.4s,baz=166,slow=3.1,SNR=5.0						
	comp=Z,2.4nm,0.7s						
SLVN	**Son La**	**33.95**	**336**		**P**	**12 49 08.7**	**-0.1**
GUMO	**Guam**	**35.36**	**49**	LR	LR	13 04 19.3	
	comp=Z,21nm,20.9s,baz=216,slow=37						
JOW	**Kunigami**	**37.78**	**15**	LR	LR	13 05 14.1	
	comp=Z,61nm,21.5s,baz=120,slow=36						
KMI	**Kunming**	**37.82**	**337**	⇑P	**P**	**12 49 43.5**	**+1.4**
KMI				pmax	pmax		
	comp=Z,29nm,0.8s						
PZH	**PanZhiHua**	**39.44**	**337**	P	**P**	**12 49 52.3**	**-3.3**
ENH	**Enshi**	**40.72**	**349**	IAmb	IAmb	12 50 06.9	
	comp=Z,28nm,0.7s						
ENH	**Enshi**	**40.72**	**349**	P	**P**	**12 50 05.6**	**-0.4**
ENH				sP	**pP**	**12 50 20.5**	**+0.3**
PALK	**Pallekele**	**40.90**	**293**	LR	LR	13 08 18.8	
	comp=Z,55nm,18.1s,baz=112,slow=38						
NJ2	**Nanjing**	**41.66**	**1**	*e*P	**P**	**12 50 14.3**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,28nm,0.9s						
CD2	**Chengdu**	**42.77**	**342**	P	**P**	**12 50 22.5**	**-0.3**
CD2				pmax	pmax		
	comp=Z,40nm,0.8s						
SHL	**Shillong**	**43.44**	**325**		**P**	**12 50 27.0**	**-1.5**
SHL				IAmb	IAmb	12 50 33.3	
	comp=Z,12nm,0.8s						
SHL	**Shillong**	**43.44**	**325**	P	**P**	**12 50 27.0**	**-1.5**
SHL				pmax	pmax		
	comp=Z,12nm,0.8s						
JNU	**Nakatsue**	**44.44**	**15**	IAmb	IAmb	12 50 37.4	
	comp=Z,16nm,0.8s						
JNU	**Nakatsue**	**44.44**	**15**	LR	LR	13 08 05.9	
	comp=Z,37nm,20.8s,baz=207,slow=35						
LYN	**LuoYang**	**44.46**	**353**	P	**P**	**12 50 36.0**	**-0.3**
LYN				pmax	pmax		
	comp=Z,22nm,0.6s						
XAN	**Xi'an**	**44.49**	**349**	P	**P**	**12 50 36.0**	**-0.6**
XAN				pP	pP	12 50 52.5	+1.6
XAN				pmax	pmax		
	comp=Z,24nm,0.7s						
XAN				LR	LR		
	comp=Z,200nm,21.3s						
XAN				LR	LR		
	comp=Z,96nm,22.7s						
XAN				LR	LR		
	comp=Z,180nm,20.6s						
H08S2	**Diego Garcia H**	**45.05**	**269**	T	T	13 38 49.6	
	baz=96,slow=76,SNR=9.3						
H08S3	**Diego Garcia H**	**45.06**	**269**	T	T	13 39 04.9	
	baz=96,slow=76,SNR=14						
H08S1	**Diego Garcia H**	**45.07**	**269**	T	T	13 38 56.2	
	baz=96,slow=76,SNR=7.5						
HNS	**HongShan**	**47.09**	**356**	⇓P	**P**	**12 50 56.5**	**-0.5**
HNS				pmax	pmax		
	comp=Z,11nm,0.6s						
HYB	**Hyderabad**	**47.50**	**305**	*e*P	**P**	**12 51 00.5**	**-0.1**
LZH	**Lanzhou**	**47.60**	**344**	*e*P	**P**	**12 51 00.0**	**-1.2**
LZH				sP	sP	12 51 21.8	-0.3
LZH				pmax	pmax		
	comp=Z,16nm,1.2s						
DZM	**Mont Dzumac**	**47.91**	**111**	*e*LR	LR	13 04 45.2	
	comp=Z,166nm,23.2s						
KSAR	**Wonju Array Be**	**47.93**	**11**		**P**	**12 51 03.4**	**0.0**
KSAR	**Wonju Array Be**	**47.93**	**11**	P	**P**	**12 51 03.4**	**0.0**
KSRS	**Korea Array**	**47.94**	**11**	P	**P**	**12 51 03.9**	**+0.3**
	comp=Z,26nm,0.9s,baz=190,slow=8.0,SNR=60						
KSRS				PcP	**PcP**	**12 52 32.9**	**+1.8**
	comp=Z,1.8nm,0.8s,baz=174,slow=3.2,SNR=2.8						
	comp=Z,26nm,0.9s						
EVN	**Everest**	**48.22**	**322**	IAmb	IAmb	12 51 07.6	
	comp=Z,20nm,1.3s						
BJT	**Baijiatuao**	**49.63**	**358**	IAmb	IAmb	12 51 16.8	
	comp=Z,13nm,0.6s						
BJT	**Baijiatuao**	**49.63**	**358**	P	**P**	**12 51 16.0**	**-0.5**
MJAR	**Matsushiro Arr**	**49.88**	**21**		**P**	**12 51 16.7**	**-1.8**
MJAR	**Matsushiro Arr**	**49.88**	**21**	P	**P**	**12 51 17.0**	**-1.5**
	comp=Z,14nm,0.9s,baz=193,slow=7.5,SNR=24						
MJAR				PcP	**PcP**	**12 52 39.3**	**+1.0**
	comp=Z,2.5nm,0.9s,baz=192,slow=4.8,SNR=2.1						
MJAR				LR	LR	13 14 13.0	
	comp=Z,25nm,18.0s,baz=206,slow=38						
	comp=Z,14nm,0.9s						
MJAR	**Matsushiro Arr**	**49.88**	**21**	P	**P**	**12 51 16.7**	**-1.8**
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MAJO	**Matsushiro**	**49.88**	**21**		**P**	**12 51 16.6**	**-1.9**
MAJO				IAmb	IAmb	12 51 18.9	
	comp=Z,11nm,0.8s						
MAJO	**Matsushiro**	**49.88**	**21**	*c* iP	**P**	**12 51 16.6**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,11nm,0.8s						
MJB9	**Matsu-Tunnel**	**49.88**	**21**	IAmb	IAmb	12 51 18.9	
	comp=Z,10nm,0.8s						
BTO	**Baotou**	**50.73**	**352**	*e*P	**P**	**12 51 25.5**	**+0.5**
BTO				pP	**pP**	**12 51 41.5**	**+1.9**
BTO				sP	**sP**	**12 51 48.5**	**+2.6**
BTO				pmax	pmax		
	comp=Z,45nm,0.9s						
BTO				pmax	pmax		
	comp=Z,99nm,4.8s						
HHC	**Hu-ho-hao-te**	**50.79**	**354**	*e*P	**P**	**12 51 28.5**	**+3.1**
HHC				pmax	pmax		
	comp=Z,26nm,0.6s						
HHC				pmax	pmax		
	comp=Z,30nm,3.8s						
GTA	**Gaotai**	**51.84**	**342**	P	**P**	**12 51 34.5**	**+1.1**
GTA				PcP	**PcP**	**12 52 47.5**	**+1.9**
GTA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
JMM	**Marumori**	**52.01**	**23**	IAmb	IAmb	12 51 37.3	
	comp=Z,23nm,1.0s						
XLT	**XiLinHaoTe**	**53.51**	**358**	*e*P	**P**	**12 51 44.5**	**-1.0**
XLT				pmax	pmax		
	comp=Z,17nm,0.9s						
MSHR	**Mys Shultsa**	**53.52**	**12**	⇓ *i* P	**P**	**12 51 45.7**	**+0.2**
MSHR				pmax	pmax		
	comp=Z,26nm,1.1s						
CN2	**Changchun**	**53.80**	**7**	P	**P**	**12 51 46.3**	**-1.3**
CN2				*e*S	**S**	**12 59 15.8**	**-2.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VLA	**Vladivostok**	**54.19**	**12**	⇓ *e*P	**P**	**12 51 50.3**	**-0.1**
VLA				pmax	pmax		
	comp=Z,27nm,0.7s						
MDJ	**Mudanjiang**	**55.20**	**10**	P	**P**	**12 51 57.5**	**-0.1**
MDJ				sP	sP	12 52 20.0	+1.3
MDJ				S	**S**	**12 59 42.5**	**+5.8**
MDJ				pmax	pmax		
	comp=Z,48nm,1.0s						
MDJ				LR	LR		
	comp=Z,110nm,13.3s						
MDJ				LR	LR		
	comp=Z,76nm,13.8

comp=Z,10.0nm,0.8s
SIMJ Simiganj 66.41 320 P P 12 53 13.3 -0.9
SIMJ IAmb IAmb 12 53 46.1
comp=Z,12nm,1.0s
MAW Mawson 68.13 200 LR LR 13 16 57.0
comp=Z,72nm,20.5s,baz=57,slow=30
KKAR Karatay Array 68.18 324 P 12 53 23.8 -1.3
KKAR Karatay Array 68.18 324 P P **12 53 23.8 -1.3**
KURBB Kurchatov Arra 69.30 334 P P **12 53 31.0 -0.9**
comp=Z,2.4nm,0.5s,baz=141,slow=5.5,SNR=33
comp=Z,2.4nm,0.5s
KURK Kurchatov 69.33 334 P 12 53 31.0 -1.1
KURK IAmb IAmb 12 53 32.4
comp=Z,15nm,1.2s
KURK Kurchatov 69.33 334*c i*P **P 12 53 31.2 -0.9**
KURK pmax pmax
comp=Z,14nm,1.3s
KURK Kurchatov 69.33 334 P P **12 53 31.2 -0.9**
ZAA0 Zalesovo Array 69.49 340 IAmb IAmb 12 53 32.4
comp=Z,8.5nm,0.9s
ZALV Zalesovo Beam 69.49 340 P P **12 53 31.5 -1.5**
comp=Z,7.5nm,0.7s,baz=145,slow=4.6,SNR=28
ZALV LR LR 13 27 23.4
comp=Z,32nm,18.4s,baz=131,slow=39
comp=Z,7.5nm,0.7s
PEA0B Petropavlovsk- 71.22 24 P P **12 53 44.2 +0.6**
PEA0B Petropavlovsk- 71.22 24 P P **12 53 44.2 +0.6**
PEA0B pmax pmax
comp=Z,58nm,1.6s
PETK Petropavlovsk- 71.22 24 P 12 53 43.7 +0.1
PETK Petropavlovsk- 71.22 24 P P **12 53 43.5 -0.1**
comp=Z,18nm,0.8s,baz=198,slow=3.8,SNR=32
PETK LR LR 13 26 05.4
comp=Z,9.8nm,19.6s,baz=239,slow=37
comp=Z,18nm,0.8s
VNDA Vanda 71.31 171 P P **12 53 46.7 +2.8**
comp=Z,0.5nm,0.5s,baz=271,slow=9.1,SNR=3.7
VNDA LR LR 13 22 08.3
comp=Z,71nm,21.9s,baz=322,slow=33
comp=Z,0.5nm,0.5s
YAK Yakutsk 72.22 6 LR LR 13 28 31.1
comp=Z,18nm,20.4s,baz=268,slow=38
YAK Yakutsk 72.22 6 *e*P P **12 53 48.3 -1.1**
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
MA2 Magadan 73.99 17⇑*e*P **P 12 53 59.9 0.0**
MA2 pmax pmax
comp=Z,10.0nm,1.7s
BVAR Borovoye Array 74.59 332 P P **12 54 03.1 -0.5**
comp=Z,3.7nm,0.7s,baz=154,slow=8.2,SNR=13
BVAR LR LR 13 31 20.1
comp=Z,37nm,18.8s,baz=125,slow=39
comp=Z,3.7nm,0.7s
BRVK Borovoye 74.66 332*de*P P **12 54 02.9 -1.1**
BRVK pmax pmax
comp=Z,10.0nm,1.2s
SYO Syowa Base 76.74 201⇑*e*P **P 12 54 18.3 +2.7**
SYO Syowa Base 76.74 201⇓*e*PcP **PcP 12 54 27.5 +0.8**
SEY Seymchan 77.21 15*ce*P **P 12 54 18.3 0.0**
SEY pmax pmax
comp=Z,11nm,1.5s
AB31 Akbulak array 77.70 325 IAmb IAmb 12 54 21.8
comp=Z,6.6nm,0.7s
ABKAR Akbulak array 77.70 325 P 12 54 20.7 -0.6
RAYN Ar Rayn 78.23 297 P 12 54 25.4 +0.5
RAYN IAmb IAmb 12 54 26.7
comp=Z,9.0nm,0.8s
RAYN Ar Rayn 78.23 297 P P **12 54 25.4 +0.5**
RAYN pmax pmax
comp=Z,9.0nm,0.9s
SHEM Shemya Is, Ala 78.47 31 LR LR 13 23 31.1
comp=Z,12nm,21.7s,baz=118,slow=31
RAR Rarotonga 79.27 110 LR LR 13 26 55.5
comp=Z,26nm,21.8s,baz=262,slow=34
AKTO Aktyubinsk 79.38 326 P P **12 54 30.2 -0.3**
comp=Z,7.7nm,0.7s,baz=119,slow=3.8,SNR=13
comp=Z,7.7nm,0.7s
QSPA South Pole Qui 80.16 180 P P **12 54 35.4 +0.7**
comp=Z,2.5nm,1.0s,baz=295,slow=3.3,SNR=4.1
QSPA LR LR 13 29 15.5
comp=Z,53nm,19.0s,baz=312,slow=35
comp=Z,2.5nm,1.0s
KMBO Kilima Mbogo 80.74 270⇓*e*P **P 12 54 37.0 -2.0**
TIXI Tiksi 81.63 3 LR LR 13 32 39.3
comp=Z,20nm,21.8s,baz=174,slow=37
TIXI Tiksi 81.63 3⇑*e*P **P 12 54 41.4 -0.7**
TIXI pmax pmax
comp=Z,12nm,0.9s
AKT Akhty 82.10 314 *e*P **P 12 54 44.3 -1.1**
AKT *e* 12 57 51.7
AKT pmax pmax
comp=Z,17nm,1.2s
ARTI Arti 82.20 331 P P **12 54 43.6 -1.9**
comp=Z,2.2nm,0.6s,baz=113,slow=7.7,SNR=2.7
ARTI LR LR 13 34 52.7
comp=Z,27nm,21.8s,baz=132,slow=38
comp=Z,2.2nm,0.6s
ARTI Arti 82.20 331*c i*P **P 12 54 44.5 -0.9**
ARTI 12 57 48.9
ARTI S **S 13 04 57.4 +1.4**
ARTI SS **SS 13 10 10.4 -6.8**
ARTI pmax pmax
comp=Z,3.0nm,0.7s
GEVA Gevas 84.49 310 P 12 54 59.5 +1.6
BELG Belogornoye 86.09 325⇑*e*P **P 12 55 06.1 +0.9**
BELG pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 86.20 315 P P **12 55 07.0 +1.0**
comp=Z,6.4nm,0.9s,baz=187,slow=3.5,SNR=13
comp=Z,6.4nm,0.9s
KBZ Khabaz 86.20 315*ce*P **P 12 55 07.0 +1.0**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
MATP Matopo 86.20 250 LR LR 13 30 41.9
comp=Z,23nm,18.8s,baz=93,slow=34
SHA1 Shidzhatmaz 86.37 315⇓*e*P **P 12 55 07.3 +0.1**
KIV Kislovodsk 86.42 316 *e*P **P 12 55 06.6 -0.7**
KIV pmax pmax
comp=Z,5.0nm,1.1s
LSZ Lusaka 87.32 255 LR LR 13 29 24.4
comp=Z,42nm,20.1s,baz=155,slow=32
KIRV Kirov 87.51 331 LR LR 13 38 48.8
comp=Z,29nm,20.6s,baz=117,slow=39
KIRV Kirov 87.51 331⇑*e*P **P 12 55 11.4 -0.6**
BOSA Boshof 87.78 242 LR LR 13 29 32.7
comp=Z,22nm,19.2s,baz=43,slow=32
ASF Jabal al Asfar 87.78 303 LR LR 13 41 17.0
comp=Z,18nm,18.4s,baz=159,slow=40
LBTB Lobatse 88.10 245 LR LR 13 28 27.6
comp=Z,48nm,20.0s,baz=102,slow=31
VSLR Vesyoloye 88.13 315⇓*e*P **P 12 55 16.2 +0.8**
VSLR pmax pmax
comp=Z,25nm,1.1s
ARPR Arapgir-MALATY 88.26 310 P P **12 55 17.9 +1.6**
EIL Elat 88.88 300 LR LR 13 34 16.5
comp=Z,15nm,21.8s,baz=246,slow=35
MMAI Mount Meron Ar 89.20 304 LR LR 13 39 47.2
comp=Z,11nm,20.3s,baz=131,slow=39
PPT2 Papeete2 89.31 108 *e*LR LR 13 23 56.0
comp=Z,112nm,26.2s
PPT2 *e*LR LR 13 23 57.6
comp=Z,49nm,24.5s
SNAA Sanae 89.94 196 LR LR 13 31 38.8
comp=Z,96nm,19.8s,baz=118,slow=33
BR131 Keskin Array S 91.95 310⇓*e*P **P 12 55 34.0 +0.5**
BRTR Keskin Array B 91.95 310 P P **12 55 33.6 +0.1**
comp=Z,1.6nm,0.8s,baz=128,slow=8.0,SNR=8.0
comp=Z,1.6nm,0.8s
G16K Koyuk River 94.57 24 IAmb IAmb 12 55 46.4
comp=Z,8.8nm,0.8s
H17K Granite Mounta 95.48 25 P 12 55 49.6 +0.6
H17K IAmb IAmb 12 55 50.7
comp=Z,4.5nm,0.7s
AKASG Malin Array Be 96.78 320 P P **12 55 54.4 -0.8**
comp=Z,0.9nm,0.6s,baz=83,slow=4.4,SNR=5.4
comp=Z,0.9nm,0.6s
AKASG Malin Array Be 96.78 320 *i* P P **12 55 54.4 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 96.78 320⇓*e*P **P 12 55 54.3 -0.9**
AKBB pmax pmax
comp=Z,3.0nm,0.9s
G19K Purcell Mounta 96.85 24 IAmb IAmb 12 55 57.0
comp=Z,5.5nm,0.8s
E19K Redstone River 96.99 23 IAmb IAmb 12 55 59.0
comp=Z,5.9nm,1.0s
F20K Avaraart Lake 97.51 23 IAmb IAmb 12 57 56.0
comp=Z,11nm,1.9s
KDAK Kodiak Island 97.91 33 LR LR 13 37 32.2
comp=Z,18nm,20.7s,baz=235,slow=34
MNK Minsk 98.02 324 *i* P **P 12 55 57.1 -3.6**
MNK *i* *PP **pP 12 56 15.0 -1.4**
MNK *i* 12 59 56.3
MNK *i* S **SKSac 13 06 29.3 -4.0**
MNK *i* SS **SS 13 14 03.4 -2.6**
MNK *i* SSS SSS 13 17 50.1
MNK pmax pmax
comp=Z,44nm,0.8s
MNK pmax pmax
comp=N,12nm,0.7s
MNK pmax pmax
comp=E,14nm,0.7s
MNK MLR MLR
comp=Z,24nm,17.0s
G21K Allakaket 98.33 24 IAmb IAmb 12 56 26.4
comp=Z,6.7nm,1.2s
FINES FINESS Array B 99.50 331 P **Pdif 12 56 06.6 -0.6**
comp=Z,2.6nm,0.8s,baz=116,slow=7.0,SNR=7.0
comp=Z,2.6nm,0.8s
TAOE Nuku Hiva Isla 99.98 101 *e*LR LR 13 28 47.4
comp=Z,200nm,30.0s
COLA College 100.58 26⇓*e*P **Pdif 12 56 13.4 +1.5**
COLA pmax pmax
comp=Z,2.0nm,0.9s
ILAR Eielson Array 100.99 26 P **Pdif 12 56 13.0 -0.8**
comp=Z,0.2nm,0.6s,baz=259,slow=5.8,SNR=5.5
YKA Yellowknife Ar 115.33 24 PKP **PKPdf 13 01 06.7 +1.2**
comp=Z,0.7nm,0.6s,baz=317,slow=2.5,SNR=2.3
TORD Torodi Ar. Bea 117.68 280 PKP **PKiKP 13 01 12.8 +1.3**
comp=Z,1.6nm,0.7s,baz=56,slow=1.8,SNR=4.2
NVAR Mina Array Bea 122.27 51 PKP **PKiKP 13 01 21.8 +1.6**
comp=Z,0.6nm,0.8s,baz=261,slow=1.5,SNR=7.5
DBIC Dimbokro 123.46 272 PKP **PKiKP 13 01 23.6 +0.7**
comp=Z,5.1nm,0.9s,baz=112,slow=1.5,SNR=2.3
TXAR Lajitas Array 136.48 58 PKhKP PKPpre 13 01 38.9
comp=Z,0.1nm,0.5s,baz=336,slow=3.3,SNR=2.7
CPUP Villa Florida 143.77 187 PKP PKPbc 13 01 58.7 +0.9
comp=Z,0.2nm,0.6s,baz=166,slow=4.2,SNR=1.7
ACSO Alum Creek Sta 144.43 28 PKPab 13 01 59.3 +0.1
WVT Waverly 144.83 38 PKPab 13 02 00.5 -0.3
WVT Waverly 144.83 38 PKIKP **PKPab 13 02 00.5 -0.3**
BG3 Lake Jocassee 148.47 34 PKiKP 13 02 13.2 +0.1

WEL 29 12:51:42.6±1.4, 33°S±23°×17°9W±4°1, h356km±18km, ML4.1/3, Error ellipse: s-maj=59.8km s-min=13.1km az=117.5, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**4.92**	**204**	S		S	12 54 06.2	+0.7
PKGZ	**Pakihiroa**	**5.28**	**205**	S		S	12 54 12.4	-0.1
HAZ	**Te Kaha**	**5.29**	**208**	P		Pn	12 53 07.1	+1.6
HAZ				S		S	12 54 13.9	+1.2
PUZ	**Puketiti**	**5.40**	**202**	P		Pn	12 53 06.8	0.0
PUZ				S		S	12 54 17.3	+2.3
RUGZ	**Raukumara Rang**	**5.51**	**207**	S		S	12 54 16.3	-1.1
MWZ	**Matawai**	**5.89**	**207**	P		Pn	12 53 12.4	+0.2
MWZ				S		S	12 54 24.3	-0.8
URZ	**Urewera**	**5.99**	**210**	P		Pn	12 53 12.4	-0.9
URZ				S		S	12 54 25.1	-1.9
RIGZ	**Rimuhau**	**6.14**	**203**	P		Pn	12 53 15.0	-0.1
RIGZ				S		S	12 54 30.2	0.0
MUGZ	**Murupara**	**6.32**	**211**	S		S	12 54 35.9	+2.0
SNGZ	**Shannon Statio**	**6.36**	**206**	S		S	12 54 36.1	+1.3
NMHZ	**Naumai**	**6.83**	**208**	S		S	12 54 50.5	+5.7
BFZ	**Birch Farm**	**8.43**	**205**	P		Pn	12 53 42.5	+0.7
BFZ				S		S	12 55 19.8	+0.7
MRZ	**Mangatainoka R**	**8.66**	**208**	P		Pn	12 53 43.6	-0.9
MRZ				S		S	12 55 22.4	-1.7

*SOME **29** 12:54:39.6, 43°.43N×81°.95E, h5km*
*NNC **29** 12:54:42.8±1.4, 43°.38N×81°.79E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=13.3km s-min=7.3km az=157.0, Suspected Mining explosion.*
ISC 29 12:54:37.0±2.0, 43°.4N±0°.1×82°.00E±0°.09, h0km, n19, σ2s 02/30, 1C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KTMS	**Ketmen**	**1.20**	**273**	P		**Pb**	**12 55 02.1**	**+1.4**
KTMS	7.3nm,0.1s			S		**Sg**	**12 55 17.3**	**+1.7**
	16nm,0.4s							
KTMS	**Ketmen**	**1.20**	**273**	*e*P		**Pb**	**12 55 02.3**	**+1.5**
KTMS	7.3nm,0.1s			*e*S		**Sb**	**12 55 18.0**	**+1.1**
	16nm,0.2s							
PDGK	**Podgornoye**	**1.83**	**269**	⇓P		**Pb**	**12 55 13.3**	**+1.8**
PDGK	27nm,0.4s			⇑S		**Sg**	**12 55 37.6**	**+1.8**
	59nm,0.6s							
SHLS	**Shalkode**	**1.87**	**264**	P		**Pn**	**12 55 09.5**	**-0.9**
SHLS	31nm,0.2s			S		**Sn**	**12 55 29.7**	**-5.1**
	64nm,0.4s							
SHLS	**Shalkode**	**1.87**	**264**	*e*P		**Pn**	**12 55 09.1**	**-1.3**
SHLS	31nm,0.2s			*e*S		**Sn**	**12 55 29.8**	**-4.9**
	80nm,0.4s							
UZB	**Uzymbulak**	**2.19**	**265**	*e*P		**Pg**	**12 55 20.4**	**+1.4**
UZB	20nm,0.2s			*e*S		**Sg**	**12 55 49.0**	**+1.7**
	34nm,0.2s							
KNOS	**Konyrlen**	**2.26**	**296**	Pg		**Pg**	**12 55 21.0**	**+0.6**
KNOS	9.9nm,0.3s			Lg		Lg	12 55 50.6	
	32nm,0.4s							
KPKS	**Kokpek**	**2.42**	**273**	Pg		**Pg**	**12 55 24.6**	**+1.2**
KPKS	0.5nm,0.3s			Lg		Lg	12 55 55.7	
	77nm,0.3s							
SATY	**Saty**	**2.65**	**264**	Pg		**Pb**	**12 55 27.1**	**+1.7**
SATY	14nm,0.2s			Lg		Lg	12 56 00.0	
	68nm,0.4s							
MK31	**Makanchi Array**	**3.42**	**3**	Pn		**Pb**	**12 55 38.8**	**+0.4**
MK31	2.3nm,0.5s,baz=188,slow=13,SNR=22			⇓Lg		Lg	12 56 32.2	
	3.4nm,0.6s,baz=187,slow=27,SNR=2.6							
KOTS	**Kotyrbulak**	**3.57**	**269**	*e*P		**Pg**	**12 55 45.1**	**-0.3**
KOTS	2.4nm,0.1s			*e*S		**Sg**	**12 56 31.4**	**-0.3**
	22nm,0.2s							
TNSS	**Tian-Shan**	**3.71**	**266**	Pg		**Pb**	**12 55 46.8**	**+3.1**
TNSS	0.9nm,0.4s			Lg		Lg	12 56 33.7	
	1.7nm,0.5s							
TNSS	**Tian-Shan**	**3.71**	**266**	*e*P		**Pg**	**12 55 47.9**	**-0.3**
TNSS	0.1nm,0.0s			*e*S		**Sg**	**12 56 36.2**	**-0.1**
	2.7nm,0.3s							
KTBS	**Karatobe**	**3.88**	**277**	Pg		**Pg**	**12 55 51.0**	**-0.4**
KTBS	2.8nm,0.3s			Lg		Lg	12 56 41.0	
	8.1nm,0.6s							
IZV	**Izvestkoviy**	**3.95**	**267**	Pg		**Pb**	**12 55 50.7**	**+3.0**
IZV	2.2nm,0.1s			Lg		Lg	12 56 40.5	
	9.2nm,0.5s							
IZV	**Izvestkoviy**	**3.95**	**267**	*e*P		**Pg**	**12 55 52.3**	**-0.5**
IZV	2.2nm,0.1s			*e*S		**Sg**	**12 56 43.9**	**-0.1**
	18nm,0.3s							
KST	**Kastek**	**4.43**	**268**	Pg		**Pb**	**12 55 58.9**	**+3.2**
KST	5.6nm,0.5s			Lg		Lg	12 56 54.5	
	8.3nm,0.4s							
KST	**Kastek**	**4.43**	**268**	*e*P		**Pg**	**12 56 01.0**	**-0.9**
KST	5.6nm,0.5s			*e*S		**Sg**	**12 56 58.7**	**-0.5**
	8.3nm,0.4s							
ZSN	**Zaisan**	**4.54**	**25**	*e*P		**Pg**	**12 56 04.2**	**+0.2**
ZSN	1.5nm,0.1s			*e*S		**Sg**	**12 57 04.4**	**+1.6**
	5.9nm,0.3s							

*HVO **29** 13:08:07.5±0.7, 19°.464N±0°.003×155°.597W±0°.008, h-2km, 3km, ML2.2/5, ML1.7/23(NEIC), Error ellipse: s-maj=1.0km s-min=0.4km az=88.0*
NEIC 29 13:08:07.9±1.2, 19°.474N±0°.004×155°.586W±0°.008, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.2km az=9.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MWH	**Mokuaweoweo**	**0.01**	**318**			Sg	13 08 09.3	-1.2
MWH	**Mokuaweoweo**	**0.01**	**318**			Pg	13 08 08.4	-1.0
ALEP	**Alea Permanent**	**0.09**	**321**			Pg	13 08 09.9	-0.1
ALEP						Sg	13 08 12.1	+0.7
AIN	**Ainahou**	**0.16**	**130**			Pg	13 08 11.7	+0.6
AIN	**Ainahou**	**0.16**	**130**	IAML			13 08 15.0	
	comp=E,162nm,0.7s							
AIN				IAML			13 08 15.3	
	comp=N,229nm,1.1s							
HMH	**Humu'ula Sheep**	**0.16**	**37**			Pg	13 08 11.4	+0.2
HMH	**Humu'ula Sheep**	**0.16**	**37**			Sg	13 08 15.4	+2.0
MLH	**Mauna Loa**	**0.19**	**84**			Pg	13 08 12.2	+0.5
MLH				IAML			13 08 12.8	
	comp=N,154nm,2.8s							
MLH				IAML			13 08 16.2	
	comp=E,149nm,0.6s							
KHU	**Kahuku**	**0.23**	**187**			Pg	13 08 12.3	-0.1
KHU						Sg	13 08 16.0	+0.6
WRMHI	**West Rim**	**0.28**	**104**			Pg	13 08 13.8	+0.5
POHA	**Pohakuloa**	**0.29**	**10**			Pg	13 08 13.5	0.0
POHA				IAML			13 08 19.6	
	comp=E,102nm,2.8s							
POHA				IAML			13 08 22.1	
	comp=E,91nm,1.1s							
POHA	**Pohakuloa**	**0.29**	**10**			Sg	13 08 18.4	+1.0
SDHHI	**Sand Hill**	**0.29**	**107**			Pg	13 08 13.9	+0.3
SDHHI						Sg	13 08 18.1	+0.8
OBL	**Observatory Le**	**0.29**	**101**			Pg	13 08 13.8	+0.2
RSD	**Rainshed**	**0.29**	**92**			Pg	13 08 14.2	+0.6
RSD						Sg	13 08 18.3	+0.8
HTC	**Hot Caves**	**0.29**	**143**			Pg	13 08 13.7	+0.1
UWB	**Uwekahuna Bluf**	**0.29**	**99**			Pg	13 08 14.0	+0.3
UWB						Sg	13 08 18.4	+0.9
SBLHI	**Steaming Bluff**	**0.30**	**99**			Pg	13 08 14.1	+0.2
SBLHI						Sg	13 08 18.6	+0.7
RIM	**Rim**	**0.30**	**105**			Pg	13 08 13.7	-0.1
RIM						Sg	13 08 18.6	+0.7
HATHI	**Halema'uma'u T**	**0.31**	**99**			Pg	13 08 13.8	-0.1
HATHI	**Halema'uma'u T**	**0.31**	**99**	IAML			13 08 19.8	
	comp=E,144nm,1.4s							
HATHI				IAML			13 08 19.9	
	comp=N,191nm,2.4s							
KKO	**Keanakako'i**	**0.31**	**104**			Pg	13 08 14.3	+0.3
KKO						Sg	13 08 19.1	+1.0
CPH	**Captain Cook**	**0.31**	**273**			Pg	13 08 13.9	0.0
BYL	**Byron's Ledge**	**0.31**	**101**			Pg	13 08 14.4	+0.4
BYL						Sg	13 08 19.0	+0.8
BYL	**Byron's Ledge**	**0.31**	**101**	IAML			13 08 21.1	
	comp=N,115nm,1.2s							
BYL				IAML			13 08 21.4	
	comp=E,170nm,2.6s							
HLP	**Hilina Pali**	**0.32**	**124**			Pg	13 08 14.3	+0.3
HLP	**Hilina Pali**	**0.32**	**124**	IAML			13 08 15.6	
	comp=E,153nm,3.3s							
HLP				IAML			13 08 18.5	
	comp=N,237nm,1.7s							
PUH	**Pauahi**	**0.36**	**106**			Pg	13 08 15.0	+0.1
KNHH	**Kane Nui o Ham**	**0.40**	**103**			Pg	13 08 15.6	-0.2
STCH	**Steam Cracks**	**0.44**	**101**			Pg	13 08 16.0	-0.5
STCH	**Steam Cracks**	**0.44**	**101**			Sg	13 08 22.9	+0.6
NPOC	**North of Pu'u**	**0.46**	**100**			Pg	13 08 16.5	-0.2
JCUZ	**Jacuzzi**	**0.47**	**101**			Pg	13 08 16.8	0.0
JCUZ						Sg	13 08 23.6	+0.6
JOKA	**Jonika Flow**	**0.55**	**94**			Pg	13 08 18.0	-0.5
JOKA						Sg	13 08 26.0	+0.4
HPAH	**Hawaii Prepara**	**0.56**	**349**			Pg	13 08 18.1	-0.6

IDC 29 13:14:49.8±1.7, 0°.55N×126°.25E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=175.5km s-min=22.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**21.86**	**159**	P		P	13 19 43.2	-1.1
	0.8nm,0.5s,baz=337,slow=11,SNR=12							
	0.8nm,0.5s							
ASAR	**Alice Springs**	**25.20**	**163**	P		P	13 20 18.1	+0.8
	0.5nm,0.5s,baz=344,slow=10,SNR=17							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**59.90**	**327**	P		P	13 24 57.8	+0.1
	0.4nm,0.4s,baz=118,slow=8.1,SNR=5.9							
	0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**64.16**	**328**	P		P	13 25 25.9	-0.3
	0.2nm,0.3s,baz=124,slow=6.6,SNR=2.0							
	0.2nm,0.3s							

*IDC **29** 13:32:35.0±1.8, 3°.42N×126°.44E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=188.9km s-min=20.5km az=65.0*
*DJA **29** 13:32:38.3±0.9, 3°N±9°×12°7E±°, h18km±13km, M3.5/7, mb3.6/1, MLv3.5/7*
ISC 29 13:32:41.9±1.2, 3°.5N±0°.1×126°.9E±0°.1, h48km, n9, σ1s 85/11, mb3.7/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SGSI	**Sangihe**	**1.40**	**279**	P		**Pn**	**13 33 04.3**	**-0.7**
SGSI				S		**Sn**	**13 33 21.9**	**-0.4**
TNTI	**Ternate**	**2.72**	**170**	P		**Pn**	**13 33 21.8**	**-1.4**
TNTI				S		**Sn**	**13 33 53.4**	**-1.5**
FAKI	**Fak Fak**	**8.29**	**140**	P		**Pn**	**13 34 41.4**	**+1.7**
PLAI	**Plampang**	**15.24**	**217**	P		**P**	**13 36 20.9**	**+2.7**
WRA	**Warramunga Arr**	**24.39**	**163**	P		**P**	**13 37 54.3**	**-1.6**
	1.0nm,0.6s,baz=341,slow=9.9,SNR=6.9							
	1.0nm,0.6s							
ASAR	**Alice Springs**	**27.82**	**166**	P		**P**	**13 38 28.9**	**+1.9**
	0.2nm,0.3s,baz=339,slow=10,SNR=9.3							
	0.2nm,0.3s							
STKA	**Stephens Creek**	**37.83**	**159**	P		**P**	**13 39 54.1**	**+0.1**
	2.4nm,0.7s,baz=327,slow=10,SNR=4.2							
	2.4nm,0.7s							
MKAR	**Makanchi Array**	**57.87**	**325**	P		**P**	**13 42 27.4**	**-1.6**
	0.4nm,0.4s,baz=128,slow=7.9,SNR=5.2							
	0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**62.05**	**327**	P		**P**	**13 42 55.5**	**-1.9**
	0.3nm,0.5s,baz=123,slow=6.8,SNR=4.2							
	0.3nm,0.5s							

*IDC **29** 13:37:28.9±0.8, 29°.72N×132°.46E, h0km, mb3.8/9, mbtmp3.9/15, ML3.6/6, MS2.8/6, Error ellipse: s-maj=23.5km s-min=16.8km az=70.0*
*NEIC **29** 13:37:29.9±1.5, 29°.67N±0°.07×132°.4E±0°.1, h10km±1km, mb4.8/14, Error ellipse: s-maj=15.2km s-min=10.6km az=109.0*
*JMA **29** 13:37:31.2±0.2, 29°.8N±0°.7×132°.5E±1°.0, h58km, MV3.8/36, N PHILIPPINE BASIN*
*NIED **29** 13:37:31.2, 29°.75N×132°.48E, h58km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr-1.28; Mθθ0.50; Mφφ0.77; Mrθ-0.03; Mθφ-0.10; Mφr0.22; Fault plane solution: M0 1.06000×10^15^ NP1: φs342.00000°, δ39.00000°, λ-92.00000°. NP2: φs164.00000°, δ51.00000°, λ-89.00000°.*
ISC 29 13:37:35.9±0.6, 29.73N±0°.04×132°.45E±0°.05, h70km, n62, σ3s 51/76, mb3.8/12, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JMTN	**Minamitane**	**1.50**	**297**	P		**Pn**	**13 37 56.4**	**-4.4**
JMTN				S		**Sn**	**13 38 16.1**	**-3.6**
JTN	**Tanegashima 3**	**1.57**	**306**	*i* P		**Pn**	**13 37 57.3**	**-4.5**
JTN				S		**Sn**	**13 38 17.3**	**-4.1**
JTSR	**Tashiro 2**	**1.95**	**318**	*i* P		**Pn**	**13 38 02.5**	**-4.3**
JTSR				S		**Sn**	**13 38 26.3**	**-4.1**
JNAR	**Kushima--Naru**	**2.06**	**331**	*i* P		**Pn**	**13 38 04.5**	**-3.8**
JNAR				S		**Sn**	**13 38 28.0**	**-5.0**
JKC	**Kuchinoerabu**	**2.09**	**291**	P		**Pn**	**13 38 04.8**	**-3.8**
JKC				*e*S		**Sn**	**13 38 30.2**	**-3.5**
JNKG	**Nichinankitago**	**2.13**	**335**	P		**Pn**	**13 38 05.6**	**-3.8**
JNKG				S		**Sn**	**13 38 30.9**	**-3.9**
JNN	**Nakanoshima**	**2.24**	**273**	*i* P		**Pn**	**13 38 07.5**	**-3.3**

JNN					*e*S		Sn	13 38 34.3	-3.2
JTZ	**Takazaki**	**2.46**	**332**	*i* P			Pn	13 38 10.1	-3.6
JTZ				S			Sn	13 38 38.1	-4.7
JTAJ	**Takarajima**	**2.89**	**259**	*i* P			Pn	13 38 16.5	-3.1
JSJ	**Shimokoshiki**	**3.05**	**310**	P			Pn	13 38 16.9	-4.9
JSJ				S			Sn	13 38 51.4	-5.8
JTO	**Tosashimizu**	**3.13**	**5**	*i* P			Pn	13 38 18.4	-4.4
JTO				S			Sn	13 38 50.5	-8.6
JAMN	**Amaminishikomi**	**3.23**	**243**	P			Pn	13 38 21.0	-3.2
JAMN				S			Sn	13 38 58.1	-3.5
JTK	**Tokunoshima**	**3.63**	**239**	P			Pn	13 38 26.8	-2.9
JTK				S			Sn	13 39 07.6	-3.9
JNU	**Nakatsue**	**3.64**	**339**				Pn	13 38 26.4	-3.4
JNU	**Nakatsue**	**3.64**	**339**	Pn			Pn	13 38 27.4	-2.4
	2.3nm,0.3s,baz=202,slow=10,SNR=33								
JNU				Sn			Sn	13 39 06.7	-4.8
	10nm,0.3s,baz=69,slow=10,SNR=9.6								
	7.8nm,0.3s								
JNA	**Nagahama**	**3.81**	**0**	P			Pn	13 38 28.9	-3.3
JNA				*e*S			Sn	13 39 08.3	-7.5
JMZ	**Minamidaito 2**	**4.05**	**196**	Pn			Pn	13 38 30.7	-4.7
JMZ	**Minamidaito 2**	**4.05**	**196**	*e*P			Pn	13 38 31.6	-3.8
JMZ				*e*S			Sn	13 39 14.5	-7.1
JMN	**Monobe**	**4.16**	**17**				Pn	13 38 33.4	-3.6
JMN	**Monobe**	**4.16**	**17**	P			Pn	13 38 33.5	-3.6
JMN				*e*S			Sn	13 39 15.4	-9.0
JAI	**Aioi**	**4.39**	**22**	P			Pn	13 38 36.6	-3.5
JOW	**Kunigami**	**4.68**	**233**	Pn			Pn	13 38 40.1	-4.0
	18nm,0.3s,baz=99,slow=22,SNR=13								
JOW				Sn			Sn	13 39 33.0	-4.1
	10nm,0.3s,baz=242,slow=29,SNR=3.6								
	43nm,0.2s								
JOW	**Kunigami**	**4.68**	**233**	P			Pn	13 38 40.1	-4.0
INU	**Inuyama**	**6.80**	**33**				Pn	13 39 10.7	-2.2
JSG	**Sagara**	**6.92**	**43**	Pn			Pn	13 39 13.1	-1.5
JHJ	**Hachijo jima 2**	**7.12**	**60**	Pn			Pn	13 39 15.3	-2.0
	7.0nm,0.3s,baz=341,slow=22,SNR=14								
JHJ				LR			LR	13 41 46.8	
	comp=Z,33nm,20.3s,baz=33,slow=36								
	26nm,0.5s								
JGF	**Kuroka**	**7.16**	**34**				Pn	13 39 15.4	-2.6
MAJO	**Matsushiro**	**8.33**	**34**				Pn	13 39 32.2	-1.7
MJAR	**Matsushiro Arr**	**8.33**	**34**	Pn			Pn	13 39 32.7	-1.2
	0.8nm,0.3s,baz=199,slow=12,SNR=35								
MJAR				LR			LR	13 42 13.7	
	comp=Z,46nm,19.5s,baz=236,slow=34								
	4.5nm,0.4s								
MJB9	**Matsu-Tunnel**	**8.33**	**34**				Pn	13 39 32.1	-1.8
KSRS	**Korea Array**	**8.57**	**335**	Pn			Pn	13 39 33.7	-3.5
	0.1nm,0.3s,baz=175,slow=14,SNR=1.7								
	0.7nm,0.7s								
JCJ	**Chichijima**	**8.96**	**105**	Pn			Pn	13 39 38.8	-3.8
	2.9nm,0.3s,baz=332,slow=22,SNR=8.2								
	39nm,0.7s								
SONM	**Songino Array**	**26.99**	**319**	P			P	13 43 13.9	+2.7
	0.6nm,0.5s,baz=145,slow=8.5,SNR=1.7								
SONM				LR			LR	13 55 20.8	
	comp=Z,21nm,18.6s,baz=56,slow=40								
	0.6nm,0.5s								
CMAR	**Chiang Mai Arr**	**32.47**	**257**	LR			LR	13 59 14.1	
	comp=Z,12nm,18.1s,baz=160,slow=40								
BKB	**Balikpapan**	**34.22**	**208**	P			P	13 44 11.4	-3.5
MKAR	**Makanchi Array**	**42.15**	**308**	P			P	13 45 23.4	+2.0
MKAR	**Makanchi Array**	**42.15**	**308**	P			P	13 45 24.4	+3.0
	2.0nm,0.8s,baz=94,slow=9.5,SNR=15								
MKAR				PcP			PcP	13 47 17.0	+2.3
	0.5nm,0.7s,baz=104,slow=3.0,SNR=3.8								
	2.0nm,0.8s								
KURBB	**Kurchatov Arra**	**45.04**	**313**	P			P	13 45 46.8	+2.3
	0.8nm,0.6s,baz=98,slow=8.8,SNR=6.0								
KURBB				PcP			PcP	13 47 26.3	+2.0
	0.2nm,0.3s,baz=86,slow=3.8,SNR=1.5								
	0.8nm,0.6s								
AAK	**Ala-Archa**	**47.66**	**302**	LR			LR	14 06 00.2	
	comp=Z,22nm,18.3s,baz=214,slow=36								
SPIA	**Saint Paul Isl**	**47.95**	**38**	P			P	13 46 08.0	+0.8
NIKH	**Nikolski High**	**48.22**	**44**	P			P	13 46 10.2	+1.0
WRA	**Warramunga Arr**	**49.42**	**178**	P			P	13 46 21.0	+2.1
	0.6nm,0.8s,baz=355,slow=8.3,SNR=5.5								
	0.6nm,0.8s								
ASAR	**Alice Springs**	**53.11**	**178**	P			P	13 46 48.5	+2.1
	1.1nm,1.0s,baz=7.0,slow=7.1,SNR=12								
	1.1nm,1.0s								
C18K	**Utukok River**	**54.06**	**24**	P			P	13 46 54.8	+1.9
R16K	**Pilot Point**	**54.82**	**38**	P			P	13 46 59.2	+0.7
D20K	**Etivluk River**	**55.73**	**25**	P			P	13 47 07.2	+2.3
E21K	**Killik River**	**56.67**	**25**	P			P	13 47 13.5	+1.8
E21K				IAmb			IAmb	13 47 37.1	
	comp=Z,18nm,1.8s								
D22K	**Ayikyak River**	**57.17**	**25**	P			P	13 47 17.6	+2.5
D22K				IAmb			IAmb	13 48 33.4	
	comp=Z,22nm,1.8s								
E22K	**Anaktuvuk Pass**	**57.47**	**26**	P			P	13 47 19.4	+2.2
C24K	**Franklin Bluff**	**58.59**	**24**	P			P	13 47 26.4	+1.4
BMAR	**Burnt Mountain**	**60.24**	**26**	P			P	13 47 38.3	+1.8
BCAR	**Beaver Creek A**	**62.06**	**31**	P			P	13 47 51.6	+2.7
I28M	**Miner Creek**	**62.39**	**28**	P			P	13 47 53.9	+2.8
I28M				IAmb			IAmb	13 49 22.5	
	comp=Z,9.0nm,1.7s								
G30M	**tAoh Zraii Nji**	**63.53**	**26**	P			P	13 48 00.6	+2.0
INK	**Inuvik**	**64.19**	**24**	LR			LR	14 16 35.7	
	comp=Z,15nm,18.2s,baz=93,slow=37								
H31M	**Peel River**	**64.56**	**27**	P			P	13 48 07.4	+2.1
FIA1	**FINESS Array S**	**71.64**	**331**	P			P	13 48 51.3	+1.6
FINES	**FINESS Array B**	**71.64**	**331**	P			P	13 48 51.2	+1.5
FINES	**FINESS Array B**	**71.64**	**331**	P			P	13 48 51.4	+1.7
	comp=Z,1.2nm,0.4s,baz=69,slow=6.3,SNR=9.9								
	comp=Z,1.2nm,0.4s								
AKASG	**Malin Array Be**	**75.27**	**320**	P			P	13 49 12.0	+0.8
	comp=Z,0.4nm,0.4s,baz=59,slow=5.6,SNR=2.1								
	comp=Z,0.4nm,0.4s								
NOA	**NORSAR Array B**	**77.79**	**335**	P			P	13 49 26.2	+0.9
	comp=Z,0.3nm,0.6s,baz=52,slow=5.7,SNR=1.7								
	comp=Z,0.3nm,0.6s								
BRTR	**Keskin Array B**	**77.80**	**309**	P			P	13 49 28.4	+2.5
	comp=Z,0.6nm,0.7s,baz=64,slow=9.0,SNR=3.6								
	comp=Z,0.6nm,0.7s								

*JMA **29** 13:42:56.3±0.1,23.0°N±0.3×121.5°E±0.8,h11km±3km, MV3.0/9, TAIWAN REGION*
*TAP **29** 13:42:56.9,23.07°N×121.37°E,h19km±1km, ML3.0, C*
ISC 29 13:42:56.6±0.9,**23.06N**±0.02×**121.39E**±0.02,**h18**km±2km,
n67,σ0.**75**/95,**1C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.05**	**329**	*i* P	Pg	13 43 00.9	+1.0
EDH	**Donghe**	**0.12**	**225**	*i* P	Pg	13 43 01.4	+0.9
EDH				*e*S	Sg	13 43 04.5	+1.4
CHKH	**Chenggong**	**0.14**	**1**	*i* P	Pg	13 43 01.6	+0.9
CHKH				*e*S	Sg	13 43 04.8	+1.3
ECS	**Chishang**	**0.17**	**284**	P	Pg	13 43 02.2	+1.1
FULB	**Fuli**	**0.17**	**327**	*e*P	Pg	13 43 01.7	+0.5
EHD	**Haiduan**	**0.20**	**298**	*i* P	Pg	13 43 02.1	+0.5
ECBN	**Changbin**	**0.27**	**11**	P	Pb	13 43 03.5	+0.7
LONT	**Longtian**	**0.28**	**239**	*i* P	Pb	13 43 03.7	+0.5
LONT				*i* S	Sb	13 43 08.6	+1.0
TWF1	**Yuli**	**0.31**	**343**	P	Pb	13 43 03.7	+0.1
YULB	**Yu-li**	**0.35**	**345**	*i* P	Pb	13 43 04.1	-0.3
YULB				*e*S	Sb	13 43 09.3	-0.2
ELDTW	**Lidau**	**0.37**	**291**	*i* P	Pg	13 43 04.1	-0.4
ELDTW				*e*S	Sg	13 43 09.1	-0.8
TWGBT	**Beinan**	**0.37**	**231**	P	Pg	13 43 04.8	+0.3
TTN	**Taitung**	**0.38**	**217**	P	Pb	13 43 06.2	+1.3
TTN				*e*S	Sn	13 43 12.7	-1.2
TWG	**Pinlang**	**0.38**	**232**	*e*P	Pg	13 43 04.8	+0.2
LDUT	**Ludao**	**0.39**	**170**	*e*P	Pb	13 43 05.5	+0.5
LDUT				*e*S	Sb	13 43 12.3	+1.7
HGSD	**Ruisui**	**0.43**	**4**	*e*P	Pb	13 43 06.3	+0.4
EHYH	**Wanrong**	**0.44**	**354**	*e*P	Pb	13 43 06.1	+0.2
EHYH				S	Sb	13 43 12.3	+0.2
EHY	**Hungye**	**0.45**	**352**	P	Pb	13 43 06.0	-0.2
STYH	**Taoyuan**	**0.58**	**281**	*i* P	Pb	13 43 07.9	-0.3
STYH				S	Sb	13 43 15.5	-0.6
ECL	**Taimali**	**0.61**	**222**	P	Pb	13 43 07.8	-0.9
ECL				*e*S	Sb	13 43 16.2	-0.8
WARBT	**Fenglin Townsh**	**0.66**	**359**	*e*P	Pb	13 43 09.0	-0.6
ALS	**Alishan**	**0.71**	**310**	*i* P	Pg	13 43 10.6	0.0
ALS				S	Sg	13 43 19.9	-0.2
VWDT	**VWDT**	**0.73**	**342**	*i* P	Pg	13 43 10.9	-0.2
WTP	**Ta-pu**	**0.74**	**285**	P	Pg	13 43 11.4	+0.1
WTP				*e*S	Sn	13 43 21.7	-1.4
TPUB	**Ta-pu**	**0.74**	**289**	*i* P	Pg	13 43 11.4	+0.1

SHUL	**Shoufeng**	**0.74**	**12**	*e*P			Pg	13 43 11.8	+0.5
ESL	**Shilin**	**0.76**	**3**	*e*P			Pg	13 43 11.8	+0.3
SSD	**Sandimen**	**0.77**	**246**	*e*P			Pb	13 43 10.9	-0.5
TSMG	**Majia**	**0.77**	**243**	*e*P			Pb	13 43 11.1	-0.5
CHN1	**Nanshi**	**0.81**	**279**	*i* P			Pn	13 43 12.7	-0.4
CHN1				*e*S			Sn	13 43 24.6	0.0
WHYT	**Xinyi Township**	**0.81**	**322**	*i* P			Pg	13 43 12.4	-0.1
WHYT				*e*S			Sg	13 43 23.0	-0.2
WCKO	**Fanlu**	**0.82**	**298**	P			Pn	13 43 12.8	-0.5
WCKO				*e*S			Sn	13 43 24.2	-0.7
MASBT	**Mashibuluo**	**0.83**	**238**	*e*P			Pb	13 43 11.9	-0.6
SSLB	**Suanglung**	**0.83**	**331**	*e*P			Pb	13 43 12.6	-0.1
EAST	**Anshuo**	**0.84**	**217**	*e*P			Pb	13 43 11.8	-0.8
SNST	**Tainan City**	**0.84**	**281**	*e*P			Pg	13 43 13.1	0.0
SNST				*e*S			Sn	13 43 25.4	-0.1
SCST	**Cishan**	**0.85**	**259**	*e*P			Pn	13 43 13.6	-0.1
TWK	**Hsinying**	**0.86**	**284**	*e*P			Pg	13 43 13.2	-0.2
OWD	**Renai**	**0.92**	**347**	*e*P			Pb	13 43 13.8	-0.3
TWM1	**Shoushan**	**0.93**	**256**	*e*P			Pn	13 43 16.1	+1.3
SMLT	**Sun Moon Lake**	**0.94**	**331**	*e*P			Pn	13 43 15.1	0.0
SMLT				*e*S			Sn	13 43 27.5	-0.6
LXIB	**Xiulin Townshi**	**0.96**	**1**	*e*P			Pb	13 43 13.7	-1.2
WUSB	**Renai**	**0.97**	**345**	*e*P			Pb	13 43 14.6	-0.4
TYC	**Yuchr**	**0.98**	**330**	*e*P			Pg	13 43 15.9	+0.2
WJS	**Zhushan**	**0.98**	**321**	P			Pg	13 43 16.5	+0.8
WJS				*e*S			Sn	13 43 30.5	+1.6
SCZT	**Fangliau**	**0.99**	**227**	*e*P			Pb	13 43 14.7	-0.5
WGK	**Gukeng**	**0.99**	**310**	*e*P			Pg	13 43 16.4	+0.5
CHY	**Chiayi**	**0.99**	**296**	*e*P			Pg	13 43 16.2	+0.2
CHY				*e*S			Sn	13 43 30.1	+0.8
WDLH	**Douliu**	**1.01**	**309**	*i* P			Pg	13 43 16.8	+0.6
WDLH				S			Sn	13 43 31.3	+1.7
LAY	**Lan-yu**	**1.02**	**172**	*e*P			Pb	13 43 14.6	-1.2
WNT	**Mingjian**	**1.05**	**322**	*e*P			Pg	13 43 17.4	+0.4
WNT				*e*S			Sg	13 43 31.7	+1.0
LYUB	**Lan-yu**	**1.06**	**170**	*e*P			Pb	13 43 14.5	-2.0
ICHU	**Yijhu**	**1.07**	**287**	*e*P			Pg	13 43 17.6	+0.2
ICHU				S			Sg	13 43 32.8	+1.3
WCS	**Beigang Elemen**	**1.09**	**336**	*i* P			Pg	13 43 17.6	-0.2
WCS				*e*S			Sg	13 43 31.7	-0.4
WHF	**Hehuan Shan**	**1.09**	**354**	*e*P			Pb	13 43 17.2	0.0
WHF				*e*S			Sn	13 43 31.5	-0.7
WTK	**Tuku**	**1.12**	**304**	*e*P			Pg	13 43 18.4	0.0
WTK				*e*S			Sg	13 43 33.9	+0.9
ETLH	**Xiulin Townshi**	**1.15**	**4**	*e*P			Pb	13 43 18.4	+0.3
WSL	**Shuilin Townsh**	**1.17**	**294**	*e*P			Pg	13 43 19.0	-0.2
WSL				*e*S			Sg	13 43 34.8	+0.2
WSF	**Szhu**	**1.22**	**299**	*e*S			Sg	13 43 36.2	-0.2
WHP	**Taichung City**	**1.28**	**341**	*e*P			Pg	13 43 21.6	+0.1
NNSB	**Datong**	**1.37**	**360**	*e*P			Pn	13 43 20.8	-0.2
NSY	**Sanyi**	**1.47**	**337**	*e*P			Pg	13 43 24.6	-0.4
PNG	**Penghu**	**1.77**	**287**	*e*P			Pn	13 43 26.6	+0.3
HATJ	**Hateruma jima**	**2.43**	**65**	*e*S			Sn	13 44 03.4	-1.2
IRIF	**Iriomote-Funau**	**2.49**	**59**	*e*S			Sn	13 44 06.1	-0.1
JIJ	**Ishigaki jima**	**2.84**	**62**	*e*P			Pn	13 43 41.4	+0.4
JIJ				*e*S			Sn	13 44 13.4	-1.3
JISG	**Ishigakijimahi**	**3.08**	**60**	*e*P			Pn	13 43 44.5	+0.2
JISG				*e*S			Sn	13 44 19.2	-1.4

*NOU **29** 13:51:08.1,42.72S×173.35E,h48km, MLv3.7/15, South Island, New Zealand*
*WEL **29** 13:51:08.7±0.2,42°S±2°×173°E±°,h33km±3km, M3.2/18, ML3.5/18, MLv3.2/18, Error ellipse: s-maj=3.3km s-min=2.3km az=108.7, confirmed*
ISC 29 13:51:08.9±1.2,**42.48S**±0.02×**172.97E**±0.03,**h50**km±7km,
n64,σ1.**07**/88,**South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSES	**Hanmer Springs**	**0.11**	**248**	P	Pn	13 51 16.1	-0.8
HSES				S	Sn	13 51 20.8	-1.7
WTMC	**Te Mara Farm W**	**0.15**	**155**	P	Pn	13 51 17.1	+0.1
WTMC				S	Sn	13 51 23.1	+0.4
WIGC	**Waiau Gorge**	**0.25**	**210**	P	Pn	13 51 16.1	-1.6
WIGC				S	Sn	13 51 22.4	-1.5
CECS	**Cheviot Emerge**	**0.40**	**146**	P	Pn	13 51 19.9	+0.9
CECS				S	Sn	13 51 27.2	+0.9
KHZ	**Kahutara**	**0.43**	**81**	P	Pn	13 51 19.4	+0.1
KHZ	**Kahutara**	**0.43**	**81**	P	Pn	13 51 19.6	+0.2
KHZ				S	Sn	13 51 27.1	+0.3
SCAC	**Scargill**	**0.46**	**184**	P	Pn	13 51 18.7	-1.0
SCAC				S	Sn	13 51 27.5	+0.1
GVZ	**Greta Valley S**	**0.49**	**174**	P	Pn	13 51 20.9	+0.9
GVZ				S	Sn	13 51 28.0	+1.4
WAKC	**Waikari**	**0.52**	**202**	P	Pn	13 51 20.9	+0.5
WAKC				S	Sn	13 51 29.7	+1.1
KIKS	**Kaikoura**	**0.53**	**84**	P	Pn	13 51 20.8	+0.3
KIKS				S	Sn	13 51 31.1	+2.2
LTZ	**Lake Taylor**	**0.59**	**240**	P	Pn	13 51 21.5	+0.1
LTZ				S	Sn	13 51 30.1	-0.3
SJFS	**Springs Juncti**	**0.60**	**284**	P	Pn	13 51 20.7	-0.7
SJFS				S	Sn	13 51 28.6	-1.9
AMBC	**Amberley HDC**	**0.69**	**194**	P	Pn	13 51 21.8	-0.8
AMBC				S	Sn	13 51 32.6	+0.1
THZ	**Tophouse**	**0.72**	**356**	P	Pn	13 51 22.2	-0.9
THZ				S	Sn	13 51 31.0	-2.2
AMCZ	**Amberley**	**0.73**	**198**	P	Pn	13 51 23.8	+0.8
AMCZ				S	Sn	13 51 34.7	+1.4
ASHY	**Ashley**	**0.84**	**199**	S	Sn	13 51 35.6	-0.2
BSWZ	**Blackbirch Sta**	**1.02**	**42**	P	Pn	13 51 27.8	+0.9
OXZ	**Oxford**	**1.09**	**219**	P	Pn	13 51 27.7	-0.1
MRNZ	**Matariki Terra**	**1.09**	**352**	P	Pn	13 51 27.9	-0.1
MRNZ				S	Sn	13 51 41.9	-0.4
DSZ	**Denniston Nort**	**1.14**	**310**	P	Pn	13 51 28.1	-0.4
DSZ				S	Sn	13 51 42.1	-1.0
INZ	**Inchbonnie**	**1.15**	**257**	P	Pn	13 51 29.1	+0.5
INZ				S	Sn	13 51 43.7	+0.4
CMWZ	**Cape Campbell**	**1.18**	**52**	P	Pn	13 51 30.3	+1.2
OKCZ	**Okains Bay**	**1.24**	**177**	P	Pn	13 51 30.2	+0.2
OKCZ				S	Sn	13 51 45.8	+0.2
MQZ	**McQueen's Vall**	**1.25**	**191**	P	Pn	13 51 29.4	-0.6
MQZ				S	Sn	13 51 44.8	-0.8
TUWZ	**Tuamarina**	**1.28**	**35**	P	Pn	13 51 31.8	+1.4
NNZ	**Nelson**	**1.30**	**14**	P	Pn	13 51 31.3	+0.6
RACZ	**Rakaia**	**1.39**	**206**	P	Pn	13 51 31.5	-0.3
RACZ				S	Sn	13 51 48.6	-0.4
AKCZ	**Akaroa Harbour**	**1.39**	**182**	P	Pn	13 51 31.9	-0.1
AKCZ				S	Sn	13 51 48.8	-0.4
TKNZ	**Takaka Hill**	**1.45**	**360**	P	Pn	13 51 33.1	+0.6
TKNZ				S	Sn	13 51 51.4	+0.8
MHCZ	**Mount Hutt**	**1.47**	**224**	P	Pn	13 51 32.7	-0.3
MHCZ				S	Sn	13 51 50.4	-0.8
TCW	**Tory Channel**	**1.60**	**38**	P	Pn	13 51 34.9	+0.1
WACZ	**Wakanui South**	**1.68**	**209**	P	Pn	13 51 35.4	-0.4
WACZ				S	Sn	13 51 55.6	-0.5
QRZ	**Quartz Range**	**1.69**	**349**	P	Pn	13 51 36.0	0.0
WVZ	**Waitaha Valley**	**1.75**	**249**	P	Pn	13 51 37.4	+0.7
WVZ				S	Sn	13 51 57.9	+0.1
SNZO	**South Karori**	**1.75**	**48**	P	Pn	13 51 36.6	-0.2
SNZO	**South Karori**	**1.75**	**48**	S	Sn	13 51 57.0	-0.8
BHW	**Baring Head**	**1.78**	**54**	P	Pn	13 51 36.9	-0.4
WEL	**Wellington**	**1.80**	**49**	P	Pn	13 51 37.4	-0.1
WEL				S	Sn	13 51 57.7	-1.5
DUWZ	**D'Urville Isla**	**1.82**	**23**	P	Pn	13 51 39.0	+1.2
RPZ	**Rata Peaks**	**1.87**	**228**	P	Pn	13 51 38.4	0.0
RPZ	**Rata Peaks**	**1.87**	**228**	S	Sn	13 52 00.6	-0.2
RPZ	**Rata Peaks**	**1.87**	**228**	P	Pn	13 51 38.6	-0.4
PLWZ	**Pallliser**	**1.93**	**53**	P	Pn	13 51 38.7	-0.7
ARCZ	**Arundel**	**1.96**	**221**	P	Pn	13 51 39.7	-0.1
MSWZ	**Moikau Station**	**2.01**	**59**	P	Pn	13 51 39.7	-0.7
CAW	**Cannon Point**	**2.08**	**49**	P	Pn	13 51 41.0	-0.4
GCSZ	**Gaunt Creek Bo**	**2.11**	**246**	P	Pn	13 51 42.5	+0.7
PAWZ	**Paruwai Farm**	**2.14**	**60**	P	Pn	13 51 41.4	-0.8
KIW	**Kapiti Island**	**2.18**	**43**	P	Pn	13 51 42.7	0.0
OGWZ	**Otaki Gorge**	**2.34**	**45**	P	Pn	13 51 44.5	-0.4
TMZ	**Timaru**	**2.38**	**216**	P	Pn	13 51 44.8	-0.6
HOWZ	**Holdsworth Sta**	**2.48**	**51**	P	Pn	13 51 45.9	-0.9
FOZ	**Fox Glacier**	**2.54**	**245**	P	Pn	13 51 48.9	+1.3
TMWZ	**Te Maipa**	**2.58**	**59**	P	Pn	13 51 47.0	-1.2
MRZ	**Mangatainoka R**	**2.67**	**48**	P	Pn	13 51 48.5	-1.0
BFZ	**Birch Farm**	**3.05**	**55**	P	Pn	13 51 53.0	-1.6
BFZ	**Birch Farm**	**3.05**	**55**	S	Sn	13 52 26.6	-3.2
ODZ	**Otahua Downs**	**3.06**	**213**	P	Pn	13 51 54.6	-0.2
ODZ	**Otahua Downs**	**3.06**	**213**	S	Sn	13 52 29.1	-1.1
KHEZ	**Kahui Hut**	**3.28**	**14**	P	Pn	13 52 00.5	+2.6
KHEZ	**Kahui Hut**	**3.28**	**14**	S	Sn	13 52 39.3	+3.6
JCZ	**Jackson Bay**	**3.44**	**241**	P	Pn	13 52 02.8	+2.7
HIZ	**Hauiti**	**4.22**	**21**	P	Pn	13 52 11.7	+1.0

BKZ	**Black Stump Fm**	**4.26**	**40**	P			Pn	13 52 09.9	-1.4

*IDC **29** 13:54:10.8±0.9,56.30N×163.74E,h0km,mb3.5/8, mbtmp3.5/10,ML3.1/2,MS2.9/2,Error ellipse: s-maj=28.9km s-min=20.4km az=144.0*
*KRSC **29** 13:54:11.5±1.6,56.04N×164.08E,h19km±30km, Ml4.2*
ISC 29 13:54:10.8±1.7,**56.17N**±0.05×**164.10E**±0.04,**h4**km±11km,
n53,σ1.**32**/67,**mb3.6**/8,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.72**	**273**	*e*P	Pg	13 54 24.1	-0.5
KBTR				*e*S	Sb	13 54 35.8	-0.3
KBG	**Krutoberegovo**	**0.79**	**276**	*e*P	Pg	13 54 25.8	0.0
KBG				*e*S	Sb	13 54 37.6	-0.4
BKI	**Bering**	**1.44**	**132**	*e*P	Pn	13 54 37.0	-0.6
BKI				*e*S	Sn	13 54 56.4	-0.5
SMKR	**Semkarok**	**1.52**	**287**	*e*P	Pn	13 54 38.4	-0.4
SMKR				*e*S	Sg	13 55 00.5	+0.8
BDR	**Baidarnaya**	**1.66**	**285**	*e*S	Sg	13 55 03.5	-0.5
SRKR	**Sorokina**	**1.70**	**288**	*e*P	Pn	13 54 41.5	+0.2
ZLN	**Zelenaya**	**1.86**	**266**	*e*P	Pn	13 54 44.3	+0.9
ZLN				*e*S	Sb	13 55 08.9	0.0
CIRR	**Tsirk**	**1.88**	**270**	*e*P	Pn	13 54 44.7	+0.8
CIRR				*e*S	Sb	13 55 09.4	-0.2
LGNR	**Loginova**	**1.91**	**269**	*e*P	Pn	13 54 45.6	+1.2
LGNR				*e*S	Sb	13 55 10.4	-0.4
BZGR	**Bezymyannyi-Gr**	**1.93**	**264**	*e*P	Pn	13 54 44.5	0.0
KLY	**Klyuchi**	**1.93**	**276**	*e*P	Pn	13 54 43.1	-1.3
KLY				*e*S	Sn	13 55 07.0	-2.1
BZWR	**Bezymyannyi-We**	**2.03**	**266**	*e*P	Pn	13 54 46.8	+0.8
BZMR	**Bezymyannaya**	**2.04**	**265**	*e*P	Pn	13 54 46.8	+0.8
MKZ	**Mys Kozlova**	**2.11**	**221**	*e*P	Pn	13 54 45.6	-1.3
MKZ				*e*S	Sn	13 55 11.5	-2.1
KIRR	**Kirishev**	**2.12**	**266**	*e*P	Pn	13 54 48.2	+1.1
KMNR	**Kamenistaya**	**2.21**	**261**	*e*P	Pn	13 54 49.8	+1.4
TUMD	**Tumrok D**	**2.31**	**247**	*e*P	Pn	13 54 49.7	+0.1
TUMD				*e*S	Sn	13 55 18.0	-0.5
KOZ	**Kozyrevsk**	**2.37**	**269**	*e*P	Pn	13 54 51.5	+1.0
SRDR	**Sredinnyy**	**2.45**	**275**	*e*P	Pn	13 54 52.9	+1.2
ESO	**Esso**	**3.04**	**268**	*e*P	Pn	13 55 01.0	+1.4
OSSR	**Ossora**	**3.13**	**350**	*e*P	Pn	13 55 00.5	-0.4
SPN	**Mys Shipunski**	**3.89**	**219**	*

SNJE				*eP*		14 07 19.7	
SNJE				*eS*	**Sn**	**14 07 30.9**	**+1.0**
PAVA	**Las Pavas**	**0.67**	**46**	*eP*	**Pn**	**14 07 19.7**	**-0.2**
PAVA	**Las Pavas**	**0.67**	**46**	P	**Pn**	**14 07 19.4**	**-0.6**
RTR	**El Retiro**	**0.68**	**343**	*eP*	**Pn**	**14 07 20.4**	**+0.3**
TECO	**Alcaldia de Te**	**0.70**	**65**	*eP*	**Pn**	**14 07 19.4**	**-0.7**
TECO	**Alcaldia de Te**	**0.70**	**65**	P	**Pn**	**14 07 19.1**	**-1.0**
TECO	**Alcaldia de Te**	**0.70**	**65**	S	**Sn**	**14 07 30.8**	**-0.1**
NUBE	**Las Nubes**	**0.73**	**333**	*eP*	**Pn**	**14 07 20.4**	**-0.2**
NUBE	**Las Nubes**	**0.73**	**333**	*i* P	**Pn**	**14 07 20.4**	**-0.2**
NUBE				*i* S	**Sn**	**14 07 32.2**	**+0.5**
NUBE	**Las Nubes**	**0.73**	**333**	P	**Pn**	**14 07 20.2**	**-0.5**
NUBE	**Las Nubes**	**0.73**	**333**	S	**Sn**	**14 07 32.0**	**+0.2**
UESV	**Universidad de**	**0.74**	**58**	P	**Pn**	**14 07 20.2**	**-0.4**
UESV	**Universidad de**	**0.74**	**58**	S	**Sn**	**14 07 31.7**	**0.0**
FAME	**Alcaldia de Sa**	**0.82**	**317**	P	**Pn**	**14 07 20.9**	**-0.6**
SCLA	**Alcaldia de Sa**	**0.83**	**56**	*i* P	**Pn**	**14 07 21.4**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.83**	**56**	P	**Pn**	**14 07 21.1**	**-0.5**
PQSS	**Presa 15 de Se**	**0.93**	**66**	*i* P	**Pn**	**14 07 22.5**	**-0.5**
PQSS				*eS*	**Sn**	**14 07 36.2**	**+0.4**
PQSS	**Presa 15 de Se**	**0.93**	**66**	P	**Pn**	**14 07 22.3**	**-0.7**
PQSS	**Presa 15 de Se**	**0.93**	**66**	S	**Sn**	**14 07 35.8**	**+0.1**
TECA	**Tecapa**	**0.94**	**75**	*eP*	**Pn**	**14 07 22.7**	**-0.6**
TECA				*eP*		14 07 22.8	
PACA	**Pacayal**	**1.11**	**78**	*eP*	**Pn**	**14 07 25.5**	**+0.2**
PACA	**Pacayal**	**1.11**	**78**	P	**Pn**	**14 07 25.4**	**+0.2**
PACA	**Pacayal**	**1.11**	**78**	S	**Sn**	**14 07 41.9**	**+1.9**
MTO3	**Montecristo**	**1.15**	**4**	*i* P	**Pn**	**14 07 25.5**	**-0.5**
MTO3	**Montecristo**	**1.15**	**4**	*i* P	**Pn**	**14 07 25.5**	**-0.5**
MTO3	**Montecristo**	**1.15**	**4**	P	**Pn**	**14 07 25.3**	**-0.7**
MTO3	**Montecristo**	**1.15**	**4**	S	**Sn**	**14 07 40.8**	**-0.3**
MARCA	**Marcala la Paz**	**1.64**	**56**	*i* P	**Pn**	**14 07 32.0**	**-0.4**

IDC 29 14:29:23.7±4.6, 4°37S×151°28E, h0km, mb3.6/3, mbtmp3.6/4, ML1.9/1, Error ellipse: s-maj=134.5km s-min=34.4km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.46**	**219**	Pn	Pn	14 30 59.6	-0.5
	1.5nm,0.3s,baz=319,slow=4.2,SNR=5.6						
PMG				Sn	Sn	14 32 09.2	-5.5
	3.0nm,0.3s,baz=222,slow=15,SNR=6.1						
	7.4nm,0.9s						
WRA	**Warramunga Arr**	**22.63**	**225**	P	P	14 34 26.5	+0.1
	0.6nm,0.4s,baz=50,slow=10.0,SNR=8.5						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**25.48**	**220**	P	P	14 34 53.7	-0.1
	1.3nm,0.6s,baz=54,slow=9.1,SNR=38						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**79.01**	**319**	P	P	14 41 30.0	+0.3
	0.4nm,0.9s,baz=90,slow=6.2,SNR=2.6						
	0.4nm,0.9s						

*IDC **29** 15:16:22.8±1.6, 0°23N×97°67E, h0km, mb3.8/8, mbtmp3.8/10, ML3.7/2, MS2.7/1, Error ellipse: s-maj=50.8km s-min=18.2km az=59.0*
*NEIC **29** 15:16:24.8±0.8, 0°28N±0°04×97°58E±0°09, h10km±1km, mb4.2/4, Error ellipse: s-maj=16.9km s-min=5.1km az=249.0*
*DJA **29** 15:16:26.8±0.6, 0°N±2°×9°8E±°, h23km±3km, M4.1/12, mb4.3/4, MLv3.9/12*
ISC 29 15:16:28.0±1.5, 0°31N±0°05×97°63E±0°08, h40km±15km, n45, σ1§01/41, mb4.0/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.99**	**357**		**Pn**	**15 16 45.2**	**-0.1**
GSI	**Gunungsitoli**	**0.99**	**357**	P	**Pn**	**15 16 45.1**	**-0.3**
GSI	**Gunungsitoli**	**0.99**	**357**	P	**Pn**	**15 16 45.3**	**-0.1**
GSI				S	**Sn**	**15 16 59.6**	**+1.4**
MNSI	**Mandailing Nat**	**2.00**	**76**	P	**Pn**	**15 16 59.4**	**+0.1**
MNSI				S	**Sn**	**15 17 23.0**	**-0.2**
SISI	**Saibi**	**2.18**	**138**	P	**Pn**	**15 17 00.7**	**-1.1**
SISI				S	**Sn**	**15 17 29.5**	**+1.9**
RPSI	**Rantau Prapat**	**2.70**	**29**		**Pn**	**15 17 09.2**	**+0.3**
RPSI					**Sn**	**15 17 40.5**	**+0.1**
RPSI	**Rantau Prapat**	**2.70**	**29**	Pn	**Pn**	**15 17 09.2**	**+0.3**
PSI	**Prapat**	**2.79**	**28**	Pn	**Pn**	**15 17 09.2**	**-1.0**
	2.3nm,0.3s,baz=203,slow=6.9,SNR=5.1						
PSI				Sn	**Sn**	**15 17 40.5**	**-2.3**
	3.0nm,0.3s,baz=191,slow=15,SNR=5.8						
PSI				LR	LR	15 18 07.7	
	comp=Z,132nm,18.8s,baz=160,slow=38						
	4.7nm,0.3s						
PSI	**Prapat**	**2.79**	**28**	P	**Pn**	**15 17 09.8**	**-0.5**
PPI	**Padang Panjang**	**2.87**	**105**	P	**Pn**	**15 17 10.9**	**-0.3**
PPSI	**Pulau Pagai**	**3.87**	**142**	P	**Pn**	**15 17 25.5**	**+0.5**
IPM	**Ipoh**	**5.35**	**39**		**Pn**	**15 17 46.1**	**+0.7**
IPM	**Ipoh**	**5.35**	**39**	P	**Pn**	**15 17 46.5**	**+1.1**
KULM	**Kulim**	**5.79**	**31**	Pn	**Pn**	**15 17 51.6**	**+0.2**
KULM	**Kulim**	**5.79**	**31**	P	**Pn**	**15 17 51.9**	**+0.5**
	12nm,0.7s						
MYKOM	**Kota Tinggi**	**6.39**	**77**	Pn	**Pn**	**15 17 59.5**	**-0.2**
MNAI	**Manna**	**7.06**	**131**	Pn	**Pn**	**15 18 08.6**	**-0.2**
MNAI	**Manna**	**7.06**	**131**	P	**Pn**	**15 18 09.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**18.08**	**4**	P	**Pn**	**15 20 35.3**	**-1.0**
	0.3nm,0.3s,baz=182,slow=12,SNR=2.7						
	0.8nm,0.4s						
H08S2	**Diego Garcia H**	**26.28**	**252**	T	T	15 49 21.8	
	baz=73,slow=75,SNR=838						
H08S3	**Diego Garcia H**	**26.29**	**252**	T	T	15 49 17.5	
	baz=73,slow=75,SNR=1840						
H08S1	**Diego Carcia H**	**26.30**	**252**	T	T	15 49 18.6	
	baz=73,slow=75,SNR=518						
WB0	**Warramunga Arr**	**41.17**	**121**	P	**P**	**15 24 07.3**	**-1.6**
WB0				IAmb	IAmb	15 24 48.5	
	comp=Z,7.6nm,1.4s						
WRA	**Warramunga Arr**	**41.20**	**121**	P	**P**	**15 24 07.2**	**-2.0**
WRA	**Warramunga Arr**	**41.20**	**121**	P	**P**	**15 24 08.5**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=302,slow=9.0,SNR=14						
	comp=Z,0.4nm,0.5s						
WR8	**Warramunga Arr**	**41.34**	**121**	P	**P**	**15 24 09.1**	**-1.2**
WR8				IAmb	IAmb	15 24 38.2	
	comp=Z,6.9nm,1.4s						
MSEY	**Mahe Island**	**42.40**	**263**	P	**P**	**15 24 17.4**	**-1.7**
AS31	**Alice Springs**	**42.52**	**127**	P	**P**	**15 24 19.9**	**0.0**
ASAR	**Alice Springs**	**42.52**	**127**	P	**P**	**15 24 19.7**	**-0.2**
ASAR	**Alice Springs**	**42.52**	**127**	P	**P**	**15 24 20.1**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=296,slow=8.1,SNR=16						
	comp=Z,0.6nm,0.5s						
KSRS	**Korea Array**	**46.34**	**34**	P	**P**	**15 24 50.2**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=219,slow=7.5,SNR=2.8						
	comp=Z,0.9nm,0.7s						
SONM	**Songino Array**	**47.94**	**8**	P	**P**	**15 25 03.8**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=197,slow=8.9,SNR=2.8						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**48.20**	**346**	P	**P**	**15 25 05.0**	**+0.5**
MKAR	**Makanchi Array**	**48.20**	**346**	P	**P**	**15 25 06.2**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=167,slow=8.3,SNR=10						
	comp=Z,1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**52.70**	**345**	P	**P**	**15 25 39.5**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=162,slow=7.3,SNR=6.5						
	comp=Z,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**54.50**	**351**	P	**P**	**15 25 52.3**	**+0.8**
ZALV	**Zalesovo Beam**	**54.50**	**351**	P	**P**	**15 25 52.9**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=194,slow=7.5,SNR=9.4						
	comp=Z,1.6nm,0.3s						
BVAR	**Borovoye Array**	**57.23**	**341**	P	**P**	**15 26 11.9**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=131,slow=6.7,SNR=4.2						
	comp=Z,1.0nm,0.7s						
ABKAR	**Akbulak array**	**58.50**	**332**	P	**P**	**15 26 20.3**	**+0.2**
H04N2	**CROZET ISLANDS**	**61.29**	**215**	T	T	16 33 00.4	
	baz=54,slow=75						
H04N1	**CROZET ISLANDS**	**61.30**	**215**	T	T	16 33 01.4	
	baz=54,slow=75						
H04N3	**CROZET ISLANDS**	**61.31**	**215**	T	T	16 33 00.0	
	baz=54,slow=75						
H04S1	**CROZET ISLANDS**	**61.62**	**214**	T	T	16 33 22.4	
	baz=54,slow=75,SNR=99						
H04S3	**CROZET ISLANDS**	**61.63**	**214**	T	T	16 33 22.1	
	baz=54,slow=75,SNR=156						
H04S2	**CROZET ISLANDS**	**61.64**	**214**	T	T	16 33 23.8	
	baz=54,slow=75,SNR=65						

*IDC **29** 15:55:25.3±3.4, 44°16N×105°40W, h0km, mbtmp2.6/2, ML3.3/2, Error ellipse: s-maj=39.6km s-min=18.7km az=4.0*
*NEIC **29** 15:55:29.6±0.4, 44°08N±0°05×105°4W±0°1, h0km±1km, ML2.6/11, Error ellipse: s-maj=13.6km s-min=6.6km az=247.0*
ISC 29 15:55:26.4±1.4, 44°04N±0°10×105°56W±0°05, h0km, n9, σ1§03/9, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.10**	**85**		**Pb**	**15 55 48.3**	**-0.2**
RSSD				IAML		15 56 11.6	
	90nm,0.7s						
K22A	**Casper**	**1.55**	**207**		**Pn**	**15 55 54.5**	**-1.0**
K22A				IAML		15 56 21.7	
	27nm,0.5s						
BW06	**Boulder Array**	**3.18**	**248**		**Pb**	**15 56 24.6**	**+0.7**
BW06				IAML		15 57 21.1	
	5.7nm,0.7s						
BW06				IAML		15 57 23.8	
	6.2nm,0.6s						
PD31	**Pinedale Array**	**3.18**	**248**		**Pb**	**15 56 24.7**	**+0.8**
PDAR	**Pinedale Array**	**3.18**	**248**	Pn	**Pb**	**15 56 23.3**	**-0.6**
	0.2nm,0.3s,baz=76,slow=14,SNR=5.6						
PDAR				Pg	**Pg**	**15 56 28.0**	**+0.7**
	0.5nm,0.3s,baz=68,slow=16,SNR=10						
PDAR				Lg	Lg	15 57 09.4	
	0.5nm,0.3s,baz=66,slow=33,SNR=5.3						
	0.2nm,0.3s						
HAYD	**Hayden**	**3.73**	**200**	Pn	**Pb**	**15 56 32.2**	**-1.2**
HAYD				IAML		15 57 33.9	
	comp=N,13nm,1.1s						
YNM	**Yellowstone No**	**3.75**	**282**		**Pb**	**15 56 32.6**	**-1.1**
I56US	**NEWPORT INFRAS**	**9.07**	**302**	I	I	16 50 10.0	
	baz=116,slow=312,SNR=2.1						
TXAR	**Lajitas Array**	**14.75**	**174**	Pn	**Pn**	**15 58 57.3**	**+1.0**
	comp=N,0.1nm,0.3s,baz=359,slow=15,SNR=1.5						
	comp=N,0.1nm,0.3s						

IDC 29 16:07:36.8±1.5, 25°90N×97°00E, h0km, mb3.4/3, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=121.6km s-min=23.9km az=63.0, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.62**	**166**	Pn	Pn	16 09 30.9	+1.6
	0.1nm,0.3s,baz=337,slow=12,SNR=5.3						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**23.91**	**334**	P	P	16 12 52.6	+0.3
	0.3nm,0.5s,baz=149,slow=9.0,SNR=4.7						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**28.47**	**335**	P	P	16 13 33.3	-0.1
	0.3nm,0.2s,baz=155,slow=9.3,SNR=1.4						
	0.3nm,0.2s						
WRA	**Warramunga Arr**	**58.24**	**138**	P	P	16 17 32.6	-0.6
	0.1nm,0.5s,baz=323,slow=7.4,SNR=4.6						
	0.1nm,0.5s						

*IDC **29** 16:12:39.0±18.0, 36°23N×71°58E, h232km±144km, mb3.4/4, mbtmp3.8/8, Error ellipse: s-maj=185.8km s-min=72.9km az=167.0*
ISC 29 16:12:36.0±6.6, 36°2N±0°7×71°4E±0°3, h200km, n8, σ0§38/8, mb3.7/4, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.39**	**34**	P	**Pn**	**16 15 38.6**	**+0.3**
	0.9nm,0.8s,baz=207,slow=12,SNR=5.7						
KURBB	**Kurchatov Arra**	**15.35**	**17**	P	**Pn**	**16 16 02.5**	**+0.2**
	0.5nm,0.3s,baz=206,slow=12,SNR=3.2						
BVAR	**Borovoye Array**	**16.88**	**358**	P	**P**	**16 16 19.2**	**-0.2**
	0.5nm,0.3s,baz=171,slow=10,SNR=3.4						
ZALV	**Zalesovo Beam**	**20.10**	**24**	P	**P**	**16 16 53.6**	**-0.6**
	1.1nm,0.3s,baz=221,slow=10.0,SNR=7.1						
FINES	**FINESS Array B**	**37.94**	**326**	P	**P**	**16 19 34.1**	**+0.2**
	1.7nm,0.8s,baz=114,slow=13,SNR=1.5						
	1.7nm,0.8s						
ARCES	**ARCESS Array B**	**41.58**	**338**	P	**P**	**16 20 03.5**	**-0.3**
	4.3nm,1.0s,baz=121,slow=9.4,SNR=2.0						
	4.3nm,1.0s						
HFS	**Hagfors**	**43.52**	**322**	P	**P**	**16 20 19.8**	**+0.3**
	1.1nm,0.4s,baz=99,slow=9.3,SNR=10						
	1.1nm,0.4s						
NOA	**NORSAR Array B**	**44.84**	**323**	P	**P**	**16 20 29.8**	**-0.2**
	0.4nm,0.4s,baz=96,slow=7.7,SNR=3.4						
	0.4nm,0.4s						

*NEIC **29** 16:51:56.8±0.6, 35°69N±0°01×117°549W±0°005, h5km±1km, Error ellipse: s-maj=2.5km s-min=2.0km az=170.0*
PAS 29 16:51:57.2±0.6, 35°684N±0°009×117°545W±0°009, h3km±3km, ML3.0/21, ML2.7/122(NEIC), Error ellipse: s-maj=1.4km s-min=0.9km az=209.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.10**	**153**		Pg	16 51 59.4	+0.2
CLC	**China Lake**	**0.14**	**342**		Pg	16 52 00.1	+0.1
CLC				IAML		16 52 02.6	
	comp=E,6μm,0.4s						
SRTC	**Snort**	**0.17**	**273**		Pg	16 52 01.0	+0.5
CCCA	**Chr Cany lake**	**0.22**	**137**		Pg	16 52 02.0	+0.6
TOW	**Tower One**	**0.22**	**305**		Pg	16 52 02.0	+0.5
TOW					Sg	16 52 06.3	+2.0
LRMC	**Laurel Mtn Rad**	**0.23**	**209**		Pg	16 52 01.8	+0.1
LRMC				IAML		16 52 05.6	
	comp=E,3μm,0.2s						
WNMM	**Nine Mile Cany**	**0.33**	**299**		Pg	16 52 03.8	+0.1
WVPM	**Volcano Peak E**	**0.34**	**320**		Pg	16 52 03.9	0.0
QSM	**Queen of Sheba**	**0.62**	**63**		Pg	16 52 08.8	-0.3
QSM				IAML		16 52 17.9	
	comp=E,282nm,0.2s						
QSM				IAML		16 52 19.4	
	comp=N,260nm,0.2s						
GSC	**Goldstone, Bar**	**0.71**	**122**		Pg	16 52 10.6	-0.3
GSC				IAML		16 52 20.8	
	comp=N,470nm,0.3s						
GSC				IAML		16 52 21.1	
	comp=E,556nm,0.4s						
ISA	**Isabella, Lake**	**0.76**	**269**		Pg	16 52 11.4	-0.4
ISA				IAML		16 52 21.9	
	comp=N,541nm,0.3s						
ISA				IAML		16 52 22.0	
	comp=E,680nm,0.3s						
CWC	**Cottonwood Cre**	**0.87**	**330**		Pg	16 52 13.6	-0.3
GWY	**Greenwater Val**	**0.87**	**55**	IAML		16 52 31.2	
	comp=E,270nm,0.5s						
GWY				IAML		16 52 32.7	
	comp=N,199nm,0.6s						
FURC	**Furnace Creek,**	**0.96**	**35**		Pg	16 52 15.3	-0.3
FURC				IAML		16 52 31.2	
	comp=E,452nm,0.6s						
FURC				IAML		16 52 33.8	
	comp=N,339nm,0.6s						
TPO	**Tropico Hills**	**0.98**	**215**		Pg	16 52 15.4	-0.6
TPO				IAML		16 52 32.3	
	comp=N,359nm,0.5s						
TPO				IAML		16 52 34.2	
	comp=E,306nm,0.6s						
SHOC	**Shoshone, Teco**	**1.05**	**78**		Pg	16 52 17.2	-0.3
SPG2	**Springville 2**	**1.12**	**298**		Pg	16 52 17.7	-0.9
VES	**Vestal, Richgr**	**1.26**	**278**		Pg	16 52 20.5	-0.9
VES				IAML		16 52 41.3	
	comp=E,326nm,0.8s						
VES				IAML		16 52 41.8	
	comp=N,246nm,0.4s						
DSCC	**Desert Studies**	**1.29**	**114**		Pg	16 52 21.0	-1.0
GRAC	**Grapevine Rang**	**1.32**	**6**	IAML		16 52 46.0	
	comp=E,243nm,0.6s						
GRAC				IAML		16 52 46.8	
	comp=N,203nm,0.6s						
WCT	**Wildcat Mounta**	**1.33**	**34**		Pg	16 52 21.4	-1.4
WCT				IAML		16 52 41.7	
	comp=E,75nm,0.3s						
TUQ	**Turquoise Moun**	**1.34**	**100**		Pn	16 52 22.1	-0.9
OSI	**Osito Audit: C**	**1.44**	**222**		Pn	16 52 23.7	-0.5
OSI				IAML		16 52 49.3	
	comp=E,77nm,0.7s						
OSI				IAML		16 52 49.9	
	comp=N,68nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.45**	**184**		Pn	16 52 22.9	-1.4
BFSC				IAML		16 52 43.9	
	comp=E,86nm,0.6s						
BFSC				IAML		16 52 44.7	
	comp=N,94nm,0.7s						
TIN	**Tinemaha, Big**	**1.48**	**338**		Pn	16 52 24.3	-0.5
TIN				IAML		16 52 46.8	
	comp=N,156nm,0.4s						
TIN				IAML		16 52 53.0	
	comp=E,114nm,0.7s						
GMN	**Gold Mountain**	**1.63**	**8**		Pn	16 52 26.0	-1.0
GMN				IAML		16 52 55.1	
	comp=N,54nm,0.7s						
TPNV	**Topopah Spring**	**1.64**	**39**		Pn	16 52 25.9	-1.2
TPNV				IAML		16 52 51.9	
	comp=N,146nm,0.5s						
TPNV				IAML		16 52 53.7	
	comp=N,97nm,0.8s						
DSP	**Deep Springs**	**1.72**	**349**		Pn	16 52 27.2	-0.7
DSP				IAML		16 52 52.9	
	comp=E,53nm,0.3s						
ELS	**Elsinore Mount**	**2.03**	**177**		Pn	16 52 31.3	-1.2
ELS				IAML		16 53 03.2	
	comp=E,37nm,0.3s						
SHPR	**Sheep Range**	**2.10**	**66**	Pn	Pn	16 52 33.0	-0.4
BELC	**Belle Mtn. Jos**	**2.11**	**142**	IAML		16 53 05.5	
	comp=N,56nm,0.4s						
BELC				IAML		16 53 07.3	
	comp=E,65nm,0.4s						
PFO	**Pinyon Flats O**	**2.25**	**156**	Pn	Pn	16 52 34.4	-1.1
PFO				IAML		16 53 16.2	
	comp=E,28nm,1.2s						
TPH	**Tonopah**	**2.40**	**6**	IAML		16 53 18.1	
	comp=E,92nm,1.0s						
S11A	**Rachel**	**2.43**	**36**	IAML		16 53 20.8	
	comp=E,46nm,0.6s						
S11A				IAML		16 53 22.2	
	comp=N,47nm,0.7s						
IRM	**Iron Mountain**	**2.49**	**127**	IAML		16 53 17.4	
	comp=N,35nm,0.4s						
IRM				IAML		16 53 18.0	
	comp=E,48nm,0.4s						
NEE2	**Needles Airpor**	**2.56**	**110**	IAML		16 53 21.9	
	comp=N,69nm,0.5s						
NEE2				IAML		16 53 29.6	
	comp=E,59nm,0.5s						
BORC	**Borrego Spring**	**2.58**	**159**	IAML		16 53 21.2	
	comp=N,22nm,0.4s						
BORC				IAML		16 53 22.2	
	comp=E,30nm,0.7s						
PRN	**Pahroc Range**	**2.64**	**49**	IAML		16 53 27.1	
	comp=N,23nm,0.9s						
PRN				IAML		16 53 27.5	
	comp=E,24nm,0.8s						
BC3	**Big Chuckawall**	**2.66**	**139**	IAML		16 53 24.1	
	comp=E,31nm,0.8s						
BC3				IAML		16 53 24.9	
	comp=N,36nm,0.5s						
DPP	**Dos Picos Cty**	**2.73**	**169**	IAML		16 53 23.2	
	comp=E,27nm,0.6s						
CMB	**Columbia Colle**	**3.27**	**317**	IAML		16 53 44.1	
	comp=N,12nm,0.7s						
PSUT	**Pine Spring**	**4.10**	**45**	IAML		16 54 14.1	
	comp=N,6.2nm,0.6s						
Y14A	**Wickenburg**	**4.12**	**114**	IAML		16 54 11.1	
	comp=E,10nm,0.5s						
Y14A				IAML		16 54 12.4	
	comp=N,14nm,0.7s						
SPR3	**Spring Creek 3**	**4.18**	**37**	IAML		16 54 12.0	
	comp=E,6.0nm,1.2s						
SPR3				IAML		16 54 13.8	
	comp=N,5.3nm,0.9s						
ELK	**Elko**	**5.37**	**19**	IAML		16 54 50.3	
	comp=N,2.4nm,0.8s						

*SOME **29** 17:02:39.7, 40°12N×77°57E, h10km*
*NNC **29** 17:02:42.0±2.0, 40°17N×77°46E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=13.6km s-min=11.6km az=14.0*
*KRNET **29** 17:02:42.3±0.1, 40°03N×78°30E, mb3.0*
ISC 29 17:02:40.2±2.0, 40°14N±0°08×77°59E±0°05, h10km, n28, σ1§68/44, 11C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**2.01**	**351**	⇑*i*P	**Pg**	**17 03 18.5**	**-0.2**
KDJ				⇑*i*S	**Sg**	**17 03 45.0**	**+0.2**
ULHL	**Ulahol**	**2.33**	**335**	⇑*i*P	**Pg**	**17 03 24.8**	**-0.1**
ULHL				⇑*i*S	**Sg**	**17 03 55.8**	**+0.6**
BOOM	**Boomskoye usch**	**2.65**	**333**	⇑*i*P	**Pg**	**17 03 29.3**	**-1.7**
BOOM				⇑*i*S	**Sg**	**17 04 03.6**	**-1.8**
TNSS	**Tian-Shan**	**2.93**	**351**	Pg	**Pg**	**17 03 35.1**	**-1.3**
	1.0nm,0.5s						
TNSS				Lg	Lg	17 04 14.6	
	4.1nm,0.5s						
TNSS	**Tian-Shan**	**2.93**	**351**	*e*P	**Pg**	**17 03 35.1**	**-1.3**
	0.1nm,0.0s						
TNSS				*e*S	**Sg**	**17 04 14.8**	**+0.4**
	6.7nm,0.3s						
SALK	**Salom-Alik**	**2.97**	**286**	⇑*i*P	**Pg**	**17 03 36.2**	**-0.8**
SALK				⇑*i*S	**Sg**	**17 04 15.6**	**+0.1**
SATY	**Saty**	**2.98**	**12**	Pg	**Pg**	**17 03 35.8**	**-1.4**
	6.8nm,0.6s						
SATY				Lg	Lg	17 04 16.3	
	9.1nm,0.5s						
IZV	**Izvestkoviy**	**2.98**	**346**	**Pg**	**Pg**	**17 03 35.7**	**-1.6**
	3.9nm,0.6s						
IZV				Lg	Lg	17 04 16.2	
	23nm,0.6s						
IZV	**Izvestkoviy**	**2.98**	**346**	*e*P	**Pg**	**17 03 35.7**	**-1.6**
	1.6nm,0.1s						
IZV				*e*S	**Sg**	**17 04 16.2**	**+0.2**
	22nm,0.2s						
KOTS	**Kotyrbulak**	**3.11**	**354**	Pg	**Pg**	**17 03 38.4**	**-1.4**
	1.9nm,0.4s						
KOTS				Lg	Lg	17 04 20.8	
	60nm,0.6s						
KOTS	**Kotyrbulak**	**3.11**	**354**	*e*P	**Pg**	**17 03 38.4**	**-1.4**
	1.4nm,0.1s						
KOTS				*e*S	**Sg**	**17 04 20.8**	**+0.8**
	60nm,0.4s						
UCH	**Uchtor**	**3.12**	**313**	⇑*i*P	**Pb**	**17 03 37.5**	**+1.5**
UCH				⇑*i*S	**Sg**	**17 04 17.7**	**-2.7**
KST	**Kastek**	**3.15**	**338**	Pg	**Pg**	**17 03 38.7**	**-1.7**
	2.1nm,0.8s						
KST				Lg	Lg	17 04 21.1	
	13nm,0.5s						
KST	**Kastek**	**3.15**	**338**	*e*P	**Pg**	**17 03 38.7**	**-1.7**
	1.3nm,0.2s						
KST				*e*S	**Sg**	**17 04 21.1**	**-0.1**
	18nm,0.3s						
TKM2	**Tokmak

ARXS					Lg	Lg	17 04 48.5		
	4.3nm,0.5s								
KNOS	**Konyrlen**	**4.38**	**15**		Pg	**Pg**	**17 04 01.6**	**-2.3**	
	1.4nm,0.8s								
KNOS					Lg	Lg	17 05 00.7		
	1.3nm,0.5s								

BJI ***29*** *17:04:34.9,28˚.19N×104˚.72E,h11km,mB4.6/7,mb4.4/24, ML4.2/20,Ms3.9/24,Ms7 3.9/25*

NEIC ***29*** *17:04:35.7±1.4,28˚.28N±0˚.08×104˚.78E±0˚.06,h10km±1km, mb4.5/50,Error ellipse: s-maj=13.0km s-min=9.5km az=175.0*

IDC ***29*** *17:04:40.0±2.0,28˚.20N×104˚.76E,h45km±18km,mb4.1/25, mbtmp4.3/27,ML4.0/2,MS3.2/19,Error ellipse: s-maj=16.8km s-min=11.1km az=44.0*

ISC 29 17:04:35.2±0.3,28˚.18N±0˚.03×104˚.78E±0˚.03,h10km,n128, σ1ş76/124,mb4.5/51,MS3.2/18,1C,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.87**	**342**	Pn	**Pn**	**17 05 22.8**	**+1.8**
CD2				Pg	**Pg**	**17 05 29.5**	**-0.6**
CD2				Sg	**Sg**	**17 06 07.0**	**-0.3**
CD2				smax	smax		
	comp=N,3μm,1.0s						
CD2				smax	smax		
	comp=E,4μm,0.8s						
PZH	**PanZhiHua**	**3.18**	**239**	Pn	**Pn**	**17 05 27.5**	**+2.1**
PZH				Sn	**Sn**	**17 06 03.0**	**-0.4**
PZH				Sg	**Sg**	**17 06 18.3**	**+1.0**
PZH				smax	smax		
	comp=N,410nm,0.9s						
PZH				smax	smax		
	comp=E,390nm,0.9s						
PZH				LR	LR		
	comp=N,1μm,7.1s						
PZH				LR	LR		
	comp=E,1μm,5.8s						
PZH				LR	LR		
	comp=Z,980nm,4.8s						
ENH	**Enshi**	**4.61**	**62**		**Pn**	**17 05 46.3**	**+1.4**
GULI	**GuiLin**	**5.76**	**119**	Pn	**Pn**	**17 06 03.5**	**+2.7**
GULI				Pg	**Pg**	**17 06 23.0**	**-2.5**
GULI				Sn	**Sn**	**17 07 07.5**	**+0.6**
GULI				Sg	**Sg**	**17 07 39.3**	**-0.9**
GULI				smax	smax		
	comp=N,170nm,1.6s						
GULI				smax	smax		
	comp=E,89nm,1.9s						
TNCH	**TengChong**	**6.42**	**242**	Pn	**Pn**	**17 06 12.3**	**+2.2**
TNCH				Sg	**Sg**	**17 08 01.3**	**-0.2**
TNCH				smax	smax		
	comp=N,130nm,1.2s						
TNCH				smax	smax		
	comp=E,130nm,1.5s						
XAN	**Xi'an**	**6.83**	**30**	Pn	**Pn**	**17 06 17.0**	**+1.4**
XAN				Sn	Sn	17 07 41.3	+7.8
XAN				Sg	**Sg**	**17 08 14.5**	**-0.1**
XAN				smax	smax		
	comp=N,480nm,1.1s						
XAN				smax	smax		
	comp=E,400nm,1.2s						
XAN				LR	LR		
	comp=Z,380nm,5.4s						
SLVN	**Son La**	**6.86**	**187**		**Pn**	**17 06 18.9**	**+2.9**
CNSH	**ChangSha**	**7.19**	**88**	Pn	**Pn**	**17 06 22.5**	**+2.1**
CNSH				Sn	**Sn**	**17 07 37.0**	**-5.2**
CNSH				smax	smax		
	comp=N,250nm,1.1s						
CNSH				smax	smax		
	comp=E,250nm,0.7s						
LZH	**Lanzhou**	**7.93**	**354**	P	**Pn**	**17 06 32.5**	**+1.9**
LZH				S	Sn	17 08 09.3	+8.8
LZH				smax	smax		
	comp=N,140nm,1.0s						
LZH				smax	smax		
	comp=E,160nm,1.0s						
LZH				LR	LR		
	comp=N,510nm,7.0s						
LZH				LR	LR		
	comp=Z,540nm,7.7s						
WHN	**Wuhan**	**8.67**	**72**	P	**Pn**	**17 06 43.5**	**+2.8**
WHN				pmax	pmax		
	comp=Z,74nm,0.7s						
WHN				pmax	pmax		
	comp=Z,380nm,2.9s						
WHN				LR	LR		
	comp=N,1μm,7.4s						
WHN				LR	LR		
	comp=E,2μm,6.5s						
WHN				LR	LR		
	comp=Z,2μm,7.7s						
LYN	**LuoYang**	**9.14**	**44**	P	**Pn**	**17 06 47.0**	**-0.1**
LYN				S	**Sn**	**17 08 35.5**	**+5.5**
LYN				pmax	pmax		
	comp=Z,50nm,0.6s						
LYN				smax	smax		
	comp=N,120nm,1.8s						
LYN				smax	smax		
	comp=E,110nm,1.4s						
LYN				LR	LR		
	comp=N,410nm,5.4s						
LYN				LR	LR		
	comp=E,670nm,3.6s						
LYN				LR	LR		
	comp=Z,430nm,4.5s						
GZH	**Guangzhou**	**9.24**	**121**	P	**Pn**	**17 06 48.8**	**+0.3**
GZH				S	**Sn**	**17 08 33.8**	**+1.3**
GZH				smax	smax		
	comp=N,160nm,0.9s						
GZH				smax	smax		
	comp=E,120nm,0.8s						
QIZ	**Qiongzhong**	**10.22**	**152**	Pn	**Pn**	**17 07 03.6**	**+1.6**
QIZ	**Qiongzhong**	**10.22**	**152**	P	**Pn**	**17 07 03.0**	**+1.0**
QIZ				S	**Sn**	**17 08 58.3**	**+1.7**
QIZ				LR	LR		
	comp=E,310nm,6.9s						
QIZ				LR	LR		
	comp=Z,890nm,9.3s						
CHTO	**Chiang Mai**	**10.75**	**211**	Pn	**Pn**	**17 07 12.2**	**+3.0**
CMAR	**Chiang Mai Arr**	**11.06**	**210**	Pn	**Pn**	**17 07 17.1**	**+3.6**
CMAR	**Chiang Mai Arr**	**11.06**	**210**	P	**Pn**	**17 07 16.2**	**+2.6**
	0.2nm,0.3s,baz=26,slow=12,SNR=13						
CMAR				LR	LR	17 11 56.8	
	comp=Z,58nm,21.3s,baz=25,slow=40						
	1.4nm,0.5s						
GOMU	**GeErMu**	**11.62**	**316**	P	**Pn**	**17 07 20.8**	**-0.7**
GOMU				LR	LR		
	comp=N,250nm,10.4s						
GOMU				LR	LR		
	comp=E,310nm,9.4s						
GOMU				LR	LR		
	comp=Z,480nm,9.5s						
GTA	**Gaotai**	**11.94**	**341**	*e*P	**Pn**	**17 07 27.8**	**+2.2**
GTA				pP		17 07 31.5	
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				LR	LR		
	comp=N,280nm,13.5s						
GTA				LR	LR		
	comp=E,190nm,9.8s						
GTA				LR	LR		
	comp=Z,340nm,14.5s						
LSA	**Lhasa**	**12.04**	**280**	Pn	**Pn**	**17 07 26.6**	**-0.7**
LSA	**Lhasa**	**12.04**	**280**	P	**Pn**	**17 07 28.3**	**+1.0**
UBPT	**Khong Chiam**	**12.85**	**177**		**Pn**	**17 07 40.1**	**+2.1**
BTO	**Baotou**	**13.12**	**18**	*e*P	**Pn**	**17 07 45.0**	**+3.2**
BTO				pP	**P**	**17 07 54.5**	**+2.5**
BTO				PP	**PnPn**	**17 07 57.0**	**+7.3**
BTO				S	**Sn**	**17 10 10.5**	**+2.6**
BTO				SS	**S**	**17 10 28.0**	**-5.0**
BTO				pmax	pmax		
	comp=Z,34nm,1.1s						
BTO				pmax	pmax		
	comp=Z,150nm,7.4s						
BTO				LR	LR		
	comp=N,370nm,6.8s						
BTO				LR	LR		
	comp=E,550nm,6.9s						
BTO				LR	LR		
	comp=Z,370nm,7.5s						
SSLB	**Suanglung**	**15.18**	**103**		**Pn**	**17 08 10.4**	**+0.6**
SSLB				IAmb	IAmb	17 08 19.7	
	comp=Z,22nm,0.9s						

EVN	**Everest**		**15.87**	**273**		**Pn**	**17 08 17.6**	**-1.7**	
XLT	**XiLinHaoTe**		**18.13**	**27**	*e*P	**P**	**17 08 48.3**	**+0.9**	
XLT					pmax	pmax			
	comp=Z,9.0nm,0.8s								
SONM	**Songino Array**		**19.67**	**3**		**Pn**	**17 09 03.8**	**-0.6**	
SONM	**Songino Array**		**19.67**	**3**	P	**Pn**	**17 09 05.2**	**-0.6**	
	comp=Z,1.2nm,0.3s,baz=186,slow=11,SNR=16								
	comp=Z,6.1nm,0.6s								
ULN	**Ulaanbaatar**		**19.73**	**5**	P	**P**	**17 09 03.8**	**-1.4**	
WMQ	**Urumqi**		**20.79**	**323**	*e*P	Pn	17 09 19.8	+0.9	
WMQ					sP	sP	17 09 26.5	+5.6	
JOW	**Kunigami**		**20.88**	**88**	P	**P**	**17 09 18.6**	**+1.1**	
	comp=Z,3.2nm,0.4s,baz=224,slow=8.0,SNR=1.5								
JOW					LR	LR	17 16 47.6		
	comp=Z,37nm,19.8s,baz=129,slow=35								
	comp=Z,3.2nm,0.4s								
KSAR	**Wonju Array Be**		**21.46**	**59**	P	**P**	**17 09 21.2**	**-2.5**	
KS19	**Wonju Array Si**		**21.46**	**58**	P	**P**	**17 09 22.1**	**-1.7**	
KSRS	**Korea Array**		**21.49**	**59**	P	**P**	**17 09 24.4**	**+0.4**	
	comp=Z,2.9nm,0.7s,baz=240,slow=11,SNR=18								
	comp=Z,2.9nm,0.7s								
JNU	**Nakatsue**		**22.96**	**71**	P	**P**	**17 09 39.5**	**-0.4**	
JNU					IAmb	IAmb	17 09 42.4		
	comp=Z,12nm,0.8s								
JNU	**Nakatsue**		**22.96**	**71**	P	**P**	**17 09 40.5**	**+0.6**	
	comp=Z,11nm,0.7s,baz=260,slow=2.9,SNR=11								
	comp=Z,11nm,0.7s								
HIA	**Hailar**		**23.99**	**25**	P	**P**	**17 09 48.3**	**-1.6**	
BNX	**BinXian**		**25.04**	**40**	⇑P	**P**	**17 09 57.8**	**-1.7**	
BNX					pmax	pmax			
	comp=Z,2.0nm,0.4s								
MKAR	**Makanchi Array**		**25.62**	**323**		**P**	**17 10 03.6**	**-1.1**	
MKAR	**Makanchi Array**		**25.62**	**323**	P	**P**	**17 10 05.0**	**+0.2**	
	comp=Z,11nm,0.6s,baz=121,slow=10,SNR=60								
MKAR					PcP	**PcP**	**17 13 34.4**	**-1.0**	
	comp=Z,0.4nm,0.5s,baz=132,slow=2.1,SNR=3.6								
MKAR					ScP	**ScP**	**17 17 10.1**	**-4.9**	
	comp=Z,0.8nm,0.8s,baz=132,slow=4.3,SNR=5.7								
MKAR					LR	LR	17 20 39.7		
	comp=Z,37nm,18.4s,baz=126,slow=38								
	comp=Z,11nm,0.6s								
MAKZ	**Makanchi**		**25.79**	**322**	P	**P**	**17 10 06.2**	**-0.1**	
MAKZ					IAmb	IAmb	17 10 10.8		
	comp=Z,8.5nm,0.7s								
KSH	**Kashi**		**26.36**	**303**	P	**P**	**17 10 15.0**	**+3.4**	
KSH					pmax	pmax			
	comp=Z,4.0nm,0.7s								
KDJ	**Kajisay**		**26.38**	**309**	P	**P**	**17 10 12.9**	**+1.0**	
USA0B	**Ussuriysk Arra**		**26.99**	**46**	P	**P**	**17 10 16.9**	**-0.3**	
USA0B					IAmb	IAmb	17 10 19.4		
	comp=Z,6.9nm,0.8s								
USRK	**Ussuriysk Ar.**		**26.99**	**46**	P	**P**	**17 10 17.6**	**+0.4**	
	comp=Z,6.2nm,0.6s,baz=249,slow=8.4,SNR=12								
	comp=Z,6.2nm,0.6s								
AAK	**Ala-Archa**		**28.41**	**309**	LR	LR	17 22 01.1		
	comp=Z,12nm,21.8s,baz=118,slow=37								
DAV	**Davao City (W)**		**28.77**	**133**	LR	LR	17 23 55.1		
	comp=Z,96nm,18.1s,baz=350,slow=40								
MJAR	**Matsushiro Arr**		**29.33**	**65**	LR	LR	17 23 13.9		
	comp=Z,19nm,20.1s,baz=248,slow=38								
ZAA0	**Zalesovo Array**		**29.62**	**336**		**P**	**17 10 37.7**	**-2.7**	
ZALV	**Zalesovo Beam**		**29.62**	**336**		**P**	**17 10 38.6**	**-1.9**	
ZALV	**Zalesovo Beam**		**29.62**	**336**	P	**P**	**17 10 40.5**	**+0.1**	
	comp=Z,4.9nm,0.7s,baz=139,slow=9.4,SNR=20								
ZALV					LR	LR	17 23 11.6		
	comp=Z,56nm,20.9s,baz=127,slow=38								
	comp=Z,4.9nm,0.7s								
KURBB	**Kurchatov Arra**		**29.95**	**326**	P	**P**	**17 10 43.5**	**0.0**	
	comp=Z,8.1nm,0.7s,baz=131,slow=9.6,SNR=67								
KURBB					PcP	**PcP**	**17 13 45.3**	**-0.5**	
	comp=Z,0.2nm,0.4s,baz=123,slow=2.6,SNR=5.0								
KURBB					ScP	**ScP**	**17 17 23.3**	**-4.8**	
	comp=Z,0.2nm,0.3s,baz=143,slow=2.0,SNR=1.8								
	comp=Z,8.1nm,0.7s								
KURK	**Kurchatov**		**29.97**	**326**		**P**	**17 10 43.4**	**-0.2**	
KURK					IAmb	IAmb	17 10 44.6		
	comp=Z,8.6nm,0.8s								
JHJ	**Hachijo jima 2**		**30.42**	**72**	LR	LR	17 23 15.5		
	comp=Z,26nm,19.2s,baz=330,slow=37								
TOLI2	**Tolitoli**		**30.96**	**148**		**P**	**17 10 52.5**	**-0.2**	
TOLI2					IAmb	IAmb	17 10 55.1		
	comp=Z,7.3nm,0.7s								
KKAR	**Karatay Array**		**31.34**	**308**		**P**	**17 10 55.1**	**-0.7**	
BVAR	**Borovoye Array**		**35.47**	**324**	P	**P**	**17 11 32.0**	**+0.3**	
	comp=Z,1.9nm,0.6s,baz=129,slow=8.5,SNR=14								
BVAR					PcP	**PcP**	**17 14 00.5**	**-0.6**	
	comp=Z,1.5nm,0.6s,baz=125,slow=1.3,SNR=7.3								
BVAR					LR	LR	17 26 19.8		
	comp=Z,47nm,18.9s,baz=135,slow=37								
	comp=Z,1.9nm,0.6s								
YAK	**Yakutsk**		**37.65**	**19**		**P**	**17 11 49.4**	**-0.7**	
GUMO	**Guam**		**39.97**	**103**	LR	LR	17 29 14.6		
	comp=Z,26nm,19.5s,baz=264,slow=37								
AB31	**Akbulak array**		**40.09**	**314**		**P**	**17 12 10.7**	**-0.1**	
ABKAR	**Akbulak array**		**40.09**	**314**		**P**	**17 12 10.5**	**-0.3**	
BATI	**Baumata**		**42.30**	**152**	LR	LR	17 32 52.0		
	comp=Z,219nm,18.1s,baz=269,slow=40								
ARTI	**Arti**		**43.20**	**324**		**P**	**17 12 35.3**	**-0.9**	
ARTI	**Arti**		**43.20**	**324**	LR	LR	17 31 47.2		
	comp=Z,31nm,19.2s,baz=176,slow=38								
TIXI	**Tiksi**		**45.51**	**10**	LR	LR	17 34 14.9		
	comp=Z,21nm,18.6s,baz=278,slow=39								
PETK	**Petropavlovsk-**		**45.92**	**42**	LR	LR	17 34 33.0		
	comp=Z,16nm,18.1s,baz=99,slow=39								
KNRA	**Kununurra**		**49.39**	**149**	IAmb	IAmb	17 13 26.5		
	comp=Z,6.8nm,0.8s								
MBWA	**Marble Bar**		**51.13**	**162**		**P**	**17 13 38.4**	**+0.1**	
KBZ	**Khabaz**		**51.31**	**305**	P	**P**	**17 13 38.1**	**-1.4**	
	comp=Z,2.7nm,0.8s,baz=126,slow=6.5,SNR=5.9								
	comp=Z,2.7nm,0.8s								
KIV	**Kislovodsk**		**51.45**	**305**		**P**	**17 13 40.8**	**+0.1**	
PSA00	**Pilbara Seismi**		**51.55**	**162**	P	**P**	**17 13 41.7**	**+0.2**	
PSA00					IAmb	IAmb	17 13 43.1		
	comp=Z,4.5nm,0.8s								
RAYN	**Ar Rayn**		**53.10**	**279**	P	**P**	**17 13 53.1**	**-0.2**	
RAYN					IAmb	IAmb	17 13 53.5		
	comp=Z,7.5nm,1.2s								
WB0	**Warramunga Arr**		**55.60**	**146**		**P**	**17 14 11.2**	**-0.1**	
WRAB	**Tennant Creek**		**55.72**	**146**	P	**P**	**17 14 12.1**	**0.0**	
WRA	**Warramunga Arr**		**55.72**	**146**		**P**	**17 14 12.2**	**+0.1**	
WRA	**Warramunga Arr**		**55.72**	**146**	P	**P**	**17 14 11.9**	**-0.3**	
	comp=Z,9.0nm,0.8s,baz=333,slow=7.8,SNR=64								
	comp=Z,9.0nm,0.8s								
WR8	**Warramunga Arr**		**55.81**	**146**		**P**	**17 14 13.2**	**+0.4**	
AS31	**Alice Springs**		**58.69**	**149**	IAmb	IAmb	17 14 35.2		
	comp=Z,2.7nm,0.8s								
ASAR	**Alice Springs**		**58.69**	**149**	P	**P**	**17 14 33.7**	**+0.6**	
ASAR	**Alice Springs**		**58.69**	**149**	P	**P**	**17 14 33.4**	**+0.2**	
	comp=Z,8.3nm,0.7s,baz=330,slow=6.5,SNR=104								
	comp=Z,8.3nm,0.7s								
BR131	**Keskin Array S**		**58.73**	**301**	IAmb	IAmb	17 14 35.4		
	comp=Z,4.8nm,1.0s								
BRTR	**Keskin Array B**		**58.73**	**301**		**P**	**17 14 32.9**	**-0.6**	
BRTR	**Keskin Array B**		**58.73**	**301**	P	**P**	**17 14 33.4**	**-0.1**	
	comp=Z,2.2nm,0.6s,baz=103,slow=5.9,SNR=14								
	comp=Z,2.2nm,0.6s								
MMAI	**Mount Meron Ar**		**58.94**	**293**	P	**P**	**17 14 35.1**	**+0.1**	
	comp=Z,1.6nm,0.7s,baz=65,slow=8.1,SNR=4.0								
MMAI					LR	LR	17 45 20.5		
	comp=Z,19nm,18.5s,baz=133,slow=41								
	comp=Z,1.6nm,0.7s								
AKASG	**Malin Array Be**		**59.83**	**315**	P	**P**	**17 14 40.1**	**-0.6**	
	comp=Z,2.3nm,0.6s,baz=70,slow=7.0,SNR=14								
	comp=Z,2.3nm,0.6s								
AKBB	**Malin Array Si**		**59.83**	**315**	IAmb	IAmb	17 14 40.6		
	comp=Z,3.9nm,0.7s								
KIEV	**Kiev**		**59.84**	**315**		**P**	**17 14 40.2**	**-0.6**	
KIEV					IAmb	IAmb	17 14 40.6		
	comp=Z,3.6nm,0.7s								
ARCES	**ARCESS Array B**		**60.17**	**337**	P	**P**	**17 14 42.0**	**-0.7**	
	comp=Z,2.2nm,0.8s,baz=78,slow=7.6,SNR=4.6								
ARCES					LR	LR	17 41 58.1		
	comp=Z,31nm,18.1s,baz=127,slow=37								
	comp=Z,2.2nm,0.8s								
FINES	**FINESS Array B**		**60.33**	**327**	P	**P**	**17 14 43.6**	**-0.3**	
	comp=Z,1.4nm,0.6s,baz=70,slow=8.3,SNR=8.8								
	comp=Z,1.4nm,0.6s								
MLR	**Muntele Rosu**		**62.99**	**309**	P	**P**	**17 15 02.5**	**+0.1**	
KOLS	**Kolonicke sedl**		**64.60**	**314**	*e*P	**P**	**17 15 13.1**	**+0.4**	
KARP	**Karpathos**		**64.77**	**298**		**P**	**17 15 13.6**	**-0.6**	
HNR	**Honiara**		**65.10**	**117**	LR	LR	17 44 16.3		
	comp=Z,23nm,18.4s,baz=235,slow=36								
STHS	**Stebnicka Huta**		**65.13**	**314**	*e*P	**P**	**17 15 15.4**	**-0.8**	
OJC	**Ojcow**		**65.82**	**315**	P	**P**	**17 15 19.8**	**-0.8**	
HFS	**Hagfors**		**66.53**	**327**	P	**P**	**17 15 24.7**	**-0.3**	
	comp=Z,3.1nm,0.8s,baz=104,slow=6.3,SNR=7.0								
HFS					LR	LR	17 46 21.8		
	comp=Z,33nm,19.1s,baz=36,slow=38								
	comp=Z,3.1nm,0.8s								
VYHS	**Vyhne**		**66.91**	**314**	*e*P	**P**	**17 15 28.1**	**+0.4**	
NB2	**NORSAR Subarra**		**67.44**	**328**	P	**P**	**17 15 30.0**	**-0.9**	
	comp=Z,1.0nm,0.7s,baz=72,slow=6.5								
NOA	**NORSAR Array B**		**67.44**	**328**	P	**P**	**17 15 29.8**	**-1.0**	
	comp=Z,1.4nm,0.7s,baz=74,slow=6.4,SNR=9.3								
	comp=Z,1.4nm,0.7s								
NC204	**NORSAR Array S**		**67.58**	**329**		**P**	**17 15 31.0**	**-0.7**	
VRAC	**Vranov**		**68.08**	**315**	LR	LR	17 47 15.3		
	comp=Z,20nm,21.9s,baz=104,slow=38								
G21K	**Allakaket**		**68.99**	**25**	IAmb	IAmb	17 15 39.9		
	comp=Z,8.1nm,1.5s								
STKA	**Stephens Creek**		**69.24**	**147**	P	**P**	**17 15 42.8**	**+0.4**	
	comp=Z,2.0nm,0.7s,baz=356,slow=4.7,SNR=4.6								
	comp=Z,2.0nm,0.7s								
J20K	**Nowinta River**		**69.63**	**27**		**P**	**17 15 45.1**	**+0.7**	
J20K					IAmb	IAmb	17 15 56.9		
	comp=Z,2.7nm,0.9s								
E23K	**Chandalar**		**69.75**	**23**	IAmb	IAmb	17 15 47.3		
	comp=Z,2.3nm,0.7s								
GERES	**GERESS Array B**		**70.02**	**315**	P	**P**	**17 15 47.5**	**+0.3**	
	comp=Z,2.0nm,0.6s,baz=59,slow=5.8,SNR=18								
	comp=Z,2.0nm,0.6s								
E24K	**Your Creek**		**70.13**	**22**	IAmb	IAmb	17 16 02.4		
	comp=Z,4.6nm,1.1s								
MLY	**Manley**		**70.63**	**26**		**P**	**17 15 50.9**	**+0.3**	
MLY					IAmb	IAmb	17 16 05.0		
	comp=Z,2.9nm,1.0s								
H23K	**Yukon River**		**70.74**	**25**	IAmb	IAmb	17 16 03.5		
	comp=Z,4.4nm,1.2s								
BPAW	**Bear Paw Mtn.**		**70.93**	**27**	IAmb	IAmb	17 16 03.6		
	comp=Z,2.2nm,0.7s								
NEA2	**Nenana**		**71.47**	**26**	IAmb	IAmb	17 16 11.2		
	comp=Z,3.3nm,0.8s								
BMAR	**Burnt Mountain**		**71.75**	**22**		**P**	**17 15 57.8**	**+0.4**	
WTTA	**Wattenberg**		**71.89**	**314**	*i* P	**P**	**17 15 58.2**	**-0.5**	
	comp=Z,3.5nm,0.4s								
SQTA	**Sankt Quirin**		**72.17**	**314**	*i* P	**P**	**17 15 59.9**	**-0.5**	
	comp=Z,6.2nm,0.6s								
MOTA	**Moosalm**		**72.19**	**315**	*i* P	**P**	**17 15 59.7**	**-0.8**	
	comp=Z,3.5nm,0.6s								
ILAR	**Eielson Array**		**72.22**	**25**	P	**P**	**17 15 59.9**	**-0.2**	
	comp=Z,0.4nm,0.7s,baz=291,slow=4.8,SNR=4.4								
	comp=Z,0.4nm,0.7s								
G26K	**Porcupine Rive**		**72.25**	**23**	IAmb	IAmb	17 16 11.0		
	comp=Z,4.2nm,1.1s								
PRP	**Porcupine Dome**		**72.36**	**24**	IAmb	IAmb	17 16 18.3		
	comp=Z,3.8nm,0.9s								
FETA	**Feichten**		**72.55**	**314**	*i* P	**P**	**17 16 01.5**	**-1.2**	
	comp=Z,1.8nm,0.5s								
H27K	**Steamboat Moun**		**73.40**	**23**	IAmb	IAmb	17 16 19.8		
	comp=Z,3.0nm,0.8s								
J26L	**Joseph Creek**		**73.59**	**25**	IAmb	IAmb	17 16 08.8		
	comp=Z,2.9nm,0.7s								
EKA	**Eskdalemuir Ar**		**76.70**	**326**	P	**P**	**17 16 25.9**	**-0.5**	
	comp=Z,1.1nm,0.6s,baz=62,slow=5.4,SNR=7.5								
	comp=Z,1.1nm,0.6s								
YKA	**Yellowknife Ar**		**84.30**	**17**	P	**P**	**17 17 07.2**	**+0.2**	
	comp=Z,1.0nm,0.6s,baz=319,slow=5.8,SNR=2.9								
	comp=Z,1.0nm,0.6s								
ESDC	**Sonseca Array**		**85.43**	**313**	P	**P**	**17 17 13.2**	**0.0**	
	comp=Z,0.7nm,0.8s,baz=42,slow=5.8,SNR=4.5								
	comp=Z,0.7nm,0.8s								
TORD	**Torodi Ar. Bea**		**95.08**	**288**	P	**P**	**17 17 58.7**	**-0.3**	
	comp=Z,1.2nm,0.4s,baz=76,slow=6.1,SNR=3.7								
	comp=Z,1.2nm,0.4s								
TXAR	**Lajitas Array**		**116.67**	**28**	PKP	**PKPdf**	**17 23 19.9**	**-0.3**	
	comp=Z,0.2nm,0.5s,baz=292,slow=1.9,SNR=2.8								
QSPA	**South Pole Qui**		**117.96**	**180**	PKP	**PKPdf**	**17 23 20.3**	**-1.1**	
	comp=Z,0.6nm,0.8s,baz=333,slow=2.3,SNR=1.7								
SNAA	**Sanae**		**122.02**	**201**	PKP	**PKPdf**	**17 23 28.5**	**-0.6**	
	comp=Z,0.7nm,0.8s,baz=189,slow=7.6,SNR=6.0								

NIED ***29*** *17:28:47.9,27˚.98N×128˚.71E,h13km,MW3.6,Moment Tension Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.92; Mθθ1.52; Mφφ0.41; Mrθ0.04; Mrφ-0.91; Mθφ-1.64; Fault plane solution: Mo2.52000×10¹⁴ NP1:φs98.00000°, δ38.00000°,λ-133.00000°. NP2:φs328.00000°, δ63.00000°,λ-62.00000°.*

JMA 29 17:28:47.9±0.1,28˚.0N±0˚.3×128˚.7E±0˚.6,h13km±2km, MV3.5/21,NEAR AMAMI-OSHIMA ISLAND,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.29**	**132**	P	Pg	17 28 53.9	0.0
JTK				*e*S	Sg	17 28 58.0	+0.1
JAMN	**Amaminishikomi**	**0.49**	**58**	*i* P	Pg	17 28 57.5	-0.1
JAMN				*e*S	Sg	17 29 04.3	+0.2
JOKE	**Okinoerabujima**	**0.63**	**191**	*i* P	Pg	17 28 59.9	-0.2
JOKE				*e*S	Sg	17 29 08.3	-0.1
JAM	**Amami Oshima**	**0.90**	**61**	*e*P	Pg	17 29 05.4	0.0
JAM				*e*S	Sg	17 29 17.0	-0.1
JYRO	**Yoronjima**	**0.98**	**193**	P	Pb	17 29 06.1	-0.6
JYRO				*e*S	Sg	17 29 18.8	-0.7
JIH	**Iheya**	**1.15**	**215**	*e*P	Pb	17 29 09.3	-0.4
JIH				*e*S	Sb	17 29 24.2	-0.2
JZK	**Kikaishima**	**1.17**	**73**	*e*P	Pb	17 29 10.0	0.0
JOW	**Kunigami**	**1.21**	**

UESS	**Universidad de**	**0.66**	**28**	*e*P		**Pn**	**17 44 43.4**	**-0.1**
IGN	**Direccin Gen**	**0.67**	**30**	*e*P		**Pn**	**17 44 43.5**	**-0.1**
IGN	**Direccin Gen**	**0.67**	**30**	S		**Sn**	**17 44 54.1**	**+0.2**
IGN	**Direccin Gen**	**0.67**	**30**	⇑P		**Pn**	**17 44 43.5**	**-0.1**
CEDA	**San Andres**	**0.68**	**10**	S		**Sn**	**17 44 54.6**	**+0.6**
CEDA	**San Andres**	**0.68**	**10**	⇓P		**Pn**	**17 44 43.5**	**-0.2**
UDBS	**Universidad Do**	**0.68**	**31**	*e*P		**Pn**	**17 44 43.6**	**0.0**
UDBS	**Universidad Do**	**0.68**	**31**	S		**Sn**	**17 44 54.3**	**+0.2**
UDBS	**Universidad Do**	**0.68**	**31**	⇓P		**Pn**	**17 44 43.7**	**0.0**
AEIL	**Aeropuerto Ilo**	**0.68**	**35**	*e*P		**Pn**	**17 44 44.2**	**+0.4**
CEVE	**Cerro Verde**	**0.70**	**351**	*i* P		**Pn**	**17 44 43.8**	**-0.4**
CEVE	**Cerro Verde**	**0.70**	**351**	⇓P		**Pn**	**17 44 43.7**	**-0.4**
LFU	**La Fuente**	**0.73**	**32**	*e*P		**Pn**	**17 44 44.4**	**+0.1**
SNJE	**San Jose**	**0.74**	**353**	*i* P		**Pn**	**17 44 44.2**	**-0.4**
SNJE				*e*P			17 44 44.3	
LBRS	**Las Brisas**	**0.76**	**37**	*e*P		**Pn**	**17 44 44.9**	**+0.2**
RTR	**El Retiro**	**0.77**	**351**	*i* P		**Pn**	**17 44 44.7**	**-0.3**
PAVA	**Las Pavas**	**0.81**	**44**	*e*P		**Pn**	**17 44 45.6**	**+0.3**
PAVA				*e*S		**Sn**	**17 44 58.0**	**+1.1**
PAVA	**Las Pavas**	**0.81**	**44**	⇑P		**Pn**	**17 44 45.6**	**+0.3**
NUBE	**Las Nubes**	**0.81**	**341**	*e*P		**Pn**	**17 44 44.8**	**-0.6**
NUBE				*e*S		**Sn**	**17 44 56.5**	**-0.6**
NUBE	**Las Nubes**	**0.81**	**341**	⇓P		**Pn**	**17 44 44.8**	**-0.6**
SNVI	**San Vicente**	**0.81**	**54**	*i* P		**Pn**	**17 44 45.3**	**-0.2**
TECO	**Alcaldia de Te**	**0.82**	**60**	*e*P		**Pn**	**17 44 44.8**	**-0.6**
TECO	**Alcaldia de Te**	**0.82**	**60**	S		**Sn**	**17 44 57.5**	**+0.4**
TECO	**Alcaldia de Te**	**0.82**	**60**	⇑P		**Pn**	**17 44 44.8**	**-0.6**
UNIC	**Universidad Ca**	**0.85**	**358**	*e*P		**Pn**	**17 44 45.8**	**+0.1**
UNIC	**Universidad Ca**	**0.85**	**358**	S		**Sn**	**17 44 58.5**	**+0.8**
UNIC	**Universidad Ca**	**0.85**	**358**	⇓P		**Pn**	**17 44 45.8**	**+0.1**
FAME	**Alcaldia de Sa**	**0.86**	**326**	S		**Sn**	**17 44 56.8**	**-1.1**
FAME	**Alcaldia de Sa**	**0.86**	**326**	⇓P		**Pn**	**17 44 45.8**	**-0.8**
UESV	**Universidad de**	**0.87**	**55**	*e*P		**Pn**	**17 44 45.9**	**-0.1**
UESV	**Universidad de**	**0.87**	**55**	S		**Sn**	**17 44 58.5**	**+0.4**
UESV	**Universidad de**	**0.87**	**55**	⇓P		**Pn**	**17 44 45.9**	**-0.1**
LOAL	**Lomas de Alarc**	**0.90**	**343**	*e*P		**Pn**	**17 44 46.4**	**0.0**
SLOZ	**Alcaldia de Sa**	**0.93**	**344**	*e*P		**Pn**	**17 44 46.7**	**0.0**
ALJI	**Alcalda de J**	**0.94**	**78**	*e*P		**Pn**	**17 44 48.6**	**+1.7**
ALJI				*e*S		**Sn**	**17 45 01.3**	**+1.6**
ALJI	**Alcalda de J**	**0.94**	**78**	⇓P		**Pn**	**17 44 48.7**	**+1.9**
SCLA	**Alcaldia de Sa**	**0.95**	**53**	*e*P		**Pn**	**17 44 47.4**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.95**	**53**	S		**Sn**	**17 45 02.6**	**+2.6**
SCLA	**Alcaldia de Sa**	**0.95**	**53**	⇑P		**Pn**	**17 44 47.4**	**+0.3**
TECA	**Tecapa**	**1.05**	**70**	*e*P		**Pn**	**17 44 48.1**	**-0.3**
TECA				*i* P		**Pn**	**17 44 48.1**	**-0.3**
PQSS	**Presa 15 de Se**	**1.05**	**62**	*e*P		**Pn**	**17 44 48.8**	**+0.5**
PQSS	**Presa 15 de Se**	**1.05**	**62**	⇑P		**Pn**	**17 44 48.8**	**+0.5**
LLGN	**La Laguna**	**1.17**	**28**	⇑P		**Pn**	**17 44 50.2**	**+0.3**
PACA	**Pacayal**	**1.21**	**74**	*e*P		**Pn**	**17 44 51.2**	**+0.7**
PACA	**Pacayal**	**1.21**	**74**	S		**Sn**	**17 45 07.2**	**+1.1**
PACA	**Pacayal**	**1.21**	**74**	⇑P		**Pn**	**17 44 51.1**	**+0.7**
LCY	**Lacayo**	**1.22**	**76**	*e*P		**Pn**	**17 44 50.9**	**+0.2**
VSM	**San Miguel**	**1.24**	**76**	*i* P		**Pn**	**17 44 51.2**	**+0.1**
MTO3	**Montecristo**	**1.27**	**7**	Pn		**Pn**	**17 44 51.7**	**+0.4**
MTO3	**Montecristo**	**1.27**	**7**	*i* P		**Pn**	**17 44 51.8**	**+0.4**
MTO3	**Montecristo**	**1.27**	**7**	S		**Sn**	**17 45 08.9**	**+1.2**
MTO3	**Montecristo**	**1.27**	**7**	⇑P		**Pn**	**17 44 51.7**	**+0.4**
BLLM	**Bellamira**	**1.28**	**76**	*e*P		**Pn**	**17 44 51.5**	**+0.1**
CNRM	**Centro Naciona**	**1.35**	**75**	*e*P		**Pn**	**17 44 52.7**	**+0.4**
CAHU	**Cacacuatique**	**1.42**	**63**	*i* P		**Pn**	**17 44 53.6**	**+0.2**
ESQI	**Esquipulas**	**1.43**	**7**	Pn		**Pn**	**17 44 54.2**	**+0.7**
ESQI	**Esquipulas**	**1.43**	**7**	*i* P		**Pn**	**17 44 54.2**	**+0.7**
ESQI				*e*S		**Sn**	**17 45 12.8**	**+1.4**
ESQI	**Esquipulas**	**1.43**	**7**	⇑P		**Pn**	**17 44 54.2**	**+0.7**
LCND	**La Caada**	**1.59**	**83**	*e*P		**Pn**	**17 44 55.9**	**+0.4**
LCND				*e*P			17 44 56.0	
LCND	**La Caada**	**1.59**	**83**	⇑P		**Pn**	**17 44 55.9**	**+0.4**
CNCH	**Conchagua**	**1.64**	**85**	*e*P		**Pn**	**17 44 56.5**	**+0.2**
CNCH	**Conchagua**	**1.64**	**85**	⇑P		**Pn**	**17 44 56.3**	**0.0**
TGUH	**Tegucigalpa,Un**	**2.37**	**67**	Pn		**Pn**	**17 45 06.3**	**+0.2**
CRIN	**San Cristobal**	**2.44**	**100**	Pn		**Pn**	**17 45 06.6**	**-0.4**
CRIN	**San Cristobal**	**2.44**	**100**	*e*P		**Pn**	**17 45 06.9**	**-0.2**
RTAL	**Retalhuleu**	**2.53**	**303**	Pn		**Pn**	**17 45 08.4**	**+0.1**
CNGN	**Cerro Negro**	**2.82**	**103**	Pn		**Pn**	**17 45 11.2**	**-1.0**
COPN	**Copaltepe**	**3.01**	**108**	*e*P		**Pn**	**17 45 13.2**	**-1.5**
PETF	**Flores**	**3.78**	**355**	Pn		**Pn**	**17 45 26.5**	**+1.2**
BOAB	**BOACO BROADBAN**	**3.82**	**100**	Pn		**Pn**	**17 45 24.8**	**-1.0**
CCIG	**Comitan**	**4.03**	**321**	Pn		**Pn**	**17 45 30.7**	**+1.8**
LCRUZ	**La Cruz**	**4.31**	**118**	*e*P		**Pn**	**17 45 31.2**	**-1.5**
ACON	**Acoyapa**	**4.39**	**105**	Pn		**Pn**	**17 45 32.9**	**-0.8**
ACON	**Acoyapa**	**4.39**	**105**	*e*P		**Pn**	**17 45 32.8**	**-1.0**
ALIBA	**Liberia Airpor**	**4.63**	**123**	*e*P		**Pn**	**17 45 38.4**	**+1.4**
LAPC	**Finca la Perla**	**4.63**	**120**	*e*P		**Pn**	**17 45 37.6**	**+0.6**
SIUN	**Universidad Ur**	**4.65**	**82**	Pn		**Pn**	**17 45 37.4**	**+0.2**
MESS	**Mesas**	**4.86**	**119**	*e*P		**Pn**	**17 45 40.5**	**+0.4**
COLC	**Colonia**	**4.88**	**120**	*e*P		**Pn**	**17 45 41.9**	**+0.1**
JUD3	**Juan Diaz 3**	**4.88**	**127**	*e*P		**Pn**	**17 45 41.5**	**+1.0**
JUD3				*e*S		**Sn**	**17 46 33.3**	**-2.6**
TIMP	**Tierras Morena**	**5.08**	**119**	*e*P		**Pn**	**17 45 43.5**	**+0.3**
QUEB	**Quebradon, Cot**	**5.16**	**118**	*e*P		**Pn**	**17 45 44.4**	**+0.1**
JTS	**Las Juntas de**	**5.29**	**122**	Pn		**Pn**	**17 45 46.9**	**+0.9**
JTS	**Las Juntas de**	**5.29**	**122**	P		**Pn**	**17 45 45.2**	**-0.8**
	14nm,0.3s,baz=328,slow=16,SNR=18							
JTS				S		**Sn**	**17 46 43.0**	**-2.6**
	18nm,0.3s,baz=273,slow=21,SNR=1.7							
JTS	**Las Juntas de**	**5.29**	**122**	*e*P		**Pn**	**17 45 47.4**	**+1.4**
JCR1	**Jicaral**	**5.41**	**127**	*e*P		**Pn**	**17 45 48.4**	**+0.7**
SOCE	**Pocosol**	**5.52**	**119**	*e*P		**Pn**	**17 45 50.2**	**+1.0**
CBL1	**Caloya**	**5.59**	**120**	*e*P		**Pn**	**17 45 52.0**	**+1.9**
BILN	**Bilwi Airport**	**6.04**	**81**	Pn		**Pn**	**17 45 57.0**	**+0.7**
BILN	**Bilwi Airport**	**6.04**	**81**	*e*P		**Pn**	**17 45 56.5**	**+0.3**
PIEC	**Cerro El Cedra**	**6.47**	**122**	*e*P		**Pn**	**17 46 04.5**	**+2.0**
CMIG	**Matias Romero**	**6.51**	**308**	P		**Pn**	**17 46 06.3**	**+3.6**
	12nm,0.5s,baz=114,slow=9.6,SNR=14							
CMIG				S		**Sn**	**17 47 18.6**	**+3.0**
	26nm,0.6s,baz=114,slow=20,SNR=1.7							
RVSTA	**Santa Teresita**	**6.55**	**118**	*e*P		**Pn**	**17 46 04.8**	**+1.5**
SAJE	**San Jernim**	**6.99**	**122**	*e*P		**Pn**	**17 46 11.8**	**+2.3**
EDPE	**Pejibaye, P**	**7.04**	**123**	*e*P		**Pn**	**17 46 12.3**	**+2.2**
TEIG	**Tepich**	**7.15**	**9**	Pn		**Pn**	**17 46 12.9**	**+1.4**
DRK0	**Durika**	**7.25**	**121**	*e*P		**Pn**	**17 46 15.0**	**+1.9**
FIMO	**Fila Mora**	**7.32**	**124**	*e*P		**Pn**	**17 46 16.3**	**+2.4**
ALCO	**Alturas Coton,**	**7.76**	**122**	*e*P		**Pn**	**17 46 21.9**	**+1.8**
BRU2	**Volcan**	**7.97**	**122**	Pn		**Pn**	**17 46 23.9**	**+1.1**
CLLRA	**Cordillera,**	**8.06**	**122**	*e*P		**Pn**	**17 46 25.8**	**+1.7**
PBNVO	**Pueblo Nuevo,**	**8.33**	**120**	*e*P		**Pn**	**17 46 29.3**	**+1.6**
RBALA	**Bur**	**8.37**	**120**	*e*P		**Pn**	**17 46 30.1**	**+1.9**
TLIG	**Tlapa**	**9.78**	**298**	Pn		**Pn**	**17 46 50.4**	**+2.8**
MTDJ	**Mount Denham**	**12.60**	**65**	Pn		**Pn**	**17 47 27.1**	**+1.0**
ZAIG	**Zacatecas**	**15.68**	**310**	P		**P**	**17 48 12.1**	**+2.3**
DWPF	**Disney Wildern**	**16.70**	**26**	P		**P**	**17 48 20.7**	**-0.2**
DWPF				IAmb		IAmb	17 48 26.5	
	comp=Z,57nm,1.1s							
ROSC	**El Rosal**	**17.11**	**117**	LR		LR	17 56 38.0	
	comp=Z,76nm,20.0s,baz=269,slow=43							
656A	**Willston**	**17.41**	**21**	P		**P**	**17 48 30.1**	**+1.5**
FLOC	**Florencia**	**17.89**	**129**	P		**Pn**	**17 48 36.2**	**+2.0**
FLOC				IAmb		IAmb	17 48 41.1	
	comp=Z,20nm,0.8s							
HNDO	**Hondo**	**18.66**	**332**	P		**P**	**17 48 42.9**	**+0.3**
352A	**Blakely**	**18.74**	**12**	P		**Pn**	**17 48 44.9**	**+0.5**
352A				IAmb		IAmb	17 49 09.1	
	comp=Z,23nm,0.8s							
SDV	**Santo Domingo**	**19.01**	**101**	LR		LR	17 56 35.1	
	comp=Z,69nm,20.6s,baz=252,slow=39							
TIGA	**Tifton**	**19.02**	**16**	P		**Pn**	**17 48 47.7**	**0.0**
TIGA				IAmb		IAmb	17 48 52.0	
	comp=Z,45nm,0.9s							
DRIO	**Del Rio**	**19.21**	**329**	P		**P**	**17 48 49.1**	**+0.6**
JCT	**Junction City**	**19.71**	**333**	P		**P**	**17 48 54.0**	**+0.1**
JCT				IAmb		IAmb	17 48 59.4	
	comp=Z,19nm,1.1s							
152A	**Waverly Hall**	**19.94**	**12**	P		**P**	**17 48 57.3**	**+0.9**
152A				IAmb		IAmb	17 49 14.3	
	comp=Z,16nm,1.0s							
BRDY	**Brady**	**20.07**	**336**	P		**P**	**17 48 57.4**	**-0.5**
BRDY				IAmb		IAmb	17 48 59.9	
	comp=Z,20nm,0.8s							
WHTX	**Lake Whitney,**	**20.14**	**340**	P		**P**	**17 48 58.2**	**-0.3**
SAND	**Sanderson**	**20.41**	**327**	P		**P**	**17 49 02.0**	**+0.4**
OZNA	**Ozona**	**20.69**	**331**	P		**P**	**17 49 04.8**	**+0.1**
TXAR	**Lajitas Array**	**20.80**	**323**	P		Pn	17 49 07.7	-1.1
TXAR	**Lajitas Array**	**20.80**	**323**	P		Pn	17 49 07.8	-1.0
	comp=Z,6.2nm,0.8s,baz=147,slow=10,SNR=48							
TXAR				LR		LR	17 58 55.8	
	comp=Z,20nm,20.8s,baz=135,slow=42							
	comp=Z,6.2nm,0.8s							
Y49A	**Blount Mountai**	**20.83**	**7**	P		**P**	**17 49 06.3**	**+0.3**
GOGA	**Godfrey**	**20.93**	**14**	IAmb		IAmb	17 49 13.7	
	comp=Z,22nm,1.4s							
PLPT	**Palo Pinto**	**21.18**	**339**	IAmb		IAmb	17 49 24.3	
	comp=Z,27nm,0.9s							
X48A	**Hartselle**	**21.34**	**6**	P		**P**	**17 49 11.6**	**+0.1**
ABTX	**Abilene, Hawle**	**21.50**	**336**	IAmb		IAmb	17 49 15.7	
	comp=Z,10nm,0.6s							
MIAR	**Mount Ida**	**21.64**	**351**	P		**P**	**17 49 15.7**	**+1.0**
MIAR				IAmb		IAmb	17 49 44.2	
	comp=Z,27nm,1.2s							
UALR	**University of**	**21.70**	**354**	IAmb		IAmb	17 49 18.5	
	comp=Z,22nm,0.8s							
MNHN	**Monahans**	**21.84**	**328**	P		**P**	**17 49 17.5**	**+0.6**
HODGE	**Hodges**	**22.02**	**16**	IAmb		IAmb	17 49 41.6	
	comp=Z,15nm,1.1s							
WTFS	**Witchita Falls**	**22.10**	**340**	IAmb		IAmb	17 49 20.2	
	comp=Z,20nm,0.7s							
WHAR	**Wooly Hollow**	**22.20**	**354**	IAmb		IAmb	17 50 00.2	
	comp=Z,23nm,1.2s							
SWET	**Sewanee**	**22.23**	**8**	IAmb		IAmb	17 49 23.3	
	comp=Z,11nm,0.8s							
APMT	**Aspermont**	**22.31**	**336**	P		**P**	**17 49 20.5**	**-1.5**
APMT				IAmb		IAmb	17 49 22.3	
	comp=Z,14nm,0.7s							
JSC	**Jenkinsville**	**22.35**	**18**	IAmb		IAmb	17 49 44.9	
	comp=Z,16nm,1.0s							
BG3	**Lake Jocassee**	**22.57**	**14**	IAmb		IAmb	17 49 56.4	
	comp=Z,16nm,1.2s							
POST	**Post**	**22.66**	**333**	IAmb		IAmb	17 49 26.0	
	comp=Z,13nm,0.8s							
X34A	**Smith Ranch, M**	**22.67**	**342**	IAmb		IAmb	17 49 57.0	
	comp=Z,23nm,1.0s							
PAULI	**Pauline**	**22.69**	**17**	IAmb		IAmb	17 49 27.1	
	comp=Z,14nm,1.2s							
LCAR	**Lake Charles**	**22.89**	**357**	IAmb		IAmb	17 49 50.7	
	comp=Z,12nm,0.7s							
DKNS	**Dickens**	**22.93**	**335**	P		**P**	**17 49 26.7**	**-1.9**
DKNS				IAmb		IAmb	17 49 30.2	
	comp=Z,15nm,0.7s							
BIRD	**Birdtown, Kers**	**22.94**	**19**	IAmb		IAmb	17 49 47.9	
	comp=Z,20nm,1.3s							
ATAH	**Atahualpa**	**22.97**	**151**	LR		LR	17 57 18.7	
	comp=Z,102nm,19.7s,baz=338,slow=33							
TKL	**Tuckaleechee C**	**23.02**	**12**	IAmb		IAmb	17 49 53.9	
	comp=Z,11nm,0.8s							
TKL	**Tuckaleechee C**	**23.02**	**12**	P		**P**	**17 49 27.5**	**-1.8**
	comp=Z,6.6nm,0.9s,baz=179,slow=10.0,SNR=5.0							
TKL				LR		LR	17 58 56.5	
	comp=Z,184nm,21.5s,baz=232,slow=38							
	comp=Z,6.6nm,0.9s							
SJG	**San Juan**	**23.03**	**75**	LR		LR	17 59 40.6	
	comp=Z,88nm,18.1s,baz=284,slow=40							
WMOK	**Wichita Mounta**	**23.09**	**340**	IAmb		IAmb	17 49 31.1	
	comp=Z,11nm,0.8s							
KMSC	**Kings Mountain**	**23.13**	**17**	IAmb		IAmb	17 49 48.3	
	comp=Z,10nm,0.9s							
FNO	**Franklin**	**23.15**	**343**	IAmb		IAmb	17 49 32.3	
	comp=Z,18nm,0.9s							
HHAR	**Hobbs**	**23.39**	**351**	IAmb		IAmb	17 50 02.9	
	comp=Z,16nm,0.9s							
U49A	**Red Boiling Sp**	**23.52**	**8**	IAmb		IAmb	17 49 49.7	
	comp=Z,17nm,1.0s							
W57A	**Gilead**	**23.56**	**20**	IAmb		IAmb	17 49 56.9	
	comp=Z,14nm,1.1s							
V55A	**Taylorsville**	**23.83**	**17**	IAmb		IAmb	17 49 38.3	
	comp=Z,10.0nm,0.8s							
T47A	**Sharon Grove**	**23.86**	**5**	IAmb		IAmb	17 49 53.3	
	comp=Z,18nm,0.9s							
MGMO	**Mountain Grove**	**24.05**	**355**	IAmb		IAmb	17 49 55.8	
	comp=Z,16nm,1.2s							
OK051	**E0350 and S346**	**24.19**	**345**	IAmb		IAmb	17 49 40.5	
	comp=Z,17nm,0.7s							
U54A	**Nelsons Funny**	**24.29**	**15**	IAmb		IAmb	17 49 43.4	
	comp=Z,19nm,0.8s							
AMTX	**Amarillo**	**24.30**	**335**	IAmb		IAmb	17 49 43.1	
	comp=Z,14nm,1.1s							
V58A	**Windy Hill, Pi**	**24.43**	**21**	IAmb		IAmb	17 49 44.7	
	comp=Z,10nm,0.9s							
BLOK	**Blackwell**	**24.52**	**345**	IAmb		IAmb	17 49 43.7	
	comp=Z,19nm,0.9s							
PCRV	**Puerto La Cruz**	**24.54**	**94**	LR		LR	18 01 31.8	
	comp=Z,57nm,19.7s,slow=42							
CCM	**Cathedral Cave**	**24.87**	**357**	P		**P**	**17 49 45.4**	**-0.9**
CCM				IAmb		IAmb	17 50 03.1	
	comp=Z,16nm,0.9s							
R40A	**Maddies Statio**	**25.18**	**355**	IAmb		IAmb	17 49 52.2	
	comp=Z,9.9nm,0.9s							
RTBA	**Rita Blanca**	**26.07**	**335**	IAmb		IAmb	17 50 26.9	
	comp=Z,15nm,1.2s							
P40A	**Paris**	**26.39**	**356**	IAmb		IAmb	17 50 17.7	
	comp=Z,11nm,1.0s							
ANMO	**Albuquerque**	**26.58**	**328**	LR		LR	18 02 37.5	
	comp=Z,54nm,18.3s,baz=232,slow=41							
SSPA	**Standing Stone**	**29.24**	**18**	P		**P**	**17 50 26.7**	**+1.2**
PV18	**Skein Mesa, Pa**	**30.38**	**329**	IAmb		IAmb	17 50 39.1	
	comp=Z,6.1nm,0.7s							
PV12	**Saucer Basin,**	**30.38**	**329**	IAmb		IAmb	17 50 39.7	
	comp=Z,8.3nm,0.7s							
PV17	**East Wray Mesa**	**30.43**	**329**	IAmb		IAmb	17 51 04.3	
	comp=Z,4.3nm,0.6s							
PFO	**Pinyon Flats O**	**31.89**	**314**	LR		LR	18 06 18.0	
	comp=Z,54nm,18.1s,baz=178,slow=41							
SADO	**Sadowa**	**32.75**	**14**	LR		LR	18 04 36.3	
	comp=Z,156nm,20.0s,baz=162,slow=37							
K22A	**Casper**	**32.90**	**337**	IAmb		IAmb	17 51 00.8	
	comp=Z,5.4nm,0.9s							
RSSD	**Black Hills**	**33.30**	**341**	P		**P**	**17 51 01.4**	**-0.1**
RSSD				IAmb		IAmb	17 51 04.7	
	comp=Z,3.5nm,0.8s							
CCCA	**Chr Cany lake**	**33.57**	**316**	P		**P**	**17 51 06.0**	**+2.2**
PDAR	**Pinedale Array**	**34.24**	**333**	PcP		**PcP**	**17 53 45.7**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=162,slow=4.1,SNR=3.9							
PDAR				LR		LR	18 08 24.4	
	comp=Z,39nm,19.1s,baz=132,slow=42							
ELK	**Elko**	**35.55**	**325**	LR		LR	18 07 54.5	
	comp=Z,56nm,19.0s,baz=160,slow=40							
NVAR	**Mina Array Bea**	**35.88**	**320**	P		**P**	**17 51 24.9**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=109,slow=6.6,SNR=7.1							
NVAR				PcP		**PcP**	**17 53 51.3**	**+1.3**
	comp=Z,2.3nm,0.8s,baz=106,slow=2.8,SNR=5.8							
NVAR				LR		LR	18 07 36.0	
	comp=Z,78nm,20.2s,baz=78,slow=39							
	comp=Z,0.9nm,0.5s							
RLMT	**Red Lodge**	**36.05**	**336**	IAmb		IAmb	17 51 27.9	
	comp=Z,7.3nm,1.1s							
LPAZ	**La Paz**	**36.08**	**144**	P		**P**	**17 51 24.9**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=349,slow=12,SNR=4.2							
LPAZ				LR		LR	18 06 25.7	
	comp=Z,61nm,20.8s,baz=310,slow=36							
	comp=Z,1.1nm,0.8s							
MDP	**Montagnes des**	**37.23**	**99**	LR		LR	18 07 24.8	
	comp=Z,70nm,22.0s,baz=267,slow=37							
DLMT	**Dillon**	**37.63**	**333**	IAmb		IAmb	17 51 40.2	
	comp=Z,3.2nm,0.7s							
SIV	**San Ignacio**	**40.35**	**135**	LR		LR	18 08 25.4	
	comp=Z,112nm,18.4s,baz=288,slow=36							
YBH	**Yreka Blue Hor**	**40.55**	**321**	LR		LR	18 09 48.7	
	comp=Z,6.3nm,21.2s,baz=120,slow=37							
NEW	**Newport**	**41.86**	**332**	LR		LR	18 12 04.5	
	comp=Z,56nm,18.8s,baz=133,slow=40							
SCHQ	**Schefferville**	**45.24**	**18**	P		**P**	**17 52 37.8**	**-2.7**
	comp=Z,6.9nm,0.7s,baz=231,slow=3.5,SNR=10							
SCHQ				LR		LR	18 10 27.0	
	comp=Z,84nm,19.2s,baz=203,slow=35							
	comp=Z,6.9nm,0.7s							
H03N2	**Juan Fernandez**	**47.40**	**168**	T		T	18 43 34.0	
	baz=347,slow=76,SNR=9.6							
H03N1	**Juan Fernandez**	**47.40**	**168**	T		T	18 43 34.5	
	baz=347,slow=76,SNR=12							
H03N3	**Juan Fernandez**	**47.41**	**168**	T		T	18 43 38.6	
	baz=347,slow=76,SNR=15							
BBB	**Bella Bella**	**49.71**	**330**	LR		LR	18 17 47.7	
	comp=Z,53nm,18.2s,baz=129,slow=40							
BDFB	**Brasilia**	**50.03**	**124**	LR		LR	18 17 12.6	
	comp=Z,60nm,18.0s,baz=317,slow=39							
CPUP	**Villa Florida**	**50.18**	**142**	P		**P**	**17 53 18.3**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=270,slow=4.0,SNR=3.9							
CPUP				LR		LR	18 14 16.5	
	comp=Z,11nm,19.7s,baz=274,slow=36							
	comp=Z,0.5nm,0.7s							
YKA	**Yellowknife Ar**	**52.44**	**346**	P		**P**	**17 53 34.3**	**-1.3**
	comp=Z,4.3nm,0.8s,baz=147,slow=7.4,SNR=9.0							
YKA				LR		LR	18 19 14.3	
	comp=Z,83nm,18.2s,baz=111,slow=40							
	comp=Z,4.3nm,0.8s							
FRB	**Frobisher Bay**	**52.65**	**12**	LR		LR	18 16 18.7	
	comp=Z,162nm,19.2s,baz=171,slow=36							
DLBC	**Dease Lake**	**54.44**	**335**	LR		LR	18 20 16.3	
	comp=Z,4.9nm,18.0s,baz=158,slow=39							
PLCA	**Paso Flores**	**56.40**	**163**	P		**P**	**17 54 05.5**	**+0.8**
	comp=Z,5.0nm,1.0s,baz=313,slow=9.6,SNR=4.2							
PLCA				LR		LR	18 13 13.8	
	comp=Z,61nm,18.5s,baz=278,slow=30							
	comp=Z,5.0nm,1.0s							
SFJD	**Kangerlussuaq**	**59.63**	**17**	LR		LR	18 20 32.0	
	comp=Z,67nm,18.2s,baz=186,slow=36							
M29M	**Somme Creek**	**60.17**	**336**	P		**P**	**17 54 29.9**	**-0.9**
I30M	**Mount Dempster**	**60.96**	**339**	P		**P**	**17 54 35.5**	**-0.6**
I30M				IAmb		IAmb	17 55 10.9	
	comp=Z,2.1nm,0.7s							
RES	**Resolute Bay**	**61.62**	**358**	LR		LR	18 22 28.3	
	comp=Z,78nm,19.3s,baz=256,slow=37							
INK	**Inuvik**	**61.96**	**343**	LR		LR	18 24 39.2	
	comp=Z,47nm,19.6s,baz=100,slow=39							
ILAR	**Eielson Array**	**64.59**	**336**	P		**P**	**17 54 59.3**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=165,slow=4.6,SNR=5.9							
ILAR				LR		LR	18 26 13.9	
	comp=Z,44nm,19.5s,baz=94,slow=39							
	comp=Z,0.8nm,0.9s							
PPT	**Papeete**	**66.67**	**244**	LR		LR	18 16 16.4	
	comp=Z,70nm,19.3s,baz=82,slow=28							
PPT2	**Papeete2**	**66.67**	**244**	*e*LR		LR	18 15 10.3	
	comp=Z,125nm,25.5s							
BORG	**Borgarnes**	**68.95**	**25**	LR		LR	18 27 57.3	
	comp=Z,23nm,18.2s,baz=241,slow=38							
EKA	**Eskdalemuir Ar**	**77.25**	**36**	P		**P**	**17 56 12.9**	**-4.1**
	comp=Z,0.4nm,0.5s,baz=273,slow=5.7,SNR=4.1							
	comp=Z,0.4nm,0.5s							
ESDC	**Sonseca Array**	**78.36**	**52**	LR		LR	18 23 54.9	
	comp=Z,47nm,21.5s,baz=282,slow=30							
MDT	**Midelt**	**78.78**	**59**	LR		LR	18 24 38.5	
	comp=Z,30nm,20.9s,baz=249,slow=31							
SPITS	**Spitsbergen Ar**	**80.45**	**12**	P

USA0B IAmb IAmb 17 49 14.5
comp=Z,12nm,0.8s
USA0B Ussuriysk Arra 18.26 341 *d i* P **P 17 49 13.4 +2.1**
USRK Ussuriysk Ar. 18.26 341 **P 17 49 12.8 +1.5**
USRK Ussuriysk Ar. 18.26 341 P **P 17 49 12.5 +1.1**
comp=Z,9.4nm,0.6s,baz=146,slow=8.6,SNR=17
YSS Yuzhno-Sakhali 19.86 5 P **P 17 49 28.0 +0.7**
YSS Yuzhno-Sakhali 19.86 5 *e* P **P 17 49 28.2 +1.0**
YSS pmax pmax
comp=Z,35nm,2.2s
ENH Enshi 27.09 284 P **P 17 50 32.6 +0.1**
HIA Hailar 27.15 330 P **P 17 50 31.0 -1.8**
HIA Hailar 27.15 330 P **P 17 50 31.0 -1.8**
HIA pmax pmax
comp=Z,3.0nm,0.7s
ULN Ulaanbaatar 33.08 318 *e* P **P 17 51 23.3 -1.4**
ULN pmax pmax
comp=Z,1.0nm,0.6s
MA2 Magadan 33.22 10 P **P 17 51 26.0 +0.5**
MA2 IAmb IAmb 17 51 26.7
comp=Z,7.6nm,0.7s
MA2 Magadan 33.22 10 *d i* P **P 17 51 26.0 +0.5**
MA2 pmax pmax
comp=Z,7.0nm,0.6s
SONM Songino Array 33.47 317 P **P 17 51 28.1 +0.2**
comp=Z,0.8nm,0.4s,baz=123,slow=7.5,SNR=2.4
comp=Z,0.8nm,0.4s
YAK Yakutsk 35.58 351 P **P 17 51 45.4 +0.1**
YAK IAmb IAmb 17 51 45.7
comp=Z,9.5nm,0.9s
YAK Yakutsk 35.58 351 *e* P **P 17 51 44.5 -0.8**
YAK pmax pmax
comp=Z,7.0nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.7s
YAK pmax pmax
comp=E,1.0nm,0.9s
SEY Seymchan 36.66 9 *d i* P **P 17 51 55.2 +0.8**
SEY pmax pmax
comp=Z,5.0nm,0.6s
CMAR Chiang Mai Arr 38.88 266 P **P 17 52 13.3 0.0**
comp=Z,0.6nm,0.3s,baz=57,slow=6.2,SNR=4.6
comp=Z,0.6nm,0.3s
KIWB Kanaga Island 40.30 41 P **P 17 52 25.8 +1.3**
KIWB IAmb IAmb 17 52 50.4
comp=Z,22nm,1.3s
GSTR Great Sitkin T 41.02 41 P **P 17 52 30.3 +0.1**
BILL Bilibino 43.80 14 *e* P **P 17 52 52.7 +0.6**
BILL pmax pmax
comp=Z,10.0nm,1.7s
KNRA Kununurra 44.01 196 P **P 17 52 53.2 -1.1**
KNRA IAmb IAmb 17 53 00.9
comp=Z,11nm,1.4s
WB0 Warramunga Arr 46.98 188 P **P 17 53 17.0 -0.4**
FITZ Fitzroy Crossi 47.16 199 P **P 17 53 18.2 -0.4**
comp=Z,1.2nm,0.9s,baz=19,slow=9.3,SNR=3.5
comp=Z,1.2nm,0.9s
WRA Warramunga Arr 47.16 188 P **P 17 53 17.9 -0.9**
WRA Warramunga Arr 47.16 188 P **P 17 53 18.1 -0.7**
comp=Z,3.0nm,0.6s,baz=6.7,slow=7.8,SNR=51
PcP **pwP**
WRA comp=Z,1.0nm,0.5s,baz=10.0,slow=8.7,SNR=5.4 **17 54 42.5 0.0**
ScP **ScP**
WRA **17 57 54.2 -3.6**
comp=Z,0.4nm,0.8s,baz=5.8,slow=4.3,SNR=3.1
comp=Z,3.0nm,0.6s
AKUT Akutan 47.53 40 P **P 17 53 21.8 +0.7**
GSI Gunungsitoli 48.28 245 P **P 17 53 26.2 -1.2**
GSI IAmb IAmb 17 53 28.8
comp=Z,8.6nm,0.8s
ZALV Zalesovo Beam 48.30 319 P **P 17 53 26.4 -0.5**
comp=Z,2.0nm,0.7s,baz=115,slow=7.0,SNR=9.5
PcP **pP**
ZALV **17 54 45.4 -0.1**
comp=Z,0.5nm,0.4s,baz=102,slow=2.1,SNR=4.1
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 48.30 319 *e* P **P 17 53 26.2 -0.7**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
MK31 Makanchi Array 49.09 310 *d i* P **P 17 53 32.9 -0.1**
MKAR Makanchi Array 49.09 310 P **P 17 53 32.7 -0.3**
MKAR Makanchi Array 49.09 310 P **P 17 53 33.0 0.0**
comp=Z,1.4nm,0.5s,baz=92,slow=9.6,SNR=14
PcP **PcP**
MKAR **17 54 49.0 -0.6**
comp=Z,0.6nm,0.8s,baz=81,slow=8.7,SNR=3.7
ScP **ScP**
MKAR **17 58 02.9 -2.9**
comp=Z,0.2nm,0.5s,baz=75,slow=7.6,SNR=2.2
comp=Z,1.4nm,0.5s
SDPT Sand Point 50.77 39 P **P 17 53 44.7 -0.6**
L14K Kuka Creek 50.87 31 P **P 17 53 46.8 +0.9**
baz=255
J14K Nanvaranak Lak 50.88 30 P **P 17 53 47.2 +1.3**
baz=253
AS31 Alice Springs 50.89 187 P **P 17 53 45.9 -0.7**
ASAR Alice Springs 50.89 187 P **P 17 53 45.2 -1.4**
ASAR Alice Springs 50.89 187 P **P 17 53 45.6 -1.0**
comp=Z,0.4nm,0.5s,baz=356,slow=4.4,SNR=18
comp=Z,0.4nm,0.5s
ASAR Alice Springs 50.89 187 P **P 17 53 45.2 -1.4**
O14K Tigyukauivet M 51.06 34 P **P 17 53 47.9 +0.6**
O14K IAmb IAmb 17 54 25.1
comp=Z,8.8nm,1.1s
O14K Tigyukauivet M 51.06 34 P **P 17 53 48.1 +0.8**
baz=258
M14K Bethel 51.06 32 P **P 17 53 48.3 +1.1**
baz=256
F15K North Star Dit 51.39 26 P **P 17 53 50.8 +1.1**
baz=249
L15K Ungalak Mounta 51.51 31 P **P 17 53 51.5 +0.9**
baz=256
K15K Wolf Creek Mou 51.65 30 P **P 17 53 52.4 +0.8**
baz=255
M15K Kasigluk River 51.66 33 P **P 17 53 52.6 +1.0**
baz=257
KURK Kurchatov 51.69 315 **P 17 53 51.6 -0.4**
KURK IAmb IAmb 17 53 52.6
comp=Z,5.8nm,0.7s
KURK Kurchatov 51.69 315 *d i* P **P 17 53 51.7 -0.4**
KURK pmax pmax
comp=Z,13nm,1.4s
KURBB Kurchatov Arra 51.74 314 P **P 17 53 52.3 -0.2**
comp=Z,7.6nm,0.5s,baz=92,slow=7.9,SNR=37
KURBB PcP **PcP 17 54 57.7 -1.7**
comp=Z,0.2nm,0.4s,baz=300,slow=23,SNR=1.2
comp=Z,7.6nm,0.5s
O15K Ungalikthiuk R 51.77 35 P **P 17 53 53.4 +0.8**
O15K IAmb IAmb 17 54 31.7
comp=Z,14nm,1.3s
O15K Ungalikthiuk R 51.77 35 P **P 17 53 53.5 +1.0**
baz=259
N15K Kwethluk River 51.83 33 P **P 17 53 53.7 +0.7**
baz=258
C16K Lisburne Hills 52.10 23 P **P 17 53 55.9 +1.1**
baz=247
N16K Nishlik Lake 52.54 33 P **P 17 53 59.1 +1.0**
baz=259
M16K Timber Creek 52.55 32 P **P 17 53 59.0 +0.8**
baz=258
D17K Noatak River 52.68 24 P **P 17 54 00.3 +1.3**
baz=250
O16K Kokwok River B 52.71 34 P **P 17 54 00.0 +0.6**
baz=260
RDOG Red Dog Mine 52.86 23 P **P 17 54 01.6 +1.3**
baz=249
G17K Kiwalik Mounta 52.90 27 P **P 17 54 01.7 +1.1**
baz=254
C17K DeLong Mountai 52.92 23 P **P 17 54 02.0 +1.3**
baz=249
E17K Hotham Inlet 52.92 25 P **P 17 54 01.5 +0.8**
baz=251
J17K VABM Dome 53.01 29 P **P 17 54 02.2 +0.7**
baz=257
H17K Granite Mounta 53.04 27 P **P 17 54 02.6 +0.9**
baz=255
L17K Donlin 53.09 31 P **P 17 54 02.9 +0.9**
baz=258
K17K Iditarod 53.21 30 **P 17 54 04.1 +1.2**
K17K IAmb IAmb 17 54 05.3
comp=Z,11nm,0.6s
K17K Iditarod 53.21 30 P **P 17 54 04.3 +1.4**
baz=258,SNR=7.2
O17K Koliganek Bris 53.24 34 P **P 17 54 04.2 +1.1**
baz=261
N17K Nushagak Hills 53.32 33 P **P 17 54 04.9 +1.2**
baz=260
M17K Holitna River 53.35 32 P **P 17 54 05.2 +1.3**
M17K Holitna River 53.35 32 P **P 17 54 04.8 +0.9**
baz=260
E18K Tukpahlearik C 53.48 24 P **P 17 54 06.2 +1.4**
baz=252
P17K Kvichak River 53.49 35 P **P 17 54 05.8 +0.8**
baz=262
CHIR Chirikof Islan 53.56 39 P **P 17 54 06.2 +0.7**
baz=265
F18K Selawik 53.60 25 P **P 17 54 06.9 +1.3**
baz=254
Q17K Contact Creek 53.66 36 P **P 17 54 06.6 +0.3**
baz=263
C18K Utukok River 53.66 23 P **P 17 54 07.1 +0.9**
baz=251
B18K Kokolik River 53.70 22 P **P 17 54 07.2 +0.9**
baz=250
H18K Honhosa River 53.73 27 P **P 17 54 07.8 +1.1**
baz=256
G18K Tagagawik 53.80 26 P **P 17 54 08.1 +1.0**
baz=255
L18K Granite Mounta 53.84 31 P **P 17 54 08.4 +1.0**
baz=260,SNR=6.0
N18K Kilae Creek 53.97 33 P **P 17 54 08.6 +0.2**
baz=262
J18K Innoko River 54.06 30 P **P 17 54 09.8 +0.7**
baz=259
M18K Stony River 54.13 32 P **P 17 54 10.7 +1.2**
baz=261
O18K Kktuh Hills 54.20 34 P **P 17 54 11.8 +1.7**
baz=263
C19K Lookout Ridge 54.36 23 P **P 17 54 12.4 +1.3**
baz=252
G19K Purcell Mounta 54.48 26 P **P 17 54 13.0 +1.0**
baz=257
H19K Roundabout Mou 54.60 27 **P 17 54 13.9 +1.2**
H19K IAmb IAmb 17 54 14.7
comp=Z,5.8nm,0.6s
H19K Roundabout Mou 54.60 27 P **P 17 54 13.8 +1.0**
baz=258,SNR=8.1
J19K Poorman 54.64 29 P **P 17 54 14.2 +1.1**
baz=260
N19K Bonanza Creek 54.68 33 P **P 17 54 14.6 +1.0**
baz=263
O19K Port Alsworth 54.68 34 P **P 17 54 14.5 +1.1**
baz=263
L19K White Mountain 54.69 31 **P 17 54 14.5 +1.0**
L19K White Mountain 54.69 31 P **P 17 54 14.6 +1.1**
baz=262
D19K Kuna River 54.70 23 P **P 17 54 14.8 +1.4**
baz=254
E19K Redstone River 54.74 25 P **P 17 54 15.0 +1.2**
baz=256
M19K Big River Lodg 54.86 32 P **P 17 54 15.7 +0.9**
baz=262
P19K Oil Pt 55.17 35 P **P 17 54 17.4 +0.4**
baz=265
L20K Farewell, AK 55.18 31 P **P 17 54 18.2 +1.2**
baz=262
F20K Avaraart Lake 55.22 25 P **P 17 54 17.9 +0.8**
baz=257
K20K Telida 55.22 30 IAmb IAmb 17 54 19.6
comp=Z,5.8nm,0.8s
K20K Telida 55.22 30 P **P 17 54 18.2 +1.0**
baz=261
H20K Anotleneega Mo 55.23 27 P **P 17 54 18.3 +1.0**
baz=259
I20K Naaghedeneel 55.27 28 P **P 17 54 18.8 +1.3**
baz=260
D20K Etivluk River 55.29 23 P **P 17 54 18.3 +0.6**
baz=255
J20K Nowinta River 55.31 29 IAmb IAmb 17 54 20.0
comp=Z,6.8nm,0.8s
J20K Nowinta River 55.31 29 P **P 17 54 18.8 +1.0**
baz=261,SNR=16
E20K Nigu River 55.32 24 P **P 17 54 19.2 +1.2**
baz=256
KDAK Kodiak Island 55.37 37 *e* P **P 17 54 18.6 +0.3**
KDAK pmax pmax
comp=Z,42nm,2.0s
KDAK Kodiak Island 55.37 37 P **P 17 54 18.7 +0.3**
baz=267
B20K Meade River 55.45 22 P **P 17 54 20.0 +1.4**
baz=254
M20K Styx River 55.45 32 P **P 17 54 19.6 +0.6**
baz=263
O20K Slope Mountain 55.52 34 P **P 17 54 19.9 +0.5**
baz=265
G21K Allakaket 55.97 26 P **P 17 54 23.5 +1.0**
baz=260,SNR=5.2
PPLA Purkeypile 56.01 31 P **P 17 54 23.8 +0.9**
baz=264
C21K Knifeblade Rid 56.03 23 P **P 17 54 23.9 +1.1**
baz=257
CHUM Lake Minchumin 56.07 30 P **P 17 54 24.1 +0.9**
baz=263
F21K Alatna River 56.11 25 P **P 17 54 24.3 +0.9**
baz=259
H21K Melozitna Rive 56.11 27 P **P 17 54 24.4 +1.0**
baz=261,SNR=6.0
CAST Castle Rocks 56.11 30 IAmb IAmb 17 54 25.0
comp=Z,5.3nm,0.4s
CAST Castle Rocks 56.11 30 P **P 17 54 24.4 +0.8**
baz=263,SNR=9.4
KIP Kipapa 56.11 81 *e* P P 17 54 16.6 -7.5
E21K Killik River 56.17 24 IAmb IAmb 17 54 25.4
comp=Z,5.1nm,0.7s
E21K Killik River 56.17 24 P **P 17 54 24.7 +0.9**
baz=258,SNR=5.8
B21K Ikpikpuk River 56.20 22 P **P 17 54 25.0 +1.0**
baz=257
SKT Skwentna 56.22 32 P **P 17 54 24.7 +0.5**
baz=265
I21K Tanana 56.38 28 P **P 17 54 26.3 +1.0**
baz=262
A22K Sinclair Lake 56.42 21 P **P 17 54 26.7 +1.3**
baz=255
SUA Susitna One 56.54 33 P **P 17 54 27.2 +0.5**
baz=266
F22K John River 56.66 25 P **P 17 54 28.7 +1.4**
baz=260
BPAW Bear Paw Mtn. 56.67 29 P **P 17 54 27.9 +0.5**
baz=264,SNR=7.1
D22K Ayakak River 56.72 24 IAmb IAmb 17 54 29.6
comp=Z,8.2nm,0.7s
D22K Ayikyak River 56.72 24 P **P 17 54 28.6 +1.0**
baz=259,SNR=6.6
H22K Ishtalitna Cre 56.73 27 P **P 17 54 28.9 +1.2**
baz=262
BVAR Borovoye Array 56.81 317 P **P 17 54 28.4 -0.1**
comp=Z,13nm,0.5s,baz=86,slow=7.2,SNR=88
comp=Z,13nm,0.5s
G22K Betles 56.82 26 P **P 17 54 29.4 +1.0**
baz=262
BRVK Borovoye 56.87 317 **P 17 54 28.5 -0.5**
BRVK IAmb IAmb 17 54 29.7
comp=Z,7.4nm,0.8s
BRVK Borovoye 56.87 317 *d i* P **P 17 54 28.8 -0.1**
BRVK pmax pmax
comp=Z,7.0nm,0.7s
MLY Manley 56.88 28 P **P 17 54 29.6 +0.7**
baz=263,SNR=6.7
E22K Anaktuvuk Pass 56.90 24 P **P 17 54 29.8 +0.9**
baz=260
TRF Thorofare Moun 56.92 30 IAmb IAmb 17 54 31.6
comp=Z,3.8nm,0.6s
TRF Thorofare Moun 56.92 30 P **P 17 54 29.9 +0.6**
baz=265
RC01 Rabbit Creek A 57.01 33 P **P 17 54 30.0 +0.3**
baz=267
COLD Coldfoot 57.37 26 P **P 17 54 32.8 +0.7**
baz=262
G23K Bananza Creek 57.38 26 P **P 17 54 33.3 +1.0**
baz=263,SNR=7.3
D23K Nanushuk River 57.45 24 IAmb IAmb 17 54 34.9
comp=Z,7.9nm,0.6s
D23K Nanushuk River 57.45 24 P **P 17 54 33.5 +0.9**
baz=261,SNR=5.9
H23K Yukon River 57.47 27 P **P 17 54 33.8 +0.9**
baz=264
I23K Minto, Yukon-K 57.48 28 P **P 17 54 33.8 +0.9**
baz=265
MCK McKinley 57.55 30 IAmb IAmb 17 54 34.8
comp=Z,9.7nm,0.7s
MCK McKinley 57.55 30 P **P 17 54 33.4 0.0**
baz=266,SNR=6.2
NEA2 Nenana 57.55 29 IAmb IAmb 17 54 34.9
comp=Z,6.6nm,0.6s
NEA2 Nenana 57.55 29 P **P 17 54 33.9 +0.5**
baz=265,SNR=5.3
RND Reindeer 57.56 30 IAmb IAmb 17 54 34.2
comp=Z,8.0nm,0.6s
C23K Itkillik River 57.61 23 P **P 17 54 34.4 +0.7**
baz=260
KK31 Karatay Array 57.62 306 P **P 17 54 34.1 -0.2**
KK31 IAmb IAmb 17 54 35.2
comp=Z,5.2nm,0.8s
KK31 Karatay Array 57.62 306 P **P 17 54 34.1 -0.2**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 57.62 306 **P 17 54 33.9 -0.5**
KKAR Karatay Array 57.62 306 P **P 17 54 33.9 -0.5**
KNK Knik Glacier 57.64 33 P **P 17 54 34.4 +0.3**
baz=268
PWL Port Wells 57.68 33 IAmb IAmb 17 54 35.2
comp=Z,7.2nm,0.8s
PWL Port Wells 57.68 33 P **P 17 54 34.8 +0.4**
baz=268
E23K Chandalar 57.70 25 IAmb IAmb 17 54 36.8
comp=Z,5.5nm,0.8s
E23K Chandalar 57.70 25 P **P 17 54 35.0 +0.5**
baz=263,SNR=6.2
TOLK Toolik Lake Re 57.80 24 P **P 17 54 35.4 +0.3**
baz=262
M23K Glacier View 58.00 32 P **P 17 54 37.1 +0.5**
baz=268
E24K Your Creek 58.13 25 IAmb IAmb 17 54 39.4
comp=Z,5.6nm,0.6s
E24K Your Creek 58.13 25 P **P 17 54 38.0 +0.6**
baz=264,SNR=11
P23K Montague Islan 58.13 34 P **P 17 54 37.7 +0.2**
baz=270
D24K Happy Valley 58.13 23 P **P 17 54 38.4 +1.1**
baz=263,SNR=6.8
H24K Noodor Dome 58.15 27 P **P 17 54 38.2 +0.6**
baz=266
SCM Sheep Creek Mo 58.19 32 IAmb IAmb 17 54 38.8
comp=Z,7.2nm,0.5s
SCM Sheep Creek Mo 58.19 32 P **P 17 54 38.3 +0.4**
baz=269
C24K Franklin Bluff 58.25 23 P **P 17 54 38.7 +0.6**
baz=262
GLI Glacier Island 58.29 33 IAmb IAmb 17 54 39.8
comp=Z,7.7nm,0.9s
GLI Glacier Island 58.29 33 P **P 17 54 38.8 +0.3**
baz=269
POKR Poker Plat Res 58.29 28 P **P 17 54 39.1 +0.6**
baz=266
F24K Squaw Lake 58.30 25 IAmb IAmb 17 54 40.6
comp=Z,7.0nm,0.7s
F24K Squaw Lake 58.30 25 P **P 17 54 39.6 +1.0**
baz=265,SNR=13
G24K Hadweenzic Riv 58.38 26 IAmb IAmb 17 54 41.4
comp=Z,3.7nm,0.7s
G24K Hadweenzic Riv 58.38 26 P **P 17 54 39.7 +0.6**
baz=265,SNR=5.3
HDA Harding Lake 58.46 29 IAmb IAmb 17 54 39.8
comp=Z,4.8nm,0.6s
HDA Harding Lake 58.46 29 P **P 17 54 39.5 -0.2**
baz=267
ILAR Eielson Array 58.50 29 P **P 17 54 38.7 -1.2**
ILAR Eielson Array 58.50 29 P **P 17 54 39.2 -0.7**
comp=Z,2.5nm,0.8s,baz=252,slow=6.0,SNR=22
comp=Z,2.5nm,0.8s
ILAR Eielson Array 58.50 29 *e* P **P 17 54 39.2 -0.7**
ILAR pmax pmax
comp=Z,2.0nm,0.5s
KLU Klutina 58.86 33 IAmb IAmb 17 55 18.4
comp=Z,15nm,1.4s
KLU Klutina 58.86 33 P **P 17 54 43.1 +0.6**
baz=270
G25K Bearman Lake 58.93 26 P **P 17 54 43.8 +1.1**
baz=267
EYAK Cordova Ski Ar 58.95 34 P **P 17 54 43.8 +0.8**
baz=271
K24K Donnelly Dome 58.95 30 P **P 17 54 43.6 +0.6**
baz=269
D25K Kavik River 59.02 23 P **P 17 54 44.5 +1.1**
baz=265,SNR=18
PAX Paxson 59.08 31 P **P 17 54 44.5 +0.6**
baz=270
PRP Porcupine Dome 59.11 28 P **P 17 54 44.7 +0.5**
baz=268
J25K Salcha River, 59.15 29 P **P 17 54 44.6 +0.2**
baz=269
F25K Christian Rive 59.16 25 IAmb IAmb 17 54 46.9
comp=Z,5.6nm,0.8s
F25K Christian Rive 59.16 25 P **P 17 54 45.2 +0.7**
baz=267,SNR=10.0
HARP HAARP 59.22 32 P **P 17 54 45.7 +0.8**
baz=270
FYU Fort Yukon 59.27 27 IAmb IAmb 17 54 48.0
comp=Z,18nm,1.4s
RIDG Independent Ri 59.36 30 P **P 17 54 45.8 0.0**
baz=270
N25K Chitina, Valde 59.49 32 P **P 17 54 47.2 +0.4**
baz=271
N25K Chitina, Valde 59.49 32 P **P 17 54 47.1 +0.3**
BMRM Bremner River 59.50 33 P **P 17 54 47.2 +0.4**
baz=272,SNR=5.5
C26K Camden Bay 59.58 23 P **P 17 54 48.0 +0.9**
baz=266
F26K Sheenjek River 59.74 25 IAmb IAmb 17 54 50.7
comp=Z,6.9nm,0.6s
F26K Sheenjek River 59.74 25 P **P 17 54 49.3 +1.0**
baz=268,SNR=12
SCRK Sand Creek 59.74 30 IAmb IAmb 17 54 49.3
comp=Z,5.8nm,0.6s
SCRK Sand Creek 59.74 30 P **P 17 54 48.7 +0.2**
baz=270,SNR=8.7
G26K Porcupine Rive 59.85 26 P **P 17 54 49.7 +0.7**
baz=269
J26L Joseph Creek 59.93 29 IAmb IAmb 17 54 50.3
comp=Z,9.9nm,0.7s
J26L Joseph Creek 59.93 29 P **P 17 54 49.3 -0.4**
baz=270,SNR=9.1
C27K Jago River 59.98 23 IAmb IAmb 17 54 51.8
comp=Z,7.8nm,0.6s
C27K Jago River 59.98 23 P **P 17 54 50.7 +0.9**
baz=267,SNR=9.3
L26K Log Cabin Wild 60.05 31 P **P 17 54 51.2 +0.8**
baz=271,SNR=12
I26K Coal Creek Min 60.10 28 P **P 17 54 51.2 +0.6**
baz=270
M26K Nabesna, AK 60.23 31 P **P 17 54 51.6 -0.1**
baz=272
CRQE Cirque 60.25 33 P **P 17 54 52.2 +0.2**
baz=273
MCARA McCarthy VSAT 60.25 33 P **P 17 54 52.1 +0.3**
baz=273
K27K Chicken 60.59 30 P **P 17 54 54.2 +0.3**
baz=272
G27K Doyon Strip 60.70 26 P **P 17 54 55.2 +0.5**
baz=271
E27K Coleen River 60.71 25 P **P 17 54 55.4 +0.6**
baz=270
I27K Kandik River 60.73 28 P **P 17 54 55.8 +0.7**
baz=272
L27K Beaver Creek, 60.74 31 P **P 17 54 55.4 +0.4**
baz=273
M27K Edge Creek, AK 60.75 32 P **P 17 54 55.6 +0.4**
baz=273
H27K Steamboat Moun 60.76 27 IAmb IAmb 17 54 58.0
comp=Z,4.3nm,0.9s
H27K Steamboat Moun 60.76 27 P **P 17 54 56.0 +0.8**
baz=271,SNR=6.5
D27M Malcolm River 60.94 24 IAmb IAmb 17 54 58.2
comp=Z,5.4nm,0.7s
D27M Malcolm River 60.94 24 P **P 17 54 57.3 +1.0**
baz=270
F28M Old Crow 61.37 25 IAmb IAmb 17 55 01.1
comp=Z,7.5nm,0.7s
F28M Old Crow 61.37 25 P **P 17 54 59.9 +0.7**
baz=272
I28M Miner Creek 61.44 28 **P 17 55 00.5 +0.8**
I28M Miner Creek 61.44 28 P **P 17 55 00.2 +0.5**
baz=273,SNR=6.1
YUK3 Moose Creek 61.45 32 P **P 17 55 00.4 +0.3**
baz=275
E28M Babbage River 61.47 24 P **P 17 55 00.6 +0.9**
baz=272,SNR=6.4
O28M Mount Upton 61.67 33 P **P 17 55 02.0 +0.4**
baz=275
PINM Pinnacle 61.71 34 P **P 17 55 01.9 +0.4**
baz=276
DAWY Dawson 61.76 29 P **P 17 55 02.1 +0.3**
baz=274
E29M Blow River 62.08 25 P **P 17 55 04.9 +1.1**
baz=273
G29M Pine Creek 62.12 26 P **P 17 55 05.1 +1.0**

baz=274,SNR=7.8
I29M Ogilvie Camp, 62.13 28 IAmb IAmb 17 55 17.1
comp=Z,3.3nm,0.8s
PNL Peninsula 62.18 34 P **P** **17 55 04.9 +0.3**
baz=277
M29M Somme Creek 62.33 31 IAmb IAmb 17 55 07.7
comp=Z,6.0nm,0.7s
M29M Somme Creek 62.33 31 P **P** **17 55 06.1 +0.5**
baz=276,SNR=5.1
YUK4 Talbot Arm 62.36 33 P **P** **17 55 06.7 +0.7**
baz=276
L29M L29M 62.41 31 IAmb IAmb 17 55 08.3
comp=Z,5.7nm,0.7s
L29M L29M 62.41 31 P **P** **17 55 07.0 +0.9**
baz=276
O29M Mount Kennedy 62.52 34 P **P** **17 55 07.3 +0.4**
baz=277
K29M Barlow Dome 62.60 30 IAmb IAmb 17 55 09.3
comp=Z,7.5nm,1.1s
K29M Barlow Dome 62.60 30 P **P** **17 55 07.9 +0.5**
baz=276
EPYK Eagle Plains 62.69 27 P **P** **17 55 08.6 +0.7**
baz=276,SNR=10
G30M tAoh Zraii Nji 62.83 26 IAmb IAmb 17 55 09.9
comp=Z,12nm,1.2s
G30M tAoh Zraii Nji 62.83 26 P **P** **17 55 09.3 +0.6**
baz=276,SNR=6.4
F30M Barrier River 62.93 25 P **P** **17 55 10.2 +0.8**
F30M Barrier River 62.93 25 P **P** **17 55 10.6 +1.2**
baz=276,SNR=5.6
I30M Mount Dempster 62.95 28 P **P** **17 55 10.3 +0.6**
baz=276
HYT Haines Junctio 62.97 33 P **P** **17 55 10.4 +0.5**
baz=278
P29M Windy Craggy 63.02 34 P **P** **17 55 11.7 +1.6**
baz=278
J30M Hart River 63.04 29 P **P** **17 55 11.1 +0.8**
baz=277
M30M Minto, Yukon 63.08 31 P **P** **17 55 11.0 +0.5**
baz=277
N30M Aishikik Lake 63.09 32 P **P** **17 55 10.9 +0.3**
baz=278
P30M Million Dollar 63.34 34 P **P** **17 55 12.9 +0.7**
baz=278
ARTI Arti 63.40 322 **P** **17 55 11.5 -1.1**
ARTI Arti 63.40 322 *d iP* **P** **17 55 11.9 -0.7**
ARTI 17 55 40.1
ARTI SS SS 18 07 32.7 +5.1
ARTI pmax pmax
comp=Z,6.0nm,0.8s
G31M Satah River 63.60 26 P **P** **17 55 13.2 -0.4**
G31M Satah River 63.60 26 P **P** **17 55 13.1 -0.6**
baz=277
N31M Braeburn, Yuko 63.71 32 P **P** **17 55 15.1 +0.6**
baz=279
H31M Peel River 63.72 27 IAmb IAmb 17 55 16.0
comp=Z,6.0nm,0.8s
H31M Peel River 63.72 27 P **P** **17 55 14.8 +0.3**
baz=278
AB31 Akbulak array 63.79 314 **P** **17 55 14.6 -0.7**
AB31 IAmb IAmb 17 55 15.5
comp=Z,3.6nm,0.8s
ABKAR Akbulak array 63.79 314 **P** **17 55 14.5 -0.8**
M31M Drury Creek, Y 64.24 31 P **P** **17 55 19.0 +1.0**
baz=280
WHY Whitehorse 64.27 33 P **P** **17 55 18.5 +0.2**
baz=280
N32M Quiet Lake 65.05 32 P **P** **17 55 23.8 +0.7**
baz=281
MMPY Sheldon Lake, 65.59 30 P **P** **17 55 27.4 +0.8**
baz=282
A36M Sachs Harbour 65.83 20 P **P** **17 55 29.1 +1.3**
baz=283
Q32M Nakina River 65.90 35 P **P** **17 55 29.1 +0.4**
baz=283
V35K Ketchikan 67.12 38 P **P** **17 55 36.7 +0.6**
baz=285
DLBC Dease Lake 67.16 35 P **P** **17 55 37.3 +0.8**
baz=285
TGTN Hyland Airport 67.22 31 P **P** **17 55 37.6 +0.8**
baz=285
T35M Bob Quinn 67.43 36 P **P** **17 55 39.0 +0.9**
baz=285
KIRV Kirov 67.65 326 *c iP* **P** **17 55 39.1 -0.3**
U35K Hyder 67.83 37 P **P** **17 55 41.4 +0.9**
baz=286
TOAD Toad River Com 69.45 34 P **P** **17 55 50.8 +0.4**
baz=288
SPITS Spitsbergen Ar 70.01 350 P **P** **17 55 53.6 +0.1**
comp=Z,1.4nm,0.4s,baz=96,slow=7.6,SNR=12
comp=Z,1.4nm,0.4s
ARCES ARCESS Array B 72.90 340 P **P** **17 56 10.8 +0.1**
comp=Z,1.7nm,0.5s,baz=72,slow=8.3,SNR=26
comp=Z,1.7nm,0.5s
YKA Yellowknife Ar 72.92 28 P **P** **17 56 10.8 -0.1**
comp=Z,3.3nm,0.8s,baz=300,slow=6.5,SNR=7.3
comp=Z,3.3nm,0.8s
OBN Obninsk 75.48 325 *i eP* **P** **17 56 24.7 -0.8**
OBN *e* 17 59 20.5
OBN *eS* **S** **18 05 31.2 -0.9**
OBN pmax pmax
comp=Z,10.0nm,0.5s
KBZ Khabaz 76.68 312 P **P** **17 56 32.0 -0.5**
comp=Z,3.6nm,0.8s,baz=116,slow=1.4,SNR=7.2
comp=Z,3.6nm,0.8s
KBZ Khabaz 76.68 312 *eP* **P** **17 56 32.8 +0.3**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 77.11 333 P **P** **17 56 33.8 -0.7**
comp=Z,7.6nm,0.5s,baz=68,slow=5.2,SNR=77
comp=Z,7.6nm,0.5s
BMO Blue Mountains 79.50 45 P **P** **17 56 48.6 +0.6**
BMO Blue Mountains 79.50 45 P **P** **17 56 48.6 +0.6**
BMO pmax pmax
comp=Z,3.0nm,0.9s
MNK Minsk 80.14 327 *i* P **P** **17 56 48.1 -2.9**
MNK *i* 17 59 57.7
MNK *i* PPP PPP 18 01 49.6
MNK *i* S **SKSac** **18 06 28.5 -0.9**
MNK pmax pmax
comp=Z,8.0nm,0.7s
MNK pmax pmax
comp=N,10.0nm,0.7s
MNK pmax pmax
comp=E,9.0nm,0.7s
MNK MLR MLR
comp=E,19nm,16.0s
MNK MLR MLR
comp=N,27nm,16.0s
MNK MLR MLR
comp=Z,31nm,16.0s
AKASG Malin Array Be 81.52 323 P **P** **17 56 57.5 -0.8**
comp=Z,0.8nm,0.4s,baz=55,slow=4.8,SNR=11
comp=Z,0.8nm,0.4s
AKBB Malin Array Si 81.52 323 *i iP* **P** **17 56 57.0 -1.3**
AKBB pmax pmax
comp=Z,3.0nm,0.8s
HFS Hagfors 82.67 336 P **P** **17 57 02.5 -1.5**
comp=Z,2.1nm,0.4s,baz=88,slow=3.6,SNR=20
comp=Z,2.1nm,0.4s
NC405 NORSAR Array S 82.67 337 P **P** **17 57 02.7 -1.3**
NC204 NORSAR Array S 82.88 338 **P** **17 57 03.7 -1.4**
NB2 NORSAR Subarra 82.90 338 P **P** **17 57 03.9 -1.3**
comp=Z,1.6nm,0.5s,baz=48,slow=4.6
NOA NORSAR Array B 82.90 338 P **P** **17 57 03.7 -1.5**
comp=Z,4.3nm,0.7s,baz=46,slow=4.9,SNR=18
comp=Z,4.3nm,0.7s
BR131 Keskin Array S 84.67 312 *eP* **P** **17 57 13.4 -1.3**
BRTR Keskin Array B 84.67 312 P **P** **17 57 13.3 -1.3**
comp=Z,0.8nm,0.7s,baz=75,slow=6.5,SNR=5.3
comp=Z,0.8nm,0.7s
BRTR Keskin Array B 84.67 312 *eP* **P** **17 57 14.8 +0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
PDAR Pinedale Array 85.39 44 P **P** **17 57 18.4 +0.1**
comp=Z,0.3nm,0.5s,baz=256,slow=2.4,SNR=2.5
comp=Z,0.3nm,0.5s
MSEY Mahe Island 87.44 263 *i* P P 17 57 23.7 -4.6
GERES GERESS Array B 90.54 328 P **P** **17 57 40.6 -1.6**
comp=Z,0.7nm,0.8s,baz=61,slow=6.0,SNR=3.5
comp=Z,0.7nm,0.8s
EKA Eskdalemuir Ar 92.06 340 P **P** **17 57 48.9 0.0**
comp=Z,0.2nm,0.4s,baz=46,slow=4.1,SNR=3.2
comp=Z,0.2nm,0.4s
TXAR Lajitas Array 96.96 52 P **P** **17 58 12.3 +0.4**
comp=Z,0.2nm,0.6s,baz=323,slow=1.9,SNR=3.7
comp=Z,0.2nm,0.6s
PLCA Paso Flores 151.27 126 PKPbc **PKPbc** **18 04 30.3 -1.1**
comp=Z,1.4nm,0.5s,baz=333,slow=1.6,SNR=6.7
LPAZ La Paz 151.60 73 PKPbc **PKPbc** **18 04 32.4 -1.0**
comp=Z,1.9nm,0.6s,baz=266,slow=3.3,SNR=6.5

*IDC **29** 18:12:08.9±0.8, 38.82S×175.04E, h223km±9km, mb3.5/10, mbtmp4.1/10, Error ellipse: s-maj=18.2km s-min=12.7km az=57.0*
*NOU **29** 18:12:08.4, 39.17S×174.86E, h218km, MLv4.6/23, North Island, New Zealand*
*WEL **29** 18:12:11.3, 39.07S×174.92E, h194km, ML4.0, Mw4.0, Moment Tensor Solution. s6 Moment tensor: Scale 10¹⁵ Nm; Mrr1.03; Mθθ-0.51; Mϕϕ-0.52; Mrθ0.22; Mrϕ0.75; Mθϕ-0.89; Fault plane solution: M₀1.48000×10¹⁵ NP1: ϕs155.00000°, δ65.00000°, λ110.00000°. NP2: ϕs294.00000°, δ31.00000°, λ53.00000°. Principal axes: T -1.5211, Plg64.0000°, Azm98.0000°; N 0.0783, Plg18.0000°, Azm326.0000°; P 1.4428, Plg18.0000°, Azm230.0000°; Stations used: HIZ OTVZ RATZ TLZ BKZ MKAZ REVERSE FAULTING*
*WEL **29** 18:12:11.3±1.0, 39°S±16'×17°5E±', h201km±7km, M4.0/35, ML4.2/18, MLv4.0/35 Error ellipse: s-maj=20.7km s-min=11.8km az=5.7, confirmed*

ISC 29 18:12:09.1±0.6, 39.14S±0.04×174.84E±0.05, h225km±4km, n142, σ1$22/160, mb3.8/10, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.07**	**281**	P	**Pn**		**18 12 38.1**	**-0.3**
VRZ				S	**S**		**18 13 00.1**	**-1.0**
MHEZ	**Mangahewa**	**0.41**	**278**	P	**Pn**		**18 12 39.4**	**+0.5**
PKVZ	**Pokaka**	**0.42**	**111**	P	**Pn**		**18 12 39.0**	**0.0**
PKVZ				S	**S**		**18 13 00.7**	**-1.6**
TWVZ	**Taurewa**	**0.47**	**82**	P	**Pn**		**18 12 39.0**	**-0.2**
TWVZ				S	**S**		**18 13 00.7**	**-1.9**
LREZ	**Lake Rotokare**	**0.47**	**226**	P	**Pn**		**18 12 39.5**	**+0.5**
DREZ	**Durham Road**	**0.50**	**264**	P	**Pn**		**18 12 39.5**	**+0.3**
DREZ				S	**S**		**18 13 02.1**	**-0.5**
MTVZ	**Mangateitei**	**0.55**	**117**	P	**Pn**		**18 12 39.4**	**+0.1**
MTVZ				S	**S**		**18 13 01.3**	**-1.8**
COVZ	**Chateau Observ**	**0.55**	**97**	P	**Pn**		**18 12 39.4**	**-0.1**
COVZ				S	**S**		**18 13 01.1**	**-2.0**
FWVZ	**Far West T-bar**	**0.56**	**102**	P	**Pn**		**18 12 39.7**	**0.0**
FWVZ				S	**S**		**18 13 01.3**	**-2.2**
PREZ	**Palmer Road**	**0.57**	**249**	P	**Pn**		**18 12 39.8**	**+0.4**
TRVZ	**Turoa**	**0.57**	**107**	P	**Pn**		**18 12 39.7**	**0.0**
TRVZ				S	**S**		**18 13 01.8**	**-1.7**
MAVZ	**Matarangi**	**0.57**	**103**	P	**Pn**		**18 12 39.7**	**-0.1**
MAVZ				S	**S**		**18 13 02.1**	**-1.6**
WTVZ	**West Tongariro**	**0.58**	**88**	P	**Pn**		**18 12 39.4**	**-0.2**
WTVZ				S	**S**		**18 13 01.5**	**-1.8**
NGZ	**Ngauruhoe**	**0.59**	**94**	P	**Pn**		**18 12 39.6**	**0.0**
NGZ				S	**S**		**18 13 02.0**	**-1.5**
NEZ	**North Egmont**	**0.59**	**257**	P	**Pn**		**18 12 40.1**	**+0.5**
WHVZ	**Whangaehu Hut**	**0.60**	**104**	P	**Pn**		**18 12 39.8**	**0.0**
NNVZ	**North Ngauruho**	**0.60**	**90**	P	**Pn**		**18 12 39.6**	**-0.1**
WNVZ	**Wahianoa**	**0.62**	**108**	P	**Pn**		**18 12 39.7**	**-0.1**
HIZ	**Hauiti**	**0.62**	**1**	P	**Pn**		**18 12 39.2**	**-0.4**
HIZ	**Hauiti**	**0.62**	**1**	S	**S**		**18 13 02.1**	**-1.4**
HIZ	**Hauiti**	**0.62**	**1**	P	**Pn**		**18 12 39.3**	**-0.4**
HIZ				S	**S**		**18 13 01.9**	**-1.6**
KRVZ	**Karewarewa**	**0.62**	**86**	P	**Pn**		**18 12 39.5**	**-0.2**
SNVZ	**South Ngauruho**	**0.62**	**95**	P	**Pn**		**18 12 39.9**	**+0.1**
WAZ	**Wanganui**	**0.63**	**170**	P	**Pn**		**18 12 40.3**	**+0.7**
OTVZ	**Oturere**	**0.64**	**93**	P	**Pn**		**18 12 39.8**	**0.0**
TUVZ	**Tukino**	**0.65**	**102**	P	**Pn**		**18 12 40.0**	**+0.2**
KHEZ	**Kahui Hut**	**0.66**	**256**	P	**Pn**		**18 12 40.0**	**+0.2**
KHEZ	**Kahui Hut**	**0.66**	**256**	P	**Pn**		**18 12 40.1**	**+0.3**
PKE	**Pukeiti**	**0.67**	**265**	P	**Pn**		**18 12 40.1**	**+0.3**
TMVZ	**Te Maari**	**0.67**	**88**	P	**Pn**		**18 12 40.1**	**+0.2**
ETVZ	**East Tongariro**	**0.68**	**90**	P	**Pn**		**18 12 39.8**	**-0.2**
KATZ	**Kakaramea**	**0.68**	**77**	P	**Pn**		**18 12 39.8**	**-0.3**
MOVZ	**Moawhango**	**0.76**	**111**	P	**Pn**		**18 12 40.0**	**-0.3**
NBEZ	**Newall Road No**	**0.77**	**260**	P	**Pn**		**18 12 40.7**	**+0.5**
RATZ	**Rangitukua**	**0.77**	**70**	P	**Pn**		**18 12 40.0**	**-0.3**
NMEZ	**Namu Road**	**0.80**	**249**	P	**Pn**		**18 12 41.0**	**+0.6**
RITZ	**Rihia Road**	**0.81**	**79**	P	**Pn**		**18 12 40.5**	**0.0**
WATZ	**Wairara**	**0.82**	**59**	P	**Pn**		**18 12 40.5**	**-0.1**
TLZ	**Tolley Road**	**0.97**	**34**	P	**Pn**		**18 12 40.9**	**-0.5**
WHTZ	**Whakaora**	**0.99**	**62**	P	**Pn**		**18 12 41.4**	**-0.2**
KUTZ	**Kaahu Road**	**1.00**	**50**	P	**Pn**		**18 12 41.4**	**-0.2**
OHWZ	**Ohakea**	**1.13**	**161**	P	**Pn**		**18 12 43.1**	**+0.9**
WPRZ	**Whakapapatarin**	**1.20**	**60**	P	**Pn**		**18 12 42.2**	**-0.7**
KWHZ	**Kaweka Forest**	**1.26**	**104**	P	**Pn**		**18 12 43.6**	**+0.3**
TSZ	**Takapari Road**	**1.26**	**137**	P	**Pn**		**18 12 43.6**	**+0.3**
GRRZ	**Galatos Road**	**1.27**	**52**	P	**Pn**		**18 12 42.9**	**-0.4**
MRHZ	**Matea Rd**	**1.27**	**77**	P	**Pn**		**18 12 42.4**	**-0.9**
BKZ	**Black Stump Fm**	**1.28**	**92**	P	**Pn**		**18 12 42.9**	**-0.6**
BKZ	**Black Stump Fm**	**1.28**	**92**	S	**S**		**18 13 07.5**	**-2.7**
BKZ	**Black Stump Fm**	**1.28**	**92**	S	**Pn**		**18 12 43.1**	**-0.4**
KRHZ	**Kereru**	**1.29**	**114**	P	**Pn**		**18 12 43.5**	**+0.1**
ALRZ	**Allen Road**	**1.30**	**64**	P	**Pn**		**18 12 42.8**	**-0.9**
PNHZ	**Pukenui**	**1.31**	**127**	P	**Pn**		**18 12 43.8**	**+0.2**
HRRZ	**Handcock Road**	**1.35**	**57**	P	**Pn**		**18 12 43.4**	**-0.6**
PRRZ	**Plateau Road**	**1.37**	**63**	P	**Pn**		**18 12 43.1**	**-1.0**
HSRZ	**Hossack Road**	**1.37**	**54**	P	**Pn**		**18 12 43.6**	**-0.6**
UTU	**Utuhina**	**1.43**	**48**	P	**Pn**		**18 12 44.3**	**-0.3**
POWZ	**Post Office Ro**	**1.44**	**151**	P	**Pn**		**18 12 44.7**	**+0.1**
MCHZ	**McNeill Hill**	**1.47**	**103**	P	**Pn**		**18 12 45.5**	**+0.6**
HLRZ	**Highlands Stat**	**1.48**	**54**	P	**Pn**		**18 12 45.0**	**+0.1**
NGRZ	**Ngongotaha**	**1.48**	**46**	P	**Pn**		**18 12 44.5**	**-0.5**
TOZ	**Tahuroa Road**	**1.50**	**20**	P	**Pn**		**18 12 44.6**	**-0.5**
NMHZ	**Naumai**	**1.53**	**89**	P	**Pn**		**18 12 45.8**	**+0.4**
RRRZ	**Republican Roa**	**1.53**	**59**	P	**Pn**		**18 12 44.5**	**-0.9**
WPHZ	**Waipukurau**	**1.54**	**127**	P	**Pn**		**18 12 45.7**	**+0.3**
DVHZ	**Dannevirke**	**1.55**	**139**	P	**Pn**		**18 12 45.5**	**0.0**
KMRZ	**Kaimai**	**1.55**	**34**	P	**Pn**		**18 12 45.2**	**-0.4**
KARZ	**Kaharoa**	**1.56**	**45**	P	**Pn**		**18 12 45.0**	**-0.7**
OMRZ	**Omania**	**1.58**	**50**	P	**Pn**		**18 12 45.0**	**-0.8**
TARZ	**Mount Tarawera**	**1.58**	**56**	P	**Pn**		**18 12 45.2**	**-0.7**
MTHZ	**Maungataniwha**	**1.58**	**80**	P	**Pn**		**18 12 45.1**	**-0.7**
MKRZ	**Makatiti**	**1.62**	**52**	P	**Pn**		**18 12 45.9**	**-0.3**
MRZ	**Mangatainoka R**	**1.62**	**160**	P	**Pn**		**18 12 46.0**	**-0.1**
MUGZ	**Murupara**	**1.64**	**67**	P	**Pn**		**18 12 45.0**	**-1.3**
LIRZ	**Lichensteins R**	**1.66**	**47**	P	**Pn**		**18 12 45.8**	**-0.7**
PRWZ	**Pori Road**	**1.66**	**149**	P	**Pn**		**18 12 46.7**	**+0.2**
ARHZ	**Aropaoanui**	**1.68**	**95**	P	**Pn**		**18 12 46.8**	**+0.2**
OGWZ	**Otaki Gorge**	**1.70**	**172**	P	**Pn**		**18 12 47.0**	**+0.3**
KAHZ	**Kahuranaki**	**1.71**	**113**	P	**Pn**		**18 12 47.4**	**+0.5**
KIW	**Kapiti Island**	**1.72**	**178**	P	**Pn**		**18 12 46.9**	**0.0**
RTZ	**Ruatahuna**	**1.75**	**73**	P	**Pn**		**18 12 46.4**	**-0.9**
RAHZ	**Arahi**	**1.76**	**84**	P	**Pn**		**18 12 47.2**	**-0.2**
PRHZ	**Porangahau**	**1.79**	**130**	P	**Pn**		**18 12 47.7**	**+0.2**
TGRZ	**Tauranga**	**1.79**	**39**	P	**Pn**		**18 12 47.0**	**-0.7**
PXZ	**Pawanui**	**1.80**	**120**	P	**Pn**		**18 12 47.8**	**+0.2**
DUWZ	**D'Urville Isla**	**1.81**	**203**	P	**Pn**		**18 12 47.9**	**+0.1**
EDRZ	**Edgecumbe**	**1.81**	**56**	P	**Pn**		**18 12 46.8**	**-1.1**
CKHZ	**Cape Kidnapper**	**1.81**	**107**	P	**Pn**		**18 12 48.2**	**+0.4**
TIWZ	**Tintock**	**1.82**	**154**	P	**Pn**		**18 12 47.8**	**-0.1**
ANWZ	**Angora Road**	**1.82**	**137**	P	**Pn**		**18 12 48.3**	**+0.4**
HOWZ	**Holdsworth Sta**	**1.83**	**164**	P	**Pn**		**18 12 47.7**	**-0.2**
MARZ	**Manawahe**	**1.84**	**52**	P	**Pn**		**18 12 47.3**	**-0.9**
WHHZ	**Waihua**	**1.86**	**89**	P	**Pn**		**18 12 48.2**	**-0.1**
OPRZ	**Ohinepanea**	**1.86**	**47**	P	**Pn**		**18 12 47.3**	**-1.0**
BFZ	**Birch Farm**	**1.88**	**145**	P	**Pn**		**18 12 48.1**	**-0.3**
BFZ	**Birch Farm**	**1.88**	**145**	S	**S**		**18 13 17.6**	**-1.5**
BFZ	**Birch Farm**	**1.88**	**145**	P	**Pn**		**18 12 48.2**	**-0.2**
CAW	**Cannon Point**	**1.98**	**175**	P	**Pn**		**18 12 49.2**	**0.0**
SNGZ	**Shannon Statio**	**1.98**	**80**	P	**Pn**		**18 12 48.9**	**-0.5**
URZ	**Urewera**	**1.98**	**64**	P	**Pn**		**18 12 47.6**	**-1.8**
	992nm,0.4s,baz=243,slow=7.4,SNR=2926							
URZ				S	**S**		**18 13 15.7**	**-4.9**
	699nm,0.4s,baz=300,slow=23,SNR=28							
URZ	**Urewera**	**1.98**	**64**	P	**Pn**		**18 12 47.7**	**-1.6**
URZ	**Urewera**	**1.98**	**64**	P	**Pn**		**18 12 47.8**	**-1.6**
CPWZ	**Castlepoint**	**2.06**	**150**	P	**Pn**		**18 12 50.4**	**+0.4**
AWAZ	**Awhitu Peninsu**	**2.08**	**356**	P	**Pn**		**18 12 50.2**	**-0.2**
WHRZ	**Whale Island**	**2.11**	**53**	P	**Pn**		**18 12 49.6**	**-1.0**
RAGZ	**Rawiri**	**2.11**	**73**	P	**Pn**		**18 12 49.8**	**-1.0**
TCW	**Tory Channel**	**2.12**	**192**	P	**Pn**		**18 12 50.8**	**+0.1**
SNZO	**South Karori**	**2.17**	**183**	P	**Pn**		**18 12 50.7**	**-0.5**
SNZO	**South Karori**	**2.17**	**183**	S	**S**		**18 13 23.0**	**-1.1**
ETAZ	**East Tamaki Re**	**2.18**	**2**	P	**Pn**		**18 12 51.1**	**-0.3**
MWZ	**Matawai**	**2.25**	**70**	P	**Pn**		**18 12 50.8**	**-1.3**
QRZ	**Quartz Range**	**2.45**	**226**	P	**Pn**		**18 12 53.1**	**-0.9**
QRZ	**Quartz Range**	**2.45**	**226**	S	**S**		**18 13 26.7**	**-2.5**
KUZ	**Kuaotunu**	**2.49**	**17**	P	**Pn**		**18 12 53.8**	**-0.7**
MXZ	**Matakaoa Point**	**3.15**	**61**	P	**Pn**		**18 13 00.1**	**-1.7**
KHZ	**Kahutara**	**3.42**	**196**	P	**Pn**		**18 13 04.3**	**-0.6**
KHZ	**Kahutara**	**3.42**	**196**	S	**S**		**18 13 46.6**	**-2.1**
OUZ	**Omahuta**	**4.03**	**345**	P	**Pn**		**18 13 12.0**	**-0.3**
RPZ	**Rata Peaks**	**5.39**	**211**	P	**Pn**		**18 13 27.2**	**-1.8**
	72nm,0.4s,baz=29,slow=13,SNR=227							
RPZ				S	**S**		**18 14 24.8**	**-7.5**
	280nm,0.4s,baz=345,slow=2.8,SNR=6.8							
RPZ	**Rata Peaks**	**5.39**	**211**	P	**Pn**		**18 13 27.6**	**-1.3**
ODZ	**Otahua Downs**	**6.68**	**207**	P	**Pn**		**18 13 44.5**	**-0.8**
JCZ	**Jackson Bay**	**6.70**	**221**	P	**Pn**		**18 13 43.1**	**-2.6**
CTZ	**Chatham Island**	**7.89**	**128**	S	**S**		**18 15 28.1**	**-2.2**
SYZ	**Scrubby Hill**	**8.50**	**208**	P	**Pn**		**18 14 07.6**	**-1.0**
PYZ	**Puysegur Point**	**9.24**	**218**	P	**Pn**		**18 14 16.9**	**-1.3**
STKA	**Stephens Creek**	**27.91**	**275**	P	**P**		**18 17 39.8**	**+1.5**
	1.8nm,0.8s,baz=56,slow=1.3,SNR=3.4							
	1.8nm,0.8s							
ASAR	**Alice Springs**	**37.85**	**282**	P	**P**		**18 19 05.0**	**+0.5**
	3.8nm,0.7s,baz=131,slow=9.2,SNR=95							
ASAR				PcP	**PcP**		**18 21 13.9**	**-2.0**
	0.5nm,0.6s,baz=125,slow=4.5,SNR=3.0							
ASAR				S	**S**		**18 24 38.5**	**-0.3**
	0.3nm,0.8s,baz=126,slow=14,SNR=1.5							
	3.8nm,0.7s							
VNDA	**Vanda**	**38.88**	**184**	P	**P**		**18 19 15.6**	**+3.3**
	0.4nm,0.5s,baz=6.0,slow=9.5,SNR=5.1							
	0.4nm,0.5s							
WRA	**Warramunga Arr**	**39.69**	**287**	P	**P**		**18 19 20.1**	**+0.4**
	2.0nm,0.5s,baz=125,slow=8.1,SNR=27							
WRA				PcP	**PcP**		**18 21 22.1**	**+0.4**
	0.2nm,0.6s,baz=123,slow=7.6,SNR=1.3							
	2.0nm,0.5s							
QSPA	**South Pole Qui**	**50.99**	**180**	P	**P**		**18 20 50.9**	**+3.2**
	1.1nm,0.3s,baz=29,slow=8.5,SNR=46							
	1.1nm,0.3s							
SNAA	**Sanae**	**69.48**	**181**	P	**P**		**18 22 53.3**	**+0.6**
	0.5nm,0.7s,baz=214,slow=10,SNR=8.8							
	0.5nm,0.7s							
PLCA	**Paso Flores**	**80.65**	**136**	P	**P**		**18 23 57.3**	**+0.4**
	1.8nm,0.8s,baz=136,slow=1.7,SNR=3.6							
	1.8nm,0.8s							
MJAR	**Matsushiro Arr**	**82.53**	**331**	P	**P**		**18 24 06.0**	**-0.5**
	1.4nm,0.7s,baz=177,slow=3.1,SNR=3.6							
	1.4nm,0.7s							
KSRS	**Korea Array**	**87.59**	**324**	P	**P**		**18 24 32.5**	**+1.0**
	1.7nm,0.8s,baz=146,slow=5.6,SNR=5.5							
	1.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**91.03**	**293**	P	**P**		**18 24 48.5**	**+0.4**
	0.5nm,0.7s,baz=116,slow=5.2,SNR=4.3							
	0.5nm,0.7s							
ARCES	**ARCESS Array B**	**145.46**	**342**	PKPbc	**PKPdf**		**18 31 18.3**	**-0.7**
	5.4nm,0.8s,baz=52,slow=3.7,SNR=19							
MMAI	**Mount Meron Ar**	**146.86**	**272**	PKPbc	**PKPbc**		**18 31 25.0**	**+0.1**
	0.4nm,0.3s,baz=123,slow=5.3,SNR=2.1							
BRTR	**Boeskin Array B**	**150.18**	**284**	PKPab	**PKPab**		**18 31 39.9**	**-0.4**
	1.4nm,0.7s,baz=127,slow=3.7,SNR=8.8							
FINES	**FINESS Array B**	**150.55**	**330**	PKPbc	**PKPbc**		**18 31 31.9**	**-1.2**
	2.6nm,0.9s,baz=90,slow=1.9,SNR=9.4							
FINES				PKPab	**PKPab**		**18 31 39.2**	**-1.6**
	4.8nm,0.4s,baz=59,slow=4.3,SNR=39							
TORD	**Torodi Ar. Bea**	**153.41**	**195**	PKPbc	**PKPbc**		**18 31 40.0**	**-1.0**
	0.4nm,0.4s,baz=160,slow=3.3,SNR=6.2							
NOA	**NORSAR Array B**	**155.83**	**340**	PKPab	**PKPab**		**18 32 02.2**	**-1.0**
	0.5nm,0.7s,baz=30,slow=3.2,SNR=4.5							
HFS	**Hagfors**	**155.86**	**337**	PKPab	**PKPab**		**18 32 02.3**	**-1.1**
	3.3nm,0.6s,baz=26,slow=3.7,SNR=19							

*IDC **29** 18:25:13.8±1.4, 13.18N×120.98E, h63km±11km, mb3.6/12, mbtmp3.9/13, MS3.5/10, Error ellipse: s-maj=26.4km s-min=13.9km az=69.0*

ISC 29 18:25:09.4±0.8, 13.04N±0.08×121.0E±0.2, h25km, n23, σ1$60/15, mb4.0/12, MS3.6/9, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.05**	**359**	P	**Pb**		**18 25 29.4**	**+0.4**
	8μm,0.7s,baz=190,slow=4.1,SNR=120							
TGY				S	**Sb**		**18 25 45.3**	**+2.9**
	5μm,0.7s,baz=180,slow=19,SNR=3.8							
DAV	**Davao City (W)**	**7.48**	**142**	LR	LR		18 30 14.2	
	comp=Z,536nm,21.8s,baz=328,slow=40							
JOW	**Kunigami**	**15.34**	**25**	P	**Pn**		**18 28 44.8**	**+0.4**
	11nm,1.1s,baz=224,slow=11,SNR=5.1							
CMAR	**Chiang Mai Arr**	**21.85**	**287**	P	**P**		**18 30 01.4**	**+1.1**
	2.8nm,0.9s,baz=109,slow=8.7,SNR=16							
	2.8nm,0.9s							
GUMO	**Guam**	**23.28**	**86**	LR	LR		18 37 37.3	
	comp=Z,46nm,21.2s,baz=277,slow=32							
KSRS	**Korea Array**	**25.09**	**13**	P	**P**		**18 30 31.1**	**-1.0**
	2.2nm,1.0s,baz=184,slow=8.9,SNR=5.1							
	2.2nm,1.0s							
WRA	**Warramunga Arr**	**35.33**	**158**	P	**P**		**18 32 05.2**	**+2.3**
	1.1nm,0.4s,baz=334,slow=9.0,SNR=4.3							
	1.1nm,0.4s							
SONM	**Songino Array**	**36.75**	**344**	P	**P**		**18 32 14.0**	**-0.9**
	1.3nm,0.9s,baz=155,slow=10,SNR=4.0							
SONM				LR	LR		18 48 47.2	
	comp=Z,61nm,18.5s,baz=19,slow=39							
	1.3nm,0.9s							
ASAR	**Alice Springs**	**38.62**	**161**	P	**P**		**18 32 33.2**	**+2.3**
	2.2nm,0.7s,baz=348,slow=8.9,SNR=10							
	2.2nm,0.7s							
MKAR	**Makanchi Array**	**46.70**	**324**	P	**P**		**18 33 35.8**	**-0.5**
	1.9nm

5.7nm,0.6s,baz=100,slow=6.1,SNR=7.8
JAY S **Sn** **18 32 21.2 +3.6**
4.1nm,0.7s,baz=75,slow=20,SNR=1.7
DZM **Mont Dzumac** **21.05 145** P **P** **18 31 31.6 +0.3**
2.4nm,0.6s,baz=316,slow=12,SNR=1.6
2.4nm,0.6s
FAKI **Fak Fak** **21.32 275** P **P** **18 31 33.0 -1.1**
MTN **Manton Dam** **23.41 249** P **P** **18 31 56.2 +0.2**
WB0 **Warramunga Arr** **23.68 230** **P** **18 31 57.5 -1.0**
WB0 IAmb IAmb 18 31 58.6
comp=Z,6.7nm,0.8s
WR8 **Warramunga Arr** **23.71 230** **P** **18 31 58.1 -0.7**
WR8 IAmb IAmb 18 32 02.3
comp=Z,9.2nm,1.2s
WRAB **Tennant Creek** **23.81 230** P **P** **18 31 58.8 -0.8**
WRAB IAmb IAmb 18 31 59.8
comp=Z,6.1nm,0.8s
WRA **Warramunga Arr** **23.83 230** P **P** **18 31 55.9 -3.9**
WRA **Warramunga Arr** **23.83 230** P **P** **18 31 58.8 -1.0**
comp=Z,3.1nm,0.6s,baz=334,slow=9.6,SNR=49
comp=Z,3.1nm,0.6s
INKA **Innaminka** **25.64 207** P **P** **18 32 15.1 -1.0**
INKA IAmb IAmb 18 32 47.2
comp=Z,3.8nm,1.4s
AS31 **Alice Springs** **26.46 224** P **P** **18 32 23.1 -0.6**
AS31 IAmb IAmb 18 32 42.1
comp=Z,1.1nm,0.6s
ASAR **Alice Springs** **26.46 224** P **P** **18 32 24.1 +0.3**
ASAR **Alice Springs** **26.46 224** P **P** **18 32 22.6 -1.1**
comp=Z,0.5nm,0.4s,baz=57,slow=9.3,SNR=38
comp=Z,0.5nm,0.4s
KNRA **Kununurra** **26.51 245** P **P** **18 32 23.4 -0.7**
KNRA IAmb IAmb 18 32 45.3
comp=Z,5.1nm,0.7s
H11S3 **WAKE ISLAND Hy** **26.75 29** T T 19 00 44.7
baz=208,slow=76,SNR=13
H11S2 **WAKE ISLAND Hy** **26.76 29** T T 19 00 46.4
baz=208,slow=76,SNR=13
H11S1 **WAKE ISLAND Hy** **26.77 29** T T 19 00 49.1
baz=208,slow=76,SNR=7.9
FITZ **Fitzroy Crossi** **30.17 242** P **P** **18 32 55.3 -1.5**
CMAR **Chiang Mai Arr** **58.63 295** P **P** **18 36 44.0 +0.5**
comp=Z,1.3nm,0.6s,baz=118,slow=5.0,SNR=6.8
comp=Z,1.3nm,0.6s
SONM **Songino Arrav** **66.91 328** P **P** **18 37 37.8 -0.4**
comp=Z,0.5nm,0.6s,baz=153,slow=7.9,SNR=2.4
comp=Z,0.5nm,0.6s
MKAR **Makanchi Array** **80.98 319** P **P** **18 38 59.5 -0.9**
comp=Z,0.4nm,0.8s,baz=95,slow=8.6,SNR=5.1
comp=Z,0.4nm,0.8s
ZALV **Zalesovo Beam** **81.75 326** P **P** **18 39 03.4 -0.9**
comp=Z,0.4nm,0.4s,baz=120,slow=5.8,SNR=2.3
comp=Z,0.4nm,0.4s
KURBB **Kurchatov Array** **84.43 322** P **P** **18 39 17.1 -1.0**
comp=Z,0.3nm,0.4s,baz=101,slow=3.9,SNR=2.4
comp=Z,0.3nm,0.4s
QSPA **South Pole Qui** **84.92 180** P **P** **18 39 20.4 -0.1**
comp=Z,1.2nm,0.6s,baz=40,slow=9.8,SNR=15
comp=Z,1.2nm,0.6s
MAW **Mawson** **85.62 203** P **P** **18 39 23.2 -0.6**
comp=Z,1.9nm,0.6s,baz=102,slow=7.9,SNR=6.2
comp=Z,1.9nm,0.6s
BVAR **Borovoye Array** **89.86 323** P **P** **18 39 42.7 -1.7**
comp=Z,0.6nm,0.8s,baz=87,slow=7.9,SNR=3.0
comp=Z,0.6nm,0.8s
TORD **Torodi Ar. Bea** **151.06 288** PKPbc **PKPbc** **18 46 38.2 -1.3**
comp=Z,0.9nm,0.4s,baz=58,slow=2.6,SNR=15

AFAD ***29*** *18:33:25.8, 40.98N×23.33E, h6km±3km, MW3.9*
IDC ***29*** *18:33:28.5±0.7, 40.80N×23.51E, h0km, mb3.7/15, mbtmp3.7/23, ML3.5/7, MS3.0/4, Error ellipse: s-maj=10.4km s-min=9.8km az=46.0*
THE ***29*** *18:33:30.9, 40.9N±0.7×23.5E±0.8, h7km±1km, M3.9/25, MLh3.9/25*
PDG ***29*** *18:33:30.3±0.8, 40.91N×23.48E, h16km±1km, ML3.8/10, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
ATH ***29*** *18:33:30.7, 40.94N×23.48E, h11km, ML3.7/36, Manual Solution by D.Makaris First location: 2019/07/29 18:34:56, This location: 2019/07/29 19:02:08 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
SOF ***29*** *18:33:30.5, 40.97N±0.01×23.48E±0.02, h7km±1km, MD4.3/7*
BEO ***29*** *18:33:31.2±0.4, 40.97N×23.41E, h4km±2km, ML3.8/17*
SKO ***29*** *18:33:31.2, 40.93N×23.48E, h2km, ML3.7*
ISK ***29*** *18:33:32.1, 40.89N×23.72E, h13km, ML3.7/18*
PRU ***29*** *18:33:35.3, 41.53N×24.15E, h10km*
NAO ***29*** *18:33:36.1, 40.92N×23.49E, h10km, mb3.6*
ISC 29 18:33:30.7±0.7, 40.93N±0.01×23.48E±0.01, h13km±4km, n293, σ1$23/404, mb3.6/10, MS3.5/3, 48C-27D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.14**	**223**	P		**Pg**		**18 33 34.1**	**-0.2**
SOH				S		**Sg**		**18 33 36.5**	**-0.3**
SOH	**Sokhos**	**0.14**	**223**	⇑*i*Pg		**Pg**		**18 33 34.2**	**-0.1**
SOH				*i* Sg		**Sg**		**18 33 36.5**	**-0.3**
SOH	**Sokhos**	**0.14**	**223**	P		**Pg**		**18 33 34.2**	**-0.1**
SOH				S		**Sg**		**18 33 36.6**	**-0.2**
SRS	**Serrai**	**0.21**	**24**	P		**Pg**		**18 33 35.0**	**-0.3**
SRS				S		**Sg**		**18 33 38.4**	**-0.1**
SRS	**Serrai**	**0.21**	**24**	⇑*i*Pg		**Pg**		**18 33 35.1**	**-0.3**
SRS				*i* Sg		**Sg**		**18 33 38.5**	**0.0**
SRS	**Serrai**	**0.21**	**24**	*e*Pg		**Pg**		**18 33 35.0**	**-0.3**
SRS				*e*Sg		**Sg**		**18 33 38.4**	**-0.1**
SRS	**Serrai**	**0.21**	**24**	P		**Pg**		**18 33 35.0**	**-0.3**
HORT	**Hortiatis**	**0.44**	**222**	P		**Pg**		**18 33 39.2**	**-0.1**
HORT	**Hortiatis**	**0.44**	**222**	P		**Pg**		**18 33 39.3**	**-0.1**
HORT				S		**Sg**		**18 33 45.7**	**+0.4**
THE	**Thessaloniki**	**0.49**	**233**	P		**Pg**		**18 33 40.1**	**-0.3**
THE				S		**Sg**		**18 33 46.7**	**-0.2**
THE	**Thessaloniki**	**0.49**	**233**	⇑*i*Pg		**Pg**		**18 33 40.1**	**-0.3**
THE				*i* Sg		**Sg**		**18 33 46.7**	**-0.2**
THE	**Thessaloniki**	**0.49**	**233**	P		**Pg**		**18 33 40.0**	**-0.4**
THE				S		**Sg**		**18 33 47.2**	**+0.3**
KNT	**Kendrikon**	**0.50**	**298**	P		**Pg**		**18 33 40.2**	**-0.3**
KNT	**Kendrikon**	**0.50**	**298**	⇓*i*Pg		**Pg**		**18 33 40.2**	**-0.3**
KNT				*i* Sg		**Sg**		**18 33 47.1**	**-0.2**
KNT	**Kendrikon**	**0.50**	**298**	P		**Pg**		**18 33 40.4**	**-0.2**
KNT				S		**Sg**		**18 33 47.3**	**0.0**
DRA2	**DRAMA**	**0.56**	**65**	P		**Pg**		**18 33 41.2**	**-0.4**
DRA2				S		**Sg**		**18 33 49.4**	**+0.4**
MMB	**Musomishta**	**0.65**	**18**	⇑*i*Pg		**Pg**		**18 33 43.3**	**-0.2**
MMB				Sg		**Sg**		**18 33 51.7**	**-0.4**
MMB	**Musomishta**	**0.65**	**18**	P		**Pg**		**18 33 43.2**	**-0.2**
MMB				S		**Sg**		**18 33 52.5**	**+0.4**
MMB	**Musomishta**	**0.65**	**18**	⇑*i*Pg		**Pg**		**18 33 43.3**	**-0.2**
MMB				*i* Sg		**Sb**		**18 33 52.7**	**-0.3**
OUR	**Ouranopolis**	**0.70**	**147**	Pg		**Pg**		**18 33 44.2**	**-0.2**
OUR				Sg		**Sg**		**18 33 52.9**	**-0.7**
OUR	**Ouranopolis**	**0.70**	**147**	P		**Pg**		**18 33 44.1**	**-0.3**
OUR	**Ouranopolis**	**0.70**	**147**	P		**Pg**		**18 33 44.3**	**0.0**
OUR				S		**Sb**		**18 33 54.8**	**+0.5**
KAVA	**Kavala**	**0.78**	**85**	P		**Pg**		**18 33 45.2**	**-0.7**
KAVA				S		**Sb**		**18 33 57.2**	**+0.5**
KAVA	**Kavala**	**0.78**	**85**	P		**Pb**		**18 33 46.4**	**+0.2**
KAVA				S		**Sb**		**18 33 56.5**	**-0.2**
VAY	**Valandovo**	**0.79**	**300**	*i*Pg		**Pg**		**18 33 45.7**	**-0.4**
VAY				*i* Sg		**Sb**		**18 33 56.9**	**-0.1**
VAY				*e*Lg		Lg		18 33 57.2	
	comp=N,3μm,0.2s								
VAY				*e*Lg		Lg		18 33 57.5	
	comp=E,2μm,0.4s								
THS1	**Thassos, Thass**	**0.85**	**102**	P		**Pn**		**18 33 47.9**	**-0.5**
THS1				S		**Sb**		**18 33 59.1**	**+0.5**
PLN1	**Chaniotis**	**0.93**	**176**	P		**Pg**		**18 33 48.7**	**0.0**
PLN1				S		**Sb**		**18 34 01.7**	**+0.8**
KKB	**Krupnik**	**0.95**	**344**	*i* Pg		**Pb**		**18 33 48.6**	**-0.5**
KKB				Sg		**Sg**		**18 34 00.3**	**-1.3**
KKB	**Krupnik**	**0.95**	**344**	P		**Pb**		**18 33 48.7**	**-0.5**
KKB	**Krupnik**	**0.95**	**344**	⇑*i*Pg		**Pb**		**18 33 48.6**	**-0.5**
KKB				*i* Sg		**Sb**		**18 34 01.9**	**+0.2**
THAS	**Thassos island**	**0.99**	**108**	P		**Pb**		**18 33 49.3**	**-0.5**
THAS				S		**Sg**		**18 34 03.3**	**+0.5**
THAS	**Thassos island**	**0.99**	**108**	P		**Pb**		**18 33 49.4**	**-0.3**
THAS				S		**Sg**		**18 34 03.3**	**+0.5**
LIT	**Litokhoron**	**1.12**	**223**	P		**Pb**		**18 33 50.9**	**-1.0**
LIT	**Litokhoron**	**1.12**	**223**	*i* Pn		**Pb**		**18 33 50.8**	**-1.1**
LIT	**Litokhoron**	**1.12**	**223**	P		**Pb**		**18 33 51.2**	**-0.7**
LIT				S		**Sn**		**18 34 07.2**	**-0.2**
RZN	**Rozhen**	**1.22**	**51**	Pg		**Pn**		**18 33 53.4**	**-0.2**
RZN				Sg		**Sn**		**18 34 10.5**	**+0.4**
RZN	**Rozhen**	**1.22**	**51**	P		**Pn**		**18 33 53.5**	**-0.1**
RZN				S		**Sn**		**18 34 11.3**	**+1.2**
KZN	**Kozani**	**1.44**	**245**	P		**Pn**		**18 33 56.9**	**+0.3**
KZN				S		**Sg**		**18 34 16.9**	**-0.3**
KZN	**Kozani**	**1.44**	**245**	P		**Pn**		**18 33 56.9**	**+0.3**
KZN				S		**Sn**		**18 34 14.7**	**-0.7**
LRSO	**Larissa Observ**	**1.51**	**214**	P		**Pn**		**18 33 57.6**	**+0.3**
LRSO	**Larissa Observ**	**1.51**	**214**	P		**Pn**		**18 33 57.8**	**+0.5**
LRSO				S		**Sb**		**18 34 18.1**	**+0.7**
TYRN	**Tyrnavos**	**1.54**	**219**	P		**Pn**		**18 33 58.0**	**+0.1**
TYRN				S		**Sb**		**18 34 18.9**	**+0.3**
TYRN	**Tyrnavos**	**1.54**	**219**	P		**Pn**		**18 33 58.4**	**+0.5**
TYRN				S		**Sb**		**18 34 19.1**	**+0.5**
PLD	**Plovdiv**	**1.55**	**37**	Pn		**Pn**		**18 33 58.3**	**+0.4**
PLD				Sn		**Sn**		**18 34 17.3**	**-0.6**
PLD	**Plovdiv**	**1.55**	**37**	Pg		**Pb**		**18 33 59.4**	**+0.2**
PLD				Sg		**Sg**		**18 34 19.6**	**-0.9**
PLD	**Plovdiv**	**1.55**	**37**	P		**Pn**		**18 33 58.5**	**+0.6**
PLD	**Plovdiv**	**1.55**	**37**	*i* Pn		**Pn**		**18 33 58.5**	**+0.6**
PLD	**Plovdiv**	**1.55**	**37**	*e*Pg		**Pn**		**18 33 58.5**	**+0.6**
PLD				*e*Sg		**Sb**		**18 34 19.4**	**+0.7**
PLNA	**Plana**	**1.55**	**358**	Pg		**Pb**		**18 33 59.7**	**+0.4**
PLNA				Sg		**Sg**		**18 34 20.6**	**0.0**
KDZ	**Kurdzhali**	**1.57**	**63**	Pn		**Pn**		**18 33 58.2**	**0.0**
KDZ				Sn		**Sn**		**18 34 17.6**	**-0.8**
KDZ	**Kurdzhali**	**1.57**	**63**	Pg		**Pg**		**18 34 00.6**	**-0.2**
KDZ				Sg		**Sg**		**18 34 21.5**	**+0.4**
KDZ	**Kurdzhali**	**1.57**	**63**	P		**Pn**		**18 33 58.3**	**0.0**
KDZ				S		**Sb**		**18 34 19.5**	**+0.3**
RDO	**Rodhopi**	**1.57**	**81**	Pn		**Pn**		**18 33 57.9**	**-0.4**
RDO				Sn		**Sn**		**18 34 16.9**	**-1.5**
RDO	**Rodhopi**	**1.57**	**81**	P		**Pn**		**18 33 57.5**	**-0.7**
RDO	**Rodhopi**	**1.57**	**81**	P		**Pn**		**18 33 58.3**	**+0.1**
RDO				S		**Sb**		**18 34 19.3**	**-0.1**
FNA	**Florina**	**1.60**	**266**	P		**Pn**		**18 33 59.1**	**+0.3**
FNA	**Florina**	**1.60**	**266**	*i* Pn		**Pn**		**18 33 59.1**	**+0.3**
FNA				*i* Sn		**Sg**		**18 34 21.5**	**-0.9**
FNA	**Florina**	**1.60**	**266**	*e*Pg		**Pn**		**18 33 59.0**	**+0.3**
FNA				*e*Sg		**Sb**		**18 34 20.1**	**-0.3**
SMTH	**Samothraki Isl**	**1.62**	**106**	P		**Pn**		**18 33 58.5**	**-0.6**
SMTH				S		**Sb**		**18 34 21.6**	**+0.7**
LIA	**Limnos Island**	**1.66**	**128**	P		**Pn**		**18 33 58.6**	**-0.9**
LIA	**Limnos Island**	**1.66**	**128**	P		**Pn**		**18 33 58.9**	**-0.6**
LIA				S		**Sb**		**18 34 22.4**	**+0.6**
VTS	**Vitosha**	**1.70**	**354**	Pg		**Pb**		**18 34 02.6**	**+0.7**
VTS				Sg		**Sg**		**18 34 24.5**	**-1.0**
VTS	**Vitosha**	**1.70**	**354**	P		**Pn**		**18 34 00.7**	**+0.4**
VTS	**Vitosha**	**1.70**	**354**	*e*Pg		**Pn**		**18 34 00.9**	**+0.7**
VTS				*e*Sg		**Sb**		**18 34 23.2**	**-0.1**
BOSS	**Bosilegrad**	**1.74**	**335**	*e*Pg		**Pb**		**18 34 01.6**	**-0.9**
BOSS				*e*Sg		**Sb**		**18 34 24.7**	**+0.4**
THL	**Klokotos Trika**	**1.76**	**220**	P		**Pn**		**18 34 00.9**	**0.0**
THL	**Klokotos Trika**	**1.76**	**220**	P		**Pn**		**18 34 01.3**	**+0.4**
THL				S		**Sn**		**18 34 23.5**	**+0.3**
AOS	**Alonnisos**	**1.78**	**170**	P		**Pn**		**18 34 00.8**	**-0.4**
SKO	**Skopje**	**1.86**	**305**	*i* Pn		**Pb**		**18 34 03.9**	**-0.7**
SKO				*i* Sn		**Sb**		**18 34 26.9**	**-0.7**
NEST	**Nestorio**	**1.92**	**255**	P		**Pn**		**18 34 04.1**	**+0.9**
NEST	**Nestorio**	**1.92**	**255**	P		**Pn**		**18 34 03.5**	**+0.3**
NEST				S		**Sn**		**18 34 28.0**	**+0.8**
PENT	**Pentalofos**	**1.93**	**249**	P		**Pn**		**18 34 04.3**	**+1.0**
PENT				S		**Sn**		**18 34 28.3**	**+0.9**
ALN	**Alexandroupoli**	**1.94**	**90**	Pn		**Pn**		**18 34 03.1**	**-0.3**
ALN	**Alexandroupoli**	**1.94**	**90**	P		**Pn**		**18 34 03.0**	**-0.3**
ALN	**Alexandroupoli**	**1.94**	**90**	P		**Pn**		**18 34 03.5**	**+0.1**
ALN				S		**Sg**		**18 34 32.8**	**-0.4**
ALN	**Alexandroupoli**	**1.94**	**90**	P		**Pn**		**18 34 02.9**	**-0.5**
ALN				S		**Sn**		**18 34 27.7**	**+0.1**
GOAD	**anakkale-G¶**	**2.00**	**112**	P		**Pn**		**18 34 04.0**	**-0.2**
GOAD				S		**Sg**		**18 34 34.4**	**-0.6**
OHR	**Ohrid**	**2.04**	**276**	*i* Pn		**Pb**		**18 34 07.0**	**-0.6**
OHR				*i* Sn		**Sb**		**18 34 32.6**	**-0.3**
OHR				*e*Lg		Lg		18 34 41.3	
	comp=N,399nm,0.7s								
OHR				*e*Lg		Lg		18 34 42.6	
	comp=E,334nm,0.6s								
CAVK	**Edirne/Enez-Ca**	**2.05**	**96**	P		**Pb**		**18 34 07.7**	**-0.1**
CAVK				S		**Sb**		**18 34 34.3**	**+1.1**
CAVK				*i* IAML				18 34 43.0	
	comp=E,622nm,0.9s								
CAVK	**Edirne/Enez-Ca**	**2.05**	**96**	⇑P		**Pn**		**18 34 06.3**	**+1.4**
CAVK				⇑S		**Sb**		**18 34 34.1**	**+0.9**
AGG	**Agios Georgios**	**2.10**	**205**	P		**Pn**		**18 34 05.4**	**-0.2**
AGG	**Agios Georgios**	**2.10**	**205**	P		**Pn**		**18 34 06.0**	**+0.5**
AGG				S		**Sn**		**18 34 32.0**	**+0.5**
SFL1	**Soufli**	**2.15**	**82**	P		**Pn**		**18 34 06.8**	**+0.5**
SFL1				S		**Sn**		**18 34 33.8**	**+1.1**
MAKR	**Makrakomi, Fth**	**2.17**	**209**	P		**Pn**		**18 34 08.1**	**+1.4**
MAKR				S		**Sn**		**18 34 35.1**	**+1.6**
SKY	**Skiros Island**	**2.21**	**158**	P		**Pn**		**18 34 06.8**	**-0.2**
SKY				S		**Sn**		**18 34 35.8**	**+1.7**
ECEA	**Canakkale, Ece**	**2.23**	**112**	P		**Pn**		**18 34 07.4**	**0.0**
ECEA				S		**Sb**		**18 34 38.6**	**+0.2**
ECEA				*i* IAML				18 34 52.0	
	comp=E,549nm,0.5s								
BOZC	**Bozcaada**	**2.24**	**118**	Pn		**Pn**		**18 34 07.1**	**-0.4**
BOZC	**Bozcaada**	**2.24**	**118**	P		**Pn**		**18 34 07.6**	**+0.1**
AXAR	**Agios Charalam**	**2.25**	**197**	P		**Pn**		**18 34 08.2**	**+0.6**
AXAR				S		**Sn**		**18 34 36.9**	**+1.6**
BARS	**Barje**	**2.26**	**327**	*i* Pn		**Pg**		**18 34 13.4**	**-0.7**
BARS				*i* Sn		**Sg**		**18 34 43.8**	**+0.4**
BARS	**Barje**	**2.26**	**327**	*e*Pn		**Pn**		**18 34 08.4**	**+0.6**
BARS				*e*Sn		**Sn**		**18 34 36.7**	**+1.1**
LKR	**Lokris**	**2.30**	**189**	P		**Pn**		**18 34 08.2**	**-0.1**
ERIK	**Erikli-Kesan**	**2.31**	**95**	Pn		**Pn**		**18 34 08.3**	**-0.2**
TETR	**Tetrakomo, Epi**	**2.31**	**228**	P		**Pn**		**18 34 09.2**	**+0.6**
TETR	**Tetrakomo, Epi**	**2.31**	**228**	P		**Pn**		**18 34 09.3**	**+0.7**
TETR				S		**Sn**		**18 34 38.2**	**+1.3**
KYMI	**Kymi, Euboea I**	**2.34**	**168**	P		**Pn**		**18 34 08.5**	**-0.3**
JAN	**Janina**	**2.38**	**239**	P		**Pn**		**18 34 10.2**	**+0.7**
JAN				S		**Sn**		**18 34 39.2**	**+0.7**
EVR	**Evrytania**	**2.38**	**213**	P		**Pn**		**18 34 10.2**	**+0.6**
EVR				S		**Sn**		**18 34 40.3**	**+1.6**
UKOP	**Uzunkopru-Edir**	**2.39**	**84**	Pn		**Pn**		**18 34 09.9**	**+0.3**
COMU	**Canakkale**	**2.43**	**109**	Pn		**Pn**		**18 34 09.8**	**-0.3**
KESN	**Edirne-Kesan**	**2.43**	**91**	P		**Pn**		**18 34 09.8**	**-0.6**
KESN				S		**Sn**		**18 34 41.4**	**+1.2**
KESN				*i* IAML				18 34 57.0	
	comp=E,582nm,0.4s								
ZAPS	**Zavoj**	**2.43**	**345**	*e*Pn		**Pn**		**18 34 11.2**	**+1.1**
ZAPS				*e*Sn		**Sn**		**18 34 41.7**	**+2.0**
EZN	**Ezine**	**2.43**	**116**	Pn		**Pn**		**18 34 09.9**	**-0.2**
KOCA	**Canakkale, Ayv**	**2.48**	**124**	P		**Pn**		**18 34 11.4**	**+0.6**
KOCA				S		**Sg**		**18 34 48.2**	**-2.2**
SIGR	**SIGRI**	**2.50**	**132**	Pn		**Pn**		**18 34 11.3**	**+0.3**
SIGR	**SIGRI**	**2.50**	**132**	P		**Pn**		**18 34 11.3**	**+0.3**
PLVB	**Pleven**	**2.60**	**19**	⇓P		**Pn**		**18 34 13.3**	**+0.8**
PLVB				⇓S		**Sb**		**18 34 48.0**	**-1.0**
EDRB	**Edirne**	**2.62**	**68**	Pn		**Pn**		**18 34 12.7**	**0.0**
ANX	**Ano Chora**	**2.62**	**208**	P		**Pn**		**18 34 14.0**	**+1.2**
ANX				S		**Sn**		**18 34 46.4**	**+1.8**
ELND	**Elena**	**2.68**	**41**	⇓P		**Pn**		**18 34 14.3**	**+0.8**
VIL2	**Platees**	**2.72**	**184**	P		**Pn**		**18 34 14.7**	**+0.7**
PARN2	**Moni Osiou Mel**	**2.73**	**180**	P		**Pn**		**18 34 14.5**	**+0.2**
KALE	**Kalithea**	**2.74**	**203**	P		**Pn**		**18 34 14.8**	**+0.4**
SERG	**Sergoula**	**2.74**	**204**	P		**Pn**		**18 34 15.4**	**+1.0**
STFN	**Stefani**	**2.75**	**179**	P		**Pn**		**18 34 14.8**	**+0.3**
PVO	**Paravola**	**2.75**	**214**	P		**Pn**		**18 34 15.3**	**+0.8**
BLKB	**Belogradchik**	**2.76**	**348**	*e*Pn		**Pn**		**18 34 15.4**	**+0.7**
BLKB				*e*Sn		**Sn**		**18 34 48.3**	**+0.4**
IGT	**Igoumenitsa**	**2.78**	**241**	*e*Pn		**Pn**		**18 34 17.3**	**+2.3**
IGT				*e*Sn		**Sn**		**18 34 49.9**	**+1.5**
IGT	**Igoumenitsa**	**2.78**	**241**	P		**Pn**		**18 34 15.8**	**+0.9**
PARN1	**Fyli,Attica,Gr**	**2.82**	**177**	P		**Pn**		**18 34 15.8**	**+0.2**
PARN3	**Mandra,Attica,**	**2.85**	**180**	P		**Pn**		**18 34 16.3**	**+0.4**
KIRK	**Kirklareli**	**2.85**	**71**	P		**Pb**		**18 34 19.3**	**-2.2**
KIRK				S		**Sb**		**18 34 57.6**	**+1.4**
KIRK				*i* IAML				18 35 03.0	
	comp=E,324nm,0.8s								
DION	**Dionisos Attik**	**2.87**	**173**	P		**Pn**		**18 34 16.4**	**+0.2**
PTL	**Penteli**	**2.89**	**174**	P		**Pn**		**18 34 16.8**	**+0.4**
SELS	**Selova**	**2.89**	**323**	*e*Pn		**Pn**		**18 34 17.4**	**+1.0**
SELS				*e*Sn		**Sn**		**18 34 53.2**	**+2.1**
AYVA	**Ayvalik**	**2.94**	**122**	P		**Pn**		**18 34 17.6**	**+0.5**
KRBG	**Karabiga-Canak**	**2.95**	**99**	Pn		**Pn**		**18 34 17.4**	**+0.2**
LOUT	**Loutraki**	**2.96**	**188**	P		**Pn**		**18 34 17.9**	**+0.5**
ATHU	**Athens Univers**	**2.96**	**175**	P		**Pn**		**18 34 17.7**	**+0.2**
KARY	**Karystos**	**2.98**	**165**	P		**Pn**		**18 34 17.9**	**+0.2**
SZH	**Strazhitsa**	**2.98**	**38**	P		**Pn**		**18 34 18.1**	**+0.4**
BOVS	**Bovan**	**3.01**	**335**	⇑P		**Pn**		**18 34 18.8**	**+0.7**
BOVS	**Bovan**	**3.01**	**335**	*e*Pn		**Pn**		**18 34 18.9**	**+0.8**
BOVS				*e*Sn		**Sn**		**18 34 55.4**	**+1.4**
ZAGS	**Zajecar**	**3.03**	**343**	*e*Pn		**Pn**		**18 34 18.7**	**+0.4**
ZAGS				*e*Sn		**Sn**		**18 34 54.1**	**-0.4**
YENI	**Yenice-Canakka**	**3.04**	**108**	Pn		**Pn**		**18 34 18.4**	**0.0**
YAYO	**Edremit-Balk**	**3.04**	**114**	Pn		**Pn**		**18 34 19.1**	**+0.6**
KEK	**Kerkira**	**3.07**	**248**	Pn		**Pb**		**18 34 23.9**	**-1.2**
ZIMR		**3.07**	**26**	⇑P		**Pn**		**18 34 20.9**	**+2.1**
BUHA	**Balikesir, Bur**	**3.10**	**116**	P		**Pn**		**18 34 20.2**	**+0.9**
BUHA				S		**Sb**		**18 35 01.2**	**-2.1**
ARMN	**Kirklareli, Me**	**3.11**	**71**	P		**Pn**		**18 34 20.4**	**+0.9**
ARMN				S		**Sb**		**18 35 05.5**	**+1.7**
ARMN				*i* IAML				18 35 11.0	
	comp=E,376nm,0.6s								
ARMN				*i* IAML				18 35 13.0	
	comp=E,359nm,0.6s								
GUR	**Goura**	**3.11**	**197**	P		**Pn**		**18 34 20.2**	**+0.6**
PHSR	**Pinarhisar**	**3.13**	**76**	⇑P		**Pn**		**18 34 22.0**	**+2.3**
MRMT	**Marmara Adasi**	**3.14**	**95**	Pn		**Pn**		**18 34 20.3**	**+0.4**
VLAD	**Vladila**	**3.15**	**12**	⇑P		**Pn**		**18 34 20.4**	**+0.5**
AXS	**Araxos**	**3.17**	**212**	P		**Pn**		**18 34 20.1**	**-0.3**
KARB	**zmir-Karabur**	**3.19**	**134**	P		**Pn**		**18 34 20.9**	**+0.3**
DKL	**Dikili**	**3.22**	**124**	Pn		**Pn**		**18 34 21.6**	**+0.7**
CHOS	**Chios island**	**3.22**	**141**	Pn		**Pn**		**18 34 21.4**	**+0.3**
GOCS	**Kraljevo Serbi**	**3.27**	**325**	*e*Pn		**Pn**		**18 34 22.1**	**+0.4**
GOCS				*e*Sn		**Sn**		**18 35 00.7**	**+0.2**
IVA	**Berane**	**3.31**	**307**	⇓*i*Pn		**Pn**		**18 34 23.3**	**+1.0**
IVA				*i* Sn		**Sn**		**18 35 03.0**	**+1.5**
FSK	**Fiskardo**	**3.34**	**223**	P		**Pn**		**18 34 22.9**	**+0.3**
ULC	**Ulcinj**	**3.35**	**289**	⇓*i*Pn		**Pn**		**18 34 24.1**	**+1.3**
ULC				*i* Sn		**Sn**		**18 35 04.4**	**+2.0**
LOZB	**Loznitsa**	**3.36**	**42**	⇓P		**Pn**		**18 34 23.3**	**+0.4**
PUNG	**Punghina**	**3.38**	**353**	⇑P		**Pn**		**18 34 23.3**	**+0.2**
COPA	**Copaceanca**	**3.45**	**21**	⇓P		**Pn**		**18 34 26.3**	**+2.2**
DRME	**Dracevica, Mon**	**3.46**	**293**	⇑*i*Pn		**Pn**		**18 34 24.8**	**+0.5**
DRME				*i* Sn		**Sn**		**18 35 06.6**	**+1.4**
RAZG	**Razgrad**	**3.46**	**39**	⇑P		**Pn**		**18 34 25.1**	**+0.7**
SJES	**Sjenica**	**3.50**	**313**	*e*Pn		**Pn**		**18 34 26.2**	**+1.3**
PDG	**Podgorica**	**3.50**	**297**	⇓P		**Pn**		**18 34 24.1**	**-0.7**
PDG	**Podgorica**	**3.50**	**297**	⇑*i*Pn		**Pn**		**18 34 26.1**	**+1.3**
PDG				*i* Sn		**Sn**		**18 35 07.7**	**+1.5**
URLA	**Izmir**	**3.51**	**136**	Pn		**Pn**		**18 34 25.4**	**+0.4**
URLA	**Izmir**

VYHS	**Vyhne**	**8.26**	**338**	*e*PN	**Pn**	**18 35 33.5 +3.4**		
VYHS				*e*SN	**Sn**	**18 37 03.6 +0.4**		
SOKA	**Soboth**	**8.39**	**316**	*i* Pn	**Pn**	**18 35 33.1 +1.1**		
	comp=E,1.5nm,0.3s							
SOKA				*i* Sn	**Sn**	**18 37 00.3 -6.3**		
	comp=E,1.6nm,0.3s							
RONA	**Rosalia, Austr**	**8.51**	**325**	*i* Pn	**Pn**	**18 35 35.5 +2.0**		
	comp=E,2.6nm,0.5s							
RONA				*i* Sn	**Sn**	**18 37 06.5 -2.8**		
	comp=E,1.9nm,0.5s							
ARSA	**Arzberg**	**8.53**	**320**	*e*Pn	**Pn**	**18 35 36.0 +2.1**		
	comp=E,5.9nm,0.5s							
ARSA				*i* Sn	**Sn**	**18 37 04.6 -5.3**		
	comp=E,4.2nm,0.4s							
OBKA	**Obir**	**8.54**	**314**	*i* Pn	**Pn**	**18 35 37.3 +3.2**		
	comp=E,3.7nm,0.3s							
OBKA				*i* Sn	**Sn**	**18 37 05.3 -5.0**		
	comp=E,2.7nm,0.5s							
CONA	**Conrad Observa**	**8.87**	**325**	*i* Pn	**Pn**	**18 35 41.5 +2.9**		
	comp=E,1.9nm,0.4s							
CONA				*e*Sn	**Sn**	**18 37 16.3 -2.1**		
	comp=E,1.7nm,0.4s							
MYKA	**Terra Mystica**	**9.12**	**312**	*i* Pn	**Pn**	**18 35 44.4 +2.4**		
	comp=E,2.4nm,0.3s							
MOA	**Molln**	**9.56**	**319**	*i* Sn	**Sn**	**18 37 31.7 -3.5**		
	comp=E,1.7nm,0.4s							
VRAC	**Vranov**	**9.69**	**332**	Pn	**Pn**	**18 35 52.8 +3.0**		
	comp=E,0.2nm,0.3s,baz=126,slow=14,SNR=1.5							
	comp=E,1.0nm,0.5s							
ABTA	**Abfaltersbach**	**9.83**	**310**	*e*Pn	**Pn**	**18 35 53.2 +1.4**		
	comp=E,3.3nm,0.6s							
LESA	**Schwarzleotal**	**10.12**	**314**	*i* Pn	**Pn**	**18 35 58.6 +2.9**		
	comp=E,5.5nm,0.4s							
LESA				*i* Sn	**Sn**	**18 37 45.7 -3.2**		
	comp=E,2.3nm,0.5s							
GERES	**GERESS Array B**	**10.52**	**322**	Pn	**Pn**	**18 36 03.9 +2.7**		
	baz=142,slow=14,SNR=2.7							
GERES				Sn	**Sn**	**18 37 59.5 +0.6**		
	baz=143,slow=23,SNR=2.3							
	comp=E,0.3nm,0.4s							
AKASG	**Malin Array Be**	**10.56**	**20**	Pn	**Pn**	**18 36 02.9 +1.3**		
	comp=E,1.0nm,0.3s,baz=205,slow=11,SNR=5.1							
AKASG				Sn	**Sn**	**18 37 59.1 -0.6**		
	comp=E,0.3nm,0.3s,baz=199,slow=28,SNR=1.2							
AKASG				Lg	Lg	18 39 09.7		
	baz=198,slow=25							
AKASG				LR	LR	18 41 16.4		
	comp=E,41nm,20.1s,baz=246,slow=44							
	comp=E,0.7nm,0.5s							
WTTA	**Wattenberg**	**10.61**	**311**	*i* Pn	**Pn**	**18 36 05.8 +3.3**		
	comp=E,7.9nm,0.5s							
WATA	**Walderalm**	**10.68**	**311**	*e*Pn	**Pn**	**18 36 06.7 +3.2**		
	comp=E,2.9nm,0.4s							
KHC	**Kasperske Hory**	**10.78**	**323**	*e*PN	**Pn**	**18 36 06.1 +1.4**		
SQTA	**Sankt Quirin**	**10.84**	**310**	*i* Pn	**Pn**	**18 36 07.4 +1.9**		
	comp=E,1.8nm,0.4s							
MOTA	**Moosalm**	**10.96**	**310**	*i* Pn	**Pn**	**18 36 09.3 +2.0**		
	comp=E,3.4nm,0.6s							
FETA	**Feichten**	**11.02**	**308**	*e*Pn	**Pn**	**18 36 10.3 +2.2**		
	comp=E,3.7nm,0.7s							
DAVOX	**Davos/Dischmat**	**11.43**	**305**	Pn	**Pn**	**18 36 14.3 +0.6**		
	comp=E,0.8nm,0.3s,baz=113,slow=16,SNR=8.7							
	comp=E,2.1nm,0.4s							
MMAI	**Mount Meron Ar**	**12.37**	**126**	Pn	**Pn**	**18 36 25.0 -1.5**		
	comp=E,0.6nm,0.3s,baz=318,slow=11,SNR=1.8							
	comp=E,0.2nm,0.3s							
EIL	**Elat**	**14.61**	**137**	Pn	**P**	**18 37 03.7 +0.3**		
	comp=E,0.4nm,0.3s,baz=343,slow=9.2,SNR=7.3							
BELG	**Belogornoye**	**20.05**	**47**	P	**P**	**18 38 03.6 +0.3**		
	comp=E,3.2nm,0.7s,baz=239,slow=12,SNR=2.1							
	comp=E,3.2nm,0.7s							
HFS	**Hagfors**	**20.17**	**346**	P	**P**	**18 38 05.0 +0.4**		
	comp=E,1.3nm,0.6s,baz=140,slow=9.5,SNR=4.9							
	comp=E,1.3nm,0.6s							
FINES	**FINESS Array B**	**20.61**	**4**	P	**P**	**18 38 09.8 +0.5**		
	comp=E,1.7nm,0.6s,baz=190,slow=9.7,SNR=6.1							
	comp=E,1.7nm,0.6s							
ESDC	**Sonseca Array**	**20.94**	**276**	P	**P**	**18 38 13.9 +0.7**		
	comp=E,1.4nm,0.8s,baz=70,slow=11,SNR=6.4							
	comp=E,1.4nm,0.8s							
NB2	**NORSAR Subarra**	**21.50**	**344**	P	**P**	**18 38 19.0 0.0**		
	comp=Z,3.2nm,1.0s,baz=154,slow=11							
NOA	**NORSAR Array B**	**21.50**	**344**	P	**P**	**18 38 18.1 -0.9**		
	comp=Z,1.2nm,0.7s,baz=154,slow=11,SNR=7.8							
NOA				LR	LR	18 47 54.0		
	comp=Z,11nm,20.0s,baz=320,slow=40							
	comp=Z,1.2nm,0.7s							
EKA	**Eskdalemuir Ar**	**22.70**	**318**	P	**P**	**18 38 31.7 -0.2**		
	comp=Z,0.3nm,0.5s,baz=130,slow=9.3,SNR=5.8							
	comp=Z,0.3nm,0.5s							
ARCES	**ARCESS Array B**	**28.69**	**1**	P	**P**	**18 39 28.7 +1.7**		
	comp=Z,5.9nm,1.1s,baz=181,slow=7.9,SNR=2.4							
	comp=Z,5.9nm,1.1s							
TORD	**Torodi Ar. Bea**	**33.60**	**221**	P	**P**	**18 40 09.0 -1.8**		
	comp=Z,0.8nm,0.4s,baz=32,slow=9.2,SNR=9.8							
	comp=Z,0.8nm,0.4s							
KURBB	**Kurchatov Arra**	**38.78**	**56**	P	**P**	**18 40 55.7 +1.0**		
	comp=Z,0.2nm,0.4s,baz=288,slow=7.4,SNR=1.8							
	comp=Z,0.2nm,0.4s							
MKAR	**Makanchi Array**	**41.95**	**62**	P	**P**	**18 41 21.4 +0.4**		
	comp=Z,0.5nm,0.6s,baz=280,slow=6.9,SNR=5.3							
	comp=Z,0.5nm,0.6s							
ZALV	**Zalesovo Beam**	**42.17**	**51**	P	**P**	**18 41 23.1 +0.4**		
	comp=Z,0.9nm,0.6s,baz=270,slow=8.9,SNR=4.6							
	comp=Z,0.9nm,0.6s							
SONM	**Songino Array**	**56.96**	**53**	P	**P**	**18 43 16.9 +1.1**		
	comp=Z,1.2nm,0.7s,baz=270,slow=7.1,SNR=4.7							
	comp=Z,1.2nm,0.7s							
CMAR	**Chiang Mai Arr**	**67.30**	**85**	P	**P**	**18 44 24.6 -0.8**		
	comp=Z,0.3nm,0.3s,baz=294,slow=6.0,SNR=1.1							
	comp=Z,0.3nm,0.3s							
BOSA	**Boshof**	**69.21**	**178**	LR	LR	19 17 51.1		
	comp=Z,27nm,20.3s,baz=20,slow=38							
ILAR	**Eielson Array**	**74.37**	**356**	P	**P**	**18 45 06.9 -0.8**		
	comp=Z,0.3nm,0.7s,baz=20,slow=2.9,SNR=2.2							
	comp=Z,0.3nm,0.7s							
ANMO	**Albuquerque**	**91.58**	**321**	LR	LR	19 28 57.9		
	comp=Z,28nm,18.1s,baz=67,slow=36							
TXAR	**Lajitas Array**	**94.67**	**316**	P	**P**	**18 46 52.2 +0.3**		
	comp=Z,0.5nm,0.9s,baz=57,slow=5.1,SNR=4.2							
	comp=Z,0.5nm,0.9s							

*DJA **29** 18:34:30.1±0.2,1°N±2°×12°0E±°, h10km, M4.3/16, mb4.3/8, MLv4.4/16*

*NEIC **29** 18:34:32.5±1.8, 1°2N±0°1×120°6E±0°1, h35km±2km, mb4.0/9, Error ellipse: s-maj=19.4km s-min=16.0km az=41.0*

*IDC **29** 18:34:38.7±2.9,0°78N×120°05E, h95km±28km, mb3.6/8, mbtmp4.1/11, MS3.1/4, Error ellipse: s-maj=36.8km s-min=13.3km az=73.0*

ISC 29 18:34:32.9±0.6, 1°12N±0°05×120°44E±0°04, h32km, n40, σ1§83/45, mb3.9/12, MS2.8/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TOLI2	**Tolitoli**	**0.34**	**92**			**Pb**	**18 34 38.9**	**-2.2**
TOLI2						**Sb**	**18 34 43.2**	**-3.5**
MPSI	**Mapaga**	**0.95**	**215**	P		**Pb**	**18 34 49.0**	**-1.9**
MPSI				S		**Sb**	**18 35 04.7**	**+1.6**
MRSI	**Marisa**	**1.63**	**113**	P		**Pb**	**18 35 01.6**	**-0.8**
MRSI				S		**Sb**	**18 35 23.0**	**+0.4**
PCI	**Palu**	**2.10**	**197**	P		**Pb**	**18 35 07.2**	**-3.2**
PCI				S		**Sb**	**18 35 36.6**	**+0.5**
APSI	**Ampana**	**2.35**	**149**	P		**Pb**	**18 35 13.1**	**-1.5**
KMSI	**Cibinong**	**3.58**	**99**	P		**Pn**	**18 35 28.0**	**+1.8**
KMSI				S		**Sn**	**18 36 09.7**	**+2.2**
TTSI	**Tana Toraja**	**4.18**	**189**	P		**Pn**	**18 35 36.8**	**+2.3**
BKB	**Balikpapan**	**4.26**	**236**	Pn		**Pn**	**18 35 35.6**	**0.0**
BKB	**Balikpapan**	**4.26**	**236**	P		**Pn**	**18 35 34.0**	**-1.6**
BKB				S		**Sn**	**18 36 25.6**	**+1.3**
SPSI	**Sidrap Palu**	**5.10**	**188**	P		**Pn**	**18 35 50.3**	**+3.2**
	0.1nm29nm,0.6s							
BNSI	**Bone**	**5.50**	**183**	P		**Pn**	**18 35 54.8**	**+2.2**
	0.2nm38nm,0.7s							
KAPI	**Kappang**	**6.13**	**186**	P		**Pn**	**18 36 01.6**	**+0.2**
	17nm,0.3s,baz=0.0,slow=20,SNR=2.5							
KAPI				LR		LR	18 38 54.2	
	comp=Z,333nm,18.6s,baz=318,slow=44							
SANI	**Sanana**	**6.38**	**120**	P		**Pn**	**18 36 06.9**	**+2.2**
	0.1nm23nm,1.2s							
BKSI	**Bulukumba**	**6.41**	**183**	P		**Pn**	**18 36 07.8**	**+2.7**
	0.1nm15nm,0.7s							
KKM	**Kota Kinabalu**	**6.46**	**319**			**Pn**	**18 36 04.9**	**-1.0**
BBSI	**Bau Bau**	**6.90**	**162**	P		**Pn**	**18 36 14.1**	**+2.2**
	0.2nm35nm,0.8s							

DAV	**Davao City (W)**	**7.82**	**41**	P		Pb	18 36 37.7	-10
	137nm,0.4s,baz=237,slow=16,SNR=2.0							
MTN	**Manton Dam**	**17.47**	**143**			**P**	**18 38 34.1**	**-1.1**
MTN					IAmb	IAmb	18 38 36.1	
	comp=Z,9.7nm,0.5s							
KNRA	**Kununurra**	**18.61**	**154**	P		**Pn**	**18 38 48.0**	**-0.2**
KNRA					IAmb	IAmb	18 38 48.8	
	comp=Z,7.5nm,0.9s							
FITZ	**Fitzroy Crossi**	**19.77**	**165**	P		**P**	**18 38 60.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**19.77**	**165**	P		**P**	**18 38 59.8**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=4.7,slow=11,SNR=8.6							
WB0	**Warramunga Arr**	**24.86**	**147**			**P**	**18 39 50.2**	**-2.6**
WRAB	**Tennant Creek**	**24.98**	**148**	P		**P**	**18 39 51.6**	**-2.3**
WRAB					IAmb	IAmb	18 39 53.4	
	comp=Z,5.1nm,0.7s							
WRA	**Warramunga Arr**	**24.98**	**148**			**P**	**18 39 51.9**	**-2.0**
WRA	**Warramunga Arr**	**24.98**	**148**	P		**P**	**18 39 52.1**	**-1.8**
	comp=Z,5.4nm,0.9s,baz=338,slow=9.1,SNR=70							
WRA				PcP		**PcP**	**18 43 27.2**	**-1.6**
	comp=Z,0.3nm,0.9s,baz=312,slow=1.9,SNR=2.2							
WRA				LR		LR	18 51 32.9	
	comp=Z,48nm,18.7s,baz=21,slow=41							
	comp=Z,5.4nm,0.9s							
WR8	**Warramunga Arr**	**25.08**	**147**			**P**	**18 39 52.6**	**-2.1**
JOW	**Kunigami**	**26.65**	**16**	LR		LR	18 49 24.3	
	comp=Z,28nm,21.5s,baz=58,slow=33							
CMAR	**Chiang Mai Arr**	**27.24**	**311**	LR		LR	18 53 33.7	
	comp=Z,27nm,18.8s,baz=220,slow=42							
AS31	**Alice Springs**	**27.90**	**153**			**P**	**18 40 18.6**	**-1.6**
AS31					IAmb	IAmb	18 40 23.2	
	comp=Z,0.8nm,0.6s							
ASAR	**Alice Springs**	**27.90**	**153**	P		**P**	**18 40 19.2**	**-1.1**
ASAR	**Alice Springs**	**27.90**	**153**	P		**P**	**18 40 18.7**	**-1.5**
	comp=Z,1.7nm,0.7s,baz=323,slow=8.1,SNR=49							
ASAR				PcP		**PcP**	**18 43 33.5**	**-2.0**
	comp=Z,0.4nm,0.9s,baz=342,slow=2.5,SNR=2.3							
	comp=Z,1.7nm,0.7s							
STKA	**Stephens Creek**	**38.46**	**150**	P		**P**	**18 41 50.9**	**-1.1**
	comp=Z,3.1nm,0.6s,baz=305,slow=9.0,SNR=6.3							
	comp=Z,3.1nm,0.6s							
MJAR	**Matsushiro Arr**	**38.90**	**23**	P		**P**	**18 41 58.8**	**+3.2**
	comp=Z,0.8nm,0.5s,baz=201,slow=9.7,SNR=3.6							
	comp=Z,0.8nm,0.5s							
GTA	**Gaotai**	**42.51**	**336**	*e*P		**P**	**18 42 26.8**	**+1.3**
GTA				sP		sP	18 42 37.3	-0.7
GTA				pmax		pmax		
	comp=Z,2.0nm,1.1s							
SONM	**Songino Array**	**48.10**	**347**	P		**P**	**18 43 10.6**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=168,slow=8.8,SNR=2.9							
	comp=Z,0.6nm,0.7s							
MKAR	**Makanchi Array**	**56.34**	**329**	P		**P**	**18 44 10.2**	**-0.6**
MKAR	**Makanchi Array**	**56.34**	**329**	P		**P**	**18 44 10.7**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=125,slow=9.3,SNR=6.7							
	comp=Z,0.6nm,0.5s							
ZALV	**Zalesovo Beam**	**60.26**	**337**	P		**P**	**18 44 37.7**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=161,slow=5.6,SNR=2.6							
	comp=Z,0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**60.73**	**331**	P		**P**	**18 44 40.8**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=127,slow=7.3,SNR=4.5							
	comp=Z,0.6nm,0.7s							
KURK	**Kurchatov**	**60.75**	**331**	P		**P**	**18 44 41.6**	**+0.2**
KURK					IAmb	IAmb	18 44 54.0	
	comp=Z,2.9nm,1.1s							

*NEIC **29** 18:46:40.7±2.5, 37°85N±0°04×113°21W±0°05, h11km±10km, Error ellipse: s-maj=5.6km s-min=5.1km az=122.0*

UUSS 29 18:46:40.6±2.3, 37°81N±0°04×113°20W±0°04, h9km±8km, ML2.5/14, ML2.8/136(NEIC), Error ellipse: s-maj=6.0km s-min=3.6km az=156.0, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARUT	**Antelope Range**	**0.19**	**262**			Pg	18 46 45.1	+0.4
SZCU	**Shurtz Canyon**	**0.23**	**158**			Pg	18 46 45.5	+0.1
SZCU						Sg	18 46 49.2	+0.5
SZCU	**Shurtz Canyon**	**0.23**	**158**	IAML			18 46 50.9	
	comp=N,1μm,0.3s							
SZCU				IAML			18 46 51.6	
	comp=E,1μm,0.3s							
CCUT	**Cedar City**	**0.29**	**206**			Pg	18 46 46.7	+0.2
CCUT	**Cedar City**	**0.29**	**206**	IAML			18 46 51.4	
	comp=N,299nm,0.7s							
CCUT				IAML			18 46 55.1	
	comp=E,187nm,0.6s							
DWU	**Dry Willow Pea**	**0.33**	**29**			Pg	18 46 47.4	+0.1
ZNPU	**Zion National**	**0.46**	**173**			Pg	18 46 50.0	+0.4
NMUT	**North Mineral**	**0.75**	**21**			Pg	18 46 55.1	-0.1
PKCU	**Pink Cliffs**	**0.80**	**117**			Pb	18 46 56.4	-0.4
PKCU	**Pink Cliffs**	**0.80**	**117**	IAML			18 47 11.5	
	comp=N,258nm,0.4s							
PKCU				IAML			18 47 14.8	
	comp=E,484nm,0.4s							
LCMT	**Little Creek M**	**0.80**	**183**			Pg	18 46 56.0	-0.1
LCMT	**Little Creek M**	**0.80**	**183**	IAML			18 47 06.8	
	comp=E,442nm,0.2s							
LCMT				IAML			18 47 07.1	
	comp=N,210nm,0.1s							
IMU	**Iron Mountain**	**0.82**	**2**			Pg	18 46 56.6	+0.2
MTPU	**Mount Pierson**	**0.83**	**74**			Pb	18 46 57.3	-0.3
KNB	**Kanab**	**0.85**	**159**			Pg	18 46 57.0	0.0
KNB	**Kanab**	**0.85**	**159**	IAML			18 47 08.4	
	comp=N,227nm,0.7s							
ICU	**Indian Springs**	**0.88**	**221**			Pg	18 46 57.8	+0.3
PSUT	**Pine Spring**	**0.89**	**324**			Pg	18 46 57.7	0.0
PSUT	**Pine Spring**	**0.89**	**324**	IAML			18 47 11.0	
	comp=N,162nm,0.4s							
PSUT				IAML			18 47 13.1	
	comp=E,209nm,0.4s							
EKU	**East Kanab**	**0.93**	**143**			Pg	18 46 58.6	+0.2
TCRU	**Three Creeks R**	**0.99**	**36**			Pg	18 46 59.9	+0.2
TCRU	**Three Creeks R**	**0.99**	**36**	IAML			18 47 14.0	
	comp=E,163nm,0.2s							
TCRU				IAML			18 47 14.0	
	comp=N,134nm,0.1s							
BTU	**Barney Top**	**1.05**	**93**			Pb	18 47 01.5	+0.2
MSU	**Marysvale**	**1.07**	**49**			Pb	18 47 01.4	0.0
SPR3	**Spring Creek 3**	**1.48**	**323**			Pn	18 47 06.7	-1.1
SPR3				IAML			18 47 28.2	
	comp=N,100nm,0.3s							
SPR3				IAML			18 47 28.6	
	comp=E,90nm,0.3s							
PRN	**Pahroc Range**	**1.53**	**255**			Pb	18 47 09.3	+0.1
MMU	**Miners Mountai**	**1.55**	**75**			Pb	18 47 09.9	+0.2
U15A	**North Rim**	**1.56**	**152**			Pb	18 47 09.8	-0.1
U15A	**North Rim**	**1.56**	**152**	IAML			18 47 33.3	
	comp=N,90nm,0.5s							
U15A				IAML			18 47 34.8	
	comp=E,106nm,0.6s							
Q12A	**Willow Creek R**	**1.77**	**314**			Pb	18 47 13.9	+0.5
FSU	**Fish Springs**	**1.91**	**356**			Pn	18 47 13.4	-0.2
Q16A	**Castle Valley**	**1.94**	**55**			Pn	18 47 13.8	-0.2
HMU	**Henry Mountain**	**1.95**	**86**			Pb	18 47 16.9	+0.4
HMU				IAML			18 47 45.7	
	comp=E,87nm,0.5s							
HMU				IAML			18 47 54.9	
	comp=N,74nm,0.6s							
R11B	**Troy Canyon, C**	**1.96**	**287**			Pn	18 47 14.1	-0.1
S11A	**Rachel**	**2.03**	**266**			Pb	18 47 17.7	0.0
SHPR	**Sheep Range**	**2.04**	**231**			Pn	18 47 14.8	-0.5
TMUT	**Trail Mountain**	**2.15**	**46**	IAML			18 47 36.2	
	comp=N,64nm,0.6s							
TMUT				IAML			18 47 39.3	
	comp=E,48nm,0.6s							
DUG	**Dugway, Tooele**	**2.40**	**7**			Pb	18 47 23.6	-0.4
SRU	**San Rafael Swe**	**2.47**	**58**	IAML			18 47 58.9	
	comp=N,24nm,0.8s							
SRU				IAML			18 48 04.2	
	comp=E,24nm,0.4s							
V12A	**Nelson**	**2.47**	**213**			Pn	18 47 19.6	-1.6
TPNV	**Topopah Spring**	**2.58**	**251**			Pn	18 47 22.2	-0.5
TPNV				IAML			18 48 06.9	
	comp=E,24nm,0.5s							
TPNV				IAML			18 48 17.1	
	comp=E,25nm,0.6s							
W13A	**Hualapai Mount**	**2.77**	**192**			Pn	18 47 25.2	-0.2
BGU	**Big Grassy Mou**	**3.11**	**2**			Pn	18 47 29.6	-0.5
PV05	**Paradox Valley**	**3.25**	**84**	IAML			18 48 24.5	
	comp=N,32nm,0.5s							
PV05				IAML			18 48 39.3	
	comp=E,36nm,0.8s							
ELK	**Elko**	**3.33**	**332**			Pn	18 47 32.4	-0.8
PV10	**Paradox Valley**	**3.33**	**79**	IAML			18 48 29.4	
	comp=N,39nm,0.7s							
PV14	**Lion Creek, Pa**	**3.34**	**79**			Pb	18 47 40.2	0.0
PV14				IAML			18 48 31.3	
PV14				IAML			18 48 35.7	
	comp=N,35nm,0.6s							
PV23	**Carpenter Ridg**	**3.36**	**78**			Pn	18 47 33.2	-0.4
PV19	**Morning Glory**	**3.36**	**80**	IAML			18 48 32.4	
	comp=E,38nm,0.6s							
PV20	**West Nyswonger**	**3.38**	**80**			Pb	18 47 41.0	+0.2
PV18	**Skein Mesa, Pa**	**3.42**	**81**			Pb	18 47 41.6	+0.2
PV18				IAML			18 48 32.9	
	comp=N,37nm,0.5s							
PV16	**Nyswonger Mesa**	**3.42**	**80**			Pb	18 47 40.1	-1.4
PV16				IAML			18 48 36.1	
	comp=E,33nm,0.7s							
PV16				IAML			18 48 41.5	
	comp=N,35nm,1.0s							
PV04	**Paradox Valley**	**3.44**	**79**	IAML			18 48 30.8	
	comp=N,30nm,0.5s							
PV04				IAML			18 48 34.1	
	comp=E,26nm,0.7s							
PV03	**Paradox Valley**	**3.46**	**81**	IAML			18 48 29.3	
	comp=E,21nm,0.4s							
PV03				IAML			18 48 32.4	
	comp=N,26nm,0.6s							
PV13	**Radium Mtn., P**	**3.48**	**83**	IAML			18 48 32.7	
	comp=N,28nm,0.7s							
PV13				IAML			18 48 42.3	
	comp=E,25nm,0.5s							
PV22	**Blue Mesa, Par**	**3.55**	**77**	IAML			18 48 33.8	
	comp=N,16nm,0.5s							
PV22				IAML			18 48 37.7	
	comp=E,21nm,0.9s							
PV07	**Paradox Valley**	**3.64**	**79**			Pb	18 47 45.6	+0.2
PV07				IAML			18 48 42.6	
	comp=E,16nm,0.7s							
PV07				IAML			18 48 45.6	
	comp=N,17nm,1.0s							
PV01	**Paradox Valley**	**3.67**	**84**	IAML			18 48 36.2	
	comp=N,16nm,0.3s							
PV01				IAML			18 48 38.3	
	comp=E,17nm,1.1s							
X16A	**Lo Mia Camp, P**	**3.67**	**157**			Pb	18 47 47.9	+2.0
X16A				IAML			18 48 41.4	
	comp=E,12nm,0.8s							
X16A				IAML			18 48 42.0	
	comp=N,11nm,1.1s							
PV15	**Paradox Valley**	**3.76**	**80**			Pb	18 47 47.5	+0.2
PV15				IAML			18 48 46.0	
	comp=E,25nm,1.0s							
PV15				IAML			18 48 50.8	
	comp=N,22nm,0.8s							
MVCO	**Mesa Verde**	**3.79**	**98**			Pb	18 47 49.2	+1.4
MVCO				IAML			18 48 48.3	
	comp=N,27nm,0.7s							
DSP	**Deep Springs**	**3.81**	**265**			Pb	18 47 50.5	+2.3
Y14A	**Wickenburg**	**3.87**	**178**			Pg	18 47 52.2	-2.5
Y14A				IAML			18 49 14.6	
	comp=E,13nm,0.1s							
W18A	**Petrified Fore**	**3.88**	**133**			Pb	18 47 50.8	+1.5
NV11	**Mina Array Sit**	**3.96**	**280**			Pb	18 47 53.5	+2.8
NV11				IAML			18 48 46.5	
	comp=E,6.3nm,0.7s							
NV11				IAML			18 48 48.0	
	comp=N,8.7nm,0.8s							
HVU	**Hansel Valley**	**3.98**	**5**			Pn	18 47 40.2	-1.7
HVU				IAML			18 48 51.7	
	comp=E,8.8nm,0.8s							
HVU				IAML			18 48 53.1	
	comp=N,10nm,0.7s							
NVAR	**Mina Array Bea**	**4.07**	**280**			Pb	18 47 54.0	+1.4
X18A	**Snowflake**	**4.20**	**140**			Pb	18 47 56.3	+1.5
LHV	**Little Huntoon**	**4.21**	**278**	IAML			18 48 56.8	
	comp=N,15nm,0.9s							
LHV				IAML			18 49 02.0	
	comp=E,12nm,0.8s							
RYN	**Ryan**	**4.27**	**283**			Pb	18 47 58.1	+2.1
RYN				IAML			18 48 56.5	
	comp=E,12nm,0.7s							
RYN				IAML			18 49 06.1	
	comp=N,10nm,0.7s							
S22A	**4UR Ranch, Cre**	**5.05**	**89**	IAML			18 49 29.1	
	comp=E,4.5nm,0.1s							

IDC 29 18:47:37.5±1.7, 0°11N×126°02E, h0km, mb3.1/4, mbtmp3.2/4, Error ellipse: s-maj=173.5km s-min=24.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**21.53**	**158**	P		P	18 52 28.2	-0.2
	0.3nm,0.6s,baz=337,slow=11,SNR=6.6							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**24.84**	**163**	P		P	18 53 02.0	+0.1
	0.3nm,0.5s,baz=343,slow=7.1,SNR=5.1							

σ1ᵍ44/32, **mb4.1/7, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.60**	**5**	Pn	**Pn**	**19 30 55.6**	**-2.1**
PMG	**Port Moresby**	**3.73**	**178**	Pn	**Pn**	**19 30 59.1**	**0.0**
PMG					**Sn**	**19 31 43.8**	**-1.2**
PMG	**Port Moresby**	**3.73**	**178**	P	**Pn**	**19 30 58.6**	**-0.6**
	9.4nm,0.3s,baz=350,slow=12,SNR=40						
PMG				S	**Sn**	**19 31 44.0**	**-1.0**
	49nm,0.3s,baz=27,slow=12,SNR=13						
PMG	**Port Moresby**	**3.73**	**178**	P	**Pn**	**19 30 59.3**	**+0.1**
PMG	**Port Moresby**	**3.73**	**178**	P	**Pn**	**19 30 59.2**	**0.0**
RABL	**Rabaul**	**5.29**	**74**	Pn	**Pn**	**19 31 18.1**	**-1.0**
COEN	**Coen**	**9.09**	**205**	Pn	**Pn**	**19 32 07.2**	**-1.4**
COEN	**Coen**	**9.09**	**205**	P	**Pn**	**19 32 11.7**	**+3.2**
MTSU	**Mount Surprise**	**12.69**	**192**	P	**P**	**19 33 01.4**	**+2.8**
QIS	**Mount Isa**	**16.48**	**205**	P	**Pn**	**19 33 43.2**	**+1.7**
MTN	**Manton Dam**	**17.25**	**244**	P	**P**	**19 33 48.7**	**-0.4**
WB0	**Warramunga Arr**	**18.67**	**220**		**P**	**19 34 04.8**	**+0.3**
WB0				IAmb	IAmb	19 34 09.4	
	comp=Z,4.5nm,0.6s						
WR8	**Warramunga Arr**	**18.74**	**220**		**P**	**19 34 05.5**	**+0.2**
WR8				IAmb	IAmb	19 34 06.2	
	comp=Z,5.6nm,0.5s						
WRA	**Warramunga Arr**	**18.83**	**220**	P	**P**	**19 34 06.2**	**-0.1**
	comp=Z,2.5nm,0.3s,baz=39,slow=12,SNR=128						
WRA				S	**S**	**19 37 26.9**	**-3.3**
	comp=Z,2.6nm,0.9s,baz=40,slow=21,SNR=7.4						
WRA				PcP	**PcP**	**19 38 22.8**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=34,slow=2.0,SNR=2.1						
EIDS	**Eidsvold**	**19.98**	**169**	P	**P**	**19 34 19.1**	**+0.6**
KNRA	**Kununurra**	**20.53**	**240**		**P**	**19 34 24.0**	**-0.6**
AS01	**Alice Springs**	**21.91**	**214**	P	**P**	**19 34 38.6**	**-0.2**
	comp=Z,7.7nm,0.6s						
AS31	**Alice Springs**	**21.93**	**214**		**P**	**19 34 39.2**	**+0.1**
AS31				IAmb	IAmb	19 34 44.5	
	comp=Z,3.1nm,0.4s						
ASAR	**Alice Springs**	**21.93**	**214**	P	**P**	**19 34 38.7**	**-0.4**
ASAR	**Alice Springs**	**21.93**	**214**	P	**P**	**19 34 39.4**	**+0.3**
	comp=Z,2.9nm,0.5s,baz=46,slow=8.4,SNR=104						
ASAR				S	**S**	**19 38 27.8**	**+0.4**
	comp=Z,4.8nm,0.8s,baz=35,slow=16,SNR=27						
	comp=Z,2.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**24.30**	**238**	P	**P**	**19 35 00.1**	**-0.6**
ARMA	**Armidale**	**25.00**	**171**	P	**P**	**19 35 08.0**	**+0.8**
ARMA				IAmb	IAmb	19 35 08.7	
	comp=Z,7.2nm,0.9s						
ARMA	**Armidale**	**25.00**	**171**	P	**P**	**19 35 08.1**	**+1.0**
STKA	**Stephens Creek**	**26.58**	**190**	P	**P**	**19 35 19.3**	**-1.8**
	comp=Z,0.6nm,0.4s,baz=38,slow=12,SNR=3.2						
	comp=Z,0.6nm,0.4s						
KSAR	**Wonju Array Be**	**46.46**	**339**	P	**P**	**19 38 10.9**	**+2.5**
VNDA	**Vanda**	**72.25**	**177**	P	**P**	**19 41 03.4**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=331,slow=7.0,SNR=10.0						
	comp=Z,1.0nm,0.6s						
QSPA	**South Pole Qui**	**84.31**	**180**	P	**P**	**19 42 09.9**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=9.8,slow=7.6,SNR=11						
	comp=Z,0.9nm,0.5s						

*IDC **29** 19:34:31.4±0.8,30°.1**4N**×142°.9**6E**, h0ᵏᵐ, mb3.7/11, mbtmp3.7/17, ML3.4/6, MS2.8/4, Error ellipse: s-maj=23.5km s-min=16.8km az=75.0*

ISC 29 19:34:36.5±0.7, 30°.19**N±0°.0**6**×142°.7**E±0°.1, h35ᵏᵐ, n20,**
σ1ᵍ82/20, **mb3.8/11, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.12**	**189**	Pn	**Pn**	**19 35 21.4**	**-1.8**
	5.6nm,0.3s,baz=7.3,slow=22,SNR=12						
JCJ				Sn	**Sn**	**19 35 56.3**	**-3.0**
	25nm,0.3s,baz=283,slow=23,SNR=7.6						
	33nm,0.6s						
JHJ	**Hachijo jima 2**	**3.85**	**320**	Pn	**Pn**	**19 35 32.0**	**-1.2**
	4.3nm,0.3s,baz=122,slow=22,SNR=6.6						
JHJ				Sn	**Sn**	**19 36 14.1**	**-3.0**
	10nm,0.3s,baz=123,slow=22,SNR=5.7						
	42nm,0.7s						
MJAR	**Matsushiro Arr**	**7.37**	**330**	Pn	**Pn**	**19 36 20.8**	**-0.8**
	0.2nm,0.3s,baz=146,slow=10.0,SNR=15						
MJAR				Sn	**Sn**	**19 37 41.9**	**-2.1**
	0.1nm,0.3s,baz=162,slow=18,SNR=6.4						
	3.8nm,0.6s						
JNU	**Nakatsue**	**10.51**	**289**	Pn	**Pn**	**19 37 05.2**	**+0.5**
	0.4nm,0.3s,baz=124,slow=17,SNR=6.5						
JNU				LR	LR	19 40 40.1	
	comp=Z,38nm,21.3s,baz=119,slow=34						
	1.2nm,0.3s						
JOW	**Kunigami**	**13.14**	**259**	LR	LR	19 42 15.5	
	comp=Z,22nm,21.4s,baz=192,slow=35						
KSRS	**Korea Array**	**14.27**	**304**	Pn	**Pn**	**19 37 58.4**	**+2.5**
	0.1nm,0.3s,baz=108,slow=13,SNR=5.1						
	1.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**16.37**	**332**	Pn	**P**	**19 38 24.7**	**-1.3**
	0.2nm,0.3s,baz=105,slow=14,SNR=2.8						
	1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.34**	**264**	LR	LR	19 59 51.4	
	comp=Z,8.9nm,20.4s,baz=190,slow=37						
MKAR	**Makanchi Array**	**48.92**	**308**	P	**P**	**19 43 20.9**	**+1.9**
	0.8nm,0.7s,baz=94,slow=9.8,SNR=7.6						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**50.49**	**190**	P	**P**	**19 43 31.0**	**-0.2**
	0.7nm,0.7s,baz=8.3,slow=7.7,SNR=8.5						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**51.26**	**313**	P	**P**	**19 43 38.3**	**+1.7**
	0.3nm,0.3s,baz=92,slow=7.1,SNR=6.6						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**54.22**	**190**	P	**P**	**19 43 58.5**	**-0.3**
	0.3nm,0.6s,baz=1.9,slow=5.4,SNR=8.0						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**54.79**	**30**	P	**P**	**19 44 02.0**	**-0.4**
	0.5nm,0.9s,baz=270,slow=6.6,SNR=4.8						
	0.5nm,0.9s						
BVAR	**Borovoye Array**	**56.12**	**316**	P	**P**	**19 44 15.4**	**+3.2**
	0.6nm,0.5s,baz=99,slow=9.1,SNR=3.1						
	0.6nm,0.5s						
PALK	**Pallekele**	**62.23**	**262**	LR	LR	20 13 20.8	
	comp=Z,29nm,19.2s,baz=118,slow=37						
NVAR	**Mina Array Bea**	**78.25**	**52**	P	**P**	**19 46 31.9**	**-1.1**
	0.2nm,0.3s,baz=291,slow=5.4,SNR=2.8						
	0.2nm,0.3s						
NOA	**NORSAR Array B**	**80.92**	**338**	P	**P**	**19 46 47.3**	**+0.4**
	0.9nm,0.9s,baz=39,slow=5.5,SNR=3.7						
	0.9nm,0.9s						
PDAR	**Pinedale Array**	**81.69**	**45**	P	**P**	**19 46 51.8**	**+0.2**
	0.1nm,0.3s,baz=292,slow=7.4,SNR=1.9						
	0.1nm,0.3s						
BRTR	**Keskin Array B**	**84.25**	**313**	P	**P**	**19 47 06.2**	**+1.4**
	0.3nm,0.8s,baz=104,slow=6.1,SNR=1.9						
	0.3nm,0.8s						
TXAR	**Lajitas Array**	**93.38**	**53**	P	**P**	**19 47 49.0**	**+0.5**
	0.5nm,0.8s,baz=324,slow=5.7,SNR=5.5						
	0.5nm,0.8s						

*IDC **29** 19:50:54.7±1.9,4°.2**0S**±0°.1×154°.2**7E**, h447ᵏᵐ±20ᵏᵐ, mb3.3/13, mbtmp4.1/14, Error ellipse: s-maj=18.6km s-min=12.1km az=89.0*

*NEIC **29** 19:50:54.5±1.0,4°.2**5S**±0°.1×154°.4**E**±0°.2, h444ᵏᵐ±9ᵏᵐ, mb4.1/23, Error ellipse: s-maj=24.0km s-min=17.3km az=106.0*

ISC 29 19:50:55.1±0.6,4°.23**S±0°.0**8**×154°.2**E±0°.1, h450ᵏᵐ, n47,**
σ1ᵍ30/54, **mb3.9/24, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.05**	**271**	P	**P**	**19 51 55.7**	**-0.2**
RABL				S	**S**	**19 52 43.9**	**-1.3**
MANU	**Manus Island**	**7.18**	**287**	P	**P**	**19 52 43.6**	**+1.8**
PMG	**Port Moresby**	**8.69**	**233**	P	**P**	**19 53 00.2**	**+2.2**
PMG	**Port Moresby**	**8.69**	**233**	P	**P**	**19 52 59.4**	**+1.4**
	19nm,0.4s,baz=24,slow=14,SNR=9.4						
PMG				S	**S**	**19 54 40.3**	**+1.3**
	5.8nm,0.5s,baz=80,slow=21,SNR=1.4						
COEN	**Coen**	**14.56**	**228**	P	**P**	**19 54 03.6**	**+2.0**
EIDS	**Eidsvold**	**21.23**	**188**	P	**P**	**19 55 06.9**	**-0.8**
EIDS				IAmb	IAmb	19 55 24.9	
	comp=Z,7.3nm,1.2s						
DZM	**Mont Dzumac**	**21.33**	**147**		**P**	**19 55 07.4**	**-1.4**
DZM	**Mont Dzumac**	**21.33**	**147**	P	**P**	**19 55 08.3**	**-0.5**
	comp=Z,13nm,0.4s,baz=268,slow=7.0,SNR=36						
	comp=Z,13nm,0.4s						
WB0	**Warramunga Arr**	**24.74**	**230**	P	**P**	**19 55 39.4**	**0.0**
WB0				IAmb	IAmb	19 55 56.9	
	comp=Z,6.3nm,1.2s						
WR8	**Warramunga Arr**	**24.77**	**229**	P	**P**	**19 55 39.8**	**+0.1**
WR8				IAmb	IAmb	19 56 02.7	
	comp=Z,6.6nm,1.3s						
WRA	**Warramunga Arr**	**24.88**	**229**	P	**P**	**19 55 41.1**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=54,slow=9.2,SNR=13						
WRA				PcP	**PcP**	**19 59 02.2**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=58,slow=2.3,SNR=8.3						
WRA				S	**S**	**19 59 26.0**	**-4.9**
	comp=Z,0.9nm,1.0s,baz=59,slow=16,SNR=5.5						
WRA				ScP	**ScP**	**20 01 58.4**	**+0.4**
	comp=Z,0.3nm,0.9s,baz=66,slow=4.5,SNR=1.1						
	comp=Z,0.7nm,0.4s						
ARMA	**Armidale**	**26.16**	**185**	P	**P**	**19 55 52.8**	**+0.9**
ARMA				IAmb	IAmb	19 56 10.7	
	comp=Z,16nm,1.4s						
AS31	**Alice Springs**	**27.52**	**224**	P	**P**	**19 56 03.9**	**-0.1**
ASAR	**Alice Springs**	**27.52**	**224**	P	**P**	**19 56 03.7**	**-0.4**
ASAR	**Alice Springs**	**27.52**	**224**	P	**P**	**19 56 03.8**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=54,slow=9.2,SNR=30						
ASAR				PcP	**PcP**	**19 59 08.6**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=57,slow=2.1,SNR=8.5						
ASAR				S	**S**	**20 00 09.6**	**-2.9**
	comp=Z,0.3nm,0.6s,baz=56,slow=15,SNR=5.3						
	comp=Z,0.5nm,0.3s						
STKA	**Stephens Creek**	**29.95**	**202**	P	**P**	**19 56 24.1**	**-1.0**
STKA	**Stephens Creek**	**29.95**	**202**	P	**P**	**19 56 24.9**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=30,slow=15,SNR=3.6						
	comp=Z,0.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**31.17**	**242**	P	**P**	**19 56 35.5**	**-0.3**
BBOO	**Buckleboo**	**33.12**	**209**	P	**P**	**19 56 51.9**	**-0.4**
PSA00	**Pilbara Seismi**	**37.53**	**240**	P	**P**	**19 57 29.6**	**+0.1**
PSA00				IAmb	IAmb	19 57 58.5	
	comp=Z,6.6nm,1.3s						
MJAR	**Matsushiro Arr**	**43.23**	**341**	P	**P**	**19 58 14.4**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=160,slow=6.7,SNR=5.2						
	comp=Z,2.1nm,0.7s						
MORW	**Morawa**	**43.80**	**231**	P	**P**	**19 58 19.1**	**-0.6**
MORW				IAmb	IAmb	19 58 20.1	
	comp=Z,17nm,1.1s						
PEA0B	**Petropavlovsk-**	**57.20**	**2**	P	**P**	**19 59 57.7**	**-0.1**
PETK	**Petropavlovsk-**	**57.20**	**2**	P	**P**	**19 59 57.4**	**-0.4**
PETK	**Petropavlovsk-**	**57.20**	**2**	P	**P**	**19 59 58.1**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=152,slow=6.9,SNR=12						
	comp=Z,2.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**58.92**	**294**	P	**P**	**20 00 10.4**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=109,slow=6.7,SNR=2.8						
	comp=Z,0.4nm,0.6s						
CASY	**Casey**	**68.97**	**197**	P	**P**	**20 01 13.8**	**+0.1**
VNDA	**Vanda**	**73.35**	**178**	P	**P**	**20 01 40.0**	**+0.6**
VNDA				IAmb	IAmb	20 01 40.3	
	comp=Z,1.7nm,0.7s						
VNDA	**Vanda**	**73.35**	**178**	P	**P**	**20 01 39.9**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=333,slow=6.8,SNR=18						
	comp=Z,1.9nm,0.7s						
E19K	**Redstone River**	**79.23**	**17**	P	**P**	**20 02 12.4**	**+0.3**
E19K				IAmb	IAmb	20 02 19.9	
	comp=Z,4.9nm,1.3s						
IMAR	**Indian Mountai**	**79.38**	**19**	P	**P**	**20 02 12.8**	**-0.1**
D19K	**Kuna River**	**79.66**	**16**	P	**P**	**20 02 14.5**	**+0.1**
D19K				IAmb	IAmb	20 02 16.6	
	comp=Z,8.8nm,1.4s						
MKAR	**Makanchi Array**	**80.83**	**319**	P	**P**	**20 02 21.4**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=99,slow=4.5,SNR=1.9						
	comp=Z,0.2nm,0.4s						
ILAR	**Eielson Array**	**81.11**	**22**	P	**P**	**20 02 20.8**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=241,slow=5.4,SNR=4.6						
	comp=Z,0.3nm,0.6s						
D22K	**Ayikyak River**	**81.45**	**17**		**P**	**20 02 24.3**	**+0.7**
D22K				IAmb	IAmb	20 03 02.0	
	comp=Z,4.6nm,1.4s						
J25K	**Salcha River,**	**81.60**	**22**	P	**P**	**20 02 24.0**	**-0.6**
BMAR	**Burnt Mountain**	**83.23**	**20**	P	**P**	**20 02 31.9**	**-0.9**
G26K	**Porcupine Rive**	**83.28**	**20**	P	**P**	**20 02 32.6**	**-0.4**
F26K	**Sheenjek River**	**83.51**	**20**	P	**P**	**20 02 33.7**	**-0.5**
E27K	**Coleen River**	**84.59**	**20**	P	**P**	**20 02 38.9**	**-0.6**
E27K				IAmb	IAmb	20 03 03.2	
	comp=Z,5.7nm,1.5s						
QSPA	**South Pole Qui**	**85.72**	**180**	P	**P**	**20 02 45.6**	**+0.3**
QSPA				IAmb	IAmb	20 02 46.6	
	comp=Z,7.6nm,1.0s						
QSPA	**South Pole Qui**	**85.72**	**180**	P	**P**	**20 02 45.8**	**+0.5**
	comp=Z,4.6nm,0.7s,baz=280,slow=0.5,SNR=24						
	comp=Z,4.6nm,0.7s						
H31M	**Peel River**	**86.33**	**23**	P	**P**	**20 02 47.1**	**-0.9**
H31M				IAmb	IAmb	20 02 50.7	
	comp=Z,6.6nm,1.4s						
MAW	**Mawson**	**86.63**	**203**	P	**P**	**20 02 49.4**	**0.0**
	comp=Z,1.0nm,0.6s,baz=90,slow=6.1,SNR=2.5						
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**89.64**	**323**	P	**P**	**20 03 02.8**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=129,slow=5.7,SNR=3.1						
	comp=Z,0.6nm,0.6s						
BDFB	**Brasilia**	**150.43**	**132**	PKPbc	**PKPdf**	**20 09 54.9**	**+4.7**
	comp=Z,2.0nm,0.4s,baz=187,slow=8.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**151.46**	**290**	PKPbc	**PKPbc**	**20 09 57.5**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=40,slow=2.7,SNR=26						

*IDC **29** 19:55:38.0±3.9, 36°.2**5N**×70°.7**9E**, h167ᵏᵐ±35ᵏᵐ, mb3.5/12, mbtmp4.0/17, Error ellipse: s-maj=25.8km s-min=15.5km az=28.0*

*NNC **29** 19:55:40.3±13.0, 36°.8**8N**×70°.1**5E**, h0ᵏᵐ, mb4.2, mpv3.9, Error ellipse: s-maj=124.9km s-min=82.5km az=149.0*

*NEIC **29** 19:55:44.0±1.6, 36°.5**6N**±0°.0**4**×70°.8**4E**±0°.1**0**, h211ᵏᵐ±10ᵏᵐ, mb4.3/11, Error ellipse: s-maj=12.7km s-min=2.2km az=63.0*

ISC 29 19:55:41.6±0.6, 36°.45**N±0°.0**5**×70°.9**3E±0°.0**7, h200ᵏᵐ, n61,**
σ1ᵍ92/73, **mb3.9/15, 5C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.45**	**219**		**Pn**	**19 56 28.4**	**+3.2**
GAR	**Garm**	**2.59**	**349**		**Pn**	**19 56 28.3**	**+1.7**
SIMJ	**Simiganj**	**2.68**	**326**		**Pn**	**19 56 29.0**	**+1.4**
NIL	**Nilore**	**3.38**	**145**		**Pn**	**19 56 40.1**	**+4.2**
SRNI	**Srinagar**	**3.97**	**125**	*e*P	**Pn**	**19 56 45.3**	**+2.3**
SRNI				*e*S	**Sn**	**19 57 31.7**	**+0.5**
SRNI				IAML		19 57 36.5	
	comp=N,2μm,0.2s						
SRNI				IAML		19 57 36.7	
	comp=E,2μm,0.2s						
JMU	**Jammu**	**4.96**	**138**	*e*P	**Pn**	**19 56 56.7**	**+1.2**
JMU				*e*S	**Sn**	**19 57 51.4**	**-2.4**
JMU				IAML		19 57 56.2	
	comp=E,322nm,0.1s						
JMU				IAML		19 57 57.2	
	comp=N,527nm,0.8s						
ARSB	**Arslanbob**	**5.12**	**18**		**Pn**	**19 56 58.3**	**+0.7**
UCH	**Uchur**	**6.40**	**25**	P	**Pn**	**19 57 15.6**	**+1.2**
	SNR=35						
EKS2	**Erkin-Say**	**6.58**	**19**	P	**Pn**	**19 57 17.8**	**+1.4**
	SNR=11						
KK31	**Karatay Array**	**6.65**	**357**		**Pn**	**19 57 17.6**	**+0.4**
KK31	**Karatay Array**	**6.65**	**357**	⇑Pn	**Pn**	**19 57 17.8**	**+0.6**
	comp=N,2.6nm,0.3s,baz=170,slow=11,SNR=62						
KK31				⇑Sn	**Sn**	**19 58 28.4**	**-4.7**
	comp=N,7.6nm,0.3s,baz=188,slow=22,SNR=14						
KKAR	**Karatay Array**	**6.65**	**357**		**Pn**	**19 57 17.9**	**+0.7**
AAK	**Ala-Archa**	**6.76**	**23**	P	**Pn**	**19 57 20.1**	**+1.3**
	SNR=11						
AAK	**Ala-Archa**	**6.76**	**23**		**Pn**	**19 57 19.9**	**+1.1**
AAK	**Ala-Archa**	**6.76**	**23**	⇑Pn	**Pn**	**19 57 20.0**	**+1.1**
	comp=N,5.1nm,0.5s						
AAK				⇓Sn	**Sn**	**19 58 34.3**	**-1.7**
	comp=N,7.0nm,0.5s						
AAK	**Ala-Archa**	**6.76**	**23**	P	**Pn**	**19 57 19.8**	**+1.0**
	comp=N,16nm,0.4s,baz=228,slow=24,SNR=15						
AAK				S	**Sn**	**19 58 34.5**	**-1.4**
	comp=N,14nm,0.7s,baz=139,slow=20,SNR=9.6						
BHK	**Bhakra**	**6.78**	**136**	*e*P	Pn	19 57 25.6	+6.5
BHK				IAML		19 58 38.5	
	comp=E,141nm,0.4s						
BHK				IAML		19 58 39.4	
	comp=N,138nm,0.9s						
BHK				*e*S	**Sn**	**19 58 41.2**	**+4.9**
KBK	**Karagaybulak**	**6.93**	**25**	P	**Pn**	**19 57 22.6**	**+1.6**
	SNR=8.7						
ULHL	**Ulahol**	**7.10**	**34**	P	**Pn**	**19 57 24.5**	**+1.2**
	SNR=8.6						
BOOM	**Boomskoye usch**	**7.17**	**31**		**Pn**	**19 57 25.0**	**+0.9**
USP	**Ospenovka**	**7.34**	**21**	P	**Pn**	**19 57 27.2**	**+1.0**
	SNR=10						
TKM2	**Tokmak 2**	**7.39**	**28**	P	**Pn**	**19 57 28.3**	**+1.2**
	SNR=11						
SMLA	**Simla**	**7.42**	**134**	*e*P	**Pn**	**19 57 29.9**	**+2.5**
SMLA				*e*S	**Sn**	**19 58 48.7**	**-2.7**
SMLA				IAML		19 58 52.7	
	comp=N,175nm,0.3s						
SMLA				IAML		19 58 55.4	
	comp=E,168nm,0.3s						
KLP	**Kalpa**	**7.81**	**127**	*e*P	**Pn**	**19 57 34.8**	**+2.1**
KLP				*e*S	**Sn**	**19 58 57.4**	**-3.6**
KLP				IAML		19 59 02.6	
	comp=N,110nm,0.9s						
KLP				IAML		19 59 04.8	
	comp=E,161nm,0.8s						
PTH	**Pithoragarh**	**10.39**	**129**	*e*P	**P**	**19 58 10.6**	**-3.0**
PTH				*e*S	**Sn**	**19 59 57.9**	**-4.5**
PTH				IAML		20 00 01.2	
	comp=E,15nm,0.0s						
PTH				IAML		20 00 04.7	
	comp=N,180nm,0.2s						
LGTI	**Lohaghat**	**10.48**	**129**	*e*P	**Pn**	**19 58 09.5**	**+2.4**
LGTI				*e*S	**Sn**	**19 59 58.4**	**-5.8**
LGTI				IAML		20 00 00.3	
	comp=E,20nm,0.3s						
LGTI				IAML		20 00 03.4	
	comp=N,20nm,0.5s						
MKAR	**Makanchi Array**	**13.36**	**36**	P	**Pn**	**19 58 44.3**	**+0.8**
	comp=N,0.4nm,0.3s,baz=212,slow=12,SNR=11						
MKAR				S	**Sn**	**20 01 16.4**	**+3.9**
	comp=N,0.4nm,0.8s,baz=246,slow=28,SNR=1.2						
AB31	**Akbulak array**	**15.10**	**331**		**Pn**	**19 59 04.0**	**-0.8**
AB31	**Akbulak array**	**15.10**	**331**	⇑P	**P**	**19 59 04.3**	**-1.1**
	comp=N,1.2nm,0.5s						
ABKAR	**Akbulak array**	**15.10**	**331**		**P**	**19 59 04.4**	**-1.0**
KURBB	**Kurchatov Arra**	**15.19**	**19**	P	**P**	**19 59 06.8**	**+0.5**
	comp=N,0.8nm,0.4s,baz=210,slow=11,SNR=6.6						
EVN	**Everest**	**15.88**	**118**		**Pn**	**19 59 16.6**	**+1.5**
EVN				IAmb	IAmb	19 59 21.1	
	comp=Z,11nm,0.7s						
BVA0	**Borovoye Array**	**16.58**	**359**	P	**Pn**	**19 59 22.8**	**+0.2**
	comp=Z,2.4nm,0.5s,baz=155,slow=9.6,SNR=38						
BVAR	**Borovoye Array**	**16.58**	**359**	P	**Pn**	**19 59 22.9**	**+0.2**
	comp=Z,3.0nm,0.5s,baz=162,slow=11,SNR=26						
BVAR				S	**S**	**20 02 23.2**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=169,slow=24,SNR=2.2						
BRVK	**Borovoye**	**16.61**	**359**		**Pn**	**19 59 22.4**	**-0.6**
AKTO	**Aktyubinsk**	**16.79**	**330**	⇑P	**Pn**	**19 59 25.2**	**0.0**
	comp=Z,3.2nm,0.5s						
AKTO	**Aktyubinsk**	**16.79**	**330**	P	**Pn**	**19 59 24.4**	**-0.8**
	comp=Z,6.6nm,0.5s,baz=140,slow=9.2,SNR=24						
AKTO				S	**S**	**20 02 28.2**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=107,slow=23,SNR=1.8						
ZAA0	**Zalesovo Array**	**19.98**	**25**		**P**	**19 59 58.6**	**+0.1**
ZAA0				IAmb	IAmb	20 00 00.4	
	comp=Z,3.2nm,0.5s						
ZALV	**Zalesovo Beam**	**19.98**	**25**		**P**	**19 59 58.9**	**+0.4**
ZALV	**Zalesovo Beam**	**19.98**	**25**	P	**P**	**19 59 59.4**	**+0.9**
	comp=Z,3.2nm,0.3s,baz=220,slow=12,SNR=20						
	comp=Z,3.2nm,0.3s						
ARTI	**Arti**	**21.67**	**341**	P	**P**	**20 00 16.4**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=157,slow=9.6,SNR=3.2						
	comp=Z,1.5nm,0.4s						
AKASG	**Malin Array Be**	**32.93**	**309**	P	**P**	**20 01 56.0**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=85,slow=7.4,SNR=1.5						
	comp=Z,0.2nm,0.4s						
FINES	**FINESS Array B**	**37.49**	**326**	P	**P**	**20 02 36.9**	**+1.2**
FINES	**FINESS Array B**	**37.49**	**326**	P	**P**	**20 02 35.7**	**0.0**
	comp=Z,1.4nm,0.7s,baz=112,slow=15,SNR=5.8						
	comp=Z,1.4nm,0.7s						
KEV	**Kevo**	**40.83**	**338**	P	**P**	**20 03 04.5**	**+1.3**
ARCES	**ARCESS Array B**	**41.17**	**338**	P	**P**	**20 03 07.5**	**+1.4**
ARCES	**ARCESS Array B**	**41.17**	**338**	P	**P**	**20 03 07.4**	**+1.4**
	comp=Z,2.7nm,0.4s,baz=115,slow=8.1,SNR=39						
	comp=Z,2.7nm,0.4s						
HFS	**Hagfors**	**43.07**	**322**	P	**P**	**20 03 21.9**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=98,slow=11,SNR=11						
	comp=Z,2.2nm,0.6s						
NC405	**NORSAR Array S**	**44.15**	**323**	P	**P**	**20 03 31.0**	**+0.9**
NC405				IAmb	IAmb	20 03 52.9	
	comp=Z,7.9nm,1.2s						
NC602	**NORSAR Array S**	**44.20**	**323**	P	**P**	**20 03 31.2**	**+0.8**
NC602				IAmb	IAmb	20 03 36.3	
	comp=Z,12nm,

Error ellipse: s-maj=9.3km s-min=6.2km az=98.0
*NEIC **29** 20:15:03.5±2.0, 47°.5N×0°.1×145°.1E±0°.2, h414km±8km, mb4.2/48, Error ellipse: s-maj=18.2km s-min=14.3km az=129.0*
*SKHL **29** 20:15:03.5±0.7, 47°.20N×145°.30E, h429km±11km, mb5.2/11, msh4.8/3, msha5.4/11*
*JMA **29** 20:15:04.0±0.4, 47°.N×3°×14°.5E±°, h454km, MV3.9/27, SOUTHERN SEA OF OKHOTSK*
*IDC **29** 20:15:04.2±0.9, 47°.42N×145°.04E, h425km±10km, mb3.7/23, mbtmp4.4/29, Error ellipse: s-maj=11.7km s-min=9.7km az=85.0*

ISC 29 20:15:03.5±0.4, **47°.26N**±0°.04×**145°.20E**±0°.06, **h429**km, **n209**,σ1§**55**/239, **mb4.2**/68, **9C-17D, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
YSS	**Yuzhno-Sakhali**	**1.70**	**260**			**P**	**20 16 01.2**	**+0.8**
YSS				S		**S**	**20 16 43.2**	**-3.3**
YSS	**Yuzhno-Sakhali**	**1.70**	**260**	*ae*PN		**P**	**20 16 01.8**	**+1.4**
YSS				*eS*		**S**	**20 16 46.5**	**0.0**
YSS				pmax	pmax			
	comp=Z,260nm,0.8s							
YSS				pmax	pmax			
	comp=Z,200nm,2.0s							
YSS				smax	smax			
	comp=N,300nm,3.7s							
YSS				smax	smax			
	comp=E,500nm,2.7s							
YSS				smax	smax			
	comp=N,150nm,1.1s							
YSS				smax	smax			
	comp=E,240nm,0.8s							
YSS	**Yuzhno-Sakhali**	**1.70**	**260**	*e*P		**P**	**20 16 01.8**	**+1.4**
YSS				AMB	AMB	20 16 02.3		
	comp=E,3μm,0.8s							
YSS				AMB	AMB	20 16 02.6		
	comp=E,200nm,2.0s							
YSS				*e*S		**S**	**20 16 46.5**	**0.0**
YSS				A	A	20 16 48.1		
	comp=E,300nm,3.7s							
YSS				A	A	20 16 48.1		
	comp=E,500nm,3.7s							
YSS				A	A	20 16 48.2		
	comp=E,2μm,0.8s							
YSS				A	A	20 16 48.2		
	comp=E,2μm,0.8s							
UGL	**Uglegorsk**	**2.78**	**312**	*e*PN		**P**	**20 16 07.8**	**+0.8**
UGL				*e*S		**S**	**20 16 58.3**	**-0.4**
UGL				pmax	pmax			
	comp=Z,900nm,0.6s							
UGL				pmax	pmax			
	comp=Z,879nm,0.7s							
UGL				smax	smax			
	comp=N,157nm,0.5s							
UGL				smax	smax			
	comp=E,183nm,0.6s							
UGL	**Uglegorsk**	**2.78**	**312**	*e*P		**P**	**20 16 07.7**	**+0.8**
UGL				AMB	AMB	20 16 08.5		
	comp=E,740nm,0.4s							
UGL				*e*S		**S**	**20 16 58.3**	**-0.4**
UGL				A	A	20 16 58.6		
	comp=E,340nm,2.0s							
UGL				A	A	20 16 58.6		
	comp=E,700nm,2.0s							
UGL				A	A	20 16 59.3		
	comp=E,160nm,0.5s							
UGL				A	A	20 16 59.3		
	comp=E,180nm,0.5s							
JWK2	**Keihoku**	**3.01**	**231**	*e*P		**P**	**20 16 10.8**	**+2.0**
JWK2				*e*S		**S**	**20 17 03.7**	**+1.7**
RUSJ	**Misakicho**	**3.16**	**179**	*i* PN		**P**	**20 16 10.6**	**+0.5**
RUSJ				*e*S		**S**	**20 17 03.2**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**3.26**	**172**	*e*PN		**P**	**20 16 10.2**	**-0.7**
YUK				*e*S		**S**	**20 17 05.2**	**-0.5**
YUK				pmax	pmax			
	comp=Z,135nm,0.2s							
YUK				pmax	pmax			
	comp=E,39nm,0.3s							
YUK				pmax	pmax			
	comp=N,44nm,0.2s							
YUK				smax	smax			
	comp=E,289nm,0.4s							
YUK				smax	smax			
	comp=N,100nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**3.26**	**172**	*e*P		**P**	**20 16 10.9**	**0.0**
YUK				AMB	AMB	20 16 16.0		
	comp=N,140nm,0.2s							
YUK				*e*S		**S**	**20 17 05.2**	**-0.5**
YUK				A	A	20 17 07.3		
	comp=N,650nm,3.0s							
YUK				A	A	20 17 07.3		
	comp=N,430nm,3.0s							
YUK				A	A	20 17 12.9		
	comp=N,190nm,0.3s							
YUK				A	A	20 17 12.9		
	comp=N,340nm,0.3s							
JRA	**Rausu**	**3.33**	**181**	*e*P		**P**	**20 16 11.5**	**0.0**
JTKR	**Abashiri--Toko**	**3.42**	**196**	P		**P**	**20 16 13.1**	**+0.8**
JTKR				*e*S		**S**	**20 17 08.8**	**+0.8**
GLVR	**Golovnino**	**3.53**	**176**	*e*PN		**P**	**20 16 13.4**	**+0.2**
GLVR				*e*S		**S**	**20 17 10.5**	**+0.7**
GLVR				pmax	pmax			
	comp=Z,356nm,0.3s							
GLVR				pmax	pmax			
	comp=N,119nm,0.5s							
GLVR				pmax	pmax			
	comp=E,110nm,0.5s							
GLVR				smax	smax			
	comp=N,626nm,0.4s							
GLVR				smax	smax			
	comp=E,626nm,0.4s							
GLVR	**Golovnino**	**3.53**	**176**	*e*P		**P**	**20 16 13.4**	**+0.2**
GLVR				AMB	AMB	20 16 14.0		
	comp=E,360nm,0.3s							
GLVR				*e*S		**S**	**20 17 10.5**	**+0.7**
GLVR				A	A	20 17 13.5		
	comp=E,630nm,0.4s							
GLVR				A	A	20 17 13.5		
	comp=E,630nm,0.4s							
SHO	**Shikotan**	**3.58**	**161**	*e*PN		**P**	**20 16 13.7**	**+0.1**
SHO				*e*S		**S**	**20 17 08.3**	**-2.3**
SHO				pmax	pmax			
	comp=Z,96nm,0.2s							
SHO				pmax	pmax			
	comp=N,37nm,0.3s							
SHO				pmax	pmax			
	comp=E,43nm,0.1s							
SHO				smax	smax			
	comp=N,346nm,0.3s							
SHO				smax	smax			
	comp=E,446nm,0.4s							
SHO	**Shikotan**	**3.58**	**161**	*e*P		**P**	**20 16 14.2**	**+0.6**
SHO				AMB	AMB	20 16 15.8		
	comp=E,100nm,0.2s							
SHO				*e*S		**S**	**20 17 08.4**	**-2.2**
SHO				A	A	20 17 09.5		
	comp=E,350nm,0.3s							
SHO				A	A	20 17 09.5		
	comp=E,450nm,0.3s							
JKA	**Kamikawa-asahi**	**3.64**	**211**			**P**	**20 16 15.6**	**+1.5**
ASAJ	**Asahikawa**	**3.64**	**211**	P		**P**	**20 16 15.5**	**+1.4**
	comp=E,22nm,0.6s,baz=300,slow=4.6,SNR=26							
ASAJ				S		**S**	**20 17 12.8**	**+1.2**
	comp=E,9.2nm,0.8s,baz=22,slow=19,SNR=1.6							
JNK	**Nakash**	**3.69**	**185**	*e*P		**P**	**20 16 14.9**	**+0.3**
JKK2	**Kamakawa 2**	**3.80**	**208**	*e*P		**P**	**20 16 17.0**	**+1.5**
NMR	**Nemuro--Hokkai**	**3.91**	**174**	*i*PN		**P**	**20 16 14.6**	**-1.9**
NMR				*e*S		**S**	**20 17 11.8**	**-4.1**
NMR	**Nemuro--Hokkai**	**3.91**	**174**	*i* P		**P**	**20 16 14.8**	**-1.7**
NEM2	**Nemuro 2**	**3.92**	**174**	*e*P		**P**	**20 16 14.7**	**-1.8**
NEM2				*e*S		**S**	**20 17 11.4**	**-4.6**
TYV	**Tymovskoe**	**3.97**	**336**	*e*PN		**P**	**20 16 17.4**	**+0.6**
TYV				*e*S		**S**	**20 17 15.9**	**-0.8**
TYV				pmax	pmax			
	comp=Z,200nm,0.7s							
TYV				pmax	pmax			
	comp=Z,219nm,0.6s							
TYV				smax	smax			
	comp=N,36nm,0.8s							
TYV				smax	smax			
	comp=E,58nm,0.8s							
TYV				smax	smax			
	comp=N,200nm,2.1s							
TYV				smax	smax			
	comp=E,200nm,2.1s							
TYV	**Tymovskoe**	**3.97**	**336**	*e*P		**P**	**20 16 17.3**	**+0.5**
TYV				AMB	AMB	20 16 17.9		
	comp=E,150nm,0.4s							
TYV				*e*S		**S**	**20 17 15.3**	**-1.4**
TYV				A	A	20 17 16.1		
	comp=E,40nm,0.6s							
TYV				A	A	20 17 16.1		
	comp=E,40nm,0.6s							
TYV				A	A	20 17 16.8		
	comp=E,190nm,3.0s							
TYV				A	A	20 17 16.8		
	comp=E,180nm,3.0s							
JAR	**Ashorobuto**	**4.09**	**195**	*e*P		**P**	**20 16 18.5**	**+0.3**
JAK	**Akkeshi**	**4.28**	**185**	*e*P		**P**	**20 16 18.8**	**-1.1**
JAK				*e*S		**S**	**20 17 18.2**	**-3.9**
JFR	**Furan**	**4.50**	**205**	P		**P**	**20 16 23.0**	**+1.1**
JCH	**Churui**	**4.83**	**196**	P		**P**	**20 16 23.9**	**-1.2**
JCH				*e*S		**S**	**20 17 26.8**	**-4.9**
JBT2	**Biratori 2**	**4.92**	**205**	*e*P		**P**	**20 16 26.5**	**+0.5**
JEW	**Eniwo**	**5.16**	**212**	*e*S		**S**	**20 17 35.9**	**-1.8**
JNBK	**Urakawa-nobuka**	**5.28**	**200**	P		**P**	**20 16 28.7**	**-0.8**
ERM	**Erimo**	**5.45**	**196**			**P**	**20 16 31.1**	**-0.2**
ERM	**Erimo**	**5.45**	**196**	*d* PN		**P**	**20 16 31.3**	**0.0**
TEY	**Ternei**	**6.38**	**253**	*e*PN		**P**	**20 16 42.6**	**+1.8**
NKL	**Nikolayevsk**	**6.57**	**335**	*e*P		**P**	**20 16 42.9**	**-0.1**
NKL				AMB	AMB	20 16 44.0		
	comp=E,40nm,0.8s							
NKL				*e*S		**S**	**20 18 03.1**	**-1.0**
NKL				A	A	20 18 05.1		
	comp=E,40nm,0.8s							
NKL				A	A	20 18 05.1		
	comp=E,70nm,0.8s							
JOT	**Ohata**	**6.59**	**208**	*e*P		**P**	**20 16 43.2**	**-0.3**
JOT				*e*S		**S**	**20 17 59.2**	**-5.8**
JSI2	**Shiura 2**	**7.10**	**211**	*e*P		**P**	**20 16 48.5**	**-0.4**
JSI2				*e*S		**S**	**20 18 10.5**	**-4.4**
JTM	**Tenmabayashi**	**7.13**	**206**			**P**	**20 16 47.9**	**-1.4**
JANG	**Nango**	**7.38**	**202**	*e*P		**P**	**20 16 50.7**	**-1.4**
JANG				*e*S		**S**	**20 18 14.8**	**-6.0**
JIW	**Iwasaki**	**7.65**	**211**	*e*P		**P**	**20 16 54.8**	**-0.2**
USA0B	**Ussuriysk Arra**	**9.74**	**256**	P		**P**	**20 17 15.1**	**-2.6**
USA0B	**Ussuriysk Arra**	**9.74**	**256**	*c i*PN		**P**	**20 17 17.9**	**+0.3**
USRK	**Ussuriysk Ar.**	**9.74**	**256**	P		**P**	**20 17 15.9**	**-1.8**
USRK	**Ussuriysk Ar.**	**9.74**	**256**	P		**P**	**20 17 18.1**	**+0.5**
	comp=E,4.8nm,0.5s,baz=60,slow=12,SNR=16							
PETK	**Petropavlovsk-**	**9.91**	**49**	P		**P**	**20 17 20.8**	**+1.3**
	comp=E,0.5nm,0.5s,baz=229,slow=11,SNR=1.7							
JMM	**Marumori**	**9.94**	**201**	P		**P**	**20 17 21.1**	**+1.1**
PET	**Petropavlovsk**	**10.37**	**51**	*e*PN		**P**	**20 17 23.2**	**-1.3**
MSHR	**Mys Shultsa**	**11.00**	**250**	*e*PN		**P**	**20 17 34.9**	**+3.3**
MDJ	**Mudanjiang**	**11.19**	**262**			**P**	**20 17 34.0**	**+0.4**
PSTR	**Posyet**	**11.19**	**251**	*i* PN		**P**	**20 17 37.1**	**+3.5**
PSTR	**Posyet**	**11.19**	**251**	*e*P		**P**	**20 17 36.8**	**+3.2**
MJA0	**Matsu Arr-Jizo**	**11.89**	**208**	*e*PN		**P**	**20 17 44.0**	**+2.5**
MJA0				pmax	pmax			
	comp=Z,4.0nm,0.4s							
MJB9	**Matsu-Tunnel**	**11.90**	**208**	P		**P**	**20 17 43.1**	**+1.6**
MAJO	**Matsushiro**	**11.91**	**208**	*ae*PN		**P**	**20 17 44.0**	**+2.4**
MAJO				pmax	pmax			
	comp=E,6.0nm,1.2s							
MJAR	**Matsushiro Arr**	**11.91**	**208**	P		**P**	**20 17 44.2**	**+2.6**
MJAR	**Matsushiro Arr**	**11.91**	**208**	P		**P**	**20 17 44.1**	**+2.5**
	comp=Z,3.4nm,0.5s,baz=26,slow=10.0,SNR=14							
MJAR	**Matsushiro Arr**	**11.91**	**208**	PN		**P**	**20 17 44.2**	**+2.6**
HEH	**HeiHe**	**12.12**	**291**	P		**P**	**20 17 43.8**	**+0.2**
HEH				pmax	pmax			
	comp=Z,27nm,0.8s							
BNX	**BinXian**	**12.36**	**269**	P		**P**	**20 17 44.3**	**-2.1**
BNX				pmax	pmax			
	comp=Z,2.0nm,0.5s							
MA2	**Magadan**	**12.77**	**13**	P		**P**	**20 17 51.5**	**+0.9**
MA2	**Magadan**	**12.77**	**13**	P		**P**	**20 17 51.3**	**+0.8**
	comp=Z,5.9nm,0.6s,baz=188,slow=11,SNR=9.5							
MA2	**Magadan**	**12.77**	**13**	PN		**P**	**20 17 51.5**	**+0.9**
JGF	**Kuroka**	**13.04**	**210**	P		**P**	**20 17 56.2**	**+2.2**
INU	**Inuyama**	**13.39**	**210**			**P**	**20 17 59.3**	**+1.6**
JMN	**Monobe**	**16.01**	**216**	P		**P**	**20 18 28.3**	**+2.4**
KSRS	**Korea Array**	**16.07**	**239**	P		**P**	**20 18 27.9**	**+1.5**
	comp=Z,5.1nm,0.8s,baz=42,slow=11,SNR=10							
KSRS	**Korea Array**	**16.07**	**239**	*e*P		**P**	**20 18 29.2**	**+2.8**
KSRS				pmax	pmax			
	comp=Z,5.0nm,0.8s							
HIA	**Hailar**	**17.05**	**286**	P		**P**	**20 18 32.9**	**-3.9**
HIA				IAmb	IAmb	20 18 40.0		
	comp=Z,8.9nm,0.6s							
HIA	**Hailar**	**17.05**	**286**	*e*P		**P**	**20 18 35.1**	**-1.6**
HIA				pmax	pmax			
	comp=Z,8.0nm,0.6s							
YAK	**Yakutsk**	**17.23**	**335**			**P**	**20 18 35.9**	**-2.5**
YAK	**Yakutsk**	**17.23**	**335**	*e*P		**P**	**20 18 36.6**	**-1.8**
YAK				pmax	pmax			
	comp=Z,29nm,1.3s							
YAK				pmax	pmax			
	comp=N,9.0nm,1.5s							
YAK				pmax	pmax			
	comp=E,8.0nm,1.8s							
YAK	**Yakutsk**	**17.23**	**335**	*e*P		**P**	**20 18 36.6**	**-1.8**
JNU	**Nakatsue**	**17.83**	**223**	P		**P**	**20 18 45.9**	**+0.7**
JNU				IAmb	IAmb	20 19 16.9		
	comp=Z,12nm,1.2s							
JNU	**Nakatsue**	**17.83**	**223**	P		**P**	**20 18 46.1**	**+0.9**
	comp=Z,3.1nm,0.4s,baz=59,slow=12,SNR=8.3							
JCJ	**Chichijima**	**20.27**	**188**	P		**P**	**20 19 10.1**	**+1.5**
	comp=Z,104nm,1.0s,baz=300,slow=15,SNR=2.0							
	comp=Z,104nm,1.0s							
XLT	**XiLinHaoTe**	**20.60**	**271**	*e*P		**P**	**20 19 11.3**	**-0.2**
XLT				pmax	pmax			
	comp=Z,31nm,0.5s							
BJT	**Baijiatuan**	**22.14**	**262**	P		**P**	**20 19 27.0**	**+1.6**
BJT	**Baijiatuan**	**22.14**	**262**	P		**P**	**20 19 27.0**	**+1.6**
BJT				pmax	pmax			
	comp=Z,14nm,0.5s							
ULN	**Ulaanbaatar**	**25.58**	**286**	P		**P**	**20 19 56.5**	**+0.2**
ULN				IAmb	IAmb	20 20 00.8		
	comp=Z,7.0nm,0.8s							
ULN	**Ulaanbaatar**	**25.58**	**286**	*e*P		**P**	**20 19 56.5**	**+0.2**
ULN				pmax	pmax			
	comp=Z,8.0nm,0.8s							
ULN	**Ulaanbaatar**	**25.58**	**286**	*e*P		**P**	**20 19 56.5**	**+0.2**
SONM	**Songino Array**	**26.02**	**286**	P		**P**	**20 20 01.1**	**+0.9**
SONM	**Songino Array**	**26.02**	**286**	P		**P**	**20 19 59.8**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=74,slow=11,SNR=11							
	comp=Z,2.2nm,0.6s							
SONM	**Songino Array**	**26.02**	**286**	*e*P		**P**	**20 20 03.4**	**+3.2**
SONM				pmax	pmax			
	comp=Z,5.0nm,0.6s							
GTA	**Gaotai**	**33.53**	**273**	P		**P**	**20 21 06.8**	**+1.1**
GTA				pmax	pmax			
	comp=Z,7.0nm,0.8s							
N15K	**Kwethluk River**	**33.81**	**47**	P		**P**	**20 21 08.3**	**+0.7**
G18K	**Tagagawik**	**34.57**	**37**	P		**P**	**20 21 12.8**	**-1.0**
H19K	**Roundabout Mou**	**35.46**	**38**	P		**P**	**20 21 21.5**	**+0.2**
B20K	**Meade River**	**35.62**	**30**	P		**P**	**20 21 22.5**	**-0.1**
B20K				IAmb	IAmb	20 21 39.2		
	comp=Z,12nm,1.4s							
D20K	**Etivluk River**	**35.63**	**32**	P		**P**	**20 21 22.8**	**0.0**
D20K				IAmb	IAmb	20 21 27.6		
	comp=Z,9.7nm,1.4s							
IMAR	**Indian Mountai**	**36.58**	**37**	P		**P**	**20 21 30.8**	**0.0**
D22K	**Ayikyak River**	**37.07**	**32**	P		**P**	**20 21 33.6**	**-1.2**
D22K				IAmb	IAmb	20 21 48.3		
	comp=Z,10nm,1.5s							
ZAA0	**Zalesovo Array**	**37.86**	**303**			**P**	**20 21 40.7**	**-0.7**
ZALV	**Zalesovo Beam**	**37.86**	**303**			**P**	**20 21 40.2**	**-1.2**
ZALV	**Zalesovo Beam**	**37.86**	**303**	P		**P**	**20 21 40.7**	**-0.8**
	comp=Z,2.5nm,0.4s,baz=64,slow=7.1,SNR=16							
ZALV				PcP		**PcP**	**20 23 46.9**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=96,slow=4.3,SNR=2.2							
	comp=Z,2.5nm,0.4s							
ZALV	**Zalesovo Beam**	**37.86**	**303**	*e*P		**P**	**20 21 40.6**	**-0.8**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.4s							
TOLK	**Toolik Lake Re**	**38.20**	**33**	P		**P**	**20 21 44.2**	**+0.1**
GOMU	**GeErMu**	**38.58**	**272**	P		**P**	**20 21 48.5**	**+0.5**
GOMU				pmax	pmax			
	comp=Z,11nm,1.0s							
D25K	**Kavik River**	**39.34**	**31**	P		**P**	**20 21 53.1**	**-0.2**
ILAR	**Eielson Array**	**39.53**	**39**	P		**P**	**20 21 55.2**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=268,slow=6.8,SNR=4.3							
FYU	**Fort Yukon**	**39.99**	**36**	P		**P**	**20 21 59.6**	**+1.1**
MK31	**Makanchi Array**	**41.83**	**293**	*d* P		**P**	**20 22 13.7**	**0.0**
MKAR	**Makanchi Array**	**41.83**	**293**			**P**	**20 22 13.4**	**-0.3**
MKAR	**Makanchi Array**	**41.83**	**293**	P		**P**	**20 22 13.7**	**0.0**
	comp=Z,6.7nm,0.6s,baz=70,slow=7.6,SNR=42							
	comp=Z,6.7nm,0.6s							
MAKZ	**Makanchi**	**42.02**	**294**	P		**P**	**20 22 15.0**	**-0.3**
MAKZ				IAmb	IAmb	20 22 16.4		
	comp=Z,6.4nm,0.6s							
MAKZ	**Makanchi**	**42.02**	**294**	P		**P**	**20 22 15.0**	**-0.3**
MAKZ				pmax	pmax			
	comp=Z,6.0nm,0.6s							
I28M	**Miner Creek**	**42.31**	**37**	P		**P**	**20 22 16.7**	**-0.6**
KURK	**Kurchatov**	**42.50**	**300**			**P**	**20 22 18.5**	**-0.4**
KURK				IAmb	IAmb	20 22 19.4		
	comp=Z,7.3nm,0.7s							
KURK	**Kurchatov**	**42.50**	**300**	*d* P		**P**	**20 22 18.3**	**-0.6**
KURK				pmax	pmax			
	comp=Z,8.0nm,0.7s							
KURBB	**Kurchatov Arra**	**42.59**	**300**	P		**P**	**20 22 19.4**	**-0.3**
	comp=Z,3.3nm,0.4s,baz=71,slow=9.0,SNR=24							
KURBB				PcP		**PcP**	**20 24 02.9**	**+0.4**
	comp=E,2.1nm,0.2s,baz=77,slow=3.2,SNR=4.5							
KURBB				ScP		**ScP**	**20 27 10.9**	**-0.6**
	comp=Z,0.5nm,0.2s,baz=86,slow=2.4,SNR=4.1							
	comp=Z,3.3nm,0.4s							
H31M	**Peel River**	**44.47**	**35**	P		**P**	**20 22 34.6**	**+0.4**
MAYO	**Mayo, Yukon**	**44.48**	**39**			pP	20 23 48.4	-8.1
LSA	**Lhasa**	**44.86**	**267**			**P**	**20 22 40.2**	**+1.9**
LSA				IAmb	IAmb	20 22 41.3		
	comp=Z,7.4nm,0.7s							
LSA	**Lhasa**	**44.86**	**267**	P		**P**	**20 22 40.2**	**+1.9**
LSA				pmax	pmax			
	comp=Z,7.0nm,0.7s							
BVAR	**Borovoye Array**	**46.27**	**306**	P		**P**	**20 22 48.1**	**-0.1**
	comp=Z,3.0nm,0.5s,baz=58,slow=8.9,SNR=23							
BVAR				PcP		**PcP**	**20 24 15.6**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=70,slow=9.2,SNR=1.5							
	comp=Z,3.0nm,0.5s							
BRVK	**Borovoye**	**46.31**	**306**			**P**	**20 22 48.6**	**0.0**
BRVK				IAmb	IAmb	20 22 49.3		
	comp=Z,7.3nm,0.7s							
BRVK	**Borovoye**	**46.31**	**306**	*de*P		**P**	**20 22 48.3**	**-0.2**
BRVK				pmax	pmax			
	comp=Z,8.0nm,0.7s							
BRVK	**Borovoye**	**46.31**	**306**	*e*P		**P**	**20 22 48.3**	**-0.2**
SHL	**Shillong**	**47.02**	**262**			**P**	**20 22 55.4**	**+0.8**
SHL	**Shillong**	**47.02**	**262**	P		**P**	**20 22 55.4**	**+0.8**
AAK	**Ala-Archa**	**48.69**	**292**	*i* P		**P**	**20 23 06.7**	**-0.2**
AAK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
AAK	**Ala-Archa**	**48.69**	**292**	*e*P		**P**	**20 23 06.7**	**-0.2**
EVN	**Everest**	**48.91**	**268**			**P**	**20 23 10.5**	**+1.2**
EVN				IAmb	IAmb	20 23 11.5		
	comp=Z,7.4nm,0.7s							
KSH	**Kashi**	**49.39**	**288**	P		**P**	**20 23 16.5**	**+4.3**
KSH				pmax	pmax			
	comp=Z,5.0nm,0.7s							
SVE	**Sverdlovsk**	**49.68**	**314**	*e*P		**P**	**20 23 13.6**	**-0.2**
SVE				pmax	pmax			
	comp=Z,17nm,0.7s							
ARSB	**Arslanbob**	**50.34**	**291**	IAmb	IAmb	20 23 21.1		
	comp=Z,12nm,1.0s							
KK31	**Karatay Array**	**50.93**	**295**	IAmb	IAmb	20 23 24.2		
	comp=Z,5.3nm,0.7s							
KKAR	**Karatay Array**	**50.93**	**295**			**P**	**20 23 23.0**	**-0.4**
KKAR	**Karatay Array**	**50.93**	**295**	P		**P**	**20 23 23.0**	**-0.4**
ARTI	**Arti**	**50.98**	**314**			**P**	**20 23 22.4**	**-1.1**
ARTI	**Arti**	**50.98**	**314**	P		**P**	**20 23 23.0**	**-0.5**
	comp=Z,12nm,0.5s,baz=53,slow=5.0,SNR=28							
	comp=Z,12nm,0.5s							
ARTI	**Arti**	**50.98**	**314**	*d* P		**P**	**20 23 22.7**	**-0.8**
ARTI				*PP		**pP**	**20 24 45.4**	**-3.4**
ARTI							20 25 21.1	
ARTI				S		**S**	**20 30 06.0**	**-0.9**
ARTI				SS		**SS**	**20 33 43.0**	**-4.9**
ARTI				pmax	pmax			
	comp=Z,16nm,0.9s							
SPITS	**Spitsbergen Ar**	**51.07**	**348**	P		**P**	**20 23 22.9**	**-0.9**
	comp=Z,5.7nm,0.9s,baz=63,slow=9.4,SNR=2.4							
SPITS				PcP		**PcP**	**20 24 32.3**	**-0.1**
	comp=Z,6.7nm,0.9s,baz=69,slow=5.2,SNR=5.2							
	comp=Z,5.7nm,0.9s							
GAR	**Garm**	**53.32**	**290**	P		**P**	**20 23 41.3**	**+0.5**
GAR				IAmb	IAmb	20 23 42.1		
	comp=Z,15nm,0.8s							
AB31	**Akbulak array**	**53.84**	**306**	IAmb	IAmb	20 23 44.9		
	comp=Z,7.7nm,0.7s							
ABKAR	**Akbulak array**	**53.84**	**306**			**P**	**20 23 43.7**	**-0.5**
AKTO	**Aktyubinsk**	**54.25**	**308**	P		**P**	**20 23 46.4**	**-0.7**
	comp=Z,2.7nm,0.5s,baz=57,slow=6.9,SNR=7.3							
	comp=Z,2.7nm,0.5s							
SIMJ	**Simiganj**	**54.35**	**291**			**P**	**20 23 48.3**	**+0.1**
SIMJ				IAmb	IAmb	20 23 49.8		
	comp=Z,12nm,0.8s							
NIL	**Nilore**	**54.56**	**283**	P		**P**	**20 23 50.5**	**+0.9**
NIL				IAmb	IAmb	20 23 51.6		
	comp=Z,12nm,0.9s							
NIL	**Nilore**	**54.56**	**283**	P		**P**	**20 23 50.5**	**+0.9**
NIL				pmax	pmax			
	comp=Z,12nm,0.9s							
ARCES	**ARCESS Array B**	**55.48**	**338**	P		**P**	**20 23 54.5**	**-0.9**
	comp=Z,2.9nm,0.8s,baz=43,slow=7.4,SNR=8.3							
	comp=Z,2.9nm,0.8s							
ARCES	**ARCESS Array B**	**55.48**	**338**	*e*P		**P**	**20 23 55.2**	**-0.3**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
FINES	**FINESS Array B**	**61.13**	**331**	P		**P**	**20 24 33.4**	**-0.7**
	comp=Z,5.8nm,0.4s,baz=40,slow=6.9,SNR=81							
	comp=Z,5.8nm,0.4s							
AKT	**Akhty**	**65.38**	**305**	*e*P		**P**	**20 25 02.4**	**+0.4**
AKT				*e*			20 25 30.1	
AKT				*e**SP		**sP**	**20 27 18.1**	**-0.9**
AKT				*e*			20 27 32.6	
AKT				pmax	pmax			
	comp=Z,10.0nm,0.8s							
MNK	**Minsk**	**65.64**	**325**	*i* P		**P**

AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 67.95 322 P **P 20 25 17.1 -0.7**
AKBB IAmb IAmb 20 25 18.0
comp=Z,4.9nm,0.7s
AKBB Malin Array Si 67.95 322 *de*P **P 20 25 17.0 -0.7**
AKBB pmax pmax
comp=Z,5.0nm,0.7s
KIEV Kiev 67.97 322 P **P 20 25 17.3 -0.5**
KIEV IAmb IAmb 20 25 18.0
comp=Z,4.4nm,0.7s
KIEV Kiev 67.97 322 P **P 20 25 17.3 -0.5**
KIEV pmax pmax
comp=Z,4.0nm,0.7s
VSLR Vesyoloye 68.16 311⇓ *e*P **P 20 25 19.0 -0.1**
VSLR pmax pmax
comp=Z,10.0nm,0.8s
PDAR Pinedale Array 68.68 50 P **P 20 25 23.9 +1.3**
comp=Z,0.7nm,0.5s,baz=342,slow=1.6,SNR=10
comp=Z,0.7nm,0.5s
GURO Guroymak-BITLI 70.56 306 P **P 20 25 34.6 +0.7**
GURO IAmb IAmb 20 25 36.3
comp=Z,3.9nm,0.6s
ASAR Alice Springs 71.33 191 P **P 20 25 40.6 +2.3**
comp=Z,1.5nm,0.5s,baz=4.5,slow=5.5,SNR=24
comp=Z,1.5nm,0.5s
BUR08 Bucovina Ar. S 71.99 322 IAmb IAmb 20 25 43.2
comp=Z,4.0nm,0.6s
KOLS Kolonicke sedl 72.17 324 *e*P **P 20 25 44.2 +1.2**
KOLS Kolonicke sedl 72.17 324 *e*P **P 20 25 44.2 +1.2**
STHS Stebnicka Huta 72.18 325 *e*P **P 20 25 43.4 +0.3**
STHS Stebnicka Huta 72.18 325 *e*P **P 20 25 43.3 +0.2**
STEB Steborice 73.06 328 *e*P **P 20 25 48.5 +0.3**
LANS Liptovska Anna 73.08 326 *e*P **P 20 25 49.8 +1.5**
LANS Liptovska Anna 73.08 326 *e*P **P 20 25 49.8 +1.5**
DPC Dobruska-Polom 73.24 329 *e*P **P 20 25 50.0 +0.7**
DPC Dobruska-Polom 73.24 329 *e*P **P 20 25 50.0 +0.7**
MORC Moravsky Berou 73.28 328 IAmb IAmb 20 25 50.9
comp=Z,3.9nm,0.8s
KRLC Kraliky 73.31 328 *e*P **P 20 25 49.8 +0.2**
KRLC Kraliky 73.31 328 *e*P **P 20 25 49.8 +0.2**
CLL Collm 73.57 331 *i*P **P 20 25 51.1 0.0**
CLL pmax pmax
comp=Z,7.0nm,0.5s
CLL Collm 73.57 331 *i*P **P 20 25 51.1 0.0**
comp=Z,7.0nm,0.5s
BR131 Keskin Array S 74.16 312⇑ *e*P **P 20 25 55.6 +0.8**
BRTR Keskin Array B 74.16 312 **P 20 25 55.0 +0.2**
BRTR Keskin Array B 74.16 312 P **P 20 25 55.6 +0.8**
comp=Z,2.0nm,0.7s,baz=92,slow=3.7,SNR=14
comp=Z,2.0nm,0.7s
EKA Eskdalemuir Ar 74.36 342 P **P 20 25 55.5 +0.1**
comp=Z,1.8nm,0.6s,baz=25,slow=5.3,SNR=17
comp=Z,1.8nm,0.6s
ZVC Zvikov 74.76 329 *e*P **P 20 25 57.9 0.0**
KHC Kasperske Hory 75.23 329 *e*P **P 20 26 00.9 +0.3**
KHC Kasperske Hory 75.23 329⇑ *e*P **P 20 26 00.4 -0.2**
KHC pmax pmax
comp=Z,4.0nm,0.8s
GERES GERESS Array B 75.43 329 P **P 20 26 02.1 +0.3**
comp=Z,1.4nm,0.5s,baz=40,slow=6.2,SNR=15
comp=Z,1.4nm,0.5s
CONA Conrad Observa 75.43 327 *i*P **P 20 26 03.1 +1.3**
comp=Z,2.7nm,0.6s
ARSA Arzberg 76.13 327 *i*P **P 20 26 06.6 +0.9**
comp=Z,1.4nm,0.5s
SOKA Soboth 76.79 327 *e*P **P 20 26 10.0 +0.7**
comp=Z,2.5nm,0.6s,SNR=4.5
RDO Rodhopi 76.98 318 IAmb IAmb 20 26 12.2
comp=Z,5.9nm,0.8s
LESA Schwarzleotal 77.00 329 *i*P **P 20 26 11.6 +1.1**
comp=Z,4.4nm,0.5s
KBA Koelnbreinsper 77.06 329 *i*P **P 20 26 12.3 +1.3**
comp=Z,4.0nm,0.4s
OBKA Obir 77.11 327 *e*P **P 20 26 11.8 +0.6**
comp=Z,1.8nm,0.5s,SNR=4.2
WATA Walderalm 77.46 330 *e*P **P 20 26 14.1 +1.0**
comp=Z,4.1nm,0.5s,SNR=4.1
WTTA Wattenberg 77.50 330 *i*P **P 20 26 14.5 +1.1**
comp=Z,5.8nm,0.4s,SNR=8.3
MOTA Moosalm 77.61 330 *i*P **P 20 26 14.8 +0.8**
comp=Z,6.8nm,0.8s
SQTA Sankt Quirin 77.69 330 *i*P **P 20 26 15.3 +1.0**
comp=Z,5.0nm,0.8s
DAVA Damuels 78.08 331 *i*P **P 20 26 17.2 +0.7**
comp=Z,6.3nm,0.8s
MMAI Mount Meron Ar 78.27 306 P **P 20 26 18.9 +1.2**
comp=Z,1.7nm,0.5s,baz=50,slow=7.8,SNR=5.5
comp=Z,1.7nm,0.5s

KRNET ***29*** *20:15:10.3±0.1, 39˚.29N×72˚.52E, h18km, mb3.3*
SOME ***29*** *20:15:14.5, 39˚.70N×72˚.22E, h10km*
NNC ***29*** *20:15:19.5±5.8, 39˚.98N×72˚.15E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=43.6km s-min=19.6km az=175.0*
ISC 29 20:15:11.2±1.2, 39˚.34N±0˚.07×72˚.52E±0˚.04, h10km, n30, σ2ᵍ96/49, 18C-16D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.21**	**10**⇑	*i*P	**Pg**	**20 15 34.3**	**-0.1**
OHH				⇑*i*S	**Sn**	**20 15 51.8**	**+1.1**
GAR	**Garm**	**1.74**	**260**⇓	*i*P	**Pb**	**20 15 42.7**	**-0.7**
GAR				⇓*i*S	**Sg**	**20 16 06.5**	**-0.8**
SALK	**Salom-Alik**	**1.84**	**32**⇓	*i*P	**Pb**	**20 15 45.5**	**+0.4**
SALK				⇓*i*S	**Sg**	**20 16 11.1**	**+0.6**
ARSB	**Arslanbob**	**2.02**	**10**⇑	*i*P	**Pb**	**20 15 48.5**	**+0.4**
ARSB				⇑*i*S	**Sg**	**20 16 16.3**	**+0.2**
TRKS	**Terek-Say**	**2.43**	**335**⇓	*i*P	**Pb**	**20 15 53.3**	**-1.9**
TRKS				⇓*i*S	**Sb**	**20 16 24.6**	**-0.6**
UCH	**Uchtor**	**3.26**	**27**⇑	*i*P	**Pn**	**20 16 05.9**	**+3.0**
UCH				⇑*i*S	**Sb**	**20 16 46.3**	**-3.2**
IUG	**Iuzhnay** 82nm,0.5s	**3.38**	**327**	Pg	**Pb**	**20 16 08.0**	**-3.4**
IUG				Lg	Lg	20 16 46.5	
MRKS	**Merke** 5.8nm,0.6s	**3.45**	**9**	Pg	**Pb**	**20 16 12.2**	**-0.2**
MRKS				Lg	Lg	20 16 54.5	
MRKS	**Merke** 1.8nm,0.1s	**3.45**	**9**	*e*P	**Pb**	**20 16 12.2**	**-0.2**
MRKS				*e*S	**Sb**	**20 16 54.1**	**-0.4**
EKS2	**Erkin-Say**	**3.46**	**16**⇑	*i*P	**Pn**	**20 16 08.5**	**+3.2**
EKS2				⇑*i*S	**Sn**	**20 16 50.7**	**+4.4**
AAK	**Ala-Archa** 2.3nm,0.5s	**3.62**	**24**	⇑Pg	**Pg**	**20 16 18.9**	**-1.7**
AAK				⇑Lg	Lg	20 16 59.1	
AAK	**Ala-Archa** 10nm,0.7s	**3.62**	**24**⇓	*i*P	**Pn**	**20 16 10.8**	**+3.2**
AAK				⇓*i*S	**Sn**	**20 16 54.7**	**+4.2**
KBK	**Karagaybulak**	**3.79**	**28**⇓	*i*P	**Pn**	**20 16 12.9**	**+3.0**
KBK				⇓*i*S	**Sn**	**20 16 58.7**	**+4.0**
CHMS	**Chumysh**	**4.03**	**24**⇑	*i*P	**Pn**	**20 16 16.3**	**+3.3**
CHMS				⇑*i*S	**Sn**	**20 17 04.4**	**+4.1**
ULHL	**Ulahol**	**4.06**	**43**⇓	*i*P	**Pn**	**20 16 16.6**	**+3.0**
ULHL				⇓*i*S	**Sn**	**20 17 05.0**	**+3.8**
KK31	**Karatay Array** 2.7nm,0.3s,baz=147,slow=12,SNR=106	**4.06**	**339**	Pg	**Pn**	**20 16 17.1**	**+3.8**
KK31				⇑Lg	Lg	20 17 06.4	
	9.2nm,0.3s,baz=148,slow=27,SNR=6.8						
BOOM	**Boomskoye usch**	**4.08**	**38**⇑	*e*P	**Pn**	**20 16 16.9**	**+3.0**
BOOM				⇑*i*S	**Sn**	**20 17 05.7**	**+3.9**
USP	**Ospenovka**	**4.20**	**20**⇓	*i*P	**Pn**	**20 16 18.7**	**+3.3**
USP				⇓*i*S	**Sn**	**20 17 08.2**	**+3.6**
BRLS	**Borolday** 5.2nm,0.4s	**4.21**	**332**	Pg	Pb	20 16 20.2	-5.1
BRLS				Lg	Lg	20 17 07.5	
BRLS	**Borolday** 13nm,0.4s	**4.21**	**332**	*e*P	Pb	20 16 20.2	-5.1
BRLS				*e*S	**Sn**	**20 17 07.5**	**+2.8**
TKM2	**Tokmak 2** 2.3nm,0.1s	**4.27**	**32**⇓	*e*P	**Pn**	**20 16 19.7**	**+3.2**
TKM2				⇓*i*S	**Sn**	**20 17 10.3**	**+3.8**
KDJ	**Kajisay** 7.9nm,0.2s	**4.51**	**50**⇑	*i*P	**Pn**	**20 16 22.8**	**+3.0**
KDJ				⇑*i*S	**Sn**	**20 17 15.8**	**+3.4**
KST	**Kastek** 2.2nm,0.2s	**4.53**	**34**	*e*P	**Pg**	**20 16 34.6**	**-3.3**
KST				*e*S	**Sg**	**20 17 32.3**	**-4.2**
DGS	**Degeres** 3.1nm,0.8s	**4.61**	**31**	Pg	**Pg**	**20 16 38.7**	**-0.8**
DGS				Lg	Lg	20 17 39.3	
IZV	**Izvestkoviy** 1.1nm,0.1s	**4.82**	**39**	*e*P	**Pg**	**20 16 41.1**	**-2.4**
IZV				*e*S	**Sg**	**20 17 43.4**	**-2.6**
KRBS	**Karabastau** 2.1nm,0.6s	**4.96**	**28**	Pg	**Pg**	**20 16 43.3**	**-2.9**
KRBS				Lg	Lg	20 17 47.7	
TNSS	**Tian-Shan** 0.2nm,0.1s	**4.99**	**41**	*e*P	**Pg**	**20 16 43.5**	**-3.2**
TNSS				*e*S	**Sg**	**20 17 47.7**	**-3.6**
KOTS	**Kotyrbulak** 2.6nm,0.1s	**5.21**	**40**	*e*P	**Pg**	**20 16 48.0**	**-3.1**
KOTS				*e*S	**Sg**	**20 17 55.5**	**-3.0**
ARXS	**Arharly** 0.9nm,0.7s	**6.29**	**37**	Pg	**Pg**	**20 17 07.2**	**-4.4**
ARXS				Lg	Lg	20 18 29.0	
AB31	**Akbulak array** 4.2nm,0.8s 0.6nm,0.5s	**13.38**	**322**	⇑P	**Pn**	**20 18 19.5**	**-1.5**

IDC 29 20:31:17.1±5.5, 16˚.22S×175˚.15W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=172.1km s-min=108.8km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.1nm,0.5s,baz=63,slow=9.0,SNR=3.4	**42.17**	**240**	P	P	20 39 13.4	+1.7
	1.1nm,0.5s						
WRA	**Warrarunga Arr** 0.3nm,0.5s,baz=97,slow=7.0,SNR=14	**48.02**	**258**	P	P	20 39 58.1	-0.3
	0.3nm,0.5s						
ASAR	**Alice Springs** 1.6nm,0.7s,baz=88,slow=8.7,SNR=15	**48.25**	**253**	P	P	20 39 59.2	-1.1
ASAR				PcP	PcP	20 41 27.2	-0.3
	0.2nm,0.8s,baz=94,slow=4.1,SNR=1.2						
	1.6nm,0.7s						

BJI ***29*** *20:37:37.3, 32˚.82N×141˚.14E, h66km, mB5.6/67, mb5.6/82, Ms5.6/97, Ms7 5.4/95*
NEIC ***29*** *20:37:42.8, 32˚.84N×140˚.66E, h50km, Moment Tensor Solution. Duration: 3s9 Moment tensor: Scale 10¹⁷Nm; Mrr3.59; Mθθ-0.72; Mφφ-2.86; Mrθ-2.47; Mθφ-1.24; Mφr-4.31; Fault plane solution: M₀6.08000×10¹⁷ NP1: φs21.00000°, δ17.75000°, λ82.58000°. NP2:φs208.79000°, δ72.40000°, λ92.37000°. Principal axes: T 6.1641, Plg63.0000°, Azm122.0000°; N -0.1699, Plg2.0000°, Azm28.0000°; P -5.9942, Plg27.0000°, Azm297.0000°;*
MOS ***29*** *20:37:42.3±1.0, 32˚.85N×140˚.50E, h64km, mb6.1/87, MS5.3/56 Error ellipse: s-maj=7.2km s-min=3.7km az=114.2*
NEIC ***29*** *20:37:42.8, 32˚.84N×140˚.55E, h50km*
IPGP ***29*** *20:37:42.0, 32˚.85N×140˚.55E, h56km, Mw5.8, Fault plane solution: NP1:φs52.00000°, δ16.00000°, λ112.00000°. NP2:φs210.00000°, δ75.00000°, λ84.00000°.*
ISC-PP ***29*** *20:37:43, 32˚.84N×140˚.57E, h63km±1km, Mwppsm6.2, Moment Tensor Solution. s42 Moment tensor: Scale 10¹⁸Nm; Mrr0.19±.12; Mθθ0.03±.12; Mφφ0.64±.14; Mrθ-0.19±.13; Mθφ-0.49±.09; Mφr-0.01±.10; Fault plane solution: M₀2.85000×10¹⁸ NP1:φs27.70000°, δ82.70000°, λ294.20000°. NP2:φs133.50000°, δ25.30000°, λ-162.60000°.*
NEIC ***29*** *20:37:43.6±1.6, 32˚.84N±0˚.07×140˚.57E±0˚.07, h59km±3km, mb5.8/833, Mwb5.8/97, Mww5.8/34 Error ellipse: s-maj=9.9km s-min=8.4km az=178.0*
JMA ***29*** *20:37:43.9±0.2, 32˚.9N±0˚.4×14˚1E±˚, h59km±4km, MD5.9/40, MW5.8/40, E OFF HACHIJOJIMA ISLAND*
JMA Felt III J1 at E OFF HACHIJOJIMA ISLAND.
NIED ***29*** *20:37:43.9, 32˚.91N×140˚.78E, h59km, MW5.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁷Nm; Mrr3.67; Mθθ-0.46; Mφφ-3.20; Mrθ-2.43; Mθφ-1.21; Mφr-4.41; Fault plane solution: M₀6.22000×10¹⁷ NP1: φs14.00000°, δ18.00000°, λ78.00000°. NP2:φs207.00000°, δ72.00000°, λ94.00000°.*
BGR ***29*** *20:37:44.4, 33˚.08N×141˚.10E, h70km±2km, mb5.8*
GCMT ***29*** *20:37:45.5±0.1, 32˚.90N×140˚.68E, h72km, MW5.8/168, Moment Tensor Solution. s150,c337; s168,c487; Duration: 1s9 Moment tensor: Scale 10¹⁷Nm; Mrr2.76±.05; Mθθ0.17±.05; Mφφ-2.94±.05; Mrθ-2.37±.04; Mθφ-2.04±.04; Mφr-4.77±.04; Best double couple: M₀6.29500×10¹⁷ NP1:φs26.00000°, δ16.00000°, λ90.00000°. NP2:φs206.00000°, δ74.00000°, λ90.00000°. Principal axes: T 5.7000, Plg61.0000°, Azm117.0000°; N 1.1840, Plg0.0000°, Azm26.0000°; P -6.8890, Plg29.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
IDC ***29*** *20:37:45.6±0.7, 32˚.86N×140˚.46E, h74km±5km, mb5.4/34, mbtmp5.7/36, MS5.1/63 Error ellipse: s-maj=10.9km s-min=6.2km az=61.0*
ISC 29 20:37:44.2±0.2, 32˚.86N±0˚.02×140˚.55E±0˚.03, h66km±1km, h66km:pP-P, n2067, σ1ᵍ74/2130, mb5.8/655, 101C-104D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.67**	**292**		**Pn**	**20 37 59.7**	**+1.2**
JHJ2				Sn	**Sn**	**20 38 09.3**	**+0.3**
JHJ2	**Mitsune**	**0.67**	**292**	P	**Pn**	**20 38 00.2**	**+1.7**
JHJ2	**Mitsune**	**0.67**	**292**	S	**Sn**	**20 38 11.5**	**+2.6**
JHJ2	**Mitsune**	**0.67**	**292**	*i*P	**Pn**	**20 38 00.1**	**+1.6**
JHJ2				S	**Sn**	**20 38 11.6**	**+2.7**
JHJ2	**Mitsune** comp=N,973nm,1.4s,comp=E,1μm,2.6s	**0.67**	**292**	A	A	20 38 00.1	
JHCJ	**Hachijojimakas**	**0.67**	**288**	*i*P	**Pn**	**20 38 00.0**	**+1.5**
JHCJ				*e*S	**Sn**	**20 38 11.0**	**+2.0**
JHCJ	**Hachijojimakas** comp=N,732nm,1.5s,comp=E,1μm,1.5s	**0.67**	**288**	A	A	20 38 00.0	
JHJ	**Hachijo jima 2** comp=E,67μm,0.3s,baz=76,slow=4.2	**0.70**	**292**	P	**Pn**	**20 37 59.9**	**+1.0**
JAOM	**Aogashimamukai**	**0.78**	**239**	*i*P	**Pn**	**20 38 01.7**	**+1.9**
JAOM	**Aogashimamukai** comp=N,706nm,1.3s,comp=E,1μm,2.9s	**0.78**	**239**	A	A	20 38 01.7	
JMKN	**Mikurajimanish**	**1.30**	**322**	P	**Pn**	**20 38 07.5**	**+1.0**
JMKN				S	**Sn**	**20 38 24.9**	**+1.7**
JMKN	**Mikurajimanish** comp=N,399nm,3.9s,comp=E,418nm,3.0s	**1.30**	**322**	A	A	20 38 07.5	
JMYK	**Miyake Tsubota**	**1.46**	**325**	*i*P	**Pn**	**20 38 09.8**	**+1.2**
JMYK				S	**Sn**	**20 38 28.8**	**+2.0**
JMYK	**Miyake Tsubota** comp=N,443nm,4.7s,comp=E,754nm,2.7s	**1.46**	**325**	A	A	20 38 09.8	
JKO	**Kozu shima**	**1.77**	**318**	*i*P	**Pn**	**20 38 14.5**	**+1.8**
JKO	**Kozu shima** comp=N,433nm,1.3s,comp=E,1μm,3.4s	**1.77**	**318**	A	A	20 38 14.5	
BSO1	**Boso 1**	**1.82**	**11**	P	**Pn**	**20 38 12.1**	**-0.8**
JNIO	**Niijimaoohara** comp=N,445nm,3.4s,comp=E,427nm,3.5s	**1.83**	**325**	A	A	20 38 14.8	
JSKK	**Shikinejimakit** comp=N,292nm,2.8s,comp=E,304nm,7.6s	**1.85**	**323**	A	A	20 38 15.0	
BSO3	**Boso 3**	**1.93**	**359**	P	**Pn**	**20 38 14.5**	**-0.2**
JTHY	**Toshimahigashi** comp=N,277nm,3.9s,comp=E,327nm,3.4s	**1.96**	**328**	A	A	20 38 16.5	
JIM2	**Oshima 3**	**2.07**	**333**	P	**Pn**	**20 38 17.6**	**+0.8**
JIM2				S	**Sn**	**20 38 42.5**	**+0.9**
JIM2	**Oshima 3** comp=N,396nm,0.5s,comp=E,393nm,0.5s	**2.07**	**333**	A	A	20 38 17.6	
TATJ	**Tateyama 2** comp=N,492nm,3.1s,comp=E,340nm,2.9s	**2.23**	**346**	A	A	20 38 19.5	
JKUC	**kamogawauchiur** comp=N,186nm,6.2s,comp=E,142nm,3.0s	**2.31**	**353**	A	A	20 38 20.2	
JIZS	**Izushimoda**	**2.32**	**323**	*i*P	**Pn**	**20 38 22.0**	**+2.0**
JIZS				S	**Sn**	**20 38 49.4**	**+1.9**
JIZS	**Izushimoda** comp=N,86nm,8.5s,comp=E,110nm,4.0s	**2.32**	**323**	A	A	20 38 22.0	
I30JP	**ISUMI INFRASON** baz=186,slow=15,SNR=1.0	**2.45**	**355**	P	**Pn**	**20 38 20.0**	**-1.8**
JHTM	**Izuhatsuma** comp=N,228nm,1.3s,comp=E,273nm,3.0s	**2.45**	**329**	A	A	20 38 23.3	
JYO	**Yokosk** comp=N,237nm,5.8s,comp=E,427nm,3.0s	**2.47**	**343**	A	A	20 38 22.9	
TK02	**Tokai 2**	**2.58**	**296**	P	**Pn**	**20 38 26.2**	**+2.8**
JSG	**Sagara**	**2.67**	**313**		**Pn**	**20 38 28.0**	**+3.1**
JSG	**Sagara**	**2.67**	**313**	P	**Pn**	**20 38 27.8**	**+2.9**
JSG	**Sagara** comp=N,130nm,3.0s,comp=E,153nm,6.3s	**2.67**	**313**	A	A	20 38 27.2	
JOD2	**Odawara 2**	**2.68**	**333**	P	**Pn**	**20 38 26.2**	**+1.1**
JOD2				S	**Sn**	**20 38 57.1**	**+0.6**
JOD2	**Odawara 2** comp=N,86nm,4.6s,comp=E,81nm,4.4s	**2.68**	**333**	A	A	20 38 26.2	
JSMT	**Sammumatsuo** comp=N,277nm,5.9s,comp=E,393nm,4.5s	**2.77**	**358**	A	A	20 38 26.5	
JFNN	**Fujinakino** comp=N,142nm,2.0s,comp=E,147nm,3.8s	**2.79**	**327**	A	A	20 38 28.2	
JKKS	**Kakegawashinom** comp=N,123nm,3.0s,comp=E,147nm,4.1s	**2.85**	**312**	A	A	20 38 29.6	
TOK	**Tokyo** comp=N,225nm,0.5s,comp=E,300nm,2.2s	**2.89**	**347**	A	A	20 38 28.7	
SHZ3	**Shizuoka 3**	**2.94**	**319**	*i*P	**Pn**	**20 38 31.6**	**+3.0**
SHZ3	**Shizuoka 3** comp=N,51nm,6.4s,comp=E,80nm,5.5s	**2.94**	**319**	A	A	20 38 31.6	
JSGW	**Sagamiharawaka** comp=N,68nm,2.1s,comp=E,77nm,4.5s	**2.95**	**338**	A	A	20 38 29.9	
TTO2	**TONANKAI O.B.S**	**3.08**	**287**	*i*P	**Pn**	**20 38 33.5**	**+3.3**
HMMJ	**Hamamatsu 2** comp=N,28nm,8.0s,comp=E,34nm,6.6s	**3.08**	**311**	A	A	20 38 33.0	
JIHU	**Itakohorinouch** comp=N,261nm,3.5s,comp=E,346nm,3.0s	**3.09**	**360**	A	A	20 38 30.9	
JYN	**Shimob**	**3.11**	**328**⇓	*i*P	**Pn**	**20 38 33.5**	**+2.5**
JYN				⇓*e*S	**Sn**	**20 39 10.4**	**+3.4**
JYN	**Shimob** comp=N,46nm,3.8s,comp=E,75nm,5.7s	**3.11**	**328**	A	A	20 38 33.5	
TTO1	**TONANKAI O.B.S**	**3.25**	**284**	P	**Pn**	**20 38 35.6**	**+3.2**
JSSY	**Shinshiroyabe** comp=N,25nm,10.5s,comp=E,28nm,7.3s	**3.26**	**310**	A	A	20 38 35.4	
JNY	**Yasuok** comp=N,43nm,1.8s,comp=E,70nm,5.4s	**3.34**	**319**	A	A	20 38 36.3	
JAA	**Atsumi** comp=N,28nm,5.5s,comp=E,22nm,3.7s	**3.34**	**303**	A	A	20 38 36.9	
JYT	**Yasato** comp=N,40nm,4.2s,comp=E,53nm,5.1s	**3.37**	**355**	A	A	20 38 35.0	
JRY	**Ryogami san**	**3.43**	**337**	P	**Pn**	**20 38 37.0**	**+1.7**
JRY	**Ryogami san** comp=N,38nm,4.2s,comp=E,91nm,3.2s	**3.43**	**337**	A	A	20 38 37.0	
JHYU	**Hitachinakayam** comp=N,91nm,3.9s,comp=E,55nm,4.3s	**3.47**	**0**	A	A	20 38 36.1	
JIE	**Ise** comp=N,17nm,4.4s,comp=E,24nm,7.2s	**3.55**	**296**	A	A	20 38 40.1	
JNT	**Takato** comp=N,74nm,3.3s,comp=E,71nm,9.2s	**3.61**	**327**	A	A	20 38 39.7	
JAO	**Obara** comp=N,28nm,7.3s,comp=E,37nm,4.0s	**3.64**	**312**	A	A	20 38 40.7	
JAG	**Ashikaga** comp=N,53nm,8.0s,comp=E,59nm,6.0s	**3.67**	**346**	A	A	20 38 39.6	
JHO	**Hitachi** comp=N,49nm,5.1s,comp=E,51nm,5.0s	**3.74**	**0**	A	A	20 38 39.9	
JGF	**Kuroka**	**3.80**	**317**		**Pn**	**20 38 43.6**	**+3.2**
JGF	**Kuroka**	**3.80**	**317**	P	**Pn**	**20 38 43.3**	**+2.9**
JGF	**Kuroka** comp=N,32nm,6.1s,comp=E,30nm,5.2s	**3.80**	**317**	A	A	20 38 42.9	
JKN2	**Miekihoku** comp=N,20nm,3.9s,comp=E,18nm,4.9s	**3.83**	**292**	A	A	20 38 44.0	
INU	**Inuyama**	**3.84**	**311**		**Pn**	**20 38 44.0**	**+3.1**
INU	**Inuyama**	**3.84**	**311**	P	**Pn**	**20 38 44.3**	**+3.5**
TSUJ	**Tsu 2** comp=N,21nm,7.4s,comp=E,25nm,4.8s	**3.90**	**299**	A	A	20 38 44.9	
JICN	**Ichinomiyachia** comp=N,49nm,4.3s,comp=E,37nm,2.7s	**3.92**	**309**	A	A	20 38 44.8	
JGK	**Kuni** comp=N,117nm,3.6s,comp=E,100nm,4.3s	**4.01**	**337**	A	A	20 38 44.9	
JKT	**Katashina** comp=N,39nm,3.9s,comp=E,57nm,6.6s	**4.04**	**345**	A	A	20 38 44.9	
JWKM	**Wakayamakushim** comp=N,15nm,10.4s,comp=E,18nm,7.8s	**4.07**	**280**	A	A	20 38 47.6	
JNG	**Nsakai** comp=N,60nm,4.6s,comp=E,62nm,5.3s	**4.07**	**331**	A	A	20 38 46.0	
JSB	**Shiboa** comp=N,90nm,4.0s,comp=E,128nm,3.6s	**4.13**	**353**	A	A	20 38 45.8	
JEG	**Eigenji** comp=N,21nm,6.9s,comp=E,25nm,6.0s	**4.13**	**304**	A	A	20 38 47.9	
JNTK	**Naratenkawa** comp=N,11nm,2.5s,comp=E,24nm,4.5s	**4.14**	**291**	A	A	20 38 48.4	
MJAR	**Matsushiro Arr**	**4.15**	**333**		**Pn**	**20 38 45.8**	**+0.7**
MJAR	**Matsushiro Arr** comp=E,2μm,0.6s,baz=155,slow=9.8,SNR=658	**4.15**	**333**	P	**Pn**	**20 38 46.2**	**+1.1**
MJAR				S	**Sn**	**20 39 34.5**	**+2.2**
	comp=E,3μm,1.0s,baz=128,slow=22,SNR=8.5						
MAJO	**Matsushiro**	**4.15**	**333**		**Pn**	**20 38 46.7**	**+1.6**
MAJO	**Matsushiro**	**4.15**	**333**	P	**Pn**	**20 38 47.4**	**+2.3**
MAJO	**Matsushiro**	**4.15**	**333**	*d*P	**Pn**	**20 38 46.8**	**+1.7**
MJB9	**Matsu-Tunnel**	**4.15**	**333**		**Pn**	**20 38 46.7**	**+1.5**
JYTA	**Yamagatataniai** comp=N,22nm,4.0s,comp=E,22nm,7.0s	**4.17**	**312**	A	A	20 38 48.2	
JFFD	**Fukushimafurud** comp=N,29nm,5.6s,comp=E,44nm,4.1s	**4.22**	**0**	A	A	20 38 46.6	
ONAJ	**Iwakimizuishiy** comp=N,36nm,5.1s,comp=E,37nm,4.8s	**4.23**	**3**	A	A	20 38 46.8	
JTNC	**Tanabenakahech** comp=N,13nm,4.3s,comp=E,15nm,5.4s	**4.25**	**284**	A	A	20 38 50.0	
JGN	**Niukaw** comp=N,34nm,9.5s,comp=E,42nm,10.3s	**4.29**	**322**	A	A	20 38 49.4	
JWY	**Kouya** comp=N,16nm,4.4s,comp=E,18nm,4.1s	**4.36**	**289**	A	A	20 38 51.5	
JHE	**Heguri** comp=N,11nm,8.7s,comp=E,15nm,5.5s	**4.43**	**295**	A	A	20 38 52.4	
JWM	**Minabe** comp=N,18nm,5.0s,comp=E,13nm,10.6s	**4.46**	**284**	A	A	20 38 53.1	
JFK	**Kawauchi** comp=N,20nm,3.8s,comp=E,23nm,3.9s	**4.50**	**3**	A	A	20 38 50.5	
JUON	**Uonuma** comp=N,26nm,3.5s,comp=E,36nm,4.0s	**4.50**	**345**	A	A	20 38 51.4	
JTT	**Ttatey** comp=N,57nm,3.8s,comp=E,87nm,4.3s	**4.58**	**325**	A	A	20 38 53.3	
JFY	**Yanaizu** comp=N,25nm,3.7s,comp=E,38nm,6.1s	**4.58**	**352**	A	A	20 38 52.2	
JFM	**Mihama** comp=N,21nm,4.3s,comp=E,18nm,5.0s	**4.63**	**306**	A	A	20 38 54.8	
JJN	**Nakama** comp=N,56nm,6.0s,comp=E,90nm,4.8s	**4.66**	**336**	A	A	20 38 54.0	
JOTO	**OTAMA OYAMA** comp=N,48nm,4.9s,comp=E,67nm,2.8s	**4.69**	**358**	A	A	20 38 53.3	
JMST	**Minamisoumatoc** comp=N,20nm,3.3s,comp=E,26nm,4.3s	**4.86**	**3**	A	A	20 38 55.4	
JKG	**Kaga** comp=N,26nm,4.5s,comp=E,32nm,5.5s	**4.87**	**316**	A	A	20 38 57.8	
JIZZ	**Izumozaki** comp=N,125nm,4.1s,comp=E,119nm,5.0s	**4.89**	**343**	A	A	20 38 57.0	
JWT	**Wachi** comp=N,11nm,4.4s,comp=E,9.0nm,8.9s	**4.91**	**301**	A	A	20 38 58.9	
JMIK	**Miki** comp=N,17nm,5.1s,comp=E,14nm,3.5s	**4.97**	**294**	A	A	20 39 00.0	
JAWN	**Awajishima-nag** comp=N,13nm,4.4s,comp=E,13nm,8.7s	**4.98**	**290**	A	A	20 39 00.2	
JMM	**Marumori**	**4.99**	**2**		**Pn**	**20 38 55.9**	**-0.7**
JMM				Sn	**Sn**	**20 39 48.6**	**-4.3**
JMM	**Marumori**	**4.99**	**2**	P	**Pn**	**20 38 55.7**	**-0.9**
JMM	**Marumori** comp=N,52nm,1.1s,comp=E,33nm,1.5s	**4.99**	**2**	A	A	20 38 57.4	
JNS	**Sasagawa** comp=N,19nm,3.3s,comp=E,29nm,5.1s	**5.04**	**349**	A	A	20 38 58.8	
JYAR	**Yonezawaarcadi** comp

comp=N,8.0nm,9.9s,comp=E,6.0nm,5.8s
JAW Awa shima 5.68 350 A A 20 39 07.6
comp=N,22nm,5.5s,comp=E,28nm,4.6s
JJS Sakaide 5.73 287 A A 20 39 10.7
comp=N,10.0nm,2.7s,comp=E,10.0nm,7.9s
JOFO Osakifurukawao 5.73 3 A A 20 39 07.7
comp=N,121nm,4.4s,comp=E,118nm,3.3s
JYA Atsumi 5.76 353 A A 20 39 08.5
comp=N,22nm,4.1s,comp=E,24nm,1.4s
JHG Hegura jima 5.79 330 A A 20 39 10.0
comp=N,16nm,7.2s,comp=E,25nm,6.4s
CBIJ Chichi jima 5.92 166 A A 20 39 11.1
comp=N,30nm,4.3s,comp=E,53nm,4.8s
JCJ Chichijima 5.92 166 Pn 20 39 06.3 -3.1
JCJ Chichijima 5.92 166 P **Pn 20 39 08.4 -0.9**
comp=E,1µm,0.3s,baz=358,slow=22,SNR=182
JCJ S **Sn 20 40 09.1 -6.7**
comp=E,2µm,0.5s,baz=257,slow=23,SNR=6.7
JCJ Chichijima 5.92 166 P **Pn 20 39 07.5 -1.9**
JKMT Kesennumamotoy 5.98 7 A A 20 39 10.9
comp=N,11nm,0.7s,comp=E,17nm,3.3s
JYK Kaneyama 6.04 359 A A 20 39 12.2
comp=N,21nm,6.2s,comp=E,32nm,5.5s
JMK Ichinoseki 6.10 5 A A 20 39 12.7
comp=N,10.0nm,4.3s,comp=E,20nm,5.3s
JKR Kurayoshi 6.12 296 A A 20 39 16.0
comp=N,11nm,7.2s,comp=E,9.0nm,4.5s
JYYZ Yamagatayuza 6.16 355 A A 20 39 14.0
comp=N,67nm,5.5s,comp=E,77nm,3.0s
OFUJ Ofunato 6.27 8 A A 20 39 14.9
comp=N,9.0nm,0.8s,comp=E,14nm,3.6s
JTM Tenmabayashi 7.92 3 Pn 20 39 34.6 -1.9
JTM Tenmabayashi 7.92 3 P **Pn 20 39 34.7 -1.9**
JTM Tenmabayashi 7.92 3 S **Sn 20 41 02.6 -2.0**
JNU Nakatsue 8.13 274 Pn 20 39 43.5 +3.9
JNU Nakatsue 8.13 274 P **Pn 20 39 44.1 +4.5**
comp=E,2µm,0.7s,baz=95,slow=5.1,SNR=588
JNU Nakatsue 8.13 274 P **Pn 20 39 42.8 +3.2**
ERM Erimo 9.37 12 Pn 20 39 53.9 -2.5
ERM Erimo 9.37 12 P **Pn 20 39 54.5 -1.8**
ERM Erimo 9.37 12 *d* *i*P **Pn 20 39 54.2 -2.1**
JEM Erimo 9.37 12 P **Pn 20 39 54.6 -1.8**
JTU Tsushima 9.44 283 P **Pn 20 40 01.6 +4.2**
JMZ Minamidaito 2 10.74 232 Pn 20 40 21.1 +5.8
JMZ Minamidaito 2 10.74 232 P **Pn 20 40 17.7 +2.4**
NMR Nemuro--Hokkai 11.25 20 *e*P Pn 20 40 16.6 -5.4
KSRS Korea Array 11.30 297 P **Pn 20 40 27.5 +4.7**
comp=E,47nm,0.6s,baz=114,slow=14,SNR=58
KSRS LR LR 20 44 58.1
comp=E,10688µm,19.1s,baz=110,slow=38
KSRS ScP **ScP 20 49 38.9 -0.4**
comp=E,5.8nm,0.8s,baz=164,slow=0.8,SNR=8.8
KSAR Wonju Array Be 11.33 297 Pn 20 40 26.0 +2.8
KSAR Wonju Array Be 11.33 297 P **Pn 20 40 26.0 +2.8**
ASAJ Asahikawa 11.35 7 P **Pn 20 40 19.9 -3.5**
comp=E,328nm,0.7s,baz=217,slow=11,SNR=265
ASAJ S Sn 20 42 18.1 -10
comp=E,314nm,0.6s,baz=144,slow=17,SNR=7.7
ASAJ Asahikawa 11.35 7 P **Pn 20 40 19.0 -4.4**
JKA Kamikawa-asahi 11.35 8 Pn 20 40 19.0 -4.4
KS19 Wonju Array Si 11.36 298 Pn 20 40 27.4 +3.7
TJN Taejon 11.42 292 Pn 20 40 29.5 +5.1
TJN Taejon 11.42 292 P **Pn 20 40 27.1 +2.7**
TJN Taejon 11.42 292 *d* *i*P **Pn 20 40 28.7 +4.3**
GLVR Golovnino 11.53 18 *e*P **Pn 20 40 22.3 -3.6**
GLVR pmax pmax
comp=Z,401nm,0.5s
GLVR pmax pmax
comp=N,179nm,0.2s
RUSJ Misakicho 11.81 17 *e*P **Pn 20 40 25.6 -4.1**
YUK Yuzh-Kuril'sk 11.90 19 *e*P **Pn 20 40 26.4 -4.5**
YUK pmax pmax
comp=Z,587nm,0.4s
YUK pmax pmax
comp=E,245nm,0.3s
YUK pmax pmax
comp=N,436nm,0.4s
SHO Shikotan 12.04 22 *e*P **Pn 20 40 31.7 -1.1**
SHO pmax pmax
comp=Z,142nm,0.5s
SHO pmax pmax
comp=N,35nm,0.2s
SHO pmax pmax
comp=E,57nm,0.3s
SHO MLR MLR
comp=Z,2µm,16.0s
SHO MLR MLR
comp=E,2µm,11.0s
MSHR Mys Shultsa 12.21 325 *d* *i*P **Pn 20 40 34.3 -0.9**
MSHR pmax pmax
comp=Z,97nm,1.3s
JOW Kunigami 12.23 244 P **Pn 20 40 38.3 +2.7**
comp=Z,224nm,1.0s,baz=87,slow=3.6,SNR=33
JOW LR LR 20 45 06.9
comp=Z,8µm,18.3s,baz=81,slow=36
JOW ScP **ScP 20 49 41.0 +0.1**
comp=Z,18nm,0.9s,baz=135,slow=10.0,SNR=3.6
JOW Kunigami 12.23 244 P **Pn 20 40 38.5 +2.9**
INCN Inchon 12.29 296 Pn 20 40 39.7 +3.4
INCN Inchon 12.29 296 P **P 20 40 41.9 -4.3**
INCN P **P 20 40 41.9 -4.3**
INCN Inchon 12.29 296 P **Pn 20 40 40.1 +3.8**
INCN Inchon 12.29 296 P **Pn 20 40 39.7 +3.4**
VLA Vladivostok 12.30 329 *c* *i*P **Pn 20 40 35.8 -0.6**
PSTR Posyet 12.44 325 *e*P **Pn 20 40 38.0 -0.3**
TEY Ternei 12.54 347 *e*P **Pn 20 40 38.2 -1.4**
TEY pmax pmax
comp=N,100nm,0.8s
TEY pmax pmax
comp=E,50nm,0.8s
TEY pmax pmax
comp=Z,110nm,0.8s
TEY MLR MLR
comp=E,200nm,14.0s
USA0B Ussuriysk Arra 13.14 332 Pn 20 40 46.2 -1.7
USA0B Ussuriysk Arra 13.14 332 *d* *i*P **Pn 20 40 46.6 -1.3**
USRK Ussuriysk Ar. 13.14 332 P **Pn 20 40 45.7 -2.2**
USRK Ussuriysk Ar. 13.14 332 P **Pn 20 40 47.5 -0.4**
comp=E,86nm,0.9s,baz=144,slow=12,SNR=58
USRK LR LR 20 45 39.7
comp=E,9µm,20.4s,baz=150,slow=36
KUR Kuril'sk 13.59 23 *e*P **Pn 20 40 51.6 -2.2**
KUR pmax pmax
comp=Z,154nm,0.7s
KUR pmax pmax
comp=Z,2µm,3.1s
KUR MLR MLR
comp=Z,3µm,15.0s
YSS Yuzhno-Sakhali 14.17 6 Pn 20 40 58.0 -3.5
YSS Yuzhno-Sakhali 14.17 6 P **Pn 20 40 58.8 -2.7**
YSS Yuzhno-Sakhali 14.17 6 *e*P **Pn 20 40 58.2 -3.3**
YSS *e*S Sn 20 43 27.9 -9.3
YSS pmax pmax
comp=Z,1µm,4.8s
YSS pmax pmax
comp=N,800nm,4.7s
YSS pmax pmax
comp=E,400nm,6.0s
YSS pmax pmax
comp=Z,370nm,0.9s
YSS smax smax
comp=N,2µm,4.2s
YSS smax smax
comp=E,3µm,5.5s
MDJ Mudanjiang 14.50 327 P **Pn 20 41 05.5 -0.4**
MDJ pP P 20 41 16.0 +5.2
MDJ pmax pmax
comp=E,130nm,1.0s
MDJ LR LR
comp=E,14µm,19.2s
MDJ LR LR
comp=E,7µm,18.7s
MDJ LR LR
comp=E,27µm,24.0s
MDJ Mudanjiang 14.50 327 P **Pn 20 41 05.5 -0.4**
JMJ Miyako jima 2 15.58 243 P **P 20 41 22.0 -0.9**
CN2 Changchun 16.09 317 P **Pn 20 41 26.3 +0.1**
CN2 S **Sn 20 44 21.0 -2.7**
CN2 SS **SnSn 20 44 42.5 +5.0**
CN2 pmax pmax
comp=E,30nm,0.7s
CN2 pmax pmax
comp=E,1µm,10.0s
CN2 LR LR
comp=E,6µm,19.0s
CN2 LR LR
comp=E,9µm,19.0s
CN2 LR LR
comp=E,9µm,23.0s
SNY Shenyang 16.17 308 ⇑P **P 20 41 29.3 0.0**
SNY S **Sn 20 44 29.0 +3.3**
SNY pmax pmax
comp=E,4µm,6.9s
SNY LR LR
comp=E,5µm,15.6s
SNY LR LR
comp=E,6µm,18.7s
SNY LR LR
comp=E,13µm,26.1s
UGL Uglegorsk 16.24 4 *e*P **P 20 41 29.1 -0.8**
UGL *e*S **S 20 44 34.9 -1.6**
UGL pmax pmax
comp=Z,129nm,1.4s
UGL smax smax
comp=E,8µm,5.2s
UGL smax smax
comp=N,5µm,5.5s
UGL MLR MLR
comp=Z,3µm,14.0s
UGL MLR MLR
comp=N,4µm,13.0s
UGL MLR MLR
comp=E,3µm,11.0s
BNX BinXian 16.37 326 ⇑P **Pn 20 41 28.0 -1.7**
BNX pP **pP 20 41 45.5 +0.5**
BNX S **Sn 20 44 31.3 +0.9**
BNX pmax pmax
comp=E,160nm,0.6s
BNX pmax pmax
comp=E,2µm,9.3s
DL2 Dalian 16.47 297 P **P 20 41 32.5 -0.1**
DL2 S **S 20 44 39.5 -2.0**
DL2 pmax pmax
comp=E,150nm,1.2s
DL2 pmax pmax
comp=E,5µm,6.6s
DL2 LR LR
comp=E,11µm,17.7s
DL2 LR LR
comp=E,11µm,23.5s
DL2 LR LR
comp=E,18µm,16.1s
SSE Sheshan 16.53 269 P **Pn 20 41 31.3 -0.5**
SSE S **S 20 44 41.3 -1.5**
SSE pmax pmax
comp=E,120nm,1.0s
SSE pmax pmax
comp=E,2µm,9.8s
YOJ Yonaguni jima 17.51 246 P **P 20 41 44.3 +0.1**
YOJ Yonaguni jima 17.51 246 P **P 20 41 45.8 +1.6**
YOJ Yonaguni jima 17.51 246 S **S 20 45 03.7 +1.4**
YOJ Yonaguni jima 17.51 246 P **P 20 41 44.3 +0.1**
YOJ pmax pmax
comp=Z,2µm,1.2s
KLR Kul'dur 17.62 341 LR LR 20 49 09.6
comp=Z,3µm,18.4s,baz=158,slow=39
TYV Tymovskoe 18.05 4 *e*P **Pn 20 41 50.1 -0.2**
TYV *e*S **Sn 20 45 09.4 -1.6**
TYV pmax pmax
comp=Z,2µm,3.2s
TYV pmax pmax
comp=Z,401nm,0.8s
TYV smax smax
comp=N,5µm,6.2s
TYV smax smax
comp=E,8µm,6.2s
GRNR Gornyy 18.15 352 ⇑*i*P **P 20 41 48.5 -2.6**
GRNR pmax pmax
comp=N,60nm,0.8s
GRNR pmax pmax
comp=Z,70nm,0.8s
GRNR MLR MLR
comp=E,2µm,13.0s
GRNR MLR MLR
comp=N,2µm,15.0s
NJ2 Nanjing 18.33 273 ⇓*i*P **P 20 41 53.3 +0.1**
NJ2 PP **PnPn 20 42 08.8 +1.6**
NJ2 S **S 20 45 21.3 +2.5**
NJ2 pmax pmax
comp=N,130nm,1.6s
NJ2 pmax pmax
comp=N,4µm,4.8s
NJ2 LR LR
comp=N,6µm,22.7s
NJ2 LR LR
comp=N,7µm,22.7s
NJ2 LR LR
comp=N,9µm,24.6s
TATO Taipei 18.43 250 P **Pn 20 41 55.0 -0.1**
TATO Taipei 18.43 250 P **Pn 20 41 56.4 +1.3**
TATO P **Pn 20 41 56.4 +1.3**
TATO Taipei 18.43 250 P **Pn 20 41 56.2 +1.1**
TATO Taipei 18.43 250 S **S 20 45 22.8 +1.9**
YHNB Yeheng 18.67 249 P **P 20 41 56.8 -0.3**
YHNB IAmb IAmb 20 41 59.8
comp=Z,339nm,0.7s
YHNB Yeheng 18.67 249 P **Pn 20 41 57.9 -0.2**
YHNB Yeheng 18.67 249 S **Sn 20 45 27.5 +1.1**
NACB Ninganchiao 18.75 247 P **P 20 41 58.3 +0.4**
NACB Ninganchiao 18.75 247 S **Sn 20 45 30.4 +2.1**
YULB Yu-li 19.40 246 P **P 20 42 04.7 -0.3**
YULB Yu-li 19.40 246 P **P 20 42 05.5 +0.5**
YULB Yu-li 19.40 246 S **S 20 45 41.7 +0.6**
SSLB Suanglung 19.46 247 P **P 20 42 06.1 +0.5**
SSLB IAmb IAmb 20 42 10.8
comp=Z,376nm,0.7s
SSLB Suanglung 19.46 247 P **Pn 20 42 07.1 -0.3**
SSLB Suanglung 19.46 247 S **S 20 45 43.2 +1.1**
TIA Tai'an 19.58 286 P **P 20 42 07.5 +0.7**
TIA S **S 20 45 36.0 -8.4**
TIA pmax pmax
comp=Z,2µm,11.8s
TIA LR LR
comp=Z,9µm,21.2s
TIA LR LR
comp=Z,12µm,24.9s
TIA LR LR
comp=Z,28µm,16.9s
GUMO Guam 19.59 167 P **P 20 42 07.5 +0.4**
GUMO Guam 19.59 167 P **P 20 42 07.6 +0.6**
comp=Z,3µm,0.9s,baz=299,slow=2.0,SNR=108
GUMO S **S 20 45 45.5 +0.8**
comp=Z,29nm,0.3s,baz=7.4,slow=22,SNR=1.9
GUMO Guam 19.59 167 P **Pn 20 42 08.6 -0.3**
GUMO Guam 19.59 167 S **S 20 45 46.4 +1.7**
GUMO Guam 19.59 167 P **P 20 42 07.5 +0.4**
GUMO pmax pmax
comp=Z,4µm,0.9s
TWGBT Beinan 19.89 245 P **Pn 20 42 11.7 -0.8**
TWGBT Beinan 19.89 245 S **S 20 45 52.6 +1.9**
TWG Pinlang 19.89 245 P **P 20 42 10.3 0.0**
TWG IAmb IAmb 20 42 22.6
comp=Z,335nm,0.8s
HEH HeiHe 19.91 335 ⇓P **P 20 42 07.8 -2.5**
HEH S **S 20 45 48.5 -2.2**
HEH ScP **ScP 20 49 54.0 -1.1**
HEH ScS **ScS 20 53 35.8 -1.6**
HEH pmax pmax
comp=Z,190nm,0.8s
HEH pmax pmax
comp=Z,3µm,5.6s
HEH LR LR
comp=Z,6µm,18.4s
HEH LR LR
comp=Z,3µm,18.6s
HEH LR LR
comp=Z,10µm,21.2s
TPUB Ta-pu 19.97 247 P **P 20 42 11.7 +0.5**
TPUB IAmb IAmb 20 42 19.9
comp=Z,192nm,0.6s
TPUB **S 20 45 54.2 +1.9**
TPUB Ta-pu 19.97 247 P **Pn 20 42 12.7 -0.7**
TPUB Ta-pu 19.97 247 S **S 20 45 52.6 +0.4**
NKL Nikolayevsk 20.28 0 *e*P **P 20 42 13.2 -1.0**
NKL *e*S **S 20 45 59.8 +2.1**
NKL pmax pmax
comp=E,954nm,1.0s
NKL pmax pmax
comp=N,457nm,1.2s
NKL pmax pmax
comp=Z,3µm,1.2s
NKL smax smax
comp=E,3µm,3.9s
NKL smax smax
comp=N,3µm,5.5s
NKL MLR MLR
comp=E,10µm,15.0s
NKL MLR MLR
comp=N,5µm,13.0s
NKL MLR MLR
comp=Z,13µm,19.0s
QZH Quanzhou 20.76 253 P **P 20 42 19.3 -0.4**
QZH sP **sP 20 42 38.3 -3.4**
QZH S **S 20 46 04.0 -3.7**
QZH pmax pmax
comp=Z,240nm,1.1s
QZH pmax pmax
comp=Z,1µm,6.5s
QZH LR LR
comp=Z,4µm,15.5s
QZH LR LR
comp=Z,5µm,17.2s
QZH LR LR
comp=Z,8µm,17.9s
BJI Beijing 20.84 297 P **P 20 42 20.0 -0.4**
BJI S **S 20 46 11.5 +2.4**
BJI pmax pmax
comp=Z,50nm,0.6s
BJI pmax pmax
comp=Z,2µm,7.9s
BJI LR LR
comp=Z,970nm,17.0s
BJI LR LR
comp=Z,5µm,23.2s
BJI LR LR
comp=Z,7µm,22.6s
BJT Baijiatuau 20.84 297 P 20 42 20.2 -0.3
BJT Baijiatuau 20.84 297 P **P 20 42 20.6 +0.2**
BJT Baijiatuau 20.84 297 P **P 20 42 20.2 -0.3**
BJT pmax pmax
comp=Z,89nm,0.8s
KNMB Chin-men Tao 21.14 252 P **P 20 42 24.5 +0.7**
SKR Severo-Kuril's 21.18 28 *e*P **P 20 42 25.1 +1.2**
SKR *e*S **S 20 46 11.4 -4.2**
SKR pmax pmax
comp=Z,241nm,1.0s
SKR pmax pmax
comp=Z,2µm,8.7s
SKR MLR MLR
comp=Z,4µm,15.0s
HNS HongShan 21.59 289 ⇓P **P 20 42 26.0 -2.5**
HNS S **S 20 46 20.0 -4.1**
HNS ScP **ScP 20 49 59.0 -0.5**
HNS pmax pmax
comp=Z,270nm,1.0s
HNS pmax pmax
comp=Z,2µm,8.5s
HNS LR LR
comp=Z,7µm,16.1s
HNS LR LR
comp=Z,11µm,17.8s
HNS LR LR
comp=Z,14µm,18.1s
XLT XiLinHaoTe 22.04 307 *e*P **P 20 42 31.5 -1.9**
XLT S **S 20 46 27.3 -5.4**
XLT pmax pmax
comp=Z,1µm,3.8s
XLT LR LR
comp=Z,5µm,13.2s
XLT LR LR
comp=Z,5µm,13.5s
WHN Wuhan 22.40 271 ⇓*i*P **P 20 42 36.5 -0.7**
WHN S **S 20 46 35.0 -4.0**
WHN pmax pmax
comp=Z,760nm,0.7s
WHN pmax pmax
comp=Z,4µm,4.5s
WHN LR LR
comp=Z,5µm,11.8s
WHN LR LR
comp=Z,10µm,10.3s
WHN LR LR
comp=Z,21µm,15.6s
HIA Hailar 22.57 323 P 20 42 36.9 -2.1
HIA IAmb IAmb 20 42 41.5
comp=Z,224nm,0.7s
HIA Hailar 22.57 323 P **P 20 42 36.7 -2.3**
HIA Hailar 22.57 323 P **P 20 42 36.9 -2.1**
HIA pmax pmax
comp=Z,224nm,0.7s
LYN LuoYang 23.40 282 ⇓P **P 20 42 45.0 -2.3**
LYN pP pP 20 43 02.5 +0.5
LYN S **S 20 46 49.5 -5.8**
LYN sS sS 20 47 22.0 +0.8
LYN ScP **ScP 20 50 03.5 -0.7**
LYN ScS **ScS 20 53 49.8 -0.8**
LYN pmax pmax
comp=Z,140nm,0.7s
LYN pmax pmax
comp=Z,2µm,6.9s
LYN LR LR
comp=Z,6µm,18.5s
LYN LR LR
comp=Z,10µm,16.5s
LYN LR LR
comp=Z,14µm,22.0s
TIY Taiyuan 23.41 290 *e*P **P 20 42 48.5 +1.0**
TIY sP **sP 20 43 06.5 -3.8**
TIY S **S 20 46 52.5 -3.2**
TIY pmax pmax
comp=Z,160nm,0.6s
TIY pmax pmax
comp=Z,2µm,6.1s
TIY LR LR
comp=Z,3µm,17.9s
TIY LR LR
comp=Z,6µm,19.2s
TIY LR LR
comp=Z,14µm,17.2s
PEA0B Petropavlovsk- 23.69 26 P **P 20 42 51.3 +1.5**
PEA0B Petropavlovsk- 23.69 26 *ce*P **P 20 42 51.3 +1.5**
PETK Petropavlovsk- 23.69 26 P **P 20 42 49.6 -0.1**
PETK Petropavlovsk- 23.69 26 P **P 20 42 50.9 +1.2**
comp=Z,11nm,0.7s,baz=216,slow=12,SNR=22
PETK PcP **PcP 20 46 32.7 +0.6**
comp=Z,6.1nm,0.6s,baz=105,slow=1.7,SNR=4.5
PETK ScP **ScP 20 50 02.4 -2.2**
comp=Z,6.4nm,0.8s,baz=214,slow=6.8,SNR=4.6
PETK LR LR 20 54 17.9
comp=Z,2µm,19.3s,baz=214,slow=42
PET Petropavlovsk 23.99 27 P **P 20 42 51.8 -0.6**
PET Petropavlovsk 23.99 27 P **P 20 42 53.0 +0.6**
PET Petropavlovsk 23.99 27 *ce*P **P 20 42 53.3 +0.9**
PET *e*S **S 20 46 57.1 -7.3**
PET pmax pmax
comp=Z,120nm,1.0s
PET pmax pmax
comp=Z,2µm,4.5s
PET pmax pmax
comp=Z,1µm,5.9s
PET MLR MLR
comp=Z,2µm,14.0s
PET MLR MLR
comp=Z,2µm,13.0s
CNSH ChangSha 24.22 266 P **P 20 42 54.3 -0.5**
CNSH S **S 20 47 04.5 -4.1**
CNSH pmax pmax
comp=Z,110nm,0.7s
CNSH LR LR
comp=Z,5µm,20.3s
CNSH LR LR
comp=Z,4µm,26.3s
CNSH LR LR
comp=Z,7µm,30.9s
HHC Hu-ho-hao-te 24.45 297 *e*P **P 20 42 56.5 -0.4**
HHC pP pP 20 43 11.8 -0.8
HHC sP sP 20 43 21.8 +1.5
HHC S **S 20 47 09.0 -3.4**
HHC sS sS 20 47 35.3 -3.3
HHC pmax pmax
comp=Z,160nm,0.6s
HHC pmax pmax
comp=Z,2µm,7.1s
HHC LR LR
comp=Z,5µm,20.2s
HHC LR LR

HHC comp=Z,7µm,20.2s LR LR
comp=Z,13µm,20.6s
BTO Baotou 25.57 296 *e*P **P** **20 43 08.5 +1.4**
BTO pP **pP** **20 43 25.8 +3.1**
BTO sP **sP** **20 43 35.3 +4.9**
BTO PP **PnPn** **20 43 51.3 +5.2**
BTO S **S** **20 47 31.0 +0.8**
BTO sS **sS** **20 47 58.8 +2.1**
BTO SS **SnSn** **20 48 40.3 +11**
BTO pmax pmax
comp=Z,250nm,0.7s
BTO pmax pmax
comp=Z,5µm,7.6s
BTO LR LR
comp=Z,14µm,19.4s
BTO LR LR
comp=Z,23µm,22.8s
BTO LR LR
comp=Z,36µm,23.5s
GZH Guangzhou 25.87 255 P **P** **20 43 05.0 -4.8**
GZH pP **pP** **20 43 21.5 -3.9**
GZH S **S** **20 47 32.5 -2.4**
GZH LR LR
comp=Z,5µm,17.7s
GZH LR LR
comp=Z,6µm,18.4s
GZH LR LR
comp=Z,7µm,18.4s
XAN Xi'an 26.37 281 P **P** **20 43 13.5 -0.8**
XAN pP pP 20 43 26.5 -3.5
XAN PP **PnPn** **20 43 57.0 -0.1**
XAN S **S** **20 47 43.5 +0.6**
XAN pmax pmax
comp=Z,140nm,0.8s
XAN pmax pmax
comp=Z,2µm,8.4s
XAN LR LR
comp=Z,3µm,18.6s
XAN LR LR
comp=Z,4µm,15.8s
XAN LR LR
comp=Z,4µm,15.8s
ENH Enshi 26.55 273 IAmb IAmb 20 43 19.2
comp=Z,333nm,1.2s
ENH Enshi 26.55 273 P **P** **20 43 15.4 -0.6**
ENH Enshi 26.55 273 S **S** **20 47 50.4 +4.7**
H11N2 WAKE ISLAND Hy 26.91 113 P **P** **20 43 20.2 +1.2**
baz=282,slow=10.0,SNR=38
H11N2 T T 21 12 28.2
baz=305,slow=75,SNR=1590
H11N1 WAKE ISLAND Hy 26.91 113 P **P** **20 43 20.1 +1.1**
baz=282,slow=10.0,SNR=40
H11N1 T T 21 12 28.8
baz=305,slow=75,SNR=959
H11N3 WAKE ISLAND Hy 26.93 113 P **P** **20 43 23.6 +4.5**
baz=282,slow=10.0,SNR=48
H11N3 T T 21 12 30.1
baz=305,slow=75,SNR=338
GULI GuiLin 27.38 262 P **P** **20 43 24.5 +1.1**
GULI S **S** **20 47 56.0 -2.8**
GULI pmax pmax
comp=Z,52nm,1.1s
GULI LR LR
comp=Z,5µm,19.6s
GULI LR LR
comp=Z,5µm,23.3s
GULI LR LR
comp=Z,10µm,16.9s
H11S3 WAKE ISLAND Hy 27.46 115 T T 21 12 55.5
baz=307,slow=75,SNR=89
H11S1 WAKE ISLAND Hy 27.46 115 T T 21 12 51.9
baz=307,slow=75,SNR=65
H11S2 WAKE ISLAND Hy 27.48 115 T T 21 12 55.5
baz=307,slow=75,SNR=60
MA2 Magadan 27.57 11 P **P** **20 43 24.1 -0.7**
MA2 IAmb IAmb 20 43 27.5
comp=Z,363nm,1.2s
MA2 Magadan 27.57 11 LR LR 20 56 03.1
comp=Z,2µm,18.5s,baz=217,slow=40
MA2 Magadan 27.57 11 P **P** **20 43 26.0 +1.3**
MA2 Magadan 27.57 11*d* iP **P** **20 43 25.6 +0.9**
MA2 pmax pmax
comp=Z,372nm,1.3s
MA2 MLR MLR
comp=Z,2µm,14.0s
DAV Davao City (W) 29.20 212 LR LR 20 56 36.0
comp=Z,2µm,19.3s,baz=62,slow=39
ULN Ulaanbaatar 29.33 311 P **P** **20 43 41.5 +0.9**
ULN IAmb IAmb 20 43 49.8
comp=Z,144nm,0.7s
ULN Ulaanbaatar 29.33 311 P **P** **20 43 42.1 +1.4**
ULN P **P** **20 43 42.1 +1.4**
ULN S **S** **20 48 32.2 +2.8**
ULN S **S** **20 48 32.2 +2.8**
ULN Ulaanbaatar 29.33 311*d* iP **P** **20 43 41.6 +0.9**
ULN pmax pmax
comp=Z,340nm,1.7s
ULN MLR MLR
comp=Z,10µm,19.0s
SONM Songino Array 29.74 310 P **P** **20 43 44.7 +0.3**
SONM IAmb IAmb 20 43 47.5
comp=Z,390nm,1.7s
SONM Songino Array 29.74 310 P **P** **20 43 45.4 +1.0**
comp=Z,67nm,0.6s,baz=111,slow=8.9,SNR=264
SONM PcP **PcP** **20 46 48.5 +1.8**
comp=Z,11nm,0.9s,baz=138,slow=2.7,SNR=1.8
SONM ScP **ScP** **20 50 21.8 -1.1**
comp=Z,13nm,0.9s,baz=135,slow=2.6,SNR=9.0
SONM LR LR 20 56 18.8
comp=Z,11µm,19.2s,baz=121,slow=38
comp=Z,67nm,0.6s
YAK Yakutsk 30.01 350*d* iP **P** **20 43 46.4 +0.1**
YAK *e**PP **pP** **20 44 04.5 +2.5**
YAK *e* 20 44 44.8
YAK *e* 20 46 46.6
YAK *e*S **S** **20 48 39.2 -0.2**
YAK *e**SS **sS** **20 49 05.0 -1.0**
YAK *e*SS **SnSn** **20 50 17.8 +0.6**
YAK *e* 20 54 16.7
YAK pmax pmax
comp=Z,618nm,1.5s
YAK pmax pmax
comp=N,378nm,1.6s
YAK pmax pmax
comp=E,89nm,1.7s
YAK pmax pmax
comp=Z,315nm,1.9s
YAK pmax pmax
comp=N,200nm,2.3s
YAK pmax pmax
comp=E,86nm,1.1s
YAK smax smax
comp=N,2µm,5.7s
YAK smax smax
comp=E,716nm,4.6s
YAK Yakutsk 30.01 350 P **P** **20 43 46.2 -0.1**
GYA Guiyang 30.05 267 ⇑P **P** **20 43 46.8 -0.5**
GYA S **S** **20 48 43.0 +2.0**
GYA pmax pmax
comp=E,68nm,0.8s
GYA LR LR
comp=E,4µm,17.4s
GYA LR LR
comp=E,3µm,21.4s
GYA LR LR
comp=E,7µm,29.8s
LZH Lanzhou 30.32 286 ⇓P **P** **20 43 48.3 -1.3**
LZH pP pP 20 44 07.0 +1.6
LZH sP sP 20 44 13.0 -0.1
LZH S **S** **20 48 42.5 -2.7**
LZH sS sS 20 49 16.0 +4.2
LZH ScP **ScP** **20 50 25.3 +0.2**
LZH ScS **ScS** **20 54 20.5 -0.7**
LZH pmax pmax
comp=E,75nm,1.0s
LZH pmax pmax
comp=E,700nm,5.2s
LZH LR LR
comp=E,4µm,16.0s
LZH LR LR
comp=E,10µm,17.7s
LZH LR LR
comp=E,14µm,18.4s
PATS Pohnpei 30.71 144 P **P** **20 43 51.9 -1.1**
PATS Pohnpei 30.71 144 P **P** **20 43 54.0 +1.0**
comp=Z,0.0nmcomp=Z,357nm,1.1s
PATS Pohnpei 30.71 144 P **P** **20 43 54.6 +1.6**
QIZ Qiongzhong 30.73 251 P **P** **20 43 54.3 +1.1**
QIZ S **S** **20 48 51.5 -0.1**
QIZ pmax pmax
comp=Z,67nm,0.9s
QIZ LR LR
comp=Z,3µm,18.5s
QIZ LR LR
comp=Z,12µm,26.4s
QIZ Qiongzhong 30.73 251 P **P** **20 43 55.0 +1.8**
BOD Bodaibo 30.78 332 *e*P **P** **20 43 53.2 0.0**
BOD pmax pmax
comp=Z,234nm,1.2s
CD2 Chengdu 31.21 276 P **P** **20 43 55.8 -1.6**
CD2 S **S** **20 48 54.0 -5.0**
CD2 pmax pmax
comp=Z,150nm,0.8s
CD2 pmax pmax
comp=Z,970nm,4.8s
CD2 LR LR
comp=Z,10µm,15.3s
CD2 LR LR
comp=Z,19µm,16.5s
CD2 LR LR
comp=Z,21µm,15.2s
SHEM Shemya Is, Ala 31.21 40 IAmb IAmb 20 44 01.5
comp=Z,153nm,0.8s
SHEM Shemya Is, Ala 31.21 40 LR LR 20 55 13.6
comp=Z,1µm,20.1s,baz=246,slow=34
ZAK Zakamensk 32.47 314 *e*P **P** **20 44 09.3 +1.0**
ZAK pmax pmax
comp=Z,153nm,1.4s
ZAK pmax pmax
comp=Z,21nm,1.7s
IRK Irkutsk 32.53 317 *e*P **P** **20 44 08.5 -0.2**
IRK *e*S **S** **20 49 22.6 +3.5**
IRK pmax pmax
comp=Z,308nm,1.1s
GTA Gaotai 33.33 293 P **P** **20 44 15.5 -0.5**
GTA PP **PnPn** **20 45 25.8 -2.7**
GTA S **S** **20 49 35.0 +3.0**
GTA ScP **ScP** **20 50 34.5 -0.7**
GTA PcS **PcS** **20 50 39.0 -3.3**
GTA SS **SnSn** **20 51 38.0 -0.5**
GTA ScS **ScS** **20 54 33.3 -2.9**
GTA pmax pmax
comp=Z,140nm,1.2s
GTA pmax pmax
comp=Z,910nm,8.8s
GTA LR LR
comp=Z,3µm,14.2s
GTA LR LR
comp=Z,4µm,15.6s
GTA LR LR
comp=Z,6µm,14.2s
AMKA Amchitka 33.67 45 P **P** **20 44 17.9 -0.7**
KMI Kunming 33.83 267 ⇓P **P** **20 44 18.5 -2.0**
KMI pP pP 20 44 39.5 +3.1
KMI PP **PnPn** **20 45 31.3 -3.7**
KMI PcP **PcP** **20 46 58.5 +0.2**
KMI S **S** **20 49 36.3 -3.8**
KMI SS **SnSn** **20 51 51.5 +0.6**
KMI pmax pmax
comp=Z,35nm,0.9s
KMI pmax pmax
comp=Z,380nm,6.7s
KMI LR LR
comp=Z,4µm,16.8s
KMI LR LR
comp=Z,3µm,19.8s
KMI LR LR
comp=Z,5µm,27.5s
PZH PanZhiHua 34.17 270 ⇑P **P** **20 44 22.8 -0.6**
PZH PP **PP** **20 45 44.8 +3.0**
PZH S **S** **20 49 37.5 -7.7**
PZH pmax pmax
comp=Z,80nm,0.9s
PZH pmax pmax
comp=Z,520nm,6.7s
PZH LR LR
comp=Z,4µm,20.0s
PZH LR LR
comp=Z,2µm,22.6s
PZH LR LR
comp=Z,3µm,20.9s
MOY Mondy 34.24 315 *e*P **P** **20 44 24.9 +1.2**
MOY pmax pmax
comp=Z,330nm,1.5s
TNTI Ternate 34.25 204 P **P** **20 44 22.8 -1.2**
TNTI IAmb IAmb 20 44 45.6
comp=Z,129nm,1.0s
TNTI Ternate 34.25 204 P **P** **20 44 23.9 0.0**
TNTI Ternate 34.25 204 P **P** **20 44 24.0 0.0**
comp=Z,1µmcomp=Z,130nm,0.8s
SLVN Son La 34.43 260 P **P** **20 44 26.5 +0.9**
SWI Sorong 34.67 196 P **P** **20 44 26.9 -0.7**
comp=Z,1µmcomp=Z,119nm,0.7s
SMPI Sarmi 34.71 183 P **P** **20 44 29.3 +1.4**
comp=Z,1µmcomp=Z,99nm,1.0s
RKPI Ransiki, Papua 34.72 191 P **P** **20 44 28.7 +0.7**
comp=Z,2µmcomp=Z,1µmcomp=Z,100nm,1.0s
SRPI Serui, Papua 34.79 188 P **P** **20 44 29.6 +1.0**
KKM Kota Kinabalu 35.01 226 P **P** **20 44 29.5 -1.1**
KKM Kota Kinabalu 35.01 226 P **P** **20 44 31.6 +1.0**
JAY Jayapura 35.19 180 P **P** **20 44 33.0 +0.9**
comp=Z,1µmcomp=Z,60nm,0.6s
GENI Genyem 35.27 181 P **P** **20 44 34.2 +1.5**
GENI Genyem 35.27 181 P **P** **20 44 33.6 +0.9**
MANU Manus Island 35.31 168 P **P** **20 44 31.2 -1.9**
MANU IAmb IAmb 20 44 34.5
comp=Z,100nm,0.8s
LBMI Labuha 35.53 203 P **P** **20 44 35.3 +0.3**
KMSI Cibinong 35.71 209 P **P** **20 44 36.5 0.0**
KIWB Kanaga Island 35.93 45 P **P** **20 44 37.2 -0.8**
DLV Lat 36.00 242 IAmb IAmb 20 45 21.9
comp=Z,77nm,1.0s
DLV Lat 36.00 242 P **P** **20 44 40.7 +1.4**
ADK Adak 36.22 45 P **P** **20 44 40.3 -0.2**
ADK Adak 36.22 45 P **P** **20 44 41.3 +0.8**
ADK Adak 36.22 45 P **P** **20 44 40.3 -0.2**
ADK pmax pmax
comp=Z,197nm,0.7s
ADK Adak 36.22 45 P **P** **20 44 41.1 +0.6**
FAKI Fak Fak 36.45 194 P **P** **20 44 41.5 -1.3**
FAKI IAmb IAmb 20 45 31.5
comp=Z,126nm,1.1s
FAKI Fak Fak 36.45 194 P **P** **20 44 42.7 -0.1**
WAMI Wamena 36.59 183 P **P** **20 44 46.7 +2.7**
comp=Z,3µmcomp=Z,232nm,0.8s
GSTR Great Sitkin T 36.64 45 IAmb IAmb 20 44 48.2
comp=Z,142nm,0.8s
TOLI2 Tolitoli 36.65 215 P **P** **20 44 43.0 -1.6**
TOLI2 Tolitoli 36.65 215 P **P** **20 44 43.0 -1.6**
MRSI Marisa 36.67 212 P **P** **20 44 44.9 +0.1**
comp=Z,2µmcomp=Z,216nm,1.1s
SANI Sanana 37.36 204 P **P** **20 44 48.4 -2.1**
SANI Sanana 37.36 204 P **P** **20 44 48.1 -2.4**
comp=Z,4µmcomp=Z,2µmcomp=Z,214nm,0.7s
TNCH TengChong 37.41 269 P **P** **20 44 50.0 -1.2**
TNCH pP pP 20 45 03.8 -3.4
TNCH PP **PP** **20 46 17.8 +0.2**
TNCH S **S** **20 50 31.3 -3.7**
TNCH pmax pmax
comp=Z,200nm,0.9s
TNCH pmax pmax
comp=Z,850nm,6.7s
TNCH LR LR
comp=Z,2µm,16.2s
TNCH LR LR
comp=Z,3µm,23.2s
TNCH LR LR
comp=Z,8µm,27.2s
GOMU GeErMu 37.56 288 P **P** **20 44 52.3 -0.3**
GOMU PP **PP** **20 46 18.3 -1.0**
GOMU S **S** **20 50 38.5 +1.0**
GOMU SS **SS** **20 53 23.0 -0.5**
GOMU pmax pmax
comp=Z,140nm,0.8s
GOMU pmax pmax
comp=Z,500nm,4.9s
GOMU LR LR
comp=Z,3µm,19.1s
GOMU LR LR
comp=Z,5µm,18.1s
GOMU LR LR
comp=Z,6µm,17.8s
MSAI Masohi 37.66 199 P **P** **20 44 54.0 +0.9**
comp=Z,3µmcomp=Z,265nm,1.3s
LUWI Luwuk 37.67 210 P **P** **20 44 52.4 -0.8**
comp=Z,2µmcomp=Z,85nm,0.7s
MPSI Mapaga 37.75 215 P **P** **20 44 52.9 -1.0**
ATKA Atka Island 37.78 46 P **P** **20 44 52.8 -0.9**
ATKA Atka Island 37.78 46 P **P** **20 44 54.0 +0.2**
APSI Ampana 38.04 212 P **P** **20 44 55.1 -1.2**
comp=Z,2µmcomp=Z,228nm,0.7s
NLAI Namlea 38.10 202 P **P** **20 44 56.9 +0.1**
comp=Z,1µmcomp=Z,144nm,0.9s
AAI Ambon 38.19 200 P **P** **20 44 57.5 -0.1**
comp=Z,2µmcomp=Z,262nm,0.9s
BILL Bilibino 38.22 15 P **P** **20 44 57.9 +0.6**
BILL IAmb IAmb 20 45 16.2
comp=Z,124nm,1.1s
BILL Bilibino 38.22 15*d* iP **P** **20 44 57.8 +0.6**
BILL pmax pmax
comp=Z,100nm,1.0s
BILL MLR MLR
comp=Z,2µm,17.0s
RABL Rabaul 38.46 161 P **P** **20 44 58.3 -1.6**
PCI Palu 38.87 214 P **P** **20 45 04.6 +1.3**
comp=Z,1µmcomp=Z,102nm,1.1s
TIXI Tiksi 39.35 354 P **P** **20 45 06.4 -0.2**
TIXI Tiksi 39.35 354 LR LR 21 02 48.9
comp=Z,2µm,20.2s,baz=167,slow=38
TIXI Tiksi 39.35 354*d* iP **P** **20 45 06.8 +0.2**
TIXI pmax pmax
comp=Z,112nm,0.7s
TIXI MLR MLR
comp=Z,1µm,12.0s
TIXI Tiksi 39.35 354 P **P** **20 45 06.4 -0.2**
CHTO Chiang Mai 39.72 260 P **P** **20 45 09.0 -1.4**
CHTO IAmb IAmb 20 45 13.3
comp=Z,130nm,0.8s
CHTO Chiang Mai 39.72 260 P **P** **20 45 10.1 -0.4**
CHTO P **P** **20 45 10.1 -0.4**
CHTO Chiang Mai 39.72 260 P **P** **20 45 10.3 -0.1**
CHTO Chiang Mai 39.72 260 P **P** **20 45 09.0 -1.4**
CHTO pmax pmax
comp=Z,130nm,0.8s
CM31 Chiang Mai Arr 39.89 259 P **P** **20 45 11.2 -0.7**
CM31 IAmb IAmb 20 45 14.9
comp=Z,70nm,0.8s
CM31 Chiang Mai Arr 39.89 259 P **P** **20 45 11.9 0.0**
SNR=29
CMAR Chiang Mai Arr 39.89 259 P **P** **20 45 10.7 -1.1**
CMAR Chiang Mai Arr 39.89 259 P **P** **20 45 11.5 -0.4**
comp=Z,47nm,0.7s,baz=50,slow=7.3,SNR=275
CMAR PcP **PcP** **20 47 17.0 +0.5**
comp=Z,4.9nm,0.6s,baz=35,slow=3.7,SNR=1.2
CMAR ScP **ScP** **20 51 00.1 +0.4**
comp=Z,6.5nm,0.8s,baz=39,slow=3.0,SNR=6.6
CMAR LR LR 21 02 21.3
comp=Z,4µm,20.8s,baz=60,slow=37
comp=Z,47nm,0.7s
SBUM Sibu 40.27 227 P **P** **20 45 13.8 -1.1**
SBUM Sibu 40.27 227 P **P** **20 45 16.3 +1.4**
ZIRO ZIRO 40.46 275 ⇓*e*P **P** **20 45 17.0 +0.3**
ZIRO IAmb IAmb 20 45 20.0
comp=Z,87nm,0.5s
KOHI KOHIMA 40.87 272 *e*P **P** **20 45 19.9 -0.1**
KOHI IAmb IAmb 20 45 21.0
comp=Z,62nm,0.6s
NIKH Nikolski High 41.13 45 P **P** **20 45 21.1 -0.5**
NIKH Nikolski High 41.13 45 P **P** **20 45 21.4 -0.2**
NIKH Nikolski High 41.13 45 P **P** **20 45 22.0 +0.4**
baz=261,SNR=31
NIKH S **S** **20 51 26.3 -3.4**
baz=261
SPIA Saint Paul Isl 41.20 39 P **P** **20 45 21.0 -1.1**
SPIA IAmb IAmb 20 45 27.8
comp=Z,300nm,1.4s
SPIA Saint Paul Isl 41.20 39 P **P** **20 45 22.2 +0.1**
baz=255
SPIA S **S** **20 51 31.7 +1.2**
baz=255
IMP Imphal 41.33 271 ⇓*e*P **P** **20 45 21.0 -2.8**
IMP IAmb IAmb 20 45 27.5
comp=Z,24nm,0.6s
P08K Saint George I 41.43 40 P **P** **20 45 23.7 -0.3**
baz=257
SPSI Sidrap Palu 41.59 212 P **P** **20 45 25.2 -0.6**
TEZP TEZPUR 41.65 274 *e*P **P** **20 45 26.7 +0.5**
TEZP IAmb IAmb 20 45 28.2
comp=Z,83nm,0.8s
BBSI Bau Bau 41.79 207 P **P** **20 45 28.8 +1.4**
comp=Z,1µmcomp=Z,97nm,1.0s
BNSI Bone 41.83 211 P **P** **20 45 28.7 +1.0**
comp=Z,1µmcomp=Z,111nm,0.9s
LSA Lhasa 42.04 279 P **P** **20 45 29.5 -0.4**
LSA S **S** **20 51 39.5 -5.2**
LSA pmax pmax
comp=Z,28nm,0.7s
LSA LR LR
comp=Z,3µm,18.0s
LSA LR LR
comp=Z,5µm,31.8s
LSA Lhasa 42.04 279 *i* P **P** **20 45 29.9 -0.1**
SNR=6.0
LSA Lhasa 42.04 279 P **P** **20 45 30.1 +0.1**
KSM Kuching 42.22 229 P **P** **20 45 30.9 0.0**
WMQ Urumqi 42.23 301 ⇓P **P** **20 45 32.0 +1.1**
WMQ PP **PP** **20 47 12.0 +2.4**
WMQ S **S** **20 51 43.5 -2.9**
WMQ pmax pmax
comp=Z,210nm,0.9s
WMQ pmax pmax
comp=Z,580nm,3.7s
WMQ LR LR
comp=Z,3µm,18.3s
WMQ LR LR
comp=Z,4µm,15.9s
WMQ LR LR
comp=Z,3µm,18.3s
PMG Port Moresby 42.50 170 P **P** **20 45 31.7 -1.4**
PMG IAmb IAmb 20 46 06.8
comp=Z,142nm,0.8s
PMG Port Moresby 42.50 170 LR LR 21 02 43.5
comp=Z,817nm,20.7s,baz=18,slow=35
PMG Port Moresby 42.50 170 P **P** **20 45 34.4 +1.2**
PMG Port Moresby 42.50 170 P **P** **20 45 34.6 +1.4**
PMG Port Moresby 42.50 170*c* iP **P** **20 45 32.9 -0.3**
PMG pmax pmax
comp=Z,64nm,0.6s
PMG MLR MLR
comp=Z,644nm,12.0s
PMG Port Moresby 42.50 170 P **P** **20 45 33.0 -0.1**
KAPI Kappang 42.53 212 P **P** **20 45 31.9 -1.5**
KAPI Kappang 42.53 212 P **P** **20 45 34.0 +0.6**
KAPI Kappang 42.53 212 P **P** **20 45 33.7 +0.3**
KAPI Kappang 42.53 212*d* iP **P** **20 45 31.8 -1.6**
KAPI pmax pmax
comp=Z,101nm,1.5s
KAPI MLR MLR
comp=Z,1µm,20.0s
STKI Sintang 42.59 226 P **P** **20 45 35.5 +1.5**
comp=Z,63nm,1.1s
UNV Unalaska Valle 42.64 44 IAmb IAmb 20 45 42.0
comp=Z,173nm,1.5s
UNV Unalaska Valle 42.64 44 P **P** **20 45 34.6 +0.7**
UNV Unalaska Valle 42.64 44 P **P** **20 45 33.4 -0.5**
baz=262
UNV S **S** **20 51 48.8 -3.3**
baz=262
BKSI Bulukumba 42.65 211 P **P** **20 45 34.8 +0.5**
GAMB Gambell 42.67 29 P **P** **20 45 33.6 -0.3**
baz=247
GAMB S **S** **20 51 54.4 +2.2**
baz=247
SHL Shillong 42.79 273 P **P** **20 45 33.7 -2.1**
SHL Shillong 42.79 273 P **P** **20 45 35.1 -0.6**
SNR=7.5
SHL Shillong 42.79 273 *e*P **P** **20 45 35.4 -0.4**
SHL IAmb IAmb 20 45 52.9
comp=Z,34nm,0.8s
SHL Shillong 42.79 273 P **P** **20 45 33.7 -2.1**
SHL pmax pmax
comp=Z,42nm,0.6s
AZL Aizawl 42.81 270 *e*P **P** **20 45 36.3 +0.4**
AZL IAmb IAmb 20 45 41.4
comp=Z,76nm,0.9s
LVA Lava Point 42.96 44 IAmb IAmb 20 45 40.4

comp=Z,118nm,0.6s
SAIH SAIHA 43.06 269 *e*P **P 20 45 38.4 +0.5**
SAIH IAmb IAmb 20 45 40.7
comp=Z,87nm,0.5s
AKUT Akutan 43.11 44 P **P 20 45 36.8 -0.9**
AKUT IAmb IAmb 20 45 40.9
comp=Z,83nm,0.7s
AKUT Akutan 43.11 44 P **P 20 45 37.9 +0.2**
M11K Mekoryuk 44.04 35 P **P 20 45 44.4 -0.7**
baz=256
M11K S **S 20 52 15.9 +3.7**
baz=256
ZSN Zaisan 44.06 306 *e*P **P 20 45 45.8 +0.3**
ZSN *e*S **S 20 52 14.1 +1.1**
ZSN pmax pmax
comp=Z,135nm,1.0s
ZSN Zaisan 44.06 306 *e*P **P 20 45 45.8 +0.3**
comp=Z,135nm,1.0s
ZSN eS **S 20 52 14.1 +1.1**
BRDH Bariadhala 44.12 270 LR LR 21 05 18.1
comp=Z,4µm,21.9s,baz=45,slow=38
ZAA0 Zalesovo Array 44.30 316 P **P 20 45 46.7 -0.5**
ZALV Zalesovo Beam 44.30 316 P **P 20 45 46.7 -0.5**
ZALV Zalesovo Beam 44.30 316 P **P 20 45 47.7 +0.4**
comp=Z,120nm,0.7s,baz=109,slow=7.3,SNR=340
ZALV PcP **PcP 20 47 30.5 +0.1**
comp=Z,70nm,0.7s,baz=93,slow=4.0,SNR=7.4
ZALV ScP **ScP 20 51 15.0 -1.6**
comp=Z,33nm,0.9s,baz=98,slow=4.5,SNR=9.7
ZALV LR LR 21 05 04.2
comp=Z,5µm,19.7s,baz=98,slow=37
comp=Z,120nm,0.7s
FALS False Pass 44.56 43 IAmb IAmb 20 45 55.5
comp=Z,102nm,0.5s
FALS False Pass 44.56 43 P **P 20 45 49.8 +0.5**
FALS False Pass 44.56 43 P **P 20 45 47.9 -1.4**
baz=264
MMRI Maumere 44.81 206 IAmb IAmb 20 46 22.9
comp=Z,190nm,1.0s
MMRI Maumere 44.81 206 P **P 20 45 51.9 +0.2**
MMRI Maumere 44.81 206 P **P 20 45 51.4 -0.3**
comp=Z,2µmcomp=Z,155nm,0.8s
TNA Tin City 44.85 28 P **P 20 45 51.3 -0.1**
baz=249
TNA S **S 20 52 25.4 +1.6**
baz=249
SRIT Nakonsritamara 44.86 247 IAmb IAmb 20 45 55.1
comp=Z,100nm,0.8s
SRIT Nakonsritamara 44.86 247 P **P 20 45 52.3 +0.1**
GTK Tadong 44.92 277 *e*P **P 20 45 51.0 -1.8**
GTK IAmb IAmb 20 46 23.6
comp=Z,52nm,0.8s
TATA Tatamba Isabel 44.94 152 P **P 20 45 53.5 +0.8**
EDFI Ende, Flores 45.12 207 P **P 20 45 53.1 -1.2**
comp=Z,922nmcomp=Z,75nm,0.8s
SOEI Soe 45.14 203 P **P 20 45 53.8 -0.7**
SOEI Soe 45.14 203 P **P 20 45 53.9 -0.6**
K13K Kusilvak Mount 45.14 33 P **P 20 45 55.6 +1.7**
baz=256,SNR=40
K13K S **S 20 52 30.4 +2.2**
baz=256
S12K Black Hills 45.41 42 P **P 20 45 55.3 -0.8**
baz=264,SNR=9.1
M13K Dall Lake 45.42 35 IAmb IAmb 20 46 09.3
comp=Z,88nm,0.8s
M13K Dall Lake 45.42 35 P **P 20 45 57.9 +1.8**
baz=259,SNR=13
M13K S **S 20 52 35.7 +3.4**
baz=259
F14K Arctic Creek 45.44 28 P **P 20 45 58.3 +2.1**
baz=251
F14K S **S 20 52 35.9 +3.4**
baz=251
ANM Nome 45.54 29 IAmb IAmb 20 46 30.3
comp=Z,124nm,1.1s
ANM Nome 45.54 29 P **P 20 45 58.8 +1.8**
baz=253
ANM S **S 20 52 37.1 +3.1**
baz=253
ALEG Aligegeo Malai 45.62 152 P **P 20 45 59.9 +1.8**
SAVO Savo Central 45.63 153 P **P 20 45 59.3 +1.0**
BATI Baumata 45.76 204 LR LR 21 04 18.8
comp=Z,888nm,21.2s,baz=25,slow=35
BATI Baumata 45.76 204 P **P 20 45 58.6 -0.7**
comp=Z,2µmcomp=Z,178nm,1.1s
J14K Nanvaranak Lak 45.84 32 P **P 20 46 00.9 +1.6**
baz=256,SNR=14
J14K S **S 20 52 39.0 +0.8**
baz=256
MK31 Makanchi Array 45.85 305 *d*iP **P 20 46 00.0 +0.3**
MKAR Makanchi Array 45.85 305 P **P 20 45 59.5 -0.2**
MKAR Makanchi Array 45.85 305 P **P 20 46 00.5 +0.8**
comp=Z,193nm,0.6s,baz=88,slow=9.6,SNR=1010
MKAR ScP **ScP 20 51 21.4 -1.8**
comp=Z,24nm,0.7s,baz=78,slow=2.5,SNR=25
MKAR S **S 20 52 38.9 0.0**
comp=Z,3.0nm,0.8s,baz=86,slow=20,SNR=1.5
comp=Z,193nm,0.6s
L14K Kuka Creek 45.93 34 P **P 20 46 01.9 +1.9**
baz=256
L14K S **S 20 52 42.8 +3.2**
baz=258
HNR Honiara 45.95 153 P **P 20 45 58.4 -2.3**
HNR Honiara 45.95 153 LR LR 21 04 13.1
comp=Z,2µm,21.6s,baz=324,slow=34
HNR Honiara 45.95 153 P **P 20 46 03.3 +2.6**
HNR Honiara 45.95 153 P **P 20 45 58.4 -2.3**
HNR pmax pmax
comp=Z,199nm,1.0s
KDU Kakadu 45.95 191 P **P 20 45 59.6 -1.0**
comp=Z,0.0nmcomp=Z,141nm,0.9s
KDU Kakadu 45.95 191 P **P 20 46 00.4 -0.3**
DRS Darwin Rock St 45.98 193 P **P 20 46 00.3 -0.6**
MAKZ Makanchi 46.06 306 P **P 20 46 01.8 +0.4**
N14K Kuskokwak Cree 46.16 36 IAmb IAmb 20 46 28.3
comp=Z,117nm,0.9s
N14K Kuskokwak Cree 46.16 36 P **P 20 46 03.3 +1.5**
baz=261,SNR=22
N14K S **S 20 52 45.0 +2.1**
baz=261
M14K Bethel 46.16 35 IAmb IAmb 20 46 06.3
comp=Z,126nm,0.8s
M14K Bethel 46.16 35 P **P 20 46 03.8 +1.9**
baz=260,SNR=59
M14K S **S 20 52 45.9 +3.0**
baz=260
F15K North Star Dit 46.18 28 IAmb IAmb 20 46 09.3
comp=Z,144nm,1.1s
F15K North Star Dit 46.18 28 P **P 20 46 03.9 +1.9**
baz=252,SNR=34
F15K S **S 20 52 46.1 +3.0**
baz=252
KULM Kulim 46.18 242 P **P 20 46 02.3 -0.4**
EVN Everest 46.19 279 IAmb IAmb 20 46 05.3
comp=Z,68nm,0.6s
G15K Niukluk 46.22 29 P **P 20 46 04.0 +1.7**
baz=254
G15K S **S 20 52 45.9 +2.3**
baz=254
O14K Tigyukauivet M 46.27 37 P **P 20 46 04.0 +1.3**
baz=262,SNR=12
O14K S **S 20 52 44.9 +0.5**
baz=262
MYKOM Kota Tinggi 46.28 236 P **P 20 46 04.6 +1.2**
SDPT Sand Point 46.28 43 P **P 20 46 01.6 -1.3**
SDPT Sand Point 46.28 43 P **P 20 46 02.4 -0.5**
SDPT Sand Point 46.28 43 P **P 20 46 02.1 -0.9**
baz=266,SNR=46
SDPT S **S 20 52 40.6 -4.1**
baz=266
MTN Manton Dam 46.33 193 IAmb IAmb 20 46 05.0
comp=Z,120nm,0.7s
MTN Manton Dam 46.33 193 P **P 20 46 02.1 -1.6**
comp=Z,0.0nmcomp=Z,162nm,0.6s
MTN Manton Dam 46.33 193 P **P 20 46 03.0 -0.7**
IPM Ipoh 46.44 241 P **P 20 46 04.4 -0.3**
L15K Ungalak Mounta 46.56 34 P **P 20 46 06.7 +1.8**
baz=259,SNR=23
L15K S **S 20 52 50.3 +1.8**
baz=259
COEN Coen 46.62 176 P **P 20 46 06.2 +0.3**
COEN Coen 46.62 176 P **P 20 46 06.1 +0.2**
comp=Z,269nm,1.4s
COEN Coen 46.62 176 P **P 20 46 06.9 +0.9**
K15K Wolf Creek Mou 46.65 33 P **P 20 46 07.5 +1.8**
baz=259,SNR=37
K15K S **S 20 52 51.5 +1.6**
baz=259
CHNA Chernabura Isl 46.76 43 P **P 20 46 07.3 +0.6**
CHNA Chernabura Isl 46.76 43 P **P 20 46 07.0 +0.3**
baz=267,SNR=40
CHNA S **S 20 52 49.7 -2.0**
baz=267
C16K Lisburne Hills 46.77 24 IAmb IAmb 20 46 27.3
comp=Z,109nm,0.9s
C16K Lisburne Hills 46.77 24 P **P 20 46 07.6 +1.1**
baz=249,SNR=14
C16K S **S 20 52 52.4 +1.1**
baz=249
M15K Kasigluk River 46.77 35 P **P 20 46 07.7 +1.0**
baz=261,SNR=38
M15K S **S 20 52 51.5 -0.1**
baz=261
PLAI Plampang 46.80 212 P **P 20 46 05.0 -2.4**
PLAI Plampang 46.80 212 P **P 20 46 04.9 -2.4**
comp=Z,957nmcomp=Z,99nm,0.8s
H16K Elim 46.86 30 P **P 20 46 08.6 +1.3**
baz=256,SNR=12
H16K S **S 20 52 55.4 +2.5**
baz=256
S14K Fog Glacier 46.86 41 P **P 20 46 07.6 0.0**
baz=266
S14K S **S 20 52 50.5 -2.8**
baz=266
N15K Kwethluk River 46.98 36 P **P 20 46 08.5 +0.1**
N15K IAmb IAmb 20 46 12.6
comp=Z,115nm,0.8s
N15K Kwethluk River 46.98 36 P **P 20 46 10.1 +1.7**
baz=262,SNR=58
N15K S **S 20 52 56.7 +2.0**
baz=262
O15K Ungalikthiuk R 46.99 37 P **P 20 46 08.3 -0.1**
O15K Ungalikthiuk R 46.99 37 P **P 20 46 09.7 +1.3**
baz=263,SNR=81
O15K S **S 20 52 56.7 +1.9**
baz=263
G16K Koyuk River 47.01 29 P **P 20 46 09.7 +1.3**
baz=255
G16K S **S 20 52 56.9 +2.1**
baz=255
TPI Tanjungpandan 47.15 228 P **P 20 46 11.1 +0.9**
comp=Z,2µmcomp=Z,970nmcomp=Z,91nm,1.1s
J16K Anvik River 47.27 32 P **P 20 46 11.2 +0.7**
baz=259,SNR=8.2
J16K S **S 20 53 02.0 +3.3**
baz=259
SRBI Singaraja 47.34 215 P **P 20 46 13.4 +1.8**
comp=Z,2µmcomp=Z,135nm,0.9s
I17K Unalakleet 47.35 31 IAmb IAmb 20 46 17.6
comp=Z,231nm,1.7s
I17K Unalakleet 47.35 31 P **P 20 46 12.6 +1.5**
baz=258,SNR=11
I17K S **S 20 53 01.3 +1.6**
baz=258
D17K Noatak River 47.38 26 P **P 20 46 12.9 +1.6**
baz=252,SNR=36
D17K S **S 20 53 02.5 +2.3**
baz=252
CHGN Chignik 47.50 41 IAmb IAmb 20 46 16.7
comp=Z,79nm,0.6s
CHGN Chignik 47.50 41 P **P 20 46 12.3 -0.1**
baz=267,SNR=22
RDOG Red Dog Mine 47.55 25 IAmb IAmb 20 46 19.6
comp=Z,149nm,1.2s
RDOG Red Dog Mine 47.55 25 P **P 20 46 14.5 +1.8**
baz=252,SNR=15
RDOG S **S 20 53 06.0 +3.4**
baz=252
C17K DeLong Mountai 47.59 25 P **P 20 46 15.3 +2.4**
baz=251,SNR=13
C17K S **S 20 53 05.4 +2.3**
baz=251
JOHN Johnston Islan 47.64 97 P **P 20 46 11.4 -2.6**
M16K Timber Creek 47.65 35 P **P 20 46 14.9 +1.3**
baz=262,SNR=34
M16K S **S 20 53 06.3 +2.1**
baz=262
PPBI Pangkal Pinang 47.66 230 P **P 20 46 15.6 +1.5**
HURO Huro Makira 47.66 151 P **P 20 46 14.9 +0.8**
E17K Hotham Inlet 47.67 27 P **P 20 46 14.8 +1.3**
baz=254,SNR=36
E17K S **S 20 53 06.4 +2.2**
baz=254
N16K Nishlik Lake 47.68 36 P **P 20 46 15.4 +1.6**
baz=263,SNR=72
N16K S **S 20 53 06.0 +1.4**
baz=263
F17K Baldwin Pennin 47.72 27 IAmb IAmb 20 46 27.0
comp=Z,76nm,0.7s
F17K Baldwin Pennin 47.72 27 P **P 20 46 15.8 +1.8**
baz=255
F17K S **S 20 53 07.3 +2.4**
baz=255
G17K Kiwalik Mounta 47.72 29 P **P 20 46 15.7 +1.7**
baz=257,SNR=29
G17K S **S 20 53 07.8 +2.7**
baz=257
H17K Granite Mounta 47.90 30 P **P 20 46 17.1 +1.7**
baz=258,SNR=14
H17K S **S 20 53 10.0 +2.4**
baz=258
O16K Kokwok River B 47.91 37 IAmb IAmb 20 46 19.7
comp=Z,81nm,0.8s
O16K Kokwok River B 47.91 37 P **P 20 46 17.1 +1.5**
baz=264,SNR=55
O16K S **S 20 53 09.6 +1.7**
baz=264
P16K Nushagak River 47.92 38 P **P 20 46 17.3 +1.8**
baz=265,SNR=29
P16K S **S 20 53 10.1 +2.2**
baz=265
J17K VABM Dome 47.97 32 IAmb IAmb 20 46 53.0
comp=Z,76nm,1.0s
J17K VABM Dome 47.97 32 P **P 20 46 17.7 +1.7**
baz=260,SNR=34
J17K S **S 20 53 10.5 +1.9**
baz=260
KURK Kurchatov 48.04 311 P **P 20 46 16.1 -0.5**
KURK Kurchatov 48.04 311 P **P 20 46 16.8 +0.2**
KURK P **P 20 46 16.8 +0.2**
KURK Kurchatov 48.04 311 *d*iP **P 20 46 16.5 -0.2**
KURK pmax pmax
comp=Z,279nm,0.7s
KURK MLR MLR
comp=Z,11µm,19.0s
KURK Kurchatov 48.04 311 P **P 20 46 16.6 -0.1**
KURK pP **pP 20 46 31.9 -1.4**
KURK sP **sP 20 46 39.1 -1.7**
KURBB Kurchatov Arra 48.10 311 P **P 20 46 17.0 -0.1**
comp=Z,112nm,0.5s,baz=84,slow=7.6,SNR=431
KURBB ScP **ScP 20 51 30.1 -2.4**
comp=Z,2.2nm,0.4s,baz=105,slow=3.2,SNR=1.6
comp=Z,112nm,0.5s
L17K Donlin 48.12 34 P **P 20 46 19.0 +1.9**
baz=262,SNR=37
L17K S **S 20 53 13.9 +3.1**
baz=262
JAGI Jajag, Banyuwa 48.19 216 IAmb IAmb 20 46 50.3
comp=Z,86nm,0.9s
JAGI Jajag, Banyuwa 48.19 216 P **P 20 46 19.2 +1.0**
K17K Iditarod 48.20 33 IAmb IAmb 20 46 50.5
comp=Z,125nm,1.1s
K17K Iditarod 48.20 33 P **P 20 46 19.8 +2.1**
baz=261,SNR=51
K17K S **S 20 53 13.2 +1.3**
baz=261
E18K Tukpahlearik C 48.22 26 IAmb IAmb 20 46 25.0
comp=Z,127nm,1.2s
E18K Tukpahlearik C 48.22 26 P **P 20 46 19.7 +1.9**
baz=255,SNR=36
E18K S **S 20 53 15.1 +3.1**
baz=255
SHLS Shalkode 48.26 301 *d*iP **P 20 46 16.0 -2.7**
SHLS *e*S **S 20 53 09.5 -4.0**
SHLS pmax pmax
comp=Z,80nm,0.8s
SHLS Shalkode 48.26 301 ⇓*i*P **P 20 46 16.0 -2.7**
comp=Z,80nm,0.8s
SHLS *e*S **S 20 53 09.5 -4.0**
C18K Utukok River 48.34 25 IAmb IAmb 20 46 26.0
comp=Z,164nm,1.1s
C18K Utukok River 48.34 25 P **P 20 46 20.2 +1.4**
baz=253
C18K S **S 20 53 14.7 +0.9**
baz=253
B18K Kokolik River 48.34 24 P **P 20 46 20.9 +2.2**
baz=252,SNR=19
B18K S **S 20 53 15.6 +1.9**
baz=252
F18K Selawik 48.38 28 P **P 20 46 20.6 +1.6**
baz=257,SNR=56
F18K S **S 20 53 17.6 +3.4**
baz=257
M17K Holitna River 48.43 35 IAmb IAmb 20 46 24.2
comp=Z,102nm,0.8s
M17K Holitna River 48.43 35 P **P 20 46 21.6 +2.1**
baz=263,SNR=69
M17K S **S 20 53 16.7 +1.5**
baz=263
O17K Koliganek Bris 48.44 37 P **P 20 46 20.9 +1.3**
baz=265
O17K S **S 20 53 17.6 +2.4**
baz=265
N17K Nushagak Hills 48.46 36 IAmb IAmb 20 46 24.0
comp=Z,76nm,0.9s
N17K Nushagak Hills 48.46 36 P **P 20 46 21.5 +1.7**
baz=264,SNR=64
N17K S **S 20 53 18.2 +2.6**
baz=264
UZB Uzunbulak 48.58 301 *d*iP **P 20 46 20.8 -0.3**
UZB *e*S **S 20 53 18.2 +0.2**
UZB pmax pmax
comp=Z,56nm,0.6s
UZB Uzunbulak 48.58 301 ⇓*i*P **P 20 46 20.9 -0.3**
comp=Z,56nm,0.6s
UZB *e*S **S 20 53 18.3 +0.2**
Q16K King Salmon 48.58 38 P **P 20 46 22.4 +1.7**
baz=266,SNR=21
Q16K S **S 20 53 18.3 +1.0**
baz=266
H18K Honhosa River 48.59 30 IAmb IAmb 20 46 27.4
comp=Z,83nm,1.1s
H18K Honhosa River 48.59 30 P **P 20 46 22.4 +1.7**
baz=259,SNR=37
H18K S **S 20 53 17.9 +0.6**
baz=259
G18K Tagagawik 48.62 29 IAmb IAmb 20 46 28.1
comp=Z,129nm,1.1s
G18K Tagagawik 48.62 29 P **P 20 46 22.4 +1.5**
baz=258,SNR=108
G18K S **S 20 53 19.0 +1.3**
baz=258
R17L Mt. Peulik Vol 48.68 40 P **P 20 46 21.6 0.0**
baz=268,SNR=16
R17L S **S 20 53 16.4 -2.5**
baz=268
PLK4 Peulik 4 48.69 40 IAmb IAmb 20 46 24.6
comp=Z,60nm,0.8s
P17K Kvichak River 48.73 38 P **P 20 46 23.0 +1.2**
baz=266,SNR=32
P17K S **S 20 53 20.3 +0.9**
baz=266
TDK Taldyqorghan 48.73 303 *e*P **P 20 46 22.2 +0.1**
TDK pmax pmax
comp=Z,90nm,0.8s
TDK MLR MLR
comp=Z,2µm,15.0s
TDK Taldyqorghan 48.73 303 *e*P **P 20 46 22.3 +0.1**
comp=Z,90nm,0.8s
TDK LR LR 21 08 00.6
comp=Z,2µm,15.1s
KPKS Kokpek 48.77 301 *e*P **P 20 46 22.5 0.0**
KPKS *e*S **S 20 53 21.3 +0.7**
KPKS Kokpek 48.77 301 *e*P **P 20 46 22.6 0.0**
KPKS *e*S **S 20 53 21.4 +0.7**
A19K Wainwright 48.84 23 P **P 20 46 23.6 +1.1**
baz=252
A19K S **S 20 53 23.0 +2.3**
baz=252
L18K Granite Mounta 48.88 34 IAmb IAmb 20 46 29.7
comp=Z,80nm,1.1s
L18K Granite Mounta 48.88 34 P **P 20 46 24.7 +1.7**
baz=263,SNR=48
L18K S **S 20 53 23.2 +1.8**
baz=263
Q17K Contact Creek 48.96 39 P **P 20 46 23.6 -0.2**
baz=268,SNR=37
Q17K S **S 20 53 20.7 -2.2**
baz=268
LHMI Lhok Sumawe 49.02 245 IAmb IAmb 20 46 26.2
comp=Z,84nm,0.7s
LHMI Lhok Sumawe 49.02 245 P **P 20 46 25.4 +0.8**
LHMI Lhok Sumawe 49.02 245 P **P 20 46 25.7 +1.1**
comp=Z,124nm,0.9s
C19K Lookout Ridge 49.02 24 P **P 20 46 25.4 +1.4**
baz=255,SNR=52
C19K S **S 20 53 25.2 +1.8**
baz=255
J18K Innoko River 49.02 32 P **P 20 46 25.5 +1.4**
baz=262,SNR=23
J18K S **S 20 53 24.3 +0.8**
baz=262
SATY Saty 49.03 301 *e*P **P 20 46 24.4 -0.2**
SATY *e*S **S 20 53 24.9 +0.5**
SATY pmax pmax
comp=Z,37nm,0.8s
SATY Saty 49.03 301 *e*P **P 20 46 24.5 -0.2**
comp=Z,37nm,0.8s
SATY *e*S **S 20 53 25.0 +0.5**
CHIR Chirikof Islan 49.05 42 P **P 20 46 25.2 +0.8**
CHIR Chirikof Islan 49.05 42 P **P 20 46 25.4 +1.0**
baz=270,SNR=8.4
CHIR S **S 20 53 26.3 +2.3**
baz=270
N18K Kilae Creek 49.11 36 IAmb IAmb 20 46 34.4
comp=Z,112nm,1.4s
N18K Kilae Creek 49.11 36 P **P 20 46 27.1 +2.2**
baz=265,SNR=43
N18K S **S 20 53 26.3 +1.5**
baz=265
PSI Prapat 49.12 241 P **P 20 46 24.8 -0.7**
PMBI Palembang 49.12 231 P **P 20 46 26.9 +1.5**
PMBI Palembang 49.12 231 P **P 20 46 26.7 +1.3**
GCSA Galena City Sc 49.14 30 P **P 20 46 26.1 +1.2**
baz=261,SNR=9.8
GCSA S **S 20 53 25.2 +0.2**
baz=261
F19K Shaleruckik Mo 49.16 27 P **P 20 46 25.9 +0.9**
baz=258
F19K S **S 20 53 25.3 +0.2**
baz=258
RPSI Rantau Prapat 49.19 241 IAmb IAmb 20 47 54.6
comp=Z,90nm,1.2s
M18K Stony River 49.21 35 P **P 20 46 27.0 +1.5**
baz=265,SNR=39
M18K S **S 20 53 28.8 +2.7**
baz=265
ACHA Angle Creek He 49.26 39 IAmb IAmb 20 46 29.2
comp=Z,95nm,1.2s
BKNI Bangkinang 49.28 237 P **P 20 46 29.1 +2.4**
BKNI Bangkinang 49.28 237 P **P 20 46 26.6 -0.1**
comp=Z,2µmcomp=Z,2µmcomp=Z,153nm,1.1s
G19K Purcell Mounta 49.29 28 IAmb IAmb 20 46 31.8
comp=Z,96nm,1.3s
G19K Purcell Mounta 49.29 28 P **P 20 46 27.1 +1.0**
baz=260,SNR=36
G19K S **S 20 53 29.0 +1.9**
baz=260
P18K Big Mountain, 49.36 37 P **P 20 46 28.1 +1.4**
baz=267,SNR=67
P18K S **S 20 53 30.4 +2.1**
baz=267
D19K Kuna River 49.39 25 P **P 20 46 27.9 +1.0**
baz=257,SNR=79
D19K S **S 20 53 29.8 +1.2**
baz=257
O18K Koktuh Hills 49.39 37 IAmb IAmb 20 46 31.9
comp=Z,97nm,0.7s
O18K Koktuh Hills 49.39 37 P **P 20 46 28.5 +1.5**
baz=267,SNR=53
O18K S **S 20 53 30.6 +1.9**
baz=267
Q18K Katmai Hardscr 49.44 38 P **P 20 46 27.5 0.0**
baz=268,SNR=40
Q18K S **S 20 53 25.7 -3.9**
baz=268
H19K Roundabout Mou 49.45 29 P **P 20 46 28.9 +1.7**
baz=261,SNR=90
H19K S **S 20 53 30.6 +1.4**
baz=261
E19K Redstone River 49.49 27 P **P 20 46 29.1 +1.6**
baz=258,SNR=166

E19K S **S** **20 53 31.0 +1.1**
baz=258
KNRA **Kununurra** **49.57 195** P **P** **20 46 27.4 -1.2**
KNRA IAmb IAmb 20 46 34.1
comp=Z,119nm,1.1s
KNRA **Kununurra** **49.57 195** P **P** **20 46 27.9 -0.8**
comp=Z,100nm,0.7s
J19K **Poorman** **49.58 31** P **P** **20 46 29.6 +1.3**
baz=263,SNR=46
J19K S **S** **20 53 31.2 0.0**
baz=263
LUES **Luesalemba Tem** **49.59 146** P **P** **20 46 31.3 +2.4**
UGM **Wanagama** **49.62 221** IAmb IAmb 20 47 17.0
comp=Z,116nm,0.9s
UGM **Wanagama** **49.62 221** P **P** **20 46 28.1 -1.1**
UGM **Wanagama** **49.62 221** P **P** **20 46 28.1 -1.1**
comp=Z,138nm,1.1s
R18K **Karluk** **49.71 40** P **P** **20 46 29.2 -0.1**
baz=269,SNR=18
R18K S **S** **20 53 29.1 -4.1**
baz=269
L19K **White Mountain** **49.73 34** IAmb IAmb 20 46 43.4
comp=Z,78nm,1.2s
L19K **White Mountain** **49.73 34** P **P** **20 46 30.9 +1.4**
baz=265,SNR=56
L19K S **S** **20 53 33.7 +0.2**
baz=265
N19K **Bonanza Creek** **49.81 36** P **P** **20 46 31.7 +1.5**
baz=266,SNR=32
N19K S **S** **20 53 35.6 +0.9**
baz=266
SII **Sitkinak Islan** **49.85 41** P **P** **20 46 31.6 +1.1**
SII **Sitkinak Islan** **49.85 41** P **P** **20 46 31.5 +1.0**
baz=270,SNR=6.2
SII S **S** **20 53 36.3 +1.1**
baz=270
O19K **Port Alsworth** **49.86 36** IAmb IAmb 20 46 34.2
comp=Z,65nm,0.8s
O19K **Port Alsworth** **49.86 36** P **P** **20 46 32.0 +1.6**
baz=267,SNR=8.2
O19K S **S** **20 53 36.8 +1.7**
baz=267
CHKK **Chushkaly** **49.92 302** *e*P **P** **20 46 31.0 -0.2**
CHKK **Chushkaly** **49.92 302** *e*P **P** **20 46 31.1 -0.2**
M19K **Big River Lodg** **49.93 34** P **P** **20 46 33.1 +2.1**
baz=266,SNR=22
M19K S **S** **20 53 38.7 +2.5**
baz=266
D20K **Etivluk River** **49.98 25** P **P** **20 46 33.0 +1.8**
baz=258,SNR=99
D20K S **S** **20 53 37.8 +1.0**
baz=258
F20K **Avaraart Lake** **49.99 27** P **P** **20 46 32.8 +1.5**
baz=260,SNR=46
F20K S **S** **20 53 37.4 +0.6**
baz=260
MNSI **Mandailing Nat** **50.00 239** P **P** **20 46 32.0 -0.1**
comp=Z,32nm,0.6s
E20K **Nigu River** **50.04 26** P **P** **20 46 33.3 +1.6**
baz=259
E20K S **S** **20 53 39.1 +1.5**
baz=259
B20K **Meade River** **50.08 23** P **P** **20 46 33.8 +1.8**
baz=256,SNR=37
B20K S **S** **20 53 39.0 +1.0**
baz=256
AAA **Alma-Ata** **50.08 301** *e*P **P** **20 46 32.4 -0.1**
AAA pmax pmax
comp=Z,74nm,0.7s
AAA **Alma-Ata** **50.08 301** *e*P **P** **20 46 32.4 -0.1**
comp=Z,74nm,0.7s
H20K **Anotleneega Mo** **50.09 29** P **P** **20 46 33.7 +1.6**
baz=262,SNR=68
H20K S **S** **20 53 39.9 +1.6**
baz=262
TNSS **Tian-Shan** **50.09 301** *e*P **P** **20 46 32.4 -0.6**
TNSS **Tian-Shan** **50.09 301** *e*P **P** **20 46 32.5 -0.6**
KDJ **Kajisay** **50.09 300** IAmb IAmb 20 46 34.9
comp=Z,119nm,1.1s
Q19K **Cape Douglas,** **50.16 38** P **P** **20 46 33.0 +0.2**
baz=269,SNR=12
I20K **Naaghedeneel** **50.17 30** IAmb IAmb 20 46 41.3
comp=Z,85nm,0.8s
I20K **Naaghedeneel** **50.17 30** P **P** **20 46 34.3 +1.6**
baz=263,SNR=20
I20K S **S** **20 53 42.7 +3.4**
baz=263
K20K **Telida** **50.20 32** IAmb IAmb 20 46 45.8
comp=Z,67nm,0.7s
K20K **Telida** **50.20 32** P **P** **20 46 34.6 +1.6**
baz=265
K20K S **S** **20 53 41.1 +1.3**
baz=265
L20K **Farewell, AK** **50.21 33** P **P** **20 46 34.8 +1.7**
baz=266,SNR=41
L20K S **S** **20 53 41.2 +1.1**
baz=266
J20K **Nowinta River** **50.24 31** IAmb IAmb 20 46 37.2
comp=Z,54nm,0.7s
J20K **Nowinta River** **50.24 31** P **P** **20 46 34.9 +1.6**
baz=264,SNR=112
J20K S **S** **20 53 42.4 +2.0**
baz=264
PPI **Padang Panjang** **50.29 237** P **P** **20 46 35.6 +1.3**
comp=Z,1µmcomp=Z,46nm,0.9s
OHAK **Old Harbor** **50.34 40** IAmb IAmb 20 46 36.6
comp=Z,105nm,0.7s
OHAK **Old Harbor** **50.34 40** P **P** **20 46 34.5 +0.4**
OHAK **Old Harbor** **50.34 40** P **P** **20 46 34.7 +0.6**
baz=271,SNR=26
OHAK S **S** **20 53 40.9 -1.0**
baz=271
P19K **Oil Pt** **50.38 37** P **P** **20 46 35.4 +0.9**
baz=269,SNR=24
P19K S **S** **20 53 41.7 -0.9**
baz=269
ILSW **Iliamna Southw** **50.44 37** IAmb IAmb 20 46 44.0
comp=Z,71nm,1.1s
M20K **Styx River** **50.52 34** P **P** **20 46 37.3 +1.8**
baz=267,SNR=44
M20K S **S** **20 53 47.6 +3.0**
baz=267
KLI **Kotabumi** **50.54 229** P **P** **20 46 37.0 +0.9**
comp=Z,244nm,1.0s
PDSI **Padang** **50.56 236** P **P** **20 46 37.4 +1.0**
A21K **Barrow** **50.57 22** P **P** **20 46 36.8 +1.1**
baz=256
A21K S **S** **20 53 46.2 +1.4**
baz=256
LHSI **Lahat** **50.61 231** P **P** **20 46 37.3 +0.6**
comp=Z,2µmcomp=Z,195nm,0.9s
IMAR **Indian Mountai** **50.61 29** P **P** **20 46 37.0 +0.9**
RED **Redoubt Volcan** **50.63 36** IAmb IAmb 20 46 42.9
comp=Z,154nm,1.4s
MDSI **Maura Dua** **50.68 230** P **P** **20 46 36.2 -1.0**
comp=Z,2µmcomp=Z,269nm,1.3s
DBJI **Dramaga** **50.69 226** P **P** **20 46 38.4 +1.2**
O20K **Slope Mountain** **50.70 37** P **P** **20 46 37.7 +0.8**
baz=269,SNR=19
O20K S **S** **20 53 45.8 -1.2**
baz=269
C21K **Knifeblade Rid** **50.71 25** P **P** **20 46 38.6 +1.9**
baz=259,SNR=74
C21K S **S** **20 53 48.6 +1.7**
baz=259
KDAK **Kodiak Island** **50.71 40** P **P** **20 46 37.0 +0.1**
KDAK **Kodiak Island** **50.71 40** *c i*P **P** **20 46 37.6 +0.7**
KDAK pmax pmax
comp=Z,323nm,0.8s
KDAK MLR MLR
comp=Z,2µm,18.0s
KDAK **Kodiak Island** **50.71 40** P **P** **20 46 37.6 +0.7**
baz=271
KDAK S **S** **20 53 44.6 -2.5**
baz=271
ULHL **Ulahol** **50.76 300** P **P** **20 46 38.0 +0.2**
SNR=35
G21K **Allakaket** **50.78 28** IAmb IAmb 20 46 60.0
comp=Z,77nm,1.0s
G21K **Allakaket** **50.78 28** P **P** **20 46 39.2 +1.9**
baz=263,SNR=51
G21K S **S** **20 53 48.6 +0.8**
baz=263
Q20K **Shuyak Island** **50.81 38** P **P** **20 46 38.3 +0.7**
baz=270,SNR=17
Q20K S **S** **20 53 45.7 -2.7**
baz=270
MTSU **Mount Surprise** **50.84 175** P **P** **20 46 38.6 +0.4**
comp=Z,42nm,1.0s
MTSU **Mount Surprise** **50.84 175** P **P** **20 46 39.1 +0.8**
B21K **Ikpikpuk River** **50.86 24** P **P** **20 46 39.7 +1.9**
baz=259,SNR=101
B21K S **S** **20 53 50.6 +1.8**
baz=259
BBJI **Bungbulang** **50.88 224** P **P** **20 46 39.3 +0.6**
E21K **Killik River** **50.88 26** P **P** **20 46 39.9 +1.8**
baz=261,SNR=150
E21K S **S** **20 53 48.5 -0.7**
baz=261
F21K **Alatna River** **50.88 27** IAmb IAmb 20 46 47.6
comp=Z,85nm,1.1s
F21K **Alatna River** **50.88 27** P **P** **20 46 39.8 +1.7**
baz=262,SNR=92
F21K S **S** **20 53 51.2 +1.9**
baz=262
SPCR **Spurr Chakacha** **50.93 35** P **P** **20 46 40.0 +1.3**
baz=268,SNR=22
SPCR S **S** **20 53 50.6 +0.4**
baz=268
N20K **Mount Spurr** **50.93 35** P **P** **20 46 40.4 +1.7**
baz=268
N20K S **S** **20 53 52.0 +1.7**
baz=268
H21K **Melozitna Rive** **50.96 29** IAmb IAmb 20 46 46.3
comp=Z,156nm,1.3s
H21K **Melozitna Rive** **50.96 29** P **P** **20 46 40.9 +2.1**
baz=264,SNR=125
H21K S **S** **20 53 52.7 +2.2**
baz=264
SPU **Mount Spurr** **51.01 35** IAmb IAmb 20 46 44.9
comp=Z,185nm,1.5s
PPLA **Purkeypile** **51.01 33** P **P** **20 46 41.5 +2.2**
baz=267,SNR=52
PPLA S **S** **20 53 53.5 +2.0**
baz=267
A22K **Sinclair Lake** **51.02 22** P **P** **20 46 41.0 +2.0**
baz=258,SNR=18
A22K S **S** **20 53 52.6 +1.7**
baz=258
CHUM **Lake Minchumin** **51.02 32** P **P** **20 46 41.2 +2.0**
baz=266,SNR=27
CHUM S **S** **20 53 53.5 +2.3**
baz=266
TKM2 **Tokmak 2** **51.09 301** P **P** **20 46 40.9 +0.7**
SNR=412
CAST **Castle Rocks** **51.09 32** IAmb IAmb 20 46 46.3
comp=Z,288nm,2.0s
CAST **Castle Rocks** **51.09 32** P **P** **20 46 41.5 +1.8**
baz=267,SNR=64
CAST S **S** **20 53 53.6 +1.3**
baz=267
PTH **Pithoragarh** **51.10 283** *e*P **P** **20 46 40.6 +0.1**
PTH IAML 20 46 44.3
comp=Z,81nm,0.7s
GSI **Gunungsitoli** **51.11 241** P **P** **20 46 40.1 -0.4**
GSI **Gunungsitoli** **51.11 241** P **P** **20 46 39.9 -0.6**
comp=Z,3µmcomp=Z,303nm,1.3s
LGTI **Lohaghat** **51.11 283** *e*P **P** **20 46 41.9 +1.5**
LGTI IAmb IAmb 20 46 44.1
comp=Z,72nm,0.6s
LWLI **Liwa** **51.16 230** P **P** **20 46 42.1 +1.1**
HOM **Homer** **51.19 37** P **P** **20 46 41.5 +1.0**
baz=270,SNR=7.0
I21K **Tanana** **51.26 30** IAmb IAmb 20 46 47.6
comp=Z,109nm,1.2s
I21K **Tanana** **51.26 30** P **P** **20 46 42.9 +2.0**
baz=265,SNR=14
I21K S **S** **20 53 56.2 +1.7**
baz=265
KASI **Kota Agung** **51.27 229** P **P** **20 46 41.6 0.0**
comp=Z,55nm,1.1s
SKT **Skwentna** **51.28 34** IAmb IAmb 20 46 59.7
comp=Z,55nm,0.9s
SKT **Skwentna** **51.28 34** P **P** **20 46 42.1 +0.9**
baz=268,SNR=48
SKT S **S** **20 53 55.9 +1.0**
baz=268
JOSI **Joshimath** **51.30 285** *e*P **P** **20 46 42.1 0.0**
JOSI IAmb IAmb 20 46 47.5
comp=Z,71nm,0.5s
MNAI **Manna** **51.38 231** P **P** **20 46 43.4 +0.9**
B22K **Teshekpuk Lake** **51.40 23** IAmb IAmb 20 47 02.7
comp=Z,139nm,1.0s
B22K **Teshekpuk Lake** **51.40 23** P **P** **20 46 43.4 +1.5**
baz=260,SNR=32
B22K S **S** **20 53 58.1 +1.9**
baz=260
CNPM **China Poot** **51.40 37** IAmb IAmb 20 46 44.9
comp=Z,68nm,0.8s
D22K **Ayikyak River** **51.41 25** P **P** **20 46 44.0 +1.9**
baz=262,SNR=154
D22K S **S** **20 53 56.9 +0.3**
baz=262
F22K **John River** **51.42 27** P **P** **20 46 44.1 +1.9**
baz=263,SNR=153
F22K S **S** **20 53 59.1 +2.5**
baz=263
CAPN **Captain Cook N** **51.44 36** P **P** **20 46 43.7 +1.4**
baz=270
CAPN S **S** **20 53 59.3 +2.3**
baz=270
KSH **Kashi** **51.56 297** P **P** **20 46 47.3 +3.6**
KSH PP **PP** **20 48 42.8 +1.3**
KSH S **S** **20 54 06.0 +6.4**
KSH pmax pmax
comp=Z,140nm,0.8s
KSH pmax pmax
comp=Z,970nm,7.8s
KSH LR LR
comp=Z,2µm,21.3s
KSH LR LR
comp=Z,5µm,21.3s
KSH LR LR
comp=Z,8µm,21.0s
H22K **Ishtalitna Cre** **51.57 29** P **P** **20 46 45.1 +1.8**
baz=265,SNR=118
H22K S **S** **20 54 01.2 +2.3**
baz=265
BRLK **Bradley Lake** **51.57 37** IAmb IAmb 20 47 15.9
comp=Z,66nm,0.9s
KBK **Karagaybulak** **51.61 301** P **P** **20 46 45.0 +0.9**
SNR=158
G22K **Bettles** **51.61 28** P **P** **20 46 44.9 +1.4**
baz=264,SNR=117
G22K S **S** **20 54 00.2 +0.9**
baz=264
BPAW **Bear Paw Mtn.** **51.62 31** IAmb IAmb 20 46 48.9
comp=Z,111nm,1.5s
BPAW **Bear Paw Mtn.** **51.62 31** P **P** **20 46 45.0 +1.3**
baz=267,SNR=50
BPAW S **S** **20 54 01.0 +1.5**
baz=267
E22K **Anaktuvuk Pass** **51.63 26** P **P** **20 46 45.6 +1.8**
baz=263,SNR=191
E22K S **S** **20 54 00.3 +0.6**
baz=263
SUA **Susitna One** **51.64 35** IAmb IAmb 20 47 17.0
comp=Z,77nm,0.8s
SUA **Susitna One** **51.64 35** P **P** **20 46 44.5 +0.5**
baz=269,SNR=64
SUA S **S** **20 53 58.6 -1.5**
baz=269
SGDS **Sogindy** **51.67 302** *i*P **P** **20 46 44.5 0.0**
comp=Z,61nm,0.9s
CHMS **Chumysh** **51.68 301** P **P** **20 46 45.2 +0.7**
SNR=66
BTLS **Baital** **51.78 304** *d i*P **P** **20 46 45.2 +0.1**
BTLS pmax pmax
comp=Z,97nm,0.8s
BTLS **Baital** **51.78 304** *i*P **P** **20 46 45.3 +0.1**
comp=Z,97nm,0.8s
MLY **Manley** **51.78 30** IAmb IAmb 20 46 49.1
comp=Z,50nm,0.8s
MLY **Manley** **51.78 30** P **P** **20 46 46.4 +1.5**
baz=266,SNR=89
MLY S **S** **20 54 04.4 +2.7**
baz=266
USP **Ospenovka** **51.80 302** P **P** **20 46 45.6 +0.2**
SNR=215
CUT **Chulitna** **51.88 34** P **P** **20 46 46.8 +1.2**
baz=269,SNR=10
CUT S **S** **20 54 02.6 -0.5**
baz=269
BRZS **Berezniki** **51.90 311** *e*P **P** **20 46 45.8 -0.1**
BRZS **Berezniki** **51.90 311** *e*P **P** **20 46 45.9 -0.1**
TRF **Thorofare Moun** **51.90 32** P **P** **20 46 47.2 +1.2**
baz=268,SNR=29
TRF S **S** **20 54 04.5 +0.8**
baz=268
SLKM **Skilak Lake** **51.90 36** IAmb IAmb 20 47 03.6
comp=Z,65nm,1.0s
AAK **Ala-Archa** **51.94 301** P **P** **20 46 47.2 +0.6**
SNR=54
AAK **Ala-Archa** **51.94 301** P **P** **20 46 46.6 0.0**
AAK IAmb IAmb 20 46 48.5
comp=Z,126nm,0.8s
AAK **Ala-Archa** **51.94 301** LR LR 21 10 19.9
comp=Z,3µm,18.2s,baz=91,slow=38
AAK **Ala-Archa** **51.94 301** P **P** **20 46 47.2 +0.6**
AAK P **P** **20 46 47.2 +0.6**
AAK S **S** **20 54 04.4 -0.4**
AAK S **S** **20 54 04.4 -0.4**
AAK **Ala-Archa** **51.94 301** *d i*P **P** **20 46 46.6 0.0**
AAK pmax pmax
comp=Z,152nm,0.9s
AAK MLR MLR
comp=Z,2µm,15.0s
AAK **Ala-Archa** **51.94 301** *i*P **P** **20 46 46.9 +0.4**
SNR=23
M22K **Willow** **51.95 34** P **P** **20 46 46.8 +0.7**
baz=270,SNR=8.8
M22K S **S** **20 54 02.6 -1.3**
baz=270
UCH **Uchtor** **52.01 301** P **P** **20 46 48.1 +0.6**
SNR=141
KLP **Kalpa** **52.04 286** *e*P **P** **20 46 47.6 -0.1**
KLP IAmb IAmb 20 46 55.3
comp=Z,74nm,0.6s
RC01 **Rabbit Creek A** **52.13 35** P **P** **20 46 48.0 +0.5**
baz=270,SNR=38
RC01 S **S** **20 54 04.8 -1.7**
baz=270
D23K **Nanushuk River** **52.14 25** IAmb IAmb 20 47 09.0
comp=Z,147nm,1.1s
D23K **Nanushuk River** **52.14 25** P **P** **20 46 49.4 +1.9**
baz=264,SNR=68
D23K S **S** **20 54 08.0 +1.5**
baz=264
O22K **Cooper Landing** **52.15 36** P **P** **20 46 48.1 +0.5**
baz=271
O22K S **S** **20 54 03.6 -3.1**
baz=271
COLD **Coldfoot** **52.15 27** P **P** **20 46 49.0 +1.5**
baz=265,SNR=20
COLD S **S** **20 54 07.7 +1.0**
baz=265
G23K **Bananza Creek** **52.18 28** IAmb IAmb 20 46 55.3
comp=Z,140nm,1.1s
G23K **Bananza Creek** **52.18 28** P **P** **20 46 49.5 +1.7**
baz=266,SNR=178
G23K S **S** **20 54 07.9 +0.7**
baz=266
C23K **Itkillik River** **52.27 24** P **P** **20 46 50.1 +1.7**
baz=263,SNR=114
C23K S **S** **20 54 09.4 +1.2**
baz=263
SEW **Seward** **52.29 37** P **P** **20 46 49.2 +0.5**
baz=272,SNR=26
SEW S **S** **20 54 06.5 -2.2**
baz=272
H23K **Yukon River** **52.32 29** IAmb IAmb 20 47 12.9
comp=Z,113nm,1.1s
H23K **Yukon River** **52.32 29** P **P** **20 46 50.6 +1.7**
baz=267,SNR=57
H23K S **S** **20 54 13.3 +4.2**
baz=267
I23K **Minto, Yukon-K** **52.37 30** P **P** **20 46 50.4 +1.3**
baz=268,SNR=37
I23K S **S** **20 54 10.1 +0.5**
baz=268
PMR **Palmer** **52.42 35** IAmb IAmb 20 47 23.7
comp=Z,125nm,1.2s
PMR **Palmer** **52.42 35** P **P** **20 46 50.4 +0.8**
PMR **Palmer** **52.42 35** P **P** **20 46 49.8 +0.3**
baz=271,SNR=20
PMR S **S** **20 54 09.2 -1.2**
baz=271
E23K **Chandalar** **52.44 26** P **P** **20 46 51.5 +1.7**
baz=265,SNR=171
E23K S **S** **20 54 10.7 -0.1**
baz=265
EKS2 **Erkin-Say** **52.45 301** P **P** **20 46 51.0 +0.6**
SNR=8.7
NEA2 **Nenana** **52.47 31** P **P** **20 46 51.2 +1.2**
baz=268,SNR=160
NEA2 S **S** **20 54 11.8 +0.6**
baz=268
TOLK **Toolik Lake Re** **52.51 26** P **P** **20 46 51.8 +1.5**
baz=265,SNR=111
TOLK S **S** **20 54 12.5 +0.9**
baz=265
MCK **McKinley** **52.51 32** IAmb IAmb 20 46 55.8
comp=Z,63nm,0.8s
MCK **McKinley** **52.51 32** P **P** **20 46 51.1 +0.8**
baz=269,SNR=40
MCK S **S** **20 54 10.7 -1.0**
baz=269
GHO **Glory Hole Cre** **52.52 34** IAmb IAmb 20 46 56.5
comp=Z,145nm,1.0s
RND **Reindeer** **52.54 32** IAmb IAmb 20 46 53.2
comp=Z,68nm,0.7s
DDI **Dehra Dun** **52.60 285** *e*P **P** **20 46 51.4 -0.2**
DDI IAmb IAmb 20 46 52.7
comp=Z,77nm,0.6s
FITZ **Fitzroy Crossi** **52.64 198** P **P** **20 46 51.1 -0.6**
comp=Z,18nm,1.2s
FITZ **Fitzroy Crossi** **52.64 198** LR LR 21 09 46.9
comp=Z,805nm,19.4s,baz=23,slow=36
FITZ **Fitzroy Crossi** **52.64 198** P **P** **20 46 51.9 +0.2**
KNK **Knik Glacier** **52.74 35** P **P** **20 46 52.4 +0.4**
baz=271,SNR=31
KNK S **S** **20 54 14.7 -0.3**
baz=271
PWL **Port Wells** **52.82 36** IAmb IAmb 20 47 26.1
comp=Z,88nm,0.8s
PWL **Port Wells** **52.82 36** P **P** **20 46 53.1 +0.5**
baz=272,SNR=33
PWL S **S** **20 54 15.2 -0.8**
baz=272
D24K **Happy Valley** **52.83 25** P **P** **20 46 54.2 +1.7**
baz=265,SNR=142
D24K S **S** **20 54 16.6 +0.8**
baz=265
WRAB **Tennant Creek** **52.83 187** P **P** **20 46 51.7 -1.4**
WRAB **Tennant Creek** **52.83 187** *ce*P **P** **20 46 52.3 -0.8**
WRAB pmax pmax
comp=Z,99nm,0.6s
WRAB MLR MLR
comp=Z,407nm,9.0s
WRA **Warramunga Arr** **52.84 187** P **P** **20 46 50.6 -2.5**
WRA **Warramunga Arr** **52.84 187** P **P** **20 46 52.8 -0.4**
comp=Z,129nm,0.5s,baz=5.2,slow=7.6,SNR=983
WRA PcP **PcP** **20 48 03.6 +1.9**
comp=Z,62nm,0.6s,baz=359,slow=4.1,SNR=9.7
WRA ScP **ScP** **20 51 53.2 0.0**
comp=Z,11nm,0.8s,baz=4.2,slow=4.6,SNR=6.8
WRA S **S** **20 54 12.2 -4.9**
comp=Z,14nm,0.9s,baz=9.7,slow=14,SNR=8.5
WRA PKPPKP **P'P'df** **21 17 18.6 +3.4**
comp=Z,0.5nm,0.8s,baz=159,slow=2.2,SNR=5.3
WRA PKP2bc 21 17 31.8
comp=Z,1.9nm,0.9s,baz=168,slow=1.7,SNR=5.6
comp=Z,129nm,0.5s
WRA **Warramunga Arr** **52.84 187** P **P** **20 46 50.7 -2.5**
WRA pmax pmax
comp=Z,22nm,1.1s
WB1 **Warramunga Ar.** **52.86 187** P **P** **20 46 52.5 -0.8**
E24K **Your Creek** **52.87 26** IAmb IAmb 20 47 00.7
comp=Z,111nm,1.0s
E24K **Your Creek** **52.87 26** P **P** **20 46 54.4 +1.5**
baz=266,SNR=128
E24K S **S** **20 54 18.7 +2.1**
baz=266
WRH **Wood River Hil** **52.89 31** IAmb IAmb 20 46 57.6
comp=Z,70nm,0.6s
C24K **Franklin Bluff** **52.92 24** P **P** **20 46 54.9 +1.7**
baz=265
C24K S **S** **20 54 18.2 +1.1**
baz=265
BVAR **Borovoye Array** **52.92 315** P **P** **20 46 53.7 +0.2**
comp=Z,88nm,0.6s,baz=93,slow=7.6,SNR=453
BVAR S **S** **20 54 17.9 +0.3**
comp=Z,7.4nm,0.8s,baz=91,slow=15,SNR=4.5
BVAR LR LR 21 10 30.7

comp=Z,4µm,19.4s,baz=80,slow=37
BVAR PKPPKP **P'P'df** **21 17 19.8 -3.4**
comp=Z,0.5nm,0.5s,baz=304,slow=3.3,SNR=2.6
comp=Z,88nm,0.6s
CTAO Charters Tower 52.94 173 P **P** **20 46 53.0 -0.9**
CTAO IAmb IAmb 20 47 26.7
comp=Z,135nm,1.1s
CTAO Charters Tower 52.94 173 P **P** **20 46 54.1 +0.3**
CTAO Charters Tower 52.94 173 P **P** **20 46 53.0 -0.9**
CTAO pmax pmax
comp=Z,135nm,1.1s
BRVK Borovoye 52.98 315 P **P** **20 46 54.0 0.0**
BRVK Borovoye 52.98 315 P **P** **20 46 54.8 +0.9**
BRVK P **P** **20 46 54.8 +0.9**
BRVK S **S** **20 54 18.0 -0.4**
BRVK S **S** **20 54 18.0 -0.4**
BRVK Borovoye 52.98 315 *d i* P **P** **20 46 53.9 0.0**
BRVK pmax pmax
comp=Z,177nm,0.8s
BRVK MLR MLR
comp=Z,1µm,13.0s
COLA College 53.00 30 P **P** **20 46 54.7 +0.9**
COLA IAmb IAmb 20 46 58.6
comp=Z,63nm,0.8s
COLA College 53.00 30 P **P** **20 46 55.8 +2.0**
COLA College 53.00 30 *c i* P **P** **20 46 54.5 +0.7**
COLA pmax pmax
comp=Z,54nm,0.8s
COLA MLR MLR
comp=Z,667nm,16.0s
COLA College 53.00 30 P **P** **20 46 55.1 +1.3**
baz=269
COLA S **S** **20 54 19.2 +0.9**
baz=269
COLA College 53.00 30 P **P** **20 46 54.8 +1.0**
H24K Noodor Dome 53.01 29 IAmb IAmb 20 47 17.8
comp=Z,80nm,0.9s
H24K Noodor Dome 53.01 29 P **P** **20 46 55.8 +1.9**
baz=268,SNR=59
H24K S **S** **20 54 21.5 +3.0**
baz=268
SMLA Simla 53.05 286 *e* P **P** **20 46 55.0 +0.3**
SMLA IAmb IAmb 20 46 55.6
comp=Z,68nm,0.4s
F24K Squaw Lake 53.06 27 IAmb IAmb 20 47 15.5
comp=Z,60nm,0.8s
F24K Squaw Lake 53.06 27 P **P** **20 46 55.9 +1.6**
baz=267,SNR=104
F24K S **S** **20 54 21.9 +2.7**
baz=267
M23K Glacier View 53.08 34 P **P** **20 46 55.2 +0.6**
baz=272,SNR=28
M23K S **S** **20 54 19.4 -0.2**
baz=272
QIS Mount Isa 53.13 181 P **P** **20 46 54.5 -0.8**
comp=Z,0.0nmcomp=Z,146nm,0.8s
QIS Mount Isa 53.13 181 P **P** **20 46 55.3 0.0**
POKR Poker Plat Res 53.18 30 IAmb IAmb 20 47 08.2
comp=Z,68nm,0.6s
POKR Poker Plat Res 53.18 30 P **P** **20 46 56.7 +1.5**
baz=270,SNR=33
POKR S **S** **20 54 21.4 +0.6**
baz=270
G24K Hadweenzic Riv 53.19 28 IAmb IAmb 20 47 17.1
comp=Z,76nm,1.0s
G24K Hadweenzic Riv 53.19 28 P **P** **20 46 57.2 +2.0**
baz=268,SNR=60
G24K S **S** **20 54 23.7 +2.8**
baz=268
SCM Sheep Creek Mo 53.27 34 P **P** **20 46 57.1 +1.1**
baz=272,SNR=61
SCM S **S** **20 54 22.5 +0.2**
baz=272
P23K Montague Islan 53.32 37 IAmb IAmb 20 47 00.2
comp=Z,131nm,1.0s
P23K Montague Islan 53.32 37 P **P** **20 46 57.7 +1.4**
baz=273,SNR=14
P23K S **S** **20 54 25.1 +2.3**
baz=273
HDA Harding Lake 53.39 31 IAmb IAmb 20 46 59.4
comp=Z,76nm,0.8s
HDA Harding Lake 53.39 31 P **P** **20 46 57.2 +0.5**
baz=270,SNR=91
HDA S **S** **20 54 22.0 -1.6**
baz=270
IL31 53.41 31 IAmb IAmb 20 46 59.6
comp=Z,55nm,0.8s
ILAR Eielson Array 53.41 31 P **P** **20 46 56.1 -0.8**
ILAR Eielson Array 53.41 31 P **P** **20 46 57.1 +0.2**
comp=Z,44nm,0.8s,baz=269,slow=6.2,SNR=199
ILAR LR LR 21 12 07.7
comp=Z,607nm,20.4s,baz=272,slow=39
ILAR PKPPKP **P'P'df** **21 17 16.4 -6.1**
comp=Z,0.4nm,0.7s,baz=101,slow=3.5,SNR=4.2
comp=Z,44nm,0.8s
GLI Glacier Island 53.42 35 IAmb IAmb 20 47 01.3
comp=Z,62nm,0.7s
GLI Glacier Island 53.42 35 P **P** **20 46 57.6 +0.5**
baz=273,SNR=46
GLI S **S** **20 54 23.2 -1.0**
baz=273
UGON Onchagaon 53.43 283 *e* P **P** **20 46 58.0 +0.4**
UGON IAmb IAmb 20 46 59.1
comp=Z,99nm,1.1s
BHK Bhakra 53.56 287 *e* P **P** **20 46 57.7 -0.8**
BHK IAmb IAmb 20 46 59.9
comp=Z,75nm,0.5s
OHH Osh 53.68 299 P **P** **20 47 00.2 +0.9**
D25K Kavik River 53.71 25 P **P** **20 47 00.7 +1.6**
baz=267,SNR=121
D25K S **S** **20 54 28.8 +0.9**
baz=267
FID Port Fidalgo 53.73 36 IAmb IAmb 20 47 26.4
comp=Z,84nm,0.9s
G25K Bearman Lake 53.74 28 P **P** **20 47 01.1 +1.8**
baz=270,SNR=35
G25K S **S** **20 54 32.1 +3.9**
baz=270
M24K Tolsona, Glenn 53.80 34 P **P** **20 47 01.5 +1.7**
baz=273,SNR=51
M24K S **S** **20 54 32.6 +3.1**
baz=273
H25L Birch Creek 53.85 29 P **P** **20 47 01.8 +1.7**
baz=270,SNR=50
H25L S **S** **20 54 35.1 +5.4**
baz=270
NDI New Delhi 53.86 284 *e* P **P** **20 47 01.2 +0.4**
NDI IAmb IAmb 20 47 03.9
comp=Z,93nm,0.8s
Q23K Middleton Isla 53.89 37 P **P** **20 47 01.0 +0.6**
baz=275
Q23K S **S** **20 54 32.4 +1.9**
baz=275
Q23K S **S** **20 54 32.4 +1.9**
baz=275
K24K Donnelly Dome 53.91 32 P **P** **20 47 01.6 +1.0**
baz=272,SNR=44
K24K S **S** **20 54 29.0 -1.9**
baz=272
NPLP NPLP New Delhi 53.92 283 *e* P **P** **20 47 01.5 +0.3**
NPLP IAML 20 47 02.5
comp=Z,98nm,0.6s
F25K Christian Rive 53.93 27 IAmb IAmb 20 47 22.5
comp=Z,106nm,1.0s
F25K Christian Rive 53.93 27 P **P** **20 47 02.9 +2.2**
baz=269,SNR=182
F25K S **S** **20 54 35.7 +4.7**
baz=269
KLU Klutina 53.96 35 IAmb IAmb 20 47 19.6
comp=Z,95nm,0.8s
KLU Klutina 53.96 35 P **P** **20 47 02.5 +1.5**
baz=274,SNR=56
KLU S **S** **20 54 32.8 +1.2**
baz=274
PRP Porcupine Dome 53.98 30 P **P** **20 47 01.3 +0.1**
baz=271,SNR=48
PRP S **S** **20 54 32.5 +0.7**
baz=271
JHNI Jhansi 53.99 279 *e* P **P** **20 47 01.6 -0.1**
JHNI IAmb IAmb 20 47 02.4
comp=Z,84nm,0.5s
DIV Divide 54.05 35 IAmb IAmb 20 47 21.5
comp=Z,120nm,0.9s
J25K Salcha River, 54.07 31 P **P** **20 47 02.5 +0.7**
baz=272,SNR=34
J25K S **S** **20 54 30.9 -2.0**
baz=272

PAX Paxson 54.09 33 IAmb IAmb 20 47 20.0
comp=Z,44nm,0.7s
PAX Paxson 54.09 33 P **P** **20 47 03.0 +1.0**
PAX baz=273,SNR=73 S **S** **20 54 34.2 +0.9**
baz=273
EYAK Cordova Ski Ar 54.11 36 IAmb IAmb 20 47 25.8
comp=Z,96nm,1.0s
EYAK Cordova Ski Ar 54.11 36 P **P** **20 47 03.6 +1.6**
EYAK Cordova Ski Ar 54.11 36 P **P** **20 47 03.3 +1.3**
EYAK baz=274,SNR=20 S **S** **20 54 35.7 +2.3**
baz=274
DZA Taraz 54.15 302 *e* P **P** **20 47 02.3 -0.3**
DZA pmax pmax
comp=Z,82nm,0.9s
DZA Taraz 54.15 302 *e* P **P** **20 47 02.4 -0.3**
comp=Z,82nm,0.9s
C26K Camden Bay 54.24 24 P **P** **20 47 05.2 +2.4**
baz=268,SNR=54
C26K S **S** **20 54 36.2 +1.3**
baz=268
HARP HAARP 54.26 34 P **P** **20 47 04.7 +1.5**
baz=274,SNR=62
HARP S **S** **20 54 38.1 +2.6**
baz=274
RIDG Independent Ri 54.33 32 IAmb IAmb 20 48 14.7
comp=Z,55nm,0.8s
RIDG Independent Ri 54.33 32 P **P** **20 47 04.5 +0.8**
baz=273,SNR=34
RIDG S **S** **20 54 36.8 +0.4**
baz=273
BMAR Burnt Mountain 54.34 27 P **P** **20 47 05.6 +2.0**
JMU Jammu 54.34 289 *e* P **P** **20 47 04.8 +0.7**
JMU IAmb IAmb 20 47 05.8
comp=Z,65nm,0.3s
F26K Sheenjek River 54.50 27 IAmb IAmb 20 47 26.8
comp=Z,128nm,0.9s
F26K Sheenjek River 54.50 27 P **P** **20 47 07.1 +2.3**
baz=271,SNR=228
F26K S **S** **20 54 42.5 +3.9**
baz=271
N25K Chitina, Valde 54.58 34 P **P** **20 47 07.3 +1.7**
baz=275,SNR=41
N25K S **S** **20 54 41.3 +1.3**
baz=275
BMRM Bremner River 54.63 35 P **P** **20 47 07.3 +1.4**
baz=275,SNR=49
BMRM S **S** **20 54 42.5 +1.9**
baz=275
RAGM Ragged Mountai 54.65 36 IAmb IAmb 20 47 47.0
comp=Z,103nm,0.9s
G26K Porcupine Rive 54.65 28 IAmb IAmb 20 47 13.2
comp=Z,112nm,1.1s
G26K Porcupine Rive 54.65 28 P **P** **20 47 08.3 +2.5**
baz=272,SNR=94
G26K S **S** **20 54 44.5 +3.9**
baz=272
C27K Jago River 54.65 25 IAmb IAmb 20 47 27.2
comp=Z,101nm,0.8s
C27K Jago River 54.65 25 P **P** **20 47 08.2 +2.3**
baz=270,SNR=91
C27K S **S** **20 54 41.8 +1.3**
baz=270
KUDL Kundal 54.66 283 *e* P **P** **20 47 07.0 +0.5**
KUDL IAmb IAmb 20 47 07.2
comp=Z,94nm,1.2s
KKAR Karatay Array 54.68 302 P **P** **20 47 06.2 -0.3**
KKAR Karatay Array 54.68 302 P **P** **20 47 06.2 -0.3**
SCRK Sand Creek 54.70 32 IAmb IAmb 20 47 28.5
comp=Z,104nm,1.1s
SCRK Sand Creek 54.70 32 P **P** **20 47 07.3 +0.9**
baz=273,SNR=96
SCRK S **S** **20 54 40.8 -0.7**
baz=273
KAIM Kayak Island 54.82 37 IAmb IAmb 20 47 11.0
comp=Z,84nm,0.7s
KAIM Kayak Island 54.82 37 P **P** **20 47 08.6 +1.4**
baz=276,SNR=9.0
J26L Joseph Creek 54.85 31 IAmb IAmb 20 47 10.3
comp=Z,49nm,0.7s
J26L Joseph Creek 54.85 31 P **P** **20 47 08.0 +0.5**
baz=273,SNR=94
J26L S **S** **20 54 42.8 -0.7**
baz=273
HMT Hamilton 54.86 36 IAmb IAmb 20 47 32.9
comp=Z,81nm,0.9s
MENT Mentasta 54.89 33 IAmb IAmb 20 47 25.9
comp=Z,106nm,0.8s
MENT Mentasta 54.89 33 P **P** **20 47 09.8 +2.1**
GLB Gilahina Butte 54.97 35 IAmb IAmb 20 47 13.4
comp=Z,71nm,1.0s
I26K Coal Creek Min 54.98 30 P **P** **20 47 08.7 +0.4**
baz=273
I26K S **S** **20 54 44.6 -0.4**
baz=273
L26K Log Cabin Wild 55.05 33 P **P** **20 47 10.6 +1.7**
baz=275,SNR=100
L26K S **S** **20 54 48.2 +2.1**
baz=275
VLAKA Lakatoro 55.06 148 P **P** **20 47 10.4 +1.1**
VRDI Verde Repeater 55.16 35 IAmb IAmb 20 47 44.0
comp=Z,81nm,1.1s
KIP Kipapa 55.17 85 P **P** **20 47 11.5 +1.2**
KIP Kipapa 55.17 85 P **P** **20 47 12.1 +1.8**
KIP Kipapa 55.17 85⇓ *e* P **P** **20 47 12.2 +1.9**
KIP pmax pmax
comp=Z,102nm,0.8s
KIP MLR MLR
comp=Z,2µm,20.0s
BRLS Boroldav 55.18 303 *d i* P **P** **20 47 11.4 +1.3**
BRLS pmax pmax
comp=Z,104nm,1.0s
BRLS Boroldav 55.18 303⇓ *i* P **P** **20 47 11.4 +1.3**
comp=Z,104nm,1.0s
FUNA Funafuti 55.21 131 P **P** **20 47 11.0 +0.5**
FUNA Funafuti 55.21 131 P **P** **20 47 12.2 +1.7**
M26K Nabesna, AK 55.27 33 IAmb IAmb 20 47 36.2
comp=Z,79nm,1.1s
M26K Nabesna, AK 55.27 33 P **P** **20 47 12.0 +1.5**
baz=275,SNR=25
M26K S **S** **20 54 50.6 +1.6**
baz=275
IUG Iuzhnay 55.27 301 *e* P **P** **20 47 10.9 0.0**
IUG Iuzhnay 55.27 301 *e* P **P** **20 47 10.9 0.0**
MCARA McCarthy VSAT 55.35 35 P **P** **20 47 12.8 +1.7**
MCARA baz=276,SNR=50 S **S** **20 54 51.3 +1.1**
baz=276
CRQM Cirque 55.37 35 IAmb IAmb 20 47 30.2
comp=Z,131nm,0.9s
BGLC Bering Glacier 55.37 36 P **P** **20 47 11.9 +0.9**
baz=277
CRQE Cirque 55.39 35 P **P** **20 47 13.0 +1.5**
baz=276,SNR=30
CRQE S **S** **20 54 50.6 -0.2**
baz=276
E27K Coleen River 55.45 26 IAmb IAmb 20 47 33.1
comp=Z,86nm,0.9s
E27K Coleen River 55.45 26 P **P** **20 47 13.6 +1.9**
baz=273,SNR=82
E27K S **S** **20 54 54.2 +2.9**
baz=273
G27K Doyon Strip 55.50 28 P **P** **20 47 13.8 +1.8**
baz=274,SNR=46
G27K S **S** **20 54 55.0 +3.0**
baz=274
CHM Chimkent 55.53 302 *e* P **P** **20 47 12.5 -0.1**
CHM pmax pmax
comp=Z,83nm,0.6s
CHM Chimkent 55.53 302 *e* P **P** **20 47 12.6 -0.1**
comp=Z,83nm,0.6s
CHM LR LR 21 12 01.1
comp=Z,2µm,15.3s
K27K Chicken 55.53 31 P **P** **20 47 14.1 +1.9**
baz=275
K27K S **S** **20 54 53.4 +1.0**
baz=275
WAX Waxell Ridge 55.54 36 IAmb IAmb 20 47 15.6
comp=Z,79nm,0.6s
H27K Steamboat Moun 55.59 29 IAmb IAmb 20 47 20.8
comp=Z,174nm,1.3s
H27K Steamboat Moun 55.59 29 P **P** **20 47 14.6 +1.9**
baz=274,SNR=200
H27K S **S** **20 54 56.5 +3.2**
baz=274
I27K Kandik River 55.60 29 P **P** **20 47 14.2 +1.4**
baz=274,SNR=54
I27K S **S** **20 54 53.9 +0.5**
baz=274
D27M Malcolm River 55.63 25 IAmb IAmb 20 47 34.3
comp=Z,104nm,1.1s
D27M Malcolm River 55.63 25 P **P** **20 47 14.6 +1.6**
baz=272,SNR=41
D27M S **S** **20 54 55.9 +2.1**
baz=272
L27K Beaver Creek, 55.74 33 IAmb IAmb 20 47 18.0
comp=Z,72nm,0.8s
L27K Beaver Creek, 55.74 33 P **P** **20 47 15.4 +1.6**
baz=276,SNR=96
L27K S **S** **20 54 57.1 +1.8**
baz=276
BCAR Beaver Creek A 55.76 33 P **P** **20 47 15.0 +1.1**
ISLE Juniper Island 55.78 36 IAmb IAmb 20 47 41.0
comp=Z,100nm,1.1s
M27K Edge Creek, AK 55.79 33 IAmb IAmb 20 47 34.4
comp=Z,86nm,1.0s
M27K Edge Creek, AK 55.79 33 P **P** **20 47 16.2 +1.9**
baz=276,SNR=51
M27K S **S** **20 54 59.2 +3.0**
baz=276
MESA MESA 56.02 36 IAmb IAmb 20 47 22.0
comp=Z,179nm,1.4s
MESA MESA 56.02 36 P **P** **20 47 17.5 +1.5**
baz=278
GRNC Granite Creek 56.05 35 IAmb IAmb 20 47 19.4
comp=Z,71nm,0.6s
BARN Barnard Glacie 56.05 35 IAmb IAmb 20 47 37.0
comp=Z,70nm,1.1s
YAH Yahtse 56.10 36 IAmb IAmb 20 47 24.7
comp=Z,179nm,1.4s
F28M Old Crow 56.14 27 IAmb IAmb 20 47 23.7
comp=Z,210nm,1.4s
F28M Old Crow 56.14 27 P **P** **20 47 18.6 +2.0**
baz=275,SNR=101
F28M S **S** **20 55 03.0 +2.6**
baz=275
E28M Babbage River 56.19 26 IAmb IAmb 20 47 38.4
comp=Z,106nm,0.9s
E28M Babbage River 56.19 26 P **P** **20 47 18.8 +1.9**
baz=274,SNR=82
E28M S **S** **20 55 03.8 +2.8**
baz=274
CTG Chitna Glacier 56.22 35 P **P** **20 47 18.9 +1.6**
baz=278,SNR=20
CTGM Chitina Glacie 56.22 35 IAmb IAmb 20 47 23.1
comp=Z,136nm,1.5s
BVCY Beaver Creek 56.25 33 P **P** **20 47 19.3 +1.8**
baz=277,SNR=46
NRDN NARMADA NAGAR 56.26 277 *e* P **P** **20 47 18.5 +0.4**
NRDN IAmb IAmb 20 47 23.7
comp=Z,88nm,1.1s
I28M Miner Creek 56.31 30 IAmb IAmb 20 47 29.1
comp=Z,66nm,0.7s
I28M Miner Creek 56.31 30 P **P** **20 47 19.7 +1.8**
baz=276,SNR=96
I28M S **S** **20 55 04.7 +1.8**
baz=276
TABL Table Mountain 56.38 36 IAmb IAmb 20 47 25.0
comp=Z,56nm,0.9s
D28M Stokes Point 56.42 25 P **P** **20 47 20.6 +2.1**
baz=274
D28M S **S** **20 55 07.2 +3.3**
baz=274
YUK3 Moose Creek 56.52 34 P **P** **20 47 20.9 +1.2**
baz=278,SNR=40
YUK3 S **S** **20 55 07.5 +1.4**
baz=278
AS01 Alice Springs 56.56 187 P **P** **20 47 19.5 -0.6**
AS31 Alice Springs 56.57 187 P **P** **20 47 19.2 -0.9**
comp=Z,94nm,0.5s
ASAR Alice Springs 56.57 187 P **P** **20 47 19.0 -1.1**
ASAR Alice Springs 56.57 187 P **P** **20 47 19.9 -0.2**
comp=Z,74nm,0.5s,baz=358,slow=6.4,SNR=1154
ASAR PcP **PcP** **20 48 16.4 +0.4**
comp=Z,37nm,0.7s,baz=12,slow=5.5,SNR=4.3
ASAR S **S** **20 55 05.0 -2.1**
comp=Z,14nm,1.1s,baz=13,slow=12,SNR=14
ASAR PKPPKP **P'P'df** **21 17 13.6 +3.8**
comp=Z,1.4nm,0.9s,baz=167,slow=3.5,SNR=5.9
ASAR PKP2bc 21 17 29.1
comp=Z,6.8nm,0.9s,baz=179,slow=1.6,SNR=30
comp=Z,74nm,0.5s
DAWY Dawson 56.70 31 IAmb IAmb 20 47 26.5
comp=Z,122nm,1.6s
DAWY Dawson 56.70 31 P **P** **20 47 22.2 +1.5**
baz=277,SNR=48
DAWY S **S** **20 55 08.8 +0.7**
baz=277
O28M Mount Upton 56.80 35 P **P** **20 47 23.3 +1.6**
baz=279,SNR=20
O28M S **S** **20 55 10.8 +0.9**
baz=279
E29M Blow River 56.81 26 IAmb IAmb 20 47 42.9
comp=Z,99nm,0.9s
E29M Blow River 56.81 26 P **P** **20 47 23.6 +2.3**
baz=276,SNR=55
E29M S **S** **20 55 12.6 +3.4**
baz=276
H29M Whitestone 56.87 29 IAmb IAmb 20 47 45.0
comp=Z,94nm,1.0s
H29M Whitestone 56.87 29 P **P** **20 47 23.9 +2.2**
baz=277,SNR=65
H29M S **S** **20 55 13.9 +3.9**
baz=277
PCA Pinnacle 56.87 36 IAmb IAmb 20 47 52.0
comp=Z,69nm,0.9s
PINM Pinnacle 56.88 36 P **P** **20 47 23.5 +1.5**
baz=279,SNR=9.0
PINM S **S** **20 55 11.8 +1.3**
baz=279
G29M Pine Creek 56.92 28 P **P** **20 47 24.6 +2.4**
baz=277,SNR=196
G29M S **S** **20 55 14.3 +3.5**
baz=277
YUK8 Steele Glacier 56.93 35 P **P** **20 47 24.1 +1.6**
baz=279
I29M Ogilvie Camp, 57.00 30 P **P** **20 47 24.2 +1.5**
baz=277
I29M S **S** **20 55 14.4 +2.6**
baz=277
SIMJ Simiganj 57.01 298 P **P** **20 47 22.8 -0.6**
SIMJ Simiganj 57.01 298 P **P** **20 47 23.3 0.0**
J29N Klondike Camp 57.16 31 P **P** **20 47 25.5 +1.6**
baz=278
J29N S **S** **20 55 16.4 +2.3**
baz=278
MBWA Marble Bar 57.29 203 P **P** **20 47 24.4 -0.8**
MBWA IAmb IAmb 20 47 58.0
comp=Z,93nm,1.2s
MBWA Marble Bar 57.29 203 P **P** **20 47 24.2 -1.0**
comp=Z,57nm,0.6s
MBWA Marble Bar 57.29 203 P **P** **20 47 25.2 0.0**
MBWA Marble Bar 57.29 203 P **P** **20 47 24.8 -0.4**
GD1S Gladstone Soft 57.29 168 P **P** **20 47 26.0 +0.9**
M29M Somme Creek 57.35 33 P **P** **20 47 27.7 +2.3**
baz=279,SNR=259
M29M S **S** **20 55 19.6 +2.8**
baz=279
PNL Peninsula 57.37 36 P **P** **20 47 26.8 +1.4**
PNL Peninsula 57.37 36 P **P** **20 47 27.2 +1.8**
baz=280,SNR=9.8
PNL S **S** **20 55 17.5 +0.6**
baz=280
L29M L29M 57.40 32 P **P** **20 47 27.7 +2.1**
baz=279,SNR=209
L29M S **S** **20 55 20.8 +3.5**
baz=279
YUK4 Talbot Arm 57.45 34 P **P** **20 47 28.4 +2.2**
baz=280,SNR=88
HYB Hyderabad 57.46 271 *e* P **P** **20 47 26.0 -0.7**
HYB IAML 20 47 27.6
comp=Z,84nm,0.5s
HYB IVmB_BB 20 47 28.6
comp=Z,1µm,0.7s
HYB *e* pP **pP** **20 47 42.1 -1.5**
HYB *e* sP **sP** **20 47 49.1 -1.9**
HYB *e* ScP **ScP** **20 52 13.6 -0.2**
HYB *e* PcS **PcS** **20 52 20.4 -0.8**
HYB *e* S **S** **20 55 17.9 -1.3**
HYB *e* ScS **ScS** **20 57 08.7 -1.9**
EPYK Eagle Plains 57.51 28 P **P** **20 47 28.3 +2.0**
baz=278,SNR=261
EPYK S **S** **20 55 20.2 +1.7**
baz=278

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comp=Z,31nm,0.7s
MUN Mundaring 68.47 202 P P 20 48 39.8 +0.5
KTK1 Kautokeino 68.61 340 eP P 20 48 40.1 +0.3
NWAO Narrogin (SRO) 69.03 201 P P 20 48 43.0 +0.2
NWAO Narrogin (SRO) 69.03 201 P P 20 48 42.7 0.0
comp=Z,297nm,0.6s
NWAO Narrogin (SRO) 69.03 201 P P 20 48 43.7 +0.9
NWAO Narrogin (SRO) 69.03 201 P P 20 48 43.3 +0.5
NWAO Narrogin (SRO) 69.03 201 P P 20 48 43.0 +0.2
NWAO pmax pmax
comp=Z,136nm,0.6s
JETT Jettan, Norway 69.08 341 eP P 20 48 43.5 +0.8
CLRS Cowichan Lake 69.28 45 IAmb IAmb 20 48 48.0
comp=Z,61nm,0.7s
ARPS Mount Arapiles 69.28 179 P P 20 48 44.4 +0.2
comp=Z,56nm,0.7s
JOF Joensuu 69.31 332 eP P 20 48 43.5 -0.7
TULEG Thule 69.32 7 IAmb IAmb 20 49 04.2
comp=Z,189nm,1.1s
TULEG Thule 69.32 7 i P P 20 48 44.0 0.0
TULEG IAmb IAmb 20 48 49.6
comp=Z,74nm,0.9s
C03A Quillayute Air 69.41 46 IAmb IAmb 20 48 49.8
comp=Z,150nm,0.9s
TRO Tromso 69.43 341 eP P 20 48 45.3 +0.6
NEEM North Greenlan 69.72 3 i P P 20 48 47.8 +1.0
NEEM IAmb IAmb 20 48 48.4
comp=Z,61nm,0.7s
PGC Sidney 69.76 45 IAmb IAmb 20 48 50.9
comp=Z,92nm,0.7s
DAG Danmarks Havn 69.86 355 i P P 20 48 47.8 +0.5
DAG IAmb IAmb 20 48 49.0
comp=Z,61nm,0.8s
NLWA Neilton Lookou 70.08 46 IAmb IAmb 20 48 53.6
comp=Z,84nm,0.8s
BRAT Ballarat 70.12 177 P P 20 48 51.0 +1.7
A04D Lummi Island 70.17 44 IAmb IAmb 20 48 54.1
comp=Z,231nm,1.5s
MOS Moscow 70.19 324 eP P 20 48 48.1 -1.6
MOS e*PP pP 20 49 01.4 -5.8
MOS e 20 49 07.7
MOS eS S 20 57 53.3 -2.6
MOS e*SS pS 20 58 16.7 -0.5
MOS e 20 58 40.0
MOS eSS SS 21 02 26.1 0.0
MOS eSSS SSS 21 05 35.6
MOS pmax pmax
comp=Z,400nm,1.4s
MOS pmax pmax
comp=Z,182nm,1.0s
MOS MLR MLR
comp=Z,3µm,18.0s
VRH Novokhopyorsk 70.21 319 eP P 20 48 48.2 -1.7
VRH eS S 20 58 03.8 +7.5
VRH pmax pmax
comp=Z,180nm,0.6s
VRH pmax pmax
comp=Z,180nm,0.7s
VRH smax smax
comp=N,490nm,17.2s
VRH MLR MLR
comp=Z,2µm,16.0s
TOO Toolangi 70.23 176 P P 20 48 51.1 +1.1
TOO Toolangi 70.23 176 P P 20 48 50.8 +0.7
comp=Z,32nm,0.8s
TOO Toolangi 70.23 176 P P 20 48 51.1 +1.1
TOO pmax pmax
comp=Z,17nm,0.8s
WISH Wishkah 70.27 46 IAmb IAmb 20 49 14.0
comp=Z,144nm,1.0s
MAK Makhachkala 70.50 309 eP P 20 48 51.1 -0.7
MAK e*PP pP 20 49 07.2 -2.2
MAK e*SP PcP 20 49 13.8 +1.0
MAK e 20 51 27.3
MAK ePPP PPP 20 53 15.9
MAK eS S 20 57 59.4 -0.5
MAK e*SS sS 20 58 28.2 -1.5
MAK eSS SS 21 02 35.4 +3.9
MAK pmax pmax
comp=Z,140nm,0.9s
MAK MLR MLR
comp=Z,8µm,19.0s
RADR Rader Ridge 70.57 47 IAmb IAmb 20 49 15.5
comp=Z,157nm,1.0s
E03A Lebam 70.65 47 IAmb IAmb 20 49 00.8
comp=Z,160nm,0.9s
RKGY Rocky Gully 70.68 200 P P 20 48 54.2 +1.4
comp=Z,84nm,1.0s
JASK Jask - Hormozg 70.68 289 P P 20 48 55.5 +2.2
SNR=8.6
F03A Seaside 70.94 47 IAmb IAmb 20 49 17.6
comp=Z,172nm,1.2s
KAAM Kaadhehdhoo 70.98 258 IAmb IAmb 20 49 15.3
comp=Z,330nm,1.9s
KAAM Kaadhehdhoo 70.98 258 P P 20 48 57.8 +2.6
AKT Akhty 71.02 307 eP P 20 48 55.1 -0.1
AKT e 20 49 13.3
AKT e*PP PcP 20 49 15.6 +0.4
AKT e*SP sP 20 49 23.2 +3.2
AKT e 20 51 33.4
AKT ePPP PPP 20 53 14.0
AKT eS S 20 58 03.3 -3.0
AKT pmax pmax
comp=Z,530nm,0.6s
AKT pmax pmax
comp=Z,447nm,0.6s
AKT pmax pmax
comp=E,246nm,0.6s
AKT pmax pmax
comp=N,117nm,1.1s
AKT smax smax
comp=E,629nm,4.0s
AKT smax smax
comp=N,216nm,2.8s
AKT MLR MLR
comp=N,3µm,18.0s
AKT MLR MLR
comp=E,5µm,19.0s
AKT MLR MLR
comp=Z,8µm,20.0s
OBN Obninsk 71.02 324 P P 20 48 54.4 -0.4
OBN Obninsk 71.02 324 P P 20 48 55.3 +0.5
comp=Z,66nm,0.6s,baz=331,slow=4.3,SNR=41
OBN LR LR 21 22 28.2
comp=Z,5µm,19.8s,baz=6.0,slow=38
comp=Z,66nm,0.6s
OBN Obninsk 71.02 324 ⇓P P 20 48 55.2 +0.5
OBN Obninsk 71.02 324 d iP P 20 48 55.0 +0.2
OBN e 20 49 11.1
OBN e 20 51 30.0
OBN ePPP PPP 20 53 10.0
OBN i S S 20 58 06.0 +0.5
OBN i SSS SSS 21 05 54.6
OBN pmax pmax
comp=Z,301nm,1.5s
OBN MLR MLR
comp=Z,4µm,19.0s
OBN Obninsk 71.02 324 P P 20 48 55.2 +0.5
LPSR Galich'ya Gora 71.06 321 eP P 20 48 52.9 -2.2
LPSR eS S 20 58 00.0 -6.1
LPSR pmax pmax
comp=Z,220nm,1.0s
LPSR pmax pmax
comp=Z,200nm,0.8s
LPSR smax smax
comp=E,810nm,11.8s
LPSR MLR MLR
comp=Z,2µm,18.0s
JLN Jalan Bani Buh 71.18 285 P P 20 48 56.9 +0.5
SNR=10
WSAR Wadi Sarin 71.30 286 P P 20 48 57.2 +0.2
comp=Z,0.9nm,0.7s,baz=90,slow=20,SNR=92
WSAR LR LR 21 25 28.6
comp=Z,5.1nm,18.1s,baz=92,slow=40
D05A Enumclaw 71.31 46 IAmb IAmb 20 49 37.7
comp=Z,131nm,1.1s
VORR Voronezh 71.37 320 eP P 20 48 55.2 -1.7
VORR eS S 20 58 02.9 -6.8
VORR pmax pmax
comp=Z,270nm,1.2s
VORR pmax pmax
comp=Z,110nm,0.5s
VORR smax smax
comp=E,1µm,10.3s
VORR MLR MLR
comp=Z,1µm,12.0s
POIN Pond Inlet 71.44 11 IAmb IAmb 20 49 17.4
comp=Z,158nm,1.5s
G03D McMinnville, O 71.46 48 IAmb IAmb 20 49 02.2
comp=Z,154nm,1.3s
STEI Steigen 71.57 341 eP P 20 48 58.4 +0.6
BIDO Bidbid 71.57 286 P P 20 48 59.8 +1.1
SNR=35
VSR Storozhevoye 71.62 319 eP P 20 48 56.4 -2.0
VSR eS S 20 58 01.9 -11
VSR pmax pmax
comp=Z,240nm,1.2s
VSR pmax pmax
comp=Z,240nm,1.1s
VSR smax smax
comp=E,1µm,12.4s
VSR MLR MLR
comp=Z,2µm,22.0s
VORD Divnogorie 71.67 319 eP P 20 48 56.5 -2.3
VORD eS S 20 58 11.4 -1.8
VORD pmax pmax
comp=Z,240nm,1.4s
VORD pmax pmax
comp=Z,220nm,1.3s
VORD smax smax
comp=N,5.0nm,1.8s
VORD MLR MLR
comp=Z,840nm,14.0s
SMDO Samad 71.85 286 P P 20 49 01.1 +0.6
SNR=28
KEBM Edson Butte 71.88 50 IAmb IAmb 20 49 04.9
comp=Z,149nm,1.0s
LOF Lofoten 71.88 342 eP P 20 48 59.5 -0.3
FAUS Fauske 71.94 341 eP P 20 49 00.5 +0.5
G04A Mulino 71.95 48 IAmb IAmb 20 49 43.3
comp=Z,161nm,1.0s
SHME Shamm 71.97 290 P P 20 49 01.6 +0.6
SNR=19
SHME Shamm 71.97 290 i P P 20 49 01.7 +0.8
SNR=19
BUCK Buck Mountain 72.12 49 IAmb IAmb 20 49 28.0
comp=Z,145nm,1.0s
H04D Lebanon 72.12 48 IAmb IAmb 20 49 29.2
comp=Z,148nm,1.2s
I03D Drain, OR 72.12 49 IAmb IAmb 20 49 05.8
comp=Z,79nm,0.8s
JMDO Jabal Madar 72.14 285 P P 20 49 02.4 +0.3
SNR=16
FINES FINESS Array B 72.18 333 P P 20 49 01.0 -0.6
FINES FINESS Array B 72.18 333 P P 20 49 01.5 -0.1
comp=Z,73nm,0.6s,baz=83,slow=6.0,SNR=180
FINES S S 20 58 18.3 -0.4
comp=Z,9.2nm,1.1s,baz=36,slow=12,SNR=5.0
FINES LR LR 21 22 35.7
comp=Z,2µm,21.3s,baz=50,slow=37
comp=Z,73nm,0.6s
KULLO Kullorsuaq 72.18 5 i P P 20 49 02.5 +1.1
KULLO IAmb IAmb 20 49 04.9
comp=Z,87nm,0.9s
MDH Madha 72.19 289 P P 20 49 02.2 -0.2
MDH Madha 72.19 289 i P P 20 49 02.2 -0.2
SNR=14
HOQ Hoqain 72.20 287 P P 20 49 02.9 +0.5
SNR=22
KBO Bosley Butte 72.26 51 IAmb IAmb 20 49 06.0
comp=Z,211nm,1.6s
MASF Masafi 72.27 289 P P 20 49 03.9 +1.0
SNR=13
MSFE Esma-Masafi 72.28 289 i P P 20 49 03.9 +0.9
SNR=37
B08A Colville Reser 72.31 44 IAmb IAmb 20 49 27.3
comp=Z,110nm,0.9s
DBG Daneborg 72.34 355 i P P 20 49 03.3 +0.9
DBG IAmb IAmb 20 49 03.9
comp=Z,60nm,1.4s
GOF Gofitskoye 72.36 312 ceP P 20 49 03.5 +0.5
GOF eS S 20 58 20.8 -0.6
H04A Detroit Lake 72.39 48 IAmb IAmb 20 49 25.9
comp=Z,144nm,1.1s
HOOD Mount Hood Mea 72.41 47 IAmb IAmb 20 49 26.3
comp=Z,184nm,1.0s
UOSS Minazif 72.44 289 P P 20 49 03.8 -0.1
UOSS IAmb IAmb 20 49 05.9
comp=Z,107nm,0.7s
UOSS Minazif 72.44 289 P P 20 49 04.4 +0.5
UOSS Minazif 72.44 289 i P P 20 49 04.3 +0.5
SNR=32
HATD Hatta, Dubai 72.55 289 P P 20 49 05.1 +0.6
SNR=24
HATD Hatta, Dubai 72.55 289 i P P 20 49 05.1 +0.6
SNR=71
SOHO SOHO 72.56 288 P P 20 49 05.0 +0.4
SOHO SOHO 72.56 288 i P P 20 49 05.0 +0.4
SNR=144
UMQ Umm Al-Quwin 72.59 289 i P P 20 49 06.0 +1.3
SNR=9.7
MXC Moxie City 72.62 46 IAmb IAmb 20 49 29.5
comp=Z,86nm,0.9s
ASHO Ashiyiah 72.68 288 P P 20 49 05.8 +0.5
SNR=34
ASHO Ashiyiah 72.68 288 i P P 20 49 06.0 +0.6
SNR=34
NCK Nalchik 72.77 311 deP P 20 49 06.4 +0.9
NCK pmax pmax
comp=Z,105nm,0.7s
NCK MLR MLR
comp=Z,2µm,17.0s
NAZ Nazwa, Dubai 72.85 289 P P 20 49 06.8 +0.5
SNR=27
NAZ Nazwa, Dubai 72.85 289 i P P 20 49 06.9 +0.7
SNR=29
E07A Sunnyside 72.89 45 IAmb IAmb 20 49 28.9
comp=Z,111nm,1.0s
MHTO MHTO 72.92 284 P P 20 49 07.1 +0.4
SNR=35
ARQ Araqi 72.95 287 P P 20 49 07.5 +0.6
SNR=69
VAGH Vaagaholmen 72.96 341 eP P 20 49 06.8 +0.6
WAH2 Wahluke Slope 72.97 45 IAmb IAmb 20 49 28.3
comp=Z,121nm,1.3s
FAQ Al Faqa, Dubai 73.02 289 P P 20 49 07.8 +0.5
SNR=26
FAQ Al Faqa, Dubai 73.02 289 i P P 20 49 07.7 +0.4
SNR=63
MOR8 Moi Rana 73.02 340 eP P 20 49 05.8 -0.8
G06A Carlson Farm, 73.08 47 IAmb IAmb 20 49 29.5
comp=Z,242nm,1.7s
KBZ Khabaz 73.10 311 P P 20 49 08.1 +0.6
comp=Z,148nm,0.9s,baz=76,slow=3.4,SNR=214
KBZ S S 20 58 29.9 +0.1
comp=Z,3.0nm,1.0s,baz=90,slow=13,SNR=5.6
KBZ LR LR 21 23 46.0
comp=Z,3µm,21.8s,baz=65,slow=38
comp=Z,148nm,0.9s
KBZ Khabaz 73.10 311 d iP P 20 49 08.0 +0.6
KBZ pmax pmax
comp=Z,241nm,0.9s
KBZ MLR MLR
comp=Z,3µm,21.0s
KVAR Kislovodsk Arr 73.11 312 LR LR 21 24 00.2
comp=Z,2µm,19.3s,baz=282,slow=38
KIV Kislovodsk 73.12 312 P P 20 49 08.2 +0.5
KIV Kislovodsk 73.12 312 ⇑P P 20 49 08.7 +1.0
KIV Kislovodsk 73.12 312 eP P 20 49 07.9 +0.2
KIV e 20 51 49.6
KIV ePPP PPP 20 53 33.0
KIV eS S 20 58 31.0 +0.7
KIV eSS SS 21 03 16.0 +4.2
KIV pmax pmax
comp=Z,306nm,4.3s
KIV pmax pmax
comp=Z,293nm,1.0s
KIV MLR MLR
comp=Z,2µm,18.0s
KIV Kislovodsk 73.12 312 i P P 20 49 08.3 +0.6
SNR=72
J04A Umpqua Nationa 73.13 49 IAmb IAmb 20 49 11.7
comp=Z,139nm,0.7s
KONS Konsvik 73.17 341 eP P 20 49 07.6 +0.2
F07A Phinny Hill Vi 73.18 46 IAmb IAmb 20 49 35.0
comp=Z,77nm,0.9s
KMPM Mount Pierce 73.19 53 IAmb IAmb 20 49 12.8
comp=Z,150nm,1.4s
D08A Wollman Farm, 73.20 45 IAmb IAmb 20 49 32.5
comp=Z,81nm,0.9s
ALNE Al Ain 73.22 288 P P 20 49 09.0 +0.5
SNR=50
ALNE Al Ain 73.22 288 i P P 20 49 08.9 +0.4
SNR=218
KHMM Horse Mountain 73.23 52 IAmb IAmb 20 49 35.4
comp=Z,127nm,1.2s
SHA1 Shidzhatmaz 73.25 311 d iP P 20 49 08.9 +0.3
RAO Raoul Island 73.26 143 LR LR 21 16 04.7
comp=Z,988nm,21.8s,baz=348,slow=31
ASUD Al Ashush, Dub 73.29 289 P P 20 49 09.3 +0.4
SNR=42
ASUD Al Ashush, Dub 73.29 289 i P P 20 49 09.2 +0.3
SNR=19
STOK Stokkvaagen 73.31 340 eP P 20 49 09.0 +0.7
ARBE Arbavere 73.42 331 eP P 20 49 09.5 +0.5
LEIR Leirfjorden 73.45 340 eP P 20 49 09.5 +0.5
ILON Igloolik, Nuna 73.46 14 IAmb IAmb 20 49 29.4
comp=Z,71nm,0.8s
YBH Yreka Blue Hor 73.48 51 LR LR 21 17 24.1
comp=Z,87nm,19.9s,baz=286,slow=32
BLKN Baker Lake 73.50 22 IAmb IAmb 20 49 29.8
comp=Z,231nm,1.3s
L04D Klamath Falls 73.51 50 IAmb IAmb 20 49 28.4
comp=Z,86nm,0.9s
AJN Ajban 73.59 289 P P 20 49 11.0 +0.3
SNR=46
AJN Ajban 73.59 289 i P P 20 49 10.5 -0.1
SNR=23
ERBR Yeremizino-Bor 73.61 314 eP P 20 49 10.3 -0.1
ERBR e*PP pP 20 49 27.6 -0.3
ERBR e 20 51 54.0
ERBR eS SKiKP 20 58 34.3 +0.1
ERBR pmax pmax
comp=Z,644nm,1.5s
ERBR pmax pmax
comp=Z,292nm,0.9s
ERBR MLR MLR
comp=E,3µm,17.0s
ERBR MLR MLR
comp=Z,3µm,19.0s
NEW Newport 73.63 43 IAmb IAmb 20 49 32.2
comp=Z,83nm,1.0s
NEW Newport 73.63 43 LR LR 21 21 34.2
comp=Z,233nm,18.7s,baz=309,slow=36
GNI Garni 73.65 307 LR LR 21 24 29.2
comp=Z,3µm,19.6s,baz=45,slow=38
GNI Garni 73.65 307 d iP P 20 49 12.7 +1.7
GNI pmax pmax
comp=Z,386nm,1.1s
GNI MLR MLR
comp=Z,3µm,18.0s
K04D Chiloquin, OR 73.67 50 IAmb IAmb 20 49 35.6
comp=Z,77nm,0.8s
J05D Fort Rock, OR 73.67 49 IAmb IAmb 20 49 34.8
comp=Z,110nm,1.1s
YPT Yellepit 73.69 46 IAmb IAmb 20 49 32.9
comp=Z,119nm,1.4s
VSU Vasula 73.69 330 d iP P 20 49 10.4 -0.2
VSU pmax pmax
comp=Z,191nm,0.7s
VSU MLR MLR
comp=Z,1µm,18.0s
VSU Vasula 73.69 330 eP P 20 49 09.5 -1.1
DQM DQM 73.78 283 P P 20 49 12.4 +0.6
SNR=8.8
KCPM Cahto Peak 73.91 53 IAmb IAmb 20 49 16.2
comp=Z,102nm,0.9s
E09A Wood Farm, Sta 73.94 45 IAmb IAmb 20 49 34.2
comp=Z,130nm,1.1s
UPNV Upernavik 74.01 5 i P P 20 49 13.9 +1.7
UPNV IAmb IAmb 20 49 18.2
comp=Z,65nm,1.0s
JMIC Jan Mayen 74.12 350 LR LR 21 22 14.5
comp=Z,440nm,20.8s,baz=349,slow=36
K05A Summer Lake 74.16 49 IAmb IAmb 20 49 57.3
comp=Z,204nm,1.1s
LNOR Lincton Mounta 74.18 45 IAmb IAmb 20 49 35.9
comp=Z,362nm,2.0s
CORO Coronation Par 74.20 175 P P 20 49 15.3 +1.7
UMZA Um Al Zommool 74.35 287 P P 20 49 14.9 -0.1
HATC Hat Creek Radi 74.76 51 IAmb IAmb 20 49 35.6
comp=Z,112nm,1.1s
SUMG Summit 74.84 360 i P P 20 49 18.7 +1.1
SUMG IAmb IAmb 20 49 20.4
comp=Z,94nm,0.8s
GDXM Geysers 74.88 54 IAmb IAmb 20 49 22.4
comp=Z,129nm,1.6s
NSS Namsos 74.93 340 eP P 20 49 17.9 +0.2
VSLR Vesyoloye 75.03 312 d iP P 20 49 19.1 +0.4
VSLR pmax pmax
comp=Z,554nm,1.3s
VSLR MLR MLR
comp=Z,3µm,23.0s
JRN Qarnain Island 75.10 290 P P 20 49 19.5 +0.1
SNR=11
SOC Sochi 75.17 312 eP P 20 49 17.6 -1.9
SOC eS S 20 58 51.9 -1.1
SOC eSS SS 21 03 41.6 -1.0
SOC eSSS SSS 21 06 58.5
SOC pmax pmax
comp=Z,145nm,1.0s
SOC MLR MLR
comp=Z,2µm,19.0s
MOO Moorlands 75.19 175 P P 20 49 20.6 +1.3
BMO Blue Mountains 75.30 46 IAmb IAmb 20 49 43.0
comp=Z,138nm,1.3s
J08A Circle Bar Ran 75.37 48 IAmb IAmb 20 49 44.8
comp=Z,72nm,0.9s
NUUG Nuugaatsiaq 75.43 4 i P P 20 49 21.5 +1.0
NUUG IAmb IAmb 20 49 25.9
comp=Z,54nm,1.2s
MNK Minsk 75.55 326 i P P 20 49 19.5 -2.0
MNK i *PP pP 20 49 37.9 -1.2
MNK i 20 52 11.3
MNK i PPP PPP 20 53 59.3
MNK i S S 20 58 56.2 -0.6
MNK i SS SS 21 03 49.1 +1.2
MNK i SSS SSS 21 07 11.3
MNK pmax pmax
comp=Z,124nm,1.0s
MNK pmax pmax
comp=E,85nm,1.1s
MNK pmax pmax
comp=N,109nm,1.2s
MNK MLR MLR
comp=Z,3µm,19.0s
MZR Muzera 75.56 288 P P 20 49 22.1 0.0
SNR=50
MZR Muzera 75.56 288 i P P 20 49 21.7 -0.4
SNR=15
GHWR Ruwais 75.56 289 P P 20 49 22.6 +0.5
ISAL Salakas 75.71 328 eP P 20 49 22.2 -0.2
ANN Anapa 75.92 314 d iP P 20 49 23.6 -0.1
ANN e*PP pP 20 49 38.5 -2.9
ANN e 20 52 17.8
ANN ePPP PPP 20 54 03.0
ANN eS S 20 58 59.5 -1.7
ANN pmax pmax
comp=Z,450nm,1.5s
ANN MLR MLR
comp=Z,2µm,23.0s
ANN MLR MLR
comp=E,946nm,18.0s
ANN MLR MLR
comp=N,504nm,11.0s
SLIT Slitere, Latvi 76.06 331 eP P 20 49 23.9 -0.4
GRZ Great Barrier 76.12 152 P P 20 49 27.7 +3.0
SHMA Al-Shehemyia 76.13 292 P P 20 49 25.8 +0.5
SNR=5.9
ABAZ Army Bay 76.17 152 P P 20 49 28.7 +3.6
SCO Scoresbysund 76.18 354 IAmb IAmb 20 49 46.4
comp=Z,206nm,1.1s
SCO Scoresbysund 76.18 354 i P P 20 49 26.0 +1.3
SCO IAmb IAmb 20 49 28.9
comp=Z,186nm,1.3s
MSO Missoula 76.22 43 IAmb IAmb 20 49 46.8
comp=Z,175nm,1.9s
SHAO Shalim 76.30 283 P P 20 49 27.3 +1.0
SNR=5.3
SHAO Shalim 76.30 283 i P P 20 49 27.6 +1.3
SNR=7.4
UMMG Uummannaq 76.35 4 i P P 20 49 27.1 +1.3
UMMG IAmb IAmb 20 49 31.0
comp=Z,137nm,1.6s
SAKB Bahrain 76.41 292 P P 20 49 27.2 +0.4
VSVD Vaisvydziai 76.42 329 eP P 20 49 26.2 -0.2
SLWR Sila 76.45 290 P P 20 49 27.7 +0.6
WIAZ Waiheke Island 76.46 152 P P 20 49 29.8 +3.1

TRNA Turayna 76.50 291 P P 20 49 27.7 +0.3
SNR=6.5
KUZ Kuaotunu 76.65 152 P P 20 49 29.4 +1.7
KUZ Kuaotunu 76.65 152 P P 20 49 29.9 +2.1
PABE Paberze 76.71 328 eP P 20 49 29.2 +1.2
MKAZ Moumakai 76.74 152 P P 20 49 30.6 +2.4
SMRA Abu-Samra 76.80 291 P P 20 49 29.5 +0.5
SNR=7.6
CMB Columbia Colle 76.89 53 IAmb IAmb 20 49 53.5
comp=Z,89nm,1.1s
MFID Camas Ranch 76.97 47 IAmb IAmb 20 49 52.8
comp=Z,125nm,1.2s
KBD Kabd 76.98 296 P P 20 49 30.5 +0.4
DMTO DMTO 77.01 283 P P 20 49 30.7 +0.4
AKASG Malin Array Be 77.17 323 P P 20 49 30.0 -0.7
AKASG IAmb IAmb 20 49 35.6
comp=Z,182nm,1.7s
AKASG Malin Array Be 77.17 323 P P 20 49 30.2 -0.4
comp=Z,41nm,0.6s,baz=48,slow=6.4,SNR=124
AKASG S S 20 59 14.2 -0.4
comp=Z,2.0nm,0.8s,baz=53,slow=11,SNR=8.4
AKASG PKKPbc PKKPbc 21 08 35.3 -1.2
comp=Z,0.6nm,0.4s,baz=262,slow=2.4,SNR=4.5
AKASG LR LR 21 26 01.7
comp=Z,6µm,19.9s,baz=54,slow=38
comp=Z,41nm,0.6s
AKASG Malin Array Be 77.17 323 P P 20 49 30.0 -0.7
AKASG pmax pmax
comp=Z,181nm,1.7s
AKBB Malin Array Si 77.17 323 IAmb IAmb 20 49 36.6
comp=Z,107nm,0.9s
AKBB Malin Array Si 77.17 323 d iP P 20 49 30.8 +0.1
AKBB pmax pmax
comp=Z,138nm,0.9s
AKBB MLR MLR
comp=Z,6µm,18.0s
KIEV Kiev 77.18 323 P P 20 49 30.1 -0.6
KIEV IAmb IAmb 20 49 36.6
comp=Z,96nm,0.9s
KIEV Kiev 77.18 323 ⇑P P 20 49 30.6 -0.1
KIEV Kiev 77.18 323 P P 20 49 30.1 -0.6
KIEV pmax pmax
comp=Z,96nm,0.9s
KIEV Kiev 77.18 323 i P P 20 49 30.4 -0.3
SNR=18
DOK Doka 77.22 284 P P 20 49 31.7 +0.2
SNR=12
PBUR Paburge 77.26 330 eP P 20 49 31.5 +0.5
TOZ Tahuroa Road 77.42 152 P P 20 49 33.2 +1.2
TOZ IAmb IAmb 20 49 35.1
comp=Z,106nm,0.8s
TOZ Tahuroa Road 77.42 152 P P 20 49 34.2 +2.2
PMPB Monarch Peak 77.56 55 IAmb IAmb 20 49 45.3
comp=Z,68nm,1.0s
NC303 NORSAR Array S 77.56 337 IAmb IAmb 20 49 53.6
comp=Z,140nm,1.1s
HFS Hagfors 77.59 336 P P 20 49 33.1 +0.2
comp=Z,84nm,0.8s,baz=79,slow=3.2,SNR=130
HFS LR LR 21 25 16.4
comp=Z,2µm,21.4s,baz=44,slow=37
comp=Z,84nm,0.8s
FFC Flin Flon 77.60 32 P P 20 49 33.3 +0.3
FFC IAmb IAmb 20 49 55.3
comp=Z,92nm,0.9s
FFC Flin Flon 77.60 32 P P 20 49 33.3 +0.3
FFC pmax pmax
comp=Z,92nm,1.0s
KMRZ Kaimai 77.69 152 P P 20 49 36.5 +2.9
MOL Molde 77.71 340 eP P 20 49 34.1 +0.6
TGRZ Tauranga 77.72 152 P P 20 49 35.8 +2.1
RBK Rabkut 77.73 283 P P 20 49 34.4 -0.1
SNR=7.3
NB2 NORSAR Subarra 77.75 337 P P 20 49 33.9 +0.1
comp=Z,128nm,1.0s,baz=42,slow=5.6
NB2 NORSAR Subarra 77.75 337 P P 20 49 30.5 -3.3
NB2 NORSAR Subarra 77.75 337 P P 20 49 33.9 +0.1
baz=42,slow=5.6
NOA NORSAR Array B 77.75 337 P P 20 49 33.5 -0.3
comp=Z,66nm,0.9s,baz=42,slow=5.5,SNR=198
NOA PP PP 20 52 28.6 -0.7
comp=Z,5.3nm,0.9s,baz=46,slow=7.7,SNR=3.9
NOA S S 20 59 19.2 -1.6
comp=Z,0.9nm,0.8s,baz=18,slow=9.3,SNR=3.8
NOA LR LR 21 26 08.2
comp=Z,2µm,21.7s,baz=50,slow=37
comp=Z,66nm,0.9s
SIM Simferopol' 77.81 316 eP P 20 49 35.0 +0.6
SIM e 20 49 45.0
SIM e 20 52 33.0
SIM eS S 20 59 20.0 -1.9
SIM pmax pmax
comp=Z,248nm,1.4s
DLMT Dillon 77.82 44 IAmb IAmb 20 49 55.5
comp=Z,111nm,1.1s
HIZ Hauiti 77.85 153 P P 20 49 36.2 +1.8
HIZ Hauiti 77.85 153 P P 20 49 36.8 +2.4
ILULI Ilulissat 77.86 4 i P P 20 49 34.6 +0.4
ILULI IAmb IAmb 20 49 40.3
comp=Z,76nm,1.1s
WHFO Wadi Hawf 77.87 284 P P 20 49 35.2 0.0
SNR=10
NC602 NORSAR Array S 77.87 337 eP P 20 49 34.3 -0.1
NBO00 NORSAR Array S 77.90 338 IAmb IAmb 20 49 54.7
comp=Z,227nm,1.4s
NAO01 NORSAR Array S 78.00 337 IAmb IAmb 20 49 55.7
comp=Z,102nm,1.0s
SUW Suwalki 78.02 328 eP P 20 49 35.8 +0.4
SUW epP pP 20 49 53.0 -0.1
SUW eS S 20 59 21.1 -2.7
SUW eL L 21 23 49.9
comp=Z,2µm,25.6s
SUW Suwalki 78.02 328 eP P 20 49 35.2 -0.1
LHV Little Huntoon 78.04 52 IAmb IAmb 20 50 00.1
comp=Z,63nm,0.9s
NVAR Mina Array Bea 78.08 52 P P 20 49 36.5 +0.1
NVAR Mina Array Bea 78.08 52 P P 20 49 37.8 +1.5
comp=Z,34nm,0.9s,baz=287,slow=4.9,SNR=56
NVAR LR LR 21 21 07.9
comp=Z,2µm,19.3s,baz=284,slow=33
comp=Z,34nm,0.9s
KHEZ Kahui Hut 78.22 154 P P 20 49 39.4 +2.8
KHEZ Kahui Hut 78.22 154 P P 20 49 39.6 +3.0
NEZ North Egmont 78.23 154 P P 20 49 41.0 +4.4
RAR Rarotonga 78.33 125 LR LR 21 19 53.9
comp=Z,947nm,19.6s,baz=304,slow=32
VRZ Vera Road 78.35 153 P P 20 49 39.4 +2.2
HAZ Te Kaha 78.36 151 P P 20 49 37.3 +0.1
MXZ Matakaoa Point 78.41 150 P P 20 49 37.9 +0.4
MXZ Matakaoa Point 78.41 150 P P 20 49 37.7 +0.2
RUGZ Raukumara Rang 78.49 151 P P 20 49 37.8 -0.4
RATZ Rangitukua 78.51 153 P P 20 49 40.3 +2.1
URZ Urewera 78.51 151 LR LR 21 23 21.2
comp=Z,187nm,20.2s,baz=327,slow=35
URZ Urewera 78.51 151 P P 20 49 37.9 -0.2
URZ Urewera 78.51 151 P P 20 49 38.2 +0.1
ABTO Aybut 78.55 283 P P 20 49 38.9 -0.1
SNR=11
TWVZ Taurewa 78.56 153 P P 20 49 40.3 +1.9
PKGZ Pakihiroa 78.57 151 P P 20 49 39.3 +0.8
WTVZ West Tongariro 78.65 153 P P 20 49 40.4 +1.4
KRVZ Karewarewa 78.66 153 P P 20 49 39.8 +0.8
WMGZ Waiomatatini S 78.67 150 P P 20 49 40.3 +1.3
NNVZ North Ngauruho 78.68 153 P P 20 49 40.8 +1.6
TMVZ Te Maari 78.70 153 P P 20 49 40.6 +1.3
COVZ Chateau Observ 78.71 153 P P 20 49 40.8 +1.5
NGZ Ngauruhoe 78.71 153 P P 20 49 41.0 +1.7
PKVZ Pokaka 78.71 153 P P 20 49 40.8 +1.6
ETVZ East Tongariro 78.72 153 P P 20 49 40.6 +1.3
OTVZ Oturere 78.72 153 P P 20 49 41.1 +1.6
MRHZ Matea Rd 78.73 152 P P 20 49 40.3 +1.0
SNVZ South Ngauruho 78.73 153 P P 20 49 41.3 +1.8
OSL Oslo 78.74 337 eP P 20 49 39.9 +0.7
MWZ Matawai 78.75 151 P P 20 49 40.1 +0.6
RTZ Ruatahuna 78.77 152 P P 20 49 40.0 +0.4
MAVZ Matarangi 78.78 153 P P 20 49 41.5 +1.6
TWGZ Tauwhareparae 78.80 151 P P 20 49 40.3 +0.6
WHVZ Whangaehu Hut 78.80 153 P P 20 49 41.6 +1.7
ELK Elko 78.80 49 LR LR 21 24 59.3
comp=Z,567nm,18.1s,baz=300,slow=36
TUVZ Tukino 78.81 153 P P 20 49 41.4 +1.5
PUZ Puketiti 78.82 151 P P 20 49 40.5 +0.6
RAGZ Rawiri 78.84 151 P P 20 49 40.4 +0.4
WNVZ Wahianoa 78.84 153 P P 20 49 42.1 +2.0
MTVZ Mangateitei 78.84 153 P P 20 49 41.7 +1.8
TIN Tinemaha, Big 78.87 53 IAmb IAmb 20 50 04.7
comp=Z,98nm,0.8s
MTHZ Maungataniwha 78.91 152 P P 20 49 40.8 +0.4
VES Vestal, Richgr 78.94 55 IAmb IAmb 20 49 43.9
comp=Z,120nm,1.0s
SKAR Skarslia 78.95 338 eP P 20 49 41.4 +1.0
TOKA Tokat 78.95 311 IAmb IAmb 20 49 45.0
comp=Z,92nm,0.9s
MOVZ Moawhango 78.97 153 P P 20 49 41.3 +0.7
DIKM Dikmen 78.98 313 ⇓P P 20 49 42.3 +1.4
WAZ Wanganui 78.98 154 P P 20 49 42.9 +2.3
QRZ Quartz Range 79.04 156 IAmb IAmb 20 49 43.1
comp=Z,103nm,0.7s
QRZ Quartz Range 79.04 156 P P 20 49 42.0 +1.0
QRZ Quartz Range 79.04 156 P P 20 49 42.4 +1.5
BKZ Black Stump Fm 79.05 152 IAmb IAmb 20 49 43.6
comp=Z,72nm,0.6s
BKZ Black Stump Fm 79.05 152 P P 20 49 41.2 +0.1
BKZ Black Stump Fm 79.05 152 P P 20 49 41.5 +0.4
SNGZ Shannon Statio 79.05 152 P P 20 49 41.4 +0.3
SOEG Soedalen 79.06 357 i P P 20 49 42.5 +1.7
SOEG IAmb IAmb 20 49 42.8
comp=Z,31nm,0.7s
RAHZ Arahi 79.07 152 P P 20 49 42.2 +1.0
NMHZ Naumai 79.11 152 P P 20 49 42.8 +1.3
RIGZ Rimuhau 79.16 151 P P 20 49 42.9 +1.3
SORM Soroca 79.17 321 ⇑P P 20 49 41.5 -0.3
SORM Soroca 79.17 321 P P 20 49 41.4 -0.3
FOO Floro 79.21 340 eP P 20 49 42.5 +0.8
HYA Hoyanger 79.22 339 eP P 20 49 42.4 +0.6
KWHZ Kaweka Forest 79.24 152 P P 20 49 43.3 +1.1
WHHZ Waihua 79.26 152 P P 20 49 42.4 +0.2
CWC Cottonwood Cre 79.30 54 IAmb IAmb 20 50 40.1
comp=Z,38nm,0.4s
PURM Purcari 79.31 319 ⇓P P 20 49 43.5 +0.9
ARHZ Aropaoanui 79.33 152 P P 20 49 43.8 +1.2
KONO Kongsberg 79.33 337 P P 20 49 42.3 -0.1
KONO IAmb IAmb 20 50 02.5
comp=Z,111nm,1.3s
KONO Kongsberg 79.33 337 d iP P 20 49 41.8 -0.7
KONO pmax pmax
comp=Z,57nm,1.3s
KONO MLR MLR
comp=Z,2µm,23.0s
KONO Kongsberg 79.33 337 eP P 20 49 42.3 -0.1
MCHZ McNeill Hill 79.37 152 P P 20 49 44.0 +1.3
KRHZ Kereru 79.41 153 P P 20 49 43.8 +0.7
GRAC Grapevine Rang 79.48 53 IAmb IAmb 20 50 13.1
comp=Z,80nm,1.0s
BLEU Blekinge 79.57 332 i P P 20 49 43.1 -0.7
BZK Bozkurt 79.58 313 IAmb IAmb 20 49 53.7
comp=Z,87nm,0.7s
BZK Bozkurt 79.58 313 ⇑P P 20 49 44.9 +0.8
PNHZ Pukenui 79.58 153 P P 20 49 44.5 +0.5
MHGZ Mahia Peninsul 79.60 151 P P 20 49 45.0 +0.9
KIS Kishinev 79.61 320 ⇓ iP P 20 49 43.4 -0.8
comp=Z,270nm,6.5s
KIS epP pP 20 50 02.0 0.0
KIS Kishinev 79.61 320 ePP PP 20 52 44.0 -1.1
KIS eS S 20 59 39.0 -1.9
KIS eL L 21 16 25.0
KIS LRM MLR 21 30 02.0
comp=Z,400nm,19.0s
KIS Kishinev 79.61 320 d iP P 20 49 43.0 -1.2
KIS e*PP pP 20 50 02.0 0.0
KIS e 20 52 44.0
KIS eS S 20 59 39.0 -1.9
KIS pmax pmax
comp=Z,270nm,6.5s
TSZ Takapari Road 79.61 153 P P 20 49 44.6 +0.4
DSZ Denniston Nort 79.62 157 P P 20 49 46.2 +2.1
MILM Milestii Mici 79.66 320 ⇓ iP P 20 49 43.8 -0.7
comp=Z,600nm,6.6s
MILM i pP pP 20 50 02.0 -0.3
MILM Milestii Mici 79.66 320 ePP PP 20 52 46.0 +0.5
MILM Milestii Mici 79.66 320 ⇑P P 20 49 43.7 -0.8
MILM Milestii Mici 79.66 320 d iP P 20 49 44.0 -0.5
MILM i *PP pP 20 50 02.0 -0.3
MILM e 20 52 46.0
MILM ePPP PPP 20 54 38.0
MILM i S S 20 59 38.0 -3.4
MILM pmax pmax
comp=Z,600nm,6.6s
NNZ Nelson 79.69 155 IAmb IAmb 20 49 45.7
comp=Z,117nm,0.7s
NNZ Nelson 79.69 155 P P 20 49 45.2 +0.7
SUE Sulen 79.72 340 eP P 20 49 45.2 +0.7
KAHZ Kahuranaki 79.74 152 P P 20 49 45.9 +1.1
BORU Borasz 79.75 334 i P P 20 49 44.2 -0.5
WPHZ Waipukurau 79.80 153 P P 20 49 46.2 +1.1
DVHZ Dannevirke 79.90 153 P P 20 49 46.3 +0.6
PXZ Pawanui 79.94 152 P P 20 49 46.8 +1.0
MRZ Mangatainoka R 79.99 154 IAmb IAmb 20 49 47.4
comp=Z,122nm,0.8s
MRZ Mangatainoka R 79.99 154 P P 20 49 46.2 +0.1
THZ Tophouse 80.01 156 IAmb IAmb 20 49 48.2
comp=Z,66nm,0.7s
THZ Tophouse 80.01 156 P P 20 49 46.3 +0.1
TPO Tropico Hills 80.05 55 IAmb IAmb 20 49 50.9
comp=Z,82nm,0.8s
ASK Askoy 80.06 339 eP P 20 49 46.8 +0.4
ODD1 Odda 80.08 338 eP P 20 49 47.3 +0.7
SFJD Kangerlussuaq 80.09 4 P P 20 49 46.7 +0.3
SFJD Kangerlussuaq 80.09 4 P P 20 49 46.7 +0.3
SFJD pmax pmax
comp=Z,60nm,0.9s
SFJD Kangerlussuaq 80.09 4 i P P 20 49 47.8 +1.4
SFJD IAmb IAmb 20 49 48.1
comp=Z,32nm,0.6s
BER Bergen 80.09 339 eP P 20 49 47.4 +0.8
R9F13 Warsaw-Wawer 80.12 327 eP P 20 49 48.2 +1.3
R9F13 eS S 20 59 49.8 +3.7
IASR Iasi 80.17 320 ⇑P P 20 49 47.4 +0.1
DEL Delary 80.20 333 i P P 20 49 46.0 -1.2
S11A Rachel 80.20 52 IAmb IAmb 20 50 09.8
comp=Z,188nm,1.5s
ONAU Onsala 80.24 335 i P P 20 49 46.5 -0.8
FABU Falkenberg 80.24 334 i P P 20 49 46.7 -0.7
SNZO South Karori 80.24 155 P P 20 49 47.3 -0.1
SNZO IAmb IAmb 20 49 48.3
comp=Z,92nm,0.7s
SNZO South Karori 80.24 155 P P 20 49 47.6 +0.2
BFZ Birch Farm 80.26 153 P P 20 49 48.0 +0.4
BFZ Birch Farm 80.26 153 P P 20 49 48.3 +0.7
SPR3 Spring Creek 3 80.36 50 IAmb IAmb 20 49 53.1
comp=Z,164nm,1.8s
VASR Vaslui 80.38 320 ⇓P P 20 49 49.6 +1.2
BLS5 Blasjo 80.52 338 eP P 20 49 49.8 +0.9
BEL Belsk 80.54 327 eP P 20 50 5.5 +1.3
BEL eS S 20 59 49.5 -1.0
BEL eL L 21 28 00.3
comp=Z,4µm,20.6s
DGMT Dagmar 80.55 38 IAmb IAmb 20 50 10.4
comp=Z,183nm,1.3s
LAO LASA Array 80.60 40 IAmb IAmb 20 50 12.8
comp=Z,103nm,1.1s
LTZ Lake Taylor 80.70 157 P P 20 49 51.5 +1.5
BIR Birlad 80.70 320 ⇑P P 20 49 51.1 +0.9
BIR Birlad 80.70 320 P P 20 49 51.0 +0.9
TLCR 80.71 318 ⇓P P 20 49 51.3 +1.2
TLCR 80.71 318 P P 20 49 51.2 +1.0
VLDR Vladesti 80.72 319 ⇑P P 20 49 51.8 +1.6
HOMB Homborsund 80.76 337 eP P 20 49 49.9 -0.2
HOMB Homborsund 80.76 337 i P P 20 49 49.9 -0.2
BSD Bornholm Skovb 80.78 332 eP P 20 49 49.5 -0.8
BSD Bornholm Skovb 80.78 332 i P P 20 50 1 -0.2
BSD IAmb IAmb 20 49 51.3
comp=Z,55nm,0.9s
JCZ Jackson Bay 80.79 160 P P 20 49 51.9 +1.5
KHZ Kahutara 80.80 156 P P 20 50 1 -0.3
KHZ Kahutara 80.80 156 P P 20 50 1 -0.3
BJUU Bjuv 80.81 333 i P P 20 50 2 -0.3
VARL Varlezi 80.81 319 ⇑P P 20 49 52.3 +1.6
SCTR Scanteiesti 80.87 319 ⇑P P 20 49 52.6 +1.6
OVD Ostervraa, Den 80.91 335 i P P 20 49 51.5 +0.5
OVD IAmb IAmb 20 49 52.2
comp=Z,113nm,0.9s
PSUT Pine Spring 80.93 50 IAmb IAmb 20 50 28.7
comp=Z,75nm,1.0s
JURR Jurilovca 80.93 318 ⇑P P 20 49 51.4 +0.1
GHRR 80.95 320 ⇑P P 20 49 52.6 +1.1
LUNU Lund 80.97 333 i P P 20 49 51.5 +0.1
FRB Frobisher Bay 80.99 13 LR LR 21 26 58.6
comp=Z,600nm,21.6s,baz=344,slow=36
NEGRR Negrea 81.02 319 ⇑P P 20 49 53.0 +1.2
KMY Karmoy 81.06 339 eP P 20 49 52.5 +0.8
SCHL Schela 81.07 319 ⇑P P 20 49 52.5 +0.5
IZVR Izvoarele 81.07 319 ⇑P P 20 49 52.6 +0.6
TESR Tescani 81.08 320 ⇑P P 20 49 52.5 +0.4
BR131 Keskin Array S 81.09 312 IAmb IAmb 20 50 12.2
comp=Z,124nm,0.9s
BR131 Keskin Array S 81.09 312 d eP P 20 49 52.7 +0.2
BRTR Keskin Array B 81.09 312 P P 20 49 50.8 -1.7
BRTR Keskin Array B 81.09 312 P P 20 49 53.0 +0.5
comp=Z,74nm,0.9s,baz=106,slow=3.2,SNR=233
BRTR PKKPbc PKKPbc 21 08 29.4 +1.5
comp=Z,2.0nm,0.6s,baz=208,slow=4.5,SNR=14
BRTR LR LR 21 29 12.3
comp=Z,1µm,21.6s,baz=74,slow=38
comp=Z,74nm,0.9s
BRTR Keskin Array B 81.09 312 P P 20 49 53.0 +0.5
CFR Carcaliu 81.09 319 ⇑P P 20 49 52.3 +0.1
CFR Carcaliu 81.09 319 P P 20 49 52.3 +0.1
KWP Kalwaria Pacla 81.10 324 eP P 20 49 53.4 +1.2
KWP eS S 20 59 55.6 -0.9
KWP eL L 21 28 15.8
comp=Z,4µm,21.8s
PDAR Pinedale Array 81.11 44 P P 20 49 52.5 -0.2
PDAR Pinedale Array 81.11 44 P P 20 49 53.4 +0.7
comp=Z,9.8nm,0.7s,baz=266,slow=1.8,SNR=54
PDAR LR LR 21 25 13.1
comp=Z,305nm,19.0s,baz=309,slow=35
comp=Z,9.8nm,0.7s
GVZ Greta Valley S 81.12 156 IAmb IAmb 20 49 53.9
comp=Z,95nm,0.8s
GVZ Greta Valley S 81.12 156 P P 20 49 52.5 +0.3
COSR Cosmesti PH 81.13 319 ⇓P P 20 49 52.8 +0.4
GKP Gorka Klasztor 81.13 329 eP P 20 49 52.9 +0.6
GKP epP pP 20 50 10.2 +0.2
GKP eS S 20 59 55.6 -1.0
GKP eL L 21 27 42.9
comp=Z,2µm,23.7s
GKP Gorka Klasztor 81.13 329 eP P 20 49 51.9 -0.4
SNART Snartemo 81.13 337 eP P 20 49 52.8 +0.7
SNART Snartemo 81.13 337 i P P 20 49 52.8 +0.7
TPGR Topolog 81.14 318 ⇑P P 20 49 53.0 +0.5
BURAR Bucovina Array 81.14 322 ⇓P P 20 49 53.1 +0.5
BURAR Bucovina Array 81.14 322 P P 20 49 52.9 +0.3
RPZ Rata Peaks 81.15 158 LR LR 21 23 04.1
comp=Z,417nm,20.7s,baz=330,slow=34
RPZ Rata Peaks 81.15 158 P P 20 49 52.8 +0.6
KIRS Kirsehir-Merke 81.25 311 ⇑P P 20 49 53.2 -0.1
COP Copenhagen 81.32 333 i P P 20 49 53.5 +0.3
COP IAmb IAmb 20 49 54.6
comp=Z,136nm,0.8s
ODBI Odobesti 81.33 320 ⇑P P 20 49 55.9 +2.4
ONER Baraj Valea Uz 81.33 320 ⇓P P 20 49 54.2 +0.7
VRI Vrincioaia 81.44 320 ⇓P P 20 49 54.9 +0.7
VRI Vrincioaia 81.44 320 P P 20 49 54.8 +0.7
PLOR Plostina 81.50 320 ⇑P P 20 49 55.8 +1.4
PLOR Plostina 81.50 320 P P 20 49 55.5 +1.1
HARR Harsova 81.51 318 ⇑P P 20 49 54.8 +0.4
HARR Harsova 81.51 318 P P 20 49 54.8 +0.4
ANTO Ankara 81.53 312 P P 20 49 54.7 -0.1
ANTO IAmb IAmb 20 49 57.1
comp=Z,102nm,0.8s
ANTO Ankara 81.53 312 P P 20 49 55.9 +1.2
ANTO Ankara 81.53 312 ⇑P P 20 49 55.8 +1.0
ANTO Ankara 81.53 312 P P 20 49 54.7 -0.1
ANTO pmax pmax
comp=Z,102nm,0.8s
TLBR Topalu 81.54 318 ⇓P P 20 49 56.1 +1.6
RAYN Ar Rayn 81.59 292 P P 20 49 56.3 +1.0
RAYN Ar Rayn 81.59 292 P P 20 49 55.7 +0.4
RAYN Ar Rayn 81.59 292 i P P 20 49 55.5 +0.2
SNR=24
GRER 81.61 319 ⇑P P 20 49 57.8 +2.8
BISRR Bisoca 81.65 319 ⇑P P 20 49 56.4 +1.1
BORG Borgarnes 81.68 352 P P 20 49 57.2 +2.4
BORG IAmb IAmb 20 50 17.1
comp=Z,97nm,1.0s
BORG Borgarnes 81.68 352 P P 20 49 57.3 +2.4
BORG pmax pmax
comp=Z,97nm,1.0s
TURR Turia 81.71 320 ⇓P P 20 49 57.3 +1.8
COVR Voineasa-Covas 81.74 320 ⇓P P 20 49 56.0 +0.3
KOLS Kolonicke sedl 81.78 324 eP P 20 49 56.9 +1.1
KOLS pmax pmax
comp=Z,46nm,0.8s
KOLS Kolonicke sedl 81.78 324 eP P 20 49 56.9 +1.1
TCRU Three Creeks R 81.79 49 IAmb IAmb 20 50 01.4
comp=Z,57nm,0.7s
OZUR 81.81 320 ⇑P P 20 49 57.2 +1.2
RGN Rugen 81.82 332 IAmb IAmb 20 50 18.5
comp=Z,110nm,1.0s
RGN Rugen 81.82 332 eP P 20 49 56.0 +0.1
comp=Z,92nm,1.0s,baz=40,slow=5.0
ANGG Ammassalik, Gr 81.83 359 i P P 20 49 54.0 -1.7
ANGG IAmb IAmb 20 49 56.8
comp=Z,50nm,0.9s
BOSR Bodos 81.89 320 ⇑P P 20 49 57.8 +1.3
AMRR Amara 81.89 318 ⇑P P 20 49 58.1 +1.6
AMRR Amara 81.89 318 P P 20 49 58.0 +1.6
PGOR Pogoanele 81.90 319 ⇓P P 20 49 59.0 +2.5
ISOG Isortoq, Green 81.91 360 i P P 20 49 56.1 +0.1
ISOG IAmb IAmb 20 49 57.4
comp=Z,29nm,0.8s
ARCR ARCALIA 81.93 322 ⇑P P 20 49 58.1 +1.4
MUD Monsted U'grnd 81.93 335 i P P 20 49 56.6 +0.2
MUD IAmb IAmb 20 49 59.7
comp=Z,56nm,0.9s
ICOR Ion Corvin 81.94 318 ⇑P P 20 49 57.9 +1.2
NEHR Nehoiu 81.95 320 ⇑P P 20 49 59.0 +2.1
STHS Stebnicka Huta 81.96 325 eP P 20 49 56.9 +0.2
STHS pmax pmax
comp=Z,67nm,1.1s
STHS Stebnicka Huta 81.96 325 eP P 20 49 56.9 +0.2
PFO Pinyon Flats O 81.97 55 P P 20 49 57.1 -0.2
PFO Pinyon Flats O 81.97 55 LR LR 21 22 37.3
comp=Z,3µm,19.5s,baz=279,slow=33
PFO Pinyon Flats O 81.97 55 c iP P 20 49 58.1 +0.9
PFO pmax pmax
comp=Z,75nm,1.0s
PFO MLR MLR
comp=Z,1µm,19.0s
BMR Baia Mare 81.99 323 ⇑P P 20 49 58.1 +1.2
BMR Baia Mare 81.99 323 P P 20 49 57.9 +1.0
ISR Istrita 82.01 319 ⇓P P 20 49 58.8 +1.6
ISR Istrita 82.01 319 P P 20 49 58.7 +1.6
OJC Ojcow 82.10 326 eP P 20 49 58.5 +1.1
OJC epP pP 20 50 15.9 +0.5
OJC eS S 21 00 05.0 -1.8
OJC eL L 21 29 01.6
comp=Z,3µm,19.5s
DOPR Dopca 82.10 320 ⇓P P 20 49 58.8 +1.3
MLR Muntele Rosu 82.11 320 IAmb IAmb 20 50 02.1
comp=Z,214nm,1.6s
MLR Muntele Rosu 82.11 320 LR LR 21 29 58.7
comp=Z,2µm,20.9s,baz=59,slow=38
MLR Muntele Rosu 82.11 320 ⇑P P 20 49 58.9 +1.1
MLR Muntele Rosu 82.11 320 P P 20 49 58.8 +1.1
DANC Danby, Needles 82.13 54 IAmb IAmb 20 50 27.2
comp=Z,69nm,1.0s
LRW Lerwick 82.13 342 eP P 20 49 57.8 +0.4
LRW IAmb IAmb 20 50 01.1
comp=Z,175nm,1.3s
SAHE Sakarya_HENDEK 82.14 314 ⇑P P 20 49 58.5 +0.6
ODZ Otahua Downs 82.22 159 IAmb IAmb 20 50 00.7
comp=Z,276nm,1.9s
ODZ Otahua Downs 82.22 159 P P 20 49 59.1 +1.3
CICN Ciocanesti 82.33 318 ⇓P P 20 49 58.7 0.0
NIE Niedzica 82.41 325 eP P 20 50 00.6 +1.5
NIE epP pP 20 50 18.1 +1.1
NIE eS S 21 00 10.3 +0.2
NIE eL L 21 28 36.5
comp=Z,1µm,23.4s
Q16A Castle Valley 82.41 48 IAmb IAmb 20 50 03.1
comp=Z,65nm,0.7s
TKX Tecate 82.45 56 IAmb IAmb 20 52 01.3
comp=Z,36nm,0.4s
SULR 82.45 319 ⇑P P 20 50 00.7 +1.3
KNB Kanab 82.47 51 IAmb IAmb 20 50 03.5
comp=Z,68nm,0.7s
SSRD Sdr. Stenderup 82.52 334 i P P 20 49 59.8 +0.3
SSRD IAmb IAmb 20 50 02.7
comp=Z,129nm,0.8s
MDB Medias 82.53 321 ⇑P P 20 50 01.7 +1.9
MDB Medias 82.53 321 P P 20 50 01.7 +1.9

PKCU **Pink Cliffs** 82.55 50 IAmb IAmb 20 50 23.2
comp=Z,282nm,2.0s
CBBR **Cluj-Babes-Bol** 82.56 322 ⇑P **P** **20 50 00.9 +1.0**
CJR **Cluj-Napoca** 82.57 322 ⇑P **P** **20 50 01.1 +1.0**
CJR **Cluj-Napoca** 82.57 322 P **P** **20 50 01.0 +1.0**
P18A **Preston Nutter** 82.57 47 IAmb IAmb 20 50 13.3
comp=Z,57nm,0.7s
MESR **Meseseni** 82.61 322 ⇑P **P** **20 50 01.5 +1.3**
VOIR 82.62 320 ⇑P **P** **20 50 01.8 +1.3**
VOIR 82.62 320 P **P** **20 50 01.7 +1.3**
MTUR **Matau** 82.75 320 ⇑P **P** **20 50 02.9 +1.8**
MTUR **Matau** 82.75 320 P **P** **20 50 02.8 +1.8**
NUUK **Nuuk** 82.80 5 *i* P **P** **20 50 01.7 +1.0**
NUUK IAmb IAmb 20 50 07.1
comp=Z,65nm,0.8s
MARR **Marisel-Cluj** 82.84 322 ⇑P **P** **20 50 02.2 +0.7**
ARR **Arges** 82.89 320 ⇑P **P** **20 50 03.6 +1.8**
SGRR **Singureni** 82.89 319 ⇓P **P** **20 50 01.7 0.0**
TNR **Turnu Rosu** 82.90 321 ⇑P **P** **20 50 03.7 +2.0**
TNR **Turnu Rosu** 82.90 321 P **P** **20 50 03.7 +2.0**
K22A **Casper** 82.95 43 IAmb IAmb 20 50 23.3
comp=Z,55nm,0.8s
KECS **Kecovo** 82.96 325 *e*P **P** **20 50 03.0 +1.1**
KECS *e* 20 50 22.1
KECS pmax pmax
comp=Z,42nm,1.2s
KECS **Kecovo** 82.96 325 *e*P **P** **20 50 03.0 +1.1**
KECS *e* 20 50 22.1
DRGR 82.97 322 ⇓P **P** **20 50 02.7 +0.5**
DRGR 82.97 322 P **P** **20 50 02.6 +0.5**
LANS **Liptovska Anna** 82.99 325 *e*P **P** **20 50 03.3 +1.1**
LANS *e* 20 50 22.5
LANS *e* 20 53 17.2
LANS pmax pmax
comp=Z,56nm,0.7s
LANS **Liptovska Anna** 82.99 325 *e*P **P** **20 50 03.3 +1.1**
LANS *e* 20 50 22.5
LANS *e*PP **PP** **20 53 17.2 +4.3**
RAZG **Razgrad** 83.01 318 ⇓P **P** **20 50 03.5 +1.2**
LOZB **Loznitsa** 83.09 318 ⇑P **P** **20 50 02.3 -0.4**
OKC **Ostrava-Krasne** 83.14 327 *e*P **P** **20 50 03.8 +1.0**
OKC *e*SKS **S** **21 00 15.7 -1.6**
OKC AMS AMS 21 29 20.0
comp=Z,2µm,20.0s
OKC **Ostrava-Krasne** 83.14 327 *e*P **P** **20 50 03.8 +1.0**
OKC *e* 21 00 15.7
OKC MLR MLR
comp=Z,2µm,20.0s
SYZ **Scrubby Hill** 83.14 161 P **P** **20 50 03.9 +1.4**
RUE **Ruedersdorf** 83.16 330 *e*P **P** **20 50 02.9 +0.1**
RUE **Ruedersdorf** 83.16 330 *e*P **P** **20 50 03.0 +0.2**
comp=Z,91nm,1.0s,baz=40,slow=5.0
ESJX **Sierra Juarez** 83.23 56 IAmb IAmb 20 50 06.5
comp=Z,168nm,1.9s
STEB **Steborice** 83.24 327 *e*P **P** **20 50 04.3 +0.9**
HUMR **Humele** 83.25 319 ⇑P **P** **20 50 03.9 +0.4**
BORR **Bors** 83.25 323 ⇑P **P** **20 50 04.2 +0.8**
KSP **Ksiaz** 83.27 328 *e*P **P** **20 50 04.6 +1.1**
KSP *e*pP **pP** **20 50 22.1 +0.8**
KSP *e*S **S** **21 00 17.9 -0.7**
KSP *e*L L 21 28 31.3
comp=Z,2µm,24.4s
HMU **Henry Mountain** 83.27 49 IAmb IAmb 20 50 38.8
comp=Z,125nm,0.9s
CTYL **Yalikoy Yolu** 83.30 316 ⇑P **P** **20 50 03.1 -0.7**
COPA **Copaceanca** 83.37 319 ⇑P **P** **20 50 04.2 +0.1**
ULM **Lac du Bonnet** 83.38 33 *d*P **P** **20 50 05.5 +1.4**
RSSD **Black Hills** 83.42 41 P **P** **20 50 04.5 -0.2**
RSSD **Black Hills** 83.42 41 P **P** **20 50 04.5 -0.2**
RSSD pmax pmax
comp=Z,17nm,0.6s
PPT **Papeete** 83.44 116 P **P** **20 50 05.2 +0.4**
comp=Z,45nm,0.8s,baz=259,slow=21,SNR=2.3
PPT LR LR 21 23 51.6
comp=Z,870nm,19.1s,baz=280,slow=33
comp=Z,45nm,0.8s
BSEG **Bad Segeberg** 83.45 333 *e*P **P** **20 50 04.2 -0.1**
comp=Z,65nm,1.0s,baz=40,slow=5.0
BSEG *e*pP **pP** **20 50 23.1 +1.0**
PPT2 **Papeete2** 83.45 116 *e*PKIKP **P** **20 50 03.7 -1.2**
comp=Z,590nm,29.2s
PPT2 **Papeete2** 83.45 116 *e*PP **PP** **20 53 13.0 -5.1**
comp=Z,279nm,27.0s
PPT2 *e*S **S** **21 00 19.1 -2.4**
comp=Z,614nm,24.5s
PPT2 **Papeete2** 83.45 116 *e*LQ LQ 21 12 01.9
comp=Z,893nm,28.0s
PPT2 *e*LR LR 21 15 52.3
comp=Z,6µm,31.8s
PPT2 *e*LR LR 21 16 00.1
comp=Z,7µm,26.8s
MORC **Moravsky Berou** 83.46 327 IAmb IAmb 20 50 25.3
comp=Z,236nm,1.5s
MORC **Moravsky Berou** 83.46 327 *e*P **P** **20 50 04.8 +0.2**
MORC **Moravsky Berou** 83.46 327 *e*S **S** **21 00 19.1 -1.6**
MORC **Moravsky Berou** 83.46 327 ⇑P **P** **20 50 04.5 -0.1**
MORC **Moravsky Berou** 83.46 327 P **P** **20 50 05.0 +0.4**
DEV **Deva** 83.47 321 ⇑P **P** **20 50 05.7 +1.1**
DEV **Deva** 83.47 321 P **P** **20 50 05.7 +1.1**
O20A **White River Ci** 83.49 46 IAmb IAmb 20 50 26.6
comp=Z,74nm,1.0s
OSTC **Ostas** 83.50 328 *e*P **P** **20 50 05.8 +1.0**
OSTC *e*SKS **S** **21 00 20.0 -1.1**
OSTC AMS AMS 21 29 40.0
comp=Z,2µm,20.4s
OSTC **Ostas** 83.50 328 *e*P **P** **20 50 05.8 +1.0**
OSTC *e* 21 00 20.0
OSTC MLR MLR
comp=Z,2µm,20.4s
CHVC **Chvalec** 83.55 328 *e*P **P** **20 50 05.9 +0.9**
CHVC AMS AMS 21 29 40.0
comp=Z,2µm,18.8s
CHVC **Chvalec** 83.55 328 *e*P **P** **20 50 05.9 +0.9**
CHVC MLR MLR
comp=Z,2µm,18.8s
KRLC **Kraliky** 83.59 327 *e*P **P** **20 50 05.6 +0.3**
KRLC *e*SKS **S** **21 00 19.0 -3.1**
KRLC AMS AMS 21 30 20.0
comp=Z,2µm,16.2s
KRLC **Kraliky** 83.59 327 *e*P **P** **20 50 05.6 +0.3**
KRLC *e* 21 00 19.0
KRLC MLR MLR
comp=Z,2µm,16.2s
DPC **Dobruska-Polom** 83.60 328 *e*P **P** **20 50 06.3 +1.0**
DPC *e*SKS **SKSac** **21 00 17.9 -4.3**
DPC AMS AMS 21 29 20.0
comp=Z,2µm,21.9s
DPC **Dobruska-Polom** 83.60 328 *e*P **P** **20 50 06.3 +1.0**
DPC *e* 21 00 17.9
DPC MLR MLR
comp=Z,2µm,21.9s
MAUC **Maruska** 83.61 326 *e*P **P** **20 50 06.1 +0.7**
MAUC *e*SKS **SKSac** **21 00 21.0 -1.3**
PSZ **Piszkesteto** 83.63 324 ⇑P **P** **20 50 06.3 +0.7**
PSZ **Piszkesteto** 83.63 324 P **P** **20 50 06.2 +0.7**
PSZ **Piszkesteto** 83.63 324 *e*P **P** **20 50 05.9 +0.4**
UPC **Upice** 83.63 328 *e*P **P** **20 50 06.3 +0.9**
UPC *e*SKS **SKSac** **21 00 19.4 -2.8**
UPC AMS AMS 21 29 50.0
comp=Z,2µm,19.0s
UPC **Upice** 83.63 328 *e*P **P** **20 50 06.3 +0.9**
UPC *e* 21 00 19.4
UPC MLR MLR
comp=Z,2µm,19.0s
PHSR **Pinarhisar** 83.65 316 ⇑P **P** **20 50 06.7 +1.0**
VYHS **Vyhne** 83.75 325 *e*P **P** **20 50 06.9 +0.9**
VYHS *e* 20 50 25.8
VYHS pmax pmax
comp=Z,160nm,1.3s
VYHS **Vyhne** 83.75 325 *e*P **P** **20 50 06.9 +0.9**
VYHS *e* 20 50 25.8
ELND **Elena** 83.78 318 ⇑P **P** **20 50 06.9 +0.7**
GORT1 **Trebel** 83.78 332 *e*P **P** **20 50 06.3 +0.3**
comp=Z,96nm,1.2s,baz=40,slow=5.0
GORT1 *e*pP **pP** **20 50 25.6 +1.8**
MMAI **Mount Meron Ar** 83.80 305 P **P** **20 50 07.8 +1.1**
comp=Z,85nm,0.8s,baz=48,slow=5.1,SNR=47
MMAI LR LR 21 31 10.7
comp=Z,1µm,20.5s,baz=60,slow=38
comp=Z,85nm,0.8s
SIRR **Siria** 83.86 322 ⇑P **P** **20 50 07.2 +0.6**
GZR **Gura Zlata** 83.87 321 ⇑P **P** **20 50 06.7 -0.1**
GZR **Gura Zlata** 83.87 321 P **P** **20 50 06.6 -0.1**
VLAD **Vladila** 83.91 319 ⇑P **P** **20 50 07.3 +0.4**

SURR **Surduc** 83.97 322 ⇓P **P** **20 50 06.5 -0.6**
JAVC **Velka Javorina** 84.04 326 *e*P **P** **20 50 09.1 +1.5**
BAND **Balkesir-Ban** 84.11 315 ⇓P **P** **20 50 08.5 +0.5**
SRE **Strehaia** 84.12 320 ⇓P **P** **20 50 09.4 +1.4**
SRE **Strehaia** 84.12 320 P **P** **20 50 09.4 +1.4**
PV22 **Blue Mesa, Par** 84.13 48 IAmb IAmb 20 50 30.1
comp=Z,120nm,1.0s
ISP **Isparta** 84.17 312 IAmb IAmb 20 50 11.2
comp=Z,95nm,1.0s
ISP **Isparta** 84.17 312 *de*P **P** **20 50 08.2 -0.3**
ISP pmax pmax
comp=Z,164nm,1.7s
PLVB **Pleven** 84.18 319 ⇓P **P** **20 50 09.0 +0.7**
VRAC **Vranov** 84.22 327 *e*P **P** **20 50 09.0 +0.6**
VRAC *e*PP **PP** **20 53 22.5 -0.4**
VRAC *e*S **SKSac** **21 00 24.1 -2.1**
VRAC **Vranov** 84.22 327 LR LR 21 30 17.7
comp=Z,2µm,20.5s,baz=50,slow=37
VRAC **Vranov** 84.22 327 ⇑P **P** **20 50 09.4 +0.9**
VRAC **Vranov** 84.22 327 P **P** **20 50 09.5 +1.1**
PVCC **Panska Ves** 84.25 329 *e*P **P** **20 50 09.4 +0.9**
PVCC *e*SKS **SKSac** **21 00 28.2 +2.0**
PVCC AMS AMS 21 33 30.0
comp=Z,2µm,16.5s
PVCC **Panska Ves** 84.25 329 *e*P **P** **20 50 09.4 +0.9**
PVCC *e* 21 00 28.2
PVCC MLR MLR
comp=Z,2µm,16.5s
BIGH **Upper Bighouse** 84.26 342 *e*P **P** **20 50 07.8 -0.6**
BIGH IAmb IAmb 20 50 11.1
comp=Z,81nm,1.1s
PV03 **Paradox Valley** 84.27 48 IAmb IAmb 20 50 12.7
comp=Z,125nm,1.0s
BRG **Berggiesshubel** 84.27 329 *e*P **P** **20 50 08.8 +0.2**
comp=Z,61nm,0.7s,baz=40,slow=5.0
BRG **Berggiesshubel** 84.27 329 *e*P **P** **20 50 08.9 +0.3**
BRG Amp 20 50 10.6
comp=Z,61nm,0.7s
BRG ⇑PP **PcP** **20 50 11.7 -0.5**
BRG Amp 20 50 12.1
comp=Z,49nm,0.8s
BRG **Berggiesshubel** 84.27 329 P P 20 50 17.6 +9.0
BRG Amp 20 50 19.9
comp=Z,39nm,0.7s
BRG pP pP 20 50 26.6 +0.1
BRG Amp 20 50 29.9
comp=Z,76nm,0.9s
BRG **Berggiesshubel** 84.27 329 S **S** **21 00 26.0 -2.7**
BRG **Berggiesshubel** 84.27 329 SS SS 21 06 01.0 +2.8
BRG PKKP 21 08 22.8
BRG Amp 21 08 43.9
comp=Z,3.1nm,1.1s
BRG **Berggiesshubel** 84.27 329 PP PP 20 53 21.4 -1.8
PV07 **Paradox Valley** 84.28 48 IAmb IAmb 20 50 42.6
comp=Z,98nm,1.1s
FLTG **Flechtingen** 84.31 332 *e*P **P** **20 50 08.2 -0.6**
comp=Z,92nm,0.8s,baz=40,slow=5.0
BZS **Buzias** 84.32 322 ⇑P **P** **20 50 09.2 +0.1**
BZS **Buzias** 84.32 322 P **P** **20 50 09.1 +0.1**
CLL **Collm** 84.35 330 *i* P **P** **20 50 08.9 -0.1**
CLL *i* *PP **pP** **20 50 28.1 +1.2**
CLL *e*S **SKSac** **21 00 29.0 +2.2**
CLL pmax pmax
comp=Z,163nm,0.9s
CLL **Collm** 84.35 330 *e*P **P** **20 50 08.7 -0.3**
comp=Z,157nm,0.9s,baz=40,slow=5.0
HERR **Herculane** 84.40 321 ⇑P **P** **20 50 09.4 +0.1**
SMOL **Smolenice** 84.40 326 *e*P **P** **20 50 10.6 +1.3**
SMOL *e* 20 50 29.8
SMOL pmax pmax
comp=Z,72nm,0.8s
PV15 **Paradox Valley** 84.44 48 IAmb IAmb 20 50 46.0
comp=Z,71nm,0.9s
RICC **Richard** 84.44 329 *e*P **P** **20 50 10.4 +0.9**
RICC AMS AMS 21 32 50.0
comp=Z,1µm,16.6s
SRO **Srobarova** 84.47 325 *e*P **P** **20 50 11.7 +2.0**
SRO *e* 20 50 29.9
SRO pmax pmax
comp=Z,84nm,1.1s
SRO **Srobarova** 84.47 325 *e*P **P** **20 50 11.7 +2.0**
SRO *e* 20 50 29.9
DJES **Djerdap** 84.48 321 ⇑P **P** **20 50 10.6 +0.7**
KRUC **Moravsky** 84.49 327 *e*P **P** **20 50 10.0 +0.2**
KRUC *e*PP **PP** **20 53 26.1 +1.0**
KRUC *e*S **SKSac** **21 00 25.6 -2.3**
PUNG **Punghina** 84.52 320 ⇓P **P** **20 50 11.5 +1.5**
MODS **Modra-Piesok** 84.57 326 *e*P **P** **20 50 09.1 -1.1**
MODS *e* 20 50 28.4
MODS *e* 20 53 25.7
MODS pmax pmax
comp=Z,326nm,1.4s
MODS **Modra-Piesok** 84.57 326 *e*P **P** **20 50 09.1 -1.1**
MODS *e* 20 50 28.4
MODS *e*PP **PP** **20 53 25.7 -0.1**
GOPC **GO Pecny, Ondr** 84.60 328 *e*P **P** **20 50 11.0 +0.6**
GOPC AMS AMS 21 31 50.0
comp=Z,2µm,14.9s
GOPC **GO Pecny, Ondr** 84.60 328 *e*P **P** **20 50 11.0 +0.6**
GOPC MLR MLR
comp=Z,2µm,14.9s
NRDL **Niedersach Rie** 84.63 332 *e*P **P** **20 50 10.3 0.0**
comp=Z,36nm,0.9s,baz=40,slow=5.0
NRDL *e*PP **PP** **20 53 25.4 -0.5**
PRU **Pruhonice** 84.66 328 *e*P **P** **20 50 11.0 +0.4**
PRU *e*pP **pP** **20 50 28.0 -0.5**
PRU *e*SKS **SKSac** **21 00 26.6 -2.3**
PRU AMS AMS 21 32 00.0
comp=Z,2µm,16.1s
PRU **Pruhonice** 84.66 328 *e*P **P** **20 50 11.0 +0.4**
PRU *e**PP **pP** **20 50 28.0 -0.5**
PRU *e* 21 00 26.6
PRU MLR MLR
comp=Z,2µm,16.0s
ASSE **Asse, Remlinge** 84.69 332 *e*P **P** **20 50 10.6 0.0**
comp=Z,48nm,1.1s,baz=40,slow=5.0
RETH **Rethem/Aller,** 84.74 333 *e*P **P** **20 50 10.8 0.0**
comp=Z,57nm,0.9s,baz=40,slow=5.0
TREC **Trest** 84.74 327 *e*P **P** **20 50 11.4 +0.3**
TREC *e*pP **pP** **20 50 28.8 -0.1**
TREC AMS AMS 21 30 10.0
comp=Z,3µm,21.3s
TREC **Trest** 84.74 327 *e*P **P** **20 50 11.4 +0.3**
TREC *e**PP **pP** **20 50 28.8 -0.1**
TREC MLR MLR
comp=Z,3µm,21.3s
EPLO **Experimental L** 84.76 32 IAmb IAmb 20 50 31.3
comp=Z,92nm,1.0s
MDVR **Moldovita** 84.83 321 ⇑P **P** **20 50 11.6 0.0**
CLZ **Clausthal** 85.03 332 *e*P **P** **20 50 12.6 +0.2**
comp=Z,114nm,1.0s,baz=40,slow=5.0
CLZ *e*pP **pP** **20 50 32.0 +1.7**
CAVK **Edirne/Enez-Ca** 85.04 316 ⇓P **P** **20 50 13.4 +0.7**
RDO **Rodhopi** 85.11 317 IAmb IAmb 20 50 33.4
comp=Z,72nm,1.0s
PIX **Pinacate** 85.21 55 IAmb IAmb 20 50 16.9
comp=Z,52nm,0.9s
ZVC **Zvikov** 85.22 328 *e*P **P** **20 50 13.8 +0.4**
ZVC *e*SKS **SKSac** **21 00 30.9 -1.6**
ZVC AMS AMS 21 32 10.0
comp=Z,2µm,15.1s
LEWI **Lewis, Hebride** 85.31 343 *e*P **P** **20 50 14.1 +0.4**
LEWI IAmb IAmb 20 50 16.9
comp=Z,133nm,1.1s
TAVA **DENIZLI_Tavas** 85.40 312 ⇓P **P** **20 50 16.1 +1.4**
GTTG **Gottingen** 85.42 332 *e*P **P** **20 50 14.3 0.0**
comp=Z,93nm,0.8s,baz=40,slow=5.0
GTTG *e*PP **PP** **20 53 34.6 +2.1**
MORH **Mrgy, Hungar** 85.43 324 ⇑*i*P **P** **20 50 14.2 -0.3**
MORH **Mrgy, Hungar** 85.43 324 ⇑P **P** **20 50 14.4 -0.1**
MOX **Moxa** 85.43 330 *e*P **P** **20 50 14.4 -0.1**
comp=Z,76nm,1.2s,baz=40,slow=5.0
EZN **Ezine** 85.50 315 ⇑P **P** **20 50 14.8 -0.1**
EZN **Ezine** 85.50 315 P **P** **20 50 14.8 -0.1**
RONA **Rosalia, Austr** 85.51 326 *e*PcP **P** **20 50 15.5 +0.5**
comp=Z,100nm,1.2s,SNR=42
RONA *i* sP **pP** **20 50 34.6 +1.8**
comp=Z,226nm,1.3s
RONA *e*PP **PP** **20 53 34.0 +0.5**
comp=Z,19nm,1.1s
CONA **Conrad Observa** 85.55 326 *i* PcP **P** **20 50 15.9 +0.6**
comp=Z,51nm,0.7s,SNR=62
CONA *i* sP **pP** **20 50 35.0 +1.9**
comp=Z,177nm,1.1s

CONA *i* PP **PP** **20 53 35.1 +1.3**
comp=Z,35nm,1.2s
CKRC **Cesky Krumlov** 85.62 328 *e*P **P** **20 50 16.0 +0.6**
CKRC *e*pP **pP** **20 50 32.1 -1.2**
CKRC *e*SKS **SKSac** **21 00 32.1 -3.0**
CKRC AMS AMS 21 30 40.0
comp=Z,2µm,20.6s
CKRC **Cesky Krumlov** 85.62 328 *e*P **P** **20 50 16.0 +0.6**
CKRC *e**PP **pP** **20 50 32.1 -1.2**
CKRC *e* 21 00 32.1
CKRC MLR MLR
comp=Z,2µm,20.0s
IBBN **Ibbenburen** 85.69 333 *e*P **P** **20 50 15.5 -0.2**
comp=Z,155nm,0.7s,baz=40,slow=5.0
KHC **Kasperske Hory** 85.71 328 *e*P **P** **20 50 16.5 +0.6**
KHC *e*pP **pP** **20 53 33.8 0.0**
KHC *e*PP **PP** **20 53 36.9 +1.9**
KHC *e*SKS **SKSac** **21 00 32.5 -3.2**
KHC *ex* x 21 01 39.0
KHC AMS AMS 21 30 30.0
comp=Z,2µm,22.7s
KHC **Kasperske Hory** 85.71 328 *e*P **P** **20 50 16.5 +0.6**
KHC *e**PP **pP** **20 50 33.8 0.0**
KHC *e*SP **PP** **20 53 36.9 +1.9**
KHC *e* 21 00 32.5
KHC *e* 21 01 39.0
KHC MLR MLR
comp=Z,2µm,22.7s
MANZ **Manzenberg** 85.72 330 *e*P **P** **20 50 16.0 +0.1**
comp=Z,13nm,0.8s,baz=40,slow=5.0
KPL **Plockton** 85.72 342 *e*P **P** **20 50 16.3 +0.5**
KPL IAmb IAmb 20 50 19.1
comp=Z,226nm,1.2s
S22A **4UR Ranch, Cre** 85.83 47 IAmb IAmb 20 50 39.2
comp=Z,49nm,1.0s
ROTZ **Rotzenmuhle** 85.84 329 *e*P **P** **20 50 14.9 -1.6**
comp=Z,15nm,0.9s,baz=40,slow=5.0
ROTZ *e*pP **pP** **20 50 33.8 -0.6**
GEC2 **GERESS Array S** 85.87 328 IAmb IAmb 20 50 36.8
comp=Z,107nm,1.3s
GEC2 **GERESS Array S** 85.87 328 *e*P **P** **20 50 16.4 -0.4**
comp=Z,37nm,0.9s,baz=40,slow=5.0
GERES **GERESS Array B** 85.87 328 P **P** **20 50 15.7 -1.1**
GERES **GERESS Array B** 85.87 328 P **P** **20 50 16.8 0.0**
comp=Z,18nm,0.6s,baz=38,slow=5.0,SNR=147
GERES PP **PP** **20 53 40.5 +4.1**
comp=Z,4.9nm,1.0s,baz=40,slow=6.9,SNR=4.0
GERES PKKPbc **PKKPbc** **21 08 18.2 +1.1**
comp=Z,1.1nm,0.9s,baz=256,slow=4.0,SNR=3.8
GERES PKPPKP **P'P'df** **21 16 28.3 +1.1**
comp=Z,0.6nm,0.9s,baz=232,slow=6.5,SNR=3.5
GERES LR LR 21 31 09.3
comp=Z,2µm,20.6s,baz=50,slow=37
comp=Z,18nm,0.6s
TAOE **Nuku Hiva Isla** 85.88 103 *e*PKIKP **P** **20 50 14.0 -3.3**
comp=Z,436nm,33.1s
TAOE **Nuku Hiva Isla** 85.88 103 *e*PP **PP** **20 53 34.9 -3.0**
comp=Z,256nm,28.0s
TAOE *e*S **SKSac** **21 00 40.6 +2.9**
comp=Z,477nm,23.7s
TAOE *e*SS SS 21 06 13.1 -12
comp=Z,283nm,32.9s
TAOE **Nuku Hiva Isla** 85.88 103 *e*LR LR 21 17 24.6
comp=Z,7µm,26.4s
UBBA **Unterbreizbach** 85.96 331 *e*P **P** **20 50 16.9 0.0**
comp=Z,26nm,0.7s,baz=40,slow=5.0
UBBA *e*pP **pP** **20 50 36.2 +1.3**
IVI **Ivigtut** 86.00 4 IAmb IAmb 20 50 49.8
comp=Z,102nm,1.4s
IVI **Ivigtut** 86.00 4 *i* P **P** **20 50 15.1 -1.8**
IVI IAmb IAmb 20 50 23.0
comp=Z,43nm,1.1s
WET **Wettzell** 86.01 329 *e*P **P** **20 50 17.5 +0.1**
comp=Z,28nm,1.0s,baz=40,slow=5.0
WET *e*pP **pP** **20 50 37.1 +1.8**
EIL **Elat** 86.05 303 P **P** **20 50 17.8 -0.1**
comp=Z,15nm,0.6s,baz=43,slow=3.6,SNR=12
EIL LR LR 21 33 14.4
comp=Z,1µm,20.6s,baz=76,slow=39
comp=Z,15nm,0.6s
ESY **Stoneypath** 86.15 340 *e*P **P** **20 50 18.1 +0.2**
BEHE **Becsehely** 86.16 325 *e*P **P** **20 50 16.3 -1.9**
KUQ **Kuujjuaa** 86.17 15 IAmb IAmb 20 50 40.1
comp=Z,102nm,1.1s
NRS **Narsarsuaq** 86.19 3 *i* P **P** **20 50 18.9 +1.0**
NRS IAmb IAmb 20 50 21.8
comp=Z,28nm,0.9s
ARSA **Arzberg** 86.20 326 IAmb IAmb 20 50 38.9
comp=Z,71nm,1.1s
ARSA **Arzberg** 86.20 326 *i* PcP **P** **20 50 18.6 +0.2**
comp=Z,47nm,1.5s,SNR=22
ARSA *i* sP **pP** **20 50 37.6 +1.3**
comp=Z,92nm,1.3s
KASTN **Kahler Asten** 86.30 332 *e*P **P** **20 50 18.5 -0.2**
comp=Z,78nm,1.0s,baz=40,slow=5.0
F33A **5 Mile Ranch,** 86.31 36 IAmb IAmb 20 50 39.8
comp=Z,79nm,1.2s
GRF **Grafenberg Arr** 86.31 330 *e*P **P** **20 50 19.3 +0.4**
comp=Z,121nm,1.1s,baz=40,slow=5.0
GRF *e*pP **pP** **20 50 38.8 +2.0**
GRFO **Grafenberg** 86.32 330 P **P** **20 50 19.0 +0.2**
GRFO **Grafenberg** 86.32 330 P **P** **20 50 19.0 +0.2**
GRFO pmax pmax
comp=Z,221nm,1.1s
MOA **Molln** 86.35 327 *i* PcP **P** **20 50 19.3 +0.3**
comp=Z,55nm,1.6s,SNR=18
MOA *i* sP **pP** **20 50 38.3 +1.3**
comp=Z,82nm,1.2s
MOA *i* PP **PP** **20 53 38.7 -1.4**
comp=Z,38nm,1.3s
KOGS **Kog** 86.43 325 *e*pP pP 20 50 37.1 -0.3
BUG **Bochum--Univer** 86.56 333 *e*P **P** **20 50 19.5 -0.5**
comp=Z,89nm,1.0s,baz=40,slow=5.0
BUG *e*pP **pP** **20 50 39.1 +1.2**
BDRM **Kayabasi** 86.57 313 ⇑P **P** **20 50 19.3 -1.1**
TUC **Tucson** 86.60 53 P **P** **20 50 21.4 +0.7**
TUC **Tucson** 86.60 53 P **P** **20 50 21.4 +0.7**
TUC pmax pmax
comp=Z,41nm,1.7s
LAWE **Loch Awe, Argy** 86.61 342 *e*P **P** **20 50 20.4 +0.3**
LAWE IAmb IAmb 20 50 23.0
comp=Z,120nm,1.3s
OGNE **Ogallala** 86.61 42 IAmb IAmb 20 50 41.5
comp=Z,73nm,1.0s
ARG **Arkhangelos** 86.67 312 IAmb IAmb 20 50 24.9
comp=Z,80nm,0.9s
VAY **Valandovo** 86.69 318 *i* P **P** **20 50 21.2 +0.4**
BIOA **Bad Ischl, Aus** 86.75 327 *i* PcP **P** **20 50 21.2 +0.1**
comp=Z,71nm,1.4s,SNR=24
BIOA *i* sP **pP** **20 50 40.3 +1.3**
comp=Z,127nm,1.4s
BIOA *e*PP **PP** **20 53 42.4 -1.0**
comp=Z,32nm,1.5s
PGBU **Glenifferbraes** 86.76 341 *e*P **P** **20 50 21.3 +0.5**
PGBU IAmb IAmb 20 50 24.6
comp=Z,362nm,1.0s
MOSL **Moslavina** 86.78 324 ⇑*i*P **P** **20 50 19.8 -1.5**
EKA **Eskdalemuir Ar** 86.81 340 P **P** **20 50 21.2 +0.1**
comp=Z,48nm,1.0s,baz=35,slow=4.8,SNR=113
EKA PKKPbc **PKKPbc** **21 08 13.6 -1.4**
comp=Z,0.6nm,0.6s,baz=225,slow=2.7,SNR=8.2
comp=Z,48nm,1.0s
PERS **Pernice** 86.84 326 *i* P **P** **20 50 21.1 -0.5**
PERS *i* PcP **PcP** **20 50 21.7 -2.0**
ESK **Eskdalemuir** 86.84 340 P **P** **20 50 21.1 -0.2**
ESK **Eskdalemuir** 86.84 340 *e*P **P** **20 50 21.3 0.0**
ESK IAmb IAmb 20 50 24.2
comp=Z,62nm,0.9s
ESK **Eskdalemuir** 86.84 340 P **P** **20 50 21.1 -0.2**
ESK pmax pmax
comp=Z,155nm,1.2s
SOKA **Soboth** 86.85 326 *i* PcP **P** **20 50 21.9 +0.3**
comp=Z,115nm,1.4s,SNR=45
SOKA *i* sP **pP** **20 50 40.3 +0.8**
comp=Z,110nm,1.0s
RUDO **Rudo** 86.86 322 *e*P **P** **20 50 21.0 -0.7**
SKO **Skopje** 86.88 319 *i* P **P** **20 50 22.9 +1.2**
TBI **Tubuai** 87.03 120 *e*P P 20 50 17.6 -5.0
comp=Z,2µm,32.0s
TBI **Tubuai** 87.03 120 *e*PP **PP** **20 53 46.5 -0.5**
comp=Z,1µm,32.2s
TBI *e*S **S** **21 00 54.4 -1.9**
comp=Z,3µm,25.8s
TBI *e*SS SS 21 06 29.7 -12
comp=Z,1µm,30.0s
TBI *e*LQ LQ 21 13 31.2

TBI *e*LR LR 21 17 30.8
comp=Z,27µm,34.5s
TBI *e*LR LR 21 17 35.4
comp=Z,5µm,32.8s
TNS Taunus Mts 87.05 331 *e*P **P 20 50 22.3 -0.2**
comp=Z,37nm,1.1s,baz=40,slow=5.0
RJOB Jochberg 87.10 328 *e*P **P 20 50 22.8 0.0**
comp=Z,41nm,0.9s,baz=40,slow=5.0
RJOB *ep*P **pP 20 50 42.0 +1.2**
A051A Mrakovica 87.14 324⇑ *i*P **P 20 50 22.6 -0.4**
BLY Banja Luka 87.19 323⇑ *i*P **P 20 50 23.8 +0.6**
BLY Banja Luka 87.19 323 ⇑P **P 20 50 23.1 -0.1**
OBKA Obir 87.20 326 *i* PcP **P 20 50 23.3 -0.1**
comp=Z,13nm,0.7s,SNR=9.7
OBKA *i* sP **pP 20 50 41.9 +0.6**
comp=Z,17nm,0.9s
NEWG New Galloway 87.30 341 *e*P **P 20 50 23.4 -0.1**
NEWG lAmb lAmb 20 50 26.1
comp=Z,109nm,1.3s
PDKS Podkum 87.31 325 *e*P **P 20 50 23.1 -0.8**
PDKS *i* PcP **PcP 20 50 23.9 -2.0**
KBA Koelnbreinsper 87.34 327 *i* PcP **P 20 50 24.0 -0.1**
comp=Z,23nm,0.7s
KBA *i* sP **pP 20 50 43.1 +1.0**
comp=Z,44nm,0.9s
KBA *e*PP **PP 20 53 52.4 +4.0**
comp=Z,48nm,0.9s
LESA Schwarzleotal 87.39 328 *i* PcP **P 20 50 24.4 +0.2**
comp=Z,46nm,0.7s,SNR=27
LESA *i* sP **pP 20 50 43.2 +1.0**
comp=Z,36nm,0.6s
LESA *e*PP **PP 20 53 48.0 -0.6**
comp=Z,46nm,1.5s
OZLJ Ozalj 87.41 325⇑ *i*P **P 20 50 23.8 -0.4**
KESW Keswick, Cumbr 87.44 340 *e*P **P 20 50 24.4 +0.2**
KESW lAmb lAmb 20 50 27.3
comp=Z,111nm,1.2s
FUR Furstenfeldbru 87.45 329 *e*P **P 20 50 24.6 +0.2**
comp=Z,70nm,1.1s,baz=40,slow=5.0
MYKA Terra Mystica 87.53 327 *i* P **P 20 50 24.5 -0.4**
comp=Z,27nm,0.6s,SNR=12
MYKA *i* sP **pP 20 50 43.2 +0.3**
comp=Z,26nm,0.7s
MYKA *e*PP **PP 20 53 52.2 +2.4**
comp=Z,68nm,1.5s
LIT Litokhoron 87.55 317 lAmb lAmb 20 50 33.9
comp=Z,32nm,0.7s
KSCO Kaye Shedlock' 87.55 44 lAmb lAmb 20 50 46.4
comp=Z,54nm,1.0s
LJU Ljubljana 87.55 326 *i* PcP **P 20 50 24.9 0.0**
KLINJ Klinje 87.58 322 *e*P **P 20 50 24.6 -0.7**
ECSD EROS Data Cent 87.63 38 lAmb lAmb 20 50 46.0
comp=Z,66nm,1.1s
CRNS Crni Vrh 87.65 326 *e*P **P 20 50 24.1 -1.3**
CRNS *i* PcP **PcP 20 50 24.9 -2.4**
CRNS *ep*P **pP 20 50 42.8 -0.6**
GAL1 Galloway 87.66 341 *e*P **P 20 50 25.3 +0.1**
GAL1 lAmb lAmb 20 50 27.6
comp=Z,192nm,1.6s
BTNL Ternell 87.67 333 *d*P **P 20 50 25.3 -0.2**
comp=Z,66nm,1.0s
BEBN Eben Emael 87.68 333 *d*P **P 20 50 25.2 -0.1**
comp=Z,160nm,0.9s
BEBN *dp*P **pP 20 50 40.5 -2.8**
KARP Karpathos 87.70 311 lAmb lAmb 20 50 30.0
comp=Z,83nm,0.8s
KARP Karpathos 87.70 311 *e*P **P 20 50 23.6 -2.3**
MEM Membach 87.70 333 *d*P **P 20 50 25.9 +0.4**
comp=Z,80nm,1.0s
A050A Klekovaca 87.70 324⇑ *i*P **P 20 50 25.6 -0.2**
PDG Podgorica 87.74 321 lAmb lAmb 20 50 50.9
comp=Z,44nm,0.8s
PDG Podgorica 87.74 321 ⇑P **P 20 50 25.6 -0.3**
OHR Ohrid 87.81 319 *i* P **P 20 50 26.6 +0.3**
ANMO Albuquerque 87.83 49 P **P 20 50 26.7 0.0**
ANMO Albuquerque 87.83 49 LR LR 21 26 53.8
comp=Z,2µm,19.7s,baz=40,slow=34
ANMO Albuquerque 87.83 49*c i*P **P 20 50 27.3 +0.6**
ANMO pmax pmax
comp=Z,22nm,1.4s
CLGH Cloghs, Cushen 87.85 342 *e*P **P 20 50 27.4 +1.2**
STU Stuttgart 87.87 330 lAmb lAmb 20 50 47.5
comp=Z,111nm,1.3s
STU Stuttgart 87.87 330 *e*P **P 20 50 25.9 -0.5**
STU Stuttgart 87.87 330 *e*P **P 20 50 26.8 +0.4**
comp=Z,91nm,0.8s,baz=40,slow=5.0
STU *ep*P **pP 20 50 45.4 +1.0**
BSTI Sart Tilman 87.89 333 *d*P **P 20 50 26.6 +0.2**
comp=Z,25nm,1.0s
BHOU Houvegnez 87.91 333 *d*P **P 20 50 26.9 +0.3**
comp=Z,43nm,1.1s
BHOU *dp*P **pP 20 50 41.8 -2.8**
BHOU *ds*P **sP 20 50 45.6 -6.0**
WATA Walderalm 87.95 328 *i* PcP **P 20 50 26.6 -0.3**
comp=Z,13nm,0.7s
WATA *i* sP **pP 20 50 46.0 +1.0**
comp=Z,21nm,0.7s
WATA *e*PP **PP 20 53 56.4 +3.3**
comp=Z,41nm,1.3s
ABTA Abfaltersbach 87.97 327 *i* P **P 20 50 26.2 -0.8**
comp=Z,41nm,0.7s,SNR=24
ABTA *i* sP **pP 20 50 45.2 +0.2**
comp=Z,29nm,0.7s
WTTA Wattenberg 87.97 328 *i* PcP **P 20 50 27.1 0.0**
comp=Z,15nm,0.6s,SNR=9.3
WTTA *i* sP **pP 20 50 45.9 +0.8**
comp=Z,27nm,0.6s
E38A The Farm, Brul 88.00 33 lAmb lAmb 20 50 49.0
comp=Z,73nm,1.0s
TREB Trebinje 88.02 321⇑ *i*P **P 20 50 26.3 -0.9**
SABO M.te Sabotino 88.03 326 lAmb lAmb 20 50 46.3
comp=Z,120nm,1.4s
Y22D IRIS PASSCAL I 88.08 50 P **P 20 50 28.8 +0.9**
baz=309
KIJV Kijevo 88.11 323 *e*P **P 20 50 27.3 -0.3**
IOMK Kirk Michael 88.15 340 *e*P **P 20 50 28.2 +0.6**
IOMK lAmb lAmb 20 50 30.3
comp=Z,46nm,1.2s
MOTA Moosalm 88.15 328 *i* PcP **P 20 50 27.8 -0.1**
comp=Z,21nm,1.2s,SNR=6.9
MOTA *i* sP **pP 20 50 46.6 +0.7**
comp=Z,36nm,0.7s
TRI Trieste 88.16 326 lAmb lAmb 20 50 45.8
comp=Z,96nm,1.3s
UCC Uccle 88.17 334 lAmb lAmb 20 50 47.5
comp=Z,60nm,1.1s
UCC Uccle 88.17 334 *d*P **P 20 50 28.2 +0.5**
comp=Z,37nm,0.9s
RETA Reutte 88.19 329 *i* PcP **P 20 50 28.5 +0.4**
comp=Z,22nm,0.7s,SNR=8.9
RETA *i* sP **pP 20 50 47.0 +1.0**
comp=Z,51nm,0.8s
RETA *e*PP **PP 20 53 54.0 -1.0**
comp=Z,15nm,1.0s
SQTA Sankt Quirin 88.20 328 *i* PcP **P 20 50 28.2 +0.1**
comp=Z,23nm,0.9s,SNR=9.5
SQTA *i* sP **pP 20 50 46.4 +0.3**
comp=Z,31nm,0.8s
SQTA *i* PP **PP 20 53 54.3 -0.8**
comp=Z,39nm,1.3s
IDGL Inch Island, C 88.22 342 P **P 20 50 28.7 +0.8**
IDGL Inch Island, C 88.22 342 *e*P **P 20 50 28.4 +0.5**
IDGL lAmb lAmb 20 50 31.3
comp=Z,29nm,0.9s
BGES Gesves 88.23 333 *d*P **P 20 50 28.5 +0.4**
comp=Z,58nm,1.0s
BGES *dp*P **pP 20 50 42.1 -4.0**
RCHB Rochefort 88.36 333 *d*P **P 20 50 28.5 -0.2**
comp=Z,64nm,1.0s
MSEY Mahe Island 88.38 263 P **P 20 50 30.0 +0.6**
MSEY lAmb lAmb 20 50 33.7
comp=Z,76nm,1.1s
MSEY Mahe Island 88.38 263 P **P 20 50 30.2 +0.9**
MSEY Mahe Island 88.38 263 P **P 20 50 30.0 +0.6**
MSEY pmax pmax
comp=Z,76nm,1.1s
MSEY Mahe Island 88.38 263 *i* P **P 20 50 30.3 +0.9**
SNR=8.4
WLF Walferdange 88.40 332 *d*P **P 20 50 29.9 +1.1**
comp=Z,49nm,1.1s
WLF Walferdange 88.40 332 *e*P **P 20 50 29.1 +0.3**
comp=Z,76nm,1.4s,baz=40,slow=5.0
WLF *ep*P **pP 20 50 48.6 +1.7**
BMRD Maredsous 88.42 333 *d*P **P 20 50 29.7 +0.8**
comp=Z,90nm,1.0s

SPMN Marine on St. 88.44 35 lAmb lAmb 20 50 49.9
comp=Z,72nm,1.1s
STNC Stoke 88.47 339 *e*P **P 20 50 30.0 +0.9**
STNC lAmb lAmb 20 50 32.3
comp=Z,90nm,1.1s
FETA Feichten 88.56 328 *i* PcP **P 20 50 30.0 +0.1**
comp=Z,31nm,1.2s,SNR=10
FETA *i* sP **pP 20 50 48.9 +1.0**
comp=Z,49nm,0.8s
FETA *e*PP **PP 20 53 53.7 -4.4**
comp=Z,37nm,1.3s
BFO Black Forest 88.58 330 P **P 20 50 29.2 -0.6**
BFO lAmb lAmb 20 50 49.0
comp=Z,38nm,0.8s
BFO Black Forest 88.58 330 P **P 20 50 29.2 -0.6**
BFO pmax pmax
comp=Z,38nm,0.8s
BFO Black Forest 88.58 330 *e*P **P 20 50 29.2 -0.6**
comp=Z,31nm,0.7s,baz=40,slow=5.0
BFO *e*PP **PP 20 53 57.9 -0.2**
DOU Dourbes 88.65 333 *d*P **P 20 50 30.6 +0.5**
comp=Z,26nm,1.1s
DAVA Damuels 88.73 329 *i* PcP **P 20 50 30.9 +0.2**
comp=Z,56nm,1.0s,SNR=16
DAVA *i* sP **pP 20 50 49.5 +0.8**
comp=Z,113nm,1.3s
BRJN Brijuni 88.76 325⇑ *i*P P 20 50 24.2 -6.4
WME Myndd Eilian 88.83 340 *e*P **P 20 50 31.0 +0.2**
ILTH Belurgan, Co L 88.84 341 P **P 20 50 32.3 +1.5**
ILTH Belurgan, Co L 88.84 341 *e*P **P 20 50 31.2 +0.4**
FOEL Foel Wylfa 88.95 339 *e*P **P 20 50 31.6 +0.2**
FOEL lAmb lAmb 20 50 33.0
comp=Z,104nm,0.6s
WLF1 Llynfaes 88.95 340 *e*P **P 20 50 31.5 +0.1**
WLF1 lAmb lAmb 20 50 32.7
comp=Z,73nm,0.7s
LLW Llanuwychllyn 89.12 339 *e*P **P 20 50 32.2 0.0**
LLW lAmb lAmb 20 50 33.6
comp=Z,20nm,0.8s
ECH Echery 89.15 331 lAmb lAmb 20 50 53.5
comp=Z,35nm,1.0s
RTBA Rita Blanca 89.18 46 lAmb lAmb 20 50 37.3
comp=Z,79nm,1.7s
IDI Anoyia 89.29 312 lAmb lAmb 20 50 38.3
comp=Z,79nm,1.1s
IDI Anoyia 89.29 312 P **P 20 50 32.3 -1.1**
comp=Z,29nm,0.6s,baz=22,slow=13,SNR=25
IDI LR LR 21 35 59.4
comp=Z,960nm,20.6s,baz=50,slow=39
comp=Z,29nm,0.6s
CBKS Cedar Bluff 89.35 43 lAmb lAmb 20 50 54.6
comp=Z,46nm,0.9s
COWI Conover 89.48 32 lAmb lAmb 20 50 54.7
comp=Z,48nm,0.9s
SCHQ Schefferville 89.53 15 lAmb lAmb 20 50 55.2
comp=Z,63nm,1.1s
SCHQ Schefferville 89.53 15 P **P 20 50 33.6 -0.5**
comp=Z,18nm,0.7s,baz=354,slow=6.6,SNR=12
comp=Z,18nm,0.7s
DSB Dublin 89.55 341 lAmb lAmb 20 50 54.5
comp=Z,120nm,1.6s
DSB Dublin 89.55 341 P **P 20 50 34.6 +0.4**
STRD Stroud 89.59 338 *e*P **P 20 50 34.2 -0.2**
TUE Stuetta 89.59 329 lAmb lAmb 20 50 54.8
comp=Z,70nm,1.1s
G40A Rib Lake 89.63 33 lAmb lAmb 20 50 55.5
comp=Z,54nm,0.9s
MCH1 Michaelchurch 89.66 338 *e*P **P 20 50 34.8 0.0**
MCH1 lAmb lAmb 20 50 36.0
comp=Z,87nm,0.6s
MONM Monmouth 89.74 338 *e*P **P 20 50 34.9 -0.2**
MONM lAmb lAmb 20 50 36.4
comp=Z,66nm,0.7s
N35A Tabor 90.18 39 lAmb lAmb 20 50 58.4
comp=Z,61nm,0.8s
IGLA Glengowla, Co 90.19 343 P **P 20 50 37.1 0.0**
ATD Arta Tunnel 90.19 284 lAmb lAmb 20 51 00.1
comp=Z,81nm,1.1s
ATD Arta Tunnel 90.19 284 LR LR 21 33 23.2
comp=Z,18nm,21.9s,baz=48,slow=37
IWEX Carrickbyrne, 90.44 341 P **P 20 50 39.1 +0.8**
SENIN Lac Senin/Sane 90.56 330 lAmb lAmb 20 51 04.5
comp=Z,34nm,0.9s
MSTX Muleshoe 90.78 48 lAmb lAmb 20 51 01.4
comp=Z,49nm,1.8s
AMTX Amarillo 90.85 47 lAmb lAmb 20 51 02.4
comp=Z,50nm,0.8s
OSSC Osservatorio P 90.99 326 lAmb lAmb 20 51 00.4
comp=Z,60nm,1.0s
CESX Cesi 91.03 324 lAmb lAmb 20 51 00.7
comp=Z,66nm,1.4s
PAOL Paolisi 91.20 322 lAmb lAmb 20 51 04.8
comp=Z,91nm,1.7s
CLF Chambon-Foret 91.23 333 lAmb lAmb 20 51 03.5
comp=Z,61nm,1.0s
I42A Draeger Farm, 91.28 33 lAmb lAmb 20 51 03.2
comp=Z,38nm,0.9s
DYA Yadsworthy 91.31 338 *e*P **P 20 50 41.8 -0.7**
JFWS Jewell Farm 91.39 35 lAmb lAmb 20 51 04.2
comp=Z,27nm,0.8s
VHRN Van Horn 91.42 52 lAmb lAmb 20 50 46.5
comp=Z,19nm,0.8s
L40A Anamosa 91.56 36 lAmb lAmb 20 51 04.3
comp=Z,50nm,1.0s
SMWD Samnorwood 91.58 46 lAmb lAmb 20 51 05.6
comp=Z,58nm,1.0s
JLP Les Platons 91.75 337 *e*P **P 20 50 45.0 +0.5**
PECS Pecos 91.78 51 lAmb lAmb 20 50 48.4
comp=Z,86nm,1.6s
LPIG La Paz 91.88 60 LR LR 21 28 43.0
comp=Z,783nm,18.8s,baz=298,slow=33
ODSA Odessa 92.14 49 lAmb lAmb 20 50 51.6
comp=Z,56nm,1.4s
POST Post 92.17 48 lAmb lAmb 20 50 49.3
comp=Z,20nm,0.8s
P38A Dawn 92.19 39 lAmb lAmb 20 51 10.1
comp=Z,36nm,0.9s
BLOK Blackwell 92.21 43 lAmb lAmb 20 51 08.0
comp=Z,50nm,0.9s
VLDQ Val d'Or 92.50 24 lAmb lAmb 20 51 07.8
comp=Z,81nm,1.7s
T35A Sooner Cattle 92.50 42 lAmb lAmb 20 51 09.3
comp=Z,55nm,1.1s
CEL Celeste 92.51 320 lAmb lAmb 20 51 07.9
comp=Z,56nm,1.0s
MNHN Monahans 92.51 50 lAmb lAmb 20 51 13.5
comp=Z,25nm,0.9s
ALPN Alpine 92.57 51 lAmb lAmb 20 50 51.7
comp=Z,20nm,0.8s
SSB Saint Sauveur 92.58 331 lAmb lAmb 20 51 09.2
comp=Z,50nm,0.9s
OK051 E0350 and S346 92.61 43 lAmb lAmb 20 51 09.7
comp=Z,38nm,1.0s
SN05 Snyder 5 92.68 48 lAmb lAmb 20 51 12.5
comp=Z,21nm,0.8s
WMOK Wichita Mounta 92.70 45 lAmb lAmb 20 51 10.3
comp=Z,38nm,0.9s
OK052 Battle Ridge R 92.99 43 lAmb lAmb 20 51 11.5
comp=Z,53nm,1.0s
P40A Paris 93.03 38 lAmb lAmb 20 51 11.5
comp=Z,39nm,1.0s
TXAR Lajitas Array 93.23 52 P **P 20 50 51.7 -0.1**
TXAR Lajitas Array 93.23 52 P **P 20 50 52.4 +0.6**
comp=Z,50nm,0.6s,baz=300,slow=3.1,SNR=450
TXAR PKKPbc **PKKPbc 21 08 01.1 +2.5**
comp=Z,0.5nm,0.8s,baz=102,slow=5.8,SNR=4.1
TXAR SKKPbc SKKPbc 21 11 32.3 +3.0
comp=Z,0.5nm,0.8s,baz=142,slow=6.2,SNR=4.8
TXAR LR LR 21 29 46.4
comp=Z,1µm,19.7s,baz=306,slow=34
comp=Z,50nm,0.6s
X34A Smith Ranch, M 93.36 45 lAmb lAmb 20 50 57.4
comp=Z,56nm,1.4s
HPIG 93.42 55 lAmb lAmb 20 50 56.2
comp=Z,42nm,0.7s
WTFS Witchita Falls 93.56 46 lAmb lAmb 20 51 14.0
comp=Z,46nm,1.0s
ABTX Abilene, Hawle 93.62 47 lAmb lAmb 20 51 14.8
comp=Z,46nm,1.0s
TUL3 Leonard 93.63 43 lAmb lAmb 20 50 55.7
comp=Z,40nm,0.7s
R40A Maddies Statio 93.84 39 lAmb lAmb 20 50 56.0
comp=Z,32nm,0.6s
SAND Sanderson 93.84 51 lAmb lAmb 20 51 00.2
comp=Z,47nm,1.4s
VAE Valguarnera 93.88 320 LR LR 21 37 40.5
comp=Z,2µm,19.5s,baz=84,slow=38

U38A Gravette 94.04 41 lAmb lAmb 20 51 15.9
comp=Z,22nm,0.9s
P43A Skaggs, Pawnee 94.24 36 lAmb lAmb 20 51 16.7
comp=Z,26nm,0.9s
PLPT Palo Pinto 94.31 46 lAmb lAmb 20 51 17.8
comp=Z,34nm,0.9s
CCM Cathedral Cave 94.55 38 P **P 20 50 57.6 0.0**
CCM lAmb lAmb 20 51 18.1
comp=Z,42nm,1.1s
CCM Cathedral Cave 94.55 38 P **P 20 50 57.6 0.0**
CCM pmax pmax
comp=Z,42nm,1.1s
LDAQ Lac Daran 94.64 21 lAmb lAmb 20 51 20.2
comp=Z,33nm,1.1s
MGMO Mountain Grove 94.68 40 lAmb lAmb 20 51 19.7
comp=Z,29nm,1.0s
SADO Sadowa 94.72 27 LR LR 21 35 50.4
comp=Z,311nm,20.2s,baz=330,slow=37
SFIN Lafayette 94.85 35 lAmb lAmb 20 51 04.1
comp=Z,65nm,1.6s
BRDY Brady 94.94 48 lAmb lAmb 20 51 20.7
comp=Z,32nm,1.1s
VSL Villasalto 94.97 324 lAmb lAmb 20 51 20.6
comp=Z,40nm,1.2s
JCT Junction City 94.98 49 lAmb lAmb 20 51 23.6
comp=Z,28nm,0.8s
Q44A Meyer Farm, Va 95.05 37 lAmb lAmb 20 51 21.9
comp=Z,27nm,0.9s
N47A Urbana 95.12 33 lAmb lAmb 20 51 20.5
comp=Z,26nm,1.0s
TRQ Mont Tremblant 95.12 24 lAmb lAmb 20 51 23.6
comp=Z,27nm,1.1s
DRIO Del Rio 95.17 50 lAmb lAmb 20 51 04.5
comp=Z,24nm,0.9s
LMQ La Malbaie 95.28 20 lAmb lAmb 20 51 23.1
comp=Z,47nm,1.3s
P46A Rosedale 95.39 35 lAmb lAmb 20 51 29.7
comp=Z,20nm,0.8s
WHTX Lake Whitney, 95.40 46 lAmb lAmb 20 51 22.9
comp=Z,46nm,0.9s
DELO Deloro Mine 95.51 26 lAmb lAmb 20 51 22.1
comp=Z,24nm,1.1s
OLIL Olney 95.64 36 lAmb lAmb 20 51 24.9
comp=Z,41nm,0.9s
SIUC Southern Illin 95.86 37 lAmb lAmb 20 51 24.1
comp=Z,24nm,1.0s
MIAR Mount Ida 95.87 42 lAmb lAmb 20 51 26.0
comp=Z,30nm,0.9s
PBMO Poplar Bluff 95.94 39 lAmb lAmb 20 51 26.0
comp=Z,34nm,1.1s
HNDO Hondo 95.95 49 lAmb lAmb 20 51 28.2
comp=Z,20nm,1.0s
WHAR Wooly Hollow 96.04 41 lAmb lAmb 20 51 26.1
comp=Z,20nm,0.9s
CEST Esterri de Car 96.14 331 lAmb lAmb 20 51 25.9
comp=Z,27nm,1.0s
833A Chaparral WMA, 96.70 50 lAmb lAmb 20 51 10.6
comp=Z,24nm,0.9s
BATG Bathurst New B 96.71 18 lAmb lAmb 20 51 16.0
comp=Z,79nm,1.9s
WCI Wyandotte Cave 96.92 35 P **P 20 51 07.6 -0.8**
WCI lAmb lAmb 20 51 29.0
comp=Z,24nm,1.0s
WCI Wyandotte Cave 96.92 35 P **P 20 51 07.6 -0.8**
WCI pmax pmax
comp=Z,24nm,1.0s
R50A Paris 97.82 34 lAmb lAmb 20 54 58.3
comp=Z,35nm,1.2s
KEST Kesra 97.88 322 P **P 20 51 12.7 -0.3**
comp=Z,111nm,0.9s,baz=347,slow=2.5,SNR=5.4
KEST LR LR 21 39 44.9
comp=Z,2µm,19.6s,baz=37,slow=38
comp=Z,11nm,0.9s
M57A Sunshine Farm, 98.41 28 lAmb lAmb 20 51 37.4
comp=Z,26nm,1.2s
T50A Nancy 98.58 35 lAmb lAmb 20 55 03.3
comp=Z,28nm,1.2s
Q54A Coxs Mills 98.84 31 lAmb lAmb 20 55 16.9
comp=Z,24nm,1.0s
PBRG Braganca 99.83 336 *e*Pdif **Pdif 20 51 21.6 +0.2**
PBRG *ep*Pdif **pP 20 51 39.1 -0.5**
PGAV Gavieira, Arco 100.21 337 *ep*Pdif **pPdif 20 51 43.1 +1.8**
PGAV *e*LR LR 21 26 28.1
PGAV *i* lAMs_20 lAMs_20 21 40 30.0
comp=Z,790nm,20.0s
MVO Moncorvo 100.50 336 *ep*Pdif **pPdif 20 51 41.9 -0.7**
MVO *e*LR LR 21 26 26.7
MVO *i* lAMs_20 lAMs_20 21 40 37.7
comp=Z,1µm,22.0s
POLO Lamas de Olo 100.58 336 *e*Pdif **Pdif 20 51 25.1 +0.2**
POLO *ep*Pdif pP 20 51 44.0 +0.9
ESDC Sonseca Array 100.69 333 P **Pdif 20 51 24.6 -0.7**
comp=Z,0.9nm,0.6s,baz=26,slow=4.2,SNR=7.0
PMRV Marv??o 102.17 335 *ep*Pdif **pPdif 20 51 51.7 +1.7**
PMRV *e*LR LR 21 26 57.0
PMRV *i* lAMs_20 lAMs_20 21 41 37.4
comp=Z,1µm,22.0s
EVO Evora 103.19 335 *e*Pdif **Pdif 20 51 35.2 -1.2**
PARRA Arraiolos 103.29 336 *e*Pdif **Pdif 20 51 36.1 -0.8**
PARRA *ep*Pdif **pPdif 20 51 53.9 -1.1**
MESJ Messejana 103.88 335 *e*PP **PP 20 55 56.4 +0.3**
MESJ lAMs_20 lAMs_20 21 42 06.0
comp=Z,1µm,18.8s
PVAQ Vaqueiros 104.09 334 *e*LR LR 21 28 00.9
PVAQ *i* lAMs_20 lAMs_20 21 43 00.1
comp=Z,1µm,20.0s
MORF Marmelete 104.51 335 *e*PP **PP 20 56 00.9 +0.1**
MORF lAMs_20 lAMs_20 21 42 34.1
comp=Z,1µm,20.7s
VNDA Vanda 110.89 175 Pdif **Pdif 20 52 00.5 -9.0**
VNDA Vanda 110.89 175 PKKPbc PKKPbc 21 07 09.1 +0.3
comp=Z,1.3nm,0.9s,baz=226,slow=2.0,SNR=4.8
VNDA Vanda 110.89 175 P **Pdif 20 52 00.5 -9.0**
PMOZ Porto Moniz, M 111.38 340 *e*LR LR 21 32 02.3
PMOZ *i* lAMs_20 lAMs_20 21 46 15.3
comp=Z,542nm,20.0s
SBA Scott Base 111.58 174 Pdif **Pdif 20 52 02.3 -10**
SBA Scott Base 111.58 174 P **Pdif 20 52 02.3 -10**
MAW Mawson 115.47 204 PKP **PKPdf 20 56 17.2 -0.3**
comp=Z,3.3nm,0.6s,baz=90,slow=2.8,SNR=16
MAW SKP 20 59 47.5
comp=Z,6.7nm,0.8s,baz=297,slow=2.0,SNR=6.6
LSZ Lusaka 116.78 269 PKPdf 20 56 21.0 -0.8
LSZ Lusaka 116.78 269 PKIKP **PKPdf 20 56 21.0 -0.8**
TORD Torodi Ar. Bea 119.69 312 PKPdf 20 56 26.7 -0.7
TORD Torodi Ar. Bea 119.69 312 PKP **PKPdf 20 56 26.6 -0.8**
comp=Z,4.7nm,0.6s,baz=34,slow=2.0,SNR=29
TORD PKKPbc **PKKPbc 21 06 38.4 +1.6**
comp=Z,2.7nm,0.8s,baz=237,slow=2.5,SNR=6.2
BROLN Tlhalogang 120.21 263 *i* P **PKiKP 20 56 28.7 +0.4**
MREMI Moremi 120.76 262 *i* P **PKiKP 20 56 29.9 +0.5**
LPHEP Lephephe 122.42 262 *i* P **PKiKP 20 56 32.8 +0.2**
QSPA South Pole Qui 122.62 180 PKP **PKiKP 20 56 32.1 +0.5**
comp=Z,19nm,0.6s,baz=294,slow=1.0,SNR=88
QSPA PKKPbc **PKKPbc 21 06 26.4 -1.0**
comp=Z,3.9nm,1.1s,baz=66,slow=3.2,SNR=3.2
SJG San Juan 123.24 31 PKP **PKiKP 20 56 34.2 -0.1**
comp=Z,17nm,0.4s,baz=77,slow=4.3,SNR=6.7
KDWAN Kaudwane 123.42 262 *i* P **PKiKP 20 56 34.9 +0.3**
SYO Syowa Base 124.16 205‖ *e*Pdiff **Pdif 20 53 10.8 +2.2**
SYO Syowa Base 124.16 205‖ *ep*Pdiff pPdif 20 53 26.8 +0.2
SYO Syowa Base 124.16 205‖ *e*PKiKP **PKiKP 20 56 36.8 +2.3**
SKOMA Sekoma 124.50 261 *i* P **PKiKP 20 56 37.0 +0.3**
BOSA Boshof 125.00 256 PKP **PKPdf 20 56 37.2 0.0**
comp=Z,9.2nm,0.6s,baz=75,slow=1.9,SNR=25
BOSA PKKPbc **PKKPbc 21 06 16.6 0.0**
comp=Z,5.6nm,1.0s,baz=212,slow=3.2,SNR=4.1
KGCAE Kacgae 125.25 264 *i* P **PKiKP 20 56 39.9 +1.7**
GRTLG Ghanzi 125.45 266 *i* P **PKiKP 20 56 39.2 +0.5**
DBIC Dimbokro 128.75 314 PKP **PKPdf 20 56 44.8 0.0**
comp=Z,9.2nm,0.6s,baz=41,slow=2.1,SNR=9.3
SDV Santo Domingo 128.94 41 PKPdf 20 56 45.6 +0.2
SDV Santo Domingo 128.94 41 PKP **PKiKP 20 56 45.7 -0.3**
comp=Z,52nm,0.9s,baz=349,slow=1.2,SNR=19
SDV Santo Domingo 128.94 41 *e*P **PKiKP 20 56 46.2 +0.2**
ROSC El Rosal 130.00 48 PKP **PKiKP 20 56 48.6 +0.2**
comp=Z,16nm,0.4s,baz=318,slow=4.8,SNR=8.3
BAUV El Baul 130.29 38 PKPdf 20 56 47.0 -0.6
OTAV Otavalo 130.68 56 *e*P **PKiKP 20 56 50.1 +0.2**
PCRV Puerto La Cruz 130.92 34 PKP **PKPdf 20 56 48.9 0.0**
comp=Z,16nm,0.6s,baz=0.0,slow=4.0,SNR=12
SNAA Sanae 136.56 196 ⇑P PKPpre 20 56 44.3
comp=Z,93nm,0.3s
SNAA Sanae 136.56 196 PKP **PKPdf 20 56 58.0 +0.2**
comp=Z,4.8nm,0.6s,baz=164,slow=6.3,SNR=8.8
SNAA SKPbc **SKPbc 21 00 23.6 -0.8**

comp=Z,10nm,0.8s,baz=29,slow=2.0,SNR=5.3
SNAA Sanae 136.56 196 PKIKP **PKPdf 20 56 58.0 +0.2**
VNA2 Neumayer--Watz 138.12 195 ⇑P PKPpre 20 56 50.6
comp=Z,30nm,0.6s,baz=122,slow=2.6
VNA3 Neumayer Olymp 138.36 194 ⇑P PKPpre 20 56 53.3
comp=Z,1.7nm,0.3s
VNA1 Neumayer--Stat 138.52 195 ⇑P PKPpre 20 56 50.2
comp=Z,12nm,0.8s
BOAV Boa Vista 139.66 34 *e*P **PKiKP 20 57 06.6 -0.9**
TBTG Tabatinga, AM 139.70 51 *e*P **PKPdf 20 57 06.0 +0.8**
MDP Montagnes des 140.22 21 PKP **PKPdf 20 57 05.9 -0.3**
comp=Z,8.1nm,0.6s,baz=240,slow=1.9,SNR=15
CZSB Cruzeiro do Su 140.32 58 PKPpre 20 56 59.2
CZSB Cruzeiro do Su 140.32 58 *e*P **PKPdf 20 57 06.1 -0.2**
TEFE Tefe 142.47 44 *e*P **PKPdf 20 57 09.6 -0.6**
MACA Manacapuru-AM 144.38 38 **PKPab 20 57 10.4 -1.3**
MACA Manacapuru-AM 144.38 38 *e*P **PKPdf 20 57 14.6 +1.1**
PMSA Palmer Station 144.68 162 **PKPab 20 57 09.5 -1.8**
PMSA Palmer Station 144.68 162 *e*P **PKPdf 20 57 13.4 +1.0**
ITTB Itaituba 147.82 32 *e*P **PKPdf 20 57 20.6 +1.2**
TMAB Tom-Au,PA,Br 148.60 17 *e*P **PKPbc 20 57 23.0 -1.4**
LPAZ La Paz 149.27 64 PKP **PKPdf 20 57 23.0 +0.6**
comp=Z,51nm,1.1s,baz=358,slow=2.9,SNR=24
LPAZ PKPbc **PKiKP 20 57 27.7 -0.2**
comp=Z,50nm,0.6s,baz=348,slow=2.6,SNR=42
LPAZ La Paz 149.27 64 *e*P **PKPdf 20 57 24.2 +1.8**
NPGB Novo Progresso 150.36 33 *e*P **PKPdf 20 57 25.0 +1.5**
NBCL Cascavel-CE 151.49 358 *e*P **PKPdf 20 57 28.2 +3.0**
PRPB Parauapebas 151.74 22 *e*P **PKPdf 20 57 25.8 +0.2**
COYC Coyhaique 151.91 126 **PKiKP 20 57 32.2 +0.5**
VILB Vilhena 152.56 49 *e*P **PKPdf 20 57 28.2 +1.5**
NBPB Pedra_Branca-C 152.82 0 *e*P **PKPdf 20 57 29.4 +2.2**
RCBR Riachuelo 152.90 352 **PKPbc 20 57 34.3 -0.3**
RCBR Riachuelo 152.90 352 PKiKP **PKPbc 20 57 34.3 -0.3**
RCBR Riachuelo 152.90 352 *e*P **PKPdf 20 57 30.1 +2.7**
CLDB Colider 153.44 38 *e*P **PKPdf 20 57 29.0 +1.0**
PDRB Porto dos Gac 153.56 41 *e*P **PKPdf 20 57 29.2 +1.0**
PLCA Paso Flores 153.98 116 PKP **PKPdf 20 57 28.1 -0.1**
comp=Z,1.3nm,0.7s,baz=142,slow=5.1,SNR=3.9
PLCA PKPbc **PKiKP 20 57 37.2 +0.9**
comp=Z,19nm,1.0s,baz=263,slow=4.1,SNR=19
PLCA PKPab **PKPab 20 57 49.9 0.0**
comp=Z,18nm,0.8s,baz=220,slow=5.5,SNR=12
PLCA Paso Flores 153.98 116 *e*P **PKPdf 20 57 30.1 +1.9**
SMTB Santa Maria do 154.95 19 *e*P **PKPdf 20 57 32.3 +2.1**
PTLB Pontes e Lacer 155.11 51 *e*P **PKPdf 20 57 32.3 +2.0**
BBSD Serra de San D 155.35 56 *e*P **PKPdf 20 57 31.2 +0.5**
CFA Coronel Fontan 155.64 95 PKP **PKPdf 20 57 30.6 -0.1**
comp=Z,2.0nm,0.5s,baz=303,slow=2.8,SNR=4.0
CFA PKPab **PKPab 20 57 57.6 +0.4**
comp=Z,16nm,0.6s,baz=284,slow=5.1,SNR=19
SNDB Serra Nova Dou 156.54 30 *e*P **PKPdf 20 57 33.0 +0.7**
SALV Santo Antonio 157.60 45 *e*P **PKPdf 20 57 36.6 +3.1**
SDBA SAO DESIDERIO 159.03 15 *e*P **PKPdf 20 57 37.4 +2.0**
ARAG Araguaiana, MT 159.57 36 *e*P **PKPdf 20 57 38.0 +2.1**
BDQN Bodoquena, MS 160.23 56 *e*P **PKPdf 20 57 38.0 +1.5**
AQDB Aquidauana 160.97 54 *e*P **PKPdf 20 57 38.8 +1.5**
BDFB Brasilia 161.17 26 PKP **PKPdf 20 57 38.4 +0.6**
comp=Z,3.9nm,0.6s,baz=32,slow=2.4,SNR=5.6
BDFB PKPab **PKPab 20 58 21.5 +0.1**
comp=Z,8.9nm,0.8s,baz=282,slow=4.9,SNR=5.7
JANB Januaria 161.73 15 *e*P **PKPdf 20 57 41.3 +2.9**
RPRD Ribas do Rio P 162.29 49 *e*P **PKPdf 20 57 41.5 +2.7**
AMBA Amambai (Brazi 163.08 58 *e*P **PKPdf 20 57 41.9 +2.4**
CPUP Villa Florida 163.15 72 PKP **PKPdf 20 57 39.8 +0.4**
comp=Z,1.1nm,0.6s,baz=174,slow=2.7,SNR=9.6
CPUP PKPab **PKPab 20 58 30.6 +0.7**
comp=Z,5.8nm,0.7s,baz=159,slow=3.9,SNR=18
CPUP Villa Florida 163.15 72 *e*P **PKPdf 20 57 41.7 +2.3**
IPMB Ipameri, GO 163.21 30 *e*P **PKPdf 20 57 42.3 +2.5**
SJPY San Joaquin 163.46 66 *e*P **PKPdf 20 57 42.3 +2.5**
ITRB Iturama 163.66 39 *e*P **PKPdf 20 57 42.5 +2.4**
TRCB Terra Rica 164.63 53 *e*P **PKPdf 20 57 43.9 +3.0**
SJMB Sao Joao De Ma 165.81 7 *e*P **PKPdf 20 57 44.3 +2.3**
LDASE Londrina, Braz 166.04 50 *e*P **PKPdf 20 57 44.7 +2.6**
CPSB Cacapava Do Su 167.82 82 *e*P **PKPdf 20 57 46.1 +2.9**
VAO Valinhos 168.14 36 *e*P **PKPdf 20 57 47.1 +3.4**

*IDC **29** 20:41:43.5±1.2,41°52S×16°26W,h0km,mb4.0/7,*
mbtmp4.0/7,MS4.5/3,Error ellipse: s-maj=34.2km
s-min=23.5km az=51.0
*NEIC **29** 20:41:45.7±2.3,41°4S±0°.1×16°.1W±0°.1,h10km±1km,*
mb4.6/9,Error ellipse: s-maj=25.9km s-min=11.3km
az=323.0
ISC 29 20:41:45.0±0.6,**41°4S**±0°.1×**16°2W**±0°.1,**h10**km,**n41,**
σ0s80/27,mb4.3/8,MS4.9/3,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**18.67**	**219**	P	**Pn**	**20 46 04.5**	**+1.3**
HOPE				IAmb	IAmb	20 46 10.4	
	comp=Z,112nm,1.4s						
SNAA	**Sanae**	**31.07**	**172**	P	**P**	**20 48 04.4**	**+1.5**
H10S2	**ASCENSION HYDR**	**32.34**	**3**	T	T	21 22 34.2	
	baz=182,slow=74,SNR=97						
H10S3	**ASCENSION HYDR**	**32.34**	**3**	T	T	21 22 38.7	
	baz=38,slow=74,SNR=108						
H10N1	**ASCENSION HYDR**	**33.45**	**3**	T	T	21 23 59.8	
	baz=190,slow=78,SNR=4.6						
H10N3	**ASCENSION HYDR**	**33.45**	**3**	T	T	21 24 02.5	
	baz=190,slow=78,SNR=45						
H10N2	**ASCENSION HYDR**	**33.47**	**3**	T	T	21 24 09.9	
	baz=190,slow=78,SNR=15						
TSUM	**Tsumeb**	**36.25**	**63**	LR	LR	21 00 29.5	
	comp=Z,145nm,18.0s,baz=328,slow=31						
CPUP	**Villa Florida**	**36.96**	**281**	P	**P**	**20 48 55.5**	**+1.1**
CPUP	**Villa Florida**	**36.96**	**281**	P	**P**	**20 48 55.0**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=52,slow=3.8,SNR=7.3						
	comp=Z,1.0nm,0.7s						
KDWAN	**Kaudwane**	**38.47**	**75**	P	**P**	**20 49 06.1**	**-1.2**
KDWAN				IAmb	IAmb	20 49 09.9	
	comp=Z,12nm,1.1s						
PLCA	**Paso Flores**	**40.42**	**252**	P	**P**	**20 49 22.6**	**-0.8**
	comp=Z,5.1nm,1.1s,baz=118,slow=2.6,SNR=3.8						
	comp=Z,5.1nm,1.1s						
AC01	**Pan de Azucar**	**46.98**	**271**	P	**P**	**20 50 16.2**	**-0.1**
H04S2	**CROZET ISLANDS**	**47.78**	**121**	T	T	21 42 01.0	
	baz=252,slow=75,SNR=24						
H04S3	**CROZET ISLANDS**	**47.79**	**121**	T	T	21 42 03.3	
	baz=252,slow=75,SNR=27						
H04S1	**CROZET ISLANDS**	**47.80**	**121**	T	T	21 42 01.1	
	baz=252,slow=75,SNR=25						
MAW	**Mawson**	**48.45**	**150**	P	**P**	**20 50 26.8**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=270,slow=8.0,SNR=3.6						
	comp=Z,1.5nm,0.8s						
QSPA	**South Pole Qui**	**48.86**	**180**	P	**P**	**20 50 29.8**	**-0.7**
QSPA				IAmb	IAmb	20 50 31.6	
	comp=Z,18nm,1.3s						
QSPA	**South Pole Qui**	**48.86**	**180**	P	**P**	**20 50 29.9**	**-0.5**
	comp=Z,8.8nm,1.0s,baz=211,slow=5.8,SNR=31						
	comp=Z,8.8nm,1.0s						
PB16	**IPOC Station P**	**50.74**	**280**	P	**P**	**20 50 45.4**	**-0.4**
PB16				IAmb	IAmb	20 50 49.0	
	comp=Z,9.7nm,1.1s						
LPAZ	**La Paz**	**51.03**	**283**	P	**P**	**20 50 47.2**	**-0.8**
LPAZ				IAmb	IAmb	20 50 53.5	
	comp=Z,3.3nm,1.1s						
LPAZ	**La Paz**	**51.03**	**283**	P	**P**	**20 50 46.9**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=142,slow=7.3,SNR=4.2						
	comp=Z,1.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**56.73**	**21**	P	**P**	**20 51 30.0**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=191,slow=6.4,SNR=2.9						
	comp=Z,0.6nm,0.9s						
ABPO	**Ambohimpanom**	**57.86**	**88**	P	**P**	**20 51 38.4**	**+1.2**
VNDA	**Vanda**	**61.35**	**180**	P	**P**	**20 51 59.0**	**-1.2**
	comp=Z,3.8nm,1.2s,baz=220,slow=8.0,SNR=6.5						
	comp=Z,3.8nm,1.2s						
H01W2	**Cape Leeuwin H**	**91.43**	**141**	T	T	22 37 12.6	
	baz=216,slow=75,SNR=22						
H01W1	**Cape Leeuwin H**	**91.44**	**141**	T	T	22 37 11.3	
	baz=216,slow=75,SNR=23						
H01W3	**Cape Leeuwin H**	**91.44**	**141**	T	T	22 37 13.1	
	baz=216,slow=75,SNR=19						
CMIG	**Matias Romero**	**92.95**	**290**	LR	LR	21 36 23.7	
	comp=Z,434nm,20.0s,baz=308,slow=35						
TKL	**Tuckaleechee C**	**98.56**	**310**	LR	LR	21 37 29.9	
	comp=Z,390nm,20.1s,baz=324,slow=34						
D22K	**Ayikyak River**	**144.27**	**335**	PKPdf	**PKPab**	**21 01 17.9**	**-0.1**
I23K	**Minto, Yukon-K**	**144.55**	**328**		**PKPab**	**21 01 19.0**	**+0.1**
NEA2	**Nenana**	**144.61**	**327**		**PKPab**	**21 01 18.8**	**-0.5**
F21K	**Alatna River**	**145.29**	**332**		**PKPbc**	**21 01 21.6**	**0.0**
TRF	**Thorofare Moun**	**145.47**	**325**		**PKPbc**	**21 01 22.5**	**+0.1**
BPAW	**Bear Paw Mtn.**	**145.56**	**327**		**PKPdf**	**21 01 21.8**	**-0.6**
G21K	**Allakaket**	**145.61**	**331**		**PKPdf**	**21 01 22.4**	**0.0**
KTH	**Kantishna Hill**	**145.71**	**326**		**PKPbc**	**21 01 22.9**	**-0.2**
H21K	**Melozitna Rive**	**145.71**	**330**	PKPdf	**PKPdf**	**21 01 22.4**	**-0.1**
IMAR	**Indian Mountai**	**145.93**	**330**	PKPdf	**PKPbc**	**21 01 23.6**	**0.0**
SUA	**Susitna One**	**146.24**	**322**		**PKPab**	**21 01 25.4**	**-0.2**

*IDC **29** 20:47:07.9±0.8,34°.37N×45°.57E,h0km,mb4.2/16,*
mbtmp4.2/19,ML3.7/4,MS3.7/5,Error ellipse:
s-maj=17.5km s-min=11.9km az=158.0
*NEIC **29** 20:47:09.8±1.6,34°.38N±0°.04×45°.64E±0°.08,h10km±1km,*
mb4.7/12,Error ellipse: s-maj=11.2km s-min=7.1km
az=254.0
*TEH **29** 20:47:10.2,34°.48N×45°.62E,h14km±14km*
*ISN **29** 20:47:10.4±0.5,34°.48N×45°.65E,h17km±5km,ML4.5*
*THR **29** 20:47:10.1±0.0,34°.46N×45°.55E,h14km±1km,ML4.5*
ISC 29 20:47:10.3±0.8,**34°.44N**±0°.03×**45°.66E**±0°.03,**h13**km±5km,
n88,σ1s89/83,mb4.5/21,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.09**	**321**	Pg	**Pg**	**20 47 12.7**	**-0.5**
KGS1				Sg	**Sg**	**20 47 15.0**	**-0.3**
GLG1	**Gilan-e-Gharb**	**0.38**	**147**	Pg	**Pb**	**20 47 18.8**	**-0.2**
IDHR	**Dehrash**	**0.66**	**66**	Pg	**Pg**	**20 47 22.6**	**-0.6**
IDHR				Sg	**Sb**	**20 47 33.1**	**+0.2**
IGHG	**Ghaleghazi**	**0.76**	**98**	Pg	**Pb**	**20 47 25.7**	**+0.1**
IGHG				Sg	**Sn**	**20 47 38.3**	**-0.1**
ILBA	**Ilam Banvizeh**	**0.93**	**150**	*e*PgA		20 47 28.8	
ILBA				IAML		20 48 04.7	
	comp=Z,3.7nm,1.0s						
KCHF	**Cheshme Sefid,**	**1.16**	**98**	Pg	**Pg**	**20 47 32.5**	**-0.1**
IBDR	**Badra**	**1.34**	**170**	*e*Pn	**Pg**	**20 47 37.0**	**+0.9**
IBDR				*e*Sn	**Sg**	**20 47 56.0**	**+2.5**
IBDR				AML	AML	20 48 00.7	
	comp=N,4μm,0.6s						
IBDR				AML	AML	20 48 11.8	
	comp=E,4μm,0.8s						
IKRK	**Kirkuk**	**1.45**	**312**	*e*Pn	**Pb**	**20 47 37.0**	**-0.1**
IKRK				*e*Sn	**Sg**	**20 47 57.0**	**+0.1**
IKRK				AML	AML	20 47 59.8	
	comp=N,16μm,0.7s						
IKRK				AML	AML	20 48 04.2	
	comp=E,18μm,0.7s						
BHD	**Baghdad**	**1.57**	**223**	*e*Pn	**Pb**	**20 47 39.5**	**+0.3**
BHD				*e*Sn	**Sg**	**20 48 01.0**	**0.0**
BHD				AML	AML	20 48 12.4	
	comp=E,6μm,0.3s						
SNQR	**Songor, Kerman**	**1.68**	**75**	Pg	**Pb**	**20 47 41.4**	**+0.2**
SRSL	**SARDASHT**	**1.78**	**354**	*e*PnA		20 47 42.2	
SRSL				IAML		20 48 08.3	
	comp=Z,45nm,1.0s						
IBZA	**Bozab**	**1.82**	**88**	Pn	**Pb**	**20 47 43.7**	**+0.1**
IDOB	**Doab**	**2.19**	**106**	Pn	**Pb**	**20 47 48.8**	**-1.0**
BDRS	**Dareh Seyedi**	**2.71**	**99**	Pn	**Pn**	**20 47 56.0**	**+2.2**
RAFI	**Al-Rafai**	**2.73**	**172**	*e*Pn	**Pn**	**20 47 56.0**	**+2.2**
RAFI				*e*Sn	**Sn**	**20 48 29.0**	**+2.3**
HGHA	**Hamedan- Ghaye**	**2.83**	**67**	Pn	**Pn**	**20 47 57.5**	**+2.1**
HAGD	**Aghdareh**	**2.90**	**81**	Pn	**Pn**	**20 47 58.0**	**+1.7**
IHSH	**Hashtrud**	**3.15**	**24**	Pn	**Pn**	**20 48 01.2**	**+1.4**
IAZR	**Azarshahr**	**3.25**	**5**	Pn	**Pn**	**20 48 02.6**	**+1.5**
ZNJK	**Zanjan**	**3.33**	**47**	*e*PnA		20 48 04.5	
ZNJK				IAML		20 49 02.3	
	comp=Z,0.9nm,1.0s						
QABG	**Abgarm-Qazvin**	**3.46**	**67**	Pn	**Pn**	**20 48 06.2**	**+2.1**
GTMR	**Gotvand**	**3.49**	**123**	*e*PnA		20 48 07.1	
GTMR				IAML		20 48 59.9	
	comp=Z,1.3nm,1.0s						
KHMZ	**Khomeyn**	**3.64**	**100**	*e*Pn	**Pn**	**20 48 09.3**	**+2.8**
KHMZ				IAML		20 49 10.0	
	comp=Z,0.6nm,1.0s						
ITBZ	**Tabriz**	**3.81**	**6**	Pn	**Pn**	**20 48 10.2**	**+1.4**
ISHB	**Shabestar**	**3.84**	**360**	Pn	**Pn**	**20 48 09.7**	**+0.4**
IHRS	**Heris**	**4.03**	**16**	Pn	**Pn**	**20 48 13.6**	**+1.7**
IGZV	**Ghazvin**	**4.20**	**61**	Pn	**Pn**	**20 48 16.1**	**+1.8**
GIDE	**GILAN DEYLAMAN**	**4.26**	**53**	*e*PnA		20 48 19.4	
GIDE				IAML		20 49 47.2	
	comp=Z,2.9nm,1.0s						
GEVA	**Gevas**	**4.40**	**332**		**Pn**	**20 48 18.2**	**+1.3**
IQOM	**Qom**	**4.48**	**83**	Pn	**Pn**	**20 48 19.7**	**+1.6**
GHVR	**GHOM**	**4.66**	**88**	*e*Pn	**Pn**	**20 48 23.6**	**+3.2**
GHVR				IAML		20 49 56.1	
	comp=Z,0.9nm,1.0s						
GAS1	**Astara - Iran**	**4.71**	**32**	Pn	**Pn**	**20 48 23.1**	**+2.2**
IPIR	**Pirpir**	**4.71**	**110**	Pn	**Pn**	**20 48 22.9**	**+1.7**
GRMI	**Germi**	**4.72**	**22**	Pn	**Pn**	**20 48 23.0**	**+1.7**
GRMI	**Germi**	**4.72**	**22**	*e*PnA		20 48 23.1	
GRMI				IAML		20 49 48.0	
	comp=Z,0.8nm,1.0s						
JHBN	**Jahan bin**	**4.73**	**116**	Pn	**Pn**	**20 48 23.2**	**+1.5**
QAMS	**Qamsar**	**4.81**	**97**	Pn	**Pn**	**20 48 25.1**	**+2.4**
GURO	**Guroymak-BITLI**	**5.04**	**326**		**Pn**	**20 48 26.4**	**+0.7**
IKLH	**Kolahrood**	**5.05**	**101**	Pn	**Pn**	**20 48 28.0**	**+2.1**
DAMV	**Damavand**	**5.32**	**75**	*e*Pn	**Pn**	**20 48 31.6**	**+2.0**
DAMV				IAML		20 49 59.5	
	comp=Z,0.0nm,1.0s						
IDMV	**Damavand**	**5.36**	**76**	Pn	**Pn**	**20 48 32.2**	**+2.1**
KRSH	**Karshahi**	**5.39**	**93**	Pn	**Pn**	**20 48 32.4**	**+1.9**
IGAR	**Gharneh**	**5.71**	**109**	Pn	**Pn**	**20 48 36.9**	**+1.9**
GNI	**Garni**	**5.75**	**353**		**Pn**	**20 48 36.2**	**+0.7**
GNI	**Garni**	**5.75**	**353**	Pn	**Pn**	**20 48 38.8**	**+3.4**
	comp=Z,0.9nm,0.3s,baz=186,slow=2.6,SNR=4.3						
GNI				Lg	Lg	20 50 11.2	
	baz=239,slow=19						
	comp=Z,11nm,1.0s						
IZEF	**Zefreh**	**5.77**	**104**	Pn	**Pn**	**20 48 37.5**	**+1.6**
IFIR	**Firoozkooh**	**5.95**	**76**	Pn	**Pn**	**20 48 40.5**	**+2.2**
KLNJ	**Kolanjah**	**6.06**	**123**	Pn	**Pn**	**20 48 41.2**	**+1.4**
IRAM	**Ramesheh**	**6.22**	**113**	Pn	**Pn**	**20 48 44.1**	**+2.1**
KOPT	**Kop Dagi**	**6.93**	**325**	Pn	**Pn**	**20 48 53.2**	**+1.5**
KAZ2	**Kazeron-Fars-I**	**7.01**	**132**	Pn	**Pn**	**20 48 54.2**	**+1.6**
GAZ	**Gaziantep**	**7.38**	**294**	Pn	**Pn**	**20 48 58.6**	**+0.7**
ARPR	**Arapgir-MALATY**	**7.49**	**310**		**Pn**	**20 48 59.7**	**+0.4**
ASF	**Jabal al Asfar**	**7.67**	**255**	Pn	**Pn**	**20 49 00.6**	**-1.2**
	comp=Z,1.3nm,0.3s,baz=106,slow=11,SNR=15						
ASF				Lg	Lg	20 51 11.3	
	comp=Z,2.0nm,0.3s,baz=86,slow=19,SNR=6.2						
ASF				LR	LR	20 52 31.4	
	comp=Z,308nm,20.7s,baz=175,slow=43						
	comp=Z,6.1nm,0.5s						
MMAI	**Mount Meron Ar**	**8.66**	**263**	Pn	**Pn**	**20 49 13.6**	**-1.7**
	comp=Z,1.7nm,0.3s,baz=68,slow=14,SNR=6.5						
MMAI				Lg	Lg	20 51 39.7	
	comp=Z,1.8nm,0.3s,baz=24,slow=14,SNR=0.8						
MMAI				LR	LR	20 53 18.8	
	comp=Z,371nm,18.9s,baz=111,slow=43						
KVAR	**Kislovodsk Arr**	**9.78**	**347**	LR	LR	20 53 08.7	
	comp=Z,584nm,20.9s,baz=24,slow=37						
EIL	**Elat**	**10.25**	**245**	Pn	**Pn**	**20 49 36.0**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=74,slow=4.9,SNR=11						
EIL				Lg	Lg	20 52 31.0	
	comp=Z,0.6nm,0.3s,baz=56,slow=15,SNR=2.6						
EIL				LR	LR	20 54 40.0	
	comp=Z,456nm,18.3s,baz=63,slow=44						
	comp=Z,3.2nm,0.4s						
BRTR	**Keskin Array B**	**10.95**	**302**	Lg	Lg	20 53 02.3	
	comp=Z,0.2nm,0.3s,baz=122,slow=19,SNR=2.1						
WSAR	**Wadi Sarin**	**15.91**	**131**	Pn	**Pn**	**20 50 51.9**	**-2.0**
	baz=317,slow=24,SNR=6.2						
WSAR				Sn	**Sn**	**20 53 40.5**	**-10**
	baz=323,slow=20,SNR=6.2						
IDI	**Anoyia**	**17.07**	**279**	Sn	Sn	20 54 04.5	-14
	comp=Z,1.2nm,0.3s,baz=27,slow=10,SNR=2.8						
BELG	**Belogornoye**	**18.01**	**4**	S	**Sn**	**20 54 42.3**	**+1.7**
	comp=Z,6.8nm,0.6s,baz=146,slow=23,SNR=1.2						
AKASG	**Malin Array Be**	**20.19**	**329**	P	**P**	**20 51 42.9**	**-1.5**
	comp=Z,4.1nm,0.7s,baz=140,slow=10.0,SNR=5.0						
AKASG				LR	LR	21 01 13.7	
	comp=Z,282nm,18.1s,baz=138,slow=42						
	comp=Z,4.1nm,0.7s						
BVAR	**Borovoye Array**	**25.57**	**36**	P	**P**	**20 52 40.6**	**+1.8**
	comp=Z,3.9nm,0.7s,baz=232,slow=7.3,SNR=2.0						
	comp=Z,3.9nm,0.7s						
BRG	**Berggiesshubel**	**28.24**	**315**	P	**P**	**20 53 06.9**	**+4.1**
BRG				Amp		20 53 08.7	
	comp=Z,12nm,1.1s						
BRG				Amp		20 53 26.2	
	comp=Z,24nm,1.0s						
KURBB	**Kurchatov Arra**	**28.82**	**46**	P	**P**	**20 53 09.2**	**+1.2**
	comp=Z,1.7nm,0.3s,baz=256,slow=8.8,SNR=3.0						
	comp=Z,1.7nm,0.3s						
KURK	**Kurchatov**	**28.91**	**46**	P	**P**	**20 53 09.7**	**+0.9**
FINES	**FINESS Array B**	**29.79**	**341**	P	**P**	**20 53 15.6**	**-0.8**
	comp=Z,12nm,0.9s,baz=128,slow=11,SNR=2.4						
	comp=Z,12nm,0.9s						
MKAR	**Makanchi Array**	**30.15**	**55**	P	**P**	**20 53 21.3**	**+1.4**
	comp=Z,3.7nm,0.8s,baz=249,slow=10,SNR=3.1						
	comp=Z,3.7nm,0.8s						
HFS	**Hagfors**	**33.04**	**331**	P	**P**	**20 53 44.4**	**-0.7**
	comp=Z,8.6nm,0.5s,baz=123,slow=6.4,SNR=9.4						
	comp=Z,8.6nm,0.5s						
ZALV	**Zalesovo Beam**	**33.61**	**42**	P	**P**	**20 53 50.5**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=238,slow=7.3,SNR=3.2						
	comp=Z,2.3nm,0.7s						
NOA	**NORSAR Array B**	**34.56**	**331**	P	**P**	**20 53 58.5**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=125,slow=9.8,SNR=2.7						
	comp=Z,1.3nm,0.7s						
ARCES	**ARCESS Array B**	**36.89**	**348**	P	**P**	**20 54 18.2**	**+0.1**
	comp=Z,5.7nm,0.9s,baz=166,slow=9.0,SNR=5.8						
	comp=Z,5.7nm,0.9s						
EKA	**Eskdalemuir Ar**	**39.38**	**317**	P	**P**	**20 54 38.7**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=100,slow=10,SNR=5.5						
	comp=Z,0.5nm,0.4s						
ESDC	**Sonseca Array**	**39.54**	**293**	P	**P**	**20 54 39.8**	**-1.1**
	comp=Z,2.3nm,1.0s,baz=47,slow=8.1,SNR=6.1						
	comp=Z,2.3nm,1.0s						
TORD	**Torodi Ar. Bea**	**45.03**	**253**	P	**P**	**20 55 25.2**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=47,slow=8.5,SNR=7.8						
	comp=Z,1.5nm,0.7s						
SPITS	**Spitsbergen Ar**	**45.62**	**352**	P	**P**	**20 55 30.2**	**+0.4**
	comp=Z,5.2nm,0.8s,baz=145,slow=10,SNR=6.2						
	comp=Z,5.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.75**	**94**	P	**P**	**20 56 02.3**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=293,slow=8.4,SNR=8.7						
	comp=Z,1.5nm,0.7s						
DBIC	**Dimbokro**	**54.05**	**251**	P	**P**	**20 56 33.0**	**-1.7**
	comp=Z,3.0nm,0.6s,baz=48,slow=7.1,SNR=5.6						
	comp=Z,3.0nm,0.6s						
HEH	**HeiHe**	**59.49**	**48**	*e*P	**P**	**20 57 13.3**	**+0.4**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSRS	**Korea Array**	**64.57**	**61**	P	**P**	**20 57 46.9**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=281,slow=7.5,SNR=4.7						
	comp=Z,0.9nm,0.6s						
E28M	**Babbage River**	**77.20**	**2**	P	**P**	**20 59 04.1**	**+0.6**
E29M	**Blow River**	**77.45**	**1**		**P**	**20 59 04.7**	**-0.2**
E29M				IAmb	IAmb	20 59 06.3	
	comp=Z,7.9nm,1.1s						
E27K	**Coleen River**	**77.55**	**3**	IAmb	IAmb	20 59 07.9	
	comp=Z,11nm,1.5s						
F30M	**Barrier River**	**78.26**	**1**		**P**	**20 59 09.2**	**-0.2**
G26K	**Porcupine Rive**	**78.67**	**4**	IAmb	IAmb	20 59 23.8	
	comp=Z,5.7nm,1.1s						
H27K	**Steamboat Moun**	**79.50**	**3**	IAmb	IAmb	20 59 18.8	
	comp=Z,10nm,1.5s						
J30M	**Hart River**	**81.31**	**1**	IAmb	IAmb	20 59 28.4	
	comp=Z,9.4nm,1.4s						
SCRK	**Sand Creek**	**81.62**	**4**		**P**	**20 59 27.8**	**+0.1**
SCRK				IAmb	IAmb	20 59 30.1	
	comp=Z,12nm,1.5s						

PRU 29 20:48:38.9,50°.27N×19°.01E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STEB	**Steborice**	**0.86**	**248**	*e*Sg	Sg	20 49 07.1	+0.5
MORC	**Moravsky Berou**	**1.07**	**243**	*e*Pg	Pg	20 48 59.1	-0.2
MORC				*e*Sg	Sg	20 49 10.3	-2.9
LANS	**Liptovska Anna**	**1.16**	**165**	*e*Pg	Pg	20 49 00.0	-1.1
LANS				*e*Sg	Sg	20 49 14.4	-1.7
LANS				eLg	Lg	20 49 17.9	
MAUC	**Maruska**	**1.19**	**221**	*e*Pg	Pg	20 49 00.5	-1.1
MAUC				*e*Sg	Sg	20 49 16.0	-1.0
KRLC	**Kraliky**	**1.45**	**263**	*e*Pg	Pn	20 49 04.9	-1.5
KRLC				*e*Sg	Sg	20 49 24.2	-1.1
DPC	**

comp=N,110nm,1.6s
SDDR Presa de Saban 1.36 269 *e*Sg **Sb 21 18 50.4 +0.8**
SDDR IAML 21 18 57.1
comp=N,21nm,2.8s
SDDR Presa de Saban 1.36 269 *i* P **Pn 21 18 29.3 -2.0**
SDDR IAML 21 18 53.7
comp=Z,11nm,0.5s
LONE3 El Aguacate, B 1.58 256 *i* P **Pb 21 18 39.3 +3.1**
LONE3 *e*S **Sb 21 18 58.4 +2.6**
PODR Polo 1.60 239 *i* P **Pb 21 18 36.5 -0.1**
PODR *e*S **Sb 21 18 56.2 -0.3**

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*JMA **29** 21:32:30.8±0.6,45°N±2"×14°7E±", h148km,MV3.2/27, NEAR ETOROFU ISLAND*
*SKHL **29** 21:32:31.8±0.0,45.00N×146.70E,h146km±3km, mb4.7/4, msha5.1/4*
*IDC **29** 21:32:32.5±2.4,44.90N×146.80E,h153km±22km,mb2.9/6, mbtmp3.5/8,MS2.6/1,Error ellipse: s-maj=30.1km s-min=18.1km az=141.0*
ISC 29 21:32:31.9±0.8,44.79N±0.08×146.84E±0.07,h151km±7km, n31,σ0§88/38,mb3.2/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.85**	**58**	*e*P	**Pn**	**21 32 55.2**	**-0.3**
KUR				AMB	AMB	21 32 55.7	
	280nm,0.3s						
KUR				*e*S	**Sn**	**21 33 12.8**	**-0.8**
KUR				A	A	21 33 14.3	
	80nm,0.2s						
KUR				A	A	21 33 14.3	
	130nm,0.2s						
SHO	**Shikotan**	**0.92**	**181**	*e*P	**Pn**	**21 32 57.3**	**+1.1**
SHO				AMB	AMB	21 33 01.4	
	60nm,0.2s						
SHO				*e*S	**Sn**	**21 33 14.9**	**+0.3**
SHO				A	A	21 33 17.3	
	190nm,0.2s						
SHO				A	A	21 33 17.3	
	440nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.04**	**223**	*e*P	**Pn**	**21 32 57.1**	**0.0**
YUK				AMB	AMB	21 32 58.0	
	340nm,0.4s						
YUK				*e*S	**Sn**	**21 33 16.1**	**-0.1**
YUK				A	A	21 33 17.0	
	430nm,0.7s						
YUK				A	A	21 33 17.0	
	550nm,0.7s						
GLVR	**Golovnino**	**1.42**	**223**	*e*P	**Pn**	**21 33 01.4**	**+0.7**
GLVR				AMB	AMB	21 33 02.1	
	180nm,0.3s						
GLVR				*e*S	**Sn**	**21 33 23.7**	**+1.0**
GLVR				A	A	21 33 29.2	
	400nm,0.6s						
GLVR				A	A	21 33 29.2	
	300nm,0.6s						
JRA	**Rausu**	**1.50**	**236**	*e*P	**Pn**	**21 33 00.5**	**-1.0**
NEM2	**Nemuro 2**	**1.64**	**209**	*e*P	**Pn**	**21 33 02.1**	**-0.9**
NEM2				*e*S	**Sn**	**21 33 25.9**	**-0.8**
NMR	**Nemuro--Hokkai**	**1.64**	**210**	*e*P	**Pn**	**21 33 02.5**	**-0.5**
NMR				*e*S	**Sn**	**21 33 25.9**	**-0.9**
JNSB	**Nemuroshibetsu**	**1.67**	**233**	P	**Pn**	**21 33 03.3**	**0.0**
JNK	**Nakash**	**1.95**	**232**	P	**Pn**	**21 33 06.4**	**-0.1**
JKHN	**Kushirohamanak**	**2.10**	**216**	P	**Pn**	**21 33 08.0**	**-0.2**
JTKR	**Abashiri--Toko**	**2.26**	**250**	P	**Pn**	**21 33 09.7**	**-0.4**
AKK	**Akkeshi**	**2.29**	**220**	*e*P	**Pn**	**21 33 10.2**	**-0.3**
AKK				*e*S	**Sn**	**21 33 39.1**	**-1.1**
JAK	**Akkeshi**	**2.38**	**222**	P	**Pn**	**21 33 11.3**	**-0.2**
JAK				S	**Sn**	**21 33 41.6**	**-0.4**
JMP	**Maruseppu**	**2.62**	**254**	P	**Pn**	**21 33 14.3**	**-0.3**
JAR	**Ashorobuto**	**2.67**	**237**	P	**Pn**	**21 33 16.1**	**+0.8**
JAR				*e*S	**Sn**	**21 33 51.3**	**+2.7**
JSE	**Soyaes**	**3.03**	**275**	P	**Pn**	**21 33 19.6**	**-0.1**
JKK2	**Kamakawa 2**	**3.08**	**254**	P	**Pn**	**21 33 20.7**	**+0.4**
ASAJ	**Asahikawa**	**3.12**	**259**	P	**Pn**	**21 33 21.2**	**+0.5**
	33nm,0.5s,baz=77,slow=13,SNR=41						
JCH	**Churui**	**3.33**	**230**	P	**Pn**	**21 33 23.4**	**-0.1**
JCH				*e*S	**Sn**	**21 34 01.9**	**-1.6**
JNBK	**Urakawa-nobuka**	**3.89**	**231**	P	**Pn**	**21 33 29.9**	**-0.9**
JNBK				*e*S	**Sn**	**21 34 15.4**	**-1.1**
PETK	**Petropavlovsk-**	**10.95**	**37**	P	**Pn**	**21 35 04.6**	**+0.3**
	1.5nm,0.5s,baz=212,slow=13,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**30.04**	**140**	T	T	22 09 45.9	
	baz=330,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**30.05**	**140**	T	T	22 10 02.6	
	baz=330,slow=75,SNR=10.0						
H11N3	**WAKE ISLAND Hy**	**30.05**	**140**	T	T	22 09 47.0	
	baz=330,slow=75,SNR=11						
GUMO	**Guam**	**31.15**	**184**	LR	LR	21 51 06.5	
	comp=Z,9.6nm,18.7s,baz=11,slow=36						
ILAR	**Eielson Array**	**40.78**	**37**	P	**P**	**21 39 56.3**	**-1.5**
	0.3nm,0.7s,baz=278,slow=8.9,SNR=4.4						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**43.91**	**297**	P	**P**	**21 40 23.3**	**-0.1**
	0.2nm,0.5s,baz=82,slow=8.4,SNR=4.1						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**44.85**	**303**	P	**P**	**21 40 30.2**	**-0.5**
	0.2nm,0.5s,baz=74,slow=7.7,SNR=1.5						
	0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**47.62**	**252**	P	**P**	**21 40 52.9**	**+0.2**
	0.3nm,0.4s,baz=46,slow=8.0,SNR=2.2						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**65.43**	**193**	P	**P**	**21 42 59.2**	**+0.8**
	0.5nm,0.6s,baz=10,slow=6.5,SNR=7.0						
	0.5nm,0.6s						
PDAR	**Pinedale Array**	**69.40**	**50**	P	**P**	**21 43 24.7**	**+1.1**
	0.2nm,0.4s,baz=312,slow=6.7,SNR=1.8						
	0.2nm,0.4s						

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*IDC **29** 21:38:47.1±3.7,14°.93S×66°.28E,h0km,mb3.6/6, mbtmp3.6/6,MS3.6/2,Error ellipse: s-maj=111.4km s-min=30.0km az=58.0*
ISC 29 21:38:51.0±3.7,14°.9S±0.4×66°.4E±0.6,h19km,n13, σ0§60/6,mb3.7/6,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**9.30**	**40**	T	T	21 50 27.3	
	baz=218,slow=75,SNR=173						
H08S2	**Diego Garcia H**	**9.31**	**40**	T	T	21 50 23.7	
	baz=218,slow=75,SNR=196						
H08S3	**Diego Garcia H**	**9.32**	**40**	T	T	21 50 21.4	
	baz=218,slow=75,SNR=258						
PALK	**Pallekele**	**26.15**	**34**	LR	LR	21 52 35.7	
	comp=Z,156nm,20.7s,baz=310,slow=32						
H04N2	**CROZET ISLANDS**	**33.54**	**199**	T	T	22 21 07.8	
	baz=28,slow=75,SNR=51						
H04N1	**CROZET ISLANDS**	**33.54**	**199**	T	T	22 21 08.9	
	baz=28,slow=75,SNR=54						
H04N3	**CROZET ISLANDS**	**33.56**	**199**	T	T	22 21 07.7	
	baz=28,slow=75,SNR=51						
CMAR	**Chiang Mai Arr**	**46.06**	**45**	P	**P**	**21 47 14.0**	**-0.1**
	0.2nm,0.3s,baz=224,slow=7.6,SNR=4.2						
CMAR				LR	LR	22 06 03.9	
	comp=Z,54nm,18.5s,baz=5.0,slow=35						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**63.01**	**12**	P	**P**	**21 49 17.0**	**+0.4**
	0.4nm,0.7s,baz=205,slow=6.4,SNR=2.5						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**63.80**	**109**	P	**P**	**21 49 22.6**	**+0.1**
	0.7nm,1.0s,baz=264,slow=7.7,SNR=4.3						
	0.7nm,1.0s						
WRA	**Warramunga Arr**	**64.62**	**105**	P	**P**	**21 49 27.8**	**-0.1**
	1.9nm,1.0s,baz=264,slow=6.2,SNR=8.5						
	1.9nm,1.0s						
KURBB	**Kurchatov Arra**	**66.06**	**8**	P	**P**	**21 49 35.5**	**-0.9**
	0.3nm,0.7s,baz=207,slow=8.1,SNR=4.2						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**67.69**	**3**	P	**P**	**21 49 46.6**	**-0.3**
	0.8nm,0.8s,baz=170,slow=4.0,SNR=3.9						
	0.8nm,0.8s						

IDC 29 21:44:23.6±1.7,0.58S×127.92E,h0km,mb3.4/4, mbtmp3.5/5,ML3.2/1,MS3.3/1,Error ellipse: s-maj=112.8km s-min=21.3km az=70.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.55**	**187**	P	Pn	21 48 30.3	+0.5
	0.1nm,0.3s,baz=11,slow=5.2,SNR=2.6						
	1.6nm,0.8s						
WRA	**Warramunga Arr**	**20.24**	**162**	P	P	21 48 60.0	-0.6
	0.6nm,0.6s,baz=341,slow=12,SNR=7.5						
	0.6nm,0.6s						
PMG	**Port Moresby**	**21.06**	**115**	LR	LR	22 00 54.4	
	comp=Z,86nm,19.5s,baz=50,slow=47						
ASAR	**Alice Springs**	**23.67**	**166**	P	P	21 49 37.3	+0.3
	1.3nm,0.7s,baz=344,slow=9.9,SNR=11						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**61.76**	**326**	P	P	21 54 44.0	0.0
	0.2nm,0.3s,baz=113,slow=7.9,SNR=7.0						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**66.00**	**328**	P	P	21 55 11.8	0.0
	0.4nm,0.7s,baz=124,slow=6.1,SNR=4.2						
	0.4nm,0.7s						

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*IPEC **29** 21:45:28.5±0.3,49°.83N×18°.57E,h1km,ML1.7/4,Error ellipse: s-maj=2.1km s-min=1.7km az=71.0*
*VIE **29** 21:45:28.3±0.3,49°.86N×18°.57E,h0km,mb2.2/3,ml2.5/3, Error ellipse: s-maj=3.4km s-min=2.1km az=157.0 23 km E of Ostrava Suspected Mining induced.*
*PRU **29** 21:45:30.8,49°.85N×18°.44E,h0km*
ISC 29 21:45:27.8±0.8,49.80N±0.04×18.53E±0.02,h0km,n24, σ0§79/44,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.25**	**278**	*e*PG	**Pb**	**21 45 34.2**	**+1.6**
OKC				*e*SG	**Sg**	**21 45 37.8**	**+2.0**
	comp=Z,62nm,0.6s						
STEB	**Steborice**	**0.51**	**285**	*e*PG	**Pb**	**21 45 39.3**	**-0.3**
STEB				*e*SG	**Sg**	**21 45 45.3**	**+1.2**
MORC	**Moravsky Berou**	**0.64**	**268**	*e*Pg	**Pb**	**21 45 41.3**	**-0.6**
	baz=85						
MORC				*e*Sg	**Sg**	**21 45 49.5**	**+1.2**
	13nm,0.3s,baz=85						
LANS	**Liptovska Anna**	**0.90**	**137**	*e*PG	**Pb**	**21 45 45.7**	**-0.5**
LANS				*e*SG	**Sb**	**21 45 59.7**	**+1.0**
LANS				*e*LG	Lg	21 46 03.5	
OJC	**Ojcow**	**0.92**	**63**	*e*Pg	**Pg**	**21 45 44.9**	**-0.5**
OJC				*e*Sg	**Sg**	**21 45 57.0**	**-0.3**
JAVC	**Velka Javorina**	**1.10**	**211**	*e*Pg	**Pn**	**21 45 50.5**	**0.0**
	baz=31						
KRLC	**Kraliky**	**1.16**	**284**	*e*PG	**Pb**	**21 45 50.6**	**-0.2**
KRLC				*e*SG	**Sb**	**21 46 06.2**	**-0.2**
	comp=Z,17nm,0.5s						
NIE	**Niedzica**	**1.22**	**108**	*e*Pg	**Pb**	**21 45 51.4**	**-0.3**
NIE				*e*Sg	**Sn**	**21 46 09.5**	**+0.3**
VYHS	**Vyhne**	**1.33**	**171**	*e*PG	**Pn**	**21 45 53.6**	**0.0**
VYHS				*e*SG	**Sn**	**21 46 12.2**	**+0.2**
VRAC	**Vranov**	**1.35**	**249**	*e*Pg	**Pb**	**21 45 54.2**	**+0.2**
	baz=67						
VRAC				*e*Sg	**Sb**	**21 46 12.0**	**+0.1**
	12nm,0.3s,baz=67						
DPC	**Dobruska-Polom**	**1.52**	**292**	*e*PG	**Pb**	**21 45 56.6**	**-0.3**
DPC				*e*SG	**Sn**	**21 46 16.8**	**-0.1**
	comp=Z,8.1nm,0.3s						
KRUC	**Moravsky**	**1.58**	**243**	*e*Pg	**Pb**	**21 45 57.8**	**0.0**
	baz=61						
KRUC				*e*Sg	**Sg**	**21 46 19.0**	**+0.5**
	6.0nm,0.2s,baz=61						
MODS	**Modra-Piesok**	**1.65**	**210**	*e*PN	**Pn**	**21 45 56.8**	**-1.3**
MODS				*e*SN	**Sn**	**21 46 18.6**	**-1.4**
OSTC	**Ostas**	**1.67**	**298**	*e*PG	**Pb**	**21 45 59.2**	**-0.2**
OSTC				*e*SG	**Sb**	**21 46 20.9**	**0.0**
UPC	**Upice**	**1.77**	**294**	*e*PG	**Pb**	**21 46 00.9**	**-0.1**
UPC				*e*SG	**Sg**	**21 46 24.1**	**-0.4**
KSP	**Ksiaz**	**1.77**	**307**	*e*Pg	**Pg**	**21 46 02.0**	**+0.2**
KSP				*e*Sg	**Sg**	**21 46 24.9**	**+0.3**
CHVC	**Chvalec**	**1.77**	**297**	*e*PG	**Pb**	**21 46 01.0**	**-0.2**
CHVC				*e*SG	**Sb**	**21 46 23.9**	**-0.1**
STHS	**Stebnicka Huta**	**1.81**	**101**	*e*PN	**Pb**	**21 46 01.5**	**-0.3**
STHS				*e*SG	**Sg**	**21 46 28.7**	**+2.9**
STHS				*e*LG	Lg	21 46 29.9	
KECS	**Kecovo**	**1.84**	**135**	*e*PN	**Pb**	**21 46 02.3**	**-0.1**
KECS				*e*SN	**Sn**	**21 46 25.0**	**+0.3**
KECS				*e*LG	Lg	21 46 28.3	
TREC	**Trest**	**2.04**	**257**	*e*SG	**Sg**	**21 46 33.7**	**+0.2**
CONA	**Conrad Observa**	**2.57**	**224**	*e*Pn	**Pn**	**21 46 11.2**	**+0.4**
	0.1nm,0.1s						
CONA				*e*Sn	**Sn**	**21 46 42.9**	**+0.1**
	1.2nm,0.2s						
KOLS	**Kolonicke sedl**	**2.60**	**108**	*e*PG	**Pg**	**21 46 16.9**	**-0.7**
PVCC	**Panska Ves**	**2.65**	**287**	*e*SG	**Sg**	**21 46 52.9**	**+0.1**
	comp=Z,8.3nm,0.3s						
KHC	**Kasperske Hory**	**3.30**	**260**	*e*PG	**Pg**	**21 46 30.3**	**-0.7**
KHC				*e*SG	**Sg**	**21 47 13.4**	**-0.3**

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*IDC **29** 21:54:58.8±1.2,10°.08S×152°.24E,h0km,mb3.7/7, mbtmp3.7/8,ML3.3/1,MS3.7/3,Error ellipse: s-maj=41.1km s-min=24.3km az=103.0*
ISC 29 21:55:04.5±1.1,10.1S±0.2×152.1E±0.2,h35km,n9, σ0§93/8,mb3.8/7,MS3.5/3,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.69**	**238**	P	**Pn**	**21 59 32.2**	**-0.3**
	0.1nm,0.3s,baz=61,slow=10,SNR=10						
	2.4nm,0.9s						
ASAR	**Alice Springs**	**21.95**	**230**	P	**P**	**21 59 56.2**	**+0.9**
	1.0nm,0.7s,baz=59,slow=8.9,SNR=16						
ASAR				LR	LR	22 08 18.1	
	comp=Z,128nm,18.4s,baz=9.0,slow=36						
	1.0nm,0.7s						
STKA	**Stephens Creek**	**23.73**	**203**	P	**P**	**22 00 14.3**	**+0.8**
	1.5nm,0.6s,baz=15,slow=14,SNR=4.6						
STKA				LR	LR	22 09 04.5	
	comp=Z,169nm,19.8s,baz=14,slow=36						
	1.5nm,0.6s						
BRDH	**Bariadhala**	**67.53**	**300**	LR	LR	22 39 21.2	
	comp=Z,87nm,18.6s,baz=328,slow=39						
VNDA	**Vanda**	**67.59**	**178**	P	**P**	**22 05 56.6**	**-0.5**
	1.0nm,0.9s,baz=0.0,slow=6.1,SNR=4.4						
	1.0nm,0.9s						
SONM	**Songino Array**	**70.44**	**329**	P	**P**	**22 06 15.2**	**-0.2**
	0.6nm,0.8s,baz=121,slow=5.6,SNR=2.2						
	0.6nm,0.8s						
QSPA	**South Pole Qui**	**79.89**	**180**	P	**P**	**22 07 08.9**	**-0.6**
	1.2nm,1.1s,baz=16,slow=4.4,SNR=5.9						
	1.2nm,1.1s						
MKAR	**Makanchi Array**	**83.84**	**320**	P	**P**	**22 07 29.7**	**-0.8**
	0.7nm,0.9s,baz=102,slow=4.1,SNR=2.5						
	0.7nm,0.9s						
ILAR	**Eielson Array**	**87.33**	**22**	P	**P**	**22 07 48.6**	**+1.2**
	0.5nm,0.9s,baz=242,slow=3.9,SNR=2.8						
	0.5nm,0.9s						

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*IDC **29** 22:07:59.2±0.8,37°.75N×141°.84E,h0km,mb3.7/11, mbtmp3.7/15,ML3.3/4,Error ellipse: s-maj=22.1km s-min=16.1km az=102.0*
*JMA **29** 22:08:02.0±0.1,37°.7N±0°.3×141°.7E±0.6,h25km±1km, MD4.0/40,MV4.0/40,E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 29 22:08:00.1±1.5,37.70N±0.03×141.79E±0.05,h8km±9km, n42,σ0§94/42,mb3.8/11,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.66**	**337**	*i* P	**Pb**	**22 08 14.3**	**+0.4**
JIKH				S	**Sb**	**22 08 23.0**	**-0.2**
JMST	**Minamisoumatoc**	**0.72**	**272**	*i* P	**Pb**	**22 08 14.5**	**-0.3**
JMST				S	**Sg**	**22 08 23.0**	**-0.2**
JFK	**Kawauchi**	**0.80**	**246**	*i* P	**Pg**	**22 08 16.1**	**+0.6**
JFK				S	**Sg**	**22 08 25.5**	**-0.4**
JFK	**Kawauchi**	**0.80**	**246**	A	A	22 08 16.1	
	comp=N,7.0nm,0.3s,comp=E,4.0nm,0.3s						
JMM	**Marumori**	**0.81**	**282**	*i* P	**Pg**	**22 08 16.0**	**+0.4**
JMM				S	**Sg**	**22 08 25.6**	**-0.5**
JIO	**Ouri**	**0.83**	**335**	*i* P	**Pb**	**22 08 17.0**	**+0.3**
JIO				S	**Sb**	**22 08 27.0**	**-1.0**
ONAJ	**Iwakimizuishiy**	**0.99**	**233**	*i* P	**Pb**	**22 08 18.9**	**-0.7**
ONAJ				S	**Sg**	**22 08 31.2**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.99**	**233**	A	A	22 08 18.9	
	comp=N,6.0nm,0.2s,comp=E,7.0nm,0.3s						
JOU	**Okura**	**1.11**	**307**	*i* P	**Pn**	**22 08 21.8**	**-0.2**
JOU				S	**Sb**	**22 08 35.4**	**-0.8**
JOU	**Okura**	**1.11**	**307**	A	A	22 08 21.8	
	comp=N,8.0nm,0.6s,comp=E,6.0nm,0.6s						
JKMT	**Kesennumamotoy**	**1.14**	**347**	*i* P	**Pg**	**22 08 22.0**	**+0.1**
JKMT				S	**Sb**	**22 08 35.9**	**-1.0**
JOFO	**Osakifurukawao**	**1.14**	**323**	A	A	22 08 21.7	
	comp=N,7.0nm,4.3s,comp=E,7.0nm,3.0s						
JOTO	**OTAMA OYAMA**	**1.17**	**264**	P	**Pb**	**22 08 22.4**	**-0.1**
JOTO				S	**Sb**	**22 08 36.5**	**-1.2**
JYAR	**Yonezawaarcadi**	**1.32**	**280**	A	A	22 08 24.3	
	comp=N,18nm,1.6s,comp=E,9.0nm,0.4s						
JMK	**Ichinoseki**	**1.33**	**340**	*i* P	**Pb**	**22 08 25.0**	**-0.2**
JMK				S	**Sb**	**22 08 41.4**	**-1.0**
JYS	**Shirataka**	**1.46**	**291**	*i* P	**Pn**	**22 08 26.9**	**+0.1**
JYS				S	**Sb**	**22 08 45.6**	**-0.6**
JYS	**Shirataka**	**1.46**	**291**	A	A	22 08 26.9	
	comp=N,5.0nm,0.6s,comp=E,6.0nm,0.4s						
MJAR	**Matsushiro Arr**	**3.09**	**249**	Pn	**Pn**	**22 08 50.9**	**+1.7**
	comp=E,0.7nm,0.3s,baz=62,slow=8.8,SNR=31						
MJAR				Sn	**Sn**	**22 09 29.4**	**+3.1**
	comp=E,1.2nm,0.3s,baz=78,slow=25,SNR=6.3						
	comp=E,3.7nm,0.3s						
JHJ	**Hachijo jima 2**	**4.86**	**200**	Pn	**Pn**	**22 09 13.7**	**+0.2**
	comp=E,22nm,0.3s,baz=15,slow=8.7,SNR=12						
JHJ				Sn	**Sn**	**22 10 07.7**	**-2.1**
	comp=E,7.4nm,0.3s,baz=73,slow=19,SNR=1.5						
	comp=E,39nm,0.3s						
ASAJ	**Asahikawa**	**6.44**	**5**	Pn	**Pn**	**22 09 35.3**	**+0.2**
	comp=E,0.8nm,0.3s,baz=215,slow=12,SNR=5.0						
ASAJ				Sn	**Sn**	**22 10 47.5**	**-1.3**
	baz=162,slow=20						
	comp=E,1.7nm,0.3s						
USRK	**Ussuriysk Ar.**	**9.85**	**314**	Pn	**Pn**	**22 10 22.4**	**+0.5**
	comp=E,0.2nm,0.3s,baz=125,slow=14,SNR=4.3						
USRK				Sn	**Sn**	**22 12 11.1**	**-1.6**
	comp=E,0.2nm,0.3s,baz=149,slow=42,SNR=1.7						
	comp=E,3.4nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.24**	**122**	T	T	22 43 26.9	
	baz=315,slow=75,SNR=173						
H11N1	**WAKE ISLAND Hy**	**28.25**	**122**	T	T	22 43 26.6	
	baz=315,slow=75,SNR=167						
H11N3	**WAKE ISLAND Hy**	**28.26**	**122**	T	T	22 43 35.4	
	baz=315,slow=75,SNR=141						
H11S1	**WAKE ISLAND Hy**	**28.98**	**124**	T	T	22 44 22.5	
	baz=317,slow=76,SNR=128						
H11S3	**WAKE ISLAND Hy**	**28.98**	**124**	T	T	22 44 22.6	
	baz=317,slow=76,SNR=163						
H11S2	**WAKE ISLAND Hy**	**28.99**	**124**	T	T	22 44 23.7	
	baz=317,slow=76,SNR=112						
ZALV	**Zalesovo Beam**	**41.69**	**312**	P	**P**	**22 15 49.9**	**+0.8**
	comp=E,0.3nm,0.2s,baz=86,slow=9.4,SNR=2.1						
	comp=E,0.3nm,0.2s						
CMAR	**Chiang Mai Arr**	**41.96**	**255**	P	**P**	**22 15 52.2**	**+0.5**
	comp=E,0.8nm,0.4s,baz=60,slow=9.9,SNR=3.0						
	comp=E,0.8nm,0.4s						
MKAR	**Makanchi Array**	**44.02**	**302**	P	**P**	**22 16 08.4**	**+0.3**
	comp=E,0.1nm,0.4s,baz=89,slow=10,SNR=2.0						
	comp=E,0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**45.83**	**308**	P	**P**	**22 16 22.5**	**+0.2**
	comp=E,0.5nm,0.3s,baz=82,slow=8.1,SNR=9.6						
	comp=E,0.5nm,0.3s						
ILAR	**Eielson Array**	**48.77**	**33**	P	**P**	**22 16 44.7**	**-0.4**
	comp=E,0.4nm,0.6s,baz=271,slow=6.1,SNR=4.9						
	comp=E,0.4nm,0.6s						
WRA	**Warramunga Arr**	**57.76**	**188**	P	**P**	**22 17 52.1**	**+0.4**
	comp=E,0.6nm,0.9s,baz=8.5,slow=7.8,SNR=6.7						
	comp=E,0.6nm,0.9s						
ASAR	**Alice Springs**	**61.49**	**188**	P	**P**	**22 18 17.7**	**+0.4**
	comp=E,0.5nm,0.8s,baz=9.8,slow=6.8,SNR=6.7						
	comp=E,0.5nm,0.8s						
FINES	**FINESS Array B**	**68.36**	**332**	P	**P**	**22 19 01.7**	**0.0**
	comp=E,2.0nm,0.9s,baz=42,slow=6.3,SNR=4.0						
	comp=E,2.0nm,0.9s						
HFS	**Hagfors**	**73.61**	**336**	P	**P**	**22 19 32.5**	**-1.0**
	comp=E,2.8nm,1.1s,baz=35,slow=5.3,SNR=1.5						
	comp=E,2.8nm,1.1s						
AKASG	**Malin Array Be**	**73.95**	**322**	P	**P**	**22 19 35.6**	**-0.2**
	comp=E,0.4nm,0.4s,baz=47,slow=6.3,SNR=4.6						
	comp=E,0.4nm,0.4s						
TXAR	**Lajitas Array**	**89.48**	**53**	P	**P**	**22 20 59.0**	**+0.9**
	comp=E,0.2nm,0.6s,baz=306,slow=4.2,SNR=3.6						
	comp=E,0.2nm,0.6s						
LPAZ	**La Paz**	**146.09**	**59**	PKPbc	**PKPab**	**22 27 42.7**	**+0.2**
	comp=E,1.0nm,0.6s,baz=315,slow=2.9,SNR=4.8						
H03N2	**Juan Fernandez**	**146.79**	**95**	T	T	01 11 49.9	
	baz=293						
H03N3	**Juan Fernandez**	**146.80**	**95**	T	T	01 11 47.5	
	baz=293						
H03N1	**Juan Fernandez**	**146.81**	**95**	T	T	01 11 53.0	
	baz=293						

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*NEIC **29** 22:14:11.4±0.8,35°.806N±0°.009×98°.11W±0°.01,h5km±1km, mb_Lg2.3/21,ML2.5/28,ML2.6/58,Error ellipse: s-maj=2.6km s-min=1.5km az=323.0*
NEIC 29 22:14:11.5±0.8,35°.809N±0°.008×98°.113W±0°.005, h5km±1km,Error ellipse: s-maj=2.7km s-min=1.5km az=5.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCOK	**Bluff Creek, N**	**0.44**	**110**		Pg	22 14 20.4	+0.4
BCOK					Sg	22 14 26.5	+0.9
CSTR	**Hydro, Custer**	**0.50**	**251**	Pg	Pg	22 14 21.6	+0.5
OK029	**Liberty Lake**	**0.54**	**91**	Pg	Pg	22 14 22.0	+0.2
OK029				Sg	Sg	22 14 29.7	+0.9
OK029				IAML		22 14 29.9	
	450nm,0.2s						
OK004	**Okla Sci Mus**	**0.59**	**119**		Pg	22 14 23.1	+0.2
OK004					Sg	22 14 31.5	+0.9
ADOK	**Arcadia Dam**	**0.62**	**104**	Pg	Pg	22 14 23.6	+0.2
ADOK				Sg	Sg	22 14 32.6	+1.0
OKCSW	**OKLAHOMA CITY**	**0.68**	**126**	Pg	Pg	22 14 24.9	+0.3
OKCSW				Sg	Sg	22 14 33.5	0.0
OKCSW				IAML		22 14

comp=Z,20nm,0.8s
WTFS Witchita Falls 2.06 188 Pn Pn 22 14 48.0 +1.2
RLO Rose Lookout 2.53 81 Pn Pn 22 14 54.2 +1.0
Z35A Perchaven, San 2.57 164 Pn Pn 22 14 54.4 +0.5
R32A Long Quarter, 2.65 350 Pn Pn 22 14 55.6 +0.6
AMTX Amarillo 3.06 253 IAmb_Lg 22 15 54.3
comp=Z,9.0nm,0.8s
DKNS Dickens 3.15 228 Pn Pn 22 15 03.3 +1.5
SN05 Snyder 5 3.71 219 IAmb_Lg 22 16 14.9
comp=Z,6.6nm,0.9s
WHTX Lake Whitney, 3.85 172 Pn Pn 22 15 12.0 +0.7
MIAR Mount Ida 3.92 107 Pn Pn 22 15 13.3 +0.9
MIAR IAmb_Lg 22 16 27.0
comp=Z,8.3nm,1.0s
X40A Basin Creek Fa 4.52 105 IAmb_Lg 22 16 35.0
comp=Z,7.1nm,0.8s
BRDY Brady 4.57 190 Pn Pn 22 15 21.8 +0.4
BRDY IAmb_Lg 22 16 39.9
comp=Z,4.2nm,0.9s
T25A Trinidad 5.25 287 IAmb_Lg 22 17 01.2
comp=Z,7.4nm,0.9s
CCM Cathedral Cave 5.94 66 IAmb_Lg 22 17 18.7
comp=Z,4.3nm,1.0s
PBMO Poplar Bluff 6.28 79 IAmb_Lg 22 17 30.3
comp=Z,5.9nm,0.9s

IDC ***29*** *22:16:12.8±0.9,50˚.93N×158˚.02E, h0km, mb3.6/14, mbtmp3.6/15, ML2.7/1, MS2.9/1, Error ellipse: s-maj=23.4km s-min=19.6km az=164.0*
KRSC ***29*** *22:16:16.9±2.4, 50˚.94N×158˚.42E, h50km±25km, Ml4.3*
MOS ***29*** *22:16:18.1±1.2, 50˚.90N×158˚.21E, h54km, mb4.3/1, Error ellipse: s-maj=15.6km s-min=3.9km az=86.4*

ISC 29 22:16:18.4±0.8, 50˚.88N±0˚.07×158˚.32E±0˚.05, h38km±2km, n88, σ1§41/104, mb3.7/14, 2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**1.12**	**302**	PN	**Pn**	**22 16 37.1**	**-0.3**
PAU				S	**Sn**	**22 16 50.3**	**-1.3**
PAU	**Pauzhetka**	**1.12**	**302**	*e*P	**Pn**	**22 16 37.1**	**-0.3**
PAU				*e*S	**Sn**	**22 16 50.3**	**-1.3**
SKR	**Severo-Kuril's**	**1.41**	**263**	*i*/PN	**Pn**	**22 16 41.8**	**+0.3**
SKR				*i* S	**Sn**	**22 16 59.3**	**+0.6**
SKR				pmax	pmax		
	comp=Z,118nm,0.7s						
SKR				smax	smax		
	comp=N,2μm,0.5s						
SKR				smax	smax		
	comp=E,1μm,0.6s						
SKR	**Severo-Kuril's**	**1.41**	**263**	*e*P	**Pn**	**22 16 42.0**	**+0.6**
SKR				*e*S	**Sn**	**22 16 59.4**	**+0.6**
ASAK	**Asacha**	**1.53**	**350**	PN	**Pn**	**22 16 42.9**	**-0.3**
ASAK				S	**Sn**	**22 17 00.6**	**-1.3**
ASAK	**Asacha**	**1.53**	**350**	*e*P	**Pn**	**22 16 42.9**	**-0.3**
ASAK				*e*S	**Sn**	**22 17 00.7**	**-1.3**
RUS	**Russkaya**	**1.56**	**4**	PN	**Pn**	**22 16 43.0**	**-0.5**
RUS	**Russkaya**	**1.56**	**4**	*e*P	**Pn**	**22 16 43.0**	**-0.5**
MTVR	**Mutnovka**	**1.61**	**357**	PN	**Pn**	**22 16 43.9**	**-0.4**
MTVR				S	**Sn**	**22 17 02.5**	**-1.4**
MTVR	**Mutnovka**	**1.61**	**357**	*e*P	**Pn**	**22 16 44.0**	**-0.4**
MTVR				*e*S	**Sn**	**22 17 02.6**	**-1.4**
GRL	**Gorelyy**	**1.69**	**355**	PN	**Pn**	**22 16 45.5**	**+0.2**
GRL				S	**Sn**	**22 17 04.8**	**-0.9**
GRL	**Gorelyy**	**1.69**	**355**	*e*P	**Pn**	**22 16 45.6**	**+0.2**
GRL				*e*S	**Sn**	**22 17 04.9**	**-0.9**
MIPR	**Malaya Ipel'ka**	**1.71**	**326**	PN	**Pn**	**22 16 45.8**	**+0.3**
MIPR	**Malaya Ipel'ka**	**1.71**	**326**	*e*P	**Pn**	**22 16 45.9**	**+0.3**
KRMR	**Karymshinskiy**	**1.96**	**357**	PN	**Pn**	**22 16 49.5**	**+0.5**
KRMR				S	**Sn**	**22 17 12.1**	**-0.2**
KRMR	**Karymshinskiy**	**1.96**	**357**	*e*P	**Pn**	**22 16 49.5**	**+0.5**
KRMR				*e*S	**Sn**	**22 17 12.2**	**-0.2**
PET	**Petropavlovsk**	**2.16**	**5**	*e*PN	**Pn**	**22 16 51.8**	**+0.1**
PET				*e*S	**Sn**	**22 17 16.4**	**-0.8**
PET				pmax	pmax		
	comp=Z,106nm,0.6s						
PET				smax	smax		
	comp=E,553nm,0.5s						
PET				smax	smax		
	comp=N,506nm,0.6s						
PET	**Petropavlovsk**	**2.16**	**5**	*e*P	**Pn**	**22 16 52.1**	**+0.4**
PET				*e*S	**Sn**	**22 17 16.6**	**-0.6**
APC	**Apacha**	**2.17**	**341**	PN	**Pn**	**22 16 52.4**	**+0.5**
APC	**Apacha**	**2.17**	**341**	*e*P	**Pn**	**22 16 52.4**	**+0.5**
DALK	**Dalny**	**2.17**	**7**	PN	**Pn**	**22 16 52.0**	**+0.1**
DALK				S	**Sn**	**22 17 16.3**	**-1.3**
DALK	**Dalny**	**2.17**	**7**	*e*P	**Pn**	**22 16 52.1**	**+0.1**
DALK				*e*S	**Sn**	**22 17 16.3**	**-1.3**
INSR	**Institute**	**2.20**	**4**	PN	**Pn**	**22 16 53.2**	**+1.0**
INSR				S	**Sn**	**22 17 18.7**	**+0.5**
INSR	**Institute**	**2.20**	**4**	*e*P	**Pn**	**22 16 53.3**	**+1.0**
INSR				*e*S	**Sn**	**22 17 18.8**	**+0.5**
PEA0B	**Petropavlovsk-**	**2.27**	**350**	*d*/PN	**Pn**	**22 16 53.8**	**+0.5**
PEA0B				*e*S	**Sn**	**22 17 21.2**	**+1.3**
PETK	**Petropavlovsk-**	**2.27**	**350**	Pn	**Pn**	**22 16 52.7**	**-0.6**
	comp=N,10nm,0.3s,baz=184,slow=14,SNR=108						
PETK				Sn	**Sn**	**22 17 20.6**	**+0.7**
	comp=N,10nm,0.3s,baz=186,slow=37,SNR=7.7						
PETK				LR	LR	22 17 52.5	
	comp=N,241nm,19.0s,baz=306,slow=45						
	comp=N,34nm,0.6s						
UGLR	**Uglovaya**	**2.36**	**7**	PN	**Pn**	**22 16 55.3**	**+0.8**
UGLR	**Uglovaya**	**2.36**	**7**	*e*P	**Pn**	**22 16 55.3**	**+0.8**
NLC	**Nalytchevo**	**2.38**	**15**	PN	**Pn**	**22 16 54.3**	**-0.5**
NLC	**Nalytchevo**	**2.38**	**15**	*e*P	**Pn**	**22 16 54.4**	**-0.5**
AVH	**Avacha**	**2.41**	**6**	PN	**Pn**	**22 16 56.1**	**+0.9**
AVH	**Avacha**	**2.41**	**6**	*e*P	**Pn**	**22 16 56.1**	**+0.9**
SMAR	**Somma**	**2.41**	**7**	PN	**Pn**	**22 16 56.5**	**+1.2**
SMAR	**Somma**	**2.41**	**7**	*e*P	**Pn**	**22 16 56.6**	**+1.2**
KOK	**Koryaka**	**2.43**	**4**	PN	**Pn**	**22 16 56.9**	**+1.4**
KOK	**Koryaka**	**2.43**	**4**	*e*P	**Pn**	**22 16 56.9**	**+1.4**
SDLR	**Sedlovina**	**2.43**	**8**	PN	**Pn**	**22 16 55.6**	**+0.1**
SDLR	**Sedlovina**	**2.43**	**8**	*e*P	**Pn**	**22 16 55.7**	**+0.1**
KRER	**Koryakskii**	**2.45**	**6**	PN	**Pn**	**22 16 57.0**	**+1.2**
KRER				S	**Sn**	**22 17 25.3**	**+0.7**
KRER	**Koryakskii**	**2.45**	**6**	*e*P	**Pn**	**22 16 57.1**	**+1.2**
KRER				*e*S	**Sn**	**22 17 25.3**	**+0.7**
SPN	**Mys Shipunski**	**2.46**	**25**	PN	**Pn**	**22 16 56.9**	**+1.1**
SPN				S	**Sn**	**22 17 24.8**	**+0.2**
SPN	**Mys Shipunski**	**2.46**	**25**	*e*P	**Pn**	**22 16 57.0**	**+1.1**
SPN				*e*S	**Sn**	**22 17 24.8**	**+0.2**
KRX	**Arik**	**2.50**	**5**	PN	**Pn**	**22 16 57.5**	**+1.0**
KRX				S	**Sn**	**22 17 27.7**	**+2.0**
KRX	**Arik**	**2.50**	**5**	*e*P	**Pn**	**22 16 57.5**	**+1.0**
KRX				*e*S	**Sn**	**22 17 27.8**	**+2.0**
GNL	**Ganaly**	**2.83**	**355**	PN	**Pn**	**22 17 02.1**	**+1.0**
GNL	**Ganaly**	**2.83**	**355**	*e*P	**Pn**	**22 17 02.1**	**+1.0**
KII	**Karymskiy**	**3.24**	**12**	PN	**Pn**	**22 17 09.7**	**+3.1**
KII	**Karymskiy**	**3.24**	**12**	*e*P	**Pn**	**22 17 09.7**	**+3.1**
MKZ	**Mys Kozlova**	**4.23**	**28**	PN	**Pn**	**22 17 20.5**	**+0.4**
MKZ	**Mys Kozlova**	**4.23**	**28**	*e*P	**Pn**	**22 17 20.6**	**+0.4**
TUMD	**Tumrok D**	**4.51**	**15**	PN	**Pn**	**22 17 27.2**	**+3.2**
TUMD	**Tumrok D**	**4.51**	**15**	*e*P	**Pn**	**22 17 27.2**	**+3.2**
KMNR	**Kamenistaya**	**5.02**	**12**	PN	Pn	22 17 36.2	+5.1
KMNR	**Kamenistaya**	**5.02**	**12**	*e*P	Pn	22 17 36.2	+5.1
BZMR	**Bezymyannaya**	**5.23**	**14**	PN	**Pn**	**22 17 37.1**	**+3.1**
BZMR	**Bezymyannaya**	**5.23**	**14**	*e*P	**Pn**	**22 17 37.2**	**+3.1**
BZWR	**Bezymyannyi-We**	**5.26**	**13**	PN	**Pn**	**22 17 36.8**	**+2.4**
BZWR	**Bezymyannyi-We**	**5.26**	**13**	*e*P	**Pn**	**22 17 36.9**	**+2.4**
KBTR	**Krutoberegovo**	**5.97**	**25**	PN	**Pn**	**22 17 45.4**	**+1.3**
KBTR	**Krutoberegovo**	**5.97**	**25**	*e*P	**Pn**	**22 17 45.5**	**+1.3**
BKI	**Bering**	**6.33**	**44**	PN	**Pn**	**22 17 48.9**	**0.0**
BKI	**Bering**	**6.33**	**44**	*e*P	**Pn**	**22 17 49.0**	**0.0**
BKI				*e*S	**Sn**	**22 18 53.3**	**-6.5**
ILAR	**Eielson Array**	**31.18**	**43**	P	**P**	**22 22 34.4**	**+1.2**
	comp=N,0.2nm,0.6s,baz=275,slow=9.1,SNR=1.6						
	comp=N,0.2nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**31.81**	**165**	T	T	22 56 31.3	
	baz=350,slow=76,SNR=204						
H11N3	**WAKE ISLAND Hy**	**31.83**	**165**	T	T	22 56 32.5	
	baz=350,slow=76,SNR=123						
H11N1	**WAKE ISLAND Hy**	**31.83**	**165**	T	T	22 56 32.6	
	baz=350,slow=76,SNR=180						
H11S1	**WAKE ISLAND Hy**	**32.98**	**165**	T	T	22 58 03.6	
	baz=351,slow=76,SNR=54						
H11S3	**WAKE ISLAND Hy**	**32.99**	**165**	T	T	22 58 00.5	
	baz=351,slow=76,SNR=70						
H11S2	**WAKE ISLAND Hy**	**32.99**	**165**	T	T	22 58 01.0	
	baz=351,slow=76,SNR=44						
KURK	**Kurchatov**	**47.99**	**303**	P	**P**	**22 24 52.2**	**-0.9**
KURBB	**Kurchatov Arra**	**48.09**	**303**	P	**P**	**22 24 52.2**	**-1.7**
	comp=N,0.5nm,0.4s,baz=61,slow=7.3,SNR=4.4						
	comp=N,0.5nm,0.4s						
MKAR	**Makanchi Array**	**48.15**	**296**	P	**P**	**22 24 52.6**	**-1.8**
	comp=N,0.1nm,0.4s,baz=63,slow=7.5,SNR=4.2						
	comp=N,0.1nm,0.4s						
SPITS	**Spitsbergen Ar**	**49.14**	**350**	P	**P**	**22 25 00.6**	**-1.0**
	comp=N,0.8nm,0.5s,baz=55,slow=12,SNR=4.4						
	comp=N,0.8nm,0.5s						
BVAR	**Borovoye Array**	**50.92**	**309**	P	**P**	**22 25 13.5**	**-1.9**
	comp=N,0.8nm,0.5s,baz=56,slow=7.2,SNR=6.2						
	comp=N,0.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**56.65**	**258**	P	**P**	**22 25 57.5**	**-0.2**
	comp=N,0.6nm,0.3s,baz=37,slow=9.2,SNR=4.4						
	comp=N,0.6nm,0.3s						
CMAR	**Chiang Mai Arr**	**56.65**	**258**	*e*P	**P**	**22 25 59.8**	**+2.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NVAR	**Mina Array Bea**	**57.57**	**68**	P	**P**	**22 26 05.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=322,slow=11,SNR=1.5						
	comp=Z,0.1nm,0.3s						
PDAR	**Pinedale Array**	**59.59**	**59**	P	**P**	**22 26 20.1**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=303,slow=11,SNR=8.8						
	comp=Z,0.2nm,0.3s						
BORG	**Borgarnes**	**64.71**	**360**	*i* P	**P**	**22 26 53.5**	**+1.6**
HFS	**Hagfors**	**65.72**	**341**	P	**P**	**22 26 56.5**	**-2.0**
	comp=Z,1.6nm,0.8s,baz=17,slow=10,SNR=2.2						
	comp=Z,1.6nm,0.8s						
TXAR	**Lajitas Array**	**72.54**	**65**	P	**P**	**22 27 41.5**	**0.0**
	comp=Z,0.2nm,0.6s,baz=317,slow=6.7,SNR=3.6						
	comp=Z,0.2nm,0.6s						
EKA	**Eskdalemuir Ar**	**73.04**	**349**	P	**P**	**22 27 43.3**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=7.6,slow=5.6,SNR=3.8						
	comp=Z,0.2nm,0.4s						
WRA	**Warramunga Arr**	**73.61**	**203**	P	**P**	**22 27 48.3**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=17,slow=6.2,SNR=1.9						
	comp=Z,0.2nm,0.6s						
GERES	**GERESS Array B**	**76.14**	**337**	P	**P**	**22 28 02.1**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=6.3,slow=9.9,SNR=2.9						
	comp=Z,0.3nm,0.4s						
MMAI	**Mount Meron Ar**	**82.51**	**315**	P	**P**	**22 28 35.9**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=48,slow=8.8,SNR=2.2						
	comp=Z,0.4nm,0.4s						
H03N2	**Juan Fernandez**	**135.31**	**90**	T	T	01 05 56.7	
	baz=314,slow=77,SNR=56						
H03N1	**Juan Fernandez**	**135.32**	**90**	T	T	01 05 56.6	
	baz=314,slow=77,SNR=74						
H03N3	**Juan Fernandez**	**135.32**	**90**	T	T	01 06 01.1	
	baz=314,slow=77,SNR=61						

DJA ***29*** *22:33:59.1±0.3, 3˚S×3˚.1E±˚, h10km, M3.6/9, MLv3.6/9*
IDC ***29*** *22:34:14.4±2.4, 5˚.22S×130˚.70E, h0km, mb3.5/1, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=114.9km s-min=17.2km az=75.0*

ISC 29 22:34:01.6±1.2, 3˚.38S±0˚.08×131˚.12E±0˚.05, h35km, n10, σ1§67/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.22**	**68**	P	**Pn**	**22 34 22.0**	**-0.1**
FAKI				S	**Sn**	**22 34 38.9**	**+1.6**
BNDI	**Bandanaira**	**1.66**	**227**	P	**Pn**	**22 34 28.5**	**+0.3**
BNDI				S	**Sn**	**22 34 50.3**	**+2.0**
MSAI	**Masohi**	**2.19**	**271**	P	**Pn**	**22 34 36.1**	**+0.6**
MSAI				S	**Sn**	**22 35 03.2**	**+1.8**
SWI	**Sorong**	**2.50**	**3**	P	**Pn**	**22 34 39.0**	**-0.8**
KMPI	**Kaimana, Papua**	**2.59**	**96**	P	**Pn**	**22 34 41.4**	**+0.4**
RKPI	**Ransiki, Papua**	**3.57**	**59**	P	**Pn**	**22 34 54.9**	**+0.3**
RKPI				S	**Sn**	**22 35 37.6**	**+2.0**
NLAI	**Namlea**	**4.02**	**272**	P	**Pn**	**22 35 00.1**	**-0.5**
WRA	**Warramunga Arr**	**16.76**	**169**	Pn	Pn	22 37 47.4	-6.4
	0.1nm,0.3s,baz=346,slow=10.0,SNR=5.9						
WRA				Sn	Sn	22 40 38.9	-20
	0.1nm,0.3s,baz=348,slow=24,SNR=1.8						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**20.35**	**173**	P	**P**	**22 38 31.9**	**-3.2**
	0.3nm,0.3s,baz=352,slow=10,SNR=14						
ASAR				S	S	22 42 04.1	-17
	0.3nm,0.6s,baz=347,slow=25,SNR=2.3						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**65.86**	**325**	P	P	22 45 10.5	+27
	0.3nm,0.6s,baz=133,slow=8.2,SNR=3.7						
	0.3nm,0.6s						

IDC ***29*** *22:38:59.1±1.0, 14˚.91S×66˚.86E, h0km, mb3.8/10, mbtmp3.8/10, MS3.7/5, Error ellipse: s-maj=35.9km s-min=22.4km az=68.0*

ISC 29 22:39:01.7±1.1, 14˚.9S±0˚.2×66˚.9E±0˚.2, h16km, n26, σ0§90/12, mb4.0/10, MS3.6/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**9.07**	**38**	T	T	22 50 35.4	
	baz=218,slow=75,SNR=304						
H08S2	**Diego Garcia H**	**9.08**	**38**	T	T	22 50 40.0	
	baz=218,slow=75,SNR=392						
H08S3	**Diego Garcia H**	**9.09**	**38**	T	T	22 50 34.0	
	baz=218,slow=75,SNR=377						
PALK	**Pallekele**	**25.96**	**33**	LR	LR	22 52 25.4	
	comp=Z,115nm,21.3s,baz=227,slow=31						
H04N2	**CROZET ISLANDS**	**33.63**	**199**	T	T	23 21 12.3	
	baz=28,slow=75,SNR=134						
H04N1	**CROZET ISLANDS**	**33.63**	**199**	T	T	23 21 16.5	
	baz=28,slow=75,SNR=136						
H04N3	**CROZET ISLANDS**	**33.65**	**199**	T	T	23 21 15.1	
	baz=28,slow=75,SNR=115						
MATP	**Matopo**	**36.91**	**256**	LR	LR	22 58 16.8	
	comp=Z,67nm,19.5s,baz=78,slow=31						
LSZ	**Lusaka**	**37.31**	**264**	LR	LR	23 00 16.1	
	comp=Z,177nm,18.5s,baz=140,slow=34						
LBTB	**Lobatse**	**39.93**	**249**	LR	LR	23 00 29.2	
	comp=Z,82nm,19.9s,baz=74,slow=32						
BOSA	**Boshof**	**40.77**	**243**	LR	LR	23 01 31.2	
	comp=Z,103nm,18.1s,baz=28,slow=33						
CMAR	**Chiang Mai Arr**	**45.80**	**45**	P	**P**	**22 47 23.8**	**+0.7**
	0.8nm,0.3s,baz=225,slow=7.4,SNR=5.2						
	0.8nm,0.3s						
H01W3	**Cape Leeuwin H**	**46.78**	**124**	T	T	23 37 42.8	
	baz=283,slow=75,SNR=24						
H01W2	**Cape Leeuwin H**	**46.78**	**124**	T	T	23 37 44.7	
	baz=283,slow=75,SNR=28						
H01W1	**Cape Leeuwin H**	**46.80**	**124**	T	T	23 37 40.2	
	baz=283,slow=75,SNR=27						
BRTR	**Keskin Array B**	**62.55**	**332**	P	**P**	**22 49 25.1**	**+0.1**
	0.4nm,0.7s,baz=141,slow=9.3,SNR=3.6						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**62.96**	**12**	P	**P**	**22 49 26.3**	**-1.1**
	0.4nm,0.7s,baz=205,slow=6.4,SNR=4.1						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**63.40**	**109**	P	**P**	**22 49 29.8**	**-1.2**
	0.2nm,0.3s,baz=267,slow=6.5,SNR=3.7						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**64.21**	**105**	P	**P**	**22 49 36.9**	**+0.5**
	1.7nm,1.0s,baz=259,slow=6.5,SNR=8.5						
	1.7nm,1.0s						
KURBB	**Kurchatov Arra**	**66.04**	**8**	P	**P**	**22 49 47.1**	**-0.4**
	0.4nm,0.7s,baz=203,slow=6.2,SNR=4.3						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**67.72**	**2**	P	**P**	**22 49 58.0**	**-0.1**
	0.3nm,0.3s,baz=164,slow=7.5,SNR=5.0						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**70.28**	**11**	P	**P**	**22 50 15.7**	**+1.7**
	1.1nm,0.6s,baz=198,slow=4.1,SNR=6.1						
	1.1nm,0.6s						
QSPA	**South Pole Qui**	**75.17**	**180**	P	**P**	**22 50 43.7**	**+0.5**
	3.0nm,1.0s,baz=281,slow=2.2,SNR=6.5						
	3.0nm,1.0s						
MJAR	**Matsushiro Arr**	**84.41**	**50**	P	**P**	**22 51 33.1**	**-0.5**
	0.6nm,0.5s,baz=251,slow=5.0,SNR=3.3						
	0.6nm,0.5s						
PDAR	**Pinedale Array**	**152.06**	**354**	PKPbc	**PKPbc**	**22 58 56.9**	**0.0**
	0.5nm,0.5s,baz=354,slow=2.4,SNR=5.8						
TXAR	**Lajitas Array**	**163.19**	**330**	PKPab	**PKPab**	**22 59 53.6**	**-0.7**
	0.3nm,0.8s,baz=46,slow=3.0,SNR=4.1						

IPEC ***29*** *23:05:02.0±0.2, 51˚.53N×16˚.15E, h1km, ML2.2/5, Error ellipse: s-maj=3.0km s-min=1.4km az=71.0*
DNK ***29*** *23:05:03.0±1.5, 51˚.64N×15˚.89E, h0km±48km, ML1.8*
IDC ***29*** *23:05:04.0±1.1, 51˚.54N×15˚.74E, h0km, mbtmp3.2/5, ML2.0/4, Error ellipse: s-maj=28.1km s-min=8.6km az=106.0*
PRU ***29*** *23:05:04.5, 51˚.45N×16˚.09E, h0km*

ISC 29 23:05:00.8±0.7, 51˚.59N±0˚.03×16˚.02E±0˚.03, h0km, n41, σ1§35/76, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.77**	**167**	*e*Pg	**Pg**	**23 05 15.6**	**+0.2**
KSP				*e*Sg	**Sg**	**23 05 24.4**	**-0.9**
CHVC	**Chvalec**	**1.00**	**179**	*e*PG	**Pg**	**23 05 20.3**	**+0.4**
CHVC				*e*SG	**Sg**	**23 05 31.6**	**-1.3**
OSTC	**Ostas**	**1.04**	**173**	*e*PG	**Pb**	**23 05 21.1**	**-0.6**
OSTC				*e*SG	**Sg**	**23 05 33.5**	**-0.6**
	comp=Z,28nm,0.3s						
UPC	**Upice**	**1.08**	**180**	*e*PG	**Pg**	**23 05 21.5**	**0.0**
UPC				*e*SG	**Sg**	**23 05 34.7**	**-0.8**
	comp=Z,61nm,0.6s						
DPC	**Dobruska-Polom**	**1.25**	**171**	*e*PG	**Pg**	**23 05 24.3**	**-0.5**
DPC				*e*SG	**Sg**	**23 05 39.0**	**-2.0**
	comp=Z,25nm,0.8s						
PVCC	**Panska Ves**	**1.40**	**221**	*e*PG	**Pb**	**23 05 28.4**	**+0.6**
PVCC				*e*SG	**Sn**	**23 05 47.4**	**+0.6**
	comp=Z,82nm,0.4s						
PIVO	**Bartosovice**	**1.44**	**167**	*e*Pg	**Pn**	**23 05 27.6**	**-0.6**
	baz=349						
PIVO				*e*Sg	**Sg**	**23 05 44.8**	**-2.3**
	36nm,0.4s,baz=349						
BRG	**Berggiesshubel**	**1.49**	**242**	Pg	**Pb**	**23 05 30.8**	**+1.5**
BRG				Sg	**Sn**	**23 05 50.7**	**+1.7**
BRG				Amp		23 05 51.4	
	comp=Z,36nm,0.4s						
KRLC	**Kraliky**	**1.59**	**162**	*e*PG	**Pn**	**23 05 30.1**	**-0.1**
KRLC				*e*SG	**Sn**	**23 05 50.4**	**-1.1**
	comp=Z,25nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.85**	**206**	*e*PN	**Pn**	**23 05 33.8**	**0.0**
GOPC				*e*PG	**Pb**	**23 05 35.4**	**-0.1**
PRU	**Pruhonice**	**1.86**	**211**	*e*PN	**Pn**	**23 05 34.0**	**+0.2**
PRU				*e*PG	**Pb**	**23 05 35.6**	**0.0**
PRU				*e*SG	**Sg**	**23 05 59.7**	**-0.7**
	comp=Z,17nm,0.5s						
CLL	**Collm**	**1.91**	**263**	*e*Pn	**Pn**	**23 05 35.0**	**+0.4**
CLL				*e*Pg	**Pg**	**23 05 37.0**	**-0.4**
CLL				*e*Sg	**Sg**	**23 06 03.0**	**+0.9**
	comp=Z,8.0nm,0.6s						
STEB	**Steborice**	**1.99**	**145**	*e*PG	**Pb**	**23 05 37.9**	**0.0**
STEB				*e*SG	**Sb**	**23 06 02.7**	**-0.6**
	comp=Z,22nm,0.4s						
MORC	**Moravsky Berou**	**2.06**	**151**	*e*PN	**Pn**	**23 05 36.5**	**-0.1**
MORC				*e*SG	**Sn**	**23 06 03.6**	**+0.6**
MORC	**Moravsky Berou**	**2.06**	**151**	*e*Pn	**Pn**	**23 05 36.4**	**-0.1**
	baz=334						
MORC				*e*Sg	**Sn**	**23 06 03.5**	**+0.6**
	comp=Z,13nm,0.5s,baz=334						
VRAC	**Vranov**	**2.31**	**171**	*e*Pn	**Pn**	**23 05 40.2**	**+0.1**
	baz=353						
VRAC				*e*Sg	**Sb**	**23 06 12.2**	**-0.2**
	comp=Z,9.6nm,0.4s,baz=353						
TREC	**Trest**	**2.32**	**189**	*e*SG	**Sg**	**23 06 14.1**	**-1.2**
KRUC	**Moravsky**	**2.54**	**174**	*e*Pn	**Pn**	**23 05 43.4**	**+0.2**
	baz=356						
KRUC	**Moravsky**	**2.54**	**174**	*e*Pg	**Pb**	**23 05 47.3**	**+0.1**
	baz=356						
KRUC				*e*Sg	**Sb**	**23 06 19.5**	**+0.5**
	comp=Z,10nm,0.6s,baz=356						
OJC	**Ojcow**	**2.75**	**118**	*e*Pg	**Pg**	**23 05 54.1**	**+0.6**
OJC				*e*Sg	**Sg**	**23 06 28.8**	**-0.4**
KHC	**Kasperske Hory**	**2.92**	**213**	*e*PN	**Pn**	**23 05 48.4**	**0.0**
KHC				*e*PG	**Pb**	**23 05 54.9**	**+1.3**
KHC				*ex*	x	23 06 25.0	
KHC				*e*SG	**Sg**	**23 06 33.0**	**-1.4**
	comp=Z,5.9nm,0.5s						
JAVC	**Velka Javorina**	**2.93**	**158**	*e*Pn	**Pn**	**23 05 48.6**	**0.0**
	baz=340						
CKRC	**Cesky Krumlov**	**2.98**	**202**	*e*PN	**Pn**	**23 05 50.5**	**+1.2**
CKRC				*e*PG	**Pb**	**23 05 55.8**	**+1.0**
CKRC				*e*SG	**Sg**	**23 06 35.4**	**-1.1**
	comp=Z,7.8nm,0.4s						
GERES	**GERESS Array B**	**3.13**	**209**	Pn	**Pn**	**23 05 52.8**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=13						
GERES				Pg	**Pb**	**23 05 58.7**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=24,slow=19,SNR=17						
GERES				Lg	Lg	23 06 36.4	
	comp=Z,0.1nm,0.3s,baz=27,slow=29,SNR=4.5						
	comp=Z,0.8nm,0.4s						
LANS	**Liptovska Anna**	**3.29**	**137**	*e*PG	**Pg**	**23 06 03.2**	**-0.6**
LANS				*e*SG	**

GWY				IAML			23 10 05.9	
	comp=N,380nm,0.3s							
GWY				IAML			23 10 07.2	
	comp=E,521nm,0.3s							
FURC	**Furnace Creek,**	**0.95**	**48**		Pg		23 09 51.6	+0.1
FURC				IAML			23 10 10.2	
	comp=E,588nm,0.8s							
TPO	**Tropico Hills**	**1.04**	**203**		Pg		23 09 53.3	+0.1
VES	**Vestal, Richgr**	**1.09**	**271**		Pg		23 09 54.0	-0.3
VES				IAML			23 10 09.3	
	comp=N,353nm,0.4s							
VES				IAML			23 10 18.1	
	comp=E,481nm,0.8s							
SHOC	**Shoshone, Teco**	**1.19**	**87**		Pg		23 09 55.6	-0.6
GRAC	**Grapevine Rang**	**1.20**	**15**		Pg		23 09 55.7	-0.5
GRAC				IAML			23 10 16.3	
	comp=E,275nm,0.8s							
GRAC				IAML			23 10 18.3	
	comp=N,305nm,0.8s							
TIN	**Tinemaha, Big**	**1.28**	**342**		Pg		23 09 57.7	-0.1
TIN				IAML			23 10 20.9	
	comp=E,330nm,0.7s							
TIN				IAML			23 10 21.7	
	comp=N,208nm,0.7s							
WCT	**Wildcat Mounta**	**1.31**	**43**		Pg		23 09 57.4	-1.1
WCT				IAML			23 10 17.8	
	comp=E,173nm,0.5s							
OSI	**Osito Audit: C**	**1.46**	**214**		Pn		23 10 00.1	-0.8
OSI				IAML			23 10 23.0	
	comp=E,193nm,0.6s							
OSI				IAML			23 10 24.8	
	comp=N,148nm,0.6s							
DSP	**Deep Springs**	**1.54**	**353**		Pn		23 10 01.9	0.0
BFSC	**Mount Baldy Ra**	**1.60**	**178**	IAML			23 10 25.1	
	comp=E,242nm,0.6s							
BFSC				IAML			23 10 26.1	
	comp=N,184nm,0.4s							
TPNV	**Topopah Spring**	**1.64**	**47**		Pn		23 10 02.3	-1.1
TPNV				IAML			23 10 31.0	
	comp=N,175nm,0.6s							
TPNV				IAML			23 10 31.2	
	comp=N,167nm,0.5s							
PASC	**Pasadena Art C**	**1.70**	**193**		Pn		23 10 03.5	-0.6
PASC				IAML			23 10 32.0	
	comp=E,101nm,0.7s							
PASC				IAML			23 10 37.8	
	comp=N,80nm,1.0s							
MTPC	**Mountain Pass**	**1.82**	**101**		Pn		23 10 04.2	-1.6
MTPC				IAML			23 10 33.3	
	comp=E,93nm,0.3s							
SHPR	**Sheep Range**	**2.19**	**72**		Pn		23 10 10.9	-0.2
ELS	**Elsinore Mount**	**2.20**	**173**		Pn		23 10 10.2	-0.9
ELS				IAML			23 10 45.0	
	comp=N,67nm,0.4s							
ELS				IAML			23 10 45.0	
	comp=E,70nm,0.4s							
POB	**Polly Butte**	**2.25**	**162**		Pn		23 10 11.0	-0.8
TPH	**Tonopah**	**2.27**	**10**		Pb		23 10 15.9	+0.6
DANC	**Danby, Needles**	**2.27**	**121**		Pn		23 10 10.1	-1.9
DANC				Pg	Pg		23 10 17.8	+0.9
DANC				IAML			23 10 49.2	
	comp=E,133nm,0.5s							
BELC	**Belle Mtn. Jos**	**2.33**	**142**		Pn		23 10 12.1	-0.7
BELC				IAML			23 10 49.9	
	comp=E,72nm,0.6s							
BELC				IAML			23 10 52.0	
	comp=N,101nm,0.6s							
V12A	**Nelson**	**2.35**	**92**		Pn		23 10 11.3	-1.9
S11A	**Rachel**	**2.41**	**41**		Pb		23 10 18.4	+0.8
S11A				IAML			23 10 51.8	
	comp=N,108nm,0.8s							
S11A				IAML			23 10 52.6	
	comp=E,103nm,0.9s							
PMD	**Palm Desert**	**2.46**	**152**		Pn		23 10 14.2	-0.3
PMD				IAML			23 10 55.0	
	comp=N,42nm,0.5s							
PMD				IAML			23 10 55.2	
	comp=E,63nm,0.6s							
PFO	**Pinyon Flats O**	**2.46**	**154**		Pn		23 10 13.2	-1.5
PFO				IAML			23 10 52.7	
	comp=E,42nm,0.6s							
PFO				IAML			23 10 57.3	
	comp=E,50nm,0.7s							
LHV	**Little Huntoon**	**2.48**	**346**		Pb		23 10 19.1	+0.3
PMPB	**Monarch Peak**	**2.51**	**280**		Pn		23 10 15.4	+0.1
PMPB				IAML			23 11 01.6	
	comp=N,92nm,0.7s							
PMPB				IAML			23 11 07.3	
	comp=E,91nm,0.7s							
NV11	**Mina Array Sit**	**2.61**	**353**		Pn		23 10 16.8	0.0
NV11				Pg	Pg		23 10 22.4	-0.9
NVAR	**Mina Array Bea**	**2.63**	**350**		Pn		23 10 16.8	-0.3
NVAR				Pg	Pb		23 10 22.4	+1.1
PRN	**Pahroc Range**	**2.67**	**53**		Pn		23 10 17.2	-0.4
PRN				Pg	Pg		23 10 23.9	-0.7
PRN				IAML			23 11 07.3	
	comp=N,45nm,0.6s							
PRN				IAML			23 11 16.0	
	comp=E,48nm,1.0s							
IRM	**Iron Mountain**	**2.71**	**127**	IAML			23 11 00.8	
	comp=E,42nm,0.4s							
IRM				IAML			23 11 03.3	
	comp=N,31nm,0.3s							
BBGB	**Big Mountain B**	**2.77**	**286**	Pn	Pn		23 10 18.2	-0.7
BORC	**Borrego Spring**	**2.79**	**157**		Pg		23 10 25.6	-1.2
BORC				IAML			23 11 02.6	
	comp=E,71nm,0.7s							
BORC				IAML			23 11 05.0	
	comp=N,75nm,0.7s							
RYN	**Ryan**	**2.85**	**348**		Pg		23 10 26.6	-1.4
BC3	**Big Chuckawall**	**2.88**	**138**		Pn		23 10 19.2	-1.3
BC3				IAML			23 11 11.0	
	comp=N,52nm,0.6s							
BC3				IAML			23 11 11.2	
	comp=E,37nm,0.5s							
DPP	**Dos Picos Cty**	**2.91**	**167**		Pn		23 10 19.7	-1.1
DPP				IAML			23 11 05.1	
	comp=E,63nm,0.5s							
DPP				IAML			23 11 06.6	
	comp=N,25nm,0.5s							
WAKR	**Walker**	**2.99**	**334**		Pb		23 10 28.8	+1.3
Q09A	**Carvers**	**3.02**	**8**		Pg		23 10 31.0	-0.4
Q09A				IAML			23 11 18.9	
	comp=N,63nm,0.9s							
Q09A				IAML			23 11 20.6	
	comp=E,59nm,0.9s							
CMB	**Columbia Colle**	**3.05**	**317**	IAML			23 11 14.1	
	comp=E,28nm,0.7s							
CMB				IAML			23 11 15.8	
	comp=N,27nm,1.0s							
BLYC	**Blythe**	**3.37**	**127**	IAML			23 11 22.4	
	comp=E,28nm,0.4s							
BLYC				IAML			23 11 23.0	
	comp=N,28nm,0.5s							
AFDM	**Forest Hills D**	**4.03**	**321**	IAML			23 11 45.6	
	comp=E,15nm,0.7s							
AFDM				IAML			23 11 48.9	
	comp=N,12nm,0.6s							
PSUT	**Pine Spring**	**4.11**	**48**	IAML			23 11 49.4	
	comp=N,15nm,1.1s							
PSUT				IAML			23 11 54.6	
	comp=E,18nm,1.5s							
SPR3	**Spring Creek 3**	**4.16**	**40**	IAML			23 11 47.4	
	comp=E,12nm,0.9s							
SPR3				IAML			23 11 56.0	
	comp=N,9.6nm,1.1s							
Y14A	**Wickenburg**	**4.33**	**115**	IAML			23 12 01.2	
	comp=E,14nm,0.7s							
Y14A				IAML			23 12 44.6	
	comp=N,18nm,0.1s							
U15A	**North Rim**	**4.45**	**81**	IAML			23 12 06.4	
	comp=N,7.8nm,1.1s							
BEKR	**Beckworth**	**4.52**	**334**	IAML			23 12 16.7	
	comp=E,14nm,0.7s							

GII ***29*** *23:12:05.7±0.0,34°.80N±0°.03×33°.842E±0°.008, h4km, Mws2.7, confirmed*
NIC ***29*** *23:12:05.8,34°.98N×33°.74E, h40km±1km, Ml1.7/11*
ISK ***29*** *23:12:05.8,35°.19N×33°.71E, h9km, ML1.9/12*
ISC 29 23:12:05.8±1.0,35°.00N±0°.03×33°.80E±0°.03,h33km±3km, n65,σ0°94/84,4C-1D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVOU	**Mavrovouni**	**0.14**	**278**	⇑*i*P	**Pn**	**23 12 12.1**	**+1.4**
MVOU				S	**Sb**	**23 12 17.4**	**+1.5**
MVOU				AML	AML	23 12 18.7	
	0.4nm,0.3s						
MVOU				AML	AML	23 12 22.0	
	0.3nm,0.2s						
PARAL	**Paralimni**	**0.20**	**91**	⇓*i*P	**Pb**	**23 12 13.7**	**+1.3**
PARAL				S	**Sb**	**23 12 19.9**	**+3.1**
PARAL				AML	AML	23 12 20.6	
	0.7nm,0.4s						
PARAL				AML	AML	23 12 20.7	
	0.4nm,0.1s						
ATHAL	**Athalassa**	**0.36**	**294**	⇑*i*P	**Pb**	**23 12 14.1**	**-0.1**
ATHAL				S	**Sn**	**23 12 21.4**	**+0.9**
ATHAL				AML	AML	23 12 25.3	
	0.4nm,0.5s						
ATHAL				AML	AML	23 12 29.0	
	0.3nm,0.4s						
CSS	**Mathiatis**	**0.39**	**265**	Pg	**Pb**	**23 12 13.9**	**-0.8**
CSS				Sg	**Sb**	**23 12 20.0**	**-0.7**
CSS	**Mathiatis**	**0.39**	**265**	P	**Pb**	**23 12 13.5**	**-1.1**
CSS				S	**Sb**	**23 12 19.1**	**-1.6**
CSS	**Mathiatis**	**0.39**	**265**	P	**Pb**	**23 12 14.3**	**-0.3**
CSS				S	**Sb**	**23 12 22.2**	**+1.4**
CSS	**Mathiatis**	**0.39**	**265**	P	**Pb**	**23 12 14.1**	**-0.5**
CSS				S	**Sb**	**23 12 21.0**	**+0.2**
CSS				AML	AML	23 12 22.1	
	0.3nm,0.2s						
CSS				AML	AML	23 12 27.3	
	0.1nm,0.3s						
ASGA	**Asgata**	**0.50**	**245**	P	**Pn**	**23 12 16.1**	**-0.5**
ASGA				S	**Sn**	**23 12 23.9**	**-0.1**
ASGA				AML	AML	23 12 26.1	
	0.2nm,0.4s						
ASGA				AML	AML	23 12 28.2	
	0.3nm,0.5s						
XYLS	**Xyliatos**	**0.61**	**272**	⇑*e*P	**Pn**	**23 12 17.2**	**-1.0**
XYLS				S	**Sn**	**23 12 26.8**	**-0.2**
XYLS				AML	AML	23 12 30.4	
	0.2nm,0.3s						
XYLS				AML	AML	23 12 30.5	
	0.2nm,0.2s						
TROD	**Troodos**	**0.77**	**267**	⇑*e*P	**Pn**	**23 12 20.2**	**-0.2**
TROD				S	**Sn**	**23 12 32.4**	**+1.5**
TROD				AML	AML	23 12 40.4	
	0.1nm,0.9s						
TROD				AML	AML	23 12 41.5	
	0.1nm,0.9s						
APOL	**The Sanctuary**	**0.83**	**247**	P	**Pn**	**23 12 21.2**	**0.0**
APOL				S	**Sn**	**23 12 32.7**	**+0.4**
APOL				AML	AML	23 12 34.1	
	0.1nm,0.2s						
APOL				AML	AML	23 12 34.3	
	0.1nm,0.3s						
ALFC	**Alefka**	**0.99**	**279**	P	**Pn**	**23 12 22.6**	**-0.9**
ALFC				S	**Sn**	**23 12 34.5**	**-1.9**
ALFC				AML	AML	23 12 36.1	
	0.1nm,0.4s						
ALFC				AML	AML	23 12 38.9	
	0.1nm,0.4s						
NATA	**Nata**	**1.03**	**258**	P	**Pn**	**23 12 24.3**	**+0.3**
NATA				S	**Sn**	**23 12 37.4**	**+0.1**
NATA				AML	AML	23 12 47.6	
	0.1nm,0.4s						
TISA	**Tisan-Mersin**	**1.17**	**355**	Pg	**Pn**	**23 12 24.8**	**-1.0**
TISA				Sg	**Sn**	**23 12 38.9**	**-1.6**
BECE	**Buyukeceli-Mer**	**1.17**	**351**	Pg	**Pn**	**23 12 24.9**	**-1.0**
BECE				Sg	**Sn**	**23 12 38.9**	**-1.8**
AKMS	**Akamas**	**1.20**	**271**	P	**Pn**	**23 12 26.9**	**+0.6**
AKMS				S	**Sb**	**23 12 45.9**	**+2.7**
AKMS				AML	AML	23 12 58.1	
YESI	**Yesilovacik-Me**	**1.20**	**354**	Pg	**Pn**	**23 12 25.4**	**-0.8**
YESI				Sg	**Sn**	**23 12 39.9**	**-1.5**
KARG	**Kargicak-Mersi**	**1.21**	**357**	Pg	**Pn**	**23 12 25.6**	**-0.7**
KARG				Sg	**Sn**	**23 12 39.9**	**-1.6**
TEKE	**Tekeli-Mersin**	**1.27**	**334**	Pg	**Pn**	**23 12 26.4**	**-0.8**
SILI	**Silifke-Mersin**	**1.37**	**4**	Pn	**Pn**	**23 12 29.0**	**+0.4**
BERE	**Bereket-Mersin**	**1.43**	**341**	Pn	**Pn**	**23 12 29.3**	**-0.2**
KEBE	**Keben-Mersin**	**1.45**	**357**	Pn	**Pn**	**23 12 29.6**	**-0.1**
TEVE	**Tevekalti-Mers**	**1.46**	**349**	Pn	**Pn**	**23 12 30.4**	**+0.5**
KIZK	**Mersin**	**1.51**	**11**	Pn	**Pn**	**23 12 31.4**	**+1.0**
GAZI	**Gazipasa**	**1.73**	**316**	Pn	**Pn**	**23 12 33.5**	**0.0**
MERS	**Mersin**	**1.96**	**17**	Pn	**Pn**	**23 12 37.6**	**+0.9**
HDMB	**Hadim**	**2.23**	**332**	Pn	**Pn**	**23 12 40.9**	**+0.3**
GEM	**Giv'at Ha'Em**	**2.36**	**138**	P	**Pn**	**23 12 41.8**	**-0.4**
GEM	**Giv'at Ha'Em**	**2.36**	**138**	S	**Sn**	**23 13 09.6**	**-0.5**
GEM	**Giv'at Ha'Em**	**2.36**	**138**	P	**Pn**	**23 12 41.7**	**-0.4**
NATI	**Neve Ativ**	**2.36**	**137**	P	**Pn**	**23 12 41.3**	**-0.9**
NATI	**Neve Ativ**	**2.36**	**137**	S	**Sn**	**23 13 10.0**	**-0.1**
NATI	**Neve Ativ**	**2.36**	**137**	P	**Pn**	**23 12 42.3**	**+0.1**
MMA0B	**Mount Meron ar**	**2.38**	**146**	S	**Sn**	**23 13 10.2**	**-0.5**
MMA0B	**Mount Meron ar**	**2.38**	**146**	P	**Pn**	**23 12 42.1**	**-0.5**
OFRI	**`Ofer**	**2.57**	**157**	P	**Pn**	**23 12 44.4**	**-0.7**
OFRI	**`Ofer**	**2.57**	**157**	S	**Sn**	**23 13 13.4**	**-1.8**
OFRI	**`Ofer**	**2.57**	**157**	P	**Pn**	**23 12 44.4**	**-0.7**
MMLI	**Mount Malkishu**	**2.89**	**152**	S	**Sn**	**23 13 23.0**	**-0.1**
MMLI	**Mount Malkishu**	**2.89**	**152**	P	**Pn**	**23 12 49.4**	**-0.2**
QRNJ	**Al-Qirein**	**3.04**	**150**	P	**Pn**	**23 12 51.2**	**-0.3**
HMDT	**Nahal Hemdat**	**3.09**	**152**	P	**Pn**	**23 12 52.8**	**+0.5**
HMDT				S	**Sn**	**23 13 28.1**	**0.0**
HMDT	**Nahal Hemdat**	**3.09**	**152**	S	**Sn**	**23 13 27.8**	**-0.3**
HMDT	**Nahal Hemdat**	**3.09**	**152**	P	**Pn**	**23 12 52.3**	**0.0**
SALP	**Salfit**	**3.15**	**158**	P	**Pn**	**23 12 52.2**	**-0.8**
AMAZ	**Amatzia**	**3.58**	**165**	S	**Sn**	**23 13 39.4**	**-0.8**
AMAZ	**Amatzia**	**3.58**	**165**	P	**Pn**	**23 12 58.8**	**-0.2**
DSI	**Dead Sea**	**3.67**	**158**	P	**Pn**	**23 13 00.0**	**-0.2**
DSI	**Dead Sea**	**3.67**	**158**	S	**Sn**	**23 13 41.1**	**-1.2**
DSI	**Dead Sea**	**3.67**	**158**	P	**Pn**	**23 12 59.8**	**-0.4**
YTIR	**Yattir**	**3.79**	**163**	P	**Pn**	**23 13 02.3**	**+0.4**
YTIR	**Yattir**	**3.79**	**163**	S	**Sn**	**23 13 44.7**	**-0.7**
YTIR	**Yattir**	**3.79**	**163**	P	**Pn**	**23 13 01.8**	**-0.1**
GHAJ	**Ghor Haditha**	**3.97**	**158**	P	**Pn**	**23 13 03.9**	**-0.4**
GHAJ	**Ghor Haditha**	**3.97**	**158**	S	**Sn**	**23 13 49.1**	**-0.6**
GHAJ	**Ghor Haditha**	**3.97**	**158**	P	**Pn**	**23 13 04.3**	**0.0**
KZIT	**Kziot**	**4.11**	**173**	S	**Sn**	**23 13 52.3**	**-1.0**
KZIT	**Kziot**	**4.11**	**173**	P	**Pn**	**23 13 06.3**	**0.0**
PRNI	**Paran**	**4.74**	**167**	P	**Pn**	**23 13 14.8**	**-0.2**
PRNI	**Paran**	**4.74**	**167**	S	**Sn**	**23 14 08.1**	**-0.7**
PRNI	**Paran**	**4.74**	**167**	P	**Pn**	**23 13 14.4**	**-0.6**
KRMI	**Paran Flat**	**4.93**	**171**	S	**Sn**	**23 14 13.0**	**-0.5**
KRMI	**Paran Flat**	**4.93**	**171**	P	**Pn**	**23 13 17.4**	**-0.1**
MBRI	**Mt Berech**	**5.27**	**169**	S	**Sn**	**23 14 21.4**	**-0.6**
MBRI	**Mt Berech**	**5.27**	**169**	P	**Pn**	**23 13 22.2**	**-0.1**

ZUR ***29*** *23:17:47.6,47°.75N×9°.11E, h4km, MLh3.7/90, Error ellipse: s-maj=1595.2km s-min=363.9km az=51.0*
BUG ***29*** *23:17:48.0±0.4,47°.76N×9°.08E, h5km±2km, MD3.8/12, ML4.1/12*
BGR ***29*** *23:17:48.0±0.2,47°.75N×9°.08E, h5km, ML3.4/13, Error ellipse: s-maj=2.2km s-min=2.2km az=33.0*
LDG ***29*** *23:17:48.5±0.1,47°.72N×9°.09E, h4km, Ml3.8/48, Error ellipse: s-maj=1.0km s-min=0.7km az=51.0*
PRU ***29*** *23:17:50.2,47°.81N×9°.29E, h10km*
ISC 29 23:17:46.1±0.7,47°.738N±0°.009×9°.088E±0°.010,h5km±4km, n399,σ1§51/690,131C-71D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WALHA	**Wallhausen, DE**	**0.03**	**57**	⇓Pg	**Pg**	**23 17 48.4**	**+1.3**
WALHA				Sg	**Sg**	**23 17 49.2**	**+1.3**
WALHA	**Wallhausen, DE**	**0.03**	**57**	⇓Pg	**Pg**	**23 17 48.4**	**+1.3**
WALHA				Sg	**Sg**	**23 17 49.2**	**+1.3**
WALHA	**Wallhausen, DE**	**0.03**	**57**	⇓*i*Pg	**Pg**	**23 17 48.4**	**+1.3**
WALHA				Sg	**Sg**	**23 17 49.2**	**+1.3**
KONZ	**Konstanz**	**0.09**	**144**	Pg	**Pg**	**23 17 49.6**	**+1.6**
KONZ				Sg	**Sg**	**23 17 51.6**	**+2.3**
SKRK	**Kreuzlingen, K**	**0.11**	**145**	⇑Pg	**Pg**	**23 17 50.0**	**+1.6**
SKRK	**Kreuzlingen, K**	**0.11**	**145**	⇓Pg	**Pg**	**23 17 49.9**	**+1.6**
SKRK	**Kreuzlingen, K**	**0.11**	**145**	⇓Pg	**Pg**	**23 17 49.9**	**+1.6**
STEIN	**Stein am Rhein**	**0.16**	**245**	⇑Pg	**Pg**	**23 17 51.6**	**+2.3**
STEIN				Sg	**Sg**	**23 17 54.8**	**+3.3**
STEIN	**Stein am Rhein**	**0.16**	**245**	⇑Pg	**Pg**	**23 17 51.6**	**+2.3**
STEIN				Sg	**Sg**	**23 17 54.8**	**+3.3**
STEIN	**Stein am Rhein**	**0.16**	**245**	⇑*i*Pg	**Pg**	**23 17 51.6**	**+2.3**
STEIN				Sg	**Sg**	**23 17 54.8**	**+3.3**
WEIN	**Weingarten**	**0.22**	**198**	⇑Pg	**Pg**	**23 17 52.5**	**+2.1**
WEIN				Sg	**Sg**	**23 17 56.5**	**+3.2**
WEIN	**Weingarten**	**0.22**	**198**	⇑Pg	**Pg**	**23 17 52.5**	**+2.1**
WEIN				Sg	**Sg**	**23 17 56.5**	**+3.2**
EMING	**Emmingen-Lipti**	**0.23**	**313**	⇑Pg	**Pg**	**23 17 52.6**	**+2.1**
EMING				Sg	**Sg**	**23 17 56.2**	**+2.8**
EMING	**Emmingen-Lipti**	**0.23**	**313**	⇑*i*Pg	**Pg**	**23 17 52.6**	**+2.1**
EMING				Sg	**Sg**	**23 17 56.2**	**+2.8**
ROMAN	**Romanshorn, Fo**	**0.24**	**136**	⇑Pg	**Pg**	**23 17 52.6**	**+1.8**
ROMAN				Sg	**Sg**	**23 17 56.3**	**+2.3**
ROMAN	**Romanshorn, Fo**	**0.24**	**136**	⇓Pg	**Pg**	**23 17 52.5**	**+1.8**
ROMAN				Sg	**Sg**	**23 17 56.3**	**+2.3**
ROMAN	**Romanshorn, Fo**	**0.24**	**136**	⇓Pg	**Pg**	**23 17 52.5**	**+1.8**
ROMAN				Sg	**Sg**	**23 17 56.3**	**+2.3**
ROMAN	**Romanshorn, Fo**	**0.24**	**136**	⇑Pg	**Pg**	**23 17 52.6**	**+1.8**
ROMAN				Sg	**Sg**	**23 17 56.4**	**+2.5**
NDTR1	**NAGRA Drilling**	**0.28**	**248**	⇑Pg	**Pb**	**23 17 53.7**	**+0.2**
NDTR1				Sg	**Sb**	**23 17 58.2**	**-0.3**
NDTR1	**NAGRA Drilling**	**0.28**	**248**	⇑Pg	**Pb**	**23 17 53.7**	**+0.2**
NDTR1				Sg	**Sb**	**23 17 58.2**	**-0.3**
SWIK	**Wil, Kantonssc**	**0.28**	**187**	⇓Pg	**Pb**	**23 17 53.7**	**0.0**
SWIK				Sg	**Sb**	**23 17 58.3**	**-0.4**
SWIK	**Wil, Kantonssc**	**0.28**	**187**	⇑Pg	**Pb**	**23 17 53.6**	**0.0**
SWIK				Sg	**Sb**	**23 17 58.3**	**-0.4**
SWIK	**Wil, Kantonssc**	**0.28**	**187**	⇑Pg	**Pb**	**23 17 53.6**	**0.0**
SWIK				Sg	**Sb**	**23 17 58.3**	**-0.4**
TRULL	**Truellikon**	**0.29**	**252**	⇑Pg	**Pb**	**23 17 53.9**	**+0.1**
TRULL				Sg	**Sb**	**23 17 58.6**	**-0.3**
TRULL	**Truellikon**	**0.29**	**252**	⇑Pg	**Pb**	**23 17 53.9**	**+0.1**
TRULL				Sg	**Sb**	**23 17 58.6**	**-0.3**
SGT18	**Golfpark Waldk**	**0.29**	**159**	⇓Pg	**Pb**	**23 17 53.6**	**-0.2**
SGT18				Sg	**Sb**	**23 17 58.3**	**-0.7**
SGT18	**Golfpark Waldk**	**0.29**	**159**	⇓Pg	**Pb**	**23 17 53.6**	**-0.2**
SGT18				Sg	**Sb**	**23 17 58.3**	**-0.7**
SCHS	**Schaffhausen,**	**0.31**	**265**	⇑Pg	**Pb**	**23 17 54.2**	**+0.1**
SCHS				Sg	**Sb**	**23 17 59.0**	**-0.4**
SCHS	**Schaffhausen,**	**0.31**	**265**	⇑Pg	**Pb**	**23 17 54.2**	**+0.1**
SCHS				Sg	**Sb**	**23 17 59.0**	**-0.4**
A103D	**Ravensburg, Wa**	**0.32**	**78**	⇑Pg	**Pb**	**23 17 53.9**	**-0.4**
A103D				Sg	**Sb**	**23 17 58.7**	**-1.1**
SARE	**Arbon, Evangel**	**0.32**	**134**	Pg	**Pb**	**23 17 54.2**	**-0.1**
SARE				Sg	**Sb**	**23 17 59.3**	**-0.5**
SARE	**Arbon, Evangel**	**0.32**	**134**	⇑Pg	**Pb**	**23 17 54.2**	**-0.1**
SARE				Sg	**Sb**	**23 17 59.3**	**-0.5**
SARE	**Arbon, Evangel**	**0.32**	**134**	⇑Pg	**Pb**	**23 17 54.2**	**-0.1**
SARE				Sg	**Sb**	**23 17 59.3**	**-0.5**
GUT	**Gutenstein**	**0.33**	**3**	⇑Pg	**Pb**	**23 17 54.3**	**-0.3**
GUT				Sg	**Sb**	**23 17 59.2**	**-1.0**
GUT	**Gutenstein**	**0.33**	**3**	⇑Pg	**Pb**	**23 17 54.3**	**-0.3**
GUT				Sg	**Sb**	**23 17 59.2**	**-1.0**
GUT	**Gutenstein**	**0.33**	**3**	⇑*i*Pg	**Pb**	**23 17 54.3**	**-0.3**
GUT				Sg	**Sb**	**23 17 59.3**	**-1.0**
SWIS	**Winterthur Spi**	**0.34**	**226**	⇑Pg	**Pb**	**23 17 54.7**	**+0.2**
SWIS				Sg	**Sb**	**23 18 00.1**	**-0.1**
SWIS	**Winterthur Spi**	**0.34**	**226**	⇑Pg	**Pb**	**23 17 54.7**	**+0.2**
SWIS				Sg	**Sb**	**23 18 00.1**	**-0.1**
WILA	**Wila**	**0.35**	**201**	⇑Pg	**Pb**	**23 17 54.9**	**+0.2**
WILA				Sg	**Sb**	**23 18 00.5**	**-0.1**
WILA	**Wila**	**0.35**	**201**	⇑Pg	**Pb**	**23 17 54.9**	**+0.2**
WILA				Sg	**Sb**	**23 18 00.5**	**-0.1**
WILA	**Wila**	**0.35**	**201**	⇑Pg	**Pb**	**23 17 54.9**	**+0.2**
WILA				Sg	**Sb**	**23 18 00.6**	**0.0**
SGT00	**Sennhlsen**	**0.35**	**154**	Pg	**Pb**	**23 17 54.7**	**-0.1**
SGT00				Sg	**Sb**	**23 17 59.9**	**-0.7**
SGT00	**Sennhlsen**	**0.35**	**154**	Pg	**Pb**	**23 17 54.7**	**-0.1**
SGT00				Sg	**Sb**	**23 17 59.9**	**-0.7**
TETT	**Tettnang**	**0.36**	**102**	⇑Pg	**Pb**	**23 17 54.9**	**-0.2**
TETT				Sg	**Sb**	**23 18 00.4**	**-0.7**
TETT	**Tettnang**	**0.36**	**102**	⇑Pg	**Pb**	**23 17 54.9**	**-0.2**
TETT				Sg	**Sb**	**23 18 00.4**	**-0.7**
TETT	**Tettnang**	**0.36**	**102**	⇑Pg	**Pb**	**23 17 54.9**	**-0.2**
TETT				Sg	**Sb**	**23 18 00.4**	**-0.7**
STGK	**St. Gallen Klo**	**0.37**	**148**	⇓Pg	**Pb**	**23 17 55.3**	**+0.1**
STGK				Sg	**Sb**	**23 18 00.8**	**-0.4**
STGK	**St. Gallen Klo**	**0.37**	**148**	Pg	**Pb**	**23 17 55.3**	**+0.1**
STGK				Sg	**Sb**	**23 18 00.8**	**-0.4**
STGK	**St. Gallen Klo**	**0.37**	**148**	Pg	**Pb**	**23 17 55.3**	**+0.1**
STGK				Sg	**Sb**	**23 18 00.8**	**-0.4**
STIEG	**Stiegenhof Hun**	**0.38**	**231**	⇑Pg	**Pb**	**23 17 55.6**	**+0.2**
STIEG				Sg	**Sb**	**23 18 01.5**	**0.0**
STIEG	**Stiegenhof Hun**	**0.38**	**231**	⇑Pg	**Pb**	**23 17 55.6**	**+0.2**
STIEG				Sg	**Sb**	**23 18 01.5**	**0.0**
SGT05	**Eggersriet**	**0.39**	**140**	⇑Pg	**Pb**	**23 17 55.5**	**0.0**
SGT05				Sg	**Sb**	**23 18 01.6**	**-0.2**
SGT05	**Eggersriet**	**0.39**	**140**	⇓Pg	**Pb**	**23 17 55.4**	**0.0**
SGT05				Sg	**Sb**	**23 18 01.6**	**-0.2**
SGT05	**Eggersriet**	**0.39**	**140**	⇓Pg	**Pb**	**23 17 55.4**

A101B Sg **Sb** **23 18 05.4 -0.4**
A101B Rottweil, Deis 0.53 317 Pg **Pb** **23 17 58.1 +0.2**
A101B Sg **Sb** **23 18 05.3 -0.4**
BOBI Bbikon, Wasse 0.54 250 ⇑Pg **Pb** **23 17 58.7 +0.6**
BOBI Sg **Sb** **23 18 06.5 +0.4**
BOBI Bbikon, Wasse 0.54 250 ⇑Pg **Pb** **23 17 58.7 +0.6**
BOBI Sg **Sb** **23 18 06.5 +0.4**
A104C Biberach, Ahle 0.55 44 ⇑Pg **Pb** **23 17 58.1 0.0**
A104C Sg **Sb** **23 18 05.5 -0.8**
A104C Biberach, Ahle 0.55 44 ⇑Pg **Pb** **23 17 58.1 0.0**
A104C Sg **Sb** **23 18 05.5 -0.8**
A104C Biberach, Ahle 0.55 44 ⇑Pg **Pb** **23 17 58.1 0.0**
A104C Sg **Sb** **23 18 05.6 -0.8**
ONST Albstadt-Onstm 0.55 354 Pg **Pb** **23 17 58.5 +0.3**
BALG Balingen, Zoll 0.56 344 ⇓Pg **Pb** **23 17 58.6 +0.3**
BALG PmP 23 18 01.2
BALG SmS 23 18 10.7
METMA Mettma DE 0.56 268 ⇑Pg **Pb** **23 17 58.8 +0.3**
METMA Sg **Sb** **23 18 06.6 -0.2**
METMA Mettma DE 0.56 268 ⇑Pg **Pb** **23 17 58.8 +0.3**
METMA Sg **Sb** **23 18 06.6 -0.2**
METMA Mettma DE 0.56 268 ⇑Pg **Pb** **23 17 58.8 +0.3**
METMA PmP 23 18 00.9
METMA Sg **Sb** **23 18 06.6 -0.2**
METMA SmS 23 18 10.7
EWZT2 Wettswil, ZR 0.57 225 ⇑Pg **Pb** **23 17 59.2 +0.7**
EWZT2 Sg **Sb** **23 18 07.7 +0.7**
EWZT2 Wettswil, ZR 0.57 225 ⇑Pg **Pb** **23 17 59.2 +0.7**
EWZT2 Sg **Sb** **23 18 07.7 +0.7**
ZWI Zwiefalten, Ha 0.57 25 ⇑Pg **Pb** **23 17 58.6 0.0**
ZWI Sg **Sb** **23 18 06.4 -0.7**
ACHB Acheberg 0.58 255 ⇑Pg **Pb** **23 17 59.3 +0.5**
ACHB Sg **Sb** **23 18 07.8 +0.4**
ACHB Acheberg 0.58 255 ⇑Pg **Pb** **23 17 59.3 +0.5**
ACHB Sg **Sb** **23 18 07.8 +0.4**
JUNG Jungingen 0.59 357 Pg **Pb** **23 17 59.3 +0.3**
JUNG PmP 23 18 00.7
JUNG Sg **Sb** **23 18 07.5 -0.2**
JUNG SmS 23 18 11.5
ERPF Erpfingen 0.61 5 Sg **Sb** **23 18 08.3 +0.1**
SMFL Mauren, Feuerw 0.61 149 Pg **Pb** **23 17 59.9 +0.6**
SMFL Mauren, Feuerw 0.61 149 Pg **Pb** **23 17 59.9 +0.6**
SFEL Villigen, Paul 0.61 251 ⇑Pg **Pb** **23 18 00.0 +0.7**
SFEL Villigen, Paul 0.61 251 ⇑Pg **Pb** **23 18 00.0 +0.7**
SBUH Buchs, Hochsch 0.62 155 Pg **Pb** **23 18 00.0 +0.6**
SBUH Buchs, Hochsch 0.62 155 Pg **Pb** **23 18 00.0 +0.6**
BERGE Lenzkirch (DE) 0.63 283 ⇑Pg **Pb** **23 18 00.1 +0.5**
BERGE Sg **Sb** **23 18 08.9 +0.2**
BERGE Lenzkirch (DE) 0.63 283 ⇑Pg **Pb** **23 18 00.1 +0.5**
BERGE Sg **Sb** **23 18 08.9 +0.2**
BERGE Lenzkirch (DE) 0.63 283 ⇑Pg **Pb** **23 18 00.1 +0.5**
BERGE PmP 23 18 01.9
BERGE Sg **Sb** **23 18 08.8 +0.2**
SWAS Walenstadt, Sp 0.63 166 ⇑Pg **Pb** **23 18 00.5 +0.9**
SWAS Walenstadt, Sp 0.63 166 Pg **Pb** **23 18 00.5 +0.9**
SBUA2 Buchs, Altendo 0.64 156 ⇑Pg **Pb** **23 18 00.2 +0.6**
SBUA2 Buchs, Altendo 0.64 156 ⇑Pg **Pb** **23 18 00.2 +0.6**
SBUB Buchserberg Ma 0.64 158 Pg **Pb** **23 17 59.9 +0.1**
SBUB Buchserberg Ma 0.64 158 Pg **Pb** **23 17 59.9 +0.1**
SBAS Baar Spital, Z 0.67 216 Sg **Sb** **23 18 10.9 +1.1**
SBAS Baar Spital, Z 0.67 216 Sg **Sb** **23 18 10.9 +1.1**
MSGN Moessingen, Su 0.67 358 PmP 23 18 02.6
MSGN SmS 23 18 13.4
SGLK Glarus, Kanton 0.69 181 Sg **Sb** **23 18 11.9 +1.4**
SGLK Glarus, Kanton 0.69 181 Sg **Sb** **23 18 11.9 +1.4**
SULZ Cheisacher 0.69 253 ⇑Pg **Pb** **23 18 01.4 +0.7**
SULZ Sg **Sb** **23 18 11.6 +1.0**
SULZ Cheisacher 0.69 253 ⇑Pg **Pb** **23 18 01.4 +0.7**
SULZ Sg **Sb** **23 18 11.6 +1.0**
SULZ Cheisacher 0.69 253 ⇑Pg **Pb** **23 18 01.4 +0.7**
SULZ Sg **Sb** **23 18 11.6 +1.0**
SULZ SmS 23 18 14.1
STRW Triesenberg, W 0.70 153 ⇓Pg **Pb** **23 18 01.5 +0.8**
STRW Triesenberg, W 0.70 153 ⇓Pg **Pb** **23 18 01.5 +0.8**
DAVA Damuels 0.70 130 ⇑Pg **Pb** **23 18 01.4 +0.5**
DAVA Damuels 0.70 130 ⇑Pg **Pb** **23 18 01.4 +0.5**
DAVA Damuels 0.70 130 *e*Pg **Pb** **23 18 01.4 +0.5**
50nm,0.1s
DAVA *e*Sg **Sb** **23 18 11.8 +0.9**
986nm,0.3s
DAVA Damuels 0.70 130 ⇑Pg **Pb** **23 18 01.3 +0.5**
DAVA eSg **Sb** **23 18 11.8 +0.9**
PLONS Plons/SG 0.72 164 ⇑Pg **Pb** **23 18 01.8 +0.7**
PLONS Plons/SG 0.72 164 ⇑Pg **Pb** **23 18 01.8 +0.7**
PLONS Plons/SG 0.72 164 *e*Pg **Pb** **23 18 01.8 +0.7**
PLONS *e*Sg **Sb** **23 18 12.0 +0.7**
A100A Rottenburg, We 0.72 351 ⇓Pg **Pb** **23 18 01.6 +0.4**
A100A PmP 23 18 02.8
A100A Sg **Sb** **23 18 11.7 +0.3**
SMELS Mels Schulhaus 0.73 161 Pg **Pb** **23 18 02.1 +0.9**
SMELS Mels Schulhaus 0.73 161 Pg **Pb** **23 18 02.1 +0.9**
BUCH Bad Urach 0.73 14 ⇑Pg **Pb** **23 18 01.7 +0.3**
BUCH PmP 23 18 03.0
BUCH Sg **Sb** **23 18 11.9 +0.1**
BUCH SmS 23 18 15.3
HAMIK Hmikon, Dlik 0.74 229 ⇑Pg **Pb** **23 18 02.3 +0.8**
HAMIK Sg **Sb** **23 18 13.0 +1.1**
HAMIK Hmikon, Dlik 0.74 229 ⇑Pg **Pb** **23 18 02.2 +0.8**
HAMIK Sg **Sb** **23 18 13.0 +1.1**
FELD Feldberg im Sc 0.74 281 ⇑Pg **Pb** **23 18 02.2 +0.6**
FELD Feldberg im Sc 0.74 281 ⇑Pg **Pb** **23 18 02.2 +0.6**
FELD Feldberg im Sc 0.74 281 ⇑Pg **Pb** **23 18 02.2 +0.6**
FELD PmP 23 18 03.9
A109A Bad Urach, See 0.75 19 Pg **Pb** **23 18 02.0 +0.4**
A109A Sg **Sb** **23 18 12.2 +0.1**
SWYZ Schwyz, Kanton 0.77 203 ⇑Pg **Pn** **23 18 02.9 -0.8**
SWYZ Sg **Sn** **23 18 14.1 -1.6**
SWYZ Schwyz, Kanton 0.77 203 ⇑Pg **Pn** **23 18 02.9 -0.8**
SWYZ Sg **Sn** **23 18 14.1 -1.6**
BFO Black Forest 0.78 320 ⇓Pg **Pb** **23 18 02.8 +0.6**
BFO Black Forest 0.78 320 ⇓Pg **Pb** **23 18 02.8 +0.6**
BFO Black Forest 0.78 320 ⇓Pg **Pb** **23 18 02.8 +0.6**
BFO PmP 23 18 04.1
BFO *e*Sg **Sb** **23 18 13.3 +0.1**
TUBL Tuebingen-Lenn 0.78 360 ⇓Pg **Pb** **23 18 02.6 +0.4**
TUBL SmS 23 18 15.9
EMMET Emmethof 0.79 248 ⇑Pg **Pn** **23 18 03.1 -0.8**
EMMET Emmethof 0.79 248 ⇑Pg **Pn** **23 18 03.1 -0.8**
A108A Ulm, Ringingen 0.79 39 ⇑Pg **Pb** **23 18 02.5 +0.2**
SAARA Aarau, neue Ka 0.79 244 ⇓Pg **Pn** **23 18 03.2 -0.7**
SAARA Sg **Sb** **23 18 13.9 +0.6**
SAARA Aarau, neue Ka 0.79 244 ⇓Pg **Pn** **23 18 03.2 -0.7**
SAARA Sg **Sb** **23 18 13.9 +0.6**
ROTHE Rothenfluh 0.83 252 ⇑Pg **Pn** **23 18 04.1 -0.4**
ROTHE Rothenfluh 0.83 252 ⇑Pg **Pn** **23 18 04.1 -0.4**
SLUB Luzern Bramber 0.86 218 ⇑Pg **Pn** **23 18 04.7 -0.2**
SLUB Sg **Sn** **23 18 16.7 -1.2**
SLUB Luzern Bramber 0.86 218 ⇑Pg **Pn** **23 18 04.7 -0.2**
SLUB Sg **Sn** **23 18 16.7 -1.2**
SLUW Luzern Werkhof 0.87 217 ⇑Pg **Pn** **23 18 04.8 -0.2**
SLUW Sg **Sn** **23 18 17.3 -0.7**
SLUW Luzern Werkhof 0.87 217 ⇑Pg **Pn** **23 18 04.8 -0.2**
SLUW Sg **Sn** **23 18 17.3 -0.7**
SLUK Luzern Kirche, 0.87 218 Sg **Sn** **23 18 17.4 -0.7**
SLUK Luzern Kirche, 0.87 218 Sg **Sn** **23 18 17.4 -0.7**
FBB Freiburg im Br 0.87 288 Pg **Pn** **23 18 04.6 -0.4**
A105A Obersdorf, Sch 0.88 112 ⇑Pg **Pn** **23 18 04.6 -0.6**
A105A Obersdorf, Sch 0.88 112 ⇑Pg **Pn** **23 18 04.6 -0.6**
A105A Obersdorf, Sch 0.88 112 Pg **Pn** **23 18 04.8 -0.4**
A105A SmS 23 18 19.8
OBER Oberstdorf 0.88 112 ⇓Pg **Pn** **23 18 04.8 -0.4**
OBER Oberstdorf 0.88 112 ⇓Pg **Pn** **23 18 04.8 -0.4**
OBER Oberstdorf 0.88 112 ⇓Pg **Pn** **23 18 04.8 -0.4**
DAGMA Lutertal, Dagm 0.89 236 ⇑Pg **Pn** **23 18 04.9 -0.3**
DAGMA Sg **Sn** **23 18 17.5 -1.1**
DAGMA Lutertal, Dagm 0.89 236 ⇑Pg **Pn** **23 18 04.9 -0.3**
DAGMA Sg **Sn** **23 18 17.5 -1.1**
LLS Linth-Limmern 0.89 184 Pg **Pn** **23 18 04.9 -0.6**
LLS Sg **Sb** **23 18 16.9 +0.5**
LLS Linth-Limmern 0.89 184 Pg **Pn** **23 18 04.9 -0.6**
LLS Sg **Sb** **23 18 16.9 +0.5**
SALTS Altdorf, Kanto 0.91 200 ⇓Pg **Pn** **23 18 05.4 -0.1**
SALTS Altdorf, Kanto 0.91 200 ⇓Pg **Pn** **23 18 05.4 -0.1**
ENDD Endenburg 0.91 269 ⇑Pg **Pn** **23 18 05.3 -0.3**
ENDD Sg **Sb** **23 18 17.7 +0.9**
ENDD Endenburg 0.91 269 ⇑Pg **Pn** **23 18 05.3 -0.3**
ENDD Sg **Sb** **23 18 17.7 +0.9**
ENDD Endenburg 0.91 269 ⇑*i*Pg **Pn** **23 18 05.3 -0.3**
ENDD PmP 23 18 06.2
ENDD Sg **Sn** **23 18 18.0 -1.2**
PANIX Pigniu (Panix) 0.91 179 ⇑Pg **Pn** **23 18 05.2 -0.5**
PANIX Sg **Sb** **23 18 17.6 +0.7**
PANIX Pigniu (Panix) 0.91 179 ⇑Pg **Pn** **23 18 05.2 -0.5**
PANIX Sg **Sb** **23 18 17.6 +0.7**
SSTS Stans, Spital 0.92 213 Pg **Pn** **23 18 05.8 +0.1**
SSTS Sg **Sn** **23 18 18.9 -0.4**
SSTS Stans, Spital 0.92 213 Pg **Pn** **23 18 05.8 +0.1**
SSTS Sg **Sn** **23 18 18.9 -0.4**
A121B Sulzburg 0.92 277 ⇑Pg **Pn** **23 18 05.5 -0.3**
A121B Sg **Sn** **23 18 18.4 -1.0**
A121B Sulzburg 0.92 277 ⇑Pg **Pn** **23 18 05.5 -0.3**
A121B Sg **Sn** **23 18 18.4 -1.0**
SCUG Chur Gewerbesc 0.93 161 Pg **Pn** **23 18 05.6 -0.2**
SCUG Chur Gewerbesc 0.93 161 Pg **Pn** **23 18 05.6 -0.2**
SAUR Augst-Roemermu 0.95 258 ⇑Pg **Pn** **23 18 06.1 0.0**
SAUR Sg **Sn** **23 18 18.8 -1.1**
SAUR Augst-Roemermu 0.95 258 ⇑Pg **Pn** **23 18 06.1 0.0**
SAUR Sg **Sn** **23 18 18.8 -1.1**
SKAF Kaiseraugst-Fr 0.95 258 Pg **Pn** **23 18 06.0 0.0**
SKAF Sg **Sn** **23 18 18.8 -1.1**
SKAF Kaiseraugst-Fr 0.95 258 ⇑Pg **Pn** **23 18 06.0 0.0**
SKAF Sg **Sn** **23 18 18.8 -1.1**
SFRA Frenkendorf 0.96 256 ⇑Pg **Pn** **23 18 06.4 +0.2**
SFRA Sg **Sn** **23 18 19.5 -0.8**
SFRA Frenkendorf 0.96 256 ⇑Pg **Pn** **23 18 06.4 +0.2**
SFRA Sg **Sn** **23 18 19.5 -0.8**
DEGG Deggingen-Nord 0.97 25 ⇑Pg **Pn** **23 18 05.9 -0.5**
SEFS Erstfeld, Schu 0.97 198 ⇓Pg **Pn** **23 18 06.5 +0.1**
SEFS Erstfeld, Schu 0.97 198 Pg **Pn** **23 18 06.5 +0.1**
OPP Oppenau 0.97 322 ⇓Pg **Pn** **23 18 06.2 -0.2**
OPP PmP 23 18 06.8
SBEG Bettingen Gewe 0.98 261 Pg **Pn** **23 18 06.8 +0.3**
SBEG Sg **Sn** **23 18 20.2 -0.5**
SBEG Bettingen Gewe 0.98 261 Pg **Pn** **23 18 06.8 +0.3**
SBEG Sg **Sn** **23 18 20.2 -0.5**
BNALP Bannalp 0.98 208 ⇑Pg **Pn** **23 18 06.7 +0.1**
BNALP Bannalp 0.98 208 ⇑Pg **Pn** **23 18 06.7 +0.1**
SSCN Schweizerhalle 0.98 258 Pg **Pn** **23 18 06.8 +0.3**
SSCN Sg **Sn** **23 18 20.1 -0.7**
SSCN Schweizerhalle 0.98 258 Pg **Pn** **23 18 06.8 +0.3**
SSCN Sg **Sn** **23 18 20.1 -0.7**
SRHH Riehen, Zur Ho 0.98 261 Pg **Pn** **23 18 06.7 +0.2**
SRHH Sg **Sn** **23 18 20.2 -0.6**
SRHH Riehen, Zur Ho 0.98 261 Pg **Pn** **23 18 06.7 +0.2**
SRHH Sg **Sn** **23 18 20.2 -0.6**
SRHE Riehen, Erlens 0.98 262 Pg **Pn** **23 18 06.9 +0.4**
SRHE Riehen, Erlens 0.98 262 Pg **Pn** **23 18 06.9 +0.4**
VOGT Vogtsburg - To 1.01 290 ⇓Pg **Pn** **23 18 07.4 +0.4**
BALST Balsthal 1.03 247 ⇑Pg **Pn** **23 18 07.4 +0.2**
BALST PmP 23 18 08.4
BALST *e*Sg **Sn** **23 18 21.8 -0.2**
STU Stuttgart 1.04 4 ⇓Pg **Pn** **23 18 07.2 -0.1**
STU PmP 23 18 08.2
STU *e*Sg **Sn** **23 18 21.1 -1.1**
GALG Neuhausen (Enz 1.07 349 ⇓Pg **Pn** **23 18 07.9 +0.1**
GALG PmP 23 18 08.7
DAVOX Davos/Dischmat 1.10 150 P **Sn** **23 18 26.2 +2.2**
A106B Goeppingen, Ma 1.10 22 Pg **Pn** **23 18 08.0 -0.2**
A106B Sg **Sn** **23 18 24.5 +0.7**
HDH Heidenheim-Cha 1.13 41 Pg **Pn** **23 18 08.4 -0.2**
BABA Baden-Baden-Ne 1.15 329 ⇓Pn **Pn** **23 18 09.0 +0.2**
BABA Pg **Pb** **23 18 10.1 +1.6**
URBA Urbach, Forsts 1.15 17 ⇓Pn **Pb** **23 18 08.6 +0.2**
RETA Reutte 1.16 102 *e*Pg **Pn** **23 18 09.8 +0.8**
27nm,0.1s
RETA *e*Sg **Sn** **23 18 26.4 +1.1**
298nm,0.2s
RETA Reutte 1.16 102 Pg **Pn** **23 18 09.4 +0.3**
BOURR Bourrignon 1.30 255 ⇓Pn **Pg** **23 18 11.5 +0.4**
FUSIO Fusio 1.32 193 P **Pg** **23 18 12.9 +1.6**
FUSIO S **Sn** **23 18 31.3 +2.0**
FETA Feichten 1.33 122 *e*Pg **Pg** **23 18 12.8 +1.4**
25nm,0.2s,SNR=27
FETA *e*Sg **Sn** **23 18 31.1 +1.6**
60nm,0.2s
WLS Welschbruch 1.34 301 Pg **Pg** **23 18 13.4 +1.5**
ECH Echery 1.38 291 Pn **Pb** **23 18 12.3 -0.1**
ECH *e*Sg **Sg** **23 18 32.3 +1.8**
CDF Champ du Feu 1.39 300 *e*Pn **Pb** **23 18 12.8 +0.2**
CDF Champ du Feu 1.39 300 *e*Pg **Pg** **23 18 14.5 +1.8**
CDF *e*Sg **Sg** **23 18 32.5 +1.8**
1µm,0.4s
CDF *e*Sg **Sn** **23 18 32.7 +1.7**
MOTA Moosalm 1.42 105 *e*Pg **Pg** **23 18 13.9 +0.6**
28nm,0.1s,SNR=39
MOTA *e*Sg **Sg** **23 18 32.7 +1.0**
97nm,0.1s
FIESA Fiescheralp 1.46 208 P **Pg** **23 18 14.7 +0.6**
FIESA S **Sg** **23 18 34.5 +1.4**
WOER Woert 1.50 31 Pn **Pn** **23 18 13.1 -0.6**
HINF Hinteralfeld 1.51 274 *e*Pg **Pn** **23 18 14.0 +0.2**
HINF *e*Sg **Sg** **23 18 35.8 +1.3**
454nm,0.3s
ROTT Steinweiler 1.53 336 ⇑Pn **Pb** **23 18 14.9 0.0**
SQTA Sankt Quirin 1.53 109 *i* Pg **Pg** **23 18 16.2 +0.8**
29nm,0.1s
SQTA *e*Sg **Sg** **23 18 36.7 +1.5**
460nm,0.3s
FUR Furstenfeldbru 1.53 73 Pn **Pb** **23 18 14.8 -0.2**
FUR Sg **Sg** **23 18 37.0 +1.7**
LAUCH Lauchernalp 1.60 215 P **Pb** **23 18 16.2 +0.0**
LAUCH S **Sg** **23 18 38.6 +1.2**
PEB Petersbachel 1.62 325 ⇓Pn **Pn** **23 18 15.6 +0.3**
PEB Pg **Pg** **23 18 18.9 +1.7**
SIND Sindeldorf 1.65 12 ⇓Pn **Pn** **23 18 15.0 -0.7**
SIMPL Simplonpass 1.67 206 P **Pb** **23 18 17.5 +0.1**
SIMPL S **Sg** **23 18 40.0 +0.4**
CHMF Charmoille 1.72 254 Pn **Pn** **23 18 17.0 +0.3**
WATA Walderalm 1.73 103 *e*Pg **Pg** **23 18 19.5 +0.2**
28nm,0.2s
WATA *e*Sg **Sg** **23 18 43.3 +1.6**
197nm,0.2s
EMBD Embd, Matterta 1.75 210 P **Pb** **23 18 18.6 -0.1**
WTTA Wattenberg 1.79 104 *e*Pg **Pg** **23 18 20.3 -0.1**
13nm,0.1s,SNR=16
WTTA *e*Sg **Sg** **23 18 44.6 +1.0**
115nm,0.2s
MMK Mattmark 1.86 205 P **Pb** **23 18 20.7 +0.1**
HAU Haudompre 1.86 279 *e*Pn **Pn** **23 18 19.4 +0.7**
HAU Haudompre 1.86 279 *e*Pg **Pg** **23 18 23.1 +1.3**
HAU Haudompre 1.86 279 *e*Pg **Pg** **23 18 23.2 +1.4**
HAU *e*Sg **Sg** **23 18 47.3 +1.4**
HAU *e*Sg **Sb** **23 18 47.5 +3.3**
502nm,0.3s
WBA Furth 1.93 355 ⇓Pn **Pn** **23 18 19.5 -0.1**
DIX Grande Dixence 2.02 215 P **Pb** **23 18 22.6 -0.8**
SATI Passo dei Sala 2.04 205 P **Pb** **23 18 23.6 -0.2**
GRC1 Grafenberg Arr 2.05 51 Pn **Pn** **23 18 20.6 -0.7**
MILB Miltenberg 2.10 4 Pn **Pn** **23 18 21.4 -0.4**
BODE Bodenheim 2.24 347 Pn **Pn** **23 18 24.2 +0.5**
GRB2 Grafenberg Arr 2.30 47 Pn **Pn** **23 18 23.9 -0.8**
REMY Saint-Rhmy-en 2.32 216 P **Pn** **23 18 26.6 +1.5**
CABF La Chapelle 2.34 242 *e*Pg **Pg** **23 18 32.0 +1.2**
CABF *e*Sg **Sg** **23 19 02.4 +1.3**
71nm,0.2s
CIRO Champorcher 2.38 207 P **Pb** **23 18 28.2 -1.3**
PAGF Fort de Pagny 2.40 291 *e*Pn **Pn** **23 18 27.0 +1.0**
PAGF Fort de Pagny 2.40 291 *e*Pg **Pg** **23 18 33.7 +1.7**
baz=109
PAGF *e*Sg **Sg** **23 19 03.7 +0.7**
88nm,0.2s
TRAV Traversella 2.41 203 P **Pb** **23 18 28.6 -1.4**
MRGE Morge 2.41 216 P **Pn** **23 18 27.9 +1.5**
GRF Grafenberg Arr 2.41 35 ⇑Pn **Pn** **23 18 25.1 -1.1**
WBG Bieber 2.44 4 ⇓Pn **Pn** **23 18 26.4 -0.2**
LESA Schwarzleotal 2.45 96 *e*Pn **Pb** **23 18 29.3 -1.4**
9.9nm,0.2s,SNR=27
LESA *e*Pg **Pg** **23 18 34.4 +1.4**
62nm,0.5s
LESA *e*Sn **Sn** **23 18 58.7 +1.6**
23nm,0.3s
LESA *e*Sg **Sg** **23 19 04.7 0.0**
62nm,0.2s
GWBD Espenschied/He 2.50 342 Pn **Pn** **23 18 28.3 +0.8**
TNS Taunus Mts 2.52 351 Pn **Pn** **23 18 28.1 +0.4**
ABTA Abfaltersbach 2.54 112 *e*Pn **Pb** **23 18 31.5 -0.6**
6.0nm,0.3s,SNR=22
ABTA *e*Pg **Pg** **23 18 35.6 +1.0**
19nm,0.3s
ABTA *e*Sg **Sg** **23 19 07.6 +0.2**
51nm,0.3s
WMG Wormeldange-Ha 2.59 317 Pn **Pn** **23 18 30.3 +1.7**
FACH Fachingen 2.72 345 ⇑Pn **Pn** **23 18 31.0 +0.6**
WLF Walferdange 2.74 316 *d*P **Pn** **23 18 32.6 +2.0**
WLF *d*S **Sb** **23 19 07.3 -2.1**
comp=E,79nm,0.0s
WLF Walferdange 2.74 316 Pn **Pn** **23 18 32.3 +1.7**
LPL La Plagne 2.75 217 *e*Pn **Pn** **23 18 31.9 +0.8**
LPL La Plagne 2.75 217 *e*Pg **Pg** **23 18 39.4 +0.6**
LPL *e*Sg **Sg** **23 19 14.7 +0.3**
comp=E,75nm,0.4s
LPG La Plagne 2.76 217 *e*Pn **Pn** **23 18 33.1 +1.9**
LPG La Plagne 2.76 217 *e*Pg **Pg** **23 18 39.5 +0.6**
LPG *e*Sn **Sn** **23 19 03.1 -2.0**
LPG *e*Sg **Sg** **23 19 14.2 -0.5**
comp=E,82nm,0.3s
SFTF Sexfontaines 2.76 281 *e*Pn **Pn** **23 18 31.4 +0.4**
SFTF Sexfontaines 2.76 281 *e*Pg **Pg** **23 18 39.7 +0.8**
SFTF *e*Sn **Sn** **23 19 03.2 -1.5**
SFTF *e*Sg **Sg** **23 19 14.8 +0.1**
comp=E,90nm,0.3s
SAVF Savonnieres en 2.79 290 *e*Pn **Pn** **23 18 32.2 +0.8**
SAVF Savonnieres en 2.79 290 *e*Pn **Pn** **23 18 32.8 +1.4**
SAVF Savonnieres en 2.79 290 *e*Pg **Pg** **23 18 40.9 +1.3**
SAVF Savonnieres en 2.79 290 *e*Pg **Pg** **23 18 41.3 +1.7**
SAVF *e*Sg **Sg** **23 19 15.7 -0.1**
comp=E,64nm,0.3s
SAVF *e*Sg **Sb** **23 19 16.1 +5.1**
comp=E,77nm,0.3s
MEZF Maizieres J'vi 2.81 287 *e*Pn **Pn** **23 18 32.5 +0.9**
MEZF Maizieres J'vi 2.81 287 *e*Pg **Pg** **23 18 40.8 +0.9**
MEZF *e*Sn **Sn** **23 19 05.1 -0.8**
MEZF *e*Sg **Sg** **23 19 16.6 +0.3**
comp=E,98nm,0.3s
WET Wettzell 2.89 59 Pn **Pn** **23 18 32.8 0.0**
BHE Schloss Buerre 2.90 335 Pn **Pn** **23 18 34.3 +1.3**
LAGB Langenfeld Gru 2.93 334 Pn **Pn** **23 18 34.8 +1.4**
KBA Koelnbreinsper 2.96 101 *e*Pn **Pb** **23 18 36.8 -2.7**
comp=E,2.8nm,0.1s
KBA *e*Pg **Pg** **23 18 43.5 +0.7**
comp=E,31nm,0.2s
KBA *e*Sn **Sn** **23 19 10.9 +0.9**
comp=E,11nm,0.2s
KBA *e*Sg **Sg** **23 19 19.8 -1.5**
comp=E,69nm,0.4s
WILW Wilwerwiltz 3.04 319 Pn **Pn** **23 18 36.5 +1.8**
BIOA Bad Ischl, Aus 3.07 89 *i* Pn **Pn** **23 18 36.9 +1.6**
comp=E,3.7nm,0.1s
BIOA *e*Pg **Pg** **23 18 45.5 +0.6**
comp=E,79nm,0.4s
BIOA *i* Sn **Sn** **23 19 13.0 +0.6**
comp=E,20nm,0.2s
BIOA *e*Sg **Sg** **23 19 26.1 +1.4**
comp=E,35nm,0.3s
BIW Bindweide 3.11 345 Pn **Pn** **23 18 36.6 +0.9**
TDN Todenfeld 3.17 334 Pn **Pn** **23 18 38.0 +1.4**
MYKA Terra Mystica 3.30 108 *i* Pn **Pn** **23 18 41.3 +2.9**
comp=E,3.7nm,0.2s,SNR=5.5
MYKA *e*Sg **Sg** **23 19 33.4 +1.5**
comp=E,45nm,0.5s
KHC Kasperske Hory 3.30 63 *e*PN **Pn** **23 18 38.8 +0.4**
KHC *e*PG **Pb** **23 18 46.9 +1.8**
KHC *e*SG **Sg** **23 19 31.0 -1.0**
comp=E,78nm,0.2s
BHOU Houvegnez 3.31 323 *d*P **Pn** **23 18 40.1 +1.6**
BHOU *d*S **Sn** **23 19 19.0 +0.7**
comp=E,47nm,0.0s
MBDF Montbardon 3.41 209 *e*Pn **Pn** **23 18 41.5 +1.4**
MBDF Montbardon 3.41 209 *e*Pg **Pg** **23 18 51.5 0.0**
MBDF *e*Sn **Sn** **23 19 19.2 -1.8**
MBDF *e*Sg **Sg** **23 19 33.8 -1.9**
comp=E,66nm,0.5s
BTNL Ternell 3.45 327 *d*P **Pn** **23 18 42.0 +1.5**
BTNL *d*S **Sn** **23 19 20.9 -0.8**
comp=E,49nm,0.0s
MOA Molln 3.49 86 *i* Pn **Pn** **23 18 42.5 +1.5**
comp=E,2.9nm,0.1s
MOA *e*Pg **Pg** **23 18 54.0 +1.0**
comp=E,6.3nm,0.1s
MOA *i* Sn **Sn** **23 19 22.1 -0.7**
comp=E,11nm,0.1s
MOA *i* Sg **Sg** **23 19 38.3 +0.1**
comp=E,14nm,0.2s
RCHB Rochefort 3.51 315 *d*P **Pn** **23 18 43.1 +1.8**
RCHB *d*S **Sn** **23 19 23.0 -0.1**
MEM Membach 3.51 326 *d*P **Pn** **23 18 42.6 +1.4**
MEM *d*S **Sn** **23 19 24.5 +1.3**
comp=E,55nm,0.0s
MEM Membach 3.51 326 Pn **Pn** **23 18 43.0 +1.7**
CADS Cadrg 3.52 114 *i* Pn **Pn** **23 18 44.1 +2.6**
CADS *e*Sn **Sg** **23 19 40.7 +1.6**
CADS IAML 23 19 46.7
comp=Z,36nm,0.4s
LOR Lormes 3.58 264 *e*Pn **Pn** **23 18 43.1 +0.9**
LOR Lormes 3.58 264 *e*Pg **Pg** **23 18 54.4 -0.1**
baz=83
LOR *e*Sg **Sg** **23 19 40.3 -0.6**
comp=Z,113nm,0.2s
ORIF Oris-en-Rattie 3.59 219 *e*Pn **Pn** **23 18 43.1 +0.6**
ORIF Oris-en-Rattie 3.59 219 *e*Pg **Pg** **23 18 54.0 -0.8**
ORIF *e*Sg **Sg** **23 19 39.4 -1.9**
comp=Z,56nm,0.4s
CKRC Cesky Krumlov 3.65 71 *e*PN **Pn** **23 18 44.0 +0.8**
CKRC *e*PG **Pb** **23 18 52.2 +1.1**
CKRC *e*SG **Sg** **23 19 42.3 -1.0**
comp=Z,115nm,0.4s
BSTI Sart Tilman 3.67 322 *d*P **Pn** **23 18 45.5 +2.0**
GIVF Givet 3.67 312 *e*Pn **Pn** **23 18 44.8 +1.3**
GIVF Givet 3.67 312 *e*Pg **Pg** **23 18 57.1 +0.7**
GIVF *e*Sn **Sn** **23 19 26.6 -0.6**
GIVF *e*Sg **Sg** **23 19 43.9 -0.1**
comp=Z,30nm,0.2s
VOJS Vojsko 3.71 116 *i* Pn **Pn** **23 18 46.4 +2.4**
VOJS IAML 23 19 56.7
comp=Z,44nm,0.7s
BGES Gesves 3.73 317 *d*P **Pn** **23 18 46.1 +1.8**
BGES *d*S **Sn** **23 19 28.8 +0.2**
comp=E,30nm,0.0s
SMF Signal de Mont 3.74 255 *e*Pn **Pn** **23 18 45.5 +1.0**
SMF Signal de Mont 3.74 255 *e*Pg **Pg** **23 18 57.8 +0.1**
SMF *e*Sn **Sn** **23 19 25.4 -3.5**
SMF *e*Sg **Sg** **23 19 44.9 -1.3**
comp=E,125nm,0.4s
DOU Dourbes 3.79 310 *d*P **Pn** **23 18 47.0 +2.0**
DOU *d*S **Sn** **23 19 29.7 -0.3**
comp=E,37nm,0.0s
BEBN Eben Emael 3.79 325 *d*P **Pn** **23 18 47.3 +2.2**
BEBN *d*S **Sn** **23 19 31.1 +1.1**
comp=E,62nm,0.0s
ZVC Zvikov 3.79 61 *e*PN **Pn** **23 18 45.5 +0.4**
ZVC *e*PG **Pb** **23 18 55.6 +2.2**
ZVC *e*SG **Sg** **23 19 46.0 -1.8**
comp=E,57nm,0.5s
BMRD Maredsous 3.83 314 *d*P **Pn** **23 18 47.5 +1.9**
BMRD *d*S **Sn** **23 19 31.9 +0.9**
comp=E,46nm,0.0s
SSF Saint Saulge 3.85 262 *e*Pn **Pn** **23 18 47.2 +1.2**
SSF Saint Saulge 3.85 262 *e*Pg **Pg** **23 18 59.4 -0.4**
SSF *e*Sn **Sn** **23 19 29.2 -2.4**
SSF *e*Sg **Sg** **23 19 48.6 -1.1**
comp=E,54nm,0.3s
JAVS Javornik 3.88 117 *i* Pn **Pn** **23 18 48.7 +2.2**
JAVS *e*Sn **Sg** **23 19 50.1 -0.6**
JAVS IAML 23 19 55.7
comp=Z,36nm,0.6s
CRNS Crni Vrh 3.91 113 *i* Pn **Pn** **23 18 49.1 +2.2**
CRNS *e*Sn **Sg** **23 19 50.6 -1.2**
CRNS IAML 23 20 03.2
comp=Z,31nm,0.6s
OBKA Obir 3.92 106 *i* Pn **Pn** **23 18 49.9 +2.8**
comp=Z,6.8nm,0.3s,SNR=7.1
OBKA *e*Sn **Sn** **23 19 37.5 +3.9**
comp=Z,12nm,0.3s
MOZS Mozjanca 3.94 110 *i* Pn **Pn** **23 18 49.7 +2.5**
BAIF Baives 3.97 308 *e*Pn **Pn** **23 18 49.3 +1.7**
BAIF Baives 3.97 308 *e*Pg **Pg** **23 19 02.8 +0.7**
BAIF *e*Sn **Sn** **23 19 32.5 -2.0**
BAIF *e*Sg **Sg** **23 19 52.1 -1.4**
comp=Z,18nm,0.3s
AVF Avril sur Loir 4.02 258 *e*Pn **Pn** **23 18 49.4 +1.2**
AVF Avril sur Loir 4.02 258 *e*Pg **

SBF	**Sospel**	**4.04**	**197**	*e*Pn	**Pn**	**23 18 49.4**	**+0.7**
SBF				*e*Sn	**Sn**	**23 19 33.8**	**-2.6**
	comp=Z,34nm,0.3s						
SOKA	**Soboth**	**4.19**	**102**	*i* Pn	**Pn**	**23 18 52.7**	**+2.0**
	comp=Z,16nm,0.3s,SNR=27						
SOKA				*i* Sn	**Sn**	**23 19 42.0**	**+2.0**
	comp=Z,12nm,0.3s						
VIVF	**Saint-Julien-l**	**4.20**	**228**	*e*Pn	**Pn**	**23 18 49.9**	**-0.9**
VIVF	**Saint-Julien-l**	**4.20**	**228**	*e*Pg	**Pg**	**23 19 07.3**	**+0.7**
VIVF				*e*Sn	**Sn**	**23 19 37.3**	**-3.0**
VIVF				*e*Sg	**Sg**	**23 19 58.3**	**-2.7**
	comp=Z,35nm,0.3s						
PRU	**Pruhonice**	**4.25**	**56**	*e*PG	**Pg**	**23 19 04.7**	**-2.7**
PRU				*e*SG	**Sg**	**23 19 59.9**	**-2.5**
	comp=Z,44nm,0.4s						
PERS	**Pernice**	**4.26**	**103**	*i* Pn	**Pn**	**23 18 53.4**	**+1.9**
RICC	**Richard**	**4.32**	**48**	*e*SG	**Sg**	**23 20 03.7**	**-1.2**
CLL	**Collm**	**4.39**	**34**	*e*Pn	**Pn**	**23 18 51.0**	**-2.3**
CLL				*ex*	x	23 19 01.0	
CLL				*e*Pg	**Pg**	**23 19 09.0**	**-1.1**
CLL				*i* x	x	23 19 12.9	
CLL				*e*Sg	**Sg**	**23 20 04.0**	**-2.9**
	comp=Z,90nm,0.5s						
ARSA	**Arzberg**	**4.39**	**94**	*i* Pn	**Pn**	**23 18 55.0**	**+1.6**
	comp=Z,0.3nm,0.1s						
ARSA				*e*Pg	**Pg**	**23 19 08.9**	**-1.3**
	comp=Z,3.9nm,0.2s						
ARSA				*i* Sn	**Sn**	**23 19 43.1**	**-1.8**
	comp=Z,9.2nm,0.3s						
ARSA				*e*Sg	**Sg**	**23 20 10.1**	**+3.1**
	comp=Z,14nm,0.5s						
HYF	**Humbligny**	**4.40**	**266**	*e*Pn	**Pn**	**23 18 55.1**	**+1.6**
HYF	**Humbligny**	**4.40**	**266**	*e*Pg	**Pg**	**23 19 10.4**	**+0.1**
HYF				*e*Sg	**Sg**	**23 20 06.7**	**-0.5**
BGF	**Bois d'Agland**	**4.42**	**257**	*e*Pn	**Pn**	**23 18 54.2**	**+0.4**
BGF	**Bois d'Agland**	**4.42**	**257**	*e*Pg	**Pg**	**23 19 09.7**	**-1.0**
BGF				*e*Sn	**Sn**	**23 19 42.7**	**-2.9**
BGF				*e*Sg	**Sg**	**23 20 06.2**	**-1.7**
	comp=Z,104nm,0.4s						
BRG	**Berggiesshubel**	**4.46**	**44**	Pg	**Pb**	**23 19 07.8**	**+2.9**
BRG				Sg	**Sg**	**23 20 06.7**	**-2.7**
BRG				Amp		23 20 17.2	
	comp=Z,36nm,0.5s						
SMRF	**Simiane la Rot**	**4.49**	**214**	*e*Pn	**Pn**	**23 18 55.2**	**+0.4**
SMRF	**Simiane la Rot**	**4.49**	**214**	*e*Pg	**Pg**	**23 19 10.6**	**-1.5**
SMRF				*e*Sn	**Sn**	**23 19 45.3**	**-2.1**
SMRF				*e*Sg	**Sg**	**23 20 08.9**	**-1.4**
	comp=Z,6.8nm,0.3s						
GBRS	**Gornja Briga**	**4.52**	**117**	*i* Pn	**Pn**	**23 18 57.5**	**+2.3**
GBRS				IAML		23 20 20.5	
	comp=Z,22nm,0.6s						
TREC	**Trest**	**4.53**	**68**	*e*PN	**Pn**	**23 18 56.2**	**+0.9**
TREC				*e*SG	**Sg**	**23 20 08.5**	**-3.0**
	comp=Z,48nm,0.4s						
GROS	**Grobnik**	**4.56**	**104**	*i* Pn	**Pn**	**23 18 56.9**	**+1.1**
CONA	**Conrad Observa**	**4.57**	**85**	*i* Pn	**Pn**	**23 18 57.1**	**+1.2**
	comp=Z,3.8nm,0.2s,SNR=8.5						
CONA				*i* Pg	**Pg**	**23 19 15.4**	**+1.8**
	comp=Z,8.0nm,0.4s						
CONA				*i* Sn	**Sn**	**23 19 46.5**	**-2.9**
	comp=Z,21nm,0.2s						
CONA				Sg	**Sg**	**23 20 14.8**	**+2.1**
	comp=Z,34nm,0.4s						
LMR	**La Mourre**	**4.76**	**203**	*e*Pn	**Pn**	**23 18 58.6**	**+0.1**
LMR	**La Mourre**	**4.76**	**203**	*e*Pg	**Pg**	**23 19 16.2**	**-1.1**
LMR				*e*Sn	**Sn**	**23 19 49.7**	**-4.3**
	comp=Z,8.8nm,0.4s						
GCIS	**Gornji Cirnik**	**4.86**	**110**	*e*Pn	**Pn**	**23 19 01.2**	**+1.3**
RONA	**Rosalia, Austr**	**4.87**	**88**	*i* Pn	**Pn**	**23 19 01.4**	**+1.5**
	comp=Z,1.6nm,0.1s						
RONA				*i* Sn	**Sn**	**23 19 54.2**	**-2.4**
	comp=Z,8.8nm,0.2s						
RONA				*e*Sg	**Sg**	**23 20 24.3**	**+2.1**
	comp=Z,13nm,0.3s						
TCF	**Toulx Ste Croi**	**4.92**	**255**	*e*Pn	**Pn**	**23 19 01.0**	**+0.3**
TCF	**Toulx Ste Croi**	**4.92**	**255**	*e*Pg	**Pg**	**23 19 19.5**	**-0.8**
TCF				*e*Sn	**Sn**	**23 19 54.6**	**-3.5**
TCF				*e*Sg	**Sg**	**23 20 22.5**	**-1.6**
	comp=Z,21nm,0.3s						
KRUC	**Moravsky**	**5.04**	**72**	*e*PN	**Pn**	**23 19 03.0**	**+0.7**
KRUC				*e*SN	**Sn**	**23 19 56.9**	**-4.1**
KRUC				*e*SG	**Sg**	**23 20 25.9**	**-2.1**
LASF	**Ste Croix**	**5.17**	**227**	*e*Pn	**Pn**	**23 19 03.7**	**-0.4**
LASF	**Ste Croix**	**5.17**	**227**	*e*Pg	**Pg**	**23 19 22.9**	**-2.2**
LASF				*e*Sn	**Sn**	**23 20 00.7**	**-3.4**
LASF				*e*Sg	**Sg**	**23 20 29.5**	**-2.5**
	comp=Z,64nm,0.8s						
VRAC	**Vranov**	**5.23**	**70**	*e*PN	**Pn**	**23 19 05.7**	**+0.8**
VRAC				*e*PG	**Pg**	**23 19 23.3**	**-2.9**
VRAC				*e*SN	**Sn**	**23 20 02.0**	**-3.5**
VRAC				*e*SG	**Sg**	**23 20 30.9**	**-3.0**
DPC	**Dobruska-Polom**	**5.43**	**59**	*e*SG	**Sg**	**23 20 36.2**	**-4.1**
	comp=Z,36nm,0.6s						
MODS	**Modra-Piesok**	**5.53**	**80**	*e*PN	**Pn**	**23 19 08.1**	**-0.9**
MODS				*e*SN	**Sn**	**23 20 07.1**	**-5.8**
MODS				*e*SG	**Sg**	**23 20 41.6**	**-1.9**
KRLC	**Kraliky**	**5.59**	**62**	*e*SG	**Sg**	**23 20 42.8**	**-2.5**
	comp=Z,35nm,0.5s						
CAF	**Calviac**	**5.62**	**243**	*e*Pn	**Pn**	**23 19 10.4**	**+0.1**
CAF	**Calviac**	**5.62**	**243**	*e*Pg	**Pg**	**23 19 31.3**	**-2.3**
CAF				*e*Sn	**Sn**	**23 20 11.8**	**-3.4**
CAF				*e*Sg	**Sg**	**23 20 43.4**	**-3.0**
	comp=Z,20nm,0.6s						
RJF	**Les Rejaudoux**	**5.76**	**248**	*e*Pn	**Pn**	**23 19 12.5**	**+0.3**
RJF	**Les Rejaudoux**	**5.76**	**248**	*e*Pg	**Pg**	**23 19 34.0**	**-2.4**
RJF				*e*Sg	**Sg**	**23 20 48.1**	**-3.0**
	comp=Z,14nm,0.4s						
MORC	**Moravsky Berou**	**5.95**	**67**	*e*PN	**Pn**	**23 19 15.2**	**+0.4**
SRO	**Srobarova**	**6.22**	**86**	*e*PN	**Pn**	**23 19 19.7**	**+1.2**
LDF	**La Druitiere**	**6.22**	**281**	*e*Pn	**Pn**	**23 19 19.3**	**+0.8**
LDF	**La Druitiere**	**6.22**	**281**	*e*Pg	**Pg**	**23 19 43.6**	**-1.6**
LDF				*e*Sg	**Sg**	**23 21 01.7**	**-4.0**
	comp=Z,28nm,0.5s						
MFF	**Saint Martin d**	**6.40**	**263**	*e*Pn	**Pn**	**23 19 21.3**	**+0.4**
MFF	**Saint Martin d**	**6.40**	**263**	*e*Pn	**Pn**	**23 19 21.7**	**+0.8**
MFF	**Saint Martin d**	**6.40**	**263**	*e*Pg	**Pg**	**23 19 46.5**	**-2.1**
MFF				*e*Sn	**Sn**	**23 20 29.9**	**-4.4**
MFF				*e*Sn	**Sn**	**23 20 29.9**	**-4.4**
MFF				*e*Sg	**Sg**	**23 21 07.0**	**-4.4**
	comp=Z,10nm,0.3s						
MFF				*e*Sg	**Sg**	**23 21 08.1**	**-3.3**
	comp=Z,11nm,0.3s						
LFF	**La Frestale**	**6.42**	**247**	*e*Sg	**Sg**	**23 21 09.1**	**-3.0**
	comp=Z,10nm,0.2s						
FLN	**La Foliniere**	**6.47**	**283**	*e*Pn	**Pn**	**23 19 22.9**	**+0.9**
	baz=96						
FLN	**La Foliniere**	**6.47**	**283**	*e*Pg	**Pg**	**23 19 48.2**	**-1.8**
FLN				*e*Sn	**Sn**	**23 20 33.9**	**-2.3**
FLN				*e*Sg	**Sg**	**23 21 10.8**	**-3.0**
	comp=Z,20nm,0.4s						
MTLF	**Montolieu**	**6.53**	**230**	*e*Pn	**Pn**	**23 19 21.9**	**-0.8**
MTLF	**Montolieu**	**6.53**	**230**	*e*Pg	**Pg**	**23 19 48.3**	**-2.7**
MTLF				*e*Sn	**Sn**	**23 20 33.3**	**-4.2**
MTLF				*e*Sg	**Sg**	**23 21 11.6**	**-3.9**
	comp=Z,6.4nm,0.3s						
VYHS	**Vyhne**	**6.57**	**80**	*e*PN	**Pn**	**23 19 23.5**	**+0.2**
VYHS				*e*SN	**Sn**	**23 20 33.6**	**-5.0**
VYHS				*e*SG	**Sg**	**23 21 19.0**	**+2.1**
GRR	**Gorron**	**6.70**	**279**	*e*Pn	**Pn**	**23 19 24.9**	**-0.1**
GRR	**Gorron**	**6.70**	**279**	*e*Pg	**Pg**	**23 19 53.0**	**-1.3**
GRR				*e*Sn	**Sn**	**23 20 37.1**	**-4.6**
GRR				*e*Sg	**Sg**	**23 21 17.7**	**-3.3**
	comp=Z,36nm,0.7s						
LANS	**Liptovska Anna**	**7.05**	**75**	*e*PN	**Pn**	**23 19 31.4**	**+1.5**
LANS				*e*SN	**Sn**	**23 20 46.4**	**-4.0**
LANS				*e*SG	**Sg**	**23 21 35.7**	**+3.5**
EPF	**Esparros**	**7.75**	**236**	*e*Pg	**Pg**	**23 20 11.6**	**-2.8**
EPF				*e*Sg	**Sg**	**23 21 50.0**	**-4.7**
	comp=Z,3.6nm,0.4s						
SGMF	**Saint Gilles**	**7.83**	**278**	*e*Pn	**Pn**	**23 19 40.8**	**+0.2**
SGMF				*e*Sn	**Sn**	**23 21 04.1**	**-5.5**
SGMF				*e*Sg	**Sg**	**23 21 53.1**	**-4.2**
	comp=Z,24nm,0.5s						
STHS	**Stebnicka Huta**	**8.24**	**74**	*e*SG	**Sg**	**23 22 09.1**	**-1.2**
QUIF	**Quistinic**	**8.25**	**276**	*e*Pn	**Pn**	**23 19 46.7**	**+0.4**
QUIF	**Quistinic**	**8.25**	**276**	*e*Pg	**Pg**	**23 20 20.3**	**-3.7**
QUIF				*e*Sn	**Sn**	**23 21 15.8**	**-4.0**
QUIF				*e*Sg	**Sg**	**23 22 05.7**	**-5.0**
	comp=Z,27nm,1.1s						
ROSF	**Rostrenen**	**8.31**	**279**	*e*Pn	**Pn**	**23 19 47.6**	**+0.5**
ROSF				*e*Sn	**Sn**	**23 21 15.4**	**-5.9**
ROSF				*e*Sg	**Sg**	**23 22 07.8**	**-4.8**
	comp=Z,10nm,0.5s						
ETSF	**Etsaut**	**8.34**	**238**	*e*Pn	**Pn**	**23 19 49.7**	**+2.0**
ETSF				*e*Sn	**Sn**	**23 21 16.9**	**-5.4**
ETSF				*e*Sg	**Sg**	**23 22 10.0**	**-3.7**
	comp=Z,1.8nm,0.2s						
SJPF	**Ste Jean**	**8.60**	**241**	*e*Sg	**Sg**	**23 22 16.0**	**-6.0**
	comp=Z,5.8nm,0.4s						

BJI ***29*** *23:18:04.0, 17˚.90N×145˚.90E, h131km, mB4.9/9, mb4.7/38*
IDC ***29*** *23:18:07.2±0.4, 17˚.95N×145˚.70E, h159km±3km, mb4.3/33, mbtmp4.7/37, MS3.3/6, Error ellipse: s-maj=11.2km s-min=5.7km az=85.0*
NEIC ***29*** *23:18:07.6±1.3, 17˚.93N±0˚.07×145˚.90E±0˚.10, h147km±6km, mb4.9/490, Error ellipse: s-maj=13.6km s-min=9.7km az=93.0*
DJA ***29*** *23:18:07.7±0.6, 18˚N±3˚×14˚6E±˚, h154km±5km, M5.1/41, mb5.2/41, mB5.7/14, MLv4.7/1, Mw(mB)5.2/14, MwMwp4.9/1, Mwp5.2/1*
GCMT ***29*** *23:18:08.6±0.4, 17˚.95N±0˚.03×145˚.98E±0˚.03, h185km±5km, MW4.9/78, Moment Tensor Solution. s11,c11; s78,c90; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.56±.14; Mθθ-1.93±.16; Mφφ0.37±.18; Mrθ-0.42±.11; Mθφ0.14±.18; Mφr1.86±.11; Best double couple: Mo2.49700×10^16 NP1:φs68.00000°, δ43.00000°, λ37.00000°. NP2:φs309.00000°, δ66.00000°, λ127.00000°. Principal axes: T 2.9320, Plg54.0000°, Azm265.0000°; N -0.8680, Plg33.0000°, Azm112.0000°; P -2.0620, Plg13.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 23:18:07.9±0.4, 17˚.97N±0˚.03×145˚.88E±0˚.05, h160km±3km, h160km:pP-P, n836, σ1°23/725, mb4.9/305, 4C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.46**	**193**			**Pn**	**23 19 13.1**	**-1.4**
GUMO	**Guam**	**4.46**	**193**	P		**Pn**	**23 19 13.8**	**-0.7**
	153nm,0.3s,baz=354,slow=10,SNR=9.5							
GUMO				S		**Sn**	**23 20 05.1**	**-1.4**
	278nm,0.3s,baz=17,slow=19,SNR=6.3							
GUMO	**Guam**	**4.46**	**193**	P		**Pn**	**23 19 13.7**	**-0.8**
JCJ	**Chichijima**	**9.70**	**340**	Pn		**Pn**	**23 20 23.5**	**-0.2**
JCJ	**Chichijima**	**9.70**	**340**	P		**Pn**	**23 20 22.9**	**-0.9**
	41nm,0.4s,baz=108,slow=20,SNR=9.6							
JCJ				S		**Sn**	**23 22 05.5**	**-5.9**
	103nm,0.5s,baz=270,slow=20,SNR=6.8							
JMZ	**Minamidaito 2**	**15.67**	**302**			**P**	**23 21 41.6**	**+0.7**
JHJ2	**Mitsune**	**16.03**	**341**			**P**	**23 21 45.1**	**+0.4**
JHJ	**Hachijo jima 2**	**16.05**	**341**	P		**P**	**23 21 45.3**	**+0.3**
	24nm,0.3s,baz=90,slow=20,SNR=1.6							
JHJ				S		**S**	**23 24 41.3**	**-1.6**
	40nm,0.5s,baz=107,slow=19,SNR=1.6							
PATS	**Pohnpei**	**16.42**	**131**			**P**	**23 21 48.7**	**-0.5**
PATS	**Pohnpei**	**16.42**	**131**	P		**Pn**	**23 21 50.3**	**+1.0**
PATS	**Pohnpei**	**16.42**	**131**	P		**P**	**23 21 48.5**	**-0.7**
JOW	**Kunigami**	**18.49**	**302**			**Pn**	**23 22 13.6**	**-0.4**
JOW					IAmb	IAmb	23 22 20.5	
	comp=Z,48nm,0.7s							
JOW	**Kunigami**	**18.49**	**302**	P		**Pn**	**23 22 14.8**	**+0.8**
	comp=Z,45nm,0.4s,baz=120,slow=12,SNR=31							
JOW	**Kunigami**	**18.49**	**302**	P		**Pn**	**23 22 14.7**	**+0.7**
INU	**Inuyama**	**19.01**	**337**	P		**P**	**23 22 17.6**	**+0.2**
INU	**Inuyama**	**19.01**	**337**	P		**Pn**	**23 22 19.9**	**-0.1**
JGF	**Kuroka**	**19.12**	**338**			**P**	**23 22 18.9**	**+0.3**
JGF	**Kuroka**	**19.12**	**338**	P		**P**	**23 22 19.8**	**+1.2**
MJAR	**Matsushiro Arr**	**19.70**	**341**			**P**	**23 22 25.3**	**+0.4**
MJAR	**Matsushiro Arr**	**19.70**	**341**	P		**P**	**23 22 24.0**	**-0.8**
	comp=Z,9.8nm,0.5s,baz=162,slow=10,SNR=33							
MJAR				S		**S**	**23 25 57.7**	**-0.6**
	comp=Z,4.4nm,0.8s,baz=167,slow=16,SNR=5.8							
MAJO	**Matsushiro**	**19.70**	**341**			**P**	**23 22 25.2**	**+0.3**
MAJO	**Matsushiro**	**19.70**	**341**	P		**Pn**	**23 22 27.5**	**-0.6**
MJB9	**Matsu-Tunnel**	**19.70**	**341**	P		**P**	**23 22 25.4**	**+0.4**
H11S3	**WAKE ISLAND Hy**	**19.77**	**85**	T		T	23 43 32.5	
	baz=275,slow=74,SNR=9.0							
H11S1	**WAKE ISLAND Hy**	**19.79**	**85**	T		T	23 43 43.2	
	baz=275,slow=74,SNR=17							
H11S2	**WAKE ISLAND Hy**	**19.79**	**85**	T		T	23 43 45.5	
	baz=275,slow=74,SNR=11							
H11N1	**WAKE ISLAND Hy**	**19.96**	**82**	T		T	23 43 37.4	
	baz=266,slow=74,SNR=23							
H11N2	**WAKE ISLAND Hy**	**19.97**	**82**	T		T	23 43 38.3	
	baz=266,slow=74,SNR=17							
H11N3	**WAKE ISLAND Hy**	**19.98**	**82**	T		T	23 43 39.5	
	baz=266,slow=74,SNR=13							
JNU	**Nakatsue**	**20.23**	**321**	P		**P**	**23 22 30.7**	**+0.1**
JNU	**Nakatsue**	**20.23**	**321**	P		**P**	**23 22 31.0**	**+0.4**
	comp=Z,2.4nm,0.4s,baz=63,slow=6.8,SNR=2.6							
JMM	**Marumori**	**20.32**	**348**	P		**P**	**23 22 32.0**	**+0.6**
JMM					IAmb	IAmb	23 22 35.4	
	comp=Z,34nm,0.8s							
JMM	**Marumori**	**20.32**	**348**	P		Pn	23 22 33.7	-1.6
JAY	**Jayapura**	**20.99**	**195**	P		**P**	**23 22 38.6**	**-0.2**
	comp=Z,21nm,1.0s,baz=18,slow=3.2,SNR=6.6							
	comp=Z,21nm,1.0s							
SMPI	**Sarmi**	**21.06**	**200**	P		**P**	**23 22 40.5**	**+1.0**
JSD	**Sado**	**21.07**	**343**	P		**P**	**23 22 42.3**	**+2.8**
BAKI	**Biak**	**21.34**	**208**	P		**P**	**23 22 45.3**	**+2.8**
	comp=Z,107nm,0.8s							
SRPI	**Serui, Papua**	**21.88**	**207**	P		**P**	**23 22 49.6**	**+1.3**
YOJ	**Yonaguni jima**	**22.26**	**291**	P		**P**	**23 22 52.8**	**+0.8**
JTM	**Tenmabayashi**	**23.11**	**351**			**P**	**23 22 60.0**	**+0.3**
JTM					IAmb	IAmb	23 23 01.6	
	comp=Z,55nm,0.8s							
JTM	**Tenmabayashi**	**23.11**	**351**	P		**P**	**23 23 01.8**	**+2.1**
NACB	**Ninganchiao**	**23.47**	**289**	P		**P**	**23 23 03.5**	**+0.4**
NACB					IAmb	IAmb	23 23 05.2	
	comp=Z,40nm,0.5s							
NACB	**Ninganchiao**	**23.47**	**289**	P		**P**	**23 23 05.6**	**+2.5**
YULB	**Yu-li**	**23.61**	**287**	P		**P**	**23 23 04.6**	**+0.2**
YULB					IAmb	IAmb	23 23 11.3	
	comp=Z,44nm,1.1s							
SWI	**Sorong**	**23.61**	**219**	P		**P**	**23 23 05.9**	**+1.5**
	comp=Z,1μmcomp=Z,157nm,1.3s							
TATO	**Taipei**	**23.72**	**291**	P		**P**	**23 23 05.8**	**+0.4**
TWGBT	**Beinan**	**23.73**	**286**	P		**P**	**23 23 08.1**	**+2.6**
TWG	**Pinlang**	**23.73**	**286**	P		**P**	**23 23 05.7**	**+0.1**
YHNB	**Yeheng**	**23.76**	**291**	P		**P**	**23 23 06.4**	**+0.6**
YHNB	**Yeheng**	**23.76**	**291**	P		**P**	**23 23 07.8**	**+1.9**
ERM	**Erimo**	**24.08**	**355**			**P**	**23 23 08.8**	**+0.4**
ERM					IAmb	IAmb	23 23 12.9	
	comp=Z,25nm,0.6s							
TPUB	**Ta-pu**	**24.20**	**287**	P		**P**	**23 23 09.0**	**-0.8**
TPUB					IAmb	IAmb	23 23 16.2	
	comp=Z,32nm,0.9s							
FAKI	**Fak Fak**	**24.73**	**214**			**P**	**23 23 13.6**	**-1.1**
FAKI	**Fak Fak**	**24.73**	**214**	P		**P**	**23 23 15.6**	**+1.0**
FAKI	**Fak Fak**	**24.73**	**214**	P		**P**	**23 23 15.1**	**+0.5**
KSRS	**Korea Array**	**25.00**	**325**	P		**P**	**23 23 15.9**	**-1.0**
	comp=Z,3.8nm,0.6s,baz=143,slow=8.7,SNR=14							
	comp=Z,3.8nm,0.6s							
KS19	**Wonju Array Si**	**25.07**	**325**	P		**P**	**23 23 16.8**	**-0.8**
ASAJ	**Asahikawa**	**26.21**	**355**	P		**P**	**23 23 28.3**	**+0.6**
	comp=Z,36nm,0.7s,baz=180,slow=5.0,SNR=25							
	comp=Z,36nm,0.7s							
JKA	**Kamikawa-asahi**	**26.21**	**355**	P		**P**	**23 23 28.6**	**+0.8**
KNMB	**Chin-men Tao**	**26.40**	**289**	P		**P**	**23 23 30.3**	**+0.7**
PMG	**Port Moresby**	**27.23**	**177**			**P**	**23 23 36.0**	**-1.1**
PMG					IAmb	IAmb	23 23 37.3	
	comp=Z,34nm,0.7s							
NJ2	**Nanjing**	**28.12**	**305**	*e*P		**P**	**23 23 46.5**	**+1.6**
NJ2					pmax	pmax		
	comp=Z,7.0nm,0.5s							
USA0B	**Ussuriysk Arra**	**28.64**	**339**	P		**P**	**23 23 50.4**	**+1.0**
USRK	**Ussuriysk Ar.**	**28.64**	**339**	P		**P**	**23 23 48.0**	**-1.4**
	comp=Z,2.0nm,0.6s,baz=157,slow=7.8,SNR=4.4							
	comp=Z,2.0nm,0.6s							
LUWI	**Luwuk**	**29.57**	**233**	P		**P**	**23 23 57.5**	**-0.4**
	comp=Z,4μmcomp=Z,69nm,0.7s							
TOLI2	**Tolitoli**	**29.81**	**239**	P		**P**	**23 24 00.3**	**+0.3**
KKM	**Kota Kinabalu**	**31.28**	**251**	P		**P**	**23 24 14.3**	**+1.2**
KKM	**Kota Kinabalu**	**31.28**	**251**	P		**P**	**23 24 15.0**	**+1.9**
BNX	**BinXian**	**31.66**	**335**	P		**P**	**23 24 18.0**	**+2.0**
BNX					pmax	pmax		
	comp=Z,5.0nm,0.8s							
COEN	**Coen**	**31.84**	**185**	P		**P**	**23 24 17.1**	**-0.7**
TTSI	**Tana Toraja**	**33.10**	**233**	P		**P**	**23 24 31.4**	**+2.5**
	comp=Z,682nmcomp=Z,66nm,0.8s							
SPSI	**Sidrap Palu**	**33.73**	**232**	P		**P**	**23 24 36.7**	**+2.3**
	comp=Z,7μmcomp=Z,51nm,0.8s							
BNSI	**Bone**	**33.77**	**231**	P		**P**	**23 24 37.6**	**+2.9**
	comp=Z,79nm,0.7s							

MTN	**Manton Dam**	**33.90**	**206**	P		**P**	**23 24 35.4**	**-0.4**
MTN					IAmb	IAmb	23 24 37.0	
	comp=Z,37nm,1.1s							
MTN	**Manton Dam**	**33.90**	**206**	P		**P**	**23 24 36.5**	**+0.7**
	comp=Z,42nm,1.0s							
MTN	**Manton Dam**	**33.90**	**206**	P		**P**	**23 24 36.5**	**+0.7**
BKSI	**Bulukumba**	**34.38**	**230**	P		**P**	**23 24 42.2**	**+2.3**
	comp=Z,783nmcomp=Z,57nm,0.7s							
KAPI	**Kappang**	**34.44**	**231**	P		**P**	**23 24 41.4**	**+0.9**
KAPI					IAmb	IAmb	23 24 43.4	
	comp=Z,29nm,0.7s							
KAPI	**Kappang**	**34.44**	**231**	P		**P**	**23 24 41.7**	**+1.2**
KAPI	**Kappang**	**34.44**	**231**	P		**P**	**23 24 41.5**	**+1.1**
HEH	**HeiHe**	**35.44**	**339**	*e*P		**P**	**23 24 47.8**	**-0.8**
HEH					pmax	pmax		
	comp=Z,5.0nm,0.9s							
BATI	**Baumata**	**35.57**	**220**	P		**P**	**23 24 49.9**	**-0.2**
	comp=Z,940nmcomp=Z,60nm,0.5s							
EDFI	**Ende, Flores**	**35.72**	**224**	P		**P**	**23 24 51.2**	**-0.3**
MTSU	**Mount Surprise**	**35.91**	**183**	P		**P**	**23 24 53.2**	**+0.3**
	comp=Z,22nm,0.8s							
MTSU	**Mount Surprise**	**35.91**	**183**	P		**P**	**23 24 53.4**	**+0.4**
PEA0B	**Petropavlovsk-**	**36.26**	**12**	P		**P**	**23 24 55.7**	**+0.1**
PEA0B					IAmb	IAmb	23 25 05.1	
	comp=Z,19nm,1.1s							
PETK	**Petropavlovsk-**	**36.26**	**12**	P		**P**	**23 24 56.7**	**+1.1**
	comp=Z,7.8nm,0.7s,baz=188,slow=7.3,SNR=11							
PETK					ScP	**ScP**	**23 30 46.3**	**-2.2**
	comp=Z,1.9nm,0.7s,baz=216,slow=6.7,SNR=4.0							
	comp=Z,7.8nm,0.7s							
SBUM	**Sibu**	**36.43**	**249**	P		**P**	**23 24 58.9**	**+1.4**
SBUM					IAmb	IAmb	23 25 00.6	
	comp=Z,40nm,1.4s							
DLV	**Lat**	**36.57**	**266**	P		**P**	**23 25 01.5**	**+2.6**
DLV					IAmb	IAmb	23 25 02.5	
	comp=Z,22nm,0.7s							
XAN	**Xi'an**	**36.63**	**303**	P		**P**	**23 24 58.8**	**-0.3**
XAN				pP		pP	23 25 32.5	+0.2
XAN					pmax	pmax		
	comp=Z,7.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**37.23**	**315**	*e*P		**P**	**23 25 07.5**	**+3.4**
HHC					pmax	pmax		
	comp=Z,22nm,0.6s							
HHC					pmax	pmax		
	comp=Z,65nm,4.7s							
KNRA	**Kununurra**	**37.45**	**208**	P		**P**	**23 25 06.0**	**0.0**
KNRA					IAmb	IAmb	23 25 07.7	
	comp=Z,35nm,0.8s							
KNRA	**Kununurra**	**37.45**	**208**	P		**P**	**23 25 06.3**	**+0.3**
	comp=Z,46nm,0.8s							
CTAO	**Charters Tower**	**37.83**	**179**	P		**P**	**23 25 08.7**	**-0.5**
CTAO					IAmb	IAmb	23 25 10.0	
	comp=Z,13nm,0.8s							
CTAO	**Charters Tower**	**37.83**	**179**	P		**P**	**23 25 08.5**	**-0.6**
BTO	**Baotou**	**38.17**	**314**	*e*P		**P**	**23 25 14.0**	**+2.0**
BTO				pP		**pP**	**23 25 45.3**	**-0.1**
BTO				sP		**sP**	**23 26 01.5**	**-1.6**
BTO				PP		**PnPn**	**23 26 49.5**	**+3.4**
BTO					pmax	pmax		
	comp=Z,19nm,0.9s							
BTO					pmax	pmax		
	comp=Z,230nm,8.7s							
PLAI	**Plampang**	**38.46**	**228**	P		**P**	**23 25 15.6**	**+1.1**
PLAI	**Plampang**	**38.46**	**228**	P		**P**	**23 25 14.6**	**+0.1**

comp=Z,17nm,0.8s,baz=281,slow=5.2,SNR=7.6
comp=Z,13nm,0.5s
DZM Mont Dzumac 44.60 152 P **P** **23 26 04.6 +0.2**
DZM Mont Dzumac 44.60 152 P **P** **23 26 04.7 +0.2**
ADK Adak 44.84 32 P **P** **23 26 07.7 +1.8**
GTA Gaotai 45.12 308 *eP* **P** **23 26 10.0 +1.4**
GTA pmax pmax
comp=Z,4.0nm,1.4s
GSTR Great Sitkin T 45.28 32 P **P** **23 26 10.4 +1.0**
PINNC Pines Island, 45.52 152 P **P** **23 26 11.9 +0.3**
PINNC IAmb IAmb 23 26 32.9
comp=Z,54nm,1.3s
IPM Ipoh 45.85 259 P **P** **23 26 16.5 +2.0**
IPM IAmb IAmb 23 26 17.7
comp=Z,38nm,1.3s
IPM Ipoh 45.85 259 P **P** **23 26 16.2 +1.7**
SRIT Nakonsritamara 45.88 265 P **P** **23 26 16.5 +1.8**
KULM Kulim 45.92 260 P **P** **23 26 17.5 +2.5**
KULM Kulim 45.92 260 P **P** **23 26 16.8 +1.8**
WRKA Warakurna 46.05 202 P **P** **23 26 16.0 +0.2**
comp=Z,44nm,0.8s
ATKA Atka Island 46.30 33 P **P** **23 26 17.3 0.0**
ATKA IAmb IAmb 23 26 20.1
comp=Z,16nm,0.7s
MBWA Marble Bar 46.57 214 P **P** **23 26 19.9 0.0**
MBWA Marble Bar 46.57 214 P **P** **23 26 20.5 +0.7**
comp=Z,67nm,1.0s
MBWA Marble Bar 46.57 214 P **P** **23 26 20.4 +0.5**
MBWA Marble Bar 46.57 214 P **P** **23 26 20.6 +0.7**
PSA00 Pilbara Seismi 46.85 214 P **P** **23 26 21.6 -0.4**
PSA00 IAmb IAmb 23 26 23.6
comp=Z,45nm,1.0s
PSA00 Pilbara Seismi 46.85 214 P **P** **23 26 21.6 -0.4**
PSA00 IAmb IAmb 23 26 23.6
comp=Z,34nm,1.1s
PSA00 Pilbara Seismi 46.85 214 P **P** **23 26 22.7 +0.7**
comp=Z,65nm,1.1s
PSA00 Pilbara Seismi 46.85 214 P **P** **23 26 22.6 +0.6**
KASI Kota Agung 47.03 244 P **P** **23 26 23.2 -0.4**
comp=Z,48nm,0.9s
DGTI Dogotuki 47.66 134 P **P** **23 26 29.0 +0.6**
KSI Kapahiang 47.77 248 P **P** **23 26 31.0 +1.6**
GOMU GeErMu 48.38 303 P **P** **23 26 35.0 +0.8**
GOMU pmax pmax
comp=Z,4.0nm,0.8s
PSI Prapat 48.41 257 P **P** **23 26 36.2 +1.8**
ARMA Armidale 48.43 173 P **P** **23 26 33.3 -0.8**
ARMA IAmb IAmb 23 26 34.6
comp=Z,11nm,0.6s
ARMA Armidale 48.43 173 P **P** **23 26 33.9 -0.3**
comp=Z,16nm,1.0s
RPSI Rantau Prapat 48.45 257 P **P** **23 26 35.5 +1.0**
RPSI IAmb IAmb 23 26 38.0
comp=Z,24nm,1.0s
MNSI Mandailing Nat 48.56 255 P **P** **23 26 37.5 +2.1**
comp=Z,71nm,0.7s
CMSA Cobar Meteorol 49.23 180 P **P** **23 26 39.7 -0.4**
comp=Z,12nm,1.2s
CMSA Cobar Meteorol 49.23 180 P **P** **23 26 40.0 -0.1**
NIKH Nikolski High 49.51 34 P **P** **23 26 42.8 +0.8**
NIKH IAmb IAmb 23 27 08.1
comp=Z,50nm,1.2s
NIKH Nikolski High 49.51 34 P **P** **23 26 43.9 +1.9**
baz=243
STKA Stephens Creek 49.73 185 P **P** **23 26 43.4 -0.6**
STKA Stephens Creek 49.73 185 P **P** **23 26 43.2 -0.7**
comp=Z,53nm,2.1s
STKA Stephens Creek 49.73 185 P **P** **23 26 43.3 -0.6**
comp=Z,5.9nm,0.4s,baz=4.2,slow=12,SNR=24
comp=Z,5.9nm,0.4s
STKA Stephens Creek 49.73 185 P **P** **23 26 43.7 -0.2**
GSI Gunungsitoli 50.21 256 P **P** **23 26 48.8 +0.9**
GSI Gunungsitoli 50.21 256 P **P** **23 26 49.7 +1.8**
GSI Gunungsitoli 50.21 256 P **P** **23 26 49.5 +1.6**
comp=Z,87nm,0.8s
GIRL Giralia 50.86 219 P **P** **23 26 54.5 +2.0**
SPIA Saint Paul Isl 50.88 29 P **P** **23 26 54.3 +2.0**
baz=238
P08K Saint George I 50.91 30 P **P** **23 26 54.3 +1.8**
baz=239
UNV Unalaska Valle 51.16 34 P **P** **23 26 55.1 +0.7**
UNV IAmb IAmb 23 27 04.2
comp=Z,30nm,1.4s
UNV Unalaska Valle 51.16 34 P **P** **23 26 55.9 +1.6**
baz=244
BBOO Buckleboo 51.36 191 P **P** **23 26 56.0 -0.1**
BBOO IAmb IAmb 23 26 58.0
comp=Z,24nm,0.8s
BBOO Buckleboo 51.36 191 P **P** **23 26 56.0 -0.1**
comp=Z,28nm,0.8s
BBOO Buckleboo 51.36 191 P **P** **23 26 56.3 +0.2**
PTPS Port Pirie 51.41 188 P **P** **23 26 55.1 -1.3**
LVA Lava Point 51.54 34 P **P** **23 26 58.1 +0.8**
HTT Hallett 51.54 187 P **P** **23 26 57.6 +0.1**
comp=Z,6.6nm,0.9s
HTT Hallett 51.54 187 P **P** **23 26 57.9 +0.4**
MEEK Meekatharra 51.65 212 P **P** **23 26 58.4 0.0**
comp=Z,26nm,1.0s
MEEK Meekatharra 51.65 212 P **P** **23 26 58.7 +0.3**
AKUT Akutan 51.67 34 P **P** **23 26 58.5 +0.3**
BILL Bilibino 51.70 10 P **P** **23 26 59.2 +1.0**
BILL Bilibino 51.70 10 P **P** **23 26 58.9 +0.7**
YNG Young 52.03 177 P **P** **23 27 01.3 +0.2**
comp=Z,26nm,0.8s
CAN Canberra 53.08 177 P **P** **23 27 09.3 +0.4**
CAN IAmb IAmb 23 27 31.8
comp=Z,36nm,1.4s
FALS False Pass 53.22 34 P **P** **23 27 10.9 +1.4**
baz=247
GAMB Gambell 54.06 22 P **P** **23 27 17.0 +1.5**
baz=232
S12K Black Hills 54.26 33 P **P** **23 27 17.8 +0.6**
S12K IAmb IAmb 23 27 19.1
comp=Z,20nm,0.8s
S12K Black Hills 54.26 33 P **P** **23 27 18.1 +0.9**
baz=248
M11K Mekoryuk 54.34 27 P **P** **23 27 18.8 +1.2**
baz=240
ARPS Mount Arapiles 54.58 184 P **P** **23 27 19.6 0.0**
comp=Z,15nm,1.0s
WMQ Urumqi 54.91 311 *eP* **P** **23 27 24.3 +2.1**
WMQ pmax pmax
comp=Z,21nm,0.9s
MORW Morawa 54.93 212 P **P** **23 27 22.8 +0.5**
comp=Z,46nm,0.9s
MORW Morawa 54.93 212 P **P** **23 27 22.8 +0.5**
SDPT Sand Point 54.97 34 P **P** **23 27 23.6 +1.4**
SDPT IAmb IAmb 23 27 32.5
comp=Z,27nm,0.9s
SDPT Sand Point 54.97 34 P **P** **23 27 23.4 +1.2**
baz=249
TOO Toolangi 55.25 180 P **P** **23 27 24.4 0.0**
CNBA Chernabura Isl 55.27 35 P **P** **23 27 25.5 +1.1**
CNBA IAmb IAmb 23 27 26.3
comp=Z,13nm,1.0s
CHNA Chernabura Isl 55.27 35 P **P** **23 27 25.8 +1.4**
baz=250
M13K Dall Lake 55.60 28 P **P** **23 27 28.8 +2.2**
M13K Dall Lake 55.60 28 P **P** **23 27 28.2 +1.6**
baz=243,SNR=7.9
K13K Kusilvak Mount 55.75 26 P **P** **23 27 29.3 +1.6**
K13K Kusilvak Mount 55.75 26 P **P** **23 27 29.3 +1.6**
baz=241,SNR=11
S14K Fog Glacier 55.79 33 P **P** **23 27 29.4 +1.2**
baz=250
BLDU Ballidu 55.87 211 P **P** **23 27 29.1 +0.2**
comp=Z,47nm,0.9s
BLDU Ballidu 55.87 211 P **P** **23 27 29.2 +0.2**
O14K Tigyukauivet M 56.06 30 P **P** **23 27 31.3 +1.4**
O14K IAmb IAmb 23 27 32.1
comp=Z,8.0nm,0.7s
O14K Tigyukauivet M 56.06 30 P **P** **23 27 31.0 +1.1**
baz=246
N14K Kuskokwak Cree 56.14 29 P **P** **23 27 31.9 +1.4**
baz=245,SNR=7.4
KLBR Kellerberrin 56.19 209 P **P** **23 27 31.3 0.0**
comp=Z,38nm,0.8s
L14K Kuka Creek 56.31 27 P **P** **23 27 33.1 +1.5**
baz=243
M14K Bethel 56.37 28 P **P** **23 27 33.9 +1.8**
baz=244,SNR=11
CHGN Chignik 56.39 34 IAmb IAmb 23 27 34.2
comp=Z,31nm,1.4s
CHGN Chignik 56.39 34 P **P** **23 27 33.9 +1.6**
baz=251
TNA Tin City 56.43 21 P **P** **23 27 34.2 +1.8**
baz=235
J14K Nanvaranak Lak 56.59 25 P **P** **23 27 35.0 +1.3**
J14K IAmb IAmb 23 27 36.3
comp=Z,19nm,1.0s
J14K Nanvaranak Lak 56.59 25 P **P** **23 27 35.2 +1.5**
baz=242
O15K Ungalikthiuk R 56.71 30 P **P** **23 27 36.0 +1.5**
baz=248,SNR=24
ANM Nome 56.80 23 P **P** **23 27 36.3 +1.2**
ANM IAmb IAmb 23 27 43.4
comp=Z,24nm,1.0s
M15K Kasigluk River 56.91 28 P **P** **23 27 37.2 +1.3**
baz=246,SNR=7.1
F14K Arctic Creek 56.93 22 P **P** **23 27 37.6 +1.5**
baz=237
N15K Kwethluk River 56.97 29 P **P** **23 27 37.9 +1.5**
baz=247,SNR=18
L15K Unqalak Mounta 56.97 27 P **P** **23 27 37.4 +1.0**
baz=244,SNR=6.7
K15K Wolf Creek Mou 57.22 26 P **P** **23 27 39.7 +1.5**
K15K IAmb IAmb 23 27 40.7
comp=Z,22nm,1.2s
K15K Wolf Creek Mou 57.22 26 P **P** **23 27 39.6 +1.5**
baz=244,SNR=8.1
MUN Mundaring 57.23 210 P **P** **23 27 38.9 +0.3**
comp=Z,33nm,0.7s
MUN Mundaring 57.23 210 P **P** **23 27 39.1 +0.5**
ZSN Zaisan 57.43 315 *eP* **P** **23 27 39.4 -0.5**
G15K Niukluk 57.51 23 P **P** **23 27 41.2 +1.2**
baz=240
P16K Nushagak River 57.53 31 P **P** **23 27 42.3 +1.9**
P16K Nushagak River 57.53 31 P **P** **23 27 42.0 +1.6**
baz=249
NWAO Narrogin (SRO) 57.55 209 P **P** **23 27 41.5 +0.8**
NWAO IAmb IAmb 23 27 41.8
comp=Z,20nm,0.8s
NWAO Narrogin (SRO) 57.55 209 P **P** **23 27 41.0 +0.3**
F15K North Star Dit 57.65 22 P **P** **23 27 42.6 +1.5**
F15K IAmb IAmb 23 27 43.3
comp=Z,24nm,1.2s
F15K North Star Dit 57.65 22 P **P** **23 27 42.4 +1.4**
baz=239
O16K Kokwok River B 57.69 30 P **P** **23 27 42.9 +1.4**
O16K IAmb IAmb 23 27 43.7
comp=Z,13nm,0.9s
O16K Kokwok River B 57.69 30 P **P** **23 27 42.8 +1.4**
baz=249,SNR=10
N16K Nishlik Lake 57.69 29 P **P** **23 27 42.9 +1.5**
baz=248
CHIR Chirikof Islan 57.73 35 P **P** **23 27 43.3 +1.5**
M16K Timber Creek 57.82 28 P **P** **23 27 43.6 +1.3**
M16K IAmb IAmb 23 27 44.6
comp=Z,13nm,0.7s
M16K Timber Creek 57.82 28 P **P** **23 27 43.6 +1.3**
baz=247,SNR=10
R17L Mt. Peulik Vol 57.88 32 P **P** **23 27 43.3 +0.5**
baz=252
PLK4 Peulik 4 57.88 32 P **P** **23 27 43.8 +0.8**
PLK4 IAmb IAmb 23 27 44.1
comp=Z,16nm,0.8s
H16K Elim 58.01 24 P **P** **23 27 44.9 +1.3**
baz=242
J16K Anvik River 58.04 25 IAmb IAmb 23 27 46.1
comp=Z,14nm,0.6s
J16K Anvik River 58.04 25 P **P** **23 27 45.4 +1.6**
baz=244,SNR=9.3
O17K Koliganek Bris 58.22 30 P **P** **23 27 46.7 +1.6**
baz=250,SNR=18
I17K Unalakleet 58.27 25 P **P** **23 27 47.0 +1.7**
I17K Unalakleet 58.27 25 P **P** **23 27 47.1 +1.7**
baz=244
Q17K Contact Creek 58.32 32 P **P** **23 27 46.9 +0.9**
baz=252
G16K Koyuk River 58.32 23 P **P** **23 27 46.8 +1.0**
G16K IAmb IAmb 23 28 03.3
comp=Z,20nm,1.4s
G16K Koyuk River 58.32 23 P **P** **23 27 46.7 +1.0**
baz=241
P17K Kvichak River 58.34 31 P **P** **23 27 46.5 +0.6**
baz=251
N17K Nushagak Hills 58.44 29 IAmb IAmb 23 27 49.4
comp=Z,18nm,0.7s
N17K Nushagak Hills 58.44 29 P **P** **23 27 48.4 +1.7**
baz=249,SNR=19
RAO Raoul Island 58.53 143 P **P** **23 27 48.3 +0.6**
RAO Raoul Island 58.53 143 P **P** **23 27 48.4 +0.7**
comp=Z,249nm,0.3s,baz=294,slow=19,SNR=2.4
L17K Donlin 58.54 27 P **P** **23 27 49.2 +1.9**
baz=247,SNR=10
M17K Holitna River 58.64 28 IAmb IAmb 23 27 50.9
comp=Z,21nm,1.0s
M17K Holitna River 58.64 28 P **P** **23 27 49.7 +1.7**
baz=249,SNR=12
ZAA0 Zalesovo Array 58.69 323 P **P** **23 27 47.2 -1.2**
ZALV Zalesovo Beam 58.69 323 P **P** **23 27 47.1 -1.4**
ZALV Zalesovo Beam 58.69 323 P **P** **23 27 46.9 -1.6**
comp=Z,4.4nm,0.6s,baz=103,slow=7.0,SNR=21
comp=Z,4.4nm,0.6s
J17K VABM Dome 58.71 26 IAmb IAmb 23 27 51.2
comp=Z,24nm,1.3s
J17K VABM Dome 58.71 26 P **P** **23 27 50.3 +1.8**
baz=246,SNR=6.4
SII Sitkinak Islan 58.71 34 P **P** **23 27 50.1 +1.5**
SII Sitkinak Islan 58.71 34 P **P** **23 27 49.7 +1.1**
baz=254
K17K Iditarod 58.76 26 P **P** **23 27 50.5 +1.7**
K17K Iditarod 58.76 26 P **P** **23 27 50.6 +1.7**
baz=247,SNR=14
C16K Lisburne Hills 58.79 19 P **P** **23 27 50.0 +1.1**
C16K IAmb IAmb 23 27 50.9
comp=Z,26nm,0.9s
C16K Lisburne Hills 58.79 19 P **P** **23 27 50.0 +1.1**
baz=237
R18K Karluk 58.84 33 P **P** **23 27 50.2 +0.7**
baz=254
Q18K Katmai Hardscr 58.88 32 P **P** **23 27 49.7 -0.1**
baz=252,SNR=11
P18K Big Mountain, 58.99 31 P **P** **23 27 50.6 +0.1**
P18K Big Mountain, 58.99 31 P **P** **23 27 51.5 +0.9**
baz=252
G17K Kiwalik Mounta 59.00 23 P **P** **23 27 51.7 +1.3**
baz=243,SNR=8.6
H17K Granite Mounta 59.03 24 IAmb IAmb 23 27 53.1
comp=Z,18nm,0.8s
H17K Granite Mounta 59.03 24 P **P** **23 27 52.1 +1.5**
baz=244,SNR=10.0
OUZ Omahuta 59.08 154 P **P** **23 27 54.1 +2.8**
MKAR Makanchi Array 59.09 314 P **P** **23 27 51.0 -0.5**
comp=Z,2.6nm,0.4s,baz=89,slow=8.3,SNR=40
MKAR PcP **PcP** **23 28 38.1 -0.4**
comp=Z,1.2nm,0.4s,baz=87,slow=4.3,SNR=4.3
MKAR PKPPKP **P'P'df** **23 57 21.5 -2.9**
comp=Z,0.9nm,0.9s,baz=255,slow=2.8,SNR=4.8
MKAR PKP2bc 23 57 28.6
comp=Z,0.8nm,0.9s,baz=270,slow=1.3,SNR=4.4
comp=Z,2.6nm,0.4s
N18K Kilae Creek 59.10 29 IAmb IAmb 23 27 53.7
comp=Z,14nm,0.7s
N18K Kilae Creek 59.10 29 P **P** **23 27 52.8 +1.6**
baz=250,SNR=15
O18K Koktuh Hills 59.15 30 P **P** **23 27 53.0 +1.4**
baz=252,SNR=9.9
D17K Noatak River 59.21 20 P **P** **23 27 53.1 +1.3**
baz=239
F17K Baldwin Pennin 59.22 22 P **P** **23 27 53.4 +1.4**
F17K Baldwin Pennin 59.22 22 P **P** **23 27 53.3 +1.4**
baz=242
L18K Granite Mounta 59.27 27 IAmb IAmb 23 27 55.1
comp=Z,23nm,1.3s
L18K Granite Mounta 59.27 27 P **P** **23 27 54.0 +1.7**
baz=249,SNR=10.0
MAKZ Makanchi 59.30 314 P **P** **23 27 53.0 +0.1**
MAKZ IAmb IAmb 23 27 54.1
comp=Z,6.2nm,0.5s
MAKZ Makanchi 59.30 314 P **P** **23 27 52.8 -0.1**
E17K Hotham Inlet 59.33 21 P **P** **23 27 54.2 +1.6**
baz=241
OHAK Old Harbor 59.36 34 IAmb IAmb 23 27 55.1
comp=Z,19nm,0.9s
OHAK Old Harbor 59.36 34 P **P** **23 27 54.5 +1.5**
OHAK Old Harbor 59.36 34 P **P** **23 27 54.3 +1.3**
baz=255,SNR=7.0
M18K Stony River 59.40 28 P **P** **23 27 54.9 +1.7**
baz=250,SNR=15
RDOG Red Dog Mine 59.45 20 P **P** **23 27 54.9 +1.5**
baz=239
C17K DeLong Mountai 59.58 19 P **P** **23 27 55.7 +1.4**
baz=239
Q19K Cape Douglas, 59.64 32 P **P** **23 27 55.1 +0.1**
Q19K Cape Douglas, 59.64 32 P **P** **23 27 54.9 -0.1**
baz=254
J18K Innoko River 59.72 26 P **P** **23 27 56.3 +0.9**
baz=248,SNR=6.2
H18K Honhosa River 59.72 24 IAmb IAmb 23 27 56.9
comp=Z,12nm,0.6s
H18K Honhosa River 59.72 24 P **P** **23 27 56.5 +1.1**
baz=246,SNR=7.5
N19K Bonanza Creek 59.79 29 P **P** **23 27 57.7 +1.6**
baz=252,SNR=22
F18K Selawik 59.86 22 P **P** **23 27 57.2 +0.9**
baz=244
KDAK Kodiak Island 59.87 33 P **P** **23 27 57.8 +1.3**
KDAK IAmb IAmb 23 27 58.5
comp=Z,15nm,0.9s
KDAK Kodiak Island 59.87 33 LR LR 23 50 16.1
comp=Z,35nm,21.2s,baz=236,slow=32
KDAK Kodiak Island 59.87 33 P **P** **23 27 57.4 +0.9**
baz=255
KDAK Kodiak Island 59.87 33 P **P** **23 27 57.0 +0.5**
E18K Tukpahlearik C 59.91 21 IAmb IAmb 23 27 59.0
comp=Z,12nm,0.8s
E18K Tukpahlearik C 59.91 21 P **P** **23 27 57.9 +1.3**
baz=242,SNR=6.1
G18K Tagagawik 59.92 23 IAmb IAmb 23 27 58.7
comp=Z,24nm,1.2s
G18K Tagagawik 59.92 23 P **P** **23 27 57.7 +0.9**
baz=245,SNR=11
WCZ Waipu Caves 60.01 153 P **P** **23 27 59.3 +1.6**
P19K Oil Pt 60.05 31 P **P** **23 27 58.3 +0.5**
baz=254,SNR=11
L19K White Mountain 60.06 28 IAmb IAmb 23 28 00.2
comp=Z,11nm,1.1s
L19K White Mountain 60.06 28 P **P** **23 27 59.1 +1.3**
baz=251,SNR=8.4
GCSA Galena City Sc 60.13 25 P **P** **23 27 59.4 +1.3**
baz=247
Q20K Shuyak Island 60.18 32 P **P** **23 27 59.3 +0.7**
baz=255
M19K Big River Lodg 60.18 28 P **P** **23 27 59.8 +1.2**
baz=251
C18K Utukok River 60.30 20 P **P** **23 28 00.2 +0.9**
C18K IAmb IAmb 23 28 01.0
comp=Z,16nm,1.1s
C18K Utukok River 60.30 20 P **P** **23 28 00.3 +0.9**
baz=241
J19K Poorman 60.36 26 P **P** **23 28 01.0 +1.3**
J19K IAmb IAmb 23 28 02.0
comp=Z,18nm,1.2s
J19K Poorman 60.36 26 P **P** **23 28 01.1 +1.3**
baz=249,SNR=17
O20K Slope Mountain 60.46 30 P **P** **23 28 01.9 +1.3**
baz=254
B18K Kokolib River 60.46 19 P **P** **23 28 02.0 +1.6**
baz=240
RED Redoubt Volcan 60.48 30 P **P** **23 28 00.8 0.0**
L20K Farewell, AK 60.59 28 P **P** **23 28 02.9 +1.5**
baz=251,SNR=8.1
H19K Roundabout Mou 60.60 24 IAmb IAmb 23 28 04.7
comp=Z,24nm,1.4s
H19K Roundabout Mou 60.60 24 P **P** **23 28 02.7 +1.4**
baz=247,SNR=12
G19K Purcell Mounta 60.61 23 IAmb IAmb 23 28 03.4
comp=Z,17nm,0.9s
G19K Purcell Mounta 60.61 23 P **P** **23 28 02.3 +0.9**
baz=246,SNR=12
F19K Shaleruckik Mo 60.64 22 P **P** **23 28 02.1 +0.6**
baz=245
M20K Styx River 60.74 28 IAmb IAmb 23 28 05.1
comp=Z,10nm,0.7s
M20K Styx River 60.74 28 P **P** **23 28 03.9 +1.4**
baz=252,SNR=12
K20K Telida 60.79 27 IAmb IAmb 23 28 05.4
comp=Z,13nm,0.7s
K20K Telida 60.79 27 P **P** **23 28 04.3 +1.6**
baz=251,SNR=20
SHLS Shalkode 60.81 310 *eP* **P** **23 28 00.7 -2.7**
N20K Mount Spurr 60.97 29 P **P** **23 28 05.4 +1.4**
baz=254
SPCR Spurr Chakacha 60.97 29 P **P** **23 28 05.4 +1.4**
baz=254
CNPM China Poot 60.99 31 P **P** **23 28 04.9 +0.8**
C19K Lookout Ridge 61.03 20 P **P** **23 28 05.7 +1.4**
baz=242,SNR=6.9
SPU Mount Spurr 61.03 29 P **P** **23 28 05.0 +0.5**
J20K Nowinta River 61.03 26 IAmb IAmb 23 28 06.6
comp=Z,13nm,0.5s
J20K Nowinta River 61.03 26 P **P** **23 28 06.0 +1.7**
baz=250,SNR=29
E19K Redstone River 61.09 22 IAmb IAmb 23 28 07.0
comp=Z,13nm,0.9s
E19K Redstone River 61.09 22 P **P** **23 28 06.1 +1.4**
baz=246,SNR=8.8
I20K Naaghedeneel 61.11 25 IAmb IAmb 23 28 07.4
comp=Z,26nm,1.0s
I20K Naaghedeneel 61.11 25 P **P** **23 28 06.5 +1.8**
baz=250
UZB Uzynbulak 61.13 310 *eP* **P** **23 28 05.0 -0.6**
H20K Anotleneega Mo 61.20 24 P **P** **23 28 06.7 +1.3**
baz=249,SNR=15
D19K Kuna River 61.23 20 IAmb IAmb 23 28 07.7
comp=Z,25nm,1.3s
D19K Kuna River 61.23 20 P **P** **23 28 06.7 +1.1**
baz=244,SNR=8.0
PPLA Purkeypile 61.46 27 IAmb IAmb 23 28 10.5
comp=Z,11nm,0.7s
PPLA Purkeypile 61.46 27 P **P** **23 28 08.6 +1.2**
baz=253,SNR=7.6
F20K Avaraart Lake 61.46 22 IAmb IAmb 23 28 09.5
comp=Z,20nm,1.2s
F20K Avaraart Lake 61.46 22 P **P** **23 28 08.6 +1.5**
baz=247,SNR=13
SKT Skwentna 61.49 28 IAmb IAmb 23 28 08.5
comp=Z,24nm,1.1s
SKT Skwentna 61.49 28 P **P** **23 28 07.8 +0.3**
baz=254,SNR=29
SATY Saty 61.58 310 *eP* **P** **23 28 08.0 -0.5**
comp=Z,9.3nm,1.3s
CAST Castle Rocks 61.66 27 P **P** **23 28 09.9 +1.4**
CAST Castle Rocks 61.66 27 P **P** **23 28 09.8 +1.2**
baz=253,SNR=57
CHUM Lake Minchumin 61.70 26 P **P** **23 28 10.1 +1.3**
baz=252,SNR=7.1
SUA Susitna One 61.72 29 IAmb IAmb 23 28 11.3
comp=Z,13nm,0.6s
SUA Susitna One 61.72 29 P **P** **23 28 09.4 +0.3**
baz=255,SNR=12
SLKM Skilak Lake 61.73 30 IAmb IAmb 23 28 10.0
comp=Z,12nm,0.6s
E20K Nigu River 61.78 21 P **P** **23 28 10.8 +1.4**
baz=246,SNR=22
IMAR Indian Mountai 61.81 24 P **P** **23 28 10.4 +0.9**
D20K Etivluk River 61.82 20 P **P** **23 28 10.8 +1.2**
baz=246,SNR=31
KURK Kurchatov 61.92 318 P **P** **23 28 10.4 0.0**
KURK IAmb IAmb 23 28 11.0
comp=Z,9.7nm,0.5s
KURK Kurchatov 61.92 318 P **P** **23 28 09.7 -0.8**
O22K Cooper Landing 61.96 30 P **P** **23 28 11.2 +0.7**
baz=256
KURBB Kurchatov Arra 61.97 318 P **P** **23 28 09.9 -0.9**
comp=Z,14nm,0.4s,baz=96,slow=7.0,SNR=205
KURBB PKPPKP **P'P'df** **23 57 17.4 -2.1**
comp=Z,0.4nm,0.2s,baz=308,slow=4.5,SNR=1.9
KURBB PKP2bc 23 57 25.6
comp=Z,1.1nm,0.2s,baz=294,slow=3.9,SNR=4.3
comp=Z,14nm,0.4s
SEW Seward 62.00 31 P **P** **23 28 11.7 +0.9**
baz=257
TOZ Tahuroa Road 62.02 154 P **P** **23 28 12.0 +0.8**
TOZ IAmb IAmb 23 28 22.2
comp=Z,26nm,1.4s
H21K Melozitna River 62.07 24 IAmb IAmb 23 28 13.1
comp=Z,12nm,0.5s
H21K Melozitna River 62.07 24 P **P** **23 28 12.6 +1.3**
baz=251,SNR=18
M22K Willow 62.08 29 P **P** **23 28 11.4 +0.1**
M22K Willow 62.08 29 P **P** **23 28 11.9 +0.6**
baz=255
G21K Allakaket 62.09 23 IAmb IAmb 23 28 13.6
comp=Z,12nm,1.1s
G21K Allakaket 62.09 23 P **P** **23 28 12.7 +1.3**
baz=250,SNR=9.0
RC01 Rabbit Creek A 62.10 30 P **P** **23 28 12.0 +0.5**
baz=256,SNR=16
B20K Meade River 62.20 19 P **P** **23 28 13.4 +1.4**

baz=244,SNR=9.9
KTH Kantishna Hill 62.20 27 IAmb IAmb 23 28 13.9
comp=Z,31nm,1.1s
I21K Tanana 62.24 25 P P 23 28 13.3 +0.9
I21K Tanana 62.24 25 P P 23 28 13.8 +1.4
baz=252,SNR=5.9
BPAW Bear Paw Mtn. 62.33 26 P P 23 28 13.8 +0.8
BPAW IAmb IAmb 23 28 14.9
comp=Z,30nm,1.1s
BPAW Bear Paw Mtn. 62.33 26 P P 23 28 14.1 +1.1
baz=253,SNR=22
F21K Alatna River 62.34 23 P P 23 28 14.0 +1.0
baz=249,SNR=8.5
HIZ Hauiti 62.42 155 P P 23 28 15.7 +1.8
TRF Thorofare Moun 62.45 27 IAmb IAmb 23 28 15.2
comp=Z,23nm,1.0s
TRF Thorofare Moun 62.45 27 P P 23 28 14.4 +0.5
baz=254,SNR=15
KDJ Kajisay 62.47 309 IAmb IAmb 23 28 16.6
comp=Z,14nm,1.3s
PMR Palmer 62.50 29 IAmb IAmb 23 28 15.2
comp=Z,11nm,0.6s
PMR Palmer 62.50 29 P P 23 28 15.9 +1.8
PMR Palmer 62.50 29 P P 23 28 14.6 +0.5
baz=256
C21K Knifeblade Rid 62.61 20 P P 23 28 16.2 +1.4
baz=247,SNR=5.1
E21K Killik River 62.61 21 P P 23 28 15.8 +1.0
baz=248
AAA Alma-Ata 62.67 310 eP P 23 28 15.3 -0.5
comp=Z,4.9nm,0.4s
MLY Manley 62.70 25 P P 23 28 16.6 +1.1
baz=253,SNR=30
H22K Ishtalitna Cre 62.70 24 P P 23 28 16.6 +1.2
baz=252,SNR=11
PWL Port Wells 62.71 30 P P 23 28 16.3 +0.8
baz=258,SNR=14
KNK Knik Glacier 62.77 30 P P 23 28 16.7 +0.7
baz=257,SNR=9.0
B21K Ikpikpuk River 62.84 20 P P 23 28 17.3 +1.0
B21K IAmb IAmb 23 28 18.5
comp=Z,13nm,0.9s
B21K Ikpikpuk River 62.84 20 P P 23 28 17.6 +1.3
baz=247,SNR=6.3
F22K John River 62.91 22 P P 23 28 18.3 +1.5
baz=250
A21K Barrow 62.93 18 P P 23 28 17.8 +1.0
baz=244
G22K Bettles 62.97 23 P P 23 28 18.1 +1.0
baz=252
P23K Montague Islan 62.99 31 P P 23 28 18.4 +1.0
baz=259
BWN Browne 62.99 26 P P 23 28 19.3 +2.0
RND Reindeer 63.06 27 P P 23 28 18.1 +0.2
RND IAmb IAmb 23 28 19.1
comp=Z,9.9nm,0.7s
MCK McKinley 63.10 27 P P 23 28 19.2 +1.1
MCK McKinley 63.10 27 P P 23 28 19.4 +1.3
baz=256
MXZ Matakaoa Point 63.11 151 P P 23 28 17.2 -1.2
MXZ Matakaoa Point 63.11 151 P P 23 28 17.3 -1.1
URZ Urewera 63.16 153 P P 23 28 17.9 -0.8
comp=Z,9.4nm,0.6s,baz=320,slow=2.9,SNR=11
comp=Z,9.4nm,0.6s
URZ Urewera 63.16 153 P P 23 28 18.2 -0.5
RUGZ Raukumara Rang 63.16 152 P P 23 28 17.9 -1.0
M23K Glacier View 63.20 29 P P 23 28 19.4 +0.6
baz=258,SNR=11
D22K Ayikyak River 63.21 21 P P 23 28 20.5 +1.8
D22K Ayikyak River 63.21 21 P P 23 28 20.1 +1.4
baz=249,SNR=23
WTVZ West Tongariro 63.23 154 P P 23 28 20.1 +0.8
E22K Anaktuvuk Pass 63.25 22 IAmb IAmb 23 28 21.0
comp=Z,14nm,0.6s
E22K Anaktuvuk Pass 63.25 22 P P 23 28 20.6 +1.5
baz=251,SNR=22
NNVZ North Ngauruho 63.26 154 P P 23 28 19.9 +0.3
NEA2 Nenana 63.27 26 P P 23 28 19.3 +0.1
NEA2 Nenana 63.27 26 P P 23 28 20.2 +1.1
baz=255
A22K Sinclair Lake 63.28 18 P P 23 28 20.4 +1.3
baz=246
NGZ Ngauruhoe 63.29 154 P P 23 28 20.3 +0.6
I23K Minto, Yukon-K 63.29 25 P P 23 28 20.6 +1.3
baz=254,SNR=40
OTVZ Oturere 63.30 154 P P 23 28 18.1 -1.8
GLI Glacier Island 63.31 30 P P 23 28 20.3 +0.8
baz=259,SNR=9.3
SCM Sheep Creek Mo 63.39 29 P P 23 28 21.2 +1.1
baz=258,SNR=16
RTZ Ruatahuna 63.40 153 P P 23 28 19.8 -0.6
MWZ Matawai 63.40 153 P P 23 28 19.6 -0.8
H23K Yukon River 63.40 25 IAmb IAmb 23 28 21.9
comp=Z,7.7nm,0.7s
H23K Yukon River 63.40 25 P P 23 28 21.6 +1.5
baz=254,SNR=11
KSH Kashi 63.43 306 P P 23 28 23.5 +2.6
KSH PcP pP 23 28 57.8 +0.3
KSH pmax pmax
comp=Z,9.0nm,0.8s
G23K Bananza Creek 63.47 24 IAmb IAmb 23 28 22.4
comp=Z,7.5nm,0.7s
G23K Bananza Creek 63.47 24 P P 23 28 22.0 +1.5
baz=253,SNR=14
B22K Teshekpuk Lake 63.50 19 IAmb IAmb 23 28 22.5
comp=Z,15nm,0.8s
B22K Teshekpuk Lake 63.50 19 P P 23 28 21.5 +1.0
baz=248
QRZ Quartz Range 63.52 158 P P 23 28 21.4 +0.3
QRZ Quartz Range 63.52 158 P P 23 28 21.8 +0.7
MTHZ Maungataniwha 63.53 153 P P 23 28 20.8 -0.5
COLD Coldfoot 63.55 23 IAmb IAmb 23 28 22.9
comp=Z,7.5nm,0.6s
COLD Coldfoot 63.55 23 P P 23 28 22.4 +1.4
baz=253,SNR=5.5
WRH Wood River Hil 63.64 26 IAmb IAmb 23 28 22.5
comp=Z,20nm,1.3s
BKZ Black Stump Fm 63.65 154 P P 23 28 21.5 -0.5
BKZ Black Stump Fm 63.65 154 P P 23 28 22.5 +0.5
BKZ Black Stump Fm 63.65 154 P P 23 28 22.0 0.0
RAHZ Arahi 63.69 153 P P 23 28 22.8 +0.5
TKNZ Takaka Hill 63.86 157 P P 23 28 23.2 -0.2
EYAK Cordova Ski Ar 63.90 31 P P 23 28 24.1 +0.8
EYAK Cordova Ski Ar 63.90 31 P P 23 28 25.7 +2.4
EYAK Cordova Ski Ar 63.90 31 P P 23 28 24.5 +1.2
baz=260,SNR=8.4
D23K Nanushuk River 63.92 21 IAmb IAmb 23 28 26.2
comp=Z,23nm,1.1s
D23K Nanushuk River 63.92 21 P P 23 28 25.1 +1.7
baz=251,SNR=9.1
M24K Tolsona, Glenn 63.98 29 P P 23 28 25.4 +1.4
M24K IAmb IAmb 23 28 37.9
comp=Z,13nm,0.7s
M24K Tolsona, Glenn 63.98 29 P P 23 28 25.1 +1.1
baz=259
KLU Klutina 63.98 30 IAmb IAmb 23 28 26.1
comp=Z,14nm,0.7s
KLU Klutina 63.98 30 P P 23 28 25.3 +1.3
baz=259,SNR=13
DIV Divide 63.99 30 P P 23 28 25.4 +1.4
DIV IAmb IAmb 23 28 25.8
comp=Z,13nm,0.5s
E23K Chandalar 64.01 22 P P 23 28 25.8 +1.6
baz=253,SNR=28
KNZ Kokohu 64.03 153 P P 23 28 26.0 +1.6
H24K Noodor Dome 64.07 25 IAmb IAmb 23 28 26.0
comp=Z,7.2nm,0.6s
H24K Noodor Dome 64.07 25 P P 23 28 25.3 +0.9
baz=256,SNR=14
POKR Poker Plat Res 64.07 26 P P 23 28 24.6 +0.1
POKR Poker Plat Res 64.07 26 P P 23 28 24.2 -0.2
baz=256
DSZ Denniston Nort 64.08 159 P P 23 28 25.2 +0.4
MRNZ Matariki Terra 64.11 158 P P 23 28 24.5 -0.4
HDA Harding Lake 64.11 26 P P 23 28 24.4 -0.3
baz=257,SNR=9.5
PNHZ Pukenui 64.16 154 P P 23 28 24.5 -0.9
NNZ Nelson 64.18 157 P P 23 28 25.1 -0.3
TSZ Takapari Road 64.18 155 P P 23 28 24.7 -0.7
TOLK Toolik Lake Re 64.20 22 P P 23 28 26.2 +0.9
TOLK Toolik Lake Re 64.20 22 P P 23 28 26.4 +1.2
baz=253,SNR=18
IL31 64.22 26 IAmb IAmb 23 28 25.8
comp=Z,15nm,1.1s
ILAR Eielson Array 64.22 26 P P 23 28 25.1 -0.3
ILAR Eielson Array 64.22 26 P P 23 28 24.8 -0.6
comp=Z,6.6nm,0.6s,baz=257,slow=5.2,SNR=112
ILAR PcP PcP 23 28 57.5 -1.4
comp=Z,5.0nm,0.8s,baz=259,slow=5.7,SNR=9.6
ILAR LR LR 23 53 42.7
comp=Z,22nm,21.9s,baz=74,slow=33
comp=Z,6.6nm,0.6s
C23K Itkillik River 64.22 20 P P 23 28 26.7 +1.4
baz=251,SNR=13
SGDS Sogindy 64.34 310 eP P 23 28 26.0 -0.7
comp=Z,6.1nm,1.0s
RAGM Ragged Mountai 64.40 31 IAmb IAmb 23 28 29.8
comp=Z,29nm,1.2s
E24K Your Creek 64.42 22 IAmb IAmb 23 28 29.1
comp=Z,10nm,0.8s
E24K Your Creek 64.42 22 P P 23 28 28.2 +1.5
baz=256,SNR=16
G24K Hadweenzic Riv 64.44 24 IAmb IAmb 23 28 28.7
comp=Z,8.0nm,0.7s
G24K Hadweenzic Riv 64.44 24 P P 23 28 28.3 +1.5
baz=256,SNR=11
KAIM Kayak Island 64.45 32 P P 23 28 28.6 +1.6
KAIM Kayak Island 64.45 32 P P 23 28 28.5 +1.5
baz=262
PAX Paxson 64.46 28 IAmb IAmb 23 28 28.7
comp=Z,14nm,0.6s
PAX Paxson 64.46 28 P P 23 28 27.8 +0.7
baz=259,SNR=20
THZ Tophouse 64.48 158 P P 23 28 27.8 +0.4
F24K Squaw Lake 64.49 23 IAmb IAmb 23 28 29.8
comp=Z,9.1nm,0.5s
F24K Squaw Lake 64.49 23 P P 23 28 28.7 +1.5
baz=255,SNR=16
HARP HAARP 64.50 29 P P 23 28 28.3 +1.0
baz=260,SNR=5.6
TCW Tory Channel 64.51 157 P P 23 28 27.7 +0.2
BMRM Bremner River 64.52 30 IAmb IAmb 23 28 30.3
comp=Z,18nm,0.7s
BMRM Bremner River 64.52 30 P P 23 28 28.7 +1.2
baz=261,SNR=7.6
MRZ Mangatainoka R 64.54 155 IAmb IAmb 23 28 29.5
comp=Z,24nm,0.8s
MRZ Mangatainoka R 64.54 155 P P 23 28 27.2 -0.6
TUWZ Tuamarina 64.57 157 P P 23 28 28.2 +0.3
HMT Hamilton 64.59 31 P P 23 28 29.5 +1.6
D24K Happy Valley 64.61 21 P P 23 28 29.5 +1.6
baz=253,SNR=18
N25K Chitina, Valde 64.62 30 IAmb IAmb 23 28 30.4
comp=Z,11nm,0.8s
N25K Chitina, Valde 64.62 30 P P 23 28 29.4 +1.2
baz=261,SNR=10
BTLS Baital 64.74 312 eP P 23 28 28.5 -0.6
SNZO South Karori 64.75 156 P P 23 28 29.0 -0.1
SUCK Suckling Hills 64.79 31 P P 23 28 31.1 +1.9
C24K Franklin Bluff 64.82 21 IAmb IAmb 23 28 31.5
comp=Z,16nm,0.8s
C24K Franklin Bluff 64.82 21 P P 23 28 30.6 +1.4
baz=253,SNR=11
J25K Salcha River, 64.82 26 P P 23 28 29.0 -0.4
baz=258,SNR=14
BFZ Birch Farm 64.83 155 P P 23 28 29.4 -0.2
BFZ Birch Farm 64.83 155 P P 23 28 29.2 -0.4
BERG Berg Lake 64.88 31 P P 23 28 31.4 +1.6
BERG IAmb IAmb 23 28 36.3
comp=Z,22nm,1.0s
RIDG Independent Ri 64.88 27 IAmb IAmb 23 28 32.9
comp=Z,28nm,1.2s
RIDG Independent Ri 64.88 27 P P 23 28 30.4 +0.6
baz=255,SNR=18
BHW Baring Head 64.90 156 P P 23 28 29.8 -0.2
PRP Porcupine Dome 64.94 25 P P 23 28 30.5 +0.3
PRP Porcupine Dome 64.94 25 P P 23 28 31.1 +0.9
baz=258
CMWZ Cape Campbell 64.95 157 P P 23 28 30.0 -0.4
GLB Gilahina Butte 64.97 30 IAmb IAmb 23 28 32.5
comp=Z,30nm,1.2s
G25K Bearman Lake 64.98 24 P P 23 28 31.7 +1.4
baz=257,SNR=8.2
H25L Birch Creek 64.98 25 P P 23 28 31.8 +1.5
baz=257,SNR=5.7
VRDI Verde Repeater 65.11 30 P P 23 28 32.6 +1.1
VRDI IAmb IAmb 23 28 33.3
comp=Z,12nm,0.7s
LTZ Lake Taylor 65.16 159 P P 23 28 31.2 -0.6
PLWZ Palliser 65.19 156 P P 23 28 31.6 -0.3
CRQE Cirque 65.22 31 P P 23 28 33.2 +1.1
baz=262,SNR=9.0
SCRK Sand Creek 65.30 27 IAmb IAmb 23 28 34.1
comp=Z,14nm,1.1s
SCRK Sand Creek 65.30 27 P P 23 28 32.9 +0.4
baz=260,SNR=13
WAX Waxell Ridge 65.30 31 P P 23 28 34.0 +1.4
WAX IAmb IAmb 23 28 34.8
comp=Z,14nm,0.7s
MCARA McCarthy VSAT 65.34 30 IAmb IAmb 23 28 34.8
comp=Z,19nm,0.8s
MCARA McCarthy VSAT 65.34 30 P P 23 28 33.8 +1.1
baz=262,SNR=7.5
F25K Christian Rive 65.35 23 IAmb IAmb 23 28 35.0
comp=Z,12nm,0.6s
F25K Christian Rive 65.35 23 P P 23 28 34.4 +1.6
baz=257,SNR=27
L26K Log Cabin Wild 65.43 28 P P 23 28 34.7 +1.4
baz=261,SNR=6.4
M26K Nabesna, AK 65.49 29 P P 23 28 34.7 +1.0
baz=262
D25K Kavik River 65.50 21 P P 23 28 34.9 +1.2
baz=255,SNR=27
J26L Joseph Creek 65.57 27 IAmb IAmb 23 28 35.8
comp=Z,33nm,1.4s
J26L Joseph Creek 65.57 27 P P 23 28 34.8 +0.6
baz=260,SNR=28
ISLE Juniper Island 65.57 31 P P 23 28 34.7 +0.3
ISLE IAmb IAmb 23 28 42.1
comp=Z,10nm,0.6s
RPZ Rata Peaks 65.58 160 P P 23 28 33.4 -1.0
RPZ Rata Peaks 65.58 160 P P 23 28 33.2 -1.2
comp=Z,30nm,0.9s,baz=333,slow=6.3,SNR=7.5
comp=Z,30nm,0.9s
GVZ Greta Valley S 65.58 158 P P 23 28 33.2 -1.3
ARSB Arslanbob 65.63 308 IAmb IAmb 23 28 36.2
comp=Z,10nm,1.0s
BMAR Burnt Mountain 65.71 23 P P 23 28 36.8 +1.7
MESA MESA 65.72 31 P P 23 28 37.0 +1.7
MESA MESA 65.72 31 P P 23 28 36.3 +0.9
baz=264
YAH Yahtse 65.84 31 IAmb IAmb 23 28 38.5
comp=Z,16nm,0.6s
I26K Coal Creek Min 65.88 26 P P 23 28 36.5 +0.5
baz=260
LBZ Lake Benmore 65.91 161 P P 23 28 35.6 -0.9
G26K Porcupine Rive 65.92 24 IAmb IAmb 23 28 38.4
comp=Z,12nm,0.6s
G26K Porcupine Rive 65.92 24 P P 23 28 38.0 +1.8
baz=259,SNR=20
F26K Sheenjek River 65.93 23 IAmb IAmb 23 28 39.1
comp=Z,14nm,0.7s
F26K Sheenjek River 65.93 23 P P 23 28 38.2 +1.7
baz=258,SNR=26
BARN Barnard Glacie 65.95 31 P P 23 28 38.1 +1.2
BARN IAmb IAmb 23 28 38.9
comp=Z,12nm,0.6s
M27K Edge Creek, AK 66.00 29 P P 23 28 38.1 +1.0
baz=263,SNR=6.0
DCZ Deep Cove 66.03 164 P P 23 28 37.1 -0.1
CTG Chitna Glacier 66.10 31 P P 23 28 39.1 +1.3
baz=264,SNR=6.8
CTGM Chitina Glacie 66.10 31 IAmb IAmb 23 28 40.5
comp=Z,15nm,0.6s
MQZ McQueen's Vall 66.10 159 P P 23 28 37.7 0.0
L27K Beaver Creek, 66.12 28 IAmb IAmb 23 28 39.2
comp=Z,6.6nm,0.6s
L27K Beaver Creek, 66.12 28 P P 23 28 38.9 +1.2
baz=262,SNR=9.9
BCAR Beaver Creek A 66.14 28 P P 23 28 38.4 +0.6
K27K Chicken 66.14 27 P P 23 28 39.0 +1.2
baz=262
C26K Camden Bay 66.14 21 P P 23 28 39.8 +2.2
baz=257,SNR=9.3
MLZ Mavora Lakes 66.20 163 P P 23 28 37.9 -0.5
MLZ IAmb IAmb 23 28 38.5
comp=Z,22nm,0.9s
LOGN Logan Glacier 66.25 31 IAmb IAmb 23 28 40.9
comp=Z,16nm,0.7s
C27K Jago River 66.48 21 IAmb IAmb 23 28 42.3
comp=Z,13nm,1.1s
C27K Jago River 66.48 21 P P 23 28 41.5 +1.6
baz=258,SNR=9.8
PCA Pinnacle 66.55 32 P P 23 28 41.7 +1.1
PCA IAmb IAmb 23 28 42.6
comp=Z,20nm,0.8s
PINM Pinnacle 66.55 32 P P 23 28 41.3 +0.8
baz=265
I27K Kandik River 66.56 26 P P 23 28 41.5 +1.0
baz=262,SNR=6.8
YUK3 Moose Creek 66.60 30 P P 23 28 42.3 +1.3
baz=264,SNR=7.6
WHZ Wether Hill Ro 66.64 163 P P 23 28 40.7 -0.4
WHZ IAmb IAmb 23 28 41.0
comp=Z,26nm,0.9s
O28M Mount Upton 66.64 31 P P 23 28 42.6 +1.2
baz=265,SNR=12
ODZ Otahua Downs 66.65 161 P P 23 28 40.6 -0.6
H27K Steamboat Moun 66.69 25 IAmb IAmb 23 28 44.3
comp=Z,17nm,1.1s
H27K Steamboat Moun 66.69 25 P P 23 28 42.8 +1.5
baz=261,SNR=25
G27K Doyon Strip 66.72 24 P P 23 28 42.8 +1.3
baz=261,SNR=6.0
YUK8 Steele Glacier 66.89 30 P P 23 28 44.3 +1.3
baz=265
PNL Peninsula 66.95 32 P P 23 28 44.3 +1.3
baz=266
E27K Coleen River 66.97 23 IAmb IAmb 23 29 12.4
comp=Z,10nm,0.8s
E27K Coleen River 66.97 23 P P 23 28 44.3 +1.3
baz=260,SNR=12
BVAR Borovoye Array 67.14 321 P P 23 28 43.4 -0.9
comp=Z,12nm,0.4s,baz=93,slow=7.5,SNR=57
comp=Z,12nm,0.4s
BRVK Borovoye 67.20 321 P P 23 28 44.7 0.0
BRVK IAmb IAmb 23 28 46.2
comp=Z,9.5nm,0.7s
I28M Miner Creek 67.23 26 IAmb IAmb 23 29 13.7
comp=Z,11nm,0.8s
I28M Miner Creek 67.23 26 P P 23 28 45.8 +0.9
baz=263,SNR=13
DAWY Dawson 67.31 27 IAmb IAmb 23 29 14.0
comp=Z,12nm,0.7s
DAWY Dawson 67.31 27 P P 23 28 46.4 +1.1
baz=264,SNR=7.7
KK31 Karatay Array 67.36 310 P P 23 28 46.0 0.0
KKAR Karatay Array 67.36 310 P P 23 28 45.6 -0.3
D27M Malcolm River 67.37 22 IAmb IAmb 23 28 47.6
comp=Z,8.9nm,0.7s
D27M Malcolm River 67.37 22 P P 23 28 47.1 +1.5
baz=261,SNR=6.6
O29M Mount Kennedy 67.40 31 IAmb IAmb 23 28 48.9
comp=Z,13nm,0.7s
O29M Mount Kennedy 67.40 31 P P 23 28 47.9 +1.9
baz=267,SNR=5.4
YUK4 Talbot Arm 67.43 30 P P 23 28 48.4 +2.1
baz=266,SNR=16
F28M Old Crow 67.53 24 P P 23 28 47.9 +1.4
baz=262,SNR=9.1
YUK6 Outpost Mounta 67.55 31 P P 23 28 48.8 +1.8
baz=266,SNR=6.6
M29M Somme Creek 67.60 29 IAmb IAmb 23 28 49.7
comp=Z,15nm,0.7s
M29M Somme Creek 67.60 29 P P 23 28 49.0 +1.8
baz=266,SNR=22
E28M Babbage River 67.78 22 IAmb IAmb 23 28 50.8
comp=Z,19nm,1.4s
E28M Babbage River 67.78 22 P P 23 28 49.8 +1.7
baz=262,SNR=10
IUG Iuzhnay 67.78 309 eP P 23 28 48.1 -0.6
comp=Z,12nm,1.3s
P29M Windy Craggy 67.79 32 IAmb IAmb 23 28 51.1
comp=Z,18nm,0.8s
P29M Windy Craggy 67.79 32 P P 23 28 50.1 +1.8
baz=268,SNR=5.8
L29M L29M 67.80 28 P P 23 28 50.0 +1.7
baz=266,SNR=28
GAR Garm 67.84 305 P P 23 28 49.3 +0.1
GAR IAmb IAmb 23 28 49.9
comp=Z,13nm,0.7s
BRLS Borolday 67.86 310 eP P 23 28 49.2 +0.2
I29M Ogilvie Camp, 67.90 26 IAmb IAmb 23 29 16.1
comp=Z,11nm,0.8s
I29M Ogilvie Camp, 67.90 26 P P 23 28 49.7 +0.8
baz=265,SNR=9.7
H29M Whitestone 67.96 25 IAmb IAmb 23 28 50.7
comp=Z,8.9nm,0.6s
H29M Whitestone 67.96 25 P P 23 28 50.4 +1.2
baz=264,SNR=8.5
HYT Haines Junctio 67.96 31 IAmb IAmb 23 28 52.2
comp=Z,20nm,0.7s
HYT Haines Junctio 67.96 31 P P 23 28 51.2 +1.8
baz=267,SNR=16
CHM Chimkent 68.09 309 eP P 23 28 49.9 -0.6
K29M Barlow Dome 68.12 28 IAmb IAmb 23 28 52.4
comp=Z,10nm,0.7s
K29M Barlow Dome 68.12 28 P P 23 28 51.9 +1.5
baz=266,SNR=14
G29M Pine Creek 68.16 24 IAmb IAmb 23 29 17.1
comp=Z,13nm,0.9s
G29M Pine Creek 68.16 24 P P 23 28 52.0 +1.5
baz=264,SNR=9.8
D28M Stokes Point 68.16 22 P P 23 28 51.7 +1.4
baz=263
N30M Aishikik Lake 68.19 30 IAmb IAmb 23 28 53.3
comp=Z,14nm,0.7s
N30M Aishikik Lake 68.19 30 P P 23 28 52.6 +1.8
baz=267,SNR=14
P30M Million Dollar 68.20 32 P P 23 28 52.7 +1.8
baz=268
E29M Blow River 68.36 23 P P 23 28 52.9 +1.2
baz=264,SNR=7.6
M30M Minto, Yukon 68.38 29 IAmb IAmb 23 28 53.9
comp=Z,7.7nm,0.5s
M30M Minto, Yukon 68.38 29 P P 23 28 53.3 +1.4
baz=267,SNR=9.3
EPYK Eagle Plains 68.63 25 IAmb IAmb 23 28 54.8
comp=Z,10nm,0.6s
EPYK Eagle Plains 68.63 25 P P 23 28 54.5 +1.0
baz=266,SNR=11
O30N Mendenhall 68.65 31 IAmb IAmb 23 29 23.8
comp=Z,11nm,0.7s
O30N Mendenhall 68.65 31 P P 23 28 54.9 +1.2
baz=269
J30M Hart River 68.68 27 IAmb IAmb 23 29 20.0
comp=Z,9.4nm,0.7s
J30M Hart River 68.68 27 P P 23 28 55.1 +1.2
baz=267,SNR=14
I30M Mount Dempster 68.70 26 P P 23 28 54.7 +0.7
baz=267,SNR=11
N31M Braeburn, Yuko 68.82 30 IAmb IAmb 23 28 57.3
comp=Z,19nm,0.8s
N31M Braeburn, Yuko 68.82 30 P P 23 28 56.3 +1.6
baz=269,SNR=8.4
G30M tAoh Zraii Nji 68.87 24 P P 23 28 55.8 +0.8
baz=266,SNR=9.8
SIMJ Simiganj 68.89 305 P P 23 28 55.9 +0.2
SIMJ IAmb IAmb 23 28 56.9
comp=Z,13nm,0.8s
SIMJ Simiganj 68.89 305 P P 23 28 55.5 -0.2
SIT Sitka 69.03 35 P P 23 28 57.3 +1.4
baz=271
F30M Barrier River 69.08 24 IAmb IAmb 23 28 58.0
comp=Z,17nm,0.6s
F30M Barrier River 69.08 24 P P 23 28 57.3 +1.2
baz=266,SNR=17
WHY Whitehorse 69.24 31 IAmb IAmb 23 28 59.9
comp=Z,11nm,0.8s
WHY Whitehorse 69.24 31 P P 23 28 58.9 +1.5
baz=270
KBL Kabul 69.39 301 P P 23 28 59.0 0.0
KBL IAmb IAmb 23 28 59.8
comp=Z,16nm,0.8s
M31M Drury Creek, Y 69.49 30 IAmb IAmb 23 29 00.4
comp=Z,12nm,0.5s
M31M Drury Creek, Y 69.49 30 P P 23 29 00.1 +1.3
baz=270,SNR=17
H31M Peel River 69.57 26 IAmb IAmb 23 29 01.2
comp=Z,11nm,0.7s
H31M Peel River 69.57 26 P P 23 29 00.4 +1.2
baz=268,SNR=14
G31M Satah River 69.64 24 IAmb IAmb 23 29 01.1
comp=Z,43nm,1.3s
G31M Satah River 69.64 24 P P 23 29 00.4 +0.9
baz=268,SNR=15
P32M Atlin 69.83 32 P P 23 29 02.7 +1.7
P32M IAmb IAmb 23 29 03.3
comp=Z,10nm,0.8s
P32M Atlin 69.83 32 P P 23 29 02.3 +1.3
baz=271

F31M Tsiigehtchic 69.86 24 P P 23 29 01.4 +0.5
F31M IAmb IAmb 23 29 01.7
comp=Z,13nm,0.5s
F31M Tsiigehtchic 69.86 24 P P 23 29 01.4 +0.5
baz=268
INK Inuvik 69.97 23 IAmb IAmb 23 29 02.9
comp=Z,13nm,0.8s
INK Inuvik 69.97 23 P P 23 29 01.9 +0.4
baz=268,SNR=7.3
N32M Quiet Lake 70.12 31 P P 23 29 03.9 +1.2
N32M IAmb IAmb 23 29 30.5
comp=Z,17nm,0.7s
N32M Quiet Lake 70.12 31 P P 23 29 04.0 +1.3
baz=271
P33M Teslin, Yukon 70.27 32 P P 23 29 04.5 +0.8
P33M Teslin, Yukon 70.27 32 P P 23 29 04.7 +1.0
baz=272
U33K Whale Pass 70.28 36 P P 23 29 04.8 +1.2
baz=273
Q32M Nakina River 70.60 33 P P 23 29 07.0 +1.2
Q32M Nakina River 70.60 33 P P 23 29 06.7 +0.9
baz=273
WRAK Wrangell Islan 70.69 36 P P 23 29 07.2 +1.1
baz=273
MMPY Sheldon Lake, 70.94 29 P P 23 29 09.0 +1.3
MMPY Sheldon Lake, 70.94 29 P P 23 29 09.2 +1.6
baz=272
R33M Jennings River 71.24 32 P P 23 29 11.2 +1.6
baz=274,SNR=6.7
S34M Telegraph Cree 71.26 34 P P 23 29 11.0 +1.5
S34M Telegraph Cree 71.26 34 P P 23 29 10.9 +1.3
baz=274
HG4B Hotspring 71.70 40 P P 23 29 13.3 +1.0
DLBC Dease Lake 71.80 33 P P 23 29 14.7 +1.8
baz=275,SNR=11
T35M Bob Quinn 71.81 35 P P 23 29 14.7 +1.8
T35M Bob Quinn 71.81 35 P P 23 29 14.8 +1.8
baz=275,SNR=6.2
RUBB Prince Rupert 72.06 38 P P 23 29 15.8 +1.4
WTLY Watson Lake, Y 72.28 32 P P 23 29 17.0 +1.3
WTLY IAmb IAmb 23 29 44.8
comp=Z,16nm,1.0s
TGTN Hyland Airport 72.41 30 P P 23 29 18.0 +1.5
baz=275,SNR=7.6
A36M Sachs Harbour 72.71 19 P P 23 29 18.4 +0.5
A36M IAmb IAmb 23 29 19.5
comp=Z,19nm,0.7s
A36M Sachs Harbour 72.71 19 P P 23 29 18.9 +1.0
baz=275
BBB Bella Bella 73.59 40 P P 23 29 24.1 +0.6
BBB Bella Bella 73.59 40 P P 23 29 23.1 -0.4
comp=Z,5.9nm,0.8s,baz=280,slow=11,SNR=3.0
BBB pP **pP 23 30 02.2 +1.0**
comp=Z,19nm,0.9s,baz=275,slow=8.1,SNR=6.6
comp=Z,5.9nm,0.8s
LIRD Liard River Hi 73.72 32 P P 23 29 25.5 +1.3
baz=278
HOLB Holberg 73.81 41 P P 23 29 26.4 +1.5
HOLB IAmb IAmb 23 29 27.4
comp=Z,25nm,0.7s
ARTI Arti 73.86 325 P P 23 29 23.5 -1.4
ARTI IAmb IAmb 23 29 25.3
comp=Z,14nm,0.6s
AB31 Akbulak array 73.98 317 IAmb IAmb 23 29 26.2
comp=Z,8.7nm,0.5s
ABKAR Akbulak array 73.98 317 P P 23 29 24.4 -1.4
TOAD Toad River Com 74.24 33 P P 23 29 28.0 +0.8
baz=278
NLWA Neilton Lookou 77.16 44 P P 23 29 45.8 +1.7
E03A Lebam 77.56 45 IAmb IAmb 23 29 48.8
comp=Z,22nm,0.9s
GNW Green Mountain 77.82 44 P P 23 29 48.2 +0.6
GNW IAmb IAmb 23 29 50.4
comp=Z,15nm,0.9s
G03D McMinnville, O 78.06 46 P P 23 29 48.1 -0.9
EUNU Eureka 78.42 8 P P 23 29 50.4 0.0
BUCK Buck Mountain 78.49 47 IAmb IAmb 23 29 57.5
comp=Z,50nm,1.2s
YKAW3 Yellowknife Wh 78.53 28 IAmb IAmb 23 29 52.5
comp=Z,14nm,1.1s
YKA Yellowknife Ar 78.55 28 P P 23 29 52.1 +0.8
YKA Yellowknife Ar 78.55 28 P P 23 29 51.5 +0.3
comp=Z,6.5nm,0.8s,baz=290,slow=6.0,SNR=27
YKA pP **pP 23 30 30.0 +0.6**
comp=Z,6.4nm,0.7s,baz=292,slow=5.9,SNR=8.4
YKA LR LR 00 04 16.5
comp=Z,29nm,19.7s,baz=326,slow=35
comp=Z,6.5nm,0.8s
G04A Mulino 78.60 46 P P 23 29 52.5 +0.6
YKAW1 Yellowknife Wh 78.60 28 IAmb IAmb 23 29 53.0
comp=Z,14nm,1.0s
LON Longmire 78.68 44 P P 23 29 52.8 +0.3
H04A Detroit Lake 78.93 47 P P 23 29 53.9 +0.1
BBOR Butler Butte 79.03 48 P P 23 29 55.5 +0.9
YBH Yreka Blue Hor 79.29 50 P P 23 29 57.5 +1.6
comp=Z,0.4nm,0.6s,baz=315,slow=4.3,SNR=9.6
LTY Liberty 79.31 44 IAmb IAmb 23 29 57.7
comp=Z,12nm,0.7s
MXC Moxie City 79.74 44 IAmb IAmb 23 30 00.3
comp=Z,24nm,1.4s
B08A Colville Reser 79.89 42 IAmb IAmb 23 30 00.8
comp=Z,23nm,0.7s
SPITS Spitsbergen Ar 79.91 351 P P 23 29 57.8 -0.7
comp=Z,1.4nm,0.4s,baz=65,slow=11,SNR=11
comp=Z,1.4nm,0.4s
J05D Fort Rock, OR 79.95 48 IAmb IAmb 23 30 01.9
comp=Z,28nm,0.8s
PINE Pine Mountain 80.02 47 P P 23 30 00.9 +0.9
E07A Sunnyside 80.03 44 P P 23 30 00.2 +0.5
E07A IAmb IAmb 23 30 02.0
comp=Z,16nm,0.8s
RES Resolute Bay 80.09 14 P P 23 29 59.9 +0.5
WAH2 Wahluke Slope 80.17 44 P P 23 30 01.5 +1.1
WAH2 IAmb IAmb 23 30 02.5
comp=Z,25nm,0.7s
K05A Summer Lake 80.34 48 P P 23 30 02.4 +0.7
K05A IAmb IAmb 23 30 04.2
comp=Z,26nm,0.8s
HATC Hat Creek Radi 80.44 50 P P 23 30 02.8 +0.7
HATC IAmb IAmb 23 30 04.6
comp=Z,19nm,1.1s
D08A Wollman Farm, 80.51 44 IAmb IAmb 23 30 03.9
comp=Z,13nm,0.5s
YPT Yellepit 80.77 45 P P 23 30 05.0 +1.4
E09A Wood Farm, Sta 81.18 44 IAmb IAmb 23 30 07.8
comp=Z,14nm,0.7s
NEW Newport 81.33 42 IAmb IAmb 23 30 08.4
comp=Z,12nm,0.7s
NEW Newport 81.33 42 P P 23 30 07.0 +0.4
comp=Z,11nm,0.6s,baz=283,slow=5.6,SNR=22
NEW pP **pP 23 30 45.9 +0.8**
comp=Z,16nm,0.7s,baz=288,slow=4.2,SNR=11
NEW LR LR 00 01 46.1
comp=Z,24nm,19.2s,baz=14,slow=32
comp=Z,11nm,0.6s
BEKR Beckworth 81.50 51 IAmb IAmb 23 30 09.7
comp=Z,16nm,0.7s
ARCES ARCESS Array B 83.23 342 P P 23 30 14.3 -1.8
comp=Z,3.9nm,0.5s,baz=56,slow=5.6,SNR=38
comp=Z,3.9nm,0.5s
LHV Little Huntoon 83.36 52 IAmb IAmb 23 30 19.9
comp=Z,19nm,1.3s
NVAR Mina Array Bea 83.45 52 P P 23 30 19.2 +1.2
NVAR Mina Array Bea 83.45 52 P P 23 30 19.1 +1.0
comp=Z,10nm,0.6s,baz=286,slow=6.0,SNR=54
NVAR pP **pP 23 30 57.6 +0.9**
comp=Z,13nm,0.7s,baz=286,slow=6.1,SNR=7.7
comp=Z,10nm,0.6s
VES Vestal, Richgr 83.63 55 IAmb IAmb 23 30 20.0
comp=Z,9.6nm,0.7s
MFID Camas Ranch 83.69 47 IAmb IAmb 23 30 21.1
comp=Z,14nm,0.8s
ELK Elko 84.97 49 IAmb IAmb 23 30 27.8
comp=Z,12nm,0.8s
ELK Elko 84.97 49 P P 23 30 26.4 +0.7
comp=Z,16nm,0.9s,baz=299,slow=6.0,SNR=43
ELK pP **pP 23 31 05.2 +0.7**
comp=Z,15nm,0.8s,baz=290,slow=5.2,SNR=9.5
comp=Z,16nm,0.9s
BLKN Baker Lake 85.38 23 IAmb IAmb 23 30 27.5
comp=Z,15nm,0.5s
TPNV Topopah Spring 85.46 53 IAmb IAmb 23 30 31.9
comp=Z,11nm,0.8s
ELS Elsinore Mount 85.61 56 P P 23 30 28.9 +0.1
S11A Rachel 85.61 52 P P 23 30 29.1 +0.3
S11A IAmb IAmb 23 30 31.0
comp=Z,15nm,0.9s

EGMT Eagleton 86.06 41 P P 23 30 30.6 -0.1
SPR3 Spring Creek 3 86.21 50 P P 23 30 32.9 +0.9
PRN Pahroc Range 86.22 52 P P 23 30 32.4 +0.6
YHL Hebgen Lake 86.33 44 P P 23 30 33.7 +1.3
YHL IAmb IAmb 23 30 35.0
comp=Z,20nm,0.9s
HVU Hansel Valley 86.36 47 IAmb IAmb 23 30 34.7
comp=Z,19nm,1.2s
YHB Horse Butte 86.36 44 IAmb IAmb 23 30 35.0
comp=Z,20nm,0.9s
PFO Pinyon Flats O 86.39 56 P P 23 30 34.1 +1.4
YNR Norris Junctio 86.72 44 P P 23 30 36.3 +2.0
YNR IAmb IAmb 23 30 37.6
comp=Z,15nm,0.9s
PSUT Pine Spring 86.72 51 IAmb IAmb 23 30 36.2
comp=Z,16nm,0.7s
KBZ Khabaz 86.77 315 P P 23 30 31.9 -2.3
comp=Z,1.5nm,0.6s,baz=69,slow=8.2,SNR=4.2
comp=Z,1.5nm,0.6s
KIV Kislovodsk 86.83 315 P P 23 30 34.2 -0.4
DUG Dugway, Tooele 86.89 49 IAmb IAmb 23 30 37.0
comp=Z,13nm,0.7s
TPAW Teton Pass 86.99 45 P P 23 30 36.9 +1.2
YMP Mirror Lake Pl 87.05 44 P P 23 30 36.2 +0.2
YMP IAmb IAmb 23 30 39.0
comp=Z,11nm,1.0s
AHID Auburn Hatcher 87.16 46 P P 23 30 37.4 +1.0
AHID IAmb IAmb 23 30 38.2
comp=Z,10.0nm,0.8s
HWUT Hardware Ranch 87.27 47 IAmb IAmb 23 30 38.7
comp=Z,15nm,0.8s
CCUT Cedar City 87.43 51 IAmb IAmb 23 30 40.2
comp=Z,7.9nm,0.8s
CTU Camp Tracy 87.47 48 IAmb IAmb 23 30 40.1
comp=Z,11nm,1.0s
FFC Flin Flon 87.61 33 P P 23 30 38.4 +0.5
FFC IAmb IAmb 23 30 40.4
comp=Z,10nm,0.8s
FINES FINESS Array B 87.61 335 P P 23 30 35.2 -2.6
comp=Z,6.5nm,0.4s,baz=57,slow=4.6,SNR=87
comp=Z,6.5nm,0.4s
SZCU Shurtz Canyon 87.62 51 IAmb IAmb 23 30 40.7
comp=Z,7.5nm,0.7s
JLU Jordanelle 87.72 48 IAmb IAmb 23 30 41.0
comp=Z,16nm,0.9s
MPU Maple Canyon 87.80 49 IAmb IAmb 23 30 41.3
comp=Z,9.8nm,1.0s
KNB Kanab 88.02 52 IAmb IAmb 23 30 43.1
comp=Z,14nm,0.9s
MTPU Mount Pierson 88.12 51 P P 23 30 42.0 +0.8
PDAR Pinedale Array 88.21 45 P P 23 30 41.2 -0.1
PDAR Pinedale Array 88.21 45 P P 23 30 41.3 0.0
comp=Z,1.7nm,0.5s,baz=279,slow=3.8,SNR=13
PDAR pP **pP 23 31 20.3 -0.1**
comp=Z,1.6nm,0.7s,baz=293,slow=4.3,SNR=4.4
comp=Z,1.7nm,0.5s
BSUT Blindstream Ca 88.23 48 P P 23 30 42.0 +0.4
TMUT Trail Mountain 88.37 49 IAmb IAmb 23 30 44.3
comp=Z,7.9nm,0.8s
Q16A Castle Valley 88.54 50 P P 23 30 43.7 +0.7
Q16A IAmb IAmb 23 30 45.2
comp=Z,12nm,0.8s
U15A North Rim 88.63 52 P P 23 30 43.6 +0.1
U15A IAmb IAmb 23 30 45.9
comp=Z,9.3nm,0.7s
LAO LASA Array 88.79 41 P P 23 30 44.1 +0.3
LAO IAmb IAmb 23 30 45.4
comp=Z,7.6nm,0.7s
113A Mohawk Valley, 88.79 56 P P 23 30 44.5 +0.5
SRU San Rafael Swe 88.94 49 IAmb IAmb 23 30 46.4
comp=Z,15nm,0.7s
P18A Preston Nutter 88.94 49 P P 23 30 45.4 +0.4
P18A IAmb IAmb 23 30 48.6
comp=Z,6.5nm,0.7s
Y14A Wickenburg 88.98 55 P P 23 30 45.3 +0.4
Y14A IAmb IAmb 23 30 47.0
comp=Z,10.0nm,0.5s
HMU Henry Mountain 89.22 50 P P 23 30 46.8 +0.5
HMU IAmb IAmb 23 30 47.8
comp=Z,12nm,0.8s
SUMG Summit 89.63 1 P P 23 30 47.8 +0.2
SUMG IAmb IAmb 23 30 55.9
comp=Z,11nm,1.3s
WUAZ Wupatki 89.66 53 IAmb IAmb 23 30 50.7
comp=Z,9.9nm,0.8s
214A Organ Pipe Nat 89.84 56 P P 23 30 49.5 +0.6
214A IAmb IAmb 23 30 51.3
comp=Z,10nm,0.8s
X16A Lo Mia Camp, P 90.01 54 P P 23 30 51.0 +1.1
O20A White River Ci 90.16 48 P P 23 30 51.1 +0.6
O20A IAmb IAmb 23 30 52.0
comp=Z,7.7nm,0.8s
PV21 Cone Mtn., Par 90.26 49 P P 23 30 51.3 +0.2
PV23 Carpenter Ridg 90.28 49 P P 23 30 51.8 +0.6
PV14 Lion Creek, Pa 90.30 49 P P 23 30 52.3 +1.0
PV05 Paradox Valley 90.36 50 IAmb IAmb 23 30 53.3
comp=Z,9.1nm,0.7s
PV04 Paradox Valley 90.38 49 IAmb IAmb 23 30 53.4
comp=Z,15nm,0.9s
PV22 Blue Mesa, Par 90.41 49 IAmb IAmb 23 30 53.4
comp=Z,9.0nm,1.2s
PV03 Paradox Valley 90.48 49 IAmb IAmb 23 30 53.5
comp=Z,17nm,1.0s
PV13 Radium Mtn., P 90.53 49 IAmb IAmb 23 30 53.9
comp=Z,13nm,0.7s
PV07 Paradox Valley 90.55 49 pP 23 31 32.2 +0.6
HAYD Hayden 90.69 47 P P 23 30 53.4 +0.3
HAYD IAmb IAmb 23 30 55.0
comp=Z,8.8nm,0.6s
PV15 Paradox Valley 90.71 49 P P 23 30 53.5 +0.3
PV15 IAmb IAmb 23 30 54.8
comp=Z,7.9nm,1.0s
PV01 Paradox Valley 90.72 49 P P 23 30 53.7 +0.5
PV01 IAmb IAmb 23 30 54.7
comp=Z,13nm,0.7s
X18A Snowflake 91.11 53 P P 23 30 55.5 +0.5
MVCO Mesa Verde 91.14 50 P P 23 30 55.3 +0.1
MVCO IAmb IAmb 23 30 57.2
comp=Z,9.6nm,1.4s
TUC Tucson 91.31 56 P P 23 30 55.4 -0.5
AKASG Malin Array Be 92.00 325 P P 23 30 55.9 -2.6
comp=Z,0.6nm,0.5s,baz=52,slow=4.6,SNR=4.4
comp=Z,0.6nm,0.5s
ISCO Idaho Springs 92.14 47 P P 23 31 00.5 +0.7
ISCO pP **pP 23 31 40.2 +1.2**
S22A 4UR Ranch, Cre 92.14 49 P P 23 31 00.9 +1.1
S22A IAmb IAmb 23 31 02.0
comp=Z,6.3nm,0.9s
S22A pP **pP 23 31 35.4 -3.7**
DUN6 Lazy B Ranch 92.54 55 P P 23 31 01.6 +0.1
SDCO Great Sand Dun 93.09 49 P P 23 31 04.4 +0.1
HFS Hagfors 93.12 338 P P 23 31 00.7 -2.8
comp=Z,2.2nm,0.4s,baz=72,slow=4.7,SNR=20
HFS PKKP **PKKPdf 23 48 08.6 -1.6**
comp=Z,0.7nm,0.4s,baz=190,slow=2.5,SNR=9.3
comp=Z,2.2nm,0.4s
SUW Suwalki 93.20 330 P P 23 31 02.1 -1.9
NB2 NORSAR Subarra 93.31 340 P P 23 31 01.5 -2.9
comp=Z,0.8nm,0.7s,baz=42,slow=4.6
NOA NORSAR Array B 93.31 340 P P 23 31 01.7 -2.7
comp=Z,0.4nm,0.5s,baz=46,slow=4.7,SNR=5.1
comp=Z,0.4nm,0.5s
SBM South Baldy 93.43 53 P P 23 31 07.8 +1.8
SBM pP **pP 23 31 46.6 +1.4**
Y22A Socorro 93.61 53 P P 23 31 07.1 +0.5
BNM Barren Site 93.78 52 P P 23 31 07.5 +0.1
T25A Trinidad 94.14 49 pwP 23 31 49.7 -3.1
BR131 Keskin Array S 94.74 314 P P 23 31 10.3 -1.2
BRTR Keskin Array B 94.74 314 P P 23 31 09.3 -2.3
comp=Z,0.8nm,0.7s,baz=72,slow=4.7,SNR=6.8
comp=Z,0.8nm,0.7s
LPIG La Paz 94.77 63 LR LR 00 05 10.8
comp=Z,20nm,20.5s,baz=224,slow=30
MNTX Cornudas Mount 95.76 54 P P 23 31 16.4 +0.2
VNDA Vanda 95.76 177 P P 23 31 13.9 -1.1
comp=Z,1.4nm,1.0s,baz=333,slow=7.4,SNR=4.7
comp=Z,1.4nm,1.0s
TXAR Lajitas Array 98.10 56 P Pdif 23 31 27.2 +0.2
comp=Z,0.2nm,0.5s,baz=298,slow=4.7,SNR=7.3
TXAR pP pP 23 32 07.4 +1.1
comp=Z,0.8nm,0.7s,baz=315,slow=6.4,SNR=5.1
TXAR PKKP **PKKPbc 23 47 59.5 +0.3**
comp=Z,0.4nm,0.8s,baz=114,slow=3.5,SNR=6.3
comp=Z,0.2nm,0.5s
DKNS Dickens 98.25 51 pP 23 32 06.2 -0.6
APMT Aspermont 99.00 51 P Pdif 23 31 31.8 +1.0
APMT pP 23 32 05.5 -4.7
CLL Collm 99.66 332 *e*Pdif **Pdif 23 31 36.0 +2.7**
EKA Eskdalemuir Ar 102.39 342 PKKPbc PKKPbc 23 47 45.0 -2.8
comp=Z,0.3nm,0.4s,baz=247,slow=3.7,SNR=5.6
ESDC Sonseca Array 116.11 334 PKKPbc PKKPbc 23 47 02.9 -1.0
comp=Z,1.1nm,1.1s,baz=234,slow=3.1,SNR=5.2
ESDC PKKPab **PKKPab 23 47 09.1 -1.2**
comp=Z,1.9nm,0.8s,baz=228,slow=4.2,SNR=10
SNAA Sanae 123.25 191 ⇑P **PKPdf 23 36 44.1 -1.0**
comp=Z,47nm,0.6s
SNAA Sanae 123.25 191 PKP **PKPdf 23 36 43.5 -1.6**
comp=Z,2.0nm,0.6s,baz=176,slow=5.6,SNR=36
VNA2 Neumayer--Watz 124.69 190 ⇑P **PKPdf 23 36 47.0 -0.8**
comp=Z,7.6nm,0.6s,baz=145,slow=3.1
VNA3 Neumayer Olymp 124.78 189 ⇑P **PKPdf 23 36 47.0 -0.9**
comp=Z,3.4nm,0.6s
BOSA Boshof 124.92 247 PKP **PKPdf 23 36 48.9 -0.7**
comp=Z,1.7nm,0.7s,baz=63,slow=2.3,SNR=1.4
VNA1 Neumayer--Stat 125.07 190 ⇑P **PKPdf 23 36 48.0 -0.5**
comp=Z,5.0nm,1.0s
TORD Torodi Ar. Bea 133.04 309 PKP **PKPdf 23 37 04.2 -1.1**
comp=Z,1.0nm,0.8s,baz=58,slow=0.8,SNR=3.8
TORD PKKP **PKKPdf 23 46 55.8 +0.1**
comp=Z,0.5nm,0.3s,baz=228,slow=1.7,SNR=5.3
PLCA Paso Flores 141.38 134 PKhKP PKPpre 23 37 13.5
comp=Z,4.8nm,0.8s,baz=294,slow=6.5,SNR=4.2
DBIC Imbokoro 142.13 308 PKhKP PKPpre 23 37 16.2
comp=Z,2.6nm,0.4s,baz=78,slow=4.5,SNR=5.0
LPAZ La Paz 147.48 92 PKPbc **PKPdf 23 37 32.9 +1.0**
comp=Z,17nm,0.7s,baz=328,slow=3.4,SNR=35
LPAZ pPKPbc **pPKPbc 23 38 15.0 -0.6**
comp=Z,11nm,0.9s,baz=342,slow=3.2,SNR=2.9
CPUP Villa Florida 156.98 115 PKPab **PKPab 23 38 16.8 +0.8**
comp=Z,1.3nm,0.7s,baz=127,slow=0.6,SNR=3.1
BDFB Brasilia 166.50 82 PKP **PKPdf 23 37 54.6 -0.5**
comp=Z,2.9nm,0.7s,baz=270,slow=1.0,SNR=4.3

NEIC ***29****.23:19:13.7±1.8, 35°.823N±0°.007×117°.62W±0°.02, h7km±4km, Error ellipse: s-maj=2.7km s-min=0.4km az=112.0*

PAS 29 23:19:14.2±1.7, 35°.83N±0°.03×117°.64W±0°.04, h6km±7km, ML3.5/98, ML3.2/180(NEIC), Error ellipse: s-maj=4.9km s-min=3.9km az=223.0, California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.03**	**107**		Pg	23 19 15.6	0.0
CLC				Sg	Sg	23 19 16.7	+0.2
CLC				IAML		23 19 17.0	
	comp=E,27μm,0.3s						
TOW	**Tower One**	**0.10**	**261**		Pg	23 19 17.0	+0.5
TOW					Sg	23 19 19.5	+1.4
SRTC	**Snort**	**0.16**	**215**		Pg	23 19 17.9	+0.4
SRTC					Sg	23 19 21.3	+1.6
GPO	**China Lake**	**0.18**	**187**		Pg	23 19 17.9	+0.1
GPO					Sg	23 19 21.2	+1.1
WVPM	**Volcano Peak E**	**0.19**	**310**		Pg	23 19 18.2	+0.1
WVPM					Sg	23 19 21.1	+0.4
JRC2	**Joshua Ridge**	**0.21**	**318**		Pg	23 19 21.8	+3.4
WNMM	**Nine Mile Cany**	**0.22**	**275**		Sg	23 19 21.9	+0.4
WCSM	**Coso Springs S**	**0.23**	**332**		Pg	23 19 18.6	-0.1
WCSM					Sg	23 19 22.2	+0.4
WSHM	**Spangler Hills**	**0.25**	**153**		Pg	23 19 19.1	-0.1
WSHM					Sg	23 19 22.9	+0.4
WSHM	**Spangler Hills**	**0.25**	**153**	IAML		23 19 23.4	
	comp=E,6μm,0.2s						
WSHM				IAML		23 19 23.5	
	comp=E,6μm,0.3s						
MPMC	**Manual Prospec**	**0.26**	**27**		Pg	23 19 19.4	0.0
MPMC				Sg	Sg	23 19 23.0	+0.1
MPMC				IAML		23 19 23.4	
	comp=N,5μm,0.2s						
MPMC				IAML		23 19 23.5	
	comp=E,5μm,0.3s						
WRVM	**Rose V. Centra**	**0.28**	**312**		Pg	23 19 19.6	0.0
WRVM					Sg	23 19 23.6	+0.2
MFS	**McCloud Flat S**	**0.34**	**329**		Pg	23 19 20.8	-0.1
MFS					Sg	23 19 26.0	+0.6
LRMC	**Laurel Mtn Rad**	**0.35**	**186**		Pg	23 19 20.8	-0.2
LRMC				Sg	Sg	23 19 25.6	0.0
LRMC				IAML		23 19 27.0	
	comp=E,6μm,0.1s						
CCCA	**Chr Cany lake**	**0.37**	**144**	Pg	Pg	23 19 21.7	+0.3
CCCA				Sg	Sg	23 19 27.4	+1.0
CCCA				IAML		23 19 27.9	
	comp=E,5μm,0.4s						
WBSM	**Bird Springs**	**0.50**	**235**		Sg	23 19 30.6	+0.2
WORM	**Onyx Ranch**	**0.51**	**255**		Pg	23 19 23.7	-0.3
WORM					Sg	23 19 30.5	-0.2
DTP	**Desert Tortois**	**0.58**	**197**		Pg	23 19 25.0	-0.4
DTP					Sg	23 19 32.8	-0.2
WHFM	**Hanning Flat**	**0.59**	**258**		Pg	23 19 25.3	-0.3
WHFM					Sg	23 19 33.1	-0.3
QSM	**Queen of Sheba**	**0.64**	**77**		Pg	23 19 26.1	-0.4
QSM	**Queen of Sheba**	**0.64**	**77**		Sg	23 19 34.7	-0.1
QSM				IAML		23 19 36.4	
	comp=E,1μm,0.2s						
QSM				IAML		23 19 38.8	
	comp=N,2μm,0.7s						
ISA	**Isabella, Lake**	**0.70**	**257**		Pg	23 19 27.2	-0.5
ISA				IAML		23 19 37.4	
	comp=N,866nm,0.3s						
ISA				IAML		23 19 39.1	
	comp=E,729nm,0.2s						
ISA	**Isabella, Lake**	**0.70**	**257**		Sg	23 19 36.4	-0.4
CWC	**Cottonwood Cre**	**0.71**	**330**		Pg	23 19 27.5	-0.4
CWC					Sg	23 19 37.3	+0.1
CGO	**Cerro Gordo**	**0.74**	**349**		Pg	23 19 27.7	-0.7
CGO					Sg	23 19 38.6	+0.6
CCAC	**Calif City Air**	**0.74**	**205**		Pg	23 19 28.0	-0.4
CCAC					Sg	23 19 38.0	0.0
WASM	**Alta Sierra Ca**	**0.75**	**264**		Pg	23 19 28.4	-0.3
WASM					Sg	23 19 37.9	-0.6
GSC	**Goldstone, Bar**	**0.85**	**127**		Pg	23 19 30.1	-0.6
GSC				IAML		23 19 42.1	
	comp=N,2μm,0.3s						
GSC				IAML		23 19 42.3	
	comp=E,2μm,0.4s						
GSC	**Goldstone, Bar**	**0.85**	**127**		Sg	23 19 41.3	-0.5
GWY	**Greenwater Val**	**0.86**	**65**		Pg	23 19 30.4	-0.4
GWY					Sg	23 19 41.8	-0.2
GWY	**Greenwater Val**	**0.86**	**65**	IAML		23 19 44.5	
	comp=N,797nm,0.4s						
GWY				IAML		23 19 46.2	
	comp=E,1μm,0.4s						
FURC	**Furnace Creek,**	**0.90**	**44**		Pg	23 19 31.2	-0.1
FURC	**Furnace Creek,**	**0.90**	**44**	IAML		23 19 44.0	
	comp=N,2μm,0.2s						
HYS	**Haystack Butte**	**0.96**	**177**		Pg	23 19 31.9	-0.8
HYS					Sg	23 19 45.1	0.0
EDW2	**Edwards Air Fo**	**0.99**	**197**		Pg	23 19 32.3	-0.8
EDW2					Sg	23 19 45.3	-0.6
SPG2	**Springville 2**	**0.99**	**293**		Pg	23 19 32.2	-1.0
SPG2					Sg	23 19 44.9	-1.2
TEJ	**El Tejon**	**1.04**	**236**		Sg	23 19 46.4	-1.4
TPO	**Tropico Hills**	**1.06**	**207**		Pg	23 19 33.6	-0.9
TPO					Sg	23 19 47.9	-0.4
TPO	**Tropico Hills**	**1.06**	**207**	IAML		23 19 50.7	
	comp=N,885nm,0.5s						
TPO				IAML		23 19 51.1	
	comp=E,1μm,0.6s						
RRX	**Edison Barstow**	**1.08**	**151**		Pg	23 19 34.3	-0.7
RRX					Sb	23 19 49.7	0.0
SHOC	**Shoshone, Teco**	**1.11**	**86**		Pg	23 19 34.9	-0.5
SHOC					Sg	23 19 49.6	-0.2
VES	**Vestal, Richgr**	**1.18**	**271**	IAML		23 19 53.2	
	comp=E,847nm,0.6s						
GRAC	**Grapevine Rang**	**1.19**	**10**		Pg	23 19 36.4	-0.6
WCT	**Wildcat Mounta**	**1.26**	**40**		Pg	23 19 37.3	-1.1
WCT				IAML		23 19 56.4	
	comp=E,471nm,0.5s						
TIN	**Tinemaha, Big**	**1.32**	**339**		Pn	23 19 38.4	-0.8
TIN				IAML		23 20 00.7	
	comp=E,439nm,0.6s						
TIN				IAML		23 20 02.9	
	comp=N,428nm,0.6s						
DSCC	**Desert Studies**	**1.42**	**118**		Pn	23 19 38.8	-1.8
OSI	**Osito Audit: C**	**1.50**	**217**		Pn	23 19 41.4	-0.3
OSI				IAML		23 20 05.3	
	comp=N,287nm,0.6s						
OSI				IAML		23 20 07.1	
	comp=E,279nm,0.7s						
DSP	**Deep Springs**	**1.56**	**350**		Pn	23 19 42.3	-0.2

DSP				IAML			23 20 05.3		
	comp=E,293nm,0.4s								
BFSC	**Mount Baldy Ra**	**1.58**	**181**	IAML			23 20 05.3		
	comp=E,401nm,0.3s								
BFSC				IAML			23 20 05.5		
	comp=N,545nm,0.3s								
TPNV	**Topopah Spring**	**1.58**	**45**			Pn	23 19 42.0	-0.9	
TPNV				IAML			23 20 07.6		
	comp=N,265nm,0.7s								
TPNV				IAML			23 20 10.0		
	comp=N,263nm,0.6s								
PASC	**Pasadena Art C**	**1.71**	**195**			Pn	23 19 44.4	-0.1	
PASC				IAML			23 20 12.9		
	comp=N,206nm,0.5s								
PASC				IAML			23 20 13.9		
	comp=E,284nm,0.4s								
KCC	**Kaiser Creek**	**2.02**	**318**			Pb	23 19 51.0	-0.3	
SHPR	**Sheep Range**	**2.12**	**71**			Pn	23 19 50.4	+0.2	
ELS	**Elsinore Mount**	**2.18**	**175**			Pn	23 19 50.2	-0.8	
ELS				IAML			23 20 26.0		
	comp=N,106nm,0.6s								
ELS				IAML			23 20 27.2		
	comp=E,113nm,0.7s								
DANC	**Danby, Needles**	**2.19**	**122**			Pn	23 19 49.6	-1.6	
DANC				IAML			23 20 28.8		
	comp=E,278nm,0.5s								
BELC	**Belle Mtn. Jos**	**2.26**	**143**	IAML			23 20 29.1		
	comp=N,112nm,0.3s								
BELC				IAML			23 20 29.6		
	comp=E,150nm,0.4s								
V12A	**Nelson**	**2.27**	**92**			Pn	23 19 51.5	-0.8	
V12A				IAML			23 20 27.3		
	comp=N,136nm,0.9s								
V12A				IAML			23 20 35.4		
	comp=E,91nm,0.8s								
TPH	**Tonopah**	**2.27**	**8**			Pb	23 19 56.3	+0.6	
S11A	**Rachel**	**2.37**	**39**			Pb	23 19 57.9	+0.6	
S11A				IAML			23 20 37.2		
	comp=N,208nm,1.0s								
PMD	**Palm Desert**	**2.41**	**154**			Pn	23 19 52.7	-1.4	
PMD					Pg	Pb	23 19 58.6	+0.7	
PFO	**Pinyon Flats O**	**2.41**	**156**			Pn	23 19 53.1	-1.1	
PFO					Pg	Pb	23 19 58.7	+0.7	
SNDA	**J Saunders Pla**	**2.42**	**159**			Pn	23 19 53.7	-0.7	
LHV	**Little Huntoon**	**2.52**	**344**			Pn	23 19 56.0	+0.4	
LHV					Pg	Pg	23 20 01.4	-1.1	
PMPB	**Monarch Peak**	**2.59**	**280**			Pn	23 19 57.3	+0.6	
PMPB				IAML			23 20 51.1		
	comp=E,192nm,1.1s								
PMPB				IAML			23 20 52.2		
	comp=N,192nm,1.0s								
PRN	**Pahroc Range**	**2.61**	**52**			Pg	23 20 02.9	-1.3	
PRN				IAML			23 20 43.9		
	comp=N,87nm,0.9s								
PRN				IAML			23 20 48.9		
	comp=E,76nm,0.8s								
NV11	**Mina Array Sit**	**2.63**	**351**			Pn	23 19 56.7	-0.7	
NV11					Pg	Pg	23 20 03.7	-1.0	
IRM	**Iron Mountain**	**2.64**	**128**	IAML			23 20 37.5		
	comp=N,96nm,0.6s								
IRM				IAML			23 20 38.3		
	comp=E,110nm,0.4s								
NVAR	**Mina Array Bea**	**2.65**	**349**			Pn	23 19 57.8	+0.1	
NEE2	**Needles Airpor**	**2.68**	**112**	Pn		Pn	23 19 57.2	-0.7	
NEE2						Pg	23 20 06.0	+0.3	
NEE2				IAML			23 20 41.3		
	comp=E,201nm,0.3s								
BORC	**Borrego Spring**	**2.74**	**158**	IAML			23 20 43.7		
	comp=E,76nm,0.8s								
BC3	**Big Chuckawall**	**2.81**	**140**			Pn	23 19 58.1	-1.7	
BC3					Pg	Pg	23 20 08.4	+0.3	
BC3				IAML			23 20 46.5		
	comp=N,83nm,0.5s								
BC3				IAML			23 20 47.5		
	comp=E,75nm,0.5s								
BBGB	**Big Mountain B**	**2.85**	**286**	Pn		Pn	23 20 00.1	-0.2	
BBGB						Pg	23 20 12.4	+3.6	
BSM	**San Miguel Isl**	**2.85**	**232**			Pn	23 19 57.9	-2.4	
DPP	**Dos Picos Cty**	**2.88**	**168**	Pg		Pb	23 20 05.9	0.0	
DPP				IAML			23 20 45.1		
	comp=E,72nm,0.5s								
SALN	**Salton City**	**2.88**	**151**	Pn		Pn	23 20 00.1	-0.5	
RYN	**Ryan**	**2.89**	**346**			Pn	23 20 00.7	-0.1	
RYN					Pg	Pb	23 20 07.8	+1.6	
CMB	**Columbia Colle**	**3.12**	**316**	IAML			23 20 57.7		
	comp=N,48nm,0.6s								
W13A	**Hualapai Mount**	**3.15**	**102**	IAML			23 20 55.3		
	comp=N,47nm,0.3s								
BLYC	**Blythe**	**3.29**	**128**	IAML			23 21 00.8		
	comp=E,47nm,0.6s								
BLYC				IAML			23 21 09.6		
	comp=N,52nm,0.8s								
GLA	**Glamis**	**3.61**	**139**	IAML			23 21 15.8		
	comp=N,70nm,0.6s								
PSUT	**Pine Spring**	**4.05**	**47**	IAML			23 21 28.7		
	comp=E,29nm,1.1s								
PSUT				IAML			23 21 30.7		
	comp=N,24nm,0.8s								
KNB	**Kanab**	**4.06**	**72**	IAML			23 21 28.6		
	comp=N,19nm,1.2s								
ESJX	**Sierra Juarez**	**4.06**	**159**	IAML			23 22 50.9		
	comp=N,39nm,0.1s								
ESJX				IAML			23 22 51.1		
	comp=E,47nm,0.1s								
AFDM	**Forest Hills D**	**4.09**	**321**	IAML			23 21 27.1		
	comp=E,32nm,0.6s								
AFDM				IAML			23 21 32.6		
	comp=N,23nm,0.5s								
SPR3	**Spring Creek 3**	**4.12**	**39**	IAML			23 21 25.2		
	comp=N,26nm,0.6s								
SPR3				IAML			23 21 25.2		
	comp=E,27nm,0.6s								
Y14A	**Wickenburg**	**4.25**	**115**	IAML			23 21 31.1		
	comp=N,57nm,0.8s								
Y14A				IAML			23 21 31.9		
	comp=E,37nm,0.7s								
U15A	**North Rim**	**4.37**	**81**	IAML			23 21 34.5		
	comp=E,16nm,1.0s								
U15A				IAML			23 21 43.8		
	comp=N,16nm,1.1s								
PKCU	**Pink Cliffs**	**4.58**	**68**	IAML			23 21 48.7		
	comp=E,19nm,0.8s								
PKCU				IAML			23 22 01.1		
	comp=N,16nm,0.8s								
TCRU	**Three Creeks R**	**4.99**	**55**	IAML			23 22 07.2		
	comp=N,10nm,1.2s								
TCRU				IAML			23 22 12.0		
	comp=E,13nm,2.3s								
ELK	**Elko**	**5.26**	**20**	IAML			23 22 03.9		
	comp=E,8.6nm,0.6s								
X16A	**Lo Mia Camp, P**	**5.27**	**104**	IAML			23 22 09.0		
	comp=E,8.1nm,1.2s								
X16A				IAML			23 22 13.4		
	comp=N,7.9nm,1.0s								

ZUR 29 23:22:48.1, 47.74N×9.12E, h4km±1km, MLh0.9/13, 4C-3D, Error ellipse: s-maj=1963.1km s-min=612.2km az=174.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WALHA	**Wallhausen, DE**	**0.01**	**3**	⇓Pg	Pg	23 22 48.9	0.0
WALHA				Sg	Sg	23 22 49.6	+0.2
STEIN	**Stein am Rhein**	**0.18**	**247**	⇑Pg	Pg	23 22 52.1	+0.4
STEIN				Sg	Sg	23 22 55.2	+1.0
WEIN	**Weingarten**	**0.23**	**203**	⇑Pg	Pg	23 22 52.9	+0.3
WEIN				Sg	Sg	23 22 56.8	+1.2
EMING	**Emmingen-Lipti**	**0.24**	**309**	⇑Pg	Pg	23 22 53.1	+0.3
EMING				Sg	Sg	23 22 56.8	+0.9
NDTR1	**NAGRA Drilling**	**0.30**	**249**	⇓Pg	Pg	23 22 54.2	+0.3
NDTR1				Sg	Sg	23 22 58.6	+0.9
GUT	**Gutenstein**	**0.33**	**359**	Pg	Pg	23 22 54.9	+0.4
GUT				Sg	Sg	23 22 59.7	+0.9
WILA	**Wila**	**0.36**	**204**	⇓Pg	Pg	23 22 55.4	+0.5
WILA				Sg	Sg	23 23 00.9	+1.2
A102A	**Sigmaringen, J**	**0.40**	**7**	Pg	Pg	23 22 56.3	+0.4
A102A				Sg	Sg	23 23 02.1	+1.0
QEG02	**Wil, Freihalte**	**0.43**	**254**	Sg	Sg	23 23 02.6	+0.7
SLE	**Schleitheim**	**0.43**	**273**	⇑Pg	Pg	23 22 56.4	+0.1
BERGE	**Lenzkirch (DE)**	**0.65**	**282**	Sg	Sg	23 23 09.2	+0.2

TAP 29 23:22:54.4, 23.12N×120.70E, h36km±1km, ML1.9, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.07**	**46**	*e*P	Pn	23 22 59.8	-0.8
STYT				*i* S	Sn	23 23 05.7	+0.9
STYH	**Taoyuan**	**0.09**	**50**	P	Pn	23 23 00.9	+0.3
WTP	**Ta-pu**	**0.15**	**328**	*e*P	Pn	23 23 00.5	-4.7
WTP				S	Sn	23 23 05.8	-10
CHN1	**Nanshi**	**0.17**	**293**	*e*P	Pn	23 23 00.0	-4.3
CHN1				*e*S	Sn	23 23 04.4	-10
TPUB	**Ta-pu**	**0.20**	**340**	P	Pn	23 23 01.5	-2.3
TPUB				S	Sn	23 23 07.2	-5.5
TWK	**Hsinying**	**0.25**	**307**	*e*P	Pn	23 23 01.1	-1.7
TWK				S	Sn	23 23 08.4	-2.1
ELDTW	**Lidau**	**0.30**	**76**	P	Pn	23 23 02.9	+0.1
ELDTW				S	Sn	23 23 09.8	-0.1
WCKO	**Fanlu**	**0.33**	**344**	P	Pn	23 23 03.5	+0.7
WCKO				S	Sn	23 23 09.5	-0.1
SSD	**Sandimen**	**0.37**	**190**	P	Pn	23 23 03.9	+0.8
SSD				S	Sn	23 23 11.0	+1.2
TWM1	**Shoushan**	**0.39**	**222**	P	Pn	23 23 04.1	+0.8
TWM1				S	Sn	23 23 11.8	+1.7
ALS	**Alishan**	**0.41**	**13**	P	Pn	23 23 05.2	+1.3
ALS				*i* S	Sn	23 23 12.1	+1.2
TWG	**Pinlang**	**0.45**	**131**	*e*P	Pn	23 23 06.7	+2.5
TWGBT	**Beinan**	**0.46**	**130**	P	Pn	23 23 04.8	+0.5
EHD	**Haiduan**	**0.46**	**86**	P	Pn	23 23 06.2	+1.7
MASBT	**Mashibuluo**	**0.51**	**187**	P	Pn	23 23 06.3	+1.2
FULB	**Fuli**	**0.55**	**81**	P	Pn	23 23 06.7	+0.8
ECL	**Taimali**	**0.56**	**156**	*e*P	Pn	23 23 09.6	+3.5
EDH	**Donghe**	**0.57**	**104**	*e*P	Pn	23 23 05.0	-1.2
TWF1	**Yuli**	**0.59**	**67**	P	Pn	23 23 06.7	+0.1
WHYT	**Xinyi Township**	**0.59**	**13**	*e*P	Pn	23 23 10.0	+3.4
YULB	**Yu-li**	**0.61**	**63**	P	Pn	23 23 06.9	+0.1
YULB	**Yu-li**	**0.61**	**63**	P	Pn	23 23 06.2	-0.6
CHKH	**Chenggong**	**0.64**	**83**	P	Pn	23 23 07.5	+0.4
EHY	**Hungye**	**0.69**	**56**	*e*P	Pn	23 23 06.4	-1.4
SSLB	**Suanglung**	**0.71**	**19**	P	Pn	23 23 09.7	+1.7
SSLB	**Suanglung**	**0.71**	**19**	P	Pn	23 23 09.4	+1.4
SSLB	**Suanglung**	**0.71**	**19**		Pn	23 23 08.4	+0.4
EAST	**Anshuo**	**0.74**	**170**	P	Pn	23 23 08.5	+0.1
SCZT	**Fangliau**	**0.74**	**186**	P	Pn	23 23 09.8	+1.4
VWDT	**VWDT**	**0.75**	**32**	*e*P	Pn	23 23 08.4	-0.1

*VIE **29** 23:22:57.0±0.3, 47.75N×9.12E, h3km, mb1.7/1, ml1.5/5, Error ellipse: s-maj=2.7km s-min=1.9km az=7.0 10 km NNW of Konstanz*
*LDG **29** 23:22:57.0±0.1, 47.75N×9.11E, h4km, Ml1.9/5, Error ellipse: s-maj=1.8km s-min=1.2km az=49.0*
ZUR 29 23:22:56.9, 47.75N×9.11E, h3km±1km, MLh1.4/16, 4C-4D, Error ellipse: s-maj=2143.2km s-min=586.2km az=29.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WALHA	**Wallhausen, DE**	**0.01**	**56**	⇑Pg	Pg	23 22 57.5	0.0
WALHA				Sg	Sg	23 22 58.2	+0.2
SKRK	**Kreuzlingen, K**	**0.11**	**153**	Sg	Sg	23 23 01.3	+0.8
STEIN	**Stein am Rhein**	**0.18**	**245**	⇑Pg	Pg	23 23 00.7	+0.4
STEIN				Sg	Sg	23 23 03.8	+1.1
EMING	**Emmingen-Lipti**	**0.23**	**310**	Pg	Pg	23 23 01.7	+0.4
EMING				Sg	Sg	23 23 05.5	+1.1
WEIN	**Weingarten**	**0.23**	**201**	⇓Pg	Pg	23 23 01.7	+0.4
WEIN				Sg	Sg	23 23 05.6	+1.2
ROMAN	**Romanshorn, Fo**	**0.24**	**139**	⇓Pg	Pg	23 23 01.9	+0.4
ROMAN				Sg	Sg	23 23 05.5	+0.9
NDTR1	**NAGRA Drilling**	**0.29**	**247**	⇑Pg	Pg	23 23 02.8	+0.3
NDTR1				Sg	Sg	23 23 07.3	+1.0
TRULL	**Truellikon**	**0.30**	**252**	⇓Pg	Pg	23 23 03.1	+0.3
TRULL				Sg	Sg	23 23 07.6	+0.9
GUT	**Gutenstein**	**0.33**	**1**	Sg	Sg	23 23 08.3	+0.9
WILA	**Wila**	**0.36**	**202**	⇓Pg	Pg	23 23 04.2	+0.4
WILA				Sg	Sg	23 23 09.6	+1.2
STIEG	**Stiegenhof Hun**	**0.39**	**231**	⇑Pg	Pg	23 23 04.7	+0.2
STIEG				Sg	Sg	23 23 10.5	+0.9
A102A	**Sigmaringen, J**	**0.40**	**9**	Sg	Sg	23 23 10.8	+1.0
SLE	**Schleitheim**	**0.41**	**273**	Pg	Pg	23 23 05.0	+0.1
SLE				Sg	Sg	23 23 10.6	+0.4
QEG02	**Wil, Freihalte**	**0.42**	**253**	Pg	Pg	23 23 05.2	+0.2
QEG02				Sg	Sg	23 23 11.2	+0.8
SGT04	**Schlatt-Haslen**	**0.43**	**157**	Sg	Sg	23 23 12.3	+1.6
DAVA	**Damuels**	**0.70**	**131**	*e*Pg	Pb	23 23 11.3	-0.5
	0.4nm,0.1s						
DAVA				*e*Sg	Sb	23 23 20.8	-1.1
	1.7nm,0.1s						
RETA	**Reutte**	**1.15**	**102**	*i* Pg	Pg	23 23 18.2	-0.7
	0.2nm,0.1s						
RETA				*i* Sg	Sn	23 23 35.8	-0.5
	1.0nm,0.2s						
FETA	**Feichten**	**1.32**	**123**	*i* Sg	Sn	23 23 41.6	+1.0
	0.4nm,0.1s						
CDF	**Champ du Feu**	**1.40**	**299**	*e*Pg	Pn	23 23 23.5	+0.1
CDF				*e*Sg	Sg	23 23 41.8	0.0
	2.6nm,0.2s						
MOTA	**Moosalm**	**1.41**	**106**	*i* Pg	Pn	23 23 23.6	-0.1
	0.3nm,0.1s						
MOTA				*e*Sg	Sn	23 23 42.7	-0.1
	1.8nm,0.2s						
SQTA	**Sankt Quirin**	**1.52**	**109**	*i* Pg	Pb	23 23 25.7	-0.1
	0.6nm,0.1s						
SQTA				*i* Sg	Sg	23 23 45.9	+0.2
	1.2nm,0.1s						
HINF	**Hinteralfeld**	**1.52**	**274**	*e*Pg	Pn	23 23 23.5	-1.6
HINF				*e*Sg	Sn	23 23 44.9	-0.5
	0.9nm,0.2s						
HAU	**Haudompre**	**1.88**	**279**	*e*Pg	Pg	23 23 32.7	-0.1
HAU				*e*Sg	Sg	23 23 56.5	-0.6
	1.5nm,0.2s						
CABF	**La Chapelle**	**2.35**	**242**	*e*Sg	Sg	23 24 11.1	-1.3
	1.2nm,0.2s						

*MOS **29** 23:33:36.9, 41.20N×39.08E, h21km±1km, MPVA3.5*
*ISK **29** 23:33:36.9, 41.25N×39.11E, h17km, ML3.0/10*
*CFUSG **29** 23:33:38.1, 41.33N×39.08E, h10km, mb2.2/1, Black Sea Magtype MSH 3.0 from 1 stations*
*AFAD **29** 23:33:40.2, 40.93N×39.17E, h23km±2km, ML3.0*
ISC 29 23:33:37.3±1.2, 41.16N±0.03×39.03E±0.02, h19km±3km, n51, σ1ˢ35/87, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTUT	**Trabzon**	**0.58**	**107**	Pg	**Pg**	**23 33 48.5**	**-0.4**
KTUT				Sg	**Sg**	**23 33 56.5**	**-0.2**
KTUT	**Trabzon**	**0.58**	**107**	*e*Pg	**Pg**	**23 33 48.5**	**-0.4**
KTUT				*e*Sg	**Sg**	**23 33 56.5**	**-0.2**
MACK	**Trabzon**	**0.59**	**111**	P	**Pb**	**23 33 50.1**	**+1.0**
MACK				S	**Sg**	**23 33 56.8**	**-0.4**
MACK				*i* IAML		23 33 58.0	
	comp=N,6μm,0.1s						
MACK				*i* IAML		23 33 58.0	
	comp=E,4μm,0.3s						
ALUC	**Giresun/Alucra**	**0.84**	**194**	P	**Pb**	**23 33 53.6**	**+0.3**
ALUC				S	**Sb**	**23 34 03.4**	**-0.8**
ALUC				*i* IAML		23 34 05.0	
	comp=E,1μm,0.2s						
ALUC				*i* IAML		23 34 06.0	
	comp=N,2μm,0.7s						
ORDU	**Ordu-Boztepe**	**0.91**	**260**	P	**Pn**	**23 33 55.1**	**+0.1**
ORDU				S	**Sb**	**23 34 05.2**	**-0.8**
KELT	**Kelkit**	**1.02**	**170**	P	**Pb**	**23 33 56.6**	**+0.1**
KELT				S	**Sb**	**23 34 07.4**	**-2.2**
KELT				*i* IAML		23 34 10.0	
	comp=N,609nm,0.4s						
KELT				*i* IAML		23 34 10.0	
	comp=E,688nm,0.3s						
SUSE	**Susehri**	**1.14**	**214**	P	**Pb**	**23 33 59.0**	**+0.5**
SUSE				S	**Sb**	**23 34 11.6**	**-1.3**
SUSE				*i* IAML		23 34 14.0	
	comp=N,257nm,0.3s						
IZDR	**Rize**	**1.21**	**107**	P	**Pn**	**23 33 59.0**	**-0.3**
IZDR				S	**Sb**	**23 34 12.5**	**-2.5**
IZDR				*i* IAML		23 34 14.0	
	comp=N,429nm,0.3s						
IZDR				*i* IAML		23 34 16.0	
	comp=E,390nm,0.2s						
BAYB	**BAYBURT**	**1.29**	**134**	P	**Pn**	**23 34 01.2**	**+0.7**
BAYB				S	**Sn**	**23 34 14.9**	**-2.5**
BAYB				*i* IAML		23 34 18.0	
	comp=N,521nm,0.2s						
BAYB				*i* IAML		23 34 18.0	
	comp=E,509nm,0.4s						

CHOM	**Cayeli-Rize**	**1.31**	**92**		Pn	**Pn**	**23 34 00.4**	**-0.1**	
CHOM					Sn	**Sn**	**23 34 17.3**	**-0.1**	
RSDY	**Resadiye-TOKAT**	**1.50**	**240**		Pn	**Pb**	**23 34 05.1**	**+0.5**	
RSDY					Sn	**Sg**	**23 34 25.4**	**-0.5**	
EUZM	**Uzumlu**	**1.53**	**161**		P	**Pb**	**23 34 05.1**	**-0.1**	
EUZM					S	**Sn**	**23 34 22.1**	**-1.1**	
CUZAR	**Zara_SIVAS**	**1.59**	**218**		P	**Pb**	**23 34 07.1**	**+0.9**	
CUZAR					S	**Sn**	**23 34 24.5**	**-0.2**	
CUZAR				*i*	IAML		23 34 28.0		
	comp=E,150nm,0.4s								
CUZAR				*i*	IAML		23 34 29.0		
	comp=N,156nm,0.4s								
KOPT	**Kop Dagi**	**1.59**	**135**		P	**Pb**	**23 34 06.9**	**+0.6**	
KOPT					S	**Sn**	**23 34 25.5**	**+0.7**	
KOPT				*i*	IAML		23 34 29.0		
	comp=N,210nm,0.3s								
KOPT				*i*	IAML		23 34 31.0		
	comp=E,209nm,0.2s								
KRIK	**Erzurum-spir**	**1.66**	**119**		P	**Pb**	**23 34 07.7**	**+0.4**	
KRIK					S	**Sn**	**23 34 26.5**	**+0.2**	
KRIK				*i*	IAML		23 34 30.0		
	comp=E,162nm,0.2s								
KRIK				*i*	IAML		23 34 31.0		
	comp=N,116nm,0.3s								
ILIC	**ilic-Erzincan**	**1.74**	**192**		Pn	**Pb**	**23 34 08.9**	**+0.2**	
ILIC					Sn	**Sb**	**23 34 31.8**	**+1.6**	
EMRE	**Erzurum,Aziziy**	**1.86**	**127**		P	**Pg**	**23 34 12.3**	**-0.8**	
EMRE					S	**Sb**	**23 34 35.4**	**+1.7**	
SVSK	**Karacayir**	**1.98**	**232**		Pn	**Pb**	**23 34 12.3**	**-0.5**	
DBAD	**Bademkaya**	**2.02**	**93**		P	**Pn**	**23 34 11.1**	**+0.7**	
DBAD					S	**Sn**	**23 34 31.1**	**-4.0**	
DBAD				*i*	IAML		23 34 39.0		
	comp=E,89nm,0.4s								
TOKT	**Tokat**	**2.07**	**247**		Pn	**Pb**	**23 34 13.5**	**-0.7**	
YEDI	**Yedisu-Bingol**	**2.07**	**146**		Pn	**Pn**	**23 34 12.7**	**+1.5**	
DDEM	**Demirkent**	**2.07**	**96**		P	**Pn**	**23 34 12.6**	**+1.5**	
DDEM					S	**Sn**	**23 34 33.6**	**-2.9**	
DDEM				*i*	IAML		23 34 48.0		
	comp=N,240nm,0.3s								
TNCL	**Tunceli-Merkez**	**2.08**	**169**		P	**Pb**	**23 34 14.3**	**-0.1**	
TNCL					S	**Sb**	**23 34 39.3**	**-0.5**	
ETEKE	**Tekederesi - E**	**2.10**	**130**		P	**Pb**	**23 34 16.5**	**+1.5**	
ETEKE					S	**Sb**	**23 34 41.3**	**+0.5**	
ECAT	**Cat-ERZURUM**	**2.14**	**136**		P	**Pb**	**23 34 16.5**	**+0.9**	
ECAT					S	**Sb**	**23 34 43.5**	**+1.6**	
ERZM	**Erzurum**	**2.17**	**124**		P	**Pb**	**23 34 17.6**	**+1.4**	
KARO	**Karliova-Bingo**	**2.41**	**139**		Pn	**Pn**	**23 34 17.4**	**+1.6**	
VSLR	**Vesyoloye**	**2.42**	**17**	*e*	Pn	**Pn**	**23 34 16.2**	**+0.4**	
VSLR				*e*	Sn	**Sn**	**23 34 44.1**	**-0.8**	
SOC	**Sochi**	**2.48**	**12**	*e*	Pn	**Pn**	**23 34 15.3**	**-1.3**	
SOC				*e*	Sn	**Sn**	**23 34 45.2**	**-1.1**	
RPOR	**Krasnaya Polya**	**2.70**	**19**	*e*	Pn	**Pn**	**23 34 20.0**	**+0.3**	
RPOR				*e*	Sn	**Sn**	**23 34 50.9**	**-1.0**	
MRNR	**Maryino**	**2.80**	**7**	*e*	Pn	**Pn**	**23 34 21.1**	**+0.1**	
MRNR				*e*	Sn	**Sn**	**23 34 53.1**	**-1.1**	
GUZR	**Guzeripl'**	**2.95**	**15**	*e*	Pn	**Pn**	**23 34 24.3**	**+1.1**	
GUZR				*e*	Sn	**Sn**	**23 34 57.1**	**-0.9**	
GOYR	**Goytkh**	**3.10**	**5**	*e*	Pn	**Pn**	**23 34 25.8**	**+0.6**	
GOYR				*e*	Sn	**Sn**	**23 35 02.5**	**+0.8**	
YOZ	**Yozgat**	**3.21**	**243**		Pn	**Pn**	**23 34 29.9**	**+3.0**	
GRYR	**Gornoye**	**3.33**	**26**	*e*	Pn	**Pn**	**23 34 28.7**	**+0.4**	
GRYR				*e*	Sn	**Sn**	**23 35 07.6**	**+0.3**	
SPGR	**Shapsug**	**3.65**	**349**	*e*	Pn	**Pn**	**23 34 35.1**	**+2.3**	
SPGR				*e*	Sn	**Sn**	**23 35 16.4**	**+1.1**	
SHA1	**Shidzhatmaz**	**3.72**	**45**	*e*	Pn	**Pn**	**23 34 35.3**	**+1.4**	
SHA1				*e*	Sn	**Sn**	**23 35 14.5**	**-2.8**	
ANN	**Anapa**	**3.83**	**343**	*e*	Pn	**Pn**	**23 34 38.4**	**+3.3**	
ANN				*e*	Sn	**Sn**	**23 35 20.8**	**+1.3**	
KBZ	**Khabaz**	**3.84**	**47**	*e*	Pn	**Pn**	**23 34 38.0**	**+2.6**	
KBZ				*e*	Sn	**Sn**	**23 35 20.8**	**+0.2**	
BZK	**Bozkurt**	**3.86**	**284**		Pn	**Pn**	**23 34 37.6**	**+2.0**	
SRGR	**Sergiyevskiy**	**4.26**	**1**	*e*	Pn	**Pn**	**23 34 43.5**	**+2.4**	
SRGR				*e*	Sn	**Sn**	**23 35 28.7**	**-1.6**	
SUDU	**Sudak**	**4.76**	**323**	*e*	Pn	**Pn**	**23 34 47.4**	**-0.6**	
SUDU				*e*	Sn	**Sn**	**23 35 41.3**	**-1.3**	
SUDU	**Sudak**	**4.76**	**323**	*e*	P	**Pn**	**23 34 47.4**	**-0.6**	
SUDU					Pm		23 34 50.2		
	comp=Z,2.0nm,0.3s								
SUDU				*e*	S	**Sn**	**23 35 41.3**	**-1.3**	
SUDU					Sm		23 35 47.7		
	comp=N,6.0nm,0.3s								
SUDU					Sm		23 35 47.7		
	comp=E,2.0nm,0.3s								
YAL	**Yalta**	**4.89**	**314**	*e*	Pn	Pb	23 34 55.9	-6.5	
YAL				*e*	Sn	**Sn**	**23 35 44.9**	**-1.0**	
YAL	**Yalta**	**4.89**	**314**	*e*	S	**Sn**	**23 35 44.9**	**-1.0**	
YAL					Sm		23 35 46.4		
	comp=N,3.0nm,0.2s								
YAL					Sm		23 35 46.4		
	comp=E,2.0nm,0.3s								
ALU	**Alushta**	**4.90**	**318**	*e*	Pn	Pb	23 34 55.6	-6.8	
ALU				*i*	Sn	**Sn**	**23 35 45.6**	**-0.3**	
ALU	**Alushta**	**4.90**	**318**	*i*	S	**Sn**	**23 35 45.6**	**-0.3**	
ALU					Sm		23 35 46.7		
	comp=N,20nm,0.3s								
ALU

KALU	**Kalix**	**2.34**	**147**	PB			23 38 53.0
KALU				SG			23 39 25.4
ARA0	**ARCESS Array S**	**2.55**	**46**	PB			23 38 56.7
ARA0				SG			23 39 30.2
ARCES	**ARCESS Array B**	**2.55**	**46**	Pn		**Pn**	**23 38 55.6 +1.5**
	comp=Z,0.5nm,0.3s,baz=229,slow=14,SNR=15						
ARCES				Lg		Lg	23 39 28.5
	comp=Z,1.1nm,0.3s,baz=228,slow=24,SNR=12						
	comp=Z,1.1nm,0.3s						
RNF	**Rovaniemi**	**2.55**	**117**	PB			23 38 57.0
	baz=304						
RNF				SG			23 39 30.9
RAJF	**Raja-Jooseppi**	**3.06**	**75**	PN			23 39 02.6
RAJF				SG			23 39 46.0
KEV	**Kevo**	**3.10**	**49**	PB			23 39 06.4
KEV				SG			23 39 46.5
RANF	**Ranua**	**3.15**	**123**	PB			23 39 05.9
RANF				SG			23 39 49.7
VRF	**Varrio**	**3.54**	**87**	PG			23 39 16.4
VRF				SG			23 40 02.7
KU2	**Taivalkoski**	**3.81**	**121**	PG			23 39 21.8
OLKF	**Oulanka, Finla**	**3.88**	**109**	PN			23 39 14.5
MSF	**Maaselka**	**3.96**	**115**	PN			23 39 15.8
UMAU	**Umeaa**	**3.99**	**178**	PB			23 39 18.2
KU6	**Riekki**	**4.20**	**111**	PN			23 39 18.6
KU1	**Kurvinen**	**4.34**	**118**	PN			23 39 21.1
FINES	**FINESS Array B**	**6.89**	**156**	Pn		**Pn**	**23 39 55.4 +1.7**
	comp=Z,0.1nm,0.3s,baz=342,slow=13,SNR=2.0						
FINES				Sn		**Sn**	**23 41 12.0 -0.1**
	comp=Z,0.1nm,0.3s,baz=345,slow=20,SNR=1.2						
FINES				Lg		Lg	23 41 47.3
	comp=Z,0.2nm,0.3s,baz=344,slow=25,SNR=1.4						
	comp=Z,1.9nm,0.9s						
NOA	**NORSAR Array B**	**7.87**	**214**	Pn		Pn	23 40 12.0 +4.8
	baz=25,slow=11,SNR=1.9						
NOA				Sn		**Sn**	**23 41 39.8 +3.6**
	baz=30,slow=22,SNR=1.7						
NOA				Lg		Lg	23 42 25.2
	baz=30,slow=20,SNR=1.8						
	comp=Z,0.4nm,0.9s						
HFS	**Hagfors**	**8.27**	**204**	Pn		**Pn**	**23 40 13.4 +0.9**
	baz=21,slow=12,SNR=2.1						
	comp=Z,3.1nm,1.0s						

*NOU **29** 23:43:48.6, 17°.93S×176°.64W, h737km, MLv4.5/5, Fiji Islands Region*
*IDC **29** 23:44:09.0±6.2, 18°.09S×178°.21W, h485km±71km, mb3.4/14, mbtmp4.2/14, Error ellipse: s-maj=22.8km s-min=17.7km az=73.0*
*NEIC **29** 23:44:12.7±1.4, 18°.16S±0°.09×178°.2W±0°.1, h523km±11km, mb4.1/17, Error ellipse: s-maj=18.6km s-min=11.5km az=71.0*

ISC 29 23:44:10.8±0.6,**18°.1S**±0°.1×**178°.21W**±0°.09,**h500**km,**n46,** σ1§**68**/46,**mb3.9**/25,**5C,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.58**	**259**	P	**P**	**23 45 15.0**	**+3.9**
TAVE	**Taveuni**	**2.14**	**311**	P	**P**	**23 45 20.4**	**+3.7**
DGTI	**Dogotuki**	**2.67**	**312**	P	**P**	**23 45 22.6**	**+2.9**
MSVF	**Nonsavu**	**3.58**	**276**	P	**P**	**23 45 30.4**	**+4.4**
MSVF	**Nonsavu**	**3.58**	**276**	P	**P**	**23 45 30.2**	**+4.2**
FUTU	**Fugatoga**	**3.80**	**1**	P	**P**	**23 45 30.3**	**+2.7**
YSA	**Yasawairara**	**4.26**	**289**	P	**P**	**23 45 34.5**	**+3.1**
NIUE	**Niue**	**7.92**	**98**	P	**P**	**23 46 07.6**	**+1.3**
URZ	**Urewera**	**20.47**	**191**	P	**P**	**23 48 12.5**	**-1.0**
	2.7nm,0.4s,baz=315,slow=1.4,SNR=2.1						
	2.7nm,0.4s						
FOZ	**Fox Glacier**	**27.27**	**199**	P	**P**	**23 49 13.3**	**-0.7**
EIDS	**Eidsvold**	**29.37**	**250**	P	**P**	**23 49 32.6**	**-0.1**
EIDS				IAmb	IAmb	23 49 32.9	
	comp=Z,3.2nm,0.7s						
CTAO	**Charters Tower**	**33.59**	**261**	P	**P**	**23 50 08.5**	**-0.6**
COEN	**Coen**	**37.29**	**271**	P	**P**	**23 50 39.6**	**-0.3**
STKA	**Stephens Creek**	**38.69**	**241**	P	**P**	**23 50 51.2**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=81,slow=13,SNR=1.5						
	comp=Z,0.6nm,0.3s						
JAY	**Jayapura**	**43.14**	**286**	P	**P**	**23 51 26.8**	**-0.1**
	comp=Z,4.0nm,0.4s,baz=146,slow=15,SNR=5.1						
	comp=Z,4.0nm,0.4s						
BBOO	**Buckleboo**	**43.47**	**241**	P	**P**	**23 51 28.8**	**-0.3**
WR8	**Warramunga Arr**	**44.62**	**260**	P	**P**	**23 51 37.1**	**-1.3**
WR8				IAmb	IAmb	23 51 48.9	
	comp=Z,9.6nm,1.5s						
WB0	**Warramunga Arr**	**44.74**	**260**	P	**P**	**23 51 38.0**	**-1.3**
WB0				IAmb	IAmb	23 51 58.8	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**44.78**	**260**	P	**P**	**23 51 38.0**	**-1.5**
WRA	**Warramunga Arr**	**44.78**	**260**	P	**P**	**23 51 38.1**	**-1.5**
	comp=Z,1.9nm,0.6s,baz=96,slow=7.5,SNR=33						
	comp=Z,1.9nm,0.6s						
AS31	**Alice Springs**	**44.91**	**254**	P	**P**	**23 51 40.0**	**-0.6**
AS31				IAmb	IAmb	23 51 40.5	
	comp=Z,2.9nm,0.7s						
ASAR	**Alice Springs**	**44.91**	**254**	P	**P**	**23 51 39.5**	**-1.1**
ASAR	**Alice Springs**	**44.91**	**254**	P	**P**	**23 51 39.8**	**-0.7**
	comp=Z,7.2nm,0.4s,baz=92,slow=7.8,SNR=102						
	comp=Z,7.2nm,0.4s						
KNRA	**Kununurra**	**50.65**	**264**	P	**P**	**23 52 22.5**	**-1.2**
KNRA				IAmb	IAmb	23 52 23.4	
	comp=Z,8.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.18**	**261**	P	**P**	**23 52 41.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**53.18**	**261**	P	**P**	**23 52 41.2**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=116,slow=5.3,SNR=2.5						
	comp=Z,1.9nm,0.8s						
SBA	**Scott Base**	**60.22**	**184**	P	**P**	**23 53 30.4**	**+1.1**
SBA				IAmb	IAmb	23 53 31.4	
	comp=Z,9.0nm,1.2s						
TOLI2	**Tolitoli**	**62.94**	**281**	P	**P**	**23 53 47.5**	**-0.8**
TOLI2				IAmb	IAmb	23 54 01.0	
	comp=Z,5.5nm,0.7s						
MJAR	**Matsushiro Arr**	**68.19**	**323**	P	**P**	**23 54 20.4**	**-0.4**
	comp=Z,0.7nm,0.2s,baz=124,slow=8.5,SNR=1.8						
	comp=Z,0.7nm,0.2s						
QSPA	**South Pole Qui**	**71.93**	**180**	P	**P**	**23 54 43.4**	**+0.6**
QSPA	**South Pole Qui**	**71.93**	**180**	P	**P**	**23 54 43.3**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=44,slow=1.4,SNR=15						
	comp=Z,2.3nm,0.7s						
PETK	**Petropavlovsk-**	**73.94**	**345**	P	**P**	**23 54 53.4**	**-0.8**
	comp=Z,2.5nm,0.7s,baz=150,slow=5.8,SNR=4.0						
	comp=Z,2.5nm,0.7s						
NVAR	**Mina Array Bea**	**79.45**	**44**	P	**P**	**23 55 24.6**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=245,slow=4.9,SNR=7.0						
	comp=Z,1.0nm,0.8s						
U15A	**North Rim**	**82.52**	**48**	P	**P**	**23 55 40.8**	**-0.3**
U15A				IAmb	IAmb	23 55 42.4	
	comp=Z,2.7nm,0.7s						
ELK	**Elko**	**82.69**	**43**	P	**P**	**23 55 41.1**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=297,slow=4.5,SNR=4.2						
	comp=Z,1.1nm,0.9s						
PV14	**Lion Creek, Pa**	**85.73**	**47**		**P**	**23 55 56.5**	**-0.5**
PV14				IAmb	IAmb	23 56 00.1	
	comp=Z,3.0nm,0.6s						
TX31	**Lajitas Ar. Si**	**85.95**	**58**	P	**P**	**23 55 58.6**	**+0.6**
TXAR	**Lajitas Array**	**85.95**	**58**	P	**P**	**23 55 57.8**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=247,slow=4.5,SNR=18						
	comp=Z,1.1nm,0.7s						
PDAR	**Pinedale Array**	**87.38**	**43**	P	**P**	**23 56 03.8**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=256,slow=4.1,SNR=3.9						
	comp=Z,0.5nm,0.5s						
TROLL	**Troll, Antarti**	**90.09**	**180**	⇑P	**P**	**23 56 15.3**	**-1.4**
	comp=Z,39nm,0.3s						
SNAA	**Sanae**	**90.38**	**179**	⇑P	**P**	**23 56 16.4**	**-1.5**
	comp=Z,20nm,0.7s						
SNAA	**Sanae**	**90.38**	**179**	P	**P**	**23 56 16.3**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=196,slow=7.4,SNR=9.2						
	comp=Z,0.6nm,0.7s						
VNA3	**Neumayer Olymp**	**90.51**	**176**	⇑P	**P**	**23 56 17.7**	**-0.7**
	comp=Z,3.2nm,0.6s						
VNA2	**Neumayer--Watz**	**90.95**	**177**	⇑P	**P**	**23 56 19.9**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=180,slow=5.4						
VNA1	**Neumayer--Stat**	**91.18**	**177**	⇑P	**P**	**23 56 20.5**	**-0.9**
	comp=Z,2.4nm,0.8s						
BRTR	**Keskin Array B**	**145.06**	**315**	PKPbc	**PKPdf**	**00 02 51.2**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=54,slow=7.3,SNR=2.2						

*IDC **30** 00:20:23.7±1.1, 4°.72N×126°.51E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=74.1km s-min=20.8km az=67.0*

ISC 30 00:20:35.9±1.1,**4°.5N**±0°.2×**126°.2E**±0°.5,**h100**km,**n6,** σ0§**42**/6,**mb3.6**/6,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.59**	**162**	P	**P**	**00 25 55.5**	**-0.3**
	1.3nm,0.8s,baz=344,slow=10,SNR=8.6						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**29.00**	**165**	P	**P**	**00 26 26.6**	**+0.2**
	0.1nm,0.4s,baz=348,slow=8.5,SNR=1.3						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**56.62**	**325**	P	**P**	**00 30 09.0**	**+0.5**
	0.6nm,0.5s,baz=118,slow=6.6,SNR=9.9						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**60.80**	**327**	P	**P**	**00 30 37.4**	**0.0**
	0.7nm,0.6s,baz=122,slow=6.9,SNR=7.6						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**66.38**	**327**	P	**P**	**00 31 13.7**	**-0.4**
	0.8nm,0.7s,baz=116,slow=6.8,SNR=4.9						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**84.62**	**25**	P	**P**	**00 32 58.1**	**+0.1**
	0.3nm,0.7s,baz=276,slow=3.2,SNR=2.5						
	0.3nm,0.7s						

*ZUR **30** 00:42:41.6, 47°.74N×9°.11E, h5km, MLh3.2/161, Error ellipse: s-maj=1553.6km s-min=360.7km az=227.0*
*BUG **30** 00:42:41.9±0.5, 47°.78N×9°.05E, h7km±2km, MD3.6/11, ML3.6/12*
*BGR **30** 00:42:41.6±0.2, 47°.75N×9°.11E, h5km, ML3.0/15, Error ellipse: s-maj=2.2km s-min=1.1km az=2.0*
*PRU **30** 00:42:41.5, 47°.84N×9°.10E, h1km*
*LDG **30** 00:42:42.2±0.1, 47°.74N×9°.11E, h4km, Ml3.3/43, Error ellipse: s-maj=1.0km s-min=0.8km az=99.0*

ISC 30 00:42:40.5±0.7,**47.74N**±0°.01×**9°.09E**±0°.01,**h11**km±4km, **n251,**σ1§**35**/431,**66C-32D,Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WALHA	**Wallhausen, DE**	**0.03**	**59**	⇓Pg	**Pg**	**00 42 42.4**	**-0.1**
WALHA				Sg	**Sg**	**00 42 43.2**	**-0.7**
WALHA	**Wallhausen, DE**	**0.03**	**59**	Pg	**Pg**	**00 42 42.4**	**-0.1**
WALHA				Sg	**Sg**	**00 42 43.2**	**-0.7**
KONZ	**Konstanz**	**0.09**	**144**	Pg	**Pg**	**00 42 43.5**	**+0.5**
KONZ				Sg	**Sg**	**00 42 45.4**	**+0.5**
SKRK	**Kreuzlingen, K**	**0.11**	**145**	⇑Pg	**Pg**	**00 42 43.9**	**+0.6**
SKRK				Sg	**Sg**	**00 42 46.0**	**+0.7**
SKRK	**Kreuzlingen, K**	**0.11**	**145**	⇓Pg	**Pg**	**00 42 43.9**	**+0.6**
SKRK				Sg	**Sg**	**00 42 46.0**	**+0.7**
STEIN	**Stein am Rhein**	**0.16**	**245**	⇑Pg	**Pb**	**00 42 45.6**	**0.0**
STEIN				Sg	**Sg**	**00 42 48.7**	**+2.0**
STEIN	**Stein am Rhein**	**0.16**	**245**	⇑Pg	**Pb**	**00 42 45.6**	**0.0**
STEIN				Sg	**Sg**	**00 42 48.7**	**+2.0**
STEIN	**Stein am Rhein**	**0.16**	**245**	⇑Pg	**Pb**	**00 42 45.6**	**0.0**
STEIN				Sg	**Sg**	**00 42 48.6**	**+2.0**
WEIN	**Weingarten**	**0.22**	**198**	⇑Pg	**Pb**	**00 42 46.5**	**-0.1**
WEIN				Sg	**Sg**	**00 42 50.3**	**+2.1**
WEIN	**Weingarten**	**0.22**	**198**	⇑Pg	**Pb**	**00 42 46.5**	**-0.1**
WEIN				Sg	**Sg**	**00 42 50.3**	**+2.1**
EMING	**Emmingen-Lipti**	**0.23**	**313**	⇑Pg	**Pb**	**00 42 46.6**	**-0.1**
EMING				Sg	**Sg**	**00 42 50.3**	**+1.9**
EMING	**Emmingen-Lipti**	**0.23**	**313**	⇑Pg	**Pb**	**00 42 46.6**	**-0.1**
EMING				Sg	**Sg**	**00 42 50.3**	**+1.9**
EMING	**Emmingen-Lipti**	**0.23**	**313**	⇑Pg	**Pb**	**00 42 46.6**	**-0.1**
EMING				Sg	**Sg**	**00 42 50.3**	**+1.9**
ROMAN	**Romanshorn, Fo**	**0.24**	**136**	⇓Pg	**Pb**	**00 42 46.5**	**-0.4**
ROMAN				Sg	**Sg**	**00 42 50.2**	**+1.3**
ROMAN	**Romanshorn, Fo**	**0.24**	**136**	⇓Pg	**Pb**	**00 42 46.5**	**-0.4**
ROMAN				Sg	**Sg**	**00 42 50.2**	**+1.3**
NDTR1	**NAGRA Drilling**	**0.28**	**248**	⇑Pg	**Pb**	**00 42 47.7**	**+0.2**
NDTR1				Sg	**Sb**	**00 42 52.1**	**-0.1**
SWIK	**Wil, Kantonssc**	**0.28**	**187**	Pg	**Pb**	**00 42 47.6**	**0.0**
SWIK				Sg	**Sb**	**00 42 52.1**	**-0.2**
TRULL	**Truellikon**	**0.29**	**252**	⇑Pg	**Pb**	**00 42 47.9**	**+0.2**
TRULL				Sg	**Sb**	**00 42 52.4**	**-0.1**
SGT18	**Golfpark Waldk**	**0.29**	**158**	⇓Pg	**Pb**	**00 42 47.6**	**-0.2**
SGT18				Sg	**Sb**	**00 42 52.1**	**-0.5**
SCHS	**Schaffhausen,**	**0.30**	**265**	⇑Pg	**Pb**	**00 42 48.2**	**+0.2**
SCHS				Sg	**Sb**	**00 42 52.9**	**-0.1**
SCHS	**Schaffhausen,**	**0.30**	**265**	⇑Pg	**Pb**	**00 42 48.2**	**+0.2**
SCHS				Sg	**Sb**	**00 42 52.9**	**-0.1**
A103D	**Ravensburg, Wa**	**0.32**	**79**	⇑Pg	**Pb**	**00 42 47.9**	**-0.3**
A103D	**Ravensburg, Wa**	**0.32**	**79**	⇑Pg	**Pb**	**00 42 47.9**	**-0.3**
A103D				Sg	**Sb**	**00 42 52.6**	**-0.9**
SARE	**Arbon, Evangel**	**0.32**	**134**	⇑Pg	**Pb**	**00 42 48.2**	**-0.2**
SARE				Sg	**Sb**	**00 42 53.0**	**-0.5**
SARE	**Arbon, Evangel**	**0.32**	**134**	⇓Pg	**Pb**	**00 42 48.1**	**-0.2**
SARE				Sg	**Sb**	**00 42 53.0**	**-0.5**
GUT	**Gutenstein**	**0.33**	**3**	⇑Pg	**Pb**	**00 42 48.3**	**-0.2**
GUT				Sg	**Sb**	**00 42 53.2**	**-0.6**
GUT	**Gutenstein**	**0.33**	**3**	⇑Pg	**Pb**	**00 42 48.3**	**-0.2**
GUT				Sg	**Sb**	**00 42 53.3**	**-0.6**
SWIS	**Winterthur Spi**	**0.34**	**226**	⇑Pg	**Pb**	**00 42 48.7**	**+0.2**
SWIS				Sg	**Sb**	**00 42 53.8**	**0.0**
WILA	**Wila**	**0.35**	**201**	⇑Pg	**Pb**	**00 42 48.9**	**+0.2**
WILA				Sg	**Sb**	**00 42 54.4**	**+0.1**
WILA	**Wila**	**0.35**	**201**	⇑Pg	**Pb**	**00 42 48.9**	**+0.2**
WILA				Sg	**Sb**	**00 42 54.4**	**+0.1**
SGT00	**Sennhlsen**	**0.35**	**154**	Sg	**Sb**	**00 42 53.8**	**-0.5**
TETT	**Tettnang**	**0.36**	**102**	⇑Pg	**Pb**	**00 42 48.8**	**-0.2**
TETT				Sg	**Sb**	**00 42 54.3**	**-0.5**
TETT	**Tettnang**	**0.36**	**102**	*i* Pg	**Pb**	**00 42 48.8**	**-0.2**
TETT				Sg	**Sb**	**00 42 54.3**	**-0.5**
STGK	**St. Gallen Klo**	**0.37**	**148**	Sg	**Sb**	**00 42 54.6**	**-0.4**
STGK	**St. Gallen Klo**	**0.37**	**148**	Sg	**Sb**	**00 42 54.6**	**-0.4**
STIEG	**Stiegenhof Hun**	**0.38**	**231**	⇑Pg	**Pb**	**00 42 49.5**	**+0.3**
STIEG				Sg	**Sb**	**00 42 55.4**	**+0.2**
FLACH	**Flaach**	**0.39**	**245**	⇑Pg	**Pb**	**00 42 49.8**	**+0.4**
FLACH	**Flaach**	**0.39**	**245**	⇑Pg	**Pb**	**00 42 49.8**	**+0.4**
SGT05	**Eggersriet**	**0.39**	**140**	⇓Pg	**Pb**	**00 42 49.4**	**-0.1**
SGT05				Sg	**Sb**	**00 42 55.3**	**-0.1**
SGT05	**Eggersriet**	**0.39**	**140**	⇓Pg	**Pb**	**00 42 49.4**	**-0.1**
SGT05				Sg	**Sb**	**00 42 55.3**	**-0.1**
SAUL	**Bad Saulgau**	**0.40**	**46**	⇑Pg	**Pb**	**00 42 49.2**	**-0.3**
SAUL				Sg	**Sb**	**00 42 54.8**	**-0.9**
QEG02	**Wil, Freihalte**	**0.40**	**253**	⇑Pg	**Pb**	**00 42 50.0**	**+0.3**
QEG02				Sg	**Sb**	**00 42 56.0**	**+0.2**
SLE	**Schleitheim**	**0.40**	**274**	⇑Pg	**Pb**	**00 42 49.9**	**+0.2**
SLE				Sg	**Sb**	**00 42 55.6**	**-0.2**
SLE	**Schleitheim**	**0.40**	**274**	⇑Pg	**Pb**	**00 42 49.9**	**+0.2**
SLE				Sg	**Sb**	**00 42 55.7**	**-0.2**
QEG00	**Eglisau, Reser**	**0.40**	**247**	⇑Pg	**Pb**	**00 42 50.1**	**+0.5**
QEG00				Sg	**Sb**	**00 42 56.2**	**+0.3**
A102A	**Sigmaringen, J**	**0.41**	**11**	⇑Pg	**Pb**	**00 42 49.8**	**0.0**
A102A				Sg	**Sb**	**00 42 55.8**	**-0.3**
A102A	**Sigmaringen, J**	**0.41**	**11**	⇑Pg	**Pb**	**00 42 49.8**	**0.0**
A102A				Sg	**Sb**	**00 42 55.8**	**-0.3**
A102A	**Sigmaringen, J**	**0.41**	**11**	Pg	**Pb**	**00 42 49.8**	**0.0**
A102A				Sg	**Sb**	**00 42 55.8**	**-0.3**
SGT04	**Schlatt-Haslen**	**0.43**	**155**	⇓Pg	**Pb**	**00 42 50.4**	**+0.2**
SGT04				Sg	**Sb**	**00 42 57.0**	**+0.3**
NDBU	**Wasserreservoi**	**0.43**	**244**	⇑Pg	**Pb**	**00 42 50.7**	**+0.5**
NDBU				Sg	**Sb**	**00 42 57.3**	**+0.6**
SKLW	**Kloten, Waffen**	**0.45**	**232**	Pg	**Pb**	**00 42 50.9**	**+0.4**
MSS	**Messtetten**	**0.45**	**349**	*e*Pg	**Pb**	**00 42 50.7**	**+0.2**
MSS				*e*Sg	**Sb**	**00 42 57.2**	**0.0**
MSS	**Messtetten**	**0.45**	**349**	Pg	**Pb**	**00 42 50.7**	**+0.2**
MSS				Sg	**Sb**	**00 42 57.2**	**0.0**
QEG01	**Stadel, Weggab**	**0.46**	**247**	⇑Pg	**Pb**	**00 42 51.2**	**+0.6**
QEG01				Sg	**Sb**	**00 42 58.0**	**+0.6**
SAPK	**Appenzell, Kan**	**0.46**	**152**	⇓Pg	**Pb**	**00 42 50.9**	**+0.2**
SAPK				Sg	**Sb**	**00 42 57.7**	**+0.2**
EBIN	**Albstadt-Ebing**	**0.47**	**356**	Sg	**Sb**	**00 42 57.9**	**0.0**
FREU	**Neufra-Freuden**	**0.50**	**4**	⇑Pg	**Pb**	**00 42 51.4**	**+0.1**
FREU				Sg	**Sb**	**00 42 58.6**	**-0.1**
ROTE	**Rottweil**	**0.50**	**326**	⇓Pg	**Pb**	**00 42 51.6**	**+0.2**
ROTE				Sg	**Sb**	**00 42 58.6**	**-0.1**
ROTE	**Rottweil**	**0.50**	**326**	⇓Pg	**Pb**	**00 42 51.6**	**+0.2**
ROTE				Sg	**Sb**	**00 42 58.7**	**-0.1**
ZUR	**Degenried**	**0.50**	**223**	⇑Pg	**Pb**	**00 42 51.9**	**+0.5**
ZUR				Sg	**Sb**	**00 42 59.3**	**+0.5**
BHBD	**Braunhartsberg**	**0.51**	**354**	Pg	**Pb**	**00 42 51.9**	**+0.3**
BHBD				Sg	**Sb**	**00 42 59.2**	**+0.1**
LIENZ	**Kamor/St.Gall**	**0.52**	**148**	⇓Pg	**Pb**	**00 42 52.1**	**+0.3**
LIENZ				Sg	**Sb**	**00 42 59.8**	**+0.3**
LIENZ	**Kamor/St.Gall**	**0.52**	**148**	⇓Pg	**Pb**	**00 42 52.1**	**+0.3**
LIENZ				Sg	**Sb**	**00 42 59.9**	**+0.5**
A101B	**Rottweil, Deis**	**0.52**	**317**	⇑Pg	**Pb**	**00 42 52.1**	**+0.3**
A101B	**Rottweil, Deis**	**0.52**	**317**	Pg	**Pb**	**00 42 52.1**	**+0.3**
A101B				Sg	**Sb**	**00 42 59.3**	**-0.1**
BOBI	**Bbikon, Wasse**	**0.54**	**249**	⇑Pg	**Pb**	**00 42 52.7**	**+0.7**
BOBI				Sg	**Sb**	**00 43 00.4**	**+0.6**
A104C	**Biberach, Ahle**	**0.55**	**44**	⇑Pg	**Pb**	**00 42 52.1**	**0.0**
A104C	**Biberach, Ahle**	**0.55**	**44**	⇑Pg	**Pb**	**00 42 52.1**	**0.0**
A104C				Sg	**Sb**	**00 42 59.6**	**-0.5**
ONST	**Albstadt-Onstm**	**0.55**	**354**	Sg	**Sb**	**00 43 00.3**	**+0.2**
BALG	**Balingen, Zoll**	**0.56**	**344**	Sg	**Sb**	**00 43 00.5**	**+0.2**
METMA	**Mettma DE**	**0.56**	**268**	⇑Pg	**Pb**	**00 42 52.8**	**+0.4**
METMA				Sg	**Sb**	**00 43 00.6**	**+0.1**
METMA	**Mettma DE**	**0.56**	**268**	⇑Pg	**Pb**	**00 42 52.8**	**+0.4**
METMA				Sg	**Sb**	**00 43 00.6**	**+0.1**
EWZT2	**Wettswil, ZR**	**0.57**	**225**	⇑Pg	**Pb**	**00 42 53.2**	**+0.7**
EWZT2				Sg	**Sb**	**00 43 01.5**	**+0.9**
ZWI	**Zwiefalten, Ha**	**0.57**	**25**	⇑Pg	**Pb**	**00 42 52.6**	**0.0**
ZWI				Sg	**Sb**	**00 43 00.5**	**-0.3**
ACHB	**Acheberg**	**0.58**	**255**	⇑Pg	**Pb**	**00 42 53.3**	**+0.6**
ACHB				Sg	**Sb**	**00 43 01.6**	**+0.6**
JUNG	**Jungingen**	**0.59**	**357**	Sg	**Sb**	**00 43 01.5**	**+0.1**
ERPF	**Erpfingen**	**0.61**	**6**	SmS		00 43 06.1	
BERGE	**Lenzkirch (DE)**	**0.63**	**283**	⇑Pg	**Pb**	**00 42 54.1**	**+0.6**
BERGE	**Lenzkirch (DE)**	**0.63**	**283**	⇑Pg	**Pb**	**00 42 54.1**	**+0.6**
BERGE				PmP		00 42 56.0	
BERGE				Sg	**Sb**	**00 43 02.8**	**+0.4**
BERGE				SmS		00 43 06.5	
SWAS	**Walenstadt, Sp**	**0.64**	**166**	Pg	**Pb**	**00 42 54.3**	**+0.7**
SBUA2	**Buchs, Altendo**	**0.64**	**156**	⇓Pg	**Pb**	**00 42 54.1**	**+0.4**
MSGN	**Moessingen, Su**	**0.67**	**358**	SmS		00 43 07.4	
SULZ	**Cheisacher**	**0.69**	**253**	⇑Pg	**Pb**	**00 42 55.4**	**+0.8**
SULZ				Sg	**Sb**	**00 43 05.4**	**+1.2**
SULZ	**Cheisacher**	**0.69**	**253**	⇑Pg	**Pb**	**00 42 55.4**	**+0.8**
SULZ				Sg	**Sb**	**00 43 05.5**	**+1.2**
DAVA	**Damuels**	**0.70**	**130**	⇑Pg	**Pb**	**00 42 55.4**	**+0.5**
DAVA	**Damuels**	**0.70**	**130**	*e*Pg	**Pb**	**00 42 55.4**	**+0.5**
	15nm,0.2s,SNR=18						
DAVA				*e*Sg	**Sb**	**00 43 05.6**	**+1.0**
	403nm,0.3s						
DAVA	**Damuels**	**0.70**	**130**	Pg	**Pb**	**00 42 55.4**	**+0.5**
DAVA				Sg	**Sb**	**00 43 05.6**	**+1.0**
DAVA				SmS		00 43 09.5	
PLONS	**Plons/SG**	**0.72**	**164**	⇓Pg	**Pb**	**00 42 55.6**	**+0.5**
PLONS	**Plons/SG**	**0.72**	**164**	*e*Pg	**Pb**	**00 42 55.6**	**+0.5**
A100A	**Rottenburg, We**	**0.72**	**352**	Pg	**Pb**	**00 42 55.6**	**+0.5**
A100A				Sg	**Sb**	**00 43 05.6**	**+0.5**
A100A				SmS		00 43 08.7	
BUCH	**Bad Urach**	**0.73**	**14**	Pg	**Pb**	**00 42 55.8**	**+0.4**
BUCH				Sg	**Sb**	**00 43 06.0**	**+0.6**
BUCH				SmS		00 43 09.3	
HAMIK	**Hmikon, Dik**	**0.74**	**229**	⇑Pg	**Pn**	**00 42 56.3**	**-0.7**
FELD	**Feldberg im Sc**	**0.74**	**281**	⇑Pg	**Pb**	**00 42 56.2**	**+0.7**
FELD	**Feldberg im Sc**	**0.74**	**281**	SmS		00 43 09.5	
A109A	**Bad Urach, See**	**0.75**	**19**	Pg	**Pb**	**00 42 56.1**	**+0.5**
A109A				Sg	**Sb**	**00 43 06.4**	**+0.6**
SWYZ	**Schwyz, Kanton**	**0.77**	**203**	Pg	**Pn**	**00 42 56.8**	**-0.6**
TUEB	**Tuebingen, Eug**	**0.78**	**359**	⇓Pg	**Pb**	**00 42 56.6**	**+0.5**
**

	9.0nm,0.1s								
WTTA					*e*Sg		**Sg**	**00 43 38.5**	**+0.4**
	103nm,0.3s								
HAU	**Haudompre**	**1.86**	**279**		*e*Pn		**Pn**	**00 43 13.2**	**+0.8**
HAU	**Haudompre**	**1.86**	**279**		*e*Pg		**Pg**	**00 43 17.0**	**+0.8**
HAU	**Haudompre**	**1.86**	**279**		*e*Pg		**Pg**	**00 43 17.1**	**+0.8**
HAU					*e*Sg		**Sg**	**00 43 41.3**	**+0.9**
	230nm,0.3s								
WBA	**Furth**	**1.93**	**355**	⇓	Pn		**Pn**	**00 43 13.5**	**+0.3**
WBA					Sg		**Sg**	**00 43 43.0**	**+0.6**
GRC1	**Grafenberg Arr**	**2.06**	**51**		Pg		**Pg**	**00 43 19.7**	**-0.2**
GRC1					Sg		**Sg**	**00 43 46.6**	**+0.1**
MILB	**Miltenberg**	**2.10**	**4**	⇓	Pn		**Pn**	**00 43 15.4**	**-0.2**
CABF	**La Chapelle**	**2.34**	**242**		*e*Pg		**Pg**	**00 43 26.0**	**+0.7**
CABF					*e*Sg		**Sg**	**00 43 56.2**	**+0.7**
	58nm,0.3s								
PAGF	**Fort de Pagny**	**2.40**	**291**		*e*Pn		**Pn**	**00 43 21.1**	**+1.4**
PAGF	**Fort de Pagny** baz=110	**2.40**	**291**		*e*Pg		**Pg**	**00 43 27.2**	**+0.8**
PAGF					*e*Sg		**Sg**	**00 43 58.3**	**+0.9**
	49nm,0.3s								
WBG	**Bieber**	**2.44**	**4**		Pn		**Pn**	**00 43 20.4**	**+0.1**
LESA	**Schwarzleotal** 8.2nm,0.4s,SNR=10	**2.45**	**96**		*e*Pn		**Pb**	**00 43 23.4**	**-1.2**
LESA					*e*Sn		**Sn**	**00 43 52.1**	**+1.5**
	6.1nm,0.2s								
LESA					*e*Sg		**Sg**	**00 43 58.3**	**-0.9**
	27nm,0.3s								
TNS	**Taunus Mts**	**2.52**	**351**		Pn		**Pn**	**00 43 22.2**	**+0.7**
ABTA	**Abfaltersbach** 7.1nm,0.3s,SNR=7.4	**2.54**	**112**		*e*Pn		**Pb**	**00 43 25.5**	**-0.6**
ABTA					*e*Sg		**Sg**	**00 44 01.7**	**-0.2**
	22nm,0.3s								
WMG	**Wormeldange-Ha**	**2.59**	**317**	⇓	Pn		**Pn**	**00 43 24.4**	**+2.1**
WLF	**Walferdange**	**2.74**	**316**		Pn		**Pb**	**00 43 27.0**	**-2.4**
LPL	**La Plagne**	**2.75**	**217**		*e*Pn		**Pn**	**00 43 26.7**	**+1.9**
LPL	**La Plagne**	**2.75**	**217**		*e*Pg		**Pg**	**00 43 33.3**	**+0.1**
LPL					*e*Sg		**Sg**	**00 44 10.1**	**+1.2**
	24nm,0.4s								
LPG	**La Plagne**	**2.76**	**217**		*e*Pn		**Pn**	**00 43 26.5**	**+1.5**
LPG	**La Plagne**	**2.76**	**217**		*e*Pg		**Pg**	**00 43 34.1**	**+0.7**
LPG					*e*Sg		**Sg**	**00 44 09.2**	**+0.1**
	28nm,0.3s								
SFTF	**Sexfontaines**	**2.76**	**281**		*e*Pn		**Pn**	**00 43 25.6**	**+0.9**
SFTF	**Sexfontaines**	**2.76**	**281**		*e*Pg		**Pg**	**00 43 34.2**	**+0.8**
SFTF					*e*Sn		**Sn**	**00 43 57.2**	**-0.8**
SFTF					*e*Sg		**Sg**	**00 44 09.3**	**+0.2**
	23nm,0.2s								
SAVF	**Savonnieres en**	**2.79**	**290**		*e*Pn		**Pn**	**00 43 26.5**	**+1.4**
SAVF	**Savonnieres en**	**2.79**	**290**		*e*Pn		**Pn**	**00 43 26.8**	**+1.7**
SAVF	**Savonnieres en** baz=109	**2.79**	**290**		*e*Pg		**Pg**	**00 43 34.7**	**+0.7**
SAVF	**Savonnieres en**	**2.79**	**290**		*e*Pg		**Pg**	**00 43 35.2**	**+1.2**
SAVF					*e*Sg		**Sg**	**00 44 10.3**	**+0.1**
	9.4nm,0.2s								
SAVF					*e*Sg		**Sg**	**00 44 10.3**	**+0.1**
	15nm,0.2s								
MEZF	**Maizieres J'vi**	**2.81**	**287**		*e*Pn		**Pn**	**00 43 26.7**	**+1.3**
MEZF	**Maizieres J'vi** baz=102	**2.81**	**287**		*e*Pg		**Pg**	**00 43 34.6**	**+0.3**
MEZF					*e*Sn		**Sn**	**00 43 59.1**	**-0.1**
MEZF					*e*Sg		**Sg**	**00 44 11.6**	**+0.9**
	15nm,0.2s								
WET	**Wettzell**	**2.89**	**59**		Pn		**Pn**	**00 43 26.8**	**+0.2**
BIOA	**Bad Ischl, Aus** 2.1nm,0.2s	**3.07**	**89**		*i* Pn		**Pn**	**00 43 31.6**	**+2.5**
BIOA					*i* Sn		**Sn**	**00 44 06.5**	**+0.7**
	11nm,0.3s								
BIOA					*e*Sg		**Sg**	**00 44 19.9**	**+0.7**
	10nm,0.2s								
BIW	**Bindweide**	**3.10**	**345**		Pn		**Pn**	**00 43 31.2**	**+1.7**
MYKA	**Terra Mystica** 3.3nm,0.4s	**3.30**	**108**		*i* Pn		**Pn**	**00 43 34.9**	**+2.8**
MYKA					Sg		**Sg**	**00 44 26.0**	**-0.3**
	4.9nm,0.4s								
KHC	**Kasperske Hory**	**3.30**	**63**		*e*PN		**Pn**	**00 43 33.7**	**+1.6**
KHC					*e*PG		**Pb**	**00 43 41.2**	**+2.1**
KHC					*e*SN		**Sn**	**00 44 11.5**	**+0.1**
KHC					*e*SG		**Sg**	**00 44 24.3**	**-2.1**
	comp=Z,24nm,0.3s								
ROBS	**Robic**	**3.38**	**115**		*i* Pn		**Pn**	**00 43 36.2**	**+3.0**
MBDF	**Montbardon**	**3.41**	**209**		*e*Pn		**Pn**	**00 43 36.3**	**+2.5**
MBDF	**Montbardon**	**3.41**	**209**		*e*Pg		**Pg**	**00 43 45.0**	**-0.9**
MBDF					*e*Sn		**Sn**	**00 44 13.5**	**-0.9**
MBDF					*e*Sg		**Sg**	**00 44 28.6**	**-1.5**
	11nm,0.4s								
MOA	**Molln**	**3.49**	**86**		*i* Pn		**Pn**	**00 43 36.7**	**+1.9**
	0.8nm,0.1s								
MOA					*i* Sn		**Sn**	**00 44 16.0**	**-0.2**
	8.9nm,0.2s								
MOA					*i* Sg		**Sg**	**00 44 32.2**	**-0.4**
	14nm,0.3s								
MEM	**Membach**	**3.51**	**326**		Pn		**Pn**	**00 43 37.1**	**+2.1**
LOR	**Lormes**	**3.58**	**264**		*e*Pn		**Pn**	**00 43 37.5**	**+1.6**
LOR	**Lormes** baz=83	**3.58**	**264**		*e*Pg		**Pg**	**00 43 48.7**	**-0.2**
LOR					*e*Sg		**Sg**	**00 44 34.8**	**-0.4**
	51nm,0.2s								
ORIF	**Oris-en-Rattie**	**3.59**	**219**		*e*Pn		**Pn**	**00 43 37.0**	**+0.8**
ORIF	**Oris-en-Rattie**	**3.59**	**219**		*e*Pg		**Pg**	**00 43 47.9**	**-1.3**
ORIF					*e*Sg		**Sg**	**00 44 33.9**	**-1.8**
	10nm,0.3s								
CKRC	**Cesky Krumlov**	**3.65**	**71**		*e*PN		**Pn**	**00 43 38.7**	**+1.7**
CKRC					*e*PG		**Pb**	**00 43 45.9**	**+0.8**
CKRC					*e*SG		**Sg**	**00 44 36.1**	**-1.6**
	comp=Z,32nm,0.4s								
GIVF	**Givet**	**3.67**	**312**		*e*Pn		**Pn**	**00 43 39.2**	**+2.0**
GIVF					*e*Sn		**Sn**	**00 44 20.8**	**+0.2**
GIVF					*e*Sg		**Sg**	**00 44 38.1**	**-0.3**
	14nm,0.4s								
SMF	**Signal de Mont**	**3.74**	**255**		*e*Pn		**Pn**	**00 43 39.9**	**+1.7**
SMF	**Signal de Mont**	**3.74**	**255**		*e*Pg		**Pg**	**00 43 51.9**	**-0.2**
SMF					*e*Sn		**Sn**	**00 44 18.7**	**-3.5**
SMF					*e*Sg		**Sg**	**00 44 38.7**	**-1.8**
	28nm,0.3s								
ZVC	**Zvikov**	**3.79**	**61**		*e*PN		**Pn**	**00 43 40.6**	**+1.7**
ZVC					*e*SG		**Sg**	**00 44 40.6**	**-1.6**
	comp=Z,16nm,0.5s								
SSF	**Saint Saulge**	**3.85**	**262**		*e*Pn		**Pn**	**00 43 41.0**	**+1.3**
SSF	**Saint Saulge**	**3.85**	**262**		*e*Pg		**Pg**	**00 43 53.4**	**-0.8**
SSF					*e*Sg		**Sg**	**00 44 42.7**	**-1.4**
	13nm,0.2s								
OBKA	**Obir** 2.1nm,0.2s	**3.93**	**106**		*i* Pn		**Pn**	**00 43 43.7**	**+2.9**
OBKA					*e*Sn		**Sn**	**00 44 31.5**	**+4.5**
	11nm,0.7s								
OBKA					*e*Sg		**Sg**	**00 44 47.7**	**+1.2**
	35nm,0.9s								
BAIF	**Baives**	**3.97**	**308**		*e*Pn		**Pn**	**00 43 43.5**	**+2.2**
BAIF					*e*Sn		**Sn**	**00 44 27.6**	**-0.2**
BAIF					*e*Sg		**Sg**	**00 44 46.1**	**-1.8**
	3.7nm,0.2s								
AVF	**Avril sur Loir**	**4.02**	**258**		*e*Pn		**Pn**	**00 43 43.3**	**+1.3**
AVF	**Avril sur Loir**	**4.02**	**258**		*e*Pg		**Pg**	**00 43 56.6**	**-0.8**
AVF					*e*Sg		**Sg**	**00 44 48.0**	**-1.4**
	0.5nm,0.1s								
SBF	**Sospel**	**4.04**	**197**		*e*Pn		**Pn**	**00 43 44.8**	**+2.4**
SBF					*e*Sn		**Sn**	**00 44 29.9**	**+0.1**
	30nm,0.8s								
SOKA	**Soboth** 5.1nm,0.4s,SNR=6.5	**4.19**	**102**		*i* Pn		**Pn**	**00 43 46.5**	**+2.1**
SOKA					*i* Sn		**Sn**	**00 44 34.7**	**+1.3**
	1.7nm,0.2s								
SOKA					Sg		**Sg**	**00 44 54.4**	**-0.5**
	3.7nm,0.4s								
VIVF	**Saint-Julien-l**	**4.20**	**228**		*e*Pn		**Pn**	**00 43 44.1**	**-0.5**
VIVF	**Saint-Julien-l**	**4.20**	**228**		*e*Pg		**Pg**	**00 44 01.4**	**+0.4**
VIVF					*e*Sn		**Sn**	**00 44 31.3**	**-2.4**
VIVF					*e*Sg		**Sg**	**00 44 51.9**	**-3.5**
	8.8nm,0.2s								
PRU	**Pruhonice** comp=Z,15nm,0.3s	**4.25**	**56**		*e*SG		**Sg**	**00 44 53.9**	**-2.9**
PERS	**Pernice**	**4.26**	**103**		*i* Pn		**Pn**	**00 43 47.3**	**+2.0**
GOPC	**GO Pecny, Ondr** comp=Z,9.8nm,0.3s	**4.35**	**58**		*e*SG		**Sg**	**00 44 58.0**	**-2.1**
CLL	**Collm**	**4.39**	**34**		*e*Pn		**Pn**	**00 43 45.0**	**-2.1**
CLL					*e*Pg		**Pg**	**00 44 05.0**	**+0.5**
CLL					*e*Sn		**Sn**	**00 44 35.0**	**-3.2**
CLL					*e*Sg		**Sg**	**00 44 58.0**	**-3.3**
	comp=Z,25nm,0.5s								
ARSA	**Arzberg** comp=Z,0.4nm,0.2s	**4.39**	**94**		*i* Pn		**Pn**	**00 43 48.0**	**+0.9**
ARSA					*i* Sn		**Sn**	**00 44 37.1**	**-1.2**
	comp=Z,0.7nm,0.2s								
ARSA					*e*Sg		**Sg**	**00 44 60.0**	**-1.4**
	comp=Z,4.5nm,0.4s								
HYF	**Humbligny**	**4.39**	**266**		*e*Pg		**Pg**	**00 44 04.6**	**0.0**
HYF					*e*Sg		**Sg**	**00 45 01.1**	**-0.4**
BGF	**Bois d'Agland**	**4.42**	**257**		*e*Pn		**Pn**	**00 43 48.4**	**+0.9**
BGF	**Bois d'Agland**	**4.42**	**257**		*e*Pg		**Pg**	**00 44 04.2**	**-0.9**
BGF					*e*Sn		**Sn**	**00 44 36.5**	**-2.4**
BGF					*e*Sg		**Sg**	**00 45 00.4**	**-1.9**
	comp=Z,21nm,0.2s								
BRG	**Berggiesshubel**	**4.46**	**44**		Pg		**Pg**	**00 44 04.7**	**-1.3**
BRG					Sg		**Sg**	**00 45 00.7**	**-3.1**
BRG					Amp			00 45 09.7	
	comp=Z,11nm,0.4s								
SMRF	**Simiane la Rot**	**4.49**	**214**		*e*Pn		**Pn**	**00 43 49.1**	**+0.6**
SMRF	**Simiane la Rot**	**4.49**	**214**		*e*Pg		**Pg**	**00 44 05.6**	**-0.9**
SMRF					*e*Sn		**Sn**	**00 44 39.0**	**-1.8**
	comp=Z,6.6nm,0.5s								
TREC	**Trest**	**4.53**	**68**		*e*PN		**Pn**	**00 43 50.4**	**+1.4**
TREC					*e*SG		**Sg**	**00 45 03.9**	**-2.0**
	comp=Z,15nm,0.7s								
CONA	**Conrad Observa** comp=Z,2.3nm,0.2s	**4.57**	**85**		*i* Pn		**Pn**	**00 43 50.9**	**+1.3**
CONA					*e*Pg		**Pg**	**00 44 11.4**	**+3.5**
	comp=Z,3.0nm,0.2s								
CONA					*i* Sn		**Sn**	**00 44 40.4**	**-2.3**
	comp=Z,4.6nm,0.1s								
CONA					*e*Sg		**Sg**	**00 45 05.3**	**-1.8**
	comp=Z,4.1nm,0.2s								
DOBS	**Dobrina**	**4.65**	**108**		*i* Pn		**Pn**	**00 43 53.3**	**+2.6**
LMR	**La Mourre**	**4.76**	**203**		*e*Pn		**Pn**	**00 43 52.5**	**+0.3**
LMR	**La Mourre**	**4.76**	**203**		*e*Pg		**Pg**	**00 44 10.0**	**-1.7**
LMR					*e*Sn		**Sn**	**00 44 44.5**	**-2.9**
	comp=Z,2.1nm,0.3s								
RONA	**Rosalia, Austr** comp=Z,1.4nm,0.2s	**4.87**	**88**		*i* Pn		**Pn**	**00 43 55.6**	**+1.9**
RONA					*i* Sn		**Sn**	**00 44 48.1**	**-1.9**
	comp=Z,3.5nm,0.2s								
RONA					*e*Sg		**Sg**	**00 45 15.4**	**-1.2**
	comp=Z,4.5nm,0.3s								
TCF	**Toulx Ste Croi**	**4.92**	**255**		*e*Pn		**Pn**	**00 43 55.0**	**+0.6**
TCF	**Toulx Ste Croi**	**4.92**	**255**		*e*Pg		**Pg**	**00 44 13.7**	**-1.0**
TCF					*e*Sn		**Sn**	**00 44 49.5**	**-1.9**
TCF					*e*Sg		**Sg**	**00 45 16.2**	**-2.2**
	comp=Z,7.9nm,0.3s								
KRUC	**Moravsky**	**5.04**	**72**		*e*PN		**Pn**	**00 43 56.9**	**+0.8**
KRUC					*e*SN		**Sn**	**00 44 51.9**	**-2.5**
KRUC					*e*SG		**Sg**	**00 45 19.3**	**-3.1**
LASF	**Ste Croix**	**5.17**	**227**		*e*Pn		**Pn**	**00 43 57.9**	**+0.1**
LASF	**Ste Croix**	**5.17**	**227**		*e*Pg		**Pg**	**00 44 17.5**	**-2.0**
LASF					*e*Sn		**Sn**	**00 44 54.6**	**-2.9**
LASF					*e*Sg		**Sg**	**00 45 23.1**	**-3.3**
	comp=Z,6.0nm,0.4s								
VRAC	**Vranov**	**5.23**	**70**		*e*PN		**Pn**	**00 43 59.1**	**+0.5**
VRAC					*e*SN		**Sn**	**00 44 56.1**	**-2.8**
VRAC					*e*SG		**Sg**	**00 45 23.8**	**-4.5**
DPC	**Dobruska-Polom** comp=Z,10nm,0.5s	**5.43**	**59**		*e*SG		**Sg**	**00 45 30.9**	**-3.7**
MODS	**Modra-Piesok**	**5.53**	**80**		*e*SG		**Sg**	**00 45 42.1**	**+4.2**
CAF	**Calviac**	**5.62**	**243**		*e*Pn		**Pn**	**00 44 04.7**	**+0.7**
CAF	**Calviac**	**5.62**	**243**		*e*Pg		**Pg**	**00 44 24.8**	**-3.2**
CAF					*e*Sn		**Sn**	**00 45 06.3**	**-2.2**
CAF					*e*Sg		**Sg**	**00 45 37.1**	**-3.6**
	comp=Z,1.9nm,0.2s								
RJF	**Les Rejaudoux**	**5.76**	**248**		*e*Pn		**Pn**	**00 44 06.7**	**+0.7**
RJF	**Les Rejaudoux**	**5.76**	**248**		*e*Pg		**Pg**	**00 44 30.3**	**-0.5**
RJF					*e*Sg		**Sg**	**00 45 41.8**	**-3.6**
	comp=Z,3.4nm,0.2s								
LDF	**La Druitiere**	**6.22**	**281**		*e*Pn		**Pn**	**00 44 13.1**	**+0.9**
LDF	**La Druitiere**	**6.22**	**281**		*e*Pg		**Pg**	**00 44 38.8**	**-0.7**
LDF					*e*Sg		**Sg**	**00 45 55.0**	**-5.0**
	comp=Z,12nm,0.4s								
MFF	**Saint Martin d**	**6.40**	**263**		*e*Pn		**Pn**	**00 44 15.4**	**+0.8**
MFF	**Saint Martin d**	**6.40**	**263**		*e*Pn		**Pn**	**00 44 15.6**	**+1.0**
MFF	**Saint Martin d**	**6.40**	**263**		*e*Pg		**Pg**	**00 44 41.0**	**-1.9**
MFF					*e*Sn		**Sn**	**00 45 24.6**	**-3.0**
MFF					*e*Sn		**Sn**	**00 45 24.7**	**-2.9**
MFF					*e*Sg		**Sg**	**00 46 01.4**	**-4.3**
	comp=Z,4.0nm,0.3s								
MFF					*e*Sg		**Sg**	**00 46 02.3**	**-3.4**
	comp=Z,2.3nm,0.4s								
LFF	**La Frestale** comp=Z,11nm,0.5s	**6.42**	**247**		*e*Sg		**Sg**	**00 46 06.0**	**-0.5**
FLN	**La Foliniere** baz=97	**6.47**	**283**		*e*Pn		**Pn**	**00 44 17.2**	**+1.5**
FLN					*e*Sg		**Sg**	**00 46 05.2**	**-2.9**
	comp=Z,7.3nm,0.3s								
MTLF	**Montolieu**	**6.53**	**230**		*e*Pn		**Pn**	**00 44 15.8**	**-0.6**
MTLF	**Montolieu**	**6.53**	**230**		*e*Pg		**Pg**	**00 44 43.7**	**-1.7**
MTLF					*e*Sg		**Sg**	**00 46 07.2**	**-2.7**
	comp=Z,2.3nm,0.3s								
VYHS	**Vyhne**	**6.57**	**80**		*e*SG		**Sg**	**00 46 13.0**	**+1.7**
GRR	**Gorron**	**6.70**	**279**		*e*Pn		**Pn**	**00 44 19.4**	**+0.6**
GRR	**Gorron**	**6.70**	**279**		*e*Pg		**Pg**	**00 44 47.7**	**-1.0**
GRR					*e*Sn		**Sn**	**00 45 31.8**	**-3.2**
GRR					*e*Sg		**Sg**	**00 46 11.6**	**-3.7**
	comp=Z,8.2nm,0.3s								
LANS	**Liptovska Anna**	**7.05**	**75**		*e*SG		Sg	00 46 16.9	-10
EPF	**Esparros** comp=Z,1.5nm,0.3s	**7.75**	**236**		*e*Sg		**Sg**	**00 46 44.0**	**-5.0**
ETSF	**Etsaut**	**8.34**	**238**		*e*Pn		**Pn**	**00 44 44.1**	**+2.7**
ETSF					*e*Sg		**Sg**	**00 47 04.7**	**-3.3**
	comp=Z,0.4nm,0.2s								

*IDC **30** 00:57:24.5±3.7,24°53N×94°72E,h102km±36km, mb3.4/12, mbtmp3.7/13, Error ellipse: s-maj=37.5km s-min=14.6km az=62.0*

ISC 30 00:57:22.7±0.8,**24°6N**±0°2×**94°6E**±0°2,**h82**km,**n13,** σ0**99**/14,**mb3.6**/12,**Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 2.3nm,0.3s,baz=322,slow=13,SNR=5.8	**7.28**	**146**	P		**Pn**	**00 59 07.5**	**+1.1**
MKAR	**Makanchi Array** 1.0nm,0.4s,baz=149,slow=9.2,SNR=12	**24.28**	**339**	P		**P**	**01 02 33.0**	**+0.8**
SONM	**Songino Array** 1.0nm,0.7s,baz=201,slow=7.7,SNR=4.0	**25.03**	**19**	P		**P**	**01 02 39.8**	**+0.6**
KURBB	**Kurchatov Arra** 0.2nm,0.2s,baz=158,slow=8.0,SNR=2.0	**28.84**	**339**	P		**P**	**01 03 13.4**	**+0.3**
KURBB				PcP		**PcP**	**01 06 20.7**	**-0.1**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=157,slow=7.8,SNR=3.8	**30.25**	**348**	P		**P**	**01 03 26.1**	**+0.5**
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=79,slow=6.6,SNR=2.8	**55.94**	**316**	P		**P**	**01 06 51.2**	**-1.0**
FINES	**FINESS Array B** 2.5nm,1.0s,baz=93,slow=5.8,SNR=3.4	**58.50**	**328**	P		**P**	**01 07 10.0**	**0.0**
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=324,slow=7.3,SNR=13	**58.75**	**135**	P		**P**	**01 07 11.6**	**-0.7**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=334,slow=8.7,SNR=2.6	**61.23**	**139**	P		**P**	**01 07 27.0**	**-2.4**
HFS	**Hagfors** 1.0nm,0.6s,baz=78,slow=11,SNR=6.1	**64.55**	**327**	P		**P**	**01 07 50.6**	**-0.2**
NOA	**NORSAR Array B** 0.3nm,0.7s,baz=89,slow=5.7,SNR=1.4	**65.67**	**328**	P		**P**	**01 07 57.8**	**-0.3**
GERES	**GERESS Array B** 0.6nm,0.7s,baz=64,slow=4.8,SNR=3.3	**66.10**	**314**	P		**P**	**01 08 01.4**	**+0.3**
BOSA	**Boshof** 1.4nm,0.6s,baz=76,slow=4.2,SNR=4.1	**85.12**	**236**	P		**P**	**01 09 51.0**	**+0.9**

*PDG **30** 01:03:24.9±0.1,43°06N×19°51E,h8km,MD2.6/3, ML2.6/13, Error ellipse: s-maj=0.1km s-min=0.2km az=0.0*
*BEO **30** 01:03:25.4±0.2,43°08N×19°56E,h2km±1km,ML2.4/17*
*RHSSO **30** 01:03:25.3±0.8,43°18N×19°65E,h4km±3km,ML2.6/8*

ISC 30 01:03:24.6±0.9,**43°09N**±0°02×**19°54E**±0°01,**h8**km±8km, **n49,** σ0**98**/96,**7C-5D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KOME	**Kolasin**	**0.24**	**185**	⇑ *i*Pg		**Pg**	**01 03 29.5**	**+0.1**
KOME				*i* Sg		**Sg**	**01 03 32.6**	**0.0**
PLE	**Pljevlja**	**0.27**	**335**	⇑ *i*Pg		**Pg**	**01 03 30.3**	**+0.3**
PLE				*i* Sg		**Sg**	**01 03 34.8**	**+1.2**
IVA	**Berane**	**0.34**	**130**	⇑ *i*Pg		**Pg**	**01 03 31.4**	**+0.2**
IVA				*i* Sg		**Sg**	**01 03 36.5**	**+0.9**
SJES	**Sjenica**	**0.36**	**61**	*e*Pg		**Pg**	**01 03 32.2**	**+0.5**
SJES				*e*Sg		**Sb**	**01 03 37.7**	**-1.5**
UPM	**Unac-Piva**	**0.48**	**284**	*e*Pg		**Pg**	**01 03 33.5**	**-0.4**
UPM				*i* Sg		**Sg**	**01 03 40.7**	**+0.4**
NKME	**Niksic**	**0.54**	**234**	*e*Pg		**Pg**	**01 03 34.3**	**-0.7**
NKME				*i* Sg		**Sg**	**01 03 42.3**	**+0.3**
RUDO	**Rudo**	**0.55**	**347**	⇓ *i*Pg		**Pg**	**01 03 34.3**	**-0.8**
RUDO				*e*Sg		**Sg**	**01 03 41.1**	**-1.2**
PVY	**Plav**	**0.58**	**148**	⇑ *i*Pg		**Pg**	**01 03 35.5**	**-0.3**
PVY				*i* Sg		**Sb**	**01 03 44.8**	**-0.7**
IVAS	**Ivanjica**	**0.66**	**42**	*e*Pg		**Pg**	**01 03 37.1**	**-0.2**
IVAS				*e*Sg		**Sg**	**01 03 46.2**	**+0.2**
PDG	**Podgorica**	**0.69**	**198**	*e*Pg		**Pg**	**01 03 37.4**	**-0.4**
PDG				*e*Sg		**Sg**	**01 03 47.2**	**+0.4**
PDG	**Podgorica**	**0.69**	**198**	⇑ *i*Pg		**Pg**	**01 03 37.1**	**-0.7**
PDG				*i* Sg		**Sg**	**01 03 47.3**	**+0.4**
CEME	**Cevo**	**0.71**	**221**	⇓ *i*Pg		**Pg**	**01 03 37.1**	**-1.1**
CEME				*i* Sg		**Sg**	**01 03 48.1**	**+0.6**
BRY	**Bratogost**	**0.76**	**256**	⇑ *i*Pg		**Pg**	**01 03 38.2**	**-1.0**
BRY				*i* Sg		**Sg**	**01 03 49.8**	**+0.7**
BBLS	**Lazi&#263i**	**0.79**	**353**	*e*Pg		**Pg**	**01 03 39.5**	**-0.2**
BBLS				*e*Sg		**Sg**	**01 03 49.8**	**-0.1**
BUM	**Brajici-Budva**	**0.92**	**212**	⇓ *i*Pg		**Pg**	**01 03 41.2**	**-1.0**
BUM				*i* Sg		**Sb**	**01 03 55.4**	**+0.2**
DRME	**Dracevica, Mon**	**0.94**	**196**	⇓ *i*Pg		**Pg**	**01 03 42.0**	**-0.6**
DRME				*i* Sg		**Sb**	**01 03 56.1**	**+0.4**
HCY	**Herceg Novi**	**1.00**	**231**	⇓ *i*Pg		**Pg**	**01 03 43.4**	**-0.4**
HCY				*i* Sg		**Sb**	**01 03 58.1**	**+0.6**
GOCS	**Kraljevo Serbi**	**1.08**	**63**	*e*Pg		**Pb**	**01 03 45.5**	**-0.1**
GOCS				*e*Sg		**Sg**	**01 03 59.0**	**-0.4**
DBRK	**Dubrovnik**	**1.11**	**248**	*e*Pg		**Pb**	**01 03 45.8**	**-0.1**
DBRK				Sg		**Sg**	**01 04 00.0**	**-0.2**
ULC	**Ulcinj**	**1.14**	**191**	⇑ *i*Pg		**Pb**	**01 03 45.7**	**-0.9**
ULC				*i* Sg		**Sn**	**01 04 02.8**	**0.0**
SELS	**Selova**	**1.16**	**83**	*e*Pg		**Pb**	**01 03 46.7**	**-0.2**
SELS				*e*Sg		**Sb**	**01 04 00.9**	**-1.2**
GRUS	**Gruza**	**1.17**	**46**	*e*Pg		**Pn**	**01 03 47.1**	**-0.2**
GRUS				*e*Sg		**Sg**	**01 04 02.2**	**0.0**
TRUS	**Trudelj**	**1.30**	**29**	*e*Pg		**Pg**	**01 03 49.4**	**-0.1**
TRUS				*e*Sg		**Sg**	**01 04 07.3**	**+1.0**
TEKS	**Tekeris**	**1.46**	**360**	*e*Pn		**Pb**	**01 03 51.6**	**-0.4**
TEKS				*e*Sg		**Sg**	**01 04 12.5**	**+0.9**
BOVS	**Bovan**	**1.67**	**70**	*e*Pg		**Pb**	**01 03 55.2**	**-0.4**
BOVS				*e*Sg		**Sg**	**01 04 17.6**	**-0.6**
BARS	**Barje**	**1.69**	**98**	*e*Pg		**Pb**	**01 03 55.5**	**-0.4**
BARS				*e*Sg		**Sg**	**01 04 18.5**	**-0.4**
SVIS	**Svilajnac**	**1.69**	**45**	*e*Pg		**Pb**	**01 03 55.9**	**0.0**
SVIS				*e*Sg		**Sg**	**01 04 20.3**	**+1.4**
TIR	**Tirane**	**1.75**	**172**	*e*Pg		**Pg**	**01 03 57.7**	**-0.5**
TIR				*e*Sn		**Sg**	**01 04 20.2**	**-0.7**
RICI	**Ricice**	**1.81**	**284**	*e*Pn		**Pb**	**01 03 58.3**	**+0.4**
RICI				Sn		**Sg**	**01 04 24.2**	**+1.6**
MAKA	**Makarska**	**1.86**	**277**	*i* Pn		**Pb**	**01 03 58.9**	**+0.2**
MAKA				Sn		**Sg**	**01 04 23.6**	**-0.6**
LSTV	**Lastovo**	**1.97**	**262**	*e*Pn		**Pb**	**01 04 00.4**	**-0.3**
LSTV

*BGR **30** 01:21:25.2,21.˚71S×178.˚30W,h614^{km}±2km*
*BJI **30** 01:21:26.0,20.˚57S×178.˚38W,h615^{km},mB4.9/17, mb4.9/50*
*IDC **30** 01:21:27.5±0.4,20.˚91S×179.˚05W,h610^{km}±4^{km},mb4.2/33, mbtmp5.2/37,Error ellipse: s-maj=8.6km s-min=6.9km az=144.0*
*NOU **30** 01:21:27.8,20.˚91S×178.˚90W,h618^{km},ML4.8/112,Fiji Islands Region*
*NEIC **30** 01:21:27.6±1.3,20.˚97S±0.˚03×178.˚9W±0.˚1,h607^{km}±7^{km}, mb5.2/37,Error ellipse: s-maj=15.0km s-min=4.2km az=94.0*
*MOS **30** 01:21:28.9±2.7,20.˚87S×179.˚15W,h612^{km},mb4.9/20, Error ellipse: s-maj=10.7km s-min=10.1km az=79.4*
*GCMT **30** 01:21:31.6±0.3,21.˚00S±0.˚03×179.˚18W±0.˚03, h625^{km}±2^{km},MW5.3/79,Moment Tensor Solution. s79,c89; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.11±.03; M$_{\theta\theta}$-0.50±.05; M$_{\phi\phi}$0.39±.05; M$_{r\theta}$-0.71±.04; M$_{\theta\phi}$-0.26±.05; M$_{\phi r}$-0.72±.04; Best double couple: M$_0$1.12800×10^{17} NP1:ϕ_s122.00000°,δ25.00000°, λ170.00000°. NP2:ϕ_s221.00000°,δ86.00000°,λ65.00000°. Principal axes: T 1.0360, Plg44.0000°, Azm107.0000°; N 0.1830, Plg25.0000°, Azm223.0000°; P -1.2190, Plg36.0000°, Azm332.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 30 01:21:27.6±0.3,21.˚00S±0.˚04×178.˚87W±0.˚04, h617^{km}±3^{km},h618^{km};pP-P,n924,σ1s18/1016,mb5.0/122, 87C-73D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**2.75**	**1**	P		**P**		**01 22 47.1**	**0.0**
MSVF	**Nonsavu**	**4.36**	**318**			**P**		**01 22 56.9**	**-0.2**
MSVF	**Nonsavu**	**4.36**	**318**	P		**P**		**01 22 57.3**	**+0.2**
MSVF	**Nonsavu**	**4.36**	**318**	*d* iP		**P**		**01 22 57.1**	**0.0**
TAVE	**Taveuni**	**4.38**	**347**	P		**P**		**01 22 57.3**	**+0.1**
DGTI	**Dogotuki**	**4.86**	**344**	P		**P**		**01 23 00.4**	**-0.3**
YSA	**Yasawairara**	**5.45**	**321**	P		**P**		**01 23 04.9**	**-0.3**
FUTU	**Fugatoga**	**6.69**	**6**			**P**		**01 23 15.6**	**-0.2**
FUTU	**Fugatoga**	**6.69**	**6**	P		**P**		**01 23 15.8**	**0.0**
RIZ	**Raoul Island**	**8.25**	**174**	P		**P**		**01 23 30.9**	**+1.0**
RIZ				S		**S**		**01 25 06.9**	**-3.2**
RAO	**Raoul Island**	**8.26**	**174**	P		**P**		**01 23 29.5**	**-0.4**
	314nm,0.3s,baz=253,slow=22,SNR=3.6								
RAO				S		**S**		**01 25 09.8**	**-0.3**
	544nm,0.4s,baz=60,slow=20,SNR=9.2								
GLKZ	**Green Lake**	**8.27**	**174**	P		**P**		**01 23 29.6**	**-0.3**
GLKZ				S		**S**		**01 25 01.8**	**-8.5**
NIUE	**Niue**	**8.62**	**79**	P		**P**		**01 23 32.7**	**-0.8**
NIUE	**Niue**	**8.62**	**79**	P		**P**		**01 23 33.1**	**-0.3**
	comp=Z,471nm,0.9s								
NIUE	**Niue**	**8.62**	**79**	P		**P**		**01 23 33.5**	**+0.1**
AFI	**Afiamalu**	**9.77**	**45**			**P**		**01 23 42.2**	**-2.5**
AFI	**Afiamalu**	**9.77**	**45**	P		**P**		**01 23 42.5**	**-2.2**
AFI	**Afiamalu**	**9.77**	**45**	P		**P**		**01 23 42.2**	**-2.5**
AFI	**Afiamalu**	**9.77**	**45**	P		**P**		**01 23 41.9**	**-2.8**
FUNA	**Funafuti**	**12.54**	**351**	P		**P**		**01 24 10.5**	**-1.3**
PINNC	**Pines Island,**	**12.82**	**260**			**P**		**01 24 14.4**	**0.0**
PINNC	**Pines Island,**	**12.82**	**260**	P		**P**		**01 24 14.8**	**+0.4**
YATNC	**Mamie plateau,**	**13.30**	**263**	P		**P**		**01 24 18.9**	**-0.3**
DZM	**Mont Dzumac**	**13.71**	**263**			**P**		**01 24 23.2**	**-0.1**
DZM	**Mont Dzumac**	**13.71**	**263**	*e*P		**P**		**01 24 22.3**	**-1.0**
	comp=Z,54nm,0.7s								
DZM				*e*S		**S**		**01 26 46.0**	**-1.0**
	comp=Z,96nm,1.2s								
DZM	**Mont Dzumac**	**13.71**	**263**	P		**P**		**01 24 22.1**	**-1.3**
	comp=Z,31nm,0.5s,baz=96,slow=10,SNR=47								
DZM				S		**S**		**01 26 46.9**	**-0.2**
	comp=Z,25nm,1.1s,baz=147,slow=21,SNR=5.6								
DZM	**Mont Dzumac**	**13.71**	**263**	P		**P**		**01 24 23.2**	**-0.1**
ONTNC	**Ouen Toro**	**13.71**	**262**	P		**P**		**01 24 22.7**	**-0.5**
ONTNC	**Ouen Toro**	**13.71**	**262**	P		**P**		**01 24 23.9**	**+0.7**
VLAKA	**Lakatoro**	**13.88**	**288**	P		**P**		**01 24 24.5**	**-0.4**
OUZ	**Omahuta**	**15.64**	**203**	P		**P**		**01 24 43.6**	**+2.8**
OUZ	**Omahuta**	**15.64**	**203**	P		**P**		**01 24 44.2**	**+3.4**
KOUNC	**Koumac, New Ca**	**15.77**	**269**	P		**P**		**01 24 43.4**	**+1.3**
GRZ	**Great Barrier**	**15.99**	**197**	P		**P**		**01 24 46.8**	**+2.9**
WCZ	**Waipu Caves**	**16.03**	**200**	P		**P**		**01 24 48.0**	**+3.7**
KUZ	**Kuaotunu**	**16.39**	**196**	P		**P**		**01 24 50.1**	**+2.6**
KUZ	**Kuaotunu**	**16.39**	**196**	P		**P**		**01 24 50.4**	**+2.8**
WIAZ	**Waiheke Island**	**16.58**	**197**	P		**P**		**01 24 52.8**	**+3.4**
MBAZ	**Motutapu North**	**16.63**	**198**	P		**P**		**01 24 53.2**	**+3.5**
MXZ	**Matakaoa Point**	**16.69**	**188**			**P**		**01 24 50.2**	**-0.1**
MXZ	**Matakaoa Point**	**16.69**	**188**	P		**P**		**01 24 51.6**	**+1.3**
MXZ				S		**S**		**01 27 29.1**	**-6.0**
HBAZ	**Herne Bay Bore**	**16.75**	**198**	P		**P**		**01 24 54.3**	**+3.4**
ETAZ	**East Tamaki Re**	**16.79**	**197**	P		**P**		**01 24 54.7**	**+3.4**
MKAZ	**Moumakai**	**16.87**	**197**	P		**P**		**01 24 54.8**	**+2.8**
WMGZ	**Waiomatatini S**	**16.93**	**187**	P		**P**		**01 24 53.7**	**+1.2**
WMGZ				S		**S**		**01 27 36.3**	**-2.8**
HAZ	**Te Kaha**	**16.95**	**189**	P		**P**		**01 24 53.4**	**+0.7**
HAZ				S		**S**		**01 27 34.1**	**-5.3**
AWAZ	**Awhitu Peninsu**	**16.98**	**198**	P		**P**		**01 24 56.0**	**+3.0**
PKGZ	**Pakihiroa**	**17.02**	**188**	P		**P**		**01 24 54.0**	**+0.6**
RUGZ	**Raukumara Rang**	**17.17**	**189**	P		**P**		**01 24 55.1**	**+0.2**
RUGZ				S		**S**		**01 27 42.2**	**-1.1**
PUZ	**Puketiti**	**17.20**	**188**	P		**P**		**01 24 56.2**	**+1.2**
PUZ				S		**S**		**01 27 43.9**	**+0.5**
TGRZ	**Tauranga**	**17.20**	**193**	P		**P**		**01 24 50.4**	**-4.6**
TOZ	**Tahuroa Road**	**17.37**	**195**			**P**		**01 24 58.8**	**+2.2**
TOZ	**Tahuroa Road**	**17.37**	**195**	P		**P**		**01 24 59.4**	**+2.8**
URZ	**Urewera**	**17.55**	**191**	P		**P**		**01 24 57.2**	**-1.0**
	comp=Z,52nm,0.3s,baz=280,slow=2.8,SNR=85								
URZ				S		**S**		**01 27 44.8**	**-4.3**
	comp=Z,6.2nm,0.5s,baz=15,slow=20,SNR=1.8								
URZ	**Urewera**	**17.55**	**191**	P		**P**		**01 24 56.5**	**-1.6**
URZ				S		**S**		**01 27 44.9**	**-4.3**
MWZ	**Matawai**	**17.55**	**189**	P		**P**		**01 24 57.5**	**-0.8**
MWZ				S		**S**		**01 27 41.4**	**-7.9**
CNGZ	**Carnagh Statio**	**17.61**	**188**	P		**P**		**01 24 59.8**	**+1.1**
TKGZ	**Te Karaka**	**17.61**	**189**	P		**P**		**01 24 60.0**	**+1.3**
RAR	**Rarotonga**	**17.82**	**94**	P		**P**		**01 25 00.8**	**-0.1**
	comp=Z,35nm,0.9s,baz=327,slow=3.2,SNR=3.9								
RTZ	**Ruatahuna**	**17.92**	**191**			**P**		**01 24 59.6**	**-2.1**
RTZ	**Ruatahuna**	**17.92**	**191**	P		**P**		**01 25 01.4**	**-0.3**
HIZ	**Hauiti**	**18.28**	**196**			**P**		**01 25 06.5**	**+1.7**
HIZ	**Hauiti**	**18.28**	**196**	P		**P**		**01 25 07.0**	**+2.2**
BKZ	**Black Stump Fm**	**18.54**	**191**			**P**		**01 25 05.4**	**-1.8**
BKZ	**Black Stump Fm**	**18.54**	**191**	P		**P**		**01 25 06.6**	**-0.7**
BFZ	**Birch Farm**	**20.06**	**191**			**P**		**01 25 19.7**	**-1.1**
MRZ	**Mangatainoka R**	**20.16**	**192**	P		**P**		**01 25 20.5**	**-1.3**
MSWZ	**Moikau Station**	**20.96**	**192**	P		**P**		**01 25 28.2**	**-0.7**
SNZO	**South Karori**	**20.97**	**194**	P		**P**		**01 25 28.8**	**-0.2**
TCW	**Tory Channel**	**20.97**	**195**	P		**P**		**01 25 29.3**	**+0.2**
BHW	**Baring Head**	**21.03**	**193**	P		**P**		**01 25 29.6**	**0.0**
QRZ	**Quartz Range**	**21.08**	**198**			**P**		**01 25 30.5**	**+0.5**
QRZ	**Quartz Range**	**21.08**	**198**	P		**P**		**01 25 31.1**	**+1.1**
PLWZ	**Palliser**	**21.10**	**192**	P		**P**		**01 25 29.7**	**-0.6**
TKNZ	**Takaka Hill**	**21.14**	**197**	P		**P**		**01 25 30.8**	**+0.1**
NNZ	**Nelson**	**21.20**	**196**			**P**		**01 25 31.0**	**-0.1**
HURO	**Huro Makira**	**21.24**	**297**	P		**P**		**01 25 31.5**	**-0.4**
TUWZ	**Tuamarina**	**21.26**	**195**	P		**P**		**01 25 31.3**	**-0.3**
MRNZ	**Matariki Terra**	**21.54**	**197**	P		**P**		**01 25 34.4**	**+0.2**
BSWZ	**Blackbirch Sta**	**21.55**	**195**	P		**P**		**01 25 34.3**	**+0.1**
THZ	**Tophouse**	**21.84**	**197**			**P**		**01 25 36.7**	**-0.1**
DSZ	**Denniston Nort**	**22.14**	**199**	P		**P**		**01 25 40.1**	**+0.6**
KHZ	**Kahutara**	**22.29**	**195**			**P**		**01 25 40.4**	**-0.3**
KHZ	**Kahutara**	**22.29**	**195**	P		**P**		**01 25 40.5**	**-0.3**
LHI	**Lord Howe Isla**	**22.36**	**238**	P		**P**		**01 25 43.4**	**+1.8**
	comp=Z,146nm,1.1s								
GVZ	**Greta Valley S**	**22.93**	**195**			**P**		**01 25 46.1**	**-0.4**
LTZ	**Lake Taylor**	**22.96**	**197**			**P**		**01 25 46.0**	**-0.8**
INZ	**Inchbonnie**	**23.14**	**198**			**P**		**01 25 48.4**	**+0.1**
ALEG	**Aligegeo Malai**	**23.17**	**299**	P		**P**		**01 25 48.3**	**-0.7**
OXZ	**Oxford**	**23.53**	**197**	P		**P**		**01 25 51.6**	**-0.2**
SAVO	**Savo Central**	**23.68**	**297**	P		**P**		**01 25 53.6**	**0.0**
TATA	**Tatamba Isabel**	**24.10**	**298**	P		**P**		**01 25 56.1**	**-1.2**
RPZ	**Rata Peaks**	**24.16**	**198**			**P**		**01 25 57.8**	**+0.4**
FOZ	**Fox Glacier**	**24.38**	**200**			**P**		**01 25 59.4**	**+0.2**
LBZ	**Lake Benmore**	**25.03**	**199**			**P**		**01 26 04.3**	**-0.7**
JCZ	**Jackson Bay**	**25.20**	**201**	P		**P**		**01 26 07.5**	**+0.9**
ODZ	**Otahua Downs**	**25.50**	**197**	P		**P**		**01 26 09.3**	**+0.2**
WKZ	**Wanaka**	**25.79**	**200**	P		**P**		**01 26 11.3**	**-0.4**
MLZ	**Mavora Lakes**	**26.56**	**201**			**P**		**01 26 19.4**	**+0.9**
DCZ	**Deep Cove**	**26.98**	**202**			**P**		**01 26 21.7**	**-0.3**
WHZ	**Wether Hill Ro**	**27.08**	**200**			**P**		**01 26 23.1**	**+0.2**
TBI	**Tubuai**	**27.31**	**100**	*e*S		**S**		**01 30 16.3**	**-7.1**
	comp=Z,522nm,26.5s								
TBI				*es*S		sS		01 33 18.3	-4.1
	comp=Z,1μm,27.2s								
PPT2	**Papeete2**	**27.83**	**88**	*e*S		**S**		**01 30 22.7**	**-9.0**
	comp=Z,137nm,28.0s								
PPT2				*es*S		sS		01 33 26.2	-5.2
	comp=Z,318nm,26.8s								
PPT	**Papeete**	**27.84**	**88**	P		**P**		**01 26 30.3**	**+0.4**
	comp=Z,31nm,0.3s,baz=297,slow=6.8,SNR=3.9								
	comp=Z,31nm,0.3s								
EIDS	**Eidsvold**	**27.94**	**255**			**P**		**01 26 30.9**	**+0.2**
EIDS					IAmb	IAmb		01 26 31.8	
	comp=Z,43nm,0.6s								
EIDS	**Eidsvold**	**27.94**	**255**	P		**P**		**01 26 30.7**	**0.0**
	comp=Z,75nm,0.8s								
EIDS	**Eidsvold**	**27.94**	**255**	P		**P**		**01 26 30.9**	**+0.2**
ARMA	**Armidale**	**28.12**	**245**			**P**		**01 26 33.5**	**+1.1**
ARMA					IAmb	IAmb		01 26 34.6	
	comp=Z,64nm,0.7s								
ARMA	**Armidale**	**28.12**	**245**	P		**P**		**01 26 33.7**	**+1.2**
	comp=Z,96nm,0.7s								
ARMA	**Armidale**	**28.12**	**245**	P		**P**		**01 26 33.6**	**+1.2**
MGCD	**Mangrove Creek**	**29.26**	**239**	P		**P**		**01 26 43.1**	**+1.1**
	comp=Z,78nm,0.7s								
SYDH	**Sydney Hard Ro**	**29.71**	**238**	P		**P**		**01 26 47.2**	**+1.3**
RMQ	**Roma**	**30.09**	**253**	P		**P**		**01 26 49.5**	**+0.3**
	comp=Z,40nm,1.1s								
VAH	**Vaihoa**	**30.20**	**84**	*e*P		**P**		**01 26 51.1**	**+0.8**
	comp=Z,88nm,0.9s								
XMAS	**Kiritimati**	**31.05**	**45**	P		**P**		**01 26 58.0**	**+0.3**
XMAS					IAmb	IAmb		01 26 59.0	
	comp=Z,77nm,0.9s								
CNB	**Canberra Magne**	**31.28**	**236**	P		**P**		**01 27 00.4**	**+1.0**
	comp=Z,95nm,0.8s								
CNB	**Canberra Magne**	**31.28**	**236**	P		**P**		**01 27 00.6**	**+1.2**
CAN	**Canberra**	**31.56**	**236**			**P**		**01 27 02.0**	**+0.3**
CAN					IAmb	IAmb		01 27 03.7	
	comp=Z,36nm,0.9s								
CAN	**Canberra**	**31.56**	**236**	P		**P**		**01 27 02.5**	**+0.7**
	comp=Z,46nm,1.0s								
CAN	**Canberra**	**31.56**	**236**	P		**P**		**01 27 02.8**	**+1.1**
CAN	**Canberra**	**31.56**	**236**	P		**P**		**01 27 02.0**	**+0.3**
CAN					pmax	pmax			
	comp=Z,36nm,0.9s								
YNG	**Young**	**31.73**	**238**	P		**P**		**01 27 04.0**	**+0.8**
	comp=Z,21nm,2.0s								
CTAO	**Charters Tower**	**32.64**	**265**			**P**		**01 27 11.0**	**0.0**
CTAO	**Charters Tower**	**32.64**	**265**	P		**P**		**01 27 11.1**	**+0.1**
CTAO	**Charters Tower**	**32.64**	**265**	P		**P**		**01 27 11.0**	**0.0**
CTAO					pmax	pmax			
	comp=Z,139nm,0.5s								
CTAO	**Charters Tower**	**32.64**	**265**	P		**P**		**01 27 11.1**	**+0.1**
CMSA	**Cobar Meteorol**	**33.34**	**244**	P		**P**		**01 27 17.3**	**+0.6**
	comp=Z,126nm,0.8s								
CMSA	**Cobar Meteorol**	**33.34**	**244**	P		**P**		**01 27 17.2**	**+0.5**
QLP	**Quilpie**	**34.14**	**253**	P		**P**		**01 27 23.6**	**+0.1**
	comp=Z,295nm,0.8s								
QLP	**Quilpie**	**34.14**	**253**	P		**P**		**01 27 23.6**	**+0.1**
PMG	**Port Moresby**	**34.67**	**284**			**P**		**01 27 27.7**	**-0.3**
PMG	**Port Moresby**	**34.67**	**284**	P		**P**		**01 27 27.8**	**-0.3**
PMG	**Port Moresby**	**34.67**	**284**	P		**P**		**01 27 27.7**	**-0.3**
PMG	**Port Moresby**	**34.67**	**284**	P		**P**		**01 27 27.7**	**-0.3**
PMG					pmax	pmax			
	comp=Z,216nm,0.9s								
PMG	**Port Moresby**	**34.67**	**284**	P		**P**		**01 27 27.1**	**-0.9**
PMG					pP	**pP**		**01 29 06.7**	**-0.9**
MTSU	**Mount Surprise**	**34.76**	**268**	P		**P**		**01 27 28.8**	**0.0**
	comp=Z,83nm,0.7s								
MTSU	**Mount Surprise**	**34.76**	**268**	P		**P**		**01 27 28.7**	**0.0**
TOO	**Toolangi**	**34.95**	**234**			**P**		**01 27 30.8**	**+0.8**
TOO					IAmb	IAmb		01 27 31.8	
	comp=Z,23nm,0.7s								
TOO	**Toolangi**	**34.95**	**234**	P		**P**		**01 27 30.9**	**+0.8**
	comp=Z,33nm,1.1s								
TOO	**Toolangi**	**34.95**	**234**	P		**P**		**01 27 30.8**	**+0.8**
TOO					pmax	pmax			
	comp=Z,23nm,0.7s								
CORO	**Coronation Par**	**35.18**	**227**	P		**P**		**01 27 32.6**	**+0.8**
PATS	**Pohnpei**	**35.60**	**319**	P		**P**		**01 27 35.2**	**-0.5**
	comp=Z,114nm,1.4s								
BRAT	**Ballarat**	**36.13**	**235**	P		**P**		**01 27 40.2**	**+0.5**
COEN	**Coen**	**36.81**	**275**			**P**		**01 27 45.6**	**0.0**
COEN					IAmb	IAmb		01 27 46.9	
	comp=Z,124nm,1.0s								
COEN	**Coen**	**36.81**	**275**	P		**P**		**01 27 45.9**	**+0.2**
	comp=Z,139nm,1.0s								
COEN	**Coen**	**36.81**	**275**	P		**P**		**01 27 45.8**	**+0.2**
STKA	**Stephens Creek**	**36.84**	**245**			**P**		**01 27 46.2**	**+0.6**
STKA	**Stephens Creek**	**36.84**	**245**	P		**P**		**01 27 46.5**	**+0.9**
	comp=Z,454nm,0.9s								
STKA	**Stephens Creek**	**36.84**	**245**	P		**P**		**01 27 46.2**	**+0.6**
	comp=Z,46nm,0.5s,baz=90,slow=9.8,SNR=105								
STKA					S	**S**		**01 32 46.9**	**-0.9**
	comp=Z,4.2nm,0.7s,baz=344,slow=20,SNR=4.0								
	comp=Z,46nm,0.5s								
STKA	**Stephens Creek**	**36.84**	**245**	P		**P**		**01 27 46.1**	**+0.4**
STKA	**Stephens Creek**	**36.84**	**245**	*d* iP		**P**		**01 27 46.5**	**+0.9**
ARPS	**Mount Arapiles**	**37.54**	**237**	P		**P**		**01 27 51.5**	**+0.4**
	comp=Z,26nm,0.9s								
MANU	**Manus Island**	**37.92**	**295**			**P**		**01 27 54.9**	**+0.3**
MANU					IAmb	IAmb		01 27 55.9	
	comp=Z,154nm,1.1s								
QIS	**Mount Isa**	**38.75**	**263**	P		**P**		**01 28 00.6**	**-0.7**
	comp=Z,32nm,1.1s								
QIS	**Mount Isa**	**38.75**	**263**	P		**P**		**01 28 00.6**	**-0.7**
TAOE	**Nuku Hiva Isla**	**39.20**	**78**	*e*P		**P**		**01 28 06.0**	**+1.0**
	comp=Z,298nm,1.2s								
HTT	**Hallett**	**39.28**	**243**	P		**P**		**01 28 05.8**	**+0.5**
	comp=Z,28nm,0.9s								
HTT	**Hallett**	**39.28**	**243**	P		**P**		**01 28 05.8**	**+0.5**
WHYH	**Whyalla**	**40.35**	**243**	P		**P**		**01 28 14.3**	**+0.5**
BBOO	**Buckleboo**	**41.60**	**244**	P		**P**		**01 28 23.9**	**+0.2**
BBOO	**Buckleboo**	**41.60**	**244**	P		**P**		**01 28 23.8**	**+0.2**
	comp=Z,203nm,0.7s								
BBOO	**Buckleboo**	**41.60**	**244**	P		**P**		**01 28 23.7**	**0.0**
JAY	**Jayapura**	**43.44**	**290**	P		**P**		**01 28 37.7**	**-0.6**
	comp=Z,3μmcomp=Z,245nm,0.9s								
WR0	**Warramunga Arr**	**43.54**	**263**	P		**P**		**01 28 38.1**	**-0.8**
AS01	**Alice Springs**	**43.58**	**257**	P		**P**		**01 28 39.2**	**0.0**
WR8	**Warramunga Arr**	**43.58**	**263**	P		**P**		**01 28 38.8**	**-0.5**
WR8					IAmb	IAmb		01 28 40.2	
	comp=Z,113nm,1.0s								
AS31	**Alice Springs**	**43.62**	**257**	P		**P**		**01 28 39.6**	**+0.1**
AS31					IAmb	IAmb		01 28 40.3	
	comp=Z,51nm,0.7s								
AS31	**Alice Springs**	**43.62**	**257**	P		**P**		**01 28 39.5**	**0.0**
	comp=Z,70nm,0.9s								
ASAR	**Alice Springs**	**43.62**	**257**	P		**P**		**01 28 39.4**	**-0.1**
ASAR	**Alice Springs**	**43.62**	**257**	P		**P**		**01 28 39.6**	**+0.1**
	comp=Z,194nm,0.8s,baz=97,slow=7.7,SNR=1334								
ASAR					PcP	**PcP**		**01 30 12.6**	**-0.2**
	comp=Z,6.9nm,0.6s,baz=90,slow=3.6,SNR=3.9								
ASAR					ScP	**ScP**		**01 33 08.7**	**+2.2**
	comp=Z,14nm,0.7s,baz=106,slow=4.1,SNR=16								
ASAR					S	**S**		**01 34 21.4**	**-4.5**
	comp=Z,19nm,0.8s,baz=94,slow=16,SNR=36								
ASAR					ScS	**ScS**		**01 37 31.4**	**+0.7**
	comp=Z,2.1nm,0.9s,baz=75,slow=7.0,SNR=5.6								
	comp=Z,194nm,0.8s								
ASAR	**Alice Springs**	**43.62**	**257**	P		**P**		**01 28 39.4**	**-0.1**
WB0	**Warramunga Arr**	**43.71**	**263**	P		**P**		**01 28 39.9**	**-0.4**
WRAB	**Tennant Creek**	**43.72**	**263**	P		**P**		**01 28 39.8**	**-0.6**
WRAB					IAmb	IAmb		01 28 40.6	
	comp=Z,145nm,0.9s								
WRAB	**Tennant Creek**	**43.72**	**263**	*d* iP		**P**		**01 28 39.7**	**-0.6**
WRA	**Warramunga Arr**	**43.73**	**263**	P		**P**		**01 28 39.3**	**-1.1**
WRA	**Warramunga Arr**	**43.73**	**263**	P		**P**		**01 28 39.7**	**-0.7**
	comp=Z,87nm,0.5s,baz=98,slow=8.6,SNR=613								
WRA					ScP	**ScP**		**01 33 08.8**	**+1.9**
	comp=Z,5.2nm,0.9s,baz=96,slow=4.0,SNR=5.6								
WRA					S	**S**		**01 34 24.3**	**-3.3**
	comp=Z,8.5nm,0.9s,baz=96,slow=13,SNR=12								
WRA					ScS	**ScS**		**01 37 32.6**	**+1.2**
	comp=Z,1.3nm,1.0s,baz=50,slow=10,SNR=4.6								
	comp=Z,87nm,0.5s								
WRA	**Warramunga Arr**	**43.73**	**263**	P		**P**		**01 28 39.3**	**-1.1**
WRA					pmax	pmax			
	comp=Z,15nm,1.0s								
GENI	**Genyem**	**43.88**	**289**	P		**P**		**01 28 41.8**	**+0.2**
GENI	**Genyem**	**43.88**	**289**	P		**P**		**01 28 41.1**	**-0.5**
	comp=Z,3μmcomp=Z,297nm,1.1s								
SMPI	**Sarmi**	**45.44**	**289**	P		**P**		**01 28 53.1**	**-0.4**
	comp=Z,2μmcomp=Z,151nm,1.2s								
HMH	**Humu'ula Sheep**	**46.39**	**31**	P		**P**		**01 29 01.7**	**+0.8**
DHH	**Diamond Head**	**46.78**	**27**	P		**P**		**01 29 03.8**	**+0.4**
DHH	**Diamond Head**	**46.78**	**27**	P		**P**		**01 29 03.8**	**+0.4**
KDU	**Kakadu**	**47.16**	**272**	P		**P**		**01 29 05.8**	**-0.6**
	comp=Z,174nm,1.9s								
KDU	**Kakadu**	**47.16**	**272**	P		**P**		**01 29 05.8**	**-0.6**
BAKI	**Biak**	**48.12**	**288**	P		**P**		**01 29 12.7**	**-0.9**
	comp=Z,2μmcomp=Z,179nm,1.0s								
MTN	**Manton Dam**	**48.36**	**271**	P		**P**		**01 29 14.8**	**-0.6**
MTN	**Manton Dam**	**48.36**	**271**	P		**P**		**01 29 14.4**	**-1.0**
	comp=Z,203nm,0.7s								
MTN	**Manton Dam**	**48.36**	**271**	P		**P**		**01 29 14.5**	**-0.9**
WRKA	**Warakurna**	**48.55**	**255**	P		**P**		**01 29 16.7**	**0.0**
	comp=Z,113nm,0.7s								
DRS	**Darwin Rock St**	**48.70**	**272**	P		**P**		**01 29 17.2**	**-0.6**
GUMO	**Guam**	**49.51**	**311**	P		**P**		**01 29 23.3**	**-0.4**
KNRA	**Kununurra**	**49.82**	**267**	P		**P**		**01 29 25.7**	**-0.3**
	comp=Z,146nm,0.7s								
FAKI	**Fak Fak**	**50.83**	**284**	P		**P**		**01 29 33.0**	**-0.4**
FAKI					IAmb	IAmb		01 29 33.9	
	comp=Z,122nm,1.1s								
FITZ	**Fitzroy Crossi**	**52.16**	**263**	P		**P**		**01 29 42.7**	**-0.2**
SWI	**Sorong**	**52.60**	**286**	P		**P**		**01 29 45.4**	**-0.7**
DRV	**Dumont d'Urvil**	**52.62**	**199**	P		**P**		**01 29 46.5**	**+1.3**
KMBL	**Kambalda**	**53.62**	**246**	P		**P**		**01 29 53.9**	**+0.8**
	comp=Z,19nm,0.9s								
NLAI	**Namlea**	**55.40**	**281**	P		**P**		**01 30 05.5**	**-0.2**
	comp=Z,2μmcomp=Z,138nm,0.7s								
SOEI	**Soe**	**55.71**	**272**	P		**P**		**01 30 08.9**	**+1.0**
SOEI	**Soe**	**55.71**	**272**	P		**P**		**01 30 08.4**	**+0.4**
SOEI	**Soe**	**55.71**	**272**	P		**P**		**01 30 09.1**	**+1.1**
BATI	**Baumata**	**56.13**	**272**	P		**P**		**01 30 11.7**	**+0.9**
	comp=Z,2μmcomp=Z,159nm,0.8s								
PSAC2	**Pilbara Seismi**	**56.72**	**257**	P		**P**		**01 30 14.2**	**-0.4**
	comp=Z,148nm,0.8s								
PSA00	**Pilbara Seismi**	**56.77**	**257**	P		**P**		**01 30 14.9**	**-0.1**
PSA00					IAmb	IAmb		01 30 15.5	
	comp=Z,114nm,0.8s								
PSA00	**Pilbara Seismi**	**56.77**	**257**	P		**P**		**01 30 14.4**	**-0.6**
PSA00					IAmb	IAmb		01 30 15.5	
	comp=Z,61nm,0.9s								
PSA00	**Pilbara Seismi**	**56.77**	**257**	P		**P**		**01 30 14.4**	**-0.6**
	comp=Z,158

BBJI Bungbulang 71.98 269 P P 01 31 50.1 -0.8
JNU Nakatsue 72.09 317 P P 01 31 50.3 -0.8
comp=Z,30nm,0.9s,baz=109,slow=4.0,SNR=14
comp=Z,30nm,0.9s
JNU Nakatsue 72.09 317 P P 01 31 50.7 -0.4
LEM Lembang 72.22 269 P P 01 31 52.1 -0.3
comp=Z,132nm,1.0s,baz=99,slow=9.7,SNR=10.0
comp=Z,132nm,1.0s
ADK Adak 72.59 1 P P 01 31 53.5 +0.1
ADK IAmb IAmb 01 31 54.0
comp=Z,50nm,0.6s
ADK Adak 72.59 1 P P 01 31 52.9 -0.5
ADK Adak 72.59 1 P P 01 31 53.5 +0.1
ADK pmax pmax
comp=Z,50nm,0.6s
KSM Kuching 72.68 278 P P 01 31 54.9 0.0
TWGBT Beinan 72.96 303 P P 01 31 55.1 -1.2
ATKA Atka Island 73.00 3 P P 01 31 54.9 -0.8
YULB Yu-li 73.10 304 P P 01 31 56.0 -1.0
NACB Ninganchiao 73.29 305 P P 01 31 57.3 -0.8
TPUB Ta-pu 73.57 303 P P 01 31 58.4 -1.3
SSLB Suanglung 73.58 304 P P 01 31 58.7 -1.1
YHNB Yeheng 73.72 305 P P 01 32 00.5 -0.1
ASAJ Asahikawa 73.78 332 P P 01 32 01.6 +1.1
comp=Z,17nm,0.9s,baz=194,slow=12,SNR=5.4
comp=Z,17nm,0.9s
NIKH Nikolski High 74.17 6 P P 01 32 01.8 -0.6
baz=190
UNV Unalaska Valle 75.29 8 P P 01 32 08.0 -0.6
baz=192
YSS Yuzhno-Sakhali 75.98 334⇑*i*P P 01 32 13.6 +1.0
YSS pmax pmax
comp=Z,50nm,1.7s
QZH Quanzhou 76.01 304 *e*P P 01 32 13.5 +0.3
QZH S S 01 41 08.5 +0.6
PEA0B Petropavlovsk- 76.55 346*d i*P P 01 32 15.3 -0.2
PETK Petropavlovsk- 76.55 346 P P 01 32 15.3 -0.2
comp=Z,14nm,0.6s,baz=119,slow=6.4,SNR=31
comp=Z,14nm,0.6s
KSRS Korea Array 76.73 319 P P 01 32 17.3 +0.4
comp=Z,4.2nm,0.8s,baz=143,slow=6.6,SNR=14
comp=Z,4.2nm,0.8s
CHNA Chernabura Isl 77.31 11 P P 01 32 19.1 -0.5
CHNA Chernabura Isl 77.31 11 P P 01 32 19.4 -0.2
baz=198
SDPT Sand Point 77.64 11 P P 01 32 20.7 -0.7
SDPT Sand Point 77.64 11 P P 01 32 20.6 -0.7
baz=198
S12K Black Hills 77.72 10 P P 01 32 21.2 -0.6
baz=196
MSHR Mys Shultsa 78.25 325⇑*i*P P 01 32 26.0 +1.1
MSHR pmax pmax
comp=Z,34nm,1.3s
PSTR Posyet 78.49 325*c i*P P 01 32 27.2 +1.0
S14K Fog Glacier 78.70 11 P P 01 32 27.4 +0.3
baz=198
MYKOM Kota Tinggi 78.78 276 P P 01 32 29.1 +0.6
CHGN Chignik 78.92 11 P P 01 32 28.2 +0.1
baz=199
USA0B Ussuriysk Arra 78.92 326*d i*P P 01 32 29.2 +0.7
USRK Ussuriysk Ar. 78.92 326 P P 01 32 29.1 +0.6
comp=Z,16nm,0.8s,baz=126,slow=4.1,SNR=24
comp=Z,16nm,0.8s
CHIR Chirikof Islan 79.02 13 P P 01 32 29.2 +0.5
baz=202
TYV Tymovskoe 79.17 336 *e*P P 01 32 29.8 +0.2
TYV pmax pmax
comp=Z,200nm,2.4s
TYV pmax pmax
comp=Z,34nm,1.5s
NJ2 Nanjing 79.58 310 ⇓P P 01 32 32.8 +0.6
NJ2 PcP PcP 01 32 38.3 +0.7
NJ2 pmax pmax
comp=Z,33nm,1.0s
SII Sitkinak Islan 80.02 14 P P 01 32 34.7 +0.8
baz=203
MDJ Mudanjiang 80.47 325 P P 01 32 37.8 +1.3
MDJ S SKSac 01 41 57.3 +1.0
MDJ pmax pmax
comp=Z,34nm,1.1s
MDJ pmax pmax
comp=Z,290nm,5.7s
MDJ Mudanjiang 80.47 325 P P 01 32 37.2 +0.7
PFO Pinyon Flats O 80.51 49 P P 01 32 38.3 +1.1
comp=Z,6.9nm,0.8s,baz=252,slow=3.4,SNR=12
comp=Z,6.9nm,0.8s
PFO Pinyon Flats O 80.51 49*c i*P P 01 32 38.4 +1.2
PFO pmax pmax
comp=Z,22nm,1.0s
R17L Mt. Peulik Vol 80.56 12 P P 01 32 37.0 +0.3
baz=201
MAW Mawson 80.82 200 P P 01 32 39.0 +1.0
comp=Z,2.7nm,1.2s
MAW Mawson 80.82 200 P P 01 32 38.9 +0.8
comp=Z,4.1nm,0.4s,baz=124,slow=1.4,SNR=29
comp=Z,4.1nm,0.4s
OHAK Old Harbor 80.82 14 P P 01 32 38.5 +0.4
baz=204
BKNI Bangkinang 80.87 274 P P 01 32 39.4 +0.1
R18K Karluk 80.89 13 P P 01 32 38.9 +0.6
baz=203
YBH Yreka Blue Hor 81.18 39 P P 01 32 41.6 +1.2
comp=Z,2.1nm,0.8s,baz=183,slow=1.2,SNR=65
comp=Z,2.1nm,0.8s
Q17K Contact Creek 81.24 12 P P 01 32 40.0 -0.3
baz=202,SNR=35
O14K Tigyukauivet M 81.26 9 P P 01 32 40.0 -0.2
baz=197
O15K Ungalikthiuk R 81.41 10 P P 01 32 40.8 -0.2
baz=198
Q16K King Salmon 81.48 12 P P 01 32 41.6 +0.3
baz=201,SNR=5.4
KDAK Kodiak Island 81.49 14 P P 01 32 41.9 +0.4
comp=Z,9.4nm,0.6s,baz=217,slow=4.6,SNR=15
comp=Z,9.4nm,0.6s
KDAK Kodiak Island 81.49 14⇑*e*P P 01 32 42.3 +0.9
KDAK pmax pmax
comp=Z,29nm,0.9s
KDAK Kodiak Island 81.49 14 P P 01 32 42.0 +0.6
baz=205
P16K Nushagak River 81.57 11 P P 01 32 42.3 +0.5
baz=200
M11K Mekoryuk 81.74 6 P P 01 32 43.1 +0.4
baz=192
Q18K Katmai Hardscr 81.77 12 P P 01 32 42.9 -0.1
baz=202
N14K Kuskokwak Cree 81.84 9 P P 01 32 43.7 +0.6
baz=196,SNR=12
NVAR Mina Array Bea 81.94 44 P P 01 32 45.8 +1.3
comp=Z,14nm,0.7s,baz=224,slow=8.6,SNR=101
NVAR pP pP 01 34 54.6 +1.3
comp=Z,1.4nm,0.9s,baz=257,slow=5.6,SNR=3.4
NVAR PKKPbc PKKPbc 01 51 11.6 +1.1
comp=Z,0.4nm,0.6s,baz=122,slow=7.2,SNR=3.7
comp=Z,14nm,0.7s
P17K Kvichak River 82.01 11 P P 01 32 43.8 -0.2
baz=201,SNR=19
O16K Kokwok River B 82.09 10 P P 01 32 43.5 -0.9
baz=200,SNR=16
WHN Wuhan 82.09 307 P P 01 32 45.8 +0.7
WHN SKS SKSac 01 42 05.5 -2.2
WHN S SKKSac 01 42 11.5 -1.3
WHN pmax pmax
comp=Z,200nm,1.7s
M13K Dall Lake 82.10 8 P P 01 32 45.2 +0.8
baz=195
CN2 Changchun 82.20 323 P P 01 32 45.0 -0.4
CN2 pmax pmax
comp=Z,20nm,1.3s
Q20K Shuyak Island 82.29 14 P P 01 32 46.1 +0.6
baz=205
Q19K Cape Douglas, 82.31 13 P P 01 32 45.5 -0.2
baz=204
N15K Kwethluk River 82.31 9 P P 01 32 46.3 +0.7
baz=198,SNR=26
BNX BinXian 82.37 325 ⇓P P 01 32 46.0 -0.2
BNX pmax pmax
comp=Z,27nm,1.0s
IPM Ipoh 82.39 278 P P 01 32 47.9 +0.8
P18K Big Mountain, 82.42 12 P P 01 32 45.6 -0.5
baz=202,SNR=9.2
O17K Koliganek Bris 82.43 11 P P 01 32 45.7 -0.5
baz=200,SNR=9.9
UBPT Khong Chiam 82.53 289 P P 01 32 47.9 +0.2
M14K Bethel 82.61 8 P P 01 32 47.5 +0.5
baz=196,SNR=7.0
M15K Kasigluk River 82.73 9 P P 01 32 48.1 +0.4
baz=197,SNR=24
N16K Nishlik Lake 82.81 10 P P 01 32 48.9 +0.9
baz=199,SNR=28
O18K Koktuh Hills 82.85 12 P P 01 32 48.2 -0.1
baz=202,SNR=23
TIA Tai'an 83.02 313 P P 01 32 50.0 +0.3
TIA pmax pmax
comp=Z,26nm,1.1s
KULM Kulim 83.04 278 P P 01 32 51.3 +1.0
P19K Oil Pt 83.06 13 P P 01 32 49.1 -0.3
baz=204,SNR=8.6
L14K Kuka Creek 83.08 8 P P 01 32 49.8 +0.5
baz=195,SNR=8.7
N17K Nushagak Hills 83.12 11 P P 01 32 49.6 0.0
baz=200,SNR=5.5
M16K Timber Creek 83.30 10 P P 01 32 51.5 +1.0
baz=199,SNR=14
O19K Port Alsworth 83.34 12 P P 01 32 50.3 -0.3
baz=203,SNR=11
K13K Kusilvak Mount 83.42 7 P P 01 32 51.6 +0.6
baz=193,SNR=6.6
N18K Kilae Creek 83.50 11 P P 01 32 51.5 0.0
baz=202
L15K Ungalak Mounta 83.56 8 P P 01 32 51.9 +0.2
baz=196,SNR=7.3
O20K Slope Mountain 83.58 13 P P 01 32 51.5 -0.4
baz=204,SNR=5.7
PSI Prapat 83.73 275 P P 01 32 53.7 -0.2
N19K Bonanza Creek 83.88 12 P P 01 32 52.8 -0.7
baz=203,SNR=9.9
M17K Holitna River 83.90 10 P P 01 32 53.7 +0.2
baz=200,SNR=14
MA2 Magadan 84.05 345 P P 01 32 53.6 -0.6
MA2 Magadan 84.05 345*d i*P P 01 32 52.9 -1.3
MA2 pmax pmax
comp=Z,22nm,1.4s
K15K Wolf Creek Mou 84.15 8 P P 01 32 55.3 +0.6
baz=196,SNR=8.2
M18K Stony River 84.26 11 P P 01 32 55.6 +0.4
baz=202,SNR=8.1
SEW Seward 84.30 14 P P 01 32 56.1 +0.8
baz=207
J14K Nanvaranak Lak 84.34 7 P P 01 32 56.4 +0.9
baz=194
GSI Gunungsitoli 84.45 274 P P 01 32 58.6 +1.3
L17K Donlin 84.46 10 P P 01 32 57.1 +1.0
baz=199,SNR=5.1
Q23K Middleton Isla 84.46 16 P P 01 32 56.7 +0.5
baz=210
CAPN Captain Cook N 84.51 13 P P 01 32 57.0 +0.6
baz=206
GAMB Gambell 84.68 3 P P 01 32 57.5 +0.4
baz=187
N20K Mount Spurr 84.68 13 P P 01 32 56.8 -0.5
baz=205
SPCR Spurr Chakacha 84.68 13 P P 01 32 56.9 -0.4
baz=205
P23K Montague Islan 84.69 15 P P 01 32 57.5 +0.2
baz=209
L18K Granite Mounta 84.80 10 P P 01 32 58.3 +0.5
baz=201,SNR=10
M19K Big River Lodg 84.91 11 P P 01 32 58.6 +0.2
baz=203
K17K Iditarod 85.01 9 P P 01 32 59.1 +0.3
baz=199
L19K White Mountain 85.08 11 P P 01 32 59.4 +0.2
baz=202,SNR=20
RC01 Rabbit Creek A 85.11 14 P P 01 32 59.4 +0.1
baz=207,SNR=8.4
M20K Styx River 85.12 12 P P 01 32 58.9 -0.6
baz=204
ELK Elko 85.20 43 P P 01 33 01.2 +0.7
comp=Z,6.1nm,0.8s,baz=245,slow=5.2,SNR=22
comp=Z,6.1nm,0.8s
J16K Anvik River 85.22 8 P P 01 33 00.3 +0.4
baz=197
PWL Port Wells 85.22 14 P P 01 33 00.0 +0.1
baz=208,SNR=10
BBB Bella Bella 85.22 29 P P 01 33 01.1 +1.0
comp=Z,12nm,0.8s,baz=272,slow=5.8,SNR=5.9
comp=Z,12nm,0.8s
SUA Susitna One 85.23 13 P P 01 32 59.8 -0.2
baz=206,SNR=22
SRIT Nakonsritamara 85.23 281 P P 01 33 02.3 +1.3
HNS HongShan 85.29 313 ⇓P P 01 33 00.5 -0.2
HNS SKS SKSac 01 42 25.5 -2.1
HNS S SKKSac 01 42 37.3 +0.8
HNS pmax pmax
comp=Z,36nm,0.7s
HEH HeiHe 85.31 329 ⇓P P 01 33 00.5 0.0
HEH pmax pmax
comp=Z,38nm,1.1s
KAIM Kayak Island 85.39 17 P P 01 33 01.1 +0.5
baz=212
LYN LuoYang 85.44 310 P P 01 33 02.5 +0.9
LYN SKS SKSac 01 42 26.5 -2.2
LYN S ScS 01 42 46.0 -2.9
LYN pmax pmax
comp=Z,48nm,1.2s
LYN pmax pmax
comp=Z,280nm,5.6s
CRAG Craig 85.50 24 P P 01 33 01.5 +0.2
baz=222
SKT Skwentna 85.53 13 P P 01 33 00.9 -0.5
baz=205
L20K Farewell, AK 85.53 11 P P 01 33 01.2 -0.1
baz=203,SNR=11
GLI Glacier Island 85.53 15 P P 01 33 01.3 -0.1
baz=210,SNR=16
J17K VABM Dome 85.54 9 P P 01 33 01.8 +0.5
baz=198
EYAK Cordova Ski Ar 85.58 16 P P 01 33 02.0 +0.5
EYAK Cordova Ski Ar 85.58 16 P P 01 33 01.7 +0.2
baz=211
ENH Enshi 85.65 305 P P 01 33 03.3 +0.6
BJT Baijiatuau 85.67 316 P P 01 33 03.1 +0.6
BJI Beijing 85.68 316 P P 01 33 02.8 +0.3
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI pmax pmax
comp=Z,41nm,6.6s
KNK Knik Glacier 85.68 14 P P 01 33 02.2 +0.1
baz=208,SNR=6.5
PMR Palmer 85.69 14 P P 01 33 02.3 +0.3
PMR Palmer 85.69 14 P P 01 33 02.3 +0.3
baz=208
I17K Unalakleet 85.79 8 P P 01 33 03.0 +0.5
baz=197
BGLC Bering Glacier 85.86 17 P P 01 33 02.9 0.0
baz=213
SIT Sitka 85.89 22 P P 01 33 02.9 -0.2
baz=220
ANM Nome 85.93 6 P P 01 33 02.8 -0.3
baz=193
J18K Innoko River 85.96 10 P P 01 33 03.4 +0.1
baz=201,SNR=10
U33K Whale Pass 85.98 24 P P 01 33 04.2 +0.7
baz=222,SNR=5.9
V35K Ketchikan 85.98 25 P P 01 33 04.9 +1.3
baz=223,SNR=7.5
SYO Syowa Base 86.06 193⇑*i*P P 01 33 04.0 +0.1
SYO Syowa Base 86.06 193⇑*e*PcP PcP 01 33 05.8 +0.3
CUT Chulitna 86.17 13 P P 01 33 04.3 0.0
baz=207,SNR=5.9
M23K Glacier View 86.19 14 P P 01 33 04.5 +0.1
baz=209
PPLA Purkeypile 86.23 12 P P 01 33 05.0 +0.2
baz=205
BMRM Bremner River 86.23 16 P P 01 33 05.1 +0.3
baz=212,SNR=6.2
S31K Pelican 86.27 21 P P 01 33 05.9 +1.0
baz=219
MESA MESA 86.28 18 P P 01 33 05.9 +0.8
baz=214,SNR=6.0
K20K Telida 86.31 11 P P 01 33 04.9 0.0
baz=203,SNR=12
SCM Sheep Creek Mo 86.31 14 P P 01 33 05.1 0.0
baz=209,SNR=24
H16K Elim 86.33 7 P P 01 33 05.0 0.0
baz=196
SLVN Son La 86.35 294 P P 01 33 07.1 +0.9
KLU Klutina 86.35 15 P P 01 33 05.5 +0.1
baz=211,SNR=7.4
CRQE Cirque 86.45 17 P P 01 33 06.2 +0.4
baz=213
S32K Killisnoo 86.47 22 P P 01 33 06.4 +0.6
baz=221
G15K Niukluk 86.48 6 P P 01 33 06.3 +0.6
baz=194
WRAK Wrangell Islan 86.50 24 P P 01 33 07.1 +1.1
baz=223,SNR=7.0
PNL Peninsula 86.61 19 P P 01 33 07.6 +1.1
PNL Peninsula 86.61 19 P P 01 33 07.2 +0.8
baz=216
J19K Poorman 86.63 10 P P 01 33 07.2 +0.8
baz=202,SNR=7.6
SEY Seymchan 86.68 347*de*P P 01 33 06.7 0.0
SEY pmax pmax
comp=Z,36nm,1.4s
PINM Pinnacle 86.70 18 P P 01 33 07.6 +0.7
baz=216
CAST Castle Rocks 86.73 12 P P 01 33 05.9 -1.0
baz=205,SNR=32
F14K Arctic Creek 86.73 5 P P 01 33 07.4 +0.5
baz=192
N25K Chitina, Valde 86.78 16 P P 01 33 07.4 +0.1
baz=212,SNR=16
M24K Tolsona, Glenn 86.82 15 P P 01 33 07.5 0.0
baz=210
H17K Granite Mounta 86.90 8 P P 01 33 07.4 -0.3
baz=198
MCARA McCarthy VSAT 87.00 16 P P 01 33 08.0 -0.3
baz=213
G16K Koyuk River 87.04 7 P P 01 33 08.2 -0.1
baz=195
J20K Nowinta River 87.05 11 P P 01 33 08.7 +0.2
baz=203,SNR=9.7
P29M Windy Craggy 87.09 20 P P 01 33 09.0 +0.2
baz=218,SNR=6.5
R32K Eaglecrest 87.10 22 P P 01 33 08.5 -0.3
baz=221
CTG Chitna Glacier 87.10 17 P P 01 33 08.9 0.0
baz=215,SNR=8.2
TRF Thorofare Moun 87.11 12 P P 01 33 08.4 -0.5
baz=206,SNR=48
CHUM Lake Minchumin 87.11 11 P P 01 33 08.3 -0.3
baz=205
F15K North Star Dit 87.11 6 P P 01 33 08.9 +0.2
baz=193
GCSA Galena City Sc 87.14 9 P P 01 33 08.6 -0.1
baz=200
TROLL Troll, Antarti 87.23 180 ⇑P P 01 33 09.9 +0.4
comp=Z,309nm,0.4s
TROLL ⇑x x 01 35 22.8
comp=Z,372nm,0.8s
O28M Mount Upton 87.27 18 P P 01 33 10.1 +0.2
baz=216,SNR=16
H18K Honhosa River 87.31 9 P P 01 33 10.4 +0.7
baz=199
HARP HAARP 87.32 15 P P 01 33 10.5 +0.7
baz=211
G17K Kiwalik Mounta 87.35 7 P P 01 33 09.7 -0.1
baz=197
O29M Mount Kennedy 87.37 19 P P 01 33 10.4 +0.2
baz=217
SNAA Sanae 87.53 179 ⇑P P 01 33 10.9 0.0
comp=Z,108nm,0.5s
SNAA ⇑x x 01 35 24.0
comp=Z,71nm,1.0s
SNAA Sanae 87.53 179 P P 01 33 10.9 0.0
comp=Z,4.1nm,0.5s,baz=200,slow=9.2,SNR=91
SNAA pP **pP 01 35 22.1 -0.5**
comp=Z,2.2nm,0.9s,baz=111,slow=22,SNR=5.6
comp=Z,4.1nm,0.5s
SNAA Sanae 87.53 179*ce*P P 01 33 11.3 +0.4
SNAA pmax pmax
comp=Z,14nm,1.4s
BPAW Bear Paw Mtn. 87.55 12 P P 01 33 10.1 -0.7
baz=206,SNR=6.6
I20K Naaghedeneel 87.57 10 P P 01 33 10.7 -0.1
baz=203,SNR=5.1
MCK McKinley 87.64 13 P P 01 33 10.7 -0.5
baz=208,SNR=14
VNA3 Neumayer Olymp 87.70 177 ⇑P P 01 33 11.8 +0.2
comp=Z,23nm,0.5s
VNA3 ⇑x x 01 35 25.7
comp=Z,7.3nm,0.8s
T35M Bob Quinn 87.70 24 P P 01 33 12.6 +0.9
baz=224
P30M Million Dollar 87.72 20 P P 01 33 13.0 +1.2
baz=219
SKAG Skagway 87.73 21 P P 01 33 11.6 -0.1
SKAG Skagway 87.73 21 P P 01 33 13.1 +1.4
baz=220
PAX Paxson 87.73 15 P P 01 33 12.0 +0.2
baz=211,SNR=5.8
XLT XiLinHaoTe 87.78 319 *e*P P 01 33 12.5 0.0
XLT pP pwP 01 35 28.8 +1.5
XLT pmax pmax
comp=Z,8.0nm,0.5s
XLT pmax pmax
comp=Z,53nm,4.7s
XAN Xi'an 87.79 308 P P 01 33 13.5 +0.8
XAN pmax pmax
comp=Z,35nm,1.3s
YUK8 Steele Glacier 87.81 18 P P 01 33 13.2 +0.8
baz=216,SNR=16
M26K Nabesna, AK 87.86 16 P P 01 33 13.1 +0.8
baz=213,SNR=8.3
H19K Roundabout Mou 87.94 9 P P 01 33 12.5 0.0
baz=201,SNR=15
YUK6 Outpost Mounta 87.94 18 P P 01 33 13.2 +0.2
baz=217,SNR=5.6
G18K Tagagawik 87.98 8 P P 01 33 13.0 +0.3
baz=199,SNR=5.4
TXAR Lajitas Array 88.00 58 P P 01 33 15.2 +1.3
comp=Z,20nm,0.8s,baz=219,slow=5.7,SNR=174
TXAR pP **pP 01 35 25.2 -0.2**
comp=Z,0.3nm,0.8s,baz=247,slow=5.5,SNR=1.9
TXAR PKKPbc **PKKPbc 01 50 55.7 0.0**
comp=Z,0.1nm,0.4s,baz=86,slow=3.9,SNR=5.0
comp=Z,20nm,0.8s
YUK3 Moose Creek 88.01 17 P P 01 33 14.1 +0.8
baz=215,SNR=35
S34M Telegraph Cree 88.04 23 P P 01 33 14.3 +1.2
baz=224,SNR=14
HYT Haines Junctio 88.11 19 P P 01 33 14.2 +0.6
baz=218,SNR=8.8
M27K Edge Creek, AK 88.11 16 P P 01 33 14.1 +0.5
baz=214,SNR=16
VNA2 Neumayer--Watz 88.13 177 ⇑P P 01 33 14.0 +0.4
comp=Z,14nm,0.6s,baz=186,slow=4.5
VNA2 ⇑x x 01 35 26.9
comp=Z,5.6nm,0.9s,baz=164,slow=3.8
H20K Anotleneega Mo 88.15 10 P P 01 33 13.8 +0.3
baz=202,SNR=14
YUK4 Talbot Arm 88.18 18 P P 01 33 15.2 +1.1
baz=217,SNR=8.3
F17K Baldwin Pennin 88.18 7 P P 01 33 14.1 +0.5
baz=196
NEW Newport 88.25 36 P P 01 33 14.7 +0.2
comp=Z,6.1nm,0.8s,baz=235,slow=6.0,SNR=12
comp=Z,6.1nm,0.8s
L26K Log Cabin Wild 88.30 15 P P 01 33 14.7 +0.4
baz=213
ANMO Albuquerque 88.35 52 P P 01 33 16.3 +0.9
comp=Z,15nm,1.0s,baz=305,slow=4.7,SNR=27
ANMO pP **pP 01 35 27.5 +0.5**
comp=Z,1.4nm,0.6s,baz=262,slow=3.3,SNR=3.2
comp=Z,15nm,1.0s
ANMO Albuquerque 88.35 52*c i*P P 01 33 16.3 +0.9
ANMO pmax pmax
comp=Z,21nm,1.1s
I21K Tanana 88.35 11 P P 01 33 14.2 -0.3
baz=205,SNR=7.6
VNA1 Neumayer--Stat 88.36 177 ⇑P P 01 33 15.2 +0.6
comp=Z,29nm,1.0s
VNA1 ⇑x x 01 35 28.9
comp=Z,13nm,1.2s
P32M Atlin 88.37 21 P P 01 33 15.9 +1.1
baz=221
NEA2 Nenana 88.37 12 P P 01 33 13.6 -1.0
baz=208,SNR=14
K24K Donnelly Dome 88.38 14 P P 01 33 15.1 +0.4
baz=211,SNR=13
Q32M Nakina River 88.40 22 P P 01 33 15.5 +0.4
baz=223,SNR=8.2
BVCY Beaver Creek 88.43 17 P P 01 33 15.6 +0.7
baz=215,SNR=16
G19K Purcell Mounta 88.43 9 P P 01 33 15.2 +0.4
baz=200,SNR=9.1
MLY Manley 88.44 12 P P 01 33 14.3 -0.7
baz=206,SNR=12
O30N Mendenhall 88.50 19 P P 01 33 16.0 +0.7
baz=219,SNR=12

F18K	Selawik	88.52	8	P		P		01 33 15.0	-0.2	
	baz=198									
RIDG	Independent Ri	88.54	14	P		P		01 33 15.7	+0.2	
	baz=212,SNR=7.7									
H21K	Melozitna Rive	88.64	10	P		P		01 33 16.1	+0.3	
	baz=204,SNR=15									
HDA	Harding Lake	88.65	13	P		P		01 33 15.8	-0.1	
	baz=210,SNR=22									
L27K	Beaver Creek,	88.71	16	P		P		01 33 16.6	+0.4	
	baz=214,SNR=8.6									
N30M	Aishikik Lake	88.73	19	P		P		01 33 16.8	+0.4	
	baz=218									
E17K	Hotham Inlet	88.73	7	P		P		01 33 16.0	-0.2	
	baz=196									
WHY	Whitehorse	88.79	20	P		P		01 33 18.0	+1.2	
	baz=220,SNR=10									
I23K	Minto, Yukon-K	88.81	12	P		P		01 33 16.1	-0.4	
	baz=207,SNR=13									
DLBC	Dease Lake	88.83	23	P		P		01 33 17.4	+0.5	
	comp=Z,0.6nm,0.8s,baz=212,slow=5.0,SNR=19									
DLBC	Dease Lake	88.83	23	P		P		01 33 16.8	-0.2	
	baz=225,SNR=9.4									
KMI	Kunming	88.86	297	⇓P		P		01 33 19.5	+1.4	
KMI				SKS		SKSac		01 42 49.5	-0.4	
KMI				pmax		pmax				
	comp=Z,21nm,1.2s									
COLA	College	88.87	13	P		P		01 33 16.6	-0.2	
COLA	College	88.87	13	*d iP*		P		01 33 16.4	-0.4	
COLA				pmax		pmax				
	comp=Z,30nm,0.9s									
SCRK	Sand Creek	88.94	15	P		P		01 33 17.9	+0.5	
	baz=212,SNR=14									
ILAR	Eielson Array	88.98	13	P		P		01 33 16.8	-0.6	
	comp=Z,7.8nm,0.8s,baz=220,slow=5.4,SNR=60									
ILAR				pP		pP		01 35 28.8	-0.8	
	comp=Z,4.4nm,1.0s,baz=230,slow=5.8,SNR=13									
	comp=Z,7.8nm,0.8s									
F19K	Shaleruckik Mo	88.98	8	P		P		01 33 17.4	+0.1	
	baz=200,SNR=10									
H22K	Ishtalitna Cre	89.11	11	P		P		01 33 18.0	0.0	
	baz=206,SNR=19									
M29M	Somme Creek	89.11	18	P		P		01 33 18.8	+0.6	
	baz=217,SNR=24									
HHC	Hu-ho-hao-te	89.12	315	*eP*		P		01 33 20.0	+1.2	
HHC				pP		pwP		01 35 36.5	+2.5	
HHC				SKS		SKSac		01 42 52.5	+1.9	
HHC				S		ScS		01 43 20.3	+0.9	
HHC				pmax		pmax				
	comp=Z,17nm,0.9s									
HHC				pmax		pmax				
	comp=Z,37nm,5.0s									
P33M	Teslin, Yukon	89.13	21	P		P		01 33 18.6	+0.3	
	baz=222,SNR=5.3									
N31M	Braeburn, Yuko	89.15	19	P		P		01 33 19.2	+0.9	
	baz=220,SNR=9.4									
POKR	Poker Flat Res	89.17	13	P		P		01 33 18.2	-0.1	
	baz=209									
J25K	Salcha River,	89.17	14	P		P		01 33 18.4	0.0	
	baz=211,SNR=21									
R33M	Jennings River	89.17	22	P		P		01 33 19.3	+0.7	
	baz=224,SNR=6.6									
E18K	Tukpahlearik C	89.20	7	P		P		01 33 18.7	+0.3	
	baz=197									
D17K	Noatak River	89.20	6	P		P		01 33 18.9	+0.5	
	baz=195									
G21K	Alakakaket	89.31	10	P		P		01 33 19.0	+0.1	
	baz=204,SNR=21									
H23K	Yukon River	89.38	12	P		P		01 33 19.2	-0.1	
	baz=207									
BILL	Bilibino	89.45	354	⇓*eP*		P		01 33 19.2	-0.3	
BILL				pmax		pmax				
	comp=Z,19nm,1.8s									
K27K	Chicken	89.45	15	P		P		01 33 20.4	+0.8	
	baz=214									
F20K	Avaraart Lake	89.47	9	P		P		01 33 20.3	+0.7	
	baz=202									
J26L	Joseph Creek	89.49	14	P		P		01 33 20.5	+0.6	
	baz=213,SNR=37									
PLCA	Paso Flores	89.52	134	P		P		01 33 22.4	+1.7	
	comp=Z,9.1nm,0.8s,baz=218,slow=4.5,SNR=14									
	comp=Z,9.1nm,0.8s									
CMAR	Chiang Mai Arr	89.52	290	P		P		01 33 22.3	+1.3	
	comp=Z,21nm,1.1s,baz=123,slow=3.0,SNR=54									
CMAR				pP		pP		01 35 32.0	-0.5	
	comp=Z,0.9nm,0.3s,baz=115,slow=3.6,SNR=1.8									
CMAR				PP		PP		01 37 01.9	-2.6	
	comp=Z,1.6nm,0.3s,baz=128,slow=6.5,SNR=4.7									
	comp=Z,21nm,1.1s									
CMAR	Chiang Mai Arr	89.52	290	*ceP*		P		01 33 22.6	+1.6	
CMAR				pmax		pmax				
	comp=Z,11nm,0.8s									
C16K	Lisburne Hills	89.56	5	P		P		01 33 19.3	-0.7	
	baz=193									
RDOG	Red Dog Mine	89.57	6	P		P		01 33 19.8	-0.3	
	baz=195									
E19K	Redstone River	89.65	8	P		P		01 33 20.7	+0.3	
	baz=200,SNR=13									
CHTO	Chiang Mai	89.65	290	P		P		01 33 22.8	+1.2	
M30M	Minto, Yukon	89.69	18	P		P		01 33 21.1	+0.3	
	baz=219,SNR=20									
L29M	L29M	89.73	17	P		P		01 33 21.9	+0.8	
	baz=218,SNR=26									
PDAR	Pinedale Array	89.88	44	P		P		01 33 22.8	+0.4	
	comp=Z,11nm,0.8s,baz=205,slow=3.1,SNR=75									
	comp=Z,11nm,0.8s									
PRP	Porcupine Dome	89.92	13	P		P		01 33 22.3	+0.3	
	baz=211,SNR=9.0									
C17K	DeLong Mountai	89.95	6	P		P		01 33 22.2	+0.4	
	baz=195									
F21K	Alatna River	89.97	10	P		P		01 33 22.3	+0.3	
	baz=204									
G22K	Bettles	90.01	10	P		P		01 33 22.6	+0.4	
	baz=205									
BTO	Baotou	90.04	314	*eP*		P		01 33 24.8	+1.8	
BTO				pP		pP		01 35 35.0	+0.2	
BTO				sP		sP		01 36 34.5	-0.9	
BTO				PP		PP		01 37 12.5	+4.2	
BTO				pmax		pmax				
	comp=Z,36nm,1.3s									
BTO				pmax		pmax				
	comp=Z,100nm,5.1s									
G23K	Bananza Creek	90.08	11	P		P		01 33 22.6	+0.1	
	baz=207,SNR=7.4									
M31M	Drury Creek, Y	90.12	19	P		P		01 33 22.8	0.0	
	baz=221									
DAWY	Dawson	90.16	16	P		P		01 33 23.6	+0.6	
	baz=216,SNR=19									
PZH	PanZhiHua	90.23	298	P		P		01 33 25.0	+0.7	
PZH				pmax		pmax				
	comp=Z,20nm,0.9s									
I26K	Coal Creek Min	90.26	14	P		P		01 33 23.9	+0.6	
	baz=213,SNR=13									
C18K	Utukok River	90.31	6	P		P		01 33 24.3	+0.8	
	baz=196									
F22K	John River	90.44	10	P		P		01 33 24.3	+0.1	
	baz=205									
K29M	Barlow Dome	90.48	17	P		P		01 33 25.1	+0.6	
	baz=218,SNR=19									
H25L	Birch Creek	90.50	13	P		P		01 33 24.5	+0.1	
	baz=211									
D19K	Kuna River	90.51	8	P		P		01 33 24.9	+0.5	
	baz=199,SNR=7.8									
COLD	Coldfoot	90.52	11	P		P		01 33 24.8	+0.4	
	baz=207,SNR=7.8									
E20K	Nigu River	90.54	8	P		P		01 33 24.9	+0.3	
	baz=201,SNR=21									
G24K	Hadweenzic Riv	90.55	12	P		P		01 33 24.3	-0.4	
	baz=209									
MAYO	Mayo, Yukon	90.75	18	P		P		01 33 27.2	+1.6	
	baz=220									
J29N	Klondike Camp	90.78	16	P		P		01 33 27.1	+1.2	
	baz=217									
I27K	Kandik River	90.87	15	P		P		01 33 26.9	+0.7	
	baz=214,SNR=5.9									
G25K	Bearman Lake	90.88	12	P		P		01 33 27.4	+1.3	
	baz=210									
D20K	Etivluk River	90.91	8	P		P		01 33 26.7	+0.4	
	baz=201,SNR=5.6									
C19K	Lookout Ridge	90.92	7	P		P		01 33 27.6	+1.2	
	baz=198									
TOAD	Toad River Com	90.94	25	P		P		01 33 27.8	+1.2	
	baz=229,SNR=14									
B18K	Kokolik River	90.94	6	P		P		01 33 27.5	+1.2	
	baz=196									
E21K	Killik River	91.02	9	P		P		01 33 27.3	+0.5	
	baz=203									
E22K	Anaktuvuk Pass	91.07	10	P		P		01 33 27.8	+0.8	
	baz=205,SNR=6.3									
I28M	Miner Creek	91.14	15	P		P		01 33 27.6	+0.1	
	baz=216,SNR=11									
F24K	Squaw Lake	91.19	11	P		P		01 33 28.7	+1.0	
	baz=209									
E23K	Chandalar	91.36	11	P		P		01 33 29.3	+0.8	
	baz=207									
J30M	Hart River	91.38	17	P		P		01 33 29.5	+0.8	
	baz=219									
H27K	Steamboat Moun	91.41	14	P		P		01 33 29.7	+1.0	
	baz=214,SNR=6.4									
MMPY	Sheldon Lake,	91.41	20	P		P		01 33 29.8	+1.1	
	baz=224									
I29M	Ogilvie Camp,	91.48	16	P		P		01 33 29.3	+0.3	
	baz=217,SNR=8.6									
G26K	Porcupine Rive	91.51	13	P		P		01 33 29.6	+0.6	
	baz=212,SNR=11									
C21K	Knifeblade Rid	91.57	8	P		P		01 33 30.1	+0.8	
	baz=202,SNR=5.8									
E24K	Your Creek	91.57	11	P		P		01 33 30.1	+0.7	
	baz=208									
D22K	Ayikyak River	91.61	9	P		P		01 33 30.4	+0.9	
	baz=204,SNR=5.3									
TGTN	Hyland Airport	91.63	22	P		P		01 33 30.8	+1.0	
	baz=226									
F25K	Christian Rive	91.68	12	P		P		01 33 30.8	+0.9	
	baz=211									
A19K	Wainwright	91.83	6	P		P		01 33 31.4	+1.0	
	baz=197									
G27K	Doyon Strip	91.86	14	P		P		01 33 31.7	+1.0	
	baz=214									
I30M	Mount Dempster	91.87	17	P		P		01 33 31.4	+0.4	
	baz=219,SNR=11									
TOLK	Toolik Lake Re	91.89	10	P		P		01 33 31.4	+0.5	
	baz=207									
D23K	Nanushuk River	92.00	10	P		P		01 33 31.9	+0.6	
	baz=209									
B21K	Ikpikpuk River	92.02	8	P		P		01 33 32.1	+0.8	
	baz=203									
B20K	Meade River	92.06	7	P		P		01 33 32.5	+1.1	
	baz=200									
F26K	Sheenjek River	92.07	13	P		P		01 33 32.5	+0.8	
	baz=212									
H29M	Whitestone	92.15	15	P		P		01 33 32.3	+0.2	
	baz=217,SNR=9.3									
KOTAN	Kotaneelee Air	92.23	24	P		P		01 33 32.7	+0.2	
	baz=230									
LZH	Lanzhou	92.43	308	*eP*		P		01 33 35.0	+0.8	
LZH				pP		pwP		01 35 52.5	+1.7	
LZH				SKS		SKSac		01 43 07.8	-1.6	
LZH				S		ScS		01 43 50.5	+3.2	
LZH				pmax		pmax				
	comp=Z,27nm,1.0s									
D24K	Happy Valley	92.47	10	P		P		01 33 33.6	+0.2	
	baz=208									
EPYK	Eagle Plains	92.68	16	P		P		01 33 34.3	-0.1	
	baz=209									
G29M	Pine Creek	92.79	15	P		P		01 33 34.8	-0.1	
	baz=218									
C23K	Itkillik River	92.80	9	P		P		01 33 35.7	+0.9	
	baz=206									
B22K	Teshekpuk Lake	92.85	8	P		P		01 33 36.0	+0.9	
	baz=204									
H31M	Peel River	92.87	17	P		P		01 33 35.7	+0.3	
	baz=221									
F28M	Old Crow	92.92	14	P		P		01 33 35.8	+0.2	
	baz=216									
C24K	Franklin Bluff	92.99	10	P		P		01 33 36.5	+0.8	
	baz=208									
E27K	Coleen River	93.01	13	P		P		01 33 36.4	+0.5	
	baz=214									
D25K	Kavik River	93.04	11	P		P		01 33 36.4	+0.3	
	baz=210									
A22K	Sinclair Lake	93.26	8	P		P		01 33 37.5	+0.6	
	baz=202									
G30M	tAoh Zraii Nji	93.28	15	P		P		01 33 36.9	-0.3	
	baz=219,SNR=9.4									
G31M	Satah River	93.73	16	P		P		01 33 39.2	0.0	
	baz=221,SNR=9.4									
C27K	Jago River	93.79	12	P		P		01 33 39.5	+0.1	
	baz=213,SNR=5.4									
E28M	Babbage River	93.80	13	P		P		01 33 39.9	+0.4	
	baz=216,SNR=5.7									
C26K	Camden Bay	93.82	11	P		P		01 33 40.5	+0.9	
	baz=212									
F30M	Barrier River	93.88	15	P		P		01 33 40.8	+0.9	
	baz=220									
E29M	Blow River	93.99	14	P		P		01 33 41.0	+0.6	
	baz=218									
D27M	Malcolm River	94.02	13	P		P		01 33 40.8	+0.3	
	baz=215									
F31M	Tsiigehtchic	94.26	16	P		P		01 33 41.6	0.0	
	baz=222									
D28M	Stokes Point	94.55	13	P		P		01 33 43.3	+0.4	
	baz=217									
INK	Inuvik	94.97	15	P		P		01 33 44.3	-0.4	
	comp=Z,1.7nm,0.7s,baz=176,slow=5.2,SNR=3.5									
	comp=Z,1.7nm,0.7s									
INK	Inuvik	94.97	15	P		P		01 33 45.1	+0.4	
	baz=222									
ULN	Ulaanbaatar	95.21	319	⇓*eP*		P		01 33 46.8	+0.2	
ULN				pmax		pmax				
	comp=Z,5.0nm,1.7s									
SONM	Songino Array	95.60	319	P		P		01 33 47.4	-0.9	
	comp=Z,0.5nm,0.4s,baz=147,slow=2.9,SNR=1.8									
SONM				PP		PP		01 37 46.9	-4.0	
	comp=Z,1.3nm,0.8s,baz=132,slow=8.2,SNR=4.1									
	comp=Z,0.5nm,0.4s									
GTA	Gaotai	96.66	310	*eP*		P		01 33 53.8	+0.5	
GTA				pP		pP		01 36 07.0	+1.4	
GTA				PP		PP		01 38 06.5	+7.4	
GTA				SKS		SKSac		01 43 29.8	-1.7	
GTA				pmax		pmax				
	comp=Z,4.0nm,1.4s									
YKA	Yellowknife Ar	97.30	25	P		P		01 33 55.6	+0.2	
	comp=Z,1.1nm,0.7s,baz=270,slow=4.2,SNR=6.0									
	comp=Z,1.1nm,0.7s									
GOMU	GeErMu	99.26	305	P		Pdif		01 34 06.0	+0.8	
A36M	Sachs Harbour	99.56	15	P		Pdif		01 34 05.2	-0.1	
	baz=230									
LPAZ	La Paz	102.61	113	P		Pdif		01 34 23.9	+3.0	
	comp=Z,1.4nm,0.8s,baz=233,slow=3.3,SNR=6.2									
WMQ	Urumqi	106.64	311	Pdif		Pdif		01 34 38.8	+1.3	
ZALV	Zalesovo Beam	110.37	321	PKiKP		PKiKP		01 38 49.2	-1.3	
	comp=Z,2.4nm,0.6s,baz=177,slow=1.5,SNR=13									
MK31	Makanchi Array	110.95	313	*d* iPKIKP		PKiKP		01 38 51.2	-0.7	
MKAR	Makanchi Array	110.95	313	PKiKP		PKiKP		01 38 50.9	-1.0	
	comp=Z,1.3nm,0.6s,baz=88,slow=1.6,SNR=12									
MKAR				PP		PP		01 39 37.0	-6.0	
	comp=Z,0.6nm,0.7s,baz=82,slow=8.7,SNR=4.9									
MKAR				PKKPbc		PKKPbc		01 49 52.0	0.0	
	comp=Z,1.8nm,0.8s,baz=268,slow=4.6,SNR=10									
KURK	Kurchatov	113.81	317	*i* PKiKP		PKiKP		01 38 56.0	-1.2	
KURK				pmax		pmax				
	comp=Z,6.0nm,2.5s									
KURBB	Kurchatov Arra	113.86	317	PKiKP		PKiKP		01 38 55.9	-1.3	
	comp=Z,1.9nm,0.7s,baz=102,slow=1.9,SNR=20									
KURBB				PP		PP		01 39 58.2	-5.0	
	comp=Z,2.6nm,1.0s,baz=100,slow=6.6,SNR=8.2									
KURBB				SKP				01 41 35.4		
	comp=Z,1.0nm,0.8s,baz=98,slow=2.0,SNR=4.9									
KURBB				PKKPbc		PKKPbc		01 49 42.3	-0.1	
	comp=Z,0.8nm,0.7s,baz=270,slow=4.0,SNR=8.0									
KURBB				PKKPab		PKKPab		01 49 50.6	+1.0	
	comp=Z,1.0nm,0.8s,baz=276,slow=5.0,SNR=7.7									
KURBB				SKKPbc		SKKPbc		01 52 27.7	-2.9	
	comp=Z,0.6nm,0.6s,baz=271,slow=3.4,SNR=4.8									
NEEM	North Greenlan	118.22	11	*i* P		PKPdf		01 39 04.9	-0.4	
NOR	Nord	118.89	3	*i* P		PKiKP		01 39 08.2	+1.9	
BVAR	Borovoye Array	118.94	320	PKP		PKPdf		01 39 06.2	-0.8	
	comp=Z,5.3nm,0.4s,baz=116,slow=1.1,SNR=44									
BVAR				PP		PP		01 40 33.4	-4.5	
	comp=Z,2.5nm,1.0s,baz=89,slow=6.2,SNR=3.6									
BVAR				SKP				01 41 45.4		
	comp=Z,1.5nm,0.7s,baz=2.4,slow=3.6,SNR=4.4									
BRVK	Borovoye	119.00	320	*ci* PKIKP		PKPdf		01 39 06.4	-0.7	
BRVK				pmax		pmax				
	comp=Z,3.0nm,0.7s									
SPITS	Spitsbergen Ar	122.31	356	PKP		PKPdf		01 39 12.2	-0.6	
	comp=Z,13nm,0.7s,baz=90,slow=3.5,SNR=11									
SUMG	Summit	123.82	13	*i* P		PKiKP		01 39 16.9	+0.2	
SVE	Sverdlovsk	123.94	325	*e*PKIKP		PKPdf		01 39 15.9	-0.6	
SVE				pmax		pmax				
	comp=Z,12nm,0.8s									
NUUK	Nuuk	124.56	25	*i* P		PKiKP		01 39 17.9	+0.1	
ARTI	Arti	125.25	325	*i* PKIKP		PKPdf		01 39 18.9	-0.1	
ARTI								01 41 19.1		
ARTI								01 45 31.9		
DBG	Daneborg	125.43	7	*i* P		PKPdf		01 39 18.5	-0.3	
IVI	Ivigtut	127.35	28	*i* P		PKPdf		01 39 22.6	-0.2	
KIRV	Kirov	128.99	330	*ce*PKIKP		PKPdf		01 39 25.2	-0.8	
ARCES	ARCESS Array B	129.26	349	PKP		PKPdf		01 39 25.9	-0.4	
	comp=Z,6.6nm,0.6s,baz=35,slow=1.3,SNR=29									
ARCES				PP		PP		01 41 45.5	+0.5	
	comp=Z,5.4nm,0.7s,baz=16,slow=6.3,SNR=5.4									
KLMR	Klimovskoe	132.01	336	*e*PKIKP		PKPdf		01 39 30.8	-0.9	
KLMR				*e*				01 42 00.2		
KLMR				pmax		pmax				
	comp=Z,16nm,1.5s									
BELG	Belogornoye	132.51	323	*ci* PKIKP		PKPdf		01 39 30.8	-2.1	
FINES	FINESS Array B	136.02	343	PKhKP		PKPpre		01 39 25.9		
	comp=Z,2.1nm,0.9s,baz=33,slow=4.5,SNR=5.7									
FINES				PKP		PKPdf		01 39 37.5	-1.6	
	comp=Z,5.1nm,0.6s,baz=90,slow=3.0,SNR=10									
FINES				SKPbc		SKPbc		01 42 14.9	+0.9	
	comp=Z,5.9nm,0.6s,baz=48,slow=3.0,SNR=15									
OBN	Obninsk	136.80	331	*e*PKIKP		PKPdf		01 39 39.6	-1.2	
OBN				pmax		pmax				
	comp=Z,6.0nm,0.9s									
VSU	Vasula	138.25	340	⇓*e*PKIKP		PKPdf		01 39 41.3	-2.0	
KBZ	Khabaz	138.65	313	SKPab		SKPab		01 42 32.3	-0.5	
	comp=Z,3.0nm,1.0s,baz=41,slow=5.6,SNR=4.3									
NB2	NORSAR Subarra	139.37	352	PKP		PKPpre		01 39 37.4		
	comp=Z,1.4nm,0.7s,baz=17,slow=2.6									
NB2				pPKP		SKPbc		01 42 25.1	+1.4	
	comp=Z,1.8nm,0.7s,baz=13,slow=2.9									
NOA	NORSAR Array B	139.37	352	PKhKP		PKPpre		01 39 36.1		
	comp=Z,0.6nm,0.5s,baz=11,slow=5.0,SNR=17									
NOA				PKP		PKiKP		01 39 46.9	-1.0	
	comp=Z,2.2nm,0.6s,baz=14,slow=4.0,SNR=10.0									
NOA				SKPbc		SKPbc		01 42 24.7	+1.0	
	comp=Z,3.6nm,0.9s,baz=15,slow=4.3,SNR=10									
HFS	Hagfors	139.90	350	PKhKP		PKPpre		01 39 38.8		
	comp=Z,4.6nm,0.3s,baz=66,slow=5.0,SNR=37									
HFS				PKP		PKPdf		01 39 46.8	+0.5	
	comp=Z,4.0nm,0.6s,baz=85,slow=3.1,SNR=7.2									
HFS				SKPbc		SKPbc		01 42 25.4	+0.4	
	comp=Z,3.2nm,0.7s,baz=50,slow=2.3,SNR=4.8									
MNK	Minsk	140.90	335	*i* PKIKP		PKPdf		01 39 49.0	+0.7	
MNK				*i*				01 42 55.5		
MNK				*i*				01 45 57.5		
MNK				*i* PPP		PPP		01 46 08.6		
MNK				*i* SS		SS		02 00 36.0	-0.1	
MNK				*i* SSS		SSS		02 06 04.0		
MNK				pmax		pmax				
	comp=N,9.0nm,0.9s									
MNK				pmax		pmax				
	comp=Z,10.0nm,0.9s									
MNK				pmax		pmax				
	comp=E,10.0nm,0.8s									
MNK				MLR		MLR				
	comp=E,18nm,15.0s									
MNK				MLR		MLR				
	comp=N,12nm,12.0s									
MNK				MLR		MLR				
	comp=Z,18nm,15.0s									
ANN	Anapa	141.84	317	*e*PKHKP		PKPpre		01 39 47.1		
ANN				*e*				01 45 58.8		
ANN				pmax		pmax				
	comp=Z,16nm,1.3s									
BIGH	Upper Bighouse	142.37	4	*eP*		PKPdf		01 39 47.7	-3.1	
HOMB	Homborsund	142.39	354	*i* P		PKPdf		01 39 48.1	-2.6	
BORU	Boraas	142.43	350	*i* P		PKPdf		01 39 46.8	-4.1	
LEWI	Lewis, Hebride	142.44	7	*eP*		PKPdf		01 39 47.6	-3.3	
ONAU	Onsala	142.79	350	*i* P		PKPdf		01 39 47.7	-3.8	
FABU	Falkenberg	143.04	349	*i* P		PKPab		01 39 49.2	-0.7	
AKASG	Malin Array Be	143.05	330	PKP		PKPab		01 39 49.5	-0.6	
	comp=Z,33nm,0.4s,baz=44,slow=4.1,SNR=333									
AKASG				SKPbc		SKPbc		01 42 33.1	-0.1	
	comp=Z,2.6nm,0.8s,baz=41,slow=2.2,SNR=13									
AKBB	Malin Array Si	143.05	330	*d* iPKHKP		PKPpre		01 39 49.2		
KIEV	Kiev	143.06	330	⇓P		PKPab		01 39 49.3	-0.9	
KIEV	Kiev	143.06	330	⇓PKHKP		PKPpre		01 39 49.3		
BLEU	Blekinge	143.09	346	*i* P		PKPab		01 39 49.0	-1.1	
DEL	Delary	143.34	348	*i* P		PKPab		01 39 50.3	-0.8	
KPL	Plockton	143.36	6	*eP*		PKPab		01 39 50.9	-0.2	
BJUU	Bjuv	143.87	349	*i* P		PKPbc		01 39 52.2	-0.7	
DRUM	Mains of Drumt	144.03	3	*eP*		PKPbc		01 39 52.7	-0.7	
MUD	Monsted U'grnd	144.09	352	*i* P		PKPbc		01 39 53.4	-0.2	
LUNU	Lund	144.21	348	*i* P		PKPbc		01 39 53.3	-0.7	
LUBAR	Lubar, Ukraine	144.27	330	PKP		PKPbc		01 39 53.0	-1.4	
COP	Copenhagen	144.34	349	*i* P		PKPdf		01 39 54.2	-0.1	
BSD	Bornholm Skovb	144.39	346	*i* P		PKPdf		01 39 54.2	-0.2	
LAWE	Loch Awe, Argy	144.45	6	*eP*		PKPdf		01 39 54.3	-0.1	
ESY	Stoneypath	145.02	4	*eP*		PKPbc		01 39 56.1	-0.4	
SORM	Soroca	145.20	328

KOLS	Kolonicke sedl	147.41	334	ePKP	PKPbc	01 40 03.7	+0.5
KOLS				e		01 40 08.4	
ODBI	Odobesti	147.43	325	‖P	PKiKP	01 40 04.6	-0.2
STHS	Stebnicka Huta	147.44	335	ePKIKP	PKPbc	01 40 03.9	+0.6
STHS				e		01 40 08.1	
STHS	Stebnicka Huta	147.44	335	ePKP	PKPbc	01 40 03.8	+0.5
STHS				e		01 40 08.1	
WLF1	Llynfaes	147.49	6	eP	PKPbc	01 40 02.2	-1.0
VRI	Vrincioaia	147.53	326	⇑P	PKPbc	01 40 03.3	-0.4
VRI	Vrincioaia	147.53	326	⇑PKIKP	PKPbc	01 40 03.3	-0.4
BRIU	Brid	147.55	332	PKP	PKPbc	01 40 04.1	+0.5
PLOR	Plostina	147.58	326	‖P	PKiKP	01 40 04.8	-0.5
PLOR	Plostina	147.58	326	‖PKIKP	PKiKP	01 40 04.8	-0.5
HARR	Harsova	147.63	323	‖P	PKiKP	01 40 04.3	+0.4
HARR	Harsova	147.63	323	‖PKIKP	PKPbc	01 40 04.3	+0.4
TLBR	Topalu	147.65	323	⇑P	PKPbc	01 40 04.1	+0.2
BISRR	Bisoca	147.75	325	‖P	PKiKP	01 40 05.1	-0.5
FLTG	Flechtingen	147.76	348	ePKPbc	PKPbc	01 40 03.9	-0.1
	baz=18,slow=2.4						
FLTG				epPKPbc	pPKPbc	01 42 23.8	+0.2
TURR	Turia	147.78	327	⇑P	PKPbc	01 40 04.3	0.0
MANR	Mangalia	147.78	321	⇑P	PKPbc	01 40 04.5	+0.2
NIE	Niedzica	147.80	336	ePKPbc	PKiKP	01 40 05.5	-0.1
NIE	Niedzica	147.80	336	PKP	PKPbc	01 40 04.3	+0.1
COVR	Voineasa-Covas	147.82	326	⇑P	PKPbc	01 40 04.3	-0.1
OZUR		147.87	327	⇑P	PKPbc	01 40 05.1	+0.6
KSP	Ksiaz	147.92	342	ePKPbc	PKPbc	01 40 04.8	+0.4
KSP	Ksiaz	147.92	342	PKP	PKiKP	01 40 05.1	-0.6
BOSR	Bodos	147.94	327	‖P	PKPbc	01 40 05.3	+0.6
FOEL	Foel Wylfa	147.99	5	eP	PKPbc	01 40 04.6	0.0
NEHR	Nehoiu	148.05	326	⇑P	PKPbc	01 40 05.3	+0.3
IWEX	Carrickbyrne,	148.09	9	PKPdf	PKiKP	01 40 05.8	-0.2
ISR	Istrita	148.12	325	‖P	PKPbc	01 40 05.3	+0.1
ISR	Istrita	148.12	325	‖PKHKP	PKPpre	01 40 05.3	
DOPR	Dopca	148.16	327	‖P	PKiKP	01 40 05.9	-0.5
MLR	Muntele Rosu	148.19	326	⇑P	PKPbc	01 40 05.4	-0.1
MLR	Muntele Rosu	148.19	326	⇑PKHKP	PKPpre	01 40 05.4	
OSTC	Ostas	148.20	342⇑	ePKP	PKiKP	01 40 06.3	-0.1
OSTC				epPKP	pPKPab	01 42 27.1	+1.5
OSTC	Ostas	148.20	342	ePKHKP	PKPpre	01 40 06.3	
CHVC	Chvalec	148.22	342⇑	ePKP	PKiKP	01 40 05.9	-0.5
CHVC	Chvalec	148.22	342	ePKHKP	PKPpre	01 40 05.9	
OKC	Ostrava-Krasne	148.22	339⇑	ePKP	PKiKP	01 40 06.1	-0.3
OKC	Ostrava-Krasne	148.22	339	ePKHKP	PKPpre	01 40 06.1	
STEB	Steborice	148.26	339⇑	ePKP	PKPbc	01 40 05.8	+0.5
STEB				ePKPAB	PKPab	01 40 11.3	+0.5
STEB				epPKP	pPKPab	01 42 26.2	+0.4
UPC	Upice	148.30	342⇑	ePKP	PKPbc	01 40 05.9	+0.5
UPC	Upice	148.30	342	ePKHKP	PKPpre	01 40 06.9	
LANS	Liptovska Anna	148.33	337	ePKHKP	PKPpre	01 40 07.0	
LANS				e		01 40 12.5	
LANS	Liptovska Anna	148.33	337	ePKP	PKiKP	01 40 07.0	+0.3
LANS				e		01 40 12.5	
IBBN	Ibbenburen	148.33	352	epPKPbc	pPKPbc	01 42 28.1	+2.9
DPC	Dobruska-Polom	148.35	341⇑	ePKP	PKiKP	01 40 06.3	-0.4
DPC				ePKPAB	PKPab	01 40 11.8	+0.5
DPC				epPKP	pPKPab	01 42 29.6	+3.4
DPC	Dobruska-Polom	148.35	341	ePKHKP	PKPpre	01 40 06.3	
DPC				e		01 40 11.8	
CLL	Collm	148.35	346	‖PKIKP	PKPdf	01 40 02.0	+0.9
CLL				i		01 40 05.6	
CLL				i		01 40 10.4	
CLL				pmax	pmax		
	comp=Z,28nm,1.0s						
CLL				pmax	pmax		
	comp=Z,13nm,0.6s						
CLL	Collm	148.35	346	PKP	PKPbc	01 40 05.5	+0.1
CLL	Collm	148.35	346	ePKPdf	PKPdf	01 40 02.0	+0.9
CLL				‖iPKPbc	PKPbc	01 40 05.6	+0.1
	comp=Z,28nm,1.0s						
CLL				e(PKiKP)		01 40 09.0	
CLL				iPKPab	PKPab	01 40 10.4	-0.8
	comp=Z,13nm,0.6s						
CLL				epPKPbc	pPKPbc	01 42 25.0	-0.5
CLL				epPKPab	pPKPab	01 42 28.0	+1.8
	comp=Z,19nm,1.0s						
CLL				ePKSdf	PKSdf	01 43 38.0	+2.1
CLL	Collm	148.35	346	ePKPbc	PKPbc	01 40 05.6	+0.1
	baz=18,slow=2.4						
CLL				epPKPbc	pPKPbc	01 42 25.6	+0.1
CLZ	Clausthal	148.38	349	ePKPbc	PKPbc	01 40 06.0	+0.4
	baz=18,slow=2.4						
KRLC	Kraliky	148.45	341	ePKPDF	PKPdf	01 40 02.3	+0.9
KRLC			⇑	ePKP	PKPbc	01 40 06.3	+0.4
KRLC				ePKPAB	PKPab	01 40 12.2	+0.5
KRLC				epPKP	pPKPab	01 42 29.3	+2.6
KRLC	Kraliky	148.45	341	ePKIKP	PKPdf	01 40 02.3	+0.9
KRLC				e		01 40 06.2	
KRLC				e		01 40 12.2	
MORC	Moravsky Berou	148.47	340	ePKP	PKPbc	01 40 06.4	+0.5
MORC				e		01 40 12.0	
MORC				e		01 42 29.0	
MORC	Moravsky Berou	148.47	340	⇑P	PKiKP	01 40 06.5	-0.5
MORC	Moravsky Berou	148.47	340	⇑PKHKP	PKPpre	01 40 06.5	
CBBR	Cluj-Babes-Bol	148.49	330	⇑P	PKPbc	01 40 06.4	+0.4
CSS	Mathiatis	148.50	303	PKP	PKPbc	01 40 05.6	-0.8
CJR	Cluj-Napoca	148.50	330	⇑P	PKiKP	01 40 06.8	-0.4
CJR	Cluj-Napoca	148.50	330	⇑PKHKP	PKPpre	01 40 06.8	
BRG	Berggiesshubel	148.53	344	ePKPbc	PKPbc	01 40 06.3	+0.4
	baz=18,slow=2.4						
BRG				epPKPbc	pPKPab	01 42 27.0	+0.1
BRG	Berggiesshubel	148.53	344	iPKP	PKPbc	01 40 06.4	+0.5
BRG				Amp		01 40 07.8	
	comp=Z,14nm,0.7s						
BRG	Berggiesshubel	148.53	344	P	PKPab	01 40 12.1	+0.2
BRG				Amp		01 40 13.2	
	comp=Z,7.6nm,0.6s						
BRG				pPKP	pPKPab	01 42 27.4	+0.6
BRG				Amp		01 42 30.8	
	comp=Z,9.0nm,1.0s						
MDB	Medias	148.54	328	‖P	PKiKP	01 40 07.0	-0.2
MDB	Medias	148.54	328	‖PKHKP	PKPpre	01 40 07.0	
PVCC	Panska Ves	148.68	343⇑	ePKP	PKiKP	01 40 06.9	-0.4
PVCC				epPKP	pPKPab	01 42 31.1	+3.6
PVCC	Panska Ves	148.68	343	ePKHKP	PKPpre	01 40 06.9	
VOIR		148.69	327	⇑P	PKPbc	01 40 06.6	0.0
VOIR		148.69	327	⇑PKHKP	PKPpre	01 40 06.6	
MAUC	Maruska	148.73	339⇑	ePKP	PKiKP	01 40 07.5	0.0
MAUC				epPKP	pPKPab	01 42 31.4	+3.7
GTTG	Gottingen	148.74	349	ePKPbc	PKPbc	01 40 06.5	+0.1
	baz=18,slow=2.4						
MARR	Marisel-Cluj	148.75	330	‖P	PKPbc	01 40 06.9	+0.1
MCH1	Michaelchurch	148.89	5	eP	PKPbc	01 40 06.4	-0.4
ARR	Arges	148.95	327	⇑P	PKiKP	01 40 08.2	0.0
VYHS	Vyhne	149.11	337	ePKHKP	PKPpre	01 40 07.9	
VYHS				e		01 40 15.1	
VYHS	Vyhne	149.11	337	ePKP	PKiKP	01 40 07.9	-0.4
VYHS				e		01 40 15.1	
PSZ	Piszkesteto	149.18	335	⇑P	PKPbc	01 40 07.3	-0.4
PSZ	Piszkesteto	149.18	335	⇑PKHKP	PKPpre	01 40 07.3	
GOPC	GO Pecny, Ondr	149.18	343⇑	ePKP	PKiKP	01 40 08.0	-0.4
GOPC	GO Pecny, Ondr	149.18	343	ePKHKP	PKPpre	01 40 08.0	
VRAC	Vranov	149.18	340	ePKP	PKPbc	01 40 07.8	+0.2
VRAC				e		01 40 15.1	
VRAC				e		01 42 32.5	
VRAC	Vranov	149.18	340	⇑P	PKPbc	01 40 06.5	-1.1
VRAC	Vranov	149.18	340	⇑PKHKP	PKPpre	01 40 06.5	
PRU	Pruhonice	149.18	343⇑	ePKP	PKPbc	01 40 07.9	+0.3
PRU	Pruhonice	149.18	343	ePKHKP	PKPpre	01 40 07.9	
JAVC	Velka Javorina	149.21	338	ePKP	PKiKP	01 40 09.1	+0.5
JAVC				e		01 40 16.2	
JAVC				e		01 42 33.2	
BUG	Bochum--Univer	149.24	352	ePKPbc	PKPbc	01 40 07.9	+0.2
	baz=18,slow=2.4						
MOX	Moxa	149.28	347	ePKPbc	PKPbc	01 40 08.1	+0.3
	baz=18,slow=2.4						
KASTN	Kahler Asten	149.32	351	ePKPbc	PKPbc	01 40 08.1	+0.2
	baz=18,slow=2.4						
LOT	Lotru	149.33	328	⇑P	PKPbc	01 40 07.9	-0.3
KRUC	Moravsky	149.46	340	ePKP	PKPbc	01 40 08.2	-0.1
KRUC				e		01 40 15.9	
KRUC				e		01 42 33.0	
SIRR	Siria	149.73	331	⇑P	PKPbc	01 40 08.9	-0.1
MODS	Modra-Piesok	149.76	338	ePKHKP	PKPpre	01 40 07.4	
MODS				e		01 40 15.7	
MODS	Modra-Piesok	149.76	338	ePKP	PKPbc	01 40 07.4	-1.6
MODS				e		01 40 15.7	
ZVC	Zvikov	149.78	343⇑	ePKP	PKiKP	01 40 09.4	-0.2
ZVC				ePKPAB	PKPab	01 40 17.7	+0.5
MANZ	Manzenberg	149.79	346	ePKPbc	PKiKP	01 40 09.4	-0.3
	baz=18,slow=2.4						
GZR	Gura Zlata	149.86	329	‖P	PKPbc	01 40 09.1	-0.3
GZR	Gura Zlata	149.86	329	‖PKHKP	PKPpre	01 40 09.1	
SRO	Srobarova	149.87	337	ePKHKP	PKPpre	01 40 10.7	
SRO				e		01 40 19.3	
SRO	Srobarova	149.87	337	ePKP	PKiKP	01 40 10.7	+0.9
SRO				e		01 40 19.3	
ELND	Elena	149.89	322	⇑P	PKiKP	01 40 09.8	-0.2
SURR	Surduc	149.90	330	⇑P	PKPbc	01 40 07.0	-2.4
BAND	Balkesir-Ban	150.02	316	⇑P	PKPbc	01 40 09.8	-0.1
BEBN	Eben Emael	150.05	354	dPKiKP	PKiKP	01 40 10.1	0.0
BEBN				dPKP	PKPab	01 40 17.8	-0.3
UCC	Uccle	150.15	356	dPKiKP	PKPbc	01 40 09.9	+0.1
UCC				dPKP	PKPab	01 40 17.8	-0.8
SRE	Strehaia	150.17	327	⇑P	PKPbc	01 40 10.1	0.0
SRE	Strehaia	150.17	327	⇑PKHKP	PKPpre	01 40 10.1	
MEM	Membach	150.20	354	dPKiKP	PKPbc	01 40 10.1	+0.1
MEM				dPKP	PKPab	01 40 19.0	+0.2
BTNL	Ternell	150.21	354	dPKiKP	PKPbc	01 40 10.0	0.0
BTNL				dPKP	PKPab	01 40 18.9	-0.1
KHC	Kasperske Hory	150.22	343⇑	ePKP	PKPbc	01 40 10.3	+0.2
KHC				ex	x	01 40 20.5	
KHC				epPKP	pPKPab	01 42 34.6	+0.9
KHC				ex	x	01 43 46.0	
KHC	Kasperske Hory	150.22	343	ePKIKP	PKPbc	01 40 10.3	+0.2
KHC				e		01 40 20.5	
BZS	Buzias	150.24	330	‖P	PKPbc	01 40 10.0	-0.2
BZS	Buzias	150.24	330	‖PKHKP	PKPpre	01 40 10.0	
TNS	Taunus Mts	150.27	351	ePKPbc	PKiKP	01 40 10.6	-0.1
	baz=18,slow=2.4						
BSTI	Sart Tilman	150.27	354	dPKiKP	PKPbc	01 40 10.3	+0.2
PLVB	Pleven	150.30	324	‖P	PKPbc	01 40 10.6	+0.2
CKRC	Cesky Krumlov	150.30	342	ePKPDF	PKPdf	01 40 05.4	+1.1
CKRC			⇑	ePKP	PKPbc	01 40 10.2	-0.1
CKRC				epPKP	pPKPab	01 42 34.4	+0.5
CKRC	Cesky Krumlov	150.30	342	ePKIKP	PKPdf	01 40 05.4	+1.1
CKRC				e		01 40 10.2	
HERR	Herculane	150.41	329	‖P	PKPbc	01 40 10.5	-0.1
GEC2	GERESS Array S	150.45	343	ePKPbc	PKPbc	01 40 10.9	+0.2
	baz=18,slow=2.4						
GERES	GERESS Array B	150.45	343	PKP	PKPdf	01 40 04.5	-0.1
	comp=Z,0.6nm,0.7s,baz=48,slow=2.0,SNR=6.4						
GERES				PKPbc	PKPbc	01 40 10.6	-0.1
	comp=Z,7.7nm,0.6s,baz=29,slow=3.0,SNR=55						
GERES				pPKPab	pPKPbc	01 42 32.6	+1.3
	comp=Z,3.6nm,0.8s,baz=29,slow=3.0,SNR=12						
BHOU	Houvegnez	150.45	354	dPKiKP	PKiKP	01 40 10.9	-0.2
BHOU				dPKP	PKPab	01 40 19.5	-0.5
BGES	Gesves	150.51	355	dPKiKP	PKiKP	01 40 11.2	+0.1
BGES				dPKP	PKPab	01 40 20.1	-0.1
BMRD	Maredsous	150.62	355	dPKiKP	PKPbc	01 40 11.1	+0.2
CONA	Conrad Observa	150.62	340	iPKP	PKPbc	01 40 11.3	+0.2
	comp=Z,12nm,0.6s,SNR=10						
CONA				ipPKP	pPKPab	01 42 36.5	+1.2
	comp=Z,9.7nm,1.0s						
RONA	Rosalia, Austr	150.68	339	iPKP	PKPbc	01 40 11.4	+0.2
	comp=Z,24nm,0.6s,SNR=18						
RONA				iPKP	pPKPab	01 42 36.5	+1.0
	comp=Z,8.1nm,1.0s						
RCHB	Rochefort	150.72	355	dPKiKP	PKPbc	01 40 11.3	+0.2
VALD	Valchedram	150.73	326	eP	PKiKP	01 40 11.8	+0.1
MPEP	Malo Peshtene	150.80	325	eP	PKiKP	01 40 11.8	-0.1
MDVR	Moldovita	150.82	329	‖P	PKPbc	01 40 11.4	-0.2
DOU	Dourbes	150.84	355	dPKP	PKiKP	01 40 11.6	-0.2
	comp=Z,12nm,0.0s						
TAVA	DENIZLI_Tavas	150.88	310	⇑P	PKPbc	01 40 11.8	-0.3
KDZ	Kurdzhali	151.01	321	eP	PKPbc	01 40 11.9	-0.2
MORH	Mrgy, Hungar	151.06	334	eP	PKPbc	01 40 11.5	-0.5
MORH	Mrgy, Hungar	151.06	334	‖P	PKPbc	01 40 11.9	-0.1
WLF	Walferdange	151.12	353	dPKiKP	PKiKP	01 40 12.5	+0.1
WLF	Walferdange	151.12	353	ePKPbc	PKiKP	01 40 12.9	+0.6
	baz=18,slow=2.4						
MOA	Molln	151.19	341	iPKP	PKPbc	01 40 12.0	-0.4
	comp=Z,7.0nm,0.6s						
MOA				ipPKP	pPKPab	01 42 35.4	-2.1
	comp=Z,8.8nm,1.2s						
RZN	Rozhen	151.32	321	eP	PKPbc	01 40 12.7	-0.3
ARSA	Arzberg	151.33	339	iPKP	PKPbc	01 40 12.5	-0.2
	comp=Z,4.4nm,0.6s						
ARSA				ipPKP	pPKPab	01 42 36.4	-1.7
	comp=Z,3.5nm,0.8s						
EZN	Ezine	151.45	317	⇑P	PKPbc	01 40 12.7	-0.4
EZN	Ezine	151.45	317	⇑PKIKP	PKPbc	01 40 12.7	-0.4
BIOA	Bad Ischl, Aus	151.52	342	iPKP	PKPbc	01 40 13.0	0.0
	comp=Z,7.0nm,0.7s						
BIOA				ipPKiKP	pPKiKP	01 42 34.6	+0.2
	comp=Z,6.7nm,1.2s						
PLNA	Plana	151.56	324	eP	PKiKP	01 40 13.6	-0.1
VTS	Vitosha	151.57	324	eP	PKiKP	01 40 13.7	-0.1
BOVS	Bovan	151.66	327	‖P	PKPbc	01 40 13.1	-0.4
FUR	Furstenfeldbru	151.69	346	ePKPbc	PKiKP	01 40 13.7	0.0
	baz=18,slow=2.4						
FUR				ePKPab	PKPab	01 40 25.4	+0.1
	baz=18,slow=2.4						
RJOB	Jochberg	151.71	343	ePKPbc	PKPbc	01 40 13.4	-0.2
	baz=18,slow=2.4						
MMB	Musomishta	151.99	322	eP	PKPbc	01 40 13.8	-0.5
SOKA	Soboth	151.99	339	iPKP	PKPbc	01 40 13.5	-0.7
	comp=Z,4.7nm,0.6s,SNR=6.8						
SOKA				iPKP	PKPab	01 40 26.6	-0.1
	comp=Z,8.0nm,1.0s						
SOKA				ipPKiKP	pPKiKP	01 42 35.7	+0.2
	comp=Z,8.5nm,1.1s						
PERS	Pernice	152.00	339	iPKPbc	PKPbc	01 40 13.4	-0.8
LESA	Schwarzleotal	152.03	343	iPKP	PKPbc	01 40 14.0	-0.3
	comp=Z,7.7nm,0.7s						
LESA				iPKP	PKPab	01 40 26.8	0.0
	comp=Z,15nm,1.2s						
LESA				ipPKP	pPKPbc	01 42 34.8	-0.3
	comp=Z,7.1nm,1.2s						
BFO	Black Forest	152.12	350	ePKPbc	PKPbc	01 40 14.4	0.0
	baz=18,slow=2.4						
BFO				ePKPab	PKPab	01 40 26.6	-0.5
	baz=18,slow=2.4						
KKB	Krupnik	152.15	323	eP	PKPbc	01 40 14.5	-0.1
KBA	Koelnbreinsper	152.16	342	iPKiKP	PKiKP	01 40 14.9	0.0
	comp=Z,8.0nm,0.7s						
KBA				ipPKiKP	pPKiKP	01 42 36.1	+0.2
	comp=Z,4.1nm,0.5s						
MOSL	Moslavina	152.30	336	eP	PKPbc	01 40 14.3	-0.5
OBKA	Obir	152.30	340	iPKP	PKPbc	01 40 14.1	-0.8
	comp=Z,3.8nm,0.7s						
OBKA				ipPKiKP	pPKiKP	01 42 36.4	+0.2
	comp=Z,2.6nm,0.9s						
WATA	Walderalm	152.40	345	iPKP	PKPbc	01 40 14.6	-0.5
	comp=Z,6.7nm,0.7s						
WATA				iPKP	PKPab	01 40 28.8	+0.3
	comp=Z,7.9nm,0.7s						
WATA				ipPKiKP	pPKiKP	01 42 36.9	+0.4
	comp=Z,7.8nm,1.0s						
WTTA	Wattenberg	152.45	344	iPKP	PKPbc	01 40 15.0	-0.3
	comp=Z,15nm,0.8s,SNR=6.4						
WTTA				iPKP	PKPab	01 40 29.0	+0.2
	comp=Z,8.5nm,0.6s						
WTTA				ipPKiKP	pPKiKP	01 42 37.4	+0.7
	comp=Z,8.2nm,0.8s						
RETA	Reutte	152.45	346	iPKP	PKPbc	01 40 15.1	-0.1
	comp=Z,5.0nm,0.7s						
RETA				iPKP	PKPab	01 40 28.6	0.0
	comp=Z,4.8nm,0.6s						
RETA				ipPKiKP	pPKPbc	01 42 36.0	-0.1
	comp=Z,5.8nm,1.4s						
MYKA	Terra Mystica	152.47	341	iPKP	PKPbc	01 40 14.2	-1.1
	comp=Z,7.3nm,0.6s						
MYKA				iPKP	PKPab	01 40 28.1	-0.7
	comp=Z,7.1nm,0.8s						
MYKA				ipPKiKP	pPKiKP	01 42 36.6	+0.1
	comp=Z,3.5nm,0.6s						
MOTA	Moosalm	152.50	345	iPKP	PKPbc	01 40 14.9	-0.5
	comp=Z,12nm,1.2s						
MOTA				iPKP	PKPab	01 40 28.9	0.0
	comp=Z,13nm,1.0s						
MOTA				ipPKiKP	pPKiKP	01 42 37.2	+0.4
	comp=Z,6.7nm,1.1s						
SQTA	Sankt Quirin	152.59	345	iPKP	PKPbc	01 40 15.2	-0.4
	comp=Z,8.8nm,0.8s						
SQTA				ipPKiKP	pPKPbc	01 42 36.3	-0.2
	comp=Z,7.6nm,0.9s						
ABTA	Abfaltersbach	152.69	343	iPKP	PKPbc	01 40 14.9	-0.8
	comp=Z,11nm,0.6s,SNR=7.9						
ABTA				ipPKP	pPKPbc	01 42 36.0	-0.7
	comp=Z,13nm,1.2s						
A051A	Mrakovica	152.74	335	eP	PKPbc	01 40 14.6	-1.3
OZLJ	Ozalj	152.77	338	eP	PKPbc	01 40 15.7	-0.1
CRNS	Crni Vrh	152.77	340	iPKPbc	PKPbc	01 40 15.2	-0.6
RUDO	Rudo	152.80	330	eP	PKPbc	01 40 14.9	-1.1
DAVA	Damuels	152.83	347	iPKiKP	PKiKP	01 40 17.1	+0.9
	comp=Z,8.2nm,1.0s						
DAVA				iPKP	PKPab	01 40 30.2	-0.1
	comp=Z,8.4nm,0.7s						
DAVA				ipPKiKP	pPKiKP	01 42 38.5	+1.1
	comp=Z,8.3nm,1.5s						
BLY	Banja Luka	152.85	334	eP	PKiKP	01 40 16.5	+0.4
FETA	Feichten	152.90	346	iPKP	PKPbc	01 40 16.1	-0.2
	comp=Z,4.7nm,0.6s						
FETA				ipPKP	pPKPbc	01 42 36.5	-0.8
	comp=Z,7.4nm,1.8s						
CEY	Cerknica	153.02	339	iPKPbc	PKPbc	01 40 16.0	-0.4
A050A	Klekovaca	153.33	335	eP	PKPbc	01 40 16.7	-0.5
KIJV	Kijevo	153.78	335	eP	PKPbc	01 40 17.2	-0.9
BRJN	Brijuni	153.98	339	eP	PKPbc	01 40 18.1	-0.3
ESDC	Sonseca Array	160.88	12	PKPab	PKPab	01 41 04.8	-0.5
	comp=Z,3.1nm,1.0s,baz=342,slow=4.8,SNR=10.0						
KEST	Kesra	163.65	336	PKPab	PKPab	01 41 16.2	-1.4
	comp=Z,4.6nm,0.8s,baz=26,slow=3.2,SNR=8.4						
DBIC	Dimbokro	164.62	157	PKP	PKPdf	01 40 21.9	-0.9
	comp=Z,8.2nm,0.9s,baz=137,slow=2.2,SNR=4.4						
DBIC				PKPab	PKPab	01 41 22.8	+0.6
	comp=Z,8.4nm,0.8s,baz=145,slow=4.4,SNR=4.6						
TORD	Torodi Ar. Bea	172.17	184	PKP	PKPdf	01 40 26.6	-0.9
	comp=Z,2.0nm,0.7s,baz=103,slow=4.6,SNR=4.8						
TORD				PKPab	PKPab	01 41 56.1	+0.6
	comp=Z,1.7nm,0.5s,baz=191,slow=1.5,SNR=4.3						

IDC ***30*** *01:22:38.9±0.4,2˙61N×98˙95E,h148km±1km,mb4.0/25, mbtmp4.4/27, Error ellipse: s-maj=12.8km s-min=10.0km az=85.0*

DJA ***30*** *01:22:39.2±0.2,2˙N±1˚×9˙9E±˚, h147km±2km, M4.5/25, mb4.8/25, mB5.0/12, MLv4.7/18, Mw(mB)4.4/12*

NEIC ***30*** *01:22:39.5±1.6,2˙54N±0˙05×98˙93E±0˙05, h147km±3km, mb4.4/46, Error ellipse: s-maj=8.6km s-min=6.3km az=131.0*

ISC 30 01:22:39.0±0.4,2˙51N±0˙04×98˙92E±0˙04, h150km±3km, h151km:pP-P,n161,σ0s93/183,mb4.4/59,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPSI	Rantau Prapat	0.18	3		Pn	01 22 59.7	+0.4
RPSI				Sn	Sn	01 23 13.8	-1.1
RPSI	Rantau Prapat	0.18	3		Pn	01 22 59.8	+0.4
RPSI					Sn	01 23 14.8	0.0
PSI	Prapat	0.29	2	P	Pn	01 22 59.8	0.0
	2μm,0.3s,baz=162,slow=20,SNR=1075						
PSI				S	Sn	01 23 14.8	-0.8
	571nm,0.5s,baz=211,slow=5.3,SNR=15						
PSI	Prapat	0.29	2	P	Pn	01 22 59.9	+0.1
TSI	Tuntungan	1.04	340	P	Pn	01 23 05.0	+0.8
GSI	Gunungsitoli	1.80	228		Pn	01 23 12.1	+0.2
GSI	Gunungsitoli	1.80	228	P	Pn	01 23 12.0	+0.2
GSI	Gunungsitoli	1.80	228	P	Pn	01 23 12.2	+0.3
GSI				S	Sn	01 23 36.6	-0.5
MNSI	Mandailing Nat	1.83	159	P	Pn	01 23 13.4	+1.2
IPM	Ipoh	2.87	47		Pn	01 23 25.2	+0.3
IPM	Ipoh	2.87	47	P	Pn	01 23 25.6	+0.7
BKNI	Bangkinang	3.04	136		Pn	01 23 27.5	+0.6
BKNI	Bangkinang	3.04	136	P	Pn	01 23 27.9	+1.0
BKNI	Bangkinang	3.04	136	P	Pn	01 23 27.8	+0.9
KULM	Kulim	3.26	32		Pn	01 23 29.6	-0.1
KULM	Kulim	3.26	32	P	Pn	01 23 29.6	-0.1
PPI	Padang Panjang	3.30	153	P	Pn	01 23 30.7	+0.5
LHMI	Lhok Sumawe	3.34	324		Pn	01 23 30.8	+0.1
LHMI	Lhok Sumawe	3.34	324	P	Pn	01 23 31.1	+0.4
LHMI	Lhok Sumawe	3.34	324	P	Pn	01 23 31.1	+0.4
LHMI

MORW					IAmb	IAmb	01 29 28.5		
	comp=Z,18nm,1.4s								
MORW	**Morawa**	**35.43**	**154**	P	**P**		**01 29 22.1**	**+1.2**	
GTA	**Gaotai**	**36.74**	**1**	*e*P	**P**		**01 29 32.3**	**+0.3**	
BLDU	**Ballidu**	**37.06**	**154**	P	**P**		**01 29 35.8**	**+1.2**	
JOW	**Kunigami**	**37.10**	**47**	P	**P**		**01 29 34.0**	**-1.1**	
JOW				IAmb	IAmb	01 29 39.8			
	comp=Z,14nm,1.1s								
JOW	**Kunigami**	**37.10**	**47**	P	**P**		**01 29 34.2**	**-0.8**	
	comp=Z,5.5nm,0.4s,baz=248,slow=5.4,SNR=2.5								
	comp=Z,5.5nm,0.4s								
MUN	**Mundaring**	**38.03**	**156**	P	**P**		**01 29 44.4**	**+1.6**	
KLBR	**Kellerberrin**	**38.35**	**154**	P	**P**		**01 29 46.6**	**+1.1**	
NWAO	**Narrogin (SRO)**	**39.28**	**155**	P	**P**		**01 29 54.1**	**+0.9**	
NWAO				IAmb	IAmb	01 29 56.3			
	comp=Z,14nm,1.3s								
HHC	**Hu-ho-hao-te**	**39.84**	**15**	*e*P	**P**		**01 30 01.5**	**+3.6**	
HHC				pmax	pmax				
	comp=Z,11nm,0.7s								
BJT	**Baijiatuau**	**40.48**	**21**	P	**P**		**01 30 02.4**	**-0.7**	
BJT	**Baijiatuau**	**40.48**	**21**	P	**P**		**01 30 03.7**	**+0.7**	
BJI	**Beijing**	**40.51**	**21**	P	**P**		**01 30 03.5**	**+0.3**	
BJI				pP	**pP**		**01 30 38.0**	**+1.7**	
BJI				pmax	pmax				
	comp=Z,11nm,0.7s								
BJI				pmax	pmax				
	comp=Z,17nm,3.7s								
WB0	**Warramunga Arr**	**41.27**	**124**	P	**P**		**01 30 09.2**	**-0.6**	
WB0				IAmb	IAmb	01 30 17.7			
	comp=Z,12nm,0.7s								
WRA	**Warramunga Arr**	**41.31**	**124**	P	**P**		**01 30 10.7**	**+0.5**	
WRA	**Warramunga Arr**	**41.31**	**124**	P	**P**		**01 30 09.9**	**-0.3**	
	comp=Z,6.4nm,0.3s,baz=298,slow=8.3,SNR=6.0								
WRA				ScP	**ScP**		**01 35 40.3**	**-1.7**	
	comp=Z,1.0nm,0.8s,baz=310,slow=3.8,SNR=1.4								
	comp=Z,6.4nm,0.3s								
WRAB	**Tennant Creek**	**41.31**	**124**	P	**P**		**01 30 11.7**	**+1.5**	
WB2	**Warramunga Arr**	**41.32**	**124**	P	**P**		**01 30 11.2**	**+1.0**	
WR8	**Warramunga Arr**	**41.45**	**124**	P	**P**		**01 30 10.9**	**-0.4**	
WR0	**Warramunga Arr**	**41.48**	**124**	P	**P**		**01 30 11.5**	**-0.1**	
WR0				IAmb	IAmb	01 30 13.8			
	comp=Z,13nm,0.7s								
KSH	**Kashi**	**42.33**	**333**	P	**P**		**01 30 17.5**	**-0.8**	
AS31	**Alice Springs**	**42.85**	**129**	P	**P**		**01 30 23.2**	**+0.6**	
ASAR	**Alice Springs**	**42.85**	**129**	P	**P**		**01 30 23.3**	**+0.6**	
	comp=Z,4.8nm,0.5s,baz=302,slow=8.2,SNR=1.2								
ASAR				ScP	**ScP**		**01 35 46.5**	**-1.7**	
	comp=Z,1.9nm,0.7s,baz=307,slow=4.0,SNR=6.3								
	comp=Z,4.8nm,0.5s								
KSAR	**Wonju Array Be**	**43.78**	**34**	P	**P**		**01 30 29.9**	**+0.2**	
KSRS	**Korea Array**	**43.81**	**34**	P	**P**		**01 30 29.4**	**-0.5**	
	comp=Z,4.7nm,0.6s,baz=220,slow=8.5,SNR=18								
KSRS				pP	**pP**		**01 31 03.8**	**+0.3**	
	comp=Z,8.3nm,0.7s,baz=220,slow=9.0,SNR=11								
	comp=Z,4.7nm,0.6s								
KDJ	**Kajisay**	**43.99**	**337**		**P**		**01 30 31.9**	**+0.2**	
KDJ				IAmb	IAmb	01 30 33.2			
	comp=Z,5.9nm,0.8s								
GAR	**Garm**	**44.70**	**328**	P	**P**		**01 30 37.9**	**+0.6**	
GAR				IAmb	IAmb	01 30 39.2			
	comp=Z,4.5nm,0.5s								
BOOM	**Boomskoye usch**	**44.80**	**336**	P	**P**		**01 30 38.6**	**+0.6**	
JMN	**Monobe**	**45.06**	**42**	P	**P**		**01 30 39.8**	**-0.3**	
JMN				IAmb	IAmb	01 30 40.7			
	comp=Z,6.1nm,0.7s								
ARSB	**Arslanbob**	**45.14**	**332**		**P**		**01 30 41.5**	**+0.8**	
ARSB				IAmb	IAmb	01 30 41.9			
	comp=Z,8.8nm,0.9s								
SONM	**Songino Array**	**45.61**	**7**	P	**P**		**01 30 45.3**	**+1.0**	
SONM	**Songino Array**	**45.61**	**7**	P	**P**		**01 30 43.8**	**-0.5**	
	comp=Z,2.0nm,0.6s,baz=186,slow=9.4,SNR=7.2								
SONM				pP	**pP**		**01 31 18.1**	**+0.1**	
	comp=Z,1.3nm,0.5s,baz=190,slow=8.9,SNR=3.1								
SONM				ScP	**ScP**		**01 35 58.2**	**-0.8**	
	comp=Z,1.5nm,1.0s,baz=196,slow=3.7,SNR=2.8								
	comp=Z,2.0nm,0.6s								
QIS	**Mount Isa**	**46.00**	**122**	P	**P**		**01 30 48.7**	**+1.1**	
MKAR	**Makanchi Array**	**46.42**	**344**		**P**		**01 30 50.3**	**-0.2**	
MKAR	**Makanchi Array**	**46.42**	**344**	P	**P**		**01 30 50.0**	**-0.5**	
	comp=Z,4.9nm,0.6s,baz=154,slow=8.5,SNR=41								
MKAR				pP	**pP**		**01 31 24.1**	**-0.3**	
	comp=Z,2.4nm,0.7s,baz=157,slow=8.4,SNR=3.3								
	comp=Z,4.9nm,0.6s								
MAKZ	**Makanchi**	**46.52**	**344**		**P**		**01 30 51.2**	**-0.1**	
MAKZ				IAmb	IAmb	01 30 52.1			
	comp=Z,4.9nm,0.8s								
JWT	**Wachi**	**46.98**	**42**	P	**P**		**01 30 56.3**	**+1.2**	
CN2	**Changchun**	**47.37**	**26**	P	**P**		**01 30 55.5**	**-2.4**	
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
KK31	**Karatay Array**	**47.68**	**332**		**P**		**01 31 00.8**	**+0.4**	
JGF	**Kuroka**	**48.48**	**43**	P	**P**		**01 31 06.1**	**-0.6**	
JGF				IAmb	IAmb	01 31 07.7			
	comp=Z,5.3nm,0.8s								
MJAR	**Matsushiro Arr**	**49.57**	**42**	P	**P**		**01 31 14.6**	**-0.3**	
	comp=Z,2.4nm,0.5s,baz=227,slow=5.9,SNR=5.6								
	comp=Z,2.4nm,0.5s								
BNX	**BinXian**	**49.76**	**26**	⇑P	**P**		**01 31 16.0**	**-0.1**	
BNX				pmax	pmax				
	comp=Z,14nm,0.6s								
USA0B	**Ussuriysk Arra**	**50.77**	**30**	P	**P**		**01 31 23.6**	**-0.1**	
USA0B				IAmb	IAmb	01 31 25.9			
	comp=Z,12nm,1.3s								
USRK	**Ussuriysk Ar.**	**50.77**	**30**		**P**		**01 31 23.4**	**-0.4**	
USRK	**Ussuriysk Ar.**	**50.77**	**30**	P	**P**		**01 31 23.1**	**-0.7**	
	comp=Z,2.2nm,0.4s,baz=230,slow=6.3,SNR=9.9								
USRK				pP	**pP**		**01 31 58.3**	**+0.1**	
	comp=Z,4.0nm,0.7s,baz=212,slow=8.6,SNR=3.3								
	comp=Z,2.2nm,0.4s								
KURBB	**Kurchatov Arra**	**50.95**	**343**	P	**P**		**01 31 24.6**	**-0.4**	
	comp=Z,5.2nm,0.7s,baz=160,slow=7.1,SNR=47								
KURBB				pP	**pP**		**01 31 59.6**	**+0.2**	
	comp=Z,0.3nm,0.3s,baz=149,slow=7.6,SNR=1.8								
	comp=Z,5.2nm,0.7s								
KURK	**Kurchatov**	**51.00**	**344**		**P**		**01 31 25.2**	**-0.2**	
KURK				IAmb	IAmb	01 31 26.0			
	comp=Z,5.2nm,0.8s								
QLP	**Quilpie**	**52.43**	**127**	P	**P**		**01 31 36.5**	**+0.1**	
ZAA0	**Zalesovo Array**	**52.56**	**350**		**P**		**01 31 36.9**	**0.0**	
ZAA0				IAmb	IAmb	01 31 37.2			
	comp=Z,12nm,1.1s								
ZALV	**Zalesovo Beam**	**52.56**	**350**	P	**P**		**01 31 36.5**	**-0.4**	
	comp=Z,9.6nm,0.5s,baz=179,slow=6.4,SNR=34								
ZALV				pP	**pP**		**01 32 11.2**	**-0.3**	
	comp=Z,3.9nm,0.6s,baz=176,slow=6.1,SNR=2.7								
	comp=Z,9.6nm,0.5s								
STKA	**Stephens Creek**	**52.99**	**134**	P	**P**		**01 31 40.1**	**-0.3**	
STKA	**Stephens Creek**	**52.99**	**134**	P	**P**		**01 31 39.8**	**-0.6**	
	comp=Z,1.7nm,0.3s,baz=311,slow=9.5,SNR=2.4								
	comp=Z,1.7nm,0.3s								
HEH	**HeiHe**	**53.34**	**22**	*e*P	**P**		**01 31 42.3**	**-0.4**	
HEH				pmax	pmax				
	comp=Z,9.0nm,0.8s								
BVAR	**Borovoye Array**	**55.60**	**340**	P	**P**		**01 31 57.8**	**-1.2**	
	comp=Z,5.1nm,0.5s,baz=136,slow=10.0,SNR=30								
BVAR				pP	**pP**		**01 32 32.5**	**-1.6**	
	comp=Z,1.4nm,0.5s,baz=134,slow=8.2,SNR=4.0								
	comp=Z,5.1nm,0.5s								
BRVK	**Borovoye**	**55.67**	**339**	P	**P**		**01 31 59.0**	**-0.4**	
BRVK				IAmb	IAmb	01 31 59.3			
	comp=Z,3.6nm,0.7s								
RAYN	**Ar Rayn**	**55.68**	**297**		**P**		**01 32 00.2**	**+0.1**	
CMSA	**Cobar Meteorol**	**55.84**	**131**	P	**P**		**01 32 01.2**	**+0.2**	
GD1S	**Gladstone Soft**	**57.15**	**120**	P	**P**		**01 32 11.9**	**+1.5**	
AB31	**Akbulak array**	**57.20**	**331**		**P**		**01 32 10.0**	**-0.3**	
AB31				IAmb	IAmb	01 32 10.4			
	comp=Z,3.1nm,0.7s								
ABKAR	**Akbulak array**	**57.20**	**331**		**P**		**01 32 09.8**	**-0.5**	
ARMA	**Armidale**	**59.94**	**127**	P	**P**		**01 32 29.8**	**0.0**	
KBZ	**Khabaz**	**64.23**	**318**	P	**P**		**01 32 57.5**	**-0.5**	
	comp=Z,1.2nm,0.5s,baz=135,slow=4.3,SNR=4.4								
	comp=Z,1.2nm,0.5s								
MMAI	**Mount Meron Ar**	**66.55**	**305**	P	**P**		**01 33 13.7**	**+0.5**	
	comp=Z,0.8nm,0.5s,baz=85,slow=11,SNR=4.1								
MMAI				pP	**pP**		**01 33 49.2**	**-0.6**	
	comp=Z,1.4nm,0.6s,baz=113,slow=3.3,SNR=2.8								
	comp=Z,0.8nm,0.5s								
MA2	**Magadan**	**69.42**	**25**		**P**		**01 33 31.5**	**+0.9**	
BRTR	**Keskin Array B**	**69.52**	**312**	P	**P**		**01 33 31.1**	**-0.7**	
BRTR				pP	**pP**		**01 34 07.0**	**-1.6**	
	comp=Z,0.9nm,0.6s,baz=129,slow=7.7,SNR=3.3								
	comp=Z,0.8nm,0.6s								
PETK	**Petropavlovsk-**	**69.70**	**33**	P	**P**		**01 33 32.0**	**-0.4**	
	comp=Z,3.5nm,0.7s,baz=211,slow=5.2,SNR=5.1								
	comp=Z,3.5nm,0.7s								
LSZ	**Lusaka**	**72.13**	**253**		**P**		**01 33 48.2**	**+0.2**	
LSZ				IAmb	IAmb	01 33 49.4			
	comp=Z,5.6nm,0.8s								
MAW	**Mawson**	**74.38**	**194**	P	**P**		**01 34 01.3**	**+1.4**	
	comp=Z,4.6nm,0.5s,baz=43,slow=5.1,SNR=10								
	comp=Z,4.6nm,0.5s								
AKASG	**Malin Array Be**	**75.28**	**322**	P	**P**		**01 34 04.9**	**-0.6**	
	comp=Z,0.2nm,0.3s,baz=88,slow=5.4,SNR=5.1								
	comp=Z,0.2nm,0.3s								
KSANE	**Kasane**	**75.34**	**251**	P	**P**		**01 34 07.4**	**+0.8**	
KSANE				IAmb	IAmb	01 34 08.9			
	comp=Z,5.9nm,0.6s								
BOSA	**Boshof**	**76.92**	**240**	P	**P**		**01 34 16.1**	**+0.8**	
	comp=Z,2.6nm,0.3s,baz=84,slow=3.7,SNR=24								
	comp=Z,2.6nm,0.3s								
BURAR	**Bucovina Array**	**77.19**	**318**		**P**		**01 34 17.4**	**+0.9**	
BUR08	**Bucovina Ar. S**	**77.20**	**318**	P	**P**		**01 34 17.4**	**+0.8**	
FINES	**FINESS Array B**	**79.64**	**332**	P	**P**		**01 34 28.9**	**-0.6**	
	comp=Z,1.4nm,0.3s,baz=106,slow=5.6,SNR=26								
	comp=Z,1.4nm,0.3s								
ARCES	**ARCESS Array B**	**81.89**	**340**	P	**P**		**01 34 40.6**	**-0.7**	
	comp=Z,3.3nm,0.8s,baz=89,slow=5.2,SNR=9.7								
	comp=Z,3.3nm,0.8s								
HFS	**Hagfors**	**85.45**	**330**	P	**P**		**01 34 59.3**	**-0.3**	
	comp=Z,2.2nm,0.5s,baz=116,slow=3.4,SNR=24								
	comp=Z,2.2nm,0.5s								
SPITS	**Spitsbergen Ar**	**86.03**	**348**	P	**P**		**01 34 59.1**	**-3.0**	
	comp=Z,0.8nm,0.3s,baz=96,slow=10,SNR=10								
NB2	**NORSAR Subarra**	**86.70**	**331**	P	**P**		**01 35 05.4**	**-0.4**	
	comp=Z,2.9nm,1.2s,baz=91,slow=5.1								
NOA	**NORSAR Array B**	**86.70**	**331**	P	**P**		**01 35 05.4**	**-0.4**	
	comp=Z,0.4nm,0.5s,baz=94,slow=5.7,SNR=3.9								
NOA				pP	**pP**		**01 35 43.8**	**-0.2**	
	comp=Z,0.9nm,0.7s,baz=92,slow=4.9,SNR=4.0								
	comp=Z,2.0nm,0.5s								
QSPA	**South Pole Qui**	**92.44**	**180**	P	**P**		**01 35 33.7**	**+1.0**	
	comp=Z,1.4nm,0.6s,baz=326,slow=3.6,SNR=1.7								
	comp=Z,1.4nm,0.6s								
EKA	**Eskdalemuir Ar**	**94.80**	**326**	P	**P**		**01 35 44.6**	**+1.0**	
	comp=Z,0.4nm,0.7s,baz=71,slow=1.7,SNR=1.2								
EKA				pP	**pP**		**01 36 21.6**	**-0.5**	
	comp=Z,0.8nm,0.7s,baz=106,slow=4.5,SNR=2.6								
	comp=Z,0.4nm,0.7s								
TXAR	**Lajitas Array**	**141.65**	**33**	PKhKP	PKPpre		01 41 48.5		
	comp=Z,0.2nm,0.4s,baz=197,slow=1.3,SNR=4.4								
BDFB	**Brasilia**	**144.91**	**246**	PKP	**PKPdf**		**01 41 59.5**	**0.0**	
	comp=Z,3.9nm,0.6s,baz=117,slow=1.8,SNR=7.0								
CPUP	**Villa Florida**	**147.12**	**222**	PKPbc	**PKPbc**		**01 42 04.6**	**-0.6**	
	comp=Z,0.5nm,0.8s,baz=316,slow=2.7,SNR=4.0								
CPUP				pPKPbc	**pPKPdf**		**01 42 43.7**	**+0.5**	
	comp=Z,0.5nm,0.6s,baz=117,slow=1.4,SNR=3.1								
CFA	**Coronel Fontan**	**148.63**	**201**	PKPbc	**PKPbc**		**01 42 08.7**	**-0.4**	
	comp=Z,3.1nm,0.6s,baz=127,slow=2.1,SNR=12								
CFA				pPKPbc	**pPKPbc**		**01 42 48.3**	**-0.8**	
	comp=Z,4.4nm,0.8s,baz=166,slow=3.5,SNR=4.8								
LPAZ	**La Paz**	**161.29**	**222**	PKPab	**PKPab**		**01 43 09.1**	**+1.2**	
	comp=Z,4.9nm,1.4s,baz=180,slow=6.8,SNR=4.5								

*IDC **30** 01:42:09.1±0.9, 12°.75N×120°.89E, h0km, mb3.9/7, mbtmp3.9/7, MS3.1/3, Error ellipse: s-maj=33.4km s-min=12.0km az=79.0*
*NEIC **30** 01:42:15.1±1.9, 13°.01N±0°.08×121°.1E±0°.1, h35km±2km, mb4.7/26, Error ellipse: s-maj=21.3km s-min=12.7km az=258.0*
ISC 30 01:42:13.0±0.5, 12°.93N±0°.08×121°.1E±0°.1, h25km, n41, σ0s90/38, mb4.4/21, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TGY	**Tagaytay City**	**1.17**	**353**	Pg	**Pn**		**01 42 34.4**	**+0.5**
	778nm,0.3s,baz=201,slow=3.7,SNR=36							
TGY				Lg	Lg		01 42 53.5	
	239nm,0.3s,baz=217,slow=21,SNR=7.3							
DAV	**Davao City (W)**	**7.32**	**142**	LR	LR		01 47 19.9	
	comp=Z,240nm,19.4s,baz=332,slow=43							
CMAR	**Chiang Mai Arr**	**22.00**	**287**	P	**P**		**01 47 04.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**22.00**	**287**	P	**P**		**01 47 05.6**	**0.0**
	1.1nm,0.3s,baz=111,slow=8.0,SNR=7.2							
	1.1nm,0.3s							
SAUI	**Saumlaki**	**23.13**	**153**	P	**P**		**01 47 17.3**	**-0.2**
GUMO	**Guam**	**23.16**	**86**	LR	LR		01 55 02.1	
	comp=Z,28nm,21.4s,baz=174,slow=33							
JAY	**Jayapura**	**24.80**	**127**	LR	LR		01 58 39.7	
	comp=Z,56nm,18.8s,baz=83,slow=40							
FITZ	**Fitzroy Crossi**	**31.16**	**172**	P	**P**		**01 48 31.9**	**+1.8**
PSA00	**Pilbara Seismi**	**34.31**	**182**	P	**P**		**01 48 58.0**	**+0.3**
PSA00				IAmb	IAmb		01 49 02.3	
	comp=Z,5.6nm,1.1s							
COCO	**West Island**	**34.66**	**225**	P	**P**		**01 49 02.4**	**+1.6**
WRAB	**Tennant Creek**	**35.17**	**158**	P	**P**		**01 49 06.4**	**+1.2**
WRAB				IAmb	IAmb		01 49 07.4	
	comp=Z,11nm,1.4s							
WRA	**Warramunga Arr**	**35.18**	**158**	P	**P**		**01 49 03.8**	**-1.4**
	comp=Z,2.0nm,0.7s,baz=333,slow=10.0,SNR=27							
	comp=Z,2.0nm,0.7s							
SONM	**Songino Array**	**36.89**	**343**	P	**P**		**01 49 20.5**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=161,slow=9.2,SNR=1.9							
	comp=Z,0.4nm,0.3s							
ASAR	**Alice Springs**	**38.48**	**161**	P	**P**		**01 49 32.7**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=341,slow=7.1,SNR=12							
	comp=Z,0.9nm,0.6s							
MKAR	**Makanchi Array**	**46.87**	**324**	P	**P**		**01 50 40.8**	**-0.4**
MKAR	**Makanchi Array**	**46.87**	**324**	P	**P**		**01 50 40.3**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=105,slow=7.6,SNR=4.7							
	comp=Z,0.6nm,0.6s							
MAKZ	**Makanchi**	**47.05**	**324**	P	**P**		**01 50 42.0**	**-0.7**
MAKZ				IAmb	IAmb		01 50 53.0	
	comp=Z,3.6nm,1.2s							
KDJ	**Kajisay**	**47.84**	**316**	P	**P**		**01 50 49.4**	**+0.4**
STKA	**Stephens Creek**	**48.70**	**157**	P	**P**		**01 50 54.8**	**-0.7**
	comp=Z,1.0nm,0.2s,baz=309,slow=6.5,SNR=3.8							
	comp=Z,1.0nm,0.2s							
KURBB	**Kurchatov Arra**	**51.03**	**326**	P	**P**		**01 51 12.3**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=115,slow=9.2,SNR=12							
	comp=Z,1.2nm,0.8s							
KURK	**Kurchatov**	**51.03**	**326**	P	**P**		**01 51 12.5**	**-0.5**
KURK				IAmb	IAmb		01 51 13.2	
	comp=Z,3.5nm,0.8s							
GAR	**Garm**	**51.69**	**310**	P	**P**		**01 51 17.0**	**-1.3**
GAR				IAmb	IAmb		01 51 18.8	
	comp=Z,8.5nm,0.9s							
ARMA	**Armidale**	**52.17**	**146**	P	**P**		**01 51 21.9**	**0.0**
ARMA				IAmb	IAmb		01 51 34.6	
	comp=Z,25nm,1.5s							
SIMJ	**Simiganj**	**52.59**	**309**	P	**P**		**01 51 24.4**	**-0.6**
SIMJ				IAmb	IAmb		01 51 25.4	
	comp=Z,4.6nm,1.1s							
KK31	**Karatay Array**	**52.77**	**315**	P	**P**		**01 51 25.7**	**-0.5**
KKAR	**Karatay Array**	**52.77**	**315**	P	**P**		**01 51 25.9**	**-0.3**
ABKAR	**Akbulak array**	**61.55**	**319**	P	**P**		**01 52 28.7**	**+0.6**
MSVF	**Nonsavu**	**63.95**	**117**	P	**P**		**01 52 44.0**	**-0.6**
MSVF				IAmb	IAmb		01 52 51.5	
	comp=Z,13nm,1.4s							
ATKA	**Atka Island**	**64.44**	**38**	P	**P**		**01 52 46.4**	**-0.8**
NIKH	**Nikolski High**	**67.78**	**38**	P	**P**		**01 53 09.7**	**+1.1**
UNV	**Unalaska Valle**	**69.29**	**37**	P	**P**		**01 53 16.7**	**-1.4**
UNV				IAmb	IAmb		01 53 48.8	
	comp=Z,15nm,1.1s							
RAYN	**Ar Rayn**	**71.87**	**291**	P	**P**		**01 53 33.7**	**-0.8**
RER	**Riviere de l'E**	**72.55**	**243**	P	**P**		**01 53 37.7**	**-0.8**
MRZ	**Mangatainoka R**	**73.36**	**140**	P	**P**		**01 53 43.2**	**+0.3**
MRZ				IAmb	IAmb		01 54 05.8	
	comp=Z,18nm,1.1s							
O15K	**Ungalikthiuk R**	**73.40**	**32**	P	**P**		**01 53 43.4**	**+0.5**
O15K				IAmb	IAmb		01 54 01.3	
	comp=Z,8.7nm,1.4s							
H17K	**Granite Mounta**	**73.72**	**26**	P	**P**		**01 53 45.5**	**+0.9**
H17K				IAmb	IAmb		01 54 11.1	
	comp=Z,9.2nm,1.4s							
D19K	**Kuna River**	**74.68**	**22**	P	**P**		**01 53 49.5**	**-0.7**
D19K				IAmb	IAmb		01 54 09.0	
	comp=Z,14nm,1.4s							
H19K	**Roundabout Mou**	**75.20**	**25**	P	**P**		**01 53 54.9**	**+1.7**
O18K	**Koktuh Hills**	**75.77**	**31**	P	**P**		**01 53 57.2**	**+0.6**
O18K				IAmb	IAmb		01 54 34.0	
	comp=Z,13nm,1.4s							
L19K	**White Mountain**	**75.89**	**29**	P	**P**		**01 53 57.2**	**-0.1**
IMAR	**Indian Mountai**	**76.32**	**25**	P	**P**		**01 54 00.7**	**+1.1**

*LDG **30** 01:58:33.5±0.3, 42°.28N×8°.03W, h2km, Ml3.1/9, Error ellipse: s-maj=7.5km s-min=3.8km az=111.0*
*SFS **30** 01:58:34.8, 42°.10N×8°.03W, h0km, ML3.8/8, ML3.6/11, MLv3.5/11*

*MDD **30** 01:58:34.9±0.3, 42°.23N×8°.00W, h15km, mb_Lg3.2/15, Error ellipse: s-maj=2.5km s-min=1.9km az=95.0*
*INMG **30** 01:58:35.3±1.9, 42°.21N×8°.00W, h20km±2km, ML3.0, Error ellipse: s-maj=3.2km s-min=1.9km az=95.0, #DIST_RANGE: LOCAL #IPMA_REGION: SW Ourense (ESP)*
*IGIL **30** 01:58:36.2, 42°.22N×8°.00W, h20km, ML2.6*
ISC 30 01:58:34.0±1.0, 42°.27N±0°.02×8°.00W±0°.03, h24km±10km, n67, σ2s57/151, 6C-2D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PGAV	**Gavieira, Arco**	**0.36**	**214**	⇑*i*Pg	**Pb**		**01 58 41.7**	**-0.3**
PGAV				*e*Sg	**Sb**		**01 58 46.5**	**-1.0**
PGAV				*i* IAML			01 58 47.4	
PGAV				*i* IAML			01 58 47.4	
PGAV				*i* IAML			01 58 47.8	
ELOB	**Lobios**	**0.41**	**187**	⇑Pg	**Pb**		**01 58 42.1**	**-0.6**
ELOB				Sg	**Sb**		**01 58 47.1**	**-1.5**
ELOB				*i* IVmb_Lg			01 58 47.3	
EZAM	**Zamans**	**0.53**	**257**	⇑Pg	**Pb**		**01 58 45.1**	**+0.4**
EZAM				Sg	**Sb**		**01 58 52.4**	**+0.4**
EZAM				*i* IVmb_Lg			01 58 54.4	
EAGO	**Agolada(Pontev**	**0.54**	**353**	⇓Pg	**Pn**		**01 58 45.8**	**-0.3**
EAGO				Sg	**Sb**		**01 58 53.4**	**+1.2**
EAGO				*i* IVmb_Lg			01 58 56.2	
PCAB	**Cabril**	**0.56**	**182**	*i*Pg	**Pn**		**01 58 44.8**	**-1.6**
PCAB				*i* Sg	**Sb**		**01 58 51.8**	**-1.1**
PCAB				*i* IAML			01 58 52.3	
PCAB				*i* IAML			01 58 54.6	
PCAB				*i* IAML			01 58 54.7	
POLO	**Lamas de Olo**	**0.91**	**170**	⇓*e*P	**Pn**		**01 58 51.0**	**-0.3**
POLO				*e*S	**Sn**		**01 59 02.4**	**-1.3**
POLO				*i* IAML			01 59 03.9	
POLO				*i* IAML			01 59 04.1	
POLO				*i* IAML			01 59 04.1	
EMAZ	**Mazaricos**	**0.99**	**314**	Pg	**Pb**		**01 58 53.1**	**+0.6**
EMAZ				Sg	**Sn**		**01 59 07.1**	**+1.5**
EMAZ				*i* IVmb_Lg			01 59 09.8	
ECAL	**Calabor**	**0.99**	**109**	Pg	**Pn**		**01 58 52.6**	**+0.1**
ECAL				Sg	**Sn**		**01 59 05.3**	**-0.5**
ECAL	**Calabor**	**0.99**	**109**	Pg	**Pn**		**01 58 52.6**	**+0.1**
ECAL				Sg	**Sn**		**01 59 05.3**	**-0.5**
PVRL	**Vila Real**	**1.02**	**168**	*e*P	**Pn**		**01 58 52.5**	**-0.2**
PVRL				*e*S	**Sn**		**01 59 05.5**	**-0.7**
PVRL				*i* IAML			01 59 06.7	
PVRL				*i* IAML			01 59 07.0	
PVRL				*i* IAML			01 59 07.2	
PBRG	**Braganca**	**1.04**	**116**	*e*P	**Pn**		**01 58 53.1**	**0.0**
PBRG				*e*S	**Sn**		**01 59 06.8**	**-0.2**
PBRG				*i* IAML			01 59 08.3	
PBRG				*i* IAML			01 59 08.7	
PBRG				*i* IAML			01 59 10.6	
PTO	**Porto**	**1.22**	**202**	*e*P	Pb		01 59 03.9	+7.6
PTO				*e*S	Sb		01 59 19.4	+7.9
PTO				*i* IAML			01 59 19.6	
PTO				*i* IAML			01 59 19.7	
PTO				*i* IAML			01 59 20.9	
EPON	**Pontenova**	**1.23**	**30**	Pg	**Pb**		**01 58 56.0**	**-0.5**
EPON			

EBAD				*i* IVmb_Lg		02 00 31.4			
EVO	**Evora**	**3.73**	**180**	Pn	**Pn**	**01 59 30.5**	**+0.5**		
EVO				Sn	**Sn**	**02 00 10.1**	**-3.2**		
EVO	**Evora**	**3.73**	**180**	*e*Pn	**Pn**	**01 59 30.5**	**+0.5**		
EVO				*e*Sn	**Sn**	**02 00 11.5**	**-1.8**		
EVO				*e*Sg	**Sb**	**02 00 29.4**	**+5.4**		
EVO				*i* IAML		02 00 32.4			
EVO				*i* IAML		02 00 35.3			
EVO				*i* IAML		02 00 36.0			
PAB	**San Pablo**	**3.88**	**133**	Pn	**Pn**	**01 59 33.0**	**+0.8**		
PAB				Sn	**Sn**	**02 00 16.1**	**-0.9**		
PAB				Sg	**Sb**	**02 00 33.4**	**+5.1**		
PAB				*i* IVmb_Lg		02 00 41.4			
PBAR	**Barrancos**	**4.16**	**170**	Pn	**Pn**	**01 59 36.2**	**+0.4**		
PBAR				Sn	**Sn**	**02 00 21.0**	**-2.7**		
PBAR	**Barrancos**	**4.16**	**170**‖	*e*Pn	**Pn**	**01 59 36.2**	**+0.4**		
PBAR				*e*Sn	**Sn**	**02 00 20.3**	**-3.3**		
PBAR				*e*Sg	**Sb**	**02 00 42.9**	**+6.8**		
PBAR				*i* IAML		02 00 48.1			
PBAR				*i* IAML		02 00 48.5			
PBAR				*i* IAML		02 00 49.2			
PBEJ	**Beja**	**4.24**	**179**	*e*Pn	**Pn**	**01 59 37.3**	**+0.3**		
PBEJ				*e*Sn	**Sn**	**02 00 23.8**	**-2.0**		
PBEJ				*i* IAML		02 00 40.0			
PBEJ				*e*Sg	**Sb**	**02 00 43.9**	**+5.4**		
PBEJ				*i* IAML		02 00 49.3			
PBEJ				*i* IAML		02 00 50.5			
MESJ	**Messejana**	**4.43**	**182**	*e*P	**Pn**	**01 59 40.0**	**+0.4**		
MESJ				*e*S	**Sn**	**02 00 26.4**	**-3.9**		
MESJ				IAML		02 00 57.7			
	comp=N,12nm,0.4s								
MESJ	**Messejana**	**4.43**	**182**‖	*e*Pn	**Pn**	**01 59 40.0**	**+0.4**		
MESJ				*e*Sn	**Sn**	**02 00 26.5**	**-3.9**		
MESJ				*e*Sg	Sb	02 00 54.2	+10		
MESJ				*i* IAML		02 00 56.2			
MESJ				*i* IAML		02 00 56.7			
MESJ				*i* IAML		02 00 57.6			
EMIN	**Mina Concepcio**	**4.61**	**167**	Pn	**Pn**	**01 59 42.5**	**+0.4**		
EMIN	**Mina Concepcio**	**4.61**	**167**	Pn	**Pn**	**01 59 42.5**	**+0.4**		
EMIN				Pg	**Pb**	**01 59 53.4**	**-0.7**		
EMIN				Sn	**Sn**	**02 00 30.1**	**-4.8**		
EMIN				Sg	Sb	02 00 56.5	+7.2		
EMIN				*i* IVmb_Lg		02 01 04.8			
ECAB	**El Cabril**	**4.63**	**154**	Pn	**Pn**	**01 59 42.7**	**+0.2**		
ECAB	**El Cabril**	**4.63**	**154**	Pn	**Pn**	**01 59 42.7**	**+0.2**		
ECAB				Pg	**Pb**	**01 59 54.5**	**-0.1**		
ECAB				Sn	**Sn**	**02 00 32.7**	**-2.7**		
ECAB				Sg	**Sb**	**02 00 56.0**	**+6.1**		
ECAB				*i* IVmb_Lg		02 01 03.9			
PCVE	**Castro Verde**	**4.63**	**180**	Pn	**Pn**	**01 59 42.4**	**0.0**		
PCVE	**Castro Verde**	**4.63**	**180**	*e*Pn	**Pn**	**01 59 42.6**	**+0.2**		
PCVE				*e*Sn	**Sn**	**02 00 32.3**	**-3.1**		
PCVE				*e*Sg	Sb	02 00 57.9	+8.0		
PCVE				*i* IAML		02 01 02.5			
PCVE				*i* IAML		02 01 03.5			
PCVE				*i* IAML		02 01 04.5			
ETOR	**Torete**	**4.69**	**106**	Pn	**Pn**	**01 59 43.4**	**+0.1**		
ETOR				Pg	**Pb**	**01 59 56.8**	**+1.2**		
ETOR				Sg	Sb	02 00 59.5	+7.9		
ETOR				*i* IVmb_Lg		02 01 12.4			
EGRO	**El Granado**	**4.75**	**175**	Pn	**Pn**	**01 59 44.2**	**+0.2**		
PTEO	**Sao Teotonio**	**4.75**	**187**	*e*Pn	**Pn**	**01 59 46.2**	**+2.1**		
PTEO				*e*Sn	**Sn**	**02 00 35.3**	**-3.0**		
PTEO				*e*Sg	Sb	02 01 03.9	+11		
PTEO				*i* IAML		02 01 06.8			
PTEO				*i* IAML		02 01 07.8			
PTEO				*i* IAML		02 01 15.8			
EADA	**Adamuz**	**4.86**	**146**	Pn	**Pn**	**01 59 45.9**	**+0.3**		
EADA				Sn	**Sn**	**02 00 40.3**	**-0.8**		
EADA	**Adamuz**	**4.86**	**146**	Pn	**Pn**	**01 59 45.9**	**+0.3**		
EADA				Sn	**Sn**	**02 00 40.0**	**-1.1**		
EADA				Sg	**Sb**	**02 01 03.0**	**+6.5**		
EADA				*i* IVmb_Lg		02 01 15.9			
PVAQ	**Vaqueiros**	**4.87**	**177**	Pn	**Pn**	**01 59 45.8**	**+0.1**		
PVAQ	**Vaqueiros**	**4.87**	**177**	*e*Pn	**Pn**	**01 59 45.8**	**+0.1**		
PVAQ				*e*Sn	**Sn**	**02 00 38.0**	**-3.1**		
PVAQ				*e*Sg	Sb	02 01 06.9	+10		
PVAQ				*i* IAML		02 01 08.6			
PVAQ				*i* IAML		02 01 09.9			
PVAQ				*i* IAML		02 01 13.2			
MORF	**Marmelete**	**4.99**	**186**	*e*Pn	**Pn**	**01 59 47.7**	**+0.4**		
PBDV	**Barranco-do-Ve**	**5.02**	**179**	*e*Pn	**Pn**	**01 59 48.2**	**+0.4**		
PBDV				*e*Sn	**Sn**	**02 00 41.8**	**-3.2**		
PBDV				*e*Sg	Sb	02 01 13.2	+12		
PBDV				*i* IAML		02 01 17.8			
PBDV				*i* IAML		02 01 19.2			
PBDV				*i* IAML		02 01 19.2			
SJPF	**Ste Jean**	**5.06**	**78**	*e*Pn	**Pn**	**01 59 49.2**	**+0.9**		
SJPF				*e*Sn	**Sn**	**02 00 44.4**	**-1.6**		
SJPF				*e*Sg	Sb	02 01 14.4	+12		
	comp=N,8.4nm,0.4s								
ETSF	**Etsaut**	**5.53**	**81**	*e*Pn	**Pn**	**01 59 55.6**	**+0.8**		
ETSF				*e*Sn	**Sn**	**02 00 55.1**	**-2.5**		
ETSF				*e*Sg	Sb	02 01 26.4	+11		
	comp=N,3.1nm,0.3s								
EMOS	**Mosqueruela**	**5.98**	**106**	Pn	**Pn**	**02 00 02.7**	**+1.6**		
EMOS				Sn	**Sn**	**02 01 05.4**	**-3.4**		
EPF	**Esparros**	**6.20**	**80**	*e*Pn	**Sn**	**02 00 05.0**	**+1.1**		
EPF				*e*Sn	**Sn**	**02 01 12.6**	**-1.4**		
EPF				*e*Sg	Sb	02 01 47.4	+13		
QUIF	**Quistinic**	**6.60**	**30**	*e*Sn	**Sn**	**02 01 20.0**	**-3.8**		
	comp=N,1.6nm,0.2s								
LFF	**La Frestale**	**6.88**	**64**	*e*Pn	**Pn**	**02 00 14.2**	**+0.9**		
LFF				*e*Sn	**Sn**	**02 01 26.9**	**-3.9**		
	comp=N,1.6nm,0.3s								
MFF	**Saint Martin d**	**7.09**	**50**	*e*Pn	**Pn**	**02 00 15.3**	**-0.9**		
MFF	**Saint Martin d**	**7.09**	**50**	*e*Pn	**Pn**	**02 00 15.4**	**-0.8**		
MFF				*e*Sn	**Sn**	**02 01 30.7**	**-5.3**		
	comp=N,18nm,0.4s								
MFF				*e*Sn	**Sn**	**02 01 31.4**	**-4.6**		
	comp=N,0.8nm,0.2s								
RJF	**Les Rejaudoux**	**7.52**	**63**	*e*Pn	**Pn**	**02 00 22.2**	**+0.1**		
RJF				*e*Sn	**Sn**	**02 01 42.4**	**-4.2**		
	comp=N,0.9nm,0.1s								
CAF	**Calviac**	**7.77**	**67**	*e*Pn	**Pn**	**02 00 25.1**	**-0.4**		
CAF				*e*Sn	**Sn**	**02 01 48.4**	**-4.3**		
	comp=N,0.5nm,0.2s								
TCF	**Toulx Ste Croi**	**8.35**	**58**	*e*Pn	**Pn**	**02 00 33.0**	**-0.5**		
TCF				*e*Sn	**Sn**	**02 02 00.6**	**-6.4**		
	comp=N,1.8nm,0.3s								

*JMA **30** 02:08:18.6±0.2,24˚N±1˚×122˚4E±0˚.4, h24km±3km, MV3.2/13, NW OFF ISHIGAKIJIMA IS*
*TAP **30** 02:08:19.1,24˚.13N×122˚.45E, h33km, ML3.5, C*
ISC 30 02:08:19.0±1.1,24°07N±0°.02×122°44E±0°.02, h33km±2km, n122, σ1§09/214, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.12**	**292**	*i* P	**Pb**	**02 08 24.9**	**+0.4**
EOS4				*i* S	**Sb**	**02 08 29.5**	**+1.1**
EOS3	**EOS3**	**0.24**	**331**	*i* P	**Pb**	**02 08 26.4**	**+0.5**
EOS3				S	**Sb**	**02 08 31.9**	**+1.2**
EOS2	**EOS2**	**0.40**	**331**	*i* P	**Pn**	**02 08 28.6**	**+0.2**
EOS2				S	**Sn**	**02 08 35.4**	**+0.9**
YOJ	**Yonaguni jima**	**0.65**	**53**	P	**Pn**	**02 08 31.5**	**-0.3**
YOJ				*e*S	**Sn**	**02 08 40.5**	**-0.3**
YOJ	**Yonaguni jima**	**0.65**	**53**	*i* P	**Pn**	**02 08 31.4**	**-0.3**
YOJ				*i* S	**Sn**	**02 08 40.7**	**-0.2**
EWUT	**Wuta**	**0.71**	**301**	P	**Pn**	**02 08 32.6**	**-0.2**
EWUT				S	**Sb**	**02 08 42.9**	**+0.2**
ENA	**Nanau**	**0.73**	**299**	P	**Pn**	**02 08 33.0**	**-0.1**
ENA				*e*S	**Sb**	**02 08 43.4**	**+0.2**
ESAO	**Su ao**	**0.74**	**313**	P	**Pn**	**02 08 33.0**	**-0.2**
ESAO				S	**Sb**	**02 08 43.8**	**+0.3**
ETL	**Fush Village**	**0.76**	**277**	P	**Pn**	**02 08 33.2**	**-0.2**
ETL				*e*S	**Sb**	**02 08 44.3**	**+0.4**
TWC	**Suao**	**0.76**	**315**	P	**Pn**	**02 08 33.2**	**-0.2**
TWC				*e*S	**Sb**	**02 08 43.3**	**-0.7**
TWD	**Chiawan**	**0.78**	**271**	*e*P	**Pn**	**02 08 33.2**	**-0.4**
TWD				S	**Sb**	**02 08 43.5**	**-0.6**
NACB	**Ninganchiao**	**0.78**	**278**	*i* P	**Pn**	**02 08 33.5**	**-0.2**
NACB				S	**Sn**	**02 08 44.1**	**-0.2**
TEYL	**Yanliau Villag**	**0.80**	**255**	*i* P	**Pn**	**02 08 33.8**	**-0.1**
TEYL				S	**Sb**	**02 08 45.7**	**+0.6**
SHUL	**Shoufeng**	**0.86**	**251**	*i* P	**Pn**	**02 08 34.6**	**0.0**
SHUL				S	**Sn**	**02 08 46.8**	**+0.7**
NDS	**Dongshan**	**0.87**	**310**	*e*P	**Pn**	**02 08 34.4**	**-0.5**
NDS				*e*S	**Sn**	**02 08 45.7**	**-0.6**
ETM	**Tongmen**	**0.88**	**263**	P	**Pn**	**02 08 34.6**	**-0.4**
ETM				S	**Sn**	**02 08 46.2**	**-0.3**
ETLH	**Xiulin Townshi**	**0.89**	**279**	P	**Pn**	**02 08 35.2**	**-0.1**
ETLH				S	**Sb**	**02 08 47.4**	**-0.3**
EGS		**0.90**	**329**	*e*P	**Pb**	**02 08 36.2**	**-0.1**
EGS				*e*S	**Sb**	**02 08 47.8**	**-0.1**
ILA	**Ilan**	**0.94**	**317**	*e*P	**Pb**	**02 08 37.1**	**+0.3**
LXIB	**Xiulin Townshi**	**0.94**	**267**	*e*P	**Pn**	**02 08 35.6**	**-0.4**
LXIB				*e*S	**Sn**	**02 08 48.3**	**-0.2**
LATG	**Datong**	**0.96**	**299**	P	**Pb**	**02 08 36.5**	**-0.7**
LATG				S	**Sb**	**02 08 49.7**	**+0.1**
TWE	**Neicheng**	**0.96**	**312**	*e*P	**Pb**	**02 08 36.7**	**-0.5**
ESL	**Shilin**	**0.96**	**255**	*e*P	**Pn**	**02 08 35.2**	**-1.0**
ENTT	**Nioudou**	**0.98**	**305**	P	**Pb**	**02 08 37.0**	**-0.6**
ENTT				*e*S	**Sb**	**02 08 49.9**	**-0.3**
EGFH	**Guangfu**	**1.01**	**247**	*e*P	**Pn**	**02 08 36.8**	**-0.1**
TWB1	**Santiao Chiao**	**1.02**	**336**	P	**Pn**	**02 08 36.9**	**-0.1**
TWB1				S	**Sb**	**02 08 50.0**	**-1.4**
WARBT	**Fenglin Townsh**	**1.03**	**250**	P	**Pn**	**02 08 36.4**	**-0.8**
WARBT				S	**Sn**	**02 08 50.3**	**-0.2**
NNSB	**Datong**	**1.03**	**290**	P	**Pn**	**02 08 37.5**	**+0.2**
NNSB				S	**Sb**	**02 08 51.2**	**-0.6**
FUSB	**Fushanzhiwuyua**	**1.04**	**311**	*e*P	**Pb**	**02 08 38.4**	**-0.1**
FUSB				*e*S	**Sb**	**02 08 52.9**	**+0.9**
NNS	**Nan Shan**	**1.04**	**291**	*e*P	**Pn**	**02 08 37.9**	**+0.5**
NNS				S	**Sb**	**02 08 51.5**	**-0.6**
TIPB	**Shuangxi**	**1.06**	**328**	P	**Pb**	**02 08 37.8**	**-1.1**
TIPB				S	**Sb**	**02 08 51.5**	**-1.0**
WHF	**Hehuan Shan**	**1.08**	**274**	P	**Pn**	**02 08 38.1**	**-0.1**
WHF				*e*S	**Sn**	**02 08 52.1**	**-0.1**
HGSD	**Ruisui**	**1.10**	**238**	P	**Pn**	**02 08 37.5**	**-0.5**
HGSD				*e*S	**Sn**	**02 08 51.5**	**-0.6**
NWLT	**Wulai**	**1.11**	**309**	P	**Pb**	**02 08 39.3**	**-0.4**
NWLT				S	**Sb**	**02 08 53.4**	**-0.5**
FUSS	**Fushou**	**1.11**	**279**	*e*P	**Pn**	**02 08 38.8**	**+0.4**
SXI1	**Grass Mountain**	**1.14**	**333**	*i* P	**Pn**	**02 08 38.8**	**+0.1**
SXI1				S	**Sb**	**02 08 54.0**	**-0.8**
YHNB	**Yeheng**	**1.14**	**302**	*i* P	**Pb**	**02 08 39.6**	**-0.7**
YHNB				S	**Sb**	**02 08 54.0**	**-0.9**
NSK	**Sanguang**	**1.16**	**301**	*e*P	**Pb**	**02 08 39.7**	**-0.9**
NSK				S	**Sb**	**02 08 54.6**	**-0.8**
EHYH	**Wanrong**	**1.16**	**240**	P	**Pn**	**02 08 38.9**	**0.0**
EHYH				*e*S	**Sn**	**02 08 54.0**	**+0.4**
NWF	**Wu-fen Shan**	**1.16**	**329**	*e*P	**Pb**	**02 08 39.4**	**-1.3**
NWF				S	**Sb**	**02 08 53.8**	**-1.7**
WFSB	**Wu-fen Shan**	**1.16**	**329**	P	**Pn**	**02 08 39.2**	**+0.3**
WFSB				S	**Sb**	**02 08 53.8**	**-1.6**
OWD	**Renai**	**1.17**	**264**	*i* P	**Pn**	**02 08 39.3**	**+0.2**
OWD				*e*S	**Sn**	**02 08 53.4**	**-0.6**
EHY	**Hungye**	**1.17**	**241**	*e*P	**Pn**	**02 08 38.8**	**-0.3**
EHY				*e*S	**Sn**	**02 08 53.3**	**-0.6**
TWT	**Tachien**	**1.17**	**279**	*e*P	**Pb**	**02 08 40.4**	**-0.5**
ECBN	**Changbin**	**1.18**	**231**	P	**Pn**	**02 08 38.8**	**-0.4**
ECBN				*e*S	**Sn**	**02 08 53.4**	**-0.8**
TDCB	**Techi**	**1.19**	**279**	*e*P	**Pn**	**02 08 40.1**	**+0.7**
TWA	**Mucha**	**1.20**	**319**	P	**Pb**	**02 08 40.1**	**-1.0**
TWA				S	**Sb**	**02 08 56.3**	**-0.1**
IRIF	**Iriomote-Funau**	**1.20**	**77**	P	**Pn**	**02 08 40.0**	**+0.5**
IRIF				S	**Sb**	**02 08 55.7**	**-0.8**
WUSB	**Renai**	**1.22**	**266**	P	**Pn**	**02 08 40.1**	**+0.3**
WUSB				*e*S	**Sn**	**02 08 55.4**	**+0.2**
TNOU	**National Taiwa**	**1.23**	**330**	*e*P	**Pn**	**02 08 39.8**	**-0.1**
VWDT	**VWDT**	**1.23**	**255**	P	**Pn**	**02 08 40.3**	**+0.4**
VWDT				S	**Sn**	**02 08 55.2**	**-0.2**
HATJ	**Hateruma jima**	**1.24**	**90**	P	**Pb**	**02 08 41.8**	**-0.2**
HATJ				*e*S	**Sb**	**02 08 58.9**	**+1.2**
YULB	**Yu-li**	**1.25**	**237**	*i* P	**Pn**	**02 08 40.2**	**-0.2**
YULB				*e*S	**Sn**	**02 08 55.3**	**-0.6**
TWF1	**Yuli**	**1.27**	**236**	*e*P	**Pn**	**02 08 40.5**	**+0.1**
TWF1				*e*S	**Sn**	**02 08 56.2**	**-0.2**
CHKH	**Chenggong**	**1.30**	**228**	*e*P	**Pn**	**02 08 40.2**	**-0.7**
NFF	**Wufeng Townshi**	**1.33**	**295**	*e*P	**Pn**	**02 08 41.3**	**0.0**
NFF				*e*S	**Sb**	**02 08 59.4**	**-0.8**
YM01	**YM01**	**1.33**	**323**	*e*P	**Pb**	**02 08 42.1**	**-1.4**
KSHI	**Guanxi Townshi**	**1.35**	**301**	*e*P	**Pb**	**02 08 43.5**	**-0.3**
YM08	**YM08**	**1.35**	**325**	*e*P	**Pn**	**02 08 41.8**	**+0.2**
ZUZH	**Zhuzihu**	**1.36**	**323**	*e*P	**Pn**	**02 08 41.9**	**+0.2**
ZUZH				*e*S	**Sn**	**02 08 58.8**	**+0.2**
FULB	**Fuli**	**1.37**	**231**	P	**Pn**	**02 08 41.3**	**-0.5**
FULB				*e*S	**Sn**	**02 08 59.1**	**+0.3**
WHP	**Taichung City**	**1.38**	**279**	P	**Pb**	**02 08 43.9**	**-0.5**
WHP				S	**Sb**	**02 09 00.7**	**-1.1**
CHKT	**Chengkung**	**1.39**	**226**	*e*P	**Pn**	**02 08 41.1**	**-0.9**
CHKT				*e*S	**Sn**	**02 08 57.2**	**-2.0**
TWS1	**Kuangyinshan**	**1.39**	**318**	*e*P	**Pn**	**02 08 45.5**	**+0.6**
SSLB	**Suanglung**	**1.39**	**259**	*e*P	**Pn**	**02 08 42.8**	**+0.6**
WCS	**Beigang Elemen**	**1.40**	**270**	P	**Pn**	**02 08 43.1**	**+0.8**
WCS				S	**Sb**	**02 09 01.4**	**-0.8**
LIOB	**Emei**	**1.42**	**294**	P	**Pb**	**02 08 44.2**	**-0.8**
LIOB				*e*S	**Sb**	**02 09 02.3**	**-0.5**
SMLT	**Sun Moon Lake**	**1.43**	**263**	*i* P	**Pn**	**02 08 43.5**	**+0.8**
SMLT				*e*S	**Sn**	**02 09 01.0**	**+0.6**
NSTT	**Nanjuang**	**1.43**	**293**	P	**Pb**	**02 08 44.2**	**-0.9**
NSTT				S	**Sb**	**02 09 01.8**	**-1.2**
JKRS	**Kuro-shima**	**1.44**	**83**	P	**Pb**	**02 08 44.2**	**-1.0**
JKRS				*e*S	**Sb**	**02 09 03.1**	**-0.1**
EHD	**Haiduan**	**1.46**	**231**	*e*P	**Pn**	**02 08 42.7**	**-0.4**
EHD				*e*S	**Sn**	**02 09 00.9**	**-0.2**
TYC	**Yuchr**	**1.46**	**264**	*e*P	**Pn**	**02 08 44.0**	**+0.9**
ECS	**Chishang**	**1.49**	**229**	*e*P	**Pn**	**02 08 43.6**	**+0.2**
WHYT	**Xinyi Township**	**1.50**	**256**	*i* P	**Pn**	**02 08 44.9**	**+1.2**
EDH	**Donghe**	**1.52**	**224**	*e*P	**Pn**	**02 08 43.8**	**0.0**
EDH				S	**Sn**	**02 09 00.6**	**-1.7**
TWQ1	**Liyutan**	**1.55**	**280**	*e*P	**Pb**	**02 08 46.4**	**-0.8**
TWQ1				S	**Sb**	**02 09 06.7**	**+0.2**
NSY	**Sanyi**	**1.57**	**283**	*e*P	**Pb**	**02 08 47.0**	**-0.6**
NSY				*e*S	**Sb**	**02 09 07.1**	**0.0**
JIJ	**Ishigaki jima**	**1.58**	**79**	P	**Pn**	**02 08 45.2**	**+0.6**
JIJ				*e*S	**Sn**	**02 09 04.6**	**+0.7**
ELDTW	**Lidau**	**1.58**	**236**	P	**Pn**	**02 08 44.4**	**-0.3**
PCYT	**Pengchaiyu**	**1.59**	**348**	*e*P	**Pn**	**02 08 45.1**	**+0.3**
WJS	**Zhushan**	**1.59**	**261**	*e*P	**Pb**	**02 08 46.8**	**-1.0**
WJS				*e*S	**Sb**	**02 09 07.8**	**+0.2**
ALS	**Alishan**	**1.60**	**250**	P	**Pn**	**02 08 46.4**	**+1.1**
ALS				*e*S	**Sn**	**02 09 05.8**	**+0.8**
WNT	**Mingjian**	**1.62**	**263**	*e*P	**Pb**	**02 08 47.4**	**-1.0**
WNT				*e*S	**Sb**	**02 09 07.8**	**-0.7**
LDUT	**Ludao**	**1.66**	**213**	*e*P	**Pn**	**02 08 44.9**	**-0.8**
LDUT				*e*S	**Sn**	**02 09 03.4**	**-2.4**
LONT	**Longtian**	**1.68**	**226**	P	**Pn**	**02 08 45.7**	**-0.3**
WGK	**Gukeng**	**1.77**	**258**	*e*P	**Pb**	**02 08 50.0**	**-0.8**
WGK				*e*S	**Sb**	**02 09 14.1**	**+1.5**
TWGBT	**Beinan**	**1.77**	**225**	*e*P	**Pn**	**02 08 47.2**	**-0.1**
TTN	**Taitung**	**1.77**	**222**	*e*P	**Pn**	**02 08 48.1**	**+0.7**
TTN				S	**Sn**	**02 09 08.5**	**-0.2**
TWG	**Pinlang**	**1.77**	**226**	*e*P	**Pn**	**02 08 47.1**	**-0.2**
TWG				*e*S	**Sn**	**02 09 08.0**	**-0.8**
STYH	**Taoyuan**	**1.77**	**240**	*e*P	**Pn**	**02 08 48.4**	**+1.0**
STYH				*e*S	**Sn**	**02 09 10.6**	**+1.8**
JISG	**Ishigakijimahi**	**1.78**	**73**	*e*P	**Pn**	**02 08 47.5**	**+0.1**
JISG				S	**Sn**	**02 09 08.5**	**-0.3**
WDLH	**Douliu**	**1.79**	**258**	*e*P	**Pb**	**02 08 49.8**	**-1.4**
WDLH				*e*S	**Sb**	**02 09 14.0**	**+0.8**
WCKO	**Fanlu**	**1.80**	**250**	*e*P	**Pb**	**02 08 50.1**	**-1.3**
WCKO				S	**Sb**	**02 09 13.0**	**-0.6**
TPUB	**Ta-pu**	**1.83**	**246**	P	**Pn**	**02 08 49.9**	**+1.7**
TPUB				S	**Sn**	**02 09 13.1**	**+2.9**
WTP	**Ta-pu**	**1.87**	**244**	*e*P	**Pn**	**02 08 50.5**	**+1.8**
WTP				*e*S	**Sb**	**02 09 15.8**	**+0.1**
WTK	**Tuku**	**1.92**	**259**	*e*P	**Pb**	**02 08 51.9**	**-1.6**
WTK				S	**Sb**	**02 09 16.6**	**-0.4**
CHY	**Chiayi**	**1.94**	**253**	*e*P	**Pb**	**02 08 52.2**	**-1.5**
TWK	**Hsinying**	**1.96**	**246**	*e*P	**Pn**	**02 08 52.5**	**+2.5**
TWK				*e*S	**Sb**	**02 09 17.6**	**-0.7**
CHN1	**Nanshi**	**1.97**	**244**	*e*P	**Pn**	**02 08 52.2**	**+2.2**
CHN1				*e*S	**Sb**	**02 09 17.7**	**-0.7**
SGST	**Jiashian**	**1.97**	**240**	*e*P	**Pn**	**02 08 51.2**	**+1.1**
SGST				*e*S	**Sn**	**02 09 16.4**	**+2.7**
SNST	**Tainan City**	**1.98**	**245**	*e*P	**Pn**	**02 08 52.3**	**+2.2**
SNST				*e*S	**Sb**	**02 09 17.1**	**-1.5**
ECL	**Taimali**	**2.01**	**223**	*e*P	**Pn**	**02 08 49.9**	**-0.7**
WSL	**Shuilin Townsh**	**2.10**	**255**	*e*P	**Pn**	**02 08 54.1**	**+2.2**
WSL				*e*S	**Sb**	**02 09 20.7**	**-1.5**
ICHU	**Yijhu**	**2.11**	**251**	*e*P	**Pn**	**02 08 54.1**	**+2.1**
ICHU				*e*S	**Sn**	**02 09 19.9**	**+2.9**
SSD	**Sandimen**	**2.12**	**232**	*e*P	**Pn**	**02 08 54.7**	**+2.5**
SSD				*e*S	**Sb**	**02 09 21.5**	**-1.4**
JTJ	**Tarama**	**2.13**	**74**	*e*P	**Pn**	**02 08 54.0**	**+1.7**
TSMG	**Majia**	**2.14**	**231**	*e*P	**Pn**	**02 08 55.1**	**+2.7**
TSMG				*e*S	**Sn**	**02 09 20.6**	**+2.8**
SCST	**Cishan**	**2.15**	**237**	*e*P	**Pb**	**02 08 55.6**	**-1.7**
SCST				S	**Sb**	**02 09 23.3**	**-0.2**
LAY	**Lan-yu**	**2.19**	**202**	*e*P	**Pn**	**02 08 52.6**	**-0.5**
LYUB	**Lan-yu**	**2.21**	**201**	*e*P	**Pn**	**02 08 52.3**	**-1.0**
MASBT	**Mashibuluo**	**2.21**	**229**	*e*P	**Pn**	**02 08 53.9**	**+0.5**
MASBT				*e*S	**Sn**	**02 09 22.4**	**+2.9**
EAST	**Anshuo**	**2.23**	**221**	*e*P	**Pn**	**02 08 56.0**	**+2.3**
TAWH	**Dawu Township**	**2.24**	**220**	*e*P	**Pn**	**02 08 53.8**	**0.0**
TSCK	**Chigu Township**	**2.35**	**247**	*i* P	**Pn**	**02 08 57.9**	**+2.6**
TSCK				*e*S	**Sn**	**02 09 25.8**	**+2.8**
SCZT	**Fangliau**	**2.38**	**225**	P	**Pn**	**02 08 58.3**	**+2.6**
SCZT				*e*S	**Sn**	**02 09 27.6**	**+3.8**
TWKBT	**Hengchun**	**2.60**	**216**	*e*P	**Pn**	**02 08 59.5**	**+0.7**
TWKBT				*i* S	**Sn**	**02 09 30.4**	**+1.2**
PHUB	**P'eng-hu**	**2.69**	**259**	*e*P	**Pn**	**02 09 01.6**	**+1.7**
PHUB				S	**Sn**	**02 09 32.6**	**+1.2**
PNG	**Penghu**	**2.69**	**260**	P	**Pn**	**02 09 01.2**	**+1.2**
PNG				S	**Sn**	**02 09 33.1**	**+1.7**
VWUC	**VWUC**	**2.88**	**289**	*i* P	**Pn**	**02 09 02.8**	**+0.3**
VWUC				*i* S	**Sn**	**02 09 35.9**	**-0.1**
VCHM	**Qimei**	**2.90**	**253**	*i* P	**Pn**	**02 09 04.3**	**+1.5**
VCHM				*e*S	**Sn**	**02 09 38.6**	**+2.2**
PTMZ	**Houxiangcun**	**3.18**	**288**	*e*P	**Pn**	**02 09 06.7**	**0.0**
KNMB	**Chin-men Tao**	**3.72**	**277**	*e*P	**Pn**	**02 09 14.3**	**+0.1**

*THE **30** 02:23:25.6, 40˚N±2˚×2˚6E±˚, h13km±2km, M2.3/9, MLh2.3/9*
*ISK **30** 02:23:25.0, 39˚.63N×26˚.03E, h8km, ML2.5/28*
*AFAD **30** 02:23:25.7, 39˚.64N×26˚.13E, h7km±3km, ML2.5*
ISC 30 02:23:25.5±0.8, 39°63N±0°.02×26°04E±0°.02, h16km±5km, n59, σ0§95/88, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.14**	**150**	P	**Pg**	**02 23 29.3**	**-0.1**
KOCA				S	**Sg**	**02 23 31.0**	**-0.9**
KOCA				*i* IAML		02 23 32.0	
	comp=N,3μm,0.3s						
KOCA				*i* IAML		02 23 32.0	
	comp=E,2μm,0.4s						
GPNR	**Gulpinar-Canak**	**0.18**	**158**	Pg	**Pg**	**02 23 29.6**	**-0.3**
GPNR				Sg	**Sg**	**02 23 32.7**	**-0.2**
BOZC	**Bozcaada**	**0.21**	**2**	Pg	**Pg**	**02 23 30.2**	**-0.2**
BOZC				Sg	**Sg**	**02 23 33.7**	**0.0**
BOZC	**Bozcaada**	**0.21**	**2**	P	**Pg**	**02 23 30.3**	**-0.

RDO	Rodhopi	1.56	346	Pn	Pn	02 23 53.4	+0.7
UKOP	Uzunkopru-Edir	1.56	16	Pn	Pn	02 23 54.2	+1.5
EDC	Edincik	1.57	62	Pn	Pb	02 23 54.2	0.0
SUSR	Susurluk-Balik	1.61	77	Pn	Pn	02 23 54.4	+1.1
OUR	Ouranopolis	1.73	295	Pn	Pn	02 23 54.8	-0.2
OUR	Ouranopolis	1.73	295	P	Pn	02 23 55.3	+0.3
BAND	Balkesir-Ban	1.74	65	P	Pn	02 23 56.0	+0.9
BAND				S	Sn	02 24 16.8	-0.2
BAND				*i* IAML		02 24 20.0	
	comp=N,48nm,0.7s						
BAND				*i* IAML		02 24 22.0	
	comp=E,80nm,0.2s						
TKR	Tekirdag	1.78	39	Pn	Pn	02 23 56.9	+1.3
GORD	Gordes-Manisa	1.81	113	Pn	Pn	02 23 56.9	+0.9
KYMI	Kymi, Euboea I	1.81	237	P	Pn	02 23 55.3	-0.7
KDZ	Kurdzhali	2.07	345	Pn	Pn	02 24 01.1	+1.4
ODEM	Odemis-Izmir	2.08	130	Pn	Pn	02 24 01.4	+1.6
EDRB	Edirne	2.28	13	Pn	Pn	02 24 04.3	+1.8
SLVT	Silivri	2.30	45	Pn	Pn	02 24 04.5	+1.7
MDNY	Mudanya-Bursa	2.30	70	Pn	Pn	02 24 04.5	+1.7

*IDC **30** 02:26:11.2±3.5,31°.67S×177°.73W,h0km,mb3.9/2, mbtmp3.8/3,ML3.1/1,Error ellipse: s-maj=76.7km s-min=38.6km az=113.0*
*NEIC **30** 02:26:12.3±1.3,31°.75S±0°.1×177°.79W±0°.05,h10km±1km, mb4.5/16,Error ellipse: s-maj=18.0km s-min=7.1km az=175.0*

ISC 30 02:26:15.8±0.6,**31°.62S**±0°.1×**177°.9W**±0°.1,**h35**km,**n23,** σ1**18**/24,**mb4.5**/10,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	7.81	211	Pn	Pn	02 28 06.5	-0.4
	0.2nm,0.3s,baz=32,slow=9.5,SNR=1.8						
URZ				Sn	Sn	02 29 35.4	+1.5
	1.2nm,0.3s,baz=193,slow=23,SNR=6.6						
	4.6nm,0.9s						
RTZ	Ruatahuna	8.16	210	Pn	Pn	02 28 10.1	-1.6
MRZ	Mangatainoka R	10.46	209	Pn	Pn	02 28 42.1	-1.1
NIUE	Niue	14.39	32	Pn	Pn	02 29 35.5	-1.5
ARMA	Armidale	26.14	265	P	P	02 31 46.6	-0.3
ARMA				IAmb	IAmb	02 31 49.2	
	comp=Z,16nm,1.4s						
EIDS	Eidsvold	27.94	275	P	P	02 32 01.5	-1.5
EIDS				IAmb	IAmb	02 32 02.2	
	comp=Z,8.1nm,1.4s						
CTAO	Charters Tower	34.13	281	P	P	02 32 56.0	-1.5
CTAO				IAmb	IAmb	02 33 08.4	
	comp=Z,10nm,1.2s						
ASAR	Alice Springs	43.18	268	P	P	02 34 15.0	+1.6
	comp=Z,0.9nm,0.5s,baz=105,slow=7.6,SNR=9.7						
	comp=Z,0.9nm,0.5s						
WR8	Warramunga Arr	44.14	273	P	P	02 34 21.0	-0.2
WRA	Warramunga Arr	44.28	273	P	P	02 34 23.4	+1.1
WRA	Warramunga Arr	44.28	273	P	P	02 34 23.6	+1.3
	comp=Z,0.6nm,0.3s,baz=114,slow=8.2,SNR=15						
	comp=Z,0.6nm,0.3s						
WB0	Warramunga Arr	44.31	274	P	P	02 34 22.6	+0.1
WB0				IAmb	IAmb	02 34 29.6	
	comp=Z,6.9nm,1.2s						
CASY	Casey	54.13	208	P	P	02 35 36.8	-0.1
CASY				IAmb	IAmb	02 35 45.9	
	comp=Z,6.6nm,1.4s						
QSPA	South Pole Qui	58.49	180	P	P	02 36 06.8	-1.4
MG05	Puerto Natales	74.48	141	P	P	02 37 51.2	+0.8
SNAA	Sanae	76.94	178	P	P	02 38 04.5	+0.3
KSXB	Camp Six Broad	88.38	37	P	P	02 39 03.7	-0.2
SPIA	Saint Paul Isl	88.68	4	P	P	02 39 07.2	+2.4
TPNV	Topopah Spring	89.27	45	P	P	02 39 08.6	+0.2
TPNV				IAmb	IAmb	02 39 18.3	
	comp=Z,3.8nm,1.5s						
PAHR	Pah Rah Range	89.30	41	P	P	02 39 08.0	-0.4
PAHR				IAmb	IAmb	02 39 14.8	
	comp=Z,3.7nm,1.0s						
PGC	Sidney	93.51	33	P	P	02 39 28.6	+1.2
SRU	San Rafael Swe	94.13	46	P	P	02 39 30.4	-0.4
SRU				IAmb	IAmb	02 39 31.2	
	comp=Z,4.4nm,1.5s						
FINES	FINESS Array B	146.33	339	PKPbc	PKPbc	02 45 52.4	+0.4
	comp=Z,1.8nm,1.0s,baz=26,slow=3.5,SNR=1.2						

*IDC **30** 02:43:38.4±2.8,10°.36S×161°.68E,h75km±22km,mb3.6/6, mbtmp3.9/7,MS3.2/5,Error ellipse: s-maj=31.6km s-min=20.2km az=50.0*

ISC 30 02:43:36.3±1.0,**10°.3S**±0°.2×**161°.8E**±0°.1,**h54**km,**n12,** σ1**52**/9,**mb3.9**/6,**MS3.1**/4,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	2.02	294	P	Pn	02 44 08.7	+0.7
	523nm,0.6s,baz=22,slow=21,SNR=12						
HNR				S	Sn	02 44 33.5	+1.4
	826nm,0.6s,baz=165,slow=22,SNR=10						
DZM	Mont Dzumac	12.56	160	P	Pn	02 46 33.7	+1.3
	1.3nm,0.4s,baz=330,slow=20						
PMG	Port Moresby	14.48	272	LR	LR	02 52 02.3	
	comp=Z,108nm,18.8s,baz=162,slow=35						
WRA	Warramunga Arr	28.19	247	P	P	02 49 22.1	-2.0
	0.9nm,0.8s,baz=76,slow=8.6,SNR=6.7						
WRA				LR	LR	02 59 53.7	
	comp=Z,72nm,18.6s,baz=11,slow=35						
	0.9nm,0.8s						
GUMO	Guam	29.05	324	LR	LR	03 00 10.7	
	comp=Z,22nm,21.3s,baz=288,slow=34						
ASAR	Alice Springs	29.78	240	LR	LR	03 01 17.2	
	comp=Z,80nm,19.1s,baz=105,slow=36						
FITZ	Fitzroy Crossi	35.89	253	P	P	02 50 29.4	-2.1
	1.6nm,0.5s,baz=56,slow=8.6,SNR=6.4						
	1.6nm,0.5s						
PETK	Petropavlovsk-	63.21	357	LR	LR	03 17 23.4	
	comp=Z,10.0nm,20.1s,baz=102,slow=32						
SONM	Songino Array	75.78	325	P	P	02 55 17.3	+0.7
	0.8nm,0.3s,baz=130,slow=5.8,SNR=2.4						
	0.8nm,0.3s						
QSPA	South Pole Qui	79.75	180	P	P	02 55 38.9	+0.5
	0.8nm,0.8s,baz=348,slow=5.7,SNR=3.0						
	0.8nm,0.8s						
NVAR	Mina Array Bea	88.48	51	P	P	02 56 22.8	-0.6
	0.1nm,0.4s,baz=247,slow=6.9,SNR=1.5						
	0.1nm,0.4s						
MKAR	Makanchi Array	90.32	317	P	P	02 56 31.0	-0.5
	0.6nm,0.7s,baz=100,slow=6.4,SNR=4.6						
	0.6nm,0.7s						

IDC 30 02:47:10.7±2.1,**0°.07S**×**125°.59E**,**h0**km,**mb3.3**/3, **mbtmp3.3**/3,**MS2.8**/1,**Error ellipse: s-maj=183.7km s-min=29.0km az=64.0**,**Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.53	157	P	P	02 52 02.2	+0.7
	0.7nm,0.6s,baz=336,slow=11,SNR=5.4						
	0.7nm,0.6s						
ASAR	Alice Springs	24.80	162	P	P	02 52 34.1	-0.5
	0.2nm,0.3s,baz=344,slow=11,SNR=5.4						
	0.2nm,0.3s						
ASAJ	Asahikawa	46.54	17	LR	LR	03 14 16.0	
	comp=Z,11nm,20.8s,baz=40,slow=35						
MKAR	Makanchi Array	60.06	327	P	P	02 57 19.6	0.0
	0.2nm,0.5s,baz=120,slow=8.2,SNR=2.0						
	0.2nm,0.5s						

*IDC **30** 02:52:01.4±1.2,0°.45N×125°.62E,h0km,mb3.8/5, mbtmp3.8/5,Error ellipse: s-maj=140.4km s-min=19.2km az=67.0*
*NEIC **30** 02:52:05.9±1.1,0°.90N±0°.09×126°.49E±0°.06,h35km±2km, mb4.4/12,Error ellipse: s-maj=15.1km s-min=10.5km az=165.0*

ISC 30 02:52:06.1±0.7,**0°.9N**±0°.1×**126°.46E**±0°.1,**h39**km,**n24,** σ1**07**/25,**mb4.1**/12,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	0.91	95	Pn	Pn	02 52 21.4	-0.9
TNTI				Sn	Sn	02 52 35.8	+1.6
WB0	Warramunga Arr	21.91	160	P	P	02 56 55.9	-0.3
WRA	Warramunga Arr	22.05	160	P	P	02 56 56.0	-1.7
WRA	Warramunga Arr	22.05	160	P	P	02 56 57.0	-0.7
	2.7nm,0.7s,baz=336,slow=10,SNR=27						
	2.7nm,0.7s						
WB2	Warramunga Arr	22.06	160	P	P	02 56 57.4	-0.4
WB2				IAmb	IAmb	02 56 59.9	
	comp=Z,7.6nm,1.1s						
WR8	Warramunga Arr	22.12	160	P	P	02 56 58.2	-0.3
WR8				IAmb	IAmb	02 57 01.6	
	comp=Z,12nm,1.4s						
ASAR	Alice Springs	25.42	164	P	P	02 57 30.9	+0.7
ASAR	Alice Springs	25.42	164	P	P	02 57 29.9	-0.4
	comp=Z,2.3nm,0.7s,baz=340,slow=9.7,SNR=20						
	comp=Z,2.3nm,0.7s						
NWAO	Narrogin (SRO)	34.70	194	P	P	02 58 52.6	+0.2
NWAO				IAmb	IAmb	02 58 53.6	
	comp=Z,8.6nm,1.2s						
YSS	Yuzhno-Sakhali	48.08	15	P	P	03 00 41.5	-0.2
SONM	Songino Array	49.94	342	P	P	03 00 58.1	+1.8
	comp=Z,0.9nm,0.7s,baz=148,slow=6.6,SNR=2.1						
	comp=Z,0.9nm,0.7s						
MKAR	Makanchi Array	59.78	326	P	P	03 02 07.6	+0.3
MKAR	Makanchi Array	59.78	326	P	P	03 02 07.4	0.0
	comp=Z,0.5nm,0.5s,baz=113,slow=8.6,SNR=5.1						
	comp=Z,0.5nm,0.5s						
MAKZ	Makanchi	59.96	326	P	P	03 02 07.9	-0.7
MAKZ				IAmb	IAmb	03 02 14.5	
	comp=Z,3.6nm,1.2s						
AMCZ	Amberley	60.24	143	P	P	03 02 09.3	-1.2
KURBB	Kurchatov Arra	64.02	328	P	P	03 02 35.2	-0.5
	comp=Z,1.1nm,0.2s,baz=128,slow=6.4,SNR=2.6						
KKAR	Karatay Array	65.17	318	P	P	03 02 42.7	-0.7
BVAR	Borovoye Array	69.59	328	P	P	03 03 12.4	+1.2
	comp=Z,0.8nm,0.8s,baz=126,slow=7.5,SNR=4.2						
	comp=Z,0.8nm,0.8s						
BRVK	Borovoye	69.66	328	P	P	03 03 11.1	-0.5
AB31	Akbulak array	74.21	321	P	P	03 03 37.7	-1.3
C24K	Franklin Bluff	87.41	20	P	P	03 04 47.5	-1.5
C24K				IAmb	IAmb	03 04 49.7	
	comp=Z,2.2nm,0.8s						
KLU	Klutina	88.12	29	P	P	03 04 52.7	0.0
MCARA	McCarthy VSAT	89.51	29	P	P	03 04 59.1	0.0
QSPA	South Pole Qui	90.77	180	P	P	03 05 07.4	+2.3
QSPA				IAmb	IAmb	03 05 09.6	
	comp=Z,3.8nm,1.4s						

RSNC 30 02:52:59.3±0.0,**11°N**±2°×**7°4W**±°,**h22**km±3km,**M3.2, mB4.7, mb4.2,ML2.8,Mw(mB)3.9,Near north coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMRC	Santa Marta, M	0.44	344	P	Pb	02 53 07.5	-0.9
SMRC				S	Sb	02 53 14.7	+0.2
ARGC	Ariguani, Magd	0.89	189	P	Pb	02 53 14.9	-1.2
ARGC				S	Sb	02 53 27.7	+0.2
CRJC	Cerrejon, Guaj	1.23	77	P	Pn	02 53 19.8	-1.5
CRJC				S	Sn	02 53 35.8	-1.4
SJCC	San Jacinto, C	1.35	232	P	Pn	02 53 21.0	-1.9
SJCC				S	Sn	02 53 39.2	-1.1
URIC	Uribia, Colomb	2.28	65	P	Pn	02 53 34.7	-0.9
URIC				S	Sb	02 54 07.0	-0.5
OCAC	Ocana	2.60	163	P	Pn	02 53 39.6	-0.6
OCAC				S	Sn	02 54 12.7	+1.4
LCBC	Los crdobas,	2.92	230	P	Pn	02 53 45.3	+0.9
LCBC				S	Sn	02 54 17.0	-1.8
UREC	San Jos de Ur	3.29	206	P	Pn	02 53 48.2	-1.4
UREC				S	Sn	02 54 24.5	-3.5
ZARC	Zaragoza, Cauc	3.31	193	P	Pn	02 53 49.7	-0.2
ZARC				S	Sb	02 54 33.8	-3.5
PAMC	Pamplona, Colo	3.65	158	P	Pn	02 53 54.6	-0.4
PAMC				S	Sn	02 54 41.3	+3.7
BRJC	Barrancabermej	3.76	175	P	Pn	02 53 55.5	-0.5
BRJC				S	Sn	02 54 41.9	+2.3
CAPC	Capurgana	3.83	237	P	Pn	02 53 52.3	-4.6
SDV	Santo Domingo	3.88	118	P	Pn	02 53 59.2	+1.3
SDV				S	Sn	02 54 40.0	-2.9
PTBC	PUERTO BERRIO,	4.19	185	P	Pn	02 54 01.8	-0.1
PTBC				S	Sb	02 54 57.2	-5.3
BARC	Barichara	4.22	168	P	Pn	02 54 02.8	+0.2
BARC				S	Sn	02 54 55.4	+4.1
DBBC	Dabeiba	4.25	210	P	Pn	02 54 03.5	+0.7
DBBC				S	Sn	02 54 45.1	-6.7
HELC	Santa Helena	4.74	197	P	Pn	02 54 09.6	-0.2
HELC				S	Sn	02 54 59.6	-4.6
TAMC	Tame, Arauca	4.85	152	P	Pn	02 54 10.0	-1.0
TAMC				S	Sn	02 55 07.2	+0.6
RUSC	La Rusia	4.92	168	P	Pn	02 54 12.5	+0.1
NORC	Norcasia	5.20	188	P	Pn	02 54 15.9	0.0
CBOC	Ciudad Bolivar	5.20	201	P	Pn	02 54 15.3	-0.7
GUY2C	Guyana, Caldas	5.62	193	P	Pn	02 54 21.7	-0.4
BCIP	Isla Barro Col	5.86	255	P	Pn	02 54 21.1	-3.9
ROSC	El Rosal	5.87	182	P	Pn	02 54 28.0	+2.7
PLMC	San Jos del P	6.19	201	P	Pn	02 54 28.5	-1.0
VILC	Villavicencio,	6.60	176	P	Pn	02 54 38.1	+2.9
ORTC	Ortega, Tolima	6.88	190	P	Pn	02 54 42.7	+3.7
PRAC	Prado	7.02	186	P	Pn	02 54 41.8	+0.8

*JMA **30** 02:56:29.2±0.2,24°.4N±1°.1×122°.5E±0°.4,h24km±3km, MV2.2/11,NW OFF ISHIGAKIJIMA IS*
*TAP **30** 02:56:29.4,24°.07N×122°.46E,h34km,ML2.8,C*

ISC 30 02:56:30.5±1.0,**24°.08N**±0°.02×**122°.45E**±0°.02,**h34**km±8km, **n83,**σ1**12**/160,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS4	EOS4	0.13	290	P	Pn	02 56 35.7	+2.6
EOS4				*e*S	Sb	02 56 40.3	+0.4
EOS3	EOS3	0.24	330	P	Pn	02 56 37.1	+0.1
EOS3				*i* S	Sn	02 56 42.8	+3.0
EOS2	EOS2	0.39	330	*i* P	Pb	02 56 39.4	0.0
EOS2				*e*S	Sb	02 56 46.7	+1.1
YOJ	Yonaguni jima	0.64	53	*e*P	Pn	02 56 42.3	-0.8
YOJ				S	Sn	02 56 51.4	-0.7
YOJ	Yonaguni jima	0.64	53	*i* P	Pn	02 56 42.4	-0.7
YOJ				*e*S	Sn	02 56 51.5	-0.7
EHP	Heping Village	0.69	290	P	Pn	02 56 43.5	-0.3
EHP				*i* S	Sn	02 56 53.1	-0.2
EWUT	Wuta	0.71	301	P	Pn	02 56 43.8	-0.4
EWUT				*e*S	Sn	02 56 53.1	-0.8
ENA	Nanau	0.73	298	*e*P	Pn	02 56 44.3	-0.2
ENA				*e*S	Sn	02 56 54.9	+0.4
ESAO	Su ao	0.74	312	P	Pn	02 56 43.6	-1.0
ESAO				S	Sn	02 56 54.3	-0.4
ETL	Fush Village	0.76	276	P	Pn	02 56 44.6	-0.2
ETL				*i* S	Sn	02 56 55.0	-0.2
TWC	Suao	0.76	314	*i* P	Pn	02 56 44.2	-0.7
TWC				*e*S	Sn	02 56 54.2	-1.0
TWD	Chiawan	0.78	270	P	Pn	02 56 45.0	-0.1
TWD				*e*S	Sn	02 56 54.7	-0.9
NACB	Ninganchiao	0.79	277	P	Pn	02 56 44.4	-0.8
NACB				S	Sn	02 56 55.4	-0.4
TEYL	Yanliau Villag	0.81	255	P	Pn	02 56 45.4	-0.1
TEYL				*e*S	Sn	02 56 56.8	+0.6
SHUL	Shoufeng	0.86	251	P	Pn	02 56 45.7	-0.6
SHUL				*i* S	Sn	02 56 57.5	-0.1
NDS	Dongshan	0.87	310	P	Pn	02 56 45.4	-1.0
NDS				S	Sn	02 56 57.4	-0.4
ETM	Tongmen	0.88	263	P	Pn	02 56 45.4	-1.2
ETM				*e*S	Sn	02 56 57.1	-1.0
ETLH	Xiulin Townshi	0.89	278	*i* P	Pn	02 56 46.0	-0.7
ETLH				S	Sn	02 56 58.0	-0.5
EGS		0.90	328	*i* P	Pn	02 56 46.1	-0.6
EGS				*e*S	Sn	02 56 57.5	-1.0
TEGC	Jichi Village	0.91	246	*e*P	Pn	02 56 44.9	-2.0
TEGC				*e*S	Sn	02 56 59.8	+1.0
LXIB	Xiulin Townshi	0.95	267	*i* P	Pn	02 56 46.8	-0.8
LXIB				*e*S	Sn	02 56 58.8	-1.2
LATG	Datong	0.96	299	*e*P	Pn	02 56 48.4	+0.7
LATG				*e*S	Sn	02 57 01.4	+1.2
TWE	Neicheng	0.96	312	*e*P	Pn	02 56 48.0	+0.4
TWE				*e*S	Sn	02 56 58.9	-1.2
ESL	Shilin	0.97	254	*i* P	Pn	02 56 47.0	-0.7
ESL				*i* S	Sn	02 57 00.0	-0.2
ENTT	Nioudou	0.98	305	*e*P	Pn	02 56 48.0	+0.1
ENTT				*i* S	Sn	02 57 00.4	-0.2
TWB1	Santiao Chiao	1.02	336	P	Pn	02 56 47.7	-0.7
TWB1				*e*S	Sn	02 57 00.6	-0.9
EGFH	Guangfu	1.02	247	*e*P	Pn	02 56 48.9	+0.5
EGFH				S	Sn	02 57 01.7	+0.1
NNSB	Datong	1.03	290	P	Pn	02 56 48.7	-0.1
NNSB				S	Sn	02 57 02.2	+0.1
WARBT	Fenglin Townsh	1.04	250	P	Pn	02 56 47.5	-1.2
WARBT				S	Sn	02 57 01.3	-0.7
FUSB	Fushanzhiwuyua	1.04	311	*e*P	Pn	02 56 49.8	+1.0
FUSB				*e*S	Sn	02 57 04.0	+1.9
NNS	Nan Shan	1.05	290	P	Pn	02 56 48.9	-0.1
NNS				S	Sn	02 57 01.7	-0.7
TIPB	Shuangxi	1.05	328	*e*P	Pn	02 56 48.9	-0.1
TIPB				*e*S	Sn	02 57 03.1	+0.6
WHF	Hehuan Shan	1.08	274	P	Pn	02 56 49.2	-0.5
WHF				S	Sn	02 57 03.5	-0.3
HGSD	Ruisui	1.10	238	P	Pn	02 56 48.6	-1.0
HGSD				*e*S	Sn	02 57 02.2	-1.5
NWLT	Wulai	1.11	309	P	Pn	02 56 49.6	-0.1
NWLT				*e*S	Sn	02 57 03.1	-0.8
SXI1	Grass Mountain	1.14	333	P	Pn	02 56 49.8	-0.3
SXI1				*e*S	Sn	02 57 05.0	+0.4
YHNB	Yeheng	1.14	301	*e*P	Pn	02 56 50.5	+0.3
YHNB				*e*S	Sn	02 57 05.0	+0.3
EHYH	Wanrong	1.17	240	P	Pn	02 56 49.5	-1.0
EHYH				*i* S	Sn	02 57 05.0	-0.2
OWD	Renai	1.17	264	*i* P	Pn	02 56 50.1	-0.5
OWD				S	Sn	02 57 04.6	-0.9
EHY	Hungye	1.18	241	P	Pn	02 56 49.8	-0.8
EHY				S	Sn	02 57 04.7	-0.8
ECBN	Changbin	1.19	231	*i* P	Pn	02 56 50.1	-0.6
ECBN				*e*S	Sn	02 57 04.3	-1.4
IRIF	Iriomote-Funau	1.20	77	P	Pn	02 56 51.2	+0.3
IRIF				*e*S	Sn	02 57 06.6	+0.6
WUSB	Renai	1.22	266	P	Pn	02 56 51.2	-0.1
WUSB				*e*S	Sn	02 57 07.2	+0.5
VWDT	VWDT	1.24	255	*e*P	Pn	02 56 51.6	+0.1
VWDT				*i* S	Sn	02 57 06.9	-0.1
HATJ	Hateruma jima	1.24	91	*e*S	Sn	02 57 06.6	-0.7
YULB	Yu-li	1.26	237	*e*P	Pn	02 56 50.9	-0.8
YULB				*e*S	Sn	02 57 06.2	-1.2
TWF1	Yuli	1.28	236	P	Pn	02 56 51.1	-0.9
TWF1				S	Sn	02 57 07.4	-0.6
CHKH	Chenggong	1.31	228	*e*P	Pn	02 56 50.2	-2.2
CHKH				*e*S	Sn	02 57 05.4	-3.3
FULB	Fuli	1.37	231	P	Pn	02 56 52.0	-1.4
FULB				*e*S	Sn	02 57 08.8	-1.5
WHP	Taichung City	1.39	279	*e*P	Pn	02 56 55.6	+2.1
WHP				S	Sn	02 57 10.9	+0.1
SSLB	Suanglung	1.40	258	*e*P	Pn	02 56 54.2	+0.5
SSLB				*e*S	Sn	02 57 11.9	+0.9
WCS	Beigang Elemen	1.41	269	P	Pn	02 56 53.8	0.0
WCS				*e*S	Sn	02 57 12.1	+1.0
SMLT	Sun Moon Lake	1.43	263	P	Pn	02 56 54.7	+0.5
SMLT				*e*S	Sn	02 57 12.7	+0.9
JKRS	Kuro-shima	1.43	83	P	Pn	02 56 55.3	+1.1
JKRS				S	Sn	02 57 13.8	+2.0
TYC	Yuchr	1.47	264	*e*P	Pn	02 56 55.0	+0.5
TYC				*e*S	Sn	02 57 13.3	+0.7
EHD	Haiduan	1.47	231	P	Pn	02 56 54.0	-0.6
EHD				S	Sn	02 57 12.2	-0.4
YUS	Yu-Shan	1.49	247	P	Pn	02 56 55.3	0.0
YUS				S	Sn	02 57 13.4	-0.5
WHYT	Xinyi Township	1.51	256	*e*P	Pn	02 56 55.8	+0.6
WHYT				*e*S	Sn	02 57 14.6	+0.9
EDH	Donghe	1.52	224	*e*P	Pn	02 56 55.8	+0.5
EDH				*e*S	Sn	02 57 11.3	-2.6
JIJ	Ishigaki jima	1.57	79	*e*P	Pn	02 56 56.1	+0.1
JIJ				*e*S	Sn	02 57 15.3	+0.1
PCYT	Pengchaiyu	1.58	348	P	Pn	02 56 55.6	-0.5
PCYT				*e*S	Sn	02 57 14.4	-1.1
ELDTW	Lidau	1.58	236	*i* P	Pn	02 56 55.8	-0.5
ELDTW				*e*S	Sn	02 57 13.9	-1.8
ALS	Alishan	1.61	250	*e*P	Pn	02 56 57.4	+0.6
ALS				*e*S	Sn	02 57 17.2	+0.6
LDUT	Ludao	1.66	213	*e*P	Pn	02 56 55.6	-1.6
LDUT				*e*S	Sn	02 57 14.9	-2.5
JISG	Ishigakijimahi	1.77	73	P	Pn	02 56 59.1	+0.4
JISG				*e*S	Sn	02 57 19.9	-0.3
STYH	Taoyuan	1.78	240	P	Pn	02 56 59.3	+0.4
STYH				S	Sn	02 57 20.5	+0.2
TPUB	Ta-pu	1.84	245	*e*P	Pn	02 57 01.3	+1.6
TPUB				*e*S	Sn	02 57 24.5	+2.7
WTP	Ta-pu	1.88	244	*e*P	Pn	02 57 01.5	+1.2
WTP				*e*S	Sn	02 57 24.4	+1.6
TWK	Hsinying	1.97	246	*e*P	Pn	02 57 03.1	+1.5
TWK				*e*S	Sn	02 57 27.6	+2.4
CHN1	Nanshi	1.97	244	*e*P	Pn	02 57 03.0	+1.4
CHN1				*e*S	Sn	02 57 27.2	+2.1
SNST	Tainan City	1.98	245	*e*P	Pn	02 57 03.1	+1.4
SNST				*e*S	Sn	02 57 27.2	+1.8
ECL	Taimali	2.02	223	*e*P	Pn	02 57 03.3	+1.8
ECL				S	Sn	02 57 25.4	-0.8
JTJ	Tarama	2.13	74	*e*S	Sn	02 57 29.6	+0.6
LAY	Lan-yu	2.19	202	*e*P	Pn	02 57 03.5	-1.1
LAY				S	Sn	02 57 29.7	-0.8
LYUB	Lan-yu	2.21	201	*e*P	Pn	02 57 03.7	-1.2
MASBT	Mashibuluo	2.22	229	*e*P	Pn	02 57 07.3	+2.4
EAST	Anshuo	2.24	221	*e*P	Pn	02 57 08.1	+2.8
EAST				*e*S	Sn	02 57 32.9	+1.1
TAWH	Dawu Township	2.25	220	*e*P	Pn	02 57 06.7	+1.4
TAWH				*e*S	Sn	02 57 33.2	+1.3
SCZT	Fangliau	2.39	225	*e*P	Pn	02 57 10.2	+2.9
SCZT				*e*S	Sn	02 57 36.7	+1.3
TWKBT	Hengchun	2.61	216	*e*P	Pn	02 57 11.6	+1.4
TWKBT				*e*S	Sn	02

BFZ	**Birch Farm**	**4.17 195**	P	**Pn**	**03 11 18.4**	**+0.9**
BFZ	**Birch Farm**	**4.17 195**	P	**Pn**	**03 11 18.0**	**+0.5**
SNZO	**South Karori**	**5.18 205**	P	**Pn**	**03 11 30.4**	**+0.2**
QRZ	**Quartz Range**	**5.77 222**	P	**Pn**	**03 11 37.9**	**+0.2**
QRZ	**Quartz Range**	**5.77 222**	P	**Pn**	**03 11 38.6**	**+0.9**
KHZ	**Kahutara**	**6.57 208**	P	**Pn**	**03 11 47.4**	**-0.5**
KHZ	**Kahutara**	**6.57 208**	P	**Pn**	**03 11 47.3**	**-0.6**
ODZ	**Otahua Downs**	**9.91 210**	P	**Pn**	**03 12 31.5**	**+0.4**

*NEIC **30** 03:10:46.4±1.4, 35°.928N±0°.008×117°.68W±0°.01, h7km±1km, Error ellipse: s-maj=1.3km s-min=1.1km az=83.0*

PAS 30 03:10:46.9±1.3, 35°.927N±0°.007×117°.69W±0°.01, h4km±1km, ML3.1/94, ML2.9/172(NEIC), Error ellipse: s-maj=1.2km s-min=1.0km az=65.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.10**	**283**		Pg	03 10 49.2	+0.2
WVPM					Sg	03 10 50.9	+0.3
WCSM	**Coso Springs S**	**0.12**	**329**		Pg	03 10 49.3	0.0
WCSM					Sg	03 10 51.3	+0.3
TOW	**Tower One**	**0.13**	**206**		Pg	03 10 50.0	+0.5
TOW					Sg	03 10 52.6	+1.3
CLC	**China Lake**	**0.14**	**145**		Pg	03 10 49.6	0.0
CLC				Sg	Sg	03 10 51.4	0.0
CLC	comp=E,4μm,0.2s			IAML		03 10 51.9	
CLC	comp=N,6μm,0.4s			IAML		03 10 52.4	
WRVM	**Rose V. Centra**	**0.18**	**297**		Pg	03 10 50.5	+0.1
WRVM					Sg	03 10 53.2	+0.4
WNMM	**Nine Mile Cany**	**0.19**	**244**		Pg	03 10 50.8	+0.2
WNMM					Sg	03 10 53.7	+0.6
MPMC	**Manual Prospec**	**0.21**	**52**	Pg	Pg	03 10 51.1	0.0
MPMC				Sg	Sg	03 10 54.0	+0.1
MPMC	comp=N,4μm,0.7s			IAML		03 10 56.1	
MPMC	comp=E,2μm,0.9s			IAML		03 10 57.8	
MFS	**McCloud Flat S**	**0.23**	**325**		Pg	03 10 51.5	+0.1
MFS					Sg	03 10 54.9	+0.4
SRTC	**Snort**	**0.24**	**191**		Pg	03 10 52.0	+0.4
SRTC					Sg	03 10 55.9	+1.2
GPO	**China Lake**	**0.28**	**175**		Pg	03 10 52.3	0.0
GPO					Sg	03 10 56.7	+0.8
WSHM	**Spangler Hills**	**0.36**	**153**		Pg	03 10 53.8	-0.1
WSHM					Sg	03 10 59.1	+0.4
WSHM	**Spangler Hills**	**0.36**	**153**	IAML		03 10 59.4	
WSHM	comp=E,4μm,0.3s			IAML		03 10 59.6	
LRMC	**Laurel Mtn Rad**	**0.45**	**179**		Pg	03 10 55.4	-0.1
LRMC					Sg	03 11 01.8	+0.4
LRMC	**Laurel Mtn Rad**	**0.45**	**179**	IAML		03 11 02.1	
LRMC	comp=E,2μm,0.6s			IAML		03 11 02.5	
CCCA	**Chr Cany lake**	**0.48**	**146**		Pg	03 10 56.5	+0.3
CCCA					Sg	03 11 03.7	+1.3
CCCA	**Chr Cany lake**	**0.48**	**146**	IAML		03 11 04.0	
CCCA	comp=N,7μm,0.5s			IAML		03 11 06.0	
WORM	**Onyx Ranch**	**0.50**	**243**		Pg	03 10 56.3	-0.3
WORM					Sg	03 11 03.0	-0.1
WBSM	**Bird Springs**	**0.53**	**223**		Pg	03 10 57.0	-0.2
WBSM					Sg	03 11 04.4	+0.3
WHFM	**Hanning Flat**	**0.58**	**247**		Pg	03 10 57.8	-0.2
WHFM					Sg	03 11 05.6	0.0
CWC	**Cottonwood Cre**	**0.60**	**329**		Pg	03 10 58.5	0.0
CWC					Sg	03 11 06.2	-0.1
CWC	**Cottonwood Cre**	**0.60**	**329**	IAML		03 11 10.0	
CWC	comp=E,472nm,0.2s			IAML		03 11 11.7	
CGO	**Cerro Gordo**	**0.63**	**352**		Pg	03 10 58.6	-0.4
CGO					Sg	03 11 08.2	+1.0
DTP	**Desert Tortois**	**0.67**	**191**		Pg	03 10 59.3	-0.4
DTP					Sg	03 11 08.6	+0.1
QSM	**Queen of Sheba**	**0.67**	**87**		Pg	03 10 59.4	-0.3
QSM					Sg	03 11 08.8	+0.4
QSM	**Queen of Sheba**	**0.67**	**87**	IAML		03 11 12.3	
QSM	comp=E,386nm,0.6s			IAML		03 11 12.7	
ISA	**Isabella, Lake**	**0.69**	**248**		Pg	03 10 59.8	-0.2
ISA				IAML		03 11 09.2	
ISA	comp=N,858nm,0.4s			IAML		03 11 10.1	
ISA	**Isabella, Lake**	**0.69**	**248**		Sg	03 11 08.9	-0.1
WASM	**Alta Sierra Ca**	**0.73**	**255**		Pg	03 11 00.5	-0.3
WASM					Sg	03 11 10.3	0.0
CCAC	**Calif City Air**	**0.82**	**199**		Pg	03 11 02.0	-0.5
FURC	**Furnace Creek,**	**0.86**	**51**		Pg	03 11 03.4	-0.1
FURC				IAML		03 11 27.4	
FURC	comp=E,395nm,0.7s			IAML		03 11 28.3	
GWY	**Greenwater Val**	**0.87**	**72**		Pg	03 11 03.4	-0.2
GWY					Sg	03 11 15.1	+0.2
GWY	**Greenwater Val**	**0.87**	**72**	IAML		03 11 20.6	
GWY	comp=N,247nm,0.7s			IAML		03 11 21.1	
SPG2	**Springville 2**	**0.91**	**288**		Pg	03 11 03.6	-0.8
SPG2					Sg	03 11 15.2	-1.0
GSC	**Goldstone, Bar**	**0.95**	**131**		Pg	03 11 04.5	-0.7
GSC					Sg	03 11 17.5	-0.1
GSC	**Goldstone, Bar**	**0.95**	**131**	IAML		03 11 21.4	
HYS	**Haystack Butte**	**1.07**	**174**		Pg	03 11 06.5	-0.8
HYS					Sg	03 11 21.2	+0.1
TEJ	**El Tejon**	**1.07**	**230**		Pg	03 11 06.2	-1.1
EDW2	**Edwards Air Fo**	**1.07**	**193**		Pg	03 11 06.4	-1.1
EDW2					Sg	03 11 20.5	-0.8
GRAC	**Grapevine Rang**	**1.10**	**14**		Pg	03 11 07.4	-0.6
GRAC					Sg	03 11 22.3	+0.1
GRAC	**Grapevine Rang**	**1.10**	**14**	IAML		03 11 26.8	
GRAC	comp=E,422nm,0.9s			IAML		03 11 28.0	
TPO	**Tropico Hills**	**1.13**	**203**		Pg	03 11 07.5	-1.1
TPO				IAML		03 11 25.7	
TPO	comp=E,342nm,1.0s			IAML		03 11 30.6	
VES	**Vestal, Richgr**	**1.13**	**266**		Pg	03 11 08.0	-0.6
VES					Sg	03 11 22.4	-0.9
SHOC	**Shoshone, Teco**	**1.15**	**91**		Pg	03 11 08.4	-0.5
SGV	**South Grapevin**	**1.18**	**27**		Pg	03 11 09.0	-0.5
SGV					Sg	03 11 25.1	+0.3
RRX	**Edison Barstow**	**1.19**	**151**		Pb	03 11 09.9	-0.1
TIN	**Tinemaha, Big**	**1.21**	**339**		Pg	03 11 09.1	-0.9
TIN				IAML		03 11 31.1	
TIN	comp=N,332nm,0.9s						
WCT	**Wildcat Mounta**	**1.22**	**45**		Pg	03 11 09.6	-0.7
WCT				IAML		03 11 31.5	
WCT	comp=E,140nm,1.3s						
ARVC	**Arvin**	**1.22**	**230**		Pg	03 11 10.4	+0.1
SBB	**Saddle Back Bu**	**1.24**	**185**		Pg	03 11 09.9	-0.7
TJR	**Tejon Ranch**	**1.24**	**224**		Pg	03 11 09.7	-0.9
BAKC	**Calstate**	**1.29**	**244**		Sb	03 11 28.8	+0.2
LEOC	**Leona Valley**	**1.39**	**201**		Pn	03 11 12.9	-0.2
GMN	**Gold Mountain**	**1.41**	**14**		Pn	03 11 12.7	-0.9
GMN				IAML		03 11 35.4	
GMN	comp=N,109nm,0.5s			IAML		03 11 36.1	
VOG	**Valley Oaks Go**	**1.42**	**287**		Pn	03 11 13.1	-0.4
CJV	**Casa Juvan**	**1.44**	**195**		Pg	03 11 14.6	+0.1
DSP	**Deep Springs**	**1.46**	**351**		Pn	03 11 13.4	-0.6
DSP	**Deep Springs**	**1.46**	**351**		Sg	03 11 33.7	0.0
HOLC	**Holcomb Ridge**	**1.47**	**185**		Pn	03 11 13.0	-1.2
JNH	**Juniper Hills**	**1.49**	**188**		Pn	03 11 13.4	-1.2
DSCC	**Desert Studies**	**1.51**	**121**		Pn	03 11 13.1	-1.7
DSCC					Sn	03 11 35.0	0.0
TUQ	**Turquoise Moun**	**1.52**	**108**		Pn	03 11 13.7	-1.3
TPNV	**Topopah Spring**	**1.55**	**48**		Pn	03 11 14.4	-1.0
TPNV				IAML		03 11 40.5	
	comp=E,96nm,0.9s						

OSI	**Osito Audit: C**	**1.56**	**213**		Pn	03 11 14.9	-0.5
OSI				IAML		03 11 39.1	
OSI	comp=E,148nm,0.7s			IAML		03 11 40.0	
MTUM	**Tungsten Hills**	**1.59**	**334**		Pb	03 11 16.5	-0.4
CHFC	**Chilao Flat St**	**1.61**	**190**		Pb	03 11 17.3	0.0
CHFC					Sb	03 11 38.3	+0.3
BFSC	**Mount Baldy Ra**	**1.69**	**179**		Pn	03 11 16.3	-1.0
BFSC				IAML		03 11 41.1	
BFSC	comp=E,115nm,0.6s			IAML		03 11 47.5	
SSK	**Sunset Peak**	**1.71**	**180**		Pb	03 11 19.3	+0.3
SS2	**San Sevaine**	**1.72**	**175**		Pb	03 11 19.3	+0.2
MWC	**Mount Wilson**	**1.73**	**190**		Pn	03 11 17.0	-0.8
MWC				IAML		03 11 44.9	
MWC	comp=N,142nm,0.5s			IAML		03 11 44.9	
SIL	**Silver Peak**	**1.73**	**155**		Pb	03 11 19.5	+0.2
MZP	**Montezuma Peak**	**1.79**	**8**		Pn	03 11 18.3	-0.5
MTPC	**Mountain Pass**	**1.80**	**104**	Pn	Pn	03 11 18.3	-0.5
MTPC				IAML		03 11 45.2	
MTPC	comp=E,138nm,0.4s			IAML		03 11 46.2	
PASC	**Pasadena Art C**	**1.80**	**193**	Pn	Pn	03 11 18.1	-0.6
MLAC	**Mammoth, Mammo**	**1.93**	**332**		Pb	03 11 22.9	+0.1
MCSM	**Casa Diablo Ho**	**1.98**	**331**		Pb	03 11 23.9	+0.2
GMRC	**Granite Mounta**	**2.02**	**124**		Pn	03 11 19.7	-2.1
SHPR	**Sheep Range**	**2.13**	**74**		Pn	03 11 23.2	-0.1
TPH	**Tonopah**	**2.18**	**10**		Pn	03 11 23.5	-0.5
ELS	**Elsinore Mount**	**2.28**	**174**		Pn	03 11 24.3	-1.1
ELS	comp=E,41nm,0.7s			IAML		03 12 02.1	
ELS	comp=N,41nm,1.4s			IAML		03 12 02.3	
DANC	**Danby, Needles**	**2.29**	**124**		Pn	03 11 23.7	-1.8
V12A	**Nelson**	**2.32**	**94**	Pn	Pn	03 11 25.1	-0.8
V12A	comp=E,42nm,0.5s			IAML		03 12 08.5	
V12A	comp=N,43nm,0.7s			IAML		03 12 09.1	
S11A	**Rachel**	**2.32**	**42**	Pn	Pn	03 11 25.4	-0.5
S11A				IAML		03 12 06.1	
S11A	comp=N,90nm,1.0s			IAML		03 12 09.4	
POB	**Polly Butte**	**2.32**	**164**		Pn	03 11 25.6	-0.4
BELC	**Belle Mtn. Jos**	**2.37**	**144**		Pn	03 11 25.4	-1.3
BELC	comp=N,91nm,0.6s			IAML		03 12 04.2	
BELC	comp=E,80nm,0.6s			IAML		03 12 05.0	
LHV	**Little Huntoon**	**2.41**	**345**		Pn	03 11 27.3	+0.2
LHV				IAML		03 12 14.2	
LHV	comp=E,41nm,1.4s			IAML		03 12 17.8	
NJQ	**Nojoqui County**	**2.46**	**236**		Pb	03 11 29.8	-1.9
PMD	**Palm Desert**	**2.52**	**154**		Pn	03 11 27.4	-1.2
PMD	comp=E,35nm,0.7s			IAML		03 12 09.0	
PFO	**Pinyon Flats O**	**2.52**	**156**		Pn	03 11 27.6	-1.1
PFO	comp=E,37nm,0.9s			IAML		03 12 09.5	
NV11	**Mina Array Sit**	**2.53**	**352**	Pn	Pn	03 11 28.2	-0.6
PMPB	**Monarch Peak**	**2.53**	**277**		Pn	03 11 28.2	-0.6
PMPB	comp=E,89nm,1.5s			IAML		03 12 16.2	
PMPB	comp=N,94nm,0.7s			IAML		03 12 16.6	
NVAR	**Mina Array Bea**	**2.54**	**349**		Pn	03 11 28.5	-0.7
PRN	**Pahroc Range**	**2.59**	**54**		Pn	03 11 28.4	-1.3
PRN	comp=N,43nm,0.8s			IAML		03 12 24.4	
PRN	comp=E,56nm,0.8s			IAML		03 12 24.4	
MYLM	**Yosemite Lake**	**2.63**	**304**		Pb	03 11 33.8	-0.8
SBI	**Santa Barbara**	**2.68**	**205**		Pb	03 11 33.7	-1.6
IRM	**Iron Mountain**	**2.74**	**129**	Pn	Pn	03 11 29.9	-1.7
IRM	comp=N,35nm,0.7s			IAML		03 12 17.4	
IRM	comp=E,44nm,1.0s			IAML		03 12 19.7	
RYN	**Ryan**	**2.78**	**346**	Pn	Pn	03 11 31.7	-0.6
BBGB	**Big Mountain B**	**2.78**	**284**	Pn	Pn	03 11 31.9	-0.4
BORC	**Borrego Spring**	**2.85**	**158**	Pn	Pn	03 11 32.6	-0.5
BORC	comp=N,37nm,0.7s			IAML		03 12 21.9	
BORC	comp=E,44nm,0.9s			IAML		03 12 23.0	
BSM	**San Miguel Isl**	**2.88**	**230**		Pn	03 11 35.3	+1.7
BC3	**Big Chuckawall**	**2.92**	**140**		Pn	03 11 32.9	-1.3
BC3	comp=E,43nm,0.6s			IAML		03 12 22.7	
BC3	comp=N,63nm,0.6s			IAML		03 12 24.8	
WAKR	**Walker**	**2.92**	**332**	Pn	Pn	03 11 33.1	-1.2
R11B	**Troy Canyon, C**	**2.95**	**34**	Pn	Pn	03 11 34.2	-0.4
DPP	**Dos Picos Cty**	**2.99**	**168**		Pn	03 11 34.6	-0.5
DPP	comp=E,50nm,1.0s			IAML		03 12 21.2	
CMB	**Columbia Colle**	**3.01**	**315**	IAML		03 12 26.1	
CMB	comp=N,28nm,0.7s			IAML		03 12 26.5	
W13A	**Hualapai Mount**	**3.21**	**104**	IAML		03 12 34.0	
BLYC	**Blythe**	**3.39**	**129**	IAML		03 12 36.6	
BLYC	comp=N,35nm,0.6s			IAML		03 12 36.9	
GLA	**Glamis**	**3.72**	**140**	IAML		03 12 47.0	
AFDM	**Forest Hills D**	**3.99**	**320**	IAML		03 12 55.0	
AFDM	comp=E,21nm,0.8s			IAML		03 12 55.7	
PSUT	**Pine Spring**	**4.02**	**49**	IAML		03 13 05.8	
PSUT	comp=N,11nm,1.4s			IAML		03 13 07.0	
SPR3	**Spring Creek 3**	**4.07**	**40**	IAML		03 12 55.8	
ESJX	**Sierra Juarez**	**4.17**	**159**	IAML		03 13 03.2	
ESJX	comp=N,11nm,0.7s			IAML		03 13 04.0	
Y14A	**Wickenburg**	**4.33**	**116**	IAML		03 13 06.9	
Y14A	comp=N,22nm,1.0s			IAML		03 13 08.6	
U15A	**North Rim**	**4.40**	**82**	IAML		03 13 11.4	
U15A	comp=N,8.6nm,0.7s			IAML		03 13 12.3	
BEKR	**Beckworth**	**4.46**	**333**	IAML		03 13 21.4	
BEKR	comp=N,7.5nm,3.4s			IAML		03 13 35.0	
PKCU	**Pink Cliffs**	**4.58**	**69**	IAML		03 13 18.0	
PKCU	comp=E,14nm,2.8s			IAML		03 13 28.0	
	comp=N,13nm,1.9s						

DJA 30 03:23:07.4±0.4, 9°S±5°×11°5E±°, h46km±10km, M3.8/12, mb4.1/3, MLv3.6/12, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**0.65**	**328**	P	Pn	03 23 21.1	+0.8
JAGI				S	Sn	03 23 31.5	+1.9
SRBI	**Singaraja**	**1.17**	**37**	P	Pn	03 23 27.5	+0.2
SRBI				S	Sn	03 23 42.7	+0.6
ABJI	**Asem Bagus**	**1.25**	**348**	P	Pn	03 23 28.4	0.0
ABJI				S	Sn	03 23 44.5	+0.5
GMJI	**Gumukmas**	**1.28**	**305**	P	Pn	03 23 28.8	-0.1
GMJI				S	Sn	03 23 45.9	+1.0
KMMI	**Kalianget**	**2.03**	**345**	P	Pn	03 23 39.1	0.0
TWSI	**Taliwang, Sumb**	**2.37**	**83**	P	Pn	03 23 43.7	-0.1
GRJI	**Gresik**	**2.90**	**316**	P	Pn	03 23 50.3	-0.7
PLAI	**Plampang**	**3.24**	**87**	P	Pn	03 23 55.9	+0.1

PCJI	**Pacitan**	**3.39**	**284**	P	Pn	03 23 58.0	+0.2
UGM	**Wanagama**	**4.08**	**285**	P	Pn	03 24 07.7	+0.3
BSSI	**Bau Bau, Buton**	**6.59**	**65**	P	Pn	03 24 41.4	-0.4
	53nm,1.2s						

IDC 30 03:31:17.7±1.8, 6°.82S×155°.22E, h0km, mb3.6/4, mbtmp3.6/4, MS4.1/1, Error ellipse: s-maj=92.4km s-min=28.9km az=127.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.10**	**235**	P	P	03 36 34.4	-0.9
	1.6nm,0.9s,baz=63,slow=9.3,SNR=8.5 1.6nm,0.9s						
ASAR	**Alice Springs**	**26.46**	**228**	P	P	03 36 57.0	+0.3
	0.2nm,0.3s,baz=61,slow=9.0,SNR=4.3 0.2nm,0.3s						
STKA	**Stephens Creek**	**27.99**	**205**	P	P	03 37 10.9	+0.6
	1.2nm,0.5s,baz=50,slow=17,SNR=4.7 1.2nm,0.5s						
PSI	**Prapat**	**57.00**	**278**	LR	LR	04 09 44.0	
	comp=Z,174nm,18.7s,baz=4.5,slow=40						
ILAR	**Eielson Array**	**83.13**	**21**	P	P	03 43 45.2	+0.1
	0.1nm,0.5s,baz=237,slow=5.5,SNR=4.7 0.1nm,0.5s						

*BJI **30** 03:45:54.4, 25°.87N×128°.61E, h16km, mB4.6/25, mb4.8/65, Ms4.7/69, Ms7 4.6/65*

*IDC **30** 03:45:56.0±0.5, 25°.95N×128°.36E, h0km, mb4.5/26, mbtmp4.5/31, ML3.9/4, MS3.9/45, Error ellipse: s-maj=17.0km s-min=12.2km az=80.0*

*MOS **30** 03:45:56.2±1.1, 25°.91N×128°.32E, h13km, mb5.1/55, MS4.8/9, Error ellipse: s-maj=7.8km s-min=4.3km az=121.9*

*NEIC **30** 03:45:57.8±1.7, 25°.91N±0°.05×128°.37E±0°.07, h10km±1km, mb4.9/147, Error ellipse: s-maj=10.4km s-min=8.7km az=89.0*

*JMA **30** 03:46:00.1±0.3, 26°N±1°×12°8E±°, h44km±4km, MD4.6/17, MV4.3/17, NEAR OKINAWAJIMA ISLAND*

JMA Felt I J1 at NEAR OKINAWAJIMA ISLAND .

*NIED **30** 03:46:00.1, 26°.00N×128°.41E, h44km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.04; $M_{\theta\theta}$-0.42; $M_{\phi\phi}$-0.62; $M_{r\theta}$0.26; $M_{\theta\phi}$-0.85; $M_{\phi r}$0.16; Fault plane solution: $M_0$1.25000×10^{16} NP1: ϕ_s214.00000°, δ39.00000°, λ79.00000°. NP2:ϕ_s48.00000°, δ52.00000°, λ99.00000°.*

*GCMT **30** 03:46:01.8±0.4, 25°.72N±0°.03×128°.40E±0°.04, h21km±1km, MW4.8/79, Moment Tensor Solution. s22, c24; s79, c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.47±.14; $M_{\theta\theta}$-0.89±.09; $M_{\phi\phi}$-0.58±.09; $M_{r\theta}$1.03±.13; $M_{\theta\phi}$-0.67±.04; $M_{\phi r}$0.71±.13; Best double couple: $M_0$1.91300×10^{16} NP1:ϕ_s229.00000°, δ25.00000°, λ86.00000°. NP2: ϕ_s54.00000°, δ65.00000°, λ92.00000°. Principal axes: T 1.9390, Plg69.0000°, Azm328.0000°; N -0.0520, Plg2.0000°, Azm233.0000°; P -1.8870, Plg20.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 03:45:58.4±0.5, 25°.86N±0°.04×128°.47E±0°.03, h19km±1km, h20km: pP-P, n721, σ1§13/677, mb4.9/179, MS4.2/74, 44C-18D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**0.68**	**295**	P	**Pb**	**03 46 12.1**	**+0.5**
JJT3				*eS*	**Sg**	**03 46 20.7**	**-0.3**
JJT3	**Tamagusuku3**	**0.68**	**295**	A	A	03 46 12.1	
	comp=N,101nm,2.3s,comp=E,138nm,2.6s						
JNTH	**Nagotoyohara**	**0.77**	**328**	P	**Pb**	**03 46 12.3**	**-0.8**
JNTH				*eS*	**Sb**	**03 46 20.9**	**-2.3**
JNTH	**Nagotoyohara**	**0.77**	**328**	A	A	03 46 12.3	
	comp=N,32nm,3.9s,comp=E,21nm,5.7s						
JOW	**Kunigami**	**0.98**	**350**		**Pb**	**03 46 15.4**	**-1.4**
JOW	**Kunigami**	**0.98**	**350**	Pn	**Pb**	**03 46 15.6**	**-1.2**
	comp=E,1μm,0.3s,baz=179,slow=14,SNR=426						
JOW				Sn	**Sb**	**03 46 27.2**	**-2.2**
	comp=E,1μm,0.3s,baz=144,slow=29,SNR=12						
JOW				LR	LR	03 46 41.9	
	comp=E,5μm,18.4s,baz=323,slow=52						
JOW	**Kunigami**	**0.98**	**350**	P	**Pb**	**03 46 15.9**	**-0.9**
JOW	**Kunigami**	**0.98**	**350**	P	**Pb**	**03 46 15.8**	**-1.0**
JOW				*eS*	**Sb**	**03 46 27.7**	**-1.7**
JOW	**Kunigami**	**0.98**	**350**	A	A	03 46 15.8	
	comp=N,26nm,0.6s,comp=E,28nm,0.8s						
JYRO	**Yoronjima**	**1.16**	**359**	P	**Pn**	**03 46 18.2**	**-1.4**
JYRO				*eS*	**Sb**	**03 46 32.8**	**-1.7**
JYRO	**Yoronjima**	**1.16**	**359**	A	A	03 46 18.2	
	comp=N,14nm,7.1s,comp=E,28nm,2.9s						
JIH	**Iheya**	**1.25**	**339**	P	**Pn**	**03 46 20.1**	**-0.8**
JIH				*eS*	**Sb**	**03 46 35.4**	**-1.7**
JIH	**Iheya**	**1.25**	**339**	A	A	03 46 20.1	
	comp=N,29nm,4.8s,comp=E,23nm,3.6s						
JAGN	**Aguni-jima**	**1.32**	**304**	P	**Pn**	**03 46 21.2**	**-0.6**
JAGN				*eS*	**Sn**	**03 46 38.7**	**-0.1**
JAGN	**Aguni-jima**	**1.32**	**304**	A	A	03 46 21.2	
	comp=N,41nm,3.0s,comp=E,42nm,2.0s						
JOKE	**Okinoerabujima**	**1.50**	**3**	P	**Pn**	**03 46 23.1**	**-1.1**
JOKE				*eS*	**Sn**	**03 46 40.3**	**-2.9**
JOKE	**Okinoerabujima**	**1.50**	**3**	A	A	03 46 23.1	
	comp=N,22nm,6.2s,comp=E,14nm,3.7s						
JKE	**Kume jima 2**	**1.58**	**287**	*eP*	**Pn**	**03 46 24.5**	**-0.9**
JKE				*eS*	**Sn**	**03 46 42.4**	**-2.9**
JKE	**Kume jima 2**	**1.58**	**287**	A	A	03 46 24.5	
	comp=N,14nm,3.5s,comp=E,15nm,3.4s						
JTK	**Tokunoshima**	**1.96**	**13**	P	**Pn**	**03 46 29.6**	**-1.0**
JAMN	**Amaminishikomi**	**2.45**	**15**	P	**Pn**	**03 46 36.3**	**-1.1**
JMZ	**Minamidaito 2**	**2.48**	**90**		**Pn**	**03 46 36.5**	**-1.3**
JMZ	**Minamidaito 2**	**2.48**	**90**	P	**Pn**	**03 46 36.5**	**-1.3**
JMZ	**Minamidaito 2**	**2.48**	**90**	P	**Pn**	**03 46 36.4**	**-1.4**
JMZ				*eS*	**Sn**	**03 47 04.2**	**-3.3**
JKDJ	**Kitadaitoujima**	**2.55**	**87**	P	**Pn**	**03 46 37.5**	**-1.2**
JKDJ				*eS*	**Sn**	**03 47 05.3**	**-3.9**
JAM	**Amami Oshima**	**2.73**	**21**	*eP*	**Pn**	**03 46 39.9**	**-1.3**
JAM				*eS*	**Sn**	**03 47 12.1**	**-1.6**
JZK	**Kikaishima**	**2.79**	**28**	P	**Pn**	**03 46 42.1**	**+0.2**
JZK				*eS*	**Sn**	**03 47 13.8**	**-1.2**
JMJ	**Miyako jima 2**	**3.06**	**251**	P	**Pn**	**03 46 45.7**	**0.0**
YOJ	**Yonaguni jima**	**5.14**	**255**	Pn	**Pn**	**03 47 12.4**	**-1.9**
YOJ	**Yonaguni jima**	**5.14**	**255**	P	**Pn**	**03 47 12.8**	**-1.5**
YOJ	**Yonaguni jima**	**5.14**	**255**	P	**Pn**	**03 47 12.5**	**-1.9**
TATO	**Taipei**	**6.38**	**264**	Pn	**Pn**	**03 47 31.3**	**0.0**
NACB	**Ninganchiao**	**6.46**	**256**	P	**Pn**	**03 47 30.3**	**-2.2**
YHNB	**Yeheng**	**6.53**	**261**	Pn	**Pn**	**03 47 33.0**	**-0.5**
YHNB	**Yeheng**	**6.53**	**261**	P	**Pn**	**03 47 33.8**	**+0.3**
YULB	**Yu-li**	**6.97**	**251**	Pn	**Pn**	**03 47 35.6**	**-4.0**
YULB	**Yu-li**	**6.97**	**251**	P	**Pn**	**03 47 35.9**	**-3.7**
SSLB	**Suanglung**	**7.13**	**255**	Pn	**Pn**	**03 47 39.5**	**-2.3**
SSLB	**Suanglung**	**7.13**	**255**	P	**Pn**	**03 47 39.4**	**-2.3**
TWGBT	**Beinan**	**7.39**	**247**	P	**Pn**	**03 47 41.6**	**-3.7**
JNU	**Nakatsue**	**7.53**	**16**	Pn	**Pn**	**03 47 46.7**	**-0.5**
JNU	**Nakatsue**	**7.53**	**16**	Pn	**Pn**	**03 47 47.5**	**+0.3**
	comp=E,2.6nm,0.3s,baz=189,slow=4.3,SNR=27						
JNU				Sn	**Sn**	**03 49 08.0**	**-4.1**
	baz=60,slow=14						
JNU				LR	LR	03 51 07.1	
	comp=E,1μm,19.8s,baz=198,slow=42 comp=E,40nm,0.9s						
JNU	**Nakatsue**	**7.53**	**16**	P	**Pn**	**03 47 47.6**	**+0.3**
TPUB	**Ta-pu**	**7.58**	**252**	Pn	**Pn**	**03 47 45.4**	**-2.5**
TPUB	**Ta-pu**	**7.58**	**252**	P	**Pn**	**03 47 46.8**	**-1.1**
SSE	**Sheshan**	**8.26**	**311**	P	**Pn**	**03 47 56.8**	**-0.4**
SSE				S	**Sn**	**03 49 31.3**

NJ2	**Nanjing**	**10.44**	**308**	*e*P	**Pn**	**03 48 26.5**	**-0.5**
NJ2				pmax	pmax		
	comp=E,13nm,0.6s						
NJ2				LR	LR		
	comp=E,2μm,11.4s						
NJ2				LR	LR		
	comp=E,4μm,10.9s						
NJ2				LR	LR		
	comp=E,4μm,11.3s						
KSRS	**Korea Array**	**11.57**	**358**	Pn	**Pn**	**03 48 42.3**	**-0.2**
	comp=E,0.3nm,0.3s,baz=177,slow=14,SNR=13						
	comp=E,4.5nm,0.7s						
JHJ	**Hachijo jima 2**	**12.22**	**51**	Pn	**Pn**	**03 48 52.3**	**+0.9**
	comp=E,2.9nm,0.3s,baz=252,slow=9.6,SNR=2.1						
	comp=E,41nm,0.6s						
WHN	**Wuhan**	**13.29**	**294**	P	**P**	**03 49 14.5**	**-1.2**
WHN				pmax	pmax		
	comp=Z,94nm,1.2s						
WHN				LR	LR		
	comp=N,3μm,15.4s						
WHN				LR	LR		
	comp=E,6μm,11.8s						
WHN				LR	LR		
	comp=Z,9μm,14.2s						
MJAR	**Matsushiro Arr**	**13.51**	**36**	Pn	**Pn**	**03 49 10.5**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=239,slow=14,SNR=5.1						
CNSH	**ChangSha**	**14.04**	**283**	P	**Pn**	**03 49 19.0**	**+2.6**
CNSH				S	Sn	03 52 01.5	+10
CNSH				pmax	pmax		
	comp=Z,9.0nm,1.3s						
CNSH				LR	LR		
	comp=Z,2μm,15.8s						
CNSH				LR	LR		
	comp=Z,3μm,12.7s						
CNSH				LR	LR		
	comp=Z,4μm,12.1s						
TIA	**Tai'an**	**14.17**	**319**	P	**Pn**	**03 49 18.5**	**+0.5**
TIA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TIA				LR	LR		
	comp=Z,2μm,12.7s						
TIA				LR	LR		
	comp=Z,2μm,12.7s						
TIA				LR	LR		
	comp=Z,3μm,12.0s						
DL2	**Dalian**	**14.23**	**338**	P	**P**	**03 49 25.0**	**-1.0**
DL2				S	S	03 52 07.5	-9.0
DL2				pmax	pmax		
	comp=Z,64nm,1.1s						
DL2				pmax	pmax		
	comp=Z,170nm,10.1s						
DL2				LR	LR		
	comp=N,2μm,13.3s						
DL2				LR	LR		
	comp=E,1μm,14.2s						
DL2				LR	LR		
	comp=Z,2μm,13.9s						
LYN	**LuoYang**	**16.30**	**306**	P	**Pn**	**03 49 44.5**	**-1.8**
LYN				PP	**pwP**	**03 49 58.8**	**+1.8**
LYN				S	**Sn**	**03 52 44.5**	**-2.2**
LYN				pmax	pmax		
	comp=Z,89nm,0.8s						
LYN				pmax	pmax		
	comp=Z,500nm,12.0s						
LYN				LR	LR		
	comp=Z,3μm,12.8s						
LYN				LR	LR		
	comp=Z,3μm,13.3s						
LYN				LR	LR		
	comp=Z,5μm,13.3s						
HNS	**HongShan**	**16.40**	**318**	⇓P	**P**	**03 49 50.5**	**+0.3**
HNS				pmax	pmax		
	comp=Z,46nm,0.9s						
HNS				pmax	pmax		
	comp=Z,370nm,11.8s						
HNS				LR	LR		
	comp=Z,2μm,12.6s						
HNS				LR	LR		
	comp=Z,2μm,13.0s						
HNS				LR	LR		
	comp=Z,3μm,13.2s						
BJT	**Baijiatuau**	**17.46**	**327**	Pn	**Pn**	**03 49 59.7**	**-1.1**
BJT	**Baijiatuau**	**17.46**	**327**	P	**Pn**	**03 49 59.7**	**-1.1**
BJT				pmax	pmax		
	comp=Z,18nm,0.8s						
BJI	**Beijing**	**17.48**	**327**	P	**Pn**	**03 50 00.3**	**-0.7**
BJI				S	**S**	**03 53 20.5**	**-2.4**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,150nm,10.4s						
BJI				LR	LR		
	comp=Z,1μm,13.3s						
BJI				LR	LR		
	comp=Z,240nm,14.2s						
BJI				LR	LR		
	comp=Z,930nm,14.1s						
TIY	**Taiyuan**	**18.01**	**315**	P	**Pn**	**03 50 07.8**	**+0.1**
TIY				pmax	pmax		
	comp=Z,19nm,0.9s						
TIY				pmax	pmax		
	comp=Z,230nm,3.7s						
TIY				LR	LR		
	comp=Z,2μm,13.0s						
TIY				LR	LR		
	comp=Z,990nm,14.6s						
TIY				LR	LR		
	comp=Z,2μm,13.8s						
CN2	**Changchun**	**18.07**	**353**	P	**Pn**	**03 50 08.8**	**+0.5**
CN2				S	**Sn**	**03 53 28.5**	**-0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				LR	LR		
	comp=Z,2μm,12.0s						
CN2				LR	LR		
	comp=Z,1μm,12.0s						
CN2				LR	LR		
	comp=Z,1μm,12.0s						
USA0B	**Ussuriysk Arra**	**18.52**	**8**		**P**	**03 50 13.9**	**+0.4**
USA0B	**Ussuriysk Arra**	**18.52**	**8**	⇑*e*P	**Pn**	**03 50 14.9**	**+1.1**
USRK	**Ussuriysk Ar.**	**18.52**	**8**	P	**Pn**	**03 50 14.4**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=184,slow=9.0,SNR=12						
	comp=Z,7.6nm,0.8s						
XAN	**Xi'an**	**18.78**	**300**	P	**P**	**03 50 16.5**	**-0.1**
XAN				S	**Sn**	**03 53 47.8**	**+1.1**
XAN				pmax	pmax		
	comp=Z,44nm,1.1s						
XAN				pmax	pmax		
	comp=Z,350nm,11.0s						
XAN				LR	LR		
	comp=Z,1μm,13.3s						
XAN				LR	LR		
	comp=Z,2μm,13.6s						
XAN				LR	LR		
	comp=Z,2μm,15.1s						
DAV	**Davao City (W)**	**18.89**	**189**	LR	LR	03 59 47.2	
	comp=Z,124nm,18.0s,baz=350,slow=44						
GUMO	**Guam**	**19.65**	**125**	LR	LR	03 58 39.8	
	comp=Z,149nm,18.4s,baz=300,slow=39						
BNX	**BinXian**	**19.86**	**358**	⇓P	**P**	**03 50 27.5**	**-0.7**
BNX				S	**Sn**	**03 54 13.8**	**+1.4**
BNX				sS	**sS**	**03 54 18.8**	**-0.3**
BNX				pmax	pmax		
	comp=Z,50nm,3.3s						
BNX				LR	LR		
	comp=Z,320nm,11.4s						
BNX				LR	LR		
	comp=Z,450nm,13.7s						
ERM	**Erimo**	**20.15**	**33**	P	**P**	**03 50 31.8**	**+0.4**
ERM				IAmb	IAmb	03 50 45.0	
	comp=Z,173nm,1.9s						
ERM	**Erimo**	**20.15**	**33**	⇓*e*P	**P**	**03 50 31.7**	**+0.3**
ERM				pmax	pmax		
	comp=Z,26nm,0.8s						
HHC	**Hu-ho-hao-te**	**20.51**	**321**	⇓*i*P	**P**	**03 50 35.3**	**-0.2**
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,160nm,6.7s						
HHC				LR	LR		
	comp=Z,1μm,12.4s						
HHC				LR	LR		
	comp=Z,2μm,12.9s						
HHC				LR	LR		
	comp=Z,2μm,12.9s						
XLT	**XiLinHaoTe**	**20.62**	**334**	*e*P	**P**	**03 50 35.3**	**-1.4**
XLT				sS	Sn	03 54 31.5	+0.3
XLT				pmax	pmax		
	comp=Z,27nm,1.0s						
XLT				pmax	pmax		
	comp=Z,140nm,4.6s						
XLT				LR	LR		
	comp=Z,100nm,14.8s						
XLT				LR	LR		
	comp=Z,1μm,13.5s						
XLT				LR	LR		
	comp=Z,2μm,14.7s						
BTO	**Baotou**	**21.25**	**318**	*e*P	**P**	**03 50 44.5**	**+1.0**
BTO				pP	**sP**	**03 50 48.8**	**-0.9**
BTO				sP	**pwP**	**03 50 52.0**	**+0.6**
BTO				PP	**PnPn**	**03 51 09.0**	**+5.8**
BTO				S	**S**	**03 54 36.8**	**-2.2**
BTO				sS	**pS**	**03 54 48.0**	**-0.7**
BTO				pmax	pmax		
	comp=Z,30nm,0.9s						
BTO				pmax	pmax		
	comp=Z,310nm,10.4s						
BTO				LR	LR		
	comp=Z,3μm,12.8s						
BTO				LR	LR		
	comp=Z,2μm,13.9s						
BTO				LR	LR		
	comp=Z,5μm,13.3s						
ASAJ	**Asahikawa**	**21.52**	**29**	P	**P**	**03 50 48.4**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,116nm,2.0s						
JKA	**Kamikawa-asahi**	**21.52**	**29**	P	**P**	**03 50 48.4**	**+2.2**
JKA				IAmb	IAmb	03 50 56.2	
	comp=Z,116nm,2.0s						
CD2	**Chengdu**	**22.30**	**289**	P	**P**	**03 50 53.0**	**-1.8**
CD2				S	**S**	**03 54 58.5**	**-0.8**
CD2				pmax	pmax		
	comp=Z,20nm,0.4s						
CD2				LR	LR		
	comp=Z,2μm,13.3s						
CD2				LR	LR		
	comp=Z,3μm,14.0s						
CD2				LR	LR		
	comp=Z,3μm,15.2s						
SLVN	**Son La**	**22.95**	**264**	P	**P**	**03 51 02.6**	**+0.9**
SLVN				IAmb	IAmb	03 51 16.9	
	comp=Z,46nm,1.3s						
KMI	**Kunming**	**23.23**	**274**	⇑P	**P**	**03 51 06.5**	**+1.7**
KMI				S	**S**	**03 55 19.5**	**+3.4**
KMI				pmax	pmax		
	comp=Z,45nm,0.9s						
KMI				pmax	pmax		
	comp=Z,190nm,6.0s						
KMI				LR	LR		
	comp=Z,820nm,14.5s						
KMI				LR	LR		
	comp=Z,740nm,11.9s						
KMI				LR	LR		
	comp=Z,700nm,14.6s						
LZH	**Lanzhou**	**23.39**	**302**	*e*P	**P**	**03 51 04.5**	**-1.7**
LZH				sP	pP	03 51 10.3	-1.0
LZH				S	**S**	**03 55 19.5**	**+1.0**
LZH				pmax	pmax		
	comp=Z,40nm,1.1s						
LZH				pmax	pmax		
	comp=Z,130nm,4.3s						
LZH				LR	LR		
	comp=Z,1μm,13.6s						
LZH				LR	LR		
	comp=Z,1μm,14.1s						
LZH				LR	LR		
	comp=Z,1μm,14.9s						
YSS	**Yuzhno-Sakhali**	**23.91**	**25**	P	**P**	**03 51 12.0**	**+1.0**
YSS	**Yuzhno-Sakhali**	**23.91**	**25**	*c i*P	**P**	**03 51 11.9**	**+1.0**
YSS				*e*		03 51 19.9	
YSS				eS	**S**	**03 55 30.0**	**+3.8**
YSS				pmax	pmax		
	comp=Z,400nm,2.0s						
YSS				pmax	pmax		
	comp=Z,110nm,1.0s						
YSS				smax	smax		
	comp=N,300nm,8.3s						
YSS				MLR	MLR		
	comp=N,300nm,15.0s						
PZH	**PanZhiHua**	**23.98**	**277**	P	**P**	**03 51 10.8**	**-1.2**
PZH				S	**S**	**03 55 26.8**	**-1.3**
PZH				pmax	pmax		
	comp=N,40nm,1.1s						
PZH				LR	LR		
	comp=N,780nm,13.5s						
PZH				LR	LR		
	comp=N,590nm,13.7s						
PZH				LR	LR		
	comp=N,870nm,15.7s						
HEH	**HeiHe**	**24.37**	**358**	*e*P	**P**	**03 51 16.0**	**+0.9**
HEH				pP	**pP**	**03 51 18.8**	**-1.5**
HEH				S	**S**	**03 55 38.3**	**+4.8**
HEH				pmax	pmax		
	comp=N,4.0nm,0.8s						
HEH				LR	LR		
	comp=N,490nm,15.3s						
HEH				LR	LR		
	comp=N,1μm,12.6s						
HEH				LR	LR		
	comp=N,670nm,16.7s						
GRNR	**Gornyy**	**25.61**	**12**	⇓*i*P	**P**	**03 51 26.2**	**-0.2**
GRNR				pmax	pmax		
	comp=Z,20nm,1.2s						
GRNR				MLR	MLR		
	comp=E,210nm,14.0s						
GRNR				MLR	MLR		
	comp=N,290nm,13.0s						
GRNR				MLR	MLR		
	comp=Z,360nm,14.0s						
TNCH	**TengChong**	**27.03**	**275**	*e*P	**P**	**03 51 40.0**	**+0.2**
TNCH				S	**S**	**03 56 14.5**	**-2.3**
TNCH				LR	LR		
	comp=Z,640nm,11.0s						
TNCH				LR	LR		
	comp=Z,750nm,12.3s						
TNCH				LR	LR		
	comp=Z,1μm,14.2s						
TYV	**Tymovskoe**	**27.23**	**20**	*e*P	**P**	**03 51 46.4**	**+5.4**
TYV				pmax	pmax		
	comp=Z,14nm,0.8s						
TYV				pmax	pmax		
	comp=Z,100nm,4.5s						
GTA	**Gaotai**	**27.52**	**306**	P	**P**	**03 51 43.0**	**-1.0**
GTA				sP	pwP	03 51 51.3	-0.7
GTA				S	**S**	**03 56 26.0**	**+1.9**
GTA				pmax	pmax		
	comp=Z,150nm,1.2s						
GTA				LR	LR		
	comp=Z,880nm,12.0s						
GTA				LR	LR		
	comp=Z,860nm,15.3s						
GTA				LR	LR		
	comp=Z,1μm,14.2s						
ULN	**Ulaanbaatar**	**27.68**	**328**	P	**P**	**03 51 43.2**	**-2.1**
ULN				IAmb	IAmb	03 51 47.9	
	comp=Z,16nm,0.8s						
ULN	**Ulaanbaatar**	**27.68**	**328**	*c e*P	**P**	**03 51 43.6**	**-1.7**
ULN				pmax	pmax		
	comp=Z,35nm,1.7s						
SONM	**Songino Array**	**27.98**	**327**	P	**P**	**03 51 46.5**	**-1.4**
SONM	**Songino Array**	**27.98**	**327**	P	**P**	**03 51 47.5**	**-0.4**
	comp=Z,14nm,0.8s,baz=145,slow=8.8,SNR=30						
SONM				LR	LR	04 04 18.6	
	comp=Z,398nm,18.6s,baz=134,slow=40						
	comp=Z,14nm,0.8s						
SONM	**Songino Array**	**27.98**	**327**	P	**P**	**03 51 46.5**	**-1.4**
SONM				pmax	pmax		
	comp=Z,13nm,0.9s						
CHTO	**Chiang Mai**	**28.16**	**262**	P	**P**	**03 51 49.3**	**-0.3**
CHTO	**Chiang Mai**	**28.16**	**262**	P	**P**	**03 51 49.3**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,11nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.28**	**261**	P	**P**	**03 51 51.6**	**+0.9**
	comp=Z,3.3nm,0.8s,baz=57,slow=6.9,SNR=13						
	comp=Z,3.3nm,0.8s						
GOMU	**GeErMu**	**30.49**	**298**	P	**P**	**03 52 10.5**	**-0.1**
GOMU				pP	pP	03 52 13.0	-2.7
GOMU				S	**S**	**03 57 12.8**	**+1.5**
GOMU				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GOMU				LR	LR		
	comp=Z,270nm,19.1s						
GOMU				LR	LR		
	comp=Z,270nm,16.4s						
GOMU				LR	LR		
	comp=Z,390nm,18.6s						
JAY	**Jayapura**	**30.59**	**155**	LR	LR	04 02 39.5	
	comp=Z,156nm,18.8s,baz=1.0,slow=33						
KAPI	**Kappang**	**31.84**	**197**	LR	LR	04 05 42.2	
	comp=Z,88nm,19.7s,baz=8.0,slow=37						
SHL	**Shillong**	**32.90**	**278**	P	**P**	**03 52 30.6**	**-1.1**
SHL	**Shillong**	**32.90**	**278**	P	**P**	**03 52 30.6**	**-1.1**
SHL				pmax	pmax		
	comp=Z,36nm,1.2s						
PEA0B	**Petropavlovsk-**	**34.90**	**31**	⇓*e*P	**P**	**03 52 51.0**	**+2.4**
PETK	**Petropavlovsk-**	**34.90**	**31**	P	**P**	**03 52 49.0**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=212,slow=5.3,SNR=5.1						
PETK				LR	LR	04 07 56.6	
	comp=Z,97nm,18.8s,baz=228,slow=38						
	comp=Z,3.4nm,0.7s						
PETK	**Petropavlovsk-**	**34.90**	**31**	P	**P**	**03 52 49.0**	**+0.4**
YAK	**Yakutsk**	**36.17**	**1**	LR	LR	04 08 09.6	
	comp=Z,287nm,18.2s,baz=173,slow=37						
MA2	**Magadan**	**37.09**	**19**	LR	LR	04 09 36.3	
	comp=Z,140nm,18.5s,baz=234,slow=38						
WMQ	**Urumqi**	**37.51**	**309**	*e*P	**P**	**03 53 12.8**	**+1.7**
WMQ				LR	LR		
	comp=Z,470nm,12.1s						
WMQ				LR	LR		
	comp=Z,790nm,12.1s						
WMQ				LR	LR		
	comp=Z,290nm,12.7s						
MTN	**Manton Dam**	**38.56**	**176**	P	**P**	**03 53 20.0**	**0.0**
MTN				IAmb	IAmb	03 53 21.2	
	comp=Z,14nm,0.8s						
PMG	**Port Moresby**	**39.49**	**150**	LR	LR	04 07 39.3	
	comp=Z,143nm,19.1s,baz=206,slow=33						
SEY	**Seymchan**	**40.31**	**17**	⇑*i*P	**P**	**03 53 34.9**	**+0.7**
SEY				pmax	pmax		
	comp=Z,14nm,0.8s						
ZSN	**Zaisan**	**40.41**	**314**	*e*P	**P**	**03 53 34.5**	**-0.7**
ZSN	**Zaisan**	**40.41**	**314**	*e*P	**P**	**03 53 34.6**	**-0.7**
KNRA	**Kununurra**	**41.29**	**180**	IAmb	IAmb	03 53 52.9	
	comp=Z,23nm,0.8s						
MK31	**Makanchi Array**	**41.94**	**312**	*d i*P	**P**	**03 53 47.0**	**-0.9**
MKAR	**Makanchi Array**	**41.94**	**312**	P	**P**	**03 53 46.6**	**-1.2**
MKAR	**Makanchi Array**	**41.94**	**312**	P	**P**	**03 53 46.5**	**-1.4**
	comp=Z,4.9nm,0.5s,baz=93,slow=9.3,SNR=44						
MKAR				PcP	**PcP**	**03 55 43.9**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=84,slow=5.0,SNR=4.1						
MKAR				LR	LR	04 12 51.0	
	comp=Z,108nm,18.2s,baz=82,slow=39						
	comp=Z,4.9nm,0.5s						
MAKZ	**Makanchi**	**42.15**	**312**	P	**P**	**03 53 49.2**	**-0.4**
MAKZ				IAmb	IAmb	03 53 50.0	
	comp=Z,33nm,1.4s						
MAKZ	**Makanchi**	**42.15**	**312**	P	**P**	**03 53 49.2**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,33nm,1.4s						
ZAA0	**Zalesovo Array**	**42.67**	**323**	P	**P**	**03 53 52.5**	**-1.2**
ZALV	**Zalesovo Beam**	**42.67**	**323**	P	**P**	**03 53 51.8**	**-1.9**
ZALV	**Zalesovo Beam**	**42.67**	**323**	P	**P**	**03 53 52.1**	**-1.6**
	comp=Z,4.5nm,0.6s,baz=110,slow=8.6,SNR=16						
ZALV				PcP	**PcP**	**03 55 44.8**	**-0.5**
	comp=Z,3.0nm,0.9s,baz=104,slow=4.6,SNR=2.6						
ZALV				LR	LR	04 12 58.3	
	comp=Z,201nm,18.8s,baz=97,slow=38						
	comp=Z,4.5nm,0.6s						
SHLS	**Shalkode**	**43.27**	**306**	*e*P	**P**	**03 53 55.4**	**-3.4**
SHLS				pmax	pmax		
	comp=Z,14nm,1.2s						
SHLS	**Shalkode**	**43.27**	**306**	*e*P	**P**	**03 53 55.4**	**-3.4**
	comp=Z,14nm,1.2s						
UZB	**Uzynbulak**	**43.59**	**306**	*e*P	**P**	**03 54 00.4**	**-1.0**
UZB				pmax	pmax		
	comp=Z,21nm,1.7s						
UZB	**Uzynbulak**	**43.59**	**306**	*e*P	**P**	**03 54 00.5**	**-1.0**
	comp=Z,22nm,1.7s						
FITZ	**Fitzroy Crossi**	**43.78**	**184**	P	**P**	**03 54 03.8**	**+0.9**
FITZ	**Fitzroy Crossi**	**43.78**	**184**	LR	LR	04 17 11.0	
	comp=Z,31nm,18.4s,baz=24,slow=43						
KPKS	**Kokpek**	**43.87**	**307**	*e*P	**P**	**03 54 02.8**	**-0.9**
KPKS	**Kokpek**	**43.87**	**307**	*e*P	**P**	**03 54 02.8**	**-0.9**
SATY	**Saty**	**44.02**	**306**	*e*P	**P**	**03 54 04.1**	**-0.8**
SATY	**Saty**	**44.02**	**306**	*e*P	**P**	**03 54 04.2**	**-0.8**
TDK	**Taldyqorghan**	**44.27**	**309**	*e*P	**P**	**03 54 06.0**	**-0.7**
TDK				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TDK	**Taldygorghan**	**44.27**	**309**	*e*P	**P**	**03 54 06.0**	**-0.7**
	comp=Z,9.8nm,0.5s						
KDJ	**Kajisay**	**44.84**	**305**	P	**P**	**03 54 10.1**	**-1.5**
KDJ				IAmb	IAmb	03 54 13.6	
	comp=Z,13nm,0.9s						
KDJ	**Kajisay**	**44.84**	**305**	P	**P**	**03 54 10.1**	**-1.5**
KDJ				pmax	pmax		
	comp=Z,13nm,0.9s						
AAA	**Alma-Ata**	**45.13**	**306**	*e*P	**P**	**03 54 12.8**	**-0.9**
AAA	**Alma-Ata**	**45.13**	**306**	*e*P	**P**	**03 54 12.8**	**-0.9**
KURK	**Kurchatov**	**45.23**	**317**	P	**P**	**03 54 13.4**	**-0.9**
KURK				IAmb	IAmb	03 54 14.6	
	comp=Z,20nm,1.1s						
KURK	**Kurchatov**	**45.23**	**317**	*c e*P	**P**	**03 54 13.8**	**-0.5**
KURK				pmax	pmax		
	comp=Z,33nm,1.5s						
KURBB	**Kurchatov Arra**	**45.27**	**317**	P	**P**	**03 54 13.6**	**-1.0**
	comp=Z,5.8nm,0.7s,baz=105,slow=7.9,SNR=45						
KURBB				PcP	**PcP**	**03 55 54.0**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=127,slow=3.3,SNR=2.9						
KURBB				LR	LR	04 14 11.0	
	comp=Z,138nm,20.7s,baz=176,slow=38						
	comp=Z,5.8nm,0.7s						
KSH	**Kashi**	**45.63**	**301**	P	**P**	**03 54 21.3**	**+3.5**
KSH				pmax	pmax		
	comp=Z,8.0nm,1.7s						
KSH				LR	LR		
	comp=Z,350nm,13.7s						
KSH				LR	LR		
	comp=Z,280nm,13.7s						
KSH				LR	LR		
	comp=Z,450nm,14.8s						
WB0	**Warramunga Arr**	**45.72**	**172**	P	**P**	**03 54 18.4**	**0.0**
WB0				IAmb	IAmb	03 54 28.6	
	comp=Z,12nm,0.9s						
WRAB	**Tennant Creek**	**45.88**	**172**	P	**P**	**03 54 20.2**	**+0.6**
WRAB				IAmb	IAmb	03 54 29.9	
	comp=Z,10nm,0.9s						
WRAB	**Tennant Creek**	**45.88**	**172**	*d i*P	**P**	**03 54 20.6**	**+0.9**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WRA	**Warramunga Arr**	**45.89**	**172**	P	**P**	**03 54 19.2**	**-0.5**
WRA	**Warramunga Arr**	**45.89**	**172**	P	**P**	**03 54 20.6**	**+0.9**
	comp=Z,7.2nm,0.7s,baz=353,slow=8.3,SNR=54						
WRA				LR	LR	04 14 19.4	
	comp=Z,84nm,19.2s,baz=360,slow=37						
	comp=Z,7.2nm,0.7s						
WRA	**Warramunga Arr**	**45.89**	**172**	P	**P**	**03 54 19.2**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WR8	**Warramunga Arr**	**45.92**	**172**	P	**P**	**03 54 20.3**	**+0.3**
WR8				IAmb	IAmb	03 54 22.1	
	comp=Z,27nm,1.5s						
HNR	**Honiara**	**46.56**	**135**	LR	LR	04 11 50.2	
	comp=Z,65nm,20.0s,baz=32,slow=33						
AAK	**Ala-Archa**	**46.86**	**305**	LR	LR	04 16 40.6	
	comp=Z,172nm,19.4s,baz=114,slow=40						
AAK	**Ala-Archa**	**46.86**	**305**	⇑*e*P	**P**	**03 54 27.2**	**-0.3**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
BTLS	**Baital**	**47.34**	**308**	*e*P	**P**	**03 54 30.3**	**-0.7**
BTLS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BTLS	**Baital**	**47.34**	**308**	*e*P	**P**	**03 54 30.3**	**-0.7**
	comp=Z,4.7nm,0.7s						
BILL	**Bilibino**	**47.95**	**18**	⇑*e*P	**P**	**03 54 35.9**	**+0.5**
BILL				pmax	pmax		
	comp=Z,14nm,1.1s						
NIL	**Nilore**	**48.09**	**293**	P	**P**	**03 54 36.6**	**-0.3**
NIL	**Nilore**	**48.09**	**293**	P	**P**	**03 54 36.7**	**-0.3**
NIL				pmax	pmax		
	comp=Z,15nm,0.8s						
BRZS	**Berezniki**	**48.83**	**315**	*e*P	**P**	**03 54 41.7**	**-0.7**
BRZS	**Berezniki**	**48.83**	**315**	*e*P	**P**	**03 54 41.7**	**-0.7**
PALK	**Pallekele**	**49.05**	**257**	LR	LR	04 17 44.3	
	comp=Z,170nm,18.3s,baz=57,slow=39						
AS31	**Alice Springs**	**49.52**	**173**		**P**	**03 54 49.2**	**+1.4**
AS31				PcP	**PcP**	**03 56 11.8**	**+2.1**
ASAR	**Alice Springs**	**49.52**	**173**	P	**P**	**03 54 48.7**	**+0.8**
ASAR	**Alice Springs**	**49.52**	**173**	P	**P**	**03 54 49.1**	**+1.3**
	comp=Z,4.2nm,0.8s,baz=1.9,slow=9.2,SNR=40						

ASAR LR LR 04 16 54.3
comp=Z,54nm,18.7s,baz=318,slow=38
comp=Z,4.2nm,0.8s
ASAR Alice Springs 49.52 173 P **P** **03 54 48.7 +0.8**
KK31 Karatay Array 49.80 306 **P** **03 54 49.7 -0.3**
KK31 IAmb IAmb 03 54 52.1
comp=Z,8.1nm,0.8s
KK31 Karatay Array 49.80 306 P **P** **03 54 49.7 -0.3**
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 49.80 306 P **P** **03 54 49.8 -0.2**
KKAR Karatay Array 49.80 306 P **P** **03 54 49.8 -0.2**
GAR Garm 50.03 300 P **P** **03 54 52.2 +0.3**
GAR IAmb IAmb 03 55 00.7
comp=Z,17nm,0.8s
IUG luznay 50.15 304 *e*P **P** **03 54 52.0 -0.7**
IUG pmax pmax
comp=Z,17nm,1.5s
IUG luznay 50.15 304 *e*P **P** **03 54 52.1 -0.7**
comp=Z,17nm,1.5s
BRLS Boroldayy 50.29 306 *e*P **P** **03 54 53.9 +0.2**
BRLS Boroldayy 50.29 306 *e*P **P** **03 54 53.9 +0.2**
CHM Chimkent 50.47 305 *e*P **P** **03 54 54.4 -0.6**
CHM Chimkent 50.47 305 *e*P **P** **03 54 54.5 -0.6**
BVA0 Borovoye Array 50.69 318 *i* P **P** **03 54 55.6 -0.9**
BVAR Borovoye Array 50.69 318 P **P** **03 54 56.3 -0.3**
comp=Z,12nm,0.6s,baz=78,slow=7.7,SNR=48
BVAR PcP **PcP** **03 56 13.8 +0.1**
comp=Z,3.1nm,0.5s,baz=103,slow=3.1,SNR=4.3
BVAR LR LR 04 17 35.4
comp=Z,220nm,19.7s,baz=97,slow=38
comp=Z,12nm,0.6s
BRVK Borovoye 50.76 319 P **P** **03 54 56.7 -0.3**
BRVK Borovoye 50.76 319*c i*P **P** **03 54 56.3 -0.7**
BRVK pmax pmax
comp=Z,30nm,1.2s
SIMJ Simiganj 51.07 300 P **P** **03 54 59.2 -0.7**
SIMJ IAmb IAmb 03 55 28.0
comp=Z,20nm,1.4s
KBL Kabul 51.45 295 P **P** **03 55 01.8 -1.0**
KBL Kabul 51.45 295 P **P** **03 55 01.8 -1.0**
KBL pmax pmax
comp=Z,25nm,0.8s
SPIA Saint Paul Isl 53.16 37 P **P** **03 55 14.8 0.0**
baz=261
NIKH Nikolski High 53.44 42 P **P** **03 55 17.1 +0.1**
baz=265
GAMB Gambell 53.85 28 P **P** **03 55 20.0 +0.2**
baz=255
UNV Unalaska Valle 54.91 41 P **P** **03 55 27.3 -0.3**
baz=267
M11K Mekoryuk 55.71 33 P **P** **03 55 33.3 0.0**
baz=262
TNA Tin City 55.87 27 P **P** **03 55 34.3 -0.1**
baz=257
F14K Arctic Creek 56.50 27 P **P** **03 55 38.8 -0.1**
baz=259
K13K Kusilvak Mount 56.66 31 P **P** **03 55 40.2 +0.1**
baz=263
SVE Sverdlovsk 56.68 322 *e*P **P** **03 55 41.1 +0.8**
SVE pmax pmax
comp=Z,19nm,1.1s
SVE MLR MLR
comp=Z,837nm,13.0s
ANM Nome 56.73 28 P **P** **03 55 40.1 -0.4**
baz=260
AB31 Akbulak array 57.05 313 **P** **03 55 42.4 -0.7**
AB31 Akbulak array 57.05 313 P **P** **03 55 42.0 -1.1**
ABKAR Akbulak array 57.05 313 P **P** **03 55 42.0 -1.1**
M13K Dall Lake 57.12 33 P **P** **03 55 43.5 +0.2**
baz=265
F15K North Star Dit 57.23 27 P **P** **03 55 44.3 +0.2**
baz=260
J14K Nanvaranak Lak 57.27 30 P **P** **03 55 44.9 +0.5**
baz=263
C16K Lisburne Hills 57.45 24 P **P** **03 55 46.2 +0.6**
baz=258
L14K Kuka Creek 57.53 32 **P** **03 55 47.8 +1.5**
L14K IAmb IAmb 03 56 02.5
comp=Z,11nm,1.0s
L14K Kuka Creek 57.53 32 P **P** **03 55 46.7 +0.5**
baz=265
S12K Black Hills 57.55 39 P **P** **03 55 46.8 +0.3**
baz=269
M14K Bethel 57.84 33 P **P** **03 55 49.1 +0.7**
baz=266
ARTI Arti 57.91 322 **P** **03 55 48.8 -0.3**
ARTI Arti 57.91 322 LR LR 04 23 22.9
comp=Z,569nm,18.0s,baz=133,slow=39
ARTI Arti 57.91 322*c i*P **P** **03 55 49.0 0.0**
ARTI 03 56 39.7
ARTI S **S** **04 03 49.6 +1.7**
ARTI SS **SS** **04 07 35.6 -2.9**
ARTI pmax pmax
comp=Z,10.0nm,0.7s
ARTI MLR MLR
comp=Z,526nm,16.0s
N14K Kuskokwak Cree 57.92 34 P **P** **03 55 48.9 -0.1**
baz=267
H16K Elim 58.08 28 P **P** **03 55 50.3 +0.2**
baz=263
O14K Tigyukauivet M 58.10 35 P **P** **03 55 50.4 +0.1**
baz=268
G16K Koyuk River 58.12 27 P **P** **03 55 49.8 -0.6**
baz=263
L15K Ungalak Mounta 58.13 32 P **P** **03 55 50.7 +0.2**
baz=266
K15K Wolf Creek Mou 58.16 31 P **P** **03 55 50.4 -0.2**
baz=265
D17K Noatak River 58.18 25 P **P** **03 55 50.6 -0.1**
baz=261
AKTO Aktyubinsk 58.24 315 LR LR 04 21 28.6
comp=Z,119nm,20.8s,baz=80,slow=37
AKTO Aktyubinsk 58.24 315 P **P** **03 55 51.2 -0.3**
RDOG Red Dog Mine 58.30 24 P **P** **03 55 52.0 +0.4**
baz=260
SDPT Sand Point 58.45 39 P **P** **03 55 52.4 -0.3**
baz=271
M15K Kasigluk River 58.45 33 P **P** **03 55 53.2 +0.4**
baz=267
E17K Hotham Inlet 58.56 26 P **P** **03 55 53.2 -0.2**
baz=262
J16K Anvik River 58.66 30 P **P** **03 55 54.7 +0.6**
baz=266
I17K Unalakleet 58.67 29 P **P** **03 55 54.4 +0.2**
baz=265
F17K Baldwin Pennin 58.70 26 P **P** **03 55 54.9 +0.5**
baz=263
N15K Kwethluk River 58.73 34 P **P** **03 55 56.3 +1.6**
N15K IAmb IAmb 03 56 11.8
comp=Z,6.9nm,0.8s
N15K Kwethluk River 58.73 34 P **P** **03 55 54.7 +0.1**
baz=268
STKA Stephens Creek 58.77 167 P **P** **03 55 56.3 +1.1**
comp=Z,1.5nm,0.5s,baz=340,slow=15,SNR=3.1
comp=Z,1.5nm,0.5s
O15K Ungalikthiuk R 58.83 35 P **P** **03 55 56.1 +0.6**
baz=269
G17K Kiwalik Mounta 58.84 27 P **P** **03 55 55.8 +0.4**
baz=264
B18K Kokolik River 58.91 23 P **P** **03 55 56.5 +0.7**
baz=261
S14K Fog Glacier 58.97 38 P **P** **03 55 57.0 +0.5**
baz=271
CHNA Chernabura Isl 58.97 40 P **P** **03 55 57.4 +1.0**
baz=272
C18K Utukok River 59.02 24 P **P** **03 55 57.6 +0.9**
baz=262
E18K Tukpahlearik C 59.08 25 P **P** **03 55 58.0 +1.0**
baz=263
L16K Owhat River 59.09 32 P **P** **03 55 57.6 +0.4**
baz=268
H17K Granite Mounta 59.10 28 P **P** **03 55 57.5 +0.3**
baz=265
A19K Wainwright 59.30 22 P **P** **03 55 58.8 +0.4**
baz=261
M16K Timber Creek 59.31 33 P **P** **03 55 58.9 +0.2**
baz=268
J17K VABM Dome 59.36 30 P **P** **03 55 59.5 +0.5**
baz=267
F18K Selawik 59.36 26 P **P** **03 55 59.5 +0.6**
baz=264,SNR=6.1
N16K Nishlik Lake 59.39 33 P **P** **03 55 59.8 +0.5**
baz=269
CHGN Chignik 59.60 38 P **P** **03 56 00.9 +0.2**
baz=272
C19K Lookout Ridge 59.66 23 P **P** **03 56 01.8 +0.7**
baz=263
L17K Donlin 59.66 31 P **P** **03 56 01.5 +0.4**
baz=268
K17K Iditarod 59.68 31 P **P** **03 56 01.8 +0.5**
baz=268
G18K Tagagawik 59.70 27 P **P** **03 56 01.6 +0.3**
baz=266
O16K Kokwok River B 59.72 34 P **P** **03 56 02.0 +0.4**
baz=270
H18K Honhosa River 59.77 28 P **P** **03 56 02.3 +0.5**
baz=267
R16K Pilot Point 60.02 37 P **P** **03 56 04.2 +0.6**
baz=272
M17K Holitna River 60.06 32 **P** **03 56 05.3 +1.5**
M17K IAmb IAmb 03 56 19.7
comp=Z,9.1nm,0.9s
M17K Holitna River 60.06 32 P **P** **03 56 04.4 +0.5**
F19K Shaleruckik Mo 60.12 26 P **P** **03 56 04.7 +0.6**
baz=266
D19K Kuna River 60.13 24 P **P** **03 56 04.7 +0.5**
baz=265
N17K Nushagak Hills 60.18 33 IAmb IAmb 03 56 20.6
comp=Z,9.5nm,1.2s
N17K Nushagak Hills 60.18 33 P **P** **03 56 05.3 +0.6**
baz=270
DZM Mont Dzumac 60.22 139 *e*S **S** **04 04 12.2 -6.4**
comp=Z,102nm,25.6s
DZM *e*LR LR 04 13 56.5
comp=Z,134nm,23.1s
DZM Mont Dzumac 60.22 139 P **P** **03 56 07.5 +2.0**
comp=Z,2.3nm,0.6s,baz=223,slow=15,SNR=2.1
comp=Z,2.3nm,0.6s
O17K Koliganek Bris 60.23 34 P **P** **03 56 05.3 +0.3**
baz=271
G19K Purcell Mounta 60.36 27 P **P** **03 56 06.2 +0.4**
baz=267
E19K Redstone River 60.38 25 IAmb IAmb 03 56 22.9
comp=Z,11nm,0.8s
E19K Redstone River 60.38 25 P **P** **03 56 05.8 -0.2**
baz=266,SNR=6.8
GCSA Galena City Sc 60.38 28 P **P** **03 56 05.8 -0.1**
baz=268
L18K Granite Mounta 60.42 31 P **P** **03 56 06.9 +0.6**
baz=270
J18K Innoko River 60.42 30 P **P** **03 56 07.0 +0.7**
baz=269
P17K Kvichak River 60.58 35 P **P** **03 56 08.0 +0.7**
baz=272
H19K Roundabout Mou 60.59 28 IAmb IAmb 03 56 16.1
comp=Z,15nm,1.0s
H19K Roundabout Mou 60.59 28 P **P** **03 56 07.7 +0.3**
baz=268,SNR=8.9
B20K Medfra River 60.60 22 P **P** **03 56 07.4 0.0**
baz=265
R17L Mt. Peulik Vol 60.67 37 P **P** **03 56 08.3 +0.1**
baz=273
D20K Etivluk River 60.69 24 IAmb IAmb 03 56 15.5
comp=Z,13nm,0.8s
D20K Etivluk River 60.69 24 P **P** **03 56 07.9 -0.2**
baz=266,SNR=5.1
N18K Kilae Creek 60.81 33 IAmb IAmb 03 56 26.4
comp=Z,20nm,1.9s
N18K Kilae Creek 60.81 33 P **P** **03 56 09.8 +0.7**
baz=271
E20K Nigu River 60.82 24 P **P** **03 56 09.5 +0.4**
baz=267,SNR=8.2
M18K Stony River 60.83 32 P **P** **03 56 09.5 +0.4**
baz=271
Q17K Contact Creek 60.90 36 P **P** **03 56 10.0 +0.2**
baz=273
A21K Barrow 60.91 21 P **P** **03 56 10.1 +0.7**
baz=265
J19K Poorman 60.91 29 P **P** **03 56 10.8 +1.1**
J19K IAmb IAmb 03 56 17.9
comp=Z,6.6nm,0.7s
J19K Poorman 60.91 29 P **P** **03 56 10.9 +1.2**
baz=270
F20K Avaraart Lake 60.94 26 P **P** **03 56 10.8 +1.0**
baz=268
O18K Koktuh Hills 61.18 34 P **P** **03 56 12.2 +0.7**
baz=272
CHIR Chirikof Islan 61.19 39 P **P** **03 56 12.1 +0.5**
baz=274
P18K Big Mountain, 61.19 35 P **P** **03 56 12.8 +1.2**
baz=273
H20K Anotleneega Mo 61.24 28 P **P** **03 56 11.9 0.0**
baz=270
L19K White Mountain 61.28 31 P **P** **03 56 12.5 +0.3**
baz=271
Q18K Katmai Hardscr 61.34 35 P **P** **03 56 12.5 -0.2**
baz=273
C21K Knifeblade Rid 61.38 23 P **P** **03 56 13.3 +0.6**
baz=268
A22K Sinclair Lake 61.41 21 P **P** **03 56 13.1 +0.2**
baz=266
I20K Naaghedeneel 61.41 28 P **P** **03 56 13.6 +0.7**
baz=270
B21K Ikpikpuk River 61.46 23 P **P** **03 56 13.8 +0.6**
baz=268
N19K Bonanza Creek 61.50 33 P **P** **03 56 13.8 0.0**
baz=272
M19K Big River Lodg 61.51 32 P **P** **03 56 13.9 +0.2**
baz=272
J20K Nowinta River 61.56 29 IAmb IAmb 03 56 22.7
comp=Z,8.1nm,0.7s
J20K Nowinta River 61.56 29 P **P** **03 56 13.9 -0.2**
baz=271,SNR=9.7
O19K Port Alsworth 61.61 34 P **P** **03 56 14.7 +0.3**
baz=273
K20K Telida 61.61 30 IAmb IAmb 03 56 23.4
comp=Z,8.5nm,0.8s
K20K Telida 61.61 30 P **P** **03 56 14.5 +0.1**
baz=272,SNR=8.9
E21K Killik River 61.65 24 P **P** **03 56 14.3 -0.3**
baz=269
L20K Farewell, AK 61.73 31 P **P** **03 56 15.2 0.0**
baz=272
G21K Allakaket 61.81 26 IAmb IAmb 03 56 23.6
comp=Z,8.6nm,0.8s
G21K Allakaket 61.81 26 P **P** **03 56 15.3 -0.4**
baz=270,SNR=7.3
F21K Alatna River 61.82 26 P **P** **03 56 15.9 +0.1**
baz=270
B22K Teshekpuk Lake 61.90 22 P **P** **03 56 16.3 +0.1**
baz=268
SII Sitkinak Islan 61.93 38 P **P** **03 56 16.7 0.0**
baz=275
Q19K Cape Douglas, 62.03 35 P **P** **03 56 17.5 +0.2**
baz=274
M20K Styx River 62.10 32 P **P** **03 56 18.1 +0.3**
baz=273
H21K Melozitna Rive 62.11 27 IAmb IAmb 03 56 26.0
comp=Z,6.4nm,0.8s
H21K Melozitna Rive 62.11 27 P **P** **03 56 17.9 +0.2**
baz=271
D22K Ayikyak River 62.13 24 P **P** **03 56 19.4 +1.6**
D22K Ayikyak River 62.13 24 P **P** **03 56 17.9 +0.1**
baz=270,SNR=5.9
P19K Oil Pt 62.19 34 P **P** **03 56 18.6 +0.2**
baz=274
F22K John River 62.32 25 P **P** **03 56 19.5 +0.4**
baz=271
OHAK Old Harbor 62.36 37 P **P** **03 56 20.1 +0.6**
baz=275
CHUM Lake Minchumin 62.38 29 P **P** **03 56 19.4 -0.1**
baz=273
E22K Anaktuvuk Pass 62.45 25 IAmb IAmb 03 56 27.5
comp=Z,8.0nm,0.8s
E22K Anaktuvuk Pass 62.45 25 P **P** **03 56 20.3 +0.3**
baz=271,SNR=5.9
O20K Slope Mountain 62.47 34 P **P** **03 56 19.7 -0.5**
baz=274
I21K Tanana 62.47 28 P **P** **03 56 20.1 +0.1**
baz=272
PPLA Purkeypile 62.48 30 P **P** **03 56 19.8 -0.6**
baz=273
CAST Castle Rocks 62.50 30 IAmb IAmb 03 56 37.7
comp=Z,7.7nm,1.2s
CAST Castle Rocks 62.50 30 P **P** **03 56 20.3 -0.1**
baz=273,SNR=6.5
G22K Bettles 62.60 26 P **P** **03 56 20.9 -0.1**
baz=272
KIRV Kirov 62.67 325 LR LR 04 25 50.0
comp=Z,160nm,19.4s,baz=91,slow=38
KIRV Kirov 62.67 325*d i*P **P** **03 56 22.0 +0.5**
KDAK Kodiak Island 62.69 36 LR LR 04 26 12.1
comp=Z,35nm,18.6s,baz=255,slow=38
KDAK Kodiak Island 62.69 36 P **P** **03 56 21.2 -0.4**
baz=276
H22K Ishtalitna Cre 62.69 27 P **P** **03 56 21.9 +0.3**
baz=272,SNR=9.2
Q20K Shuyak Island 62.71 35 P **P** **03 56 22.0 +0.3**
baz=275
D23K Nanushuk River 62.85 24 P **P** **03 56 23.1 +0.5**
baz=272
SKT Skwentna 62.85 32 P **P** **03 56 22.8 +0.1**
baz=274
C23K Itkillik River 62.86 23 P **P** **03 56 22.5 -0.1**
baz=271
BPAW Bear Paw Mtn. 62.95 29 P **P** **03 56 22.7 -0.7**
baz=274
HOM Homer 62.99 34 P **P** **03 56 23.8 +0.1**
baz=276
MLY Manley 63.00 28 P **P** **03 56 23.2 -0.5**
baz=274
COLD Coldfoot 63.10 26 P **P** **03 56 24.1 -0.2**
baz=273
CAPN Captain Cook N 63.13 33 P **P** **03 56 24.6 +0.1**
baz=275
G23K Bananza Creek 63.19 26 P **P** **03 56 24.7 -0.3**
baz=273
TOLK Toolik Lake Re 63.27 24 IAmb IAmb 03 57 21.3
comp=Z,10nm,1.1s
TOLK Toolik Lake Re 63.27 24 P **P** **03 56 24.9 -0.5**
baz=273
SUA Susitna One 63.27 32 P **P** **03 56 25.3 -0.4**
baz=275
E23K Chandalar 63.28 25 IAmb IAmb 03 57 05.9
comp=Z,9.0nm,0.9s
E23K Chandalar 63.28 25 P **P** **03 56 24.7 -0.9**
baz=273,SNR=5.5
TRF Thorofare Moun 63.31 30 P **P** **03 56 25.7 -0.2**
baz=275
CUT Chulitna 63.41 31 P **P** **03 56 26.5 +0.2**
baz=275
H23K Yukon River 63.45 27 IAmb IAmb 03 56 35.4
comp=Z,7.5nm,0.7s
H23K Yukon River 63.45 27 P **P** **03 56 26.8 +0.2**
baz=274,SNR=9.2
D24K Happy Valley 63.51 23 P **P** **03 56 27.1 +0.1**
baz=273
C24K Franklin Bluff 63.52 23 P **P** **03 56 27.4 +0.4**
baz=273
I23K Minto, Yukon-K 63.57 28 P **P** **03 56 28.5 +1.1**
I23K Minto, Yukon-K 63.57 28 P **P** **03 56 27.8 +0.4**
baz=275
E24K Your Creek 63.70 25 IAmb IAmb 03 56 46.2
comp=Z,4.9nm,0.8s
E24K Your Creek 63.70 25 P **P** **03 56 28.7 +0.4**
baz=274
NEA2 Nenana 63.74 28 IAmb IAmb 03 56 36.8
comp=Z,7.2nm,0.8s
NEA2 Nenana 63.74 28 P **P** **03 56 28.8 +0.2**
baz=275,SNR=7.5
RC01 Rabbit Creek A 63.79 32 P **P** **03 56 29.4 +0.5**
baz=276
MCK McKinley 63.88 29 IAmb IAmb 03 56 59.4
comp=Z,7.8nm,1.0s
MCK McKinley 63.88 29 P **P** **03 56 29.6 +0.1**
baz=276
RND Reindeer 63.95 30 IAmb IAmb 03 56 39.9
comp=Z,7.8nm,0.8s
F24K Squaw Lake 63.97 25 **P** **03 56 32.1 +2.0**
F24K IAmb IAmb 03 56 48.4
comp=Z,7.6nm,0.8s
F24K Squaw Lake 63.97 25 P **P** **03 56 30.4 +0.3**
baz=275,SNR=9.8
PMR Palmer 64.02 32 P **P** **03 56 30.9 +0.5**
baz=277
SEW Seward 64.04 33 P **P** **03 56 30.9 +0.3**
baz=277
H24K Noodor Dome 64.13 27 **P** **03 56 32.8 +1.7**
H24K Noodor Dome 64.13 27 P **P** **03 56 31.2 +0.1**
baz=276
G24K Hadweenzic Riv 64.20 26 IAmb IAmb 03 56 40.0
comp=Z,4.8nm,0.7s
G24K Hadweenzic Riv 64.20 26 P **P** **03 56 31.5 -0.1**
baz=276
COLA College 64.24 28‖ *e*P **P** **03 56 33.5 +1.7**
COLA pmax pmax
comp=Z,12nm,1.8s
KNK Knik Glacier 64.36 32 P **P** **03 56 31.7 -1.1**
baz=277
D25K Kavik River 64.37 23 IAmb IAmb 03 56 40.0
comp=Z,11nm,1.2s
D25K Kavik River 64.37 23 P **P** **03 56 31.8 -0.9**
baz=275
POKR Poker Plat Res 64.39 28 IAmb IAmb 03 56 41.3
comp=Z,6.9nm,0.7s
POKR Poker Plat Res 64.39 28 P **P** **03 56 31.9 -0.9**
baz=276,SNR=8.4
BELG Belogornoye 64.49 318 LR LR 04 25 47.9
comp=Z,148nm,20.7s,baz=73,slow=37
BELG Belogornoye 64.49 318*ce*P **P** **03 56 32.8 -0.8**
BELG pmax pmax
comp=Z,1.0nm,0.6s
PWL Port Wells 64.50 33 P **P** **03 56 32.6 -1.1**
baz=278
ILAR Eielson Array 64.66 28 P **P** **03 56 34.1 -0.5**
comp=Z,0.8nm,0.7s,baz=275,slow=6.0,SNR=16
ILAR LR LR 04 27 44.0
comp=Z,61nm,18.5s,baz=284,slow=39
comp=Z,0.8nm,0.7s
M23K Glacier View 64.66 32 P **P** **03 56 34.4 -0.3**
baz=278
HDA Harding Lake 64.68 29 IAmb IAmb 03 56 41.7
comp=Z,6.4nm,0.9s
HDA Harding Lake 64.68 29 P **P** **03 56 34.0 -0.7**
baz=277
G25K Bearman Lake 64.74 26 P **P** **03 56 34.9 -0.2**
baz=277
C26K Camden Bay 64.82 22 P **P** **03 56 35.1 -0.4**
baz=276
F25K Christian Rive 64.82 25 P **P** **03 56 37.7 +2.0**
F25K IAmb IAmb 03 56 44.2
comp=Z,4.7nm,0.7s
F25K Christian Rive 64.82 25 P **P** **03 56 35.1 -0.5**
baz=277,SNR=12
SCM Sheep Creek Mo 64.84 31 P **P** **03 56 35.5 -0.5**
baz=278
H25L Birch Creek 64.91 26 P **P** **03 56 35.6 -0.5**
baz=277
P23K Montague Islan 65.08 33 P **P** **03 56 36.6 -0.8**
baz=279
GLI Glacier Island 65.09 32 P **P** **03 56 36.9 -0.6**
baz=279
PRP Porcupine Dome 65.13 27 P **P** **03 56 37.5 -0.3**
baz=278
BMAR Burnt Mountain 65.25 25 **P** **03 56 39.9 +1.5**
K24K Donnelly Dome 65.27 29 IAmb IAmb 03 56 56.1
comp=Z,9.9nm,0.8s
K24K Donnelly Dome 65.27 29 P **P** **03 56 38.1 -0.5**
baz=278
C27K Jago River 65.27 23 IAmb IAmb 03 56 47.0
comp=Z,9.0nm,1.1s
C27K Jago River 65.27 23 P **P** **03 56 37.7 -0.8**
baz=278,SNR=5.3
J25K Salcha River, 65.33 28 P **P** **03 56 39.1 +0.1**
baz=278
M24K Tolsona, Glenn 65.34 31 P **P** **03 56 39.2 0.0**
baz=279
F26K Sheenjek River 65.38 25 IAmb IAmb 03 56 47.8
comp=Z,6.8nm,0.8s
F26K Sheenjek River 65.38 25 P **P** **03 56 39.5 +0.3**
baz=278,SNR=12
PAX Paxson 65.53 30 P **P** **03 56 40.3 -0.1**
baz=279
KLU Klutina 65.56 32 P **P** **03 56 40.9 +0.3**
baz=279
G26K Porcupine Rive 65.62 26 IAmb IAmb 03 57 30.5
comp=Z,14nm,1.5s
G26K Porcupine Rive 65.62 26 P **P** **03 56 40.9 +0.1**
baz=279
RIDG Independent Ri 65.69 29 IAmb IAmb 03 57 04.0
comp=Z,5.5nm,0.8s
RIDG Independent Ri 65.69 29 P **P** **03 56 41.4 0.0**
baz=279
Q23K Middleton Isla 65.70 34 P **P** **03 56 41.8 +0.4**
baz=280
HARP HAARP 65.77 31 P **P** **03 56 42.2 +0.4**
baz=280
EYAK Cordova Ski Ar 65.80 33 P **P** **03 56 42.1 +0.1**
baz=280
SCRK Sand Creek 66.02 29 IAmb IAmb 03 56 52.2
comp=Z,6.7nm,0.9s

SCRK **Sand Creek** 66.02 29 P P 03 56 43.7 +0.1
baz=280
J26L **Joseph Creek** 66.11 28 IAmb IAmb 03 56 52.4
comp=Z,7.5nm,0.8s
J26L **Joseph Creek** 66.11 28 P P 03 56 44.2 +0.1
baz=280,SNR=12
I26K **Coal Creek Min** 66.14 27 P P 03 56 44.4 +0.2
baz=280
N25K **Chitina, Valde** 66.17 31 P P 03 56 44.7 +0.2
baz=280
E27K **Coleen River** 66.25 24 P P 03 56 45.6 +0.7
baz=280
BMRM **Bremner River** 66.28 32 IAmb IAmb 03 57 23.7
comp=Z,12nm,1.2s
BMRM **Bremner River** 66.28 32 P P 03 56 45.5 +0.3
baz=281
D27M **Malcolm River** 66.29 23 P P 03 56 45.5 +0.3
baz=280
G27K **Doyon Strip** 66.48 26 P P 03 56 46.9 +0.6
baz=281
L26K **Log Cabin Wild** 66.48 30 P P 03 56 46.8 +0.4
baz=281
KAIM **Kayak Island** 66.57 33 P P 03 56 47.4 +0.4
baz=281
H27K **Steamboat Moun** 66.64 26 IAmb IAmb 03 56 56.4
comp=Z,9.5nm,1.4s
H27K **Steamboat Moun** 66.64 26 P P 03 56 47.4 0.0
baz=281
LKRN **Lenkeran, Azer** 66.65 303 P P 03 56 49.5 +1.6
AKT **Akhty** 66.72 306 eP P 03 56 47.2 -1.3
AKT e 03 57 14.4
AKT eS S 04 05 38.6 -1.0
AKT pmax pmax
comp=Z,11nm,0.9s
AKT MLR MLR
comp=Z,252nm,15.0s
I27K **Kandik River** 66.72 27 P P 03 56 47.4 -0.6
baz=281,SNR=8.2
M26K **Nabesna, AK** 66.76 30 IAmb IAmb 03 56 58.5
comp=Z,7.2nm,0.8s
M26K **Nabesna, AK** 66.76 30 P P 03 56 48.7 +0.4
baz=282
K27K **Chicken** 66.84 29 P P 03 56 48.8 +0.2
baz=282
E28M **Babbage River** 66.92 23 P P 03 56 49.6 +0.5
baz=282
MCARA **McCarthy VSAT** 66.95 32 P P 03 56 49.6 +0.2
baz=282
F28M **Old Crow** 67.00 25 P P 03 56 50.0 +0.4
baz=282
CRQE **Cirque** 67.05 32 P P 03 56 50.4 +0.2
baz=282
D28M **Stokes Point** 67.05 23 P P 03 56 50.4 +0.6
baz=282
L27K **Beaver Creek,** 67.15 30 P P 03 56 50.6 -0.1
baz=282
BCAR **Beaver Creek A** 67.17 30 P P 03 56 52.3 +1.5
SEKA **Sheki** 67.18 306 P P 03 56 52.7 +1.4
KLMR **Klimovskoe** 67.27 328 eP P 03 56 49.9 -1.5
KLMR pmax pmax
comp=Z,22nm,1.7s
M27K **Edge Creek, AK** 67.28 30 P P 03 56 51.1 -0.6
baz=282
MNGR **Mingechevir, A** 67.37 306 P P 03 56 54.3 +1.9
I28M **Miner Creek** 67.44 27 P P 03 56 52.8 +0.3
baz=283,SNR=7.0
E29M **Blow River** 67.55 24 P P 03 56 53.6 +0.5
baz=284
BVCY **Beaver Creek** 67.72 30 P P 03 56 54.7 +0.3
baz=283
CTG **Chitna Glacier** 67.84 32 P P 03 56 55.5 +0.3
baz=284
G29M **Pine Creek** 67.86 25 IAmb IAmb 03 57 43.8
comp=Z,14nm,1.2s
G29M **Pine Creek** 67.86 25 P P 03 56 55.6 +0.5
baz=284
H29M **Whitestone** 67.89 26 P P 03 56 56.1 +0.8
baz=284
GANJ **Ganja** 67.97 306 P P 03 56 58.0 +1.7
DAWY **Dawson** 67.98 28 P P 03 56 56.8 +0.8
baz=284
YUK3 **Moose Creek** 68.06 31 P P 03 56 57.7 +1.0
baz=284
I29M **Ogilvie Camp,** 68.12 27 P P 03 56 56.5 -0.3
baz=284
VRH **Novokhopyorsk** 68.32 317 eP P 03 56 58.2 0.0
VRH pmax pmax
comp=Z,10.0nm,0.5s
J29N **Klondike Camp** 68.39 28 P P 03 56 58.5 0.0
baz=285
O28M **Mount Upton** 68.43 32 P P 03 56 59.0 -0.1
baz=284
EPYK **Eagle Plains** 68.50 26 IAmb IAmb 03 57 16.4
comp=Z,9.3nm,1.0s
EPYK **Eagle Plains** 68.50 26 P P 03 56 59.0 -0.1
baz=285
YUK8 **Steele Glacier** 68.50 31 P P 03 56 59.2 -0.3
baz=285
F30M **Barrier River** 68.52 24 IAmb IAmb 03 57 07.3
comp=Z,10nm,1.1s
F30M **Barrier River** 68.52 24 P P 03 56 59.4 +0.2
baz=286
G30M **tAoh Zraii Nji** 68.53 25 P P 03 56 59.0 -0.3
baz=286
PINM **Pinnacle** 68.57 33 P P 03 57 00.0 +0.3
baz=285
L29M **L29M** 68.77 29 IAmb IAmb 03 57 11.9
comp=Z,7.5nm,0.9s
L29M **L29M** 68.77 29 P P 03 57 01.0 +0.1
baz=285
M29M **Somme Creek** 68.80 30 IAmb IAmb 03 57 11.6
comp=Z,26nm,2.0s
M29M **Somme Creek** 68.80 30 P P 03 57 01.0 -0.2
baz=285
K29M **Barlow Dome** 68.84 28 P P 03 57 01.9 +0.5
baz=286
I30M **Mount Dempster** 68.94 27 P P 03 57 02.6 +0.6
baz=286
NAX **Nakhchivan** 68.99 304 P P 03 57 04.4 +1.7
YUK4 **Talbot Arm** 69.01 31 P P 03 57 03.5 +0.9
baz=286
PNL **Peninsula** 69.10 33 P P 03 57 03.5 +0.6
baz=286
NCK **Nalchik** 69.14 309⇓ eP P 03 57 04.0 +0.5
NCK pmax pmax
comp=Z,11nm,0.4s
INK **Inuvik** 69.14 23 IAmb IAmb 03 57 10.5
comp=Z,8.5nm,1.2s
INK **Inuvik** 69.14 23 LR LR 04 30 36.2
comp=Z,55nm,19.0s,baz=267,slow=39
INK **Inuvik** 69.14 23 P P 03 57 03.4 +0.4
baz=287
J30M **Hart River** 69.14 27 P P 03 57 03.4 +0.1
baz=286
SPITS **Spitsbergen Ar** 69.23 348 P P 03 57 03.5 0.0
comp=Z,12nm,0.9s,baz=69,slow=9.4,SNR=9.1
comp=Z,12nm,0.9s
GNI **Garni** 69.26 305 LR LR 04 30 58.3
comp=Z,95nm,18.4s,baz=78,slow=39
GNI **Garni** 69.26 305*c* iP P 03 57 05.9 +1.4
GNI pmax pmax
comp=Z,16nm,1.3s
G31M **Satah River** 69.28 25 P P 03 57 04.1 +0.2
baz=287
F31M **Tsiigehtchic** 69.32 24 P P 03 57 04.6 +0.4
baz=288
O29M **Mount Kennedy** 69.32 32 P P 03 57 04.9 +0.5
baz=286
MOS **Moscow** 69.50 323 eP P 03 57 04.5 -0.9
M30M **Minto, Yukon** 69.51 30 IAmb IAmb 03 57 16.6
comp=Z,19nm,1.8s
M30M **Minto, Yukon** 69.51 30 P P 03 57 05.2 -0.3
baz=287
KBZ **Khabaz** 69.56 310 P P 03 57 06.6 +0.6
comp=Z,16nm,0.8s,baz=74,slow=9.2,SNR=31
comp=Z,16nm,0.8s
KBZ **Khabaz** 69.56 310*c* iP P 03 57 06.8 +0.8
KBZ pmax pmax
comp=Z,20nm,0.9s
H31M **Peel River** 69.58 26 P P 03 57 05.8 0.0
H31M **Peel River** 69.58 26 P P 03 57 05.9 0.0
baz=288
KIV **Kislovodsk** 69.64 310 P P 03 57 07.1 +0.4
KIV **Kislovodsk** 69.64 310 eP P 03 57 07.5 +0.8
KIV pmax pmax
comp=Z,31nm,1.1s
KIV MLR MLR
comp=Z,122nm,17.0s

HYT **Haines Junctio** 69.69 31 P P 03 57 07.2 +0.4
baz=287
N30M **Aishikik Lake** 69.69 31 P P 03 57 07.4 +0.8
baz=287
SHA1 **Shidzhatmaz** 69.72 310*c* iP P 03 57 07.9 +0.5
VORD **Divnogorie** 69.86 318 eP P 03 57 06.1 -1.7
VORD pmax pmax
comp=Z,10.0nm,0.5s
VSR **Storozhevoye** 69.87 318 eP P 03 57 05.7 -2.1
VSR pmax pmax
comp=Z,9.0nm,1.2s
P29M **Windy Craggy** 69.92 33 P P 03 57 08.6 +0.6
baz=287
HSPB **Hornsund (broa** 69.94 347 eP P 03 57 08.0 +0.2
P30M **Million Dollar** 70.15 32 P P 03 57 10.0 +0.5
baz=287
OBN **Obninsk** 70.25 322 eP P 03 57 08.7 -1.4
OBN i 03 57 27.0
OBN pmax pmax
comp=Z,9.0nm,0.9s
OBN MLR MLR
comp=Z,352nm,15.0s
N31M **Braeburn, Yuko** 70.29 30 P P 03 57 10.3 0.0
baz=288
O30N **Mendenhall** 70.36 31 P P 03 57 10.5 -0.3
baz=288
ARCES **ARCESS Array B** 70.43 339 P P 03 57 10.8 -0.1
comp=Z,7.3nm,0.8s,baz=47,slow=12,SNR=5.8
ARCES LR LR 04 34 14.8
comp=Z,141nm,18.5s,baz=28,slow=41
comp=Z,7.3nm,0.8s
A36M **Sachs Harbour** 70.51 18 P P 03 57 11.3 0.0
baz=294
ERBR **Yeremizino-Bor** 70.63 312 eP P 03 57 12.0 -0.6
ERBR pmax pmax
comp=Z,10.0nm,0.7s
M31M **Drury Creek, Y** 70.69 30 P P 03 57 12.2 -0.5
M31M **Drury Creek, Y** 70.69 30 P P 03 57 12.7 0.0
baz=289
WHY **Whitehorse** 70.96 31 P P 03 57 13.8 -0.7
baz=289
GEVA **Gevas** 71.06 304 P 03 57 13.7 -1.9
S31K **Pelican** 71.17 34 P P 03 57 15.8 +0.2
baz=289
NOR **Nord** 71.31 355 i P P 03 57 15.9 -0.2
NOR IAmb IAmb 03 57 17.7
comp=Z,11nm,1.4s
VSLR **Vesyoloye** 71.62 310*c* iP P 03 57 19.3 +0.6
VSLR pmax pmax
comp=Z,38nm,1.2s
N32M **Quiet Lake** 71.63 30 P P 03 57 18.1 -0.3
baz=290
GURO **Guroymak-BITLI** 71.75 305 P P 03 57 19.7 0.0
SOC **Sochi** 71.80 310 eP P 03 57 18.2 -1.5
SOC e 04 00 00.7
SOC ePPP PPP 04 01 40.0
SOC eS S 04 06 39.3 +0.1
SOC eSS SS 04 11 17.1 +2.2
SOC eSSS SSS 04 14 30.0
SOC pmax pmax
comp=Z,14nm,0.6s
SOC MLR MLR
comp=Z,141nm,19.0s
P32M **Atlin** 71.87 32 P P 03 57 19.5 -0.4
baz=290
MMPY **Sheldon Lake,** 71.92 29 P P 03 57 20.4 +0.3
baz=291
R32K **Eaglecrest** 71.93 33 P P 03 57 20.3 +0.1
baz=290
SIT **Sitka** 71.93 35 P P 03 57 20.2 -0.1
baz=290
P33M **Teslin, Yukon** 72.08 31 P P 03 57 20.4 -0.8
baz=291
S32K **Killisnoo** 72.17 34 P P 03 57 20.9 -0.7
baz=290
KOPT **Kop Dagi** 72.40 306 P 03 57 24.2 +0.5
Q32M **Nakina River** 72.79 32 P P 03 57 25.2 -0.4
baz=292
ANN **Anapa** 72.96 312 eP P 03 57 26.5 -0.1
ANN eS S 04 06 53.3 +0.9
ANN pmax pmax
comp=Z,48nm,1.4s
R33M **Jennings River** 73.25 32 P P 03 57 28.4 +0.1
baz=292
FINES **FINESS Array B** 73.29 331 P P 03 57 27.9 -0.3
comp=Z,7.2nm,0.7s,baz=64,slow=5.7,SNR=24
FINES LR LR 04 33 08.6
comp=Z,262nm,18.8s,baz=50,slow=39
comp=Z,7.2nm,0.7s
U33K **Whale Pass** 73.41 35 P P 03 57 29.0 0.0
baz=292
CRAG **Craig** 73.64 36 P P 03 57 30.1 -0.3
baz=292
WRAK **Wrangell Islan** 73.69 35 P P 03 57 31.5 +0.8
baz=292
DLBC **Dease Lake** 74.07 32 P P 03 57 33.0 0.0
baz=294
RAYN **Ar Rayn** 74.13 289 P 03 57 33.4 -0.6
RAYN IAmb IAmb 03 57 43.5
comp=Z,12nm,1.1s
RAYN **Ar Rayn** 74.13 289 P P 03 57 33.4 -0.6
RAYN pmax pmax
comp=Z,12nm,1.1s
VSU **Vasula** 74.17 328*c* iP P 03 57 32.6 -0.9
VSU pmax pmax
comp=Z,34nm,1.1s
ARPR **Arpgir-MALATY** 74.29 306 P P 03 57 34.0 -0.7
ARPR IAmb IAmb 03 57 49.9
comp=Z,13nm,1.0s
V35K **Ketchikan** 74.49 36 P P 03 57 35.2 -0.2
baz=293
T35M **Bob Quinn** 74.54 34 P P 03 57 35.8 0.0
baz=294
SIM **Simferopol'** 75.11 313 eP P 03 57 40.0 +0.8
SIM pmax pmax
comp=Z,22nm,0.9s
MNK **Minsk** 75.18 324 i P P 03 57 37.3 -2.1
MNK i 03 57 50.5
MNK i 04 00 25.3
MNK i PPP PPP 04 02 11.1
MNK i S S 04 07 16.7 -0.3
MNK i 04 07 49.8
MNK i SS SS 04 12 06.9 +1.2
MNK pmax pmax
comp=Z,26nm,0.7s
MNK pmax pmax
comp=N,10.0nm,0.7s
MNK pmax pmax
comp=E,9.0nm,0.8s
MNK MLR MLR
comp=N,224nm,14.0s
MNK MLR MLR
comp=Z,274nm,14.0s
MNK MLR MLR
comp=E,144nm,15.0s
NACGM **Naroch** 75.60 324 eP P 03 57 41.9 +0.1
comp=Z,20nm,0.9s,baz=66
DAG **Danmarks Havn** 75.65 353 i P P 03 57 41.4 -0.3
DAG IAmb IAmb 03 57 45.7
comp=Z,4.1nm,0.7s
GAZ **Gaziantep** 75.81 305 P P 03 57 43.3 -0.2
AKASG **Malin Array Be** 75.95 320 P P 03 57 43.4 -0.5
AKASG **Malin Array Be** 75.95 320 P P 03 57 43.8 -0.1
comp=Z,13nm,0.6s,baz=59,slow=6.4,SNR=53
AKASG LR LR 04 33 42.8
comp=Z,224nm,19.0s,baz=65,slow=38
comp=Z,13nm,0.6s
AKASG **Malin Array Be** 75.95 320 P P 03 57 43.4 -0.5
AKASG pmax pmax
comp=Z,7.0nm,0.9s
AKBB **Malin Array Si** 75.95 320 P 03 57 43.1 -0.8
AKBB **Malin Array Si** 75.95 320*c* iP P 03 57 43.8 -0.1
AKBB pmax pmax
comp=Z,15nm,0.6s
KIEV **Kiev** 75.96 320 P 03 57 42.8 -1.2
KIEV **Kiev** 75.96 320 ⇑P P 03 57 43.2 -0.7
KIEV **Kiev** 75.96 320 P P 03 57 42.8 -1.2
KIEV pmax pmax
comp=Z,15nm,0.6s
AK20 **Malin Array Si** 76.06 320 P P 03 57 44.4 -0.1
TOAD **Toad River Com** 76.16 31 P P 03 57 45.7 +0.7
baz=297
PABE **Paberze** 76.80 326 P 03 57 48.5 -0.1
NEEM **North Greenlan** 76.93 360 i P P 03 57 49.9 +0.5
NEEM IAmb IAmb 03 57 58.6
comp=Z,17nm,1.1s

LUBAR **Lubar, Ukraine** 77.13 319 P P 03 57 50.1 -0.5
BR131 **Keskin Array S** 77.43 308 P 03 57 53.3 +0.6
BR131 **Keskin Array S** 77.43 308*c* iP P 03 57 53.1 +0.4
BRTR **Keskin Array B** 77.43 308 P 03 57 53.1 +0.4
BRTR **Keskin Array B** 77.43 308 P P 03 57 53.2 +0.6
comp=Z,13nm,0.9s,baz=96,slow=5.0,SNR=82
comp=Z,13nm,0.9s
BRTR **Keskin Array B** 77.43 308 P P 03 57 53.1 +0.4
BR106 **Keskin Array S** 77.44 308 ⇑P P 03 57 53.9 +1.2
comp=Z,145nmcomp=Z,19nm,1.0s
BR105 **Keskin Array S** 77.45 308 P P 03 57 53.9 +1.1
comp=Z,163nmcomp=Z,22nm,1.0s
NSS **Namsos** 77.45 337 eP P 03 57 52.1 +0.1
KIRS **Kirsehir-Merke** 77.46 307 ⇑P P 03 57 53.5 +0.7
SORM **Soroca** 77.52 318 ⇑P P 03 57 52.7 -0.1
SORM **Soroca** 77.52 318 P P 03 57 52.7 -0.1
RNPP9 **Sopachiv** 77.57 321 P P 03 57 52.9 -0.1
RNPP8 **Varash** 77.62 321 P P 03 57 53.6 +0.3
SUW **Suwalki** 77.88 324 eP P 03 57 55.2 +0.6
SUW **Suwalki** 77.88 324 P P 03 57 55.0 +0.3
SUW **Suwalki** 77.88 324 P P 03 57 55.0 +0.3
NDNU **Novodnistrovsk** 77.92 318 P P 03 57 54.9 -0.1
ASF **Jabal al Asfar** 77.94 300 LR LR 04 39 10.2
comp=Z,72nm,18.8s,baz=111,slow=41
ANTO **Ankara** 77.97 308 P P 03 57 55.0 -0.6
ANTO **Ankara** 77.97 308 ⇓P P 03 57 56.9 +1.3
ANTO **Ankara** 77.97 308 P P 03 57 55.0 -0.6
ANTO pmax pmax
comp=Z,15nm,0.8s
DBG **Daneborg** 78.00 352 i P P 03 57 53.5 -1.5
DBG IAmb IAmb 03 57 58.7
comp=Z,4.2nm,0.9s
HORU **Horodok** 78.22 319 P P 03 57 56.7 0.0
KMPD **K-Podol'skiy** 78.48 318 P P 03 57 57.5 -0.6
YKA **Yellowknife Ar** 78.77 25 P P 03 58 00.5 +1.1
comp=Z,1.3nm,0.7s,baz=307,slow=6.6,SNR=4.0
YKA LR LR 04 37 56.0
comp=Z,36nm,18.6s,baz=320,slow=40
comp=Z,1.3nm,0.7s
MMAI **Mount Meron Ar** 78.77 301 P P 03 58 00.1 -0.1
comp=Z,1.1nm,0.5s,baz=112,slow=1.6,SNR=2.1
MMAI LR LR 04 37 29.5
comp=Z,55nm,18.8s,baz=68,slow=39
comp=Z,1.1nm,0.5s
TPGR **Topolog** 78.86 314 ⇓P P 03 58 00.7 +0.3
CFR **Carcaliu** 78.91 315 ⇑P P 03 58 00.9 +0.4
CFR **Carcaliu** 78.91 315 ⇑P P 03 58 00.9 +0.4
HFS **Hagfors** 79.25 332 P P 03 58 01.9 -0.2
comp=Z,6.8nm,0.9s,baz=54,slow=13,SNR=10
HFS LR LR 04 37 00.7
comp=Z,245nm,19.6s,baz=48,slow=39
comp=Z,6.8nm,0.9s
HARR **Harsova** 79.25 314 ⇑P P 03 58 03.9 +1.4
HARR **Harsova** 79.25 314 ⇑P P 03 58 03.9 +1.4
TESR **Tescani** 79.27 317 ⇑P P 03 58 03.1 +0.6
NC405 **NORSAR Array S** 79.50 334 P
NC405 IAmb IAmb 03 58 04.4
comp=Z,17nm,0.8s
ONER **Baraj Valea Uz** 79.50 316 ⇓P P 03 58 04.9 +1.1
VRI **Vrincioaia** 79.50 316 ⇑P P 03 58 04.8 +1.0
VRI **Vrincioaia** 79.50 316 ⇑P P 03 58 04.8 +1.0
PLOR **Plostina** 79.56 316 ⇓P P 03 58 04.8 +0.7
PLOR **Plostina** 79.56 316 ⇓P P 03 58 04.8 +0.7
CSS **Mathiatis** 79.56 304 P 03 58 04.5 +0.1
CSS **Mathiatis** 79.56 304 P P 03 58 04.5 +0.1
comp=Z,30nm,0.8s
NC303 **NORSAR Array S** 79.57 334 P P 03 58 03.4 -0.4
NC303 IAmb IAmb 03 58 06.7
comp=Z,18nm,1.1s
BUR08 **Bucovina Ar. S** 79.64 318 P 03 58 03.6 -1.1
BUR08 IAmb IAmb 03 58 14.3
comp=Z,10nm,0.7s
BURAR **Bucovina Array** 79.65 318 P 03 58 05.2 +0.5
BURAR IAmb IAmb 03 58 14.5
comp=Z,12nm,0.8s
BURAR **Bucovina Array** 79.65 318 ⇓P P 03 58 05.8 +1.1
BURAR **Bucovina Array** 79.65 318 P P 03 58 05.6 +0.9
BISRR **Bisoca** 79.65 316 ⇑P P 03 58 06.4 +1.7
NB201 **NORSAR Array S** 79.70 334 P P 03 58 04.4 -0.2
NB201 IAmb IAmb 03 58 13.2
comp=Z,13nm,0.8s
NB2 **NORSAR Subarra** 79.74 334 P P 03 58 04.4 -0.4
comp=Z,6.5nm,0.7s,baz=53,slow=5.9
NOA **NORSAR Array B** 79.74 334 P P 03 58 04.4 -0.4
comp=Z,5.2nm,0.7s,baz=52,slow=5.5,SNR=25
NOA LR LR 04 37 58.4
comp=Z,90nm,20.2s,baz=60,slow=39
comp=Z,5.2nm,0.7s
NC204 **NORSAR Array S** 79.78 334 P 03 58 04.3 -0.7
NC204 IAmb IAmb 03 58 05.5
comp=Z,12nm,0.7s
COVR **Voineasa-Covas** 79.84 316 ⇑P P 03 58 07.1 +1.4
TURR **Turia** 79.86 316 ⇑P P 03 58 07.4 +1.6
NEHR **Nehoiu** 79.97 316 ⇑P P 03 58 05.4 -1.0
OZUR 79.99 316 ⇑P P 03 58 07.8 +1.3
MLR **Muntele Rosu** 80.16 316 P 03 58 08.4 +0.8
MLR IAmb IAmb 03 58 17.8
comp=Z,17nm,1.2s
MLR **Muntele Rosu** 80.16 316 LR LR 04 37 11.6
comp=Z,159nm,19.9s,baz=70,slow=38
MLR **Muntele Rosu** 80.16 316 ⇑P P 03 58 08.0 +0.5
MLR **Muntele Rosu** 80.16 316 P P 03 58 08.4 +0.8
MLR pmax pmax
comp=Z,17nm,1.2s
KWP **Kalwaria Pacla** 80.19 321 eP P 03 58 08.4 +0.9
KWP **Kalwaria Pacla** 80.19 321 P P 03 58 08.1 +0.6
comp=Z,33nm,1.0s
DOPR **Dopca** 80.29 316 ⇑P P 03 58 09.4 +1.3
EIL **Elat** 80.47 298 LR LR 04 38 46.4
comp=Z,47nm,19.1s,baz=61,slow=40
OSL **Oslo** 80.58 333 eP P 03 58 09.9 +0.6
LOZB **Loznitsa** 80.70 314 ⇑P P 03 58 11.2 +0.9
KOLS **Kolonicke sedl** 80.77 320 eP P 03 58 10.1 -0.5
KOLS pmax pmax
comp=Z,2.0nm,0.6s
KOLS **Kolonicke sedl** 80.77 320 eP P 03 58 10.1 -0.5
BAND **Balkesir-Ban** 81.03 310 ⇑P P 03 58 12.8 +0.6
ARR **Arges** 81.04 316 ⇑P P 03 58 13.5 +1.4
BORU **Boraas** 81.05 331 i P P 03 58 11.9 0.0
SKAR **Skarslia** 81.09 334 eP P 03 58 12.9 +0.7
STHS **Stebnicka Huta** 81.12 321 eP P 03 58 19.2 +6.7
STHS pmax pmax
comp=Z,2.0nm,0.6s
STHS **Stebnicka Huta** 81.12 321 eP P 03 58 19.2 +6.7
MARR **Marisel-Cluj** 81.35 318 ⇑P P 03 58 14.6 +0.8
ELND **Elena** 81.37 314 ⇑P P 03 58 14.9 +1.0
SUMG **Summit** 81.42 356 P 03 58 15.1 +1.0
SUMG **Summit** 81.42 356 P P 03 58 15.1 +1.0
SUMG pmax pmax
comp=Z,27nm,0.7s
SUMG **Summit** 81.42 356 i P P 03 58 15.5 +1.5
SUMG IAmb IAmb 03 58 19.5
comp=Z,30nm,0.8s
FABU **Falkenberg** 81.44 330 i P P 03 58 12.1 -1.8
BSD **Bornholm Skovb** 81.48 328 i P P 03 58 16.9 +2.8
BSD IAmb IAmb 03 58 17.6
comp=Z,16nm,0.7s
MANT **Manisa** 81.54 309 P 03 58 14.2 -1.0
MANT IAmb IAmb 03 58 24.2
comp=Z,8.6nm,1.0s
LOT **Lotru** 81.54 316 ⇑P P 03 58 15.8 +0.9
OJC **Ojcow** 81.54 322 eP P 03 58 15.5 +0.9
OJC **Ojcow** 81.54 322 P P 03 58 14.2 -0.4
OJC **Ojcow** 81.54 322 P P 03 58 14.2 -0.4
OJC **Ojcow** 81.54 322 P P 03 58 15.4 +0.7
comp=Z,24nm,0.9s
HYA **Hoyanger** 81.59 336 eP P 03 58 15.3 +0.6
NIE **Niedzica** 81.66 321 P P 03 58 16.7 +1.3
comp=Z,3.9nm,1.1s
BJUU **Bjuv** 81.83 329 i P P 03 58 16.3 +0.3
LUNU **Lund** 81.88 329 i P P 03 58 16.9 +0.6
GZR **Gura Zlata** 82.18 317 ⇑P P 03 58 18.4 +0.2
GZR **Gura Zlata** 82.18 317 ⇑P P 03 58 18.4 +0.2
ODD1 **Odda** 82.23 334 eP P 03 58 18.6 +0.5
SURR **Surduc** 82.40 317 ⇓P P 03 58 18.3 -1.0
ASK **Askoy** 82.41 335 eP P 03 58 19.1 +0.1
RDO **Rodhopi** 82.41 312 P P 03 58 19.7 +0.3
RDO IAmb IAmb 03 58 28.9
comp=Z,11nm,0.9s
OKC **Ostrava-Krasne** 82.65 322 AMS AMS 04 38 50.0
comp=Z,400nm,14.8s
STEB **Steborice** 82.80 322 eP P 03 58 22.4 +1.1
VYHS **Vyhne** 82.96 321 eP P 03 58 23.5 +1.3
VYHS pmax pmax

comp=Z,7.0nm,1.0s
VYHS Vyhne 82.96 321 *e*P **P 03 58 23.5 +1.3**
SNART Snartemo 83.00 333 *e*P **P 03 58 22.4 +0.4**
SNART Snartemo 83.00 333 *i* P **P 03 58 22.5 +0.4**
MORC Moravsky Berou 83.01 322 *e*P **P 03 58 25.3 +2.9**
KSP Ksiaz 83.11 324 P **P 03 58 24.0 +1.1**
comp=Z,11nm,0.8s
MDVR Moldovita 83.13 317 ⇑P **P 03 58 23.0 -0.2**
KRLC Kraliky 83.27 323 *e*P **P 03 58 24.5 +0.7**
KRLC AMS AMS 04 39 30.0
comp=Z,400nm,11.1s
KRLC Kraliky 83.27 323 *e*P **P 03 58 24.5 +0.7**
KRLC MLR MLR
comp=Z,400nm,11.1s
OSTC Ostas 83.31 324 AMS AMS 04 39 30.0
comp=Z,600nm,14.9s
DPC Dobruska-Polom 83.37 323 *e*P **P 03 58 25.3 +1.0**
DPC AMS AMS 04 39 30.0
comp=Z,400nm,14.9s
DPC Dobruska-Polom 83.37 323 *e*P **P 03 58 25.3 +1.0**
DPC MLR MLR
comp=Z,400nm,14.9s
CHVC Chvalec 83.38 324 *e*P **P 03 58 26.3 +2.0**
CHVC Chvalec 83.38 324 *e*P **P 03 58 26.3 +2.0**
JAVC Velka Javorina 83.43 322 *e*P P 03 58 29.4 +4.8
UPC Upice 83.45 324 AMS AMS 04 39 40.0
comp=Z,500nm,12.7s
VRAC Vranov 83.78 322 *e*P **P 03 58 28.3 +1.9**
VRAC Vranov 83.78 322 LR LR 04 39 12.6
comp=Z,263nm,18.0s,baz=59,slow=38
MODS Modra-Piesok 83.91 321 *e*P P 03 58 34.9 +7.9
MODS pmax pmax
comp=Z,13nm,1.2s
MODS Modra-Piesok 83.91 321 *e*P P 03 58 34.9 +7.9
KRUC Moravsky 84.03 322 *e*P **P 03 58 28.1 +0.5**
PVCC Panska Ves 84.20 324 AMS AMS 04 41 10.0
comp=Z,400nm,12.2s
MORH Mrgy, Hungar 84.26 319 P **P 03 58 29.4 +0.6**
comp=Z,5.1nm,1.0s
BRG Berggiesshubel 84.34 325 *e*P **P 03 58 30.1 +1.0**
BRG Amp 03 58 30.8
comp=Z,3.3nm,0.9s
BRG Berggiesshubel 84.34 325 P **P 03 58 33.7 +4.6**
BRG Amp 03 58 34.1
comp=Z,3.7nm,0.8s
BRG Berggiesshubel 84.34 325 P P 03 58 38.4 +9.3
BRG Amp 03 58 39.3
comp=Z,9.2nm,1.2s
GOPC GO Pecny, Ondr 84.43 324 AMS AMS 04 40 20.0
comp=Z,400nm,14.7s
PRU Pruhonice 84.52 324 AMS AMS 04 40 10.0
comp=Z,400nm,14.2s
CLL Collm 84.58 325 **P 03 58 30.0 -0.4**
CLL Collm 84.58 325 *i* P **P 03 58 31.1 +0.8**
CLL *i* 03 58 39.1
CLL *e*S **SKSac 04 08 55.0 +1.7**
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 84.58 325 P **P 03 58 31.1 +0.8**
RONA Rosalia, Austr 84.83 321 *e*pP **P 03 58 33.2 +1.5**
comp=Z,4.2nm,1.2s
CONA Conrad Observa 84.94 321 *i* PcP **P 03 58 33.8 +1.4**
comp=Z,9.3nm,1.6s
LIT Litokhoron 84.95 312 P **P 03 58 32.0 -0.5**
LIT Litokhoron 84.95 312 P **P 03 58 32.0 -0.5**
LIT pmax pmax
comp=Z,14nm,0.8s
ZVC Zvikov 85.02 323 *e*P **P 03 58 34.2 +1.6**
ZVC AMS AMS 04 40 30.0
comp=Z,600nm,14.9s
CKRC Cesky Krumlov 85.31 323 *e*P **P 03 58 35.9 +1.8**
CKRC AMS AMS 04 39 30.0
comp=Z,300nm,17.2s
CKRC Cesky Krumlov 85.31 323 *e*P **P 03 58 35.9 +1.8**
CKRC MLR MLR
comp=Z,300nm,17.2s
FNA Florina 85.34 313 **P 03 58 34.0 -0.5**
FNA Florina 85.34 313 P **P 03 58 34.0 -0.5**
FNA pmax pmax
comp=Z,38nm,1.9s
ARSA Arzberg 85.51 321 *i* PcP **P 03 58 36.9 +1.8**
comp=Z,7.5nm,1.7s
KHC Kasperske Hory 85.53 323 *e*P **P 03 58 36.6 +1.4**
KHC *e*pP **sP 03 58 41.0 -1.7**
KHC AMS AMS 04 40 50.0
comp=Z,500nm,16.1s
KHC Kasperske Hory 85.53 323 *e*P **P 03 58 36.6 +1.4**
KHC *e* 03 58 41.0
KHC MLR MLR
comp=Z,500nm,16.1s
GEC2 GERESS Array S 85.62 323 P **P 03 58 35.9 +0.1**
GERES GERESS Array B 85.62 323 P **P 03 58 36.8 +1.0**
GERES GERESS Array B 85.62 323 P **P 03 58 36.6 +0.8**
comp=Z,2.5nm,0.7s,baz=46,slow=5.8,SNR=16
comp=Z,2.5nm,0.7s
SOKA Soboth 86.11 321 *i* P **P 03 58 38.5 +0.3**
comp=Z,3.5nm,0.9s
OBKA Obir 86.48 321 *e*PcP **P 03 58 41.5 +1.4**
comp=Z,5.2nm,2.0s
BORG Borgarnes 86.68 348 LR LR 04 39 03.6
comp=Z,39nm,21.4s,baz=353,slow=37
ITM Ithomi 86.78 310 **P 03 58 40.2 -1.4**
MYKA Terra Mystica 86.92 321 *i* PcP **P 03 58 43.2 +1.0**
comp=Z,2.2nm,0.8s
LESA Schwarzleotal 87.00 322 *i* pP pP 03 58 45.9 -2.0
comp=Z,7.3nm,0.9s
SFJD Kangerlussuaq 87.43 360 LR LR 04 39 33.6
comp=Z,68nm,19.0s,baz=353,slow=37
ABTA Abfaltersbach 87.49 322 *i* pP pP 03 58 48.4 -1.8
comp=Z,4.8nm,0.6s
WTTA Wattenberg 87.67 323 *i* pP pP 03 58 50.1 -1.1
comp=Z,5.1nm,0.7s
MOTA Moosalm 87.91 323 *i* pP pP 03 58 51.0 -1.3
comp=Z,4.6nm,0.6s
SQTA Sankt Quirin 87.93 323 *e*pP pP 03 58 50.7 -1.6
comp=Z,2.6nm,0.6s
RETA Reutte 88.01 323 *e*pP pP 03 58 51.7 -1.0
comp=Z,3.1nm,0.7s
FETA Feichten 88.31 323 *e*PcP **PcP 03 58 50.6 -0.1**
comp=Z,3.3nm,1.1s
DAVA Damuels 88.61 323 *e*pP pP 03 58 54.5 -1.2
comp=Z,9.8nm,0.6s
FUORN Ofenpass-Fuorn 88.81 323 **P 03 58 51.8 +0.3**
DAVOX Davos/Dischmat 88.92 323 LR LR 04 42 07.6
comp=Z,267nm,18.3s,baz=46,slow=38
EKA Eskdalemuir Ar 89.20 335 P **P 03 58 52.7 0.0**
comp=Z,0.6nm,0.5s,baz=42,slow=5.9,SNR=6.9
comp=Z,0.6nm,0.5s
FDMO Fiordimonte 89.32 319 **P 03 58 53.1 -0.6**
TUE Stuetta 89.40 323 P **P 03 58 55.0 +0.8**
TUE IAmb IAmb 03 58 59.6
comp=Z,6.1nm,0.7s
FRB Frobisher Bay 89.69 7 LR LR 04 41 18.4
comp=Z,109nm,20.4s,baz=314,slow=37
HLID Hailey 90.03 40 P **P 03 58 59.0 +1.8**
PPT Papeete 90.56 109 LR LR 04 35 40.9
comp=Z,64nm,19.0s,baz=310,slow=33
PPT2 Papeete2 90.57 109 *e*LR LR 04 27 44.9
comp=Z,165nm,33.5s
PPT2 *e*LR LR 04 28 02.0
comp=Z,100nm,21.8s
NVAR Mina Array Bea 90.60 46 P **P 03 59 01.3 +1.4**
comp=Z,0.3nm,0.7s,baz=294,slow=6.1,SNR=2.4
comp=Z,0.3nm,0.7s
TBI Tubuai 93.25 114 *e*LR LR 04 29 02.4
TBI *e*LR LR 04 29 03.5
comp=Z,682nm,31.0s
PDAR Pinedale Array 93.31 39 P **P 03 59 12.9 +0.5**
comp=Z,0.2nm,0.3s,baz=308,slow=7.6,SNR=1.6
comp=Z,0.2nm,0.3s
SCHQ Schefferville 98.57 9 LR LR 04 46 40.5
comp=Z,44nm,21.7s,baz=324,slow=37
ESDC Sonseca Array 101.15 325 P **Pdif 03 59 47.9 +0.2**
comp=Z,0.5nm,0.9s,baz=66,slow=4.2,SNR=1.9

*IDC **30** 03:48:19.0ₙ3.8, 18˚45S×176˚58W, h345km±37km, mb3.4/7, mbtmp4.1/8, Error ellipse: s-maj=24.5km s-min=15.9km az=122.0*

ISC 30 03:48:16.7±0.9,**18˚4S**±0˚2×**176˚6W**±0˚2,**h323km**,**n9**, σ0§**81**/11,**mb3.6**/6,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.31**	**254**	P	**Pn**	**03 51 49.3**	**-0.5**
URZ	**Urewera**	**20.55**	**194**	P	**P**	**03 52 30.8**	**-0.7**
	3.3nm,0.3s,baz=1.4,slow=6.7,SNR=7.1						
URZ				S	**S**	**03 55 59.2**	**-1.1**
	11nm,1.1s,baz=70,slow=7.1,SNR=4.2						
	3.3nm,0.3s						
STKA	**Stephens Creek**	**39.90**	**242**	P	**P**	**03 55 21.2**	**+0.9**
	2.0nm,0.5s,baz=88,slow=13,SNR=5.7						
	2.0nm,0.5s						
WRA	**Warramunga Arr**	**46.22**	**260**	P	**P**	**03 56 10.7**	**0.0**
	0.6nm,0.3s,baz=97,slow=7.0,SNR=14						
WRA				PcP	**PcP**	**03 57 39.9**	**-0.6**
	0.3nm,0.5s,baz=92,slow=3.3,SNR=2.2						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**46.30**	**255**	P	**P**	**03 56 11.7**	**+0.3**
	7.8nm,0.5s,baz=90,slow=8.2,SNR=50						
	7.8nm,0.5s						
QSPA	**South Pole Qui**	**71.67**	**180**	P	**P**	**03 59 04.9**	**+1.1**
	1.1nm,1.0s,baz=14,slow=4.2,SNR=1.9						
	1.1nm,1.0s						
NVAR	**Mina Array Bea**	**78.60**	**43**	P	**P**	**03 59 43.0**	**-0.5**
	0.7nm,0.8s,baz=245,slow=7.0,SNR=3.7						
	0.7nm,0.8s						
TXAR	**Lajitas Array**	**84.82**	**57**	P	**P**	**04 00 16.1**	**+0.3**
	0.9nm,0.9s,baz=208,slow=5.1,SNR=9.0						
	0.9nm,0.9s						
BRTR	**Keskin Array B**	**146.32**	**316**	PKPbc	**PKPbc**	**04 07 19.6**	**-0.6**
	0.5nm,0.5s,baz=117,slow=1.9,SNR=4.0						

*MOS **30** 04:13:45.9±0.8, 42˚.28N×143˚.10E, h66km, mb4.7/29, Error ellipse: s-maj=7.6km s-min=5.4km az=91.0*
*SKHL **30** 04:13:46.0±0.2, 42˚.20N×143˚.10E, h71km±6km, mb5.6/4*
*NEIC **30** 04:13:47.6±1.5, 42˚.35N±0˚.06×143˚.0E±0˚.1, h57km±6km, mb4.4/115, Error ellipse: s-maj=13.1km s-min=7.7km az=104.0*
*IDC **30** 04:13:47.8±1.8, 42˚.38N×143˚.08E, h64km±15km, mb4.0/27, mbtmp4.3/32, MS3.2/13, Error ellipse: s-maj=14.2km s-min=12.3km az=113.0*
*JMA **30** 04:13:48.0±0.1, 42˚.4N±0˚.4×143˚.1E±0˚.5, h49km±1km, MD4.2/40, MV4.3/40, HIDAKA MOUNTAINS REGION*
JMA Felt II J1 at HIDAKA MOUNTAINS REGION .
*NIED **30** 04:13:48.0, 42˚.37N×143˚.11E, h49km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.14; Mθθ-0.80; Mφφ-1.34; Mrθ0.47; Mθφ-0.79; Mφr1.65; Fault plane solution: M₀2.65000×10¹⁵ NP1: φs224.00000°, δ26.00000°, λ108.00000°. NP2: φs24.00000°, δ65.00000°, λ81.00000°.*

ISC 30 04:13:47.0±0.5,**42˚34N**±0˚.03×**143˚08E**±0˚.04,**h57**km±4km, **n317**,σ1§**09**/324,**mb4.4**/108,**MS3.1**/10,**14C-13D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTHR	**Tokachihiroo**	**0.17**	**108**	*i* P	**Pn**	**04 13 56.1**	**+0.2**
JTHR				*e*S	**Sn**	**04 14 02.1**	**-0.2**
JTHR	**Tokachihiroo**	**0.17**	**108**	A	A	04 13 56.1	
	comp=N,35nm,0.4s,comp=E,18nm,0.6s						
JNBK	**Urakawa-nobuka**	**0.25**	**255**	⇓P	**Pn**	**04 13 56.8**	**+0.4**
JNBK				⇓eS	**Sn**	**04 14 03.9**	**+0.7**
JNBK	**Urakawa-nobuka**	**0.25**	**255**	A	A	04 13 56.8	
	comp=N,167nm,0.4s,comp=E,84nm,0.4s						
JEM	**Erimo**	**0.33**	**170**	P	**Pn**	**04 13 57.7**	**+0.7**
JEM	**Erimo**	**0.33**	**170**	P	**Pn**	**04 13 57.7**	**+0.7**
JEM				*e*S	**Sn**	**04 14 04.7**	**+0.4**
JEM	**Erimo**	**0.33**	**170**	A	A	04 13 57.7	
	comp=N,20nm,2.6s,comp=E,33nm,0.9s						
ERM	**Erimo**	**0.33**	**170**		**Pn**	**04 13 58.0**	**+0.9**
ERM				Sn	**Sn**	**04 14 04.8**	**+0.6**
ERM	**Erimo**	**0.33**	**170**	P	**Pn**	**04 13 57.7**	**+0.7**
ERM	**Erimo**	**0.33**	**170**	*c* iPN	**Pn**	**04 13 57.7**	**+0.7**
JCH	**Churui**	**0.34**	**38**	P	**Pn**	**04 13 57.0**	**-0.1**
JCH				*e*S	**Sn**	**04 14 04.2**	**-0.3**
JCH	**Churui**	**0.34**	**38**	A	A	04 13 57.0	
	comp=N,19nm,0.3s,comp=E,12nm,0.4s						
JSHD	**Hidakashinhida**	**0.46**	**278**	⇓P	**Pn**	**04 13 59.3**	**+1.0**
JSHD	**Hidakashinhida**	**0.46**	**278**	A	A	04 13 59.3	
	comp=N,39nm,0.6s,comp=E,59nm,0.9s						
JBT2	**Biratori 2**	**0.68**	**310**	⇓P	**Pn**	**04 14 01.8**	**+1.0**
JBT2	**Biratori 2**	**0.68**	**310**	A	A	04 14 01.8	
	comp=N,12nm,2.4s,comp=E,11nm,0.9s						
JOB	**Onbets**	**0.79**	**45**	P	**Pn**	**04 14 03.2**	**+1.0**
JOB	**Onbets**	**0.79**	**45**	A	A	04 14 03.2	
	comp=N,26nm,1.4s,comp=E,34nm,0.7s						
JFR	**Furan**	**0.89**	**337**	P	**Pn**	**04 14 03.1**	**-0.4**
JFR				*e*S	**Sn**	**04 14 15.0**	**-0.7**
JFR	**Furan**	**0.89**	**337**	A	A	04 14 03.1	
	comp=N,5.0nm,1.0s,comp=E,5.0nm,0.7s						
JIAM	**Iburiatsuma**	**0.90**	**288**	*e*P	**Pn**	**04 14 05.9**	**+2.3**
JIAM	**Iburiatsuma**	**0.90**	**288**	A	A	04 14 05.9	
	comp=N,36nm,0.5s,comp=E,38nm,0.7s						
JAR	**Ashorobuto**	**1.08**	**28**	P	**Pn**	**04 14 06.2**	**+0.3**
JAR				*e*S	**Sn**	**04 14 19.6**	**-0.4**
JAR	**Ashorobuto**	**1.08**	**28**	A	A	04 14 06.2	
	comp=N,10.0nm,0.7s,comp=E,14nm,0.7s						
JEW	**Eniwo**	**1.30**	**293**	⇓P	**Pn**	**04 14 10.5**	**+1.6**
JEW	**Eniwo**	**1.30**	**293**	A	A	04 14 10.5	
	comp=N,8.0nm,1.1s,comp=E,13nm,2.0s						
JAB	**Ashibetsu**	**1.32**	**332**	⇓P	**Pn**	**04 14 10.5**	**+1.4**
JAB	**Ashibetsu**	**1.32**	**332**	A	A	04 14 10.5	
	comp=N,4.0nm,1.4s,comp=E,3.0nm,0.9s						
JAK	**Akkeshi**	**1.36**	**61**	P	**Pn**	**04 14 09.7**	**0.0**
JAK				*e*S	**Sn**	**04 14 26.8**	**+0.2**
JAK	**Akkeshi**	**1.36**	**61**	A	A	04 14 09.7	
	comp=N,15nm,0.9s,comp=E,13nm,0.8s						
AKK	**Akkeshi**	**1.46**	**62**	*e*P	**Pn**	**04 14 11.2**	**+0.1**
JISS	**Ishikarishitsu**	**1.54**	**308**	A	A	04 14 13.7	
	comp=N,13nm,1.6s,comp=E,10.0nm,0.5s						
JKB	**Kayabe**	**1.59**	**254**	A	A	04 14 14.8	
	comp=N,7.0nm,1.7s,comp=E,10.0nm,0.9s						
JAHD	**Aomorihigashid**	**1.69**	**231**	A	A	04 14 16.2	
	comp=N,19nm,1.2s,comp=E,16nm,1.0s						
JNK	**Nakash**	**1.73**	**44**	A	A	04 14 15.9	
	comp=N,4.0nm,0.2s,comp=E,5.0nm,1.4s						
JKA	**Kamikawa-asahi**	**1.81**	**349**		**Pn**	**04 14 17.2**	**+1.5**
ASAJ	**Asahikawa**	**1.81**	**349**	P	**Pn**	**04 14 16.7**	**+0.9**
	comp=E,151nm,0.3s,baz=210,slow=13,SNR=84						
ASAJ				S	**Sn**	**04 14 31.4**	**-6.1**
	comp=E,269nm,0.4s,baz=221,slow=19,SNR=8.6						
ASAJ				LR	LR	04 15 10.0	
	comp=E,314nm,20.8s,baz=324,slow=46						
ASAJ	**Asahikawa**	**1.81**	**349**	PN	**Pn**	**04 14 17.3**	**+1.6**
JNSB	**Nemuroshibetsu**	**2.01**	**44**	A	A	04 14 19.9	
	comp=N,7.0nm,0.6s,comp=E,6.0nm,0.8s						
JTM	**Tenmabayashi**	**2.17**	**225**		**Pn**	**04 14 21.4**	**+0.7**
JTM				Sn	**Sn**	**04 14 46.6**	**+0.2**
JTM	**Tenmabayashi**	**2.17**	**225**	P	**Pn**	**04 14 21.7**	**+1.1**
NMR	**Nemuro--Hokkai**	**2.20**	**61**	*e*PN	**Pn**	**04 14 20.0**	**-1.1**
NMR				*e*S	**Sn**	**04 14 45.5**	**-1.6**
NMR	**Nemuro--Hokkai**	**2.20**	**61**	*e*P	**Pn**	**04 14 20.3**	**-0.8**
NMR				*e*S	**Sn**	**04 14 45.9**	**-1.2**
GLVR	**Golovnino**	**2.27**	**51**	*e*PN	**Pn**	**04 14 22.4**	**+0.4**
GLVR				*e*S	**Sn**	**04 14 50.3**	**+1.5**
GLVR				pmax	pmax		
	comp=N,80nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,924nm,0.1s						
GLVR				smax	smax		
	comp=N,5μm,0.2s						
GLVR				smax	smax		
	comp=E,5μm,0.2s						
GLVR	**Golovnino**	**2.27**	**51**	*e*P	**Pn**	**04 14 22.4**	**+0.4**
GLVR				AMB	AMB	04 14 23.6	
	comp=E,920nm,0.1s						
GLVR				*e*S	**Sn**	**04 14 49.9**	**+1.1**
GLVR				A	A	04 14 53.6	
	comp=E,5μm,0.2s						
GLVR				A	A	04 14 53.6	
	comp=E,5μm,0.2s						
RUSJ	**Misakicho**	**2.37**	**41**	*e*PN	**Pn**	**04 14 24.9**	**+1.5**
RUSJ				*e*S	**Sn**	**04 14 55.1**	**+3.9**
YUK	**Yuzh-Kuril'sk**	**2.65**	**49**	*e*PN	**Pn**	**04 14 27.8**	**+0.7**
YUK				*e*S	**Sn**	**04 14 59.2**	**+1.2**
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK				pmax	pmax		
	comp=E,286nm,0.2s						
YUK				pmax	pmax		
	comp=N,386nm,0.3s						
YUK				smax	smax		
	comp=E,2μm,0.5s						
YUK				smax	smax		
	comp=N,3μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.65**	**49**	*e*P	**Pn**	**04 14 27.8**	**+0.7**
YUK				AMB	AMB	04 14 34.1	
	comp=N,1μm,0.3s						
YUK				*e*S	**Sn**	**04 14 59.2**	**+1.2**
YUK				A	A	04 15 06.3	
	comp=N,3μm,0.4s						
YUK				A	A	04 15 06.3	
	comp=N,2μm,0.4s						
SHO	**Shikotan**	**3.14**	**60**	*e*PN	**Pn**	**04 14 34.5**	**+0.6**
SHO				*e*S	**Sn**	**04 15 10.7**	**+0.5**
SHO				pmax	pmax		
	comp=Z,277nm,0.2s						
SHO				pmax	pmax		
	comp=N,76nm,0.3s						
SHO				pmax	pmax		
	comp=E,199nm,0.2s						
SHO				smax	smax		
	comp=E,1μm,0.2s						
SHO				smax	smax		
	comp=N,728nm,0.4s						
SHO	**Shikotan**	**3.14**	**60**	*e*P	**Pn**	**04 14 34.5**	**+0.6**
SHO				AMB	AMB	04 14 39.2	
	comp=N,280nm,0.2s						
SHO				*e*S	**Sn**	**04 15 10.7**	**+0.5**
SHO				A	A	04 15 16.0	
	comp=N,730nm,0.3s						
SHO				A	A	04 15 16.0	
	comp=N,1μm,0.3s						
KUR	**Kuril'sk**	**4.51**	**49**	PN	**Pn**	**04 14 54.1**	**+1.4**
KUR				*e*S	**Sn**	**04 15 45.9**	**+2.1**
KUR				pmax	pmax		
	comp=Z,168nm,0.5s						
KUR				pmax	pmax		
	comp=E,43nm,0.3s						
KUR				pmax	pmax		
	comp=N,88nm,0.4s						
KUR				smax	smax		
	comp=E,295nm,0.5s						
KUR				smax	smax		
	comp=N,176nm,0.4s						
KUR	**Kuril'sk**	**4.51**	**49**	*e*P	**Pn**	**04 14 54.1**	**+1.4**
KUR				AMB	AMB	04 14 57.9	
	comp=N,170nm,0.5s						
KUR				*e*S	**Sn**	**04 15 45.3**	**+1.5**
KUR				A	A	04 15 56.5	
	comp=N,210nm,0.5s						
KUR				A	A	04 15 56.5	
	comp=N,330nm,0.5s						
YSS	**Yuzhno-Sakhali**	**4.62**	**357**	Pn	**Pn**	**04 14 54.6**	**+0.5**
YSS	**Yuzhno-Sakhali**	**4.62**	**357**	*e*PN	**Pn**	**04 14 57.5**	**+3.4**
YSS				*e*S	**Sn**	**04 15 49.8**	**+3.5**
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS				smax	smax		
	comp=N,60nm,0.5s						
YSS				smax	smax		
	comp=E,60nm,0.5s						
YSS				MLR	MLR		
	comp=Z,100nm,13.0s						
YSS	**Yuzhno-Sakhali**	**4.62**	**357**	*e*P	**Pn**	**04 14 56.7**	**+2.6**
YSS				*e*S	**Sn**	**04 15 48.3**	**+2.0**
JMM	**Marumori**	**4.80**	**202**		**Pn**	**04 14 55.9**	**-0.8**
JMM				Sn	**Sn**	**04 15 48.3**	**-2.7**
JMM	**Marumori**	**4.80**	**202**	P	**Pn**	**04 14 56.2**	**-0.5**
	comp=Z,101nm,0.6s						
TEY	**Ternei**	**5.41**	**302**	*e*PN	**Pn**	**04 15 05.6**	**+0.6**
JSD	**Sado**	**5.67**	**222**	P	**Pn**	**04 15 09.8**	**+1.3**
	comp=Z,62nm,0.6s						
MJB9	**Matsu-Tunnel**	**6.91**	**215**		**Pn**	**04 15 26.8**	**+1.2**
MAJO	**Matsushiro**	**6.91**	**215**		**Pn**	**04 15 26.5**	**+0.9**
MAJO	**Matsushiro**	**6.91**	**215**	P	**Pn**	**04 15 27.1**	**+1.5**
	comp=Z,28nm,0.6s						
MAJO	**Matsushiro**	**6.91**	**215**	*ce*PN	**Pn**	**04 15 25.9**	**+0.3**
MJAR	**Matsushiro Arr**	**6.91**	**215**		**Pn**	**04 15 26.8**	**+1.2**
MJAR	**Matsushiro Arr**	**6.91**	**215**	P	**Pn**	**04 15 26.7**	**+1.0**
	comp=Z,5.7nm,0.4s,baz=28,slow=14,SNR=18						
MJAR				LR	LR	04 18 51.5	
	comp=Z,66nm,19.5s,baz=66,slow=44						
JGF	**Kuroka**	**8.07**	**215**		**Pn**	**04 15 41.0**	**-0.5**
JGF	**Kuroka**	**8.07**	**215**	P	**Pn**	**04 15 42.6**	**+1.1**
	comp=Z,25nm,0.6s						
USA0B	**Ussuriysk Arra**	**8.30**	**287**	Pn	**Pn**	**04 15 43.9**	**-0.7**
USA0B	**Ussuriysk Arra**	**8.30**	**287**	⇓*e*PN	**Pn**	**04 15 47.0**	**+2.4**
USRK	**Ussuriysk Ar.**	**8.30**	**287**	Pn	**Pn**	**04 15 44.4**	**-0.2**
USRK	**Ussuriysk Ar.**	**8.30**	**287**	P	**Pn**	**04 15 46.0**	**+1.4**
	comp=Z,6.0nm,0.7s,baz=82,slow=16,SNR=6.1						
USRK				LR	LR	04 18 37.0	
	comp=Z,162nm,21.9s,baz=93,slow=35						
USRK	**Ussuriysk Ar.**	**8.30**	**287**	PN	**Pn**	**04 15 46.0**	**+1.4**
INU	**Inuyama**	**8.43**	**216**		**Pn**	**04 15 46.1**	**-0.3**
INU	**Inuyama**	**8.43**	**216**	P	**Pn**	**04 15 48.8**	**+2.4**
	comp=Z,64nm,0.6s						
TYV	**Tymovskoe**	**8.53**	**358**	*e*PN	**Pn**	**04 15 50.6**	**+3.0**
TYV				pmax	pmax		
	comp=Z,100nm,3.4s						
TYV				pmax	pmax		
	comp=Z,12nm,0.9s						
TYV	**Tymovskoe**	**8.53**	**358**	*e*P	**Pn**	**04 15 50.6**	**+3.0**
TYV				*e*S	**Sn**	**04 17 22.8**	**+0.5**
JHJ2	**Mitsune**	**9.57**	**197**	P	**Pn**	**04 15 59.9**	**-2.1**
	comp=Z,105nm,1.1s						
GRNR	**Gornyy**	**9.59**	**334**	⇓*i*PN	**Pn**	**04 16 06.2**	**+4.0**
GRNR				pmax	pmax		
	comp=Z,20nm,0.7s						
KSRS	**Korea Array**	**12.62**	**252**	P	**Pn**	**04 16 45.2**	**+1.6**
	comp=Z,4.8nm,0.9s,baz=64,slow=12,SNR=9.1						
JNU	**Nakatsue**	**13.33**	**230**	P	**Pn**	**04 16 52.8**	**-0.6**
	comp=Z,4.0nm,0.6s,baz=35,slow=12,SNR=4.3						
JNU				LR	LR	04 21 46.0	
	comp=Z,74nm,19.7s,baz=12,slow=36						
PETK	**Petropavlovsk-**	**14.55**	**37**	P	**Pn**	**04 17 09.4**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=207,slow=12,SNR=2.7						
PETK				S	**Sn**	**04 19 49.6**	**+0.2**
	comp=Z,1.7nm,0.4s,baz=246,slow=29,SNR=3.4						
MA2	**Magadan**	**17.90**	**13**	⇓*e*P	**Pn**	**04 17 52.6**	**+1.0**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MA2	**Magadan**	**17.90**	**13**	*e*P	**Pn**	**04 17 52.6**	**+1.0**
TIA	**Tai'an**	**20.96**	**262**	P	**P**	**04 18 23.0**	**-2.2**
TIA				pmax	pmax		
	comp=Z,12nm,0.6s						
SEY	**Seymchan**	**21.34**	**12**	P	**P**	**04 18 24.9**	**-4.0**
	comp=Z,2.9nm,0.2s,baz=183,slow=6.5,SNR=10						
SEY	**Seymchan**	**21.34**	**12**	⇓*i*P	**P**	**04 18 26.9**	**-2.0**
SEY				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SHEM	**Shemya Is, Ala**	**23.20**	**53**	LR	LR	04 28 16.4	
	comp=Z,14nm,20.1s,baz=300,slow=38						
HHC	**Hu-ho-hao-te**	**23.55**	**277**	*e*P	**P**	**04 18 51.0**	**-1.2**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
ULN	**Ulaanbaatar**	**25.86**	**295**	⇑*e*P	**P**	**04 19 13.4**	**+0.2**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ULN	**Ulaanbaatar**	**25.86**	**295**	*e*P	**P**	**04 19 13.4**	**+0.2**
SONM	**Songino Array**	**26.30**	**295**	P	**P**	**04 19 15.9**	**-1.2**
SONM				IAmb	IAmb	04 19 18.3	
	comp=Z,6.2nm,1.0s						
SONM	**Songino Array**	**26.30**	**295**	P	**P**	**04 19 17.2**	**+0.1**
	comp=Z,4.4nm,0.7s,baz=85,slow=8.1,SNR=12						
SONM				LR	LR	04 30 03.0	
	comp=Z,110nm,19.5s,baz=52,slow=37						
	comp=Z,4.4nm,0.7s						
SONM	**Songino Array**	**26.30**	**295**	P	**P**	**04 19 16.0**	**-1.2**
SONM				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GUMO	**Guam**	**28.69**	**176**	LR	LR	04 31 08.7	
	comp=Z,15nm,18.8s,baz=261,slow=36						
TIXI	**Tiksi**	**30.21**	**351**	⇓*e*P	**P**	**04 19 51.2**	**-0.3**
TIXI				pmax	pmax	

baz=325,slow=76,SNR=407
GTA Gaotai 32.59 280 P **P** **04 20 13.8 +0.8**
GTA pmax pmax
comp=Z,12nm,0.9s
PZH PanZhiHua 37.19 258 P **P** **04 20 53.3 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.7s
GOMU GeErMu 37.46 277 P **P** **04 20 56.0 +0.8**
GOMU pmax pmax
comp=Z,8.0nm,0.7s
I17K Unalakleet 38.35 36 P **P** **04 21 03.6 +1.6**
I17K pP **pP** **04 21 15.7 -0.8**
N15K Kwethluk River 38.37 42 P **P** **04 21 03.4 +1.2**
N15K pP **pP** **04 21 16.6 -0.1**
N15K lAmb lAmb 04 21 18.8
comp=Z,4.1nm,0.6s
DAV Davao City (W) 38.39 209 LR LR 04 36 35.4
comp=Z,26nm,18.5s,baz=350,slow=36
CNBA Chernabura Isl 38.84 51 P **P** **04 21 05.2 -0.9**
CNBA lAmb lAmb 04 21 41.8
comp=Z,14nm,1.4s
E18K Tukpahlearik C 38.94 31 P **P** **04 21 07.5 +0.7**
E18K lAmb lAmb 04 21 28.7
comp=Z,11nm,1.1s
M16K Timber Creek 38.95 41 P **P** **04 21 08.2 +1.1**
M16K lAmb lAmb 04 21 11.1
comp=Z,7.8nm,1.4s
M16K pP **pP** **04 21 21.4 -0.3**
O16K Kokwok River B 39.38 43 P **P** **04 21 11.1 +0.5**
O16K lAmb lAmb 04 21 52.1
comp=Z,7.7nm,1.4s
G18K Tagagawik 39.46 33 P **P** **04 21 11.9 +0.7**
G18K pP **pP** **04 21 24.4 -1.4**
G18K lAmb lAmb 04 21 25.4
comp=Z,4.2nm,0.8s
ZAA0 Zalesovo Array 39.48 308 P **P** **04 21 11.8 +0.3**
ZAA0 lAmb lAmb 04 21 12.9
comp=Z,9.1nm,0.8s
ZALV Zalesovo Beam 39.48 308 P **P** **04 21 12.1 +0.6**
ZALV PcP **PcP** **04 23 18.4 +0.2**
ZALV Zalesovo Beam 39.48 308 P **P** **04 21 11.5 0.0**
comp=Z,11nm,0.8s,baz=86,slow=7.8,SNR=31
ZALV PcP **PcP** **04 23 18.0 -0.2**
comp=Z,2.7nm,0.6s,baz=112,slow=3.2,SNR=7.9
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 39.48 308 P **P** **04 21 12.1 +0.6**
ZALV 04 23 18.4
H18K Honhosa River 39.50 35 P **P** **04 21 12.5 +1.0**
H18K pP **pP** **04 21 25.2 -0.9**
H18K lAmb lAmb 04 21 40.9
comp=Z,15nm,1.5s
C19K Lookout Ridge 39.65 28 P **P** **04 21 12.4 -0.3**
M17K Holitna River 39.70 40 P **P** **04 21 14.8 +1.6**
M17K pP **pP** **04 21 28.0 +0.1**
M17K lAmb lAmb 04 21 40.7
comp=Z,5.0nm,1.1s
N17K Nushagak Hills 39.82 42 P **P** **04 21 15.5 +1.3**
N17K lAmb lAmb 04 21 37.3
comp=Z,4.8nm,1.4s
WMQ Urumqi 39.84 292 *e*P **P** **04 21 16.3 +1.6**
F19K Shaleruckik Mo 39.94 32 P **P** **04 21 15.5 +0.4**
F19K lAmb lAmb 04 21 31.3
comp=Z,4.8nm,1.2s
D19K Kuna River 40.06 29 P **P** **04 21 16.4 +0.2**
L18K Granite Mounta 40.06 39 P **P** **04 21 17.4 +1.1**
L18K pP **pP** **04 21 31.0 +0.1**
L18K lAmb lAmb 04 22 00.7
comp=Z,6.5nm,1.5s
E19K Redstone River 40.23 31 P **P** **04 21 18.2 +0.6**
E19K lAmb lAmb 04 21 55.7
comp=Z,9.3nm,1.4s
H19K Roundabout Mou 40.33 34 P **P** **04 21 19.4 +1.0**
H19K lAmb lAmb 04 21 33.0
comp=Z,3.8nm,0.6s
N18K Kilae Creek 40.45 42 P **P** **04 21 20.7 +1.2**
J19K Poorman 40.59 36 P **P** **04 21 21.1 +0.4**
D20K Etivluk River 40.64 29 P **P** **04 21 20.4 -0.5**
CHIR Chirikof Islan 40.98 49 P **P** **04 21 24.0 +0.1**
CHIR pP **pP** **04 21 37.4 -1.1**
N19K Bonanza Creek 41.14 41 P **P** **04 21 27.1 +1.8**
J20K Nowinta River 41.25 36 P **P** **04 21 27.4 +1.5**
J20K lAmb lAmb 04 21 47.2
comp=Z,3.6nm,0.9s
K20K Telida 41.28 37 P **P** **04 21 26.9 +0.6**
IMAR Indian Mountai 41.47 33 P **P** **04 21 28.1 +0.3**
IMAR pP **pP** **04 21 41.6 -0.9**
G21K Allakaket 41.60 33 P **P** **04 21 29.5 +0.7**
F21K Alatna River 41.65 32 P **P** **04 21 29.6 +0.3**
F21K lAmb lAmb 04 21 38.4
comp=Z,6.0nm,1.4s
Q19K Cape Douglas, 41.70 44 P **P** **04 21 29.8 0.0**
H21K Melozitna River 41.85 34 P **P** **04 21 32.0 +1.1**
D22K Ayikyak River 42.08 29 P **P** **04 21 32.8 +0.1**
CAST Castle Rocks 42.17 37 P **P** **04 21 34.5 +0.9**
E22K Anaktuvuk Pass 42.34 30 P **P** **04 21 34.8 -0.2**
E22K lAmb lAmb 04 21 54.6
comp=Z,4.2nm,0.7s
SYI Shuyak Island 42.38 45 P **P** **04 21 35.3 0.0**
KDAK Kodiak Island 42.38 46 P **P** **04 21 35.5 +0.2**
KDAK lAmb lAmb 04 21 54.5
comp=Z,7.3nm,1.1s
KDAK Kodiak Island 42.38 46 LR LR 04 39 29.1
comp=Z,25nm,21.3s,baz=259,slow=36
KDAK Kodiak Island 42.38 46 P **P** **04 21 35.5 +0.2**
KDAK pmax pmax
comp=Z,7.0nm,1.1s
MK31 Makanchi Array 42.59 298 P **P** **04 21 37.7 +0.5**
MK31 lAmb lAmb 04 21 38.3
comp=Z,5.8nm,0.7s
MK31 Makanchi Array 42.59 298 *ce*P **P** **04 21 37.3 +0.1**
MKAR Makanchi Array 42.59 298 **P** **04 21 37.9 +0.7**
MKAR Makanchi Array 42.59 298 P **P** **04 21 37.6 +0.4**
comp=Z,4.4nm,0.6s,baz=84,slow=9.7,SNR=26
MKAR PcP **PcP** **04 23 28.8 +0.3**
comp=Z,0.8nm,0.6s,baz=20,slow=1.2,SNR=3.6
comp=Z,4.4nm,0.6s
MLY Manley 42.72 35 P **P** **04 21 40.2 +2.2**
MAKZ Makanchi 42.79 298 P **P** **04 21 39.1 +0.2**
MAKZ lAmb lAmb 04 21 39.5
comp=Z,14nm,1.1s
MAKZ Makanchi 42.79 298 P **P** **04 21 39.1 +0.2**
MAKZ pmax pmax
comp=Z,14nm,1.2s
C23K Itkillik River 42.88 28 P **P** **04 21 39.1 -0.1**
SUA Susitna One 42.91 40 P **P** **04 21 39.6 -0.1**
TRF Thorofare Moun 42.97 37 P **P** **04 21 41.2 +1.0**
G23K Bananza Creek 42.99 32 P **P** **04 21 40.2 0.0**
E23K Chandalar 43.16 30 P **P** **04 21 41.9 +0.3**
TOLK Toolik Lake Re 43.19 30 P **P** **04 21 41.8 0.0**
C24K Franklin Bluff 43.54 28 P **P** **04 21 44.2 -0.3**
C24K lAmb lAmb 04 21 57.9
comp=Z,7.8nm,0.9s
F24K Squaw Lake 43.82 31 P **P** **04 21 47.2 +0.3**
KURK Kurchatov 43.84 304 P **P** **04 21 47.4 +0.2**
KURK Kurchatov 43.84 304 *ce*P **P** **04 21 47.1 -0.1**
KURK pmax pmax
comp=Z,15nm,0.7s
KURK Kurchatov 43.84 304 *e*P **P** **04 21 47.1 -0.1**
H24K Noodor Dome 43.88 34 P **P** **04 21 48.1 +0.7**
KURBB Kurchatov Arra 43.92 304 P **P** **04 21 48.0 +0.2**
comp=Z,14nm,0.7s,baz=76,slow=8.8,SNR=90
KURBB PcP **PcP** **04 23 32.8 0.0**
comp=Z,0.8nm,0.5s,baz=86,slow=3.3,SNR=3.3
comp=Z,14nm,0.7s
COLA College 43.95 35⇑ *e*P **P** **04 21 48.0 +0.2**
COLA pmax pmax
comp=Z,5.0nm,0.8s
CCB Clear Creek Bu 43.99 35 P **P** **04 21 47.7 -0.4**
G24K Hadweenzic Riv 44.01 32 P **P** **04 21 48.8 +0.4**
PWL Port Wells 44.13 41 P **P** **04 21 50.9 +1.4**
PWL lAmb lAmb 04 22 08.9
comp=Z,11nm,1.1s
CMAR Chiang Mai Arr 44.26 251 P **P** **04 21 51.4 +0.5**
comp=Z,1.6nm,0.3s,baz=47,slow=7.7,SNR=4.6
CMAR LR LR 04 40 10.9
comp=Z,25nm,20.0s,baz=50,slow=36
comp=Z,1.6nm,0.3s
CMAR Chiang Mai Arr 44.26 251 *ce*P **P** **04 21 51.7 +0.8**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
D25K Kavik River 44.35 29 P **P** **04 21 50.6 -0.5**
D25K lAmb lAmb 04 22 10.4
comp=Z,2.6nm,0.7s
IL31 44.37 35 P **P** **04 21 51.7 +0.5**
IL31 lAmb lAmb 04 22 06.2
comp=Z,5.6nm,1.1s
ILAR Eielson Array 44.37 35 P **P** **04 21 51.9 +0.7**
ILAR Eielson Array 44.37 35 P **P** **04 21 50.9 -0.3**
comp=Z,1.8nm,0.9s,baz=267,slow=6.3,SNR=18
ILAR PcP **PcP** **04 23 33.2 -1.0**
comp=Z,0.2nm,0.5s,baz=294,slow=3.9,SNR=1.5
comp=Z,1.8nm,0.9s
SCM Sheep Creek Mo 44.49 39 P **P** **04 21 54.0 +1.7**
SCM lAmb lAmb 04 22 13.5
comp=Z,8.5nm,1.2s
SCM Sheep Creek Mo 44.49 39 P **P** **04 21 54.0 +1.7**
SCM pmax pmax
comp=Z,8.0nm,1.2s
F25K Christian Rive 44.68 31 P **P** **04 21 54.1 +0.4**
PRP Porcupine Dome 44.88 34 P **P** **04 21 55.3 -0.1**
PRP lAmb lAmb 04 21 56.9
comp=Z,5.1nm,0.9s
J25K Salcha River, 45.03 35 P **P** **04 21 57.5 +0.9**
FID Port Fidalgo 45.05 41 P **P** **04 21 56.4 -0.4**
FID lAmb lAmb 04 22 09.6
comp=Z,7.3nm,1.2s
HIN Hinchinbrook I 45.10 41 P **P** **04 22 00.1 +3.0**
KLU Klutina 45.20 40 P **P** **04 21 58.9 +0.9**
KLU lAmb lAmb 04 22 19.7
comp=Z,8.5nm,1.2s
F26K Sheenjek River 45.24 31 P **P** **04 21 58.9 +0.7**
C27K Jago River 45.28 28 P **P** **04 21 58.5 0.0**
C27K lAmb lAmb 04 22 12.4
comp=Z,2.6nm,0.7s
G26K Porcupine Rive 45.45 32 P **P** **04 22 01.4 +1.7**
G26K lAmb lAmb 04 22 16.4
comp=Z,3.8nm,1.2s
SCRK Sand Creek 45.71 36 P **P** **04 22 02.5 +0.5**
SCRK lAmb lAmb 04 22 15.9
comp=Z,3.2nm,0.9s
J26L Joseph Creek 45.82 35 P **P** **04 22 04.1 +1.3**
RAGM Ragged Mountai 45.99 41 P **P** **04 22 05.2 +1.0**
E27K Coleen River 46.16 30 P **P** **04 22 06.0 +0.6**
GLB Gilahina Butte 46.21 40 P **P** **04 22 06.7 +0.8**
GLB lAmb lAmb 04 22 23.7
comp=Z,3.6nm,1.0s
K27K Chicken 46.54 36 P **P** **04 22 08.9 +0.6**
K27K lAmb lAmb 04 22 30.4
comp=Z,5.2nm,1.2s
L27K Beaver Creek, 46.82 37 P **P** **04 22 11.7 +1.0**
BCAR Beaver Creek A 46.84 37 P **P** **04 22 12.0 +1.2**
M27K Edge Creek, AK 46.93 38 P **P** **04 22 12.9 +1.3**
M27K lAmb lAmb 04 22 16.5
comp=Z,4.2nm,1.1s
I28M Miner Creek 47.20 34 P **P** **04 22 14.6 +0.9**
I28M lAmb lAmb 04 22 28.7
comp=Z,3.5nm,0.8s
H29M Whitestone 47.69 33 P **P** **04 22 18.9 +1.6**
H29M lAmb lAmb 04 22 32.4
comp=Z,2.5nm,0.8s
G29M Pine Creek 47.70 32 P **P** **04 22 18.6 +1.2**
G29M lAmb lAmb 04 22 49.8
comp=Z,9.7nm,1.4s
O28M Mount Upton 48.07 40 P **P** **04 22 22.2 +1.6**
O28M lAmb lAmb 04 22 46.3
comp=Z,8.0nm,1.4s
BVAR Borovoye Array 48.08 309 P **P** **04 22 20.9 +0.4**
comp=Z,8.5nm,0.4s,baz=76,slow=9.0,SNR=26
BVAR PcP **PcP** **04 23 47.8 +0.4**
comp=Z,3.8nm,0.5s,baz=86,slow=3.9,SNR=8.7
BVAR LR LR 04 43 48.4
comp=Z,35nm,18.9s,baz=144,slow=38
comp=Z,8.5nm,0.4s
BRVK Borovoye 48.13 309 P **P** **04 22 21.0 +0.1**
BRVK Borovoye 48.13 309 *c* i P **P** **04 22 21.2 +0.3**
BRVK pmax pmax
comp=Z,10.0nm,1.2s
BRVK Borovoye 48.13 309 *e*P **P** **04 22 21.2 +0.3**
BOOM Boomskoye usch 48.34 294 P **P** **04 22 23.4 +0.5**
BOOM lAmb lAmb 04 22 24.3
comp=Z,4.8nm,0.6s
BOOM Boomskoye usch 48.34 294 P **P** **04 22 23.4 +0.5**
BOOM pmax pmax
comp=Z,5.0nm,0.6s
F30M Barrier River 48.42 30 P **P** **04 22 24.4 +1.5**
F30M lAmb lAmb 04 22 44.4
comp=Z,6.0nm,0.9s
L29M L29M 48.45 37 P **P** **04 22 24.7 +1.4**
L29M lAmb lAmb 04 22 39.8
comp=Z,9.7nm,1.5s
K29M Barlow Dome 48.55 36 P **P** **04 22 25.0 +0.9**
K29M lAmb lAmb 04 22 26.5
comp=Z,2.3nm,0.9s
I30M Mount Dempster 48.71 34 P **P** **04 22 26.0 +0.7**
I30M lAmb lAmb 04 22 40.7
comp=Z,5.3nm,0.8s
G31M Satah River 49.15 31 P **P** **04 22 29.5 +1.0**
G31M lAmb lAmb 04 23 03.8
comp=Z,5.4nm,1.1s
AAK Ala-Archa 49.26 295 P **P** **04 22 30.3 +0.4**
comp=Z,2.7nm,0.3s,baz=0.0,slow=1.0,SNR=1.9
AAK LR LR 04 45 13.2
comp=Z,56nm,19.0s,baz=78,slow=38
comp=Z,2.7nm,0.3s
AAK Ala-Archa 49.26 295⇑ *e*P **P** **04 22 30.5 +0.6**
AAK pmax pmax
comp=Z,1.0nm,0.4s
AAK Ala-Archa 49.26 295 *e*P **P** **04 22 30.5 +0.6**
H31M Peel River 49.39 33 P **P** **04 22 31.3 +0.9**
H31M pP **pP** **04 22 45.4 -0.1**
ARSB Arslanbob 50.84 294 P **P** **04 22 42.6 +0.7**
ARSB Arslanbob 50.84 294 P **P** **04 22 42.6 +0.7**
ARSB pmax pmax
comp=Z,9.0nm,0.6s
KKAR Karatay Array 51.71 297 P **P** **04 22 48.2 0.0**
KKAR Karatay Array 51.71 297 P **P** **04 22 48.2 0.0**
ARTI Arti 53.42 316 P **P** **04 23 00.6 -0.1**
ARTI Arti 53.42 316 P **P** **04 23 00.5 -0.1**
comp=Z,15nm,0.5s,baz=79,slow=4.2,SNR=22
comp=Z,15nm,0.5s
ARTI Arti 53.42 316 P **P** **04 23 00.6 -0.1**
ARTI pmax pmax
comp=Z,29nm,0.7s
GAR Garm 53.72 293 P **P** **04 23 03.0 -0.2**
SIMJ Simiganj 54.77 293 P **P** **04 23 11.0 +0.1**
SPITS Spitsbergen Ar 55.58 348 P **P** **04 23 15.0 -1.0**
comp=Z,0.9nm,0.4s,baz=79,slow=8.6,SNR=4.3
comp=Z,0.9nm,0.4s
SPITS Spitsbergen Ar 55.58 348 P **P** **04 23 15.2 -0.8**
SPITS pmax pmax
comp=Z,17nm,1.2s
AB31 Akbulak array 55.59 308 P **P** **04 23 17.1 +0.6**
ABKAR Akbulak array 55.59 308 P **P** **04 23 16.8 +0.3**
KIRV Kirov 56.85 321 P **P** **04 23 23.9 -1.3**
comp=Z,10.0nm,0.7s,baz=5.0,slow=1.4,SNR=5.6
comp=Z,10.0nm,0.7s
KIRV Kirov 56.85 321 *c* i P **P** **04 23 24.8 -0.4**
BBB Bella Bella 57.43 47 LR LR 04 48 17.2
comp=Z,14nm,18.3s,baz=230,slow=36
ARCES ARCESS Array B 59.50 339 P **P** **04 23 43.4 -0.3**
comp=Z,2.4nm,0.8s,baz=52,slow=6.0,SNR=1.5
comp=Z,2.4nm,0.8s
NEEM North Greenlan 60.16 4 *i* P **P** **04 23 47.4 -1.0**
BELG Belogornoye 60.85 316⇓ *e*P **P** **04 23 53.4 +0.4**
BELG pmax pmax
comp=Z,2.0nm,0.6s
FITZ Fitzroy Crossi 62.26 199 P **P** **04 24 03.4 +0.5**
WB0 Warramunga Arr 62.32 189 P **P** **04 24 03.1 -0.1**
WR8 Warramunga Arr 62.49 189 P **P** **04 24 03.9 -0.5**
WR8 lAmb lAmb 04 24 06.3
comp=Z,6.7nm,1.2s
WRA Warramunga Arr 62.50 189 P **P** **04 24 03.2 -1.2**
WRA Warramunga Arr 62.50 189 P **P** **04 24 03.9 -0.6**
comp=Z,0.9nm,0.6s,baz=6.8,slow=6.8,SNR=15
comp=Z,0.9nm,0.6s
WRA Warramunga Arr 62.50 189 *i* P **P** **04 24 04.3 -0.2**
WRA pmax pmax
comp=Z,1.0nm,0.6s
BLKN Baker Lake 64.02 25 P **P** **04 24 12.8 -1.2**
OBN Obninsk 64.64 322 *e*P **P** **04 24 16.1 -2.1**
OBN *i* 04 24 51.5
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN Obninsk 64.64 322 *e*P **P** **04 24 16.7 -1.5**
FIA1 FINESS Array S 64.73 332 P **P** **04 24 18.3 -0.4**
FINES FINESS Array B 64.73 332 P **P** **04 24 18.5 -0.2**
FINES FINESS Array B 64.73 332 P **P** **04 24 18.1 -0.7**
comp=Z,3.4nm,0.4s,baz=54,slow=6.5,SNR=40
comp=Z,3.4nm,0.4s
FINES FINESS Array B 64.73 332 *i* P **P** **04 24 18.2 -0.6**
FINES pmax pmax
comp=Z,3.0nm,0.4s
SUMG Summit 65.38 1 P **P** **04 24 23.1 -0.2**
SUMG Summit 65.38 1 P **P** **04 24 23.1 -0.2**
SUMG pmax pmax
comp=Z,6.0nm,0.6s
SUMG Summit 65.38 1 *i* P **P** **04 24 21.8 -1.5**
ASAR Alice Springs 66.22 189 P **P** **04 24 29.3 +0.5**
comp=Z,0.5nm,0.7s,baz=17,slow=5.5,SNR=5.5
comp=Z,0.5nm,0.7s
KVAR Kislovodsk Arr 68.43 310 P **P** **04 24 42.8 +0.1**
comp=Z,3.6nm,0.5s,baz=31,slow=5.9,SNR=3.7
comp=Z,3.6nm,0.5s
KIV Kislovodsk 68.43 310 P **P** **04 24 42.9 +0.1**
KIV Kislovodsk 68.43 310 *e*P **P** **04 24 43.5 +0.7**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV Kislovodsk 68.43 310 *e*P **P** **04 24 44.1 +1.3**
KBZ Khabaz 68.45 310 P **P** **04 24 43.4 +0.6**
comp=Z,5.1nm,0.8s,baz=43,slow=5.0,SNR=13
comp=Z,5.1nm,0.8s
KBZ Khabaz 68.45 310⇑ *i* P **P** **04 24 43.2 +0.5**
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 68.45 310 *e*P **P** **04 24 43.2 +0.5**
SHA1 Shidzhatmaz 68.58 310 *ce*P **P** **04 24 44.4 +0.5**
HFS Hagfors 69.78 336 P **P** **04 24 50.0 -0.7**
comp=Z,2.7nm,0.4s,baz=50,slow=7.9,SNR=30
comp=Z,2.7nm,0.4s
NB2 NORSAR Subarra 69.79 337 P **P** **04 24 49.9 -0.9**
comp=Z,0.6nm,0.5s,baz=34,slow=6.5
NOA NORSAR Array B 69.79 337 P **P** **04 24 50.3 -0.6**
comp=Z,1.1nm,0.6s,baz=35,slow=6.3,SNR=7.9
comp=Z,1.1nm,0.6s
NVAR Mina Array Bea 70.84 55 P **P** **04 24 59.1 +1.2**
comp=Z,0.7nm,0.7s,baz=308,slow=7.1,SNR=4.9
comp=Z,0.7nm,0.7s
AKASG Malin Array Be 70.90 322 P **P** **04 24 56.9 -0.8**
comp=Z,0.9nm,0.4s,baz=44,slow=6.0,SNR=13
comp=Z,0.9nm,0.4s
AKASG Malin Array Be 70.90 322 *ce*P **P** **04 24 57.2 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 70.90 322⇓ *i*P **P** **04 24 57.3 -0.4**
AKBB pmax pmax
comp=Z,5.0nm,0.8s
PDAR Pinedale Array 73.08 47 P **P** **04 25 11.7 +0.5**
comp=Z,0.3nm,0.5s,baz=153,slow=2.0,SNR=4.2
comp=Z,0.3nm,0.5s
BUR08 Bucovina Ar. S 74.93 322 P **P** **04 25 22.1 +0.3**
BUR08 lAmb lAmb 04 25 22.8
comp=Z,2.7nm,0.7s
BURAR Bucovina Array 74.94 322 P **P** **04 25 22.1 +0.3**
BURAR lAmb lAmb 04 25 23.1
comp=Z,2.5nm,0.8s
OJC Ojcow 75.35 326 P **P** **04 25 23.6 -0.4**
OJC Ojcow 75.35 326 P **P** **04 25 23.6 -0.4**
STHS Stebnicka Huta 75.36 325 *e*P **P** **04 25 24.0 -0.1**
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 75.36 325 *e*P **P** **04 25 24.0 -0.1**
BR131 Keskin Array S 76.30 312 P **P** **04 25 29.4 -0.4**
BR131 lAmb lAmb 04 25 30.8
comp=Z,2.3nm,0.8s
BR131 Keskin Array S 76.30 312 P **P** **04 25 29.4 -0.4**
BR131 pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 76.30 312 P **P** **04 25 29.6 -0.1**
BRTR Keskin Array B 76.30 312 P **P** **04 25 30.1 +0.3**
comp=Z,1.3nm,0.7s,baz=70,slow=4.7,SNR=10
comp=Z,1.3nm,0.7s
BRTR Keskin Array B 76.30 312 P **P** **04 25 29.6 -0.1**
LANS Liptovska Anna 76.31 326 *e*P **P** **04 25 30.3 +0.8**
LANS pmax pmax
comp=Z,1.0nm,0.8s
LANS Liptovska Anna 76.31 326 *e*P **P** **04 25 30.3 +0.8**
PV10 Paradox Valley 76.35 50 P **P** **04 25 31.4 +1.2**
PV19 Morning Glory 76.43 50 P **P** **04 25 31.4 +0.7**
PV19 lAmb lAmb 04 25 32.2
comp=Z,4.9nm,0.7s
PV17 East Wray Mesa 76.46 50 P **P** **04 25 32.0 +1.2**
PV17 lAmb lAmb 04 25 32.4
comp=Z,4.4nm,0.8s
PV18 Skein Mesa, Pa 76.51 50 P **P** **04 25 31.4 +0.3**
PV18 lAmb lAmb 04 25 32.7
comp=Z,3.4nm,0.8s
PV05 Paradox Valley 76.52 51 P **P** **04 25 31.7 +0.5**
PV05 lAmb lAmb 04 25 32.5
comp=Z,2.6nm,0.7s
PV03 Paradox Valley 76.54 50 P **P** **04 25 31.7 +0.4**
MORC Moravsky Berou 76.61 327 P **P** **04 25 31.6 +0.4**
MORC lAmb lAmb 04 25 40.1
comp=Z,4.5nm,1.1s
MORC Moravsky Berou 76.61 327 P **P** **04 25 31.6 +0.4**
MORC pmax pmax
comp=Z,5.0nm,1.1s
CLL Collm 77.12 330 *i* P **P** **04 25 33.9 -0.1**
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 77.12 330 *i* P **P** **04 25 33.9 -0.1**
comp=Z,4.0nm,0.8s
MODS Modra-Piesok 77.82 326 *e*P **P** **04 25 37.5 -0.5**
MODS pmax pmax
comp=Z,4.0nm,0.9s
MODS Modra-Piesok 77.82 326 *e*P **P** **04 25 37.4 -0.5**
SRO Srobarova 77.83 325 *e*PP PP 04 28 27.5 -6.0
EKA Eskdalemuir Ar 78.55 341 P **P** **04 25 41.6 -0.2**
comp=Z,0.7nm,0.6s,baz=22,slow=4.5,SNR=5.7
comp=Z,0.7nm,0.6s
KHC Kasperske Hory 78.68 329 *e*P **P** **04 25 43.0 +0.2**
KHC Kasperske Hory 78.68 329 *c* i P **P** **04 25 43.0 +0.2**
KHC pmax pmax
comp=Z,3.0nm,0.7s
GERES GERESS Array B 78.86 329 P **P** **04 25 43.7 -0.2**
comp=Z,0.8nm,0.5s,baz=38,slow=6.8,SNR=5.4
comp=Z,0.8nm,0.5s
RDO Rodhopi 79.57 317 P **P** **04 25 48.5 +0.8**
RDO lAmb lAmb 04 25 49.2
comp=Z,6.1nm,0.8s
MMAI Mount Meron Ar 79.93 306 P **P** **04 25 50.6 +0.7**
comp=Z,3.1nm,0.6s,baz=30,slow=8.6,SNR=5.3
comp=Z,3.1nm,0.6s
SOKA Soboth 80.09 327 *e*P **P** **04 25 50.0 -0.6**
comp=Z,2.6nm,0.7s
LESA Schwarzleotal 80.42 328 *e*P **P** **04 25 53.4 +1.1**
comp=Z,3.2nm,1.0s
MOTA Moosalm 81.09 329 *i* P **P** **04 25 56.1 +0.1**
comp=Z,3.1nm,0.7s
FUORN Ofenpass-Fuorn 82.01 329 P **P** **04 26 01.6 +0.6**
FUORN lAmb lAmb 04 26 02.1
comp=Z,3.8nm,0.7s
TUE Stuetta 82.48 330 P **P** **04 26 03.0 -0.4**
TUE lAmb lAmb 04 26 07.0
comp=Z,3.3nm,0.8s
NRCA Norcia 84.01 325 P **P** **04 26 11.5 +0.4**
NRCA lAmb lAmb 04 26 12.2
comp=Z,5.1nm,0.8s
VHRN Van Horn 84.06 53 P **P** **04 26 12.8 +1.0**
VHRN lAmb lAmb 04 26 52.0
comp=Z,3.9nm,1.4s
CAMP Campotosto 84.13 325 P **P** **04 26 11.9 +0.1**
IDI Anoyia 84.29 314 P **P** **04 26 12.0 -0.7**
ITM Ithomi 84.40 317 P **P** **04 26 12.7 -0.5**
TXAR Lajitas Array 85.90 54 P **P** **04 26 21.2 +0.3**
comp=Z,1.1nm,0.5s,baz=275,slow=3.2,SNR=22
comp=Z,1.1nm,0.5s
H06N1 SOCORRO T-PHAS 88.69 66 T T 06 05 17.7
SNR=31
RPZ Rata Peaks 89.28 160 LR LR 05 04 14.0
comp=Z,88nm,19.5s,baz=134,slow=34
H03N2 Juan Fernandez 145.96 89 T T 07 16 36.9
baz=300,slow=76,SNR=82
H03N3 Juan Fernandez 145.98 89 T T 07 16 37.9
baz=300,slow=76,SNR=97
H03N1 Juan Fernandez 145.98 89 T T 07 16 38.3
baz=300,slow=76,SNR=93
SNAA Sanae 146.19 199 PKPbc **PKPbc** **04 33 19.5 -0.1**
comp=Z,0.8nm,0.4s,baz=169,slow=5.2,SNR=19
BDFB Brasilia 151.73 23 PKPbc **PKPbc** **04 33 35.1 -0.3**
comp=Z,0.9nm,0.5s,baz=203,slow=7.7,SNR=3.1

AZER ***30*** *04:13:54.2, 38˚.42N×46˚.67E, h10km, ml3.3*
TEH ***30*** *04:13:55.7, 38˚.37N×46˚.68E, h5km*
NSSP ***30*** *04:13:55.2, 38˚.42N×46˚.63E, h10km, Ms3.3*

*ISN **30** 04:13:56.0±0.5,38°.47N×46°.94E,h18km±6km,ML3.4*
ISC 30 04:13:56.4±1.1,38°.44N±0°.02×46°.70E±0°.02,h3km±10km, n58,σ1§32/104,2C-2D,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.29**	**115**	Pg	**Pg**	**04 14 01.6**	**-0.5**
IHRS				Sg	**Sg**	**04 14 06.3**	**+0.4**
ITBZ	**Tabriz**	**0.48**	**245**	Pg	**Pg**	**04 14 03.7**	**-2.0**
ORD	**Ordubad**	**0.74**	**311**	P	**Pg**	**04 14 09.9**	**-0.6**
ORD				S	**Sg**	**04 14 20.5**	**+0.4**
EGVZ	**Egvard**	**0.79**	**351**	*e*P	**Pg**	**04 14 11.6**	**0.0**
EGVZ				*e*S	**Sb**	**04 14 23.6**	**-0.5**
IAZR	**Azarshahr**	**0.95**	**217**	Pg	**Pg**	**04 14 12.7**	**-1.9**
GRMI	**Germi**	**1.00**	**68**	Pg	**Pg**	**04 14 15.1**	**-0.5**
GRS	**Goris**	**1.09**	**345**	⇓*i*P	**Pg**	**04 14 16.0**	**-1.4**
GRS				⇓*i*S	**Sn**	**04 14 34.0**	**-0.6**
QRD	**Qoradiz**	**1.12**	**25**	P	**Pb**	**04 14 18.5**	**0.0**
QRD				S	**Sn**	**04 14 35.3**	**+0.2**
NAX	**Nakhchivan**	**1.19**	**308**	P	**Pg**	**04 14 18.9**	**-0.3**
NAX				S	**Sg**	**04 14 35.6**	**+0.9**
YRD	**Yardimli**	**1.29**	**68**	P	**Pg**	**04 14 20.6**	**-0.5**
YRD				S	**Sn**	**04 14 39.5**	**0.0**
LRK	**Lerik**	**1.30**	**81**	P	**Pg**	**04 14 21.0**	**-0.3**
LRK				S	**Sn**	**04 14 39.7**	**+0.1**
SBZ	**Shahbuz**	**1.31**	**317**	P	**Pn**	**04 14 21.0**	**-0.7**
SBZ				S	**Sg**	**04 14 39.2**	**+0.7**
BLQ	**Beylaqan**	**1.44**	**27**	P	**Pb**	**04 14 23.8**	**-0.1**
BLQ				S	**Sg**	**04 14 44.9**	**+2.3**
GLBA	**Clilabad**	**1.54**	**58**	P	**Pg**	**04 14 25.7**	**-0.3**
GLBA				S	**Sg**	**04 14 48.7**	**+2.8**
VAYK	**Vayk**	**1.60**	**322**	*i*P	**Pn**	**04 14 25.4**	**-0.3**
VAYK				*i*S	**Sn**	**04 14 47.4**	**+0.5**
ASTR	**Astara**	**1.64**	**85**	P	**Pb**	**04 14 27.2**	**-0.1**
ASTR				S	**Sg**	**04 14 50.8**	**+1.6**
LKRN	**Lenkeran, Azer**	**1.65**	**80**	P	**Pb**	**04 14 27.5**	**+0.1**
LKRN				S	**Sg**	**04 14 50.7**	**+1.4**
GAS1	**Astara - Iran**	**1.68**	**91**	Pg	**Pn**	**04 14 27.1**	**+0.4**
AGDM	**Agdam**	**1.69**	**11**	P	**Pb**	**04 14 28.0**	**+0.1**
AGDM				S	**Sg**	**04 14 52.3**	**+1.6**
AYRK	**Ayrk**	**1.81**	**337**	*e*P	**Pn**	**04 14 29.8**	**+1.0**
AYRK				*e*S	**Sg**	**04 14 55.6**	**+0.9**
BRDA	**Brd**	**1.85**	**11**	P	**Pb**	**04 14 30.4**	**-0.5**
BRDA				S	**Sg**	**04 14 56.0**	**0.0**
HYR	**Heyderabad**	**1.92**	**312**	P	**Pn**	**04 14 30.9**	**+0.8**
HYR				S	**Sb**	**04 14 56.8**	**+0.1**
SAAT	**Saatly**	**1.95**	**43**	S	**Sg**	**04 14 58.5**	**-0.4**
ZRD	**Zardab**	**1.98**	**22**	S	**Sg**	**04 15 01.1**	**+0.9**
GANJ	**Ganja**	**2.22**	**352**	P	**Pn**	**04 14 34.8**	**+0.7**
GANJ				S	**Sb**	**04 15 05.4**	**+0.2**
NRKZ	**NAREK**	**2.22**	**315**	*e*P	**Pn**	**04 14 36.3**	**+2.0**
NRKZ				*e*S	**Sb**	**04 15 05.4**	**+0.2**
KDMR	**Kurdemir**	**2.25**	**30**	P	**Pn**	**04 14 35.5**	**+1.0**
KDMR				S	**Sb**	**04 15 05.2**	**-0.6**
GNI	**Garni**	**2.29**	**319**	Pn	**Pn**	**04 14 37.1**	**+1.9**
GNI	**Garni**	**2.29**	**319**	⇑*i*P	**Pb**	**04 14 38.0**	**-0.4**
GNI				⇑*i*S	**Sb**	**04 15 09.0**	**+1.9**
MNGR	**Mingechevir, A**	**2.35**	**7**	P	**Pn**	**04 14 35.8**	**0.0**
MNGR				S	**Sb**	**04 15 09.0**	**+0.4**
GDB	**GEDABAY**	**2.39**	**342**	P	**Pn**	**04 14 37.8**	**+1.1**
GDB				S	**Sb**	**04 15 10.8**	**+0.7**
KAPZ	**Kaputan**	**2.44**	**321**	*e*P	**Pb**	**04 14 41.0**	**0.0**
KAPZ				*e*S	**Sg**	**04 15 15.7**	**+1.1**
IGDI	**IGDIR**	**2.49**	**306**	P	**Pn**	**04 14 37.5**	**-0.4**
IGDI				S	**Sb**	**04 15 11.7**	**-1.2**
HAKT	**HAKKARI**	**2.53**	**250**	P	**Pn**	**04 14 38.4**	**-0.1**
HAKT				S	**Sn**	**04 15 12.4**	**+2.4**
IML	**Ismayilli**	**2.61**	**25**	P	**Pn**	**04 14 41.0**	**+1.5**
IML				S	**Sb**	**04 15 16.1**	**-0.3**
QBL	**Gabala**	**2.65**	**19**	P	**Pn**	**04 14 41.1**	**+1.0**
QBL				S	**Sb**	**04 15 17.6**	**+0.1**
AMBZ	**Amberd**	**2.71**	**317**	*e*P	**Pb**	**04 14 46.6**	**+0.9**
AMBZ				*e*S	**Sg**	**04 15 24.9**	**+1.4**
GBS	**Qobustan**	**2.71**	**39**	P	**Pn**	**04 14 41.7**	**+0.7**
GBS				S	**Sb**	**04 15 24.5**	**-0.8**
LSVT	**Lusahovit**	**2.73**	**335**	*e*P	**Pb**	**04 14 45.9**	**0.0**
LSVT				*e*S	**Sg**	**04 15 23.2**	**-0.9**
PQL	**Pirkuli**	**2.76**	**31**	P	**Pn**	**04 14 43.1**	**+1.4**
PQL				S	**Sb**	**04 15 19.5**	**-1.3**
SEKA	**Sheki**	**2.79**	**8**	P	**Pn**	**04 14 43.5**	**+1.5**
SEKA				S	**Sb**	**04 15 20.9**	**-0.6**
QZX	**Qazax, Azerbai**	**2.81**	**339**	P	**Pn**	**04 14 43.2**	**+1.0**
QZX				S	**Sb**	**04 15 20.5**	**-1.5**
XNQ	**Khinaliq**	**2.94**	**22**	P	**Pn**	**04 14 45.5**	**+1.2**
XNQ				S	**Sb**	**04 15 23.0**	**-3.1**
ATGJ	**Altiaghaj**	**2.97**	**35**	P	**Pn**	**04 14 44.9**	**+0.3**
ATGJ				S	**Sb**	**04 15 23.0**	**-3.7**
SIZA	**Siyzn**	**3.13**	**32**	P	**Pn**	**04 14 48.0**	**+1.3**
SIZA				S	**Sb**	**04 15 29.2**	**-2.1**
KMOZ	**Kamo**	**3.19**	**319**	*e*P	**Pb**	**04 14 54.7**	**+0.9**
KMOZ				*e*S	**Sg**	**04 15 38.0**	**-0.8**
ZKTA	**Zakatala**	**3.19**	**359**	P	**Pn**	**04 14 49.6**	**+1.1**
ZKTA				S	**Sb**	**04 15 29.9**	**-3.2**
SRTK	**Saratovka**	**3.20**	**326**	*e*P	**Pb**	**04 14 54.4**	**+0.4**
SRTK				*e*S	**Sg**	**04 15 37.6**	**-1.5**
QUBA	**Quba, Azerbaij**	**3.22**	**25**	P	**Pn**	**04 14 49.0**	**+1.2**
QUBA				S	**Sb**	**04 15 30.3**	**-3.6**
QSAR	**Qusar**	**3.29**	**21**	P	**Pn**	**04 14 49.5**	**+0.6**
QSAR				S	**Sb**	**04 15 32.4**	**-3.7**
HGHA	**Hamedan- Ghaye**	**3.42**	**149**	Pn	**Pn**	**04 14 51.5**	**+0.7**
IGZV	**Ghazvin**	**3.47**	**125**	Pn	**Pn**	**04 14 52.5**	**+0.9**
IKRK	**Kirkuk**	**3.58**	**213**	*e*Pg	**Pb**	**04 15 00.5**	**+0.2**
IKRK				*e*Sg	**Sb**	**04 15 47.5**	**+3.3**
SNQR	**Sonqor, Kerman**	**3.66**	**168**	Pn	**Pn**	**04 14 54.1**	**0.0**
IDHR	**Dehrash**	**3.75**	**184**	Pn	**Pn**	**04 14 55.8**	**+0.5**
HAGD	**Aghdareh**	**4.11**	**151**	Pn	**Pn**	**04 14 59.7**	**-0.6**
IBDR	**Badra**	**5.36**	**187**	*e*Pn	**Pn**	**04 15 17.7**	**+0.4**
IBDR				*e*Sn	**Sn**	**04 16 17.5**	**-2.0**
IBDR	comp=E,62nm,0.4s			AML	AML	04 16 31.0	
IBDR	comp=N,43nm,0.2s			AML	AML	04 16 51.1	
BHD	**Baghdad**	**5.50**	**201**	*e*Pn	**Pn**	**04 15 20.5**	**+1.4**
BHD				*e*Sn	**Sn**	**04 16 22.0**	**-0.9**

*IDC **30** 05:15:34.4±1.7,4°.56N×127°.15E,h0km,mb3.7/5, mbtmp3.7/5,MS3.2/4,Error ellipse: s-maj=160.2km s-min=21.3km az=68.0*
*DJA **30** 05:15:43.3±1.4,4°.N±16°×12°.7E±°,h30km±7km,M4.1/9, mb4.2/5,MLv4.1/9*
ISC 30 05:15:40.5±1.3,4°.3N±0°.1×126°.6E±0°.1,h35km,n12, σ1§19/9,mb3.9/5,MS3.3/4,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.27**	**239**	P	**Pn**	**05 16 02.4**	**+0.6**
SGSI				S	**Sn**	**05 16 15.9**	**-1.7**
MRSI	**Marisa**	**6.05**	**231**	P	**Pn**	**05 17 09.3**	**+1.8**
SANI	**Sanana**	**6.38**	**186**	P	**Pn**	**05 17 12.9**	**+0.8**
	0.1nm13nm,0.7s						
JOW	**Kunigami**	**22.42**	**4**	LR	LR	05 28 06.6	
	comp=Z,26nm,20.8s,baz=16,slow=34						
WRA	**Warramunga Arr**	**25.30**	**163**	P	**P**	**05 21 03.4**	**-0.6**
	1.1nm,0.8s,baz=344,slow=10,SNR=8.0 1.1nm,0.8s						
ASAR	**Alice Springs**	**28.73**	**166**	P	**P**	**05 21 34.5**	**-0.4**
	0.1nm,0.3s,baz=346,slow=6.7,SNR=2.1 0.1nm,0.3s						
STKA	**Stephens Creek**	**38.74**	**159**	LR	LR	05 41 25.8	
	comp=Z,64nm,18.0s,baz=217,slow=40						
MKAR	**Makanchi Array**	**56.99**	**325**	P	**P**	**05 25 23.4**	**+0.7**
	0.4nm,0.4s,baz=111,slow=7.4,SNR=4.1 0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**59.99**	**333**	P	**P**	**05 25 43.0**	**-0.5**
	0.3nm,0.3s,baz=134,slow=6.2,SNR=1.8 0.3nm,0.3s						
KURBB	**Kurchatov Array**	**61.17**	**327**	P	**P**	**05 25 51.0**	**-0.6**
	0.5nm,0.3s,baz=126,slow=6.2,SNR=9.1 0.5nm,0.3s						
ASF	**Jabal al Asfar**	**87.48**	**302**	LR	LR	06 12 28.4	
	comp=Z,12nm,18.1s,baz=13,slow=39						
NOA	**NORSAR Array B**	**98.19**	**334**	LR	LR	06 17 40.0	
	comp=Z,7.2nm,19.5s,baz=300,slow=38						

RSNC 30 05:20:33.3±0.0,6°.N±1°×7°.6W±°,h58km±2km,M2.4,ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEDEC	**Medelln, Ant**	**0.34**	**127**	P	Pn	05 20 42.9	-0.9
MEDEC				S	Sn	05 20 50.7	-0.6
HELC	**Santa Helena**	**0.44**	**131**	P	Pn	05 20 43.9	-1.0
HELC				S	Sn	05 20 53.4	+0.2
CBOC	**Ciudad Bolivar**	**0.63**	**194**	P	Pn	05 20 45.6	-1.2
CBOC				S	Sn	05 20 56.5	-0.1
DBBC	**Dabeiba**	**0.64**	**327**	P	Pn	05 20 45.9	-0.9
DBBC				S	Sn	05 20 57.1	+0.5
UREC	**San Jos de Ur**	**1.30**	**14**	P	Pn	05 20 54.3	-1.1
UREC				S	Sn	05 21 11.9	+0.1
GUY2C	**Guyana, Caldas**	**1.34**	**158**	P	Pn	05 20 55.4	-0.9
NORC	**Norcasia**	**1.34**	**133**	P	Pn	05 20 55.3	-0.6
NORC				S	Sn	05 21 13.2	+0.4
PTBC	**PUERTO BERRIO,**	**1.40**	**87**	P	Pn	05 20 56.3	-0.3
PTBC				S	Sn	05 21 14.8	+0.8
ZARC	**Zaragoza, Cauc**	**1.42**	**45**	P	Pn	05 20 56.1	-0.7
ZARC				S	Sn	05 21 13.8	-0.7
NIZA	**Niza - Manizal**	**1.47**	**165**	P	Pn	05 20 57.6	-0.2
APAC	**Apartado, Choc**	**1.58**	**333**	P	Pn	05 20 58.6	-0.5
RECRC	**Villamaria, Ca**	**1.59**	**161**	P	Pn	05 20 58.9	-0.8
PLMC	**San Jos del P**	**1.62**	**195**	P	Pn	05 20 58.6	-1.1
PLMC				S	Sn	05 21 19.8	+0.2
ANIL	**Santa Ana**	**2.03**	**167**	P	Pn	05 21 05.9	+0.5
ROSC	**El Rosal**	**2.24**	**137**	P	Pn	05 21 08.8	+0.5
YOTC	**Yotoco, Valle**	**2.53**	**191**	P	Pn	05 21 11.0	-1.1
YOTC				S	Sn	05 21 40.9	-0.9
ORTC	**Ortega, Tolima**	**2.63**	**167**	P	Pn	05 21 14.9	+1.5
RUSC	**La Rusia**	**2.82**	**102**	P	Pn	05 21 18.0	+1.6
POPC	**Popayan, Colom**	**4.00**	**192**	P	Pn	05 21 32.5	+0.2

*SNET **30** 05:21:17.0±1.3,12°.58N×88°.30W,h35km±15km,ML3.1*
CATAC 30 05:21:20.0±0.3,13°.N±2°×8°.8W±°,h40km±5km,M3.0/19, MLv3.0/19,1C,Error ellipse: s-maj=5.8km s-min=2.5km az=27.3,confirmed,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.62**	**337**	P	Pn	05 21 34.6	+2.1
ALJI	**Alcalda de J**	**0.62**	**337**	S	Sn	05 21 43.6	+2.4
LCV	**Lacayo**	**0.67**	**2**	*e*P	Pn	05 21 33.5	+0.3
LCND	**La Caada**	**0.69**	**37**	*e*P	Pn	05 21 33.5	0.0
LCND	**La Caada**	**0.69**	**37**	P	Pn	05 21 34.4	+1.0
LCND	**La Caada**	**0.69**	**37**	S	Sn	05 21 45.4	+2.4
CNCH	**Conchagua**	**0.70**	**42**	⇑*e*P	Pn	05 21 34.0	+0.3
CNCH				*e*S	Sn	05 21 44.8	+1.3
CNCH	**Conchagua**	**0.70**	**42**	P	Pn	05 21 34.0	+0.3
PACA	**Pacayal**	**0.71**	**360**	*e*P	Pn	05 21 34.2	+0.4
PACA				*e*S	Sn	05 21 44.7	+1.1
CNRM	**Centro Naciona**	**0.73**	**12**	P	Pn	05 21 34.1	+0.1
CNRM	**Centro Naciona**	**0.73**	**12**	S	Sn	05 21 45.7	+1.8
TECA	**Tecapa**	**0.76**	**347**	*e*P	Pn	05 21 34.4	0.0
TECA				*e*P	Pg	05 21 34.5	
TECA				*e*S	Sn	05 21 45.6	+0.8
POTN	**Potosi Cosigui**	**0.83**	**73**	P	Pn	05 21 35.7	+0.4
POTN				S	Sn	05 21 47.7	+1.4
PQSS	**Presa 15 de Se**	**0.90**	**345**	*e*P	Pn	05 21 36.3	+0.1
PQSS	**Presa 15 de Se**	**0.90**	**345**	P	Pn	05 21 36.5	+0.3
PQSS	**Presa 15 de Se**	**0.90**	**345**	S	Sn	05 21 49.2	+1.2
TECO	**Alcaldia de Te**	**0.90**	**330**	*e*P	Pn	05 21 35.9	-0.3
TECO				*e*S	Sn	05 21 47.4	-0.7
TECO	**Alcaldia de Te**	**0.90**	**330**	P	Pn	05 21 36.0	-0.2
TECO	**Alcaldia de Te**	**0.90**	**330**	S	Sn	05 21 48.1	0.0
UESV	**Universidad de**	**0.99**	**333**	P	Pn	05 21 36.8	-0.7
UESV	**Universidad de**	**0.99**	**333**	S	Sn	05 21 50.8	+0.5
SCLA	**Alcaldia de Sa**	**1.02**	**337**	*e*P	Pn	05 21 38.0	0.0
SCLA	**Alcaldia de Sa**	**1.02**	**337**	P	Pn	05 21 37.9	-0.1
SCLA	**Alcaldia de Sa**	**1.02**	**337**	S	Sn	05 21 52.0	+0.9
PAVA	**Las Pavas**	**1.13**	**328**	*e*P	Pn	05 21 39.5	0.0
PAVA	**Las Pavas**	**1.13**	**328**	P	Pn	05 21 39.6	+0.1
PAVA	**Las Pavas**	**1.13**	**328**	S	Sn	05 21 54.4	+0.6
UDBS	**Universidad Do**	**1.25**	**320**	P	Pn	05 21 41.2	0.0
UTEC	**Universidad Te**	**1.27**	**318**	P	Pn	05 21 42.4	+0.9
UTEC	**Universidad Te**	**1.27**	**318**	S	Sn	05 21 57.2	-0.1
CHOHN	**Orocuina**	**1.34**	**57**	P	Pn	05 21 42.4	-0.1
CHOHN	**Orocuina**	**1.34**	**57**	S	Sn	05 21 59.3	+0.1
PMON	**Piamonte**	**1.36**	**315**	P	Pn	05 21 42.4	-0.2
PMON	**Piamonte**	**1.36**	**315**	S	Sn	05 21 59.5	+0.1
JAYA	**Jayaque - finc**	**1.42**	**309**	*e*P	Pn	05 21 45.3	+1.5
JAYA	**Jayaque - finc**	**1.42**	**309**	P	Pn	05 21 43.4	-0.1
JAYA	**Jayaque - finc**	**1.42**	**309**	S	Sn	05 21 59.8	-1.3
MARCA	**Marcala la Paz**	**1.42**	**11**	P	Pn	05 21 43.7	+0.1
MARCA	**Marcala la Paz**	**1.42**	**11**	S	Sn	05 22 02.1	+0.9
QUEN	**Al S del Volca**	**1.44**	**96**	P	Pn	05 21 44.1	+0.3
HERN	**Volcan Telica**	**1.46**	**95**	P	Pn	05 21 43.9	-0.1
HERN	**Volcan Telica**	**1.46**	**95**	S	Sn	05 22 02.4	+0.4
HOYN	**Al Sur del Vol**	**1.47**	**96**	P	Pn	05 21 44.3	+0.3
HOYN				S	Sn	05 22 02.3	+0.2
CNGA	**Al SSO del Vol**	**1.60**	**99**	P	Pn	05 21 46.0	+0.1
CNGA				S	Sn	05 22 05.7	+0.3
CNGN	**Cerro Negro**	**1.60**	**99**	P	Pn	05 21 46.1	+0.2
TGUH	**Tegucigalpa,Un**	**1.65**	**38**	P	Pn	05 21 47.0	+0.3
TGUH				S	Sn	05 22 07.1	+0.4
TGUH	**Tegucigalpa,Un**	**1.65**	**38**	P	Pn	05 21 46.8	+0.1
COPN	**Copaltepe**	**1.78**	**108**	P	Pn	05 21 48.3	-0.1
NUBE	**Las Nubes**	**1.82**	**309**	*e*P	Pn	05 21 49.2	+0.2
NUBE	**Las Nubes**	**1.82**	**309**	P	Pn	05 21 49.3	+0.2
NUBE	**Las Nubes**	**1.82**	**309**	S	Sn	05 22 10.7	+0.3
YUSH	**Yuscaran**	**1.87**	**50**	P	Pn	05 21 49.8	+0.1
YUSH	**Yuscaran**	**1.87**	**50**	S	Sn	05 22 11.8	-0.3
SAPS	**Ciudad Sandino**	**1.96**	**107**	P	Pn	05 21 50.8	0.0
SAPS	**Ciudad Sandino**	**1.96**	**107**	S	Sn	05 22 14.4	+0.2

*OSPL **30** 06:07:14.9±0.9,18°.21N×71°.09W,h7km±16km,ML1.9*
*SDD **30** 06:07:15.1±2.5,18°.06N×71°.19W,h4km±33km,MD2.6, ML2.1,MW2.4*
ISC 30 06:07:15.2±1.0,18°.15N±0°.04×71°.19W±0°.03,h9km±7km, n10,σ0§50/17,1C-1D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PODR	**Polo**	**0.09**	**282**	⇑*e*Pg	**Pg**	**06 07 17.6**	**-0.2**
PODR				*e*Sg	**Sg**	**06 07 19.8**	**+0.1**
PODR	comp=N,956nm,0.2s			IAML		06 07 20.6	
PODR	**Polo**	**0.09**	**282**	*i* P	**Pg**	**06 07 17.6**	**-0.2**
PODR				*e*S	**Sg**	**06 07 19.7**	**+0.1**
BRH1	**Barahona**	**0.11**	**57**	*e*Pg	**Pg**	**06 07 17.7**	**-0.2**
BRH1				⇓*e*Sg	**Sg**	**06 07 20.4**	**+0.6**
LODU1	**El Espartillar**	**0.34**	**307**	*i* P	**Pg**	**06 07 22.3**	**+0.4**
LODU1	comp=Z,106nm,0.3s			IAML		06 07 31.5	
LOVI	**El Cajuil, Ovi**	**0.39**	**206**	*i* P	**Pg**	**06 07 23.2**	**+0.3**
LOVI				*e*S	**Sb**	**06 07 30.4**	**+0.1**
LOVI	comp=Z,84nm,1.3s			IAML		06 07 31.4	
NEDR	**Neiba UASD**	**0.40**	**327**	*e*Pg	**Pg**	**06 07 23.1**	**0.0**
NEDR				*e*Sg	**Sb**	**06 07 31.6**	**+0.9**
NEDR	comp=N,71nm,0.2s			IAML		06 07 32.1	
JIDR	**Jimani**	**0.71**	**299**	*e*Pg	**Pg**	**06 07 28.8**	**-0.3**
JIDR	comp=N,47nm,0.6s			IAML		06 07 44.9	
BANI	**BANI**	**0.83**	**73**	*e*Pg	**Pb**	**06 07 31.9**	**+0.1**
BANI	comp=N,126nm,3.6s			IAML		06 07 42.9	
BANI				*e*Sg	**Sb**	**06 07 43.6**	**+0.5**
PAPH	**Port-au-Prince**	**1.12**	**290**	*i* P	**Pg**	**06 07 36.0**	**-0.7**
HATOM	**Hato Mayor del**	**1.83**	**69**	*e*Pg	**Pb**	**06 07 48.1**	**-0.8**
HATOM				*e*Sg	**Sb**	**06 08 11.7**	**-0.2**
HATOM	comp=N,20nm,2.1s			IAML		06 08 29.6	

*IDC **30** 06:35:44.4±1.3,26°.19N×128°.96E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=29.3km s-min=15.8km az=63.0*
*JMA **30** 06:35:48.9±0.3,26°.N±1°×12°.8E±°,h45km±3km,MV3.0/15, NEAR OKINAWAJIMA ISLAND*
ISC 30 06:35:47.1±0.8,25°.94N±0°.05×128°.65E±0°.03,h27km,n17, σ2§07/28,mb3.6/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**0.80**	**285**	P	**Pb**	**06 36 01.5**	**-1.0**
JJT3				*e*S	**Sb**	**06 36 10.4**	**-2.5**
JNTH	**Nagotoyohara**	**0.81**	**316**	P	**Pb**	**06 36 01.6**	**-0.9**
JNTH				*e*S	**Sb**	**06 36 11.2**	**-1.9**
JOW	**Kunigami**	**0.95**	**340**	Pn	**Pn**	**06 36 05.0**	**+0.3**
	125nm,0.3s,baz=155,slow=19,SNR=146						
JOW				Sn	**Sn**	**06 36 17.2**	**-0.3**
	184nm,0.3s,baz=135,slow=29,SNR=13						
JOW	**Kunigami**	**0.95**	**340**	P	**Pn**	**06 36 05.0**	**+0.3**
JOW				*e*S	**Sn**	**06 36 17.1**	**-0.3**
JYRO	**Yoronjima**	**1.10**	**351**	P	**Pb**	**06 36 07.4**	**0.0**
JYRO				*e*S	**Sn**	**06 36 21.3**	**+0.3**
JIH	**Iheya**	**1.25**	**331**	P	**Pb**	**06 36 09.4**	**-0.7**
JIH				*e*S	**Sb**	**06 36 24.4**	**-1.4**
JAGN	**Aguni-jima**	**1.42**	**298**	*e*P	**Pn**	**06 36 10.6**	**-0.5**
JAGN				*e*S	**Sn**	**06 36 26.2**	**-2.7**
JOKE	**Okinoerabujima**	**1.42**	**357**	*e*P	**Pb**	**06 36 12.4**	**-0.6**
JOKE				*e*S	**Sb**	**06 36 29.6**	**-1.1**
JKE	**Kume jima 2**	**1.72**	**283**	*e*P	**Pn**	**06 36 13.7**	**-1.6**
JKE				*e*S	**Sn**	**06 36 32.4**	**-3.9**
JTK	**Tokunoshima**	**1.86**	**8**	P	**Pb**	**06 36 18.9**	**-1.6**
JMZ	**Minamidaito 2**	**2.33**	**92**	P	**Pb**	**06 36 25.7**	**-2.7**
JMZ				*e*S	**Sn**	**06 36 52.7**	**+1.4**
JKDJ	**Kitadaitoujima**	**2.39**	**89**	P	**Pb**	**06 36 26.7**	**-2.7**
JKDJ				*e*S	**Sb**	**06 36 55.5**	**-2.9**
JAM	**Amami Oshima**	**2.61**	**19**	*e*P	**Pb**	**06 36 29.6**	**-3.6**
MKAR	**Makanchi Array**	**42.01**	**312**	P	**P**	**06 43 36.8**	**+0.7**
	0.3nm,0.6s,baz=108,slow=9.5,SNR=2.2 0.3nm,0.6s						
WRA	**Warramunga Arr**	**45.94**	**173**	P	**P**	**06 44 10.2**	**+2.4**
	0.8nm,0.6s,baz=353,slow=8.4,SNR=11 0.8nm,0.6s						
ASAR	**Alice Springs**	**49.57**	**174**	P	**P**	**06 44 39.4**	**+3.4**
	0.3nm,0.6s,baz=358,slow=8.3,SNR=5.2 0.3nm,0.6s						
BRTR	**Keskin Array B**	**77.51**	**308**	P	**P**	**06 47 43.3**	**+2.6**
	0.4nm,0.5s,baz=111,slow=7.9,SNR=3.6 0.4nm,0.5s						

*IDC **30** 06:36:31.5±4.2,51°.41N×178°.47E,h22km±26km,mb4.2/27, mbtmp4.3/30,ML4.7/2,MS3.8/71,Error ellipse: s-maj=15.4km s-min=9.4km az=160.0*
*AEIC **30** 06:36:31.9±2.2,51°.26N±0°.05×178°.30E±0°.07,h31km±4km, Error ellipse: s-maj=7.0km s-min=6.0km az=197.0*
*MOS **30** 06:36:33.6±1.4,51°.42N×178°.55E,h49km,mb4.7/25,Error ellipse: s-maj=10.3km s-min=7.5km az=106.4*
*NEIC **30** 06:36:34.9±2.1,51°.42N±0°.07×178°.41E±0°.08,h42km±6km, mb4.6/399,ML4.8/10,ML4.4(AEIC),Error ellipse: s-maj=10.3km s-min=7.5km az=169.0*
ISC 30 06:36:35.3±0.6,51°.40N±0°.06×178°.42E±0°.03,h49km±4km, n67§4,σ1§13/468,mb4.6/198,MS3.8/73,8C-3D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.55**	**10**		**Pn**	**06 36 44.9**	**-2.2**
AMKA	**Amchitka**	**0.56**	**91**		**Pn**	**06 36 43.7**	**-3.4**
AMKA	**Amchitka**	**0.56**	**91**		**Sn**	**06 36 51.4**	**-4.2**
LSPA	**Little Sitkin**	**0.57**	**10**		**Pn**	**06 36 45.3**	**-2.1**
LSPA					**Sn**	**06 36 54.5**	**-1.6**
LSNW	**Little Sitkin**	**0.58**	**6**		**Pn**	**06 36 45.1**	**-2.4**
CETU	**Semis' Tuman**	**0.88**	**49**		**Pn**	**06 36 50.2**	**-1.2**
CERB	**Semis' Cerberu**	**0.93**	**54**		**Pn**	**06 36 50.9**	**-1.1**
CEAP	**Semis' Anvil P**	**0.94**	**49**		**Pn**	**06 36 51.0**	**-1.2**
CEPE	**Semis' Perret**	**0.96**	**53**		**Pn**	**06 36 51.0**	**-1.4**
GAKI	**Gareloi-Kavalg**	**1.74**	**84**		**Pn**	**06 37 01.1**	**-1.4**
GAKI					**Sn**	**06 37 24.0**	**0.0**
GASW	**Gareloi Southw**	**1.75**	**76**		**Pn**	**06 37 02.1**	**-1.0**
GASW					**Sn**	**06 37 25.6**	**+1.5**
GANO	**Gareloi North**	**1.79**	**75**		**Pn**	**06 37 02.6**	**-1.0**
GANO					**Sn**	**06 37 26.6**	**+1.4**
TANO	**Tanaga North**	**2.22**	**75**		**Pn**	**06 37 09.0**	**-0.6**
TANO					**Sn**	**06 37 36.8**	**+1.0**
TASE	**Tanaga Southea**	**2.25**	**77**		**Pn**	**06 37 09.4**	**-0.8**
TASE					**Sn**	**06 37 37.8**	**+1.1**
KIMD	**Kanaga Island**	**2.74**	**81**		**Pn**	**06 37 16.1**	**-0.6**
KIMD					**Sn**	**06 37

CNBA **Chernabura Isl** 13.63 67 Pn 06 39 44.2 -1.6
CHNA **Chernabura Isl** 13.64 67 P Pn 06 39 43.6 -2.2
CHNA **Chernabura Isl** 13.64 67 P Pn 06 39 44.2 -1.5
baz=264,SNR=9.0
S14K **Fog Glacier** 13.87 61 P Pn 06 39 48.4 -0.7
baz=258
O14K **Tigyukauivet M** 13.94 48 P Pn 06 39 50.0 +0.1
baz=244,SNR=7.8
K13K **Kusilvak Mount** 14.02 35 P Pn 06 39 51.1 +0.1
baz=229
N14K **Kuskokwak Cree** 14.06 45 P Pn 06 39 52.5 +1.0
baz=241,SNR=13
M14K **Bethel** 14.36 42 P Pn 06 39 56.6 +1.1
baz=238,SNR=20
L14K **Kuka Creek** 14.39 39 P Pn 06 39 56.9 +1.0
baz=235,SNR=20
CHGN **Chignik** 14.50 61 Pn 06 39 56.4 -0.9
CHGN **Chignik** 14.50 61 P Pn 06 39 57.4 +0.1
baz=260
O15K **Ungalikthiuk R** 14.59 49 P Pn 06 39 58.7 +0.2
baz=247,SNR=21
M15K **Kasigluk River** 14.87 43 P Pn 06 40 02.9 +0.7
baz=241,SNR=16
N15K **Kwethluk River** 14.88 46 P Pn 06 40 03.0 +0.7
baz=243,SNR=23
J14K **Nanvaranak Lak** 14.95 34 P Pn 06 40 04.6 +1.4
baz=229
L15K **Ungalak Mounta** 15.06 39 P Pn 06 40 06.7 +2.1
baz=236,SNR=22
K15K **Wolf Creek Mou** 15.40 37 IAmb IAmb 06 40 32.7
comp=Z,48nm,1.0s
K15K **Wolf Creek Mou** 15.40 37 P Pn 06 40 10.7 +1.7
baz=234,SNR=18
P16K **Nushagak River** 15.42 51 IAmb IAmb 06 40 29.5
comp=Z,51nm,0.8s
P16K **Nushagak River** 15.42 51 P Pn 06 40 09.9 +0.6
baz=251
O16K **Kokwok River B** 15.57 49 P Pn 06 40 12.1 +0.9
baz=248,SNR=12
N16K **Nishlik Lake** 15.61 46 P Pn 06 40 12.6 +0.8
baz=245
ANM **Nome** 15.68 26 P Pn 06 40 13.4 +0.8
baz=220
M16K **Timber Creek** 15.77 44 P Pn 06 40 14.7 +0.9
baz=242,SNR=16
TNA **Tin City** 15.84 21 P Pn 06 40 14.5 -0.2
baz=213
R17L **Mt. Peulik Vol** 15.86 57 P Pn 06 40 14.9 -0.1
baz=258
PLK4 **Peulik 4** 15.86 57 IAmb IAmb 06 40 45.4
comp=Z,31nm,0.8s
Q16K **King Salmon** 15.97 53 P Pn 06 40 17.0 +0.6
baz=254,SNR=5.7
CHIR **Chirikof Islan** 15.99 64 P Pn 06 40 15.3 -1.3
CHIR **Chirikof Islan** 15.99 64 P Pn 06 40 16.7 +0.1
baz=265
O17K **Koliganek Bris** 16.10 49 P Pn 06 40 18.6 +0.5
baz=249,SNR=21
F14K **Arctic Creek** 16.14 23 P Pn 06 40 19.0 +0.4
baz=216
P17K **Kvichak River** 16.23 51 P Pn 06 40 20.4 +0.7
baz=252,SNR=25
Q17K **Contact Creek** 16.25 55 P Pn 06 40 21.0 +0.9
baz=256,SNR=21
J16K **Anvik River** 16.33 35 P P 06 40 22.5 -0.7
baz=233,SNR=8.1
N17K **Nushagak Hills** 16.34 47 P P 06 40 22.7 -0.6
baz=247,SNR=15
G15K **Niukluk** 16.38 27 P Pn 06 40 22.3 +0.8
baz=222
L17K **Donlin** 16.58 41 P P 06 40 25.5 -0.5
baz=240,SNR=56
M17K **Holitna River** 16.60 44 IAmb IAmb 06 40 42.6
comp=Z,34nm,0.8s
M17K **Holitna River** 16.60 44 P P 06 40 25.6 -0.6
baz=244,SNR=24
H16K **Elim** 16.66 30 P P 06 40 26.0 -0.8
baz=226
I17K **Unalakleet** 16.67 33 IAmb IAmb 06 40 30.7
comp=Z,66nm,1.4s
I17K **Unalakleet** 16.67 33 P P 06 40 26.3 -0.6
baz=231,SNR=6.6
F15K **North Star Dit** 16.76 25 P Pn 06 40 26.8 +0.5
baz=219
Q18K **Katmai Hardscr** 16.79 54 P Pn 06 40 27.3 +0.4
baz=256,SNR=21
R18K **Karluk** 16.86 58 P Pn 06 40 28.0 +0.5
baz=260
SII **Sitkinak Islan** 16.86 61 IAmb IAmb 06 40 46.2
comp=Z,35nm,0.8s
SII **Sitkinak Islan** 16.86 61 P P 06 40 29.8 +0.7
SII **Sitkinak Islan** 16.86 61 P Pn 06 40 27.4 -0.2
baz=264
K17K **Iditarod** 16.88 39 IAmb IAmb 06 40 50.6
comp=Z,37nm,1.0s
K17K **Iditarod** 16.88 39 P P 06 40 29.1 -0.1
baz=239,SNR=18
P18K **Big Mountain,** 16.88 51 P Pn 06 40 28.1 +0.2
baz=253
J17K **VABM Dome** 16.95 36 IAmb IAmb 06 40 32.8
comp=Z,58nm,1.4s
J17K **VABM Dome** 16.95 36 P P 06 40 30.5 +0.4
baz=235,SNR=17
N18K **Kilae Creek** 16.99 47 P P 06 40 30.5 -0.1
baz=248,SNR=14
O18K **Koktuh Hills** 17.03 50 P P 06 40 32.2 +1.2
O18K IAmb IAmb 06 40 36.7
comp=Z,42nm,0.8s
O18K **Koktuh Hills** 17.03 50 P P 06 40 31.1 +0.1
baz=252,SNR=18
G16K **Koyuk River** 17.16 28 P P 06 40 32.3 0.0
baz=224
L18K **Granite Mounta** 17.29 42 P P 06 40 34.1 +0.4
baz=243,SNR=23
M18K **Stony River** 17.34 44 P P 06 40 34.6 +0.3
baz=246,SNR=18
OHAK **Old Harbor** 17.43 59 P Pn 06 40 33.4 -1.2
OHAK **Old Harbor** 17.43 59 P Pn 06 40 33.6 -1.0
baz=262
Q19K **Cape Douglas,** 17.55 54 P Pn 06 40 35.9 -0.3
baz=257
O19K **Port Alsworth** 17.56 49 IAmb IAmb 06 40 43.4
comp=Z,30nm,0.8s
O19K **Port Alsworth** 17.56 49 P P 06 40 37.1 +0.4
baz=252
MA2 **Magadan** 17.57 309 LR LR 06 47 00.6
comp=Z,266nm,19.5s,baz=114,slow=36
MA2 **Magadan** 17.57 309 *e*P P 06 40 40.4 +3.5
H17K **Granite Mounta** 17.60 31 P P 06 40 38.8 +1.6
baz=230,SNR=11
N19K **Bonanza Creek** 17.69 47 P P 06 40 39.9 +1.7
N19K **Bonanza Creek** 17.69 47 P P 06 40 39.5 +1.2
baz=250,SNR=22
BILL **Bilibino** 17.72 345 *ce*P P 06 40 40.6 +2.1
BILL pmax pmax
comp=Z,19nm,0.8s
G17K **Kiwalik Mounta** 17.75 29 P P 06 40 39.7 +1.0
baz=227,SNR=8.1
KDAK **Kodiak Island** 17.88 58 P Pn 06 40 38.5 -1.7
KDAK **Kodiak Island** 17.88 58 P Pn 06 40 37.4 -2.8
comp=Z,1.7nm,0.3s,baz=300,slow=1.4,SNR=35
KDAK S Sn 06 43 57.2 -1.3
comp=Z,1.6nm,0.6s,baz=62,slow=19,SNR=6.4
KDAK LR LR 06 48 10.2
comp=Z,536nm,19.7s,baz=237,slow=39
comp=Z,12nm,0.5s
KDAK **Kodiak Island** 17.88 58 *c i*P Pn 06 40 38.2 -2.0
KDAK **Kodiak Island** 17.88 58 P P 06 40 40.3 -0.1
baz=262
J18K **Innoko River** 17.89 38 P P 06 40 41.9 +1.6
baz=239,SNR=22
P19K **Oil Pt** 17.93 52 IAmb IAmb 06 40 51.3
comp=Z,47nm,1.0s
P19K **Oil Pt** 17.93 52 P P 06 40 42.0 +1.1
baz=255,SNR=8.6
L19K **White Mountain** 18.04 43 P Pn 06 40 43.9 +1.8
baz=246,SNR=28
ILSW **Iliamna Southw** 18.06 51 IAmb IAmb 06 40 45.8
comp=Z,59nm,1.3s
SEY **Seymchan** 18.08 320 P Pn 06 40 47.0 +4.4
comp=Z,2.6nm,0.2s,baz=130,slow=13,SNR=6.7
SEY LR LR 06 47 10.3
comp=Z,268nm,20.4s,baz=143,slow=35
SEY **Seymchan** 18.08 320 *e*P Pn 06 40 43.9 +1.3
SEY pmax pmax
comp=Z,2.0nm,1.1s
Q20K **Shuyak Island** 18.12 55 P Pn 06 40 43.7 +0.6
baz=259

M19K **Big River Lodg** 18.13 44 P Pn 06 40 44.8 +1.6
baz=247
F17K **Baldwin Pennin** 18.23 27 P Pn 06 40 44.6 +0.3
baz=224
H18K **Honhosa River** 18.25 32 P Pn 06 40 46.1 +1.4
baz=232,SNR=11
O20K **Slope Mountain** 18.34 50 P Pn 06 40 47.2 +1.3
baz=255,SNR=9.3
RED **Redoubt Volcan** 18.36 49 IAmb IAmb 06 41 01.8
comp=Z,107nm,1.4s
GCSA **Galena City Sc** 18.52 34 P Pn 06 40 50.2 +2.3
baz=236,SNR=15
E17K **Hotham Inlet** 18.55 25 P Pn 06 40 48.7 +0.5
baz=222
J19K **Poorman** 18.57 37 IAmb IAmb 06 40 52.4
comp=Z,41nm,1.2s
J19K **Poorman** 18.57 37 P Pn 06 40 49.6 +1.1
baz=240,SNR=29
L20K **Farewell, AK** 18.58 43 P Pn 06 40 50.1 +1.5
baz=246,SNR=18
G18K **Tagagawik** 18.63 30 P Pn 06 40 50.4 +1.2
baz=230,SNR=11
M20K **Styx River** 18.67 45 P Pn 06 40 51.0 +1.2
baz=249
C16K **Lisburne Hills** 18.68 19 P Pn 06 40 50.6 +0.8
baz=213
D17K **Noatak River** 18.71 22 P Pn 06 40 50.1 0.0
baz=218
HOM **Homer** 18.72 52 P Pn 06 40 50.4 +0.1
baz=257
F18K **Selawik** 18.80 28 P Pn 06 40 51.4 +0.2
baz=227
N20K **Mount Spurr** 18.86 47 P Pn 06 40 52.4 +0.3
baz=252
SPCR **Spurr Chakacha** 18.86 47 P Pn 06 40 51.9 -0.2
baz=252,SNR=7.9
K20K **Telida** 18.88 40 IAmb IAmb 06 40 56.6
comp=Z,34nm,1.1s
K20K **Telida** 18.88 40 P Pn 06 40 52.7 +0.5
baz=244,SNR=33
CNPM **China Poot** 18.89 53 P P 06 40 51.6 +0.2
SPU **Mount Spurr** 18.93 47 IAmb IAmb 06 41 10.7
comp=Z,29nm,0.9s
RDOG **Red Dog Mine** 19.03 22 IAmb IAmb 06 41 00.3
comp=Z,28nm,0.8s
RDOG **Red Dog Mine** 19.03 22 P Pn 06 40 54.3 +0.3
baz=218
E18K **Tukpahlearik C** 19.12 25 P Pn 06 40 55.1 0.0
baz=223
H19K **Roundabout Mou** 19.12 33 P Pn 06 40 54.9 -0.2
baz=234
STLK **Strandline Lak** 19.13 47 IAmb IAmb 06 40 57.3
comp=Z,31nm,0.8s
J20K **Nowinta River** 19.23 38 P Pn 06 40 56.5 +0.1
J20K IAmb IAmb 06 41 00.1
comp=Z,42nm,1.0s
J20K **Nowinta River** 19.23 38 P Pn 06 40 56.3 -0.1
baz=241,SNR=43
G19K **Purcell Mounta** 19.28 31 P Pn 06 40 57.3 +0.3
G19K IAmb IAmb 06 41 02.6
comp=Z,37nm,0.8s
G19K **Purcell Mounta** 19.28 31 P Pn 06 40 56.9 -0.1
baz=232,SNR=23
C17K **DeLong Mountai** 19.30 21 P P 06 40 56.3 +0.4
baz=217
I20K **Naaghedeneel** 19.41 36 P Pn 06 40 58.5 0.0
I20K IAmb IAmb 06 41 12.4
comp=Z,41nm,0.9s
I20K **Naaghedeneel** 19.41 36 P P 06 40 57.1 0.0
baz=239,SNR=6.7
SKT **Skwentna** 19.42 45 P Pn 06 40 58.0 -0.7
baz=251,SNR=63
PPLA **Purkeypile** 19.46 42 IAmb IAmb 06 41 21.9
comp=Z,40nm,0.8s
PPLA **Purkeypile** 19.46 42 P Pn 06 40 58.6 -0.7
baz=247,SNR=20
F19K **Shaleruckik Mo** 19.51 29 IAmb IAmb 06 41 04.2
comp=Z,32nm,0.8s
F19K **Shaleruckik Mo** 19.51 29 P Pn 06 40 58.9 -0.8
baz=229,SNR=35
SLKM **Skilak Lake** 19.61 50 IAmb IAmb 06 41 13.4
comp=Z,34nm,0.9s
SUA **Susitna One** 19.61 47 IAmb IAmb 06 41 17.2
comp=Z,38nm,0.8s
SUA **Susitna One** 19.61 47 P P 06 40 59.6 +0.2
baz=253,SNR=20
H20K **Anotleneega Mo** 19.64 34 P P 06 41 00.3 +0.8
baz=237,SNR=25
CAST **Castle Rocks** 19.71 41 IAmb IAmb 06 41 26.3
comp=Z,21nm,0.7s
CAST **Castle Rocks** 19.71 41 P Pn 06 41 01.7 -0.5
baz=246,SNR=31
CHUM **Lake Minchumin** 19.81 40 P P 06 41 02.0 +0.6
baz=245,SNR=7.4
O22K **Cooper Landing** 19.84 50 P P 06 41 01.9 +0.2
baz=257,SNR=7.6
SEW **Seward** 19.89 52 P Pn 06 41 03.3 -0.9
SEW IAmb IAmb 06 41 08.0
comp=Z,34nm,0.9s
SEW **Seward** 19.89 52 P P 06 41 02.5 +0.2
baz=258,SNR=9.8
C18K **Utukok River** 19.89 22 P P 06 41 02.7 +0.3
baz=220
RC01 **Rabbit Creek A** 19.98 49 P P 06 41 03.4 +0.1
baz=255,SNR=9.2
M22K **Willow** 19.98 47 P P 06 41 03.6 +0.3
baz=253
E19K **Redstone River** 20.08 28 P P 06 41 04.5 +0.2
baz=229,SNR=9.2
KTH **Kantishna Hill** 20.25 41 P Pn 06 41 08.0 -0.5
F20K **Avaraart Lake** 20.27 30 P P 06 41 06.9 +0.6
baz=232
IMAR **Indian Mountai** 20.30 33 P P 06 41 07.8 +1.1
B18K **Kokolik River** 20.32 20 P P 06 41 07.1 +0.3
baz=218
PMR **Palmer** 20.39 47 IAmb IAmb 06 41 20.9
comp=Z,15nm,0.6s
PMR **Palmer** 20.39 47 P Pn 06 41 10.7 +0.6
PMR **Palmer** 20.39 47 P P 06 41 07.9 +0.2
baz=255,SNR=11
BPAW **Bear Paw Mtn.** 20.43 40 IAmb IAmb 06 41 29.0
comp=Z,7nm,0.9s
BPAW **Bear Paw Mtn.** 20.43 40 P P 06 41 08.7 +0.5
baz=246,SNR=25
H21K **Melozitna Rive** 20.46 35 IAmb IAmb 06 41 27.9
comp=Z,28nm,1.1s
H21K **Melozitna Rive** 20.46 35 P P 06 41 08.9 +0.5
baz=240,SNR=41
TRF **Thorofare Moun** 20.47 42 P P 06 41 09.1 +0.3
baz=249,SNR=20
I21K **Tanana** 20.53 36 IAmb IAmb 06 41 27.8
comp=Z,53nm,1.1s
I21K **Tanana** 20.53 36 P P 06 41 09.7 +0.5
baz=242,SNR=28
GHO **Glory Hole Cre** 20.54 47 IAmb IAmb 06 41 29.6
comp=Z,29nm,0.8s
D19K **Kuna River** 20.55 25 IAmb IAmb 06 41 23.6
comp=Z,26nm,0.9s
D19K **Kuna River** 20.55 25 P P 06 41 09.4 0.0
baz=225,SNR=10
PWL **Port Wells** 20.59 50 IAmb IAmb 06 41 25.8
comp=Z,33nm,0.7s
PWL **Port Wells** 20.59 50 P P 06 41 09.9 0.0
baz=258
C19K **Lookout Ridge** 20.62 22 IAmb IAmb 06 41 24.2
comp=Z,27nm,1.0s
C19K **Lookout Ridge** 20.62 22 P P 06 41 09.8 -0.3
baz=222
KNK **Knik Glacier** 20.66 48 P P 06 41 10.2 -0.5
baz=256,SNR=9.1
G21K **Allakaket** 20.67 32 IAmb IAmb 06 41 13.7
comp=Z,36nm,0.9s
G21K **Allakaket** 20.67 32 P P 06 41 10.5 -0.2
baz=237,SNR=37
P23K **Montague Islan** 20.88 52 P P 06 41 12.8 -0.2
baz=261,SNR=11
E20K **Nigu River** 20.91 27 P P 06 41 12.9 -0.4
baz=229,SNR=16
MLY **Manley** 20.93 38 P P 06 41 14.3 +0.8
baz=244,SNR=26
RND **Reindeer** 21.06 43 IAmb IAmb 06 41 30.8
comp=Z,19nm,0.8s
F21K **Alatna River** 21.08 31 IAmb IAmb 06 41 18.1
comp=Z,50nm,1.1s
F21K **Alatna River** 21.08 31 P P 06 41 15.8 +0.7
baz=235,SNR=51
H22K **Ishtalitna Cre** 21.09 35 P P 06 41 15.7 +0.5
baz=241,SNR=24

M23K **Glacier View** 21.09 47 P P 06 41 15.1 -0.2
baz=256,SNR=21
D20K **Etivluk River** 21.09 25 IAmb IAmb 06 41 28.6
comp=Z,34nm,0.8s
D20K **Etivluk River** 21.09 25 P P 06 41 15.4 +0.1
baz=227,SNR=17
MCK **McKinley** 21.14 42 IAmb IAmb 06 41 18.2
comp=Z,19nm,0.8s
MCK **McKinley** 21.14 42 P P 06 41 15.5 -0.2
baz=250,SNR=9.4
A19K **Wainwright** 21.14 19 P P 06 41 16.0 +0.3
baz=218
GLI **Glacier Island** 21.19 50 P P 06 41 16.8 +0.4
baz=259,SNR=19
SCM **Sheep Creek Mo** 21.28 47 P P 06 41 17.5 +0.1
baz=256,SNR=31
HIN **Hinchinbrook I** 21.39 51 IAmb IAmb 06 41 37.5
comp=Z,26nm,0.8s
NEA2 **Nenana** 21.40 39 IAmb IAmb 06 41 40.1
comp=Z,44nm,1.0s
NEA2 **Nenana** 21.40 39 P P 06 41 18.6 0.0
baz=247,SNR=14
I23K **Minto, Yukon-K** 21.51 38 IAmb IAmb 06 41 43.0
comp=Z,29nm,1.1s
I23K **Minto, Yukon-K** 21.51 38 P P 06 41 20.3 +0.6
baz=246,SNR=32
G22K **Bettles** 21.56 33 P P 06 41 20.4 +0.2
baz=239
E21K **Killik River** 21.66 28 IAmb IAmb 06 41 24.6
comp=Z,26nm,0.8s
E21K **Killik River** 21.66 28 P P 06 41 21.6 +0.3
baz=232
F22K **John River** 21.66 31 P P 06 41 21.6 +0.4
baz=236
H23K **Yukon River** 21.73 36 P P 06 41 22.4 +0.3
baz=244,SNR=20
EYAK **Cordova Ski Ar** 21.78 51 IAmb IAmb 06 41 36.3
comp=Z,35nm,0.9s
EYAK **Cordova Ski Ar** 21.78 51 P P 06 41 23.4 +0.8
baz=261,SNR=15
KLU **Klutina** 21.86 49 IAmb IAmb 06 41 43.6
comp=Z,30nm,0.9s
KLU **Klutina** 21.86 49 P P 06 41 24.5 +0.9
baz=259,SNR=19
B20K **Meade River** 21.87 22 P P 06 41 24.1 +0.6
baz=224
M24K **Tolsona, Glenn** 21.88 47 P P 06 41 24.5 +0.8
baz=257,SNR=10
C21K **Knifeblade Rid** 21.89 26 P P 06 41 24.1 +0.4
baz=229,SNR=7.6
CCB **Clear Creek Bu** 21.92 40 P P 06 41 23.8 -0.3
G23K **Bananza Creek** 21.96 34 IAmb IAmb 06 41 45.5
comp=Z,37nm,1.3s
G23K **Bananza Creek** 21.96 34 P P 06 41 25.4 +0.7
baz=241,SNR=24
COLA **College** 21.99 39 P P 06 41 25.2 +0.5
COLA IAmb IAmb 06 41 43.7
comp=Z,23nm,0.8s
COLA **College** 21.99 39 P P 06 41 26.8 +2.0
COLA **College** 21.99 39 *i*P P 06 41 25.3 +0.5
COLA pmax pmax
comp=Z,14nm,0.8s
COLA **College** 21.99 39 P P 06 41 25.5 +0.7
baz=248
E22K **Anaktuvuk Pass** 22.12 30 IAmb IAmb 06 41 28.7
comp=Z,30nm,0.9s
E22K **Anaktuvuk Pass** 22.12 30 P P 06 41 26.2 -0.1
baz=236,SNR=26
COLD **Coldfoot** 22.16 33 P P 06 41 26.7 +0.1
baz=240
HDA **Harding Lake** 22.19 41 IAmb IAmb 06 41 41.2
comp=Z,13nm,0.6s
HDA **Harding Lake** 22.19 41 P P 06 41 26.6 -0.4
baz=251,SNR=17
B21K **Ikpikpuk River** 22.24 25 IAmb IAmb 06 41 48.2
comp=Z,34nm,1.1s
B21K **Ikpikpuk River** 22.24 25 P P 06 41 28.4 +0.3
baz=229
POKR **Poker Plat Res** 22.24 39 P P 06 41 28.2 +0.6
baz=248
D22K **Ayikyak River** 22.30 27 IAmb IAmb 06 41 51.0
comp=Z,30nm,0.8s
D22K **Ayikyak River** 22.30 27 P P 06 41 28.6 +0.4
baz=233,SNR=20
TYV **Tymovskoe** 22.32 283 *e*P P 06 41 38.9 +10
TYV pmax pmax
comp=Z,10.0nm,1.0s
TYV pmax pmax
comp=Z,200nm,3.9s
ILAR **Eielson Array** 22.34 40 P P 06 41 26.6 -2.0
ILAR **Eielson Array** 22.34 40 P P 06 41 26.1 -2.5
comp=Z,4.4nm,0.7s,baz=242,slow=8.0,SNR=51
ILAR PcP **PcP** 06 45 21.6 -0.5
comp=Z,0.4nm,0.8s,baz=203,slow=3.5,SNR=2.9
ILAR LR LR 06 50 52.7
comp=Z,449nm,18.6s,baz=246,slow=39
comp=Z,4.4nm,0.7s
H24K **Noodor Dome** 22.35 37 IAmb IAmb 06 41 48.9
comp=Z,18nm,0.8s
H24K **Noodor Dome** 22.35 37 P P 06 41 28.7 -0.1
baz=246,SNR=32
KAIM **Kayak Island** 22.36 53 P P 06 41 28.8 -0.1
baz=264
PAX **Paxson** 22.40 45 IAmb IAmb 06 41 48.8
comp=Z,31nm,1.0s
PAX **Paxson** 22.40 45 P P 06 41 28.5 -0.8
baz=256,SNR=21
BMRM **Bremner River** 22.40 50 P P 06 41 28.4 -1.0
baz=261,SNR=12
HARP **HAARP** 22.41 47 P P 06 41 28.2 -1.2
baz=257
HMT **Hamilton** 22.49 52 IAmb IAmb 06 41 51.3
comp=Z,28nm,0.8s
K24K **Donnelly Dome** 22.49 43 P P 06 41 29.4 -0.9
baz=253,SNR=16
N25K **Chitina, Valde** 22.51 49 IAmb IAmb 06 41 54.5
comp=Z,23nm,0.8s
N25K **Chitina, Valde** 22.51 49 P P 06 41 29.5 -1.0
baz=260,SNR=12
BERG **Berg Lake** 22.77 52 IAmb IAmb 06 41 45.2
comp=Z,40nm,1.1s
E23K **Chandalar** 22.78 31 IAmb IAmb 06 41 54.4
comp=Z,43nm,1.4s
E23K **Chandalar** 22.78 31 P P 06 41 33.0 -0.3
baz=239,SNR=11
GLB **Gilahina Butte** 22.85 49 IAmb IAmb 06 41 48.2
comp=Z,21nm,0.8s
G24K **Hadweenzic Riv** 22.86 35 P P 06 41 33.7 -0.4
baz=245,SNR=45
RIDG **Independent Ri** 22.87 43 P P 06 41 32.6 -1.7
RIDG IAmb IAmb 06 41 53.2
comp=Z,18nm,0.6s
RIDG **Independent Ri** 22.87 43 P P 06 41 33.3 -1.0
baz=255,SNR=15
J25K **Salcha River,** 22.90 41 P P 06 41 32.7 -1.9
J25K **Salcha River,** 22.90 41 P P 06 41 33.3 -1.3
baz=252,SNR=28
D23K **Nanushuk River** 22.94 28 IAmb IAmb 06 41 37.4
comp=Z,34nm,0.9s
D23K **Nanushuk River** 22.94 28 P P 06 41 34.7 -0.2
baz=236,SNR=19
VRDI **Verde Repeater** 22.99 50 IAmb IAmb 06 41 37.1
comp=Z,24nm,0.6s
F24K **Squaw Lake** 23.08 33 IAmb IAmb 06 41 54.9
comp=Z,16nm,0.8s
F24K **Squaw Lake** 23.08 33 P P 06 41 36.6 +0.2
baz=242,SNR=31
A22K **Sinclair Lake** 23.09 22 P P 06 41 35.7 -0.6
baz=226
TOLK **Toolik Lake Re** 23.10 30 IAmb IAmb 06 41 38.4
comp=Z,19nm,0.8s
TOLK **Toolik Lake Re** 23.10 30 P P 06 41 35.9 -0.6
baz=238,SNR=21
CRQE **Cirque** 23.11 51 P P 06 41 35.8 -1.0
baz=264,SNR=11
PRP **Porcupine Dome** 23.14 39 P P 06 41 35.9 -1.1
baz=250,SNR=12
E24K **Your Creek** 23.15 31 P P 06 41 36.7 -0.4
baz=240
WAX **Waxell Ridge** 23.19 52 IAmb IAmb 06 41 40.7
comp=Z,22nm,0.7s
MCARA **McCarthy VSAT** 23.22 50 IAmb IAmb 06 42 07.2
comp=Z,31nm,0.8s
MCARA **McCarthy VSAT** 23.22 50 P P 06 41 37.1 -0.6
baz=262,SNR=9.8
TGL **Tana Glacier** 23.24 51 IAmb IAmb 06 41 58.9
comp=Z,23nm,0.8s
H25L **Birch Creek** 23.30 37 P P 06 41 38.4 0.0

baz=248,SNR=39
SCRK **Sand Creek** 23.30 43 IAmb IAmb 06 41 47.8
comp=Z,14nm,0.7s
SCRK **Sand Creek** 23.30 43 P **P** **06 41 37.2 -1.4**
baz=255,SNR=29
L26K **Log Cabin Wild** 23.36 45 IAmb IAmb 06 41 41.1
comp=Z,18nm,0.8s
L26K **Log Cabin Wild** 23.36 45 P **P** **06 41 38.8 -0.3**
baz=258,SNR=33
G25K **Bearman Lake** 23.39 35 P **P** **06 41 39.3 0.0**
baz=246,SNR=20
M26K **Nabesna, AK** 23.39 47 IAmb IAmb 06 42 13.0
comp=Z,16nm,1.0s
M26K **Nabesna, AK** 23.39 47 P **P** **06 41 39.1 -0.3**
baz=260
C23K **Itkillik River** 23.46 27 IAmb IAmb 06 41 41.7
comp=Z,17nm,0.7s
C23K **Itkillik River** 23.46 27 P **P** **06 41 40.0 0.0**
baz=234,SNR=9.2
YSS **Yuzhno-Sakhali** 23.58 273 *e*P **P** **06 41 42.7 +1.4**
YSS *e*S **S** **06 45 49.8 -2.0**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS pmax pmax
comp=Z,100nm,4.8s
YSS smax smax
comp=N,100nm,5.7s
YSS smax smax
comp=E,100nm,5.2s
D24K **Happy Valley** 23.60 29 P **P** **06 41 41.1 -0.2**
baz=238,SNR=22
J26L **Joseph Creek** 23.62 42 P **P** **06 41 41.3 -0.3**
baz=254,SNR=106
MESA **MESA** 23.62 53 P **P** **06 41 41.3 -0.5**
baz=266
F25K **Christian Rive** 23.89 34 IAmb IAmb 06 41 46.8
comp=Z,13nm,0.8s
F25K **Christian Rive** 23.89 34 P **P** **06 41 44.5 +0.4**
baz=245,SNR=29
M27K **Edge Creek, AK** 23.90 47 IAmb IAmb 06 42 07.7
comp=Z,21nm,0.8s
M27K **Edge Creek, AK** 23.90 47 P **P** **06 41 44.1 -0.2**
baz=261,SNR=26
C24K **Franklin Bluff** 23.94 28 P **P** **06 41 44.1 -0.3**
baz=237
CTG **Chitna Glacier** 23.98 51 P **P** **06 41 44.7 -0.4**
baz=265,SNR=19
I26K **Coal Creek Min** 24.01 40 P **P** **06 41 43.8 -1.3**
baz=253
L27K **Beaver Creek,** 24.04 46 P **P** **06 41 45.1 -0.3**
baz=260,SNR=80
BCAR **Beaver Creek A** 24.06 46 P **P** **06 41 46.6 +1.0**
K27K **Chicken** 24.13 43 IAmb IAmb 06 41 48.0
comp=Z,22nm,0.7s
K27K **Chicken** 24.13 43 P **P** **06 41 45.6 -0.6**
baz=257
BMAR **Burnt Mountain** 24.20 35 P **P** **06 41 47.0 +0.2**
G26K **Porcupine Rive** 24.30 36 P **P** **06 41 47.8 0.0**
baz=249,SNR=58
BVCY **Beaver Creek** 24.38 47 P **P** **06 41 48.0 -0.6**
baz=262,SNR=25
D25K **Kavik River** 24.44 30 IAmb IAmb 06 41 50.4
comp=Z,16nm,0.7s
D25K **Kavik River** 24.44 30 P **P** **06 41 48.5 -0.5**
baz=241
F26K **Sheenjek River** 24.45 34 IAmb IAmb 06 41 53.2
comp=Z,12nm,0.8s
F26K **Sheenjek River** 24.45 34 P **P** **06 41 48.2 -1.0**
baz=247,SNR=32
PINM **Pinnacle** 24.46 53 P **P** **06 41 48.7 -0.7**
baz=268,SNR=9.4
YUK3 **Moose Creek** 24.49 49 P **P** **06 41 48.8 -1.0**
baz=264,SNR=21
O28M **Mount Upton** 24.53 51 P **P** **06 41 49.2 -1.0**
baz=266,SNR=22
I27K **Kandik River** 24.71 40 P **P** **06 41 50.4 -1.1**
baz=254,SNR=7.0
PNL **Peninsula** 24.88 54 P **P** **06 41 52.4 -0.7**
PNL **Peninsula** 24.88 54 P **P** **06 41 51.6 -1.5**
baz=269
H27K **Steamboat Moun** 24.92 38 P **P** **06 41 51.5 -1.9**
baz=253,SNR=5.8
ASAJ **Asahikawa** 24.96 267 P **P** **06 41 54.5 +0.5**
comp=Z,15nm,0.8s,baz=106,slow=3.0,SNR=5.8
comp=Z,15nm,0.8s
G27K **Doyon Strip** 25.05 37 P **P** **06 41 53.8 -0.8**
baz=252,SNR=18
C26K **Camden Bay** 25.18 29 P **P** **06 41 55.3 -0.3**
baz=242,SNR=29
DAWY **Dawson** 25.29 44 P **P** **06 41 56.4 -0.5**
baz=260,SNR=88
O29M **Mount Kennedy** 25.30 53 P **P** **06 41 56.2 -0.8**
baz=269
YUK4 **Talbot Arm** 25.31 50 P **P** **06 41 57.3 0.0**
baz=266,SNR=20
I28M **Miner Creek** 25.35 40 IAmb IAmb 06 42 15.8
comp=Z,16nm,0.8s
I28M **Miner Creek** 25.35 40 P **P** **06 41 56.4 -1.0**
baz=257,SNR=28
C27K **Jago River** 25.41 30 IAmb IAmb 06 42 01.6
comp=Z,23nm,1.1s
C27K **Jago River** 25.41 30 P **P** **06 41 56.5 -1.3**
baz=244,SNR=26
YUK6 **Outpost Mounta** 25.43 51 P **P** **06 41 56.9 -1.4**
baz=268
M29M **Somme Creek** 25.49 48 IAmb IAmb 06 42 18.5
comp=Z,18nm,0.8s
M29M **Somme Creek** 25.49 48 P **P** **06 41 57.9 -0.8**
baz=264,SNR=12
E27K **Coleen River** 25.53 34 IAmb IAmb 06 42 21.9
comp=Z,18nm,1.1s
E27K **Coleen River** 25.53 34 P **P** **06 41 58.6 -0.3**
baz=249,SNR=10
L29M **L29M** 25.71 46 P **P** **06 41 59.7 -1.0**
baz=263
P29M **Windy Craggy** 25.73 54 P **P** **06 41 59.9 -0.9**
baz=271
HYT **Haines Junctio** 25.85 51 IAmb IAmb 06 42 20.3
comp=Z,17nm,0.8s
HYT **Haines Junctio** 25.85 51 P **P** **06 42 00.8 -1.2**
baz=269,SNR=8.0
F28M **Old Crow** 25.96 36 IAmb IAmb 06 42 26.1
comp=Z,32nm,1.4s
F28M **Old Crow** 25.96 36 P **P** **06 42 02.3 -0.5**
baz=252,SNR=18
I29M **Ogilvie Camp,** 26.00 41 IAmb IAmb 06 42 20.2
comp=Z,14nm,0.8s
I29M **Ogilvie Camp,** 26.00 41 P **P** **06 42 02.2 -1.0**
baz=258,SNR=10
N30M **Aishikik Lake** 26.07 50 P **P** **06 42 03.2 -0.7**
baz=268,SNR=6.5
K29M **Barlow Dome** 26.08 45 P **P** **06 42 03.5 -0.5**
baz=262,SNR=8.4
P30M **Million Dollar** 26.11 53 P **P** **06 42 03.7 -0.6**
baz=271
D27M **Malcolm River** 26.14 32 IAmb IAmb 06 42 23.5
comp=Z,18nm,0.9s
D27M **Malcolm River** 26.14 32 P **P** **06 42 03.6 -0.8**
baz=248
H29M **Whitestone** 26.16 39 P **P** **06 42 03.4 -1.1**
baz=257,SNR=6.1
M30M **Minto, Yukon** 26.27 47 P **P** **06 42 05.3 -0.4**
baz=266,SNR=12
E28M **Babbage River** 26.39 34 P **P** **06 42 06.6 -0.1**
baz=251,SNR=8.0
G29M **Pine Creek** 26.45 38 P **P** **06 42 06.9 -0.4**
baz=256,SNR=8.2
O30N **Mendenhall** 26.54 52 P **P** **06 42 07.2 -0.9**
baz=270
S31K **Pelican** 26.60 58 P **P** **06 42 08.0 -0.6**
baz=276
J30M **Hart River** 26.69 43 P **P** **06 42 08.7 -0.9**
baz=262,SNR=8.6
N31M **Braeburn, Yuko** 26.70 50 P **P** **06 42 09.6 0.0**
N31M **Braeburn, Yuko** 26.70 50 P **P** **06 42 08.8 -0.8**
baz=269
I30M **Mount Dempster** 26.77 42 P **P** **06 42 09.3 -0.9**
baz=261,SNR=9.8
MAYO **Mayo, Yukon** 26.77 45 P **P** **06 42 09.7 -0.4**
baz=264
EPYK **Eagle Plains** 26.84 39 IAmb IAmb 06 42 10.9
comp=Z,12nm,0.8s
EPYK **Eagle Plains** 26.84 39 P **P** **06 42 09.9 -0.9**
baz=258,SNR=13
E29M **Blow River** 26.90 34 P **P** **06 42 10.6 -0.7**
baz=253
D28M **Stokes Point** 26.91 32 P **P** **06 42 10.5 -0.7**
baz=250

SKAG **Skagway** 26.96 54 P **P** **06 42 11.1 -0.7**
baz=273
WHY **Whitehorse** 27.14 52 IAmb IAmb 06 42 45.8
comp=Z,11nm,0.9s
WHY **Whitehorse** 27.14 52 P **P** **06 42 13.5 -0.1**
baz=271
G30M **tAoh Zraii Nji** 27.16 38 P **P** **06 42 13.1 -0.5**
baz=258
SIT **Sitka** 27.19 60 P **P** **06 42 13.8 -0.2**
baz=278
M31M **Drury Creek, Y** 27.37 48 P **P** **06 42 15.5 -0.1**
baz=269
F30M **Barrier River** 27.47 37 IAmb IAmb 06 42 37.5
comp=Z,14nm,0.8s
F30M **Barrier River** 27.47 37 P **P** **06 42 16.3 0.0**
baz=257
R32K **Eaglecrest** 27.48 57 P **P** **06 42 16.4 -0.1**
baz=276
S32K **Killisnoo** 27.54 59 P **P** **06 42 16.9 -0.2**
baz=278
H31M **Peel River** 27.69 41 P **P** **06 42 17.8 -0.6**
baz=262,SNR=5.3
P32M **Atlin** 27.77 54 P **P** **06 42 18.2 -1.0**
baz=274
G31M **Satah River** 27.90 38 P **P** **06 42 19.2 -1.0**
baz=260
N32M **Quiet Lake** 28.00 51 P **P** **06 42 20.6 -0.6**
baz=272
YAK **Yakutsk** 28.09 311 LR LR 06 53 22.3
comp=Z,139nm,19.3s,baz=93,slow=36
P33M **Teslin, Yukon** 28.18 53 P **P** **06 42 22.2 -0.7**
baz=274,SNR=9.3
F31M **Tsiigehtchic** 28.20 37 IAmb IAmb 06 42 23.2
comp=Z,7.7nm,0.7s
F31M **Tsiigehtchic** 28.20 37 P **P** **06 42 22.6 -0.2**
baz=259
INK **Inuvik** 28.45 35 P **P** **06 42 25.1 +0.1**
INK **Inuvik** 28.45 35 LR LR 06 53 45.1
comp=Z,363nm,22.0s,baz=242,slow=36
INK **Inuvik** 28.45 35 P **P** **06 42 25.1 +0.1**
INK pmax pmax
comp=Z,8.0nm,0.9s
INK **Inuvik** 28.45 35 P **P** **06 42 25.1 +0.1**
baz=258
U33K **Whale Pass** 28.55 61 P **P** **06 42 25.4 -0.7**
baz=281
Q32M **Nakina River** 28.57 55 P **P** **06 42 25.2 -1.3**
baz=277
CRAG **Craig** 28.68 63 P **P** **06 42 26.3 -0.9**
baz=282
MMPY **Sheldon Lake,** 28.83 48 IAmb IAmb 06 42 42.0
comp=Z,19nm,1.4s
MMPY **Sheldon Lake,** 28.83 48 P **P** **06 42 27.8 -0.8**
baz=271,SNR=5.5
WRAK **Wrangell Islan** 28.92 61 P **P** **06 42 29.0 -0.3**
baz=281
R33M **Jennings River** 29.18 54 P **P** **06 42 31.1 -0.8**
baz=277
S34M **Telegraph Cree** 29.31 57 P **P** **06 42 32.6 -0.1**
baz=279
V35K **Ketchikan** 29.55 63 P **P** **06 42 34.7 -0.3**
baz=283
TIXI **Tiksi** 29.77 331 LR LR 06 54 50.5
comp=Z,194nm,20.3s,baz=171,slow=37
TIXI **Tiksi** 29.77 331 ⇑ *i*P **P** **06 42 40.2 +3.5**
TIXI pmax pmax
comp=Z,13nm,1.1s
DLBC **Dease Lake** 29.80 56 LR LR 06 56 18.2
comp=Z,30nm,18.1s,baz=232,slow=40
DLBC **Dease Lake** 29.80 56 P **P** **06 42 36.9 -0.4**
baz=279
T35M **Bob Quinn** 29.94 59 P **P** **06 42 38.1 -0.3**
baz=282
WTLY **Watson Lake, Y** 30.19 52 IAmb IAmb 06 42 43.4
comp=Z,7.4nm,0.7s
WTLY **Watson Lake, Y** 30.19 52 P **P** **06 42 40.7 +0.1**
baz=277,SNR=8.5
TGTN **Hyland Airport** 30.29 50 P **P** **06 42 41.5 0.0**
baz=275
USA0B **Ussuriysk Arra** 31.56 275 ⇑ *i*P **P** **06 42 53.4 +0.6**
USRK **Ussuriysk Ar.** 31.56 275 LR LR 06 54 35.0
comp=Z,89nm,20.8s,baz=66,slow=34
A36M **Sachs Harbour** 31.92 29 P **P** **06 42 55.8 +0.2**
baz=268,SNR=5.5
MJAR **Matsushiro Arr** 32.07 258 P **P** **06 42 58.4 +1.0**
comp=Z,1.1nm,0.5s,baz=56,slow=11,SNR=5.5
MJAR LR LR 06 54 12.0
comp=Z,157nm,21.9s,baz=29,slow=33
comp=Z,1.1nm,0.5s
MAJO **Matsushiro** 32.07 258 ⇑ *i*P **P** **06 43 00.1 +2.7**
MAJO pmax pmax
comp=Z,7.0nm,1.5s
TOAD **Toad River Com** 32.19 54 P **P** **06 42 58.6 +0.3**
baz=282,SNR=7.1
BBB **Bella Bella** 32.46 67 LR LR 06 54 08.8
comp=Z,141nm,20.9s,baz=258,slow=33
KOTAN **Kotaneelee Air** 32.53 52 P **P** **06 43 01.4 +0.3**
baz=281
H11N2 **WAKE ISLAND Hy** 32.88 200 T T 07 18 05.4
baz=20,slow=76,SNR=103
H11N3 **WAKE ISLAND Hy** 32.88 200 T T 07 18 11.5
baz=20,slow=76,SNR=74
H11N1 **WAKE ISLAND Hy** 32.89 200 T T 07 18 06.8
baz=20,slow=76,SNR=87
JGF **Kuroka** 33.21 258 **P** **06 43 08.2 +0.9**
JGF IAmb IAmb 06 43 19.6
comp=Z,12nm,0.9s
JHJ **Hachijo jima 2** 33.43 252 LR LR 06 54 15.9
comp=Z,105nm,21.8s,baz=84,slow=32
H11S1 **WAKE ISLAND Hy** 34.10 200 T T 07 19 42.9
baz=20,slow=76,SNR=87
H11S3 **WAKE ISLAND Hy** 34.12 200 T T 07 19 42.5
baz=20,slow=76,SNR=45
H11S2 **WAKE ISLAND Hy** 34.12 200 T T 07 19 51.5
baz=20,slow=76,SNR=40
YKA **Yellowknife Ar** 36.48 46 P **P** **06 43 34.9 -0.3**
comp=Z,3.8nm,0.7s,baz=288,slow=8.8,SNR=8.6
YKA LR LR 06 59 44.8
comp=Z,574nm,19.8s,baz=296,slow=38
comp=Z,3.8nm,0.7s
JCJ **Chichijima** 36.52 242 LR LR 06 55 42.1
comp=Z,124nm,22.0s,baz=106,slow=32
BOD **Bodaibo** 36.56 306 *e*P **P** **06 43 34.2 -1.8**
BOD pmax pmax
comp=Z,15nm,1.6s
HIA **Hailar** 36.65 290 *i* P **P** **06 43 38.9 +2.0**
HIA pmax pmax
comp=Z,3.0nm,0.8s
GNW **Green Mountain** 37.48 72 IAmb IAmb 06 43 46.3
comp=Z,4.8nm,0.8s
KSRS **Korea Array** 37.89 269 P **P** **06 43 48.4 +0.9**
comp=Z,0.8nm,0.6s,baz=37,slow=8.4,SNR=1.9
comp=Z,0.8nm,0.6s
JNU **Nakatsue** 38.85 261 P **P** **06 43 58.1 +2.5**
comp=Z,8.7nm,0.9s,baz=51,slow=7.7,SNR=4.8
JNU LR LR 06 58 50.5
comp=Z,138nm,21.5s,baz=58,slow=34
H04A **Detroit Lake** 39.31 76 IAmb IAmb 06 44 14.4
comp=Z,7nm,1.2s
WAH2 **Wahluke Slope** 39.82 71 IAmb IAmb 06 44 06.3
comp=Z,9.3nm,0.5s
BBOR **Butler Butte** 39.97 78 IAmb IAmb 06 44 07.3
comp=Z,12nm,0.9s
HAWA **Hanford** 40.02 72 P **P** **06 44 05.7 +0.5**
HAWA IAmb IAmb 06 44 07.9
comp=Z,5.9nm,0.7s
J04A **Umpqua Nationa** 40.13 78 P **P** **06 44 08.0 +1.6**
E08A **Dider Farm, El** 40.25 72 P **P** **06 44 07.6 +0.5**
RES **Resolute Bay** 40.45 24 LR LR 07 02 33.1
comp=Z,140nm,21.8s,baz=286,slow=39
NEW **Newport** 40.50 68 IAmb IAmb 06 44 10.3
comp=Z,7.9nm,0.9s
NEW **Newport** 40.50 68 LR LR 06 58 23.1
comp=Z,118nm,21.5s,baz=302,slow=32
PINE **Pine Mountain** 40.54 76 IAmb IAmb 06 44 24.8
comp=Z,13nm,1.3s
YBH **Yreka Blue Hor** 40.60 80 IAmb IAmb 06 44 12.7
comp=Z,8.9nm,0.8s
YBH **Yreka Blue Hor** 40.60 80 LR LR 06 57 39.0
comp=Z,8.6nm,21.1s,baz=286,slow=31
J05D **Fort Rock, OR** 40.64 77 IAmb IAmb 06 44 13.6
comp=Z,12nm,0.9s
K05A **Summer Lake** 41.16 78 IAmb IAmb 06 44 17.0
comp=Z,12nm,0.8s
O02D **Mt. Diablo Mer** 41.45 82 IAmb IAmb 06 44 20.5
comp=Z,11nm,1.0s
WVOR **Wild Horse Val** 42.70 76 IAmb IAmb 06 44 29.6
comp=Z,8.7nm,0.9s

PAHR **Pah Rah Range** 43.83 80 IAmb IAmb 06 44 38.1
comp=Z,12nm,0.8s
WAKR **Walker** 44.53 82 IAmb IAmb 06 44 57.8
comp=Z,7.8nm,0.7s
ULN **Ulaanbaatar** 44.68 295 *c*eP **P** **06 44 42.7 -0.5**
ULN pmax pmax
comp=Z,2.0nm,0.7s
EGMT **Eagleton** 44.86 65 IAmb IAmb 06 44 59.0
comp=Z,6.0nm,0.7s
JOW **Kunigami** 44.87 256 LR LR 07 00 24.1
comp=Z,61nm,20.5s,baz=224,slow=32
RYN **Ryan** 45.02 81 IAmb IAmb 06 44 47.6
comp=Z,10.0nm,0.8s
SONM **Songino Array** 45.07 295 P **P** **06 44 45.9 -0.4**
comp=Z,1.7nm,0.7s,baz=58,slow=8.8,SNR=4.7
SONM LR LR 07 05 12.9
comp=Z,186nm,18.6s,baz=59,slow=38
comp=Z,1.7nm,0.7s
BOZ **Bozeman (W)** 45.11 69 IAmb IAmb 06 44 49.0
comp=Z,8.1nm,0.8s
LHV **Little Huntoon** 45.26 81 IAmb IAmb 06 45 03.2
comp=Z,13nm,1.1s
NVAR **Mina Array Bea** 45.28 81 P **P** **06 44 48.5 +0.4**
comp=Z,7.9nm,0.8s,baz=290,slow=7.4,SNR=67
NVAR ScP **ScP** **06 50 18.7 +3.1**
comp=Z,0.3nm,0.5s,baz=307,slow=5.9,SNR=2.5
comp=Z,7.9nm,0.8s
NV11 **Mina Array Sit** 45.37 81 IAmb IAmb 06 44 50.4
comp=Z,6.1nm,0.8s
ELK **Elko** 45.75 76 IAmb IAmb 06 45 11.2
comp=Z,6.2nm,0.8s
ELK **Elko** 45.75 76 LR LR 07 02 14.1
comp=Z,139nm,19.5s,baz=284,slow=34
YHL **Hebgen Lake** 45.79 69 IAmb IAmb 06 44 54.8
comp=Z,7.2nm,0.8s
HHC **Hu-ho-hao-te** 46.00 284 *e*P **P** **06 44 53.0 -0.7**
HHC pmax pmax
comp=Z,15nm,0.6s
DSP **Deep Springs** 46.14 82 IAmb IAmb 06 44 56.8
comp=Z,7.2nm,0.9s
YFT **Old Faithful** 46.22 69 IAmb IAmb 06 45 15.0
comp=Z,7.5nm,0.8s
GUMO **Guam** 46.39 228 LR LR 07 03 07.8
comp=Z,107nm,18.1s,baz=65,slow=34
H17A **Grant Village** 46.40 69 IAmb IAmb 06 45 01.1
comp=Z,7.7nm,0.9s
GMN **Gold Mountain** 46.62 81 IAmb IAmb 06 45 14.0
comp=Z,4.5nm,0.7s
RLMT **Red Lodge** 46.75 68 IAmb IAmb 06 45 01.1
comp=Z,7.2nm,0.9s
R11B **Troy Canyon, C** 47.00 79 IAmb IAmb 06 45 02.8
comp=Z,8.0nm,0.8s
NJ2 **Nanjing** 47.07 270 *e*P **P** **06 45 01.3 -0.7**
NJ2 pmax pmax
comp=Z,12nm,1.0s
BTO **Baotou** 47.08 285 *e*P **P** **06 45 02.5 +0.3**
BTO pP **pP** **06 45 15.0 +0.1**
BTO sP **sP** **06 45 19.8 -0.6**
BTO PP **PP** **06 46 52.5 -0.6**
BTO S **S** **06 51 50.5 -0.2**
BTO sS **sS** **06 52 14.3 +2.3**
BTO **Baotou** 47.08 285 SS SS 06 55 06.8 -11
BTO pmax pmax
comp=Z,19nm,0.9s
BTO pmax pmax
comp=Z,130nm,9.0s
BTO LR LR
comp=N,400nm,20.9s
BTO LR LR
comp=E,370nm,19.7s
BTO LR LR
comp=Z,430nm,17.3s
WCT **Wildcat Mounta** 47.34 81 IAmb IAmb 06 45 05.5
comp=Z,4.9nm,1.0s
SPR3 **Spring Creek 3** 47.37 78 IAmb IAmb 06 45 08.2
comp=Z,15nm,1.4s
DUG **Dugway, Tooele** 47.56 75 IAmb IAmb 06 45 19.5
comp=Z,8.0nm,0.8s
GWY **Greenwater Val** 47.70 82 IAmb IAmb 06 45 22.6
comp=Z,4.8nm,0.9s
QSM **Queen of Sheba** 47.72 83 IAmb IAmb 06 45 09.5
comp=Z,5.6nm,0.8s
PSUT **Pine Spring** 47.95 78 IAmb IAmb 06 45 10.5
comp=Z,8.5nm,0.8s
BW06 **Boulder Array** 47.96 71 IAmb IAmb 06 45 27.5
comp=Z,5.1nm,0.8s
PD31 **Pinedale Array** 47.96 71 IAmb IAmb 06 45 27.5
comp=Z,5.0nm,0.8s
PDAR **Pinedale Array** 47.96 71 P **P** **06 45 07.8 -1.3**
PDAR **Pinedale Array** 47.96 71 P **P** **06 45 08.2 -0.8**
comp=Z,2.9nm,0.5s,baz=310,slow=3.5,SNR=38
PDAR LR LR 07 02 58.7
comp=Z,70nm,20.8s,baz=300,slow=33
comp=Z,2.9nm,0.5s
GSC **Goldstone, Bar** 48.18 83 IAmb IAmb 06 45 12.5
comp=Z,6.6nm,0.8s
CCUT **Cedar City** 48.87 78 IAmb IAmb 06 45 17.5
comp=Z,3.7nm,0.7s
V12A **Nelson** 49.12 81 IAmb IAmb 06 45 19.4
comp=Z,3.7nm,0.8s
MTPU **Mount Pierson** 49.28 77 IAmb IAmb 06 45 33.1
comp=Z,5.2nm,0.8s
P18A **Preston Nutter** 49.46 74 IAmb IAmb 06 45 44.5
comp=Z,4.5nm,0.7s
DANC **Danby, Needles** 49.50 83 IAmb IAmb 06 45 28.3
comp=Z,7.1nm,0.9s
PFO **Pinyon Flats O** 49.51 85 LR LR 07 02 05.8
comp=Z,118nm,22.0s,baz=301,slow=31
KNB **Kanab** 49.54 79 IAmb IAmb 06 45 35.9
comp=Z,7.4nm,0.9s
PKCU **Pink Cliffs** 49.58 78 IAmb IAmb 06 45 35.9
comp=Z,9.2nm,0.9s
SRU **San Rafael Swe** 49.62 75 IAmb IAmb 06 45 41.5
comp=Z,6.6nm,0.8s
BORC **Borrego Spring** 49.76 85 P **P** **06 45 23.0 +0.3**
BORC IAmb IAmb 06 45 24.0
comp=Z,7.5nm,1.1s
K22A **Casper** 49.81 69 IAmb IAmb 06 45 40.6
comp=Z,4.1nm,0.6s
W13A **Hualapai Mount** 50.13 81 P **P** **06 45 25.8 +0.1**
W13A IAmb IAmb 06 45 26.8
comp=Z,5.5nm,0.9s
SPITS **Spitsbergen Ar** 50.23 355 P **P** **06 45 24.4 -1.3**
comp=Z,1.6nm,0.4s,baz=44,slow=7.3,SNR=13
SPITS LR LR 07 05 47.7
comp=Z,76nm,21.8s,baz=360,slow=35
comp=Z,1.6nm,0.4s
O20A **White River Ci** 50.35 73 IAmb IAmb 06 45 59.9
comp=Z,9.0nm,1.0s
PV21 **Cone Mtn., Par** 50.90 75 IAmb IAmb 06 45 52.3
comp=Z,6.6nm,0.8s
PV22 **Blue Mesa, Par** 51.03 74 IAmb IAmb 06 45 48.6
comp=Z,5.4nm,0.9s
PV04 **Paradox Valley** 51.05 75 IAmb IAmb 06 45 34.1
comp=Z,7.5nm,0.8s
PV16 **Nyswonger Mesa** 51.10 75 IAmb IAmb 06 45 52.4
comp=Z,6.0nm,0.7s
PV05 **Paradox Valley** 51.13 75 IAmb IAmb 06 45 59.6
comp=Z,5.1nm,0.7s
PV03 **Paradox Valley** 51.17 75 IAmb IAmb 06 45 35.0
comp=Z,7.9nm,0.9s
PV07 **Paradox Valley** 51.18 74 IAmb IAmb 06 45 52.2
comp=Z,5.1nm,0.8s
PV01 **Paradox Valley** 51.42 75 IAmb IAmb 06 45 37.5
comp=Z,11nm,1.3s
XAN **Xi'an** 51.94 279 P P 06 45 46.8 +7.6
XAN pP sP 06 45 59.3 +1.7
XAN pmax pmax
comp=Z,6.0nm,1.0s
XAN LR LR
comp=N,110nm,15.1s
XAN LR LR
comp=E,120nm,17.9s
XAN LR LR
comp=Z,120nm,18.5s
MVCO **Mesa Verde** 52.06 76 IAmb IAmb 06 45 53.0
comp=Z,11nm,1.4s
X16A **Lo Mia Camp, P** 52.09 80 IAmb IAmb 06 45 42.1
comp=Z,5.5nm,0.8s
ZALV **Zalesovo Beam** 52.74 312 P **P** **06 45 43.4 -1.3**
comp=Z,1.0nm,0.4s,baz=47,slow=6.6,SNR=4.5
ZALV LR LR 07 09 38.9
comp=Z,70nm,18.8s,baz=56,slow=38
comp=Z,1.0nm,0.4s
SUMG **Summit** 53.69 13 P **P** **06 45 50.6 -1.3**
SUMG **Summit** 53.69 13 P **P** **06 45 50.6 -1.3**
SUMG pmax pmax
comp=Z,14nm,1.1s

FRB	**Frobisher Bay**	**53.91**	**30**	LR	LR	07 10 00.1		
	comp=Z,274nm,21.6s,baz=323,slow=37							
GTA	**Gaotai**	**53.93**	**290**	P	**P**	**06 45 53.8**	**-0.1**	
GTA				pP	pP	06 46 02.0	-4.8	
GTA				pmax	pmax			
	comp=Z,7.0nm,1.2s							
GTA				LR	LR			
	comp=N,170nm,17.4s							
GTA				LR	LR			
	comp=E,120nm,16.7s							
GTA				LR	LR			
	comp=Z,120nm,15.6s							
ANMO	**Albuquerque**	**54.79**	**76**	P	**P**	**06 45 60.0**	**-0.3**	
ANMO	**Albuquerque**	**54.79**	**76**	*ceP*	**P**	**06 45 59.9**	**-0.3**	
ANMO				pmax	pmax			
	comp=Z,6.0nm,2.4s							
Y22A	**Socorro**	**55.16**	**78**	IAmb	IAmb	06 46 04.6		
	comp=Z,6.9nm,0.8s							
319A	**Douglas**	**55.48**	**81**	IAmb	IAmb	06 46 06.5		
	comp=Z,7.7nm,0.9s							
121A	**Cookes Peak, D**	**55.61**	**79**	IAmb	IAmb	06 46 07.6		
	comp=Z,4.8nm,0.8s							
SFJD	**Kangerlussuaq**	**56.27**	**21**	LR	LR	07 13 11.7		
	comp=Z,80nm,19.1s,baz=324,slow=39							
MSTX	**Muleshoe**	**57.69**	**75**	IAmb	IAmb	06 46 23.1		
	comp=Z,3.8nm,0.8s							
KURK	**Kurchatov**	**57.73**	**312**	P	**P**	**06 46 19.8**	**-0.9**	
KURK	**Kurchatov**	**57.73**	**312**	*i* P	**P**	**06 46 19.6**	**-1.1**	
KURK				pmax	pmax			
	comp=Z,5.0nm,0.9s							
ARCES	**ARCESS Array B**	**57.76**	**349**	P	**P**	**06 46 20.3**	**-0.4**	
	comp=Z,4.3nm,1.0s,baz=22,slow=7.6,SNR=2.0							
ARCES				LR	LR	07 11 31.2		
	comp=Z,91nm,21.8s,baz=24,slow=36							
	comp=Z,4.3nm,1.0s							
KURBB	**Kurchatov Arra**	**57.84**	**312**	P	**P**	**06 46 20.8**	**-0.7**	
	comp=Z,4.4nm,0.6s,baz=43,slow=6.7,SNR=24							
	comp=Z,4.4nm,0.6s							
WMQ	**Urumqi**	**57.85**	**301**	*eP*	**P**	**06 46 26.5**	**+4.7**	
WMQ				LR	LR			
	comp=Z,160nm,21.7s							
VHRN	**Van Horn**	**58.54**	**79**	IAmb	IAmb	06 46 28.2		
	comp=Z,6.7nm,0.8s							
MK31	**Makanchi Array**	**58.64**	**307**	*i* P	**P**	**06 46 29.0**	**+1.8**	
MKAR	**Makanchi Array**	**58.64**	**307**	P	**P**	**06 46 25.6**	**-1.6**	
MKAR	**Makanchi Array**	**58.64**	**307**	P	**P**	**06 46 26.2**	**-1.0**	
	comp=Z,1.6nm,0.7s,baz=52,slow=8.0,SNR=9.3							
MKAR				LR	LR	07 12 59.5		
	comp=Z,68nm,18.4s,baz=60,slow=37							
	comp=Z,1.6nm,0.7s							
PECS	**Pecos**	**58.82**	**78**	IAmb	IAmb	06 46 48.2		
	comp=Z,3.7nm,0.7s							
DKNS	**Dickens**	**59.01**	**74**	IAmb	IAmb	06 46 32.2		
	comp=Z,5.6nm,0.8s							
GOMU	**GeErMu**	**59.02**	**290**	P	**P**	**06 46 29.0**	**-1.4**	
GOMU				pmax	pmax			
	comp=Z,6.0nm,0.9s							
GOMU				LR	LR			
	comp=N,99nm,16.6s							
GOMU				LR	LR			
	comp=E,82nm,18.4s							
SN07	**Snyder 07**	**59.43**	**74**	IAmb	IAmb	06 46 34.3		
	comp=Z,3.4nm,0.8s							
WMOK	**Wichita Mounta**	**59.55**	**71**	IAmb	IAmb	06 47 05.7		
	comp=Z,3.1nm,0.8s							
SN05	**Snyder 5**	**59.58**	**74**	IAmb	IAmb	06 46 35.6		
	comp=Z,5.1nm,0.6s							
ALPN	**Alpine**	**59.65**	**78**	IAmb	IAmb	06 46 35.2		
	comp=Z,4.4nm,0.8s							
APMT	**Aspermont**	**59.73**	**73**	IAmb	IAmb	06 46 37.6		
	comp=Z,4.4nm,0.8s							
BVAR	**Borovoye Array**	**59.73**	**318**	P	**P**	**06 46 34.5**	**-0.1**	
	comp=Z,5.9nm,0.6s,baz=42,slow=6.9,SNR=24							
BVAR				LR	LR	07 13 51.1		
	comp=Z,182nm,21.9s,baz=48,slow=38							
	comp=Z,5.9nm,0.6s							
BRVK	**Borovoye**	**59.75**	**318**	P	**P**	**06 46 33.5**	**-1.2**	
BRVK	**Borovoye**	**59.75**	**318**	*d* iP	**P**	**06 46 34.5**	**-0.2**	
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.6s							
LPIG	**La Paz**	**59.98**	**88**	LR	LR	07 06 44.8		
	comp=Z,47nm,21.7s,baz=294,slow=30							
TXAR	**Lajitas Array**	**60.37**	**79**	P	**P**	**06 46 39.6**	**+0.2**	
	comp=Z,6.5nm,0.8s,baz=296,slow=4.8,SNR=89							
	comp=Z,6.5nm,0.8s							
TUL3	**Leonard**	**60.50**	**68**		**P**	**06 46 40.0**	**-0.1**	
ABTX	**Abilene, Hawle**	**60.51**	**74**	IAmb	IAmb	06 46 43.3		
	comp=Z,5.9nm,0.8s							
OZNA	**Ozona**	**60.80**	**76**	IAmb	IAmb	06 46 54.9		
	comp=Z,5.3nm,0.8s							
HPIG		**60.84**	**83**	P	**P**	**06 46 42.9**	**+0.2**	
HPIG				IAmb	IAmb	06 46 43.7		
	comp=Z,4.6nm,0.9s							
SAND	**Sanderson**	**60.88**	**78**	IAmb	IAmb	06 46 55.4		
	comp=Z,3.6nm,0.9s							
U38A	**Gravette**	**60.95**	**67**		**P**	**06 46 43.1**	**-0.1**	
U38A				IAmb	IAmb	06 46 44.1		
	comp=Z,4.4nm,0.8s							
SCHQ	**Schefferville**	**61.05**	**37**	P	**P**	**06 46 42.5**	**-1.2**	
	comp=Z,7.7nm,0.9s,baz=317,slow=3.8,SNR=6.0							
SCHQ				LR	LR	07 15 05.1		
	comp=Z,211nm,18.4s,baz=301,slow=38							
	comp=Z,7.7nm,0.9s							
PLPT	**Palo Pinto**	**61.17**	**73**	IAmb	IAmb	06 47 20.0		
	comp=Z,6.6nm,0.9s							
HHAR	**Hobbs**	**61.31**	**67**	IAmb	IAmb	06 46 46.0		
	comp=Z,3.8nm,0.7s							
PZH	**PanZhiHua**	**61.62**	**278**	P	**P**	**06 46 46.8**	**-1.2**	
MGMO	**Mountain Grove**	**61.66**	**65**	IAmb	IAmb	06 47 29.4		
	comp=Z,3.8nm,0.8s							
ARTI	**Arti**	**61.75**	**327**	P	**P**	**06 46 47.6**	**-0.6**	
ARTI	**Arti**	**61.75**	**327**	LR	LR	07 16 13.0		
	comp=Z,119nm,20.3s,baz=30,slow=39							
ARTI	**Arti**	**61.75**	**327**	*d* iP	**P**	**06 46 48.3**	**+0.1**	
ARTI						06 47 23.6		
ARTI				S	**S**	**06 55 10.1**	**+2.9**	
ARTI				SS	**SS**	**06 59 05.6**	**-2.9**	
ARTI				pmax	pmax			
	comp=Z,4.0nm,0.6s							
DAV	**Davao City (W)**	**61.91**	**244**	LR	LR	07 10 06.2		
	comp=Z,75nm,20.8s,baz=346,slow=32							
DRIO	**Del Rio**	**62.17**	**77**	IAmb	IAmb	06 46 51.6		
	comp=Z,5.9nm,0.8s							
JAY	**Jayapura**	**62.54**	**224**	LR	LR	07 10 30.2		
	comp=Z,93nm,20.5s,baz=353,slow=33							
HNR	**Honiara**	**62.65**	**201**	LR	LR	07 08 32.0		
	comp=Z,118nm,21.9s,baz=0.0,slow=31							
KIRV	**Kirov**	**62.78**	**333**	LR	LR	07 16 03.0		
	comp=Z,105nm,21.8s,baz=16,slow=38							
PBMO	**Poplar Bluff**	**62.97**	**64**	IAmb	IAmb	06 46 57.5		
	comp=Z,5.9nm,0.8s							
BORG	**Borgarnes**	**63.19**	**9**	LR	LR	07 14 43.6		
	comp=Z,43nm,20.7s,baz=351,slow=36							
SADO	**Sadowa**	**63.20**	**51**	LR	LR	07 16 10.8		
	comp=Z,215nm,18.2s,baz=323,slow=38							
X40A	**Basin Creek Fa**	**63.22**	**68**	IAmb	IAmb	06 47 00.2		
	comp=Z,4.7nm,0.9s							
BOOM	**Boomskoye usch**	**64.89**	**307**		**P**	**06 47 09.8**	**+0.4**	
BOOM				IAmb	IAmb	06 47 20.3		
	comp=Z,5.1nm,0.7s							
BOOM	**Boomskoye usch**	**64.89**	**307**	P	**P**	**06 47 09.8**	**+0.4**	
BOOM				pmax	pmax			
	comp=Z,5.0nm,0.7s							
FINES	**FINESS Array B**	**65.36**	**346**	P	**P**	**06 47 10.7**	**-1.3**	
	comp=Z,1.5nm,0.7s,baz=12,slow=8.9,SNR=3.7							
FINES				LR	LR	07 16 31.0		
	comp=Z,64nm,21.8s,baz=41,slow=37							
	comp=Z,1.5nm,0.7s							
AAK	**Ala-Archa**	**65.49**	**308**	LR	LR	07 17 18.5		
	comp=Z,58nm,18.6s,baz=45,slow=37							
AAK	**Ala-Archa**	**65.49**	**308**	*ceP*	**P**	**06 47 13.4**	**0.0**	
AAK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
PLAL	**Pickwick Lake**	**65.58**	**64**	IAmb	IAmb	06 47 25.7		
	comp=Z,5.1nm,0.9s							
CLTN	**Cedars of Leba**	**65.75**	**62**	IAmb	IAmb	06 47 17.0		
	comp=Z,4.1nm,0.8s							
T50A	**Nancy**	**65.90**	**61**	IAmb	IAmb	06 47 17.3		
	comp=Z,3.5nm,0.7s							
PMG	**Port Moresby**	**66.30**	**214**	LR	LR	07 10 43.9		
	comp=Z,133nm,21.5s,baz=22,slow=31							
AKTO	**Aktyubinsk**	**66.64**	**323**	LR	LR	07 18 59.2		
	comp=Z,131nm,19.1s,baz=5.0,slow=38							
AB31	**Akbulak array**	**66.85**	**321**	P	**P**	**06 47 21.6**	**-0.1**	
ABKAR	**Akbulak array**	**66.85**	**321**		**P**	**06 47 22.0**	**+0.3**	
W50A	**Signal Mountai**	**66.97**	**62**	IAmb	IAmb	06 47 51.2		
	comp=Z,5.0nm,0.8s							
KK31	**Karatay Array**	**67.07**	**311**	P	**P**	**06 47 22.7**	**-0.6**	
KK31				IAmb	IAmb	06 47 33.6		
	comp=Z,5.3nm,0.9s							
KK31	**Karatay Array**	**67.07**	**311**	P	**P**	**06 47 22.7**	**-0.6**	
KK31				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KKAR	**Karatay Array**	**67.07**	**311**		**P**	**06 47 23.1**	**-0.2**	
KKAR	**Karatay Array**	**67.07**	**311**	P	**P**	**06 47 23.1**	**-0.2**	
KSH	**Kashi**	**67.07**	**305**	P	**P**	**06 47 26.0**	**+2.5**	
KSH				pP	pP	06 47 36.0	-0.8	
KSH				pmax	pmax			
	comp=Z,12nm,1.4s							
ARSB	**Arslanbob**	**67.22**	**308**	IAmb	IAmb	06 47 35.3		
	comp=Z,5.9nm,0.9s							
NB2	**NORSAR Subarra**	**67.45**	**353**	P	**P**	**06 47 24.9**	**-0.5**	
	comp=Z,4.5nm,1.2s,baz=11,slow=6.5							
NOA	**NORSAR Array B**	**67.45**	**353**	P	**P**	**06 47 24.3**	**-1.1**	
	comp=Z,0.7nm,0.7s,baz=12,slow=6.4,SNR=3.4							
NOA				LR	LR	07 15 12.0		
	comp=Z,30nm,21.8s,baz=350,slow=34							
	comp=Z,0.7nm,0.7s							
TKL	**Tuckaleechee C**	**67.48**	**61**	LR	LR	07 16 22.6		
	comp=Z,161nm,21.7s,baz=334,slow=36							
HFS	**Hagfors**	**68.14**	**352**	P	**P**	**06 47 30.1**	**+0.5**	
	comp=Z,2.2nm,0.9s,baz=18,slow=6.7,SNR=1.8							
HFS				LR	LR	07 16 35.1		
	comp=Z,60nm,21.5s,baz=346,slow=35							
	comp=Z,2.2nm,0.9s							
BELG	**Belogornoye**	**68.59**	**330**	LR	LR	07 20 43.6		
	comp=Z,44nm,18.1s,baz=40,slow=39							
BELG	**Belogornoye**	**68.59**	**330**	*i* P	**P**	**06 47 33.0**	**+0.5**	
BELG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KMSC	**Kings Mountain**	**69.19**	**60**	IAmb	IAmb	06 47 49.9		
	comp=Z,7.0nm,1.1s							
OBN	**Obninsk**	**69.21**	**338**	*i* P	**P**	**06 47 33.7**	**-2.7**	
OBN				pmax	pmax			
	comp=Z,8.0nm,1.2s							
OBN				MLR	MLR			
	comp=Z,147nm,17.0s							
CMAR	**Chiang Mai Arr**	**69.27**	**274**	P	**P**	**06 47 36.8**	**-0.6**	
	comp=Z,2.8nm,0.3s,baz=42,slow=7.0,SNR=6.1							
CMAR				LR	LR	07 19 51.1		
	comp=Z,30nm,19.9s,baz=40,slow=38							
	comp=Z,2.8nm,0.3s							
HODGE	**Hodges**	**69.37**	**61**	IAmb	IAmb	06 47 50.0		
	comp=Z,6.7nm,1.0s							
TAOE	**Nuku Hiva Isla**	**69.82**	**136**	*e*LR	LR	07 09 04.3		
	comp=Z,246nm,24.9s							
DZM	**Mont Dzumac**	**73.90**	**192**	*e*LR	LR	07 10 39.6		
	comp=Z,271nm,23.2s							
PPT	**Papeete**	**74.16**	**148**	LR	LR	07 14 01.5		
	comp=Z,70nm,20.3s,baz=321,slow=30							
PPT2	**Papeete2**	**74.18**	**148**	*e*LR	LR	07 10 38.5		
	comp=Z,115nm,24.0s							
PPT2				*e*LR	LR	07 10 57.8		
	comp=Z,192nm,25.5s							
RAR	**Rarotonga**	**74.79**	**159**	LR	LR	07 14 40.5		
	comp=Z,103nm,19.3s,baz=298,slow=31							
CMIG	**Matias Romero**	**74.80**	**82**	LR	LR	07 17 06.5		
	comp=Z,52nm,21.3s,baz=306,slow=33							
AKASG	**Malin Array Be**	**74.97**	**340**	P	**P**	**06 48 10.0**	**-0.9**	
	comp=Z,1.2nm,0.4s,baz=24,slow=6.1,SNR=6.3							
AKASG				LR	LR	07 27 35.7		
	comp=Z,51nm,18.1s,baz=30,slow=41							
	comp=Z,1.2nm,0.4s							
AKASG	**Malin Array Be**	**74.97**	**340**	P	**P**	**06 48 10.0**	**-0.9**	
AKBB	**Malin Array Si**	**74.97**	**340**	*i* P	**P**	**06 48 10.9**	**0.0**	
AKBB				pmax	pmax			
	comp=Z,7.0nm,1.5s							
KIV	**Kislovodsk**	**77.58**	**329**	*e*P	**P**	**06 48 24.4**	**-1.6**	
KIV				pmax	pmax			
	comp=Z,6.0nm,1.1s							
STHS	**Stebnicka Huta**	**77.69**	**345**	*e*P	**P**	**06 48 26.9**	**+0.5**	
STHS				pmax	pmax			
	comp=Z,3.0nm,0.7s							
STHS	**Stebnicka Huta**	**77.69**	**345**	*e*P	**P**	**06 48 26.9**	**+0.5**	
STHS				*e*PP	**PP**	**06 51 16.0**	**-5.3**	
KBZ	**Khabaz**	**77.71**	**329**	P	**P**	**06 48 27.2**	**+0.7**	
	comp=Z,2.8nm,0.9s,baz=25,slow=2.6,SNR=6.5							
KBZ				LR	LR	07 27 53.4		
	comp=Z,43nm,18.3s,baz=24,slow=40							
	comp=Z,2.8nm,0.9s							
KBZ	**Khabaz**	**77.71**	**329**	⇓ *iP*	**P**	**06 48 27.1**	**+0.6**	
KBZ				*i* *PP	**pP**	**06 48 41.2**	**+0.8**	
KBZ				pmax	pmax			
	comp=Z,4.0nm,0.9s							
VRAC	**Vranov**	**78.48**	**348**	LR	LR	07 28 21.7		
	comp=Z,37nm,18.1s,baz=23,slow=40							
BURAR	**Bucovina Array**	**78.72**	**342**	P	**P**	**06 48 31.7**	**-0.5**	
MODS	**Modra-Piesok**	**79.31**	**347**	*eP*	**P**	**06 48 37.6**	**+2.3**	
MODS				pmax	pmax			
	comp=Z,6.0nm,0.9s							
MODS	**Modra-Piesok**	**79.31**	**347**	*eP*	**P**	**06 48 37.6**	**+2.3**	
MTO3	**Montecristo**	**80.27**	**79**	IAmb	IAmb	06 48 42.1		
	comp=Z,6.1nm,0.9s							
GNI	**Garni**	**80.27**	**326**	LR	LR	07 29 31.1		
	comp=Z,99nm,19.5s,baz=26,slow=40							
MLR	**Muntele Rosu**	**80.61**	**341**	LR	LR	07 27 28.8		
	comp=Z,34nm,20.8s,baz=44,slow=38							
WRAB	**Tennant Creek**	**80.83**	**222**	*eP*	**P**	**06 48 44.1**	**+0.4**	
WRAB				pmax	pmax			
	comp=Z,3.0nm,0.9s							
WRA	**Warramunga Arr**	**80.84**	**222**	P	**P**	**06 48 42.3**	**-1.5**	
WRA	**Warramunga Arr**	**80.84**	**222**	P	**P**	**06 48 43.0**	**-0.8**	
	comp=Z,1.5nm,0.7s,baz=35,slow=6.1,SNR=14							
WRA				LR	LR	07 21 00.1		
	comp=Z,45nm,20.4s,baz=312,slow=33							
	comp=Z,1.5nm,0.7s							
WRA	**Warramunga Arr**	**80.84**	**222**	P	**P**	**06 48 42.3**	**-1.5**	
DAVOX	**Davos/Dischmat**	**81.71**	**352**	LR	LR	07 28 20.2		
	comp=Z,34nm,18.5s,baz=54,slow=38							
FITZ	**Fitzroy Crossi**	**83.12**	**230**	P	**P**	**06 48 55.4**	**-0.4**	
	comp=Z,4.2nm,0.8s,baz=29,slow=4.7,SNR=8.2							
	comp=Z,4.2nm,0.8s							
BR131	**Keskin Array S**	**84.18**	**333**	*eP*	**P**	**06 49 01.5**	**+0.2**	
BRTR	**Keskin Array B**	**84.18**	**333**	P	**P**	**06 49 01.6**	**+0.4**	
	comp=Z,1.2nm,0.8s,baz=46,slow=3.6,SNR=5.3							
	comp=Z,1.2nm,0.8s							
ASAR	**Alice Springs**	**84.35**	**220**	P	**P**	**06 49 01.3**	**-0.7**	
	comp=Z,1.0nm,0.7s,baz=22,slow=4.9,SNR=11							
ASAR				LR	LR	07 22 24.9		
	comp=Z,72nm,20.3s,baz=26,slow=33							
	comp=Z,1.0nm,0.7s							
NRCA	**Narcia**	**85.28**	**349**	IAmb	IAmb	06 49 10.5		
	comp=Z,6.2nm,0.9s							
JTS	**Las Juntas de**	**86.15**	**78**	LR	LR	07 27 29.1		
	comp=Z,32nm,21.6s,baz=302,slow=36							
STKA	**Stephens Creek**	**89.02**	**211**	P	**P**	**06 49 23.9**	**-0.7**	
	comp=Z,1.8nm,0.7s,baz=357,slow=8.2,SNR=5.6							
STKA				LR	LR	07 25 00.1		
	comp=Z,137nm,20.4s,baz=26,slow=33							
	comp=Z,1.8nm,0.7s							
ESDC	**Sonseca Array**	**89.28**	**2**	LR	LR	07 31 51.0		
	comp=Z,24nm,18.0s,baz=355,slow=37							
URZ	**Urewera**	**89.29**	**181**	LR	LR	07 23 07.4		
	comp=Z,77nm,20.5s,baz=18,slow=31							
MMAI	**Mount Meron Ar**	**89.87**	**330**	LR	LR	07 33 47.5		
	comp=Z,34nm,20.6s,baz=28,slow=38							
ASF	**Jabal al Asfar**	**90.17**	**328**	LR	LR	07 35 47.6		
	comp=Z,45nm,18.6s,baz=120,slow=39							
VAE	**Valguarnera**	**90.39**	**347**	LR	LR	07 34 07.9		
	comp=Z,43nm,18.9s,baz=155,slow=38							
SJG	**San Juan**	**90.86**	**59**	LR	LR	07 30 58.2		
	comp=Z,55nm,21.1s,baz=326,slow=36							
MDT	**Midelt**	**96.11**	**3**	LR	LR	07 36 18.4		
	comp=Z,22nm,18.2s,baz=40,slow=37							
PCRV	**Puerto La Cruz**	**98.20**	**62**	LR	LR	07 33 15.1		
	comp=Z,57nm,21.5s,slow=35							
H03N2	**Juan Fernandez**	**122.84**	**104**	T	T	09 10 05.6		
	baz=314							
H03N1	**Juan Fernandez**	**122.85**	**104**	T	T	09 10 06.7		
	baz=314,slow=74							
H03N3	**Juan Fernandez**	**122.85**	**104**	T	T	09 10 08.6		
	baz=314,slow=74							
CFA	**Coronel Fontan**	**128.19**	**95**	PKP	**PKPdf**	**06 55 34.9**	**-0.9**	
	comp=Z,1.0nm,0.6s,baz=315,slow=4.3,SNR=4.1							
BDFB	**Brasilia**	**128.67**	**63**	PKP	**PKPdf**	**06 55 35.5**	**-1.7**	
	comp=Z,0.6nm,0.3s,baz=187,slow=8.1,SNR=1.4							
PLCA	**Paso Flores**	**132.65**	**105**	PKP	**PKPdf**	**06 55 44.1**	**+0.1**	
	comp=Z,1.8nm,0.6s,baz=237,slow=6.1,SNR=8.1							
QSPA	**South Pole Qui**	**141.15**	**180**	PKhKP	PKPpre	06 55 53.5		
	comp=Z,1.4nm,0.7s,baz=205,slow=0.9,SNR=8.5							
MAW	**Mawson**	**145.43**	**218**	PKPbc	**PKPdf**	**06 56 06.2**	**0.0**	
	comp=Z,1.4nm,0.5s,baz=110,slow=4.2,SNR=7.0							
BOSA	**Boshof**	**149.64**	**308**	PKPbc	**PKPbc**	**06 56 18.9**	**-0.4**	
	comp=Z,2.2nm,0.7s,baz=326,slow=3.1,SNR=4.5							
SNAA	**Sanae**	**159.64**	**179**	PKPab	**PKPab**	**06 57 04.4**	**-1.4**	
	comp=Z,0.7nm,0.7s,baz=219,slow=6.5,SNR=2.4							

NOU ***30*** *06:44:33.1,43.71S×173.79E, h0km, MLv4.3/7, Off E. Coast of S. Island, N.Z.*
WEL ***30*** *06:44:52.3±0.3,42.3S±2.1×17.4E±.1°, h7km±2km, M3.2/19, ML3.5/19, MLv3.2/19, Error ellipse: s-maj=3.6km s-min=2.2km az=126.3, confirmed*
ISC 30 06:44:51.8±0.9, 42.27S±0.02×173.76E±0.03, h15km±7km, n81, σ1§30/99, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIKS	**Kaikoura**	**0.17**	**200**	P	**Pb**	**06 44 57.4**	**+0.9**
KIKS				S	**Sg**	**06 45 01.4**	**+2.7**
KHZ	**Kahutara**	**0.22**	**228**	P	**Pb**	**06 44 57.2**	**-0.2**
KHZ	**Kahutara**	**0.22**	**228**	P	**Pb**	**06 44 57.3**	**-0.1**
KHZ				S	**Sg**	**06 45 01.3**	**+1.2**
KEKS	**Kekerengu Vall**	**0.36**	**28**	P	**Pg**	**06 44 59.2**	**+0.1**
KEKS				S	**Sg**	**06 45 04.6**	**+0.6**
MOLW	**Molesworth Sta**	**0.41**	**296**	P	**Pg**	**06 44 59.0**	**-1.2**
MOLW				S	**Sg**	**06 45 04.0**	**-1.9**
WDFS	**Ward Fire Stat**	**0.53**	**33**	P	**Pb**	**06 45 02.9**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.56**	**9**	P	**Pg**	**06 45 02.3**	**-0.6**
BSWZ				S	**Sg**	**06 45 10.0**	**-0.4**
CMWZ	**Cape Campbell**	**0.62**	**33**	P	**Pb**	**06 45 05.1**	**+0.8**
CMWZ				S	**Sn**	**06 45 17.4**	**+1.7**
THZ	**Tophouse**	**0.81**	**308**	P	**Pg**	**06 45 06.5**	**-1.2**
THZ				S	**Sg**	**06 45 16.7**	**-1.6**
TUWZ	**Tuamarina**	**0.85**	**9**	P	**Pg**	**06 45 07.8**	**-0.6**
TUWZ				S	**Sg**	**06 45 19.4**	**-0.1**
GVZ	**Greta Valley S**	**0.88**	**217**	P	**Pn**	**06 45 10.4**	**+0.8**
GVZ				S	**Sn**	**06 45 24.3**	**+2.2**
NNZ	**Nelson**	**1.09**	**345**	P	**Pb**	**06 45 11.2**	**-1.0**
TCW	**Tory Channel**	**1.13**	**20**	P	**Pb**	**06 45 12.6**	**-0.4**
TCW				S	**Sb**	**06 45 28.9**	**+1.5**
MRNZ	**Matariki Terra**	**1.15**	**319**	P	**Pn**	**06 45 12.7**	**-0.6**
MRNZ				S	**Sb**	**06 45 28.7**	**+0.8**
SNZO	**South Karori**	**1.19**	**37**	P	**Pb**	**06 45 14.1**	**+0.1**
BHW	**Baring Head**	**1.20**	**44**	P	**Pb**	**06 45 14.1**	**-0.1**
BHW				S	**Sn**	**06 45 31.4**	**+1.5**
LTZ	**Lake Taylor**	**1.21**	**245**	P	**Pg**	**06 45 14.7**	**-0.4**
AMCZ	**Amberley**	**1.22**	**222**	P	**Pg**	**06 45 14.6**	**-0.6**
WEL	**Wellington**	**1.24**	**38**	P	**Pb**	**06 45 15.0**	**+0.2**
WEL				S	**Sg**	**06 45 32.4**	**+0.5**
PLWZ	**Palliser**	**1.32**	**58**	P	**Pb**	**06 45 15.6**	**-0.6**
TKNZ	**Takaka Hill**	**1.37**	**334**	P	**Pn**	**06 45 16.4**	**0.0**
TKNZ				S	**Sn**	**06 45 34.1**	**-0.1**
MSWZ	**Moikau Station**	**1.40**	**53**	P	**Pn**	**06 45 16.6**	**-1.2**
MSWZ				S	**Sb**	**06 45 35.8**	**+0.4**
DUWZ	**D'Urville Isla**	**1.47**	**5**	P	**Pn**	**06 45 18.0**	**+0.2**
DUWZ				S	**Sn**	**06 45 37.4**	**+0.7**
CAW	**Cannon Point**	**1.52**	**41**	P	**Pn**	**06 45 18.5**	**+0.1**
CAW				S	**Sn**	**06 45 38.7**	**+0.8**
PAWZ	**Paruwai Farm**	**1.53**	**55**	P	**Pn**	**06 45 18.2**	**-0.4**
OKCZ	**Okains Bay**	**1.54**	**199**	P	**Pg**	**06 45 19.4**	**-2.0**
DSZ	**Denniston Nort**	**1.55**	**289**	P	**Pb**	**06 45 20.1**	**0.0**
DSZ				S	**Sn**	**06 45 40.0**	**+1.4**
MQZ	**McQueen's Vall**	**1.65**	**209**	P	**Pb**	**06 45 19.6**	**-2.2**
KIW	**Kapiti Island**	**1.65**	**32**	P	**Pn**	**06 45 20.7**	**+0.5**
TRWZ	**Traveller**	**1.69**	**59**	P	**Pn**	**06 45 20.2**	**-0.5**
QRZ	**Quartz Range**	**1.71**	**327**	P	**Pn**	**06 45 22.0**	**+1.0**
QRZ	**Quartz Range**	**1.71**	**327**	P	**Pn**	**06 45 22.1**	**+1.1**
MTW	**Mount Morrison**	**1.71**	**50**	P	**Pn**	**06 45 20.7**	**-0.4**
AKCZ	**Akaroa Harbour**	**1.72**	**201**	P	**Pb**	**06 45 21.3**	**-1.7**
INZ	**Inchbonnie**	**1.77**	**254**	P	**Pb**	**06 45 23.2**	**-0.7**
OGWZ	**Otaki Gorge**	**1.80**	**37**	P	**Pn**	**06 45 22.2**	**+0.1**
RACZ	**Rakaia**	**1.88**	**219**	P	**Pb**	**06 45 23.3**	**-2.4**
HOWZ	**Holdsworth Sta**	**1.90**	**44**	P	**

JNB	**Noboribetsu**	**0.72**	**263**	⇓P		**Pn**	**06 53 01.1**	**-1.3**
JNB				⇓*e*S		**Sn**	**06 53 10.8**	**-1.6**
JFR	**Furan**	**0.75**	**36**	⇓P		**Pn**	**06 53 01.1**	**-1.8**
JFR	**Furan**	**0.75**	**36**	A	A		06 53 01.1	
	comp=N,8.0nm,1.0s,comp=E,10.0nm,1.5s							
JISS	**Ishikarishitsu**	**0.84**	**329**	P		**Pn**	**06 53 02.8**	**-1.3**
JISS				*e*S		**Sn**	**06 53 14.5**	**-1.0**
JAB	**Ashibetsu**	**0.96**	**10**	P		**Pn**	**06 53 05.5**	**-0.3**
JAB				*e*S		**Sn**	**06 53 18.9**	**+0.4**
JAB	**Ashibetsu**	**0.96**	**10**	A	A		06 53 05.5	
	comp=N,29nm,1.2s,comp=E,20nm,0.8s							
JKB	**Kayabe**	**0.98**	**227**	⇓P		**Pn**	**06 53 05.9**	**-0.2**
JKB				⇓*e*S		**Sn**	**06 53 19.2**	**+0.2**
JKB	**Kayabe**	**0.98**	**227**	A	A		06 53 05.9	
	comp=N,25nm,1.2s,comp=E,18nm,1.1s							
JCH	**Churui**	**1.01**	**86**	⇓P		**Pn**	**06 53 05.7**	**-0.7**
JCH	**Churui**	**1.01**	**86**	A	A		06 53 05.7	
	comp=N,6.0nm,1.3s,comp=E,5.0nm,1.0s							
JEM	**Erimo**	**1.01**	**122**	P		**Pb**	**06 53 06.7**	**-0.4**
ERM	**Erimo**	**1.01**	**122**			**Pb**	**06 53 06.0**	**-1.1**
ERM	**Erimo**	**1.01**	**122**	*d* iPN		**Pb**	**06 53 06.6**	**-0.5**
JHR	**Hokuryu**	**1.20**	**350**	*e*P		**Pn**	**06 53 08.3**	**-0.8**
JHR	**Hokuryu**	**1.20**	**350**	A	A		06 53 08.3	
	comp=N,9.0nm,1.1s,comp=E,6.0nm,0.5s							
JYM2	**Yakumo 2**	**1.29**	**251**	A	A		06 53 11.1	
	comp=N,5.0nm,1.0s,comp=E,5.0nm,1.6s							
JAHD	**Aomorihigashid**	**1.38**	**201**	A	A		06 53 13.1	
	comp=N,8.0nm,0.7s,comp=E,11nm,1.2s							
ASAJ	**Asahikawa**	**1.62**	**15**	Pg		**Pn**	**06 53 14.7**	**-0.2**
	comp=E,39nm,0.3s,baz=226,slow=11,SNR=83							
ASAJ				Lg	Lg		06 53 40.8	
	comp=E,63nm,0.3s,baz=164,slow=33,SNR=5.8							
ASAJ				LR	LR		06 53 59.9	
	comp=E,414nm,20.1s,baz=180,slow=46							
JKA	**Kamikawa-asahi**	**1.62**	**15**	Pn		**Pn**	**06 53 14.7**	**-0.1**
JKA	**Kamikawa-asahi**	**1.62**	**15**	*e*P		**Pn**	**06 53 14.7**	**-0.1**
JTM	**Tenmabayashi**	**1.90**	**202**			**Pn**	**06 53 18.9**	**+0.2**
AKK	**Akkeshi**	**2.14**	**77**	*e*P		**Pn**	**06 53 20.8**	**-1.2**
AKK				*e*S		**Sn**	**06 53 46.2**	**-1.4**
NMR	**Nemuro--Hokkai**	**2.85**	**72**	*e*P		**Pn**	**06 53 31.0**	**-0.8**
NMR				*e*S		**Sn**	**06 54 02.7**	**-2.5**
YUK	**Yuzh-Kuril'sk**	**3.18**	**61**	*e*PN		**Pn**	**06 53 39.1**	**+2.8**
YUK				pmax	pmax			
	comp=Z,261nm,0.3s							
YUK				pmax	pmax			
	comp=N,34nm,0.1s							
YUK				pmax	pmax			
	comp=E,55nm,0.1s							
YUK	**Yuzh-Kuril'sk**	**3.18**	**61**	*e*P		**Pn**	**06 53 39.1**	**+2.8**
YUK				AMB	AMB		06 53 40.5	
	comp=E,260nm,0.3s							
YUK				*e*S		**Sn**	**06 54 16.8**	**+3.5**
YUK				A	A		06 54 25.3	
	comp=E,600nm,0.4s							
YUK				A	A		06 54 25.3	
	comp=E,380nm,0.4s							
SHO	**Shikotan**	**3.77**	**68**	*c* iPN		**Pn**	**06 53 46.0**	**+1.7**
SHO				*e*S		**Sn**	**06 54 26.7**	**-1.0**
SHO				pmax	pmax			
	comp=Z,95nm,0.4s							
SHO				pmax	pmax			
	comp=N,28nm,0.2s							
SHO				pmax	pmax			
	comp=E,70nm,0.4s							
SHO				smax	smax			
	comp=N,135nm,0.3s							
SHO				smax	smax			
	comp=E,316nm,0.3s							
SHO	**Shikotan**	**3.77**	**68**	*i* P		**Pn**	**06 53 46.0**	**+1.7**
SHO				AMB	AMB		06 53 46.5	
	comp=E,120nm,0.4s							
SHO				*e*S		**Sn**	**06 54 28.1**	**+0.4**
SHO				A	A		06 54 33.1	
	comp=E,280nm,0.3s							
SHO				A	A		06 54 33.1	
	comp=E,200nm,0.3s							
YSS	**Yuzhno-Sakhali**	**4.43**	**7**	*e*PN		**Pn**	**06 53 54.8**	**+1.4**
YSS				pmax	pmax			
	comp=Z,20nm,0.6s							
YSS	**Yuzhno-Sakhali**	**4.43**	**7**	*e*P		**Pn**	**06 53 54.4**	**+1.0**
TEY	**Ternei**	**4.63**	**304**	*e*PN		Pn	06 54 01.1	+5.0
JMM	**Marumori**	**4.78**	**192**			**Pn**	**06 53 58.3**	**+0.1**
KUR	**Kuril'sk**	**5.01**	**56**	⇑*i*PN		**Pn**	**06 54 05.7**	**+4.3**
KUR				pmax	pmax			
	comp=Z,109nm,0.7s							
KUR	**Kuril'sk**	**5.01**	**56**	*e*P		**Pn**	**06 54 03.6**	**+2.2**
KUR				AMB	AMB		06 54 06.7	
	comp=Z,120nm,0.8s							
KUR				*e*S		**Sn**	**06 55 00.4**	**+2.0**
KUR				A	A		06 55 07.4	
	comp=Z,70nm,0.5s							
KUR				A	A		06 55 07.4	
	comp=Z,70nm,0.5s							
JSD	**Sado**	**5.34**	**214**	Pn		**Pn**	**06 54 06.6**	**+0.6**
MJA0	**Matsu Arr-Jizo**	**6.67**	**207**	*e*PN		Pn	06 54 31.8	+7.5
MJA0				pmax	pmax			
	comp=Z,5.0nm,0.7s							
MJB9	**Matsu-Tunnel**	**6.68**	**207**			**Pn**	**06 54 24.9**	**+0.5**
MAJO	**Matsushiro**	**6.68**	**207**			**Pn**	**06 54 25.1**	**+0.7**
MAJO	**Matsushiro**	**6.68**	**207**	*e*PN		Pn	06 54 28.7	+4.3
MJAR	**Matsushiro Arr**	**6.68**	**207**			**Pn**	**06 54 24.7**	**+0.3**
MJAR	**Matsushiro Arr**	**6.68**	**207**	Pn		**Pn**	**06 54 23.2**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=27,slow=13,SNR=9.9							
	comp=Z,0.6nm,0.3s							
MJAR	**Matsushiro Arr**	**6.68**	**207**	PN		**Pn**	**06 54 24.7**	**+0.3**
JGF	**Kuroka**	**7.83**	**209**			**Pn**	**06 54 41.1**	**+0.9**
INU	**Inuyama**	**8.18**	**210**	Pn		**Pn**	**06 54 42.0**	**-2.9**
BNX	**BinXian**	**10.96**	**292**	⇓P		Pn	06 55 28.3	+5.3
BNX				pmax	pmax			
	comp=Z,2.0nm,1.0s							
KSRS	**Korea Array**	**11.93**	**249**	Pn		Pn	06 55 42.5	+6.2
	comp=Z,0.4nm,0.3s,baz=62,slow=14,SNR=7.9							
KSRS	**Korea Array**	**11.93**	**249**	*e*PN		Pn	06 55 49.2	+13
KSRS				pmax	pmax			
	comp=Z,4.0nm,1.0s							
PEA0B	**Petropavlovsk-**	**14.88**	**39**	Pn		**Pn**	**06 56 16.6**	**+0.1**
PEA0B	**Petropavlovsk-**	**14.88**	**39**	⇑*e*P		**P**	**06 56 20.0**	**-1.9**
PETK	**Petropavlovsk-**	**14.88**	**39**			**Pn**	**06 56 16.7**	**+0.2**
PETK	**Petropavlovsk-**	**14.88**	**39**	Pn		**Pn**	**06 56 15.7**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=212,slow=7.1,SNR=1.9							
PETK				LR	LR		07 02 01.4	
	comp=Z,123nm,19.0s,baz=244,slow=38							
PETK	**Petropavlovsk-**	**14.88**	**39**			**Pn**	**06 56 16.7**	**+0.2**
MA2	**Magadan**	**17.88**	**15**	LR	LR		07 04 37.0	
	comp=Z,51nm,18.1s,baz=132,slow=40							
JOW	**Kunigami**	**19.28**	**220**	P		**Pn**	**06 57 11.0**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=77,slow=14,SNR=1.6							
	comp=Z,5.2nm,0.5s							
SEY	**Seymchan**	**21.30**	**13**	P		**P**	**06 57 30.6**	**-1.7**
	comp=Z,0.8nm,0.4s,baz=180,slow=5.1,SNR=2.0							
	comp=Z,0.8nm,0.4s							
SEY	**Seymchan**	**21.30**	**13**	*i* P		**P**	**06 57 37.6**	**+5.3**
SEY				pmax	pmax			
	comp=Z,8.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**22.73**	**276**	*e*P		**P**	**06 57 54.3**	**+6.3**
HHC				pmax	pmax			
	comp=Z,23nm,0.6s							
SHEM	**Shemya Is, Ala**	**23.71**	**53**	LR	LR		07 06 34.9	
	comp=Z,21nm,21.4s,baz=284,slow=35							
SONM	**Songino Array**	**25.49**	**294**	P		**P**	**06 58 13.5**	**-0.5**
SONM	**Songino Array**	**25.49**	**294**	P		**P**	**06 58 18.4**	**+4.4**
	comp=Z,1.6nm,0.6s,baz=87,slow=7.2,SNR=4.6							
SONM	**Songino Array**	**25.49**	**294**	*e*P		P	06 58 22.0	+8.0
SONM				pmax	pmax			
	comp=Z,2.0nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**30.96**	**130**	T	T		07 32 30.1	
	baz=322,slow=75,SNR=20							
H11N1	**WAKE ISLAND Hy**	**30.98**	**130**	T	T		07 32 31.8	
	baz=322,slow=75,SNR=22							
H11N3	**WAKE ISLAND Hy**	**30.98**	**130**	T	T		07 32 32.0	
	baz=322,slow=75,SNR=9.1							
H11S1	**WAKE ISLAND Hy**	**31.83**	**131**	T	T		07 33 32.8	
	baz=324,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy**	**31.84**	**131**	T	T		07 33 33.1	
	baz=324,slow=76,SNR=10							
H11S2	**WAKE ISLAND Hy**	**31.85**	**131**	T	T		07 33 34.2	
	baz=324,slow=76,SNR=7.9							
PZH	**PanZhiHua**	**36.45**	**257**	P	P		06 59 57.8	+7.1
ZALV	**Zalesovo Beam**	**38.72**	**307**	P	P		**07 00 08.4**	**-1.1**
ZALV	**Zalesovo Beam**	**38.72**	**307**	P	P		**07 00 11.2**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=87,slow=8.8,SNR=6.1							
	comp=Z,0.6nm,0.3s							
ZALV	**Zalesovo Beam**	**38.72**	**307**	*e*P	P		07 00 18.4	+8.9
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.6s							

N15K	**Kwethluk River**	**38.75**	**43**		P	**P**	**07 00 08.0**	**-1.7**
N15K					IAmb	IAmb	07 00 20.5	
	comp=Z,6.4nm,0.8s							
WMQ	**Urumqi**	**39.01**	**291**	*e*P	P		07 00 20.8	+8.6
WMQ					LR	LR		
	comp=Z,180nm,18.9s							
IMAR	**Indian Mountai**	**41.74**	**34**	P	P	**P**	**07 00 33.4**	**-0.9**
MK31	**Makanchi Array**	**41.78**	**297**	⇑*i*P	P	**P**	07 00 42.9	+7.9
MKAR	**Makanchi Array**	**41.78**	**297**	P	P	**P**	**07 00 34.8**	**-0.2**
MKAR	**Makanchi Array**	**41.78**	**297**	P	P	**P**	**07 00 36.9**	**+1.9**
	comp=Z,1.1nm,1.0s,baz=73,slow=9.2,SNR=6.0							
	comp=Z,1.1nm,1.0s							
MKAR	**Makanchi Array**	**41.78**	**297**	*e*P		P	07 00 44.4	+9.4
MKAR					pmax	pmax		
	comp=Z,2.0nm,0.9s							
CAST	**Castle Rocks**	**42.48**	**37**			**P**	**07 00 38.3**	**-2.1**
KTH	**Kantishna Hill**	**43.00**	**37**	P	P	**P**	**07 00 44.0**	**-0.6**
KTH					IAmb	IAmb	07 00 54.5	
	comp=Z,6.3nm,1.0s							
KURK	**Kurchatov**	**43.06**	**304**			**P**	**07 00 43.9**	**-1.4**
KURK					IAmb	IAmb	07 00 53.9	
	comp=Z,4.4nm,0.7s							
KURK	**Kurchatov**	**43.06**	**304**	*d* iP	P	P	07 00 52.9	+7.6
KURK					pmax	pmax		
	comp=Z,4.0nm,0.6s							
KURBB	**Kurchatov Arra**	**43.14**	**304**		P	**P**	**07 00 45.6**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=78,slow=9.5,SNR=12							
	comp=Z,0.7nm,0.6s							
CMAR	**Chiang Mai Arr**	**43.57**	**250**		P	**P**	**07 00 49.5**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=44,slow=7.6,SNR=6.7							
	comp=Z,0.8nm,0.3s							
NEA2	**Nenana**	**43.74**	**36**	P	P	**P**	**07 00 49.4**	**-1.2**
RND	**Reindeer**	**43.94**	**37**	P	P	**P**	**07 00 51.6**	**-0.7**
RND					IAmb	IAmb	07 01 00.5	
	comp=Z,7.1nm,1.2s							
RND	**Reindeer**	**43.94**	**37**	P	P	**P**	**07 00 51.6**	**-0.7**
RND					pmax	pmax		
	comp=Z,7.0nm,1.2s							
H24K	**Noodor Dome**	**44.15**	**34**	P	P	**P**	**07 00 53.2**	**-0.7**
ILAR	**Eielson Array**	**44.66**	**35**	P	P	**P**	**07 00 56.2**	**-1.7**
ILAR	**Eielson Array**	**44.66**	**35**	P	P	**P**	**07 00 56.6**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=270,slow=7.3,SNR=5.7							
ILAR					LR	LR	07 20 29.4	
	comp=Z,42nm,18.6s,baz=305,slow=37							
	comp=Z,0.5nm,0.8s							
ILAR	**Eielson Array**	**44.66**	**35**	*e*P		**P**	**07 00 56.4**	**-1.5**
PRP	**Porcupine Dome**	**45.15**	**34**			**P**	**07 01 01.0**	**-1.0**
PRP					IAmb	IAmb	07 01 10.8	
	comp=Z,3.9nm,0.8s							
F26K	**Sheenjek River**	**45.47**	**31**	P	P	**P**	**07 01 03.2**	**-1.2**
F26K					IAmb	IAmb	07 01 13.2	
	comp=Z,3.6nm,0.9s							
SCRK	**Sand Creek**	**46.01**	**36**	P	P	**P**	**07 01 07.4**	**-1.4**
SCRK					IAmb	IAmb	07 01 16.7	
	comp=Z,3.3nm,0.7s							
K27K	**Chicken**	**46.83**	**36**	P	P	**P**	**07 01 14.5**	**-0.6**
K27K					IAmb	IAmb	07 01 24.1	
	comp=Z,5.9nm,1.2s							
BVAR	**Borovoye Array**	**47.33**	**309**		P	**P**	**07 01 19.8**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=70,slow=9.3,SNR=4.5							
	comp=Z,0.4nm,0.3s							
BRVK	**Borovoye**	**47.38**	**309**	*e*P		P	07 01 27.8	+8.3
BRVK					pmax	pmax		
	comp=Z,1.0nm,0.9s							
I28M	**Miner Creek**	**47.46**	**34**			**P**	**07 01 19.8**	**-0.3**
I28M					IAmb	IAmb	07 01 29.4	
	comp=Z,4.4nm,0.9s							
BOOM	**Boomskoye usch**	**47.53**	**294**			**P**	**07 01 21.8**	**+0.8**
BOOM	**Boomskoye usch**	**47.53**	**294**	P		**P**	**07 01 21.8**	**+0.8**
BOOM					pmax	pmax		
	comp=Z,4.0nm,0.7s							
KSH	**Kashi**	**48.76**	**290**	P	P		07 01 41.8	+11
KSH					pmax	pmax		
	comp=Z,3.0nm,0.8s							
L29M	**L29M**	**48.76**	**37**	P	P	**P**	**07 01 30.4**	**+0.3**
I30M	**Mount Dempster**	**48.97**	**34**	P	P	**P**	**07 01 31.9**	**+0.1**
I30M					IAmb	IAmb	07 01 41.3	
	comp=Z,3.6nm,0.8s							
ARSB	**Arslanbob**	**50.02**	**293**			**P**	**07 01 40.4**	**+0.2**
ARSB	**Arslanbob**	**50.02**	**293**	P	P	**P**	**07 01 40.4**	**+0.2**
KKAR	**Karatay Array**	**50.91**	**297**	P	P	**P**	**07 01 45.3**	**-1.4**
KKAR	**Karatay Array**	**50.91**	**297**	P	P	**P**	**07 01 45.3**	**-1.4**
AB31	**Akbulak array**	**54.83**	**307**			**P**	**07 02 15.9**	**+0.4**
AB31					IAmb	IAmb	07 02 24.7	
	comp=Z,2.5nm,0.7s							
ABKAR	**Akbulak array**	**54.83**	**307**	P	P	**P**	**07 02 15.6**	**0.0**
WB0	**Warramunga Arr**	**62.41**	**188**	P	P	**P**	**07 03 07.0**	**-1.4**
WRAB	**Tennant Creek**	**62.58**	**188**	*i* P	P	**P**	**07 03 09.0**	**-0.6**
WRAB					pmax	pmax		
	comp=Z,2.0nm,0.9s							
WR8	**Warramunga Arr**	**62.58**	**188**	P	P	**P**	**07 03 08.3**	**-1.3**
WRA	**Warramunga Arr**	**62.59**	**188**	P	P	**P**	**07 03 08.4**	**-1.2**
	comp=Z,1.4nm,0.5s,baz=5.6,slow=6.9,SNR=28							
	comp=Z,1.4nm,0.5s							
WRA	**Warramunga Arr**	**62.59**	**188**	*e*P		**P**	**07 03 08.7**	**-0.9**
WRA					pmax	pmax		
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**64.17**	**331**	P	P	**P**	**07 03 18.4**	**-1.2**
FINES	**FINESS Array B**	**64.17**	**331**	P	P	**P**	**07 03 18.6**	**-1.0**
	comp=Z,4.1nm,1.1s,baz=33,slow=7.3,SNR=8.3							
	comp=Z,4.1nm,1.1s							
FINES	**FINESS Array B**	**64.17**	**331**	*e*P		P	07 03 25.3	+5.7
FINES					pmax	pmax		
	comp=Z,1.0nm,0.4s							
NEW	**Newport**	**65.91**	**46**	LR	LR		07 32 18.7	
	comp=Z,18nm,18.0s,baz=49,slow=36							
ASAR	**Alice Springs**	**66.31**	**188**	P	P	**P**	**07 03 33.0**	**-1.0**
ASAR	**Alice Springs**	**66.31**	**188**	P	P	**P**	**07 03 33.6**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=6.0,slow=5.4,SNR=8.8							
	comp=Z,0.9nm,0.8s							
KIV	**Kislovodsk**	**67.68**	**310**	*e*P		P	07 03 51.4	+8.7
KIV					pmax	pmax		
	comp=Z,9.0nm,1.1s							
KBZ	**Khabaz**	**67.70**	**309**	P		**P**	**07 03 44.6**	**+1.9**
	comp=Z,0.6nm,0.4s,baz=11,slow=5.2,SNR=1.6							
	comp=Z,0.6nm,0.4s							
HFS	**Hagfors**	**69.26**	**335**	P	P	**P**	**07 03 53.7**	**+1.6**
	comp=Z,1.9nm,0.8s,baz=24,slow=14,SNR=8.6							
	comp=Z,1.9nm,0.8s							
NB2	**NORSAR Subarra**	**69.28**	**337**	P	P		07 03 59.9	+7.5
	comp=Z,0.5nm,0.5s,baz=34,slow=6.5							
NOA	**NORSAR Array B**	**69.28**	**337**	P	P	**P**	**07 03 54.6**	**+2.3**
	comp=Z,0.9nm,0.9s,baz=37,slow=6.2,SNR=3.8							
	comp=Z,0.9nm,0.9s							
LRM	**Limekiln Ridge**	**69.93**	**46**	P	P	**P**	**07 03 55.7**	**-1.2**
AKASG	**Malin Array Be**	**70.23**	**321**	P	P	**P**	**07 03 59.3**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=45,slow=6.5,SNR=1.9							
	comp=Z,0.3nm,0.3s							
SFJD	**Kangerlussuaq**	**70.35**	**5**	LR	LR		07 36 17.3	
	comp=Z,44nm,18.7s,baz=349,slow=37							
PDAR	**Pinedale Array**	**73.51**	**47**	P	P	**P**	**07 04 18.1**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=284,slow=5.3,SNR=5.6							
	comp=Z,0.3nm,0.6s							
NWAO	**Narrogin (SRO)**	**78.48**	**201**	P	P	**P**	**07 04 45.3**	**-1.0**
	comp=Z,6.1nm,0.9s,baz=22,slow=5.4,SNR=3.1							
	comp=Z,6.1nm,0.9s							
TXAR	**Lajitas Array**	**86.41**	**53**	P	P	**P**	**07 05 27.8**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=348,slow=6.8,SNR=4.7							
	comp=Z,0.4nm,0.9s							
SNAA	**Sanae**	**146.13**	**199**	PKPdf		**PKPdf**	**07 12 23.1**	**-0.3**
SNAA	**Sanae**	**146.13**	**199**	PKPbc		**PKPbc**	**07 12 24.0**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=212,slow=5.6,SNR=22							
SNAA	**Sanae**	**146.13**	**199**	PKP2		**PKPdf**	**07 12 23.1**	**-0.3**
CPUP	**Villa Florida**	**157.37**	**51**	PKP		**PKPdf**	**07 12 42.9**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=270,slow=2.0,SNR=1.6							

WEL 30 06:54:52.9±1.0, 36°S±14°×17°8E±1°9, h212km±10km, M2.9/9, ML3.7/5, MLv2.9/9, Error ellipse: s-maj=29.1km s-min=11.7km az=122.4, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.51**	**183**	P	Pn	06 55 27.4	-0.3
MXZ				S	S	06 55 54.6	-0.3
WMGZ	**Waiomatatini S**	**1.77**	**180**	P	Pn	06 55 30.0	+0.1
WMGZ				S	S	06 55 60.0	+1.1
HAZ	**Te Kaha**	**1.77**	**196**	P	Pn	06 55 29.7	-0.4
HAZ				S	S	06 55 59.4	+0.5
PKGZ	**Pakihiroa**	**1.83**	**188**	P	Pn	06 55 31.4	+0.7
PKGZ				S	S	06 56 01.0	+1.0
RUGZ	**Raukumara Rang**	**2.00**	**197**	P	Pn	06 55 32.3	-0.1
RUGZ				S	S	06 56 02.9	-0.1
PUZ	**Puketiti**	**2.02**	**183**	P	Pn	06 55 32.7	+0.2
PUZ				S	S	06 56 03.3	0.0
TWGZ	**Tauwhareparae**	**2.15**	**189**	P	Pn	06 55 33.6	-0.3
TWGZ				S	S	06 56 05.9	+0.3
MWZ	**Matawai**	**2.38**	**197**	P	Pn	06 55 36.8	+0.5
MWZ				S	S	06 56 12.0	+2.0
CNGZ	**Carnagh Statio**	**2.44**	**184**	P	Pn	06 55 37.5	+0.8
RAGZ	**Rawiri**	**2.57**	**197**	P	Pn	06 55 38.6	+0.4
RIGZ	**Rimuhau**	**2.70**	**191**	P	Pn	06 55 40.4	+0.7
RIGZ				S	S	06 56 17.4	+1.2
MUGZ	**Murupara**	**2.75**	**208**	P	Pn	06 55 39.9	-0.3
MUGZ				S	S	06 56 17.5	+0.4
SNGZ	**Shannon Statio**	**2.86**	**197**	P	Pn	06 55 42.1	+0.7
SNGZ				S	S	06 56 20.2	+1.0
MHGZ	**Mahia Peninsul**	**3.12**	**187**	P	Pn	06 55 44.4	-0.1
ARHZ	**Aropaoanui**	**3.40**	**199**	S	S	06 56 33.9	+3.4
KAHZ	**Kahuranaki**	**3.93**	**197**	P	Pn	06 55 54.6	+0.4
KRHZ	**Kereru**	**3.93**	**203**	P	Pn	06 55 53.7	-0.5
KRHZ				S	S	06 56 43.5	+1.3
PXZ	**Pawanui**	**4.16**	**196**	P	Pn	06 55 56.3	-0.6
PXZ				S	S	06 56 45.8	-1.4
PNHZ	**Pukenui**	**4.23**	**204**	P	Pn	06 55 57.5	-0.4
PNHZ				S	S	06 56 48.4	-0.5
TSZ	**Takapari Road**	**4.44**	**205**	P	Pn	06 55 59.9	-0.6
TSZ				S	S	06 56 55.2	+1.6
OGWZ	**Otaki Gorge**	**5.39**	**207**	P	Pn	06 56 11.6	-0.9
OGWZ				S	S	06 57 13.1	-2.1

WEL ***30*** *06:56:01.4±1.1, 46°S±4°×16°6E±°, h5km, M3.9/8, ML4.0/8, MLv3.9/8, Error ellipse: s-maj=8.3km s-min=4.7km az=103.8, confirmed*
NOU ***30*** *06:56:03.8, 45°.53S×166°.61E, h0km, MLv3.9/7, Off W. Coast of S. Island, N.Z.*

ISC 30 06:56:01.0±2.1, 45°.57S±0°.05×166°.2E±0°.1, h22km±7km, n20, σ1§47/32, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLNS	**Resolution Isl**	**0.34**	**110**	P	**Pb**	**06 56 08.9**	**+0.4**
RLNS				S	**Sn**	**06 56 14.6**	**-2.5**
DCZ	**Deep Cove**	**0.66**	**81**	P	**Pb**	**06 56 13.1**	**-0.7**
DCZ				S	**Sb**	**06 56 22.0**	**-0.5**
PYZ	**Puysegur Point**	**0.68**	**152**	P	**Pn**	**06 56 15.6**	**+0.4**
PYZ	**Puysegur Point**	**0.68**	**152**	P	**Pb**	**06 56 14.2**	**+0.1**
PYZ				S	**Sn**	**06 56 24.1**	**-1.1**
WHZ	**Wether Hill Ro**	**1.25**	**106**	P	**Pb**	**06 56 23.4**	**-0.4**
WHZ				S	**Sn**	**06 56 44.6**	**+5.4**
MLZ	**Mavora Lakes**	**1.35**	**82**	P	**Pn**	**06 56 24.7**	**+0.2**
MLZ				S	**Sb**	**06 56 43.7**	**+1.3**
MSZ	**Milford Sound**	**1.50**	**54**	P	**Pn**	**06 56 27.1**	**+0.5**
MSZ				S	**Sb**	**06 56 47.6**	**+0.9**
APZ	**The Paps**	**1.76**	**137**	P	**Pb**	**06 56 32.2**	**-0.3**
APZ				S	**Sb**	**06 56 54.6**	**+0.4**
QTPS	**Queenstown Pol**	**1.80**	**74**	S	**Sb**	**06 56 56.0**	**+0.7**
WKZ	**Wanaka**	**2.11**	**70**	P	**Pb**	**06 56 37.5**	**-0.9**
WKZ				S	**Sb**	**06 57 04.4**	**+0.2**
EAZ	**Earnscleugh**	**2.20**	**82**	P	**Pb**	**06 56 38.5**	**-1.5**
EAZ				S	**Sb**	**06 57 06.5**	**-0.2**
SYZ	**Scrubby Hill**	**2.25**	**117**	P	**Pb**	**06 56 39.7**	**-1.1**
SYZ	**Scrubby Hill**	**2.25**	**117**	S	**Sb**	**06 57 05.7**	**-2.5**
JCZ	**Jackson Bay**	**2.36**	**52**	P	**Pb**	**06 56 41.4**	**-1.3**
JCZ	**Jackson Bay**	**2.36**	**52**	P	**Pb**	**06 56 41.5**	**-1.3**
TUZ	**Tuapeka**	**2.42**	**100**	P	**Pb**	**06 56 42.6**	**-1.1**
TUZ				S	**Sb**	**06 57 12.3**	**-0.7**
ODZ	**Otahua Downs**	**3.16**	**82**	P	**Pn**	**06 56 50.3**	**+0.9**
ARCZ	**Arundel**	**3.88**	**67**	P	**Pn**	**06 56 59.8**	**+0.5**
ARCZ				S	**Sn**	**06 57 45.0**	**+0.

comp=Z,3.0nm,0.5s,baz=145,slow=8.2,SNR=27
LPAZ S **S** **07 00 32.6 -1.3**
comp=Z,2.8nm,0.7s,baz=338,slow=14,SNR=6.6
AC04 Llanos de Chal 7.10 217 Pn **Pn** **06 59 22.3 -0.5**
LCO Las Campanas 7.55 211 Pn **Pn** **06 59 28.0 -0.6**
CO01 Juntas del Tor 8.13 204 Pn **Pn** **06 59 37.5 +1.8**
SIV San Ignacio 8.18 37 P **Pn** **06 59 34.5 -1.7**
comp=Z,2.2nm,0.4s,baz=216,slow=12,SNR=28
GO04 Tololo Observa 8.59 206 Pn **Pn** **06 59 40.7 -0.7**
CO03 El Pedregal 9.12 205 Pn **Pn** **06 59 48.4 +0.5**
CFA Coronel Fontan 9.15 191 P **Pn** **06 59 47.1 -1.0**
comp=Z,2.1nm,0.3s,baz=14,slow=15,SNR=51
CFA S S 07 01 21.9 -10
comp=Z,0.9nm,0.4s,baz=245,slow=16,SNR=2.3
CO02 Combarbal 9.57 205 Pn **Pn** **06 59 54.3 +0.9**
MT09 Talagante 11.90 200 P **P** **07 00 23.7 -0.4**
BO04 La Punta 11.98 198 P **P** **07 00 25.0 0.0**
TRQA Tornquist 15.83 168 Pn **Pn** **07 01 08.4 -0.7**
TRQA IAmb IAmb 07 01 13.1
comp=Z,8.6nm,1.4s
VAO Valinhos 17.76 95 P **P** **07 01 28.0 -0.6**
VAO IAmb IAmb 07 01 29.1
comp=Z,11nm,0.9s
BDFB Brasilia 18.53 71 P **P** **07 01 36.3 -0.7**
BDFB IAmb IAmb 07 02 03.6
comp=Z,4.5nm,1.1s
BDFB Brasilia 18.53 71 P **P** **07 01 37.6 +0.6**
comp=Z,2.3nm,0.7s,baz=249,slow=12,SNR=5.0
SNAA Sanae 60.43 161 P **P** **07 07 23.4 +3.4**
comp=Z,1.0nm,1.1s,baz=0.0,slow=9.1,SNR=11
comp=Z,1.0nm,1.1s
TORD Torodi Ar. Bea 75.40 69 P **P** **07 08 54.3 +0.7**
comp=Z,1.2nm,0.4s,baz=250,slow=5.5,SNR=2.2
comp=Z,1.2nm,0.4s
MKAR Makanchi Array 144.99 39 PKP **PKiKP** **07 16 48.3 +0.6**
comp=Z,0.6nm,0.9s,baz=300,slow=3.2,SNR=4.1

DJA 30 06:59:16.7±0.3, 3°S±3°×12°9E±°, h10km, M4.1/12, mb4.2/4, MLv4.0/12, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.78**	**170**	P	Pg	06 59 31.6	-0.2
MSAI				S	Sg	06 59 42.6	+0.5
AAI	**Ambon**	**1.26**	**208**	P	Pg	06 59 41.5	+0.6
NLAI	**Namlea**	**1.81**	**248**	P	Pn	06 59 48.4	+0.4
BNDI	**Bandanaira**	**2.24**	**150**	P	Pn	06 59 54.0	+0.2
SANI	**Sanana**	**2.85**	**280**	P	Pn	07 00 00.9	-1.3
SWI	**Sorong**	**3.00**	**56**	P	Pn	07 00 04.3	0.0
FAKI	**Fak Fak**	**3.47**	**96**	P	Pn	07 00 10.9	0.0
APSI	**Ampana**	**7.33**	**283**	P	Pn	07 01 04.5	+0.7
	48nm,1.0s						

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*IDC **30** 07:03:28.0±17.0, 18°10S×176°75W, h643km±145km, mb3.2/5, mbtmp4.1/6, Error ellipse: s-maj=204.9km s-min=32.3km az=39.0*
ISC 30 07:03:28.4±4.2, 18°1S±0°5×176°7W±0°4, h650km, n6, σ0s31/6, mb3.8/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.29**	**253**	P	**P**	**07 06 46.4**	**-0.2**
	3.1nm,0.9s,baz=23,slow=15,SNR=1.9						
URZ	**Urewera**	**20.83**	**194**	P	**P**	**07 07 27.0**	**-0.2**
	7.7nm,1.0s,baz=8.7,slow=13,SNR=1.7						
	7.7nm,1.0s						
STKA	**Stephens Creek**	**39.95**	**242**	P	**P**	**07 10 09.8**	**+0.3**
	1.7nm,0.3s,baz=182,slow=17,SNR=3.1						
	1.7nm,0.3s						
WRA	**Warramunga Arr**	**46.16**	**259**	P	**P**	**07 10 57.4**	**-0.3**
	1.4nm,0.3s,baz=98,slow=6.8,SNR=43						
	1.4nm,0.3s						
ASAR	**Alice Springs**	**46.28**	**254**	P	**P**	**07 10 58.6**	**+0.1**
	2.5nm,0.7s,baz=87,slow=8.2,SNR=30						
	2.5nm,0.7s						
SNAA	**Sanae**	**90.40**	**178**	P	**P**	**07 15 22.1**	**0.0**
	0.5nm,0.8s,baz=252,slow=3.2,SNR=1.8						
	0.5nm,0.8s						

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*IDC **30** 07:07:47.8±2.3,9.°40S×121.°75E, h87km±23km, mb3.6/4, mbtmp3.9/9, Error ellipse: s-maj=52.8km s-min=19.6km az=58.0*
*DJA **30** 07:07:48.2±0.8,9.°S±4.°×12.°2E±.°, h17km±7km, M4.1/13, mB5.3/1, mb4.3/3, MLv3.9/13, Mw(mB)4.7/1*
*NEIC **30** 07:07:48.0±1.5,9.°28S±0.°06×121.°82E±0.°07, h61km±8km, mb4.2/9, Error ellipse: s-maj=10.7km s-min=8.1km az=92.0*
ISC 30 07:07:45.9±0.5, 9°35S±0°04×121°82E±0°06, h44km, n42, σ2s68/42, mb4.2/7, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EDFI	**Ende, Flores**	**0.61**	**348**	P	**Pn**	**07 08 01.6**	**+3.2**
MMRI	**Maumere**	**0.82**	**30**		**Pn**	**07 08 03.3**	**+2.2**
MMRI					**Sn**	**07 08 14.2**	**+2.1**
MMRI	**Maumere**	**0.82**	**30**	P	**Pn**	**07 08 03.1**	**+2.0**
MMRI				S	**Sn**	**07 08 14.2**	**+2.1**
BASI	**Baing, Sumba**	**1.50**	**235**	P	**Pn**	**07 08 15.1**	**+4.8**
BATI	**Baumata**	**2.01**	**115**	P	**Pn**	**07 08 20.5**	**+3.2**
	113nm,0.4s,baz=277,slow=5.9,SNR=14						
BATI				S	**Sn**	**07 08 44.7**	**+3.4**
	68nm,0.3s,baz=302,slow=11,SNR=4.8						
BATI	**Baumata**	**2.01**	**115**	P	**Pn**	**07 08 20.4**	**+3.0**
WBSI	**Waikabubak, Su**	**2.41**	**263**	P	Pn	07 08 28.3	+5.4
SOEI	**Soe**	**2.45**	**100**		**Pn**	**07 08 26.6**	**+3.1**
SOEI	**Soe**	**2.45**	**100**	P	**Pn**	**07 08 26.6**	**+3.1**
BSSI	**Bau Bau, Buton**	**3.45**	**337**	P	**Pn**	**07 08 41.0**	**+3.9**
PLAI	**Plampang**	**4.03**	**277**	P	Pn	07 08 50.9	+5.8
BKSI	**Bulukumba**	**4.34**	**337**	P	**Pn**	**07 08 53.3**	**+3.9**
KAPI	**Kappang**	**4.77**	**334**	P	**Pn**	**07 08 57.9**	**+2.6**
	8.2nm,0.3s,baz=125,slow=12,SNR=12						
KAPI				S	**Sn**	**07 09 44.4**	**-5.0**
	3.3nm,0.3s,baz=191,slow=22,SNR=0.8						
TWSI	**Taliwang, Sumb**	**4.91**	**277**	P	Pn	07 09 03.7	+6.4
	0.2nm30nm,0.8s						
BNSI	**Bone**	**5.20**	**341**	P	Pn	07 09 06.2	+5.0
	0.2nm42nm,0.6s						
SPSI	**Sidrap Palu**	**5.72**	**339**	P	Pn	07 09 13.8	+5.4
KNRA	**Kununurra**	**9.25**	**134**		**Pn**	**07 09 55.0**	**-1.7**
FITZ	**Fitzroy Crossi**	**9.46**	**157**	Pn	**Pn**	**07 09 59.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**9.46**	**157**	P	**Pn**	**07 09 59.7**	**+0.1**
	2.5nm,0.3s,baz=342,slow=8.7,SNR=40						
FITZ				S	**Sn**	**07 11 37.3**	**-7.3**
	5.0nm,0.6s,baz=160,slow=6.4,SNR=5.9						
MBWA	**Marble Bar**	**11.91**	**189**	Pn	**Pn**	**07 10 36.2**	**+3.0**
FAKI	**Fak Fak**	**12.18**	**59**	Pn	**Pn**	**07 10 37.6**	**+0.8**
PSA00	**Pilbara Seismi**	**12.30**	**189**	Pn	**Pn**	**07 10 39.2**	**+0.7**
WRA	**Warramunga Arr**	**16.04**	**132**	P	**Pn**	**07 11 29.2**	**+0.6**
	0.6nm,0.4s,baz=303,slow=14,SNR=12						
WRA				S	Sn	07 14 09.1	-16
	2.0nm,0.8s,baz=305,slow=23,SNR=7.6						
WB2	**Warramunga Arr**	**16.05**	**132**	Pn	**Pn**	**07 11 28.9**	**+0.3**
WB2				IAmb	IAmb	07 11 55.4	
	comp=Z,5.6nm,1.1s						
AS31	**Alice Springs**	**18.34**	**142**	P	**P**	**07 11 56.7**	**0.0**
ASAR	**Alice Springs**	**18.34**	**142**	P	**P**	**07 11 57.6**	**+0.8**
ASAR	**Alice Springs**	**18.34**	**142**	P	**P**	**07 11 56.9**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=317,slow=12,SNR=32						
ASAR				S	Sn	07 15 07.5	-14
	comp=Z,0.8nm,0.6s,baz=316,slow=22,SNR=5.5						
MORW	**Morawa**	**20.35**	**195**	P	**P**	**07 12 19.7**	**+1.0**
MORW				IAmb	IAmb	07 12 25.8	
	comp=Z,18nm,1.4s						
COEN	**Coen**	**21.41**	**104**	P	**P**	**07 12 31.5**	**+1.3**
COEN				IAmb	IAmb	07 12 58.6	
	comp=Z,18nm,1.4s						
BBOO	**Buckleboo**	**26.80**	**153**	P	**P**	**07 13 23.0**	**+1.0**
BBOO				IAmb	IAmb	07 13 36.9	
	comp=Z,19nm,1.4s						
JOW	**Kunigami**	**36.51**	**10**	P	**P**	**07 14 46.2**	**-0.9**
MJAR	**Matsushiro Arr**	**48.18**	**18**	P	**P**	**07 16 19.1**	**-2.9**
	comp=Z,1.3nm,0.5s,baz=203,slow=7.8,SNR=2.1						
	comp=Z,1.3nm,0.5s						
FUTU	**Fugatoga**	**58.86**	**101**	P	**P**	**07 17 39.9**	**-0.8**
MKAR	**Makanchi Array**	**66.06**	**331**	P	**P**	**07 18 26.6**	**-1.7**
MKAR	**Makanchi Array**	**66.06**	**331**	P	**P**	**07 18 26.0**	**-2.3**
	comp=Z,0.7nm,0.6s,baz=146,slow=8.4,SNR=5.7						
	comp=Z,0.7nm,0.6s						
MAKZ	**Makanchi**	**66.22**	**331**	P	**P**	**07 18 29.2**	**-0.1**
ZALV	**Zalesovo Beam**	**70.39**	**338**	P	**P**	**07 18 52.0**	**-3.2**
	comp=Z,0.7nm,0.4s,baz=145,slow=5.2,SNR=3.1						
	comp=Z,0.7nm,0.4s						

KURBB Kurchatov Arra 70.54 332 P **P** **07 18 52.9 -3.2**
comp=Z,0.3nm,0.4s,baz=150,slow=6.1,SNR=2.6
comp=Z,0.3nm,0.4s
QSPA South Pole Qui 80.64 180 P **P** **07 19 54.7 +0.7**
QSPA IAmb IAmb 07 20 34.9
comp=Z,5.5nm,1.3s
TORD Torodi Ar. Bea 121.26 280 PKPdf **PKPdf** **07 26 34.0 -1.2**
V53A Saluda 145.50 37 PKPdf **PKPdf** **07 27 17.6 -2.2**
GOGA Godfrey 146.60 40 PKPdf **PKPdf** **07 27 21.0 -0.7**

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*ISU **30** 07:29:28, 40°15N×71°71E, h17km*
*KRNET **30** 07:29:30.3±0.1, 40°16N×71°59E, h35km, mb2.5*
ISC 30 07:29:28.6±1.3, 40°16N±0°05×71°67E±0°04, h16km±9km, n11, σ1s27/19, 13C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHMI	**Chimion**	**0.16**	**314**	P	**Pg**	**07 29 32.9**	**+0.1**
CHMI				S	**Sb**	**07 29 36.9**	**+0.6**
FRG	**Fergana**	**0.23**	**22**	P	**Pg**	**07 29 33.8**	**-0.1**
TSTA	**Tashata**	**0.74**	**55**	P	**Pb**	**07 29 42.4**	**-0.8**
TSTA				S	**Sb**	**07 29 52.5**	**-0.7**
OHH	**Osh**	**0.93**	**66**	↑eP	**Pn**	**07 29 49.2**	**+2.2**
OHH				↑eS	**Sn**	**07 30 02.5**	**+2.4**
TRKS	**Terek-Say**	**1.43**	**344**	↑eP	**Pn**	**07 29 53.7**	**-0.3**
TRKS				↑eS	**Sn**	**07 30 11.3**	**-1.3**
ARSB	**Arslanbob**	**1.53**	**40**	↓eP	**Pn**	**07 29 56.5**	**+1.1**
ARSB				↓eS	**Sb**	**07 30 16.6**	**+0.6**
GAR	**Garm**	**1.56**	**223**	↑eP	**Pb**	**07 29 56.3**	**-0.8**
GAR				↑eS	**Sn**	**07 30 15.6**	**-0.1**
SALK	**Salom-Alik**	**1.79**	**65**	↑eP	**Pb**	**07 30 00.9**	**-0.2**
SALK				↑eS	**Sb**	**07 30 23.2**	**-0.2**
UCH	**Uchtor**	**2.98**	**45**	↓eP	**Pb**	**07 30 20.0**	**-1.5**
UCH				↓eS	**Sb**	**07 30 56.7**	**-1.2**
KK31	**Karatay Array**	**3.07**	**344**	↑Pg	**Pb**	**07 30 24.1**	**+1.3**
	0.9nm,0.5s,baz=156,slow=12,SNR=4.9						
KK31				↓Lg	Lg	07 31 03.9	
	0.9nm,0.3s,baz=148,slow=31,SNR=7.7						
AAK	**Ala-Archa**	**3.26**	**40**	↑Pg	**Pg**	**07 30 29.6**	**-1.5**
	0.8nm,0.5s						
AAK				↑Lg	Lg	07 31 10.7	
	0.9nm,0.6s						

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*DJA **30** 07:36:56.3±5.9,2.°N±11.°×12.°7E±1.°4, h275km±61km, M3.7/6, MLv3.7/6*
*IDC **30** 07:37:08.4±0.8,2.°79N×127.°30E, h0km, mb4.1/10, mbtmp4.1/10, MS3.5/3, Error ellipse: s-maj=59.4km s-min=15.6km az=71.0*
*NEIC **30** 07:37:12.5±1.1,2.°89N±0.°06×127.°2E±0.°1, h35km±2km, mb4.5/13, Error ellipse: s-maj=20.4km s-min=9.5km az=94.0*
ISC 30 07:37:14.3±0.7, 2°77N±0°09×127°1E±0°1, h44km, n33, σ1s24/33, mb4.3/16, MS3.6/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.81**	**300**	P	**Pn**	**07 37 41.6**	**-1.4**
TNTI	**Ternate**	**2.00**	**172**		**Pn**	**07 37 45.3**	**-0.4**
TNTI	**Ternate**	**2.00**	**172**	P	Pn	07 37 37.7	-7.9
SANI	**Sanana**	**4.91**	**193**	P	**Pn**	**07 38 24.1**	**-1.5**
TOLI2	**Tolitoli**	**6.51**	**255**		**Pn**	**07 38 47.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**20.78**	**184**	P	**P**	**07 41 51.6**	**-0.2**
	2.0nm,0.5s,baz=19,slow=8.3,SNR=9.9						
	2.0nm,0.5s						
WB0	**Warramunga Arr**	**23.52**	**163**		**P**	**07 42 19.0**	**-1.6**
WB0				IAmb	IAmb	07 42 19.8	
	comp=Z,13nm,1.0s						
WRAB	**Tennant Creek**	**23.66**	**163**	P	**P**	**07 42 20.5**	**-1.4**
WRAB				IAmb	IAmb	07 42 21.3	
	comp=Z,11nm,0.6s						
WRA	**Warramunga Arr**	**23.66**	**163**		**P**	**07 42 19.5**	**-2.4**
WRA	**Warramunga Arr**	**23.66**	**163**	P	**P**	**07 42 20.6**	**-1.4**
	comp=Z,10.0nm,0.6s,baz=344,slow=11,SNR=109						
WRA				PcP	**PcP**	**07 46 07.0**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=334,slow=2.6,SNR=1.6						
	comp=Z,10.0nm,0.6s						
WB2	**Warramunga Arr**	**23.67**	**163**	P	**P**	**07 42 20.6**	**-1.4**
WB2				IAmb	IAmb	07 42 21.4	
	comp=Z,13nm,0.6s						
WR8	**Warramunga Arr**	**23.73**	**162**		**P**	**07 42 21.2**	**-1.3**
WR8				IAmb	IAmb	07 42 21.9	
	comp=Z,12nm,0.6s						
WR0	**Warramunga Arr**	**23.74**	**162**	P	**P**	**07 42 21.4**	**-1.3**
WR0				IAmb	IAmb	07 42 22.1	
	comp=Z,10nm,0.6s						
AS31	**Alice Springs**	**27.10**	**166**		**P**	**07 42 52.6**	**-0.6**
ASAR	**Alice Springs**	**27.10**	**166**	P	**P**	**07 42 51.7**	**-1.5**
ASAR	**Alice Springs**	**27.10**	**166**	P	**P**	**07 42 52.2**	**-1.0**
	comp=Z,2.0nm,0.5s,baz=348,slow=7.2,SNR=50						
ASAR				PcP	**PcP**	**07 46 14.7**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=352,slow=2.5,SNR=5.9						
	comp=Z,2.0nm,0.5s						
BBOO	**Buckleboo**	**36.39**	**167**	P	**P**	**07 44 13.7**	**-0.9**
STKA	**Stephens Creek**	**37.11**	**159**	P	**P**	**07 44 20.2**	**-0.5**
STKA	**Stephens Creek**	**37.11**	**159**	P	**P**	**07 44 20.2**	**-0.5**
	comp=Z,3.2nm,0.4s,baz=329,slow=10.0,SNR=12						
STKA				PcP	**PcP**	**07 46 41.4**	**+0.8**
	comp=Z,2.1nm,0.5s,baz=326,slow=5.9,SNR=3.9						
	comp=Z,3.2nm,0.4s						
MK31	**Makanchi Array**	**58.55**	**325**	P	**P**	**07 47 04.6**	**-1.8**
MK31				IAmb	IAmb	07 47 11.4	
	comp=Z,2.7nm,1.1s						
MKAR	**Makanchi Array**	**58.55**	**325**	P	**P**	**07 47 04.3**	**-2.2**
MKAR	**Makanchi Array**	**58.55**	**325**	P	**P**	**07 47 07.2**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=120,slow=7.9,SNR=12						
MKAR				LR	LR	08 14 40.5	
	comp=Z,38nm,18.0s,baz=12,slow=38						
	comp=Z,1.2nm,0.5s						
RAO	**Raoul Island**	**61.48**	**125**	LR	LR	08 13 40.2	
	comp=Z,56nm,18.2s,baz=306,slow=36						
KURBB	**Kurchatov Arra**	**62.74**	**328**	P	**P**	**07 47 35.7**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=130,slow=6.4,SNR=8.0						
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**68.32**	**327**	P	**P**	**07 48 12.1**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=160,slow=9.0,SNR=3.6						
	comp=Z,0.5nm,0.4s						
AB31	**Akbulak array**	**73.12**	**321**	P	**P**	**07 48 39.9**	**-0.2**
ABKAR	**Akbulak array**	**73.12**	**321**	P	**P**	**07 48 39.9**	**-0.3**
VNDA	**Vanda**	**82.43**	**173**	P	**P**	**07 49 32.1**	**+0.7**
VNDA				IAmb	IAmb	07 49 44.8	
	comp=Z,2.3nm,1.2s						
MAW	**Mawson**	**82.98**	**200**	P	**P**	**07 49 35.7**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=48,slow=4.1,SNR=7.0						
	comp=Z,1.4nm,0.7s						
ILAR	**Eielson Array**	**85.81**	**25**	P	**P**	**07 49 48.9**	**0.0**
	comp=Z,0.3nm,0.9s,baz=212,slow=3.2,SNR=2.4						
	comp=Z,0.3nm,0.9s						
BRTR	**Keskin Array B**	**90.91**	**310**	LR	LR	08 38 46.1	
	comp=Z,15nm,18.5s,baz=316,slow=41						
QSPA	**South Pole Qui**	**92.68**	**180**	P	**P**	**07 50 21.4**	**-0.1**
QSPA	**South Pole Qui**	**92.68**	**180**	P	**P**	**07 50 23.0**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=293,slow=1.9,SNR=8.2						
	comp=Z,0.5nm,0.5s						

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*IDC **30** 07:39:32.5±2.5,0.°60S×127.°94E, h0km, mb3.5/3, mbtmp3.6/3, MS2.9/1, Error ellipse: s-maj=196.9km s-min=29.1km az=67.0*
*DJA **30** 07:39:35.2±0.4,1.°S±3.°×12.°8E±.°, h10km, M3.6/7, MLv3.6/7*
ISC 30 07:39:37.7±1.1, 0°63S±0°06×127°8E±0°1, h35km, n8, σ1s01/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.44**	**344**	P	**Pn**	**07 40 00.8**	**-0.6**
TNTI				S	**Sn**	**07 40 19.9**	**+0.8**
SANI	**Sanana**	**2.26**	**231**	P	**Pn**	**07 40 11.7**	**-0.9**
NLAI	**Namlea**	**2.67**	**194**	P	**Pn**	**07 40 19.3**	**+1.0**
MSAI	**Masohi**	**2.94**	**157**	P	**Pn**	**07 40 21.6**	**-0.4**
KAPI	**Kappang**	**9.10**	**241**	LR	LR	07 45 57.2	
	comp=Z,72nm,21.3s,baz=64,slow=41						
WRA	**Warramunga Arr**	**20.25**	**162**	P	**P**	**07 44 08.8**	**-1.3**
	0.5nm,0.5s,baz=341,slow=12,SNR=2.1						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**23.67**	**166**	P	**P**	**07 44 46.1**	**-0.1**
	0.9nm,0.4s,baz=344,slow=10,SNR=8.0						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**61.71**	**326**	P	**P**	**07 49 53.2**	**+0.7**
	0.2nm,0.3s,baz=117,slow=7.2,SNR=3.0						
	0.2nm,0.3s						

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*IDC **30** 07:39:41.8±1.2,2.°91N×127.°53E, h0km, mb3.8/6, mbtmp3.9/6, MS3.0/2, Error ellipse: s-maj=92.1km s-min=19.0km az=69.0*
ISC 30 07:39:48.6±1.3, 2°8N±0°3×127°5E±0°6, h49km, n8, σ0s90/8, mb3.9/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.89**	**185**	P	**P**	**07 44 27.0**	**+0.1**
	0.9nm,0.4s,baz=13,slow=13,SNR=1.8						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**23.62**	**164**	P	**P**	**07 44 54.4**	**-1.1**
	3.8nm,0.6s,baz=344,slow=10,SNR=11						
WRA				PcP	**PcP**	**07 48 40.6**	**+1.3**
	0.3nm,0.8s,baz=346,slow=2.5,SNR=2.0						
	3.8nm,0.6s						
ASAR	**Alice Springs**	**27.08**	**167**	P	**P**	**07 45 26.3**	**-0.5**
	0.6nm,0.5s,baz=349,slow=7.3,SNR=4.6						
ASAR				PcP	**PcP**	**07 48 48.0**	**+0.9**
	0.3nm,0.5s,baz=0.0,slow=2.8,SNR=4.6						
	0.6nm,0.5s						
STKA	**Stephens Creek**	**37.04**	**160**	P	**P**	**07 46 54.2**	**+0.3**
	2.3nm,0.6s,baz=324,slow=8.2,SNR=5.1						
	2.3nm,0.6s						
USRK	**Ussurisk Ar.**	**41.38**	**5**	LR	LR	08 07 14.3	
	comp=Z,12nm,18.6s,baz=192,slow=40						
MKAR	**Makanchi Array**	**58.71**	**325**	P	**P**	**07 49 40.9**	**-0.5**
	0.4nm,0.4s,baz=122,slow=8.2,SNR=5.5						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**62.89**	**327**	P	**P**	**07 50 09.4**	**-0.2**
	0.6nm,0.6s,baz=132,slow=6.5,SNR=6.1						
	0.6nm,0.6s						
AKTO	**Aktyubinsk**	**74.82**	**322**	LR	LR	08 25 35.8	
	comp=Z,18nm,21.8s,baz=176,slow=37						

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*JMA **30** 08:04:24.5±0.3,23°N±2°×12°3E±°, h48km, MV2.9/11, NEAR ISHIGAKIJIMA ISLAND*
*TAP **30** 08:04:25.8,23.°10N×122.°65E, h44km±1km, mL3.2, D*
ISC 30 08:04:19.6±1.2, 22°96N±0°03×122°75E±0°03, h14km±10km, n87, σ1s02/140, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LDUT	**Ludao**	**1.22**	**257**	*eP*	**Pg**	**08 04 43.5**	**+0.5**
LDUT				*eS*	**Sn**	**08 04 57.6**	**-0.8**
EOS4	**EOS4**	**1.22**	**341**	P	**Pg**	**08 04 43.7**	**+0.6**
EOS4				*i* S	**Sn**	**08 04 57.3**	**-0.8**
CHKH	**Chenggong**	**1.27**	**281**	P	**Pg**	**08 04 44.5**	**+0.4**
CHKH				S	**Sn**	**08 04 57.9**	**-1.8**
CHKT	**Chengkung**	**1.28**	**277**	P	**Pg**	**08 04 44.7**	**+0.4**
CHKT				S	**Sn**	**08 04 58.3**	**-1.7**
HGSD	**Ruisui**	**1.33**	**294**	P	**Pb**	**08 04 44.9**	**+0.5**
HGSD				S	**Sn**	**08 04 59.1**	**-2.1**
EDH	**Donghe**	**1.33**	**271**	P	**Pg**	**08 04 45.9**	**+0.6**
EDH				S	**Sn**	**08 05 00.1**	**-1.2**
TEGC	**Jichi Village**	**1.34**	**304**	*eP*	**Pg**	**08 04 45.3**	**-0.1**
TEGC				*eS*	**Sn**	**08 05 00.7**	**-0.8**
SHUL	**Shoufeng**	**1.37**	**307**	*i P*	**Pg**	**08 04 45.9**	**0.0**
SHUL				*i* S	**Sn**	**08 05 01.0**	**-1.2**
EOS3	**EOS3**	**1.38**	**343**	P	**Pg**	**08 04 46.3**	**+0.2**
EOS3				S	**Sn**	**08 05 02.0**	**-0.3**
TWF1	**Yuli**	**1.39**	**287**	*eP*	**Pg**	**08 04 46.4**	**0.0**
EHYH	**Wanrong**	**1.40**	**293**	*eP*	**Pg**	**08 04 46.5**	**0.0**
EHYH				*eS*	**Sn**	**08 05 02.5**	**-0.5**
YULB	**Yu-li**	**1.41**	**288**	P	**Pg**	**08 04 46.6**	**0.0**
EGFH	**Guangfu**	**1.41**	**300**	P	**Pg**	**08 04 46.5**	**-0.1**
EGFH				*eS*	**Sn**	**08 05 02.7**	**-0.5**
EHY	**Hungye**	**1.42**	**293**	P	**Pg**	**08 04 46.7**	**-0.2**
EHY				S	**Sn**	**08 05 02.7**	**-0.9**
EHD	**Haiduan**	**1.44**	**278**	*eP*	**Pg**	**08 04 47.0**	**-0.2**
EHD				*eS*	**Sn**	**08 05 02.6**	**-1.3**
LAY	**Lan-yu**	**1.44**	**231**	P	**Pg**	**08 04 48.3**	**+1.0**
LYUB	**Lan-yu**	**1.44**	**229**	*eP*	**Pg**	**08 04 47.9**	**+0.7**
LYUB				*eS*	**Sg**	**08 05 05.2**	**-0.8**
HATJ	**Hateruma jima**	**1.46**	**41**	P	**Pg**	**08 04 48.4**	**+0.7**
HATJ				*eS*	**Sg**	**08 05 05.3**	**-1.4**
WARBT	**Fenglin Townsh**	**1.46**	**301**	P	**Pb**	**08 04 47.0**	**+0.4**
WARBT				S	**Sn**	**08 05 02.9**	**-1.7**
LONT	**Longtian**	**1.50**	**268**	*eP*	**Pg**	**08 04 48.8**	**+0.5**
YOJ	**Yonaguni jima**	**1.52**	**9**	P	**Pg**	**08 04 49.1**	**+0.4**
YOJ				*eS*	**Sb**	**08 05 06.5**	**0.0**
YOJ	**Yonaguni jima**	**1.52**	**9**	P	**Pg**	**08 04 49.1**	**+0.4**
YOJ				S	**Sb**	**08 05 06.8**	**+0.2**
EOS2	**EOS2**	**1.53**	**342**	*eP*	**Pg**	**08 04 48.7**	**-0.3**
EOS2				*eS*	**Sb**	**08 05 06.4**	**-0.4**
ETM	**Tongmen**	**1.53**	**311**	*eP*	**Pb**	**08 04 47.6**	**-0.1**
TWD	**Chiawan**	**1.54**	**317**	*eP*	**Pb**	**08 04 47.5**	**-0.4**
TWD				*eS*	**Sn**	**08 05 03.6**	**-2.8**
TWGBT	**Beinan**	**1.55**	**265**	P	**Pg**	**08 04 49.9**	**+0.5**
TWGBT				*eS*	**Sb**	**08 05 06.4**	**-1.1**
TWG	**Pinlang**	**1.55**	**265**	P	**Pg**	**08 04 49.9**	**+0.4**
TWG				*eS*	**Sn**	**08 05 06.3**	**-0.5**

JISG	**Ishigakijimahi**	**2.16**	**41**	P		**Pb**	**08 04 58.0**	**-0.5**
JISG				*e*S		**Sn**	**08 05 22.1**	**+0.3**
TIPB	**Shuangxi**	**2.17**	**337**	*e*P		**Pb**	**08 04 58.9**	**+0.2**
TIPB				S		**Sn**	**08 05 22.0**	**-0.1**
SXI1	**Grass Mountain**	**2.27**	**340**	*e*P		**Pb**	**08 04 58.6**	**-1.8**
TWQ1	**Liyutan**	**2.28**	**308**	*e*P		**Pb**	**08 05 01.0**	**+0.4**
TWQ1				*e*S		**Sb**	**08 05 26.9**	**-1.7**
NSTT	**Nanjuang**	**2.31**	**316**	*e*P		**Pb**	**08 05 01.0**	**0.0**
NSTT				*e*S		**Sn**	**08 05 25.9**	**+0.4**
LIOB	**Emei**	**2.31**	**317**	P		**Pb**	**08 05 01.3**	**+0.3**
NSY	**Sanyi**	**2.33**	**309**	*e*P		**Pb**	**08 05 02.5**	**+1.2**
YM01	**YM01**	**2.43**	**334**	*e*P		**Pb**	**08 05 03.8**	**+0.7**
YM01				*e*S		**Sn**	**08 05 29.8**	**+1.3**
JTJ	**Tarama**	**2.45**	**46**	P		**Pb**	**08 05 02.5**	**-0.9**
JTJ				S		**Sb**	**08 05 30.2**	**-3.2**
WDGT	**Dungji**	**2.86**	**277**	*e*P		**Pb**	**08 05 08.8**	**-1.6**
VCHM	**Qimei**	**3.07**	**275**	*e*P		**Pb**	**08 05 11.1**	**-2.8**
VCHM				*e*S		**Sn**	**08 05 45.6**	**+1.4**
VWUC	**VWUC**	**3.63**	**304**	*e*P		**Pn**	**08 05 18.6**	**+3.1**
VWUC				S		**Sn**	**08 05 57.8**	**-0.3**
PTMZ	**Houxiangcun**	**3.91**	**303**	*e*P		**Pn**	**08 05 22.5**	**+3.3**
PTMZ				S		**Sn**	**08 06 03.9**	**-1.1**

OSPL ***30*** *08:10:44.8±3.0, 19°.13N×69°.56W, h3km±20km, ML2.6*

SDD 30 08:10:44.7±3.9, 19°.08N×69°.57W, h15km±35km, MD2.4, ML2.8, MW3.0, 15C-6D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATOM	**Hato Mayor del**	**0.34**	**149**	⇑*e*Pg	Pg	08 10 51.1	-0.7
HATOM				⇑*e*Sg	Sb	08 10 57.3	-0.6
NADR	**Nagua**	**0.38**	**315**	⇑*e*Pg	Pg	08 10 50.8	-1.7
NADR				⇑*e*Sg	Sg	08 10 57.8	0.0
NAG1	**Nagua**	**0.39**	**314**	⇑*e*Pg	Pg	08 10 50.8	-1.8
NAG1				⇓*e*Sg	Sg	08 10 57.8	-0.1
LONA1	**Toro Cenizo, N**	**0.41**	**317**	*i* P	Pg	08 10 51.4	-1.6
LONA1				*e*S	Sg	08 10 58.5	0.0
LONA1				IAML		08 10 60.0	
	comp=Z,2µm,9.3s						
SMDR	**Samana, DR**	**0.41**	**60**	*e*Pg	Pg	08 10 50.6	-2.5
SMDR				⇑*e*Pg	Pn	08 10 58.1	+1.9
SMDR				*e*Sg	Sg	08 10 58.1	-0.6
SMDR				IAML		08 10 58.9	
	comp=N,1µm,0.1s						
DR08	**Loma La Naviza**	**0.45**	**254**	⇓*e*Pg	Pg	08 10 52.2	-1.4
DR08				⇑*e*Sg	Sg	08 10 58.9	-0.8
MIDR	**Miches**	**0.50**	**101**	⇑*e*Pg	Pg	08 10 52.7	-2.0
MIDR				⇑*e*Pg	Pg	08 10 52.7	-2.0
MIDR				⇑*e*Sg	Sg	08 11 00.1	-1.2
MIDR				⇑*e*Sg	Sb	08 11 00.7	-1.7
MIDR				IAML		08 11 01.5	
	comp=N,183nm,0.1s						
SDD	**Santo Domingo**	**0.70**	**208**	⇓*e*Pg	Pg	08 10 56.9	-1.5
SDD				⇑*e*Sg	Sg	08 11 07.8	+0.1
SDD	**Santo Domingo**	**0.70**	**208**	*i* P	Pg	08 10 57.0	-1.5
SDD				*e*S	Sg	08 11 07.5	-0.2
HIDR	**Higuey Centro**	**0.94**	**121**	⇓*e*Pg	Pb	08 11 00.2	-2.6
HIDR				⇑*e*Sg	Sb	08 11 13.7	-1.4
HIDR				IAML		08 11 37.3	
	comp=N,282nm,0.2s						
BANI	**BANI**	**1.02**	**228**	⇓*e*Pg	Pb	08 11 02.2	-1.8
BANI				⇑*e*Sg	Sb	08 11 16.1	-1.2
BANI				IAML		08 11 37.7	
	comp=N,463nm,0.2s						
SC01	**Santiago de lo**	**1.15**	**288**	⇓*e*Pg	Pn	08 11 04.8	-1.4
SC01				IAML		08 11 45.7	
	comp=N,209nm,0.2s						
SC01	**Santiago de lo**	**1.15**	**288**	*i* P	Pn	08 11 04.8	-1.5
SC01				*e*S	Sg	08 11 22.2	+0.4
PCDR	**Punta Cana, DR**	**1.26**	**117**	⇑*e*Pg	Pn	08 11 05.8	-2.0
PCDR				IAML		08 11 49.6	
	comp=N,215nm,1.1s						
SDDR	**Presa de Saban**	**1.63**	**267**	*i* P	Pn	08 11 12.7	-0.2
SDDR				*e*S	Sn	08 11 32.8	-0.9
SDDR				IAML		08 11 40.6	
	comp=Z,30nm,0.8s						
LOPP1	**Punta Rusia, P**	**1.72**	**297**	*i* P	Pn	08 11 12.8	-1.3
LOPP1				*e*S	Sn	08 11 33.2	-2.6
LOPP1				IAML		08 11 37.7	
	comp=Z,48nm,0.6s						
LODU1	**El Espartillar**	**1.95**	**248**	*i* P	Pb	08 11 18.7	-1.2
LODU1				IAML		08 11 39.5	
	comp=Z,40nm,0.3s						
LOVI	**El Cajuil, Ovi**	**2.13**	**233**	*i* P	Pn	08 11 20.8	+1.0
LOVI				IAML		08 11 50.2	
	comp=Z,77nm,1.1s						
AGPR	**Aguadilla, PR**	**2.41**	**104**	*i* P	Pn	08 11 23.4	-0.2
AGPR				IAML		08 11 51.3	
	comp=Z,55nm,1.9s						
CRPR	**Cabo Rojo, PR**	**2.57**	**114**	*i* P	Pn	08 11 26.3	+0.6
CRPR				IAML		08 11 49.6	
	comp=Z,36nm,1.4s						

SDD 30 08:11:04.1±1.5, 19°.14N×69°.54W, h36km±14km, MD2.7, ML2.9, MW3.0, 5C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMDR	**Samana, DR**	**0.36**	**66**	*e*Pg	Pn	08 11 11.7	-0.9
SMDR				*e*Sg	Sn	08 11 18.4	-0.8
SMDR				IAML		08 11 19.5	
	comp=N,950nm,0.2s						
NADR	**Nagua**	**0.37**	**305**	*e*Pg	Pn	08 11 11.7	-1.0
NADR				⇑*e*Sg	Sn	08 11 18.9	-0.4
NADR				IAML		08 11 18.9	
	comp=N,3µm,0.2s						
NAG1	**Nagua**	**0.38**	**304**	*e*Pg	Pn	08 11 11.7	-1.1
NAG1				*e*Sg	Sn	08 11 18.4	-1.0
HATOM	**Hato Mayor del**	**0.38**	**157**	⇓*e*Pg	Pn	08 11 11.7	-1.2
HATOM				⇑*e*Sg	Sn	08 11 17.8	-1.8
HATOM				IAML		08 11 18.2	
	comp=N,2µm,0.6s						
MIDR	**Miches**	**0.49**	**109**	⇓*e*Pg	Pn	08 11 13.3	-1.2
MIDR				*e*Pg		08 11 13.5	
MIDR				⇑*e*Sg	Sn	08 11 20.8	-1.0
MIDR				IAML		08 11 21.1	
	comp=N,217nm,0.5s						
MIDR				IAML		08 11 21.1	
	comp=N,214nm,0.5s						
MIDR				⇑*e*Sg		08 11 21.1	
MIDR				IAML		08 11 23.4	
	comp=N,86nm,0.3s						
DR08	**Loma La Naviza**	**0.49**	**249**	⇑*e*Pg	Pn	08 11 13.0	-1.6
DR08				IAML		08 11 19.9	
	comp=N,48µm,0.1s						
DR08				*e*Sg	Sn	08 11 20.2	-1.8
SD01	**Santo Domingo**	**0.76**	**208**	*e*Pg	Pn	08 11 17.7	-0.6
SD01				*e*Sg	Sn	08 11 27.9	-0.7
SDD	**Santo Domingo**	**0.77**	**208**	*e*Pg	Pn	08 11 17.7	-0.7
SDD				*e*Sg	Sn	08 11 27.9	-0.8
SDD				IAML		08 11 29.9	
	comp=N,46nm,0.5s						

BJI ***30*** *08:19:38.0, 3°.00S×129°.40E, h10km, mB4.8/6, mb4.7/32, Ms7 4.4/1*

DJA ***30*** *08:19:40.8±0.5, 3°.S±2°×12°.9E±°, h12km±4km, M4.9/44, mb5.0/44, mB5.4/24, MLv5.0/18, Mw(mB)4.8/24, MwMwp4.4/1, Mwp4.8/1*

NEIC ***30*** *08:19:41.1±1.3, 2°.99S±0°.07×129°.37E±0°.07, h20km±4km, mb4.9/90, Error ellipse: s-maj=10.4km s-min=8.7km az=218.0*

IDC ***30*** *08:19:42.3±4.6, 3°.02S×129°.38E, h33km±35km, mb4.3/19, mbtmp4.5/22, ML4.4/3, MS3.6/26, Error ellipse: s-maj=22.8km s-min=11.2km az=81.0*

ISC 30 08:19:41.7±0.3, 3°.00S±0°.04×129°.43E±0°.04, h28km, n205, σ1s61/158, mb4.8/64, MS3.6/23, 3C-2D, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.61**	**235**	P	Pb	**08 19 54.1**	**+0.2**
MSAI				S	Sn	**08 20 04.9**	**+1.4**
AAI	**Ambon**	**1.41**	**241**	P	Pn	**08 20 07.4**	**+1.8**
BNDI	**Bandanaira**	**1.59**	**163**	P	Pb	**08 20 12.0**	**+1.6**
BNDI	**Bandanaira**	**1.59**	**163**	P	Pb	**08 20 12.0**	**+1.6**
NLAI	**Namlea**	**2.34**	**264**	P	Pn	**08 20 19.0**	**+0.7**
SWI	**Sorong**	**2.80**	**41**	P	Pn	**08 20 24.0**	**-0.6**
FAKI	**Fak Fak**	**2.81**	**89**		Pn	**08 20 26.1**	**+1.2**
FAKI	**Fak Fak**	**2.81**	**89**	P	Pn	**08 20 25.7**	**+0.9**
FAKI	**Fak Fak**	**2.81**	**89**	P	Pn	**08 20 25.8**	**+0.9**
SANI	**Sanana**		**3.57**	**285**	P	Pn	**08 20 34.1**	**-1.1**
SANI	**Sanana**		**3.57**	**285**	S	Sn	**08 21 14.6**	**-1.9**
SANI	**Sanana**		**3.57**	**285**	P	Pn	**08 20 33.9**	**-1.3**
TNTI	**Ternate**		**4.28**	**331**		Pn	**08 20 44.4**	**-0.6**
TNTI	**Ternate**		**4.28**	**331**	P	Pn	**08 20 43.4**	**-1.6**
KMPI	**Kaimana, Papua**		**4.32**	**99**	P	Pn	**08 20 47.4**	**+1.9**
RKPI	**Ransiki, Papua**		**4.97**	**73**	P	Pn	**08 20 54.4**	**-0.1**
SAUI	**Saumlaki**		**5.29**	**160**	Pn	Pn	**08 20 59.0**	**+0.1**
KMSI	**Cibinong**		**6.50**	**303**	P	Pn	**08 21 14.0**	**-1.6**
BAKI	**Biak**		**6.91**	**75**	P	Pn	**08 21 22.6**	**+1.4**
	0.6nm2µm180nm,0.6s							
LUWI	**Luwuk**		**6.93**	**286**	P	Pn	**08 21 20.6**	**-0.9**
	0.9nm3µm162nm,0.7s							
APSI	**Ampana**		**8.05**	**285**	P	Pn	**08 21 36.6**	**-0.2**
MRSI	**Marisa**		**8.24**	**295**	P	Pn	**08 21 38.0**	**-1.5**
	2µm150nm,0.6s							
SOEI	**Soe**		**8.45**	**217**	P	Pn	**08 21 45.9**	**+3.4**
	111nm,0.7s							
BATI	**Baumata**		**9.17**	**218**	Pn	Pn	**08 21 52.8**	**+0.5**
	5.8nm,0.3s,baz=329,slow=1.8,SNR=3.7							
	25nm,0.3s							
BNSI	**Bone**		**9.41**	**261**	P	Pn	**08 21 55.7**	**+0.2**
	765nm41nm,0.7s							
BSSI	**Bau Bau, Buton**		**9.45**	**250**	P	Pn	**08 21 57.7**	**+1.7**
	1µm151nm,0.9s							
DRS	**Darwin Rock St**		**9.49**	**171**	P	Pn	**08 21 58.9**	**+2.3**
DRS	**Darwin Rock St**		**9.49**	**171**	S	Sn	**08 23 46.5**	**+4.2**
TOLI2	**Tolitoli**		**9.56**	**295**		Pn	**08 21 56.1**	**-1.5**
TOLI2	**Tolitoli**		**9.56**	**295**	P	Pn	**08 21 56.3**	**-1.3**
BKSI	**Bulukumba**		**9.57**	**256**	P	Pn	**08 22 00.1**	**+2.4**
	946nm88nm,1.0s							
EDFI	**Ende, Flores**		**9.59**	**233**	P	Pn	**08 22 02.3**	**+4.2**
	38nm,0.8s							
TTSI	**Tana Toraja**		**9.60**	**269**	P	Pn	**08 21 59.2**	**+1.1**
SPSI	**Sidrap Palu**		**9.69**	**264**	P	Pn	**08 22 02.2**	**+2.8**
	904nm48nm,0.7s							
PCI	**Palu**		**9.81**	**282**	P	Pn	**08 22 00.2**	**-0.8**
	142nm,1.0s							
KAPI	**Kappang**		**9.86**	**258**	Pn	Pn	**08 22 05.1**	**+3.4**
	3.2nm,0.3s,baz=66,slow=7.4,SNR=27							
KAPI					LR	LR	08 26 29.6	
	comp=Z,796nm,21.3s,baz=76,slow=42							
KDU	**Kakadu**		**10.09**	**163**	P	Pn	**08 22 05.0**	**+0.2**
MPSI	**Mapaga**		**10.09**	**289**	P	Pn	**08 22 05.5**	**+0.7**
	731nm40nm,0.7s							
GENI	**Genyem**		**10.73**	**88**	P	Pn	**08 22 14.3**	**+0.7**
	4µm149nm,0.9s							
JAY	**Jayapura**		**11.27**	**88**	Pn	Pn	**08 22 21.9**	**+0.9**
	1.5nm,0.3s,baz=228,slow=10,SNR=5.7							
JAY					LR	LR	08 28 05.2	
	comp=Z,433nm,19.8s,baz=242,slow=44							
	14nm,0.7s							
JAY	**Jayapura**		**11.27**	**88**	P	Pn	**08 22 21.9**	**+0.9**
BASI	**Baing, Sumba**		**11.35**	**230**	P	Pn	**08 22 25.1**	**+3.0**
	157nm,1.8s							
WBSI	**Waikabubak, Su**		**11.96**	**236**	P	Pn	**08 22 33.3**	**+2.8**
	45nm,0.6s							
KNRA	**Kununurra**		**12.62**	**183**		Pn	**08 22 39.9**	**+0.4**
PLAI	**Plampang**		**12.96**	**243**	P	Pn	**08 22 45.0**	**+0.9**
PLAI	**Plampang**		**12.96**	**243**	P	Pn	**08 22 46.8**	**+2.7**
	1µm54nm,0.9s							
MYLDM	**Lahad Datu**		**13.61**	**307**		Pn	**08 22 52.2**	**-0.8**
MYLDM	**Lahad Datu**		**13.61**	**307**	P	Pn	**08 22 50.8**	**-2.2**
TWSI	**Taliwang, Sumb**		**13.72**	**245**	P	Pn	**08 22 56.2**	**+1.7**
	49nm,0.9s							
SRBI	**Singaraja**		**15.03**	**250**	P	Pn	**08 23 14.0**	**+1.7**
FITZ	**Fitzroy Crossi**		**15.46**	**194**		Pn	**08 23 17.0**	**-1.0**
FITZ	**Fitzroy Crossi**		**15.46**	**194**	Pn	Pn	**08 23 17.2**	**-0.8**
	1.2nm,0.3s,baz=24,slow=13,SNR=30							
FITZ					Sn	**Sn**	**08 26 06.8**	**-1.7**
	0.2nm,0.3s,baz=73,slow=15,SNR=1.7							
FITZ					LR	LR	08 30 11.3	
	comp=Z,416nm,18.8s,baz=20,slow=41							
	18nm,0.7s							
KMMI	**Kalianget**		**15.92**	**255**	P	Pn	**08 23 26.8**	**+2.9**
	3µm64nm,0.8s							
JAGI	**Jajag, Banyuwa**		**16.14**	**250**	P	Pn	**08 23 28.8**	**+2.0**
	50nm,1.4s							
GMJI	**Gumukmas**		**16.75**	**251**	P	Pn	**08 23 36.7**	**+2.2**
	34nm,1.0s							
WB0	**Warramunga Arr**		**17.36**	**164**		Pn	**08 23 38.8**	**-3.4**
COEN	**Coen**		**17.40**	**130**		Pn	**08 23 42.3**	**-0.4**
COEN					IAmb	IAmb	08 23 52.5	
	comp=Z,151nm,2.0s							
COEN	**Coen**		**17.40**	**130**	P	Pn	**08 23 42.5**	**-0.2**
WRAB	**Tennant Creek**		**17.50**	**164**	P	Pn	**08 23 44.2**	**+0.2**
WRA	**Warramunga Arr**		**17.51**	**164**	P	Pn	**08 23 42.3**	**-1.7**
WRA	**Warramunga Arr**		**17.51**	**164**	P	Pn	**08 23 40.1**	**-3.9**
	comp=Z,20nm,0.6s,baz=342,slow=12,SNR=48							
WRA					S	**Sn**	**08 26 50.1**	**-8.2**
	comp=Z,1.2nm,0.7s,baz=333,slow=24,SNR=1.6							
WRA					LR	LR	08 31 16.6	
	comp=Z,282nm,19.0s,baz=346,slow=40							
WR8	**Warramunga Arr**		**17.57**	**164**	P	Pn	**08 23 42.7**	**-2.0**
SBUM	**Sibu**		**18.04**	**287**	P	Pn	**08 23 49.6**	**-0.9**
NGJI	**Ngawi**		**18.41**	**256**	P	Pn	**08 23 56.8**	**+1.7**
PMG	**Port Moresby**		**18.73**	**111**	LR	LR	08 32 44.9	
	comp=Z,153nm,21.8s,baz=304,slow=42							
WOJI	**Wonogiri, Jawa**		**19.04**	**255**	P	**P**	**08 24 01.9**	**+0.1**
	comp=Z,102nm,1.1s							
SMRI	**Semarang**		**19.34**	**257**	P	**P**	**08 24 06.5**	**+1.4**
	comp=Z,96nm,1.1s							
UGM	**Wanagama**		**19.44**	**255**	P	**P**	**08 24 07.7**	**+1.4**
	comp=Z,77nm,1.6s							
QIS	**Mount Isa**		**20.08**	**151**	P	**P**	**08 24 12.9**	**-0.2**
MBWA	**Marble Bar**		**20.37**	**207**	P	**P**	**08 24 15.0**	**-1.3**
MBWA					IAmb	IAmb	08 24 21.9	
	comp=Z,116nm,1.9s							
MBWA	**Marble Bar**		**20.37**	**207**	P	**P**	**08 24 14.8**	**-1.5**
PSA00	**Pilbara Seismi**		**20.68**	**206**	P	**P**	**08 24 18.4**	**-1.4**
PSA00	**Pilbara Seismi**		**20.68**	**206**	P	**P**	**08 24 18.5**	**-1.2**
PSA00					IAmb	IAmb	08 24 33.7	
	comp=Z,44nm,1.2s							
PSA00	**Pilbara Seismi**		**20.68**	**206**	P	**P**	**08 24 18.3**	**-1.4**
AS31	**Alice Springs**		**21.00**	**168**	P	**P**	**08 24 22.9**	**-0.2**
AS31					IAmb	IAmb	08 24 27.8	
	comp=Z,30nm,0.5s							
ASAR	**Alice Springs**		**21.00**	**168**	P	**P**	**08 24 22.9**	**-0.2**
ASAR	**Alice Springs**		**21.00**	**168**	P	**P**	**08 24 22.8**	**-0.3**
	comp=Z,48nm,0.6s,baz=348,slow=8.9,SNR=343							
ASAR					S	**S**	**08 28 10.5**	**-5.3**
	comp=Z,8.7nm,1.0s,baz=349,slow=19,SNR=7.0							
ASAR					PcP	**PcP**	**08 28 30.1**	**+0.1**
	comp=Z,2.9nm,0.5s,baz=4.0,slow=1.5,SNR=9.4							
ASAR					LR	LR	08 33 11.2	
	comp=Z,272nm,18.9s,baz=346,slow=38							
	comp=Z,48nm,0.6s							
AS01	**Alice Springs**		**21.01**	**168**	P	**P**	**08 24 22.7**	**-0.5**
KAVG	**Kavieng**		**21.35**	**89**	P	**P**	**08 24 25.1**	**-1.9**
TPI	**Tanjungpandan**		**21.75**	**270**	P	**P**	**08 24 32.1**	**+0.8**
LEM	**Lembang**		**22.06**	**259**	LR	LR	08 34 40.7	
	comp=Z,557nm,18.3s,baz=176,slow=41							
LEM	**Lembang**		**22.06**	**259**	P	**P**	**08 24 35.2**	**+0.4**
	comp=Z,3µmcomp=Z,48nm,1.1s							
BBJI	**Bungbulang**		**22.14**	**258**	P	**P**	**08 24 32.3**	**-3.2**
GUMO	**Guam**		**22.50**	**43**	LR	LR	08 33 19.3	
	comp=Z,90nm,20.0s,baz=238,slow=36							
CTAO	**Charters Tower**		**23.62**	**137**	P	**P**	**08 24 51.4**	**+0.7**
MDSI	**Maura Dua**		**25.24**	**266**	P	**P**	**08 25 05.5**	**-0.1**
MEEK	**Meekatharra**		**25.69**	**203**	P	**P**	**08 25 07.0**	**-2.6**
MYKOM	**Kota Tinggi**		**26.01**	**280**	IAmb	IAmb	08 25 16.8	
	comp=Z,42nm,1.1s							
MORW	**Morawa**		**28.89**	**205**	P	**P**	**08 25 37.3**	**-1.0**
PPI	**Padang Panjang**		**29.13**	**274**	P	**P**	**08 25 41.3**	**+0.7**
IPM	**Ipoh**		**29.34**	**285**	P	**P**	**08 25 42.1**	**-0.4**
JOW	**Kunigami**		**29.68**	**358**	LR	LR	08 35 39.8	
	comp=Z,178nm,21.3s,baz=152,slow=32							
KULM	**Kulim**		**29.91**	**286**	P	**P**	**08 25 47.0**	**-0.4**
KULM					IAmb	IAmb	08 25 50.3	
	comp=Z,16nm,0.9s							
BLDU	**Ballidu**		**29.99**	**202**	P	**P**	**08 25 47.0**	**-1.0**
BBOO	**Buckleboo**		**30.30**	**169**	P	**P**	**08 25 50.2**	**-0.6**
BBOO	**Buckleboo**		**30.30**	**169**	P	**P**	**08 25 49.9**	**-0.9**
STKA	**Stephens Creek**		**30.93**	**160**	P	**P**	**08 25 56.4**	**+0.1**
STKA	**Stephens Creek**		**30.93**	**160**	P	**P**	**08 25 55.9**	**-0.3**
	comp=Z,2.0nm,0.4s,baz=339,slow=8.1,SNR=13							
STKA					LR	LR	08 41 43.7	
	comp=Z,192nm,18.3s,baz=342,slow=43							
	comp=Z,2.0nm,0.4s							
STKA	**Stephens Creek**		**30.93**	**160**	P	**P**	**08 25 56.2**	**-0.1**
HNR	**Honiara**		**30.98**	**103**	LR	LR	08 40 40.5	
	comp=Z,123nm,18.7s,baz=262,slow=40							
HTT	**Hallett**		**31.55**	**165**	P	**P**	**08 26 02.1**	**+0.3**
CMSA	**Cobar Meteorol**		**32.26**	**153**	P	**P**	**08 26 08.0**	**0.0**
SLVN	**Son La**		**34.78**	**315**	IAmb	IAmb	08 26 32.1	
	comp=Z,28nm,1.5s							
JNU	**Nakatsue**		**35.95**	**2**	LR	LR	08 41 04.4	
	comp=Z,123nm,19.3s,baz=180,slow=36							
NJ2	**Nanjing**		**36.27**	**345**	*e*P	**P**	**08 26 44.5**	**+1.8**
NJ2					pmax	pmax		
	comp=Z,9.0nm,1.0s							
CMAR	**Chiang Mai Arr**		**36.82**	**307**	P	**P**	**08 26 47.2**	**-0.5**
CMAR	**Chiang Mai Arr**		**36.82**	**307**	P	**P**	**08 26 48.6**	**+0.9**
	comp=Z,14nm,1.1s,baz=137,slow=7.5,SNR=42							
CMAR					PcP	**PcP**	**08 29 10.5**	**+1.0**
	comp=Z,2.1nm,0.3s,baz=132,slow=3.0,SNR=7.9							
CMAR					LR	LR	08 43 46.0	
	comp=Z,57nm,19.2s,baz=135,slow=39							
	comp=Z,14nm,1.1s							
CHTO	**Chiang Mai**		**37.01**	**307**	P	**P**	**08 26 48.9**	**-0.3**
KMI	**Kunming**		**38.11**	**319**	⇓P	**P**	**08 27 00.5**	**+1.8**
KMI					pmax	pmax		
	comp=Z,24nm,1.0s							
PZH	**PanZhiHua**		**39.70**	**319**	P	**P**	**08 27 12.5**	**+0.5**
PZH					pmax	pmax		
	comp=Z,20nm,0.9s							
MJAR	**Matsushiro Arr**		**40.18**	**11**	P	**P**	**08 27 16.8**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=188,slow=9.6,SNR=5.9							
MJAR					LR	LR	08 43 51.9	
	comp=Z,52nm,20.0s,baz=209,slow=36							
	comp=Z,1.8nm,0.8s							
KSRS	**Korea Array**		**40.27**	**358**	P	**P**	**08 27 15.2**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=41,slow=23,SNR=4.2							
	comp=Z,1.0nm,0.6s							
DZM	**Mont Dzumac**		**40.62**	**121**	*e*LR	LR	08 38 28.7	
	comp=Z,85nm,22.9s							
XAN	**Xi'an**		**41.60**	**334**	*e*P	**P**	**08 27 27.3**	**-0.1**
LZH	**Lanzhou**		**45.64**	**331**	*e*P	P	08 27 56.0	-4.1
LZH					sP	pP	08 28 01.0	-7.6
LZH					pmax	pmax		
	comp=Z,16nm,1.1s							
LZH					LR	LR		
	comp=N,560nm,22.2s							
LZH					LR	LR		
	comp=E,830nm,20.8s							
SHL	**Shillong**		**46.14**	**310**	P	**P**	**08 28 03.7**	**-0.6**
HHC	**Hu-ho-hao-te**		**46.59**	**341**	*e*P	**P**	**08 28 10.0**	**+2.6**
HHC					pmax	pmax		
	comp=E,5.0nm,0.7s							
USRK	**Ussuriysk Ar.**		**47.04**	**3**	P	**P**	**08 28 10.9**	**+0.2**
	comp=E,4.5nm,0.7s,baz=118,slow=4.4,SNR=6.7							
USRK					LR	LR	08 46 59.6	
	comp=E,81nm,21.1s,baz=184,slow=35							
	comp=E,4.5nm,0.7s							
ASAJ	**Asahikawa**		**48.37**	**13**	LR	LR	08 47 55.1	
	comp=E,55nm,21.1s,baz=186,slow=35							
PALK	**Pallekele**		**49.69**	**282**	LR	LR	08 52 13.6	
	comp=E,49nm,18.5s,baz=110,slow=39							
GTA	**Gaotai**		**50.23**	**330**	P	**P**	**08 28 36.0**	**+0.5**
GTA					pmax	pmax		
	comp=E,16nm,1.0s							
EVN	**Everest**		**51.25**	**310**	P	**P**	**08 28 44.1**	**+0.1**
HEH	**HeiHe**		**53.07**	**358**	*e*P	**P**	**08 28 56.8**	**+0.4**
ULN	**Ulaanbaatar**		**54.31**	**342**		**P**	**08 29 06.2**	**+0.5**
SONM	**Songino Array**		**54.49**	**341**	P	**P**	**08 29 07.3**	**+0.3**
SONM	**Songino Array**		**54.49**	**341**	P	**P**	**08 29 06.6**	**-0.4**
	comp=E,3.8nm,1.0s,baz=155,slow=8.6,SNR=13							
SONM					PcP	**PcP**	**08 30 10.0**	**-0.2**
	comp=E,1.6nm,0.7s,baz=153,slow=4.8,SNR=2.4							
	comp=E,3.8nm,1.0s							
TUWZ	**Tuamarina**		**55.27**	**140**	P	**P**	**08 29 13.3**	**+0.7**
WMQ	**Urumqi**		**59.76**	**326**	*e*P	**P**	**08 29 47.0**	**+2.7**
WMQ					LR	LR		
	comp=E,220nm,15.3s							
PETK	**Petropavlovsk-**		**60.73**	**19**	P	**P**	**08 29 51.6**	**+0.9**
	comp=E,13nm,0.8s,baz=203,slow=7.2,SNR=22							
	comp=E,13nm,0.8s							
CASY	**Casey**		**64.55**	**188**	P	**P**	**08 30 15.3**	**-0.6**
CASY					IAmb	IAmb	08 30 15.8	
	comp=Z,4.9nm,0.7s							
MKAR	**Makanchi Array**		**64.60**	**326**	P	**P**	**08 30 16.5**	**-

	comp=Z,2.3nm,1.0s								
SYO	**Syowa Base**	**87.17**	**201**⇑	*e*P		**P**		**08 32 23.4**	**-1.5**
SYO	**Syowa Base**	**87.17**	**201**⇓	*e*PcP		**P**		**08 32 27.2**	**+2.3**
SYO	**Syowa Base**	**87.17**	**201**⇑	*es*P		sP		08 32 35.2	-2.3
IMAR	**Indian Mountai**	**87.37**	**24**	P		**P**		**08 32 26.7**	**+0.8**
SKT	**Skwentna**	**87.48**	**28**	IAmb		IAmb		08 32 34.1	
	comp=Z,14nm,1.9s								
CAST	**Castle Rocks**	**87.52**	**26**	IAmb		IAmb		08 32 50.1	
	comp=Z,12nm,1.7s								
SUA	**Susitna One**	**87.75**	**28**	IAmb		IAmb		08 32 31.9	
	comp=Z,4.7nm,0.8s								
SEW	**Seward**	**88.15**	**30**	IAmb		IAmb		08 32 31.0	
	comp=Z,7.1nm,0.9s								
MLY	**Manley**	**88.41**	**25**	IAmb		IAmb		08 35 02.3	
	comp=Z,7.7nm,1.8s								
E22K	**Anaktuvuk Pass**	**88.58**	**22**	IAmb		IAmb		08 32 48.1	
	comp=Z,7.0nm,1.3s								
PWL	**Port Wells**	**88.81**	**29**	IAmb		IAmb		08 32 39.0	
	comp=Z,6.9nm,0.9s								
RND	**Reindeer**	**88.95**	**26**	IAmb		IAmb		08 32 37.3	
	comp=Z,5.9nm,0.8s								
I23K	**Minto, Yukon-K**	**89.00**	**25**	IAmb		IAmb		08 32 35.3	
	comp=Z,12nm,1.6s								
E23K	**Chandalar**	**89.38**	**22**	IAmb		IAmb		08 32 47.1	
	comp=Z,3.9nm,0.9s								
KBZ	**Khabaz**	**89.54**	**314**	P		**P**		**08 32 36.0**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=135,slow=7.9,SNR=4.5								
	comp=Z,2.7nm,0.9s								
TAOE	**Nuku Hiva Isla**	**89.96**	**99**	*e*LR		LR		09 01 09.3	
	comp=Z,84nm,24.9s								
ILAR	**Eielson Array**	**89.99**	**25**	P		**P**		**08 32 36.9**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=254,slow=4.6,SNR=7.7								
	comp=Z,0.8nm,0.8s								
BMAR	**Burnt Mountain**	**91.20**	**23**	P		**P**		**08 32 44.6**	**+0.6**
J26L	**Joseph Creek**	**91.39**	**26**	IAmb		IAmb		08 32 50.1	
	comp=Z,2.8nm,0.8s								
G26K	**Porcupine Rive**	**91.47**	**23**	IAmb		IAmb		08 32 46.8	
	comp=Z,4.4nm,0.9s								
L27K	**Beaver Creek,**	**92.08**	**27**	IAmb		IAmb		08 33 02.7	
	comp=Z,12nm,1.9s								
I28M	**Miner Creek**	**92.97**	**25**	IAmb		IAmb		08 32 57.4	
	comp=Z,6.4nm,1.0s								
I29M	**Ogilvie Camp,**	**93.65**	**25**	IAmb		IAmb		08 34 00.3	
	comp=Z,4.1nm,0.6s								
G29M	**Pine Creek**	**93.74**	**23**	P		**P**		**08 32 56.2**	**+0.5**
G29M				IAmb		IAmb		08 32 56.3	
	comp=Z,4.2nm,0.9s								
L29M	**L29M**	**93.76**	**27**	IAmb		IAmb		08 32 57.8	
	comp=Z,3.6nm,0.9s								
K29M	**Barlow Dome**	**94.02**	**26**	IAmb		IAmb		08 32 59.7	
	comp=Z,4.9nm,1.2s								
INK	**Inuvik**	**95.38**	**22**	IAmb		IAmb		08 33 04.0	
	comp=Z,9.0nm,1.4s								
BRTR	**Keskin Array B**	**96.36**	**309**	P		**P**		**08 33 07.0**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=134,slow=5.3,SNR=4.0								
	comp=Z,0.8nm,0.9s								
SNAA	**Sanae**	**99.40**	**194**	⇑P		**Pdif**		**08 33 21.5**	**+0.2**
	comp=Z,19nm,0.8s								
SNAA	**Sanae**	**99.40**	**194**	P		**Pdif**		**08 33 21.8**	**+0.4**
SNAA	**Sanae**	**99.40**	**194**	P		**Pdif**		**08 33 21.2**	**-0.2**
	comp=Z,1.2nm,1.0s,baz=77,slow=4.8,SNR=3.6								
	comp=Z,1.2nm,1.0s								
TORD	**Torodi Ar. Bea**	**127.38**	**284**	PKP		**PKPdf**		**08 38 45.1**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=69,slow=3.7,SNR=2.2								
PLCA	**Paso Flores**	**132.80**	**159**	PKP		**PKPdf**		**08 38 54.9**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=180,slow=3.0,SNR=5.0								
CPUP	**Villa Florida**	**150.12**	**168**	PKPbc		**PKPbc**		**08 39 31.0**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=246,slow=2.2,SNR=18								
LPAZ	**La Paz**	**154.14**	**138**	PKPbc		**PKPbc**		**08 39 41.5**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=192,slow=4.1,SNR=5.0								

*IDC **30** 08:34:09.8±2.2, 17°.73S×178°.73W, h541km±22km, mb3.5/13, mbtmp4.3/14, Error ellipse: s-maj=17.4km s-min=15.6km az=64.0*
*NEIC **30** 08:34:15.3±1.4, 17°.9S±0°.1×179°.0W±0°.1, h577km±8km, mb4.4/31, Error ellipse: s-maj=21.2km s-min=19.3km az=153.0*

ISC 30 08:34:12.1±0.5, **17°.8S**±0°.1×**178°.81W**±0°.10, **h562**km, **n66**, σ1°**08**/68, **mb4.4**/30, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**2.99**	**270**			**P**	**08 35 30.8**	**+2.6**
DZM	**Mont Dzumac**	**14.51**	**250**			**P**	**08 37 16.0**	**-0.5**
DZM	**Mont Dzumac**	**14.51**	**250**	P		**P**	**08 37 15.8**	**-0.8**
	10nm,0.6s,baz=88,slow=19,SNR=15							
URZ	**Urewera**	**20.72**	**189**	P		**P**	**08 38 12.0**	**-2.0**
	11nm,0.7s,baz=37,slow=16,SNR=6.8							
	11nm,0.7s							
LTZ	**Lake Taylor**	**26.06**	**195**	P		**P**	**08 39 01.0**	**-0.4**
EIDS	**Eidsvold**	**28.95**	**250**			**P**	**08 39 26.9**	**-0.1**
EIDS				IAmb		IAmb	08 39 27.5	
	comp=Z,10nm,0.8s							
ARMA	**Armidale**	**29.68**	**239**	P		**P**	**08 39 34.5**	**+1.2**
ARMA				IAmb		IAmb	08 39 35.0	
	comp=Z,12nm,0.7s							
CTAO	**Charters Tower**	**33.09**	**260**	P		**P**	**08 40 02.3**	**-0.1**
CTAO				IAmb		IAmb	08 40 02.9	
	comp=Z,9.6nm,0.8s							
PMG	**Port Moresby**	**34.06**	**280**	P		**P**	**08 40 11.9**	**+1.3**
PMG	**Port Moresby**	**34.06**	**280**	P		**P**	**08 40 11.1**	**+0.5**
	comp=Z,22nm,0.8s,baz=113,slow=9.5,SNR=4.4							
	comp=Z,22nm,0.8s							
COEN	**Coen**	**36.72**	**270**			**P**	**08 40 32.9**	**+0.2**
COEN				IAmb		IAmb	08 40 33.7	
	comp=Z,15nm,0.8s							
TOO	**Toolangi**	**36.96**	**230**			**P**	**08 40 35.1**	**+0.8**
TOO				IAmb		IAmb	08 40 36.1	
	comp=Z,6.8nm,0.8s							
STKA	**Stephens Creek**	**38.36**	**241**			**P**	**08 40 46.6**	**+0.8**
STKA	**Stephens Creek**	**38.36**	**241**	P		**P**	**08 40 46.2**	**+0.3**
	comp=Z,8.4nm,0.4s,baz=91,slow=9.6,SNR=29							
	comp=Z,8.4nm,0.4s							
JAY	**Jayapura**	**42.50**	**286**	P		**P**	**08 41 19.0**	**-0.1**
	comp=Z,12nm,0.8s,baz=180,slow=6.1,SNR=4.3							
	comp=Z,12nm,0.8s							
BBOO	**Buckleboo**	**43.14**	**241**			**P**	**08 41 24.0**	**+0.2**
WR0	**Warramunga Arr**	**44.09**	**259**	P		**P**	**08 41 31.4**	**0.0**
WR8	**Warramunga Arr**	**44.13**	**259**			**P**	**08 41 30.4**	**-1.2**
WR8				IAmb		IAmb	08 41 31.5	
	comp=Z,10nm,1.1s							
WB0	**Warramunga Arr**	**44.24**	**260**			**P**	**08 41 31.4**	**-1.2**
WB0				IAmb		IAmb	08 41 32.3	
	comp=Z,7.7nm,0.8s							
WB2	**Warramunga Arr**	**44.27**	**259**	P		**P**	**08 41 31.7**	**-1.0**
WB2				IAmb		IAmb	08 41 32.6	
	comp=Z,10.0nm,0.7s							
WRAB	**Tennant Creek**	**44.27**	**259**	P		**P**	**08 41 31.6**	**-1.1**
WRAB				IAmb		IAmb	08 41 32.5	
	comp=Z,7.6nm,0.6s							
WRA	**Warramunga Arr**	**44.28**	**259**			**P**	**08 41 31.4**	**-1.4**
WRA	**Warramunga Arr**	**44.28**	**259**	P		**P**	**08 41 31.4**	**-1.4**
	comp=Z,5.5nm,0.6s,baz=99,slow=6.9,SNR=144							
WRA				PcP		**PcP**	**08 43 04.2**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=89,slow=3.4,SNR=7.3							
WRA				ScP		**ScP**	**08 46 05.0**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=92,slow=3.3,SNR=2.7							
	comp=Z,5.5nm,0.6s							
AS31	**Alice Springs**	**44.46**	**254**			**P**	**08 41 33.9**	**-0.3**
AS31				IAmb		IAmb	08 41 34.5	
	comp=Z,18nm,0.6s							
ASAR	**Alice Springs**	**44.46**	**254**			**P**	**08 41 33.4**	**-0.8**
ASAR	**Alice Springs**	**44.46**	**254**	P		**P**	**08 41 33.9**	**-0.3**
	comp=Z,59nm,0.6s,baz=88,slow=8.2,SNR=1128							
ASAR				PcP		**PcP**	**08 43 04.9**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=96,slow=3.6,SNR=6.9							
ASAR				ScP		**ScP**	**08 46 06.5**	**+2.1**
	comp=Z,0.5nm,0.8s,baz=86,slow=4.9,SNR=3.4							
MTN	**Manton Dam**	**48.42**	**268**	P		**P**	**08 42 03.4**	**-0.8**
MTN				IAmb		IAmb	08 42 03.9	
	comp=Z,14nm,0.9s							
KNRA	**Kununurra**	**50.12**	**264**			**P**	**08 42 15.9**	**-0.7**
KNRA				IAmb		IAmb	08 42 16.8	
	comp=Z,15nm,0.7s							
FITZ	**Fitzroy Crossi**	**52.67**	**261**	P		**P**	**08 42 35.0**	**-0.1**
SOEI	**Soe**	**55.69**	**270**	P		**P**	**08 42 57.6**	**+1.2**
PSA00	**Pilbara Seismi**	**57.57**	**255**	P		**P**	**08 43 08.7**	**-0.5**
PSA00	**Pilbara Seismi**	**57.57**	**255**	P		**P**	**08 43 08.6**	**-0.5**
PSA00				IAmb		IAmb	08 43 09.2	
	comp=Z,17nm,0.8s							
MBWA	**Marble Bar**	**57.73**	**256**	P		**P**	**08 43 09.5**	**-0.7**
MBWA				IAmb		IAmb	08 43 09.9	
	comp=Z,12nm,0.8s							
MORW	**Morawa**	**60.18**	**246**	P		**P**	**08 43 25.9**	**-0.6**
GIRL	**Giralia**	**62.56**	**253**	P		**P**	**08 43 43.1**	**+0.9**
CASY	**Casey**	**66.10**	**205**	P		**P**	**08 44 04.3**	**+0.6**
MJAR	**Matsushiro Arr**	**67.57**	**324**	P		**P**	**08 44 12.2**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=158,slow=6.2,SNR=4.0							
	comp=Z,1.4nm,0.6s							
UGM	**Wanagama**	**69.27**	**268**	P		**P**	**08 44 23.6**	**-0.4**
QSPA	**South Pole Qui**	**72.28**	**180**	P		**P**	**08 44 42.0**	**+1.1**
QSPA	**South Pole Qui**	**72.28**	**180**	P		**P**	**08 44 41.5**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=351,slow=0.9,SNR=21							
	comp=Z,2.4nm,0.8s							
KSM	**Kuching**	**72.28**	**277**	P		**P**	**08 44 42.3**	**+0.6**
KSM				IAmb		IAmb	08 44 42.8	
	comp=Z,14nm,0.8s							
LEM	**Lembang**	**72.33**	**268**	P		**P**	**08 44 42.0**	**-0.2**
	comp=Z,36nm,0.6s,baz=130,slow=7.0,SNR=4.4							
LRMC	**Laurel Mtn Rad**	**78.45**	**47**	P		**P**	**08 45 19.1**	**+3.4**
LRMC				IAmb		IAmb	08 45 21.6	
	comp=Z,16nm,1.3s							
MAW	**Mawson**	**83.86**	**200**	P		**P**	**08 45 42.6**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=120,slow=5.5,SNR=6.3							
	comp=Z,1.8nm,0.7s							
ILAR	**Eielson Array**	**85.84**	**13**	P		**P**	**08 45 50.2**	**-2.0**
	comp=Z,0.2nm,0.5s,baz=220,slow=5.7,SNR=4.2							
	comp=Z,0.2nm,0.5s							
TXAR	**Lajitas Array**	**86.25**	**58**	P		**P**	**08 45 56.6**	**+1.4**
TXAR	**Lajitas Array**	**86.25**	**58**	P		**P**	**08 45 55.8**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=218,slow=5.9,SNR=8.5							
	comp=Z,0.6nm,0.8s							
PDAR	**Pinedale Array**	**87.52**	**44**	P		**P**	**08 46 00.1**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=233,slow=5.6,SNR=2.2							
	comp=Z,0.2nm,0.5s							
CMAR	**Chiang Mai Arr**	**88.48**	**290**	P		**P**	**08 46 06.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**88.48**	**290**	P		**P**	**08 46 06.4**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=110,slow=4.6,SNR=8.5							
	comp=Z,0.8nm,0.3s							
SNAA	**Sanae**	**90.74**	**179**	P		**P**	**08 46 14.9**	**-0.4**
SNAA				IAmb		IAmb	08 46 16.0	
	comp=Z,4.5nm,1.4s							
SNAA	**Sanae**	**90.74**	**179**	P		**P**	**08 46 14.3**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=204,slow=8.6,SNR=21							
	comp=Z,0.8nm,0.5s							
MKAR	**Makanchi Array**	**108.76**	**314**	PKiKP		**PKiKP**	**08 51 35.7**	**-2.1**
	comp=Z,0.3nm,0.5s,baz=121,slow=0.2,SNR=2.5							
BVAR	**Borovoye Array**	**116.50**	**321**	PKP		**PKPdf**	**08 51 50.5**	**-1.8**
	comp=Z,1.1nm,0.5s,baz=131,slow=1.9,SNR=4.9							
EKA	**Eskdalemuir Ar**	**142.36**	**4**	PKhKP		PKPpre	08 52 37.2	
	comp=Z,0.3nm,0.5s,baz=340,slow=1.9,SNR=2.2							
BUR08	**Bucovina Ar. S**	**144.30**	**332**	PKPdf		**PKPdf**	**08 52 44.8**	**+0.1**
BURAR	**Bucovina Array**	**144.31**	**332**	PKPdf		**PKPab**	**08 52 45.1**	**+0.1**
BRTR	**Keskin Array B**	**144.41**	**315**	P		**PKPdf**	**08 52 44.0**	**-1.2**
BRTR	**Keskin Array B**	**144.41**	**315**	PKP		**PKPdf**	**08 52 44.0**	**-1.2**
	comp=Z,3.0nm,0.8s,baz=116,slow=2.9,SNR=14							
CLL	**Collm**	**145.25**	**347**	AMS		AMS	09 19 00.0	
	comp=Z,100nm,19.8s							
CLL	**Collm**	**145.25**	**347**	*i* PKPbc		**PKPdf**	**08 52 46.4**	**+0.3**
	comp=Z,5.0nm,0.7s							
MMAI	**Mount Meron Ar**	**145.75**	**303**	PKPbc		**PKPbc**	**08 52 48.6**	**-0.6**
	comp=Z,3.2nm,0.5s,baz=69,slow=4.6,SNR=5.8							
PSZ	**Piszkesteto**	**146.26**	**337**	PKPdf		**PKPbc**	**08 52 49.6**	**-0.7**
GERES	**GERESS Array B**	**147.38**	**345**	PKPbc		**PKPbc**	**08 52 52.3**	**-0.9**
	comp=Z,2.2nm,0.6s,baz=28,slow=3.2,SNR=11							
FUORN	**Ofenpass-Fuorn**	**150.27**	**347**			**PKPbc**	**08 53 00.5**	**-0.1**
FNA	**Florina**	**151.22**	**327**			**PKPbc**	**08 53 01.6**	**-1.1**

*IDC **30** 08:41:55.9±1.0, 11°.36S×12°.96W, h0km, mb4.2/9, mbtmp4.2/10, ML3.7/1, MS3.6/39, Error ellipse: s-maj=26.1km s-min=21.9km az=121.0*
*NEIC **30** 08:41:56.7±1.8, 11°.32S±0°.10×13°.1W±0°.1, h10km±1km, mb4.8/15, Error ellipse: s-maj=23.6km s-min=16.9km az=269.0*
*GCMT **30** 08:41:57.7±0.3, 11°.64S±0°.02×13°.28W±0°.02, h34km±1km, MW5.0/96, Moment Tensor Solution. s33,c36; s96,c122; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.04±.17; Mθθ=2.22±.14; Mφφ=2.26±.14; Mrθ=1.06±.13; Mrφ=2.33±.09; Mθφ=0.44±.13; Best double couple: M₀3.43000×10¹⁶ NP1:ϕs158.0000°, δ70.0000°, λ-180.0000°. NP2: ϕs68.0000°, δ90.0000°, λ-20.0000°. Principal axes: T 3.4510, Plg14.0000°, Azm115.0000°; N -0.0430, Plg70.0000°, Azm248.0000°; P -3.4090, Plg14.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 08:41:56.9±0.6, **11°.33S**±0°.09×**13°.0W**±0°.1, **h13**km, **n58**, σ1°**31**/27, **mb4.4**/15, **MS3.7**/38, **1C, Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASCN	**Ascension**	**3.61**	**339**	Pn		**Pn**	**08 42 52.0**	**-0.7**
DBIC	**Dimbokro**	**19.65**	**25**	P		**P**	**08 46 24.9**	**-0.7**
DBIC	**Dimbokro**	**19.65**	**25**	P		**Pn**	**08 46 28.4**	**+1.4**
	0.2nm,0.3s,baz=211,slow=8.3,SNR=3.9							
DBIC				LR		LR	08 52 39.2	
	comp=Z,60nm,18.6s,baz=188,slow=33							
	6.1nm,0.9s							
RCBR	**Riachuelo**	**23.25**	**282**	LR		LR	08 53 31.7	
	comp=Z,94nm,21.8s,baz=96,slow=30							
TORD	**Torodi Ar. Bea**	**28.37**	**31**	P		**P**	**08 47 50.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**28.37**	**31**	P		**P**	**08 47 51.0**	**-0.2**
	1.3nm,0.3s,baz=216,slow=8.9,SNR=3.3							
TORD				LR		LR	08 58 04.3	
	comp=Z,104nm,21.5s,baz=222,slow=34							
	1.3nm,0.3s							
TSUM	**Tsumeb**	**30.53**	**109**	P		**P**	**08 48 10.5**	**+0.1**
	1.5nm,0.3s,baz=260,slow=11,SNR=3.5							
TSUM				LR		LR	08 57 54.7	
	comp=Z,217nm,21.4s,baz=329,slow=32							
	1.5nm,0.3s							
BDFB	**Brasilia**	**34.25**	**259**	P		**P**	**08 48 45.1**	**+2.0**
	0.9nm,0.4s,baz=86,slow=6.1,SNR=2.1							
BDFB				LR		LR	09 00 30.7	
	comp=Z,64nm,20.5s,baz=264,slow=32							
	0.9nm,0.4s							
SUR	**Sutherland**	**37.52**	**129**	P		**P**	**08 49 09.8**	**-1.2**
KDWAN	**Kaudwane**	**37.81**	**114**	P		**P**	**08 49 14.0**	**+0.5**
KDWAN				IAmb		IAmb	08 50 11.9	
	comp=Z,20nm,1.2s							
LBTB	**Lobatse**	**39.00**	**116**	P		**P**	**08 49 24.1**	**+0.5**
LBTB				IAmb		IAmb	08 49 24.5	
	comp=Z,31nm,1.5s							
LBTB	**Lobatse**	**39.00**	**116**	LR		LR	09 03 13.3	
	comp=Z,107nm,19.2s,baz=272,slow=33							
BOSA	**Boshof**	**39.67**	**121**	P		**P**	**08 49 28.8**	**-0.4**
BOSA				IAmb		IAmb	08 49 37.3	
	comp=Z,19nm,1.3s							
BOSA	**Boshof**	**39.67**	**121**	P		**P**	**08 49 28.1**	**-1.0**
	comp=Z,3.6nm,0.8s,baz=282,slow=12,SNR=3.8							
BOSA				LR		LR	09 03 02.7	
	comp=Z,179nm,19.9s,baz=224,slow=32							
	comp=Z,3.6nm,0.8s							
LSZ	**Lusaka**	**40.27**	**100**	P		**P**	**08 49 35.5**	**+1.2**
	comp=Z,1.8nm,0.3s,baz=262,slow=6.3,SNR=4.0							
LSZ				LR		LR	09 04 51.6	
	comp=Z,45nm,18.8s,baz=316,slow=34							
	comp=Z,1.8nm,0.3s							
MATP	**Matopo**	**40.87**	**108**	P		**P**	**08 49 40.1**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=274,slow=10,SNR=5.3							
MATP				LR		LR	09 04 47.6	
	comp=Z,69nm,19.9s,baz=270,slow=34							
	comp=Z,1.4nm,0.8s							
MDP	**Montagnes des**	**42.65**	**290**	LR		LR	09 04 14.4	
	comp=Z,97nm,22.0s,baz=115,slow=31							
CPUP	**Villa Florida**	**44.26**	**244**	LR		LR	09 05 22.1	
	comp=Z,17nm,21.6s,baz=304,slow=32							
MDT	**Midelt**	**44.62**	**10**	LR		LR	09 08 12.4	
	comp=Z,212nm,18.1s,baz=215,slow=35							
KEST	**Kesra**	**51.36**	**23**	P		**P**	**08 51 02.2**	**+0.8**
KEST				IAmb		IAmb	08 51 18.9	
	comp=Z,14nm,1.2s							
KEST	**Kesra**	**51.36**	**23**	LR		LR	09 10 36.7	
	comp=Z,101nm,21.3s,baz=251,slow=34							
ESDC	**Sonseca Array**	**51.44**	**9**	LR		LR	09 12 32.8	
	comp=Z,68nm,18.6s,baz=189,slow=36							
PB03	**IPOC Station P**	**55.09**	**251**	P		**P**	**08 51 27.7**	**-1.6**
PB03				IAmb		IAmb	08 53 22.2	
	comp=Z,37nm,1.4s							
PATCX	**Punta Patache**	**55.45**	**253**	P		**P**	**08 51 31.2**	**-0.6**
PCRV	**Puerto La Cruz**	**55.56**	**291**	LR		LR	09 13 27.7	
	comp=Z,30nm,20.0s,slow=34							
AC01	**Pan de Azucar**	**56.05**	**246**	P		**P**	**08 51 34.9**	**-1.2**
PLCA	**Paso Flores**	**58.18**	**229**	LR		LR	09 13 28.0	
	comp=Z,27nm,20.1s,baz=74,slow=32							
SJG	**San Juan**	**60.02**	**299**	LR		LR	09 14 13.7	
	comp=Z,29nm,19.6s,baz=108,slow=32							
SNAA	**Sanae**	**60.63**	**176**	P		**P**	**08 52 07.3**	**0.0**
SNAA				IAmb		IAmb	08 52 23.9	
	comp=Z,6.5nm,1.3s							
SNAA	**Sanae**	**60.63**	**176**	P		**P**	**08 52 06.7**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=329,slow=6.5,SNR=7.3							
SNAA				LR		LR	09 11 21.2	
	comp=Z,76nm,20.9s,baz=289,slow=29							
	comp=Z,1.9nm,0.9s							
SDV	**Santo Domingo**	**60.69**	**287**	LR		LR	09 18 25.3	
	comp=Z,29nm,18.3s,baz=68,slow=36							
DAVOX	**Davos/Dischmat**	**61.38**	**18**	LR		LR	09 18 56.0	
	comp=Z,39nm,18.3s,baz=264,slow=36							
ROSC	**El Rosal**	**63.04**	**281**	LR		LR	09 19 15.8	
	comp=Z,97nm,19.0s,baz=96,slow=36							
PMSA	**Palmer Station**	**63.85**	**202**	LR		LR	09 12 44.5	
	comp=Z,47nm,21.5s,baz=76,slow=29							
ATAH	**Atahualpa**	**64.53**	**267**	LR		LR	09 18 54.1	
	comp=Z,62nm,21.9s,baz=98,slow=34							
VRAC	**Vranov**	**65.77**	**21**	LR		LR	09 21 59.8	
	comp=Z,53nm,18.8s,baz=228,slow=36							
ANTO	**Ankara**	**66.34**	**37**	P		**P**	**08 52 45.6**	**+0.1**
ANTO				IAmb		IAmb	08 52 47.0	
	comp=Z,11nm,0.7s							
MLR	**Muntele Rosu**	**66.57**	**29**	P		**P**	**08 52 47.8**	**+0.8**
MLR				IAmb		IAmb	08 52 49.0	
	comp=Z,3.7nm,0.6s							
SYO	**Syowa Base**	**66.64**	**162**⇑	*e*P		**P**	**08 52 47.0**	**+0.1**
BR131	**Keskin Array S**	**66.75**	**38**	P		**P**	**08 52 44.2**	**-4.1**
BR131				IAmb		IAmb	08 52 45.3	
	comp=Z,3.8nm,0.8s							
AKASG	**Malin Array Be**	**71.88**	**27**	P		**P**	**08 53 19.7**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=226,slow=5.7,SNR=4.1							
	comp=Z,0.8nm,0.7s							
GNI	**Garni**	**74.01**	**42**	LR		LR	09 26 24.5	
	comp=Z,43nm,20.0s,baz=254,slow=36							
MAW	**Mawson**	**74.23**	**157**	LR		LR	09 19 18.9	
	comp=Z,52nm,19.4s,baz=21,slow=30							
HFS	**Hagfors**	**74.37**	**14**	LR		LR	09 25 10.0	
	comp=Z,58nm,21.4s,baz=88,slow=35							
JTS	**Las Juntas de**	**74.63**	**284**	LR		LR	09 26 46.5	
	comp=Z,18nm,18.5s,baz=110,slow=36							
NOA	**NORSAR Array B**	**74.65**	**12**	LR		LR	09 29 04.6	
	comp=Z,26nm,18.5s,baz=210,slow=38							
FINES	**FINESS Array B**	**78.78**	**18**	LR		LR	09 30 28.4	
	comp=Z,74nm,18.9s,baz=225,slow=37							
QSPA	**South Pole Qui**	**78.82**	**180**	P		**P**	**08 53 58.2**	**-1.3**
QSPA	**South Pole Qui**	**78.82**	**180**	P		**P**	**08 54 01.6**	**+2.1**
	comp=Z,1.7nm,1.0s,baz=191,slow=0.6,SNR=10							
	comp=Z,1.7nm,1.0s							
SCHQ	**Schefferville**	**79.86**	**332**	LR		LR	09 24 27.2	
	comp=Z,23nm,18.8s,baz=128,slow=32							
SADO	**Sadowa**	**81.60**	**319**	LR		LR	09 24 17.7	
	comp=Z,44nm,18.4s,baz=122,slow=31							
ARCES	**ARCESS Array B**	**85.00**	**13**	LR		LR	09 32 22.2	
	comp=Z,41nm,18.6s,baz=132,slow=36							
CMIG	**Matias Romero**	**85.64**	**288**	LR		LR	09 34 06.6	
	comp=Z,22nm,18.7s,baz=122,slow=36							
ARTI	**Arti**	**89.34**	**32**	LR		LR	09 37 27.6	
	comp=Z,29nm,18.8s,baz=223,slow=37							
VNDA	**Vanda**	**91.26**	**179**	LR		LR	09 32 34.1	
	comp=Z,40nm,18.4s,baz=298,slow=33							
BVAR	**Borovoye Array**	**95.03**	**37**	LR		LR	09 42 12.7	
	comp=Z,22nm,18.7s,baz=224,slow=38							
PALK	**Pallekele**	**95.05**	**84**	LR		LR	09 37 25.4	
	comp=Z,49nm,19.4s,baz=242,slow=35							
AAK	**Ala-Archa**	**95.77**	**48**	LR		LR	09 41 24.5	
	comp=Z,27nm,18.0s,baz=180,slow=37							

*IDC **30** 08:45:07.0±3.2, 53°.53N×87°.79E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=28.8km s-min=16.8km az=56.0*

ASRS 30 08:45:05.0±1.1, **53°.59N×87°.91E, h0**km, **M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia**

| Code | Station Name | Δ° | AZ° | Phase | ID | | Time | Res |
|---

PETK	**Petropavlovsk-**	**36.84**	**12**	P		**P**	**09 01 41.5 +0.4**
	comp=Z,3.1nm,0.6s,baz=185,slow=7.1,SNR=6.4						
PETK				LR		LR	09 14 18.0
	comp=Z,25nm,22.0s,baz=207,slow=32						
	comp=Z,3.1nm,0.6s						
KNRA	**Kununurra**	**36.99**	**209**	P		**P**	**09 01 42.8 +0.2**
KNRA				IAmb		IAmb	09 01 43.7
	comp=Z,7.1nm,0.7s						
CTAO	**Charters Tower**	**37.18**	**180**	P		**P**	**09 01 43.3 -1.0**
CTAO				IAmb		IAmb	09 01 45.4
	comp=Z,14nm,1.4s						
HIA	**Hailar**	**38.36**	**332**	P		**P**	**09 01 55.3 +1.4**
HIA				IAmb		IAmb	09 01 58.9
	comp=Z,5.8nm,0.5s						
WB0	**Warramunga Arr**	**38.62**	**198**			**P**	**09 01 55.1 -1.3**
WB0				IAmb		IAmb	09 01 58.1
	comp=Z,5.6nm,0.7s						
WR0	**Warramunga Arr**	**38.76**	**198**	P		**P**	**09 01 56.5 -1.0**
WR0				IAmb		IAmb	09 01 59.6
	comp=Z,7.6nm,1.1s						
WR8	**Warramunga Arr**	**38.76**	**198**	P		**P**	**09 01 56.3 -1.3**
WR8				IAmb		IAmb	09 02 00.6
	comp=Z,17nm,1.5s						
WRAB	**Tennant Creek**	**38.78**	**198**	P		**P**	**09 01 57.2 -0.5**
WRAB				IAmb		IAmb	09 01 58.4
	comp=Z,8.1nm,0.9s						
WB2	**Warramunga Arr**	**38.79**	**198**	P		**P**	**09 01 56.9 -0.9**
WB2				IAmb		IAmb	09 01 58.5
	comp=Z,7.9nm,0.8s						
WRA	**Warramunga Arr**	**38.80**	**198**			**P**	**09 01 55.7 -2.2**
WRA	**Warramunga Arr**	**38.80**	**198**	P		**P**	**09 01 56.1 -1.7**
	comp=Z,4.5nm,0.8s,baz=16,slow=8.1,SNR=78						
	comp=Z,4.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**40.56**	**211**	P		**P**	**09 02 11.8 -0.7**
AS31	**Alice Springs**	**42.45**	**197**			**P**	**09 02 27.7 -0.2**
ASAR	**Alice Springs**	**42.45**	**197**	P		**P**	**09 02 27.8 -0.2**
ASAR	**Alice Springs**	**42.45**	**197**	P		**P**	**09 02 26.5 -1.4**
	comp=Z,1.3nm,0.6s,baz=19,slow=8.5,SNR=21						
	comp=Z,1.3nm,0.6s						
EIDS	**Eidsvold**	**42.71**	**173**	P		**P**	**09 02 29.4 -0.6**
EIDS				IAmb		IAmb	09 02 37.8
	comp=Z,11nm,1.4s						
SONM	**Songino Array**	**44.47**	**322**	P		**P**	**09 02 44.0 0.0**
	comp=Z,0.5nm,0.5s,baz=142,slow=7.2,SNR=2.4						
	comp=Z,0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**44.81**	**279**	P		**P**	**09 02 48.5 +1.5**
CMAR	**Chiang Mai Arr**	**44.81**	**279**	P		**P**	**09 02 47.3 +0.3**
	comp=Z,1.8nm,0.4s,baz=83,slow=7.7,SNR=8.9						
CMAR				LR		LR	09 19 40.9
	comp=Z,8.7nm,21.3s,baz=85,slow=34						
	comp=Z,1.8nm,0.4s						
PSA00	**Pilbara Seismi**	**46.44**	**215**	P		**P**	**09 03 00.2 +0.5**
PSA00				IAmb		IAmb	09 03 01.7
	comp=Z,8.9nm,1.1s						
STKA	**Stephens Creek**	**49.11**	**185**	P		**P**	**09 03 19.8 -0.4**
STKA	**Stephens Creek**	**49.11**	**185**	P		**P**	**09 03 19.2 -0.9**
	comp=Z,1.5nm,0.4s,baz=2.3,slow=6.3,SNR=8.9						
	comp=Z,1.5nm,0.4s						
BBOO	**Buckleboo**	**50.77**	**191**			**P**	**09 03 32.6 -0.1**
MORW	**Morawa**	**54.51**	**213**			**P**	**09 03 59.1 -1.2**
S12K	**Black Hills**	**54.68**	**33**	P		**P**	**09 04 01.4 +0.2**
CNBA	**Chernabura Isl**	**55.67**	**35**	P		**P**	**09 04 09.0 +0.7**
O15K	**Ungalikthiuk R**	**57.15**	**30**	P		**P**	**09 04 19.8 +1.0**
O15K				IAmb		IAmb	09 04 20.6
	comp=Z,6.9nm,1.1s						
N15K	**Kwethluk River**	**57.42**	**29**			**P**	**09 04 21.9 +1.2**
N15K				IAmb		IAmb	09 04 22.1
	comp=Z,5.0nm,0.6s						
N18K	**Kilae Creek**	**59.55**	**29**	P		**P**	**09 04 36.8 +1.3**
N18K				IAmb		IAmb	09 04 37.6
	comp=Z,4.9nm,1.2s						
MKAR	**Makanchi Array**	**59.70**	**314**	P		**P**	**09 04 36.2 -0.6**
	comp=Z,0.5nm,0.6s,baz=97,slow=5.6,SNR=2.4						
	comp=Z,0.5nm,0.6s						
J20K	**Nowinta River**	**61.52**	**25**	P		**P**	**09 04 50.0 +1.2**
CAST	**Castle Rocks**	**62.14**	**27**			**P**	**09 04 53.6 +0.6**
CAST				IAmb		IAmb	09 04 54.3
	comp=Z,5.8nm,1.1s						
IMAR	**Indian Mountai**	**62.31**	**24**	P		**P**	**09 04 55.0 +0.9**
KURBB	**Kurchatov Arra**	**62.61**	**318**	P		**P**	**09 04 54.1 -2.2**
	comp=Z,1.3nm,0.7s,baz=98,slow=7.0,SNR=6.7						
KURBB				pP		**pwP**	**09 05 22.9 -0.1**
	comp=Z,1.6nm,0.7s,baz=99,slow=6.7,SNR=3.4						
	comp=Z,1.3nm,0.7s						
BKZ	**Black Stump Fm**	**62.97**	**154**	P		**P**	**09 04 58.2 -0.6**
MLY	**Manley**	**63.18**	**25**			**P**	**09 05 00.5 +0.5**
DSZ	**Denniston Nort**	**63.39**	**159**	P		**P**	**09 05 00.7 -0.8**
E22K	**Anaktuvuk Pass**	**63.77**	**22**	IAmb		IAmb	09 05 10.9
	comp=Z,8.0nm,1.4s						
SCM	**Sheep Creek Mo**	**63.84**	**29**	IAmb		IAmb	09 05 05.5
	comp=Z,6.5nm,0.9s						
E23K	**Chandalar**	**64.53**	**22**	IAmb		IAmb	09 05 49.1
	comp=Z,3.3nm,0.8s						
ILAR	**Eielson Array**	**64.70**	**26**	P		**P**	**09 05 08.3 -1.5**
	comp=Z,1.3nm,0.8s,baz=260,slow=4.9,SNR=13						
	comp=Z,1.3nm,0.8s						
E24K	**Your Creek**	**64.94**	**22**	IAmb		IAmb	09 05 40.3
	comp=Z,5.5nm,1.2s						
D25K	**Kavik River**	**66.02**	**21**	IAmb		IAmb	09 05 20.6
	comp=Z,3.6nm,0.8s						
J26L	**Joseph Creek**	**66.04**	**26**			**P**	**09 05 18.5 -0.1**
J26L				IAmb		IAmb	09 05 51.0
	comp=Z,4.8nm,1.2s						
BMAR	**Burnt Mountain**	**66.21**	**23**	P		**P**	**09 05 20.2 +0.6**
BCAR	**Beaver Creek A**	**66.60**	**28**	P		**P**	**09 05 22.6 +0.5**
BVAR	**Borovoye Array**	**67.79**	**321**	P		**P**	**09 05 27.6 -2.2**
	comp=Z,1.0nm,0.4s,baz=111,slow=5.7,SNR=4.7						
BVAR				pP		**pwP**	**09 05 57.4 +0.6**
	comp=Z,1.6nm,0.7s,baz=116,slow=6.6,SNR=2.7						
	comp=Z,1.0nm,0.4s						
L29M	**L29M**	**68.26**	**28**			**P**	**09 05 33.8 +1.2**
L29M				IAmb		IAmb	09 05 35.0
	comp=Z,4.4nm,0.8s						
HYT	**Haines Junctio**	**68.39**	**31**			**P**	**09 05 35.1 +1.5**
HYT				IAmb		IAmb	09 05 36.1
	comp=Z,4.6nm,1.0s						
K29M	**Barlow Dome**	**68.59**	**28**			**P**	**09 05 35.5 +0.8**
N30M	**Aishikik Lake**	**68.63**	**30**	IAmb		IAmb	09 05 36.7
	comp=Z,8.3nm,1.4s						
F30M	**Barrier River**	**69.58**	**24**	IAmb		IAmb	09 05 42.4
	comp=Z,12nm,1.4s						
G31M	**Satah River**	**70.13**	**24**	IAmb		IAmb	09 06 16.4
	comp=Z,9.8nm,1.3s						
ABKAR	**Akbulak array**	**74.62**	**317**	P		**P**	**09 06 08.8 -2.2**
YKA	**Yellowknife Ar**	**79.01**	**28**	P		**P**	**09 06 35.3 -0.1**
	comp=Z,1.9nm,0.8s,baz=290,slow=7.3,SNR=5.8						
	comp=Z,1.9nm,0.8s						
PLID	**Pearl Lake**	**83.33**	**45**			**P**	**09 06 58.9 -0.1**
NVAR	**Mina Array Bea**	**83.67**	**52**	P		**P**	**09 07 01.6 +0.8**
NVAR	**Mina Array Bea**	**83.67**	**52**	P		**P**	**09 07 01.8 +0.9**
	comp=Z,2.4nm,0.7s,baz=289,slow=5.8,SNR=20						
NVAR				pP		**pwP**	**09 07 30.4 +0.6**
	comp=Z,1.4nm,0.7s,baz=263,slow=5.9,SNR=3.8						
	comp=Z,2.4nm,0.7s						
NV11	**Mina Array Sit**	**83.78**	**52**			**P**	**09 07 02.1 +0.8**
ARCES	**ARCESS Array B**	**83.92**	**342**	P		**P**	**09 07 00.1 -1.1**
	comp=Z,2.4nm,0.7s,baz=60,slow=4.5,SNR=1.9						
	comp=Z,2.4nm,0.7s						
ELK	**Elko**	**85.22**	**49**			**P**	**09 07 09.0 +0.4**
ELK	**Elko**	**85.22**	**49**	LR		LR	09 39 12.9
	comp=Z,25nm,19.8s,baz=284,slow=31						
HWUT	**Hardware Ranch**	**87.54**	**47**	P		**P**	**09 07 20.8 +0.9**
HWUT				IAmb		IAmb	09 07 21.2
	comp=Z,4.4nm,0.8s						
FFC	**Flin Flon**	**88.03**	**33**			**P**	**09 07 21.9 +0.2**
FFC				IAmb		IAmb	09 07 22.1
	comp=Z,7.1nm,0.9s						
PDAR	**Pinedale Array**	**88.50**	**46**	P		**P**	**09 07 24.6 +0.1**
PDAR	**Pinedale Array**	**88.50**	**46**	P		**P**	**09 07 23.8 -0.8**
	comp=Z,0.3nm,0.5s,baz=275,slow=1.4,SNR=4.2						
	comp=Z,0.3nm,0.5s						
SRU	**San Rafael Swe**	**89.18**	**49**	P		**P**	**09 07 27.7 -0.1**
SRU				IAmb		IAmb	09 07 28.9
	comp=Z,4.3nm,0.7s						
PV14	**Lion Creek, Pa**	**90.55**	**49**	P		**P**	**09 07 33.9 -0.3**
PV17	**East Wray Mesa**	**90.63**	**50**	P		**P**	**09 07 34.6 0.0**
ARPR	**Arapgir-MALATY**	**92.36**	**312**	P		**P**	**09 07 43.3 +0.8**
LPAZ	**La Paz**	**147.22**	**93**	PKPbc		**PKPbc**	**09 14 16.8 +0.7**
	comp=Z,3.2nm,0.7s,baz=256,slow=3.2,SNR=15						

*IDC **30** 08:55:09.9±3.4, 54.17N×87.23E, h0km, mbtmp2.9/2, ML2.4/1, Error ellipse: s-maj=31.0km s-min=19.5km az=56.0*

ASRS 30 08:55:08.0±1.0, 54.14N×87.15E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**263**	I	I	09 04 20.0	
	baz=80,slow=319,SNR=1.9						
ZALV	**Zalesovo Beam**	**1.39**	**263**	Pg	Pb	08 55 36.1	+1.3
	1.7nm,0.3s,baz=82,slow=15,SNR=7.5						
ZALV				Lg	Lg	08 55 56.0	
	1.1nm,0.3s,baz=82,slow=26,SNR=5.7						
KURBB	**Kurchatov Arra**	**6.34**	**240**	Pn	Pn	08 56 45.6	+3.0
	0.1nm,0.3s,baz=58,slow=14,SNR=1.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.98**	**205**	Pn	Pn	08 57 09.3	+4.1
	0.2nm,0.2s,baz=25,slow=13,SNR=1.5						

*BEO **30** 08:56:59.1±0.7, 45.92N×27.96E, h121km±4km, ML3.1/7*
*BUC **30** 08:57:09.7±0.2, 45.61N×26.67E, h140km±1km, ml3.6/65, Error ellipse: s-maj=1.4km s-min=1.2km az=177.0*

ISC 30 08:57:07.0±1.4, 45.64N±0.03×26.66E±0.03, h160km±6km, n90, σ1.923/140, 78C-34D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BISRR	**Bisoca**	**0.09**	**157**	↑P		**Pn**	**08 57 29.2 +0.7**
BISRR				↑S		**Sn**	**08 57 43.4 -1.4**
PLOR	**Plostina**	**0.22**	**358**	↑P		**Pn**	**08 57 29.3 +0.7**
PLOR				↑S		**Sn**	**08 57 44.3 -0.9**
VRI	**Vrincioaia**	**0.24**	**12**	↓P		**Pn**	**08 57 29.4 +0.8**
VRI				↓S		**Sn**	**08 57 44.3 -0.9**
ODBI	**Odobesti**	**0.31**	**65**	↑S		**Sn**	**08 57 43.9 -1.4**
NEHR	**Nehoiu**	**0.33**	**231**	↑P		**Pn**	**08 57 29.8 +0.9**
NEHR				↓S		**Sn**	**08 57 43.5 -2.0**
GRER		**0.34**	**139**	↓S		**Sn**	**08 57 44.4 -1.1**
COVR	**Voineasa-Covas**	**0.38**	**304**	↓P		**Pn**	**08 57 29.7 +0.7**
COVR				↑S		**Sn**	**08 57 44.7 -1.2**
COSR	**Cosmesti PH**	**0.51**	**64**	↓P		**Pn**	**08 57 30.3 +0.8**
COSR				↑S		**Sn**	**08 57 46.1 -0.5**
ISR	**Istrita**	**0.52**	**189**	↑P		**Pn**	**08 57 30.5 +0.7**
ISR				↑S		**Sn**	**08 57 44.9 -2.1**
MLR	**Muntele Rosu**	**0.52**	**254**	↑P		**Pn**	**08 57 30.8 +1.0**
MLR				↑S		**Sn**	**08 57 45.9 -1.2**
MLR	**Muntele Rosu**	**0.52**	**254**	*e*Pg		**Pn**	**08 57 30.5 +0.7**
MLR				*e*Sg		**Sn**	**08 57 46.4 -0.7**
TURR	**Turia**	**0.61**	**313**	↑P		**Pn**	**08 57 31.2 +1.1**
TURR				↑S		**Sn**	**08 57 47.2 -0.7**
GHRR		**0.68**	**51**	↑P		**Pn**	**08 57 31.5 +1.1**
GHRR				↑S		**Sn**	**08 57 47.6 -0.7**
TUDR		**0.71**	**93**	↑P		**Pn**	**08 57 31.2 +0.6**
TUDR				↓S		**Sn**	**08 57 47.7 -1.0**
ONER	**Baraj Valea Uz**	**0.72**	**345**	↓P		**Pn**	**08 57 31.5 +0.8**
ONER				↑S		**Sn**	**08 57 47.6 -1.4**
OZUR		**0.76**	**307**	↓P		**Pn**	**08 57 31.7 +0.7**
IZVR	**Izvoarele**	**0.78**	**96**	↑P		**Pn**	**08 57 31.8 +0.8**
IZVR				↑S		**Sn**	**08 57 47.9 -1.6**
BOSR	**Bodos**	**0.82**	**303**	↑P		**Pn**	**08 57 32.0 +0.5**
BOSR				↑S		**Sn**	**08 57 48.7 -1.5**
SCHL	**Schela**	**0.83**	**99**	↓P		**Pn**	**08 57 32.2 +0.8**
SCHL				↑S		**Sn**	**08 57 49.5 -0.5**
SCHLR	**Schela**	**0.84**	**101**	↑P		**Pn**	**08 57 32.3 +0.8**
SCHLR	**Schela**	**0.84**	**101**	↑P		**Pn**	**08 57 32.3 +0.8**
PLAR	**PLOIESTI**	**0.85**	**212**	↑P		**Pn**	**08 57 32.7 +1.2**
PLAR				↑S		**Sn**	**08 57 50.2 -0.1**
NEGRR	**Negrea**	**0.86**	**96**	↑P		**Pn**	**08 57 32.6 +0.9**
NEGRR				↑S		**Sn**	**08 57 49.4 -1.1**
VARL	**Varlezi**	**0.87**	**72**	↓P		**Pn**	**08 57 32.6 +0.9**
VARL				↑S		**Sn**	**08 57 49.5 -1.2**
TESR	**Tescani**	**0.88**	**360**	↑P		**Pn**	**08 57 32.3 +0.6**
BIR	**Birlad**	**0.93**	**47**	↑P		**Pn**	**08 57 33.1 +1.0**
BIR				↑S		**Sn**	**08 57 49.9 -1.5**
SCTR	**Scanteiesti**	**0.94**	**87**	↑P		**Pn**	**08 57 33.3 +1.1**
SCTR				↑S		**Sn**	**08 57 50.6 -0.9**
DOPR	**Dopca**	**0.95**	**291**	↑P		**Pn**	**08 57 33.2 +0.9**
DOPR				↑S		**Sn**	**08 57 51.4 -0.4**
TATR	**Tataca**	**0.98**	**92**	↑P		**Pn**	**08 57 33.6 +1.1**
TATR				↓S		**Sn**	**08 57 51.5 -0.5**
SULR		**1.00**	**197**	↑P		**Pn**	**08 57 33.7 +1.0**
SULR				↓S		**Sn**	**08 57 51.6 -0.7**
GISR	**Galati**	**1.00**	**101**	↑P		**Pn**	**08 57 33.7 +1.0**
VLDR	**Vladesti**	**1.02**	**78**	↓P		**Pn**	**08 57 33.8 +1.0**
VLDR				↓S		**Sn**	**08 57 51.7 -0.9**
GIUM	**Giurgiulesti**	**1.10**	**97**	↑P		**Pn**	**08 57 34.8 +1.3**
GIUM				↑S		**Sn**	**08 57 53.4 -0.4**
AMRR	**Amara**	**1.13**	**155**	↑P		**Pn**	**08 57 34.7 +0.9**
AMRR				↑S		**Sn**	**08 57 54.0 -0.3**
CFR	**Carcaliu**	**1.14**	**113**	↑P		**Pn**	**08 57 34.5 +0.6**
CFR				↑S		**Sn**	**08 57 53.3 -1.1**
VOIR		**1.15**	**261**	↓P		**Pn**	**08 57 35.2 +1.1**
VOIR				↓S		**Sn**	**08 57 54.9 +0.1**
LEHL	**Lehliu**	**1.17**	**174**	↓S		**Sn**	**08 57 55.0 +0.1**
INCR	**INCERC-Sediu C**	**1.25**	**197**	↓S		**Sn**	**08 57 56.1 -0.1**
VASR	**Vaslui**	**1.28**	**38**	↑P		**Pn**	**08 57 36.2 +1.1**
HARR	**Harsova**	**1.30**	**136**	↓P		**Pn**	**08 57 36.4 +1.0**
CIOR	**Ciorogarla**	**1.31**	**205**	↑P		**Pn**	**08 57 36.7 +1.2**
CIOR				↑S		**Sn**	**08 57 56.5 -0.8**
BIZ	**Bicaz**	**1.36**	**344**	↑P		**Pn**	**08 57 37.9 +2.0**
BIZ				↑S		**Sn**	**08 57 58.1 -0.1**
BUC1	**Bucharest**	**1.36**	**199**	↑P		**Pn**	**08 57 35.9 0.0**
BUC1				↑S		**Sn**	**08 57 57.7 -0.4**
ARR	**Arges**	**1.45**	**260**	↑P		**Pn**	**08 57 38.4 +1.5**
ARR				↓S		**Sn**	**08 58 00.8 +1.0**
CICN	**Ciocanesti**	**1.46**	**170**	↑S		**Sn**	**08 57 59.1 -0.7**
TPGR	**Topolog**	**1.47**	**121**	↑P		**Pn**	**08 57 37.7 +0.7**
TPGR				↑S		**Sn**	**08 57 59.0 -1.1**
TLBR	**Topalu**	**1.47**	**137**	↑P		**Pn**	**08 57 38.1 +1.1**
TLBR				↑S		**Sn**	**08 57 59.0 -1.0**
SGRR	**Singureni**	**1.49**	**199**	↓P		**Pn**	**08 57 38.5 +1.3**
SGRR				↓S		**Sn**	**08 57 59.3 -0.6**
TLCR		**1.58**	**106**	↑P		**Pn**	**08 57 39.3 +1.2**
HUMR	**Humele**	**1.62**	**228**	↓P		**Pn**	**08 57 39.8 +1.2**
HUMR				↑S		**Sn**	**08 58 02.5 -0.3**
CVDA	**Cernavoda**	**1.63**	**143**	↑P		**Pn**	**08 57 39.9 +1.2**
CVDA				↑S		**Sn**	**08 58 02.0 -1.0**
TNR	**Turnu Rosu**	**1.67**	**271**	↑P		**Pn**	**08 57 40.8 +1.6**
ICOR	**Ion Corvin**	**1.72**	**151**	↓P		**Pn**	**08 57 40.7 +1.1**
ICOR				↑S		**Sn**	**08 58 04.1 -0.6**
JURR	**Jurilovca**	**1.79**	**118**	↓P		**Pn**	**08 57 41.9 +1.5**
COPA	**Copaceanca**	**1.82**	**215**	↓P		**Pn**	**08 57 41.9 +1.2**
COPA				↑S		**Sn**	**08 58 06.4 -0.1**
MFTR	**Murfatlar**	**1.92**	**139**	↑P		**Pn**	**08 57 43.0 +1.2**
MILM	**Milestii Mici**	**1.97**	**49**	↓P		**Pn**	**08 57 43.0 +0.7**
MILM	**Milestii Mici**	**1.97**	**49**	↑/↑P		**Pn**	**08 57 43.0 +0.7**
	14nm,0.1s						
MILM				*e*S		**Sn**	**08 58 07.7 -1.9**
	260nm,0.2s						
KIS	**Kishinev**	**2.02**	**47**	↑/*i*P		**Pn**	**08 57 44.1 +1.1**
	33nm,0.2s						
KIS				*e*S		**Sn**	**08 58 09.4 -1.4**
	840nm,0.3s						
LOT	**Lotru**	**2.04**	**266**	↑P		**Pn**	**08 57 44.8 +1.5**
LOT				↑S		**Sn**	**08 58 13.0 +1.7**
ZIMR		**2.18**	**205**	↑S		**Sn**	**08 58 13.6 -0.3**
TSMN	**Mangalia Port-**	**2.29**	**142**	↑P		**Pn**	**08 57 47.5 +1.3**
SRE	**Strehaia**	**2.63**	**250**	↓P		**Pn**	**08 57 51.5 +1.4**
MARR	**Marisel-Cluj**	**2.67**	**294**	↑P		**Pn**	**08 57 52.5 +1.7**
PLVR	**Pleven**	**2.68**	**214**	↑P		**Pn**	**08 57 52.1 +1.3**
GZR	**Gura Zlata**	**2.74**	**266**	↑P		**Pn**	**08 57 53.5 +1.9**
GZR				↑S		**Sn**	**08 58 27.6 +1.5**
GZR	**Gura Zlata**	**2.74**	**266**	*e*Pn		**Pn**	**08 57 53.3 +1.7**
GZR				*e*Sn		**Sn**	**08 58 23.4 -2.7**
SORM	**Soroca**	**2.76**	**24**	↓P		**Pn**	**08 57 52.7 +1.0**
ELND	**Elena**	**2.76**	**192**	↑P		**Pn**	**08 57 53.6 +1.7**
DRGR		**2.98**	**294**	↓P		**Pn**	**08 57 56.1 +1.6**
HERR	**Herculane**	**3.09**	**257**	↓P		**Pn**	**08 57 57.0 +1.2**
SURR	**Surduc**	**3.18**	**274**	↑P		**Pn**	**08 57 57.2 +0.2**
BLKB	**Belogradchik**	**3.48**	**236**	*e*Pn		**Pn**	**08 58 01.3 +0.4**
BLKB				*e*Sn		**Sn**	**08 58 40.0 -2.8**
BZS	**Buzias**	**3.54**	**272**	*e*Pn		**Pn**	**08 58 02.2 +0.7**
MDVR	**Moldovita**	**3.60**	**258**	↓P		**Pn**	**08 58 03.9 +1.5**
MDVR	**Moldovita**	**3.60**	**258**	*e*Pn		**Pn**	**08 58 03.5 +1.1**
ZAGS	**Zajecar**	**3.64**	**242**	*e*Pn		**Pn**	**08 58 03.5 +0.6**
ZAGS				*e*Sn		**Sn**	**08 58 42.3 -4.0**
ZAPS	**Zavoj**	**3.73**	**232**	*e*Pn		**Pn**	**08 58 05.0 +1.0**
ZAPS				*e*Sn		**Sn**	**08 58 45.8 -2.5**
KUBS	**Kucevo**	**3.74**	**253**	*e*Pn		**Pn**	**08 58 03.6 -0.5**
KUBS				*e*Sn		**Sn**	**08 58 45.6 -3.0**
VRSS	**Vrsac**	**3.79**	**264**	*e*Pn		**Pn**	**08 58 05.5 +0.7**
VTS	**Vitosha**	**3.90**	**220**	*e*Pn		**Pn**	**08 58 06.1 -0.2**
BOVS	**Bovan**	**4.06**	**242**	*e*Pn		**Pn**	**08 58 08.9 +0.6**
BOSS	**Bosilegrad**	**4.35**	**225**	*e*Pn		**Pn**	**08 58 13.6 +1.5**
BARS	**Barje**	**4.48**	**233**	*e*Pn		**Pn**	**08 58 14.8 +1.1**
GRUS	**Gruza**	**4.58**	**250**	*e*Pn		**Pn**	**08 58 16.3 +1.3**
GOCS	**Kraljevo Serbi**	**4.62**	**245**	*e*Pn		**Pn**	**08 58 16.8 +1.1**
SELS	**Selova**	**4.64**	**241**	*e*Pn		**Pn**	**08 58 17.3 +1.4**
TRUS	**Trudelj**	**4.66**	**255**	*e*Pn		**Pn**	**08 58 17.3 +1.2**
TRUS				*e*Sn		**Sn**	**08 59 07.5 -2.5**
IVAS	**Ivanjica**	**5.08**	**248**	*e*Pn		**Pn**	**08 58 22.2 +0.5**
TEKS	**Tekeris**	**5.16**	**260**	*e*Pn		**Pn**	**08 58 23.3 +0.6**

*IDC **30** 08:59:39.5±3.0, 53.52N×87.57E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=27.1km s-min=15.5km az=58.0*

ASRS 30 08:59:37.0±1.1, 53.52N×87.70E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.77**	**285**	I	I	09 10 40.0	
	0.3nm,0.9s,baz=101,slow=310,SNR=13						
ZALV	**Zalesovo Beam**	**1.77**	**285**	Pg	Pn	09 00 09.2	+0.5
	1.1nm,0.3s,baz=103,slow=14,SNR=11						
ZALV				Lg	Lg	09 00 33.1	
	2.8nm,0.3s,baz=107,slow=27,SNR=12						
KURBB	**Kurchatov Arra**	**6.35**	**247**	Pn	Pn	09 01 14.7	+2.8
	0.1nm,0.3s,baz=62,slow=14,SNR=3.2						
KURBB				Lg	Lg	09 02 58.2	
	0.1nm,0.3s,baz=58,slow=30,SNR=5.8						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**7.58**	**209**	Pn	Pn	09 01 31.8	+3.2
	0.2nm,0.3s,baz=29,slow=14,SNR=6.8						
MKAR				Lg	Lg	09 03 37.5	
	baz=29,slow=30,SNR=4.7						
	0.4nm,0.4s						

IDC 30 09:04:19.7±1.0, 15.07S×177.34W, h0km, mb3.9/5, mbtmp3.9/5, MS3.8/26, Error ellipse: s-maj=52.1km s-min=25.3km az=135.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**14.13**	**182**	LR	LR	09 12 00.5	
	comp=Z,462nm,20.5s,baz=331,slow=33						
DZM	**Mont Dzumac**	**16.87**	**243**	*e*S	S	09 11 44.8	+8.2
	673nm,29.1s						
DZM				*e*LR	LR	09 12 37.9	
	193nm,24.6s						
DZM	**Mont Dzumac**	**16.87**	**243**	LR	LR	09 13 24.2	
	comp=Z,2μm,21.7s,baz=70,slow=32						
RAR	**Rarotonga**	**17.77**	**113**	LR	LR	09 13 39.7	
	comp=Z,292nm,19.7s,baz=286,slow=32						
HNR	**Honiara**	**22.88**	**282**	LR	LR	09 16 55.1	
	comp=Z,624nm,20.9s,baz=143,slow=33						
URZ	**Urewera**	**23.61**	**191**	LR	LR	09 17 11.3	
	comp=Z,319nm,18.2s,baz=32,slow=33						
PPT	**Papeete**	**26.76**	**99**	LR	LR	09 17 55.3	
	comp=Z,157nm,20.4s,baz=294,slow=30						
PPT2	**Papeete2**	**26.76**	**99**	*e*LR	LR	09 16 27.1	
	414nm,26.0s						
PPT2				*e*LR	LR	09 16 34.2	
	286nm,25.8s						
TBI	**Tubuai**	**27.55**	**112**	*e*LR	LR	09 16 56.1	
	2μm,26.8s						
PMG	**Port Moresby**	**35.11**	**275**	LR	LR	09 23 17.6	

PTQR	**Pietraquaria**	**0.22**	**174**	P	Pg	09 11 18.2	+0.5
PTQR				S	Sg	09 11 21.6	+0.7
PTQR				AML	AML		
	comp=E,302μm,0.1s						
PTQR				AML	AML		
	comp=N,200μm,0.7s						
PTQR				AML	AML		
	comp=E,598μm,0.1s						
PTQR				AML	AML		
	comp=N,402μm,0.7s						
PTQR				AML	AML		
	comp=E,599μm,0.1s						
PTQR				AML	AML		
	comp=N,276μm,0.2s						
PTQR				AML	AML		
	comp=E,303μm,0.1s						
PTQR				AML	AML		
	comp=N,195μm,0.1s						
GIGS	**Gran Sasso**	**0.26**	**34**	P	Pg	09 11 18.9	+0.5
GIGS				S	Sg	09 11 23.1	+1.0
GIGS				AML	AML		
	comp=E,102μm,0.6s						
GIGS				AML	AML		
	comp=N,103μm,0.5s						
GIGS				AML	AML		
	comp=E,102μm,0.6s						
GIGS				AML	AML		
	comp=N,66μm,0.4s						
GIGS				AML	AML		
	comp=E,71μm,0.2s						
GIGS				AML	AML		
	comp=N,103μm,0.5s						
GIGS				AML	AML		
	comp=E,40μm,0.5s						
GIGS				AML	AML		
	comp=N,28μm,0.0s						
GIGS				AML	AML		
	comp=N,35μm,1.2s						
RM33	**Pellescritta (**	**0.30**	**337**	P	Pg	09 11 19.5	+0.3
RM33				S	Sg	09 11 24.1	+0.9
RM33				AML	AML		
	comp=E,413μm,0.2s						
RM33				AML	AML		
	comp=N,340μm,0.9s						
RM33				AML	AML		
	comp=E,413μm,0.2s						
RM33				AML	AML		
	comp=N,239μm,0.2s						
RM33				AML	AML		
	comp=N,248μm,0.2s						
RM33				AML	AML		
	comp=N,69μm,0.4s						
RM33				AML	AML		
	comp=E,111μm,0.2s						
RM33				AML	AML		
	comp=N,99μm,0.3s						
RM33				AML	AML		
	comp=E,449μm,0.2s						
CAMP	**Campotosto**	**0.30**	**5**	P	Pg	09 11 19.7	+0.5
CAMP				S	Sg	09 11 24.2	+0.8
CAMP				AML	AML		
	comp=E,136μm,1.2s						
CAMP				AML	AML		
	comp=N,177μm,0.5s						
T0110	**Collepietro**	**0.30**	**92**	P	Pg	09 11 19.8	+0.5
T0110				S	Sb	09 11 24.7	-0.7
T0110				AML	AML		
	comp=E,542μm,1.1s						
T0110				AML	AML		
	comp=N,816μm,0.4s						
T0110				AML	AML		
	comp=E,542μm,1.1s						
T0110				AML	AML		
	comp=N,510μm,0.3s						
T0110				AML	AML		
	comp=E,526μm,0.5s						
T0110				AML	AML		
	comp=N,817μm,0.4s						
VVLD	**Villa Vallelon**	**0.41**	**153**	P	Pg	09 11 21.5	+0.3
VVLD				S	Sg	09 11 27.4	+0.7
VVLD				AML	AML		
	comp=E,77μm,1.5s						
VVLD				AML	AML		
	comp=N,110μm,0.4s						
LNSS	**Leonessa**	**0.44**	**326**	P	Pg	09 11 21.8	0.0
INTR	**Introdacqua**	**0.46**	**120**	P	Pg	09 11 22.0	0.0
INTR				S	Sg	09 11 28.8	+0.7
INTR				AML	AML		
	comp=E,99μm,0.3s						
INTR				AML	AML		
	comp=E,99μm,0.3s						
INTR				AML	AML		
	comp=N,160μm,0.3s						
INTR				AML	AML		
	comp=E,99μm,0.3s						
INTR				AML	AML		
	comp=N,160μm,0.3s						
INTR				AML	AML		
	comp=E,167μm,0.3s						
INTR				AML	AML		
	comp=N,213μm,0.4s						
ARRO	**Arrone**	**0.56**	**307**	AML	AML		
	comp=E,80μm,0.2s						
ARRO				AML	AML		
	comp=N,82μm,1.2s						
POFI	**Posta Fibreno**	**0.58**	**154**	P	Pg	09 11 24.5	+0.2
POFI				S	Sb	09 11 32.8	-0.5
NRCA	**Norcia**	**0.63**	**342**	P	Pg	09 11 25.2	-0.1
NRCA				AML	AML		
	comp=E,173μm,0.1s						
NRCA				AML	AML		
	comp=N,95μm,1.1s						
LPEL	**Lama dei Pelig**	**0.63**	**107**	P	Pg	09 11 25.0	-0.3
LPEL				S	Sb	09 11 34.3	-0.6
LPEL				AML	AML		
	comp=E,116μm,1.1s						
LPEL				AML	AML		
	comp=N,91μm,0.8s						

ROM 30 09:11:22.9±0.1**, 42°.234N**×0°.004×**13°.367E**±0°.005**, h11**km**, ML2.0**/20**, 1C-1D, Error ellipse: s-maj=0.4km s-min=0.3km az=253.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.12**	**12**	⇓P	Pg	09 11 26.4	+0.5
AQU				S	Sg	09 11 28.7	+0.5
FAGN	**Fagnano**	**0.16**	**79**	P	Pg	09 11 27.0	+0.4
FAGN				S	Sg	09 11 30.3	+1.1
FAGN				AML	AML		
	comp=E,1835μm,0.5s						
FAGN				AML	AML		
	comp=N,1920μm,0.7s						
FIAM	**Fiamignano**	**0.19**	**281**	⇑P	Pg	09 11 27.7	+0.7
FIAM				S	Sg	09 11 30.9	+1.0
FIAM				AML	AML		
	comp=E,2030μm,1.0s						
FIAM				AML	AML		
	comp=N,1375μm,0.2s						
FIAM				AML	AML		
	comp=N,772μm,0.2s						
FIAM				AML	AML		
	comp=E,2040μm,1.0s						
FIAM				AML	AML		
	comp=N,1375μm,0.2s						
FIAM				AML	AML		
	comp=E,542μm,1.0s						
FIAM				AML	AML		
	comp=N,772μm,1.8s						
FIAM				AML	AML		
	comp=N,1375μm,1.8s						
PTQR	**Pietraquaria**	**0.21**	**173**	P	Pg	09 11 28.0	+0.6
PTQR				S	Sg	09 11 31.4	+0.9
PTQR				AML	AML		
	comp=E,598μm,0.1s						
PTQR				AML	AML		
	comp=N,402μm,0.7s						
GIGS	**Gran Sasso**	**0.26**	**35**	P	Pg	09 11 28.9	+0.6
GIGS				S	Sg	09 11 33.0	+1.0
GIGS				AML	AML		
	comp=E,102μm,0.6s						
GIGS				AML	AML		
	comp=N,103μm,0.5s						
GIGS				AML	AML		
	comp=N,103μm,0.5s						
GIGS				AML	AML		
	comp=E,102μm,0.6s						
RM33	**Pellescritta (**	**0.30**	**338**	P	Pg	09 11 29.4	+0.5
RM33				S	Sg	09 11 33.8	+0.8
RM33				AML	AML		
	comp=N,340μm,0.9s						
RM33				AML	AML		
	comp=E,413μm,0.2s						
RM33				AML	AML		
	comp=E,449μm,0.2s						
RM33				AML	AML		
	comp=N,340μm,1.1s						
RM33				AML	AML		
	comp=N,351μm,0.3s						
CAMP	**Campotosto**	**0.30**	**6**	P	Pg	09 11 29.4	+0.3
CAMP				S	Sg	09 11 33.9	+0.7
T0110	**Collepietro**	**0.31**	**91**	P	Pg	09 11 29.6	+0.5
T0110				S	Sb	09 11 34.6	-0.8
T0110				AML	AML		
	comp=E,542μm,1.1s						
T0110				AML	AML		
	comp=N,816μm,0.4s						
T0110				AML	AML		
	comp=E,542μm,1.1s						
T0110				AML	AML		
	comp=N,817μm,0.4s						
T0110				AML	AML		
	comp=E,542μm,0.9s						
VCEL	**Villa Celiera**	**0.39**	**65**	P	Pb	09 11 31.2	-0.6
VCEL				AML	AML		
	comp=E,374μm,0.3s						
VCEL				AML	AML		
	comp=N,418μm,0.3s						
VCEL				AML	AML		
	comp=E,375μm,0.3s						
VCEL				AML	AML		
	comp=N,417μm,0.3s						
SMA1	**SAN MARTINO**	**0.40**	**357**	P	Pg	09 11 31.4	+0.6
SMA1				S	Sg	09 11 36.9	+0.8
VVLD	**Villa Vallelon**	**0.41**	**152**	P	Pg	09 11 30.6	-0.4
VVLD				S	Sg	09 11 37.3	+0.9
LNSS	**Leonessa**	**0.44**	**327**	P	Pb	09 11 32.4	-0.4
LNSS				S	Sb	09 11 38.6	-0.8
INTR	**Introdacqua**	**0.46**	**119**	P	Pg	09 11 32.0	+0.1
INTR				S	Sb	09 11 39.1	-0.7
INTR				AML	AML		
	comp=N,160μm,0.3s						
INTR				AML	AML		
	comp=E,99μm,0.3s						
INTR				AML	AML		
	comp=N,213μm,0.4s						
BARO	**Barbarano Roma**	**0.98**	**271**	AML	AML		
	comp=N,4428μm,0.4s						
BARO				AML	AML		
	comp=E,3945μm,1.6s						
BARO				AML	AML		
	comp=N,4428μm,1.6s						
BARO				AML	AML		
	comp=E,3945μm,0.4s						

*NNC **30** 09:29:48.7±2.1, 53°.51N×88°.03E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=18.4km s-min=7.5km az=56.0, Suspected Mining explosion.*

*ASRS **30** 09:29:50.0±1.2, 53°.55N×87°.67E, h0km, M3.1, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

*IDC **30** 09:29:53.7±3.1, 53°.50N×87°.64E, h0km, mbtmp3.2/2, ML3.1/1, Error ellipse: s-maj=27.7km s-min=13.9km az=64.0*

ISC 30 09:29:52.4±3.8**, 53°.6N**±0°.1×**87°.6E**±0°.2**, h0**km**, n8, σ2s12**/10**, 2C-4D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**284**	I	I	09 41 00.0	
	0.2nm,0.8s,baz=101,slow=313,SNR=3.2						
ZAA0	**Zalesovo Array**	**1.71**	**284**	⇓P	**Pn**	**09 30 23.3**	**-0.1**
	0.6nm,0.6s						
ZAA0				⇑S	**Sg**	**09 30 49.2**	**+1.9**
	9.9nm,0.7s						
ZALV	**Zalesovo Beam**	**1.71**	**284**	Pg	**Pn**	**09 30 24.2**	**+0.8**
	1.0nm,0.3s,baz=102,slow=16,SNR=15						
ZALV				Lg	Lg	09 30 49.1	
	4.7nm,0.3s,baz=108,slow=28,SNR=17						
KURBB	**Kurchatov Arra**	**6.33**	**246**	Pn	**Pn**	**09 31 28.7**	**+1.8**
	1.3nm,0.5s,baz=62,slow=14,SNR=3.4						
KURBB				Lg	Lg	09 33 10.3	
	0.1nm,0.3s,baz=62,slow=30,SNR=5.4						
MK31	**Makanchi Array**	**7.58**	**209**	⇓Pn	**Pn**	**09 31 42.3**	**-1.8**
	0.5nm,0.5s,baz=34,slow=13,SNR=5.9						
MK31				⇑Sn	**Sn**	**09 33 11.0**	**+0.2**
	2.4nm,0.8s,baz=32,slow=27,SNR=4.0						
MK31				⇓Lg	Lg	09 33 51.4	
	4.6nm,0.8s,baz=31,slow=31,SNR=5.7						
MKAR	**Makanchi Array**	**7.58**	**209**	Pn	**Pn**	**09 31 46.2**	**+2.0**
	0.3nm,0.3s,baz=29,slow=14,SNR=9.0						
MKAR				Sn	**Sn**	**09 33 10.6**	**-0.2**
	0.1nm,0.3s,baz=28,slow=23,SNR=6.1						
MKAR				Lg	Lg	09 33 51.8	
	0.1nm,0.3s,baz=23,slow=30,SNR=8.2						
	0.6nm,0.4s						
MAKZ	**Makanchi**	**7.67**	**210**	⇓Pn	Pn	09 31 40.5	-4.7
	2.5nm,0.7s						
MAKZ				Sn	**Sn**	**09 33 13.1**	**+0.3**
	2.2nm,0.7s						
MAKZ				Lg	Lg	09 33 52.4	
	4.6nm,1.1s						
BVAR	**Borovoye Array**	**10.33**	**274**	Sn	**Sn**	**09 34 14.2**	**-4.0**
	baz=73,slow=24,SNR=2.8						

*NEIC **30** 09:30:21, 38°.78N×97°.36W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}=2.06; $M_{\theta\theta}$=5.08; $M_{\phi\phi}$7.14; $M_{r\theta}$3.97; $M_{r\phi}$3.32; $M_{\theta\phi}$0.53; Fault plane solution: M_o8.22000×10^{13} NP1:φ235.00000°, δ75.00000°, λ-30.00000°. NP2:φ333.00000°, δ61.00000°, λ-163.00000°. Principal axes: T 8.2234, Plg9.0000°, Azm287.0000°; N -0.0052, Plg57.0000°, Azm31.0000°; P -8.2182, Plg32.0000°, Azm191.0000°;*

NEIC 30 09:29:53.5±0.6**, 38°.89N**±0°.03×**97°.48W**±0°.03**, h5**km±7km**, mb_Lg3.1**/165 **Error ellipse: s-maj=5.2km s-min=2.4km az=137.0, Kansas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSU1	**Kansas State U**	**0.71**	**72**		Pg	09 30 06.5	-0.7
KSU1				Sg	Sg	09 30 16.2	-0.3
R32A	**Long Quarter,**	**1.07**	**245**		Pg	09 30 13.1	-0.9
R32A				Sg	Sg	09 30 26.8	-1.0
KAN08	**Anthony NE Sta**	**1.70**	**193**		Pn	09 30 23.1	-0.8
KAN08					Sn	09 30 45.7	-0.3
KAN01	**Argonia South**	**1.74**	**187**		Pn	09 30 23.9	-0.5
KAN01				IAmb_Lg		09 30 47.0	
	comp=Z,86nm,0.8s						
KAN09	**Caldwell North**	**1.75**	**184**		Pn	09 30 24.1	-0.3
CBKS	**Cedar Bluff**	**1.76**	**268**		Pn	09 30 23.9	-0.8
KAN17	**Caldwell West**	**1.85**	**187**		Pn	09 30 25.7	-0.2
KAN13	**South Haven SW**	**1.87**	**180**		Pn	09 30 26.1	0.0
KAN14	**Manchester OK**	**1.96**	**191**		Pn	09 30 27.1	-0.3
KAN14				IAmb_Lg		09 31 00.2	
	comp=Z,87nm,0.8s						
GC02	**Grant County #**	**2.05**	**189**		Pn	09 30 28.5	-0.2
T35A	**Sooner Cattle**	**2.11**	**158**		Pn	09 30 29.3	-0.1
BLOK	**Blackwell**	**2.13**	**174**	IAmb_Lg		09 31 00.1	
	comp=Z,91nm,0.8s						
CROK	**Carrier**	**2.41**	**190**		Pn	09 30 33.1	-0.5
N35A	**Tabor**	**2.43**	**35**		Pn	09 30 33.6	-0.3
OK051	**E0350 and S346**	**2.43**	**168**		Pn	09 30 33.0	-0.8
BGNE	**Belgrade**	**2.57**	**349**		Pn	09 30 36.4	+0.5
OK038	**West end E0370**	**2.60**	**203**		Pn	09 30 35.6	-0.6
QUOK	**Quay**	**2.78**	**167**		Pn	09 30 39.1	+0.5
QUOK				IAmb_Lg		09 31 19.8	
	comp=Z,55nm,0.8s						
OK052	**Battle Ridge R**	**2.94**	**169**	IAmb_Lg		09 31 32.7	
	comp=Z,45nm,0.8s						
OK029	**Liberty Lake**	**3.08**	**180**	Pn	Pn	09 30 42.0	-0.8
OK029				IAmb_Lg		09 31 30.4	
	comp=Z,57nm,0.8s						
P38A	**Dawn**	**3.15**	**75**		Pn	09 30 44.8	+1.0
P38A				IAmb_Lg		09 31 38.0	
	comp=Z,61nm,0.7s						
L34A	**Svendsen Farm,**	**3.19**	**15**	Pn	Pn	09 30 44.7	+0.4
L34A				IAmb_Lg		09 31 36.3	
	comp=Z,81nm,0.8s						
ELIS	**Ellis County**	**3.21**	**209**		Pn	09 30 44.3	-0.3
ELIS				IAmb_Lg		09 31 34.8	
	comp=Z,64nm,0.8s						
TUL3	**Leonard**	**3.26**	**155**		Pn	09 30 45.4	+0.1
RLO	**Rose Lookout**	**3.34**	**143**		Pn	09 30 46.2	-0.2
RLO				IAmb_Lg		09 31 39.5	
	comp=Z,42nm,0.7s						
CSTR	**Hydro, Custer**	**3.37**	**197**		Pn	09 30 45.5	-1.3
U38A	**Gravette**	**3.46**	**134**		Pn	09 30 47.8	-0.3
U38A				IAmb_Lg		09 31 46.1	
	comp=Z,48nm,0.8s						
OKCSW	**OKLAHOMA CITY**	**3.47**	**179**	IAmb_Lg		09 31 42.2	
	comp=Z,62nm,0.8s						
S39A	**Bolivar**	**3.48**	**109**		Pn	09 30 45.5	-2.8
N38A	**Joes South For**	**3.78**	**58**		Pn	09 30 53.4	+0.9
HHAR	**Hobbs**	**3.83**	**132**		Pn	09 30 52.6	-0.4
HHAR				IAmb_Lg		09 31 53.9	
	comp=Z,46nm,1.0s						
KSCO	**Kaye Shedlock'**	**4.01**	**273**	Pn	Pn	09 30 54.5	-1.2
OGNE	**Ogallala**	**4.06**	**302**	IAmb_Lg		09 32 10.5	
	comp=Z,47nm,0.8s						
R40A	**Maddies Statio**	**4.13**	**97**		Pn	09 30 56.6	-0.5
WMOK	**Wichita Mounta**	**4.27**	**195**		Pn	09 30 57.7	-1.4
WMOK				IAmb_Lg		09 32 08.5	
	comp=Z,30nm,0.8s						
P40A	**Paris**	**4.27**	**80**		Pn	09 30 59.0	-0.1
P40A				IAmb_Lg		09 32 06.3	
	comp=Z,41nm,0.8s						
X34A	**Smith Ranch, M**	**4.29**	**184**	IAmb_Lg		09 32 07.9	
	comp=Z,35nm,0.8s						
SMWD	**Samnorwood**	**4.37**	**211**		Pn	09 30 59.6	-1.0
SMWD				IAmb_Lg		09 32 11.5	
	comp=Z,30nm,0.7s						
MGMO	**Mountain Grove**	**4.46**	**111**		Pn	09 31 02.6	+0.7
MGMO				IAmb_Lg		09 32 20.5	
	comp=Z,30nm,0.7s						
RTBA	**Rita Blanca**	**4.83**	**241**		Pn	09 31 06.2	-0.8
RTBA				IAmb_Lg		09 32 28.9	
	comp=Z,31nm,0.7s						
LOOK	**Love County**	**4.89**	**177**	IAmb_Lg		09 32 30.4	
	comp=Z,29nm,0.7s						
ECSD	**EROS Data Cent**	**4.89**	**7**		Pn	09 31 08.3	+0.7
ECSD				IAmb_Lg		09 32 31.9	
	comp=Z,40nm,1.2s						
FCAR	**Ozark Folk Cen**	**5.21**	**123**	IAmb_Lg		09 32 53.9	
	comp=Z,31nm,0.7s						
AMTX	**Amarillo**	**5.22**	**221**		Pn	09 31 11.6	-0.7
AMTX				IAmb_Lg		09 32 42.9	
	comp=Z,41nm,0.8s						
MIAR	**Mount Ida**	**5.35**	**143**		Pn	09 31 13.5	-0.5
MIAR				IAmb_Lg		09 32 43.5	
	comp=Z,38nm,0.8s						
WHAR	**Wooly Hollow**	**5.49**	**129**		Pn	09 31 15.9	+0.1
WHAR				IAmb_Lg		09 32 52.4	
	comp=Z,38nm,0.7s						
Z35A	**Perchaven, San**	**5.54**	**178**	IAmb_Lg		09 32 56.4	
	comp=Z,26nm,0.7s						
SLM	**Saint Louis**	**5.67**	**90**	IAmb_Lg		09 33 08.9	
	comp=Z,30nm,0.8s						
X40A	**Basin Creek Fa**	**5.76**	**138**	IAmb_Lg		09 32 51.8	
	comp=Z,43nm,0.8s						
LCAR	**Lake Charles**	**5.76**	**117**	IAmb_Lg		09 32 58.9	
	comp=Z,25nm,0.9s						
UALR	**University of**	**5.81**	**133**	IAmb_Lg		09 32 56.3	
	comp=Z,25nm,0.7s						
FW06	**Azle**	**5.90**	**181**	IAmb_Lg		09 33 00.9	
	comp=Z,24nm,0.8s						
DKNS	**Dickens**	**5.90**	**209**	IAmb_Lg		09 33 05.9	
	comp=Z,32nm,0.8s						
APMT	**Aspermont**	**5.95**	**202**	IAmb_Lg		09 33 14.4	
	comp=Z,21nm,0.7s						
PBMO	**Poplar Bluff**	**5.96**	**108**	IAmb_Lg		09 33 07.1	
	comp=Z,38nm,0.9s						
I37A	**Lemond, Waseca**	**5.97**	**30**	IAmb_Lg		09 33 18.4	
	comp=Z,20nm,0.8s						
WLAR	**White Oak Lake**	**6.27**	**144**	IAmb_Lg		09 33 26.2	
	comp=Z,28nm,0.7s						
CGM3	**Cape Girardeau**	**6.37**	**102**	IAmb_Lg		09 33 21.4	
	comp=Z,22nm,0.8s						
SDCO	**Great Sand Dun**	**6.41**	**262**	IAmb_Lg		09 33 15.8	
	comp=Z,28nm,1.1s						
SN07	**Snyder 07**	**6.41**	**207**	IAmb_Lg		09 33 14.1	
	comp=Z,22nm,0.9s						
MSTX	**Muleshoe**	**6.50**	**223**	IAmb_Lg		09 33 18.5	
	comp=Z,22nm,0.7s						
S44A	**Carbondale**	**6.58**	**98**	IAmb_Lg		09 33 24.0	
	comp=Z,36nm,0.8s						
SN05	**Snyder 5**	**6.60**	**206**	IAmb_Lg		09 33 29.9	
	comp=Z,24nm,0.8s						
Q44A	**Meyer Farm, Va**	**6.60**	**87**	IAmb_Lg		09 33 34.1	
	comp=Z,30nm,0.7s						
GNAR	**Gosnell**	**6.62**	**114**	IAmb_Lg		09 33 30.4	
	comp=Z,30nm,0.7s						
POST	**Post**	**6.66**	**211**	IAmb_Lg		09 33 29.8	
	comp=Z,20nm,0.7s						
WHTX	**Lake Whitney,**	**6.88**	**180**	IAmb_Lg		09 33 33.9	
	comp=Z,20nm,0.7s						
237A	**Washetta, Mont**	**7.00**	**168**	IAmb_Lg		09 33 39.2	
	comp=Z,30nm,0.8s						
F33A	**5 Mile Ranch,**	**7.01**	**7**		Pn	09 31 36.1	-0.6
F33A				IAmb_Lg		09 33 41.1	
	comp=Z,18nm,0.9s						
HALT	**Halls**	**7.13**	**112**	IAmb_Lg		09 33 36.8	
	comp=Z,31nm,0.7s						
I40A	**Norwalk**	**7.18**	**44**	IAmb_Lg		09 33 54.5	
	comp=Z,16nm,0.7s						
T45A	**Paducah**	**7.23**	**102**	IAmb_Lg		09 33 38.9	
	comp=Z,22nm,0.7s						
SPMN	**Marine on St.**	**7.23**	**27**	IAmb_Lg		09 33 41.4	
	comp=Z,18nm,0.9s						
OLIL	**Olney**	**7.33**	**88**	IAmb_Lg		09 33 53.5	
	comp=Z,19nm,0.7s						
NATX	**Nacogdoches**	**7.47**	**161**	IAmb_Lg		09 34 11.8	
	comp=Z,30nm,0.8s						
BRDY	**Brady**	**7.68**	**190**	IAmb_Lg		09 34 10.5	
	comp=Z,15nm,0.7s						
OXF	**Oxford**	**7.81**	**121**	IAmb_Lg		09 34 09.0	
	comp=Z,21nm,0.7s						
K22A	**Casper**	**7.83**	**302**	IAmb_Lg		09 34 17.3	
	comp=Z,22nm,0.9s						
WVT	**Waverly**	**8.15**	**107**	IAmb_Lg		09 34 35.0	
	comp=Z,26nm,1.1s						
I42A	**Draeger Farm,**	**8.15**	**49**	IAmb_Lg		09 34 19.8	
	comp=Z,20nm,0.8s						
PLAL	**Pickwick Lake**	**8.48**	**114**	IAmb_Lg		09 34 40.8	
	comp=Z,15nm,1.1s						
MNHN	**Monahans**	**8.68**	**211**	IAmb_Lg		09 34 46.3	
	comp=Z,17nm,0.7s						
Y22D	**IRIS PASSCAL I**	**8.99**	**241**	IAmb_Lg		09 34 49.1	
	comp=Z,22nm,0.8s						
MLDN	**Muldoon**	**9.09**	**178**	IAmb_Lg		09 35 06.4	
	comp=Z,16nm,1.0s						
MDND	**Maddock**	**9.09**	**351**	IAmb_Lg		09 35 07.4	
	comp=Z,21nm,0.7s						
Y22A	**Socorro**	**9.10**	**240**	IAmb_Lg		09 35 06.0	
	comp=Z,12nm,0.8s						
COWI	**Conover**	**9.48**	**38**	IAmb_Lg		09 35 15.0	
	comp=Z,12nm,0.8s						
AGMN	**Agassiz Nation**	**9.48**	**7**	IAmb_Lg		09 35 17.7	
	comp=Z,13nm,0.8s						
F42A	**Maple Grove Fa**	**9.75**	**42**	IAmb_Lg		09 35 14.6	
	comp=Z,18nm,0.8s						

NEIC 30 09:30:20.7±0.5**, 38°.83N**±0°.03×**97°.42W**±0°.06**, h5**km±1km**, mb_Lg3.5**/41**, Mwr3.2**/23(SLM)**, Error ellipse: s-maj=9.0km s-min=3.5km az=295.0, Kansas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSU1	**Kansas State U**	**0.69**	**67**	Pg	Pg	09 30 34.0	+0.1
KSU1				Sg	Sg	09 30 42.5	-0.3
R32A	**Long Quarter,**	**1.09**	**248**	Pg	Pg	09 30 40.2	-1.4
KAN12	**Harper NE Stat**	**1.60**	**197**		Pn	09 30 49.1	-0.5
KAN12					Sn	09 31 10.2	-0.4
KAN01	**Argonia South**	**1.70**	**189**	Pn	Pn	09 30 50.0	-0.9
KAN01					Sn	09 31 12.4	-0.6
KAN01				IAmb_Lg		09 31 13.3	
	comp=Z,210nm,0.8s						
KAN09	**Caldwell North**	**1.70**	**185**	Pn	Pn	09 30 50.4	-0.6
KAN09					Sn	09 31 13.2	0.0
KAN17	**Caldwell West**	**1.80**	**189**	Pn	Pn	09 30 52.4	0.0
KAN14	**Manchester OK**	**1.92**	**193**	Pn	Pn	09 30 53.6	-0.5
KAN14				IAmb_Lg		09 31 23.7	
	comp=Z,220nm,0.8s						
GC02	**Grant County #**	**2.01**	**190**	Pn	Pn	09 30 55.0	-0.2
T35A	**Sooner Cattle**	**2.04**	**159**	Pn	Pn	09 30 56.1	+0.3

BLOK	**Blackwell**	**2.07**	**175**	Pn	Pn	09 30 55.9	-0.2	
BLOK				IAmb_Lg		09 31 28.8		
	comp=Z,274nm,0.9s							
CROK	**Carrier**	**2.36**	**191**	Pn	Pn	09 31 00.2	+0.1	
CROK				IAmb_Lg		09 31 37.8		
	comp=Z,156nm,0.9s							
OK051	**E0350 and S346**	**2.37**	**168**	Pn	Pn	09 31 00.0	-0.1	
N35A	**Tabor**	**2.45**	**33**	Pn	Pn	09 31 01.8	+0.5	
OK038	**West end E0370**	**2.57**	**204**	Pn	Pn	09 31 02.5	-0.5	
BGNE	**Belgrade**	**2.63**	**348**	Pn	Pn	09 31 03.3	-0.6	
BGNE				IAmb_Lg		09 31 49.0		
	comp=Z,158nm,0.8s							
QUOK	**Quay**	**2.71**	**168**	Pn	Pn	09 31 04.1	-0.9	
QUOK				IAmb_Lg		09 31 54.6		
	comp=Z,144nm,0.9s							
OK052	**Battle Ridge R**	**2.88**	**170**	Pn	Pn	09 31 06.6	-0.6	
OK029	**Liberty Lake**	**3.03**	**180**	Pn	Pn	09 31 07.4	-1.9	
DEOK	**Depew**	**3.07**	**166**	Pn	Pn	09 31 09.1	-0.8	
P38A	**Dawn**	**3.12**	**74**	IAmb_Lg		09 32 05.0		
	comp=Z,163nm,0.8s							
ADOK	**Arcadia Dam**	**3.17**	**179**	Pn	Pn	09 31 10.3	-0.9	
ELIS	**Ellis County**	**3.19**	**211**	Pn	Pn	09 31 11.0	-0.5	
ELIS				IAmb_Lg		09 32 04.8		
	comp=Z,117nm,0.7s							
TUL3	**Leonard**	**3.19**	**155**		Pn	09 31 11.4	-0.1	
RLO	**Rose Lookout**	**3.27**	**144**	IAmb_Lg		09 32 09.3		
	comp=Z,174nm,0.9s							
CSTR	**Hydro, Custer**	**3.34**	**198**	Pn	Pn	09 31 12.7	-0.8	
U38A	**Gravette**	**3.39**	**134**	IAmb_Lg		09 32 11.6		
	comp=Z,149nm,0.7s							
OKCSW	**OKLAHOMA CITY**	**3.42**	**180**	Pn	Pn	09 31 13.2	-1.4	
HHAR	**Hobbs**	**3.76**	**132**	Pn	Pn	09 31 19.7	+0.4	
HHAR				IAmb_Lg		09 32 27.4		
	comp=Z,93nm,0.7s							
OGNE	**Ogallala**	**4.13**	**302**	IAmb_Lg		09 32 35.0		
	comp=Z,84nm,0.8s							
K30B	**Basset**	**4.18**	**337**	IAmb_Lg		09 32 30.7		
	comp=Z,160nm,0.8s							
WMOK	**Wichita Mounta**	**4.23**	**195**		Pn	09 31 24.9	-0.8	
X34A	**Smith Ranch, M**	**4.23**	**185**		Pn	09 31 25.6	-0.2	
SMWD	**Samnorwood**	**4.35**	**212**	IAmb_Lg		09 32 41.2		
	comp=Z,150nm,0.8s							
MGMO	**Mountain Grove**	**4.40**	**111**		Pn	09 31 27.4	-0.8	
FCAR	**Ozark Folk Cen**	**5.14**	**123**		Pn	09 31 37.1	-1.1	
AMTX	**Amarillo**	**5.21**	**222**		Pn	09 31 38.6	-0.8	
MIAR	**Mount Ida**	**5.28**	**143**	Pn	Pn	09 31 39.5	-0.6	
WHAR	**Wooly Hollow**	**5.42**	**129**		Pn	09 31 40.9	-1.1	
FVM	**French Village**	**5.56**	**97**	Pn	Pn	09 31 43.4	-0.7	
X40A	**Basin Creek Fa**	**5.69**	**138**	Pn	Pn	09 31 45.2	-0.7	
LCAR	**Lake Charles**	**5.70**	**117**	Pn	Pn	09 31 46.2	+0.3	
UALR	**University of**	**5.74**	**133**		Pn	09 31 46.2	-0.4	
PBMO	**Poplar Bluff**	**5.90**	**108**	Pn	Pn	09 31 48.0	-0.7	
PLPT	**Palo Pinto**	**6.05**	**187**		Pn	09 31 49.1	-1.7	
TREL	**Terrell**	**6.18**	**170**		Pn	09 31 51.9	-0.7	
P43A	**Skaggs, Pawnee**	**6.19**	**80**		Pn	09 31 52.4	-0.2	
WLAR	**White Oak Lake**	**6.20**	**145**		Pn	09 31 51.4	-1.4	
Q44A	**Meyer Farm, Va**	**6.56**	**87**		Pn	09 31 57.8	0.0	
Z41A	**Richland Creek**	**6.70**	**145**		Pn	09 31 58.7	-1.0	
237A	**Washetta, Mont**	**6.94**	**169**		Pn	09 32 00.9	-2.1	
GLAT	**Glass**	**6.95**	**109**	Pn	Pn	09 32 02.3	-0.9	
RSSD	**Black Hills**	**7.25**	**319**	Pn	Pn	09 32 07.9	+0.4	
OLIL	**Olney**	**7.28**	**88**		Pn	09 32 07.7	0.0	
CPRX	**Cap Rock**	**7.80**	**224**	Pn	Pn	09 32 13.6	-1.3	
P46A	**Rosedale**	**7.97**	**81**		Pn	09 32 17.0	-0.1	
ANMO	**Albuquerque**	**8.21**	**245**		Pn	09 32 21.1	+0.5	

*IDC **30** 09:35:36.2±3.3,53°.80N×88°.06E,h0km,mbtmp2.9/2, ML2.5/2,Error ellipse: s-maj=30.3km s-min=20.1km az=46.0*

ASRS 30 09:35:31.0±1.3,53°.82N×88°.19E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.00**	**275**	I	I	09 48 10.0	
	0.4nm,0.9s,baz=91,slow=318,SNR=7.0						
ZALV	**Zalesovo Beam**	**2.00**	**275**	Pn	Pg	09 36 10.1	+0.8
	1.1nm,0.3s,baz=94,slow=16,SNR=12						
ZALV				Lg	Lg	09 36 37.5	
	2.4nm,0.3s,baz=94,slow=27,SNR=16						
KURBB	**Kurchatov Arra**	**6.74**	**246**	Pn	Pn	09 37 15.8	+4.6
	0.1nm,0.3s,baz=57,slow=12,SNR=2.4						
KURBB				Lg	Lg	09 39 06.2	
	baz=62,slow=33,SNR=5.3						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**7.98**	**211**	Pn	Pn	09 37 33.7	+5.5
	0.1nm,0.3s,baz=30,slow=13,SNR=2.1						
	0.2nm,0.4s						

*PRE **30** 09:41:40.4±0.7,25°.59S×24°.58E,h5km,ML3.0*
*BGSI **30** 09:41:44.8±2.9,25°.83S×24°.95E,h0km±14km,ML2.9*

ISC 30 09:41:41.5±1.0,25°.60S±0°.03×24°.61E±0°.03,h15km±8km, n31,σ2s17/56,1C,Botswana

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAKGR	**Makgori**	**0.27**	**142**	*i* P	**Pb**	**09 41 47.5**	**-0.7**
MAKGR				*i* S	**Sg**	**09 41 50.2**	**-1.3**
MAKGR				IAML		09 41 51.2	
	comp=N,4μm,0.1s						
LBTB	**Lobatse**	**1.06**	**57**	*i* P	**Pn**	**09 42 03.2**	**+1.2**
LBTB				*i* S	**Sg**	**09 42 15.7**	**-0.3**
LBTB				IAML		09 42 18.7	
	comp=N,300nm,0.6s						
LBTB	**Lobatse**	**1.06**	**57**	*i* P	**Pg**	**09 42 01.3**	**-0.8**
LBTB				*e*S	**Sb**	**09 42 16.6**	**+1.1**
LBTB				IAML		09 42 20.1	
	comp=Z,326nm,0.2s						
SKOMA	**Sekoma**	**1.24**	**330**	*i* P	Pn	09 42 11.1	+6.7
SKOMA				*i* S	Sn	09 42 31.5	+11
SKOMA				IAML		09 42 40.7	
	comp=N,174nm,0.2s						
SKOMA	**Sekoma**	**1.24**	**330**	*i* P	Pn	09 42 11.2	+6.8
SKOMA				IAML		09 42 34.9	
	comp=E,125nm,0.2s						
PHPEN	**Phepeng**	**1.59**	**274**	*i* P	**Pg**	**09 42 14.2**	**+2.1**
PHPEN				*i* S	**Sg**	**09 42 38.0**	**+5.1**
KDWAN	**Kaudwane**	**2.21**	**1**	*i* P	**Pg**	**09 42 23.3**	**-0.6**
KDWAN				*i* S	**Sg**	**09 42 52.0**	**-0.6**
KDWAN				IAML		09 42 59.6	
	comp=N,838nm,0.3s						
KDWAN	**Kaudwane**	**2.21**	**1**	*i* P	**Pg**	**09 42 23.6**	**-0.3**
KDWAN				*i* S	**Sg**	**09 42 52.0**	**-0.6**
KDWAN				IAML		09 43 00.7	
	comp=E,243nm,0.2s						
LPHEP	**Lephephe**	**2.50**	**27**	*i* P	**Pb**	**09 42 25.6**	**-0.5**
LPHEP				*i* S	**Sb**	**09 42 55.6**	**-1.2**
LPHEP				IAML		09 43 10.7	
	comp=N,79nm,0.6s						
LPHEP	**Lephephe**	**2.50**	**27**	*i* P	**Pb**	**09 42 26.0**	**-0.2**
LPHEP				*i* S	**Sb**	**09 42 55.4**	**-1.4**
LPHEP				IAML		09 43 10.2	
	comp=E,79nm,0.5s						
HRAO	**HartRAO**	**2.79**	**97**	*e*P	**Pn**	**09 42 26.6**	**+0.9**
HRAO				*e*S	**Sn**	**09 43 00.4**	**+1.3**
HRAO				IAML		09 43 09.2	
	comp=Z,116nm,0.6s						
BOSA	**Boshof**	**3.06**	**169**	*i* P	**Pn**	**09 42 29.6**	**+0.2**
BOSA				*i* P	Pb	09 42 30.3	-5.4
BOSA				*i* S	**Sn**	**09 43 00.2**	**-5.6**
BOSA				IAML		09 43 16.6	
	comp=Z,72nm,0.6s						
BOSA	**Boshof**	**3.06**	**169**	*e*P	**Pn**	**09 42 30.5**	**+1.1**
BOSA				*e*S	**Sn**	**09 43 07.0**	**+1.1**
BOSA				IAML		09 43 16.8	
	comp=Z,74nm,0.5s						
LEPH	**Lephalale, Lim**	**3.37**	**60**	*e*P	**Pn**	**09 42 35.0**	**+1.3**
LEPH				*e*S	**Sn**	**09 43 14.9**	**+1.3**
LEPH				IAML		09 43 28.2	
	comp=Z,53nm,0.3s						
KGCAE	**Kacgae**	**3.51**	**321**	*i* P	**Pb**	**09 42 42.4**	**-0.9**
KGCAE				*i* S	**Sb**	**09 43 26.8**	**+1.0**
KGCAE				IAML		09 43 45.7	
	comp=N,79nm,0.2s						
KGCAE	**Kacgae**	**3.51**	**321**	*i* P	**Pb**	**09 42 44.2**	**+0.8**
KGCAE				*i* S	**Sg**	**09 43 29.4**	**-4.8**
KGCAE				IAML		09 43 54.2	
	comp=E,75nm,0.3s						
MREMI	**Moremi**	**3.97**	**41**	*i* P	**Pn**	**09 42 44.8**	**+2.8**
MREMI				*i* S	**Sn**	**09 43 27.0**	**-1.4**
MREMI				IAML		09 43 52.5	
	comp=N,221nm,0.3s						
MREMI	**Moremi**	**3.97**	**41**	*i* P	**Pn**	**09 42 45.8**	**+3.8**
MREMI				IAML		09 43 47.9	
	comp=E,306nm,0.3s						
ALKP	**Alkanpan, Nort**	**4.81**	**205**	*e*P	**Pn**	**09 42 54.1**	**+0.6**
ALKP				*e*S	**Sn**	**09 43 48.0**	**-1.0**
ALKP				IAML		09 44 08.1	
	comp=Z,50nm,0.1s						
AUGR	**Augrabies**	**4.84**	**231**	*e*P	**Pn**	**09 42 54.5**	**+0.6**
AUGR				*e*S	**Sn**	**09 43 48.4**	**-1.3**
AUGR				IAML		09 44 25.7	
	comp=Z,18nm,0.5s						
ARMS	**Ukamas**	**4.99**	**240**	*e*P	**Pn**	**09 42 56.7**	**+0.8**
ARMS				*e*S	**Sn**	**09 43 52.8**	**-0.6**
BROLN	**Tlhalogang**	**5.13**	**30**	*i* P	**Pn**	**09 43 01.5**	**+3.6**
BROLN				*i* S	**Sn**	**09 44 00.0**	**+3.1**
BROLN				IAML		09 44 28.2	
	comp=Z,28nm,0.5s						
GRTLG	**Ghanzi**	**5.25**	**323**	*i* P	Pn	09 43 05.8	+6.2
GRTLG				*i* S	**Sb**	**09 44 09.3**	**-6.6**
GRTLG				IAML		09 44 51.0	
	comp=N,24nm,0.2s						
BFON	**Badsfontein, M**	**6.23**	**187**	*e*P	**Pn**	**09 43 14.7**	**+1.7**
BFON				*e*S	**Sn**	**09 44 22.9**	**-1.2**
BFON				IAML		09 44 52.1	
	comp=Z,62nm,0.5s						
BRAK	**Brakfontein**	**6.34**	**193**	*e*P	**Pn**	**09 43 15.5**	**+1.0**
BRAK				*e*S	**Sn**	**09 44 25.1**	**-1.7**
BRAK				IAML		09 45 00.5	
	comp=Z,31nm,0.3s						
KSTD	**Kokstad**	**6.50**	**141**	*e*P	**Pn**	**09 43 18.9**	**+2.2**
KSTD				*e*S	**Sn**	**09 44 29.5**	**-1.1**
KSTD				IAML		09 45 04.0	
	comp=Z,9.2nm,0.4s						
GRAF	**Camdeboo Natio**	**6.66**	**181**	*e*P	**Pn**	**09 43 20.0**	**+1.2**
GRAF				*e*S	**Sn**	**09 44 33.6**	**-0.9**
GRAF				IAML		09 45 07.7	
	comp=Z,26nm,0.5s						
FRAZ	**Fraserburg**	**6.91**	**203**	*e*P	**Pn**	**09 43 23.1**	**+0.7**
FRAZ				*e*S	**Sn**	**09 44 38.5**	**-2.2**
FRAZ				IAML		09 45 14.7	
	comp=Z,20nm,0.4s						
GRAN	**Grantham**	**7.01**	**197**	*e*P	**Pn**	**09 43 24.4**	**+0.7**
GRAN				*e*S	**Sn**	**09 44 41.8**	**-1.4**
GRAN				IAML		09 45 19.1	
	comp=Z,26nm,0.5s						
AUSN	**Aus**	**7.58**	**260**	*e*P	**Pn**	**09 43 32.6**	**+0.9**
AUSN				*e*S	**Sn**	**09 44 54.6**	**-2.8**
GRHM	**Grahamstown, E**	**7.80**	**169**	*e*P	**Pn**	**09 43 36.7**	**+2.1**
GRHM				*e*S	**Sn**	**09 45 00.4**	**-2.3**
GRHM				IAML		09 45 50.5	
	comp=Z,9.9nm,0.7s						

*IDC **30** 09:57:15.0±6.5,21°.24S×179°.11W,h570km±62km,mb3.1/8, mbtmp4.1/10,Error ellipse: s-maj=53.3km s-min=18.0km az=49.0*

ISC 30 09:57:19.3±1.2,21°.6S±0°.2×179°.4W±0°.2,h604km,n14, σ1s84/16,mb3.6/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.16**	**266**	P	**P**	**10 00 09.6**	**-0.2**
	3.3nm,0.6s,baz=106,slow=16,SNR=7.3						
URZ	**Urewera**	**16.83**	**190**	P	**P**	**10 00 43.4**	**-0.4**
	2.8nm,0.3s,baz=324,slow=19,SNR=9.0						
URZ				S	**S**	**10 03 25.4**	**-4.8**
	4.7nm,0.5s,baz=92,slow=21,SNR=6.3						
STKA	**Stephens Creek**	**36.13**	**245**	P	**P**	**10 03 33.6**	**+1.4**
	0.9nm,0.4s,baz=109,slow=7.4,SNR=3.3						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**43.00**	**258**	P	**P**	**10 04 27.9**	**+0.6**
	1.2nm,0.5s,baz=93,slow=8.3,SNR=31						
ASAR				PcP	**PcP**	**10 06 03.5**	**0.0**
	0.6nm,0.6s,baz=102,slow=3.6,SNR=9.8						
ASAR				S	**S**	**10 10 09.6**	**-0.8**
	0.6nm,0.9s,baz=98,slow=15,SNR=4.9						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**43.17**	**264**	P	**P**	**10 04 28.2**	**-0.4**
	0.8nm,0.2s,baz=96,slow=7.6,SNR=73						
	0.8nm,0.2s						
FITZ	**Fitzroy Crossi**	**51.60**	**264**	P	**P**	**10 05 32.1**	**+0.7**
	0.8nm,0.3s,baz=104,slow=6.8,SNR=12						
	0.8nm,0.3s						
VNDA	**Vanda**	**56.66**	**185**	P	**P**	**10 06 08.2**	**+2.3**
	0.5nm,0.6s,baz=24,slow=9.0,SNR=3.1						
	0.5nm,0.6s						
QSPA	**South Pole Qui**	**68.43**	**180**	P	**P**	**10 07 23.7**	**+1.9**
	3.6nm,0.8s,baz=73,slow=0.6,SNR=23						
	3.6nm,0.8s						
MAW	**Mawson**	**80.05**	**200**	P	**P**	**10 08 26.7**	**-0.1**
	1.5nm,0.9s,baz=144,slow=8.7,SNR=2.1						
	1.5nm,0.9s						
SNAA	**Sanae**	**86.90**	**179**	P	**P**	**10 09 00.4**	**-0.4**
	0.3nm,0.4s,baz=198,slow=9.6,SNR=11						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**119.11**	**320**	PKP	**PKPdf**	**10 14 58.4**	**-1.8**
	0.7nm,0.4s,baz=116,slow=2.7,SNR=3.0						
AKASG	**Malin Array Be**	**143.35**	**329**	PKP	PKPbc	10 15 42.8	-1.6
	0.8nm,0.4s,baz=49,slow=4.0,SNR=9.4						
BRTR	**Keskin Array B**	**146.61**	**310**	PKPbc	**PKPbc**	**10 15 53.0**	**-1.6**
	0.7nm,0.7s,baz=109,slow=6.7,SNR=3.6						
GERES	**GERESS Array B**	**150.91**	**342**	PKPbc	**PKiKP**	**10 16 03.6**	**-1.4**
	0.3nm,0.3s,baz=62,slow=4.9,SNR=2.2						

*IDC **30** 10:05:54.5±7.5,25°.23S×179°.59E,h445km±83km,mb3.2/4, mbtmp4.0/5,Error ellipse: s-maj=52.9km s-min=27.1km az=25.0*
*NOU **30** 10:05:59.8,25°.42S×179°.19E,h498km,mb3.9/10,South of Fiji Islands*

ISC 30 10:05:59.7±0.8,25°.51S±0°.09×179°.5E±0°.1,h507km,n15, σ1s53/17,mb3.6/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.40**	**148**	P	**P**	**10 07 23.7**	**+1.9**
LKBA	**Tubou, Lakemba**	**7.42**	**13**	P	**P**	**10 07 48.9**	**-1.6**
MSVF	**Nonsavu**	**7.85**	**350**	P	**P**	**10 07 53.1**	**-1.9**
TAVE	**Taveuni**	**8.78**	**4**	P	**P**	**10 08 04.1**	**-0.4**
YSA	**Yasawairara**	**8.94**	**348**	P	**P**	**10 08 05.2**	**-1.0**
DGTI	**Dogotuki**	**9.17**	**2**	P	**P**	**10 08 07.6**	**-1.0**
URZ	**Urewera**	**12.86**	**188**	P	**P**	**10 08 45.9**	**-1.3**
	4.9nm,0.5s,baz=354,slow=9.2,SNR=5.8						
URZ				S	**S**	**10 11 01.5**	**-3.7**
	7.5nm,0.7s,baz=213,slow=21,SNR=7.9						
URZ	**Urewera**	**12.86**	**188**	P	**P**	**10 08 46.7**	**-0.5**
QRZ	**Quartz Range**	**16.32**	**199**	P	**P**	**10 09 24.1**	**+0.7**
KHZ	**Kahutara**	**17.55**	**195**	P	**P**	**10 09 35.4**	**0.0**
RPZ	**Rata Peaks**	**19.41**	**199**	P	**P**	**10 09 53.9**	**+1.5**
ASAR	**Alice Springs**	**41.30**	**263**	P	**P**	**10 13 01.3**	**+0.5**
	2.2nm,0.8s,baz=92,slow=7.6,SNR=41						
ASAR				S	**S**	**10 18 39.4**	**+1.1**
	0.4nm,0.8s,baz=104,slow=15,SNR=4.4						
	2.2nm,0.8s						
WRA	**Warramunga Arr**	**41.83**	**268**	P	**P**	**10 13 04.9**	**0.0**
	2.6nm,0.6s,baz=99,slow=7.4,SNR=28						
	2.6nm,0.6s						
QSPA	**South Pole Qui**	**64.58**	**180**	P	**P**	**10 15 47.5**	**+1.1**
	1.1nm,1.0s,baz=17,slow=2.4,SNR=2.1						
	1.1nm,1.0s						
TXAR	**Lajitas Array**	**91.70**	**58**	P	**P**	**10 18 12.9**	**-0.1**
	0.3nm,0.8s,baz=196,slow=5.1,SNR=4.0						
	0.3nm,0.8s						

*IDC **30** 10:15:17.4±1.0,3°.04N×126°.79E,h0km,mb3.8/7, mbtmp3.8/7,MS3.1/3,Error ellipse: s-maj=76.4km s-min=16.8km az=72.0*

ISC 30 10:15:23.6±0.9,3°.0N±0°.2×126°.8E±0°.4,h44km,n11, σ0s56/9,mb3.9/7,MS3.1/3,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.03**	**183**	P	**P**	**10 20 04.0**	**+0.2**
	2.0nm,0.6s,baz=26,slow=10,SNR=14						
	2.0nm,0.6s						
JOW	**Lunigami**	**23.71**	**3**	LR	LR	10 30 00.8	
	comp=Z,28nm,21.5s,baz=160,slow=37						
WRA	**Warramunga Arr**	**23.99**	**162**	P	**P**	**10 20 33.6**	**-0.8**
	2.7nm,0.6s,baz=340,slow=9.9,SNR=5.3						
	2.7nm,0.6s						
ASAR	**Alice Springs**	**27.41**	**166**	P	**P**	**10 21 04.6**	**-0.8**
	0.4nm,0.7s,baz=342,slow=9.3,SNR=7.8						
ASAR				PcP	**PcP**	**10 24 23.8**	**+0.2**
	0.2nm,0.7s,baz=336,slow=2.9,SNR=2.7						
	0.4nm,0.7s						
KSRS	**Korea Array**	**34.27**	**2**	P	**P**	**10 22 05.7**	**+0.2**
	0.4nm,0.3s,baz=184,slow=9.0,SNR=2.3						
	0.4nm,0.3s						
STKA	**Stephens Creek**	**37.44**	**159**	P	**P**	**10 22 33.2**	**+0.4**
	2.2nm,0.6s,baz=341,slow=11,SNR=5.4						
	2.2nm,0.6s						
SONM	**Songino Array**	**47.99**	**342**	LR	LR	10 44 40.6	
	comp=Z,22nm,19.5s,baz=260,slow=37						
MKAR	**Makanchi Array**	**58.19**	**325**	P	**P**	**10 25 13.1**	**-0.2**
	0.7nm,0.5s,baz=129,slow=7.5,SNR=7.5						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**62.38**	**328**	P	**P**	**10 25 41.4**	**-0.5**
	0.9nm,0.5s,baz=128,slow=6.3,SNR=9.6						
	0.9nm,0.5s						
KDAK	**Kodiak Island**	**82.42**	**32**	LR	LR	10 58 09.3	
	comp=Z,16nm,21.2s,baz=119,slow=31						
TORD	**Torodi Ar. Bea**	**123.24**	**288**	PKP	**PKiKP**	**10 34 17.4**	**+0.4**
	1.8nm,0.3s,baz=32,slow=2.5,SNR=2.1						

*JMA **30** 10:32:01.9±0.3,25°.N±2°.×122°.3E±0°.5,h132km±2km, MV2.1/11,TAIWAN REGION*
*TAP **30** 10:32:02.0,24°.89N×122°.30E,h130km,ML2.9,D*

ISC 30 10:32:02.2±1.8,24°.90N±0°.06×122°.29E±0°.03, h130km±10km,n61,σ0s79/119,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.30**	**292**	*e*P	**Pn**	**10 32 20.1**	**-0.2**
TIPB	**Shuangxi**	**0.43**	**280**	*i* P	**Pn**	**10 32 20.8**	**-0.1**
TIPB				*i* S	**Sn**	**10 32 34.3**	**-0.7**
EOS2	**EOS2**	**0.48**	**187**	*e*P	**Pn**	**10 32 21.2**	**+0.2**
EOS2				*e*S	**Sn**	**10 32 37.0**	**+1.9**
TWC	**Suao**	**0.49**	**235**	*i* P	**Pn**	**10 32 20.9**	**-0.3**
TWC				*i* S	**Sn**	**10 32 34.4**	**-1.2**
NDS	**Dongshan**	**0.58**	**244**	*e*P	**Pn**	**10 32 22.2**	**+0.5**
NDS				*i* S	**Sn**	**10 32 35.5**	**-1.1**
TWE	**Neicheng**	**0.59**	**253**	*i* P	**Pn**	**10 32 22.3**	**+0.5**
TWE				*i* S	**Sn**	**10 32 36.5**	**-0.1**
EOS3	**EOS3**	**0.61**	**178**	*e*P	**Pn**	**10 32 22.6**	**+0.8**
EOS3				*e*S	**Sn**	**10 32 36.9**	**+0.4**
FUSB	**Fushanzhiwuyua**	**0.65**	**258**	*i* P	**Pn**	**10 32 22.2**	**-0.1**
FUSB				*i* S	**Sn**	**10 32 37.2**	**-0.3**
ENA	**Nanau**	**0.68**	**227**	*i* P	**Pn**	**10 32 22.6**	**+0.1**
ENA				*i* S	**Sn**	**10 32 38.1**	**+0.4**
YM01	**YM01**	**0.70**	**291**	*e*P	**Pn**	**10 32 23.0**	**+0.4**
YM01				*e*S	**Sn**	**10 32 37.9**	**-0.1**
ENTT	**Nioudou**	**0.71**	**249**	*i* P	**Pn**	**10 32 23.6**	**+0.9**
ENTT				*i* S	**Sn**	**10 32 38.7**	**+0.7**
NWLT	**Wulai**	**0.73**	**261**	*i* P	**Pn**	**10 32 22.9**	**+0.1**
NWLT				*i* S	**Sn**	**10 32 38.2**	**-0.2**
EOS4	**EOS4**	**0.77**	**178**	*e*P	**Pn**	**10 32 22.7**	**0.0**
EOS4				*e*S	**Sn**	**10 32 40.1**	**+1.9**
LATG	**Datong**	**0.78**	**243**	*i* P	**Pn**	**10 32 23.9**	**+0.6**
LATG				*i* S	**Sn**	**10 32 38.5**	**-0.8**
YOJ	**Yonaguni jima**	**0.78**	**123**	*e*P	**Pn**	**10 32 23.3**	**-0.1**
YOJ	**Yonaguni jima**	**0.78**	**123**	*i* P	**Pn**	**10 32 23.1**	**-0.1**
YOJ				*i* S	**Sn**	**10 32 39.2**	**+0.1**
YHNB	**Yeheng**	**0.86**	**255**	*i* P	**Pn**	**10 32 23.8**	**-0.1**
YHNB				*i* S	**Sn**	**10 32 39.5**	**-0.9**
NSK	**Sanguang**	**0.88**	**256**	*i* P	**Pn**	**10 32 24.1**	**0.0**
NSK				*i* S	**Sn**	**10 32 39.9**	**-0.7**
NNSB	**Datong**	**0.95**	**241**	*i* P	**Pn**	**10 32 24.9**	**+0.1**
NNSB				*i* S	**Sn**	**10 32 41.5**	**-0.3**
NNS	**Nan Shan**	**0.95**	**242**	*i* P	**Pn**	**10 32 25.1**	**+0.3**
NNS				*i* S	**Sn**	**10 32 41.9**	**0.0**
ETL	**Fush Village**	**0.95**	**220**	*e*P	**Pn**	**10 32 24.8**	**0.0**
ETL				S	**Sn**	**10 32 42.0**	**+0.2**
NACB	**Ninganchiao**	**0.96**	**222**	*i* P	**Pn**	**10 32 24.7**	**0.0**
NACB				*i* S	**Sn**	**10 32 41.0**	**-0.8**
ETLH	**Xiulin Townshi**	**1.01**	**227**	*i* P	**Pn**	**10 32 25.4**	**+0.1**
ETLH				*i* S	**Sn**	**10 32 42.4**	**-0.3**
KSHI	**Guanxi Townshi**	**1.02**	**264**	*i* P	**Pn**	**10 32 25.5**	**+0.3**
KSHI				*i* S	**Sn**	**10 32 43.1**	**+0.4**
TWD	**Chiawan**	**1.03**	**218**	*e*P	**Pn**	**10 32 24.9**	**-0.5**
TWD				*i* S	**Sn**	**10 32 42.8**	**-0.2**
NFF	**Wufeng Townshi**	**1.10**	**256**	P	**Pn**	**10 32 26.0**	**-0.1**
NFF				*i* S	**Sn**	**10 32 43.2**	**-1.0**
FUSS	**Fushou**	**1.15**	**236**	*e*P	**Pn**	**10 32 27.8**	**+0.9**
FUSS				*i* S	**Sn**	**10 32 46.0**	**+0.5**
ETM	**Tongmen**	**1.18**	**218**	*e*P	**Pn**	**10 32 26.1**	**-0.7**
ETM				S	**Sn**	**10 32 44.5**	**-1.0**
LXIB	**Xiulin Townshi**	**1.18**	**223**	*i* P	**Pn**	**10 32 26.7**	**-0.3**
LXIB				S	**Sn**	**10 32 45.2**	**-0.7**

az=199.0
*THE **30** 10:36:21.6,37°N±2°×2°0E±°, h0km±1km,M4.0/33, MLh4.0/33*
*PDG **30** 10:36:21.7±0.4,37°.44N×20°.41E,h17km,ML4.5/12,Error ellipse: s-maj=0.8km s-min=0.7km az=90.0*
*MED_RC **30** 10:36:22.0±1.6,37°.44N×20°.13E,h16km±2km,MW4.3/14, Moment Tensor Solution.Mantle waves: s14,c18; Duration: 1ŝ0 Moment tensor: Scale 10¹⁵Nm; Mrr1.86±.42; Mθθ-1.48±.24; Mϕϕ-0.38±.26; Mrθ3.10±.66; Mθϕ0.66±.30; Mϕr-1.34±.48; Best double couple: M☉3.84000×10¹⁵ NP1☉s297.00000°,δ14.00000°, λ93.00000°. NP2☉s114.00000°,δ76.00000°,λ89.00000°. Principal axes: T 3.8700, Plg59.0000°, Azm23.0000°; N -0.0800, Plg1.0000°, Azm114.0000°; P -3.8000, Plg31.0000°, Azm204.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*ATH **30** 10:36:22.4±0.4,37°.45N×20°.45E,h7km,ML4.1/28,Manual Solution by G.Panopoulou First location: 2019/07/30 10:37:29, This location: 2020/11/04 18:35:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
*NAO **30** 10:36:27.1,37°.44N×20°.44E,h10km,mb4.6*
*HLW **30** 10:36:30.0,37°.13N×21°.49E,h26km±15km,Md4.7,Ml3.8*
ISC 30 10:36:20.9±0.9,**37°44N**±0°03×**20°39E**±0°03,**h12**km±6km, **n375,σ1ŝ44**/390,**mb4.5**/45,**MS3.4**/25,**22C-18D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
KRI1	**kERI**	**0.40**	**57**	P		**Pb**	**Pb**	**10 36 29.9**	**-0.1**
KRI1				S			**Sb**	**10 36 36.2**	**+0.1**
KRI1	**kERI**	**0.40**	**57**	P		**Pb**	**Pb**	**10 36 29.6**	**-0.4**
KRI1				S			**Sb**	**10 36 36.1**	**0.0**
LTHK	**Lithakia**	**0.44**	**53**	P		**Pb**	**Pb**	**10 36 30.4**	**-0.3**
LTHK				S			**Sb**	**10 36 37.2**	**0.0**
LTHK	**Lithakia**	**0.44**	**53**	P		**Pb**	**Pb**	**10 36 30.3**	**-0.3**
LTHK				S			**Sb**	**10 36 37.2**	**0.0**
ORTH	**Orthonies,Zaky**	**0.47**	**31**	P		**Pb**	**Pb**	**10 36 31.1**	**-0.1**
ORTH				S			**Sb**	**10 36 38.1**	**0.0**
KYPS	**Kipseli, Zakin**	**0.51**	**42**	P		**Pb**	**Pb**	**10 36 31.9**	**+0.1**
KYPS				S			**Sb**	**10 36 39.2**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.69**	**13**	P		**Pb**	**Pb**	**10 36 35.0**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.69**	**13**	P		**Pb**	**Pb**	**10 36 35.0**	**+0.2**
RTZL	**Ratzakli, Kefa**	**0.70**	**25**	P		**Pb**	**Pb**	**10 36 35.2**	**+0.1**
ARG2	**Argostoli**	**0.74**	**6**	P		**Pn**	**Pn**	**10 36 36.8**	**-0.3**
CLEM	**Kyllini,Ilia,G**	**0.74**	**53**	P		**Pn**	**Pn**	**10 36 36.4**	**-0.7**
VLS	**Valsamata**	**0.75**	**12**	P		**Pb**	**Pb**	**10 36 36.0**	**+0.1**
VLS	**Valsamata**	**0.75**	**12**	P		**Pb**	**Pb**	**10 36 36.0**	**+0.1**
DMLN	**Damoulianata-K**	**0.79**	**359**	P		**Pb**	**Pb**	**10 36 37.1**	**+0.4**
DMLN	**Damoulianata-K**	**0.79**	**359**	P		**Pb**	**Pb**	**10 36 37.2**	**+0.6**
YRMI	**Loutra Irminis**	**1.01**	**49**	P		**Pn**	**Pn**	**10 36 40.7**	**-0.1**
FSK	**Fiskardo**	**1.02**	**8**	P		**Pg**	**Pg**	**10 36 40.8**	**+0.2**
FSK				S			**Sn**	**10 36 57.0**	**+1.7**
FSK	**Fiskardo**	**1.02**	**8**	P		**Pn**	**Pn**	**10 36 41.0**	**0.0**
RLS	**Riolos of Patr**	**1.05**	**54**	P		**Pb**	**Pb**	**10 36 40.9**	**-0.1**
RLS				S			**Sn**	**10 36 57.5**	**+1.6**
RLS	**Riolos of Patr**	**1.05**	**54**	P		**Pb**	**Pb**	**10 36 41.1**	**+0.1**
AMT	**Artemida-Makis**	**1.05**	**85**	P		**Pb**	**Pb**	**10 36 41.1**	**0.0**
AXS	**Araxos**	**1.08**	**46**	P		**Pn**	**Pn**	**10 36 42.0**	**+0.1**
PYL1	**Pylos**	**1.17**	**116**	P		**Pb**	**Pb**	**10 36 42.8**	**-0.1**
PYL1				S			**Sn**	**10 36 58.7**	**-0.1**
EVGI	**Lefkada island**	**1.19**	**10**	P		**Pg**	**Pg**	**10 36 43.8**	**0.0**
EVGI	**Lefkada island**	**1.19**	**10**	P		**Pg**	**Pg**	**10 36 43.9**	**0.0**
MTHA	**Methoni**	**1.20**	**120**	P		**Pg**	**Pg**	**10 36 44.6**	**+0.2**
MSL1	**Messolongi**	**1.24**	**41**	P		**Pg**	**Pg**	**10 36 45.2**	**+0.5**
DRAG	**Dragano-Lefkad**	**1.25**	**7**	P		**Pg**	**Pg**	**10 36 45.7**	**+0.8**
ITM	**Ithomi**	**1.25**	**102**			**Pb**	**Pb**	**10 36 44.6**	**+0.1**
ITM	**Ithomi**	**1.25**	**102**	P		**Pg**	**Pg**	**10 36 44.8**	**-0.2**
ITM				S			**Sg**	**10 37 03.4**	**+2.1**
ITM	**Ithomi**	**1.25**	**102**	P		**Pb**	**Pb**	**10 36 44.5**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.29**	**11**	P		**Pg**	**Pg**	**10 36 45.9**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.29**	**11**	P		**Pg**	**Pg**	**10 36 46.3**	**+0.6**
LKD2	**Lefkada island**	**1.36**	**9**	P		**Pb**	**Pb**	**10 36 46.7**	**+0.4**
LKD2	**Lefkada island**	**1.36**	**9**	P		**Pg**	**Pg**	**10 36 47.1**	**+0.1**
TSLK	**Tsoukalades, L**	**1.40**	**9**	P		**Pg**	**Pg**	**10 36 48.2**	**+0.5**
PVO	**Paravola**	**1.48**	**37**	P		**Pg**	**Pg**	**10 36 49.2**	**0.0**
PVO	**Paravola**	**1.48**	**37**	P		**Pg**	**Pg**	**10 36 49.1**	**-0.1**
VVK	**Vomvokou**	**1.49**	**49**	P		**Pg**	**Pg**	**10 36 49.2**	**-0.3**
VVK				S			**Sb**	**10 37 07.8**	**+0.4**
KLV	**Kalavryta, Ach**	**1.52**	**66**	P		**Pb**	**Pb**	**10 36 49.2**	**+0.2**
EFP	**Efpalio**	**1.55**	**50**	P		**Pb**	**Pb**	**10 36 50.1**	**+0.6**
EFP	**Efpalio**	**1.55**	**50**	P		**Pb**	**Pb**	**10 36 49.9**	**+0.4**
VLX	**Vlachokerasia**	**1.59**	**92**	P		**Pb**	**Pb**	**10 36 50.2**	**0.0**
AMPL	**Ampelaki**	**1.61**	**23**	P		**Pb**	**Pb**	**10 36 51.0**	**+0.4**
AMPL				S			**Sb**	**10 37 11.7**	**+0.8**
GUR	**Goura**	**1.62**	**72**	P		**Pb**	**Pb**	**10 36 50.9**	**0.0**
GUR	**Goura**	**1.62**	**72**	P		**Pb**	**Pb**	**10 36 50.8**	**0.0**
SERG	**Sergoula**	**1.64**	**53**	P		**Pb**	**Pb**	**10 36 51.2**	**+0.2**
SERG	**Sergoula**	**1.64**	**53**	P		**Pb**	**Pb**	**10 36 51.1**	**+0.1**
ANX	**Ano Chora**	**1.67**	**46**	P		**Pb**	**Pb**	**10 36 52.1**	**+0.5**
ANX	**Ano Chora**	**1.67**	**46**	P		**Pb**	**Pb**	**10 36 51.9**	**+0.3**
KALE	**Kalithea**	**1.68**	**55**	P		**Pb**	**Pb**	**10 36 51.4**	**-0.4**
EVR	**Evrytania**	**1.85**	**37**	P		**Pb**	**Pb**	**10 36 54.1**	**-0.6**
TETR	**Tetrakomo, Epi**	**2.02**	**20**	P		**Pb**	**Pb**	**10 36 57.2**	**-0.4**
TETR	**Tetrakomo, Epi**	**2.02**	**20**	P		**Pb**	**Pb**	**10 36 57.0**	**-0.6**
MAKR	**Makrakomi, Fth**	**2.08**	**41**	P		**Pb**	**Pb**	**10 36 57.4**	**-1.2**
IGT	**Igoumenitsa**	**2.09**	**359**	P		**Pb**	**Pb**	**10 36 57.5**	**-1.1**
IGT	**Igoumenitsa**	**2.09**	**359**	P		**Pb**	**Pb**	**10 36 57.5**	**-1.1**
IGT	**Igoumenitsa**	**2.09**	**359**	P		**Pn**	**Pn**	**10 36 57.0**	**+1.3**
LOUT	**Loutraki**	**2.12**	**74**	P		**Pb**	**Pb**	**10 36 57.6**	**+1.5**
VLI	**Veliai**	**2.10**	**109**	P		**Pb**	**Pb**	**10 36 58.7**	**-1.2**
VLI	**Veliai**	**2.16**	**109**	P		**Pb**	**Pb**	**10 36 58.7**	**-1.2**
AGG	**Agios Georgios**	**2.19**	**44**	P		**Pb**	**Pb**	**10 36 59.4**	**-1.2**
AGG	**Agios Georgios**	**2.19**	**44**	P		**Pb**	**Pb**	**10 36 59.0**	**-1.5**
AGG	**Agios Georgios**	**2.19**	**44**	P		**Pb**	**Pb**	**10 36 59.1**	**-1.5**
AXAR	**Agios Charalam**	**2.23**	**53**	P		**Pb**	**Pb**	**10 36 60.0**	**-1.0**
AXAR	**Agios Charalam**	**2.23**	**53**	P		**Pn**	**Pn**	**10 36 58.9**	**+1.3**
JAN	**Janina**	**2.24**	**9**	P		**Pb**	**Pb**	**10 37 00.1**	**-1.2**
KEK	**Kerkira**	**2.31**	**349**		Pn	**Pb**	**Pb**	**10 37 01.2**	**-1.3**
KEK	**Kerkira**	**2.31**	**349**	P		**Pb**	**Pb**	**10 37 01.5**	**-1.0**
LKR	**Lokris**	**2.39**	**59**	P		**Pn**	**Pn**	**10 37 01.3**	**+1.5**
VILL	**Villia**	**2.42**	**72**	P		**Pn**	**Pn**	**10 37 01.9**	**+1.5**
KTHA	**Kythira Island**	**2.45**	**118**	P		**Pn**	**Pn**	**10 37 02.1**	**+1.5**
THL	**Klokotos Trika**	**2.47**	**31**	P		**Pb**	**Pb**	**10 37 03.6**	**-1.7**
TYRN	**Tyrnavos**	**2.69**	**32**	P		**Pn**	**Pn**	**10 37 05.9**	**+2.0**
DION	**Dionisos Attik**	**2.88**	**76**	P		**Pn**	**Pn**	**10 37 07.9**	**+1.3**
NEO	**Neokhori**	**2.90**	**43**	P		**Pn**	**Pn**	**10 37 08.4**	**+1.5**
SCTE	**Santa Cesarea**	**3.02**	**331**			**Pn**	**Pn**	**10 37 10.0**	**+1.4**
KZN	**Kozani**	**3.06**	**20**	P		**Pn**	**Pn**	**10 37 11.2**	**+2.1**
LIT	**Litokhoron**	**3.12**	**31**			**Pn**	**Pn**	**10 37 11.8**	**+1.9**
LIT	**Litokhoron**	**3.12**	**31**	P		**Pn**	**Pn**	**10 37 11.7**	**+1.9**
LIT	**Litokhoron**	**3.12**	**31**	P		**Pn**	**Pn**	**10 37 11.8**	**+1.9**
TIP	**Timpagrande**	**3.34**	**302**			**Pn**	**Pn**	**10 37 14.3**	**+1.3**
TIP	**Timpagrande**	**3.34**	**302**	⇓P		**Pn**	**Pn**	**10 37 14.9**	**+1.9**
TIP	**Timpagrande**	**3.34**	**302**	P		**Pn**	**Pn**	**10 37 14.7**	**+1.7**
FNA	**Florina**	**3.42**	**13**			**Pn**	**Pn**	**10 37 15.7**	**+1.6**
FNA	**Florina**	**3.42**	**13**	P		**Pn**	**Pn**	**10 37 16.3**	**+2.2**
FNA	**Florina**	**3.42**	**13**	P		**Pn**	**Pn**	**10 37 15.7**	**+1.6**
CEL	**Celeste**	**3.65**	**284**			**Pn**	**Pn**	**10 37 18.9**	**+1.6**
CEL	**Celeste**	**3.65**	**284**	P		**Pn**	**Pn**	**10 37 18.6**	**+1.4**
OHR	**Ohrid**	**3.68**	**5**	*i* Pn		**Pn**	**Pn**	**10 37 21.4**	**+3.8**
PLG	**Polygyros**	**3.77**	**38**	P		**Pn**	**Pn**	**10 37 20.4**	**+1.5**
SOH	**Sokhos**	**4.09**	**33**	P		**Pn**	**Pn**	**10 37 25.9**	**+2.7**
IDI	**Anoyia**	**4.22**	**119**	Pn		**Pn**	**Pn**	**10 37 26.3**	**+1.2**
IDI	**Anoyia**	**4.22**	**119**	Pn		**Pn**	**Pn**	**10 37 26.7**	**+1.7**
IDI	7.3nm,0.4s,baz=216,slow=5.0,SNR=11						Sn	**Sn**	**10 38 15.0**	**+0.7**
	6.6nm,0.3s,baz=337,slow=23,SNR=5.7									
VAY	**Valandovo**	**4.22**	**23**	*i* Pn		**Pn**	**Pn**	**10 37 27.3**	**+2.3**
MATE	**Matera**	**4.30**	**319**	⇑P		**Pn**	**Pn**	**10 37 27.0**	**+1.0**
CUC	**Castrocucco**	**4.39**	**307**			**Pn**	**Pn**	**10 37 27.1**	**-0.3**
SKO	**Skopje**	**4.59**	**10**	*i* Pn		**Pn**	**Pn**	**10 37 32.6**	**+2.5**
ULC	**Ulcinj**	**4.60**	**349**	⇓*i* Pn		**Pn**	**Pn**	**10 37 31.4**	**+1.2**
ULC				*i* Sn			**Sn**	**10 38 24.7**	**+1.1**
PEHC	**Pehcevo**	**4.74**	**23**	*i* Pn		**Pn**	**Pn**	**10 37 33.4**	**+1.2**
VAE	**Valguarnera**	**4.76**	**272**	Pn		**Pn**	**Pn**	**10 37 36.3**	**+3.9**
VAE	15nm,0.4s,baz=107,slow=7.7,SNR=1.5						Sn	**Sn**	**10 38 28.1**	**+0.6**
	11nm,0.3s,baz=112,slow=19,SNR=4.0									
ACER	**Acerenza**	**4.81**	**315**			**Pn**	**Pn**	**10 37 34.6**	**+1.5**
RAFF	**Raffo Rosso**	**4.81**	**269**			**Pn**	**Pn**	**10 37 32.8**	**-0.3**
DRME	**Dracevica, Mon**	**4.83**	**349**	⇓*i* Pn		**Pn**	**Pn**	**10 37 35.1**	**+1.8**
DRME				*i* Sn			**Sn**	**10 38 31.3**	**+2.1**
MMB	**Musomishta**	**4.85**	**31**	P		**Pn**	**Pn**	**10 37 36.0**	**+2.3**
KKB	**Krupnik**	**4.88**	**25**	P		**Pn**	**Pn**	**10 37 36.8**	**+2.8**
WDD	**Wied Dalam**	**4.98**	**253**	Pn		**Pn**	**Pn**	**10 37 35.3**	**-0.1**
BUM	**Brajici-Budva**	**4.99**	**347**	⇓*i* Pn		**Pn**	**Pn**	**10 37 36.2**	**+0.6**
BUM				*i* Sn			**Sn**	**10 38 35.3**	**+2.1**
PDG	**Podgorica**	**5.06**	**350**	Pn		**Pn**	**Pn**	**10 37 36.7**	**+0.2**
PDG	**Podgorica**	**5.06**	**350**	⇓P		**Pn**	**Pn**	**10 37 37.3**	**+0.8**
PDG	**Podgorica**	**5.06**	**350**	⇑*i* Pn		**Pn**	**Pn**	**10 37 38.9**	**+2.4**
PDG				*i* Sn			**Sn**	**10 38 35.7**	**+0.9**
HCY	**Herceg Novi**	**5.21**	**344**	⇓*i* Pn		**Pn**	**Pn**	**10 37 39.7**	**+1.2**
HCY				*i* Sn			**Sn**	**10 38 39.8**	**+1.3**
EZN	**Ezine**	**5.22**	**61**	⇑P		**Pn**	**Pn**	**10 37 41.3**	**+2.6**
CEME	**Cevo**	**5.22**	**348**	⇓*i* Pn		**Pn**	**Pn**	**10 37 39.3**	**+0.5**
CEME				*i* Sn			**Sn**	**10 38 40.4**	**+1.4**
RZN	**Rozhen**	**5.41**	**37**	P		**Pn**	**Pn**	**10 37 41.4**	**-0.2**
NKME	**Niksic**	**5.43**	**349**	*e*Pn		**Pn**	**Pn**	**10 37 43.9**	**+2.2**
NKME				*i* Sn			**Sn**	**10 38 45.3**	**+1.2**
IVA	**Berane**	**5.44**	**356**	*e*Pn		**Pn**	**Pn**	**10 37 43.1**	**+1.3**
IVA				*i* Sn			**Sn**	**10 38 43.4**	**-0.9**
RDO	**Rodhopi**	**5.44**	**46**			**Pn**	**Pn**	**10 37 42.2**	**+0.4**
KOME	**Kolasin**	**5.44**	**353**	⇑*i* Pn		**Pn**	**Pn**	**10 37 44.0**	**+2.1**
KOME				*i* Sn			**Sn**	**10 38 44.4**	**0.0**
TREB	**Trebinje**	**5.50**	**344**	*e*Pn		**Pn**	**Pn**	**10 37 40.8**	**-1.7**
PLNA	**Plana**	**5.54**	**24**	P		**Pn**	**Pn**	**10 37 46.0**	**+2.7**
ALN	**Alexandroupoli**	**5.59**	**50**			**Pn**	**Pn**	**10 37 44.4**	**+0.7**
ALN	**Alexandroupoli**	**5.59**	**50**	P		**Pn**	**Pn**	**10 37 44.4**	**+0.7**
SGRT	**San Giovanni R**	**5.60**	**322**			**Pn**	**Pn**	**10 37 45.3**	**+1.2**
VTS	**Vitosha**	**5.61**	**22**	P		**Pn**	**Pn**	**10 37 46.6**	**+2.4**
BRY	**Bratogost**	**5.63**	**346**	⇓*i* Pn		**Pn**	**Pn**	**10 37 44.6**	**+0.1**
BRY				*i* Sn			**Sn**	**10 38 48.6**	**-0.6**
PAOL	**Paolisi**	**5.77**	**310**	Pn		**Pn**	**Pn**	**10 37 47.7**	**+1.4**
UPM	**Unac-Piva**	**5.86**	**349**	⇓*i* Pn		**Pn**	**Pn**	**10 37 49.7**	**+1.9**
UPM				*i* Sn			**Sn**	**10 38 55.1**	**+0.1**
PLE	**Pljevlja**	**5.93**	**353**	⇑*i* Pn		**Pn**	**Pn**	**10 37 50.2**	**+1.6**
PLE				*i* Sn			**Sn**	**10 38 55.9**	**-0.6**
RUDO	**Rudo**	**6.22**	**353**	*e*Pn		**Pn**	**Pn**	**10 37 56.8**	**+4.4**
BOVS	**Bovan**	**6.27**	**9**	⇓P		**Pn**	**Pn**	**10 37 55.2**	**+2.2**
MPEP	**Malo Peshtene**	**6.43**	**22**	P		**Pn**	**Pn**	**10 37 57.8**	**+2.4**
PLVB	**Pleven**	**6.76**	**27**	⇑P		**Pn**	**Pn**	**10 38 02.2**	**+2.4**
INTR	**Introdacqua**	**6.77**	**314**			**Pn**	**Pn**	**10 38 00.9**	**+0.8**
ELND	**Elena**	**6.90**	**36**	⇓P		**Pn**	**Pn**	**10 38 04.2**	**+2.4**
SLUM	**Salum**	**7.15**	**145**	P		**Pn**	**Pn**	**10 38 03.1**	**-2.1**
KIJV	**Kijevo**	**7.22**	**336**	*e*Pn		**Pn**	**Pn**	**10 38 06.7**	**+0.5**
MDVR	**Moldovita**	**7.40**	**7**	⇑P		**Pn**	**Pn**	**10 38 08.8**	**+0.1**
HERR	**Herculane**	**7.59**	**11**	⇑P		**Pn**	**Pn**	**10 38 13.3**	**+2.1**
A050A	**Klekovaca**	**7.61**	**339**	*e*Pn		**Pn**	**Pn**	**10 38 12.9**	**+1.3**
BLY	**Banja Luka**	**7.69**	**343**	*e*Pn		**Pn**	**Pn**	**10 38 16.2**	**+3.6**
NRCA	**Norcia**	**7.75**	**316**			**Pn**	**Pn**	**10 38 13.8**	**+0.3**
FDMO	**Fiordimonte**	**7.90**	**317**			**Pn**	**Pn**	**10 38 16.6**	**+1.0**
CESX	**Cesi**	**7.91**	**313**	Pn		**Pn**	**Pn**	**10 38 17.3**	**+1.7**
A051A	**Mrakovica**	**8.00**	**342**	*e*Pn		**Pn**	**Pn**	**10 38 17.7**	**+0.7**
ISP	**Isparta**	**8.05**	**84**	*i* P		**Pn**	**Pn**	**10 38 14.5**	**-3.2**
GZR	**Gura Zlata**	**8.14**	**12**	⇑P		**Pn**	**Pn**	**10 38 20.1**	**+1.2**
BZS	**Buzias**	**8.22**	**6**	⇓P		**Pn**	**Pn**	**10 38 21.5**	**+1.6**
MOSL	**Moslavina**	**8.61**	**343**	*e*Pn		**Pn**	**Pn**	**10 38 25.4**	**+0.2**
VOIR		**8.72**	**22**	⇓P		**Pn**	**Pn**	**10 38 29.4**	**+2.6**
MORH	**Mrgy, Hungar**	**8.86**	**352**	*e*Pn		Pn		10 38 19.5	-9.2
MORH	**Mrgy, Hungar**	**8.86**	**352**	⇑P		**Pn**	**Pn**	**10 38 29.9**	**+1.2**
ISR	**Istrita**	**8.96**	**29**	⇑P		**Pn**	**Pn**	**10 38 31.9**	**+1.9**
OZLJ	**Ozalj**	**8.96**	**337**	*e*Pn		**Pn**	**Pn**	**10 38 29.7**	**-0.3**
BRJN	**Brijuni**	**8.98**	**328**	*e*Pn		**Pn**	**Pn**	**10 38 29.5**	**-0.7**
KEST	**Kesra**	**9.05**	**262**	Pn		**Pn**	**Pn**	**10 38 30.8**	**-0.6**
KEST	**Kesra**	**9.05**	**262**	Pn		**Pn**	**Pn**	**10 38 34.5**	**+3.1**
KEST	0.3nm,0.3s,baz=82,slow=16,SNR=4.0						Sn	**Sn**	**10 40 12.8**	**-0.3**
	0.2nm,0.3s,baz=68,slow=22,SNR=1.3									
MLR	3.4nm,0.8s **Muntele Rosu**	**9.05**	**26**			**Pn**	**Pn**	**10 38 31.0**	**-0.4**
MLR	**Muntele Rosu**	**9.05**	**26**	Pn		**Pn**	**Pn**	**10 38 29.3**	**-2.1**
MLR	1.6nm,0.3s,baz=173,slow=12,SNR=14						LR	LR	10 43 19.5	
	comp=Z,137nm,18.8s,baz=212,slow=47									
MLR	2.6nm,0.5s **Muntele Rosu**	**9.05**	**26**	⇑P		**Pn**	**Pn**	**10 38 33.8**	**+2.3**
MLR	**Muntele Rosu**	**9.05**	**26**	P		**Pn**	**Pn**	**10 38 31.0**	**-0.4**
SWA2		**9.21**	**151**	P		**Pn**	**Pn**	**10 38 32.3**	**-1.2**
TIRR	**Tirgusor**	**9.27**	**38**	Pn		**Pn**	**Pn**	**10 38 35.5**	**+1.3**
TIRR	**Tirgusor**	**9.27**	**38**	P		**Pn**	**Pn**	**10 38 35.5**	**+1.3**
DOPR	**Dopca**	**9.30**	**22**	⇑P		**Pn**	**Pn**	**10 38 36.8**	**+2.0**
MARR	**Marisel-Cluj**	**9.45**	**12**	⇑P		**Pn**	**Pn**	**10 38 38.8**	**+2.0**
COVR	**Voineasa-Covas**	**9.45**	**26**	⇓P		**Pn**	**Pn**	**10 38 39.1**	**+2.2**
PLOR	**Plostina**	**9.62**	**27**	⇓P		**Pn**	**Pn**	**10 38 40.6**	**+1.6**
VRI	**Vrincioaia**	**9.66**	**27**	⇓P		**Pn**	**Pn**	**10 38 41.6**	**+2.0**
SABO	**M.te Sabotino**	**9.92**	**331**	Pn		**Pn**	**Pn**	**10 38 42.5**	**-0.8**
OBKA	**Obir**	**10.04**	**336**	*e*Pn		**Pn**	**Pn**	**10 38 45.2**	**+0.2**
OBKA	1.6nm,0.2s 9.0nm,0.6s						*e*Sn	**Sn**	**10 40 36.6**	**-1.0**
SOKA	**Soboth**	**10.05**	**338**	*e*Pn		**Pn**	**Pn**	**10 38 44.7**	**-0.3**
SOKA	3.3nm,0.3s 1.9nm,0.5s						*i* Sn	**Sn**	**10 40 37.9**	**+0.2**
ARSA	**Arzberg**	**10.44**	**341**	Pn		**Pn**	**Pn**	**10 38 51.2**	**+0.9**
ARSA	**Arzberg**	**10.44**	**341**	*i* Pn		**Pn**	**Pn**	**10 38 52.0**	**+1.7**
PSZ	1.7nm,0.2s **Piszkesteto**	**10.48**	**358**			**Pn**	**Pn**	**10 38 50.5**	**-0.4**
PSZ	**Piszkesteto**	**10.48**	**358**	P		**Pn**	**Pn**	**10 38 50.5**	**-0.4**
BR105	**Keskin Array S**	**10.60**	**74**	P		**Pn**	**Pn**	**10 38 52.3**	**-0.4**
BR131	2.0nm,0.7s **Keskin Array S**	**10.62**	**74**	*i* P		**Pn**	**Pn**	**10 38 52.6**	**-0.3**
BRTR	**Keskin Array B**	**10.62**	**74**	LR		LR	LR	10 43 10.6	
CTI	comp=Z,194nm,19.5s,baz=272,slow=39 **Castel Tesino**	**10.79**	**326**			**Pn**	**Pn**	**10 38 56.0**	**+0.8**
CTI	**Castel Tesino**	**10.79**	**326**	P		**Pn**	**Pn**	**10 38 56.0**	**+0.8**
BERU	**Beregovo**	**10.91**	**8**	P		**Pn**	**Pn**	**10 38 58.3**	**+1.6**
CONA	**Conrad Observa**	**10.99**	**344**	*i* Pn		**Pn**	**Pn**	**10 39 00.8**	**+2.8**
BRIU	0.3nm,0.2s **Brid**	**11.06**	**9**	P		**Pn**	**Pn**	**10 39 00.2**	**+1.5**
VYHS	**Vyhne**	**11.10**	**355**	*e*P		**Pn**	**Pn**	**10 39 01.8**	**+2.4**
VYHS	**Vyhne**	**11.10**	**355**	*e*PN		**Pn**	**Pn**	**10 39 01.8**	**+2.4**
MUKU	**Mukachevo**	**11.13**	**8**	P		**Pn**	**Pn**	**10 39 01.3**	**+1.5**
NSLU	**Nyzhne Selyshc**	**11.15**	**14**	P		**Pn**	**Pn**	**10 38 59.2**	**-0.9**
MODS	**Modra-Piesok**	**11.16**	**349**	*e*P		Pn		10 39 17.5	+17
MODS	**Modra-Piesok**	**11.16**	**349**	*e*PG		Pn		10 39 56.0	+56
MODS	**Modra-Piesok**	**11.16**	**349**	*e*PN		Pn		10 39 17.5	+17
HOLU	**Holmets**	**11.17**	**7**	P		**Pn**	**Pn**	**10 39 01.9**	**+1.6**
MEZ	**Mezhgor'ye**	**11.30**	**11**	P		**Pn**	**Pn**	**10 39 02.7**	**+0.6**
MILM	**Milestii Mici**	**11.34**	**31**	*e*P		**Pn**	**Pn**	**10 39 03.0**	**+0.4**
MILM				*e*L			L	10 43 47.0		
MILM						LRM	MLR	10 44 08.0		
MILM	**Milestii Mici**	**11.34**	**31**	*e*P		**Pn**	**Pn**	**10 39 03.0**	**+0.4**
MILM	comp=Z,700nm,11.0s					MLR	MLR			
LESA	**Schwarzleotal**	**11.48**	**333**	*i* Pn		**Pn**	**Pn**	**10 39 04.0**	**-0.7**
LESA	comp=Z,2.2nm,0.3s comp=Z,5.8nm,0.6s			*i* Sn			**Sn**	**10 41 10.4**	**-2.4**
RYAN	**Fayoum**	**11.74**	**132**	P		**Pn**	**Pn**	**10 39 05.5**	**-2.7**
WTTA	**Wattenberg**	**11.75**	**329**	*e*Pn		**Pn**	**Pn**	**10 39 09.2**	**+0.8**
WTTA	comp=Z,1.8nm,0.3s comp=Z,3.6nm,0.5s			*e*Sn			**Sn**	**10 41 19.2**	**-0.3**
FUORN	**Ofenpass-Fuorn**	**11.86**	**324**			**Pn**	**Pn**	**10 39 11.0**	**+1.1**
FETA	**Feichten**	**11.94**	**326**	*e*Pn		**Pn**	**Pn**	**10 39 11.7**	**+0.7**
FETA	comp=Z,0.6nm,0.4s comp=Z,3.7nm,0.8s			*e*Sn			**Sn**	**10 41 23.5**	**-0.7**
KMPD	**K-Podol'skiy**	**11.96**	**20**	P		**Pn**	**Pn**	**10 39 12.4**	**+1.3**
NIE	**Niedzica**	**11.97**	**360**	P		**Pn**	**Pn**	**10 39 12.9**	**+1.6**
MOTA	comp=Z,3.5nm,1.9s **Moosalm**	**12.03**	**328**	*e*Sn		**Sn**	**Sn**	**10 41 27.9**	**+1.5**
DAVOX	comp=Z,4.8nm,0.8s **Davos/Dischmat**	**12.15**	**323**	Pn		**Pn**	**Pn**	**10 39 17.4**	**+3.5**
DAVOX	comp=Z,0.2nm,0.3s,baz=157,slow=17,SNR=4.2						Sn	**Sn**	**10 41 25.4**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=300,slow=23,SNR=1.2									
DAVOX	comp=Z,106nm,19.2s,baz=80,slow=40						LR	LR	10 44 28.6	
VRAC	**Vranov**	**12.18**	**348**	Pn		**Pn**	**Pn**	**10 39 13.9**	**-0.1**
VRAC	comp=Z,0.6nm,0.3s,baz=156,slow=15,SNR=3.2						LR	LR	10 44 13.0	
	comp=Z,70nm,20.6s,baz=174,slow=39									
TUE	comp=Z,1.8nm,0.3s **Stuetta**	**12.19**	**321**			**Pn**	**Pn**	**10 39 16.3**	**+1.8**
TUE	**Stuetta**	**12.19**	**321**	P		**Pn**	**Pn**	**10 39 16.2**	**+1.8**
HFRF	comp=Z,33nm,0.9s **Wahat Farafira**	**12.25**	**145**	P		**Pn**	**Pn**	**10 39 13.2**	**-1.9**
NDNU	**Novodnistrovsk**	**12.25**	**22**	P		**Pn**	**Pn**	**10 39 16.3**	**+1.2**
GEC2	**GERESS Array S**	**12.39**	**339**	Pn		**Pn**	**Pn**	**10 39 17.3**	**+0.2**
GERES	**

comp=Z,18nm,1.2s
KLMR Klimovskoe 26.36 21 *e*P **P 10 41 54.9 -1.7**
KLMR pmax pmax
comp=Z,24nm,1.5s
KIRV Kirov 28.33 32 LR LR 10 54 14.3
comp=Z,69nm,18.6s,baz=225,slow=38
TORD Torodi Ar. Bea 29.40 220 P **P 10 42 23.3 -0.8**
TORD Torodi Ar. Bea 29.40 220 P **P 10 42 24.9 +0.8**
comp=Z,1.3nm,0.4s,baz=35,slow=9.9,SNR=1.7
comp=Z,1.3nm,0.4s
AKTO Aktyubinsk 29.71 52 LR LR 10 57 16.7
comp=Z,28nm,18.0s,baz=246,slow=43
AB31 Akbulak array 30.75 55 P **P 10 42 35.9 +0.1**
ABKAR Akbulak array 30.75 55 P **P 10 42 35.9 +0.1**
APA Apatity 31.06 10 *e*P P 10 42 43.3 +5.0
APA MLR MLR
comp=Z,1μm,4.4s
ARTI Arti 31.57 41 P **P 10 42 42.1 -0.9**
ARTI IAmb IAmb 10 42 42.9
comp=Z,6.2nm,0.6s
ARTI Arti 31.57 41 LR LR 10 55 47.4
comp=Z,52nm,18.1s,baz=212,slow=37
ARTI Arti 31.57 41 P **P 10 42 42.7 -0.3**
ARTI 10 43 41.8
ARTI S **S 10 47 51.4 +0.2**
ARTI SS **SnSn 10 49 35.5 -1.0**
ARTI MLR MLR
comp=Z,97nm,12.0s
ARCES ARCESS Array B 32.27 3 P **P 10 42 49.9 +0.9**
ARCES IAmb IAmb 10 43 17.8
comp=Z,16nm,1.4s
ARCES ARCESS Array B 32.27 3 P **P 10 42 48.5 -0.5**
comp=Z,1.7nm,0.7s,baz=187,slow=9.2,SNR=5.1
ARCES LR LR 10 58 05.2
comp=Z,54nm,18.3s,baz=358,slow=41
comp=Z,1.7nm,0.7s
ARCES ARCESS Array B 32.27 3 P **P 10 42 49.9 +0.9**
ARCES pmax pmax
comp=Z,16nm,1.4s
BORG Borgarnes 36.70 331 LR LR 11 01 52.1
comp=Z,54nm,18.3s,baz=139,slow=42
BRVK Borovoye 37.61 49⇑ *i*P **P 10 43 35.1 -0.1**
BRVK pmax pmax
comp=Z,2.0nm,1.2s
BVAR Borovoye Array 37.67 49 P **P 10 43 35.5 -0.2**
comp=Z,1.0nm,0.5s,baz=275,slow=4.8,SNR=5.4
BVAR LR LR 11 01 00.0
comp=Z,23nm,19.0s,baz=252,slow=40
comp=Z,1.0nm,0.5s
KK31 Karatay Array 38.19 65 P **P 10 43 40.3 0.0**
KK31 Karatay Array 38.19 65 P **P 10 43 40.3 0.0**
KK31 pmax pmax
comp=Z,6.0nm,1.5s
KKAR Karatay Array 38.19 65 P **P 10 43 39.8 -0.5**
KKAR Karatay Array 38.19 65 P **P 10 43 39.8 -0.5**
DBIC Dimbokro 38.28 223 P **P 10 43 39.1 -2.2**
DBIC IAmb IAmb 10 44 20.9
comp=Z,18nm,1.4s
DBIC Dimbokro 38.28 223 P **P 10 43 42.9 +1.6**
comp=Z,3.6nm,0.7s,baz=66,slow=10.0,SNR=2.2
DBIC LR LR 10 59 34.8
comp=Z,30nm,19.6s,baz=24,slow=36
comp=Z,3.6nm,0.7s
DBIC Dimbokro 38.28 223 P **P 10 43 39.1 -2.2**
DBIC pmax pmax
comp=Z,18nm,1.4s
SPB2 Spitsbergen Ar 40.87 359 P **P 10 44 02.7 +0.5**
SPITS Spitsbergen Ar 40.88 359 P **P 10 44 03.7 +1.5**
comp=Z,3.2nm,0.8s,baz=156,slow=13,SNR=1.4
comp=Z,3.2nm,0.8s
SPITS Spitsbergen Ar 40.88 359 P **P 10 44 02.8 +0.6**
SPITS pmax pmax
comp=Z,45nm,1.5s
AAK Ala-Archa 41.16 65 LR LR 11 04 23.4
comp=Z,44nm,18.8s,baz=280,slow=41
KURBB Kurchatov Arra 42.75 53 P **P 10 44 17.1 -0.8**
comp=Z,0.9nm,0.5s,baz=279,slow=8.9,SNR=7.5
comp=Z,0.9nm,0.5s
KURK Kurchatov 42.80 53 *e*P **P 10 44 20.0 +1.7**
KURK pmax pmax
comp=Z,4.0nm,1.5s
MK31 Makanchi Array 45.78 58⇓ *i*P **P 10 44 41.7 -0.5**
MKAR Makanchi Array 45.78 58 P **P 10 44 41.5 -0.7**
MKAR Makanchi Array 45.78 58 P **P 10 44 41.3 -0.9**
comp=Z,1.0nm,0.5s,baz=271,slow=7.4,SNR=9.8
MKAR PcP **PcP 10 46 20.5 +0.8**
comp=Z,0.5nm,0.5s,baz=260,slow=3.7,SNR=2.3
MKAR LR LR 11 08 19.6
comp=Z,23nm,19.5s,baz=286,slow=42
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 45.78 58 *i*P **P 10 44 40.2 -2.0**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
ZAA0 Zalesovo Array 46.26 48 P **P 10 44 45.4 -0.5**
ZALV Zalesovo Beam 46.26 48 P **P 10 44 45.0 -0.8**
ZALV Zalesovo Beam 46.26 48 P **P 10 44 44.8 -1.1**
comp=Z,2.5nm,0.4s,baz=270,slow=8.9,SNR=10
comp=Z,2.5nm,0.4s
ZALV Zalesovo Beam 46.26 48 P **P 10 44 45.0 -0.8**
SFJD Kangerlussuaq 48.82 330 LR LR 11 08 44.6
comp=Z,21nm,18.7s,baz=110,slow=40
LSZ Lusaka 52.95 171 LR LR 11 08 54.4
comp=Z,72nm,18.6s,baz=354,slow=37
FRB Frobisher Bay 56.72 328 LR LR 11 10 32.4
comp=Z,26nm,19.1s,baz=115,slow=36
SCHQ Schefferville 58.93 318 P **P 10 46 20.5 +0.8**
SCHQ IAmb IAmb 10 47 02.7
comp=Z,6.0nm,1.1s
SCHQ Schefferville 58.93 318 P **P 10 46 20.4 +0.7**
comp=Z,2.5nm,0.6s,baz=81,slow=4.6,SNR=5.7
comp=Z,2.5nm,0.6s
TIXI Tiksi 60.37 20 LR LR 11 16 12.8
comp=Z,88nm,18.5s,baz=354,slow=40
RES Resolute Bay 60.44 344 P **P 10 46 29.6 -0.1**
RES Resolute Bay 60.44 344 P **P 10 46 29.6 -0.1**
RES pmax pmax
comp=Z,30nm,1.2s
SONM Songino Array 61.01 50 P **P 10 46 33.2 -1.0**
comp=Z,0.4nm,0.4s,baz=290,slow=8.8,SNR=2.3
comp=Z,0.4nm,0.4s
ULN Ulaanbaatar 61.39 50 *ce*P **P 10 46 37.6 +0.7**
ULN pmax pmax
comp=Z,1.0nm,1.1s
LBTB Lobatse 62.32 175 LR LR 11 18 23.0
comp=Z,62nm,21.7s,baz=1.5,slow=40
YAK Yakutsk 65.80 29 LR LR 11 17 58.2
comp=Z,32nm,19.1s,baz=291,slow=38
BOSA Boshof 65.87 175 P **P 10 47 06.0 -0.4**
BOSA Boshof 65.87 175 P **P 10 47 08.3 +1.9**
comp=Z,1.7nm,0.6s,baz=142,slow=15,SNR=1.4
BOSA LR LR 11 20 46.8
comp=Z,55nm,18.6s,baz=25,slow=40
comp=Z,1.7nm,0.6s
BOSA Boshof 65.87 175 P **P 10 47 06.0 -0.4**
BOSA pmax pmax
comp=Z,19nm,1.5s
HHC Hu-ho-hao-te 67.54 55 *e*P **P 10 47 18.0 +0.9**
HHC pmax pmax
comp=Z,13nm,0.7s
PZH PanZhiHua 67.92 73 P **P 10 47 20.5 +0.7**
CMAR Chiang Mai Arr 70.10 82 LR LR 11 24 02.7
comp=Z,20nm,18.2s,baz=250,slow=41
HEH HeiHe 71.66 40 *e*P **P 10 47 42.0 -0.2**
HEH pmax pmax
comp=Z,7.0nm,0.8s
C27K Jago River 72.60 354 P **P 10 47 49.0 +1.4**
C27K IAmb IAmb 10 47 51.4
comp=Z,5.7nm,1.2s
D27M Malcolm River 72.74 353 P **P 10 47 48.5 0.0**
D27M IAmb IAmb 10 48 01.0
comp=Z,5.1nm,1.3s
INK Inuvik 72.77 350 P **P 10 47 49.9 +1.4**
INK IAmb IAmb 10 48 25.1
comp=Z,7.0nm,1.4s
INK Inuvik 72.77 350 P **P 10 47 49.9 +1.4**
INK pmax pmax
comp=Z,7.0nm,1.5s
C24K Franklin Bluff 72.85 356 P **P 10 47 50.3 +1.3**
D25K Kavik River 73.10 355 P **P 10 47 51.4 +0.9**
D25K IAmb IAmb 10 48 33.9
comp=Z,6.1nm,1.5s
E28M Babbage River 73.21 352 P **P 10 47 53.2 +2.0**
E29M Blow River 73.24 352 P **P 10 47 52.7 +1.4**
D23K Nanushuk River 73.70 357 P **P 10 47 56.3 +2.2**
D23K IAmb IAmb 10 48 11.5
comp=Z,9.7nm,1.5s

F30M Barrier River 73.72 351 P **P 10 47 55.9 +1.7**
F30M IAmb IAmb 10 48 30.1
comp=Z,5.3nm,1.1s
G31M Satah River 74.17 350 P **P 10 47 58.1 +1.3**
G31M IAmb IAmb 10 48 08.3
comp=Z,4.2nm,1.1s
F28M Old Crow 74.20 352 P **P 10 47 58.7 +1.7**
C18K Utukok River 74.22 1 P **P 10 47 58.8 +1.6**
E21K Killik River 74.35 358 P **P 10 47 59.4 +1.5**
E21K IAmb IAmb 10 48 14.9
comp=Z,5.7nm,1.4s
G29M Pine Creek 74.67 351 P **P 10 48 00.7 +1.0**
G29M IAmb IAmb 10 48 02.1
comp=Z,3.4nm,0.8s
BMAR Burnt Mountain 74.83 354 P **P 10 48 01.8 +1.1**
MA2 Magadan 75.01 24 LR LR 11 23 43.4
comp=Z,18nm,18.4s,baz=328,slow=38
G27K Doyon Strip 75.17 353 P **P 10 48 04.4 +1.7**
G26K Porcupine Rive 75.23 354 P **P 10 48 03.8 +0.9**
E19K Redstone River 75.41 359 P **P 10 48 05.3 +1.3**
E19K IAmb IAmb 10 48 22.7
comp=Z,6.0nm,1.1s
I30M Mount Dempster 76.07 350 P **P 10 48 09.0 +1.0**
I30M IAmb IAmb 10 48 27.5
comp=Z,4.7nm,1.2s
I29M Ogilvie Camp, 76.19 351 P **P 10 48 09.6 +1.1**
I29M IAmb IAmb 10 48 10.9
comp=Z,2.8nm,0.7s
J30M Hart River 76.67 350 P **P 10 48 13.1 +1.7**
J30M IAmb IAmb 10 48 15.1
comp=Z,7.1nm,1.4s
IMAR Indian Mountai 76.80 358 P **P 10 48 13.4 +1.4**
NJ2 Nanjing 77.28 59 *e*P **P 10 48 15.0 -0.2**
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
ILAR Eielson Array 77.63 354 P **P 10 48 17.6 +0.9**
ILAR Eielson Array 77.63 354 P **P 10 48 17.0 +0.4**
comp=Z,0.3nm,0.5s,baz=349,slow=3.4,SNR=7.9
comp=Z,0.3nm,0.5s
ILAR Eielson Array 77.63 354 P **P 10 48 17.0 +0.4**
J20K Nowinta River 78.62 358 P **P 10 48 22.3 +0.1**
J20K IAmb IAmb 10 49 05.2
comp=Z,5.5nm,1.5s
BCAR Beaver Creek A 78.82 352 P **P 10 48 25.5 +2.2**
KSRS Korea Array 79.88 50 P **P 10 48 29.6 +0.2**
comp=Z,1.3nm,0.7s,baz=308,slow=4.7,SNR=5.3
comp=Z,1.3nm,0.7s
PETK Petropavlovsk- 82.51 24 LR LR 11 28 51.0
comp=Z,21nm,18.8s,baz=278,slow=38
ASAJ Asahikawa 83.43 38 LR LR 11 28 21.8
comp=Z,24nm,19.4s,baz=152,slow=38
PDAR Pinedale Array 88.09 326 LR LR 11 28 32.3
comp=Z,10nm,21.2s,baz=22,slow=36
WRA Warramunga Arr 120.61 93 PKP **PKiKP 10 55 13.3 +0.3**
comp=Z,0.3nm,0.9s,baz=328,slow=2.1,SNR=2.1
ASAR Alice Springs 122.19 97 PKP **PKiKP 10 55 16.6 +0.6**
comp=Z,0.2nm,0.6s,baz=283,slow=1.5,SNR=1.9

LJU 30 10:38:18.8, 45.75N×14.07E, *h*0km, ML0.5, 2C, Explosion, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAVS	**Javornik**	**0.15**	**360**⇑	*i*Pg	Pg	10 38 21.6	0.0
JAVS				*e*Sg	Sg	10 38 24.6	+1.1
JAVS				IAML		10 38 25.7	
comp=Z,7.3nm,0.1s							
SKDS	**Skadanscina**	**0.20**	**190**	*i* Pg	Pg	10 38 22.6	-0.1
SKDS				*i* Sg	Sg	10 38 26.2	+0.9
SKDS				IAML		10 38 27.5	
comp=Z,6.9nm,0.1s							
KNDS	**Knezji Dol**	**0.31**	**134**⇑	*i*Pg	Pg	10 38 24.6	-0.2
KNDS				IAML		10 38 33.1	
comp=Z,2.6nm,0.1s							
GBAS	**Gorenja Brezov**	**0.32**	**54**	*i* Pg	Pg	10 38 25.0	-0.1
GBAS				*e*Sg	Sg	10 38 30.0	+0.8
GBAS				IAML		10 38 31.7	
comp=Z,1.4nm,0.1s							

*KOLA **30** 10:46:37.8, 64.60N×30.82E, h0km, ML2.3, Error ellipse: s-maj=23.2km s-min=12.2km az=160.0, Karelia*
*HEL **30** 10:46:37.5±0.1, 64.70N×30.77E, h0km, ML2.0, Explosion Hypocentre not reviewed by the ISC*
*IDC **30** 10:46:38.6±2.6, 64.70N×31.13E, h0km, mbtmp3.1/3, ML1.9/3, Error ellipse: s-maj=35.1km s-min=10.9km az=106.0*
ISC 30 10:46:36.3±1.2, 64.80N±0.06×30.83E±0.09, h0km, n11, σ1$85/16, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.70**	**214**	*e*P		10 46 47.7	
RMF				*e*S		10 46 56.1	
KU1	**Kurvinen**	**0.94**	**326**	*e*P		10 46 55.5	
KU1				*e*S		10 47 09.0	
KU6	**Riekki**	**1.29**	**343**	*e*P		10 47 02.3	
KU6				*e*S		10 47 19.9	
MSF	**Maaselka**	**1.34**	**327**	*e*P		10 47 02.8	
MSF				*e*S		10 47 21.4	
KU2	**Taivalkoski**	**1.42**	**311**	*e*P		10 47 03.6	
KU2				*e*S		10 47 23.3	
OLKF	**Oulanka, Finla**	**1.64**	**339**	*e*P		10 47 08.4	
OLKF				*e*S		10 47 30.3	
OLKF				MSG		10 47 33.3	
comp=Z,7.1nm,0.1s							
JOF	**Joensuu**	**1.90**	**173**	*e*P		10 47 09.4	
JOF				*e*SN		10 47 33.5	
JOF				MSG		10 47 36.6	
comp=Z,13nm,0.1s							
NIF	**Nilsia**	**1.94**	**224**	*e*PN		10 47 10.4	
NIF				*e*S		10 47 33.9	
NIF				MSG		10 47 36.8	
comp=Z,12nm,0.1s							
KVDA	**Kovda**	**2.08**	**23**	P	**Pg**	**10 47 16.2**	**+0.1**
KVDA				S	**Sg**	**10 47 43.3**	**+0.3**
RANF	**Ranua**	**2.08**	**308**	*e*PB		10 47 14.6	
RANF				*e*S		10 47 41.2	
APA0	**Apatity Array**	**2.95**	**16**	P	**Pb**	**10 47 29.3**	**-0.4**
APA0				S	**Sb**	**10 48 06.0**	**-0.3**
APA	**Apatity**	**2.97**	**19**	S	**Sb**	**10 48 05.3**	**-1.5**
LVZ	**Lovozero**	**3.47**	**25**	S	**Sb**	**10 48 18.6**	**-2.7**
FINES	**FINESS Array B**	**4.00**	**215**	Pn	**Pn**	**10 47 40.0**	**+1.2**
comp=Z,0.1nm,0.3s,baz=36,slow=12,SNR=1.5							
FINES				Sn	**Sn**	**10 48 27.3**	**+1.0**
comp=Z,0.3nm,0.3s,baz=40,slow=24,SNR=1.6							
FINES				Lg	Lg	10 48 40.7	
comp=Z,1.0nm,0.3s,baz=33,slow=28,SNR=6.9							
comp=Z,1.2nm,0.7s							
ARCES	**ARCESS Array B**	**5.18**	**339**	Pn	**Pn**	**10 47 57.0**	**+2.0**
comp=Z,0.2nm,0.3s,baz=153,slow=13,SNR=21							
ARCES				Sn	**Sn**	**10 48 56.0**	**+0.5**
comp=Z,0.2nm,0.3s,baz=156,slow=25,SNR=1.1							
ARCES				Lg	Lg	10 49 18.1	
comp=Z,0.4nm,0.3s,baz=154,slow=31,SNR=6.8							
comp=Z,1.9nm,0.8s							
ARCES	**ARCESS Array B**	**5.18**	**339**	P	**Pn**	**10 47 57.1**	**+2.0**
ARCES				S	**Sn**	**10 48 57.5**	**+2.0**
VADS	**Vadso**	**5.37**	**355**	P	**Pn**	**10 47 58.0**	**+0.4**
I37NO	**I37NO**	**6.43**	**317**	I	I	11 25 00.0	
baz=128,slow=318,SNR=2.2							
FAUS	**Fauske**	**6.82**	**299**	S	**Sn**	**10 49 35.3**	**-0.4**
HFS	**Hagfors**	**9.20**	**247**	Pn	**Pn**	**10 48 50.6**	**+0.5**
comp=Z,0.1nm,0.3s,baz=56,slow=14,SNR=1.7							
HFS				Sn	**Sn**	**10 50 29.7**	**-4.4**
comp=Z,0.1nm,0.3s,baz=56,slow=26,SNR=1.2							
HFS				Lg	Lg	10 51 19.4	
comp=Z,0.2nm,0.3s,baz=62,slow=34,SNR=2.5							
comp=Z,1.6nm,0.8s							

*NOU **30** 10:49:26.2, 16.07S×175.97W, h387km, mb4.3/33, Tonga Islands*
*NEIC **30** 10:49:26.5±2.1, 16.12S±0.10×175.99W±0.09, h369km±4km, mb4.3/109, Error ellipse: s-maj=14.4km s-min=11.8km az=153.0*
*IDC **30** 10:49:26.6±4.4, 16.05S×176.22W, h373km±43km, mb3.6/14, mbtmp4.3/15, Error ellipse: s-maj=18.4km s-min=15.2km az=111.0*
ISC 30 10:49:25.1±0.3, 16.11S±0.07×176.09W±0.06, h360km, n184, σ1$07/190, mb4.3/65, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUTU	**Fugatoga**		**2.66**	**312**		**Pn**	**10 50 25.8**	**+3.5**
LKBA	**Tubou, Lakemba**		**3.35**	**231**	P	**Pn**	**10 50 32.7**	**+4.3**
TAVE	**Taveuni**		**3.71**	**260**	P	**Pn**	**10 50 35.8**	**+4.0**
DGTI	**Dogotuki**		**4.01**	**267**	P	**Pn**	**10 50 38.3**	**+3.4**
AFI	**Afiamalu**		**4.71**	**63**		**Pn**	**10 50 43.2**	**+1.0**
AFI	**Afiamalu**		**4.71**	**63**	P	**Pn**	**10 50 43.0**	**+0.8**
AFI	**Afiamalu**		**4.71**	**63**	S	**S**	**10 51 46.3**	**+1.8**
MSVF	**Nonsavu**		**5.83**	**253**		**Pn**	**10 50 58.4**	**+3.9**
MSVF	**Nonsavu**		**5.83**	**253**	P	**Pn**	**10 50 58.3**	**+3.8**
YSA	**Yasawairara**		**6.10**	**264**	P	**Pn**	**10 51 00.0**	**+2.6**
NIUE	**Niue**		**6.58**	**118**	Pn	**P**	**10 51 05.1**	**+1.0**
NIUE	**Niue**		**6.58**	**118**	P	**P**	**10 51 04.8**	**+0.7**
FUNA	**Funafuti**		**8.83**	**328**		**P**	**10 51 30.9**	**-0.2**
PINNC	**Pines Island,**		**16.82**	**245**	P	**P**	**10 52 59.4**	**+0.4**
DZM	**Mont Dzumac**		**17.53**	**248**	P	**P**	**10 53 06.7**	**0.0**
DZM					IAmb	IAmb	10 53 33.3	
comp=Z,20nm,1.5s								
DZM	**Mont Dzumac**		**17.53**	**248**	P	**P**	**10 53 06.0**	**-0.7**
comp=Z,4.0nm,0.6s,baz=132,slow=18,SNR=6.2								
DZM	**Mont Dzumac**		**17.53**	**248**	P	**P**	**10 53 08.8**	**+2.1**
ONTNC	**Ouen Toro**		**17.59**	**247**	P	**P**	**10 53 07.1**	**-0.1**
ONTNC					IAmb	IAmb	10 53 32.4	
comp=Z,20nm,1.0s								
OUZ	**Omahuta**		**21.15**	**204**	P	**P**	**10 53 44.1**	**+1.4**
URZ	**Urewera**		**22.86**	**194**	P	**P**	**10 53 57.0**	**-1.3**
HNR	**Honiara**		**24.28**	**283**	P	**P**	**10 54 11.8**	**+0.5**
QRZ	**Quartz Range**		**26.53**	**200**	P	**P**	**10 54 30.8**	**-0.3**
KHZ	**Kahutara**		**27.69**	**197**	P	**P**	**10 54 39.8**	**-1.5**
EIDS	**Eidsvold**		**31.98**	**248**	P	**P**	**10 55 17.7**	**-1.4**
ARMA	**Armidale**		**32.76**	**238**	P	**P**	**10 55 25.4**	**-0.6**
ARMA					IAmb	IAmb	10 55 48.5	
comp=Z,20nm,1.2s								
ARMA	**Armidale**		**32.76**	**238**	P	**P**	**10 55 25.8**	**-0.2**
CTAO	**Charters Tower**		**35.96**	**258**	P	**P**	**10 55 53.5**	**+0.3**
CTAO					IAmb	IAmb	10 56 17.6	
comp=Z,16nm,1.4s								
CNB	**Canberra Magne**		**36.27**	**232**	P	**P**	**10 55 55.0**	**-0.7**
PMG	**Port Moresby**		**36.41**	**276**	P	**P**	**10 55 57.7**	**+0.7**
CMSA	**Cobar Meteorol**		**37.97**	**239**	P	**P**	**10 56 09.5**	**-0.2**
QLP	**Quilpie**		**38.25**	**247**	P	**P**	**10 56 11.4**	**-0.8**
COEN	**Coen**		**39.35**	**268**	P	**P**	**10 56 22.2**	**+0.8**
COEN					IAmb	IAmb	10 56 22.8	
comp=Z,16nm,0.9s								
COEN	**Coen**		**39.35**	**268**	P	**P**	**10 56 21.8**	**+0.4**
GLAD	**Gladstone**		**39.68**	**224**	P	**P**	**10 56 23.1**	**-0.5**
TOO	**Toolangi**		**40.02**	**230**	P	**P**	**10 56 25.9**	**-0.6**
STKA	**Stephens Creek**		**41.44**	**240**	P	**P**	**10 56 37.7**	**-0.4**
STKA					IAmb	IAmb	10 56 37.9	
comp=Z,13nm,0.6s								
STKA	**Stephens Creek**		**41.44**	**240**	P	**P**	**10 56 37.5**	**-0.5**
comp=Z,1.9nm,0.4s,baz=98,slow=13,SNR=7.1								
comp=Z,1.9nm,0.4s								
STKA	**Stephens Creek**		**41.44**	**240**	P	**P**	**10 56 37.6**	**-0.5**
INKA	**Innaminka**		**41.48**	**246**	P	**P**	**10 56 39.4**	**+1.0**
QIS	**Mount Isa**		**42.19**	**257**	P	**P**	**10 56 44.7**	**+0.4**
HTT	**Hallett**		**43.97**	**238**	P	**P**	**10 56 58.3**	**+0.1**
JAY	**Jayapura**		**44.60**	**283**	P	**P**	**10 57 03.6**	**+0.2**
comp=Z,6.1nm,0.5s,baz=127,slow=5.7,SNR=6.7								
comp=Z,6.1nm,0.5s								
BBOO	**Buckleboo**		**46.22**	**240**	P	**P**	**10 57 14.8**	**-0.8**
BBOO					IAmb	IAmb	10 57 15.2	
comp=Z,11nm,0.5s								
BBOO	**Buckleboo**		**46.22**	**240**	P	**P**	**10 57 14.9**	**-0.8**
WR8	**Warramunga Arr**		**47.01**	**258**		**P**	**10 57 20.9**	**-1.0**
WR8					IAmb	IAmb	10 57 21.8	
comp=Z,18nm,1.2s								
WB0	**Warramunga Arr**		**47.12**	**258**		**P**	**10 57 21.6**	**-1.2**
WB0					IAmb	IAmb	10 57 22.5	
comp=Z,18nm,0.8s								
WRAB	**Tennant Creek**		**47.15**	**258**	P	**P**	**10 57 22.2**	**-0.8**
WRAB					IAmb	IAmb	10 57 22.7	
comp=Z,12nm,0.7s								
WRA	**Warramunga Arr**		**47.16**	**258**		**P**	**10 57 21.6**	**-1.6**
WRA	**Warramunga Arr**		**47.16**	**258**	P	**P**	**10 57 21.8**	**-1.3**
comp=Z,9.9nm,0.6s,baz=91,slow=6.4,SNR=286								
WRA					PcP	**PcP**	**10 58 47.6**	**-0.7**
comp=Z,2.0nm,0.7s,baz=88,slow=3.6,SNR=6.1								
comp=Z,9.9nm,0.6s								
AS01	**Alice Springs**		**47.38**	**253**	P	**P**	**10 57 24.1**	**-0.7**
AS31	**Alice Springs**		**47.42**	**253**		**P**	**10 57 24.3**	**-0.8**
AS31					IAmb	IAmb	10 57 25.3	
comp=Z,11nm,0.5s								
ASAR	**Alice Springs**		**47.43**	**253**		**P**	**10 57 23.9**	**-1.3**
ASAR	**Alice Springs**		**47.43**	**253**	P	**P**	**10 57 24.4**	**-0.7**
comp=Z,38nm,0.5s,baz=87,slow=7.9,SNR=1172								
ASAR					PcP	**PcP**	**10 58 48.5**	**-0.7**
comp=Z,1.5nm,0.6s,baz=104,slow=3.9,SNR=4.4								
KDU	**Kakadu**		**49.84**	**267**	P	**P**	**10 57 43.4**	**+0.1**
MTN	**Manton Dam**		**51.09**	**266**	P	**P**	**10 57 52.0**	**-0.6**
MTN					IAmb	IAmb	10 57 52.6	
comp=Z,12nm,1.0s								
KNRA	**Kununurra**		**52.90**	**262**	P	**P**	**10 58 05.2**	**-0.6**
FITZ	**Fitzroy Crossi**		**55.53**	**259**	P	**P**	**10 58 24.2**	**-0.3**
FITZ	**Fitzroy Crossi**		**55.53**	**259**	P	**P**	**10 58 23.9**	**-0.6**
comp=Z,1.2nm,0.3s,baz=76,slow=3.3,SNR=22								
comp=Z,1.2nm,0.3s								
SOEI	**Soe**		**58.31**	**268**	P	**P**	**10 58 43.1**	**-1.0**
PSA00	**Pilbara Seismi**		**60.52**	**254**	P	**P**	**10 58 58.1**	**-0.8**
PSA00					IAmb	IAmb	10 58 58.8	
comp=Z,11nm,1.1s								
PSA00	**Pilbara Seismi**		**60.52**	**254**	P	**P**	**10 58 58.2**	**-0.6**
MBWA	**Marble Bar**		**60.67**	**255**	P	**P**	**10 58 59.3**	**-0.5**
MBWA					IAmb	IAmb	10 59 01.6	
comp=Z,15nm,1.2s								
MBWA	**Marble Bar**		**60.67**	**255**	P	**P**	**10 58 58.7**	**-1.2**
MEEK	**Meekatharra**		**61.15**	**248**	P	**P**	**10 59 01.9**	**-1.1**
KLBR	**Kellerberrin**		**61.62**	**243**	P	**P**	**10 59 05.4**	**-0.6**
NWAO	**Narrogin (SRO)**		**62.01**	**241**	P	**P**	**10 59 07.7**	**-0.9**
VNDA	**Vanda**		**62.42**	**185**	P	**P**	**10 59 11.2**	**+0.7**
VNDA	**Vanda**		**62.42**	**185**	P	**P**	**10 59 11.4**	**+0.9**
comp=Z,2.0nm,0.8s,baz=349,slow=6.5,SNR=7.6								
comp=Z,2.0nm,0.8s								
BLDU	**Ballidu**		**62.56**	**244**	P	**P**	**10 59 11.2**	**-1.0**
MUN	**Mundaring**		**62.91**	**242**	P	**P**	**10 59 13.9**	**-0.6**
MORW	**Morawa**		**63.23**	**245**	P	**P**	**10 59 16.2**	**-0.4**
MORW					IAmb	IAmb	10 59 16.4	
comp=Z,5.8nm,0.8s								
GIRL	**Giralia**		**65.54**	**252**	P	**P**	**10 59 32.2**	**+0.7**
CASY	**Casey**		**68.69**	**205**	P	**P**	**10 59 49.8**	**-0.4**
CASY					IAmb	IAmb	11 00 12.1	
comp=Z,12nm,1.4s								
JNU	**Nakatsue**		**70.42**	**315**	P	**P**	**11 00 01.5**	**+0.1**
CNBA	**Chernabura Isl**		**72.03**	**10**	P	**P**	**11 00 09.8**	**-0.5**
SDPT	**Sand Point**		**72.40**	**9**	P	**P**	**11 00 11.9**	**-0.6**
PETK	**Petropavlovsk-**		**72.55**	**344**	P	**P**	**11 00 12.8**	**-0.6**
comp=Z,2.9nm,0.7s,baz=126,slow=7.0,SNR=5.3								
comp=Z,2.9nm,0.7s								
CHGN	**Chignik**		**73.65**	**10**	P	**P**	**11 00 19.0**	**-0.8**
CHGN					IAmb	IAmb	11 00 23.1	
comp=Z,4.7nm,0.9s								
QSPA	**South Pole Qui**		**73.94**	**180**	P	**P**	**11 00 22.7**	**+1.1**
QSPA					IAmb	IAmb	11 00 23.8	
comp=Z,7.5nm,0.9s								
QSPA	**South Pole Qui**		**73.94**	**180**	P	**P**	**11 00 22.5**	**+0.9**
comp=Z,4.9nm,0.8s,baz=2.1,slow=1.0,SNR=31								
comp=Z,4.9nm,0.8s								
MNRC	**McLaughlin Min**		**74.20**	**41**	P	**P**	**11 00 24.6**	**+1.2**
KMRM	**Mail Ridge**		**74.23**	**39**	P	**P**	**11 00 24.4**	**+0.8**
SII	**Sitkinak Islan**		**74.69**	**12**	P	**P**	**11 00 26.5**	**+0.7**
O02D	**Mt. Diablo Mer**		**74.76**	**40**	P	**P**	**11 00 28.1**	**+1.4**
O02D					IAmb	IAmb	11 00 37.3	
comp=Z,6.5nm,1.2s								
BFSC	**Mount Baldy Ra**		**74.79**	**47**	P	**P**	**11 00 25.2**	**-1.8**
BFSC					IAmb	IAmb	11 01 07.4	
comp=Z,5.3nm,1.1s								
KRMB	**Red Mountain**		**74.91**	**38**	P	**P**	**11 00 29.4**	**+1.9**
KSXB	**Camp Six Broad**		**75.11**	**38**	P	**P**	**

BBOR Butler Butte 76.46 37 P **P** **11 00 37.3 +1.1**
BBOR IAmb IAmb 11 01 09.7
comp=Z,5.1nm,1.3s
NVAR Mina Array Bea 76.60 43 P **P** **11 00 37.8 +0.6**
comp=Z,1.2nm,0.8s,baz=229,slow=9.2,SNR=8.1
comp=Z,1.2nm,0.8s
N14K Kuskokwak Cree 76.66 7 P **P** **11 00 37.5 +0.8**
O16K Kokwok River B 76.85 9 P **P** **11 00 37.1 -0.6**
N15K Kwethluk River 77.11 8 P **P** **11 00 39.8 +0.5**
N15K IAmb IAmb 11 01 04.0
comp=Z,8.5nm,1.4s
M14K Bethel 77.44 7 P **P** **11 00 41.8 +0.9**
M14K IAmb IAmb 11 00 47.6
comp=Z,7.1nm,1.1s
J05D Fort Rock, OR 77.55 38 P **P** **11 00 42.6 +0.4**
J05D IAmb IAmb 11 00 44.1
comp=Z,5.3nm,1.0s
L14K Kuka Creek 77.93 7 P **P** **11 00 44.7 +1.1**
L14K IAmb IAmb 11 01 16.0
comp=Z,5.6nm,1.1s
PINE Pine Mountain 78.02 37 P **P** **11 00 44.1 -0.8**
RADR Rader Ridge 78.02 34 P **P** **11 00 45.0 +0.5**
ILSW Iliamna Southw 78.07 12 P **P** **11 00 44.5 -0.1**
M16K Timber Creek 78.09 8 P **P** **11 00 45.2 +0.7**
M16K IAmb IAmb 11 01 01.1
comp=Z,8.4nm,1.4s
N18K Kilae Creek 78.23 10 P **P** **11 00 45.3 -0.1**
HOLB Holberg 78.63 29 P **P** **11 00 48.0 +0.3**
M17K Holitna River 78.67 9 P **P** **11 00 48.5 +0.8**
M17K IAmb IAmb 11 01 01.3
comp=Z,8.0nm,1.4s
K15K Wolf Creek Mou 78.99 7 P **P** **11 00 50.3 +0.9**
K15K IAmb IAmb 11 00 51.2
comp=Z,10nm,1.3s
L18K Granite Mounta 79.56 9 **P** **11 00 53.5 +1.0**
L18K IAmb IAmb 11 00 54.7
comp=Z,3.3nm,0.9s
K17K Iditarod 79.80 8 P **P** **11 00 54.7 +0.9**
K17K IAmb IAmb 11 01 22.6
comp=Z,6.4nm,1.4s
SUA Susitna One 79.91 12 P **P** **11 00 54.5 0.0**
SUA IAmb IAmb 11 00 56.4
comp=Z,3.3nm,0.9s
KAIM Kayak Island 79.99 16 P **P** **11 00 55.7 +0.9**
J16K Anvik River 80.06 7 P **P** **11 00 56.4 +1.3**
J16K IAmb IAmb 11 00 56.8
comp=Z,4.0nm,0.7s
J17K VABM Dome 80.35 8 P **P** **11 00 57.8 +1.2**
J17K IAmb IAmb 11 01 34.8
comp=Z,6.0nm,1.2s
HMT Hamilton 80.39 15 P **P** **11 00 56.9 0.0**
J18K Innoko River 80.74 9 P **P** **11 00 59.3 +0.6**
BMRM Bremner River 80.84 15 P **P** **11 00 59.4 +0.1**
BMRM IAmb IAmb 11 01 36.8
comp=Z,10nm,1.4s
SCM Sheep Creek Mo 80.96 13 P **P** **11 01 00.1 +0.1**
SCM IAmb IAmb 11 01 09.0
comp=Z,5.1nm,1.1s
K20K Telida 81.05 10 P **P** **11 01 00.8 +0.4**
K20K IAmb IAmb 11 01 01.1
comp=Z,2.6nm,0.7s
N25K Chitina, Valde 81.40 15 P **P** **11 01 02.3 0.0**
N25K IAmb IAmb 11 01 02.9
comp=Z,3.0nm,0.7s
J19K Poorman 81.40 9 P **P** **11 01 03.1 +0.9**
GLB Gilahina Butte 81.45 15 P **P** **11 01 02.5 0.0**
GLB IAmb IAmb 11 01 02.6
comp=Z,2.7nm,0.5s
TMUT Trail Mountain 81.80 45 P **P** **11 01 06.7 +1.5**
TMUT IAmb IAmb 11 01 07.3
comp=Z,2.8nm,0.7s
J20K Nowinta River 81.80 10 P **P** **11 01 04.5 +0.4**
J20K IAmb IAmb 11 01 05.2
comp=Z,11nm,1.5s
TRF Thorofare Moun 81.81 11 **P** **11 01 03.8 -0.7**
TRF IAmb IAmb 11 01 05.0
comp=Z,3.5nm,0.8s
HLID Hailey 81.83 40 P **P** **11 01 06.0 +0.9**
HVU Hansel Valley 81.97 42 P **P** **11 01 06.8 +1.0**
RND Reindeer 82.05 12 P **P** **11 01 05.9 +0.3**
RND IAmb IAmb 11 01 06.1
comp=Z,3.4nm,0.6s
P18A Preston Nutter 82.61 45 P **P** **11 01 08.8 -0.5**
HWUT Hardware Ranch 82.67 43 P **P** **11 01 08.6 -0.9**
M27K Edge Creek, AK 82.72 15 P **P** **11 01 09.7 +0.6**
M27K IAmb IAmb 11 01 10.4
comp=Z,4.9nm,1.1s
MNTX Cornudas Mount 82.73 54 P **P** **11 01 09.2 -0.6**
PV10 Paradox Valley 82.87 47 P **P** **11 01 10.6 0.0**
PV10 IAmb IAmb 11 01 11.7
comp=Z,4.4nm,0.7s
PV20 West Nyswonger 82.91 47 P **P** **11 01 10.9 +0.2**
I21K Tanana 83.09 10 P **P** **11 01 10.8 +0.1**
WRH Wood River Hil 83.15 12 P **P** **11 01 10.9 -0.2**
WRH IAmb IAmb 11 01 11.5
comp=Z,5.9nm,1.0s
MLY Manley 83.17 11 P **P** **11 01 10.6 -0.6**
TXAR Lajitas Array 83.17 57 P **P** **11 01 13.4 +1.3**
comp=Z,0.8nm,0.9s,baz=223,slow=6.8,SNR=8.5
comp=Z,0.8nm,0.9s
G19K Purcell Mounta 83.24 8 P **P** **11 01 12.3 +0.8**
L27K Beaver Creek, 83.32 15 P **P** **11 01 12.6 +0.6**
HDA Harding Lake 83.33 12 P **P** **11 01 11.4 -0.6**
HDA IAmb IAmb 11 01 12.2
comp=Z,4.9nm,0.9s
BCAR Beaver Creek A 83.33 15 P **P** **11 01 12.1 -0.1**
CCB Clear Creek Bu 83.37 12 **P** **11 01 11.6 -0.5**
H21K Melozitna Rive 83.40 9 P **P** **11 01 12.6 +0.3**
I23K Minto, Yukon-K 83.52 11 P **P** **11 01 13.5 +0.6**
IMAR Indian Mountai 83.56 9 P **P** **11 01 13.3 +0.2**
COLA College 83.56 12 P **P** **11 01 13.5 +0.4**
SCRK Sand Creek 83.59 14 P **P** **11 01 13.6 +0.1**
ILAR Eielson Array 83.66 12 **P** **11 01 13.5 -0.2**
ILAR Eielson Array 83.66 12 P **P** **11 01 12.8 -0.8**
comp=Z,1.8nm,0.6s,baz=217,slow=5.5,SNR=48
comp=Z,1.8nm,0.6s
POKR Poker Plat Res 83.86 12 P **P** **11 01 14.4 -0.2**
POKR IAmb IAmb 11 01 14.8
comp=Z,6.9nm,0.9s
J26L Joseph Creek 84.14 14 **P** **11 01 17.1 +0.9**
J26L IAmb IAmb 11 01 17.4
comp=Z,3.2nm,0.7s
L29M L29M 84.32 16 **P** **11 01 17.6 +0.6**
L29M IAmb IAmb 11 01 18.3
comp=Z,5.8nm,1.1s
PDAR Pinedale Array 84.53 43 P **P** **11 01 18.9 0.0**
comp=Z,0.5nm,0.6s,baz=216,slow=4.1,SNR=6.4
comp=Z,0.5nm,0.6s
DAWY Dawson 84.77 15 P **P** **11 01 19.7 +0.4**
DAWY IAmb IAmb 11 01 20.1
comp=Z,2.7nm,0.8s
GO09 Cerro Castillo 85.93 142 P **P** **11 01 25.2 -0.1**
MMPY Sheldon Lake, 85.95 19 P **P** **11 01 25.9 +0.8**
G26K Porcupine Rive 86.19 12 P **P** **11 01 26.3 +0.2**
MAW Mawson 86.28 199 P **P** **11 01 26.6 0.0**
comp=Z,2.7nm,0.7s,baz=136,slow=5.8,SNR=6.8
comp=Z,2.7nm,0.7s
BMAR Burnt Mountain 86.45 12 P **P** **11 01 28.1 +0.7**
CMAR Chiang Mai Arr 90.38 289 P **P** **11 01 47.8 +0.9**
comp=Z,0.8nm,0.8s,baz=99,slow=1.8,SNR=6.3
comp=Z,0.8nm,0.8s
SNAA Sanae 92.32 178 P **P** **11 01 54.6 -0.3**
SNAA IAmb IAmb 11 01 60.0
comp=Z,4.5nm,1.4s
SNAA Sanae 92.32 178 P **P** **11 01 54.1 -0.8**
comp=Z,1.1nm,0.7s,baz=186,slow=13,SNR=7.1
comp=Z,1.1nm,0.7s
MT02 Curacav 93.28 126 P **P** **11 01 58.3 -1.8**
MKAR Makanchi Array 109.47 314 PKiKP **PKiKP** **11 07 11.2 -2.0**
comp=Z,0.4nm,0.6s,baz=83,slow=3.3,SNR=3.7
KURBB Kurchatov Arra 112.02 319 PKiKP **PKiKP** **11 07 16.4 -1.4**
comp=Z,0.3nm,0.3s,baz=90,slow=1.9,SNR=4.2
BVAR Borovoye Array 116.84 322 PKP **PKPdf** **11 07 25.9 -1.2**
comp=Z,1.0nm,0.5s,baz=225,slow=0.8,SNR=6.3
ARCES ARCESS Array B 124.92 351 PKP **PKPdf** **11 07 40.5 -1.6**
comp=Z,1.9nm,0.6s,baz=5.7,slow=1.2,SNR=11
FINES FINESS Array B 132.03 346 PKP **PKPdf** **11 07 56.0 +0.2**
comp=Z,0.8nm,0.5s,baz=25,slow=5.0,SNR=7.8
MORC Moravsky Berou 144.64 345 **PKPdf** **11 08 19.7 +0.4**
BR131 Keskin Array S 145.01 318 **PKPdf** **11 08 20.3 -0.1**
BRTR Keskin Array B 145.01 318 PKP **PKPdf** **11 08 20.2 -0.2**
comp=Z,4.2nm,0.8s,baz=131,slow=2.0,SNR=18
GEC2 GERESS Array S 146.38 348 PKPbc **PKPbc** **11 08 24.2 -0.1**
GERES GERESS Array B 146.38 348 PKPbc **PKPbc** **11 08 24.1 -0.2**
GERES GERESS Array B 146.38 348 PKPbc **PKPbc** **11 08 23.8 -0.5**
comp=Z,1.1nm,0.5s,baz=46,slow=3.9,SNR=6.7
WLF Walferdange 146.48 357 PKPbc **PKPab** **11 08 25.3 -0.9**
MMAI Mount Meron Ar 146.95 306 PKPbc **PKPbc** **11 08 26.4 0.0**
comp=Z,1.6nm,0.4s,baz=97,slow=4.8,SNR=4.8
BFO Black Forest 147.66 354 PKPbc **PKPbc** **11 08 28.0 +0.3**
FUORN Ofenpass-Fuorn 149.12 351 PKPdf **PKPdf** **11 08 26.7 -0.4**
FUORN **PKPbc** **11 08 32.2 +0.5**
FUORN PKPab **PKPab** **11 08 37.7 +0.4**
TUE Stuetta 149.39 353 PKPdf **PKPdf** **11 08 26.6 -0.9**
TUE **PKPbc** **11 08 32.4 +0.1**
TUE PKPab **PKPab** **11 08 38.5 +0.1**
FNA Florina 151.13 332 **PKPbc** **11 08 35.9 -0.5**
ZCCA Zocca 151.22 349 PKPbc **PKiKP** **11 08 37.1 +0.3**

*ASRS **30** 10:54:36.0±0.9, 53.75N×91.09E, h0km, M3.0, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 30 10:54:41.7±3.7, 53.75N×90.78E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=29.3km s-min=24.2km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.53**	**276**		I	I	11 16 20.0	
	0.1nm,0.8s,baz=91,slow=318,SNR=10							
ZALV	**Zalesovo Beam**	**3.53**	**276**	Pg		Pb	10 55 44.2	-0.8
	0.7nm,0.3s,baz=90,slow=16,SNR=9.7							
ZALV				Lg		Lg	10 56 34.3	
	1.6nm,0.3s,baz=93,slow=27,SNR=7.2							
KURBB	**Kurchatov Arra**	**8.15**	**252**	Pn		Pn	10 56 41.5	+0.4
	0.1nm,0.3s,baz=62,slow=14,SNR=5.4							
KURBB				Sn		Sn	10 58 12.3	-1.6
	baz=68,slow=27,SNR=15							
KURBB				Lg		Lg	10 59 00.5	
	baz=63,slow=32,SNR=9.9							
	0.6nm,0.3s							
MKAR	**Makanchi Array**	**8.83**	**221**	Pn		Pn	10 56 50.7	+0.2
	0.1nm,0.3s,baz=38,slow=11,SNR=2.1							
MKAR				Sn		Sn	10 58 30.3	-0.4
	0.1nm,0.3s,baz=34,slow=21,SNR=2.5							
MKAR				Lg		Lg	10 59 19.9	
	baz=32,slow=27							
	0.2nm,0.4s							
SONM	**Songino Array**	**11.51**	**115**	Lg		Lg	11 00 36.4	
	0.2nm,0.3s,baz=301,slow=28,SNR=3.6							

NNC 30 10:57:12.9±3.3, 50.90N×83.81E, h0km, mb3.3, mpv3.0, 4C-1D, Error ellipse: s-maj=27.0km s-min=9.9km az=49.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**3.30**	**269**	⇑Pg		Pb	10 58 13.4	+1.1
	4.5nm,1.0s							
KURK				⇑Lg		Lg	10 58 57.4	
	7.7nm,1.1s							
KURBB	**Kurchatov Arra**	**3.37**	**267**	⇑Pg		Pb	10 58 13.9	+0.5
	12nm,1.1s							
MK31	**Makanchi Array**	**4.23**	**194**	⇓Pg		Pb	10 58 30.4	+2.2
	3.2nm,1.1s,baz=14,slow=17							
MK31				⇑Lg		Lg	10 59 29.9	
	7.1nm,1.1s,baz=32,slow=25,SNR=3.6							
MAKZ	**Makanchi**	**4.27**	**197**	Pg		Pb	10 58 30.8	+1.9
	1.3nm,0.9s							
MAKZ				Lg		Lg	10 59 25.8	
	5.6nm,1.2s							

IDC 30 11:16:46.8±3.2, 31.30S×178.16W, h0km, mb4.2/2, mbtmp4.1/3, ML3.4/1, Error ellipse: s-maj=71.2km s-min=46.7km az=115.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.96**	**208**	Pn		Pn	11 18 42.6	-1.1
	0.5nm,0.3s,baz=45,slow=19,SNR=6.6							
URZ				Sn		Sn	11 20 09.2	-5.2
	0.7nm,0.3s,baz=343,slow=16,SNR=6.9							
	7.3nm,0.9s							
ASAR	**Alice Springs**	**42.93**	**268**	P		P	11 24 47.7	+0.1
	0.7nm,0.3s,baz=107,slow=7.5,SNR=14							
	0.7nm,0.3s							
WRA	**Warramunga Arr**	**44.00**	**273**	P		P	11 24 56.2	0.0
	2.6nm,0.4s,baz=113,slow=8.3,SNR=62							
	2.6nm,0.4s							
FINES	**FINESS Array B**	**145.93**	**339**	PKPbc		PKPdf	11 36 26.4	-0.4
	4.0nm,1.0s,baz=35,slow=5.1,SNR=4.0							

MEX 30 11:24:29.5±0.5, 15.99N×98.03W, h5km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**347**	*e*P		Pg	11 24 37.0	-0.4
YOIG	**Yosondua**	**0.97**	**28**	*e*P		Pg	11 24 45.8	-2.4
YOIG				*e*S		Sg	11 24 58.7	-2.2
TXIG	**Tlaxiaco**	**1.28**	**11**	*e*P		Pg	11 24 50.9	-3.1
TXIG				*e*S		Sg	11 25 06.9	-3.8

*SSNC **30** 11:34:57.6±3.4, 18.34N×72.55W, h5km±25km, MD3.4, ML3.0, MW2.9*
*SDD **30** 11:34:57.2±4.4, 18.27N×72.71W, h15km±32km, MD3.1, ML3.2, MW3.5*
*OSPL **30** 11:34:58.2±1.9, 18.36N×72.60W, h0km±9km, ML2.8*
ISC 30 11:34:57.7±1.3, 18.41N±0.07×72.59W±0.04, h17km±8km, n24, σ1.09/43, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**0.30**	**67**	*e*P		**Pg**	**11 35 04.0**	**-0.2**
PAPH				*e*S		**Sg**	**11 35 08.8**	**+0.3**
PAPH				IAML			11 35 10.5	
	comp=E,8μm,0.3s							
PAPH				IAML			11 35 10.6	
	comp=N,7μm,0.1s							
PAPH	**Port-au-Prince**	**0.30**	**67**	*i* P		**Pg**	**11 35 04.2**	**+0.1**
PAPH				*e*S		**Sg**	**11 35 08.7**	**+0.2**
JIDR	**Jimani**	**0.71**	**83**	*i* P		**Pg**	**11 35 11.1**	**-0.5**
JIDR				IAML			11 35 22.5	
	comp=N,1μm,0.3s							
JIDR				*e*Sg		**Sn**	**11 35 22.8**	**-0.7**
LODU1	**El Espartillar**	**1.06**	**93**	*i* P		**Pb**	**11 35 17.2**	**-0.4**
LODU1				*e*S		**Sb**	**11 35 32.0**	**+0.8**
LODU1				IAML			11 35 33.1	
	comp=Z,1μm,0.3s							
NEDR	**Neiba UASD**	**1.11**	**86**	*i* P		Pb	11 35 13.9	-4.6
NEDR				*e*Sg		**Sg**	**11 35 34.8**	**+0.9**
NEDR				IAML			11 35 45.3	
	comp=N,513nm,0.7s							
PODR	**Polo**	**1.27**	**101**	*i* P		**Pn**	**11 35 20.9**	**0.0**
PODR				*e*Sg		**Sn**	**11 35 38.3**	**+0.7**
PODR				IAML			11 35 49.9	
	comp=N,505nm,0.6s							
PODR	**Polo**	**1.27**	**101**	*i* P		**Pn**	**11 35 20.8**	**0.0**
PODR				*e*S		**Sg**	**11 35 39.5**	**+0.7**
LOVI	**El Cajuil, Ovi**	**1.31**	**117**	*i* P		**Pn**	**11 35 21.1**	**-0.1**
LOVI				*e*S		**Sn**	**11 35 38.7**	**+0.4**
LOVI				IAML			11 35 47.5	
	comp=Z,332nm,0.5s							
SDDR	**Presa de Saban**	**1.36**	**65**	*e*P		**Pn**	**11 35 20.9**	**-1.1**
SDDR				*e*S		**Sn**	**11 35 39.4**	**-0.3**
SDDR				IAML			11 35 43.0	
	comp=Z,85nm,0.4s							
SDDR				IAML			11 35 48.4	
	comp=Z,97nm,0.6s							
SDDR	**Presa de Saban**	**1.36**	**65**	*i* P		**Pn**	**11 35 22.1**	**+0.1**
SDDR				IAML			11 35 55.9	
	comp=N,134nm,0.5s							
SDDR	**Presa de Saban**	**1.36**	**65**	*i* P		**Pn**	**11 35 21.9**	**-0.1**
SDDR				*e*S		**Sg**	**11 35 41.8**	**+0.1**
SDDR				IAML			11 35 54.9	
	comp=Z,103nm,1.2s							
MCDR	**Montecristi**	**1.72**	**31**	*i* P		**Pb**	**11 35 29.4**	**+0.5**
MCDR				IAML			11 36 01.0	
	comp=N,88nm,0.4s							
LOPP1	**Punta Rusia, P**	**1.95**	**42**	*i* P		**Pb**	**11 35 32.5**	**-0.3**
LOPP1				IAML			11 36 09.8	
	comp=Z,96nm,0.6s							
BANI	**BANI**	**2.12**	**90**	*i* P		**Pb**	**11 35 34.6**	**-1.2**
BANI				*e*Sg		**Sb**	**11 36 02.9**	**+1.1**
BANI				IAML			11 36 06.1	
	comp=N,551nm,0.8s							
MASC	**Masc**	**2.35**	**319**	*e*P		**Pn**	**11 35 35.9**	**+0.4**
MASC				*e*S		**Sn**	**11 36 04.2**	**+0.3**
MASC				IAML			11 36 05.0	
	comp=N,49nm,1.0s							
MASC				IAML			11 36 14.5	
	comp=E,44nm,0.8s							
MASC	**Masc**	**2.35**	**319**	*i* P		**Pn**	**11 35 36.6**	**+1.1**
MASC				*e*S		**Sn**	**11 36 04.7**	**+0.7**
MASC				IAML			11 36 05.2	
	comp=Z,37nm,1.9s							
QMBU	**Quimbuelo**	**2.76**	**311**	*e*P		**Pn**	**11 35 40.6**	**-0.6**
QMBU				*e*S		**Sn**	**11 36 13.6**	**-0.6**
QMBU				IAML			11 36 20.0	
	comp=N,24nm,0.4s							
QMBU				IAML			11 36 20.9	
	comp=E,37nm,0.3s							
GTBY	**Guantanamo Bay**	**2.82**	**303**	*e*P		**Pn**	**11 35 42.4**	**+0.3**
GTBY				*e*S		**Sn**	**11 36 18.4**	**+2.6**
GTBY				IAML			11 36 25.9	
	comp=E,69nm,0.6s							
GTBY				IAML			11 36 30.1	
	comp=E,38nm,1.0s							
GTBY	**Guantanamo Bay**	**2.82**	**303**	*i* P		**Pn**	**11 35 41.0**	**-1.1**
GTBY				*e*Sg		**Sb**	**11 36 19.1**	**-2.9**
GTBY				IAML			11 36 25.7	
	comp=N,35nm,0.5s							
GTBY	**Guantanamo Bay**	**2.82**	**303**	*i* P		**Pn**	**11 35 42.9**	**+0.8**
GTBY				IAML			11 36 25.4	
	comp=Z,20nm,0.3s							
NMDO	**Nuevo Mundo**	**3.11**	**314**	*e*P		**Pn**	**11 35 48.2**	**+2.1**
NMDO				*e*S		**Sn**	**11 36 25.4**	**+2.4**
NMDO				IAML			11 36 32.6	
	comp=N,22nm,0.7s							
NMDO				IAML			11 36 34.7	
	comp=E,36nm,0.7s							
MOAC	**Moa**	**3.17**	**315**	*e*P		**Pn**	**11 35 46.3**	**-0.5**
MOAC				*e*S		**Sn**	**11 36 22.4**	**-1.8**
MARVS	**Santiago de Cu**	**3.51**	**297**	*e*P		**Pn**	**11 35 52.9**	**+1.3**
MARVS				*e*S		**Sn**	**11 36 33.9**	**+1.2**
MARVS				IAML			11 36 44.3	
	comp=E,19nm,0.3s							
MARVS				IAML			11 36 44.5	
	comp=N,19nm,0.3s							
PINC	**Pinares de May**	**3.66**	**305**	*e*P		**Pn**	**11 35 53.1**	**-0.5**
PINC				*e*S		**Sn**	**11 36 35.5**	**-1.0**
PINC				IAML			11 36 43.7	
	comp=N,9.1nm,0.3s							
PINC				IAML			11 36 45.5	
	comp=E,7.4nm,0.3s							

*IDC **30** 11:41:20.7±1.3, 24.17N×124.86E, h0km, mb3.5/4, mbtmp3.6/5, ML2.6/1, MS3.0/7, Error ellipse: s-maj=55.7km s-min=22.8km az=66.0*
*JMA **30** 11:41:24.2±0.3, 24.28N±1.1×125.22E±0.9, h39km, MV3.3/9, NEAR MIYAKOJIMA ISLAND*
ISC 30 11:41:24.6±1.3, 24.28N±0.07×125.22E±0.05, h32km±9km, n30, σ0.98/30, mb3.5/4, MS3.1/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.47**	**12**	*i* P		**Pb**	**11 41 34.4**	**-0.3**
JMJ2				S		**Sb**	**11 41 42.0**	**+0.5**
JOGS	**Gusukube**	**0.51**	**19**	*i* P		**Pb**	**11 41 35.0**	**-0.2**
JOGS				S		**Sb**	**11 41 43.5**	**+0.9**
JMJ	**Miyako jima 2**	**0.54**	**7**	P		**Pb**	**11 41 34.3**	**-1.4**
JIRB	**Irabujima**	**0.55**	**355**	*i* P		**Pb**	**11 41 35.3**	**-0.6**
JIRB				S		**Sb**	**11 41 43.7**	**0.0**
JTJ	**Tarama**	**0.60**	**307**	*i* P		**Pn**	**11 41 36.3**	**-0.5**
JTJ				S		**Sn**	**11 41 45.2**	**-0.2**
JIKM	**Ikemajima**	**0.64**	**2**	P		**Pb**	**11 41 36.9**	**-0.6**
JIKM				*e*S		**Sn**	**11 41 46.6**	**0.0**
JISG	**Ishigakijimahi**	**0.89**	**291**	P		**Pb**	**11 41 40.4**	**-1.0**
JISG				S		**Sn**	**11 41 53.1**	**+0.5**
JIJ	**Ishigaki jima**	**0.99**	**275**	*e*P		**Pb**	**11 41 42.7**	**-0.5**
JIJ				*e*S		**Sb**	**11 41 57.8**	**+1.9**
JKRS	**Kuro-shima**	**1.11**	**268**	P		**Pb**	**11 41 44.9**	**-0.3**
IRIF	**Iriomote-Funau**	**1.36**	**273**	P		**Pb**	**11 41 48.1**	**-1.4**
YOJ	**Yonaguni jima**	**2.02**	**276**	P		**Pb**	**11 41 58.8**	**-1.9**
NACB	**Ninganchiao**	**3.31**	**269**	P		**Pn**	**11 42 14.5**	**+0.3**
YHNB	**Yeheng**	**3.53**	**277**	P		**Pn**	**11 42 18.3**	**+1.1**
YULB	**Yu-li**	**3.70**	**257**	P		**Pn**	**11 42 18.6**	**-1.0**
JOW	**Kunigami**	**3.75**	**47**	P		**Pn**	**11 42 19.5**	**-0.8**
SSLB	**Suanglung**	**3.93**	**264**	P		**Pn**	**11 42 23.1**	**+0.3**
TWGBT	**Beinan**	**4.07**	**250**	P		**Pn**	**11 42 23.3**	**-1.3**
TPUB	**Ta-pu**	**4.32**	**258**	P		**Pn**	**11 42 29.1**	**+1.0**
MJAR	**Matsushiro Arr**	**16.56**	**39**	Pn		**P**	**11 45 17.9**	**+1.3**
	baz=229,slow=11,SNR=4.4							
	1.2nm,0.6s							
DAV	**Davao City (W)**	**17.11**	**179**	LR		LR	11 52 57.8	
	comp=Z,28nm,18.8s,baz=315,slow=41							
GUMO	**Guam**	**21.38**	**116**	LR		LR	11 53 15.7	
	comp=Z,19nm,18.7s,baz=255,slow=33							
CMAR	**Chiang Mai Arr**	**25.13**	**262**	LR		LR	11 56 10.6	
	comp=Z,10nm,21.4s,baz=205,slow=36							
MKAR	**Makanchi Array**	**40.87**	**314**	P		**P**	**11 49 03.5**	**0.0**
	0.7nm,0.5s,baz=98,slow=9.4,SNR=6.6							
	0.7nm,0.5s							
ZALV	**Zalesovo Beam**	**42.22**	**325**	LR		LR	12 07 17.0	
	comp=Z,17nm,20.1s,baz=146,slow=37							
KURBB	**Kurchatov Arra**	**44.45**	**319**	P		**P**	**11 49 31.5**	**-1.0**
	0.4nm,0.5s,baz=100,slow=7.9,SNR=2.1							
	0.4nm,0.5s							
WRA	**Warramunga Arr**	**44.84**	**168**	P		**P**	**11 49 35.6**	**-0.3**
	0.4nm,0.6s,baz=347,slow=8.1,SNR=6.8							
	0.4nm,0.6s							
TIXI	**Tiksi**	**47.45**	**2**	LR		LR	12 10 35.2	
	comp=Z,27nm,18.9s,baz=272,slow=37							
ASAR	**Alice Springs**	**48.40**	**169**	P		**P**	**11 50 05.0**	**+1.2**
	0.2nm,0.4s,baz=352,slow=8.4,SNR=8.6							
	0.2nm,0.4s							
FINES	**FINESS Array B**	**73.21**	**330**	LR		LR	12 28 49.6	
	comp=Z,27nm,20.2s,baz=41,slow=39							
AKASG	**Malin Array Be**	**75.23**	**319**	LR		LR	12 27 05.8	
	comp=Z,15nm,19.0s,baz=356,slow=37							

*KRNET **30** 12:03:23.4±0.1, 40.99N×69.26E, mb2.6*
*SOME **30** 12:03:26.6, 41.28N×71.63E, h5km*
ISC 30 12:03:26.3±1.6, 40.93N±0.05×69.42E±0.08, h10km, n6, σ1.76/12, 4C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**1.43**	**65**	⇑*i*P		**Pn**	**12 03 51.6**	**-0.8**
TRKS				⇑*i*S		**Sg**	**12 04 12.1**	**-0.2**
GAR	**Garm**	**2.05**	**160**	⇓*i*P		**Pn**	**12 04 01.7**	**+0.8**
GAR				⇓*i*S		**Sg**	**12 04 29.8**	**-2.2**
BRLS	**Borolday**	**2.12**	**8**	*e*P		**Pb**	**12 04 05.2**	**+0.4**
	1.4nm,0.1s							
BRLS				*e*S		**Sg**	**12 04 33.0**	**-1.4**
	12nm,0.2s							
OHH	**Osh**	**2.59**	**98**	⇑*e*P		**Pn**	**12 04 09.4**	**+1.1**
OHH				⇑*e*S		**Sb**	**12 04 43.4**	**-1.4**
ARSB	**Arslanbob**	**2.72**	**81**	⇓*i*P		**Pn**	**12 04 11.2**	**+1.0**
ARSB				⇓*i*S		**Sb**	**12 04 46.1**	**-2.5**
SALK	**Salom-Alik**	**3.34**	**89**	⇓*i*P		**Pn**	**12 04 20.0**	**+1.4**
SALK				⇓*i*S		**Sn**	**12 05 01.1**	**+2.7**

*SOME **30** 12:04:19.0, 40.78N×79.72E, h10km*
NNC 30 12:04:20.2±1.3, 40.80N×79.71E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=8.6km s-min=8.1km az=148.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.36**	**356**	Pg		Pb	12 05 03.2	-0.5
	22nm,0.1s							
SHLS				Lg		Lg	12 05 35.4	
	28nm,0.5s

SATY			Lg	Lg	12 05 38.9	
	21nm,0.7s					
KPKS	**Kokpek**	**2.77 344**	Pg	Pb	12 05 10.2	-0.4
	0.4nm,0.2s					
KPKS			Lg	Lg	12 05 47.4	
	15nm,0.3s					
TNSS	**Tian-Shan**	**3.04 318**	Pg	Pb	12 05 16.2	+0.7
	1.7nm,0.3s					
TNSS			Lg	Lg	12 05 56.3	
	4.1nm,0.4s					
TNSS	**Tian-Shan**	**3.04 318**	*e*P	Pb	12 05 16.2	+0.7
	1.7nm,0.3s					
TNSS			*e*S	Sg	12 05 57.5	-0.4
	4.1nm,0.4s					

*RSNC **30** 12:25:27.7±0.3,2˚S±3˚×7˚8W±˚, h156km±5km, M3.7, mB5.1, mb4.5, ML3.2, Mw(mB)4.5*
*NEIC **30** 12:25:29.2±1.8, 1˚93S±0˚04×77˚98W±0˚08, h143km±7km, mb4.2/36, Error ellipse: s-maj=11.3km s-min=8.3km az=104.0*
*IDC **30** 12:25:29.3±2.1, 1˚81S×77˚85W, h148km±21km, mb3.3/8, mbtmp3.9/13, Error ellipse: s-maj=26.9km s-min=14.6km az=74.0*

ISC 30 12:25:28.5±0.7, 1˚93S±0˚04×77˚98W±0˚06, h143km±7km, n76, σ1§37/84, mb4.1/20, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIAT	**Ana Tenorio**	**0.97**	**343**	P	**Pn**	**12 25 53.2**	**+0.4**
PIAT				S	**Sn**	**12 26 11.9**	**+0.6**
SLOR	**San Lorenzo -**	**1.30**	**337**	Pn	**Pn**	**12 25 56.8**	**+0.8**
COHC	**Cochancay**	**1.38**	**247**		**Pn**	**12 25 56.2**	**-0.1**
COHC	**Cochancay**	**1.38**	**247**	P	**Pn**	**12 25 56.0**	**-0.2**
COHC				S	**Sn**	**12 26 17.5**	**+0.1**
OTAV	**Otavalo**	**2.21**	**348**		**Pn**	**12 26 07.0**	**+0.9**
OTAV	**Otavalo**	**2.21**	**348**	P	**Pn**	**12 26 06.4**	**+0.3**
OTAV				S	**Sn**	**12 26 35.1**	**0.0**
PAC1	**Pacto, Paraso**	**2.33**	**340**	P	**Pn**	**12 26 07.7**	**+0.4**
PAC1				S	**Sn**	**12 26 36.1**	**-1.1**
BONI	**La Bonita**	**2.41**	**11**	P	**Pn**	**12 26 09.0**	**+0.5**
BONI				S	**Sn**	**12 26 37.9**	**-1.3**
PPLP	**Puerto Lpez**	**2.82**	**278**	P	**Pn**	**12 26 10.6**	**-2.7**
PPLP				S	**Sn**	**12 26 41.7**	**-6.2**
MCRA	**Macar, Loja**	**3.12**	**219**	P	**Pn**	**12 26 15.5**	**-1.7**
MCRA				S	**Sn**	**12 26 53.2**	**-1.7**
PTLC	**Puerto Leguiza**	**3.81**	**57**	P	**Pn**	**12 26 24.4**	**-1.7**
BBAC	**Balboa, Cauca**	**4.00**	**11**	P	**Pn**	**12 26 28.9**	**+0.2**
FLOC	**Florencia**	**4.20**	**34**		**Pn**	**12 26 31.2**	**0.0**
FLOC	**Florencia**	**4.20**	**34**	P	**Pn**	**12 26 30.8**	**-0.4**
POPC	**Popayan, Colom**	**4.63**	**16**	P	**Pn**	**12 26 37.7**	**+0.6**
GARC	**Garzon, Huila**	**4.79**	**31**	P	**Pn**	**12 26 39.6**	**+0.4**
ATAH	**Atahualpa**	**5.18**	**185**	P	**Pn**	**12 26 46.5**	**+1.8**
	25nm,0.5s,baz=8.2,slow=11,SNR=29						
ATAH				S	**Sn**	**12 27 44.3**	**+0.3**
	66nm,0.7s,baz=170,slow=21,SNR=7.1						
BETC	**Betania**	**5.24**	**29**	P	**Pn**	**12 26 47.0**	**+2.0**
	33µm73nm,1.0s						
MACC	**Macarena, Meta**	**5.79**	**46**	P	**Pn**	**12 26 52.0**	**-0.3**
	997nm65nm,0.6s						
YOTC	**Yotoco, Valle**	**6.10**	**16**	P	**Pn**	**12 26 54.1**	**-2.5**
	8.0nm,0.5s						
URMC	**La Uribe, Meta**	**6.28**	**35**	P	**Pn**	**12 27 00.2**	**+1.2**
	2µm133nm,0.6s						
PRAC	**Prado**	**6.41**	**29**	P	**Pn**	**12 27 00.7**	**+0.1**
	29nm,0.8s						
ORTC	**Ortega, Tolima**	**6.41**	**25**	P	**Pn**	**12 27 01.6**	**+0.9**
	53nm,0.9s						
PLMC	**San Jos del P**	**7.00**	**14**	P	**Pn**	**12 27 06.5**	**-2.1**
	5.6nm,0.5s						
ROSC	**El Rosal**	**7.66**	**29**	P	**Pn**	**12 27 16.8**	**-1.0**
	6.1nm,0.4s,baz=205,slow=14,SNR=2.3						
CZSB	**Cruzeiro do Su**	**7.80**	**138**	Pn	**Pn**	**12 27 20.2**	**+0.9**
CZSB	**Cruzeiro do Su**	**7.80**	**138**	P	**Pn**	**12 27 21.1**	**+1.9**
RUSC	**La Rusia**	**9.18**	**32**		**Pn**	**12 27 38.3**	**+0.1**
NNA	**Nana**	**10.05**	**174**	P	**Pn**	**12 27 52.0**	**+2.6**
	6.6nm,0.4s,baz=333,slow=11,SNR=2.0						
NNA				S	Sn	12 29 32.0	-8.7
	6.3nm,0.4s,baz=227,slow=7.9,SNR=2.0						
BAUV	**El Baul**	**14.66**	**42**	Pn	**Pn**	**12 28 47.5**	**-1.5**
HERN	**Volcan Telica**	**16.91**	**329**	P	**P**	**12 29 16.7**	**+0.3**
HERN				IAmb	IAmb	12 29 32.0	
	comp=Z,76nm,0.7s						
CRIN	**San Cristobal**	**17.10**	**328**	P	**P**	**12 29 18.6**	**0.0**
LPAZ	**La Paz**	**17.25**	**146**	P	**P**	**12 29 19.1**	**-1.6**
LPAZ	**La Paz**	**17.25**	**146**	P	**Pn**	**12 29 22.5**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=222,slow=12,SNR=4.1						
LPAZ				S	**S**	**12 32 30.5**	**-3.1**
	comp=Z,1.9nm,0.8s,baz=130,slow=7.6,SNR=4.2						
MACA	**Manacapuru-AM**	**17.32**	**94**	P	**P**	**12 29 18.9**	**-2.0**
MACA				IAmb	IAmb	12 29 23.4	
	comp=Z,19nm,0.9s						
PCRV	**Puerto La Cruz**	**17.92**	**48**	P	**P**	**12 29 27.2**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=218,slow=17,SNR=1.2						
MTO3	**Montecristo**	**19.76**	**326**	P	**P**	**12 29 48.2**	**+0.5**
MTO3				IAmb	IAmb	12 29 50.3	
	comp=Z,6.0nm,0.8s						
PB02	**IPOC Station P**	**20.82**	**158**	P	**P**	**12 29 57.8**	**-1.1**
PB02				IAmb	IAmb	12 30 25.3	
	comp=Z,27nm,1.3s						
SIV	**San Ignacio**	**21.74**	**131**	P	**P**	**12 30 08.5**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=304,slow=7.0,SNR=4.4						
	comp=Z,0.7nm,0.6s						
MAL2	**Monte Alegre,**	**23.79**	**91**	P	**P**	**12 30 28.4**	**+0.2**
MAL2				IAmb	IAmb	12 30 30.2	
	comp=Z,6.8nm,0.8s						
TDBA	**Terre de Bas,**	**23.94**	**42**	P	**P**	**12 30 26.6**	**-3.0**
DRIO	**Del Rio**	**37.97**	**327**	P	**P**	**12 32 33.2**	**+0.8**
DRIO				IAmb	IAmb	12 32 33.8	
	comp=Z,4.9nm,0.8s						
JCT	**Junction City**	**38.36**	**329**	P	**P**	**12 32 36.8**	**+1.0**
JCT				IAmb	IAmb	12 32 57.3	
	comp=Z,6.1nm,1.3s						
TXAR	**Lajitas Array**	**39.63**	**324**	P	**P**	**12 32 46.9**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=145,slow=9.2,SNR=5.3						
	comp=Z,0.4nm,0.5s						
SMWD	**Samnorwood**	**42.34**	**333**	P	**P**	**12 33 09.2**	**+0.8**
MNTX	**Cornudas Mount**	**42.37**	**324**	P	**P**	**12 33 09.2**	**+0.5**
O48B	**Farmland**	**42.50**	**352**	P	**P**	**12 33 10.8**	**+1.2**
O48B				IAmb	IAmb	12 33 51.9	
	comp=Z,12nm,1.2s						
ANMO	**Albuquerque**	**45.36**	**327**	P	**P**	**12 33 33.8**	**+1.0**
ANMO				IAmb	IAmb	12 33 34.5	
	comp=Z,3.1nm,0.7s						
K43A	**Burlington**	**45.41**	**349**	P	**P**	**12 33 33.9**	**+1.1**
TUC	**Tucson**	**46.09**	**320**	P	**P**	**12 33 39.5**	**+1.1**
SDCO	**Great Sand Dun**	**46.98**	**330**	P	**P**	**12 33 46.9**	**+1.4**
X16A	**Lo Mia Camp, P**	**47.90**	**322**	P	**P**	**12 33 53.5**	**+1.0**
PV13	**Radium Mtn., P**	**49.02**	**328**	P	**P**	**12 34 02.2**	**+1.1**
PV13				IAmb	IAmb	12 34 02.6	
	comp=Z,4.6nm,0.8s						
PV05	**Paradox Valley**	**49.11**	**327**	P	**P**	**12 34 01.8**	**0.0**
PV05				IAmb	IAmb	12 34 02.9	
	comp=Z,3.3nm,0.8s						
PV18	**Skein Mesa, Pa**	**49.13**	**328**	P	**P**	**12 34 01.8**	**-0.1**
PV18				IAmb	IAmb	12 34 03.2	
	comp=Z,6.1nm,0.7s						
PDAR	**Pinedale Array**	**52.82**	**331**	P	**P**	**12 34 29.4**	**0.0**
	comp=Z,0.2nm,0.4s,baz=120,slow=8.8,SNR=3.6						
	comp=Z,0.2nm,0.4s						
NVAR	**Mina Array Bea**	**54.71**	**321**	P	**P**	**12 34 43.8**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=116,slow=7.4,SNR=5.6						
	comp=Z,0.4nm,0.5s						
DBIC	**Dimbokro**	**73.48**	**83**	P	**P**	**12 36 45.4**	**-0.6**
H29M	**Whitestone**	**80.23**	**339**	P	**P**	**12 37 23.4**	**+0.5**
H29M				IAmb	IAmb	12 37 27.9	
	comp=Z,5.3nm,1.4s						
RAGM	**Ragged Mountai**	**80.37**	**332**	P	**P**	**12 37 24.4**	**+0.6**
RAGM				IAmb	IAmb	12 37 44.7	
	comp=Z,9.2nm,1.3s						
TORD	**Torodi Ar. Bea**	**80.39**	**76**	P	**P**	**12 37 23.4**	**-1.3**
G29M	**Pine Creek**	**80.44**	**340**	P	**P**	**12 37 24.4**	**+0.4**
G29M				IAmb	IAmb	12 37 41.6	
	comp=Z,4.2nm,1.1s						
I28M	**Miner Creek**	**80.45**	**338**	P	**P**	**12 37 24.6**	**+0.5**
I28M				IAmb	IAmb	12 37 46.0	
	comp=Z,6.1nm,1.5s						
H27K	**Steamboat Moun**	**81.38**	**338**	P	**P**	**12 37 29.1**	**+0.1**
J26L	**Joseph Creek**	**81.45**	**337**	P	**P**	**12 37 30.2**	**+0.7**
ILAR	**Eielson Array**	**82.88**	**336**	P	**P**	**12 37 36.0**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=172,slow=5.0,SNR=7.5						
	comp=Z,0.4nm,0.6s						
EKA	**Eskdalemuir Ar**	**82.99**	**34**	P	**P**	**12 37 36.4**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=256,slow=3.4,SNR=3.8						
	comp=Z,0.4nm,0.4s						
SNAA	**Sanae**	**83.52**	**162**	P	**P**	**12 37 41.0**	**+1.0**
SNAA				IAmb	IAmb	12 37 50.7	
	comp=Z,4.3nm,1.4s						
SNAA	**Sanae**	**83.52**	**162**	P	**P**	**12 37 40.5**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=284,slow=7.8,SNR=5.9						
	comp=Z,0.7nm,0.7s						
SUA	**Susitna One**	**83.52**	**333**	P	**P**	**12 37 40.5**	**+0.2**
BWN	**Browne**	**83.75**	**335**	P	**P**	**12 37 40.7**	**-0.5**
QSPA	**South Pole Qui**	**88.13**	**180**	P	**P**	**12 38 04.9**	**+2.1**
QSPA				IAmb	IAmb	12 38 11.4	
	comp=Z,2.8nm,1.4s						
QSPA	**South Pole Qui**	**88.13**	**180**	P	**P**	**12 38 04.4**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=131,slow=5.5,SNR=10						
	comp=Z,0.9nm,0.6s						
N14K	**Kuskokwak Cree**	**88.50**	**330**	P	**P**	**12 38 05.0**	**+0.5**
VSL	**Villasalto**	**89.17**	**51**	P	**P**	**12 38 08.4**	**+0.3**
WRA	**Warramunga Arr**	**141.56**	**234**	PKhKP	PKPpre	12 44 37.9	
	comp=Z,0.3nm,0.7s,baz=129,slow=2.8,SNR=5.0						

IDC 30 12:31:50.5±7.8, 21˚23S×174˚78W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=335.5km s-min=41.6km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**47.28**	**257**	P	P	12 40 24.7	-1.3
	0.2nm,0.4s,baz=93,slow=7.1,SNR=8.0						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**47.48**	**262**	P	P	12 40 28.5	+0.9
	0.4nm,0.3s,baz=99,slow=6.9,SNR=13						
	0.4nm,0.3s						
ILAR	**Eielson Array**	**88.38**	**12**	P	P	12 44 43.8	0.0
	0.2nm,0.5s,baz=202,slow=4.6,SNR=4.0						
	0.2nm,0.5s						

*SOME **30** 12:33:57.4, 43˚65N×69˚63E*
*NNC **30** 12:33:59.7±1.7, 43˚63N×69˚75E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=9.9km s-min=6.0km az=138.0, Suspected Mining explosion.*
*KRNET **30** 12:34:01.0±0.1, 43˚23N×69˚17E, mb2.9*

ISC 30 12:33:59.7±1.8, 43˚65N±0˚07×69˚84E±0˚07, h0km, n14, σ2§40/30, 12C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRLS	**Boroldoy**	**0.61**	**180**	P	**Pn**	**12 34 14.4**	**-1.3**
	5.0nm,0.3s						
BRLS				P	**Pn**	**12 34 14.5**	**-1.3**
BRLS				S	**Sn**	**12 34 27.0**	**+0.7**
BRLS				S	**Sb**	**12 34 28.7**	**+6.2**
	19nm,0.4s						
KK31	**Karatay Array**	**0.73**	**138**	⇑P	**Pg**	**12 34 13.9**	**+0.2**
	0.8nm,0.2s,baz=315,slow=16,SNR=96						
KK31				⇑S	**Sg**	**12 34 25.0**	**+1.8**
	31nm,0.5s,baz=309,slow=29,SNR=106						
IUG	**Iuzhnay**	**1.50**	**175**	P	**Pg**	**12 34 27.8**	**-0.7**
	32nm,0.5s						
IUG				P	**Pb**	**12 34 28.2**	**-0.4**
	32nm,0.5s						
IUG				S	**Sg**	**12 34 50.3**	**+2.3**
	52nm,0.5s						
IUG				S	**Sb**	**12 34 51.2**	**+3.0**
	52nm,0.4s						
TRKS	**Terek-Say**	**2.32**	**155**	⇓*i*P	**Pb**	**12 34 42.6**	**+0.1**
TRKS				⇓*i*S	**Sb**	**12 35 13.0**	**+1.2**
MRKS	**Merke**	**2.63**	**109**	Pg	**Pb**	**12 34 48.2**	**+0.3**
	4.5nm,0.6s						
MRKS				Pg	**Pg**	**12 34 48.4**	**-1.8**
	4.4nm,0.6s						
MRKS				Lg	Lg	12 35 24.7	
	8.1nm,0.5s						
MRKS				Lg	Lg	12 35 25.8	
	8.4nm,0.6s						
ARSB	**Arslanbob**	**3.28**	**134**	⇓*i*P	**Pb**	**12 34 58.0**	**-0.9**
ARSB				⇓*i*S	**Sb**	**12 35 39.4**	**-0.1**
BTLS	**Baital**	**3.33**	**64**	Pg	**Pg**	**12 35 03.5**	**+0.1**
	9.8nm,0.4s						
BTLS				Pg	Pb	12 35 03.8	+4.3
	9.8nm,0.4s						
BTLS				Lg	Lg	12 35 50.4	
	5.8nm,0.6s						
BTLS				Lg	Lg	12 35 51.5	
	3.6nm,0.5s						
USP	**Ospenovka**	**3.41**	**95**	⇑*i*P	**Pg**	**12 35 04.0**	**-1.1**
USP				⇑*i*S	**Sg**	**12 35 51.6**	**+2.2**
SGDS	**Sogindy**	**3.49**	**92**	Pg	**Pb**	**12 35 03.7**	**+1.3**
	2.4nm,0.6s						
SGDS				Pg	**Pg**	**12 35 05.1**	**-1.5**
	3.1nm,0.8s						
SGDS				Lg	Lg	12 35 53.0	
	7.0nm,0.7s						
SGDS				Lg	Lg	12 35 53.7	
	6.9nm,0.7s						
AAK	**Ala-Archa**	**3.55**	**105**	⇑Pg	**Pb**	**12 35 02.6**	**-0.9**
	1.3nm,0.5s						
AAK				⇑Lg	Lg	12 35 55.1	
	2.0nm,0.6s						
UCH	**Uchtor**	**3.71**	**111**	⇑*i*P	**Pb**	**12 35 06.4**	**0.0**
UCH				⇑*i*S	**Sb**	**12 35 55.0**	**+2.9**
OHH	**Osh**	**3.81**	**144**	⇑*e*P	**Pb**	**12 35 03.9**	**-4.0**
OHH				⇑*e*S	**Sn**	**12 35 49.2**	**+3.9**
SALK	**Salom-Alik**	**4.04**	**132**	⇑*i*P	**Pb**	**12 35 08.7**	**-3.2**
SALK				⇑*i*S	**Sb**	**12 35 57.7**	**-3.7**
GAR	**Garm**	**4.66**	**175**	⇓*i*P	**Pn**	**12 35 10.1**	**-1.3**
GAR				⇓*i*S	**Sn**	**12 36 02.3**	**-3.9**

*IDC **30** 12:46:41.6±3.6, 24˚75N×95˚63E, h111km±36km, mb3.4/5, mbtmp3.7/6, MS3.2/1, Error ellipse: s-maj=49.4km s-min=17.8km az=63.0*

ISC 30 12:46:41.4±1.2, 24˚9N±0˚2×95˚9E±0˚4, h100km, n7, σ1§40/6, mb3.6/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.01**	**156**	P	**Pn**	**12 48 22.0**	**+0.6**
	2.4nm,0.7s,baz=324,slow=13,SNR=13						
SONM	**Songino Array**	**24.35**	**17**	P	**P**	**12 51 50.8**	**+0.8**
	0.4nm,0.3s,baz=195,slow=10,SNR=3.6						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**24.40**	**337**	P	**P**	**12 51 48.8**	**-1.6**
	1.1nm,0.6s,baz=148,slow=8.7,SNR=8.2						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**58.19**	**137**	P	**P**	**12 56 24.4**	**-0.8**
	0.5nm,0.6s,baz=325,slow=7.4,SNR=8.3						
	0.5nm,0.6s						
MLR	**Muntele Rosu**	**58.90**	**309**	LR	LR	13 25 38.0	
	comp=Z,21nm,19.2s,baz=229,slow=40						
ASAR	**Alice Springs**	**60.73**	**140**	P	**P**	**12 56 41.9**	**-0.8**
	0.4nm,0.6s,baz=316,slow=7.0,SNR=5.0						
	0.4nm,0.6s						
HFS	**Hagfors**	**64.90**	**327**	P	**P**	**12 57 10.9**	**+1.0**
	5.3nm,1.0s,baz=98,slow=6.7,SNR=3.8						
	5.3nm,1.0s						

*NEIC **30** 13:02:17.2±2.2, 5˚2N±0˚1×125˚2E±0˚2, h196km±10km, mb4.3/15, Error ellipse: s-maj=33.2km s-min=13.6km az=116.0*
*IDC **30** 13:02:17.2±1.3, 5˚21N×125˚19E, h197km±16km, mb3.3/4, mbtmp4.1/6, Error ellipse: s-maj=43.2km s-min=17.5km az=76.0*

ISC 30 13:02:17.4±0.7, 5˚22N±0˚07×125˚2E±0˚1, h200km, n25, σ0§88/27, mb4.2/12, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.88**	**12**	P	**Pn**	**13 02 54.2**	**-0.5**
	194nm,0.4s,baz=53,slow=19,SNR=2.0						
DAV				S	**Sn**	**13 03 23.6**	**-0.1**
	232nm,0.5s,baz=93,slow=22,SNR=1.5						
TOLI2	**Tolitoli**	**6.00**	**227**	Pn	**Pn**	**13 03 43.4**	**-1.3**
BATI	**Baumata**	**15.40**	**186**	P	**Pn**	**13 05 43.3**	**-1.4**
	10.0nm,0.4s,baz=107,slow=14,SNR=3.6						
JAY	**Jayapura**	**17.30**	**116**	P	**P**	**13 06 05.2**	**-0.6**
	11nm,0.7s,baz=301,slow=5.9,SNR=8.3						
MTN	**Manton Dam**	**18.90**	**162**	P	**P**	**13 06 23.4**	**+0.3**
MTN				IAmb	IAmb	13 06 23.8	
	comp=Z,18nm,1.4s						
KNRA	**Kununurra**	**21.07**	**170**	P	**P**	**13 06 46.4**	**+0.2**
KNRA				IAmb	IAmb	13 06 49.0	
	comp=Z,13nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.18**	**179**	P	**P**	**13 07 07.4**	**+1.0**
	comp=Z,2.6nm,0.3s,baz=5.1,slow=7.3,SNR=20						
	comp=Z,2.6nm,0.3s						
WB0	**Warramunga Arr**	**26.43**	**160**	P	**P**	**13 07 35.0**	**-0.9**
WB0				IAmb	IAmb	13 07 35.3	
	comp=Z,5.1nm,1.1s						
WRA	**Warramunga Arr**	**26.58**	**160**	P	**P**	**13 07 36.6**	**-0.6**
WRA	**Warramunga Arr**	**26.58**	**160**	P	**P**	**13 07 36.6**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=329,slow=11,SNR=6.9						
	comp=Z,1.0nm,0.7s						
WR8	**Warramunga Arr**	**26.65**	**160**	P	**P**	**13 07 36.9**	**-0.9**
WR8				IAmb	IAmb	13 08 11.9	
	comp=Z,6.8nm,1.3s						
PSA00	**Pilbara Seismi**	**27.14**	**191**	P	**P**	**13 07 43.0**	**+0.8**
AS31	**Alice Springs**	**29.95**	**164**	P	**P**	**13 08 06.2**	**-0.9**
ASAR	**Alice Springs**	**29.95**	**164**	P	**P**	**13 08 06.5**	**-0.5**
ASAR	**Alice Springs**	**29.95**	**164**	P	**P**	**13 08 07.0**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=341,slow=6.9,SNR=23						
ASAR				ScP	**ScP**	**13 14 27.0**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=338,slow=3.4,SNR=5.3						
	comp=Z,0.7nm,0.4s						
MORW	**Morawa**	**35.21**	**194**	P	**P**	**13 08 53.4**	**+0.7**
MORW				IAmb	IAmb	13 09 33.3	
	comp=Z,16nm,1.4s						
NWAO	**Narrogin (SRO)**	**38.69**	**191**	P	**P**	**13 09 23.1**	**+1.2**
BBOO	**Buckleboo**	**39.21**	**165**	P	**P**	**13 09 26.6**	**+0.4**
MKAR	**Makanchi Array**	**55.46**	**325**	P	**P**	**13 11 31.8**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=122,slow=5.4,SNR=1.6						
	comp=Z,0.1nm,0.4s						
CASY	**Casey**	**72.12**	**186**	P	**P**	**13 13 20.5**	**+1.0**
CASY				IAmb	IAmb	13 13 26.8	
	comp=Z,7.5nm,1.4s						
O18K	**Koktuh Hills**	**80.28**	**30**	P	**P**	**13 14 04.7**	**-1.2**
O18K				IAmb	IAmb	13 14 33.6	
	comp=Z,5.5nm,1.1s						
E21K	**Killik River**	**81.80**	**22**	P	**P**	**13 14 13.5**	**-0.2**
E21K				IAmb	IAmb	13 14 35.8	
	comp=Z,7.7nm,1.4s						
SUA	**Susitna One**	**82.60**	**29**	P	**P**	**13 14 17.0**	**-1.1**
SUA				IAmb	IAmb	13 14 48.2	
	comp=Z,4.1nm,1.2s						
BMAR	**Burnt Mountain**	**85.30**	**23**	P	**P**	**13 14 32.5**	**+1.0**

*IDC **30** 13:11:21.6±0.7, 0˚02N×125˚74E, h0km, mb3.9/10, mbtmp4.0/11, ML3.4/1, MS3.0/7, Error ellipse: s-maj=58.3km s-min=14.4km az=71.0*
*NEIC **30** 13:11:26.1±0.7, 0˚3N±0˚1×126˚22E±0˚07, h35km±2km, mb4.2/11, Error ellipse: s-maj=21.1km s-min=11.0km az=180.0*
*DJA **30** 13:11:27.2±0.3, 0˚N±3˚×12˚6E±˚, h10km, M4.1/13, mB4.5/1, mb4.4/7, MLv4.0/13, Mw(mB)3.7/1*

ISC 30 13:11:28.2±0.6, 0˚14N±0˚06×125˚88E±0˚08, h44km, n50, σ1§68/45, mb4.1/19, MS2.9/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.61**	**67**	Pn	Pn	13 11 46.6	-7.6
TNTI	**Ternate**	**1.61**	**67**	P	**Pn**	**13 11 56.1**	**+1.9**
KMSI	**Cibinong**	**1.95**	**283**	P	**Pn**	**13 11 58.3**	**-0.5**
SANI	**Sanana**	**2.18**	**177**	P	**Pn**	**13 12 04.0**	**+1.9**
LUWI	**Luwuk**	**3.32**	**249**	P	**Pn**	**13 12 20.7**	**+2.9**
MRSI	**Marisa**	**3.96**	**275**	P	**Pn**	**13 12 27.0**	**+0.6**
APSI	**Ampana**	**4.36**	**256**	P	**Pn**	**13 12 32.5**	**+0.5**
TOLI2	**Tolitoli**	**5.19**	**281**		**Pn**	**13 12 45.2**	**+1.8**
MPSI	**Mapaga**	**5.99**	**272**	P	**Pn**	**13 12 56.4**	**+2.1**
	0.1nm376nm25nm,1.1s						
TTSI	**Tana Toraja**	**6.84**	**242**	P	**Pn**	**13 13 06.2**	**+0.2**
	0.1nm30nm,1.1s						
BNSI	**Bone**	**7.32**	**232**	P	**Pn**	**13 13 13.3**	**+0.6**
	0.1nm26nm,0.7s						
SPSI	**Sidrap Palu**	**7.34**	**236**	P	**Pn**	**13 13 13.3**	**+0.3**
	0.1nm29nm,0.7s						
BSSI	**Bau Bau, Buton**	**8.24**	**221**	P	**Pn**	**13 13 25.5**	**+0.2**
MYLDM	**Lahad Datu**	**8.91**	**304**		**Pn**	**13 13 33.2**	**-1.2**
SBUM	**Sibu**	**13.85**	**280**	P	**P**	**13 14 50.8**	**+1.5**
JAY	**Jayapura**	**15.05**	**100**	LR	LR	13 22 24.5	
	comp=Z,111nm,18.3s,baz=3.5,slow=44						
KSM	**Kuching**	**15.63**	**275**	IAmb	IAmb	13 15 10.2	
	comp=Z,20nm,0.8s						
KSM				P	**P**	**13 15 10.4**	**+1.2**
KNRA	**Kununurra**	**15.97**	**170**	P	**P**	**13 15 13.7**	**+0.7**
FITZ	**Fitzroy Crossi**	**18.13**	**181**	P	**P**	**13 15 33.0**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=352,slow=14,SNR=7.3						
	comp=Z,3.4nm,0.8s						
WB0	**Warramunga Arr**	**21.47**	**158**	P	**P**	**13 16 10.6**	**-2.6**
WB0				IAmb	IAmb	13 16 15.4	
	comp=Z,7.4nm,1.0s						
WRA	**Warramunga Arr**	**21.61**	**158**	P	**P**	**13 16 12.5**	**-2.2**
	comp=Z,1.4nm,0.5s,baz=336,slow=11,SNR=18						
WRA				LR	LR	13 25 55.6	
	comp=Z,59nm,20.3s,baz=132,slow=41						
	comp=Z,1.4nm,0.5s						
WR8	**Warramunga Arr**	**21.69**	**158**	P	**P**	**13 16 12.6**	**-2.9**
WR8				IAmb	IAmb	13 16 49.5	
	comp=Z,6.0nm,1.2s						
WR0	**Warramunga Arr**	**21.70**	**157**	P	**P**	**13 16 12.9**	**-2.8**
WR0				IAmb	IAmb	13 16 31.9	

*IDC **30** 13:18:07.4±1.0,37°.49N×20°.58E,h0^{km},mb3.9/11, mbtmp3.7/19,ML3.4/6,MS2.5/3,Error ellipse: s-maj=18.9km s-min=15.0km az=172.0*
*NAO **30** 13:18:08.9,37°.74N×22°.78E,h10^{km},mb3.8*
*THE **30** 13:18:10.0,37°N±2″×2°0E±°,h0^{km}±1^{km},ML3.5/23, MLh3.5/23*
*NEIC **30** 13:18:10.9±0.8,37°.45N±0°.07×20°.45E±0°.05,h19^{km}±7^{km}, mb4.4/5,Error ellipse: s-maj=11.8km s-min=1.4km az=210.0*
*ATH **30** 13:18:11.8,37°.50N×20°.44E,h7^{km}±1^{km},ML3.6/16, Manual Solution by A.Papageorgiou First location: 2019/07/30 13:19:21, This location: 2020/07/13 18:23:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

ISC 30 13:18:10.4±1.4,37°.45N±0°.04×20°.42E±0°.04,h19^{km}±5^{km}, n110,σ1$20/132,mb3.9/13,8C-1D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KRI1	**kERI**	**0.38**	**56**	P		**Pb**	**13 18 18.0**	**-0.6**
KRI1				S		**Sb**	**13 18 24.2**	**+0.1**
KRI1	**kERI**	**0.38**	**56**	P		**Pb**	**13 18 18.2**	**-0.4**
KRI1				S		**Sb**	**13 18 23.1**	**-1.0**
LTHK	**Lithakia**	**0.42**	**52**	P		**Pb**	**13 18 18.7**	**-0.6**
LTHK				S		**Sb**	**13 18 25.3**	**0.0**
LTHK	**Lithakia**	**0.42**	**52**	P		**Pb**	**13 18 19.2**	**0.0**
LTHK				S		**Sb**	**13 18 25.2**	**-0.1**
ORTH	**Orthonies,Zaky**	**0.46**	**28**	P		**Pb**	**13 18 19.7**	**-0.2**
ORTH				S		**Sb**	**13 18 25.1**	**-1.2**
KYPS	**Kipseli, Zakin**	**0.49**	**41**	P		**Pb**	**13 18 20.6**	**+0.2**
KYPS				S		**Sb**	**13 18 26.3**	**-0.8**
PSDA	**Pessada-Kefalo**	**0.68**	**11**	P		**Pb**	**13 18 23.7**	**+0.1**
PSDA				S		**Sn**	**13 18 34.5**	**-0.4**
PSDA	**Pessada-Kefalo**	**0.68**	**11**	P		**Pb**	**13 18 23.4**	**-0.1**
PSDA				S		**Sb**	**13 18 31.8**	**-0.7**
RTZL	**Ratzakli, Kefa**	**0.68**	**24**	P		**Pb**	**13 18 23.8**	**+0.1**
ARG2	**Argostoli**	**0.73**	**4**	P		**Pb**	**13 18 25.0**	**+0.5**
ARG2				S		**Sb**	**13 18 34.3**	**+0.2**
VLS	**Valsamata**	**0.74**	**10**	P		**Pb**	**13 18 24.4**	**-0.3**
VLS	**Valsamata**	**0.74**	**10**	P		**Pb**	**13 18 24.7**	**0.0**
VLS				S		**Sb**	**13 18 34.0**	**-0.4**
DMLN	**Damoulianata-K**	**0.79**	**357**	P		**Pn**	**13 18 26.9**	**+0.4**
DMLN				S		**Sb**	**13 18 36.5**	**+0.6**
YRMI	**Loutra Irminis**	**0.98**	**48**	P		**Pn**	**13 18 29.2**	**+0.1**
YRMI				S		**Sb**	**13 18 41.4**	**0.0**
FSK	**Fiskardo**	**1.01**	**6**	P		**Pn**	**13 18 29.6**	**0.0**
FSK	**Fiskardo**	**1.01**	**6**	P		**Pn**	**13 18 30.4**	**+0.8**
FSK				S		**Sn**	**13 18 43.3**	**0.0**
AMT	**Artemida-Makis**	**1.03**	**85**	P		**Pn**	**13 18 31.3**	**+1.6**
AMT				S		**Sn**	**13 18 44.6**	**+0.9**
RLS	**Riolos of Patr**	**1.03**	**53**	P		**Pb**	**13 18 29.5**	**-0.1**
RLS	**Riolos of Patr**	**1.03**	**53**	P		**Pn**	**13 18 30.2**	**+0.5**
RLS				S		**Sb**	**13 18 42.9**	**+0.3**
AXS	**Araxos**	**1.06**	**45**	P		**Pn**	**13 18 30.3**	**+0.1**
PYL1	**Pylos**	**1.15**	**117**	P		**Pb**	**13 18 33.9**	**+2.3**
PYL1				S		**Sn**	**13 18 49.2**	**+2.6**
EVGI	**Lefkada island**	**1.19**	**9**	P		**Pb**	**13 18 32.6**	**+0.4**
EVGI				S		**Sn**	**13 18 51.1**	**+3.6**
EVGI	**Lefkada island**	**1.19**	**9**	P		**Pb**	**13 18 32.6**	**+0.4**
ITM	**Ithomi**	**1.23**	**102**			**Pn**	**13 18 32.7**	**+0.1**
ITM	**Ithomi**	**1.23**	**102**	P		**Pb**	**13 18 33.1**	**+0.1**
ITM				S		**Sn**	**13 18 50.6**	**+2.0**
NYDR	**Nydri-Lefkada**	**1.28**	**10**	P		**Pb**	**13 18 34.3**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.28**	**10**	P		**Pb**	**13 18 35.1**	**+1.2**
NYDR				S		**Sb**	**13 18 51.2**	**+1.3**
LKD2	**Lefkada island**	**1.35**	**8**	P		**Pb**	**13 18 35.5**	**+0.4**
LKD2	**Lefkada island**	**1.35**	**8**	P		**Pb**	**13 18 36.2**	**+1.1**
TSLK	**Tsoukalades, L**	**1.39**	**8**	P		**Pb**	**13 18 36.8**	**+1.1**
PVO	**Paravola**	**1.46**	**36**	P		**Pb**	**13 18 37.7**	**+0.8**
PVO	**Paravola**	**1.46**	**36**	P		**Pb**	**13 18 37.7**	**+0.8**
PVO				S		**Sb**	**13 18 55.1**	**+0.1**
KLV	**Kalavryta, Ach**	**1.49**	**66**	P		**Pb**	**13 18 38.0**	**+0.4**
KLV	**Kalavryta, Ach**	**1.49**	**66**	P		**Pb**	**13 18 38.0**	**+0.4**
EFP	**Efpalio**	**1.53**	**50**	P		**Pb**	**13 18 39.0**	**+0.9**
AMPL	**Ampelaki**	**1.60**	**23**	P		**Pb**	**13 18 39.9**	**+0.6**
GUR	**Goura**	**1.60**	**72**	P		**Pb**	**13 18 39.3**	**-0.1**
GUR	**Goura**	**1.60**	**72**	P		**Pb**	**13 18 39.7**	**+0.4**
SERG	**Sergoula**	**1.61**	**53**	P		**Pb**	**13 18 40.0**	**+0.4**
ANX	**Ano Chora**	**1.65**	**46**	P		**Pb**	**13 18 40.4**	**+0.2**
ANX	**Ano Chora**	**1.65**	**46**	P		**Pb**	**13 18 40.6**	**+0.4**
KALE	**Kalithea**	**1.65**	**55**	P		**Pb**	**13 18 40.9**	**+0.6**
EVR	**Evrytania**	**1.83**	**36**	P		**Pb**	**13 18 43.2**	**0.0**
TETR	**Tetrakomo, Epi**	**2.01**	**19**	P		**Pb**	**13 18 45.8**	**-0.5**
TETR	**Tetrakomo, Epi**	**2.01**	**19**	P		**Pb**	**13 18 46.0**	**-0.4**
MAKR	**Makrakomi, Fth**	**2.06**	**40**	P		**Pb**	**13 18 46.7**	**-0.5**
LOUT	**Loutraki**	**2.09**	**74**	P		**Pb**	**13 18 48.0**	**+0.3**
VLI	**Veliai**	**2.14**	**109**	P		**Pb**	**13 18 48.4**	**-0.1**
AGG	**Agios Georgios**	**2.17**	**43**	P		**Pb**	**13 18 48.1**	**-1.1**
AGG	**Agios Georgios**	**2.17**	**43**	P		**Pb**	**13 18 48.0**	**-1.1**
AXAR	**Agios Charalam**	**2.20**	**53**	P		**Pb**	**13 18 48.8**	**-0.8**
KEK	**Kerkira**	**2.31**	**348**	Pn		**Pn**	**13 18 47.9**	**+0.4**
KTHA	**Kythira Island**	**2.43**	**119**	P		**Pn**	**13 18 50.4**	**+1.4**
TYRN	**Tyrnavos**	**2.67**	**32**	P		**Pn**	**13 18 54.4**	**+2.1**
SCTE	**Santa Cesarea**	**3.03**	**330**	Pn		**Pn**	**13 18 57.2**	**-0.1**
LIT	**Litokhoron**	**3.10**	**31**			**Pn**	**13 18 58.3**	**-0.1**
LIT	**Litokhoron**	**3.10**	**31**	P		**Pn**	**13 19 00.1**	**+1.8**
TIP	**Timpagrande**	**3.36**	**302**			**Pn**	**13 19 02.1**	**+0.2**
FNA	**Florina**	**3.41**	**12**			**Pn**	**13 19 04.6**	**+2.0**
OHR	**Ohrid**	**3.67**	**4**	*i* Pn		**Pn**	**13 19 09.1**	**+2.9**
CEL	**Celeste**	**3.67**	**284**	Pn		**Pn**	**13 19 07.1**	**+0.9**
HORT	**Hortiatis**	**3.77**	**33**	P		**Pn**	**13 19 09.5**	**+1.9**
SOH	**Sokhos**	**4.07**	**33**	P		**Pn**	**13 19 13.5**	**+1.9**
IDI	**Anoyia**	**4.20**	**120**	Pn		**Pn**	**13 19 13.4**	**0.0**
IDI	**Anoyia**	**4.20**	**120**	Pn		**Pn**	**13 19 13.2**	**-0.2**
	2.8nm,0.4s,baz=294,slow=8.4,SNR=9.1							
IDI				Sn		**Sn**	**13 20 01.8**	**-0.3**
	3.0nm,0.3s,baz=324,slow=20,SNR=5.9							
CUC	**Castrococco**	**4.41**	**307**			**Pn**	**13 19 17.0**	**+0.8**
VAE	**Valguarnera**	**4.78**	**272**	Pn		**Pn**	**13 19 22.2**	**+0.8**
	9.6nm,0.4s,baz=63,slow=9.0,SNR=1.4							
VAE				Sn		**Sn**	**13 20 16.1**	**-0.2**
	4.3nm,0.3s,baz=253,slow=19,SNR=4.2							
RAFF	**Raffo Rosso**	**4.83**	**269**	Pn		**Pn**	**13 19 21.9**	**-0.2**
PDG	**Podgorica**	**5.05**	**350**	Pn		**Pn**	**13 19 25.7**	**+0.6**
RDO	**Rodhopi**	**5.42**	**45**			**Pn**	**13 19 30.2**	**+0.1**
SGRT	**San Giovanni R**	**5.62**	**321**			**Pn**	**13 19 33.5**	**+0.5**
BOVS	**Bovan**	**6.26**	**9**	⇑P		**Pn**	**13 19 42.4**	**+0.8**
PLVB	**Pleven**	**6.74**	**27**	⇑P		**Pn**	**13 19 44.2**	**-4.1**
ELND	**Elena**	**6.88**	**36**	⇑P		**Pn**	**13 19 46.1**	**-4.1**
MDVR	**Moldovita**	**7.39**	**7**	⇓P		**Pn**	**13 20 00.2**	**+2.9**
NRCA	**Norcia**	**7.76**	**316**			**Pn**	**13 20 04.1**	**+1.8**
GZR	**Gura Zlata**	**8.13**	**12**	⇑P		**Pn**	**13 20 08.9**	**+1.5**
VOIR		**8.70**	**22**	⇑P		**Pn**	**13 20 16.9**	**+1.6**
MLR	**Muntele Rosu**	**9.04**	**26**	Pn		**Pn**	**13 20 19.3**	**-0.6**
	0.3nm,0.3s,baz=263,slow=16,SNR=7.2 1.7nm,0.4s							
MLR	**Muntele Rosu**	**9.04**	**26**	⇑P		**Pn**	**13 20 21.7**	**+1.8**
KEST	**Kesra**	**9.07**	**262**	Pn		**Pn**	**13 20 21.0**	**+0.7**
	0.1nm,0.3s,baz=345,slow=6.5,SNR=1.9							
KEST				Sn		**Sn**	**13 21 58.6**	**-3.4**
	0.1nm,0.3s,baz=248,slow=21,SNR=1.8 2.2nm,1.0s							
PLOR	**Plostina**	**9.60**	**27**	⇑P		**Pn**	**13 20 29.2**	**+1.7**
VRI	**Vrincioaia**	**9.64**	**27**	⇑P		**Pn**	**13 20 28.0**	**0.0**
BRTR	**Keskin Array B**	**10.59**	**74**	Pn		**Pn**	**13 20 39.8**	**-1.5**
	0.2nm,0.3s,baz=249,slow=13,SNR=2.7 0.3nm,0.5s							
VRAC	**Vranov**	**12.18**	**348**	LR		LR	13 26 02.2	
	comp=Z,23nm,20.9s,baz=191,slow=39							
GERES	**GERESS Array B**	**12.39**	**339**	Pn		**Pn**	**13 21 06.1**	**+0.3**
	baz=147,slow=13,SNR=2.0 0.3nm,0.2s							
BALJ	**Balqa**	**13.60**	**109**	Pn		**Pn**	**13 21 22.0**	**-0.3**
AKASG	**Malin Array Be**	**14.66**	**23**	Pn		**Pn**	**13 21 35.5**	**-1.2**
	0.7nm,0.3s,baz=211,slow=9.4,SNR=4.3							
AKASG				LR		LR	13 27 08.4	
	comp=Z,24nm,20.3s,baz=189,slow=37 0.4nm,0.3s							
CLL	**Collm**	**14.82**	**342**	*es*P		**P**	**13 21 47.0**	**+2.4**
CLL				*es*PP			13 21 56.0	
ESDC	**Sonseca Array**	**19.19**	**284**	P		**Pn**	**13 22 34.0**	**+0.1**
	baz=80,slow=10,SNR=6.4 1.3nm,0.9s							
HFS	**Hagfors**	**23.11**	**351**	P		**P**	**13 23 14.8**	**0.0**
	3.2nm,0.6s,baz=142,slow=7.5,SNR=8.2 3.2nm,0.6s							
EKA	**Eskdalemuir Ar**	**23.98**	**326**	P		**P**	**13 23 24.0**	**+0.6**
	2.8nm,0.8s,baz=126,slow=9.7,SNR=8.9 2.8nm,0.8s							
ESK	**Eskdalemuir**	**23.99**	**326**	P		**P**	**13 23 24.2**	**+0.7**
BELG	**Belogornoye**	**24.18**	**43**	P		**P**	**13 23 24.5**	**-0.8**
	10nm,0.5s,baz=267,slow=16,SNR=3.9 10nm,0.5s							
FINES	**FINESS Array B**	**24.28**	**7**	P		**P**	**13 23 25.9**	**-0.2**
FINES	**FINESS Array B**	**24.28**	**7**	P		**P**	**13 23 25.4**	**-0.8**
	1.6nm,0.6s,baz=157,slow=10,SNR=6.6 1.6nm,0.6s							
FIA1	**FINESS Array S**	**24.28**	**7**	P		**P**	**13 23 25.8**	**-0.3**
NB2	**NORSAR Subarra**	**24.32**	**349**	P		**P**	**13 23 26.5**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=157,slow=10							
NOA	**NORSAR Array B**	**24.32**	**349**	P		**P**	**13 23 26.8**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=164,slow=11,SNR=4.3							
NOA				LR		LR	13 33 12.5	
	comp=Z,11nm,20.4s,baz=175,slow=37 comp=Z,1.0nm,0.7s							
BVAR	**Borovoye Array**	**37.65**	**49**	P		**P**	**13 25 21.5**	**-2.4**
	comp=Z,0.7nm,0.5s,baz=269,slow=7.2,SNR=2.6 comp=Z,0.7nm,0.5s							
DBIC	**Dimbokro**	**38.31**	**223**	P		**P**	**13 25 30.8**	**+0.9**
	comp=Z,8.0nm,0.9s,baz=188,slow=11,SNR=3.7 comp=Z,8.0nm,0.9s							
KURBB	**Kurchatov Array**	**42.73**	**53**	P		**P**	**13 26 04.8**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=276,slow=8.9,SNR=4.7 comp=Z,0.3nm,0.5s							
MKAR	**Makanchi Array**	**45.75**	**58**	P		**P**	**13 26 29.3**	**-1.1**
MKAR	**Makanchi Array**	**45.75**	**58**	P		**P**	**13 26 29.6**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=280,slow=6.2,SNR=6.7 comp=Z,0.5nm,0.5s							
ZAA0	**Zalesovo Array**	**46.24**	**48**	P		**P**	**13 26 32.6**	**-1.4**
ZAA0				IAmb		IAmb	13 26 41.1	
	comp=Z,2.0nm,0.7s							
ZALV	**Zalesovo Beam**	**46.24**	**48**	P		**P**	**13 26 32.6**	**-1.4**
ZALV	**Zalesovo Beam**	**46.24**	**48**	P		**P**	**13 26 32.4**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=278,slow=9.6,SNR=3.6 comp=Z,0.9nm,0.5s							
SONM	**Songino Array**	**60.98**	**50**	P		**P**	**13 28 22.0**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=275,slow=6.9,SNR=1.9 comp=Z,0.2nm,0.4s							
E22K	**Anaktuvuk Pass**	**74.57**	**357**	P		**P**	**13 29 48.4**	**+0.8**
E22K				IAmb		IAmb	13 30 31.2	
	comp=Z,6.4nm,1.5s							
BMAR	**Burnt Mountain**	**74.82**	**354**	P		**P**	**13 29 49.6**	**+0.5**

*SJA **30** 13:32:34.9±0.6,23°.30S×66°.79W,h224^{km}±6^{km},ML3.8, MW3.7*
*IDC **30** 13:32:36.6±3.7,23°.36S×66°.61W,h195^{km}±42^{km},mb3.4/3, mbtmp4.0/5,Error ellipse: s-maj=40.0km s-min=27.6km az=114.0*
*NEIC **30** 13:32:37.2±1.0,23°.4S±0°.1×66°.9W±0°.1,h221^{km}±12^{km}, mb4.0/4,Error ellipse: s-maj=16.8km s-min=12.9km az=150.0*

ISC 30 13:32:36.6±0.7,23°.32S±0°.04×66°.93W±0°.05,h217^{km}±8^{km}, n51,σ1$37/61,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SALTA		**1.04**	**149**	*e*P		Pn	13 33 03.0	-6.1
SALTA				*e*P			13 33 08.2	
AF01	**San Pedro de A**	**1.21**	**288**	Pn		**Pn**	**13 33 11.1**	**+1.1**
AF01	**San Pedro de A**	**1.21**	**288**	*e*P		**Pn**	**13 33 11.8**	**+1.8**
AF01				*e*S		S	13 33 17.8	-18
AF01				IAML			13 33 18.3	
	comp=Z,148nm,0.5s							
YJA	**Yavi**	**1.73**	**49**	*e*P		Pn	13 33 11.1	-3.4
YJA				*e*S		S	13 33 26.6	-17
SLA	**San Lorenzo**	**1.90**	**137**	*e*P		**Pn**	**13 33 15.4**	**-0.3**
SLA				*e*S		**S**	**13 33 46.5**	**+0.5**
AZAP	**Zapla**	**1.93**	**118**	*e*P		**Pn**	**13 33 14.3**	**-1.7**
PB06	**IPOC Station P**	**2.51**	**284**			**Pn**	**13 33 22.9**	**+0.9**
PB06	**IPOC Station P**	**2.51**	**284**	*e*P		**Pn**	**13 33 22.7**	**+0.7**
PB06				*e*S		**S**	**13 33 57.5**	**+0.4**
PB06				IAML			13 33 59.7	
	comp=Z,187nm,0.4s							
PB09	**IPOC Station P**	**2.62**	**305**			**Pn**	**13 33 24.6**	**+1.3**
PB09	**IPOC Station P**	**2.62**	**305**	*e*P		Pn	13 33 04.7	-19
PB09				*e*S		**S**	**13 34 00.9**	**+1.6**
PB09				IAML			13 34 02.2	
	comp=Z,191nm,0.2s							
ALOL	**LOMAS DE OLMED**	**2.75**	**101**	*e*P		Pn	13 33 05.7	-19
PB03	**IPOC Station P**	**2.90**	**295**			**Pn**	**13 33 26.9**	**+0.6**
PB03	**IPOC Station P**	**2.90**	**295**	*e*P		**Pn**	**13 33 26.8**	**+0.5**
PB03				*e*S		**S**	**13 34 04.3**	**-0.5**
PB03				IAML			13 34 05.3	
	comp=Z,588nm,0.4s							
FSA	**Cafayete**	**2.91**	**163**	*e*P		**Pn**	**13 33 25.7**	**-0.6**
GO02	**Mina Guanaco**	**3.04**	**232**			**Pn**	**13 33 28.3**	**+0.3**
GO02	**Mina Guanaco**	**3.04**	**232**	*e*P		**Pn**	**13 33 27.8**	**-0.2**
GO02				*e*S		**S**	**13 34 08.4**	**+0.4**
PB05	**IPOC Station P**	**3.05**	**278**			**Pn**	**13 33 28.5**	**+0.5**
PB05	**IPOC Station P**	**3.05**	**278**	*e*P		**Pn**	**13 33 28.4**	**+0.5**
PB05				*e*S		**S**	**13 34 08.5**	**+0.6**
PB05				IAML			13 34 10.8	
	comp=Z,85nm,0.1s							
PB01	**IPOC Station P**	**3.28**	**313**			**Pn**	**13 33 31.1**	**+0.4**
PB01	**IPOC Station P**	**3.28**	**313**	*e*P		Pn	13 33 25.8	-4.8
PB01				*e*S		**S**	**13 34 12.3**	**-0.4**
PB01				IAML			13 34 13.6	
	comp=Z,368nm,0.2s							
PB10	**IPOC Station P**	**3.34**	**266**			**Pn**	**13 33 31.9**	**+0.7**
PB10	**IPOC Station P**	**3.34**	**266**	*e*P		**Pn**	**13 33 31.9**	**+0.7**
PB10				*e*S		**S**	**13 34 13.7**	**0.0**
PB10				IAML			13 34 15.4	
	comp=Z,62nm,0.3s							
PB02	**IPOC Station P**	**3.40**	**305**			**Pn**	**13 33 32.4**	**+0.4**
PB02	**IPOC Station P**	**3.40**	**305**	*e*P		**Pn**	**13 33 32.2**	**+0.2**
PB02				*e*S		**S**	**13 34 14.0**	**-1.1**
PB02				IAML			13 34 15.6	
	comp=Z,417nm,0.4s							
PB08	**IPOC Station P**	**3.78**	**326**			**Pn**	**13 33 37.1**	**+0.2**
PATCX	**Punta Patache**	**3.89**	**309**			**Pn**	**13 33 37.8**	**-0.1**
PATCX	**Punta Patache**	**3.89**	**309**	*e*P		**Pn**	**13 33 38.0**	**+0.1**
AC02	**Maricunga**	**4.03**	**209**			**Pn**	**13 33 38.8**	**-1.1**
AC02	**Maricunga**	**4.03**	**209**	*e*P		**Pn**	**13 33 40.1**	**+0.3**
AC02				*e*S		**S**	**13 34 30.1**	**+0.7**
AC02				IAML			13 34 40.8	
	comp=Z,33nm,0.8s							
TA01	**Diego Aracena**	**4.08**	**312**	*e*P		**Pn**	**13 33 36.5**	**-3.6**
TA01				*e*S		**S**	**13 34 28.4**	**-1.4**
TA01				IAML			13 34 33.9	
	comp=Z,53nm,0.4s							
HMBC	**Humberstone**	**4.09**	**317**			**Pn**	**13 33 40.5**	**+0.1**
HMBC	**Humberstone**	**4.09**	**317**	*e*P		**Pn**	**13 33 40.2**	**-0.2**
HMBC				*e*S		**S**	**13 34 28.3**	**-2.0**
GO01	**Chusmiza**	**4.21**	**329**			**Pn**	**13 33 42.5**	**+0.4**
PB11	**IPOC Station P**	**4.36**	**324**	*e*P		**Pn**	**13 33 43.5**	**-0.2**
PB11				*e*S		S	13 34 27.8	-8.5
PB11				*e*S		S	13 34 34.4	-1.9
PB11				IAML			13 34 36.5	
	comp=Z,148nm,0.2s							
AC01	**Pan de Azucar**	**4.37**	**229**	*e*P		**Pn**	**13 33 42.8**	**-0.8**
AC01				*e*S		**S**	**13 34 32.6**	**-3.5**
AC01				IAML			13 34 34.6	
	comp=Z,55nm,0.3s							
CYA	**Choya**	**5.20**	**169**	*e*P		**Pn**	**13 33 53.8**	**-0.2**
GO03	**Copiapo**	**5.20**	**214**	*e*P		**Pn**	**13 33 52.9**	**-1.1**
GO03				*e*S		**S**	**13 34 50.1**	**-5.0**
PB16	**IPOC Station P**	**5.52**	**334**			**Pn**	**13 33 58.8**	**+0.1**
LCO	**Las Campanas**	**6.60**	**210**	Pn		**Pn**	**13 34 09.9**	**-2.2**
LPAZ	**La Paz**	**7.09**	**351**	P		**Pn**	**13 34 19.8**	**+1.0**
	comp=Z,6.1nm,0.3s,baz=155,slow=4.7,SNR=21							
LPAZ				S		**S**	**13 35 41.4**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=65,slow=24,SNR=1.5							
CO03	**El Pedregal**	**8.20**	**203**	Pn		**Pn**	**13 34 31.6**	**-1.0**
BO02	**Sierra Bellavi**	**11.91**	**196**	Pn		**Pn**	**13 35 18.8**	**-1.2**
VAO	**Valinhos**	**18.36**	**93**	P		**P**	**13 36 34.7**	**-0.7**
BDFB	**Brasilia**	**19.39**	**70**	P		**P**	**13 36 46.4**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=229,slow=15,SNR=4.0							
SNAA	**Sanae**	**59.96**	**161**	P		**P**	**13 42 20.0**	**+0.2**
SNAA				IAmb		IAmb	13 42 31.8	
	comp=Z,5.5nm,1.5s							
SNAA	**Sanae**	**59.96**	**161**	P		**P**	**13 42 19.8**	**0.0**
	comp=Z,0.4nm,0.5s,baz=264,slow=9.2,SNR=2.4 comp=Z,0.4nm,0.5s							
QSPA	**South Pole Qui**	**66.88**	**180**	P		**P**	**13 43 08.0**	**+2.8**
QSPA				IAmb		IAmb	13 43 30.0	
	comp=Z,3.8nm,1.4s							
QSPA	**South Pole Qui**	**66.88**	**180**	P		**P**	**13 43 08.1**	**+2.9**
	comp=Z,0.9nm,0.6s,baz=126,slow=1.4,SNR=6.4 comp=Z,0.9nm,0.6s							
TORD	**Torodi Ar. Bea**	**76.26**	**69**	P		**P**	**13 44 01.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.26**	**69**	P		**P**	**13 44 01.6**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=258,slow=5.4,SNR=1.5 comp=Z,0.8nm,0.4s							
MKAR	**Makanchi Array**	**145.96**	**39**	PKPbc		**PKPab**	**13 51 52.7**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=330,slow=3.4,SNR=3.9							

AUST 30 13:46:57.8±0.5,18°S±4″×12°0E±°,h10^{km},mb3.7/7, ML3.0/7,ML3.6/5,Error ellipse: s-maj=11.6km s-min=4.5km az=140.8,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
AUBRM	**Broome Senior**	**1.96**	**81**	P		**Pb**	**13 47 32.4**	**-1.1**
AUBRM				S		**Sb**	**13 47 57.2**	**-0.7**
MBWA	**Marble Bar**	**2.91**	**189**	P		**Pn**	**13 47 46.2**	**+2.0**
MBWA				S		**Sn**	**13 48 20.7**	**+1.4**
PSAC1	**Pilbara Seismi**	**3.27**	**186**	P		**Pn**	**13 47 50.8**	**+1.6**
PSAC1				S		**Sn**	**13 48 28.5**	**+0.3**
PSA00	**Pilbara Seismi**	**3.31**	**186**	P		**Pn**	**13 47 50.8**	**+1.2**
PSA00				S		**Sn**	**13 48 28.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**5.17**	**89**	P		**Pn**	**13 48 13.4**	**-1.9**
GIRL	**Giralia**	**7.09**	**231**	P		**Pn**	**13 48 43.7**	**+2.1**
	comp=Z,0.1nmcomp=Z,126μmcomp=Z,42nm,1.4s							
GIRL				S		**Sn**	**13 50 00.8**	**-1.5**
MEEK	**Meekatharra**	**8.46**	**190**	P		**Pn**	**13 49 01.3**	**+0.8**
	comp=Z,0.1nmcomp=Z,11nm,1.9s							
MEEK	**Meekatharra**	**8.46**	**190**	S		**Sn**	**13 50 30.7**	**-5.4**
KNRA	**Kununurra**	**8.59**	**74**	P		**Pn**	**13 49 00.2**	**-2.0**
	comp=Z,0.0nmcomp=Z,5.7nm,1.7s							
WRKA	**Warakurna**	**10.10**	**133**	P		**Pn**	**13 49 22.0**	**-1.0**
	comp=Z,0.0nmcomp=Z,3.0nm,2.9s							
MORW	**Morawa**	**11.41**	**199**	P		**Pn**	**13 49 40.1**	**-0.8**
	comp=Z,9.8nm,2.2s							
BLDU	**Ballidu**	**12.70**	**194**	P		**Pn**	**13 49 58.5**	**0.0**
	comp=Z,9.8nm,3.0s							
KMBL	**Kambalda**	**13.13**	**174**	P		**Pn**	**13 50 03.5**	**-0.9**
	comp=Z,4.9nm,2.1s							

*SFS **30** 13:56:23.9,42°.08N×8°.02W,h0^{km},ML3.7/7,ML3.3/8, MLv3.1/8*
*MDD **30** 13:56:23.0±0.3,42°.21N×7°.94W,h5^{km}±2^{km},mb_Lg2.9/27, Error ellipse: s-maj=2.0km s-min=1.8km az=111.0*
*INMG **30** 13:56:24.2±1.9,42°.22N×8°.00W,h20^{km}±3^{km},ML2.6,Error ellipse: s-maj=3.0km s-min=2.0km az=88.0, #DIST_RANGE: LOCAL #IPMA_REGION: SW Ourense (ESP)*

ISC 30 13:56:22.6±1.1,42°.21N±0°.02×7°.97W±0°.02,h18^{km}±4^{km}, n50,σ1$61/117,4C-1D,Spain

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PGAV	**Gavieira, Arco**	**0.33**	**222**	⇑*i*Pg		**Pb**	**13 56 30.6**	**+0.6**
PGAV				*e*Sg		**Sb**	**13 56 35.5**	**+0.4**
PGAV				*i* IAML			13 56 35.7	
PGAV				*i* IAML			13 56 35.8	
PGAV				*i* IAML			13 56 36.2	
ELOB	**Lobios**	**0.35**	**191**	⇑Pg		**Pb**	**13 56 31.0**	**+0.6**
ELOB				Sg		**Sb**	**13 56 36.0**	**+0.4**
ELOB		

ELAN	**Lanestosa**	**3.50**	**72**	Pn		**Pn**	**13 57 15.4**	**-0.7**
ELAN				Sn		**Sn**	**13 57 56.6**	**-0.3**
ELAN				Sg		**Sg**	**13 58 13.8**	**-1.0**
ELAN				*i* IVmb_Lg			13 58 14.7	
EBAD	**Badajoz**	**3.53**	**168**	Pn		**Pn**	**13 57 17.1**	**+0.6**
EBAD				Sn		**Sn**	**13 57 55.7**	**-2.1**
EBAD	**Badajoz**	**3.53**	**168**	Pn		**Pn**	**13 57 17.3**	**+0.8**
EBAD				Sn		**Sn**	**13 57 56.1**	**-1.6**
EBAD				Sg		**Sg**	**13 58 14.7**	**-1.2**
EBAD				*i* IVmb_Lg			13 58 16.5	
EVO	**Evora**	**3.68**	**181**	*e*Pn		**Pn**	**13 57 19.4**	**+0.9**
EVO				*e*Sn		**Sn**	**13 57 59.4**	**-2.0**
EVO				*e*Sg		**Sg**	**13 58 18.4**	**-2.2**
EVO				*i* IAML			13 58 21.4	
EVO				*i* IAML			13 58 22.5	
EVO				*i* IAML			13 58 28.4	
PAB	**San Pablo**	**3.83**	**133**	Pn		**Pn**	**13 57 21.8**	**+1.2**
PAB				Sn		**Sn**	**13 58 04.7**	**-0.5**
PAB				Sg		**Sg**	**13 58 22.4**	**-3.0**
PAB				*i* IVmb_Lg			13 58 26.1	
ESBB	**Sonseca Array**	**3.96**	**129**	Pn		**Pn**	**13 57 22.8**	**+0.5**
ESBB				Sn		**Sn**	**13 58 07.3**	**-1.0**
ESBB				Sg		**Sg**	**13 58 28.0**	**-1.5**
ESDC	**Sonseca Array**	**3.96**	**129**	Pn		**Pn**	**13 57 22.0**	**-0.4**
ESDC				Sn		**Sn**	**13 58 07.1**	**-1.2**
ESDC				Sg		**Sg**	**13 58 28.0**	**-1.5**
ESDC				*i* IVmb_Lg			13 58 35.8	
PBAR	**Barrancos**	**4.09**	**170**	Pn		**Pn**	**13 57 25.0**	**+0.7**
PBAR				Sn		**Sn**	**13 58 09.9**	**-1.8**
PBAR	**Barrancos**	**4.09**	**170**	*e*Pn		**Pn**	**13 57 25.1**	**+0.9**
PBAR				*e*Sn		**Sn**	**13 58 09.3**	**-2.4**
PBAR				*e*Sg		**Sg**	**13 58 32.0**	**-2.0**
PBAR				*i* IAML			13 58 38.6	
PBAR				*i* IAML			13 58 38.8	
PBAR				*i* IAML			13 58 41.3	
PBEJ	**Beja**	**4.18**	**179**	*e*Sg		**Sg**	**13 58 36.2**	**-0.6**
MESJ	**Messejana**	**4.37**	**183**	*e*Pn		**Pn**	**13 57 28.9**	**+0.9**
MESJ				*e*Sn		**Sn**	**13 58 16.3**	**-2.2**
MESJ				*e*Sg		**Sg**	**13 58 43.1**	**+0.3**
MESJ				*i* IAML			13 58 46.4	
MESJ				*i* IAML			13 58 47.9	
EMIN	**Mina Concepcio**	**4.55**	**167**	Pn		**Pn**	**13 57 31.6**	**+1.1**
EMIN				Sn		**Sn**	**13 58 21.3**	**-1.5**
EMIN				Sg		**Sg**	**13 58 47.3**	**-1.3**
EMIN				*i* IVmb_Lg			13 58 47.6	
ECAB	**El Cabril**	**4.57**	**154**	Pn		**Pn**	**13 57 31.6**	**+0.7**
ECAB				Sn		**Sn**	**13 58 21.7**	**-1.8**
ECAB	**El Cabril**	**4.57**	**154**	Pn		**Pn**	**13 57 31.8**	**+0.9**
ECAB				Sn		**Sn**	**13 58 22.0**	**-1.5**
ECAB				Sg		**Sg**	**13 58 46.6**	**-2.6**
ECAB				*i* IVmb_Lg			13 58 56.0	
PCVE	**Castro Verde**	**4.57**	**181**	Pn		**Pn**	**13 57 31.4**	**+0.6**
PCVE	**Castro Verde**	**4.57**	**181**	*e*Pn		**Pn**	**13 57 31.5**	**+0.6**
ETOR	**Torete**	**4.65**	**105**	Pn		**Pn**	**13 57 32.9**	**+0.9**
ETOR				Sn		**Sn**	**13 58 24.1**	**-1.5**
ETOR				Sg		**Sg**	**13 58 50.7**	**-1.3**
ETOR				*i* IVmb_Lg			13 58 59.3	
PSIM	**Granatula de C**	**4.67**	**135**	Pn		**Pn**	**13 57 32.3**	**+0.1**
PSIM				Sg		**Sg**	**13 58 48.5**	**-3.9**
EADA	**Adamuz**	**4.80**	**146**	Pn		**Pn**	**13 57 34.6**	**+0.5**
EADA				Sn		**Sn**	**13 58 28.2**	**-1.0**
EADA	**Adamuz**	**4.80**	**146**	Pn		**Pn**	**13 57 34.8**	**+0.7**
EADA				Sn		**Sn**	**13 58 27.4**	**-1.8**
EADA				Sg		**Sg**	**13 58 53.9**	**-2.8**
EADA				*i* IVmb_Lg			13 59 05.1	
PVAQ	**Vaqueiros**	**4.81**	**178**	Pn		**Pn**	**13 57 34.6**	**+0.6**
PVAQ	**Vaqueiros**	**4.81**	**178**	*e*Pn		**Pn**	**13 57 34.6**	**+0.6**
PVAQ				*e*Sn		**Sn**	**13 58 23.0**	**-6.2**
PVAQ				*e*Sg		**Sg**	**13 58 54.6**	**-2.2**
PVAQ				*i* IAML			13 58 58.5	
PVAQ				*i* IAML			13 59 00.9	
PVAQ				*i* IAML			13 59 01.7	
PBDV	**Barranco-do-Ve**	**4.96**	**180**	*e*Sn		**Sn**	**13 58 30.3**	**-2.8**

*KRSC **30** 14:08:06.6±1.5,54.˝94N×164.˝89E,h51km±25km,Ml3.7*
*IDC **30** 14:08:14.3±1.5,55.˝61N×163.˝15E,h0km,mb3.6/3, mbtmp3.5/4,ML2.5/1,Error ellipse: s-maj=56.7km s-min=22.7km az=155.0*
ISC 30 14:08:09.2±1.9,**54.˝94N**±0.˝05×**164.˝97E**±0.˝09,**h47**km±52km, **n37**,σ1§**47**/45,**mb3.6**/3,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.63**	**65**	*e*P	**Pn**	**14 08 22.0**	**+0.1**
BKI				*e*S	**Sn**	**14 08 31.8**	**+0.8**
KBTR	**Krutoberegovo**	**1.77**	**317**	*e*P	**Pn**	**14 08 35.0**	**-2.3**
KBTR				*e*S	**Sn**	**14 08 54.8**	**-3.7**
KBG	**Krutoberegovo**	**1.84**	**317**	*e*P	**Pn**	**14 08 35.0**	**-3.3**
SMKR	**Semkarok**	**2.58**	**311**	*e*P	**Pn**	**14 08 47.9**	**-0.5**
ZLN	**Zelenaya**	**2.61**	**296**	*e*P	**Pn**	**14 08 49.6**	**+0.8**
ZLN				*e*S	**Sn**	**14 09 20.9**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**2.64**	**294**	*e*P	**Pn**	**14 08 49.4**	**+0.2**
BZGR				*e*S	**Sn**	**14 09 22.1**	**+2.0**
TUMD	**Tumrok D**	**2.64**	**278**	*e*P	**Pn**	**14 08 49.3**	**+0.1**
BZMR	**Bezymyannaya**	**2.74**	**293**	*e*P	**Pn**	**14 08 51.2**	**+0.4**
BZMR				*e*S	**Sn**	**14 09 25.4**	**+2.7**
BZWR	**Bezymyannyi-We**	**2.75**	**294**	*e*P	**Pn**	**14 08 51.4**	**+0.5**
KMNR	**Kamenistaya**	**2.83**	**289**	*e*P	**Pn**	**14 08 52.3**	**+0.5**
KPT	**Kopyto**	**2.90**	**293**	*e*P	**Pn**	**14 08 53.6**	**+0.8**
KPT				*e*S	**Sn**	**14 09 27.9**	**+1.5**
KOZ	**Kozyrevsk**	**3.11**	**293**	*e*P	**Pn**	**14 08 56.6**	**+1.0**
KOZ				*e*S	**Sn**	**14 09 33.8**	**+2.3**
SRDR	**Sredinnyy**	**3.29**	**297**	*e*P	**Pn**	**14 08 59.7**	**+1.6**
KII	**Karymskiy**	**3.35**	**257**	*e*P	**Pn**	**14 08 59.5**	**+0.5**
SPN	**Mys Shipunski**	**3.45**	**240**	*e*P	**Pn**	**14 08 59.7**	**-0.6**
SPN				*e*S	**Sn**	**14 09 37.2**	**-2.8**
ESO	**Esso**	**3.71**	**288**	*e*P	**Pn**	**14 09 04.5**	**+0.6**
ESO				*e*S	**Sn**	**14 09 46.1**	**-0.2**
SDLR	**Sedlovina**	**3.95**	**248**	*e*P	**Pn**	**14 09 07.8**	**+0.5**
SMAR	**Somma**	**4.00**	**248**	*e*P	**Pn**	**14 09 08.3**	**+0.2**
SMAR				*e*S	**Sn**	**14 09 52.1**	**-1.7**
KRER	**Koryakskii**	**4.01**	**248**	*e*P	**Pn**	**14 09 09.4**	**+1.2**
KRER				*e*S	**Sn**	**14 09 52.3**	**-1.7**
UGLR	**Uglovaya**	**4.01**	**247**	*e*P	**Pn**	**14 09 09.0**	**+0.9**
AVH	**Avacha**	**4.04**	**248**	*e*P	**Pn**	**14 09 09.9**	**+1.5**
KRX	**Arik**	**4.04**	**250**	*e*P	**Pn**	**14 09 09.1**	**+0.6**
KOK	**Koryaka**	**4.08**	**249**	*e*P	**Pn**	**14 09 10.0**	**+1.0**
DALK	**Dalny**	**4.14**	**245**	*e*P	**Pn**	**14 09 09.9**	**+0.2**
DALK				*e*S	**Sn**	**14 09 54.9**	**-1.9**
GNL	**Ganaly**	**4.30**	**256**	*e*P	**Pn**	**14 09 13.2**	**+1.1**
OSSR	**Ossora**	**4.45**	**347**	*e*P	**Pn**	**14 09 14.6**	**+0.7**
OSSR				*e*S	**Sn**	**14 10 03.6**	**-0.8**
KRMR	**Karymshinskiy**	**4.57**	**245**	*e*P	**Pn**	**14 09 16.7**	**+1.1**
PETK	**Petropavlovsk-** 1.5nm,0.3s,baz=70,slow=17,SNR=37	**4.66**	**250**	Pn	**Pn**	**14 09 17.5**	**+0.6**
PETK	0.9nm,0.3s,baz=308,slow=5.3,SNR=10 3.8nm,0.6s			Sn	**Sn**	**14 10 08.7**	**-1.1**
MTVR	**Mutnovka**	**4.72**	**241**	*e*P	**Pn**	**14 09 18.6**	**+0.7**
GRL	**Gorelyy**	**4.74**	**243**	*e*P	**Pn**	**14 09 19.0**	**+0.9**
ASAK	**Asacha**	**4.92**	**242**	*e*P	**Pn**	**14 09 21.7**	**+1.1**
ILAR	**Eielson Array** 0.8nm,0.7s,baz=257,slow=9.3,SNR=11 0.8nm,0.7s	**25.45**	**48**	P	P	14 13 46.9	+15
H11N2	**WAKE ISLAND Hy** baz=359	**35.18**	**177**	T	T	14 53 00.5	
H11N3	**WAKE ISLAND Hy** baz=359,slow=74	**35.19**	**177**	T	T	14 53 22.6	
H11N1	**WAKE ISLAND Hy** baz=359,slow=74	**35.19**	**177**	T	T	14 53 15.4	
KURBB	**Kurchatov Arra** 0.6nm,0.5s,baz=53,slow=7.6,SNR=5.9 0.6nm,0.5s	**49.28**	**303**	P	P	14 16 54.4	+1.6
TXAR	**Lajitas Array** 0.4nm,0.7s,baz=294,slow=4.0,SNR=4.8 0.4nm,0.7s	**67.29**	**71**	P	P	14 19 15.4	+16

*NEIC **30** 14:30:11.0±0.8,18.˝14S±0.˝08×169.˝0E±0.˝1,h228km±10km, mb4.3/23,Error ellipse: s-maj=22.6km s-min=4.2km az=119.0*
*IDC **30** 14:30:12.1±2.6,18.˝12S×168.˝92E,h239km±27km, mb3.6/10,mbtmp4.2/11,Error ellipse: s-maj=27.3km s-min=19.8km az=160.0*
*NOU **30** 14:30:13.3,18.˝18S×168.˝78E,h201km,MLv4.7/12, Vanuatu Islands*
ISC 30 14:30:10.8±0.6,**18.˝09S**±0.˝06×**169.˝03E**±0.˝10,**h228**km,**n48**, σ1§**00**/49,**mb4.2**/22,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.88**	**294**	P	**Pn**	**14 30 42.5**	**-0.3**
INH	**Isangel**	**1.46**	**171**	P	**Pn**	**14 30 46.7**	**0.0**
VLAKA	**Lakatoro**	**2.50**	**322**	P	**Pn**	**14 30 56.5**	**-0.1**
YATNC	**Mamie plateau,**	**4.43**	**207**	P	**Pn**	**14 31 17.1**	**-1.7**
DZM	**Mont Dzumac**	**4.64**	**211**		**Pn**	**14 31 21.1**	**-0.5**
DZM	**Mont Dzumac** 58nm,0.5s,baz=16,slow=18,SNR=117	**4.64**	**211**	P	**Pn**	**14 31 21.4**	**-0.2**
DZM	6.8nm,0.3s,baz=295,slow=22,SNR=0.8			S	**S**	**14 32 19.3**	**+1.7**
DZM	**Mont Dzumac**	**4.64**	**211**	P	**Pn**	**14 31 21.2**	**-0.4**
PINNC	**Pines Island,**	**4.73**	**198**		**Pn**	**14 31 22.3**	**-0.3**
PINNC	**Pines Island,**	**4.73**	**198**	P	**Pn**	**14 31 22.1**	**-0.5**
OUENC	**Ouen Island, N**	**4.77**	**205**	P	**Pn**	**14 31 22.9**	**-0.1**
ONTNC	**Ouen Toro**	**4.84**	**210**		**Pn**	**14 31 23.6**	**-0.2**
ONTNC	**Ouen Toro**	**4.84**	**210**	P	**Pn**	**14 31 23.7**	**-0.2**
AFI	**Afiamalu**	**18.91**	**80**	P	**P**	**14 34 12.0**	**-2.8**
AFI	comp=Z,32nm,0.9s			IAmb	IAmb	14 34 42.1	
URZ	**Urewera** comp=Z,7.2nm,0.8s,baz=23,slow=14,SNR=1.8 comp=Z,7.2nm,0.8s	**21.30**	**162**	P	**P**	**14 34 41.3**	**+1.6**
RABL	**Rabaul**	**21.52**	**308**	P	**P**	**14 34 41.2**	**-1.1**
RABL	comp=Z,32nm,1.2s			IAmb	IAmb	14 35 03.2	
STKA	**Stephens Creek** comp=Z,1.3nm,0.5s,baz=60,slow=5.1,SNR=3.4 comp=Z,1.3nm,0.5s	**28.30**	**236**	P	**P**	**14 35 43.3**	**-0.1**
WR8	**Warramunga Arr**	**32.66**	**261**	P	**P**	**14 36 20.6**	**-1.2**
WR8	comp=Z,6.4nm,1.4s			IAmb	IAmb	14 36 40.6	
WB0	**Warramunga Arr**	**32.77**	**261**	P	**P**	**14 36 21.5**	**-1.2**
WB0	comp=Z,5.4nm,1.2s			IAmb	IAmb	14 36 41.8	
WRA	**Warramunga Arr**	**32.81**	**261**	P	**P**	**14 36 21.9**	**-1.3**
WRA	**Warramunga Arr** comp=Z,1.1nm,0.8s,baz=80,slow=6.0,SNR=20 comp=Z,1.1nm,0.8s	**32.81**	**261**	P	**P**	**14 36 21.8**	**-1.3**
BBOO	**Buckleboo**	**33.02**	**237**	P	**P**	**14 36 24.6**	**-0.2**
BBOO	comp=Z,15nm,1.2s			IAmb	IAmb	14 36 39.5	
AS31	**Alice Springs**	**33.23**	**254**	P	**P**	**14 36 26.1**	**-0.6**
AS31	comp=Z,7.4nm,0.3s			IAmb	IAmb	14 36 26.7	
ASAR	**Alice Springs**	**33.23**	**254**	P	**P**	**14 36 25.6**	**-1.0**
ASAR	**Alice Springs** comp=Z,8.9nm,0.5s,baz=83,slow=8.7,SNR=422 comp=Z,8.9nm,0.5s	**33.23**	**254**	P	**P**	**14 36 26.0**	**-0.7**
KNRA	**Kununurra**	**38.55**	**267**	P	**P**	**14 37 09.8**	**-2.1**
KNRA	comp=Z,12nm,1.4s			IAmb	IAmb	14 37 36.9	
FITZ	**Fitzroy Crossi**	**41.17**	**263**	P	**P**	**14 37 33.0**	**-0.4**
MIDW	**Midway**	**47.88**	**16**	P	**P**	**14 38 26.4**	**+0.4**
ASAJ	**Asahikawa** comp=Z,5.1nm,0.8s,baz=166,slow=4.5,SNR=4.3 comp=Z,5.1nm,0.8s	**66.46**	**340**	P	**P**	**14 40 36.8**	**+1.1**
KIWB	**Kanaga Island**	**70.69**	**9**	P	**P**	**14 41 01.9**	**+0.3**
PETK	**Petropavlovsk-**	**71.58**	**353**	P	**P**	**14 41 07.3**	**+0.4**
PETK	**Petropavlovsk-** comp=Z,2.1nm,0.8s,baz=124,slow=6.9,SNR=5.8 comp=Z,2.1nm,0.8s	**71.58**	**353**	P	**P**	**14 41 08.1**	**+1.2**
QSPA	**South Pole Qui**	**71.95**	**180**	P	**P**	**14 41 09.4**	**+0.1**
NIKH	**Nikolski High**	**73.32**	**14**	P	**P**	**14 41 17.5**	**+0.4**
UNV	**Unalaska Valle**	**74.67**	**15**	P	**P**	**14 41 24.3**	**-0.7**
S12K	**Black Hills**	**77.48**	**16**	P	**P**	**14 41 40.6**	**-0.2**
O15K	**Ungalikthiuk R**	**81.11**	**16**	P	**P**	**14 42 00.8**	**+0.5**
O15K	comp=Z,7.5nm,1.4s			IAmb	IAmb	14 42 04.4	
OHAK	**Old Harbor**	**81.35**	**20**	P	**P**	**14 42 02.2**	**+0.7**
OHAK	comp=Z,8.2nm,1.4s			IAmb	IAmb	14 42 18.8	
O16K	**Kokwok River B**	**81.92**	**16**	P	**P**	**14 42 05.0**	**+0.5**
O16K	comp=Z,5.7nm,1.5s			IAmb	IAmb	14 42 27.9	
M16K	**Timber Creek**	**82.93**	**15**	P	**P**	**14 42 10.6**	**+0.9**
L18K	**Granite Mounta**	**84.52**	**15**	P	**P**	**14 42 18.8**	**+1.1**
L18K	comp=Z,7.6nm,1.5s			IAmb	IAmb	14 42 23.7	
J18K	**Innoko River**	**85.57**	**15**	P	**P**	**14 42 23.2**	**+0.3**
J18K	comp=Z,4.9nm,1.4s			IAmb	IAmb	14 42 31.4	
G16K	**Koyuk River**	**86.03**	**12**	P	**P**	**14 42 26.5**	**+1.4**
G16K	comp=Z,11nm,1.2s			IAmb	IAmb	14 42 45.5	
SONM	**Songino Array** comp=Z,0.6nm,0.5s,baz=144,slow=5.2,SNR=2.2 comp=Z,0.6nm,0.5s	**86.19**	**323**	P	**P**	**14 42 26.6**	**+0.2**
I21K	**Tanana**	**88.15**	**15**	P	**P**	**14 42 35.6**	**+0.4**
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.6s,baz=259,slow=5.5,SNR=2.8 comp=Z,0.4nm,0.6s	**88.20**	**49**	P	**P**	**14 42 37.3**	**+0.9**
ILAR	**Eielson Array** comp=Z,0.7nm,0.7s,baz=241,slow=4.7,SNR=10 comp=Z,0.7nm,0.7s	**89.20**	**17**	P	**P**	**14 42 39.0**	**-1.3**
PDAR	**Pinedale Array** comp=Z,0.1nm,0.4s,baz=257,slow=3.8,SNR=1.5 comp=Z,0.1nm,0.4s	**95.98**	**47**	P	**P**	**14 43 10.9**	**-1.4**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.7s,baz=114,slow=3.3,SNR=2.4	**100.78**	**316**	P	**Pdif**	**14 43 34.6**	**+1.2**

*IDC **30** 14:32:49.8±0.4,22.˝21S×170.˝68E,h0km,mb4.9/26, mbtmp4.8/29,ML4.6/3,MS4.3/48,Error ellipse: s-maj=17.8km s-min=11.8km az=82.0*
*MOS **30** 14:32:50.5±1.2,22.˝21S×170.˝46E,h10km,mb5.4/25, MS4.8/7,Error ellipse: s-maj=11.2km s-min=9.4km az=120.8*
*BJI **30** 14:32:51.0,22.˝20S×170.˝50E,h10km,mB5.4/17,mb5.1/55, Ms4.7/12,Ms7 4.4/13*
*NEIC **30** 14:32:53.1±2.2,22.˝3S±0.˝1×170.˝41E±0.˝07,h10km±1km, mb5.1/128,Error ellipse: s-maj=17.8km s-min=10.8km az=165.0*
*GCMT **30** 14:32:57.1±0.1,22.˝39S±0.˝01×170.˝41E±0.˝01,h31km, MW5.1/111,Moment Tensor Solution. s88,c137; s111,c183; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.39±.14; Mθθ-3.85±.10; Mϕϕ-1.53±.10; Mrθ2.92±.14; Mθϕ3.27±.07; Mrϕ-0.49±.13; Best double couple: M:6.51000×10¹⁶ NP1:ϕs319.00000°,δ34.00000°, λ112.00000°. NP2:ϕs113.00000°,δ59.00000°,λ76.00000°. Principal axes: T 6.2630, Plg72.0000°, Azm348.0000°; N 0.5040, Plg12.0000°, Azm120.0000°; P -6.7570, Plg13.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NOU **30** 14:32:58.2,22.˝27S×170.˝37E,h46km,mb5.2/92, Southeast of Loyalty Islands*
ISC 30 14:32:54.4±0.8,**22.˝37S**±0.˝04×**170.˝48E**±0.˝04,**h26**km±5km, **n473**,σ1§**37**/412,**mb5.1**/127,**MS4.5**/65,**39C-29D**, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**2.82**	**264**		**Pn**	**14 33 37.3**	**-0.6**
PINNC	**Pines Island,**	**2.82**	**264**	P	**Pn**	**14 33 38.1**	**+0.2**
PINNC	**Pines Island,**	**2.82**	**264**	S	**Sn**	**14 34 11.7**	**+0.7**
INH	**Isangel**	**3.02**	**338**	P	**Pn**	**14 33 41.5**	**+0.8**
INH	**Isangel**	**3.02**	**338**	S	**Sn**	**14 34 16.8**	**+0.6**
YATNC	**Mamie plateau,**	**3.34**	**275**	P	**Pn**	**14 33 44.6**	**-0.5**
YATNC	**Mamie plateau,**	**3.34**	**275**	S	**Sn**	**14 34 24.2**	**+0.2**
OUENC	**Ouen Island, N**	**3.37**	**268**	P	**Pn**	**14 33 45.6**	**+0.1**
OUENC	**Ouen Island, N**	**3.37**	**268**	S	**Sn**	**14 34 24.3**	**-0.4**
ONTNC	**Ouen Toro**	**3.73**	**270**		**Pn**	**14 33 49.9**	**-0.5**
ONTNC	**Ouen Toro**	**3.73**	**270**	P	**Pn**	**14 33 51.3**	**+0.9**
ONTNC	**Ouen Toro**	**3.73**	**270**	S	**Sn**	**14 34 33.6**	**0.0**
DZM	**Mont Dzumac**	**3.75**	**274**		**Pn**	**14 33 50.6**	**-0.2**
DZM	**Mont Dzumac** 459nm,0.9s	**3.75**	**274**	*e*Pn	**Pn**	**14 33 50.8**	**0.0**
DZM	1µm,1.1s			*e*Sn	**Sn**	**14 34 32.5**	**-1.8**
DZM	**Mont Dzumac** 90nm,0.3s,baz=134,slow=8.3,SNR=65	**3.75**	**274**	Pn	**Pn**	**14 33 51.3**	**+0.5**
DZM	95nm,0.3s,baz=324,slow=18,SNR=6.1 184nm,0.3s			Sn	**Sn**	**14 34 33.2**	**-1.1**
DZM	**Mont Dzumac**	**3.75**	**274**	P	**Pn**	**14 33 51.0**	**+0.2**
DZM	**Mont Dzumac**	**3.75**	**274**	S	**Sn**	**14 34 34.3**	**0.0**
DVP	**Devils Point**	**5.10**	**335**	P	**Pn**	**14 34 09.2**	**0.0**
KOUNC	**Koumac, New Ca**	**6.05**	**286**	P	**Pn**	**14 34 23.4**	**+1.1**
NFK	**Norfolk Island**	**7.03**	**199**	P	**Pn**	**14 34 35.2**	**-0.6**
MSVF	**Nonsavu**	**8.47**	**58**		**Pn**	**14 34 59.5**	**+3.8**

MSVF	**Nonsavu**	**8.47**	**58**	P		**Pn**	14 35 00.1	+4.4
MSVF	**Nonsavu**	**8.47**	**58**	P		**Pn**	**14 34 59.5**	**+3.8**
YSA	**Yasawairara**	**8.75**	**51**	P		Pn	14 35 03.6	+4.2
DGTI	**Dogotuki**	**10.61**	**57**	P		**Pn**	**14 35 29.1**	**+4.1**
TAVE	**Taveuni**	**10.66**	**60**	P		Pn	14 35 29.9	+4.2
LKBA	**Tubou, Lakemba**	**10.85**	**70**	P		**Pn**	**14 35 30.2**	**+2.0**
RAO	**Raoul Island** comp=Z,2µm,18.6s,baz=314,slow=33	**12.49**	**126**	LR		LR	14 39 44.6	
HNR	**Honiara**	**16.36**	**320**	P		**P**	**14 36 45.0**	**-0.2**
HNR	**Honiara** 4.5nm,0.3s,baz=280,slow=6.0,SNR=6.2	**16.36**	**320**	Pn		**Pn**	**14 36 40.7**	**-1.8**
HNR	comp=Z,520nm,20.2s,baz=142,slow=33 33nm,0.7s			LR		LR	14 41 44.6	
HNR	**Honiara**	**16.36**	**320**	P		**Pn**	**14 36 43.4**	**+0.9**
HNR	**Honiara**	**16.36**	**320**	P		**P**	**14 36 45.0**	**-0.2**
HNR	comp=Z,838nm,1.9s			pmax		pmax		
ALEG	**Aligegeo Malai**	**16.48**	**324**	P		**P**	**14 36 46.4**	**-0.2**
SAVO	**Savo Central**	**16.66**	**320**	P		**Pn**	**14 36 47.3**	**+0.9**
URZ	**Urewera** comp=Z,0.5nm,0.3s,baz=46,slow=13,SNR=5.1	**16.83**	**162**	Pn		**Pn**	**14 36 48.9**	**+0.6**
URZ	comp=Z,2µm,18.1s,baz=336,slow=33 comp=Z,11nm,1.0s			LR		LR	14 42 15.4	
TATA	**Tatamba Isabel**	**17.28**	**322**	P		**P**	**14 36 56.6**	**+1.2**
BKZ	**Black Stump Fm**	**17.51**	**164**			**P**	**14 37 00.1**	**+2.2**
BKZ	**Black Stump Fm**	**17.51**	**164**	P		**P**	**14 36 59.8**	**+1.9**
EIDS	**Eidsvold**	**18.00**	**257**			**Pn**	**14 37 02.8**	**-0.1**
EIDS	**Eidsvold**	**18.00**	**257**	P		**P**	**14 37 07.1**	**+3.8**
EIDS	**Eidsvold**	**18.00**	**257**	P		**P**	**14 37 06.3**	**+3.0**
TSZ	**Takapari Road**	**18.24**	**166**	P		**PKiKP**	**14 49 27.1**	**-1.9**
ARMA	**Armidale**	**18.68**	**241**			**Pn**	**14 37 12.2**	**+0.9**
ARMA	**Armidale**	**18.68**	**241**	P		**Pn**	**14 37 14.5**	**+3.1**
ARMA	**Armidale**	**18.68**	**241**	P		**Pn**	**14 37 13.0**	**+1.6**
MRZ	**Mangatainoka R**	**18.74**	**168**	P		**Pn**	**14 37 12.6**	**+0.7**
MRZ	comp=Z,106nm,1.3s			IAmb		IAmb	14 37 22.8	
AFI	**Afiamalu**	**18.83**	**66**			**P**	**14 37 12.9**	**+0.4**
AFI	comp=Z,112nm,0.9s			IAmb		IAmb	14 37 14.9	
AFI	**Afiamalu**	**18.83**	**66**	P		**P**	**14 37 12.9**	**+0.4**
AFI	**Afiamalu**	**18.83**	**66**	P		**P**	**14 37 12.9**	**+0.4**
AFI	comp=Z,112nm,0.9s			pmax		pmax		
TCW	**Tory Channel**	**19.06**	**171**			**Pn**	**14 37 17.2**	**+1.5**
MSWZ	**Moikau Station**	**19.41**	**169**	P		**Pn**	**14 37 19.6**	**-0.4**
THZ	**Tophouse**	**19.45**	**175**	P		**Pn**	**14 37 20.4**	**-0.1**
THZ	comp=Z,93nm,1.2s			IAmb		IAmb	14 37 28.5	
SYDH	**Sydney Hard Ro**	**20.75**	**233**	P		Pn	14 37 37.3	+1.5
OXZ	**Oxford**	**20.94**	**177**	P		Pn	14 37 37.4	-0.5
RPZ	**Rata Peaks** comp=Z,29nm,1.0s,baz=18,slow=13,SNR=3.6 comp=Z,29nm,1.0s	**21.30**	**179**	P		**P**	**14 37 40.8**	**+1.7**
JCZ	**Jackson Bay**	**21.69**	**183**	P		**P**	**14 37 45.2**	**+1.7**
CNB	**Canberra Magne** comp=Z,43nm,1.6s	**22.50**	**230**	P		**P**	**14 37 55.9**	**+3.7**
CNB	**Canberra Magne**	**22.50**	**230**	P		**P**	**14 37 56.4**	**+4.2**
CTAO	**Charters Tower**	**22.69**	**271**	P		**P**	**14 37 56.1**	**+1.8**
YNG	**Young** comp=Z,35nm,1.4s	**22.73**	**234**	P		**P**	**14 37 56.5**	**+1.9**
CAN	**Canberra**	**22.76**	**231**	P		**P**	**14 37 59.8**	**+4.8**
CAN	**Canberra**	**22.76**	**231**	P		**P**	**14 37 57.1**	**+2.2**
CMSA	**Cobar Meteorol** comp=Z,61nm,0.8s	**23.87**	**242**	P		**P**	**14 38 07.2**	**+1.2**
CMSA	**Cobar Meteorol**	**23.87**	**242**	P		**P**	**14 38 07.4**	**+1.4**
QLP	**Quilpie** comp=Z,87nm,0.8s	**24.24**	**255**	P		**P**	**14 38 10.4**	**+1.0**
QLP	**Quilpie**	**24.24**	**255**	P		**P**	**14 38 10.5**	**+1.0**
MTSU	**Mount Surprise** comp=Z,39nm,0.8s	**24.89**	**275**	P		**P**	**14 38 16.3**	**+0.8**
MTSU	**Mount Surprise**	**24.89**	**275**	P		**P**	**14 38 16.8**	**+1.3**
RABL	**Rabaul**	**25.32**	**313**	P		**P**	**14 38 16.8**	**-2.6**
PMG	**Port Moresby**	**25.82**	**296**	P		**P**	**14 38 23.9**	**+0.1**
PMG	comp=Z,48nm,0.9s			IAmb		IAmb	14 38 25.2	
PMG	**Port Moresby** comp=Z,872nm,20.1s,baz=120,slow=34	**25.82**	**296**	LR		LR	14 47 25.7	
PMG	**Port Moresby**	**25.82**	**296**	P		**P**	**14 38 24.3**	**+0.4**
PMG	**Port Moresby**	**25.82**	**296**	P		**P**	**14 38 24.2**	**+0.4**
PMG	**Port Moresby**	**25.82**	**296**	*ce*P

PPT2 e S S 14 46 00.7 +2.6
comp=Z,40nm,30.8s
comp=Z,144nm,26.0s
PPT2 e SS SS 14 48 44.7 +0.4
comp=Z,192nm,27.8s
PPT2 e LR LR 14 50 20.8
comp=Z,317nm,25.0s
PPT2 e LR LR 14 50 26.7
comp=Z,364nm,23.5s
PPT Papeete 37.77 90 LR LR 14 54 23.7
comp=Z,196nm,18.4s,baz=291,slow=34
MTN Manton Dam 38.59 277 IAmb IAmb 14 40 16.2
comp=Z,26nm,0.8s
MTN Manton Dam 38.59 277 P P **14 40 15.2 -0.4**
BAKI Biak 39.50 297 P P **14 40 24.8 +1.5**
KNRA Kununurra 39.90 272 IAmb IAmb 14 40 27.4
comp=Z,29nm,0.9s
FAKI Fak Fak 41.81 292 P P **14 40 41.7 -0.7**
FAKI IAmb IAmb 14 40 43.3
comp=Z,65nm,1.1s
FITZ Fitzroy Crossi 42.18 267 LR LR 14 58 47.1
comp=Z,936nm,18.1s,baz=106,slow=37
GUMO Guam 43.67 323 LR LR 14 57 41.5
comp=Z,258nm,20.2s,baz=130,slow=34
SOEI Soe 45.97 278 P P **14 41 16.2 +0.3**
SOEI IAmb IAmb 14 41 31.2
comp=Z,32nm,0.9s
SOEI Soe 45.97 278 P P **14 41 16.9 +0.9**
BATI Baumata 46.36 277 LR LR 15 01 28.7
comp=Z,1μm,19.1s,baz=138,slow=37
PSA00 Pilbara Seismi 46.78 261 P P **14 41 22.2 0.0**
MBWA Marble Bar 46.97 261 P P **14 41 23.6 0.0**
MBWA IAmb IAmb 14 41 24.8
comp=Z,27nm,1.1s
MBWA Marble Bar 46.97 261 P P **14 41 23.9 +0.3**
MEEK Meekatharra 47.13 254 P P **14 41 24.6 -0.3**
KLBR Kellerberrin 47.50 247 P P **14 41 27.5 -0.1**
SANI Sanana 47.68 289 P P **14 41 29.6 +0.4**
NWAO Narrogin (SRO) 47.90 245 P P **14 41 30.8 +0.1**
NWAO IAmb IAmb 14 41 47.5
comp=Z,23nm,1.0s
NWAO Narrogin (SRO) 47.90 245 LR LR 15 00 51.2
comp=Z,811nm,20.2s,baz=101,slow=35
NWAO Narrogin (SRO) 47.90 245 P P **14 41 30.8 +0.1**
NWAO Narrogin (SRO) 47.90 245 P P **14 41 31.0 +0.3**
NWAO Narrogin (SRO) 47.90 245 P P **14 41 30.8 +0.1**
NWAO pmax pmax
comp=Z,23nm,1.0s
BLDU Ballidu 48.45 248 P P **14 41 34.6 -0.4**
MORW Morawa 49.15 250 P P **14 41 40.1 -0.3**
TAOE Nuku Hiva Isla 49.19 82 *e*P P **14 41 36.7 -4.3**
comp=Z,86nm,26.9s
TAOE e S S **14 48 46.5 +1.0**
comp=Z,164nm,25.5s
TAOE e LR LR 14 55 42.6
comp=Z,475nm,23.8s
KAPI Kappang 51.94 282 LR LR 15 03 01.0
comp=Z,208nm,21.8s,baz=112,slow=35
KAPI Kappang 51.94 282*c i*P P **14 42 02.2 +0.6**
KAPI pmax pmax
comp=Z,52nm,1.2s
DAV Davao City (W) 52.81 298 LR LR 15 05 59.3
comp=Z,110nm,18.5s,baz=131,slow=38
TOLI2 Tolitoli 53.75 289 P P **14 42 14.0 -1.0**
TOLI2 Tolitoli 53.75 289 P P **14 42 14.9 -0.1**
VNDA Vanda 55.36 182 P P **14 42 27.1 +1.3**
VNDA Vanda 55.36 182 P P **14 42 27.8 +2.0**
comp=Z,1.2nm,0.8s,baz=326,slow=5.3,SNR=8.3
VNDA LR LR 15 03 40.8
comp=Z,491nm,18.4s,baz=13,slow=33
comp=Z,1.2nm,0.8s
VNDA Vanda 55.36 182 P P **14 42 27.1 +1.3**
VNDA pmax pmax
comp=Z,5.0nm,1.1s
SBA Scott Base 55.57 181 P P **14 42 29.0 +1.8**
SBA IAmb IAmb 14 42 35.0
comp=Z,18nm,1.1s
SBA Scott Base 55.57 181 P P **14 42 29.0 +1.8**
SBA pmax pmax
comp=Z,18nm,1.1s
JCJ Chichijima 56.28 329 P P **14 42 31.7 -1.3**
comp=Z,58nm,0.7s,baz=180,slow=8.1,SNR=5.1
JCJ LR LR 15 02 53.5
comp=Z,146nm,21.7s,baz=122,slow=32
comp=Z,58nm,0.7s
CASY Casey 57.75 204 P **14 42 43.5 +0.5**
CASY IAmb IAmb 14 42 54.3
comp=Z,40nm,1.8s
TGY Tagaytay City 60.59 302 LR LR 15 08 10.5
comp=Z,71nm,20.2s,baz=111,slow=35
SBUM Sibu 61.94 286 IAmb IAmb 14 43 14.7
comp=Z,14nm,1.3s
SBUM Sibu 61.94 286 P P **14 43 13.4 +0.9**
LEM Lembang 62.36 274 LR LR 15 09 48.1
comp=Z,234nm,21.6s,baz=164,slow=36
JHJ Hachijo jima 2 62.47 331 P P **14 43 15.8 +0.1**
comp=Z,61nm,0.7s,baz=153,slow=4.5,SNR=2.5
JHJ LR LR 15 10 57.7
comp=Z,117nm,18.4s,baz=80,slow=37
comp=Z,61nm,0.7s
KSM Kuching 63.22 284 P P **14 43 21.6 +0.5**
JOW Kunigami 63.72 318 P P **14 43 23.9 -0.2**
comp=Z,37nm,0.9s,baz=135,slow=7.6,SNR=8.6
JOW LR LR 15 11 10.5
comp=Z,231nm,18.1s,baz=118,slow=36
comp=Z,37nm,0.9s
JOW Kunigami 63.72 318 P P **14 43 24.6 +0.5**
YOJ Yonaguni jima 65.52 312 P P **14 43 36.2 +0.3**
INU Inuyama 65.59 330 P P **14 43 35.6 -0.5**
JGF Kuroka 65.64 331 IAmb IAmb 14 43 37.5
comp=Z,17nm,0.8s
JGF Kuroka 65.64 331 P P **14 43 35.6 -0.9**
JMN Monobe 65.78 327 P P **14 43 37.6 +0.1**
TWGBT Beinan 65.80 310 P P **14 43 36.4 -1.4**
YULB Yu-li 66.02 310 IAmb IAmb 14 43 44.0
comp=Z,17nm,1.1s
YULB Yu-li 66.02 310 P P **14 43 38.2 -0.9**
MJAR Matsushiro Arr 66.05 332 P P **14 43 38.0 -1.1**
MJAR IAmb IAmb 14 43 38.8
comp=Z,19nm,1.0s
MJAR Matsushiro Arr 66.05 332 P P **14 43 37.7 -1.4**
comp=Z,19nm,1.0s,baz=163,slow=6.8,SNR=30
MJAR LR LR 15 09 46.6
comp=Z,120nm,21.9s,baz=122,slow=34
comp=Z,19nm,1.0s
MJAR Matsushiro Arr 66.05 332 P P **14 43 38.0 -1.1**
MJAR pmax pmax
comp=Z,19nm,1.0s
MAJO Matsushiro 66.05 332 P P **14 43 38.1 -0.9**
MAJO Matsushiro 66.05 332 P P **14 43 38.2 -0.9**
MAJO Matsushiro 66.05 332*c i*P P **14 43 37.7 -1.4**
MAJO pmax pmax
comp=Z,43nm,1.3s
NACB Ninganchiao 66.31 311 P P **14 43 40.7 -0.3**
TPUB Ta-pu 66.43 310 P P **14 43 41.0 -0.8**
SSLB Suanglung 66.51 311 P P **14 43 41.3 -1.0**
YHNB Yeheng 66.78 312 P P **14 43 43.8 -0.3**
JNU Nakatsue 66.88 324 P P **14 43 43.8 -0.7**
comp=Z,44nm,0.9s,baz=112,slow=4.5,SNR=22
JNU LR LR 15 09 33.5
comp=Z,132nm,20.7s,baz=124,slow=33
comp=Z,44nm,0.9s
JNU Nakatsue 66.88 324 P P **14 43 44.0 -0.5**
TATO Taipei 66.90 312 P P **14 43 44.3 -0.4**
TATO Taipei 66.90 312 P P **14 43 44.6 -0.1**
JSD Sado 67.28 333 P P **14 43 46.5 -0.4**
QSPA South Pole Qui 67.70 180 P P **14 43 50.1 +0.7**
comp=Z,16nm,1.0s,baz=12,slow=1.9,SNR=34
QSPA LR LR 15 11 23.6
comp=Z,309nm,18.0s,baz=38,slow=34
comp=Z,16nm,1.0s
ASAJ Asahikawa 70.92 339 P P **14 44 09.0 -0.3**
comp=Z,7.1nm,0.8s,baz=219,slow=7.8,SNR=6.4
ASAJ LR LR 15 10 22.1
comp=Z,154nm,21.6s,baz=160,slow=32
comp=Z,7.1nm,0.8s
TJN Taejon 71.22 324 P P **14 44 11.7 +0.4**
TJN Taejon 71.22 324*d i*P P **14 44 11.1 -0.2**
KSRS Korea Array 71.73 325 P P **14 44 13.9 -0.5**
comp=Z,12nm,0.9s,baz=142,slow=6.2,SNR=27
KSRS LR LR 15 15 22.6
comp=Z,62μm,18.8s,baz=200,slow=36
comp=Z,12nm,0.9s
KSAR Wonju Array Be 71.74 325 P P **14 44 14.7 +0.3**
KSAR Wonju Array Be 71.74 325 P P **14 44 14.7 +0.3**
INCN Inchon 72.44 325 P P **14 44 18.8 +0.1**
INCN Inchon 72.44 325 P P **14 44 19.1 +0.5**
INCN Inchon 72.44 325 P P **14 44 18.8 +0.1**
INCN pmax pmax
comp=Z,62nm,1.1s
IPM Ipoh 72.87 282 IAmb IAmb 14 44 23.0
comp=Z,31nm,0.9s
IPM Ipoh 72.87 282 P P **14 44 22.0 +0.2**
NJ2 Nanjing 73.25 316 *e*P P **14 44 23.5 -0.1**
NJ2 pmax pmax
comp=Z,16nm,1.0s
YSS Yuzhno-Sakhali 73.40 341 P P **14 44 23.4 -0.7**
YSS IAmb IAmb 14 44 25.3
comp=Z,30nm,1.1s
YSS Yuzhno-Sakhali 73.40 341 P P **14 44 24.4 +0.3**
YSS Yuzhno-Sakhali 73.40 341 *e*P P **14 44 24.1 0.0**
YSS *e*S **SKiKP 14 53 52.3 -1.3**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS pmax pmax
comp=Z,100nm,4.2s
KULM Kulim 73.55 283 P P **14 44 25.2 -0.6**
KULM IAmb IAmb 14 44 27.0
comp=Z,34nm,1.1s
KULM Kulim 73.55 283 P P **14 44 26.1 +0.3**
SKR Severo-Kuril's 73.83 351 *e*P P 14 44 34.0 +7.5
SKR pmax pmax
comp=Z,107nm,1.9s
SKR pmax pmax
comp=Z,600nm,6.5s
SKR MLR MLR
comp=Z,400nm,14.0s
RPSI Rantau Prapat 74.05 280 P P **14 44 26.9 -1.8**
RPSI IAmb IAmb 14 44 29.3
comp=Z,28nm,1.0s
PSI Prapat 74.09 280 LR LR 15 19 47.7
comp=Z,366nm,18.1s,baz=119,slow=38
PSI Prapat 74.09 280 P P **14 44 28.6 -0.5**
PSI Prapat 74.09 280 P P **14 44 26.9 -2.2**
PSI pmax pmax
comp=Z,28nm,1.0s
PSTR Posyet 74.33 331*c i*P P **14 44 29.3 -0.3**
GSI Gunungsitoli 74.73 278 P P **14 44 32.1 -0.6**
GSI Gunungsitoli 74.73 278 P P **14 44 33.8 +1.1**
SHEM Sherya Is, Ala 74.84 2 LR LR 15 12 02.5
comp=Z,233nm,21.3s,baz=132,slow=32
USA0B Ussuriysk Arra 75.04 332⇑*i*P P **14 44 33.1 -0.6**
USRK Ussuriysk Ar. 75.04 332 P P **14 44 33.5 -0.2**
comp=Z,7.9nm,0.9s,baz=132,slow=5.4,SNR=11
USRK LR LR 15 15 41.2
comp=Z,92nm,19.9s,baz=137,slow=34
comp=Z,7.9nm,0.9s
PET Petropavlovsk 75.77 353 *e*P P 14 44 43.2 +5.5
PET *e*S **S 14 54 23.1 +5.3**
PET pmax pmax
comp=Z,100nm,14.9s
PET pmax pmax
comp=Z,100nm,7.1s
SRIT Nakonsritamara 75.90 286 P P **14 44 40.5 +1.2**
PEA0B Petropavlovsk- 75.97 352⇑*e*P P **14 44 37.8 -1.1**
PETK Petropavlovsk- 75.97 352 P P **14 44 38.3 -0.6**
PETK Petropavlovsk- 75.97 352 P P **14 44 38.1 -0.7**
comp=Z,7.8nm,0.9s,baz=98,slow=6.1,SNR=12
PETK LR LR 15 13 26.1
comp=Z,312nm,19.9s,baz=153,slow=32
comp=Z,7.8nm,0.9s
PETK Petropavlovsk- 75.97 352 P P **14 44 38.3 -0.6**
MAW Mawson 75.99 202 P P **14 44 40.0 +1.1**
comp=Z,4.5nm,0.9s,baz=87,slow=8.0,SNR=10
MAW LR LR 15 15 48.7
comp=Z,166nm,18.3s,baz=97,slow=34
comp=Z,4.5nm,0.9s
MAW Mawson 75.99 202 P P **14 44 40.0 +1.1**
MDJ Mudanjiang 76.41 331 IAmb IAmb 14 44 44.2
comp=Z,14nm,1.0s
MDJ Mudanjiang 76.41 331 P P **14 44 40.8 -0.8**
MDJ pmax pmax
comp=Z,15nm,1.6s
MDJ Mudanjiang 76.41 331 P P **14 44 41.8 +0.2**
TYV Tymovskoe 76.93 342 *e*P P **14 44 43.8 -0.5**
TYV pmax pmax
comp=Z,14nm,1.2s
TYV pmax pmax
comp=Z,100nm,3.8s
TIA Tai'an 77.04 318 P P **14 44 45.0 -0.4**
TIA pmax pmax
comp=Z,62nm,0.8s
NIKH Nikolski High 77.14 13 P P **14 44 44.1 -1.4**
CN2 Changchun 77.72 328 P P **14 44 48.3 -0.7**
CN2 pmax pmax
comp=Z,20nm,1.1s
SLVN Son La 78.10 299 IAmb IAmb 14 44 54.2
comp=Z,29nm,1.4s
SLVN Son La 78.10 299 P P **14 44 53.0 +1.3**
BNX BinXian 78.26 331⇑P P **14 44 50.5 -1.4**
BNX sP **PcP 14 45 01.3 +0.1**
BNX PcP **pwP 14 45 04.8 +0.6**
BNX S **S 14 54 49.3 +4.0**
BNX pmax pmax
comp=Z,13nm,0.9s
BNX pmax pmax
comp=Z,99nm,7.8s
BNX LR LR
comp=Z,120nm,18.4s
BNX LR LR
comp=Z,82nm,19.1s
BNX LR LR
comp=Z,100nm,21.8s
ENH Enshi 78.55 309 P P **14 44 53.9 0.0**
GYA Guiyang 78.55 305⇑P P **14 44 54.3 +0.2**
GYA pmax pmax
comp=Z,30nm,1.3s
GRNR Gornyy 78.78 339⇓*i*P P **14 44 54.2 -0.4**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
LYN LuoYang 78.98 315 P P **14 44 56.5 +0.3**
LYN pmax pmax
comp=Z,53nm,0.9s
LYN pmax pmax
comp=Z,230nm,4.3s
LYN LR LR
comp=Z,260nm,18.0s
LYN LR LR
comp=Z,190nm,19.9s
HNS HongShan 79.29 318⇑P P **14 44 58.3 +0.5**
HNS pmax pmax
comp=Z,29nm,0.9s
HNS LR LR
comp=Z,170nm,18.6s
HNS LR LR
comp=Z,200nm,15.7s
BJT Baijiatuau 80.08 321 IAmb IAmb 14 45 02.8
comp=Z,14nm,1.1s
BJT Baijiatuau 80.08 321 P P **14 45 02.4 +0.4**
BJI Beijing 80.09 321 P P **14 45 01.8 -0.2**
BJI S **S 14 55 07.3 +2.4**
BJI pmax pmax
comp=Z,7.0nm,1.1s
BJI pmax pmax
comp=Z,56nm,8.2s
BJI LR LR
comp=Z,71nm,18.3s
BJI LR LR
comp=Z,58nm,21.9s
BJI LR LR
comp=Z,89nm,20.4s
CMAR Chiang Mai Arr 80.84 294 P P **14 45 06.9 +0.3**
CMAR Chiang Mai Arr 80.84 294 P P **14 45 08.2 +1.6**
comp=Z,17nm,0.9s,baz=134,slow=4.0,SNR=72
comp=Z,17nm,0.9s
CMAR Chiang Mai Arr 80.84 294 P P **14 45 06.9 +0.3**
KMI Kunming 80.91 302⇑P P **14 45 08.5 +1.4**
KMI S **S 14 55 21.0 +6.4**
KMI pmax pmax
comp=Z,33nm,1.0s
CHTO Chiang Mai 81.00 295 P P **14 45 08.3 +0.9**
CHTO Chiang Mai 81.00 295 P P **14 45 08.9 +1.4**
CHTO Chiang Mai 81.00 295 P P **14 45 08.4 +0.9**
CHTO pmax pmax
comp=Z,44nm,1.1s
XAN Xi'an 81.07 312⇑P P **14 45 07.8 +0.3**
XAN pmax pmax
comp=Z,41nm,1.0s
XAN LR LR
comp=Z,190nm,23.4s
XAN LR LR
comp=Z,180nm,19.9s
XAN LR LR
comp=Z,140nm,17.2s
HEH HeiHe 81.72 334 *e*P P **14 45 08.3 -2.2**
HEH pmax pmax
comp=Z,11nm,1.0s
HEH LR LR
comp=Z,130nm,20.1s
HEH LR LR
comp=Z,200nm,20.1s
HEH LR LR
comp=Z,270nm,24.0s
SYO Syowa Base 82.27 196⇓*i*P P **14 45 13.0 -0.2**
SYO Syowa Base 82.27 196⇓*i*pP pP 14 45 17.6 -2.5
PZH PanZhiHua 82.37 303 P P **14 45 14.8 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,150nm,4.2s
XLT XiLinHaoTe 82.64 324 *e*P P **14 45 15.0 -0.6**
XLT sP pP 14 45 22.3 -0.3
XLT pmax pmax
comp=Z,17nm,1.1s
XLT pmax pmax
comp=Z,87nm,5.8s
XLT LR LR
comp=Z,99nm,17.8s
XLT LR LR
comp=Z,98nm,19.9s
CD2 Chengdu 83.05 307 P P **14 45 19.5 +1.5**
CD2 pmax pmax
comp=Z,20nm,0.7s
MA2 Magadan 83.23 350 P P **14 45 18.3 +0.1**
comp=Z,4.0nm,0.7s,baz=169,slow=6.2,SNR=7.8
MA2 LR LR 15 16 56.6
comp=Z,310nm,21.8s,baz=168,slow=32
comp=Z,4.0nm,0.7s
MA2 Magadan 83.23 350*c i*P P **14 45 16.0 -2.2**
MA2 pmax pmax
comp=Z,8.0nm,1.2s
HHC Hu-ho-hao-te 83.34 319 *e*P P **14 45 21.0 +1.7**
HHC pmax pmax
comp=Z,31nm,0.8s
PMSA Palmer Station 83.59 159 LR LR 15 16 00.3
comp=Z,170nm,20.7s,baz=234,slow=31
SII Sitkinak Islan 84.09 19 IAmb IAmb 14 45 23.1
comp=Z,19nm,1.0s
BTO Baotou 84.14 318 *e*P P **14 45 24.3 +0.9**
BTO pP **PcP 14 45 29.0 +1.8**
BTO sP **pP 14 45 31.5 +1.1**
BTO pmax pmax
comp=Z,30nm,1.0s
BTO pmax pmax
comp=Z,330nm,9.2s
TNCH TengChong 84.21 300⇑P P **14 45 25.0 +0.7**
TNCH pP PcP 14 45 27.8 -0.2
TNCH sP pP 14 45 30.5 -0.8
TNCH S **SKSac 14 55 48.0 +1.4**
TNCH pmax pmax
comp=Z,29nm,1.2s
TNCH pmax pmax
comp=Z,160nm,3.0s
TNCH LR LR
comp=Z,120nm,4.8s
TNCH LR LR
comp=Z,140nm,10.1s
PLK4 Peulik 4 84.38 17 IAmb IAmb 14 45 24.4
comp=Z,19nm,0.8s
O14K Tigyukauivet M 84.59 14 IAmb IAmb 14 45 25.7
comp=Z,7.7nm,0.8s
OHAK Old Harbor 84.91 19 IAmb IAmb 14 45 27.0
comp=Z,15nm,1.0s
OHAK Old Harbor 84.91 19 P P **14 45 25.4 -1.3**
N14K Kuskokwak Cree 85.10 14 IAmb IAmb 14 45 28.5
comp=Z,15nm,0.8s
TROLL Troll, Antarti 85.51 184⇑P P **14 45 29.4 -0.6**
comp=Z,2μm,0.8s
KDAK Kodiak Island 85.59 19 LR LR 15 18 37.9
comp=Z,135nm,19.1s,baz=203,slow=32
LZH Lanzhou 85.67 312 *e*P P **14 45 32.0 +0.7**
LZH pP pP 14 45 38.5 +0.1
LZH sP sP 14 45 43.3 +2.4
LZH S S **14 56 07.8 +5.4**
LZH pmax pmax
comp=Z,31nm,1.1s
LZH pmax pmax
comp=Z,220nm,5.3s
N15K Kwethluk River 85.67 14 IAmb IAmb 14 45 31.6
comp=Z,15nm,0.9s
M14K Bethel 85.79 13 IAmb IAmb 14 45 31.6
comp=Z,9.2nm,0.8s
SNAA Sanae 86.10 182⇑P P **14 45 31.7 -1.1**
comp=Z,448nm,0.9s
SNAA Sanae 86.10 182 P P **14 45 31.7 -1.1**
SNAA Sanae 86.10 182 P P **14 45 31.8 -1.1**
comp=Z,18nm,1.1s,baz=167,slow=3.4,SNR=35
SNAA LR LR 15 20 36.3
comp=Z,195nm,21.0s,baz=187,slow=33
comp=Z,18nm,1.1s
SNAA Sanae 86.10 182 P P **14 45 31.7 -1.1**
SNAA pmax pmax
comp=Z,35nm,1.0s
P18K Big Mountain, 86.20 17 IAmb IAmb 14 45 33.3
comp=Z,7.3nm,0.8s
SEY Seymchan 86.21 352 P P **14 45 31.3 -1.8**
comp=Z,6.0nm,0.8s,baz=164,slow=7.5,SNR=9.1
comp=Z,6.0nm,0.8s
SEY Seymchan 86.21 352*c i*P P **14 45 31.5 -1.6**
SEY pmax pmax
comp=Z,15nm,1.1s
VNA3 Neumayer Olymp 86.64 180⇑P P **14 45 34.3 -1.2**
comp=Z,31nm,0.8s
M16K Timber Creek 86.69 14 IAmb IAmb 14 45 37.0
comp=Z,6.1nm,0.8s
VNA1 Neumayer--Stat 87.23 180⇑P P **14 45 37.5 -0.7**
comp=Z,43nm,1.0s
ILSW Iliamna Southw 87.27 17 IAmb IAmb 14 45 38.7
comp=Z,5.9nm,0.8s
SLKM Skilak Lake 88.53 18 IAmb IAmb 14 45 43.4
comp=Z,6.2nm,1.0s
YBH Yreka Blue Hor 88.74 43 LR LR 15 16 41.3
comp=Z,8.6nm,21.4s,baz=258,slow=30
PFO Pinyon Flats O 89.05 53 LR LR 15 17 11.8
comp=Z,372nm,21.2s,baz=238,slow=30
CLC China Lake 89.25 51 IAmb IAmb 14 46 09.9
comp=Z,11nm,1.2s
BELC Belle Mtn. Jos 89.57 53 IAmb IAmb 14 45 54.7
comp=Z,5.7nm,0.8s
DSP Deep Springs 89.73 49 P P **14 45 50.0 -0.5**
LPIG La Paz 89.73 64 LR LR 15 17 02.2
comp=Z,212nm,21.4s,baz=216,slow=30
NVAR Mina Array Bea 90.00 48 P P **14 45 50.5 -1.6**
NVAR Mina Array Bea 90.00 48 P P **14 45 50.6 -1.5**
comp=Z,2.3nm,0.8s,baz=229,slow=7.9,SNR=9.4
NVAR LR LR 15 20 09.0
comp=Z,322nm,18.8s,baz=232,slow=32
comp=Z,2.3nm,0.8s
ULN Ulaanbaatar 90.05 323 P P **14 45 51.4 -0.7**
ULN Ulaanbaatar 90.05 323*ce*P P **14 45 51.7 -0.3**
ULN pmax pmax
comp=Z,34nm,1.2s
GTA Gaotai 90.11 313 P P **14 45 53.0 +0.5**
GTA pmax pmax
comp=Z,9.0nm,1.6s
GTA LR LR
comp=Z,110nm,16.0s
GTA LR LR
comp=Z,120nm,16.7s
GTA LR LR
comp=Z,120nm,16.0s
NV11 Mina Array Sit 90.11 48 P P **14 45 51.7 -0.9**
BILL Bilibino 90.19 358 P P **14 45 52.7 +0.7**
BILL IAmb IAmb 14 45 53.6
comp=Z,12nm,0.5s
BILL Bilibino 90.19 358*ce*P P **14 45 50.6 -1.4**
BILL pmax pmax
comp=Z,21nm,1.7s
YAK Yakutsk 90.19 342 P P **14 45 50.6 -1.4**
comp=Z,6.9nm,0.3s,baz=61,slow=2.3,SNR=12
YAK LR LR 15 21 57.0
comp=Z,110nm,21.3s,baz=132,slow=33
comp=Z,6.9nm,0.3s
YAK Yakutsk 90.19 342 *e*P P **14 45 48.0 -4.1**
YAK pmax pmax
comp=Z,21nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK pmax pmax

comp=E,2.0nm,1.2s
SONM Songino Array 90.41 323 P **P** **14 45 52.9 -0.8**
SONM Songino Array 90.41 323 P **P** **14 45 53.5 -0.1**
comp=E,16nm,0.9s,baz=141,slow=5.2,SNR=53
SONM PKKPbc **PKKPdf** **15 03 21.7 +1.2**
comp=E,0.3nm,0.4s,baz=279,slow=4.0,SNR=3.6
SONM LR LR 15 28 28.9
comp=E,108nm,18.1s,baz=126,slow=37
comp=E,16nm,0.9s
SONM Songino Array 90.41 323 P **P** **14 45 52.9 -0.8**
SONM pmax pmax
comp=Z,26nm,1.1s
K05A Summer Lake 90.41 43 IAmb IAmb 14 47 15.1
comp=Z,24nm,1.7s
BERG Berg Lake 90.46 21 IAmb IAmb 14 45 53.0
comp=Z,12nm,0.8s
J05D Fort Rock, OR 90.48 43 IAmb IAmb 14 45 56.7
comp=Z,5.7nm,0.9s
N25K Chitina, Valde 91.09 20 IAmb IAmb 14 46 17.3
comp=Z,20nm,1.7s
GLB Gilahina Butte 91.21 20 IAmb IAmb 14 46 17.1
comp=Z,7.2nm,1.2s
TABL Table Mountain 91.36 22 IAmb IAmb 14 46 28.1
comp=Z,8.0nm,0.8s
BBB Bella Bella 91.45 33 LR LR 15 18 22.5
comp=Z,205nm,21.2s,baz=222,slow=30
BARN Barnard Glacie 91.63 21 IAmb IAmb 14 46 19.6
comp=Z,8.1nm,1.0s
CTGM Chitina Glacie 91.67 21 IAmb IAmb 14 45 58.4
comp=Z,6.6nm,0.9s
LOGN Logan Glacier 91.68 22 IAmb IAmb 14 46 52.7
comp=Z,11nm,1.3s
PRN Pahroc Range 91.80 50 IAmb IAmb 14 46 22.1
comp=Z,6.7nm,1.1s
O28M Mount Upton 91.92 22 IAmb IAmb 14 45 59.7
comp=Z,5.8nm,0.9s
M26K Nabesna, AK 92.19 20 IAmb IAmb 14 46 22.3
comp=Z,7.7nm,1.3s
M27K Edge Creek, AK 92.51 20 IAmb IAmb 14 46 02.4
comp=Z,4.7nm,0.9s
PALK Pallekele 92.53 277 LR LR 15 30 20.3
comp=Z,266nm,18.9s,baz=120,slow=37
HDA Harding Lake 92.56 17 IAmb IAmb 14 46 24.2
comp=Z,8.6nm,1.3s
COLA College 92.69 17⇑*i*P **P** **14 46 02.1 -1.5**
ILAR Eielson Array 92.86 17 P **P** **14 46 01.9 -2.6**
comp=Z,1.3nm,0.8s,baz=237,slow=6.4,SNR=12
ILAR PKiKP **PKiKP** **14 50 50.2 -1.8**
comp=Z,0.3nm,0.7s,baz=270,slow=1.8,SNR=4.2
comp=Z,1.3nm,0.8s
J25K Salcha River, 93.16 18 IAmb IAmb 14 46 26.3
comp=Z,15nm,1.9s
ELK Elko 93.18 47 LR LR 15 23 19.3
comp=Z,177nm,18.1s,baz=248,slow=33
ZAK Zakamensk 93.50 324 *e*P **P** **14 46 06.2 -1.7**
ZAK pmax pmax
comp=Z,13nm,1.3s
E21K Killik River 94.20 12 IAmb IAmb 14 46 10.6
comp=Z,7.1nm,0.9s
G24K Hadweenzic Riv 94.22 15 IAmb IAmb 14 47 11.7
comp=Z,11nm,1.7s
DLBC Dease Lake 94.28 27 LR LR 15 21 37.3
comp=Z,13nm,20.1s,baz=226,slow=31
E22K Anaktuvuk Pass 94.39 13 IAmb IAmb 14 46 11.6
comp=Z,9.2nm,1.4s
F24K Squaw Lake 94.77 15 IAmb IAmb 14 46 13.5
comp=Z,4.3nm,0.8s
D22K Ayikyak River 94.83 13 IAmb IAmb 14 46 14.1
comp=Z,6.3nm,0.8s
EVN Everest 94.94 298 IAmb IAmb 14 46 18.1
comp=Z,6.5nm,0.8s
I28M Miner Creek 95.33 19 IAmb IAmb 14 46 40.7
comp=Z,11nm,1.9s
G26K Porcupine Rive 95.36 16 P **P** **14 46 14.9 -0.9**
G26K IAmb IAmb 14 46 16.0
comp=Z,4.4nm,0.9s
F25K Christian Rive 95.37 15 P **P** **14 46 14.8 -1.2**
NEW Newport 95.42 40 LR LR 15 20 42.2
comp=Z,184nm,21.4s,baz=227,slow=30
PLCA Paso Flores 95.44 138 P **P** **14 46 16.3 -0.9**
comp=Z,2.9nm,0.8s,baz=232,slow=6.1,SNR=4.1
PLCA LR LR 15 19 57.5
comp=Z,68nm,21.9s,baz=242,slow=30
comp=Z,2.9nm,0.8s
TXAR Lajitas Array 97.23 61 P **P** **14 46 23.8 -1.6**
comp=Z,0.3nm,0.8s,baz=201,slow=6.6,SNR=3.7
TXAR PKKPbc **PKKPbc** **15 03 04.9 +0.1**
comp=Z,0.4nm,0.7s,baz=82,slow=2.7,SNR=5.4
TXAR LR LR 15 21 21.5
comp=Z,165nm,21.7s,baz=242,slow=30
comp=Z,0.3nm,0.8s
E28M Babbage River 97.67 16 IAmb IAmb 14 46 26.3
comp=Z,3.0nm,0.8s
PDAR Pinedale Array 97.88 47 LR LR 15 22 52.4
comp=Z,124nm,21.4s,baz=242,slow=31
TIXI Tiksi 98.03 348 LR LR 15 28 24.6
comp=Z,99nm,20.2s,baz=166,slow=34
WMQ Urumqi 100.19 313 *e*P **Pdif** **14 46 40.3 +2.0**
MKAR Makanchi Array 104.77 315 Pdiff **Pdif** **14 46 58.5 0.0**
comp=Z,0.4nm,0.6s,baz=98,slow=6.2,SNR=4.3
MKAR PKiKP **PKiKP** **14 51 12.2 -1.6**
comp=Z,2.1nm,1.0s,baz=113,slow=3.7,SNR=4.2
MKAR PKKPbc **PKKPbc** **15 02 41.3 -2.2**
comp=Z,1.4nm,0.8s,baz=300,slow=2.7,SNR=12
ZALV Zalesovo Beam 105.30 322 Pdiff **Pdif** **14 46 59.9 -0.8**
comp=Z,0.7nm,0.6s,baz=114,slow=7.3,SNR=4.8
ZALV PKKPbc **PKKPbc** **15 02 40.1 -1.9**
comp=Z,0.7nm,0.6s,baz=280,slow=4.2,SNR=3.7
KURBB **Kurchatov Arra 108.17 318** PKiKP **PKiKP** **14 51 18.4 -1.5**
comp=Z,0.8nm,0.2s,baz=98,slow=2.0,SNR=8.5
KURBB PKKPbc **PKKPbc** **15 02 30.4 -2.5**
comp=Z,1.0nm,0.9s,baz=283,slow=3.8,SNR=6.8
BVAR Borovoye Array 113.55 320 PKiKP **PKiKP** **14 51 28.9 -1.2**
comp=Z,2.1nm,0.8s,baz=122,slow=2.3,SNR=8.9
BRVK Borovoye 113.62 320*c* *i*PKIKP **PKiKP** **14 51 29.6 -0.6**
ARTI Arti 120.54 323 *i* PKIKP **PKPdf** **14 51 41.8 -1.6**
ARTI 14 53 07.4
ARTI 14 58 53.7
ARTI SS SS 15 10 00.5 +22
SPITS Spitsbergen Ar 122.82 354 PKP **PKPdf** **14 51 45.8 -1.5**
comp=Z,8.6nm,0.8s,baz=120,slow=12,SNR=5.2
BDFB Brasília 126.63 132 PKP **PKPdf** **14 51 55.2 -1.3**
comp=Z,3.7nm,0.5s,baz=182,slow=6.8,SNR=5.8
SCHQ Schefferville 126.71 37 PKP **PKPdf** **14 51 53.1 -2.2**
comp=Z,8.3nm,1.0s,baz=35,slow=5.0,SNR=5.1
BELG Belogornoye 127.36 320 *i* PKIKP **PKPdf** **14 51 55.7 -0.9**
BELG pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 128.37 345 PKP **PKPdf** **14 51 56.6 -1.5**
comp=Z,2.7nm,0.5s,baz=74,slow=1.6,SNR=20
KIV Kislovodsk 132.18 310 *i* PKIKP **PKPdf** **14 52 04.1 -2.1**
KIV pmax pmax
comp=Z,6.0nm,1.1s
OBN Obninsk 132.73 326 *i* PKIKP **PKPdf** **14 52 03.9 -2.8**
OBN pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 133.91 337 PKP **PKPdf** **14 52 05.4 -3.4**
comp=Z,4.9nm,1.0s,baz=90,slow=4.6,SNR=6.2
MNK Minsk 137.41 328 *i* PKIKP **PKPdf** **14 52 11.6 -3.9**
MNK *i* 14 52 13.9
MNK *i* 14 54 57.5
MNK *i* PPP PPP 14 57 56.9
MNK *i* 14 59 22.4
MNK *i* SS SS 15 13 06.6 0.0
MNK *i* SSS SSS 15 18 09.6
MNK pmax pmax
comp=Z,8.0nm,0.5s
MNK pmax pmax
comp=N,11nm,0.7s
MNK pmax pmax
comp=E,7.0nm,0.6s
MNK MLR MLR
comp=E,86nm,23.0s
MNK MLR MLR
comp=Z,137nm,22.0s
MNK MLR MLR
comp=N,76nm,21.0s
AKASG Malin Array Be 138.69 323 PKP **PKPdf** **14 52 15.1 -2.9**
comp=N,2.3nm,0.8s,baz=50,slow=2.8,SNR=7.1
AKBB Malin Array Si 138.69 323 PKP **PKPdf** **14 52 18.4 +0.4**
AK09 Malin Array Si 138.70 323 PKP **PKPdf** **14 52 17.9 -0.1**
NB2 NORSAR Subarra138.75 345 PKP PKPpre 14 52 07.6
comp=Z,2.9nm,0.9s,baz=27,slow=2.7
NOA NORSAR Array B 138.75 345 PKhKP PKPpre 14 52 05.9
comp=Z,1.6nm,0.9s,baz=16,slow=4.7,SNR=4.5
NOA PKP PKPpre 14 52 14.5
comp=Z,1.1nm,0.6s,baz=18,slow=3.1,SNR=4.7
HFS Hagfors 138.88 343 PKhKP PKPpre 14 52 13.7
comp=Z,2.1nm,0.6s,baz=134,slow=4.3,SNR=6.7
HFS PKP **PKPdf** **14 52 18.9 +0.9**
comp=Z,2.8nm,0.8s,baz=88,slow=4.5,SNR=3.8
BRTR Keskin Array B 139.61 306 PKhKP PKPpre 14 52 15.9
comp=Z,1.1nm,0.8s,baz=135,slow=0.7,SNR=5.4
TPGR Topolog 141.74 315⇑P PKPpre 14 52 19.7
TSCT Constanta Port 141.85 314⇓P PKiKP 14 52 35.6 +8.8
BURAR Bucovina Array 142.50 321⇑P **PKPdf** **14 52 25.4 +0.3**
NEHR Neiloiu 142.87 317⇑P **PKPdf** **14 52 26.9 +1.2**
ARCR ARCALIA 143.27 320⇑P PKPbc 14 52 24.2 +0.8
KOLS Kolonicke sedl 143.44 324 *e*PKIKP PKPbc 14 52 24.1 +0.2
KOLS Kolonicke sedl 143.44 324 *e*PKP PKPbc 14 52 24.1 +0.2
STHS Stebnicka Huta 143.71 326 *e*PKIKP PKPbc 14 52 24.2 -0.4
STHS Stebnicka Huta 143.71 326 *e*PKP PKPbc 14 52 24.2 -0.4
CJR Cluj-Napoca 143.90 320⇓P PKPbc 14 52 25.3 -0.1
HUMR Humele 144.10 316⇑P **PKPab** **14 52 25.3 -0.2**
ELND Elena 144.19 313⇑P PKPbc 14 52 26.0 -0.3
MARR Marisel-Cluj 144.21 321⇓P PKPbc 14 52 26.3 -0.1
DRGR 144.38 321⇑P PKPbc 14 52 26.8 -0.1
DEV Deva 144.74 320⇑P **PKPab** **14 52 27.7 -0.1**
LANS Liptovska Anna 144.79 327 *e*PKIKP **PKPdf** **14 52 28.7 -0.3**
LANS Liptovska Anna 144.79 327 *e*PKP **PKPdf** **14 52 28.7 -0.3**
CAVK Edirne/Enez-Ca 144.83 310⇑P **PKPab** **14 52 24.1 -4.2**
PLVB Pleven 144.84 315⇑P PKPbc 14 52 28.4 +0.1
OKC Ostrava-Krasne 145.00 328 *e*PKP **PKPbc** **14 52 28.2 -0.4**
OKC Ostrava-Krasne 145.00 328 *e*PKIKP **PKPbc** **14 52 28.2 -0.4**
GZR Gura Zlata 145.07 319⇓P **PKPbc** **14 52 28.9 -0.2**
STEB Steborice 145.12 329 *e*PKP **PKPbc** **14 52 28.6 -0.4**
SRE Strehaia 145.16 318⇓P **PKPdf** **14 52 30.9 +1.2**
KSP Ksiaz 145.18 331 *e*PKP **PKPbc** **14 52 28.7 -0.5**
SURR Surduc 145.28 320⇓P **PKPbc** **14 52 27.0 -2.7**
SIRR Siria 145.28 321⇑P **PKPbc** **14 52 29.6 -0.1**
PSZ Piszkesteto 145.32 325⇑P **PKPbc** **14 52 29.8 -0.1**
MORC Moravsky Berou 145.34 329 *e*PKP **PKPbc** **14 52 29.2 -0.6**
MORC Moravsky Berou 145.34 329⇑P **PKPbc** **14 52 29.1 -0.6**
OSTC Ostas 145.41 331 *e*PKP **PKPbc** **14 52 29.9 -0.1**
OSTC AMS AMS 15 59 30.0
comp=Z,200nm,21.1s
OSTC Ostas 145.41 331 *e*PKIKP **PKPbc** **14 52 29.9 -0.1**
OSTC MLR MLR
comp=Z,200nm,21.1s
CHVC Chvalec 145.47 331 *e*PKP **PKPdf** **14 52 29.9 -0.2**
CHVC Chvalec 145.47 331 *e*PKIKP **PKPdf** **14 52 29.9 -0.2**
MAUC Maruska 145.47 328 *e*PKP **PKPab** **14 52 30.3 -0.1**
BSZH Besenyszg 145.49 323⇓P **PKPab** **14 52 31.3 +0.8**
KRLC Kraliky 145.49 330 *e*PKP **PKPdf** **14 52 30.0 -0.2**
KRLC Kraliky 145.49 330 *e*PKIKP **PKPdf** **14 52 30.0 -0.2**
DPC Dobruska-Polom 145.51 330 *e*PKP **PKPdf** **14 52 30.1 -0.1**
DPC AMS AMS 15 58 50.0
comp=Z,200nm,18.0s
DPC Dobruska-Polom 145.51 330 *e*PKIKP **PKPdf** **14 52 30.1 -0.1**
DPC MLR MLR
comp=Z,200nm,18.0s
VYHS Vyhne 145.53 326 *e*PKIKP **PKPab** **14 52 30.9 +0.3**
VYHS Vyhne 145.53 326 *e*PKP **PKPab** **14 52 30.9 +0.3**
UPC Upice 145.54 331 *e*PKP **PKPbc** **14 52 30.3 -0.1**
UPC Upice 145.54 331 *e*PKIKP **PKPbc** **14 52 30.3 -0.1**
HERR Herculane 145.55 318⇓P **PKPdf** **14 52 30.2 -0.2**
BZS Buzias 145.65 320⇑P **PKPdf** **14 52 30.4 -0.1**
JAVC Velka Javorina 145.88 327 *e*PKP **PKPab** **14 52 32.3 +0.3**
VRAC Vranov 146.11 329 *e*PKP **PKPbc** **14 52 31.9 -0.3**
VRAC Vranov 146.11 329⇓P **PKPdf** **14 52 31.6 +0.3**
PVCC Panska Ves 146.16 332 *e*PKP **PKPbc** **14 52 32.1 -0.2**
PVCC Panska Ves 146.16 332 *e*PKP2 **PKPbc** **14 52 32.1 -0.2**
BRG Berggiesshubel 146.17 333 *e*PKP **PKPbc** **14 52 31.8 -0.5**
BRG Amp 14 52 33.1
comp=Z,42nm,0.7s
BRG Berggiesshubel 146.17 333 P PKiKP 14 52 43.7 +8.2
BRG Amp 14 52 46.6
comp=Z,12nm,0.8s
CLL Collm 146.23 334⇑*i*PKP2 **PKPdf** **14 52 31.6 +0.3**
CLL pmax pmax
comp=Z,46nm,0.9s
CLL Collm 146.23 334⇑*i*PKPbc **PKPdf** **14 52 31.6 +0.3**
comp=Z,46nm,0.9s
CLL *e*PP **PP** **14 55 55.0 +0.7**
CLL *e*SKPdf **SKPdf** **14 56 06.0 +2.1**
CLL AMS AMS 15 57 00.0
comp=Z,100nm,19.9s
RICC Richard 146.35 333 *e*PKP **PKPab** **14 52 33.4 -0.3**
KRUC Moravsky 146.37 329 *e*PKP **PKPbc** **14 52 32.5 -0.4**
MODS Modra-Piesok 146.40 327 *e*PKIKP **PKPdf** **14 52 30.5 -1.3**
MODS Modra-Piesok 146.40 327 *e*PKP **PKPdf** **14 52 30.5 -1.3**
GOPC GO Pecny, Ondr 146.52 331 *e*PKP **PKPbc** **14 52 33.3 -0.1**
GOPC GO Pecny, Ondr 146.52 331 *e*PKP2 **PKPbc** **14 52 33.3 -0.1**
PRU Pruhonice 146.57 331 *e*PKP **PKPbc** **14 52 32.7 -0.8**
PRU Pruhonice 146.57 331 *e*PKP2 **PKPbc** **14 52 32.7 -0.8**
BOVS Bovan 146.61 317⇑P **PKPbc** **14 52 33.5 -0.3**
TREC Trest 146.64 330 *e*PKP **PKPbc** **14 52 33.3 -0.4**
TREC AMS AMS 15 59 20.0
comp=Z,200nm,21.8s
TREC Trest 146.64 330 *e*PKP2 **PKPbc** **14 52 33.3 -0.4**
TREC MLR MLR
comp=Z,200nm,21.8s
EKA Eskdalemuir Ar 146.74 353 PKPbc **PKPdf** **14 52 32.4 +0.3**
comp=Z,32nm,0.7s,baz=342,slow=2.6,SNR=87
MORH Mrgy, Hungar 147.03 323 *e*P **PKPbc** **14 52 34.0 -0.9**
MORH Mrgy, Hungar 147.03 323⇓P **PKPbc** **14 52 34.6 -0.3**
VAY Valandovo 147.10 313 *i* P **PKPdf** **14 52 33.9 +0.8**
ZVC Zvikov 147.13 331 *e*PKP **PKPbc** **14 52 34.8 -0.3**
RONA Rosalia, Austr 147.34 327 *e*PKP **PKPbc** **14 52 35.3 -0.5**
comp=Z,22nm,0.9s,SNR=16
CONA Conrad Observa 147.40 328 *i* PKP **PKPbc** **14 52 35.4 -0.6**
comp=Z,18nm,1.0s,SNR=12
CKRC Cesky Krumlov 147.52 330 *e*PKP **PKPbc** **14 52 36.0 -0.2**
CKRC AMS AMS 16 01 20.0
comp=Z,200nm,17.1s
CKRC Cesky Krumlov 147.52 330 *e*PKP2 **PKPbc** **14 52 36.0 -0.2**
CKRC MLR MLR
comp=Z,200nm,17.1s
SKO Skopje 147.57 314 *i* P **PKPbc** **14 52 36.2 -0.4**
KHC Kasperske Hory 147.63 331 *e*PKP **PKPbc** **14 52 35.9 -0.6**
KHC AMS AMS 15 56 40.0
comp=Z,200nm,22.5s
KHC Kasperske Hory 147.63 331 *e*PKP2 **PKPbc** **14 52 35.9 -0.6**
KHC MLR MLR
comp=Z,200nm,22.5s
GERES GERESS Array B 147.78 331 PKPbc **PKPbc** **14 52 36.2 -0.8**
comp=Z,23nm,1.0s,baz=40,slow=2.3,SNR=70
ARSA Arzberg 148.03 327 *e*PKP **PKPbc** **14 52 36.6 -1.1**
comp=Z,13nm,1.1s
RUDO Rudo 148.07 318 *e*P **PKPbc** **14 52 38.5 +0.6**
MOA Molln 148.23 329 *i* PKP **PKPbc** **14 52 37.2 -1.0**
comp=Z,6.7nm,0.6s
OHR Ohrid 148.39 313 *i* P **PKPbc** **14 52 38.3 -0.5**
MOSL Moslavina 148.44 324 *e*P **PKPbc** **14 52 37.8 -1.0**
BIOA Bad Ischl, Aus 148.64 329 *i* pPKP **PKPbc** **14 52 37.9 -1.4**
comp=Z,12nm,1.1s
SOKA Soboth 148.66 327 *i* pPKP **PKPbc** **14 52 38.3 -1.2**
comp=Z,17nm,1.0s,SNR=7.9
A051A Mrakovica 148.73 323 *e*P **PKPbc** **14 52 38.7 -0.9**
BLY Banja Luka 148.73 322 *e*P **PKPbc** **14 52 38.7 -0.8**
BLY Banja Luka 148.73 322⇓P **PKPbc** **14 52 39.5 0.0**
OBKA Obir 149.02 327 *i* pPKP **PKPbc** **14 52 39.0 -1.3**
comp=Z,11nm,1.1s,SNR=6.8
KBA Koelnbreinsper 149.22 329 *ep*PKP **PKPbc** **14 52 39.3 -1.6**
comp=Z,14nm,0.8s
BEBN Eben Emael 149.24 341 *d*PKP **PKPab** **14 52 44.6 -0.5**
A050A Klekovaca 149.26 322 *e*P **PKPab** **14 52 44.9 -0.6**
BTNL Ternell 149.29 340 *d*PKP **PKPdf** **14 52 37.8 +1.4**
LESA Schwarzleotal 149.29 330 *i* pPKP **PKPbc** **14 52 39.6 -1.4**
comp=Z,28nm,0.9s,SNR=14
MEM Membach 149.30 340 *d*PKP **PKPbc** **14 52 39.4 -1.4**
MYKA Terra Mystica 149.39 328 *ep*PKP **PKPbc** **14 52 39.6 -1.7**
comp=Z,14nm,0.8s,SNR=9.1
BSTI Sart Tilman 149.46 341 *d*PKP **PKPbc** **14 52 40.0 -1.1**
BHOU Houvegnez 149.53 340 *d*PKP **PKPbc** **14 52 40.0 -1.4**
UCC Uccle 149.62 342 *d*PKP **PKPbc** **14 52 40.6 -1.0**
KIJV Kijevo 149.62 321 *e*P **PKPbc** **14 52 40.2 -1.6**
BGES Gesves 149.78 341 *d*PKP **PKPbc** **14 52 40.7 -1.3**
ABTA Abfaltersbach 149.86 329 *ep*PKP **PKPbc** **14 52 40.7 -1.7**
comp=Z,28nm,1.0s,SNR=8.9
WATA Walderalm 149.86 331 *i* pPKP **PKPbc** **14 52 41.1 -1.4**
comp=Z,16nm,0.7s,SNR=6.5
WTTA Wattenberg 149.88 331 *i* pPKP **PKPbc** **14 52 41.5 -1.1**
comp=Z,21nm,0.6s,SNR=11
RCHB Rochefort 149.94 341 *d*PKP **PKPbc** **14 52 41.6 -0.7**
BMRD Maredsous 149.95 342 *d*PKP **PKPbc** **14 52 41.2 -1.1**
MOTA Moosalm 150.06 331 *i* pPKP **PKPbc** **14 52 41.6 -1.3**
comp=Z,31nm,0.8s,SNR=14
WLF Walferdange 150.08 339 *d*PKP **PKPbc** **14 52 40.4 -2.3**
RETA Reutte 150.10 332 *i* pPKP **PKPbc** **14 52 41.7 -1.3**
comp=Z,15nm,0.9s,SNR=6.5
SQTA Sankt Quirin 150.11 331 *i* pPKP **PKPbc** **14 52 42.0 -1.0**
comp=Z,39nm,0.9s,SNR=11
DOU Dourbes 150.18 342 *d*PKP **PKPbc** **14 52 42.0 -1.0**
FETA Feichten 150.47 331 *i* pPKP **PKPbc** **14 52 43.0 -0.9**
comp=Z,28nm,0.8s,SNR=18
BRJN Brijuni 150.52 325 *e*P **PKPbc** **14 52 42.9 -1.0**
DAVA Damuels 150.64 333 *e*PKP **PKPbc** **14 52 43.5 -0.8**
comp=Z,23nm,0.8s
MATE Matera 151.32 316⇓P **PKPbc** **14 52 45.9 0.0**
KEST Kesra 158.85 313 PKPab **PKPab** **14 53 25.9 -0.6**
comp=Z,2.0nm,0.6s,baz=341,slow=5.6,SNR=4.3
ESDC Sonseca Array 162.11 346 PKP **PKPdf** **14 52 53.4 -0.5**
comp=Z,0.3nm,0.3s,baz=342,slow=1.7,SNR=2.2
ESDC PKPab **PKPab** **14 53 37.5 -2.8**
comp=Z,0.7nm,0.7s,baz=2.1,slow=4.7,SNR=7.1
DBIC Dimbokro 163.76 197 PKP **PKPdf** **14 52 55.2 -0.9**
comp=Z,6.8nm,1.2s,baz=299,slow=3.6,SNR=3.2
DBIC PKPab **PKPab** **14 53 47.3 -0.8**
comp=Z,8.0nm,0.9s,baz=178,slow=4.7,SNR=4.4
TORD Torodi Ar. Bea 165.93 231 PKP **PKPdf** **14 52 57.2 -0.8**
comp=Z,5.9nm,1.0s,baz=354,slow=2.3,SNR=16
TORD PKPab **PKPab** **14 53 57.6 -0.3**
comp=Z,1.0nm,0.8s,baz=112,slow=3.9,SNR=3.6

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*IDC **30** 14:47:05.5±1.2, 30.48S×179.48W, h357km±11km, mb3.3/5, mbtmp4.1/7, Error ellipse: s-maj=27.1km s-min=16.6km az=142.0*
*NEIC **30** 14:47:06.6±1.0, 30.14S±0.08×179.6W±0.2, h353km±7km, mb4.1/15, Error ellipse: s-maj=22.8km s-min=7.2km az=65.0*
ISC 30 14:47:04.9±0.6, **30.39S**±0.07×**179.40W**±0.10, **h350**km, **n77**, σ1**82**/75, **mb3.9**/14, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.71**	**49**	P	**Pn**	**14 47 55.3**	**+1.0**
GLKZ				S	**S**	**14 48 34.6**	**+0.6**
RIZ	**Raoul Island**	**1.71**	**49**	P	**Pn**	**14 47 56.0**	**+1.6**
RAO	**Raoul Island**	**1.72**	**49**	Pn	**Pn**	**14 47 55.9**	**+1.5**
RAO	**Raoul Island**	**1.72**	**49**	P	**Pn**	**14 47 56.0**	**+1.6**
	546nm,0.3s,baz=103,slow=11,SNR=11						
RAO				S	**S**	**14 48 31.8**	**-2.3**
	571nm,0.3s,baz=96,slow=20,SNR=5.4						
MXZ	**Matakaoa Point**	**7.40**	**194**	Pn	Pn	14 48 50.5	-1.3
MXZ	**Matakaoa Point**	**7.40**	**194**	P	**Pn**	**14 48 54.5**	**+2.6**
MXZ				S	S	14 50 13.9	-4.9
OUZ	**Omahuta**	**7.61**	**229**	P	**Pn**	**14 48 58.2**	**+3.8**
WCZ	**Waipu Caves**	**7.62**	**222**	P	**Pn**	**14 48 58.8**	**+4.3**
WMGZ	**Waiomatatini S**	**7.62**	**193**	P	**Pn**	**14 48 54.3**	**-0.2**
WMGZ				S	S	14 50 19.7	-4.1
HAZ	**Te Kaha**	**7.71**	**197**	P	**Pn**	**14 48 56.0**	**+0.5**
HAZ				S	S	14 50 21.1	-4.4
PKGZ	**Pakihiroa**	**7.74**	**195**	P	**Pn**	**14 48 57.7**	**+1.8**
PKGZ				S	S	14 50 17.1	-9.2
PUZ	**Puketiti**	**7.90**	**194**	P	**Pn**	**14 49 01.4**	**+3.6**
PUZ				S	S	14 50 25.3	-4.5
RUGZ	**Raukumara Rang**	**7.93**	**197**	P	**Pn**	**14 48 57.6**	**-0.7**
RUGZ				S	S	14 50 26.9	-3.8
TWGZ	**Tauwhareparae**	**8.06**	**195**	P	**Pn**	**14 49 03.0**	**+3.3**
TWGZ				S	**S**	**14 50 30.8**	**-2.5**
AWAZ	**Awhitu Peninsu**	**8.30**	**215**	P	**Pn**	**14 49 04.5**	**+2.0**
CNGZ	**Carnagh Statio**	**8.31**	**193**	P	**Pn**	**14 49 03.7**	**+1.1**
MWZ	**Matawai**	**8.32**	**197**	P	Pn	14 49 00.4	-2.3
TKGZ	**Te Karaka**	**8.34**	**195**	P	**Pn**	**14 49 05.9**	**+2.9**
TKGZ				S	S	14 50 35.2	-4.1
URZ	**Urewera**	**8.36**	**199**	P	**Pn**	**14 49 03.5**	**+0.3**
	8.6nm,0.3s,baz=18,slow=18,SNR=40						
URZ				S	**S**	**14 50 38.1**	**-1.6**
	83nm,0.5s,baz=268,slow=23,SNR=22						
URZ	**Urewera**	**8.36**	**199**	P	**Pn**	**14 49 03.0**	**-0.2**
URZ				S	**S**	**14 50 37.7**	**-2.1**
RIGZ	**Rimuhau**	**8.62**	**195**	P	**Pn**	**14 49 07.8**	**+1.5**
RIGZ				S	S	14 50 40.3	-5.1
MUGZ	**Murupara**	**8.66**	**200**	P	**Pn**	**14 49 08.2**	**+1.4**
MUGZ				S	S	14 50 41.9	-4.4
HRRZ	**Handcock Road**	**8.74**	**203**	P	**Pn**	**14 49 11.5**	**+3.8**
SNGZ	**Shannon Statio**	**8.79**	**197**	P	Pn	14 49 06.7	-1.6
PRGZ	**Paritu Road**	**8.80**	**194**	P	**Pn**	**14 49 09.7**	**+1.2**
PRGZ				S	S	14 50 45.2	-4.2
PRRZ	**Plateau Road**	**8.80**	**202**	P	**Pn**	**14 49 11.0**	**+2.6**
ALRZ	**Allen Road**	**8.87**	**202**	P	**Pn**	**14 49 11.4**	**+2.1**
KNZ	**Kokohu**	**8.94**	**195**	P	**Pn**	**14 49 12.0**	**+2.0**
RAHZ	**Arahi**	**8.98**	**198**	P	**Pn**	**14 49 11.9**	**+1.3**
KUTZ	**Kaahu Road**	**8.99**	**205**	P	**Pn**	**14 49 14.6**	**+3.9**
MHGZ	**Mahia Peninsul**	**9.01**	**193**	P	**Pn**	**14 49 13.8**	**+2.8**
MRHZ	**Matea Rd**	**9.10**	**201**	P	**Pn**	**14 49 12.4**	**+0.4**
NMHZ	**Naumai**	**9.23**	**199**	P	**Pn**	**14 49 15.1**	**+1.6**
ARHZ	**Aropaoanui**	**9.33**	**198**	P	**Pn**	**14 49 15.8**	**+1.1**
BKZ	**Black Stump Fm**	**9.38**	**200**	Pn	Pn	14 49 13.7	-1.6
BKZ	**Black Stump Fm**	**9.38**	**200**	P	**Pn**	**14 49 16.3**	**+0.9**
HIZ	**Hauiti**	**9.38**	**209**	P	**Pn**	**14 49 19.5**	**+4.1**
VRZ	**Vera Road**	**9.94**	**207**	P	**Pn**	**14 49 24.8**	**+2.7**
PWZ	**Pawanui**	**10.09**	**197**	P	**Pn**	**14 49 25.3**	**+1.5**
PXZ	**Pawanui**	**10.09**	**197**	P	**Pn**	**14 49 25.1**	**+1.4**
BHW	**Baring Head**	**11.93**	**201**		P	14 49 42.9	-2.6
TUWZ	**Tuamarina**	**12.26**	**204**	P	P	14 49 46.1	-3.1
TKNZ	**Takaka Hill**	**12.29**	**208**	P	P	14 49 47.3	-2.3
MRNZ	**Matariki Terra**	**12.68**	**208**	P	P	14 49 52.1	-1.9
GVZ	**Greta Valley S**	**13.93**	**204**	P	**P**	**14 50 06.8**	**-0.9**
DZM	**Mont Dzumac**	**15.16**	**300**	P	**Pn**	**14 50 22.2**	**-1.6**
	3.7nm,1.0s,baz=135,slow=14,SNR=5.7						
STKA	**Stephens Creek**	**33.30**	**257**	P	**P**	**14 53 10.9**	**-0.1**
	0.8nm,0.4s,baz=108,slow=13,SNR=2.0						
	0.8nm,0.4s						
BBOO	**Buckleboo**	**37.81**	**254**	P	**P**	**14 53 49.8**	**+0.7**
BBOO				IAmb	IAmb	14 54 03.5	
	comp=Z,12nm,1.2s						
AS31	**Alice Springs**	**41.90**	**268**	P	**P**	**14 54 21.9**	**-0.6**
ASAR	**Alice Springs**	**41.90**	**268**	P	**P**	**14 54 22.0**	**-0.6**
ASAR	**Alice Springs**	**41.90**	**268**	P	**P**	**14 54 21.9**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=104,slow=7.0,SNR=23						
ASAR				PcP	**sP**	**14 56 10.6**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=113,slow=3.8,SNR=4.6						
	comp=Z,0.6nm,0.5s						
WR8	**Warramunga Arr**	**42.74**	**273**	P	**P**	**14 54 28.4**	**-0.9**
WR8				IAmb	IAmb	14 54 30.4	
	comp=Z,7.4nm,1.2s						
WRA	**Warramunga Arr**	**42.89**	**273**	P	**P**	**14 54 29.5**	**-1.0**
WRA	**Warramunga Arr**	**42.89**	**273**	P	**P**	**14 54 29.7**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=111,slow=7.7,SNR=35						
WRA				PcP	**PcP**	**14 56 11.4**	**-2.7**
	comp=Z,0.7nm,0.9s,baz=125,slow=2.5,SNR=3.7						
	comp=Z,1.9nm,0.5s						
WB0	**Warramunga Arr**	**42.91**	**273**	P	**P**	**14 54 29.6**	**-1.0**
WB0				IAmb	IAmb	14 54 31.3	
	comp=Z,3.0nm,0.7s						
KNRA	**Kununurra**	**49.50**	**275**	P	**P**	**14 55

FINES	**FINESS Array B**	**144.72**	**339**	PKP	**PKPab**	**15 05 59.2**	**-0.4**
	comp=Z,7.1nm,0.6s,baz=52,slow=4.4,SNR=59						
NB2	**NORSAR Subarra**	**148.55**	**350**	PKP	**PKPbc**	**15 06 10.3**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=15,slow=2.6						
NOA	**NORSAR Array B**	**148.55**	**350**	PKPbc	**PKPbc**	**15 06 10.2**	**0.0**
	comp=Z,1.1nm,0.6s,baz=16,slow=4.2,SNR=5.1						
HFS	**Hagfors**	**148.99**	**347**	PKPbc	**PKPbc**	**15 06 11.1**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=67,slow=3.4,SNR=10						
AKASG	**Malin Array Be**	**150.55**	**322**	PKPbc	**PKPbc**	**15 06 14.9**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=56,slow=2.3,SNR=8.3						
BRTR	**Keskin Array B**	**151.53**	**298**	PKPbc	**PKPbc**	**15 06 18.0**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=139,slow=5.8,SNR=5.4						

*IDC **30** 14:51:16.0±0.8,30.11N×143.00E, h0km, mb3.7/9, mbtmp3.7/14, ML3.2/5, Error ellipse: s-maj=24.8km s-min=16.6km az=78.0*
*JMA **30** 14:51:16.4±0.3,30.2N±0.7×14.3E±, h53km, MV4.3/16, FAR E OFF IZU ISLANDS*

ISC 30 14:51:20.0±0.7, 30.13N±0.05×142.8E±0.1, h30km, n20, σ1s89/26, mb3.8/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.06**	**190**	*eP*		**Pn**	**Pn**	**14 52 05.5**	**-0.9**
CBIJ				*eS*		**Sn**	**Sn**	**14 52 41.4**	**-0.7**
JCJ	**Chichijima**	**3.06**	**190**	Pn		**Pn**	**Pn**	**14 52 05.5**	**-0.9**
	4.9nm,0.3s,baz=353,slow=21,SNR=15								
JCJ				Sn		**Sn**	**Sn**	**14 52 38.8**	**-3.3**
	33nm,0.3s,baz=289,slow=22,SNR=10								
	37nm,0.7s								
JHH2	**Haha-jima-NKT2**	**3.52**	**189**	*eP*		**Pn**	**Pn**	**14 52 11.2**	**-1.5**
JHH2				*eS*		**Sn**	**Sn**	**14 52 52.1**	**-1.2**
JHCJ	**Hachijojimakas**	**3.88**	**320**	*eS*		**Sn**	**Sn**	**14 53 01.3**	**-0.8**
JHJ2	**Mitsune**	**3.90**	**320**	*eP*		**Pn**	**Pn**	**14 52 17.1**	**-0.7**
JHJ	**Hachijo jima 2**	**3.92**	**320**	Pn		**Pn**	**Pn**	**14 52 17.0**	**-1.1**
	5.2nm,0.3s,baz=321,slow=11,SNR=16								
JHJ				Sn		**Sn**	**Sn**	**14 52 58.3**	**-4.9**
	24nm,0.3s,baz=259,slow=23,SNR=8.1								
	38nm,0.6s								
BSO1	**Boso 1**	**4.76**	**342**	*eP*		**Pn**	**Pn**	**14 52 27.4**	**-1.8**
BSO1				*eS*		**Sn**	**Sn**	**14 53 20.9**	**-2.1**
BSO3	**Boso 3**	**5.04**	**338**	*eP*		**Pn**	**Pn**	**14 52 32.5**	**-0.8**
MJAR	**Matsushiro Arr**	**7.45**	**330**	Pn		**Pn**	**Pn**	**14 53 06.3**	**-0.3**
	0.3nm,0.3s,baz=159,slow=11,SNR=15								
MJAR				Sn		**Sn**	**Sn**	**14 54 27.4**	**-2.7**
	0.3nm,0.3s,baz=162,slow=18,SNR=7.7								
	2.2nm,0.5s								
ASAJ	**Asahikawa**	**13.96**	**359**	Pn		**Pn**	**Pn**	**14 54 34.3**	**-1.4**
	0.2nm,0.3s,baz=212,slow=13,SNR=2.1								
	5.2nm,1.0s								
KSRS	**Korea Array**	**14.34**	**305**	Pn		**Pn**	**Pn**	**14 54 41.8**	**+1.0**
	0.1nm,0.3s,baz=112,slow=13,SNR=4.8								
	0.8nm,0.6s								
SONM	**Songino Array**	**32.96**	**313**	P		**P**	**P**	**14 57 53.8**	**+1.7**
	0.3nm,0.3s,baz=97,slow=8.8,SNR=2.1								
	0.3nm,0.3s								
ZALV	**Zalesovo Beam**	**47.58**	**317**	P		**P**	**P**	**14 59 55.7**	**+2.9**
	0.4nm,0.4s,baz=81,slow=8.9,SNR=2.1								
	0.4nm,0.4s								
MKAR	**Makanchi Array**	**48.99**	**308**	P		**P**	**P**	**15 00 05.7**	**+1.9**
	0.8nm,0.7s,baz=87,slow=11,SNR=7.0								
	0.8nm,0.7s								
WRA	**Warramunga Arr**	**50.44**	**190**	P		**P**	**P**	**15 00 15.4**	**+0.4**
	0.3nm,0.5s,baz=12,slow=8.1,SNR=7.3								
	0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**51.33**	**313**	P		**P**	**P**	**15 00 23.6**	**+2.2**
	0.7nm,0.6s,baz=93,slow=7.0,SNR=9.4								
	0.7nm,0.6s								
ASAR	**Alice Springs**	**54.16**	**190**	P		**P**	**P**	**15 00 43.0**	**+0.4**
	0.2nm,0.4s,baz=3.2,slow=4.9,SNR=11								
	0.2nm,0.4s								
ILAR	**Eielson Array**	**54.82**	**30**	P		**P**	**P**	**15 00 46.1**	**-0.8**
	0.5nm,0.8s,baz=255,slow=6.5,SNR=7.7								
	0.5nm,0.8s								
NVAR	**Mina Array Bea**	**78.25**	**52**	P		**P**	**P**	**15 03 17.8**	**+0.4**
	0.6nm,0.4s,baz=294,slow=5.7,SNR=5.5								
	0.6nm,0.4s								
TXAR	**Lajitas Array**	**93.38**	**53**	P		**P**	**P**	**15 04 33.0**	**+0.2**
	0.9nm,0.9s,baz=323,slow=3.8,SNR=7.0								
	0.9nm,0.9s								

*IDC **30** 15:01:26.6±3.1,7.06S×129.36E, h138km±37km, mb3.5/5, mbtmp4.1/10, Error ellipse: s-maj=29.8km s-min=24.9km az=5.0*
*NEIC **30** 15:01:28.1±1.7,7.02S±0.04×129.31E±0.10, h170km±11km, mb4.1/6, Error ellipse: s-maj=14.4km s-min=5.9km az=100.0*

ISC 30 15:01:27.7±0.6, 7.21S±0.06×129.23E±0.05, h156km, n40, σ2s25/45, mb3.7/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.19**	**111**	Pn		**Pn**	**Pn**	**15 02 08.0**	**+2.6**
SAUI							**Sn**	**15 02 35.1**	**+0.6**
SAUI	**Saumlaki**	**2.19**	**111**	P		**Pn**	**Pn**	**15 02 08.8**	**+3.3**
FAKI	**Fak Fak**	**5.22**	**35**	Pn		**Pn**	**Pn**	**15 02 41.9**	**-2.3**
FAKI	**Fak Fak**	**5.22**	**35**	P		**Pn**	**Pn**	**15 02 42.1**	**-2.1**
DRS	**Darwin Rock St**	**5.44**	**163**	P		**Pn**	**Pn**	**15 02 50.6**	**+3.5**
SOEI	**Soe**	**5.52**	**242**	Pn		**Pn**	**Pn**	**15 02 51.2**	**+2.9**
SOEI	**Soe**	**5.52**	**242**	P		**Pn**	**Pn**	**15 02 51.2**	**+2.9**
MTN	**Manton Dam**	**5.90**	**162**			**Pn**	**Pn**	**15 02 56.0**	**+2.7**
MTN	**Manton Dam**	**5.90**	**162**	P		**Pn**	**Pn**	**15 02 56.1**	**+2.9**
BATI	**Baumata**	**6.25**	**241**	P		**Pn**	**Pn**	**15 02 59.8**	**+1.9**
	23nm,0.4s,baz=301,slow=2.0,SNR=14								
BATI				S		**Sn**	**Sn**	**15 04 08.7**	**+0.1**
	59nm,0.3s,baz=155,slow=16,SNR=6.2								
KDU	**Kakadu**	**6.31**	**150**	P		**Pn**	**Pn**	**15 03 01.2**	**+2.6**
KNRA	**Kununurra**	**8.43**	**183**			**Pn**	**Pn**	**15 03 28.2**	**+1.4**
FITZ	**Fitzroy Crossi**	**11.37**	**198**			**Pn**	**Pn**	**15 04 05.7**	**0.0**
FITZ	**Fitzroy Crossi**	**11.37**	**198**	P		**Pn**	**Pn**	**15 04 06.0**	**+0.3**
	6.3nm,0.6s,baz=13,slow=9.3,SNR=46								
FITZ				S		**Sn**	**Sn**	**15 06 07.3**	**-4.3**
	3.6nm,0.5s,baz=82,slow=23,SNR=2.3								
PLAI	**Plampang**	**11.45**	**261**	P		**Pn**	**Pn**	**15 04 06.3**	**-0.5**
JAY	**Jayapura**	**12.35**	**68**	P		**Pn**	**Pn**	**15 04 15.4**	**-3.0**
	5.5nm,1.2s,baz=208,slow=10.0,SNR=4.0								
WB0	**Warramunga Arr**	**13.45**	**159**			**Pn**	**Pn**	**15 04 32.6**	**0.0**
WRA	**Warramunga Arr**	**13.59**	**159**	Pn		**Pn**	**Pn**	**15 04 32.9**	**-1.5**
WRA	**Warramunga Arr**	**13.59**	**159**	P		**Pn**	**Pn**	**15 04 34.1**	**-0.2**
	3.2nm,0.4s,baz=335,slow=13,SNR=38								
WRA				S		**Sn**	**Sn**	**15 06 59.1**	**-6.0**
	9.9nm,0.7s,baz=331,slow=24,SNR=12								
WR8	**Warramunga Arr**	**13.66**	**159**			**Pn**	**Pn**	**15 04 35.0**	**-0.3**
JAGI	**Jajag, Banyuwa**	**14.99**	**264**			**Pn**	**Pn**	**15 04 52.1**	**+0.2**
JAGI	**Jajag, Banyuwa**	**14.99**	**264**	P		**P**	**P**	**15 04 53.5**	**0.0**
COEN	**Coen**	**15.26**	**117**	P		**P**	**P**	**15 04 57.2**	**+0.7**
COEN	**Coen**	**15.26**	**117**	P		**P**	**P**	**15 04 59.4**	**+2.9**
MBWA	**Marble Bar**	**16.63**	**213**	P		**P**	**P**	**15 05 11.2**	**-0.5**
MBWA						IAmb	IAmb	15 05 18.9	
	comp=Z,20nm,1.4s								
MBWA	**Marble Bar**	**16.63**	**213**	P		**Pn**	**Pn**	**15 05 14.9**	**+3.0**
PSA00	**Pilbara Seismi**	**16.91**	**211**	Pn		**Pn**	**Pn**	**15 05 18.1**	**+2.9**
PSA00						IAmb	IAmb	15 05 19.0	
	comp=Z,17nm,1.4s								
AS31	**Alice Springs**	**16.97**	**165**			**P**	**P**	**15 05 15.4**	**+0.1**
AS31						IAmb	IAmb	15 05 19.9	
	comp=Z,2.4nm,0.5s								
ASAR	**Alice Springs**	**16.97**	**165**			**P**	**P**	**15 05 16.2**	**+0.9**
ASAR	**Alice Springs**	**16.97**	**165**	P		**P**	**Pn**	**15 05 18.6**	**+2.7**
	comp=Z,5.8nm,0.6s,baz=344,slow=11,SNR=176								
ASAR				S		**S**	**S**	**15 08 20.1**	**-4.3**
	comp=Z,0.9nm,0.7s,baz=344,slow=23,SNR=5.3								
CMAR	**Chiang Mai Arr**	**39.28**	**311**	P		**P**	**P**	**15 08 42.3**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=136,slow=8.4,SNR=6.7								
	comp=Z,0.7nm,0.7s								
PZH	**PanZhiHua**	**42.83**	**323**	P		**P**	**P**	**15 09 11.0**	**+0.4**
HHC	**Hu-ho-hao-te**	**50.51**	**343**	*eP*		**P**	**P**	**15 10 11.3**	**+1.2**
HHC						pmax	pmax		
	comp=Z,11nm,0.7s								
PETK	**Petropavlovsk-**	**64.76**	**19**	P		**P**	**P**	**15 11 49.3**	**0.0**
	comp=Z,2.0nm,1.0s,baz=194,slow=8.6,SNR=2.6								
	comp=Z,2.0nm,1.0s								
MKAR	**Makanchi Array**	**67.98**	**327**	P		**P**	**P**	**15 12 10.2**	**+0.2**
MKAR	**Makanchi Array**	**67.98**	**327**	P		**P**	**P**	**15 12 10.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=110,slow=8.3,SNR=11								
	comp=Z,0.4nm,0.3s								
ZALV	**Zalesovo Beam**	**71.43**	**334**	P		**P**	**P**	**15 12 31.1**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=107,slow=5.0,SNR=2.7								
	comp=Z,0.7nm,0.5s								
KURBB	**Kurchatov Arra**	**72.29**	**329**	P		**P**	**P**	**15 12 35.9**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=130,slow=4.9,SNR=8.8								
	comp=Z,0.9nm,0.6s								
KURK	**Kurchatov**	**72.30**	**329**	P		**P**	**P**	**15 12 34.0**	**-2.1**
ABKAR	**Akbulak array**	**82.20**	**322**	P		**P**	**P**	**15 13 29.7**	**-1.6**

*JMA **30** 15:01:56.9±0.2,30.2N±0.5×14.3E±, h50km, MV3.9/15, NEAR TORISHIMA IS*
*IDC **30** 15:02:08.1±8.8,30.27N×141.07E, h0km, mb3.6/4, mbtmp3.6/5, ML3.0/1, MS3.8/7, Error ellipse: s-maj=218.0km s-min=56.1km az=88.0*
*NEIC **30** 15:02:12.6±1.5,30.40N±0.09×141.0E±0.2, h35km±2km, mb4.1/8, Error ellipse: s-maj=25.5km s-min=13.0km az=246.0*

ISC 30 15:02:12.4±0.7, 30.38N±0.09×141.3E±0.1, h35km, n31, σ1s85/26, mb3.8/6, MS4.0/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.99**	**336**	Pn		**Pn**	**Pn**	**15 02 55.7**	**-1.7**
JHJ2	**Mitsune**	**2.99**	**336**	*eP*		**Pn**	**Pn**	**15 02 56.1**	**-1.3**
JHJ2				*eS*		Sn		15 03 40.5	+8.6
BSO1	**Boso 1**	**4.27**	**357**	*eS*		**Sn**	**Sn**	**15 04 01.8**	**-1.0**
JRY	**Ryogami san**	**5.96**	**341**	*eP*		**Pn**	**Pn**	**15 03 35.8**	**-2.4**
INU	**Inuyama**	**6.11**	**325**	Pn		**Pn**	**Pn**	**15 03 38.6**	**-1.5**
JAG	**Ashikaga**	**6.22**	**346**	*eP*		**Pn**	**Pn**	**15 03 37.4**	**-4.3**
MJAR	**Matsushiro Arr**	**6.65**	**338**			**Pn**	**Pn**	**15 03 45.7**	**-2.0**
MJAR	**Matsushiro Arr**	**6.65**	**338**	Pn		**Pn**	**Pn**	**15 03 46.2**	**-1.5**
	0.3nm,0.3s,baz=161,slow=11,SNR=15								
MJAR				Sn		**Sn**	**Sn**	**15 05 06.5**	**+4.2**
	0.1nm,0.3s,baz=271,slow=31,SNR=5.3								
	2.5nm,0.4s								
MAJO	**Matsushiro**	**6.66**	**338**			**Pn**	**Pn**	**15 03 46.1**	**-1.7**
MJB9	**Matsu-Tunnel**	**6.66**	**338**			**Pn**	**Pn**	**15 03 46.1**	**-1.7**
SONM	**Songino Array**	**31.83**	**313**	P		**P**	**P**	**15 08 35.7**	**+1.8**
	0.4nm,0.7s,baz=108,slow=7.7,SNR=2.1								
	0.4nm,0.7s								
MTN	**Manton Dam**	**44.06**	**194**	P		**P**	**P**	**15 10 15.8**	**-1.3**
BOXOZ	**Borroloola**	**46.41**	**187**	P		**P**	**P**	**15 10 35.1**	**-0.5**
ZALV	**Zalesovo Beam**	**46.51**	**317**	LR		LR	LR	15 28 56.9	
	comp=Z,37nm,20.7s,baz=82,slow=35								
MKAR	**Makanchi Array**	**47.80**	**307**	P		**P**	**P**	**15 10 45.6**	**-0.7**
MKAR	**Makanchi Array**	**47.80**	**307**	P		**P**	**P**	**15 10 45.4**	**-0.9**
	0.6nm,0.7s,baz=85,slow=8.8,SNR=5.0								
	0.6nm,0.7s								
MAKZ	**Makanchi**	**48.01**	**307**	P		**P**	**P**	**15 10 48.2**	**+0.2**
MAKZ						IAmb	IAmb	15 11 04.5	
	comp=Z,2.7nm,1.2s								
R16K	**Pilot Point**	**49.58**	**38**	P		**P**	**P**	**15 11 01.3**	**+1.5**
KURBB	**Kurchatov Arra**	**50.20**	**313**	P		**P**	**P**	**15 11 04.8**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=93,slow=6.9,SNR=2.1								
	comp=Z,0.4nm,0.5s								
BVAR	**Borovoye Array**	**55.10**	**316**	P		**P**	**P**	**15 11 42.3**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=81,slow=9.2,SNR=4.1								
BVAR				LR		LR	LR	15 37 31.8	
	comp=Z,58nm,20.6s,baz=90,slow=39								
	comp=Z,0.6nm,0.6s								
KKAR	**Karatay Array**	**56.54**	**304**	P		**P**	**P**	**15 11 50.9**	**-0.5**
STCH	**Steam Cracks**	**58.10**	**85**	P		**P**	**P**	**15 12 02.8**	**0.0**
AB31	**Akbulak array**	**62.25**	**313**	P		**P**	**P**	**15 12 29.2**	**-1.5**
AB31						IAmb	IAmb	15 12 37.0	
	comp=Z,2.5nm,1.4s								
ABKAR	**Akbulak array**	**62.25**	**313**	P		**P**	**P**	**15 12 29.4**	**-1.2**
BBB	**Bella Bella**	**67.01**	**42**	P		**P**	**P**	**15 13 02.4**	**+0.8**
BELG	**Belogornoye**	**68.65**	**319**	LR		LR	LR	15 47 18.0	
	comp=Z,64nm,19.2s,baz=60,slow=40								
FINES	**FINESS Array B**	**74.66**	**333**	LR		LR	LR	15 50 11.3	
	comp=Z,188nm,21.9s,baz=47,slow=39								
RTZ	**Ruatahuna**	**76.30**	**152**	P		**P**	**P**	**15 13 58.8**	**+1.2**
AKASG	**Malin Array Be**	**79.50**	**323**	LR		LR	LR	15 54 45.3	
	comp=Z,66nm,18.7s,baz=26,slow=40								
NOA	**NORSAR Array B**	**80.27**	**338**	LR		LR	LR	15 55 22.0	
	comp=Z,76nm,19.9s,baz=40,slow=40								
VRAC	**Vranov**	**86.63**	**327**	LR		LR	LR	15 58 43.5	
	comp=Z,64nm,19.1s,baz=27,slow=39								

IDC 30 15:11:28.9±1.5, 8.34N×125.92E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=55.8km s-min=18.6km az=81.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.31**	**195**	Pn		Pn	Pn	15 11 55.9	+1.5
	85nm,0.3s,baz=294,slow=9.0,SNR=6.3								
DAV				Sn		Sn	Sn	15 12 13.7	+1.1
	312nm,0.3s,baz=116,slow=23,SNR=17								
WRA	**Warramunga Arr**	**29.30**	**164**	P		P	P	15 17 31.8	-1.5
	0.6nm,1.1s,baz=328,slow=10,SNR=1.6								
	0.6nm,1.1s								
ASAR	**Alice Springs**	**32.76**	**166**	P		P	P	15 18 03.5	-0.2
	0.3nm,0.5s,baz=342,slow=7.0,SNR=13								
	0.3nm,0.5s								
MKAR	**Makanchi Array**	**53.36**	**324**	P		P	P	15 20 50.7	+0.6
	0.5nm,0.7s,baz=128,slow=7.9,SNR=5.2								
	0.5nm,0.7s								
KURBB	**Kurchatov Arra**	**57.46**	**326**	P		P	P	15 21 19.0	-0.6
	1.0nm,0.2s,baz=134,slow=5.4,SNR=2.0								
	1.0nm,0.2s								

*NIED **30** 15:15:02.0, 28.48N×129.04E, h10km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=3.13; Mθθ=2.75; Mφφ=0.38; Mrθ=-2.81; Mrφ=0.41; Mθφ=-4.02; Fault plane solution: Mo=5.63000×10^14 NP1: φs=269.00000°, δ=20.00000°, λ=-46.00000°. NP2: φs=44.00000°, δ=76.00000°, λ=-104.00000°.*

JMA 30 15:15:02.0±0.2, 28.5N±0.6×129.0E±0.9, h10km±4km, MV3.6/23, NEAR AMAMI-OSHIMA ISLAND, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.27**	**154**	*i* P		Pg	Pg	15 15 07.5	+0.1
JAMN						S	Sg	15 15 11.2	+0.2
JAM	**Amami Oshima**	**0.50**	**98**	*i* P		Pg	Pg	15 15 11.6	-0.2
JAM						S	Sg	15 15 17.9	-0.4
JTAJ	**Takarajima**	**0.68**	**12**	*i* P		Pg	Pg	15 15 15.1	-0.1
JTAJ						S	Sg	15 15 24.2	0.0
JTK	**Tokunoshima**	**0.70**	**187**	*i* P		Pg	Pg	15 15 15.0	-0.5
JTK						S	Sg	15 15 24.5	-0.1
JZK	**Kikaishima**	**0.83**	**101**	P		Pn	Pn	15 15 19.5	-0.3
JOKE	**Okinoerabujima**	**1.19**	**201**	P		Pb	Pb	15 15 24.2	-0.4
JNN	**Nakanoshima**	**1.54**	**28**	*eP*		Pn	Pn	15 15 28.7	-0.7
JNN				*eS*		Sn	Sn	15 15 47.6	-1.8
JYRO	**Yoronjima**	**1.54**	**200**	P		Pn	Pn	15 15 29.5	-0.1
JYRO				S		Sn	Sn	15 15 49.2	-0.4
JIH	**Iheya**	**1.73**	**214**	*eP*		Pn	Pn	15 15 32.5	+0.5
JIH				*eS*		Sn	Sn	15 15 53.5	-0.7
JOW	**Kunigami**	**1.78**	**203**	*eP*		Pn	Pn	15 15 32.4	-0.4
JNTH	**Nagotoyohara**	**2.16**	**205**	*eP*		Pn	Pn	15 15 38.7	+0.7
JNTH				*eS*		Sn	Sn	15 16 04.9	+0.2
JAGN	**Aguni-jima**	**2.47**	**221**	*eP*		Pn	Pn	15 15 43.0	+0.7
JMTN	**Minamitane**	**2.50**	**40**	*eP*		Pn	Pn	15 15 42.3	-0.4
JMTN				*eS*		Sn	Sn	15 16 11.3	-2.0
JTN	**Tanegashima 3**	**2.74**	**37**	*eP*		Pn	Pn	15 15 45.9	-0.1
JTN				*eS*		Sn	Sn	15 16 18.8	-0.5
JKE	**Kume jima 2**	**2.94**	**224**	*eP*		Pn	Pn	15 15 50.0	+1.3
JKDJ	**Kitadaitoujima**	**3.22**	**141**	*eP*		Pn	Pn	15 15 52.7	+0.1
JKDJ				*eS*		Sn	Sn	15 16 30.6	-0.4
JMZ	**Minamidaito 2**	**3.29**	**143**	*eP*		Pn	Pn	15 15 53.5	0.0
JMZ				*eS*		Sn	Sn	15 16 30.6	-2.1

*JMA **30** 15:19:06.8±0.5,30.2N±0.9×14.3E±, h48km, MV4.0/16, FAR E OFF IZU ISLANDS*
*IDC **30** 15:19:07.2±0.8,30.11N×143.17E, h0km, mb3.7/9, mbtmp3.8/12, ML3.4/3, Error ellipse: s-maj=26.7km s-min=17.5km az=86.0*
*NEIC **30** 15:19:09.2±1.1,30.2N±0.1×143.13E±0.05, h10km±1km, mb4.4/16, Error ellipse: s-maj=19.7km s-min=3.5km az=198.0*

ISC 30 15:19:11.6±0.6, 30.16N±0.05×142.89E±0.09, h30km, n46, σ1s92/49, mb4.0/16, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.12**	**192**	*eS*		**Sn**	**Sn**	**15 20 31.6**	**-3.4**
JCJ	**Chichijima**	**3.12**	**192**	Pn		**Pn**	**Pn**	**15 19 56.9**	**-1.9**
	4.7nm,0.3s,baz=254,slow=22,SNR=9.2								
JCJ				Sn		**Sn**	**Sn**	**15 20 31.6**	**-3.5**
	17nm,0.3s,baz=290,slow=22,SNR=9.0								
	92nm,0.9s								
JHJ2	**Mitsune**	**3.94**	**319**	Pn		**Pn**	**Pn**	**15 20 08.5**	**-1.5**
JHJ2	**Mitsune**	**3.94**	**319**	*eP*		**Pn**	**Pn**	**15 20 08.5**	**-1.5**
JHJ	**Hachijo jima 2**	**3.96**	**319**	Pn		**Pn**	**Pn**	**15 20 08.5**	**-1.9**
	5.6nm,0.3s,baz=269,slow=23,SNR=5.1								
JHJ				Sn		**Sn**	**Sn**	**15 20 49.2**	**-6.7**
	22nm,0.3s,baz=104,slow=22,SNR=8.0								
BSO1	**Boso 1**	**4.76**	**341**	*eS*		**Sn**	**Sn**	**15 21 13.9**	**-0.8**
JHO	**Hitachi**	**6.72**	**344**	*eP*		**Pn**	**Pn**	**15 20 45.6**	**-2.6**
JRY	**Ryogami san**	**6.73**	**331**	*eP*		**Pn**	**Pn**	**15 20 47.4**	**-1.1**
JAG	**Ashikaga**	**6.88**	**336**	*eP*		**Pn**	**Pn**	**15 20 48.7**	**-1.7**
JGF	**Kuroka**	**7.15**	**321**	Pn		**Pn**	**Pn**	**15 20 54.3**	**+0.2**
MJAR	**Matsushiro Arr**	**7.47**	**330**			**Pn**	**Pn**	**15 20 57.1**	**-1.5**
MJAR	**Matsushiro Arr**	**7.47**	**330**	Pn		**Pn**	**Pn**	**15 20 57.6**	**-1.0**
	0.3nm,0.3s,baz=163,slow=12,SNR=2.1								
MJAR				Sn		**Sn**	**Sn**	**15 22 17.9**	**-4.4**
	0.1nm,0.3s,baz=90,slow=7.2,SNR=4.9								
	4.0nm,0.6s								
MAJO	**Matsushiro**	**7.47**	**330**			**Pn**	**Pn**	**15 20 57.2**	**-1.4**
MJB9	**Matsu-Tunnel**	**7.48**	**330**			**Pn**	**Pn**	**15 20 57.1**	**-1.5**
JMM	**Marumori**	**7.88**	**348**			**Pn**	**Pn**	**15 21 01.7**	**-2.5**
ASAJ	**Asahikawa**	**13.93**	**359**	Pn		**Pn**	**Pn**	**15 22 26.4**	**-0.5**
	0.3nm,0.3s,baz=240,slow=13,SNR=4.5								
	3.8nm,0.7s								
NACB	**Ninganchiao**	**19.86**	**258**	P		**P**	**Pn**	**15 23 41.0**	**-1.1**
NACB						IAmb	IAmb	15 23 49.9	
	comp=Z,18nm,1.1s								
DAV	**Davao City (W)**	**28.15**	**219**	P		**P**	**P**	**15 25 02.1**	**+0.7**
ENH	**Enshi**	**28.81**	**279**	P		**P**	**P**	**15 25 09.4**	**+2.2**
SONM	**Songino Array**	**33.02**	**313**	P		**P**	**P**	**15 25 47.3**	**+3.1**
	comp=Z,0.4nm,0.4s,baz=113,slow=7.5,SNR=2.4								
	comp=Z,0.4nm,0.4s								
MTN	**Manton Dam**	**44.23**	**197**	P		**P**	**P**	**15 27 17.8**	**-0.6**
CNBA	**Chernabura Isl**	**47.40**	**42**	P		**P**	**P**	**15 27 42.0**	**-1.0**
KNRA	**Kununurra**	**47.56**	**199**	P		**P**	**P**	**15 27 46.0**	**+1.4**
KNRA						IAmb	IAmb	15 28 09.4	
	comp=Z,6.4nm,1.2s								
MKAR	**Makanchi Array**	**49.05**	**308**	P		**P**	**P**	**15 27 57.1**	**+1.2**
MKAR	**Makanchi Array**	**49.05**	**308**	P		**P**	**P**	**15 27 57.9**	**+2.0**
	comp=Z,0.8nm,0.6s,baz=94,slow=9.1,SNR=9.8								
	comp=Z,0.8nm,0.6s								
MAKZ	**Makanchi**	**49.27**	**308**	P		**P**	**P**	**15 27 59.7**	**+2.1**
WB0	**Warramunga Arr**	**50.31**	**190**	P		**P**	**P**	**15 28 05.2**	**-0.5**
WB0						IAmb	IAmb	15 28 27.5	
	comp=Z,7.7nm,1.4s								
WR8	**Warramunga Arr**	**50.48**	**190**	P		**P**	**P**	**15 28 06.9**	**0.0**
WR8						IAmb	IAmb	15 28 32.1	
	comp=Z,4.2nm,1.1s								
WRA	**Warramunga Arr**	**50.49**	**190**	P		**P**	**P**	**15 28 06.7**	**-0.

AS31	**Alice Springs**	**56.55**	**188**	P	**P**	**16 03 07.0**	**-0.4**
AS31				IAmb	IAmb	16 03 08.0	
	comp=Z,0.9nm,1.2s						
ASAR	**Alice Springs**	**56.55**	**188**	P	**P**	**16 03 07.1**	**-0.2**
ASAR	**Alice Springs**	**56.55**	**188**	P	**P**	**16 03 07.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=2.7,slow=6.7,SNR=26						
	comp=Z,0.3nm,0.3s						

*NEIC **30** 15:55:10.2±0.9, 19°.462N±0°.007×155°.445W±0°.007, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.2km az=358.0*

HVO 30 15:55:09.7±0.7,**19°.467N**±0°.006×**155°.438W**±0°.007, **h7**km±2km, **ML3.0**/36, **ML3.0**/42(NEIC), **Error ellipse: s-maj=0.9km s-min=0.8km az=143.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLH	**Mauna Loa**	**0.06**	**61**		Pg	15 55 12.0	+0.4
MLH					IAML	15 55 14.1	
	comp=N,10μm,0.4s						
MLH	**Mauna Loa**	**0.06**	**61**		Sg	15 55 13.9	+1.0
AIN	**Ainahou**	**0.10**	**191**		Pg	15 55 12.7	+0.7
AIN					Sg	15 55 14.8	+1.2
AIN	**Ainahou**	**0.10**	**191**	IAML		15 55 15.0	
	comp=E,21μm,0.3s						
AIN				IAML		15 55 15.2	
	comp=N,37μm,0.3s						
HMH	**Humu'ula Sheep**	**0.14**	**343**		Pg	15 55 13.4	+0.6
HMH					Sg	15 55 15.9	+1.0
HMH	**Humu'ula Sheep**	**0.14**	**343**	IAML		15 55 16.1	
	comp=N,9μm,0.3s						
HMH				IAML		15 55 16.1	
	comp=E,5μm,0.3s						
UWE	**Uwekahuna**	**0.14**	**108**		Pg	15 55 13.4	+0.7
UWE					Sg	15 55 16.1	+1.2
UWE	**Uwekahuna**	**0.14**	**108**	IAML		15 55 16.4	
	comp=N,24μm,0.3s						
UWE				IAML		15 55 16.4	
	comp=E,21μm,0.4s						
WRMHI	**West Rim**	**0.14**	**115**		Pg	15 55 13.3	+0.6
WRMHI					Sg	15 55 15.8	+1.0
MWH	**Mokuaweoweo**	**0.15**	**277**		Pg	15 55 13.4	+0.4
MWH					Sg	15 55 16.2	+0.8
MWH	**Mokuaweoweo**	**0.15**	**277**	IAML		15 55 16.9	
	comp=N,3μm,0.2s						
MWH				IAML		15 55 17.0	
	comp=E,5μm,0.5s						
RSD	**Rainshed**	**0.15**	**91**		Pg	15 55 13.5	+0.7
RSD					Sg	15 55 16.1	+1.0
OBL	**Observatory Le**	**0.15**	**109**		Pg	15 55 13.4	+0.5
OBL					Sg	15 55 16.0	+0.9
SDHHI	**Sand Hill**	**0.16**	**119**		Pg	15 55 13.5	+0.5
SDHHI					Sg	15 55 16.2	+1.0
UWB	**Uwekahuna Bluf**	**0.16**	**105**		Pg	15 55 13.4	+0.5
UWB					Sg	15 55 16.1	+0.9
SBLHI	**Steaming Bluff**	**0.17**	**104**		Pg	15 55 13.5	+0.4
SBLHI					Sg	15 55 16.4	+1.0
RIM	**Rim**	**0.17**	**115**		Pg	15 55 13.6	+0.5
RIM					Sg	15 55 16.8	+1.2
HATHI	**Halema'uma'u T**	**0.17**	**105**		Pg	15 55 13.6	+0.4
HATHI					Sg	15 55 16.3	+0.7
HATHI	**Halema'uma'u T**	**0.17**	**105**	IAML		15 55 16.9	
	comp=E,3μm,0.4s						
HATHI				IAML		15 55 18.9	
	comp=N,4μm,0.5s						
KKO	**Keanakako'i**	**0.18**	**113**		Pg	15 55 13.8	+0.5
KKO					Sg	15 55 16.7	+0.9
BYL	**Byron's Ledge**	**0.18**	**108**		Pg	15 55 13.7	+0.4
BYL					Sg	15 55 16.8	+1.0
BYL	**Byron's Ledge**	**0.18**	**108**	IAML		15 55 18.4	
	comp=E,3μm,0.3s						
BYL				IAML		15 55 19.5	
	comp=N,2μm,0.3s						
ALEP	**Alea Permanent**	**0.21**	**291**		Pg	15 55 14.2	+0.3
ALEP					Sg	15 55 17.4	+0.6
HLP	**Hilina Pali**	**0.21**	**144**		Pg	15 55 14.4	+0.5
HLP					Sg	15 55 17.7	+1.0
HLP	**Hilina Pali**	**0.21**	**144**	IAML		15 55 19.6	
	comp=N,2μm,0.3s						
HLP				IAML		15 55 20.9	
	comp=E,2μm,0.4s						
PUH	**Pauahi**	**0.23**	**114**		Pg	15 55 14.4	+0.2
PUH					Sg	15 55 17.9	+0.6
PUH	**Pauahi**	**0.23**	**114**	IAML		15 55 18.4	
	comp=N,1μm,0.8s						
PUH				IAML		15 55 20.6	
	comp=E,869nm,0.2s						
HTC	**Hot Caves**	**0.23**	**170**		Pg	15 55 14.6	+0.3
KNHH	**Kane Nui o Ham**	**0.27**	**109**		Pg	15 55 15.1	+0.1
KHU	**Kahuku**	**0.28**	**217**		Pg	15 55 15.1	-0.1
KHU					Sg	15 55 19.3	+0.4
POHA	**Pohakuloa**	**0.30**	**343**		Pg	15 55 15.5	-0.2
POHA					Sg	15 55 20.0	+0.3
POHA	**Pohakuloa**	**0.30**	**343**	IAML		15 55 24.9	
	comp=E,1μm,0.5s						
POHA				IAML		15 55 25.0	
	comp=E,2μm,0.7s						
STCH	**Steam Cracks**	**0.31**	**105**		Pg	15 55 15.6	-0.1
STCH					Sg	15 55 20.2	+0.4
STCH	**Steam Cracks**	**0.31**	**105**	IAML		15 55 21.5	
	comp=E,5μm,0.2s						
STCH				IAML		15 55 21.5	
	comp=N,4μm,0.3s						
NPOC	**North of Pu'u**	**0.32**	**103**		Pg	15 55 15.9	-0.1
NPOC					Sg	15 55 20.7	+0.5
JCUZ	**Jacuzzi**	**0.33**	**104**		Pg	15 55 16.0	-0.1
JCUZ					Sg	15 55 21.1	+0.6
HPO	**Honuapo**	**0.39**	**196**		Pg	15 55 17.5	+0.2
HPO					Sg	15 55 23.0	+0.6
JOKA	**Jonika Flow**	**0.41**	**95**		Pg	15 55 17.3	-0.3
JOKA					Sg	15 55 23.2	+0.1
JOKA	**Jonika Flow**	**0.41**	**95**	IAML		15 55 24.2	
	comp=E,1μm,0.5s						
JOKA				IAML		15 55 26.9	
	comp=N,1μm,0.2s						
HUH	**Hualalai**	**0.43**	**300**		Pg	15 55 18.2	+0.1
CPH	**Captain Cook**	**0.45**	**273**		Pg	15 55 18.2	-0.2
HPAH	**Hawaii Prepara**	**0.61**	**337**		Pg	15 55 20.5	-0.9
HPAH					Sg	15 55 28.2	-1.3
HPAH	**Hawaii Prepara**	**0.61**	**337**	IAML		15 55 28.9	
	comp=E,508nm,0.3s						
HPAH				IAML		15 55 28.9	
	comp=N,590nm,0.6s						
HLK	**Haleakala**	**1.49**	**330**		Pn	15 55 32.6	-4.6
HLK					Sn	15 55 49.9	-7.1

*IDC **30** 16:03:39.5±1.3, 11°.75S×166°.39E, h0km, mb3.7/5, mbtmp3.6/5, Error ellipse: s-maj=50.5km s-min=36.7km az=149.0*

*NOU **30** 16:05:51.6, 20°.74S×166°.89E, h0km, MLv2.5/5, Loyalty Islands*

ISC 30 16:03:52.8±1.1,**11°.8S**±0°.1×**166°.2E**±0°.2,**h100**km,**n10, σ0s50/12, mb3.5/5, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.25**	**179**	P	**Pn**	**16 06 17.1**	**+0.1**
YATNC	**Mamie plateau,**	**10.25**	**176**	P	**Pn**	**16 06 15.9**	**-1.1**
ONTNC	**Ouen Toro**	**10.48**	**179**	P	**Pn**	**16 06 20.7**	**+0.6**
OUENC	**Ouen Island, N**	**10.61**	**177**	P	**Pn**	**16 06 21.8**	**0.0**
PINNC	**Pines Island,**	**10.85**	**174**	P	**Pn**	**16 06 25.5**	**+0.4**
WRA	**Warramunga Arr**	**31.66**	**251**	P	**P**	**16 10 07.1**	**+0.2**
	0.2nm,0.5s,baz=84,slow=8.7,SNR=1.7						
WRA				PcP	**PcP**	**16 12 56.3**	**-0.5**
	0.2nm,0.5s,baz=74,slow=2.5,SNR=1.6						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**32.87**	**244**	P	**P**	**16 10 17.6**	**+0.1**
	0.2nm,0.7s,baz=68,slow=10,SNR=5.2						
ASAR				PcP	**PcP**	**16 12 59.9**	**-0.2**
	0.2nm,0.5s,baz=82,slow=2.9,SNR=6.2						
	0.2nm,0.7s						
QSPA	**South Pole Qui**	**78.24**	**180**	P	**P**	**16 15 41.3**	**-0.1**
	2.0nm,0.8s,baz=19,slow=0.8,SNR=5.7						
	2.0nm,0.8s						
PDAR	**Pinedale Array**	**93.72**	**47**	P	**P**	**16 16 59.0**	**+0.2**
	0.1nm,0.5s,baz=254,slow=4.2,SNR=1.4						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**94.35**	**317**	P	**P**	**16 17 01.2**	**-0.1**
	0.4nm,0.6s,baz=84,slow=5.8,SNR=3.7						
	0.4nm,0.6s						

*SJA **30** 16:08:02.2±0.8, 32°.58S×69°.92W, h134km±3km, ML3.4, MW3.5*

*GUC **30** 16:08:04.1±0.8, 32°.56S×70°.08W, h118km±3km, ML3.6*

ISC 30 16:08:03.9±1.3,**32°.55S**±0°.03×**69°.95W**±0°.03,**h123**km±8km, **n55,σ1s11/101, 3C-16, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	**San Esteban**	**0.55**	**247**	⇓*e*P	**Pn**	**16 08 22.4**	**-0.3**
VA03				*e*S	**Sn**	**16 08 36.2**	**-0.6**
VA03				IAML		16 08 37.6	
	comp=N,5μm,0.5s						
VA03	**San Esteban**	**0.55**	**247**	*e*P	**Pn**	**16 08 22.6**	**-0.1**
VA03				*e*S	**Sn**	**16 08 36.5**	**-0.3**
VA03				IAML		16 08 38.2	
	comp=Z,2μm,0.3s						
FCH	**Farellones**	**0.82**	**200**	⇓*e*P	**Pn**	**16 08 25.1**	**+0.1**
FCH				*e*S	**Sn**	**16 08 41.0**	**0.0**
PEL	**Peldehue**	**0.85**	**226**	⇓*e*P	**Pn**	**16 08 24.5**	**-0.4**
PEL				*e*S	**Sn**	**16 08 40.0**	**-0.9**
PEL	**Peldehue**	**0.85**	**226**	*e*P	**Pn**	**16 08 24.6**	**-0.4**
PEL				*e*S	**Sn**	**16 08 41.5**	**+0.7**
MT04	**Ro Olivares**	**0.86**	**190**	⇓*e*P	**Pn**	**16 08 25.4**	**+0.2**
MT04				*e*S	**Sn**	**16 08 42.3**	**+0.9**
MT04	**Ro Olivares**	**0.86**	**190**	*e*P	**Pn**	**16 08 25.5**	**+0.2**
MT04				*e*S	**Sn**	**16 08 25.5**	**+0.2**
MT04				IAML		16 08 26.2	
	comp=Z,321nm,0.5s						
MT10	**Hacienda Santa**	**0.87**	**214**	⇓*e*P	**Pn**	**16 08 25.2**	**0.0**
MT10				*e*S	**Sn**	**16 08 41.1**	**-0.2**
MT10				IAML		16 08 44.2	
	comp=N,3μm,0.4s						
RTLS	**Leoncito**	**0.93**	**37**	*e*P	**Pn**	**16 08 26.4**	**+0.4**
RTLS				*e*S	**Sn**	**16 08 42.7**	**+0.1**
RTLS				IAML		16 08 44.1	
	comp=Z,1μm,0.2s						
ASAL	**Salagasta**	**0.94**	**93**	*e*P	**Pn**	**16 08 25.7**	**-0.1**
ASAL				*e*S	**Sn**	**16 08 42.7**	**+0.4**
MT14	**Cerro Cal¡n**	**0.97**	**210**	*e*P	**Pn**	**16 08 26.1**	**0.0**
MT14				*e*S	**Sn**	**16 08 42.7**	**-0.2**
MT14				IAML		16 08 49.4	
	comp=E,1μm,0.7s						
ROCH	**El Roble**	**0.99**	**245**	⇓*e*P	**Pn**	**16 08 26.1**	**-0.3**
ROCH				*e*S	**Sn**	**16 08 42.5**	**-0.9**
ROCH				IAML		16 08 45.6	
	comp=N,3μm,0.6s						
ROC1	**El Roble**	**0.99**	**244**	*e*P	**Pn**	**16 08 26.1**	**-0.4**
ROC1				*e*S	**Sn**	**16 08 42.9**	**-0.6**
MT16	**CCHEN**	**1.00**	**209**	⇓*e*P	**Pn**	**16 08 26.4**	**+0.1**
MT16				*e*S	**Sn**	**16 08 43.0**	**-0.2**
MT05	**Renca**	**1.07**	**218**	⇓*e*P	**Pn**	**16 08 27.0**	**0.0**
MT05				*e*S	**Sn**	**16 08 44.3**	**-0.2**
MT05	**Renca**	**1.07**	**218**	*e*P	**Pn**	**16 08 27.0**	**0.0**
MT05				*e*S	**Sn**	**16 08 45.0**	**+0.5**
MT05				IAML		16 08 45.2	
	comp=Z,1μm,0.6s						
VA06	**Catapilco**	**1.14**	**269**	⇑*e*P	**Pn**	**16 08 27.0**	**-0.5**
VA06				*e*S	**Sn**	**16 08 44.0**	**-1.5**
VA06				IAML		16 08 45.0	
	comp=E,2μm,0.5s						
MT15	**Las Vizcachas**	**1.14**	**204**	⇓*e*P	**Pn**	**16 08 27.8**	**0.0**
MT15				*e*S	**Sn**	**16 08 46.1**	**+0.3**
MT15				IAML		16 08 48.4	
	comp=N,2μm,0.2s						
MT02	**Curacav**	**1.22**	**234**	⇓*e*P	**Pn**	**16 08 28.0**	**-0.5**
MT02				*e*S	**Sn**	**16 08 46.1**	**-1.0**
MT02	**Curacav**	**1.22**	**234**	*e*P	**Pn**	**16 08 27.2**	**-1.2**
MT02				*e*S	**Sn**	**16 08 47.0**	**-0.2**
MT02				IAML		16 08 50.8	
	comp=Z,234nm,0.8s						
MT12	**Pirque**	**1.28**	**203**	⇓*e*P	**Pn**	**16 08 29.4**	**+0.2**
MT12				*e*S	**Sn**	**16 08 49.0**	**+0.6**
LMEL	**Las Melosas**	**1.31**	**189**	*e*P	**Pn**	**16 08 29.8**	**+0.3**
LMEL	**Las Melosas**	**1.31**	**189**	*e*P	**Pn**	**16 08 29.9**	**+0.3**
LMEL				*e*S	**Sn**	**16 08 53.7**	**+4.5**
ZON	**Zonda**	**1.48**	**47**	*e*P	**Pn**	**16 08 31.2**	**-0.2**
ZON				*e*S	**Sn**	**16 08 52.6**	**+0.4**
ZON				IAML		16 08 55.5	
	comp=Z,131nm,0.4s						
MT09	**Talagante**	**1.50**	**215**	⇓*e*P	**Pn**	**16 08 31.2**	**-0.5**
MT09				*e*S	**Sn**	**16 08 52.4**	**-0.5**
MT09				IAML		16 08 53.3	
	comp=N,648nm,0.3s						
VA01	**Torpederas**	**1.50**	**251**	*e*P	**Pn**	**16 08 31.2**	**-0.3**
VA01				IAML		16 08 58.6	
	comp=Z,232nm,0.3s						
BO04	**La Punta**	**1.54**	**201**	⇓*e*P	**Pn**	**16 08 32.1**	**0.0**
BO04				*e*S	**Sn**	**16 08 53.8**	**+0.4**
BO04				IAML		16 08 55.2	
	comp=N,399nm,0.4s						
SJA	**San Juan**	**1.56**	**50**	*e*P	**Pn**	**16 08 32.8**	**+0.4**
SJA				*e*S	**Sn**	**16 08 53.7**	**-0.3**
CO02	**Combarbal**	**1.61**	**326**	⇑*e*P	**Pn**	**16 08 33.4**	**+0.4**
CO02				*e*S	**Sn**	**16 08 55.4**	**+0.2**
CO02	**Combarbal**	**1.61**	**326**	*e*P	**Pn**	**16 08 33.6**	**+0.6**
CO02				*e*S	**Sn**	**16 08 57.0**	**+1.9**
CO02				IAML		16 08 57.2	
	comp=Z,556nm,0.2s						
MT01	**Popeta**	**1.70**	**219**	⇓*e*P	**Pn**	**16 08 33.1**	**-0.8**
MT01				*e*S	**Sn**	**16 08 55.3**	**-1.5**
MT01	**Popeta**	**1.70**	**219**	*e*P	**Pn**	**16 08 33.1**	**-0.8**
MT01				*e*S	**Sn**	**16 08 56.4**	**-0.4**
MT01				IAML		16 08 58.4	
	comp=Z,171nm,0.1s						
CFA	**Coronel Fontan**	**1.73**	**57**	*e*P	**Pn**	**16 08 34.1**	**-0.3**
CFA				*e*S	**Sn**	**16 08 56.7**	**-0.9**
RTLL	**Cerro Villicun**	**1.75**	**46**	*e*P	**Pn**	**16 08 34.6**	**0.0**
RTLL				*e*S	**Sn**	**16 08 57.9**	**0.0**
CO03	**El Pedregal**	**1.82**	**340**	⇑*e*P	**Pn**	**16 08 36.1**	**+0.7**
CO03				*e*S	**Sn**	**16 09 00.2**	**+0.7**
CO03				IAML		16 09 01.5	
	comp=E,771nm,0.3s						
CO03	**El Pedregal**	**1.82**	**340**	*e*P	**Pn**	**16 08 36.2**	**+0.7**
CO03				*e*S	**Sn**	**16 09 00.9**	**+1.3**
CO03				IAML		16 09 03.0	
	comp=Z,376nm,0.2s						
BO01	**Tunca**	**2.06**	**207**	⇓*e*P	**Pn**	**16 08 37.6**	**-0.7**
BO01				*e*S	**Sn**	**16 09 03.7**	**-1.0**
BO01	**Tunca**	**2.06**	**207**	*e*P	**Pn**	**16 08 37.1**	**-1.2**
BO01				*e*S	**Sn**	**16 09 04.5**	**-0.2**
BO01				IAML		16 09 05.3	
	comp=Z,75nm,0.2s						
ACCO	**Cerro Coronel**	**2.10**	**21**	*e*P	**Pn**	**16 08 39.7**	**+0.6**
ACCO				*e*S	**Sn**	**16 09 07.3**	**+1.2**
BO02	**Sierra Bellavi**	**2.34**	**197**	⇓*e*P	**Pn**	**16 08 41.9**	**+0.1**
BO02				*e*S	**Sn**	**16 09 11.5**	**+0.5**
BO02				IAML		16 09 14.3	
	comp=N,284nm,0.3s						
BO02	**Sierra Bellavi**	**2.34**	**197**	*e*P	**Pn**	**16 08 42.1**	**+0.2**
BO02				*e*S	**Sn**	**16 09 13.4**	**+2.4**
BO02				IAML		16 09 13.6	
	comp=Z,127nm,0.2s						
CO06	**Fray Jorge**	**2.36**	**322**	*e*P	**Pn**	**16 08 42.1**	**0.0**
CO06				*e*S	**Sn**	**16 09 10.6**	**-0.7**
CO06				IAML		16 09 13.8	
	comp=E,284nm,0.1s						
AROD	**Rodeo**	**2.41**	**10**	*e*P	**Pn**	**16 08 44.6**	**+1.5**
AROD				*e*S	**Sn**	**16 09 15.4**	**+2.3**
ACDV	**Cuesta del Vie**	**2.48**	**17**	*e*P	**Pn**	**16 08 44.8**	**+1.0**
ACDV				*e*S	**Sn**	**16 09 14.8**	**+0.5**
ACDV				IAML		16 09 15.8	
	comp=Z,77nm,0.8s						
GO04	**Tololo Observa**	**2.48**	**343**	*e*P	**Pn**	**16 08 44.2**	**+0.3**
GO04				*e*S	**Sn**	**16 09 14.4**	**-0.1**
RFA	**San Rafael**	**2.54**	**151**	*e*P	**Pn**	**16 08 44.1**	**-0.2**
RFA				*e*S	**Sn**	**16 09 14.0**	**-1.4**
AVFE	**Valle Fertil**	**2.85**	**49**	*e*P	**Pn**	**16 08 48.0**	**-0.4**
AVFE				*e*S	**Sn**	**16 09 21.6**	**-1.0**
AVFE				IAML		16 09 22.5	
	comp=Z,95nm,0.3s						
ACHE	**Chepes**	**3.12**	**65**	*e*P	**Pn**	**16 08 51.5**	**-0.6**
EDS3	**Malargue**	**3.24**	**172**	*e*S	**Sn**	**16 09 38.6**	**+6.5**
ML02	**Panimavida**	**3.42**	**200**	*e*P	**Pn**	**16 08 55.5**	**-0.4**
MRA	**San Martin**	**3.58**	**89**	*e*P	**Pn**	**16 08 57.0**	**-1.1**
MRA				IAML		16 09 38.4	
	comp=Z,52nm,0.6s						
LCO	**Las Campanas**	**3.59**	**349**	*e*P	**Pn**	**16 08 58.5**	**+0.1**
APLL	**PUNTA DE LOS L**	**3.63**	**55**	*e*S	**Sn**	**16 09 39.7**	**-1.4**
ACLC	**CERRO LA CRUZ**	**4.04**	**40**	*e*P	**Pn**	**16 09 03.5**	**-0.8**
ACLC				*e*S	**Sn**	**16 09 49.6**	**-1.5**
ACLC				IAML		16 10 17.2	
	comp=Z,26nm,0.4s						
TCA	**Tanti**	**4.71**	**77**	*e*P	**Pn**	**16 09 11.8**	**-1.3**

*KRNET **30** 16:16:17.9±0.1, 41°.16N×71°.55E, h35km, mb2.4*

*SOME **30** 16:16:17.9, 41°.23N×71°.75E, h5km*

*ISU **30** 16:16:18, 41°.12N×71°.64E, h4km*

*NNC **30** 16:16:18.3±2.0, 41°.11N×71°.75E, h0km, mb3.2, mpv3.2, Error ellipse: s-maj=15.4km s-min=7.0km az=176.0*

ISC 30 16:16:17.5±1.2,**41°.14N**±0°.03×**71°.73E**±0°.03,**h1**km±11km, **n15,σ0s97/32, 13C-3D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAM	**Namangan**	**0.16**	**201**	P	**Pg**	**16 16 20.6**	**+0.1**
NAM				S	**Sg**	**16 16 23.3**	**+0.8**
TRKS	**Terek-Say**	**0.59**	**312**	⇑*i*P	**Pg**	**16 16 27.4**	**-1.5**
TRKS				⇑*i*S	**Sg**	**16 16 34.9**	**-1.7**
TSTA	**Tashata**	**0.79**	**134**	P	**Pn**	**16 16 35.6**	**-0.3**
TSTA				S	**Sn**	**16 16 47.5**	**-0.9**
ARSB	**Arslanbob**	**0.96**	**78**	⇑*e*P	**Pn**	**16 16 38.1**	**-0.2**
ARSB				⇑*e*S	**Sn**	**16 16 52.8**	**+0.1**
OHH	**Osh**	**1.01**	**127**	⇑*i*P	**Pn**	**16 16 38.6**	**-0.2**
OHH				⇑*i*S	**Sn**	**16 16 54.0**	**+0.3**
SALK	**Salom-Alik**	**1.60**	**98**	⇓*i*P	**Pb**	**16 16 47.7**	**-0.3**
SALK				⇓*i*S	**Sg**	**16 17 09.6**	**+0.7**
IUG	**Iuzhnay**	**1.63**	**309**	P	**Pb**	**16 16 48.1**	**-0.3**
	6.5nm,0.1s						
IUG				P	**Pb**	**16 16 48.1**	**-0.3**
	29nm,0.2s						
IUG				S	**Sg**	**16 17 11.5**	**+1.8**
	87nm,0.3s						
IUG				S	**Sg**	**16 17 11.6**	**+1.8**
	36nm,0.1s						
MRKS	**Merke**	**1.96**	**34**	Pg	**Pb**	**16 16 52.9**	**-1.1**
	1.4nm,0.3s						
MRKS				Pg	**Pg**	**16 16 55.4**	**+0.4**
	2.3nm,0.2s						
MRKS				Lg	Lg	16 17 20.1	
	1.5nm,0.2s						
MRKS				Lg	Lg	16 17 21.8	
	14nm,0.4s						
MRKS	**Merke**	**1.96**	**34**	*e*P	**Pg**	**16 16 54.9**	**-0.1**
	2.3nm,0.2s						
MRKS				*e*S	**Sg**	**16 17 21.6**	**+1.3**
	14nm,0.4s						
EKS2	**Erkin-Say**	**2.16**	**44**	⇑*e*P	**Pn**	**16 16 54.8**	**+0.1**
EKS2				⇑*i*S	**Sn**	**16 17 22.0**	**-0.2**
KK31	**Karatay Array**	**2.17**	**336**	⇓Pn	**Pb**	**16 16 56.9**	**-0.6**
	2.3nm,0.3s,baz=155,slow=13,SNR=22						
KK31				⇑Sn	**Sb**	**16 17 25.1**	**+0.3**
	2.6nm,0.3s,baz=153,slow=29,SNR=7.6						
UCH	**Uchtor**	**2.35**	**61**	⇑*i*P	**Pn**	**16 16 58.3**	**+0.6**
UCH				⇑*i*S	**Sn**	**16 17 27.8**	**+0.4**
BRLS	**Borolday**	**2.36**	**324**	Pg	**Pn**	**16 16 58.4**	**+0.9**
	4.2nm,0.3s						
BRLS				Pg	**Pb**	**16 16 58.9**	**-2.0**
	3.2nm,0.1s						
BRLS				Lg	Lg	16 17 27.9	
	12nm,0.4s						
BRLS				Lg	Lg	16 17 28.7	
	5.7nm,0.2s						
BRLS	**Borolday**	**2.36**	**324**	*e*P	**Pn**	**16 16 58.7**	**+1.3**
	4.2nm,0.3s						
BRLS				*e*S	**Sn**	**16 17 27.9**	**+0.8**
	12nm,0.4s						
USP	**Ospenovka**	**2.96**	**43**	⇑*i*P	**Pn**	**16 17 05.8**	**+0.1**
USP				⇑*i*S	**Sn**	**16 17 41.0**	**-0.9**

*IDC **30** 16:28:29.8±0.9, 6°.03S×149°.29E, h0km, mb3.9/9, mbtmp4.0/10, ML2.3/1, MS2.8/3, Error ellipse: s-maj=44.2km s-min=18.1km az=105.0*

*NEIC **30** 16:28:38.2±0.9, 6°.0S±0°.1×149°.0E±0°.1, h60km±8km, mb4.1/16, Error ellipse: s-maj=22.1km s-min=10.5km az=130.0*

ISC 30 16:28:37.9±0.6,**6°.04S**±0°.09×**149°.0E**±0°.1,**h60**km,**n31, σ0s76/32, mb3.9/13, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.64**	**60**		**Pn**	**16 29 31.9**	**0.0**
PMG	**Port Moresby**	**3.81**	**209**		**Pn**	**16 29 34.2**	**+0.1**
PMG	**Port Moresby**	**3.81**	**209**	Pn	**Pn**	**16 29 34.0**	**-0.2**
	17nm,0.3s,baz=29,slow=5.9,SNR=57						
PMG				Sn	**Sn**	**16 30 17.5**	**-0.3**
	20nm,0.3s,baz=321,slow=21,SNR=10						
PMG				LR	LR	16 31 14.0	
	comp=Z,219nm,18.7s,baz=38,slow=41						
	57nm,0.4s						
COEN	**Coen**	**9.74**	**216**	Pn	**Pn**	**16 30 54.6**	**-0.7**
FAKI	**Fak Fak**	**16.99**	**280**	P	**P**	**16 32 33.7**	**+1.0**
MTN	**Manton Dam**	**18.87**	**248**	P	**Pn**	**16 32 54.1**	**-0.5**
MTN				IAmb	IAmb	16 33 30.4	
	comp=Z,9.5nm,1.1s						
WB0	**Warramunga Arr**	**19.70**	**225**		**P**	**16 33 02.2**	**-0.2**
WB0				IAmb	IAmb	16 33 03.4	
	comp=Z,10nm,0.7s						
WR8	**Warramunga Arr**	**19.75**	**224**		**P**	**16 33 03.0**	**-0.1**
WRA	**Warramunga Arr**	**19.85**	**225**		**P**	**16 33 03.5**	**-0.7**
WRA	**Warramunga Arr**	**19.85**	**225**	P	**P**	**16 33 04.2**	**+0.1**
	comp=Z,14nm,0.7s,baz=50,slow=11,SNR=92						
WRA				PcP	**PcP**	**16 37 20.7**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=43,slow=1.7,SNR=3.0						
	comp=Z,14nm,0.7s						
GUMO	**Guam**	**19.93**	**348**	LR	LR	16 41 07.0	
	comp=Z,6.9nm,19.1s,baz=184,slow=38						
KNRA	**Kununurra**	**22.04**	**243**	P	**P**	**16 33 26.8**	**-0.9**
KNRA				IAmb	IAmb	16 33 29.5	
	comp=Z,5.0nm,0.9s						
AS31	**Alice Springs**	**22.76**	**218**	P	**P**	**16 33 35.1**	**-0.

ML3.6/99,**ML3.4**/178(NEIC),**Error ellipse: s-maj=1.6km s-min=1.4km az=154.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.07**	**171**		Pg	16 30 58.6	0.0
WSHM					Sg	16 31 00.4	+0.1
WSHM	**Spangler Hills** 53μm,0.2s	**0.07**	**171**	IAML		16 31 00.6	
WSHM				IAML		16 31 00.8	
	56μm,0.2s						
GPO	**China Lake**	**0.13**	**262**		Pg	16 30 59.5	0.0
GPO					Sg	16 31 02.3	+0.6
CLC	**China Lake**	**0.17**	**333**		Pg	16 30 60.0	-0.1
CLC				IAML		16 31 03.0	
	comp=N,15μm,0.4s						
CCCA	**Chr Cany lake**	**0.18**	**141**	Pg	Pg	16 31 00.6	+0.2
SRTC	**Snort**	**0.20**	**277**		Pg	16 31 00.9	+0.3
SRTC					Sg	16 31 04.8	+1.3
LRMC	**Laurel Mtn Rad**	**0.24**	**218**	Pg	Pg	16 31 01.1	-0.2
LRMC				IAML		16 31 05.2	
	comp=N,11μm,0.1s						
LRMC				IAML		16 31 05.8	
	comp=E,11μm,0.2s						
TOW	**Tower One**	**0.25**	**304**		Pg	16 31 01.9	+0.3
TOW					Sb	16 31 06.5	-1.1
WVPM	**Volcano Peak E**	**0.38**	**318**		Pg	16 31 03.6	-0.3
WVPM					Sg	16 31 09.2	+0.1
MPMC	**Manual Prospec**	**0.39**	**2**	Pg	Pg	16 31 03.7	-0.5
JRC2	**Joshua Ridge**	**0.40**	**322**		Sg	16 31 09.6	0.0
WCSM	**Coso Springs S**	**0.42**	**329**		Pg	16 31 04.3	-0.4
WCSM					Sg	16 31 10.1	-0.1
WRVM	**Rose V. Centra**	**0.46**	**318**		Pg	16 31 05.1	-0.4
WRVM					Sg	16 31 11.6	0.0
DTP	**Desert Tortois**	**0.48**	**215**		Pg	16 31 05.3	-0.6
DTP					Sg	16 31 12.2	-0.1
MFS	**McCloud Flat S**	**0.53**	**328**		Pg	16 31 06.4	-0.4
MFS					Sg	16 31 13.6	-0.2
WBSM	**Bird Springs**	**0.53**	**256**		Sg	16 31 13.5	-0.4
QSM	**Queen of Sheba**	**0.60**	**60**		Pg	16 31 07.5	-0.5
QSM	**Queen of Sheba**	**0.60**	**60**		Sg	16 31 15.6	-0.3
WORM	**Onyx Ranch**	**0.60**	**273**		Pg	16 31 07.5	-0.6
WORM					Sg	16 31 15.3	-0.6
CCAC	**Calif City Air**	**0.66**	**219**		Pg	16 31 08.7	-0.5
GSC	**Goldstone, Bar**	**0.68**	**122**		Pg	16 31 08.9	-0.6
GSC				IAML		16 31 21.8	
	comp=N,2μm,0.3s						
GSC				IAML		16 31 22.6	
	comp=E,2μm,0.5s						
GSC	**Goldstone, Bar**	**0.68**	**122**		Sg	16 31 18.2	-0.2
WHFM	**Hanning Flat**	**0.69**	**273**		Pg	16 31 09.1	-0.6
ISA	**Isabella, Lake**	**0.79**	**270**		Pg	16 31 10.9	-0.7
ISA				IAML		16 31 21.4	
	comp=N,2μm,0.4s						
ISA				IAML		16 31 21.8	
	comp=E,3μm,0.2s						
ISA	**Isabella, Lake**	**0.79**	**270**		Sg	16 31 21.2	-0.7
HYS	**Haystack Butte**	**0.80**	**184**		Pg	16 31 11.0	-0.8
HYS					Sg	16 31 21.6	-0.7
GWY	**Greenwater Val**	**0.85**	**52**		Pg	16 31 12.2	-0.7
GWY	**Greenwater Val**	**0.85**	**52**		Pn	16 31 23.4	+8.8
WASM	**Alta Sierra Ca**	**0.86**	**275**		Pg	16 31 12.2	-0.8
WASM					Pn	16 31 23.6	+8.9
EDW2	**Edwards Air Fo**	**0.88**	**207**		Sg	16 31 24.9	+0.1
RRX	**Edison Barstow**	**0.89**	**152**		Pg	16 31 12.9	-0.6
RRX					Sg	16 31 24.8	-0.4
CWC	**Cottonwood Cre**	**0.90**	**329**		Pg	16 31 13.2	-0.6
CWC				IAML		16 31 15.6	
	comp=N,1μm,0.2s						
CWC	**Cottonwood Cre**	**0.90**	**329**		Sg	16 31 25.4	-0.1
CGO	**Cerro Gordo**	**0.91**	**345**		Pg	16 31 13.1	-0.9
FURC	**Furnace Creek,**	**0.95**	**33**	IAML		16 31 29.5	
	comp=E,2μm,0.6s						
FURC				IAML		16 31 33.2	
	comp=N,1μm,0.4s						
FURC	**Furnace Creek,**	**0.95**	**33**		Pg	16 31 14.3	-0.4
FURC					Pb	16 31 14.6	-0.4
FURC	**Furnace Creek,**	**0.95**	**33**		Sb	16 31 27.6	-0.1
TPO	**Tropico Hills**	**0.98**	**217**		Pg	16 31 14.3	-1.0
TPO				IAML		16 31 35.2	
	comp=E,2μm,0.8s						
TPO				IAML		16 31 36.0	
	comp=N,2μm,0.7s						
SBB	**Saddle Back Bu**	**1.01**	**195**		Sg	16 31 28.2	-0.7
SHOC	**Shoshone, Teco**	**1.03**	**77**		Pg	16 31 15.5	-0.6
SHOC	**Shoshone, Teco**	**1.03**	**77**		Sg	16 31 29.2	-0.3
TEJ	**El Tejon**	**1.06**	**246**		Pg	16 31 15.3	-1.4
SPG2	**Springville 2**	**1.15**	**298**		Pb	16 31 17.3	-1.1
DSCC	**Desert Studies**	**1.26**	**114**		Pn	16 31 18.0	-2.0
VES	**Vestal, Richgr**	**1.30**	**278**		Pn	16 31 19.8	-0.7
VES				IAML		16 31 44.2	
	comp=E,977nm,0.5s						
WCT	**Wildcat Mounta**	**1.33**	**32**		Pn	16 31 19.8	-1.3
GRAC	**Grapevine Rang**	**1.33**	**5**		Pn	16 31 20.3	-0.8
GRAC				IAML		16 31 41.9	
	comp=N,844nm,0.6s						
GRAC				IAML		16 31 43.1	
	comp=E,739nm,0.3s						
BFSC	**Mount Baldy Ra**	**1.43**	**185**		Pn	16 31 21.3	-1.2
BFSC				IAML		16 31 42.1	
	comp=E,423nm,0.6s						
BFSC				IAML		16 31 43.2	
	comp=N,442nm,0.6s						
OSI	**Osito Audit: C**	**1.45**	**224**		Pn	16 31 22.3	-0.4
OSI				IAML		16 31 45.7	
	comp=N,404nm,0.5s						
OSI				IAML		16 31 47.8	
	comp=E,440nm,0.7s						
MWC	**Mount Wilson**	**1.51**	**198**		Pn	16 31 22.6	-1.0
MWC				IAML		16 31 45.4	
	comp=N,567nm,0.5s						
MWC				IAML		16 31 46.5	
	comp=E,438nm,0.5s						
PASC	**Pasadena Art C**	**1.59**	**201**		Pn	16 31 23.6	-1.0
MTPC	**Mountain Pass**	**1.60**	**96**		Pn	16 31 23.1	-1.7
MTPC				IAML		16 31 48.0	
	comp=N,484nm,0.3s						
MTPC				IAML		16 31 50.8	
	comp=E,400nm,0.2s						
TPNV	**Topopah Spring**	**1.63**	**38**		Pn	16 31 24.3	-1.0
TPNV				IAML		16 31 50.5	
	comp=E,449nm,0.6s						
TPNV				IAML		16 31 52.2	
	comp=E,517nm,0.6s						
VOG	**Valley Oaks Go**	**1.66**	**294**		Pb	16 31 26.4	-0.6
DSP	**Deep Springs**	**1.74**	**348**		Pn	16 31 26.1	-0.5
ELS	**Elsinore Mount**	**2.02**	**178**		Pn	16 31 29.7	-0.8
ELS				IAML		16 32 06.2	
	comp=E,274nm,0.7s						
BELC	**Belle Mtn. Jos**	**2.07**	**143**	IAML		16 32 04.5	
	comp=E,484nm,0.5s						
BELC				IAML		16 32 05.2	
	comp=N,435nm,0.6s						
SHPR	**Sheep Range**	**2.08**	**66**	IAML		16 32 03.6	
	comp=N,192nm,0.7s						
SHPR				IAML		16 32 04.6	
	comp=E,152nm,0.6s						
V12A	**Nelson**	**2.16**	**88**	IAML		16 32 10.9	
	comp=N,203nm,0.5s						
V12A				IAML		16 32 10.9	
	comp=E,188nm,0.4s						
PMD	**Palm Desert**	**2.22**	**155**	IAML		16 32 08.2	
	comp=N,222nm,0.4s						
PMD				IAML		16 32 08.4	
	comp=E,246nm,0.6s						
PFO	**Pinyon Flats O**	**2.22**	**157**	IAML		16 32 11.6	
	comp=E,168nm,1.7s						
TPH	**Tonopah**	**2.42**	**5**	IAML		16 32 17.1	
	comp=E,358nm,0.7s						
S11A	**Rachel**	**2.43**	**35**	IAML		16 32 17.8	
	comp=E,186nm,0.8s						
S11A				IAML		16 32 20.2	
	comp=N,187nm,0.9s						
IRM	**Iron Mountain**	**2.46**	**127**	IAML		16 32 14.2	
	comp=E,309nm,0.6s						
IRM				IAML		16 32 14.4	
	comp=N,217nm,0.4s						
NEE2	**Needles Airpor**	**2.53**	**110**	IAML		16 32 21.8	
	comp=N,306nm,0.7s						
NEE2				IAML		16 32 25.5	
	comp=E,252nm,0.5s						
BORC	**Borrego Spring**	**2.56**	**159**	IAML		16 32 21.7	
	comp=N,178nm,0.6s						
BORC				IAML		16 32 23.2	
	comp=E,229nm,0.7s						
BC3	**Big Chuckawall**	**2.62**	**139**	IAML		16 32 24.8	
	comp=N,226nm,0.5s						
BC3				IAML		16 32 28.6	
	comp=E,164nm,0.6s						
PRN	**Pahroc Range**	**2.63**	**48**	IAML		16 32 28.2	
	comp=E,209nm,1.2s						
PRN				IAML		16 32 32.6	
	comp=N,218nm,0.6s						
LHV	**Little Huntoon**	**2.70**	**343**	IAML		16 32 25.6	
	comp=E,121nm,0.6s						
LHV				IAML		16 32 27.2	
	comp=N,107nm,0.6s						
DPP	**Dos Picos Cty**	**2.70**	**170**	IAML		16 32 20.9	
	comp=E,215nm,0.4s						
PMPB	**Monarch Peak**	**2.73**	**283**	IAML		16 32 28.5	
	comp=N,195nm,1.0s						
PMPB				IAML		16 32 33.5	
	comp=E,161nm,0.9s						
W13A	**Hualapai Mount**	**3.01**	**100**	IAML		16 32 34.0	
	comp=N,72nm,0.6s						
W13A				IAML		16 32 34.4	
	comp=E,67nm,0.7s						
Q09A	**Carvers**	**3.17**	**5**	IAML		16 32 48.8	
	comp=N,161nm,1.0s						
TKX	**Tecate**	**3.18**	**166**	IAML		16 32 35.2	
	comp=N,121nm,0.3s						
TKX				IAML		16 32 35.8	
	comp=E,154nm,0.6s						
CMB	**Columbia Colle**	**3.31**	**316**	IAML		16 32 44.5	
	comp=N,61nm,0.6s						
ESJX	**Sierra Juarez**	**3.88**	**160**	IAML		16 32 58.1	
	comp=N,51nm,1.1s						
ESJX				IAML		16 33 52.1	
	comp=E,54nm,0.1s						
KNB	**Kanab**	**4.01**	**69**	IAML		16 33 06.9	
	comp=E,32nm,1.2s						
KNB				IAML		16 33 08.9	
	comp=N,31nm,1.3s						
SZCU	**Shurtz Canyon**	**4.04**	**60**	IAML		16 34 30.6	
	comp=N,68nm,1.2s						
Y14A	**Wickenburg**	**4.08**	**114**	IAML		16 33 08.4	
	comp=E,48nm,0.6s						
Y14A				IAML		16 33 12.8	
	comp=N,56nm,0.6s						
PSUT	**Pine Spring**	**4.09**	**44**	IAML		16 33 17.1	
	comp=E,35nm,1.3s						
PSUT				IAML		16 33 18.2	
	comp=N,31nm,1.5s						
MPK	**Martis Peak**	**4.14**	**332**	IAML		16 33 23.9	
	comp=E,48nm,0.8s						
MPK				IAML		16 33 25.4	
	comp=N,60nm,0.8s						
AFDM	**Forest Hills D**	**4.29**	**321**	IAML		16 33 19.6	
	comp=E,31nm,0.7s						
AFDM				IAML		16 33 20.4	
	comp=N,24nm,1.0s						
U15A	**North Rim**	**4.29**	**78**	IAML		16 33 12.3	
	comp=N,42nm,1.0s						
U15A				IAML		16 33 13.6	
	comp=E,53nm,0.8s						
VTX	**Valle De La Tr**	**4.50**	**161**	IAML		16 33 20.9	
	comp=N,29nm,1.4s						
VTX				IAML		16 33 21.9	
	comp=E,46nm,0.8s						
PKCU	**Pink Cliffs**	**4.54**	**65**	IAML		16 33 18.9	
	comp=E,57nm,0.7s						
PKCU				IAML		16 33 26.4	
	comp=N,53nm,1.3s						

JMA 30 16:33:56.5±0.3,30°2N±0.6×14°3E±°,h51km,MV3.6/18, NEAR TORISHIMA IS,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.09**	**189**	*e*P	Pn	16 34 44.2	+1.4
CBIJ				*e*S	Sn	16 35 19.5	+1.0
JHJ2	**Mitsune**	**3.85**	**321**	P	Pn	16 34 55.1	+1.8
JHJ2				*e*S	Sn	16 35 38.9	+1.6
BSO1	**Boso 1**	**4.72**	**342**	P	Pn	16 35 06.7	+2.0
BSO3	**Boso 3**	**5.00**	**338**	*e*P	Pn	16 35 12.1	+3.4
JYT	**Yasato**	**6.42**	**341**	*e*P	Pn	16 35 31.0	+2.6
JYT				*e*S	Sn	16 36 43.0	+2.7
JNY	**Yasuok**	**6.61**	**323**	*e*S	Sn	16 36 46.0	+0.8
JHO	**Hitachi**	**6.69**	**345**	*e*P	Pn	16 35 33.2	+1.1
JHO				*e*S	Sn	16 36 46.0	-0.9
JAG	**Ashikaga**	**6.83**	**337**	*e*P	Pn	16 35 36.3	+2.3
JAG				*e*S	Sn	16 36 51.7	+1.3

*SDD **30** 16:35:13.3±2.6,19°.11N×69°.56W,h17km±22km,MD3.7, ML3.4,MW3.6*
*OSPL **30** 16:35:13.2±3.6,19°.15N×69°.52W,h0km±18km,ML3.2*
ISC 30 16:35:11.9±1.2,19°.12N±0°.03×69°.51W±0°.02,h19km±3km, n35,σ1°25/56,12C-7D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMDR	**Samana, DR**	**0.35**	**61**	*e*Pg	**Pb**	**16 35 20.4**	**+0.7**
SMDR				⇑*e*Sg	**Sn**	**16 35 27.4**	**-1.2**
SMDR				IAML		16 35 28.5	
	comp=N,7μm,0.5s						
NADR	**Nagua**	**0.40**	**306**	⇓*e*Pg	**Pb**	**16 35 20.4**	**-0.2**
NADR				⇑*e*Sg	**Sb**	**16 35 27.1**	**+0.8**
NADR				IAML		16 35 29.3	
	comp=N,14μm,0.3s						
LONA1	**Toro Cenizo, N**	**0.42**	**308**	*i* P	**Pb**	**16 35 20.9**	**0.0**
LONA1				*e*S	**Sb**	**16 35 27.8**	**+0.9**
LONA1				IAML		16 35 30.8	
	comp=Z,2μm,0.4s						
MIDR	**Miches**	**0.46**	**107**	⇑*e*Pg	**Pb**	**16 35 22.1**	**+0.6**
MIDR				*e*Sg	**Sn**	**16 35 30.2**	**-1.0**
MIDR				IAML		16 35 30.9	
	comp=N,1μm,0.3s						
CADR	**Cabrera**	**0.68**	**324**	*e*Pg	**Pb**	**16 35 24.7**	**-0.4**
CADR				⇑*e*Sg	**Sg**	**16 35 34.9**	**+0.4**
CADR				IAML		16 35 40.5	
	comp=N,3μm,0.4s						
SDD	**Santo Domingo**	**0.76**	**210**	⇓*e*Pg	**Pb**	**16 35 26.4**	**-0.1**
SDD				⇓*e*Sg	**Sg**	**16 35 37.0**	**+0.2**
SDD				IAML		16 35 37.5	
	comp=N,183nm,0.7s						
SDD	**Santo Domingo**	**0.76**	**210**	*i* P	**Pb**	**16 35 26.4**	**-0.1**
SDD				*e*S	**Sg**	**16 35 37.1**	**+0.2**
LOSC1	**San Cristbal**	**0.90**	**219**	*i* P	**Pb**	**16 35 28.4**	**-0.6**
LOSC1				*e*S	**Sb**	**16 35 40.9**	**+0.2**
LOSC1				IAML		16 35 41.0	
	comp=Z,1μm,1.4s						
HIDR	**Higuey Centro**	**0.92**	**125**	⇓*e*Pg	**Pb**	**16 35 29.6**	**+0.4**
HIDR				⇓*e*Sg	**Sn**	**16 35 43.0**	**+0.4**
HIDR				IAML		16 35 47.5	
	comp=N,864nm,0.2s						
BANI	**BANI**	**1.08**	**228**	⇓*e*Pg	**Pb**	**16 35 31.4**	**-0.7**
BANI				IAML		16 35 51.4	
	comp=N,1μm,0.2s						
ABDR	**Alto Bandera**	**1.10**	**254**	⇓*e*Pg	**Pb**	**16 35 31.2**	**-1.3**
ABDR				⇑*e*Sg	**Sb**	**16 35 45.5**	**-1.1**
ABDR				IAML		16 35 47.2	
	comp=N,813nm,0.2s						
SADR	**Isla Saona**	**1.15**	**143**	⇑*e*Pg	**Pn**	**16 35 33.5**	**+0.4**
SADR				*e*Sg	**Sg**	**16 35 50.2**	**+0.8**
SADR				IAML		16 35 58.8	
	comp=N,672nm,0.6s						
SADR				IAML		16 35 58.9	
	comp=N,672nm,0.6s						
SC01	**Santiago de lo**	**1.19**	**285**	*e*Pg	**Pb**	**16 35 34.2**	**+0.4**
SC01				IAML		16 35 53.4	
	comp=N,2μm,0.6s						
SC01	**Santiago de lo**	**1.19**	**285**	*i* P	**Pb**	**16 35 34.3**	**+0.4**
SC01				*e*S	**Sg**	**16 35 51.7**	**+1.2**
SC01				IAML		16 35 56.5	
	comp=Z,383nm,0.3s						
SDDR	**Presa de Saban**	**1.68**	**266**	*e*P	**Pn**	**16 35 41.3**	**+0.8**
SDDR				*e*S	**Sb**	**16 36 04.5**	**+1.2**
SDDR				IAML		16 36 07.4	
	comp=Z,284nm,0.5s						
SDDR				IAML		16 36 10.3	
	comp=Z,259nm,0.3s						
SDDR	**Presa de Saban**	**1.68**	**266**	*e*Pg	**Pb**	**16 35 41.9**	**-0.4**
SDDR				IAML		16 36 14.8	
	comp=N,274nm,0.4s						
SDDR	**Presa de Saban**	**1.68**	**266**	*i* P	**Pb**	**16 35 41.8**	**-0.6**
SDDR				*e*S	**Sb**	**16 36 04.6**	**+1.4**
SDDR				IAML		16 36 09.4	
	comp=Z,177nm,0.4s						
LOPP1	**Punta Rusia, P**	**1.75**	**295**	*i* P	**Pn**	**16 35 41.9**	**+0.6**
LOPP1				IAML		16 36 19.9	
	comp=Z,456nm,0.9s						
REDR	**Restauracion**	**1.78**	**272**	⇑*e*Pg	**Pg**	**16 35 46.8**	**+0.6**
REDR				⇑*e*Sg	**Sg**	**16 36 13.9**	**+4.5**
REDR				IAML		16 36 16.8	
	comp=N,538nm,0.2s						
PODR	**Polo**	**1.92**	**241**	*e*Pg	**Pb**	**16 35 46.3**	**-0.3**
PODR				IAML		16 36 16.8	
	comp=N,192nm,0.5s						
PODR	**Polo**	**1.92**	**241**	*i* P	**Pb**	**16 35 46.2**	**-0.3**
LODU1	**El Espartillar**	**2.01**	**248**	*i* P	**Pb**	**16 35 47.5**	**-0.3**
LODU1				IAML		16 36 17.9	
	comp=Z,220nm,0.4s						
MCDR	**Montecristi**	**2.16**	**291**	*e*Pg	**Pn**	**16 35 47.6**	**+0.6**
MCDR				IAML		16 36 26.1	
	comp=N,431nm,0.6s						
JIDR	**Jimani**	**2.30**	**255**	⇑*e*Pg	**Pb**	**16 35 51.4**	**-1.5**
JIDR				⇑*e*Sg	**Sb**	**16 36 22.4**	**+1.5**
JIDR				IAML		16 36 24.6	
	comp=N,208nm,0.6s						
AGPR	**Aguadilla, PR**	**2.37**	**105**	*e*Pg	**Pb**	**16 35 52.9**	**-1.1**
AGPR				IAML		16 36 36.7	
	comp=N,388nm,0.7s						
AGPR	**Aguadilla, PR**	**2.37**	**105**	*i* P	**Pb**	**16 35 52.2**	**-1.8**
AGPR				IAML		16 36 33.6	
	comp=Z,141nm,1.4s						
PRSN	**Puerto Rico Se**	**2.42**	**111**	⇑*e*Pg	**Pb**	**16 35 54.4**	**-0.4**
PRSN				IAML		16 36 36.5	
	comp=N,324nm,0.2s						
CRPR	**Cabo Rojo, PR**	**2.53**	**115**	*e*Pg	**Pb**	**16 35 57.0**	**+0.1**
CRPR				*e*Sg	**Sg**	**16 36 31.4**	**-2.1**
CRPR				IAML		16 36 53.4	
	comp=N,69nm,0.6s						
CRPR	**Cabo Rojo, PR**	**2.53**	**115**	*i* P	**Pb**	**16 35 56.3**	**-0.5**
CRPR				IAML		16 36 41.1	
	comp=Z,202nm,0.6s						
MLPR	**Magueyes Islan**	**2.61**	**116**	*e*Pg	**Pb**	**16 35 57.5**	**-0.5**
MLPR				*e*Sg	**Sb**	**16 36 32.1**	**+2.3**
MLPR				IAML		16 36 46.2	
	comp=N,31nm,0.5s						
GRTK	**Grand Turk**	**2.83**	**328**	*e*P	**Pn**	**16 35 55.0**	**-1.1**
GRTK				*e*S	**Sn**	**16 36 28.9**	**-0.8**
GRTK				IAML		16 36 31.2	
	comp=N,115nm,0.3s						
GRTK				IAML		16 36 31.3	
	comp=N,122nm,0.2s						
GRTK	**Grand Turk**	**2.83**	**328**	*i* P	**Pn**	**16 35 55.0**	**-1.1**
GRTK				*e*S	**Sn**	**16 36 28.2**	**-1.5**
GRTK				IAML		16 36 32.9	
	comp=Z,49nm,0.8s						
CELP	**Cerrillos**	**2.97**	**110**	IAML		16 36 50.6	
	comp=N,135nm,0.5s						
MASC	**Masc**	**4.57**	**284**	*e*P	**Pn**	**16 36 20.0**	**-0.1**
MASC				*e*S	**Sn**	**16 37 12.2**	**-0.6**
MASC				IAML		16 37 26.9	
	comp=E,37nm,0.3s						
MASC				IAML		16 37 27.3	
	comp=N,57nm,0.7s						
QMBU	**Quimbuelo**	**5.11**	**283**	*e*P	**Pn**	**16 36 25.0**	**-2.5**
QMBU				*e*S	**Sn**	**16 37 22.7**	**-3.4**
QMBU				IAML		16 37 26.3	
	comp=N,20nm,1.0s						
QMBU				IAML		16 37 45.9	
	comp=E,30nm,0.7s						

*SJA **30** 16:38:12.1±0.6,31°.46S×72°.11W,h11km,ML3.8,MW3.6*
*NEIC **30** 16:38:17.0±0.9,31°.48S±0°.04×72°.0W±0°.1,h30km±9km, mb4.4/2,ML3.9(GUC),Error ellipse: s-maj=16.4km s-min=5.3km az=95.0*
*GUC **30** 16:38:17.5±0.7,31°.52S×71°.69W,h30km±1km,ML3.9*
ISC 30 16:38:14.8±1.2,31°.46S±0°.02×71°.70W±0°.04,h10km±9km, n81,σ1°33/131,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.65**	**67**		**Pn**	**16 38 30.1**	**-0.1**
CO02	**Combarbal**	**0.65**	**67**	*e*P	**Pn**	**16 38 30.2**	**-0.1**
CO02				*i* S	**Sn**	**16 38 39.6**	**-1.1**
CO02				IAML		16 38 42.6	
	comp=N,16μm,0.2s						
CO02	**Combarbal**	**0.65**	**67**	*e*P	**Pn**	**16 38 30.2**	**-0.1**
CO02				*e*S	**Sb**	**16 38 37.6**	**+0.1**
CO02				IAML		16 38 43.2	
	comp=Z,6μm,0.2s						
CO06	**Fray Jorge**	**0.78**	**4**		**Pn**	**16 38 32.8**	**+0.9**
CO06	**Fray Jorge**	**0.78**	**4**	*e*P	**Pn**	**16 38 32.9**	**+0.9**
CO06				*i* S	**Sn**	**16 38 44.0**	**+0.2**
CO06				IAML		16 38 45.8	
	comp=N,6μm,0.4s						
CO03	**El Pedregal**	**1.06**	**55**		**Pn**	**16 38 36.6**	**+0.7**
CO03	**El Pedregal**	**1.06**	**55**	*e*P	**Pn**	**16 38 36.7**	**+0.7**
CO03				*i* S	**Sn**	**16 38 51.0**	**+0.2**
CO03				IAML		16 38 53.8	
	comp=N,4μm,0.2s						
CO03	**El Pedregal**	**1.06**	**55**	*e*P	**Pn**	**16 38 36.8**	**+0.8**
CO03				*e*S	**Sn**	**16 38 51.9**	**+1.0**
CO03				IAML		16 38 56.7	
	comp=Z,1μm,0.2s						
VA06	**Catapilco**	**1.15**	**163**		**Pg**	**16 38 37.1**	**+0.1**
VA06	**Catapilco**	**1.15**	**163**	*e*P	**Pg**	**16 38 37.2**	**+0.1**
VA06				*i* S	**Sg**	**16 38 51.1**	**-1.0**
VA06				IAML		16 38 54.4	
	comp=E,8μm,0.3s						
GO04	**Tololo Observa**	**1.49**	**31**		**Pg**	**16 38 43.8**	**+0.3**
GO04	**Tololo Observa**	**1.49**	**31**	*e*P	**Pg**	**16 38 43.9**	**+0.3**
GO04				*i* S	**Sg**	**16 39 04.5**	**+1.6**
GO04	**Tololo Observa**	**1.49**	**31**	*e*P	**Pg**	**16 38 43.1**	**-0.4**
GO04				*e*S	**Sg**	**16 39 04.4**	**+1.4**
VA01	**Torpederas**	**1.56**	**178**		**Pn**	**16 38 42.7**	**-0.1**
VA01	**Torpederas**	**1.56**	**178**	*e*P	**Pn**	**16 38 43.1**	**+0.4**
VA01				*i* S	**Sn**	**16 39 02.5**	**-0.5**
VA01				IAML		16 39 07.2	
	comp=E,4μm,0.1s						
VA01	**Torpederas**	**1.56**	**178**	*e*S	**Sn**	**16 39 04.5**	**+1.4**
VA01				IAML		16 39 08.1	
	comp=Z,462nm,0.2s						
CO05	**La Serena**	**1.58**	**15**		**Pg**	**16 38 45.3**	**+0.1**
CO05	**La Serena**	**1.58**	**15**	*e*P	**Pg**	**16 38 45.5**	**+0.3**
CO05				*i* S	**Sg**	**16 39 06.5**	**+0.7**
CO05				IAML		16 39 14.4	
	comp=N,2μm,0.3s						
ROCH	**El Roble**	**1.62**	**159**	*e*P	**Pn**	**16 38 44.5**	**+0.8**
ROCH				*e*P	**Pn**	**16 38 44.5**	**+0.8**
ROCH				*i* S	**Sn**	**16 39 04.8**	**0.0**
ROCH				*i* S	**Sb**	**16 39 05.1**	**-0.6**
ROCH				IAML		16 39 09.8	
	comp=N,4μm,0.6s						
ROCH				IAML		16 39 09.8	
	comp=N,2μm,0.6s						
ROC1	**El Roble**	**1.62**	**159**	*e*P	**Pn**	**16 38 44.4**	**+0.6**
ROC1				*e*S	**Sn**	**16 39 05.6**	**+0.7**
VA03	**San Esteban**	**1.63**	**144**		**Pn**	**16 38 45.0

RTLS	**Leoncito**	**2.08**	**100**	*eP*	**Pb**	**16 38 53.6**	**+0.8**
RTLS				*eS*	**Sn**	**16 39 16.1**	**-0.1**
RTLS				IAML		16 39 25.9	
	comp=Z,1μm,0.4s						
MT05	**Renca**	**2.10**	**157**		**Pn**	**16 38 50.8**	**+0.7**
MT05	**Renca**	**2.10**	**157**	*eP*	**Pn**	**16 38 51.5**	**+1.3**
MT05				*i* S	**Sn**	**16 39 17.5**	**+1.2**
MT05				IAML		16 39 24.8	
	comp=E,2μm,0.2s						
MT05	**Renca**	**2.10**	**157**	*eP*	**Pn**	**16 38 51.5**	**+1.3**
MT05				*eS*	**Sg**	**16 39 21.9**	**-0.3**
MT05				IAML		16 39 24.1	
	comp=Z,735nm,0.3s						
MT14	**Cerro Cal¡n**	**2.17**	**153**	*eP*	**Pn**	**16 38 53.0**	**+1.8**
MT14				*i* S	**Sn**	**16 39 19.9**	**+1.6**
MT14				IAML		16 39 29.8	
	comp=N,2μm,0.4s						
VA05	**Santo Domingo**	**2.20**	**178**		**Pn**	**16 38 50.9**	**-0.6**
MT16	**CCHEN**	**2.20**	**154**		**Pn**	**16 38 52.8**	**+1.2**
MT16	**CCHEN**	**2.20**	**154**	*eP*	**Pn**	**16 38 53.5**	**+1.9**
MT16				*i* S	**Sn**	**16 39 20.4**	**+1.3**
MT16				IAML		16 39 29.2	
	comp=E,720nm,0.6s						
FCH	**Farellones**	**2.21**	**148**	*eP*	**Pn**	**16 38 53.8**	**+1.8**
FCH				*i* S	**Sn**	**16 39 21.9**	**+2.2**
FCH				IAML		16 39 28.0	
	comp=E,665nm,0.3s						
AROD	**Rodeo**	**2.31**	**57**	*eP*	**Pg**	**16 38 58.0**	**-1.1**
AROD				*eS*	**Sg**	**16 39 28.6**	**-0.4**
MT04	**Ro Olivares**	**2.35**	**146**	*eP*	**Pn**	**16 38 55.9**	**+2.1**
MT04				*i* S	**Sn**	**16 39 24.6**	**+1.7**
MT04				IAML		16 39 33.0	
	comp=E,678nm,0.3s						
MT04	**Ro Olivares**	**2.35**	**146**	*eP*	**Pn**	**16 38 56.0**	**+2.2**
MT04				*eS*	**Sn**	**16 39 17.2**	**-5.7**
MT04				IAML		16 39 33.8	
	comp=Z,411nm,0.5s						
MT15	**Las Vizcachas**	**2.36**	**155**	*eP*	**Pn**	**16 38 55.5**	**+1.7**
MT15				*i* S	**Sn**	**16 39 24.4**	**+1.5**
MT15				IAML		16 39 35.4	
	comp=N,2μm,0.3s						
MT09	**Talagante**	**2.39**	**166**		**Pn**	**16 38 55.3**	**+1.0**
MT09	**Talagante**	**2.39**	**166**	*eP*	**Pn**	**16 38 55.4**	**+1.2**
MT09				*i* S	**Sn**	**16 39 24.9**	**+1.2**
MT09				IAML		16 39 36.9	
	comp=N,923nm,0.3s						
ACCO	**Cerro Coronel**	**2.42**	**70**	*eP*	**Pb**	**16 38 59.5**	**+0.7**
ACCO				*eS*	**Sg**	**16 39 34.5**	**+1.9**
MT01	**Popeta**	**2.43**	**171**		**Pn**	**16 38 55.2**	**+0.6**
MT01	**Popeta**	**2.43**	**171**	*eP*	**Pn**	**16 38 55.4**	**+0.7**
MT01				*i* S	**Sn**	**16 39 25.7**	**+1.1**
MT01				IAML		16 39 34.6	
	comp=E,960nm,0.2s						
MT01	**Popeta**	**2.43**	**171**	*eP*	**Pn**	**16 38 55.3**	**+0.6**
MT01				*eS*	**Sb**	**16 39 28.4**	**-0.4**
MT01				IAML		16 39 42.0	
	comp=Z,363nm,0.8s						
MT08	**Bocatoma Ro**	**2.44**	**145**	*eP*	**Pb**	**16 38 58.0**	**-1.0**
MT08				*i* S	**Sb**	**16 39 29.2**	**-0.1**
MT08				IAML		16 39 35.5	
	comp=E,828nm,0.5s						
MT08	**Bocatoma Ro**	**2.44**	**145**	*eP*	**Pb**	**16 38 57.8**	**-1.3**
MT08				*eS*	**Sb**	**16 39 30.2**	**+1.0**
MT08				IAML		16 39 38.0	
	comp=Z,462nm,0.5s						
MT12	**Pirque**	**2.47**	**157**	*eP*	**Pn**	**16 38 56.7**	**+1.4**
MT12				*i* S	**Sn**	**16 39 26.6**	**+1.0**
MT12				IAML		16 39 35.6	
	comp=N,2μm,0.5s						
ACDV	**Cuesta del Vie**	**2.56**	**61**	*eP*	**Pb**	**16 39 01.4**	**+0.4**
ACDV				*eS*	**Sg**	**16 39 37.6**	**+0.5**
ACDV				IAML		16 39 54.3	
	comp=Z,232nm,1.6s						
ZON	**Zonda**	**2.58**	**93**	Pn	**Pb**	**16 39 01.1**	**-0.2**
ZON	**Zonda**	**2.58**	**93**	*eP*	**Pb**	**16 39 00.9**	**-0.4**
ZON				*eS*	**Sg**	**16 39 37.9**	**+0.1**
ZON				IAML		16 39 48.3	
	comp=Z,306nm,0.6s						
LCO	**Las Campanas**	**2.58**	**20**		**Pn**	**16 38 58.8**	**+1.7**
LCO	**Las Campanas**	**2.58**	**20**	*eP*	**Pn**	**16 38 58.7**	**+1.7**
LCO				*i* S	**Sb**	**16 39 32.6**	**-0.9**
LCO	**Las Campanas**	**2.58**	**20**	*eP*	**Pn**	**16 38 58.8**	**+1.7**
LCO				*eS*	**Sn**	**16 39 27.9**	**-0.8**
LCO				IAML		16 39 45.0	
	comp=Z,741nm,0.3s						
SJA	**San Juan**	**2.68**	**92**	*eP*	**Pn**	**16 38 58.6**	**+0.4**
SJA				IAML		16 39 50.8	
	comp=Z,283nm,0.4s						
ASAL	**Salagasta**	**2.68**	**116**	*eP*	**Pb**	**16 39 03.0**	**0.0**
ASAL				*eS*	**Sb**	**16 39 37.6**	**+1.5**
BO04	**La Punta**	**2.69**	**160**		**Pn**	**16 38 59.2**	**+1.0**
BO04	**La Punta**	**2.69**	**160**	*eP*	**Pn**	**16 38 59.5**	**+1.2**
BO04				*i* S	**Sn**	**16 39 31.5**	**+0.5**
BO04				IAML		16 39 43.6	
	comp=E,840nm,0.5s						
LMEL	**Las Melosas**	**2.70**	**153**	*eP*	**Pn**	**16 39 00.3**	**+1.8**
LMEL				*i* S	**Sn**	**16 39 32.8**	**+1.4**
LMEL				IAML		16 39 41.8	
	comp=N,707nm,0.3s						
LMEL	**Las Melosas**	**2.70**	**153**	*eP*	**Pn**	**16 39 00.4**	**+1.9**
LMEL				*eS*	**Sn**	**16 39 34.2**	**+2.8**
RTLL	**Cerro Villicun**	**2.76**	**88**	*eP*	**Pb**	**16 39 04.5**	**+0.1**
RTLL				*eS*	**Sg**	**16 39 41.7**	**-1.8**
CFA	**Coronel Fontan**	**2.96**	**94**	*eP*	**Pn**	**16 39 01.1**	**-0.9**
CFA				*eS*	**Sg**	**16 39 49.6**	**-0.3**
BO01	**Tunca**	**2.97**	**170**		**Pn**	**16 39 02.1**	**0.0**
BO01	**Tunca**	**2.97**	**170**	*eP*	**Pn**	**16 39 03.0**	**+0.8**
BO01				*eS*	**Sn**	**16 39 40.5**	**+2.5**
BO01				IAML		16 39 49.7	
	comp=Z,212nm,0.9s						
AC04	**Llanos de Chal**	**3.29**	**10**		**Pn**	**16 39 07.4**	**+1.0**
AC04	**Llanos de Chal**	**3.29**	**10**	*eP*	**Pn**	**16 39 07.5**	**+1.0**
AC04				IAML		16 40 04.8	
	comp=Z,205nm,0.7s						
BO02	**Sierra Bellavi**	**3.42**	**167**		**Pn**	**16 39 09.0**	**+0.7**
BO02	**Sierra Bellavi**	**3.42**	**167**	*eP*	**Pn**	**16 39 09.6**	**+1.3**
BO02				IAML		16 40 03.9	
	comp=Z,378nm,0.6s						
AVFE	**Valle Fertil**	**3.73**	**79**	*eP*	**Pn**	**16 39 16.3**	**+3.8**
AVFE				IAML		16 40 21.6	
	comp=Z,95nm,0.5s						
VCA	**Vinchina**	**4.06**	**49**	*eS*	**Sb**	**16 40 12.6**	**-3.3**
AC02	**Maricunga**	**5.12**	**27**		**Pn**	**16 39 34.1**	**+2.0**
BI02	**San Fabin de**	**5.21**	**176**		**Pn**	**16 39 33.3**	**+0.4**
SNAA	**Sanae**	**53.83**	**159**	P	**P**	**16 47 37.0**	**-0.7**
SNAA				IAmb	IAmb	16 47 50.7	
	comp=Z,5.3nm,1.4s						
QSPA	**South Pole Qui**	**58.77**	**180**	P	**P**	**16 48 11.9**	**-1.2**
QSPA				IAmb	IAmb	16 48 50.9	
	comp=Z,6.2nm,1.4s						

*PRE **30** 16:44:54.6±1.1,26°.24S×27°.72E, h2km, ML2.5*
*BGS! **30** 16:44:58.3±1.6,26°.29S×27°.75E, h216km±45km, ML3.1*
ISC 30 16:44:54.8±1.2,**26°27S**±0°.03×**27°.77E**±0°.03,**h5**km±9km,
n24,σ1°**68**/46,**South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WDLM	**Western Deep L**	**0.34**	**244**	*eP*	**Pg**	**16 45 01.7**	**+0.1**
WDLM				*eS*	**Sg**	**16 45 06.4**	**+0.2**
WDLM				IAML		16 45 14.1	
	comp=Z,345nm,0.2s						
HRAO	**HartRAO**	**0.39**	**349**	*eP*	**Pg**	**16 45 01.7**	**-0.6**
HRAO				*eS*	**Sg**	**16 45 06.5**	**-1.0**
HRAO				IAML		16 45 13.3	
	comp=Z,385nm,1.1s						
SNKL	**Senekal, Frees**	**1.99**	**180**	*eP*	**Pb**	**16 45 31.3**	**-0.4**
SNKL				*eS*	**Sb**	**16 45 56.9**	**0.0**
SNKL				IAML		16 46 04.3	
	comp=Z,91nm,0.5s						
CRLN	**Carolina, Mapu**	**2.05**	**83**	*eP*	**Pb**	**16 45 31.6**	**-0.9**
CRLN				*eS*	**Sb**	**16 45 57.9**	**-0.5**
CRLN				IAML		16 46 01.0	
	comp=Z,37nm,0.3s						
LBTB	**Lobatse**	**2.33**	**302**	*eP*	**Pn**	**16 45 34.2**	**+0.4**
LBTB				*eS*	**Sn**	**16 46 02.2**	**-0.6**
LBTB				IAML		16 46 09.2	
	comp=Z,123nm,0.3s						
NWCL	**Newcastle**	**2.39**	**128**	*eP*	**Pb**	**16 45 37.3**	**-1.1**
NWCL				*eS*	**Sb**	**16 46 06.3**	**-2.0**
NWCL				IAML		16 46 15.3	
	comp=Z,38nm,0.4s						
LEPH	**Lephalale, Lim**	**2.41**	**1**	*eP*	**Pn**	**16 45 35.3**	**+0.4**
LEPH				*eS*	**Sn**	**16 46 04.5**	**-0.3**
LEPH				IAML		16 46 10.6	
	comp=Z,40nm,0.3s						
MAKGR	**Makgori**	**2.71**	**279**	*i* P	**Pb**	**16 45 45.1**	**+1.3**
MAKGR				*i* S	**Sb**	**16 46 16.8**	**-0.5**
MAKGR				IAML		16 46 23.4	
	comp=N,202nm,0.5s						
PILG	**Pilgrimsrest,**	**2.97**	**64**	*eP*	**Pn**	**16 45 44.2**	**+1.4**
PILG				*eS*	**Sn**	**16 46 19.6**	**+0.6**
PILG				IAML		16 46 30.3	
	comp=Z,35nm,0.5s						
BOSA	**Boshof**	**3.23**	**223**	*eP*	**Pn**	**16 45 47.8**	**+1.6**
BOSA				*eS*	**Sn**	**16 46 24.7**	**-0.4**
BOSA				IAML		16 46 42.6	
	comp=Z,14nm,0.5s						
LPHEP	**Lephephe**	**3.38**	**329**	*i* P	**Pn**	**16 45 51.2**	**+2.9**
LPHEP				*i* S	**Sn**	**16 46 31.7**	**+2.9**
LPHEP				IAML		16 46 46.1	
	comp=N,24nm,0.5s						
SKOMA	**Sekoma**	**3.88**	**296**	*i* P	**Pn**	**16 45 57.2**	**+1.9**
SKOMA				AMP		16 46 60.0	
	comp=E,652nm,0.1s						
KDWAN	**Kaudwane**	**4.03**	**315**	*i* P	**Pn**	**16 45 59.5**	**+2.1**
KDWAN				*i* S	**Sn**	**16 46 44.7**	**-0.3**
KDWAN				IAML		16 47 02.7	
	comp=N,68nm,0.4s						
PMBG	**Pietermaritzbu**	**4.04**	**144**	*eP*	**Pn**	**16 45 59.9**	**+2.6**
PMBG				*eS*	**Sn**	**16 46 46.4**	**+1.4**
PMBG				IAML		16 47 04.9	
	comp=Z,18nm,0.3s						
MOPA	**Mopani**	**4.29**	**51**	*eP*	**Pn**	**16 46 02.7**	**+2.0**
MOPA				*eS*	**Sn**	**16 46 51.0**	**-0.1**
MOPA				IAML		16 47 11.0	
	comp=Z,31nm,0.5s						
MUSN	**Musina, Limpop**	**4.40**	**26**	*eP*	**Pn**	**16 46 03.7**	**+1.4**
MUSN				*eS*	**Sn**	**16 46 52.8**	**-1.2**
MUSN				IAML		16 47 15.4	
	comp=Z,14nm,0.4s						
KSTD	**Kokstad**	**4.54**	**163**	*eP*	**Pn**	**16 46 06.1**	**+1.9**
KSTD				*eS*	**Sn**	**16 46 58.4**	**+1.0**
KSTD				IAML		16 47 23.4	
	comp=Z,5.3nm,0.4s						
BROLN	**Tlhalogang**	**5.17**	**355**	*i* P	**Pn**	**16 46 13.1**	**+0.2**
BROLN				IAML		16 47 16.2	
	comp=E,12nm,0.6s						
ALKP	**Alkanpan, Nort**	**6.09**	**232**	*eP*	**Pn**	**16 46 26.4**	**+0.8**
ALKP				*eS*	**Sn**	**16 47 33.5**	**-2.2**
ALKP				IAML		16 48 15.9	
	comp=Z,9.6nm,0.5s						
BFON	**Badsfontein, M**	**6.56**	**212**	*eP*	**Pn**	**16 46 33.4**	**+1.4**
BFON				*eS*	**Sn**	**16 47 45.0**	**-2.4**
BFON				IAML		16 48 32.9	
	comp=Z,5.8nm,0.5s						
GRAF	**Camdeboo Natio**	**6.63**	**205**	*eP*	**Pn**	**16 46 35.0**	**+2.0**
GRAF				*eS*	**Sn**	**16 47 46.8**	**-2.2**
GRAF				IAML		16 48 33.9	
	comp=Z,4.7nm,0.8s						
BRAK	**Brakfontein**	**6.95**	**217**	*eP*	**Pn**	**16 46 38.2**	**+0.8**
BRAK				*eS*	**Sn**	**16 47 54.0**	**-2.9**
BRAK				IAML		16 48 39.4	
	comp=Z,4.1nm,0.6s						
GRAN	**Grantham**	**7.74**	**218**	*eP*	**Pn**	**16 46 49.9**	**+1.6**
GRAN				*eS*	**Sn**	**16 48 13.4**	**-2.9**
GRAN				IAML		16 48 29.8	
	comp=Z,3.1nm,0.4s						
FRAZ	**Fraserburg**	**7.92**	**223**	*eP*	**Pn**	**16 46 51.5**	**+0.8**
FRAZ				*eS*	**Sn**	**16 48 17.0**	**-3.7**
FRAZ				IAML		16 48 24.3	
	comp=Z,2.4nm,0.8s						

DJA 30 16:52:55.1±0.6,**8°S**±13°×**12°8E**±°,**h142**km±22km,**M4.4**/7,
mb4.7/1,**MLv4.2**/7,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.50**	**97**	P	Pn	16 53 47.9	-0.7
SAUI				S	Sn	16 54 30.6	+0.5
SOEI	**Soe**	**4.09**	**238**	P	Pn	16 53 57.2	+0.7
SOEI				S	Sn	16 54 44.6	+0.4
BATI	**Baumata**	**4.84**	**237**	P	Pn	16 54 07.0	+0.7
BATI				S	Sn	16 55 02.0	+0.3
WSI	**Waingapu**	**7.69**	**254**	P	Pn	16 54 43.1	-1.3

NOU 30 16:58:04.7,14°.34S×166°.75E,h136km,**MLv4.5**/8,
Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLAKA	**Lakatoro**	**1.87**	**160**	P	Pn	16 58 36.9	-0.6
DVP	**Devils Point**	**3.64**	**158**	P	Pn	16 58 58.0	-1.8
HURO	**Huro Makira**	**6.10**	**309**	P	Pn	16 59 32.5	-0.2
YATNC	**Mamie plateau,**	**7.68**	**179**	P	Pn	16 59 54.9	+1.1
PINNC	**Pines Island,**	**8.26**	**176**	P	Pn	17 00 02.8	+1.2

*IDC **30** 17:01:41.7±0.9,67°.08N×20°.89E, h0km, mbtmp3.0/4,*
ML2.0/4, Error ellipse: s-maj=18.4km s-min=6.6km
az=115.0
*UPP **30** 17:01:41.3±0.1,67°.04N×20°.96E, h0km, ML2.3, Unknown*
ISC 30 17:01:41.2±1.2,**67°04N**±0°.03×**20°.95E**±0°.03,**h3**km±11km,
n20,σ0°**98**/26,**Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.17**	**299**	P	**Pg**	**17 01 44.9**	**+0.4**
DUNU				S	**Sg**	**17 01 47.4**	**+0.7**
MASU	**Masugnsbyn**	**0.58**	**44**	P	**Pg**	**17 01 52.4**	**0.0**
MASU				S	**Sg**	**17 02 00.2**	**+0.3**
ERTU	**Ertsjaerv**	**0.69**	**134**	P	**Pg**	**17 01 54.3**	**-0.1**
PAJU	**Pajala**	**0.85**	**90**	P	**Pg**	**17 01 57.1**	**-0.3**
HARU	**Harads**	**0.88**	**179**	P	**Pg**	**17 01 58.0**	**-0.1**
RATU	**Laukkuluspa**	**0.94**	**327**	P	**Pg**	**17 01 58.8**	**-0.5**
KUA	**Kurravaara**	**0.95**	**346**	P	**Pg**	**17 01 59.0**	**-0.3**
KUA				S	**Sg**	**17 02 11.8**	**+0.2**
SALU	**Saltoluokta**	**1.01**	**291**	P	**Pg**	**17 02 00.3**	**-0.2**
SALU	**Saltoluokta**	**1.01**	**291**	*eP*	**Pb**	**17 02 01.1**	**-0.2**
LANU	**Lannavaara**	**1.09**	**21**	P	**Pg**	**17 02 01.5**	**-0.5**
NIKU	**Nikkaluokta**	**1.11**	**319**	P	**Pg**	**17 02 01.9**	**-0.6**
KOVU	**Salmi**	**1.23**	**346**	P	**Pg**	**17 02 04.1**	**-0.6**
KALU	**Kalix**	**1.53**	**140**	P	**Pn**	**17 02 09.4**	**+0.2**
SJUU	**Sjulsmark**	**1.56**	**170**	P	**Pn**	**17 02 10.1**	**+0.4**
HEF	**Hetta**	**1.72**	**36**	*eP*	**Pn**	**17 02 12.5**	**+0.6**
I37NO	**I37NO**	**2.22**	**338**	I	I	17 15 40.0	
	0.1nm,0.7s,baz=157,slow=325,SNR=2.5						
ARCES	**ARCESS Array B**	**3.02**	**32**	Pn	**Pn**	**17 02 30.4**	**+0.6**
	0.2nm,0.3s,baz=210,slow=14,SNR=35						
ARCES				Pg	**Pb**	**17 02 34.1**	**-1.4**
	0.4nm,0.3s,baz=212,slow=14,SNR=2.5						
ARCES				Sn	**Sn**	**17 03 08.2**	**+1.7**
	0.7nm,0.3s,baz=210,slow=23,SNR=10						
ARCES				Lg	Lg	17 03 16.1	
	0.7nm,0.3s,baz=208,slow=26,SNR=10						
	0.7nm,0.3s						
FINES	**FINESS Array B**	**6.05**	**156**	Pn	**Pn**	**17 03 13.3**	**+2.0**
	0.1nm,0.3s,baz=348,slow=13,SNR=22						
FINES				Sn	**Sn**	**17 04 22.4**	**+1.5**
	0.1nm,0.3s,baz=343,slow=23,SNR=1.9						
	1.9nm,0.8s						
NOA	**NORSAR Array B**	**7.38**	**220**	Pn	**Pn**	**17 03 29.3**	**-0.3**
	baz=33,slow=11,SNR=8.6						
	1.0nm,0.9s						
HFS	**Hagfors**	**7.65**	**208**	Pn	**Pn**	**17 03 32.8**	**-0.4**
	0.1nm,0.3s,baz=26,slow=14,SNR=1.1						
HFS				Sn	**Sn**	**17 04 57.6**	**-2.6**
	baz=211,slow=23,SNR=1.3						
	0.6nm,0.2s						

*DJA **30** 17:01:56.7±0.5,2°.5S×140°.44E, h58km±17km, mb3.4/7,*
mbtmp3.9/9, MS3.3/1, Error ellipse: s-maj=39.8km
s-min=18.5km az=113.0
ISC 30 17:01:57.1±1.2,**2°.4S**±0°.1×**140°.18E**±0°.05,**h32**km±8km,**n18**,
σ1°**20**/20,**mb3.7**/7,**Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.22**	**183**	P	**Pb**	**17 02 03.5**	**-0.3**
GENI				S	**Sb**	**17 02 08.3**	**0.0**
JAY	**Jayapura**	**0.54**	**105**	P	**Pn**	**17 02 08.9**	**+0.3**
	2μm,0.3s,baz=238,slow=9.8,SNR=6787						
JAY				S	**Sn**	**17 02 17.6**	**+0.9**
	3μm,0.4s,baz=111,slow=19,SNR=18						
JAY	**Jayapura**	**0.54**	**105**	P	**Pn**	**17 02 09.0**	**+0.3**
JAY				S	**Sn**	**17 02 17.5**	**+0.8**
SMPI	**Sarmi**	**1.52**	**285**	P	**Pn**	**17 02 22.2**	**+0.2**
WAMI	**Wamena**	**2.10**	**224**	P	**Pn**	**17 02 30.7**	**+0.7**
BAKI	**Biak**	**4.24**	**286**	P	**Pn**	**17 02 59.7**	**+0.2**
FAKI	**Fak Fak**	**7.94**	**266**	P	**Pn**	**17 03 50.3**	**-0.1**
	51nm,1.6s						
PMG	**Port Moresby**	**9.85**	**135**	LR	LR	17 09 09.1	
	comp=Z,162nm,19.0s,baz=312,slow=45						
BATI	**Baumata**	**18.16**	**244**	P	**Pn**	**17 06 08.8**	**+1.8**
	30nm,0.8s,baz=146,slow=2.0,SNR=8.6						
WRA	**Warramunga Arr**	**18.37**	**198**	P	**P**	**17 06 08.8**	**-0.6**
	2.1nm,0.6s,baz=22,slow=12,SNR=34						
FITZ	**Fitzroy Crossi**	**21.16**	**221**	P	**P**	**17 06 38.9**	**-0.8**
	1.7nm,0.7s,baz=59,slow=13,SNR=6.6						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**22.02**	**196**	P	**P**	**17 06 47.4**	**-1.7**
	2.3nm,0.6s,baz=26,slow=12,SNR=46						
	2.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**45.55**	**299**	P	**P**	**17 10 15.6**	**+1.2**
	0.6nm,0.4s,baz=129,slow=5.7,SNR=4.2						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**70.43**	**322**	P	**P**	**17 13 09.2**	**+0.8**
	0.5nm,0.6s,baz=104,slow=7.8,SNR=6.0						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**74.31**	**324**	P	**P**	**17 13 33.1**	**+1.8**
	0.3nm,0.6s,baz=119,slow=5.7,SNR=2.5						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**79.88**	**325**	P	**P**	**17 14 01.0**	**-1.6**
	0.4nm,0.4s,baz=114,slow=7.3,SNR=5.7						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**84.92**	**24**	P	**P**	**17 14 27.2**	**-1.5**
	0.4nm,0.7s,baz=252,slow=4.5,SNR=4.5						
	0.4nm,0.7s						
DBIC	**Dimbokro**	**144.89**	**278**	PKPbc	**PKPbc**	**17 21 29.5**	**-1.8**
	4.4nm,0.9s,baz=98,slow=7.0,SNR=3.7						

AUST 30 17:21:46.2±0.3,**18°S**±3°×**12°0E**±°,**h10**km,**mb4.2**/9,
ML3.5/5,**ML4.2**/4,**Error ellipse: s-maj=8.9km**
s-min=4.7km az=118.5,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior**	**1.83**	**81**	P	Pb	17 22 20.0	+0.3
AUBRM				S	Sg	17 22 45.1	+0.1
MBWA	**Marble Bar**	**2.96**	**191**	P	Pn	17 22 34.6	+1.4
MBWA				S	Sn	17 23 08.7	-0.1
PSA00	**Pilbara Seismi**	**3.34**	**188**	P	Pn	17 22 39.8	+1.2
PSA00				S	Sn	17 23 17.8	-0.6
FITZ	**Fitzroy Crossi**	**5.05**	**89**	P	Pn	17 23 02.1	+0.2
GIRL	**Giralia**	**7.20**	**232**	P	Pn	17 23 32.3	+0.8
	comp=Z,0.1nmcomp=Z,176μmcomp=Z,25nm,1.3s						
GIRL				S	Sn	17 24 49.0	-4.5
KNRA	**Kununurra**	**8.46**	**74**	P	Pn	17 23 49.1	+0.2
	comp=Z,0.1nmcomp=Z,9.1nm,0.6s						
KNRA				S	Sn	17 25 19.7	-4.7
CVQOZ	**Cooralya Stati**	**8.49**	**222**	P	Pn	17 23 49.5	+0.3
	comp=Z,216nm,1.3s,comp=Z,0.5nm						
CVQOZ				S	Sn	17 25 17.2	-7.9
MEEK	**Meekatharra**	**8.51**	**190**	P	Pn	17 23 49.5	0.0
MEEK	**Meekatharra**	**8.51**	**190**	S	Sn	17 25 20.2	-5.5
EDFI	**Ende, Flores**	**9.53**	**8**	P	Pn	17 24 01.9	-1.7
	comp=Z,6.6nm,1.0s,comp=Z,0.0nm						
EDFI	**Ende, Flores**	**9.53**	**8**	S	Sn	17 25 40.5	-10
PLAI	**Plampang**	**9.68**	**345**	P	Pn	17 24 05.9	+0.3
	comp=Z,23nm,1.2s,comp=Z,0.1nm						
WRKA	**Warakurna**	**10.03**	**134**	P	Pn	17 24 10.5	+0.1
	comp=Z,3.3nm,1.4s,comp=Z,0.0nm						
MORW	**Morawa**	**11.47**	**199**	P	Pn	17 24 27.7	-2.4
MTN	**Manton Dam**	**11.71**	**64**	P	Pn	17 24 32.5	-0.9
	comp=Z,16nm,1.2s						
KDU	**Kakadu**	**12.94**	**66**	P	Pn	17 24 48.9	-1.3
	comp=Z,11nm,1.9s						
KMBL	**Kambalda**	**13.14**	**174**	P	Pn	17 24 52.0	-1.0
	comp=Z,5.4nm,1.2s						

*WEL **30** 18:37:45.4±0.7,34°.5S×17°.9W±1°.2, h12km, M4.9/19,*
mB5.4/7, ML5.1/19, MLv4.9/19, Mw(mB)4.8/7, Error ellipse:
s-maj=16.9km s-min=3.3km az=109.5, confirmed
*NEIC **30** 18:37:49.0±2.1,33°.36S±0°.08×179°.0W±0°.1, h35km±1km,*
mb4.8/29, Error ellipse: s-maj=20.5km s-min=10.6km
az=117.0
*IDC **30** 18:37:49.6±1.8,33°.38S×179°.08W, h44km±15km, mb4.1/14,*
mbtmp4.4/16, ML4.3/3, MS3.6/27, Error ellipse:
s-maj=18.4km s-min=11.8km az=104.0
ISC 30 18:37:49.4±0.4,**33°.42S**±0°.05×**178°.96W**±0°.08,**h48**km,
n139,σ1°**51**/138,**mb4.7**/27,**MS3.7**/26,**6C, South of**
Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**4.24**	**12**	P	**Pn**	**18 38 50.9**	**-0.6**
GLKZ				S	**Sn**	**18 39 39.4**	**-0.4**
RAO	**Raoul Island**	**4.25**	**12**	Sn	**Sn**	**18 39 36.9**	**-3.1**
RAO	**Raoul Island**	**4.25**	**12**	P	**Pn**	**18 38 53.4**	**+1.7**
	89nm,0.3s,baz=307,slow=20,SNR=4.0						
RAO				S	**Sn**	**18 39 39.9**	**-0.2**
	307nm,0.3s,baz=115,slow=22,SNR=1.7						
RIZ	**Raoul Island**	**4.26**	**12**	S	**Sn**	**18

DZM	**Mont Dzumac**	**17.15**	**308**	P	**Pn**	**18 41 45.5**	**-0.2**
	0.2nm,0.3s,baz=126,slow=14,SNR=6.6						
DZM				LR	LR	18 47 12.7	
	comp=Z,400nm,18.7s,baz=155,slow=33						
	12nm,0.9s						
RAR	**Rarotonga**	**20.90**	**59**	LR	LR	18 48 47.8	
	comp=Z,92nm,21.4s,baz=273,slow=31						
EIDS	**Eidsvold**	**27.24**	**279**	P	**P**	**18 43 27.1**	**-1.9**
EIDS				IAmb	IAmb	18 43 32.6	
	comp=Z,15nm,1.4s						
PPT	**Papeete**	**30.73**	**66**	LR	LR	18 53 21.9	
	comp=Z,82nm,20.2s,baz=242,slow=30						
HNR	**Honiara**	**30.78**	**316**	LR	LR	18 52 16.2	
	comp=Z,21nm,21.2s,baz=41,slow=28						
STKA	**Stephens Creek**	**33.11**	**262**	P	**P**	**18 44 21.5**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=188,slow=3.3,SNR=3.7						
STKA				LR	LR	18 56 53.7	
	comp=Z,238nm,18.2s,baz=41,slow=35						
	comp=Z,1.0nm,0.8s						
CTAO	**Charters Tower**	**33.61**	**284**		**P**	**18 44 25.4**	**-0.1**
CTAO				IAmb	IAmb	18 44 28.4	
	comp=Z,12nm,0.8s						
CTAO	**Charters Tower**	**33.61**	**284**	P	**P**	**18 44 27.7**	**+2.3**
INKA	**Innaminka**	**34.99**	**268**	P	**P**	**18 44 37.1**	**-0.1**
BBOO	**Buckleboo**	**37.45**	**258**	P	**P**	**18 44 57.4**	**-0.9**
BBOO				IAmb	IAmb	18 45 45.7	
	comp=Z,24nm,1.4s						
PMG	**Port Moresby**	**39.27**	**300**	LR	LR	18 59 10.0	
	comp=Z,180nm,18.9s,baz=143,slow=33						
COEN	**Coen**	**39.43**	**290**	P	**P**	**18 45 13.2**	**-1.8**
COEN				IAmb	IAmb	18 45 30.4	
	comp=Z,60nm,1.9s						
RABL	**Rabaul**	**39.63**	**311**	P	**P**	**18 45 14.3**	**-2.4**
XMAS	**Kiritimati**	**40.70**	**34**	P	**P**	**18 45 22.7**	**-2.7**
AS31	**Alice Springs**	**42.23**	**271**		**P**	**18 45 38.0**	**-0.1**
ASAR	**Alice Springs**	**42.23**	**271**		**P**	**18 45 36.5**	**-1.6**
ASAR	**Alice Springs**	**42.23**	**271**	P	**P**	**18 45 37.7**	**-0.4**
	comp=Z,10nm,0.7s,baz=110,slow=7.4,SNR=142						
ASAR				PcP	**PcP**	**18 47 29.8**	**-1.7**
	comp=Z,1.4nm,0.7s,baz=122,slow=3.6,SNR=5.1						
ASAR				ScP	**ScP**	**18 51 19.8**	**+1.8**
	comp=Z,0.3nm,0.8s,baz=170,slow=6.2,SNR=2.4						
	comp=Z,10nm,0.7s						
WR8	**Warramunga Arr**	**43.35**	**276**		**P**	**18 45 47.0**	**-0.2**
WRA	**Warramunga Arr**	**43.49**	**276**		**P**	**18 45 48.0**	**-0.3**
WRA	**Warramunga Arr**	**43.49**	**276**	P	**P**	**18 45 47.7**	**-0.6**
	comp=Z,4.9nm,0.7s,baz=118,slow=7.7,SNR=32						
WRA				PcP	**PcP**	**18 47 34.2**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=124,slow=3.2,SNR=1.6						
WRA				LR	LR	19 02 32.3	
	comp=Z,119nm,19.4s,baz=14,slow=34						
	comp=Z,4.9nm,0.7s						
WB0	**Warramunga Arr**	**43.53**	**276**	P	**P**	**18 45 48.7**	**+0.1**
WB0				IAmb	IAmb	18 46 03.6	
	comp=Z,6.0nm,0.5s						
SBA	**Scott Base**	**44.97**	**184**		**P**	**18 46 00.6**	**+1.3**
SBA				IAmb	IAmb	18 46 15.7	
	comp=Z,22nm,1.9s						
VNDA	**Vanda**	**45.01**	**186**	P	**P**	**18 46 01.8**	**+2.1**
VNDA				IAmb	IAmb	18 46 23.3	
	comp=Z,10nm,1.9s						
VNDA	**Vanda**	**45.01**	**186**	P	**P**	**18 46 00.7**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=334,slow=6.1,SNR=6.2						
	comp=Z,0.5nm,0.9s						
JAY	**Jayapura**	**48.64**	**301**	P	**P**	**18 46 28.6**	**-0.2**
	comp=Z,19nm,0.9s,baz=64,slow=1.3,SNR=10						
	comp=Z,19nm,0.9s						
MTN	**Manton Dam**	**49.73**	**282**	P	**P**	**18 46 36.1**	**-1.0**
MTN				IAmb	IAmb	18 47 48.6	
	comp=Z,18nm,1.4s						
CCD	**Concordia, Ant**	**49.83**	**197**	P	**P**	**18 46 39.3**	**+1.7**
KNRA	**Kununurra**	**50.20**	**277**		**P**	**18 46 40.3**	**-0.4**
KNRA				IAmb	IAmb	18 46 42.3	
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.61**	**273**		**P**	**18 46 50.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**51.61**	**273**	P	**P**	**18 46 51.0**	**-0.3**
	comp=Z,5.7nm,0.8s,baz=150,slow=6.1,SNR=16						
FITZ				LR	LR	19 08 06.9	
	comp=Z,200nm,18.9s,baz=127,slow=35						
	comp=Z,5.7nm,0.8s						
CASY	**Casey**	**52.10**	**209**		**P**	**18 46 54.2**	**-0.1**
CASY				IAmb	IAmb	18 46 56.2	
	comp=Z,9.7nm,0.9s						
CASY	**Casey**	**52.10**	**209**	P	**P**	**18 46 54.7**	**+0.5**
NWAO	**Narrogin (SRO)**	**52.62**	**252**	P	**P**	**18 46 57.7**	**-1.0**
NWAO				IAmb	IAmb	18 47 20.2	
	comp=Z,36nm,1.7s						
MORW	**Morawa**	**54.94**	**256**	P	**P**	**18 47 14.6**	**-1.1**
MORW				IAmb	IAmb	18 48 47.6	
	comp=Z,18nm,1.2s						
QSPA	**South Pole Qui**	**56.70**	**180**		**P**	**18 47 29.9**	**+2.1**
QSPA				IAmb	IAmb	18 47 40.2	
	comp=Z,19nm,1.2s						
QSPA	**South Pole Qui**	**56.70**	**180**	P	**P**	**18 47 28.4**	**+0.6**
	comp=Z,7.1nm,0.8s,baz=36,slow=1.8,SNR=25						
QSPA				LR	LR	19 09 43.9	
	comp=Z,44nm,18.1s,baz=54,slow=34						
	comp=Z,7.1nm,0.8s						
QSPA	**South Pole Qui**	**56.70**	**180**	P	**P**	**18 47 32.1**	**+4.3**
SOEI	**Soe**	**57.04**	**281**	P	**P**	**18 47 30.7**	**-0.2**
BATI	**Baumata**	**57.29**	**280**	P	**P**	**18 47 33.2**	**+0.6**
	comp=Z,16nm,0.7s,baz=180,slow=1.0,SNR=4.1						
BATI				LR	LR	19 10 15.9	
	comp=Z,110nm,21.4s,baz=138,slow=34						
	comp=Z,16nm,0.7s						
KAPI	**Kappang**	**63.39**	**282**	LR	LR	19 16 04.2	
	comp=Z,66nm,18.6s,baz=90,slow=36						
MAW	**Mawson**	**69.20**	**201**	P	**P**	**18 48 51.7**	**+1.1**
	comp=Z,4.7nm,0.8s,baz=143,slow=6.5,SNR=12						
MAW				LR	LR	19 17 41.7	
	comp=Z,64nm,20.2s,baz=110,slow=35						
	comp=Z,4.7nm,0.8s						
PMSA	**Palmer Station**	**69.86**	**156**	P	**P**	**18 48 56.1**	**+1.5**
SYO	**Syowa Base**	**73.99**	**194**⇑	*eP*	**P**	**18 49 20.8**	**+1.4**
SYO	**Syowa Base**	**73.99**	**194**⇑	*ep*P	pP	18 49 31.3	-0.8
TROLL	**Troll, Antarti**	**74.85**	**180**	⇑P	**P**	**18 49 27.1**	**+2.5**
	comp=Z,275nm,0.9s						
SNAA	**Sanae**	**75.16**	**179**	⇑P	**P**	**18 49 28.6**	**+2.3**
	comp=Z,53nm,0.4s						
SNAA	**Sanae**	**75.16**	**179**		**P**	**18 49 27.3**	**+1.0**
SNAA				IAmb	IAmb	18 49 38.9	
	comp=Z,40nm,2.0s						
SNAA	**Sanae**	**75.16**	**179**	P	**P**	**18 49 27.5**	**+1.2**
	comp=Z,3.1nm,0.9s,baz=156,slow=3.8,SNR=12						
SNAA				LR	LR	19 20 27.6	
	comp=Z,35nm,18.6s,baz=133,slow=34						
	comp=Z,3.1nm,0.9s						
VNA3	**Neumayer Olymp**	**75.35**	**176**	⇑P	**P**	**18 49 29.2**	**+1.9**
	comp=Z,12nm,0.6s						
VNA1	**Neumayer--Stat**	**76.01**	**177**	⇑P	**P**	**18 49 33.8**	**+2.8**
	comp=Z,10nm,0.8s						
H03S2	**Juan Fernandez**	**79.48**	**124**	T	T	20 18 08.4	
	baz=235,slow=74,SNR=13						
H03S1	**Juan Fernandez**	**79.49**	**124**	T	T	20 18 09.3	
	baz=235,slow=74,SNR=13						
H03S3	**Juan Fernandez**	**79.50**	**124**	T	T	20 18 14.0	
	baz=235,slow=74,SNR=18						
H03N3	**Juan Fernandez**	**79.69**	**123**	T	T	20 18 26.6	
	baz=239,slow=72,SNR=42						
H03N2	**Juan Fernandez**	**79.69**	**123**	T	T	20 18 26.1	
	baz=239,slow=72,SNR=43						
H03N1	**Juan Fernandez**	**79.71**	**123**	T	T	20 18 19.4	
	baz=239,slow=72,SNR=51						
MJAR	**Matsushiro Arr**	**80.27**	**326**	P	**P**	**18 49 55.6**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=186,slow=4.9,SNR=2.6						
MJAR				LR	LR	19 20 47.8	
	comp=Z,18nm,20.2s,baz=166,slow=32						
	comp=Z,0.5nm,0.4s						
PLCA	**Paso Flores**	**81.05**	**133**	LR	LR	19 20 43.8	
	comp=Z,13nm,18.5s,baz=246,slow=32						
GSI	**Gunungsitoli**	**85.25**	**275**		**P**	**18 50 20.4**	**-1.0**
KSRS	**Korea Array**	**86.13**	**320**	P	**P**	**18 50 25.1**	**0.0**
	comp=Z,0.7nm,0.8s,baz=151,slow=4.5,SNR=2.4						
	comp=Z,0.7nm,0.8s						
LPIG	**La Paz**	**86.81**	**58**	LR	LR	19 19 57.1	
	comp=Z,36nm,21.5s,baz=220,slow=29						
PETK	**Petropavlovsk-**	**88.54**	**346**	P	**P**	**18 50 36.6**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=104,slow=6.3,SNR=4.6						
	comp=Z,3.0nm,0.8s						
PFO	**Pinyon Flats O**	**88.84**	**48**	LR	LR	19 28 36.5	
	comp=Z,27nm,18.1s,baz=193,slow=34						
CNBA	**Chernabura Isl**	**89.45**	**11**	P	**P**	**18 50 40.4**	**-0.2**
NVAR	**Mina Array Bea**	**91.00**	**43**	P	**P**	**18 50 50.8**	**+2.2**
	comp=Z,0.9nm,0.7s,baz=222,slow=9.1,SNR=5.2						
	comp=Z,0.9nm,0.7s						
CHGN	**Chignik**	**91.07**	**11**	P	**P**	**18 50 48.9**	**+0.9**
PLK4	**Peulik 4**	**92.69**	**12**		**P**	**18 50 56.0**	**+0.3**

NNA	**Nana**	**93.36**	**107**	LR	LR	19 23 34.2	
	comp=Z,81nm,21.9s,baz=204,slow=29						
KDAK	**Kodiak Island**	**93.53**	**14**	LR	LR	19 29 01.7	
	comp=Z,20nm,18.1s,baz=203,slow=33						
CMAR	**Chiang Mai Arr**	**93.63**	**290**	LR	LR	19 36 36.6	
	comp=Z,14nm,18.1s,baz=145,slow=38						
ELK	**Elko**	**94.31**	**43**	LR	LR	19 26 45.9	
	comp=Z,30nm,19.3s,baz=218,slow=31						
N15K	**Kwethluk River**	**94.54**	**9**	P	**P**	**18 51 04.6**	**+0.5**
TXAR	**Lajitas Array**	**94.69**	**58**	LR	LR	19 24 12.5	
	comp=Z,21nm,21.2s,baz=214,slow=29						
ANMO	**Albuquerque**	**96.09**	**52**	LR	LR	19 25 24.1	
	comp=Z,38nm,21.5s,baz=312,slow=30						
BBB	**Bella Bella**	**96.14**	**29**	LR	LR	19 25 58.2	
	comp=Z,29nm,19.9s,baz=178,slow=30						
NEW	**Newport**	**98.29**	**37**	LR	LR	19 27 20.0	
	comp=Z,32nm,21.3s,baz=172,slow=30						
CPUP	**Villa Florida**	**98.73**	**129**	LR	LR	19 27 57.6	
	comp=Z,14nm,21.6s,baz=86,slow=30						
PDAR	**Pinedale Array**	**98.87**	**44**	LR	LR	19 29 05.2	
	comp=Z,15nm,21.4s,baz=228,slow=31						
MKAR	**Makanchi Array**	**119.06**	**309**	PKP	**PKPdf**	**18 56 31.1**	**-1.5**
	comp=Z,1.0nm,0.9s,baz=135,slow=1.0,SNR=6.3						
ZALV	**Zalesovo Beam**	**119.72**	**317**	PKP	**PKPdf**	**18 56 32.5**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=123,slow=7.1,SNR=2.3						
KURBB	**Kurchatov Arra**	**122.55**	**312**	PKP	**PKPdf**	**18 56 38.9**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=113,slow=1.9,SNR=14						
BVAR	**Borovoye Array**	**127.96**	**314**	PKP	**PKPdf**	**18 56 49.0**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=90,slow=1.6,SNR=8.9						
SPITS	**Spitsbergen Ar**	**134.65**	**356**	PKP	**PKPdf**	**18 57 00.4**	**-1.0**
	comp=Z,4.2nm,0.6s,baz=110,slow=7.2,SNR=5.1						
ARCES	**ARCESS Array B**	**141.35**	**347**	PKP	**PKPdf**	**18 57 12.0**	**-1.9**
	comp=Z,2.9nm,0.6s,baz=38,slow=2.2,SNR=6.4						
GEVA	**Gevas**	**145.82**	**290**		**PKPdf**	**18 57 22.0**	**-0.9**
KBZ	**Khabaz**	**146.01**	**300**	PKPbc	**PKPdf**	**18 57 23.8**	**+1.0**
	comp=Z,2.2nm,0.9s,baz=18,slow=7.4,SNR=3.7						
GURO	**Guruymak-BITLI**	**146.64**	**291**	PKPdf	**PKPdf**	**18 57 23.2**	**-1.0**
FIA1	**FINESS Array S**	**147.66**	**338**	PKPbc	**PKPbc**	**18 57 27.5**	**-0.3**
FINES	**FINESS Array B**	**147.66**	**338**		**PKPbc**	**18 57 27.7**	**-0.2**
FINES	**FINESS Array B**	**147.66**	**338**	PKPbc	**PKPbc**	**18 57 28.6**	**+0.8**
	comp=Z,11nm,0.7s,baz=39,slow=4.2,SNR=33						
MMAI	**Mount Meron Ar**	**151.32**	**279**	PKPbc	**PKPbc**	**18 57 38.0**	**+0.1**
	comp=Z,5.1nm,0.7s,baz=104,slow=1.0,SNR=8.9						
MMAI				PKPab	**PKPab**	**18 57 47.5**	**+1.3**
	comp=Z,1.7nm,0.5s,baz=91,slow=3.3,SNR=3.8						
NB2	**NORSAR Subarra**	**151.59**	**350**	PKP	**PKiKP**	**18 57 38.6**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=8.0,slow=8.9,SNR=3.1						
NOA	**NORSAR Array B**	**151.59**	**350**	PKP	**PKPdf**	**18 57 32.3**	**+1.0**
	comp=Z,2.0nm,0.9s,baz=8.0,slow=8.9,SNR=3.1						
NOA				PKPbc	**PKPbc**	**18 57 37.8**	**+0.2**
	comp=Z,5.9nm,0.8s,baz=20,slow=4.7,SNR=37						
HFS	**Hagfors**	**152.01**	**346**	PKPbc	**PKPbc**	**18 57 39.4**	**+0.9**
	comp=Z,14nm,0.7s,baz=96,slow=1.5,SNR=18						
HFS				PKPab	**pPKPdf**	**18 57 46.3**	**+1.0**
	comp=Z,1.6nm,0.5s,baz=75,slow=12,SNR=4.0						
AKASG	**Malin Array Be**	**153.11**	**318**	PKPbc	**PKPbc**	**18 57 41.0**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=60,slow=2.2,SNR=5.1						
AKASG				PKPab	**sPKPdf**	**18 57 52.1**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=63,slow=2.1,SNR=4.8						
BRTR	**Keskin Array B**	**153.17**	**293**	PKPbc	**PKPbc**	**18 57 41.5**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=127,slow=3.5,SNR=9.9						
BRTR				PKPab	**sPKPdf**	**18 57 52.5**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=132,slow=3.9,SNR=4.3						
EKA	**Eskdalemuir Ar**	**157.90**	**6**	PKPab	**PKPab**	**18 58 13.2**	**0.0**
	comp=Z,1.6nm,0.9s,baz=357,slow=4.9,SNR=4.2						
CLL	**Celm**	**160.11**	**338**	*i* PKPab	**PKPab**	**18 58 24.2**	**+1.2**
	comp=Z,5.0nm,1.1s						
GERES	**GERESS Array B**	**161.92**	**332**	PKP	**PKPdf**	**18 57 44.9**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=74,slow=1.8,SNR=3.5						
GERES				PKPab	**PKPab**	**18 58 31.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=35,slow=4.9,SNR=3.8						

*IDC **30** 18:44:24.5±0.9, 3.°89N×126.°65E, h0km, mb3.6/9, mbtmp3.6/9, MS2.8/5, Error ellipse: s-maj=56.9km s-min=16.7km az=76.0*
*DJA **30** 18:44:32.0±0.6, 4.°1N±9.°×12.°7E±.°, h39km±10km, M4.2/6, mb4.4/2, MLv4.0/6*
ISC 30 18:44:30.7±0.8, 3.°9N±0.°1×126.°6E±0.°1, h45km, n16, σ1§05/11, mb3.6/9, MS3.1/3, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.11**	**261**	P		P	**Pn**	**18 44 49.7**	**-0.1**
SGSI				S		S	**Sn**	**18 45 03.9**	**-0.1**
DAV	**Davao City (W)**	**3.36**	**342**	LR		LR	LR	18 46 58.0	
	comp=Z,64nm,19.3s,baz=154,slow=46								
SANI	**Sanana**	**5.90**	**186**	P		P	Pn	18 45 59.9	+4.3
	0.1nm26nm,1.0s								
KAPI	**Kappang**	**11.17**	**218**	LR		LR	LR	18 51 48.7	
	comp=Z,31nm,21.3s,baz=62,slow=40								
GUMO	**Guam**	**20.44**	**61**	LR		LR	LR	18 55 40.0	
	comp=Z,13nm,21.8s,baz=281,slow=33								
FITZ	**Fitzroy Crossi**	**21.84**	**183**	P		P	**P**	**18 49 19.1**	**-0.3**
	1.1nm,0.7s,baz=9.0,slow=19,SNR=1.7								
	1.1nm,0.7s								
WRA	**Warramunga Arr**	**24.84**	**163**	P		P	**P**	**18 49 48.7**	**-0.3**
	0.8nm,0.7s,baz=342,slow=10,SNR=5.4								
	0.8nm,0.7s								
PSI	**Prapat**	**27.68**	**269**	LR		LR	LR	19 03 53.4	
	comp=Z,49nm,18.6s,baz=337,slow=42								
ASAR	**Alice Springs**	**28.26**	**166**	P		P	**P**	**18 50 18.9**	**-1.0**
	0.3nm,0.7s,baz=340,slow=6.7,SNR=5.4								
	0.3nm,0.7s								
KSRS	**Korea Array**	**33.46**	**2**	P		P	**P**	**18 51 05.9**	**+0.4**
	0.5nm,0.5s,baz=182,slow=10,SNR=2.2								
	0.5nm,0.5s								
STKA	**Stephens Creek**	**38.28**	**159**	P		P	**P**	**18 51 48.3**	**+1.4**
	2.5nm,0.8s,baz=332,slow=15,SNR=5.3								
	2.5nm,0.8s								
PETK	**Petropavlovsk-**	**55.35**	**22**	P		P	**P**	**18 53 59.0**	**-1.0**
	1.8nm,0.9s,baz=235,slow=5.1,SNR=2.2								
	1.8nm,0.9s								
MKAR	**Makanchi Array**	**57.39**	**325**	P		P	**P**	**18 54 15.1**	**+0.4**
	0.1nm,0.4s,baz=116,slow=8.6,SNR=2.2								
	0.1nm,0.4s								
KURBB	**Kurchatov Arra**	**61.58**	**327**	P		P	**P**	**18 54 44.9**	**+1.5**
	0.2nm,0.4s,baz=125,slow=6.0,SNR=1.5								
	0.2nm,0.4s								
BVAR	**Borovoye Array**	**67.16**	**327**	P		P	**P**	**18 55 18.4**	**-1.5**
	0.4nm,0.4s,baz=120,slow=7.5,SNR=2.4								
	0.4nm,0.4s								
ILAR	**Eielson Array**	**85.03**	**25**	LR		LR	LR	19 30 58.8	
	comp=Z,13nm,21.2s,baz=296,slow=33								

*IDC **30** 19:12:13.7±0.8, 27.°73N×141.°43E, h0km, mb3.9/8, mbtmp3.9/11, ML3.1/3, MS3.0/2, Error ellipse: s-maj=33.1km s-min=14.9km az=69.0*
*JMA **30** 19:12:21.3±0.2, 28.°1N±1.°×14.°2E±.°, h48km, MV4.1/26, NEAR CHICHIJIMA ISLAND*
ISC 30 19:12:18.8±0.8, 27.°81N±0.°08×141.°7E±0.°2, h35km, n26, σ1§46/22, mb4.0/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.85**	**147**	P		P	**Pn**	**19 12 35.2**	**+0.9**
CBIJ				S		S	**Sn**	**19 12 44.9**	**-0.7**
JCJ	**Chichijima**	**0.85**	**147**	Pn		Pn	**Pn**	**19 12 34.4**	**+0.1**
	437nm,0.3s,baz=7.0,slow=20,SNR=357								
JCJ				Sn		Sn	**Sn**	**19 12 44.5**	**-1.0**
	2μm,0.3s,baz=297,slow=22,SNR=40								
JHH2	**Haha-jima-NKT2**	**1.26**	**159**	P		P	**Pn**	**19 12 41.5**	**+1.5**
JHH2				S		S	**Sn**	**19 12 55.7**	**+0.1**
JHH2	**Haha-jima-NKT2**	**1.26**	**159**	A		A	A	19 12 41.5	
	comp=N,7.0nm,0.3s,comp=E,7.0nm,0.3s								
JHJ	**Hachijo jima 2**	**5.53**	**343**	Pn		Pn	**Pn**	**19 13 39.6**	**+0.9**
	comp=E,2.0nm,0.3s,baz=230,slow=14,SNR=1.5								
JHJ				Sn		Sn	**Sn**	**19 14 39.3**	**-1.8**
	comp=E,1.5nm,0.3s,baz=238,slow=24,SNR=1.2								
	comp=E,67nm,1.0s								
JYT	**Yasato**	**8.48**	**352**	*eP*		P	**Pn**	**19 14 22.1**	**+3.0**
JAG	**Ashikaga**	**8.79**	**348**	*eP*		P	**Pn**	**19 14 26.4**	**+3.0**
JHO	**Hitachi**	**8.82**	**354**	*eP*		P	**Pn**	**19 14 25.4**	**+1.6**
JHO				*eS*		S	**Sn**	**19 15 59.0**	**-3.0**
MJAR	**Matsushiro Arr**	**9.18**	**342**	Pn		Pn	**Pn**	**19 14 29.4**	**+0.6**
	comp=E,0.1nm,0.3s,baz=158,slow=12,SNR=6.5								
	comp=E,0.5nm,0.6s								
GUMO	**Guam**	**14.46**	**167**	LR		LR	LR	19 19 49.8	
	comp=E,28nm,21.5s,baz=332,slow=32								
ASAJ	**Asahikawa**	**16.29**	**2**	Pn		Pn	**Pn**	**19 16 04.9**	**+0.1**
	comp=E,0.2nm,0.3s,baz=180,slow=19,SNR=2.6								
	comp=E,4.0nm,0.9s								
H11N2	**WAKE ISLAND Hy**	**24.42**	**104**	T		T	T	19 43 25.9	
	baz=296,slow=75,SNR=16								
H11N1	**WAKE ISLAND Hy**	**24.42**	**104**	T		T	T	19 43 26.3	
	baz=296,slow=75,SNR=10								
H11N3	**WAKE ISLAND Hy**	**24.43**	**104**	T		T	T	19 43 27.2	
	baz=296,slow=75,SNR=15								
H11S3	**WAKE ISLAND Hy**	**24.76**	**107**	T		T	T	19 42 56.1	
	baz=297,slow=75,SNR=15								
H11S1	**WAKE ISLAND Hy**	**24.77**	**107**	T		T	T	19 42 56.4	
	baz=297,slow=75,SNR=7.0								
H11S2	**WAKE ISLAND Hy**	**24.78**	**107**	T		T	T	19 43 06.7	
	baz=297,slow=75,SNR=6.8								
WRA	**Warramunga Arr**	**48.00**	**189**	P		P	**P**	**19 20 53.6**	**-0.9**
	comp=E,0.5nm,0.4s,baz=12,slow=8.7,SNR=14								
	comp=E,0.5nm,0.4s								
ASAR	**Alice Springs**	**51.72**	**189**	P		P	**P**	**19 21 21.9**	**-0.9**
	comp=E,0.1nm,0.3s,baz=12,slow=7.6,SNR=5.3								
	comp=E,0.1nm,0.3s								
BVAR	**Borovoye Array**	**57.20**	**317**	P		P	**P**	**19 22 01.9**	**-0.4**
	comp=E,0.5nm,0.6s,baz=77,slow=3.4,SNR=2.3								
	comp=E,0.5nm,0.6s								
ILAR	**Eielson Array**	**57.31**	**29**	P		P	**P**	**19 22 03.3**	**+0.5**
	comp=E,0.3nm,0.7s,baz=269,slow=7.5,SNR=4.4								
	comp=E,0.3nm,0.7s								
ARCES	**ARCESS Array B**	**72.71**	**341**	P		P	**P**	**19 23 43.5**	**+0.7**
	comp=E,6.4nm,1.1s,baz=66,slow=9.4,SNR=4.2								
	comp=E,6.4nm,1.1s								
FINES	**FINESS Array B**	**77.10**	**334**	P		P	**P**	**19 24 08.4**	**+0.1**
	comp=E,1.1nm,0.5s,baz=83,slow=6.0,SNR=8.8								
	comp=E,1.1nm,0.5s								
GNI	**Garni**	**77.51**	**309**	LR		LR	LR	20 00 21.3	
	comp=E,26nm,20.0s,baz=115,slow=37								
HFS	**Hagfors**	**82.58**	**337**	P		P	**P**	**19 24 37.8**	**-0.3**
	comp=E,3.0nm,0.9s,baz=72,slow=4.7,SNR=4.5								
	comp=E,3.0nm,0.9s								
NOA	**NORSAR Array B**	**82.78**	**338**	P		P	**P**	**19 24 39.4**	**+0.3**
	comp=E,1.3nm,0.8s,baz=44,slow=5.3,SNR=2.6								
	comp=E,1.3nm,0.8s								

*IDC **30** 19:17:56.6±0.8, 20.°79N×122.°19E, h0km, mb3.7/12, mbtmp3.8/14, ML3.7/2, MS3.2/9, Error ellipse: s-maj=24.2km s-min=17.0km az=78.0*
*NEIC **30** 19:17:58.7±2.1, 20.°83N±0.°09×121.°91E±0.°04, h10km±1km, mb4.2/17, Error ellipse: s-maj=14.9km s-min=5.4km az=185.0*
*NIED **30** 19:17:60.0, 20.°88N×121.°93E, h37km, MW4.3, Moment Tensor Solution. s1 Moment tensor: Scale 10¹⁵Nm; Mrr=2.14; Mθθ=0.08; Mφφ=2.06; Mrθ=0.89; Mθφ=0.44; Mφr=1.51; Fault plane solution: M₀2.77000×10¹⁵ NP1:φs1.00000°, δ27.00000°, λ-110.00000°. NP2:φs203.00000°, δ65.00000°, λ-80.00000°.*
*JMA **30** 19:17:60.0±0.6, 21.°1N±2.°×12.°2E±.°, h37km, MV4.1/16, PHILIPPINE ISL REGION*
ISC 30 19:18:01.8±0.6, 20.°80N±0.°06×122.°04E±0.°06, h35km, n73, σ1§19/68, mb4.0/20, MS3.2/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**2.19**	**336**	P		P	**Pn**	**19 18 36.7**	**+0.9**
TWG	**Pinlang**	**2.20**	**336**				**Pn**	**19 18 33.5**	**-2.3**
YULB	**Yu-li**	**2.67**	**345**				**Pn**	**19 18 40.5**	**-1.9**
YULB	**Yu-li**	**2.67**	**345**	P		P	**Pn**	**19 18 42.2**	**-0.1**
TPUB	**Ta-pu**	**2.81**	**333**	

comp=Z,0.3nm,0.4s
HNR Honiara 47.87 125 LR LR 19 45 43.9
comp=Z,41nm,18.0s,baz=268,slow=35
BVAR Borovoye Array 50.80 322 P **P** **19 26 58.4 -0.2**
comp=Z,0.7nm,0.5s,baz=112,slow=9.5,SNR=3.2
comp=Z,0.7nm,0.5s
AB31 Akbulak array 56.38 316 P **P** **19 27 38.7 -0.9**
AB31 IAmb IAmb 19 28 18.6
comp=Z,3.3nm,1.4s
ARTI Arti 58.38 324 P **P** **19 27 52.1 -1.4**
N15K Kwethluk River 66.17 32 P **P** **19 28 47.3 +1.6**
H19K Roundabout Mou 67.76 26 P **P** **19 28 58.0 +2.4**
O18K Koktuh Hills 68.63 33 P **P** **19 29 03.6 +2.3**
D22K Ayikyak River 69.09 23 P **P** **19 29 06.5 +2.6**
F24K Squaw Lake 71.01 24 P **P** **19 29 17.4 +1.7**
F24K IAmb IAmb 19 29 23.4
comp=Z,1.9nm,0.8s
ILAR Eielson Array 71.85 27 P **P** **19 29 21.1 +0.2**
comp=Z,0.1nm,0.5s,baz=301,slow=6.4,SNR=1.7
comp=Z,0.1nm,0.5s
SPITS Spitsbergen Ar 72.94 348 P **P** **19 29 28.1 +1.0**
comp=Z,0.4nm,0.2s,baz=52,slow=12,SNR=9.4
comp=Z,0.4nm,0.2s
M29M Somme Creek 76.07 28 P **P** **19 29 47.1 +1.4**
M29M IAmb IAmb 19 29 53.5
comp=Z,1.2nm,0.8s
HFS Hagfors 80.89 331 P **P** **19 30 12.9 +0.7**
comp=Z,1.7nm,0.7s,baz=90,slow=2.9,SNR=1.6
comp=Z,1.7nm,0.7s
PPT Papeete 94.64 107 LR LR 20 08 20.2
comp=Z,14nm,18.9s,baz=0.5,slow=32
NVAR Mina Array Bea 98.34 44 LR LR 20 08 42.9
comp=Z,48nm,21.5s,baz=286,slow=31

*IDC **30** 19:20:19.8±1.1,6˚48S×104˚05E,h0km,mb3.8/8, mbtmp3.8/8,Error ellipse: s-maj=57.3km s-min=23.4km az=93.0*
*DJA **30** 19:20:22.2±0.4,7˚S±2˚×10˚4E±˚,h10km,M3.6/10, MLv3.6/10*
ISC 30 19:20:20.4±2.3,6˚64S±0˚08×104˚09E±0˚06,h8km±12km, n22,σ1§34/24,mb3.9/8,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.18**	**20**	P	**Pn**	**19 20 43.6**	**+0.5**
KASI				S	**Sn**	**19 20 59.2**	**-0.1**
CGJI	**Cibinong**	**1.59**	**89**	P	**Pn**	**19 20 50.0**	**+1.1**
CGJI				S	**Sn**	**19 21 10.0**	**+0.3**
LWLI	**Liwa**	**1.61**	**359**	P	**Pg**	**19 20 51.4**	**+0.1**
BLSI	**Bandar Lampung**	**1.71**	**42**	P	**Pb**	**19 20 51.5**	**-0.5**
BLSI				S	**Sg**	**19 21 13.4**	**-1.9**
KLI	**Kotabumi**	**1.92**	**23**	Sg	**Sg**	**19 21 26.3**	**+4.1**
SBJI	**Serang**	**2.09**	**76**	Sg	**Sg**	**19 21 27.7**	**0.0**
MDSI	**Maura Dua**	**2.14**	**2**	P	**Pb**	**19 20 59.7**	**+0.3**
MDSI				S	**Sg**	**19 21 27.0**	**-2.1**
MNAI	**Manna**	**2.52**	**333**	P	**Pb**	**19 21 05.5**	**-0.5**
DBJI	**Dramaga**	**2.65**	**88**	P	**Pn**	**19 21 04.2**	**+0.8**
DBJI				S	**Sn**	**19 21 35.2**	**-0.5**
CNJI	**Cibinong**	**3.09**	**103**	P	**Pn**	**19 21 08.0**	**-1.5**
CMAR	**Chiang Mai Arr**	**25.45**	**349**	P	**P**	**19 25 49.2**	**+0.3**
	0.5nm,0.6s,baz=168,slow=10,SNR=2.3						
	0.5nm,0.6s						
JNU	**Nakatsue**	**47.02**	**31**	P	**P**	**19 28 51.8**	**-0.7**
	6.5nm,0.9s,baz=233,slow=5.1,SNR=3.7						
	6.5nm,0.9s						
SONM	**Songino Array**	**54.27**	**2**	P	**P**	**19 29 46.9**	**-0.2**
	0.5nm,0.6s,baz=200,slow=7.9,SNR=3.9						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**56.61**	**342**	P	**P**	**19 30 03.4**	**-0.4**
	0.2nm,0.4s,baz=152,slow=8.3,SNR=7.3						
	0.2nm,0.4s						
H04N2	**CROZET ISLANDS**	**59.68**	**220**	T	T	20 35 00.4	
	baz=65,slow=75,SNR=5.7						
H04N1	**CROZET ISLANDS**	**59.69**	**220**	T	T	20 34 59.1	
	baz=65,slow=75,SNR=6.8						
H04N3	**CROZET ISLANDS**	**59.70**	**220**	T	T	20 35 03.9	
	baz=65,slow=75,SNR=7.8						
KURBB	**Kurchatov Arra**	**61.16**	**342**	P	**P**	**19 30 34.9**	**-0.4**
	0.3nm,0.2s,baz=151,slow=6.3,SNR=1.3						
	0.3nm,0.2s						
ZALV	**Zalesovo Beam**	**62.50**	**347**	P	**P**	**19 30 43.3**	**-1.0**
	0.8nm,0.3s,baz=157,slow=6.8,SNR=6.1						
	0.8nm,0.3s						
BVAR	**Borovoye Array**	**65.94**	**338**	P	**P**	**19 31 06.3**	**-0.5**
	0.4nm,0.5s,baz=126,slow=2.0,SNR=2.8						
	0.4nm,0.5s						
MAW	**Mawson**	**66.90**	**196**	P	**P**	**19 31 14.4**	**+1.6**
	1.3nm,0.5s,baz=45,slow=11,SNR=11						
	1.3nm,0.5s						
TXAR	**Lajitas Array**	**145.44**	**46**	PKPbc	**PKPbc**	**19 40 00.1**	**+0.2**
	0.4nm,0.6s,baz=321,slow=2.3,SNR=6.2						

IDC 30 19:25:49.8±1.7,3˚37N×123˚49E,h0km,mb3.4/4, mbtmp3.4/4,MS2.6/1,Error ellipse: s-maj=238.1km s-min=22.4km az=63.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**10.96**	**347**	LR	LR	19 33 34.0	
	comp=Z,30nm,20.5s,baz=16,slow=42						
WRA	**Warramunga Arr**	**25.50**	**156**	P	P	19 31 19.4	-0.7
	0.4nm,0.9s,baz=332,slow=10,SNR=1.7						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**28.73**	**160**	P	P	19 31 49.7	+0.6
	0.1nm,0.3s,baz=340,slow=7.5,SNR=6.1						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**56.05**	**327**	P	P	19 35 30.9	+0.3
	0.5nm,0.5s,baz=125,slow=7.4,SNR=11						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**60.33**	**329**	P	P	19 36 00.0	-0.5
	0.4nm,0.4s,baz=126,slow=5.5,SNR=5.0						
	0.4nm,0.4s						

*IDC **30** 19:32:07.1±3.3,30˚24S×177˚73W,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=69.7km s-min=22.7km az=106.0*
ISC 30 19:32:10.7±3.1,30˚3S±0˚1×177˚7W±0˚4,h33km,n6, σ1§93/7,mb3.6/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.10**	**348**	Pn	**Pn**	**19 32 29.2**	**-0.6**
	140nm,0.3s,baz=72,slow=19,SNR=6.2						
RAO				Sn	**Sn**	**19 32 42.4**	**-1.4**
	648nm,0.3s,baz=72,slow=20,SNR=13						
URZ	**Urewera**	**9.01**	**207**	Sn	**Sn**	**19 35 56.6**	**-2.1**
	0.5nm,0.3s,baz=68,slow=15,SNR=2.1						
ASAR	**Alice Springs**	**43.41**	**267**	P	**P**	**19 40 09.4**	**-1.0**
	0.2nm,0.4s,baz=111,slow=7.9,SNR=5.6						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.39**	**272**	P	**P**	**19 40 19.7**	**+1.3**
	0.3nm,0.3s,baz=110,slow=8.1,SNR=6.7						
	0.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**52.66**	**270**	P	**P**	**19 41 24.3**	**+2.3**
	1.5nm,1.0s,baz=108,slow=3.2,SNR=1.8						
	1.5nm,1.0s						
FINES	**FINESS Array B**	**145.18**	**340**	PKPbc	**PKPbc**	**19 51 43.8**	**0.0**
	2.9nm,0.9s,baz=36,slow=4.7,SNR=4.8						

*IDC **30** 19:33:42.2±0.9,2˚71N×126˚77E,h0km,mb3.7/8, mbtmp3.7/8,Error ellipse: s-maj=62.1km s-min=15.9km az=74.0*
*DJA **30** 19:33:47.1±0.4,3˚N±5˚×12˚7E±˚,h10km,M3.8/7,mB4.8/1, mb4.3/3,MLv3.5/7,Mw(mB)4.0/1*
ISC 30 19:33:49.2±0.9,2˚73N±0˚09×126˚8E±0˚1,h53km,n11, σ0§73/11,mb3.7/7,Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.61**	**306**	P	**Pn**	**19 34 15.2**	**0.0**
TNTI	**Ternate**	**2.02**	**165**	P	**Pn**	**19 34 21.3**	**+0.4**
LUWI	**Luwuk**	**5.53**	**227**	P	**Pn**	**19 35 09.4**	**+0.5**
FITZ	**Fitzroy Crossi**	**20.73**	**183**	P	**P**	**19 38 25.3**	**-0.2**
	3.7nm,1.2s,baz=7.7,slow=11,SNR=7.5						
	3.7nm,1.2s						
WRA	**Warramunga Arr**	**23.71**	**162**	P	**P**	**19 38 55.0**	**-1.5**
	0.6nm,0.4s,baz=344,slow=11,SNR=16						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**27.13**	**166**	P	**P**	**19 39 27.4**	**-0.1**
	0.3nm,0.4s,baz=346,slow=7.9,SNR=17						
	0.3nm,0.4s						
MJAR	**Matsushiro Arr**	**35.24**	**16**	P	**P**	**19 40 39.3**	**+0.6**
	0.7nm,0.5s,baz=214,slow=9.1,SNR=1.8						
	0.7nm,0.5s						
STKA	**Stephens Creek**	**37.17**	**159**	P	**P**	**19 40 54.7**	**-0.5**
	1.5nm,0.6s,baz=326,slow=10,SNR=5.4						
	1.5nm,0.6s						
MKAR	**Makanchi Array**	**58.43**	**326**	P	**P**	**19 43 38.9**	**-0.7**
	0.3nm,0.5s,baz=121,slow=7.4,SNR=5.0						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**61.52**	**333**	P	**P**	**19 44 01.1**	**+0.6**
	2.0nm,0.7s,baz=124,slow=11,SNR=11						
	2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**62.63**	**328**	P	**P**	**19 44 08.3**	**+0.3**
	0.5nm,0.8s,baz=126,slow=6.6,SNR=3.7						
	0.5nm,0.8s						

*IDC **30** 19:40:34.9±2.2,3˚94N×127˚24E,h0km,mb3.2/4, mbtmp3.2/4,Error ellipse: s-maj=118.0km s-min=28.5km az=70.0*
*DJA **30** 19:40:40.5±0.5,4˚N±9˚×12˚7E±˚,h36km±12km,M3.5/7, mb3.9/1,MLv3.4/7*
ISC 30 19:40:41.2±1.6,3˚8N±0˚2×126˚5E±0˚1,h35km,n6,σ1§84/7, mb3.1/4,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.99**	**264**	P	**Pn**	**19 40 58.5**	**-0.2**
SGSI				S	**Sn**	**19 41 12.0**	**+0.5**
LBMI	**Labuha**	**4.51**	**167**	P	**Pn**	**19 41 48.3**	**+1.1**
FITZ	**Fitzroy Crossi**	**21.77**	**182**	P	**P**	**19 45 31.4**	**+1.2**
	0.7nm,0.6s,baz=15,slow=12,SNR=1.6						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**24.81**	**162**	P	**P**	**19 45 58.4**	**-1.9**
	0.4nm,0.7s,baz=343,slow=10,SNR=4.7						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**28.23**	**166**	P	**P**	**19 46 28.7**	**-2.4**
	0.2nm,0.7s,baz=336,slow=8.6,SNR=1.4						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**57.38**	**325**	P	**P**	**19 50 27.2**	**+1.0**
	0.1nm,0.5s,baz=115,slow=9.1,SNR=1.8						
	0.1nm,0.5s						

*NEIC **30** 19:51:14.3±1.6,51˚78N±0˚03×167˚04W±0˚02,h10km±2km, mb3.6/27,ML3.1/12,ML2.9(AEIC),Error ellipse: s-maj=5.9km s-min=3.3km az=184.0*
AEIC 30 19:51:16.2±1.8,51˚77N±0˚04×166˚99W±0˚09,h35km±7km, Error ellipse: s-maj=8.2km s-min=5.3km az=69.0,South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.66**	**317**		Pn	19 51 41.6	-1.2
NIKH				IAML		19 52 06.0	
	comp=N,164nm,0.6s						
NIKH	**Nikolski High**	**1.66**	**317**		Sn	19 52 04.5	+1.5
OKTU	**Okmok Mt. Tuli**	**1.74**	**339**		Pn	19 51 45.2	+1.3
OKTU					Sb	19 52 08.2	-0.9
OKER	**Okmok East Rim**	**1.81**	**339**		Pn	19 51 45.9	+1.0
OKER					Sb	19 52 09.6	-1.5
OKRE	**Okmok R'deer P**	**1.90**	**338**		Pn	19 51 47.6	+1.6
OKRE					Sn	19 52 10.8	+2.1
MREP	**Makushin Rep't**	**2.05**	**4**		Pn	19 51 49.1	+0.9
MREP					Sn	19 52 15.1	+2.5
UNV	**Unalaska Valle**	**2.10**	**8**		Pn	19 51 49.7	+0.9
UNV	**Unalaska Valle**	**2.10**	**8**		Sn	19 52 15.0	+1.3
UNV	**Unalaska Valle**	**2.10**	**8**	Pn	Pn	19 51 49.3	+0.4
ZRO	**Akutan Zero**	**2.41**	**14**		Pn	19 51 54.0	+0.9
ZRO					Sn	19 52 22.9	+1.6
AKBBA	**Akutan Broad B**	**2.42**	**15**		Pn	19 51 54.0	+0.8
AKBBA					Sn	19 52 24.8	+3.2
AKRB	**Akutan Reef Bi**	**2.43**	**13**		Pn	19 51 54.4	+1.0
AKRB					Sn	19 52 24.2	+2.3
AKUT	**Akutan**	**2.48**	**17**	Pn	Pn	19 51 54.3	+0.2
AKUT				IAML		19 52 34.1	
	comp=N,36nm,0.7s						
AKUT				IAML		19 52 34.3	
	comp=E,54nm,0.8s						
WECS	**Westdahl Cape**	**3.07**	**25**		Pn	19 52 03.9	+1.7
WECS					Sn	19 52 40.5	+2.7
WESE	**West Dahl East**	**3.07**	**27**		Pn	19 52 03.9	+1.7
WESE					Sn	19 52 41.4	+3.6
WEBT	**Westdahl Beart**	**3.13**	**25**		Pn	19 52 04.7	+1.6
WEBT					Sn	19 52 41.1	+1.9
ATKA	**Atka Island**	**4.48**	**278**	Pn	Pn	19 52 21.6	+0.1
ATKA				IAML		19 54 36.9	
	comp=E,33nm,2.2s						
S12K	**Black Hills**	**4.91**	**35**		Pn	19 52 29.0	+1.6
SDPT	**Sand Point**	**5.28**	**45**		Pn	19 52 32.8	+0.3
SDPT				IAML		19 53 39.0	
	comp=N,18nm,2.1s						
SDPT				IAML		19 53 43.4	
	comp=E,19nm,2.0s						
CNBA	**Chernabura Isl**	**5.39**	**53**		Pn	19 52 34.8	+0.8
GSTR	**Great Sitkin T**	**5.62**	**277**	Pn	Pn	19 52 37.9	+0.7
KIWB	**Kanaga Island**	**6.31**	**275**	Pn	Pn	19 52 47.4	+0.8
CHGN	**Chignik**	**6.79**	**45**		Pn	19 52 54.3	+1.2
O15K	**Ungalikthiuk R**	**8.46**	**26**	Pn	Pn	19 53 17.8	+1.7
PLK4	**Peulik 4**	**8.50**	**42**	Pn	Pn	19 53 17.4	+0.6
AMKA	**Amchitka**	**8.55**	**273**	Pn	Pn	19 53 16.4	-1.0
P16K	**Nushagak River**	**8.89**	**32**	Pn	Pn	19 53 22.5	+0.5
N15K	**Kwethluk River**	**9.26**	**22**	Pn	Pn	19 53 28.4	+1.3
O16K	**Kokwok River B**	**9.30**	**29**	Pn	Pn	19 53 28.2	+0.6
OHAK	**Old Harbor**	**9.65**	**50**	Pn	Pn	19 53 32.4	0.0
KDAK	**Kodiak Island**	**10.26**	**48**	Pn	Pn	19 53 40.8	+0.1
O18K	**Koktuh Hills**	**10.45**	**35**	Pn	Pn	19 53 46.1	+2.7
SYI	**Shuyak Island**	**10.78**	**45**	Pn	Pn	19 53 49.4	+1.5
N19K	**Bonanza Creek**	**11.40**	**32**	Pn	Pn	19 53 57.0	+0.7
K20K	**Telida**	**13.49**	**26**	Pn	Pn	19 54 25.6	+0.7
HIN	**Hinchinbrook I**	**14.28**	**45**	Pn	Pn	19 54 34.2	-1.4
FID	**Port Fidalgo**	**14.46**	**44**	Pn	Pn	19 54 36.8	-1.2
SCM	**Sheep Creek Mo**	**14.68**	**39**		Pn	19 54 40.3	-0.8
BPAW	**Bear Paw Mtn.**	**14.93**	**28**	Pn	Pn	19 54 46.0	+1.6
KLU	**Klutina**	**15.06**	**42**		Pn	19 54 44.9	-1.3
HMT	**Hamilton**	**15.25**	**47**	Pn	Pn	19 54 48.3	-0.3
HMT				IAmb	IAmb	19 54 59.2	
	comp=Z,9.4nm,1.2s						
M24K	**Tolsona, Glenn**	**15.29**	**39**	Pn	Pn	19 54 48.4	-0.8
BERG	**Berg Lake**	**15.53**	**47**		Pn	19 54 51.9	-0.3
N25K	**Chitina, Valde**	**15.67**	**42**		Pn	19 54 53.7	-0.5
N25K				IAmb	IAmb	19 55 04.0	
	comp=Z,2.6nm,0.8s						
GLB	**Gilahina Butte**	**15.93**	**44**	Pn	Pn	19 54 57.1	-0.3
PAX	**Paxson**	**16.04**	**37**		Pn	19 54 59.9	+1.0
G21K	**Allakaket**	**16.26**	**19**	P	P	19 55 04.7	+0.4
G21K				IAmb	IAmb	19 55 07.2	
	comp=Z,4.4nm,1.2s						
H23K	**Yukon River**	**16.64**	**26**	P	P	19 55 09.2	+0.6
J25K	**Salcha River,**	**17.06**	**33**	P	Pn	19 55 11.1	-0.7
M27K	**Edge Creek, AK**	**17.16**	**42**	P	P	19 55 14.0	-0.5
M27K				IAmb	IAmb	19 55 23.0	
	comp=Z,4.4nm,1.0s						
G23K	**Bananza Creek**	**17.21**	**23**	P	P	19 55 14.3	-0.5
D22K	**Ayikyak River**	**18.48**	**16**	P	Pn	19 55 29.4	+0.4
D22K				IAmb	IAmb	19 55 42.4	
	comp=Z,9.0nm,1.4s						
M29M	**Somme Creek**	**18.64**	**44**	P	P	19 55 30.7	0.0
M29M				IAmb	IAmb	19 55 48.6	
	comp=Z,2.6nm,0.9s						
B21K	**Ikpikpuk River**	**18.83**	**13**	P	Pn	19 55 36.0	+2.6
N30M	**Aishikik Lake**	**18.93**	**48**	P	Pn	19 55 35.5	+0.9
N30M				IAmb	IAmb	19 55 42.9	
	comp=Z,4.6nm,1.1s						
F25K	**Christian Rive**	**19.00**	**25**	P	Pn	19 55 35.6	+0.2
BMAR	**Burnt Mountain**	**19.17**	**27**	P	Pn	19 55 38.2	+0.7
I28M	**Miner Creek**	**19.43**	**35**	P	P	19 55 39.2	-0.1
I28M				IAmb	IAmb	19 56 08.1	
	comp=Z,3.7nm,1.4s						
K29M	**Barlow Dome**	**19.59**	**41**		Pn	19 55 42.4	-0.2
K29M				IAmb	IAmb	19 55 48.2	
	comp=Z,5.0nm,0.8s						
J30M	**Hart River**	**20.37**	**39**	P	Pn	19 55 51.7	0.0
J30M				IAmb	IAmb	19 55 55.2	
	comp=Z,3.9nm,1.1s						
H29M	**Whitestone**	**20.38**	**34**	P	Pn	19 55 51.8	0.0
H29M				IAmb	IAmb	19 56 04.1	
	comp=Z,2.8nm,0.7s						
I30M	**Mount Dempster**	**20.63**	**38**	P	Pn	19 55 54.4	-0.4
I30M				IAmb	IAmb	19 55 56.7	
	comp=Z,1.6nm,0.8s						
G29M	**Pine Creek**	**20.87**	**32**	P	P	19 55 56.1	+1.3
G29M				IAmb	IAmb	19 56 08.1	
	comp=Z,7.9nm,1.3s						
C27K	**Jago River**	**20.97**	**23**	P	P	19 55 56.9	+1.1
C27K				IAmb	IAmb	19 56 39.1	
	comp=Z,2.5nm,1.1s						
EPYK	**Eagle Plains**	**21.04**	**34**	P	P	19 55 57.5	+0.9
G30M	**tAoh Zraii Nji**	**21.51**	**33**	P	P	19 56 01.3	-0.4
G30M				IAmb	IAmb	19 56 23.7	
	comp=Z,3.2nm,1.1s						
G31M	**Satah River**	**22.16**	**34**	P	P	19 56 10.0	+1.5

*IDC **30** 19:51:55.2±0.6,29˚91N×143˚05E,h0km,mb4.1/18, mbtmp4.1/25,ML3.5/7,MS2.7/10,Error ellipse: s-maj=19.4km s-min=12.9km az=74.0*
*NEIC **30** 19:51:57.0±1.8,29˚99N±0˚05×142˚97E±0˚04,h10km±1km, mb4.5/78,Error ellipse: s-maj=10.3km s-min=3.8km az=152.0*
*JMA **30** 19:51:57.6±0.3,30˚0N±0˚8×14˚3E±˚,h47km,MV4.2/17, NEAR TORISHIMA IS*
*NIED **30** 19:51:57.6,29˚95N×142˚67E,h47km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.89; $M_{\theta\theta}$0.23; $M_{\phi\phi}$0.66; $M_{r\theta}$-0.33; $M_{\theta\phi}$-0.39; $M_{r\phi}$0.87; Fault plane solution: $M_0$1.29000×10^{15} NP1: ϕ_s322.00000°,δ22.00000°,λ-103.00000°. NP2: ϕ_s157.00000°,δ68.00000°,λ-85.00000°.*
ISC 30 19:51:59.6±0.4,30˚01N±0˚05×142˚90E±0˚07,h30km,n135, σ1§45/150,mb4.4/50,MS2.6/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.97**	**192**	eP	**Pn**	**19 52 42.3**	**-2.3**
CBIJ				eS	**Sn**	**19 53 15.7**	**-3.5**
JCJ	**Chichijima**	**2.97**	**192**	Pn	**Pn**	**19 52 42.7**	**-1.9**
JCJ				Sn	**Sn**	**19 53 15.1**	**-4.1**
JCJ	**Chichijima**	**2.97**	**192**	Pn	**Pn**	**19 52 42.4**	**-2.2**
	17nm,0.3s,baz=18,slow=20,SNR=14						
JCJ				Sn	**Sn**	**19 53 13.7**	**-5.6**
	32nm,0.3s,baz=276,slow=22,SNR=5.9						
	50nm,0.5s						
JHCJ	**Hachijojimakas**	**4.05**	**320**	eP	**Pn**	**19 52 56.6**	**-2.8**
JHJ2	**Mitsune**	**4.07**	**320**	Pn	**Pn**	**19 52 58.4**	**-1.3**
JHJ2				Sn	**Sn**	**19 53 42.5**	**-3.8**
JHJ2	**Mitsune**	**4.07**	**320**	eP	**Pn**	**19 52 58.7**	**-1.0**
JHJ	**Hachijo jima 2**	**4.09**	**320**	Pn	**Pn**	**19 52 59.2**	**-0.8**
	7.5nm,0.3s,baz=116,slow=22,SNR=14						
JHJ				Sn	**Sn**	**19 53 42.6**	**-4.3**
	25nm,0.3s,baz=233,slow=20,SNR=6.1						
	25nm,0.3s						
BSO1	**Boso 1**	**4.91**	**341**	eP	**Pn**	**19 53 10.4**	**-0.5**
BSO1				eS	**Sn**	**19 54 05.4**	**-0.9**
BSO3	**Boso 3**	**5.19**	**338**	eP	**Pn**	**19 53 15.2**	**+0.2**
JSG	**Sagara**	**6.13**	**321**	Pn	**Pn**	**19 53 26.7**	**-1.4**
JYT	**Yasato**	**6.61**	**341**	eP	**Pn**	**19 53 35.0**	**+0.4**
JHO	**Hitachi**	**6.87**	**344**	eP	**Pn**	**19 53 36.3**	**-1.9**
JHO				eS	**Sn**	**19 54 50.8**	**-3.6**
JRY	**Ryogami san**	**6.87**	**332**	eP	**Pn**	**19 53 38.5**	**+0.3**
JAG	**Ashikaga**	**7.02**	**337**	eP	**Pn**	**19 53 40.2**	**-0.1**
JAG				eS	**Sn**	**19 54 55.7**	**-3.5**
JGF	**Kuroka**	**7.27**	**322**	Pn	**Pn**	**19 53 42.0**	**-1.9**
MJAR	**Matsushiro Arr**	**7.61**	**330**			**19 53 47.6**	**-0.8**
MJAR	**Matsushiro Arr**	**7.61**	**330**	Pn	**Pn**	**19 53 48.4**	**0.0**
	0.3nm,0.3s,baz=152,slow=11,SNR=23						
MJAR				Sn	**Sn**	**19 55 10.6**	**-3.1**
	0.2nm,0.3s,baz=146,slow=23,SNR=5.3						
MJAR				LR	LR	19 56 44.2	
	comp=Z,27nm,21.1s,baz=149,slow=37						
	7.6nm,0.8s						
MAJO	**Matsushiro**	**7.61**	**330**		**Pn**	**19 53 47.8**	**-0.6**
MAJO				Sn	**Sn**	**19 55 10.5**	**-3.2**
MJB9	**Matsu-Tunnel**	**7.62**	**330**		**Pn**	**19 53 47.4**	**-1.1**
JMM	**Marumori**	**8.03**	**348**		**Pn**	**19 53 51.7**	**-2.5**
JMN	**Monobe**	**8.52**	**298**	Pn	**Pn**	**19 54 01.3**	**+0.4**
JNU	**Nakatsue**	**10.72**	**290**	Pn	**Pn**	**19 54 31.7**	**+0.7**
JNU	**Nakatsue**	**10.72**	**290**	Pn	**Pn**	**19 54 33.4**	**+2.4**
	0.2nm,0.3s,baz=45,slow=17,SNR=4.4						
JNU				Sn	**Sn**	**19 56 30.4**	**+0.4**
	0.2nm,0.3s,baz=176,slow=16,SNR=1.6						
JNU				LR	LR	19 58 15.7	
	comp=Z,60nm,20.0s,baz=143,slow=35						
	6.3nm,0.9s						
JTM	**Tenmabayashi**	**10.86**	**353**	Pn	**Pn**	**19 54 30.7**	**-2.2**
ERM	**Erimo**	**11.99**	**1**	Pn	**Pn**	**19 54 47.1**	**-1.2**
JOW	**Kunigami**	**13.26**	**260**	Pn	**Pn**	**19 55 06.3**	**+0.6**
	0.5nm,0.3s,baz=106,slow=10,SNR=2.5						
JOW				LR	LR	19 59 49.5	
	comp=Z,28nm,20.8s,baz=100,slow=36						
	11nm,0.8s						
ASAJ	**Asahikawa**	**14.09**	**359**	Pn	**Pn**	**19 55 16.5**	**-0.5**
	0.4nm,0.3s,baz=191,slow=5.2,SNR=2.1						
ASAJ				Sn	Sn	19 57 39.7	-13
	0.2nm,0.3s,baz=266,slow=16,SNR=2.4						
ASAJ				LR	LR	20 01 40.1	
	comp=Z,26nm,21.2s,baz=166,slow=41						
	3.1nm,0.7s						
JKA	**Kamikawa-asahi**	**14.09**	**359**	Pn	Pn	19 55 11.4	-5.6
KSRS	**Korea Array**	**14.50**	**305**	Pn	**Pn**	**19 55 23.6**	**+1.0**
	0.2nm,0.3s,baz=113,slow=13,SNR=12						
KSRS				LR	LR	20 00 22.5	
	comp=Z,9μm,19.2s,baz=225,slow=35						
	3.7nm,0.7s						
GUMO	**Guam**	**16.44**	**173**	LR	LR	20 01 30.1	
	comp=Z,9.8nm,21.1s,baz=187,slow=35						
NACB	**Ninganchiao**	**19.83**	**258**	P	**P**	**19 56 27.6**	**-0.3**
NACB				IAmb	IAmb	19 56 31.9	
	comp=Z,16nm,0.9s						
YHNB	**Yeheng**	**19.84**	**260**	P	**P**	**19 56 27.7**	**-0.4**
YHNB				IAmb	I

MAKZ IAmb IAmb 20 00 50.3
comp=Z,9.2nm,1.5s
K17K Iditarod 49.56 31 P P 20 00 48.8 +1.4
K17K IAmb IAmb 20 00 50.5
comp=Z,4.5nm,1.1s
N17K Nushagak Hills 49.65 34 P P 20 00 49.2 +1.1
N17K IAmb IAmb 20 00 52.3
comp=Z,4.5nm,1.0s
M17K Holitna River 49.68 33 P P 20 00 48.9 +0.5
M17K IAmb IAmb 20 01 14.9
comp=Z,5.5nm,1.1s
C18K Utukok River 50.13 23 P P 20 00 52.0 +0.2
WB0 Warramunga Arr 50.16 190 P P 20 00 52.0 -0.5
WB0 IAmb IAmb 20 00 53.0
comp=Z,4.8nm,0.9s
WB0 PcP **PcP 20 02 13.7 +2.1**
L18K Granite Mounta 50.19 32 P P 20 00 52.4 +0.2
G18K Tagagawik 50.20 27 P P 20 00 51.6 -0.7
G18K IAmb IAmb 20 01 00.6
comp=Z,4.9nm,1.1s
N18K Kilae Creek 50.30 34 P P 20 00 55.7 +2.6
N18K IAmb IAmb 20 01 05.6
comp=Z,3.7nm,1.1s
WR8 Warramunga Arr 50.33 190 P P 20 00 53.5 -0.2
WR8 IAmb IAmb 20 00 56.4
comp=Z,7.2nm,1.1s
WR8 PcP **PcP 20 02 13.4 +1.2**
WB2 Warramunga Arr 50.34 190 P P 20 00 53.6 -0.1
WB2 IAmb IAmb 20 01 12.8
comp=Z,6.2nm,1.1s
WB2 PcP **PcP 20 02 13.8 +1.7**
WRA Warramunga Arr 50.34 190 P P 20 00 52.5 -1.2
WRA Warramunga Arr 50.34 190 P P 20 00 52.4 -1.4
comp=Z,1.7nm,0.5s,baz=8.9,slow=8.0,SNR=28
WRA PcP **PcP 20 02 12.9 +0.7**
comp=Z,1.2nm,0.7s,baz=2.4,slow=3.9,SNR=7.8
comp=Z,1.7nm,0.5s
O18K Koktuh Hills 50.52 35 P P 20 00 55.3 +0.5
O18K IAmb IAmb 20 00 59.6
comp=Z,3.9nm,0.7s
FITZ Fitzroy Crossi 50.64 201 P P 20 00 56.2 +0.2
J19K Poorman 51.01 30 P P 20 00 58.7 +0.4
E19K Redstone River 51.17 25 P P 20 00 59.5 -0.1
E19K IAmb IAmb 20 01 03.3
comp=Z,3.4nm,0.8s
KURK Kurchatov 51.44 313 P 20 01 02.8 +1.0
KURBB Kurchatov Arra 51.50 313 P P 20 01 02.7 +0.5
comp=Z,4.2nm,0.7s,baz=91,slow=7.3,SNR=18
KURBB PcP **PcP 20 02 17.1 +0.9**
comp=Z,0.2nm,0.2s,baz=96,slow=3.7,SNR=2.2
comp=Z,4.2nm,0.7s
K20K Telida 51.57 31 P 20 01 02.4 -0.3
GSI Gunungsitoli 51.62 245 P 20 01 03.2 -0.4
F20K Avaraart Lake 51.63 26 P P 20 01 02.7 -0.2
KDAK Kodiak Island 51.68 38 P P 20 01 02.6 -0.8
B20K Meade River 51.93 22 P P 20 01 06.4 +1.2
CAST Castle Rocks 52.47 31 P 20 01 09.4 +0.1
B21K Ikpikpuk River 52.67 23 P P 20 01 10.7 +0.1
B21K IAmb IAmb 20 01 25.1
comp=Z,11nm,1.4s
SUA Susitna One 52.88 33 P P 20 01 11.7 -0.8
D22K Ayikyak River 53.17 24 P P 20 01 15.5 +1.2
D22K IAmb IAmb 20 01 18.5
comp=Z,5.4nm,1.0s
E22K Anaktuvuk Pass 53.33 25 P P 20 01 15.3 -0.3
E22K IAmb IAmb 20 01 20.5
comp=Z,8.7nm,1.4s
G23K Bananza Creek 53.78 27 P 20 01 18.2 -0.7
G23K IAmb IAmb 20 01 23.0
comp=Z,2.7nm,0.8s
PWL Port Wells 54.01 34 P P 20 01 19.9 -0.8
PWL IAmb IAmb 20 01 23.1
comp=Z,4.0nm,0.8s
AS31 Alice Springs 54.06 190 P P 20 01 20.9 -0.5
ASAR Alice Springs 54.06 190 P P 20 01 20.3 -1.1
ASAR PcP **PcP 20 02 26.6 +0.5**
ASAR Alice Springs 54.06 190 P P 20 01 20.7 -0.7
comp=Z,0.6nm,0.7s,baz=5.2,slow=6.6,SNR=13
ASAR PcP **PcP 20 02 27.7 +1.6**
comp=Z,0.6nm,0.8s,baz=3.6,slow=4.5,SNR=2.7
comp=Z,0.6nm,0.7s
SCM Sheep Creek Mo 54.53 33 P P 20 01 23.3 -1.2
SCM IAmb IAmb 20 01 27.7
comp=Z,4.7nm,0.7s
F24K Squaw Lake 54.71 26 P 20 01 24.7 -1.0
F24K IAmb IAmb 20 01 29.8
comp=Z,2.7nm,0.8s
ILAR Eielson Array 54.87 30 P P 20 01 26.5 -0.3
comp=Z,0.8nm,0.8s,baz=251,slow=6.8,SNR=8.2
comp=Z,0.8nm,0.8s
D25K Kavik River 55.47 24 P P 20 01 30.5 -0.6
D25K IAmb IAmb 20 01 45.2
comp=Z,8.5nm,1.5s
MBWA Marble Bar 55.54 206 P P 20 01 32.0 -0.2
F25K Christian Rive 55.58 26 P P 20 01 30.9 -1.0
F25K PcP **PcP 20 02 31.5 0.0**
BMAR Burnt Mountain 55.97 26 P P 20 01 34.8 0.0
SCRK Sand Creek 56.10 31 P P 20 01 35.3 -0.6
F26K Sheenjek River 56.15 26 P P 20 01 35.5 -0.5
BVAR Borovoye Array 56.36 316 P P 20 01 39.2 +1.5
comp=Z,2.0nm,0.6s,baz=91,slow=7.7,SNR=12
comp=Z,2.0nm,0.6s
BRVK Borovoye 56.42 316 P 20 01 38.8 +0.7
BRVK IAmb IAmb 20 01 46.0
comp=Z,7.8nm,1.2s
C27K Jago River 56.43 24 P P 20 01 37.4 -0.5
C27K IAmb IAmb 20 01 42.7
comp=Z,4.3nm,1.0s
ARSB Arslanbob 56.52 302 P 20 01 39.6 +0.4
ARSB IAmb IAmb 20 01 45.0
comp=Z,6.4nm,1.0s
HLP Hilina Pali 56.58 86 P P 20 01 39.6 -0.2
H27K Steamboat Moun 57.15 28 P P 20 01 45.1 +2.0
INKA Innaminka 57.46 182 P P 20 01 46.0 +0.3
I28M Miner Creek 57.82 29 P P 20 01 48.3 +0.3
E28M Babbage River 57.90 25 P P 20 01 48.4 0.0
KK31 Karatay Array 57.93 305 P P 20 01 49.4 +0.4
KK31 IAmb IAmb 20 01 54.3
comp=Z,3.6nm,0.8s
NIL Nilore 58.26 293 P 20 01 51.5 0.0
G29M Pine Creek 58.53 27 P P 20 01 57.0 +4.2
G29M IAmb IAmb 20 02 38.4
comp=Z,8.7nm,1.5s
L29M L29M 58.76 31 P 20 01 54.2 -0.3
L29M IAmb IAmb 20 01 59.0
comp=Z,2.4nm,0.8s
K29M Barlow Dome 58.96 31 P 20 01 55.3 -0.7
K29M IAmb IAmb 20 02 00.2
comp=Z,2.3nm,0.8s
GAR Garm 59.06 300 P 20 01 57.4 +0.3
I30M Mount Dempster 59.33 29 P P 20 01 59.3 +0.8
I30M IAmb IAmb 20 02 11.6
comp=Z,5.7nm,1.5s
G31M Satah River 60.00 27 P 20 02 03.7 +0.8
STKA Stephens Creek 61.56 181 P P 20 02 13.4 -0.5
STKA Stephens Creek 61.56 181 P P 20 02 13.3 -0.5
comp=Z,1.5nm,0.7s,baz=0.7,slow=14,SNR=4.3
comp=Z,1.5nm,0.7s
AB31 Akbulak array 63.54 313 P P 20 02 27.1 0.0
AB31 IAmb IAmb 20 02 34.0
comp=Z,2.4nm,0.6s
FINES FINESS Array B 75.62 334 P P 20 03 42.7 +1.3
comp=Z,1.3nm,0.4s,baz=84,slow=4.5,SNR=12
comp=Z,1.3nm,0.4s
KBZ Khabaz 76.50 313 P P 20 03 48.6 +2.0
comp=Z,2.4nm,0.7s,baz=119,slow=2.8,SNR=5.4
comp=Z,2.4nm,0.7s
NVAR Mina Array Bea 78.24 52 P P 20 03 56.2 -0.6
comp=Z,0.8nm,0.7s,baz=314,slow=6.4,SNR=3.9
comp=Z,0.8nm,0.7s
AKASG Malin Array Be 80.65 324 P P 20 04 10.4 +1.1
comp=Z,1.0nm,0.5s,baz=46,slow=6.9,SNR=6.3
comp=Z,1.0nm,0.5s
HFS Hagfors 81.01 337 P P 20 04 12.2 +1.1
comp=Z,3.5nm,0.8s,baz=356,slow=1.9,SNR=5.4
comp=Z,3.5nm,0.8s
NB2 NORSAR Subarra 81.15 338 P P 20 04 12.8 +0.9
comp=Z,2.7nm,1.1s,baz=41,slow=5.6
NOA NORSAR Array B 81.15 338 P P 20 04 12.9 +1.0
comp=Z,1.4nm,0.8s,baz=44,slow=4.9,SNR=5.9
comp=Z,1.4nm,0.8s
BR131 Keskin Array S 84.49 313 P 20 04 29.9 +0.1
BRTR Keskin Array B 84.49 313 P 20 04 29.8 0.0
BRTR Keskin Array B 84.49 313 P P 20 04 31.7 +1.9
comp=Z,1.8nm,0.8s,baz=102,slow=4.6,SNR=9.8
comp=Z,1.8nm,0.8s
RAYN Ar Rayn 84.55 294 P 20 04 30.6 +0.3
TXAR Lajitas Array 93.36 53 P P 20 05 13.2 +0.9
comp=Z,0.8nm,0.9s,baz=299,slow=2.6,SNR=9.0
comp=Z,0.8nm,0.9s
QSPA South Pole Qui 119.77 180 PKP PKiKP 20 10 46.9 +0.9
comp=Z,0.8nm,0.8s,baz=298,slow=0.7,SNR=6.4
LPAZ La Paz 148.49 71 PKPbc PKPbc 20 11 44.2 -0.5
comp=Z,1.5nm,0.5s,baz=9.2,slow=5.3,SNR=5.5

*IDC **30** 19:58:45.7±1.1, 4°.49N×124°.74E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=115.6km s-min=16.9km az=67.0*
ISC 30 19:58:50.9±1.1, 4°.5N±0°.3×124°.9E±0°.6, h35km, n8, σ1s20/8, mb3.8/8, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.02**	**159**	P		**P**	**20 04 21.2**	**+0.2**
	1.2nm,0.6s,baz=343,slow=9.2,SNR=13							
	1.2nm,0.6s							
ASAR	**Alice Springs**	**29.36**	**163**	P		**P**	**20 04 51.2**	**+0.4**
	0.2nm,0.6s,baz=342,slow=6.3,SNR=4.4							
	0.2nm,0.6s							
STKA	**Stephens Creek**	**39.54**	**157**	P		**P**	**20 06 17.6**	**-1.0**
	1.7nm,0.6s,baz=342,slow=8.9,SNR=8.0							
	1.7nm,0.6s							
SONM	**Songino Array**	**45.99**	**343**	P		**P**	**20 07 12.5**	**+1.6**
	0.2nm,0.4s,baz=174,slow=5.8,SNR=1.8							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**55.87**	**326**	P		**P**	**20 08 23.9**	**-1.2**
	0.3nm,0.4s,baz=126,slow=7.3,SNR=6.3							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**60.09**	**328**	P		**P**	**20 08 53.9**	**-0.7**
	0.8nm,0.2s,baz=123,slow=6.8,SNR=4.8							
	0.8nm,0.2s							
BVAR	**Borovoye Array**	**65.67**	**327**	P		**P**	**20 09 31.0**	**-0.7**
	0.5nm,0.5s,baz=119,slow=8.4,SNR=4.3							
	0.5nm,0.5s							
MAW	**Mawson**	**83.86**	**200**	P		**P**	**20 11 17.6**	**+1.0**
	1.0nm,0.8s,baz=329,slow=9.6,SNR=1.6							
	1.0nm,0.8s							

*SDD **30** 20:02:13.9±2.5, 19°.14N×69°.67W, h90km±8km, MD3.5, ML3.5, MW3.5*
*OSPL **30** 20:02:13.7±2.9, 19°.13N×69°.60W, h90km±15km, ML3.2*
ISC 30 20:02:10.5±1.3, 19°.19N±0°.04×69°.67W±0°.03, h105km±7km, n37, σ1s94/63, 10C-12D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NADR	**Nagua**	**0.24**	**313**	*e*Pg		**Pn**	**20 02 25.7**	**+0.2**
NADR				*e*Sg		**Sn**	**20 02 36.8**	**+0.2**
NADR				IAML			20 02 37.6	
	comp=N,2μm,0.3s							
NADR				IAML			20 02 37.7	
	comp=E,2μm,0.2s							
LONA1	**Toro Cenizo, N**	**0.26**	**316**	*i* P		**Pn**	**20 02 26.0**	**+0.4**
LONA1				*e*S		**Sn**	**20 02 37.0**	**+0.2**
LONA1				IAML			20 02 39.6	
	comp=Z,1μm,3.0s							
DR08	**Loma La Naviza**	**0.40**	**236**	↑*e*Pg		**Pn**	**20 02 26.2**	**-0.1**
DR08				*e*Sg		**Sn**	**20 02 36.4**	**-1.8**
DR08				IAML			20 02 36.8	
	comp=E,31μm,0.2s							
DR08				IAML			20 02 36.9	
	comp=N,51μm,0.1s							
SMDR	**Samana, DR**	**0.47**	**78**	↓*e*Pg		**Pn**	**20 02 26.6**	**0.0**
SMDR				↓*e*Sg		**Sn**	**20 02 38.1**	**-0.6**
SMDR				IAML			20 02 38.5	
	comp=E,882nm,0.4s							
SMDR				IAML			20 02 38.6	
	comp=N,799nm,0.8s							
SFDR	**San Fco. de Ma**	**0.55**	**280**	↑*e*Pg		**Pn**	**20 02 28.1**	**+0.9**
SFDR				↓*e*Sg		**Sn**	**20 02 40.6**	**+0.9**
SFDR				IAML			20 02 40.9	
	comp=E,3μm,0.2s							
SFDR				IAML			20 02 40.9	
	comp=N,3μm,0.2s							
MIDR	**Miches**	**0.62**	**109**	↓*e*Pg		**Pn**	**20 02 27.7**	**0.0**
MIDR				↓*e*Sg		**Sn**	**20 02 39.2**	**-1.5**
MIDR				IAML			20 02 39.5	
	comp=E,909nm,0.2s							
MIDR				IAML			20 02 39.5	
	comp=N,851nm,0.4s							
MIDR				IAML			20 02 39.7	
	comp=N,639nm,0.2s							
SDD	**Santo Domingo**	**0.77**	**198**	*e*Pg		**Pn**	**20 02 28.7**	**-0.3**
SDD				↑*e*Sg		**Sn**	**20 02 40.7**	**-2.3**
SDD				IAML			20 02 41.2	
	comp=N,180nm,1.1s							
SDD				IAML			20 02 43.0	
	comp=E,126nm,0.2s							
SDD	**Santo Domingo**	**0.77**	**198**	*i* P		**Pn**	**20 02 28.7**	**-0.3**
SDD				*e*S		**Sn**	**20 02 40.6**	**-2.3**
LOSC1	**San Cristbal**	**0.88**	**208**	*i* P		**Pn**	**20 02 30.1**	**-0.1**
LOSC1				*e*S		**Sn**	**20 02 43.2**	**-1.7**
LOSC1				IAML			20 02 43.7	
	comp=Z,784nm,1.2s							
ABDR	**Alto Bandera**	**0.98**	**248**	↓*e*Pg		**Pn**	**20 02 31.8**	**+0.3**
ABDR				↓*e*Sg		**Sn**	**20 02 47.0**	**-0.4**
ABDR				IAML			20 02 49.5	
	comp=N,778nm,0.2s							
ABDR				IAML			20 02 50.1	
	comp=E,526nm,0.2s							
SC01	**Santiago de lo**	**1.03**	**283**	↓*e*Pg		**Pn**	**20 02 33.5**	**+1.8**
SC01				IAML			20 02 51.5	
	comp=N,872nm,0.2s							
SC01				IAML			20 02 52.1	
	comp=E,1μm,0.2s							
SC01	**Santiago de lo**	**1.03**	**283**	*i* P		**Pn**	**20 02 33.4**	**+1.8**
SC01				*e*S		**Sn**	**20 02 50.0**	**+2.5**
SC01				IAML			20 02 52.6	
	comp=Z,348nm,0.4s							
BANI	**BANI**	**1.03**	**219**	*e*Pg		**Pn**	**20 02 32.5**	**+0.7**
BANI				*e*Sg		**Sn**	**20 02 47.4**	**-0.4**
BANI				IAML			20 02 49.6	
	comp=N,1μm,0.1s							
BANI				IAML			20 02 53.4	
	comp=E,980nm,0.2s							
HIDR	**Higuey Centro**	**1.08**	**123**	↓*e*Pg		**Pn**	**20 02 32.7**	**+0.5**
HIDR				↓*e*Sg		**Sn**	**20 02 48.1**	**-0.5**
HIDR				IAML			20 02 48.7	
	comp=E,3μm,0.3s							
HIDR				IAML			20 02 48.7	
	comp=N,3μm,0.6s							
SADR	**Isla Saona**	**1.30**	**140**	↑*e*Pg		**Pn**	**20 02 35.0**	**+0.3**
SADR				IAML			20 02 58.4	
	comp=N,328nm,0.6s							
SADR				IAML			20 02 58.4	
	comp=N,328nm,0.6s							
SADR				IAML			20 02 58.5	
	comp=E,227nm,0.2s							
PCDR	**Punta Cana, DR**	**1.39**	**119**	*e*Pg		**Pn**	**20 02 36.4**	**+0.6**
PCDR				*e*Sg		**Sn**	**20 02 55.3**	**+0.4**
PCDR				IAML			20 03 01.9	
	comp=N,453nm,0.6s							
SDDR	**Presa de Saban**	**1.54**	**263**	*e*P		**Pn**	**20 02 39.4**	**+1.8**
SDDR				*e*S		**Sn**	**20 03 00.4**	**+2.2**
SDDR				IAML			20 03 02.7	
	comp=N,349nm,0.6s							
SDDR				IAML			20 03 04.2	
	comp=N,311nm,0.5s							
SDDR	**Presa de Saban**	**1.54**	**263**	↑*e*Pg		**Pn**	**20 02 39.4**	**+1.8**
SDDR				IAML			20 03 02.5	
	comp=N,343nm,0.6s							
SDDR				IAML			20 03 04.0	
	comp=E,308nm,0.5s							
SDDR	**Presa de Saban**	**1.54**	**263**	*i* P		**Pn**	**20 02 39.5**	**+1.8**
SDDR				*e*S		**Sn**	**20 03 00.1**	**+1.8**
SDDR				IAML			20 03 05.3	
	comp=Z,179nm,0.3s							
LOPP1	**Punta Rusia, P**	**1.59**	**295**	*i* P		**Pn**	**20 02 39.4**	**+1.3**
LOPP1				*e*S		**Sn**	**20 03 00.9**	**+1.9**
LOPP1				IAML			20 03 03.0	
	comp=Z,238nm,0.3s							
REDR	**Restauracion**	**1.63**	**269**	*e*Pg		**Pn**	**20 02 43.1**	**+4.5**
REDR				↑*e*Sg		**Sn**	**20 03 06.7**	**+6.7**
REDR				IAML			20 03 07.7	
	comp=N,487nm,0.2s							
REDR				IAML			20 03 07.8	
	comp=E,904nm,0.1s							
PODR	**Polo**	**1.84**	**237**	↑*e*Pg		**Pn**	**20 02 42.8**	**+1.4**
PODR				IAML			20 03 09.3	
	comp=E,149nm,0.2s							
PODR				IAML			20 03 11.9	
	comp=N,95nm,0.3s							
PODR	**Polo**	**1.84**	**237**	*i* P		**Pn**	**20 02 42.8**	**+1.4**
PODR				*e*S		**Sn**	**20 03 06.6**	**+1.7**
LODU1	**El Espartillar**	**1.90**	**244**	*i* P		**Pn**	**20 02 44.1**	**+2.0**
LODU1				IAML			20 03 10.4	
	comp=Z,113nm,0.4s							
MCDR	**Montecristi**	**2.00**	**291**	*e*Pg		**Pn**	**20 02 44.1**	**+0.8**
MCDR				↑*e*Sg		**Sn**	**20 03 09.5**	**+1.2**
MCDR				IAML			20 03 10.2	
	comp=E,359nm,0.2s							
MCDR				IAML			20 03 11.7	
	comp=N,348nm,0.3s							
AGPR	**Aguadilla, PR**	**2.53**	**106**	↓*e*Pg		**Pn**	**20 02 51.3**	**+1.1**
AGPR				↑*e*Sg		**Sn**	**20 03 20.9**	**+0.2**
AGPR				IAML			20 03 30.0	
	comp=E,125nm,0.6s							
AGPR				IAML			20 03 30.7	
	comp=N,189nm,0.5s							
AGPR	**Aguadilla, PR**	**2.53**	**106**	*i* P		**Pn**	**20 02 51.3**	**+1.1**
AGPR				IAML			20 03 27.0	
	comp=Z,108nm,0.2s							
GRTK	**Grand Turk**	**2.69**	**330**	↓*e*P		**Pn**	**20 02 52.8**	**+0.6**
GRTK				*e*S		**Sn**	**20 03 21.7**	**-2.6**
GRTK				IAML			20 03 27.4	
	comp=Z,152nm,0.3s							
GRTK				IAML			20 03 27.7	
	comp=Z,135nm,0.1s							
GRTK	**Grand Turk**	**2.69**	**330**	*e*Pg		**Pn**	**20 02 53.4**	**+1.2**
GRTK				IAML			20 03 26.2	
	comp=E,125nm,0.3s							
GRTK				IAML			20 03 27.2	
	comp=N,152nm,0.4s							
GRTK	**Grand Turk**	**2.69**	**330**	*i* P		**Pn**	**20 02 53.5**	**+1.2**
GRTK				*e*S		**Sn**	**20 03 24.0**	**-0.3**
GRTK				IAML			20 03 26.4	
	comp=Z,74nm,1.2s							
CRPR	**Cabo Rojo, PR**	**2.70**	**115**	*e*Pg		**Pn**	**20 02 56.2**	**+3.8**
CRPR				IAML			20 03 30.6	
	comp=E,60nm,0.3s							
CRPR				IAML			20 03 31.6	
	comp=N,60nm,0.5s							
CRPR	**Cabo Rojo, PR**	**2.70**	**115**	*i* P		**Pn**	**20 02 54.5**	**+2.1**
CRPR				IAML			20 03 29.4	
	comp=Z,110nm,0.4s							
MASC	**Masc**	**4.41**	**284**	*e*P		**Pn**	**20 03 14.0**	**-1.3**
MASC				*e*S		**Sn**	**20 04 01.6**	**-4.0**
MASC				IAML			20 04 04.8	
	comp=E,31nm,0.1s							
MASC				IAML			20 04 07.9	
	comp=N,22nm,0.3s							
QMBU	**Quimbuelo**	**4.95**	**283**	*e*P		**Pn**	**20 03 21.0**	**-1.6**
QMBU				*e*S		Sn	20 04 11.6	-7.1
QMBU				IAML			20 04 17.0	
	comp=N,56nm,0.2s							
QMBU				IAML			20 04 17.0	
	comp=E,121nm,0.2s							
GTBY	**Guantanamo Bay**	**5.18**	**279**	*e*P		**Pn**	**20 03 24.1**	**-1.6**
GTBY				*e*S		**Sn**	**20 04 20.4**	**-4.0**
GTBY				↓*e*Sg			20 04 21.6	
GTBY				IAML			20 04 23.0	
	comp=E,26nm,0.6s							
GTBY				IAML			20 04 26.7	
	comp=E,15nm,0.5s							
NMDO	**Nuevo Mundo**	**5.18**	**286**	*e*P		**Pn**	**20 03 23.5**	**-2.3**
NMDO				*e*S		Sn	20 04 17.1	-7.2
NMDO				IAML			20 04 23.0	
	comp=E,23nm,0.1s							
NMDO				IAML			20 04 24.4	
	comp=N,28nm,0.2s							
RCC	**Rio Carpintero**	**5.74**	**279**	*e*P		**Pn**	**20 03 32.1**	**-1.2**
RCC				*e*S		**Sn**	**20 04 34.8**	**-3.1**
RCC				IAML			20 04 41.1	
	comp=N,18nm,1.0s							
RCC				IAML			20 04 41.3	
	comp=E,15nm,0.6s							

*UCR **30** 20:38:17.8±1.4, 8°.38N×82°.92W, h27km±2km, MW3.7*
*CATAC **30** 20:38:17.8±0.6, 8°N±4°×8°3W±°, h17km±3km, M3.5/7, MLv3.5/7, Error ellipse: s-maj=9.2km s-min=6.7km az=8.4, confirmed*
*UPA **30** 20:38:18.7±1.2, 8°.48N×82°.90W, h21km±5km, MW3.8, Fault plane solution: NP1:φs=0.00000°, δ=49.00000°, λ=78.00000°.*
ISC 30 20:38:17.9±1.1, 8°.42N±0°.03×82°.92W±0°.02, h21km±1km, n82, σ1s23/124, 13C-22D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.13**	**97**	↑*i*P		**Pb**	**20 38 23.4**	**-0.7**
LESP3				*e*S		**Sb**	**20 38 26.5**	**-2.1**
LESP3	**La Esperanza,**	**0.13**	**97**	↑*i*P		**Pb**	**20 38 23.4**	**-0.7**
LESP3				*i* S		**Sb**	**20 38 28.3**	**-0.3**
LPPC	**Paso Canoas**	**0.14**	**37**	↑*i*P		**Pb**	**20 38 23.5**	**-0.7**
LPPC				*e*S		**Sb**	**20 38 28.0**	**-0.5**
CDITO	**Canoas**	**0.16**	**18**	P		**Pb**	**20 38 23.6**	**-0.3**
CDITO	**Canoas**	**0.16**	**18**	S		**Sb**	**20 38 28.4**	**+0.2**
PTPM	**Petroterminale**	**0.22**	**169**	↓*i*P		**Pb**	**20 38 24.8**	**+0.9**
PTPM				*i* S		**Sb**	**20 38 31.1**	**+3.1**
PTPA	**Petro Terminal**	**0.23**	**167**	↓*i*P		**Pb**	**20 38 24.8**	**+0.8**
PTPA				*e*S		**Sb**	**20 38 31.0**	**+2.9**
NELY	**Ciudad Neily**	**0.23**	**354**	↑*i*P		**Pb**	**20 38 24.4**	**+0.4**
NELY				*e*S		**Sb**	**20 38 29.7**	**+1.6**
FITO	**Golfito**	**0.30**	**311**	↑*e*P		**Pb**	**20 38 24.6**	**-0.1**
FITO				*e*S		**Sb**	**20 38 30.0**	**+0.7**
EDAD	**Golfito**	**0.33**	**314**	↑*i*P		**Pb**	**20 38 25.1**	**0.0**
EDAD				*e*S		**Sb**	**20 38 31.2**	**+1.1**
MLIR3	**Monte Lirio, C**	**0.38**	**15**	↑*e*P		**Pn**	**20 38 27.1**	**-1.2**
MLIR3				*e*S		**Sb**	**20 38 29.6**	**-1.8**
PTJ1	**Puerto Jimnez**	**0.39**	**287**	*e*P		**Pb**	**20 38 26.7**	**+0.6**
PTJ1	**Puerto Jimnez**	**0.39**	**287**	↓*i*P		**Pb**	**20 38 26.8**	**+0.8**
PTJ1				*i* S		**Sn**	**20 38 33.5**	**-1.7**
PTJ1	**Puerto Jimnez**	**0.39**	**287**	P		**Pb**	**20 38 26.3**	**+0.3**
BAGA3	**Bagala, Chiriq**	**0.39**	**83**	↓*i*P		**Pb**	**20 38 26.9**	**+0.9**
BAGA3				*i* S		**Sb**	**20 38 33.1**	**+1.4**
RSRNO	**Rio Sereno**	**0.40**	**9**	*e*P		**Pn**	**20 38 27.3**	**-1.2**
PRISO	**Paraso**	**0.41**	**54**	*e*P		**Pb**	**20 38 27.0**	**+0.6**
SCLRA	**Santa Clara, W**	**0.43**	**19**	↓*i*P		**Pb**	**20 38 27.7**	**+0.9**
SCLRA				*e*S		**Sn**	**20 38 35.5**	**-0.9**
BRU2	**Volcan**	**0.43**	**32**	↓*i*P		**Pb**	**20 38 27.5**	**+0.6**
BRU2				*e*S		**Sn**	**20 38 35.0**	**-1.4**
BRU2	**Volcan**	**0.43**	**32**	↓*i*P		**Pb**	**20 38 27.5**	**+0.6**
BRU2				*e*S		**Sb**	**20 38 34.4**	**+1.4**
BRU2	**Volcan**	**0.43**	**32**	P		**Pb**	**20 38 27.4**	**+0.4**
CLLRA	**Cordillera,**	**0.44**	**44**	↓*i*P		**Pb**	**20 38 27.6**	**+0.6**
CLLRA				*e*S		**Sb**	**20 38 33.8**	**+0.6**
TBS2		**0.45**	**35**	↓*i*P		**Pn**	**20 38 28.7**	**-0.6**
DVD	**David**	**0.47**	**88**	↓*e*P		**Pb**	**20 38 27.6**	**+0.2**
DVD				*i* S		**Sb**	**20 38 34.8**	**+0.9**
PEDE3	**Pedregal, Chir**	**0.50**	**94**	↓*e*P		**Pb**	**20 38 27.6**	**-0.3**
PEDE3				*i* S		**Sb**	**20 38 35.4**	**+0.6**
BC3P	**Paso Ancho**	**0.50**	**38**	↓*i*P		**Pb**	**20 38 28.3**	**+0.2**
BC3P				*i* S		**Sb**	**20 38 35.8**	**+0.7**
LOCO3	**Loma Colorada,**	**0.50**	**91**	↓*e*P		**Pb**	**20 38 28.1**	**+0.1**
LOCO3				*i* S		**Sb**	**20 38 34.9**	**+0.1**
LOMA3	**Las Lomas, Chi**	**0.53**	**89**	*e*P		**Pb**	**20 38 28.6**	**+0.1**
LOMA3				*i* S		**Sb**	**20 38 36.1**	**+0.4**
ALCO	**Alturas Coton,**	**0.53**	**10**	↓*i*P		**Pb**	**20 38 28.6**	**-0.1**
ALCO				*e*S		**Sb**	**20 38 37.0**	**+0.9**
BQSF3	**Alto Boquete,**	**0.58**	**57**	↓*e*P		**Pb**	**20 38 29.4**	**-0.2**
CHIR3	**Chiriqui UPA,**	**0.59**	**93**	*i* P		**Pb**	**20 38 28.3**	**-1.3**
CHIR3				*i* S		**Sb**	**20 38 37.9**	**+0.4**
LNBQ3	**Los Naranjos,**	**0.60**	**52**	*e*P		**Pb**	**20 38 29.6**	**-0.4

DRK0				*i* S	**Sb**	**20 38 42.5**	**-4.0**
DRK0	**Durika**	**0.89**	**339**	S	**Sb**	**20 38 45.8**	**-0.7**
DRK0	**Durika**	**0.89**	**339**	P	**Pb**	**20 38 33.9**	**-1.0**
EDPE	**Pejibaye, P**	**0.97**	**319**⇑	*e*P	**Pb**	**20 38 35.4**	**-0.7**
EDPE				*e*S	**Sb**	**20 38 48.4**	**-0.2**
OCHAL	**Ojochal**	**0.98**	**313**	S	**Sn**	**20 38 49.2**	**-0.5**
OCHAL	**Ojochal**	**0.98**	**313**	P	**Pb**	**20 38 35.3**	**-0.9**
SAJE	**San Jernim**	**1.08**	**328**	*e*P	**Pn**	**20 38 36.6**	**-1.4**
KKNTU	**Kakint²**	**1.18**	**69**⇓	*i*P	**Pn**	**20 38 37.9**	**-1.3**
KKNTU				*e*S	**Sb**	**20 38 53.0**	**-1.5**
CEUA	**Cerro Uatsi, L**	**1.19**	**359**	*e*P	**Pb**	**20 38 40.5**	**+0.6**
CEUA				*e*S	**Sn**	**20 38 59.1**	**+4.1**
LAES	**El Progreso Va**	**1.34**	**355**	*e*P	**Pn**	**20 38 41.6**	**+0.2**
VERH	**Veragua Rainfo**	**1.52**	**350**	*e*P	**Pn**	**20 38 43.5**	**-0.4**
VERH				*e*S	**Sb**	**20 39 03.8**	**-0.4**
PIEC	**Cerro El Cedra**	**1.57**	**319**	*e*P	**Pn**	**20 38 44.1**	**-0.7**
REPA	**Paraso**	**1.68**	**326**	*e*P	**Pb**	**20 38 52.7**	**+4.4**
VERB	**Verbena**	**1.69**	**333**	*e*P	**Pn**	**20 38 46.7**	**+0.3**
RVSTA	**Santa Teresita**	**1.70**	**335**⇑	*i*P	**Pn**	**20 38 47.1**	**+0.6**
RVSTA				*e*S	**Sb**	**20 39 10.2**	**+0.6**
MESA3	**La Mesa, Verag**	**1.74**	**99**	*e*P	**Pn**	**20 38 46.6**	**-0.3**
VTCV	**VTCV, Calle Va**	**1.74**	**333**⇑	*i*P	**Pn**	**20 38 47.6**	**+0.5**
PAR1A	**Puntarenas Pro**	**1.76**	**312**	*e*P	**Pn**	**20 38 47.9**	**+0.7**
LCOCO	**El Coco**	**1.77**	**339**⇑	*i*P	**Pn**	**20 38 48.1**	**+0.8**
LCOCO				*e*S	**Sb**	**20 39 11.5**	**+0.1**
CVTV	**Tajo**	**1.77**	**333**	*e*P	**Pn**	**20 38 48.1**	**+0.4**
CVTQ	**Turrialba Volc**	**1.78**	**332**	*e*P	**Pn**	**20 38 48.3**	**+0.6**
VTLA	**Turrialba Volc**	**1.78**	**332**	*e*P	**Pn**	**20 38 48.1**	**+0.3**
GMAL	**Guarumal, Vera**	**1.80**	**111**	*e*P	**Pn**	**20 38 47.0**	**-0.6**
GMAL				*e*S	**Sn**	**20 39 08.5**	**-1.4**
RSUS3	**Rio de Jesus,**	**1.80**	**104**	*e*P	**Pn**	**20 38 48.6**	**+0.9**
RSUS3				*i* S	**Sn**	**20 39 09.6**	**-0.4**
SAFE3	**Santa Fe, Vera**	**1.83**	**87**	*e*P	**Pn**	**20 38 48.5**	**+0.4**
SAFE3				*e*S	**Sn**	**20 39 11.7**	**+1.1**
ACOS	**Acosta**	**1.83**	**318**	*e*P	**Pn**	**20 38 48.8**	**+0.5**
ACOS				*e*S	**Sb**	**20 39 15.3**	**+1.9**
CALO3	**Calobre, Verag**	**2.06**	**93**	*e*P	**Pn**	**20 38 52.0**	**+0.7**
CALO3				*i* S	**Sn**	**20 39 17.6**	**+1.2**
CACAO	**El Cacao, Vera**	**2.31**	**118**	*e*P	**Pn**	**20 38 55.2**	**+0.5**
CHIT3	**Chitre**	**2.52**	**100**	*e*P	**Pn**	**20 38 58.6**	**+1.0**
SOCE	**Pocosol**	**2.57**	**319**	*e*P	**Pb**	**20 39 01.8**	**-1.6**
VARE2	**V. Arenal**	**2.69**	**319**	*e*P	**Pb**	**20 39 04.7**	**-0.7**
AZU	**Azuero**	**2.70**	**103**	*e*P	**Pn**	**20 39 00.7**	**+0.7**
JTS	**Las Juntas de**	**2.73**	**313**	*e*P	**Pn**	**20 39 02.9**	**+2.3**
JTS	**Las Juntas de**	**2.73**	**313**⇓	*e*P	**Pn**	**20 39 02.9**	**+2.3**
JTS	**Las Juntas de**	**2.73**	**313**	P	**Pn**	**20 39 02.3**	**+1.8**
JTS				S	**Sn**	**20 39 34.4**	**+1.4**
PCRI3	**Pocri, Los San**	**2.88**	**105**	*i* P	**Pn**	**20 38 59.0**	**-3.6**
INDI	**Punta indio, G**	**2.92**	**300**	P	**Pn**	**20 39 03.4**	**+0.2**
ZANG	**Zanguenga, Cho**	**3.07**	**80**	*e*P	**Pb**	**20 39 09.2**	**-2.6**
BCIP	**Isla Barro Col**	**3.14**	**76**	*e*P	**Pn**	**20 39 06.6**	**+0.4**
BCIP	**Isla Barro Col**	**3.14**	**76**⇑	*e*P	**Pn**	**20 39 06.4**	**+0.2**
BCIP	**Isla Barro Col**	**3.14**	**76**	P	**Pn**	**20 39 06.2**	**0.0**

*IDC **30** 20:39:34.4±1.1,30.˚09N×143.˚19E, h0km, mb3.6/6, mbtmp3.6/9, ML3.2/3, Error ellipse: s-maj=32.9km s-min=22.5km az=70.0*
*JMA **30** 20:39:36.8±0.3,30.˚2N±0.˚8×14.˚3E±.˚, h46km, MV3.9/17, NEAR TORISHIMA IS*
ISC 30 20:39:38.8±0.9,30.˚13N±0.˚05×142.˚7E±0.˚1, h35km, n17, σ1§70/22, mb3.7/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.05**	**188**	*e*P	**Pn**	**20 40 24.6**	**0.0**
CBIJ				*e*S	**Sn**	**20 40 59.2**	**-0.6**
JCJ	**Chichijima**	**3.05**	**188**	Pn	**Pn**	**20 40 24.4**	**-0.2**
JCJ	2.9nm,0.3s,baz=334,slow=20,SNR=6.1			Sn	**Sn**	**20 40 58.3**	**-1.6**
JHJ2	**Mitsune**	**3.84**	**322**	*e*P	**Pn**	**20 40 34.7**	**-0.7**
JHJ2	7.7nm,0.3s,baz=272,slow=23,SNR=5.6			*e*S	**Sn**	**20 41 18.4**	**-0.8**
JHJ	**Hachijo jima 2**	**3.86**	**321**	Pn	**Pn**	**20 40 33.5**	**-2.2**
JHJ	100nm,1.0s 5.6nm,0.3s,baz=86,slow=21,SNR=6.3			Sn	**Sn**	**20 41 18.8**	**-1.1**
BSO1	**Boso 1**	**4.73**	**343**	*e*P	**Pn**	**20 40 46.2**	**-1.0**
BSO1	3.4nm,0.3s,baz=75,slow=23,SNR=1.4			*e*S	**Sn**	**20 41 40.5**	**-0.1**
BSO3	**Boso 3**	**5.00**	**339**	*e*P	**Pn**	**20 40 51.6**	**+0.5**
JOD2	**Odawara 2**	**5.94**	**331**	*e*P	**Pn**	**20 41 05.3**	**+1.0**
JRY	**Ryogami san**	**6.66**	**333**	*e*P	**Pn**	**20 41 15.1**	**+0.9**
JHO	**Hitachi**	**6.70**	**345**	*e*P	**Pn**	**20 41 13.1**	**-1.6**
MJAR	**Matsushiro Arr**	**7.40**	**331**	Pn	**Pn**	**20 41 24.8**	**+0.5**
MJAR	0.3nm,0.3s,baz=161,slow=12,SNR=20 0.1nm,0.3s,baz=159,slow=18,SNR=6.3 4.0nm,0.6s			Sn	**Sn**	**20 42 44.2**	**-2.9**
KSRS	**Korea Array**	**14.26**	**305**	Pn	**P**	**20 43 03.2**	**-1.7**
SONM	0.1nm,0.3s,baz=109,slow=14,SNR=2.8 1.1nm,0.7s **Songino Array**	**32.89**	**313**	P	P	20 46 14.2	+4.6
MKAR	0.4nm,0.6s,baz=175,slow=5.4,SNR=2.9 0.4nm,0.6s **Makanchi Array**	**48.91**	**308**	P	**P**	**20 48 25.2**	**+3.8**
WRA	0.6nm,0.7s,baz=91,slow=8.7,SNR=6.4 0.6nm,0.7s **Warramunga Arr**	**50.42**	**190**	P	**P**	**20 48 33.8**	**+0.8**
KURBB	0.3nm,0.5s,baz=7.7,slow=7.9,SNR=5.4 0.3nm,0.5s **Kurchatov Arra**	**51.26**	**313**	P	**P**	**20 48 42.5**	**+3.5**
NVAR	0.5nm,0.5s,baz=93,slow=7.0,SNR=5.9 0.5nm,0.5s **Mina Array Bea**	**78.33**	**52**	P	**P**	**20 51 35.1**	**-0.8**
TXAR	0.6nm,0.7s,baz=316,slow=4.1,SNR=3.6 0.6nm,0.7s **Lajitas Array**	**93.46**	**53**	P	**P**	**20 52 50.6**	**-0.7**
	0.3nm,0.7s,baz=320,slow=8.1,SNR=2.4 0.3nm,0.7s						

*NEIC **30** 20:58:40.2±2.7,6.˚4S±0.˚1×128.˚1E±0.˚1, h345km±17km, mb4.3/5, Error ellipse: s-maj=20.1km s-min=10.4km az=139.0*
*IDC **30** 20:58:41.5±1.8,6.˚51S×127.˚88E, h384km±23km, mb2.8/2, mbtmp4.1/7, Error ellipse: s-maj=24.0km s-min=13.0km az=63.0*
ISC 30 20:58:39.2±0.7,6.˚37S±0.˚07×128.˚05E±0.˚07, h353km, n21, σ1§57/26, mb3.7/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**5.04**	**228**		**Pn**	**21 00 00.7**	**+1.2**
SOEI				Sn	**S**	**21 01 01.9**	**-2.5**
FAKI	**Fak Fak**	**5.41**	**51**	Pn	**Pn**	**21 00 04.0**	**+0.4**
FAKI				Sn	**S**	**21 01 07.4**	**-4.4**
BATI	**Baumata**	**5.78**	**228**	P	**Pn**	**21 00 09.1**	**+1.4**
BATI	25nm,0.3s,baz=59,slow=8.7,SNR=11 16nm,0.4s,baz=29,slow=19,SNR=6.3			S	**S**	**21 01 18.4**	**-0.9**
MTN	**Manton Dam**	**7.11**	**155**		**P**	**21 00 24.6**	**+0.2**
KNRA	**Kununurra**	**9.27**	**176**	P	**P**	**21 00 50.2**	**-0.3**
TOLI2	**Tolitoli**	**10.39**	**315**		**P**	**21 01 03.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**11.89**	**191**		**Pn**	**21 01 19.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**11.89**	**191**	P	**Pn**	**21 01 20.3**	**+0.7**
JAY	1.5nm,0.3s,baz=25,slow=11,SNR=24 **Jayapura**	**13.18**	**74**	P	**Pn**	**21 01 38.0**	**+3.0**
WB0	5.5nm,0.7s,baz=297,slow=4.5,SNR=4.9 **Warramunga Arr**	**14.67**	**156**	P	**P**	**21 01 51.2**	**+1.0**
WRA	**Warramunga Arr**	**14.81**	**156**	P	**P**	**21 01 52.0**	**+0.3**
WRA	7.7nm,0.6s,baz=333,slow=12,SNR=70 0.5nm,0.4s,baz=334,slow=21,SNR=5.8			S	**S**	**21 04 29.1**	**-2.2**
WR8	**Warramunga Arr**	**14.88**	**156**	P	**P**	**21 01 53.5**	**+1.0**
COEN	**Coen**	**16.67**	**118**	P	**P**	**21 02 13.5**	**+1.5**
MBWA	**Marble Bar**	**16.76**	**208**	P	**P**	**21 02 12.7**	**-0.2**
MBWA	comp=Z,28nm,1.4s			IAmb	IAmb	21 02 43.3	
PSA00	**Pilbara Seismi**	**17.07**	**207**	P	**P**	**21 02 16.0**	**-0.1**
PSA00	comp=Z,18nm,1.3s			IAmb	IAmb	21 02 49.0	
AS31	**Alice Springs**	**18.09**	**162**	P	**P**	**21 02 28.3**	**+1.2**
ASAR	**Alice Springs**	**18.09**	**162**	P	**P**	**21 02 28.1**	**+1.0**
ASAR	comp=Z,2.2nm,0.4s,baz=344,slow=12,SNR=53 comp=Z,0.9nm,0.8s,baz=341,slow=18,SNR=8.1			S	**S**	**21 05 34.2**	**-1.9**
BBOO	**Buckleboo**	**27.34**	**165**	P	**P**	**21 03 53.1**	**0.0**
BBOO	comp=Z,18nm,1.3s			IAmb	IAmb	21 04 13.0	
HNR	**Honiara**	**31.73**	**98**	P	**P**	**21 04 31.6**	**-0.3**
CMAR	comp=Z,50nm,0.3s,baz=243,slow=6.8,SNR=2.5 **Chiang Mai Arr**	**37.86**	**311**	P	**P**	**21 05 23.1**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=118,slow=8.7,SNR=1.7 comp=Z,0.4nm,0.3s						
MKAR	**Makanchi Array**	**66.65**	**328**	P	**P**	**21 08 52.5**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=116,slow=7.4,SNR=4.3 comp=Z,0.2nm,0.4s						

*JMA **30** 21:06:49.5±0.3,44.˚N±1.˚×14.˚1E±.˚, h219km±2km, MV2.8/28, NW OFF HOKKAIDO*
*IDC **30** 21:06:49.9±2.9,44.˚27N×141.˚27E, h208km±49km, mb3.3/8, mbtmp3.9/8, Error ellipse: s-maj=166.8km s-min=47.3km az=163.0*
ISC 30 21:06:49.4±0.8,43.˚98N±0.˚08×141.˚33E±0.˚09, h220km±8km, n22, σ0§66/29, mb3.6/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHR	**Hokuryu**	**0.37**	**130**	P	**Pn**	**21 07 18.9**	**+0.4**
JHR				*e*S	**S**	**21 07 41.5**	**+0.3**
JSS	**Shosan**	**0.56**	**42**	P	**Pn**	**21 07 19.2**	**+0.2**
JISS	**Ishikarishitsu**	**0.71**	**175**	P	**Pn**	**21 07 20.3**	**+0.6**
JAB	**Ashibetsu**	**0.80**	**126**	P	**Pn**	**21 07 20.7**	**+0.6**
ASAJ	**Asahikawa**	**0.92**	**81**	P	**Pn**	**21 07 20.4**	**-0.3**
ASAJ	12nm,0.3s,baz=288,slow=6.4,SNR=34 3.0nm,0.3s,baz=225,slow=16,SNR=1.9			S	**S**	**21 07 43.9**	**-1.3**
ASAJ	**Asahikawa**	**0.92**	**81**	P	**Pn**	**21 07 20.6**	**-0.2**
JKK2	**Kamakawa 2**	**1.03**	**96**	P	**Pn**	**21 07 21.7**	**+0.3**
JKK2				*e*S	**S**	**21 07 45.9**	**-0.4**
JEW	**Eniwo**	**1.14**	**176**	P	**Pn**	**21 07 22.9**	**+0.7**
JTKR	**Abashiri--Toko**	**1.86**	**89**	P	**Pn**	**21 07 29.0**	**+1.0**
JTKR				*e*S	**S**	**21 07 58.9**	**+0.9**
JAR	**Ashorobuto**	**1.90**	**110**	P	**Pn**	**21 07 29.6**	**+1.2**
JNBK	**Urakawa-nobuka**	**1.99**	**148**	P	**Pn**	**21 07 30.2**	**+0.8**
JCH	**Churui**	**2.02**	**132**	P	**Pn**	**21 07 29.5**	**-0.1**
JCH				*e*S	**S**	**21 07 59.1**	**-1.7**
JOT	**Ohata**	**2.61**	**185**	*e*P	**Pn**	**21 07 35.7**	**0.0**
JOT				*e*S	**S**	**21 08 11.8**	**0.0**
JAK	**Akkeshi**	**2.64**	**111**	*e*P	**Pn**	**21 07 36.1**	**+0.1**
JAK				*e*S	**S**	**21 08 12.1**	**-0.2**
SONM	**Songino Array**	**24.48**	**291**	P	**P**	**21 11 48.9**	**+0.5**
ZALV	0.3nm,0.5s,baz=99,slow=9.1,SNR=3.0 0.3nm,0.5s **Zalesovo Beam**	**37.48**	**306**	P	**P**	**21 13 41.4**	**-0.2**
MKAR	0.4nm,0.4s,baz=100,slow=8.0,SNR=2.4 0.4nm,0.4s **Makanchi Array**	**40.72**	**295**	P	**P**	**21 14 08.0**	**-0.5**
KURBB	0.4nm,0.7s,baz=82,slow=9.3,SNR=4.6 0.4nm,0.7s **Kurchatov Arra**	**41.96**	**302**	P	**P**	**21 14 18.7**	**+0.2**
BVAR	0.9nm,0.4s,baz=75,slow=8.6,SNR=5.1 0.9nm,0.4s **Borovoye Array**	**46.06**	**308**	P	**P**	**21 14 51.3**	**+0.3**
ARTI	1.1nm,0.5s,baz=77,slow=9.8,SNR=6.5 1.1nm,0.5s **Arti**	**51.36**	**315**	P	**P**	**21 15 30.9**	**-0.3**
FINES	2.4nm,0.6s,baz=75,slow=5.9,SNR=4.4 2.4nm,0.6s **FINESS Array B**	**62.68**	**331**	P	**P**	**21 16 50.1**	**-0.2**
HFS	3.0nm,1.0s,baz=28,slow=6.5,SNR=1.4 3.0nm,1.0s **Hagfors**	**67.76**	**335**	P	**P**	**21 17 23.0**	**+0.1**
	1.8nm,0.7s,baz=42,slow=6.6,SNR=1.9 1.8nm,0.7s						

*IDC **30** 21:13:40.3±1.3,29.˚70N×130.˚62E, h0km, mb3.7/6, mbtmp3.6/10, ML2.9/4, MS3.2/3, Error ellipse: s-maj=31.0km s-min=18.5km az=103.0*
*JMA **30** 21:13:44.7±0.2,29.˚7N±0.˚6×130.˚9E±0.˚8, h36km±2km, MV3.3/38, NEAR AMAMI-OSHIMA ISLAND*
ISC 30 21:13:44.7±0.8,29.˚68N±0.˚05×130.˚87E±0.˚08, h38km, n31, σ1§14/40, mb3.4/6, MS3.3/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**0.72**	**2**	P	**Pn**	**21 13 57.9**	**-0.5**
JMTN				*e*S	**Sn**	**21 14 07.0**	**-1.2**
JNN	**Nakanoshima**	**0.88**	**281**	P	**Pn**	**21 14 00.7**	**+0.1**
JKC	**Kuchinoerabu**	**0.98**	**324**	*i* P	**Pn**	**21 14 01.8**	**-0.2**
JTN	**Tanegashima 3**	**0.98**	**6**	P	**Pn**	**21 14 01.8**	**-0.2**
JTAJ	**Takarajima**	**1.54**	**251**	P	**Pn**	**21 14 10.6**	**+0.9**
JAM	**Amami Oshima**	**1.68**	**222**	P	**Pn**	**21 14 12.8**	**+1.3**
JAM				*e*S	**Sn**	**21 14 33.3**	**+1.6**
JSU	**Suzuyama**	**1.86**	**349**	*e*P	**Pn**	**21 14 14.2**	**+0.2**
JNAR	**Kushima--Naru**	**1.88**	**11**	P	**Pn**	**21 14 15.1**	**+0.8**
JAMN	**Amaminishikomi**	**2.06**	**227**	*e*P	**Pn**	**21 14 17.4**	**+0.7**
JAMN				S	**Sn**	**21 14 42.9**	**+1.7**
JTK	**Tokunoshima**	**2.52**	**222**	*e*P	**Pn**	**21 14 24.0**	**+0.8**
JOKE	**Okinoerabujima**	**3.07**	**222**	P	**Pn**	**21 14 31.4**	**+0.8**
JOKE				*e*S	**Sn**	**21 15 06.4**	**+0.3**
JYRO	**Yoronjima**	**3.39**	**219**	P	**Pn**	**21 14 35.5**	**+0.4**
JYRO				S	**Sn**	**21 15 14.1**	**0.0**
JNU	**Nakatsue**	**3.44**	**0**	Pn	**Pn**	**21 14 36.5**	**+0.7**
JNU	1.2nm,0.3s,baz=189,slow=13,SNR=9.8 2.1nm,0.3s,baz=184,slow=9.7,SNR=4.5 7.3nm,0.6s			Sn	**Sn**	**21 15 15.7**	**+0.4**
JOW	**Kunigami**	**3.64**	**220**	Pn	**Pn**	**21 14 38.2**	**-0.3**
JOW	5.4nm,0.3s,baz=83,slow=18,SNR=38 14nm,0.3s,baz=130,slow=27,SNR=10 15nm,0.2s			Sn	**Sn**	**21 15 18.7**	**-1.5**
JOW	**Kunigami**	**3.64**	**220**	*e*P	**Pn**	**21 14 38.8**	**+0.3**
JOW				*e*S	**Sn**	**21 15 20.2**	**-0.1**
JIH	**Iheya**	**3.67**	**225**	*e*P	**Pn**	**21 14 38.5**	**-0.4**
JIH				*e*S	**Sn**	**21 15 19.4**	**-1.5**
JMZ	**Minamidaito 2**	**3.85**	**175**	*e*S	**Sn**	**21 15 21.7**	**-3.7**
JNTH	**Nagotoyohara**	**4.03**	**219**	*e*P	**Pn**	**21 14 44.2**	**+0.4**
JNTH				*e*S	**Sn**	**21 15 28.0**	**-1.7**
JAGN	**Aguni-jima**	**4.44**	**227**	*e*P	**Pn**	**21 14 50.7**	**+1.2**
JAGN				*e*S	**Sn**	**21 15 39.4**	**-0.5**
JKE	**Kume jima 2**	**4.91**	**228**	*e*P	**Pn**	**21 14 56.2**	**+0.1**
JKE				*e*S	**Sn**	**21 15 50.0**	**-1.6**
KSRS	**Korea Array**	**8.14**	**343**	Pn	**Pn**	**21 15 39.8**	**-0.4**
MJAR	0.2nm,0.3s,baz=167,slow=13,SNR=4.8 0.4nm,0.3s **Matsushiro Arr**	**9.21**	**40**	Pn	**Pn**	**21 15 56.8**	**+1.8**
SONM	baz=212,slow=13,SNR=1.9 0.8nm,0.7s **Songino Array**	**26.15**	**321**	P	**P**	**21 19 15.0**	**-0.4**
CMAR	0.6nm,0.5s,baz=137,slow=9.3,SNR=5.3 0.6nm,0.5s **Chiang Mai Arr**	**31.12**	**256**	LR	LR	21 32 46.8	
ZALV	comp=Z,24nm,18.3s,baz=305,slow=37 **Zalesovo Beam**	**41.03**	**320**	LR	LR	21 39 51.1	
MKAR	comp=Z,34nm,19.1s,baz=117,slow=38 **Makanchi Array**	**41.11**	**308**	P	**P**	**21 21 23.7**	**-1.2**
KURBB	0.4nm,0.6s,baz=97,slow=11,SNR=5.7 0.4nm,0.6s **Kurchatov Arra**	**44.08**	**314**	P	**P**	**21 21 48.1**	**-0.8**
KURBB	1.0nm,0.2s,baz=101,slow=9.2,SNR=1.9 comp=Z,53nm,19.6s,baz=172,slow=39			LR	LR	21 41 58.5	
BVAR	1.0nm,0.2s **Borovoye Array**	**49.34**	**316**	P	**P**	**21 22 29.6**	**-0.5**
WRA	3.1nm,0.6s,baz=94,slow=9.9,SNR=12 3.1nm,0.6s **Warramunga Arr**	**49.44**	**176**	P	**P**	**21 22 32.1**	**+1.0**
ILAR	0.4nm,0.9s,baz=13,slow=7.5,SNR=1.7 0.4nm,0.9s **Eielson Array**	**60.31**	**29**	P	**P**	**21 23 50.5**	**+1.3**
ASF	0.2nm,0.7s,baz=279,slow=7.0,SNR=2.0 0.2nm,0.7s **Jabal al Asfar**	**77.88**	**300**	LR	LR	22 02 34.7	
	comp=Z,424nm,21.6s,baz=194,slow=38						

*IDC **30** 21:23:34.3±1.1,7.˚19S×145.˚21E, h0km, mb3.6/6, mbtmp3.8/9, ML3.7/2, MS3.6/5, Error ellipse: s-maj=31.3km s-min=21.5km az=88.0*
ISC 30 21:23:39.0±0.8,7.˚3S±0.˚1×145.˚3E±0.˚1, h35km, n13, σ1§72/11, mb3.8/6, MS3.3/4, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.79**	**138**	Pn	**Pn**	**21 24 23.2**	**+2.0**
PMG	39nm,0.6s,baz=327,slow=3.9,SNR=12 5.5nm,0.3s,baz=345,slow=13,SNR=5.9			Sn	**Sn**	**21 24 51.1**	**-2.5**
WRA	**Warramunga Arr**	**16.41**	**219**	Pn	**Pn**	**21 27 25.4**	**-1.3**
WRA	0.2nm,0.3s,baz=42,slow=11,SNR=21 baz=39,slow=28,SNR=2.7			Lg	Lg	21 32 08.2	
WRA				LR	LR	21 34 13.3	
ASAR	comp=Z,317nm,19.4s,baz=48,slow=39 2.5nm,0.8s **Alice Springs**	**19.56**	**213**	P	**Pn**	**21 28 05.8**	**+0.4**
ASAR	0.4nm,0.3s,baz=39,slow=11,SNR=129 baz=21,slow=29,SNR=4.1			Lg	Lg	21 33 52.1	
ASAR				LR	LR	21 36 22.2	
GUMO	comp=Z,343nm,18.3s,baz=34,slow=39 19nm,0.9s **Guam**	**20.79**	**359**	LR	LR	21 35 06.6	
FITZ	comp=Z,22nm,20.8s,baz=164,slow=34 **Fitzroy Crossi**	**21.90**	**239**	P	**P**	**21 28 29.0**	**-0.2**
FITZ	4.2nm,1.0s,baz=124,slow=10,SNR=3.8 baz=112,slow=18,SNR=3.3			Lg	Lg	21 35 04.0	
FITZ	comp=Z,250nm,18.5s,baz=44,slow=38 4.2nm,1.0s			LR	LR	21 37 38.0	
DAV	**Davao City (W)**	**24.29**	**306**	LR	LR	21 39 02.8	
STKA	comp=Z,41nm,19.3s,baz=182,slow=38 **Stephens Creek**	**24.66**	**187**	P	**P**	**21 28 58.1**	**+1.6**
CMAR	2.4nm,0.9s,baz=18,slow=9.9,SNR=3.8 2.4nm,0.9s **Chiang Mai Arr**	**52.38**	**300**	P	**P**	**21 32 48.9**	**+0.8**
SONM	0.4nm,0.3s,baz=123,slow=5.9,SNR=5.6 0.4nm,0.3s **Songino Array**	**64.74**	**332**	P	**P**	**21 34 15.4**	**+1.4**
MKAR	0.1nm,0.3s,baz=134,slow=6.2,SNR=1.7 0.1nm,0.3s **Makanchi Array**	**77.43**	**321**	P	**P**	**21 35 28.8**	**-1.9**
KDAK	0.2nm,0.7s,baz=102,slow=4.8,SNR=1.5 0.2nm,0.7s **Kodiak Island**	**81.89**	**29**	LR	LR	22 05 03.7	
ILAR	comp=Z,28nm,21.4s,baz=229,slow=30 **Eielson Array**	**87.38**	**23**	P	**P**	**21 36 21.9**	**-0.4**
TORD	0.6nm,0.8s,baz=261,slow=6.7,SNR=7.1 0.6nm,0.8s **Torodi Ar. Bea**	**143.71**	**282**	PKP	**PKPdf**	**21 43 09.9**	**-1.6**
	0.6nm,0.3s,baz=93,slow=3.8,SNR=1.0						

*GCG **30** 21:26:15.9±1.4, 14.˚03N×92.˚23W, h9km±18km, MD3.5, ML3.3, MW2.9*
*MEX **30** 21:26:16.7±0.7, 14.˚13N×92.˚49W, h4km±26km, MD4.0*
ISC 30 21:26:10.2±2.2, 13.˚87N±0.˚09×92.˚46W±0.˚06, h16km±13km, n17, σ1§40/26, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.99**	**49**	*e*P	**Pn**	**21 26 31.3**	**+1.9**
RTAL				*e*S	**Sn**	**21 26 43.6**	**+0.5**
THIG		**1.05**	**10**	*e*P	**Pn**	**21 26 31.0**	**+0.8**
THIG				*e*S	**Sb**	**21 26 43.8**	**+0.3**
THIG		**1.05**	**10**	*i* P	**Pn**	**21 26 31.2**	**+0.9**
THIG				*e*S	**Sb**	**21 26 43.9**	**+0.4**
THIG	comp=N,370nm,0.4s			IAML		21 26 46.7	
SMCA	**Catarina**	**1.05**	**21**	*i* P	**Pn**	**21 26 31.1**	**+0.8**
SMCA				*e*S	**Sb**	**21 26 42.9**	**-0.6**
STG2	**El Palmar, Qui**	**1.20**	**62**	*e*P	**Pg**	**21 26 33.1**	**-0.1**
PATR	**El Naranjo**	**1.26**	**10**	*e*P	**Pn**	**21 26 33.7**	**+0.3**
PATR				*e*S	**Sb**	**21 26 46.6**	**-3.2**
PAVE	**Pavencul**	**1.34**	**12**	*e*P	**Pn**	**21 26 35.1**	**+0.6**
PAVE				*e*S	**Sb**	**21 26 49.7**	**-2.5**
SOKI	**Kika Raxquin**	**1.40**	**47**	*e*P	**Pg**	**21 26 37.2**	**0.0**
ESSG	**Sabana Grande**	**1.66**	**72**	*e*S	**Sb**	**21 27 01.4**	**+0.2**
FG16	**Alotenango, Sa**	**1.94**	**78**	*i* P	**Pn**	**21 26 41.0**	**-1.6**
FG16	comp=N,2μm,0.2s			IAML		21 27 04.5	
QUIS	**Sacapulas**	**1.94**	**43**	*e*P	**Pg**	**21 26 46.8**	**-0.6**
PCIG		**1.97**	**338**	*e*P	**Pn**	**21 26 43.9**	**+1.0**
PCIG				*e*S	**Sn**	**21 27 05.8**	**-1.4**
CCIG	**Comitan**	**2.42**	**7**	*i* P	**Pb**	**21 26 53.8**	**+0.3**
CCIG	comp=N,61nm,0.5s			IAML		21 27 26.7	
JAYA	**Jayaque - finc**	**2.94**	**94**	*e*S	**Sn**	**21 27 32.1**	**+0.7**
TGIG		**2.96**	**348**	*e*P	**Pn**	**21 26 59.8**	**+3.2**
TGIG				*e*S	**Sn**	**21 27 32.2**	**+0.3**
CMIG	**Matias Romero**	**3.96**	**324**	*e*P	**Pn**	**21 27 11.1**	**+0.8**
CMIG				*e*S	**Sn**	**21 27 56.3**	**-0.3**
HUIG	**Huatulco**	**4.00**	**299**	*e*S	**Sn**	**21 27 56.1**	**-1.3**

*AEIC **30** 21:29:14.7±1.1, 54.˚78N±0.˚02×160.˚59W±0.˚04, h18km±4km, Error ellipse: s-maj=3.5km s-min=2.4km az=89.0*
NEIC 30 21:29:14.2±1.1, 54.˚74N±0.˚03×160.˚58W±0.˚04, h17km±3km, ML3.0/14, ML2.7(AEIC), Error ellipse: s-maj=4.3km s-min=2.9km az=157.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.58**	**82**		**Pg**	**21 29 25.7**	**0.0**
CNBA					**Sg**	**21 29 33.3**	**-0.2**
SDPT	**Sand Point**	**

mb4.9/97 Error ellipse: s-maj=15.9km s-min=12.5km az=137.0

ISC 30 21:48:46.4s0.6,**12°55N**0°05×**48°35E**0°04,**h27**km3,3km, **n338,**σ1°**33**/329,**mb4.8**/127,**MS4.2**/78,**4C-2D,Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**5.47**	**260**		**Pn**	**21 50 04.8**	**-1.4**
ATD	**Arta Tunnel**	**5.47**	**260**	Pn	**Pn**	**21 50 04.7**	**-1.6**
	2.8nm,0.3s,baz=90,slow=7.1,SNR=171						
ATD				Sn	**Sn**	**21 51 08.0**	**-0.5**
	1.2nm,0.3s,baz=64,slow=22,SNR=11						
ATD				LR	LR	21 51 38.8	
	comp=Z,146nm,18.3s,baz=76,slow=32 4.9nm,0.3s						
ATD	**Arta Tunnel**	**5.47**	**260**	P	**Pn**	**21 50 05.0**	**-1.3**
	SNR=160						
ATD				S	**Sn**	**21 51 08.4**	**-0.1**
ABTO	**Aybut**	**6.76**	**44**	P	**Pn**	**21 50 20.5**	**-3.5**
	SNR=5.2						
WHFO	**Wadi Hawf**	**7.47**	**44**	P	**Pn**	**21 50 32.2**	**-1.6**
RBK	**Rabkut**	**7.50**	**48**	P	**Pn**	**21 50 31.5**	**-2.7**
DMTO	**DMTO**	**8.18**	**50**	P	**Pn**	**21 50 40.9**	**-2.6**
DOK	**Doka**	**8.21**	**42**	P	**Pn**	**21 50 42.4**	**-1.5**
FURI	**Furi**	**10.17**	**250**	Pn	**Pn**	**21 51 12.0**	**+1.0**
RAYN	**Ar Rayn**	**11.24**	**346**	Pn	Pn	21 51 18.9	-6.6
UMZA	**Um Al Zommool**	**12.01**	**32**	P	**Pn**	**21 51 33.2**	**-2.6**
SMRA	**Abu-Samra**	**12.35**	**11**	P	**Pn**	**21 51 41.0**	**+0.5**
MHTO	**MHTO**	**12.46**	**46**	P	**Pn**	**21 51 40.2**	**-1.8**
MHTO				P	**Pn**	**21 51 40.2**	**-1.8**
ARQ	**Araqi**	**13.24**	**35**	P	**Pn**	**21 51 52.9**	**+0.1**
JMDO	**Jabal Madar**	**13.48**	**42**	P	**Pn**	**21 51 56.0**	**-0.1**
AJN	**Ajban**	**13.50**	**27**	P	**Pn**	**21 51 55.6**	**-0.7**
ASUD	**Al Ashush, Dub**	**13.71**	**28**	P	**Pn**	**21 51 57.4**	**-1.7**
HOQ	**Hoqain**	**13.88**	**37**	P	**Pn**	**21 52 00.2**	**-1.4**
SOHO	**SOHO**	**13.89**	**33**	P	**Pn**	**21 52 00.5**	**-1.1**
SMDO	**Samad**	**13.94**	**40**	P	**Pn**	**21 52 01.6**	**-0.7**
	SNR=10						
ASHO	**Ashiyiah**	**14.10**	**30**	P	**Pn**	**21 52 04.1**	**-0.4**
	SNR=8.3						
NAZ	**Nazwa, Dubai**	**14.17**	**28**	P	**Pn**	**21 52 06.7**	**+1.2**
	SNR=7.0						
WBK	**Wadi Bani Khal**	**14.23**	**44**	P	**Pn**	**21 52 04.5**	**-1.8**
JLN	**Jalan Bani Buh**	**14.23**	**46**	P	**Pn**	**21 52 04.6**	**-1.6**
HATD	**Hatta, Dubai**	**14.26**	**30**	P	**Pn**	**21 52 06.0**	**-0.6**
BIDO	**Bidbid**	**14.33**	**39**	P	**Pn**	**21 52 06.1**	**-1.5**
	SNR=13						
UOSS	**Minazif**	**14.39**	**30**	Pn	**Pn**	**21 52 07.3**	**-1.1**
UOSS	**Minazif**	**14.39**	**30**	P	**Pn**	**21 52 08.6**	**+0.2**
WSAR	**Wadi Sarin**	**14.44**	**41**	Pn	**Pn**	**21 52 06.3**	**-2.8**
	baz=230,slow=24,SNR=7.0						
WSAR				LR	LR	21 57 34.9	
	comp=Z,7.6nm,19.3s,baz=240,slow=37						
MASF	**Masafi**	**14.73**	**29**	P	**Pn**	**21 52 13.1**	**0.0**
	SNR=7.8						
MDH	**Madha**	**14.74**	**29**	P	**Pn**	**21 52 12.7**	**-0.5**
	SNR=8.7						
SHME	**Shamm**	**15.30**	**28**	P	**Pn**	**21 52 17.7**	**-3.0**
	SNR=5.1						
LODK	**Lodwar**	**15.72**	**236**	Pn	**Pn**	**21 52 25.6**	**-0.7**
LODK	**Lodwar**	**15.72**	**236**	P	**Pn**	**21 52 26.7**	**+0.4**
	SNR=12						
KBD	**Kabd**	**16.55**	**358**	P	**Pn**	**21 52 37.1**	**+0.4**
KIBK	**Kibwezi**	**17.99**	**215**	Pn	**Pn**	**21 52 52.0**	**-2.8**
KIBK	**Kibwezi**	**17.99**	**215**	P	**Pn**	**21 52 53.0**	**-1.8**
	SNR=6.6						
MSEY	**Mahe Island**	**18.52**	**157**	P	**P**	**21 52 58.7**	**-2.3**
MSEY				IAmb	IAmb	21 53 04.4	
	comp=Z,83nm,0.9s						
MSEY	**Mahe Island**	**18.52**	**157**	P	**P**	**21 53 00.3**	**-0.7**
EIL	**Elat**	**21.09**	**326**	P	**P**	**21 53 27.6**	**-1.2**
	comp=Z,7.8nm,1.0s,baz=116,slow=7.1,SNR=6.5						
EIL				LR	LR	22 00 27.1	
	comp=Z,1μm,20.5s,baz=134,slow=34 comp=Z,7.8nm,1.0s						
GHAJ	**Ghor Haditha**	**22.07**	**330**	P	**P**	**21 53 38.0**	**-1.3**
GHAJ				IAmb	IAmb	21 53 48.2	
	comp=Z,79nm,1.3s						
BALJ	**Balqa**	**22.68**	**331**	P	**P**	**21 53 45.1**	**-0.8**
BALJ				IAmb	IAmb	21 54 03.6	
	comp=Z,66nm,1.7s						
MMAI	**Mount Meron Ar**	**23.56**	**332**	P	**P**	**21 53 54.0**	**-0.8**
	comp=Z,3.7nm,0.9s,baz=162,slow=8.6,SNR=5.9						
MMAI				LR	LR	22 03 30.6	
	comp=Z,2μm,18.0s,baz=153,slow=38						
MARD	**Mardin**	**25.57**	**346**	P	**P**	**21 54 12.8**	**-0.6**
MARD				IAmb	IAmb	21 54 17.2	
	comp=Z,19nm,0.8s						
SBV	**Sambava**	**25.89**	**176**	P	**P**	**21 54 18.2**	**+2.0**
	SNR=7.5						
GEVA	**Gevas**	**26.08**	**351**	P	**P**	**21 54 18.7**	**+0.6**
GEVA				IAmb	IAmb	21 54 38.2	
	comp=Z,36nm,1.2s						
CSS	**Mathiatis**	**26.14**	**331**	P	**P**	**21 54 17.7**	**-0.7**
	comp=Z,10nm,1.9s						
GAZ	**Gaziantep**	**26.47**	**340**	P	**P**	**21 54 21.3**	**-0.1**
GAZ				IAmb	IAmb	21 54 41.8	
	comp=Z,37nm,1.4s						
GURO	**Guroymak-BITLI**	**26.50**	**349**	P	**P**	**21 54 21.7**	**0.0**
GURO				IAmb	IAmb	21 54 32.5	
	comp=Z,36nm,1.6s						
GNI	**Garni**	**27.67**	**354**	P	**P**	**21 54 32.1**	**-0.2**
GNI				IAmb	IAmb	21 55 10.4	
	comp=Z,35nm,1.2s						
GNI	**Garni**	**27.67**	**354**	LR	LR	22 07 00.3	
	comp=Z,2μm,20.0s,baz=168,slow=40						
GNI	**Garni**	**27.67**	**354**	P	**P**	**21 54 35.3**	**+3.0**
GNI	**Garni**	**27.67**	**354**	P	**P**	**21 54 31.3**	**-1.0**
	comp=Z,483nmcomp=Z,22nm,1.3s						
ARPR	**Arapgir-MALATY**	**27.89**	**343**	P	**P**	**21 54 33.5**	**-0.7**
ARPR				IAmb	IAmb	21 54 49.1	
	comp=Z,30nm,1.2s						
KOPT	**Kop Dagi**	**28.22**	**347**	P	**P**	**21 54 37.0**	**-0.4**
KBL	**Kabul**	**28.85**	**37**	P	**P**	**21 54 41.7**	**-1.3**
TOKA	**Tokat**	**29.57**	**341**	P	**P**	**21 54 48.2**	**-0.9**
BR104	**Keskin Array S**	**30.01**	**337**	P	**P**	**21 54 52.2**	**-0.9**
	comp=Z,40nmcomp=Z,4.0nm,1.8s						
BR131	**Keskin Array S**	**30.02**	**337**	P	**P**	**21 54 51.4**	**-1.9**
BRTR	**Keskin Array B**	**30.02**	**337**	P	**P**	**21 54 52.3**	**-1.0**
BRTR	**Keskin Array B**	**30.02**	**337**	P	**P**	**21 54 53.7**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=160,slow=12,SNR=7.3 comp=Z,0.9nm,0.9s						
BR105	**Keskin Array S**	**30.03**	**337**	P	**P**	**21 54 52.4**	**-0.8**
	comp=Z,45nmcomp=Z,2.4nm,1.4s						
BR106	**Keskin Array S**	**30.04**	**337**	P	**P**	**21 54 52.5**	**-0.8**
	comp=Z,37nmcomp=Z,3.3nm,1.1s						
ANTO	**Ankara**	**30.48**	**336**	P	**P**	**21 54 56.3**	**-0.9**
ANTO				IAmb	IAmb	21 55 04.1	
	comp=Z,12nm,0.9s						
ANTO	**Ankara**	**30.48**	**336**	P	**P**	**21 54 56.3**	**-0.9**
	comp=Z,6.6nm,1.2s						
NIL	**Nilore**	**30.93**	**43**	P	**P**	**21 54 60.0**	**-1.2**
NIL				IAmb	IAmb	21 55 04.7	
	comp=Z,23nm,1.3s						
NIL	**Nilore**	**30.93**	**43**	P	**P**	**21 55 01.7**	**+0.6**
OPO	**Ambohidratompo**	**30.95**	**182**	LR	LR	22 07 22.9	
	comp=Z,384nm,18.4s,baz=182,slow=36						
MANT	**Manisa**	**31.26**	**329**	P	**P**	**21 55 03.5**	**-0.8**
MANT				IAmb	IAmb	21 55 07.9	
	comp=Z,24nm,1.5s						
ABPO	**Ambohimpanom**	**31.39**	**182**	P	**P**	**21 55 05.4**	**0.0**
KBZ	**Khabaz**	**31.42**	**352**	P	**P**	**21 55 05.6**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=185,slow=9.4,SNR=6.5						
KBZ				LR	LR	22 09 39.3	
	comp=Z,734nm,18.1s,baz=154,slow=40 comp=Z,2.6nm,0.8s						
KVAR	**Kislovodsk Arr**	**31.67**	**352**	LR	LR	22 09 26.7	
	comp=Z,881nm,18.0s,baz=74,slow=39						
KIV	**Kislovodsk**	**31.67**	**352**	P	**P**	**21 55 06.2**	**-1.4**
KIV				IAmb	IAmb	21 55 25.0	
	comp=Z,13nm,0.9s						
KIV	**Kislovodsk**	**31.67**	**352**	P	**P**	**21 55 06.7**	**-0.9**
	comp=Z,11nm,1.1s						
PALK	**Pallekele**	**32.28**	**96**	LR	LR	22 05 24.3	
	comp=Z,301nm,21.5s,baz=275,slow=31						
GAR	**Garm**	**32.76**	**33**	P	**P**	**21 55 17.1**	**-0.2**
LSZ	**Lusaka**	**34.10**	**216**	P	**P**	**21 55 29.3**	**+0.1**
LSZ				IAmb	IAmb	21 55 32.6	
	comp=Z,38nm,1.9s						
LSZ	**Lusaka**	**34.10**	**216**	LR	LR	22 09 57.5	
	comp=Z,427nm,18.6s,baz=50,slow=37						
LSZ	**Lusaka**	**34.10**	**216**	P	**P**	**21 55 30.1**	**+0.9**
VOI	**Vohitsoka**	**34.28**	**183**	P	**P**	**21 55 31.2**	**+0.5**
VOI				IAmb	IAmb	21 55 33.6	
	comp=Z,26nm,1.1s						
VOI	**Vohitsoka**	**34.28**	**183**	P	**P**	**21 55 32.1**	**+1.5**
	SNR=5.0						
ALN	**Alexandroupoli**	**34.35**	**329**	P	**P**	**21 55 30.4**	**-0.5**
RDO	**Rodhopi**	**34.79**	**329**	P	**P**	**21 55 35.5**	**+0.7**
CHM	**Chimkent**	**34.94**	**28**	*e*P	**P**	**21 55 36.1**	**0.0**
	comp=Z,5.0nm,0.5s						
IUG	**Iuzhnay**	**35.01**	**29**	*e*P	**P**	**21 55 36.7**	**-0.1**
	comp=Z,14nm,1.1s						
BRLS	**Boroldoy**	**35.61**	**27**	*i*P	**P**	**21 55 39.5**	**-2.3**
ARSB	**Arslanbob**	**35.85**	**32**	P	**P**	**21 55 44.3**	**+0.1**
ARSB				IAmb	IAmb	21 55 48.1	
	comp=Z,18nm,1.0s						
KK31	**Karatay Array**	**35.97**	**28**	P	**P**	**21 55 44.5**	**-0.4**
TIRR	**Tirgusor**	**36.09**	**336**	P	**P**	**21 55 45.2**	**-0.7**
	comp=Z,17nm,1.2s						
DZA	**Taraz**	**36.19**	**29**	*e*P	**P**	**21 55 46.8**	**-0.1**
KSH	**Kashi**	**36.29**	**37**	P	**P**	**21 55 45.3**	**-2.6**
KSH				pP	pP	21 55 47.8	-7.4
KSH				pmax	pmax		
	comp=Z,5.0nm,1.4s						
KSH				LR	LR		
	comp=Z,340nm,13.1s						
KSH				LR	LR		
	comp=Z,180nm,11.0s						
KSH				LR	LR		
	comp=Z,310nm,15.1s						
NE56	**Odesa**	**37.06**	**340**	P	**P**	**21 55 53.4**	**-0.7**
FOMA	**Nahampoana Res**	**37.32**	**182**	P	**P**	**21 55 57.3**	**+0.8**
ISR	**Istrita**	**37.41**	**334**	P	**P**	**21 55 56.4**	**-0.8**
	comp=Z,895nmcomp=Z,16nm,1.7s						
AAK	**Ala-Archa**	**37.58**	**32**	P	**P**	**21 55 58.6**	**-0.2**
AAK	**Ala-Archa**	**37.58**	**32**	P	**P**	**21 55 58.3**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=237,slow=9.4,SNR=11 comp=Z,1.7nm,0.3s						
AB31	**Akbulak array**	**37.83**	**12**		**P**	**21 56 00.4**	**-0.2**
AB31				IAmb	IAmb	21 56 03.5	
	comp=Z,25nm,1.4s						
KSANE	**Kasane**	**37.86**	**218**	P	**P**	**21 56 02.1**	**+0.8**
KSANE				IAmb	IAmb	21 56 03.8	
	comp=Z,19nm,1.1s						
VRI	**Vrincioaia**	**37.93**	**335**	P	**P**	**21 56 01.0**	**-0.6**
	comp=Z,361nmcomp=Z,11nm,1.2s						
PLOR5	**Plostina Array**	**37.94**	**335**	P	**P**	**21 56 01.1**	**-0.6**
	comp=Z,450nmcomp=Z,11nm,1.2s						
MLR	**Muntele Rosu**	**37.96**	**334**	P	**P**	**21 56 03.0**	**+1.0**
MLR				IAmb	IAmb	21 56 12.9	
	comp=Z,41nm,1.7s						
MLR	**Muntele Rosu**	**37.96**	**334**	LR	LR	22 12 40.3	
	comp=Z,515nm,21.4s,baz=152,slow=38						
MLR	**Muntele Rosu**	**37.96**	**334**	P	**P**	**21 56 01.2**	**-0.7**
	comp=Z,271nmcomp=Z,13nm,1.7s						
MILM	**Milestii Mici**	**38.00**	**338**	*e*P	**P**	**21 56 02.0**	**-0.1**
	comp=Z,190nm,5.0s						
MILM	**Milestii Mici**	**38.00**	**338**	*e*PP	PP	21 57 27.0	-2.2
MILM				*e*S	**S**	**22 01 52.0**	**-0.6**
MILM				*e*L	L	22 07 51.0	
MILM				LRM	MLR	22 14 02.0	
	comp=Z,300nm,19.0s						
KIS	**Kishinev**	**38.07**	**338**	*e*P	**P**	**21 56 02.0**	**-0.6**
	comp=Z,60nm,2.5s						
KIS	**Kishinev**	**38.07**	**338**	*e*PP	PP	21 57 31.0	+1.1
KIS				*e*L	L	22 13 40.0	
KIS				LRM	MLR	22 14 30.0	
	comp=Z,150nm,18.0s						
MATP	**Matopo**	**38.14**	**211**	LR	LR	22 12 40.2	
	comp=Z,325nm,18.0s,baz=42,slow=38						
SGDS	**Sogindy**	**38.23**	**31**	*e*P	**P**	**21 56 03.8**	**-0.4**
BOOM	**Boomskoye usch**	**38.24**	**34**	P	**P**	**21 56 04.6**	**+0.2**
VOIR		**38.30**	**333**	P	**P**	**21 56 04.2**	**-0.6**
	comp=Z,11nm,1.6s						
TESR	**Tescani**	**38.49**	**336**	P	**P**	**21 56 05.7**	**-0.5**
	comp=Z,12nm,1.6s						
TIP	**Timpagrande**	**38.52**	**319**	P	**P**	**21 56 06.3**	**-0.4**
	comp=Z,9.0nm,1.6s						
AKTO	**Aktyubinsk**	**38.60**	**10**	P	**P**	**21 56 06.2**	**-0.9**
	comp=Z,2.8nm,0.8s,baz=202,slow=6.8,SNR=12						
AKTO				LR	LR	22 14 46.2	
	comp=Z,402nm,19.9s,baz=94,slow=41 comp=Z,2.8nm,0.8s						
KDJ	**Kajisay**	**38.69**	**35**	P	**P**	**21 56 07.6**	**-0.6**
KDJ				IAmb	IAmb	21 56 12.2	
	comp=Z,25nm,1.5s						
EDA	**Edea**	**38.75**	**260**	P	**P**	**21 56 08.6**	**-0.3**
EVN	**Everest**	**39.02**	**61**	P	**P**	**21 56 10.9**	**-0.8**
EVN				IAmb	IAmb	21 56 13.0	
	comp=Z,50nm,1.7s						
BTLS	**Baital**	**39.10**	**29**	*i*P	**P**	**21 56 11.3**	**0.0**
TNSS	**Tian-Shan**	**39.16**	**34**	*e*P	**P**	**21 56 12.0**	**-0.4**
VAE	**Valguarnera**	**39.17**	**315**	LR	LR	22 11 32.1	
	comp=Z,350nm,21.3s,baz=134,slow=35						
AAA	**Alma-Ata**	**39.26**	**34**	*e*P	**P**	**21 56 12.7**	**-0.2**
	comp=Z,9.6nm,0.7s						
BROLN	**Tihalogang**	**39.30**	**212**	*i*P	**P**	**21 56 14.0**	**+0.6**
KUU	**Kurty**	**39.42**	**32**	*e*P	**P**	**21 56 14.1**	**0.0**
BELG	**Belogornoye**	**39.74**	**359**	LR	LR	22 16 16.9	
	comp=Z,1μm,19.7s,baz=120,slow=42						
NDNU	**Novodnistrovsk**	**39.94**	**338**	P	**P**	**21 56 17.8**	**-0.5**
BURAR	**Bucovina Array**	**39.96**	**336**	P	**P**	**21 56 18.3**	**-0.3**
ACER	**Acerenza**	**39.96**	**321**	P	**P**	**21 56 18.2**	**-0.5**
ACER				IAmb	IAmb	21 56 24.1	
	comp=Z,20nm,1.1s						
SATY	**Saty**	**39.98**	**35**	*e*P	**P**	**21 56 18.8**	**-0.1**
BUR08	**Bucovina Ar. S**	**39.99**	**336**	P	**P**	**21 56 18.6**	**-0.3**
UZB	**Uzynbulak**	**40.38**	**35**	*e*P	**P**	**21 56 22.1**	**-0.2**
MREMI	**Moremi**	**40.47**	**211**	P	**P**	**21 56 23.2**	**+0.1**
MREMI				IAmb	IAmb	21 56 27.3	
	comp=Z,32nm,1.2s						
MREMI	**Moremi**	**40.47**	**211**	*i*P	**P**	**21 56 23.8**	**+0.7**
KSV	**Kosov**	**40.58**	**336**	P	**P**	**21 56 23.1**	**-0.6**
SHLS	**Shalkode**	**40.63**	**35**	*e*P	**P**	**21 56 26.1**	**+1.7**
HORU	**Horodok**	**40.80**	**338**	P	**P**	**21 56 24.9**	**-0.5**
GMARE	**Gumare**	**40.90**	**220**	P	**P**	**21 56 26.9**	**+0.2**
LUBAR	**Lubar, Ukraine**	**40.92**	**340**	P	**P**	**21 56 25.9**	**-0.5**
AK07	**Malin Array Si**	**41.00**	**341**	P	**P**	**21 56 26.5**	**-0.5**
AK10	**Malin Array Si**	**41.02**	**341**	P	**P**	**21 56 26.7**	**-0.5**
KIEV	**Kiev**	**41.12**	**342**	P	**P**	**21 56 27.7**	**-0.3**
KIEV	**Kiev**	**41.12**	**342**	P	**P**	**21 56 27.5**	**-0.5**
	comp=Z,53nm,1.6s						
AKASG	**Malin Array Be**	**41.12**	**342**	P	**P**	**21 56 27.2**	**-0.8**
AKASG	**Malin Array Be**	**41.12**	**342**	P	**P**	**21 56 26.8**	**-1.2**
	comp=Z,3.4nm,0.8s,baz=156,slow=7.4,SNR=20						
AKASG				PP	**PP**	**21 58 01.4**	**-1.8**
	comp=Z,1.3nm,0.9s,baz=150,slow=8.8,SNR=4.4						
AKASG				PcP	**PcP**	**21 58 25.9**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=156,slow=2.5,SNR=4.1						
AKASG				LR	LR	22 15 01.3	
	comp=Z,261nm,19.0s,baz=152,slow=38 comp=Z,3.4nm,0.8s						
AKBB	**Malin Array Si**	**41.12**	**342**	P	**P**	**21 56 27.1**	**-0.9**
AKBB	**Malin Array Si**	**41.12**	**342**	P	**P**	**21 56 27.5**	**-0.5**
AK16	**Malin Array Si**	**41.13**	**341**	P	**P**	**21 56 27.6**	**-0.5**
TDK	**Taldyqorghan**	**41.26**	**33**	*e*P	**P**	**21 56 29.2**	**-0.1**
	comp=Z,15nm,0.9s						
TAM	**Tamanrasset**	**41.92**	**290**	P	**P**	**21 56 34.6**	**-0.6**
TAM				IAmb	IAmb	21 56 39.7	
	comp=Z,18nm,1.1s						
LPHEP	**Lephephe**	**41.93**	**212**	P	**P**	**21 56 35.5**	**+0.3**
KEST	**Kesra**	**42.02**	**310**	P	**P**	**21 56 38.2**	**+2.5**
	comp=Z,5.6nm,1.2s,baz=70,slow=8.4,SNR=2.1						
KEST				LR	LR	22 14 29.2	
	comp=Z,573nm,19.4s,baz=19,slow=37						
KOLS	**Kolonicke sedl**	**42.21**	**334**	*e*P	**P**	**21 56 39.6**	**+2.6**
KOLS				*e*PP	**PP**	**21 58 18.8**	**+3.8**
BRZS	**Berezniki**	**42.33**	**23**	*e*P	**P**	**21 56 37.9**	**-0.1**
BRDH	**Bariadhala**	**42.34**	**70**	LR	LR	22 13 39.5	
	comp=Z,350nm,20.4s,baz=302,slow=35						
PSZ	**Piszkesteto**	**42.50**	**332**	P	**P**	**21 56 39.0**	**-0.5**
PSZ				IAmb	IAmb	21 56 43.2	
	comp=Z,25nm,1.6s						
KDWAN	**Kaudwane**	**42.57**	**213**	*i*P	**P**	**21 56 41.5**	**+1.1**
RNPP5	**Staryi Chortor**	**42.67**	**339**	P	**P**	**21 56 40.2**	**-0.5**
SHL	**Shillong**	**42.95**	**66**	P	**P**	**21 56 42.0**	**-1.6**
SHL				IAmb	IAmb	21 56 49.2	
	comp=Z,41nm,1.4s						
SHL	**Shillong**	**42.95**	**66**	P	**P**	**21 56 42.8**	**-0.8**
GRTLG	**Ghanzi**	**42.96**	**219**	*i*P	**P**	**21 56 45.7**	**+2.1**
STHS	**Stebnicka Huta**	**43.02**	**334**	*e*P	**P**	**21 56 44.9**	**+1.3**
STHS				*e*PP	**PP**	**21 58 23.5**	**-0.2**
BEHE	**Becsehely**	**43.03**	**328**	P	**P**	**21 56 44.3**	**+0.7**
LSA	**Lhasa**	**43.14**	**60**	P	**P**	**21 56 44.3**	**-1.1**
VYHS	**Vyhne**	**43.41**	**332**	*e*P	**P**	**21 56 49.0**	**+2.2**
VYHS				*e*PP	**PcP**	**21 58 35.3**	**+0.4**
LBTB	**Lobatse**	**43.43**	**211**	P	**P**	**21 56 47.6**	**+0.3**
LBTB				IAmb	IAmb	21 56 49.9	
	comp=Z,30nm,1.2s						
LBTB	**Lobatse**	**43.43**	**211**	LR	LR	22 15 29.2	
	comp=Z,257nm,18.7s,baz=40,slow=37						
OBN	**Obninsk**	**43.46**	**350**	P	**P**	**21 56 47.0**	**+0.1**
OBN	**Obninsk**	**43.46**	**350**	LR	LR	22 17 05.3	
	comp=Z,389nm,18.8s,baz=86,slow=39						
KGCAE	**Kacgae**	**43.52**	**216**	P	**P**	**21 56 47.6**	**-0.4**
KGCAE	**Kacgae**	**43.52**	**216**	*i*P	**P**	**21 56 49.1**	**+1.1**
LANS	**Liptovska Anna**	**43.59**	**333**	*e*P	**P**	**21 56 52.5**	**+4.2**
VSL	**Villasalto**	**43.60**	**315**	P	**P**	**21 56 48.4**	**-0.1**
VSL				IAmb	IAmb	21 57 02.6	
	comp=Z,19nm,1.2s						
GROS	**Grobnik**	**43.69**	**327**	*i*P	**P**	**21 56 49.3**	**+0.2**
TSUM	**Tsumeb**	**43.75**	**224**	LR	LR	22 16 19.8	
	comp=Z,560nm,18.8s,baz=50,slow=38						
VNDS	**Vrh nad Dolski**	**43.89**	**326**	*e*P	**P**	**21 56 50.8**	**+0.1**
ZAVS	**Zavodnje**	**43.92**	**327**	*i*P	**P**	**21 56 51.3**	**+0.3**
BRVK	**Borovoye**	**44.04**	**19**	P	**P**	**21 56 50.5**	**-1.2**
BRVK	**Borovoye**	**44.04**	**19**	P	**P**	**21 56 52.2**	**+0.5**
BVAR	**Borovoye Array**	**44.05**	**19**	P	**P**	**21 56 51.6**	**-0.2**
	comp=Z,5.1nm,0.8s,baz=209,slow=6.8,SNR=22						
BVAR				PcP	**PcP**	**21 58 37.4**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=166,slow=3.1,SNR=4.3						
BVAR				LR	LR	22 18 20.4	
	comp=Z,308nm,18.7s,baz=208,slow=40 comp=Z,5.1nm,0.8s						
MODS	**Modra-Piesok**	**44.06**	**330**	*e*P	**P**	**21 56 54.1**	**+2.1**
MODS				*e*PP	**PcP**	**21 58 43.0**	**+5.9**
SOKA	**Soboth**	**44.08**	**327**	*e*P	**P**	**21 56 52.4**	**+0.1**
	comp=Z,13nm,1.3s						
RONA	**Rosalia, Austr**	**44.09**	**329**	*e*P	**P**	**21 56 52.5**	**+0.2**
	comp=Z,17nm,1.2s						
TRI	**Trieste**	**44.16**	**325**	P	**P**	**21 56 52.4**	**-0.4**
TRI				IAmb	IAmb	21 56 59.0	
	comp=Z,16nm,1.1s						
ARSA	**Arzberg**	**44.19**	**328**	P	**P**	**21 56 52.1**	**-0.9**
ARSA	**Arzberg**	**44.19**	**328**	*e*P	**P**	**21 56 53.0**	**-0.1**
	comp=Z,3.2nm,0.8s						
JAVC	**Velka Javorina**	**44.21**	**331**	*e*P	**P**	**21 56 55.0**	**+1.7**
OBKA	**Obir**	**44.23**	**327**	*e*P	**P**	**21 56 54.0**	**+0.5**
	comp=Z,16nm,1.2s						
OJC	**Ojcow**	**44.24**	**334**	P	**P**	**21 56 53.0**	**-0.4**
MAKZ	**Makanchi**	**44.33**	**33**	P	**P**	**21 56 53.5**	**-0.7**
MAKZ				IAmb	IAmb	21 57 02.3	
	comp=Z,33nm,1.6s						
SABO	**M.te Sabotino**	**44.42**	**325**	P	**P**	**21 56 54.0**	**-0.9**
SABO				IAmb	IAmb	21 57 02.1	
	comp=Z,14nm,1.1s						
ARTI	**Arti**	**44.42**	**8**	P	**P**	**21 56 54.0**	**-0.8**
ARTI				IAmb	IAmb	21 56 57.5	
	comp=Z,15nm,0.9s						
ARTI	**Arti**	**44.42**	**8**	P	**P**	**21 56 54.9**	**+0.2**
	comp=Z,12nm,0.9s,baz=196,slow=6.7,SNR=17 comp=Z,12nm,0.9s						
CONA	**Conrad Observa**	**44.46**	**329**	*e*P	**P**	**21 56 55.0**	**-0.3**
	comp=Z,17nm,1.3s						
MKAR	**Makanchi Array**	**44.49**	**33**	P	**P**	**21 56 55.1**	**-0.4**
	comp=Z,3.9nm,0.8s,baz=218,slow=7.7,SNR=31						
MKAR				LR	LR	22 17 51.7	
	comp=Z,179nm,21.5s,baz=229,slow=39 comp=Z,3.9nm,0.8s						
MAKGR	**Makgori**	**44.49**	**211**	*i*P	**P**	**21 56 57.1**	**+1.3**
MAUC	**Maruska**	**44.50**	**332**	*e*P	**P**	**21 56 56.9**	**+1.4**
MYKA	**Terra Mystica**	**44.79**	**326**	*e*P	**P**	**21 56 58.1**	**+0.1**
	comp=Z,14nm,1.2s						
KOOLE	**Kule**	**44.81**	**218**	P	**P**	**21 56 59.1**	**+0.7**
KOOLE	**Kule**	**44.81**	**218**	*i*P	**P**	**21 57 00.2**	**+1.8**
MNK	**Minsk**	**44.85**	**343**	*i*P	**P**	**21 56 55.2**	**-3.0**
MNK	comp=E,4.0nm,0.7s						
				*i*P	**P**	**21 56 55.2**	**-3.0**
	comp=N,7.0nm,0.7s						
MNK				*i*P	**P**	**21 56 55.2**	**-3.0**
	comp=Z,7.

FETA	**Feichten**	**46.63**	**325**	*e*P		**P**	**21 57 11.7**	**-0.9**
	comp=Z,5.3nm,1.4s								
PVCC	**Panska Ves**	**46.83**	**331**	*e*S		**S**	**22 04 06.5**	**+3.9**
PVCC				AMS		AMS	22 24 20.0		
	comp=Z,200nm,14.3s								
PABE	**Paberze**	**46.88**	**341**	P		**P**	**21 57 13.8**	**-0.3**
RETA	**Reutte**	**46.88**	**325**	*e*P		**P**	**21 57 13.8**	**-0.6**
	comp=Z,3.6nm,1.0s								
DAVOX	**Davos/Dischmat**	**46.98**	**324**	LR		LR	22 21 01.3		
	comp=Z,135nm,18.3s,baz=106,slow=41								
DAVA	**Damuels**	**47.26**	**325**	*e*P		**P**	**21 57 16.4**	**-1.2**
	comp=Z,13nm,1.1s								
BRG	**Berggiesshubel**	**47.35**	**331**	*e*P		**P**	**21 57 17.2**	**-0.8**
BRG				Amp			21 57 22.5		
	comp=Z,9.4nm,1.2s								
BRG	**Berggiesshubel**	**47.35**	**331**	PP		PP	21 59 16.0	+6.7
BRG	**Berggiesshubel**	**47.35**	**331**	S		**S**	**22 04 16.0**	**+5.9**
GOMU	**GeErMu**	**47.86**	**52**	P		**P**	**21 57 22.5**	**-0.1**
GOMU				sP		pP	21 57 26.8	-3.3
GOMU				S		**S**	**22 04 19.8**	**+1.3**
GOMU				SS		**SS**	**22 07 50.5**	**+3.2**
GOMU				pmax		pmax			
	comp=Z,7.0nm,1.0s								
GOMU				pmax		pmax			
	comp=Z,83nm,4.4s								
GOMU				LR		LR			
	comp=Z,110nm,19.3s								
GOMU				LR		LR			
	comp=Z,170nm,19.8s								
CLL	**Collm**	**48.09**	**331**	P		**P**	**21 57 22.7**	**-0.9**
CLL				IAmb		IAmb	21 57 28.5		
	comp=Z,9.6nm,1.2s								
CLL	**Collm**	**48.09**	**331**	*i* P		**P**	**21 57 24.0**	**+0.4**
	comp=Z,10.0nm,1.2s								
CLL				*i* x		x	21 57 39.5		
CLL				*i* x		x	21 57 53.5		
CLL				*e*PP		**PP**	**21 59 18.0**	**+2.1**
CLL				*e*PPP		PPP	22 00 09.0		
CLL				*e*S		**S**	**22 04 20.0**	**-0.5**
	comp=N,100nm,22.5s								
CLL				*e*S		**S**	**22 04 20.0**	**-0.5**
	comp=E,100nm,25.6s								
CLL				*e*SS		**SS**	**22 07 52.0**	**+2.3**
CLL				AMS		AMS	22 18 00.0		
	comp=N,100nm,19.9s								
CLL				AMS		AMS	22 18 00.0		
	comp=E,200nm,21.1s								
SENIN	**Lac Senin/Sane**	**48.26**	**322**	P		**P**	**21 57 24.3**	**-1.0**
SENIN				IAmb		IAmb	21 57 41.7		
	comp=Z,16nm,1.1s								
BFO	**Black Forest**	**48.71**	**325**	P		**P**	**21 57 27.6**	**-1.0**
BFO				IAmb		IAmb	21 57 36.0		
	comp=Z,25nm,1.5s								
CHTO	**Chiang Mai**	**48.98**	**76**	P		**P**	**21 57 29.9**	**-1.2**
CM31	**Chiang Mai Arr**	**48.98**	**76**	P		**P**	**21 57 30.1**	**-0.9**
CMAR	**Chiang Mai AR**	**48.98**	**76**	P		**P**	**21 57 30.5**	**-0.6**
	comp=Z,13nm,0.8s,baz=275,slow=8.6,SNR=77								
CMAR				LR		LR	22 16 48.8		
	comp=Z,58nm,21.5s,baz=270,slow=34								
	comp=Z,13nm,0.8s								
ZAA0	**Zalesovo Array**	**50.34**	**27**	P		**P**	**21 57 39.5**	**-1.3**
ZALV	**Zalesovo Beam**	**50.34**	**27**	P		**P**	**21 57 39.3**	**-1.5**
ZALV	**Zalesovo Beam**	**50.34**	**27**	P		**P**	**21 57 39.5**	**-1.3**
	comp=Z,2.2nm,0.6s,baz=231,slow=7.7,SNR=10								
ZALV				LR		LR	22 22 34.8		
	comp=Z,174nm,18.1s,baz=229,slow=40								
	comp=Z,2.2nm,0.6s								
CEST	**Esterri de Car**	**50.47**	**315**	P		**P**	**21 57 41.5**	**-0.6**
CEST				IAmb		IAmb	21 58 05.4		
	comp=Z,25nm,1.2s								
PSI	**Prapat**	**50.97**	**97**	LR		LR	22 16 51.4		
	comp=Z,135nm,19.2s,baz=158,slow=33								
FINES	**FINESS Array B**	**51.42**	**347**	P		**P**	**21 57 48.9**	**+0.1**
FINES	**FINESS Array B**	**51.42**	**347**	P		**P**	**21 57 48.4**	**-0.4**
	comp=Z,15nm,1.0s,baz=139,slow=7.3,SNR=12								
FINES				LR		LR	22 21 51.8		
	comp=Z,255nm,18.3s,baz=175,slow=39								
	comp=Z,15nm,1.0s								
FIA1	**FINESS Array S**	**51.42**	**347**	P		**P**	**21 57 48.4**	**-0.4**
PZH	**PanZhiHua**	**51.86**	**66**	P		**P**	**21 57 52.5**	**-0.4**
MDT	**Midelt**	**52.28**	**302**	LR		LR	22 19 12.6		
	comp=Z,355nm,18.9s,baz=99,slow=35								
GTA	**Gaotai**	**52.57**	**50**	P		**P**	**21 57 58.0**	**0.0**
GTA				sP		pP	21 58 04.0	-1.5
GTA				PP		**PP**	**21 59 54.0**	**-3.1**
GTA				sS		sS	22 05 41.5	+5.5
GTA				pmax		pmax			
	comp=Z,15nm,1.3s								
GTA				LR		LR			
	comp=Z,96nm,17.8s								
GTA				LR		LR			
	comp=Z,150nm,19.3s								
GTA				LR		LR			
	comp=Z,210nm,18.2s								
KMI	**Kunming**	**52.66**	**68**	P		**P**	**21 57 59.3**	**+0.3**
KMI				S		**S**	**22 05 28.0**	**+2.6**
KMI				pmax		pmax			
	comp=Z,10.0nm,1.5s								
KMI				LR		LR			
	comp=Z,270nm,17.4s								
KMI				LR		LR			
	comp=Z,240nm,15.4s								
KMI				LR		LR			
	comp=Z,260nm,24.0s								
DBIC	**Dimbokro**	**52.71**	**269**	P		**P**	**21 58 01.2**	**+2.0**
	comp=Z,12nm,1.2s,baz=106,slow=1.7,SNR=3.2								
DBIC				LR		LR	22 18 36.4		
	comp=Z,144nm,19.4s,baz=104,slow=34								
	comp=Z,12nm,1.2s								
ESBB	**Sonseca Array**	**53.27**	**310**	P		**P**	**21 58 02.8**	**-0.2**
ESBB				IAmb		IAmb	21 58 06.7		
	comp=Z,13nm,1.1s								
ESDC	**Sonseca Array**	**53.27**	**310**	P		**P**	**21 58 02.4**	**-0.6**
ESDC	**Sonseca Array**	**53.27**	**310**	P		**P**	**21 58 02.9**	**-0.1**
	comp=Z,7.4nm,1.1s,baz=90,slow=6.2,SNR=16								
ESDC				LR		LR	22 21 47.8		
	comp=Z,121nm,18.5s,baz=110,slow=37								
	comp=Z,7.4nm,1.1s								
SLVN	**Son La**	**53.63**	**73**	P		**P**	**21 58 05.0**	**-1.1**
HFS	**Hagfors**	**53.92**	**339**	P		**P**	**21 58 06.4**	**-0.9**
	comp=Z,9.9nm,1.0s,baz=164,slow=5.9,SNR=6.1								
HFS				LR		LR	22 24 07.6		
	comp=Z,266nm,18.5s,baz=136,slow=40								
	comp=Z,9.9nm,1.0s								
NB2	**NORSAR Subarra**	**55.42**	**339**	P		**P**	**21 58 17.4**	**-0.9**
	comp=Z,12nm,1.4s,baz=133,slow=7.4								
NOA	**NORSAR Array B**	**55.42**	**339**	P		**P**	**21 58 16.5**	**-1.8**
	comp=Z,4.0nm,1.0s,baz=134,slow=7.2,SNR=6.2								
NOA				LR		LR	22 25 12.6		
	comp=Z,252nm,19.4s,baz=130,slow=40								
	comp=Z,4.0nm,1.0s								
LVZ	**Lovozero**	**56.02**	**354**	P		**P**	**21 58 22.0**	**-0.5**
GYA	**Guiyang**	**56.26**	**67**	⇑P		**P**	**21 58 24.5**	**-0.5**
GYA				pmax		pmax			
	comp=Z,24nm,1.1s								
EKA	**Eskdalemuir Ar**	**58.37**	**328**	P		**P**	**21 58 38.0**	**-1.2**
	comp=Z,3.6nm,0.9s,baz=109,slow=10,SNR=5.9								
	comp=Z,3.6nm,0.9s								
XAN	**Xi'an**	**58.76**	**58**	P		**P**	**21 58 42.0**	**-0.4**
XAN				pmax		pmax			
	comp=Z,18nm,0.9s								
ARCES	**ARCESS Array B**	**58.76**	**351**	P		**P**	**21 58 39.6**	**-2.1**
	comp=Z,8.6nm,0.9s,baz=130,slow=3.6,SNR=9.1								
ARCES				LR		LR	22 26 50.3		
	comp=Z,346nm,20.1s,baz=154,slow=39								
	comp=Z,8.6nm,0.9s								
SONM	**Songino Array**	**59.49**	**42**	P		**P**	**21 58 47.1**	**-0.3**
SONM				IAmb		IAmb	21 58 48.8		
	comp=Z,10nm,1.0s								
SONM	**Songino Array**	**59.49**	**42**	P		**P**	**21 58 47.2**	**-0.1**
	comp=Z,7.7nm,0.8s,baz=243,slow=6.9,SNR=55								
SONM				LR		LR	22 28 27.2		
	comp=Z,98nm,19.3s,baz=272,slow=40								
	comp=Z,7.7nm,0.8s								
ULN	**Ulaanbaatar**	**59.92**	**42**	P		**P**	**21 58 49.9**	**-0.5**
ULN				IAmb		IAmb	21 58 51.2		
	comp=Z,8.0nm,0.9s								
ULN	**Ulaanbaatar**	**59.92**	**42**	P		**P**	**21 58 49.7**	**-0.7**
BTO	**Baotou**	**60.48**	**50**	*e*P		**P**	**21 58 54.3**	**+0.1**
BTO				pP		**sP**	**21 59 04.5**	**-0.3**
BTO				sP		**pwP**	**21 59 08.3**	**+3.3**
BTO				PP		**PP**	**22 01 09.5**	**+1.8**
BTO				S		**S**	**22 07 12.0**	**+3.7**
BTO				sS		**sS**	**22 07 24.0**	**+3.2**
BTO				pmax		pmax			
	comp=Z,38nm,0.8s								
BTO				pmax		pmax			
	comp=Z,290nm,4.1s								
BTO				LR		LR			
	comp=Z,570nm,27.7s								
BTO				LR		LR			
	comp=Z,180nm,18.6s								
BTO				LR		LR			
	comp=Z,400nm,24.8s								
HHC	**Hu-ho-hao-te**	**61.68**	**50**	*e*P		**P**	**21 59 03.3**	**+0.9**
HHC				pmax		pmax			
	comp=Z,17nm,0.8s								
WHN	**Wuhan**	**63.14**	**62**	P		**P**	**21 59 12.5**	**+0.3**
WHN				pmax		pmax			
	comp=Z,36nm,0.7s								
SBUM	**Sibu**	**63.98**	**93**	P		**P**	**21 59 17.9**	**0.0**
SBUM				IAmb		IAmb	21 59 30.1		
	comp=Z,6.4nm,1.1s								
BJT	**Baijiatuan**	**65.08**	**52**	P		**P**	**21 59 24.4**	**-0.3**
BJT				IAmb		IAmb	21 59 25.9		
	comp=Z,11nm,1.2s								
BJI	**Beijing**	**65.09**	**52**	P		**P**	**21 59 25.3**	**+0.5**
BJI				pmax		pmax			
	comp=Z,4.0nm,1.0s								
BJI				pmax		pmax			
	comp=Z,29nm,4.0s								
BJI				LR		LR			
	comp=Z,79nm,15.5s								
BJI				LR		LR			
	comp=Z,65nm,16.6s								
BJI				LR		LR			
	comp=Z,100nm,15.4s								
XLT	**XiLinHaoTe**	**65.38**	**47**	*e*P		**P**	**21 59 27.0**	**+0.3**
XLT				S		**S**	**22 08 10.8**	**+1.3**
XLT				pmax		pmax			
	comp=Z,6.0nm,0.8s								
XLT				pmax		pmax			
	comp=Z,70nm,4.3s								
XLT				LR		LR			
	comp=Z,11nm,15.2s								
XLT				LR		LR			
	comp=Z,93nm,15.6s								
XLT				LR		LR			
	comp=Z,120nm,19.7s								
TIA	**Tai'an**	**65.62**	**56**	P		**P**	**21 59 28.3**	**0.0**
TIA				pmax		pmax			
	comp=Z,11nm,0.9s								
NJ2	**Nanjing**	**67.00**	**60**	⇑P		**P**	**21 59 37.5**	**+0.3**
NJ2				pmax		pmax			
	comp=Z,14nm,0.8s								
SPITS	**Spitsbergen Ar**	**67.54**	**353**	P		**P**	**21 59 39.4**	**-0.4**
	comp=Z,16nm,1.0s,baz=113,slow=11,SNR=6.9								
SPITS				LR		LR	22 32 08.3		
	comp=Z,102nm,18.1s,baz=136,slow=39								
	comp=Z,16nm,1.0s								
JMIC	**Jan Mayen**	**67.73**	**343**	LR		LR	22 32 25.9		
	comp=Z,114nm,18.6s,baz=92,slow=39								
HIA	**Hailar**	**68.46**	**42**	P		**P**	**21 59 45.8**	**-0.3**
HIA				IAmb		IAmb	21 59 47.2		
	comp=Z,7.5nm,1.0s								
BORG	**Borgarnes**	**70.09**	**335**	LR		LR	22 34 49.7		
	comp=Z,105nm,18.5s,baz=99,slow=40								
CN2	**Changchun**	**72.14**	**48**	P		**P**	**22 00 08.8**	**+0.1**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.9s								
KAPI	**Kappang**	**73.06**	**99**	P		**P**	**22 00 14.0**	**-0.7**
HEH	**HeiHe**	**73.47**	**41**	*e*P		**P**	**22 00 15.5**	**-1.0**
HEH				pmax		pmax			
	comp=Z,13nm,1.1s								
HEH				LR		LR			
	comp=Z,430nm,16.8s								
HEH				LR		LR			
	comp=Z,180nm,17.1s								
HEH				LR		LR			
	comp=Z,330nm,17.3s								
BNX	**BinXian**	**73.51**	**46**	⇑P		**P**	**22 00 16.0**	**-0.8**
BNX				pmax		pmax			
	comp=Z,8.0nm,0.8s								
BNX				pmax		pmax			
	comp=Z,46nm,4.1s								
BNX				LR		LR			
	comp=Z,87nm,13.6s								
BNX				LR		LR			
	comp=Z,88nm,11.9s								
BNX				LR		LR			
	comp=Z,110nm,11.4s								
KSAR	**Wonju Array Be**	**74.23**	**54**	P		**P**	**22 00 20.1**	**-1.1**
KSRS	**Korea Array**	**74.26**	**54**	P		**P**	**22 00 20.2**	**-1.1**
	comp=Z,3.5nm,0.8s,baz=264,slow=6.9,SNR=14								
	comp=Z,3.5nm,0.8s								
YAK	**Yakutsk**	**74.94**	**29**	P		**P**	**22 00 24.2**	**-0.7**
YAK	**Yakutsk**	**74.94**	**29**	LR		LR	22 36 07.5		
	comp=Z,180nm,18.7s,baz=270,slow=38								
TIXI	**Tiksi**	**75.18**	**19**	LR		LR	22 39 33.9		
	comp=Z,142nm,18.6s,baz=290,slow=41								
DAV	**Davao City (W)**	**76.08**	**86**	LR		LR	22 35 10.2		
	comp=Z,38nm,18.4s,baz=234,slow=37								
USRK	**Ussuriysk Ar.**	**76.83**	**47**	P		**P**	**22 00 34.9**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=243,slow=5.8,SNR=2.5								
USRK				LR		LR	22 38 24.1		
	comp=Z,112nm,21.3s,baz=288,slow=39								
	comp=Z,2.5nm,0.8s								
JNU	**Nakatsue**	**77.06**	**59**	LR		LR	22 36 14.7		
	comp=Z,128nm,18.1s,baz=290,slow=37								
SUMG	**Summit**	**77.15**	**342**	P		**P**	**22 00 37.3**	**-0.5**
PSA00	**Pilbara Seismi**	**77.91**	**115**	P		**P**	**22 00 41.9**	**-0.5**
PSA00	**Pilbara Seismi**	**77.91**	**115**	P		**P**	**22 00 42.1**	**-0.3**
NWAO	**Narrogin (SRO)**	**79.69**	**127**	LR		LR	22 29 09.7		
	comp=Z,108nm,19.6s,baz=42,slow=30								
MAW	**Mawson**	**80.63**	**174**	P		**P**	**22 00 57.8**	**+1.5**
	comp=Z,4.2nm,0.9s,baz=344,slow=5.4,SNR=7.9								
MAW				LR		LR	22 32 49.9		
	comp=Z,118nm,18.4s,baz=352,slow=33								
	comp=Z,4.2nm,0.9s								
SYO	**Syowa Base**	**81.59**	**183**	⇑*e*PcP		**PcP**	**22 01 09.4**	**+2.3**
SFJD	**Kangerlussuaq**	**82.03**	**337**	LR		LR	22 40 02.8		
	comp=Z,91nm,19.0s,baz=90,slow=38								
FITZ	**Fitzroy Crossi**	**82.09**	**110**	P		**P**	**22 01 04.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**82.09**	**110**	LR		LR	22 33 04.2		
	comp=Z,85nm,18.6s,baz=273,slow=32								
MJAR	**Matsushiro Arr**	**82.54**	**54**	P		**P**	**22 01 05.6**	**-1.6**
	comp=Z,3.0nm,0.7s,baz=268,slow=4.1,SNR=13								
MJAR				LR		LR	22 41 14.3		
	comp=Z,72nm,19.0s,baz=290,slow=38								
	comp=Z,3.0nm,0.7s								
ASAJ	**Asahikawa**	**84.40**	**46**	LR		LR	22 41 40.6		
	comp=Z,56nm,19.9s,baz=168,slow=38								
RCBR	**Riachuelo**	**85.66**	**263**	LR		LR	22 37 26.3		
	comp=Z,18nm,18.1s,baz=66,slow=34								
RES	**Resolute Bay**	**89.98**	**351**	LR		LR	22 45 13.7		
	comp=Z,137nm,21.2s,baz=315,slow=38								
FRB	**Frobisher Bay**	**90.17**	**337**	LR		LR	22 44 43.9		
	comp=Z,85nm,18.3s,baz=86,slow=37								
WRA	**Warramunga Arr**	**90.52**	**110**	P		**P**	**22 01 46.5**	**-0.1**
WRA	**Warramunga Arr**	**90.52**	**110**	P		**P**	**22 01 47.0**	**+0.5**
	comp=Z,5.2nm,0.8s,baz=296,slow=3.7,SNR=42								
WRA				LR		LR	22 40 49.6		
	comp=Z,53nm,18.4s,baz=334,slow=34								
	comp=Z,5.2nm,0.8s								
WRAB	**Tennant Creek**	**90.53**	**110**	P		**P**	**22 01 47.4**	**+0.8**
WB0	**Warramunga Arr**	**90.53**	**110**	P		**P**	**22 01 46.5**	**-0.1**
WB0				IAmb		IAmb	22 01 54.5		
	comp=Z,11nm,1.1s								
SNAA	**Sanae**	**90.64**	**194**	P		**P**	**22 01 47.4**	**+1.4**
	comp=Z,2.0nm,0.9s,baz=124,slow=3.6,SNR=3.2								
SNAA				LR		LR	22 35 50.2		
	comp=Z,110nm,21.9s,baz=76,slow=31								
	comp=Z,2.0nm,0.9s								
WR8	**Warramunga Arr**	**90.67**	**110**	P		**P**	**22 01 47.6**	**+0.3**
WR8				IAmb		IAmb	22 01 55.8		
	comp=Z,7.7nm,1.0s								
ASAR	**Alice Springs**	**90.97**	**114**	P		**P**	**22 01 48.8**	**+0.1**
ASAR	**Alice Springs**	**90.97**	**114**	P		**P**	**22 01 49.0**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=289,slow=4.5,SNR=20								
	comp=Z,3.5nm,0.8s								
PETK	**Petropavlovsk-**	**91.31**	**35**	LR		LR	22 46 56.9		
	comp=Z,110nm,19.1s,baz=295,slow=38								
GUMO	**Guam**	**93.29**	**75**	LR		LR	22 42 10.7		
	comp=Z,15nm,21.3s,baz=246,slow=34								
SCHQ	**Schefferville**	**93.68**	**328**	LR		LR	22 46 36.4		
	comp=Z,34nm,18.0s,baz=80,slow=37								
STKA	**Stephens Creek**	**99.24**	**121**	LR		LR	22 42 30.3		
	comp=Z,210nm,19.3s,baz=223,slow=32								
INK	**Inuvik**	**99.34**	**1**	LR		LR	22 52 58.6		
	comp=Z,67nm,21.7s,baz=14,slow=39								
ILAR	**Eielson Array**	**102.04**	**7**	PP		**PP**	**22 06 50.0**	**+1.1**
	comp=Z,0.9nm,1.0s,baz=348,slow=7.4,SNR=7.1								
QSPA	**South Pole Qui**	**102.48**	**180**	PP		**PP**	**22 06 53.4**	**+0.5**
	comp=Z,2.2nm,1.0s,baz=299,slow=5.5,SNR=3.7								
DZM	**Mont Dzumac**	**120.48**	**108**	*e*LR		LR	22 44 30.0		
	comp=Z,98nm,24.5s								
TXAR	**Lajitas Array**	**130.36**	**327**	PKP		**PKPdf**	**22 07 55.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=80,slow=1.4,SNR=4.5								
TBI	**Tubuai**	**159.97**	**125**	*e*LR		LR	23 02 43.0		
	comp=Z,872nm,28.8s								
TBI				*e*LR		LR	23 02 56.2		
	comp=Z,1µm,29.2s								
PPT2	**Papeete2**	**161.99**	**108**	*e*LR		LR	23 03 45.3		
	comp=Z,120nm,24.0s								
TAOE	**Nuku Hiva Isla**	**170.88**	**67**	*e*LR		LR	23 07 48.8		
	comp=Z,140nm,24.5s								

*FUNV **30** 21:55:54.8, 10.20N×71.76W, h5km, MW3.0*
*RSNC **30** 21:55:56.6±1.5, 10°N±3°×7°2W±°, h26km±12km, M1.8, ML1.8*

ISC 30 21:55:54.0±1.7, 10.16N±0.05×71.72W±0.05, h8km±14km, n7, σ0s77/14, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQV	**Machiques**	**0.81**	**263**	*e*P	**Pg**	**21 56 09.2**	**-0.4**
MCQV				*e*S	**Sb**	**21 56 20.9**	**-0.5**
CRJC	**Cerrejon, Guaj**	**1.43**	**307**	P	**Pn**	**21 56 20.1**	**-0.2**
CRJC				S	**Sb**	**21 56 39.1**	**-0.2**
URIC	**Uribia, Colomb**	**1.56**	**350**	P	**Pg**	**21 56 24.4**	**+0.4**
URIC				S	**Sg**	**21 56 44.3**	**+0.1**
SDV	**Santo Domingo**	**1.66**	**140**	P	**Pn**	**21 56 22.9**	**-0.7**
SDV				S	**Sn**	**21 56 45.5**	**+0.3**
SOCV	**Socops**	**2.05**	**155**	*e*P	**Pn**	**21 56 30.2**	**+1.4**
SOCV				*e*S	**Sb**	**21 56 56.1**	**-1.1**
CAPV	**Capacho**	**2.35**	**194**	*e*P	**Pn**	**21 56 33.8**	**+0.6**
CAPV				*e*S	**Sn**	**21 57 03.1**	**+0.7**
BAUV	**El Baul**	**3.83**	**108**	*e*P	**Pn**	**21 56 53.6**	**+0.4**
BAUV				*e*S	**Sn**	**21 57 37.6**	**-0.8**

IDC 30 22:01:57.7±7.7, 31.13S×179.15W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=201.4km s-min=35.8km az=40.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**33.36**	**258**	P	P	22 08 38.2	+0.6
	0.7nm,0.3s,baz=80,slow=6.9,SNR=2.8						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**42.09**	**268**	P	P	22 09 51.2	-0.5
	0.3nm,0.3s,baz=106,slow=7.6,SNR=7.2						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**43.15**	**274**	P	P	22 10 00.1	-0.2
	0.7nm,0.3s,baz=115,slow=8.2,SNR=25						
	0.7nm,0.3s						
QSPA	**South Pole Qui**	**58.98**	**180**	P	P	22 11 58.8	0.0
	1.5nm,1.0s,baz=30,slow=8.1,SNR=6.3						
	1.5nm,1.0s						

WEL 30 22:02:42.1±1.3, 32°S±8°×17°8E±1°7, h12km, M4.5/5, mB4.9/4, ML4.8/8, MLv4.6/5, Mw(mB)4.2/4, Error ellipse: s-maj=23.7km s-min=4.8km az=114.9, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**4.08**	**53**	P	Pn	22 03 43.0	-1.3
GLKZ				S	Sn	22 04 33.5	+1.5
MXZ	**Matakaoa Point**	**5.77**	**180**	P	Pn	22 04 09.7	+2.2
MXZ				S	Sn	22 05 14.4	+0.9
HAZ	**Te Kaha**	**5.98**	**184**	P	Pn	22 04 11.3	+0.9
HAZ				S	Sn	22 05 20.4	+1.7
WMGZ	**Waiomatatini S**	**6.02**	**180**	P	Pn	22 04 10.9	-0.1
WMGZ				S	Sn	22 05 22.2	+2.4
PKGZ	**Pakihiroa**	**6.07**	**182**	P	Pn	22 04 13.9	+2.2
RUGZ	**Raukumara Rang**	**6.19**	**185**	P	Pn	22 04 13.0	-0.5
PUZ	**Puketiti**	**6.28**	**181**	P	Pn	22 04 13.1	-1.4
PUZ				S	Sn	22 05 25.1	-1.0
TWGZ	**Tauwhareparae**	**6.39**	**183**	P	Pn	22 04 16.1	+0.1
TWGZ				S	Sn	22 05 29.3	+0.4
URZ	**Urewera**	**6.54**	**189**	P	Pn	22 04 18.3	+0.2
MWZ	**Matawai**	**6.57**	**186**	P	Pn	22 04 16.2	-2.4
MWZ				S	Sn	22 05 33.9	+0.4
MRHZ	**Matea Rd**	**7.21**	**192**	P	Pn	22 04 27.6	+0.2
NMHZ	**Naumai**	**7.41**	**189**	P	Pn	22 04 28.6	-1.4
NMHZ				S	Sn	22 05 51.9	-2.1
BKZ	**Black Stump Fm**	**7.52**	**191**	P	Pn	22 04 29.2	-2.4
BKZ				S	Sn	22 05 53.2	-3.6
ARHZ	**Aropaoanui**	**7.55**	**188**	P	Pn	22 04 30.0	-1.9
OTVZ	**Oturere**	**7.68**	**196**	P	Pn	22 04 33.7	-0.2
MCHZ	**McNeill Hill**	**7.76**	**190**	P	Pn	22 04 33.4	-1.5
KWHZ	**Kaweka Forest**	**7.79**	**191**	P	Pn	22 04 33.6	-1.7
FWVZ	**Far West T-bar**	**7.80**	**196**	P	Pn	22 04 35.5	-0.1
WNVZ	**Wahianoa**	**7.86**	**196**	P	Pn	22 04 35.5	-0.9
KRHZ	**Kereru**	**8.01**	**191**	P	Pn	22 04 35.5	-2.8
KAHZ	**Kahuranaki**	**8.08**	**188**	P	Pn	22 04 35.9	-3.4
PNHZ	**Pukenui**	**8.30**	**192**	P	Pn	22 04 38.4	-3.9
PXZ	**Pawanui**	**8.32**	**188**	P	Pn	22 04 38.2	-4.3
TSZ	**Takapari Road**	**8.48**	**193**	P	Pn	22 04 40.6	-4.2
PRHZ	**Porangahau**	**8.58**	**189**	P	Pn	22 04 41.7	-4.4
BFZ	**Birch Farm**	**9.04**	**190**	P	Pn	22 04 47.

H08S3	**Diego Garcia H** baz=70	**27.01**	**250**	T	T	22 54 04.8
H08S1	**Diego Garcia H** baz=70	**27.02**	**250**	T	T	22 54 04.4
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=298,slow=8.2,SNR=2.3 0.3nm,0.7s	**41.66**	**123**	P	P	22 28 31.7 -0.1
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=160,slow=8.3,SNR=8.4 0.2nm,0.4s	**46.99**	**345**	P	P	22 29 14.5 +0.3
KURBB	**Kurchatov Arra** 0.3nm,0.5s,baz=157,slow=7.1,SNR=3.9 0.3nm,0.5s	**51.49**	**344**	P	P	22 29 48.5 0.0
ZALV	**Zalesovo Beam** 1.1nm,0.4s,baz=165,slow=6.6,SNR=7.4 1.1nm,0.4s	**53.24**	**350**	P	P	22 30 00.6 -0.8
BVAR	**Borovoye Array** 0.3nm,0.5s,baz=145,slow=10,SNR=2.6 0.3nm,0.5s	**56.07**	**340**	P	P	22 30 22.3 +0.2

*ISK **30** 22:28:48.1,38.88N×26.20E,h8km,ML3.0/29*
*AFAD **30** 22:28:48.9,38.85N×26.23E,h7km±2km,MW3.1*
*THE **30** 22:28:48.8,39.°N±1.°×2.°6E±.°,h12km±3km,M2.5/16, MLh2.5/16*

ISC 30 22:28:48.8±1.0,**38.87N**±0.02°×**26.20E**±0.02°,**h12**km±9km, **n55**,σ**0**60/74,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.27**	**141**	P		**Pg**	**22 28 54.5**	**+0.2**
KARB				S		**Sg**	**22 28 58.0**	**0.0**
SIGR	**SIGRI**	**0.43**	**322**	Pg		**Pg**	**22 28 57.4**	**+0.1**
SIGR				Sg		**Sg**	**22 29 03.4**	**+0.3**
SIGR	**SIGRI**	**0.43**	**322**	P		**Pg**	**22 28 57.4**	**+0.1**
SIGR				S		**Sg**	**22 29 03.6**	**+0.5**
CHOS	**Chios island**	**0.50**	**193**	Pg		**Pg**	**22 28 58.4**	**-0.1**
CHOS				Sg		**Sg**	**22 29 05.7**	**+0.6**
CHOS	**Chios island**	**0.50**	**193**	P		**Pg**	**22 28 58.4**	**-0.1**
CHOS				S		**Sg**	**22 29 06.0**	**+0.8**
CESE	**eme**	**0.55**	**171**	Pg		**Pg**	**22 28 59.3**	**-0.2**
AYVA	**Ayvalik**	**0.58**	**41**	P		**Pg**	**22 28 59.8**	**-0.3**
AYVA				S		**Sg**	**22 29 07.4**	**-0.5**
IZMD	**zmir-Dikili-**	**0.58**	**79**	P		**Pg**	**22 28 59.8**	**-0.5**
IZMD				S		**Sg**	**22 29 06.2**	**-1.8**
GPNR	**Gulpinar-Canak**	**0.59**	**355**	Pg		**Pg**	**22 28 59.9**	**-0.4**
GPNR				Sg		**Sg**	**22 29 08.6**	**+0.6**
DKL	**Dikili**	**0.59**	**70**	Pg		**Pg**	**22 29 00.1**	**-0.2**
URLA	**Izmir**	**0.60**	**148**	Pg		**Pg**	**22 29 00.3**	**-0.2**
URLA				Sg		**Sg**	**22 29 08.9**	**+0.5**
URLA	**Izmir**	**0.60**	**148**	P		**Pg**	**22 29 00.2**	**-0.2**
URLA				S		**Sg**	**22 29 08.4**	**0.0**
ZEYE	**Izmir, Urla-Ze**	**0.68**	**159**	P		**Pg**	**22 29 01.4**	**-0.5**
ZEYE				S		**Sg**	**22 29 11.0**	**+0.2**
ZEDA	**zmir-Bergama**	**0.69**	**82**	P		**Pg**	**22 29 01.8**	**-0.5**
ZEDA				S		**Sg**	**22 29 11.4**	**-0.1**
BLCB	**Balcova**	**0.82**	**126**	Pg		**Pg**	**22 29 04.4**	**-0.3**
BLCB				Sg		**Sb**	**22 29 16.7**	**+0.7**
BLCB	**Balcova**	**0.82**	**126**	P		**Pg**	**22 29 04.3**	**-0.4**
EZNE	**Ezine-Canakkal**	**0.89**	**8**	Pg		**Pg**	**22 29 05.8**	**-0.3**
EZNE				Sg		**Sb**	**22 29 18.6**	**+0.5**
EZN	**Ezine**	**0.96**	**6**	Pg		**Pg**	**22 29 06.9**	**-0.4**
EZN				Sg		**Sb**	**22 29 20.6**	**+0.6**
EZN	**Ezine**	**0.96**	**6**	P		**Pg**	**22 29 06.6**	**-0.8**
EZN				S		**Sb**	**22 29 20.3**	**+0.3**
BOZC	**Bozcaada**	**0.98**	**354**	Pg		**Pg**	**22 29 07.3**	**-0.3**
BOZC				Sg		**Sg**	**22 29 20.7**	**+0.3**
YAYO	**Edremit-Balk**	**1.01**	**42**	Pg		**Pg**	**22 29 07.4**	**-0.8**
YAYO				Sg		**Sb**	**22 29 21.6**	**+0.3**
SOMA	**Soma-Manisa**	**1.08**	**74**	Pg		**Pg**	**22 29 08.7**	**-0.9**
COMU	**Canakkale**	**1.25**	**10**	Pn		**Pn**	**22 29 11.6**	**-0.5**
AKS	**Akhisar**	**1.26**	**89**	Pn		**Pn**	**22 29 12.5**	**+0.2**
SMG	**Samos**	**1.27**	**156**	P		**Pn**	**22 29 11.0**	**-1.3**
SMG				S		**Sn**	**22 29 29.8**	**+0.6**
LIA	**Limnos Island**	**1.29**	**323**	P		**Pn**	**22 29 12.2**	**-0.4**
CANM	**Can-anakkale**	**1.32**	**30**	Pn		**Pn**	**22 29 13.2**	**+0.2**
YENI	**Yenice-Canakka**	**1.34**	**37**	Pn		**Pn**	**22 29 13.4**	**+0.1**
GOMA	**Golmarmara-Man**	**1.36**	**96**	Pn		**Pn**	**22 29 13.9**	**+0.4**
GCAM	**G?zelcaml?**	**1.43**	**145**	Pn		**Pn**	**22 29 15.0**	**+0.5**
GORD	**Gordes-Manisa**	**1.55**	**88**	Pn		**Pn**	**22 29 16.8**	**+0.6**
ODEM	**Odemis-Izmir**	**1.59**	**111**	Pn		**Pn**	**22 29 16.2**	**-0.6**
KARY	**Karystos**	**1.61**	**239**	P		**Pn**	**22 29 15.6**	**-1.5**
AYDB	**Zeytinkoy-Aydi**	**1.62**	**124**	Pn		**Pn**	**22 29 16.9**	**-0.4**
GONE	**Gonen-Balikesi**	**1.65**	**44**	Pn		**Pn**	**22 29 18.2**	**+0.7**
KYMI	**Kymi, Euboea I**	**1.66**	**262**	P		**Pn**	**22 29 16.9**	**-0.7**
SMTH	**Samothraki Isl**	**1.68**	**342**	P		**Pn**	**22 29 17.2**	**-0.8**
KRBG	**Karabiga-Canak**	**1.74**	**29**	Pn		**Pn**	**22 29 19.2**	**+0.4**
ERIK	**Erikli-Kesan**	**1.81**	**8**	Pn		**Pn**	**22 29 19.4**	**-0.4**
SUSR	**Susurluk-Balik**	**1.82**	**53**	Pn		**Pn**	**22 29 19.2**	**-0.8**
AOS	**Alonnisos**	**1.83**	**280**	P		**Pn**	**22 29 20.5**	**+0.4**
DION	**Dionisos Attik**	**1.94**	**247**	P		**Pn**	**22 29 20.5**	**-1.2**
EDC	**Edincik**	**1.96**	**41**	Pn		**Pn**	**22 29 22.4**	**+0.6**
ALN	**Alexandroupoli**	**2.03**	**357**	Pn		**Pn**	**22 29 23.3**	**+0.5**
ALN	**Alexandroupoli**	**2.03**	**357**	P		**Pn**	**22 29 22.3**	**-0.5**
MRMT	**Marmara Adasi**	**2.04**	**32**	Pn		**Pn**	**22 29 23.9**	**+0.9**
THAS	**Thassos island**	**2.07**	**327**	P		**Pn**	**22 29 22.3**	**-1.1**
KCTX	**Karacabey (Bur**	**2.17**	**50**	Pn		**Pn**	**22 29 25.4**	**+0.6**
OUR	**Ouranopolis**	**2.25**	**311**	Pn		**Pn**	**22 29 25.4**	**-0.4**
OUR	**Ouranopolis**	**2.25**	**311**	P		**Pn**	**22 29 25.5**	**-0.4**
UKOP	**Uzunkopru-Edir**	**2.28**	**8**	Pn		**Pn**	**22 29 26.6**	**+0.4**
RDO	**Rodhopi**	**2.33**	**348**	Pn		**Pn**	**22 29 26.5**	**-0.4**
RDO	**Rodhopi**	**2.33**	**348**	P		**Pn**	**22 29 26.6**	**-0.4**
TKR	**Tekirdag**	**2.35**	**26**	Pn		**Pn**	**22 29 28.1**	**+0.8**
KDZ	**Kurdzhali**	**2.83**	**347**	P		**Pn**	**22 29 33.3**	**-0.6**

*SOME **30** 22:29:17.7,42.88N×78.35E,h15km*
*KRNET **30** 22:29:17.4±0.1,42.86N×78.39E,h22km,mb2.7*
*NNC **30** 22:29:18.2±0.8,42.91N×78.42E,h9km±4km,mb3.5, mpv3.0,Error ellipse: s-maj=7.0km s-min=3.7km az=8.0*

ISC 30 22:29:17.4±1.2,**42.86N**±0.04°×**78.28E**±0.02°,**h4**km±10km, **n29**,σ**1**35/57,**14C-2D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SATY	**Saty** 6.0nm,0.1s	**0.22**	**25**	P		**Pg**	**22 29 22.5**	**+0.7**
SATY				S		**Sg**	**22 29 25.8**	**+1.0**
	217nm,0.1s							
SATY	**Saty**	**0.22**	**25**	*e*P		**Pg**	**22 29 22.5**	**+0.7**
SATY				*e*S		**Sg**	**22 29 25.9**	**+1.1**
UZB	**Uzynbulak**	**0.62**	**62**	*e*P		**Pg**	**22 29 28.0**	**-1.3**
UZB				*e*S		**Sg**	**22 29 35.4**	**-2.0**
UZB	**Uzynbulak** 14nm,0.1s	**0.62**	**62**	*e*P		**Pg**	**22 29 28.0**	**-1.3**
UZB				*e*S		**Sg**	**22 29 35.4**	**-2.0**
	80nm,0.1s							
KPKS	**Kokpek** 0.2nm,0.1s	**0.68**	**26**	P		**Pg**	**22 29 29.9**	**-0.6**
KPKS				S		**Sg**	**22 29 38.3**	**-1.0**
	40nm,0.3s							
KPKS	**Kokpek**	**0.68**	**26**	*e*P		**Pg**	**22 29 29.7**	**-0.7**
KPKS				*e*S		**Sg**	**22 29 38.3**	**-1.0**
SHLS	**Shalkode** 18nm,0.2s	**0.92**	**71**	P		**Pn**	**22 29 38.8**	**+1.6**
SHLS				S		**Sn**	**22 29 54.4**	**+3.4**
	12nm,0.2s							
SHLS	**Shalkode** 18nm,0.2s	**0.92**	**71**	*e*P		**Pn**	**22 29 38.8**	**+1.6**
SHLS				*e*S		**Sn**	**22 29 54.4**	**+3.4**
	12nm,0.2s							
TNSS	**Tian-Shan**	**0.99**	**281**	*e*P		**Pn**	**22 29 37.7**	**-0.8**
TNSS				*e*S		**Sn**	**22 29 52.1**	**-1.0**
TNSS	**Tian-Shan** 1.0nm,0.1s	**0.99**	**281**	*e*P		**Pn**	**22 29 37.7**	**-0.8**
TNSS				*e*S		**Sn**	**22 29 52.1**	**-1.0**
	2.3nm,0.2s							
KDJ	**Kajisay**	**1.09**	**229**	⇑*e*P		**Pn**	**22 29 39.0**	**-0.6**
KDJ				⇑*e*S		**Sn**	**22 29 53.7**	**-1.5**
CHKK	**Chushkaly** 8.8nm,0.2s	**1.37**	**317**	P		**Pb**	**22 29 43.8**	**+0.2**
CHKK				S		**Sg**	**22 30 02.2**	**+0.8**
	35nm,0.1s							
CHKK	**Chushkaly**	**1.37**	**317**	*e*P		**Pb**	**22 29 43.8**	**+0.2**
CHKK				*e*S		**Sg**	**22 30 02.3**	**+0.8**
CHKK	**Chushkaly** 8.8nm,0.2s	**1.37**	**317**	*e*P		**Pb**	**22 29 43.8**	**+0.2**
CHKK				*e*S		**Sg**	**22 30 02.2**	**+0.8**
	35nm,0.1s							
ARXS	**Arharly** 6.6nm,0.2s	**1.40**	**347**	P		**Pn**	**22 29 43.4**	**-0.3**
ARXS				S		**Sn**	**22 30 01.9**	**-0.7**
	36nm,0.1s							
ARXS	**Arharly**	**1.40**	**347**	*e*P		**Pn**	**22 29 43.4**	**-0.3**
ARXS				*e*S		**Sn**	**22 30 01.9**	**-0.7**
KTBS	**Karatobe** 5.3nm,0.1s	**1.45**	**307**	P		**Pg**	**22 29 45.2**	**+0.1**
KTBS				S		**Sg**	**22 30 04.8**	**+1.0**
	16nm,0.1s							
KTBS	**Karatobe**	**1.45**	**307**	*e*P		**Pg**	**22 29 45.2**	**+0.1**
KTBS				*e*S		**Sg**	**22 30 04.8**	**+1.0**
ULHL	**Ulahol**	**1.62**	**249**	⇑*e*P		**Pb**	**22 29 47.8**	**-0.2**
ULHL				⇑*e*S		**Sg**	**22 30 10.7**	**+1.1**
KST	**Kastek** 5.2nm,0.4s	**1.71**	**277**	P		**Pg**	**22 29 50.2**	**+0.1**
KST				S		**Sg**	**22 30 14.7**	**+2.4**
	5.9nm,0.2s							
KST	**Kastek** 5.2nm,0.4s	**1.71**	**277**	*e*P		**Pg**	**22 29 50.3**	**+0.1**
KST				*e*S		**Sg**	**22 30 13.9**	**+1.6**
	5.9nm,0.2s							
KUU	**Kurty** 6.6nm,0.1s	**1.75**	**307**	*e*P		**Pb**	**22 29 50.4**	**+0.2**
KUU				*e*S		**Sg**	**22 30 13.8**	**+0.1**
	36nm,0.2s							
BOOM	**Boomskoye usch**	**1.76**	**259**	⇑*e*P		**Pb**	**22 29 50.1**	**-0.3**
BOOM				⇑*e*S		**Sg**	**22 30 14.2**	**+0.2**
DGS	**Degeres** 2.2nm,0.2s	**1.88**	**283**	Pg		**Pb**	**22 29 52.9**	**+0.6**
DGS				Lg	Lg		22 30 18.5	
	7.4nm,0.2s							
TKM2	**Tokmak 2**	**1.97**	**273**	⇑*e*P		**Pb**	**22 29 53.8**	**-0.2**
TKM2				⇑*e*S		**Sb**	**22 30 19.3**	**+0.4**
KBK	**Karagaybulak**	**2.46**	**266**	⇑*e*P		**Pb**	**22 30 00.2**	**-2.1**
KBK				⇑*e*S		**Sb**	**22 30 31.0**	**-2.0**
CHMS	**Chumysh**	**2.59**	**274**	⇑*e*P		**Pb**	**22 30 02.3**	**-2.2**
CHMS				⇑*e*S		**Sb**	**22 30 34.0**	**-2.7**
UCH	**Uchtor**	**2.85**	**259**	⇑*e*P		**Pn**	**22 30 05.4**	**+1.3**
UCH				⇑*e*S		**Sn**	**22 30 40.7**	**+1.6**
SALK	**Salom-Alik**	**3.87**	**241**	⇓*e*P		**Pn**	**22 30 19.9**	**+2.1**
SALK				⇓*e*S		**Sn**	**22 31 04.8**	**+1.1**

*NOU **30** 22:50:02.2,39.41S×177.77E,h0km,MLv3.9/8,Off E. Coast of N. Island, N.Z.*
*WEL **30** 22:50:06.0±0.4,39.°S±.3°×177.°8E±.°,h24km±3km,M3.8/19, ML4.2/20,MLv3.8/19,Error ellipse: s-maj=4.9km s-min=3.1km az=140.7,confirmed*

ISC 30 22:50:04.1±1.9,**39.36S**±0.03°×**177.62E**±0.03,**h8**km±16km, **n109**,σ**1**§**12**/118,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.30**	**47**	P		**Pn**	**22 50 14.5**	**-0.4**
MHGZ				S		**Sb**	**22 50 21.5**	**+4.6**
KNZ	**Kokohu**	**0.34**	**7**	P		**Pn**	**22 50 13.4**	**-1.9**
KNZ				S		**Sb**	**22 50 19.4**	**+1.5**
WHHZ	**Waihua**	**0.41**	**313**	P		**Pb**	**22 50 14.2**	**+0.5**
WHHZ				S		**Sb**	**22 50 20.5**	**+0.4**
PRGZ	**Paritu Road**	**0.48**	**25**	P		**Pn**	**22 50 16.4**	**-0.9**
PRGZ				S		**Sb**	**22 50 25.1**	**+3.0**
ARHZ	**Aropaoanui**	**0.49**	**281**	P		**Pb**	**22 50 16.0**	**+1.0**
ARHZ				S		**Sb**	**22 50 24.0**	**+1.6**
CKHZ	**Cape Kidnapper**	**0.52**	**234**	P		**Pn**	**22 50 17.6**	**-0.2**
CKHZ				S		**Sn**	**22 50 26.4**	**-0.3**
NCHS	**Napier Colenso**	**0.58**	**255**	P		**Pb**	**22 50 17.5**	**+1.0**
NCHS				S		**Sn**	**22 50 27.3**	**-1.0**
RAHZ	**Arahi**	**0.61**	**317**	P		**Pb**	**22 50 17.3**	**+0.3**
RAHZ				S		**Sb**	**22 50 26.1**	**+0.5**
SNGZ	**Shannon Statio**	**0.62**	**339**	P		**Pb**	**22 50 17.6**	**+0.5**
SNGZ				S		**Sb**	**22 50 26.3**	**+0.4**
RIGZ	**Rimuhau**	**0.66**	**10**	P		**Pn**	**22 50 18.8**	**-1.0**
NMHZ	**Naumai**	**0.68**	**292**	P		**Pn**	**22 50 18.9**	**+0.6**
KAHZ	**Kahuranaki**	**0.72**	**233**	P		**Pn**	**22 50 20.6**	**-0.1**
MCHZ	**McNeill Hill**	**0.72**	**263**	P		**Pn**	**22 50 20.2**	**-0.4**
MTHZ	**Maungataniwha**	**0.79**	**310**	P		**Pb**	**22 50 19.9**	**-0.2**
RAGZ	**Rawiri**	**0.88**	**349**	P		**Pn**	**22 50 21.8**	**-1.0**
PXZ	**Pawanui**	**0.89**	**221**	P		**Pn**	**22 50 22.5**	**-0.4**
RTZ	**Ruatahuna**	**0.89**	**326**	P		**Pb**	**22 50 21.7**	**-0.2**
BKZ	**Black Stump Fm**	**0.90**	**282**	P		**Pb**	**22 50 22.0**	**+0.1**
BKZ	**Black Stump Fm**	**0.90**	**282**	S		**Sb**	**22 50 35.0**	**+0.9**
BKZ	**Black Stump Fm**	**0.90**	**282**	P		**Pb**	**22 50 22.1**	**+0.1**
KWHZ	**Kaweka Forest**	**0.93**	**266**	P		**Pb**	**22 50 22.8**	**+0.3**
TKGZ	**Te Karaka**	**0.94**	**11**	P		**Pn**	**22 50 22.5**	**-1.0**
CNGZ	**Carnagh Statio**	**0.99**	**28**	P		**Pn**	**22 50 23.8**	**-0.4**
KRHZ	**Kereru**	**1.01**	**253**	P		**Pb**	**22 50 23.9**	**+0.1**
MWZ	**Matawai**	**1.02**	**356**	P		**Pb**	**22 50 23.2**	**-0.7**
MRHZ	**Matea Rd**	**1.07**	**299**	P		**Pb**	**22 50 24.6**	**-0.3**
MUGZ	**Murupara**	**1.10**	**323**	P		**Pb**	**22 50 24.9**	**-0.5**
WPHZ	**Waipukurau**	**1.15**	**232**	P		**Pn**	**22 50 26.1**	**-0.4**
URZ	**Urewera**	**1.17**	**340**	P		**Pb**	**22 50 25.7**	**-0.8**
URZ	**Urewera**	**1.17**	**340**	P		**Pb**	**22 50 25.5**	**-1.0**
PRHZ	**Porangahau**	**1.18**	**220**	P		**Pn**	**22 50 26.3**	**-0.7**
TWGZ	**Tauwhareparae**	**1.21**	**14**	P		**Pn**	**22 50 26.7**	**-0.7**
PNHZ	**Pukenui**	**1.23**	**243**	P		**Pn**	**22 50 27.2**	**-0.4**
ALRZ	**Allen Road**	**1.27**	**308**	P		**Pn**	**22 50 27.4**	**-0.8**
PRRZ	**Plateau Road**	**1.29**	**311**	P		**Pn**	**22 50 28.4**	**-0.2**
RRRZ	**Republican Roa**	**1.33**	**319**	P		**Pn**	**22 50 28.9**	**-0.2**
PUZ	**Puketiti**	**1.38**	**21**	P		**Pn**	**22 50 28.2**	**-1.4**
RUGZ	**Raukumara Rang**	**1.39**	**2**	P		**Pn**	**22 50 28.5**	**-1.4**
WPRZ	**Whakapapatarin**	**1.41**	**306**	P		**Pn**	**22 50 29.4**	**-0.7**
TARZ	**Mount Tarawera**	**1.42**	**322**	P		**Pn**	**22 50 29.6**	**-0.7**
RITZ	**Rihia Road**	**1.42**	**285**	P		**Pn**	**22 50 30.2**	**0.0**
HRRZ	**Handcock Road**	**1.42**	**312**	P		**Pn**	**22 50 29.6**	**-0.7**
MOWZ	**Moawhango**	**1.45**	**267**	P		**Pn**	**22 50 30.6**	**0.0**
TSZ	**Takapari Road**	**1.46**	**241**	P		**Pn**	**22 50 30.0**	**-0.8**
DVHZ	**Dannevirke**	**1.46**	**230**	P		**Pn**	**22 50 29.8**	**-1.0**
WHTZ	**Whakaora**	**1.47**	**298**	P		**Pn**	**22 50 31.1**	**+0.2**
HLRZ	**Highlands Stat**	**1.48**	**318**	P		**Pg**	**22 50 32.4**	**-0.1**
ETVZ	**East Tongariro**	**1.50**	**278**	P		**Pn**	**22 50 31.5**	**+0.1**
HSRZ	**Hossack Road**	**1.50**	**314**	P		**Pn**	**22 50 30.9**	**-0.4**
TMVZ	**Te Maari**	**1.51**	**279**	P		**Pn**	**22 50 31.2**	**-0.4**
MKRZ	**Makatiti**	**1.52**	**323**	P		**Pb**	**22 50 32.1**	**-0.5**
RATZ	**Rangitukua**	**1.52**	**288**	P		**Pn**	**22 50 31.6**	**0.0**
OTVZ	**Oturere**	**1.53**	**277**	P		**Pn**	**22 50 31.8**	**-0.1**
PKGZ	**Pakihiroa**	**1.53**	**14**	P		**Pn**	**22 50 30.3**	**-1.4**
KATZ	**Kakaramea**	**1.54**	**284**	P		**Pn**	**22 50 31.9**	**-0.1**
SNVZ	**South Ngauruho**	**1.55**	**276**	P		**Pn**	**22 50 31.9**	**-0.3**
GRRZ	**Galatos Road**	**1.55**	**310**	P		**Pn**	**22 50 31.6**	**-0.5**
MARZ	**Manawahe**	**1.56**	**331**	P		**Pn**	**22 50 31.6**	**-0.6**
KRVZ	**Karewarewa**	**1.56**	**279**	P		**Pn**	**22 50 31.8**	**-0.4**
WNVZ	**Wahianoa**	**1.57**	**271**	P		**Pn**	**22 50 31.3**	**-0.1**
NNVZ	**North Ngauruho**	**1.57**	**278**	P		**Pn**	**22 50 32.3**	**-0.1**
NGZ	**Ngauruhoe**	**1.58**	**276**	P		**Pn**	**22 50 32.3**	**-0.3**
WHVZ	**Whangaehu Hut**	**1.58**	**272**	P		**Pn**	**22 50 32.4**	**-0.2**
WHRZ	**Whale Island**	**1.58**	**341**	P		**Pn**	**22 50 31.8**	**-0.6**
WTVZ	**West Tongariro**	**1.59**	**278**	P		**Pn**	**22 50 32.7**	**-0.1**
MAVZ	**Matarangi**	**1.60**	**273**	P		**Pn**	**22 50 32.8**	**-0.2**
HAZ	**Te Kaha**	**1.60**	**5**	P		**Pn**	**22 50 31.7**	**-1.0**
FWVZ	**Far West T-bar**	**1.61**	**273**	P		**Pn**	**22 50 32.6**	**-0.4**
WATZ	**Wairara**	**1.61**	**293**	P		**Pn**	**22 50 32.0**	**-0.8**
TRVZ	**Turoa**	**1.61**	**271**	P		**Pn**	**22 50 32.8**	**-0.3**
COVZ	**Chateau Observ**	**1.62**	**275**	P		**Pn**	**22 50 32.8**	**-0.2**
KUTZ	**Kaahu Road**	**1.65**	**301**	P		**Pn**	**22 50 32.6**	**-0.8**
WMGZ	**Waiomatatini S**	**1.66**	**22**	P		**Pn**	**22 50 32.2**	**-1.3**
NGRZ	**Ngongotaha**	**1.68**	**318**	P		**Pn**	**22 50 34.0**	**+0.1**
BFZ	**Birch Farm**	**1.69**	**218**	P		**Pn**	**22 50 32.8**	**-1.1**
BFZ	**Birch Farm**	**1.69**	**218**	P		**Pn**	**22 50 32.9**	**-1.1**
TWVZ	**Taurewa**	**1.72**	**279**	P		**Pn**	**22 50 33.7**	**-0.7**
OPRZ	**Ohinepanea**	**1.73**	**331**	P		**Pn**	**22 50 33.2**	**-1.2**
PRRZ	**Pori Road**	**1.74**	**226**	P		**Pn**	**22 50 34.0**	**-0.7**
POWZ	**Post Office Ro**	**1.76**	**234**	P		**Pn**	**22 50 34.5**	**-0.4**
PKVZ	**Pokaka**	**1.77**	**272**	P		**Pn**	**22 50 34.8**	**-0.2**
MXZ	**Matakaoa Point**	**1.87**	**17**	P		**Pn**	**22 50 35.4**	**-1.0**
MXZ	**Matakaoa Point**	**1.87**	**17**	P		**Pn**	**22 50 35.4**	**-1.0**
MRZ	**Mangatainoka R**	**2.04**	**230**	P		**Pn**	**22 50 37.5**	**-1.2**
HOWZ	**Holdsworth Sta**	**2.23**	**226**	P		**Pn**	**22 50 39.8**	**-1.6**
VRZ	**Vera Road**	**2.23**	**275**	P		**Pn**	**22 50 41.2**	**-0.2**
HIZ	**Hauiti**	**2.31**	**291**	P		**Pn**	**22 50 42.5**	**0.0**
HIZ	**Hauiti**	**2.31**	**291**	P		**Pn**	**22 50 42.1**	**-0.4**
TOZ	**Tahuroa Road**	**2.32**	**314**	P		**Pn**	**22 50 42.6**	**0.0**
OGWZ	**Otaki Gorge**	**2.38**	**231**	P		**Pn**	**22 50 42.1**	**-1.3**
MTW	**Mount Morrison**	**2.42**	**221**	P		**Pn**	**22 50 41.9**	**-2.1**
TRWZ	**Traveller**	**2.52**	**215**	P		**Pn**	**22 50 42.7**	**-2.6**
KIW	**Kapiti Island**	**2.56**	**233**	P		**Pn**	**22 50 45.0**	**-0.9**
CAW	**Cannon Point**	**2.62**	**227**	P		**Pn**	**22 50 45.0**	**-1.7**
PAWZ	**Paruwai Farm**	**2.62**	**219**	P		**Pn**	**22 50 44.8**	**-2.0**
PREZ	**Palmer Road**	**2.68**	**269**	P		**Pn**	**22 50 48.7**	**+1.1**
NEZ	**North Egmont**	**2.73**	**271**	P		**Pn**	**22 50 49.8**	**+1.5**
MSWZ	**Moikau Station**	**2.74**	**221**	P		**Pn**	**22 50 45.8**	**-2.6**
KHEZ	**Kahui Hut**	**2.80**	**270**	P		**Pn**	**22 50 50.5**	**+1.3**
KHEZ	**Kahui Hut**	**2.80**	**270**	P		**Pn**	**22 50 50.8**	**+1.6**
PKE	**Pukeiti**	**2.83**	**272**	P		**Pn**	**22 50 50.7**	**+1.1**
PLWZ	**Palliser**	**2.85**	**218**	P		**Pn**	**22 50 47.1**	**-2.8**
DUWZ	**D'Urville Isla**	**3.18**	**242**	P		**Pn**	**22 50 54.2**	**-0.3**
TUWZ	**Tuamarina**	**3.49**	**232**	P		**Pn**	**22 50 56.4**	**-2.3**
QRZ	**Quartz Range**	**4.17**	**248**	P		**Pn**	**22 51 08.1**	**+0.1**
QRZ	**Quartz Range**	**4.17**	**248**	P		**Pn**	**22 51 05.4**	**-2.6**
THZ	**Tophouse**	**4.32**	**235**	P		**Pn**	**22 51 08.5**	**-1.7**
LTZ	**Lake Taylor**	**5.29**	**228**	P		**Pn**	**22 51 21.7**	**-1.8**
CTZ	**Chatham Island**	**6.15**	**137**	P		**Pn**	**22 51 35.8**	**+0.6**

*ASRS **30** 23:05:42.7,53.°N×2.°×8.°8E±.°,h3km±1km,MLh3.7/2, confirmed*
*NNC **30** 23:05:44.4±3.5,53.09N×87.71E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=32.8km s-min=11.9km az=69.0, Suspected Mining explosion.*

ISC 30 23:05:43.4±1.2,**53.11N**±0.03°×**87.74E**±0.07°,**h0**km,**n17**, σ**1**§**08**/32,**4C-6D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TASR	**Tashtagol**	**0.36**	**166**	⇓P		**Pg**	**23 05 49.7**	**-0.5**
TASR				S		**Sg**	**23 05 54.8**	**0.0**
KALT1	**Kaltan 1**	**0.36**	**329**	P		**Pg**	**23 05 50.1**	**-0.2**
KALT1				S		**Sg**	**23 05 55.2**	**+0.2**
KALT2	**Kaltan 2**	**0.39**	**320**	P		**Pg**	**23 05 50.4**	**-0.3**
KALT2				S		**Sg**	**23 05 55.4**	**-0.4**
MALIN	**Malinovka, Kuz**	**0.42**	**319**	P		**Pg**	**23 05 51.0**	**-0.4**
MALIN				S		**Sg**	**23 05 56.4**	**-0.4**
KALT3	**Kaltan 3**	**0.44**	**336**	P		**Pg**	**23 05 51.8**	**-0.1**
KALT3				S		**Sg**	**23 05 57.8**	**+0.1**
TAIL	**Tailep, Kuzbas**	**0.47**	**317**	P		**Pg**	**23 05 51.9**	**-0.5**
TAIL				S		**Sg**	**23 05 58.2**	**-0.3**
ERU	**Erunakovo, Kuz**	**1.06**	**349**	P		**Pg**	**23 06 03.4**	**-0.2**
ERU				S		**Sg**	**23 06 17.3**	**0.0**
ARTR	**Artybash**	**1.34**	**192**	P		**Pg**	**23 06 07.7**	**-1.4**
ARTR				S		**Sg**	**23 06 25.4**	**-1.0**
BJR3	**Bachatsky-3 (S**	**1.46**	**321**	P		**Pn**	**23 06 10.3**	**-0.8**
BJR3				S		**Sg**	**23 06 29.4**	**-0.9**
POMOR	**Pomortsevo, Ku**	**1.49**	**332**	P		**Pn**	**23 06 11.2**	**-0.2**
POMOR				S		**Sn**	**23 06 32.1**	**+0.6**
BJR1	**Bachatsky 1, K**	**1.

KIF					MSG			23 38 08.5	
	comp=Z,7.9nm,0.2s								
KIF					SN			23 38 14.6	
HEF	**Hetta**	**1.33**	**64**	*eP*		**Pn**		**23 37 56.1**	**-1.3**
HEF	**Hetta**	**1.33**	**64**	PG				23 37 56.4	
	baz=247								
HEF					MSG			23 38 15.0	
	comp=Z,5.9nm,0.2s								
PAJU	**Pajala**	**1.34**	**128**	PG				23 37 57.5	
	baz=304								
PAJU					SN			23 38 18.5	
ERTU	**Ertsjaerv**	**1.49**	**152**	PG				23 37 59.2	
ERTU					SN			23 38 22.1	
KTK1	**Kautokeino**	**1.55**	**41**	PG				23 38 02.3	
KTK1					SN			23 38 25.6	
KALU	**Kalix**	**2.32**	**149**	PG				23 38 12.7	
KALU					SG			23 38 46.0	
ARA0	**ARCESS Array S**	**2.50**	**46**	PG				23 38 16.9	
	baz=227								
ARA0					SG			23 38 50.7	
ARCES	**ARCESS Array B**	**2.50**	**46**	Pn		**Pb**		**23 38 15.4**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=228,slow=16,SNR=18								
ARCES					Lg	Lg		23 38 47.8	
	comp=Z,1.3nm,0.3s,baz=228,slow=29,SNR=13								
	comp=Z,1.4nm,0.3s								
RNF	**Rovaniemi**	**2.51**	**118**	PB				23 38 17.2	
RNF					SB			23 38 51.1	
RAJF	**Raja-Jooseppi**	**3.01**	**75**	PB				23 38 24.6	
RAJF					SB			23 39 03.4	
KEV	**Kevo**	**3.05**	**49**	PB				23 38 26.0	
RANF	**Ranua**	**3.12**	**124**	PB				23 38 26.6	
VRF	**Varrio**	**3.49**	**88**	PB				23 38 31.8	
OLKF	**Oulanka, Finla**	**3.84**	**110**	PB				23 38 37.3	
OLKF					SG			23 39 36.6	
UMAU	**Umeaa**	**4.00**	**178**	PB				23 38 37.9	
UMAU					SB			23 39 25.4	
FINES	**FINES Array B**	**6.89**	**157**	Pn		**Pn**		**23 39 16.9**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=349,slow=12,SNR=3.6								
FINES					Sn	**Sn**		**23 40 32.6**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=339,slow=27,SNR=1.8								
FINES					Lg	Lg		23 41 06.8	
	comp=Z,0.4nm,0.3s,baz=340,slow=28,SNR=6.9								
	comp=Z,3.2nm,1.0s								
NOA	**NORSAR Array B**	**7.92**	**214**	Pn		**Pn**		**23 39 30.2**	**+2.4**
	baz=23,slow=12,SNR=1.2								
NOA					Lg	Lg		23 41 40.3	
	baz=19,slow=10,SNR=5.1								
	comp=Z,0.2nm,0.6s								
HFS	**Hagfors**	**8.30**	**204**	Pn		**Pn**		**23 39 35.0**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=19,slow=9.2,SNR=1.5								
HFS					Sn	**Sn**		**23 41 04.7**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=26,slow=26,SNR=1.3								
HFS					Lg	Lg		23 41 53.2	
	comp=Z,0.1nm,0.3s,baz=22,slow=26,SNR=3.9								
	comp=Z,1.4nm,0.8s								

DJA 30 23:50:35.3±0.6, 0°S±4°×12°4E±°, h103km±7km, M4.0/8, mb4.4/1, MLv3.7/8, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.71**	**343**	P	Pn	23 50 54.7	+1.6
KMSI				S	Sn	23 51 08.3	+1.8
LUWI	**Luwuk**	**1.69**	**237**	P	Pn	23 51 05.5	+1.4
LUWI				S	Sn	23 51 27.0	+1.0
MRSI	**Marisa**	**2.32**	**285**	P	Pn	23 51 11.3	-0.9
MRSI				S	Sn	23 51 40.5	0.0
SANI	**Sanana**	**2.63**	**137**	P	Pn	23 51 17.3	+1.0
SANI				S	Sn	23 51 47.8	0.0
APSI	**Ampana**	**2.66**	**253**	P	Pn	23 51 16.4	-0.3
NLAI	**Namlea**	**4.26**	**137**	P	Pn	23 51 37.4	-0.6
MPSI	**Mapaga**	**4.32**	**276**	P	Pn	23 51 40.1	+1.3
TTSI	**Tana Toraja**	**5.25**	**236**	P	Pn	23 51 51.6	+0.1

*KRSC **30** 23:52:42.2±1.6, 54.°66N×158.°50E, h308km±13km, Ml3.8*
*IDC **30** 23:52:43.8±0.7, 54.°80N×157.°60E, h288km±8km, mb3.2/17, mbtmp3.9/19, Error ellipse: s-maj=14.4km s-min=11.8km az=16.0*

ISC 30 23:52:43.8±0.6, 54.°76N±0.°06×158.°15E±0.°07, h293km±6km, n47, σ1§44/62, mb3.4/17, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**1.05**	**133**	*eP*	**Pn**	**23 53 23.7**	**0.0**
GNL	**Ganaly**	**1.08**	**187**	*eP*	**Pn**	**23 53 24.0**	**+0.1**
GNL				*eS*	**S**	**23 53 57.5**	**+1.7**
ESO	**Esso**	**1.21**	**15**	*eP*	**Pn**	**23 53 24.2**	**-0.1**
TUMD	**Tumrok D**	**1.37**	**70**	*eP*	**Pn**	**23 53 25.9**	**+0.6**
KRX	**Arik**	**1.44**	**168**	*eP*	**Pn**	**23 53 26.5**	**+0.4**
KOK	**Koryaka**	**1.50**	**169**	*eP*	**Pn**	**23 53 26.7**	**+0.3**
KRER	**Koryakskii**	**1.50**	**166**	*eP*	**Pn**	**23 53 27.0**	**+0.4**
KRER				*eS*	**S**	**23 54 01.5**	**+1.0**
SDLR	**Sedlovina**	**1.55**	**163**	*eP*	**Pn**	**23 53 26.8**	**0.0**
SMAR	**Somma**	**1.55**	**165**	*eP*	**Pn**	**23 53 27.4**	**+0.5**
KMNR	**Kamenistaya**	**1.56**	**49**	*eP*	**Pn**	**23 53 27.0**	**+0.4**
KMNR				*eS*	**S**	**23 54 02.1**	**+1.4**
UGLR	**Uglovaya**	**1.61**	**165**	*eP*	**Pn**	**23 53 27.7**	**+0.6**
PETK	**Petropavlovsk-**	**1.68**	**189**	P	**Pn**	**23 53 26.6**	**-0.9**
	62nm,0.6s,baz=59,slow=7.9,SNR=110						
PETK				S	**S**	**23 54 01.9**	**-0.4**
	3.0nm,0.4s,baz=317,slow=17,SNR=1.4						
NLC	**Nalytchevo**	**1.74**	**156**	*eP*	**Pn**	**23 53 27.5**	**-0.4**
NLC				*eS*	**S**	**23 54 01.2**	**-1.8**
PET	**Petropavlovsk**	**1.77**	**170**	*eP*	**Pn**	**23 53 28.1**	**0.0**
DALK	**Dalny**	**1.77**	**168**	*eP*	**Pn**	**23 53 27.8**	**-0.4**
DALK				*eS*	**S**	**23 54 02.1**	**-1.3**
BZMR	**Bezymyannaya**	**1.78**	**48**	*eP*	**Pn**	**23 53 28.7**	**+0.4**
BZMR				*eS*	**S**	**23 54 05.6**	**+1.9**
BZWR	**Bezymyannyi-We**	**1.80**	**47**	*eP*	**Pn**	**23 53 29.0**	**+0.6**
APC	**Apacha**	**1.93**	**198**	*eP*	**Pn**	**23 53 29.5**	**+0.2**
APC				*eS*	**S**	**23 54 06.0**	**+0.4**
KRMR	**Karymshinskiy**	**1.94**	**180**	*eP*	**Pn**	**23 53 29.4**	**0.0**
SPN	**Mys Shipunski**	**2.00**	**146**	*eP*	**Pn**	**23 53 28.2**	**-1.7**
SPN				*eS*	**S**	**23 54 02.0**	**-4.7**
MKZ	**Mys Kozlova**	**2.09**	**94**	*eP*	**Pn**	**23 53 29.0**	**-1.5**
MKZ				*eS*	**S**	**23 54 04.3**	**-3.5**
GRL	**Gorelyy**	**2.22**	**181**	*eP*	**Pn**	**23 53 32.0**	**+0.1**
MTVR	**Mutnovka**	**2.28**	**179**	*eP*	**Pn**	**23 53 33.0**	**+0.5**
MTVR				*eS*	**S**	**23 54 11.7**	**+0.4**
ASAK	**Asacha**	**2.39**	**184**	*eP*	**Pn**	**23 53 33.2**	**-0.1**
SMKR	**Semkarok**	**2.62**	**45**	*eP*	**Pn**	**23 53 36.3**	**+1.0**
KBTR	**Krutoberegovo**	**3.03**	**60**	*eP*	**Pn**	**23 53 38.8**	**-0.4**
KBTR				*eS*	**S**	**23 54 20.7**	**-2.7**
BKI	**Bering**	**4.53**	**81**	*eP*	**Pn**	**23 53 55.8**	**+0.4**
BKI				*eS*	**S**	**23 54 50.5**	**-2.4**
MA2	**Magadan**	**6.27**	**323**	P	**Pn**	**23 54 14.9**	**-1.1**
	9.8nm,0.5s,baz=130,slow=11,SNR=10.0						
SEY	**Seymchan**	**8.72**	**342**	P	**Pn**	**23 54 46.2**	**+0.3**
	3.7nm,0.3s,baz=144,slow=11,SNR=23						
ILAR	**Eielson Array**	**28.49**	**47**	P	**P**	**23 58 13.0**	**+1.0**
	1.7nm,0.4s,baz=261,slow=7.5,SNR=38						
	1.7nm,0.4s						
YKA	**Yellowknife Ar**	**42.72**	**43**	P	**P**	**00 00 13.6**	**+1.5**
	0.3nm,0.4s,baz=315,slow=17,SNR=5.6						
	0.3nm,0.4s						
SPITS	**Spitsbergen Ar**	**45.29**	**350**	P	**P**	**00 00 31.7**	**-0.5**
	0.5nm,0.3s,baz=59,slow=9.8,SNR=4.4						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**45.99**	**299**	P	**P**	**00 00 36.0**	**-1.9**
	0.6nm,0.5s,baz=59,slow=7.6,SNR=8.5						
KURBB				PcP	**PcP**	**00 02 07.3**	**-1.8**
	0.3nm,0.5s,baz=46,slow=2.9,SNR=4.4						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**46.42**	**293**	P	**P**	**00 00 39.7**	**-1.7**
	0.2nm,0.4s,baz=56,slow=6.4,SNR=6.8						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**48.46**	**306**	P	**P**	**00 00 55.2**	**-1.7**
	0.5nm,0.4s,baz=65,slow=4.1,SNR=2.6						
BVAR				PcP	**PcP**	**00 02 16.3**	**-1.7**
	0.3nm,0.3s,baz=82,slow=2.6,SNR=2.7						
	0.5nm,0.4s						
ARCES	**ARCESS Array B**	**51.33**	**341**	P	**P**	**00 01 16.7**	**-1.4**
	1.4nm,0.7s,baz=30,slow=7.0,SNR=1.4						
	1.4nm,0.7s						
NVAR	**Mina Array Bea**	**56.25**	**70**	P	**P**	**00 01 57.2**	**+3.0**
	1.1nm,0.6s,baz=302,slow=7.3,SNR=8.3						
	1.1nm,0.6s						
PDAR	**Pinedale Array**	**57.71**	**61**	P	**P**	**00 02 07.0**	**+2.6**
	1.6nm,0.4s,baz=327,slow=2.7,SNR=15						
	1.6nm,0.4s						
FINES	**FINES Array B**	**58.12**	**335**	P	**P**	**00 02 05.7**	**-0.8**
	0.8nm,0.4s,baz=25,slow=8.2,SNR=10						
	0.8nm,0.4s						
NOA	**NORSAR Array B**	**61.61**	**342**	P	**P**	**00 02 29.2**	**-1.0**
	0.4nm,0.6s,baz=15,slow=3.8,SNR=1.5						
	0.4nm,0.6s						
HFS	**Hagfors**	**62.00**	**341**	P	**P**	**00 02 31.8**	**-0.9**
	3.1nm,1.0s,baz=38,slow=7.3,SNR=5.3						
	3.1nm,1.0s						
EKA	**Eskdalemuir Ar**	**69.20**	**349**	P	**P**	**00 03 18.0**	**-0.6**
	0.3nm,0.4s,baz=16,slow=5.2,SNR=6.9						
	0.3nm,0.4s						
TXAR	**Lajitas Array**	**71.03**	**66**	P	**P**	**00 03 32.8**	**+2.6**
	0.8nm,0.5s,baz=295,slow=5.2,SNR=16						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**77.14**	**203**	P	**P**	**00 04 05.4**	**+0.2**
	0.5nm,0.7s,baz=14,slow=5.7,SNR=2.9						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**80.84**	**202**	P	**P**	**00 04 25.9**	**+0.9**
	0.2nm,0.5s,baz=1.4,slow=3.7,SNR=2.1						
	0.2nm,0.5s						
ESDC	**Sonseca Array**	**84.69**	**346**	P	**P**	**00 04 45.0**	**+0.2**
	0.4nm,0.5s,baz=2.7,slow=4.9,SNR=7.4						
	0.4nm,0.5s						
QSPA	**South Pole Qui**	**144.51**	**180**	PKP	**PKPdf**	**00 11 43.6**	**-0.2**
	1.4nm,0.7s,baz=350,slow=6.1,SNR=8.8						

GCMT 31 00:08:55.0±0.3, 32.°10S±0.°03×13.°37W±0.°02, h19km±1km, MW4.8/84, Moment Tensor Solution. s16,c16; s84,c103; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.15±.16; Mθθ=0.96±.10; Mφφ=2.11±.13; Mrθ=0.04±.21; Mθφ=1.04±.07; Mφr=0.68±.24; Best double couple: M0=1.99000×10^16 NP1:φs=56.00000°, δ52.00000°, λ=-27.00000°. NP2:φs=164.00000°, δ69.00000°, λ=-139.00000°. Principal axes: T 2.5490, Plg10.0000°, Azm287.0000°; N -1.1160, Plg45.0000°, Azm186.0000°; P -1.4310, Plg43.0000°, Azm26.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southern Mid-Atlantic Ridge

*DJA **31** 00:17:00.5±0.4, 3.°N±4.°×12.°7E±.°, h10km, M3.7/4, MLv3.7/4*
*IDC **31** 00:17:24.9±23.0, 1.°36N×126.°43E, h354km±258km, mb2.9/4, mbtmp3.6/5, Error ellipse: s-maj=170.9km s-min=29.9km az=52.0*

ISC 31 00:16:53.1±1.8, 2.°4N±0.°2×128.°3E±0.°3, h50km, n6, σ1§50/6, mb3.5/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.02**	**295**	P	**Pn**	**00 17 39.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**20.53**	**187**	P	**P**	**00 21 26.0**	**-1.5**
	1.1nm,0.5s,baz=15,slow=7.6,SNR=7.4						
WRA	**Warramunga Arr**	**22.98**	**165**	P	**P**	**00 21 55.4**	**+1.6**
	1.0nm,0.5s,baz=338,slow=10,SNR=20						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**26.48**	**168**	P	**P**	**00 22 26.6**	**+0.8**
	0.4nm,0.3s,baz=341,slow=8.4,SNR=9.4						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**59.52**	**325**	P	**P**	**00 26 50.7**	**-0.7**
	0.4nm,0.4s,baz=114,slow=7.7,SNR=6.4						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**63.69**	**327**	P	**P**	**00 27 18.9**	**-0.5**
	0.1nm,0.4s,baz=130,slow=6.0,SNR=4.1						
	0.1nm,0.4s						

*CATAC **31** 00:30:33.6±0.2, 10.°N±3.°×8.°1W±.°, h1km, M3.5/13, mb3.9/1, MLv3.2/13, Error ellipse: s-maj=6.3km s-min=2.6km az=12.1, confirmed*
*UPA **31** 00:30:38.2±1.4, 9.°60N×80.°83W, h43km±17km, ML3.7, MW4.0*

ISC 31 00:30:33.9±1.3, 9.°59N±0.°04×80.°85W±0.°03, h8km±11km, n29, σ1§14/49, 1C-5D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**1.08**	**113**	*eP*	**Pb**	**00 30 55.8**	**+0.9**
BCIP				AMP		00 30 56.1	
	comp=Z,4μm,0.2s						
BCIP				*eS*	**Sg**	**00 31 08.6**	**-0.3**
BCIP	**Isla Barro Col**	**1.08**	**113**	P	**Pb**	**00 30 55.7**	**+0.8**
BCIP				S	**Sg**	**00 31 08.5**	**-0.3**
ZANG	**Zanguenga, Cho**	**1.16**	**123**	*i/P*	**Pg**	**00 30 56.9**	**+0.7**
ZANG				AMP		00 30 58.8	
	comp=Z,560nm,0.1s						
ZANG				*eS*	**Sg**	**00 31 10.8**	**-0.4**
GAMB1	**Gamboa**	**1.22**	**112**	*eP*	**Pg**	**00 30 57.5**	**+0.2**
GAMB1				AMP		00 30 57.7	
	comp=Z,6μm,0.1s						
GAMB1				*eS*	**Sg**	**00 31 11.5**	**-1.7**
CALO3	**Calobre, Verag**	**1.26**	**180**	*i/P*	**Pn**	**00 30 58.6**	**+0.8**
CALO3				AMP		00 30 59.5	
	comp=Z,3μm,0.1s						
CALO3				*eS*	**Sg**	**00 31 14.4**	**-0.1**
CHOR3	**La Chorrera**	**1.27**	**123**	*eP*	**Pg**	**00 30 58.8**	**+0.4**
CHOR3				*eS*	**Sg**	**00 31 14.7**	**-0.2**
ARRA3	**Arraijan, Pana**	**1.33**	**118**	*eP*	**Pg**	**00 31 00.1**	**+0.6**
ARRA3				AMP		00 31 00.2	
	comp=Z,360nm,0.1s						
ARRA3				*eS*	**Sg**	**00 31 14.8**	**-1.9**
UPA	**Univ. de Panam**	**1.43**	**115**	*eP*	**Pn**	**00 31 01.3**	**+1.1**
UPA				*eS*	**Sg**	**00 31 16.9**	**-3.1**
MESA3	**La Mesa, Verag**	**1.47**	**193**	*eP*	**Pn**	**00 31 01.5**	**+0.8**
MESA3				AMP		00 31 02.7	
	comp=Z,881nm,0.1s						
MESA3				*eS*	**Sg**	**00 31 19.2**	**-2.0**
STIA3	**Santiago, Vera**	**1.48**	**185**	*i/P*	**Pn**	**00 31 01.9**	**+1.0**
STIA3				AMP		00 31 02.0	
	comp=Z,1μm,0.1s						
STIA3				*eS*	**Sb**	**00 31 20.7**	**-0.1**
RSUS3	**Rio de Jesus,**	**1.62**	**191**	*eP*	**Pn**	**00 31 03.7**	**+0.9**
RSUS3				AMP		00 31 04.3	
	comp=Z,759nm,0.1s						
RSUS3				*eS*	**Sn**	**00 31 23.6**	**-0.3**
CHIT3	**Chitre**	**1.68**	**165**	*eP*	**Pn**	**00 31 04.2**	**+0.7**
CHIT3				*eS*	**Sn**	**00 31 24.1**	**-1.1**
PESE3	**Pese, Herrera**	**1.69**	**172**	*eP*	**Pn**	**00 31 04.7**	**+1.0**
PSOM3	**Paja de Sombre**	**1.71**	**238**	*eP*	**Pn**	**00 31 04.7**	**+0.6**
PSOM3				*eS*	**Sn**	**00 31 24.5**	**-1.6**
CHPO	**Chepo, Panama**	**1.76**	**104**	*eP*	**Pn**	**00 31 06.1**	**+1.4**
CHPO				*eS*	**Sn**	**00 31 25.8**	**-1.6**
GMAL	**Guarumal, Vera**	**1.85**	**192**	*i/P*	**Pn**	**00 31 06.2**	**+0.3**
GMAL				*eS*	**Sn**	**00 31 27.6**	**-2.0**
AZU	**Azuero**	**1.87**	**162**	*i/P*	**Pn**	**00 31 06.8**	**+0.5**
AZU				AMP		00 31 06.9	
	comp=Z,388nm,0.1s						
AZU				*eS*	**Sn**	**00 31 28.8**	**-1.3**
DVD	**David**	**1.95**	**234**	*eS*	**Sn**	**00 31 32.3**	**+0.3**
BRU2	**Volcan**	**1.98**	**247**	*i/P*	**Pb**	**00 31 10.0**	**-0.3**
BRU2				*eS*	**Sn**	**00 31 32.5**	**-0.5**
BRU2	**Volcan**	**1.98**	**247**	P	**Pn**	**00 31 08.6**	**+0.7**
BRU2	**Volcan**	**1.98**	**247**	S	**Sn**	**00 31 33.5**	**+0.5**
CACAO	**El Cacao, Vera**	**2.23**	**180**	*eP*	**Pn**	**00 31 12.7**	**+1.5**
CACAO				AMP		00 31 13.9	
	comp=Z,728nm,0.1s						
CACAO				*eS*	**Sn**	**00 31 38.0**	**-0.9**
CDITO	**Canoas**	**2.24**	**243**	S	**Sn**	**00 31 39.2**	**+0.1**
DRK0	**Durika**	**2.38**	**262**	*eP*	**Pn**	**00 31 14.7**	**+1.1**
DRK0				*eS*	**Sn**	**00 31 42.2**	**-0.8**
DRK0	**Durika**	**2.38**	**262**	P	**Pn**	**00 31 14.6**	**+1.1**
OCHAL	**Ojochal**	**2.80**	**260**	S	**Sn**	**00 31 54.2**	**+1.2**
PRVC	**Isla de Provid**	**3.80**	**352**	P	**Pn**	**00 31 33.0**	**+0.3**
PRVC				S	**Sn**	**00 32 15.9**	**-1.7**
ESPN	**Las Esperanzas**	**4.26**	**308**	S	**Sn**	**00 32 27.9**	**-1.2**
SJCC	**San Jacinto, C**	**5.60**	**86**	P	**Pn**	**00 31 59.0**	**+1.5**

*IDC **31** 00:41:02.7±0.6, 14.°09S×13.°96W, h0km, mb4.3/18, mbtmp4.3/18, MS4.2/59, Error ellipse: s-maj=23.2km s-min=13.8km az=124.0*
*NEIC **31** 00:41:04.8±1.7, 14.°1S±0.°1×14.°0W±0.°1, h10km±1km, mb5.0/81, Error ellipse: s-maj=19.5km s-min=16.0km az=320.0*
*GCMT **31** 00:41:06.8±0.2, 14.°21S±0.°01×13.°97W±0.°01, h12km, MW5.1/118, Moment Tensor Solution. s53,c65; s118,c208; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=3.40±.08; Mθθ=0.04±.07; Mφφ3.44±.07; Mrθ2.64±.27; Mθφ=2.04±.06; Mφr=2.67±.24; Best double couple: M0 5.44300×10^16 NP1:φs=175.00000°, δ26.00000°, λ=-58.00000°. NP2:φs=320.00000°, δ68.00000°, λ=-105.00000°. Principal axes: T 5.7760, Plg22.0000°, Azm61.0000°; N -0.6680, Plg14.0000°, Azm325.0000°; P -5.1090, Plg64.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 00:41:04.1±0.4, 14.°14S±0.°08×13.°93W±0.°07, h10km, n204, σ1§32/138, mb4.8/75, MS4.3/62, 4C-1D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N1	**ASCENSION HYDR**	**6.27**	**355**	T	T	00 49 19.7	
	baz=167,slow=77						
H10N3	**ASCENSION HYDR**	**6.28**	**355**	T	T	00 49 26.9	
	baz=167,slow=77						
H10N2	**ASCENSION HYDR**	**6.29**	**355**	T	T	00 49 16.6	
	baz=167,slow=77						
NBAN	**Anadia - AL**	**22.30**	**279**	*eP*	**P**	**00 46 02.8**	**+0.8**
DBIC	**Dimbokro**	**22.55**	**24**	P	**P**	**00 46 02.9**	**-1.6**
DBIC				IAmb	IAmb	00 46 05.6	
	comp=Z,42nm,1.1s						
DBIC	**Dimbokro**	**22.55**	**24**	P	**P**	**00 46 03.5**	**-1.0**
	comp=Z,29nm,1.0s,baz=225,slow=10,SNR=12						
DBIC				LR	LR	00 52 43.6	
	comp=Z,679nm,19.8s,baz=222,slow=31						
	comp=Z,29nm,1.0s						
RCBR	**Riachuelo**	**23.14**	**289**	P	**P**	**00 46 10.2**	**-0.7**
RCBR	**Riachuelo**	**23.14**	**289**	LR	LR	00 52 44.7	
	comp=Z,235nm,21.8s,baz=104,slow=30						
RCBR	**Riachuelo**	**23.14**	**289**	*eP*	**P**	**00 46 12.7**	**+1.8**
GUA01	**Guaratinga, BA**	**25.07**	**261**	*eP*	**P**	**00 46 30.3**	**+1.3**
NBPB	**Pedra_Branca-C**	**26.66**	**286**	*eP*	**P**	**00 46 45.2**	**+1.7**
BBTS	**Babate**	**28.73**	**355**	LR	LR	00 56 02.3	
	comp=Z,379nm,21.1s,baz=184,slow=31						
SDBA	**SAO DESIDERIO**	**30.18**	**270**	*eP*	**P**	**00 47 15.9**	**+0.8**
TSUM	**Tsumeb**	**30.58**	**104**	LR	LR	00 57 10.7	
	comp=Z,691nm,20.7s,baz=279,slow=32						
TORD	**Torodi Ar. Bea**	**31.21**	**30**	P	**P**	**00 47 22.2**	**-1.8**
TORD	**Torodi Ar. Bea**	**31.21**	**30**	P	**P**	**00 47 22.4**	**-1.6**
	comp=Z,9.7nm,1.0s,baz=221,slow=5.9,SNR=16						
TORD				LR	LR	00 58 03.5	
	comp=Z,902nm,19.2s,baz=208,slow=33						
	comp=Z,9.7nm,1.0s						
BDFB	**Brasilia**	**32.96**	**263**	P	**P**	**00 47 39.0**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=125,slow=5.3,SNR=4.1						
BDFB				LR	LR	00 58 22.6	
	comp=Z,924nm,21.4s,baz=117,slow=32						
	comp=Z,3.4nm,0.9s						
SMTB	**Santa Maria do**	**33.38**	**275**	*eP*	**P**	**00 47 42.9**	**-0.1**
KOOLE	**Kule**	**33.46**	**110**	P	**P**	**00 47 43.8**	**-0.1**
KOOLE				IAmb	IAmb	00 47 46.6	
	comp=Z,15nm,1.1s						
PRPB	**Parauapebas**	**36.16**	**279**	*eP*	**P**	**00 48 06.3**	**-0.8**
PHPEN	**Phepeng**	**36.29**	**114**	P	**P**	**00 48 08.3**	**+0.1**
PHPEN				IAmb	IAmb	00 48 10.6	
	comp=Z,29nm,1.1s						
SNDB	**Serra Nova Dou**	**36.44**	**269**	*eP*	**P**	**00 48 10.8**	**+1.3**
LBTB	**Lobatse**	**38.65**	**112**	LR	LR	01 01 37.1	
	comp=Z,352nm,19.1s,baz=273,slow=32						
BOSA	**Boshof**	**39.04**	**118**	LR	LR	01 01 31.0	
	comp=Z,480nm,21.9s,baz=283,slow=31						
MREMI	**Moremi**	**40.05**	**108**	P	**P**	**00 48 40.5**	**+0.6**
MREMI				IAmb	IAmb	00 49 13.1	
	comp=Z,57nm,1.9s						
LSZ	**Lusaka**	**40.71**	**97**	P	**P**	**00 48 45.7**	**+0.1**
LSZ				IAmb	IAmb	00 48 52.8	
	comp=Z,41nm,1.9s						
LSZ	**Lusaka**	**40.71**	**97**	LR	LR	01 03 15.5	
	comp=Z,792nm,20.8s,baz=271,slow=33						
MATP	**Matopo**	**40.91**	**105**	LR	LR	01 03 24.7	
	comp=Z,372nm,21.0s,baz=268,slow=33						
CLDB	**Colider**	**40.97**	**270**	*eP*	**P**	**00 48 48.8**	**+1.2**
TAM	**Tamanrasset**	**41.35**	**28**	P	**P**	**00 48 51.1**	**+0.5**
MAL2	**Monte Alegre,**	**41.55**	**283**	P	**P**	**00 48 50.1**	**-1.8**
MAL2				IAmb	IAmb	00 49 00.8	
	comp=Z,22nm,1.0s						
PDRB	**Porto dos Gac**	**41.76**	**268**	*eP*	**P**	**00 48 54.5**	**+0.5**
CPUP	**Villa Florida**	**42.30**	**246**	*eP*	**P**	**00 48 58.4**	**0.0**
CPUP	**Villa Florida**	**42.30**	**246**	P	**P**	**00 48 58.4**	**0.0**
	comp=Z,0.4nm,0.7s,baz=300,slow=10,SNR=5.0						
CPUP				LR	LR	01 04 03.4	
	comp=Z,235nm,19.8s,baz=324,slow=33						
	comp=Z,0.4nm,0.7s						
CPUP	**Villa Florida**	**42.30**	**246**	*eP*	**P**	**00 48 58.5**	**+0.2**
ITTB	**Itatuba**	**42.32**	**279**	*eP*	**P**	**00 49 00.9**	**+2.3**
PTLB	**Pontes e Lacer**	**43.67**	**262**	P	**P**	**00 49 10.2**	**+0.7**
PTLB	**Pontes e Lacer**	**43.67**	**262**	*eP*	**P**	**00 49 11.3**	**+1.8**
BBSD	**Serra de San D**	**44.97**	**260**	*eP*	**P**	**00 49 22.1**	**+2.1**
SIV	**San Ignacio**	**45.49**	**261**	LR	LR	01 06 17.6	
	comp=Z,524nm,21.1s,baz=114,slow=33						
MDT	**Midelt**	**47.53**	**11**	LR	LR	01 08 23.0	
	comp=Z,866nm,19.1s,baz

SNAA LR LR 01 09 46.9
comp=Z,98nm,19.2s,baz=54,slow=30
comp=Z,4.7nm,1.1s
CZSB Cruzeiro do Su 57.94 270 P **P** **00 50 56.0 -1.2**
CZSB IAmb IAmb 00 51 05.8
comp=Z,25nm,1.1s
CZSB Cruzeiro do Su 57.94 270 *eP* **P** **00 50 57.4 +0.1**
BAUV El Baul 58.37 290 P **P** **00 51 00.2 0.0**
TROLL Troll, Antarti 58.68 174 ⇑P **P** **00 51 01.5 -0.1**
comp=Z,83nm,0.7s
HUMP Col San Antoni 60.41 301 P **P** **00 51 14.5 +0.4**
CUC Castrocucco 60.55 26 P **P** **00 51 15.0 +0.2**
SJG San Juan 60.64 300 LR LR 01 14 05.6
comp=Z,54nm,19.8s,baz=124,slow=33
SDV Santo Domingo 60.73 289 LR LR 01 16 38.7
comp=Z,220nm,20.8s,baz=80,slow=35
SDV Santo Domingo 60.73 289 *eP* **P** **00 51 17.6 +0.9**
PMSA Palmer Station 60.93 202 LR LR 01 13 50.9
comp=Z,150nm,18.4s,baz=60,slow=32
CELP Cerrillos 60.99 300 P **P** **00 51 18.7 +0.6**
OBIP Obispado Ponce 60.99 300 P **P** **00 51 18.3 +0.1**
NNA Nana 61.16 264 LR LR 01 17 23.0
comp=Z,381nm,18.1s,baz=110,slow=36
IDI Anoyia 61.39 36 IAmb IAmb 00 51 30.8
comp=Z,19nm,1.1s
IDI Anoyia 61.39 36 LR LR 01 17 43.4
comp=Z,71nm,21.3s,baz=216,slow=36
AQU L'Aquila 61.58 23 P **P** **00 51 21.3 -0.5**
comp=Z,11nm,1.4s
ATD Arta Tunnel 61.79 68 LR LR 01 16 25.2
comp=Z,23nm,19.6s,baz=204,slow=34
FDMO Fiordimonte 62.05 22 IAmb IAmb 00 51 33.5
comp=Z,22nm,1.9s
ROSC El Rosal 62.79 283 P **P** **00 51 30.6 -0.2**
comp=Z,3.6nm,0.3s,baz=63,slow=5.6,SNR=7.2
ROSC LR LR 01 17 04.5
comp=Z,653nm,22.0s,baz=107,slow=34
comp=Z,3.6nm,0.3s
KARP Karpathos 62.88 37 P **P** **00 51 30.2 -0.5**
comp=Z,31nm,0.9s
FLOC Florencia 63.08 279 P **P** **00 51 30.9 -1.5**
ATAH Atahualpa 63.58 269 LR LR 01 19 02.1
comp=Z,206nm,18.1s,baz=106,slow=36
LIT Litokhoron 63.70 31 IAmb IAmb 00 51 44.4
comp=Z,17nm,1.1s
EIL Elat 64.17 47 LR LR 01 17 13.4
comp=Z,171nm,21.5s,baz=244,slow=34
SYO Syowa Base 64.27 161⇓ *eP* **P** **00 51 38.5 -0.7**
SYO Syowa Base 64.27 161⇓ epP pP 00 51 41.4 +0.3
DAVOX Davos/Dischmat 64.30 18 LR LR 01 18 57.8
comp=Z,339nm,19.2s,baz=256,slow=35
FETA Feichten 64.77 18 *eP* **P** **00 51 44.7 +1.7**
comp=Z,4.9nm,1.1s
ABTA Abfaltersbach 65.09 20 *eP* **P** **00 51 47.6 +2.6**
comp=Z,4.9nm,2.2s
MOTA Moosalm 65.18 18 *eP* **P** **00 51 47.7 +2.1**
comp=Z,2.9nm,1.2s
WTTA Wattenberg 65.27 19 *eP* **P** **00 51 48.5 +2.3**
comp=Z,8.2nm,1.1s
MYKA Terra Mystica 65.37 21 *eP* **P** **00 51 49.4 +2.6**
comp=Z,0.3nm,0.3s
OTAV Otavalo 65.40 277 P **P** **00 51 47.3 -0.9**
OTAV IAmb IAmb 00 51 58.5
comp=Z,12nm,1.1s
OTAV Otavalo 65.40 277 *eP* **P** **00 51 49.6 +1.5**
OBKA Obir 65.58 21 *i* P **P** **00 51 50.0 +1.9**
comp=Z,3.4nm,1.4s
KBA Koelnbreinsper 65.66 20 *eP* **P** **00 51 50.5 +1.7**
comp=Z,1.6nm,0.5s
MANT Manisa 65.73 36 P **P** **00 51 48.6 -0.9**
LESA Schwarzleotal 65.74 19 *eP* **P** **00 51 51.8 +2.6**
comp=Z,1.3nm,0.8s
SOKA Soboth 65.89 21 *eP* **P** **00 51 52.2 +2.0**
comp=Z,1.2nm,0.8s
RDO Rodhopi 66.01 32 IAmb IAmb 00 51 59.6
comp=Z,8.7nm,1.1s
MMAI Mount Meron Ar 66.45 44 P **P** **00 51 53.6 -0.4**
comp=Z,2.8nm,0.9s,baz=201,slow=7.7,SNR=4.7
comp=Z,2.8nm,0.9s
ARSA Arzberg 66.56 21 *eP* **P** **00 51 56.4 +2.0**
comp=Z,0.3nm,0.4s
MOA Molln 66.64 20 *eP* **P** **00 51 57.1 +2.2**
comp=Z,3.2nm,1.2s
MORH Mrgy, Hungar 66.86 24 P **P** **00 51 55.9 -0.3**
comp=Z,3.1nm,1.6s
ASF Jabal al Asfar 66.98 46 LR LR 01 20 01.3
comp=Z,188nm,19.3s,baz=268,slow=35
RONA Rosalia, Austr 67.22 22 *eP* **P** **00 52 00.3 +1.7**
comp=Z,3.4nm,0.9s
CONA Conrad Observa 67.25 21 *eP* **P** **00 52 00.8 +1.9**
comp=Z,1.3nm,1.1s
GERES GERESS Array B 67.32 19 P **P** **00 51 58.7 -0.6**
comp=Z,0.4nm,0.6s,baz=132,slow=2.0,SNR=3.6
GERES LR LR 01 21 10.6
comp=Z,269nm,19.1s,baz=216,slow=36
comp=Z,0.4nm,0.6s
VRAC Vranov 68.69 21 LR LR 01 22 30.0
comp=Z,397nm,19.2s,baz=222,slow=36
VYHS Vyhne 68.81 23 *eP* **P** **00 52 07.4 -1.2**
VOIR 68.98 28 P **P** **00 52 09.3 -0.5**
comp=Z,4.1nm,0.9s
ANTO Ankara 69.09 37 P **P** **00 52 11.0 +0.4**
ANTO IAmb IAmb 00 52 20.4
comp=Z,17nm,1.1s
ANTO Ankara 69.09 37 P **P** **00 52 10.1 -0.5**
comp=Z,7.0nm,1.6s
BRG Berggiesshubel 69.17 18 SS SS 01 05 45.0 +1.8
CLL Collm 69.27 18 *eS* **S** **01 01 21.0 +3.5**
CLL *ePS* 01 01 48.0
CLL *eSS* **SS** **01 05 42.0 -2.7**
CLL *eSSS* SSS 01 09 06.0
CLL *eSSSS* 01 10 12.0
CLL AMS AMS 01 22 00.0
comp=Z,300nm,18.9s
MLR Muntele Rosu 69.44 29 IAmb IAmb 00 52 21.6
comp=Z,21nm,1.3s
MLR Muntele Rosu 69.44 29 P **P** **00 52 12.1 -0.6**
comp=Z,13nm,1.3s
BR104 Keskin Array S 69.48 37 P **P** **00 52 12.6 -0.5**
comp=Z,57nmcomp=Z,6.3nm,0.9s
BR131 Keskin Array S 69.49 37 IAmb IAmb 00 52 22.6
comp=Z,14nm,1.1s
BRTR Keskin Array B 69.49 37 P **P** **00 52 12.1 -1.0**
BRTR Keskin Array B 69.49 37 P **P** **00 52 14.0 +0.8**
comp=Z,3.2nm,0.8s,baz=208,slow=5.2,SNR=19
comp=Z,3.2nm,0.8s
LANS Liptovska Anna 69.59 23 *eP* P 00 52 22.0 +8.6
TIRR Tirgusor 69.87 31 P **P** **00 52 14.9 -0.3**
comp=Z,11nm,1.3s
STHS Stebnicka Huta 70.48 24 *eP* **P** **00 52 20.8 +1.9**
KOLS Kolonicke sedl 70.50 24 *eP* **P** **00 52 22.0 +3.0**
ARPR Arapgir-MALATY 71.96 40 P **P** **00 52 28.7 +0.4**
ARPR IAmb IAmb 00 52 41.0
comp=Z,14nm,1.1s
KMPD K-Podol'skiy 71.97 27 P **P** **00 52 27.4 -0.4**
MAW Mawson 72.00 157 P **P** **00 52 27.9 +0.1**
comp=Z,4.8nm,1.0s,baz=278,slow=7.6,SNR=6.9
MAW LR LR 01 18 50.1
comp=Z,139nm,18.0s,baz=284,slow=32
comp=Z,4.8nm,1.0s
RNPP5 Staryi Chortor 73.75 25 P **P** **00 52 38.0 -0.3**
JTS Las Juntas de 74.49 285 LR LR 01 24 17.9
comp=Z,320nm,21.8s,baz=114,slow=35
AK07 Malin Array Si 74.65 27 P **P** **00 52 43.4 -0.2**
KIEV Kiev 74.75 27 P **P** **00 52 43.4 -0.9**
KIEV Kiev 74.75 27 P **P** **00 52 43.3 -0.9**
comp=Z,32nm,1.4s
KIEV pP **pwP** **00 52 54.2 +3.1**
comp=Z,32nm,1.4s
AKASG Malin Array Be 74.77 27 P **P** **00 52 43.8 -0.5**
comp=Z,4.2nm,0.9s,baz=225,slow=6.1,SNR=14
AKASG LR LR 01 25 00.1
comp=Z,101nm,21.2s,baz=225,slow=35
comp=Z,4.2nm,0.9s
AK03 Malin Array Si 74.78 27 P **P** **00 52 43.6 -0.8**
QSPA South Pole Qui 76.02 180 P **P** **00 52 53.0 +1.5**
QSPA IAmb IAmb 00 52 55.5
comp=Z,17nm,1.1s
QSPA South Pole Qui 76.02 180 P **P** **00 52 52.9 +1.3**
comp=Z,7.3nm,0.9s,baz=210,slow=2.1,SNR=45
comp=Z,7.3nm,0.9s
GNI Garni 76.66 42 LR LR 01 26 35.6
comp=Z,69nm,21.7s,baz=268,slow=36
HFS Hagfors 77.28 14 LR LR 01 29 14.1
comp=Z,134nm,18.4s,baz=205,slow=37
KBZ Khabaz 77.43 38 P **P** **00 53 01.0 +1.4**
comp=Z,2.6nm,0.9s,baz=294,slow=3.8,SNR=4.1
KBZ LR LR 01 28 54.7
comp=Z,34nm,18.1s,baz=240,slow=37
comp=Z,2.6nm,0.9s
KVAR Kislovodsk Arr 77.43 38 LR LR 01 26 10.4
comp=Z,44nm,22.0s,baz=54,slow=35
NOA NORSAR Array B 77.56 12 P **P** **00 53 00.8 +0.7**
comp=Z,1.1nm,0.8s,baz=208,slow=5.6,SNR=3.5
comp=Z,1.1nm,0.8s
BORG Borgarnes 78.84 357 LR LR 01 21 33.0
comp=Z,119nm,18.7s,baz=160,slow=31
OBN Obninsk 81.03 27 LR LR 01 31 16.8
comp=Z,174nm,18.2s,baz=130,slow=37
U54A Nelsons Funny 81.35 311 IAmb IAmb 00 53 22.8
comp=Z,12nm,1.2s
BG3 Lake Jocassee 81.56 309 IAmb IAmb 00 53 23.9
comp=Z,11nm,1.1s
FINES FINESS Array B 81.71 18 P **P** **00 53 22.4 -0.1**
comp=Z,1.5nm,0.6s,baz=211,slow=3.3,SNR=6.3
FINES LR LR 01 30 21.1
comp=Z,133nm,20.4s,baz=235,slow=36
comp=Z,1.5nm,0.6s
SCHQ Schefferville 81.92 332 LR LR 01 22 48.3
comp=Z,82nm,21.6s,baz=115,slow=31
Y52A Lilburn 81.97 308 P **P** **00 53 24.0 -0.5**
Y52A IAmb IAmb 00 53 33.5
comp=Z,8.2nm,0.9s
TKL Tuckaleechee C 82.45 310 IAmb IAmb 00 53 36.7
comp=Z,14nm,1.4s
TKL Tuckaleechee C 82.45 310 LR LR 01 23 23.5
comp=Z,100nm,19.3s,baz=131,slow=31
LRAL Lakeview Retre 83.94 306 IAmb IAmb 00 53 35.1
comp=Z,12nm,1.6s
BELG Belogornoye 84.75 33 LR LR 01 32 54.5
comp=Z,53nm,19.0s,baz=228,slow=37
SFJD Kangerlussuaq 85.26 346 LR LR 01 24 38.8
comp=Z,51nm,21.3s,baz=144,slow=31
WVT Waverly 85.68 309 P **P** **00 53 42.0 -1.4**
WVT IAmb IAmb 00 53 51.7
comp=Z,15nm,1.4s
CMIG Matias Romero 85.70 289 LR LR 01 32 12.7
comp=Z,99nm,21.1s,baz=146,slow=36
ARCES ARCESS Array B 87.92 13 LR LR 01 34 15.4
comp=Z,85nm,20.4s,baz=218,slow=36
SBA Scott Base 88.18 180 P **P** **00 53 55.8 +0.8**
SBA IAmb IAmb 00 53 58.5
comp=Z,13nm,1.3s
VNDA Vanda 88.49 179 LR LR 01 28 27.0
comp=Z,130nm,19.9s,baz=159,slow=32
KIRV Kirov 88.78 28 LR LR 01 36 08.4
comp=Z,98nm,18.1s,baz=241,slow=37
CCM Cathedral Cave 88.90 310 P **P** **00 53 57.3 -1.8**
CCM IAmb IAmb 00 53 59.3
comp=Z,20nm,1.5s
AKTO Aktyubinsk 89.67 37 LR LR 01 38 47.1
comp=Z,57nm,18.6s,baz=340,slow=39
AB31 Akbulak array 90.39 39 P **P** **00 54 05.3 -0.3**
ABKAR Akbulak array 90.39 39 P **P** **00 54 04.9 -0.8**
U38A Gravette 90.79 307 P **P** **00 54 06.3 -1.6**
U38A IAmb IAmb 00 54 08.0
comp=Z,7.6nm,1.2s
435B Jarrell 91.80 301 P **P** **00 54 12.2 -0.5**
WHTX Lake Whitney, 92.01 302 IAmb IAmb 00 54 14.0
comp=Z,8.1nm,0.9s
ARTI Arti 92.17 32 LR LR 01 38 01.7
comp=Z,50nm,18.1s,baz=246,slow=37
BRDY Brady 93.10 301 IAmb IAmb 00 54 19.8
comp=Z,3.6nm,0.9s
SPITS Spitsbergen Ar 93.71 6 LR LR 01 34 31.5
comp=Z,65nm,20.3s,baz=184,slow=34
ECSD EROS Data Cent 94.45 314 IAmb IAmb 00 54 25.5
comp=Z,12nm,1.6s
OZNA Ozona 94.78 301 P **P** **00 54 25.9 -0.7**
OZNA IAmb IAmb 00 54 34.7
comp=Z,4.0nm,1.0s
PALK Pallekele 96.21 84 LR LR 01 31 35.3
comp=Z,113nm,21.3s,baz=252,slow=32
TXAR Lajitas Array 96.57 298 P **P** **00 54 33.3 -1.5**
comp=Z,0.4nm,0.9s,baz=74,slow=4.3,SNR=4.2
comp=Z,0.4nm,0.9s
BVAR Borovoye Array 97.78 37 LR LR 01 42 22.3
comp=Z,116nm,20.6s,baz=241,slow=38
AAK Ala-Archa 98.28 48 LR LR 01 40 30.8
comp=Z,72nm,19.8s,baz=259,slow=36
ANMO Albuquerque 99.39 304 LR LR 01 33 13.6
comp=Z,51nm,21.9s,baz=211,slow=31
WMQ Urumqi 107.99 48 Pdif **Pdif** **00 55 27.3 +1.9**
WMQ LR LR
comp=Z,120nm,23.8s
PZH PanZhiHua 118.97 67 PKP **PKPdf** **00 59 53.3 -0.7**
SONM Songino Array 120.62 43 PKP **PKiKP** **00 59 57.3 +0.6**
comp=Z,0.5nm,0.6s,baz=253,slow=1.5,SNR=2.4
TAOE Nuku Hiva Isla 121.96 250 eLR LR 01 37 33.0
comp=Z,174nm,26.0s
TBI Tubuai 122.73 230 eLR LR 01 37 48.9
comp=Z,1μm,34.0s
TBI eLR LR 01 37 59.5
comp=Z,1μm,29.2s
HHC Hu-ho-hao-te 125.83 50 *eP* **PKPdf** **01 00 00.5 -6.2**
HHC LR LR
comp=N,120nm,21.9s
HHC LR LR
comp=E,110nm,19.3s
HHC LR LR
comp=Z,160nm,21.9s
PPT2 Papeete2 126.07 236 eLR LR 01 39 23.2
comp=Z,202nm,28.2s
PPT2 eLR LR 01 39 32.0
comp=Z,262nm,26.2s
NJ2 Nanjing 133.45 59 *eP* **PKiKP** **01 00 22.0 -0.5**
NJ2 pmax pmax
comp=Z,11nm,0.5s
MJAR Matsushiro Arr 146.57 43 PKPbc **PKPbc** **01 00 46.2 -0.1**
comp=Z,4.6nm,1.0s,baz=293,slow=3.6,SNR=8.8

IDC 31 00:43:29.4±3.7, 16°.23S×176°.89W, h0km, mb3.6/3, mbtmp3.6/3, MS3.6/3, Error ellipse: s-maj=209.0km s-min=34.0km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**23.56**	**284**		LR	00 56 01.8	
	comp=Z,266nm,19.3s,baz=56,slow=32						
PPT	**Papeete**	**26.16**	**97**	LR	LR	00 56 45.2	
	comp=Z,47nm,19.7s,baz=242,slow=30						
ASAR	**Alice Springs**	**46.66**	**253**	P	P	00 52 00.1	-0.1
	0.9nm,0.7s,baz=87,slow=8.4,SNR=9.8						
ASAR				LR	LR	01 10 09.3	
	comp=Z,84nm,18.2s,baz=256,slow=34						
	0.9nm,0.7s						
NVAR	**Mina Array Bea**	**77.21**	**43**	P	P	00 55 25.9	+0.2
	0.1nm,0.5s,baz=229,slow=5.1,SNR=1.6						
	0.1nm,0.5s						
ILAR	**Eielson Array**	**83.94**	**12**	P	P	00 56 00.8	-0.1
	0.4nm,0.7s,baz=223,slow=5.9,SNR=4.6						
	0.4nm,0.7s						

*KRNET **31** 00:48:43.8±0.1, 43°.26N×77°.45E, h20km, mb2.7*
*NNC **31** 00:48:43.1±0.2, 43°.26N×77°.45E, h0km, mb2.0, mpv2.9, Error ellipse: s-maj=2.9km s-min=1.2km az=171.0*
*SOME **31** 00:48:43.9, 43°.25N×77°.43E, h10km*
ISC 31 00:48:42.5±1.1, 43°.26N±0°.03×77°.48E±0°.02, h15km±9km, n28, σ0°.58/52, 10C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNDC	**Almaty**	**0.38**	**264**	⇑P	**Pg**	**00 48 50.0**	**-0.2**
	5.4nm,0.3s						
KNDC				⇓S	**Sg**	**00 48 55.1**	**-0.4**
	14nm,0.3s						
TNSS	**Tian-Shan**	**0.45**	**241**	P	**Pb**	**00 48 52.6**	**+0.3**
	0.5nm,0.1s						
TNSS				S	**Sb**	**00 48 58.8**	**-0.1**
	6.6nm,0.2s						
TNSS	**Tian-Shan**	**0.45**	**241**	*eP*	**Pb**	**00 48 52.6**	**+0.3**
TNSS				*eS*	**Sb**	**00 48 58.8**	**-0.1**
TNSS	**Tian-Shan**	**0.45**	**241**	*eP*	**Pb**	**00 48 52.6**	**+0.3**
	0.9nm,0.1s						
TNSS				*eS*	**Sb**	**00 48 58.8**	**-0.1**
	6.6nm,0.2s						
CHKK	**Chushkaly**	**0.69**	**329**	P	**Pn**	**00 48 56.9**	**-0.9**
	16nm,0.1s						
CHKK				S	**Sb**	**00 49 06.0**	**+0.3**
	60nm,0.2s						
SATY	**Saty**	**0.71**	**106**	P	**Pn**	**00 48 57.6**	**-0.4**
	8.8nm,0.1s						
SATY				S	**Sn**	**00 49 07.3**	**-1.4**
	59nm,0.1s						
SATY	**Saty**	**0.71**	**106**	*eP*	**Pn**	**00 48 57.6**	**-0.4**
SATY				*eS*	**Sn**	**00 49 07.3**	**-1.4**
KTBS	**Karatobe**	**0.74**	**308**	P	**Pn**	**00 48 57.7**	**-0.7**
	4.9nm,0.1s						
KTBS				S	**Sb**	**00 49 07.3**	**+0.4**
	20nm,0.2s						
ARXS	**Arharly**	**0.99**	**15**	P	**Pn**	**00 49 02.2**	**+0.4**
	2.5nm,0.1s						
ARXS				S	**Sn**	**00 49 15.5**	**-0.1**
	14nm,0.1s						
ARXS	**Arharly**	**0.99**	**15**	*eP*	**Pn**	**00 49 02.2**	**+0.4**
ARXS				*eS*	**Sn**	**00 49 15.5**	**-0.1**
KUU	**Kurty**	**1.04**	**308**	*eP*	**Pn**	**00 49 03.3**	**+0.7**
KUU				*eS*	**Sn**	**00 49 17.0**	**+0.1**
KUU	**Kurty**	**1.04**	**308**	*eP*	**Pn**	**00 49 03.3**	**+0.7**
	2.7nm,0.1s						
KUU				*eS*	**Sn**	**00 49 17.0**	**+0.1**
	16nm,0.1s						
KST	**Kastek**	**1.13**	**260**	P	**Pg**	**00 49 04.4**	**+0.1**
	3.4nm,0.2s						
KST				S	**Sg**	**00 49 19.2**	**+0.1**
	10nm,0.3s						
KST	**Kastek**	**1.13**	**260**	*eP*	**Pg**	**00 49 04.4**	**+0.1**
KST				*eS*	**Sg**	**00 49 19.1**	**+0.1**
KST	**Kastek**	**1.13**	**260**	*eP*	**Pg**	**00 49 04.4**	**+0.1**
	3.4nm,0.2s						
KST				*eS*	**Sg**	**00 49 19.1**	**+0.1**
	10nm,0.3s						
KDJ	**Kajisay**	**1.15**	**191**	⇑*i*P	**Pg**	**00 49 05.4**	**+0.7**
KDJ				⇑*i*S	**Sn**	**00 49 21.1**	**+1.5**
DGS	**Degeres**	**1.25**	**270**	P	**Pg**	**00 49 06.3**	**-0.2**
	7.6nm,0.1s						
DGS				S	**Sg**	**00 49 22.4**	**-0.4**
	4.7nm,0.1s						
DGS	**Degeres**	**1.25**	**270**	*eP*	**Pg**	**00 49 06.3**	**-0.2**
DGS				*eS*	**Sg**	**00 49 22.4**	**-0.4**
ULHL	**Ulahol**	**1.36**	**222**	⇓*i*P	**Pg**	**00 49 08.8**	**+0.1**
ULHL				⇓*i*S	**Sg**	**00 49 26.6**	**+0.2**
BOOM	**Boomskoye usch**	**1.37**	**236**	⇑*i*P	**Pg**	**00 49 08.5**	**-0.3**
BOOM				⇑*i*S	**Sg**	**00 49 26.3**	**-0.3**
TKM2	**Tokmak 2**	**1.42**	**257**	⇑*i*P	**Pg**	**00 49 09.3**	**-0.5**
TKM2				⇑*i*S	**Sg**	**00 49 28.3**	**0.0**
SHLS	**Shalkode**	**1.45**	**93**	*eP*	Pg	00 49 16.3	+5.9
SHLS				*eS*	Sg	00 49 39.3	+10
SHLS	**Shalkode**	**1.45**	**93**	*eP*	Pg	00 49 16.3	+5.9
	7.0nm,0.3s						
SHLS				*eS*	Sg	00 49 39.4	+10
	6.2nm,0.3s						
PDGK	**Podgornoye**	**1.47**	**86**	⇑P	**Pg**	**00 49 10.9**	**+0.1**
	0.9nm,0.5s						
PDGK				⇓S	**Sg**	**00 49 30.7**	**+0.7**
	2.7nm,0.5s						
CHMS	**Chumysh**	**2.01**	**264**	⇑*i*P	**Pb**	**00 49 19.4**	**+0.6**
CHMS				⇑*i*S	**Sb**	**00 49 44.5**	**+0.9**
UCH	**Uchtor**	**2.41**	**246**	⇓*e*P	**Pb**	**00 49 25.4**	**-0.5**
UCH				⇓*i*S	**Sb**	**00 49 54.7**	**-0.9**

*KRNET **31** 00:54:16.1±0.1, 40°.80N×74°.15E, h15km, mb2.3*
*NNC **31** 00:54:17.4±3.2, 40°.84N×74°.13E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=23.4km s-min=16.8km az=158.0*
*SOME **31** 00:54:18.7, 40°.83N×74°.10E, h10km*
ISC 31 00:54:15.6±1.5, 40°.79N±0°.07×74°.14E±0°.03, h13km±9km, n20, σ0°.84/34, 14C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SALK	**Salom-Alik**	**0.26**	**291**	⇓*i*P	**Pg**	**00 54 21.5**	**+0.3**
SALK				⇓*i*S	**Sg**	**00 54 25.1**	**+0.2**
ARSB	**Arslanbob**	**1.02**	**302**	⇓*i*P	**Pb**	**00 54 35.7**	**+0.5**
ARSB				⇓*i*S	**Sg**	**00 54 49.9**	**+1.2**
ARSB	**Arslanbob**	**1.02**	**302**	P	**Pb**	**00 54 35.3**	**+0.1**
OHH	**Osh**	**1.06**	**256**	⇑*i*P	**Pb**	**00 54 36.3**	**+0.4**
OHH				⇑*i*S	**Sn**	**00 54 51.1**	**+0.2**
UCH	**Uchtor**	**1.46**	**11**	⇓*i*P	**Pb**	**00 54 43.1**	**+0.2**
UCH				⇓*i*S	**Sg**	**00 55 02.9**	**+0.1**
AAK	**Ala-Archa**	**1.86**	**8**	⇑Pn	**Pn**	**00 54 48.4**	**+1.1**
	0.6nm,0.4s						
AAK				⇑Sn	**Sg**	**00 55 14.8**	**-0.7**
	0.3nm,0.3s						
KBK	**Karagaybulak**	**1.96**	**18**	⇓*i*P	**Pb**	**00 54 51.6**	**+0.4**
KBK				⇓*i*S	**Sg**	**00 55 17.7**	**-0.9**
MRKS	**Merke**	**2.07**	**341**	Pg	**Pg**	**00 54 55.2**	**0.0**
	3.9nm,0.3s						
MRKS				Lg	Lg	00 55 21.2	
	14nm,0.5s						
MRKS	**Merke**	**2.07**	**341**	*eP*	**Pg**	**00 54 55.3**	**+0.1**
	3.6nm,0.2s						
MRKS				*eS*	**Sg**	**00 55 20.8**	**-1.3**
	11nm,0.3s						
ULHL	**Ulahol**	**2.15**	**47**	⇑*i*P	**Pb**	**00 54 54.2**	**-0.2**
ULHL				⇑*i*S	**Sb**	**00 55 22.0**	**+1.0**
BOOM	**Boomskoye usch**	**2.17**	**38**	⇑*i*P	**Pb**	**00 54 54.6**	**-0.2**
BOOM				⇑*i*S	**Sb**	**00 55 22.6**	**+1.0**
CHMS	**Chumysh**	**2.25**	**12**	⇑*i*P	**Pb**	**00 54 55.5**	**-0.6**
CHMS				⇑*i*S	**Sb**	**00 55 24.4**	**+0.5**
TRKS	**Terek-Say**	**2.38**	**289**	⇑*i*P	**Pb**	**00 54 57.3**	**-1.1**
TRKS				⇑*i*S	**Sb**	**00 55 27.3**	**-0.4**
KST	**Kastek**	**2.63**	**31**	Pg	**Pg**	**00 55 06.8**	**+0.7**
	2.4nm,0.3s						
KST				Lg	Lg	00 55 40.6	
	5.9nm,0.6s						
KST	**Kastek**	**2.63**	**31**	*eP*	**Pg**	**00 55 06.7**	**+0.7**
	1.2nm,0.2s						
KST				*eS*	**Sg**	**00 55 40.2**	**+0.1**
	5.2nm,0.3s						
KDJ	**Kajisay**	**2.65**	**59**	⇑*e*P	**Pb**	**00 55 01.3**	**-1.7**
KDJ				⇑*e*S	**Sb**	**00 55 34.7**	**-0.7**
DGS	**Degeres**	**2.73**	**26**	Pg	**Pg**	**00 55 08.3**	**+0.2**
	1.6nm,0.6s						
DGS				Lg	Lg	00 55 43.3	
	8.5nm,0.7s						
KTBS	**Karatobe**	**3.48**	**32**	Pg	**Pg**	**00 55 21.0**	**-1.2**
	1.0nm,0.3s						
KTBS				Lg	Lg	00 56 04.8	
	4.3nm,0.4s						
BRLS	**Borolday**	**3.91**	**306**	Pg	**Pg**	**00 55 29.5**	**-1.0**
	0.8nm,0.5s						
BRLS				Lg	Lg	00 56 19.8	
	2.6nm,0.5s						
BRLS	**Borolday**	**3.91**	**306**	*eP*	**Pg**	**00 55 29.7**	**-0.9**
	0.7nm,0.2s						
BRLS				*eS*	**Sg**	**00 56 19.4**	**-1.7**
	3.5nm,0.5s						

*IDC **31** 00:56:35.6±6.7, 37°.86N×73°.09E, h161km±40km, mb3.4/6, mbtmp3.8/11, MS3.5/1, Error ellipse: s-maj=81.1km s-min=37.9km az=157.0*
ISC 31 00:56:38.2±1.7, 38°.2N±0°.1×72°.6E±0°.1, h150km, n21, σ1°.55/24, mb3.8/5, 1C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	**4.28**	**19**	P	**Pn**	**00 57 42.5**	**0.0**
	SNR=21						
EKS2	**Erkin-Say**	**4.55**	**11**	P	**Pn**	**00 57 46.7**	**+1.0**
	SNR=17						
AAK	**Ala-Archa**	**4.66**	**17**	P	**Pn**	**00 57 48.1**	**+0.9**
	SNR=7.4						
AAK	**Ala-Archa**	**4.66**	**17**	⇓Pn	**Pn**	**00 57 47.9**	**+0.7**
	1.0nm,0.3s						
AAK				⇓Sn	**Sn**	**00 58 42.7**	**+1.7**
	1.4nm,0.4s						
AAK	**Ala-Archa**	**4.66**	**17**	P	**Pn**	**00 57 48.0**	**+0.9**
	9.4nm,0.3s,baz=168,slow=6.8,SNR=12						
AAK				S	**Sn**	**00 58 42.9**	**+1.9**
	3.2nm,0.3s,baz=134,slow=23,SNR=6.6						
CHMS	**Chumysh**	**5.06**	**18**	P	**Pn**	**00 57 53.1**	**+0.7**
	SNR=10.0						
KK31	**Karatay Array**	**5.16**	**343**	⇑Pn	**Pn**	**00 57 54.9**	**+1.2**
	2.9nm,0.2s,baz=140,slow=11,SNR=94						
KK31				⇓Sn	**Sn**	**00 58 52.8**	**+0.3**
	82nm,0.5s,baz=172,slow=24,SNR=59						
TKM2	**Tokmak 2**	**5.23**	**25**	P	**Pn**	**00 57 54.5**	**-0.3**
	SNR=7.2						

USP	**Ospenovka** SNR=10	**5.26**	**15**	P		**Pn**	**00 57 54.9**	**-0.2**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=222,slow=15,SNR=4.1	**11.16**	**37**	P		**Pn**	**00 59 10.7**	**-2.6**
BVAR	**Borovoye Array** 1.2nm,0.4s,baz=154,slow=9.3,SNR=10	**14.91**	**355**	P		**P**	**01 00 04.0**	**+0.8**
AKTO	**Aktyubinsk** 2.4nm,0.3s,baz=118,slow=4.7,SNR=12	**16.06**	**324**	P		**P**	**01 00 17.2**	**+1.3**
AKTO				S		**S**	**01 03 08.9**	**-5.0**
ZALV	**Zalesovo Beam** 1.6nm,0.6s,baz=123,slow=17,SNR=3.7	**17.84**	**24**	P		**P**	**01 00 33.7**	**-1.7**
ARTI	**Arti** 1.2nm,0.5s,baz=216,slow=12,SNR=8.1	**20.53**	**337**	P		**P**	**01 01 05.1**	**+0.6**
BRTR	**Keskin Array B** 1.6nm,0.5s,baz=193,slow=2.4,SNR=3.9	**30.20**	**285**	P		**P**	**01 02 35.0**	**+0.5**
FINES	**FINESS Array B** 0.3nm,0.5s,baz=72,slow=4.7,SNR=2.5	**36.83**	**324**	P		**P**	**01 03 31.9**	**+0.6**
ARCES	**ARCESS Array B** 1.3nm,0.4s,baz=112,slow=9.5,SNR=11	**40.09**	**336**	P		**P**	**01 03 58.8**	**+0.3**
HFS	**Hagfors** 0.8nm,0.4s,baz=118,slow=9.5,SNR=10	**42.56**	**321**	P		**P**	**01 04 18.3**	**-0.4**
NB2	**NORSAR Subarra** 1.5nm,0.4s,baz=97,slow=12,SNR=16	**43.83**	**322**	P		**P**	**01 04 28.5**	**-0.5**
NOA	**NORSAR Array B** comp=Z,0.6nm,0.5s,baz=92,slow=7.9	**43.83**	**322**	P		**P**	**01 04 28.7**	**-0.2**
JNU	**Nakatsue** comp=Z,0.9nm,0.6s,baz=95,slow=7.7,SNR=5.1 comp=Z,0.9nm,0.6s	**46.94**	**78**	LR		LR	01 25 39.5	
JNU	**Nakatsue** comp=Z,50nm,18.4s,baz=290,slow=37	**10.54**	**290**	LR		LR	01 09 27.6	
JOW	**Kunigami** comp=Z,53nm,19.9s,baz=208,slow=34	**13.11**	**259**	LR		LR	01 10 48.8	
KSRS	**Korea Array** 0.3nm,0.3s,baz=115,slow=12,SNR=2.9	**14.32**	**305**	Pn		**Pn**	**01 06 36.8**	**+2.5**
SONM	**Songino Array** 0.5nm,0.6s,baz=110,slow=5.6,SNR=2.1	**32.95**	**313**	P		**P**	**01 09 47.8**	**+2.4**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=94,slow=10,SNR=1.5	**47.58**	**317**	P		**P**	**01 11 47.9**	**+1.8**
MKAR	**Makanchi Array** 0.6nm,0.6s,baz=89,slow=9.6,SNR=6.2	**48.98**	**308**	P		**P**	**01 11 58.9**	**+1.8**
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=7.7,slow=7.6,SNR=5.0	**50.39**	**190**	P		**P**	**01 12 07.7**	**-0.3**
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=92,slow=7.2,SNR=5.0	**51.32**	**313**	P		**P**	**01 12 16.8**	**+2.0**
BVAR	**Borovoye Array** 0.5nm,0.5s,baz=81,slow=8.6,SNR=4.0	**56.19**	**316**	P		**P**	**01 12 52.9**	**+2.5**
NVAR	**Mina Array Bea** 0.4nm,0.5s,baz=293,slow=5.6,SNR=4.8	**78.31**	**52**	P		**P**	**01 15 10.5**	**-0.5**
BRTR	**Keskin Array B** 0.5nm,0.8s,baz=44,slow=4.4,SNR=3.6	**84.31**	**313**	P		**P**	**01 15 44.3**	**+1.6**
LPAZ	**La Paz** 0.5nm,0.5s,baz=332,slow=7.6,SNR=3.8	**148.61**	**71**	PKPbc		**PKPbc**	**01 22 57.8**	**-1.0**

*IDC **31** 01:03:08.8±1.0,29.°99N×143.°02E, h0km, mb3.7/8, mbtmp3.7/11, ML3.5/3, MS2.8/2, Error ellipse: s-maj=33.3km s-min=21.0km az=66.0*

*JMA **31** 01:03:11.1±0.5,30.°N±1.°×14.°3E±.°, h55km, MV4.0/24, NEAR TORISHIMA IS*

ISC 31 01:03:14.1±0.9,30.°09N±0.°05×142.°7E±0.°2, h35km, n21, σ2§69/23, mb3.8/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.02**	**189**	*eP*		**Pn**	**01 03 58.6**		**-0.8**
CBIJ				*eS*		**Sn**	**01 04 32.6**		**-1.8**
JCJ	**Chichijima** 14nm,0.3s,baz=354,slow=20,SNR=8.4	**3.02**	**189**	Pn		**Pn**	**01 03 56.5**		**-2.9**
JCJ				Sn		**Sn**	**01 04 32.1**		**-2.3**
JAOM	**Aogashimamukai** 16nm,0.3s,baz=277,slow=23,SNR=6.6	**3.46**	**314**	*eP*		**Pn**	**01 04 04.3**		**-1.2**
JHJ2	**Mitsune** 52nm,0.7s	**3.90**	**321**	*eP*		**Pn**	**01 04 09.3**		**-2.1**
JHJ2				*eS*		**Sn**	**01 04 53.3**		**-2.7**
BSO1	**Boso 1**	**4.78**	**343**	*eS*		**Sn**	**01 05 14.6**		**-2.4**
BSO3	**Boso 3**	**5.05**	**339**	*eS*		**Sn**	**01 05 21.7**		**-2.4**
JOD2	**Odawara 2**	**6.00**	**330**	*eS*		**Sn**	**01 05 45.0**		**-2.8**
JAG	**Ashikaga**	**6.88**	**337**	*eS*		**Sn**	**01 06 03.4**		**-6.2**
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=159,slow=12,SNR=12	**7.46**	**331**	Pn		**Pn**	**01 04 59.3**		**-1.1**
MJAR				Sn		**Sn**	**01 06 18.9**		**-4.8**
JNU	**Nakatsue** 0.2nm,0.3s,baz=116,slow=33,SNR=6.0 4.4nm,0.5s	**10.54**	**290**	LR		LR	01 09 27.6		
JOW	**Kunigami** comp=Z,31nm,18.5s,baz=356,slow=35	**13.11**	**259**	LR		LR	01 10 48.8		
KSRS	**Korea Array** 0.3nm,0.3s,baz=115,slow=12,SNR=2.9 0.9nm,0.6s	**14.32**	**305**	Pn		**Pn**	**01 06 36.8**		**+2.5**
SONM	**Songino Array** 0.5nm,0.6s,baz=110,slow=5.6,SNR=2.1 0.5nm,0.6s	**32.95**	**313**	P		**P**	**01 09 47.8**		**+2.4**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=94,slow=10,SNR=1.5 0.3nm,0.3s	**47.58**	**317**	P		**P**	**01 11 47.9**		**+1.8**
MKAR	**Makanchi Array** 0.6nm,0.6s,baz=89,slow=9.6,SNR=6.2 0.6nm,0.6s	**48.98**	**308**	P		**P**	**01 11 58.9**		**+1.8**
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=7.7,slow=7.6,SNR=5.0 0.3nm,0.5s	**50.39**	**190**	P		**P**	**01 12 07.7**		**-0.3**
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=92,slow=7.2,SNR=5.0 0.3nm,0.3s	**51.32**	**313**	P		**P**	**01 12 16.8**		**+2.0**
BVAR	**Borovoye Array** 0.5nm,0.5s,baz=81,slow=8.6,SNR=4.0 0.5nm,0.5s	**56.19**	**316**	P		**P**	**01 12 52.9**		**+2.5**
NVAR	**Mina Array Bea** 0.4nm,0.5s,baz=293,slow=5.6,SNR=4.8 0.4nm,0.5s	**78.31**	**52**	P		**P**	**01 15 10.5**		**-0.5**
BRTR	**Keskin Array B** 0.5nm,0.8s,baz=44,slow=4.4,SNR=3.6 0.5nm,0.8s	**84.31**	**313**	P		**P**	**01 15 44.3**		**+1.6**
LPAZ	**La Paz** 0.5nm,0.5s,baz=332,slow=7.6,SNR=3.8	**148.61**	**71**	PKPbc		**PKPbc**	**01 22 57.8**		**-1.0**

*NEIC **31** 01:14:17.4±1.1,31.°33N±0.°01×103.°074W±0.°008, h5km±1km, mb_Lg3.3/129, ML3.2/18, ML3.4/18, Mwr3.3/18(SLM), Error ellipse: s-maj=2.7km s-min=1.9km az=37.0*

*NEIC **31** 01:14:17.2±1.1,31.°35N±0.°01×103.°07W±0.°01, h4km±2km, Error ellipse: s-maj=1.5km s-min=1.5km az=132.0*

*TXNET **31** 01:14:17.2,31.°4N±0.°6×103.°1W±0.°5, h4km±1km, ML3.5/18, Error ellipse: s-maj=0.9km s-min=0.7km az=161.2, final*

*NEIC **31** 01:14:17,31.°33N×103.°07W, h5km, Moment Tensor Solution. Moment tensor: Scale 10¹³Nm; Mrr8.43; Mθθ-4.64; Mϕϕ-3.79; Mrθ-3.96; Mrϕ2.92; Mθϕ2.92; Fault plane solution: Ms9.77000×10¹³ NP1:ϕs309.00000°, δ60.00000°, λ87.00000°. NP2:ϕs135.00000°, δ30.00000°, λ95.00000°. Principal axes: T 9.7697, Plg75.0000°, Azm212.0000°; N 0.0050, Plg2.0000°, Azm311.0000°; P -9.7747, Plg15.0000°, Azm41.0000°;*

ISC 31 01:14:17.5±0.8,31.°34N±0.°02×103.°07W±0.°01, h8km±5km, n132, σ1§05/153, Western Texas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TPB19	**West of Imperi**	**0.05**	**217**	P		**Pg**	**01 14 18.5**		**-0.7**
TPB19				S		**Sg**	**01 14 19.3**		**-1.2**
TPB15	**Southwest of C**	**0.13**	**186**	P		**Pg**	**01 14 20.9**		**+0.5**
TPB15				S		**Sg**	**01 14 23.2**		**+0.8**
TPB04	**Verhalen**	**0.23**	**229**	P		**Pg**	**01 14 22.6**		**+0.4**
TPB04				S		**Sg**	**01 14 26.4**		**+1.1**
TPB27	**North of Pyote**	**0.24**	**347**	P		**Pg**	**01 14 22.9**		**+0.5**
TPB27				S		**Sg**	**01 14 27.1**		**+1.4**
MNHN	**Monahans**	**0.26**	**90**	Pg		**Pg**	**01 14 23.0**		**+0.2**
MNHN				Sg		**Sg**	**01 14 27.3**		**+0.9**
MNHN	6μm,0.6s			IAML			01 14 28.1		
MNHN	8μm,0.3s			IAML			01 14 29.3		
MNHN	**Monahans**	**0.26**	**90**	P		**Pg**	**01 14 23.1**		**+0.3**
MNHN				S		**Sg**	**01 14 27.4**		**+1.1**
MNHN	**Monahans**	**0.26**	**90**	P		**Pg**	**01 14 20.3**		**-2.5**
MNHN	**Monahans**	**0.26**	**90**	P		**Pg**	**01 14 20.3**		**-2.5**
TPB16	**Coyonosa**	**0.27**	**216**	P		**Pg**	**01 14 23.5**		**+0.6**
TPB16				S		**Sg**	**01 14 27.2**		**+0.8**
TPB06	**Permian Basin**	**0.33**	**337**	P		**Pg**	**01 14 24.6**		**+0.5**
TPB06				S		**Sg**	**01 14 29.6**		**+1.0**
PCOS	**Crockett Middl**	**0.39**	**280**			**Pg**	**01 14 25.5**		**+0.4**
PCOS						**Sb**	**01 14 31.4**		**-1.5**
PCOS	**Crockett Middl**	**0.39**	**280**	P		**Pg**	**01 14 25.5**		**+0.4**
PCOS				S		**Sb**	**01 14 31.3**		**-1.5**
TPB03	**Saragosa**	**0.46**	**236**	P		**Pg**	**01 14 26.5**		**0.0**
TPB03				S		**Sg**	**01 14 33.4**		**+0.8**
TPB08	**Permian Basin**	**0.47**	**163**	P		**Pg**	**01 14 27.1**		**+0.5**
TPB08				S		**Sb**	**01 14 34.4**		**-0.8**
TPB05	**Hovey Rd**	**0.47**	**208**	P		**Pg**	**01 14 27.0**		**+0.2**
TPB05				S		**Sb**	**01 14 34.7**		**-0.7**
TPB07	**Mentone**	**0.57**	**295**	P		**Pg**	**01 14 28.6**		**+0.1**
TPB07				S		**Sb**	**01 14 37.0**		**-1.0**
TPB10	**Southeast of T**	**0.59**	**265**	P		**Pg**	**01 14 28.6**		**-0.4**
TPB10				S		**Sn**	**01 14 41.2**		**-1.0**
PECS	**Pecos**	**0.68**	**273**			**Pg**	**01 14 30.2**		**-0.5**
PECS					Sg	**Sg**	**01 14 39.7**		**0.0**
PECS	2μm,0.5s			IAML			01 14 47.4		
PECS	1μm,0.6s			IAML			01 14 48.8		
PECS	**Pecos**	**0.68**	**273**	P		**Pg**	**01 14 30.2**		**-0.5**
PECS				S		**Sn**	**01 14 45.1**		**+0.6**
PECS	**Pecos**	**0.68**	**273**	P		**Pg**	**01 14 27.8**		**-3.0**
TPB13	**Reeves - Culbe**	**0.70**	**288**	P		**Pg**	**01 14 30.9**		**-0.1**
TPB13				S		**Sb**	**01 14 41.5**		**-0.4**
TPB01	**Permian Basin**	**0.73**	**237**	P		**Pg**	**01 14 30.7**		**-0.9**
TPB12	**Southwest of T**	**0.77**	**261**	P		**Pg**	**01 14 31.8**		**-0.6**
TMB02	**Rankin**	**0.89**	**99**	P		**Pg**	**01 14 34.6**		**-0.1**
TMB02				S		**Sb**	**01 14 47.1**		**-0.3**
TMB02	**Rankin**	**0.89**	**99**	P		**Pg**	**01 14 32.3**		**-2.4**
ODSA	**Odessa**	**0.89**	**29**	Pg		**Pg**	**01 14 34.4**		**-0.4**
ODSA	**Odessa**	**0.89**	**29**	P		**Pg**	**01 14 34.5**		**-0.2**
ODSA				S		**Sb**	**01 14 47.2**		**-0.4**
ODSA	**Odessa**	**0.89**	**29**	P		**Pg**	**01 14 31.9**		**-2.8**
ODSA	**Odessa**	**0.89**	**29**	S		**Sg**	**01 14 31.9**		**-1.5**
TMB01	**Midkiff**	**0.90**	**69**	P		**Pg**	**01 14 35.0**		**+0.1**
TMB01				S		**Sb**	**01 14 47.9**		**+0.1**
NM01	**Eunice**	**1.05**	**345**	P		**Pb**	**01 14 38.0**		**0.0**
NM01				S		**Sb**	**01 14 52.8**		**+0.7**
ALPN	**Alpine**	**1.08**	**207**	Pg		**Pg**	**01 14 37.8**		**-0.5**
ALPN	**Alpine**	**1.08**	**207**	P		**Pg**	**01 14 37.4**		**-0.9**
ALPN				S		**Sg**	**01 14 51.8**		**-0.6**
ALPN	**Alpine**	**1.08**	**207**	P		**Pg**	**01 14 35.6**		**-2.7**
CLNB	**Carlsbad**	**1.15**	**323**	P		**Pb**	**01 14 39.9**		**+0.1**
HTMS	**Hat Mesa**	**1.23**	**337**	Pg		**Pg**	**01 14 40.6**		**-0.5**
HTMS	**Hat Mesa**	**1.23**	**337**	P		**Pg**	**01 14 40.4**		**-0.7**
HTMS				S		**Sn**	**01 14 58.1**		**+0.1**
CLN7	**Carlsbad 7**	**1.24**	**330**	Pg		**Pn**	**01 14 41.9**		**+0.5**
CLN7	**Carlsbad 7**	**1.24**	**330**	P		**Pg**	**01 14 40.6**		**-0.8**
TMB06	**Greenwood**	**1.25**	**59**	P		**Pg**	**01 14 41.2**		**-0.4**
TMB06				S		**Sn**	**01 14 59.0**		**+0.4**
TMB04	**Seminole**	**1.37**	**21**	P		**Pn**	**01 14 42.6**		**-0.5**
TMB04				S		**Sn**	**01 15 02.1**		**+0.5**
SAND	**Sanderson**	**1.60**	**149**			**Pn**	**01 14 46.5**		**+0.2**
SAND						**Sb**	**01 15 08.5**		**+0.6**
SAND	**Sanderson**	**1.60**	**149**	P		**Pb**	**01 14 47.2**		**-0.2**
SAND				S		**Sb**	**01 15 08.5**		**+0.6**
SAND	**Sanderson**	**1.60**	**149**	P		**Pn**	**01 14 45.2**		**-1.1**
TMB05	**Klondike**	**1.64**	**38**	P		**Pn**	**01 14 47.6**		**+0.8**
TMB05				S		**Sg**	**01 15 10.2**		**-0.2**
OZNA	**Ozona**	**1.72**	**104**			**Pb**	**01 14 49.1**		**-0.3**
OZNA						**Sg**	**01 15 12.7**		**0.0**
OZNA	**Ozona**	**1.72**	**104**	P		**Pb**	**01 14 49.1**		**-0.3**
OZNA				S		**Sg**	**01 15 12.7**		**0.0**
OZNA	**Ozona**	**1.72**	**104**	P		**Pn**	**01 14 47.4**		**-0.4**
OZNA				P		**Pb**	**01 14 49.5**		**+0.1**
OZNA	**Ozona**	**1.72**	**104**	P		**Pn**	**01 14 46.7**		**-1.1**
VHRN	**Van Horn**	**1.73**	**252**			**Pb**	**01 14 49.1**		**-0.7**
VHRN						**Sb**	**01 15 12.0**		**+0.2**
VHRN	**Van Horn**	**1.73**	**252**	P		**Pn**	**01 14 48.9**		**+0.7**
VHRN				S		**Sb**	**01 15 12.0**		**+0.2**
VHRN	**Van Horn**	**1.73**	**252**	P		**Pn**	**01 14 46.7**		**-1.5**
SGCY	**Sterling City**	**1.75**	**70**	Pn		**Pb**	**01 14 49.9**		**-0.1**
SGCY						**Sg**	**01 15 14.1**		**+0.3**
SGCY	**Sterling City**	**1.75**	**70**	P		**Pb**	**01 14 49.7**		**-0.3**
SGCY				S		**Sg**	**01 15 14.1**		**+0.3**
SGCY	**Sterling City**	**1.75**	**70**	P		**Pn**	**01 14 47.5**		**-0.9**
SGCY				P		**Pn**	**01 14 47.5**		**-0.9**
CPRX	**Cap Rock**	**1.82**	**338**	Pn		**Pb**	**01 14 50.4**		**-0.8**
CPRX	**Cap Rock**	**1.82**	**338**	P		**Pb**	**01 14 50.6**		**-0.6**
MNTX	**Cornudas Mount**	**2.01**	**281**	Pn		**Pb**	**01 14 53.3**		**-1.0**
MNTX						**Sg**	**01 15 21.0**		**-1.1**
MNTX	**Cornudas Mount**	**2.01**	**281**	P		**Pn**	**01 14 53.1**		**+1.3**
MNTX				S		**Sg**	**01 15 21.0**		**-1.1**
MNTX	**Cornudas Mount**	**2.01**	**281**	P		**Pn**	**01 14 51.1**		**-0.7**
TX31	**Lajitas Ar. Si**	**2.06**	**195**	Pn		**Pn**	**01 14 53.7**		**+1.1**
TX31						**Sb**	**01 15 21.9**		**+0.7**
TX31	**Lajitas Ar. Si**	**2.06**	**195**	P		**Pn**	**01 14 54.0**		**+1.3**
TX31				S		**Sb**	**01 15 21.9**		**+0.7**
TX31	**Lajitas Ar. Si**	**2.06**	**195**	P		**Pn**	**01 14 51.4**		**-1.3**
TXAR	**Lajitas Array**	**2.07**	**195**	Pn		**Pn**	**01 14 53.8**		**+1.1**
POST	**Post**	**2.17**	**37**	Pn		**Pn**	**01 14 55.6**		**+1.4**
MSTX	**Muleshoe**	**2.63**	**5**	Pn		**Pn**	**01 15 02.1**		**+1.6**
MSTX	comp=Z,118nm,0.9s			IAmb_Lg			01 15 41.3		
DRIO	**Del Rio** comp=Z,155nm,0.8s	**2.85**	**131**	Pn		**Pn**	**01 15 04.2**		**+0.8**
DRIO				IAmb_Lg			01 15 46.4		
JCT	**Junction City**	**2.94**	**106**	Pn		**Pn**	**01 15 05.9**		**+1.3**
DKNS	**Dickens**	**2.94**	**37**	Pn		**Pn**	**01 15 05.9**		**+1.2**
ABTX	**Abilene, Hawle**	**3.18**	**65**	Pn		**Pn**	**01 15 08.9**		**+1.0**
ABTX	comp=Z,102nm,0.8s			IAmb_Lg			01 16 04.9		
APMT	**Aspermont**	**3.18**	**51**	Pn		**Pn**	**01 15 09.2**		**+1.2**
BRDY	**Brady**	**3.48**	**90**	Pn		**Pn**	**01 15 13.8**		**+1.8**
BRDY	comp=Z,107nm,0.7s			IAmb_Lg			01 16 11.7		
AMTX	**Amarillo**	**3.72**	**18**	Pn		**Pn**	**01 15 16.8**		**+1.4**
HNDO	**Hondo**	**3.74**	**118**	Pn		**Pn**	**01 15 18.5**		**+2.9**
HNDO	comp=Z,103nm,0.9s			IAmb_Lg			01 16 21.6		
BNM	**Barren Site**	**4.11**	**314**	Pn		**Pn**	**01 15 21.8**		**+1.0**
121A	**Cookes Peak, D**	**4.18**	**288**	Pn		**Pn**	**01 15 23.4**		**+1.5**
Y22A	**Socorro**	**4.18**	**309**	Pn		**Pn**	**01 15 23.4**		**+1.5**
PLPT	**Palo Pinto**	**4.29**	**69**	Pn		**Pn**	**01 15 23.8**		**+0.6**
833A	**Chaparral WMA,**	**4.38**	**132**	Pn		**Pn**	**01 15 26.1**		**+1.6**
833A	comp=Z,56nm,0.9s			IAmb_Lg			01 16 47.7		
SMWD	**Samnorwood**	**4.44**	**31**	Pn		**Pn**	**01 15 27.1**		**+1.9**
WTFS	**Witchita Falls**	**4.58**	**57**	Pn		**Pn**	**01 15 28.2**		**+1.1**
WTFS	comp=Z,46nm,0.9s			IAmb_Lg			01 16 45.2		
WHTX	**Lake Whitney,**	**4.83**	**81**	Pn		**Pn**	**01 15 31.2**		**+0.6**
HPIG		**4.94**	**208**	Pn		**Pn**	**01 15 33.1**		**+0.8**
WMOK	**Wichita Mounta**	**4.94**	**46**	Pn		**Pn**	**01 15 31.8**		**-0.4**
WMOK	comp=Z,38nm,0.8s			IAmb_Lg			01 16 59.6		
FW06	**Azle**	**4.95**	**69**	Pn		**Pn**	**01 15 32.7**		**+0.5**
EF04	**Eagle Ford 04** comp=Z,75nm,0.7s	**5.03**	**114**	IAmb_Lg			01 17 09.9		
RTBA	**Rita Blanca**	**5.09**	**3**	Pn		**Pn**	**01 15 35.7**		**+1.4**
RTBA	comp=Z,35nm,0.7s			IAmb_Lg			01 17 02.5		
735A	**Kenedy** comp=Z,75nm,1.1s	**5.19**	**117**	IAmb_Lg			01 17 12.9		
DUN6	**Lazy B Ranch**	**5.26**	**285**	Pn		**Pn**	**01 15 39.2**		**+2.6**
Z35A	**Perchaven, San**	**5.31**	**67**	Pn		**Pn**	**01 15 39.0**		**+1.9**
319A	**Douglas**	**5.32**	**272**	Pn		**Pn**	**01 15 38.3**		**+0.9**
MLDN	**Muldoon** comp=Z,73nm,0.8s	**5.40**	**105**	IAmb_Lg			01 17 18.4		
X34A	**Smith Ranch, M**	**5.47**	**52**	Pn		**Pn**	**01 15 40.8**		**+1.3**
ELIS	**Ellis County** comp=Z,44nm,0.8s	**5.61**	**32**	IAmb_Lg			01 17 29.3		
LOOK	**Love County**	**5.62**	**60**	Pn		**Pn**	**01 15 42.7**		**+1.1**
HBVL	**Hebbronville**	**5.74**	**137**	Pn		**Pn**	**01 15 44.6**		**+1.6**
TREL	**Terrell**	**6.09**	**75**	Pn		**Pn**	**01 15 48.2**		**+0.4**
FNO	**Franklin**	**6.14**	**49**	Pn		**Pn**	**01 15 48.8**		**+0.1**
FNO	comp=Z,32nm,0.8s			IAmb_Lg			01 17 40.8		
237A	**Washetta, Mont**	**6.22**	**82**	Pn		**Pn**	**01 15 51.1**		**+1.3**
OK038	**West end E0370** comp=Z,32nm,0.7s	**6.26**	**34**	IAmb_Lg			01 17 51.9		
OK029	**Liberty Lake**	**6.46**	**45**	Pn		**Pn**	**01 15 53.5**		**+0.5**
OK029	comp=Z,40nm,0.9s			IAmb_Lg			01 17 46.2		
TUC	**Tucson** comp=Z,6.0nm,0.9s	**6.64**	**280**	IAmb_Lg			01 17 58.0		
CROK	**Carrier** comp=Z,32nm,0.8s	**6.66**	**38**	IAmb_Lg			01 17 50.8		
OK052	**Battle Ridge R** comp=Z,29nm,0.8s	**6.99**	**47**	Pn		**Pn**	**01 15 59.0**		**-1.2**
OK052				IAmb_Lg			01 18 10.6		
KAN14	**Manchester OK** comp=Z,36nm,1.1s	**7.02**	**36**	IAmb_Lg			01 18 17.6		
DEOK	**Depew**	**7.08**	**49**	Pn		**Pn**	**01 16 01.4**		**-0.2**
DEOK	comp=Z,23nm,0.8s			IAmb_Lg			01 18 07.7		
Z38A	**Mt. Pleasant** comp=Z,48nm,0.8s	**7.11**	**72**	IAmb_Lg			01 18 17.6		
QUOK	**Quay**	**7.16**	**46**	Pn		**Pn**	**01 16 02.8**		**+0.2**
BLOK	**Blackwell**	**7.27**	**40**	Pn		**Pn**	**01 16 05.3**		**+1.2**
KAN13	**South Haven SW** comp=Z,27nm,1.2s	**7.31**	**38**	IAmb_Lg			01 18 19.6		
TUL3	**Leonard**	**7.59**	**51**	Pn		**Pn**	**01 16 07.3**		**-1.2**
KSCO	**Kaye Shedlock'** comp=Z,29nm,0.8s	**7.66**	**3**	IAmb_Lg			01 18 37.8		
T35A	**Sooner Cattle**	**7.78**	**43**	Pn		**Pn**	**01 16 11.0**		**0.0**
R32A	**Long Quarter,** R32A comp=Z,34nm,1.0s	**7.92**	**26**	Pn IAmb_Lg		**Pn**	**01 16 12.6** 01 18 46.1		**-0.5**
CBKS	**Cedar Bluff** comp=Z,26nm,0.8s	**7.94**	**19**	IAmb_Lg			01 18 43.0		
RLO	**Rose Lookout**	**8.25**	**52**	Pn		**Pn**	**01 16 16.9**		**-0.7**
RLO	comp=Z,19nm,0.8s			IAmb_Lg			01 19 02.2		
PV18	**Skein Mesa, Pa** comp=Z,24nm,1.1s	**8.40**	**327**	IAmb_Lg			01 18 50.0		
PV12	**Saucer Basin,** comp=Z,27nm,1.1s	**8.40**	**327**	IAmb_Lg			01 19 01.4		
PV11	**David Mesa, Pa** comp=Z,18nm,1.0s	**8.42**	**327**	IAmb_Lg			01 18 49.4		
PV19	**Morning Glory** comp=Z,20nm,1.2s	**8.48**	**327**	IAmb_Lg			01 19 06.0		
PV10	**Paradox Valley** comp=Z,22nm,1.0s	**8.56**	**327**	IAmb_Lg			01 18 54.3		
MIAR	**Mount Ida**	**8.59**	**66**	Pn		**Pn**	**01 16 22.1**		**-0.1**
MIAR	comp=Z,19nm,0.9s			IAmb_Lg			01 18 57.5		
PV23	**Carpenter Ridg** comp=Z,19nm,1.0s	**8.61**	**327**	IAmb_Lg			01 18 58.7		
WLAR	**White Oak Lake** comp=Z,30nm,0.8s	**8.73**	**72**	Pn		**Pn**	**01 16 23.9**		**-0.2**
WLAR				IAmb_Lg			01 19 16.6		
U38A	**Gravette** comp=Z,25nm,0.8s	**8.83**	**52**	Pn		**Pn**	**01 16 23.4**		**-2.1**
U38A				IAmb_Lg			01 19 04.5		
Z41A	**Richland Creek**	**8.90**	**75**	Pn		**Pn**	**01 16 27.3**		**+0.9**
HHAR	**Hobbs** comp=Z,18nm,0.8s	**9.05**	**55**	Pn		**Pn**	**01 16 27.3**		**-1.2**
HHAR				IAmb_Lg			01 19 14.1		
KSU1	**Kansas State U** comp=Z,20nm,0.8s	**9.37**	**33**	IAmb_Lg			01 19 28.9		
WHAR	**Wooly Hollow**	**9.84**	**64**	Pn		**Pn**	**01 16 38.6**		**-0.8**
FCAR	**Ozark Folk Cen**	**10.19**	**61**	Pn		**Pn**	**01 16 43.6**		**-0.6**
MGMO	**Mountain Grove**	**10.65**	**54**	Pn		**Pn**	**01 16 50.6**		**+0.1**
LCAR	**Lake Charles**	**10.98**	**61**	Pn		**Pn**	**01 16 54.3**		**-0.7**

*BGR **31** 01:36:01.4,20.°62S×170.°29E, h126km±11km*

*MOS **31** 01:36:01.7±0.9,20.°46S×169.°75E, h135km, mb5.3/27, Error ellipse: s-maj=8.9km s-min=8.3km az=26.0*

*IDC **31** 01:36:02.3±0.6,20.°52S×169.°80E, h131km±4km, mb4.8/19, mbtmp5.2/21, MS3.8/17, Error ellipse: s-maj=11.5km s-min=9.2km az=128.0*

*BJI **31** 01:36:02.8,19.°76S×169.°92E, h126km, mB5.0/20, mb5.2/60*

*NEIC **31** 01:36:03.4,20.°50S×169.°78E, h130km, Moment Tensor Solution. Duration: 2§0 Moment tensor: Scale 10¹⁶Nm; Mrr-7.23; Mθθ0.48; Mϕϕ6.75; Mrθ-0.45; Mθϕ-3.34; Mrϕ-0.69; Fault plane solution: M₀7.80000×10¹⁶ NP1: ϕs150.45000°, δ43.64000°, λ-98.93000°. NP2: ϕs342.70000°, δ47.02000°, λ-81.58000°. Principal axes: T 8.2105, Plg2.0000°, Azm67.0000°; N -0.8921, Plg6.0000°, Azm157.0000°; P -7.3184, Plg84.0000°, Azm321.0000°;*

*NOU **31** 01:36:03.7,20.°51S×169.°72E, h134km, ML5.0/124, Vanuatu Islands*

*NEIC **31** 01:36:03.4,20.°50S×169.°78E, h130km*

*NEIC **31** 01:36:03.1±1.6,20.°50S±0.°08×169.°80E±0.°08, h129km±4km, mb5.2/400, Mww5.2/28, Error ellipse: s-maj=12.6km s-min=10.6km az=142.0*

*GCMT **31** 01:36:04.4±0.1,20.°62S±0.°01×169.°73E±0.°01, h140km, MW5.2/149, Moment Tensor Solution. s105,c145; s149,c232; Duration: 1§0 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.81±.01;

MRHZ **Matea Rd** 19.10 164 P Pn 01 40 17.4 +0.3
ARMA **Armidale** 19.14 235 P Pn 01 40 17.2 -0.4
ARMA **Armidale** 19.14 235 P Pn 01 40 18.1 +0.5
comp=Z,140nm,1.2s
ARMA **Armidale** 19.14 235 P Pn 01 40 17.5 -0.1
KRVZ **Karewarewa** 19.16 166 P Pn 01 40 18.4 +0.6
NNVZ **North Ngauruho** 19.19 166 P Pn 01 40 18.9 +0.6
TMVZ **Te Maari** 19.20 166 P Pn 01 40 19.3 +1.1
ETVZ **East Tongariro** 19.22 166 P Pn 01 40 19.9 +1.4
MTHZ **Maungataniwha** 19.23 163 P Pn 01 40 18.5 -0.1
NGZ **Ngauruhoe** 19.23 166 P Pn 01 40 19.2 +0.5
OTVZ **Oturere** 19.23 166 P Pn 01 40 19.7 +0.9
SNVZ **South Ngauruho** 19.25 166 P Pn 01 40 19.7 +0.7
PKVZ **Pokaka** 19.29 167 P Pn 01 40 19.6 +0.3
FWVZ **Far West T-bar** 19.30 166 P Pn 01 40 20.5 +0.9
CNGZ **Carnagh Statio** 19.30 160 P Pn 01 40 18.9 -0.4
SNGZ **Shannon Statio** 19.31 162 P Pn 01 40 19.4 -0.1
RAHZ **Arahi** 19.36 163 P Pn 01 40 20.2 +0.1
WNVZ **Wahianoa** 19.38 166 P Pn 01 40 20.9 +0.5
BKZ **Black Stump Fm** 19.44 164 P P 01 40 19.5 +1.1
BKZ **Black Stump Fm** 19.44 164 P Pn 01 40 20.1 -0.9
BKZ **Black Stump Fm** 19.44 164 P Pn 01 40 20.5 -0.5
NMHZ **Naumai** 19.45 164 P Pn 01 40 21.2 0.0
MOVZ **Moawhango** 19.49 166 P Pn 01 40 21.8 +0.2
WHHZ **Waihua** 19.55 163 P Pn 01 40 21.5 -0.7
PRGZ **Paritu Road** 19.60 161 P Pn 01 40 21.6 -1.3
KNZ **Kokohu** 19.63 162 P Pn 01 40 21.8 -1.3
ARHZ **Aropaoanui** 19.66 163 P Pn 01 40 23.0 -0.5
KWHZ **Kaweka Forest** 19.66 165 P Pn 01 40 23.5 -0.2
MCHZ **McNeil Hill** 19.75 164 P Pn 01 40 24.3 -0.3
MHGZ **Mahia Peninsul** 19.82 161 P Pn 01 40 24.2 -1.2
KRHZ **Kereru** 19.86 165 P Pn 01 40 24.8 -1.1
PNHZ **Pukenui** 20.07 166 P Pn 01 40 26.9 -1.5
KAHZ **Kahuranaki** 20.13 164 P P 01 40 27.4 +1.6
TSZ **Takapari Road** 20.16 166 P Pn 01 40 27.8 -1.6
NTLH **Newcastle Hard** 20.31 229 P P 01 40 28.3 +0.5
PXZ **Pawanui** 20.34 164 P P 01 40 29.6 +1.6
QRZ **Quartz Range** 20.36 174 P Pn 01 40 30.4 -1.3
QRZ **Quartz Range** 20.36 174 P Pn 01 40 31.2 -0.6
MRZ **Mangatainoka R** 20.65 168 P P 01 40 31.1 -0.3
MRZ **Mangatainoka R** 20.65 168 P P 01 40 32.9 +1.5
BFZ **Birch Farm** 20.82 166 P P 01 40 32.8 -0.3
BFZ **Birch Farm** 20.82 166 P P 01 40 33.5 +0.4
BFZ **Birch Farm** 20.82 166 P P 01 40 33.7 +0.5
NNZ **Nelson** 20.84 172 P Pn 01 40 37.1 -0.3
TCW **Tory Channel** 20.96 171 P P 01 40 35.6 +1.0
SNZO **South Karori** 21.12 170 P P 01 40 38.0 +1.6
TUWZ **Tuamarina** 21.12 171 P P 01 40 37.3 +0.9
DSZ **Denniston Nort** 21.21 176 P P 01 40 40.2 +2.7
BHW **Baring Head** 21.25 170 P P 01 40 38.8 +1.0
THZ **Tophouse** 21.32 174 P P 01 40 39.8 +1.1
THZ **Tophouse** 21.32 174 P P 01 40 40.5 +1.8
SYDH **Sydney Hard Ro** 21.45 228 P P 01 40 40.9 +0.8
KHZ **Kahutara** 22.04 173 P P 01 40 47.0 +0.9
KHZ **Kahutara** 22.04 173 P P 01 40 47.8 +1.7
CTAO **Charters Tower** 22.12 267 P P 01 40 47.3 +0.2
CTAO **Charters Tower** 22.12 267 P P 01 40 48.2 +1.0
CTAO **Charters Tower** 22.12 267 P P 01 40 47.3 +0.2
LTZ **Lake Taylor** 22.28 175 P P 01 40 50.1 +1.6
WVZ **Waitaha Valley** 22.49 178 P P 01 40 53.5 +3.0
OXZ **Oxford** 22.80 176 IAmb IAmb 01 40 55.2
comp=Z,120nm,0.9s
OXZ **Oxford** 22.80 176 P P 01 40 54.6 +1.1
FOZ **Fox Glacier** 22.93 180 IAmb IAmb 01 40 58.1
comp=Z,96nm,0.8s
FOZ **Fox Glacier** 22.93 180 P P 01 40 56.5 +1.7
RPZ **Rata Peaks** 23.14 178 P P 01 40 57.5 +0.8
CNB **Canberra Magne** 23.26 226 P P 01 40 59.4 +1.4
comp=Z,95nm,1.1s
CNB **Canberra Magne** 23.26 226 P P 01 40 59.4 +1.4
YNG **Young** 23.39 230 P P 01 41 00.6 +1.4
comp=Z,45nm,0.9s
JCZ **Jackson Bay** 23.49 182 P P 01 41 01.7 +1.7
CAN **Canberra** 23.51 227 P P 01 41 01.5 +1.3
CAN IAmb IAmb 01 41 03.3
comp=Z,62nm,1.0s
CAN **Canberra** 23.51 227 P P 01 41 01.6 +1.3
comp=Z,76nm,1.0s
CAN **Canberra** 23.51 227 P P 01 41 01.2 +1.0
CAN **Canberra** 23.51 227 P P 01 41 01.5 +1.3
CAN pmax pmax
comp=Z,62nm,1.0s
LBZ **Lake Benmore** 23.79 179 IAmb IAmb 01 41 05.5
comp=Z,156nm,1.6s
MTSU **Mount Surprise** 24.19 271 P P 01 41 07.8 +1.3
comp=Z,87nm,0.9s
MTSU **Mount Surprise** 24.19 271 P P 01 41 07.9 +1.4
QLP **Quilpie** 24.20 251 P P 01 41 07.4 +0.8
comp=Z,172nm,1.4s
QLP **Quilpie** 24.20 251 P P 01 41 07.0 +0.4
CMSA **Cobar Meteorol** 24.25 238 P P 01 41 07.8 +0.9
comp=Z,65nm,1.3s
CMSA **Cobar Meteorol** 24.25 238 P P 01 41 07.7 +0.8
ODZ **Otahua Downs** 24.45 179 P P 01 41 09.3 +0.7
PMG **Port Moresby** 24.50 293 P P 01 41 09.8 +0.5
PMG IAmb IAmb 01 41 11.4
comp=Z,92nm,0.9s
PMG **Port Moresby** 24.50 293 P P 01 41 10.2 +0.8
comp=Z,74nm,0.8s,baz=111,slow=7.3,SNR=14
comp=Z,74nm,0.8s
PMG **Port Moresby** 24.50 293 P P 01 41 10.3 +0.9
PMG **Port Moresby** 24.50 293 *d* iP P 01 41 09.2 -0.2
PMG pmax pmax
comp=Z,126nm,1.3s
MLZ **Mavora Lakes** 24.81 183 IAmb IAmb 01 41 14.0
comp=Z,69nm,1.0s
DCZ **Deep Cove** 24.96 184 IAmb IAmb 01 41 15.4
comp=Z,117nm,1.0s
COEN **Coen** 26.27 280 P P 01 41 26.6 +1.3
COEN IAmb IAmb 01 41 28.2
comp=Z,72nm,1.1s
COEN **Coen** 26.27 280 P P 01 41 26.7 +1.4
comp=Z,65nm,1.1s
COEN **Coen** 26.27 280 P P 01 41 27.0 +1.7
TOO **Toolangi** 27.10 226 P P 01 41 33.7 +1.1
TOO **Toolangi** 27.10 226 P P 01 41 33.8 +1.1
comp=Z,7.7nm,1.0s
TOO **Toolangi** 27.10 226 P P 01 41 33.7 +1.1
TOO pmax pmax
comp=Z,15nm,1.4s
GLAD **Gladstone** 27.56 217 P P 01 41 37.7 +1.1
STKA **Stephens Creek** 27.66 240 P P 01 41 38.6 +1.0
STKA PcP PcP 01 44 51.9 +0.4
STKA **Stephens Creek** 27.66 240 P P 01 41 38.6 +1.0
comp=Z,216nm,1.1s
STKA **Stephens Creek** 27.66 240 P P 01 41 38.8 +1.1
comp=Z,32nm,0.8s,baz=82,slow=9.7,SNR=63
STKA pP pP 01 42 05.2 +0.1
comp=Z,6.4nm,0.7s,baz=35,slow=9.2,SNR=2.1
STKA PcP PcP 01 44 51.7 +0.2
comp=Z,19nm,0.9s,baz=69,slow=3.2,SNR=7.5
comp=Z,32nm,0.8s
STKA **Stephens Creek** 27.66 240 P P 01 41 38.6 +1.0
STKA **Stephens Creek** 27.66 240 P P 01 41 38.6 +1.0
STKA 01 44 51.9
STKA pmax pmax
comp=Z,152nm,0.9s
BRAT **Ballarat** 28.16 227 P P 01 41 43.3 +1.4
QIS **Mount Isa** 28.29 265 P P 01 41 43.7 +0.3
comp=Z,15nm,1.2s
QIS **Mount Isa** 28.29 265 P P 01 41 43.9 +0.5
MOO **Moorlands** 28.99 216 P P 01 41 50.4 +1.1
comp=Z,92nm,1.0s
MOO **Moorlands** 28.99 216 P P 01 41 50.5 +1.2
ARPS **Mount Arapiles** 29.27 230 P P 01 41 52.8 +1.0
comp=Z,22nm,1.3s
PATS **Pohnpei** 29.46 336 P P 01 41 52.6 -1.1
HTT **Hallett** 30.27 238 P P 01 42 01.4 +0.6
comp=Z,12nm,1.8s
HTT **Hallett** 30.27 238 P P 01 42 01.5 +0.6
WHYH **Whyalla** 31.25 240 P P 01 42 10.1 +0.8
BBOO **Buckleboo** 32.42 241 P P 01 42 19.7 0.0
BBOO IAmb IAmb 01 42 21.2
comp=Z,42nm,1.0s
BBOO **Buckleboo** 32.42 241 P P 01 42 20.0 +0.3
comp=Z,55nm,1.1s
BBOO **Buckleboo** 32.42 241 P P 01 42 20.0 +0.3
WR0 **Warramunga Arr** 33.08 265 P P 01 42 24.7 -0.8
WR9 **Warramunga Arr** 33.10 265 P P 01 42 24.9 -0.9
WR8 **Warramunga Arr** 33.12 265 P P 01 42 25.2 -0.7
WR8 IAmb IAmb 01 42 26.4
comp=Z,39nm,1.0s
WB0 **Warramunga Arr** 33.24 265 IAmb IAmb 01 42 27.4
comp=Z,60nm,1.1s
WRAB **Tennant Creek** 33.26 265 P P 01 42 25.3 -1.8
WRAB IAmb IAmb 01 42 27.6
comp=Z,31nm,0.9s
WRAB **Tennant Creek** 33.26 265 *d* iP P 01 42 26.3 -0.8
WRAB pmax pmax
comp=Z,54nm,1.2s
WRA **Warramunga Arr** 33.27 265 P P 01 42 25.6 -1.6
WRA PcP PcP 01 45 06.3 -0.1
WRA **Warramunga Arr** 33.27 265 P P 01 42 25.7 -1.5
comp=Z,26nm,0.8s,baz=96,slow=8.0,SNR=70
WRA pP pP 01 42 55.6 +0.5
comp=Z,16nm,1.0s,baz=96,slow=8.7,SNR=4.7
WRA PcP PcP 01 45 05.9 -0.5
comp=Z,9.3nm,1.0s,baz=99,slow=2.4,SNR=7.8
WRA S S 01 47 32.2 -5.4
comp=Z,2.3nm,1.1s,baz=79,slow=20,SNR=13
WRA LR LR 01 55 45.8
comp=Z,324nm,18.2s,baz=77,slow=36
comp=Z,26nm,0.8s
WRA **Warramunga Arr** 33.27 265 P P 01 42 25.6 -1.6
WRA 01 45 06.3
WRA pmax pmax
comp=Z,4.0nm,1.1s
AS01 **Alice Springs** 33.34 258 P P 01 42 27.8 0.0
AS31 **Alice Springs** 33.38 258 P P 01 42 27.3 -0.9
AS31 IAmb IAmb 01 42 29.6
comp=Z,35nm,1.1s
AS31 **Alice Springs** 33.38 258 P P 01 42 28.1 -0.1
comp=Z,28nm,1.0s
ASAR **Alice Springs** 33.38 258 P P 01 42 27.3 -0.9
ASAR PcP PcP 01 45 06.6 -0.1
ASAR **Alice Springs** 33.38 258 P P 01 42 28.1 0.0
comp=Z,62nm,0.9s,baz=82,slow=8.9,SNR=284
ASAR pP pP 01 42 56.5 +0.5
comp=Z,8.0nm,0.8s,baz=80,slow=9.1,SNR=1.5
ASAR PcP PcP 01 45 06.3 -0.4
comp=Z,11nm,0.8s,baz=102,slow=3.0,SNR=11
ASAR S S 01 47 35.2 -4.1
comp=Z,2.5nm,0.9s,baz=87,slow=15,SNR=6.4
ASAR LR LR 01 56 06.5
comp=Z,352nm,18.2s,baz=100,slow=36
comp=Z,62nm,0.9s
JAY **Jayapura** 33.58 298 P P 01 42 29.6 -0.3
comp=Z,66nm,0.9s,baz=164,slow=3.4,SNR=28
JAY LR LR 01 54 48.5
comp=Z,231nm,19.1s,baz=269,slow=34
comp=Z,66nm,0.9s
JAY **Jayapura** 33.58 298 P P 01 42 29.1 -0.8
comp=Z,677nmcomp=Z,64nm,1.1s
GENI **Genyem** 33.98 298 P P 01 42 34.7 +1.4
GENI **Genyem** 33.98 298 P P 01 42 34.2 +0.9
SMPI **Sarmi** 35.52 297 P P 01 42 46.5 -0.1
comp=Z,57nm,1.1s
KDU **Kakadu** 36.58 276 P P 01 42 55.3 -0.2
comp=Z,43nm,1.2s
KDU **Kakadu** 36.58 276 P P 01 42 55.8 +0.2
TBI **Tubuai** 37.77 102 *e*S S 01 48 43.6 -2.7
comp=Z,1μm,43.0s
TBI *e*SS SS 01 51 28.9 -9.0
comp=Z,3μm,28.2s
TBI *e*LR LR 01 53 27.1
comp=Z,2μm,36.0s
MTN **Manton Dam** 37.78 275 P P 01 43 05.0 -0.7
MTN PcP PcP 01 45 20.1 +0.3
MTN **Manton Dam** 37.78 275 P P 01 43 05.8 +0.1
comp=Z,88nm,0.8s
MTN **Manton Dam** 37.78 275 P P 01 43 05.7 0.0
DRS **Darwin Rock St** 38.12 276 P P 01 43 09.2 +0.6
BAKI **Biak** 38.14 296 P P 01 43 10.7 +2.0
PPT2 **Papeete2** 38.41 93 *e*S S 01 48 47.0 -9.1
comp=Z,137nm,25.5s
PPT2 *e*SS SS 01 51 51.0 +0.2
comp=Z,843nm,25.5s
PPT2 *e*LR LR 01 53 46.4
comp=Z,509nm,30.5s
PPT2 *e*LR LR 01 53 55.4
comp=Z,345nm,38.8s
WRKA **Warakurna** 38.45 255 P P 01 43 11.3 -0.1
comp=Z,47nm,1.3s
KNRA **Kununurra** 39.26 270 P P 01 43 17.6 -0.5
KNRA IAmb IAmb 01 43 19.1
comp=Z,58nm,0.9s
KNRA **Kununurra** 39.26 270 P P 01 43 17.8 -0.3
comp=Z,71nm,1.0s
FAKI **Fak Fak** 40.59 291 P P 01 43 29.1 0.0
FAKI **Fak Fak** 40.59 291 P P 01 43 29.3 +0.2
FITZ **Fitzroy Crossi** 41.69 266 P P 01 43 38.8 +0.8
FITZ **Fitzroy Crossi** 41.69 266 P P 01 43 38.5 +0.5
GUMO **Guam** 41.86 322 LR LR 02 00 57.1
comp=Z,30nm,21.2s,baz=133,slow=36
SWI **Sorong** 42.45 293 P P 01 43 44.5 +0.2
comp=Z,103nm,0.9s
KMBL **Kambalda** 44.15 246 P P 01 43 58.1 +0.3
comp=Z,44nm,0.9s
NLAI **Namlea** 45.02 287 P P 01 44 06.6 +1.8
comp=Z,2μmcomp=Z,91nm,1.5s
SOEI **Soe** 45.13 277 IAmb IAmb 01 44 08.5
comp=Z,81nm,1.1s
SOEI **Soe** 45.13 277 P P 01 44 06.8 +0.9
SOEI **Soe** 45.13 277 P P 01 44 07.6 +1.7
comp=Z,1μmcomp=Z,68nm,1.1s
BATI **Baumata** 45.55 276 P P 01 44 11.2 +2.2
comp=Z,100nm,1.0s
PSAC2 **Pilbara Seismi** 46.45 259 P P 01 44 16.3 +0.2
comp=Z,75nm,1.0s
PSA00 **Pilbara Seismi** 46.50 259 P P 01 44 16.3 -0.1
PSA00 **Pilbara Seismi** 46.50 259 P P 01 44 16.7 +0.4
comp=Z,81nm,1.1s
PSA00 **Pilbara Seismi** 46.50 259 P P 01 44 16.8 +0.4
SANI **Sanana** 46.54 287 P P 01 44 17.4 +0.7
SANI **Sanana** 46.54 287 P P 01 44 17.7 +1.0
comp=Z,1μmcomp=Z,122nm,1.1s
MBWA **Marble Bar** 46.67 260 P P 01 44 17.8 +0.1
MBWA IAmb IAmb 01 44 19.0
comp=Z,59nm,0.8s
MBWA **Marble Bar** 46.67 260 P P 01 44 17.9 +0.3
comp=Z,78nm,0.9s
MBWA **Marble Bar** 46.67 260 P P 01 44 18.1 +0.4
MBWA **Marble Bar** 46.67 260 P P 01 44 17.7 0.0
MEEK **Meekatharra** 47.09 252 P P 01 44 20.8 -0.1
comp=Z,143nm,1.1s
MEEK **Meekatharra** 47.09 252 P P 01 44 20.8 -0.1
MMRI **Maumere** 47.39 277 P P 01 44 24.0 +0.6
MMRI **Maumere** 47.39 277 P P 01 44 24.8 +1.4
comp=Z,81nm,0.8s
KLBR **Kellerberrin** 47.68 246 P P 01 44 24.5 -0.9
comp=Z,274nm,0.9s
KLBR **Kellerberrin** 47.68 246 P P 01 44 25.2 -0.2
EDFI **Ende, Flores** 47.86 277 P P 01 44 27.8 +0.6
NWAO **Narrogin (SRO)** 48.13 244 P P 01 44 28.6 -0.3
NWAO **Narrogin (SRO)** 48.13 244 P P 01 44 28.6 -0.3
NWAO **Narrogin (SRO)** 48.13 244 LR LR 02 05 23.7
comp=Z,502nm,18.2s,baz=78,slow=37
NWAO **Narrogin (SRO)** 48.13 244 P P 01 44 28.7 -0.3
NWAO **Narrogin (SRO)** 48.13 244 P P 01 44 28.6 -0.3
NWAO pmax pmax
comp=Z,83nm,1.0s
NWAO **Narrogin (SRO)** 48.13 244 P P 01 44 28.5 -0.4
RKGY **Rocky Gully** 48.40 242 P P 01 44 30.7 -0.2
comp=Z,112nm,0.9s
BLDU **Ballidu** 48.58 247 P P 01 44 31.6 -0.8
comp=Z,66nm,1.3s
BLDU **Ballidu** 48.58 247 P P 01 44 32.1 -0.3
MUN **Mundaring** 48.99 245 P P 01 44 35.2 -0.2
comp=Z,48nm,1.2s
MUN **Mundaring** 48.99 245 P P 01 44 35.7 +0.2
MORW **Morawa** 49.22 249 P P 01 44 36.9 -0.4
MORW PcP PcP 01 45 57.8 -0.6
MORW **Morawa** 49.22 249 P P 01 44 37.0 -0.2
comp=Z,108nm,1.0s
MORW **Morawa** 49.22 249 P P 01 44 37.1 -0.2
TAOE **Nuku Hiva Isla** 49.57 84 *e*S S 01 51 34.0 -4.2
comp=Z,178nm,25.5s
TAOE *e*LR LR 01 58 58.5
comp=Z,329nm,30.6s
WBSI **Waikabubak, Su** 49.72 275 P P 01 44 42.1 +0.9
LUWI **Luwuk** 49.86 287 P P 01 44 43.9 +1.6
comp=Z,2μmcomp=Z,151nm,1.2s
DRV **Dumont d'Urvil** 49.93 195 P P 01 44 42.0 0.0
BKSI **Bulukumba** 50.54 280 P P 01 44 47.8 +0.5
comp=Z,791nmcomp=Z,72nm,0.9s
H01W1 **Cape Leeuwin H** 50.73 241 P P 01 44 49.3 +1.0
baz=103,slow=9.1,SNR=8.9
H01W3 **Cape Leeuwin H** 50.75 241 P P 01 44 49.0 +0.6
baz=103,slow=9.1,SNR=7.7
H01W2 **Cape Leeuwin H** 50.75 241 P P 01 44 48.9 +0.5
baz=103,slow=9.1,SNR=11
BNSI **Bone** 50.90 281 P P 01 44 51.7 +1.6
comp=Z,1μmcomp=Z,86nm,1.9s
APSI **Ampana** 50.93 286 P P 01 44 52.5 +2.2
comp=Z,1μmcomp=Z,107nm,1.3s
KAPI **Kappang** 50.99 280 P P 01 44 51.3 +0.5
KAPI **Kappang** 50.99 280 P P 01 44 52.0 +1.2
KAPI **Kappang** 50.99 280 *d* iP P 01 44 51.9 +1.2
KAPI pmax pmax
comp=Z,112nm,1.1s
KAPI **Kappang** 50.99 280 P P 01 44 51.8 +1.1
PLAI **Plampang** 51.49 275 P P 01 44 55.5 +1.0
PLAI **Plampang** 51.49 275 P P 01 45 01.0 +6.5
GIRL **Giralia** 51.49 257 P P 01 44 54.8 +0.4
TTSI **Tana Toraja** 51.70 283 P P 01 44 58.1 +2.1
comp=Z,2μmcomp=Z,31nm,0.8s
PCI **Palu** 52.56 285 P P 01 45 05.2 +2.8
comp=Z,194nm,1.2s
TOLI2 **Tolitoli** 52.60 288 P P 01 45 02.7 0.0
TOLI2 **Tolitoli** 52.60 288 P P 01 45 02.6 0.0
MPSI **Mapaga** 53.05 287 P P 01 45 06.4 +0.4
comp=Z,2μmcomp=Z,111nm,1.1s
JAGI **Jajag, Banyuwa** 54.99 274 P P 01 45 19.8 -0.3
JAGI **Jajag, Banyuwa** 54.99 274 P P 01 45 20.6 +0.5
comp=Z,66nm,1.2s
VNDA **Vanda** 57.16 182 P P 01 45 35.1 +0.6
VNDA IAmb IAmb 01 45 37.3
comp=Z,21nm,0.8s
VNDA **Vanda** 57.16 182 P P 01 45 35.2 +0.6
comp=Z,19nm,0.8s,baz=359,slow=7.6,SNR=74
VNDA LR LR 02 05 58.5
comp=Z,46nm,20.7s,baz=22,slow=31
comp=Z,19nm,0.8s
VNDA **Vanda** 57.16 182 P P 01 45 35.1 +0.6
VNDA pmax pmax
comp=Z,21nm,0.8s
VNDA **Vanda** 57.16 182 P P 01 45 35.1 +0.6
SBA **Scott Base** 57.38 181 P P 01 45 37.5 +1.4
SBA **Scott Base** 57.38 181 P P 01 45 37.5 +1.4
SBA pmax pmax
comp=Z,175nm,0.9s
SBA **Scott Base** 57.38 181 P P 01 45 37.7 +1.6
WOJI **Wonogiri, Jawa** 58.22 273 P P 01 45 44.0 +1.1
comp=Z,138nm,1.4s
UGM **Wanagama** 58.56 273 P P 01 45 45.8 +0.4
KKM **Kota Kinabalu** 58.91 291 P P 01 45 48.5 +0.7
KKM **Kota Kinabalu** 58.91 291 P P 01 45 49.1 +1.3
CASY **Casey** 59.17 204 P P 01 45 48.0 -0.6
CASY **Casey** 59.17 204 P P 01 45 48.5 -0.2
CCD **Concordia, Ant** 59.76 193 P P 01 45 53.0 -0.1
STKI **Sintang** 60.57 282 P P 01 46 01.2 +2.1
SBUM **Sibu** 60.87 285 P P 01 46 02.5 +1.4
JOW **Kunigami** 61.96 318 P P 01 46 09.5 +1.4
KSM **Kuching** 62.21 283 P P 01 46 11.1 +1.0
DBJI **Dramaga** 62.55 273 P P 01 46 13.3 +0.9
INU **Inuyama** 63.70 330 IAmb IAmb 01 46 20.7
comp=Z,42nm,1.2s
INU **Inuyama** 63.70 330 P P 01 46 19.9 +0.4
INU **Inuyama** 63.70 330 P P 01 46 19.4 0.0
JGF **Kuroka** 63.75 331 P P 01 46 19.8 -0.1
YOJ **Yonaguni jima** 63.84 312 P P 01 46 21.4 +0.8
JMN **Monobe** 63.92 327 IAmb IAmb 01 46 23.4
comp=Z,55nm,1.1s
JMN **Monobe** 63.92 327 P P 01 46 22.1 +1.1
MJAR **Matsushiro Arr** 64.15 332 P P 01 46 22.4 0.0
MJAR IAmb IAmb 01 46 23.6
comp=Z,21nm,1.1s
MJAR **Matsushiro Arr** 64.15 332 P P 01 46 22.4 0.0
comp=Z,24nm,1.0s,baz=162,slow=6.5,SNR=39
comp=Z,24nm,1.0s
MAJO **Matsushiro** 64.15 332 P P 01 46 22.4 0.0
MAJO IAmb IAmb 01 46 23.8
comp=Z,31nm,0.9s
MAJO **Matsushiro** 64.15 332 P P 01 46 22.8 +0.4
MAJO **Matsushiro** 64.15 332 P P 01 46 22.4 0.0
MAJO pmax pmax
comp=Z,31nm,0.9s
MAJO **Matsushiro** 64.15 332 P P 01 46 22.2 -0.3
MJB9 **Matsu-Tunnel** 64.16 332 IAmb IAmb 01 46 23.8
comp=Z,30nm,0.9s
JMM **Marumori** 64.19 335 IAmb IAmb 01 46 24.7
comp=Z,58nm,1.2s
JMM **Marumori** 64.19 335 P P 01 46 23.8 +1.2
YULB **Yu-li** 64.37 310 P P 01 46 25.5 +1.4
NACB **Ninganchiao** 64.65 311 P P 01 46 26.0 +0.1
TPUB **Ta-pu** 64.80 310 P P 01 46 26.3 -0.6
SSLB **Suanglung** 64.86 310 IAmb IAmb 01 46 28.0
comp=Z,35nm,0.9s
SSLB **Suanglung** 64.86 310 P P 01 46 27.0 -0.4
KASI **Kota Agung** 65.00 273 P P 01 46 29.2 +0.8
comp=Z,55nm,1.0s
JNU **Nakatsue** 65.04 324 LR LR 02 13 01.3
comp=Z,66nm,19.9s,baz=280,slow=34
JNU **Nakatsue** 65.04 324 P P 01 46 28.7 +0.4
YHNB **Yeheng** 65.12 311 P P 01 46 29.6 +0.6
TATO **Taipei** 65.23 312 P P 01 46 30.2 +0.6
TATO **Taipei** 65.23 312 P P 01 46 30.6 +1.0
MDSI **Maura Dua** 65.65 274 P P 01 46 31.8 -0.8
comp=Z,53nm,1.1s
MYKOM **Kota Tinggi** 68.26 281 IAmb IAmb 01 46 51.2
comp=Z,64nm,1.2s
MYKOM **Kota Tinggi** 68.26 281 P P 01 46 50.3 +1.2
DLV **Lat** 68.40 293 P P 01 46 52.0 +1.8
TJN **Taejon** 69.39 324 P P 01 46 55.9 +0.3
TJN **Taejon** 69.39 324 P P 01 46 57.0 +1.4
TJN **Taejon** 69.39 324 *e*P P 01 46 54.5 -1.1
QSPA **South Pole Qui** 69.53 180 P P 01 46 57.2 +0.9
QSPA **South Pole Qui** 69.53 180 P P 01 46 57.4 +1.1
comp=Z,179nm,0.9s,baz=12,slow=1.4,SNR=456
QSPA LR LR 02 13 40.2
comp=Z,41nm,18.7s,baz=38,slow=32
comp=Z,179nm,0.9s
QSPA **South Pole Qui** 69.53 180 P P 01 46 57.4 +1.1
KSRS **Korea Array** 69.89 326 P P 01 46 59.2 +0.6
comp=Z,7.8nm,1.0s,baz=145,slow=6.4,SNR=21
comp=Z,7.8nm,1.0s
KSAR **Wonju Array Be** 69.90 325 P P 01 46 59.6 +0.9
KSAR **Wonju Array Be** 69.90 325 P P 01 46 59.6 +0.9
INCN **Inchon** 70.60 325 P P 01 47 03.7 +0.7
INCN **Inchon** 70.60 325 P P 01 47 04.7 +1.7
INCN **Inchon** 70.60 325 P P 01 47 03.7 +0.7
INCN pmax pmax
comp=Z,128nm,1.4s
YSS **Yuzhno-Sakhali** 71.48 341 *e*P P 01 47 09.6 +1.6
YSS pmax pmax
comp=Z,20nm,0.9s
YSS pmax pmax
comp=Z,300nm,4.6s
NJ2 **Nanjing** 71.52 316 ⇑P P 01 47 10.0 +1.4
NJ2 pmax pmax
comp=Z,23nm,1.1s
MNSI **Mandailing Nat** 71.83 278 P P 01 47 10.7 -0.2
comp=Z,52nm,1.0s
IPM **Ipoh** 71.90 282 IAmb IAmb 01 47 12.9
comp=Z,60nm,0.9s
IPM **Ipoh** 71.90 282 P P 01 47 12.0 +0.6
MSHR **Mys Shultsa** 72.22 331 ⇓ *i*P P 01 47 13.6 +1.0
MSHR pmax pmax
comp=Z,20nm,1.0s
PSTR **Posyet** 72.44 331 *d* iP P 01 47 14.9 +1.1
KULM **Kulim** 72.56 283 IAmb IAmb 01 47 16.9
comp=Z,50nm,1.0s
KULM **Kulim** 72.56 283 P P 01 47 16.0 +0.7
ADK **Adak** 73.06 9 P P 01 47 17.6 +0.2
ADK IAmb IAmb 01 47 18.7
comp=Z,59nm,1.0s
ADK **Adak** 73.06 9 P P 01 47 18.0 +0.7
ADK **Adak** 73.06 9 P P 01 47 17.6 +0.2
ADK pmax pmax
comp=Z,59nm,1.0s
USRK **Ussuriysk Ar.** 73.14 333 P P 01 47 18.8 +0.8
USRK **Ussuriysk Ar.** 73.14 333 P P 01 47 18.5 +0.5
comp=Z,16nm,0.9s,baz=139,slow=4.3,SNR=21
comp=Z,16nm,0.9s
USRK **Ussuriysk Ar.** 73.14 333 P P 01 47 18.8 +0.8
USA0B **Ussuriysk Arra** 73.14 333 *d* iP P 01 47 18.9 +0.9
RPSI **Rantau Prapat** 73.15 279 P P 01 47 18.2 -0.5
RPSI IAmb IAmb 01 47 19.8
comp=Z,67nm,1.1s
PSI **Prapat** 73.19 280 P P 01 47 18.7 -0.4
PSI **Prapat** 73.19 280 P P 01 47 18.2 -0.9
PSI pmax pmax
comp=Z,67nm,1.1s

WHN Wuhan 73.63 312 ⇑P P 01 47 22.0 +0.8
ATKA Atka Island 73.76 10 P P 01 47 21.9 +0.5
GSI Gunungsitoli 73.88 278 P P 01 47 23.4 +0.4
GSI Gunungsitoli 73.88 278 P P 01 47 24.2 +1.1
GSI Gunungsitoli 73.88 278 P P 01 47 24.0 +0.9
comp=Z,134nm,1.1s
PEA0B Petropavlovsk- 74.08 352 IAmb IAmb 01 47 25.4
comp=Z,48nm,1.4s
PETK Petropavlovsk- 74.08 352 P P 01 47 23.0 -0.3
PETK Petropavlovsk- 74.08 352 P P 01 47 23.8 +0.5
comp=Z,7.2nm,0.9s,baz=123,slow=5.5,SNR=9.4
PETK pP pP 01 47 56.0 -0.7
comp=Z,6.1nm,1.0s,baz=116,slow=3.4,SNR=3.0
PETK LR LR 02 16 40.2
comp=Z,80nm,19.5s,baz=211,slow=33
comp=Z,7.2nm,0.9s
DL2 Dalian 74.38 323 P P
DL2 pmax pmax 01 47 26.5 +1.2
comp=Z,120nm,1.0s
MDJ Mudanjiang 74.52 331 P P 01 47 27.3 +1.3
MDJ pmax pmax
comp=Z,32nm,1.1s
SRIT Nakonsritamara 74.83 285 IAmb IAmb 01 47 31.1
comp=Z,78nm,1.1s
SRIT Nakonsritamara 74.83 285 P P 01 47 29.9 +1.4
TYV Tymovskoe 75.01 343 eP P 01 47 30.1 +1.4
TYV pmax pmax
comp=Z,13nm,1.4s
TYV pmax pmax
comp=Z,100nm,3.1s
TIA Tai'an 75.28 318 P P 01 47 31.0 +0.4
TIA pmax pmax
comp=Z,58nm,1.0s
CN2 Changchun 75.85 329 P P 01 47 34.3 +0.6
CN2 pmax pmax
comp=Z,30nm,0.9s
MLSI Meulaboh, Aceh 76.07 280 P P 01 47 36.1 +0.5
BNX BinXian 76.37 331 ⇓P P 01 47 36.5 -0.1
BNX pmax pmax
comp=Z,27nm,0.9s
SLVN Son La 76.69 299 IAmb IAmb 01 47 41.9
comp=Z,64nm,1.7s
SLVN Son La 76.69 299 P P 01 47 40.6 +1.6
UNV Unalaska Valle 76.83 14 IAmb IAmb 01 47 39.7
comp=Z,42nm,0.9s
UNV Unalaska Valle 76.83 14 P P 01 47 38.8 -0.1
UNV Unalaska Valle 76.83 14 P P 01 47 38.6 -0.3
baz=203,SNR=6.7
ENH Enshi 76.92 309 IAmb IAmb 01 47 41.7
comp=Z,50nm,1.0s
LYN LuoYang 77.27 315 ⇓P P 01 47 43.3 +1.4
LYN pP pP 01 48 15.3 -0.3
LYN pmax pmax
comp=Z,110nm,1.0s
LYN pmax pmax
comp=Z,230nm,5.4s
MAW Mawson 77.45 202 P P 01 47 43.5 +1.1
comp=Z,14nm,0.9s
MAW Mawson 77.45 202 P P 01 47 43.5 +1.1
comp=Z,42nm,0.8s,baz=113,slow=6.6,SNR=75
MAW LR LR 02 19 31.5
comp=Z,35nm,18.4s,baz=114,slow=34
comp=Z,42nm,0.8s
HNS HongShan 77.53 318 ⇓P P 01 47 44.5 +1.3
HNS pmax pmax
comp=Z,34nm,1.5s
BJI Beijing 78.29 321 P P 01 47 48.0 +0.6
BJI pmax pmax
comp=Z,11nm,0.9s
BJI pmax pmax
comp=Z,69nm,4.4s
P08K Saint George I 78.78 11 P P 01 47 49.3 -0.3
baz=200
SPIA Saint Paul Isl 79.19 11 P P 01 47 52.1 +0.2
baz=199
XAN Xi'an 79.39 312 P P 01 47 54.8 +1.2
XAN pP pP 01 48 26.8 -0.8
XAN pmax pmax
comp=Z,56nm,1.2s
KMI Kunming 79.43 302 P P 01 47 56.0 +1.8
KMI pP pP 01 48 28.0 -0.2
KMI pmax pmax
comp=Z,71nm,1.5s
CHNA Chernabura Isl 79.49 17 P P 01 47 53.6 +0.1
baz=209
CM31 Chiang Mai Arr 79.54 294 P P 01 47 56.5 +1.8
CM31 IAmb IAmb 01 47 57.9
comp=Z,60nm,0.9s
CMAR Chiang Mai Arr 79.54 294 P P 01 47 56.0 +1.3
CMAR Chiang Mai Arr 79.54 294 P P 01 47 56.8 +2.0
comp=Z,29nm,0.9s,baz=133,slow=4.1,SNR=124
comp=Z,29nm,0.9s
CMAR Chiang Mai Arr 79.54 294 ceP P 01 47 56.7 +2.0
CMAR pmax pmax
comp=Z,32nm,0.9s
S12K Black Hills 79.60 16 P P 01 47 53.9 -0.2
baz=207
CHTO Chiang Mai 79.70 295 P P 01 47 56.6 +1.1
CHTO IAmb IAmb 01 47 58.4
comp=Z,62nm,1.0s
CHTO Chiang Mai 79.70 295 P P 01 47 56.9 +1.4
CHTO Chiang Mai 79.70 295 P P 01 47 56.6 +1.1
CHTO pmax pmax
comp=Z,62nm,1.0s
SDPT Sand Point 79.70 17 P P 01 47 54.4 -0.3
baz=208
HEH HeiHe 79.82 334 eP P 01 47 55.5 0.0
HEH pmax pmax
comp=Z,25nm,1.1s
S14K Fog Glacier 80.77 17 P P 01 48 00.9 +0.3
baz=209
CHGN Chignik 81.10 17 P P 01 48 02.4 +0.3
baz=210,SNR=5.2
MA2 Magadan 81.33 350 LR LR 02 19 26.2
comp=Z,19nm,20.9s,baz=144,slow=32
CHIR Chirikof Islan 81.50 19 P P 01 48 04.7 +0.4
baz=212
HHC Hu-ho-hao-te 81.56 319 eP P 01 48 06.3 +1.2
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,100nm,4.4s
BTO Baotou 82.37 318 eP P 01 48 11.8 +2.4
BTO pP pP 01 48 47.3 +3.8
BTO pmax pmax
comp=Z,39nm,2.0s
BTO pmax pmax
comp=Z,330nm,10.5s
R16K Pilot Point 82.43 17 P P 01 48 09.6 +0.6
baz=211
SII Sitkinak Islan 82.56 19 IAmb IAmb 01 48 11.4
comp=Z,60nm,1.0s
SII Sitkinak Islan 82.56 19 P P 01 48 10.9 +1.1
SII Sitkinak Islan 82.56 19 P P 01 48 10.7 +0.9
baz=214
TNCH TengChong 82.78 300 P P 01 48 13.0 +1.1
TNCH pP pP 01 48 45.0 -1.2
TNCH pmax pmax
comp=Z,270nm,3.1s
R17L Mt. Peulik Vol 82.82 18 P P 01 48 11.8 +0.7
baz=212,SNR=11
PLK4 Peulik 4 82.82 18 IAmb IAmb 01 48 13.1
comp=Z,34nm,0.9s
M11K Mekoryuk 82.95 12 P P 01 48 12.0 +0.3
baz=203
O14K Tigyukauivet M 82.97 14 P P 01 48 12.2 +0.4
baz=207
O15K Ungalikthiuk R 83.25 15 P P 01 48 13.5 +0.3
baz=208
R18K Karluk 83.32 18 P P 01 48 14.2 +0.6
baz=213
OHAK Old Harbor 83.38 19 IAmb IAmb 01 48 16.2
comp=Z,55nm,1.0s
OHAK Old Harbor 83.38 19 P P 01 48 15.0 +1.0
OHAK Old Harbor 83.38 19 P P 01 48 14.9 +0.9
baz=214,SNR=19
N14K Kuskokwak Cree 83.47 14 IAmb IAmb 01 48 15.9
comp=Z,28nm,1.1s
N14K Kuskokwak Cree 83.47 14 P P 01 48 15.1 +0.7
baz=207
Q17K Contact Creek 83.49 17 P P 01 48 15.1 +0.4
baz=212,SNR=40
M13K Dall Lake 83.55 13 P P 01 48 15.8 +1.1
baz=205
P16K Nushagak River 83.58 16 IAmb IAmb 01 48 16.2
comp=Z,52nm,1.1s
P16K Nushagak River 83.58 16 P P 01 48 15.1 +0.2
baz=210,SNR=8.5
Q16K King Salmon 83.63 17 P P 01 48 15.8 +0.6
baz=211,SNR=9.0
SYO Syowa Base 83.85 196 ⇓iP P 01 48 16.2 -0.2
SYO Syowa Base 83.85 196 ⇓ePcP PcP 01 48 19.3 -0.9
SYO Syowa Base 83.85 196 ⇓epP pP 01 48 48.2 -2.2
LZH Lanzhou 84.01 312 eP P 01 48 19.5 +1.6
LZH pP pP 01 48 51.0 -1.2
LZH sP sP 01 49 04.0 -2.6
LZH pmax pmax
comp=Z,51nm,1.0s
O16K Kokwok River B 84.04 16 P P 01 48 16.9 -0.4
baz=210,SNR=13
N15K Kwethluk River 84.06 15 P P 01 48 18.9 +1.4
baz=208,SNR=21
KDAK Kodiak Island 84.06 19 P P 01 48 18.5 +1.0
KDAK IAmb IAmb 01 48 20.3
comp=Z,46nm,1.1s
KDAK Kodiak Island 84.06 19 diP P 01 48 18.1 +0.7
KDAK pmax pmax
comp=Z,67nm,1.3s
KDAK Kodiak Island 84.06 19 P P 01 48 18.4 +0.9
baz=215
Q18K Katmai Hardscr 84.06 18 P P 01 48 17.9 +0.3
baz=213,SNR=38
P17K Kvichak River 84.13 17 P P 01 48 17.7 0.0
baz=212,SNR=15
M14K Bethel 84.15 13 IAmb IAmb 01 48 20.0
comp=Z,49nm,1.0s
M14K Bethel 84.15 13 P P 01 48 18.8 +1.0
baz=206,SNR=10
SEY Seymchan 84.32 352 iP P 01 48 18.8 +0.2
SEY pmax pmax
comp=Z,17nm,1.9s
M15K Kasigluk River 84.39 14 P P 01 48 19.9 +0.9
baz=208,SNR=17
O17K Koliganek Bris 84.45 16 P P 01 48 19.5 +0.1
baz=211,SNR=11
L14K Kuka Creek 84.53 13 IAmb IAmb 01 48 22.0
comp=Z,43nm,1.1s
L14K Kuka Creek 84.53 13 P P 01 48 20.8 +1.1
baz=206,SNR=11
P18K Big Mountain, 84.63 17 P P 01 48 20.5 +0.1
baz=213,SNR=50
N16K Nishlik Lake 84.64 15 P P 01 48 21.9 +1.5
baz=209,SNR=22
K13K Kusilvak Mount 84.67 12 IAmb IAmb 01 48 22.9
comp=Z,27nm,1.1s
K13K Kusilvak Mount 84.67 12 P P 01 48 21.7 +1.2
baz=204
Q19K Cape Douglas, 84.69 18 P P 01 48 20.8 +0.1
baz=214,SNR=10
Q20K Shuyak Island 84.80 19 P P 01 48 21.4 +0.3
baz=215,SNR=7.1
SYI Shuyak Island 84.80 19 IAmb IAmb 01 48 23.8
comp=Z,47nm,1.2s
O18K Koktuh Hills 85.03 17 IAmb IAmb 01 48 24.5
comp=Z,41nm,1.3s
O18K Koktuh Hills 85.03 17 P P 01 48 22.5 +0.2
baz=213,SNR=19
M16K Timber Creek 85.08 15 IAmb IAmb 01 48 26.0
comp=Z,63nm,1.1s
M16K Timber Creek 85.08 15 P P 01 48 23.9 +1.4
baz=209,SNR=32
N17K Nushagak Hills 85.08 16 IAmb IAmb 01 48 25.7
comp=Z,28nm,1.2s
N17K Nushagak Hills 85.08 16 P P 01 48 23.5 +0.9
baz=211,SNR=13
L15K Ungalak Mounta 85.09 13 P P 01 48 23.1 +0.6
baz=207,SNR=9.8
GAMB Gambell 85.26 8 P P 01 48 24.4 +1.1
baz=197
P19K Oil Pt 85.41 18 IAmb IAmb 01 48 27.1
comp=Z,38nm,1.1s
P19K Oil Pt 85.41 18 P P 01 48 24.7 +0.5
baz=214,SNR=8.5
PMSA Palmer Station 85.51 160 P P 01 48 24.8 0.0
PMSA Palmer Station 85.51 160 eP P 01 48 25.3 +0.5
N18K Kilae Creek 85.55 16 P P 01 48 25.5 +0.6
baz=212,SNR=11
O19K Port Alsworth 85.56 17 P P 01 48 24.9 0.0
baz=213
K15K Wolf Creek Mou 85.63 13 P P 01 48 26.4 +1.2
baz=207,SNR=14
J14K Nanvaranak Lak 85.63 12 P P 01 48 26.4 +1.2
baz=205
ILSW Iliamna Southw 85.71 18 IAmb IAmb 01 49 01.6
comp=Z,29nm,1.1s
M17K Holitna River 85.77 15 IAmb IAmb 01 48 30.2
comp=Z,26nm,1.0s
M17K Holitna River 85.77 15 P P 01 48 27.2 +1.2
baz=210,SNR=16
HOM Homer 85.88 18 P P 01 48 27.2 +0.7
baz=216
CNPM China Poot 85.89 19 IAmb IAmb 01 48 30.6
comp=Z,23nm,1.1s
O20K Slope Mountain 85.94 18 P P 01 48 27.4 +0.5
baz=215
N19K Bonanza Creek 86.03 17 P P 01 48 27.8 +0.4
baz=213
L17K Donlin 86.20 14 P P 01 48 28.7 +0.7
baz=210,SNR=7.7
SAO San Andreas Ge 86.25 49 IAmb IAmb 01 48 31.9
comp=Z,43nm,1.2s
M18K Stony River 86.25 16 P P 01 48 29.2 +0.9
baz=212,SNR=25
GDXM Geysers 86.32 46 IAmb IAmb 01 48 32.7
comp=Z,44nm,1.3s
PMPB Monarch Peak 86.44 49 IAmb IAmb 01 48 33.1
comp=Z,37nm,1.0s
BBGB Big Mountain B 86.45 49 P P 01 48 32.4 +2.4
BBGB IAmb IAmb 01 48 35.0
comp=Z,50nm,1.1s
L18K Granite Mounta 86.66 15 P P 01 48 31.8 +1.5
baz=211,SNR=9.5
J16K Anvik River 86.71 13 P P 01 48 31.9 +1.4
baz=208,SNR=5.6
K17K Iditarod 86.71 14 P P 01 48 31.6 +1.1
baz=210
KHMM Horse Mountain 86.74 44 IAmb IAmb 01 48 34.8
comp=Z,50nm,1.0s
SEW Seward 86.90 19 P P 01 48 31.0 -0.4
baz=218
CAPN Captain Cook N 86.92 18 P P 01 48 32.4 +0.9
baz=216
ANM Nome 86.96 10 P P 01 48 32.7 +1.0
baz=203
M19K Big River Lodg 86.97 16 P P 01 48 31.7 -0.1
baz=213
N20K Mount Spurr 86.97 17 P P 01 48 31.8 -0.1
baz=215
SPCR Spurr Chakacha 86.97 17 P P 01 48 32.2 +0.3
baz=215
L19K White Mountain 87.08 16 P P 01 48 32.7 +0.3
baz=213,SNR=16
J17K VABM Dome 87.13 13 P P 01 48 33.8 +1.3
baz=209
KSXB Camp Six Broad 87.13 43 IAmb IAmb 01 48 36.5
comp=Z,46nm,1.4s
I17K Unalakleet 87.22 13 P P 01 48 34.6 +1.7
baz=208
M20K Styx River 87.28 17 P P 01 48 34.3 +0.9
baz=214
TROLL Troll, Antarti 87.29 184 ⇓P P 01 48 33.4 -0.2
comp=Z,5μm,0.7s
Q23K Middleton Isla 87.36 21 P P 01 48 34.0 +0.4
baz=220
P23K Montague Islan 87.46 20 P P 01 48 34.7 +0.6
baz=220
L02F Cave Junction 87.48 43 IAmb IAmb 01 48 38.1
comp=Z,38nm,1.5s
TNA Tin City 87.49 9 P P 01 48 34.7 +0.6
baz=201
ORV Oroville 87.57 46 P P 01 48 36.3 +1.1
ORV IAmb IAmb 01 48 37.9
comp=Z,51nm,1.3s
ORV Oroville 87.57 46 P P 01 48 36.3 +1.1
ORV pmax pmax
comp=Z,51nm,1.3s
L20K Farewell, AK 87.58 16 P P 01 48 34.5 -0.3
baz=214,SNR=19
G15K Niukluk 87.59 11 P P 01 48 33.9 -0.8
baz=204
H16K Elim 87.59 12 P P 01 48 35.2 +0.5
baz=206
RC01 Rabbit Creek A 87.60 18 P P 01 48 34.3 -0.5
baz=218
CMB Columbia Colle 87.60 48 IAmb IAmb 01 48 38.0
comp=Z,25nm,1.0s
SUA Susitna One 87.60 18 P P 01 48 34.0 -1.0
baz=217
AFDM Forest Hills D 87.63 47 IAmb IAmb 01 48 38.2
comp=Z,43nm,1.1s
F14K Arctic Creek 87.65 10 P P 01 48 35.4 +0.5
baz=202
CBX Cerro Bola 87.71 54 P P 01 48 37.4 +1.2
CBX IAmb IAmb 01 48 38.9
comp=Z,43nm,1.1s
J18K Innoko River 87.72 14 P P 01 48 35.7 +0.3
baz=211
ELS Elsinore Mount 87.72 53 IAmb IAmb 01 48 39.9
comp=Z,26nm,1.4s
J01E Myrtle Point 87.78 42 IAmb IAmb 01 48 39.1
comp=Z,37nm,1.1s
SKT Skwentna 87.80 17 P P 01 48 35.3 -0.4
baz=216
DPP Dos Picos Cty 87.80 54 IAmb IAmb 01 48 39.0
comp=Z,26nm,0.9s
PWL Port Wells 87.84 19 P P 01 48 35.5 -0.5
baz=219
YBH Yreka Blue Hor 87.84 44 IAmb IAmb 01 48 39.7
comp=Z,64nm,1.6s
ISA Isabella, Lake 87.86 51 IAmb IAmb 01 48 39.6
comp=Z,35nm,1.1s
SNAA Sanae 87.90 182 ⇓P P 01 48 35.9 -0.5
comp=Z,792nm,0.6s
SNAA Sanae 87.90 182 P P 01 48 36.2 -0.2
SNAA Sanae 87.90 182 P P 01 48 35.9 -0.5
comp=Z,37nm,0.7s,baz=195,slow=4.7,SNR=231
comp=Z,37nm,0.7s
SNAA Sanae 87.90 182 diP P 01 48 35.8 -0.5
SNAA pmax pmax
comp=Z,51nm,0.8s
VTX Valle De La Tr 87.99 55 IAmb IAmb 01 48 40.5
comp=Z,54nm,1.4s
M22K Willow 88.01 18 P P 01 48 36.9 +0.2
baz=217
ESJX Sierra Juarez 88.13 55 IAmb IAmb 01 48 41.4
comp=Z,58nm,1.7s
F15K North Star Dit 88.14 10 P P 01 48 37.7 +0.4
baz=204
PMR Palmer 88.17 18 P P 01 48 39.1 +1.6
HATC Hat Creek Radi 88.20 45 P P 01 48 39.3 +1.0
ULN Ulaanbaatar 88.23 323 ceP P 01 48 39.1 +0.8
ULN pmax pmax
comp=Z,67nm,1.5s
KNK Knik Glacier 88.23 19 P P 01 48 37.8 0.0
baz=219
GLI Glacier Island 88.23 20 P P 01 48 38.2 +0.3
baz=220
G16K Koyuk River 88.25 11 P P 01 48 38.3 +0.5
baz=206
YAK Yakutsk 88.27 342 LR LR 02 22 34.0
comp=Z,36nm,21.5s,baz=123,slow=32
YAK Yakutsk 88.27 342 eP P 01 48 37.7 -0.2
YAK e*PP pP 01 49 11.0 -1.9
YAK eS SKSac 01 58 53.4 0.0
YAK pmax pmax
comp=Z,22nm,1.3s
YAK pmax pmax
comp=N,7.0nm,1.5s
YAK pmax pmax
comp=E,4.0nm,1.5s
YAK smax smax
comp=E,80nm,4.6s
K20K Telida 88.27 15 P P 01 48 38.0 0.0
baz=214
BORC Borrego Spring 88.32 54 IAmb IAmb 01 48 41.6
comp=Z,29nm,1.0s
H17K Granite Mounta 88.32 12 P P 01 48 38.2 +0.1
baz=208
L04D Klamath Falls 88.34 44 IAmb IAmb 01 48 41.7
comp=Z,44nm,1.2s
BILL Bilibino 88.35 359 ceP P 01 48 38.2 0.0
BILL i *PP pP 01 49 11.4 -1.9
BILL pmax pmax
comp=Z,20nm,1.0s
KAIM Kayak Island 88.39 21 P P 01 48 38.7 +0.2
baz=222
EYAK Cordova Ski Ar 88.41 20 P P 01 48 37.9 -0.8
baz=221
GTA Gaotai 88.42 313 P P 01 48 40.8 +1.4
GTA pP pP 01 49 13.0 -1.0
GTA pmax pmax
comp=Z,31nm,1.2s
I03D Drain, OR 88.42 42 IAmb IAmb 01 48 42.0
comp=Z,50nm,1.3s
YUH Yuha Desert 88.42 54 IAmb IAmb 01 48 42.2
comp=Z,26nm,1.1s
J19K Poorman 88.43 14 P P 01 48 39.2 +0.5
baz=212
BBOR Butler Butte 88.43 43 IAmb IAmb 01 48 42.2
comp=Z,39nm,1.6s
PFO Pinyon Flats O 88.43 53 P P 01 48 40.5 +0.9
PFO IAmb IAmb 01 48 42.3
comp=Z,36nm,1.4s
PFO Pinyon Flats O 88.43 53 diP P 01 48 40.6 +0.9
PFO pmax pmax
comp=Z,52nm,1.6s
SHL Shillong 88.45 298 IAmb IAmb 01 48 41.3
comp=Z,38nm,1.0s
VNA3 Neumayer Olymp 88.47 180 ⇓P P 01 48 38.5 -0.6
comp=Z,135nm,0.8s
BEKR Beckworth 88.49 46 IAmb IAmb 01 48 42.5
comp=Z,43nm,1.3s
CUT Chulitna 88.49 17 P P 01 48 39.0 +0.1
baz=217
CWC Cottonwood Cre 88.50 50 IAmb IAmb 01 48 42.6
comp=Z,30nm,1.2s
PMD Palm Desert 88.51 53 IAmb IAmb 01 48 42.4
comp=Z,32nm,1.2s
SONM Songino Array 88.58 323 P P 01 48 40.0 0.0
SONM IAmb IAmb 01 48 42.0
comp=Z,47nm,1.3s
SONM Songino Array 88.58 323 P P 01 48 40.5 +0.6
comp=Z,14nm,1.0s,baz=141,slow=4.7,SNR=66
SONM pP pP 01 49 13.7 -0.9
comp=Z,3.5nm,0.9s,baz=156,slow=7.8,SNR=3.1
SONM LR LR 02 27 05.0
comp=Z,29nm,19.7s,baz=122,slow=35
comp=Z,14nm,1.0s
SONM Songino Array 88.58 323 P P 01 48 40.0 0.0
SONM pmax pmax
comp=Z,47nm,1.3s
G17K Kiwalik Mounta 88.67 12 P P 01 48 40.3 +0.6
baz=208
ESPZ Base Esperanza 88.70 161 P P 01 48 39.5 -0.6
M23K Glacier View 88.75 19 P P 01 48 40.1 -0.2
baz=219
HG4B Hotspring 88.76 32 IAmb IAmb 01 48 43.4
comp=Z,40nm,1.1s
GCSA Galena City Sc 88.79 14 P P 01 48 40.5 +0.2
baz=211
H18K Honhosa River 88.82 13 P P 01 48 40.6 +0.1
baz=210
CAST Castle Rocks 88.83 16 P P 01 48 39.2 -1.4
baz=215,SNR=9.4
SCM Sheep Creek Mo 88.90 19 P P 01 48 40.3 -0.7
baz=220
GSC Goldstone, Bar 88.92 52 IAmb IAmb 01 48 44.5
comp=Z,40nm,1.4s
J20K Nowinta River 88.94 15 P P 01 48 40.5 -0.5
baz=214
BERG Berg Lake 88.97 21 IAmb IAmb 01 48 43.8
comp=Z,14nm,0.9s
DSP Deep Springs 88.99 49 P P 01 48 43.3 +1.4
DSP IAmb IAmb 01 48 44.9
comp=Z,32nm,0.9s
VNA1 Neumayer--Stat 89.05 181 ⇓P P 01 48 41.6 -0.1
comp=Z,88nm,0.9s
KLU Klutina 89.07 20 P P 01 48 41.5 -0.3
baz=221
PAHR Pah Rah Range 89.08 47 IAmb IAmb 01 48 45.2
comp=Z,39nm,1.2s
BMRM Bremner River 89.10 20 P P 01 48 40.7 -1.3
baz=222
CHUM Lake Minchumin 89.15 16 P P 01 48 41.7 -0.3
baz=215
QSM Queen of Sheba 89.16 51 IAmb IAmb 01 48 45.4
comp=Z,36nm,1.2s
RYN Ryan 89.17 48 IAmb IAmb 01 48 45.6
comp=Z,24nm,1.0s
BC3 Big Chuckawall 89.21 54 IAmb IAmb 01 48 46.3
comp=Z,39nm,1.2s

H04D	**Lebanon**	89.22	41	IAmb	IAmb	01 48 45.8		
	comp=Z,41nm,1.2s							
NVAR	**Mina Array Bea**	89.24	48	P	**P**	**01 48 44.5 +1.1**		
NVAR	**Mina Array Bea**	89.24	48	P	**P**	**01 48 44.8 +1.4**		
	comp=Z,17nm,0.9s,baz=226,slow=8.0,SNR=81							
NVAR				pP	**pP**	**01 49 17.8 0.0**		
	comp=Z,5.6nm,1.0s,baz=222,slow=8.1,SNR=2.9							
	comp=Z,17nm,0.9s							
GRAC	**Grapevine Rang**	89.26	50	P	**P**	**01 48 44.1 +0.8**		
GRAC				IAmb	IAmb	01 48 46.2		
	comp=Z,33nm,0.9s							
TRF	**Thorofare Moun**	89.33	17	P	**P**	**01 48 42.9 -0.2**		
	baz=217							
NV11	**Mina Array Sit**	89.34	48	IAmb	IAmb	01 48 46.4		
	comp=Z,28nm,0.9s							
I20K	**Naaghedeneel**	89.38	14	P	**P**	**01 48 43.0 0.0**		
	baz=213							
F17K	**Baldwin Pennin**	89.40	11	P	**P**	**01 48 42.6 -0.5**		
	baz=207							
GWY	**Greenwater Val**	89.40	51	IAmb	IAmb	01 48 46.6		
	comp=Z,32nm,1.1s							
G18K	**Tagagawik**	89.41	12	P	**P**	**01 48 42.8 -0.4**		
	baz=209							
MESA	**MESA**	89.42	22	P	**P**	**01 48 43.4 -0.3**		
	baz=224							
CRQE	**Cirque**	89.44	21	P	**P**	**01 48 43.6 -0.1**		
	baz=223							
M24K	**Tolsona, Glenn**	89.46	19	P	**P**	**01 48 42.7 -1.0**		
	baz=221							
K05A	**Summer Lake**	89.50	44	IAmb	IAmb	01 48 47.5		
	comp=Z,37nm,1.1s							
H19K	**Roundabout Mou**	89.56	13	P	**P**	**01 48 43.9 0.0**		
	baz=211							
N25K	**Chitina, Valde**	89.58	20	P	**P**	**01 48 44.4 +0.2**		
	baz=222							
SLBS	**Sierra La Lagu**	89.62	65	P	**P**	**01 48 46.3 +1.0**		
H04A	**Detroit Lake**	89.64	41	IAmb	IAmb	01 48 47.1		
	comp=Z,23nm,1.0s							
BPAW	**Bear Paw Mtn.**	89.67	16	P	**P**	**01 48 44.8 +0.2**		
	baz=216							
WCT	**Wildcat Mounta**	89.70	50	IAmb	IAmb	01 48 48.1		
	comp=Z,29nm,1.0s							
CRAG	**Craig**	89.79	29	P	**P**	**01 48 45.8 +0.7**		
	baz=232							
SIT	**Sitka**	89.84	27	P	**P**	**01 48 46.3 +0.9**		
	baz=230							
F18K	**Selawik**	89.84	12	P	**P**	**01 48 46.3 +1.2**		
	baz=208							
PIX	**Pinacate**	89.86	56	IAmb	IAmb	01 48 48.7		
	comp=Z,36nm,1.0s							
E17K	**Hotham Inlet**	89.87	11	P	**P**	**01 48 45.3 0.0**		
	baz=206							
H20K	**Anotleneega Mo**	89.87	14	P	**P**	**01 48 45.4 0.0**		
	baz=213							
MTPC	**Mountain Pass**	89.92	52	P	**P**	**01 48 48.0 +1.4**		
MTPC				IAmb	IAmb	01 48 49.3		
	comp=Z,27nm,1.2s							
MCK	**McKinley**	89.92	17	IAmb	IAmb	01 48 51.1		
	comp=Z,24nm,1.6s							
MCK	**McKinley**	89.92	17	P	**P**	**01 48 44.5 -1.2**		
	baz=218							
MCARA	**McCarthy VSAT**	89.93	21	IAmb	IAmb	01 48 48.8		
	comp=Z,20nm,1.3s							
MCARA	**McCarthy VSAT**	89.93	21	P	**P**	**01 48 45.7 -0.1**		
	baz=223							
G19K	**Purcell Mounta**	89.95	13	P	**P**	**01 48 45.7 -0.1**		
	baz=211							
PINM	**Pinnacle**	89.96	23	P	**P**	**01 48 45.9 -0.1**		
	baz=226							
PNL	**Peninsula**	89.98	23	P	**P**	**01 48 45.9 -0.2**		
	baz=226							
NLWA	**Neilton Lookou**	89.99	38	IAmb	IAmb	01 48 49.5		
	comp=Z,33nm,1.1s							
HARP	**HAARP**	90.00	19	P	**P**	**01 48 46.8 +0.7**		
	baz=222							
I05D	**Terrebonne, OR**	90.00	42	IAmb	IAmb	01 48 49.2		
	comp=Z,31nm,1.1s							
TPNV	**Topopah Spring**	90.04	50	IAmb	IAmb	01 48 49.9		
	comp=Z,33nm,0.9s							
S31K	**Pelican**	90.05	26	IAmb	IAmb	01 48 48.5		
	comp=Z,29nm,1.1s							
S31K	**Pelican**	90.05	26	P	**P**	**01 48 46.9 +0.5**		
	baz=229							
113A	**Mohawk Valley,**	90.12	55	IAmb	IAmb	01 48 50.2		
	comp=Z,33nm,1.2s							
BARN	**Barnard Glacie**	90.15	21	IAmb	IAmb	01 48 49.0		
	comp=Z,27nm,1.2s							
U33K	**Whale Pass**	90.19	28	IAmb	IAmb	01 48 49.5		
	comp=Z,24nm,0.9s							
U33K	**Whale Pass**	90.19	28	P	**P**	**01 48 47.9 +0.9**		
	baz=232,SNR=5.7							
CTG	**Chitna Glacier**	90.19	22	P	**P**	**01 48 47.4 +0.2**		
	baz=225							
CTGM	**Chitina Glacie**	90.19	22	IAmb	IAmb	01 48 49.0		
	comp=Z,16nm,1.1s							
D17K	**Noatak River**	90.22	10	P	**P**	**01 48 47.0 +0.1**		
	baz=205							
BBB	**Bella Bella**	90.25	33	LR	LR	02 25 38.0		
	comp=Z,35nm,18.7s,baz=210,slow=33							
HOOD	**Mount Hood Mea**	90.28	41	IAmb	IAmb	01 48 50.4		
	comp=Z,28nm,1.0s							
I21K	**Tanana**	90.29	15	P	**P**	**01 48 47.2 -0.2**		
	baz=215							
PAX	**Paxson**	90.33	19	P	**P**	**01 48 47.0 -0.8**		
	baz=221							
V35K	**Ketchikan**	90.38	29	IAmb	IAmb	01 48 50.6		
	comp=Z,28nm,1.1s							
V35K	**Ketchikan**	90.38	29	P	**P**	**01 48 49.0 +1.0**		
	baz=233							
E18K	**Tukpahlearik C**	90.39	11	P	**P**	**01 48 48.8 +1.0**		
	baz=208							
F19K	**Shaleruckik Mo**	90.41	12	P	**P**	**01 48 48.2 +0.4**		
	baz=210							
S32K	**Killisnoo**	90.41	26	IAmb	IAmb	01 48 50.1		
	comp=Z,20nm,1.2s							
S32K	**Killisnoo**	90.41	26	P	**P**	**01 48 48.9 +0.9**		
	baz=231,SNR=6.0							
O28M	**Mount Upton**	90.46	22	IAmb	IAmb	01 48 49.8		
	comp=Z,18nm,1.1s							
O28M	**Mount Upton**	90.46	22	P	**P**	**01 48 48.3 -0.3**		
	baz=226							
MLY	**Manley**	90.48	16	P	**P**	**01 48 49.2 +0.9**		
	baz=216							
H21K	**Melozitna Rive**	90.49	15	P	**P**	**01 48 48.7 +0.4**		
	baz=215							
GOMU	**GeErMu**	90.52	309	P	**P**	**01 48 50.5 +0.9**		
GOMU				pP	pP	01 49 23.8 -0.6		
GOMU				pmax	pmax			
	comp=Z,10.0nm,0.9s							
GOMU				pmax	pmax			
	comp=Z,68nm,5.8s							
CBB	**Campbell River**	90.52	36	IAmb	IAmb	01 48 51.7		
	comp=Z,30nm,1.1s							
214A	**Organ Pipe Nat**	90.53	56	IAmb	IAmb	01 48 52.3		
	comp=Z,32nm,1.1s							
V12A	**Nelson**	90.54	52	IAmb	IAmb	01 48 52.1		
	comp=Z,29nm,1.3s							
IMAR	**Indian Mountai**	90.54	14	P	**P**	**01 48 48.2 -0.3**		
RDOG	**Red Dog Mine**	90.57	10	P	**P**	**01 48 49.9 +1.3**		
	baz=205							
P29M	**Windy Craggy**	90.57	24	IAmb	IAmb	01 48 50.5		
	comp=Z,24nm,0.9s							
P29M	**Windy Craggy**	90.57	24	P	**P**	**01 48 49.5 +0.7**		
	baz=228							
SHPR	**Sheep Range**	90.64	51	IAmb	IAmb	01 48 53.0		
	comp=Z,18nm,1.3s							
M26K	**Nabesna, AK**	90.68	20	P	**P**	**01 48 49.3 0.0**		
	baz=223							
GNW	**Green Mountain**	90.69	39	IAmb	IAmb	01 48 52.3		
	comp=Z,28nm,1.1s							
T33K	**Petersburg**	90.69	28	P	**P**	**01 48 49.8 +0.5**		
	baz=232							
S11A	**Rachel**	90.70	50	IAmb	IAmb	01 48 52.6		
	comp=Z,27nm,0.9s							
O29M	**Mount Kennedy**	90.71	23	P	**P**	**01 48 50.2 +0.6**		
	baz=227							
WRAK	**Wrangell Islan**	90.72	28	IAmb	IAmb	01 48 51.8		
	comp=Z,24nm,0.9s							
WRAK	**Wrangell Islan**	90.72	28	P	**P**	**01 48 50.4 +0.9**		
	baz=232,SNR=8.7							
BOD	**Bodaibo**	90.74	334	*e*P	**P**	**01 48 48.4 -1.2**		
BOD				pmax	pmax			
	comp=Z,36nm,1.4s							
WVOR	**Wild Horse Val**	90.83	45	IAmb	IAmb	01 48 53.4		
	comp=Z,28nm,1.1s							
HSIG		90.84	59	P	**P**	**01 48 51.9 +1.1**		
HSIG				IAmb	IAmb	01 48 53.4		
	comp=Z,28nm,1.0s							
MENT	**Mentasta**	90.84	19	P	**P**	**01 48 52.1 +2.1**		
G06A	**Carlson Farm,**	90.87	41	IAmb	IAmb	01 48 53.0		
	comp=Z,18nm,1.3s							
K24K	**Donnelly Dome**	90.87	18	P	**P**	**01 48 50.0 -0.1**		
	baz=221							
PGC	**Sidney**	90.88	38	IAmb	IAmb	01 48 53.1		
	comp=Z,31nm,1.0s							
LON	**Longmire**	90.89	40	IAmb	IAmb	01 48 52.8		
	comp=Z,29nm,1.8s							
C17K	**DeLong Mountai**	90.91	10	P	**P**	**01 48 50.4 +0.2**		
	baz=205							
I23K	**Minto, Yukon-K**	90.93	16	P	**P**	**01 48 49.9 -0.4**		
	baz=218							
R32K	**Eaglecrest**	90.95	26	P	**P**	**01 48 51.1 +0.5**		
	baz=231,SNR=6.1							
YUK8	**Steele Glacier**	90.96	22	P	**P**	**01 48 50.9 0.0**		
	baz=226							
W13A	**Hualapai Mount**	90.99	53	IAmb	IAmb	01 48 54.5		
	comp=Z,24nm,1.0s							
HDA	**Harding Lake**	91.00	17	P	**P**	**01 48 50.0 -0.7**		
	baz=220							
JIS	**Juneau Island**	91.00	26	P	**P**	**01 48 52.2 +1.4**		
M27K	**Edge Creek, AK**	91.01	20	IAmb	IAmb	01 48 52.4		
	comp=Z,21nm,1.4s							
M27K	**Edge Creek, AK**	91.01	20	P	**P**	**01 48 50.9 0.0**		
	baz=224							
F20K	**Avaraart Lake**	91.01	13	P	**P**	**01 48 51.0 +0.3**		
	baz=212							
L26K	**Log Cabin Wild**	91.02	19	P	**P**	**01 48 51.1 +0.3**		
	baz=223							
H22K	**Ishtalitna Cre**	91.02	15	P	**P**	**01 48 50.5 -0.2**		
	baz=216							
G21K	**Allakaket**	91.04	14	IAmb	IAmb	01 48 52.5		
	comp=Z,29nm,1.8s							
G21K	**Allakaket**	91.04	14	P	**P**	**01 48 51.0 +0.2**		
	baz=214							
E19K	**Redstone River**	91.06	12	P	**P**	**01 48 51.8 +0.9**		
	baz=211							
YUK3	**Moose Creek**	91.07	21	P	**P**	**01 48 51.3 0.0**		
	baz=226							
RIDG	**Independent Ri**	91.09	18	IAmb	IAmb	01 49 27.9		
	comp=Z,24nm,1.7s							
RIDG	**Independent Ri**	91.09	18	P	**P**	**01 48 50.8 -0.4**		
	baz=222,SNR=5.2							
COLA	**College**	91.11	17	*i* P	**P**	**01 48 49.9 -1.2**		
COLA				pmax	pmax			
	comp=Z,5.0nm,1.0s							
COLA	**College**	91.11	17	P	**P**	**01 48 51.5 +0.4**		
	baz=219							
Y14A	**Wickenburg**	91.18	54	IAmb	IAmb	01 48 54.9		
	comp=Z,15nm,1.0s							
P30M	**Million Dollar**	91.19	24	P	**P**	**01 48 51.9 +0.1**		
	baz=229							
YUK6	**Outpost Mounta**	91.22	23	P	**P**	**01 48 51.9 -0.2**		
	baz=227,SNR=7.7							
ILAR	**Eielson Array**	91.30	17	P	**P**	**01 48 50.6 -1.5**		
ILAR	**Eielson Array**	91.30	17	P	**P**	**01 48 50.8 -1.3**		
	comp=Z,1.6nm,0.8s,baz=239,slow=4.2,SNR=20							
ILAR				pP	**pP**	**01 49 26.1 -0.8**		
	comp=Z,1.0nm,0.6s,baz=236,slow=5.0,SNR=3.0							
ILAR				PKKP	**PKKPdf**	**02 06 12.8 -0.6**		
	comp=Z,0.6nm,0.9s,baz=0.8,slow=1.7,SNR=5.3							
	comp=Z,1.6nm,0.8s							
J08A	**Circle Bar Ran**	91.36	44	IAmb	IAmb	01 48 55.5		
	comp=Z,18nm,0.9s							
BVCY	**Beaver Creek**	91.38	21	P	**P**	**01 48 52.0 -0.6**		
	baz=225							
SKAG	**Skagway**	91.38	25	IAmb	IAmb	01 48 54.7		
	comp=Z,26nm,1.1s							
SKAG	**Skagway**	91.38	25	P	**P**	**01 48 54.0 +1.5**		
SKAG	**Skagway**	91.38	25	P	**P**	**01 48 53.3 +0.8**		
	baz=230,SNR=7.3							
C18K	**Utukok River**	91.39	10	P	**P**	**01 48 52.9 +0.5**		
	baz=207							
YUK4	**Talbot Arm**	91.40	22	P	**P**	**01 48 53.5 +0.7**		
	baz=227,SNR=7.0							
POKR	**Poker Plat Res**	91.41	17	P	**P**	**01 48 51.5 -1.1**		
	baz=220							
H23K	**Yukon River**	91.42	16	P	**P**	**01 48 52.5 -0.2**		
	baz=218							
HYT	**Haines Junctio**	91.46	23	IAmb	IAmb	01 48 54.3		
	comp=Z,12nm,1.0s							
HYT	**Haines Junctio**	91.46	23	P	**P**	**01 48 53.0 -0.1**		
	baz=228,SNR=1.0							
L27K	**Beaver Creek,**	91.53	20	P	**P**	**01 48 53.2 0.0**		
	baz=224,SNR=5.2							
SCRK	**Sand Creek**	91.53	19	P	**P**	**01 48 53.0 -0.3**		
	baz=223,SNR=9.7							
J25K	**Salcha River,**	91.60	18	P	**P**	**01 48 53.2 -0.4**		
	baz=221,SNR=10.0							
F21K	**Alatna River**	91.63	13	P	**P**	**01 48 53.4 -0.1**		
	baz=214,SNR=5.8							
ZAK	**Zakamensk**	91.67	324	*e*P	**P**	**01 48 53.5 -0.7**		
ZAK				pmax	pmax			
	comp=Z,28nm,1.4s							
PALK	**Pallekele**	91.71	277	LR	LR	02 32 46.0		
	comp=Z,49nm,18.3s,baz=105,slow=37							
MXC	**Moxie City**	91.72	40	IAmb	IAmb	01 48 56.9		
	comp=Z,20nm,1.6s							
D19K	**Kuna River**	91.79	11	P	**P**	**01 48 54.6 +0.3**		
	baz=210							
G22K	**Bettles**	91.83	14	P	**P**	**01 48 54.7 +0.3**		
	baz=216							
G08A	**Pilot Rock**	91.94	42	IAmb	IAmb	01 48 58.0		
	comp=Z,13nm,1.0s							
O30N	**Mendenhall**	91.94	23	IAmb	IAmb	01 48 56.5		
	comp=Z,13nm,1.0s							
O30N	**Mendenhall**	91.94	23	P	**P**	**01 48 55.4 +0.2**		
	baz=229,SNR=14							
E20K	**Nigu River**	91.95	12	P	**P**	**01 48 55.5 +0.4**		
	baz=212							
T35M	**Bob Quinn**	91.98	28	IAmb	IAmb	01 48 58.0		
	comp=Z,24nm,1.4s							
T35M	**Bob Quinn**	91.98	28	P	**P**	**01 48 56.5 +1.1**		
	baz=234							
G23K	**Bananza Creek**	92.01	15	P	**P**	**01 48 55.5 +0.1**		
	baz=217							
N30M	**Aishikik Lake**	92.03	23	IAmb	IAmb	01 48 56.8		
	comp=Z,26nm,1.6s							
N30M	**Aishikik Lake**	92.03	23	P	**P**	**01 48 55.6 0.0**		
	baz=229,SNR=6.2							
J26L	**Joseph Creek**	92.04	18	P	**P**	**01 48 55.6 0.0**		
	baz=223,SNR=7.9							
C19K	**Lookout Ridge**	92.06	11	P	**P**	**01 48 56.4 +0.8**		
	baz=208							
HAWA	**Hanford**	92.09	41	IAmb	IAmb	01 48 58.9		
	comp=Z,19nm,1.3s							
P32M	**Atlin**	92.10	25	IAmb	IAmb	01 48 57.9		
	comp=Z,17nm,1.1s							
P32M	**Atlin**	92.10	25	P	**P**	**01 48 56.5 +0.6**		
	baz=231,SNR=12							
K27K	**Chicken**	92.14	19	IAmb	IAmb	01 48 57.8		
	comp=Z,12nm,1.1s							
K27K	**Chicken**	92.14	19	P	**P**	**01 48 56.4 +0.5**		
	baz=224							
S34M	**Telegraph Cree**	92.15	27	IAmb	IAmb	01 48 58.6		
	comp=Z,24nm,1.1s							
S34M	**Telegraph Cree**	92.15	27	P	**P**	**01 48 57.0 +0.9**		
	baz=234,SNR=12							
F22K	**John River**	92.16	14	P	**P**	**01 48 56.2 +0.2**		
	baz=215							
M29M	**Somme Creek**	92.21	21	P	**P**	**01 48 56.4 -0.1**		
	baz=227,SNR=10							
PRP	**Porcupine Dome**	92.24	17	P	**P**	**01 48 56.3 -0.3**		
	baz=221							
LCMT	**Little Creek M**	92.25	51	IAmb	IAmb	01 49 00.1		
	comp=Z,19nm,1.1s							
TUC	**Tucson**	92.25	56	P	**P**	**01 48 58.6 +1.3**		
TUC				IAmb	IAmb	01 49 00.4		
	comp=Z,20nm,1.1s							
TUC	**Tucson**	92.25	56	P	**P**	**01 48 58.6 +1.3**		
TUC				pmax	pmax			
	comp=Z,20nm,1.1s							
D20K	**Etivluk River**	92.26	12	P	**P**	**01 48 57.4 +0.9**		
	baz=211							
SPR3	**Spring Creek 3**	92.28	49	IAmb	IAmb	01 48 59.9		
	comp=Z,29nm,1.7s							
Q32M	**Nakina River**	92.30	26	IAmb	IAmb	01 49 33.5		
	comp=Z,26nm,1.3s							
Q32M	**Nakina River**	92.30	26	P	**P**	**01 48 57.6 +0.5**		
	baz=233,SNR=8.4							
WHY	**Whitehorse**	92.33	24	IAmb	IAmb	01 48 58.3		
	comp=Z,18nm,1.0s							
WHY	**Whitehorse**	92.33	24	P	**P**	**01 48 57.2 +0.1**		
	baz=230,SNR=8.0							
COLD	**Coldfoot**	92.38	14	P	**P**	**01 48 57.4 +0.4**		
	baz=217							
CCUT	**Cedar City**	92.38	51	IAmb	IAmb	01 49 01.1		
	comp=Z,19nm,1.3s							
PSUT	**Pine Spring**	92.43	50	IAmb	IAmb	01 49 00.8		
	comp=Z,27nm,1.8s							
N31M	**Braeburn, Yuko**	92.52	23	IAmb	IAmb	01 49 01.2		
	comp=Z,24nm,1.1s							
N31M	**Braeburn, Yuko**	92.52	23	P	**P**	**01 48 57.8 -0.1**		
	baz=230,SNR=16							
E21K	**Killik River**	92.55	13	IAmb	IAmb	01 48 59.3		
	comp=Z,12nm,0.9s							
E21K	**Killik River**	92.55	13	P	**P**	**01 48 58.0 +0.2**		
	baz=214							
X16A	**Lo Mia Camp, P**	92.56	54	IAmb	IAmb	01 49 01.9		
	comp=Z,25nm,1.0s							
SZCU	**Shurtz Canyon**	92.60	51	IAmb	IAmb	01 49 01.9		
	comp=Z,43nm,1.8s							
G24K	**Hadweenzic Riv**	92.63	16	P	**P**	**01 48 57.8 -0.4**		
	baz=220							
U15A	**North Rim**	92.72	52	IAmb	IAmb	01 49 03.4		
	comp=Z,26nm,1.1s							
H25L	**Birch Creek**	92.73	16	P	**P**	**01 48 58.2 -0.4**		
	baz=221							
LLLB	**Lillooet**	92.74	36	IAmb	IAmb	01 49 01.4		
	comp=Z,13nm,1.1s							
E22K	**Anaktuvuk Pass**	92.75	13	IAmb	IAmb	01 49 00.5		
	comp=Z,27nm,1.5s							
E22K	**Anaktuvuk Pass**	92.75	13	P	**P**	**01 48 58.9 +0.2**		
	baz=216,SNR=7.7							
I26K	**Coal Creek Min**	92.75	18	IAmb	IAmb	01 49 00.2		
	comp=Z,16nm,1.2s							
I26K	**Coal Creek Min**	92.75	18	P	**P**	**01 48 58.7 0.0**		
	baz=223							
L29M	**L29M**	92.77	21	IAmb	IAmb	01 49 00.5		
	comp=Z,21nm,1.1s							
L29M	**L29M**	92.77	21	P	**P**	**01 48 59.0 0.0**		
	baz=228,SNR=14							
P33M	**Teslin, Yukon**	92.84	25	P	**P**	**01 48 59.3 -0.1**		
	baz=232							
M30M	**Minto, Yukon**	92.87	22	IAmb	IAmb	01 49 00.6		
	comp=Z,18nm,0.9s							
M30M	**Minto, Yukon**	92.87	22	P	**P**	**01 48 59.6 +0.1**		
	baz=229,SNR=21							
DLBC	**Dease Lake**	92.93	27	P	**P**	**01 49 00.5 +0.6**		
	baz=234,SNR=11							
C21K	**Knifeblade Rid**	92.99	12	P	**P**	**01 49 00.3 +0.5**		
	baz=213							
DAWY	**Dawson**	93.01	20	IAmb	IAmb	01 49 01.2		
	comp=Z,12nm,1.1s							
DAWY	**Dawson**	93.01	20	P	**P**	**01 48 59.9 -0.1**		
	baz=227,SNR=9.3							
G25K	**Bearman Lake**	93.03	16	P	**P**	**01 49 00.7 +0.7**		
	baz=221							
319A	**Douglas**	93.08	58	IAmb	IAmb	01 49 04.2		
	comp=Z,18nm,0.9s							
R33M	**Jennings River**	93.10	26	IAmb	IAmb	01 49 03.6		
	comp=Z,29nm,1.4s							
R33M	**Jennings River**	93.10	26	P	**P**	**01 49 01.4 +0.8**		
	baz=234,SNR=15							
F24K	**Squaw Lake**	93.16	15	P	**P**	**01 49 01.1 +0.4**		
	baz=219,SNR=5.1							
D22K	**Ayikyak River**	93.18	13	IAmb	IAmb	01 49 02.8		
	comp=Z,10.0nm,0.8s							
D22K	**Ayikyak River**	93.18	13	P	**P**	**01 49 01.2 +0.5**		
	baz=215							
E23K	**Chandalar**	93.18	14	IAmb	IAmb	01 49 02.5		
	comp=Z,11nm,1.1s							
E23K	**Chandalar**	93.18	14	P	**P**	**01 49 00.8 0.0**		
	baz=218,SNR=6.0							
N32M	**Quiet Lake**	93.32	24	P	**P**	**01 49 02.0 +0.5**		
N32M				IAmb	IAmb	01 49 03.1		
	comp=Z,18nm,0.9s							
N32M	**Quiet Lake**	93.32	24	P	**P**	**01 49 01.6 +0.1**		
	baz=232							
B21K	**Ikpikuk River**	93.41	12	P	**P**	**01 49 01.6 -0.1**		
	baz=213							
I27K	**Kandik River**	93.41	18	P	**P**	**01 49 01.8 0.0**		
	baz=225,SNR=7.1							
E24K	**Your Creek**	93.45	14	P	**P**	**01 49 02.5 +0.5**		
	baz=219							
K29M	**Barlow Dome**	93.47	21	IAmb	IAmb	01 49 03.5		
	comp=Z,14nm,1.2s							
K29M	**Barlow Dome**	93.47	21	P	**P**	**01 49 02.1 -0.2**		
	baz=228,SNR=8.5							
M31M	**Drury Creek, Y**	93.49	23	P	**P**	**01 49 02.4 +0.2**		
	baz=231							
EVN	**Everest**	93.55	298	IAmb	IAmb	01 49 05.7		
	comp=Z,14nm,0.8s							
MOY	**Mondy**	93.56	324	*e*P	**P**	**01 49 03.7 +0.7**		
MOY				pmax	pmax			
	comp=Z,33nm,2.5s							
J29N	**Klondike Camp**	93.65	20	P	**P**	**01 49 03.1 +0.1**		
	baz=226							
TOLK	**Toolik Lake Re**	93.65	14	IAmb	IAmb	01 50 02.9		
	comp=Z,16nm,1.6s							
TOLK	**Toolik Lake Re**	93.65	14	P	**P**	**01 49 03.3 +0.4**		
	baz=218							
D23K	**Nanushuk River**	93.67	13	IAmb	IAmb	01 49 05.2		
	comp=Z,21nm,1.1s							
D23K	**Nanushuk River**	93.67	13	P	**P**	**01 49 03.8 +0.9**		
	baz=217							
X18A	**Snowflake**	93.74	55	IAmb	IAmb	01 49 07.1		
	comp=Z,18nm,1.3s							
F25K	**Christian River**	93.78	16	P	**P**	**01 49 04.1 +0.6**		
	baz=221							
G26K	**Porcupine Rive**	93.78	17	IAmb	IAmb	01 49 05.3		
	comp=Z,12nm,1.1s							
G26K	**Porcupine Rive**	93.78	17	P	**P**	**01 49 03.6 +0.2**		
	baz=223,SNR=9.2							
I28M	**Miner Creek**	93.80	19	P	**P**	**01 49 03.5 -0.2**		
	baz=226,SNR=6.7							
MAYO	**Mayo, Yukon**	93.85	21	P	**P**	**01 49 04.2 +0.3**		
	baz=230							
H27K	**Steamboat Moun**	93.88	18	IAmb	IAmb	01 49 05.6		
	comp=Z,14nm,1.4s							
H27K	**Steamboat Moun**	93.88	18	P	**P**	**01 49 04.2 +0.2**		
	baz=225,SNR=8.1							
BMAR	**Burnt Mountain**	93.92	16	P	**P**	**01 49 04.6 +0.4**		
W18A	**Petrified Fore**	94.12	54	IAmb	IAmb	01 49 08.5		
	comp=Z,18nm,1.4s							
D24K	**Happy Valley**	94.23	14	P	**P**	**01 49 05.8 +0.3**		
	baz=218

baz=238
E27K Coleen River 95.26 16 IAmb IAmb 01 49 12.1
comp=Z,7.8nm,1.1s
E27K Coleen River 95.26 16 P **P 01 49 10.4 +0.1**
baz=225,SNR=5.1
F28M Old Crow 95.32 17 P **P 01 49 10.3 -0.2**
baz=226
G29M Pine Creek 95.37 18 IAmb IAmb 01 49 11.8
comp=Z,13nm,1.1s
G29M Pine Creek 95.37 18 P **P 01 49 10.8 0.0**
baz=228,SNR=6.6
EPYK Eagle Plains 95.40 19 IAmb IAmb 01 49 12.0
comp=Z,16nm,1.1s
EPYK Eagle Plains 95.40 19 P **P 01 49 11.0 +0.1**
baz=229,SNR=5.3
TGTN Hyland Airport 95.42 25 P **P 01 49 11.4 +0.2**
baz=236
C26K Camden Bay 95.70 14 P **P 01 49 12.7 +0.5**
baz=222,SNR=6.5
C27K Jago River 95.77 15 IAmb IAmb 01 49 14.4
comp=Z,12nm,1.1s
C27K Jago River 95.77 15 P **P 01 49 13.2 +0.7**
baz=223,SNR=8.9
H31M Peel River 95.78 20 IAmb IAmb 01 49 13.1
comp=Z,9.3nm,1.1s
H31M Peel River 95.78 20 P **P 01 49 12.1 -0.6**
baz=231,SNR=5.4
PV20 West Nyswonger 95.89 51 IAmb IAmb 01 49 17.5
comp=Z,8.4nm,0.9s
PV23 Carpenter Ridg 95.90 51 IAmb IAmb 01 49 24.2
comp=Z,6.3nm,0.8s
G30M tAoh Zraii Nji 95.95 19 P **P 01 49 13.1 -0.3**
G30M tAoh Zraii Nji 95.95 19 P **P 01 49 13.1 -0.3**
baz=230,SNR=15
E28M Babbage River 96.10 17 IAmb IAmb 01 49 15.6
comp=Z,10nm,1.1s
E28M Babbage River 96.10 17 P **P 01 49 14.4 +0.4**
baz=227,SNR=11
TIXI Tiksi 96.12 348 LR LR 02 34 18.3
comp=Z,16nm,18.1s,baz=110,slow=36
D27M Malcolm River 96.17 16 IAmb IAmb 01 49 16.4
comp=Z,11nm,1.1s
D27M Malcolm River 96.17 16 P **P 01 49 14.9 +0.4**
baz=226
E29M Blow River 96.40 17 P **P 01 49 15.1 -0.3**
baz=228
F30M Barrier River 96.49 18 P **P 01 49 15.6 -0.2**
baz=230
G31M Satah River 96.50 19 IAmb IAmb 01 49 16.8
comp=Z,14nm,1.0s
G31M Satah River 96.50 19 P **P 01 49 15.7 -0.2**
baz=231,SNR=6.4
ANMO Albuquerque 96.57 55 P **P 01 49 17.7 +0.5**
ANMO Albuquerque 96.57 55 P **P 01 49 17.7 +0.5**
ANMO pmax pmax
comp=Z,5.0nm,1.3s
YHB Horse Butte 96.71 45 IAmb IAmb 01 49 15.7
comp=Z,8.1nm,1.1s
YHL Hebgen Lake 96.76 45 IAmb IAmb 01 49 26.1
comp=Z,12nm,1.6s
TXAR Lajitas Array 96.89 61 P **P 01 49 19.9 +1.2**
comp=Z,2.3nm,0.9s,baz=224,slow=5.2,SNR=17
TXAR pP **pP 01 49 53.0 -0.1**
comp=Z,1.6nm,1.1s,baz=246,slow=6.2,SNR=3.0
TXAR PKKP **PKKPdf 02 06 01.1 -0.9**
comp=Z,1.9nm,0.9s,baz=90,slow=3.8,SNR=8.3
comp=Z,2.3nm,0.9s
F31M Tsiigehtchic 96.99 19 P **P 01 49 17.9 -0.2**
baz=232,SNR=11
PDAR Pinedale Array 97.08 47 P **P 01 49 19.4 0.0**
comp=Z,0.7nm,0.5s,baz=208,slow=2.9,SNR=7.3
PDAR PKKP **PKKPbc 02 05 58.9 -1.5**
comp=Z,1.6nm,0.8s,baz=90,slow=4.4,SNR=12
comp=Z,0.7nm,0.5s
INK Inuvik 97.59 18 IAmb IAmb 01 49 21.4
comp=Z,19nm,1.4s
INK Inuvik 97.59 18 P **P 01 49 20.5 -0.2**
baz=232
WMQ Urumqi 98.50 314 *e*P Pdif 01 49 28.0 +2.5
ZSN Zaisan 101.55 316 *e*PKiKP **PKiKP 01 54 01.1 -1.0**
A36M Sachs Harbour 101.99 17 P **Pdif 01 49 40.4 +0.1**
baz=240
MKAR Makanchi Array 103.05 315 Pdiff **Pdif 01 49 45.5 -0.1**
comp=Z,1.4nm,0.9s,baz=101,slow=6.0,SNR=8.3
MKAR PP **PP 01 54 01.1 -1.2**
comp=Z,1.7nm,0.9s,baz=100,slow=7.9,SNR=6.5
ZALV Zalesovo Beam 103.48 323 Pdiff **Pdif 01 49 47.1 -0.2**
comp=Z,0.5nm,0.2s,baz=103,slow=4.6,SNR=6.9
ZALV PKiKP **PP 01 54 04.0 -1.1**
comp=Z,0.4nm,0.3s,baz=132,slow=4.1,SNR=4.3
SHLS Shalkode 104.01 311 *e*PKiKP **PKiKP 01 54 05.8 -1.0**
UZB Uzynbulak 104.32 311 *e*PKiKP **PKiKP 01 54 06.9 -0.6**
KPKS Kokpek 104.64 311 *e*PKiKP **PKiKP 01 54 07.6 -0.4**
SATY Saty 104.73 311 *e*PKiKP **PKiKP 01 54 07.9 -0.3**
KURBB Kurchatov Arra 106.40 318 PKiKP **PKiKP 01 54 10.7 -0.1**
comp=Z,0.6nm,0.2s,baz=100,slow=1.9,SNR=6.3
KURBB PKKPbc **PKKPbc 02 05 31.3 -1.8**
comp=Z,0.2nm,0.3s,baz=293,slow=3.8,SNR=6.8
BTLS Baital 108.23 312 *e*PKiKP **PKiKP 01 54 13.9 -0.6**
BTLS *e*PP **PP 01 54 39.4 -1.1**
IUG Iuzhnay 110.60 308 *i* PKiKP **PKiKP 01 54 18.7 -0.4**
IUG Iuzhnay 110.60 308 *e*PKiKP **PKiKP 01 54 18.8 -0.4**
BRLS Borolday 110.88 309 *i* PKiKP **PKiKP 01 54 19.1 -0.4**
BRLS *e* 01 54 58.6
BRLS Boroldav 110.88 309 *e*PKiKP **PKiKP 01 54 19.2 -0.4**
BRLS *e*PP **PP 01 54 58.7 -1.0**
BVAR Borovoye Array 111.77 320 PKiKP **PKiKP 01 54 20.1 -0.8**
comp=Z,1.1nm,0.4s,baz=101,slow=1.9,SNR=10
BRVK Borovoye 111.83 320*c* *i* PKIKP **PKiKP 01 54 19.7 -1.3**
BRVK pmax pmax
comp=Z,5.0nm,1.3s
SVE Sverdlovsk 117.43 324 *e*PKiKP **PKPdf 01 54 31.4 -0.2**
ABKAR Akbulak array 118.19 316 PKPdf 01 54 32.3 -1.0
ARTI Arti 118.71 324 PKPdf **PKPdf 01 54 33.2 -0.8**
ARTI Arti 118.71 324 PKP **PKPdf 01 54 33.4 -0.7**
comp=Z,5.9nm,0.6s,baz=154,slow=1.3,SNR=14
ARTI Arti 118.71 324 *i* PKIKP **PKPdf 01 54 33.3 -0.8**
ARTI 01 55 50.3
ARTI 02 01 32.9
AKTO Aktyubinsk 119.39 317 PKP **PKPdf 01 54 35.3 -0.3**
comp=Z,5.2nm,0.8s,baz=51,slow=0.9,SNR=21
SSPA Standing Stone 119.78 54 PKPdf **PKPdf 01 54 35.3 -1.4**
BOSA Boshof 120.36 216 PKPdf **PKPdf 01 54 38.4 0.0**
BOSA Boshof 120.36 216 PKP **PKPdf 01 54 38.0 -0.3**
comp=Z,3.9nm,0.9s,baz=182,slow=6.1,SNR=3.2
SPITS Spitsbergen Ar 120.94 354 PKP **PKPdf 01 54 37.0 -0.9**
comp=Z,7.7nm,0.8s,baz=90,slow=2.9,SNR=8.5
SPITS Spitsbergen Ar 120.94 354 PKIKP **PKPdf 01 54 37.0 -0.9**
SPB2 Spitsbergen Ar 120.94 354 PKPdf **PKiKP 01 54 38.2 +0.3**
TEFE Tefe 121.50 108 *e*P **PKPdf 01 54 40.4 -0.3**
KIRV Kirov 123.06 327 PKP **PKPdf 01 54 42.1 -0.2**
comp=Z,7.9nm,0.6s,baz=139,slow=1.4,SNR=6.6
KIRV Kirov 123.06 327 *i* PKIKP **PKiKP 01 54 42.9 +0.3**
MREMI Moremi 123.59 223 PKPdf **PKPdf 01 54 44.5 -0.2**
CLDB Colider 125.34 121 *e*P **PKPdf 01 54 48.1 0.0**
ARAG Araguaiana, MT 125.50 128 *e*P **PKPdf 01 54 48.3 0.0**
BELG Belogornoye 125.57 320 PKP **PKPdf 01 54 47.1 -0.2**
comp=Z,56nm,0.9s,baz=112,slow=1.1,SNR=16
BELG Belogornoye 125.57 320 *i* PKIKP **PKPdf 01 54 47.1 -0.2**
BELG pmax pmax
comp=Z,6.0nm,0.9s
SCHQ Schefferville 125.62 36 PKP **PKPdf 01 54 47.0 -0.4**
comp=Z,4.0nm,0.6s,baz=102,slow=3.1,SNR=3.9
PKME Peaks-Kenny Pk 125.91 48 PKPdf **PKiKP 01 54 48.7 0.0**
ARCES ARCESS Array B 126.45 345 PKP **PKPdf 01 54 47.8 -0.8**
comp=Z,9.2nm,0.9s,baz=40,slow=1.5,SNR=11
F64A Sherman 126.49 48 PKPdf **PKPdf 01 54 48.4 -1.0**
KLMR Klimovskoe 126.93 332 *e*PKIKP **PKPdf 01 54 47.8 -1.9**
KLMR *e* 01 55 23.8
KLMR pmax pmax
comp=Z,33nm,1.5s
AKT Akhty 127.18 307 *i* PKIKP **PKPdf 01 54 51.2 +0.2**
AKT pmax pmax
comp=Z,11nm,1.0s
SJG San Juan 127.33 82 PKPdf **PKPdf 01 54 51.0 -0.7**
SJG San Juan 127.33 82 PKIKP **PKPdf 01 54 51.0 -0.7**
KIBK Kibwezi 127.58 250 PKPdf **PKiKP 01 54 52.9 -0.2**
BOAV Boa Vista 127.73 103 PKPdf **PKPdf 01 54 51.6 -1.0**
BOAV Boa Vista 127.73 103 *e*P **PKPdf 01 54 52.9 +0.2**
BATG Bathurst New B 127.82 46 PKPdf **PKPdf 01 54 50.6 -1.3**
LSZ Lusaka 128.17 230 PKPdf **PKPdf 01 54 53.3 -0.3**
LSZ Lusaka 128.17 230 PKIKP **PKPdf 01 54 53.3 -0.3**
GRTLG Ghanzi 128.28 218 PKPdf **PKPdf 01 54 52.5 -1.3**
BDFB Brasilia 128.29 131 PKP **PKPdf 01 54 53.6 -0.2**
comp=Z,7.7nm,0.8s,baz=134,slow=0.5,SNR=10
RAYN Ar Rayn 128.58 284 PKPdf **PKPdf 01 54 53.9 -0.2**
RAYN Ar Rayn 128.58 284 PKIKP **PKPdf 01 54 53.9 -0.2**
ITTB Itaituba 128.89 114 *e*P **PKiKP 01 54 55.4 -0.2**
GNI Garni 129.56 306 PKP **PKiKP 01 54 56.4 0.0**
comp=Z,3.1nm,0.5s,baz=148,slow=3.0,SNR=5.2
GNI Garni 129.56 306*c* *i* PKIKP **PKPdf 01 54 55.5 -0.1**
GNI pmax pmax
comp=Z,4.0nm,0.6s
MOS Moscow 130.07 327 *i* PKIKP **PKPdf 01 54 54.2 -1.6**
MOS *e* 01 55 29.6
OZAP Van, Ozalp-Mer 130.28 304 ⇑P **PKiKP 01 54 59.2 +1.2**
KBZ Khabaz 130.43 310 PKP **PKiKP 01 54 57.8 +0.1**
comp=Z,2.8nm,0.8s,baz=147,slow=3.0,SNR=4.3
KIV Kislovodsk 130.54 311 *e*PKIKP **PKPdf 01 54 56.9 -0.4**
KIV pmax pmax
comp=Z,4.0nm,1.0s
OBN Obninsk 130.88 326*ce* PKIKP **PKPdf 01 54 57.6 +0.2**
OBN *e* 01 57 14.4
OBN *e*PS PS 02 07 11.4 -18
OBN pmax pmax
comp=Z,2.0nm,0.4s
OBN MLR MLR
comp=Z,30nm,19.0s
MAL2 Monte Alegre, 131.41 112 PKPdf **PKPdf 01 55 00.0 +0.3**
FINES FINESS Array B 131.99 338 PKhKP PKPpre 01 54 55.0
comp=Z,3.7nm,1.1s,baz=6.4,slow=24,SNR=2.1
FINES PKP **PKPdf 01 54 59.0 -0.3**
comp=Z,3.8nm,0.8s,baz=102,slow=3.4,SNR=13
FINES SKPbc **SKPab 01 58 13.4 -0.4**
comp=Z,2.9nm,0.8s,baz=61,slow=3.4,SNR=7.7
PRPB Paraiapebas 132.87 120 *e*P **PKiKP 01 55 03.3 -0.3**
SMTB Santa Maria do 133.02 125 *e*P **PKiKP 01 55 03.7 -0.2**
MNK Minsk 135.54 329 *i* PKIKP **PKPdf 01 55 05.6 -0.6**
MNK *i* 01 55 42.9
MNK *i* 01 55 53.7
MNK *i* 01 57 44.4
MNK *i* 02 02 03.9
MNK *i* SS SS 02 15 32.3 +2.0
MNK *i* SSS SSS 02 20 31.9
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK pmax pmax
comp=N,4.0nm,1.0s
MNK pmax pmax
comp=Z,13nm,1.0s
ASF Jabal al Asfar 136.57 295 PKP **PKPdf 01 55 09.7 +0.7**
comp=Z,3.9nm,0.9s,baz=91,slow=2.4,SNR=4.8
NB2 NORSAR Subarra 136.83 345 PKPdf **PKPdf 01 55 09.2 +0.7**
comp=Z,8.2nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra 136.83 345 PKPdf **PKPdf 01 55 09.2 +0.7**
baz=31,slow=1.9
NOA NORSAR Array B 136.83 345 PKP **PKPdf 01 55 08.5 0.0**
comp=Z,2.8nm,0.8s,baz=36,slow=1.9,SNR=8.9
AK03 Malin Array Si 136.85 324 PKP **PKPdf 01 55 08.1 -0.6**
AKASG Malin Array Be 136.86 324 PKPdf **PKPdf 01 55 07.8 -0.9**
AKASG Malin Array Be 136.86 324 PKP **PKPdf 01 55 08.0 -0.8**
comp=Z,3.0nm,0.8s,baz=59,slow=2.0,SNR=12
AKASG SKPbc **SKPbc 01 58 27.6 -1.4**
comp=Z,1.8nm,0.8s,baz=48,slow=2.6,SNR=7.5
AKASG SKPab **SKPab 01 58 36.7 +1.2**
comp=Z,0.1nm,0.2s,baz=48,slow=3.3,SNR=4.1
AKASG Malin Array Be 136.86 324 PKIKP **PKPdf 01 55 08.0 -0.8**
AKBB Malin Array Si 136.86 324 PKP **PKPdf 01 55 08.3 -0.5**
KIEV Kiev 136.88 324 PKPdf **PKPdf 01 55 08.0 -0.8**
KIEV Kiev 136.88 324 ⇑P **PKPdf 01 55 08.3 -0.5**
KIEV Kiev 136.88 324 PKIKP **PKPdf 01 55 08.0 -0.8**
HFS Hagfors 136.96 343 PKP **PKPdf 01 55 09.2 +0.5**
comp=Z,4.5nm,0.8s,baz=32,slow=3.0,SNR=5.9
MMAI Mount Meron Ar 137.76 297 PKP **PKiKP 01 55 12.5 -0.6**
comp=Z,0.6nm,0.3s,baz=64,slow=3.4,SNR=4.1
MMAI SKPbc **SKPbc 01 58 33.0 +0.7**
comp=Z,0.6nm,0.4s,baz=117,slow=5.4,SNR=5.8
KIRS Kirsehir-Merke 137.97 306 ⇑P **PKPdf 01 55 12.1 +0.8**
BR131 Keskin Array S 138.04 307 PKPpre 01 55 02.6
BR131 Keskin Array S 138.04 307 PKHKP PKPpre 01 55 02.7
BRTR Keskin Array B 138.04 307 PKPpre PKPpre 01 55 03.1
BRTR Keskin Array B 138.04 307 PKP **PKPdf 01 55 12.4 +0.9**
comp=Z,3.5nm,0.9s,baz=140,slow=2.7,SNR=14
BRTR SKPbc **SKPbc 01 58 34.0 +1.1**
comp=Z,0.9nm,1.0s,baz=127,slow=3.8,SNR=3.7
BRTR Keskin Array B 138.04 307*c* *i* PKIKP **PKiKP 01 55 12.8 -0.8**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
RNPP9 Sopachiv 138.28 326 PKP **PKPdf 01 55 10.8 -0.5**
EIL Elat 138.36 292 PKP **PKPdf 01 55 12.4 +0.2**
comp=Z,5.5nm,0.9s,baz=26,slow=21,SNR=6.6
SORM Soroca 138.60 321 ⇓P **PKPdf 01 55 11.8 -0.2**
ANTO Ankara 138.64 307 PKPdf **PKPdf 01 55 11.9 -0.6**
ANTO Ankara 138.64 307 ⇑P **PKiKP 01 55 15.3 +0.6**
ANTO Ankara 138.64 307 PKIKP **PKPdf 01 55 11.9 -0.6**
KMPD K-Podol'skiy 139.49 322 PKP **PKPdf 01 55 12.6 -1.0**
SAHE Sakarya_HENDEK 139.78 310 ⇓P **PKPdf 01 55 11.8 +0.4**
TPGR Topolog 140.01 316 ⇑P PKPpre 01 55 09.4
CFR Carcaliu 140.06 317 ⇓P **PKiKP 01 55 16.6 -0.7**
GHRR 140.13 319 ⇑P **PKiKP 01 55 17.2 -0.3**
VRI Vrincioaia 140.64 319 ⇓P **PKPdf 01 55 14.3 -1.6**
BURAR Bucovina Array 140.69 322 PKPdf **PKPdf 01 55 16.1 0.0**
BURAR Bucovina Array 140.69 322 ⇓P **PKPdf 01 55 14.1 -1.9**
MLR Muntele Rosu 141.30 318 PKP **PKPdf 01 55 17.1 -0.1**
comp=Z,3.3nm,1.0s,baz=274,slow=19,SNR=4.5
MLR Muntele Rosu 141.30 318 ⇓P PKPpre 01 55 12.2
KOLS Kolonicke sedl 141.60 325 *e*PKIKP **PKiKP 01 55 20.7 +0.3**
KOLS Kolonicke sedl 141.60 325 *e*PKP **PKiKP 01 55 20.7 +0.3**
STHS Stebnicka Huta 141.85 327 *e*PKIKP **PKiKP 01 55 20.9 0.0**
STHS Stebnicka Huta 141.85 327 *e*PKP **PKiKP 01 55 20.9 0.0**
VOIR 141.88 319 ⇓P **PKPdf 01 55 15.6 -2.6**
ARR Arges 142.17 319 ⇓P **PKPdf 01 55 16.2 -2.5**
TAVA DENIZLI_Tavas 142.20 305 ⇑P PKPpre 01 55 15.3
NIE Niedzica 142.34 327 *e*PKP **PKPdf 01 55 19.9 +1.1**
MARR Marisel-Cluj 142.40 322 ⇑P PKPpre 01 55 15.1
ELND Elena 142.49 315 ⇓P **PKPdf 01 55 19.6 +0.4**
LOT Lotru 142.66 320 ⇑P PKPpre 01 55 15.9
LANS Liptovska Anna 142.93 327 *e*PKIKP **PKPdf 01 55 19.7 -0.2**
LANS Liptovska Anna 142.93 327 *e*PKP **PKPdf 01 55 19.7 -0.2**
KPL Plockton 143.09 356 *e*P PKPab 01 55 16.2 +0.7
RUE Ruedersdorf 143.11 336 *e*PKPbc PKPbc 01 55 16.8 -0.5
baz=37,slow=3.0
PLVB Pleven 143.11 316 ⇓P PKPbc 01 55 17.8 +0.2
BSEG Bad Segeberg 143.16 340 *e*PKPbc PKPbc 01 55 16.8 -0.6
baz=37,slow=3.0
CAVK Caviezel/Enez-Ca 143.19 311 ⇑P PKPab 01 55 16.1 -0.4
STEB Steborice 143.24 330 *e*PKP PKPbc 01 55 17.6 -0.2
KSP Ksiaz 143.28 332 *e*PKP PKPbc 01 55 17.8 0.0
GZR Gura Zlata 143.29 320 ⇑P PKPbc 01 55 18.0 -0.1
EZN Ezine 143.39 310 ⇓P PKPbc 01 55 18.3 -0.2
SRE Strehaia 143.40 319 ⇓P **PKPdf 01 55 19.7 -1.1**
BDRM Kayabasi 143.43 305 ⇓P PKPab 01 55 18.1 +0.5
MORC Moravsky Berou 143.46 330 *e*PKP PKPab 01 55 17.7 +0.4
MORC Moravsky Berou 143.46 330 ⇑P PKPbc 01 55 18.5 +0.1
SIRR Siria 143.47 322 ⇓P PKPbc 01 55 19.0 +0.4
PSZ Piszkesteto 143.48 326 ⇓P PKPbc 01 55 19.5 +0.9
SURR Surduc 143.48 321 ⇓P PKPab 01 55 16.5 -1.0
CHVC Chvalec 143.57 332 *e*PKP PKPbc 01 55 18.8 +0.1
CHVC Chvalec 143.57 332 *e*PKIKP PKPbc 01 55 18.8 +0.1
MAUC Maruska 143.60 329 *e*PKP PKPbc 01 55 19.6 +0.8
KRLC Kraliky 143.61 331 *e*PKP PKPbc 01 55 18.4 -0.5
KRLC Kraliky 143.61 331 *e*PKIKP PKPbc 01 55 18.4 -0.5
DPC Dobruska-Polom 143.62 331 *e*PKP PKPbc 01 55 19.2 +0.3
DPC Dobruska-Polom 143.62 331 *e*PKIKP PKPbc 01 55 19.2 +0.3
UPC Upice 143.65 332 *e*PKP PKPbc 01 55 19.2 +0.3
UPC Upice 143.65 332 *e*PKIKP PKPbc 01 55 19.2 +0.3
BSZH Besenyszg 143.66 324 ⇑P **PKPdf 01 55 20.2 -0.9**
VYHS Vyhne 143.67 327 *e*PKIKP PKPbc 01 55 19.6 +0.6
VYHS Vyhne 143.67 327 *e*PKP PKPbc 01 55 19.6 +0.6
HERR Herculane 143.77 320 ⇑P PKPbc 01 55 19.7 +0.2
DJES Djerdap 143.82 319 ⇓P PKPab 01 55 19.2 +0.3
BZS Buzias 143.86 321 ⇓P PKPbc 01 55 19.4 -0.2
JAVC Velka Javorina 144.01 328 *e*PKP **PKPdf 01 55 21.7 -0.1**
KARP Karpathos 144.06 303 PKPdf PKPbc 01 55 20.4 -0.2
LAWE Loch Awe, Argy 144.15 355 *e*P **PKPab 01 55 18.8 -0.9**
FLTG Flechtingen 144.17 338 *e*PKPbc **PKPab 01 55 20.1 +0.2**
baz=37,slow=3.0
VRAC Vranov 144.23 330 *e*PKP PKPbc 01 55 20.5 -0.2
VRAC Vranov 144.23 330 ⇓P PKPbc 01 55 21.0 +0.3
MDVR Moldovita 144.25 320 ⇓P **PKPab 01 55 20.4 -0.1**
PVCC Panska Ves 144.27 333 *e*PKP PKPbc 01 55 21.0 +0.3
PVCC Panska Ves 144.27 333 *e*PKIKP PKPbc 01 55 21.0 +0.3
BANR Banloc 144.27 321 ⇓P **PKPdf 01 55 22.0 -0.3**
BRG Berggiesshubel 144.27 334 *e*PKPbc PKPbc 01 55 21.1 +0.4
baz=37,slow=3.0
BRG Berggiesshubel 144.27 334 ⇓*i* PKP PKPbc 01 55 21.1 +0.3
BRG Amp 01 55 22.3
comp=Z,71nm,0.9s
BRG Berggiesshubel 144.27 334 P **PKiKP 01 55 26.3 +0.6**
BRG Amp 01 55 27.2
comp=Z,24nm,1.0s
BRG pPKP **pPKPdf 01 55 54.7 -3.9**
BRG Amp 01 55 56.4
comp=Z,22nm,1.3s
CLL Collm 144.32 335 ⇓*i* PKIKP **PKPab 01 55 20.6 +0.1**
CLL *i* 01 55 54.1
CLL pmax pmax
comp=Z,70nm,0.9s
CLL Collm 144.32 335 ⇓*i* PKPdf **PKPab 01 55 20.6 +0.1**
comp=Z,70nm,0.9s
CLL *i* pPKPdf **pPKPdf 01 55 54.1 -4.6**
CLL *e*PP **PP 01 58 35.0 -3.3**
CLL *e*SKPdf **SKPdf 01 58 42.0 -1.8**
CLL Collm 144.32 335 *e*PKPbc PKPbc 01 55 20.9 0.0
baz=37,slow=3.0
SRO Srobarova 144.38 327 *e*PKIKP **PKPdf 01 55 23.3 +0.9**
SRO Srobarova 144.38 327 *e*PKP **PKPdf 01 55 23.3 +0.9**
NRDL Niedersach Rie 144.44 339 *e*PKPbc PKPbc 01 55 21.2 +0.1
baz=37,slow=3.0
RICC Richard 144.45 333 *e*PKP **PKPdf 01 55 22.0 -0.5**
RETH Rethem/Aller, 144.48 340 *e*PKPbc PKPbc 01 55 21.3 +0.1
baz=37,slow=3.0
KRUC Moravsky 144.49 330 *e*PKP PKPbc 01 55 21.4 -0.1
MODS Modra-Piesok 144.53 328 *e*PKIKP **PKPab 01 55 20.4 -1.1**
MODS Modra-Piesok 144.53 328 *e*PKP **PKPab 01 55 20.4 -1.1**
ASSE Asse, Remlinge 144.54 338 *e*PKPbc PKPbc 01 55 21.6 +0.2
baz=37,slow=3.0
GOPC GO Pecny, Ondr 144.62 332 *e*PKP **PKPab 01 55 21.8 0.0**
GOPC GO Pecny, Ondr 144.62 332 *e*PKIKP **PKPab 01 55 21.8 0.0**
PRU Pruhonice 144.68 332 *e*PKP **PKPab 01 55 21.9 0.0**
PRU Pruhonice 144.68 332 *e*PKIKP **PKPab 01 55 21.9 0.0**
TREC Trest 144.75 331 *e*PKP PKPbc 01 55 22.5 +0.2
TREC Trest 144.75 331 *e*PKIKP PKPbc 01 55 22.5 +0.2
BOVS Bovan 144.85 318 ⇑P **PKPab 01 55 23.0 +0.2**
EKA Eskdalemuir Ar 144.85 353 PKP **PKPab 01 55 21.9 -0.5**
comp=Z,6.1nm,0.3s,baz=359,slow=2.4,SNR=148
ESK Eskdalemuir 144.88 353 PKPbc 01 55 21.9 -0.5
ESK Eskdalemuir 144.88 353 PKIKP PKPbc 01 55 21.9 -0.6
CLZ Clausthal 144.88 338 *e*PKPbc **PKPdf 01 55 23.2 0.0**
baz=37,slow=3.0
NEWG New Galloway 145.18 354 *e*P **PKPbc 01 55 22.9 -0.5**
EDMD Edmundbyers 145.20 352 *e*P **PKPbc 01 55 23.0 -0.5**
MORH Mrgy, Hungar 145.20 324 ⇓*i*P **PKPbc 01 55 23.1 -0.7**
MORH Mrgy, Hungar 145.20 324 ⇑P **PKPdf 01 55 23.9 0.0**
ZVC Zvikov 145.24 332 *e*PKP **PKPab 01 55 24.0 0.0**
GTTG Gottingen 145.27 338 *e*PKPbc **PKPab 01 55 24.5 +0.4**
baz=37,slow=3.0
IBBN Ibbenburen 145.36 341 *e*PKPbc PKPbc 01 55 24.4 0.0
baz=37,slow=3.0
CLGH Cloghs, Cushen 145.37 356 *e*P **PKPdf 01 55 23.9 0.0**
MOX Moxa 145.39 335 *e*PKPbc **PKPab 01 55 24.4 -0.1**
baz=37,slow=3.0
MOX *e*pPKPbc pPKPbc 01 55 57.6 -2.6
VAY Valandovo 145.40 314 *i* P **PKPdf 01 55 24.1 -0.3**
GDLE Glaisdale, N Y 145.43 350 *e*P **PKPdf 01 55 23.6 -0.4**
IDGL Inch Island, C 145.46 357 PKPdf **PKPdf 01 55 23.5 -0.5**
IDGL Inch Island, C 145.46 357 *e*P **PKPdf 01 55 23.6 -0.4**
GAL1 Galloway 145.47 354 *e*P **PKPbc 01 55 24.2 -0.1**
RONA Rosalia, Austr 145.47 328 *e*PKP **PKPdf 01 55 24.3 0.0**
comp=Z,125nm,1.4s,SNR=54
CONA Conrad Observa 145.53 329 *e*PKP **PKPdf 01 55 24.7 +0.1**
comp=Z,73nm,1.1s,SNR=56
KESW Keswick, Cumbr 145.58 353 *e*P **PKPdf 01 55 24.3 +0.1**
CKRC Cesky Krumlov 145.63 331 *e*PKP **PKPbc 01 55 25.0 -0.1**
CKRC Cesky Krumlov 145.63 331 *e*PKP2 **PKPbc 01 55 25.0 -0.1**
MANZ Manzenberg 145.71 334 *e*PKPbc **PKPbc 01 55 25.5 +0.2**
baz=37,slow=3.0
KHC Kasperske Hory 145.73 332 *e*PKP **PKPbc 01 55 25.5 +0.1**
KHC Kasperske Hory 145.73 332 *e*PKP2 **PKPbc 01 55 25.5 +0.1**
ROTZ Rotzenmuhle 145.84 334 *e*PKPbc **PKPdf 01 55 23.6 -1.3**
baz=37,slow=3.0
ROTZ *e*pPKPbc **pPKPdf 01 55 57.1 -4.3**
SKO Skopje 145.85 316 *i* P **PKPab 01 55 26.4 -0.3**
UBBA Unterbreizbach 145.85 337 *e*PKPbc PKPbc 01 55 25.8 +0.2
baz=37,slow=3.0
GEC2 GERESS Array S 145.89 332 *e*PKPbc PKPbc 01 55 26.1 +0.2
baz=37,slow=3.0
GEC2 *e*pPKPbc **pPKPdf 01 55 58.5 -3.2**
GERES GERESS Array B 145.89 332 PKPdf **PKPdf 01 55 24.6 -0.4**
GERES GERESS Array B 145.89 332 PKPbc **PKPdf 01 55 25.3 +0.2**
comp=Z,17nm,0.8s,baz=35,slow=1.7,SNR=125
GERES GERESS Array B 145.89 332 PKIKP **PKPdf 01 55 24.7 -0.4**
IDI Anoyia 145.91 303 PKPbc **PKPdf 01 55 26.0 +0.5**
comp=Z,12nm,0.2s,baz=45,slow=8.6,SNR=53
WET Wettzell 146.03 333 *e*PKPbc **PKPbc 01 55 26.6 +0.2**
baz=37,slow=3.0
WET *e*pPKPbc **pPKPdf 01 55 59.6 -2.1**
BEHE Becsehely 146.04 326 ⇓*i*P **PKPbc 01 55 26.4 0.0**
KASTN Kahler Asten 146.09 339 *e*PKPbc PKPbc 01 55 26.3 -0.1
baz=37,slow=3.0
KASTN *e*pPKPbc **pPKPdf 01 55 59.0 -2.8**
ARSA Arzberg 146.16 328 PKPdf **PKPdf 01 55 25.5 0.0**
ARSA Arzberg 146.16 328 *e*PKP **PKPdf 01 55 25.5 0.0**
comp=Z,6.3nm,0.9s,SNR=11
BUG Bochum--Univer 146.26 340 *e*PKPbc PKPbc 01 55 26.5 -0.3
baz=37,slow=3.0
GRF Grafenberg Arr 146.29 335 *e*PKPbc PKPbc 01 55 27.4 +0.4
baz=37,slow=3.0
GRFO Grafenberg 146.29 335 PKPdf **PKPbc 01 55 26.6 -0.4**
GRFO Grafenberg 146.29 335 PKP2 **PKPbc 01 55 26.6 -0.4**
RUDO Rudo 146.30 320 *e*P **PKPdf 01 55 26.5 +0.6**
MOA Molln 146.35 330 *e*PKP **PKPdf 01 55 25.3 -0.5**
comp=Z,30nm,1.4s,SNR=14
ILTH Belurgan, Co L 146.43 356 PKPdf **PKPdf 01 55 26.4 +0.7**
LBWR Ladybower, Pea 146.55 351 *e*P **PKPbc 01 55 27.2 -0.4**
MOSL Moslavina 146.61 325 ⇓*i*P **PKPbc 01 55 27.7 -0.4**
OHR Ohrid 146.68 315 *i* P **PKPbc 01 55 28.1 -0.5**
BIOA Bad Ischl, Aus 146.76 330 *e*PKP **PKPdf 01 55 26.1 -0.5**
comp=Z,10nm,1.0s,SNR=6.3
PERS Pernice 146.79 328 *i* PKPdf **PKPdf 01 55 25.2 -1.5**
PERS *i* PKPbc **PKPbc 01 55 28.2 -0.4**
SOKA Soboth 146.80 328 *e*PKP **PKPdf 01 55 26.1 -0.6**
comp=Z,21nm,0.9s,SNR=23
A051A Mrakovica 146.90 324 ⇓*i*P **PKPbc 01 55 28.5 -0.5**
TNS Taunus Mts 146.91 338 *e*PKPbc **PKPbc 01 55 29.1 +0.2**
baz=37,slow=3.0
BLY Banja Luka 146.91 323 ⇓*i*P **PKPbc 01 55 29.1 +0.2**
BLY Banja Luka 146.91 323 ⇑P **PKPab 01 55 29.8 -0.8**
PDG Podgorica 147.01 318 ⇓P **PKPbc 01 55 29.2 -0.1**
KLINJ Klinje 147.02 320 *e*P **PKPdf 01 55 28.1 +0.9**
RJOB Jochberg 147.12 331 *e*PKPbc **PKPbc 01 55 29.1 -0.4**
baz=37,slow=3.0
CWF Charnwood Fore 147.13 350 *e*P **PKPbc 01 55 29.1 -0.2**
OBKA Obir 147.16 328 *e*PKP **PKPdf 01 55 26.7 -0.6**
comp=Z,12nm,1.0s,SNR=7.3
IGLA Glengowla, Co 147.17 359 PKPdf **PKPbc 01 55 29.0 -0.3**
DSB Dublin 147.22 356 PKPdf **PKPdf 01 55 27.6 +0.5**
FOEL Foel Wylfa 147.25 352 *e*P **PKPdf 01 55 28.3 +1.2**
OZLJ Ozalj 147.29 326 ⇓*i*P **PKPbc 01 55 29.9 0.0**
BEBN Eben Emael 147.32 341 *d*PKP **PKPbc 01 55 30.1 +0.3**
KBA Koelnbreinsper 147.34 330 *e*PKP **PKPdf 01 55 27.1 -0.7**
comp=Z,18nm,0.8s
BTNL Ternell 147.36 341 *d*PKP **PKPbc 01 55 29.7 -0.4**
BTNL *dp*PKP **pPKPdf 01 56 02.8 -1.1**
MEM Membach 147.38 341 *d*PKPdf **PKPdf 01 55 28.7 +1.3**
MEM *d*PKP **PKPbc 01 55 30.3 +0.2**
MEM *

ABTA	**Abfaltersbach**	**147.98**	**330**	*e*PKP		**PKPdf**	**01 55 27.4**	**-1.2**
	comp=Z,28nm,0.9s,SNR=14							
WTTA	**Wattenberg**	**147.99**	**331**	*e*PKP		**PKPdf**	**01 55 28.1**	**-0.7**
	comp=Z,25nm,0.9s,SNR=14							
RCHB	**Rochefort**	**148.02**	**341**	*d*PKP		**PKPbc**	**01 55 32.1**	**+0.3**
RCHB				*dp*PKP		**pPKPdf**	**01 56 04.5**	**-0.5**
BMRD	**Maredsous**	**148.03**	**342**	*d*PKPdf		**PKPdf**	**01 55 29.4**	**+1.0**
BMRD				*d*PKP		**PKPbc**	**01 55 31.7**	**-0.1**
WLF	**Walferdange**	**148.16**	**340**	*d*PKP		**PKPbc**	**01 55 32.7**	**+0.6**
WLF				*dp*PKP		**pPKPdf**	**01 56 05.7**	**+0.5**
WLF	**Walferdange**	**148.16**	**340**	*e*PKPbc		**PKPbc**	**01 55 32.9**	**+0.7**
	baz=37,slow=3.0							
WLF				*ep*PKPbc		**pPKPdf**	**01 56 05.9**	**+0.6**
MOTA	**Moosalm**	**148.17**	**332**	*e*PKP		**PKPdf**	**01 55 28.8**	**-0.3**
	comp=Z,41nm,0.9s,SNR=13							
RETA	**Reutte**	**148.21**	**333**	*e*PKP		**PKPbc**	**01 55 32.2**	**-0.3**
	comp=Z,16nm,0.8s,SNR=15							
SQTA	**Sankt Quirin**	**148.22**	**332**	*e*PKP		**PKPbc**	**01 55 32.4**	**-0.2**
	comp=Z,29nm,0.7s,SNR=14							
DOU	**Dourbes**	**148.26**	**342**	*d*PKP		**PKPbc**	**01 55 32.4**	**0.0**
BFO	**Black Forest**	**148.52**	**336**	PKPdf		**PKPdf**	**01 55 30.3**	**+0.9**
BFO	**Black Forest**	**148.52**	**336**	PKIKP		**PKPdf**	**01 55 30.3**	**+0.9**
BFO	**Black Forest**	**148.52**	**336**	*e*PKPbc		**PKPbc**	**01 55 33.1**	**-0.1**
	baz=37,slow=3.0							
FETA	**Feichten**	**148.58**	**332**	*e*PKP		**PKPbc**	**01 55 33.5**	**-0.1**
	comp=Z,35nm,0.9s,SNR=14							
BRJN	**Brijuni**	**148.67**	**326**	⇓*i*P		**PKPbc**	**01 55 33.3**	**-0.3**
DAVA	**Damuels**	**148.74**	**333**	*e*PKP		**PKPbc**	**01 55 33.7**	**-0.2**
	comp=Z,23nm,0.9s,SNR=21							
MATE	**Matera**	**149.59**	**317**	⇓P		**PKPbc**	**01 55 36.1**	**+0.1**
ACER	**Acerenza**	**149.99**	**318**			**PKPbc**	**01 55 35.8**	**-1.4**
TIP	**Timpagrande**	**150.33**	**315**	⇑P		**PKiKP**	**01 55 38.5**	**-0.3**
EDA	**Edea**	**154.14**	**233**	PKPbc		**PKPbc**	**01 55 46.1**	**-1.1**
EDA				PKPab		**PKPab**	**01 55 59.5**	**-1.8**
KEST	**Kesra**	**157.14**	**316**	PKPab		**PKPab**	**01 56 14.5**	**+0.7**
	comp=Z,12nm,0.9s,baz=270,slow=2.4,SNR=13							
ESDC	**Sonseca Array**	**160.19**	**346**			**PKPdf**	**01 55 45.1**	**-0.8**
ESDC				PKPab		**PKPab**	**01 56 26.0**	**-0.7**
ESDC	**Sonseca Array**	**160.19**	**346**	PKPab		**PKPab**	**01 56 26.2**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=27,slow=3.2,SNR=10							
DBIC	**Dimbokro**	**165.29**	**201**			**PKPab**	**01 56 50.4**	**+0.9**
DBIC	**Dimbokro**	**165.29**	**201**	PKPab		**PKPab**	**01 56 49.8**	**+0.3**
	comp=Z,47nm,0.9s,baz=183,slow=5.1,SNR=23							
TORD	**Torodi Ar. Bea**	**166.49**	**239**	PKPdf		**PKPdf**	**01 55 51.6**	**-0.8**
TORD				PKPab		**PKPab**	**01 56 53.0**	**-2.0**
TORD	**Torodi Ar. Bea**	**166.49**	**239**	PKP		**PKPdf**	**01 55 51.9**	**-0.6**
	comp=Z,5.1nm,1.0s,baz=74,slow=0.5,SNR=14							
TORD				PKPab		**PKPab**	**01 56 54.9**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=108,slow=4.7,SNR=6.7							

ATH ***31*** *01:43:57.3,40˚.49N×20˚.64E,h5km±1km,ML2.4/7,Manual Solution by A.Moschou First location: 2019/07/31 01:45:24, This location: 2019/07/31 04:20:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

TIR ***31*** *01:43:59.5,40˚.45N×20˚.81E,h14km±1km,Ml2.5/5*

SKO ***31*** *01:44:00.1,40˚.44N×20˚.87E,h17km,ML2.1*

ISC 31 01:43:59.5±1.0, 40˚.44N±0˚.02×20˚.77E±0˚.03, h9km±8km, n21, σ0˚.86/40, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.18**	**5**			**Pg**	**Pg**	**01 44 02.4**	**-1.0**
KBN						Sg	**Sg**	**01 44 06.5**	**+0.4**
NEST	**Nestorio**	**0.22**	**97**			P	**Pg**	**01 44 03.9**	**-0.1**
NEST						Sg	**Sg**	**01 44 08.2**	**+1.1**
NEST						AML	AML	01 44 08.7	
	3.6nm,0.1s								
NEST	**Nestorio**	**0.22**	**97**	P		P	**Pg**	**01 44 03.9**	**-0.1**
NEST				S		S	**Sg**	**01 44 08.3**	**+1.3**
PENT	**Pentalofos**	**0.38**	**131**	P		P	**Pg**	**01 44 06.5**	**-0.5**
PENT				S		S	**Sb**	**01 44 13.2**	**-1.3**
FNA	**Florina**	**0.58**	**53**	P		P	**Pg**	**01 44 10.0**	**-0.8**
FNA				S		S	**Sb**	**01 44 19.1**	**-1.1**
FNA	**Florina**	**0.58**	**53**	*i* Pg		**Pg**	**Pg**	**01 44 09.8**	**-1.0**
FNA				*i* Sg		**Sb**	**Sb**	**01 44 19.0**	**-1.2**
FNA	**Florina**	**0.58**	**53**	P		Pg	**Pg**	**01 44 09.8**	**-1.0**
FNA				S		Sg	**Sg**	**01 44 18.5**	**+0.2**
OHR	**Ohrid**	**0.67**	**2**	*i* Pg		**Pg**	**Pg**	**01 44 12.5**	**0.0**
OHR				*i* Sg		**Sb**	**Sb**	**01 44 23.1**	**+0.2**
OHR				*e*Lg		Lg	Lg	01 44 23.2	
	comp=E,92nm,0.6s								
OHR				*e*Lg		Lg	Lg	01 44 25.4	
	comp=N,61nm,0.6s								
JAN	**Janina**	**0.79**	**175**	P		P	**Pg**	**01 44 13.7**	**-1.0**
JAN				S		S	**Sg**	**01 44 25.3**	**+0.3**
SRN	**Sarande**	**0.81**	**227**	Pg		Pg	**Pg**	**01 44 15.0**	**-0.1**
SRN				S		S	**Sn**	**01 44 28.8**	**-0.5**
IGT	**Igoumenitsa**	**0.97**	**200**	P		Pb	**Pb**	**01 44 18.5**	**0.0**
IGT				Sg		Sn	**Sn**	**01 44 33.9**	**+0.6**
IGT				AML		AML	AML	01 44 35.3	
	comp=N,0.2nm,0.3s								
IGT	**Igoumenitsa**	**0.97**	**200**	*i* Pg		**Pg**	**Pg**	**01 44 18.1**	**0.0**
IGT				*i* Sg		**Sn**	**Sn**	**01 44 33.9**	**+0.6**
IGT	**Igoumenitsa**	**0.97**	**200**	P		**Pg**	**Pg**	**01 44 17.1**	**-1.1**
VLO	**Vlora**	**0.97**	**272**	P		Pn	**Pn**	**01 44 19.3**	**-0.1**
VLO				S		S	**Sn**	**01 44 34.4**	**+1.1**
VLO				AML		AML	AML	01 44 38.4	
	comp=N,1.0nm,0.3s								
PHP	**Peshkopia**	**1.27**	**349**	Pn		Pn	**Pn**	**01 44 22.9**	**-0.7**
PHP				Sn		Sn	**Sn**	**01 44 41.2**	**+0.5**
PHP				AML		AML	AML	01 44 46.7	
	comp=N,0.1nm,0.5s								
THL	**Klokotos Trika**	**1.30**	**132**	P		Pn	**Pn**	**01 44 23.2**	**-0.7**
THL				S		Sn	**Sn**	**01 44 43.8**	**+2.4**
TYRN	**Tyrnavos**	**1.34**	**122**	P		Pn	**Pn**	**01 44 24.2**	**-0.3**
TYRN				S		Sg	**Sg**	**01 44 43.6**	**+0.9**
LIT	**Litokhoron**	**1.36**	**104**	*i* Pn		Pn	**Pn**	**01 44 24.6**	**-0.3**
LIT	**Litokhoron**	**1.36**	**104**	P		Pn	**Pn**	**01 44 24.8**	**0.0**
LIT				S		Sg	**Sg**	**01 44 44.5**	**+1.2**
VAY	**Valandovo**	**1.63**	**57**	*i* Pn		Pn	**Pn**	**01 44 28.4**	**0.0**
VAY				*i* Sn		Sg	**Sg**	**01 44 52.5**	**+0.7**
VAY				*e*Lg		Lg	Lg	01 44 55.8	
	comp=E,18nm,0.5s								
VAY				*e*Lg		Lg	Lg	01 44 56.7	
	comp=N,32nm,0.8s								
PUK	**Puka**	**1.73**	**338**	Pn		**Pg**	**Pg**	**01 44 32.7**	**-0.1**
PUK				Sn		Sg	**Sg**	**01 44 56.4**	**+1.3**
PUK				AML		AML	AML	01 45 04.7	
	comp=N,0.2nm,0.6s								

NEIC ***31*** *02:03:37.8±0.9,9˚.63S±0˚.04×108˚.6W±0˚.2,h10km±1km, mb4.5/128, Error ellipse: s-maj=36.8km s-min=7.2km az=274.0*

IDC ***31*** *02:03:40.0±1.1,8˚.85S×108˚.79W,h0km,mb3.7/7, mbtmp3.7/7, MS3.7/6, Error ellipse: s-maj=45.7km s-min=24.5km az=72.0*

ISC 31 02:03:37.3±0.8, 9˚.6S±0˚.1×108˚.5W±0˚.2, h10km, n129, σ0˚.78/81, mb4.5/67, MS3.9/6, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**17.43**	**183**			Pn	**Pn**	**02 07 39.7**	**-1.1**
ATAH	**Atahualpa**	**29.83**	**88**			LR	LR	02 18 43.9	
	comp=Z,326nm,18.1s,baz=263,slow=30								
ZAIG	**Zacatecas**	**32.70**	**10**	P		**P**	**P**	**02 10 10.4**	**0.0**
ZAIG						IAmb	IAmb	02 10 13.7	
	comp=Z,13nm,1.5s								
H03N2	**Juan Fernandez**	**36.04**	**136**	T		T	T	02 49 42.1	
	baz=312								
H03N1	**Juan Fernandez**	**36.05**	**136**	T		T	T	02 49 52.0	
	baz=312								
H03N3	**Juan Fernandez**	**36.05**	**136**	T		T	T	02 49 51.4	
	baz=312								
833A	**Chaparral WMA,**	**38.72**	**13**	P		**P**	**P**	**02 11 02.1**	**+0.3**
833A						IAmb	IAmb	02 11 04.8	
	comp=Z,20nm,1.2s								
PB11	**IPOC Station P**	**38.77**	**110**	P		**P**	**P**	**02 11 03.0**	**+0.4**
PB11						IAmb	IAmb	02 11 07.1	
	comp=Z,25nm,1.4s								
TXAR	**Lajitas Array**	**39.00**	**7**	P		**P**	**P**	**02 11 03.7**	**-0.5**
TXAR	**Lajitas Array**	**39.00**	**7**	P		**P**	**P**	**02 11 01.0**	**-3.3**
	comp=Z,0.6nm,0.9s,baz=194,slow=8.9,SNR=3.9								
	comp=Z,0.6nm,0.9s								
DRIO	**Del Rio**	**39.54**	**11**	P		**P**	**P**	**02 11 08.3**	**-0.3**
735A	**Kenedy**	**39.61**	**15**	P		**P**	**P**	**02 11 10.5**	**+1.4**
LPAZ	**La Paz**	**39.79**	**104**	P		P	P	02 11 20.4	+8.7
	comp=Z,1.1nm,0.8s,baz=231,slow=4.3,SNR=5.6								
	comp=Z,1.1nm,0.8s								

SAND	**Sanderson**	**39.81**	**9**	P		**P**	**02 11 10.7**	**-0.3**
HNDO	**Hondo**	**39.91**	**12**	P		**P**	**02 11 12.0**	**+0.3**
ALPN	**Alpine**	**40.03**	**6**	P		**P**	**02 11 12.1**	**-0.8**
VHRN	**Van Horn**	**40.31**	**5**	P		**P**	**02 11 14.9**	**-0.2**
PPT2	**Papeete2**	**40.68**	**254**	*e*SS		SS	02 20 23.5	-5.9
	comp=Z,329nm,27.5s							
PPT2				*e*LR		LR	02 22 16.0	
	comp=Z,244nm,27.8s							
PPT2				*e*LR		LR	02 22 22.9	
	comp=Z,365nm,26.8s							
JCT	**Junction City**	**40.73**	**11**	P		**P**	**02 11 18.5**	**0.0**
JCT						IAmb	IAmb	02 11 22.0
	comp=Z,12nm,1.4s							
319A	**Douglas**	**40.77**	**359**	P		**P**	**02 11 20.0**	**+1.0**
319A						IAmb	IAmb	02 11 30.4
	comp=Z,5.2nm,0.8s							
OZNA	**Ozona**	**40.92**	**10**	P		**P**	**02 11 20.5**	**+0.4**
MNTX	**Cornudas Mount**	**41.19**	**4**	P		**P**	**02 11 21.2**	**-1.0**
TBI	**Tubuai**	**41.47**	**246**	*e*SS		SS	02 20 31.2	-14
	comp=Z,604nm,32.0s							
TBI				*e*LR		LR	02 22 44.9	
	comp=Z,1μm,29.2s							
BRDY	**Brady**	**41.67**	**12**	P		**P**	**02 11 26.2**	**0.0**
BRDY						IAmb	IAmb	02 11 27.3
	comp=Z,10nm,0.9s							
ODSA	**Odessa**	**41.89**	**8**	P		**P**	**02 11 28.7**	**+0.6**
ODSA						IAmb	IAmb	02 11 34.2
	comp=Z,15nm,1.4s							
SGCY	**Sterling City**	**41.89**	**9**	P		**P**	**02 11 26.5**	**-1.6**
SGCY						IAmb	IAmb	02 11 28.1
	comp=Z,6.6nm,1.0s							
121A	**Cookes Peak, D**	**41.92**	**1**	P		**P**	**02 11 28.3**	**-0.2**
121A						IAmb	IAmb	02 11 31.1
	comp=Z,10.0nm,1.2s							
ABTX	**Abilene, Hawle**	**42.84**	**11**	P		**P**	**02 11 35.5**	**-0.2**
ABTX						IAmb	IAmb	02 11 37.8
	comp=Z,6.9nm,1.1s							
SN05	**Snyder 5**	**42.87**	**9**	P		**P**	**02 11 35.2**	**-0.8**
SN05						IAmb	IAmb	02 11 38.2
	comp=Z,10nm,1.2s							
SN07	**Snyder 07**	**43.08**	**9**	P		**P**	**02 11 37.2**	**-0.5**
PLPT	**Palo Pinto**	**43.29**	**12**	P		**P**	**02 11 38.7**	**-0.6**
PLPT						IAmb	IAmb	02 11 42.0
	comp=Z,15nm,1.2s							
Y22A	**Socorro**	**43.34**	**2**	P		**P**	**02 11 40.1**	**+0.2**
Y22A						IAmb	IAmb	02 11 42.7
	comp=Z,9.1nm,1.2s							
BLYC	**Blythe**	**43.52**	**353**	P		**P**	**02 11 40.7**	**-0.5**
BC3	**Big Chuckawall**	**43.55**	**352**	P		**P**	**02 11 41.2**	**-0.4**
DKNS	**Dickens**	**43.64**	**9**	P		**P**	**02 11 41.9**	**-0.4**
X16A	**Lo Mia Camp, P**	**43.89**	**356**	P		**P**	**02 11 44.2**	**-0.2**
WTFS	**Witchita Falls**	**44.18**	**12**	P		**P**	**02 11 46.6**	**+0.1**
ANMO	**Albuquerque**	**44.36**	**2**	P		**P**	**02 11 48.1**	**-0.1**
NEE2	**Needles Airpor**	**44.53**	**353**	P		**P**	**02 11 48.9**	**-0.4**
W13A	**Hualapai Mount**	**44.77**	**354**	P		**P**	**02 11 50.5**	**-1.0**
W13A						IAmb	IAmb	02 11 54.1
	comp=Z,6.1nm,1.2s							
Z41A	**Richland Creek**	**45.17**	**19**	P		**P**	**02 11 54.9**	**+0.5**
WLAR	**White Oak Lake**	**45.47**	**18**	P		**P**	**02 11 57.0**	**+0.2**
MIAR	**Mount Ida**	**46.13**	**17**	P		**P**	**02 12 01.8**	**-0.2**
GWY	**Greenwater Val**	**46.22**	**351**	P		**P**	**02 12 02.5**	**-0.4**
GWY						IAmb	IAmb	02 12 04.8
	comp=Z,6.4nm,1.3s							
X40A	**Basin Creek Fa**	**46.30**	**18**	P		**P**	**02 12 03.5**	**+0.2**
X40A						IAmb	IAmb	02 12 16.4
	comp=Z,3.5nm,1.0s							
SHPR	**Sheep Range**	**46.31**	**353**	P		**P**	**02 12 03.1**	**-0.5**
OK029	**Liberty Lake**	**46.35**	**12**	P		**P**	**02 12 03.9**	**+0.2**
KNB	**Kanab**	**46.57**	**355**	P		**P**	**02 12 06.1**	**+0.5**
KNB						IAmb	IAmb	02 12 18.0
	comp=Z,7.0nm,1.5s							
MVCO	**Mesa Verde**	**46.58**	**360**	P		**P**	**02 12 06.0**	**+0.2**
MVCO						IAmb	IAmb	02 12 12.1
	comp=Z,9.5nm,1.5s							
LCMT	**Little Creek M**	**46.60**	**355**	P		**P**	**02 12 05.6**	**-0.3**
TPNV	**Topopah Spring**	**46.90**	**351**	P		**P**	**02 12 07.8**	**-0.4**
SDCO	**Great Sand Dun**	**47.20**	**3**	P		**P**	**02 12 10.3**	**-0.4**
SDCO						IAmb	IAmb	02 12 11.4
	comp=Z,3.3nm,1.2s							
WHAR	**Wooly Hollow**	**47.21**	**18**	P		**P**	**02 12 10.5**	**+0.1**
HMU	**Henry Mountain**	**47.36**	**358**			IAmb	IAmb	02 12 18.3
	comp=Z,7.0nm,1.3s							
PV02	**Paradox Valley**	**47.58**	**360**	P		**P**	**02 12 13.2**	**-0.4**
PV02						IAmb	IAmb	02 12 20.0
	comp=Z,7.4nm,1.2s							
HHAR	**Hobbs**	**47.66**	**16**			IAmb	IAmb	02 12 16.6
	comp=Z,4.2nm,1.1s							
152A	**Waverly Hall**	**47.76**	**27**			IAmb	IAmb	02 12 16.4
	comp=Z,3.4nm,0.9s							
FCAR	**Ozark Folk Cen**	**47.81**	**18**	P		**P**	**02 12 15.4**	**+0.3**
FCAR						IAmb	IAmb	02 12 17.8
	comp=Z,5.5nm,1.0s							
Y49A	**Blount Mountai**	**48.04**	**25**			IAmb	IAmb	02 12 20.1
	comp=Z,6.2nm,1.1s							
LCAR	**Lake Charles**	**48.28**	**19**	P		**P**	**02 12 19.0**	**+0.3**
X48A	**Hartselle**	**48.30**	**24**	P		**P**	**02 12 19.0**	**0.0**
X48A						IAmb	IAmb	02 12 19.9
	comp=Z,4.0nm,0.8s							
NVAR	**Mina Array Bea**	**48.68**	**350**	P		**P**	**02 12 21.5**	**-0.6**
NVAR	**Mina Array Bea**	**48.68**	**350**	P		**P**	**02 12 21.6**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=186,slow=13,SNR=7.1							
	comp=Z,1.2nm,0.9s							
RYN	**Ryan**	**48.91**	**350**	P		**P**	**02 12 24.3**	**+0.6**
FPAL	**Fort Paine**	**48.96**	**25**	P		**P**	**02 12 24.5**	**+0.4**
FPAL						IAmb	IAmb	02 12 31.3
	comp=Z,6.0nm,1.3s							
PBMO	**Poplar Bluff**	**49.16**	**19**	P		**P**	**02 12 26.0**	**+0.5**
PBMO						IAmb	IAmb	02 12 28.3
	comp=Z,7.1nm,0.9s							
SWET	**Sewanee**	**49.41**	**24**			IAmb	IAmb	02 12 30.5
	comp=Z,4.7nm,0.9s							
WVT	**Waverly**	**49.48**	**22**	P		**P**	**02 12 27.5**	**-0.4**
WVT						IAmb	IAmb	02 12 34.3
	comp=Z,3.4nm,0.8s							
CCM	**Cathedral Cave**	**50.08**	**18**	P		**P**	**02 12 32.1**	**-0.4**
CCM						IAmb	IAmb	02 12 35.3
	comp=Z,6.9nm,1.0s							
CPCT	**Cooper Cave**	**50.20**	**26**			IAmb	IAmb	02 12 46.2
	comp=Z,7.2nm,1.3s							
ELK	**Elko**	**50.50**	**353**			IAmb	IAmb	02 12 38.7
	comp=Z,7.5nm,1.2s							
T47A	**Sharon Grove**	**50.51**	**22**			IAmb	IAmb	02 12 36.5
	comp=Z,4.8nm,0.8s							
V53A	**Saluda**	**51.13**	**27**			IAmb	IAmb	02 12 42.0
	comp=Z,3.8nm,0.8s							
PDAR	**Pinedale Array**	**52.14**	**359**	P		**P**	**02 12 46.7**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=168,slow=7.6,SNR=5.3							
	comp=Z,0.3nm,0.4s							
R49A	**Shelbyville**	**52.38**	**23**	P		**P**	**02 12 49.7**	**-0.1**
R49A						IAmb	IAmb	02 12 50.2
	comp=Z,4.4nm,0.9s							
WVOR	**Wild Horse Val**	**52.63**	**351**			IAmb	IAmb	02 12 54.5
	comp=Z,11nm,1.4s							
TPAW	**Teton Pass**	**52.91**	**358**			IAmb	IAmb	02 12 55.6
	comp=Z,7.1nm,1.4s							
FXWY	**Fox Creek**	**53.06**	**358**	P		**P**	**02 12 53.9**	**-1.1**
MFID	**Camas Ranch**	**53.21**	**353**			IAmb	IAmb	02 12 56.9
	comp=Z,7.9nm,1.1s							
J08A	**Circle Bar Ran**	**53.51**	**351**			IAmb	IAmb	02 13 01.6
	comp=Z,5.3nm,1.2s							
J05D	**Fort Rock, OR**	**53.93**	**348**	P		**P**	**02 13 00.9**	**-0.3**
G08A	**Pilot Rock**	**55.47**	**351**	P		**P**	**02 13 12.3**	**-0.2**
G08A						IAmb	IAmb	02 13 14.8
	comp=Z,6.1nm,1.2s							
BPMT	**Black Pine Rid**	**55.98**	**356**	P		**P**	**02 13 15.6**	**-0.6**
L56A	**Greenwood**	**58.77**	**27**	P		**P**	**02 13 35.5**	**-0.3**
SADO	**Sadowa**	**60.26**	**24**	LR		LR	02 40 01.9	
	comp=Z,84nm,19.1s,baz=301,slow=36							
EPLO	**Experimental L**	**60.44**	**11**	P		**P**	**02 13 47.7**	**+0.7**
DLBC	**Dease Lake**	**70.06**	**348**	LR		LR	02 41 29.5	
	comp=Z,8.8nm,18.7s,baz=186,slow=33							
YKA	**Yellowknife Ar**	**72.05**	**357**	P		**P**	**02 15 00.7**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=169,slow=5.2,SNR=3.5							
	comp=Z,0.9nm,0.9s							
HYT	**Haines Junctio**	**73.88**	**346**	P		**P**	**02 15 13.3**	**+0.9**
VRDI	**Verde Repeater**	**75.79**	**343**	P		**P**	**02 15 23.5**	**0.0**
VRDI						IAmb	IAmb	02 15 24.4
	comp=Z,3.8nm,1.0s							
L29M	**L29M**	**76.01**	**347**	P		**P**	**02 15 25.2**	**+0.7**
K29M	**Barlow Dome**	**76.52**	**347**			IAmb	IAmb	02 15 34.2
	comp=Z,4.1nm,1.2s							
BCAR	**Beaver Creek A**	**76.86**	**345**	P		**P**	**02 15 29.1**	**-0.2**
L27K	**Beaver Creek,**	**76.87**	**345**	P		**P**	**02 15 29.5**	**+0.1**
L27K						IAmb	IAmb	02 15 30.1
	comp=Z,2.9nm,1.0s							

DAWY	**Dawson**	**77.13**	**347**	IAmb		IAmb	02 15 37.9	
	comp=Z,5.6nm,1.4s							
PAX	**Paxson**	**77.76**	**344**	IAmb		IAmb	02 15 41.3	
	comp=Z,5.1nm,1.3s							
GHO	**Glory Hole Cre**	**77.84**	**342**	P		**P**	**02 15 35.2**	**+0.2**
GHO				IAmb		IAmb	02 15 37.6	
	comp=Z,4.5nm,0.9s							
RIDG	**Independent Ri**	**78.21**	**344**	IAmb		IAmb	02 15 40.0	
	comp=Z,7.4nm,1.2s							
I28M	**Miner Creek**	**78.43**	**347**	IAmb		IAmb	02 15 52.1	
	comp=Z,9.3nm,1.5s							
CUT	**Chulitna**	**78.74**	**342**	P		**P**	**02 15 40.1**	**+0.4**
J25K	**Salcha River,**	**79.05**	**345**	IAmb		IAmb	02 15 44.1	
	comp=Z,5.5nm,1.2s							
RND	**Reindeer**	**79.07**	**343**	IAmb		IAmb	02 15 48.8	
	comp=Z,8.9nm,1.2s							
ILAR	**Eielson Array**	**79.57**	**344**	P		**P**	**02 15 43.5**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=165,slow=5.5,SNR=4.2							
	comp=Z,0.5nm,0.8s							
PPLA	**Purkeypile**	**79.71**	**341**	IAmb		IAmb	02 16 18.7	
	comp=Z,7.3nm,1.4s							
CAST	**Castle Rocks**	**80.05**	**342**	P		**P**	**02 15 46.8**	**-0.1**
CAST				IAmb		IAmb	02 15 47.0	
	comp=Z,4.6nm,1.2s							
L19K	**White Mountain**	**80.08**	**340**	IAmb		IAmb	02 15 53.2	
	comp=Z,6.7nm,1.2s							
QSPA	**South Pole Qui**	**80.46**	**180**	P		P	02 15 57.7	+8.3
	comp=Z,2.6nm,1.0s,baz=120,slow=2.7,SNR=5.7							
	comp=Z,2.6nm,1.0s							
I23K	**Minto, Yukon-K**	**80.53**	**344**	IAmb		IAmb	02 15 52.2	
	comp=Z,9.7nm,1.3s							
K20K	**Telida**	**80.64**	**341**	IAmb		IAmb	02 15 55.4	
	comp=Z,11nm,1.4s							
MLY	**Manley**	**80.83**	**343**	IAmb		IAmb	02 15 57.7	
	comp=Z,5.1nm,1.3s							
J20K	**Nowinta River**	**81.24**	**342**	IAmb		IAmb	02 16 09.8	
	comp=Z,8.5nm,1.4s							
F26K	**Sheenjek River**	**81.24**	**347**	P		**P**	**02 15 53.4**	**+0.2**
I21K	**Tanana**	**81.30**	**343**	IAmb		IAmb	02 15 54.1	
	comp=Z,3.4nm,1.0s							
H21K	**Melozitna Rive**	**81.89**	**343**	IAmb		IAmb	02 15 57.1	
	comp=Z,8.1nm,1.4s							
DZM	**Mont Dzumac**	**81.95**	**249**	*e*LR		LR	02 41 23.9	
	comp=Z,74nm,24.1s							
H19K	**Roundabout Mou**	**82.88**	**342**	P		**P**	**02 16 02.9**	**+1.1**
H11S2	**WAKE ISLAND Hy**	**88.19**	**289**	T		T	03 53 14.3	
	baz=101							
H11S1	**WAKE ISLAND Hy**	**88.19**	**289**	T		T	03 53 10.5	
	baz=101,slow=74							
H11S3	**WAKE ISLAND Hy**	**88.20**	**289**	T		T	03 53 15.0	
	baz=101,slow=74							
H11N3	**WAKE ISLAND Hy**	**88.22**	**290**	T		T	03 53 18.9	
	baz=101,slow=74							
H11N2	**WAKE ISLAND Hy**	**88.24**	**290**	T		T	03 53 21.5	
	baz=101,slow=74							
H11N1	**WAKE ISLAND Hy**	**88.24**	**290**	T		T	03 53 16.7	
	baz=101,slow=74							
SHEM	**Shemya Is, Ala**	**90.09**	**324**	LR		LR	02 50 08.8	
	comp=Z,86nm,20.0s,baz=110,slow=31							
BORG	**Borgarnes**	**97.40**	**26**	LR		LR	02 59 43.2	
	comp=Z,17nm,18.8s,baz=291,slow=35							
PETK	**Petropavlovsk-**	**99.93**	**322**	LR		LR	02 51 52.5	
	comp=Z,43nm,21.2s,baz=89,slow=29							
MKAR	**Makanchi Array**	**141.84**	**348**	PKP		**P

MORH	**Mrgy, Hungar**	**3.02**	**351**	*e*Pn	**Pn**	**02 05 27.3**	**+0.1**
MORH				*e*Sn	**Sn**	**02 06 03.1**	**-0.5**
DUGI	**Dugi Otok**	**3.20**	**285**	*i* Pn	**Pn**	**02 05 31.8**	**+2.0**
DUGI				Sn	**Sb**	**02 06 12.1**	**-3.4**
VIRC	**Vir**	**3.28**	**290**	*e*Pn	**Pn**	**02 05 33.9**	**+3.1**
OZLJ	**Ozalj**	**3.65**	**312**	*e*Pn	**Pn**	**02 05 36.3**	**+0.4**

*IDC **31** 02:05:37.0±1.2,9.°03S×109.°08W,h0km,mb3.6/5, mbtmp3.6/5,MS3.9/14,Error ellipse: s-maj=50.1km s-min=29.7km az=69.0*

ISC 31 02:05:38.3±1.1,9.°0S±0.°2×109.°1W±0.°3,h10km,n30, σ0.99/7,mb3.5/5,MS3.9/14,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**29.53**	**28**	LR	LR	02 19 48.7	
	comp=Z,107nm,20.7s,baz=216,slow=29						
JTS	**Las Juntas de**	**30.77**	**52**	LR	LR	02 21 27.6	
	comp=Z,314nm,19.4s,baz=228,slow=31						
LPIG	**La Paz**	**32.96**	**358**	LR	LR	02 22 38.4	
	comp=Z,231nm,20.5s,baz=178,slow=31						
H03N2	**Juan Fernandez**	**36.91**	**136**	T	T	02 52 08.4	
	baz=308,slow=77						
H03N3	**Juan Fernandez**	**36.92**	**136**	T	T	02 52 08.0	
	baz=308,slow=77						
H03N1	**Juan Fernandez**	**36.93**	**136**	T	T	02 52 09.3	
	baz=308,slow=77						
ROSC	**El Rosal**	**37.32**	**70**	LR	LR	02 24 59.7	
	comp=Z,135nm,21.4s,baz=226,slow=31						
TXAR	**Lajitas Array**	**38.51**	**8**	P	**P**	**02 13 01.3**	**+0.2**
	0.3nm,0.7s,baz=186,slow=7.8,SNR=2.3						
	0.3nm,0.7s						
PPT	**Papeete**	**40.21**	**254**	LR	LR	02 25 25.4	
	comp=Z,132nm,21.7s,baz=110,slow=30						
LPAZ	**La Paz**	**40.57**	**104**	P	**P**	**02 13 19.1**	**0.0**
	0.6nm,0.5s,baz=329,slow=2.6,SNR=3.5						
	0.6nm,0.5s						
PLCA	**Paso Flores**	**46.50**	**139**	LR	LR	02 29 25.1	
	comp=Z,191nm,19.1s,baz=312,slow=31						
NVAR	**Mina Array Bea**	**47.99**	**350**	P	**P**	**02 14 18.2**	**+0.4**
	0.5nm,0.7s,baz=179,slow=5.9,SNR=3.6						
	0.5nm,0.7s						
PCRV	**Puerto La Cruz**	**48.21**	**68**	LR	LR	02 31 48.5	
	comp=Z,132nm,21.4s,slow=33						
ELK	**Elko**	**49.86**	**354**	LR	LR	02 31 25.3	
	comp=Z,263nm,18.9s,baz=180,slow=31						
SJG	**San Juan**	**50.27**	**57**	LR	LR	02 33 27.3	
	comp=Z,71nm,21.2s,baz=225,slow=33						
CPUP	**Villa Florida**	**51.88**	**116**	LR	LR	02 32 40.0	
	comp=Z,53nm,21.4s,baz=136,slow=31						
PMSA	**Palmer Station**	**63.90**	**160**	LR	LR	02 35 56.1	
	comp=Z,95nm,20.8s,baz=295,slow=28						
URZ	**Urewera**	**71.73**	**233**	LR	LR	02 43 57.3	
	comp=Z,177nm,18.8s,baz=82,slow=32						
FRB	**Frobisher Bay**	**78.82**	**17**	LR	LR	02 49 41.6	
	comp=Z,55nm,18.5s,baz=319,slow=34						
ILAR	**Eielson Array**	**78.84**	**344**	P	**P**	**02 17 41.1**	**-0.1**
	0.2nm,0.8s,baz=137,slow=7.0,SNR=2.1						
	0.2nm,0.8s						
VNDA	**Vanda**	**81.03**	**193**	LR	LR	02 46 54.9	
	comp=Z,31nm,18.2s,baz=34,slow=31						
QSPA	**South Pole Qui**	**81.04**	**180**	P	**P**	**02 17 53.9**	**+0.5**
	1.4nm,1.0s,baz=140,slow=0.6,SNR=2.4						
	1.4nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**87.37**	**289**	T	T	03 55 10.4	
	baz=101,slow=74						
H11S1	**WAKE ISLAND Hy**	**87.38**	**289**	T	T	03 55 08.5	
	baz=101,slow=74						
H11S3	**WAKE ISLAND Hy**	**87.39**	**289**	T	T	03 55 10.9	
	baz=101,slow=74						
H11N3	**WAKE ISLAND Hy**	**87.41**	**290**	T	T	03 55 10.1	
	baz=101,slow=74						
H11N2	**WAKE ISLAND Hy**	**87.42**	**290**	T	T	03 55 12.3	
	baz=101,slow=74						
H11N1	**WAKE ISLAND Hy**	**87.42**	**290**	T	T	03 55 12.8	
	baz=101						
MKAR	**Makanchi Array**	**141.14**	**347**	PKP	**PKPdf**	**02 25 07.5**	**-1.8**
	0.2nm,0.6s,baz=18,slow=2.3,SNR=1.9						
CMAR	**Chiang Mai Arr**	**151.22**	**292**	PKPbc	**PKiKP**	**02 25 33.8**	**+0.3**
	1.2nm,0.3s,baz=70,slow=1.1,SNR=4.7						

*IDC **31** 02:35:35.7±1.2,2.°94S×136.°66E,h0km,mb3.7/4, mbtmp3.7/6,ML3.8/2,Error ellipse: s-maj=30.3km s-min=26.1km az=122.0*

*DJA **31** 02:35:41.9±0.3,3.°5S×13.°7E±.°,h10km,M4.1/7,MLv4.1/7*

ISC 31 02:35:40.9±0.8,3.°12S±0.°06×136.°69E±0.°05,h34km,n14, σ2.25/17,mb3.6/3,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**1.32**	**340**	P	**Pn**	**02 36 04.2**	**+1.3**
SRPI				S	**Sb**	**02 36 21.3**	**-0.5**
BAKI	**Biak**	**2.00**	**343**	P	**Pb**	**02 36 15.6**	**-1.1**
BAKI				S	**Sb**	**02 36 41.3**	**+0.1**
SMPI	**Sarmi**	**2.31**	**61**	P	**Pn**	**02 36 18.0**	**+1.4**
RKPI	**Ransiki, Papua**	**2.97**	**302**	P	**Pn**	**02 36 29.4**	**+3.7**
GENI	**Genyem**	**3.52**	**82**	P	**Pn**	**02 36 37.1**	**+3.9**
JAY	**Jayapura**	**4.06**	**82**	Pn	**Pn**	**02 36 39.7**	**-0.9**
	3.0nm,0.3s,baz=125,slow=11,SNR=11						
JAY				Sn	**Sn**	**02 37 28.6**	**+1.5**
	1.1nm,0.3s,baz=141,slow=18,SNR=1.3						
	5.3nm,0.5s						
JAY	**Jayapura**	**4.06**	**82**	P	**Pn**	**02 36 43.9**	**+3.2**
FAKI	**Fak Fak**	**4.44**	**272**	P	**Pn**	**02 36 47.9**	**+2.1**
WRA	**Warramunga Arr**	**16.88**	**188**	P	**Pn**	**02 39 31.1**	**-3.6**
	0.8nm,0.5s,baz=7.2,slow=13,SNR=10						
WRA				S	Sn	02 42 27.5	-14
	1.4nm,0.6s,baz=3.4,slow=24,SNR=5.8						
FITZ	**Fitzroy Crossi**	**18.41**	**215**	P	**P**	**02 39 54.0**	**+0.7**
	0.3nm,0.3s,baz=35,slow=10,SNR=11						
FITZ				S	Sn	02 43 04.7	-14
	3.0nm,0.5s,baz=182,slow=14,SNR=9.5						
	1.2nm,0.3s						
ASAR	**Alice Springs**	**20.60**	**187**	P	**P**	**02 40 18.3**	**+1.0**
	3.8nm,0.7s,baz=11,slow=11,SNR=40						
ASAR				S	S	02 43 55.7	-10
	0.2nm,0.3s,baz=358,slow=25,SNR=1.5						
	3.8nm,0.7s						
MKAR	**Makanchi Array**	**68.89**	**323**	P	**P**	**02 46 42.8**	**+0.4**
	0.2nm,0.4s,baz=117,slow=5.5,SNR=2.4						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**71.28**	**331**	P	**P**	**02 46 55.4**	**-1.4**
	0.5nm,0.3s,baz=91,slow=8.6,SNR=2.3						
	0.5nm,0.3s						
ILAR	**Eielson Array**	**87.04**	**25**	P	**P**	**02 48 21.4**	**-1.3**
	0.1nm,0.5s,baz=274,slow=6.1,SNR=1.9						
	0.1nm,0.5s						

*IDC **31** 02:39:07.2±1.7,21.°58N×143.°12E,h313km±15km, mb3.6/17,mbtmp4.3/19,Error ellipse: s-maj=16.5km s-min=11.1km az=86.0*

*NEIC **31** 02:39:08.7±1.3,21.°56N±0.°09×143.°1E±0.°2,h321km±7km, mb4.2/121,Error ellipse: s-maj=22.2km s-min=13.2km az=85.0*

ISC 31 02:39:07.3±0.5,21.°55N±0.°07×143.°1E±0.°1,h311km,n353, σ0.66/313,mb4.2/78,1D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.59**	**351**	Pn	**Pn**	**02 40 33.3**	**+1.3**
JCJ	**Chichijima**	**5.59**	**351**	P	**Pn**	**02 40 32.6**	**+0.6**
	64nm,0.5s,baz=309,slow=23,SNR=13						
JCJ				S	**S**	**02 41 39.5**	**-0.8**
	38nm,0.3s,baz=260,slow=23,SNR=6.4						
GUMO	**Guam**	**8.09**	**168**	Pn	**Pn**	**02 41 03.9**	**+1.7**
JHJ2	**Mitsune**	**11.89**	**346**		**P**	**02 41 51.0**	**+1.7**
JMN	**Monobe**	**14.63**	**328**	P	**Pn**	**02 42 22.2**	**+1.2**
INU	**Inuyama**	**14.76**	**340**	P	**Pn**	**02 42 22.0**	**-0.4**
JGF	**Kuroka**	**14.88**	**341**	P	**Pn**	**02 42 23.2**	**-0.8**
MJAR	**Matsushiro Arr**	**15.54**	**345**	P	**P**	**02 42 29.9**	**+0.2**
MJAR	**Matsushiro Arr**	**15.54**	**345**	P	**P**	**02 42 29.6**	**-0.1**
	11nm,0.8s,baz=164,slow=9.0,SNR=16						
MAJO	**Matsushiro**	**15.54**	**345**	P	**P**	**02 42 29.2**	**-0.5**
MJB9	**Matsu-Tunnel**	**15.55**	**345**	P	**P**	**02 42 29.7**	**0.0**
JMM	**Marumori**	**16.38**	**353**	P	**Pn**	**02 42 40.1**	**-1.3**
KSRS	**Korea Array**	**20.61**	**324**	P	**P**	**02 43 23.6**	**+0.1**
	2.0nm,0.6s,baz=145,slow=8.7,SNR=7.9						
	2.0nm,0.6s						
BNX	**BinXian**	**27.35**	**336**	||P	**P**	**02 44 25.8**	**+1.4**
BNX				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**32.90**	**313**	*e*P	**P**	**02 45 13.3**	**+0.1**
HHC				pmax	pmax		
	comp=Z,18nm,0.7s						
HHC				pmax	pmax		
	comp=Z,65nm,4.4s						
PZH	**PanZhiHua**	**38.02**	**286**	P	**P**	**02 45 57.8**	**+1.1**
WB0	**Warramunga Arr**	**41.95**	**192**	P	**P**	**02 46 28.0**	**-0.6**
WR8	**Warramunga Arr**	**42.11**	**192**	P	**P**	**02 46 29.3**	**-0.6**
WRAB	**Tennant Creek**	**42.12**	**192**	P	**P**	**02 46 26.4**	**-3.5**
WRAB				IAmb	IAmb	02 46 27.6	
	comp=Z,9.5nm,0.8s						
WRA	**Warramunga Arr**	**42.13**	**192**	P	**P**	**02 46 29.4**	**-0.6**
WRA	**Warramunga Array**	**42.13**	**192**	P	**P**	**02 46 29.6**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=16,slow=8.9,SNR=16						
	comp=Z,2.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**42.97**	**205**	P	**P**	**02 46 36.7**	**0.0**
FITZ	**Fitzroy Crossi**	**42.97**	**205**	P	**P**	**02 46 36.5**	**-0.3**
	comp=Z,4.0nm,0.9s,baz=36,slow=9.8,SNR=3.5						
	comp=Z,4.0nm,0.9s						
ATKA	**Atka Island**	**44.83**	**36**	P	**P**	**02 46 50.9**	**-0.1**
ASAR	**Alice Springs**	**45.84**	**192**	P	**P**	**02 46 58.3**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=17,slow=10.0,SNR=6.2						
	comp=Z,0.6nm,0.6s						
SPIA	**Saint Paul Isl**	**49.11**	**32**	P	**P**	**02 47 23.8**	**0.0**
	baz=244						
P08K	**Saint George I**	**49.20**	**32**	P	**P**	**02 47 25.2**	**+0.7**
	baz=245						
UNV	**Unalaska Valle**	**49.75**	**37**	P	**P**	**02 47 28.4**	**-0.3**
UNV				IAmb	IAmb	02 48 04.5	
	comp=Z,19nm,1.2s						
UNV	**Unalaska Valle**	**49.75**	**37**	P	**P**	**02 47 29.5**	**+0.8**
	baz=250						
AKUT	**Akutan**	**50.25**	**37**	P	**P**	**02 47 32.4**	**0.0**
GAMB	**Gambell**	**51.77**	**24**	P	**P**	**02 47 44.6**	**+1.1**
	baz=237						
M11K	**Mekoryuk**	**52.40**	**29**	P	**P**	**02 47 49.0**	**+0.9**
	baz=245						
S12K	**Black Hills**	**52.78**	**36**	P	**P**	**02 47 50.1**	**-0.9**
S12K	**Black Hills**	**52.78**	**36**	P	**P**	**02 47 50.2**	**-0.9**
	baz=253						
SDPT	**Sand Point**	**53.55**	**36**	P	**P**	**02 47 56.1**	**-0.5**
	baz=254						
M13K	**Dall Lake**	**53.71**	**30**	P	**P**	**02 47 57.4**	**-0.2**
	baz=248						
K13K	**Kusilvak Mount**	**53.73**	**28**	P	**P**	**02 47 57.9**	**+0.1**
	baz=246						
CHNA	**Chernabura Isl**	**53.91**	**37**	P	**P**	**02 47 59.1**	**0.0**
	baz=256						
TNA	**Tin City**	**54.09**	**23**	P	**P**	**02 48 01.3**	**+1.1**
	baz=240						
O14K	**Tigyukauivet M**	**54.30**	**31**	P	**P**	**02 48 02.4**	**+0.5**
	baz=251						
ZALV	**Zalesovo Beam**	**54.30**	**322**	P	**P**	**02 48 01.7**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=110,slow=8.5,SNR=3.6						
ZALV				PcP	**PcP**	**02 49 00.5**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=110,slow=1.5,SNR=4.4						
	comp=Z,1.3nm,0.6s						
N14K	**Kuskokwak Cree**	**54.32**	**31**	P	**P**	**02 48 02.2**	**+0.2**
	baz=250						
L14K	**Kuka Creek**	**54.36**	**29**	P	**P**	**02 48 03.1**	**+0.9**
	baz=248						
M14K	**Bethel**	**54.48**	**30**	P	**P**	**02 48 04.0**	**+0.9**
	baz=249						
ANM	**Nome**	**54.57**	**25**	P	**P**	**02 48 04.7**	**+1.0**
	baz=243						
F14K	**Arctic Creek**	**54.63**	**23**	P	**P**	**02 48 05.6**	**+1.5**
	baz=242						
MKAR	**Makanchi Array**	**54.77**	**313**	P	**P**	**02 48 05.7**	**+0.2**
MKAR	**Makanchi Array**	**54.77**	**313**	P	**P**	**02 48 05.5**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=92,slow=9.2,SNR=8.5						
MKAR				PcP	**PcP**	**02 49 02.9**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=88,slow=6.0,SNR=5.6						
	comp=Z,1.2nm,0.7s						
CHGN	**Chignik**	**54.91**	**35**	P	**P**	**02 48 05.5**	**-0.8**
CHGN				IAmb	IAmb	02 48 15.0	
	comp=Z,6.1nm,0.7s						
O15K	**Ungalikthiuk R**	**54.98**	**32**	P	**P**	**02 48 07.0**	**+0.3**
O15K	**Ungalikthiuk R**	**54.98**	**32**	P	**P**	**02 48 07.2**	**+0.5**
	baz=252						
L15K	**Ungalak Mounta**	**55.02**	**29**	P	**P**	**02 48 07.7**	**+0.7**
	baz=249						
M15K	**Kasigluk River**	**55.04**	**30**	P	**P**	**02 48 07.1**	**-0.1**
	baz=251						
N15K	**Kwethluk River**	**55.15**	**31**	P	**P**	**02 48 08.7**	**+0.7**
N15K				IAmb	IAmb	02 48 09.5	
	comp=Z,6.8nm,0.7s						
N15K	**Kwethluk River**	**55.15**	**31**	P	**P**	**02 48 08.5**	**+0.5**
	baz=252						
K15K	**Wolf Creek Mou**	**55.22**	**28**	P	**P**	**02 48 09.1**	**+0.7**
K15K	**Wolf Creek Mou**	**55.22**	**28**	P	**P**	**02 48 09.0**	**+0.6**
	baz=249						
G15K	**Niukluk**	**55.27**	**24**	P	**P**	**02 48 10.1**	**+1.4**
	baz=244						
F15K	**North Star Dit**	**55.35**	**23**	P	**P**	**02 48 10.6**	**+1.2**
	baz=243						
H16K	**Elim**	**55.82**	**25**	P	**P**	**02 48 13.3**	**+0.7**
	baz=247						
P16K	**Nushagak River**	**55.84**	**32**	P	**P**	**02 48 13.4**	**+0.6**
	baz=254						
N16K	**Nishlik Lake**	**55.87**	**31**	P	**P**	**02 48 13.7**	**+0.6**
	baz=253,SNR=6.2						
O16K	**Kokwok River B**	**55.94**	**32**	P	**P**	**02 48 14.4**	**+0.9**
	baz=254						
M16K	**Timber Creek**	**55.95**	**30**	P	**P**	**02 48 14.3**	**+0.7**
	baz=252						
J16K	**Anvik River**	**55.98**	**27**	P	**P**	**02 48 13.6**	**-0.1**
	baz=249						
G16K	**Koyuk River**	**56.08**	**24**	P	**P**	**02 48 14.8**	**+0.4**
	baz=246						
I17K	**Unalakleet**	**56.16**	**26**	P	**P**	**02 48 16.1**	**+1.1**
	baz=249						
C16K	**Lisburne Hills**	**56.31**	**21**	P	**P**	**02 48 17.0**	**+1.0**
	baz=241						
R17L	**Mt. Peulik Vol**	**56.32**	**34**	P	**P**	**02 48 16.5**	**+0.2**
	baz=257						
CHIR	**Chirikof Islan**	**56.34**	**36**	P	**P**	**02 48 16.1**	**-0.3**
	baz=259						
O17K	**Koliganek Bris**	**56.48**	**32**	P	**P**	**02 48 17.7**	**+0.4**
	baz=255,SNR=5.9						
L17K	**Donlin**	**56.59**	**29**	P	**P**	**02 48 18.6**	**+0.5**
	baz=252						
N17K	**Nushagak Hills**	**56.64**	**31**	P	**P**	**02 48 18.6**	**+0.2**
	baz=254						
J17K	**VABM Dome**	**56.66**	**27**	P	**P**	**02 48 19.1**	**+0.5**
	baz=250						
Q17K	**Contact Creek**	**56.72**	**34**	P	**P**	**02 48 19.1**	**0.0**
	baz=257						
M17K	**Holitna River**	**56.77**	**30**	P	**P**	**02 48 19.4**	**+0.1**
	baz=253						
K17K	**Iditarod**	**56.77**	**28**	P	**P**	**02 48 20.5**	**+1.1**
K17K				IAmb	IAmb	02 48 21.9	
	comp=Z,11nm,0.8s						
K17K	**Iditarod**	**56.77**	**28**	P	**P**	**02 48 20.0**	**+0.6**
	baz=252,SNR=5.6						
G17K	**Kiwalik Mounta**	**56.78**	**24**	P	**P**	**02 48 20.1**	**+0.8**
	baz=248						
D17K	**Noatak River**	**56.80**	**22**	P	**P**	**02 48 20.8**	**+1.4**
	baz=244						
H17K	**Granite Mounta**	**56.86**	**25**	P	**P**	**02 48 20.2**	**+0.3**
	baz=249						
F17K	**Baldwin Pennin**	**56.92**	**23**	P	**P**	**02 48 20.7**	**+0.5**
	baz=246						
E17K	**Hotham Inlet**	**56.98**	**23**	P	**P**	**02 48 21.1**	**+0.5**
	baz=260						
RDOG	**Red Dog Mine**	**57.02**	**21**	P	**P**	**02 48 22.1**	**+1.1**
	baz=244						
C17K	**DeLong Mountai**	**57.12**	**21**	P	**P**	**02 48 22.6**	**+0.9**
	baz=243						
Q18K	**Katmai Hardscr**	**57.25**	**33**	P	**P**	**02 48 22.6**	**-0.3**
	baz=257						
SII	**Sitkinak Islan**	**57.27**	**36**	P	**P**	**02 48 22.8**	**-0.1**
	baz=260						
N18K	**Kilae Creek**	**57.30**	**31**	P	**P**	**02 48 23.9**	**+0.9**
N18K	**Kilae Creek**	**57.30**	**31**	P	**P**	**02 48 23.1**	**+0.1**
	baz=255						
P18K	**Big Mountain,**	**57.31**	**32**	P	**P**	**02 48 22.6**	**-0.5**
	baz=257						
R18K	**Karluk**	**57.31**	**35**	P	**P**	**02 48 22.6**	**-0.5**
	baz=259						
L18K	**Granite Mounta**	**57.34**	**29**	P	**P**	**02 48 24.0**	**+0.7**
L18K	**Granite Mounta**	**57.34**	**29**	P	**P**	**02 48 23.5**	**+0.2**
	baz=254						
O18K	**Koktuh Hills**	**57.42**	**32**	P	**P**	**02 48 24.7**	**+0.7**
O18K				IAmb	IAmb	02 48 25.5	
	comp=Z,9.6nm,0.8s						
O18K	**Koktuh Hills**	**57.42**	**32**	P	**P**	**02 48 24.3**	**+0.3**
	baz=256,SNR=8.0						
M18K	**Stony River**	**57.54**	**30**	P	**P**	**02 48 25.1**	**+0.5**
	baz=255,SNR=7.1						
E18K	**Tukpahlearik C**	**57.55**	**22**	P	**P**	**02 48 25.4**	**+0.7**
	baz=247						
H18K	**Honhosa River**	**57.55**	**25**	P	**P**	**02 48 25.0**	**+0.3**
	baz=250						
F18K	**Selawik**	**57.57**	**23**	P	**P**	**02 48 25.4**	**+0.7**
	baz=248						
KURBB	**Kurchatov Arra**	**57.60**	**317**	P	**P**	**02 48 25.1**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=95,slow=7.5,SNR=26						
KURBB				PcP	**PcP**	**02 49 13.6**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=89,slow=4.6,SNR=2.4						
	comp=Z,3.3nm,0.7s						
J18K	**Innoko River**	**57.69**	**27**	P	**P**	**02 48 26.5**	**+0.8**
	baz=253						
G18K	**Tagagawik**	**57.69**	**24**	P	**P**	**02 48 26.3**	**+0.6**
	baz=249						
O19K	**Port Alsworth**	**57.94**	**32**	P	**P**	**02 48 27.3**	**-0.1**
	baz=257						
N19K	**Bonanza Creek**	**58.00**	**31**	P	**P**	**02 48 28.5**	**+0.5**
N19K				IAmb	IAmb	02 48 29.6	
	comp=Z,5.3nm,0.8s						
N19K	**Bonanza Creek**	**58.00**	**31**	P	**P**	**02 48 27.7**	**-0.3**
	baz=257,SNR=5.1						
L19K	**White Mountain**	**58.16**	**29**	P	**P**	**02 48 29.2**	**+0.2**
	baz=255						
J19K	**Poorman**	**58.31**	**27**	P	**P**	**02 48 30.5**	**+0.6**
J19K	**Poorman**	**58.31**	**27**	P	**P**	**02 48 30.9**	**+0.9**
	baz=254						
KDAK	**Kodiak Island**	**58.34**	**35**	P	**P**	**02 48 29.7**	**-0.5**
	baz=260						
F19K	**Shaleruckik Mo**	**58.35**	**23**	P	**P**	**02 48 30.9**	**+0.7**
	baz=250						
P19K	**Oil Pt**	**58.36**	**32**	P	**P**	**02 48 30.4**	**0.0**
	baz=258						
G19K	**Purcell Mounta**	**58.38**	**24**	P	**P**	**02 48 31.1**	**+0.7**
	baz=251						
H19K	**Roundabout Mou**	**58.43**	**25**	P	**P**	**02 48 31.7**	**+1.0**
H19K	**Roundabout Mou**	**58.43**	**25**	P	**P**	**02 48 31.3**	**+0.6**
	baz=252						
A19K	**Wainwright**	**58.55**	**19**	P	**P**	**02 48 32.5**	**+1.1**
	baz=244						
C19K	**Lookout Ridge**	**58.57**	**21**	P	**P**	**02 48 33.0**	**+1.3**
	baz=247						
Q20K	**Shuyak Island**	**58.58**	**34**	P	**P**	**02 48 31.6**	**-0.3**
	baz=260						
L20K	**Farewell, AK**	**58.67**	**29**	P	**P**	**02 48 32.6**	**+0.1**
	baz=256						
E19K	**Redstone River**	**58.77**	**23**	P	**P**	**02 48 33.8**	**+0.7**
	baz=250						
K20K	**Telida**	**58.81**	**28**	P	**P**	**02 48 33.6**	**+0.2**
	baz=255						
M20K	**Styx River**	**58.88**	**30**	P	**P**	**02 48 34.3**	**+0.3**
	baz=257						
J20K	**Nowinta River**	**58.98**	**27**	P	**P**	**02 48 35.6**	**+1.0**
J20K				IAmb	IAmb	02 48 36.0	
	comp=Z,4.3nm,0.6s						
J20K	**Nowinta River**	**58.98**	**27**	P	**P**	**02 48 35.5**	**+0.9**
	baz=255,SNR=6.9						
H20K	**Anotleneega Mo**	**59.04**	**25**	P	**P**	**02 48 35.3**	**+0.3**
	baz=253,SNR=5.3						
F20K	**Avaraart Lake**	**59.19**	**24**	P	**P**	**02 48 36.2**	**+0.3**
	baz=252						
E20K	**Nigu River**	**59.41**	**22**	P	**P**	**02 48 38.0**	**+0.5**
	baz=250						
D20K	**Etivluk River**	**59.42**	**22**	P	**P**	**02 48 37.8**	**+0.3**
D20K				IAmb	IAmb	02 48 39.0	
	comp=Z,6.8nm,0.8s						
D20K	**Etivluk River**	**59.42**	**22**	P	**P**	**02 48 37.9**	**+0.3**
	baz=250						
PPLA	**Purkeypile**	**59.53**	**29**	P	**P**	**02 48 38.6**	**+0.1**
	baz=258						
IMAR	**Indian Mountai**	**59.63**	**25**	P	**P**	**02 48 39.1**	**+0.2**
SKT	**Skwentna**	**59.64**	**30**	P	**P**	**02 48 38.4**	**-0.7**
SKT	**Skwentna**	**59.64**	**30**	P	**P**	**02 48 38.6**	**-0.5**
	baz=259,SNR=5.0						
CAST	**Castle Rocks**	**59.69**	**28**	P	**P**	**02 48 39.3**	**-0.1**
CAST				IAmb	IAmb	02 48 40.7	
	comp=Z,6.0nm,0.8s						
CAST	**Castle Rocks**	**59.69**	**28**	P	**P**	**02 48 39.2**	**-0.1**
	baz=257,SNR=11						
CHUM	**Lake Minchumin**	**59.69**	**28**	P	**P**	**02 48 40.0**	**+0.6**
	baz=257						
B20K	**Meade River**	**59.70**	**20**	P	**P**	**02 48 40.3**	**+1.0**
	baz=249						
G21K	**Allakaket**	**59.87**	**24**	P	**P**	**02 48 41.4**	**+0.9**
	baz=254						
SUA	**Susitna One**	**59.91**	**30**	P	**P**	**02 48 40.3**	**-0.7**
	baz=260,SNR=5.6						
H21K	**Melozitna Rive**	**59.92**	**26**	IAmb	IAmb	02 48 42.7	
	comp=Z,7.0nm,0.9s						
H21K	**Melozitna Rive**	**59.92**	**26**	P	**P**	**02 48 41.0**	**+0.1**
	baz=255,SNR=7.3						
F21K	**Alatna River**	**60.08**	**24**	P	**P**	**02 48 42.5**	**+0.5**
	baz=254						
I21K	**Tanana**	**60.14**	**26**	IAmb	IAmb	02 48 44.2	
	comp=Z,5.6nm,0.8s						
I21K	**Tanana**	**60.14**	**26**	P	**P**	**02 48 43.2**	**+0.8**
	baz=256,SNR=7.0						
C21K	**Knifeblade Rid**	**60.19**	**21**	P	**P**	**02 48 42.9**	**+0.2**
	baz=251						
E21K	**Killik River**	**60.25**	**22**	P	**P**	**02 48 43.6**	**+0.4**
	baz=253						
CUT	**Chulitna**	**60.30**	**29**	P	**P**	**02 48 43.2**	**-0.3**
	baz=260						
SEW	**Seward**	**60.31**	**32**	P	**P**	**02 48 42.9**	**-0.7**
	baz=262						
BPAW	**Bear Paw Mtn.**	**60.31**	**27**	P	**P**	**02 48 43.6**	**0.0**
BPAW				IAmb	IAmb	02 48 44.8	

baz=256
GLI **Glacier Island** 61.57 31 IAmb IAmb 02 48 52.6
comp=Z,4.5nm,0.7s
GLI **Glacier Island** 61.57 31 P P **02 48 52.2 +0.2**
baz=263
SCM **Sheep Creek Mo** 61.58 30 P P **02 48 51.7 -0.4**
baz=263
WRH **Wood River Hil** 61.62 27 P P **02 48 51.9 -0.4**
E23K **Chandalar** 61.72 23 IAmb IAmb 02 48 54.6
comp=Z,5.5nm,0.7s
E23K **Chandalar** 61.72 23 P P **02 48 53.5 +0.5**
baz=257,SNR=7.8
Q23K **Middleton Isla** 61.79 33 P P **02 48 53.5 +0.1**
baz=265
C23K **Itkillik River** 61.80 21 P P **02 48 53.9 +0.5**
baz=255,SNR=8.6
TOLK **Toolik Lake Re** 61.87 23 IAmb IAmb 02 48 55.5
comp=Z,5.7nm,0.6s
TOLK **Toolik Lake Re** 61.87 23 P P **02 48 54.7 +0.7**
baz=257,SNR=5.2
H24K **Noodor Dome** 61.95 26 IAmb IAmb 02 48 55.9
comp=Z,4.1nm,0.7s
H24K **Noodor Dome** 61.95 26 P P **02 48 54.8 +0.3**
baz=260,SNR=8.1
POKR **Poker Plat Res** 62.01 27 P P **02 48 55.4 +0.5**
baz=261
HDA **Harding Lake** 62.10 27 P P **02 48 55.3 -0.2**
baz=262
E24K **Your Creek** 62.14 23 P P **02 48 56.3 +0.5**
baz=258
M24K **Tolsona, Glenn** 62.15 30 P P **02 48 56.0 +0.1**
baz=264
IL31 62.18 27 IAmb IAmb 02 48 55.6
comp=Z,4.3nm,0.8s
ILAR **Eielson Array** 62.18 27 P P **02 48 54.8 -1.3**
comp=Z,2.7nm,0.6s,baz=260,slow=5.2,SNR=29
comp=Z,2.7nm,0.6s
EYAK **Cordova Ski Ar** 62.19 32 P P **02 48 55.8 -0.3**
baz=265
KLU **Klutina** 62.20 31 IAmb IAmb 02 48 57.2
comp=Z,3.9nm,0.5s
KLU **Klutina** 62.20 31 P P **02 48 55.9 -0.3**
baz=264
D24K **Happy Valley** 62.25 22 P P **02 48 57.0 +0.6**
baz=257
F24K **Squaw Lake** 62.25 24 P P **02 48 56.8 +0.4**
baz=259
G24K **Hadweenzic Riv** 62.26 25 IAmb IAmb 02 48 58.7
comp=Z,5.1nm,1.0s
G24K **Hadweenzic Riv** 62.26 25 P P **02 48 56.8 +0.3**
baz=260
C24K **Franklin Bluff** 62.41 21 P P **02 48 58.5 +1.0**
C24K IAmb IAmb 02 48 58.9
comp=Z,5.6nm,0.8s
C24K **Franklin Bluff** 62.41 21 P P **02 48 58.4 +1.0**
baz=257
K24K **Donnelly Dome** 62.53 28 P P **02 48 58.7 +0.3**
baz=263
PAX **Paxson** 62.57 29 P P **02 48 59.0 +0.3**
baz=264
HARP **HAARP** 62.66 30 P P **02 48 59.4 +0.2**
baz=264
BVAR **Borovoye Array** 62.76 320 P P **02 48 59.7 -0.3**
comp=Z,3.4nm,0.5s,baz=90,slow=7.4,SNR=23
comp=Z,3.4nm,0.5s
BMRM **Bremner River** 62.79 31 P P **02 48 59.9 -0.2**
baz=266
KAIM **Kayak Island** 62.81 33 P P **02 49 00.2 0.0**
baz=266
G25K **Bearman Lake** 62.81 25 P P **02 49 00.4 +0.4**
baz=261
J25K **Salcha River,** 62.81 27 P P **02 48 59.8 -0.4**
baz=263
BRVK **Borovoye** 62.82 320 P P **02 49 00.1 -0.3**
BRVK IAmb IAmb 02 49 01.3
comp=Z,4.2nm,0.8s
N25K **Chitina, Valde** 62.85 31 P P **02 48 59.9 -0.6**
baz=265
RIDG **Independent Ri** 62.94 28 IAmb IAmb 02 49 01.5
comp=Z,6.0nm,0.8s
RIDG **Independent Ri** 62.94 28 P P **02 49 00.8 -0.2**
baz=264,SNR=6.3
F25K **Christian Rive** 63.11 24 IAmb IAmb 02 49 03.8
comp=Z,3.8nm,0.6s
F25K **Christian Rive** 63.11 24 P P **02 49 02.5 +0.3**
baz=261,SNR=8.2
KKAR **Karatay Array** 63.11 308 P P **02 49 02.2 -0.3**
D25K **Kavik River** 63.13 22 P P **02 49 02.9 +0.7**
baz=260
SCRK **Sand Creek** 63.34 28 IAmb IAmb 02 49 04.3
comp=Z,4.7nm,0.6s
SCRK **Sand Creek** 63.34 28 P P **02 49 03.6 -0.2**
baz=265,SNR=6.5
BMAR **Burnt Mountain** 63.49 24 P P **02 49 06.0 +1.4**
CRQE **Cirque** 63.52 32 P P **02 49 04.6 -0.4**
baz=267
L26K **Log Cabin Wild** 63.54 29 P P **02 49 04.9 -0.1**
baz=266
J26L **Joseph Creek** 63.57 28 IAmb IAmb 02 49 05.7
comp=Z,5.0nm,0.8s
J26L **Joseph Creek** 63.57 28 P P **02 49 05.0 -0.2**
baz=265,SNR=8.3
MCARA **McCarthy VSAT** 63.58 31 P P **02 49 05.0 -0.3**
baz=267
F26K **Sheenjek River** 63.69 24 P P **02 49 07.1 +1.2**
baz=263,SNR=16
G26K **Porcupine Rive** 63.74 25 IAmb IAmb 02 49 10.9
comp=Z,4.1nm,0.9s
G26K **Porcupine Rive** 63.74 25 P P **02 49 07.1 +1.0**
baz=263
C26K **Camden Bay** 63.74 21 P P **02 49 07.0 +0.9**
baz=261
I26K **Coal Creek Min** 63.82 27 P P **02 49 06.6 -0.1**
baz=265
C27K **Jago River** 64.11 22 IAmb IAmb 02 49 10.2
comp=Z,4.6nm,0.8s
C27K **Jago River** 64.11 22 P P **02 49 08.7 +0.1**
baz=262,SNR=6.4
M27K **Edge Creek, AK** 64.18 30 P P **02 49 09.6 +0.4**
M27K **Edge Creek, AK** 64.18 30 P P **02 49 09.1 -0.2**
baz=267
K27K **Chicken** 64.18 28 P P **02 49 09.1 +0.1**
baz=266
L27K **Beaver Creek,** 64.24 29 P P **02 49 09.5 0.0**
baz=267
BCAR **Beaver Creek A** 64.25 29 P P **02 49 09.7 0.0**
I27K **Kandik River** 64.49 26 P P **02 49 10.9 -0.1**
baz=266
G27K **Doyon Strip** 64.56 25 P P **02 49 11.9 +0.4**
baz=265
H27K **Steamboat Moun** 64.57 26 P P **02 49 11.6 0.0**
baz=266,SNR=13
E27K **Coleen River** 64.71 24 P P **02 49 12.8 +0.4**
baz=265
YUK3 **Moose Creek** 64.82 31 P P **02 49 13.4 -0.1**
baz=269
PINM **Pinnacle** 64.90 33 P P **02 49 13.9 0.0**
baz=270
O28M **Mount Upton** 64.94 32 P P **02 49 13.8 -0.6**
baz=270
D27M **Malcolm River** 65.03 22 P P **02 49 15.0 +0.5**
baz=265
I28M **Miner Creek** 65.18 27 IAmb IAmb 02 49 16.6
comp=Z,4.2nm,0.7s
I28M **Miner Creek** 65.18 27 P P **02 49 15.1 -0.4**
baz=268,SNR=7.5
F28M **Old Crow** 65.31 24 IAmb IAmb 02 49 17.9
comp=Z,5.3nm,0.8s
F28M **Old Crow** 65.31 24 P P **02 49 17.2 +0.9**
baz=267,SNR=7.3
PNL **Peninsula** 65.34 33 P P **02 49 16.3 -0.3**
baz=271
DAWY **Dawson** 65.36 28 P P **02 49 16.9 +0.2**
baz=269
E28M **Babbage River** 65.50 23 IAmb IAmb 02 49 19.3
comp=Z,4.1nm,0.8s
E28M **Babbage River** 65.50 23 P P **02 49 18.0 +0.6**
baz=266,SNR=6.6
YUK4 **Talbot Arm** 65.69 31 P P **02 49 19.7 +0.7**
baz=271
O29M **Mount Kennedy** 65.74 32 P P **02 49 19.4 +0.2**
baz=271
M29M **Somme Creek** 65.77 30 IAmb IAmb 02 49 21.1
comp=Z,5.7nm,0.8s
M29M **Somme Creek** 65.77 30 P P **02 49 20.0 +0.6**
baz=270,SNR=8.0
YUK6 **Outpost Mounta** 65.83 32 P P **02 49 20.4 +0.4**
baz=271
H29M **Whitestone** 65.85 26 P P **02 49 20.6 +0.9**
baz=269,SNR=6.0
I29M **Ogilvie Camp,** 65.86 27 P P **02 49 20.5 +0.8**
baz=269
L29M **L29M** 65.92 29 IAmb IAmb 02 49 22.1
comp=Z,4.9nm,0.8s
L29M **L29M** 65.92 29 P P **02 49 20.5 +0.2**
baz=270,SNR=6.8
G29M **Pine Creek** 66.00 25 IAmb IAmb 02 49 22.5
comp=Z,6.0nm,0.8s
G29M **Pine Creek** 66.00 25 P P **02 49 21.2 +0.6**
baz=269,SNR=5.6
E29M **Blow River** 66.09 23 P P **02 49 21.8 +0.7**
baz=268
P29M **Windy Craggy** 66.18 33 P P **02 49 21.6 -0.3**
baz=272
K29M **Barlow Dome** 66.19 28 IAmb IAmb 02 49 23.5
comp=Z,3.5nm,0.8s
K29M **Barlow Dome** 66.19 28 P P **02 49 21.4 -0.6**
baz=270,SNR=6.4
HYT **Haines Junctio** 66.26 32 P P **02 49 21.9 -0.6**
baz=272
N30M **Aishikik Lake** 66.44 31 IAmb IAmb 02 49 25.2
comp=Z,3.6nm,0.8s
N30M **Aishikik Lake** 66.44 31 P P **02 49 23.6 +0.1**
baz=272
EPYK **Eagle Plains** 66.52 26 P P **02 49 23.9 -0.1**
baz=270,SNR=6.6
M30M **Minto, Yukon** 66.54 30 P P **02 49 24.4 +0.2**
baz=272
P30M **Million Dollar** 66.55 32 P P **02 49 24.2 -0.1**
baz=273
I30M **Mount Dempster** 66.67 27 P P **02 49 25.1 0.0**
baz=271,SNR=5.1
J30M **Hart River** 66.70 28 P P **02 49 24.9 -0.3**
baz=271
G30M **tAoh Zraii Nji** 66.71 25 IAmb IAmb 02 49 25.7
comp=Z,3.2nm,0.8s
G30M **tAoh Zraii Nji** 66.71 25 P P **02 49 25.6 +0.5**
baz=270,SNR=5.0
F30M **Barrier River** 66.88 24 P P **02 49 26.6 +0.4**
baz=270,SNR=5.1
O30N **Mendenhall** 66.95 32 P P **02 49 27.0 +0.2**
baz=273
S31K **Pelican** 67.06 35 P P **02 49 27.1 -0.3**
baz=274
N31M **Braeburn, Yuko** 67.06 31 IAmb IAmb 02 49 29.2
comp=Z,5.7nm,0.9s
N31M **Braeburn, Yuko** 67.06 31 P P **02 49 27.2 -0.2**
baz=273,SNR=5.0
SKAG **Skagway** 67.42 33 P P **02 49 29.1 -0.5**
baz=274
G31M **Satah River** 67.48 25 P P **02 49 30.1 +0.3**
baz=272,SNR=11
H31M **Peel River** 67.50 26 P P **02 49 30.0 -0.1**
baz=272,SNR=6.8
WHY **Whitehorse** 67.55 32 P P **02 49 30.2 -0.4**
baz=274
SIT **Sitka** 67.62 36 P P **02 49 30.7 -0.2**
baz=275
F31M **Tsiigehtchic** 67.67 24 P P **02 49 30.9 -0.1**
baz=272
M31M **Drury Creek, Y** 67.68 30 P P **02 49 31.2 -0.1**
baz=274
INK **Inuvik** 67.71 24 P P **02 49 30.6 -0.6**
INK IAmb IAmb 02 49 31.9
comp=Z,3.5nm,0.9s
INK **Inuvik** 67.71 24 P P **02 49 31.3 0.0**
baz=272
R32K **Eaglecrest** 67.94 34 P P **02 49 33.8 +0.9**
baz=276
P32M **Atlin** 68.22 33 P P **02 49 34.4 -0.3**
baz=276
P33M **Teslin, Yukon** 68.61 32 P P **02 49 37.0 -0.1**
baz=276
U33K **Whale Pass** 68.93 37 P P **02 49 38.9 -0.1**
baz=278
CRAG **Craig** 69.02 37 P P **02 49 39.3 -0.2**
baz=278
Q32M **Nakina River** 69.03 34 P P **02 49 39.6 -0.2**
baz=277
MMPY **Sheldon Lake,** 69.09 30 P P **02 49 40.2 +0.2**
baz=276
WRAK **Wrangell Islan** 69.32 36 P P **02 49 41.4 0.0**
baz=278
ABKAR **Akbulak array** 69.63 316 P P **02 49 43.2 -0.2**
R33M **Jennings River** 69.64 33 P P **02 49 43.4 -0.1**
baz=278
S34M **Telegraph Cree** 69.77 35 P P **02 49 43.3 -0.8**
baz=278
V35K **Ketchikan** 69.89 37 P P **02 49 44.8 0.0**
baz=279
DLBC **Dease Lake** 70.26 34 P P **02 49 47.3 +0.1**
baz=279
T35M **Bob Quinn** 70.38 35 P P **02 49 47.7 -0.2**
baz=279
TGTN **Hyland Airport** 70.64 31 P P **02 49 49.5 +0.1**
baz=280
WRGLY **Wrigley** 72.50 28 P P **02 50 00.5 +0.2**
baz=283
TOAD **Toad River Com** 72.64 33 P P **02 50 00.9 -0.4**
baz=283
NLWA **Neilton Lookou** 76.41 44 P P **02 50 23.4 +0.4**
YKAW3 **Yellowknife Wh** 76.57 28 P P **02 50 23.4 -0.1**
YKAW3 IAmb IAmb 02 50 24.1
comp=Z,5.8nm,0.7s
YKA **Yellowknife Ar** 76.60 28 P P **02 50 23.6 -0.1**
comp=Z,4.2nm,0.7s,baz=297,slow=6.2,SNR=20
comp=Z,4.2nm,0.7s
YKAW1 **Yellowknife Wh** 76.66 28 IAmb IAmb 02 50 24.6
comp=Z,8.3nm,0.7s
I02E **Swisshome, OR** 77.40 47 P P **02 50 29.0 +0.5**
B08A **Colville Reser** 79.00 42 IAmb IAmb 02 50 38.1
comp=Z,4.7nm,0.8s
ARCES **ARCESS Array B** 79.05 341 P P **02 50 36.4 -0.6**
ARCES **ARCESS Array B** 79.05 341 P P **02 50 36.9 -0.1**
comp=Z,4.4nm,0.6s,baz=65,slow=8.6,SNR=15
comp=Z,4.4nm,0.6s
BMO **Blue Mountains** 81.56 45 IAmb IAmb 02 50 51.9
comp=Z,3.7nm,0.8s
CMB **Combia Colle** 81.88 52 IAmb IAmb 02 50 53.6
comp=Z,4.4nm,0.8s
JTMT **Jette** 82.37 42 P P **02 50 55.4 +0.2**
KBZ **Khabaz** 82.44 314 P P **02 50 54.8 -0.6**
comp=Z,4.1nm,0.9s,baz=112,slow=3.0,SNR=7.9
comp=Z,4.1nm,0.9s
NVAR **Mina Array Bea** 83.26 51 P P **02 51 00.3 +0.3**
NVAR **Mina Array Bea** 83.26 51 P P **02 50 59.9 -0.1**
comp=Z,3.2nm,0.7s,baz=277,slow=5.7,SNR=26
comp=Z,3.2nm,0.7s
FINES **FINESS Array B** 83.29 334 P P **02 50 58.1 -1.2**
comp=Z,2.1nm,0.6s,baz=72,slow=4.4,SNR=17
comp=Z,2.1nm,0.6s
ELK **Elko** 84.55 48 IAmb IAmb 02 51 07.5
comp=Z,4.9nm,1.1s
MPMC **Manual Prospec** 84.77 53 IAmb IAmb 02 51 09.0
comp=Z,2.1nm,0.7s
BOZ **Bozeman (W)** 84.93 43 IAmb IAmb 02 51 09.2
comp=Z,2.7nm,0.8s
WCT **Wildcat Mounta** 85.12 52 IAmb IAmb 02 51 09.9
comp=Z,2.9nm,0.9s
QSM **Queen of Sheba** 85.27 53 IAmb IAmb 02 51 11.1
comp=Z,4.8nm,1.2s
GWY **Greenwater Val** 85.33 53 IAmb IAmb 02 51 11.0
comp=Z,3.8nm,0.8s
TPNV **Topopah Spring** 85.34 52 IAmb IAmb 02 51 11.2
comp=Z,4.7nm,0.8s
FFC **Flin Flon** 85.97 32 P P **02 51 12.8 0.0**
FFC IAmb IAmb 02 51 13.4
comp=Z,3.7nm,0.7s
PRN **Pahroc Range** 86.03 51 IAmb IAmb 02 51 15.2
comp=Z,2.8nm,0.7s
PSUT **Pine Spring** 86.43 50 IAmb IAmb 02 51 16.2
comp=Z,3.4nm,1.1s
RLMT **Red Lodge** 86.63 43 IAmb IAmb 02 51 18.9
comp=Z,2.8nm,0.6s
V12A **Nelson** 86.86 53 IAmb IAmb 02 51 20.9
comp=Z,2.6nm,0.9s
LCMT **Little Creek M** 87.50 51 IAmb IAmb 02 51 21.9
comp=Z,2.5nm,0.8s
PDAR **Pinedale Array** 87.52 45 P P **02 51 19.9 -0.8**
comp=Z,0.3nm,0.5s,baz=210,slow=2.5,SNR=5.5
comp=Z,0.3nm,0.5s
HFS **Hagfors** 88.84 337 P P **02 51 24.4 -1.9**
comp=Z,1.3nm,0.6s,baz=100,slow=6.2,SNR=5.5
comp=Z,1.3nm,0.6s
PV19 **Morning Glory** 89.96 48 P P **02 51 32.5 +0.2**
BRTR **Keskin Array B** 90.41 313 P P **02 51 32.5 -1.8**
comp=Z,0.6nm,0.7s,baz=111,slow=2.8,SNR=4.5
comp=Z,0.6nm,0.7s
BAUV **El Baul** 136.92 49 PKPdf PKPdf **02 57 54.5 +0.4**
PLCA **Paso Flores** 145.69 132 PKPbc PKPbc **02 58 10.2 +0.1**
PLCA **Paso Flores** 145.69 132 PKPbc PKPbc **02 58 10.1 0.0**
comp=Z,5.9nm,0.6s,baz=231,slow=5.0,SNR=9.9
PB11 **IPOC Station P** 149.29 93 PKPbc PKPbc **02 58 19.9 -0.5**
LPAZ **La Paz** 149.99 85 PKPbc PKPbc **02 58 22.4 -0.4**
LPAZ **La Paz** 149.99 85 PKPbc PKPbc **02 58 23.2 +0.4**
comp=Z,5.1nm,0.6s,baz=334,slow=2.6,SNR=25
AC02 **Maricunga** 150.15 107 PKPbc PKPbc **02 58 22.9 +0.1**

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*SJA **31** 03:11:06.4±0.6, 19°.35S×70°.08W, h74km±2km, ML3.6, MW3.6*
*GUC **31** 03:11:08.5±0.7, 19°.37S×70°.06W, h74km±4km, ML3.6*
ISC 31 03:11:08.6±1.4, 19°.36S±0°.03×70°.11W±0°.06, h64km±13km, n28, σ0°84/48, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB11	**IPOC Station P**	**0.59**	**133**	*eP*	**Pn**	**03 11 21.6**	**-0.4**
PB11				*eS*	**Sn**	**03 11 32.2**	**+0.5**
PB11				IAML		03 11 32.9	
	comp=N,6μm,0.2s						
PB11	**IPOC Station P**	**0.59**	**133**	*eP*	**Pn**	**03 11 21.3**	**-0.6**
PB11				*eS*	**Sn**	**03 11 32.4**	**+0.7**
PB11				IAML		03 11 33.3	
	comp=Z,3μm,0.1s						
TA02	**Huaiquique**	**0.91**	**181**	*eP*	**Pn**	**03 11 25.4**	**-0.2**
TA02	**Huaiquique**	**0.91**	**181**	*eP*	**Pn**	**03 11 25.4**	**-0.2**
TA02				*eP*		03 11 25.7	
TA02				*eS*	**Sn**	**03 11 39.6**	**+1.5**
TA02				*eS*		03 11 39.7	
TA02				IAML		03 11 45.2	
	comp=Z,1μm,0.1s						
GO01	**Chusmiza**	**0.92**	**110↑**	*eP*	**Pn**	**03 11 25.7**	**-0.5**
GO01				*eS*	**Sn**	**03 11 39.3**	**+0.2**
GO01	**Chusmiza**	**0.92**	**110**	*eP*	**Pn**	**03 11 25.4**	**-0.7**
GO01				*eS*	**Sn**	**03 11 39.7**	**+0.6**
GO01				IAML		03 11 41.0	
	comp=Z,3μm,0.1s						
HMBC	**Humberstone**	**0.94**	**167**	*eP*	**Pn**	**03 11 25.7**	**-0.4**
HMBC				*eS*	**Sn**	**03 11 39.2**	**+0.2**
HMBC	**Humberstone**	**0.94**	**167**	*eP*	**Pn**	**03 11 25.7**	**-0.4**
HMBC				*eS*	**Sn**	**03 11 39.8**	**+0.8**
HMBC				IAML		03 11 45.2	
	comp=Z,1μm,0.4s						
AP01	**Chacalluta**	**1.01**	**347**	*eP*	**Pn**	**03 11 26.8**	**-0.1**
AP01				IAML		03 11 42.9	
	comp=E,5μm,0.2s						
AP01	**Chacalluta**	**1.01**	**347**	*eP*	**Pn**	**03 11 26.1**	**-0.8**
AP01				*eS*	**Sn**	**03 11 40.8**	**+0.4**
AP01				IAML		03 11 42.7	
	comp=Z,3μm,0.2s						
PB16	**IPOC Station P**	**1.17**	**29↓**	*eP*	**Pn**	**03 11 28.7**	**-0.9**
PB16	**IPOC Station P**	**1.17**	**29**	*eP*	**Pn**	**03 11 28.6**	**-0.9**
PB16				*eS*	**Sn**	**03 11 45.2**	**+0.1**
PB16				IAML		03 11 47.2	
	comp=Z,492nm,0.5s						
PB08	**IPOC Station P**	**1.19**	**131↑**	*iP*	**Pn**	**03 11 29.2**	**-0.4**
PB08				*eS*	**Sn**	**03 11 45.5**	**+0.2**
PB08				IAML		03 11 46.4	
	comp=N,2μm,0.1s						
PB08	**IPOC Station P**	**1.19**	**131**	*eP*	**Pn**	**03 11 29.0**	**-0.6**
PB08				*eS*	**Sn**	**03 11 45.5**	**+0.2**
PB08				IAML		03 11 46.1	
	comp=Z,2μm,0.2s						
TA01	**Diego Aracena**	**1.20**	**183**	*eP*	**Pn**	**03 11 28.9**	**-0.5**
TA01				*eS*	**Sn**	**03 11 45.0**	**+0.1**
TA01	**Diego Aracena**	**1.20**	**183**	*eP*	**Pn**	**03 11 28.9**	**-0.5**
TA01				*eS*	**Sn**	**03 11 45.4**	**+0.5**
PB01	**IPOC Station P**	**1.77**	**161**	*eP*	**Pn**	**03 11 36.3**	**-0.8**
PB01				*eS*	**Sn**	**03 11 58.3**	**-0.5**
PB01				IAML		03 12 00.4	
	comp=N,644nm,0.2s						
PB01	**IPOC Station P**	**1.77**	**161**	*eP*	**Pn**	**03 11 36.5**	**-0.6**
PB01				*eS*	**Sn**	**03 11 58.7**	**0.0**
PB01				IAML		03 12 01.1	
	comp=Z,294nm,0.1s						
PB02	**IPOC Station P**	**1.96**	**174**	*eP*	**Pn**	**03 11 39.5**	**-0.1**
PB02				IAML		03 12 12.2	
	comp=E,395nm,0.2s						
PB02	**IPOC Station P**	**1.96**	**174**	*eP*	**Pn**	**03 11 39.5**	**-0.1**
PB02				*eS*	**Sn**	**03 12 00.2**	**-3.1**
PB02				IAML		03 12 12.8	
	comp=Z,403nm,0.2s						
PB09	**IPOC Station P**	**2.56**	**162**	*eP*	**Pn**	**03 11 47.8**	**-0.1**
PB09	**IPOC Station P**	**2.56**	**162**	*eP*	**Pn**	**03 11 47.8**	**-0.1**
PB09				*eS*	**Sn**	**03 12 20.2**	**+2.3**
PB03	**IPOC Station P**	**2.70**	**173**	*eP*	**Pn**	**03 11 49.1**	**-0.6**
PB03	**IPOC Station P**	**2.70**	**173**	*eP*	**Pn**	**03 11 49.2**	**-0.6**
PB03				*eS*	**Sn**	**03 12 22.2**	**+0.9**
PB03				IAML		03 12 28.0	
	comp=Z,103nm,0.2s						
PB06	**IPOC Station P**	**3.37**	**171**	*eP*	**Pn**	**03 11 58.5**	**-0.4**
PB06	**IPOC Station P**	**3.37**	**171**	*eP*	**Pn**	**03 11 58.5**	**-0.4**
PB06				*eS*	**Sn**	**03 12 38.7**	**+1.0**
PB05	**IPOC Station P**	**3.48**	**181**	*eP*	**Pn**	**03 11 59.1**	**-1.2**
PB05				*eS*	**Sn**	**03 12 41.5**	**+1.2**
LPAZ	**La Paz**	**3.59**	**32**	*eP*	**Pn**	**03 12 03.2**	**+0.8**

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*NEIC **31** 03:20:57.1±1.7, 18°.58S±0°.06×169°.2E±0°.1, h242km±9km, mb4.5/32, Error ellipse: s-maj=17.9km s-min=4.8km az=114.0*
*IDC **31** 03:20:57.1±1.6, 18°.64S×169°.14E, h249km±14km, mb3.8/13, mbtmp4.4/14, Error ellipse: s-maj=15.9km s-min=13.2km az=159.0*
*NOU **31** 03:20:58.8, 18°.72S×169°.09E, h220km, MLv4.6/11, Vanuatu Islands*
ISC 31 03:20:57.1±0.5, 18°.64S±0°.06×169°.16E±0°.08, h250km, n72, σ0°87/74, mb4.4/27, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INH	**Isangel**	**0.91**	**173**	P	**Pn**	**03 21 30.1**	**-1.5**
DVP	**Devils Point**	**1.30**	**314**	P	**Pn**	**03 21 33.2**	**-0.8**
VLAKA	**Lakatoro**	**3.02**	**326**	P	**Pn**	**03 21 49.7**	**-0.1**
YATNC	**Mamie plateau,**	**4.01**	**212**	P	**Pn**	**03 21 59.3**	**-1.8**
DZM	**Mont Dzumac**	**4.26**	**216**	P	**Pn**	**03 22 04.1**	**+0.1**
	55nm,0.4s,baz=174,slow=18,SNR=64						
DZM				S	**S**	**03 22 55.6**	**-1.7**
	baz=330,slow=20						
DZM	**Mont Dzumac**	**4.26**	**216**	P	**Pn**	**03 22 04.1**	**+0.1**
PINNC	**Pines Island,**	**4.27**	**202**		**Pn**	**03 22 03.1**	**-0.9**
PINNC				Sn	**S**	**03 22 57.7**	**+0.4**
PINNC	**Pines Island,**	**4.27**	**202**	P	**Pn**	**03 22 03.4**	**-0.6**
OUENC	**Ouen Island, N**	**4.34**	**210**	P	**Pn**	**03 22 04.7**	**-0.2**
ONTNC	**Ouen Toro**	**4.45**	**214**		**Pn**	**03 22 06.5**	**+0.3**
MSVF	**Nonsavu**	**8.50**	**85**		**Pn**	**03 22 57.3**	**+0.5**
EIDS	**Eidsvold**	**18.05**	**245**	P	**P**	**03 24 49.5**	**-0.7**
EIDS				IAmb	IAmb	03 24 53.2	
	comp=Z,19nm,1.1s						
URZ	**Urewera**	**20.74**	**162**	P	**P**	**03 25 19.8**	**+0.9**
	comp=Z,13nm,1.0s,baz=184,slow=1.3,SNR=7.5						
	comp=Z,13nm,1.0s						
RTZ	**Ruatahuna**	**21.04**	**163**	P	**P**	**03 25 23.8**	**+1.8**
BKZ	**Black Stump Fm**	**21.42**	**164**	P	**P**	**03 25 26.8**	**+1.1**
MRZ	**Mangatainoka R**	**22.63**	**167**	P	**P**	**03 25 38.0**	**+1.2**
STKA	**Stephens Creek**	**28.11**	**237**	P	**P**	**03 26 27.6**	**+1.5**
STKA	**Stephens Creek**	**28.11**	**237**	P	**P**	**03 26 27.2**	**+1.2**
	comp=Z,2.9nm,0.6s,baz=82,slow=8.4,SNR=8.8						
	comp=Z,2.9nm,0.6s						
WR0	**Warramunga Arr**	**32.67**	**262**	P	**P**	**03 27 06.2**	**-0.1**
WR8	**Warramunga Arr**	**32.71**	**262**	P	**P**	**03 27 06.4**	**-0.2**
WB0	**Warramunga Arr**	**32.82**	**262**	P	**P**	**03 27 07.1**	**-0.4**
BBOO	**Buckleboo**	**32.84**	**238**	P	**P**	**03 27 07.8**	**+0.3**
BBOO				IAmb	IAmb	03 27 15.0	
	comp=Z,16nm,1.4s						
WB2	**Warramunga Arr**	**32.85**	**262**	P	**P**	**03 27 07.2**	**-0.6**
WRA	**Warramunga Arr**	**32.86**	**262**	P	**P**	**03 27 06.5**	**-1.4**
WRA	**Warramunga Arr**	**32.86**	**262**	P	**P**	**03 27 07.6**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=96,slow=8.4,SNR=24						
WRA				PcP	**PcP**	**03 29 46.6**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=91,slow=3.2,SNR=2.1						
WRA				S	**S**	**03 32 05.6**	**-1.1**
	comp=Z,1.8nm,1.0s,baz=91,slow=15,SNR=5.5						
	comp=Z,2.6nm,0.6s						
AS31	**Alice Springs**	**33.20**	**255**		**P**	**03 27 11.3**	**+0.5**
ASAR	**Alice Springs**	**33.21**	**255**	P	**P**	**03 27 11.0**	**+0.1**
ASAR	**Alice Springs**	**33.21**	**255**	P	**P**	**03 27 11.3**	**+0.5**
	comp=Z,15nm,0.5s,baz=83,slow=8.8,SNR=265						

ASAR				PcP	**PcP**	**03 29 47.2**	**-0.2**	
	comp=Z,0.5nm,0.6s,baz=94,slow=2.3,SNR=3.3							
	comp=Z,15nm,0.5s							
MTN	**Manton Dam**	**37.00**	**273**	P	**P**	**03 27 43.7**	**+0.5**	
MTN				IAmb	IAmb	03 27 44.7		
	comp=Z,28nm,1.4s							
KNRA	**Kununurra**	**38.66**	**268**	P	**P**	**03 27 57.3**	**+0.2**	
KNRA				IAmb	IAmb	03 27 59.7		
	comp=Z,17nm,1.4s							
FITZ	**Fitzroy Crossi**	**41.23**	**264**	P	**P**	**03 28 19.2**	**+1.1**	
MBWA	**Marble Bar**	**46.40**	**258**	P	**P**	**03 28 59.8**	**+0.7**	
MBWA				IAmb	IAmb	03 29 05.5		
	comp=Z,33nm,1.4s							
RSD	**Rainshed**	**51.49**	**45**	P	**P**	**03 29 35.6**	**-2.1**	
CASY	**Casey**	**60.65**	**203**	P	**P**	**03 30 40.0**	**-1.4**	
CASY				IAmb	IAmb	03 30 45.5		
	comp=Z,4.2nm,0.9s							
QSPA	**South Pole Qui**	**71.41**	**180**	P	**P**	**03 31 50.5**	**+0.5**	
QSPA	**South Pole Qui**	**71.41**	**180**	P	**P**	**03 31 50.3**	**+0.3**	
	comp=Z,4.4nm,0.9s,baz=0.0,slow=0.9,SNR=12							
	comp=Z,2.4nm,0.9s							
PEA0B	**Petropavlovsk-**	**72.13**	**353**	P	**P**	**03 31 55.1**	**+0.9**	
PEA0B				IAmb	IAmb	03 31 55.8		
	comp=Z,11nm,0.8s							
PETK	**Petropavlovsk-**	**72.13**	**353**	P	**P**	**03 31 54.6**	**+0.4**	
	comp=Z,8.7nm,0.8s,baz=181,slow=7.3,SNR=9.0							
	comp=Z,8.7nm,0.8s							
UNV	**Unalaska Valle**	**75.16**	**15**	P	**P**	**03 32 10.8**	**-0.9**	
UNV				IAmb	IAmb	03 32 25.4		
	comp=Z,13nm,1.1s							
S12K	**Black Hills**	**77.96**	**16**	P	**P**	**03 32 27.1**	**-0.2**	
CMAR	**Chiang Mai Arr**	**78.19**	**294**	P	**P**	**03 32 31.2**	**+1.8**	
	comp=Z,1.0nm,0.3s,baz=128,slow=4.8,SNR=4.6							
	comp=Z,1.0nm,0.3s							
MAW	**Mawson**	**78.96**	**202**	P	**P**	**03 32 33.3**	**+0.6**	
	comp=Z,2.3nm,0.8s,baz=117,slow=4.5,SNR=4.9							
	comp=Z,2.3nm,0.8s							
CHGN	**Chignik**	**79.49**	**18**	P	**P**	**03 32 35.4**	**-0.2**	
CHGN				IAmb	IAmb	03 32 46.8		
	comp=Z,15nm,1.2s							
SII	**Sitkinak Islan**	**80.99**	**20**	P	**P**	**03 32 44.2**	**+0.6**	
PLK4	**Peulik 4**	**81.22**	**18**	P	**P**	**03 32 44.4**	**-0.5**	
PLK4				IAmb	IAmb	03 32 47.2		
	comp=Z,14nm,1.4s							
O14K	**Tigyukauivet M**	**81.31**	**15**	P	**P**	**03 32 46.3**	**+1.1**	
O14K				IAmb	IAmb	03 33 01.2		
	comp=Z,7.5nm,0.9s							
N14K	**Kuskokwak Cree**	**81.80**	**14**	P	**P**	**03 32 48.5**	**+0.7**	
N14K				IAmb	IAmb	03 32 55.8		
	comp=Z,9.7nm,0.9s							
OHAK	**Old Harbor**	**81.82**	**20**	P	**P**	**03 32 49.1**	**+1.2**	
OHAK				IAmb	IAmb	03 32 49.7		
	comp=Z,8.1nm,0.7s							
N15K	**Kwethluk River**	**82.40**	**15**	P	**P**	**03 32 51.9**	**+1.0**	
N15K				IAmb	IAmb	03 32 53.1		
	comp=Z,17nm,1.5s							
O16K	**Kokwok River B**	**82.41**	**16**	P	**P**	**03 32 50.9**	**0.0**	
M14K	**Bethel**	**82.47**	**14**	P	**P**	**03 32 51.8**	**+0.6**	
M14K				IAmb	IAmb	03 33 10.9		
	comp=Z,9.4nm,1.1s							
L14K	**Kuka Creek**	**82.84**	**13**	P	**P**	**03 32 53.9**	**+0.8**	
L14K				IAmb	IAmb	03 32 55.8		
	comp=Z,6.9nm,1.1s							
P18K	**Big Mountain,**	**83.02**	**17**	P	**P**	**03 32 53.6**	**-0.6**	
SONM	**Songino Array**	**86.70**	**323**	P	**P**	**03 33 13.0**	**+0.1**	
	comp=Z,1.7nm,0.7s,baz=136,slow=4.9,SNR=8.0							
	comp=Z,1.7nm,0.7s							
NVAR	**Mina Array Bea**	**88.46**	**49**	P	**P**	**03 33 21.6**	**+0.1**	
	comp=Z,0.8nm,0.7s,baz=228,slow=8.8,SNR=7.0							
	comp=Z,0.8nm,0.7s							
ILAR	**Eielson Array**	**89.68**	**17**	P	**P**	**03 33 24.8**	**-1.5**	
	comp=Z,1.1nm,0.5s,baz=238,slow=4.9,SNR=31							
	comp=Z,1.1nm,0.5s							
SNAA	**Sanae**	**89.75**	**183**	P	**P**	**03 33 25.9**	**-1.0**	
	comp=Z,1.8nm,0.6s,baz=225,slow=4.5,SNR=12							
	comp=Z,1.8nm,0.6s							
TXAR	**Lajitas Array**	**96.54**	**61**	P	**P**	**03 33 59.5**	**+0.7**	
	comp=Z,0.7nm,0.8s,baz=233,slow=5.2,SNR=5.8							
	comp=Z,0.7nm,0.8s							
MKAR	**Makanchi Array**	**101.26**	**316**	P	**Pdif**	**03 34 20.3**	**+0.9**	
	comp=Z,0.3nm,0.5s,baz=81,slow=4.5,SNR=4.0							
ARCES	**ARCESS Array B**	**124.47**	**345**	PKP	**PKPdf**	**03 39 25.2**	**-0.6**	
	comp=Z,2.1nm,0.7s,baz=63,slow=2.2,SNR=15							
NOA	**NORSAR Array B**	**134.85**	**345**	PKP	**PKPdf**	**03 39 46.1**	**+0.4**	
	comp=Z,0.3nm,0.6s,baz=28,slow=2.1,SNR=1.6							
RONA	**Rosalia, Austr**	**143.54**	**329**	*i* PKP	PKPbc	03 40 00.8	+0.7	
	comp=Z,4nm,0.7s							
GERES	**GERESS Array B**	**143.93**	**332**	PKP	PKPbc	03 40 00.9	-0.4	
	comp=Z,1.4nm,0.8s,baz=32,slow=5.3,SNR=9.3							
ARSA	**Arzberg**	**144.23**	**329**	*e*PKP	**PKPab**	**03 40 01.1**	**-0.7**	
	comp=Z,2.0nm,0.7s							
MOA	**Molln**	**144.40**	**331**	*e*PKP	**PKPab**	**03 40 02.3**	**-0.1**	
	comp=Z,7.4nm,1.0s							
SOKA	**Soboth**	**144.87**	**329**	*e*PKP	PKPbc	03 40 03.9	-0.2	
	comp=Z,3.9nm,0.7s							
OBKA	**Obir**	**145.22**	**329**	*e*PKP	**PKPdf**	**03 40 04.9**	**-0.1**	
	comp=Z,3.3nm,0.9s							
LESA	**Schwarzleotal**	**145.45**	**331**	*e*PKP	**PKPdf**	**03 40 04.6**	**-0.8**	
	comp=Z,2.5nm,0.5s							
ABTA	**Abfaltersbach**	**146.03**	**331**	*e*PKP	**PKPdf**	**03 40 06.2**	**-0.2**	
	comp=Z,0.6nm,0.4s							
RETA	**Reutte**	**146.24**	**333**	*e*PKP	**PKPdf**	**03 40 06.9**	**+0.2**	
	comp=Z,1.9nm,0.8s							
SQTA	**Sankt Quirin**	**146.25**	**333**	*e*PKP	**PKPbc**	**03 40 07.6**	**-0.8**	
	comp=Z,3.5nm,0.6s							
FETA	**Feichten**	**146.62**	**333**	*e*PKP	**PKPbc**	**03 40 08.5**	**-1.0**	
	comp=Z,2.2nm,0.5s							

*IDC **31** 03:21:30.8±1.0, 15°.09S×177°.47W, h0km, mb4.1/7, mbtmp4.1/7, MS3.8/43, Error ellipse: s-maj=40.2km s-min=22.9km az=133.0*
*NEIC **31** 03:21:34.3±1.9, 15°.17S±0°.07×177°.7W±0°.1, h10km±1km, mb4.6/23, Error ellipse: s-maj=23.3km s-min=7.8km az=69.0*
*GCMT **31** 03:21:36.3±0.4, 15°.31S±0°.02×177°.16W±0°.02, h12km, MW4.8/89, Moment Tensor Solution. s13,c15; s89,c109; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.04±.07; Mθθ-1.08±.08; Mφφ 1.12±.06; Mrθ 0.06±.21; Mθφ 1.28±.06; Mφr 0.96±.22; Best double couple: M₀1.92200×10¹⁶ NP1:φs72.00000°, δ64.00000°, λ7.00000°. NP2: φs339.00000°, δ83.00000°, λ154.00000°. Principal axes: T 2.0920, Plg23.0000°, Azm292.0000°; N -0.3410, Plg63.0000°, Azm146.0000°; P -1.7510, Plg13.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 03:21:33.0±0.7, 15°.17S±0°.09×177°.6W±0°.1, h10km, n76, σ1s31/35, mb4.5/19, MS3.8/41, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**0.98**	**331**			**Pg**	**03 21 51.6**	**-0.4**
FUTU					Sn	**Sn**	**03 22 08.6**	**+1.7**
DZM	**Mont Dzumac**	**16.58**	**243**	*e*S		S	03 28 54.6	+13
	2μm,27.2s							
DZM				*e*LR		LR	03 29 57.9	
	588nm,23.4s							
DZM	**Mont Dzumac**	**16.58**	**243**	LR		LR	03 30 57.7	
	comp=Z,434nm,18.1s,baz=64,slow=34							
RAR	**Rarotonga**	**17.99**	**112**	LR		LR	03 30 54.6	
	comp=Z,229nm,18.7s,baz=282,slow=32							
HNR	**Honiara**	**22.63**	**282**	P		**P**	**03 26 34.7**	**+0.3**
HNR	**Honiara**	**22.63**	**282**	LR		LR	03 34 11.2	
	comp=Z,1μm,20.0s,baz=128,slow=33							
URZ	**Urewera**	**23.47**	**190**	LR		LR	03 34 13.3	
	comp=Z,566nm,18.8s,baz=40,slow=32							
BFZ	**Birch Farm**	**25.98**	**191**	P		**P**	**03 27 06.0**	**+0.1**
PPT	**Papeete**	**27.01**	**99**	LR		LR	03 34 52.1	
	comp=Z,197nm,21.2s,baz=288,slow=30							
PPT2	**Papeete2**	**27.01**	**99**	*e*LR		LR	03 33 31.5	
	728nm,25.8s							
PPT2				*e*LR		LR	03 33 36.2	
	447nm,25.2s							
TBI	**Tubuai**	**27.77**	**111**	*e*LR		LR	03 33 52.8	
	3μm,27.8s							
PMG	**Port Moresby**	**34.85**	**275**	LR		LR	03 40 47.7	
	comp=Z,229nm,21.0s,baz=113,slow=33							
TAOE	**Nuku Hiva Isla**	**37.15**	**85**	*e*LR		LR	03 38 27.5	
	258nm,24.7s							
STKA	**Stephens Creek**	**40.65**	**239**	P		**P**	**03 29 13.2**	**-0.4**
STKA	**Stephens Creek**	**40.65**	**239**	P		**P**	**03 29 12.9**	**-0.7**
	8.4nm,0.9s,baz=41,slow=7.1,SNR=12							
STKA				LR		LR	03 44 36.1	
	comp=Z,114nm,20.5s,baz=46,slow=34							
	8.4nm,0.9s							
JAY	**Jayapura**	**42.95**	**283**	LR		LR	03 46 26.3	
	comp=Z,128nm,20.8s,baz=328,slow=35							
BBOO	**Buckleboo**	**45.42**	**239**	P		**P**	**03 29 50.7**	**-1.6**
WB0	**Warramunga Arr**	**45.88**	**257**	P		**P**	**03 29 55.5**	**-0.6**
WB0				IAmb		IAmb	03 30 04.7	
	comp=Z,5.2nm,1.1s							
WB2	**Warramunga Arr**	**45.92**	**257**	P		**P**	**03 29 53.9**	**-2.4**
WB2				IAmb		IAmb	03 29 57.9	
	comp=Z,8.1nm,1.4s							
WRA	**Warramunga Arr**	**45.93**	**257**	P		**P**	**03 29 57.7**	**+1.2**
	comp=Z,0.7nm,0.9s,baz=91,slow=7.8,SNR=5.5							
WRA				LR		LR	03 47 33.0	
	comp=Z,122nm,19.2s,baz=93,slow=34							
	comp=Z,0.7nm,0.9s							
AS31	**Alice Springs**	**46.31**	**252**	P		**P**	**03 29 59.2**	**-0.2**
ASAR	**Alice Springs**	**46.31**	**252**	P		**P**	**03 29 58.5**	**-0.9**
ASAR	**Alice Springs**	**46.31**	**252**	P		**P**	**03 29 58.7**	**-0.8**
	comp=Z,4.0nm,0.6s,baz=84,slow=8.4,SNR=11							
ASAR				LR		LR	03 47 58.5	
	comp=Z,159nm,18.8s,baz=107,slow=34							
	comp=Z,4.0nm,0.6s							
GUMO	**Guam**	**46.83**	**306**	LR		LR	03 49 02.2	
	comp=Z,54nm,18.1s,baz=141,slow=35							
MTN	**Manton Dam**	**49.69**	**266**	P		**P**	**03 30 25.4**	**-0.2**
MTN				IAmb		IAmb	03 30 27.1	
	comp=Z,12nm,1.1s							
FITZ	**Fitzroy Crossi**	**54.26**	**258**	P		**P**	**03 30 59.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**54.26**	**258**	LR		LR	03 52 12.7	
	comp=Z,169nm,21.5s,baz=84,slow=34							
DAV	**Davao City (W)**	**60.46**	**287**	LR		LR	03 56 45.3	
	comp=Z,41nm,18.2s,baz=154,slow=35							
NWAO	**Narrogin (SRO)**	**61.18**	**241**	LR		LR	03 56 00.6	
	comp=Z,103nm,21.6s,baz=110,slow=34							
VNDA	**Vanda**	**63.22**	**185**	LR		LR	03 54 05.3	
	comp=Z,42nm,20.8s,baz=22,slow=31							
MJAR	**Matsushiro Arr**	**66.19**	**322**	P		**P**	**03 32 21.9**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=140,slow=6.0,SNR=5.4							
MJAR				LR		LR	03 55 31.1	
	comp=Z,43nm,21.9s,baz=122,slow=31							
	comp=Z,0.5nm,0.3s							
JOW	**Kunigami**	**67.10**	**308**	LR		LR	03 59 30.0	
	comp=Z,49nm,19.0s,baz=152,slow=34							
SHEM	**Shemya Is, Ala**	**67.99**	**355**	LR		LR	03 59 07.4	
	comp=Z,43nm,18.4s,baz=57,slow=33							
JNU	**Nakatsue**	**68.71**	**315**	LR		LR	03 58 16.8	
	comp=Z,28nm,19.2s,baz=128,slow=32							
ASAJ	**Asahikawa**	**69.26**	**330**	LR		LR	03 56 57.9	
	comp=Z,72nm,22.0s,baz=104,slow=31							
USA0B	**Ussuriysk Arra**	**74.80**	**325**	P		**P**	**03 33 12.7**	**-0.8**
USA0B				IAmb		IAmb	03 33 14.0	
	comp=Z,5.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**74.80**	**325**	LR		LR	04 03 23.7	
	comp=Z,44nm,20.0s,baz=164,slow=34							
QSPA	**South Pole Qui**	**74.87**	**180**	P		**P**	**03 33 16.0**	**+2.1**
QSPA				IAmb		IAmb	03 33 24.5	
	comp=Z,9.6nm,1.4s							
QSPA	**South Pole Qui**	**74.87**	**180**	P		**P**	**03 33 15.5**	**+1.6**
	comp=Z,3.4nm,1.1s,baz=31,slow=2.2,SNR=4.4							
	comp=Z,3.4nm,1.1s							
ESJX	**Sierra Juarez**	**75.40**	**51**	P		**P**	**03 33 18.4**	**+0.9**
ESJX				IAmb		IAmb	03 33 19.9	
	comp=Z,7.4nm,1.4s							
KDAK	**Kodiak Island**	**75.58**	**14**	LR		LR	03 59 45.7	
	comp=Z,118nm,20.5s,baz=216,slow=30							
PFO	**Pinyon Flats O**	**75.80**	**49**	LR		LR	03 59 54.1	
	comp=Z,112nm,19.1s,baz=230,slow=30							
YBH	**Yreka Blue Hor**	**75.94**	**39**	LR		LR	03 59 08.3	
	comp=Z,10.0nm,20.6s,baz=242,slow=30							
LPIG	**La Paz**	**76.43**	**60**	LR		LR	03 56 51.6	
	comp=Z,49nm,20.7s,baz=207,slow=28							
MA2	**Magadan**	**78.77**	**344**	LR		LR	04 03 26.5	
	comp=Z,47nm,20.4s,baz=142,slow=32							
BBB	**Bella Bella**	**79.56**	**28**	LR		LR	04 02 24.2	
	comp=Z,103nm,19.5s,baz=218,slow=31							
NEW	**Newport**	**82.86**	**36**	LR		LR	04 02 51.6	
	comp=Z,68nm,21.1s,baz=236,slow=30							
DLBC	**Dease Lake**	**83.03**	**23**	LR		LR	04 03 46.0	
	comp=Z,21nm,20.3s,baz=206,slow=31							
ILAR	**Eielson Array**	**83.06**	**13**	P		**P**	**03 33 57.2**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=207,slow=5.1,SNR=15							
ILAR				LR		LR	04 04 06.7	
	comp=Z,71nm,21.5s,baz=262,slow=31							
	comp=Z,0.9nm,0.5s							
ANMO	**Albuquerque**	**83.81**	**51**	LR		LR	04 03 05.9	
	comp=Z,110nm,21.4s,baz=333,slow=30							
PDAR	**Pinedale Array**	**84.85**	**43**	P		**P**	**03 34 05.2**	**-3.2**
	comp=Z,0.3nm,0.5s,baz=241,slow=5.1,SNR=6.0							
PDAR				LR		LR	04 04 42.8	
	comp=Z,36nm,19.8s,baz=244,slow=31							
	comp=Z,0.3nm,0.5s							
I30M	**Mount Dempster**	**85.98**	**16**	P		**P**	**03 34 12.8**	**-0.6**
I30M				IAmb		IAmb	03 34 15.4	
	comp=Z,3.8nm,1.2s							
PMSA	**Palmer Station**	**86.02**	**157**	LR		LR	04 03 48.2	
	comp=Z,29nm,20.8s,baz=282,slow=30							
D23K	**Nanushuk River**	**86.08**	**9**	P		**P**	**03 34 14.8**	**+1.1**
MAW	**Mawson**	**86.68**	**200**	LR		LR	04 10 26.3	
	comp=Z,88nm,19.2s,baz=115,slow=34							
C23K	**Itkillik River**	**86.88**	**9**	P		**P**	**03 34 18.1**	**+0.6**
C23K				IAmb		IAmb	03 34 19.9	
	comp=Z,3.5nm,0.9s							
F28M	**Old Crow**	**87.00**	**14**	P		**P**	**03 34 19.7**	**+1.5**
E27K	**Coleen River**	**87.09**	**13**	P		**P**	**03 34 21.1**	**+2.5**
CMIG	**Matias Romero**	**87.67**	**72**	LR		LR	04 07 48.5	
	comp=Z,30nm,18.3s,baz=238,slow=32							
G31M	**Satah River**	**87.83**	**16**	P		**P**	**03 34 22.6**	**+0.5**
G31M				IAmb		IAmb	03 34 29.6	
	comp=Z,2.2nm,1.1s							
C27K	**Jago River**	**87.87**	**11**	P		**P**	**03 34 23.3**	**+0.9**
C27K				IAmb		IAmb	03 34 32.3	
	comp=Z,2.6nm,0.8s							
E28M	**Babbage River**	**87.88**	**13**	P		**P**	**03 34 23.1**	**+0.7**
E28M				IAmb		IAmb	03 34 26.3	
	comp=Z,4.1nm,1.4s							
F31M	**Tsiigehtchic**	**88.36**	**16**	P		**P**	**03 34 24.8**	**+0.2**
F31M				IAmb		IAmb	03 34 32.9	
	comp=Z,5.0nm,1.4s							
CMAR	**Chiang Mai Arr**	**88.68**	**289**	LR		LR	04 10 28.3	
	comp=Z,43nm,21.1s,baz=170,slow=33							
INK	**Inuvik**	**89.06**	**15**	LR		LR	04 07 17.9	
	comp=Z,63nm,21.4s,baz=232,slow=31							
YKA	**Yellowknife Ar**	**91.54**	**24**	LR		LR	04 08 42.9	
	comp=Z,200nm,20.8s,baz=262,slow=31							
SONM	**Songino Array**	**91.98**	**319**	LR		LR	04 11 48.3	
	comp=Z,34nm,20.9s,baz=88,slow=33							
PLCA	**Paso Flores**	**92.66**	**133**	LR		LR	04 07 49.6	
	comp=Z,42nm,21.3s,baz=245,slow=30							
SNAA	**Sanae**	**93.30**	**178**	P		**P**	**03 34 48.4**	**+0.5**
SNAA				IAmb		IAmb	03 34 51.2	
	comp=Z,5.2nm,1.5s							
TIXI	**Tiksi**	**93.71**	**345**	LR		LR	04 12 50.7	
	comp=Z,32nm,19.8s,baz=163,slow=33							
JTS	**Las Juntas de**	**95.19**	**81**	LR		LR	04 09 07.8	
	comp=Z,36nm,18.3s,baz=268,slow=30							
ATAH	**Atahualpa**	**96.99**	**99**	LR		LR	04 08 21.1	
	comp=Z,117nm,21.6s,baz=244,slow=29							
BRTR	**Keskin Array B**	**143.33**	**318**	PKP	PKPab		03 41 05.6	+1.5
	comp=Z,0.9nm,0.9s,baz=56,slow=2.6,SNR=4.9							
KHC	**Kasperske Hory**	**144.91**	**347**	*e*PKP	**PKPdf**		**03 41 12.5**	**+1.9**
GERES	**GERESS Array B**	**145.15**	**347**	PKPbc	**PKPbc**		**03 41 09.2**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=36,slow=3.7,SNR=4.5							
MMAI	**Mount Meron Ar**	**145.21**	**307**	PKPbc	**PKPbc**		**03 41 10.7**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=40,slow=4.7,SNR=1.5							

*GUC **31** 03:31:31.0±0.8, 23°.13S×68°.31W, h119km±3km, ML3.4*
*IDC **31** 03:31:31.9±3.4, 23°.12S×67°.94W, h104km±32km, mb3.8/3, mbtmp4.1/5, MS3.6/3, Error ellipse: s-maj=46.4km s-min=23.9km az=116.0*

ISC 31 03:31:31.0±0.8, 23°.12S±0°.06×68°.31W±0°.06, h108km±7km, n21, σ1s55/25, 4C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.20**	**36**	↓*i*	P	**Pn**	**03 31 47.4**	**+0.8**
AF01				*i*	S	**Sn**	**03 31 59.4**	**+1.1**
AF01				*i*	S		03 31 59.4	
AF01				IAML			03 32 01.5	
	comp=N,4μm,0.3s							
PB06	**IPOC Station P**	**1.24**	**289**	↑*i*	P	**Pn**	**03 31 55.1**	**+0.3**
PB06				*i*	S	**Sn**	**03 32 12.9**	**+0.1**
PB06				*i*	S		03 32 13.4	
PB06				IAML			03 32 15.1	
	comp=E,878nm,0.4s							
PB09	**IPOC Station P**	**1.57**	**326**	↓*i*	P	**Pn**	**03 31 59.8**	**+1.0**
PB09				*i*	S	**Sn**	**03 32 21.9**	**+2.0**
PB09				IAML			03 32 25.5	
	comp=E,388nm,0.4s							
PB03	**IPOC Station P**	**1.71**	**308**	↑*i*	P	**Pn**	**03 32 00.7**	**+0.2**
PB03				*i*	S	**Sn**	**03 32 22.4**	**-0.4**
PB03				IAML			03 32 26.5	
	comp=E,423nm,0.3s							
PB05	**IPOC Station P**	**1.77**	**278**	↑*i*	P	**Pn**	**03 32 00.6**	**-0.5**
PB05				IAML			03 32 31.6	
	comp=E,226nm,0.5s							
PB10	**IPOC Station P**	**2.10**	**259**	*e*P		**Pn**	**03 32 04.5**	**-0.8**
PB10				*i*	S	**Sn**	**03 32 29.0**	**-2.4**
PB10				IAML			03 32 39.0	
	comp=N,140nm,0.5s							
PB02	**IPOC Station P**	**2.32**	**320**	↓*i*	P	**Pn**	**03 32 08.3**	**+0.2**
PB02				IAML			03 32 45.1	
	comp=E,438nm,0.2s							
PB01	**IPOC Station P**	**2.34**	**332**	↓*i*	P	**Pn**	**03 32 09.0**	**+0.7**
PB01				*i*	S	**Sn**	**03 32 37.6**	**+0.6**
PB01				IAML			03 32 39.0	
	comp=E,334nm,0.3s							
GO02	**Mina Guanaco**	**2.35**	**210**	↑*i*	P	**Pn**	**03 32 09.3**	**+0.6**
GO02				IAML			03 32 43.4	
	comp=N,138nm,0.2s							
PATCX	**Punta Patache**	**2.86**	**323**	*e*	P	**Pn**	**03 32 16.3**	**+1.1**
PB08	**IPOC Station P**	**3.06**	**345**	*e*	P	**Pn**	**03 32 19.3**	**+1.1**
LPAZ	**La Paz**	**6.80**	**1**	P		**Pn**	**03 33 09.9**	**+1.2**
	comp=N,1.3nm,0.3s,baz=161,slow=3.7,SNR=24							
SIV	**San Ignacio**	**9.83**	**45**	P		**Pn**	**03 33 46.9**	**-2.6**
	comp=N,9.5nm,0.5s,baz=228,slow=11,SNR=74							
SIV				S		**Sn**	**03 35 33.4**	**-4.6**
	comp=N,2.2nm,0.8s,baz=271,slow=17,SNR=3.7							
BDFB	**Brasilia**	**20.52**	**72**	LR		LR	03 43 58.5	
	comp=N,44nm,18.7s,baz=183,slow=37							
SNAA	**Sanae**	**60.58**	**161**	P		**P**	**03 41 30.2**	**+0.4**
	comp=N,1.2nm,0.7s,baz=281,slow=9.3,SNR=8.7							
	comp=N,1.2nm,0.7s							
QSPA	**South Pole Qui**	**67.08**	**180**	P		**P**	**03 42 14.3**	**+1.7**
	comp=N,2.1nm,0.6s,baz=141,slow=6.5,SNR=32							
	comp=N,2.1nm,0.6s							
TORD	**Torodi Ar. Bea**	**77.38**	**70**	P		**P**	**03 43 14.4**	**-0.2**
	comp=N,0.9nm,0.5s,baz=256,slow=5.2,SNR=15							
	comp=N,0.9nm,0.5s							
FRB	**Frobisher Bay**	**86.57**	**360**	LR		LR	04 25 13.1	
	comp=N,61nm,18.1s,baz=311,slow=37							
SFJD	**Kangerlussuaq**	**90.82**	**7**	LR		LR	04 25 22.3	
	comp=N,64nm,20.4s,baz=310,slow=36							
WRA	**Warramunga Arr**	**131.83**	**209**	PKP		**PKPdf**	**03 50 32.8**	**+0.5**
	comp=N,0.4nm,0.6s,baz=142,slow=1.7,SNR=5.0							
MKAR	**Makanchi Array**	**146.59**	**38**	PKPbc		**PKPbc**	**03 51 00.2**	**+0.3**
	comp=N,0.6nm,0.7s,baz=318,slow=1.9,SNR=5.8							

*NOU **31** 03:37:48.6, 14°.58S×171°.08E, h650km, mb4.2/17, Vanuatu Islands Region*
*IDC **31** 03:37:50.5±2.4, 14°.69S×170°.84E, h639km±29km, mb3.3/12, mbtmp4.3/13, Error ellipse: s-maj=20.3km s-min=14.7km az=82.0*
*NEIC **31** 03:37:51.7±1.0, 14°.8S±0°.1×170°.9E±0°.1, h644km±9km, mb4.1/20, Error ellipse: s-maj=20.3km s-min=15.3km az=209.0*

ISC 31 03:37:51.4±0.5, 14°.74S±0°.08×170°.73E±0°.09, h650km, n56, σ1s11/58, mb4.0/21, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**3.46**	**246**	P	P	**P**	**03 39 15.7**	**-1.5**
DVP	**Devils Point**	**3.84**	**219**	P	P	**P**	**03 39 18.1**	**-1.4**
MSVF	**Nonsavu**	**7.64**	**114**			**P**	**03 39 47.6**	**-1.7**
YATNC	**Mamie plateau,**	**8.14**	**206**	P	P	**P**	**03 39 52.2**	**-0.5**
DZM	**Mont Dzumac**	**8.35**	**208**			**P**	**03 39 55.6**	**-0.1**
DZM	**Mont Dzumac**	**8.35**	**208**	P	P	**P**	**03 39 56.0**	**+0.2**
	7.0nm,0.5s,baz=280,slow=23,SNR=15							
DZM					S	**S**	**03 41 37.5**	**-0.1**
	2.8nm,0.7s,baz=346,slow=12,SNR=1.4							
DZM	**Mont Dzumac**	**8.35**	**208**	P	P	**P**	**03 39 56.3**	**+0.6**
PINNC	**Pines Island,**	**8.

comp=Z,0.2nm,0.7s,baz=252,slow=4.6,SNR=2.7
comp=Z,0.2nm,0.7s

SNAA	**Sanae**	**93.69**	**182**	P	**P**	**03 50 00.4**	**+0.2**
ARCES	**ARCESS Array B**	**121.07**	**346**	PKP	**PKPdf**	**03 55 31.0**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=40,slow=2.1,SNR=11						
BFO	**Black Forest**	**143.48**	**340**		PKPbc	03 56 12.5	-0.3
FUORN	**Ofenpass-Fuorn**	**144.25**	**337**		**PKPab**	**03 56 16.1**	**-0.1**
TUE	**Stuetta**	**144.72**	**338**		**PKPab**	**03 56 17.1**	**-0.8**

*NEIC **31** 03:59:15.1±0.5, 18.°0S±0.°1×177.°9W±0.°1, h573km±12km, mb4.2/18, Error ellipse: s-maj=20.9km s-min=17.3km az=198.0*
*IDC **31** 03:59:15.5±4.8, 18.°16S×178.°08W, h565km±51km, mb3.3/7, mbtmp4.2/8, Error ellipse: s-maj=32.9km s-min=20.7km az=43.0*
ISC 31 03:59:16.9±0.8, 18.°1S±0.°1×178.°1W±0.°1, h590km, n31, σ0s79/31, mb4.1/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.81**	**359**	P	P	04 00 36.2	-4.2
PINNC	**Pines Island,**	**14.30**	**249**	P	**P**	**04 02 17.9**	**-0.8**
DZM	**Mont Dzumac**	**15.07**	**252**	P	**P**	**04 02 26.7**	**+0.6**
DZM	comp=Z,18nm,1.4s			IAmb	IAmb	04 02 32.3	
DZM	**Mont Dzumac**	**15.07**	**252**	P	**P**	**04 02 25.5**	**-0.6**
	comp=Z,4.7nm,0.6s,baz=90,slow=19,SNR=6.9						
URZ	**Urewera**	**20.48**	**191**	P	**P**	**04 03 14.1**	**-1.1**
	comp=Z,6.1nm,0.5s,baz=286,slow=1.9,SNR=7.9						
BKZ	**Black Stump Fm**	**21.48**	**192**	P	**P**	**04 03 23.9**	**-0.3**
BKZ	comp=Z,3.0nm,0.8s			IAmb	IAmb	04 03 32.6	
WKZ	**Wanaka**	**28.72**	**199**	P	**P**	**04 04 27.1**	**-0.8**
MLZ	**Mavora Lakes**	**29.49**	**200**	P	**P**	**04 04 34.8**	**+0.2**
EIDS	**Eidsvold**	**29.50**	**250**	P	**P**	**04 04 35.1**	**+0.2**
EIDS	comp=Z,5.3nm,0.9s			IAmb	IAmb	04 04 42.4	
ARMA	**Armidale**	**30.11**	**240**	P	**P**	**04 04 39.8**	**-0.4**
ARMA	comp=Z,23nm,1.5s			IAmb	IAmb	04 04 47.7	
COEN	**Coen**	**37.44**	**271**	P	**P**	**04 05 41.6**	**0.0**
COEN	comp=Z,16nm,1.3s			IAmb	IAmb	04 05 42.5	
STKA	**Stephens Creek**	**38.81**	**242**	P	**P**	**04 05 53.2**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=80,slow=11,SNR=3.9						
BBOO	**Buckleboo**	**43.58**	**241**	P	**P**	**04 06 30.5**	**+0.4**
BBOO	comp=Z,1.3nm,0.5s			IAmb	IAmb	04 06 35.3	
WR8	**Warramunga Arr**	**44.76**	**260**	P	**P**	**04 06 38.8**	**-0.6**
WR8	comp=Z,12nm,1.5s			IAmb	IAmb	04 06 47.0	
WB0	**Warramunga Arr**	**44.88**	**260**	P	**P**	**04 06 40.2**	**-0.1**
WB0	comp=Z,8.2nm,1.5s			IAmb	IAmb	04 06 40.6	
WRA	**Warramunga Arr**	**44.91**	**260**	P	**P**	**04 06 40.3**	**-0.2**
WRA	**Warramunga Arr**	**44.91**	**260**	P	**P**	**04 06 40.2**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=96,slow=7.3,SNR=27						
	comp=Z,1.2nm,0.5s						
AS31	**Alice Springs**	**45.05**	**254**	P	**P**	**04 06 41.7**	**+0.1**
ASAR	**Alice Springs**	**45.05**	**254**	P	**P**	**04 06 41.3**	**-0.2**
ASAR	**Alice Springs**	**45.05**	**254**	P	**P**	**04 06 41.7**	**+0.2**
ASAR	comp=Z,4.9nm,0.7s,baz=86,slow=9.1,SNR=54			PcP	**PcP**	**04 08 09.8**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=91,slow=3.7,SNR=4.2						
	comp=Z,4.9nm,0.7s						
KNRA	**Kununurra**	**50.79**	**264**	P	**P**	**04 07 24.3**	**0.0**
KNRA	comp=Z,11nm,1.4s			IAmb	IAmb	04 07 28.5	
VNDA	**Vanda**	**60.24**	**185**	P	**P**	**04 08 27.7**	**-0.9**
RPN	**Rapa Nui**	**63.40**	**112**	P	**P**	**04 08 48.2**	**-1.7**
CASY	**Casey**	**66.06**	**205**	P	**P**	**04 09 06.7**	**+0.7**
QSPA	**South Pole Qui**	**71.91**	**180**	P	**P**	**04 09 43.2**	**+2.0**
QSPA	comp=Z,5.1nm,0.8s			IAmb	IAmb	04 09 43.9	
QSPA	**South Pole Qui**	**71.91**	**180**	P	**P**	**04 09 42.4**	**+1.3**
	comp=Z,3.6nm,0.6s,baz=11,slow=0.7,SNR=36						
	comp=Z,3.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**76.99**	**326**	P	**P**	**04 10 08.7**	**-1.0**
TXAR	**Lajitas Array**	**85.84**	**57**	P	**P**	**04 10 56.6**	**+1.2**
	comp=Z,0.7nm,0.9s,baz=220,slow=6.8,SNR=6.9						
	comp=Z,0.7nm,0.9s						
SNAA	**Sanae**	**90.36**	**178**	P	**P**	**04 11 15.9**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=204,slow=9.2,SNR=9.7						
	comp=Z,0.8nm,0.6s						
BRTR	**Keskin Array B**	**145.18**	**315**	PKPbc	**PKPbc**	**04 17 49.9**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=102,slow=5.7,SNR=4.0						
GERES	**GERESS Array B**	**147.92**	**345**	PKPbc	**PKPbc**	**04 17 57.0**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=354,slow=1.3,SNR=4.9						

*IDC **31** 03:59:20.1±2.5, 60.°62N×170.°19E, h0km, mb3.7/8, mbtmp3.7/9, ML3.4/1, MS3.2/7, Error ellipse: s-maj=71.9km s-min=24.3km az=6.0*
ISC 31 03:59:21.4±2.5, 60.°6N±0.°5×170.°2E±0.°2, h10km, n15, σ0s73/9, mb3.9/8, MS3.3/4, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**19.12**	**82**	LR	LR	04 10 45.1	
	comp=Z,56nm,19.4s,baz=301,slow=36						
YAK	**Yakutsk**	**19.28**	**292**	LR	LR	04 12 41.8	
	comp=Z,36nm,19.2s,baz=5.0,slow=42						
ILAR	**Eielson Array**	**19.86**	**59**	P	**P**	**04 03 52.8**	**+0.5**
ILAR	0.1nm,0.3s,baz=258,slow=8.4,SNR=14			LR	LR	04 12 30.2	
	comp=Z,104nm,18.7s,baz=288,slow=40						
	1.4nm,0.9s						
ASAJ	**Asahikawa**	**23.28**	**237**	LR	LR	04 14 08.8	
	comp=Z,91nm,18.3s,baz=4.5,slow=38						
MJAR	**Matsushiro Arr**	**31.46**	**235**	LR	LR	04 19 28.9	
	comp=Z,56nm,19.1s,baz=47,slow=38						
ARCES	**ARCESS Array B**	**47.77**	**344**	LR	LR	04 29 49.2	
	comp=Z,39nm,20.3s,baz=312,slow=38						
KURBB	**Kurchatov Arra**	**48.60**	**302**	P	**P**	**04 08 05.3**	**+0.7**
	0.6nm,0.5s,baz=41,slow=7.9,SNR=5.7						
	0.6nm,0.5s						
PDAR	**Pinedale Array**	**49.48**	**73**	LR	LR	04 31 52.8	
	comp=Z,20nm,18.3s,baz=324,slow=40						
MKAR	**Makanchi Array**	**49.88**	**296**	P	**P**	**04 08 13.9**	**-0.7**
	0.3nm,0.6s,baz=39,slow=9.3,SNR=2.9						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**50.04**	**309**	P	**P**	**04 08 16.7**	**+1.1**
	0.9nm,0.6s,baz=46,slow=8.5,SNR=4.5						
	0.9nm,0.6s						
NOA	**NORSAR Array B**	**57.65**	**348**	P	**P**	**04 09 11.2**	**0.0**
	1.1nm,0.9s,baz=11,slow=7.5,SNR=2.9						
	1.1nm,0.9s						
TXAR	**Lajitas Array**	**63.09**	**78**	P	**P**	**04 09 48.8**	**-0.1**
	0.3nm,0.6s,baz=311,slow=4.8,SNR=5.5						
	0.3nm,0.6s						
EKA	**Eskdalemuir Ar**	**64.33**	**356**	P	**P**	**04 09 56.3**	**-0.3**
	0.4nm,0.6s,baz=354,slow=5.9,SNR=3.7						
	0.4nm,0.6s						
AKASG	**Malin Array Be**	**64.72**	**334**	P	**P**	**04 09 58.4**	**-0.8**
	3.9nm,1.0s,baz=23,slow=6.2,SNR=7.1						
	3.9nm,1.0s						
GERES	**GERESS Array B**	**69.30**	**344**	P	**P**	**04 10 28.3**	**-0.2**
	0.4nm,0.5s,baz=359,slow=6.6,SNR=4.2						
	0.4nm,0.5s						

*NEIC **31** 04:10:26.7±1.3, 35.°276N±0.°010×97.°73W±0.°01, h8km±5km, ML1.8/47, ML2.1/5, Error ellipse: s-maj=1.5km s-min=1.4km az=111.0*
NEIC 31 04:10:26.4±1.2, 35.°287N±0.°009×97.°75W±0.°01, h6km±2km, Error ellipse: s-maj=1.4km s-min=1.3km az=136.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCSW	**OKLAHOMA CITY**	**0.28**	**65**		Pg	04 10 31.7	-0.3
OKCSW					Sg	04 10 36.9	+1.1
OKCSW				IAML		04 10 37.1	
	comp=E,135nm,0.1s						
OKCSW				IAML		04 10 37.1	
	comp=N,128nm,0.1s						
FNO	**Franklin**	**0.29**	**96**		Pg	04 10 32.5	+0.4
FNO					Sg	04 10 37.1	+1.2
FNO				IAML		04 10 40.6	
	comp=E,93nm,0.1s						
BCOK	**Bluff Creek, N**	**0.39**	**18**		Pg	04 10 34.2	+0.2
BCOK					Sg	04 10 39.6	+0.6
ADOK	**Arcadia Dam**	**0.48**	**40**	Pg	Pg	04 10 35.6	0.0
ADOK					Sg	04 10 43.0	+1.0
OK029	**Liberty Lake**	**0.56**	**25**		Pg	04 10 37.5	+0.2
OK029					Sg	04 10 45.3	+0.7
OK029				IAML		04 10 45.6	
	comp=E,62nm,0.2s						
OK029				IAML		04 10 49.8	
	comp=E,37nm,0.2s						
X34A	**Smith Ranch, M**	**0.69**	**185**		Pg	04 10 40.1	+0.4
X34A					Sg	04 10 47.9	-0.7
X34A				IAML		04 10 53.9	
	comp=N,37nm,0.4s						
CSTR	**Hydro, Custer**	**0.84**	**295**	Pg	Pb	04 10 43.2	-0.3
WMOK	**Wichita Mounta**	**1.01**	**237**		Pg	04 10 44.7	-1.0
WMOK	**Wichita Mounta**	**1.01**	**237**	Sg	Sg	04 10 58.2	-0.5
OK052	**Battle Ridge R**	**1.05**	**47**		Pg	04 10 46.2	-0.3
OK052					Sg	04 11 00.3	+0.2
DEOK	**Depew**	**1.16**	**61**		Pg	04 10 47.6	-1.1
DEOK					Sg	04 11 03.8	-0.1
DEOK				IAML		04 11 08.6	
	comp=E,32nm,0.1s						
DEOK				IAML		04 11 10.0	
	comp=N,22nm,0.5s						
QUOK	**Quay**	**1.23**	**44**	Pg	Pg	04 10 48.2	-1.7
CROK	**Carrier**	**1.23**	**351**		Pg	04 10 48.7	-1.3
LOOK	**Love County**	**1.38**	**160**		Pn	04 10 51.9	-0.2
OK038	**West end E0370**	**1.44**	**326**		Pn	04 10 53.0	0.0
BLOK	**Blackwell**	**1.53**	**16**		Pn	04 10 53.4	-1.0
GC02	**Grant County #**	**1.56**	**357**		Pn	04 10 53.9	-0.9
TUL3	**Leonard**	**1.71**	**68**	Pn	Pn	04 10 57.0	+0.2
T35A	**Sooner Cattle**	**1.91**	**31**	Pn	Pn	04 10 58.8	-0.7
Z35A	**Perchaven, San**	**2.00**	**168**	Pn	Pn	04 10 59.4	-1.3
RLO	**Rose Lookout**	**2.39**	**68**	Pn	Pn	04 11 05.7	-0.4

*NNC **31** 04:16:16.7±3.6, 41.°15N×83.°42E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=27.7km s-min=17.2km az=151.0*
*SOME **31** 04:16:18.6, 40.°93N×83.°02E, h5km*
ISC 31 04:16:17.6±3.0, 41.°1N±0.°1×83.°13E±0.°06, h10km, n15, σ2s10/18, 2C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.41**	**308**	Pg	**Pb**	**04 17 18.7**	**+0.5**
SHLS				Lg	Lg	04 18 02.2	
	227nm,0.5s						
SHLS	**Shalkode**	**3.41**	**308**	*eP*	**Pb**	**04 17 18.7**	**+0.5**
SHLS				*eS*	**Sb**	**04 18 02.2**	**+2.4**
	227nm,0.5s						
PDGK	**Podgornoye**	**3.50**	**311**	⇓Pn	**Pn**	**04 17 12.7**	**+0.5**
	2.9nm,0.4s						
PDGK				⇓Pg	**Pg**	**04 17 24.4**	**-0.3**
	22nm,0.7s						
PDGK				⇑Lg	Lg	04 18 15.4	
	134nm,0.9s						
TNSS	**Tian-Shan**	**4.99**	**295**	Pg	**Pg**	**04 17 51.8**	**-1.4**
	2.1nm,0.7s						
TNSS				Lg	Lg	04 18 58.9	
	13nm,1.2s						
TNSS	**Tian-Shan**	**4.99**	**295**	*eP*	**Pg**	**04 17 51.8**	**-1.4**
	2.1nm,0.7s						
TNSS				*eS*	**Sg**	**04 18 58.9**	**+1.0**
	13nm,1.2s						
ARXS	**Arharly**	**4.99**	**310**	Pg	**Pg**	**04 17 52.2**	**-1.1**
	7.0nm,0.6s						
ARXS				Lg	Lg	04 18 59.4	
	29nm,0.6s						
CHKK	**Chushkaly**	**5.31**	**303**	Pg	Pb	04 17 56.3	+5.8
	8.0nm,0.5s						
CHKK				Lg	Lg	04 19 07.0	
	15nm,0.4s						
CHKK	**Chushkaly**	**5.31**	**303**	*eP*	Pb	04 17 56.3	+5.8
	8.0nm,0.5s						
CHKK				*eS*	**Sg**	**04 19 07.0**	**-0.9**
	15nm,0.4s						
KST	**Kastek**	**5.68**	**292**	Pg	Pg	04 18 03.9	-2.3
	6.5nm,0.7s						
KST				Lg	Lg	04 19 20.1	
	20nm,1.0s						
KST	**Kastek**	**5.68**	**292**	*eP*	Pg	04 18 03.9	-2.3
	6.5nm,0.7s						
KST				*eS*	**Sg**	**04 19 20.1**	**+0.3**
	20nm,1.0s						
MK31	**Makanchi Array**	**5.72**	**354**	⇑Pn	**Pn**	**04 17 42.1**	**-0.5**
	0.2nm,0.3s,baz=189,slow=12,SNR=8.1						
MK31				⇓Pg	**Pg**	**04 18 04.1**	**-3.0**
	1.0nm,0.3s,baz=166,slow=16,SNR=5.2						
MK31				⇓Lg	Lg	04 19 20.2	
	9.8nm,0.7s,baz=161,slow=28,SNR=4.2						
MAKZ	**Makanchi**	**5.76**	**352**	Pg	**Pb**	**04 17 59.7**	**+1.6**
	2.4nm,0.8s						
MAKZ				Sn	**Sn**	**04 18 48.0**	**-1.3**
	3.0nm,0.6s						
MAKZ				Lg	Lg	04 19 22.2	
	18nm,0.9s						
DGS	**Degeres**	**5.87**	**294**	Pg	Pg	04 18 07.4	-2.6
	2.3nm,0.8s						
DGS				Lg	Lg	04 19 25.9	
	18nm,0.7s						
ZSN	**Zaisan**	**6.46**	**11**	Pg	**Pg**	**04 18 18.0**	**-3.2**
	5.8nm,0.3s						
ZSN				Lg	Lg	04 19 43.6	
	39nm,0.8s						
ZSN	**Zaisan**	**6.46**	**11**	*eP*	**Pg**	**04 18 22.0**	**+0.7**
	2.6nm,0.2s						
ZSN				*eS*	**Sg**	**04 19 50.2**	**+5.3**
	43nm,0.6s						

NNC 31 04:20:38.6±1.3, 50.°14N×81.°83E, h0km, mb3.9, mpv3.6, 12C-8D, Error ellipse: s-maj=15.1km s-min=8.0km az=54.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.13**	**287**	⇑Pn	Pn	04 21 13.3	-2.2
	4.5nm,0.6s						
KURK				⇑Pg	Pg	04 21 19.8	+0.2
	96nm,0.6s						
KURK				⇓Lg	Lg	04 21 45.4	
	785nm,0.6s						
KURBB	**Kurchatov Arra**	**2.17**	**284**	⇓Pn	Pn	04 21 14.2	-1.7
	12nm,0.3s						
KURBB				⇑Pg	Pg	04 21 20.7	+0.5
	102nm,0.6s						
KURBB				⇑Lg	Lg	04 21 46.1	
	1um,0.8s						
MAKZ	**Makanchi**	**3.33**	**178**	⇓Pn	Pn	04 21 31.7	-0.3
	2.1nm,0.5s						
MAKZ				⇓Pg	Pg	04 21 41.9	-0.6
	11nm,0.5s						
MAKZ				⇑Lg	Lg	04 22 22.5	
	104nm,0.7s						
MK31	**Makanchi Array**	**3.36**	**175**	⇓Pn	Pn	04 21 32.1	-0.2
	3.7nm,0.3s,baz=347,slow=10,SNR=141						
MK31				⇓Pg	Pg	04 21 41.1	-1.9
	16nm,0.5s,baz=358,slow=16,SNR=9.8						
MK31				⇑Lg	Lg	04 22 24.1	
	86nm,0.5s,baz=351,slow=26,SNR=14						
ZAA0	**Zalesovo Array**	**4.24**	**25**	⇑Pg	Pb	04 21 55.4	+1.5
	0.5nm,0.3s						
ZAA0				⇑Lg	Lg	04 22 54.6	
	9.5nm,0.8s						
BRZS	**Berezniki**	**5.90**	**272**	Pg	Pg	04 22 30.3	-1.3
	0.6nm,0.3s						
BRZS				Lg	Lg	04 23 43.3	
	34nm,0.7s						
PDGK	**Podgornoye**	**7.00**	**194**	⇑Lg	Lg	04 24 19.8	
	32nm,0.6s						
KUU	**Kurty**	**7.29**	**213**	Pg	Pg	04 22 54.5	-3.7
	2.4nm,0.1s						
KUU				Lg	Lg	04 24 24.5	
	48nm,0.7s						
BTLS	**Baital**	**7.33**	**229**	Pg	Pg	04 22 54.7	-4.2
	1.1nm,0.2s						
BTLS				Lg	Lg	04 24 25.5	
	13nm,0.8s						
BVA0	**Borovoye Array**	**7.69**	**296**	Pn	Pn	04 22 28.9	-2.9
	0.9nm,0.4s,baz=103,slow=14,SNR=4.4						
BVA0				⇓Sn	Sn	04 24 03.6	+3.9
	6.4nm,0.5s,baz=108,slow=23,SNR=8.2						
BRVK	**Borovoye**	**7.76**	**297**	⇑Pn	Pn	04 22 32.0	-0.8
	2.0nm,0.7s						
BRVK				⇑Sn	Sn	04 24 03.9	+2.6
	7.6nm,0.5s						
TNSS	**Tian-Shan**	**7.86**	**207**	Pg	Pg	04 23 05.6	-3.5
	1.3nm,0.3s						
TNSS				Lg	Lg	04 24 43.6	
	5.3nm,0.6s						
KST	**Kastek**	**8.16**	**212**	Pg	Pg	04 23 11.1	-3.8
	3.8nm,0.3s						
KST				Lg	Lg	04 24 53.7	
	19nm,0.9s						
KK31	**Karatay Array**	**10.49**	**232**	Pn	Pn	04 23 07.0	-3.1
	4.0nm,0.6s,baz=42,slow=12,SNR=16						
KK31				⇑Sn	Sn	04 25 06.7	-1.6
	1.1nm,0.5s						
KK31				⇓Lg	Lg	04 26 12.5	
	6.2nm,0.6s,baz=41,slow=27,SNR=4.5						

IDC 31 04:25:08.4±5.3, 19.°17S×176.°46W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=315.6km s-min=70.1km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.24**	**260**	P	P	04 33 35.3	-0.5
	0.3nm,0.4s,baz=97,slow=7.5,SNR=5.9						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**46.25**	**255**	P	P	04 33 36.0	+0.1
	1.3nm,0.5s,baz=91,slow=8.1,SNR=16						
	1.3nm,0.5s						
FINES	**FINESS Array B**	**134.89**	**345**	PKP	PKPdf	04 44 28.5	-0.4
	0.6nm,0.4s,baz=57,slow=5.0,SNR=6.2						

NOU 31 04:25:32.5, 15.°30S×167.°47E, h99km, MLv4.0/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**0.80**	**183**	P	Pn	04 25 51.2	+0.4
VLAKA	**Lakatoro**	**0.80**	**183**	P	Sn	04 26 06.4	+1.9
DVP	**Devils Point**	**2.51**	**164**	P	Pn	04 26 11.4	-0.3
DVP	**Devils Point**	**2.51**	**164**	S	Sn	04 26 41.7	-0.1
YATNC	**Mamie plateau,**	**6.75**	**185**	P	Pn	04 27 07.9	-1.1
DZM	**Mont Dzumac**	**6.80**	**188**	P	Pn	04 27 09.8	0.0
DZM	**Mont Dzumac**	**6.80**	**188**	S	Sn	04 28 26.2	+0.3
OUENC	**Ouen Island, N**	**7.11**	**185**	P	Pn	04 27 14.5	+0.7

*NEIC **31** 04:32:17.6±1.0, 23.°8N±0.°1×141.°6E±0.°2, h10km±2km, mb4.5/30, Error ellipse: s-maj=33.6km s-min=17.3km az=98.0*
*IDC **31** 04:32:17.3±1.3, 24.°23N×141.°62E, h0km, mb3.9/5, mbtmp3.9/5, MS3.1/2, Error ellipse: s-maj=41.9km s-min=26.6km az=87.0*
*JMA **31** 04:32:33.1±0.1, 24.°N±1.°×14.°1E±.°, h128km, MV4.2/18, IOTO ISLANDS REGION*
ISC 31 04:32:37.8±1.1, 24.°7N±0.°1×141.°5E±0.°2, h150km, n57, σ1s12/54, mb4.2/21, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.02**	**17**	*eP*	**Pn**	**04 33 11.2**	**-1.8**
JHH2				*eS*	**Sn**	**04 33 40.0**	**-0.2**
JCJ	**Chichijima**	**2.46**	**14**	Pg	**Pn**	**04 33 17.1**	**-1.3**
JCJ				Sn	**Sn**	**04 33 49.0**	**-0.8**
CBIJ	**Chichi jima**	**2.46**	**14**	*eP*	**Pn**	**04 33 17.0**	**-1.4**
CBIJ				*eS*	**Sn**	**04 33 51.0**	**+1.2**
JHJ2	**Mitsune**	**8.51**	**350**	*eP*	**Pn**	**04 34 38.6**	**+0.7**
BSO1	**Boso 1**	**9.93**	**357**	*eP*	**Pn**	**04 34 55.6**	**-0.6**
BSO1				*eS*	**Sn**	**04 36 47.5**	**+1.6**
BSO3	**Boso 3**	**10.10**	**355**	*eP*	**Pn**	**04 34 57.7**	**-1.1**
BSO3				*eS*	**Sn**	**04 36 52.4**	**+1.9**
BSO4	**Boso 4**	**10.30**	**355**	*eP*	**Pn**	**04 35 02.1**	**+0.5**
JAG	**Ashikaga**	**11.82**	**352**	*eP*	**Pn**	**04 35 19.4**	**-2.2**
JAG				*eS*	**Sn**	**04 37 30.7**	**-1.5**
JHO	**Hitachi**	**11.90**	**356**	*eP*	**Pn**	**04 35 21.3**	**-1.3**
JMM	**Marumori**	**13.14**	**358**	Pn	**Pn**	**04 35 36.9**	**-1.8**
H11N1	**WAKE ISLAND Hy**	**24.00**	**97**	T	T	05 02 26.7	
	baz=283						
H11N2	**WAKE ISLAND Hy**	**24.00**	**97**	T	T	05 02 42.2	
	baz=283						
H11N3	**WAKE ISLAND Hy**	**24.02**	**97**	T	T	05 02 39.4	
	baz=283						
H11S3	**WAKE ISLAND Hy**	**24.19**	**100**	T	T	05 03 11.0	
	baz=289,slow=75						
H11S1	**WAKE ISLAND Hy**	**24.20**	**100**	T	T	05 03 11.8	
	baz=289,slow=75						
H11S2	**WAKE ISLAND Hy**	**24.21**	**100**	T	T	05 03 11.4	
	baz=289,slow=75						
PETK	**Petropavlovsk-**	**30.89**	**19**	LR	LR	04 49 09.5	
	comp=Z,11nm,21.5s,baz=184,slow=32						
PET	**Petropavlovsk**	**31.11**	**20**	P	**P**	**04 38 43.0**	**+1.3**
WRA	**Warramunga Arr**	**44.92**	**190**	P	P	04 40 30.2	-7.5
	0.8nm,0.3s,baz=8.6,slow=8.7,SNR=14						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**51.56**	**311**	P	**P**	**04 41 28.6**	**+0.2**
MKAR	**Makanchi Array**	**51.56**	**311**	P	**P**	**04 41 29.1**	**+0.7**
	0.4nm,0.4s,baz=92,slow=7.8,SNR=6.2						
	0.4nm,0.4s						
O14K	**Tigyukauivet M**	**52.45**	**33**	P	**P**	**04 41 34.9**	**+0.2**
O14K				IAmb	IAmb	04 41 39.8	
	comp=Z,11nm,1.2s						
O15K	**Ungaliktiuk R**	**53.14**	**33**	P	**P**	**04 41 40.8**	**+0.9**
O15K				IAmb	IAmb	04 41 47.9	
	comp=Z,11nm,1.5s						
K15K	**Wolf Creek Mou**	**53.19**	**29**	P	**P**	**04 41 41.4**	**+1.3**
N15K	**Kwethluk River**	**53.26**	**32**	P	**P**	**04 41 41.7**	**+1.0**
N15K				IAmb	IAmb	04 41 48.4	
	comp=Z,5.5nm,1.2s						
CHGN	**Chignik**	**53.28**	**37**	P	**P**	**04 41 40.4**	**-0.4**
P16K	**Nushagak River**	**54.03**	**34**	P	**P**	**04 41 47.0**	**+0.7**
P16K				IAmb	IAmb	04 41 55.9	
	comp=Z,11nm,1.4s						
O16K	**Kokwok River B**	**54.10**	**33**	P	**P**	**04 41 47.6**	**+0.8**
O16K				IAmb	IAmb	04 41 55.0	
	comp=Z,3.2nm,1.1s						
KURBB	**Kurchatov Arra**	**54.30**	**316**	P	**P**	**04 41 47.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=91,slow=7.7,SNR=4.1						
	comp=Z,0.2nm,0.3s						
M17K	**Holitna River**	**54.82**	**31**	P	**P**	**04 41 53.4**	**+1.4**
M17K				IAmb	IAmb	04 41 54.0	
	comp=Z,3.8nm,1.2s						
N18K	**Kilae Creek**	**55.41**	**32**	P	**P**	**04 41 56.5**	**+0.3**
N18K				IAmb	IAmb	04 41 59.8	
	comp=Z,5.0nm,1.2s						
O18K	**Koktuh Hills**	**55.59**	**33**	P	**P**	**04 41 58.4**	**+0.9**
N19K	**Bonanza Creek**	**56.11**	**32**	P	**P**	**04 42 02.4**	**+1.1**
H19K	**Roundabout Mou**	**56.26**	**26**	P	**P**	**04 42 03.6**	**+1.5**
H19K	

comp=Z,2.9nm,1.4s

AB31	**Akbulak array**	**66.34**	**315**	P	**P**	**04 43 09.8 -0.4**
ABKAR	**Akbulak array**	**66.34**	**315**	P	**P**	**04 43 09.4 -0.8**
FINES	**FINESS Array B**	**79.82**	**334**	P	**P**	**04 44 29.9 +0.8**
BR131	**Keskin Array S**	**87.18**	**313**	P	**P**	**04 45 07.1 -0.3**
P18A	**Preston Nutter**	**87.47**	**47**	P	**P**	**04 45 08.0 -1.0**

BJI ***31*** *04:39:59.0, 35°.14N×24°.41E, h86km, mB5.2/15, mb5.6/69, Ms4.7/6, Ms7 4.2/5*

ISK ***31*** *04:40:02.9, 35°.34N×24°.92E, h82km, ML5.0/30*

PDG ***31*** *04:40:02.5±0.1, 35°.62N×24°.94E, h80km±54km, MD1.1/2, ML5.0/13, Error ellipse: s-maj=1.9km s-min=2.3km az=0.0*

IDC ***31*** *04:40:03.5±0.3, 35°.38N×24°.92E, h77km±2km, mb4.8/29, mbtmp5.2/38, MS3.5/48, Error ellipse: s-maj=10.0km s-min=7.1km az=125.0*

TIR ***31*** *04:40:03.9, 35°.32N×24°.97E, h80km, Ml5.0*

MOS ***31*** *04:40:03.3±0.9, 35°.47N×24°.92E, h86km, mb5.3/55, Error ellipse: s-maj=4.6km s-min=2.9km az=83.6*

HLW ***31*** *04:40:03.9, 35°.03N×25°.28E, h118km±2km, Md6.0, Ml5.5*

MCSM ***31*** *04:40:03.0±0.3, 35°.N±°×2°.5E±°, h73km±3km, mb5.3, mB5.3, MLv5.9, Mw(mB)4.8*

MED_RC ***31*** *04:40:03.0±0.2, 35°.14N×24°.95E, h59km±1km, MW4.9/50, Moment Tensor Solution.Mantle waves: s50,c78; Duration: 1s3 Moment tensor: Scale 10^16Nm; Mrr1.29±.11; Mθθ-0.20±.08; Mϕϕ-1.09±.08; Mrθ0.08±.06; Mθϕ-1.97±.09; Mrf-1.05±.05; Best double couple: M=2.46000×10^16 NP1:ϕs76.00000°, δ50.00000°, λ151.00000°. NP2:ϕs185.00000°, δ68.00000°, λ43.00000°. Principal axes: T 2.1100, Plg45.0000°, Azm48.0000°; N 0.7000, Plg43.0000°, Azm207.0000°; P -2.8100, Plg11.0000°, Azm307.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

NEIC ***31*** *04:40:04.1±1.9, 35°.39N±0.0°×24°.97E±0.0°, h75km±3km, mb5.1/520, Mwr5.1/21, Mww4.9/22 Error ellipse: s-maj=10.1km s-min=8.1km az=183.0, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr3.60; Mθθ-2.61; Mϕϕ-0.99; Mrθ0.98; Mrϕ-3.08; Mθf-4.68; Fault plane solution: M=6.54000×10^16 NP1:ϕs196.63000°, δ69.35000°, λ55.46000°. NP2:ϕs79.50000°, δ39.57000°, λ146.39000°. Principal axes: T 7.1658, Plg53.0000°, Azm65.0000°; N -1.5189, Plg32.0000°, Azm210.0000°; P -5.6469, Plg17.0000°, Azm311.0000°;*

NEIC ***31*** *04:40:04.8, 35°.42N×24°.85E, h60km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^16Nm; Mrr1.40; Mθθ0.08; Mϕϕ-1.48; Mrθ0.43; Mrϕ-2.26; Mθf-0.72; Fault plane solution: M=2.81000×10^16 NP1:ϕs73.69000°, δ59.49000°, λ152.36000°. NP2:ϕs178.58000°, δ66.44000°, λ33.63000°. Principal axes: T 2.3372, Plg40.0000°, Azm38.0000°; N 0.7748, Plg50.0000°, Azm210.0000°; P -3.1120, Plg4.0000°, Azm305.0000°;*

NEIC ***31*** *04:40:04.8, 35°.42N×24°.97E, h60km*

NEIC ***31*** *04:40:04.1, 35°.40N×24°.97E, h75km*

THE ***31*** *04:40:04.2, 35°.N±2°×2°.5E±°, h77km±2km, M5.1/39, MLh5.1/39*

GII ***31*** *04:40:05.3±0.0, 35°.08N±0.0°×25°.837E±0.0°, h1km, Mws5.1, confirmed*

GCMT ***31*** *04:40:05.2±0.3, 35°.25N±0.0°×24°.79E±0.0°, h62km±1km, MW4.9/99, Moment Tensor Solution. s45,c54; s99,c139; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.37±.12; Mθθ-0.36±.09; Mϕϕ-1.02±.09; Mrθ0.53±.07; Mrϕ-2.30±.08; Mθf-0.94±.06; Best double couple: M=2.79200×10^16 NP1:ϕs78.00000°, δ58.00000°, λ151.00000°. NP2: ϕs185.00000°, δ66.00000°, λ35.00000°. Principal axes: T 2.5390, Plg42.0000°, Azm44.0000°; N 0.4960, Plg48.0000°, Azm214.0000°; P -3.0440, Plg5.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ATH ***31*** *04:40:05.1, 35°.40N×24°.89E, h66km±2km, ML5.2/14, Manual Solution by A.Moschou First location: 2019/07/31 04:41:39, This location: 2019/07/31 05:05:52 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

BGR ***31*** *04:40:08.6±1.8, 35°.66N×24°.76E, h80km, Error ellipse: s-maj=42.3km s-min=25.6km az=145.0*

AFAD ***31*** *04:40:08.0, 35°.47N×25°.24E, h84km±27km, MW4.6*

NAO ***31*** *04:40:36.4, 40°.04N×25°.55E, h10km, mb4.0*

ISC 31 04:40:03.3±0.2, 35°.34N±0.0°03×25°.02E±0.0°03, h77km±1km, h77km:pP-P,n1720,σ1=82/1703, mb5.1/378, 106C-77D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IACM	**Heraklion**	**0.05**	**131**	P	**Pn**	**04 40 15.3**	**+1.0**
IACM				S	**Sn**	**04 40 23.7**	**+1.4**
IACM	**Heraklion**	**0.05**	**131**	P	**Pn**	**04 40 15.1**	**+0.8**
IACM				S	**Sn**	**04 40 22.5**	**+0.2**
IDI	**Anoyia**	**0.12**	**245**	P	**Pn**	**04 40 15.3**	**+0.8**
IDI				S	**Sn**	**04 40 23.2**	**+0.5**
IDI	**Anoyia**	**0.12**	**245**	Pg	**Pn**	**04 40 15.4**	**+0.8**
IDI				Sg	**Sn**	**04 40 23.9**	**+1.1**
IDI	**Anoyia**	**0.12**	**245**		**Pn**	**04 40 15.3**	**+0.8**
IDI				Sn	**Sn**	**04 40 23.3**	**+0.5**
IDI	**Anoyia**	**0.12**	**245**	P	**Pn**	**04 40 15.2**	**+0.7**
IDI				S	**Sn**	**04 40 23.7**	**+0.9**
IDI	**Anoyia**	**0.12**	**245**	P	**Pn**	**04 40 15.1**	**+0.5**
	58μm,0.4s,baz=141,slow=2.4						
IDI				S	**Sn**	**04 40 24.1**	**+1.4**
	20μm,0.3s,baz=343,slow=19,SNR=9.5						
IDI	**Anoyia**	**0.12**	**245**	P	**Pn**	**04 40 15.1**	**+0.5**
IDI				S	**Sn**	**04 40 23.0**	**+0.2**
TMBK	**Timbaki Herakl**	**0.34**	**219**	P	**Pn**	**04 40 16.1**	**+0.7**
TMBK				S	**Sn**	**04 40 25.3**	**+0.9**
PRNS	**Prines Rethymn**	**0.43**	**274**	P	**Pn**	**04 40 17.0**	**+0.9**
PRNS				S	**Sn**	**04 40 26.7**	**+1.2**
CHNB	**Souda**	**0.80**	**281**	P	**Pn**	**04 40 21.2**	**+1.5**
CHNB				S	**Sn**	**04 40 30.7**	**-1.3**
CH01	**Chania**	**0.84**	**283**	P	**Pn**	**04 40 21.3**	**+1.1**
CH01				S	**Sn**	**04 40 33.8**	**+1.0**
SIT2	**Siteia**	**0.90**	**98**	P	**Pn**	**04 40 23.6**	**+2.8**
SIT2				S	**Sn**	**04 40 37.5**	**+3.5**
GVD	**Gavdhos**	**0.92**	**237**	Pg	**Pn**	**04 40 20.9**	**-0.2**
GVD				Sg	**Sn**	**04 40 34.4**	**0.0**
GVD	**Gavdhos**	**0.92**	**237**	P	**Pn**	**04 40 20.9**	**-0.2**
GVD				S	**Sn**	**04 40 34.0**	**-0.4**
GVD	**Gavdhos**	**0.92**	**237**	P	**Pn**	**04 40 20.8**	**-0.4**
GVD				S	**Sn**	**04 40 34.1**	**-0.3**
THR6	**Thira Island,**	**1.06**	**17**	P	**Pn**	**04 40 24.5**	**+1.7**
THERA	**Ancient Thera,**	**1.09**	**20**	P	**Pn**	**04 40 24.1**	**+0.9**
THERA				S	**Sn**	**04 40 39.7**	**+1.5**
THERA	**Ancient Thera,**	**1.09**	**20**	P	**Pn**	**04 40 24.3**	**+1.0**
THERA				S	**Sn**	**04 40 38.5**	**+0.4**
KNDR	**Palaiochora Ch**	**1.10**	**265**	Pg	**Pn**	**04 40 24.3**	**+1.0**
KNDR				Sg	**Sn**	**04 40 38.9**	**+0.5**
KNDR	**Palaiochora Ch**	**1.10**	**265**	P	**Pn**	**04 40 24.5**	**+1.1**
KNDR				S	**Sn**	**04 40 38.7**	**+0.3**
SNT5	**Nea Kammeni, S**	**1.10**	**16**	P	**Pn**	**04 40 24.6**	**+1.1**
SNT5				S	**Sn**	**04 40 40.1**	**+1.6**
SNT5	**Nea Kammeni, S**	**1.10**	**16**	P	**Pn**	**04 40 24.4**	**+0.9**
SNT5				S	**Sn**	**04 40 38.6**	**+0.1**
THR5	**Thira Island,**	**1.11**	**14**	P	**Pn**	**04 40 24.9**	**+1.5**
THR3	**Thira Island,**	**1.11**	**16**	P	**Pn**	**04 40 25.0**	**+1.5**
THRA	**Thira**	**1.12**	**17**	P	**Pn**	**04 40 25.1**	**+1.4**
THRA				S	**Sn**	**04 40 40.6**	**+1.7**
SAP3	**Santorini-Thir**	**1.12**	**13**	P	**Pn**	**04 40 25.0**	**+1.3**
SAP3				S	**Sn**	**04 40 41.4**	**+2.4**
SAP3	**Santorini-Thir**	**1.12**	**13**	P	**Pn**	**04 40 25.2**	**+1.5**
SAP3				S	**Sn**	**04 40 40.0**	**+1.0**
THR8	**Santorini-Mono**	**1.13**	**19**	P	**Pn**	**04 40 24.9**	**+1.2**
THR2	**Thira island,**	**1.16**	**17**	P	**Pn**	**04 40 25.1**	**+1.0**
CMBO	**Columbo, Santo**	**1.17**	**15**	P	**Pn**	**04 40 26.0**	**+1.7**
CMBO				S	**Sn**	**04 40 42.5**	**+2.5**
CMBO	**Columbo, Santo**	**1.17**	**15**	P	**Pn**	**04 40 25.9**	**+1.7**
CMBO				S	**Sn**	**04 40 41.0**	**+1.0**
MHLO	**Agia Marina, M**	**1.44**	**340**	P	**Pn**	**04 40 28.4**	**+0.8**
MHLO				S	**Sn**	**04 40 46.5**	**+0.4**
MHLO	**Agia Marina, M**	**1.44**	**340**	P	**Pn**	**04 40 28.5**	**+0.8**
MHLO				S	**Sn**	**04 40 44.8**	**-1.3**
ANKY	**Antikythira Is**	**1.50**	**291**	P	**Pn**	**04 40 28.7**	**+0.3**
ANKY	**Antikythira Is**	**1.50**	**291**	P	**Pn**	**04 40 29.0**	**+0.6**
ANKY				S	**Sn**	**04 40 47.3**	**-0.2**
KARP	**Karpathos**	**1.76**	**83**	Pn	**Pn**	**04 40 33.6**	**+1.7**
KARP	**Karpathos**	**1.76**	**83**		**Pn**	**04 40 33.5**	**+1.7**
KARP	**Karpathos**	**1.76**	**83**	⇑P	**Pn**	**04 40 33.4**	**+1.5**
APE	**Apeiranthos**	**1.77**	**13**	Pn	**Pn**	**04 40 33.7**	**+1.5**
APE	**Apeiranthos**	**1.77**	**13**	*c iP*	**Pn**	**04 40 33.2**	**+1.1**
APE	**Apeiranthos**	**1.77**	**13**	P	**Pn**	**04 40 33.6**	**+1.5**
KTHA	**Kythira Island**	**1.84**	**300**	Pn	**Pn**	**04 40 32.7**	**-0.3**
KTHA				S	**Sn**	**04 40 54.4**	**-1.1**
NISR	**Nisiros**	**2.13**	**53**	P	**Pn**	**04 40 38.5**	**+1.7**
VLI	**Veliai**	**2.18**	**310**	P	**Pn**	**04 40 37.2**	**-0.3**
YAZI	**Mula-Dat§a-**	**2.38**	**55**	P	**Pn**	**04 40 41.4**	**+1.2**
YAZI				S	**Sn**	**04 41 08.3**	**-0.2**
DAT	**Datca**	**2.49**	**55**	Pn	**Pn**	**04 40 42.6**	**+1.8**
YKAV	**Yalikavak-Bodr**	**2.55**	**45**	Pn	**Pn**	**04 40 44.6**	**+2.1**
DATC	**Datca-Mugla**	**2.56**	**56**	Pn	**Pn**	**04 40 44.9**	**+2.3**
BDRM	**Kayabasi**	**2.61**	**48**	P	**Pn**	**04 40 44.9**	**+1.7**
BDRM				S	**Sn**	**04 41 14.2**	**+0.2**
BDRM	**Kayabasi**	**2.61**	**48**	⇑P	**Pn**	**04 40 45.0**	**+1.7**
ARG	**Arkhangelos**	**2.67**	**70**	Pn	**Pn**	**04 40 46.9**	**+2.8**
ARG	**Arkhangelos**	**2.67**	**70**		**Pn**	**04 40 46.2**	**+2.1**
ARG	**Arkhangelos**	**2.67**	**70**	P	**Pn**	**04 40 46.2**	**+2.1**
ARG	**Arkhangelos**	**2.67**	**70**	⇓P	**Pn**	**04 40 46.2**	**+2.1**
DIDI	**Didim-Aydin**	**2.71**	**41**	Pn	**Pn**	**04 40 46.8**	**+2.2**
KARY	**Karystos**	**2.73**	**350**	P	**Pn**	**04 40 46.2**	**+1.3**
KARY	**Karystos**	**2.73**	**350**	P	**Pn**	**04 40 46.2**	**+1.3**
KARY				S	**Sn**	**04 41 16.9**	**0.0**
DDIM	**Aydin, Didim**	**2.77**	**40**	P	**Pn**	**04 40 47.5**	**+2.1**
DDIM				S	**Sn**	**04 41 19.0**	**+1.2**
SMG	**Samos**	**2.78**	**31**	P	**Pn**	**04 40 46.9**	**+1.4**
ATHU	**Athens Univers**	**2.81**	**340**	P	**Pn**	**04 40 46.9**	**+1.0**
ATHU	**Athens Univers**	**2.81**	**340**	P	**Pn**	**04 40 46.9**	**+0.7**
ATHU				S	**Sn**	**04 41 17.5**	**-1.3**
ATH	**Athens Observa**	**2.83**	**339**	P	**Pn**	**04 40 47.0**	**+0.7**
PTL	**Penteli**	**2.86**	**341**	P	**Pn**	**04 40 47.6**	**+0.9**
DION	**Dionisos Attik**	**2.87**	**343**	P	**Pn**	**04 40 47.9**	**+1.0**
VLX	**Vlachokerasia**	**2.94**	**314**	P	**Pn**	**04 40 47.9**	**0.0**
VLX	**Vlachokerasia**	**2.94**	**314**	P	**Pn**	**04 40 48.1**	**+0.2**
VLX				S	**Sn**	**04 41 19.6**	**-2.7**
GCAM	**G?zelcaml?**	**2.95**	**36**	Pn	**Pn**	**04 40 49.9**	**+2.0**
GCAM	**G?zelcaml?**	**2.95**	**36**	P	**Pn**	**04 40 49.8**	**+2.0**
GCAM				S	**Sn**	**04 41 23.8**	**+1.5**
TURN	**Turunc**	**2.98**	**60**	Pn	**Pn**	**04 40 50.6**	**+2.4**
TURN	**Turunc**	**2.98**	**60**	P	**Pn**	**04 40 50.7**	**+2.4**
TURN				S	**Sn**	**04 41 23.4**	**+0.5**
MAGU	**Magoula**	**2.99**	**337**	P	**Pn**	**04 40 49.2**	**+0.8**
MAGU				S	**Sn**	**04 41 22.2**	**-1.0**
STFN	**Stefani**	**3.07**	**338**	P	**Pn**	**04 40 50.6**	**+1.0**
STFN				S	**Sn**	**04 41 25.1**	**-0.1**
ITM	**Ithomi**	**3.10**	**307**	Pn	**Pn**	**04 40 50.4**	**+0.4**
ITM	**Ithomi**	**3.10**	**307**		**Pn**	**04 40 50.3**	**+0.2**
ITM	**Ithomi**	**3.10**	**307**	P	**Pn**	**04 40 50.2**	**+0.2**
ITM	**Ithomi**	**3.10**	**307**	⇑P	**Pn**	**04 40 49.1**	**-0.9**
LOUT	**Loutraki**	**3.12**	**329**	P	**Pn**	**04 40 50.7**	**+0.5**
LOUT				S	**Sn**	**04 41 24.3**	**-2.0**
GMLD	**Gumuldur**	**3.13**	**29**	Pn	**Pn**	**04 40 52.2**	**+2.0**
VILL	**Villia**	**3.14**	**335**	P	**Pn**	**04 40 50.9**	**+0.4**
CHOS	**Chios island**	**3.15**	**15**	Pn	**Pn**	**04 40 52.4**	**+1.7**
CHOS	**Chios island**	**3.15**	**15**	P	**Pn**	**04 40 52.3**	**+1.7**
CESE	**eme**	**3.16**	**19**	Pn	**Pn**	**04 40 52.2**	**+1.5**
VIL2	**Platees**	**3.19**	**334**	P	**Pn**	**04 40 51.0**	**-0.2**
VIL2				S	**Sn**	**04 41 26.2**	**-2.0**
AYDN	**Tasoluk**	**3.27**	**44**	P	**Pn**	**04 40 54.8**	**+2.5**
AYDN				S	**Sn**	**04 41 27.5**	**-2.5**
URLA	**Izmir**	**3.27**	**22**	Pn	**Pn**	**04 40 53.6**	**+1.4**
URLA	**Izmir**	**3.27**	**22**	P	**Pn**	**04 40 53.5**	**+1.2**
URLA				S	**Sn**	**04 41 30.9**	**+0.8**
MULA	**Mugla, Merkez-**	**3.28**	**53**	P	**Pn**	**04 40 55.6**	**+3.2**
MULA				S	**Sn**	**04 41 32.3**	**+1.9**
KYMI	**Kymi, Euboea I**	**3.37**	**348**	P	**Pn**	**04 40 54.5**	**+0.9**
GUR	**Goura**	**3.37**	**321**	P	**Pn**	**04 40 53.7**	**0.0**
GUR	**Goura**	**3.37**	**321**	P	**Pn**	**04 40 53.9**	**+0.2**
GUR				S	**Sn**	**04 41 30.9**	**-1.8**
BLCB	**Balcova**	**3.44**	**27**	Pn	**Pn**	**04 40 57.1**	**+2.5**
BLCB	**Balcova**	**3.44**	**27**	P	**Pn**	**04 40 56.2**	**+1.7**
AMT	**Artemida-Makis**	**3.46**	**310**	P	**Pn**	**04 40 55.1**	**+0.3**
AMT				S	**Sn**	**04 41 34.2**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**3.48**	**41**	Pn	**Pn**	**04 40 57.3**	**+2.1**
KARB	**zmir-Karabur**	**3.50**	**18**	P	**Pn**	**04 40 57.1**	**+1.8**
KARB				S	**Sn**	**04 41 37.2**	**+1.6**
SABU	**Mula-Dalaman**	**3.52**	**64**	P	**Pn**	**04 40 58.5**	**+2.8**
SABU				S	**Sn**	**04 41 36.2**	**0.0**
KLV	**Kalavryta, Ach**	**3.55**	**320**	P	**Pn**	**04 40 56.2**	**+0.1**
SKY	**Skiros Island**	**3.55**	**354**	P	**Pn**	**04 40 57.2**	**+1.2**
IZZE	**Mula-Seydike**	**3.58**	**71**	P	**Pn**	**04 40 58.0**	**+1.6**
IZZE				S	**Sn**	**04 41 35.8**	**-1.8**
ESEN	**Aydn-Nazilli**	**3.63**	**46**	P	**Pn**	**04 41 00.1**	**+2.9**
ESEN				S	**Sn**	**04 41 39.0**	**+0.2**
FOCM	**Foa**	**3.63**	**22**	Pn	**Pn**	**04 40 59.6**	**+2.5**
LKR	**Lokris**	**3.68**	**334**	P	**Pn**	**04 40 58.2**	**+0.4**
NAZL	**Nazilli-Aydin**	**3.71**	**44**	Pn	**Pn**	**04 41 01.2**	**+3.0**
DRO	**Drossia**	**3.73**	**315**	P	**Pn**	**04 41 00.0**	**+1.5**
DNZT	**Denizli-Tavas-**	**3.77**	**58**	P	**Pn**	**04 41 01.9**	**+2.9**
DNZT				S	**Sn**	**04 41 42.4**	**+0.1**
TAVA	**DENIZLI_Tavas**	**3.79**	**55**	P	**Pn**	**04 41 01.9**	**+2.6**
TAVA				S	**Sn**	**04 41 43.2**	**+0.5**
KSL	**Kastellorizon**	**3.80**	**76**	P	**Pn**	**04 41 00.8**	**+1.4**
CAME	**Cameli-Denizli**	**3.81**	**64**	Pn	**Pn**	**04 41 02.1**	**+2.3**
ODEM	**Odemis-Izmir**	**3.82**	**39**	Pn	**Pn**	**04 41 02.5**	**+2.7**
SLUM	**Salum**	**3.84**	**178**	P	**Pn**	**04 40 57.4**	**-2.6**
SERG	**Sergoula**	**3.88**	**323**	P	**Pn**	**04 41 00.8**	**+0.3**
CAEL	**Denizli, Camel**	**3.90**	**62**	P	**Pn**	**04 41 03.5**	**+2.6**
CAEL				S	**Sn**	**04 41 46.5**	**+0.9**
AXAR	**Agios Charalam**	**3.91**	**332**	P	**Pn**	**04 41 01.5**	**+0.6**
SIGR	**SIGRI**	**3.92**	**9**	Pn	**Pn**	**04 41 02.1**	**+1.1**
SIGR	**SIGRI**	**3.92**	**9**	P	**Pn**	**04 41 02.2**	**+1.1**
AOS	**Alonnisos**	**3.93**	**347**	P	**Pn**	**04 41 02.2**	**+0.9**
KIRA	**zmir-Kiraz**	**3.94**	**43**	P	**Pn**	**04 41 04.1**	**+2.7**
KIRA				S	**Sn**	**04 41 45.9**	**-0.5**
RLS	**Riolos of Patr**	**3.94**	**315**	P	**Pn**	**04 41 02.2**	**+0.8**
IZMD	**zmir-Dikili-**	**3.94**	**22**	P	**Pn**	**04 41 03.2**	**+1.8**
IZMD				S	**Sn**	**04 41 48.7**	**+2.2**
DNIZ	**Denizli-Tavas-**	**3.96**	**54**	P	**Pn**	**04 41 04.6**	**+2.9**
DNIZ				S	**Sn**	**04 41 47.7**	**+0.8**
EFP	**Efpalio**	**3.97**	**322**	P	**Pn**	**04 41 02.2**	**+0.5**
ZEDA	**zmir-Bergama**	**3.98**	**24**	P	**Pn**	**04 41 03.4**	**+1.6**
ZEDA				S	**Sn**	**04 41 49.3**	**+2.1**
ZEDA				*i*	IAML	04 41 51.0	
	comp=E,502nm,0.8s						
ZEDA				*i*	IAML	04 41 52.0	
	comp=N,345nm,0.6s						
KNIK	**Mula-Seydike**	**3.98**	**66**	P	**Pn**	**04 41 04.2**	**+2.2**
KNIK				S	**Sn**	**04 41 46.6**	**-0.9**
DKL	**Dikili**	**4.02**	**21**	Pn	**Pn**	**04 41 04.0**	**+1.6**
DKL	**Dikili**	**4.02**	**21**	⇑P	**Pn**	**04 41 03.9**	**+1.5**
APMY	**Acipayam-Deniz**	**4.05**	**57**	Pn	**Pn**	**04 41 05.2**	**+2.2**
DEMR	**Demre-Antalya**	**4.07**	**76**	Pn	**Pn**	**04 41 04.9**	**+1.8**
GOMA	**Golmarmara-Man**	**4.08**	**34**	Pn	**Pn**	**04 41 05.8**	**+2.5**
ANX	**Ano Chora**	**4.09**	**324**	P	**Pn**	**04 41 03.8**	**+0.3**
GOLH	**Golhisar**	**4.13**	**61**	P	**Pn**	**04 41 06.5**	**+2.5**
GOLH				S	**Sn**	**04 41 50.5**	**-0.6**
AKS	**Akhisar**	**4.18**	**31**	Pn	**Pn**	**04 41 06.6**	**+2.0**
AYVA	**Ayvalik**	**4.18**	**18**	P	**Pn**	**04 41 05.8**	**+1.2**
GPNR	**Gulpinar-Canak**	**4.20**	**12**	Pn	**Pn**	**04 41 05.5**	**+1.6**
NEO	**Neokhori**	**4.21**	**341**	P	**Pn**	**04 41 05.9**	**+0.8**
MANT	**Manisa**	**4.23**	**41**		**Pn**	**04 41 08.0**	**+2.5**
MANT	**Manisa**	**4.23**	**41**	P	**Pn**	**04 41 08.1**	**+2.6**
KOCA	**Canakkale, Ayv**	**4.25**	**12**	P	**Pn**	**04 41 07.0**	**+1.5**
KOCA				S	**Sn**	**04 41 53.1**	**-0.8**
AGG	**Agios Georgios**	**4.26**	**330**	P	**Pn**	**04 41 06.0**	**+0.3**
AGG	**Agios Georgios**	**4.26**	**330**	⇓P	**Pn**	**04 41 05.8**	**+0.1**
KULA	**Kula-Manisa**	**4.30**	**42**	Pn	**Pn**	**04 41 08.4**	**+2.0**
SOMA	**Soma-Manisa**	**4.30**	**27**	Pn	**Pn**	**04 41 08.2**	**+1.9**
MAKR	**Makrakomi, Fth**	**4.33**	**329**	P	**Pn**	**04 41 07.9**	**+1.1**
INCE	**Denizli-Bozkur**	**4.36**	**56**	P	**Pn**	**04 41 09.5**	**+2.3**
INCE				S	**Sn**	**04 41 56.1**	**-0.7**
GORD	**Gordes-Manisa**	**4.36**	**34**	Pn	**Pn**	**04 41 09.1**	**+1.9**
MATC	**Matruh**	**4.39**	**155**	P	**Pn**	**04 41 05.6**	**-1.9**
AKUM	**Antalya-Kumluc**	**4.43**	**76**	P	**Pn**	**04 41 09.6**	**+1.6**
AKUM				S	**Sn**	**04 41 57.1**	**-1.3**
AKUM				*i*	IAML	04 42 00.0	
	comp=N,4μm,0.5s						
AKUM				*i*	IAML	04 42 01.0	
	comp=E,4μm,0.8s						
BUHA	**Balikesir, Bur**	**4.46**	**21**	P	**Pn**	**04 41 10.0**	**+1.6**
LIA	**Limnos Island**	**4.55**	**2**	P	**Pn**	**04 41 10.8**	**+1.1**
BAYC	**CANAKKALE_Bayr**	**4.56**	**15**	P	**Pn**	**04 41 11.0**	**+1.3**
BAYC				S	**Sn**	**04 42 02.7**	**+1.3**
STEP	**BALIKESIR_Sava**	**4.57**	**27**	P	**Pn**	**04 41 12.3**	**+2.4**
EZN	**Ezine**	**4.60**	**13**	⇑P	**Pn**	**04 41 11.8**	**+1.6**
USAK	**Uak-Merkez**	**4.64**	**42**	P	**Pn**	**04 41 14.2**	**+3.3**
USAK				S	**Sn**	**04 42 04.3**	**+0.7**
PASA	**Karahalli, USA**	**4.67**	**49**	P	**Pn**	**04 41 14.2**	**+2.8**
PASA				S	**Sn**	**04 42 05.5**	**+1.1**
PASA				*i*	IAML	04 42 06.0	
	comp=N,465nm,0.7s						
PASA				*i*	IAML	04 42 07.0	
	comp=E,593nm,0.6s						
DEMI	**Demirci**	**4.73**	**37**	P	**Pn**	**04 41 14.5**	**+2.4**
BALY	**Balya**	**4.85**	**24**	P	**Pn**	**04 41 15.3**	**+1.5**
BALY				S	**Sn**	**04 42 11.8**	**+3.1**
BUCA	**Burdur, Bucak-**	**4.89**	**64**	P	**Pn**	**04 41 16.8**	**+2.5**
BUCA				S	**Sn**	**04 42 09.1**	**-0.6**
BKES	**Balkesir-Mer**	**4.96**	**27**	P	**Pn**	**04 41 17.3**	**+2.1**
KZIL	**AFYON_Kizioren**	**5.03**	**53**	P	**Pn**	**04 41 18.2**	**+1.9**
DURS	**Dursunbey**	**5.06**	**32**	P	**Pn**	**04 41 19.2**	**+2.5**
DURS				S	**Sn**	**04 42 14.5**	**+0.6**
ISP	**Isparta**	**5.07**	**59**		**Pn**	**04 41 18.2**	**+1.3**
ISP	**Isparta**	**5.07**	**59**	*d iP*	**Pn**	**04 41 18.5**	**+1.6**
ISP				pmax	pmax		
	comp=Z,117nm,0.5s						
ISP	**Isparta**	**5.07**	**59**	⇑P	**Pn**	**04 41 18.2**	**+1.3**
ISP	**Isparta**	**5.07**	**59**	P	**Pn**	**04 41 18.0**	**+1.1**
BNAZ	**Uak-Banaz**	**5.12**	**48**	P	**Pn**	**04 41 19.8**	**+2.3**
BNAZ				S	**Sn**	**04 42 14.2**	**-1.1**
LIT	**Litokhoron**	**5.16**	**338**		**Pn**	**04 41 18.2**	**+0.2**
LIT	**Litokhoron**	**5.16**	**338**	⇑P	**Pn**	**04 41 16.4**	**-1.6**
GDZ	**Gediz**	**5.16**	**42**	P	**Pn**	**04 41 21.1**	**+3.0**
GDZ				S	**Sn**	**04 42 17.5**	**+1.1**
DB3	**El Dabaa**	**5.21**	**144**	P	**Pn**	**04 41 17.8**	**-0.8**
AFYN	**Afyon-Dinar-K**	**5.28**	**55**	P	**Pn**	**04 41 21.6**	**+1.9**
AFYN				S	**Sn**	**04 42 18.0**	**-1.2**
EMET	**Ktahya-Emet**	**5.29**	**39**	P	**Pn**	**04 41 23.0**	**+3.2**
BAGO	**Egridir - ISPA**	**5.34**	**59**	P	**Pn**	**04 41 21.9**	**+1.4**
BAGO				S	**Sn**	**04 42 13.7**	**-6.9**
CAVK	**Edirne/Enez-Ca**	**5.42**	**9**	⇑P	**Pn**	**04 41 22.8**	**+1.4**
AFYO	**Afyonkarahisar**	**5.44**	**49**	P	**Pn**	**04 41 24.0**	**+2.1**
AFYO				S	**Sn**	**04 42 22.7**	**-0.6**
THE	**Thessaloniki**	**5.53**	**344**	PN	**Pn**	**04 41 33.8**	**+11**
BAND	**Balkesir-Ban**	**5.57**	**25**	⇓P	**Pn**	**04 41 25.8**	**+2.3**
ALN	**Alexandroupoli**	**5.61**	**8**		**Pn**	**04 41 25.4**	**+1.4**
ALN	**Alexandroupoli**	**5.61**	**8**	⇑P	**Pn**	**04 41 25.5**	**+1.4**
RDO	**Rodhopi**	**5.81**	**4**		**Pn**	**04 41 28.2**	**+1.3**
RDO	**Rodhopi**	**5.81**	**4**	⇓P	**Pn**	**04 41 28.1**	**+1.3**
NEST	**Nestorio**	**5.96**	**329**	PN	**Pn**	**04 41 38.8**	**+10**
KEK	**Kerkira**	**6.03**	**318**		**Pn**	**04 41 30.5**	**+0.7**
SRN	**Sarande**	**6.04**	**320**	PN	**Pn**	**04 41 38.3**	**+8.4**
SWA2		**6.09**	**176**	P	**Pn**	**04 41 28.3**	**-2.4**
FNA	**Florina**	**6.15**	**333**		**Pn**	**04 41 30.4**	**-1.1**
FNA	**Florina**	**6.15**	**333**	⇓P	**Pn**	**04 41 30.2**	**-1.3

MMA0B **Mount Meron ar** 8.91 102 P **Pn** 04 42 05.7 -3.5
MMAI **Mount Meron Ar** 8.91 102 P **Pn** 04 42 06.1 -3.1
comp=Z,101nm,0.3s,baz=303,slow=11,SNR=82
MMAI S **Sn** 04 43 40.3 -7.7
comp=Z,224nm,0.4s,baz=304,slow=20,SNR=13
CICN **Ciocanesti** 8.98 9 ⇓P **Pn** 04 42 11.4 +1.4
QRWL **Qaraoun** 8.98 98 *e*Pn **Pn** 04 42 07.2 -3.1
ACER **Acerenza** 8.99 310 **Pn** 04 42 06.7 -3.5
CIDE **Kastamonu/Cide** 9.00 41 ⇓P **Pn** 04 42 13.9 +3.5
TREB **Trebinje** 9.01 327 *e*Pn **Pn** 04 42 05.8 -4.7
KZIT **Kziot** 9.02 117 S **Sn** 04 43 42.2 -8.4
KZIT **Kziot** 9.02 117 S **Sn** 04 42 07.2 -3.5
ICOR **Ion Corvin** 9.02 13 ⇑P **Pn** 04 42 12.1 +1.4
HWQ **Hawqa** 9.04 94 *e*P **Pn** 04 42 08.4 -2.7
GEM **Giv'at Ha'Em** 9.06 101 S **Sn** 04 43 43.7 -7.8
GEM **Giv'at Ha'Em** 9.06 101 P **Pn** 04 42 07.9 -3.3
BRY **Bratogost** 9.08 328 *e*Pn **Pn** 04 42 07.0 -4.5
BRY *i* Sn Sn 04 43 40.0 -12
SALP **Salfit** 9.08 108 S **Sn** 04 43 44.2 -7.9
SALP **Salfit** 9.08 108 P **Pn** 04 42 08.1 -3.4
SHBL **Chebaa** 9.08 100 *e*P **Pn** 04 42 08.5 -3.2
PLE **Pljevlja** 9.09 333 *e*Pn **Pn** 04 42 08.1 -3.6
PLE *i* Sn Sn 04 43 40.4 -12
AMAZ **Amatzia** 9.10 112 S **Sn** 04 43 44.2 -8.3
AMAZ **Amatzia** 9.10 112 P **Pn** 04 42 08.7 -3.0
NATI **Neve Ativ** 9.10 100 S **Sn** 04 43 44.9 -7.6
NATI **Neve Ativ** 9.10 100 P **Pn** 04 42 08.5 -3.3
MMLI **Mount Malkishu** 9.12 106 S **Sn** 04 43 44.9 -8.1
MMLI **Mount Malkishu** 9.12 106 P **Pn** 04 42 08.5 -3.5
RCY **Rachaya** 9.12 99 *e*P **Pn** 04 42 09.3 -2.9
UPM **Unac-Piva** 9.17 331 *e*Pn **Pn** 04 42 09.2 -3.7
UPM *i* Sn Sn 04 43 42.2 -12
BEIL **Beino** 9.20 92 *e*P **Pn** 04 42 10.7 -2.4
KSHT **Keshet** 9.24 102 S **Sn** 04 43 48.2 -8.0
KSHT **Keshet** 9.24 102 P **Pn** 04 42 11.0 -2.8
HMDT **Nahal Hemdat** 9.27 106 S **Sn** 04 43 47.9 -8.7
HMDT **Nahal Hemdat** 9.27 106 P **Pn** 04 42 10.7 -3.3
KLINJ **Klinje** 9.27 329 *e*Pn **Pn** 04 42 10.4 -3.8
YTIR **Yattir** 9.32 112 S **Sn** 04 43 50.0 -8.3
YTIR **Yattir** 9.32 112 P **Pn** 04 42 11.5 -3.4
UJAP **Al Uja** 9.34 108 S **Sn** 04 43 49.7 -8.6
UJAP **Al Uja** 9.34 108 P **Pn** 04 42 12.1 -2.8
RUDO **Rudo** 9.35 334 *e*Pn **Pn** 04 42 10.9 -4.2
SRE **Strehaia** 9.42 352 ⇑P **Pn** 04 42 15.8 -0.2
BALJ **Balqa** 9.42 107 Pn **Pn** 04 42 13.4 -2.7
FKH **Fakeheh** 9.42 93 *e*P **Pn** 04 42 10.0 -2.3
DSI **Dead Sea** 9.43 111 S **Sn** 04 43 53.0 -7.7
DSI **Dead Sea** 9.43 111 P **Pn** 04 42 13.2 -3.1
TIRR **Tirgusor** 9.47 15 **Pn** 04 42 17.2 +0.5
TIRR **Tirgusor** 9.47 15 ⇓P **Pn** 04 42 17.6 +0.9
TIRR **Tirgusor** 9.47 15 P **Pn** 04 42 17.2 +0.5
TIRR **Tirgusor** 9.47 15 P **Pn** 04 42 17.3 +0.5
comp=Z,3μmcomp=Z,38nm,0.9s
TIRR **Tirgusor** 9.47 15 ⇑P **Pn** 04 42 17.1 +0.3
DJES **Djerdap** 9.51 349 ⇑P **Pn** 04 42 16.9 -0.4
MDBI **Mazsada** 9.53 112 S **Sn** 04 43 54.0 -9.1
MDBI **Mazsada** 9.53 112 P **Pn** 04 42 14.3 -3.3
MSBI **Mazada** 9.53 112 S **Sn** 04 43 55.0 -8.1
MSBI **Mazada** 9.53 112 P **Pn** 04 42 14.1 -3.5
HARR **Harsova** 9.60 13 ⇑P **Pn** 04 42 19.1 +0.6
BZK **Bozkurt** 9.64 44 ⇑P **Pn** 04 42 21.9 +2.8
BZK **Bozkurt** 9.64 44 ⇑P **Pn** 04 42 21.7 +2.6
SGRT **San Giovanni R** 9.68 314 **Pn** 04 42 16.7 -3.0
KRMI **Paran Flat** 9.69 120 S **Sn** 04 43 58.7 -8.3
KRMI **Paran Flat** 9.69 120 P **Pn** 04 42 16.5 -3.4
GHAJ **Ghor Haditha** 9.69 112 **Pn** 04 42 17.2 -2.6
GHAJ **Ghor Haditha** 9.69 112 S **Sn** 04 43 59.0 -8.1
GHAJ **Ghor Haditha** 9.69 112 P **Pn** 04 42 17.7 -2.2
HERR **Herculane** 9.74 349 ⇑P **Pn** 04 42 20.3 -0.1
PRNI **Paran** 9.76 118 S **Sn** 04 44 01.2 -7.4
PRNI **Paran** 9.76 118 P **Pn** 04 42 16.8 -3.9
MDVR **Moldovita** 9.77 346 ⇓P **Pn** 04 42 20.0 -0.9
CLTB **Caltabellotta** 9.77 287 ⇑P **Pn** 04 42 19.8 -1.3
ZFRI **Zfri** 9.77 116 S **Sn** 04 44 01.0 -8.0
ZFRI **Zfri** 9.77 116 P **Pn** 04 42 17.2 -3.7
ISR **Istrita** 9.84 6 ⇑P **Pn** 04 42 22.9 +1.1
JURR **Jurilovca** 9.87 16 ⇓P **Pn** 04 42 24.9 +2.8
HRFI **Mount Harif** 9.95 119 S **Sn** 04 44 05.7 -7.8
HRFI **Mount Harif** 9.95 119 P **Pn** 04 42 20.7 -2.8
MBRI **Mt Berech** 10.01 121 S **Sn** 04 44 07.5 -7.4
MBRI **Mt Berech** 10.01 121 P **Pn** 04 42 21.4 -2.9
GAZ **Gaziantep** 10.01 76 ⇓P **Pn** 04 42 23.8 -0.5
ARR **Arges** 10.02 358 ⇑P **Pn** 04 42 24.1 -0.2
VOIR 10.09 0 ⇑P **Pn** 04 42 25.2 -0.1
VOIR 10.09 0 P **Pn** 04 42 25.2 -0.1
comp=Z,381nmcomp=Z,38nm,0.9s
EIL **Elat** 10.11 121 P **Pn** 04 42 22.6 -3.0
comp=Z,170nm,0.3s,baz=286,slow=2.0,SNR=689
EIL S Sn 04 44 06.0 -11
comp=Z,212nm,0.4s,baz=142,slow=7.5,SNR=9.7
EIL **Elat** 10.11 121 S **Sn** 04 44 09.0 -8.2
EIL **Elat** 10.11 121 P **Pn** 04 42 22.3 -3.2
CFR **Carcaliu** 10.11 13 ⇓P **Pn** 04 42 26.2 +0.8
LOT **Lotru** 10.14 355 ⇓P **Pn** 04 42 25.3 -0.8
MLR **Muntele Rosu** 10.16 4 **Pn** 04 42 27.6 +1.2
MLR **Muntele Rosu** 10.16 4 P **Pn** 04 42 27.1 +0.8
comp=Z,37nm,0.6s,baz=215,slow=4.2,SNR=56
MLR LR LR 04 46 41.3
comp=Z,232nm,20.5s,baz=196,slow=39
MLR **Muntele Rosu** 10.16 4 ⇑P **Pn** 04 42 28.0 +1.7
MLR **Muntele Rosu** 10.16 4 P **Pn** 04 42 27.6 +1.2
MLR **Muntele Rosu** 10.16 4 P **Pn** 04 42 27.9 +1.5
comp=Z,614nmcomp=Z,63nm,0.6s
GZR **Gura Zlata** 10.19 351 ⇑P **Pn** 04 42 25.9 -0.8
TLCR 10.25 15 ⇓P **Pn** 04 42 28.6 +1.2
TNR **Turnu Rosu** 10.32 357 ⇓P **Pn** 04 42 29.6 +1.3
ASF **Jabal al Asfar** 10.38 104 P **Pn** 04 42 26.8 -2.5
comp=Z,97nm,0.4s,baz=313,slow=7.5,SNR=127
ASF S **Sn** 04 44 17.1 -6.8
comp=Z,125nm,0.6s,baz=236,slow=7.3,SNR=6.6
ASF LR LR 04 47 13.7
comp=Z,351nm,21.6s,baz=314,slow=41
COVR **Voineasa-Covas** 10.53 5 ⇑P **Pn** 04 42 32.4 +1.1
PLOR **Plostina** 10.57 6 ⇓P **Pn** 04 42 32.5 +0.6
BZS **Buzias** 10.59 347 ⇑P **Pn** 04 42 31.0 -1.0
BZS **Buzias** 10.59 347 ⇓P **Pn** 04 42 30.6 -1.4
VRI **Vrincioaia** 10.60 6 ⇓P **Pn** 04 42 33.0 +0.9
VRI **Vrincioaia** 10.60 6 P **Pn** 04 42 32.9 +0.8
comp=Z,656nmcomp=Z,53nm,0.9s
DOPR **Dopca** 10.62 1 ⇓P **Pn** 04 42 32.4 0.0
SURR **Surduc** 10.63 349 ⇑P **Pn** 04 42 30.3 -2.3
DEV **Deva** 10.65 352 ⇑P **Pn** 04 42 32.8 -0.1
BOSR **Bodos** 10.74 2 ⇑P **Pn** 04 42 35.2 +1.2
OZUR 10.76 3 ⇓P **Pn** 04 42 35.6 +1.2
DOB **Doboj** 10.78 333 *e*Pn **Pn** 04 42 30.0 -4.5
MDB **Medias** 10.80 358 ⇑P **Pn** 04 42 35.4 +0.5
KIJV **Kijevo** 10.90 325 *e*Pn **Pn** 04 42 31.9 -4.4
BLY **Banja Luka** 11.15 330 *e*Pn **Pn** 04 42 35.0 -4.6
BLY **Banja Luka** 11.15 330 ⇑P **Pn** 04 42 35.2 -4.5
SIRR **Siria** 11.21 348 ⇑P **Pn** 04 42 40.0 -0.5
A050A **Klekovaca** 11.21 327 *e*Pn **Pn** 04 42 36.5 -4.1
TESR **Tescani** 11.23 6 ⇓P **Pn** 04 42 40.8 +0.1
CJR **Cluj-Napoca** 11.41 355 ⇑P **Pn** 04 42 44.0 +0.7
MARR **Marisel-Cluj** 11.42 353 ⇓P **Pn** 04 42 43.9 +0.5
AQU **L'Aquila** 11.45 311 P **Pn** 04 42 42.8 -1.0
AQU S **Sn** 04 44 48.1 -1.7
AQU **L'Aquila** 11.45 311 P **Pn** 04 42 42.9 -0.9
comp=Z,2μmcomp=Z,166nm,0.7s
AQU **L'Aquila** 11.45 311 ⇓P **Pn** 04 42 41.8 -2.0
A051A **Mrakovica** 11.48 330 *e*Pn Pn 04 42 39.1 -5.1
DRGR 11.57 352 ⇑P **Pn** 04 42 45.6 +0.2
SIM **Simferopol'** 11.85 33 *e*P **Pn** 04 42 52.9 +3.8
SIM *e* 04 45 05.4
SIM pmax pmax
comp=Z,36nm,0.8s
MORH **Mrgy, Hungar** 11.89 338 *e*Pn **Pn** 04 42 45.9 -3.8
MORH **Mrgy, Hungar** 11.89 338 ⇑P **Pn** 04 42 46.1 -3.5
MILM **Milestii Mici** 11.91 13 *e*P **Pn** 04 42 53.0 +3.0
comp=Z,46nm,0.9s
MILM *e*S **Sn** 04 45 06.0 +5.0
MILM *e*L L 04 45 20.0
MILM LgM 04 46 18.0
comp=Z,550nm,9.0s
MILM **Milestii Mici** 11.91 13 ⇓P **Pn** 04 42 52.1 +2.0
MILM **Milestii Mici** 11.91 13 *e*P **Pn** 04 42 53.0 +3.0
MILM *e*S **Sn** 04 45 06.0 +5.0
MILM pmax pmax
comp=Z,46nm,0.9s
MOSL **Moslavina** 12.03 331 *e*Pn Pn 04 42 46.4 -5.3
BURAR **Bucovina Array** 12.27 1 **Pn** 04 42 55.2 +0.3
BURAR **Bucovina Array** 12.27 1 ⇑P **Pn** 04 42 56.2 +1.2

BUR08 **Bucovina Ar. S** 12.30 1 **Pn** 04 42 56.2 +0.9
MGAB **Montegabbione** 12.55 311 ⇓P **Pn** 04 42 56.4 -2.4
OZLJ **Ozalj** 12.57 328 *e*Pn Pn 04 42 53.5 -5.4
BOJS **Bojanci** 12.58 327 *i* Pn **Pn** 04 42 54.4 -4.7
GCIS **Gornji Cirnik** 12.70 329 *e*Pn **Pn** 04 42 56.5 -4.3
GCIS *e*Sn Sn 04 45 09.5 -11
BEHE **Becsehely** 12.74 333 *e*Pn **Pn** 04 42 56.6 -4.7
KEST **Kesra** 12.78 276 **Pn** 04 42 58.8 -3.2
KEST **Kesra** 12.78 276 P **Pn** 04 42 59.5 -2.4
comp=Z,41nm,0.7s,baz=95,slow=1.4,SNR=56
KEST S Sn 04 45 12.6 -10
comp=Z,35nm,0.5s,baz=91,slow=22,SNR=15
KEST LR LR 04 48 35.6
comp=Z,169nm,18.8s,baz=192,slow=40
MARD **Mardin** 12.86 77 **Pn** 04 43 02.6 -0.5
BRJN **Brijuni** 12.86 321 *e*Pn Pn 04 42 57.9 -5.0
VSL **Villasalto** 13.11 293 **Pn** 04 43 02.3 -3.9
VSL **Villasalto** 13.11 293 ⇑P **Pn** 04 43 02.6 -3.7
CEY **Cerknica** 13.13 325 *e*Pn Pn 04 43 01.0 -5.6
PSZ **Piszkesteto** 13.14 345 **Pn** 04 43 05.7 -0.9
PSZ **Piszkesteto** 13.14 345 ⇑P **Pn** 04 43 05.1 -1.5
PSZ **Piszkesteto** 13.14 345 P **Pn** 04 43 05.7 -0.9
PSZ **Piszkesteto** 13.14 345 *e*P **Pn** 04 43 06.0 -0.6
PSZ **Piszkesteto** 13.14 345 ⇓P **Pn** 04 43 05.8 -0.9
KMPD **K-Podol'skiy** 13.26 4 P **Pn** 04 43 09.4 +1.3
CASP **Castiglione de** 13.27 308 **Pn** 04 43 06.0 -2.4
ANN **Anapa** 13.39 41 *e*P **Pn** 04 43 09.2 -0.7
ANN *e*S **Sn** 04 45 37.8 +1.0
ANN pmax pmax
comp=Z,130nm,1.6s
SOKA **Soboth** 13.60 329 Pn **Pn** 04 43 08.7 -4.1
comp=Z,25nm,0.6s,SNR=62
SOKA Sn Sn 04 45 29.2 -13
comp=Z,11nm,0.6s
SOKA *e*ScP **ScP** 04 51 59.7 +0.3
comp=Z,6.1nm,0.7s
OBKA **Obir** 13.67 328 *e*Pn **Pn** 04 43 09.9 -3.7
comp=Z,3.0nm,0.5s,SNR=30
OBKA Sn Sn 04 45 33.2 -11
comp=Z,0.5nm,0.2s
OBKA *e*ScP **ScP** 04 51 59.8 +0.3
comp=Z,8.6nm,1.0s
OBKA **Obir** 13.67 328 *e*P Pn 04 43 08.4 -5.3
KOLS **Kolonicke sedl** 13.74 352 *e*P **Pn** 04 43 15.8 +1.3
KOLS pmax pmax
comp=Z,19nm,0.7s
KOLS **Kolonicke sedl** 13.74 352 *e*P **Pn** 04 43 15.8 +1.3
ARSA **Arzberg** 13.87 332 *e*Pn **Pn** 04 43 13.2 -3.0
comp=Z,15nm,0.6s,SNR=15
ARSA *e*ScP **ScP** 04 51 59.8 +0.1
comp=Z,4.0nm,0.8s
ARSA **Arzberg** 13.87 332 ⇑P **Pn** 04 43 12.3 -3.9
ARSA **Arzberg** 13.87 332 *e*P **Pn** 04 43 11.9 -4.2
VYHS **Vyhne** 13.92 343 *e*P **P** 04 43 24.6 +2.0
VYHS pmax pmax
comp=Z,9.0nm,0.6s
VYHS **Vyhne** 13.92 343 *e*P **P** 04 43 24.6 +2.0
RONA **Rosalia, Austr** 13.96 335 *e*Pn **Pn** 04 43 16.2 -1.2
comp=Z,37nm,0.4s,SNR=14
GURO **Guymak-BITLI** 13.98 72 ⇑P **Pn** 04 43 20.5 +2.6
SOC **Sochi** 14.01 50 *e*P **Pn** 04 43 19.4 +1.4
SOC *e* 04 45 55.5
SOC MLR MLR
comp=Z,88nm,16.0s
PTCC **Patocco-Chiusa** 14.13 325 ⇑P **Pn** 04 43 15.6 -4.1
MYKA **Terra Mystica** 14.16 326 *e*Pn **Pn** 04 43 18.0 -2.2
comp=Z,2.2nm,0.3s
MYKA *e*ScP **ScP** 04 52 00.9 +0.6
comp=Z,8.6nm,0.8s
HOMI **Horasan** 14.16 66 ⇑P **P** 04 43 23.4 -2.2
MODS **Modra-Piesok** 14.23 339 *e*P **P** 04 43 25.1 -1.0
MODS pmax pmax
comp=Z,62nm,0.7s
MODS **Modra-Piesok** 14.23 339 *e*P **P** 04 43 25.1 -1.0
VLC **Villacollemand** 14.28 312 Pn **Pn** 04 43 21.7 0.0
VLC **Villacollemand** 14.28 312 ⇑P **Pn** 04 43 22.3 +0.6
CONA **Conrad Observa** 14.31 334 *e*Pn **Pn** 04 43 20.1 -1.9
comp=Z,4.3nm,0.1s
CONA *i* ScP **ScP** 04 51 59.8 -0.8
comp=Z,4.4nm,1.1s
STHS **Stebnicka Huta** 14.34 350 *e*P **P** 04 43 27.1 -0.1
STHS pmax pmax
comp=Z,9.0nm,0.6s
STHS **Stebnicka Huta** 14.34 350 *e*P **P** 04 43 27.1 -0.1
PGF **Pioggiola** 14.39 305 ⇓P **Pn** 04 43 22.4 -0.7
LANS **Liptovska Anna** 14.40 345 *e*P **P** 04 43 30.8 +2.9
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS **Liptovska Anna** 14.40 345 *e*P **P** 04 43 30.8 +2.9
LVV **L'vov** 14.49 357 P **Pn** 04 43 25.5 +1.2
NIE **Niedzica** 14.49 348 *e*P **Pn** 04 43 25.4 +1.1
NIE **Niedzica** 14.49 348 P **Pn** 04 43 25.2 +0.9
comp=Z,217nmcomp=Z,11nm,0.7s
JAVC **Velka Javorina** 14.56 340 *e*PN **Pn** 04 43 25.7 +0.4
KBA **Koelnbreinsper** 14.64 327 *e*Pn **Pn** 04 43 23.6 -2.8
comp=Z,4.3nm,0.3s
KBA **Koelnbreinsper** 14.64 327 ⇓P **Pn** 04 43 23.3 -3.1
KBA **Koelnbreinsper** 14.64 327 *e*P **Pn** 04 43 23.3 -3.1
PRMA **PARMA** 14.66 314 Pn **Pn** 04 43 24.2 -2.3
LUBAR **Lubar, Ukraine** 14.71 7 P **Pn** 04 43 28.7 +1.6
GEVA **Gevas** 14.75 73 Pn **Pn** 04 43 29.0 +1.1
ABTA **Abfaltersbach** 14.78 324 *e*Pn **Pn** 04 43 24.9 -3.2
comp=Z,26nm,0.5s,SNR=25
ABTA *e*ScP **ScP** 04 52 01.0 -0.4
comp=Z,5.8nm,0.7s
MOA **Molln** 14.85 331 *e*Pn **Pn** 04 43 26.2 -2.7
comp=Z,11nm,0.6s,SNR=11
MOA *e*ScP **ScP** 04 52 00.7 -0.7
comp=Z,2.8nm,0.8s
MOA **Molln** 14.85 331 *e*P **Pn** 04 43 25.9 -3.0
BIOA **Bad Ischl, Aus** 14.98 329 *i* Pn **Pn** 04 43 27.6 -3.0
comp=Z,0.4nm,0.2s,SNR=9.6
MAUC **Maruska** 14.98 342 *e*P **Pn** 04 43 30.7 0.0
MAUC *ex* x 04 43 35.5
KRUC **Moravsky** 15.12 338 *e*PN **Pn** 04 43 32.3 -0.1
KRUC **Moravsky** 15.12 338 *e*P **Pn** 04 43 32.3 -0.1
LESA **Schwarzleotal** 15.20 326 *e*Pn **Pn** 04 43 30.8 -2.7
comp=Z,16nm,0.4s,SNR=22
LESA *e*ScP **ScP** 04 52 01.8 -0.4
comp=Z,5.0nm,0.8s
VRAC **Vranov** 15.27 339 *e*PN **Pn** 04 43 33.2 -1.2
VRAC **Vranov** 15.27 339 P **Pn** 04 43 33.0 -1.4
comp=Z,54nm,0.7s,baz=134,slow=9.3,SNR=42
VRAC LR LR 04 50 11.9
comp=Z,130nm,19.4s,baz=160,slow=40
VRAC **Vranov** 15.27 339 P **Pn** 04 43 33.0 -1.4
VRAC **Vranov** 15.27 339 *e*P **Pn** 04 43 33.6 -0.8
OKC **Ostrava-Krasne** 15.34 343 *e*P **Pn** 04 43 36.0 +0.8
OKC **Ostrava-Krasne** 15.34 343 *e*P **Pn** 04 43 36.0 +0.8
OKC **Ostrava-Krasne** 15.34 343 *e*P **Pn** 04 43 35.9 +0.8
OJC **Ojcow** 15.35 347 *e*P **Pn** 04 43 34.2 -1.1
OJC **Ojcow** 15.35 347 Pn **Pn** 04 43 34.6 -0.7
OJC **Ojcow** 15.35 347 P **Pn** 04 43 34.6 -0.7
RJOB **Jochberg** 15.38 327 *e*P **Pn** 04 43 32.2 -3.5
MORC **Moravsky Berou** 15.43 342 Pn **Pn** 04 43 35.0 -1.4
MORC **Moravsky Berou** 15.43 342 *e*PN **Pn** 04 43 35.4 -1.0
MORC **Moravsky Berou** 15.43 342 ⇑P **Pn** 04 43 35.8 -0.6
MORC **Moravsky Berou** 15.43 342 ⇑P **Pn** 04 43 35.7 -0.8
MORC **Moravsky Berou** 15.43 342 *e*P **Pn** 04 43 35.6 -0.8
AK07 **Malin Array Si** 15.51 10 P **P** 04 43 39.3 -0.8
OZAP **Van, Ozalp-Mer** 15.51 72 ⇓P **P** 04 43 41.7 +1.1
STEB **Steborice** 15.52 342 *e*P **Pn** 04 43 37.8 +0.3
AK10 **Malin Array Si** 15.56 10 P **P** 04 43 40.3 -0.4
WTTA **Wattenberg** 15.56 324 *e*Pn **Pn** 04 43 36.6 -1.7
comp=Z,8.5nm,0.4s,SNR=60
WTTA *e*ScP **ScP** 04 52 03.1 +0.1
comp=Z,14nm,1.2s
WTTA **Wattenberg** 15.56 324 *e*P **Pn** 04 43 36.3 -2.0
AK14 **Malin Array Si** 15.57 10 P **P** 04 43 40.4 -0.4
AK05 **Malin Array Si** 15.57 10 P **P** 04 43 40.3 -0.5
AK09 **Malin Array Si** 15.58 10 P **P** 04 43 40.3 -0.6
AK12 **Malin Array Si** 15.59 10 P **P** 04 43 40.6 -0.4
AK08 **Malin Array Si** 15.59 10 P **P** 04 43 40.7 -0.4
AK16 **Malin Array Si** 15.61 10 P **P** 04 43 40.8 -0.4
AK02 **Malin Array Si** 15.61 10 P **P** 04 43 40.9 -0.3
TREC **Trest** 15.61 336 *e*P **Pn** 04 43 38.1 -0.5
TREC *ex* x 04 43 41.1
TREC **Trest** 15.61 336 *e*P **Pn** 04 43 38.1 -0.5
AK17 **Malin Array Si** 15.62 10 P **P** 04 43 40.9 -0.4
CKRC **Cesky Krumlov** 15.62 333 *e*P **Pn** 04 43 39.2 +0.4
CKRC *ex* x 04 43 42.7
CKRC *e*S **S** 04 46 37.2 -4.5
CKRC AMS AMS 04 51 20.0
comp=Z,300nm,16.9s
CKRC **Cesky Krumlov** 15.62 333 *e*P **Pn** 04 43 39.2 +0.4
CKRC MLR MLR
comp=Z,300nm,16.9s
CKRC **Cesky Krumlov** 15.62 333 *e*P **Pn** 04 43 39.1 +0.4
AK11 **Malin Array Si** 15.62 10 P **P** 04 43 41.1 -0.3
AK15 **Malin Array Si** 15.63 10 P **P** 04 43 41.2 -0.3
AK01 **Malin Array Si** 15.64 10 P **P** 04 43 41.3 -0.3
ERBR **Yeremizino-Bor** 15.64 44 *e*P **P** 04 43 40.6 -1.1
ERBR *e*S **Sn** 04 46 33.1 +1.5
ERBR pmax pmax
comp=Z,358nm,0.8s
KIEV **Kiev** 15.64 10 Pn **Pn** 04 43 38.3 -0.7
KIEV **Kiev** 15.64 10 ⇑P **P** 04 43 41.7 +0.1
KIEV **Kiev** 15.64 10 P **Pn** 04 43 38.3 -0.7
KIEV **Kiev** 15.64 10 P **P** 04 43 41.4 -0.2
comp=Z,25μmcomp=Z,3μm,0.8s
KIEV **Kiev** 15.64 10 ⇑P **Pn** 04 43 37.3 -1.7
WATA **Walderalm** 15.64 324 *e*Pn **Pn** 04 43 37.8 -1.4
comp=Z,29nm,0.4s,SNR=51
WATA *e*ScP **ScP** 04 52 02.7 -0.3
comp=Z,11nm,1.2s
AK19 **Malin Array Si** 15.65 9 P **P** 04 43 41.1 -0.5
AK18 **Malin Array Si** 15.65 10 P **P** 04 43 41.3 -0.4
AKASG **Malin Array Be** 15.65 10 **Pn** 04 43 38.9 -0.2
AKASG PcP **PcP** 04 48 35.8 +0.5
AKASG **Malin Array Be** 15.65 10 P **Pn** 04 43 38.4 -0.8
comp=Z,90nm,0.5s,baz=202,slow=11,SNR=253
AKASG S **Sn** 04 46 36.0 +4.2
comp=Z,41nm,0.9s,baz=195,slow=21,SNR=7.1
AKASG PcP **PcP** 04 48 35.4 0.0
comp=Z,2.7nm,0.4s,baz=214,slow=0.6,SNR=4.6
AKASG LR LR 04 49 28.9
comp=Z,134nm,20.6s,baz=188,slow=36
AKASG ScP **ScP** 04 52 00.6 -2.2
comp=Z,0.8nm,0.5s,baz=236,slow=1.2,SNR=7.7
AKBB **Malin Array Si** 15.65 10 Pn **Pn** 04 43 37.7 -1.4
AKBB **Malin Array Si** 15.65 10 *d* P **Pn** 04 43 39.5 +0.4
AKBB **Malin Array Si** 15.65 10 P **P** 04 43 41.3 -0.4
AK23 **Malin Array Si** 15.70 10 P **P** 04 43 41.9 -0.3
SQTA **Sankt Quirin** 15.74 323 *e*Pn **Pn** 04 43 39.1 -1.4
comp=Z,28nm,0.4s,SNR=37
SQTA *e*ScP **ScP** 04 52 03.3 +0.1
comp=Z,12nm,0.9s
FUORN **Ofenpass-Fuorn** 15.82 320 **Pn** 04 43 40.3 -1.3
FETA **Feichten** 15.85 322 *e*Pn **Pn** 04 43 40.6 -1.2
comp=Z,20nm,0.7s,SNR=140
FETA *i* ScP **ScP** 04 52 03.6 +0.1
comp=Z,7.7nm,1.0s
GEC2 **GERESS Array S** 15.87 332 Pn **Pn** 04 43 39.6 -2.4
GEC2 **GERESS Array S** 15.87 332 *e*P **Pn** 04 43 41.3 -0.8
GERES **GERESS Array B** 15.87 332 **Pn** 04 43 40.2 -1.8
GERES **GERESS Array B** 15.87 332 P **Pn** 04 43 41.1 -0.9
comp=Z,32nm,0.5s,baz=148,slow=13,SNR=56
GERES PcP **PcP** 04 48 35.3 -0.6
comp=Z,2.6nm,0.6s,baz=130,slow=1.5,SNR=4.2
GERES LR LR 04 51 16.8
comp=Z,256nm,18.2s,baz=146,slow=43
GERES ScP **ScP** 04 52 02.6 -0.7
comp=Z,4.4nm,0.6s,baz=169,slow=2.2,SNR=20
PLTM **Poltava** 15.87 23 P **P** 04 43 44.0 -0.2
MOTA **Moosalm** 15.88 323 *e*Pn **Pn** 04 43 40.8 -1.4
comp=Z,9.4nm,0.4s,SNR=39
MOTA *e*ScP **ScP** 04 52 03.1 -0.4
comp=Z,7.3nm,1.0s
RNPP5 **Staryi Chortor** 15.90 2 P **Pn** 04 43 42.2 0.0
KRLC **Kraliky** 15.91 340 *e*P **Pn** 04 43 41.7 -0.7
KRLC AMS AMS 04 51 50.0
comp=Z,200nm,14.9s
KRLC **Kraliky** 15.91 340 *e*P **Pn** 04 43 41.7 -0.7
KRLC MLR MLR
comp=Z,200nm,14.9s
SHA1 **Shidzhatmaz** 15.96 53 *e*P **Pn** 04 43 43.7 +0.4
PART **Garmisch-Parte** 15.98 324 *e*P **Pn** 04 43 42.1 -1.3
ZUGS **Zugspitze, Sch** 15.99 323 *e*P **Pn** 04 43 41.8 -2.0
RNPP2 **Kostyukhnivka** 15.99 2 P **P** 04 43 44.8 -0.7
RNPP8 **Varash** 16.00 2 P **P** 04 43 44.9 -0.7
KIV **Kislovodsk** 16.07 52 Pn **Pn** 04 43 45.2 +0.6
KIV **Kislovodsk** 16.07 52 P **P** 04 43 47.2 +0.6
KIV S **Sn** 04 46 46.6 +4.5
KIV **Kislovodsk** 16.07 52 ⇑P **P** 04 43 49.5 +3.0
KIV **Kislovodsk** 16.07 52 *e*P **P** 04 43 46.4 -0.1
KIV *e*S **Sn** 04 46 44.8 +2.7
KIV pmax pmax
comp=Z,456nm,1.0s
KIV MLR MLR
comp=Z,49nm,14.0s
KIV **Kislovodsk** 16.07 52 *i* P **P** 04 43 47.2 +0.6
SNR=48
KIV **Kislovodsk** 16.07 52 P **P** 04 43 47.0 +0.4
comp=Z,5μmcomp=Z,585nm,0.9s
KIV **Kislovodsk** 16.07 52 ⇓P **P** 04 43 46.5 -0.1
KVAR **Kislovodsk Arr** 16.08 52 P **P** 04 43 46.3 -0.3
comp=Z,113nm,0.7s,baz=270,slow=20,SNR=52
RNPP9 **Sopachiv** 16.08 2 P **P** 04 43 45.9 -0.5
KBZ **Khabaz** 16.11 53 P **P** 04 43 47.5 +0.6
comp=Z,471nm,1.0s,baz=249,slow=7.4,SNR=127
KBZ LR LR 04 51 55.1
comp=Z,143nm,20.0s,baz=258,slow=44
KBZ **Khabaz** 16.11 53 *c* P **P** 04 43 46.2 -0.7
DAVOX **Davos/Dischmat** 16.13 320 P **Pn** 04 43 45.0 -0.3
comp=Z,87nm,0.9s,baz=152,slow=15,SNR=40
DAVOX LR LR 04 52 48.5
comp=Z,158nm,20.6s,baz=114,slow=48
RETA **Reutte** 16.15 323 *i* Pn **Pn** 04 43 45.0 -0.4
comp=Z,13nm,0.7s,SNR=28
RETA *e*ScP **ScP** 04 52 03.9 0.0
comp=Z,5.2nm,1.0s
KHC **Kasperske Hory** 16.15 332 *e*P **Pn** 04 43 45.2 -0.3
KHC *ex* x 04 43 48.1
KHC *e*S **Sn** 04 46 46.9 +3.0
KHC AMS AMS 04 51 40.0
comp=Z,400nm,13.1s
KHC **Kasperske Hory** 16.15 332 ⇑P **Pn** 04 43 44.3 -1.2
KHC **Kasperske Hory** 16.15 332 *e*P **Pn** 04 43 45.0 -0.5
ZVC **Zvikov** 16.18 334 *e*P **Pn** 04 43 45.5 -0.3
TUE **Stuetta** 16.22 318 Pn **Pn** 04 43 44.8 -1.7
TUE **Stuetta** 16.22 318 P **Pn** 04 43 46.5 0.0
comp=Z,6μmcomp=Z,600nm,0.8s
TUE **Stuetta** 16.22 318 ⇓P **Pn** 04 43 45.4 -1.1
BE1 **Monatshausen** 16.22 325 *e*P **Pn** 04 43 44.9 -1.5
MONC **Moncucco Torin** 16.25 312 ⇑P **Pn** 04 43 47.0 +0.2
DPC **Dobruska-Polom** 16.29 340 *e*P **Pn** 04 43 46.2 -1.0
DPC *ex* x 04 43 46.4
DPC **Dobruska-Polom** 16.29 340 *e*P **Pn** 04 43 46.2 -1.0
DPC **Dobruska-Polom** 16.29 340 *e*P **Pn** 04 43 46.1 -1.0
GNI **Garni** 16.31 67 **P** 04 43 49.5 +0.2
GNI **Garni** 16.31 67 Pn **Pn** 04 43 48.4 +0.7
GNI **Garni** 16.31 67 P **P** 04 43 50.0 +0.7
comp=Z,80nm,0.5s,baz=177,slow=2.8,SNR=36
GNI LR LR 04 51 44.1
comp=Z,91nm,21.0s,baz=269,slow=43
GNI **Garni** 16.31 67 P **P** 04 43 49.8 +0.5
GNI **Garni** 16.31 67 P **Pn** 04 43 48.4 +0.7
GNI **Garni** 16.31 67 P **P** 04 43 50.0 +0.7
GNI **Garni** 16.31 67 P **P** 04 43 49.5 +0.2
comp=Z,1μmcomp=Z,137nm,1.1s
GNI **Garni** 16.31 67 ⇑P **P** 04 43 49.6 +0.2
GOPC **GO Pecny, Ondr** 16.37 336 *e*P **Pn** 04 43 46.9 -1.3
GOPC **GO Pecny, Ondr** 16.37 336 *e*P **Pn** 04 43 46.9 -1.3
FUR **Furstenfeldbru** 16.38 326 *e*P **P** 04 43 50.0 +0.1
WET **Wettzell** 16.44 331 *e*P **Pn** 04 43 47.9 -1.1
DAVA **Damuels** 16.45 321 *i* Pn **Pn** 04 43 49.2 -0.2
comp=Z,37nm,0.5s,SNR=43
DAVA *i* ScP **ScP** 04 52 04.0 -0.6
comp=Z,8.5nm,1.1s
DAVA **Damuels** 16.45 321 ⇓P **Pn** 04 43 48.3 -1.1
DAVA **Damuels** 16.45 321 *e*P **Pn** 04 43 48.7 -0.7
NCK **Nalchik** 16.48 55 *e*P **P** 04 43 50.5 -0.5
OSTC **Ostas** 16.50 340

KHAM Kharkiv 16.79 26 P P 04 43 55.5 +1.2
GOF Gofitskoye 16.81 49 *c* iP P 04 43 56.3 +1.7
BNI Bardonecchia 17.01 310 Pn Pn 04 43 55.4 -0.9
BNI Bardonecchia 17.01 310 ⇑P P 04 43 57.1 +0.1
WILA Wila 17.04 320 *e*P Pn 04 43 55.8 -0.8
R9F13 Warsaw-Wawer 17.10 352 *e*P Pn 04 43 56.2 -1.0
R9F13 *i*S Sn 04 47 03.6 -3.1
WALHA Wallhausen, DE 17.15 321 *e*P Pn 04 43 56.6 -1.2
ROTZ Rotzenmuhle 17.20 331 *e*P Pn 04 43 55.0 -3.4
SENIN Lac Senin/Sane 17.31 315 Pn 04 43 58.8 -1.2
EMING Emmingen-Liptі 17.38 321 *e*P Pn 04 43 59.5 -1.2
MANZ Manzenberg 17.41 331 *e*P Pn 04 44 00.2 -0.8
ORIF Oris-en-Rattie 17.45 309 P Pn 04 44 00.8 -0.8
BRG Berggiesshubel 17.48 336 *e*P P 04 44 01.9 +0.1
BRG Berggiesshubel 17.48 336 *e*P P 04 44 02.0 +0.1
BRG Amp 04 44 03.0
comp=Z,17nm,0.7s
BRG Berggiesshubel 17.48 336 S Sn 04 47 16.0 +0.3
SLE Schleitheim 17.48 320 *e*P Pn 04 44 00.6 -1.3
SULZ Cheisacher 17.54 319 *e*P Pn 04 44 01.7 -0.8
GRA1 Grafenberg Arr 17.54 329 Pn Pn 04 44 00.6 -2.0
GRF Grafenberg Arr 17.54 329 P Pn 04 44 00.6 -2.0
GRF Grafenberg Arr 17.54 329 *e*P Pn 04 44 01.8 -0.8
GRFO Grafenberg 17.54 329 Pn 04 44 01.0 -1.6
GRFO Grafenberg 17.54 329 P Pn 04 44 01.0 -1.6
GRFO Grafenberg 17.54 329 *e*P Pn 04 44 01.7 -0.9
METMA Mettma DE 17.57 320 *e*P Pn 04 44 02.0 -1.0
BALST Balsthal 17.64 318 *e*P P 04 44 03.2 -0.7
BERGE Lenzkirch (DE) 17.71 320 *e*P P 04 44 03.6 -1.0
STU Stuttgart 17.79 324 P 04 44 04.0 -1.4
STU Stuttgart 17.79 324 P P 04 44 04.0 -1.4
STU Stuttgart 17.79 324 *e*P Pn 04 44 06.2 +0.6
BFO Black Forest 17.93 321 P 04 44 05.9 -1.0
BFO Black Forest 17.93 321 ⇑P P 04 44 06.2 -0.7
BFO Black Forest 17.93 321 *e*P P 04 44 06.6 -0.3
ETOS Mallorca 18.14 291 P P 04 44 09.6 +0.2
CLL Collm 18.16 335 P 04 44 08.5 -0.8
CLL Collm 18.16 335 *i*P P 04 44 08.6 -0.8
CLL pmax pmax
comp=Z,31nm,0.7s
CLL Collm 18.16 335 *i*P P 04 44 08.6 -0.8
comp=Z,31nm,0.7s
CLL *i*(pP) pP 04 44 20.4 -4.1
CLL *i*(sP) sP 04 44 30.3 -3.8
CLL *i*sPP 04 44 43.1
CLL *e*S S 04 47 34.0 +1.7
comp=N,300nm,13.5s
CLL *e*S S 04 47 34.0 +1.7
comp=E,200nm,24.2s
CLL *e*S S 04 47 34.0 +1.7
comp=Z,100nm,29.9s
CLL *i*x x 04 47 42.9
CLL Collm 18.16 335 *e*P P 04 44 09.0 -0.4
VIVF Saint-Julien-l 18.20 308 P P 04 44 09.3 -0.7
SSB Saint Sauveur 18.46 309 P 04 44 10.5 -2.4
SSB Saint Sauveur 18.46 309 P P 04 44 10.5 -2.4
SSB Saint Sauveur 18.46 309 ⇑P P 04 44 11.3 -1.6
ECH Echery 18.46 320 P 04 44 11.8 -1.0
ECH Echery 18.46 320 P P 04 44 11.8 -1.0
ECH Echery 18.46 320 ⇓P P 04 44 12.3 -0.5
ECH Echery 18.46 320 *e*P P 04 44 12.9 0.0
MILB Miltenberg 18.49 326 *e*P P 04 44 13.2 +0.2
EJON La Jonquera 18.61 299 P P 04 44 14.0 -0.4
VORD Divnogorie 18.72 29 *e*P P 04 44 16.1 +0.6
VORD pmax pmax
comp=Z,90nm,0.5s
SUW Suwalki 18.72 357 *e*P P 04 44 14.4 -1.1
SUW Suwalki 18.72 357 P 04 44 14.1 -1.4
SUW Suwalki 18.72 357 P P 04 44 14.1 -1.4
SUW Suwalki 18.72 357 *e*P P 04 44 14.6 -0.8
SUW Suwalki 18.72 357 ⇑P P 04 44 14.4 -1.1
AKT Akhty 18.80 64 *e*P Pn 04 44 18.0 +0.1
AKT *e*S Sn 04 47 47.8 -0.1
AKT pmax pmax
comp=Z,183nm,1.3s
VSR Storozhevoye 18.86 28 *e*P P 04 44 16.9 -0.2
VSR pmax pmax
comp=Z,180nm,0.5s
UBBA Unterbreizbach 18.91 330 *e*P P 04 44 18.0 +0.5
RUE Ruedersdorf 18.91 338 *e*P P 04 44 18.2 +0.6
MAK Makhachkala 18.99 60 *e*P Pn 04 44 19.4 -0.6
MAK *e*S Sn 04 47 51.5 -0.7
MAK pmax pmax
comp=Z,540nm,0.6s
MAK MLR MLR
comp=Z,59nm,10.0s
TNS Taunus Mts 19.15 326 *e*P P 04 44 20.5 +0.1
VORR Voronezh 19.24 28 *e*P P 04 44 21.8 +0.6
VORR pmax pmax
comp=Z,480nm,0.5s
MNK Minsk 19.27 5 *i*P P 04 44 18.0 -3.4
comp=E,69nm,0.7s
MNK *i*P P 04 44 18.0 -3.4
comp=N,16nm,0.8s
MNK *i*P P 04 44 18.0 -3.4
comp=Z,68nm,100.0s,baz=187
MNK *i*pP pP 04 44 33.5 -3.1
MNK *i*sP sP 04 44 44.3 -1.9
MNK *i*S S 04 47 50.9 -4.6
MNK *i*sS sS 04 48 13.8 -6.8
MNK Minsk 19.27 5 *i*P P 04 44 18.0 -3.4
MNK *i*S S 04 47 50.9 -4.6
MNK pmax pmax
comp=N,16nm,0.8s
MNK pmax pmax
comp=E,69nm,0.7s
LBL Lubilhac 19.28 307 P P 04 44 22.6 +0.8
MTLF Montolieu 19.32 301 ⇓P P 04 44 22.0 -0.3
NACGM Naroch 19.60 3 *e*P P 04 44 24.1 -1.0
FLTG Flechtingen 19.62 334 ⇓P P 04 44 24.4 -1.0
FLTG Flechtingen 19.62 334 *e*P P 04 44 24.6 -0.8
LOR Lormes 19.80 313 ⇑P P 04 44 26.7 -0.7
CEST Esterri de Car 19.81 299 P 04 44 28.1 +0.4
KASTN Kahler Asten 19.87 328 *e*P P 04 44 28.2 +0.2
AVF Avril sur Loir 19.88 312 P P 04 44 27.8 -0.4
WLF Walferdange 19.88 322 P P 04 44 28.9 +0.6
WLF Walferdange 19.88 322 P 04 44 27.8 -0.5
WLF Walferdange 19.88 322 P P 04 44 27.8 -0.5
WLF Walferdange 19.88 322 *d*P P 04 44 28.7 +0.5
comp=Z,160nm,0.9s
WLF Walferdange 19.88 322 ⇓P P 04 44 28.8 +0.6
WLF Walferdange 19.88 322 *e*P P 04 44 28.8 +0.6
LPSR Galich'ya Gora 19.89 26 *e*P P 04 44 27.3 -0.9
LPSR pmax pmax
comp=Z,210nm,0.6s
VRH Novokhopyorsk 19.91 32 *e*P P 04 44 28.5 +0.1
VRH pmax pmax
comp=Z,210nm,0.6s
BGF Bois d'Agland 20.08 311 P P 04 44 30.7 +0.2
KBD Kabd 20.11 101 P P 04 44 31.9 +1.0
KBD S S 04 48 12.2 -0.5
GORT1 Trebel 20.14 335 *e*P P 04 44 30.2 -0.7
NRDL Niedersach Rie 20.17 333 *e*P P 04 44 31.1 -0.1
PABE Paberze 20.18 358 P P 04 44 30.3 -1.0
PABE Paberze 20.18 358 *e*P P 04 44 30.2 -1.1
ISAL Salakas 20.25 2 *e*P P 04 44 32.8 +0.7
BHOU Houvegnez 20.40 323 *d*P P 04 44 34.2 +0.4
comp=Z,58nm,0.9s
BTNL Ternell 20.49 324 *d*P P 04 44 35.5 +0.7
comp=Z,110nm,0.8s
BUG Bochum--Univer 20.54 327 *e*P P 04 44 35.7 +0.4
MEM Membach 20.56 324 *d*P P 04 44 36.4 +0.8
comp=Z,180nm,0.9s
RETH Rethem/Aller, 20.64 332 *e*P P 04 44 36.3 0.0
RCHB Rochefort 20.66 322 *d*P P 04 44 36.6 0.0
comp=Z,128nm,0.9s
VSVD Vaisvydziai 20.66 358 *e*P P 04 44 36.0 -0.5
BSTI Sart Tilman 20.76 323 *d*P P 04 44 38.5 +0.9
comp=Z,46nm,0.8s
PBUR Paburge 20.80 355 *e*P P 04 44 36.8 -1.2
BEBN Eben Emael 20.84 324 *d*P P 04 44 39.5 +1.0
comp=Z,76nm,0.8s
BGES Gesves 20.87 322 *d*P P 04 44 38.8 -0.1
comp=Z,51nm,1.0s
DOU Dourbes 20.94 321 *d*P P 04 44 39.7 0.0
comp=Z,258nm,0.8s
IBBN Ibbenburen 20.95 329 ⇓P P 04 44 39.9 +0.1
IBBN Ibbenburen 20.95 329 *e*P P 04 44 40.0 +0.2
BSD Bornholm Skovb 20.98 344 *i*P P 04 44 38.7 -1.3
BSD IAmb IAmb 04 44 41.6
comp=Z,32nm,0.7s
BMRD Maredsous 20.98 322 *d*P P 04 44 40.1 +0.1
comp=Z,70nm,0.8s
CART Cartagena 21.03 284 P P 04 44 40.0 -0.7
CART Cartagena 21.03 284 P P 04 44 39.9 -0.8
ECHE Chera 21.04 289 P P 04 44 41.5 +0.7
TAM Tamanrasset 21.09 239 P P 04 44 41.6 -0.1
TAM Tamanrasset 21.09 239 ⇓P P 04 44 43.2 +1.6
CLF Chambon-Foret 21.11 314 P P 04 44 41.6 +0.1
CLF Chambon-Foret 21.11 314 ⇓P P 04 44 42.0 +0.6
BSEG Bad Segeberg 21.26 336 *e*P P 04 44 42.0 -1.0
RAYN Ar Rayn 21.33 118 P P 04 44 45.0 +1.0
RAYN Ar Rayn 21.33 118 P P 04 44 46.4 +2.4
RAYN S S 04 48 38.5 +1.7
RAYN Ar Rayn 21.33 118 *i*P P 04 44 45.4 +1.3
SNR=41
RAYN Ar Rayn 21.33 118 ⇓P P 04 44 46.0 +2.0
OBN Obninsk 21.33 18 P P 04 44 43.0 -0.8
OBN Obninsk 21.33 18 P P 04 44 42.9 -0.8
comp=Z,290nm,0.5s,baz=283,slow=2.0,SNR=30
OBN LR LR 04 53 32.2
comp=Z,125nm,18.5s,baz=226,slow=38
comp=Z,290nm,0.5s
OBN Obninsk 21.33 18 ⇓*e*P P 04 44 42.1 -1.6
OBN *e*SP sP 04 45 16.3 +8.0
OBN *i*S S 04 48 31.8 -4.3
OBN *e*SS sS 04 49 04.4 +2.5
OBN pmax pmax
comp=Z,30nm,0.7s
OBN MLR MLR
comp=Z,104nm,17.0s
OBN Obninsk 21.33 18 ⇓P P 04 44 42.8 -0.9
UCC Uccle 21.49 322 P P 04 44 45.3 -0.2
UCC Uccle 21.49 322 P P 04 44 45.3 -0.2
UCC pmax pmax
comp=Z,213nm,0.8s
UCC Uccle 21.49 322 *d*P P 04 44 45.6 +0.2
comp=Z,178nm,0.9s
LUNU Lund 21.80 342 *i*P P 04 44 46.9 -1.8
BLEU Blekinge 21.89 346 *i*P P 04 44 46.6 -3.0
ENIJ Nijar 22.02 282 P P 04 44 51.0 -0.4
MOS Moscow 22.16 19 *e*P P 04 44 50.3 -2.3
MOS *e* 04 45 11.1
MOS *e*S S 04 48 46.9 -4.9
MOS *e* 04 48 54.7
MOS pmax pmax
comp=Z,226nm,0.8s
MOS pmax pmax
comp=Z,200nm,0.8s
DEL Delary 22.46 344 *i*P P 04 44 53.0 -2.8
SSRD Sdr. Stenderup 22.76 337 *i*P P 04 44 57.8 -1.2
SSRD IAmb IAmb 04 45 01.0
comp=Z,63nm,0.6s
EALB Alboran 22.78 280 P P 04 44 59.0 -0.4
EQTA Presa de Quent 22.99 283 P P 04 45 01.9 +0.2
VSU Vasula 23.16 2 *i*P P 04 45 01.2 -1.7
VSU pmax pmax
comp=Z,37nm,0.7s
VSU Vasula 23.16 2 *e*P P 04 45 01.0 -1.9
ELGU Los Guajares, 23.17 282 P P 04 45 03.4 +0.1
FABU Falkenberg 23.21 343 *i*P P 04 45 01.2 -2.2
ESBB Sonseca Array 23.35 289 P P 04 45 03.9 -1.1
ESBB IAmb IAmb 04 45 12.8
comp=Z,53nm,0.8s
ESDC Sonseca Array 23.35 289 P P 04 45 04.2 -0.8
ESDC PcP PcP 04 48 49.2 -0.3
ESDC Sonseca Array 23.35 289 P P 04 45 04.2 -0.8
comp=Z,32nm,0.7s,baz=80,slow=9.0,SNR=157
ESDC PcP PcP 04 48 50.1 +0.6
comp=Z,2.3nm,0.8s,baz=63,slow=2.4,SNR=5.7
ESDC ScP ScP 04 52 20.6 -0.1
comp=Z,1.4nm,0.9s,baz=64,slow=2.5,SNR=5.8
comp=Z,32nm,0.7s
ELSH Elham, Standar 23.35 320 *e*P P 04 45 05.0 +0.2
ELSH IAmb IAmb 04 45 05.6
comp=Z,228nm,0.9s
BELG Belogornoye 23.43 36 P P 04 45 05.2 -0.2
comp=Z,469nm,0.8s,baz=51,slow=0.7,SNR=120
comp=Z,469nm,0.8s
BELG Belogornoye 23.43 36 *c* iP P 04 45 05.1 -0.3
BELG pmax pmax
comp=Z,128nm,1.0s
EGOR Sierra Gorda, 23.53 283 P P 04 45 06.8 0.0
PAB San Pablo 23.64 289 P P 04 45 07.3 -0.4
PAB San Pablo 23.64 289 ⇑P P 04 45 07.6 -0.1
MUD Monsted U'grnd 23.71 338 *i*P P 04 45 06.0 -2.0
MUD IAmb IAmb 04 45 15.3
comp=Z,44nm,0.8s
ONAU Onsala 23.76 342 *i*P P 04 45 07.1 -1.3
BORU Boraas 23.77 344 *i*P P 04 45 07.1 -1.4
SAKB Bahrain 23.79 106 P P 04 45 10.6 +1.6
SAKB S S 04 49 19.5 +0.5
EADA Adamuz 23.84 286 P P 04 45 09.1 -0.3
EMIJ Mijas 24.11 282 P P 04 45 11.5 -0.3
ARBE Arbavere 24.12 1 *e*P P 04 45 10.5 -1.1
SHMA Al-Shehemyia 24.19 106 P P 04 45 14.0 +1.5
SNR=6.0
SHMA S S 04 49 25.6 +0.2
JSA Saint Aubin 24.26 313 *e*P P 04 45 12.4 -0.6
JSA IAmb IAmb 04 45 14.4
comp=Z,43nm,0.7s
ECAB El Cabril 24.51 285 P P 04 45 15.4 0.0
ROSF Rostrenen 24.60 311 ⇑P P 04 45 15.5 -0.6
MDT Midelt 24.63 273 P P 04 45 17.2 +0.6
comp=Z,20nm,0.8s,baz=89,slow=11,SNR=20
MDT LR LR 04 56 08.8
comp=Z,135nm,21.8s,baz=82,slow=39
comp=Z,20nm,0.8s
SMRA Abu-Samra 24.64 108 P P 04 45 17.5 +0.8
SNR=5.5
SMRA S S 04 49 33.4 +0.8
ECEU Ceuta 24.68 280 P P 04 45 16.8 -0.1
MD01 Midelt array s 24.74 273 P P 04 45 17.6 -0.2
MD31 MD31 24.74 273 P P 04 45 18.0 +0.3
TRNA Turayna 24.94 108 P P 04 45 20.5 +1.1
TRNA S S 04 49 37.2 -0.3
ESPR Espera 24.95 283 P P 04 45 19.6 +0.3
STRU Stroemstad 25.40 343 *i*P P 04 45 21.9 -1.3
HOMB Homborsund 25.43 340 *i*P P 04 45 22.6 -1.0
EMIN Mina Concepcio 25.52 285 P P 04 45 24.6 +0.1
PBRG Braganca 25.56 294 *e*P P 04 45 24.6 -0.4
PBRG *i*IAmb IAmb 04 45 27.3
comp=Z,116nm,1.2s
ECAL Calabor 25.57 295 P P 04 45 25.0 -0.1
SLWR Sila 25.66 109 P P 04 45 27.1 +1.2
SLWR S S 04 49 50.3 +1.4
EBAD Badajoz 25.73 287 P P 04 45 26.1 -0.4
MVO Moncorvo 25.74 293 *e*P P 04 45 26.5 -0.2
MVO *i*IAmb IAmb 04 45 29.1
comp=Z,154nm,0.8s
MVO *e*S S 04 50 01.2 +11
PBAR Barrancos 25.78 286 P P 04 45 26.8 -0.1
PBAR Barrancos 25.78 286 *e*P P 04 45 26.7 -0.1
PBAR *i*IAmb IAmb 04 45 29.5
comp=Z,82nm,1.3s
DYA Yadsworthy 25.82 315 *e*P P 04 45 26.3 -0.8
DYA IAmb IAmb 04 45 28.4
comp=Z,89nm,1.0s
SNART Snartemo 25.87 338 *e*P P 04 45 28.0 +0.5
SNART Snartemo 25.87 338 *i*P P 04 45 26.0 -1.5
HFS Hagfors 25.88 347 P P 04 45 25.6 -1.9
comp=Z,9.5nm,0.4s,baz=153,slow=10.0,SNR=65
HFS S S 04 49 47.5 -4.1
comp=Z,6.3nm,0.9s,baz=151,slow=18,SNR=3.2
HFS LR LR 04 56 37.1
comp=Z,152nm,21.0s,baz=162,slow=38
comp=Z,9.5nm,0.4s
MCH1 Michaelchurch 26.00 318 *e*P P 04 45 29.2 +0.5
MCH1 IAmb IAmb 04 45 30.4
comp=Z,41nm,1.1s
MCH1 Michaelchurch 26.00 318 ⇑P P 04 45 29.0 +0.2
PMRV Marv??o 26.00 289 *e*P P 04 45 27.9 -1.0
PMRV *i*IAmb IAmb 04 45 32.0
comp=Z,97nm,1.8s
PMRV *e*S S 04 49 56.3 +2.2
PCBR Castelo Branco 26.06 290 *e*P P 04 45 29.1 -0.3
PCBR *i*IAmb IAmb 04 45 37.1
comp=Z,59nm,1.1s
JRN Qarnain Island 26.12 106 P P 04 45 31.3 +1.2
FINES FINESS Array B 26.13 1 P P 04 45 28.5 -1.3
FINES FINESS Array B 26.13 1 P P 04 45 28.4 -1.5
comp=Z,14nm,0.4s,baz=162,slow=11,SNR=130
FINES PcP PcP 04 48 55.3 +0.2
comp=Z,10nm,0.4s,baz=156,slow=2.6,SNR=10
FINES S S 04 49 50.5 -5.1
comp=Z,4.0nm,0.6s,baz=182,slow=16,SNR=4.0
FINES ScP ScP 04 52 27.1 -0.8
comp=Z,4.4nm,0.7s,baz=232,slow=1.6,SNR=2.6
FINES LR LR 04 56 59.6
comp=Z,110nm,20.3s,baz=218,slow=39
comp=Z,14nm,0.4s
FINES FINESS Array B 26.13 1 *i*P P 04 45 28.3 -1.5
FINES pmax pmax
comp=Z,15nm,0.4s
FIA1 FINESS Array S 26.13 1 P P 04 45 28.5 -1.3
STNC Stoke 26.14 321 *e*P P 04 45 29.9 0.0
STNC IAmb IAmb 04 45 32.1
comp=Z,86nm,1.0s
PESTR Estremoz 26.17 287 P P 04 45 30.2 -0.3
PESTR Estremoz 26.17 287 P P 04 45 30.1 -0.3
PESTR Estremoz 26.17 287 *e*P P 04 45 29.9 -0.5
PESTR *i*IAmb IAmb 04 45 33.6
comp=Z,100nm,1.5s
PESTR Estremoz 26.17 287 ⇓P P 04 45 30.0 -0.5
EGRO El Granado 26.18 284 P P 04 45 30.1 -0.4
GDLE Glaisdale, N Y 26.20 325 *e*P P 04 45 29.9 -0.6
PVRL Vila Real 26.27 293 *e*P P 04 45 31.4 +0.1
PVRL *i*IAmb IAmb 04 45 33.6
comp=Z,59nm,1.9s
KONO Kongsberg 26.33 342 P P 04 45 30.7 -0.9
KONO IAmb IAmb 04 46 03.9
comp=Z,82nm,1.8s
KONO Kongsberg 26.33 342 P P 04 45 30.7 -0.9
KONO pmax pmax
comp=Z,82nm,1.8s
KONO Kongsberg 26.33 342 *e*P P 04 45 30.4 -1.2
POLO Lamas de Olo 26.33 293 *e*P P 04 45 31.6 -0.4
POLO *i*IAmb IAmb 04 45 34.5
comp=Z,27nm,1.9s
PVAQ Vaqueiros 26.37 284 P P 04 45 32.0 -0.3
PVAQ Vaqueiros 26.37 284 P P 04 45 31.9 -0.3
PVAQ IAmb IAmb 04 45 32.8
comp=Z,69nm,0.8s
PVAQ Vaqueiros 26.37 284 *e*P P 04 45 31.9 -0.5
PVAQ *i*IAmb IAmb 04 45 43.0
comp=Z,54nm,1.2s
PVAQ *e*S S 04 50 02.9 +3.0
PVAQ Vaqueiros 26.37 284 ⇓P P 04 45 31.8 -0.5
PVIS Viseu 26.38 292 *e*P P 04 45 32.6 +0.1
PBEJ Beja 26.44 286 *e*P P 04 45 32.5 -0.3
PBEJ *i*IAmb IAmb 04 45 35.2
comp=Z,57nm,0.7s
PCAB Cabril 26.52 294 *e*P P 04 45 33.8 +0.2
PCAB *i*IAmb IAmb 04 45 37.6
comp=Z,73nm,1.3s
EVO Evora 26.52 287 P P 04 45 33.7 +0.1
EVO Evora 26.52 287 *e*P P 04 45 33.0 -0.6
EVO *i*IAmb IAmb 04 45 37.1
comp=Z,48nm,2.3s
PBDV Barranco-do-Ve 26.56 284 *e*P P 04 45 33.7 -0.3
PBDV *i*IAmb IAmb 04 45 37.5
comp=Z,92nm,1.2s
PSARD Sardoal 26.59 289 *e*P P 04 45 33.9 -0.3
PSARD *i*IAmb IAmb 04 45 40.6
comp=Z,49nm,1.1s
PCVE Castro Verde 26.61 285 P P 04 45 33.6 -0.8
PCVE Castro Verde 26.61 285 *e*P P 04 45 33.8 -0.6
PCVE *i*IAmb IAmb 04 45 38.2
comp=Z,64nm,1.3s
GHWR Ruwais 26.64 108 P P 04 45 36.1 +1.3
GHWR S S 04 50 05.4 +1.1
PMTG Montargil 26.66 288 *e*P P 04 45 34.6 -0.2
PMTG *i*IAmb IAmb 04 46 11.0
comp=Z,51nm,1.5s
PGAV Gavieira, Arco 26.71 294 *e*P P 04 45 35.2 -0.2
PGAV *i*IAmb IAmb 04 45 38.7
comp=Z,48nm,1.7s
MESJ Messejana 26.73 285 *e*P P 04 45 35.1 -0.3
MESJ IAmb IAmb 04 45 38.5
comp=Z,39nm,0.5s
MESJ *e*S S 04 50 05.5 -0.1
MESJ Messejana 26.73 285 P P 04 45 35.2 -0.3
MESJ IAmb IAmb 04 45 38.6
comp=Z,35nm,0.7s
MESJ Messejana 26.73 285 *e*P P 04 45 35.4 -0.1
MESJ *i*IAmb IAmb 04 46 06.5
comp=Z,63nm,1.3s
MESJ Messejana 26.73 285 ⇓P P 04 45 35.8 +0.2
COI Coimbra 26.78 290 P P 04 45 35.1 -0.8
COI IAmb IAmb 04 45 38.3
comp=Z,58nm,0.7s
COI Coimbra 26.78 290 *e*P P 04 45 35.6 -0.2
COI *i*IAmb IAmb 04 45 38.0
comp=Z,74nm,0.8s
COI Coimbra 26.78 290 ⇑P P 04 45 35.7 -0.2
PCAS Casmilo, Conde 26.84 290 *e*P P 04 45 36.3 -0.2
PCAS *i*IAmb IAmb 04 45 44.4
comp=Z,66nm,1.3s
KEF Keuruu 26.85 360 *e*P P 04 45 35.0 -1.3
NC602 NORSAR Array S 26.85 345 P P 04 45 35.0 -1.3
NC602 NORSAR Array S 26.85 345 *e*P P 04 45 36.0 -0.4
EDMD Edmundbyers 26.98 325 *e*P P 04 45 36.9 -0.6
BLS5 Blasjo 26.99 339 *e*P P 04 45 37.7 +0.1
NAO01 NORSAR Array S 27.09 345 P P 04 45 37.1 -1.4
MORF Marmelete 27.13 284 *e*P P 04 45 41.0 +1.9
MORF *i*IAmb IAmb 04 46 13.6
comp=Z,96nm,1.6s
PTEO Sao Teotonio 27.16 285 *e*P P 04 45 37.0 -2.3
PTEO *i*IAmb IAmb 04 46 12.5
comp=Z,143nm,1.3s
NC405 NORSAR Array S 27.16 346 P P 04 45 38.4 -0.8
NC405 IAmb IAmb 04 46 06.8
comp=Z,97nm,1.9s
KLMR Klimovskoe 27.18 16 *e*P P 04 45 36.9 -2.3
KLMR *e*PP pP 04 45 55.8 -0.7
KLMR *e*SP sP 04 46 05.7 +0.1
KLMR pmax pmax
comp=Z,145nm,0.7s
NB201 NORSAR Array S 27.19 345 P P 04 45 38.3 -1.1
NB2 NORSAR Subarra 27.20 345 P P 04 45 38.3 -1.2
comp=Z,2.4nm,0.4s,baz=151,slow=10
NB2 PCP PcP 04 48 58.1 +0.4
comp=Z,2.2nm,0.6s,baz=122,slow=4.4
NB2 NORSAR Subarra 27.20 345 P P 04 45 35.5 -4.0
NB2 NORSAR Subarra 27.20 345 P P 04 45 38.3 -1.2
baz=151,slow=10
NOA NORSAR Array B 27.20 345 P P 04 45 38.2 -1.3
comp=Z,1.3nm,0.4s,baz=150,slow=8.8,SNR=35
NOA PcP PcP 04 48 57.5 -0.2
comp=Z,3.6nm,0.8s,baz=130,slow=3.2,SNR=4.0
NOA LR LR 04 59 32.7
comp=Z,59nm,18.9s,baz=165,slow=43
comp=Z,1.3nm,0.4s
NBO00 NORSAR Array S 27.28 345 P P 04 45 40.0 -0.3
PFVI Vila Bisbo 27.28 284 *e*P P 04 45 40.2 -0.2
PARRA Arraiolos 27.31 287 *e*P P 04 45 33.4 -7.3
PARRA *i*IAmb IAmb 04 45 37.0
comp=Z,42nm,1.9s
NC303 NORSAR Array S 27.34 346 P P 04 45 38.4 -2.2
ODD1 Odda 27.34 340 *e*P P 04 45 40.7 -0.1
NC204 NORSAR Array S 27.51 345 P P 04 45 41.1 -1.1
NC204 IAmb IAmb 04 46 34.4
comp=Z,74nm,1.7s
MZR Muzera 27.62 109 P P 04 45 45.0 +1.4
SNR=5.3
MZR S S 04 50 19.7 -0.1
MZR Muzera 27.62 109 *i*P P 04 45 44.8 +1.2
SNR=5.4
EKA Eskdalemuir Ar 27.83 325 P P 04 45 44.8 -0.3
comp=Z,14nm,0.4s,baz=127,slow=9.3,SNR=51
EKA PcP PcP 04 48 58.9 -0.3
comp=Z,4.0nm,0.7s,baz=111,slow=2.4,SNR=4.6
EKA ScP ScP 04 52 31.7 -1.5
comp=Z,1.7nm,0.7s,baz=151,slow=3.8,SNR=4.7
comp=Z,14nm,0.4s
ESK Eskdalemuir 27.84 325 P P 04 45 44.8 -0.5
ESK IAmb IAmb 04 46 13.6
comp=Z,38nm,0.8s
ESK Eskdalemuir 27.84 325 P P 04 45 44.8 -0.5
ESK pmax pmax
comp=Z,38nm,0.9s
ESK Eskdalemuir 27.84 325 ⇑P P 04 45 45.0 -0.3
JOF Joensuu 27.88 6 *e*P P 04 45 43.8 -1.7
AJN Ajban 28.00 104 P P 04 45 48.4 +1.5
AJN S S 04 50 26.7 +1.0
AKTO Aktyubinsk 28.21 47 LR LR 04 59 27.4
comp=Z,89nm,22.0s,baz=210,slow=41
AKTO Aktyubinsk 28.21 47 P P 04 45 48.6 0.0
NEWG New Galloway 28.22 324 *e*P P 04 45 48.3 -0.4
ASUD Al Ashush, Dub 28.24 104 P P 04 45 50.4 +1.3

ASUD S **S** **04 50 30.8 +1.4**
ASUD Al Ashush, Dub 28.24 104 P **P** **04 45 50.4 +1.3**
IWEX Carrickbyrne, 28.25 317 P **P** **04 45 48.4 -0.5**
KIRV Kirov 28.29 27 LR LR 04 56 50.9
comp=Z,62nm,19.6s,baz=237,slow=36
KIRV Kirov 28.29 27*c i*P **P** **04 45 48.1 -1.1**
NAZ Nazwa, Dubai 28.33 103 P **P** **04 45 51.1 +1.2**
NAZ S **S** **04 50 32.0 +1.0**
NAZ Nazwa, Dubai 28.33 103 *i* P **P** **04 45 51.1 +1.2**
SNR=15
GAL1 Galloway 28.33 323 *e*P **P** **04 45 48.5 -1.0**
FAQ Al Faqa, Dubai 28.39 103 P **P** **04 45 51.5 +1.1**
FAQ S **S** **04 50 31.7 -0.1**
BANOM Banah 28.40 101 P **P** **04 45 51.4 +0.8**
DSB Dublin 28.40 319 P **P** **04 45 50.8 +0.5**
DRUM Mains of Drumt 28.45 328 *e*P **P** **04 45 49.6 -1.1**
HYA Hoyanger 28.51 341 *e*P **P** **04 45 51.6 +0.6**
MASF Masafi 28.54 102 P **P** **04 45 52.8 +0.9**
MSFE Esma-Masafi 28.55 102 P **P** **04 45 52.7 +0.8**
MDH Madha 28.69 102 P **P** **04 45 53.6 +0.6**
HATD Hatta, Dubai 28.78 103 P **P** **04 45 54.9 +0.9**
HATD S **S** **04 50 37.6 -0.5**
HATD Hatta, Dubai 28.78 103 *i* P **P** **04 45 54.8 +0.9**
SNR=9.1
UOSS Minazif 28.78 103 P **P** **04 45 54.3 +0.4**
UOSS Minazif 28.78 103 P **P** **04 45 54.7 +0.8**
UOSS S **S** **04 50 38.0 -0.1**
UOSS Minazif 28.78 103 P **P** **04 45 54.2 +0.3**
UOSS Minazif 28.78 103 ⇑P **P** **04 45 54.6 +0.7**
ASHO Ashiyiah 28.79 103 P **P** **04 45 54.5 +0.5**
SNR=11
ASHO S **S** **04 50 38.2 -0.1**
ASHO Ashiyiah 28.79 103 *i* P **P** **04 45 54.6 +0.5**
SNR=11
SUE Sulen 28.81 340 *e*P **P** **04 45 52.6 -1.1**
ALNE Al Ain 28.85 105 P **P** **04 45 55.5 +1.0**
ALNE S **S** **04 50 39.5 +0.2**
ALNE Al Ain 28.85 105 *i* P **P** **04 45 55.7 +1.1**
SNR=8.6
AB31 Akbulak array 29.05 51 P **P** **04 45 56.5 +0.5**
AB31 IAmb IAmb 04 46 20.1
comp=Z,32nm,0.8s
AB31 Akbulak array 29.05 51 P **P** **04 45 55.8 -0.2**
ABKAR Akbulak array 29.05 51 P **P** **04 45 56.4 +0.4**
UMZA Um Al Zommool 29.08 107 P **P** **04 45 57.7 +1.1**
MCD Coleburn Disti 29.19 328 *e*P **P** **04 45 56.2 -1.0**
MOL Molde 29.37 344 *e*P **P** **04 45 58.6 0.0**
LAWE Loch Awe, Argy 29.40 325 *e*P **P** **04 45 58.4 -0.7**
SOHO SOHO 29.43 104 P **P** **04 46 00.5 +0.9**
SOHO S **S** **04 50 48.2 -0.1**
SOHO SOHO 29.43 104 *i* P **P** **04 46 00.6 +0.9**
SNR=21
ARQ Araqi 29.82 105 P **P** **04 46 04.3 +1.1**
SNR=20
IDGL Inch Island, C 29.83 322 P **P** **04 46 04.5 +1.6**
VAL Valentia 30.07 314 P **P** **04 46 04.9 -0.1**
KPL Plockton 30.11 327 *e*P **P** **04 46 04.2 -1.0**
IGLA Glengowla, Co 30.11 318 P **P** **04 46 04.8 -0.5**
NSS Namsos 30.28 349 *e*P **P** **04 46 05.2 -1.5**
HOQ Hoqain 30.32 104 P **P** **04 46 08.0 +0.4**
TORD Torodi Ar. Bea 30.52 229 P **P** **04 46 09.0 -0.3**
TORD Torodi Ar. Bea 30.52 229 P **P** **04 46 09.1 -0.3**
comp=Z,8.0nm,0.2s,baz=33,slow=8.6,SNR=398
TORD pP **pP** **04 46 27.4 +0.2**
comp=Z,43nm,0.6s,baz=35,slow=8.7,SNR=19
TORD ScP **ScP** **04 52 41.2 -1.1**
comp=Z,3.7nm,0.8s,baz=23,slow=4.7,SNR=9.4
comp=Z,8.0nm,0.2s
DOK Doka 30.67 115 P **P** **04 46 11.5 +0.8**
WHFO Wadi Hawf 30.84 117 P **P** **04 46 13.0 +0.8**
ABTO Aybut 30.86 118 P **P** **04 46 13.6 +1.1**
ARTI Arti 30.87 37 P **P** **04 46 11.8 -0.3**
ARTI Arti 30.87 37*c i*P **P** **04 46 11.6 -0.4**
ARTI *PP **pP** **04 46 30.1 +0.3**
ARTI 04 47 12.1
ARTI 04 49 03.9
ARTI S **S** **04 51 10.0 -0.2**
ARTI pmax pmax
comp=Z,85nm,0.6s
ARTI Arti 30.87 37 ⇑P **P** **04 46 11.6 -0.4**
ARTI Arti 30.87 37 P **P** **04 46 11.7 -0.3**
ARTI pP **pP** **04 46 29.9 +0.1**
BIDO Bidbid 31.00 103 P **P** **04 46 14.9 +1.3**
BIDO S **S** **04 51 12.6 -0.4**
LEWI Lewis, Hebride 31.10 327 *e*P **P** **04 46 13.2 -0.8**
SMDO Samad 31.17 104 P **P** **04 46 15.8 +0.6**
RBK Rabkut 31.43 117 P **P** **04 46 18.7 +1.3**
MOR8 Moi Rana 31.50 352 *e*P **P** **04 46 15.6 -1.9**
JMDO Jabal Madar 31.57 105 P **P** **04 46 19.1 +0.5**
LEIR Leirfjorden 31.60 351 *e*P **P** **04 46 16.9 -1.5**
STOK Stokkvaagen 31.83 351 *e*P **P** **04 46 19.2 -1.1**
DMTO DMTO 31.84 116 P **P** **04 46 21.7 +0.7**
KONS Konsvik 31.97 351 *e*P **P** **04 46 20.9 -0.7**
WBK Wadi Bani Khal 32.13 104 P **P** **04 46 22.8 +2.2**
VAGH Vaagaholmen 32.17 351 *e*P **P** **04 46 22.5 -0.8**
SVE Sverdlovsk 32.18 37*de*P **P** **04 46 23.7 +0.2**
SVE pmax pmax
comp=Z,208nm,0.6s
MHTO MHTO 32.20 108 P **P** **04 46 25.2 +1.1**
DQM DQM 32.46 110 P **P** **04 46 27.2 +0.8**
FAUS Fauske 32.58 353 *e*P **P** **04 46 25.2 -1.7**
APA Apatity 32.63 6 *e*P **P** **04 46 25.2 -2.2**
APA *e*S **S** **04 51 33.5 -3.9**
APA MLR MLR
comp=Z,919nm,4.3s
JLN Jalan Bani Buh 32.72 104 P **P** **04 46 29.7 +1.1**
LVZ Lovozero 33.07 7 P **P** **04 46 30.3 -0.9**
LVZ Lovozero 33.07 7*c i*P **P** **04 46 30.0 -1.2**
LVZ pmax pmax
comp=Z,60nm,0.8s
LVZ Lovozero 33.07 7 ⇑P **P** **04 46 30.3 -0.9**
STEI Steigen 33.11 353 *e*P **P** **04 46 30.2 -1.3**
LODK Lodwar 33.17 161 P **P** **04 46 34.1 +1.4**
KTK1 Kautokeino 33.74 359 *e*P **P** **04 46 36.4 -0.6**
ARA0 ARCESS Array S 34.25 0 *e*P **P** **04 46 40.1 -1.4**
ARCES ARCESS Array B 34.25 0 P **P** **04 46 40.0 -1.5**
ARCES IAmb IAmb 04 46 40.8
comp=Z,20nm,0.6s
ARCES PcP **PcP** **04 49 16.5 +0.3**
ARCES ARCESS Array B 34.25 0 P **P** **04 46 40.1 -1.4**
comp=Z,17nm,0.4s,baz=172,slow=9.6,SNR=260
ARCES pP **pP** **04 46 59.5 +0.3**
comp=Z,9.2nm,0.6s,baz=183,slow=8.5,SNR=4.4
ARCES PcP **PcP** **04 49 16.4 +0.3**
comp=Z,6.9nm,0.6s,baz=169,slow=3.5,SNR=6.9
ARCES LR LR 05 01 19.4
comp=Z,131nm,20.0s,baz=151,slow=37
comp=Z,17nm,0.4s
JETT Jettan, Norway 34.37 357 *e*P **P** **04 46 41.3 -1.1**
TRO Tromso 34.51 356 *e*P **P** **04 46 42.5 -1.2**
VADS Vadso 34.92 3 *e*P **P** **04 46 46.5 -0.7**
SIMJ Simiganj 35.03 71 P **P** **04 46 49.9 +1.1**
HAMF Hammerfest 35.37 359 *e*P **P** **04 46 49.7 -1.4**
IUG Iuzhnay 35.43 65 *e*P **P** **04 46 53.0 +1.0**
IUG pmax pmax
comp=Z,37nm,0.7s
IUG Iuzhnay 35.43 65 *e*P **P** **04 46 53.0 +1.0**
comp=Z,37nm,0.7s
KK31 Karatay Array 35.72 63 P **P** **04 46 55.6 +1.1**
KK31 Karatay Array 35.72 63 P **P** **04 46 55.6 +1.1**
KK31 pmax pmax
comp=Z,67nm,0.7s
KKAR Karatay Array 35.72 63 P **P** **04 46 55.3 +0.9**
KKAR Karatay Array 35.72 63 P **P** **04 46 55.3 +0.9**
GAR Garm 35.99 70 P **P** **04 46 58.2 +1.3**
BRVK Borovoye 36.25 46 P **P** **04 46 59.4 +0.7**
BRVK IAmb IAmb 04 47 00.6
comp=Z,32nm,0.8s
BRVK Borovoye 36.25 46 P **P** **04 46 59.5 +0.7**
BRVK Borovoye 36.25 46 P **P** **04 46 59.4 +0.7**
BRVK pmax pmax
comp=Z,32nm,0.9s
BRVK Borovoye 36.25 46 ⇑P **P** **04 46 59.5 +0.7**
BRVK Borovoye 36.25 46 P **P** **04 46 59.4 +0.7**
BVAR Borovoye Array 36.30 47 P **P** **04 46 59.8 +0.5**
comp=Z,23nm,0.8s,baz=258,slow=5.9,SNR=89
BVAR LR LR 05 03 58.2
comp=Z,85nm,21.9s,baz=250,slow=40
comp=Z,23nm,0.8s
DZA Taraz 36.34 64 *e*P **P** **04 47 00.6 +0.9**
DZA pmax pmax
comp=Z,22nm,0.6s
DZA Taraz 36.34 64 *e*P **P** **04 47 00.6 +0.9**
comp=Z,22nm,0.6s
BRZS Berezniki 37.32 52 *e*P **P** **04 47 08.5 +0.6**
BRZS Berezniki 37.32 52 *e*P **P** **04 47 08.6 +0.6**
ARSB Arslanbob 37.71 66 P **P** **04 47 13.2 +1.7**
ARSB PcP **PcP** **04 49 28.6 +1.4**
ARSB Arslanbob 37.71 66 P **P** **04 47 13.2 +1.7**
ARSB 04 49 28.6
ARSB pmax pmax
comp=Z,71nm,0.6s
EKS2 Erkin-Say 38.15 64 P **P** **04 47 17.0 +1.8**
SNR=89
BTLS Baital 38.17 60 *e*P **P** **04 47 16.0 +0.9**
BTLS pmax pmax
comp=Z,29nm,0.8s
BTLS Baital 38.17 60 *e*P **P** **04 47 16.1 +0.9**
comp=Z,29nm,0.8s
USP Ospenovka 38.62 63 P **P** **04 47 19.8 +0.8**
SNR=22
AAK Ala-Archa 38.68 64 P **P** **04 47 21.5 +1.8**
SNR=28
AAK Ala-Archa 38.68 64 P **P** **04 47 21.7 +2.1**
AAK Ala-Archa 38.68 64 P **P** **04 47 21.4 +1.8**
AAK Ala-Archa 38.68 64*c i*P **P** **04 47 21.4 +1.8**
AAK pmax pmax
comp=Z,62nm,0.7s
AAK Ala-Archa 38.68 64 *i* P **P** **04 47 21.7 +2.1**
SNR=7.9
AAK Ala-Archa 38.68 64 ⇑P **P** **04 47 21.5 +1.8**
AAK Ala-Archa 38.68 64 P **P** **04 47 21.5 +1.8**
AAK pP **pP** **04 47 38.6 +0.7**
SGDS Sogindy 38.70 63 *e*P **P** **04 47 20.8 +1.1**
comp=Z,19nm,0.6s
UCH Uchtor 38.74 64 P **P** **04 47 22.2 +1.7**
SNR=37
CHMS Chumysh 38.83 63 P **P** **04 47 22.4 +1.7**
SNR=22
KBK Karagaybulak 39.01 64 P **P** **04 47 24.4 +2.0**
SNR=10
TKM2 Tokmak 2 39.45 63 P **P** **04 47 27.5 +1.3**
SNR=65
NIL Nilore 39.48 78 P **P** **04 47 27.1 +0.9**
NIL Nilore 39.48 78 P **P** **04 47 28.0 +1.7**
NIL Nilore 39.48 78 P **P** **04 47 27.1 +0.9**
NIL pmax pmax
comp=Z,61nm,1.0s
DBIC Dimbokro 39.59 231 P **P** **04 47 26.7 -0.6**
DBIC pP **pP** **04 47 45.4 -0.3**
DBIC Dimbokro 39.59 231 P **P** **04 47 26.7 -0.6**
comp=Z,3.5nm,0.3s,baz=65,slow=8.4,SNR=20
DBIC pP **pP** **04 47 45.4 -0.3**
comp=Z,24nm,0.6s,baz=65,slow=9.4,SNR=12
DBIC LR LR 05 06 36.9
comp=Z,72nm,19.0s,baz=30,slow=40
comp=Z,3.5nm,0.3s
DBIC Dimbokro 39.59 231 ⇓P **P** **04 47 26.9 -0.4**
BOOM Boomskoye usch 39.76 64 P **P** **04 47 30.4 +1.7**
BOOM Boomskoye usch 39.76 64 P **P** **04 47 30.4 +1.7**
BOOM pmax pmax
comp=Z,50nm,0.7s
KUU Kurty 39.89 62 *e*P **P** **04 47 30.6 +1.1**
KUU pmax pmax
comp=Z,20nm,0.7s
KUU Kurty 39.89 62 *e*P **P** **04 47 30.7 +1.1**
comp=Z,20nm,0.7s
ULHL Ulahol 40.01 64 P **P** **04 47 33.0 +2.2**
SNR=155
KSH Kashi 40.24 68 P **P** **04 47 32.5 -0.1**
KSH pP pP 04 47 52.5 +1.5
KSH pmax pmax
comp=Z,24nm,0.7s
BORG Borgarnes 40.34 331 LR LR 05 06 38.9
comp=Z,58nm,19.4s,baz=115,slow=40
AAA Alma-Ata 40.38 63 *e*P **P** **04 47 34.5 +0.8**
AAA pmax pmax
comp=Z,17nm,0.4s
AAA Alma-Ata 40.38 63 *e*P **P** **04 47 34.5 +0.8**
comp=Z,17nm,0.4s
TNSS Tian-Shan 40.42 63 *e*P **P** **04 47 34.9 +0.5**
TNSS Tian-Shan 40.42 63 *e*P **P** **04 47 34.9 +0.5**
KURBB Kurchatov Arra 41.09 51 P **P** **04 47 40.0 +0.6**
comp=Z,83nm,0.7s,baz=275,slow=8.6,SNR=635
KURBB PP **PP** **04 49 16.7 +1.4**
comp=Z,25nm,0.9s,baz=272,slow=11,SNR=11
KURBB PcP **PcP** **04 49 37.4 -0.1**
comp=Z,11nm,0.8s,baz=268,slow=4.3,SNR=5.2
KURBB ScP **ScP** **04 53 19.7 -0.7**
comp=Z,0.9nm,0.7s,baz=270,slow=4.6,SNR=2.1
KURBB LR LR 05 08 56.5
comp=Z,67nm,18.1s,baz=186,slow=42
comp=Z,83nm,0.7s
KURBB Kurchatov Arra 41.09 51 P **P** **04 47 39.6 +0.3**
KURK Kurchatov 41.15 51 P **P** **04 47 40.5 +0.7**
KURK Kurchatov 41.15 51 P **P** **04 47 40.4 +0.5**
KURK Kurchatov 41.15 51*c i*P **P** **04 47 40.2 +0.4**
KURK pmax pmax
comp=Z,55nm,0.7s
KURK Kurchatov 41.15 51 ⇑P **P** **04 47 40.3 +0.5**
KURK Kurchatov 41.15 51 P **P** **04 47 40.3 +0.4**
TDK Taldyqorghan 41.25 60 *e*P **P** **04 47 41.6 +0.8**
TDK pmax pmax
comp=Z,29nm,0.7s
TDK Taldyqorghan 41.25 60 *e*P **P** **04 47 41.6 +0.8**
comp=Z,29nm,0.7s
SATY Saty 41.48 63 *e*P **P** **04 47 43.6 +0.8**
SATY pmax pmax
comp=Z,33nm,0.6s
SATY Saty 41.48 63 *e*P **P** **04 47 43.7 +0.8**
comp=Z,34nm,0.6s
KPKS Kokpek 41.63 62 *e*P **P** **04 47 44.8 +0.9**
KPKS Kokpek 41.63 62 *e*P **P** **04 47 44.9 +0.9**
UZB Uzynbulak 41.92 62 *e*P **P** **04 47 47.2 +0.9**
UZB pmax pmax
comp=Z,17nm,0.7s
UZB Uzynbulak 41.92 62 *e*P **P** **04 47 47.3 +0.9**
comp=Z,17nm,0.7s
PDGK Podgornoye 42.23 62 P **P** **04 47 49.6 +0.7**
SHLS Shalkode 42.23 62 *e*P **P** **04 47 52.3 +3.4**
SHLS pmax pmax
comp=Z,14nm,0.4s
SHLS Shalkode 42.23 62 *e*P **P** **04 47 52.3 +3.4**
comp=Z,14nm,0.4s
BBTS Babate 42.53 252 LR LR 05 07 41.0
comp=Z,144nm,19.8s,baz=72,slow=39
SPB2 Spitsbergen Ar 43.10 357 P **P** **04 47 54.8 -0.5**
SPB2 IAmb IAmb 04 48 29.8
comp=Z,22nm,0.9s
SPITS Spitsbergen Ar 43.10 357 P **P** **04 47 55.2 -0.1**
comp=Z,2.8nm,0.3s,baz=148,slow=9.6,SNR=26
SPITS ScP **ScP** **04 53 26.7 -1.4**
comp=Z,2.8nm,0.6s,baz=160,slow=11,SNR=3.0
comp=Z,2.8nm,0.3s
SPITS Spitsbergen Ar 43.10 357 P **P** **04 47 54.6 -0.8**
SPITS pmax pmax
comp=Z,17nm,0.8s
SCO Scoresbysund 43.13 339 P **P** **04 47 56.9 +1.3**
SCO IAmb IAmb 04 48 04.3
comp=Z,62nm,1.3s
SCO Scoresbysund 43.13 339 P **P** **04 47 56.9 +1.3**
SCO pmax pmax
comp=Z,62nm,1.3s
SCO Scoresbysund 43.13 339 *i* P **P** **04 47 57.1 +1.5**
SCO IAmb IAmb 04 48 04.0
comp=Z,48nm,1.2s
MAKZ Makanchi 43.55 57 P P 04 47 53.2 -6.2
MAKZ Makanchi 43.55 57 P **P** **04 48 00.3 +0.9**
MAKZ pP **pP** **04 48 17.9 -0.1**
MK31 Makanchi Array 43.77 57*c i*P **P** **04 48 02.1 +1.0**
MKAR Makanchi Array 43.77 57 P **P** **04 48 02.2 +1.0**
comp=Z,33nm,0.3s,baz=264,slow=7.9,SNR=490
MKAR pP **pP** **04 48 20.5 +0.8**
comp=Z,71nm,1.1s,baz=272,slow=7.2,SNR=3.4
MKAR PcP **PcP** **04 49 47.0 +0.4**
comp=Z,12nm,0.5s,baz=267,slow=4.0,SNR=5.5
MKAR ScP **ScP** **04 53 30.1 -1.3**
comp=Z,1.1nm,0.7s,baz=280,slow=3.5,SNR=3.6
MKAR LR LR 05 09 13.7
comp=Z,52nm,20.0s,baz=281,slow=40
comp=Z,33nm,0.3s
KBS Kingsbay 44.03 356 P **P** **04 48 02.7 -0.1**
KBS Kingsbay 44.03 356*d i*P **P** **04 48 02.5 -0.2**
KBS pmax pmax
comp=Z,61nm,2.7s
KBS Kingsbay 44.03 356 ⇓P **P** **04 48 02.6 -0.2**
KBS Kingsbay 44.03 356 *i* P **P** **04 48 02.6 -0.2**
ZAA0 Zalesovo Array 44.96 46 P **P** **04 48 10.6 +0.1**
ZALV Zalesovo Beam 44.96 46 P **P** **04 48 10.7 +0.2**
comp=Z,154nm,0.4s,baz=267,slow=9.3,SNR=463
ZALV PP **PP** **04 49 57.2 +0.6**
comp=Z,21nm,0.8s,baz=278,slow=10,SNR=4.5
ZALV ScP **ScP** **04 53 34.9 -1.1**
comp=Z,0.7nm,0.4s,baz=282,slow=7.2,SNR=2.1
ZALV S **S** **04 54 39.2 -3.7**
comp=Z,1.0nm,0.5s,baz=242,slow=14,SNR=2.1
ZALV LR LR 05 11 07.5
comp=Z,32nm,18.2s,baz=272,slow=41
ZSN Zaisan 45.44 55 *e*P **P** **04 48 15.2 +0.8**
ZSN Zaisan 45.44 55 *e*P **P** **04 48 15.3 +0.8**
DAG Danmarks Havn 45.85 347 *i* P **P** **04 48 16.6 -0.6**
DAG IAmb IAmb 04 48 19.3
comp=Z,5.8nm,0.8s
WMQ Urumqi 48.01 60 *e*P **P** **04 48 35.8 +1.2**
WMQ pmax pmax
comp=Z,62nm,0.7s
NOR Nord 48.75 353 *i* P **P** **04 48 38.6 -1.0**
NOR IAmb IAmb 04 48 40.9
comp=Z,5.6nm,0.6s
SUMG Summit 48.77 339 P **P** **04 48 41.2 +0.8**
SUMG IAmb IAmb 04 48 46.9
comp=Z,31nm,1.0s
SUMG Summit 48.77 339 P **P** **04 48 41.2 +0.8**
SUMG pmax pmax
comp=Z,31nm,1.0s
SUMG Summit 48.77 339 *i* P **P** **04 48 41.0 +0.6**
SUMG IAmb IAmb 04 48 47.1
comp=Z,28nm,0.9s
LSZ Lusaka 50.43 176 LR LR 05 12 49.1
comp=Z,93nm,18.8s,baz=346,slow=39
HYB Hyderabad 50.56 96 *e*P **P** **04 48 54.9 +0.6**
SFJD Kangerlussuaq 52.47 331 LR LR 05 12 39.2
comp=Z,40nm,18.2s,baz=94,slow=37
ILULI Ilulissat 52.56 334 *i* P **P** **04 49 09.2 +0.7**
ILULI IAmb IAmb 04 49 10.4
comp=Z,15nm,0.8s
NEEM North Greenlan 52.78 345 *i* P **P** **04 49 10.0 -0.3**
NEEM IAmb IAmb 04 49 10.5
comp=Z,12nm,0.6s
UPNV Upernavik 54.05 339 *i* P **P** **04 49 19.0 -0.3**
UPNV IAmb IAmb 04 49 26.1
comp=Z,13nm,0.7s
KULLO Kullorsuaq 54.24 341 *i* P **P** **04 49 20.4 -0.3**
KULLO IAmb IAmb 04 49 27.4
comp=Z,14nm,0.8s
TSUM Tsumeb 54.70 189 LR LR 05 15 01.7
comp=Z,242nm,19.2s,baz=3.0,slow=38
LSA Lhasa 55.13 76 P **P** **04 49 29.5 +1.1**
LSA Lhasa 55.13 76 P **P** **04 49 29.7 +1.4**
LSA Lhasa 55.13 76 P **P** **04 49 29.5 +1.1**
LSA pmax pmax
comp=Z,71nm,0.7s
LSA Lhasa 55.13 76 *i* P **P** **04 49 29.8 +1.4**
SNR=19
LSA Lhasa 55.13 76 P **P** **04 49 29.7 +1.4**
GOMU GeErMu 55.46 67 P **P** **04 49 31.0 +0.5**
GOMU pP pP 04 49 50.0 +0.2
GOMU sP sP 04 49 59.5 +1.1
GOMU PcP **PcP** **04 50 30.8 +0.9**
GOMU pmax pmax
comp=Z,23nm,1.1s
GRTLG Ghanzi 56.51 184 P **P** **04 49 38.1 +0.4**
ZAK Zakamensk 56.71 49 *e*P **P** **04 49 39.3 +0.4**
ZAK pmax pmax
comp=Z,26nm,1.0s
TULEG Thule 56.84 344 *i* P **P** **04 49 38.2 -1.1**
TULEG IAmb IAmb 04 49 43.8
comp=Z,25nm,1.1s
SHL Shillong 57.50 80 P **P** **04 49 44.4 -0.5**
SHL Shillong 57.50 80 P **P** **04 49 44.6 -0.3**
SHL Shillong 57.50 80 P **P** **04 49 44.4 -0.5**
SHL pmax pmax
comp=Z,64nm,0.9s
MREMI Moremi 57.64 177 P **P** **04 49 46.4 +0.8**
GTA Gaotai 57.98 62 P **P** **04 49 48.5 +0.5**
GTA pP pP 04 50 10.3 +2.9
GTA pmax pmax
comp=Z,86nm,0.7s
PALK Pallekele 58.01 105 LR LR 05 17 02.6
comp=Z,37nm,19.0s,baz=282,slow=38
BRDH Bariadhala 58.64 83 LR LR 05 17 49.0
comp=Z,56nm,20.6s,baz=358,slow=39
SONM Songino Array 59.46 51 P **P** **04 49 58.8 +0.7**
SONM Songino Array 59.46 51 P **P** **04 49 58.9 +0.7**
comp=Z,35nm,0.6s,baz=290,slow=7.3,SNR=170
SONM pP **pP** **04 50 18.4 +0.7**
comp=Z,5.6nm,0.6s,baz=287,slow=9.1,SNR=3.2
comp=Z,35nm,0.6s
SONM Songino Array 59.46 51 P **P** **04 49 58.8 +0.7**
SONM pmax pmax
comp=Z,83nm,1.5s
ULN Ulaanbaatar 59.86 50 P **P** **04 50 01.8 +0.9**
ULN Ulaanbaatar 59.86 50 P **P** **04 50 01.9 +0.9**
ULN Ulaanbaatar 59.86 50*ce*P **P** **04 50 01.6 +0.6**
ULN *PP **pP** **04 50 21.0 +0.5**
ULN pmax pmax
comp=Z,37nm,0.6s
ULN Ulaanbaatar 59.86 50 P **P** **04 50 01.8 +0.9**
LBTB Lobatse 60.03 179 LR LR 05 15 60.0
comp=Z,58nm,18.5s,baz=0.0,slow=36
BOD Bodaibo 60.38 38⇓*i*P **P** **04 50 03.4 -0.7**
BOD pmax pmax
comp=Z,93nm,0.8s
TIXI Tiksi 61.04 21 LR LR 05 22 08.8
comp=Z,41nm,18.8s,baz=325,slow=41
TIXI Tiksi 61.04 21*ce*P **P** **04 50 07.8 -0.6**
TIXI pmax pmax
comp=Z,20nm,1.0s
LZH Lanzhou 62.22 64 *e*P **P** **04 50 18.5 +1.4**
LZH pP pP 04 50 38.5 +1.7
LZH sP sP 04 50 49.3 +3.9
LZH pmax pmax
comp=Z,100nm,1.1s
SCHQ Schefferville 62.98 320 P **P** **04 50 22.3 +0.6**
SCHQ IAmb IAmb 04 50 56.1
comp=Z,18nm,0.7s
SCHQ Schefferville 62.98 320 P **P** **04 50 22.3 +0.6**
comp=Z,16nm,0.7s,baz=66,slow=6.2,SNR=22
comp=Z,16nm,0.7s
TNCH TengChong 63.06 77 P **P** **04 50 23.8 +0.9**
TNCH pmax pmax
comp=Z,73nm,0.7s
TNCH pmax pmax
comp=Z,200nm,2.8s
BOSA Boshof 63.61 180 P **P** **04 50 26.5 +0.3**
BOSA IAmb IAmb 04 51 04.5
comp=Z,30nm,1.4s
BOSA Boshof 63.61 180 P **P** **04 50 26.2 +0.1**
comp=Z,5.0nm,0.7s,baz=350,slow=7.3,SNR=11
BOSA LR LR 05 19 24.4
comp=Z,75nm,20.2s,baz=4.5,slow=37
comp=Z,5.0nm,0.7s
BOSA Boshof 63.61 180 P **P** **04 50 26.5 +0.3**
BOSA pmax pmax
comp=Z,30nm,1.4s
GBN Guysborough 63.67 308 P **P** **04 50 27.1 +0.7**
GBN pP **pP** **04 50 47.4 +1.4**
GBN IAmb IAmb 04 50 50.9
comp=Z,27nm,1.0s
CD2 Chengdu 64.43 69 P **P** **04 50 32.5 +0.8**
CD2 pP pP 04 50 53.8 +2.4
CD2 pmax pmax
comp=Z,150nm,0.7s
BTO Baotou 64.68 57 *e*P **P** **04 50 33.5 +0.3**
BTO pP **pP** **04 50 53.0 +0.1**
BTO sP **sP** **04 51 01.5 +0.1**
BTO PP **PP** **04 52 58.0 +2.0**
BTO pmax pmax
comp=Z,160nm,0.7s
BTO pmax pmax
comp=Z,360nm,5.6s
PZH PanZhiHua 64.92 74 P **P** **04 50 35.3 +0.3**
PZH pmax pmax
comp=Z,150nm,0.7s
HAL Halifax 65.33 308 P **P** **04 50 38.5 +1.3**
HAL **pP** **04 50 57.7 +0.8**
HAL IAmb IAmb 04 50 59.9
comp=Z,27nm,0.8s
HAL Halifax 65.33 308 P **P** **04 50 38.5 +1.3**
HAL *PP **pP** **04 50 57.7 +0.8**
HAL pmax pmax
comp=Z,27nm,0.8s
ICQ Pointe Anglais 65.45 314 P **P** **04 50 38.3 +0.4**

ICQ IAmb IAmb 04 50 39.6
comp=Z,20nm,0.8s
LMN Caledonia Moun 65.57 310 P **P** **04 50 39.8 +1.1**
LMN **pP** **04 50 59.3 +0.8**
LMN IAmb IAmb 04 51 01.7
comp=Z,29nm,1.1s
HHC Hu-ho-hao-te 65.63 56⇑*iP* **P** **04 50 40.8 +1.4**
HHC pmax pmax
comp=Z,120nm,0.7s
HHC pmax pmax
comp=Z,55nm,3.9s
BATG Bathurst New B 65.72 312 P **P** **04 50 40.8 +1.1**
BATG IAmb IAmb 04 51 03.0
comp=Z,32nm,1.0s
YAK Yakutsk 65.78 30 P **P** **04 50 39.1 -0.7**
YAK Yakutsk 65.78 30 *e*P **P** **04 50 38.9 -0.8**
YAK *e**PP **pP** **04 50 59.8 +0.4**
YAK *e* 04 51 09.6
YAK *e* 04 53 04.1
YAK *e*S **S** **04 59 19.4 -0.6**
YAK *e**SS **sS** **04 59 55.7 +2.3**
YAK *e* 05 00 26.0
YAK pmax pmax
comp=Z,82nm,0.9s
YAK pmax pmax
comp=E,12nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=Z,75nm,2.9s
YAK smax smax
comp=N,15nm,1.7s
YAK smax smax
comp=E,12nm,1.3s
YAK Yakutsk 65.78 30 P **P** **04 50 39.0 -0.7**
KMI Kunming 66.37 75⇑P **P** **04 50 45.0 +0.5**
KMI pmax pmax
comp=E,27nm,0.7s
CHTO Chiang Mai 66.48 83 P **P** **04 50 45.2 +0.2**
CHTO IAmb IAmb 04 50 46.3
comp=Z,22nm,0.8s
CHTO Chiang Mai 66.48 83 P **P** **04 50 45.4 +0.4**
CHTO Chiang Mai 66.48 83 P **P** **04 50 45.5 +0.5**
CHTO Chiang Mai 66.48 83 P **P** **04 50 45.2 +0.2**
CHTO pmax pmax
comp=Z,22nm,0.8s
CHTO Chiang Mai 66.48 83 P **P** **04 50 45.2 +0.2**
CMAR Chiang Mai Arr 66.66 83 P **P** **04 50 46.5 +0.4**
comp=Z,21nm,0.8s,baz=300,slow=8.0,SNR=110
comp=Z,21nm,0.8s
XAN Xi'an 66.86 64 P **P** **04 50 47.0 -0.2**
XAN sP PcP 04 51 15.0 -0.5
XAN pmax pmax
comp=Z,44nm,0.9s
HIA Hailar 66.98 45 P **P** **04 50 48.4 +0.7**
HIA Hailar 66.98 45 P **P** **04 50 48.6 +0.9**
HIA Hailar 66.98 45 P **P** **04 50 48.4 +0.7**
HIA pmax pmax
comp=Z,52nm,0.9s
HIA Hailar 66.98 45 P **P** **04 50 48.7 +1.0**
HIA pP **pP** **04 51 08.6 +1.0**
G65A Princeton 67.60 310 P **P** **04 50 53.5 +1.9**
G65A **pP** **04 51 13.0 +1.5**
D62A Allapoint, All 67.62 313 P **P** **04 50 53.5 +1.7**
D62A IAmb IAmb 04 51 15.5
comp=Z,20nm,0.9s
EMMW East Machias 67.76 310 P **P** **04 50 54.0 +1.3**
EMMW **pP** **04 51 12.6 +0.1**
EMMW IAmb IAmb 04 51 15.5
comp=Z,16nm,0.9s
F64A Sherman 67.77 311 P **P** **04 50 54.2 +1.4**
LDAQ Lac Daran 68.51 314 P **P** **04 50 58.6 +1.2**
LDAQ pP **pP** **04 51 17.8 +0.5**
PKME Peaks-Kenny Pk 68.64 311 P **P** **04 51 00.5 +2.3**
PKME **pP** **04 51 18.6 +0.5**
GYA Guiyang 68.79 72⇓P **P** **04 51 00.3 +0.7**
GYA pmax pmax
comp=Z,61nm,1.0s
ENH Enshi 69.08 67 P **P** **04 51 02.1 +0.9**
ENH Enshi 69.08 67 P **P** **04 51 01.7 +0.5**
ENH Enshi 69.08 67 P **P** **04 51 01.9 +0.7**
ENH sP **sP** **04 51 30.1 +0.5**
BJI Beijing 69.12 55 P **P** **04 51 01.3 +0.1**
BJI PcP **PcP** **04 51 25.3 +0.6**
BJI pmax pmax
comp=Z,29nm,0.6s
BJI pmax pmax
comp=Z,28nm,3.9s
BJT Baijiatuau 69.13 55 P **P** **04 51 02.0 +0.7**
BJT Baijiatuau 69.13 55 P **P** **04 51 02.3 +1.0**
BJT Baijiatuau 69.13 55 P **P** **04 51 02.0 +0.7**
BJT pmax pmax
comp=Z,41nm,0.7s
BJT Baijiatuau 69.13 55 P **P** **04 51 01.9 +0.6**
BJT sP **sP** **04 51 29.9 +0.3**
SLVN Son La 69.19 78 P **P** **04 51 02.6 +0.6**
SLVN IAmb IAmb 04 51 03.8
comp=Z,24nm,0.7s
SLVN Son La 69.19 78 P **P** **04 51 03.0 +0.9**
LYN LuoYang 69.20 62 P **P** **04 51 02.8 +1.0**
LYN pmax pmax
comp=Z,48nm,0.6s
HNS HongShan 69.40 58⇑P **P** **04 51 04.0 +1.0**
HNS pmax pmax
comp=Z,43nm,0.9s
H62A Milan 70.13 311 P **P** **04 51 08.2 +0.8**
H62A **pP** **04 51 26.9 -0.4**
H62A IAmb IAmb 04 51 31.3
comp=Z,20nm,1.1s
RCBR Riachuelo 70.29 247 LR LR 05 22 52.3
comp=Z,28nm,18.6s,baz=72,slow=37
BLKN Baker Lake 70.45 337 P **P** **04 51 08.6 -0.3**
HEH HeiHe 70.80 42 *e*P **P** **04 51 11.8 +0.5**
HEH pmax pmax
comp=Z,96nm,0.8s
A36M Sachs Harbour 70.95 351 P **P** **04 51 12.3 +0.5**
A36M IAmb IAmb 04 51 16.4
comp=Z,25nm,0.8s
A36M Sachs Harbour 70.95 351 P **P** **04 51 10.6 -1.2**
baz=25
TRQ Mont Tremblant 71.34 314 P **P** **04 51 16.2 +1.4**
TRQ IAmb IAmb 04 51 39.1
comp=Z,16nm,0.8s
HRV Adam Dziewonsk 71.44 309 P **P** **04 51 15.9 +0.5**
HRV Adam Dziewonsk 71.44 309 P **P** **04 51 15.9 +0.5**
HRV pmax pmax
comp=Z,12nm,1.0s
TIA Tai'an 71.67 58 P **P** **04 51 17.3 +0.4**
TIA pmax pmax
comp=Z,52nm,0.8s
VLDQ Val d'Or 72.00 317 P **P** **04 51 20.3 +1.7**
VLDQ IAmb IAmb 04 51 21.4
comp=Z,17nm,0.7s
LONY Lake Ozonia 72.20 312 P **P** **04 51 21.0 +1.0**
WHN Wuhan 72.57 65⇓P **P** **04 51 23.3 +1.0**
BILL Bilibino 72.92 14*ceP* **P** **04 51 23.3 -0.4**
BILL pmax pmax
comp=Z,16nm,0.9s
CN2 Changchun 73.14 48 P **P** **04 51 27.0 +1.5**
CN2 pmax pmax
comp=Z,40nm,0.7s
BNX BinXian 73.25 46⇑P **P** **04 51 26.0 -0.1**
BNX pmax pmax
comp=Z,100nm,0.8s
DL2 Dalian 73.33 54 P **P** **04 51 26.8 +0.1**
DL2 pmax pmax
comp=Z,53nm,0.7s
SEY Seymchan 73.44 22*c iP* **P** **04 51 27.5 +0.7**
SEY pmax pmax
comp=Z,24nm,0.9s
A21K Barrow 73.63 1 P **P** **04 51 28.7 +0.8**
baz=359
J57A Williamstown 73.72 312 IAmb IAmb 04 51 52.4
comp=Z,14nm,0.7s
L59A Walton 73.79 310 IAmb IAmb 04 51 53.1
comp=Z,20nm,0.8s
A22K Sinclair Lake 73.96 360 P **P** **04 51 30.5 +0.7**
baz=0.1
BINY Binghamton 74.38 311 IAmb IAmb 04 51 56.8
comp=Z,22nm,0.9s
KSPA Keystone Colle 74.59 310 IAmb IAmb 04 51 58.0
comp=Z,23nm,1.0s
B22K Teshekpuk Lake 74.62 359 IAmb IAmb 04 52 01.0
comp=Z,14nm,0.7s
B22K Teshekpuk Lake 74.62 359 P **P** **04 51 34.5 +0.9**
baz=1.4
A19K Wainwright 74.67 2 P **P** **04 51 34.8 +0.9**
baz=355
C26K Camden Bay 74.79 356 P **P** **04 51 35.8 +1.2**
baz=8.6
SADO Sadowa 74.83 314 IAmb IAmb 04 51 37.4
comp=Z,14nm,0.7s
SADO Sadowa 74.83 314 LR LR 05 24 49.4
comp=Z,35nm,19.6s,baz=82,slow=36
B20K Meade River 74.95 1 P **P** **04 51 36.5 +1.0**
baz=358
D28M Stokes Point 74.95 354 P **P** **04 51 36.5 +1.0**
baz=14
C27K Jago River 75.02 356 P **P** **04 51 36.7 +0.7**
baz=9.6,SNR=14
NJ2 Nanjing 75.06 61⇑P **P** **04 51 37.0 +0.1**
NJ2 pmax pmax
comp=Z,24nm,0.7s
C23K Itkillik River 75.08 358 IAmb IAmb 04 52 03.7
comp=Z,21nm,0.8s
C23K Itkillik River 75.08 358 P **P** **04 51 37.7 +1.4**
baz=3.7,SNR=13
C24K Franklin Bluff 75.15 358 P **P** **04 51 37.8 +1.1**
baz=5.3
MDJ Mudanjiang 75.16 46 IAmb IAmb 04 51 39.4
comp=Z,22nm,0.6s
MDJ Mudanjiang 75.16 46 P **P** **04 51 38.5 +1.3**
MDJ pmax pmax
comp=Z,36nm,0.7s
MDJ Mudanjiang 75.16 46 P **P** **04 51 39.0 +1.8**
GRNR Gornyy 75.20 38⇑*iP* **P** **04 51 37.8 +0.4**
GRNR pmax pmax
comp=Z,30nm,0.8s
D27M Malcolm River 75.21 355 P **P** **04 51 37.7 +0.5**
baz=12
KULM Kulim 75.24 94 P **P** **04 51 38.6 +0.5**
PSI Prapat 75.26 97 P **P** **04 51 39.0 +0.6**
RPSI Rantau Prapat 75.32 97 IAmb IAmb 04 51 39.6
comp=Z,47nm,1.7s
B21K Ikpikpuk River 75.35 360 IAmb IAmb 04 51 40.1
comp=Z,57nm,1.4s
B21K Ikpikpuk River 75.35 360 P **P** **04 51 38.5 +0.7**
baz=0.3
MA2 Magadan 75.37 25 P **P** **04 51 38.2 +0.1**
MA2 Magadan 75.37 25 LR LR 05 27 08.3
comp=Z,33nm,19.8s,baz=297,slow=38
MA2 Magadan 75.37 25 P **P** **04 51 39.0 +0.9**
MA2 Magadan 75.37 25*c iP* **P** **04 51 38.6 +0.5**
MA2 pmax pmax
comp=Z,59nm,0.9s
INK Inuvik 75.43 352 LR LR 05 27 21.2
comp=Z,18nm,19.5s,baz=53,slow=38
INK Inuvik 75.43 352 P **P** **04 51 38.2 0.0**
baz=18,SNR=8.4
D25K Kavik River 75.45 357 IAmb IAmb 04 51 40.6
comp=Z,25nm,1.3s
D25K Kavik River 75.45 357 P **P** **04 51 39.1 +0.6**
baz=7.3
B18K Kokolik River 75.48 2 P **P** **04 51 39.8 +1.2**
baz=354
M57A Sunshine Farm, 75.56 311 IAmb IAmb 04 52 03.2
comp=Z,29nm,0.8s
N58A Sunbury 75.59 310 IAmb IAmb 04 52 03.5
comp=Z,25nm,0.9s
D24K Happy Valley 75.72 358 IAmb IAmb 04 51 42.2
comp=Z,28nm,1.3s
D24K Happy Valley 75.72 358 P **P** **04 51 40.4 +0.4**
baz=5.2,SNR=6.3
E28M Babbage River 75.73 354 P **P** **04 51 40.6 +0.5**
baz=13,SNR=18
E29M Blow River 75.80 354 IAmb IAmb 04 51 43.0
comp=Z,31nm,0.8s
E29M Blow River 75.80 354 P **P** **04 51 41.3 +0.9**
baz=14,SNR=55
C19K Lookout Ridge 75.81 2 P **P** **04 51 40.9 +0.3**
baz=356
C21K Knifeblade Rid 75.81 360 P **P** **04 51 41.4 +0.9**
baz=0.2,SNR=8.8
WVNY West Valley, N 75.86 312 IAmb IAmb 04 52 05.2
comp=Z,31nm,0.9s
D23K Nanushuk River 75.96 358 IAmb IAmb 04 52 08.5
comp=Z,17nm,0.8s
D23K Nanushuk River 75.96 358 P **P** **04 51 42.0 +0.6**
baz=3.7,SNR=12
D22K Ayikyak River 76.08 359 IAmb IAmb 04 51 44.5
comp=Z,20nm,1.1s
D22K Ayikyak River 76.08 359 P **P** **04 51 42.3 +0.3**
baz=2.0,SNR=9.3
C18K Utukok River 76.22 2 IAmb IAmb 04 52 09.5
comp=Z,24nm,0.9s
C18K Utukok River 76.22 2 P **P** **04 51 43.4 +0.4**
baz=355,SNR=5.4
D20K Etivluk River 76.25 1 IAmb IAmb 04 52 09.8
comp=Z,20nm,0.8s
D20K Etivluk River 76.25 1 P **P** **04 51 43.4 +0.4**
baz=359,SNR=6.7
TOLK Toolik Lake Re 76.25 358 P **P** **04 51 43.5 +0.4**
baz=4.6
F31M Tsiigehtchic 76.28 352 P **P** **04 51 43.5 +0.4**
baz=18,SNR=22
E27K Coleen River 76.30 355 P **P** **04 51 44.1 +0.8**
baz=11,SNR=19
C17K DeLong Mountai 76.32 3 P **P** **04 51 44.1 +0.7**
baz=353
F30M Barrier River 76.34 353 IAmb IAmb 04 51 45.1
comp=Z,30nm,1.1s
F30M Barrier River 76.34 353 P **P** **04 51 44.0 +0.5**
baz=16,SNR=16
C16K Lisburne Hills 76.41 4 P **P** **04 51 44.1 +0.2**
baz=351
SSPA Standing Stone 76.44 310 P **P** **04 51 45.1 +0.5**
SSPA IAmb IAmb 04 52 08.0
comp=Z,17nm,0.8s
D19K Kuna River 76.45 1 IAmb IAmb 04 52 10.9
comp=Z,22nm,0.8s
D19K Kuna River 76.45 1 P **P** **04 51 44.8 +0.6**
baz=357,SNR=6.2
E21K Killik River 76.53 360 IAmb IAmb 04 52 11.4
comp=Z,15nm,0.7s
E20K Nigu River 76.71 0 P **P** **04 51 46.6 +0.9**
baz=359,SNR=11
F28M Old Crow 76.73 354 P **P** **04 51 46.3 +0.5**
baz=13,SNR=11
RDOG Red Dog Mine 76.75 3 P **P** **04 51 46.1 +0.3**
baz=353
E24K Your Creek 76.79 358 P **P** **04 51 46.8 +0.6**
baz=5.5
USA0B Ussuriysk Arra 76.79 45*c iP* **P** **04 51 46.7 +0.2**
USRK Ussuriysk Ar. 76.79 45 P **P** **04 51 46.7 +0.2**
comp=Z,113nm,0.6s,baz=292,slow=5.2,SNR=163
USRK pP **pP** **04 52 07.9 +1.2**
comp=Z,13nm,0.6s,baz=295,slow=5.3,SNR=3.0
comp=Z,113nm,0.6s
E22K Anaktuvuk Pass 76.81 359 IAmb IAmb 04 52 12.9
comp=Z,16nm,0.8s
E22K Anaktuvuk Pass 76.81 359 P **P** **04 51 46.7 +0.4**
baz=2.7,SNR=13
E46A Sault Ste Mari 76.82 318 IAmb IAmb 04 51 48.8
comp=Z,21nm,0.8s
G31M Satah River 76.84 352 IAmb IAmb 04 51 47.4
comp=Z,45nm,1.6s
G31M Satah River 76.84 352 P **P** **04 51 46.1 -0.2**
baz=17,SNR=12
E23K Chandalar 76.84 358 IAmb IAmb 04 51 48.9
comp=Z,25nm,1.2s
E23K Chandalar 76.84 358 P **P** **04 51 47.5 +1.1**
baz=4.5,SNR=17
F26K Sheenjek River 76.96 356 IAmb IAmb 04 51 49.6
comp=Z,26nm,1.3s
F26K Sheenjek River 76.96 356 P **P** **04 51 48.4 +1.4**
baz=9.1,SNR=20
G30M tAoh Zraii Nji 77.00 353 P **P** **04 51 47.5 +0.2**
baz=16,SNR=9.1
PSTR Posyet 77.02 47*c iP* **P** **04 51 47.8 0.0**
D17K Noatak River 77.10 3 P **P** **04 51 48.0 +0.3**
baz=353
F25K Christian Rive 77.14 356 P **P** **04 51 48.7 +0.6**
baz=7.8,SNR=21
P57A Homestead Farm 77.18 309 IAmb IAmb 04 52 12.5
comp=Z,22nm,0.9s
YKAW3 Yellowknife Wh 77.19 342 IAmb IAmb 04 51 49.7
comp=Z,21nm,0.7s
YKAW1 Yellowknife Wh 77.22 342 IAmb IAmb 04 51 49.8
comp=Z,17nm,0.8s
YKA Yellowknife Ar 77.24 342 P **P** **04 51 48.6 -0.1**
YKA Yellowknife Ar 77.24 342 P **P** **04 51 49.0 +0.3**
comp=Z,14nm,0.7s,baz=28,slow=5.7,SNR=78
YKA pP **pP** **04 52 09.4 +0.6**
comp=Z,1.0nm,0.5s,baz=111,slow=3.8,SNR=2.6
YKA LR LR 05 26 33.0
comp=Z,22nm,21.0s,baz=348,slow=36
comp=Z,14nm,0.7s
YKA Yellowknife Ar 77.24 342 P **P** **04 51 48.6 -0.1**
BMAR Burnt Mountain 77.25 356 P **P** **04 51 49.8 +1.1**
G29M Pine Creek 77.25 353 IAmb IAmb 04 52 14.8
comp=Z,27nm,0.8s
G29M Pine Creek 77.25 353 P **P** **04 51 48.9 +0.2**
baz=14,SNR=17
MSHR Mys Shultsa 77.27 47⇑*iP* **P** **04 51 49.0 -0.2**
MSHR pmax pmax
comp=Z,37nm,1.5s
F24K Squaw Lake 77.32 357 IAmb IAmb 04 52 16.4
comp=Z,20nm,0.8s
F24K Squaw Lake 77.32 357 P **P** **04 51 50.4 +1.3**
baz=6.0,SNR=22
F22K John River 77.45 359 P **P** **04 51 50.8 +1.0**
baz=2.4
E18K Tukpahlearik C 77.47 2 IAmb IAmb 04 51 51.5
comp=Z,38nm,1.4s
E18K Tukpahlearik C 77.47 2 P **P** **04 51 50.6 +0.7**
baz=355,SNR=6.3
E19K Redstone River 77.51 1 P **P** **04 51 50.9 +0.8**
baz=358,SNR=18
EPYK Eagle Plains 77.64 353 IAmb IAmb 04 52 16.8
comp=Z,20nm,0.9s
EPYK Eagle Plains 77.64 353 P **P** **04 51 51.0 +0.1**
baz=15,SNR=13
G27K Doyon Strip 77.66 355 P **P** **04 51 51.9 +0.9**
baz=11,SNR=22
TMAB Tom-Au,PA,Br 77.67 258 *e*P **P** **04 51 53.0 +1.2**
G26K Porcupine Rive 77.67 356 IAmb IAmb 04 52 18.4
comp=Z,17nm,0.8s
G26K Porcupine Rive 77.67 356 P **P** **04 51 52.6 +1.7**
baz=9.4,SNR=19
COLD Coldfoot 77.69 358 IAmb IAmb 04 52 18.4
comp=Z,23nm,1.2s
COLD Coldfoot 77.69 358 P **P** **04 51 52.0 +0.9**
baz=4.0,SNR=14
F21K Alatna River 77.75 359 IAmb IAmb 04 52 18.5
comp=Z,23nm,0.9s
F21K Alatna River 77.75 359 P **P** **04 51 52.5 +1.0**
baz=1.3
E17K Hotham Inlet 77.77 3 P **P** **04 51 51.6 +0.1**
baz=354
H31M Peel River 77.92 351 P **P** **04 51 52.8 +0.3**
baz=17,SNR=7.3
F20K Avaraart Lake 77.93 0 IAmb IAmb 04 51 54.5
comp=Z,38nm,1.6s
F20K Avaraart Lake 77.93 0 P **P** **04 51 53.1 +0.7**
baz=359
H29M Whitestone 77.96 353 P **P** **04 51 52.9 +0.3**
baz=14,SNR=12
G25K Bearman Lake 77.99 356 P **P** **04 51 54.0 +1.2**
baz=7.4,SNR=7.4
G22K Bettles 78.03 359 P **P** **04 51 53.9 +0.9**
baz=2.9
TBO Thunder Bay 78.07 322 IAmb IAmb 04 51 55.4
comp=Z,32nm,0.8s
G24K Hadweenzic Riv 78.12 357 P **P** **04 51 54.4 +0.9**
baz=6.3,SNR=12
F19K Shaleruckik Mo 78.13 1 IAmb IAmb 04 51 54.7
comp=Z,45nm,1.4s
F19K Shaleruckik Mo 78.13 1 P **P** **04 51 53.5 0.0**
baz=358
FYU Fort Yukon 78.14 356 IAmb IAmb 04 51 56.4
comp=Z,59nm,1.5s
TYV Tymovskoe 78.16 35 *e*P **P** **04 51 54.8 +0.8**
TYV pmax pmax
comp=Z,100nm,4.2s
TYV pmax pmax
comp=Z,14nm,1.0s
KS19 Wonju Array Si 78.20 52 P **P** **04 51 55.4 +0.9**
G23K Bananza Creek 78.20 358 IAmb IAmb 04 51 57.0
comp=Z,23nm,1.1s
G23K Bananza Creek 78.20 358 P **P** **04 51 54.9 +0.9**
baz=4.2,SNR=26
H27K Steamboat Moun 78.22 354 IAmb IAmb 04 52 21.3
comp=Z,15nm,0.8s
H27K Steamboat Moun 78.22 354 P **P** **04 51 55.3 +1.2**
baz=11,SNR=31
KSAR Wonju Array Be 78.24 52 P **P** **04 51 55.3 +0.6**
KSAR Wonju Array Be 78.24 52 P **P** **04 51 55.3 +0.6**
KSRS Korea Array 78.26 52 P **P** **04 51 55.5 +0.7**
comp=Z,40nm,0.8s,baz=307,slow=4.9,SNR=94
KSRS pP **pP** **04 52 16.4 +1.4**
comp=Z,9.7nm,0.6s,baz=312,slow=4.7,SNR=4.9
KSRS LR LR 05 31 17.9
comp=Z,17µm,18.1s,baz=300,slow=39
comp=Z,40nm,0.8s
F18K Selawik 78.32 2 P **P** **04 51 54.8 +0.3**
baz=356,SNR=5.4
F17K Baldwin Pennin 78.43 3 P **P** **04 51 55.4 +0.2**
baz=355
G21K Allakaket 78.46 359 IAmb IAmb 04 52 22.2
comp=Z,26nm,0.8s
G21K Allakaket 78.46 359 P **P** **04 51 56.2 +0.8**
baz=1.3,SNR=17
H25L Birch Creek 78.47 356 P **P** **04 51 56.9 +1.5**
baz=7.7,SNR=20
WRGLY Wrigley 78.59 346 P **P** **04 51 57.2 +1.0**
baz=26,SNR=23
PDSI Padang 78.67 99 P **P** **04 51 56.8 -0.6**
comp=Z,55nm,0.9s
I30M Mount Dempster 78.72 352 IAmb IAmb 04 51 58.6
comp=Z,25nm,1.1s
I30M Mount Dempster 78.72 352 P **P** **04 51 57.3 +0.3**
baz=15,SNR=32
I29M Ogilvie Camp, 78.79 353 IAmb IAmb 04 51 58.7
comp=Z,24nm,0.9s
I29M Ogilvie Camp, 78.79 353 P **P** **04 51 57.7 +0.5**
baz=14,SNR=36
G19K Purcell Mounta 78.83 1 IAmb IAmb 04 52 24.2
comp=Z,18nm,0.8s
G19K Purcell Mounta 78.83 1 P **P** **04 51 58.2 +0.7**
baz=358,SNR=13
I27K Kandik River 78.85 354 P **P** **04 51 58.4 +0.8**
baz=11,SNR=18
I28M Miner Creek 78.86 354 P **P** **04 51 57.9 +0.1**
baz=12,SNR=15
IMAR Indian Mountai 79.00 359 P **P** **04 51 59.1 +0.8**
F15K North Star Dit 79.00 4 P **P** **04 51 59.5 +1.1**
baz=352
H24K Noodor Dome 79.00 357 P **P** **04 51 59.5 +1.0**
baz=5.9,SNR=6.6
G18K Tagagawik 79.05 2 IAmb IAmb 04 52 00.3
comp=Z,31nm,1.2s
G18K Tagagawik 79.05 2 P **P** **04 51 59.0 +0.3**
baz=357,SNR=14
H22K Ishtalitna Cre 79.05 358 P **P** **04 52 00.1 +1.4**
baz=3.0,SNR=22
H23K Yukon River 79.07 358 IAmb IAmb 04 52 26.2
comp=Z,28nm,1.0s
H23K Yukon River 79.07 358 P **P** **04 52 00.3 +1.5**
baz=4.6,SNR=29
O52A Adamsville 79.18 312 IAmb IAmb 04 52 23.3
comp=Z,21nm,0.8s
CMC01 Camacan, BA 79.20 242 *e*P **P** **04 52 01.6 +1.5**
PRP Porcupine Dome 79.20 356 P **P** **04 52 00.3 +0.6**
baz=7.9
R55A Marlinton 79.21 309 IAmb IAmb 04 52 23.5
comp=Z,23nm,0.9s
Q54A Coxs Mills 79.24 310 IAmb IAmb 04 52 23.5
comp=Z,19nm,1.0s
I26K Coal Creek Min 79.26 355 IAmb IAmb 04 52 26.5
comp=Z,18nm,0.9s
I26K Coal Creek Min 79.26 355 P **P** **04 52 00.6 +0.8**
baz=9.8
F42A Maple Grove Fa 79.28 319 IAmb IAmb 04 52 02.1
comp=Z,17nm,0.7s
P53A Whipple 79.28 311 IAmb IAmb 04 52 24.3
comp=Z,19nm,0.8s
H21K Melozitna Rive 79.32 359 IAmb IAmb 04 52 27.5
comp=Z,21nm,0.8s
H21K Melozitna Rive 79.32 359 P **P** **04 52 01.1 +1.0**
baz=1.9,SNR=27
J30M Hart River 79.34 352 IAmb IAmb 04 52 02.5
comp=Z,34nm,0.9s
J30M Hart River 79.34 352 P **P** **04 52 01.4 +1.0**
baz=15,SNR=46
G17K Kiwalik Mounta 79.39 2 P **P** **04 52 00.6 +0.1**
baz=355,SNR=5.2
FFC Flin Flon 79.42 332 P **P** **04 52 01.6 +0.8**
FFC Flin Flon 79.42 332 P **P** **04 52 01.6 +0.8**
FFC pmax pmax
comp=Z,40nm,0.7s

G16K	Koyuk River	79.43	3	P		P	04 52 00.9	+0.3	
	baz=354								
H19K	Roundabout Mou	79.45	1	IAmb		IAmb	04 52 27.7		
	comp=Z,20nm,0.8s								
H19K	Roundabout Mou	79.45	1	P		P	04 52 01.1	+0.3	
	baz=359,SNR=11								
H20K	Anotleneega Mo	79.50	360	P		P	04 52 02.0	+1.0	
	baz=0.1,SNR=12								
COWI	Conover	79.59	320	IAmb		IAmb	04 52 03.7		
	comp=Z,32nm,0.8s								
J29N	Klondike Camp	79.66	353	P		P	04 52 03.1	+1.0	
	baz=14								
POKR	Poker Plat Res	79.70	357	IAmb		IAmb	04 52 04.3		
	comp=Z,27nm,1.1s								
POKR	Poker Plat Res	79.70	357	P		P	04 52 03.2	+1.0	
	baz=6.3								
G15K	Niukluk	79.74	4	P		P	04 52 02.6	+0.2	
	baz=352								
I23K	Minto, Yukon-K	79.75	358	P		P	04 52 03.4	+1.0	
	baz=4.7,SNR=10								
I21K	Tanana	79.78	359	IAmb		IAmb	04 52 29.8		
	comp=Z,20nm,0.8s								
I21K	Tanana	79.78	359	P		P	04 52 03.5	+0.9	
	baz=2.5,SNR=18								
H18K	Honhosa River	79.80	1	P		P	04 52 03.5	+0.7	
	baz=357,SNR=6.1								
ACSO	Alum Creek Sta	79.81	312	IAmb		IAmb	04 52 26.6		
	comp=Z,23nm,0.8s								
MLY	Manley	79.90	358	IAmb		IAmb	04 52 30.2		
	comp=Z,16nm,0.8s								
MLY	Manley	79.90	358	P		P	04 52 04.0	+0.7	
	baz=3.5,SNR=20								
H43A	Windswept, Lux	79.91	318	IAmb		IAmb	04 52 05.7		
	comp=Z,30nm,0.9s								
COLA	College	79.96	357	P		P	04 52 04.8	+1.3	
COLA	College	79.96	357	*c i*P		P	04 52 04.0	+0.5	
COLA				pmax		pmax			
	comp=Z,12nm,1.3s								
COLA	College	79.96	357	P		P	04 52 04.0	+0.5	
	baz=5.9								
H17K	Granite Mounta	79.98	2	P		P	04 52 03.7	0.0	
	baz=356								
ILAR	Eielson Array	80.02	356	P		P	04 52 04.0	+0.2	
ILAR	Eielson Array	80.02	356	P		P	04 52 04.2	+0.3	
	comp=Z,3.7nm,0.9s,baz=355,slow=4.3,SNR=36								
ILAR				PKKPbc		PKKPbc	05 10 46.2	-2.0	
	comp=Z,0.8nm,1.0s,baz=246,slow=2.0,SNR=6.3								
ILAR				LR		LR	05 29 40.1		
	comp=Z,15nm,21.0s,baz=283,slow=37								
	comp=Z,3.7nm,0.9s								
ILAR	Eielson Array	80.02	356	P		P	04 52 04.1	+0.2	
J26L	Joseph Creek	80.08	355	P		P	04 52 04.6	+0.2	
	baz=9.5,SNR=19								
ANM	Nome	80.09	5	P		P	04 52 04.7	+0.4	
	baz=351								
J25K	Salcha River,	80.09	356	P		P	04 52 04.7	+0.3	
	baz=8.0								
ULM	Lac du Bonnet	80.10	326	*c i*P		P	04 52 04.5	-0.1	
Q52A	Bidwell	80.14	311	IAmb		IAmb	04 52 27.9		
	comp=Z,19nm,0.8s								
DAWY	Dawson	80.16	353	IAmb		IAmb	04 52 06.7		
	comp=Z,23nm,1.0s								
DAWY	Dawson	80.16	353	P		P	04 52 05.5	+0.7	
	baz=13,SNR=32								
K29M	Barlow Dome	80.18	352	P		P	04 52 05.7	+0.8	
	baz=14,SNR=24								
H16K	Elim	80.19	3	P		P	04 52 05.3	+0.5	
	baz=354								
I20K	Naaghedeneel	80.19	360	IAmb		IAmb	04 52 32.1		
	comp=Z,30nm,1.0s								
I20K	Naaghedeneel	80.19	360	P		P	04 52 06.1	+1.3	
	baz=0.5,SNR=6.7								
GUA01	Guaratinga, BA	80.21	242	*e*P		P	04 52 06.5	+1.0	
GCSA	Galena City Sc	80.23	1	P		P	04 52 05.9	+0.9	
	baz=358								
MAYO	Mayo, Yukon	80.23	351	P		P	04 52 06.0	+0.9	
	baz=16								
NEA2	Nenana	80.29	357	P		P	04 52 05.2	-0.1	
NEA2	Nenana	80.29	357	P		P	04 52 05.8	+0.4	
	baz=4.9,SNR=16								
HDA	Harding Lake	80.38	356	IAmb		IAmb	04 52 31.9		
	comp=Z,24nm,0.8s								
HDA	Harding Lake	80.38	356	P		P	04 52 06.0	+0.2	
	baz=6.7,SNR=20								
K27K	Chicken	80.44	354	IAmb		IAmb	04 52 08.5		
	comp=Z,38nm,1.1s								
K27K	Chicken	80.44	354	P		P	04 52 07.4	+1.2	
	baz=11								
E38A	The Farm, Brul	80.51	321	IAmb		IAmb	04 52 07.9		
	comp=Z,15nm,0.8s								
MMPY	Sheldon Lake,	80.53	349	IAmb		IAmb	04 52 09.9		
	comp=Z,37nm,1.0s								
MMPY	Sheldon Lake,	80.53	349	P		P	04 52 08.9	+2.2	
	baz=20,SNR=48								
PDPR	Patillas Dam,	80.63	285	IAmb		IAmb	04 52 31.1		
	comp=Z,34nm,1.0s								
SCRK	Sand Creek	80.63	355	IAmb		IAmb	04 52 09.7		
	comp=Z,31nm,1.3s								
SCRK	Sand Creek	80.63	355	P		P	04 52 08.1	+0.8	
	baz=9.1,SNR=26								
O49A	Covington	80.65	313	IAmb		IAmb	04 52 30.4		
	comp=Z,24nm,0.7s								
G40A	Rib Lake	80.70	320	IAmb		IAmb	04 52 09.6		
	comp=Z,23nm,1.0s								
Q51A	Peebles	80.77	312	IAmb		IAmb	04 52 32.2		
	comp=Z,15nm,0.7s								
J20K	Nowinta River	80.81	360	IAmb		IAmb	04 52 35.0		
	comp=Z,21nm,1.1s								
J20K	Nowinta River	80.81	360	P		P	04 52 09.0	+0.8	
	baz=0.7,SNR=19								
BPAW	Bear Paw Mtn.	80.84	358	IAmb		IAmb	04 52 34.2		
	comp=Z,18nm,0.7s								
BPAW	Bear Paw Mtn.	80.84	358	P		P	04 52 08.5	+0.1	
	baz=3.3,SNR=17								
YSS	Yuzhno-Sakhali	80.86	38	P		P	04 52 09.5	+0.8	
YSS	Yuzhno-Sakhali	80.86	38	P		P	04 52 10.0	+1.3	
YSS	Yuzhno-Sakhali	80.86	38	⇑*i*P		P	04 52 09.5	+0.8	
YSS				pmax		pmax			
	comp=Z,129nm,0.9s								
K24K	Donnelly Dome	80.92	356	IAmb		IAmb	04 52 35.0		
	comp=Z,30nm,1.0s								
K24K	Donnelly Dome	80.92	356	P		P	04 52 09.0	+0.2	
	baz=7.6,SNR=14								
RIDG	Independent Ri	80.93	355	P		P	04 52 09.7	+0.9	
	baz=8.4,SNR=13								
L29M	L29M	80.97	352	IAmb		IAmb	04 52 11.2		
	comp=Z,20nm,0.9s								
L29M	L29M	80.97	352	P		P	04 52 10.0	+0.9	
	baz=14,SNR=25								
YHNB	Yeheng	80.98	66	P		P	04 52 11.4	+1.5	
J19K	Poorman	81.00	0	IAmb		IAmb	04 52 36.2		
	comp=Z,22nm,0.9s								
J19K	Poorman	81.00	0	P		P	04 52 10.4	+1.3	
	baz=360,SNR=22								
I17K	Unalakleet	81.00	3	P		P	04 52 09.8	+0.6	
	baz=355								
N47A	Urbana	81.02	314	IAmb		IAmb	04 52 11.0		
	comp=Z,18nm,0.8s								
TGTN	Hyland Airport	81.06	347	P		P	04 52 11.5	+1.9	
	baz=22,SNR=12								
CHUM	Lake Minchumin	81.09	359	P		P	04 52 10.3	+0.7	
	baz=2.2,SNR=17								
MCK	McKinley	81.15	357	IAmb		IAmb	04 52 36.0		
	comp=Z,30nm,1.0s								
MCK	McKinley	81.15	357	P		P	04 52 09.9	-0.1	
	baz=5.0,SNR=5.1								
SMTB	Santa Maria do	81.18	253	*e*P		P	04 52 11.5	+0.6	
SDBA	SAO DESIDERIO	81.30	248	*e*P		P	04 52 12.5	+0.9	
PRPB	Paraiapebas	81.31	256	*e*P		P	04 52 12.8	+1.2	
M30M	Minto, Yukon	81.33	352	P		P	04 52 11.5	+0.5	
	baz=15,SNR=11								
U54A	Nelsons Funny	81.35	309	IAmb		IAmb	04 52 35.1		
	comp=Z,19nm,0.8s								
BCAR	Beaver Creek A	81.36	354	P		P	04 52 12.5	+1.3	
L27K	Beaver Creek,	81.37	354	IAmb		IAmb	04 52 13.6		
	comp=Z,20nm,0.9s								
L27K	Beaver Creek,	81.37	354	P		P	04 52 12.1	+0.9	
	baz=11,SNR=31								
M31M	Drury Creek, Y	81.38	350	IAmb		IAmb	04 52 13.8		
	comp=Z,28nm,1.0s								
M31M	Drury Creek, Y	81.38	350	P		P	04 52 12.6	+1.3	
	baz=17,SNR=40								
KTH	Kantishna Hill	81.39	358	IAmb		IAmb	04 52 13.2		
	comp=Z,29nm,1.3s								
TRF	Thorofare Moun	81.47	358	IAmb		IAmb	04 52 37.9		
	comp=Z,15nm,0.8s								
TRF	Thorofare Moun	81.47	358	P		P	04 52 11.9	0.0	
	baz=3.9,SNR=13								
J18K	Innoko River	81.52	1	P		P	04 52 12.9	+1.0	
	baz=359,SNR=10.0								
KOTAN	Kotaneelee Air	81.52	345	P		P	04 52 12.9	+0.9	
	baz=25								
L26K	Log Cabin Wild	81.53	355	P		P	04 52 13.3	+1.3	
	baz=9.6,SNR=12								
J17K	VABM Dome	81.55	2	IAmb		IAmb	04 52 14.0		
	comp=Z,33nm,1.4s								
J17K	VABM Dome	81.55	2	P		P	04 52 12.6	+0.5	
	baz=357,SNR=6.3								
CAST	Castle Rocks	81.55	359	P		P	04 52 12.3	+0.2	
	baz=2.4,SNR=18								
J16K	Anvik River	81.61	3	IAmb		IAmb	04 52 36.6		
	comp=Z,30nm,1.3s								
J16K	Anvik River	81.61	3	P		P	04 52 12.9	+0.5	
	baz=355								
K20K	Telida	81.64	360	P		P	04 52 13.4	+0.8	
	baz=0.8,SNR=17								
MENT	Mentasta	81.64	355	P		P	04 52 14.2	+1.6	
YULB	Yu-li	81.65	67	IAmb		IAmb	04 52 16.1		
	comp=Z,21nm,0.8s								
YULB	Yu-li	81.65	67	P		P	04 52 14.8	+1.5	
M29M	Somme Creek	81.65	352	P		P	04 52 13.9	+1.1	
	baz=14,SNR=120								
PAX	Paxson	81.73	356	P		P	04 52 13.4	+0.2	
	baz=7.9,SNR=5.7								
TWGBT	Beinan	81.81	68	P		P	04 52 16.1	+1.9	
I40A	Norwalk	81.83	319	IAmb		IAmb	04 52 15.5		
	comp=Z,20nm,0.9s								
BVCY	Beaver Creek	81.92	353	P		P	04 52 15.4	+1.3	
	baz=12,SNR=36								
J14K	Nanvaranak Lak	82.01	4	P		P	04 52 14.6	+0.2	
	baz=353								
M27K	Edge Creek, AK	82.07	354	IAmb		IAmb	04 52 17.6		
	comp=Z,26nm,1.1s								
M27K	Edge Creek, AK	82.07	354	P		P	04 52 16.0	+1.0	
	baz=11,SNR=20								
PPLA	Purkeypile	82.08	359	IAmb		IAmb	04 52 41.5		
	comp=Z,28nm,0.9s								
PPLA	Purkeypile	82.08	359	P		P	04 52 15.7	+0.6	
	baz=2.3,SNR=20								
M26K	Nabesna, AK	82.12	354	P		P	04 52 16.1	+1.0	
	baz=9.9,SNR=8.3								
N32M	Quiet Lake	82.20	349	P		P	04 52 16.6	+1.0	
	baz=18								
K17K	Iditarod	82.25	2	P		P	04 52 16.4	+0.6	
K17K				IAmb		IAmb	04 52 17.6		
	comp=Z,44nm,1.4s								
K17K						pP	04 52 37.2	+1.1	
K17K	Iditarod	82.25	2	P		P	04 52 16.2	+0.4	
	baz=357,SNR=6.8								
N31M	Braeburn, Yuko	82.26	351	IAmb		IAmb	04 52 17.4		
	comp=Z,17nm,0.8s								
N31M	Braeburn, Yuko	82.26	351	P		P	04 52 16.1	+0.2	
	baz=16,SNR=7.2								
HARP	HAARP	82.28	355	P		P	04 52 16.2	+0.3	
	baz=8.1								
JFWS	Jewell Farm	82.28	318	IAmb		IAmb	04 52 17.5		
	comp=Z,19nm,0.8s								
R49A	Shelbyville	82.34	312	IAmb		IAmb	04 52 39.7		
	comp=Z,18nm,0.8s								
MAL2	Monte Alegre,	82.36	262	P		P	04 52 18.0	+0.8	
MAL2				IAmb		IAmb	04 52 39.7		
	comp=Z,21nm,0.9s								
N30M	Aishikik Lake	82.45	351	P		P	04 52 17.5	+0.6	
	baz=15,SNR=15								
WTLY	Watson Lake, Y	82.47	347	P		P	04 52 18.2	+1.2	
	baz=21,SNR=6.2								
YUK3	Moose Creek	82.51	353	P		P	04 52 18.3	+0.8	
	baz=12,SNR=54								
L20K	Farewell, AK	82.52	359	P		P	04 52 17.6	+0.4	
	baz=0.9,SNR=6.1								
CUT	Chulitna	82.52	358	P		P	04 52 16.9	-0.2	
	baz=3.9								
JANB	Januaria	82.53	246	*e*P		P	04 52 18.9	+0.9	
K15K	Wolf Creek Mou	82.56	3	P		P	04 52 17.9	+0.5	
	baz=355								
L42A	Oliver, Polo	82.57	317	IAmb		IAmb	04 52 19.9		
	comp=Z,30nm,1.0s								
SJMB	Sao Joao De Ma	82.58	241	*e*P		P	04 52 18.9	+0.8	
BLO	Bloomington	82.60	313	IAmb		IAmb	04 52 19.7		
	comp=Z,28nm,0.8s								
LIRD	Liard River Hi	82.61	346	P		P	04 52 19.3	+1.6	
	baz=23,SNR=27								
M24K	Tolsona, Glenn	82.63	356	P		P	04 52 18.4	+0.5	
	baz=7.3								
ASAJ	Asahikawa	82.71	40	LR		LR	05 34 23.8		
	comp=Z,37nm,18.9s,baz=120,slow=39								
YUK4	Talbot Arm	82.74	352	P		P	04 52 18.9	+0.3	
	baz=14,SNR=8.4								
K13K	Kusilvak Mount	82.75	5	P		P	04 52 18.6	+0.2	
	baz=352								
L18K	Granite Mounta	82.77	1	P		P	04 52 19.3	+0.8	
	baz=359								
JNU	Nakatsue	82.78	54	IAmb		IAmb	04 52 20.6		
	comp=Z,34nm,1.3s								
JNU	Nakatsue	82.78	54	P		P	04 52 20.5	+1.4	
PEA0B	Petropavlovsk-	82.80	27	*c i*P		P	04 52 17.5	-1.3	
PETK	Petropavlovsk-	82.80	27	P		P	04 52 16.9	-1.9	
PETK	Petropavlovsk-	82.80	27	P		P	04 52 17.2	-1.7	
	comp=Z,12nm,0.8s,baz=302,slow=2.8,SNR=21								
PETK				LR		LR	05 31 33.7		
	comp=Z,31nm,20.9s,baz=300,slow=37								
	comp=Z,12nm,0.8s								
L19K	White Mountain	82.82	360	IAmb		IAmb	04 52 45.6		
	comp=Z,17nm,0.9s								
L19K	White Mountain	82.82	360	P		P	04 52 19.5	+0.7	
	baz=0.1,SNR=16								
L17K	Donlin	82.83	2	P		P	04 52 19.3	+0.5	
	baz=357,SNR=10								
LHSI	Lahat	82.85	100	P		P	04 52 20.1	+0.4	
	comp=Z,2μmcomp=Z,95nm,1.0s								
WHY	Whitehorse	82.93	350	IAmb		IAmb	04 52 20.9		
	comp=Z,25nm,1.0s								
WHY	Whitehorse	82.93	350	P		P	04 52 19.8	+0.2	
	baz=16,SNR=13								
TOAD	Toad River Com	82.94	345	P		P	04 52 20.7	+1.2	
	baz=24,SNR=31								
SCM	Sheep Creek Mo	82.97	356	IAmb		IAmb	04 52 21.8		
	comp=Z,54nm,1.4s								
SCM	Sheep Creek Mo	82.97	356	P		P	04 52 20.3	+0.6	
	baz=6.3,SNR=13								
SKT	Skwentna	82.98	358	IAmb		IAmb	04 52 21.7		
	comp=Z,33nm,1.1s								
SKT	Skwentna	82.98	358	P		P	04 52 19.4	-0.3	
	baz=2.9,SNR=33								
O30N	Mendenhall	82.99	351	IAmb		IAmb	04 52 21.4		
	comp=Z,78nm,1.9s								
O30N	Mendenhall	82.99	351	P		P	04 52 20.3	+0.6	
	baz=16,SNR=17								
N25K	Chitina, Valde	83.03	355	P		P	04 52 20.4	+0.5	
	baz=8.6,SNR=12								
M23K	Glacier View	83.03	357	P		P	04 52 20.6	+0.7	
	baz=6.0,SNR=9.0								
P33M	Teslin, Yukon	83.06	349	IAmb		IAmb	04 52 22.0		
	comp=Z,18nm,0.9s								
P33M	Teslin, Yukon	83.06	349	P		P	04 52 20.7	+0.6	
	baz=18,SNR=20								
WCI	Wyandotte Cave	83.06	312	P		P	04 52 21.2	+0.7	
WCI				IAmb		IAmb	04 52 22.3		
	comp=Z,24nm,0.8s								
WCI	Wyandotte Cave	83.06	312	P		P	04 52 21.2	+0.7	
WCI				pmax		pmax			
	comp=Z,24nm,0.9s								
M19K	Big River Lodg	83.10	360	P		P	04 52 20.9	+0.7	
	baz=0.5								
YUK6	Outpost Mounta	83.10	352	P		P	04 52 21.2	+0.7	
	baz=14,SNR=14								
GHO	Glory Hole Cre	83.11	357	IAmb		IAmb	04 52 22.1		
	comp=Z,33nm,1.1s								
M20K	Styx River	83.11	359	P		P	04 52 20.3	-0.1	
	baz=1.6								
HYT	Haines Junctio	83.12	351	IAmb		IAmb	04 52 22.8		
	comp=Z,35nm,1.1s								
HYT	Haines Junctio	83.12	351	P		P	04 52 21.5	+1.1	
	baz=14,SNR=42								
TKL	Tuckaleechee C	83.13	309	LR		LR	05 29 14.5		
	comp=Z,26nm,19.0s,baz=56,slow=36								
MCARA	McCarthy VSAT	83.13	354	IAmb		IAmb	04 52 23.6		
	comp=Z,16nm,0.8s								
MCARA	McCarthy VSAT	83.13	354	P		P	04 52 21.1	+0.7	
	baz=9.8,SNR=7.6								
M22K	Willow	83.17	358	P		P	04 52 21.1	+0.6	
	baz=4.0,SNR=11								
L15K	Ungalak Mounta	83.18	3	P		P	04 52 21.0	+0.4	
	baz=355								
PET	Petropavlovsk	83.22	26	*c i*P		P	04 52 19.2	-1.7	
PET				pmax		pmax			
	comp=Z,11nm,0.8s								
KLU	Klutina	83.23	356	P		P	04 52 21.7	+0.7	
	baz=7.5,SNR=8.5								
PMR	Palmer	83.29	357	IAmb		IAmb	04 52 22.9		
	comp=Z,26nm,1.1s								
PMR	Palmer	83.29	357	P		P	04 52 22.0	+0.8	
PMR	Palmer	83.29	357	P		P	04 52 21.8	+0.6	
	baz=4.8,SNR=17								
HDIL	Hopedale	83.31	316	IAmb		IAmb	04 52 23.3		
	comp=Z,31nm,0.8s								
CTG	Chitna Glacier	83.39	353	P		P	04 52 22.3	+0.4	
	baz=11								
KNK	Knik Glacier	83.44	357	P		P	04 52 22.7	+0.7	
	baz=5.4,SNR=7.5								
L14K	Kuka Creek	83.46	4	P		P	04 52 22.4	+0.4	
	baz=354								
O28M	Mount Upton	83.47	353	P		P	04 52 23.2	+0.7	
	baz=12,SNR=6.8								
SUA	Susitna One	83.48	358	IAmb		IAmb	04 52 48.2		
	comp=Z,30nm,1.0s								
SUA	Susitna One	83.48	358	P		P	04 52 22.6	+0.3	
	baz=3.5,SNR=26								
LOGN	Logan Glacier	83.50	353	IAmb		IAmb	04 52 24.6		
	comp=Z,22nm,1.1s								
M18K	Stony River	83.51	0	P		P	04 52 22.9	+0.6	
	baz=359,SNR=13								
MDND	Maddock	83.53	326	IAmb		IAmb	04 52 24.4		
	comp=Z,22nm,0.8s								
R33M	Jennings River	83.53	348	P		P	04 52 24.7	+2.0	
	baz=20,SNR=116								
M17K	Holitna River	83.58	1	IAmb		IAmb	04 52 49.8		
	comp=Z,21nm,0.9s								
M17K	Holitna River	83.58	1	P		P	04 52 23.5	+0.8	
	baz=358,SNR=12								
GRNC	Granite Creek	83.66	354	IAmb		IAmb	04 52 25.4		
	comp=Z,27nm,1.0s								
BMRM	Bremner River	83.66	355	P		P	04 52 23.8	+0.6	
	baz=8.5,SNR=6.2								
P30M	Million Dollar	83.73	351	P		P	04 52 24.3	+0.7	
	baz=15								
O29M	Mount Kennedy	83.75	352	IAmb		IAmb	04 52 25.5		
	comp=Z,18nm,0.9s								
O29M	Mount Kennedy	83.75	352	P		P	04 52 24.3	+0.5	
	baz=13,SNR=6.6								
CRQM	Cirque	83.76	354	IAmb		IAmb	04 52 25.6		
	comp=Z,51nm,1.4s								
CRQE	Cirque	83.76	354	P		P	04 52 24.5	+0.7	
	baz=9.8								
MDSI	Maura Dua	83.76	100	P		P	04 52 23.3	-1.1	
	comp=Z,1μmcomp=Z,51nm,1.0s								
SPCR	Spurr Chakacha	83.78	359	P		P	04 52 23.7	0.0	
	baz=2.3								
N20K	Mount Spurr	83.78	359	P		P	04 52 23.6	-0.2	
	baz=2.3								
P32M	Atlin	83.79	349	IAmb		IAmb	04 52 25.2		
	comp=Z,28nm,0.8s								
P32M	Atlin	83.79	349	P		P	04 52 24.2	+0.3	
	baz=17,SNR=25								
OLIL	Olney	83.82	314	IAmb		IAmb	04 52 25.8		
	comp=Z,30nm,0.8s								
RC01	Rabbit Creek A	83.82	357	IAmb		IAmb	04 52 25.6		
	comp=Z,34nm,1.0s								
RC01	Rabbit Creek A	83.82	357	P		P	04 52 24.4	+0.5	
	baz=4.3,SNR=15								
U49A	Red Boiling Sp	83.85	311	IAmb		IAmb	04 52 26.4		
	comp=Z,22nm,0.9s								
GLI	Glacier Island	83.91	356	IAmb		IAmb	04 52 26.1		
	comp=Z,20nm,1.1s								
GLI	Glacier Island	83.91	356	P		P	04 52 24.8	+0.4	
	baz=6.5,SNR=7.7								
PCRV	Puerto La Cruz	83.92	278	LR		LR	05 26 29.0		
	comp=Z,29nm,20.4s,slow=33								
M16K	Timber Creek	83.93	2	IAmb		IAmb	04 52 51.4		
	comp=Z,14nm,0.8s								
M16K	Timber Creek	83.93	2	P		P	04 52 25.4	+0.9	
	baz=357,SNR=6.1								
PWL	Port Wells	83.99	357	IAmb		IAmb	04 52 26.4		
	comp=Z,18nm,0.9s								
PWL	Port Wells	83.99	357	P		P	04 52 25.5	+0.7	
	baz=5.5,SNR=9.1								
FID	Port Fidalgo	84.00	356	IAmb		IAmb	04 52 28.6		
	comp=Z,15nm,0.8s								
WAX	Waxell Ridge	84.04	354	IAmb		IAmb	04 52 27.4		
	comp=Z,36nm,1.3s								
P43A	Skaggs, Pawnee	84.05	315	IAmb		IAmb	04 52 27.2		
	comp=Z,25nm,0.8s								
USIN	University of	84.06	313	IAmb		IAmb	04 52 26.9		
	comp=Z,18nm,0.7s								
M14K	Bethel	84.08	3	P		P	04 52 25.8	+0.6	
	baz=354,SNR=5.4								
N41A	Harden Midland	84.10	317	IAmb		IAmb	04 52 26.9		
	comp=Z,21nm,0.8s								
JTM	Tenmabayashi	84.14	43	P		P	04 52 26.7	+0.8	
PINM	Pinnacle	84.14	353	P		P	04 52 26.9	+1.2	
	baz=12,SNR=13								
SKAG	Skagway	84.15	350	P		P	04 52 27.2	+1.6	
SKAG	Skagway	84.15	350	P		P	04 52 26.4	+0.8	
	baz=16,SNR=9.4								
EYAK	Cordova Ski Ar	84.16	355	IAmb		IAmb	04 52 27.9		
	comp=Z,19nm,1.0s								
EYAK	Cordova Ski Ar	84.16	355	P		P	04 52 27.1	+1.5	
EYAK	Cordova Ski Ar	84.16	355	P		P	04 52 26.8	+1.2	
	baz=7.6,SNR=6.9								
Q32M	Nakina River	84.16	348	P		P	04 52 27.4	+1.4	
	baz=18,SNR=34								
N19K	Bonanza Creek	84.19	360	P		P	04 52 26.6	+0.6	
N19K				IAmb		IAmb	04 52 27.7		
	comp=Z,20nm,

S34M	Telegraph Cree	84.96	347	P		P	04 52 31.6	+1.9
	baz=19,SNR=51							
ITTB	Itaituba	84.99	261	eP		P	04 52 31.5	+0.9
BOAV	Boa Vista	84.99	269	eP		P	04 52 31.9	+1.3
ECSD	EROS Data Cent	85.08	322	IAmb	IAmb		04 52 32.1	
	comp=Z,25nm,0.8s							
DGMT	Dagmar	85.08	329	IAmb	IAmb		04 52 32.5	
	comp=Z,21nm,0.8s							
JIS	Juneau Island	85.15	349	P		P	04 52 32.7	+2.1
O18K	Koktuh Hills	85.16	0	IAmb	IAmb		04 52 57.0	
	comp=Z,17nm,0.8s							
O18K	Koktuh Hills	85.16	0	P		P	04 52 31.2	+0.5
	baz=360,SNR=7.5							
R32K	Eaglecrest	85.17	349	P		P	04 52 32.5	+1.7
	baz=17,SNR=21							
BRLK	Bradley Lake	85.19	358	IAmb	IAmb		04 52 56.5	
	comp=Z,13nm,0.8s							
O17K	Koliganek Bris	85.22	1	P		P	04 52 31.9	+1.0
	baz=358,SNR=7.3							
MJB9	Matsu-Tunnel	85.28	48	IAmb	IAmb		04 52 33.0	
	comp=Z,32nm,1.0s							
MAJO	Matsushiro	85.29	48	P		P	04 52 31.9	+0.1
MAJO				IAmb	IAmb		04 52 33.1	
	comp=Z,33nm,1.0s							
MAJO	Matsushiro	85.29	48	P		P	04 52 32.2	+0.4
MAJO	Matsushiro	85.29	48	*d iP*		P	04 52 31.7	-0.1
MAJO				pmax	pmax			
	comp=Z,40nm,1.1s							
MJAR	Matsushiro Arr	85.29	48	P		P	04 52 32.4	+0.6
MJAR				IAmb	IAmb		04 52 33.5	
	comp=Z,25nm,0.9s							
MJAR	Matsushiro Arr	85.29	48	P		P	04 52 32.7	+0.9
	comp=Z,31nm,0.9s,baz=310,slow=5.5,SNR=46							
	comp=Z,31nm,0.9s							
MJAR	Matsushiro Arr	85.29	48	P		P	04 52 32.4	+0.6
MJAR				pmax	pmax			
	comp=Z,25nm,1.0s							
Q23K	Middleton Isla	85.31	356	P		P	04 52 32.3	+0.9
	baz=7.1							
P19K	Oil Pt	85.35	359	P		P	04 52 30.6	-1.0
	baz=1.5							
WVT	Waverly	85.36	312	P		P	04 52 32.2	+0.1
WVT				IAmb	IAmb		04 52 33.1	
	comp=Z,17nm,0.8s							
WVT	Waverly	85.36	312	P		P	04 52 32.2	+0.1
WVT				pmax	pmax			
	comp=Z,17nm,0.8s							
JGF	Kuroka	85.38	49	IAmb	IAmb		04 52 33.8	
	comp=Z,32nm,1.1s							
JGF	Kuroka	85.38	49	P		P	04 52 33.5	+1.2
O16K	Kokwok River B	85.38	2	P		P	04 52 32.3	+0.5
	baz=358							
P40A	Paris	85.57	316	IAmb	IAmb		04 52 34.2	
	comp=Z,11nm,0.7s							
TPI	Tanjungpandan	85.57	96	P		P	04 52 34.5	+1.0
	comp=Z,43nm,1.0s							
O14K	Tigyukauivet M	85.61	3	P		P	04 52 32.8	-0.1
	baz=355							
P18K	Big Mountain,	85.62	0	P		P	04 52 33.3	+0.3
	baz=360							
BDFB	Brasilia	85.67	248	P		P	04 52 35.0	+1.0
BDFB				IAmb	IAmb		04 52 36.1	
	comp=Z,13nm,0.7s							
BDFB	Brasilia	85.67	248	P		P	04 52 35.2	+1.2
	comp=Z,11nm,0.7s,baz=60,slow=5.0,SNR=21							
BDFB				pP		pP	04 52 55.6	+0.4
	comp=Z,7.5nm,0.6s,baz=51,slow=6.0,SNR=5.0							
BDFB				LR		LR	05 32 02.9	
	comp=Z,43nm,18.2s,baz=346,slow=36							
	comp=Z,11nm,0.7s							
BDFB	Brasilia	85.67	248	P		P	04 52 35.0	+1.0
BDFB				pmax	pmax			
	comp=Z,13nm,0.7s							
T35M	Bob Quinn	85.68	347	IAmb	IAmb		04 52 36.2	
	comp=Z,41nm,1.2s							
T35M	Bob Quinn	85.68	347	P		P	04 52 35.1	+1.8
	baz=20,SNR=16							
CGM3	Cape Girardeau	85.69	313	IAmb	IAmb		04 52 35.3	
	comp=Z,25nm,1.1s							
S31K	Pelican	85.73	350	IAmb	IAmb		04 52 36.4	
	comp=Z,23nm,0.9s							
S31K	Pelican	85.73	350	P		P	04 52 34.6	+1.1
	baz=15,SNR=5.3							
O15K	Ungalikthiuk R	85.75	3	P		P	04 52 34.2	+0.6
	baz=356							
P17K	Kvichak River	85.81	1	P		P	04 52 34.7	+0.8
	baz=359							
Y49A	Blount Mountai	85.95	309	IAmb	IAmb		04 52 37.0	
	comp=Z,17nm,0.9s							
JMM	Marumori	85.95	46	P		P	04 52 35.4	+0.4
P16K	Nushagak River	85.95	2	IAmb	IAmb		04 53 02.5	
	comp=Z,30nm,1.0s							
P16K	Nushagak River	85.95	2	P		P	04 52 35.4	+0.8
	baz=358							
SNDB	Serra Nova Dou	85.96	252	eP		P	04 52 37.0	+1.7
S32K	Killisnoo	85.96	349	IAmb	IAmb		04 52 37.2	
	comp=Z,21nm,0.8s							
S32K	Killisnoo	85.96	349	P		P	04 52 35.8	+1.2
	baz=17,SNR=7.9							
Q19K	Cape Douglas,	86.08	359	P		P	04 52 36.3	+1.0
	baz=1.1							
CCM	Cathedral Cave	86.11	315	P		P	04 52 36.4	+0.6
CCM	Cathedral Cave	86.11	315	P		P	04 52 36.4	+0.6
CCM				pmax	pmax			
	comp=Z,31nm,0.7s							
NPGB	Novo Progresso	86.25	259	eP		P	04 52 38.0	+1.2
PLAL	Pickwick Lake	86.26	311	IAmb	IAmb		04 52 37.6	
	comp=Z,25nm,0.8s							
PMNB	Patos De Minas	86.29	244	eP		P	04 52 38.2	+1.2
SBUM	Sibu	86.31	90	IAmb	IAmb		04 52 40.4	
	comp=Z,16nm,1.0s							
SBUM	Sibu	86.31	90	P		P	04 52 38.6	+1.5
T33K	Petersburg	86.32	348	P		P	04 52 38.2	+1.8
	baz=18							
Q16K	King Salmon	86.33	1	P		P	04 52 36.6	+0.2
	baz=359							
P38A	Dawn	86.33	317	IAmb	IAmb		04 52 38.6	
	comp=Z,21nm,0.7s							
Q18K	Katmai Hardscr	86.36	0	P		P	04 52 36.4	-0.4
	baz=0.0							
Q20K	Shuyak Island	86.38	359	P		P	04 52 37.1	+0.4
	baz=2.1,SNR=5.4							
SIT	Sitka	86.47	349	P		P	04 52 39.1	+1.9
SIT	Sitka	86.47	349	P		P	04 52 38.6	+1.4
	baz=16,SNR=7.4							
WRAK	Wrangell Islan	86.59	348	P		P	04 52 39.6	+1.8
	baz=18,SNR=34							
Q17K	Contact Creek	86.75	0	P		P	04 52 38.8	+0.1
	baz=359,SNR=7.6							
SPIA	Saint Paul Isl	86.94	8	P		P	04 52 40.0	+0.6
	baz=348							
U33K	Whale Pass	87.02	348	IAmb	IAmb		04 52 42.4	
	comp=Z,20nm,0.8s							
U33K	Whale Pass	87.02	348	P		P	04 52 41.4	+1.5
	baz=18,SNR=10							
KDAK	Kodiak Island	87.21	359	P		P	04 52 41.4	+0.6
KDAK	Kodiak Island	87.21	359	LR		LR	05 33 23.2	
	comp=Z,16nm,19.8s,baz=12,slow=37							
KDAK	Kodiak Island	87.21	359	*d iP*		P	04 52 41.2	+0.4
KDAK				pmax	pmax			
	comp=Z,44nm,1.5s							
KDAK	Kodiak Island	87.21	359	P		P	04 52 41.9	+1.1
	baz=2.0							
R17L	Mt. Peulik Vol	87.38	1	P		P	04 52 42.7	+1.0
	baz=359							
BAUV	El Baul	87.38	279	P		P	04 52 41.9	-0.5
BAUV						pP	04 53 03.2	-0.1
BAUV				IAmb	IAmb		04 53 07.1	
	comp=Z,13nm,1.0s							
R16K	Pilot Point	87.42	1	P		P	04 52 42.5	+0.8
	baz=358							
Z47A	Carrollton	87.42	309	IAmb	IAmb		04 52 44.0	
	comp=Z,10nm,0.7s							
R18K	Karluk	87.45	360	P		P	04 52 42.5	+0.6
	baz=0.5							
V35K	Ketchikan	87.50	347	IAmb	IAmb		04 52 44.3	
	comp=Z,18nm,1.1s							
V35K	Ketchikan	87.50	347	P		P	04 52 43.5	+1.3
	baz=19,SNR=5.3							
P08K	Saint George I	87.58	8	P		P	04 52 43.4	+0.8
	baz=348							
CRAG	Craig	87.64	348	IAmb	IAmb		04 52 45.7	
	comp=Z,28nm,1.4s							
CRAG	Craig	87.64	348	P		P	04 52 43.8	+1.0
	baz=18							
EGMT	Eagleton	87.70	332	IAmb	IAmb		04 52 45.5	
	comp=Z,19nm,0.9s							

OHAK	Old Harbor	87.78	359	P		P	04 52 44.5	+0.9
OHAK				IAmb	IAmb		04 52 45.4	
	comp=Z,20nm,0.9s							
OHAK						pP	04 53 05.3	+1.1
OHAK	Old Harbor	87.78	359	P		P	04 52 44.8	+1.3
OHAK	Old Harbor	87.78	359	P		P	04 52 44.6	+1.1
	baz=1.4,SNR=5.6							
RUBB	Prince Rupert	88.18	346	IAmb	IAmb		04 52 47.3	
	comp=Z,8.5nm,0.7s							
SHEM	Shemya, Ala	88.25	18	LR	LR		05 38 27.8	
	comp=Z,20nm,18.1s,baz=256,slow=40							
RSSD	Black Hills	88.37	326	P		P	04 52 47.4	+0.5
RSSD				IAmb	IAmb		04 52 48.6	
	comp=Z,23nm,1.1s							
RSSD	Black Hills	88.37	326	P		P	04 52 47.4	+0.5
RSSD				pmax	pmax			
	comp=Z,23nm,1.2s							
SII	Sitkinak Islan	88.46	360	P		P	04 52 47.7	+0.9
	baz=0.7							
JHJ	Hachijo jima 2	88.52	50	LR	LR		05 37 06.2	
	comp=Z,39nm,18.1s,baz=112,slow=39							
ARAG	Araguaiana, MT	88.60	250	eP		P	04 52 50.1	+2.1
WHAR	Wooly Hollow	88.61	313	IAmb	IAmb		04 53 19.4	
	comp=Z,33nm,1.7s							
S14K	Fog Glacier	88.65	3	P		P	04 52 48.2	+0.4
	baz=356							
CHGN	Chignik	88.67	2	P		P	04 52 47.8	+0.1
	baz=357							
CLDB	Colider	88.84	256	eP		P	04 52 50.4	+1.2
HHAR	Hobbs	88.89	315	IAmb	IAmb		04 52 50.4	
	comp=Z,26nm,1.6s							
U38A	Gravette	89.04	315	IAmb	IAmb		04 52 51.1	
	comp=Z,35nm,1.7s							
SDPT	Sand Point	89.55	3	P		P	04 52 51.6	-0.2
	baz=356							
LLLB	Lillooet	89.58	340	IAmb	IAmb		04 52 54.5	
	comp=Z,7.1nm,0.6s							
RLO	Rose Lookout	89.60	316	IAmb	IAmb		04 52 53.7	
	comp=Z,12nm,0.9s							
MIAR	Mount Ida	89.89	314	IAmb	IAmb		04 52 55.9	
	comp=Z,9.6nm,0.8s							
PDRB	Porto dos Gac	90.02	256	eP		P	04 52 56.2	+1.5
R32A	Long Quarter,	90.02	319	IAmb	IAmb		04 52 55.5	
	comp=Z,28nm,1.3s							
CHNA	Chernabura Isl	90.11	3	P		P	04 52 53.2	-1.2
	baz=356							
TUL3	Leonard	90.22	316	IAmb	IAmb		04 52 56.7	
	comp=Z,14nm,0.7s							
YNE	Yellowstone No	90.26	330	IAmb	IAmb		04 52 58.2	
	comp=Z,20nm,1.0s							
UNV	Unalaska Valle	90.62	7	P		P	04 52 55.6	-1.3
	baz=351							
DLMT	Dillon	91.00	332	IAmb	IAmb		04 53 00.9	
	comp=Z,9.9nm,1.3s							
SALV	Santo Antonio	91.71	252	eP		P	04 53 03.6	+1.1
PCMB	Pacaembu	91.74	245	eP		P	04 53 04.4	+1.8
FXWY	Fox Creek	91.80	330	IAmb	IAmb		04 53 04.9	
	comp=Z,6.0nm,0.9s							
SNOW	Snow King Moun	91.83	329	IAmb	IAmb		04 53 04.8	
	comp=Z,6.1nm,0.7s							
TPAW	Teton Pass	91.89	330	IAmb	IAmb		04 53 05.2	
	comp=Z,9.7nm,0.7s							
PDAR	Pinedale Array	91.89	328	P		P	04 53 03.0	-0.4
	comp=Z,3.7nm,0.7s,baz=63,slow=4.9,SNR=49							
PDAR				pP		pP	04 53 24.3	+0.2
	comp=Z,2.5nm,0.8s,baz=51,slow=4.7,SNR=5.8							
	comp=Z,3.7nm,0.7s							
BW06	Bodes Array	91.89	328	IAmb	IAmb		04 53 03.9	
	comp=Z,4.9nm,0.8s							
LTY	Liberty	92.20	337	IAmb	IAmb		04 53 04.8	
	comp=Z,7.3nm,1.1s							
WAH2	Wahluke Slope	92.29	337	IAmb	IAmb		04 53 07.4	
	comp=Z,9.1nm,0.9s							
AHID	Auburn Hatcher	92.55	329	IAmb	IAmb		04 53 07.3	
	comp=Z,7.1nm,0.7s							
WMOK	Wichita Mounta	92.75	317	IAmb	IAmb		04 53 08.8	
	comp=Z,8.0nm,0.7s							
NLWA	Neilton Lookou	93.05	339	IAmb	IAmb		04 53 10.2	
	comp=Z,13nm,1.1s							
BMO	Blue Mountains	93.19	334	IAmb	IAmb		04 53 10.0	
	comp=Z,5.5nm,0.7s							
O20A	White River Ci	93.43	326	IAmb	IAmb		04 53 11.3	
	comp=Z,5.1nm,0.8s							
MFID	Camas Ranch	93.88	333	P		P	04 53 12.9	+0.6
MFID				IAmb	IAmb		04 53 14.0	
	comp=Z,7.4nm,0.8s							
MFID						pP	04 53 33.6	+0.5
T25A	Trinidad	93.95	322	IAmb	IAmb		04 53 14.1	
	comp=Z,5.4nm,0.8s							
G06A	Carlson Farm,	93.99	336	IAmb	IAmb		04 53 14.7	
	comp=Z,10nm,1.0s							
SDCO	Great Sand Dun	94.02	323	IAmb	IAmb		04 53 14.6	
	comp=Z,5.0nm,0.8s							
HVU	Hansel Valley	94.06	330	P		P	04 53 13.2	-0.1
HVU				IAmb	IAmb		04 53 14.5	
	comp=Z,6.3nm,0.8s							
HVU						pP	04 53 35.2	+1.3
HVU	Hansel Valley	94.06	330	P		P	04 53 13.2	-0.1
HVU				*PP		pP	04 53 35.3	+1.3
HVU				pmax	pmax			
	comp=Z,6.0nm,0.8s							
BSUT	Blindstream Ca	94.23	328	IAmb	IAmb		04 53 16.8	
	comp=Z,7.4nm,1.2s							
JLU	Jordanelle	94.48	328	IAmb	IAmb		04 53 16.4	
	comp=Z,5.7nm,0.7s							
ABTX	Abilene, Hawle	94.79	316	IAmb	IAmb		04 53 18.2	
	comp=Z,8.9nm,0.7s							
H04A	Detroit Lake	94.98	337	IAmb	IAmb		04 53 18.5	
	comp=Z,11nm,0.9s							
I05D	Terrebonne, OR	95.01	336	IAmb	IAmb		04 53 19.1	
	comp=Z,5.2nm,0.6s							
PV04	Paradox Valley	95.14	325	IAmb	IAmb		04 53 19.5	
	comp=Z,8.1nm,1.3s							
PV23	Carpenter Ridg	95.14	325	IAmb	IAmb		04 53 19.5	
	comp=Z,14nm,1.1s							
PV12	Saucer Basin,	95.15	325	IAmb	IAmb		04 53 19.6	
	comp=Z,8.6nm,0.9s							
PV20	West Nyswonger	95.21	325	IAmb	IAmb		04 53 41.1	
	comp=Z,8.3nm,1.0s							
PV02	Paradox Valley	95.21	325	IAmb	IAmb		04 53 19.3	
	comp=Z,5.7nm,0.9s							
PV03	Paradox Valley	95.22	325	IAmb	IAmb		04 53 21.1	
	comp=Z,17nm,2.0s							
PV19	Morning Glory	95.24	325	IAmb	IAmb		04 53 19.4	
	comp=Z,8.4nm,1.0s							
PV18	Skyn Mesa Pa	95.26	325	IAmb	IAmb		04 53 20.2	
	comp=Z,18nm,1.4s							
SRU	San Rafael Swe	95.29	327	IAmb	IAmb		04 53 19.4	
	comp=Z,4.5nm,0.6s							
TMUT	Trail Mountain	95.45	327	IAmb	IAmb		04 53 20.8	
	comp=Z,9.1nm,1.6s							
J05D	Fort Rock, OR	95.92	336	IAmb	IAmb		04 53 24.1	
	comp=Z,8.0nm,0.8s							
HMU	Henry Mountain	96.35	326	IAmb	IAmb		04 53 24.5	
	comp=Z,7.4nm,1.2s							
BBOR	Butler Butte	96.75	337	IAmb	IAmb		04 53 26.2	
	comp=Z,6.9nm,0.9s							
MTPU	Mount Pierson	96.91	327	IAmb	IAmb		04 53 50.7	
	comp=Z,7.6nm,1.4s							
PECS	Pecos	98.09	318	IAmb	IAmb		04 54 29.2	
	comp=Z,6.9nm,0.7s							
ALPN	Alpine	98.72	317	IAmb	IAmb		04 53 36.6	
	comp=Z,8.5nm,1.5s							
NVAR	Mina Array Bea	99.12	332	P		Pdif	04 53 36.5	+0.1
	comp=Z,1.0nm,0.7s,baz=38,slow=5.1,SNR=7.0							
NVAR				pP		pP	04 53 58.1	+1.0
	comp=Z,0.9nm,0.8s,baz=68,slow=6.3,SNR=3.7							
	comp=Z,1.0nm,0.7s							
TXAR	Lajitas Array	99.53	316	P		Pdif	04 53 38.7	+0.5
	comp=Z,1.5nm,0.9s,baz=67,slow=5.2,SNR=17							
	comp=Z,1.5nm,0.9s							
WRA	Waramunga Arr	116.72	96			PKPdf	04 58 38.7	-0.4
WRA	Warramunga Arr	116.72	96	PKP		PKPdf	04 58 38.9	-0.2
	comp=Z,5.8nm,0.7s,baz=311,slow=1.7,SNR=60							
WRA				pPKP	pPKPdf		04 59 01.5	+0.6
	comp=Z,1.1nm,0.7s,baz=314,slow=1.6,SNR=3.1							
WRA				PKKPbc	PKKPbc		05 09 05.7	+0.8
	comp=Z,0.5nm,0.7s,baz=110,slow=3.7,SNR=5.3							
AS31	Alice Springs	118.19	100			PKPdf	04 58 41.7	-0.2
ASAR	Alice Springs	118.19	100			PKPdf	04 58 41.5	-0.3
ASAR	Alice Springs	118.19	100	PKP		PKPdf	04 58 41.9	0.0
	comp=Z,5.6nm,0.5s,baz=312,slow=1.4,SNR=67							
ASAR				pPKP		pPKPdf	04 59 03.8	+0.1
	comp=Z,1.4nm,0.7s,baz=298,slow=1.4,SNR=3.1							
ASAR				PKKPbc	PKKPab		05 09 01.5	-1.4
	comp=Z,1.3nm,0.6s,baz=118,slow=3.9,SNR=11							
ASAR	Alice Springs	118.19	100	PKIKP		PKPdf	04 58 41.5	-0.3

AS01	Alice Springs	118.23	100	P		PKiKP	04 58 42.2	+0.2
QIS	Mount Isa	121.31	94	P		PKiKP	04 58 48.2	+0.1
QIS	Mount Isa	121.31	94	P		PKiKP	04 58 48.6	+0.5
QSPA	South Pole Qui	125.19	180	PKP		PKiKP	04 58 54.3	0.0
	comp=Z,7.1nm,0.9s,baz=268,slow=1.3,SNR=25							
QSPA				pPKP		pPKPdf	04 59 16.5	+0.7
	comp=Z,2.0nm,0.6s,baz=265,slow=1.6,SNR=3.0							
QLP	Quilpie	127.85	98	P		PKiKP	04 59 01.9	+1.1
QLP	Quilpie	127.85	98	P		PKiKP	04 59 01.7	+0.9
QLP	Quilpie	127.85	98	P		PKiKP	04 59 01.0	+0.2
QLP	Quilpie	127.85	98	P		PKiKP	04 59 00.8	0.0
STKA	Stephens Creek	127.86	105	PKP		PKiKP	04 59 00.9	+0.2
	comp=Z,7.0nm,0.7s,baz=338,slow=4.1,SNR=18							
STKA	Stephens Creek	127.86	105	P		PKiKP	04 59 01.0	+0.3
STKA	Stephens Creek	127.86	105	P		PKiKP	04 59 00.7	0.0
OUENC	Ouen Island, N	144.39	79	P		PKPdf	04 59 31.4	+0.5
OUENC	Ouen Island, N	144.39	79	P		PKPdf	04 59 31.5	+0.5

*UCR **31** 04:57:42.6±1.2, 10°.26N×84°.38W, h90km±1km, MW3.8*
*CATAC **31** 04:57:43.5±0.5, 10°N±3°×8°4W±°, h73km±5km, M3.4/9, MLv3.4/9, Error ellipse: s-maj=6.6km s-min=3.9km az=41.3, confirmed*

ISC 31 04:57:43.9±1.3, **10°.21N**±0°.03×**84°.39W**±0°.03, **h83**km±5km, **n131**, σ0°.89/208, **27C-40D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZARE	Zarcero	0.02	186	*i*P	Pn	04 57 55.8	-0.1
ZARE				eS	Sn	04 58 05.9	+1.1
VPL2	V. Platanar	0.10	3	*i*P	Pn	04 57 55.8	-0.2
VPL2				eS	Sn	04 58 05.6	+0.7
RAMO	San Ramon	0.14	213	eP	Pn	04 57 55.4	-0.6
RAMO				eS	Sn	04 58 04.7	-0.3
VPS8	V Poas	0.15	101	eP	Pn	04 57 55.5	-0.8
SRA1	San Ramn	0.15	217	*i*P	Pn	04 57 55.4	-0.6
SRA1				eS	Sn	04 58 05.1	+0.1
GREC	Grecia	0.15	150	eP	Pn	04 57 55.6	-0.4
PALD	Palmares	0.16	197	eP	Pn	04 57 55.3	-0.8
PALD				eS	Sn	04 58 05.2	+0.2
TCS1	Tacares	0.19	152	*i*P	Pn	04 57 55.7	-0.4
TCS1				eS	Sn	04 58 05.9	+0.7
TCS1	Tacares	0.19	152	P	Pn	04 57 55.7	-0.4
ATEO	Atenas	0.23	179	*i*P	Pn	04 57 55.6	-0.7
ATEO				eS	Sn	04 58 05.4	0.0
ITAL	Pital	0.27	25	eP	Pn	04 57 55.8	-0.6
ITAL				eS	Sn	04 58 05.4	-0.2
SOCE	Pocosol	0.29	308	*i*P	Pn	04 57 56.1	-0.4
SOCE				eS	Sn	04 58 06.2	+0.4
SOCE	Pocosol	0.29	308	P	Pn	04 57 56.3	-0.2
SOCE	Pocosol	0.29	308	S	Sn	04 58 05.9	+0.1
BELE	Belen	0.30	140	*i*P	Pn	04 57 56.1	-0.6
BELE				eS	Sn	04 58 06.1	0.0
OROT	Orotina	0.32	205	eP	Pn	04 57 56.1	-0.6
OROT				eS	Sn	04 58 06.0	-0.1
HEME	Heredia, Merce	0.33	131	*i*P	Pn	04 57 56.3	-0.5
HEME				eS	Sn	04 58 06.8	+0.4
SANTA	Santa Ana	0.34	144	*i*P	Pn	04 57 56.2	-0.7
SANTA				eS	Sn	04 58 06.4	0.0
HDC	Heredia	0.34	127	*i*P	Pn	04 57 56.9	-0.5
HDC				eS	Sn	04 58 06.7	+0.1
ARZA	Esparza	0.35	232	eP	Pn	04 57 56.5	-0.4
ARZA				eS	Sn	04 58 06.6	+0.2
PURI	Puriscal	0.37	168	*i*P	Pn	04 57 56.5	-0.6
PURI				eS	Sn	04 58 07.5	+0.7
DOMI	Santo Domingo	0.37	128	eP	Pn	04 57 56.8	-0.3
FORC	Fortuna	0.38	313	*i*P	Pn	04 57 56.8	-0.2
FORC				eS	Sn	04 58 07.5	+0.8
VACR	Volcan Arenal	0.39	313	*i*P	Pn	04 57 56.9	-0.3
VACR				eS	Sn	04 58 07.6	+0.7
CASO	Castillo	0.41	303	*i*P	Pn	04 57 56.9	-0.4
CASO				eS	Sn	04 58 08.1	+0.9
CENT	San Jose	0.41	132	eP	Pn	04 57 56.9	-0.5
CENT				eS	Sn	04 58 08.3	+1.0
ROBF	Roble, Puntare	0.41	237	eP	Pn	04 57 57.0	-0.3
ROBF				eS	Sn	04 58 07.8	+0.7
VARE2	V. Arenal	0.41	308	*i*P	Pn	04 57 57.2	-0.2
VARE2				eS	Sn	04 58 07.9	+0.6
CEDE	Laguna Cedeo	0.42	312	*i*P	Pn	04 57 57.2	-0.2
CEDE				eS	Sn	04 58 08.1	+0.8
LUPE	Guadalupe	0.42	128	*i*P	Pn	04 57 56.9	-0.5
LUPE				eS	Sn	04 58 08.0	+0.5
LUJA	Lujan	0.42	132	eP	Pn	04 57 57.2	-0.3
SJS	Escuela Geolog	0.42	129	eP	Pn	04 57 57.0	-0.5
SJS				eS	Sn	04 58 08.1	+0.5
ECI	Escuela Centro	0.43	129	*i*P	Pn	04 57 57.0	-0.6
ECI				eS	Sn	04 58 08.0	+0.4
SJS3	Mercedes San J	0.43	129	eP	Pn	04 57 57.1	-0.5
SJS3				eS	Sn	04 58 08.2	+0.6
CORON	Coronado	0.45	122	eP	Pn	04 57 57.5	-0.2
AMPA	Desamparados	0.45	134	*i*P	Pn	04 57 57.0	-0.6
AMPA				eS	Sn	04 58 07.8	-0.1
MTEVE	Monteverde	0.45	284	*i*P	Pn	04 57 57.3	-0.4
MTEVE				eS	Sn	04 58 08.3	+0.4
ACOS	Acosta	0.47	152	*i*P	Pn	04 57 57.2	-0.5
ACOS				eS	Sn	04 58 08.4	+0.3
TABAC	Tabacon

SVQ2				eS		Sn	04 58 14.3	+0.8	
QUEP	**Quepos**	**0.80**	**164**	*e*P		**Pn**	**04 58 00.4**	**-0.5**	
QUEP				eS		Sn	04 58 14.1	+0.5	
MOTZ	**Rio Naranjo**	**0.82**	**305**	⇓*i*P		**Pn**	**04 58 01.1**	**-0.1**	
MOTZ				eS		Sn	04 58 15.5	+1.4	
LCOCO	**El Coco**	**0.83**	**99**	⇓*i*P		**Pn**	**04 58 00.7**	**-0.5**	
LCOCO				eS		Sn	04 58 14.2	+0.2	
IRES	**Siquirres**	**0.88**	**97**	⇓*i*P		**Pn**	**04 58 01.5**	**-0.2**	
IRES				eS		Sn	04 58 15.8	+0.8	
LCHIL	**Los Chiles**	**0.88**	**339**	⇓*i*P		**Pn**	**04 58 01.2**	**-0.6**	
LCHIL				eS		Sn	04 58 15.0	-0.2	
CUI	**Cuipilapa**	**0.89**	**300**	⇓*i*P		**Pn**	**04 58 01.5**	**-0.4**	
CUI				eS		Sn	04 58 15.8	+0.5	
UPAL	**Upala**	**0.92**	**318**	⇓*i*P		**Pn**	**04 58 01.7**	**-0.5**	
UPAL				eS		Sn	04 58 15.5	-0.3	
COLC	**Colonia**	**0.92**	**300**	⇓*i*P		**Pn**	**04 58 01.8**	**-0.5**	
COLC				eS		Sn	04 58 16.4	+0.4	
HORNC	**Hornillas**	**0.93**	**303**	⇓*i*P		**Pn**	**04 58 01.8**	**-0.6**	
HORNC				eS		Sn	04 58 16.6	+0.4	
CBL1	**Cabuya**	**0.93**	**228**	*e*P		**Pn**	**04 58 01.6**	**-0.7**	
CBL1				eS		Sn	04 58 16.7	+0.7	
MESS	**Mesas**	**0.95**	**304**	⇓*i*P		**Pn**	**04 58 02.1**	**-0.5**	
MESS				eS		Sn	04 58 17.0	+0.3	
CMARA	**Lajas Hojancha**	**1.04**	**260**	⇓*i*P		**Pn**	**04 58 03.0**	**-0.6**	
CMARA				eS		Sn	04 58 18.0	-0.5	
CMARA	**Lajas Hojancha**	**1.04**	**260**	P		**Pn**	**04 58 02.8**	**-0.9**	
NICO	**Nicoya**	**1.04**	**266**	*e*P		**Pn**	**04 58 03.5**	**-0.2**	
NICO				eS		Sn	04 58 18.7	+0.2	
GPS2	**Hotel Rincn d**	**1.09**	**300**	⇓*i*P		**Pn**	**04 58 03.8**	**-0.5**	
GPS1	**Guardaparques**	**1.10**	**301**	⇓*e*P		**Pn**	**04 58 03.7**	**-0.7**	
GPS3	**Bodega del ICE**	**1.10**	**300**	*e*P		**Pn**	**04 58 07.7**	**+3.2**	
GPS3				eS		Sn	04 58 24.5	+4.7	
VRLE	**La Escondida,**	**1.12**	**301**	⇓*i*P		**Pn**	**04 58 04.1**	**-0.6**	
JUD3	**Juan Diaz 3**	**1.13**	**268**	⇓*i*P		**Pn**	**04 58 04.5**	**-0.4**	
JUD3				eS		Sn	04 58 20.7	+0.2	
PEJA	**Penjamo Buenos**	**1.14**	**307**	*e*P		**Pn**	**04 58 04.2**	**-0.7**	
BUAI	**Buenos Aires**	**1.14**	**306**	⇓*i*P		**Pn**	**04 58 04.2**	**-0.7**	
INDI	**Punta indio, G**	**1.15**	**253**	S		**Sn**	**04 58 19.5**	**-1.2**	
INDI	**Punta indio, G**	**1.15**	**253**	P		**Pn**	**04 58 03.8**	**-1.1**	
LAPC	**Finca la Perla**	**1.17**	**299**	⇓*i*P		**Pn**	**04 58 04.5**	**-0.8**	
ALIBA	**Liberia Airpor**	**1.20**	**289**	⇓*i*P		**Pn**	**04 58 05.2**	**-0.3**	
VERH	**Veragua Rainfo**	**1.21**	**103**	⇓*i*P		**Pn**	**04 58 05.0**	**-0.7**	
VERH				eS		Sn	04 58 22.0	-0.2	
SAJE	**San Jernim**	**1.22**	**135**	*e*P		**Pn**	**04 58 05.1**	**-0.9**	
ELI1	**Hacienda Flor**	**1.23**	**291**	*e*P		**Pn**	**04 58 04.9**	**-1.0**	
ELI1	**Hacienda Flor**	**1.23**	**291**	P		**Pn**	**04 58 05.4**	**-0.5**	
EDPE	**Pejibaye, P**	**1.32**	**142**	*e*P		**Pn**	**04 58 06.9**	**-0.1**	
OCHAL	**Ojochal**	**1.32**	**146**	S		**Sn**	**04 58 25.3**	**+0.7**	
OCHAL	**Ojochal**	**1.32**	**146**	P		**Pn**	**04 58 06.9**	**-0.3**	
LAES	**El Progreso Va**	**1.39**	**108**	*e*P		**Pn**	**04 58 07.5**	**-0.4**	
BURE	**Buenos Aires**	**1.46**	**135**	*e*P		**Pn**	**04 58 08.4**	**-0.5**	
BURE				eS		Sn	04 58 27.7	0.0	
DRK0	**Durika**	**1.47**	**130**	*e*P		**Pn**	**04 58 08.3**	**-0.9**	
DRK0	**Durika**	**1.47**	**130**	P		**Pn**	**04 58 08.2**	**-0.9**	
DRK0	**Durika**	**1.47**	**130**	S		**Sn**	**04 58 27.4**	**-0.7**	
LCRUZ	**La Cruz**	**1.50**	**305**	⇓*i*P		**Pn**	**04 58 09.0**	**-0.4**	
LCRUZ				eS		Sn	**04 58 29.3**	**+0.8**	
CEUA	**Cerro Uatsi, L**	**1.54**	**112**	*e*P		**Pn**	**04 58 10.2**	**+0.2**	
PANP	**Palmar Norte**	**1.54**	**143**	*e*P		**Sn**	**04 58 30.0**	**+0.5**	
FIMO	**Fila Mora**	**1.58**	**140**	*e*P		**Pn**	**04 58 11.1**	**+0.5**	
EDP2	**Potrero Grande**	**1.68**	**135**	*e*P		**Pn**	**04 58 11.5**	**-0.3**	
ACON	**Acoyapa**	**1.91**	**336**	⇓*i*P		**Pn**	**04 58 13.8**	**-0.9**	
ACON				eS		Sn	**04 58 37.3**	**-0.9**	
ACON	**Acoyapa**	**1.91**	**336**	P		**Pn**	**04 58 13.9**	**-0.9**	
ESPN	**Las Esperanzas**	**1.98**	**2**	⇑*i*P		**Pn**	**04 58 15.0**	**-0.6**	
ALCO	**Alturas Coton,**	**1.98**	**129**	⇓*i*P		**Pn**	**04 58 15.0**	**-0.8**	
ALCO				eS		Sn	**04 58 39.7**	**-0.3**	
NELY	**Ciudad Neily**	**2.10**	**137**	*e*P		**Pn**	**04 58 21.7**	**+4.4**	
BRU2	**Volcan**	**2.19**	**130**	*e*P		**Pn**	**04 58 18.0**	**-0.5**	
CLLRA	**Cordillera,**	**2.27**	**130**	⇓*e*P		**Pn**	**04 58 19.3**	**-0.5**	
BQTLY	**Boquete Panama**	**2.38**	**127**	*e*P		**Pn**	**04 58 20.7**	**-0.5**	
PTPA	**Petro Terminal**	**2.50**	**143**	*e*P		**Pn**	**04 58 24.3**	**+1.8**	
PBNVO	**Pueblo Nuevo,**	**2.53**	**121**	*e*P		**Pn**	**04 58 22.4**	**-0.6**	
RBALA	**Bur**	**2.57**	**121**	*e*P		**Pn**	**04 58 22.1**	**-1.4**	
KKNTU	**Kakinᵉ**	**2.89**	**118**	*e*P		**Pn**	**04 58 26.4**	**-1.4**	
CVEJO	**Cerro Viej**	**3.39**	**125**	*e*P		**Pn**	**04 58 35.1**	**+0.5**	

*ASRS **31** 05:03:16.0±1.2,53°.94N×86°.56E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 31 05:03:17.5±3.2,53°.98N×86°.64E,h0km,mbtmp2.6/2, ML2.4/2,Error ellipse: s-maj=25.8km s-min=16.4km az=54.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.08**	**269**	I	I	05 10 20.0	
	baz=89,slow=313,SNR=4.1						
ZALV	**Zalesovo Beam**	**1.08**	**269**	Pg	Pg	05 03 37.4	-0.7
	0.6nm,0.3s,baz=85,slow=15,SNR=5.8						
ZALV				Lg	Lg	05 03 53.0	
	0.7nm,0.3s,baz=86,slow=22,SNR=4.7						
KURBB	**Kurchatov Arra**	**6.00**	**239**	Pn	Pn	05 04 48.5	+1.0
	0.1nm,0.3s,baz=56,slow=14,SNR=3.7						
KURBB				Lg	Lg	05 06 28.8	
	baz=54,slow=33,SNR=1.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.71**	**203**	Pn	Pn	05 05 11.9	+0.9
	0.1nm,0.3s,baz=25,slow=13,SNR=2.8						
	0.2nm,0.4s						

IDC 31 05:03:58.1±2.8,19°.04S×176°.80W,h0km,mb3.8/3, mbtmp3.8/3,Error ellipse: s-maj=294.4km s-min=33.0km az=160.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.94**	**260**	P	P	05 12 22.6	-0.5
	0.8nm,0.4s,baz=98,slow=7.2,SNR=15						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**45.97**	**255**	P	P	05 12 23.6	+0.2
	1.1nm,0.5s,baz=90,slow=7.9,SNR=15						
	1.1nm,0.5s						
TXAR	**Lajitas Array**	**85.32**	**57**	P	P	05 16 37.5	0.0
	0.3nm,0.8s,baz=232,slow=6.7,SNR=4.6						
	0.3nm,0.8s						

*CATAC **31** 05:12:59.2±0.4,5°.N±3°.3×8°.3W±°.,h1km,M4.2/21,mb4.3/9, mB4.7/7,MLv4.3/21,Mw(mB)4.0/7,Error ellipse: s-maj=9.1km s-min=3.4km az=46.4,confirmed*
*RSNC **31** 05:13:00.2±0.6,6°.N±2°.×8°.3W±°.,h0km,M3.7,mB5.0,mb4.8, ML2.8,Mw(mB)4.3*
*UCR **31** 05:13:01.4±1.6,5°.50N×82°.62W,h17km±62km,MW3.7*
*UPA **31** 05:13:01.4±1.5,5°.51N×82°.55W,h10km±229km,MW3.8*

ISC 31 05:12:57.7±1.2,5°.31N±0°.05×82°.69W±0°.05,h10km,n110, σ1§83/137,2C-2D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAPC	**Malpelo**	**1.68**	**140**	P	**Pn**	**05 13 26.6**	**-0.6**
MAPC				S	**Sn**	**05 13 45.9**	**-3.0**
CACAO	**El Cacao, Vera**	**2.72**	**42**	*e*P	**Pn**	**05 13 41.1**	**-0.4**
CACAO				eS	**Sn**	**05 14 11.7**	**-2.8**
CACAO	**El Cacao, Vera**	**2.72**	**42**	P	**Pn**	**05 13 41.0**	**-0.4**
CACAO				S	**Sn**	**05 14 10.6**	**-3.8**
GMAL	**Guarumal, Vera**	**2.83**	**31**	*e*S	**Sn**	**05 14 13.1**	**-4.2**
GMAL				*e*P	**Sn**	**05 14 14.2**	**-3.1**
GMAL	**Guarumal, Vera**	**2.83**	**31**	P	**Pn**	**05 13 43.0**	**-0.1**
GMAL				S	**Sn**	**05 14 13.7**	**-3.6**
PTPA	**Petro Terminal**	**2.88**	**356**	*e*P	**Pn**	**05 13 43.4**	**-0.3**
PTPM	**Petroterminale**	**2.88**	**356**	*e*P	**Pn**	**05 13 43.5**	**-0.3**
PTPM				eS	**Sn**	**05 14 16.1**	**-2.5**
DVD	**David**	**3.12**	**4**	*e*P	**Pn**	**05 13 47.3**	**+0.3**
DVD				eS	**Sn**	**05 14 21.4**	**-2.9**
CVEJO	**Cerro Viej**	**3.13**	**21**	*e*P	**Pn**	**05 13 46.8**	**-0.4**
CVEJO				eS	**Sn**	**05 14 22.0**	**-2.6**
CDITO	**Canoas**	**3.25**	**357**	P	**Pn**	**05 13 48.8**	**0.0**
CDITO	**Canoas**	**3.25**	**357**	S	**Sn**	**05 14 25.8**	**-1.8**
PTJ1	**Puerto Jimnez**	**3.27**	**349**	S	**Sn**	**05 14 24.9**	**-3.0**
PTJ1	**Puerto Jimnez**	**3.27**	**349**	P	**Pn**	**05 13 48.8**	**-0.2**
NELY	**Ciudad Neily**	**3.33**	**356**	*e*P	**Pn**	**05 13 50.0**	**+0.1**
PRISO	**Paraso**	**3.33**	**2**	*e*P	**Pn**	**05 13 48.7**	**-1.4**
CLLRA	**Cordillera,**	**3.41**	**1**	*e*P	**Pn**	**05 13 51.9**	**+0.6**
CLLRA				eS	**Sn**	**05 14 31.2**	**-0.7**
BQTLY	**Boquete Panama**	**3.44**	**4**	*e*P	**Pn**	**05 13 51.0**	**-0.5**
AZU	**Azuero**	**3.44**	**44**	*e*P	**Pn**	**05 13 51.8**	**+0.4**
AZU				eS	**Sn**	**05 14 28.9**	**-3.3**
AZU	**Azuero**	**3.44**	**44**	P	**Pn**	**05 13 51.5**	**+0.1**
AZU				S	**Sn**	**05 14 31.7**	**-0.5**
BRU2	**Volcan**	**3.46**	**360**	*e*P	**Pn**	**05 13 51.3**	**-0.6**
BRU2				eS	**Sn**	**05 14 32.0**	**-1.1**
BRU2	**Volcan**	**3.46**	**360**	*e*P	**Pn**	**05 13 52.2**	**+0.3**
BRU2				eS	**Sn**	**05 14 30.4**	**-2.6**
BRU2	**Volcan**	**3.46**	**360**	S	**Sn**	**05 14 31.2**	**-1.8**
BRU2	**Volcan**	**3.46**	**360**	P	**Pn**	**05 13 51.4**	**-0.5**
CHIT3	**Chitre**	**3.46**	**40**	*e*P	**Pn**	**05 13 52.2**	**+0.5**
MLIR3	**Monte Lirio, C**	**3.46**	**358**	*e*P	**Pn**	**05 13 52.8**	**+1.0**
MLIR3				eS	**Sn**	**05 14 34.8**	**+1.7**
MLIR3	**Monte Lirio, C**	**3.46**	**358**	*e*P	**Pn**	**05 13 52.8**	**+1.0**
MLIR3				eS	**Sn**	**05 14 31.8**	**-1.3**
SCLRA	**Santa Clara, W**	**3.50**	**358**	*e*P	**Pn**	**05 13 53.1**	**+0.7**
RBALA	**Bur**	**3.59**	**8**	⇑*i*P	**Pn**	**05 13 54.5**	**+1.0**
RBALA				eS	**Sn**	**05 14 36.0**	**+0.1**
PBNVO	**Pueblo Nuevo,**	**3.59**	**8**	*e*P	**Pn**	**05 13 52.9**	**-0.6**
PBNVO				eS	**Sn**	**05 14 34.0**	**-2.1**
KKNTU	**Kakinᵉ**	**3.62**	**14**	*e*P	**Pn**	**05 13 54.0**	**+0.2**
KKNTU				eS	**Sn**	**05 14 35.8**	**-0.8**
ALCO	**Alturas Coton,**	**3.62**	**358**	*e*P	**Pn**	**05 13 54.1**	**0.0**
EDP2	**Potrero Grande**	**3.72**	**352**	*e*P	**Pn**	**05 13 56.1**	**+0.8**
FIMO	**Fila Mora**	**3.72**	**350**	*e*P	**Pn**	**05 13 55.9**	**+0.5**
OCHAL	**Ojochal**	**3.88**	**346**	P	**Pn**	**05 13 57.5**	**0.0**
OCHAL	**Ojochal**	**3.88**	**346**	S	**Sn**	**05 14 40.6**	**-2.7**
EDPE	**Pejibaye, P**	**3.92**	**347**	*e*P	**Pn**	**05 13 58.4**	**+0.2**
DRK0	**Durika**	**3.97**	**352**	*e*P	**Pn**	**05 13 59.3**	**+0.5**
DRK0	**Durika**	**3.97**	**352**	P	**Pn**	**05 13 59.3**	**+0.5**
DRK0	**Durika**	**3.97**	**352**	S	**Sn**	**05 14 44.8**	**-0.8**
SAJE	**San Jernim**	**4.09**	**349**	*e*P	**Pn**	**05 14 00.8**	**+0.2**
QUEP	**Quepos**	**4.35**	**340**	S	**Sn**	**05 14 52.9**	**-1.9**
QUEP	**Quepos**	**4.35**	**340**	P	**Pn**	**05 14 04.4**	**+0.5**
LAES	**El Progreso Va**	**4.44**	**355**	*e*P	**Pn**	**05 14 06.8**	**+1.6**
PIEC	**Ceiba, El Cedra**	**4.47**	**344**	*e*P	**Pn**	**05 14 06.3**	**+0.5**
RAZU	**San Marcos de**	**4.52**	**343**	*e*P	**Pn**	**05 14 04.2**	**-2.2**
PITB	**Pirrs, San**	**4.52**	**343**	*e*P	**Pn**	**05 14 08.0**	**+1.5**
PISJ	**San Jernim**	**4.53**	**342**	*e*P	**Pn**	**05 14 06.8**	**+0.3**
PAR1A	**Puntarenas Pro**	**4.54**	**341**	*e*P	**Pn**	**05 14 06.6**	**+0.1**
PICV	**PH. Pirrs**	**4.54**	**341**	*e*P	**Pn**	**05 14 07.5**	**+0.8**
ZANG	**Zanguenga, Cho**	**4.58**	**37**	*e*P	**Pn**	**05 14 10.2**	**+3.1**
ZANG	**Zanguenga, Cho**	**4.58**	**37**	*e*S	Sn	05 14 10.2	-50
VERH	**Veragua Rainfo**	**4.62**	**354**	*e*P	**Pn**	**05 14 10.2**	**+2.6**
VERH				eS	**Sn**	**05 15 02.3**	**+0.9**
REPA	**Paraso**	**4.64**	**345**	*e*P	**Pn**	**05 14 10.2**	**+2.1**
ACOS	**Acosta**	**4.69**	**342**	*e*P	**Pn**	**05 14 09.2**	**+0.4**
PCAYA	**Pacayas**	**4.71**	**346**	*e*P	**Pn**	**05 14 10.9**	**+1.7**
RVSTA	**Santa Teresita**	**4.74**	**348**	*e*P	**Pn**	**05 14 10.3**	**+1.0**
VTCV	**VTCV, Calle Va**	**4.76**	**348**	*e*P	**Pn**	**05 14 11.5**	**+1.8**
BCIP	**Isla Barro Col**	**4.76**	**36**	*e*P	**Pn**	**05 14 12.0**	**+2.4**
CVTV	**Tajo**	**4.78**	**347**	*e*P	**Pn**	**05 14 12.1**	**+1.9**
VICA	**Volcano Irazu**	**4.79**	**346**	*e*P	**Pn**	**05 14 12.2**	**+1.9**
VICA				eS	**Sn**	**05 15 06.7**	**+0.6**
CVTQ	**Turrialba Volc**	**4.79**	**347**	*e*P	**Pn**	**05 14 11.6**	**+1.3**
VTLA	**Turrialba Volc**	**4.79**	**347**	*e*P	**Pn**	**05 14 12.2**	**+2.0**
SANTA	**Santa Ana**	**4.83**	**342**	*e*P	**Pn**	**05 14 11.4**	**+0.7**
CVIMO	**Finca Echandi**	**4.85**	**345**	*e*P	**Pn**	**05 14 12.3**	**+1.3**
BELE	**Belen**	**4.87**	**342**	*e*P	**Pn**	**05 14 12.3**	**+1.1**
HDC	**Heredia**	**4.87**	**343**	*e*P	**Pn**	**05 14 12.4**	**+1.1**
CBL1	**Cabuya**	**4.88**	**331**	*e*P	**Pn**	**05 14 11.7**	**+0.6**
ATEO	**Atenas**	**4.94**	**340**	*e*P	**Pn**	**05 14 13.0**	**+0.9**
TCS1	**Tacares**	**4.97**	**341**	P	**Pn**	**05 14 12.1**	**-0.5**
CAZU	**Cerro Azul, Pa**	**5.08**	**40**	*e*P	**Pn**	**05 14 15.9**	**+1.8**
JCR1	**Jicaral**	**5.11**	**332**	*e*P	**Pn**	**05 14 14.6**	**0.0**
INDI	**Punta indio, G**	**5.32**	**329**	P	**Pn**	**05 14 17.7**	**+0.4**
INDI	**Punta indio, G**	**5.32**	**329**	S	**Sn**	**05 15 17.0**	**-1.7**
SOCE	**Pocosol**	**5.39**	**339**	P	**Pn**	**05 14 19.2**	**+0.9**
SOCE	**Pocosol**	**5.39**	**339**	S	**Sn**	**05 15 20.0**	**-0.6**
CMARA	**Lajas Hojancha**	**5.41**	**330**	*e*P	**Pn**	**05 14 19.0**	**+0.4**
CMARA	**Lajas Hojancha**	**5.41**	**330**	P	**Pn**	**05 14 18.7**	**+0.1**
CMARA	**Lajas Hojancha**	**5.41**	**330**	S	**Sn**	**05 15 18.1**	**-3.0**
JUNT	**Juntas**	**5.43**	**336**	⇑*e*P	**Pn**	**05 14 20.0**	**+1.2**
JTS	**Las Juntas de**	**5.44**	**336**	⇓*e*P	**Pn**	**05 14 20.0**	**+1.1**
JTS				eS	**Sn**	**05 15 19.9**	**-1.8**
JTS	**Las Juntas de**	**5.44**	**336**	P	**Pn**	**05 14 20.2**	**+1.2**
JTS				S	**Sn**	**05 15 19.0**	**-2.6**
JTS	**Las Juntas de**	**5.44**	**336**	P	**Pn**	**05 14 20.1**	**+1.2**
CASO	**Castillo**	**5.48**	**338**	*e*P	**Pn**	**05 14 21.0**	**+1.4**
FORC	**Fortuna**	**5.49**	**339**	*e*P	**Pn**	**05 14 21.7**	**+2.1**
VACR	**Volcan Arenal**	**5.50**	**339**	*e*P	**Pn**	**05 14 22.0**	**+2.2**
VARE2	**V. Arenal**	**5.50**	**339**	*e*P	**Pn**	**05 14 21.6**	**+1.7**
TABAC	**Tabacon**	**5.55**	**338**	*e*P	**Pn**	**05 14 22.8**	**+2.3**
JUD3	**Juan Diaz 3**	**5.59**	**330**	⇓*e*P	**Pn**	**05 14 22.1**	**+1.0**
JUD3				eS	**Sn**	**05 15 21.9**	**-3.7**
COVE	**Coope Vega, Sa**	**5.64**	**343**	P	**Pn**	**05 14 23.8**	**+2.2**
INVE	**Universidad In**	**5.65**	**336**	*e*P	**Pn**	**05 14 22.8**	**+1.0**
QUEB	**Quebradon, Cot**	**5.72**	**335**	*e*P	**Pn**	**05 14 24.7**	**+2.0**
CUI	**Cuipilapa**	**5.86**	**335**	*e*P	**Pn**	**05 14 26.7**	**+2.0**
COLC	**Colonia**	**5.88**	**335**	*e*P	**Pn**	**05 14 27.2**	**+2.2**
MESS	**Mesas**	**5.94**	**335**	*e*P	**Pn**	**05 14 27.4**	**+1.4**
ALIBA	**Liberia Airpor**	**5.97**	**332**	*e*P	**Pn**	**05 14 27.6**	**+1.4**
UPAL	**Upala**	**6.01**	**338**	S	**Sn**	**05 15 34.2**	**-1.5**
UPAL	**Upala**	**6.01**	**338**	P	**Pn**	**05 14 27.1**	**+0.3**
ELI1	**Hacienda Flor**	**6.01**	**332**	P	**Pn**	**05 14 28.0**	**+1.1**
ELI1	**Hacienda Flor**	**6.01**	**332**	S	**Sn**	**05 15 35.3**	**-0.5**
LAPC	**Finca la Perla**	**6.07**	**334**	*e*P	**Pn**	**05 14 29.3**	**+1.7**
BBAC	**Balboa, Cauca**	**6.33**	**121**	P	**Pn**	**05 14 33.3**	**+1.9**
BBAC				P	**Pn**	**05 14 35.1**	**+3.7**
BBAC				P	**Pn**	**05 14 35.7**	**+4.3**
JAMC	**Jamundi, Valle**	**6.34**	**109**	P	**Pn**	**05 14 34.7**	**+3.1**
JAMC				P	**Pn**	**05 14 34.7**	**+3.1**
JAMC				P	**Pn**	**05 14 34.7**	**+3.1**
YOTC	**Yotoco, Valle**	**6.45**	**101**	P	**Pn**	**05 14 36.0**	**+3.0**
	479nm28nm,0.8s						
YOTC				P	**Pn**	**05 14 36.0**	**+3.0**
	479nm28nm,0.8s						
YOTC				P	Pb	05 14 36.2	-14
	479nm28nm,0.8s						
OTAV	**Otavalo**	**6.58**	**140**	P	**Pn**	**05 14 37.8**	**+2.8**
POPC	**Popayan, Colom**	**6.59**	**114**	P	**Pn**	**05 14 37.9**	**+2.9**
	690nm25nm,0.4s						
POPC				P	**Pn**	**05 14 38.3**	**+3.3**
	690nm25nm,0.4s						
POPC				P	**Pn**	**05 14 38.3**	**+3.3**
	690nm25nm,0.4s						
ACON	**Acoyapa**	**7.06**	**340**	*e*P	**Pn**	**05 14 41.7**	**+0.5**
ACON	**Acoyapa**	**7.06**	**340**	P	**Pn**	**05 14 42.1**	**+0.9**
HELC	**Santa Helena**	**7.17**	**83**	P	**Pn**	**05 14 46.0**	**+2.9**
GARC	**Garzon, Huila**	**7.82**	**113**	P	Pn	05 14 57.0	+5.2
	1µm22nm,0.7s						
FLOC	**Florencia**	**7.93**	**118**	P	Pn	05 15 02.0	+8.7

*NEIC **31** 05:30:27.8±0.9,38°.18N±0°.01×113°.14W±0°.02,h5km±1km, Error ellipse: s-maj=2.7km s-min=2.3km az=297.0*

UUSS 31 05:30:28.0±1.0,38°.16N±0°.02×113°.12W±0°.01,h10km±7km, ML2.4/9,ML2.5/38(NEIC),Error ellipse: s-maj=2.5km s-min=1.0km az=149.0,Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWU	**Dry Willow Pea**	**0.11**	**120**		Pg	05 30 31.5	+0.6
NMUT	**North Mineral**	**0.41**	**31**		Pg	05 30 36.3	+0.1
NMUT					Sg	05 30 42.1	+0.4
ARUT	**Antelope Range**	**0.45**	**214**		Pg	05 30 37.5	+0.7
IMU	**Iron Mountain**	**0.47**	**356**		Pg	05 30 37.6	+0.2
SZCU	**Shurtz Canyon**	**0.56**	**177**		Pg	05 30 39.3	+0.3
SZCU	**Shurtz Canyon**	**0.56**	**177**	IAML		05 30 47.5	
	comp=E,619nm,0.2s						
SZCU				IAML		05 30 47.6	
	comp=N,780nm,0.2s						
CCUT	**Cedar City**	**0.64**	**198**		Pg	05 30 40.5	+0.1
CCUT	**Cedar City**	**0.64**	**198**	IAML		05 30 49.7	
	comp=N,100nm,0.5s						
CCUT				IAML		05 30 52.3	
	comp=E,59nm,0.1s						
PSUT	**Pine Spring**	**0.69**	**303**		Pg	05 30 41.6	+0.2
PSUT	**Pine Spring**	**0.69**	**303**	IAML		05 30 52.4	
	comp=N,124nm,0.3s						
TCRU	**Three Creeks R**	**0.69**	**49**		Pg	05 30 41.6	+0.2
TCRU	**Three Creeks R**	**0.69**	**49**	IAML		05 30 51.4	
	comp=N,297nm,0.2s						
MTPU	**Mount Pierson**	**0.75**	**99**		Pg	05 30 42.9	+0.4
MSU	**Marysvale**	**0.82**	**64**		Pg	05 30 44.0	+0.2
PKCU	**Pink Cliffs**	**0.96**	**138**		Pb	05 30 46.8	-0.1
PKCU	**Pink Cliffs**	**0.96**	**138**	IAML		05 31 00.2	
	comp=N,191nm,0.4s						
BTU	**Barney Top**	**1.06**	**112**		Pn	05 30 49.2	-0.2
WCU	**Willow Creek**	**1.14**	**45**		Pg	05 30 49.8	-0.2
LCMT	**Little Creek M**	**1.15**	**185**		Pb	05 30 49.8	-0.3
KNB	**Kanab**	**1.17**	**168**		Pb	05 30 50.1	-0.2
KNB	**Kanab**	**1.17**	**168**	IAML		05 31 06.8	
	comp=E,67nm,0.1s						
KNB				IAML		05 31 08.4	
	comp=N,78nm,0.2s						
SPR3	**Spring Creek 3**	**1.27**	**312**		Pn	05 30 50.8	-1.3
SPR3				IAML		05 31 08.6	
	comp=N,82nm,0.4s						
SPR3				IAML		05 31 10.6	
	comp=E,80nm,0.3s						
FLU	**Fool Peak**	**1.42**	**31**		Pn	05 30 54.0	-0.2
Q16A	**Castle Valley**	**1.70**	**63**	Pn	Pn	05 30 58.4	+0.4
PRN	**Pahroc Range**	**1.71**	**244**	Pn	Pn	05 30 58.4	+0.4
U15A	**North Rim**	**1.85**	**159**		Pb	05 31 01.6	-0.5
U15A				IAML		05 31 26.0	
	comp=N,53nm,0.5s						
U15A				IAML		05 31 27.3	
	comp=E,46nm,0.4s						
TMUT	**Trail Mountain**	**1.88**	**52**		Pn	05 31 00.5	0.0
HMU	**Henry Mountain**	**1.89**	**96**		Pb	05 31 02.5	-0.2
HMU				IAML		05 31 28.8	
	comp=E,50nm,0.5s						
R11B	**Troy Canyon, C**	**1.95**	**276**		Pn	05 31 01.1	-0.3
R11B				IAML		05 31 31.9	
	comp=N,31nm,0.3s						
R11B				IAML		05 31 32.4	
	comp=E,32nm,0.4s						
S11A	**Rachel**	**2.14**	**257**	Pn	Pn	05 31 04.4	+0.4
TPNV	**Topopah Spring**	**2.77**	**245**	Pn	Pn	05 31 12.7	+0.1
TPNV				IAML		05 32 02.3	
	comp=E,15nm,0.8s						
TPNV				IAML		05 32 02.6	
	comp=E,16nm,0.5s						
TPH	**Tonopah**	**3.24**	**270**	Pn	Pn	05 31 19.2	+0.1

*BGR **31** 05:32:27.3±0.5,47°.74N×9°.11E,h5km,ML2.9/12,Error ellipse: s-maj=4.4km s-min=4.4km az=104.0*
*BUG **31** 05:32:27.2±0.6,47°.75N×9°.10E,h5km±2km,MD3.4/10, ML3.5/10*
*LDG **31** 05:32:27.6±0.1,47°.73N×9°.11E,h4km,Ml3.4/25,Error ellipse: s-maj=1.2km s-min=1.1km az=101.0*
*ZUR **31** 05:32:27.1,47°.75N×9°.11E,h4km,MLh3.1/89,Error ellipse: s-maj=1599.7km s-min=387.9km az=207.0*
*PRU **31** 05:32:31.4,47°.80N×9°.35E,h1km*

**ISC 31 05:

METMA Sg **Sg** **05 32 46.1 +0.6**
METMA Mettma DE 0.57 266 ⇑Pg **Pg** **05 32 38.4 +0.3**
METMA Sg **Sg** **05 32 46.2 +0.6**
JUNG Jungingen 0.58 356 Sg **Sg** **05 32 47.0 +1.4**
JUNG SmS 05 32 51.0
EWZT2 Wettswil, ZR 0.59 225 ⇑Pg **Pg** **05 32 38.7 +0.4**
EWZT2 Sg **Sg** **05 32 47.2 +1.2**
ERPF Erpfingen 0.59 5 SmS 05 32 51.6
ACHB Acheberg 0.60 254 ⇑Pg **Pg** **05 32 38.9 +0.4**
ACHB Sg **Sg** **05 32 47.2 +0.9**
BERGE Lenzkirch (DE) 0.63 281 ⇑Pg **Pg** **05 32 39.7 +0.5**
BERGE Sg **Sg** **05 32 48.4 +1.0**
BERGE Lenzkirch (DE) 0.63 281 ⇑Pg **Pg** **05 32 39.7 +0.5**
BERGE Sg **Sg** **05 32 48.5 +1.0**
BERGE SmS 05 32 52.1
MSGN Moessingen, Su 0.65 357 PmP 05 32 42.1
DAVA Damuels 0.71 131 *e*Pg **Pg** **05 32 41.0 +0.4**
3.3nm,0.2s,SNR=15
DAVA *e*Sg **Sb** **05 32 51.2 -0.3**
0.2nm,0.1s
DAVA Damuels 0.71 131 Pg **Pg** **05 32 41.0 +0.4**
DAVA Sg **Sb** **05 32 51.1 -0.3**
A100A Rottenburg, We 0.71 350 ⇓Pg **Pg** **05 32 41.1 +0.6**
A100A PmP 05 32 42.3
A100A Sg **Sb** **05 32 51.2 -0.2**
SULZ Cheisacher 0.71 251 ⇑Pg **Pg** **05 32 41.0 +0.4**
SULZ Cheisacher 0.71 251 ⇑Pg **Pg** **05 32 41.0 +0.4**
SULZ Sg **Sg** **05 32 50.5 +0.7**
BUCH Bad Urach 0.71 13 Pg **Pg** **05 32 41.4 +0.7**
BUCH PmP 05 32 43.1
BUCH Sg **Sb** **05 32 51.5 -0.2**
BUCH SmS 05 32 54.8
A109A Bad Urach, See 0.73 19 Pg **Pg** **05 32 41.8 +0.8**
A109A Sg **Sb** **05 32 51.9 -0.1**
PLONS Plons/SG 0.73 165 ⇑Pg **Pg** **05 32 41.2 +0.2**
PLONS Plons/SG 0.73 165 Pg **Pg** **05 32 41.2 +0.2**
PLONS Plons/SG 0.73 165 *e*Pg **Pg** **05 32 41.3 +0.2**
PLONS *e*Sg **Sg** **05 32 51.1 +0.6**
PLONS Plons/SG 0.73 165 P **Pg** **05 32 41.2 +0.2**
PLONS AML AML
comp=N,102μm,0.7s
PLONS AML AML
comp=E,170μm,0.5s
FELD Feldberg im Sc 0.75 280 ⇑Pg **Pg** **05 32 41.8 +0.4**
FELD Feldberg im Sc 0.75 280 ⇑Pg **Pg** **05 32 41.8 +0.4**
FELD Sg **Sb** **05 32 52.7 0.0**
FELD SmS 05 32 55.1
HAMIK Hmikon, Dlik 0.76 228 ⇓Pg **Pg** **05 32 42.0 +0.3**
HAMIK Hmikon, Dlik 0.76 228 ⇑Pg **Pg** **05 32 41.9 +0.3**
TUBL Tuebingen-Lenn 0.77 359 Sg **Sg** **05 32 52.5 +0.8**
TUBL SmS 05 32 55.5
A108A Ulm, Ringingen 0.77 39 Pg **Pg** **05 32 42.1 +0.3**
BFO Black Forest 0.77 318 ⇓Pg **Pg** **05 32 42.3 +0.5**
BFO Black Forest 0.77 318 Pg **Pg** **05 32 42.3 +0.5**
BFO *e*Sg **Sg** **05 32 52.8 +0.9**
EMMET Emmethof 0.80 247 ⇑Pg **Pg** **05 32 42.6 +0.3**
ROTHE Rothenfluh 0.85 251 ⇑Pg **Pg** **05 32 43.7 +0.5**
FBB Freiburg im Br 0.88 287 Pg **Pb** **05 32 45.0 +0.6**
FBB Sg **Sb** **05 32 56.8 +0.5**
FBB SmS 05 32 58.7
SLUB Luzern Bramber 0.88 218 ⇑Pg **Pg** **05 32 44.2 +0.3**
SLUB Sg **Sg** **05 32 56.2 +0.8**
DAGMA Lutertal, Dagm 0.91 235 ⇓Pg **Pg** **05 32 44.7 +0.3**
DAGMA Lutertal, Dagm 0.91 235 Pg **Pg** **05 32 44.7 +0.3**
LLS Linth-Limmern 0.91 184 ⇓Pg **Pg** **05 32 44.4 -0.1**
LLS Sg **Sg** **05 32 56.3 0.0**
ENDD Endenburg 0.92 268 ⇑Pg **Pg** **05 32 44.9 +0.2**
ENDD Endenburg 0.92 268 ⇑Pg **Pg** **05 32 44.8 +0.2**
STAU Staufen im Bre 0.93 277 Pg **Pb** **05 32 45.6 +0.3**
A121B Sulzburg 0.93 275 ⇑Pg **Pg** **05 32 45.0 +0.2**
PANIX Pigniu (Panix) 0.93 180 ⇓Pg **Pg** **05 32 44.8 -0.1**
DEGG Deggingen-Nord 0.94 25 Pg **Pg** **05 32 45.5 +0.3**
SAUR Augst-Roemermu 0.96 257 ⇓Pg **Pg** **05 32 45.8 +0.5**
SKAF Kaiseraugst-Fr 0.96 257 ⇑Pg **Pg** **05 32 45.8 +0.4**
OPP Oppenau 0.96 321 Pg **Pb** **05 32 46.2 +0.4**
OPP Sg **Sb** **05 32 59.5 +0.8**
LOES Loerrach-Stett 0.98 262 Pg **Pb** **05 32 46.7 +0.5**
BNALP Bannalp 1.00 208 ⇑Pg **Pg** **05 32 46.3 +0.1**
BNALP Bannalp 1.00 208 P **Pg** **05 32 46.2 +0.1**
BREM Bremgarten 1.01 279 Pg **Pb** **05 32 47.4 +0.8**
BREM Sg **Sb** **05 33 01.4 +1.4**
VOGT Vogtsburg - To 1.02 289 ⇑Pg **Pb** **05 32 47.1 +0.3**
STU Stuttgart 1.02 3 *e*Sg **Sb** **05 33 00.7 +0.4**
BALST Balsthal 1.04 247 Pg **Pg** **05 32 47.1 +0.2**
BALST *e*Sg **Sb** **05 33 01.3 +0.2**
GALG Neuhausen (Enz 1.05 348 Pg **Pb** **05 32 48.1 +0.7**
GALG Sg **Sg** **05 33 01.6 +0.8**
HDH Heidenheim-Cha 1.11 41 Pn **Pg** **05 32 47.8 -0.4**
HDH Pg **Pb** **05 32 48.6 +0.2**
DAVOX Davos/Dischmat 1.11 151 P **Pg** **05 32 48.2 -0.1**
DAVOX S **Sb** **05 33 03.7 +0.6**
DAVOX AML AML
comp=E,245μm,1.4s
DAVOX AML AML
comp=N,472μm,0.4s
DAVOX AML AML
comp=E,245μm,1.4s
DAVOX AML AML
comp=E,245μm,0.6s
DAVOX AML AML
comp=N,472μm,0.4s
URBA Urbach, Forsts 1.13 16 Pn **Pg** **05 32 48.2 -0.4**
URBA Sn **Sb** **05 33 04.1 +0.5**
BABA Baden-Baden-Ne 1.14 328 ⇓Pn **Pg** **05 32 48.6 -0.2**
BABA Pg **Pb** **05 32 49.5 +0.7**
BABA Sg **Sb** **05 33 04.7 +0.9**
RETA Reutte 1.16 103 *e*Pg **Pb** **05 32 49.8 +0.6**
comp=N,4.7nm,0.1s,SNR=13
RETA *e*Sg **Sb** **05 33 05.6 +1.2**
comp=N,4.9nm,0.1s
RETA Reutte 1.16 103 Pg **Pb** **05 32 49.8 +0.6**
TUE Stuetta 1.30 172 P **Pg** **05 32 51.5 -0.3**
TUE AML AML
comp=N,129μm,1.2s
TUE AML AML
comp=N,122μm,0.7s
TUE AML AML
comp=E,190μm,0.3s
TUE AML AML
comp=E,190μm,0.3s
TUE AML AML
comp=N,122μm,1.3s
TUE AML AML
comp=N,129μm,0.8s
BOURR Bourrignon 1.32 255 Pn **Pn** **05 32 51.0 -0.7**
FETA Feichten 1.33 123 *e*Pg **Pb** **05 32 52.9 +0.8**
comp=N,1.8nm,0.2s,SNR=11
FETA *e*Sg **Sn** **05 33 10.5 +0.7**
comp=N,35nm,0.6s
FUSIO Fusio 1.34 193 P **Pn** **05 32 52.2 +0.2**
FUSIO S **Sb** **05 33 10.2 +0.6**
FUSIO AML AML
comp=E,508μm,0.2s
FUSIO AML AML
comp=N,456μm,0.7s
FUSIO AML AML
comp=N,456μm,1.3s
FUSIO Fusio 1.34 193 S **Sn** **05 33 10.9 +1.0**
WLS Welschbruch 1.34 300 Pg **Pg** **05 32 53.0 +0.3**
ECH Echery 1.38 290 *e*Pn **Pn** **05 32 51.9 -0.6**
ECH Sn **Sb** **05 33 09.3 -1.6**
ECH Sg **Sn** **05 33 12.0 +0.9**
FUORN Ofenpass-Fuorn 1.39 145 P **Pg** **05 32 53.7 +0.2**
FUORN AML AML
comp=E,163μm,0.6s
FUORN AML AML
comp=N,226μm,0.5s
FUORN AML AML
comp=E,163μm,0.6s
FUORN AML AML
comp=E,163μm,1.4s
CDF Champ du Feu 1.39 299 *e*Pg **Pb** **05 32 53.6 +0.4**
CDF *e*Sg **Sb** **05 33 11.4 +0.3**
comp=E,137nm,0.2s
MOTA Moosalm 1.42 106 *e*Pg **Pn** **05 32 53.9 +0.8**
comp=E,0.5nm,0.1s,SNR=23
MOTA *e*Sg **Sb** **05 33 12.2 +0.3**
comp=E,23nm,0.1s
WOER Woert 1.48 31 Pn **Pn** **05 32 52.7 -1.1**
WOER Sn **Sn** **05 33 12.4 -1.0**
WOER Sg **Sg** **05 33 14.8 +0.3**
BERNI Berninapass 1.48 155 P **Pb** **05 32 55.1 +0.2**
BERNI AML AML
comp=E,98μm,1.4s
BERNI AML AML
comp=N,77μm,0.7s
BERNI AML AML
comp=E,98μm,1.4s
BERNI AML AML
comp=E,98μm,0.6s
BERNI AML AML
comp=N,77μm,0.7s
MOSI Grossmontoni 1.51 139 P **Pb** **05 32 55.9 +0.6**
MOSI S **Sg** **05 33 17.0 +1.6**
MOSI AML AML
comp=E,504μm,0.7s
MOSI AML AML
comp=N,624μm,0.5s
MOSI AML AML
comp=E,504μm,1.3s
ROTT Steinweiler 1.51 336 Pg **Pg** **05 32 57.2 +1.2**
ROTT Sg **Sg** **05 33 17.6 +2.0**
FUR Furstenfeldbru 1.52 74 Pg **Pg** **05 32 56.2 +0.2**
HINF Hinteralfeld 1.52 273 *e*Pn **Pn** **05 32 53.6 -0.8**
HINF Hinteralfeld 1.52 273 *e*Pg **Pb** **05 32 55.5 +0.2**
HINF *e*Sg **Sn** **05 33 15.3 +0.9**
comp=E,137nm,0.3s
SQTA Sankt Quirin 1.53 110 *e*Pg **Pb** **05 32 56.0 +0.5**
comp=E,4.3nm,0.2s,SNR=14
SQTA *e*Sg **Sg** **05 33 16.9 +0.9**
comp=E,27nm,0.2s
BRMO Bormio 1.55 145 P **Pg** **05 32 56.7 +0.1**
BRMO AML AML
comp=E,81μm,0.8s
BRMO AML AML
comp=N,86μm,0.4s
BRMO AML AML
comp=E,81μm,1.2s
SIND Sindeldorf 1.63 12 ⇓Pn **Pn** **05 32 54.6 -1.3**
SIND Pg **Pg** **05 32 58.6 +0.4**
SIND Sg **Sg** **05 33 19.7 +0.5**
WATA Walderalm 1.73 103 *e*Pg **Pb** **05 32 59.7 +0.8**
comp=E,1.7nm,0.1s,SNR=11
WATA *e*Sg **Sg** **05 33 22.9 +0.4**
comp=E,40nm,0.3s
CHMF Charmoille 1.74 254 Pn **Pn** **05 32 56.7 -0.8**
CHMF Pg **Pg** **05 33 00.1 -0.2**
ROSI Rosskopf 1.78 117 P **Pb** **05 33 00.8 +0.9**
ROSI AML AML
comp=E,382μm,0.4s
ROSI AML AML
comp=N,458μm,1.1s
ROSI AML AML
comp=N,458μm,0.9s
WTTA Wattenberg 1.79 105 *e*Pg **Pb** **05 33 00.8 +0.8**
comp=N,0.7nm,0.1s,SNR=11
WTTA *e*Sg **Sg** **05 33 24.1 -0.2**
comp=N,18nm,0.2s
HAU Haudompre 1.87 279 *e*Pn **Pn** **05 32 58.4 -0.8**
HAU Haudompre 1.87 279 *e*Pg **Pb** **05 33 01.9 +0.6**
HAU *e*Sg **Sg** **05 33 26.7 -0.3**
comp=N,146nm,0.3s
MMK Mattmark 1.88 205 P **Pn** **05 33 00.1 +0.6**
MMK S **Sn** **05 33 24.6 +1.1**
MMK AML AML
comp=N,47μm,0.4s
MMK AML AML
comp=E,48μm,1.0s
VARE Varese 1.90 187 P **Pn** **05 33 01.1 +1.3**
VARE AML AML
comp=E,176μm,1.6s
VARE AML AML
comp=N,190μm,0.6s
VARE AML AML
comp=E,176μm,0.4s
WBA Furth 1.91 354 ⇓Pn **Pn** **05 32 59.0 -0.7**
WBA Pg **Pg** **05 33 05.8 +2.3**
KOSI Kohlern 2.02 129 P **Pb** **05 33 03.7 -0.3**
KOSI AML AML
comp=E,152μm,0.5s
KOSI AML AML
comp=N,160μm,0.4s
MDI Monti di Nese 2.02 168 P **Pn** **05 33 02.8 +1.4**
MDI AML AML
comp=E,149μm,0.8s
MDI AML AML
comp=N,156μm,0.8s
MDI AML AML
comp=E,149μm,1.2s
MILB Miltenberg 2.08 3 ⇓Pn **Pn** **05 33 01.0 -1.1**
MILB Pg **Pg** **05 33 08.6 +1.8**
MILB Sn **Sn** **05 33 25.8 -2.3**
MILB Sg **Sg** **05 33 34.2 +0.5**
DUP Duppenweiler 2.26 318 Sg **Sg** **05 33 39.4 -0.1**
GRB2 Grafenberg Arr 2.28 47 Pg **Pg** **05 33 10.1 -0.6**
REMY Saint-Rhmy-en 2.34 216 P **Pn** **05 33 07.2 +1.3**
REMY AML AML
comp=E,272μm,0.5s
REMY AML AML
comp=N,350μm,0.5s
CABF La Chapelle 2.35 242 *e*Pn **Pn** **05 33 05.3 -0.6**
CABF La Chapelle 2.35 242 *e*Pg **Pg** **05 33 11.2 -0.8**
CABF *e*Sg **Sg** **05 33 41.3 -1.2**
comp=N,35nm,0.3s
GRF Grafenberg Arr 2.39 35 Pn **Pn** **05 33 04.7 -1.7**
GRF Sg **Sb** **05 33 42.3 +2.4**
PAGF Fort de Pagny 2.40 291 *e*Pn **Pn** **05 33 05.9 -0.6**
PAGF Fort de Pagny 2.40 291 *e*Pg **Pb** **05 33 11.5 +1.2**
PAGF *e*Sg **Sg** **05 33 42.6 -1.3**
comp=N,25nm,0.2s
WBG Bieber 2.42 4 ⇓Pn **Pn** **05 33 05.9 -0.9**
LESA Schwarzleotal 2.44 97 *e*Pg **Pn** **05 33 09.7 +2.5**
comp=N,4.1nm,0.4s
LESA *e*Sg **Sb** **05 33 43.8 +2.4**
comp=N,7.7nm,0.4s
TNS Taunus Mts 2.51 350 Pn **Pn** **05 33 07.8 -0.2**
ROVR Rover Verones 2.51 147 P **Pn** **05 33 10.7 +2.6**
SFTF Sexfontaines 2.77 281 *e*Pn **Pn** **05 33 11.0 -0.5**
SFTF Sexfontaines 2.77 281 *e*Pg **Pb** **05 33 18.0 +1.4**
SFTF *e*Sg **Sg** **05 33 53.9 -1.9**
comp=N,16nm,0.2s
LPL La Plagne 2.77 217 *e*Pn **Pn** **05 33 11.0 -0.8**
LPL La Plagne 2.77 217 *e*Pg **Pb** **05 33 18.6 +1.8**
LPL *e*Sg **Sg** **05 33 54.1 -1.9**
comp=N,22nm,0.5s
LPG La Plagne 2.78 216 *e*Pn **Pn** **05 33 11.0 -1.0**
LPG La Plagne 2.78 216 *e*Pg **Pb** **05 33 18.8 +1.8**
LPG *e*Sg **Sg** **05 33 54.7 -1.5**
comp=N,42nm,0.5s
SAVF Savonnieres en 2.80 289 *e*Pn **Pn** **05 33 11.0 -0.9**
SAVF Savonnieres en 2.80 289 *e*Pn **Pn** **05 33 11.1 -0.9**
SAVF Savonnieres en 2.80 289 *e*Pg **Pb** **05 33 18.7 +1.6**
SAVF Savonnieres en 2.80 289 *e*Pg **Pb** **05 33 19.1 +2.0**
SAVF *e*Sg **Sg** **05 33 55.1 -1.6**
comp=N,21nm,0.2s
SAVF *e*Sg **Sb** **05 33 55.2 +3.7**
comp=N,17nm,0.2s
MEZF Maizieres J'vi 2.81 287 *e*Pn **Pn** **05 33 10.9 -1.3**
MEZF Maizieres J'vi 2.81 287 *e*Pg **Pb** **05 33 18.2 +0.8**
MEZF *e*Sg **Sg** **05 33 56.1 -1.2**
comp=N,14nm,0.2s
WET Wettzell 2.87 60 Pn **Pn** **05 33 12.3 -0.7**
KBA Koelnbreinsper 2.96 102 *i* Pn **Pn** **05 33 16.4 +2.1**
comp=N,0.4nm,0.1s
KBA *e*Sn **Sn** **05 33 51.9 +1.8**
comp=N,1.0nm,0.2s
BIOA Bad Ischl, Aus 3.06 90 *e*Pg **Pg** **05 33 26.0 +0.4**
comp=N,8.9nm,0.3s
KHC Kasperske Hory 3.28 64 *e*PN **Pn** **05 33 18.0 -0.6**
KHC *e*PG **Pb** **05 33 28.0 +2.6**
KHC *e*SN **Sn** **05 33 56.0 -1.8**
KHC *e*SG **Sg** **05 34 10.4 -1.9**
comp=N,22nm,0.3s
MYKA Terra Mystica 3.29 108 *i* Pn **Pn** **05 33 21.4 +2.5**
comp=N,1.9nm,0.2s
MBDF Montbardon 3.44 209 *e*Pn **Pn** **05 33 20.2 -0.6**
MBDF Montbardon 3.44 209 *e*Pg **Pb** **05 33 30.7 +2.6**
MBDF *e*Sg **Sg** **05 34 15.1 -2.1**
comp=N,21nm,0.5s
LOR Lormes 3.59 264 *e*Pn **Pn** **05 33 22.7 -0.1**
baz=89
LOR Lormes 3.59 264 *e*Pg **Pb** **05 33 33.3 +2.7**
baz=90
LOR *e*Sg **Sg** **05 34 19.7 -2.4**
comp=N,32nm,0.2s
ORIF Oris-en-Rattie 3.61 219 *e*Pn **Pn** **05 33 22.2 -1.0**
ORIF Oris-en-Rattie 3.61 219 *e*Pg **Pb** **05 33 33.7 +2.7**
ORIF *e*Sg **Sg** **05 34 20.7 -2.2**
comp=N,12nm,0.3s
CKRC Cesky Krumlov 3.64 71 *e*PN **Pn** **05 33 22.8 -0.7**
CKRC *e*SG **Sg** **05 34 21.7 -2.0**
comp=N,24nm,0.4s
SMF Signal de Mont 3.75 255 *e*Pn **Pn** **05 33 23.2 -1.9**
SMF Signal de Mont 3.75 255 *e*Pg **Pb** **05 33 36.5 +3.1**
SMF *e*Sg **Sb** **05 34 23.6 +4.5**
comp=N,27nm,0.3s
ZVC Zvikov 3.77 62 *e*PG **Pb** **05 33 36.9 +3.1**
ZVC *e*SG **Sg** **05 34 24.9 -3.2**
comp=N,11nm,0.4s
SSF Saint Saulge 3.86 262 *e*Pn **Pn** **05 33 26.1 -0.5**
SSF Saint Saulge 3.86 262 *e*Pg **Pb** **05 33 38.3 +3.0**
SSF *e*Sn **Sn** **05 34 08.9 -3.2**
SSF *e*Sg **Sg** **05 34 28.5 -2.4**
comp=N,11nm,0.3s
OBKA Obir 3.92 107 *e*Pn **Pn** **05 33 29.6 +2.1**
comp=N,0.8nm,0.2s
AVF Avril sur Loir 4.03 258 *e*Pn **Pn** **05 33 28.2 -0.7**
AVF Avril sur Loir 4.03 258 *e*Pg **Pg** **05 33 42.2 -1.9**
AVF *e*Sg **Sg** **05 34 33.6 -2.7**
comp=N,4.7nm,0.2s
SBF Sospel 4.06 197 *e*Pn **Pn** **05 33 27.8 -1.6**
SBF Sospel 4.06 197 *e*Pg **Pb** **05 33 41.7 +2.9**
SBF *e*Sn **Sn** **05 34 13.6 -3.6**
SBF *e*Sg **Sg** **05 34 33.7 -3.7**
comp=N,21nm,0.5s
SOKA Soboth 4.18 103 *i* Pn **Pn** **05 33 32.6 +1.5**
comp=N,4.0nm,0.3s
PRU Pruhonice 4.23 56 *e*SG **Sg** **05 34 39.6 -3.0**
comp=N,8.2nm,0.3s
GOPC GO Pecny, Ondr 4.33 58 *e*SG **Sg** **05 34 43.8 -2.1**
comp=N,7.3nm,0.3s
CLL Collm 4.37 34 *e*Pn **Pn** **05 33 31.0 -2.5**
CLL *e*Pg **Pg** **05 33 50.0 -0.6**
CLL *ex* x 05 33 54.0
CLL *e*Sn **Sn** **05 34 20.0 -4.5**
CLL *e*Sg **Sg** **05 34 45.0 -2.1**
comp=Z,18nm,0.8s
BGF Bois d'Agland 4.43 257 *e*Pn **Pn** **05 33 32.9 -1.5**
BGF Bois d'Agland 4.43 257 *e*Pg **Pb** **05 33 48.4 +3.4**
BGF *e*Sg **Sg** **05 34 45.9 -3.3**
comp=Z,19nm,0.3s
BRG Berggiesshubel 4.44 44 Pg **Pg** **05 33 52.5 +0.4**
BRG Sg **Sg** **05 34 46.6 -2.9**
BRG Amp 05 34 56.8
comp=Z,11nm,0.6s
TREC Trest 4.51 68 *e*SG **Sg** **05 34 48.4 -3.4**
comp=Z,14nm,0.2s
CONA Conrad Observa 4.55 85 *i* Pn **Pn** **05 33 36.9 +0.7**
comp=Z,0.1nm,0.1s
TCF Toulx Ste Croi 4.94 255 *e*Pn **Pn** **05 33 40.0 -1.4**
TCF Toulx Ste Croi 4.94 255 *e*Pg **Pb** **05 33 57.6 +4.0**
TCF *e*Sn **Sn** **05 34 34.9 -3.7**
TCF *e*Sg **Sg** **05 35 02.0 -3.4**
comp=Z,6.4nm,0.4s
RIBO Ribolla Roccas 5.00 163 P **Pb** **05 33 53.0 -1.6**
KRUC Moravsky 5.03 72 *e*SN **Sn** **05 34 38.2 -2.7**
KRUC *e*SG **Sg** **05 35 05.4 -2.9**
VRAC Vranov 5.21 70 *e*SG **Sg** **05 35 10.0 -4.2**
UPC Upice 5.30 56 *e*SG **Sg** **05 35 14.8 -2.4**
DPC Dobruska-Polom 5.41 59 *e*SG **Sg** **05 35 16.1 -4.4**
comp=Z,8.5nm,0.4s
MORC Moravsky Berou 5.94 67 *e*SG **Sg** **05 35 36.2 -1.2**
FLN La Foliniere 6.48 282 *e*Pn **Pn** **05 34 01.4 -1.1**
FLN La Foliniere 6.48 282 *e*Pg **Pg** **05 34 26.6 -4.3**
FLN *e*Sg **Sg** **05 35 50.1 -4.7**
comp=Z,3.1nm,0.3s
DGI Dorgali Grotta 7.45 177 P Pn 05 34 21.7 +5.9

BGR ***31*** *05:54:51.8, 14˚.06N×91˚.59W, h100km±4km, mb5.2*
IDC ***31*** *05:54:52.3±0.8, 13˚.56N×89˚.04W, h57km±5km, mb5.1/34, mbtmp5.4/36, MS5.3/62, Error ellipse: s-maj=11.5km s-min=6.0km az=46.0*
ISC-PP ***31*** *05:54:53, 13˚.15N×89˚.40W, h53km±1km, Mwppsm6.0, Moment Tensor Solution. s31 Moment tensor: Scale 10¹⁸Nm; Mrr-0.04±.14; Mθθ0.20±.17; Mϕϕ-0.85±.16; Mrθ0.26±.27; Mθϕ-0.20±.16; Mϕr0.10±.13; Fault plane solution: M₀1.16000×10¹⁸ NP1:ϕs36.60000°, δ55.10000°, λ165.60000°. NP2:ϕs134.90000°, δ78.20000°, λ35.70000°.*
GCMT ***31*** *05:54:53.2±0.1, 13˚.15N×89˚.61W, h53km, MW6.0/160, Moment Tensor Solution. s159,c366; s160,c536; Duration: 2≥3 Moment tensor: Scale 10¹⁸Nm; Mrr-0.61±.01; Mθθ0.59±.01; Mϕϕ0.01±.01; Mrθ0.49±.01; Mθϕ-0.41±.01; Mϕr-0.61±.01; Best double couple: M₀1.05900×10¹⁸ NP1:ϕs94.00000°, δ26.00000°, λ-129.00000°. NP2:ϕs316.00000°, δ70.00000°, λ-73.00000°. Principal axes: T 1.1100, Plg23.0000°, Azm33.0000°; N -0.1020, Plg16.0000°, Azm130.0000°; P -1.0080, Plg61.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***31*** *05:54:53.1±2.7, 13˚.15N±0˚.05×89˚.40W±0˚.06, h43km±1km, mb5.8/975, Ms_20 5.5/639, Mwb5.9/84, Mwr5.9/41, Mww5.9/93 Error ellipse: s-maj=10.8km s-min=7.3km az=49.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr-0.50; Mθθ0.20; Mϕϕ0.30; Mrθ0.66; Mθϕ-0.39; Mϕr-0.58; Fault plane solution: M₀1.05000×10¹⁸ NP1: ϕs148.02000°, δ17.02000°, λ-74.73000°. NP2: ϕs312.08000°, δ73.60000°, λ-94.61000°. Principal axes: T 1.1101, Plg28.0000°, Azm46.0000°; N -0.1301, Plg4.0000°, Azm313.0000°; P -0.9800, Plg61.0000°, Azm215.0000°; Moment Tensor Solution. Moment tensor: Scale 10¹⁷ Nm; Mrr-9.54; Mθθ5.83; Mϕϕ3.71; Mrθ2.23; Mθϕ-2.69; Mϕr-0.23; Fault plane solution: M₀9.04000×10¹⁷ NP1:ϕs298.55000°, δ51.72000°, λ-96.35000°. NP2:ϕs128.74000°, δ38.72000°, λ-82.02000°. Principal axes: T 7.8917, Plg7.0000°, Azm33.0000°; N 1.9698, Plg5.0000°, Azm302.0000°; P -9.8615, Plg82.0000°, Azm175.0000°;*
CATAC ***31*** *05:54:53.2±0.1, 13˚.1×89˚.4W±0˚.9, h63km±1km, M5.8/90, mb5.9/80, mB6.2/74, MLv6.2/90, Mw(mB)5.8/74, MwMwp5.6/50, Mwp5.7/50 Error ellipse: s-maj=3.0km s-min=1.2km az=33.7, confirmed*
SNET ***31*** *05:54:53.8±1.4, 13˚.16N×89˚.51W, h41km, ML6.0*
NEIC ***31*** *05:54:54.5, 13˚.21N×89˚.38W, h64km*
GCG ***31*** *05:54:54.0±1.6, 13˚.19N×89˚.54W, h43km±15km, MD5.5, ML5.9*
NEIC ***31*** *05:54:54.1, 13˚.21N×89˚.38W, h50km*
NEIC ***31*** *05:54:54.5, 13˚.21N×89˚.38W, h64km*
NEIC ***31*** *05:54:54.1, 13˚.21N×89˚.38W, h50km, Moment Tensor Solution. Duration: 4≤6 Moment tensor: Scale 10¹⁷Nm; Mrr-5.98; Mθθ5.61; Mϕϕ0.37; Mrθ4.60; Mθϕ-4.20; Mϕr-4.74; Fault plane solution: M₀9.74000×10¹⁷ NP1: ϕs100.85000°, δ25.98000°, λ-119.08000°. NP2: ϕs312.59000°, δ67.49000°, λ-76.68000°. Principal axes: T 10.4219, Plg21.0000°, Azm33.0000°; N -1.5381, Plg12.0000°, Azm127.0000°; P -8.8838, Plg65.0000°, Azm245.0000°;*
MOS ***31*** *05:54:54.0±1.2, 13˚.45N×89˚.14W, h85km, mb5.8/39, MS5.4/25 Error ellipse: s-maj=7.8km s-min=5.2km az=109.7*
IPGP ***31*** *05:54:55.0, 13˚.27N×89˚.34W, h57km, Mw5.9, Fault plane solution: NP1:ϕs82.00000°, δ21.00000°, λ-134.00000°. NP2:ϕs309.00000°, δ75.00000°, λ-75.00000°.*
BJI ***31*** *05:54:57.0, 13˚.40N×89˚.20W, h100km, mB5.3/37*
UCR ***31*** *05:54:57.8±0.9, 13˚.15N×89˚.13W, h43km, MB5.9(NEIC)*
UPA ***31*** *05:55:37.8±1.5, 11˚.88N×86˚.24W, h0km±894km*
ISC 31 05:54:53.7±0.3, 13˚.27N±0˚.02×89˚.35W±0˚.02, h76km±2km, h76km:pP-P, n2190, σ1ˢ79/2036, mb5.7/586, 73C-58D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.22**	**8**	*e*P	**Pn**	**Pn**	**05 55 03.3**	**-1.9**
LALI				*e*S	**Sn**	**Sn**	**05 55 11.8**	**-1.7**
LALI	**Alcalda de L**	**0.22**	**8**	*i* P	**Pn**	**Pn**	**05 55 03.2**	**-1.9**
LALI				*i* S	**Sn**	**Sn**	**05 55 10.5**	**-3.0**
LALI				IAML			05 55 13.2	
	comp=N,191μm,0.6s							
LALI	**Alcalda de L**	**0.22**	**8**	S	**Sn**	**Sn**	**05 55 12.2**	**-1.3**
LALI	**Alcalda de L**	**0.22**	**8**	⇓P	**Pn**	**Pn**	**05 55 03.2**	**-1.9**

PANCS Alcalda de 0.38 26 eP Pn 05 55 05.4 -0.8
PANCS eS Sn 05 55 15.1 -0.3
PANCS Alcalda de 0.38 26 P Pn 05 55 05.5 -0.8
JAYA Jayaque - finc 0.40 346 eP Pn 05 55 04.8 -1.6
JAYA Jayaque - finc 0.40 346 iP Pn 05 55 04.7 -1.7
JAYA Jayaque - finc 0.40 346 ⇑P Pn 05 55 04.6 -1.9
LOMA Loma Larga 0.42 25 eP Pn 05 55 05.5 -1.1
LOMA Loma Larga 0.42 25 S Sn 05 55 15.6 -0.4
LOMA Loma Larga 0.42 25 ⇑P Pn 05 55 05.3 -1.3
PMON Piamonte 0.45 5 eP Pn 05 55 06.1 -0.7
PMON Piamonte 0.45 5 ⇑P Pn 05 55 05.7 -1.1
LFRS El Faro 0.45 38 iP Pn 05 55 06.5 -0.4
UTEC Universidad Te 0.46 19 eP Pn 05 55 06.3 -0.5
UTEC Universidad Te 0.46 19 S Sn 05 55 16.5 +0.1
UTEC Universidad Te 0.46 19 ⇑P Pn 05 55 06.1 -0.7
UEES Universidad Ev 0.46 14 eP Pn 05 55 06.3 -0.5
UEES Universidad Ev 0.46 14 S Sn 05 55 16.8 +0.3
UEES Universidad Ev 0.46 14 ⇑P Pn 05 55 06.1 -0.7
BOQS Boqueron 0.47 8 eP Pn 05 55 06.3 -0.8
UESS Universidad de 0.48 18 eP Pn 05 55 06.8 -0.2
IGN Direccin Gen 0.48 22 eP Pn 05 55 06.7 -0.3
IGN Direccin Gen 0.48 22 S Sn 05 55 17.3 +0.5
IGN Direccin Gen 0.48 22 ⇑P Pn 05 55 06.6 -0.4
PIC2 El Picacho 0.49 11 eP Pn 05 55 07.2 0.0
UDBS Universidad Do 0.49 23 eP Pn 05 55 06.9 -0.1
UDBS eS Sn 05 55 17.7 +0.8
UDBS Universidad Do 0.49 23 ⇓P Pn 05 55 06.7 -0.3
LFU La Fuente 0.53 26 iP Pn 05 55 07.5 -0.1
CEDA San Andres 0.54 355 eP Pn 05 55 06.8 -0.7
CEDA San Andres 0.54 355 ⇑P Pn 05 55 06.6 -0.8
LBRS Las Brisas 0.56 32 eP Pn 05 55 07.9 +0.2
PAVA Las Pavas 0.60 42 eP Pn 05 55 08.0 +0.6
PAVA Las Pavas 0.60 42 S Sn 05 55 20.8 +2.0
PAVA Las Pavas 0.60 42 ⇑P Pn 05 55 08.6 +0.4
SNVI San Vicente 0.61 55 eP Pn 05 55 08.3 0.0
TECO Alcaldia de Te 0.62 64 eP Pn 05 55 08.3 +0.1
TECO Alcaldia de Te 0.62 64 S Sn 05 55 20.2 +1.2
TECO Alcaldia de Te 0.62 64 ⇑P Pn 05 55 08.0 -0.2
CEVE Cerro Verde 0.62 335 eP Pn 05 55 07.3 -1.2
CEVE eS Sn 05 55 18.9 -0.5
CEVE Cerro Verde 0.62 335 ⇑P Pn 05 55 07.1 -1.4
SNJE San Jose 0.65 338 eP Pn 05 55 07.5 -1.2
SNJE eP 05 55 07.9
SNJE eS Sn 05 55 19.0 -0.9
UESV Universidad de 0.66 56 eP Pn 05 55 09.3 +0.6
UESV eS Sn 05 55 21.7 +1.9
UESV Universidad de 0.66 56 ⇑P Pn 05 55 08.8 +0.1
RTR El Retiro 0.69 336 eP Pn 05 55 08.1 -1.1
UNIC Universidad Ca 0.74 345 S Sn 05 55 21.5 +0.2
UNIC Universidad Ca 0.74 345 ⇑P Pn 05 55 08.9 -0.7
SCLA Alcaldia de Sa 0.75 54 eP Pn 05 55 10.8 +1.2
SCLA eS Sn 05 55 24.4 +3.0
SCLA Alcaldia de Sa 0.75 54 ⇑P Pn 05 55 10.5 +0.9
NUBE Las Nubes 0.76 327 iP Pn 05 55 08.2 -1.6
ALJI Alcalda de J 0.76 85 S Sn 05 55 24.6 +3.0
ALJI Alcalda de J 0.76 85 ⇑P Pn 05 55 11.8 +2.0
PQSS Presa 15 de Se 0.85 65 iP Pn 05 55 13.4 +2.6
PQSS eS Sn 05 55 25.4 +2.0
PQSS Presa 15 de Se 0.85 65 ⇓P Pn 05 55 11.3 +0.6
TECA Tecapa 0.86 74 eP Pn 05 55 11.3 +0.3
TECA iP 05 55 13.4
FAME Alcaldia de Sa 0.86 312 S Sn 05 55 20.6 -3.1
FAME Alcaldia de Sa 0.86 312 ⇑P Pn 05 55 08.5 -2.5
SLOZ Alcaldia de Sa 0.86 331 eP Pn 05 55 10.5 -0.5
SLOZ eS Sn 05 55 24.1 +0.3
SLOZ Alcaldia de Sa 0.86 331 ⇑P Pn 05 55 10.0 -1.0
LLGN La Laguna 0.98 24 S Sn 05 55 29.1 +2.8
LLGN La Laguna 0.98 24 ⇑P Pn 05 55 13.0 +0.6
PACA Pacayal 1.02 78 eP Pn 05 55 14.5 +1.6
PACA Pacayal 1.02 78 S Sn 05 55 29.4 +2.2
PACA Pacayal 1.02 78 ⇑P Pn 05 55 13.9 +0.9
LCY Lacayo 1.04 81 iP Pn 05 55 14.1 +1.0
VSM San Miguel 1.06 81 iP Pn 05 55 14.5 +1.0
BLLM Bellamira 1.10 81 iP Pn 05 55 14.6 +0.8
MTO3 Montecristo 1.13 360 Pn 05 55 14.7 +0.4
MTO3 Montecristo 1.13 360 eP Pn 05 55 14.8 +0.4
MTO3 Montecristo 1.13 360 iP Pn 05 55 14.6 +0.2
MTO3 Montecristo 1.13 360 S Sn 05 55 31.0 +1.2
MTO3 Montecristo 1.13 360 ⇑P Pn 05 55 14.6 +0.2
ESSJ San Jos, E 1.16 285 iP Pn 05 55 18.2 +3.7
CNRM Centro Naciona 1.17 80 eP Pn 05 55 15.9 +1.3
CNRM eS Sn 05 55 33.7 +3.4
CNRM Centro Naciona 1.17 80 ⇑P Pn 05 55 15.3 +0.7
CAHU Cacacuatique 1.22 65 eP Pn 05 55 16.4 +1.0
ESQI Esquipulas 1.29 0 Pn 05 55 17.2 +0.9
ESQI Sn Sn 05 55 33.7 +0.5
ESQI Esquipulas 1.29 0 eP Pn 05 55 17.4 +1.2
ESQI Esquipulas 1.29 0 S Sn 05 55 35.5 +2.3
ESQI Esquipulas 1.29 0 ⇑P Pn 05 55 17.0 +0.7
LCND La Caada 1.42 88 eP Pn 05 55 19.1 +1.3
LCND eP 05 55 19.3
LCND La Caada 1.42 88 S Sn 05 55 39.7 +3.6
LCND La Caada 1.42 88 ⇑P Pn 05 55 19.0 +1.1
CNCH Conchagua 1.48 89 eP Pn 05 55 19.9 +1.2
CNCH Conchagua 1.48 89 S Sn 05 55 40.2 +2.6
CNCH Conchagua 1.48 89 ⇑P Pn 05 55 19.4 +0.7
FG16 Alotenango, Sa 1.51 312 iP Pn 05 55 23.0 +3.8
FG16 iS Sn 05 55 45.5 +7.1
FG16 IAML 05 55 52.9
comp=N,299µm,0.3s
FG8 Yepocapa, Chim 1.54 310 iP Pn 05 55 23.4 +3.9
FG8 iS Sn 05 55 46.5 +7.5
MARCA Marcala la Paz 1.56 55 iP Pn 05 55 21.3 +1.6
MARCA Marcala la Paz 1.56 55 ⇑P Pn 05 55 21.3 +1.6
GCG4 OSOP 1.74 319 iP Pn 05 55 21.9 -0.4
GCG4 iS Sn 05 55 44.5 +0.5
GCG4 IAML 05 55 50.9
comp=E,86µm,1.4s
CSGN Cosiguina Volc 1.77 99 P Pn 05 55 23.1 +0.6
CSGN S Sn 05 55 46.4 +2.0
ESSG Sabana Grande 1.82 308 iP Pn 05 55 21.5 -1.7
ESSG iS Sn 05 55 43.1 -2.4
ESSG IAML 05 55 45.6
comp=E,79µm,0.5s
POTN Potosi Cosigui 1.82 98 ⇓P Pn 05 55 23.6 +0.6
POTN S Sn 05 55 46.7 +1.3
CHOHN Orocuina 2.15 84 ⇑P Pn 05 55 28.5 +0.9
TGUH Tegucigalpa,Un 2.17 68 Pn 05 55 29.6 +1.7
TGUH Sn Sn 05 55 50.4 -3.6
TGUH Tegucigalpa,Un 2.17 68 ⇑P Pn 05 55 29.3 +1.4
CRIN San Cristobal 2.31 104 Pn 05 55 30.7 +0.9
CRIN Sn Sn 05 55 51.0 -6.4
CRIN San Cristobal 2.31 104 S Sn 05 55 59.2 +1.9
CRIN San Cristobal 2.31 104 ⇑P Pn 05 55 30.8 +1.0
CRIN San Cristobal 2.31 104 P Pn 05 55 30.9 +1.1
AVCB Coban 2.42 335 iP Pn 05 55 32.7 +1.4
AVCB IAML 05 56 19.6
comp=E,140µm,0.6s
SOKI Kika Raxquin 2.52 308 iP Pn 05 55 32.7 -0.2
SOKI iS Sn 05 55 50.9 -12
SOKI IAML 05 56 10.2
comp=N,89µm,0.8s
YUSH Yuscaran 2.53 74 ⇑P Pn 05 55 34.3 +1.5
HERN Volcan Telica 2.54 105 Pn 05 55 33.0 +0.1
POLN Al Sur del Vol 2.55 104 ⇓P Pn 05 55 32.1 -0.8
POLN S Sn 05 56 02.4 -0.7
IZABA Izabal, Puerto 2.56 17 eP Pn 05 55 35.7 +2.6
IZABA Izabal, Puerto 2.56 17 P Pn 05 55 35.5 +2.5
RTAL Retalhuleu 2.60 299 Pn 05 55 32.8 -0.7
RTAL Retalhuleu 2.60 299 eP Pn 05 55 32.4 -1.1
RTAL Retalhuleu 2.60 299 ⇑P Pn 05 55 31.6 -2.0
PLRN Geotermica Pol 2.61 105 ⇓P Pn 05 55 33.8 +0.1
PLRN S Sn 05 56 04.3 -0.2
QUIS Sacapulas 2.63 320 iP Pn 05 55 34.8 +0.7
QUIS IAML 05 56 41.4
comp=E,28µm,1.2s
QUEO Labor Ovalle 2.64 308 iP Pn 05 55 35.0 +0.6
QUEO IAML 05 56 20.2
comp=E,55µm,0.5s
ROCN Rota Cerro Neg 2.65 106 ⇓P Pn 05 55 31.4 -2.9
ROCN S Sn 05 56 03.6 -1.9
ILCN San Idelfonso 2.67 105 ⇓P Pn 05 55 34.6 0.0
CNGA Al SSO del Vol 2.69 106 ⇓P Pn 05 55 35.0 +0.1
CNGA S Sn 05 56 06.9 +0.3
CNGN Cerro Negro 2.70 106 Pn 05 55 35.4 +0.5
CNGN Cerro Negro 2.70 106 S Sn 05 56 07.6 +0.9
CNGN Cerro Negro 2.70 106 ⇓P Pn 05 55 34.8 -0.1
AESN El Sauce Leon 2.77 97 P Pn 05 55 37.5 +1.6
AESN El Sauce Leon 2.77 97 S Sn 05 56 10.7 +2.5
OCON Estacion meteo 2.82 82 ⇑P Pn 05 55 37.7 +1.1

MOMN Momotombo 2.87 107 ⇓P Pn 05 55 37.0 -0.3
MOMN S Sn 05 56 11.4 +0.6
BC84 Volcan Momotom 2.88 107 S Sn 05 56 11.8 +0.9
BC84 Volcan Momotom 2.88 107 P Pn 05 55 39.0 +1.7
COPN Copaltepe 2.90 112 ⇓P Pn 05 55 37.0 -0.7
MOM2 El Cardon 2.92 106 ⇓P Pn 05 55 38.2 +0.4
MOM2 S Sn 05 56 14.0 +2.1
HUEH Huehuetenango 2.92 315 Pn 05 55 38.9 +0.8
HUEH Huehuetenango 2.92 315 eP Pn 05 55 38.9 +0.8
HUEH Huehuetenango 2.92 315 iP Pn 05 55 38.8 +0.8
HUEH IAML 05 56 40.0
comp=E,62µm,0.9s
HUEH Huehuetenango 2.92 315 ⇑P Pn 05 55 38.9 +0.8
AMTN Mateare 3.03 109 P Pn 05 55 41.1 +1.8
AMTN Mateare 3.03 109 S Sn 05 56 15.0 +0.4
APQ3 Volcan Apoyequ 3.07 108 P Pn 05 55 40.3 +0.3
APQ3 S Sn 05 56 16.0 +0.3
SAPS Ciudad Sandino 3.08 110 S Sn 05 56 15.4 -0.4
SAPS Ciudad Sandino 3.08 110 ⇓P Pn 05 55 39.9 -0.1
SMCA Catarina 3.08 301 iP Pn 05 55 38.9 -1.2
SMCA IAML 05 56 32.3
comp=E,19µm,1.4s
RCVN Varillal2 3.09 84 ⇓P Pn 05 55 41.7 +1.3
APQ2 Apoyeque 3.14 109 ⇓P Pn 05 55 40.6 -0.2
APQ2 S Sn 05 56 17.4 +0.1
ABCN Banco Central 3.18 111 S Sn 05 56 18.3 0.0
ABCN Banco Central 3.18 111 ⇓P Pn 05 55 41.8 +0.4
RCPN Sur Rio San Ju 3.18 85 ⇓P Pn 05 55 42.0 +0.4
ALLN Telcor Managua 3.20 110 S Sn 05 56 19.0 +0.2
ALLN Telcor Managua 3.20 110 ⇓P Pn 05 55 42.2 +0.5
TISN Laguna Tiscapa 3.21 110 ⇓P Pn 05 55 40.6 -1.2
USIM UNAN 3.21 110 Pn 05 55 42.0 +0.1
USIM Sn Sn 05 56 17.6 -1.6
UNAN Cigeo UNAN 3.22 111 ⇓P Pn 05 55 41.5 -0.4
UNAN S Sn 05 56 18.1 -1.2
CRUN El Crucero 3.24 113 ⇓P Pn 05 55 41.6 -0.8
THIG 3.27 300 iP Pn 05 55 41.9 -0.7
THIG iS Sn 05 56 16.6 -3.7
THIG IAML 05 56 31.6
comp=E,43µm,0.6s
WILN Americas 2 3.28 109 ⇓P Pn 05 55 41.8 -1.0
WILN S Sn 05 56 20.2 -0.5
MATN Matagalpa 3.35 95 ⇑P Pn 05 55 43.7 -0.2
SABN Sabanita 3.37 112 ⇓P Pn 05 55 44.5 +0.3
NANN Nandasmo 3.42 112 S Sn 05 56 24.2 0.0
NANN Nandasmo 3.42 112 ⇓P Pn 05 55 45.4 +0.7
NADN Granada 3.58 115 P Pn 05 55 48.1 +1.3
PETF Flores 3.66 352 Pn 05 55 50.5 +2.5
PETF Flores 3.66 352 iP Pn 05 55 50.2 +2.2
PETF IAML 05 57 07.8
comp=E,20µm,0.9s
PETF Flores 3.66 352 ⇑P Pn 05 55 50.2 +2.2
BOAB BOACO BROADBAN 3.68 102 Pn 05 55 49.0 +0.7
BOAB BOACO BROADBAN 3.68 102 ⇓P Pn 05 55 48.4 +0.1
ARIN Rivas 3.88 117 P Pn 05 55 51.9 +0.9
JAPN AI SSO del Vol 3.98 115 P Pn 05 55 53.9 +1.5
MORN AI O del Volca 4.00 115 P Pn 05 55 53.5 +0.9
CCIG Comitan 4.03 318 Pn 05 55 54.7 +1.5
CCIG Comitan 4.03 318 iP Pn 05 55 54.0 +0.8
CCIG IAML 05 57 48.6
comp=E,6µm,1.9s
CCIG Comitan 4.03 318 ⇑P Pn 05 55 54.9 +1.6
CARN Rivas 4.28 118 P Pn 05 55 56.9 +0.5
ACON Acoyapa 4.28 107 Pn 05 55 57.4 +1.0
ACON Acoyapa 4.28 107 ⇑P Pn 05 55 56.1 -0.3
SIUN Universidad Ur 4.48 84 Pn 05 56 01.0 +1.9
SIUN Universidad Ur 4.48 84 ⇑P Pn 05 56 00.9 +1.8
ELI1 Hacienda Flor 4.54 125 eP Pn 05 56 01.9 +2.0
ELI1 Hacienda Flor 4.54 125 P Pn 05 56 02.1 +2.2
PG27 Guanacaste Pro 4.57 121 eP Pn 05 56 02.1 +1.6
LAPC Finca la Perla 4.57 123 eP Pn 05 56 01.6 +1.2
ALIBA Liberia Airpor 4.57 125 eP Pn 05 56 02.6 +2.2
BUAI Buenos Aires 4.59 121 eP Pn 05 56 03.2 +2.4
PEJA Penjamo Buenos 4.60 120 eP Pn 05 56 01.6 +0.7
VOLN VOLRI 4.61 121 eP Pn 05 56 03.0 +1.8
VRLE La Escondida, 4.61 122 eP Pn 05 56 03.5 +2.4
GPS3 Bodega del ICE 4.63 122 eP Pn 05 56 03.7 +2.4
GPS1 Guardaparques 4.63 122 eP Pn 05 56 03.5 +2.2
ERIA Liberia 4.63 124 eP Pn 05 56 02.6 +1.3
GPS2 Hotel Rincn d 4.64 122 eP Pn 05 56 03.4 +1.9
SACU Santa Cruz 4.74 129 eP Pn 05 56 03.4 +0.6
MESS Mesas 4.78 121 eP Pn 05 56 04.0 +0.7
HORNC Hornillas 4.81 121 eP Pn 05 56 04.8 +1.0
COLC Colonia 4.81 122 eP Pn 05 56 05.5 +1.7
BAGA Bagaces 4.84 124 eP Pn 05 56 06.2 +2.1
JUD3 Juan Diaz 3 4.84 129 eP Pn 05 56 04.6 +0.4
CUI Cuipilapa 4.85 122 eP Pn 05 56 05.6 +1.4
UPAL Upala 4.85 119 eP Pn 05 56 05.5 +1.2
UPAL Upala 4.85 119 P Pn 05 56 05.2 +1.0
MOTZ Rio Naranjo 4.91 121 eP Pn 05 56 06.0 +0.9
NICO Nicoya 4.93 129 eP Pn 05 56 05.8 +0.5
TEND El Achiote 4.98 120 eP Pn 05 56 07.3 +1.0
TIMP Tierras Morena 5.01 122 eP Pn 05 56 07.4 +0.9
CMARA Lajas Hojancha 5.02 130 eP Pn 05 56 07.2 +0.6
CMARA Lajas Hojancha 5.02 130 ⇓P Pn 05 56 07.4 +0.7
INVE Universidad In 5.03 123 eP Pn 05 56 08.1 +1.4
CNAS Canas 5.03 124 eP Pn 05 56 09.2 +2.4
ESPN Las Esperanzas 5.04 102 Pn 05 56 08.4 +1.5
ESPN Las Esperanzas 5.04 102 eP Pn 05 56 08.3 +1.4
ESPN Las Esperanzas 5.04 102 P Pn 05 56 08.2 +1.3
LCHIL Los Chiles 5.05 116 eP Pn 05 56 08.4 +1.5
TGIG 5.05 314 iP Pn 05 56 06.4 -0.6
TGIG iS Sn 05 57 05.0 +1.0
TGIG IAML 05 57 24.5
comp=E,7µm,1.4s
INDI Punta indio, G 5.06 131 S Sn 05 57 01.5 -2.9
INDI Punta indio, G 5.06 131 ⇓P Pn 05 56 07.9 +0.7
QUEB Quebradon, Cot 5.09 121 eP Pn 05 56 08.4 +0.7
TILA Tilaran 5.11 122 eP Pn 05 56 09.5 +1.7
JTS Las Juntas de 5.22 124 Pn 05 56 10.5 +1.1
JTS Las Juntas de 5.22 124 P Pn 05 56 10.0 +0.7
comp=E,244nm,0.3s,baz=304,slow=21,SNR=253
JTS S Sn 05 57 06.0 -2.3
comp=E,363nm,0.3s,baz=300,slow=20,SNR=5.1
JTS Las Juntas de 5.22 124 P Pn 05 56 10.5 +1.1
JTS Las Juntas de 5.22 124 eP Pn 05 56 11.1 +1.7
JTS Las Juntas de 5.22 124 P Pn 05 56 10.8 +1.4
JTS S Sn 05 57 07.5 -0.9
JUNT Juntas 5.22 124 eP Pn 05 56 10.7 +1.4
TABAC Tabacon 5.26 121 eP Pn 05 56 12.8 +2.9
MTEVE Monteverde 5.31 123 eP Pn 05 56 12.7 +2.0
CEDE Laguna Cedeo 5.32 121 eP Pn 05 56 12.7 +1.9
VARE2 V. Arenal 5.32 121 eP Pn 05 56 12.3 +1.8
CASO Castillo 5.32 121 eP Pn 05 56 12.2 +1.4
VACR Volcan Arenal 5.35 121 eP Pn 05 56 13.4 +2.3
FORC Fortuna 5.36 121 eP Pn 05 56 13.4 +2.2
JCR1 Jicaral 5.36 129 eP Pn 05 56 12.5 +1.2
SOCE Pocosol 5.45 121 Pn 05 56 14.1 +1.6
SOCE Pocosol 5.45 121 eP Pn 05 56 13.6 +1.1
SOCE Pocosol 5.45 121 ⇓P Pn 05 56 14.2 +1.7
COVE Coope Vega, Sa 5.46 117 P Pn 05 56 13.4 +0.8
ENAS Puntarenas 5.50 126 eP Pn 05 56 14.8 +1.7
PAQE Paquera 5.52 128 eP Pn 05 56 15.0 +1.6
CBL1 Cabuya 5.55 131 eP Pn 05 56 14.8 +1.0
ROBF Roble, Puntare 5.58 125 eP Pn 05 56 16.4 +2.2
ARZA Esparza 5.62 125 eP Pn 05 56 16.7 +1.9
QUEU Ciudad Quesada 5.63 121 eP Pn 05 56 16.7 +1.7
VPL2 V. Platanar 5.69 121 eP Pn 05 56 16.2 +0.4
ITAL Ital 5.70 118 eP Pn 05 56 17.2 +1.3
SRA1 San Ramn 5.72 123 eP Pn 05 56 18.0 +1.7
RAMO San Ramon 5.73 123 eP Pn 05 56 18.1 +1.7
ZARE Zarcero 5.74 122 eP Pn 05 56 18.1 +1.5
PALD Palmares 5.78 123 eP Pn 05 56 18.0 +0.9
OROT Orotina 5.78 125 eP Pn 05 56 19.5 +2.5
BILN Bilwi Airport 5.86 82 eP Pn 05 56 19.7 +1.7
BILN Bilwi Airport 5.86 82 ⇑P Pn 05 56 19.4 +1.4
ATEO Atenas 5.86 123 eP Pn 05 56 19.2 +1.1
GREC Grecia 5.87 122 eP Pn 05 56 20.4 +2.2
VPS8 V Poas 5.87 121 eP Pn 05 56 19.0 +0.6
VPS5 V. Poas 5.87 121 eP Pn 05 56 20.6 +2.1
TCS1 Tacares 5.89 122 eP Pn 05 56 19.9 +1.3
TCS1 Tacares 5.89 122 P Pn 05 56 19.9 +1.3
POAS San Pedro de P 5.92 122 eP Pn 05 56 21.3 +2.3
SCIG Sabancuy 5.94 343 iP Pn 05 56 19.8 +0.7
SCIG Sabancuy 5.94 343 ⇑P Pn 05 56 20.1 +1.0
PURI Puriscal 5.99 124 eP Pn 05 56 22.0 +2.0
BELE Belen 6.02 122 eP Pn 05 56 21.3 +1.0
SANTA Santa Ana 6.05 123 eP Pn 05 56 21.5 +0.8
HEME Heredia, Merce 6.05 122 eP Pn 05 56 22.4 +1.5

HDC Heredia 6.07 122 eP Pn 05 56 23.1 +2.1
HDC Heredia 6.07 122 eP Pn 05 56 22.7 +1.7
HDC Heredia 6.07 122 eP Pn 05 56 23.2 +2.2
DOMI Santo Domingo 6.10 122 eP Pn 05 56 23.8 +2.3
PAVB Pavas, San Jos 6.10 122 eP Pn 05 56 24.3 +2.9
MEXI Barrio Mexico 6.13 122 eP Pn 05 56 23.8 +2.0
TIBA Tibas 6.13 122 eP Pn 05 56 25.2 +3.4
CENT San Jose 6.14 122 eP Pn 05 56 23.8 +1.8
ACOS Acosta 6.14 124 eP Pn 05 56 23.8 +1.7
LUJA Lujan 6.14 122 eP Pn 05 56 23.8 +1.7
LUPE Guadalupe 6.15 122 eP Pn 05 56 23.6 +1.5
SJS Escuela Geolog 6.15 122 eP Pn 05 56 24.3 +2.1
ECI Escuela Centro 6.16 122 eP Pn 05 56 23.1 +0.9
SJS3 Mercedes San J 6.16 122 eP Pn 05 56 23.8 +1.6
AMPA Desamparados 6.17 122 eP Pn 05 56 23.8 +1.4
CORON Coronado 6.18 121 eP Pn 05 56 24.7 +2.1
PAR1A Puntarenas Pro 6.19 126 eP Pn 05 56 25.4 +2.9
CVIMO Finca Echandi 6.20 121 eP Pn 05 56 24.1 +1.2
CARI Cariari 6.21 117 eP Pn 05 56 24.0 +1.2
PICV PH. Pirrs 6.21 125 eP Pn 05 56 25.2 +2.2
TRIO Tres Rios 6.22 122 eP Pn 05 56 24.1 +1.0
CORNA Casa Canada 6.25 99 ⇑iP Pn 05 56 25.2 +1.9
PISJ San Jernim 6.27 125 eP Pn 05 56 26.4 +2.6
TAGO Cartago 6.30 122 eP Pn 05 56 26.1 +1.8
VICA Volcano Irazu 6.30 121 eP Pn 05 56 25.0 +0.5
PITB Pirrs, San 6.33 124 eP Pn 05 56 27.5 +2.8
RAZU San Marcos de 6.33 124 eP Pn 05 56 23.4 -1.3
RAFA San Farael, Vo 6.34 121 eP Pn 05 56 26.6 +1.7
VTLA Turrialba Volc 6.35 120 eP Pn 05 56 27.1 +2.0
SVQ2 Quepos 6.35 126 eP Pn 05 56 27.1 +2.4
QUEP Quepos 6.36 126 eP Pn 05 56 27.6 +2.9
QUEP Quepos 6.36 126 P Pn 05 56 27.2 +2.6
QUEP Quepos 6.36 126 S Sn 05 57 33.9 -2.1
CVTQ Turrialba Volc 6.36 120 eP Pn 05 56 26.6 +1.4
REPA Paraso 6.37 122 eP Pn 05 56 27.8 +2.7
PCAYA Pacayas 6.37 121 eP Pn 05 56 26.8 +1.6
CVTV Tajo 6.37 120 eP Pn 05 56 26.9 +1.6
LLNJ Naranjito 6.38 126 eP Pn 05 56 27.1 +2.0
VTCV VTCV, Calle Va 6.40 120 eP Pn 05 56 26.8 +1.1
PIEC Cerro El Cedra 6.41 124 eP Pn 05 56 27.6 +1.9
VINA Juan Vinas 6.43 121 eP Pn 05 56 28.0 +2.0
RESJ San Isidro (Tu 6.45 119 eP Pn 05 56 28.4 +2.2
VERB Verbena 6.45 120 eP Pn 05 56 28.0 +1.8
RVLA Villa Bonita 6.46 118 eP Pn 05 56 28.5 +2.3
RVSTA Santa Teresita 6.47 120 eP Pn 05 56 27.8 +1.3
TURIB Turrialba 6.48 120 eP Pn 05 56 28.5 +2.0
LCOCO El Coco 6.50 119 eP Pn 05 56 28.0 +1.3
IRES Siquirres 6.54 118 eP Pn 05 56 29.2 +2.0
CMIG Matias Romero 6.56 306 P Pn 05 56 27.1 -0.5
comp=E,1µm,1.0s,baz=114,slow=9.2,SNR=304
CMIG S Sn 05 57 40.0 -0.9
comp=E,796nm,0.6s,baz=150,slow=20,SNR=6.5
CMIG ScP ScP 06 06 45.6 +3.4
comp=E,5.3nm,0.8s,baz=78,slow=4.3,SNR=4.3
TAAN Batan 6.68 118 eP Pn 05 56 31.9 +2.7
TUIG Tuzandepetl 6.81 315 P Pn 05 56 31.0 +0.1
VERH Veragua Rainfo 6.89 118 eP Pn 05 56 32.2 +0.1
SAJE San Jernim 6.93 124 eP Pn 05 56 34.0 +1.2
OCHAL Ojochal 6.96 126 P Pn 05 56 35.6 +2.4
OCHAL Ojochal 6.96 126 S Sn 05 57 48.8 -2.1
EDPE Pejibaye, P 6.99 125 eP Pn 05 56 35.4 +1.9
TEIG Tepich 7.00 8 Pn 05 56 36.7 +2.6
TEIG Tepich 7.00 8 P Pn 05 56 36.7 +3.1
TEIG Tepich 7.00 8 P Pn 05 56 36.8 +3.2
comp=E,143µmcomp=E,298µmcomp=E,38µm,1.0s
HUIG Huatulco 7.00 292 iP Pn 05 56 31.0 -2.6
LAES El Progreso Va 7.09 119 eP Pn 05 56 35.8 +0.9
BURE Buenos Aires 7.17 124 eP Pn 05 56 37.9 +2.0
DRK0 Durika 7.19 123 eP Pn 05 56 37.3 +1.0
DRK0 Durika 7.19 123 eP Pn 05 56 39.8 +3.5
DRK0 Durika 7.19 123 S Sn 05 57 56.4 -0.3
DRK0 Durika 7.19 123 P Pn 05 56 39.1 +2.8
PANP Palmar Norte 7.19 126 ⇑eP Pn 05 56 38.9 +2.7
CEUA Cerro Uatsi, L 7.25 119 eP Pn 05 56 38.4 +1.2
FIMO Fila Mora 7.26 125 eP Pn 05 56 39.3 +2.0
EDP2 Potrero Grande 7.38 124 eP Pn 05 56 41.9 +3.0
SAIC Isla e San And 7.48 95 P Pn 05 56 42.8 +2.6
comp=E,29µmcomp=E,26µmcomp=E,2µm,1.0s
PTJ1 Puerto Jimnez 7.57 128 eP Pn 05 56 43.9 +2.4
PTJ1 Puerto Jimnez 7.57 128 eP Pn 05 56 45.6 +4.1
PTJ1 Puerto Jimnez 7.57 128 P Pn 05 56 44.8 +3.3
PTJ1 Puerto Jimnez 7.57 128 S Sn 05 58 05.8 0.0
EDAD Golfito 7.61 126 eP Pn 05 56 43.7 +1.7
FITO Golfito 7.63 127 eP Pn 05 56 43.7 +1.4
MYIG Merida 7.66 357 P Pn 05 56 44.2 +1.7
VITO San Vito 7.67 125 eP Pn 05 56 45.8 +3.0
ALCO Alturas Coton, 7.70 123 eP Pn 05 56 44.0 +0.7
RSRNO Rio Sereno 7.75 124 eP Pn 05 56 45.8 +1.8
PRVC Isla de Provid 7.78 88 Pn 05 56 45.5 +1.3
PRVC Isla de Provid 7.78 88 eP Pn 05 56 46.7 +2.5
PRVC Isla de Provid 7.78 88 P Pn 05 56 44.4 +0.2
PRVC Isla de Provid 7.78 88 ⇑P Pn 05 56 46.4 +2.2
comp=E,15µmcomp=E,36µmcomp=E,3µm,1.7s
NELY Ciudad Neily 7.78 125 eP Pn 05 56 46.3 +2.0
MLIR3 Monte Lirio, C 7.80 124 eP Pn 05 56 48.2 +3.6
SCLRA Santa Clara, W 7.81 124 eP Pn 05 56 46.7 +1.9
CDITO Canoas 7.89 126 P Pn 05 56 47.5 +1.7
BRU2 Volcan 7.90 124 Pn 05 56 47.2 +1.0
BRU2 Volcan 7.90 124 ⇑iP Pn 05 56 47.6 +1.4
BRU2 Volcan 7.90 124 P Pn 05 56 48.0 +1.9
BRU2 Volcan 7.90 124 S Sn 05 58 14.0 -0.2
LPPC Paso Canoas 7.94 126 eP Pn 05 56 48.3 +1.8
CLLRA Cordillera, 8.00 124 eP Pn 05 56 48.3 +0.9
ISBTO Bastimentos Is 8.02 118 eP Pn 05 56 52.0 +4.4
PRISO Paraso 8.06 124 eP Pn 05 56 48.8 +0.6
PTPM Petroterminale 8.11 128 eP Pn 05 56 52.6 +3.9
LNBQ3 Los Naranjos, 8.11 123 eP Pn 05 56 51.5 +2.6
BQTLY Boquete Panama 8.11 123 eP Pn 05 56 50.4 +1.4
PTTA Petro Terminal 8.12 128 eP Pn 05 56 51.6 +2.7
PBNVO Pueblo Nuevo, 8.26 121 eP Pn 05 56 52.1 +1.3
RBALA Bur 8.30 121 eP Pn 05 56 51.8 +0.4
DVD David 8.30 125 eP Pn 05 56 53.7 +2.3
SERC Banco Serrana, 8.79 82 P Pn 05 57 00.9 +2.8
comp=E,19µmcomp=E,15µmcomp=E,754nm,1.4s
RMDIO Remedios, Chir 8.92 123 eP Pn 05 57 00.4 +0.5
PDCAN Manzana , Fuen 9.00 123 eP Pn 05 57 01.1 +0.1
RNCC Cayo Roncador, 9.02 87 P Pn 05 57 03.8 +2.7
comp=E,28µmcomp=E,2µm,2.0s
CVEJO Cerro Viej 9.12 122 eP Pn 05 57 02.5 -0.1
GMAL Guarumal, Vera 9.67 124 eP Pn 05 57 09.0 -1.1
GMAL Guarumal, Vera 9.67 124 eP Pn 05 57 12.2 +2.0
GMAL Guarumal, Vera 9.67 124 P Pn 05 57 11.0 +0.8
comp=E,3µmcomp=E,189nm,0.8s
TLIG Tlapa 9.86 297 Pn 05 57 13.5 +0.8
TLIG Tlapa 9.86 297 P Pn 05 57 14.3 +1.5
TLIG Tlapa 9.86 297 S Sn 05 59 00.8 -1.1
FSCY Frank Sound, G 9.88 51 P Pn 05 57 12.4 -0.5
BCIP Isla Barro Col 10.18 113 Pn 05 57 18.7 +1.6
BCIP Isla Barro Col 10.18 113 P Pn 05 57 18.7 +1.6
BCIP Isla Barro Col 10.18 113 eP Pn 05 57 17.0 -0.1
BCIP Isla Barro Col 10.18 113 eP Pn 05 57 18.6 +1.4
BCIP Isla Barro Col 10.18 113 P Pn 05 57 17.3 +0.2
BCIP Isla Barro Col 10.18 113 P Pn 05 57 18.5 +1.4
comp=E,6µmcomp=E,447nm,1.2s
CACAO El Cacao, Vera 10.21 124 P Pn 05 57 21.9 +4.4
CHIT3 Chitre 10.24 120 eP Pn 05 57 21.1 +3.1
ZANG Zanguenga, Cho 10.24 114 eP Pn 05 57 17.1 -0.8
GAMB1 Gamboa 10.32 113 eP Pn 05 57 20.6 +1.7
AZU Azuero 10.45 120 eP Pn 05 57 21.6 +0.8
AZU Azuero 10.45 120 eP Pn 05 57 23.8 +3.0
AZU Azuero 10.45 120 P Pn 05 57 23.6 +2.9
comp=E,10µmcomp=E,3µmcomp=E,169nm,1.5s
CAZU Cerro Azul, Pa 10.54 111 ⇑iP Pn 05 57 21.6 -0.6
ACHO3 Achotines, Los 10.74 122 eP Pn 05 57 27.9 +3.2
UNM Universidad Na 11.19 304 Pn 05 57 31.6 +0.5
UNM Universidad Na 11.19 304 P Pn 05 57 31.6 +0.5
CBCY The Bluff, Cay 11.22 54 P Pn 05 57 33.1 +1.8
CAMR Camarioca 12.34 37 Pn 05 57 50.3 +3.8
CAMR Camarioca 12.34 37 IVmB_BB 05 57 53.4
comp=Z,0.0nm,1.0s
CAMR iP P 05 57 53.7 -2.0
CAMR IAmb IAmb 05 58 00.4
comp=Z,9µm,1.2s
CAMR Camarioca 12.34 37 P Pn 05 57 49.3 +2

MTDJ *i* S **S** **06 00 21.1 -5.7**
MTDJ Mount Denham 12.40 65 P **Pn** **05 57 48.6 +1.2**
CAP2 Capurgana 12.63 110 P **Pn** **05 57 50.5 0.0**
PTAC Punta Ardita, 12.88 117 P **Pn** **05 57 53.4 -0.5**
comp=Z,7µmcomp=Z,104nm,1.2s
JRQG Juriquilla Cam 12.93 306 **Pn** **05 57 56.2 +1.5**
STH Stony Hill 12.99 67 IVmB_BB 05 58 00.5
comp=E,68µm,1.0s
STH *i* P **P** **05 58 00.7 -2.2**
STH IAmb IAmb 05 58 03.5
comp=E,3µm,1.4s
STH Stony Hill 12.99 67 *i* P **Pn** **05 57 57.6 +2.3**
MOIG Morelia 13.02 301 **Pn** **05 57 57.2 +1.3**
MOIG Morelia 13.02 301 P **Pn** **05 57 55.3 -0.6**
CAIB Caibarien 13.13 44 P **Pn** **05 57 59.8 +2.7**
CAIB S **Sn** **06 00 29.4 +8.0**
PILO Pilon 13.21 58 P **Pn** **05 57 58.3 0.0**
I20EC Galapagos 13.81 184 I I 07 21 10.0
baz=1.8,slow=312,SNR=1.6
PAYG Puerto Ayora 13.88 184 P **Pn** **05 58 09.8 +2.7**
CHIV Chivirico 14.07 60 **Pn** **05 58 10.8 +1.3**
CHIV Chivirico 14.07 60 P **Pn** **05 58 09.7 +0.1**
SJCC San Jacinto, C 14.28 102 P **Pn** **05 58 11.2 -1.2**
SJCC San Jacinto, C 14.28 102 P **Pn** **05 58 12.0 -0.4**
comp=E,17µmcomp=E,10µmcomp=E,1µm,1.0s
YAR Yar 14.30 59 IVmB_BB 05 58 18.4
comp=Z,10µm,1.0s
YAR *i* P **P** **05 58 18.7 +1.2**
YAR IAmb IAmb 05 58 19.6
comp=Z,1µm,1.2s
DBBC Dabeiba 14.34 114 P **Pn** **05 58 14.4 +1.2**
comp=Z,31µmcomp=Z,84nm,0.4s
UREC San Jos de Ur 14.65 111 P **Pn** **05 58 17.3 +0.2**
comp=Z,2µmcomp=Z,168nm,0.8s
RCC Rio Carpintero 14.69 61 IVmB_BB 05 58 22.4
comp=Z,11µm,1.0s
RCC *i* P **P** **05 58 25.1 +3.3**
RCC IAmb IAmb 05 58 25.7
comp=Z,950nm,1.2s
061Z Ochoppi 14.84 31 **P** **05 58 22.1 -1.3**
SMRC Santa Marta, M 14.93 96 **Pn** **05 58 19.1 -1.6**
SMRC Santa Marta, M 14.93 96 P **Pn** **05 58 20.6 -0.2**
comp=Z,15µmcomp=Z,4µmcomp=Z,134nm,1.4s
GR1C Gorgona, Isla 15.04 132 P **P** **05 58 25.6 -0.2**
CBOC Ciudad Bolivar 15.06 118 P **Pn** **05 58 24.6 +2.0**
comp=Z,10µmcomp=Z,4µmcomp=Z,147nm,1.1s
GTBY Guantanamo Bay 15.17 62 IAmb IAmb 05 58 31.0
comp=Z,979nm,1.1s
GTBY Guantanamo Bay 15.17 62 IAmb IAmb 05 58 31.2
comp=Z,780nm,1.1s
GTBY *i* P **P** **05 58 32.1 +5.0**
GTBY IVmB_BB 05 58 47.3
comp=Z,20µm,1.0s
GTBY Guantanamo Bay 15.17 62 P **Pn** **05 58 24.3 +0.6**
GTBY S **S** **06 01 19.4 -4.0**
GTBY Guantanamo Bay 15.17 62 P **P** **05 58 25.5 -1.6**
comp=Z,31µmcomp=Z,20µmcomp=Z,771nm,1.1s
ARGC Ariguani, Magd 15.18 101 P **Pn** **05 58 25.3 +1.3**
comp=Z,16µmcomp=Z,5µmcomp=Z,167nm,1.6s
HELC Santa Helena 15.32 116 P **Pn** **05 58 26.5 +0.3**
HELC Santa Helena 15.32 116 P **Pn** **05 58 27.7 +1.6**
comp=Z,3µmcomp=Z,110nm,0.6s
PLMC San Jos del P 15.34 122 P **Pn** **05 58 27.9 +1.9**
comp=Z,9µmcomp=Z,3µmcomp=Z,205nm,1.6s
TUMC Tumaco 15.49 136 P **P** **05 58 31.2 +0.5**
TUMC IAmb IAmb 05 58 35.8
comp=Z,539nm,1.0s
TUMC Tumaco 15.49 136 P **Pn** **05 58 27.5 -0.3**
QMBU Quimbuelo 15.53 62 IAmb IAmb 05 58 34.7
comp=Z,770nm,1.3s
QMBU *i* P **P** **05 58 34.8 +3.6**
QMBU IVmB_BB 05 58 50.6
comp=Z,11µm,1.0s
QMBU Quimbuelo 15.53 62 P **Pn** **05 58 29.1 +0.7**
NMDO Nuevo Mundo 15.54 60 IAmb IAmb 05 58 36.5
comp=Z,1µm,1.1s
NMDO Nuevo Mundo 15.54 60 P **P** **05 58 30.6 -0.6**
NMDO S **Sn** **06 01 25.0 +5.1**
ZAIG Zacatecas 15.71 309 P **P** **05 58 32.1 -1.4**
ZAIG IAmb IAmb 05 58 37.7
comp=Z,373nm,0.9s
ZAIG Zacatecas 15.71 309 P **P** **05 58 32.6 -0.9**
YOTC Yotoco, Valle 15.81 125 P **P** **05 58 34.0 -0.5**
comp=Z,10µmcomp=Z,5µmcomp=Z,215nm,1.1s
GUY2C Guyana, Caldas 15.94 119 P **P** **05 58 36.2 0.0**
comp=Z,11µmcomp=Z,5µmcomp=Z,371nm,0.8s
MASC Masc 16.02 63 P **Pn** **05 58 35.1 +0.6**
JAMC Jamundi, Valle 16.02 127 P **P** **05 58 37.2 +0.3**
comp=Z,9µmcomp=Z,4µmcomp=Z,441nm,1.2s
PTBC PUERTO BERRIO, 16.12 113 P **P** **05 58 37.9 +0.2**
comp=Z,1µmcomp=Z,61nm,0.9s
CRJC Cerrejon, Guaj 16.26 96 P **Pn** **05 58 38.2 +0.6**
comp=Z,12µmcomp=Z,6µmcomp=Z,328nm,1.3s
HBVL Hebbronville 16.27 329 **P** **05 58 40.3 +1.1**
HBVL IAmb IAmb 05 58 45.0
comp=Z,552nm,1.1s
BBAC Balboa, Cauca 16.38 132 P **P** **05 58 42.5 +1.7**
comp=Z,14µmcomp=Z,8µmcomp=Z,545nm,1.1s
POPC Popayan, Colom 16.45 129 P **P** **05 58 43.3 +1.6**
comp=Z,12µmcomp=Z,11µmcomp=Z,990nm,1.2s
DWPF Disney Wildern 16.51 25 P **P** **05 58 43.2 +1.2**
CMBC Cumbal 16.74 136 P **P** **05 58 49.8 +4.7**
ORTC Ortega, Tolima 16.75 122 P **P** **05 58 46.2 +1.4**
comp=Z,11µmcomp=Z,9µmcomp=Z,428nm,0.9s
OTAV Otavalo 16.86 139 P **P** **05 58 47.5 +1.2**
OTAV Otavalo 16.86 139 *eP* **P** **05 58 47.8 +1.4**
OTAV Otavalo 16.86 139 *eP* **P** **05 58 48.1 +1.8**
OTAV Otavalo 16.86 139 P **Pn** **05 58 46.7 +1.2**
OTAV S **Sn** **06 01 51.0 -1.6**
OTAV Otavalo 16.86 139 P **P** **05 58 48.2 +1.8**
comp=Z,16µmcomp=Z,3µmcomp=Z,166nm,1.6s
CRUC La Cruz 16.90 132 P **P** **05 58 51.2 +4.4**
comp=Z,2µm,2.0s
LGNH Logne 16.93 70 P **P** **05 58 48.0 +1.4**
URIC Uribia, Colomb 17.02 93 P **Pn** **05 58 47.7 +0.7**
comp=Z,15µmcomp=Z,7µmcomp=Z,408nm,1.1s
URI Uribia 17.02 93 P **Pn** **05 58 46.1 -0.9**
URI S **Sn** **06 01 54.5 -1.4**
ROSC El Rosal 17.03 118 P **P** **05 58 50.9 +2.6**
comp=Z,188nm,0.9s,baz=309,slow=6.7,SNR=70
ROSC PcP **PcP** **06 03 31.3 +1.8**
comp=Z,44nm,0.7s,baz=34,slow=15,SNR=5.1
ROSC LR LR 06 06 24.0
comp=Z,2µm,20.4s,baz=306,slow=41
ROSC ScP **ScP** **06 07 01.5 +3.7**
comp=Z,34nm,0.8s,baz=311,slow=2.4,SNR=12
ROSC El Rosal 17.03 118 P **P** **05 58 50.2 +1.9**
ROSC El Rosal 17.03 118 P **P** **05 58 52.0 +3.8**
comp=Z,18µmcomp=Z,6µmcomp=Z,247nm,1.2s
PRAC Prado 17.16 122 P **P** **05 58 50.0 +0.7**
PRAC Prado 17.16 122 P **P** **05 58 51.4 +2.2**
comp=Z,12µmcomp=Z,8µmcomp=Z,301nm,1.4s
PAPH Port-au-Prince 17.21 70 P **P** **05 58 51.4 +1.6**
BARC Barichara 17.25 111 P **P** **05 58 51.5 +1.1**
BONI La Bonita 17.30 136 P **P** **05 58 55.1 +4.0**
comp=Z,19µmcomp=Z,5µmcomp=Z,197nm,1.2s
735A Kenedy 17.39 334 IAmb IAmb 05 58 56.8
comp=Z,801nm,1.1s
CVER Cruz Verde, Cu 17.40 119 P **P** **05 58 55.8 +3.4**
comp=Z,7µmcomp=Z,267nm,0.8s
PAMC Pamplona, Colo 17.40 108 P **Pn** **05 58 52.7 +0.5**
comp=Z,4µmcomp=Z,524nm,1.5s
553A Crawfordville 17.45 14 P **P** **05 58 54.9 +2.6**
553A IAmb IAmb 05 58 59.8
comp=Z,1µm,1.0s
GARC Garzon, Huila 17.58 128 P **P** **05 58 57.3 +3.1**
comp=Z,8µmcomp=Z,4µmcomp=Z,159nm,0.9s
RUSC La Rusia 17.63 113 P **P** **05 58 54.8 -0.1**
RUSC La Rusia 17.63 113 P **P** **05 58 54.5 -0.4**
RUSC La Rusia 17.63 113 P **Pn** **05 58 56.5 +1.6**
comp=Z,10µmcomp=Z,4µmcomp=Z,228nm,1.1s
HKT Hockley 17.66 341 P **P** **05 58 55.9 +1.4**
HKT IAmb IAmb 05 59 02.1
comp=Z,715nm,1.3s
HKT Hockley 17.66 341 P **P** **05 58 55.9 +1.4**
HKT pmax pmax
comp=Z,715nm,1.3s
HKT Hockley 17.66 341 P **P** **05 58 55.6 +1.1**
833A Chaparral WMA, 17.66 330 P **P** **05 58 55.7 +1.0**
833A IAmb IAmb 05 59 02.2
comp=Z,362nm,0.8s
441A DeRidder 17.76 349 P **Pn** **05 58 59.2 +3.3**
FLOC Florencia 17.85 129 P **Pn** **05 59 00.2 +3.1**
FLOC IAmb IAmb 05 59 06.8
comp=Z,1µm,1.4s
FLOC Florencia 17.85 129 P **Pn** **05 58 59.7 +2.6**
FLOC Florencia 17.85 129 P **Pn** **05 59 00.6 +3.4**
comp=Z,8µmcomp=Z,10µmcomp=Z,591nm,1.2s
MLDN Muldoon 17.93 338 IAmb IAmb 05 59 09.0
comp=Z,1µm,1.2s
PIAT Ana Tenorio 17.94 141 P **Pn** **05 59 02.6 +4.0**
comp=Z,16µmcomp=Z,94nm,1.7s
VILC Villavicencio, 17.94 119 P **Pn** **05 59 01.0 +2.6**
comp=Z,244nmcomp=Z,2µmcomp=Z,210nm,0.8s
BRAL Brewton 17.95 6 IAmb IAmb 05 59 04.8
comp=Z,1µm,1.3s
346A Big Creek Wild 18.04 360 IAmb IAmb 05 59 11.9
comp=Z,2µm,1.1s
SDDR Presa de Saban 18.25 70 IAmb IAmb 05 59 10.3
comp=Z,455nm,1.1s
SDDR Presa de Saban 18.25 70 P **Pn** **05 59 03.3 +1.2**
HNVL Huntsville, TX 18.30 343 IAmb IAmb 05 59 12.0
comp=Z,896nm,0.8s
COHC Cochancay 18.57 147 P **Pn** **05 59 06.2 +0.5**
352A Blakely 18.58 12 IAmb IAmb 05 59 10.0
comp=Z,1µm,1.0s
HNDO Hondo 18.62 332 IAmb IAmb 05 59 10.0
comp=Z,616nm,0.9s
456A Hilliard 18.65 20 IAmb IAmb 05 59 14.5
comp=Z,2µm,1.2s
250A Grady 18.84 8 IAmb IAmb 05 59 19.9
comp=Z,940nm,1.0s
SDV Santo Domingo 18.88 101 P **P** **05 59 08.5 +0.2**
SDV IAmb IAmb 05 59 13.4
comp=Z,563nm,0.9s
SDV Santo Domingo 18.88 101 P **P** **05 59 07.6 -0.7**
comp=Z,377nm,0.8s,baz=277,slow=4.3,SNR=108
SDV S **S** **06 02 35.2 -3.9**
comp=Z,28nm,1.0s,baz=264,slow=18,SNR=1.4
SDV ScP **ScP** **06 07 03.9 +2.5**
comp=Z,52nm,0.8s,baz=283,slow=2.3,SNR=11
SDV LR LR 06 08 24.6
comp=Z,5µm,18.6s,baz=300,slow=44
SDV Santo Domingo 18.88 101 *eP* **P** **05 59 08.3 -0.1**
SC01 Santiago de lo 18.89 69 P **Pn** **05 59 11.6 +2.0**
MACC Macarena, Meta 18.90 124 P **Pn** **05 59 11.4 +1.5**
comp=Z,9µmcomp=Z,9µmcomp=Z,749nm,1.0s
DRIO Del Rio 19.18 329 IAmb IAmb 05 59 18.3
comp=Z,715nm,1.4s
GRTK Grand Turk 19.21 62 P **Pn** **05 59 13.9 +0.5**
SDD Santo Domingo 19.39 72 IAmb IAmb 05 59 21.5
comp=Z,663nm,0.9s
SDD Santo Domingo 19.39 72 P **Pn** **05 59 15.1 -0.5**
JCT Junction City 19.66 332 IAmb IAmb 05 59 22.4
comp=Z,591nm,0.9s
GUVC San Jose del G 19.67 121 P **Pn** **05 59 20.3 +1.4**
152A Waverly Hall 19.77 12 IAmb IAmb 05 59 21.9
comp=Z,746nm,1.1s
LRAL Lakeview Retre 19.80 6 P **Pn** **05 59 20.8 +0.6**
LRAL IAmb IAmb 05 59 31.2
comp=Z,1µm,1.6s
Z47A Carrollton 19.88 3 IAmb IAmb 05 59 26.6
comp=Z,694nm,0.9s
Z47A IAMs_20 IAMs_20 06 08 00.9
comp=Z,20µm,21.0s
TREL Terrell 20.33 343 P Pn 05 59 25.2 -1.2
HPIG 20.45 314 P Pn 05 59 27.2 -1.0
HPIG IAmb IAmb 05 59 28.4
comp=Z,341nm,1.2s
HPIG IAMs_20 IAMs_20 06 08 20.6
comp=Z,14µm,21.0s
HPIG 20.45 314 P Pn 05 59 26.9 -1.3
Z38A Mt. Pleasant 20.56 346 IAmb IAmb 05 59 43.9
comp=Z,974nm,1.1s
OZNA Corona 20.66 330 IAmb IAmb 05 59 31.2
comp=Z,551nm,1.0s
Y49A Blount Mountai 20.67 7 IAmb IAmb 05 59 31.1
comp=Z,555nm,0.8s
Y49A IAMs_20 IAMs_20 06 07 56.4
comp=Z,21µm,22.0s
GOGA Godfrey 20.76 14 IAMs_20 IAMs_20 06 07 40.8
comp=Z,14µm,21.0s
GOGA Godfrey 20.76 14 IAmb IAmb 05 59 37.6
comp=Z,871nm,1.2s
TX31 Lajitas Ar. Si 20.79 323 IAmb IAmb 05 59 33.2
comp=Z,384nm,0.9s
TXAR Lajitas Array 20.79 323 P Pn 05 59 31.4 -0.6
TXAR Lajitas Array 20.79 323 P Pn 05 59 30.4 -1.6
comp=Z,242nm,0.8s,baz=146,slow=9.5,SNR=1068
TXAR S **S** **06 03 16.4 -0.4**
comp=Z,1.3nm,0.5s,baz=165,slow=16,SNR=1.7
TXAR PcP **PcP** **06 03 36.5 +1.1**
comp=Z,20nm,0.8s,baz=164,slow=4.9,SNR=6.2
TXAR ScP **ScP** **06 07 08.4 +2.9**
comp=Z,11nm,0.8s,baz=146,slow=5.2,SNR=10
TXAR LR LR 06 10 03.1
comp=Z,2µm,18.6s,baz=128,slow=44
TXAR PKiKP **PKiKP** **06 11 23.1 -0.3**
comp=Z,3.0nm,0.9s,baz=89,slow=4.5,SNR=8.5
TXAR P3KPbc 06 33 22.6
comp=Z,0.5nm,0.9s,baz=315,slow=0.9,SNR=3.5
comp=Z,242nm,0.8s
FW06 Azle 21.00 340 IAmb IAmb 05 59 49.8
comp=Z,778nm,0.9s
Y52A Lilburn 21.06 12 IAmb IAmb 05 59 52.9
comp=Z,582nm,1.0s
Y52A IAMs_20 IAMs_20 06 08 01.8
comp=Z,17µm,20.0s
OXF Oxford 21.15 360 IAMs_20 IAMs_20 06 09 18.9
comp=Z,17µm,21.0s
X48A Hartselle 21.20 5 P **P** **05 59 35.0 +1.9**
X48A IAmb IAmb 05 59 37.1
comp=Z,455nm,0.9s
X48A IAMs_20 IAMs_20 06 08 14.2
comp=Z,25µm,22.0s
BAUV El Baul 21.34 99 P **P** **05 59 33.1 -1.8**
BAUV IAmb IAmb 05 59 54.5
comp=Z,297nm,0.7s
BAUV IAMs_20 IAMs_20 06 08 25.5
comp=Z,14µm,21.0s
BAUV El Baul 21.34 99 *eP* **P** **05 59 32.5 -2.3**
X40A Basin Creek Fa 21.36 352 IAmb IAmb 05 59 55.1
comp=Z,626nm,1.1s
ABTX Abilene, Hawle 21.45 336 IAmb IAmb 05 59 38.6
comp=Z,517nm,0.8s
FPAL Fort Paine 21.45 8 IAmb IAmb 05 59 39.6
comp=Z,245nm,1.0s
SGCY Sterling City 21.48 332 IAmb IAmb 05 59 57.9
comp=Z,393nm,1.0s
MIAR Mount Ida 21.53 350 IAmb IAmb 05 59 41.4
comp=Z,521nm,0.8s
X51A Calhoun 21.59 10 IAmb IAmb 05 59 58.8
comp=Z,722nm,1.1s
X51A IAMs_20 IAMs_20 06 08 09.8
comp=Z,22µm,22.0s
PLAL Pickwick Lake 21.65 3 IAMs_20 IAMs_20 06 08 43.2
comp=Z,21µm,22.0s
MNHN Monahans 21.81 328 IAmb IAmb 06 00 04.8
comp=Z,446nm,1.0s
HODGE Hodges 21.84 16 P **P** **05 59 41.5 +1.5**
HODGE IAmb IAmb 05 59 43.6
comp=Z,617nm,0.8s
CRPR Cabo Rojo, PR 21.93 75 IAmb IAmb 05 59 59.2
comp=Z,352nm,1.0s
CRPR IAMs_20 IAMs_20 06 07 56.5
comp=Z,24µm,22.0s
PRSN Puerto Rico Se 21.93 74 IAmb IAmb 05 59 49.1
comp=Z,297nm,1.2s
AGPR Aguadilla, PR 22.00 74 P **P** **05 59 42.5 +0.7**
AGPR IAmb IAmb 06 00 01.7
comp=Z,1µm,1.3s
AGPR Aguadilla, PR 22.00 74 P **P** **05 59 41.6 -0.2**
SWET Sewanee 22.07 7 IAmb IAmb 06 00 00.4
comp=Z,664nm,1.2s
SLBS Sierra La Lagu 22.08 301 P **P** **05 59 44.8 +2.0**
SLBS IAmb IAmb 05 59 51.3
comp=Z,437nm,1.2s
SLBS Sierra La Lagu 22.08 301 P **P** **05 59 43.5 +0.7**
W50A Signal Mountai 22.14 9 IAmb IAmb 06 00 06.0
comp=Z,641nm,0.9s
W50A IAMs_20 IAMs_20 06 08 38.3
comp=Z,17µm,20.0s
JSC Jenkinsville 22.18 18 IAmb IAmb 05 59 47.2
comp=Z,661nm,0.9s
SN05 Snyder 5 22.19 334 IAmb IAmb 05 59 46.3
comp=Z,526nm,1.0s
W52A Murphy 22.28 12 IAmb IAmb 06 00 07.6
comp=Z,541nm,0.9s
W52A IAMs_20 IAMs_20 06 08 30.0
comp=Z,23µm,22.0s
ODSA Odessa 22.33 329 IAmb IAmb 06 00 10.1
comp=Z,335nm,1.1s
UUPR Utuado, UPR, P 22.33 74 IAmb IAmb 05 59 48.4
comp=Z,311nm,0.9s
UUPR IAMs_20 IAMs_20 06 08 06.2
comp=Z,19µm,22.0s
SN07 Snyder 07 22.37 334 IAmb IAmb 05 59 48.2
comp=Z,304nm,0.9s
BG3 Lake Jocassee 22.40 14 IAmb IAmb 06 00 10.3
comp=Z,373nm,0.9s
OBIP Obispado Ponce 22.40 75 P **P** **05 59 45.7 -0.5**
OBIP IAMs_20 IAMs_20 06 09 17.2
comp=Z,18µm,18.0s
CELP Cerrillos 22.43 75 IAmb IAmb 06 00 03.7
comp=Z,752nm,1.9s
CELP IAMs_20 IAMs_20 06 09 17.0
comp=Z,15µm,18.0s
CPCT Cooper Cave 22.52 10 IAmb IAmb 06 00 10.5
comp=Z,536nm,1.0s
PAULI Pauline 22.52 16 IAmb IAmb 05 59 51.2
comp=Z,372nm,0.9s
LPIG La Paz 22.56 302 P **P** **05 59 49.4 +1.6**
comp=Z,313nm,1.1s,baz=154,slow=4.0,SNR=36
LPIG ScP **ScP** **06 07 12.1 +2.3**
comp=Z,8.7nm,0.4s,baz=186,slow=3.6,SNR=3.6
LPIG LR LR 06 09 41.9
comp=Z,6µm,18.4s,baz=110,slow=39
comp=Z,313nm,1.1s
POST Post 22.62 333 P **P** **05 59 47.4 -1.0**
VHRN Van Horn 22.62 323 IAmb IAmb 06 00 09.2
comp=Z,341nm,1.5s
FCAR Ozark Folk Cen 22.67 354 IAmb IAmb 06 00 12.8
comp=Z,683nm,1.1s
LCAR Lake Charles 22.77 356 IAmb IAmb 05 59 52.5
comp=Z,567nm,0.9s
WVT Waverly 22.81 3 P **P** **05 59 50.4 +0.1**
WVT IAmb IAmb 06 00 09.6
comp=Z,448nm,1.2s
WVT Waverly 22.81 3 IAMs_20 IAMs_20 06 09 15.8
comp=Z,22µm,22.0s
WVT Waverly 22.81 3 P **P** **05 59 50.4 +0.1**
WVT pmax pmax
comp=Z,448nm,1.3s
WVT MLR MLR
comp=Z,22µm,22.0s
SJG San Juan 22.84 75 P **P** **05 59 49.1 -1.7**
SJG IAMs_20 IAMs_20 06 09 22.8
comp=Z,20µm,20.0s
SJG San Juan 22.84 75 P **P** **05 59 49.1 -1.7**
SJG pmax pmax
comp=Z,99nm,0.8s
SJG MLR MLR
comp=Z,20µm,20.0s
SJG San Juan 22.84 75 *eP* **P** **05 59 49.2 -1.5**
SJG San Juan 22.84 75 P **P** **05 59 48.3 -2.5**
TKL Tuckaleechee C 22.86 12 P **P** **05 59 51.2 +0.5**
comp=Z,441nm,1.1s,baz=180,slow=11,SNR=374
TKL S **S** **06 03 54.1 -0.4**
comp=Z,31nm,1.0s,baz=259,slow=13,SNR=1.2
TKL LR LR 06 09 19.9
comp=Z,22µm,21.0s,baz=198,slow=38
IGPR InterUniversit 22.86 75 P **P** **05 59 48.9 -2.1**
DKNS Dickens 22.88 335 IAmb IAmb 05 59 53.2
comp=Z,496nm,0.7s
CLTN Cedars of Leba 22.89 6 IAmb IAmb 05 59 53.3
comp=Z,229nm,0.7s
GCPR Guaynabo City 22.94 74 IAMs_20 IAMs_20 06 08 02.3
comp=Z,15µm,22.0s
KMSC Kings Mountain 22.96 17 IAmb IAmb 05 59 55.8
comp=Z,456nm,0.9s
ATAH Atahualpa 23.00 151 P **P** **05 59 54.5 +1.7**
comp=Z,234nm,0.9s,baz=335,slow=7.0,SNR=110
ATAH PcP **PcP** **06 03 43.0 +2.6**
comp=Z,33nm,0.7s,baz=62,slow=3.5,SNR=12
ATAH ScP **ScP** **06 07 14.8 +3.1**
comp=Z,79nm,0.9s,baz=356,slow=2.2,SNR=28
ATAH LR LR 06 07 43.5
comp=Z,9µm,21.3s,baz=315,slow=33
comp=Z,234nm,0.9s
WMOK Wichita Mounta 23.02 340 IAmb IAmb 05 59 54.1
comp=Z,546nm,0.8s
X58A Rowland 23.06 21 IAmb IAmb 05 59 55.9
comp=Z,422nm,0.7s
FNO Franklin 23.07 343 IAmb IAmb 05 59 56.1
comp=Z,511nm,0.8s
V53A Saluda 23.07 14 IAmb IAmb 06 00 16.9
comp=Z,567nm,0.9s
V53A IAMs_20 IAMs_20 06 09 04.0
comp=Z,13µm,21.0s
HUMP Col San Antoni 23.13 75 IAMs_20 IAMs_20 06 09 38.4
comp=Z,16µm,19.0s
HHAR Hobbs 23.29 351 IAmb IAmb 06 00 11.1
comp=Z,852nm,1.3s
RLO Rose Lookout 23.37 348 IAmb IAmb 05 59 57.2
comp=Z,870nm,1.6s
U49A Red Boiling Sp 23.37 7 IAmb IAmb 05 59 58.7
comp=Z,599nm,0.9s
U49A IAMs_20 IAMs_20 06 09 28.8
comp=Z,15µm,22.0s
W57A Gilead 23.38 20 IAmb IAmb 05 59 58.5
comp=Z,373nm,0.8s
DEOK Depew 23.39 345 IAmb IAmb 05 59 57.4
comp=Z,301nm,0.8s
U38A Gravette 23.52 350 IAmb IAmb 06 00 25.0
comp=Z,302nm,1.1s
T45A Paducah 23.66 1 IAMs_20 IAMs_20 06 09 56.3
comp=Z,20µm,22.0s
QUOK Quay 23.75 345 IAmb IAmb 06 00 19.2
comp=Z,504nm,1.1s
TZTN Tazewell 23.76 12 IAmb IAmb 06 00 17.9
comp=Z,497nm,1.1s
TZTN IAMs_20 IAMs_20 06 09 26.1
comp=Z,20µm,21.0s
W59A Clinton 23.93 22 IAmb IAmb 06 00 25.5
comp=Z,447nm,1.0s
MSTX Muleshoe 23.95 332 IAmb IAmb 06 00 04.7
comp=Z,448nm,1.0s
T50A Nancy 24.00 9 IAmb IAmb 06 00 03.9
comp=Z,142nm,0.7s
T50A IAMs_20 IAMs_20 06 09 47.4
comp=Z,17µm,21.0s
V58A Windy Hill, Pi 24.25 21 IAmb IAmb 06 00 07.4
comp=Z,502nm,0.8s
S44A Carbondale 24.33 0 IAMs_20 IAMs_20 06 10 28.9
comp=Z,19µm,22.0s
U56A King 24.36 18 IAmb IAmb 06 00 09.5
comp=Z,367nm,0.8s
U56A IAMs_20 IAMs_20 06 09 37.1
comp=Z,11µm,21.0s
PCRV Puerto La Cruz 24.39 95 P **P** **06 00 04.3 -0.8**
comp=Z,63nm,0.8s,baz=308,slow=5.3,SNR=32
PCRV ScP **ScP** **06 07 17.3 +2.2**
comp=Z,25nm,0.6s,baz=293,slow=1.0,SNR=21
PCRV LR LR 06 11 34.9
comp=Z,7µm,20.5s,slow=42
comp=Z,63nm,0.8s
PCRV Puerto La Cruz 24.39 95 *eP* **P** **06 00 04.4 -0.8**
CROK Carrier 24.41 343 IAmb IAmb 06 00 07.6
comp=Z,437nm,0.9s
T35A Sooner Cattle 24.41 346 IAmb IAmb 06 00 23.2
comp=Z,405nm,1.1s
ELIS Ellis County 24.44 340 IAmb IAmb 06 00 27.8
comp=Z,556nm,1.1s
OK038 West end E0370 24.61 342 IAmb IAmb 06 00 09.2
comp=Z,491nm,0.9s
FVM French Village 24.64 358 IAmb IAmb 06 00 10.2
comp=Z,258nm,0.8s
KAN13 South Haven SW 24.74 344 IAmb IAmb 06 00 09.4
comp=Z,270nm,0.7s
CCM Cathedral Cave 24.75 356 P **P** **06 00 08.7 +0.6**
CCM Cathedral Cave 24.75 356 IAMs_20 IAMs_20 06 11 24.9
comp=Z,15µm,22.0s
CCM Cathedral Cave 24.75 356 P **P** **06 00 08.7 +0.6**
CCM pmax pmax
comp=Z,612nm,0.9s
CCM MLR MLR
comp=Z,15µm,22.0s
CCM Cathedral Cave 24.75 356 P **P** **06 00 08.6 +0.4**
S51A Beattyville 24.81 11 IAmb IAmb 06 00 30.3
comp=Z,259nm,0.9s
KAN14 Manchester OK 24.82 343 IAmb IAmb 06 00 10.4
comp=Z,330nm,0.8s
WCI Wyandotte Cave 25.01 6 P **P** **06 00 10.8 +0.3**
WCI Wyandotte Cave 25.01 6 P **P** **06 00 10.8 +0.3**
WCI pmax pmax
comp=Z,986nm,1.3s
WCI MLR MLR
comp=Z,22µm,22.0s
R40A Maddies Statio 25.06 355 IAmb IAmb 06 00 14.7
comp=Z,404nm,0.8s

R40A IAMs_20 IAMs_20 06 11 48.1
comp=Z,14µm,22.0s
BLA Blacksburg 25.15 17 IAmb IAmb 06 00 14.7
comp=Z,447nm,0.9s
R49A Shelbyville 25.20 8 IAmb IAmb 06 00 46.1
comp=Z,575nm,1.2s
T57A Hurt 25.30 19 IAmb IAmb 06 00 36.2
comp=Z,549nm,1.1s
T57A IAMs_20 IAMs_20 06 10 15.2
comp=Z,11µm,21.0s
R50A Paris 25.31 9 IAmb IAmb 06 00 14.7
comp=Z,140nm,0.7s
HSIG 25.45 311 IAMs_20 IAMs_20 06 11 17.0
comp=Z,10µm,20.0s
HSIG 25.45 311 P **P** **06 00 15.0 +0.3**
SABA Saba 25.52 77 IAmb IAmb 06 00 42.4
comp=Z,193nm,0.9s
SABA Saba 25.52 77 P **P** **06 00 17.7 +2.2**
121A Cookes Peak, D 25.54 322 IAmb IAmb 06 00 21.8
comp=Z,195nm,1.0s
Q44A Meyer Farm, Va 25.54 1 IAMs_20 IAMs_20 06 11 27.0
comp=Z,16µm,22.0s
SRIG Santa Rosalia 25.56 307 P **P** **06 00 17.3 +1.7**
319A Douglas 25.70 318 IAmb IAmb 06 00 23.0
comp=Z,424nm,1.7s
TBTG Tabatinga, AM 25.95 131 P **P** **06 00 21.1 +1.8**
TBTG Tabatinga, AM 25.95 131 *eP* **P** **06 00 20.7 +1.4**
SKI Saint Kitts 25.98 78 *eP* **P** **06 00 19.9 +0.4**
RTBA Rita Blanca 26.02 335 IAmb IAmb 06 00 41.4
comp=Z,361nm,1.0s
S57A Dark Hollow, R 26.10 19 IAmb IAmb 06 01 03.4
comp=Z,227nm,1.0s
S57A IAMs_20 IAMs_20 06 10 50.2
comp=Z,10µm,22.0s
Y22D IRIS PASSCAL I 26.15 325 IAmb IAmb 06 00 49.6
comp=Z,278nm,1.1s
Y22D IRIS PASSCAL I 26.15 325 P **P** **06 00 21.1 0.0**
baz=138
R55A Marlinton 26.23 17 IAmb IAmb 06 00 24.0
comp=Z,307nm,0.9s
R55A IAMs_20 IAMs_20 06 11 07.7
comp=Z,10µm,21.0s
P40A Paris 26.27 355 IAmb IAmb 06 00 23.7
comp=Z,407nm,1.0s
P40A IAMs_20 IAMs_20 06 12 35.2
comp=Z,16µm,21.0s
P43A Skaggs, Pawnee 26.27 360 IAmb IAmb 06 00 27.1
comp=Z,469nm,1.0s
P43A IAMs_20 IAMs_20 06 11 51.4
comp=Z,16µm,21.0s
P48A Milroy 26.32 7 IAmb IAmb 06 00 58.7
comp=Z,402nm,1.2s
Q52A Bidwell 26.35 13 IAmb IAmb 06 01 01.8
comp=Z,281nm,1.0s
Q52A IAMs_20 IAMs_20 06 10 56.8
comp=Z,15µm,22.0s
R32A Long Quarter, 26.40 343 IAmb IAmb 06 00 48.2
comp=Z,342nm,1.0s
MBFL Flemmings, Mon 26.43 79 *eP* **P** **06 00 22.2 -1.4**
MLYT Lee's Yard 26.45 79 *eP* **P** **06 00 21.6 -2.2**
MBWH 26.45 79 *eP* **P** **06 00 21.6 -2.3**
P38A Dawn 26.52 353 IAmb IAmb 06 01 05.7
comp=Z,412nm,1.1s
ANMO Albuquerque 26.56 327 P **P** **06 00 25.6 +0.8**
ANMO Albuquerque 26.56 327 P **P** **06 00 25.6 +0.8**
comp=Z,13nm,0.5s,baz=242,slow=12,SNR=52
ANMO S **S** **06 04 53.7 -0.3**
comp=Z,11nm,1.0s,baz=72,slow=9.1,SNR=1.3
ANMO LR LR 06 13 33.6
comp=Z,5µm,19.2s,baz=234,slow=42
comp=Z,13nm,0.5s
ANMO Albuquerque 26.56 327 *c iP* **P** **06 00 25.3 +0.5**
ANMO pmax pmax
comp=Z,23nm,1.0s
CZSB Cruzeiro do Su 26.62 141 IAmb IAmb 06 00 29.3
comp=Z,445nm,1.0s
CZSB Cruzeiro do Su 26.62 141 *eP* **P** **06 00 27.6 +2.3**
R58B Mineral 26.64 21 IAmb IAmb 06 00 47.2
comp=Z,303nm,1.1s
Q54A Coxs Mills 26.70 15 IAmb IAmb 06 00 27.8
comp=Z,378nm,0.8s
Q54A IAMs_20 IAMs_20 06 11 05.2
comp=Z,9µm,21.0s
DHSZ Broadband at M 26.83 80 *eP* P 06 00 40.3 +13
GDHS Morne Mazeau, 26.83 80 IAmb IAmb 06 00 54.2
comp=Z,341nm,1.2s
GDHS IAMs_20 IAMs_20 06 10 44.4
comp=Z,12µm,22.0s
ATGZ Broadband at L 26.86 81 *eP* **P** **06 00 29.0 +1.5**
ANWB Willy Bob 26.91 77 IAMs_20 IAMs_20 06 12 27.6
comp=Z,13µm,20.0s
ANWB Willy Bob 26.91 77 *eP* **P** **06 00 29.0 +1.1**
ANWB Willy Bob 26.91 77 P **P** **06 00 29.0 +1.1**
MMLZ Guadeloupe Bro 26.92 81 *eP* **P** **06 00 27.4 -0.6**
TBG Guadaloupe-3 26.93 81 *eP* **P** **06 00 31.7 +3.6**
TDBA Terre de Bas, 26.94 81 P **P** **06 00 27.1 -1.1**
TDBA IAmb IAmb 06 00 33.1
comp=Z,181nm,1.0s
TDBA IAMs_20 IAMs_20 06 10 16.3
comp=Z,11µm,21.0s
CBE Ff, Capester 26.98 81 IAmb IAmb 06 01 07.0
comp=Z,378nm,1.2s
CBE Ff, Capester 26.98 81 P **P** **06 00 27.8 -0.8**
P52A Corning 27.03 12 IAmb IAmb 06 01 03.5
comp=Z,298nm,1.2s
GRW Mount Saint Ca 27.03 89 *eP* **P** **06 00 27.9 -1.3**
GRGR Grenville 27.04 89 *eP* **P** **06 00 26.6 -2.5**
GRGR Grenville 27.04 89 P **P** **06 00 28.5 -0.7**
P53A Whipple 27.05 14 IAmb IAmb 06 00 31.0
comp=Z,271nm,1.0s
P53A IAMs_20 IAMs_20 06 11 28.3
comp=Z,11µm,21.0s
GRSS Sisters 27.06 89 *eP* **P** **06 00 28.6 -0.7**
SFIN Lafayette 27.08 4 IAmb IAmb 06 01 11.1
comp=Z,359nm,1.0s
ABD La Joyeuse, An 27.11 80 IAMs_20 IAMs_20 06 11 22.7
comp=Z,13µm,20.0s
O48B Farmland 27.14 7 IAmb IAmb 06 01 00.8
comp=Z,259nm,1.2s
O48B IAMs_20 IAMs_20 06 11 46.5
comp=Z,16µm,21.0s
O49A Covington 27.18 8 IAmb IAmb 06 00 31.0
comp=Z,160nm,0.8s
HDIL Hopedale 27.19 0 IAMs_20 IAMs_20 06 12 18.6
comp=Z,16µm,21.0s
Q56A Snyder Ridge, 27.20 17 IAmb IAmb 06 00 56.2
comp=Z,290nm,1.0s
Q56A IAMs_20 IAMs_20 06 11 26.4
comp=Z,11µm,22.0s
DLDT Laudat, Domini 27.21 82 *eP* **P** **06 00 28.3 -2.3**
MAGL Barre de l'ile 27.28 81 IAMs_20 IAMs_20 06 13 25.4
comp=Z,10µm,19.0s
TUC Tucson 27.28 318 P **P** **06 00 33.0 +1.7**
TUC Tucson 27.28 318 IAMs_20 IAMs_20 06 12 47.6
comp=Z,13µm,20.0s
TUC Tucson 27.28 318 P **P** **06 00 33.0 +1.7**
TUC pmax pmax
comp=Z,74nm,0.7s
TUC MLR MLR
comp=Z,13µm,20.0s
T25A Trinidad 27.32 333 IAmb IAmb 06 00 35.0
comp=Z,171nm,0.7s
N41A Harden Midland 27.37 358 IAMs_20 IAMs_20 06 12 30.4
comp=Z,17µm,22.0s
SVN Savane Anatole 27.38 83 *eP* **P** **06 00 31.3 -0.9**
FDF Fort de France 27.40 84 P **P** **06 00 29.9 -2.5**
ACSO Alum Creek Sta 27.44 11 IAmb IAmb 06 00 33.9
comp=Z,215nm,0.8s
TRN Trinidad (W) 27.46 92 *eP* **P** **06 00 29.8 -3.1**
BIM Bigot 27.48 84 IAmb IAmb 06 01 18.9
comp=Z,201nm,1.1s
BIM IAMs_20 IAMs_20 06 11 04.5
comp=Z,11µm,22.0s
BIM Bigot 27.48 84 *eP* **P** **06 00 30.6 -2.5**
DSDZ La Diserade, G 27.51 80 *eP* **P** **06 00 31.3 -2.0**
GDSD La Dsirade Is 27.51 80 IAMs_20 IAMs_20 06 11 24.2
comp=Z,14µm,21.0s
O52A Adamsville 27.55 13 IAmb IAmb 06 00 34.9
comp=Z,205nm,0.7s
O52A IAMs_20 IAMs_20 06 11 43.6
comp=Z,16µm,22.0s
SLBI Saint Lucia, B 27.58 85 *eP* **P** **06 00 28.3 -5.6**
MCWV Mont Chateau 27.59 16 IAmb IAmb 06 00 35.7
comp=Z,195nm,0.8s
MCWV IAMs_20 IAMs_20 06 11 30.8
comp=Z,9µm,22.0s
N38A Joes South For 27.63 354 IAmb IAmb 06 00 54.2
comp=Z,451nm,1.2s
N38A IAMs_20 IAMs_20 06 13 40.6
comp=Z,11µm,21.0s
ILAM Ilet Lapin Mar 27.66 83 *eP* **P** **06 00 32.2 -2.5**
MPOM Morne Pois Mar 27.68 84 P **P** **06 00 33.1 -1.8**
MPOM IAmb IAmb 06 00 34.4
comp=Z,203nm,1.0s
MPOM IAMs_20 IAMs_20 06 11 09.8
comp=Z,10µm,21.0s
N47A Urbana 27.70 6 IAmb IAmb 06 01 07.8
comp=Z,253nm,1.1s
O53A New Philadelph 27.82 13 IAmb IAmb 06 01 34.1
comp=Z,350nm,1.1s
O54A Avella 27.95 15 IAmb IAmb 06 00 38.4
comp=Z,203nm,0.7s
O54A IAMs_20 IAMs_20 06 11 54.2
comp=Z,9µm,21.0s
P57A Homestead Farm 27.97 19 IAmb IAmb 06 00 39.7
comp=Z,341nm,0.9s
NNA Nana 27.99 153 P **P** **06 00 38.8 +1.1**
NNA Nana 27.99 153 P **P** **06 00 39.3 +1.7**
comp=Z,72nm,1.2s,baz=340,slow=7.3,SNR=10.0
NNA PcP **PcP** **06 03 52.4 +1.2**
comp=Z,33nm,0.7s,baz=288,slow=4.4,SNR=7.4
NNA S **S** **06 05 22.5 +5.9**
comp=Z,2.6nm,0.4s,baz=295,slow=10,SNR=0.8
NNA ScP **ScP** **06 07 28.2 +2.7**
comp=Z,36nm,0.8s,baz=299,slow=3.2,SNR=10
NNA LR LR 06 11 19.2
comp=Z,840nm,18.8s,baz=319,slow=35
comp=Z,72nm,1.2s
NNA Nana 27.99 153 *d iP* **P** **06 00 38.7 +1.1**
NNA pmax pmax
comp=Z,223nm,1.4s
NNA Nana 27.99 153 P **P** **06 00 38.6 +1.0**
M44A Midewin, Midew 28.04 2 IAmb IAmb 06 01 38.3
comp=Z,372nm,1.2s
KSCO Kaye Shedlick' 28.21 338 IAmb IAmb 06 00 42.7
comp=Z,377nm,1.0s
N51A Ashland 28.22 11 IAmb IAmb 06 01 43.9
comp=Z,382nm,1.1s
SDMD Soldier's Deli 28.29 21 IAmb IAmb 06 00 42.2
comp=Z,153nm,0.7s
N53A Lisbon 28.43 14 IAMs_20 IAMs_20 06 12 10.9
comp=Z,11µm,22.0s
214A Organ Pipe Nat 28.44 315 IAMs_20 IAMs_20 06 12 58.1
comp=Z,12µm,20.0s
HQIL Hanson Quary C 28.46 2 IAmb IAmb 06 01 38.8
comp=Z,295nm,1.1s
SCIA State Center 28.73 354 IAmb IAmb 06 01 04.6
comp=Z,173nm,0.8s
SCIA IAMs_20 IAMs_20 06 14 24.3
comp=Z,14µm,21.0s
L40A Anamosa 28.74 357 IAmb IAmb 06 00 45.5
comp=Z,413nm,0.9s
L44A Lake County Fo 28.84 2 IAmb IAmb 06 01 33.9
comp=Z,433nm,1.1s
S22A 4UR Ranch, Cre 28.93 331 IAmb IAmb 06 00 50.0
comp=Z,142nm,1.0s
MVL Millersville 28.98 21 IAmb IAmb 06 01 11.5
comp=Z,153nm,1.1s
BBGH Gun Hill 29.00 87 IAMs_20 IAMs_20 06 13 42.0
comp=Z,11µm,20.0s
BBGH Gun Hill 29.00 87 *eP* **P** **06 00 43.0 -3.6**
M52A Chesterland 29.02 12 IAmb IAmb 06 01 47.0
comp=Z,363nm,1.2s
M52A IAMs_20 IAMs_20 06 12 40.4
comp=Z,15µm,21.0s
SSPA Standing Stone 29.06 18 P **P** **06 00 47.4 +0.6**
SSPA Standing Stone 29.06 18 IAMs_20 IAMs_20 06 12 31.6
comp=Z,10µm,21.0s
P61A Hammonton 29.27 23 IAMs_20 IAMs_20 06 13 58.2
comp=Z,7µm,18.0s
AAM Ann Arbor 29.35 9 IAmb IAmb 06 01 57.9
comp=Z,337nm,1.1s
BBSR BB Station 29.51 46 P **P** **06 00 51.7 +0.8**
BBSR BB Station 29.51 46 P **P** **06 00 51.9 +1.0**
113A Mohawk Valley, 29.57 315 IAmb IAmb 06 00 55.5
comp=Z,302nm,1.7s
113A IAMs_20 IAMs_20 06 13 42.9
comp=Z,11µm,20.0s
N58A Sunbury 29.62 20 IAmb IAmb 06 01 56.2
comp=Z,172nm,1.3s
TEFE Tefe 29.66 123 *eP* **P** **06 00 51.6 -0.8**
OGNE Ogallala 29.73 340 IAmb IAmb 06 01 49.5
comp=Z,521nm,1.4s
WUAZ Wupatki 29.75 322 IAMs_20 IAMs_20 06 14 29.9
comp=Z,10µm,21.0s
ERPA Erie 29.88 14 IAmb IAmb 06 00 55.2
comp=Z,119nm,0.7s
M57A Sunshine Farm, 29.93 19 IAmb IAmb 06 00 56.5
comp=Z,212nm,0.9s
M57A IAMs_20 IAMs_20 06 12 57.7
comp=Z,9µm,21.0s
ISCO Idaho Springs 30.07 334 IAmb IAmb 06 00 59.2
comp=Z,134nm,0.8s
J47A Sunmer 30.12 7 IAmb IAmb 06 00 56.3
comp=Z,160nm,0.8s
J47A IAMs_20 IAMs_20 06 13 27.4
comp=Z,15µm,22.0s
BRNJ Basking Ridge 30.23 23 IAmb IAmb 06 00 59.2
comp=Z,215nm,0.8s
PV02 Paradox Valley 30.23 329 IAmb IAmb 06 01 01.8
comp=Z,233nm,1.1s
PV02 IAMs_20 IAMs_20 06 15 15.8
comp=Z,9µm,21.0s
PV13 Radium Mtn., P 30.24 329 IAmb IAmb 06 01 01.7
comp=Z,118nm,0.8s
VTX Valle De La Tr 30.25 311 IAmb IAmb 06 01 01.0
comp=Z,176nm,1.5s
PV05 Paradox Valley 30.32 328 IAmb IAmb 06 01 02.1
comp=Z,114nm,0.8s
PV03 Paradox Valley 30.32 329 IAmb IAmb 06 01 02.2
comp=Z,124nm,0.8s
PV18 Skein Mesa, Pa 30.35 329 IAMs_20 IAMs_20 06 15 19.0
comp=Z,8µm,22.0s
PV12 Saucer Basin, 30.35 329 IAMs_20 IAMs_20 06 15 20.0
comp=Z,8µm,21.0s
PV07 Paradox Valley 30.36 329 IAmb IAmb 06 01 02.9
comp=Z,150nm,1.1s
PV11 David Mesa, Pa 30.37 329 IAmb IAmb 06 01 04.0
comp=Z,206nm,1.0s
PV17 East Wray Mesa 30.40 329 IAmb IAmb 06 01 02.3
comp=Z,184nm,0.8s
PV16 Nyswonger Mesa 30.40 329 IAmb IAmb 06 01 02.4
comp=Z,209nm,1.1s
PV19 Morning Glory 30.43 329 IAmb IAmb 06 01 02.6
comp=Z,236nm,0.9s
CPBX Cerro Prieto 30.45 313 IAmb IAmb 06 01 04.0
comp=Z,192nm,0.9s
PV20 West Nyswonger 30.45 329 IAmb IAmb 06 01 02.7
comp=Z,263nm,1.0s
PV20 IAMs_20 IAMs_20 06 15 21.7
comp=Z,8µm,22.0s
GLA Glamis 30.46 315 IAmb IAmb 06 01 02.8
comp=Z,235nm,1.1s
PV04 Paradox Valley 30.46 329 IAmb IAmb 06 01 03.0
comp=Z,162nm,0.9s
BOAV Boa Vista 30.49 108 P **P** **06 00 58.1 -1.7**
BOAV Boa Vista 30.49 108 *eP* **P** **06 00 57.7 -2.1**
PV14 Lion Creek, Pa 30.50 329 IAmb IAmb 06 01 03.2
comp=Z,136nm,1.0s
PV22 Blue Mesa, Par 30.51 329 IAmb IAmb 06 01 03.3
comp=Z,97nm,0.9s
PV10 Paradox Valley 30.52 329 IAmb IAmb 06 01 03.2
comp=Z,191nm,0.8s
L56A Greenwood 30.54 17 IAmb IAmb 06 01 01.8
comp=Z,253nm,0.9s
L56A IAMs_20 IAMs_20 06 13 28.6
comp=Z,9µm,21.0s
I40A Norwalk 30.54 358 IAmb IAmb 06 01 58.6
comp=Z,246nm,1.0s
CPNY Central Park 30.56 23 IAmb IAmb 06 01 01.6
comp=Z,139nm,0.7s
PV23 Carpenter Ridg 30.56 329 IAmb IAmb 06 01 04.2
comp=Z,270nm,0.9s
KSPA Keystone Colle 30.57 20 IAmb IAmb 06 01 01.8
comp=Z,84nm,0.7s
BLYC Blythe 30.65 316 IAMs_20 IAMs_20 06 14 17.7
comp=Z,11µm,21.0s
ESJX Sierra Juarez 30.69 312 IAmb IAmb 06 01 05.2
comp=Z,119nm,0.9s
PAL Palisades 30.76 23 IAmb IAmb 06 01 03.4
comp=Z,220nm,0.7s
MMNY Mt. Morris Dam 30.99 16 IAmb IAmb 06 01 05.2
comp=Z,249nm,0.8s
YUH Yuha Desert 31.01 313 IAmb IAmb 06 01 07.8
comp=Z,144nm,0.9s
W13A Hualapai Mount 31.04 319 IAMs_20 IAMs_20 06 15 13.2
comp=Z,11µm,20.0s
BINY Binghamton 31.08 19 IAmb IAmb 06 01 06.3
comp=Z,204nm,0.9s
BINY IAMs_20 IAMs_20 06 13 32.0
comp=Z,8µm,21.0s
H43A Windswept, Lux 31.13 2 IAmb IAmb 06 01 06.6
comp=Z,248nm,0.7s
CCX Cicese 31.14 311 IAmb IAmb 06 01 10.0
comp=Z,113nm,1.0s
BC3 Big Chuckawall 31.23 315 IAmb IAmb 06 01 09.7
comp=Z,234nm,1.0s
IRM Iron Mountain 31.31 316 IAmb IAmb 06 01 10.4
comp=Z,137nm,1.2s
IRM IAMs_20 IAMs_20 06 14 27.1
comp=Z,9µm,20.0s
NEE2 Needles Airpor 31.32 317 IAmb IAmb 06 01 10.2
comp=Z,110nm,0.8s
HAYD Hayden 31.37 333 IAmb IAmb 06 01 10.8
comp=Z,110nm,0.8s
CBX Cerro Bola 31.37 312 IAmb IAmb 06 01 11.3
comp=Z,280nm,0.8s
L59A Walton 31.38 21 IAmb IAmb 06 01 09.1
comp=Z,178nm,0.8s
TKX Tecate 31.46 312 IAmb IAmb 06 01 11.6
comp=Z,141nm,1.0s
J55A Hilton 31.51 16 IAmb IAmb 06 01 09.5
comp=Z,220nm,0.9s
J55A IAMs_20 IAMs_20 06 14 21.3
comp=Z,7µm,20.0s
PKCU Pink Cliffs 31.61 324 IAmb IAmb 06 01 32.0
comp=Z,153nm,1.3s
PKCU IAMs_20 IAMs_20 06 15 37.4
comp=Z,7µm,21.0s
KNB Kanab 31.62 323 IAmb IAmb 06 01 46.0
comp=Z,160nm,1.5s
KNB IAMs_20 IAMs_20 06 15 48.5
comp=Z,8µm,20.0s
BORC Borrego Spring 31.69 313 IAmb IAmb 06 01 15.6
comp=Z,117nm,1.0s
DANC Danby, Needles 31.75 317 P **P** **06 01 13.1 +2.4**
DANC IAMs_20 IAMs_20 06 15 02.7
comp=Z,10µm,21.0s
TJX Tijuana 31.75 312 IAMs_20 IAMs_20 06 14 24.8
comp=Z,7µm,21.0s
BELC Belle Mtn. Jos 31.80 315 IAmb IAmb 06 01 14.7
comp=Z,119nm,1.0s
SRU San Rafael Swe 31.83 328 IAmb IAmb 06 01 16.1
comp=Z,81nm,1.0s
M63A Gales Ferry 31.84 25 IAmb IAmb 06 01 37.3
comp=Z,267nm,1.1s
M63A IAMs_20 IAMs_20 06 14 33.3
comp=Z,6µm,18.0s
PMD Palm Desert 31.87 314 IAmb IAmb 06 01 15.1
comp=Z,133nm,0.9s
LCMT Little Creek M 31.87 322 IAMs_20 IAMs_20 06 15 21.1
comp=Z,8µm,22.0s
G40A Rib Lake 31.91 359 IAMs_20 IAMs_20 06 14 55.4
comp=Z,12µm,21.0s
PFO Pinyon Flats O 31.91 314 P **P** **06 01 14.4 +2.2**
PFO IAmb IAmb 06 01 15.7
comp=Z,110nm,1.1s
PFO Pinyon Flats O 31.91 314 P **P** **06 01 13.6 +1.4**
comp=Z,69nm,0.9s,baz=117,slow=7.3,SNR=102
PFO PcP **PcP** **06 04 03.3 +2.1**
comp=Z,22nm,0.9s,baz=110,slow=3.4,SNR=5.9
PFO S **S** **06 06 22.8 +4.8**
comp=Z,1.2nm,0.7s,baz=184,slow=15,SNR=1.2
PFO ScP **ScP** **06 07 40.2 +2.1**
comp=Z,33nm,0.9s,baz=110,slow=1.9,SNR=26
PFO LR LR 06 16 52.8
comp=Z,5µm,18.3s,baz=128,slow=41
comp=Z,69nm,0.9s
PFO Pinyon Flats O 31.91 314 *d iP* **P** **06 01 14.5 +2.2**
PFO pmax pmax
comp=Z,199nm,1.1s
PFO Pinyon Flats O 31.91 314 P **P** **06 01 14.6 +2.3**
DPP Dos Picos Cty 31.92 313 IAmb IAmb 06 01 15.4
comp=Z,86nm,0.9s
MTPU Mount Pierson 31.96 325 IAMs_20 IAMs_20 06 16 03.4
comp=Z,8µm,20.0s
SPMN Marine on St. 31.99 355 IAMs_20 IAMs_20 06 15 26.5
comp=Z,12µm,22.0s
V12A Nelson 32.05 319 IAmb IAmb 06 01 19.4
comp=Z,159nm,0.9s
P18A Preston Nutter 32.08 329 IAmb IAmb 06 01 17.2
comp=Z,75nm,0.8s
J57A Williamstown 32.17 18 IAMs_20 IAMs_20 06 14 28.8
comp=Z,7µm,21.0s
SZCU Shurtz Canyon 32.17 323 IAMs_20 IAMs_20 06 16 08.0
comp=Z,8µm,20.0s
CCUT Cedar City 32.30 323 IAMs_20 IAMs_20 06 15 47.5
comp=Z,8µm,21.0s
TRY Troy 32.34 22 IAmb IAmb 06 01 17.6
comp=Z,189nm,0.7s
PECO Prince Edward 32.35 17 IAmb IAmb 06 01 17.2
comp=Z,101nm,0.7s
L61B Northampton 32.47 23 IAmb IAmb 06 01 39.1
comp=Z,122nm,1.0s
L61B IAMs_20 IAMs_20 06 15 53.9
comp=Z,6µm,18.0s
TCRU Three Creeks R 32.50 325 IAMs_20 IAMs_20 06 16 25.9
comp=Z,9µm,20.0s
M65A Busby, Falmout 32.56 27 IAMs_20 IAMs_20 06 13 55.5
comp=Z,8µm,21.0s
M65A Busby, Falmout 32.56 27 P **P** **06 01 18.0 +0.3**
baz=215
SADO Sadowa 32.59 14 LR LR 06 15 00.8
comp=Z,15µm,21.6s,baz=210,slow=38
ELS Elsinore Mount 32.61 313 IAmb IAmb 06 01 21.6
comp=Z,92nm,1.0s
J59A Piesco 32.70 20 IAmb IAmb 06 01 43.0
comp=Z,89nm,1.0s
DELO Deloro Mine 32.72 16 IAmb IAmb 06 01 20.5
comp=Z,246nm,0.9s
L64A Middleborough 32.79 26 IAmb IAmb 06 01 42.1
comp=Z,187nm,1.1s
MACA Manacapuru-AM 32.80 118 *eP* **P** **06 01 19.3 -0.8**
K62A Royalston 32.83 24 IAmb IAmb 06 02 36.7
comp=Z,120nm,1.2s
K22A Casper 32.84 336 IAmb IAmb 06 01 22.7
comp=Z,330nm,1.1s
WES Weston 32.96 25 IAmb IAmb 06 01 46.8
comp=Z,225nm,1.5s
WES IAMs_20 IAMs_20 06 14 34.8
comp=Z,8µm,22.0s
HRV Adam Dziewonsk 32.96 25 P **P** **06 01 21.8 +0.6**
HRV IAmb IAmb 06 01 43.3
comp=Z,130nm,1.1s
HRV Adam Dziewonsk 32.96 25 IAMs_20 IAMs_20 06 14 34.9
comp=Z,9µm,21.0s
HRV Adam Dziewonsk 32.96 25 P **P** **06 01 21.8 +0.6**
HRV pmax pmax
comp=Z,130nm,1.1s
HRV MLR MLR
comp=Z,9µm,21.0s
HRV Adam Dziewonsk 32.96 25 P **P** **06 01 20.9 -0.3**
BCX Boston College 32.98 25 IAmb IAmb 06 01 43.7
comp=Z,228nm,1.1s
BCX IAMs_20 IAMs_20 06 15 58.4
comp=Z,8µm,18.0s
F33A 5 Mile Ranch, 33.00 351 IAmb IAmb 06 01 21.8
comp=Z,208nm,0.8s
F33A IAMs_20 IAMs_20 06 17 24.1
comp=Z,7µm,20.0s
BSUT Blindstream Ca 33.02 329 IAmb IAmb 06 01 26.2
comp=Z,124nm,1.1s
MPU Maple Canyon 33.08 328 IAmb IAmb 06 01 26.5
comp=Z,124nm,1.0s
SHOC Shoshone, Teco 33.08 318 IAMs_20 IAMs_20 06 16 07.9
comp=Z,11µm,20.0s
BFSC Mount Baldy Ra 33.08 314 IAmb IAmb 06 01 25.7
comp=Z,118nm,0.9s
RSSD Black Hills 33.23 341 P **P** **06 01 24.8 +1.1**
RSSD IAmb IAmb 06 01 27.7
comp=Z,171nm,0.9s
RSSD Black Hills 33.23 341 P **P** **06 01 24.8 +1.1**
RSSD pmax pmax
comp=Z,171nm,1.0s
RSSD MLR MLR
comp=Z,3µm,21.0s
RSSD Black Hills 33.23 341 P **P** **06 01 24.9 +1.1**
RSSD Black Hills 33.23 341 P **P** **06 01 24.9 +1.1**
E46A Sault Ste Mari 33.27 6 IAmb IAmb 06 02 31.9
comp=Z,142nm,1.0s
E46A IAMs_20 IAMs_20 06 15 25.7
comp=Z,11µm,21.0s
J61A Chester 33.29 23 IAmb IAmb 06 01 46.3

comp=Z,95nm,1.1s
MWC Mount Wilson 33.36 314 IAmb IAmb 06 01 28.3
comp=Z,209nm,1.0s
JLU Jordanelle 33.42 329 IAmb IAmb 06 01 29.4
comp=Z,88nm,1.1s
PASC Pasadena Art C 33.42 313 IAmb IAmb 06 01 28.7
comp=Z,220nm,1.1s
GWY Greenwater Val 33.50 318 IAmb IAmb 06 01 30.3
comp=Z,103nm,1.2s
QSM Queen of Sheba 33.51 317 IAmb IAmb 06 01 31.3
comp=Z,102nm,1.0s
CTU Camp Tracy 33.64 328 IAmb IAmb 06 01 31.3
comp=Z,149nm,1.2s
HNH Hanover 33.70 23 IAmb IAmb 06 02 39.4
HNH IAMs_20 IAMs_20 06 16 24.3
comp=Z,118nm,1.5s
comp=Z,5µm,18.0s
LONY Lake Ozonia 33.70 19 IAmb IAmb 06 01 28.7
comp=Z,171nm,0.8s
WSHM Spangler Hills 33.71 316 IAmb IAmb 06 01 32.7
WSHM IAMs_20 IAMs_20 06 15 49.8
comp=Z,115nm,0.8s
comp=Z,9µm,20.0s
LRMC Laurel Mtn Rad 33.77 316 IAmb IAmb 06 01 32.0
comp=Z,124nm,1.0s
FURC Furnace Creek, 33.79 318 IAmb IAmb 06 01 33.7
comp=Z,120nm,0.9s
S11A Rachel 33.80 321 IAmb IAmb 06 01 52.5
comp=Z,163nm,1.0s
TPO Tropico Hills 33.82 314 IAmb IAmb 06 01 32.0
comp=Z,218nm,1.0s
DUG Dugway, Tooele 33.83 327 IAMs_20 IAMs_20 06 17 36.0
comp=Z,6µm,20.0s
WBO Williamsburg 33.83 18 IAmb IAmb 06 01 29.5
comp=Z,161nm,0.8s
CLC China Lake 33.91 316 P **P** **06 01 31.4 +1.8**
CLC IAmb IAmb 06 01 32.7
comp=Z,89nm,0.9s
CLC China Lake 33.91 316 P **P** **06 01 31.4 +1.8**
CLC pmax pmax
comp=Z,89nm,0.9s
MPMC Manual Prospec 33.97 317 IAmb IAmb 06 01 33.4
comp=Z,84nm,0.8s
VT1 Waterbury 34.06 21 IAMs_20 IAMs_20 06 14 58.8
comp=Z,6µm,20.0s
BW06 Boulder Array 34.20 333 IAmb IAmb 06 01 35.2
comp=Z,154nm,1.4s
PD31 Pinedale Array 34.20 333 IAmb IAmb 06 01 35.2
comp=Z,151nm,1.4s
PDAR Pinedale Array 34.20 333 P **P** **06 01 32.6 +0.4**
PDAR Pinedale Array 34.20 333 P **P** **06 01 32.4 +0.2**
comp=Z,35nm,0.6s,baz=129,slow=11,SNR=297
PDAR PcP **PcP** **06 04 07.9 +0.3**
comp=Z,16nm,0.8s,baz=108,slow=5.5,SNR=10
PDAR S **S** **06 06 52.4 -1.1**
comp=Z,4.3nm,1.1s,baz=78,slow=11,SNR=2.4
PDAR ScP **ScP** **06 07 45.4 -0.6**
comp=Z,16nm,0.8s,baz=134,slow=5.4,SNR=14
PDAR PKiKP **PKiKP** **06 11 30.8 -0.4**
comp=Z,4.8nm,0.8s,baz=110,slow=19,SNR=12
PDAR LR LR 06 18 48.8
comp=Z,3µm,19.4s,baz=138,slow=42
PDAR P3KPbc 06 32 34.6
comp=Z,1.2nm,0.9s,baz=11,slow=1.5,SNR=11
comp=Z,35nm,0.6s
I62A Tamworth 34.20 23 IAMs_20 IAMs_20 06 15 58.7
comp=Z,6µm,20.0s
HWUT Hardware Ranch 34.23 330 IAmb IAmb 06 01 36.8
comp=Z,104nm,0.8s
LBNH Lisbon 34.29 22 IAmb IAmb 06 01 57.3
LBNH IAMs_20 IAMs_20 06 16 43.0
comp=Z,83nm,1.1s
comp=Z,6µm,18.0s
ISA Isabella, Lake 34.41 315 IAmb IAmb 06 01 37.6
comp=Z,84nm,1.0s
GRAC Grapevine Rang 34.43 318 IAmb IAmb 06 01 38.1
comp=Z,128nm,0.9s
BGU Big Grassy Mou 34.47 327 IAmb IAmb 06 01 39.5
comp=Z,89nm,1.0s
I63A Otisfield 34.64 24 IAmb IAmb 06 02 00.8
I63A IAMs_20 IAMs_20 06 15 36.4
comp=Z,213nm,1.1s
comp=Z,8µm,20.0s
H62A Milan 34.86 23 IAMs_20 IAMs_20 06 16 29.2
comp=Z,6µm,20.0s
HVU Hansel Valley 34.96 329 IAmb IAmb 06 01 43.6
comp=Z,91nm,0.9s
TIN Tinemaha, Big 35.03 318 IAmb IAmb 06 01 45.1
comp=Z,162nm,1.1s
DSP Deep Springs 35.04 318 IAmb IAmb 06 01 44.5
comp=Z,65nm,0.9s
TRQ Mont Tremblant 35.15 18 P **P** **06 01 40.0 -0.1**
TRQ IAmb IAmb 06 01 41.2
comp=Z,106nm,1.0s
Q09A Carvers 35.42 321 IAmb IAmb 06 02 13.4
comp=Z,193nm,1.3s
WVL Waterville 35.44 25 IAmb IAmb 06 02 07.7
WVL IAMs_20 IAMs_20 06 15 45.5
comp=Z,164nm,1.2s
comp=Z,10µm,22.0s
ELK Elko 35.53 325 P **P** **06 01 44.5 +0.7**
ELK comp=Z,24nm,0.7s,baz=140,slow=6.6,SNR=123 PcP **PcP** **06 04 12.8 +1.3**
ELK comp=Z,26nm,0.9s,baz=121,slow=8.1,SNR=5.6 S **S** **06 07 16.9 +2.8**
ELK comp=Z,0.4nm,0.4s,baz=135,slow=17,SNR=0.9 ScP **ScP** **06 07 51.4 +0.6**
ELK comp=Z,33nm,0.8s,baz=159,slow=1.4,SNR=32 LR LR 06 18 10.4
comp=Z,5µm,20.3s,baz=142,slow=39
comp=Z,24nm,0.7s
FXWY Fox Creek 35.54 333 IAmb IAmb 06 01 53.4
comp=Z,78nm,0.9s
G62A West of Eustis 35.64 23 IAmb IAmb 06 02 09.1
comp=Z,217nm,1.0s
G62A IAMs_20 IAMs_20 06 16 09.8
comp=Z,7µm,19.0s
NV11 Mina Array Sit 35.78 320 IAmb IAmb 06 01 50.6
comp=Z,360nm,1.6s
NVAR Mina Array Bea 35.88 320 P **P** **06 01 48.3 +1.6**
NVAR Mina Array Bea 35.88 320 P **P** **06 01 48.2 +1.5**
comp=Z,92nm,0.9s,baz=118,slow=6.3,SNR=149
NVAR PcP **PcP** **06 04 12.8 +0.3**
comp=Z,33nm,0.8s,baz=133,slow=3.4,SNR=11
NVAR S **S** **06 07 20.1 +0.8**
comp=Z,0.3nm,0.5s,baz=167,slow=3.9,SNR=1.5
NVAR ScP **ScP** **06 07 54.4 +2.2**
comp=Z,49nm,0.7s,baz=133,slow=4.1,SNR=51
NVAR PKiKP **PKiKP** **06 11 34.8 +2.1**
comp=Z,2.0nm,0.6s,baz=173,slow=2.4,SNR=8.2
NVAR LR LR 06 18 44.4
comp=Z,7µm,19.8s,baz=126,slow=40
NVAR P3KPbc 06 32 28.8
comp=Z,0.7nm,0.7s,baz=277,slow=3.3,SNR=5.7
comp=Z,92nm,0.9s
LHV Little Huntoon 35.90 319 IAmb IAmb 06 01 52.9
comp=Z,174nm,1.0s
H17A Grant Village 35.94 334 IAmb IAmb 06 01 54.0
comp=Z,96nm,1.0s
LPAZ La Paz 36.09 144 P **P** **06 01 50.2 +1.1**
comp=Z,49nm,0.9s,baz=334,slow=7.7,SNR=164
LPAZ PcP **PcP** **06 04 14.1 +0.2**
comp=Z,20nm,0.6s,baz=316,slow=2.3,SNR=9.0
LPAZ S **S** **06 07 31.9 +8.2**
comp=Z,6.7nm,1.0s,baz=299,slow=11,SNR=1.9
LPAZ PKiKP **PKiKP** **06 11 34.9 +1.1**
comp=Z,3.9nm,0.8s,baz=43,slow=2.4,SNR=3.8
LPAZ LR LR 06 17 00.2
comp=Z,5µm,19.0s,baz=303,slow=37
comp=Z,49nm,0.9s
LPAZ La Paz 36.09 144 *e*P **P** **06 01 50.0 +0.9**
YFT Old Faithful 36.10 334 IAmb IAmb 06 01 55.5
comp=Z,208nm,1.0s
VLDQ Val d'Or 36.13 14 IAmb IAmb 06 01 49.2
comp=Z,127nm,0.9s
RYN Ryan 36.13 320 IAmb IAmb 06 01 53.4
comp=Z,121nm,1.5s
PKME Peaks-Kenny Pk 36.16 24 IAmb IAmb 06 02 13.6
PKME IAMs_20 IAMs_20 06 16 19.7
comp=Z,175nm,1.1s
comp=Z,8µm,22.0s
YNR Norris Junctio 36.24 334 IAmb IAmb 06 01 53.8
comp=Z,161nm,1.0s
YNM Yellowstone No 36.26 334 IAmb IAmb 06 01 54.0
comp=Z,94nm,0.9s
PMPB Monarch Peak 36.31 315 P **P** **06 01 52.2 +1.9**
PMPB IAmb IAmb 06 01 53.3
comp=Z,195nm,0.9s
EMMW East Machias 36.48 27 IAmb IAmb 06 01 53.4
comp=Z,131nm,1.0s
EMMW IAMs_20 IAMs_20 06 16 56.1
comp=Z,7µm,19.0s
YHB Horse Butte 36.49 334 IAmb IAmb 06 01 55.7
comp=Z,75nm,0.6s
YHL Hebgen Lake 36.57 334 IAmb IAmb 06 01 58.0
comp=Z,268nm,1.3s
WAKR Walker 36.64 319 IAmb IAmb 06 01 58.7
comp=Z,136nm,1.2s
BBGB Big Mountain B 36.66 315 IAmb IAmb 06 02 01.6
comp=Z,109nm,0.9s
G65A Princeton 36.83 26 IAmb IAmb 06 01 56.9
comp=Z,247nm,1.0s
G65A IAMs_20 IAMs_20 06 16 11.2
comp=Z,9µm,21.0s
CMB Columbia Colle 37.00 317 IAMs_20 IAMs_20 06 17 46.7
comp=Z,5µm,20.0s
PB16 IPOC Station P 37.00 148 IAmb IAmb 06 02 01.4
comp=Z,106nm,0.8s
F64A Sherman 37.03 25 IAmb IAmb 06 02 20.8
comp=Z,91nm,1.0s
F64A IAMs_20 IAMs_20 06 16 31.7
comp=Z,9µm,22.0s
GGN Saint George 37.07 27 IAmb IAmb 06 01 58.4
comp=Z,94nm,0.9s
E62A Clayton Lake 37.20 23 IAmb IAmb 06 02 22.1
comp=Z,97nm,1.2s
ULM Lac du Bonnet 37.27 353*c i* P **P** **06 01 56.8 -1.2**
ULM *i* *PP **pP** **06 02 16.3 -0.2**
BOZ Bozeman (W) 37.35 334 IAmb IAmb 06 02 04.7
comp=Z,130nm,1.0s
MPK Martis Peak 37.48 319 IAmb IAmb 06 02 07.1
comp=Z,175nm,1.1s
DLMT Dillon 37.59 333 IAmb IAmb 06 02 06.1
comp=Z,266nm,1.2s
LMQ La Malbaie 37.70 21 IAmb IAmb 06 02 25.8
comp=Z,130nm,1.0s
ITTB Itaituba 37.70 115 *e*P **P** **06 01 59.6 -2.6**
MFID Camas Ranch 37.70 328 IAMs_20 IAMs_20 06 19 45.5
comp=Z,6µm,20.0s
LDAQ Lac Daran 37.74 20 IAmb IAmb 06 02 02.8
comp=Z,108nm,1.2s
D62A Allapoint, All 37.77 23 IAmb IAmb 06 02 26.9
comp=Z,188nm,1.0s
AFDM Forest Hills D 37.88 318 P **P** **06 02 04.2 +0.7**
MAL2 Monte Alegre, 38.05 111 IAmb IAmb 06 02 07.2
comp=Z,273nm,1.1s
HAL Halifax 38.22 30 IAmb IAmb 06 02 08.1
comp=Z,149nm,0.8s
GO01 Chusmiza 38.27 148 IAmb IAmb 06 02 11.2
comp=Z,268nm,1.4s
TA02 Huaiquique 38.31 150 IAmb IAmb 06 02 10.3
comp=Z,226nm,1.1s
TA01 Diego Aracena 38.54 150 IAmb IAmb 06 02 12.4
comp=Z,393nm,1.3s
TA01 Diego Aracena 38.54 150 P **P** **06 02 10.2 +1.1**
LMN Caledonia Moun 38.55 28 IAmb IAmb 06 02 10.3
comp=Z,198nm,0.9s
WVOR Wild Horse Val 38.56 324 IAMs_20 IAMs_20 06 19 58.2
comp=Z,5µm,22.0s
ORV Oroville 38.56 319 IAmb IAmb 06 02 12.8
comp=Z,149nm,1.5s
ORV IAMs_20 IAMs_20 06 18 41.1
comp=Z,5µm,22.0s
PB08 IPOC Station P 38.69 149 IAmb IAmb 06 02 14.4
comp=Z,341nm,1.7s
MCCM Marconi Confer 38.72 316 IAmb IAmb 06 02 13.8
comp=Z,188nm,0.9s
VILB Vilhena 38.90 131 P **P** **06 02 13.3 +1.0**
VILB Vilhena 38.90 131 *e*P **P** **06 02 12.6 +0.3**
PLID Pearl Lake 38.98 330 IAmb IAmb 06 02 16.3
comp=Z,117nm,1.2s
J08A Circle Bar Ran 39.07 326 IAmb IAmb 06 02 35.5
comp=Z,129nm,1.1s
BATG Bathurst New B 39.11 25 IAmb IAmb 06 02 15.0
comp=Z,114nm,0.9s
O03E Paynes Creek 39.17 319 IAMs_20 IAMs_20 06 20 40.2
comp=Z,8µm,20.0s
PB01 IPOC Station P 39.28 150 IAmb IAmb 06 02 18.5
comp=Z,128nm,1.0s
MSO Missoula 39.32 333 IAmb IAmb 06 02 21.3
comp=Z,201nm,1.4s
PB02 IPOC Station P 39.32 151 IAmb IAmb 06 02 19.1
comp=Z,250nm,1.1s
NPGB Novo Progresso 39.33 119 *e*P **P** **06 02 13.2 -2.7**
BMO Blue Mountains 39.47 328 IAMs_20 IAMs_20 06 20 29.3
comp=Z,7µm,21.0s
O02D Mt. Diablo Mer 39.73 319 IAMs_20 IAMs_20 06 18 55.1
comp=Z,7µm,22.0s
GBN Guysborough 39.80 31 IAmb IAmb 06 02 21.0
comp=Z,230nm,0.9s
KCPM Cahto Peak 39.99 318 P **P** **06 02 23.8 +2.6**
KCPM IAmb IAmb 06 02 24.9
comp=Z,182nm,1.1s
PB03 IPOC Station P 40.02 151 IAmb IAmb 06 02 24.7
comp=Z,178nm,1.0s
K05A Summer Lake 40.04 323 P **P** **06 02 21.6 0.0**
SIV San Ignacio 40.34 135 LR LR 06 18 49.7
comp=Z,5µm,21.6s,baz=315,slow=36
KMRM Mail Ridge 40.35 318 P **P** **06 02 25.9 +1.8**
KMRM IAmb IAmb 06 02 27.4
comp=Z,231nm,1.2s
M02C Callahan 40.44 320 IAMs_20 IAMs_20 06 20 43.0
comp=Z,6µm,21.0s
ICQ Pointe Anglais 40.45 22 P **P** **06 02 24.1 -0.5**
ICQ IAmb IAmb 06 02 25.0
comp=Z,135nm,1.0s
PB05 IPOC Station P 40.50 152 IAmb IAmb 06 02 28.8
comp=Z,334nm,1.5s
YBH Yreka Blue Hor 40.55 321 P **P** **06 02 25.1 -0.6**
comp=Z,1.2nm,0.7s,baz=159,slow=4.3,SNR=42
YBH PcP **PcP** **06 04 27.5 +0.7**
comp=Z,1.0nm,1.0s,baz=137,slow=3.9,SNR=3.5
YBH ScP **ScP** **06 08 12.3 +2.7**
comp=Z,1.2nm,0.8s,baz=66,slow=2.6,SNR=23
YBH LR LR 06 21 22.6
comp=Z,558nm,20.8s,baz=120,slow=39
G08A Pilot Rock 40.62 328 P **P** **06 02 26.2 -0.1**
PB06 IPOC Station P 40.66 151 IAmb IAmb 06 02 30.0
comp=Z,207nm,1.0s
KHMM Horse Mountain 40.71 319 P **P** **06 02 28.4 +1.2**
KMPM Mount Pierce 40.72 318 P **P** **06 02 29.3 +2.1**
KMPM IAmb IAmb 06 02 33.1
comp=Z,171nm,1.2s
PDRB Porto dos Gac 40.72 126 *e*P **P** **06 02 25.8 -1.5**
JCC Jacoby Creek, 40.87 319 IAmb IAmb 06 02 31.5
comp=Z,158nm,1.1s
JCC IAMs_20 IAMs_20 06 21 10.3
comp=Z,4µm,20.0s
PB10 IPOC Station P 40.92 153 IAmb IAmb 06 02 32.0
comp=Z,194nm,1.1s
CLDB Colider 41.04 124 *e*P **P** **06 02 28.5 -1.5**
KRPM Rodgers 41.05 319 IAmb IAmb 06 02 35.2
comp=Z,150nm,0.9s
J04A Iamquna Nationa 41.06 323 IAmb IAmb 06 02 34.3
comp=Z,78nm,0.7s
PTLB Pontes e Lacer 41.32 133 *e*P **P** **06 02 32.1 -0.1**
BBSD Serra de San D 41.49 136 *e*P **P** **06 02 34.2 +0.6**
KBO Bosley Butte 41.75 320 IAmb IAmb 06 02 41.5
comp=Z,106nm,0.9s
NEW Newport 41.82 332 IAMs_20 IAMs_20 06 22 31.6
comp=Z,5µm,22.0s
NEW Newport 41.82 332 P **P** **06 02 36.1 +0.1**
comp=Z,14nm,0.6s,baz=136,slow=8.7,SNR=32
NEW PcP **PcP** **06 04 30.3 -0.5**
comp=Z,11nm,0.5s,baz=140,slow=3.5,SNR=4.9
NEW ScP **ScP** **06 08 14.9 +0.5**
comp=Z,10nm,0.9s,baz=115,slow=5.6,SNR=6.0
NEW PKiKP **PKiKP** **06 11 36.7 -0.4**
comp=Z,1.3nm,0.5s,baz=11,slow=1.2,SNR=4.1
NEW LR LR 06 22 42.6
comp=Z,5µm,21.9s,baz=135,slow=40
comp=Z,14nm,0.8s
C09A Chrisman Ranch 42.02 331 IAmb IAmb 06 02 40.9
comp=Z,80nm,0.5s
HOOD Mount Hood Mea 42.08 326 IAmb IAmb 06 02 42.3
comp=Z,215nm,1.0s
KEBM Edson Butte 42.18 321 IAmb IAmb 06 03 15.1
comp=Z,204nm,1.2s
G04A Mulino 42.46 325 IAmb IAmb 06 02 49.4
comp=Z,112nm,1.0s
FFC Flin Flon 42.53 349 P **P** **06 02 41.9 +0.3**
FFC IAmb IAmb 06 02 43.0
comp=Z,151nm,0.7s
FFC Flin Flon 42.53 349 P **P** **06 02 41.9 +0.3**
FFC pmax pmax
comp=Z,151nm,0.7s
FFC MLR MLR
comp=Z,9µm,22.0s
FFC Flin Flon 42.53 349 P **P** **06 02 42.0 +0.3**
FFC Flin Flon 42.53 349 P **P** **06 02 42.0 +0.3**
COR Corvallis 42.56 324 P **P** **06 02 42.8 +0.8**
COR Corvallis 42.56 324 IAMs_20 IAMs_20 06 23 08.0
comp=Z,4µm,20.0s
COR Corvallis 42.56 324 P **P** **06 02 42.8 +0.8**
COR pmax pmax
comp=Z,53nm,0.9s
COR MLR MLR
comp=Z,4µm,20.0s
COR Corvallis 42.56 324 P **P** **06 02 41.6 -0.4**
GO02 Mina Guanaco 42.78 153 IAmb IAmb 06 02 47.7
comp=Z,389nm,1.1s
HEBO Mount Hebo 43.19 324 IAmb IAmb 06 02 53.7
comp=Z,136nm,1.1s
AC01 Pan de Azucar 43.22 155 IAmb IAmb 06 02 50.1
comp=Z,169nm,1.1s
AC01 Pan de Azucar 43.22 155 P **P** **06 02 48.6 +1.0**
F04D Rainier, OR 43.30 326 IAmb IAmb 06 02 51.7
comp=Z,95nm,0.8s
PRPB Parauapebas 43.76 114 *e*P **P** **06 02 50.0 -2.1**
TMAB Tom-Au,PA,Br 43.78 108 *e*P **P** **06 02 50.1 -2.2**
SALV Santo Antonio 44.13 130 *e*P **P** **06 02 54.5 -0.5**
AC06 Mina Casimiro 44.39 156 IAmb IAmb 06 02 59.8
comp=Z,235nm,1.1s
DRLN Deer Lake 44.43 30 P **P** **06 02 56.1 -0.8**
DRLN IAmb IAmb 06 02 57.5
comp=Z,292nm,1.0s
AC02 Maricunga 44.44 154 IAmb IAmb 06 03 01.7
comp=Z,394nm,1.1s
RPN Rapa Nui 44.59 206 P **P** **06 02 59.9 +1.4**
RPN Rapa Nui 44.59 206 P **P** **06 02 59.9 +1.4**
RPN pmax pmax
comp=Z,1µm,1.3s
RPN Rapa Nui 44.59 206 P **P** **06 02 58.7 +0.2**
GO03 Copiapo 44.65 156 IAmb IAmb 06 03 01.8
comp=Z,167nm,1.1s
VA02 Isla de Pascua 44.66 206 P **P** **06 03 00.3 +1.2**
A04D Lummi Island 44.81 329 IAmb IAmb 06 03 21.7
comp=Z,196nm,1.1s
AC04 Llanos de Chal 44.86 157 IAmb IAmb 06 03 03.3
comp=Z,114nm,1.1s
SCHQ Schefferville 45.06 18 P **P** **06 03 01.2 -0.7**
SCHQ Schefferville 45.06 18 P **P** **06 03 00.5 -1.5**
comp=Z,628nm,1.0s,baz=212,slow=6.2,SNR=378
SCHQ S **S** **06 09 31.4 -3.8**
comp=Z,14nm,1.1s,baz=273,slow=17,SNR=2.1
SCHQ LR LR 06 24 11.8
comp=Z,5µm,18.0s,baz=217,slow=39
SNDB Serra Nova Dou 45.32 122 *e*P **P** **06 03 03.7 -0.8**
LLLB Lillooet 45.67 331 IAmb IAmb 06 03 28.6
comp=Z,85nm,1.2s
LCO Las Campanas 45.73 157 P **P** **06 03 08.9 +1.1**
LCO Las Campanas 45.73 157 P **P** **06 03 08.9 +1.1**
LCO pmax pmax
comp=Z,326nm,1.0s
LCO Las Campanas 45.73 157 P **P** **06 03 08.8 +1.0**
CO05 La Serena 46.35 158 IAmb IAmb 06 03 14.9
comp=Z,188nm,1.1s
BDQN Bodoqena, MS 46.37 136 *e*P **P** **06 03 12.4 -0.2**
MURT Porto Murtinho 46.64 138 *e*P **P** **06 03 14.7 -0.1**
CO01 Juntas del Tor 46.83 157 IAmb IAmb 06 03 19.6
comp=Z,104nm,1.1s
CO06 Fray Jorge 46.89 159 IAmb IAmb 06 03 19.3
comp=Z,230nm,1.1s
SMTB Santa Maria do 46.94 116 *e*P **P** **06 03 15.3 -2.0**
ARAG Araguaiana, MT 46.98 127 *e*P **P** **06 03 16.9 -0.6**
AQDB Aquidauana 47.11 135 IAmb IAmb 06 03 21.8
comp=Z,186nm,1.0s
AQDB Aquidauana 47.11 135 *e*P **P** **06 03 18.5 +0.1**
CO03 El Pedregal 47.38 158 P **P** **06 03 20.3 -0.1**
H03N2 Juan Fernandez 47.49 168 T T 06 54 12.9
baz=347,slow=76,SNR=104
H03N1 Juan Fernandez 47.50 168 T T 06 54 07.2
baz=347,slow=76,SNR=112
H03N3 Juan Fernandez 47.51 168 T T 06 53 56.0
baz=347,slow=76,SNR=92
C2SB Chapadao do Su 48.05 131 *e*P **P** **06 03 26.7 +1.0**
RPRD Ribas do Rio P 48.51 133 *e*P **P** **06 03 29.5 +0.2**
CFA Coronel Fontan 49.00 156 LR LR 06 20 26.8
comp=Z,1µm,21.3s,baz=0.5,slow=31
AMBA Amambai (Brazi 49.26 137 *e*P **P** **06 03 35.0 +0.1**
PEL Peldehue 49.47 159 IAmb IAmb 06 03 38.9
comp=Z,173nm,1.0s
PEL Peldehue 49.47 159 P **P** **06 03 36.8 +0.3**
PEL Peldehue 49.47 159 P **P** **06 03 37.5 +1.0**
VA05 Santo Domingo 49.63 161 IAmb IAmb 06 03 39.6
comp=Z,168nm,1.1s
BBB Bella Bella 49.68 330 LR LR 06 28 45.1
comp=Z,4µm,20.4s,baz=134,slow=41
MT16 CCHEN 49.78 159 IAmb IAmb 06 03 41.4
comp=Z,156nm,0.8s
MT01 Popeta 49.94 160 P **P** **06 03 40.5 +0.5**
MT01 IAmb IAmb 06 03 41.8
comp=Z,148nm,0.9s
BDFB Brasilia 49.97 124 IAmb IAmb 06 05 03.3
comp=Z,95nm,0.9s
BDFB Brasilia 49.97 124 P **P** **06 03 40.5 -0.1**
comp=Z,79nm,1.0s,baz=300,slow=7.7,SNR=61
BDFB PcP **PcP** **06 05 00.6 +0.7**
comp=Z,107nm,1.0s,baz=295,slow=6.2,SNR=9.7
BDFB S **S** **06 10 42.7 -3.3**
comp=Z,2.2nm,0.7s,baz=207,slow=14,SNR=1.2
BDFB LR LR 06 27 35.4
comp=Z,3µm,18.9s,baz=303,slow=39
comp=Z,79nm,1.0s
SJPY San Joaquin 49.98 139 *e*P **P** **06 03 40.1 -0.3**
CPUP Villa Florida 50.19 142 P **P** **06 03 41.7 -0.2**
CPUP Villa Florida 50.19 142 P **P** **06 03 41.9 -0.1**
comp=Z,31nm,1.1s,baz=188,slow=8.1,SNR=104
CPUP PcP **PcP** **06 05 01.7 +1.4**
comp=Z,12nm,0.9s,baz=178,slow=4.8,SNR=5.9
CPUP S **S** **06 10 48.8 +0.3**
comp=Z,1.0nm,1.1s,baz=100,slow=17,SNR=1.6
CPUP LR LR 06 26 14.3
comp=Z,833nm,20.6s,baz=180,slow=38
comp=Z,31nm,1.1s
CPUP Villa Florida 50.19 142 P **P** **06 03 41.7 -0.2**
CPUP pmax pmax
comp=Z,54nm,1.2s
CPUP Villa Florida 50.19 142 *e*P **P** **06 03 41.7 -0.2**
CPUP Villa Florida 50.19 142 P **P** **06 03 41.9 -0.1**
ITRB Iturama 50.46 130 *e*P **P** **06 03 44.6 +0.4**
BO01 Tunca 50.48 160 P **P** **06 03 44.9 +0.9**
TRCB Terra Rica 50.77 135 IAmb IAmb 06 05 07.2
comp=Z,100nm,0.8s
TRCB Terra Rica 50.77 135 *e*P **P** **06 03 45.9 -0.6**
SDBA SAO DESIDERIO 50.92 118 *e*P **P** **06 03 45.8 -2.0**
PCMB Pacaembu 50.98 132 *e*P **P** **06 03 48.0 0.0**
IPMB Ipameri, GO 51.10 126 *e*P **P** **06 03 48.5 -0.6**
LDASE Londrina, Braz 52.22 134 *e*P **P** **06 03 56.8 -0.5**
YKAW1 Yellowknife Wh 52.31 346 IAmb IAmb 06 03 58.4
comp=Z,242nm,0.8s
YKA Yellowknife Ar 52.35 346 P **P** **06 03 57.3 -0.3**
comp=Z,165nm,0.9s,baz=130,slow=20,SNR=633
YKA S **S** **06 11 15.4 -2.0**
comp=Z,1.1nm,0.8s,baz=148,slow=14,SNR=2.3
YKA LR LR 06 29 47.2
comp=Z,5µm,20.0s,baz=142,slow=40
comp=Z,165nm,0.9s
YKAW3 Yellowknife Wh 52.41 346 IAmb IAmb 06 03 59.7
comp=Z,323nm,0.9s
PTGB Pitanga 52.43 136 *e*P **P** **06 03 58.3 -0.6**
FRB Frobisher Bay 52.48 11 LR LR 06 26 42.6
comp=Z,12µm,21.9s,baz=200,slow=37
BB19B Bebedouro 52.65 130 *e*P **P** **06 04 00.7 +0.2**
JANB Januaria 52.71 121 *e*P **P** **06 04 00.0 -1.1**
TOAD Toad River Com 52.78 338 P **P** **06 04 00.4 -0.6**
baz=134,SNR=25
TOAD S **S** **06 11 24.0 +0.6**
baz=134
PMNB Patos De Minas 52.81 126 *e*P **P** **06 04 02.3 +0.5**
U35K Hyder 52.83 333 IAMs_20 IAMs_20 06 30 16.8
comp=Z,5µm,21.0s
U35K Hyder 52.83 333 P **P** **06 04 01.8 +0.5**
baz=127
U35K S **S** **06 11 29.4 +5.3**
baz=127
NBPB Pedra_Branca-C 52.84 108 *e*P **P** **06 04 01.6 -0.4**
V35K Ketchikan 53.21 331 IAMs_20 IAMs_20 06 29 45.9
comp=Z,4µm,21.0s
V35K Ketchikan 53.21 331 P **P** **06 04 03.4 -0.7**
baz=125,SNR=13

V35K				S		**S**	**06 11 33.4**	**+4.2**
	baz=125								
KOTAN	**Kotaneelee Air**	**53.27**	**339**	P		**P**	**06 04 03.9**	**-0.6**
	baz=136,SNR=13								
KOTAN				S		**S**	**06 11 30.1**	**+0.2**
	baz=136								
FRTB	**Fartura**	**53.29**	**133**	*e*P		**P**	**06 04 06.0**	**+0.8**
LIRD	**Liard River Hi**	**53.49**	**338**	P		**P**	**06 04 06.2**	**+0.1**
	baz=134								
T35M	**Bob Quinn**	**53.58**	**334**	IAMs_20		IAMs_20	06 29 50.6		
	comp=Z,3µm,22.0s								
T35M	**Bob Quinn**	**53.58**	**334**	P		**P**	**06 04 07.6**	**+0.8**
	baz=128,SNR=16								
T35M				S		**S**	**06 11 37.8**	**+3.5**
	baz=128								
NBCL	**Cascavel-CE**	**53.59**	**105**	*e*P		**P**	**06 04 06.2**	**-1.3**
CRAG	**Craig**	**54.00**	**331**	P		**P**	**06 04 10.6**	**+0.8**
	baz=124,SNR=12								
CRAG				S		**S**	**06 11 44.6**	**+4.7**
	baz=124								
ITAB	**Concordia**	**54.09**	**138**	*e*P		**P**	**06 04 11.0**	**+0.2**
WRAK	**Wrangell Islan**	**54.18**	**332**	IAMs_20		IAMs_20	06 30 49.4		
	comp=Z,5µm,22.0s								
WRAK	**Wrangell Islan**	**54.18**	**332**	P		**P**	**06 04 11.7**	**+0.6**
	baz=125,SNR=11								
WRAK				S		**S**	**06 11 48.9**	**+6.6**
	baz=125								
RCLB	**Rio Claro- Sao**	**54.20**	**130**	*e*P		**P**	**06 04 12.3**	**+0.4**
U33K	**Whale Pass**	**54.36**	**332**	IAMs_20		IAMs_20	06 30 31.3		
	comp=Z,5µm,21.0s								
U33K	**Whale Pass**	**54.36**	**332**	P		**P**	**06 04 13.0**	**+0.6**
	baz=124,SNR=8.7								
U33K				S		**S**	**06 11 49.4**	**+4.6**
	baz=124								
DLBC	**Dease Lake**	**54.39**	**335**	LR		LR	06 32 34.1		
	comp=Z,496nm,19.0s,baz=112,slow=42								
DLBC	**Dease Lake**	**54.39**	**335**	P		**P**	**06 04 13.7**	**+1.0**
	baz=129,SNR=82								
DLBC				S		**S**	**06 11 50.4**	**+5.2**
	baz=129								
S34M	**Telegraph Cree**	**54.52**	**334**	IAMs_20		IAMs_20	06 31 31.6		
	comp=Z,5µm,20.0s								
S34M	**Telegraph Cree**	**54.52**	**334**	P		**P**	**06 04 14.8**	**+1.2**
	baz=127,SNR=24								
T33K	**Petersburg**	**54.68**	**332**	P		**P**	**06 04 15.8**	**+1.1**
	baz=125,SNR=5.4								
DIAM	**Diamantina, MG**	**54.89**	**124**	*e*P		**P**	**06 04 17.1**	**+0.1**
LR03	**Panguipulli**	**54.96**	**164**	IAmb		IAmb	06 04 19.1		
	comp=Z,188nm,0.9s								
VAO	**Valinhos**	**54.97**	**131**	IAmb		IAmb	06 04 19.8		
	comp=Z,110nm,0.9s								
VAO	**Valinhos**	**54.97**	**131**	*e*P		**P**	**06 04 17.4**	**-0.1**
SPB	**Sao Paulo**	**54.98**	**132**	IAmb		IAmb	06 04 19.2		
	comp=Z,72nm,1.0s								
SPB				IAMs_20		IAMs_20	06 28 43.7		
	comp=Z,3µm,22.0s								
SPB	**Sao Paulo**	**54.98**	**132**	*e*P		**P**	**06 04 16.7**	**-0.7**
SPB	**Sao Paulo**	**54.98**	**132**	P		**P**	**06 04 17.2**	**-0.2**
SPB	**Sao Paulo**	**54.98**	**132**	P		**P**	**06 04 17.4**	**-0.1**
WTLY	**Watson Lake, Y**	**54.98**	**337**	IAmb		IAmb	06 04 40.0		
	comp=Z,105nm,1.0s								
WTLY	**Watson Lake, Y**	**54.98**	**337**	P		**P**	**06 04 17.1**	**+0.1**
	baz=131,SNR=46								
TAOE	**Nuku Hiva Isla**	**55.02**	**249**	P		**P**	**06 04 18.8**	**+0.8**
TAOE	**Nuku Hiva Isla**	**55.02**	**249**	*e*P		**P**	**06 04 17.7**	**-0.3**
	comp=Z,689nm,1.2s								
TAOE	**Nuku Hiva Isla**	**55.02**	**249**	*e*PP		**PP**	**06 06 18.9**	**-3.1**
	comp=Z,503nm,29.4s								
TAOE				*e*S		**S**	**06 11 58.7**	**+3.7**
	comp=Z,2µm,28.8s								
TAOE				*e*SS		**SS**	**06 15 37.6**	**-2.3**
	comp=Z,1µm,28.9s								
TAOE				*e*LQ		LQ	06 18 09.1		
	comp=Z,2µm,28.9s								
TAOE				*e*LR		LR	06 20 16.2		
	comp=Z,8µm,22.1s								
WRGLY	**Wrigley**	**55.36**	**342**	IAmb		IAmb	06 04 54.8		
	comp=E,151nm,0.9s								
WRGLY	**Wrigley**	**55.36**	**342**	P		**P**	**06 04 19.7**	**+0.1**
	baz=138,SNR=27								
WRGLY				S		**S**	**06 11 58.3**	**+0.3**
	baz=138								
R33M	**Jennings River**	**55.37**	**336**	IAmb		IAmb	06 04 43.5		
	comp=Z,100nm,1.2s								
R33M				IAMs_20		IAMs_20	06 30 55.9		
	comp=Z,4µm,21.0s								
R33M	**Jennings River**	**55.37**	**336**	P		**P**	**06 04 20.3**	**+0.4**
	baz=128,SNR=66								
R33M				S		**S**	**06 12 01.3**	**+2.8**
	baz=128								
BSCB	**Bom Sucesso**	**55.47**	**127**	*e*P		**P**	**06 04 21.2**	**+0.1**
CPSB	**Cacapava Do Su**	**55.49**	**142**	*e*P		**P**	**06 04 21.0**	**0.0**
PET01	**Itanhaem-SP**	**55.51**	**132**	*e*P		**P**	**06 04 21.8**	**+0.6**
LR05	**Currie**	**55.61**	**164**	P		**P**	**06 04 22.5**	**+0.9**
Q32M	**Nakina River**	**55.63**	**335**	IAmb		IAmb	06 04 45.8		
	comp=Z,105nm,1.1s								
Q32M				IAMs_20		IAMs_20	06 32 16.0		
	comp=Z,4µm,20.0s								
Q32M	**Nakina River**	**55.63**	**335**	P		**P**	**06 04 22.5**	**+0.7**
	baz=127,SNR=51								
Q32M				S		**S**	**06 12 05.3**	**+3.1**
	baz=127								
TGTN	**Hyland Airport**	**55.73**	**339**	P		**P**	**06 04 22.8**	**+0.5**
	baz=132,SNR=19								
TGTN				S		**S**	**06 12 04.3**	**+1.2**
	baz=132								
S32K	**Killisnoo**	**55.78**	**332**	IAMs_20		IAMs_20	06 31 46.8		
	comp=Z,5µm,21.0s								
S32K	**Killisnoo**	**55.78**	**332**	P		**P**	**06 04 23.1**	**+0.5**
	baz=123,SNR=5.2								
SIT	**Sitka**	**55.90**	**332**	P		**P**	**06 04 24.3**	**+0.8**
	baz=122								
SIT				S		**S**	**06 12 09.2**	**+4.0**
	baz=122								
PARB	**Paraibuna**	**56.16**	**130**	*e*P		**P**	**06 04 26.9**	**+0.9**
R32K	**Eaglecrest**	**56.20**	**333**	IAMs_20		IAMs_20	06 33 02.9		
	comp=Z,3µm,20.0s								
R32K	**Eaglecrest**	**56.20**	**333**	P		**P**	**06 04 26.8**	**+1.1**
	baz=124,SNR=5.4								
CNLB	**Canela**	**56.33**	**139**	*e*P		**P**	**06 04 27.5**	**+0.4**
IVI	**Ivigtut**	**56.34**	**23**	*i* P		**P**	**06 04 25.0**	**-1.5**
IVI				IAmb		IAmb	06 04 26.3		
	comp=Z,211nm,0.7s								
RCBR	**Riachuelo**	**56.37**	**106**	P		**P**	**06 04 26.6**	**-1.0**
RCBR				IAmb		IAmb	06 04 30.3		
	comp=Z,138nm,1.1s								
RCBR	**Riachuelo**	**56.37**	**106**	IAMs_20		IAMs_20	06 31 52.5		
	comp=Z,4µm,20.0s								
RCBR	**Riachuelo**	**56.37**	**106**	LR		LR	06 30 35.4		
	comp=Z,2µm,20.7s,baz=303,slow=38								
RCBR	**Riachuelo**	**56.37**	**106**	P		**P**	**06 04 26.6**	**-1.0**
RCBR				pmax		pmax			
	comp=Z,138nm,1.2s								
RCBR				MLR		MLR			
	comp=Z,4µm,20.0s								
RCBR	**Riachuelo**	**56.37**	**106**	*e*P		**P**	**06 04 26.7**	**-0.9**
RCBR	**Riachuelo**	**56.37**	**106**	P		**P**	**06 04 25.8**	**-1.7**
RCBR	**Riachuelo**	**56.37**	**106**	P		**P**	**06 04 25.9**	**-1.7**
PLTB	**Pedras Altas**	**56.38**	**143**	P		**P**	**06 04 27.5**	**+0.2**
PLTB	**Pedras Altas**	**56.38**	**143**	*e*P		**P**	**06 04 27.5**	**+0.2**
PLCA	**Paso Flores**	**56.48**	**163**	P		**P**	**06 04 28.9**	**+0.9**
	comp=Z,170nm,1.0s,baz=336,slow=8.1,SNR=135								
PLCA				LR		LR	06 23 26.7		
	comp=Z,4µm,22.0s,baz=344,slow=30								
	comp=Z,170nm,1.0s								
PLCA	**Paso Flores**	**56.48**	**163**	*e*P		**P**	**06 04 28.7**	**+0.8**
PLCA	**Paso Flores**	**56.48**	**163**	P		**P**	**06 04 28.8**	**+0.9**
SLP01	**Ubatuba-SP**	**56.50**	**130**	*e*P		**P**	**06 04 29.8**	**+1.3**
P32M	**Atlin**	**56.60**	**335**	IAMs_20		IAMs_20	06 31 01.7		
	comp=Z,3µm,22.0s								
P32M	**Atlin**	**56.60**	**335**	P		**P**	**06 04 29.1**	**+0.5**
	baz=125,SNR=35								
P32M				S		**S**	**06 12 17.2**	**+2.5**
	baz=125								
P33M	**Teslin, Yukon**	**56.61**	**336**	IAMs_20		IAMs_20	06 31 52.7		
	comp=Z,3µm,22.0s								
P33M	**Teslin, Yukon**	**56.61**	**336**	P		**P**	**06 04 29.0**	**+0.3**
	baz=127,SNR=27								
P33M				S		**S**	**06 12 17.7**	**+2.8**
	baz=127								
S31K	**Pelican**	**56.79**	**332**	P		**P**	**06 04 30.1**	**+0.2**
	baz=122,SNR=13								
S31K				S		**S**	**06 12 20.6**	**+3.5**
	baz=122								
R31K	**City Hall, Gus**	**56.81**	**333**	P		**P**	**06 04 30.3**	**+0.4**
	baz=123								
CMC01	**Camacan, BA**	**56.92**	**118**	*e*P		**P**	**06 04 30.8**	**-0.6**
SJMB	**Sao Joao De Ma**	**57.12**	**123**	*e*P		**P**	**06 04 32.6**	**-0.2**
NUUK	**Nuuk**	**57.13**	**19**	*i* P		**P**	**06 04 31.8**	**-0.3**
NUUK				IAmb		IAmb	06 04 33.0		
	comp=Z,471nm,0.9s								
MAN01	**Angra dos Reis**	**57.14**	**129**	*e*P		**P**	**06 04 34.9**	**+1.9**
TRQA	**Tornquist**	**57.14**	**154**	P		**P**	**06 04 32.6**	**+0.1**
TRQA				IAmb		IAmb	06 04 34.4		
	comp=Z,234nm,1.3s								
TRQA	**Tornquist**	**57.14**	**154**	P		**P**	**06 04 32.7**	**+0.1**
TRQA				pmax		pmax			
	comp=Z,235nm,1.3s								
SKAG	**Skagway**	**57.21**	**334**	P		**P**	**06 04 33.1**	**+0.4**
	baz=124,SNR=12								
SKAG				S		**S**	**06 12 25.7**	**+3.1**
	baz=124								
VAS01	**Vassouras-RJ**	**57.21**	**128**	*e*P		**P**	**06 04 34.6**	**+1.2**
GUA01	**Guaratinga, BA**	**57.24**	**120**	*e*P		**P**	**06 04 33.4**	**-0.2**
N32M	**Quiet Lake**	**57.27**	**337**	IAmb		IAmb	06 04 56.5		
	comp=Z,90nm,0.9s								
N32M				IAMs_20		IAMs_20	06 32 51.4		
	comp=Z,5µm,22.0s								
N32M	**Quiet Lake**	**57.27**	**337**	P		**P**	**06 04 33.4**	**+0.1**
	baz=127								
N32M				S		**S**	**06 12 25.3**	**+1.8**
	baz=127								
NRS	**Narsarsuaq**	**57.36**	**24**	*i* P		**P**	**06 04 32.0**	**-1.8**
NRS				IAmb		IAmb	06 04 33.6		
	comp=Z,216nm,0.8s								
NBAN	**Anadia - AL**	**57.41**	**111**	*e*P		**P**	**06 04 33.2**	**-1.7**
MMPY	**Sheldon Lake,**	**57.51**	**339**	IAmb		IAmb	06 04 58.4		
	comp=Z,124nm,1.0s								
MMPY	**Sheldon Lake,**	**57.51**	**339**	P		**P**	**06 04 35.5**	**+0.5**
	baz=130,SNR=104								
MMPY				S		**S**	**06 12 27.0**	**+0.4**
	baz=130								
WHY	**Whitehorse**	**57.70**	**335**	P		**P**	**06 04 36.1**	**-0.3**
	baz=125,SNR=17								
WHY				S		**S**	**06 12 31.7**	**+2.4**
	baz=125								
DUB01	**Friburgo-RJ**	**57.93**	**127**	*e*P		**P**	**06 04 39.5**	**+1.0**
RIB01	**Linhares ES**	**58.07**	**123**	*e*P		**P**	**06 04 39.5**	**0.0**
O30N	**Mendenhall**	**58.25**	**335**	IAmb		IAmb	06 05 03.5		
	comp=Z,53nm,0.9s								
O30N				IAMs_20		IAMs_20	06 31 58.3		
	comp=Z,4µm,22.0s								
O30N	**Mendenhall**	**58.25**	**335**	P		**P**	**06 04 40.5**	**+0.3**
	baz=124,SNR=73								
O30N				S		**S**	**06 12 38.0**	**+1.7**
	baz=124								
P30M	**Million Dollar**	**58.26**	**334**	P		**P**	**06 04 40.9**	**+0.7**
	baz=122								
P30M				S		**S**	**06 12 39.4**	**+2.9**
	baz=122								
P29M	**Windy Craggy**	**58.34**	**333**	IAmb		IAmb	06 04 45.0		
	comp=Z,65nm,0.9s								
P29M	**Windy Craggy**	**58.34**	**333**	P		**P**	**06 04 41.3**	**+0.6**
	baz=121,SNR=42								
P29M				S		**S**	**06 12 42.0**	**+4.6**
	baz=121								
CAM01	**Campos-RJ**	**58.35**	**126**	*e*P		**P**	**06 04 42.0**	**+0.6**
M31M	**Drury Creek, Y**	**58.40**	**337**	IAMs_20		IAMs_20	06 33 07.2		
	comp=Z,4µm,22.0s								
M31M	**Drury Creek, Y**	**58.40**	**337**	P		**P**	**06 04 41.5**	**+0.3**
	baz=126,SNR=34								
M31M				S		**S**	**06 12 39.9**	**+1.7**
	baz=126								
N31M	**Braeburn, Yuko**	**58.53**	**336**	IAmb		IAmb	06 05 05.2		
	comp=Z,78nm,1.1s								
N31M				IAMs_20		IAMs_20	06 33 03.5		
	comp=Z,3µm,22.0s								
N31M	**Braeburn, Yuko**	**58.53**	**336**	P		**P**	**06 04 42.0**	**-0.1**
	baz=124,SNR=48								
N31M				S		**S**	**06 12 40.8**	**+0.9**
	baz=124								
HYT	**Haines Junctio**	**58.87**	**335**	IAmb		IAmb	06 05 22.0		
	comp=Z,98nm,1.7s								
HYT	**Haines Junctio**	**58.87**	**335**	P		**P**	**06 04 45.3**	**+0.7**
	baz=122,SNR=27								
HYT				S		**S**	**06 12 47.3**	**+2.9**
	baz=122								
CALA	**Caldeira**	**58.96**	**53**	*e*P		**P**	**06 04 46.8**	**+1.3**
CALA				*i* IAmb		IAmb	06 04 48.2		
	comp=Z,177nm,1.4s								
CALA				*e*LR		LR	06 22 51.4		
CALA				*i* IAMs_20		IAMs_20	06 25 36.8		
	comp=Z,2µm,23.2s								
PCED	**Cedros**	**58.97**	**53**	*e*P		**P**	**06 04 47.2**	**+1.7**
PCED				*i* IAmb		IAmb	06 04 49.0		
	comp=Z,187nm,1.7s								
N30M	**Aishikik Lake**	**59.04**	**336**	IAmb		IAmb	06 05 09.2		
	comp=Z,52nm,1.1s								
N30M				IAMs_20		IAMs_20	06 32 45.0		
	comp=Z,4µm,22.0s								
N30M	**Aishikik Lake**	**59.04**	**336**	P		**P**	**06 04 46.1**	**+0.5**
	baz=123,SNR=43								
N30M				S		**S**	**06 12 47.7**	**+1.2**
	baz=123								
O29M	**Mount Kennedy**	**59.05**	**334**	P		**P**	**06 04 45.9**	**+0.1**
	baz=121,SNR=9.8								
O29M				S		**S**	**06 12 49.8**	**+3.0**
	baz=121								
PNL	**Peninsula**	**59.08**	**333**	P		**P**	**06 04 46.5**	**+0.6**
	baz=120,SNR=7.8								
PNL				S		**S**	**06 12 51.4**	**+4.3**
	baz=120								
PCAN	**Candelaria**	**59.11**	**53**	*e*P		**P**	**06 04 47.1**	**+0.6**
PCAN				*i* IAmb		IAmb	06 04 53.9		
	comp=Z,117nm,1.8s								
PICO	**Pico**	**59.16**	**53**	*e*P		**P**	**06 04 48.0**	**+1.1**
PICO				*i* IAmb		IAmb	06 04 49.5		
	comp=Z,182nm,1.1s								
PICO				*e*LR		LR	06 22 57.4		
PICO				*i* IAMs_20		IAMs_20	06 25 35.1		
	comp=Z,2µm,22.0s								
PPNO	**Prainha do Nor**	**59.28**	**53**	*e*P		**P**	**06 04 48.0**	**+0.2**
PPNO				*i* IAmb		IAmb	06 04 51.5		
	comp=Z,246nm,1.3s								
YUK6	**Sutpost Mounta**	**59.29**	**335**	P		**P**	**06 04 48.1**	**+0.6**
	baz=121,SNR=11								
BCPM	**Bancas Point**	**59.33**	**333**	IAmb		IAmb	06 05 13.2		
	comp=Z,49nm,1.0s								
BCPM				IAMs_20		IAMs_20	06 33 33.7		
	comp=Z,4µm,21.0s								
ROSA	**Rosais**	**59.34**	**53**	*e*P		**P**	**06 04 49.2**	**+1.2**
ROSA				*i* IAmb		IAmb	06 04 52.1		
	comp=Z,166nm,1.4s								
ROSA				*e*LQ		LQ	06 19 34.1		
ROSA				*e*LR		LR	06 23 01.4		
ROSA				*i* IAMs_20		IAMs_20	06 25 38.6		
	comp=Z,2µm,22.0s								
PID	**Ribeirinha**	**59.39**	**53**	*e*P		**P**	**06 04 48.0**	**-0.4**
PID				*i* IAmb		IAmb	06 04 52.2		
	comp=Z,296nm,1.7s								
PMAN	**Manadas**	**59.44**	**53**	*e*P		**P**	**06 04 48.7**	**-0.1**
PMAN				*i* IAmb		IAmb	06 04 50.6		
	comp=Z,221nm,0.9s								
SFJD	**Kangerlussuaq**	**59.46**	**17**	*i* P		**P**	**06 04 46.1**	**-2.2**
SFJD				IAmb		IAmb	06 04 48.5		
	comp=Z,254nm,1.1s								
SFJD	**Kangerlussuaq**	**59.46**	**17**	P		**P**	**06 04 46.8**	**-1.5**
SFJD	**Kangerlussuaq**	**59.46**	**17**	P		**P**	**06 04 46.9**	**-1.5**
M30M	**Minto, Yukon**	**59.54**	**337**	IAMs_20		IAMs_20	06 35 09.2		
	comp=Z,3µm,20.0s								
M30M	**Minto, Yukon**	**59.54**	**337**	P		**P**	**06 04 48.8**	**-0.2**
	baz=124,SNR=54								
M30M				S		**S**	**06 12 52.8**	**-0.1**
	baz=124								
PGRA	**Graciosa**	**59.58**	**52**	*e*LR		LR	06 23 19.3		
PGRA				*i* IAMs_20		IAMs_20	06 26 08.8		
	comp=Z,2µm,22.0s								
YUK4	**Talbot Arm**	**59.61**	**335**	P		**P**	**06 04 50.2**	**+0.4**
	baz=121,SNR=25								
YUK4				S		**S**	**06 12 57.1**	**+2.9**
	baz=121								
PINM	**Pinnacle**	**59.67**	**333**	P		**P**	**06 04 50.5**	**+0.5**
	baz=119,SNR=6.3								
PINM				S		**S**	**06 12 57.1**	**+2.3**
	baz=119								
PCA	**Pinnacle**	**59.67**	**333**	IAmb		IAmb	06 05 26.6		
	comp=Z,80nm,1.4s								
PCA				IAMs_20		IAMs_20	06 34 35.7		
	comp=Z,3µm,20.0s								
MAYO	**Mayo, Yukon**	**59.78**	**338**	IAmb		IAmb	06 05 53.2		
	comp=Z,124nm,1.0s								
MAYO	**Mayo, Yukon**	**59.78**	**338**	P		**P**	**06 04 51.4**	**+0.8**
	baz=125,SNR=14								
O28M	**Mount Upton**	**59.97**	**334**	IAMs_20		IAMs_20	06 34 08.7		
	comp=Z,2µm,21.0s								
O28M	**Mount Upton**	**59.97**	**334**	P		**P**	**06 04 52.6**	**+0.2**
	baz=119,SNR=14								
O28M				S		**S**	**06 13 00.8**	**+1.8**
	baz=119								
YUK8	**Steele Glacier**	**60.05**	**335**	P		**P**	**06 04 53.0**	**+0.2**
	baz=120								
M29M	**Somme Creek**	**60.12**	**336**	IAmb		IAmb	06 05 16.4		
	comp=Z,104nm,0.9s								
M29M				IAMs_20		IAMs_20	06 35 42.5		
	comp=Z,3µm,18.0s								
M29M	**Somme Creek**	**60.12**	**336**	P		**P**	**06 04 53.2**	**+0.2**
	baz=122,SNR=138								
M29M				S		**S**	**06 13 01.0**	**+0.5**
	baz=122								
PAGU	**Agualva, Azore**	**60.16**	**53**	*e*P		**P**	**06 04 55.0**	**+1.3**
PAGU				*i* IAmb		IAmb	06 04 57.2		
	comp=Z,258nm,1.3s								
PAGU				*e*LR		LR	06 23 21.3		
PAGU				*i* IAMs_20		IAMs_20	06 26 15.3		
	comp=Z,2µm,20.0s								
TABL	**Table Mountain**	**60.22**	**333**	IAmb		IAmb	06 05 20.2		
	comp=Z,75nm,1.2s								
TABL				IAMs_20		IAMs_20	06 33 15.4		
	comp=Z,4µm,20.0s								
L29M	**L29M**	**60.34**	**337**	IAmb		IAmb	06 05 17.6		
	comp=Z,69nm,1.1s								
L29M				IAMs_20		IAMs_20	06 35 52.5		
	comp=Z,3µm,19.0s								
L29M	**L29M**	**60.34**	**337**	P		**P**	**06 04 54.2**	**-0.3**
	baz=123,SNR=61								
L29M				S		**S**	**06 13 02.5**	**-0.7**
	baz=123								
LOGN	**Logan Glacier**	**60.35**	**334**	IAMs_20		IAMs_20	06 32 22.6		
	comp=Z,4µm,22.0s								
YAH	**Yahtse**	**60.45**	**333**	IAmb		IAmb	06 05 32.6		
	comp=Z,113nm,1.5s								
MESA	**MESA**	**60.46**	**333**	IAmb		IAmb	06 05 19.4		
	comp=Z,54nm,1.0s								
MESA				IAMs_20		IAMs_20	06 34 09.5		
	comp=Z,4µm,22.0s								
MESA	**MESA**	**60.46**	**333**	P		**P**	**06 04 55.8**	**+0.2**
	baz=117,SNR=7.3								
MESA				S		**S**	**06 13 07.9**	**+2.8**
	baz=117								
J30M	**Hart River**	**60.50**	**339**	IAMs_20		IAMs_20	06 35 35.6		
	comp=Z,4µm,20.0s								
J30M	**Hart River**	**60.50**	**339**	P		**P**	**06 04 55.5**	**-0.2**
	baz=125,SNR=23								
J30M				S		**S**	**06 13 03.6**	**-1.8**
	baz=125								
K29M	**Barlow Dome**	**60.52**	**338**	IAMs_20		IAMs_20	06 36 11.0		
	comp=Z,3µm,20.0s								
K29M	**Barlow Dome**	**60.52**	**338**	P		**P**	**06 04 55.2**	**-0.6**
	baz=124,SNR=39								
K29M				S		**S**	**06 13 02.4**	**-3.1**
	baz=124								
CTGM	**Chitina Glacie**	**60.55**	**334**	IAMs_20		IAMs_20	06 32 29.2		
	comp=Z,3µm,21.0s								
CTG	**Chitna Glacier**	**60.56**	**334**	P		**P**	**06 04 56.2**	**+0.1**
	baz=118,SNR=15								
H31M	**Peel River**	**60.56**	**340**	IAMs_20		IAMs_20	06 35 17.2		
	comp=Z,4µm,20.0s								
H31M	**Peel River**	**60.56**	**340**	P		**P**	**06 04 55.6**	**-0.3**
	baz=128,SNR=15								
H31M				S		**S**	**06 13 05.3**	**-0.6**
	baz=128								
YUK3	**Moose Creek**	**60.58**	**335**	P		**P**	**06 04 55.9**	**-0.5**
	baz=120,SNR=44								
YUK3				S		**S**	**06 13 07.1**	**+0.4**
	baz=120								
COYC	**Coyhaique**	**60.61**	**166**	IAMs_20		IAMs_20	06 25 47.2		
	comp=Z,3µm,19.0s								
COYC	**Coyhaique**	**60.61**	**166**	P		**P**	**06 04 57.5**	**+1.1**
GRNC	**Granite Creek**	**60.63**	**333**	IAmb		IAmb	06 05 20.3		
	comp=Z,62nm,1.0s								
GRNC				IAMs_20		IAMs_20	06 33 27.0		
	comp=Z,4µm,20.0s								
BARN	**Barnard Glacie**	**60.74**	**334**	IAMs_20		IAMs_20	06 36 24.0		
	comp=Z,3µm,19.0s								
ISLE	**Juniper Island**	**60.82**	**333**	IAmb		IAmb	06 05 25.5		
	comp=Z,84nm,1.2s								
I30M	**Mount Dempster**	**60.89**	**339**	IAmb		IAmb	06 05 00.4		
	comp=Z,55nm,1.0s								
I30M	**Mount Dempster**	**60.89**	**339**	P		**P**	**06 04 57.8**	**-0.5**
	baz=125,SNR=83								
I30M				S		**S**	**06 13 08.8**	**-1.5**
	baz=125								
ILULI	**Ilulissat**	**60.92**	**15**	*i* P		**P**	**06 04 56.8**	**-1.5**
ILULI				IAmb		IAmb	06 04 58.1		
	comp=Z,135nm,0.9s								
WAX	**Waxell Ridge**	**60.98**	**333**	IAmb		IAmb	06 05 54.5		
	comp=Z,61nm,1.3s								
WAX				IAMs_20		IAMs_20	06 34 14.4		
	comp=Z,4µm,22.0s								
BVCY	**Beaver Creek**	**61.06**	**335**	P		**P**	**06 04 59.2**	**-0.2**
	baz=120,SNR=11								
J29N	**Klondike Camp**	**61.11**	**338**	IAMs_20		IAMs_20	06 35 19.7		
	comp=Z,4µm,21.0s								
J29N	**Klondike Camp**	**61.11**	**338**	P		**P**	**06 04 59.1**	**-0.7**
	baz=123								
TGL	**Tana Glacier**	**61.11**	**333**	IAmb		IAmb

comp=Z,84nm,1.0s
MCARA IAMs_20 IAMs_20 06 35 16.5
comp=Z,3µm,20.0s
MCARA McCarthy VSAT 61.48 334 P **P** **06 05 02.9 +0.7**
baz=117,SNR=28
MCARA S **S** **06 13 19.8 +2.2**
baz=117
RES Resolute Bay 61.49 358 LR LR 06 32 41.6
comp=Z,5µm,21.4s,baz=164,slow=37
HMT Hamilton 61.56 332 IAmb IAmb 06 05 26.5
comp=Z,56nm,1.0s
HMT IAMs_20 IAMs_20 06 37 00.7
comp=Z,3µm,20.0s
VRDI Verde Repeater 61.59 334 IAMs_20 IAMs_20 06 35 09.5
comp=Z,3µm,21.0s
PSMA Santa Maria 61.60 55 *e*P **P** **06 05 03.3 -0.1**
PSMA *i* IAmb IAmb 06 05 04.7
comp=Z,125nm,1.1s
BART Pico Bartolome 61.63 54 *e*P **P** **06 05 03.1 -0.8**
BART *i* IAmb IAmb 06 05 05.8
comp=Z,150nm,1.0s
I29M Ogilvie Camp, 61.64 339 P **P** **06 05 02.7 -0.6**
baz=124,SNR=61
PSMN Pico do Norte, 61.65 55 *e*P **P** **06 05 01.9 -1.9**
PSMN *i* IAmb IAmb 06 05 03.5
comp=Z,87nm,1.1s
PSMN *e*LR LR 06 24 00.4
PSMN *i* IAMs_20 IAMs_20 06 27 19.8
comp=Z,4µm,20.0s
EPYK Eagle Plains 61.67 340 IAmb IAmb 06 05 26.4
comp=Z,68nm,1.1s
EPYK Eagle Plains 61.67 340 P **P** **06 05 03.4 -0.1**
baz=126,SNR=41
EPYK S **S** **06 13 19.9 -0.1**
baz=126
BCAR Beaver Creek A 61.75 336 P **P** **06 05 04.4 +0.3**
L27K Beaver Creek, 61.77 336 IAmb IAmb 06 05 27.4
comp=Z,52nm,0.9s
L27K IAMs_20 IAMs_20 06 34 55.1
comp=Z,4µm,21.0s
L27K Beaver Creek, 61.77 336 P **P** **06 05 04.2 0.0**
baz=119,SNR=79
L27K S **S** **06 13 20.9 -0.3**
baz=119
UMMG Uummannaq 61.77 13 *i* P **P** **06 05 02.8 -1.2**
UMMG IAmb IAmb 06 05 04.4
comp=Z,130nm,0.9s
RAGM Ragged Mountai 61.77 332 IAmb IAmb 06 05 08.3
comp=Z,82nm,1.0s
RAGM IAMs_20 IAMs_20 06 35 45.2
comp=Z,4µm,20.0s
GLB Gilahina Butte 61.84 334 IAmb IAmb 06 05 27.8
comp=Z,45nm,0.9s
GLB IAMs_20 IAMs_20 06 35 17.1
comp=Z,4µm,21.0s
G30M tAoh Zrail Nji 61.87 341 P **P** **06 05 04.2 -0.6**
baz=126,SNR=31
G30M S **S** **06 13 20.9 -1.7**
baz=126
INK Inuvik 61.88 343 LR LR 06 35 54.0
comp=Z,4µm,19.8s,baz=128,slow=40
INK Inuvik 61.88 343 P **P** **06 05 04.7 -0.1**
baz=130,SNR=117
INK S **S** **06 13 20.1 -2.4**
baz=130
M26K Nabesna, AK 61.93 335 P **P** **06 05 05.1 -0.2**
baz=117,SNR=15
M26K S **S** **06 13 25.4 +2.0**
baz=117
BMRM Bremner River 61.98 333 IAmb IAmb 06 05 34.1
comp=Z,55nm,1.1s
BMRM IAMs_20 IAMs_20 06 35 30.9
comp=Z,3µm,20.0s
BMRM Bremner River 61.98 333 P **P** **06 05 05.7 0.0**
baz=115,SNR=27
BMRM S **S** **06 13 25.3 +1.2**
baz=115
F30M Barrier River 62.12 342 P **P** **06 05 06.5 +0.1**
baz=127,SNR=156
F30M S **S** **06 13 25.8 +0.3**
baz=127
H29M Whitestone 62.14 340 IAmb IAmb 06 05 29.6
comp=Z,44nm,0.9s
H29M IAMs_20 IAMs_20 06 36 49.9
comp=Z,3µm,22.0s
H29M Whitestone 62.14 340 P **P** **06 05 06.5 -0.1**
baz=124,SNR=46
H29M S **S** **06 13 25.1 -0.7**
baz=124
Q23K Middleton Isla 62.16 331 P **P** **06 05 07.1 +0.3**
baz=113
Q23K S **S** **06 13 27.7 +1.5**
baz=113
Q23K S **S** **06 13 27.7 +1.5**
baz=113
NUUG Nuugaatsiaq 62.19 12 *i* P **P** **06 05 06.4 -0.3**
NUUG IAmb IAmb 06 05 07.5
comp=Z,215nm,0.9s
ISOG Isortoq, Green 62.24 21 *i* P **P** **06 05 05.4 -1.8**
ISOG IAmb IAmb 06 05 07.2
comp=Z,599nm,1.1s
N25K Chitina, Valde 62.25 334 IAmb IAmb 06 05 31.2
comp=Z,67nm,0.9s
N25K IAMs_20 IAMs_20 06 35 29.0
comp=Z,4µm,22.0s
N25K Chitina, Valde 62.25 334 P **P** **06 05 08.2 +0.7**
baz=115,SNR=50
N25K S **S** **06 13 28.4 +0.8**
baz=115
I28M Miner Creek 62.26 339 P **P** **06 05 06.8 -0.7**
baz=122,SNR=20
I28M S **S** **06 13 26.8 -0.8**
baz=122
EYAK Cordova Ski Ar 62.32 332 IAmb IAmb 06 05 11.9
comp=Z,80nm,1.1s
EYAK Cordova Ski Ar 62.32 332 P **P** **06 05 08.4 +0.6**
baz=114,SNR=37
EYAK S **S** **06 13 30.1 +1.9**
baz=114
K27K Chicken 62.33 337 P **P** **06 05 08.3 +0.4**
baz=119
K27K S **S** **06 13 28.5 +0.2**
baz=119
L26K Log Cabin Wild 62.36 335 P **P** **06 05 08.2 +0.1**
baz=117,SNR=23
L26K S **S** **06 13 28.7 -0.1**
baz=117
G29M Pine Creek 62.41 340 IAmb IAmb 06 05 31.5
comp=Z,140nm,1.0s
G29M Pine Creek 62.41 340 P **P** **06 05 08.2 -0.3**
baz=124,SNR=68
G29M S **S** **06 13 29.5 +0.2**
baz=124
A36M Sachs Harbour 62.48 348 P **P** **06 05 07.7 -1.0**
baz=140,SNR=18
A36M S **S** **06 13 27.0 -2.8**
baz=140
DIV Divide 62.57 333 IAmb IAmb 06 05 32.5
comp=Z,43nm,1.0s
DIV IAMs_20 IAMs_20 06 35 39.3
comp=Z,3µm,21.0s
UPNV Upernavik 62.60 11 *i* P **P** **06 05 08.0 -1.5**
UPNV IAmb IAmb 06 05 09.8
comp=Z,109nm,1.0s
HIN Hinchinbrook I 62.60 332 IAMs_20 IAMs_20 06 35 36.3
comp=Z,3µm,20.0s
FID Port Fidalgo 62.73 332 IAmb IAmb 06 05 34.2
comp=Z,53nm,1.0s
FID IAMs_20 IAMs_20 06 35 20.9
comp=Z,3µm,22.0s
ANGG Ammassalik, Gr 62.75 22 *i* P **P** **06 05 08.5 -2.1**
ANGG IAmb IAmb 06 05 10.3
comp=Z,226nm,0.8s
KLU Klutina 62.78 333 IAmb IAmb 06 05 34.5
comp=Z,82nm,1.0s
KLU IAMs_20 IAMs_20 06 35 57.0
comp=Z,3µm,21.0s
KLU Klutina 62.78 333 P **P** **06 05 11.1 +0.1**
baz=114,SNR=47
KLU S **S** **06 13 34.4 +0.2**
baz=114
HARP HAARP 62.83 334 P **P** **06 05 11.4 +0.1**
baz=115,SNR=7.9
HARP S **S** **06 13 36.4 +1.8**
baz=115
P23K Montague Islan 62.87 331 IAmb IAmb 06 05 34.8
comp=Z,64nm,1.1s
P23K Montague Islan 62.87 331 P **P** **06 05 11.4 -0.2**
baz=112
P23K S **S** **06 13 35.8 +0.7**
baz=112
DOT Dot Lake 62.93 336 IAmb IAmb 06 05 35.3
comp=Z,66nm,1.0s
DOT IAMs_20 IAMs_20 06 35 30.0
comp=Z,4µm,21.0s
I27K Kandik River 62.94 338 P **P** **06 05 11.7 -0.3**
baz=120,SNR=41
I27K S **S** **06 13 35.5 -0.5**
baz=120
SCRK Sand Creek 63.05 336 IAmb IAmb 06 05 50.1
comp=Z,63nm,1.3s
SCRK Sand Creek 63.05 336 P **P** **06 05 12.6 -0.2**
baz=117,SNR=37
SCRK S **S** **06 13 37.5 -0.1**
baz=117
GLI Glacier Island 63.06 332 IAMs_20 IAMs_20 06 36 25.3
comp=Z,3µm,21.0s
GLI Glacier Island 63.06 332 P **P** **06 05 11.6 -1.2**
baz=113
GLI S **S** **06 13 36.3 -1.3**
baz=113
J26L Joseph Creek 63.13 337 IAmb IAmb 06 05 36.9
comp=Z,55nm,1.0s
J26L IAMs_20 IAMs_20 06 37 02.1
comp=Z,2µm,19.0s
J26L Joseph Creek 63.13 337 P **P** **06 05 13.1 -0.2**
baz=118,SNR=103
J26L S **S** **06 13 37.6 -0.9**
baz=118
M24K Tolsona, Glenn 63.14 334 IAmb IAmb 06 05 54.9
comp=Z,80nm,0.9s
M24K IAMs_20 IAMs_20 06 35 48.5
comp=Z,3µm,22.0s
M24K Tolsona, Glenn 63.14 334 P **P** **06 05 13.4 0.0**
baz=114,SNR=16
M24K S **S** **06 13 39.8 +1.1**
baz=114
PAX Paxson 63.20 335 IAMs_20 IAMs_20 06 34 00.1
comp=Z,3µm,22.0s
PAX Paxson 63.20 335 P **P** **06 05 12.9 -0.9**
baz=115,SNR=31
PAX S **S** **06 13 38.9 -0.5**
baz=115
E29M Blow River 63.22 342 IAmb IAmb 06 05 38.1
comp=Z,195nm,1.3s
E29M Blow River 63.22 342 P **P** **06 05 13.9 +0.2**
baz=125,SNR=104
E29M S **S** **06 13 39.1 -0.2**
baz=125
H27K Steamboat Moun 63.23 339 IAmb IAmb 06 05 16.4
comp=Z,68nm,0.9s
H27K IAMs_20 IAMs_20 06 35 59.7
comp=Z,4µm,22.0s
H27K Steamboat Moun 63.23 339 P **P** **06 05 13.9 +0.1**
baz=120,SNR=112
H27K S **S** **06 13 39.1 -0.5**
baz=120
RIDG Independent Ri 63.28 336 IAmb IAmb 06 05 37.7
comp=Z,62nm,1.0s
RIDG Independent Ri 63.28 336 P **P** **06 05 14.0 -0.3**
baz=116,SNR=40
RIDG S **S** **06 13 39.0 -1.3**
baz=116
I26K Coal Creek Min 63.35 338 IAmb IAmb 06 05 51.2
comp=Z,149nm,1.7s
I26K IAMs_20 IAMs_20 06 36 33.1
comp=Z,4µm,20.0s
I26K Coal Creek Min 63.35 338 P **P** **06 05 14.0 -0.6**
baz=118
I26K S **S** **06 13 38.7 -2.4**
baz=118
F28M Old Crow 63.40 341 P **P** **06 05 15.1 +0.1**
baz=123,SNR=291
F28M S **S** **06 13 41.5 -0.1**
baz=123
POHA Pohakuloa 63.45 286 P **P** **06 05 17.7 +1.3**
POHA Pohakuloa 63.45 286 IAMs_20 IAMs_20 06 25 28.7
comp=Z,3µm,22.0s
SCM Sheep Creek Mo 63.53 333 IAmb IAmb 06 05 39.0
comp=Z,67nm,1.0s
SCM IAMs_20 IAMs_20 06 36 19.8
comp=Z,3µm,21.0s
SCM Sheep Creek Mo 63.53 333 P **P** **06 05 15.5 -0.5**
baz=113,SNR=21
SCM S **S** **06 13 42.8 -0.8**
baz=113
MWH Mokuaweoweo 63.54 285 IAmb IAmb 06 05 21.2
comp=Z,119nm,0.9s
G27K Doyon Strip 63.57 340 IAMs_20 IAMs_20 06 37 33.7
comp=Z,3µm,20.0s
G27K Doyon Strip 63.57 340 P **P** **06 05 15.7 -0.4**
baz=121,SNR=70
G27K S **S** **06 13 44.3 +0.5**
baz=121
SACV Santiago Islan 63.57 80 IAMs_20 IAMs_20 06 28 31.3
comp=Z,3µm,22.0s
PWL Port Wells 63.62 332 IAMs_20 IAMs_20 06 37 30.0
comp=Z,3µm,21.0s
PWL Port Wells 63.62 332 P **P** **06 05 15.8 -0.7**
baz=111,SNR=6.9
PWL S **S** **06 13 43.7 -0.8**
baz=111
K24K Donnelly Dome 63.69 336 IAmb IAmb 06 05 40.1
comp=Z,79nm,0.9s
K24K Donnelly Dome 63.69 336 P **P** **06 05 16.7 -0.3**
baz=115,SNR=32
M23K Glacier View 63.69 333 P **P** **06 05 16.3 -0.6**
baz=112,SNR=14
M23K S **S** **06 13 45.9 +0.5**
baz=112
E28M Babbage River 63.84 342 IAMs_20 IAMs_20 06 37 07.9
comp=Z,2µm,21.0s
E28M Babbage River 63.84 342 P **P** **06 05 17.5 -0.4**
baz=124,SNR=114
E28M S **S** **06 13 45.2 -1.8**
baz=124
SEW Seward 63.87 331 P **P** **06 05 17.3 -0.8**
baz=110,SNR=8.1
SEW S **S** **06 13 46.2 -1.3**
baz=110
KNK Knik Glacier 63.87 333 IAmb IAmb 06 05 41.3
comp=Z,85nm,1.1s
KNK IAMs_20 IAMs_20 06 36 31.9
comp=Z,4µm,22.0s
KNK Knik Glacier 63.87 333 P **P** **06 05 17.8 -0.4**
baz=112,SNR=18
KNK S **S** **06 13 47.1 -0.6**
baz=112
J25K Salcha River, 63.88 337 IAmb IAmb 06 05 41.4
comp=Z,53nm,0.9s
J25K Salcha River, 63.88 337 P **P** **06 05 18.1 -0.1**
baz=116,SNR=77
J25K S **S** **06 13 46.7 -1.0**
baz=116
KULLO Kullorsuaq 63.88 9 *i* P **P** **06 05 17.1 -0.8**
KULLO IAmb IAmb 06 05 19.4
comp=Z,133nm,1.0s
D28M Stokes Point 64.01 343 P **P** **06 05 19.1 +0.3**
baz=125,SNR=12
D28M S **S** **06 13 49.3 +0.3**
baz=125
O22K Cooper Landing 64.12 331 IAmb IAmb 06 05 57.4
comp=Z,64nm,0.9s
O22K Cooper Landing 64.12 331 P **P** **06 05 19.3 -0.5**
baz=110
TULEG Thule 64.20 5 *i* P **P** **06 05 18.9 -1.0**
TULEG IAmb IAmb 06 05 20.5
comp=Z,146nm,0.9s
GHO Glory Hole Cre 64.21 333 IAmb IAmb 06 05 43.4
comp=Z,109nm,0.9s
GHO IAMs_20 IAMs_20 06 36 51.8
comp=Z,4µm,21.0s
VAH Vaihoa 64.24 246 *e*P **P** **06 05 21.9 +0.7**
comp=Z,419nm,1.2s
VAH Vaihoa 64.24 246 *e*LR LR 06 24 21.3
comp=Z,7µm,27.6s
PMR Palmer 64.24 333 P **P** **06 05 20.0 -0.5**
baz=111,SNR=31
PMR S **S** **06 13 50.7 -1.3**
baz=111
E27K Coleen River 64.26 341 IAmb IAmb 06 05 44.2
comp=Z,96nm,1.1s
E27K Coleen River 64.26 341 P **P** **06 05 20.7 +0.1**
baz=121,SNR=95
E27K S **S** **06 13 51.8 -0.5**
baz=121
PRP Porcupine Dome 64.33 337 IAMs_20 IAMs_20 06 37 23.0
comp=Z,4µm,20.0s
PRP Porcupine Dome 64.33 337 P **P** **06 05 20.8 -0.5**
baz=116,SNR=23
PRP S **S** **06 13 51.4 -2.1**
baz=116
RC01 Rabbit Creek A 64.34 332 IAmb IAmb 06 05 44.2
comp=Z,59nm,0.9s
RC01 IAMs_20 IAMs_20 06 38 01.1
comp=Z,3µm,21.0s
RC01 Rabbit Creek A 64.34 332 P **P** **06 05 21.2 0.0**
baz=110,SNR=25
RC01 S **S** **06 13 51.8 -1.5**
baz=110
SLKM Skilak Lake 64.36 331 IAmb IAmb 06 05 44.3
comp=Z,66nm,1.0s
G26K Porcupine Rive 64.37 339 IAMs_20 IAMs_20 06 37 32.9
comp=Z,2µm,20.0s
G26K Porcupine Rive 64.37 339 P **P** **06 05 21.0 -0.2**
baz=118,SNR=62
G26K S **S** **06 13 52.9 -0.6**
baz=118
PMOR Pomariorio Ree 64.38 246 *e*P **P** **06 05 23.1 +0.9**
comp=Z,641nm,1.3s
PMOR Pomariorio Ree 64.38 246 *e*LR LR 06 24 26.6
comp=Z,10µm,23.8s
HDA Harding Lake 64.41 336 P **P** **06 05 20.9 -0.7**
baz=114,SNR=52
HDA S **S** **06 13 52.7 -1.4**
baz=114
BRLK Bradley Lake 64.44 330 IAmb IAmb 06 05 45.0
comp=Z,72nm,1.0s
CNPM China Poot 64.53 330 IAMs_20 IAMs_20 06 35 06.2
comp=Z,3µm,22.0s
IL31 64.53 336 IAmb IAmb 06 05 45.3
comp=Z,101nm,1.1s
ILAR Eielson Array 64.53 336 P **P** **06 05 22.3 -0.1**
ILAR Eielson Array 64.53 336 P **P** **06 05 21.6 -0.8**
comp=Z,40nm,1.0s,baz=120,slow=4.5,SNR=214
ILAR PP **PP** **06 07 43.7 -1.3**
comp=Z,6.8nm,0.9s,baz=116,slow=6.5,SNR=4.2
ILAR S **S** **06 13 53.0 -2.7**
comp=Z,0.1nm,0.5s,baz=71,slow=14,SNR=1.1
ILAR LR LR 06 36 31.3
comp=Z,3µm,21.2s,baz=108,slow=39
comp=Z,40nm,1.0s
FIS Fire Island 64.58 332 IAMs_20 IAMs_20 06 38 07.4
comp=Z,3µm,21.0s
D27M Malcolm River 64.62 342 IAmb IAmb 06 05 46.6
comp=Z,61nm,1.0s
D27M IAMs_20 IAMs_20 06 38 27.6
comp=Z,3µm,22.0s
D27M Malcolm River 64.62 342 P **P** **06 05 22.8 -0.2**
baz=122
D27M S **S** **06 13 56.2 -0.6**
baz=122
KDAK Kodiak Island 64.69 328 P **P** **06 05 23.9 +0.4**
KDAK Kodiak Island 64.69 328 LR LR 06 35 12.9
comp=Z,2µm,21.1s,baz=97,slow=38
KDAK Kodiak Island 64.69 328 *i* P **P** **06 05 23.4 -0.2**
KDAK pmax pmax
comp=Z,24nm,0.8s
KDAK Kodiak Island 64.69 328 P **P** **06 05 23.3 -0.2**
baz=106
KDAK S **S** **06 13 58.3 +0.5**
baz=106
KDAK Kodiak Island 64.69 328 P **P** **06 05 23.6 +0.1**
FYU Fort Yukon 64.70 339 IAmb IAmb 06 06 00.4
comp=Z,89nm,1.3s
M22K Willow 64.74 333 IAmb IAmb 06 05 48.2
comp=Z,116nm,1.1s
M22K IAMs_20 IAMs_20 06 37 08.7
comp=Z,3µm,22.0s
M22K Willow 64.74 333 P **P** **06 05 23.6 -0.1**
baz=110
M22K S **S** **06 13 57.4 -0.8**
baz=110
HOM Homer 64.77 330 P **P** **06 05 24.2 +0.2**
baz=108
H25L Birch Creek 64.77 338 P **P** **06 05 23.6 -0.3**
baz=116,SNR=52
RND Reindeer 64.79 335 IAmb IAmb 06 05 25.8
comp=Z,129nm,1.1s
RND IAMs_20 IAMs_20 06 38 46.0
comp=Z,3µm,20.0s
SYI Shuyak Island 64.83 329 IAMs_20 IAMs_20 06 39 11.1
comp=Z,2µm,19.0s
Q20K Shuyak Island 64.83 329 P **P** **06 05 24.5 +0.1**
baz=106
Q20K S **S** **06 13 59.2 -0.3**
baz=106
CCB Clear Creek Bu 64.84 336 IAMs_20 IAMs_20 06 36 25.4
comp=Z,4µm,21.0s
F26K Sheenjek River 64.85 340 IAmb IAmb 06 05 48.4
comp=Z,82nm,1.2s
F26K Sheenjek River 64.85 340 P **P** **06 05 24.9 +0.4**
baz=118,SNR=99
F26K S **S** **06 13 58.9 -0.6**
baz=118
BMAR Burnt Mountain 64.87 339 P **P** **06 05 25.2 +0.6**
CAPN Captain Cook N 64.88 331 P **P** **06 05 24.4 -0.3**
baz=109
WRH Wood River Hil 64.89 336 IAMs_20 IAMs_20 06 36 13.6
comp=Z,4µm,22.0s
POKR Poker Plat Res 64.89 337 P **P** **06 05 24.3 -0.5**
baz=114,SNR=9.8
POKR S **S** **06 13 57.9 -2.1**
baz=114
OHAK Old Harbor 64.91 327 P **P** **06 05 24.5 -0.5**
baz=105,SNR=7.3
SUA Susitna One 64.92 332 IAMs_20 IAMs_20 06 39 07.6
comp=Z,2µm,19.0s
SUA Susitna One 64.92 332 P **P** **06 05 25.0 -0.1**
baz=109,SNR=29
SUA S **S** **06 13 59.8 -1.0**
baz=109
MCK McKinley 64.94 335 IAmb IAmb 06 05 48.1
comp=Z,71nm,1.1s
MCK McKinley 64.94 335 P **P** **06 05 24.5 -0.6**
baz=112,SNR=26
MCK S **S** **06 13 59.1 -1.7**
baz=112
COLA College 64.95 336 P **P** **06 05 24.8 -0.3**
COLA IAmb IAmb 06 05 47.6
comp=Z,47nm,0.8s
COLA College 64.95 336 IAMs_20 IAMs_20 06 36 20.4
comp=Z,3µm,20.0s
COLA College 64.95 336 *c* *i* P *i* *PP **P** **pP** **06 05 23.9 -1.2** **06 05 45.5 +0.6**
COLA pmax pmax
comp=Z,36nm,0.8s
COLA College 64.95 336 P **P** **06 05 24.5 -0.6**
baz=114
COLA College 64.95 336 P **P** **06 05 23.5 -1.6**
COLA College 64.95 336 P **P** **06 05 23.8 -1.3**
CUT Chulitna 65.03 333 IAmb IAmb 06 05 48.7
comp=Z,118nm,1.0s
CUT IAMs_20 IAMs_20 06 37 19.3
comp=Z,3µm,21.0s
CUT Chulitna 65.03 333 P **P** **06 05 25.1 -0.5**
baz=110,SNR=13
CUT S **S** **06 13 59.6 -2.1**
baz=110
G25K Bearman Lake 65.10 339 P **P** **06 05 26.1 +0.1**
baz=116,SNR=42
G25K S **S** **06 14 03.9 +1.4**
baz=116
SII Sitkinak Islan 65.22 327 P **P** **06 05 26.6 -0.4**
baz=104
F25K Christian Rive 65.31 339 IAmb IAmb 06 05 51.6
comp=Z,73nm,1.1s
F25K IAMs_20 IAMs_20 06 38 40.7
comp=Z,3µm,19.0s
F25K Christian Rive 65.31 339 P **P** **06 05 27.3 -0.1**
baz=117,SNR=104
F25K S **S** **06 14 06.5 +1.3**
baz=117
NEA2 Nenana 65.32 336 P **P** **06 05 26.6 -0.9**
baz=112,SNR=33
NEA2 S **S** **06 14 02.4 -3.0**
baz=112
BWN Browne 65.32 335 IAMs_20 IAMs_20 06 36 39.4
comp=Z,3µm,22.0s
H24K Noodor Dome 65.35 337 IAMs_20 IAMs_20 06 38 25.9
comp=Z,3µm,19.0s
H24K Noodor Dome 65.35 337 P **P** **06 05 27.6 -0.2**
baz=114,SNR=65
H24K S **S** **06 14 04.7 -1.1**

baz=114
O20K Slope Mountain 65.37 330 P **P** 06 05 27.1 -0.9
baz=107,SNR=5.8
O20K S **S** 06 14 05.2 -1.0
baz=107
TRF Thorofare Moun 65.40 334 P **P** 06 05 27.5 -0.8
baz=111,SNR=46
TRF S **S** 06 14 05.0 -1.7
baz=111
SKT Skwentna 65.44 333 IAmb IAmb 06 05 53.6
comp=Z,72nm,1.1s
SKT IAMs_20 IAMs_20 06 37 31.4
comp=Z,3µm,22.0s
SKT Skwentna 65.44 333 P **P** 06 05 27.6 -0.8
baz=109,SNR=57
SKT S **S** 06 14 04.4 -2.5
baz=109
N20K Mount Spurr 65.51 332 P **P** 06 05 28.0 -0.9
baz=108
N20K S **S** 06 14 05.7 -2.2
baz=108
SPCR Spurr Chakacha 65.51 332 P **P** 06 05 28.0 -0.9
baz=108
SPCR S **S** 06 14 06.1 -1.8
baz=108
RED Redoubt Volcan 65.54 331 IAmb IAmb 06 05 51.7
comp=Z,101nm,1.0s
P19K Oil Pt 65.54 330 IAMs_20 IAMs_20 06 35 13.9
comp=Z,2µm,22.0s
P19K Oil Pt 65.54 330 P **P** 06 05 28.5 -0.5
baz=106,SNR=13
P19K S **S** 06 14 06.7 -1.5
baz=106
Q19K Cape Douglas, 65.55 329 IAmb IAmb 06 05 33.9
comp=Z,43nm,0.6s
Q19K Cape Douglas, 65.55 329 P **P** 06 05 28.7 -0.4
baz=106,SNR=11
G24K Hadweenzic Riv 65.56 338 IAMs_20 IAMs_20 06 36 38.4
comp=Z,3µm,22.0s
G24K Hadweenzic Riv 65.56 338 P **P** 06 05 28.8 -0.2
baz=115,SNR=55
G24K S **S** 06 14 09.8 +1.6
baz=115
R18K Karluk 65.61 328 P **P** 06 05 28.8 -0.7
baz=104
KIP Kipapa 65.61 288 P **P** 06 05 31.8 +1.6
KIP Kipapa 65.61 288 *e*P **P** 06 05 30.8 +0.6
KIP pmax pmax
comp=Z,450nm,1.5s
I23K Minto, Yukon-K 65.65 336 IAmb IAmb 06 05 52.9
comp=Z,119nm,1.1s
I23K IAMs_20 IAMs_20 06 35 34.8
comp=Z,4µm,22.0s
I23K Minto, Yukon-K 65.65 336 P **P** 06 05 29.4 -0.2
baz=112,SNR=121
I23K S **S** 06 14 07.0 -2.2
baz=112
C27K Jago River 65.65 342 IAmb IAmb 06 05 54.1
comp=Z,89nm,1.1s
C27K IAMs_20 IAMs_20 06 37 50.9
comp=Z,2µm,22.0s
C27K Jago River 65.65 342 P **P** 06 05 29.9 +0.3
baz=120,SNR=82
C27K S **S** 06 14 09.6 +0.3
baz=120
CHIR Chirikof Islan 65.84 326 IAMs_20 IAMs_20 06 34 09.8
comp=Z,2µm,20.0s
CHIR Chirikof Islan 65.84 326 P **P** 06 05 30.5 -0.4
baz=102
BPAW Bear Paw Mtn. 65.92 335 IAMs_20 IAMs_20 06 37 24.0
comp=Z,2µm,22.0s
BPAW Bear Paw Mtn. 65.92 335 P **P** 06 05 30.7 -0.8
baz=110,SNR=68
BPAW S **S** 06 14 09.6 -3.1
baz=110
GO09 Cerro Castillo 65.95 168 IAmb IAmb 06 05 35.0
comp=Z,239nm,1.4s
H23K Yukon River 65.98 337 P **P** 06 05 31.5 -0.2
baz=112,SNR=29
H23K S **S** 06 14 10.4 -3.0
baz=112
PPLA Purkeypile 66.03 334 IAmb IAmb 06 05 56.7
comp=Z,89nm,1.3s
PPLA IAMs_20 IAMs_20 06 35 57.8
comp=Z,3µm,22.0s
PPLA Purkeypile 66.03 334 P **P** 06 05 31.4 -0.9
baz=109,SNR=11
PPLA S **S** 06 14 11.1 -3.2
baz=109
F24K Squaw Lake 66.05 339 P **P** 06 05 32.2 0.0
baz=115,SNR=23
F24K S **S** 06 14 15.5 +1.3
baz=115
M20K Styx River 66.14 332 IAMs_20 IAMs_20 06 35 35.6
comp=Z,2µm,22.0s
M20K Styx River 66.14 332 P **P** 06 05 32.2 -0.7
baz=107
M20K S **S** 06 14 13.5 -2.0
baz=107
MLY Manley 66.15 336 P **P** 06 05 32.3 -0.6
baz=111,SNR=198
MLY S **S** 06 14 12.8 -2.8
baz=111
CAST Castle Rocks 66.15 334 IAMs_20 IAMs_20 06 39 47.1
comp=Z,2µm,20.0s
CAST Castle Rocks 66.15 334 P **P** 06 05 31.8 -1.2
baz=109,SNR=61
CAST S **S** 06 14 12.3 -3.2
baz=109
Q18K Katmai Hardscr 66.16 329 P **P** 06 05 32.5 -0.7
baz=104,SNR=16
Q18K S **S** 06 14 13.2 -2.8
baz=104
C26K Camden Bay 66.16 342 P **P** 06 05 33.2 +0.4
baz=119,SNR=36
C26K S **S** 06 14 16.6 +1.3
baz=119
O19K Port Alsworth 66.21 330 IAMs_20 IAMs_20 06 38 11.7
comp=Z,2µm,20.0s
O19K Port Alsworth 66.21 330 P **P** 06 05 32.1 -1.2
baz=105,SNR=8.1
O19K S **S** 06 14 14.0 -2.3
baz=105
SUMG Summit 66.27 15 *i* P **P** 06 05 33.0 -1.0
SUMG IAmb IAmb 06 05 34.7
comp=Z,273nm,1.2s
D25K Kavik River 66.34 341 IAmb IAmb 06 05 57.9
comp=Z,132nm,1.1s
D25K IAMs_20 IAMs_20 06 38 03.9
comp=Z,2µm,21.0s
D25K Kavik River 66.34 341 P **P** 06 05 34.0 0.0
baz=117
D25K S **S** 06 14 17.7 +0.1
baz=117
CHUM Lake Minchumin 66.40 335 P **P** 06 05 33.4 -1.1
baz=109,SNR=31
CHUM S **S** 06 14 14.3 -4.1
baz=109
P18K Big Mountain, 66.45 329 IAMs_20 IAMs_20 06 35 17.0
comp=Z,3µm,22.0s
P18K Big Mountain, 66.45 329 P **P** 06 05 33.9 -1.0
baz=104,SNR=14
P18K S **S** 06 14 17.6 -1.7
baz=104
N19K Bonanza Creek 66.46 331 P **P** 06 05 34.4 -0.7
baz=106,SNR=45
N19K S **S** 06 14 17.2 -2.3
baz=106
E24K Your Creek 66.49 339 P **P** 06 05 35.3 +0.3
baz=114
E24K S **S** 06 14 20.8 +1.2
baz=114
G23K Bananza Creek 66.50 338 P **P** 06 05 35.1 +0.1
baz=112,SNR=47
G23K S **S** 06 14 19.2 -0.5
baz=112
Q17K Contact Creek 66.52 328 P **P** 06 05 34.9 -0.5
baz=103,SNR=23
Q17K S **S** 06 14 18.4 -1.9
baz=103
O18K Koktuh Hills 66.56 330 IAMs_20 IAMs_20 06 39 31.8
comp=Z,2µm,19.0s
O18K Koktuh Hills 66.56 330 P **P** 06 05 34.8 -0.7
baz=104,SNR=25
O18K S **S** 06 14 18.3 -2.3
baz=104
PLK4 Peulik 4 66.62 327 IAmb IAmb 06 05 40.0
comp=Z,51nm,0.7s

R17L Mt. Peulik Vol 66.62 327 P **P** 06 05 35.6 -0.5
baz=102,SNR=19
R17L S **S** 06 14 19.5 -1.9
baz=102
L20K Farewell, AK 66.64 333 P **P** 06 05 35.2 -0.9
baz=107,SNR=80
L20K S **S** 06 14 19.3 -2.3
baz=107
TVO Taravao 66.67 244 *e*P **P** 06 05 36.9 -0.1
comp=Z,115nm,1.2s
TVO Taravao 66.67 244 *e*LR LR 06 25 34.2
comp=Z,3µm,25.7s
I21K Tanana 66.69 336 P **P** 06 05 35.4 -0.9
baz=110
I21K S **S** 06 14 17.7 -4.3
baz=110
H22K Ishtalitna Cre 66.70 337 P **P** 06 05 35.6 -0.8
baz=111,SNR=52
H22K S **S** 06 14 18.0 -4.2
baz=111
M19K Big River Lodg 66.71 332 IAMs_20 IAMs_20 06 38 56.9
comp=Z,2µm,20.0s
M19K Big River Lodg 66.71 332 P **P** 06 05 35.8 -0.7
baz=106,SNR=31
M19K S **S** 06 14 20.5 -1.8
baz=106
COLD Coldfoot 66.76 338 IAmb IAmb 06 06 01.0
comp=Z,78nm,1.1s
COLD Coldfoot 66.76 338 P **P** 06 05 37.2 +0.6
baz=112,SNR=61
COLD S **S** 06 14 22.9 +0.2
baz=112
PPT Papeete 66.87 244 P **P** 06 05 40.0 +1.8
comp=Z,111nm,1.1s,baz=75,slow=17,SNR=3.7
PPT LR LR 06 26 42.6
comp=Z,4µm,21.6s,baz=46,slow=28
comp=Z,111nm,1.1s
PPT Papeete 66.87 244 P **P** 06 05 40.0 +1.8
E23K Chandalar 66.87 339 IAmb IAmb 06 06 02.5
comp=Z,228nm,1.6s
E23K IAMs_20 IAMs_20 06 39 19.1
comp=Z,3µm,21.0s
E23K Chandalar 66.87 339 P **P** 06 05 38.0 +0.5
baz=113,SNR=82
E23K S **S** 06 14 24.5 +0.3
baz=113
PPT2 Papeete2 66.88 244 *e*P **P** 06 05 38.7 +0.4
comp=Z,156nm,1.3s
PPT2 Papeete2 66.88 244 *e*P **P** 06 05 40.4 +2.1
comp=Z,2µm,29.5s
PPT2 Papeete2 66.88 244 *e*PP **PP** 06 08 02.8 -3.9
comp=Z,524nm,29.2s
PPT2 *e*S **S** 06 14 21.7 -4.0
comp=Z,1µm,32.0s
PPT2 *e*SS **SS** 06 18 42.0 -3.6
comp=Z,2µm,32.5s
PPT2 *e*LQ LQ 06 22 28.9
comp=Z,2µm,28.2s
PPT2 *e*LR LR 06 25 36.5
comp=Z,15µm,25.5s
PPT2 *e*LR LR 06 25 43.9
comp=Z,12µm,27.8s
PAE Paea 66.91 244 *e*P **P** 06 05 39.0 +0.6
comp=Z,130nm,1.1s
PAE Paea 66.91 244 *e*LR LR 06 25 42.0
comp=Z,2µm,23.3s
K20K Telida 66.98 334 IAMs_20 IAMs_20 06 38 10.1
comp=Z,3µm,22.0s
K20K Telida 66.98 334 P **P** 06 05 37.4 -0.8
baz=107
K20K S **S** 06 14 21.8 -3.8
baz=107
L19K White Mountain 67.00 332 IAMs_20 IAMs_20 06 39 14.4
comp=Z,3µm,20.0s
L19K White Mountain 67.00 332 P **P** 06 05 37.4 -1.0
baz=106,SNR=18
L19K S **S** 06 14 24.0 -1.8
baz=106
Q16K King Salmon 67.00 328 P **P** 06 05 37.9 -0.5
baz=103
P17K Kvichak River 67.01 329 P **P** 06 05 37.7 -0.7
baz=103,SNR=18
P17K S **S** 06 14 24.5 -1.4
baz=103
D24K Happy Valley 67.05 340 IAmb IAmb 06 06 02.7
comp=Z,53nm,1.0s
D24K Happy Valley 67.05 340 P **P** 06 05 38.2 -0.3
baz=114,SNR=8.5
D24K S **S** 06 14 26.9 +0.7
baz=114
NEEM North Greenlan 67.07 8 *i* P **P** 06 05 38.2 -0.6
NEEM IAmb IAmb 06 05 39.4
comp=Z,254nm,1.0s
TOLK Toolik Lake Re 67.09 340 P **P** 06 05 38.8 -0.1
baz=114,SNR=43
TOLK S **S** 06 14 28.0 +1.2
baz=114
N18K Kilae Creek 67.09 331 P **P** 06 05 38.0 -1.0
baz=104,SNR=22
N18K S **S** 06 14 25.9 -1.1
baz=104
G22K Bettles 67.12 338 P **P** 06 05 38.9 -0.1
baz=111
G22K S **S** 06 14 28.6 +1.6
baz=111
H21K Melozitna Rive 67.18 336 P **P** 06 05 38.9 -0.5
baz=109,SNR=26
C24K Franklin Bluff 67.25 341 IAmb IAmb 06 05 41.0
comp=Z,88nm,0.8s
C24K Franklin Bluff 67.25 341 P **P** 06 05 39.8 +0.1
baz=115
C24K S **S** 06 14 29.4 +0.9
baz=115
J20K Nowinta River 67.26 335 IAMs_20 IAMs_20 06 40 12.3
comp=Z,2µm,20.0s
J20K Nowinta River 67.26 335 P **P** 06 05 39.0 -0.9
baz=107,SNR=34
J20K S **S** 06 14 26.1 -2.7
baz=107
M18K Stony River 67.26 332 P **P** 06 05 38.7 -1.3
baz=104,SNR=40
M18K S **S** 06 14 25.3 -3.7
baz=104
O17K Koliganek Bris 67.47 330 P **P** 06 05 40.8 -0.4
baz=103,SNR=41
O17K S **S** 06 14 29.5 -1.9
baz=103
CHGN Chignik 67.47 326 IAmb IAmb 06 05 42.3
comp=Z,65nm,0.9s
CHGN Chignik 67.47 326 P **P** 06 05 40.5 -0.8
baz=100,SNR=14
F22K John River 67.57 338 P **P** 06 05 42.2 +0.3
baz=110
F22K S **S** 06 14 34.0 +1.4
baz=110
I20K Naaghedeneel 67.58 335 IAmb IAmb 06 06 04.6
comp=Z,160nm,1.0s
I20K Naaghedeneel 67.58 335 P **P** 06 05 41.3 -0.6
baz=107,SNR=38
I20K S **S** 06 14 30.6 -1.9
baz=107
D23K Nanushuk River 67.59 340 IAmb IAmb 06 06 07.0
comp=Z,67nm,1.1s
D23K Nanushuk River 67.59 340 P **P** 06 05 42.4 +0.5
baz=112,SNR=22
D23K S **S** 06 14 33.6 +1.0
baz=112
E22K Anaktuvuk Pass 67.67 339 P **P** 06 05 42.2 -0.3
baz=111,SNR=58
E22K S **S** 06 14 33.3 -0.4
baz=111
N17K Nushagak Hills 67.68 330 P **P** 06 05 42.1 -0.5
baz=103,SNR=31
N17K S **S** 06 14 32.5 -1.4
baz=103
G21K Allakaket 67.73 337 IAMs_20 IAMs_20 06 38 15.7
comp=Z,4µm,22.0s
G21K Allakaket 67.73 337 P **P** 06 05 42.5 -0.4
baz=109,SNR=47
G21K S **S** 06 14 33.3 -1.1
baz=109
P16K Nushagak River 67.76 329 P **P** 06 05 42.4 -0.7
baz=102,SNR=7.8
P16K S **S** 06 14 32.6 -2.3
baz=102
J19K Poorman 67.83 334 IAMs_20 IAMs_20 06 38 46.4
comp=Z,3µm,22.0s
J19K Poorman 67.83 334 P **P** 06 05 42.6 -0.9
baz=106,SNR=40
J19K S **S** 06 14 32.2 -3.5
baz=106
L18K Granite Mounta 67.84 332 IAMs_20 IAMs_20 06 39 39.7
comp=Z,2µm,20.0s
L18K Granite Mounta 67.84 332 P **P** 06 05 42.6 -1.0
baz=104,SNR=23
L18K S **S** 06 14 33.1 -2.7
baz=104
CHNA Chernabura Isl 67.89 324 P **P** 06 05 43.1 -0.9
baz=98
CHNA S **S** 06 14 36.3 -0.3
baz=98
C23K Itkillik River 67.90 341 IAmb IAmb 06 06 07.9
comp=Z,124nm,1.1s
C23K Itkillik River 67.90 341 P **P** 06 05 44.1 +0.3
baz=113,SNR=51
C23K S **S** 06 14 37.3 +1.0
baz=113
O16K Kokwok River B 67.92 329 IAMs_20 IAMs_20 06 36 12.9
comp=Z,2µm,22.0s
O16K Kokwok River B 67.92 329 P **P** 06 05 43.2 -1.0
baz=102,SNR=16
O16K S **S** 06 14 35.3 -1.6
baz=102
H20K Anotleneega Mo 67.95 336 P **P** 06 05 43.3 -1.0
baz=107,SNR=17
H20K S **S** 06 14 33.8 -3.3
baz=107
F21K Alatna River 67.95 338 IAmb IAmb 06 06 08.3
comp=Z,128nm,0.9s
F21K Alatna River 67.95 338 P **P** 06 05 44.8 +0.6
baz=109,SNR=146
F21K S **S** 06 14 37.2 +0.1
baz=109
M17K Holitna River 67.99 331 IAMs_20 IAMs_20 06 41 08.7
comp=Z,2µm,19.0s
M17K Holitna River 67.99 331 P **P** 06 05 44.0 -0.6
baz=103,SNR=13
M17K S **S** 06 14 35.3 -2.4
baz=103
PMOZ Porto Moniz, M 68.02 60 *e*tx tx 06 06 07.4
PMOZ *e*LR LR 06 26 47.8
PMOZ *i* IAMs_20 IAMs_20 06 29 35.5
comp=Z,3µm,22.0s
S14K Fog Glacier 68.09 326 P **P** 06 05 44.6 -0.8
baz=99
J18K Innoko River 68.16 333 IAMs_20 IAMs_20 06 38 46.1
comp=Z,3µm,22.0s
J18K Innoko River 68.16 333 P **P** 06 05 44.6 -1.0
baz=104,SNR=13
J18K S **S** 06 14 35.9 -3.7
baz=104
XMAS Kiritimati 68.22 267 P **P** 06 05 48.5 +1.7
XMAS Kiritimati 68.22 267 P **P** 06 05 48.4 +1.5
D22K Ayikyak River 68.23 340 P **P** 06 05 45.9 0.0
baz=110,SNR=19
D22K S **S** 06 14 40.6 +0.3
baz=110
N16K Nishlik Lake 68.43 330 P **P** 06 05 47.0 -0.4
baz=101,SNR=20
N16K S **S** 06 14 41.4 -1.6
baz=101
SDPT Sand Point 68.47 324 IAmb IAmb 06 05 50.0
comp=Z,160nm,1.4s
SDPT Sand Point 68.47 324 P **P** 06 05 47.1 -0.5
baz=98
SDPT S **S** 06 14 42.0 -1.4
baz=98
E21K Killik River 68.53 339 P **P** 06 05 46.9 -0.9
baz=109
E21K S **S** 06 14 43.4 -0.5
baz=109
GCSA Galena City Sc 68.56 335 P **P** 06 05 47.0 -1.0
baz=105
GCSA S **S** 06 14 42.2 -2.0
baz=105
L17K Donlin 68.56 332 P **P** 06 05 47.2 -0.8
baz=102,SNR=19
L17K S **S** 06 14 41.3 -3.0
baz=102
H19K Roundabout Mou 68.58 336 IAMs_20 IAMs_20 06 41 20.4
comp=Z,3µm,20.0s
H19K Roundabout Mou 68.58 336 P **P** 06 05 47.6 -0.5
baz=106,SNR=61
H19K S **S** 06 14 42.4 -2.1
baz=106
M16K Timber Creek 68.63 331 IAMs_20 IAMs_20 06 36 43.7
comp=Z,3µm,22.0s
M16K Timber Creek 68.63 331 P **P** 06 05 48.0 -0.6
baz=102,SNR=8.3
M16K S **S** 06 14 44.8 -0.5
baz=102
K17K Iditarod 68.68 333 IAMs_20 IAMs_20 06 37 25.0
comp=Z,2µm,22.0s
K17K Iditarod 68.68 333 P **P** 06 05 47.8 -1.0
baz=103,SNR=11
K17K S **S** 06 14 43.4 -2.4
baz=103
O15K Ungalikthiuk R 68.71 329 P **P** 06 05 47.3 -1.8
baz=100,SNR=6.5
O15K S **S** 06 14 42.7 -3.6
baz=100
F20K Avaraart Lake 68.73 337 P **P** 06 05 48.9 -0.1
baz=107
F20K S **S** 06 14 44.5 -1.7
baz=107
BORG Borgarnes 68.76 25 LR LR 06 36 38.2
comp=Z,901nm,19.1s,baz=263,slow=37
MACI Morro de la Ar 68.85 65 P **P** 06 05 52.5 +1.7
B22K Teshekpuk Lake 68.98 341 IAmb IAmb 06 05 51.5
comp=Z,66nm,0.8s
B22K IAMs_20 IAMs_20 06 40 41.8
comp=Z,3µm,20.0s
B22K Teshekpuk Lake 68.98 341 P **P** 06 05 50.4 -0.2
baz=110,SNR=19
B22K S **S** 06 14 49.1 0.0
baz=110
G19K Purcell Mounta 69.00 336 IAMs_20 IAMs_20 06 38 57.4
comp=Z,4µm,22.0s
G19K Purcell Mounta 69.00 336 P **P** 06 05 50.5 -0.3
baz=105,SNR=19
G19K S **S** 06 14 47.9 -1.6
baz=105
N15K Kwethluk River 69.02 330 IAMs_20 IAMs_20 06 37 32.9
comp=Z,2µm,21.0s
N15K Kwethluk River 69.02 330 P **P** 06 05 50.5 -0.6
baz=100
N15K S **S** 06 14 47.6 -2.4
baz=100
C21K Knifeblade Rid 69.04 340 P **P** 06 05 51.0 +0.1
baz=108,SNR=14
C21K S **S** 06 14 49.8 0.0
baz=108
B21K Ikpikpuk River 69.13 340 IAMs_20 IAMs_20 06 41 00.7
comp=Z,3µm,21.0s
B21K Ikpikpuk River 69.13 340 P **P** 06 05 51.3 -0.2
baz=109
B21K S **S** 06 14 50.0 -0.9
baz=109
TBI Tubuai 69.14 239 *e*P P 06 05 45.1 -7.2
comp=Z,5µm,29.8s
TBI Tubuai 69.14 239 *e*PP **PP** 06 08 26.7 +0.6
comp=Z,1µm,28.2s
TBI *e*S **S** 06 14 52.0 -0.4
comp=Z,4µm,34.2s
TBI *e*SS **SS** 06 19 19.5 -0.8
comp=Z,5µm,36.5s
TBI *e*LQ LQ 06 23 39.1
comp=Z,5µm,37.8s
TBI *e*LR LR 06 26 54.2
comp=Z,46µm,26.5s
TBI *e*LR LR 06 26 57.1
comp=Z,9µm,24.5s
J17K VABM Dome 69.18 333 IAMs_20 IAMs_20 06 39 28.0
comp=Z,3µm,22.0s
J17K VABM Dome 69.18 333 P **P** 06 05 51.3 -0.6
baz=102,SNR=6.9
J17K S **S** 06 14 50.2 -1.4
baz=102
E20K Nigu River 69.25 339 P **P** 06 05 51.9 -0.5
baz=107,SNR=46
E20K S **S** 06 14 53.2 +0.7
baz=107
H18K Honhosa River 69.27 335 IAMs_20 IAMs_20 06 40 11.4
comp=Z,2µm,20.0s
H18K Honhosa River 69.27 335 P **P** 06 05 52.3 -0.1
baz=104,SNR=14

H18K S S 06 14 51.2 -1.5
baz=104
M15K Kasigluk River 69.40 330 P P 06 05 53.1 -0.3
baz=100,SNR=11
M15K S S 06 14 54.2 -0.2
baz=100
S12K Black Hills 69.41 325 P P 06 05 52.7 -0.8
baz=97
S12K S S 06 14 52.1 -2.6
baz=97
E19K Redstone River 69.41 338 P P 06 05 52.7 -0.5
baz=106,SNR=13
E19K S S 06 14 52.5 -1.8
baz=106
F19K Shaleruckik Mo 69.45 337 P P 06 05 53.1 -0.4
baz=105
F19K S S 06 14 54.0 -0.7
baz=105
O14K Tigyukauivet M 69.46 329 P P 06 05 53.3 -0.4
baz=99
O14K S S 06 14 52.4 -2.6
baz=99
D20K Etivluk River 69.53 339 IAmb IAmb 06 05 56.5
comp=Z,160nm,1.3s
D20K Etivluk River 69.53 339 P P 06 05 54.2 +0.1
baz=107,SNR=32
D20K S S 06 14 55.4 -0.4
baz=107
G18K Tagagawik 69.56 336 P P 06 05 54.1 -0.1
baz=104,SNR=24
G18K S S 06 14 56.4 +0.3
baz=104
A22K Sinclair Lake 69.69 341 P P 06 05 54.5 -0.4
baz=109
A22K S S 06 14 58.1 +0.6
baz=109
N14K Kuskokwak Cree 69.77 329 P P 06 05 54.6 -1.0
baz=99
N14K S S 06 14 56.0 -2.7
baz=99
J16K Anvik River 69.83 333 IAMs_20 IAMs_20 06 38 21.2
comp=Z,2µm,22.0s
J16K Anvik River 69.83 333 P P 06 05 56.1 +0.2
baz=101,SNR=18
J16K S S 06 14 59.7 +0.4
baz=101
H17K Granite Mounta 69.86 335 IAMs_20 IAMs_20 06 41 21.1
comp=Z,3µm,20.0s
H17K Granite Mounta 69.86 335 P P 06 05 56.0 -0.1
baz=102,SNR=9.7
H17K S S 06 14 59.9 +0.3
baz=102
L15K Ungalak Mounta 69.95 331 P P 06 05 56.6 -0.1
baz=99
L15K S S 06 15 00.0 -0.7
baz=99
I17K Unalakleet 69.98 333 IAMs_20 IAMs_20 06 40 15.3
comp=Z,4µm,22.0s
I17K Unalakleet 69.98 333 P P 06 05 57.0 +0.1
baz=101,SNR=5.9
I17K S S 06 15 02.3 +1.3
baz=101
D19K Kuna River 70.00 339 IAmb IAmb 06 06 21.3
comp=Z,93nm,1.1s
D19K Kuna River 70.00 339 P P 06 05 56.7 -0.2
baz=105,SNR=14
D19K S S 06 15 01.6 +0.3
baz=105
M14K Bethel 70.03 330 IAmb IAmb 06 06 21.4
comp=Z,104nm,0.9s
M14K Bethel 70.03 330 P P 06 05 57.1 0.0
baz=99,SNR=37
M14K S S 06 15 01.8 +0.1
baz=99
K15K Wolf Creek Mou 70.07 332 IAMs_20 IAMs_20 06 42 44.7
comp=Z,2µm,19.0s
K15K Wolf Creek Mou 70.07 332 P P 06 05 57.4 -0.1
baz=100,SNR=24
K15K S S 06 15 02.5 +0.3
baz=100
B20K Meade River 70.09 340 IAmb IAmb 06 06 21.3
comp=Z,118nm,1.1s
B20K Meade River 70.09 340 P P 06 05 57.6 +0.2
baz=106
B20K S S 06 15 01.7 -0.4
baz=106
FALS False Pass 70.09 324 P P 06 05 57.1 -0.5
baz=95
F18K Selawik 70.12 336 P P 06 05 57.5 0.0
baz=103,SNR=9.1
F18K S S 06 15 01.9 -0.6
baz=103
ALE Alert 70.13 4 P P 06 05 56.3 -1.2
EFI East Falkland 70.14 160 P P 06 05 59.1 +1.3
EFI IAmb IAmb 06 06 00.0
comp=Z,133nm,1.1s
EFI East Falkland 70.14 160 IAMs_20 IAMs_20 06 31 06.6
comp=Z,3µm,21.0s
EFI East Falkland 70.14 160*d* *i*P P 06 05 58.7 +0.8
EFI pmax pmax
comp=Z,153nm,1.1s
EFI East Falkland 70.14 160 P P 06 05 58.2 +0.3
G17K Kiwalik Mounta 70.28 335 P P 06 05 59.0 +0.3
baz=102,SNR=12
G17K S S 06 15 02.9 -1.6
baz=102
BBTS Babate 70.38 79 LR LR 06 31 33.2
comp=Z,2µm,21.9s,baz=276,slow=31
L14K Kuka Creek 70.47 331 IAMs_20 IAMs_20 06 37 50.1
comp=Z,2µm,22.0s
L14K Kuka Creek 70.47 331 P P 06 05 60.0 +0.2
baz=98
L14K S S 06 15 07.0 +0.2
baz=98
E18K Tukpahlearik C 70.66 337 IAMs_20 IAMs_20 06 41 03.2
comp=Z,3µm,21.0s
E18K Tukpahlearik C 70.66 337 P P 06 06 01.4 +0.5
baz=102
E18K S S 06 15 07.3 -1.6
baz=102
M13K Dall Lake 70.66 330 IAmb IAmb 06 06 03.0
comp=Z,102nm,1.1s
M13K Dall Lake 70.66 330 P P 06 06 01.5 +0.5
baz=97,SNR=9.6
M13K S S 06 15 09.0 0.0
baz=97
C19K Lookout Ridge 70.67 339 IAmb IAmb 06 06 26.8
comp=Z,76nm,1.1s
C19K Lookout Ridge 70.67 339 P P 06 06 01.6 +0.5
baz=104,SNR=15
C19K S S 06 15 09.1 0.0
baz=104
F17K Baldwin Pennin 70.71 336 IAMs_20 IAMs_20 06 40 12.5
comp=Z,3µm,22.0s
F17K Baldwin Pennin 70.71 336 P P 06 06 01.8 +0.6
baz=101
F17K S S 06 15 08.0 -1.4
baz=101
H16K Elim 70.78 334 P P 06 06 02.0 +0.3
baz=100,SNR=6.9
H16K S S 06 15 10.1 -0.2
baz=100
G16K Koyuk River 70.96 335 IAMs_20 IAMs_20 06 41 52.1
comp=Z,3µm,21.0s
G16K Koyuk River 70.96 335 P P 06 06 03.0 +0.2
baz=100
G16K S S 06 15 11.6 -0.7
baz=100
E17K Hotham Inlet 71.06 337 P P 06 06 03.1 -0.2
baz=101,SNR=14
E17K S S 06 15 12.7 -0.8
baz=101
J14K Nanvaranak Lak 71.07 332 IAmb IAmb 06 06 06.3
comp=Z,94nm,1.2s
J14K Nanvaranak Lak 71.07 332 P P 06 06 04.0 +0.5
baz=98,SNR=15
J14K S S 06 15 16.5 +2.8
baz=98
C18K Utukok River 71.14 338 P P 06 06 03.4 -0.5
baz=102,SNR=12
C18K S S 06 15 13.1 -1.4
baz=102
A19K Wainwright 71.43 340 P P 06 06 05.6 +0.1
baz=103
A19K S S 06 15 17.9 +0.2
baz=103
K13K Kusilvak Mount 71.47 331 IAMs_20 IAMs_20 06 38 43.8
comp=Z,2µm,21.0s
K13K Kusilvak Mount 71.47 331 P P 06 06 06.3 +0.4
baz=97,SNR=6.2
K13K S S 06 15 17.3 -1.2
baz=97
B18K Kokolik River 71.50 339 P P 06 06 06.5 +0.5
baz=102,SNR=8.4
B18K S S 06 15 19.5 +1.0
baz=102
G15K Niukluk 71.60 334 P P 06 06 06.8 +0.2
baz=98
G15K S S 06 15 19.3 -0.5
baz=98
RDOG Red Dog Mine 71.65 338 P P 06 06 06.5 -0.4
baz=100
D17K Noatak River 71.65 337 P P 06 06 06.6 -0.3
baz=100,SNR=6.2
D17K S S 06 15 15.8 -4.5
baz=100
DBG Daneborg 71.71 16 *i*P P 06 06 06.5 -0.7
DBG IAmb IAmb 06 06 06.9
comp=Z,30nm,1.0s
C17K DeLong Mountai 71.82 338 P P 06 06 07.6 -0.4
baz=100,SNR=6.0
C17K S S 06 15 19.3 -3.0
baz=100
UNV Unalaska Valle 71.82 323 IAmb IAmb 06 06 10.4
comp=Z,120nm,1.4s
UNV Unalaska Valle 71.82 323 P P 06 06 07.5 -0.7
baz=92,SNR=12
UNV S S 06 15 20.6 -2.1
baz=92
F15K North Star Dit 71.95 335 IAmb IAmb 06 06 10.9
comp=Z,97nm,1.3s
F15K IAMs_20 IAMs_20 06 42 21.4
comp=Z,2µm,19.0s
F15K North Star Dit 71.95 335 P P 06 06 08.8 +0.1
baz=98,SNR=12
F15K S S 06 15 21.4 -2.5
baz=98
M11K Mekoryuk 72.07 329 P P 06 06 09.7 +0.2
baz=95
M11K S S 06 15 24.2 -1.1
baz=95
ANM Nome 72.11 334 IAMs_20 IAMs_20 06 41 18.5
comp=Z,3µm,21.0s
ANM Nome 72.11 334 P P 06 06 09.4 -0.3
baz=97
ANM S S 06 15 25.3 -0.4
baz=97
C16K Lisburne Hills 72.58 338 IAmb IAmb 06 07 15.9
comp=Z,98nm,1.4s
C16K Lisburne Hills 72.58 338 P P 06 06 12.1 -0.3
baz=98
F14K Arctic Creek 72.62 335 P P 06 06 13.0 +0.3
baz=96
DAG Danmarks Havn 72.78 13 *i*P P 06 06 11.6 -1.9
DAG IAmb IAmb 06 06 13.6
comp=Z,69nm,0.7s
VAL Valentia 72.97 39 P P 06 06 12.7 -2.3
TNA Tin City 73.29 335 P P 06 06 16.5 -0.1
baz=95
IGLA Glengowla, Co 73.50 38 P P 06 06 15.5 -2.6
P08K Saint George I 73.64 325 P P 06 06 19.1 +0.2
baz=91
SPIA Saint Paul Isl 74.03 326 IAmb IAmb 06 06 25.2
comp=Z,257nm,1.3s
SPIA Saint Paul Isl 74.03 326 P P 06 06 21.4 +0.2
baz=90
LIS Lisbon 74.24 53 *e*P P 06 06 23.1 +0.4
LIS IAMs_20 IAMs_20 06 30 31.7
comp=E,8µm,33.7s
LIS Lisbon 74.24 53 *e*P P 06 06 23.1 +0.4
PARRA Arraiolos 74.31 53 *e*P P 06 06 25.3 +2.0
PARRA *i* IAmb IAmb 06 06 28.6
comp=E,62nm,1.4s
NOR Nord 74.44 8 *i*P P 06 06 22.8 -0.4
NOR IAmb IAmb 06 06 23.7
comp=Z,56nm,0.8s
JMIC Jan Mayen 74.56 20 LR LR 06 40 29.1
comp=Z,2µm,19.0s,baz=254,slow=37
IDGL Inch Island, C 74.57 36 P P 06 06 21.9 -2.5
PFVI Vila Bisbo 74.62 55 IAmb IAmb 06 06 26.9
comp=Z,164nm,1.0s
PFVI Vila Bisbo 74.62 55 *e*P P 06 06 26.5 +1.4
PFVI *e*tx tx 06 06 48.4
PFVI *i* IAmb IAmb 06 07 02.9
comp=Z,143nm,1.5s
PCAS Casmilo, Conde 74.64 52 *e*P P 06 06 23.6 -1.5
PCAS *i* IAmb IAmb 06 06 26.7
comp=Z,235nm,1.1s
PCAS *e*tx tx 06 06 47.4
PGAV Gavieira, Arco 74.67 50 *e*P P 06 06 23.3 -2.0
PGAV *i* IAmb IAmb 06 06 25.2
comp=Z,60nm,1.5s
PGAV *e*tx tx 06 06 48.8
PGAV *e*S S 06 15 56.7 +1.1
PGAV *e*LQ LQ 06 25 55.4
PGAV *e*LR LR 06 29 38.1
PGAV *i* IAMs_20 IAMs_20 06 33 06.4
comp=Z,4µm,22.0s
COI Coimbra 74.69 52 *e*P P 06 06 23.5 -1.9
COI *i* IAmb IAmb 06 06 26.7
comp=Z,225nm,1.4s
COI *e*tx tx 06 06 47.6
MORF Marmelete 74.75 55 *e*P P 06 06 26.2 +0.4
MORF *e*S S 06 15 57.4 +0.8
MORF IAMs_20 IAMs_20 06 30 23.1
comp=Z,7µm,32.0s
MORF Marmelete 74.75 55 *e*P P 06 06 24.7 -1.1
MORF *i* IAmb IAmb 06 06 27.8
comp=Z,150nm,1.3s
MORF *e*tx tx 06 06 49.1
MORF Marmelete 74.75 55 *e*P P 06 06 26.2 +0.4
MORF *e*S S 06 15 57.4 +0.8
GAMB Gambell 74.82 333 IAMs_20 IAMs_20 06 43 45.2
comp=Z,3µm,21.0s
GAMB Gambell 74.82 333 P P 06 06 25.6 0.0
baz=91
PCAB Cabril 74.86 50 *e*P P 06 06 24.5 -1.9
PCAB *i* IAmb IAmb 06 06 27.8
comp=Z,64nm,1.5s
PCAB *e*tx tx 06 06 48.6
LEWI Lewis, Hebride 74.88 33 *e*P P 06 06 23.6 -2.5
LEWI IAmb IAmb 06 06 25.2
comp=Z,34nm,0.8s
PMTG Montargil 74.93 53 *e*P P 06 06 24.8 -1.9
PMTG *i* IAmb IAmb 06 06 27.6
comp=Z,124nm,1.3s
PMTG *e*tx tx 06 06 49.0
PSARD Sardoal 74.93 52 *e*P P 06 06 24.8 -2.0
PSARD *i* IAmb IAmb 06 06 27.5
comp=Z,90nm,1.4s
PSARD *e*tx tx 06 06 49.0
MESJ Messejana 75.04 54 *e*P P 06 06 27.7 +0.2
MESJ *e*S S 06 16 00.5 +0.8
MESJ IAMs_20 IAMs_20 06 30 49.6
comp=Z,6µm,34.1s
MESJ Messejana 75.04 54 *e*P P 06 06 26.1 -1.4
MESJ *i* IAmb IAmb 06 06 28.3
comp=Z,58nm,1.2s
MESJ Messejana 75.04 54 *e*P P 06 06 27.7 +0.2
MESJ *e*S S 06 16 00.5 +0.8
PVIS Viseu 75.04 51 *e*P P 06 06 25.4 -2.1
PVIS *e*tx tx 06 06 52.0
POLO Lamas de Olo 75.06 50 *e*P P 06 06 25.8 -1.8
POLO *e*tx tx 06 06 51.5
POLO *i* IAmb IAmb 06 06 52.4
comp=Z,32nm,1.3s
IWEX Carrickbyrne, 75.09 39 P P 06 06 25.2 -2.2
PVRL Vila Real 75.13 50 *e*P P 06 06 26.0 -2.0
PVRL *e*tx tx 06 06 50.8
EVO Evora 75.14 53 *e*P P 06 06 24.7 -3.3
EVO *e*tx tx 06 06 50.1
ILTH Belurgan, Co L 75.29 37 P P 06 06 25.6 -2.9
DSB Dublin 75.30 38 IAMs_20 IAMs_20 06 41 11.1
comp=Z,2µm,19.0s
PBEJ Beja 75.30 54 *e*P P 06 06 27.4 -1.5
PBEJ *i* IAmb IAmb 06 06 30.4
comp=Z,52nm,1.4s
PBEJ *e*tx tx 06 06 47.9
PBDV Barranco-do-Ve 75.33 55 *e*P P 06 06 27.8 -1.4
PBDV *i* IAmb IAmb 06 06 55.8
comp=Z,101nm,1.4s
CLGH Cloghs, Cushen 75.38 36 *e*P P 06 06 26.9 -2.1
PCBR Castelo Branco 75.44 52 *e*P P 06 06 28.1 -1.6
PCBR *i* IAmb IAmb 06 06 30.4
comp=Z,100nm,1.3s
PCBR *e*tx tx 06 06 52.1
PESTR Estremoz 75.44 53 *e*P P 06 06 28.0 -1.7
PESTR *i* IAmb IAmb 06 06 31.1
comp=Z,96nm,1.3s
PESTR *e*tx tx 06 06 51.9
PVAQ Vaqueiros 75.48 54 *e*P P 06 06 28.2 -1.8
PVAQ *i* IAmb IAmb 06 06 31.7
comp=Z,116nm,1.4s
PVAQ *e*tx tx 06 06 56.1
PVAQ *e*S S 06 16 04.9 +0.3
PVAQ *e*LQ LQ 06 26 20.0
PVAQ *e*LR LR 06 30 06.4
PVAQ *i* IAMs_20 IAMs_20 06 34 26.8
comp=Z,4µm,22.0s
PMRV Marv??o 75.54 52 *e*P P 06 06 28.2 -2.1
PMRV *i* IAmb IAmb 06 06 30.9
comp=Z,82nm,1.3s
PMRV *e*tx tx 06 06 51.9
PMRV *e*S S 06 16 03.6 -1.6
PMRV *e*LR LR 06 30 23.3
PMRV *i* IAMs_20 IAMs_20 06 33 25.7
comp=Z,4µm,24.0s
KPL Plockton 75.55 34 *e*P P 06 06 27.5 -2.4
KPL IAmb IAmb 06 06 29.0
comp=Z,76nm,1.0s
MVO Moncorvo 75.66 51 *e*P P 06 06 29.1 -2.0
MVO *e*tx tx 06 06 53.4
MVO *i* IAmb IAmb 06 06 55.8
comp=Z,83nm,1.1s
MVO *e*S S 06 16 03.1 -3.5
MVO *e*LQ LQ 06 26 11.0
MVO *e*LR LR 06 29 53.0
MVO *i* IAMs_20 IAMs_20 06 35 09.3
comp=Z,3µm,22.0s
PBRG Braganca 75.82 50 *e*P P 06 06 30.0 -1.9
PBRG *i* IAmb IAmb 06 06 32.6
comp=Z,93nm,1.4s
PBRG *e*tx tx 06 06 54.5
PBAR Barrancos 75.94 54 *e*P P 06 06 30.6 -1.9
PBAR *i* IAmb IAmb 06 06 34.0
comp=Z,75nm,1.4s
GAL1 Galloway 76.19 36 *e*P P 06 06 31.0 -2.6
GAL1 IAmb IAmb 06 06 32.3
comp=Z,29nm,0.7s
IOMK Kirk Michael 76.32 37 *e*P P 06 06 32.1 -2.2
IOMK IAmb IAmb 06 06 32.5
comp=Z,15nm,0.8s
BIGH Upper Bighouse 76.43 33 *e*P P 06 06 32.6 -2.3
NEWG New Galloway 76.46 36 *e*P P 06 06 32.4 -2.7
NEWG IAmb IAmb 06 06 34.2
comp=Z,56nm,1.0s
ATKA Atka Island 76.49 321 IAmb IAmb 06 06 37.5
comp=Z,52nm,0.8s
MCD Coleburn Disti 76.83 33 *e*P P 06 06 35.2 -2.1
MCD IAmb IAmb 06 06 37.0
comp=Z,82nm,0.7s
ESK Eskdalemuir 77.03 36 IAMs_20 IAMs_20 06 38 25.7
comp=Z,2µm,22.0s
JOHN Johnston Islan 77.03 284 IAMs_20 IAMs_20 06 31 59.6
comp=Z,2µm,19.0s
EKA Eskdalemuir Ar 77.05 36 P P 06 06 36.0 -2.5
comp=Z,43nm,0.8s,baz=270,slow=5.8,SNR=95
comp=Z,43nm,0.8s
RAR Rarotonga 77.15 244 P P 06 06 40.9 +1.3
comp=Z,18nm,0.8s,baz=90,slow=1.0,SNR=3.7
RAR LR LR 06 31 24.8
comp=Z,3µm,20.8s,baz=76,slow=28
comp=Z,18nm,0.8s
DRUM Mains of Drumt 77.30 34 *e*P P 06 06 37.6 -2.3
DRUM IAmb IAmb 06 06 38.3
comp=Z,70nm,0.6s
ESY Stoneypath 77.31 35 *e*P P 06 06 37.7 -2.3
ADK Adak 78.05 321 P P 06 06 44.4 +0.3
ADK IAmb IAmb 06 06 46.6
comp=Z,88nm,0.6s
ADK Adak 78.05 321 P P 06 06 44.4 +0.3
ADK pmax pmax
comp=Z,88nm,0.6s
ADK MLR MLR
comp=Z,900nm,21.0s
ESDC Sonseca Array 78.15 52 P P 06 06 43.0 -2.0
comp=Z,34nm,0.9s,baz=287,slow=5.2,SNR=61
ESDC LR LR 06 34 52.5
comp=Z,4µm,21.9s,baz=278,slow=31
comp=Z,34nm,0.9s
JSA Saint Aubin 78.26 42 *e*P P 06 06 42.8 -2.5
MDT Midelt 78.58 59 LR LR 06 36 05.0
comp=Z,3µm,20.6s,baz=290,slow=32
KBS Kingsbay 79.23 11 P P 06 06 51.0 +0.9
KBS IAmb IAmb 06 06 52.3
comp=Z,126nm,1.0s
KBS Kingsbay 79.23 11*c* *i*P P 06 06 51.0 +0.9
KBS pmax pmax
comp=Z,136nm,1.0s
KBS Kingsbay 79.23 11⇑ *i*P P 06 06 50.9 +0.7
KBS IVmB_BB 06 06 51.5
comp=Z,1µm,1.1s
KBS *e*S S 06 16 47.3 +3.5
KBS IVMs_BB IVMs_BB 06 41 50.6
comp=Z,2µm,21.9s
KBS Kingsbay 79.23 11 *i*P P 06 06 50.4 +0.2
PMSA Palmer Station 80.14 169 P P 06 06 56.7 +1.7
PMSA IAmb IAmb 06 06 58.1
comp=Z,235nm,1.1s
PMSA Palmer Station 80.14 169 LR LR 06 36 19.9
comp=Z,1µm,18.9s,baz=332,slow=31
PMSA Palmer Station 80.14 169 *e*P P 06 06 57.1 +2.0
SPA0 Spitsbergen Ar 80.29 12 *e*P P 06 06 55.9 0.0
SPA0 IVmB_BB 06 06 57.7
comp=Z,956nm,0.9s
SPA0 *e*S S 06 16 57.6 +2.6
SPA0 IVMs_BB IVMs_BB 06 41 11.2
comp=Z,1µm,25.1s
SPITS Spitsbergen Ar 80.29 12 P P 06 06 55.5 -0.5
comp=Z,22nm,0.5s,baz=191,slow=1.7,SNR=95
SPITS LR LR 06 43 08.0
comp=Z,3µm,21.6s,baz=302,slow=36
comp=Z,22nm,0.5s
SPITS Spitsbergen Ar 80.29 12 P P 06 06 56.2 +0.3
SPITS pmax pmax
comp=Z,103nm,1.0s
HSPB Hornsund (broa 80.48 13 *e*P P 06 06 57.8 +0.9
HSPB *e*S S 06 17 01.5 +4.6
HSPB *e*L L 06 41 07.7
comp=Z,10µm,24.2s
SUE Sulen 80.49 29 *e*P P 06 06 56.2 -1.0
SUE *e*S S 06 16 52.0 -5.5
SUE IVMs_BB IVMs_BB 06 37 31.8
comp=Z,2µm,3.5s
CART Cartagena 80.75 54 IAMs_20 IAMs_20 06 39 17.1
comp=Z,2µm,20.0s
HOPE Hope Point 80.79 152 P P 06 07 00.4 +1.6
HOPE Hope Point 80.79 152 P P 06 07 00.4 +1.6
HOPE pmax pmax
comp=Z,258nm,1.0s
HOPE Hope Point 80.79 152 P P 06 06 59.5 +0.7
ASK Askoy 80.80 30 *e*P P 06 07 00.4 +1.5
ASK *e*S S 06 17 01.5 +0.8
ASK IVMs_BB IVMs_BB 06 36 51.9
comp=Z,1µm,2.9s
BER Bergen 80.89 30 *e*P P 06 06 58.7 -0.7
BER IVmB_BB 06 07 02.5
comp=Z,657nm,1.9s
BER *e*S S 06 17 00.4 -1.3
BER IVMs_BB IVMs_BB 06 38 46.1
comp=Z,2µm,3.1s
KMY Karmoy 81.06 31 *e*P P 06 06 58.8 -1.5
KMY IVmB_BB 06 07 11.8
comp=Z,843nm,4.0s
KMY *e*S S 06 17 02.2 -1.4
KMY IVMs_BB IVMs_BB 06 38 04.6
comp=Z,1µm,21.6s
HYA Hoyanger 81.15 29 *e*P P 06 07 00.5 -0.2
HYA IVmB_BB 06 07 06.0
comp=Z,658nm,2.9s
HYA *e*S S 06 17 06.8 +2.4
HYA IVMs_BB IVMs_BB 06 39 19.9
comp=Z,1µm,3.5s
CLF Chambon-Foret 81.34 43 IAMs_20 IAMs_20 06 36 22.1
comp=Z,2µm,22.0s
ODD1 Odda 81.61 30 *e*P P 06 07 02.8 -0.5
ODD1 IVmB_BB 06 07 10.1
comp=Z,1µm,3.5s

ODD1 eS S 06 17 11.3 +1.9
ODD1 IVMs_BB IVMs_BB 06 38 56.9
comp=Z,1µm,3.3s
BLS5 Blasjo 81.63 31 eP P **06 07 02.5 -0.9**
BLS5 IVMs_BB IVMs_BB 06 38 24.5
comp=Z,1µm,9.3s
BJO1 Bjornoya 82.11 15 eP P **06 07 06.2 +0.6**
BJO1 IVmB_BB 06 07 07.8
comp=Z,696nm,0.8s
BJO1 eS S **06 17 17.1 +3.1**
BJO1 IVMs_BB IVMs_BB 06 41 13.3
comp=Z,1µm,10.3s
MIDW Midway 82.13 297 P P **06 07 08.3 +1.7**
UCC Uccle 82.17 40 dP P **06 07 03.9 -2.4**
SNART Snartemo 82.24 32 eP P **06 07 05.3 -1.2**
SNART eS S **06 17 18.6 +2.8**
SNART IVMs_BB IVMs_BB 06 37 00.3
comp=Z,2µm,23.8s
SNART Snartemo 82.24 32 *i* P P **06 07 04.6 -1.9**
SKAR Skarslia 82.26 29 eP P **06 07 06.1 -0.6**
SKAR IVmB_BB 06 07 07.1
comp=Z,743nm,2.0s
SKAR eS S **06 17 17.3 +1.3**
SKAR IVMs_BB IVMs_BB 06 39 41.9
comp=Z,2µm,20.7s
DOU Dourbes 82.46 40 dP P **06 07 05.3 -2.5**
comp=Z,15nm,1.2s
BMRD Maredsous 82.53 40 dP P **06 07 05.9 -2.3**
LOF Lofoten 82.53 22 eP P **06 07 07.6 -0.2**
LOF IVmB_BB 06 07 12.6
comp=Z,322nm,1.1s
LOF eS S **06 17 20.8 +2.5**
LOF IVMs_BB IVMs_BB 06 35 58.5
comp=Z,1µm,36.2s
HOPEN Hopen 82.68 12 IVmB_BB 06 07 08.9
comp=Z,2µm,1.3s
HOPEN eP P **06 07 09.0 +0.5**
HOPEN eS S **06 17 22.5 +2.8**
HOPEN IVMs_BB IVMs_BB 06 44 10.5
comp=Z,3µm,22.4s
BGES Gesves 82.71 40 dP P **06 07 07.0 -2.2**
comp=Z,28nm,1.1s
VAGH Vaagaholmen 82.84 23 eP P **06 07 09.5 0.0**
VAGH IVmB_BB 06 07 10.9
comp=Z,672nm,3.4s
VAGH eS S **06 17 24.0 +2.5**
VAGH IVMs_BB IVMs_BB 06 35 55.1
comp=Z,1µm,33.3s
RCHB Rochefort 82.84 40 dP P **06 07 07.5 -2.4**
comp=Z,15nm,1.2s
KONS Konsvik 82.84 23 eP P **06 07 09.7 +0.2**
STOK Stokkvaagen 82.85 23 eP P **06 07 09.8 +0.3**
HOMB Homborsund 82.92 32 *i* P P **06 07 06.7 -3.4**
NSS Namsos 82.94 25 eP P **06 07 09.3 -0.7**
LEIR Leirfjorden 82.95 24 eP P **06 07 10.2 +0.1**
BSTI Sart Tilman 82.97 40 dP P **06 07 08.1 -2.4**
BILL Bilibino 83.09 338 P P **06 07 11.0 +0.2**
BILL IAmb IAmb 06 07 11.7
comp=Z,47nm,0.8s
BILL Bilibino 83.09 338*ce*P P **06 07 10.5 -0.3**
BILL pmax pmax
comp=Z,50nm,0.8s
KONO Kongsberg 83.14 30 IAMs_20 IAMs_20 06 40 06.9
comp=Z,2µm,22.0s
KONO Kongsberg 83.14 30*ce*P P **06 07 10.0 -1.2**
KONO pmax pmax
comp=Z,54nm,1.3s
DBIC Dimbokro 83.16 85 P P **06 07 10.8 -1.4**
comp=Z,40nm,0.9s,baz=308,slow=5.2,SNR=18
DBIC LR LR 06 40 47.9
comp=Z,1µm,21.9s,baz=304,slow=33
comp=Z,40nm,0.9s
STEI Steigen 83.20 22 eP P **06 07 11.1 -0.2**
MEM Membach 83.24 40 dP P **06 07 09.8 -2.1**
comp=Z,22nm,1.3s
BHOU Houvegnez 83.29 40 dP P **06 07 08.4 -3.7**
BTNL Ternell 83.32 40 dP P **06 07 09.1 -3.2**
comp=Z,13nm,1.3s
NBO00 NORSAR Array S 83.35 29 IAmb IAmb 06 07 12.9
comp=Z,163nm,1.6s
SSB Saint Sauveur 83.41 45 IAMs_20 IAMs_20 06 38 38.0
comp=Z,3µm,21.0s
NAO01 NORSAR Array S 83.45 29 IAmb IAmb 06 07 14.6
comp=Z,63nm,1.1s
MOR8 Moi Rana 83.45 23 eP P **06 07 12.6 -0.1**
SHEM Shemya Is, Ala 83.49 323 LR LR 06 44 15.5
comp=Z,429nm,21.5s,baz=72,slow=36
SMY Shemya 83.49 323 IAmb IAmb 06 07 14.6
comp=Z,57nm,1.0s
WLF Walferdange 83.53 41 dP P **06 07 11.4 -2.1**
comp=Z,28nm,1.2s
WLF Walferdange 83.53 41 eP P **06 07 12.0 -1.5**
comp=Z,30nm,1.0s,baz=285,slow=5.1
WLF ePP **pP** **06 07 37.7 +3.7**
NB2 NORSAR Subarra 83.55 29 P P **06 07 12.4 -0.9**
comp=Z,105nm,1.7s,baz=287,slow=5.1
NB2 NORSAR Subarra 83.55 29 P P **06 07 12.4 -0.9**
baz=287,slow=5.1
NOA NORSAR Array B 83.55 29 P P **06 07 12.4 -0.9**
comp=Z,20nm,0.8s,baz=288,slow=5.0,SNR=52
NOA PP **PP** **06 10 23.8 -2.5**
comp=Z,1.8nm,1.0s,baz=283,slow=8.2,SNR=3.4
NOA PKKPbc **PKKPbc** **06 25 31.1 -1.9**
comp=Z,3.1nm,1.0s,baz=91,slow=3.9,SNR=3.6
NOA LR LR 06 40 27.0
comp=Z,2µm,21.8s,baz=290,slow=33
comp=Z,20nm,0.8s
NB201 NORSAR Array S 83.59 29 IAmb IAmb 06 07 14.8
comp=Z,43nm,0.8s
MUD Monsted U'grnd 83.71 34 *i* P P **06 07 11.0 -3.1**
MUD IAmb IAmb 06 07 14.9
comp=Z,54nm,1.4s
NC602 NORSAR Array S 83.79 29 eP P **06 07 14.1 -0.4**
BUG Bochum--Univer 83.83 39 eP P **06 07 13.4 -1.4**
comp=Z,55nm,1.3s,baz=285,slow=5.1
BUG ePP **pP** **06 07 36.7 +1.3**
IBBN Ibbenburen 83.92 38 eP P **06 07 13.8 -1.5**
comp=Z,20nm,0.9s,baz=285,slow=5.1
IBBN ePP **sP** **06 07 39.9 -4.2**
IBBN ePP **PP** **06 10 29.4 -0.1**
STRU Stroemstad 84.08 31 *i* P P **06 07 14.5 -1.5**
SSRD Sdr. Stenderup 84.21 34 *i* P P **06 07 14.9 -1.8**
SSRD IAmb IAmb 06 07 19.9
comp=Z,45nm,0.9s
JETT Jettan, Norway 84.39 19 eP P **06 07 17.8 +0.3**
ECH Echery 84.51 42 IAMs_20 IAMs_20 06 44 43.0
comp=Z,2µm,20.0s
KASTN Kahler Asten 84.58 39 eP P **06 07 17.1 -1.7**
comp=Z,9.2nm,0.8s,baz=285,slow=5.1
TNS Taunus Mts 84.84 40 eP P **06 07 18.6 -1.6**
comp=Z,19nm,0.9s,baz=285,slow=5.1
ONAU Onsala 84.91 32 *i* P P **06 07 19.9 -0.3**
HFS Hagfors 84.99 29 P P **06 07 19.4 -1.1**
comp=Z,37nm,0.9s,baz=259,slow=1.5,SNR=33
HFS LR LR 06 41 59.5
comp=Z,2µm,21.4s,baz=278,slow=33
comp=Z,37nm,0.9s
BSEG Bad Segeberg 85.00 36 eP P **06 07 19.6 -1.1**
comp=Z,22nm,1.0s,baz=285,slow=5.1
BSEG ePP **sP** **06 07 45.8 -3.7**
SENIN Lac Senin/Sane 85.04 44 IAMs_20 IAMs_20 06 41 01.2
comp=Z,2µm,20.0s
BFO Black Forest 85.24 42 IAMs_20 IAMs_20 06 44 32.3
comp=Z,2µm,20.0s
BFO Black Forest 85.24 42 eP P **06 07 19.9 -2.3**
comp=Z,22nm,1.1s,baz=285,slow=5.1
BFO ePP **PP** **06 10 44.7 +4.3**
NRDL Niedersach Rie 85.26 37 eP P **06 07 21.0 -1.0**
comp=Z,19nm,1.0s,baz=285,slow=5.1
NRDL ePP **sP** **06 07 48.2 -2.6**
BORU Boraas 85.28 32 *i* P P **06 07 20.4 -1.7**
GTTG Gottingen 85.43 38 eP P **06 07 21.8 -1.2**
comp=Z,12nm,0.8s,baz=285,slow=5.1
GTTG ePP **sP** **06 07 48.1 -3.7**
GTTG ePP **PP** **06 10 41.8 +0.1**
FABU Falkenberg 85.44 32 *i* P P **06 07 21.2 -1.6**
KTK1 Kautokeino 85.53 19 eP P **06 07 22.6 -0.5**
CLZ Clausthal 85.60 38 eP P **06 07 22.8 -1.0**
comp=Z,12nm,0.8s,baz=285,slow=5.1
CLZ ePP **pP** **06 07 46.9 +2.5**
UBBA Unterbreizbach 85.65 39 eP P **06 07 22.3 -1.6**
comp=Z,4.4nm,0.8s,baz=285,slow=5.1
COP Copenhagen 85.68 34 *i* P P **06 07 22.4 -1.7**
COP IAmb IAmb 06 07 24.9
comp=Z,66nm,0.7s
STU Stuttgart 85.69 41 IAMs_20 IAMs_20 06 41 57.0
comp=Z,2µm,21.0s
ASSE Asse, Remlinge 85.70 37 eP P **06 07 23.0 -1.2**
comp=Z,19nm,1.0s,baz=285,slow=5.1
ASSE ePP **sP** **06 07 49.4 -3.6**
FLTG Flechtingen 85.97 37 eP P **06 07 24.0 -1.6**
comp=Z,28nm,0.9s,baz=285,slow=5.1
AFI Afiamalu 85.98 255 P P **06 07 28.1 +1.7**
AFI Afiamalu 85.98 255 IAMs_20 IAMs_20 06 35 28.0
comp=Z,2µm,22.0s
AFI Afiamalu 85.98 255 P P **06 07 28.1 +1.7**
AFI pmax pmax
comp=Z,168nm,1.3s
ARA0 ARCESS Array S 86.02 19 eP P **06 07 25.0 -0.6**
ARCES ARCESS Array B 86.02 19 P P **06 07 24.8 -0.8**
comp=Z,7.5nm,0.5s,baz=288,slow=4.5,SNR=53
ARCES PP **PP** **06 10 43.5 -2.5**
comp=Z,18nm,1.0s,baz=309,slow=6.1,SNR=5.5
ARCES S **SKSac** **06 17 43.0 -1.5**
comp=Z,5.9nm,0.9s,baz=33,slow=18,SNR=3.7
ARCES LR LR 06 46 17.8
comp=Z,840nm,18.4s,baz=302,slow=36
comp=Z,7.5nm,0.5s
DEL Delary 86.21 33 *i* P P **06 07 24.8 -1.9**
LUNU Lund 86.25 34 *i* P P **06 07 25.2 -1.7**
KEV Kevo 86.37 18 IAMs_20 IAMs_20 06 49 59.7
comp=Z,2µm,22.0s
RGN Rugen 86.51 35 IAMs_20 IAMs_20 06 42 09.4
comp=Z,2µm,21.0s
DAVA Damuels 86.52 42 *i* P P **06 07 27.4 -1.3**
comp=Z,22nm,0.7s,SNR=18
DAVA ePKKP **PKKPbc** **06 25 25.9 +0.2**
comp=Z,9.3nm,1.1s
DAVOX Davos/Dischmat 86.66 43 LR LR 06 41 23.7
comp=Z,2µm,21.9s,baz=284,slow=32
MOX Moxa 86.68 39 eP P **06 07 27.9 -1.3**
comp=Z,14nm,1.0s,baz=285,slow=5.1
MOX ePP **sP** **06 07 53.6 -4.5**
GRA1 Grafenberg Arr 86.71 40 IAMs_20 IAMs_20 06 42 41.1
comp=Z,2µm,21.0s
GRF Grafenberg Arr 86.71 40 eP P **06 07 28.3 -1.0**
comp=Z,14nm,0.8s,baz=285,slow=5.1
GRFO Grafenberg 86.71 40 IAMs_20 IAMs_20 06 42 41.1
comp=Z,2µm,22.0s
VADS Vadso 86.89 17 eP P **06 07 29.3 -0.4**
FUORN Ofenpass-Fuorn 86.96 43 IAMs_20 IAMs_20 06 50 08.7
comp=Z,2µm,19.0s
RETA Reutte 87.04 42 *i* P P **06 07 29.5 -1.6**
comp=Z,31nm,0.7s,SNR=16
FETA Feichten 87.15 42 *i* P P **06 07 30.1 -1.6**
comp=Z,12nm,0.6s,SNR=13
FETA ePKKP **PKKPbc** **06 25 23.8 -0.5**
comp=Z,1.2nm,0.7s
MANZ Manzenberg 87.18 39 eP P **06 07 30.5 -1.2**
comp=Z,2.3nm,0.8s,baz=285,slow=5.1
BLEU Blekinge 87.29 33 *i* P P **06 07 30.2 -1.7**
ROTZ Rotzenmuhle 87.30 39 epP **pP** **06 07 54.5 +1.6**
ROTZ ePP **PP** **06 10 55.1 -1.9**
MOTA Moosalm 87.31 42 *i* P P **06 07 30.6 -1.9**
comp=Z,8.2nm,0.7s,SNR=18
MOTA ePKKP **PKKPbc** **06 25 22.6 -1.3**
comp=Z,2.8nm,0.6s
CLL Collm 87.32 38 IAMs_20 IAMs_20 06 43 27.1
comp=Z,2µm,22.0s
CLL Collm 87.32 38 *i* P P **06 07 30.6 -1.6**
CLL *i* *PP **pP** **06 07 56.3 +3.4**
CLL *e* 06 17 48.0
CLL eS **SKSac** **06 18 01.0 +7.9**
CLL pmax pmax
comp=Z,29nm,0.8s
CLL MLR MLR
comp=Z,2µm,21.6s
CLL Collm 87.32 38 eP P **06 07 31.0 -1.2**
comp=Z,17nm,0.7s,baz=285,slow=5.1
CLL epP **pP** **06 07 55.6 +2.6**
SQTA Sankt Quirin 87.41 42 *i* P P **06 07 31.2 -1.7**
comp=Z,14nm,0.6s,SNR=11
SQTA ePKKP **PKKPbc** **06 25 22.9 -0.7**
comp=Z,4.8nm,0.5s
WATA Walderalm 87.62 42 *i* PKKP 06 25 22.6
comp=Z,12nm,1.4s
WTTA Wattenberg 87.68 42 *i* P P **06 07 32.8 -1.5**
comp=Z,11nm,0.8s,SNR=7.4
WTTA ePKKP **PKKPbc** **06 25 22.9 -0.1**
comp=Z,13nm,1.2s
WET Wettzell 87.91 40 eP P **06 07 34.2 -1.0**
comp=Z,28nm,1.0s,baz=285,slow=5.1
WET epP **sP** **06 08 00.5 -3.6**
BRG Berggiesshubel 88.02 38 eP P **06 07 34.7 -0.9**
comp=Z,7.9nm,0.7s,baz=285,slow=5.1
BRG ePP **PP** **06 11 03.3 +0.6**
BRG Berggiesshubel 88.02 38 eP P **06 07 34.4 -1.1**
BRG Amp 06 07 37.1
comp=Z,13nm,0.8s
BRG Berggiesshubel 88.02 38 Amp 06 11 04.8
comp=Z,11nm,0.9s
BRG Berggiesshubel 88.02 38 SP **SPn** **06 19 11.0 -2.8**
BRG Berggiesshubel 88.02 38 PS PS 06 19 27.0 +1.7
BRG Berggiesshubel 88.02 38 SS SS 06 24 05.0 +3.0
BRG Berggiesshubel 88.02 38 P P 06 07 53.7 +18
BRG Berggiesshubel 88.02 38 Amp 06 07 55.4
comp=Z,10nm,0.9s
BRG Berggiesshubel 88.02 38 pP pP 06 08 00.7 +4.4
BRG Berggiesshubel 88.02 38 Amp 06 08 01.5
comp=Z,11nm,0.8s
BRG Berggiesshubel 88.02 38 PP PP 06 11 03.1 +0.4
TORD Torodi Ar. Bea 88.04 77 P P **06 07 33.8 -2.6**
comp=Z,7.1nm,0.8s,baz=300,slow=5.8,SNR=14
TORD PKKPbc **PKKPbc** **06 25 23.5 +2.6**
comp=Z,1.1nm,0.3s,baz=57,slow=5.5,SNR=4.8
TORD PKPPKP **P'P'df** **06 33 26.7 -4.4**
comp=Z,0.8nm,0.3s,baz=49,slow=6.7,SNR=3.8
TORD LR LR 06 46 32.0
comp=Z,978nm,18.4s,baz=284,slow=35
comp=Z,7.1nm,0.8s
RICC Richard 88.22 38 eP P **06 07 35.7 -0.8**
RICC AMS AMS 06 42 00.0
comp=Z,2µm,21.6s
RJOB Jochberg 88.28 41 eP P **06 07 35.6 -1.4**
comp=Z,12nm,0.8s,baz=285,slow=5.1
RJOB epP **sP** **06 08 02.5 -3.4**
LESA Schwarzleotal 88.30 42 *i* P P **06 07 35.5 -1.6**
comp=Z,47nm,1.8s,SNR=13
LESA ePKKP **PKKPbc** **06 25 20.9 -0.5**
comp=Z,2.5nm,0.5s
KHC Kasperske Hory 88.35 40 eP P **06 07 35.7 -1.5**
KHC eSP **pP** **06 08 00.6 +2.6**
KHC *ex* x 06 11 07.5
KHC eSKS **SKSac** **06 17 54.2 -5.4**
KHC AMS AMS 06 42 50.0
comp=Z,2µm,21.0s
KHC Kasperske Hory 88.35 40*c* P P **06 07 35.7 -1.5**
KHC pmax pmax
comp=Z,28nm,1.3s
ABTA Abfaltersbach 88.40 42 *i* P P **06 07 35.9 -1.7**
comp=Z,21nm,1.1s,SNR=17
ABTA ePKKP **PKKPbc** **06 25 21.0 -0.1**
comp=Z,12nm,1.2s
PVCC Panska Ves 88.51 38 eP P **06 07 36.2 -1.7**
PVCC AMS AMS 06 42 20.0
comp=Z,2µm,23.0s
PVCC Panska Ves 88.51 38 eP P **06 07 36.2 -1.7**
PVCC MLR MLR
comp=Z,2µm,23.0s
GEC2 GERESS Array S 88.52 40 eP P **06 07 36.8 -1.4**
comp=Z,14nm,0.9s,baz=285,slow=5.1
GEC2 epP **pP** **06 08 02.5 +3.6**
GERES GERESS Array B 88.52 40 P P **06 07 36.7 -1.4**
comp=Z,13nm,1.0s,baz=298,slow=2.9,SNR=35
GERES PKKPbc **PKKPbc** **06 25 20.7 -0.3**
comp=Z,2.3nm,0.9s,baz=153,slow=0.9,SNR=12
GERES PKPPKP **P'P'df** **06 33 29.1 -0.2**
comp=Z,0.2nm,0.3s,baz=146,slow=2.9,SNR=5.3
GERES LR LR 06 42 32.3
comp=Z,2µm,21.9s,baz=286,slow=32
comp=Z,13nm,1.0s
ZVC Zvikov 88.63 39 eP P **06 07 37.3 -1.2**
ZVC eSKS **SKSac** **06 17 57.8 -3.4**
ZVC AMS AMS 06 43 30.0
comp=Z,3µm,21.5s
PRU Pruhonice 88.67 39 eP P **06 07 37.0 -1.7**
PRU eSP **pP** **06 08 03.0 +3.6**
PRU eSKS **SKSac** **06 17 59.6 -1.7**
PRU AMS AMS 06 43 50.0
comp=Z,2µm,21.7s
PRU Pruhonice 88.67 39 eP P **06 07 37.0 -1.7**
PRU *e*PP **pP** **06 08 03.0 +3.6**
PRU *e* 06 17 59.6
PRU MLR MLR
comp=Z,2µm,21.7s
GOPC GO Pecny, Ondr 88.84 39 eP P **06 07 37.8 -1.7**
GOPC AMS AMS 06 43 50.0
comp=Z,2µm,21.7s
GOPC GO Pecny, Ondr 88.84 39 eP P **06 07 37.8 -1.7**
GOPC MLR MLR
comp=Z,2µm,21.7s
CKRC Cesky Krumlov 88.91 40 eP P **06 07 37.7 -2.1**
CKRC eSKS **SKSac** **06 17 58.7 -4.1**
CKRC AMS AMS 06 41 10.0
comp=Z,2µm,20.9s
CKRC Cesky Krumlov 88.91 40 eP P **06 07 37.7 -2.1**
CKRC *e* 06 17 58.7
CKRC MLR MLR
comp=Z,2µm,20.9s
MYKA Terra Mystica 89.18 42 *i* P P **06 07 39.1 -2.2**
comp=Z,11nm,0.8s,SNR=12
MYKA ePKKP **PKKPbc** **06 25 19.1 -0.1**
comp=Z,3.3nm,0.9s
MOA Molln 89.19 41 *i* P P **06 07 39.2 -2.0**
comp=Z,11nm,1.2s,SNR=5.6
ROBS Robic 89.21 43 eP P **06 07 39.0 -2.3**
ROBS eS **SKSac** **06 18 02.9 -1.8**
KEST Kesra 89.27 54 P P **06 07 39.8 -2.2**
comp=Z,13nm,0.8s,baz=269,slow=4.8,SNR=12
KEST S **SKSac** **06 18 03.0 -2.7**
comp=Z,1.3nm,0.7s,baz=289,slow=16,SNR=7.4
KEST PKPPKP 06 33 27.0
comp=Z,3.9nm,0.9s,baz=155,slow=2.4,SNR=4.1
KEST LR LR 06 43 26.9
comp=Z,1µm,19.9s,baz=285,slow=33
comp=Z,13nm,0.8s
TAM Tamanrasset 89.34 67 IAMs_20 IAMs_20 06 46 27.3
comp=Z,1µm,20.0s
CHVC Chvalec 89.38 38 AMS AMS 06 43 00.0
comp=Z,2µm,22.0s
UPC Upice 89.38 38 eP P **06 07 40.0 -2.0**
UPC eSKS **SKSac** **06 18 02.3 -3.3**
UPC AMS AMS 06 46 00.0
comp=Z,2µm,20.0s
UPC Upice 89.38 38 eP P **06 07 40.0 -2.0**
UPC *e* 06 18 02.3
UPC MLR MLR
comp=Z,2µm,20.0s
KSP Ksiaz 89.44 38 eP P **06 07 40.8 -1.5**
KSP eS **SKSac** **06 18 04.2 -1.7**
KSP eL L 06 40 57.3
comp=Z,2µm,27.4s
TREC Trest 89.48 39 AMS AMS 06 43 50.0
comp=Z,2µm,20.8s
OSTC Ostas 89.49 38 eP P **06 07 41.5 -1.0**
OSTC eSKS **SKSac** **06 18 04.6 -1.6**
OSTC AMS AMS 06 43 00.0
comp=Z,2µm,21.8s
OSTC Ostas 89.49 38 eP P **06 07 41.5 -1.0**
OSTC *e* 06 18 04.6
OSTC MLR MLR
comp=Z,2µm,21.8s
APA Apatity 89.52 19 eP P **06 07 40.6 -1.7**
APA eS S **06 18 26.9 +0.3**
APA eSS **SS** **06 24 22.8 0.0**
DPC Dobruska-Polom 89.62 38 eP P **06 07 42.3 -0.9**
DPC eSP **pP** **06 08 06.3 +2.3**
DPC AMS AMS 06 42 50.0
comp=Z,2µm,21.1s
DPC Dobruska-Polom 89.62 38 eP P **06 07 42.3 -0.9**
DPC *e*PP **pP** **06 08 06.3 +2.3**
DPC MLR MLR
comp=Z,2µm,21.1s
LVZ Lovozero 89.71 18 IAMs_20 IAMs_20 06 47 31.1
comp=Z,2µm,21.0s
LVZ Lovozero 89.71 18*ce*P P **06 07 41.8 -1.5**
LVZ pmax pmax
comp=Z,120nm,1.3s
SKDS Skadanscina 89.77 43 eP P **06 07 42.0 -2.0**
SKDS eS **SKSac** **06 18 04.6 -3.5**
OBKA Obir 89.81 42 *i* P P **06 07 42.5 -1.7**
comp=Z,15nm,1.0s,SNR=12
KRLC Kraliky 90.00 38 eP P **06 07 43.7 -1.3**
KRLC AMS AMS 06 45 10.0
comp=Z,2µm,20.8s
KRLC Kraliky 90.00 38 eP P **06 07 43.7 -1.3**
KRLC MLR MLR
comp=Z,2µm,20.8s
FINES FINESS Array B 90.05 26 P P **06 07 43.7 -1.2**
comp=Z,16nm,1.0s,baz=290,slow=4.0,SNR=21
FINES PP **PP** **06 11 15.6 -2.9**
comp=Z,8.0nm,0.9s,baz=298,slow=4.1,SNR=4.9
FINES S **SKSac** **06 18 03.1 -5.9**
comp=Z,1.6nm,0.8s,baz=243,slow=18,SNR=1.4
FINES PKKPbc **PKKPbc** **06 25 15.3 -2.1**
comp=Z,5.1nm,0.9s,baz=146,slow=8.2,SNR=7.0
FINES LR LR 06 46 38.4
comp=Z,3µm,21.3s,baz=289,slow=35
comp=Z,16nm,1.0s
SOKA Soboth 90.07 42 *i* P P **06 07 43.2 -2.2**
comp=Z,23nm,1.5s,SNR=14
SOKA ePKKP **PKKPbc** **06 25 17.3 +0.2**
comp=Z,6.7nm,1.0s
KRUC Moravsky 90.12 39 eP P **06 07 43.7 -1.8**
KRUC ePKKP **PKKPbc** **06 25 16.9 0.0**
VRAC Vranov 90.15 39 eP P **06 07 44.0 -1.7**
VRAC ePKKP **PKKPbc** **06 25 16.9 +0.1**
VRAC Vranov 90.15 39 P P **06 07 44.2 -1.5**
comp=Z,13nm,0.9s,baz=290,slow=5.0,SNR=10
VRAC LR LR 06 45 17.8
comp=Z,2µm,20.7s,baz=290,slow=34
comp=Z,13nm,0.9s
VRAC Vranov 90.15 39 ||P P **06 07 44.7 -0.9**
CONA Conrad Observa 90.18 40 *i* P P **06 07 44.7 -1.2**
comp=Z,15nm,1.1s,SNR=6.3
CONA ePKKP **PKKPbc** **06 25 16.2 -0.6**
comp=Z,3.5nm,1.0s
SEY Seymchan 90.47 336 LR LR 06 52 22.9
comp=Z,2µm,22.0s,baz=49,slow=38
SEY Seymchan 90.47 336*c* P P **06 07 46.5 -0.3**
SEY pmax pmax
comp=Z,28nm,0.8s
RONA Rosalia, Austr 90.53 41 *i* P P **06 07 46.3 -1.2**
comp=Z,37nm,1.8s,SNR=8.3
MORC Moravsky Berou 90.56 38 eP P **06 07 46.0 -1.6**
MORC ePKKP **PKKPbc** **06 25 15.7 -0.2**
MORC Moravsky Berou 90.56 38 ||P P **06 07 46.7 -0.9**
STEB Steborice 90.64 38 eP P **06 07 46.8 -1.1**
GOLS Golise 90.68 42 eP P **06 07 46.6 -1.6**
MAUC Maruska 90.89 39 eP P **06 07 48.3 -0.8**
OKC Ostrava-Krasne 90.91 38 eP P **06 07 47.6 -1.5**
OKC eSKS **SKSac** **06 18 11.9 -2.5**
OKC AMS AMS 06 46 40.0
comp=Z,2µm,19.8s
OKC Ostrava-Krasne 90.91 38 eP P **06 07 47.6 -1.5**
OKC *e* 06 18 11.9
OKC MLR MLR
comp=Z,2µm,19.8s
MODS Modra-Piesok 90.91 40 eP P **06 07 46.0 -3.2**
MODS pmax pmax
comp=Z,27nm,1.0s
MODS Modra-Piesok 90.91 40 eP P **06 07 46.0 -3.2**
MODS ePP **PP** **06 11 26.2 +0.5**
JAVC Velka Javorina 90.98 39 eP P **06 07 47.2 -2.4**
JAVC ePKKP **PKKPbc** **06 25 15.1 +0.3**
TIXI Tiksi 91.49 349 LR LR 06 52 41.3
comp=Z,3µm,20.6s,baz=52,slow=38
TIXI Tiksi 91.49 349*ce*P P **06 07 49.8 -1.6**
TIXI pmax pmax
comp=Z,47nm,0.9s
OJC Ojcow 91.75 37 eP P **06 07 51.6 -1.4**
OJC eS **SKSac** **06 18 16.7 -2.5**
OJC eL L 06 44 18.8
comp=Z,2µm,23.4s
VSU Vasula 91.78 28 *i* P P **06 07 50.2 -2.7**
VSU pmax pmax
comp=Z,110nm,1.3s
VYHS Vyhne 91.83 39 eP P **06 07 52.0 -1.5**
VYHS pmax pmax
comp=Z,14nm,1.4s
VYHS Vyhne 91.83 39 eP P **06 07 52.0 -1.5**
VYHS ePP **PP** **06 11 34.0 +1.0**
LANS Liptovska Anna 91.96 38 eP P **06 07 53.9 -0.2**
LANS pmax pmax
comp=Z,13nm,1.3s
LANS Liptovska Anna 91.96 38 eP P **06 07 53.9 -0.2**
LANS ePP **PP** **06 11 35.4 +1.4**

FUTU **Fugatoga** 92.05 256 IAMs_20 IAMs_20 06 42 00.9
comp=Z,1µm,20.0s
SUW **Suwalki** 92.07 33 eP P **06 07 53.7 -0.7**
SUW **Suwalki** 92.07 33 IAMs_20 IAMs_20 06 46 30.4
comp=Z,2µm,21.0s
PET **Petropavlovsk** 92.21 326 d iP P **06 07 56.4 +1.3**
PET e*PP pP **06 08 14.7 -1.1**
PET e 06 11 35.6
PET e 06 18 21.9
PET eS S **06 18 53.1 +1.5**
PET pmax pmax
comp=Z,200nm,6.5s
PET pmax pmax
comp=Z,200nm,16.1s
PET pmax pmax
comp=Z,100nm,16.0s
NIE **Niedzica** 92.36 38 eP P **06 07 55.3 -0.7**
MORH **Mrgy, Hungar** 92.57 41 ⇑P P **06 07 54.7 -2.1**
VAE **Valguarnera** 92.64 51 LR LR 06 43 39.8
comp=Z,5µm,21.8s,baz=312,slow=32
PETK **Petropavlovsk-** 92.69 326 P P **06 07 57.7 +0.4**
PETK **Petropavlovsk-** 92.69 326 P P **06 07 57.6 +0.3**
comp=Z,13nm,0.9s,baz=63,slow=9.8,SNR=15
PETK PP PP **06 11 36.6 -3.0**
comp=Z,8.8nm,1.1s,baz=58,slow=14,SNR=3.6
PETK LR LR 06 52 19.8
comp=Z,405nm,19.8s,baz=54,slow=37
comp=Z,13nm,0.9s
PSZ **Piszkesteto** 92.70 39 IAmb IAmb 06 07 59.6
comp=Z,38nm,1.3s
PSZ IAMs_20 IAMs_20 06 44 59.6
comp=Z,1µm,22.0s
PSZ **Piszkesteto** 92.70 39 ⇑P P **06 07 56.4 -1.2**
CUC **Castrocucco** 92.85 48 IAMs_20 IAMs_20 06 46 42.1
comp=Z,2µm,20.0s
MA2 **Magadan** 92.90 334 IAMs_20 IAMs_20 06 56 40.1
comp=Z,1µm,22.0s
MA2 **Magadan** 92.90 334 LR LR 06 54 35.0
comp=Z,682nm,21.9s,baz=52,slow=39
MA2 **Magadan** 92.90 334 ceP P **06 07 57.8 -0.3**
MA2 pmax pmax
comp=Z,8.0nm,0.7s
STHS **Stebnicka Huta** 92.92 38 eP P **06 07 56.6 -1.9**
STHS pmax pmax
comp=Z,7.0nm,1.2s
STHS **Stebnicka Huta** 92.92 38 eP P **06 07 56.6 -1.9**
STHS ePP PP **06 11 40.9 -0.6**
WDD **Wied Dalam** 93.26 52 IAMs_20 IAMs_20 06 46 49.1
comp=Z,1µm,20.0s
KWP **Kalwaria Pacla** 93.70 37 eP P **06 08 00.9 -1.2**
KOLS **Kolonicke sedl** 93.74 38 eP P **06 08 03.3 +1.0**
KOLS pmax pmax
comp=Z,17nm,1.1s
KOLS **Kolonicke sedl** 93.74 38 eP P **06 08 03.3 +1.0**
KOLS ePP PP **06 11 48.1 +0.2**
TIP **Timpagrande** 93.81 48 ⇑P P **06 08 00.3 -2.6**
MNK **Minsk** 94.28 31 i P P **06 08 01.6 -3.0**
comp=E,16nm,0.8s
MNK i P P **06 08 01.6 -3.0**
comp=N,36nm,0.8s
MNK i P P **06 08 01.6 -3.0**
comp=Z,57nm,0.7s,baz=300
MNK i pP pP **06 08 23.3 -2.1**
MNK i sP sP **06 08 32.1 -1.4**
MNK i PP PP **06 11 48.9 -3.0**
MNK i PPP PPP 06 13 49.6
MNK i S SKSac **06 18 28.7 -4.2**
MNK i sS S **06 19 07.9 -2.0**
MNK i PS PS **06 20 36.0 +1.6**
MNK i SS SS **06 25 28.4 -3.4**
MNK **Minsk** 94.28 31 i P P **06 08 01.5 -3.0**
MNK i *PP pP **06 08 23.2 -2.1**
MNK i *SP sP **06 08 32.1 -1.4**
MNK i 06 11 48.9
MNK i S SKSac **06 18 28.7 -4.2**
MNK i *SS S **06 19 07.9 -2.0**
MNK i PS PS **06 20 36.0 +1.6**
MNK i SS SS **06 25 28.3 -3.4**
MNK pmax pmax
comp=E,16nm,0.8s
MNK pmax pmax
comp=N,36nm,0.8s
MNK pmax pmax
comp=Z,57nm,0.7s
BZS **Buzias** 94.71 41 ⇑P P **06 08 04.8 -2.0**
SURR **Surduc** 94.98 41 ⇑P P **06 08 05.0 -2.9**
RAO **Raoul Island** 95.14 241 LR LR 06 40 36.5
comp=Z,2µm,21.9s,baz=76,slow=29
MARR **Marisel-Cluj** 95.22 40 ⇑P P **06 08 07.2 -2.0**
GZR **Gura Zlata** 95.55 41 ⇓P P **06 08 09.0 -1.7**
KLMR **Klimovskoe** 95.76 23 eP P **06 08 08.2 -3.0**
KLMR e*PP pP **06 08 29.8 -2.2**
KLMR e 06 11 59.2
KLMR S SKSac **06 18 36.8 -3.7**
KLMR pmax pmax
comp=Z,39nm,1.2s
BURAR **Bucovina Array** 96.08 38 ⇑P P **06 08 11.7 -1.4**
MSVF **Nonsavu** 96.38 253 P P **06 08 17.5 +2.6**
MSVF IAmb IAmb 06 08 19.5
comp=Z,79nm,1.5s
MSVF **Nonsavu** 96.38 253 P P **06 08 17.5 +2.6**
MSVF pmax pmax
comp=Z,79nm,1.5s
ARR **Arges** 96.74 40 ⇑P P **06 08 14.3 -1.8**
KIEV **Kiev** 96.90 34 IAMs_20 IAMs_20 06 49 35.3
comp=Z,2µm,22.0s
KIEV **Kiev** 96.90 34 ⇑P P **06 08 14.6 -1.9**
KIEV **Kiev** 96.90 34 P P **06 08 13.9 -2.6**
AKASG **Malin Array Be** 96.90 34 P P **06 08 13.8 -2.8**
comp=Z,2.4nm,0.6s,baz=287,slow=3.5,SNR=14
AKASG PP PP **06 12 06.0 -6.3**
comp=Z,2.1nm,0.7s,baz=304,slow=6.8,SNR=4.9
AKASG S SKSac **06 18 40.4 -6.6**
comp=Z,0.3nm,0.3s,baz=270,slow=0.6,SNR=1.1
AKASG PKKPbc PKKPbc **06 24 58.1 -1.1**
comp=Z,6.6nm,0.8s,baz=89,slow=2.5,SNR=17
AKASG LR LR 06 50 07.7
comp=Z,1µm,20.8s,baz=293,slow=34
comp=Z,2.4nm,0.6s
AKBB **Malin Array Si** 96.90 34 c iP P **06 08 13.7 -2.9**
AKBB pmax pmax
comp=Z,18nm,1.6s
DOPR **Dopca** 96.94 40 ⇑P P **06 08 15.2 -1.8**
VOIR 96.97 40 ⇓P P **06 08 15.8 -1.4**
MLR **Muntele Rosu** 97.50 40 IAMs_20 IAMs_20 06 51 13.6
comp=Z,2µm,22.0s
MLR **Muntele Rosu** 97.50 40 LR LR 06 50 35.9
comp=Z,1µm,20.4s,baz=297,slow=34
MLR **Muntele Rosu** 97.50 40 ⇑P P **06 08 18.4 -1.2**
OBN **Obninsk** 98.14 28 P P **06 08 20.0 -2.0**
comp=Z,20nm,0.4s,baz=37,slow=5.1,SNR=9.5
OBN LR LR 06 49 29.4
comp=Z,2µm,21.8s,baz=241,slow=34
comp=Z,20nm,0.4s
OBN **Obninsk** 98.14 28 deP P **06 08 21.0 -1.0**
OBN e*PP pP **06 08 42.5 -0.4**
OBN i *SP sP **06 08 54.4 +3.4**
OBN 06 12 22.0
OBN PPP PPP 06 14 30.0
OBN i 06 18 51.2
OBN S S 06 19 33.0 -10
OBN i PS PS **06 21 13.3 -3.0**
OBN eSS SS 06 26 38.8 +13
OBN eSSS SSS 06 30 07.8
OBN pmax pmax
comp=Z,37nm,1.1s
OBN MLR MLR
comp=Z,2µm,19.0s
MOS **Moscow** 98.23 27 eP P **06 08 20.5 -2.0**
MOS e 06 08 39.2
MOS e 06 12 25.7
MOS pmax pmax
comp=Z,64nm,1.3s
MOS MLR MLR
comp=Z,2µm,20.0s
EDA **Edea** 98.37 84 IAmb IAmb 06 08 24.9
comp=Z,25nm,1.1s
MILM **Milestii Mici** 98.57 38 eP P **06 08 20.0 -4.2**
MILM epP pP **06 08 48.0 +3.0**
MILM **Milestii Mici** 98.57 38 i PS PS 06 21 19.0 -2.4
MILM **Milestii Mici** 98.57 38 eP P **06 08 20.0 -4.2**
MILM e*PP pP **06 08 48.0 +3.0**
MILM i 06 18 54.0
MILM i PS PS 06 21 49.0 +28
MILM ePPS PPS 06 22 06.0
YAK **Yakutsk** 98.95 343 PP PP **06 12 23.7 -3.7**
comp=Z,21nm,0.5s,baz=154,slow=0.6,SNR=4.3
YAK S SKSac **06 18 53.8 -3.0**
comp=Z,13nm,0.4s,baz=0.9,slow=23,SNR=5.8
YAK LR LR 06 57 37.4
comp=Z,2µm,21.8s,baz=26,slow=38
VNA3 **Neumayer Olymp** 99.17 161 ⇓P Pdif **06 08 26.6 +0.4**
comp=Z,37nm,0.9s
VNA1 **Neumayer--Stat** 99.48 160 ⇑P Pdif **06 08 28.6 +1.1**
comp=Z,36nm,1.1s
VNA2 **Neumayer--Watz** 99.82 161 ⇓P Pdif **06 08 30.1 +1.0**
comp=Z,11nm,0.8s,baz=294,slow=4.7
LPSR **Galich'ya Gora** 100.79 29 eP Pdif **06 08 30.8 -3.1**
LPSR pmax pmax
comp=Z,20nm,1.0s
KIRV **Kirov** 100.91 21 P Pdif **06 08 32.2 -2.1**
comp=Z,9.5nm,0.8s,baz=40,slow=4.0,SNR=5.7
SNAA **Sanae** 101.39 161 ⇓P Pdif **06 08 36.8 +0.6**
comp=Z,263nm,0.9s
SNAA **Sanae** 101.39 161 IAMs_20 IAMs_20 06 47 11.7
comp=Z,1µm,20.0s
SNAA **Sanae** 101.39 161 P Pdif **06 08 36.7 +0.6**
comp=Z,18nm,1.0s,baz=274,slow=3.3,SNR=36
SNAA PP PP **06 12 39.6 -7.0**
comp=Z,4.1nm,1.0s,baz=232,slow=7.5,SNR=3.1
SNAA S SKSac **06 19 08.1 -0.3**
comp=Z,1.4nm,1.1s,baz=342,slow=3.2,SNR=1.7
SNAA PKKPbc PKKPbc **06 24 45.1 -2.7**
comp=Z,1.9nm,0.9s,baz=110,slow=0.9,SNR=3.7
SNAA **Sanae** 101.39 161 d iP Pdif **06 08 36.6 +0.4**
VSR **Storozhevoye** 101.78 30 eP Pdif **06 08 34.4 -4.0**
VSR pmax pmax
comp=Z,10.0nm,1.2s
SIM **Simferopol'** 102.75 37 i P Pdif **06 08 44.0 +1.1**
SIM 06 12 57.0
SIM PPP PPP 06 15 12.0
SIM PS PS 06 22 01.0 -5.0
SIM pmax pmax
comp=Z,40nm,12.0s
SIM pmax pmax
comp=Z,100nm,10.0s
SIM pmax pmax
comp=Z,100nm,14.0s
SIM pmax pmax
comp=E,200nm,11.0s
SIM pmax pmax
comp=E,230nm,15.0s
KARP **Karpathos** 102.85 48 IAMs_20 IAMs_20 06 51 19.9
comp=Z,1µm,22.0s
VRH **Novokhopyorsk** 103.02 29 eP Pdif **06 08 40.9 -3.0**
VRH pmax pmax
comp=Z,10.0nm,1.4s
TROLL **Troll, Antarti** 103.10 161 ⇓P Pdif **06 08 44.6 +0.7**
comp=Z,907nm,1.0s
QSPA **South Pole Qui** 103.22 180 Pdiff Pdif **06 08 46.0 +1.5**
comp=Z,4.1nm,0.9s,baz=139,slow=1.5,SNR=17
QSPA PKiKP PKiKP **06 13 04.9 +1.5**
comp=Z,3.8nm,1.0s,baz=168,slow=0.5,SNR=5.2
QSPA PKKPbc PKKPbc **06 24 38.1 -4.8**
comp=Z,4.3nm,0.8s,baz=230,slow=1.4,SNR=9.6
YSS **Yuzhno-Sakhali** 104.10 326 IAMs_20 IAMs_20 07 04 07.5
comp=Z,2µm,21.0s
YSS **Yuzhno-Sakhali** 104.10 326 eP Pdif **06 08 47.0 -1.8**
YSS e 06 13 07.8
YSS e 06 19 19.3
YSS e 06 20 03.9
YSS ePS PS **06 22 14.8 -5.1**
YSS e 06 22 23.5
YSS eSS SS 06 27 56.0 +7.0
ANTO **Ankara** 104.66 42 IAMs_20 IAMs_20 06 50 35.3
comp=Z,1µm,22.0s
BELG **Belogornoye** 104.83 26 Pdiff Pdif **06 08 50.0 -1.9**
comp=Z,12nm,0.5s,baz=247,slow=5.7,SNR=4.7
BRTR **Keskin Array B** 105.29 42 PKiKP PKiKP **06 13 07.7 -0.6**
comp=Z,3.9nm,1.0s,baz=226,slow=1.3,SNR=6.2
BRTR PKKPbc PKKPbc **06 24 35.3 +0.2**
comp=Z,4.0nm,0.7s,baz=134,slow=3.6,SNR=16
ARTI **Arti** 105.57 18 Pdiff Pdif **06 08 52.6 -2.5**
comp=Z,1.7nm,0.5s,baz=343,slow=11,SNR=4.1
ARTI PKiKP PKiKP **06 13 08.1 0.0**
comp=Z,20nm,1.0s,baz=299,slow=2.2,SNR=9.9
ARTI **Arti** 105.57 18 P Pdif **06 08 54.9 -0.2**
ARTI S SKSac **06 19 27.1 -1.3**
ARTI SS SS **06 28 07.6 -0.8**
RPZ **Rata Peaks** 105.94 228 Pdiff Pdif **06 08 56.9 -0.1**
comp=Z,41nm,1.2s,baz=251,slow=6.0,SNR=3.3
ERM **Erimo** 106.83 322 IAMs_20 IAMs_20 07 03 32.3
comp=Z,978nm,21.0s
VNDA **Vanda** 106.91 192 PKiKP PKiKP **06 13 12.1 +2.2**
comp=Z,0.6nm,0.7s,baz=90,slow=2.0,SNR=2.1
VNDA PKKPbc PKKPbc **06 24 27.2 -3.9**
comp=Z,1.2nm,0.9s,baz=279,slow=5.8,SNR=3.8
DZM **Mont Dzumac** 107.87 251 eP Pdif **06 08 58.8 -7.3**
comp=Z,169nm,30.1s
DZM **Mont Dzumac** 107.87 251 ePP PP **06 13 32.1 -3.9**
comp=Z,562nm,30.1s
DZM eS 06 20 41.9
comp=Z,2µm,35.5s
DZM eSS SS **06 28 45.4 +2.2**
comp=Z,2µm,32.0s
DZM **Mont Dzumac** 107.87 251 eLQ LQ 06 40 12.3
comp=Z,565nm,29.4s
DZM eLR LR 06 44 43.3
comp=Z,4µm,26.8s
KIV **Kislovodsk** 108.25 34 i P Pdif **06 09 05.0 -2.5**
KIV e 06 13 34.0
KIV ePS PS **06 22 59.9 -3.3**
KIV eSS SS 06 28 41.7 -4.1
KIV pmax pmax
comp=Z,9.0nm,1.1s
KBZ **Khabaz** 108.51 34 PKiKP PKiKP **06 13 13.8 -0.1**
comp=Z,3.5nm,0.9s,baz=163,slow=7.8,SNR=3.9
KBZ PKKPbc PKKPbc **06 24 25.4 +0.3**
comp=Z,10nm,0.9s,baz=107,slow=3.7,SNR=12
HEH **HeiHe** 109.02 336 Pdif Pdif **06 09 16.0 +5.4**
HEH PP PP **06 13 49.8 +7.3**
HEH SKS SKSac **06 19 41.0 -2.7**
HEH AMB AMB
comp=Z,230nm,6.8s
MMAI **Mount Meron Ar** 110.04 47 PKKPbc PKKPbc 06 24 20.6 +0.7
comp=Z,6.3nm,0.7s,baz=96,slow=6.8,SNR=9.7
AKTO **Aktyubinsk** 110.43 22 PKiKP PKiKP **06 13 17.2 -0.1**
comp=Z,1.2nm,0.5s,baz=48,slow=1.0,SNR=3.6
AKTO PP PP **06 13 47.0 -5.6**
comp=Z,11nm,1.0s,baz=315,slow=4.1,SNR=8.5
MAK **Makhachkala** 111.51 33 d iP Pdif **06 09 23.2 +1.4**
MAK i 06 13 17.8
MAK e 06 13 40.9
MAK e 06 13 59.1
MAK ePPP PPP 06 16 21.7
MAK ePS PS **06 23 30.3 -3.8**
MAK eSS SS 06 29 21.0 -8.2
MAK pmax pmax
comp=Z,135nm,1.0s
BVAR **Borovoye Array** 111.72 13 PKiKP PKiKP **06 13 19.6 -0.1**
comp=Z,4.7nm,0.6s,baz=289,slow=0.7,SNR=11
BVAR PKKPbc PKKPbc **06 24 13.6 -1.5**
comp=Z,4.8nm,0.8s,baz=140,slow=4.8,SNR=12
HNR **Honiara** 112.13 265 IAMs_20 IAMs_20 06 48 35.6
comp=Z,1µm,22.0s
ZALV **Zalesovo Beam** 112.87 4 Pdiff Pdif **06 09 25.1 -2.6**
comp=Z,0.8nm,0.3s,baz=352,slow=8.7,SNR=1.8
ZALV PKiKP PKiKP **06 13 21.1 -0.7**
comp=Z,5.2nm,0.6s,baz=282,slow=1.9,SNR=16
ZALV PKKPbc PKKPbc **06 24 07.7 -3.6**
comp=Z,1.0nm,0.7s,baz=190,slow=4.2,SNR=4.4
MJAR **Matsushiro Arr** 113.20 320 PKiKP PKiKP **06 13 23.4 +0.4**
comp=Z,5.0nm,0.7s,baz=78,slow=1.6,SNR=9.3
MJAR PKKPbc PKKPbc **06 24 07.7 -1.9**
comp=Z,4.5nm,0.8s,baz=218,slow=2.6,SNR=9.5
KGCAE **Kacgae** 114.71 109 i P PKiKP **06 13 27.8 +1.5**
KURK **Kurchatov** 115.43 8 PKiKP PKiKP **06 13 26.7 -0.1**
KURK **Kurchatov** 115.43 8 P PKiKP **06 13 26.7 -0.1**
KURK S SKSac **06 20 08.0 -1.3**
KURK **Kurchatov** 115.43 8 PKIKP PKiKP **06 13 26.7 -0.1**
KURBB **Kurchatov Arra** 115.51 9 PKP PKiKP **06 13 26.8 -0.2**
comp=Z,12nm,0.6s,baz=351,slow=1.7,SNR=72
KURBB SKP 06 16 57.3
comp=Z,3.0nm,0.8s,baz=350,slow=2.0,SNR=6.4
KURBB PKKPbc PKKPbc **06 24 00.9 -1.4**
comp=Z,10nm,1.0s,baz=183,slow=2.8,SNR=28
SYO **Syowa Base** 115.67 162 ⇑ ePdiff Pdif **06 09 41.4 +1.8**
SYO **Syowa Base** 115.67 162 ⇑ epPdiff pPdif 06 09 53.4 -7.0
SYO **Syowa Base** 115.67 162 ⇑ esPdiff pPdif 06 09 58.8 -1.6
SYO **Syowa Base** 115.67 162 ⇑ iPKPdf PKPdf **06 13 28.6 +2.0**
SYO **Syowa Base** 115.67 162 ⇑ iPP PP 06 14 32.0 +1.9
SKOMA **Sekoma** 116.40 111 i P PKiKP **06 13 30.4 +0.9**
KDWAN **Kaudwane** 117.00 110 i P PKiKP **06 13 31.8 +1.1**
KSANE **Kasane** 117.01 103 i P PKiKP **06 13 32.5 +1.6**
ULN **Ulaanbaatar** 117.41 348 PKPdf **06 13 31.1 +0.1**
ULN **Ulaanbaatar** 117.41 348 IAMs_20 IAMs_20 07 06 56.8
comp=Z,1µm,22.0s
ULN **Ulaanbaatar** 117.41 348 P PKiKP **06 13 31.7 +0.7**
ULN S SKSac **06 20 17.9 +0.7**
ULN **Ulaanbaatar** 117.41 348 PKIKP PKPdf **06 13 31.1 +0.1**
SONM **Songino Array** 117.57 348 PKPdf **06 13 31.5 +0.2**
SONM **Songino Array** 117.57 348 PKP PKPdf **06 13 31.4 +0.1**
comp=Z,8.2nm,0.6s,baz=348,slow=1.7,SNR=34
SONM PP PP **06 14 39.5 -3.7**
comp=Z,4.2nm,0.9s,baz=359,slow=3.0,SNR=3.8
SONM SKP 06 17 01.4
comp=Z,6.7nm,0.8s,baz=16,slow=1.1,SNR=9.6
SONM PKKPbc PKKPbc **06 23 54.2 -0.9**
comp=Z,12nm,0.9s,baz=196,slow=3.8,SNR=29
SONM SKKP 06 27 39.8
comp=Z,1.5nm,0.9s,baz=209,slow=4.9,SNR=3.6
BOSA **Boshof** 117.72 115 PKP PKiKP **06 13 32.5 +0.5**
comp=Z,62nm,1.0s,baz=274,slow=1.6,SNR=47
BOSA SKP 06 17 03.2
comp=Z,24nm,0.8s,baz=254,slow=2.0,SNR=14
BOSA PKKPbc PKKPab **06 23 55.4 -1.1**
comp=Z,5.6nm,0.8s,baz=137,slow=1.9,SNR=7.2
JMN **Monobe** 117.72 320 PKiKP **06 13 33.2 +1.3**
LPHEP **Lephephe** 118.10 110 i P PKiKP **06 13 33.9 +1.0**
KSRS **Korea Array** 118.59 327 PKP PKiKP **06 13 34.4 +1.0**
comp=Z,13nm,0.7s,baz=16,slow=1.2,SNR=46
KSRS SKP 06 17 04.5
comp=Z,5.0nm,0.9s,baz=10.0,slow=1.4,SNR=8.2
KSRS PKKPbc PKKPbc **06 23 50.8 -0.1**
comp=Z,3.3nm,0.9s,baz=230,slow=4.2,SNR=7.0
KSAR **Wonju Array Be** 118.62 327 PKiKP **06 13 34.2 +0.8**
KSAR **Wonju Array Be** 118.62 327 PKIKP PKiKP **06 13 34.2 +0.8**
BROLN **Tlhalogang** 119.33 107 i P PKiKP **06 13 36.8 +1.5**
ZSN **Zaisan** 119.34 4 ePKIKP PKPdf **06 13 33.3 -1.2**
ZSN **Zaisan** 119.34 4 ePKP PKPdf **06 13 33.4 -1.2**
MREMI **Moremi** 119.52 109 i P PKiKP **06 13 36.9 +1.2**
LSZ **Lusaka** 119.62 100 PKiKP **06 13 37.3 +1.3**
LSZ **Lusaka** 119.62 100 P PKiKP **06 13 37.5 +1.5**
LSZ **Lusaka** 119.62 100 PKIKP PKiKP **06 13 37.3 +1.3**
MKAR **Makanchi Array** 119.75 7 PKP PKPdf **06 13 34.5 -0.8**
comp=Z,8.6nm,0.8s,baz=352,slow=2.4,SNR=46
MKAR PP PP 06 14 50.0 -8.0
comp=Z,5.8nm,0.8s,baz=35,slow=4.4,SNR=5.1
MKAR SKP 06 17 04.8
comp=Z,4.1nm,0.8s,baz=9.2,slow=3.8,SNR=5.0
MKAR PKKPbc PKKPbc **06 23 45.0 -2.1**
comp=Z,5.6nm,0.9s,baz=139,slow=4.6,SNR=14
JNU **Nakatsue** 119.99 321 PKP PKPdf **06 13 36.3 +0.1**
comp=Z,5.9nm,0.6s,baz=59,slow=2.3,SNR=5.9
BTLS **Baital** 120.05 14 ePKIKP PKPdf **06 13 34.8 -1.1**
BTLS e 06 14 59.4
BTLS **Baital** 120.05 14 ePKP PKPdf **06 13 34.9 -1.1**
BTLS ePP PP **06 14 59.5 -0.6**
DL2 **Dalian** 120.58 332 ePKP PKiKP **06 13 38.8 +1.6**
DL2 ePP PP **06 15 05.0 +0.9**
DL2 AMB AMB
comp=Z,180nm,4.6s
DL2 LR LR
comp=Z,2µm,21.8s
DL2 LR LR
comp=Z,1µm,21.6s
DL2 LR LR
comp=Z,3µm,22.5s
BRLS **Borolday** 120.82 18 ePKIKP PKPdf **06 13 36.4 -1.1**
BRLS **Borolday** 120.82 18 ePKP PKPdf **06 13 36.5 -1.1**
KKAR **Karatay Array** 120.95 17 PKPdf **06 13 37.5 -0.2**
KKAR **Karatay Array** 120.95 17 PKIKP PKPdf **06 13 37.6 -0.2**
TDK **Taldyqorghan** 120.96 10 ePKIKP PKPdf **06 13 36.3 -1.4**
TDK **Taldyqorghan** 120.96 10 ePKP PKPdf **06 13 36.4 -1.4**
IUG **luzhnay** 121.69 18 ePKP PKPdf **06 13 38.0 -1.3**
IUG e 06 15 10.6
IUG **luzhnay** 121.69 18 ePKP PKPdf **06 13 38.0 -1.3**
IUG ePP PP **06 15 10.7 -0.8**
USP **Ospenovka** 121.83 14 P PKiKP **06 13 39.8 +0.2**
SNR=19
BJI **Beijing** 121.90 337 PKP PKiKP **06 13 40.3 +0.5**
BJI SKS SKSac **06 20 35.8 +3.0**
BJI AMB AMB
comp=Z,99nm,11.4s
EKS2 **Erkin-Say** 122.23 15 P PKiKP **06 13 41.2 +0.6**
SNR=21
TKM2 **Tokmak 2** 122.41 13 P PKPdf **06 13 40.8 0.0**
SNR=20
AAK **Ala-Archa** 122.43 14 P PKPdf **06 13 41.1 +0.3**
SNR=5.6
AAK **Ala-Archa** 122.43 14 PKiKP **06 13 41.2 +0.2**
AAK **Ala-Archa** 122.43 14 IAMs_20 IAMs_20 07 06 13.9
comp=Z,1µm,22.0s
AAK **Ala-Archa** 122.43 14 PKKPbc PKKPbc 06 23 34.3 -2.8
comp=Z,3.4nm,0.3s,baz=218,slow=6.7,SNR=3.3
AAK **Ala-Archa** 122.43 14 P PKiKP **06 13 41.1 +0.2**
AAK S 06 20 31.2
AAK **Ala-Archa** 122.43 14 PKIKP PKiKP **06 13 41.2 +0.2**
AAK MLR MLR
comp=Z,1µm,22.0s
KBK **Karagaybulak** 122.52 14 P PKiKP **06 13 41.5 +0.3**
SNR=5.8
TNSS **Tian-Shan** 122.58 12 ePKIKP PKPdf **06 13 39.8 -1.6**
TNSS **Tian-Shan** 122.58 12 ePKP PKPdf **06 13 39.8 -1.6**
RAYN **Ar Rayn** 122.67 51 PKPdf **06 13 40.4 -1.2**
RAYN **Ar Rayn** 122.67 51 IAMs_20 IAMs_20 07 01 52.0
comp=Z,1µm,22.0s
RAYN **Ar Rayn** 122.67 51 P PKPdf **06 13 41.0 -0.7**
RAYN S SKSac **06 20 31.6 -4.6**
RAYN **Ar Rayn** 122.67 51 PKIKP PKPdf **06 13 40.4 -1.2**
RAYN **Ar Rayn** 122.67 51 i P PKPdf **06 13 41.4 -0.2**
SNR=14
LODK **Lodwar** 122.68 77 PKPdf **06 13 42.2 +0.3**
LODK IAMs_20 IAMs_20 07 02 41.9
comp=Z,1µm,20.0s
LODK **Lodwar** 122.68 77 P PKiKP **06 13 42.5 +0.4**
MAW **Mawson** 122.73 168 PKP PKiKP **06 13 41.1 +0.6**
comp=Z,32nm,0.8s,baz=192,slow=3.6,SNR=54
MAW SKP 06 17 12.3
comp=Z,7.1nm,0.9s,baz=230,slow=4.7,SNR=6.5
HHC **Hu-ho-hao-te** 122.78 341 ⇓ iPKP PKiKP **06 13 42.8 +1.1**
HHC PP PP 06 15 29.0 +10
HHC SKS SKSac **06 20 37.5 +1.5**
HHC LR LR
comp=Z,2µm,22.6s
HHC LR LR
comp=Z,1µm,21.4s
HHC LR LR
comp=Z,3µm,25.5s
UCH **Uchtor** 122.82 14 P PKiKP **06 13 42.9 +0.7**
SNR=44
SATY **Saty** 122.84 11 ePKIKP PKPdf **06 13 40.2 -1.3**
SATY **Saty** 122.84 11 ePKP PKPdf **06 13 40.3 -1.3**
UZB **Uzynbulak** 122.86 10 ePKIKP PKPdf **06 13 40.2 -1.4**
UZB e 06 15 18.7
UZB **Uzynbulak** 122.86 10 ePKP PKPdf **06 13 40.3 -1.4**
UZB ePP PP **06 15 18.7 -0.7**
SHLS **Shalkode** 122.93 10 ePKIKP PKPdf **06 13 40.5 -1.2**
SHLS **Shalkode** 122.93 10 ePKP PKPdf **06 13 40.5 -1.2**
WMQ **Urumqi** 123.13 3 ePKP PKiKP **06 13 43.3 +1.1**
WMQ LR LR
comp=Z,4µm,22.7s
WMQ LR LR
comp=Z,2µm,22.7s
WMQ LR LR
comp=Z,5µm,22.7s
ULHL **Ulahol** 123.20 13 P PKiKP **06 13 43.2 +0.6**
SNR=39
BTO **Baotou** 123.47 342 ePKP PKPdf **06 13 42.8 0.0**
BTO PP PP **06 15 28.8 +5.2**
BTO SS SS 06 32 08.8 +4.8
BTO AMB AMB
comp=Z,290nm,4.3s
BTO LR LR
comp=Z,5µm,24.5s
BTO LR LR
comp=Z,3µm,21.6s
BTO LR LR
comp=Z,9µm,23.0s
FURI **Furi** 123.90 70 IAMs_20 IAMs_20 07 05 17.9
comp=Z,1µm,21.0s
PMG **Port Moresby** 124.55 268 IAMs_20 IAMs_20 07 01 12.8
comp=Z,997nm,20.0s
HNS **HongShan** 124.76 337 ⇓PKP PKiKP **06 13 46.3 +0.8**
HNS PP PP **06 15 39.0 +6.8**

HNS				AMB	AMB			
	comp=Z,250nm,11.1s							
HNS				LR	LR			
	comp=Z,2μm,22.0s							
HNS				LR	LR			
	comp=Z,2μm,21.4s							
HNS				LR	LR			
	comp=Z,3μm,21.8s							
TIA	**Tai'an**	**124.80**	**334**	SS	SS	06 32 30.5	+10	
TIA				AMB	AMB			
	comp=Z,360nm,5.9s							
TIA				LR	LR			
	comp=N,2μm,24.1s							
TIA				LR	LR			
	comp=E,1μm,19.0s							
TIA				LR	LR			
	comp=Z,3μm,23.3s							
TIA	**Tai'an**	**124.80**	**334**	PKP	**PKPdf**	**06 13 45.0**	**-0.3**	
TIA				SKS	**SKSac**	**06 20 44.3**	**+1.8**	
TIA				AMB	AMB			
	comp=Z,360nm,5.9s							
TIA				LR	LR			
	comp=Z,2μm,24.1s							
TIA				LR	LR			
	comp=Z,1μm,19.0s							
TIA				LR	LR			
	comp=Z,3μm,23.3s							
SAKB	**Bahrain**	**124.81**	**45**	P	**PKPdf**	**06 13 44.9**	**-0.6**	
SAKB				S	**SKSac**	**06 20 40.1**	**-2.8**	
SHMA	**Al-Shehemyia**	**125.19**	**45**	P	**PKPdf**	**06 13 45.7**	**-0.6**	
SHMA				S	**SKSac**	**06 20 42.8**	**-1.2**	
TIY	**Taiyuan**	**125.32**	**339**	*e*PKP	**PKiKP**	**06 13 47.0**	**+0.3**	
CASY	**Casey**	**125.37**	**190**		**PKiKP**	**06 13 46.2**	**+0.5**	
KSH	**Kashi**	**125.74**	**14**	PKP	**PKiKP**	**06 13 48.5**	**+0.9**	
KSH				PP	**PP**	**06 15 41.3**	**+2.6**	
KSH				AMB	AMB			
	comp=Z,410nm,5.4s							
KSH				LR	LR			
	comp=Z,2μm,24.7s							
KSH				LR	LR			
	comp=Z,820nm,27.5s							
KSH				LR	LR			
	comp=Z,3μm,25.4s							
SMRA	**Abu-Samra**	**125.80**	**46**	P	**PKPdf**	**06 13 46.8**	**-0.6**	
TRNA	**Turayna**	**126.08**	**46**	P	**PKPdf**	**06 13 47.3**	**-0.7**	
CTAO	**Charters Tower**	**126.50**	**255**		**PKiKP**	**06 13 50.5**	**+1.1**	
CTAO	**Charters Tower**	**126.50**	**255**	PKIKP	**PKiKP**	**06 13 50.5**	**+1.1**	
ATD	**Arta Tunnel**	**126.56**	**65**	IAMs_20	IAMs_20	07 10 16.2		
	comp=Z,1μm,20.0s							
ATD	**Arta Tunnel**	**126.56**	**65**	P	**PKiKP**	**06 13 50.5**	**+0.7**	
SLWR	**Sila**	**126.84**	**46**	P	**PKPdf**	**06 13 49.0**	**-0.5**	
KIBK	**Kibwezi**	**126.88**	**83**	IAMs_20	IAMs_20	07 06 11.2		
	comp=Z,842nm,21.0s							
KIBK	**Kibwezi**	**126.88**	**83**	P	**PKiKP**	**06 13 51.4**	**+1.0**	
	SNR=6.5							
GTA	**Gaotai**	**126.91**	**351**	*e*PKP	**PKPdf**	**06 13 49.5**	**+0.1**	
GTA				PP	PP	06 15 54.5	+8.1	
GTA				SKS	**SKSac**	**06 20 50.0**	**+0.8**	
GTA				SS	**SS**	**06 32 44.3**	**-2.6**	
GTA				AMB	AMB			
	comp=Z,120nm,6.6s							
GTA				LR	LR			
	comp=Z,2μm,24.7s							
GTA				LR	LR			
	comp=Z,2μm,21.8s							
GTA				LR	LR			
	comp=Z,4μm,24.3s							
SSE	**Sheshan**	**127.03**	**327**	PKP	**PKPdf**	**06 13 47.0**	**-2.7**	
SSE				SS	SS	06 32 46.8	-2.4	
SSE				AMB	AMB			
	comp=Z,110nm,3.8s							
SSE				LR	LR			
	comp=Z,510nm,23.2s							
SSE				LR	LR			
	comp=Z,540nm,23.1s							
JRN	**Qarnain Island**	**127.07**	**44**	P	**PKPdf**	**06 13 49.3**	**-0.6**	
	SNR=5.5							
NJ2	**Nanjing**	**127.46**	**330**	⇓PKP	**PKiKP**	**06 13 51.3**	**+0.3**	
NJ2				AMB	AMB			
	comp=Z,320nm,3.6s							
NJ2				LR	LR			
	comp=Z,980nm,24.6s							
NJ2				LR	LR			
	comp=Z,950nm,23.6s							
NJ2				LR	LR			
	comp=Z,2μm,22.7s							
LYN	**LuoYang**	**128.12**	**337**	PKP	**PKPdf**	**06 13 51.5**	**-0.2**	
LYN				PP	**PP**	**06 15 59.0**	**+4.5**	
LYN				SS	SS	06 33 02.3	+0.1	
LYN				AMB	AMB			
	comp=Z,440nm,7.1s							
LYN				LR	LR			
	comp=Z,5μm,20.8s							
LYN				LR	LR			
	comp=Z,1μm,20.0s							
LYN				LR	LR			
	comp=Z,6μm,22.7s							
KBL	**Kabul**	**128.21**	**23**		**PKPdf**	**06 13 51.9**	**-0.3**	
KBL	**Kabul**	**128.21**	**23**	P	**PKPdf**	**06 13 52.1**	**-0.1**	
	SNR=8.8							
KBL				S	**SKSac**	**06 20 50.2**	**-3.2**	
KBL	**Kabul**	**128.21**	**23**	PKIKP	**PKPdf**	**06 13 51.9**	**-0.3**	
SHME	**Shamm**	**128.48**	**41**	P	**PKPdf**	**06 13 51.8**	**-0.8**	
SHME				S	**SKSac**	**06 20 49.6**	**-4.4**	
SHME	**Shamm**	**128.48**	**41**	*i* P	**PKPdf**	**06 13 52.2**	**-0.4**	
	SNR=8.9							
BANOM	**Banah**	**128.67**	**41**	P	**PKPdf**	**06 13 52.4**	**-0.6**	
BANOM	**Banah**	**128.67**	**41**	P	**PKPdf**	**06 13 52.7**	**-0.4**	
AJN	**Ajban**	**128.76**	**43**	P	**PKPdf**	**06 13 53.1**	**0.0**	
MZR	**Muzera**	**128.78**	**46**	P	**PKPdf**	**06 13 53.0**	**-0.3**	
	SNR=13							
MZR	**Muzera**	**128.78**	**46**	*i* P	**PKPdf**	**06 13 53.5**	**+0.2**	
	SNR=15							
NAZ	**Nazwa, Dubai**	**128.91**	**42**	P	**PKPdf**	**06 13 53.3**	**-0.1**	
	SNR=5.7							
NAZ	**Nazwa, Dubai**	**128.91**	**42**	*i* P	**PKPdf**	**06 13 54.0**	**+0.5**	
	SNR=9.0							
ASUD	**Al Ashush, Dub**	**128.94**	**43**	P	**PKPdf**	**06 13 53.7**	**+0.2**	
	SNR=9.8							
ASUD	**Al Ashush, Dub**	**128.94**	**43**	*i* P	**PKPdf**	**06 13 53.8**	**+0.2**	
	SNR=23							
MASF	**Masafi**	**128.97**	**41**	P	**PKPdf**	**06 13 53.4**	**-0.3**	
	SNR=8.5							
MSFE	**Esma-Masafi**	**128.97**	**41**	*i* P	**PKPdf**	**06 13 53.4**	**-0.2**	
	SNR=26							
MDH	**Madha**	**129.11**	**41**	P	**PKPdf**	**06 13 52.4**	**-1.4**	
UOSS	**Minazif**	**129.29**	**42**		**PKPdf**	**06 13 53.0**	**-1.3**	
UOSS	**Minazif**	**129.29**	**42**	P	**PKPdf**	**06 13 53.1**	**-1.1**	
UOSS	**Minazif**	**129.29**	**42**	*i* P	**PKPdf**	**06 13 53.4**	**-0.8**	
	SNR=7.1							
HATD	**Hatta, Dubai**	**129.33**	**42**	P	**PKPdf**	**06 13 53.6**	**-0.7**	
	SNR=5.3							
HATD				S	**SKSac**	**06 20 51.9**	**-4.7**	
HATD	**Hatta, Dubai**	**129.33**	**42**	*i* P	**PKPdf**	**06 13 53.8**	**-0.5**	
	SNR=17							
LZH	**Lanzhou**	**129.36**	**346**	*e*PKP	**PKiKP**	**06 13 55.5**	**+0.5**	
LZH				PP	**PP**	**06 16 09.8**	**+7.2**	
LZH				SS	SS	06 33 15.3	-2.1	
LZH				AMB	AMB			
	comp=Z,210nm,5.7s							
LZH				LR	LR			
	comp=Z,640nm,18.7s							
LZH				LR	LR			
	comp=Z,2μm,17.2s							
LZH				LR	LR			
	comp=Z,3μm,20.6s							
ASHO	**Ashiyiah**	**129.38**	**42**	P	**PKPdf**	**06 13 54.0**	**-0.5**	
ASHO	**Ashiyiah**	**129.38**	**42**	*i* P	**PKPdf**	**06 13 54.0**	**-0.5**	
	SNR=11							
JAY	**Jayapura**	**129.38**	**278**	PKP	**PKPdf**	**06 13 52.5**	**-2.2**	
ALNE	**Al Ain**	**129.61**	**43**	P	**PKPdf**	**06 13 54.4**	**-0.5**	
	SNR=11							
ALNE				S	**SKSac**	**06 20 55.0**	**-2.4**	
ALNE	**Al Ain**	**129.61**	**43**	*i* P	**PKPdf**	**06 13 54.7**	**-0.2**	
	SNR=12							
XAN	**Xi'an**	**129.84**	**340**	PKP	**PKiKP**	**06 13 55.8**	**-0.1**	
XAN				LR	LR			
	comp=Z,2μm,23.7s							
XAN				LR	LR			
	comp=Z,2μm,20.6s							
XAN				LR	LR			
	comp=Z,4μm,24.7s							
STKA	**Stephens Creek**	**129.92**	**239**		**PKiKP**	**06 13 56.0**	**+0.1**	
STKA	**Stephens Creek**	**129.92**	**239**	PKhKP	PKPpre	06 13 38.9		
	comp=Z,1.3nm,0.3s,baz=40,slow=4.3,SNR=5.8							
STKA				PKP	**PKiKP**	**06 13 56.6**	**+0.7**	
	comp=Z,51nm,1.0s,baz=72,slow=2.3,SNR=61							
STKA				SKPab	SKPbc	06 17 18.4	+7.2	
	comp=Z,23nm,0.9s,baz=145,slow=23,SNR=17							
STKA	**Stephens Creek**	**129.92**	**239**	PKIKP	**PKiKP**	**06 13 56.0**	**+0.1**	
SOHO	**SOHO**	**130.07**	**42**	P	**PKPdf**	**06 13 55.0**	**-0.7**	
SOHO				S	**SKSac**	**06 20 55.7**	**-3.0**	
SOHO	**SOHO**	**130.07**	**42**	*i* P	**PKPdf**	**06 13 55.0**	**-0.7**	
	SNR=10							
UMZA	**Um Al Zommool**	**130.13**	**45**	P	**PKPdf**	**06 13 55.9**	**+0.1**	
UMZA				S	**SKSac**	**06 20 57.2**	**-1.7**	
NIL	**Nilore**	**130.49**	**19**		**PKPdf**	**06 13 55.5**	**-0.8**	
NIL	**Nilore**	**130.49**	**19**	IAMs_20	IAMs_20	07 17 06.7		
	comp=Z,976nm,22.0s							
NIL	**Nilore**	**130.49**	**19**	P	**PKPdf**	**06 13 55.8**	**-0.4**	
NIL	**Nilore**	**130.49**	**19**	PKIKP	**PKPdf**	**06 13 55.5**	**-0.8**	
ARQ	**Araqi**	**130.62**	**43**	P	**PKPdf**	**06 13 55.8**	**-1.0**	
GOMU	**GeErMu**	**130.65**	**356**	PKP	**PKPdf**	**06 13 57.0**	**0.0**	
GOMU				PP	**PP**	**06 16 12.0**	**+0.9**	
GOMU				SKS	**SKSac**	**06 21 00.8**	**+0.1**	
GOMU				SS	**SS**	**06 33 36.5**	**+3.0**	
GOMU				AMB	AMB			
	comp=Z,96nm,6.4s							
GOMU				LR	LR			
	comp=Z,1μm,21.5s							
GOMU				LR	LR			
	comp=Z,1μm,20.0s							
GOMU				LR	LR			
	comp=Z,1μm,20.8s							
WHN	**Wuhan**	**130.83**	**333**	PKP	**PKiKP**	**06 13 58.3**	**+0.5**	
WHN				PP	**PP**	**06 16 19.5**	**+7.2**	
WHN				LR	LR			
	comp=Z,5μm,24.7s							
HOQ	**Hoqain**	**130.97**	**42**	P	**PKPdf**	**06 13 55.9**	**-1.5**	
	SNR=7.2							
BIDO	**Bidbid**	**131.54**	**41**	P	**PKPdf**	**06 13 58.0**	**-0.4**	
	SNR=7.2							
SMDO	**Samad**	**131.81**	**42**	P	**PKPdf**	**06 13 58.8**	**-0.4**	
	SNR=6.7							
YHNB	**Yeheng**	**131.82**	**321**	IAMs_20	IAMs_20	07 14 12.0		
	comp=Z,810nm,22.0s							
DOK	**Doka**	**132.04**	**49**	P	**PKPdf**	**06 13 59.0**	**-0.6**	
NACB	**Ninganchiao**	**132.06**	**321**	IAMs_20	IAMs_20	07 21 48.2		
	comp=Z,1μm,22.0s							
ABTO	**Aybut**	**132.19**	**51**	P	**PKPdf**	**06 13 58.9**	**-1.0**	
WHFO	**Wadi Hawf**	**132.21**	**50**	P	**PKPdf**	**06 13 58.7**	**-1.2**	
JMDO	**Jabal Medar**	**132.34**	**42**	P	**PKPdf**	**06 13 58.4**	**-1.7**	
SSLB	**Suanglung**	**132.73**	**321**	IAMs_20	IAMs_20	07 17 28.1		
	comp=Z,1μm,22.0s							
RBK	**Rabkut**	**132.79**	**51**	P	**PKPdf**	**06 14 00.1**	**-0.9**	
YULB	**Yu-li**	**132.81**	**320**	IAMs_20	IAMs_20	07 24 07.3		
	comp=Z,932nm,22.0s							
HNLY	**HANLEY**	**132.88**	**13**	*e*P	PKPpre	06 13 52.6		
MHTO	**MHTO**	**133.21**	**44**	P	**PKPdf**	**06 14 00.5**	**-1.2**	
DMTO	**DMTO**	**133.21**	**50**	P	**PKPdf**	**06 14 01.3**	**-0.4**	
JLDB	**Jalan Bani Buh**	**133.34**	**41**	P	**PKPdf**	**06 14 00.9**	**-1.0**	
TWG	**Pinlang**	**133.37**	**320**	IAMs_20	IAMs_20	07 23 06.0		
	comp=Z,1μm,22.0s							
DQM	**DQM**	**133.64**	**45**	P	**PKPdf**	**06 13 59.0**	**-3.5**	
SMLA	**Simla**	**134.00**	**16**	*e*P	PKPpre	06 13 56.4		
CD2	**Chengdu**	**134.31**	**344**	PKP	**PKPdf**	**06 14 04.3**	**+0.7**	
CD2				LR	LR			
	comp=Z,2μm,22.4s							
CD2				LR	LR			
	comp=Z,2μm,24.0s							
CD2				LR	LR			
	comp=Z,2μm,22.6s							
PTH	**Pithoragarh**	**136.26**	**13**	*e*P	PKPpre	06 14 01.9		
NDI	**New Delhi**	**136.32**	**17**	*e*P	PKPpre	06 13 58.1		
NPLP	**NPLP New Delhi**	**136.35**	**17**	*e*P	PKPpre	06 13 57.8		
LGTI	**Lohaghat**	**136.36**	**13**	*e*P	PKPpre	06 13 58.5		
KUDL	**Kundal**	**136.61**	**18**	‖*e*P	PKPpre	06 13 59.4		
SONA	**Sohna**	**136.69**	**18**	*e*P	PKPpre	06 14 00.4		
LSA	**Lhasa**	**137.28**	**359**	PKP	**PKPdf**	**06 14 10.0**	**+0.3**	
LSA				PP	**PP**	**06 16 54.8**	**+1.4**	
LSA				LR	LR			
	comp=Z,1μm,22.9s							
LSA				LR	LR			
	comp=Z,2μm,22.6s							
LSA	**Lhasa**	**137.28**	**359**	P	**PKiKP**	**06 14 10.9**	**-0.7**	
GYA	**Guiyang**	**137.55**	**339**	PKP	**PKPdf**	**06 14 10.3**	**+0.5**	
GYA				LR	LR			
	comp=Z,3μm,28.1s							
WRAB	**Tennant Creek**	**137.69**	**255**		**PKiKP**	**06 14 11.8**	**-0.2**	
WRAB	**Tennant Creek**	**137.69**	**255**	PKIKP	**PKiKP**	**06 14 11.8**	**-0.2**	
WRA	**Warramunga Arr**	**137.70**	**255**	PKhKP	PKPpre	06 13 59.3		
	comp=Z,9.5nm,0.9s,baz=90,slow=3.4,SNR=20							
WRA				PKP	**PKiKP**	**06 14 11.4**	**-0.6**	
	comp=Z,83nm,0.8s,baz=89,slow=2.1,SNR=65							
WRA				PP	**PP**	**06 16 55.4**	**-2.3**	
	comp=Z,25nm,1.3s,baz=92,slow=6.4,SNR=13							
WRA				SKPbc	**SKiKP**	**06 17 41.3**	**-0.3**	
	comp=Z,53nm,0.8s,baz=92,slow=2.6,SNR=32							
WRA				PKKP	**PKKPdf**	**06 23 43.8**	**+0.2**	
	comp=Z,0.9nm,0.7s,baz=285,slow=1.5,SNR=5.0							
ASAR	**Alice Springs**	**137.83**	**249**	PKhKP	PKPpre	06 13 59.0		
	comp=Z,8.8nm,0.9s,baz=106,slow=3.4,SNR=30							
ASAR				PKP	**PKPdf**	**06 14 11.5**	**+1.2**	
	comp=Z,49nm,1.0s,baz=102,slow=1.5,SNR=32							
ASAR				PP	**PP**	**06 16 57.6**	**-0.9**	
	comp=Z,7.1nm,1.0s,baz=98,slow=5.0,SNR=6.0							
ASAR				SKPbc	**SKiKP**	**06 17 42.2**	**+0.4**	
	comp=Z,42nm,0.8s,baz=100,slow=2.3,SNR=28							
ASAR				PKKP	**PKKPdf**	**06 23 42.7**	**-0.7**	
	comp=Z,1.3nm,0.7s,baz=325,slow=1.1,SNR=5.4							
OPO	**Ambohidratompo**	**137.95**	**103**	SKPbc	**SKiKP**	**06 17 42.1**	**-0.3**	
	comp=Z,91nm,0.8s,baz=264,slow=3.9,SNR=61							
ABPO	**Ambohimpanom**	**137.98**	**104**	IAMs_20	IAMs_20	07 13 45.4		
	comp=Z,1μm,21.0s							
PZH	**PanZhiHua**	**139.03**	**345**	PKP	PKPdf	06 14 04.5	-8.0	
PZH				PP	**PP**	**06 17 06.3**	**+2.4**	
GTK	**Tadong**	**139.61**	**3**	*e*P	PKPpre	06 14 04.8		
DAV	**Davao City (W)**	**139.85**	**298**	IAMs_20	IAMs_20	07 02 43.7		
	comp=Z,736nm,21.0s							
KMI	**Kunming**	**140.06**	**343**	PKP	**PKPdf**	**06 14 15.0**	**+0.4**	
KMI				SS	SS	06 35 23.0	-3.4	
KMI				AMB	AMB			
	comp=Z,240nm,10.6s							
KMI				LR	LR			
	comp=Z,2μm,21.9s							
KMI				LR	LR			
	comp=Z,940nm,21.1s							
KMI				LR	LR			
	comp=Z,3μm,27.6s							
GUNA	**GUNA**	**140.14**	**19**	*e*P	PKPpre	06 14 05.7		
GUWA	**GUWAHATI**	**140.77**	**359**	*e*P	PKPpre	06 14 07.0		
TNTI	**Ternate**	**141.02**	**288**	IAMs_20	IAMs_20	07 03 04.2		
	comp=Z,601nm,22.0s							
TNCH	**TengChong**	**141.17**	**349**	PKP	**PKPdf**	**06 14 12.8**	**-3.7**	
TNCH				PP	**PP**	**06 17 21.5**	**+4.4**	
TNCH				AMB	AMB			
	comp=Z,240nm,4.7s							
TNCH				LR	LR			
	comp=Z,2μm,26.3s							
TNCH				LR	LR			
	comp=Z,790nm,19.6s							
TNCH				LR	LR			
	comp=Z,3μm,27.7s							
SHL	**Shillong**	**141.38**	**358**	P	**PKPdf**	**06 14 17.0**	**+0.1**	
SHL	**Shillong**	**141.38**	**358**	*e*P	PKPpre	06 14 09.8		
NRDN	**NARMADA NAGAR**	**141.88**	**20**	*e*P	PKPpre	06 14 07.2		
IMP	**Imphal**	**142.00**	**355**	*e*P	PKPpre	06 14 08.4		
QIZ	**Qiongzhong**	**142.75**	**329**	PKP	**PKPdf**	**06 14 19.8**	**+0.6**	
QIZ				PP	**PP**	**06 17 29.8**	**+2.8**	
QIZ				SS	SS	06 36 01.3	+3.3	
QIZ				LR	LR			
	comp=Z,2μm,17.7s							
QIZ				LR	LR			
	comp=Z,3μm,19.1s							
BOK	**Bokaro**	**142.87**	**7**	*e*P	PKPpre	06 14 10.5		
AZL	**Aizawl**	**143.17**	**357**	*e*P	PKPab	06 14 10.9	-4.8	
AZL				IAmb	IAmb	06 14 24.9		
	comp=Z,37nm,0.5s							
BLSP	**Bilaspur**	**143.85**	**13**	*e*P	PKPab	06 14 12.4	-5.8	
BLSP				IAmb	IAmb	06 14 21.8		
	comp=Z,54nm,0.4s							
NGP	**Nagpur**	**143.95**	**19**	*e*P	PKPab	06 14 11.7	-6.9	
MSEY	**Mahe Island**	**144.27**	**79**		**PKPdf**	**06 14 22.3**	**+0.2**	
MSEY	**Mahe Island**	**144.27**	**79**	P	**PKPdf**	**06 14 22.1**	**0.0**	
MSEY	**Mahe Island**	**144.27**	**79**	PKIKP	**PKPdf**	**06 14 22.3**	**+0.2**	
MSEY				MLR	MLR			
	comp=Z,1μm,20.0s							
MSEY	**Mahe Island**	**144.27**	**79**	P	**PKPdf**	**06 14 23.2**	**+1.1**	
FITZ	**Fitzroy Crossi**	**146.00**	**257**	PKPbc	**PKPbc**	**06 14 26.3**	**+0.6**	
	comp=Z,418nm,1.0s,baz=132,slow=1.9,SNR=467							
CHTO	**Chiang Mai**	**147.09**	**345**		**PKPdf**	**06 14 27.1**	**+0.4**	
CHTO	**Chiang Mai**	**147.09**	**345**	P	**PKPdf**	**06 14 27.6**	**+0.8**	
CHTO	**Chiang Mai**	**147.09**	**345**	PKIKP	**PKPdf**	**06 14 27.2**	**+0.4**	
HYB	**Hyderabad**	**147.26**	**22**	*e*PKPdf	**PKPdf**	**06 14 28.1**	**+1.0**	
CMAR	**Chiang Mai Arr**	**147.44**	**345**		**PKPdf**	**06 14 28.3**	**+1.0**	
CMAR	**Chiang Mai Arr**	**147.44**	**345**	PKPbc	**PKPdf**	**06 14 28.6**	**+1.2**	
	comp=Z,65nm,0.7s,baz=338,slow=3.2,SNR=130							
CMAR				SKPbc	**SKiKP**	**06 18 03.8**	**+2.0**	
	comp=Z,17nm,0.9s,baz=341,slow=3.0,SNR=8.4							
KKM	**Kota Kinabalu**	**148.18**	**306**		**PKPdf**	**06 14 30.2**	**+1.4**	
KKM				IAMs_20	IAMs_20	07 11 39.7		
	comp=Z,638nm,22.0s							
VIS	**Vishakhapatnam**	**148.38**	**13**	*e*P	PKPdf	06 14 20.8	-8.0	
MMRI	**Maumere**	**148.66**	**275**	IAMs_20	IAMs_20	07 16 40.0		
	comp=Z,757nm,21.0s							
NWAO	**Narrogin (SRO)**	**148.83**	**227**	PKP	**PKPdf**	**06 14 30.5**	**+1.3**	
	comp=Z,151nm,1.0s,baz=124,slow=2.5,SNR=15							
NWAO				PKPbc	**PKPbc**	**06 14 33.9**	**+0.8**	
	comp=Z,151nm,1.0s,baz=124,slow=3.6,SNR=39							
KAPI	**Kappang**	**150.15**	**283**	IAMs_20	IAMs_20	07 30 41.3		
	comp=Z,554nm,20.0s							
PSA00	**Pilbara Seismi**	**150.98**	**249**		**PKPdf**	**06 14 34.0**	**+1.1**	
MBWA	**Marble Bar**	**151.17**	**250**		**PKPdf**	**06 14 34.2**	**+1.0**	
MDRS	**Chennai**	**151.88**	**22**	*e*P	PKPdf	06 14 24.6	-10	
ROCAM	**Rodrigues Isla**	**153.08**	**108**	PKPdf	**PKPdf**	**06 14 38.7**	**+2.7**	
ROCAM					**PKiKP**	**06 14 45.6**	**+2.0**	
KOD	**Kodaikanal**	**153.24**	**30**	*e*P	PKPdf	06 14 27.5	-9.4	
SBUM	**Sibu**	**153.50**	**305**	IAMs_20	IAMs_20	07 34 03.1		
	comp=Z,660nm,22.0s							
TWSI	**Taliwang, Sumb**	**153.87**	**277**	PKP	**PKPdf**	**06 14 36.4**	**-1.0**	
TWSI				PKP	**PKPbc**	**06 14 38.4**	**-7.0**	
GMJI	**Gumukmas**	**157.07**	**280**	PKP	**PKPdf**	**06 14 40.7**	**-1.0**	
GMJI				PKP	**PKPdf**	**06 14 44.6**	**+2.9**	
PCJI	**Pacitan**	**159.22**	**282**	PKP	**PKPdf**	**06 14 43.8**	**-0.5**	
PCJI				PKP	**PKPdf**	**06 14 46.4**	**+2.1**	
WOJI	**Wonogiri, Jawa**	**159.36**	**283**	PKP	**PKPdf**	**06 14 44.2**	**-0.2**	
WOJI				PKP	**PKPdf**	**06 14 46.6**	**+2.2**	
SMRI	**Semarang**	**159.57**	**286**	PKP	**PKPdf**	**06 14 46.6**	**+1.9**	
SMRI				PKP	**PKPdf**	**06 14 48.4**	**+3.7**	
MLSI	**Meulaboh, Aceh**	**161.67**	**341**	PKP	**PKPdf**	**06 14 46.5**	**-0.5**	
MLSI				PKP	**PKPdf**	**06 14 49.6**	**+2.6**	
LEM	**Lembang**	**162.12**	**289**	PKP	**PKPdf**	**06 14 48.1**	**+0.5**	
	comp=Z,33nm,0.6s,baz=314,slow=22,SNR=1.9							
LEM				PKPab	**PKPab**	**06 15 35.2**	**+0.7**	
	comp=Z,17nm,0.3s,baz=17,slow=17,SNR=4.3							
MNSI	**Mandailing Nat**	**163.46**	**327**	PKP	**PKPdf**	**06 14 48.3**	**-0.5**	
MNSI				PKP	**PKPdf**	**06 14 48.6**	**-0.2**	
KLI	**Kotabumi**	**163.68**	**299**	PKP	**PKPdf**	**06 14 48.0**	**-1.0**	
KLI				PKP	**PKPdf**	**06 14 50.1**	**+1.1**	
CGJI	**Cibinong**	**163.78**	**293**	PKP	**PKPdf**	**06 14 49.2**	**+0.1**	
CGJI				PKP	**PKPdf**	**06 14 49.8**	**+0.7**	
GSI	**Gunungsitoli**	**163.98**	**334**	PKP	**PKPdf**	**06 14 49.5**	**+0.2**	
GSI				PKP	**PKPdf**	**06 14 51.2**	**+1.9**	
PPI	**Padang Panjang**	**164.02**	**322**	PKP	**PKPdf**	**06 14 49.2**	**-0.1**	
PPI				PKP	**PKPdf**	**06 14 49.3**	**-0.1**	
MDSI	**Maura Dua**	**164.05**	**302**	PKP	**PKPdf**	**06 14 48.7**	**-0.6**	
MDSI				PKP	**PKPdf**	**06 14 49.0**	**-0.3**	
LHSI	**Lahat**	**164.20**	**305**	PKP	**PKPdf**	**06 14 49.5**	**0.0**	
LHSI				PKP	**PKPdf**	**06 14 50.1**	**+0.6**	
KASI	**Kota Agung**	**164.33**	**298**	PKP	**PKPdf**	**06 14 50.0**	**+0.4**	
KASI				PKP	**PKPdf**	**06 14 50.8**	**+1.2**	
PDSI	**Padang**	**164.34**	**321**	PKP	**PKPdf**	**06 14 49.6**	**0.0**	
PDSI				PKP	**PKPdf**	**06 14 49.6**	**0.0**	
LWLI	**Liwa**	**164.44**	**301**	PKP	**PKPdf**	**06 14 50.2**	**+0.4**	
LWLI				PKP	**PKPdf**	**06 14 51.7**	**+1.9**	
KSI	**Kapahiang**	**164.82**	**308**	PKP	**PKPdf**	**06 14 50.3**	**+0.2**	
KSI				PKP	**PKPdf**	**06 14 50.7**	**+0.6**	

ASRS ***31*** *05:55:55.0±1.2,53.90N×86.66E,h0km,M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 31 05:55:55.7±2.6, 53.93N×86.74E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=22.0km s-min=13.4km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.13**	**272**	I	I	06 02 50.0	
	baz=89,slow=314,SNR=1.9						
ZALV	**Zalesovo Beam**	**1.13**	**272**	Pg	Pg	05 56 15.8	-1.6
	0.5nm,0.3s,baz=89,slow=16,SNR=6.1						
ZALV				Lg	Lg	05 56 33.7	
	3.3nm,0.3s,baz=94,slow=30,SNR=31						
KURBB	**Kurchatov Arra**	**6.02**	**240**	Pn	Pn	05 57 26.4	+0.4
	0.1nm,0.3s,baz=56,sl

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.44**	**29**	*i* P	**Pn**	**06 12 45.9**	**-0.2**
LALI	**Alcalda de L**	**0.44**	**29**	P	**Pn**	**06 12 45.8**	**-0.2**
JAYA	**Jayaque - finc**	**0.55**	**9**	*eP*	**Pn**	**06 12 47.4**	**-0.4**
JAYA				*eS*	**Sn**	**06 12 55.3**	**-0.8**
JAYA	**Jayaque - finc**	**0.55**	**9**	*i* P	**Pn**	**06 12 47.3**	**-0.4**
JAYA				*i* S	**Sn**	**06 12 56.3**	**+0.3**
JAYA	**Jayaque - finc**	**0.55**	**9**	P	**Pn**	**06 12 47.3**	**-0.4**
LOMA	**Loma Larga**	**0.65**	**34**	*eP*	**Pn**	**06 12 48.6**	**-0.3**
LOMA	**Loma Larga**	**0.65**	**34**	S	**Sn**	**06 12 57.7**	**-0.5**
LOMA	**Loma Larga**	**0.65**	**34**	P	**Pn**	**06 12 47.6**	**-1.3**
LFRS	**El Faro**	**0.69**	**42**	*eP*	**Pn**	**06 12 49.1**	**-0.4**
UDBS	**Universidad Do**	**0.71**	**32**	*eP*	**Pn**	**06 12 49.3**	**-0.4**
QUEZ	**Alcaldia de Qu**	**0.77**	**20**	*eP*	**Pn**	**06 12 52.9**	**+2.4**
RTR	**El Retiro**	**0.80**	**353**	*eP*	**Pn**	**06 12 50.9**	**0.0**
PAVA	**Las Pavas**	**0.84**	**44**	P	**Pn**	**06 12 51.4**	**-0.1**
PAVA	**Las Pavas**	**0.84**	**44**	S	**Sn**	**06 13 03.7**	**+0.9**
TECO	**Alcaldia de Te**	**0.85**	**60**	S	**Sn**	**06 13 02.4**	**-0.5**
TECO	**Alcaldia de Te**	**0.85**	**60**	P	**Pn**	**06 12 50.8**	**-0.8**
FAME	**Alcaldia de Sa**	**0.87**	**328**	P	**Pn**	**06 12 51.3**	**-0.5**
FAME	**Alcaldia de Sa**	**0.87**	**328**	S	**Sn**	**06 13 02.8**	**-0.5**
UNIC	**Universidad Ca**	**0.87**	**359**	*eP*	**Pn**	**06 12 51.7**	**-0.2**
UNIC	**Universidad Ca**	**0.87**	**359**	P	**Pn**	**06 12 51.8**	**-0.1**
UNIC	**Universidad Ca**	**0.87**	**359**	S	**Sn**	**06 13 03.9**	**+0.4**
UESV	**Universidad de**	**0.90**	**54**	P	**Pn**	**06 12 51.8**	**-0.5**
UESV	**Universidad de**	**0.90**	**54**	S	**Sn**	**06 13 03.9**	**-0.2**
SLOZ	**Alcaldia de Sa**	**0.95**	**345**	*eP*	**Pn**	**06 12 52.9**	**0.0**
SLOZ				*eS*	**Sn**	**06 13 05.9**	**+0.6**
SLOZ	**Alcaldia de Sa**	**0.95**	**345**	P	**Pn**	**06 12 52.7**	**-0.2**
SLOZ	**Alcaldia de Sa**	**0.95**	**345**	S	**Sn**	**06 13 06.6**	**+1.3**
ALJI	**Alcaldia de J**	**0.97**	**77**	*eP*	**Pn**	**06 12 54.7**	**+1.6**
SCLA	**Alcaldia de Sa**	**0.99**	**53**	P	**Pn**	**06 12 53.2**	**-0.2**
TECA	**Tecapa**	**1.08**	**69**	*eP*	**Pn**	**06 12 53.9**	**-0.9**
PQSS	**Presa 15 de Se**	**1.08**	**61**	P	**Pn**	**06 12 54.1**	**-0.5**
LLGN	**La Laguna**	**1.20**	**29**	P	**Pn**	**06 12 55.7**	**-0.7**
LLGN	**La Laguna**	**1.20**	**29**	S	**Sn**	**06 13 12.0**	**+0.4**
PACA	**Pacayal**	**1.24**	**73**	*eP*	**Pn**	**06 12 57.5**	**+0.5**
MTO3	**Montecristo**	**1.30**	**8**	*i* P	**Pn**	**06 12 57.4**	**-0.5**
MTO3				*i* S	**Sn**	**06 13 14.5**	**+0.3**
MTO3	**Montecristo**	**1.30**	**8**	P	**Pn**	**06 12 57.3**	**-0.5**
MTO3	**Montecristo**	**1.30**	**8**	S	**Sn**	**06 13 13.9**	**-0.3**
ESQI	**Esquipulas**	**1.46**	**8**	P	**Pn**	**06 12 59.8**	**-0.2**
ESQI	**Esquipulas**	**1.46**	**8**	S	**Sn**	**06 13 18.4**	**+0.4**
LCND	**La Caada**	**1.62**	**83**	*eP*	**Pn**	**06 13 01.7**	**-0.3**
LCND	**La Caada**	**1.62**	**83**	P	**Pn**	**06 13 02.0**	**0.0**
MARCA	**Marcala la Paz**	**1.80**	**54**	*i* P	**Pn**	**06 13 04.3**	**-0.4**
SARH	**Santa Rosa de**	**1.83**	**24**	*i* P	**Pn**	**06 13 05.1**	**+0.1**
SARH				*i* S	**Sn**	**06 13 27.9**	**+1.0**

*GCG **31** 06:21:11.2±0.3, 14°.85N×92°.27W, h88km±5km, MD3.3, ML3.0*
*MEX **31** 06:21:11.8±0.8, 14°.68N×92°.39W, h87km±9km, MD3.6*
ISC 31 06:21:07.5±2.8, 14°.4N±0°.1×92°.4W±0°.1, h85km±17km, n7, σ1°58/14, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.52**	**18**	*eP*	**Pn**	**06 21 22.9**	**+1.0**
THIG				*eS*	**Sn**	**06 21 32.5**	**-0.1**
SMCA	**Catarina**	**0.56**	**38**	*eP*	**Pn**	**06 21 23.9**	**+1.6**
SMCA				*i* S	**Sn**	**06 21 33.9**	**+0.6**
SMCA				IAML		06 21 34.5	
	comp=N,516nm,0.1s						
PATR	**El Naranjo**	**0.72**	**15**	*eP*	**Pn**	**06 21 24.5**	**+0.4**
PATR				*eS*	**Sn**	**06 21 34.4**	**-2.1**
PAVE	**Pavencul**	**0.81**	**18**	*eP*	**Pn**	**06 21 25.8**	**+0.8**
PAVE				*eS*	**Sn**	**06 21 36.6**	**-1.5**
STG2	**El Palmar, Qui**	**1.02**	**89**	*eP*	**Pn**	**06 21 27.7**	**+0.4**
STG2				*i* S	**Sn**	**06 21 40.1**	**-2.0**
PCIG		**1.49**	**329**	*eP*	**Pn**	**06 21 33.8**	**+0.9**
PCIG				*eS*	**Sn**	**06 21 50.0**	**-2.2**
CCIG	**Comitan**	**1.88**	**9**	*eP*	**Pn**	**06 21 39.9**	**+1.7**
CCIG				*eS*	**Sn**	**06 22 00.6**	**-0.9**

*NEIC **31** 06:26:10.1±2.2, 47°.444N±0°.008×122°.178W±0°.01, h10km±1km, Error ellipse: s-maj=2.2km s-min=1.8km az=339.0*
*SEA **31** 06:26:10.5±1.5, 47°.465N±0°.009×122°.16W±0°.02, h16km±1km, ML1.8/11, ML1.7/22(NEIC), Error ellipse: s-maj=1.8km s-min=1.2km az=65.0*
PNSN 31 06:26:10.5, 47°.47N×122°.16W, h16km, MD1.8, Fault plane solution: NP1:ϕs145.00000°, δ75.00000°, λ50.00000°., Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSFP	**Boeing Fire Pr**	**0.11**	**300**		Sb	06 26 17.5	+0.7
SP2	**Seward Park 2**	**0.11**	**326**		Pg	06 26 13.6	-0.4
SP2					Sb	06 26 16.7	0.0
TKCO	**King County**	**0.12**	**307**		Pg	06 26 14.0	-0.1
TKCO					Sb	06 26 17.2	+0.1
HICC	**Highline Commu**	**0.12**	**232**		Pg	06 26 13.8	-0.3
HICC					Sb	06 26 17.2	+0.1
MARYW	**Marymoor Park**	**0.20**	**7**		Pb	06 26 15.9	+0.1
MARYW					Sb	06 26 21.1	+1.8
ALCT	**Alcott Element**	**0.20**	**24**		Sb	06 26 20.3	+0.9
VVHS	**Vashon High Sc**	**0.21**	**258**		Pg	06 26 14.9	-0.4
CDMR	**Cedar Moraine**	**0.28**	**99**		Pg	06 26 19.0	-0.4
PAYL	**Puyallup Schoo**	**0.29**	**201**		Sb	06 26 22.4	+0.4
D05A	**Enumclaw**	**0.30**	**157**		Pg	06 26 16.8	0.0
D05A				Sg	Sg	06 26 20.8	-0.4
LEOT	**Leota Junior H**	**0.30**	**5**		Sb	06 26 23.6	+1.2
BLH	**Bald Hill**	**0.38**	**13**		Pg	06 26 17.9	-0.4
TTW	**Tolt Reservoir**	**0.39**	**54**		Sg	06 26 23.6	-0.4
HTW	**Haystack Looko**	**0.43**	**38**		Pg	06 26 18.4	-0.8
HTW					Sg	06 26 24.8	-0.3
GHW	**Garrison Hill**	**0.43**	**190**		Pg	06 26 18.4	-0.7
GMW	**Gold Mountain**	**0.43**	**281**		Pg	06 26 18.4	-0.9
GNW	**Green Mountain**	**0.46**	**283**		Pg	06 26 19.0	-0.8
GNW	**Green Mountain**	**0.46**	**283**	Sg	Sg	06 26 25.7	-0.4
GNW				IAML		06 26 26.3	
	comp=N,40nm,0.5s						
GNW				IAML		06 26 26.3	
	comp=E,32nm,0.4s						
B941	**Kapowsin**	**0.48**	**185**		Pg	06 26 19.1	-1.0
D04E	**Lakebay**	**0.51**	**236**		Pg	06 26 20.4	-0.2
D04E					Sb	06 26 29.3	+1.2
RVC	**Mount Rainier-**	**0.54**	**166**		Pg	06 26 20.5	-0.7
C04A	**Brinnon**	**0.61**	**295**		Pg	06 26 21.1	-1.3
B013	**Quilcene**	**0.62**	**305**		Pg	06 26 21.3	-1.3
B013	**Quilcene**	**0.62**	**305**		Pg	06 26 21.3	-1.3
HDW	**Hoodsport**	**0.63**	**287**		Pg	06 26 21.7	-1.3
RCS	**Mount Rainier-**	**0.66**	**154**		Pg	06 26 22.6	-1.0
PANH	**Panhandle Gap,**	**0.70**	**150**		Pg	06 26 23.2	-1.1
JCW	**Jim Creek**	**0.74**	**12**		Pg	06 26 24.5	-0.6
LON	**Longmire**	**0.75**	**162**	Pg	Pg	06 26 24.9	-0.3
B05A	**Bryant**	**0.80**	**3**		Pb	06 26 24.7	-1.3
B05A					Sb	06 26 35.9	-0.8
SMW	**South Mountain**	**0.82**	**260**		Pb	06 26 25.9	-1.1
GPW	**Glacier Peak**	**0.95**	**46**		Pb	06 26 27.6	-1.2
WRW	**Wenatchee Ridg**	**0.95**	**65**		Pb	06 26 27.8	-0.9
LTY	**Liberty**	**1.03**	**101**	Sg	Sb	06 26 42.8	-0.6
LTY				IAML		06 26 43.2	
	comp=E,29nm,0.1s						
LTY				IAML		06 26 43.3	
	comp=N,15nm,0.4s						
LTY	**Liberty**	**1.03**	**101**		Pb	06 26 29.1	-0.9
B017	**Montesano**	**1.06**	**244**		Pb	06 26 29.4	-1.1
B04A	**Port Angeles**	**1.08**	**304**		Pb	06 26 31.0	+0.1
B04A				IAML		06 26 50.3	
	comp=N,13nm,1.6s						
B04A				IAML		06 26 51.6	
	comp=E,11nm,4.9s						
WISH	**Wishkah**	**1.15**	**253**	Pn	Pn	06 26 31.4	-0.6
WISH				IAML		06 27 01.5	
	comp=N,21nm,3.6s						
WISH				IAML		06 27 07.6	
	comp=E,15nm,3.7s						
NLWA	**Neilton Lookou**	**1.17**	**267**		Pn	06 26 30.8	-1.4
NLWA					Sn	06 26 47.0	-0.1
NLWA				IAML		06 26 52.1	
	comp=E,24nm,0.7s						
NLWA				IAML		06 26 52.2	
	comp=E,22nm,0.4s						
EBG	**Ellensburg**	**1.22**	**117**		Pn	06 26 33.0	+0.1
MCW	**Mount Constitu**	**1.30**	**340**		Pn	06 26 33.0	-1.0
E03A	**Lebam**	**1.33**	**227**		Pn	06 26 32.4	-2.0
E03A	**Lebam**	**1.33**	**227**	IAML		06 26 55.4	
	comp=E,16nm,0.4s						
MBW	**Mount Baker**	**1.33**	**7**		Pn	06 26 34.2	-0.4
NLW	**Nelson Butte**	**1.37**	**63**		Pn	06 26 35.5	+0.3
PGC	**Sidney**	**1.47**	**324**	Pn	Pn	06 26 35.9	-0.4
PGC				IAML		06 26 57.6	
	comp=N,9.4nm,2.4s						
PGC				IAML		06 26 58.1	
	comp=E,9.8nm,2.3s						
RADR	**Rader Ridge**	**1.53**	**228**	Pn	Pn	06 26 37.0	-0.3
F03A	**Seaside**	**1.81**	**213**	Pn	Pn	06 26 41.1	+0.1

*CATAC **31** 06:53:44.3±0.6, 13°.N±3°×9°.0W±°, h27km±3km, M3.0/17, MLv3.0/17, Error ellipse: s-maj=7.4km s-min=4.4km az=24.2, confirmed*
*GCG **31** 06:53:45.0±0.9, 13°.17N×89°.50W, h56km±5km, MD3.7, ML2.2*
*SNET **31** 06:53:45.0±1.0, 13°.15N×89°.51W, h46km, ML2.9*
ISC 31 06:53:45.6±2.1, 13°.14N±0°.10×89°.52W±0°.07, h45km±12km, n65, σ0°64/71, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.39**	**29**	*eP*	**Pn**	**06 53 54.9**	**-0.4**
LALI				*eS*	**Sn**	**06 54 03.1**	**+0.9**
LALI	**Alcalda de L**	**0.39**	**29**	*i* P	**Pn**	**06 53 54.9**	**-0.4**
LALI				*i* S	**Sn**	**06 54 03.3**	**+1.1**
LALI				IAML		06 54 05.8	
	comp=E,123nm,0.2s						
LALI	**Alcalda de L**	**0.39**	**29**	P	**Pn**	**06 53 54.8**	**-0.4**
JAYA	**Jayaque - finc**	**0.51**	**7**	*eP*	**Pn**	**06 53 56.3**	**-0.6**
JAYA	**Jayaque - finc**	**0.51**	**7**	*i* P	**Pn**	**06 53 56.3**	**-0.6**
JAYA				*i* S	**Sn**	**06 54 05.4**	**+0.5**
JAYA	**Jayaque - finc**	**0.51**	**7**	S	**Sn**	**06 54 04.6**	**-0.3**
JAYA	**Jayaque - finc**	**0.51**	**7**	P	**Pn**	**06 53 56.4**	**-0.6**
PMON	**Piamonte**	**0.60**	**19**	*eP*	**Pn**	**06 53 57.3**	**-0.6**
PMON	**Piamonte**	**0.60**	**19**	P	**Pn**	**06 53 57.3**	**-0.6**
LOMA	**Loma Larga**	**0.60**	**34**	*eP*	**Pn**	**06 53 57.1**	**-0.9**
LOMA	**Loma Larga**	**0.60**	**34**	P	**Pn**	**06 53 57.1**	**-0.9**
LOMA	**Loma Larga**	**0.60**	**34**	S	**Sn**	**06 54 06.6**	**-0.3**
UEES	**Universidad Ev**	**0.63**	**25**	*eP*	**Pn**	**06 53 58.0**	**-0.4**
UEES				*eS*	**Sn**	**06 54 08.0**	**+0.5**
UEES	**Universidad Ev**	**0.63**	**25**	S	**Sn**	**06 54 08.1**	**+0.6**
UEES	**Universidad Ev**	**0.63**	**25**	P	**Pn**	**06 53 58.0**	**-0.4**
BOQS	**Boqueron**	**0.63**	**21**	*eP*	**Pn**	**06 53 58.1**	**-0.4**
UTEC	**Universidad Te**	**0.63**	**29**	*eP*	**Pn**	**06 53 57.8**	**-0.6**
UTEC	**Universidad Te**	**0.63**	**29**	P	**Pn**	**06 53 57.8**	**-0.6**
UTEC	**Universidad Te**	**0.63**	**29**	S	**Sn**	**06 54 08.0**	**+0.4**
LFRS	**El Faro**	**0.65**	**43**	*eP*	**Pn**	**06 53 58.3**	**-0.4**
IGN	**Direccin Gen**	**0.66**	**31**	*eP*	**Pn**	**06 53 57.6**	**-1.2**
IGN	**Direccin Gen**	**0.66**	**31**	S	**Sn**	**06 54 08.5**	**+0.4**
IGN	**Direccin Gen**	**0.66**	**31**	P	**Pn**	**06 53 57.8**	**-0.9**
CEDA	**San Andres**	**0.67**	**10**	P	**Pn**	**06 53 58.0**	**-0.7**
CEDA	**San Andres**	**0.67**	**10**	S	**Sn**	**06 54 08.9**	**+0.7**
UDBS	**Universidad Do**	**0.67**	**32**	*eP*	**Pn**	**06 53 58.4**	**-0.5**
LFU	**La Fuente**	**0.72**	**33**	*eP*	**Pn**	**06 53 59.3**	**-0.2**
SNJE	**San Jose**	**0.72**	**353**	*eP*	**Pn**	**06 53 59.2**	**-0.5**
LBRS	**Las Brisas**	**0.75**	**38**	*eP*	**Pn**	**06 53 59.7**	**-0.3**
RTR	**El Retiro**	**0.76**	**350**	*eP*	**Pn**	**06 53 59.8**	**-0.3**
PAVA	**Las Pavas**	**0.80**	**45**	*eP*	**Pn**	**06 54 00.3**	**-0.4**
PAVA				*eS*	**Sn**	**06 54 12.5**	**+1.0**
PAVA	**Las Pavas**	**0.80**	**45**	P	**Pn**	**06 54 00.5**	**-0.2**
TECO	**Alcaldia de Te**	**0.82**	**61**	*eP*	**Pn**	**06 53 59.6**	**-1.1**
TECO	**Alcaldia de Te**	**0.82**	**61**	P	**Pn**	**06 53 59.7**	**-1.1**
TECO	**Alcaldia de Te**	**0.82**	**61**	S	**Sn**	**06 54 11.5**	**-0.3**
UNIC	**Universidad Ca**	**0.83**	**358**	*eP*	**Pn**	**06 54 00.8**	**-0.3**
UNIC	**Universidad Ca**	**0.83**	**358**	S	**Sn**	**06 54 12.6**	**+0.3**
UNIC	**Universidad Ca**	**0.83**	**358**	P	**Pn**	**06 54 00.6**	**-0.4**
FAME	**Alcaldia de Sa**	**0.85**	**325**	P	**Pn**	**06 54 00.2**	**-1.0**
UESV	**Universidad de**	**0.86**	**55**	S	**Sn**	**06 54 12.7**	**-0.3**
UESV	**Universidad de**	**0.86**	**55**	P	**Pn**	**06 54 00.7**	**-0.7**
SLOZ	**Alcaldia de Sa**	**0.91**	**344**	*eP*	**Pn**	**06 54 01.7**	**-0.4**
SLOZ	**Alcaldia de Sa**	**0.91**	**344**	P	**Pn**	**06 54 01.8**	**-0.4**
SLOZ	**Alcaldia de Sa**	**0.91**	**344**	S	**Sn**	**06 54 15.7**	**+1.4**
ALJI	**Alcalda de J**	**0.94**	**79**	S	**Sn**	**06 54 16.0**	**+1.2**
ALJI	**Alcalda de J**	**0.94**	**79**	P	**Pn**	**06 54 03.0**	**+0.6**
SCLA	**Alcaldia de Sa**	**0.95**	**54**	*eP*	**Pn**	**06 54 02.1**	**-0.5**
SCLA	**Alcaldia de Sa**	**0.95**	**54**	P	**Pn**	**06 54 02.0**	**-0.5**
SCLA	**Alcaldia de Sa**	**0.95**	**54**	S	**Sn**	**06 54 15.3**	**+0.3**
PQSS	**Presa 15 de Se**	**1.05**	**63**	P	**Pn**	**06 54 03.3**	**-0.6**
LLGN	**La Laguna**	**1.16**	**29**	P	**Pn**	**06 54 04.7**	**-0.8**
LLGN	**La Laguna**	**1.16**	**29**	S	**Sn**	**06 54 20.4**	**+0.2**
PACA	**Pacayal**	**1.21**	**74**	*eP*	**Pn**	**06 54 06.0**	**-0.1**
MTO3	**Montecristo**	**1.26**	**7**	*i* P	**Pn**	**06 54 06.5**	**-0.5**
MTO3	**Montecristo**	**1.26**	**7**	*i* P	**Pn**	**06 54 06.4**	**-0.5**
MTO3				*i* S	**Sn**	**06 54 23.4**	**+0.6**
MTO3	**Montecristo**	**1.26**	**7**	P	**Pn**	**06 54 06.5**	**-0.5**
ESQI	**Esquipulas**	**1.42**	**7**	*i* P	**Pn**	**06 54 08.8**	**-0.3**
ESQI	**Esquipulas**	**1.42**	**7**	P	**Pn**	**06 54 08.8**	**-0.3**
ESQI	**Esquipulas**	**1.42**	**7**	S	**Sn**	**06 54 27.5**	**+0.9**
LCND	**La Caada**	**1.59**	**84**	*eP*	**Pn**	**06 54 10.9**	**-0.4**
CNCH	**Conchagua**	**1.64**	**85**	*eP*	**Pn**	**06 54 11.6**	**-0.5**
CNCH	**Conchagua**	**1.64**	**85**	P	**Pn**	**06 54 11.6**	**-0.5**
CNCH	**Conchagua**	**1.64**	**85**	S	**Sn**	**06 54 32.7**	**+0.5**
MARCA	**Marcala la Paz**	**1.76**	**55**	*i* P	**Pn**	**06 54 13.0**	**-0.7**
SARH	**Santa Rosa de**	**1.78**	**24**	*i* P	**Pn**	**06 54 14.0**	**0.0**

*CATAC **31** 07:09:32.3±1.1, 14°.N±7°×9°.4W±°, h11km±10km, M3.8/10, MLv3.8/10, Error ellipse: s-maj=15.7km s-min=7.8km az=30.4, confirmed*
*MEX **31** 07:09:34.3±0.8, 14°.09N×93°.60W, h10km, MD4.1*
ISC 31 07:09:31.7±1.5, 14°.08N±0°.09×93°.58W±0°.03, h22km, n22, σ2°42/37, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.51**	**57**	*i* P	**Pn**	**07 09 58.0**	**+0.5**
THIG				*eS*	**Sn**	**07 10 15.6**	**-0.9**
PCIG		**1.65**	**12**	*eP*	**Pn**	**07 09 59.3**	**-0.1**
PCIG				*eS*	**Sn**	**07 10 17.7**	**-2.2**
PATR	**El Naranjo**	**1.66**	**51**	*eP*	**Pn**	**07 09 59.6**	**-0.1**
PATR				*eS*	**Sn**	**07 10 19.8**	**-0.7**
PAVE	**Pavencul**	**1.75**	**51**	*eP*	**Pn**	**07 10 01.2**	**+0.3**
PAVE				*eS*	**Sn**	**07 10 23.3**	**+0.6**
RTAL	**Retalhuleu**	**1.88**	**76**	*eP*	**Pn**	**07 10 03.4**	**+0.9**
RTAL				*i* S	**Sn**	**07 10 26.5**	**+0.9**
RTAL	**Retalhuleu**	**1.88**	**76**	P	**Pn**	**07 10 02.9**	**+0.4**
HUEH	**Huehuetenango**	**2.35**	**58**	*eP*	**Pn**	**07 10 11.2**	**+1.9**
HUEH				*eS*	**Sn**	**07 10 36.8**	**-0.8**
HUEH	**Huehuetenango**	**2.35**	**58**	P	**Pn**	**07 10 11.6**	**+2.4**
CCIG	**Comitan**	**2.59**	**32**	*eP*	**Pn**	**07 10 15.1**	**+2.5**
CCIG				*eS*	**Sn**	**07 10 44.9**	**+1.4**
CCIG	**Comitan**	**2.59**	**32**	P	**Pb**	**07 10 15.5**	**-2.1**
TGIG		**2.72**	**9**	*eP*	**Pn**	**07 10 16.6**	**+2.5**
TGIG				*eS*	**Sn**	**07 10 46.3**	**0.0**
HUIG	**Huatulco**	**2.97**	**305**	*eP*	**Pn**	**07 10 18.5**	**+1.0**
HUIG				*eS*	**Sn**	**07 10 48.6**	**-3.8**
CMIG	**Matias Romero**	**3.25**	**337**	*eP*	**Pn**	**07 10 23.0**	**+1.7**
FAME	**Alcaldia de Sa**	**3.47**	**93**	P	**Pn**	**07 10 25.5**	**+1.1**
PEIG	**Puerto Escondi**	**3.94**	**299**	*eP*	**Pn**	**07 10 33.1**	**+2.2**
PEIG				*eS*	**Sn**	**07 11 11.8**	**-4.7**
VHO	**Vista Hermosa**	**4.25**	**315**	*eS*	**Sn**	**07 11 24.6**	**+0.2**
PETF	**Flores**	**4.55**	**51**	P	**Pn**	**07 10 41.7**	**+2.4**
YOIG	**Yosondua**	**4.72**	**306**	*eP*	**Pn**	**07 10 46.0**	**+4.2**
YOIG				*eS*	**Sn**	**07 11 37.2**	**+1.2**
PNIG	**Pinotepa**	**4.96**	**298**	*eP*	**Pn**	**07 10 47.4**	**+2.5**
PNIG				*eS*	**Sn**	**07 11 36.0**	**-5.5**
TXIG	**Tlaxiaco**	**5.12**	**309**	*eP*	**Pn**	**07 10 51.3**	**+3.9**
TXIG				*eS*	**Sn**	**07 11 49.9**	**+3.9**
TOIG	**Toxpalan**	**5.21**	**320**	*eP*	**Pn**	**07 10 49.6**	**+1.1**
TOIG				*eS*	**Sn**	**07 11 44.5**	**-3.5**
HLIG	**Huajuapan de L**	**5.51**	**313**	*eP*	**Pn**	**07 10 55.6**	**+2.9**
HLIG				*eS*	**Sn**	**07 11 57.0**	**+1.4**

*ASRS **31** 07:15:24.0±0.8, 54°.36N×86°.91E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 31 07:15:24.0±3.6, 54°.46N×87°.22E, h0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=31.3km s-min=22.9km az=24.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**251**	I	I	07 24 00.0	
	baz=70,slow=312,SNR=1.9						
ZALV	**Zalesovo Beam**	**1.50**	**251**	Pg	Pn	07 15 50.5	-1.7
	1.3nm,0.3s,baz=66,slow=14,SNR=8.3						
ZALV				Lg	Lg	07 16 12.8	
	0.8nm,0.3s,baz=67,slow=16,SNR=7.0						
KURBB	**Kurchatov Arra**	**6.55**	**238**	Pn	Pn	07 17 02.0	+0.5
	baz=54,slow=14,SNR=4.8						
KURBB				Sn	Sn	07 18 15.0	-1.7
	baz=65,slow=23,SNR=2.0						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**8.29**	**204**	Pn	Pn	07 17 26.9	+1.5
	0.1nm,0.3s,baz=26,slow=14,SNR=2.9						
	0.2nm,0.4s						

*IDC **31** 07:16:24.5±2.0, 22°.94S×176°.65W, h107km±17km, mb4.3/19, mbtmp4.6/20, Error ellipse: s-maj=16.2km s-min=11.8km az=97.0*
*NEIC **31** 07:16:25.3±2.5, 23°.06S±0°.09×176°.5W±0°.1, h116km±6km, mb4.7/116, Error ellipse: s-maj=14.8km s-min=12.7km az=101.0*
*NOU **31** 07:16:32.1, 22°.58S×175°.96W, h182km, mb5.4/17, Tonga Islands Region*
ISC 31 07:16:23.4±0.3, 23°.27S±0°.05×176°.35W±0°.05, h100km, n506, σ2°02/455, mb4.8/78, 20C-13D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**5.52**	**335**	P	**Pn**	**07 17 46.7**	**+3.6**
RIZ	**Raoul Island**	**6.12**	**193**	P	**Pn**	07 17 56.2	+5.0
RIZ				S	**Sn**	**07 19 06.9**	**+7.1**
RAO	**Raoul Island**	**6.12**	**193**		Pn	07 17 56.4	+5.1
RAO	**Raoul Island**	**6.12**	**193**	P	Pn	07 17 56.9	+5.6
	807nm,0.3s,baz=83,slow=9.7,SNR=15						
RAO				S	**Sn**	**07 19 06.1**	**+6.2**
	3µm,0.3s,baz=266,slow=23,SNR=14						
GLKZ	**Green Lake**	**6.13**	**193**	P	**Pn**	**07 17 55.9**	**+4.5**
GLKZ				S	**Sn**	**07 19 06.5**	**+6.4**
NIUE	**Niue**	**7.30**	**56**	Pn	**Pn**	**07 18 07.3**	**-0.1**
NIUE	**Niue**	**7.30**	**56**	P	**Pn**	**07 18 07.5**	**+0.1**
TAVE	**Taveuni**	**7.34**	**332**	P	**Pn**	**07 18 12.1**	**+4.2**
MSVF	**Nonsavu**	**7.61**	**315**		**Pn**	**07 18 16.0**	**+4.4**
MSVF	**Nonsavu**	**7.61**	**315**	P	Pn	07 18 16.3	+4.6
DGTI	**Dogotuki**	**7.85**	**331**	P	**Pn**	**07 18 18.7**	**+3.8**
YSA	**Yasawairara**	**8.68**	**318**	P	**Pn**	**07 18 29.9**	**+3.7**
FUTU	**Fugatoga**	**9.07**	**349**		**Pn**	**07 18 34.1**	**+2.6**
FUTU	**Fugatoga**	**9.07**	**349**	P	**Pn**	**07 18 32.7**	**+1.2**
AFI	**Afiamalu**	**10.27**	**26**		Pn	07 18 44.5	-3.3
AFI	**Afiamalu**	**10.27**	**26**	P	Pn	07 18 44.6	-3.2
INH	**Isangel**	**13.89**	**283**	P	**P**	**07 19 44.3**	**+3.4**
OUZ	**Omahuta**	**14.78**	**214**	P	**P**	**07 19 52.4**	**+1.9**
PINNC	**Pines Island,**	**14.95**	**269**		**P**	**07 19 53.6**	**+1.0**
WCZ	**Waipu Caves**	**14.98**	**211**	P	**P**	**07 19 54.5**	**+1.6**
KUZ	**Kuaotunu**	**15.07**	**205**	P	**Pn**	**07 19 52.0**	**+1.1**
WMGZ	**Waiomatatini S**	**15.18**	**196**	P	**Pn**	**07 19 47.8**	**-4.5**
WMGZ				S	**Sn**	**07 22 30.2**	**-10**
HAZ	**Te Kaha**	**15.29**	**198**	P	**Pn**	**07 19 48.7**	**-4.9**
HAZ				S	**Sn**	**07 22 33.7**	**-8.9**
PKGZ	**Pakihiroa**	**15.31**	**197**	P	**Pn**	**07 19 47.9**	**-6.1**
PKGZ				S	**Sn**	**07 22 32.7**	**-10**
PUZ	**Puketiti**	**15.46**	**196**	P	**Pn**	**07 19 53.7**	**-2.2**
PUZ				S	Sn	07 22 34.8	-12
**RAR

THZ					IAmb	IAmb	07 21 03.8		
	comp=Z,35nm,0.6s								
INZ	**Inchbonnie**	**21.89**	**205**			**P**	**07 21 07.0**	**-1.1**	
OXZ	**Oxford**	**22.19**	**203**		P	**P**	**07 21 08.1**	**-3.2**	
RPZ	**Rata Peaks**	**22.89**	**204**			**P**	**07 21 16.1**	**-2.3**	
FOZ	**Fox Glacier**	**23.21**	**206**			**P**	**07 21 21.8**	**+0.3**	
ODZ	**Otahua Downs**	**24.18**	**203**		P	**P**	**07 21 37.3**	**+7.0**	
TBI	**Tubuai**	**24.68**	**96**		*e*S	**S**	**07 25 44.8**	**-4.9**	
	comp=Z,3µm,26.5s								
PPT2	**Papeete2**	**25.69**	**82**		*e*S	**S**	**07 26 10.2**	**+4.2**	
	comp=Z,935nm,27.0s								
PPT2					*e*LR	LR	07 28 22.5		
	comp=Z,235nm,22.2s								
PPT2					*e*LR	LR	07 28 28.4		
	comp=Z,204nm,25.0s								
WHZ	**Wether Hill Ro**	**25.92**	**206**		P	**P**	**07 21 47.1**	**+1.1**	
ALEG	**Aligegeo Malai**	**26.31**	**300**		P	**P**	**07 21 49.7**	**-0.2**	
CTAO	**Charters Tower**	**34.84**	**268**		P	**P**	**07 23 04.8**	**-0.2**	
TOO	**Toolangi**	**35.61**	**237**		P	**P**	**07 23 12.0**	**+0.6**	
TAOE	**Nuku Hiva Isla**	**37.49**	**74**		*e*LR	LR	07 33 41.6		
	comp=Z,227nm,25.8s								
PMG	**Port Moresby**	**37.51**	**285**		P	**P**	**07 23 27.1**	**-0.7**	
STKA	**Stephens Creek**	**38.06**	**248**		P	**P**	**07 23 31.6**	**-0.8**	
STKA	**Stephens Creek**	**38.06**	**248**		P	**P**	**07 23 31.4**	**-0.9**	
	comp=Z,8.1nm,0.5s,baz=96,slow=12,SNR=23								
	comp=Z,8.1nm,0.5s								
BBOO	**Buckleboo**	**42.77**	**246**		P	**P**	**07 24 10.0**	**-1.1**	
BBOO					IAmb	IAmb	07 24 11.7		
	comp=Z,11nm,0.8s								
ASAR	**Alice Springs**	**45.44**	**259**		P	**P**	**07 24 31.2**	**-1.4**	
	comp=Z,5.7nm,0.6s,baz=99,slow=6.9,SNR=61								
ASAR					ScP	**ScP**	**07 29 51.6**	**-2.4**	
	comp=Z,0.9nm,0.7s,baz=104,slow=4.4,SNR=4.1								
ASAR					S	S	07 30 56.1	-11	
	comp=Z,2.2nm,0.9s,baz=100,slow=15,SNR=8.8								
	comp=Z,5.7nm,0.6s								
WR8	**Warramunga Arr**	**45.65**	**264**		P	**P**	**07 24 32.4**	**-1.9**	
WR8					IAmb	IAmb	07 24 34.6		
	comp=Z,23nm,1.4s								
WB0	**Warramunga Arr**	**45.79**	**265**		IAmb	IAmb	07 24 34.2		
	comp=Z,12nm,0.7s								
WRAB	**Tennant Creek**	**45.79**	**264**		P	**P**	**07 24 33.5**	**-1.9**	
WRAB					IAmb	IAmb	07 24 43.6		
	comp=Z,8.4nm,0.7s								
WRA	**Warramunga Arr**	**45.80**	**264**		P	**P**	**07 24 33.5**	**-2.0**	
WRA	**Warramunga Arr**	**45.80**	**264**		P	**P**	**07 24 33.5**	**-2.0**	
	comp=Z,7.2nm,0.5s,baz=89,slow=6.0,SNR=144								
WRA					ScP	**ScP**	**07 29 53.0**	**-2.4**	
	comp=Z,1.2nm,0.9s,baz=102,slow=3.4,SNR=4.5								
WRA					S	S	07 30 57.3	-15	
	comp=Z,2.8nm,0.8s,baz=111,slow=13,SNR=9.3								
	comp=Z,7.2nm,0.5s								
MTN	**Manton Dam**	**50.77**	**272**		IAmb	IAmb	07 25 12.6		
	comp=Z,9.8nm,0.8s								
KNRA	**Kununurra**	**52.05**	**268**		P	**P**	**07 25 21.8**	**-1.4**	
FITZ	**Fitzroy Crossi**	**54.22**	**264**		S	S	07 32 58.1	-11	
	comp=Z,2.8nm,1.0s,baz=168,slow=20,SNR=1.5								
SBA	**Scott Base**	**55.23**	**184**			**P**	**07 25 49.6**	**+4.1**	
VNDA	**Vanda**	**55.31**	**186**			**P**	**07 25 49.0**	**+2.9**	
VNDA	**Vanda**	**55.31**	**186**		P	**P**	**07 25 49.5**	**+3.4**	
	comp=Z,3.9nm,0.8s,baz=355,slow=8.3,SNR=16								
	comp=Z,3.9nm,0.8s								
PSA00	**Pilbara Seismi**	**58.57**	**258**		P	**P**	**07 26 08.5**	**-1.5**	
MBWA	**Marble Bar**	**58.78**	**259**		P	**P**	**07 26 09.8**	**-1.7**	
EDFI	**Ende, Flores**	**60.88**	**273**		P	P	07 26 33.7	+7.7	
CASY	**Casey**	**62.14**	**206**		P	**P**	**07 26 34.9**	**+1.3**	
QSPA	**South Pole Qui**	**66.81**	**180**		P	**P**	**07 27 06.9**	**+2.7**	
QSPA					IAmb	IAmb	07 27 08.1		
	comp=Z,15nm,0.9s								
QSPA	**South Pole Qui**	**66.81**	**180**		P	**P**	**07 27 07.3**	**+3.2**	
	comp=Z,12nm,0.9s,baz=24,slow=1.1,SNR=42								
	comp=Z,12nm,0.9s								
MJAR	**Matsushiro Arr**	**73.34**	**323**		P	**P**	**07 27 42.3**	**-1.9**	
MJAR	**Matsushiro Arr**	**73.34**	**323**		P	P	07 27 41.2	-3.0	
	comp=Z,3.1nm,0.7s,baz=156,slow=5.7,SNR=8.3								
	comp=Z,3.1nm,0.7s								
JNU	**Nakatsue**	**75.33**	**316**		P	**P**	**07 27 54.2**	**-1.7**	
JNU					IAmb	IAmb	07 27 55.4		
	comp=Z,20nm,1.0s								
JNU	**Nakatsue**	**75.33**	**316**		P	**P**	**07 27 53.5**	**-2.4**	
	comp=Z,12nm,0.9s,baz=122,slow=2.6,SNR=9.2								
	comp=Z,12nm,0.9s								
SHEM	**Shemya Is, Ala**	**76.13**	**354**		P	**P**	**07 27 57.6**	**-2.3**	
	comp=Z,29nm,0.8s,baz=169,slow=1.9,SNR=7.0								
	comp=Z,29nm,0.8s								
SSLB	**Suanglung**	**76.77**	**303**		P	P	07 28 00.4	-3.9	
SSLB					IAmb	IAmb	07 28 02.0		
	comp=Z,16nm,0.9s								
ASAJ	**Asahikawa**	**76.88**	**331**		P	**P**	**07 28 02.6**	**-1.8**	
	comp=Z,12nm,0.9s,baz=230,slow=14,SNR=5.5								
	comp=Z,12nm,0.9s								
UNV	**Unalaska Valle**	**77.27**	**6**		P	**P**	**07 28 06.0**	**-0.3**	
	baz=189								
FALS	**False Pass**	**78.59**	**8**		P	**P**	**07 28 13.0**	**-0.6**	
	baz=192								
CHNA	**Chernabura Isl**	**79.10**	**10**		P	**P**	**07 28 15.3**	**-1.1**	
	baz=196								
PETK	**Petropavlovsk-**	**79.33**	**344**			**P**	**07 28 16.0**	**-1.7**	
PETK	**Petropavlovsk-**	**79.33**	**344**		P	**P**	**07 28 16.6**	**-1.1**	
	comp=Z,12nm,0.9s,baz=144,slow=7.1,SNR=15								
	comp=Z,12nm,0.9s								
SDPT	**Sand Point**	**79.47**	**9**		P	**P**	**07 28 17.6**	**-0.8**	
	baz=195								
MAW	**Mawson**	**79.48**	**200**		P	**P**	**07 28 20.3**	**+1.8**	
	comp=Z,5.9nm,0.6s,baz=136,slow=7.0,SNR=28								
	comp=Z,5.9nm,0.6s								
S12K	**Black Hills**	**79.59**	**8**		P	**P**	**07 28 18.8**	**-0.3**	
	baz=193								
P08K	**Saint George I**	**79.76**	**4**		P	**P**	**07 28 19.9**	**0.0**	
	baz=186								
KSRS	**Korea Array**	**79.97**	**318**		P	**P**	**07 28 20.2**	**-1.3**	
	comp=Z,2.3nm,0.8s,baz=127,slow=5.9,SNR=7.6								
	comp=Z,2.3nm,0.8s								
KSAR	**Wonju Array Be**	**79.98**	**318**		P	**P**	**07 28 20.2**	**-1.4**	
SPIA	**Saint Paul Isl**	**80.30**	**3**		P	**P**	**07 28 22.7**	**-0.1**	
	baz=186								
S14K	**Fog Glacier**	**80.51**	**9**		P	**P**	**07 28 22.9**	**-1.2**	
	baz=196								
CHGN	**Chignik**	**80.70**	**10**		P	**P**	**07 28 24.2**	**-0.8**	
	baz=197								
CHIR	**Chirikof Islan**	**80.73**	**12**		P	**P**	**07 28 24.8**	**-0.4**	
	baz=199								
SII	**Sitkinak Islan**	**81.70**	**12**		P	**P**	**07 28 29.9**	**-0.4**	
	baz=201								
NVAR	**Mina Array Bea**	**82.00**	**42**		P	**P**	**07 28 32.8**	**+0.2**	
	comp=Z,1.0nm,1.0s,baz=222,slow=6.0,SNR=5.4								
	comp=Z,1.0nm,1.0s								
R16K	**Pilot Point**	**82.05**	**10**		P	**P**	**07 28 31.7**	**-0.4**	
	baz=198								
USRK	**Ussuriysk Ar.**	**82.11**	**325**		P	**P**	**07 28 30.4**	**-2.3**	
	comp=Z,10nm,0.9s,baz=103,slow=3.9,SNR=9.7								
	comp=Z,10nm,0.9s								
R17L	**Mt. Peulik Vol**	**82.31**	**11**		P	**P**	**07 28 33.4**	**-0.1**	
	baz=199								
PLK4	**Peulik 4**	**82.32**	**11**		IAmb	IAmb	07 28 37.6		
	comp=Z,17nm,0.8s								
OHAK	**Old Harbor**	**82.50**	**12**		P	**P**	**07 28 34.6**	**+0.2**	
	baz=201								
R18K	**Karluk**	**82.59**	**12**		P	**P**	**07 28 34.3**	**-0.6**	
	baz=200								
NJ2	**Nanjing**	**82.82**	**309**		*e*P	**P**	**07 28 36.8**	**+0.1**	
NJ2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
Q17K	**Contact Creek**	**83.00**	**11**		P	**P**	**07 28 36.3**	**-0.8**	
	baz=199								
O14K	**Tigyukauivet M**	**83.16**	**8**		P	**P**	**07 28 37.1**	**-0.6**	
	baz=194								
KDAK	**Kodiak Island**	**83.16**	**13**		P	**P**	**07 28 37.5**	**-0.3**	
	baz=202								
H03S2	**Juan Fernandez**	**83.17**	**124**		T	T	09 00 46.6		
	baz=245,slow=74,SNR=388								
H03S1	**Juan Fernandez**	**83.19**	**124**		T	T	09 00 47.7		
	baz=245,slow=74,SNR=326								
H03S3	**Juan Fernandez**	**83.19**	**124**		T	T	09 00 46.5		
	baz=245,slow=74,SNR=301								
Q16K	**King Salmon**	**83.26**	**10**		P	**P**	**07 28 37.6**	**-0.7**	
	baz=198								
O15K	**Ungalikthiuk R**	**83.27**	**8**		P	**P**	**07 28 38.3**	**-0.1**	
	baz=195								
H03N2	**Juan Fernandez**	**83.33**	**123**		T	T	09 00 51.1		
	baz=251,slow=72,SNR=308								
H03N3	**Juan Fernandez**	**83.33**	**123**		T	T	09 00 54.7		
	baz=251,slow=72,SNR=472								
H03N1	**Juan Fernandez**	**83.34**	**123**		T	T	09 00 56.5		
	baz=251,slow=72,SNR=264								
P16K	**Nushagak River**	**83.39**	**9**		P	**P**	**07 28 38.3**	**-0.6**	
	baz=197								
TUC	**Tucson**	**83.50**	**51**		P	**P**	**07 28 41.7**	**+1.4**	
Q18K	**Katmai Hardscr**	**83.51**	**11**		P	**P**	**07 28 38.5**	**-1.3**	
	baz=200								
N14K	**Kuskokwak Cree**	**83.76**	**7**		P	**P**	**07 28 40.0**	**-0.8**	
	baz=194								
M11K	**Mekoryuk**	**83.76**	**5**		P	**P**	**07 28 40.5**	**-0.3**	
	baz=190								
P17K	**Kvichak River**	**83.79**	**10**		P	**P**	**07 28 40.1**	**-0.9**	
	baz=198								
O16K	**Kokwok River B**	**83.92**	**9**		P	**P**	**07 28 40.7**	**-1.0**	
	baz=197								
Q20K	**Shuyak Island**	**83.96**	**12**		P	**P**	**07 28 40.7**	**-1.2**	
	baz=202								
Q19K	**Cape Douglas,**	**84.02**	**12**		P	**P**	**07 28 41.1**	**-1.2**	
	baz=201								
M13K	**Dall Lake**	**84.05**	**6**		P	**P**	**07 28 41.3**	**-1.0**	
	baz=192								
P18K	**Big Mountain,**	**84.18**	**11**		P	**P**	**07 28 41.9**	**-1.2**	
	baz=200								
N15K	**Kwethluk River**	**84.19**	**8**		P	**P**	**07 28 42.2**	**-0.9**	
	baz=195								
O17K	**Koliganek Bris**	**84.24**	**10**		P	**P**	**07 28 42.7**	**-0.5**	
	baz=198								
M14K	**Bethel**	**84.53**	**7**		IAmb	IAmb	07 28 45.7		
	comp=Z,11nm,0.8s								
M14K	**Bethel**	**84.53**	**7**		P	**P**	**07 28 44.4**	**-0.3**	
	baz=193								
O18K	**Koktuh Hills**	**84.62**	**11**		IAmb	IAmb	07 28 45.4		
	comp=Z,12nm,0.8s								
O18K	**Koktuh Hills**	**84.62**	**11**		P	**P**	**07 28 44.2**	**-1.1**	
	baz=200								
M15K	**Kasigluk River**	**84.63**	**8**		P	**P**	**07 28 44.9**	**-0.3**	
	baz=194,SNR=9.3								
N16K	**Nishlik Lake**	**84.67**	**9**		P	**P**	**07 28 45.2**	**-0.3**	
	baz=196								
P19K	**Oil Pt**	**84.78**	**12**		P	**P**	**07 28 44.9**	**-1.2**	
	baz=201								
N17K	**Nushagak Hills**	**84.94**	**9**		P	**P**	**07 28 45.6**	**-1.3**	
	baz=198								
TROLL	**Troll, Antarti**	**84.97**	**180**		⇑P	**P**	**07 28 48.0**	**+0.7**	
	comp=Z,145nm,0.5s								
TROLL					⇓pP	**sP**	**07 29 23.4**	**-0.5**	
	comp=Z,300nm,0.7s								
L14K	**Kuka Creek**	**85.03**	**7**		IAmb	IAmb	07 28 48.8		
	comp=Z,9.8nm,0.9s								
L14K	**Kuka Creek**	**85.03**	**7**		P	**P**	**07 28 46.2**	**-1.0**	
	baz=193								
CNPM	**China Poot**	**85.04**	**13**		P	**P**	**07 28 46.9**	**-0.5**	
CNPM					IAmb	IAmb	07 28 47.8		
	comp=Z,14nm,1.0s								
O19K	**Port Alsworth**	**85.09**	**11**		P	**P**	**07 28 47.0**	**-0.6**	
	baz=200								
M16K	**Timber Creek**	**85.17**	**8**		P	**P**	**07 28 47.7**	**-0.3**	
	baz=196,SNR=8.0								
SNAA	**Sanae**	**85.21**	**178**		⇑P	**P**	**07 28 49.1**	**+0.8**	
	comp=Z,25nm,0.5s								
SNAA					⇓pP	**sP**	**07 29 24.4**	**-0.5**	
	comp=Z,86nm,1.0s								
SNAA	**Sanae**	**85.21**	**178**		P	**P**	**07 28 49.2**	**+0.9**	
	comp=Z,1.3nm,0.8s,baz=177,slow=5.2,SNR=15								
	comp=Z,1.3nm,0.8s								
VNA3	**Neumayer Olymp**	**85.28**	**176**		⇑P	**P**	**07 28 48.9**	**+0.2**	
	comp=Z,4.0nm,0.5s								
VNA3					⇓pP	**sP**	**07 29 25.0**	**-0.2**	
	comp=Z,9.3nm,0.7s								
N18K	**Kilae Creek**	**85.29**	**10**		P	**P**	**07 28 47.1**	**-1.5**	
	baz=199								
O20K	**Slope Mountain**	**85.29**	**12**		P	**P**	**07 28 47.1**	**-1.6**	
	baz=202								
CN2	**Changchun**	**85.42**	**322**		P	**P**	**07 28 48.5**	**-1.1**	
CN2					pmax	pmax			
	comp=Z,10.0nm,1.0s								
K13K	**Kusilvak Mount**	**85.42**	**6**		P	**P**	**07 28 48.4**	**-0.8**	
	baz=191								
L15K	**Ungalak Mounta**	**85.49**	**7**		P	**P**	**07 28 47.8**	**-1.7**	
	baz=194								
N19K	**Bonanza Creek**	**85.65**	**11**		IAmb	IAmb	07 28 50.1		
	comp=Z,6.7nm,0.8s								
N19K	**Bonanza Creek**	**85.65**	**11**		P	**P**	**07 28 48.8**	**-1.6**	
	baz=200								
M17K	**Holitna River**	**85.74**	**9**		IAmb	IAmb	07 28 52.3		
	comp=Z,9.4nm,0.9s								
M17K	**Holitna River**	**85.74**	**9**		P	**P**	**07 28 50.0**	**-0.8**	
	baz=198								
VNA1	**Neumayer--Stat**	**85.96**	**176**		⇑P	**P**	**07 28 52.9**	**+0.9**	
	comp=Z,4.6nm,0.8s								
Q23K	**Middleton Isla**	**86.02**	**15**		P	**P**	**07 28 51.2**	**-0.9**	
	baz=208								
M18K	**Stony River**	**86.07**	**10**		P	**P**	**07 28 52.1**	**-0.3**	
	baz=199								
K15K	**Wolf Creek Mou**	**86.09**	**7**		IAmb	IAmb	07 28 54.5		
	comp=Z,11nm,0.9s								
K15K	**Wolf Creek Mou**	**86.09**	**7**		P	**P**	**07 28 51.8**	**-0.7**	
	baz=194								
SLKM	**Skilak Lake**	**86.15**	**13**		IAmb	IAmb	07 28 53.1		
	comp=Z,9.7nm,0.9s								
TIA	**Tai'an**	**86.27**	**312**		P	**P**	**07 28 53.3**	**-0.7**	
TIA					pmax	pmax			
	comp=Z,14nm,1.0s								
P23K	**Montague Islan**	**86.28**	**14**		P	**P**	**07 28 52.3**	**-1.2**	
	baz=207								
J14K	**Nanvranak Lak**	**86.33**	**6**		P	**P**	**07 28 52.5**	**-1.1**	
	baz=192								
L17K	**Donlin**	**86.33**	**8**		P	**P**	**07 28 52.4**	**-1.3**	
	baz=197								
L18K	**Granite Mounta**	**86.63**	**9**		IAmb	IAmb	07 28 56.2		
	comp=Z,7.7nm,0.8s								
L18K	**Granite Mounta**	**86.63**	**9**		P	**P**	**07 28 54.2**	**-1.0**	
	baz=198,SNR=7.8								
M19K	**Big River Lodg**	**86.69**	**10**		P	**P**	**07 28 54.2**	**-1.2**	
	baz=200								
RC01	**Rabbit Creek A**	**86.78**	**13**		P	**P**	**07 28 55.2**	**-0.7**	
	baz=204								
GAMB	**Gambell**	**86.83**	**2**		P	**P**	**07 28 55.1**	**-0.9**	
	baz=184								
MA2	**Magadan**	**86.86**	**344**		P	**P**	**07 28 55.1**	**-1.2**	
	comp=Z,18nm,1.1s								
PWL	**Port Wells**	**86.86**	**13**		IAmb	IAmb	07 28 56.6		
	comp=Z,8.2nm,1.1s								
PWL	**Port Wells**	**86.86**	**13**		P	**P**	**07 28 55.4**	**-0.9**	
	baz=206								
L19K	**White Mountain**	**86.88**	**10**		IAmb	IAmb	07 28 59.6		
	comp=Z,10.0nm,1.5s								
L19K	**White Mountain**	**86.88**	**10**		P	**P**	**07 28 55.6**	**-0.8**	
	baz=200								
M20K	**Styx River**	**86.88**	**11**		P	**P**	**07 28 54.8**	**-1.7**	
	baz=201								
K17K	**Iditarod**	**86.89**	**8**		P	**P**	**07 28 55.7**	**-0.6**	
	baz=197								
KAIM	**Kayak Island**	**86.92**	**15**		P	**P**	**07 28 55.7**	**-0.9**	
	baz=209								
SUA	**Susitna One**	**86.92**	**12**		IAmb	IAmb	07 28 57.1		
	comp=Z,7.1nm,0.8s								
SUA	**Susitna One**	**86.92**	**12**		P	**P**	**07 28 55.6**	**-1.2**	
	baz=204								
V35K	**Ketchikan**	**87.08**	**24**		P	**P**	**07 28 56.5**	**-0.9**	
	baz=220								
SIT	**Sitka**	**87.13**	**21**		P	**P**	**07 28 56.8**	**-0.8**	
	baz=217								
U33K	**Whale Pass**	**87.14**	**23**		P	**P**	**07 28 57.4**	**-0.3**	
	baz=219								
GLI	**Glacier Island**	**87.14**	**14**		P	**P**	**07 28 57.0**	**-0.7**	
	baz=207								
EYAK	**Cordova Ski Ar**	**87.15**	**15**		P	**P**	**07 28 56.9**	**-0.8**	
	baz=208								
J16K	**Anvik River**	**87.16**	**7**		P	**P**	**07 28 57.1**	**-0.5**	
	baz=195								
SKT	**Skwentna**	**87.25**	**11**		P	**P**	**07 28 57.1**	**-1.2**	
	baz=203								
TXAR	**Lajitas Array**	**87.27**	**57**		P	**P**	**07 28 59.6**	**+0.4**	
	comp=Z,1.2nm,0.8s,baz=216,slow=7.6,SNR=15								
	comp=Z,1.2nm,0.8s								
M22K	**Willow**	**87.31**	**12**		P	**P**	**07 28 57.8**	**-0.6**	
	baz=204								
L20K	**Farewell, AK**	**87.31**	**10**		P	**P**	**07 28 57.2**	**-1.3**	
	baz=201								
KNK	**Knik Glacier**	**87.33**	**13**		P	**P**	**07 28 57.4**	**-1.2**	
	baz=206								
SRU	**San Rafael Swe**	**87.35**	**45**		P	**P**	**07 28 58.8**	**-0.7**	
PMR	**Palmer**	**87.36**	**13**		P	**P**	**07 28 57.4**	**-1.2**	
	baz=205								
J17K	**VABM Dome**	**87.44**	**8**		P	**P**	**07 28 58.4**	**-0.7**	
	baz=196								
S31K	**Pelican**	**87.56**	**20**		P	**P**	**07 28 59.0**	**-0.7**	
	baz=216								
WRAK	**Wrangell Islan**	**87.65**	**23**		P	**P**	**07 28 59.5**	**-0.6**	
	baz=220								
I17K	**Unalakleet**	**87.73**	**7**		P	**P**	**07 29 00.1**	**-0.3**	
	baz=194								
MESA	**MESA**	**87.76**	**16**		P	**P**	**07 29 00.4**	**-0.5**	
	baz=211								
BMRM	**Bremner River**	**87.79**	**15**		P	**P**	**07 29 00.5**	**-0.3**	
	baz=209								
J18K	**Innoko River**	**87.82**	**9**		IAmb	IAmb	07 29 04.0		
	comp=Z,8.9nm,1.2s								
J18K	**Innoko River**	**87.82**	**9**		P	**P**	**07 29 00.0**	**-0.8**	
	baz=198,SNR=5.5								
SCM	**Sheep Creek Mo**	**87.95**	**13**		IAmb	IAmb	07 29 14.9		
	comp=Z,9.9nm,0.9s								
SCM	**Sheep Creek Mo**	**87.95**	**13**		P	**P**	**07 29 00.6**	**-1.0**	
	baz=207								
KLU	**Klutina**	**87.95**	**14**		IAmb	IAmb	07 29 13.9		
	comp=Z,9.5nm,1.1s								
KLU	**Klutina**	**87.95**	**14**		P	**P**	**07 29 01.0**	**-0.6**	
	baz=208								
ANMO	**Albuquerque**	**87.95**	**51**		P	**P**	**07 29 03.0**	**+0.6**	
CRQE	**Cirque**	**87.97**	**16**		P	**P**	**07 29 00.8**	**-1.0**	
	baz=210								
PPLA	**Purkeypile**	**87.99**	**11**		P	**P**	**07 29 01.0**	**-0.9**	
	baz=202								
PNL	**Peninsula**	**88.02**	**18**		P	**P**	**07 29 00.8**	**-1.1**	
	baz=214								
K20K	**Telida**	**88.11**	**10**		IAmb	IAmb	07 29 02.6		
	comp=Z,6.5nm,0.8s								
K20K	**Telida**	**88.11**	**10**		P	**P**	**07 29 01.3**	**-0.9**	
	baz=200,SNR=6.9								
VRDI	**Verde Repeater**	**88.29**	**15**		IAmb	IAmb	07 29 03.6		
	comp=Z,6.8nm,1.2s								
N25K	**Chitina, Valde**	**88.35**	**15**		IAmb	IAmb	07 29 08.3		
	comp=Z,5.1nm,0.8s								
N25K	**Chitina, Valde**	**88.35**	**15**		P	**P**	**07 29 02.6**	**-0.9**	
	baz=209								
R32K	**Eaglecrest**	**88.36**	**21**		P	**P**	**07 29 02.5**	**-1.0**	
	baz=218								
M24K	**Tolsona, Glenn**	**88.44**	**14**		P	**P**	**07 29 03.0**	**-0.9**	
	baz=208								
HEH	**HeiHe**	**88.46**	**328**		*e*P	**P**	**07 29 02.5**	**-1.7**	
HEH					pmax	pmax			
	comp=Z,11nm,1.2s								
P29M	**Windy Craggy**	**88.47**	**18**		P	**P**	**07 29 03.7**	**-0.3**	
	baz=215								
J19K	**Poorman**	**88.48**	**9**		P	**P**	**07 29 03.2**	**-0.7**	
	baz=199								
CAST	**Castle Rocks**	**88.49**	**11**			**P**	**07 29 02.2**	**-1.9**	
CAST					IAmb	IAmb	07 29 03.1		
	comp=Z,8.5nm,0.9s								
CAST	**Castle Rocks**	**88.49**	**11**		P	**P**	**07 29 02.5**	**-1.5**	
	baz=202,SNR=12								
MCARA	**McCarthy VSAT**	**88.53**	**15**		P	**P**	**07 29 03.5**	**-0.7**	
	baz=210								
CTG	**Chitna Glacier**	**88.59**	**16**		P	**P**	**07 29 03.9**	**-0.8**	
	baz=212								
CTGM	**Chitina Glacie**	**88.60**	**16**		IAmb	IAmb	07 29 05.7		
	comp=Z,5.8nm,0.8s								
O28M	**Mount Upton**	**88.73**	**17**		P	**P**	**07 29 04.4**	**-1.2**	
	baz=213								
O29M	**Mount Kennedy**	**88.78**	**18**		P	**P**	**07 29 04.5**	**-1.1**	
	baz=214								
TNA	**Tin City**	**88.78**	**3**		P	**P**	**07 29 04.5**	**-0.8**	
	baz=188								
KTH	**Kantishna Hill**	**88.82**	**11**		IAmb	IAmb	07 29 05.5		
	comp=Z,7.0nm,0.8s								
T35M	**Bob Quinn**	**88.83**	**23**		P	**P**	**07 29 04.3**	**-1.5**	
	baz=222								
TRF	**Thorofare Moun**	**88.84**	**11**		P	**P**	**07 29 04.5**	**-1.4**	
	baz=204,SNR=16								
H17K	**Granite Mounta**	**88.84**	**7**		P	**P**	**07 29 04.7**	**-0.9**	
	baz=195								
J20K	**Nowinta River**	**88.87**	**10**		P	**P**	**07 29 04.2**	**-1.6**	
	baz=200,SNR=5.9								
CHUM	**Lake Minchumin**	**88.88**	**10**		P	**P**	**07 29 04.4**	**-1.5**	
	baz=202								
SKAG	**Skagway**	**89.05**	**20**		P	**P**	**07 29 05.9**	**-0.8**	
	baz=217								
P30M	**Million Dollar**	**89.09**	**19**		P	**P**	**07 29 05.8**	**-1.2**	
	baz=216								
F15K	**North Star Dit**	**89.15**	**5**		P	**P**	**07 29 06.1**	**-0.9**	
	baz=191								
S34M	**Telegraph Cree**	**89.22**	**22**		P	**P**	**07 29 06.9**	**-0.7**	
	baz=221								
H18K	**Honhosa River**	**89.22**	**7**		P	**P**	**07 29 06.6**	**-0.8**	
	baz=197								
YUK8	**Steele Glacier**	**89.28**	**17**

G19K	Purcell Mounta	90.33	8	IAmb	IAmb	07 29 13.1		
	comp=Z,7.7nm,0.9s							
G19K	Purcell Mounta	90.33	8	P	P	07 29 11.7	-0.8	
	baz=198							
HDA	Harding Lake	90.34	12	IAmb	IAmb	07 29 16.6		
	comp=Z,5.6nm,0.8s							
HDA	Harding Lake	90.34	12	P	P	07 29 11.6	-1.1	
	baz=207							
CCB	Clear Creek Bu	90.39	12	IAmb	IAmb	07 29 12.7		
	comp=Z,7.4nm,1.0s							
P33M	Teslin, Yukon	90.43	20	P	P	07 29 12.4	-0.9	
	baz=219							
H21K	Melozitna Rive	90.46	10	P	P	07 29 12.6	-0.6	
	baz=202							
F18K	Selawik	90.48	7	P	P	07 29 12.5	-0.7	
	baz=195							
N31M	Braeburn, Yuko	90.54	18	P	P	07 29 12.7	-1.0	
	baz=217							
I23K	Minto, Yukon-K	90.56	11	P	P	07 29 12.6	-1.0	
	baz=205							
SCRK	Sand Creek	90.57	14	P	P	07 29 12.9	-1.0	
	baz=210							
COLA	College	90.58	12	P	P	07 29 12.5	-1.3	
COLA				IAmb	IAmb	07 29 16.9		
	comp=Z,7.7nm,0.8s							
COLA	College	90.58	12	P	P	07 29 12.9	-0.8	
	baz=206							
M29M	Somme Creek	90.59	17	P	P	07 29 13.3	-0.7	
	baz=214,SNR=6.1							
IMAR	Indian Mountai	90.63	9	P	P	07 29 13.4	-0.6	
IL31		90.67	12	IAmb	IAmb	07 29 14.8		
	comp=Z,6.6nm,1.4s							
ILAR	Eielson Array	90.67	12		P	07 29 12.7	-1.6	
ILAR	Eielson Array	90.67	12	P	P	07 29 13.2	-1.0	
	comp=Z,2.4nm,1.0s,baz=225,slow=5.3,SNR=16							
	comp=Z,2.4nm,1.0s							
E17K	Hotham Inlet	90.73	6	P	P	07 29 13.5	-0.9	
	baz=193							
J25K	Salcha River,	90.83	13	IAmb	IAmb	07 29 15.4		
	comp=Z,3.6nm,0.8s							
J25K	Salcha River,	90.83	13	P	P	07 29 14.3	-0.7	
	baz=208,SNR=5.6							
POKR	Poker Flat Res	90.88	12	P	P	07 29 14.3	-0.9	
	baz=206							
H22K	Ishtalitna Cre	90.90	10	P	P	07 29 14.6	-0.7	
	baz=203							
F19K	Shaleruckik Mo	90.91	7	P	P	07 29 14.6	-0.6	
	baz=197							
XAN	Xi'an	91.02	307	P	P	07 29 16.3	-0.3	
XAN				pP	sP	07 29 53.5	+0.9	
XAN				pmax	pmax			
	comp=Z,12nm,1.0s							
K27K	Chicken	91.04	14	P	P	07 29 15.1	-0.8	
	baz=211							
N32M	Quiet Lake	91.08	19	P	P	07 29 15.6	-0.6	
	baz=219							
J26L	Joseph Creek	91.12	14	P	P	07 29 15.8	-0.5	
	baz=210,SNR=16							
M30M	Minto, Yukon	91.14	17	IAmb	IAmb	07 29 17.9		
	comp=Z,5.1nm,1.1s							
M30M	Minto, Yukon	91.14	17	P	P	07 29 15.9	-0.6	
	baz=216,SNR=5.5							
H23K	Yukon River	91.14	11	P	P	07 29 15.8	-0.6	
	baz=205							
G21K	Allakaket	91.16	9	P	P	07 29 15.9	-0.5	
	baz=201							
E18K	Tukpahlearik C	91.18	6	P	P	07 29 15.9	-0.6	
	baz=194							
L29M	L29M	91.22	16	IAmb	IAmb	07 29 18.3		
	comp=Z,7.3nm,1.1s							
L29M	L29M	91.22	16	P	P	07 29 16.7	-0.2	
	baz=215,SNR=9.2							
D17K	Noatak River	91.23	5	P	P	07 29 16.7	0.0	
	baz=192							
F20K	Avaraart Lake	91.37	8	IAmb	IAmb	07 29 17.9		
	comp=Z,6.6nm,0.9s							
F20K	Avaraart Lake	91.37	8	P	P	07 29 16.6	-0.7	
	baz=199							
H24K	Noodor Dome	91.45	11	P	P	07 29 17.2	-0.6	
	baz=206							
E19K	Redstone River	91.57	7	P	P	07 29 17.6	-0.8	
	baz=198							
PRP	Porcupine Dome	91.61	12	P	P	07 29 18.1	-0.6	
	baz=208							
C16K	Lisburne Hills	91.63	4	P	P	07 29 17.7	-0.8	
	baz=190							
WTLY	Watson Lake, Y	91.67	22	P	P	07 29 17.8	-1.2	
	baz=223							
DAWY	Dawson	91.70	15	P	P	07 29 19.2	+0.2	
DAWY				IAmb	IAmb	07 29 58.7		
	comp=Z,3.5nm,0.9s							
DAWY	Dawson	91.70	15	P	P	07 29 18.9	-0.2	
	baz=214,SNR=5.3							
F21K	Alatna River	91.83	9	P	P	07 29 19.0	-0.6	
	baz=201							
G22K	Bettles	91.84	10	P	P	07 29 19.0	-0.5	
	baz=203							
G23K	Bananza Creek	91.88	10	P	P	07 29 18.7	-1.1	
	baz=204							
I26K	Coal Creek Min	91.90	13	P	P	07 29 18.9	-1.0	
	baz=210							
K29M	Barlow Dome	91.98	16	IAmb	IAmb	07 30 00.4		
	comp=Z,5.3nm,1.0s							
K29M	Barlow Dome	91.98	16	P	P	07 29 20.2	-0.3	
	baz=215,SNR=7.2							
C17K	DeLong Mountai	91.99	5	P	P	07 29 20.1	-0.1	
	baz=192							
TOAD	Toad River Com	92.03	24	P	P	07 29 20.1	-0.6	
	baz=226							
H25L	Birch Creek	92.21	12	P	P	07 29 21.0	-0.3	
	baz=208							
G24K	Hadweenzic Riv	92.30	11	P	P	07 29 21.0	-0.7	
	baz=206							
C18K	Utukok River	92.32	5	P	P	07 29 21.3	-0.5	
	baz=194							
COLD	Coldfoot	92.32	10	P	P	07 29 21.6	-0.2	
	baz=204							
E20K	Nigu River	92.46	7	P	P	07 29 21.9	-0.6	
	baz=199							
D19K	Kuna River	92.47	7	P	P	07 29 22.1	-0.4	
	baz=197							
CMAR	Chiang Mai Arr	92.47	289	P	P	07 29 23.2	-0.5	
CMAR	Chiang Mai Arr	92.47	289	P	P	07 29 23.5	-0.1	
	comp=Z,3.0nm,0.4s,baz=128,slow=2.9,SNR=21							
	comp=Z,3.0nm,0.4s							
I27K	Kandik River	92.49	14	P	P	07 29 22.4	-0.3	
	baz=212							
G25K	Bearman Lake	92.60	12	P	P	07 29 22.7	-0.4	
	baz=208							
CHTO	Chiang Mai	92.61	289	P	P	07 29 21.8	-2.5	
I28M	Miner Creek	92.73	14	P	P	07 29 23.5	-0.4	
	baz=213							
MMPY	Sheldon Lake,	92.76	19	P	P	07 29 23.3	-0.7	
	baz=221							
D20K	Etivluk River	92.84	7	P	P	07 29 23.6	-0.6	
	baz=198							
E21K	Killik River	92.91	8	P	P	07 29 24.4	-0.1	
	baz=201							
C19K	Lookout Ridge	92.91	6	P	P	07 29 24.3	-0.3	
	baz=196							
E22K	Anaktuvuk Pass	92.92	9	P	P	07 29 24.4	-0.2	
	baz=203							
F24K	Squaw Lake	92.96	11	P	P	07 29 24.4	-0.4	
	baz=206							
I29M	Ogilvie Camp,	93.04	15	P	P	07 29 24.7	-0.5	
	baz=215							
H27K	Steamboat Moun	93.05	13	P	P	07 29 24.7	-0.5	
	baz=212							
E23K	Chandalar	93.17	10	P	P	07 29 25.2	-0.6	
	baz=205							
G26K	Porcupine Rive	93.20	12	IAmb	IAmb	07 29 28.4		
	comp=Z,6.1nm,1.2s							
G26K	Porcupine Rive	93.20	12	P	P	07 29 25.6	-0.2	
	baz=210							
PZH	PanZhiHua	93.35	297	P	P	07 29 27.5	-0.2	
E24K	Your Creek	93.37	10	P	P	07 29 25.8	-0.9	
	baz=206							
I30M	Mount Dempster	93.40	16	P	P	07 29 26.6	-0.3	
	baz=216							
F25K	Christian Rive	93.42	11	P	P	07 29 27.2	+0.2	
	baz=208							
C21K	Knifeblade Rid	93.48	8	P	P	07 29 27.4	+0.3	
	baz=200							
D22K	Ayikyak River	93.49	8	P	P	07 29 26.7	-0.5	
	baz=202							
G27K	Doyon Strip	93.51	13	P	P	07 29 27.0	-0.3	
	baz=212							
TOLK	Toolik Lake Re	93.71	10	P	P	07 29 28.3	0.0	
	baz=205							
H29M	Whitestone	93.73	14	P	P	07 29 27.9	-0.4	
	baz=215							
F26K	Sheenjek River	93.79	12	P	P	07 29 28.3	-0.3	
	baz=210							
D23K	Nanushuk River	93.85	9	P	P	07 29 28.8	0.0	
	baz=204							
A19K	Wainwright	93.85	5	P	P	07 29 29.0	+0.3	
	baz=194							
B21K	Ikpikpuk River	93.94	7	P	P	07 29 29.2	0.0	
	baz=200							
EPYK	Eagle Plains	94.24	15	P	P	07 29 30.3	-0.5	
	baz=216							
D24K	Happy Valley	94.29	10	P	P	07 29 30.5	-0.4	
	baz=205							
G29M	Pine Creek	94.39	14	P	P	07 29 30.7	-0.7	
	baz=215							
HERN	Volcan Telica	94.45	78	IAmb	IAmb	07 30 05.4		
	comp=Z,84nm,0.7s							
C23K	Itkillik River	94.66	9	P	P	07 29 32.4	0.0	
	baz=204							
E27K	Coleen River	94.70	12	P	P	07 29 32.7	-0.1	
	baz=212							
B22K	Teshekpuk Lake	94.76	8	P	P	07 29 32.9	0.0	
	baz=201							
C24K	Franklin Bluff	94.83	9	P	P	07 29 32.6	-0.6	
	baz=205							
D25K	Kavik River	94.83	10	P	P	07 29 32.8	-0.6	
	baz=208							
G30M	tAoh Zraii Nji	94.86	15	P	P	07 29 33.0	-0.5	
	baz=217							
C26K	Camden Bay	95.60	10	P	P	07 29 36.1	-0.6	
	baz=209							
E29M	Blow River	95.63	13	P	P	07 29 36.5	-0.4	
	baz=215							
D27M	Malcolm River	95.72	12	P	P	07 29 36.8	-0.6	
	baz=212							
F31M	Tsiigehtchic	95.81	15	P	P	07 29 37.3	-0.4	
	baz=219							
INK	Inuvik	96.54	15	P	P	07 29 40.8	-0.2	
	baz=219							
ZALV	Zalesovo Beam	113.60	320	PKiKP	PKiKP	07 34 45.4	-4.2	
	comp=Z,0.7nm,0.5s,baz=176,slow=4.0,SNR=3.8							
MKAR	Makanchi Array	114.20	312	PKiKP	PKPdf	07 34 49.1	-1.9	
	comp=Z,0.6nm,0.6s,baz=93,slow=1.7,SNR=7.0							
KURBB	Kurchatov Arra	117.11	316	PKP	PKPdf	07 34 54.6	-1.8	
	comp=Z,1.0nm,0.7s,baz=94,slow=1.8,SNR=12							
KSH	Kashi	117.71	304	PKP	PKiKP	07 35 02.0	+3.8	
BVAR	Borovoye Array	122.17	319	PKP	PKPdf	07 35 04.8	-1.3	
	comp=Z,1.9nm,0.5s,baz=132,slow=2.2,SNR=10							
BOSA	Boshof	124.37	203	PKP	PKPdf	07 35 11.7	+0.3	
	comp=Z,3.7nm,0.9s,baz=179,slow=9.4,SNR=3.1							
SPITS	Spitsbergen Ar	124.71	357	PKP	PKPdf	07 35 09.7	-0.7	
	comp=Z,1.2nm,0.4s,baz=299,slow=3.0,SNR=7.7							
ARCES	ARCESS Array B	131.91	350	PKP	PKPdf	07 35 22.8	-1.4	
	comp=Z,3.1nm,0.8s,baz=12,slow=1.7,SNR=11							
FINES	FINESS Array B	138.85	344	PKP	PKPdf	07 35 34.6	-2.7	
	comp=Z,2.7nm,0.8s,baz=72,slow=0.6,SNR=4.3							
NOA	NORSAR Array B	141.89	354	PKP	PKPdf	07 35 43.3	+0.3	
	comp=Z,0.7nm,0.9s,baz=1.4,slow=3.7,SNR=3.4							
HFS	Hagfors	142.50	352	PKhKP	PKPpre	07 35 38.7		
	comp=Z,2.2nm,0.6s,baz=31,slow=3.5,SNR=8.9							
BORU	Boraas	145.04	351	*i* P	PKPbc	07 35 46.8	-1.3	
ONAU	Onaala	145.38	352	*i* P	PKPdf	07 35 47.9	-1.1	
FABU	Falkenberg	145.66	351	*i* P	PKPdf	07 35 48.6	-1.0	
DEL	Delary	146.00	350	*i* P	PKPdf	07 35 50.0	-0.2	
AK03	Malin Array Si	146.15	330	PKP	PKPdf	07 35 49.5	-1.1	
AKASG	Malin Array Be	146.17	330	PKPbc	PKPdf	07 35 50.2	-0.5	
	comp=Z,7.3nm,0.6s,baz=43,slow=4.4,SNR=33							
AKBB	Malin Array Si	146.17	330	PKP	PKPdf	07 35 50.0	-0.6	
KIEV	Kiev	146.18	330	⇓P	PKPdf	07 35 50.4	-0.3	
KIEV	Kiev	146.18	330	PKP	PKPdf	07 35 50.0	-0.7	
AK18	Malin Array Si	146.23	331	PKP	PKPdf	07 35 50.0	-0.7	
LUBAR	Lubar, Ukraine	147.39	331	PKP	PKPdf	07 35 53.8	+1.1	
EKA	Eskdalemuir Ar	147.58	7	PKPbc	PKPdf	07 35 54.9	+2.0	
	comp=Z,3.8nm,0.7s,baz=327,slow=1.9,SNR=8.1							
SORM	Soroca	148.36	328	⇑P	PKPdf	07 35 56.8	+2.5	
BRTR	Keskin Array B	149.81	310	PKPbc	PKPdf	07 36 00.9	+3.7	
	comp=Z,2.1nm,0.6s,baz=146,slow=4.4,SNR=11							
KIRS	Kirsehir-Merke	149.85	309	⇓P	PKPdf	07 36 00.8	+3.6	
BURAR	Bucovina Array	150.22	330	⇑P	PKPbc	07 36 03.4	+0.7	
OJC	Ojcow	150.29	339	*e*PKP	PKPbc	07 36 02.1	-0.6	
CFR	Carcaliu	150.42	324	⇑P	PKPbc	07 36 02.4	-0.7	
STHS	Stebnicka Huta	150.46	336	*e*PKP	PKPdf	07 36 02.0	+4.2	
STHS				*e*		07 36 09.8		
KOLS	Kolonicke sedl	150.46	335	*e*PKP	PKPbc	07 36 03.3	+0.1	
MMAI	Mount Meron Ar	150.47	296	PKPbc	PKPbc	07 36 03.7	-0.1	
	comp=Z,5.8nm,0.6s,baz=74,slow=7.0,SNR=10							
TPGR	Topolog	150.47	323	⇓P	PKPdf	07 36 01.9	+4.0	
PLOR	Plostina	150.76	326	⇑P	PKPbc	07 36 03.5	-0.5	
KSP	Ksiaz	150.77	343	*e*PKP	PKPbc	07 36 03.3	-0.2	
NIE	Niedzica	150.80	337	*e*PKP	PKPbc	07 36 03.7	-0.3	
OSTC	Ostas	151.06	343	*e*PKP	PKPbc	07 36 04.8	+0.3	
STEB	Steborice	151.18	341	*e*PKP	PKPbc	07 36 04.5	-0.3	
DPC	Dobruska-Polom	151.22	343	*e*PKP	PKPbc	07 36 05.1	+0.2	
LANS	Liptovska Anna	151.31	338	*e*PKP	PKPbc	07 36 07.1	+1.9	
LANS				*e*		07 36 10.1		
DOPR	Dopca	151.32	327	⇓P	PKPbc	07 36 05.2	-0.1	
KRLC	Kraliky	151.34	342	*e*PKP	PKPbc	07 36 05.2	0.0	
MLR	Muntele Rosu	151.37	326	⇓P	PKPbc	07 36 04.5	-1.1	
PVCC	Panska Ves	151.49	345	*e*PKP	PKPbc	07 36 05.4	-0.1	
KECS	Kecovo	151.51	336	*e*PKP	PKPab	07 36 12.8	-1.5	
VOIR		151.86	327	⇓P	PKPbc	07 36 05.9	-0.7	
MARR	Marisel-Cluj	151.87	331	⇓P	PKPbc	07 36 05.9	-0.7	
VYHS	Vyhne	152.09	338	*e*PKP	PKPbc	07 36 07.0	+0.1	
VYHS				*e*		07 36 16.6		
ARR	Arges	152.12	327	⇓P	PKPbc	07 36 07.2	0.0	
PSZ	Piszkesteto	152.20	336	⇓P	PKiKP	07 36 12.5	+4.9	
ZVC	Zvikov	152.59	345	⇑*e*PKP	PKPbc	07 36 09.1	+1.1	
MODS	Modra-Piesok	152.71	340	*e*PKP	PKPbc	07 36 06.7	-1.6	
MODS				*e*		07 36 17.1		
SIRR	Siria	152.83	332	⇑P	PKPbc	07 36 08.3	-0.4	
GZR	Gura Zlata	153.00	329	⇑P	PKPdf	07 36 07.2	+5.5	
SURR	Surduc	153.02	331	⇑P	PKPdf	07 36 06.7	+5.0	
KHC	Kasperske Hory	153.03	346	⇑*e*PKP	PKiKP	07 36 11.7	+2.5	
ELND	Elena	153.11	322	⇓P	PKPab	07 36 20.9	-0.4	
CKRC	Cesky Krumlov	153.14	344	⇑*e*PKP	PKPbc	07 36 08.7	-0.6	
GERES	GERESS Array B	153.26	345	PKPbc	PKPbc	07 36 09.0	-0.6	
	comp=Z,2.2nm,0.8s,baz=47,slow=2.7,SNR=7.0							
HERR	Herculane	153.55	329	⇑P	PKPbc	07 36 08.6	-1.6	
TORD	Torodi Ar. Bea	169.76	169	PKPab	PKPab	07 37 34.5	+0.2	
	comp=Z,1.2nm,0.3s,baz=191,slow=3.3,SNR=2.3							

*IDC **31** 07:36:19.0±1.4,4°.37N×95°.49E, h0km, mb3.7/8, mbtmp3.8/10, ML4.2/2, Error ellipse: s-maj=56.0km s-min=17.1km az=55.0*
*NEIC **31** 07:36:23.4±2.2,4°.90N±0°.05×96°.09E±0°.05, h10km±1km, mb4.4/4, Error ellipse: s-maj=9.1km s-min=6.8km az=321.0*
*DJA **31** 07:36:24.7±0.8,5°N±3°×9°6E±°, h10km, M4.2/10, mB5.7/1, MLv4.2/10, Mw(mB)5.2/1*

ISC 31 07:36:23.7±0.7,**4°.82N**±0°.04×**96°.09E**±0°.05,**h10km,n41,**
σ1s**78**/36,**mb3.9**/10,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	Meulaboh, Aceh	0.63	150	P	Pg	07 36 35.3	-0.6
MLSI				S	Sg	07 36 44.4	+0.2
LHMI	Lhok Sumawe	0.94	64		Pg	07 36 41.8	-0.1
LHMI				Sg	Sg	07 36 53.1	-1.1
LHMI	Lhok Sumawe	0.94	64	P	Pg	07 36 41.8	-0.1
LHMI				S	Sg	07 36 55.0	+0.8
SNSI	Sinabang, Aceh	2.41	174	P	Pn	07 37 03.0	-0.2
TSI	Tuntungan	2.79	118	P	Pn	07 37 10.3	+1.8
PSI	Prapat	3.46	125	Pn	Pn	07 37 20.4	+2.5
	8.5nm,0.3s,baz=314,slow=14,SNR=18						
PSI				Sn	Sn	07 38 02.1	+3.1
	7.3nm,0.3s,baz=308,slow=19,SNR=3.8						
	20nm,0.4s						
RPSI	Rantau Prapat	3.53	127		Pn	07 37 18.2	-0.4
RPSI	Rantau Prapat	3.53	127		Pn	07 37 20.4	+1.8
RPSI					Sn	07 38 02.1	+1.8
GSI	Gunungsitoli	3.79	157	Pn	Pn	07 37 22.8	+0.6
GSI	Gunungsitoli	3.79	157	P	Pn	07 37 21.2	-1.1
KULM	Kulim	4.56	84		Pn	07 37 33.1	+0.2
KULM				Sn	Sn	07 38 24.1	-1.9
IPM	Ipoh	4.93	94		Pn	07 37 38.0	0.0
SRIT	Nakonsritamara	5.12	43		Pn	07 37 38.9	-1.7
CMAR	Chiang Mai Arr	13.84	11	Pn	Pn	07 39 42.8	+2.7
	0.7nm,0.3s,baz=186,slow=9.3,SNR=1.8						
	1.1nm,0.3s						
MDRS	Chennai	17.66	299	*e*P	Pn	07 40 30.2	+0.2
MDRS				*e*S	Sn	07 43 29.9	-17
TRD	Trivandrum	19.35	282	*e*P	P	07 40 51.8	+2.2
TRD				*e*S	Sn	07 44 09.7	-18
IMP	Imphal	20.00	354	*e*P	Pn	07 41 02.0	+3.6
IMP				*e*S	S	07 44 24.4	-17
KOHI	KOHIMA	20.87	355	*e*P	Pn	07 41 12.2	+3.6
KOHI				*e*S	S	07 44 44.9	-14
H08S2	Diego Garcia H	26.60	242	T	T	08 09 12.5	
	baz=61,slow=76,SNR=135						
H08S3	Diego Garcia H	26.60	242	T	T	08 09 12.8	
	baz=61,slow=76,SNR=265						
H08S1	Diego Garcia H	26.62	242	T	T	08 09 04.3	
	baz=61,slow=76,SNR=20						
FITZ	Fitzroy Crossi	36.98	129	P	P	07 43 31.4	-2.3
	1.4nm,0.7s,baz=297,slow=4.5,SNR=1.9						
	1.4nm,0.7s						
MKAR	Makanchi Array	43.49	346	P	P	07 44 25.7	-1.5
	0.3nm,0.6s,baz=178,slow=8.4,SNR=3.8						
	0.3nm,0.6s						
SONM	Songino Array	43.76	10	P	P	07 44 32.4	+2.8
	0.5nm,0.4s,baz=196,slow=3.7,SNR=2.2						
	0.5nm,0.4s						
WB0	Warramunga Arr	44.89	124	P	P	07 44 36.6	-2.2
WB0				IAmb	IAmb	07 44 40.8	
	comp=Z,8.2nm,1.4s						
WRA	Warramunga Arr	44.93	124	P	P	07 44 37.2	-2.0
	comp=Z,0.5nm,0.5s,baz=302,slow=9.3,SNR=12						
	comp=Z,0.5nm,0.5s						
WR8	Warramunga Arr	45.07	124	P	P	07 44 39.3	-1.0
WR8				IAmb	IAmb	07 45 01.9	
	comp=Z,6.0nm,1.2s						
ASAR	Alice Springs	46.48	129	P	P	07 44 50.0	-1.4
ASAR	Alice Springs	46.48	129	P	P	07 44 49.9	-1.6
	comp=Z,1.4nm,0.5s,baz=300,slow=7.8,SNR=29						
	comp=Z,1.4nm,0.5s						
AS31	Alice Springs	46.49	129	P	P	07 44 50.5	-1.0
KURBB	Kurchatov Arra	47.97	345	P	P	07 45 00.4	-2.2
	comp=Z,0.2nm,0.3s,baz=151,slow=7.3,SNR=1.7						
	comp=Z,0.2nm,0.3s						
BBOO	Buckleboo	53.26	138	P	P	07 45 40.6	-2.2
ABKAR	Akbulak array	53.83	331	P	P	07 45 46.2	-0.5
STKA	Stephens Creek	56.61	133	P	P	07 46 05.3	-1.8
	comp=Z,1.0nm,0.4s,baz=309,slow=14,SNR=3.4						
	comp=Z,1.0nm,0.4s						
H04N2	CROZET ISLANDS	64.17	213	T	T	08 56 30.5	
	baz=50,slow=74,SNR=11						
H04N1	CROZET ISLANDS	64.18	213	T	T	08 56 17.5	
	baz=50,slow=74,SNR=8.9						
H04N3	CROZET ISLANDS	64.19	213	T	T	08 56 17.3	
	baz=50,slow=74,SNR=8.7						
H04S1	CROZET ISLANDS	64.54	212	T	T	08 57 06.8	
	baz=49						
H04S3	CROZET ISLANDS	64.55	212	T	T	08 56 58.2	
	baz=49						
H04S2	CROZET ISLANDS	64.56	212	T	T	08 57 09.1	
	baz=49						
BRTR	Keskin Array B	65.89	311	P	P	07 47 06.8	-3.3
	comp=Z,0.3nm,0.4s,baz=145,slow=5.3,SNR=1.6						
	comp=Z,0.3nm,0.4s						

*GCG **31** 07:41:37.8±0.9, 13°.21N×89°.54W, h54km±7km, MD3.5, ML2.2*
*SNET **31** 07:41:37.8±1.1, 13°.17N×89°.51W, h48km, ML2.9*
*CATAC **31** 07:41:37.3±0.5, 13°N±3°×9°0W±°, h31km±3km, M2.8/18, MLv2.8/18, Error ellipse: s-maj=7.5km s-min=4.2km az=32.2, confirmed*

ISC 31 07:41:38.1±1.9,**13°.17N**±0°.08×**89°.55W**±0°.06,**h48**km±12km,
n57,σ0s**66**/64,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LALI	Alcalda de L	0.38	35	*i* P	Pn	07 41 47.6	-0.3
LALI	Alcalda de L	0.38	35	P	Pn	07 41 47.6	-0.3
LALI	Alcalda de L	0.38	35	S	Sn	07 41 55.8	+1.0
JAYA	Jayaque - finc	0.49	11	*i* P	Pn	07 41 48.9	-0.4
JAYA				*e*S	Sn	07 41 57.1	-0.1
JAYA	Jayaque - finc	0.49	11	*i* P	Pn	07 41 48.9	-0.4
JAYA				*i* S	Sn	07 41 57.2	0.0
JAYA	Jayaque - finc	0.49	11	S	Sn	07 41 56.7	-0.5
JAYA	Jayaque - finc	0.49	11	P	Pn	07 41 48.9	-0.4
PMON	Piamonte	0.58	23	*i* P	Pn	07 41 50.0	-0.4
PMON	Piamonte	0.58	23	P	Pn	07 41 50.0	-0.4
LOMA	Loma Larga	0.59	38	*i* P	Pn	07 41 49.6	-0.9
LOMA	Loma Larga	0.59	38	P	Pn	07 41 49.5	-1.1
LOMA	Loma Larga	0.59	38	S	Sn	07 41 59.7	+0.2
BOQS	Boqueron	0.62	25	*i* P	Pn	07 41 50.6	-0.3
UEES	Universidad Ev	0.62	29	P	Pn	07 41 50.5	-0.3
UTEC	Universidad Te	0.62	33	P	Pn	07 41 50.4	-0.4
UTEC	Universidad Te	0.62	33	S	Sn	07 42 00.7	+0.7
CEDA	San Andres	0.64	13	S	Sn	07 42 00.4	0.0
CEDA	San Andres	0.64	13	P	Pn	07 41 50.9	-0.2
LFRS	El Faro	0.65	46	*i* P	Pn	07 41 50.9	-0.4
RTR	El Retiro	0.73	352	*e*P	Pn	07 41 52.4	+0.1
LBRS	Las Brisas	0.75	41	*i* P	Pn	07 41 52.4	-0.1
PAVA	Las Pavas	0.80	48	*i* P	Pn	07 41 53.1	-0.1
PAVA				*e*S	Sn	07 42 05.0	+0.8
PAVA	Las Pavas	0.80	48	P	Pn	07

KU1				SN			07 44 27.6	
JOF	**Joensuu**	**1.76**	**125**	PG			07 44 05.0	
	baz=308							
JOF				SG			07 44 28.7	
KU2	**Taivalkoski**	**1.77**	**1**	PG			07 44 04.7	
	baz=184							
OBF0	**Syolatti, Pyha**	**1.79**	**290**	PG			07 44 05.2	
OBF0				MSG			07 44 26.2	
	comp=Z,6.1nm,0.2s							
OBF0				SN			07 44 28.7	
MSF	**Maaselka**	**2.01**	**11**	PG			07 44 08.5	
	baz=192							
MSF				SG			07 44 33.2	
KAF	**Kangasniemi**	**2.02**	**205**	PG			07 44 09.8	
	baz=23							
KAF				MSG			07 44 33.7	
	comp=Z,6.3nm,0.2s							
KAF				SG			07 44 37.2	
RANF	**Ranua**	**2.15**	**345**	PG			07 44 11.6	
	baz=159							
RANF				SG			07 44 38.1	
KU6	**Riekki**	**2.21**	**19**	PG			07 44 12.5	
KU6				MSG			07 44 38.1	
	comp=Z,1.8nm,0.2s							
KU6				SG			07 44 40.4	
KEF	**Keuruu**	**2.33**	**221**	PG			07 44 14.6	
KEF				MSG			07 44 42.3	
	comp=Z,4.5nm,0.2s							
KEF				SG			07 44 44.8	
OLKF	**Oulanka, Finla**	**2.44**	**12**	PG			07 44 16.0	
OLKF				MSG			07 44 44.6	
	comp=Z,1.9nm,0.2s							
OLKF				SG			07 44 46.4	
RUF	**Ruokolahti**	**2.56**	**171**	PG			07 44 18.7	
	baz=347							
RUF				MSG			07 44 49.3	
	comp=Z,3.4nm,0.2s							
RUF				SG			07 44 52.7	
FIA0	**FINESS Array S**	**2.69**	**202**	PG			07 44 20.1	
	baz=21							
FIA0				MSG			07 44 52.9	
	comp=Z,2.2nm,0.2s							
FIA0				SG			07 44 54.4	
FINES	**FINESS Array B**	**2.69**	**202**	Pn	Pn		07 44 20.2	+1.8
	comp=Z,0.4nm,0.3s,baz=21,slow=16,SNR=11							
FINES				Sn	Sb		07 44 54.1	-2.3
	comp=Z,0.6nm,0.3s,baz=21,slow=24,SNR=17							
	comp=Z,1.8nm,0.5s							
KALU	**Kalix**	**2.80**	**315**	PB			07 44 19.9	
KALU				SB			07 44 54.5	
RNF	**Rovaniemi**	**2.81**	**342**	PB			07 44 21.6	
RNF				SB			07 44 57.4	
UMAU	**Umeaa**	**3.30**	**272**	PN			07 44 25.4	
ERTU	**Ertsjaerv**	**3.62**	**319**	PN			07 44 31.3	
ERTU				SB			07 45 17.0	
PAJU	**Pajala**	**3.73**	**328**	PN			07 44 33.1	
PAJU				SN			07 45 15.6	
HEMU	**Hemsoen**	**4.73**	**259**	PN			07 44 46.0	
	baz=66							
ARCES	**ARCESS Array B**	**5.71**	**351**	Pn	Pn		07 44 59.1	-0.7
	comp=Z,0.1nm,0.3s,baz=167,slow=16,SNR=2.1							
ARCES				Sn	Sn		07 46 02.5	-3.4
	comp=Z,0.1nm,0.3s,baz=168,slow=25,SNR=1.5							
ARCES				Lg	Lg		07 46 32.3	
	comp=Z,0.1nm,0.3s,baz=178,slow=28,SNR=5.5							
	comp=Z,4.9nm,1.1s							
I37NO	**I37NO**	**6.39**	**328**	I	I		08 21 52.3	
	baz=141,slow=323,SNR=4.7							

*IDC **31** 07:45:13.9±3.6,53.7°N×88.0°E,h0km,mbtmp2.6/2, ML2.3/2,Error ellipse: s-maj=35.4km s-min=20.2km az=49.0*

ASRS 31 07:45:10.0±0.7,53.70N×88.25E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.05**	**278**	I	I	07 57 44.0	
	0.1nm,0.8s,baz=94,slow=310,SNR=2.1						
ZALV	**Zalesovo Beam**	**2.05**	**278**	Pn	Pb	07 45 48.3	+0.2
	0.6nm,0.3s,baz=98,slow=13,SNR=11						
ZALV				Lg	Lg	07 46 14.6	
	0.9nm,0.3s,baz=97,slow=26,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.73**	**247**	Pn	Pn	07 46 52.1	+2.1
	baz=63,slow=14,SNR=2.7						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**7.90**	**211**	Pn	Pn	07 47 10.6	+4.5
	0.1nm,0.3s,baz=29,slow=14,SNR=2.6						
	0.1nm,0.3s						

*IDC **31** 07:45:38.0±10.0,15.59S×175.74W,h231km±101km, mb3.5/9,mbtmp4.0/10,Error ellipse: s-maj=29.9km s-min=19.3km az=108.0*

*NEIC **31** 07:45:48.4±1.9,15.6S±0.1×175.88W±0.09,h330km±8km, mb4.2/36,Error ellipse: s-maj=16.8km s-min=11.6km az=157.0*

*NOU **31** 07:45:54.2,15.55S×176.06W,h340km,mb4.1/5,Fiji Islands Region*

ISC 31 07:45:49.7±0.5,15.63S±0.08×175.80W±0.07,h350km, n58,σ1§37/58,mb4.1/25,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**2.60**	**300**		**Pn**	**07 46 42.3**	**-3.3**
FUTU	**Fugatoga**	**2.60**	**300**	P	**Pn**	**07 46 47.4**	**+1.8**
FUTU	**Fugatoga**	**2.60**	**300**	S	**S**	**07 47 30.5**	**-0.1**
TAVE	**Taveuni**	**4.09**	**254**	P	**Pn**	**07 47 01.5**	**+1.9**
AFI	**Afiamalu**	**4.25**	**67**		**Pn**	**07 46 59.7**	**-1.7**
AFI				Sn	**S**	**07 47 56.2**	**-2.9**
DGTI	**Dogotuki**	**4.35**	**261**	P	**Pn**	**07 47 04.0**	**+1.7**
MSVF	**Nonsavu**	**6.26**	**250**		**Pn**	**07 47 22.5**	**-1.1**
MSVF	**Nonsavu**	**6.26**	**250**	P	**Pn**	**07 47 25.5**	**+1.9**
NIUE	**Niue**	**6.57**	**122**	Pn	**Pn**	**07 47 27.9**	**+0.8**
RAO	**Raoul Island**	**13.70**	**188**		**Pn**	**07 48 51.0**	**-0.4**
DZM	**Mont Dzumac**	**17.98**	**246**	P	**P**	**07 49 34.4**	**-2.3**
DZM				IAmb	IAmb	07 49 40.0	
	comp=Z,11nm,1.0s						
DZM	**Mont Dzumac**	**17.98**	**246**	P	**P**	**07 49 32.2**	**-4.5**
	comp=Z,3.6nm,0.8s,baz=74,slow=19,SNR=1.3						
TOZ	**Tahuroa Road**	**23.33**	**198**	P	**P**	**07 50 27.6**	**-0.2**
BKZ	**Black Stump Fm**	**24.41**	**195**	P	**P**	**07 50 35.0**	**-2.7**
NNZ	**Nelson**	**27.17**	**198**	P	**P**	**07 51 00.6**	**-1.6**
COEN	**Coen**	**39.66**	**267**	P	**P**	**07 52 49.9**	**+0.6**
COEN				IAmb	IAmb	07 53 06.9	
	comp=Z,14nm,1.1s						
STKA	**Stephens Creek**	**41.93**	**240**	P	**P**	**07 53 07.3**	**-0.1**
STKA				IAmb	IAmb	07 53 08.2	
	comp=Z,23nm,1.1s						
STKA	**Stephens Creek**	**41.93**	**240**	P	**P**	**07 53 06.5**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=62,slow=7.5,SNR=4.1						
	comp=Z,1.7nm,0.8s						
BBOO	**Buckleboo**	**46.71**	**240**	P	**P**	**07 53 44.2**	**-0.7**
BBOO				IAmb	IAmb	07 53 56.1	
	comp=Z,21nm,1.5s						
WR8	**Warramunga Arr**	**47.39**	**257**	P	**P**	**07 53 49.8**	**-0.6**
WB0	**Warramunga Arr**	**47.50**	**257**	P	**P**	**07 53 50.6**	**-0.6**
WRA	**Warramunga Arr**	**47.54**	**257**	P	**P**	**07 53 51.1**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=88,slow=6.9,SNR=17						
	comp=Z,2.3nm,0.6s						
AS31	**Alice Springs**	**47.84**	**252**	P	**P**	**07 53 53.1**	**-0.7**
AS31				IAmb	IAmb	07 53 54.5	
	comp=Z,7.8nm,0.7s						
ASAR	**Alice Springs**	**47.84**	**252**	P	**P**	**07 53 53.2**	**-0.6**
ASAR	**Alice Springs**	**47.84**	**252**	P	**P**	**07 53 53.3**	**-0.5**
	comp=Z,27nm,0.7s,baz=87,slow=8.1,SNR=321						
SBA	**Scott Base**	**62.85**	**184**	P	**P**	**07 55 40.5**	**+1.8**
VNDA	**Vanda**	**62.93**	**185**	P	**P**	**07 55 39.5**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=7.1,slow=5.4,SNR=6.1						
	comp=Z,1.4nm,0.9s						
PETK	**Petropavlovsk-**	**72.17**	**344**	P	**P**	**07 56 37.6**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=162,slow=5.7,SNR=1.9						
	comp=Z,0.7nm,0.3s						
FARB	**Farallon Islan**	**72.59**	**41**	P	**P**	**07 56 39.3**	**-0.3**
QSPA	**South Pole Qui**	**74.42**	**180**	P	**P**	**07 56 51.1**	**+1.2**
QSPA	**South Pole Qui**	**74.42**	**180**	P	**P**	**07 56 50.7**	**+0.8**
	comp=Z,3.0nm,1.0s,baz=33,slow=1.0,SNR=8.8						
	comp=Z,3.0nm,1.0s						
KDAK	**Kodiak Island**	**75.62**	**13**	P	**P**	**07 56 57.0**	**+0.5**
NVAR	**Mina Array Bea**	**76.05**	**43**	P	**P**	**07 57 00.1**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=232,slow=10,SNR=7.9						
	comp=Z,0.9nm,0.7s						
P18K	**Big Mountain,**	**76.61**	**11**	P	**P**	**07 57 02.0**	**-0.1**
P18K				IAmb	IAmb	07 57 03.2	
	comp=Z,4.7nm,0.9s						
PINE	**Pine Mountain**	**77.46**	**37**	P	**P**	**07 57 08.3**	**+0.9**
PINE				IAmb	IAmb	07 57 09.8	
	comp=Z,3.9nm,1.0s						
M16K	**Timber Creek**	**77.57**	**8**	P	**P**	**07 57 08.5**	**+1.2**
M16K				IAmb	IAmb	07 57 30.1	
	comp=Z,4.8nm,1.1s						
E03A	**Lebam**	**77.67**	**34**	P	**P**	**07 57 09.1**	**+0.9**
M17K	**Holitna River**	**78.15**	**9**	P	**P**	**07 57 11.9**	**+1.5**
M17K				IAmb	IAmb	07 57 13.1	
	comp=Z,4.1nm,0.9s						
J16K	**Anvik River**	**79.54**	**7**	P	**P**	**07 57 19.9**	**+2.0**
BMRM	**Bremner River**	**80.31**	**15**	P	**P**	**07 57 22.1**	**0.0**
N25K	**Chitina, Valde**	**80.86**	**15**	P	**P**	**07 57 25.6**	**+0.6**
N25K				IAmb	IAmb	07 57 26.5	
	comp=Z,2.7nm,0.7s						
GLB	**Gilahina Butte**	**80.91**	**15**	P	**P**	**07 57 25.7**	**+0.4**
GLB				IAmb	IAmb	07 57 26.6	
	comp=Z,2.9nm,0.6s						
TMUT	**Trail Mountain**	**81.26**	**45**	P	**P**	**07 57 29.8**	**+1.9**
TMUT				IAmb	IAmb	07 57 30.6	
	comp=Z,4.9nm,1.4s						
VHRN	**Van Horn**	**82.17**	**55**	P	**P**	**07 57 34.6**	**+1.9**
WRH	**Wood River Hil**	**82.62**	**12**	P	**P**	**07 57 34.0**	**0.0**
WRH				IAmb	IAmb	07 57 35.3	
	comp=Z,5.3nm,1.2s						
TXAR	**Lajitas Array**	**82.66**	**57**	P	**P**	**07 57 36.3**	**+1.2**
	comp=Z,1.0nm,1.0s,baz=208,slow=6.8,SNR=7.5						
	comp=Z,1.0nm,1.0s						
CCB	**Clear Creek Bu**	**82.83**	**12**		**P**	**07 57 35.0**	**0.0**
CCB				IAmb	IAmb	07 57 36.0	
	comp=Z,3.2nm,0.9s						
COLA	**College**	**83.03**	**12**	P	**P**	**07 57 35.7**	**-0.3**
IMAR	**Indian Mountai**	**83.03**	**9**	P	**P**	**07 57 36.0**	**0.0**
IL31		**83.13**	**12**	P	**P**	**07 57 35.9**	**-0.6**
ILAR	**Eielson Array**	**83.13**	**12**	P	**P**	**07 57 36.6**	**0.0**
	comp=Z,1.1nm,0.7s,baz=228,slow=6.4,SNR=15						
	comp=Z,1.1nm,0.7s						
J25K	**Salcha River,**	**83.30**	**13**	P	**P**	**07 57 37.9**	**+0.3**
J25K				IAmb	IAmb	07 57 39.0	
	comp=Z,2.7nm,0.8s						
BPMT	**Black Pine Rid**	**83.34**	**38**	P	**P**	**07 57 38.6**	**+0.2**
J26L	**Joseph Creek**	**83.60**	**13**		**P**	**07 57 40.4**	**+1.3**
PDAR	**Pinedale Array**	**83.98**	**43**	P	**P**	**07 57 41.8**	**0.0**
	comp=Z,0.8nm,0.8s,baz=208,slow=2.9,SNR=5.9						
	comp=Z,0.8nm,0.8s						
DAWY	**Dawson**	**84.23**	**15**	IAmb	IAmb	07 57 44.0	
	comp=Z,3.2nm,0.8s						
K29M	**Barlow Dome**	**84.53**	**16**	P	**P**	**07 57 44.2**	**+0.4**
DRIO	**Del Rio**	**85.17**	**58**	P	**P**	**07 57 48.2**	**+0.6**
DRIO				IAmb	IAmb	07 57 49.8	
	comp=Z,3.2nm,0.7s						

*ASRS **31** 07:49:58.0±1.4,53.7°N×91.06E,h0km,M3.2,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

*IDC **31** 07:50:03.5±3.4,53.71N×90.67E,h0km,mbtmp3.4/2, ML3.0/2,Error ellipse: s-maj=27.5km s-min=22.3km az=54.0*

*NNC **31** 07:50:04.4±5.5,53.67N×90.48E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=40.3km s-min=29.5km az=55.0, Suspected Mining explosion.*

ISC 31 07:50:05.6±4.1,53.7N±0.2×90.4E±0.2,h0km,n9,σ0§95/11, 5C-5D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.30**	**276**	I	I	08 11 45.0	
	0.2nm,1.2s,baz=91,slow=310,SNR=31						
ZAA0	**Zalesovo Array**	**3.30**	**276**	⇓Pg	**Pb**	**07 51 04.9**	**0.0**
	1.7nm,0.7s						
ZAA0				⇓Lg	Lg	07 51 56.2	
	9.4nm,0.8s						
ZALV	**Zalesovo Beam**	**3.30**	**276**	Pg	**Pb**	**07 51 05.1**	**+0.1**
	2.3nm,0.3s,baz=95,slow=15,SNR=19						
ZALV				Lg	Lg	07 51 54.1	
	2.2nm,0.3s,baz=90,slow=26,SNR=6.2						
KURK	**Kurchatov**	**7.82**	**252**	⇑Sn	**Sn**	**07 53 29.8**	**+0.1**
	4.5nm,0.7s						
KURK				⇓Lg	Lg	07 54 16.3	
	62nm,1.1s						
KURBB	**Kurchatov Arra**	**7.91**	**252**	⇓Pn	**Pn**	**07 52 02.1**	**+0.3**
	3.5nm,0.7s						
KURBB				⇑Sn	**Sn**	**07 53 30.0**	**-2.0**
	34nm,0.8s						
KURBB				⇑Lg	Lg	07 54 15.9	
	34nm,0.8s						
KURBB	**Kurchatov Arra**	**7.91**	**252**	Pn	**Pn**	**07 52 02.2**	**+0.4**
	0.1nm,0.3s,baz=64,slow=14,SNR=8.2						
KURBB				Sn	**Sn**	**07 53 32.7**	**+0.7**
	baz=65,slow=27,SNR=7.4						
KURBB				Lg	Lg	07 54 20.5	
	0.1nm,0.3s,baz=62,slow=30,SNR=9.8						
	2.9nm,0.8s						
MK31	**Makanchi Array**	**8.65**	**220**	⇓Pn	**Pn**	**07 52 11.4**	**-0.6**
	0.5nm,0.6s,baz=30,slow=12,SNR=6.3						
MK31				⇑Sn	**Sn**	**07 53 51.6**	**+1.4**
	4.0nm,0.9s						
MK31				⇑Lg	Lg	07 54 39.7	
	28nm,1.1s,baz=34,slow=25,SNR=4.2						
MKAR	**Makanchi Array**	**8.65**	**220**	Pn	**Pn**	**07 52 11.7**	**-0.3**
	0.2nm,0.3s,baz=31,slow=12,SNR=7.1						
MKAR				Sn	**Sn**	**07 53 50.0**	**-0.2**
	0.2nm,0.3s,baz=34,slow=22,SNR=6.3						
MKAR				Lg	Lg	07 54 38.0	
	0.1nm,0.3s,baz=30,slow=22,SNR=7.4						
	0.5nm,0.4s						
SONM	**Songino Array**	**11.72**	**114**	Lg	Lg	07 55 53.8	
	0.5nm,0.3s,baz=301,slow=28,SNR=10						

*CATAC **31** 07:50:30.9±0.3,13.2°N×92.9°W±°,h31km±2km,M4.2/33, MLv4.2/33,Error ellipse: s-maj=5.2km s-min=2.5km az=27.4,confirmed*

*SNET **31** 07:50:31.3±1.6,13.14N×89.51W,h45km,ML3.9*

*GCG **31** 07:50:32.1±1.6,13.25N×89.54W,h55km±8km,MD3.9, ML4.1,M3.6*

ISC 31 07:50:32.1±1.4,13.15N±0.06×89.50W±0.04,h45km±12km, n90,σ1§10/97,1C,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.38**	**28**	*eP*	**Pn**	**07 50 41.2**	**-0.4**
LALI	**Alcalda de L**	**0.38**	**28**	*i* P	**Pn**	**07 50 41.2**	**-0.4**
LALI				*i* S	**Sn**	**07 50 49.4**	**+1.1**
LALI				IAML		07 50 49.7	
	comp=N,3μm,0.4s						
LALI	**Alcalda de L**	**0.38**	**28**	P	**Pn**	**07 50 41.3**	**-0.4**
JAYA	**Jayaque - finc**	**0.50**	**6**	*eP*	**Pn**	**07 50 42.6**	**-0.8**
JAYA	**Jayaque - finc**	**0.50**	**6**	*i* P	**Pn**	**07 50 42.5**	**-0.8**
JAYA				*i* S	**Sn**	**07 50 50.8**	**-0.4**
JAYA	**Jayaque - finc**	**0.50**	**6**	P	**Pn**	**07 50 42.6**	**-0.8**
PANCS	**Alcalda de**	**0.56**	**34**	*eP*	**Pn**	**07 50 43.2**	**-0.7**
PANCS	**Alcalda de**	**0.56**	**34**	S	**Sn**	**07 50 52.3**	**0.0**
PANCS	**Alcalda de**	**0.56**	**34**	P	**Pn**	**07 50 43.3**	**-0.5**
LOMA	**Loma Larga**	**0.59**	**33**	S	**Sn**	**07 50 53.2**	**+0.1**
LOMA	**Loma Larga**	**0.59**	**33**	P	**Pn**	**07 50 43.4**	**-0.9**
PMON	**Piamonte**	**0.59**	**18**	*eP*	**Pn**	**07 50 43.7**	**-0.6**
PMON	**Piamonte**	**0.59**	**18**	S	**Sn**	**07 50 53.4**	**-0.4**
PMON	**Piamonte**	**0.59**	**18**	P	**Pn**	**07 50 43.7**	**-0.6**
UEES	**Universidad Ev**	**0.62**	**24**	S	**Sn**	**07 50 54.1**	**+0.4**
UEES	**Universidad Ev**	**0.62**	**24**	P	**Pn**	**07 50 44.2**	**-0.5**
BOQS	**Boqueron**	**0.62**	**20**	*i* P	**Pn**	**07 50 44.4**	**-0.5**
UTEC	**Universidad Te**	**0.62**	**28**	S	**Sn**	**07 50 54.5**	**+0.8**
UTEC	**Universidad Te**	**0.62**	**28**	P	**Pn**	**07 50 44.2**	**-0.5**
LFRS	**El Faro**	**0.64**	**42**	*i* P	**Pn**	**07 50 44.7**	**-0.3**
IGN	**Direccin Gen**	**0.65**	**30**	S	**Sn**	**07 50 55.1**	**+0.7**
IGN	**Direccin Gen**	**0.65**	**30**	P	**Pn**	**07 50 44.7**	**-0.4**
UDBS	**Universidad Do**	**0.66**	**31**	*eP*	**Pn**	**07 50 44.7**	**-0.4**
UDBS				*eS*	**Sn**	**07 50 55.2**	**+0.7**
UDBS	**Universidad Do**	**0.66**	**31**	P	**Pn**	**07 50 44.8**	**-0.4**
CEDA	**San Andres**	**0.66**	**9**	*i* P	**Pn**	**07 50 44.6**	**-0.6**
CEDA				*eS*	**Sn**	**07 50 55.2**	**+0.6**
CEDA	**San Andres**	**0.66**	**9**	P	**Pn**	**07 50 44.6**	**-0.6**
CEVE	**Cerro Verde**	**0.68**	**350**	S	**Sn**	**07 50 55.8**	**+0.3**
CEVE	**Cerro Verde**	**0.68**	**350**	P	**Pn**	**07 50 45.1**	**-0.7**
RTR	**El Retiro**	**0.76**	**349**	*i* P	**Pn**	**07 50 45.9**	**-0.7**
PAVA	**Las Pavas**	**0.78**	**44**	S	**Sn**	**07 50 59.1**	**+1.5**
PAVA	**Las Pavas**	**0.78**	**44**	P	**Pn**	**07 50 46.9**	**-0.1**
SNVI	**San Vicente**	**0.79**	**55**	*eP*	**Pn**	**07 50 46.8**	**-0.3**
TECO	**Alcaldia de Te**	**0.80**	**61**	S	**Sn**	**07 50 57.9**	**0.0**
TECO	**Alcaldia de Te**	**0.80**	**61**	P	**Pn**	**07 50 46.3**	**-0.7**
UNIC	**Universidad Ca**	**0.83**	**357**	*i* P	**Pn**	**07 50 46.8**	**-0.6**
UNIC	**Universidad Ca**	**0.83**	**357**	S	**Sn**	**07 50 59.5**	**+0.8**
UNIC	**Universidad Ca**	**0.83**	**357**	P	**Pn**	**07 50 46.9**	**-0.6**
UESV	**Universidad de**	**0.85**	**55**	*eP*	**Pn**	**07 50 47.3**	**-0.4**
UESV				*eS*	**Sn**	**07 50 59.4**	**+0.4**
UESV	**Universidad de**	**0.85**	**55**	P	**Pn**	**07 50 47.3**	**-0.4**
FAME	**Alcaldia de Sa**	**0.85**	**324**	P	**Pn**	**07 50 46.3**	**-1.5**
SLOZ	**Alcaldia de Sa**	**0.91**	**343**	*i* P	**Pn**	**07 50 47.8**	**-0.8**
SLOZ				*eS*	**Sn**	**07 51 00.5**	**-0.1**
SLOZ	**Alcaldia de Sa**	**0.91**	**343**	P	**Pn**	**07 50 47.8**	**-0.8**
ALJI	**Alcalda de J**	**0.92**	**79**	*eP*	**Pn**	**07 50 50.2**	**+1.5**
ALJI	**Alcalda de J**	**0.92**	**79**	S	**Sn**	**07 51 03.2**	**+2.4**
ALJI	**Alcalda de J**	**0.92**	**79**	P	**Pn**	**07 50 50.3**	**+1.5**
SCLA	**Alcaldia de Sa**	**0.93**	**54**	P	**Pn**	**07 50 48.7**	**-0.2**
PQSS	**Presa 15 de Se**	**1.03**	**63**	S	**Sn**	**07 51 03.5**	**0.0**
PQSS	**Presa 15 de Se**	**1.03**	**63**	P	**Pn**	**07 50 49.9**	**-0.3**
ESSJ	**San Jos, E**	**1.05**	**293**	*i* P	Pn	07 50 56.3	+5.8
ESSJ				*i* S	Sn	07 51 15.4	+11
LLGN	**La Laguna**	**1.14**	**28**	*eP*	**Pn**	**07 50 51.1**	**-0.7**
LLGN	**La Laguna**	**1.14**	**28**	S	**Sn**	**07 51 07.0**	**+0.6**
LLGN	**La Laguna**	**1.14**	**28**	P	**Pn**	**07 50 51.1**	**-0.7**
PACA	**Pacayal**	**1.19**	**74**	S	**Sn**	**07 51 08.8**	**+1.2**
PACA	**Pacayal**	**1.19**	**74**	P	**Pn**	**07 50 52.5**	**0.0**
VSM	**San Miguel**	**1.23**	**77**	*eP*	**Pn**	**07 50 53.1**	**0.0**
MTO3	**Montecristo**	**1.25**	**6**	*i* P	**Pn**	**07 50 52.6**	**-0.8**
MTO3	**Montecristo**	**1.25**	**6**	*i* P	**Pn**	**07 50 52.6**	**-0.8**
MTO3				*i* S	**Sn**	**07 51 09.2**	**0.0**
MTO3	**Montecristo**	**1.25**	**6**	S	**Sn**	**07 51 08.9**	**-0.3**
MTO3	**Montecristo**	**1.25**	**6**	P	**Pn**	**07 50 52.5**	**-0.8**
BLLM	**Bellamira**	**1.26**	**77**	*eP*	**Pn**	**07 50 53.3**	**-0.1**
CNRM	**Centro Naciona**	**1.33**	**76**	S	**Sn**	**07 51 11.9**	**+1.0**
CNRM	**Centro Naciona**	**1.33**	**76**	P	**Pn**	**07 50 54.5**	**+0.2**
ESQI	**Esquipulas**	**1.41**	**6**	⇑*iP*	**Pn**	**07 50 55.0**	**-0.5**
ESQI	**Esquipulas**	**1.41**	**6**	P	**Pn**	**07 50 55.0**	**-0.5**
FG16	**Alotenango, Sa**	**1.48**	**319**	*i* P	Pn	07 51 01.0	+4.4
FG16				*i* S	**Sn**	**07 51 22.6**	**+7.6**
FG16				IAML		07 51 29.4	
	comp=E,9μm,0.2s						
FG8	**Yepocapa, Chim**	**1.51**	**317**	*i* P	Pn	07 51 01.1	+4.3
FG8				*i* S	Sn	07 51 24.0	+8.7
LCND	**La Caada**	**1.58**	**84**	P	**Pn**	**07 50 57.5**	**-0.2**
CNCH	**Conchagua**	**1.63**	**85**	*eP*	**Pn**	**07 50 58.2**	**-0.3**
CNCH	**Conchagua**	**1.63**	**85**	S	**Sn**	**07 51 19.2**	**+0.9**
CNCH	**Conchagua**	**1.63**	**85**	P	**Pn**	**07 50 58.1**	**-0.3**
MARCA	**Marcala la Paz**	**1.74**	**55**	*i* P	**Pn**	**07 50 59.5**	**-0.5**
MARCA				*i* S	**Sn**	**07 51 21.8**	**+0.6**
SARH	**Santa Rosa de**	**1.77**	**24**	*i* P	**Pn**	**07 51 00.3**	**0.0**
ESSG	**Sabana Grande**	**1.78**	**314**	*i* P	**Pn**	**07 50 58.9**	**-1.6**
ESSG				*i* S	**Sn**	**07 51 20.1**	**-1.9**
ESSG				IAML		07 51 23.2	
	comp=N,1μm,0.3s						
CSGN	**Cosiguina Volc**	**1.90**	**95**	P	**Pn**	**07 51 01.7**	**-0.5**
POTN	**Potosi Cosigui**	**1.95**	**94**	P	**Pn**	**07 51 02.5**	**-0.3**
STG2	**El Palmar, Qui**	**2.22**	**305**	*i* P	Pn	07 51 10.9	+4.2
SOKI	**Kika Raxquin**	**2.48**	**312**	*i* P	**Pn**	**07 51 10.3**	**-0.1**
RTAL	**Retalhuleu**	**2.53**	**303**	P	**Pn**	**07 51 10.3**	**-0.5**
QUIS	**Sacapulas**	**2.63**	**324**	*i* P	**Pn**	**07 51 13.1**	**+0.9**
QUIS				IAML		07 51 51.6	
	comp=E,351nm,0.4s						
PLRN	**Geotermica Pol**	**2.73**	**102**	P	**Pn**	**07 51 13.2**	**-0.2**
CNGA	**Al SSO del Vol**	**2.81**	**103**	P	**Pn**	**07 51 14.2**	**-0.4**
CNGN	**Cerro Negro**	**2.81**	**103**	P	**Pn**	**07 51 14.1**	**-0.5**
MOMN	**Momotombo**	**2.98**	**104**	P	**Pn**	**07 51 15.6**	**-1.4**
MOMN				S	**Sn**	**07 51 50.3**	**-1.2**
COPN	**Copaltepe**	**3.00**	**108**	P	**Pn**	**07 51 17.0**	**-0.2**
SAPS	**Ciudad Sandino**	**3.18**	**108**	P	**Pn**	**07 51 19.8**	**+0.2**
SAPS	**Ciudad Sandino**	**3.18**	**108**	S	**Sn**	**07 51 55.2**	**-1.1**
RCVN	**Varillal2**	**3.25**	**82**	P	**Pn**	**07 51 20.1**	**-0.6**
TISN	**Laguna Tiscapa**	**3.31**	**107**	P	**Pn**	**07 51 21.0**	**-0.5**
MATN	**Matagalpa**	**3.49**	**93**	P	**Pn**	**07 51 22.3**	**-1.7**
MATN	**Matagalpa**	**3.49**	**93**	S	**Sn**	**07 52 03.7**	**-0.5**

*ASRS **31** 08:05:10.0±0.9,54.61N×86.37E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 31 08:05:13.0±3.4,54.59N×86.28E,h0km,mbtmp2.7/2, ML2.6/2,Error ellipse: s-maj=24.4km s-min=14.6km az=48.0,Southwestern Siberia

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s |

UCH	**Uchtor**	**2.85**	**337**	⇑	*i* P		**Pb**	**08 15 17.7**	**-2.7**
UCH				⇑	*i* S		**Sn**	**08 15 51.7**	**+2.0**
BOOM	**Boomskoye usch**	**2.87**	**359**	⇑	*i* P		**Pb**	**08 15 18.1**	**-2.5**
BOOM				⇑	*i* S		**Sn**	**08 15 52.4**	**+2.6**
ARSB	**Arslanbob**	**2.88**	**307**	⇓	*i* P		**Pb**	**08 15 18.1**	**-2.8**
ARSB				⇓	*i* S		**Sn**	**08 15 52.5**	**+2.3**
AAK	**Ala-Archa**	**3.23**	**339**	⇓	Pg		**Pn**	**08 15 21.7**	**+1.6**
	2.3nm,0.4s								
AAK				⇓	Lg		Lg	08 16 03.9	
	4.9nm,0.4s								
AAK	**Ala-Archa**	**3.23**	**339**	⇓	*i* P		**Pb**	**08 15 23.0**	**-3.8**
AAK				⇓	*i* S		**Sn**	**08 16 00.5**	**+1.7**
TKM2	**Tokmak 2**	**3.31**	**354**	⇓	*i* P		**Pb**	**08 15 24.1**	**-4.1**
TKM2				⇓	*i* S		**Sn**	**08 16 02.8**	**+1.9**
KST	**Kastek**	**3.42**	**359**		Pg		**Pb**	**08 15 25.9**	**-4.1**
	6.9nm,0.4s								
KST					Lg		Lg	08 16 11.1	
	19nm,0.6s								
KST	**Kastek**	**3.42**	**359**		*e*P		**Pb**	**08 15 25.9**	**-4.1**
	6.9nm,0.4s								
KST					*e*S		**Sb**	**08 16 11.1**	**-0.5**
	19nm,0.6s								
TNSS	**Tian-Shan**	**3.48**	**11**		Pg		**Pb**	**08 15 27.2**	**-4.0**
	2.6nm,0.3s								
TNSS					Lg		Lg	08 16 13.4	
	2.0nm,0.5s								
TNSS	**Tian-Shan**	**3.48**	**11**		*e*P		**Pb**	**08 15 27.2**	**-4.0**
	2.6nm,0.3s								
TNSS					*e*S		**Sb**	**08 16 13.4**	**-0.3**
	2.0nm,0.5s								
EKS2	**Erkin-Say**	**3.48**	**331**		*i* P		Pb	08 15 26.2	-4.9
EKS2					*i* S		**Sn**	**08 16 06.4**	**+1.4**
CHMS	**Chumysh**	**3.51**	**344**	⇓	*i* P		Pb	08 15 26.7	-4.8
CHMS				⇓	*i* S		**Sn**	**08 16 07.2**	**+1.7**
DGS	**Degeres**	**3.62**	**357**		Pg		Pb	08 15 29.0	-4.4
	3.8nm,0.5s								
DGS					Lg		Lg	08 16 16.7	
	15nm,0.7s								
MRKS	**Merke**	**3.77**	**327**		Pg		**Pn**	**08 15 30.2**	**+2.7**
	2.5nm,0.2s								
MRKS					Lg		Lg	08 16 18.8	
	13nm,0.4s								
MRKS	**Merke**	**3.77**	**327**		*e*P		**Pn**	**08 15 30.2**	**+2.7**
	2.5nm,0.2s								
MRKS					*e*S		**Sb**	**08 16 18.8**	**-3.0**
	13nm,0.4s								
SATY	**Saty**	**3.87**	**27**		Pg		**Pb**	**08 15 36.8**	**-0.8**
	1.6nm,0.1s								
SATY					Lg		Lg	08 16 29.9	
	7.8nm,0.3s								
KTBS	**Karatobe**	**4.12**	**7**		Pg		**Pb**	**08 15 38.6**	**-3.1**
	3.7nm,0.4s								
KTBS					Lg		Lg	08 16 32.8	
	17nm,0.6s								
CHKK	**Chushkaly**	**4.29**	**9**		Pg		**Pb**	**08 15 41.9**	**-2.8**
	12nm,0.5s								
CHKK					Lg		Lg	08 16 38.8	
	8.4nm,0.3s								
CHKK	**Chushkaly**	**4.29**	**9**		*e*P		**Pb**	**08 15 41.9**	**-2.8**
	12nm,0.5s								
CHKK					*e*S		**Sb**	**08 16 38.8**	**+2.2**
	8.4nm,0.3s								
ARXS	**Arharly**	**4.78**	**16**		Pg		**Pb**	**08 15 51.0**	**-2.1**
	1.9nm,0.5s								
ARXS					Lg		Lg	08 16 54.2	
	5.8nm,0.5s								
KK31	**Karatay Array**	**5.42**	**312**		Pg		**Pb**	**08 16 02.5**	**-1.4**
	0.4nm,0.3s,baz=128,slow=16,SNR=5.0								
KK31				⇑	Lg		Lg	08 17 15.1	
	0.6nm,0.3s,baz=132,slow=26,SNR=4.0								
BTLS	**Baital**	**5.61**	**345**		Pg		**Pb**	**08 16 05.1**	**-2.1**
	0.8nm,0.2s								
BTLS					Lg		Lg	08 17 18.4	
	3.6nm,0.6s								
BTLS	**Baital**	**5.61**	**345**		*e*P		**Pb**	**08 16 05.7**	**-1.6**
	0.7nm,0.1s								
BTLS					*e*S		**Sb**	**08 17 19.2**	**+4.6**
	3.6nm,0.5s								

*SJA **31** 08:16:00.2±0.8,30°.11S×71°.43W,h60km±5km, ML3.7, MW3.7*
*GUC **31** 08:16:02.4±0.6,30°.21S×71°.25W,h54km±3km, ML3.7*
*IDC **31** 08:16:02.1±4.2,30°.22S×71°.36W,h55km±40km,mb3.4/4, mbtmp3.7/5,ML3.7/1, Error ellipse: s-maj=44.9km s-min=23.8km az=93.0*

ISC 31 08:16:02.3±0.7,30°.08S±0°.03×71°.48W±0°.04,h54km±6km, n52,σ1°84/75,mb3.8/3,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°		Phase	ID		Time	Res
					Op		ISC	h m s	ISC
CO05	**La Serena**	**0.26**	**51**		*e*P		**Pn**	**08 16 12.3**	**+0.9**
CO05						IAML		08 16 19.9	
	comp=N,22μm,0.2s								
GO04	**Tololo Observa**	**0.59**	**99**		*e*P		**Pn**	**08 16 14.2**	**-0.9**
GO04					*e*S		**Sn**	**08 16 23.1**	**-1.3**
GO04	**Tololo Observa**	**0.59**	**99**		*e*P		**Pn**	**08 16 14.2**	**-0.9**
GO04					*e*S		**Sn**	**08 16 23.5**	**-0.9**
CO06	**Fray Jorge**	**0.60**	**193**		*e*P		**Pn**	**08 16 15.7**	**+0.7**
CO06					*e*S		**Sn**	**08 16 25.2**	**+1.0**
CO06						IAML		08 16 26.1	
	comp=N,5μm,0.2s								
CO03	**El Pedregal**	**1.01**	**138**		*e*P		**Pn**	**08 16 18.9**	**-1.5**
CO03					*e*S		**Sn**	**08 16 31.1**	**-2.6**
CO03						IAML		08 16 32.4	
	comp=N,4μm,0.2s								
CO03	**El Pedregal**	**1.01**	**138**		*e*P		**Pn**	**08 16 18.9**	**-1.5**
CO03					*e*S		**Sn**	**08 16 31.3**	**-2.5**
CO03						IAML		08 16 32.5	
	comp=Z,2μm,0.3s								
CO02	**Combarbal**	**1.19**	**160**		*e*P		**Pn**	**08 16 21.8**	**-1.0**
CO02					*e*S		**Sn**	**08 16 36.6**	**-1.4**
CO02						IAML		08 16 38.6	
	comp=E,5μm,0.2s								
CO02	**Combarbal**	**1.19**	**160**		*e*P		**Pn**	**08 16 21.7**	**-1.0**
CO02					*e*S		**Sn**	**08 16 36.3**	**-1.7**
CO02						IAML		08 16 38.5	
	comp=Z,1μm,0.1s								
CO01	**Juntas del Tor**	**1.20**	**85**	⇑	*i* P		**Pn**	**08 16 22.3**	**-0.7**
CO01						IAML		08 16 37.5	
	comp=N,3μm,0.1s								
CO01	**Juntas del Tor**	**1.20**	**85**		*e*P		**Pn**	**08 16 22.2**	**-0.9**
CO01					*e*S		**Sn**	**08 16 37.2**	**-1.3**
CO01						IAML		08 16 37.3	
	comp=Z,6μm,0.2s								
LCO	**Las Campanas**	**1.26**	**32**		*e*P		Pn	08 16 18.7	-5.2
LCO					*e*P			08 16 23.2	
LCO					*e*S		**Sn**	**08 16 40.7**	**+0.7**
LCO						IAML		08 16 41.6	
	comp=Z,4μm,0.2s								
AROD	**Rodeo**	**1.74**	**93**		*e*P		**Pn**	**08 16 30.6**	**+0.2**
AROD					*e*S		**Sn**	**08 16 52.4**	**+0.8**
AC04	**Llanos de Chal**	**1.90**	**11**		*e*P		**Pn**	**08 16 33.5**	**+1.1**
AC04	**Llanos de Chal**	**1.90**	**11**		*e*P		**Pn**	**08 16 32.4**	**+0.1**
AC04					*e*S		**Sn**	**08 16 52.5**	**-2.7**
AC04						IAML		08 17 16.8	
	comp=Z,318nm,0.3s								
ACDV	**Cuesta del Vie**	**2.04**	**93**		*e*P		**Pn**	**08 16 34.8**	**+0.4**
ACDV					*e*S		**Sn**	**08 16 53.1**	**-5.8**
ACDV						IAML		08 17 00.6	
	comp=Z,220nm,0.5s								
ACCO	**Cerro Coronel**	**2.14**	**104**		*e*P		**Pn**	**08 16 37.0**	**+1.1**
ACCO					*e*S		**Sn**	**08 17 06.4**	**+4.9**
VA06	**Catapilco**	**2.48**	**177**		*e*P		**Pn**	**08 16 39.5**	**-0.7**
VA06						IAML		08 17 17.8	
	comp=N,910nm,0.5s								
RTLS	**Leoncito**	**2.54**	**133**		*e*P		**Pn**	**08 16 42.0**	**+0.8**
RTLS					*e*S		**Sn**	**08 17 13.4**	**+2.3**
RTLS						IAML		08 17 16.5	
	comp=Z,455nm,0.4s								
GO03	**Copiapo**	**2.71**	**24**		*e*P		**Pn**	**08 16 43.1**	**-0.3**
GO03					*e*S		Sn	08 17 02.7	-12
GO03						IAML		08 17 40.4	
	comp=Z,170nm,0.2s								
VA03	**San Esteban**	**2.79**	**164**		*e*P		**Pn**	**08 16 44.4**	**-0.2**
VA03	**San Esteban**	**2.79**	**164**		*e*P		**Pn**	**08 16 44.3**	**-0.2**
VA03					*e*S		**Sn**	**08 17 19.3**	**+2.3**
VA03						IAML		08 17 22.7	
	comp=Z,301nm,0.4s								
VCA	**Vinchina**	**3.15**	**66**		*e*P		**Pn**	**08 16 51.3**	**+1.7**
VCA					*e*S		**Sn**	**08 17 30.4**	**+4.3**
VCA						IAML		08 17 52.0	
	comp=Z,382nm,1.1s								
CFA	**Coronel Fontan**	**3.17**	**119**		*e*P		**Pn**	**08 16 49.6**	**-0.2**
CFA					*e*S		Sn	08 17 10.4	-16
CFA						IAML		08 17 47.1	
	comp=Z,88nm,0.6s								
MT02	**Curacav**	**3.18**	**175**		*e*P		**Pn**	**08 16 48.9**	**-0.9**
MT02					*e*S		**Sn**	**08 17 26.1**	**-0.4**
MT02						IAML		08 17 40.6	
	comp=Z,141nm,0.3s								
MT05	**Renca**	**3.36**	**169**		*e*P		**Pn**	**08 16 52.1**	**-0.2**
MT05					*e*P			08 16 52.5	
MT05					*e*S		**Sn**	**08 17 31.4**	**+0.4**
MT05						IAML		08 17 46.7	
	comp=Z,153nm,0.4s								
ASAL	**Salagasta**	**3.37**	**139**		*e*P		**Pn**	**08 16 51.7**	**-0.8**
ASAL					*e*S		**Sn**	**08 17 38.3**	**+7.0**
FCH	**Farellones**	**3.39**	**163**		*e*P		**Pn**	**08 16 53.3**	**+0.3**
MT04	**Ro Olivares**	**3.50**	**161**		*e*P		**Pn**	**08 16 54.6**	**+0.2**
MT04					*e*S		**Sn**	**08 17 37.0**	**+2.3**
MT04						IAML		08 17 44.4	
	comp=Z,87nm,0.7s								
ARCO	**CERRO ARCO**	**3.50**	**142**		*e*P		**Pn**	**08 16 56.4**	**+2.0**
ARCO						IAML		08 18 03.9	
	comp=Z,84nm,0.8s								
AVFE	**Valle Fertil**	**3.52**	**100**		*e*P		**Pn**	**08 16 54.4**	**-0.1**
AVFE					*e*S		**Sn**	**08 17 34.4**	**-0.6**
AVFE						IAML		08 17 38.7	
	comp=Z,135nm,0.4s								
MT08	**Bocatoma Ro**	**3.58**	**160**		*e*P		**Pn**	**08 16 56.9**	**+1.5**
MT08					*e*S		**Sn**	**08 17 41.4**	**+4.8**
MT08						IAML		08 17 45.2	
	comp=Z,70nm,0.8s								
AAGR	**Agrelo**	**3.75**	**144**		*e*P		**Pn**	**08 16 57.2**	**-0.5**
AAGR						IAML		08 18 10.9	
	comp=Z,74nm,0.7s								
MT01	**Popeta**	**3.77**	**177**		*e*P		**Pn**	**08 16 57.1**	**-0.9**
MT01						IAML		08 17 57.9	
	comp=Z,80nm,0.6s								
AC02	**Maricunga**	**3.84**	**33**		*e*P		**Pn**	**08 16 58.9**	**-0.4**
AC02						IAML		08 18 29.1	
	comp=Z,225nm,0.8s								
LMEL	**Las Melosas**	**3.91**	**164**		*e*P		**Pn**	**08 17 00.3**	**+0.4**
LMEL	**Las Melosas**	**3.91**	**164**		*e*P		**Pn**	**08 16 59.9**	**0.0**
LMEL						IAML		08 17 47.0	
	comp=Z,95nm,0.1s								
AC01	**Pan de Azucar**	**4.00**	**11**		*e*P		**Pn**	**08 16 59.8**	**-1.2**
AC01					*e*S		Sn	08 18 04.2	+18
AC01						IAML		08 18 10.1	
	comp=Z,55nm,0.4s								
APLL	**PUNTA DE LOS L**	**4.29**	**95**		*e*P		**Pn**	**08 17 04.7**	**-0.4**
BO02	**Sierra Bellavi**	**4.73**	**173**		*e*P		**Pn**	**08 17 10.6**	**-0.6**
H03N1	**Juan Fernandez**	**7.16**	**240**		P		**Pn**	**08 17 44.3**	**+0.2**
	baz=110,slow=19,SNR=127								
H03N1					T		T	08 25 19.6	
	baz=66,slow=72,SNR=468								
H03N2	**Juan Fernandez**	**7.18**	**240**		P		**Pn**	**08 17 44.6**	**+0.3**
	baz=110,slow=19,SNR=92								
H03N2					T		T	08 25 17.5	
	baz=66,slow=72,SNR=506								
H03N3	**Juan Fernandez**	**7.18**	**240**		P		**Pn**	**08 17 44.2**	**-0.1**
	baz=110,slow=19,SNR=86								
H03N3					T		T	08 25 16.8	
	baz=66,slow=72,SNR=608								
H03S3	**Juan Fernandez**	**7.34**	**238**		P		**Pn**	**08 17 45.7**	**-0.8**
	baz=188,slow=80,SNR=29								
H03S1	**Juan Fernandez**	**7.34**	**237**		P		**Pn**	**08 17 45.7**	**-0.8**
	baz=188,slow=80,SNR=32								
H03S2	**Juan Fernandez**	**7.35**	**237**		P		**Pn**	**08 17 45.7**	**-1.0**
	baz=188,slow=80,SNR=43								
LPAZ	**La Paz**	**14.07**	**13**		P		**Pn**	**08 19 20.8**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=204,slow=8.5,SNR=5.0								
	comp=Z,0.6nm,0.5s								
SNAA	**Sanae**	**55.04**	**159**		P		**P**	**08 25 26.2**	**-1.8**
	comp=Z,0.9nm,1.0s,baz=269,slow=14,SNR=5.4								
	comp=Z,0.9nm,1.0s								
QSPA	**South Pole Qui**	**60.14**	**180**		P		**P**	**08 26 03.1**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=238,slow=1.4,SNR=7.7								
	comp=Z,0.7nm,0.6s								
TXAR	**Lajitas Array**	**66.58**	**330**		P		**P**	**08 26 47.8**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=136,slow=5.8,SNR=2.5								
TXAR					pP		**pP**	**08 27 03.7**	**+2.2**
	comp=Z,0.2nm,0.7s,baz=135,slow=4.5,SNR=1.9								
	comp=Z,0.2nm,0.7s								
TORD	**Torodi Ar. Bea**	**82.43**	**70**		P		**P**	**08 28 18.6**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=198,slow=5.4,SNR=1.6								
TORD					pP		**pP**	**08 28 33.9**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=272,slow=4.1,SNR=2.4								
	comp=Z,0.7nm,0.3s								
KURBB	**Kurchatov Arra**	**149.61**	**39**		PKPbc		**PKPbc**	**08 35 45.1**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=306,slow=3.3,SNR=4.8								
ZALV	**Zalesovo Beam**	**150.62**	**29**		PKPbc		**PKPbc**	**08 35 46.6**	**-1.1**
	comp=Z,2.0nm,0.6s,baz=303,slow=4.1,SNR=5.6								

*SNET **31** 08:24:03.6±1.5, 13°.17N×89°.52W,h52km, ML3.2*
*GCG **31** 08:24:03.3±1.0, 13°.17N×89°.53W,h54km±6km, MD3.8, ML3.0*
*CATAC **31** 08:24:03.3±0.6, 13°N±4°.9°0W±°, h31km±3km, M3.3/14, MLv3.3/14, Error ellipse: s-maj=8.4km s-min=4.7km az=21.0, confirmed*

ISC 31 08:24:03.0±2.0,13°.16N±0°.09×89°.53W±0°.05,h21km±5km, n62,σ0°55/71,El Salvador

Code	Station Name	Δ°	AZ°		Phase	ID		Time	Res
					Op		ISC	h m s	ISC
LALI	**Alcalda de L**	**0.39**	**32**		*e*P		**Pn**	**08 24 13.4**	**0.0**
LALI	**Alcalda de L**	**0.39**	**32**		*i* P		**Pn**	**08 24 13.4**	**0.0**
LALI					*i* S		**Sn**	**08 24 21.6**	**+1.4**
LALI						IAML		08 24 23.3	
	comp=E,214nm,0.2s								
LALI	**Alcalda de L**	**0.39**	**32**		P		**Pn**	**08 24 13.6**	**+0.2**
LALI	**Alcalda de L**	**0.39**	**32**		S		**Sn**	**08 24 21.0**	**+0.8**
JAYA	**Jayaque - finc**	**0.50**	**9**		*e*P		**Pn**	**08 24 15.2**	**+0.1**
JAYA	**Jayaque - finc**	**0.50**	**9**		*i* P		**Pn**	**08 24 14.7**	**-0.4**
JAYA					*i* S		**Sn**	**08 24 23.1**	**-0.1**
JAYA	**Jayaque - finc**	**0.50**	**9**		P		**Pn**	**08 24 14.9**	**-0.2**
PMON	**Piamonte**	**0.59**	**21**		*e*P		**Pn**	**08 24 16.0**	**-0.4**
PMON	**Piamonte**	**0.59**	**21**		P		**Pn**	**08 24 15.8**	**-0.5**
PMON	**Piamonte**	**0.59**	**21**		S		**Sn**	**08 24 26.2**	**+0.8**
LOMA	**Loma Larga**	**0.60**	**36**		*e*P		**Pb**	**08 24 15.6**	**+0.6**
LOMA					*e*S		**Sn**	**08 24 25.3**	**-0.3**
LOMA	**Loma Larga**	**0.60**	**36**		P		**Pb**	**08 24 15.6**	**+0.6**
BOQS	**Boqueron**	**0.63**	**23**		*e*P		**Pn**	**08 24 16.5**	**-0.4**
UEES	**Universidad Ev**	**0.63**	**27**		*e*P		**Pn**	**08 24 16.4**	**-0.4**
UEES	**Universidad Ev**	**0.63**	**27**		P		**Pn**	**08 24 16.4**	**-0.4**
UEES	**Universidad Ev**	**0.63**	**27**		S		**Sn**	**08 24 26.4**	**+0.2**
UTEC	**Universidad Te**	**0.63**	**31**		*e*P		**Pn**	**08 24 16.3**	**-0.5**
UTEC					*e*S		**Sn**	**08 24 26.6**	**+0.3**
UTEC	**Universidad Te**	**0.63**	**31**		P		**Pn**	**08 24 16.5**	**-0.3**
PIC2	**El Picacho**	**0.65**	**25**		*e*P		**Pn**	**08 24 17.6**	**+0.4**
LFRS	**El Faro**	**0.65**	**45**		*e*P		**Pn**	**08 24 16.7**	**-0.4**
CEDA	**San Andres**	**0.66**	**12**		P		**Pn**	**08 24 17.0**	**-0.1**
CEDA	**San Andres**	**0.66**	**12**		S		**Sn**	**08 24 27.4**	**+0.5**
IGN	**Direccin Gen**	**0.66**	**32**		P		**Pn**	**08 24 16.8**	**-0.3**
CEVE	**Cerro Verde**	**0.67**	**353**		*e*P		**Pn**	**08 24 17.2**	**-0.3**
CEVE					*e*S		**Sn**	**08 24 28.1**	**+0.6**
CEVE	**Cerro Verde**	**0.67**	**353**		P		**Pn**	**08 24 17.3**	**-0.3**
CEVE	**Cerro Verde**	**0.67**	**353**		S		**Sn**	**08 24 28.0**	**+0.4**
SNJE	**San Jose**	**0.71**	**354**		*e*P		**Pb**	**08 24 17.6**	**+0.7**
LFU	**La Fuente**	**0.72**	**35**		*e*P		**Pn**	**08 24 17.8**	**-0.2**
RTR	**El Retiro**	**0.74**	**352**		*e*P		**Pn**	**08 24 18.5**	**0.0**
LBRS	**Las Brisas**	**0.75**	**39**		*e*P		**Pn**	**08 24 18.4**	**-0.1**
PAVA	**Las Pavas**	**0.80**	**46**		*e*P		**Pn**	**08 24 19.0**	**-0.2**
PAVA					*e*S		**Sn**	**08 24 30.9**	**+0.4**
PAVA	**Las Pavas**	**0.80**	**46**		P		**Pn**	**08 24 19.0**	**-0.2**
UNIC	**Universidad Ca**	**0.82**	**359**		S		**Sn**	**08 24 31.3**	**+0.3**
UNIC	**Universidad Ca**	**0.82**	**359**		P		**Pn**	**08 24 19.1**	**+0.4**
TECO	**Alcaldia de Te**	**0.82**	**63**		*e*P		**Pb**	**08 24 18.4**	**-0.3**
TECO	**Alcaldia de Te**	**0.82**	**63**		P		**Pb**	**08 24 18.5**	**-0.2**
TECO	**Alcaldia de Te**	**0.82**	**63**		S		**Sb**	**08 24 30.1**	**+0.7**
FAME	**Alcaldia de Sa**	**0.83**	**326**		S		**Sb**	**08 24 29.7**	**+0.2**
FAME	**Alcaldia de Sa**	**0.83**	**326**		P		**Pb**	**08 24 18.6**	**-0.1**
SLOZ	**Alcaldia de Sa**	**0.90**	**344**		*e*P		**Pb**	**08 24 20.0**	**0.0**
SLOZ	**Alcaldia de Sa**	**0.90**	**344**		S		**Sn**	**08 24 33.0**	**+0.2**
SLOZ	**Alcaldia de Sa**	**0.90**	**344**		P		**Pb**	**08 24 19.9**	**0.0**
ALJI	**Alcalda de J**	**0.95**	**80**		*e*P		**Pn**	**08 24 22.5**	**+1.3**
ALJI					*e*S		**Sn**	**08 24 35.4**	**+1.2**
ALJI	**Alcalda de J**	**0.95**	**80**		P		**Pn**	**08 24 21.9**	**+0.8**
SCLA	**Alcaldia de Sa**	**0.95**	**55**		*e*P		**Pb**	**08 24 20.8**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.95**	**55**		S		**Sn**	**08 24 34.3**	**+0.1**
SCLA	**Alcaldia de Sa**	**0.95**	**55**		P		**Pb**	**08 24 21.0**	**+0.1**
PQSS	**Presa 15 de Se**	**1.06**	**64**		*e*P		**Pn**	**08 24 22.0**	**-0.6**
PQSS	**Presa 15 de Se**	**1.06**	**64**		P		**Pn**	**08 24 21.8**	**-0.8**
PQSS	**Presa 15 de Se**	**1.06**	**64**		S		**Sb**	**08 24 35.0**	**-1.0**
TECA	**Tecapa**	**1.06**	**71**		*e*P		**Pb**	**08 24 21.7**	**-1.1**
TECA					*e*P			08 24 21.9	
PACA	**Pacayal**	**1.22**	**75**		*e*P		**Pn**	**08 24 25.0**	**+0.1**
MTO3	**Montecristo**	**1.25**	**8**		*i* P		**Pn**	**08 24 24.7**	**-0.7**
MTO3	**Montecristo**	**1.25**	**8**		*i* P		**Pn**	**08 24 24.7**	**-0.7**
MTO3					*i* S		**Sn**	**08 24 41.4**	**-0.4**
MTO3	**Montecristo**	**1.25**	**8**		S		**Sn**	**08 24 40.9**	**-0.9**
MTO3	**Montecristo**	**1.25**	**8**		P		**Pn**	**08 24 24.4**	**-1.0**
BLLM	**Bellamira**	**1.29**	**77**		*e*P		**Pn**	**08 24 25.5**	**-0.4**
ESQI	**Esquipulas**	**1.41**	**8**		*i* P		**Pn**	**08 24 27.2**	**-0.4**
LCND	**La Caada**	**1.61**	**84**		*e*P		**Pn**	**08 24 29.7**	**-0.5**
CNCH	**Conchagua**	**1.66**	**86**		*e*P		**Pn**	**08 24 30.7**	**-0.3**
MARCA	**Marcala la Paz**	**1.77**	**55**		*i* P		**Pn**	**08 24 31.6**	**-0.9**
MARCA					*i* S		**Sn**	**08 24 54.1**	**-0.3**
SARH	**Santa Rosa de**	**1.78**	**25**		*i* P		**Pn**	**08 24 32.4**	**-0.2**

*BJI **31** 08:29:20.2,59°.88N×145°.00E,h11km,mB4.9/22,mb4.9/65, Ms5.1/60,Ms7 4.8/57*
*NERS **31** 08:29:20.1,59°.82N×144°.80E,h2km, FELT I=IV MSK at Okhotsk; I=II MSK at Magadan*
*MOS **31** 08:29:21.9±0.9,59°.88N×144°.82E,h17km,mb5.1/49, MS4.0/12, Error ellipse: s-maj=8.8km s-min=4.8km az=93.3*
*IDC **31** 08:29:21.3±0.3,59°.89N×144°.75E,h0km,mb4.6/31, mbtmp4.6/36,ML4.7/5,MS4.0/57, Error ellipse: s-maj=10.5km s-min=6.8km az=9.0*
*NEIC **31** 08:29:23.2±1.9,59°.89N±0°.07×144°.7E±0°.1,h10km, mb5.0/527, Error ellipse: s-maj=12.7km s-min=11.0km az=141.0*

ISC 31 08:29:23.3±0.6,59°.84N±0°.04×144°.77E±0°.03,h14km±3km, n861,σ1°16/653,mb5.0/354,MS4.2/75,32C-29D,Eastern Siberia

Code	Station Name	Δ°	AZ°		Phase	ID		Time	Res
					Op		ISC	h m s	ISC
TLON	**Talon**	**1.97**	**91**		*e*P		**Pn**	**08 29 55.7**	**-0.5**
TLON					*e*Pg		**Pb**	**08 29 58.4**	**-0.5**
TLON					Pgmax			08 30 00.0	
	4μm,0.2s								
TLON					*e*Sg		**Sg**	**08 30 24.7**	**-1.8**
TLON					Sgmax			08 30 26.3	
	20μm,0.4s								
TLON					Sgmax			08 30 26.3	
	26μm,0.4s								
MGD	**Magadan 1**	**3.01**	**84**		*e*P		**Pn**	**08 30 09.0**	**-1.5**
MGD					*e*Pg		**Pb**	**08 30 16.4**	**-0.2**
MGD					Pgmax			08 30 17.7	
	2μm,0.3s								
MGD					*e*Sg		**Sb**	**08 30 53.9**	**+0.8**
MGD					Sgmax			08 30 59.2	
	9μm,0.5s								
MGD					Sgmax			08 30 59.2	
	9μm,0.5s								
MA2	**Magadan**	**3.05**	**92**				**Pn**	**08 30 10.7**	**-0.4**
MA2	**Magadan**	**3.05**	**92**		Pn		**Pn**	**08 30 10.4**	**-0.7**
	64nm,0.3s,baz=265,slow=13,SNR=151								
MA2					Pg		**Pb**	**08 30 17.4**	**0.0**
	268nm,0.3s,baz=287,slow=16,SNR=57								
MA2					Lg		Lg	08 30 56.0	
	2μm,0.3s,baz=32,slow=22,SNR=25								
	176nm,0.3s								
MA2	**Magadan**	**3.05**	**92**	⇓	*i* P		**Pn**	**08 30 10.4**	**-0.7**
MA2					*e*Pg		**Pb**	**08 30 17.6**	**+0.2**
MA2					Pgmax			08 30 19.2	
	1μm,0.6s								
MA2					*e*Sg		**Sb**	**08 30 55.2**	**+0.7**
MA2					Sgmax			08 30 57.8	
	7μm,0.3s								
MA2					Sgmax			08 30 57.8	
	3μm,0.3s								
MA2	**Magadan**	**3.05**	**92**	⇑	*e*P		**Pn**	**08 30

comp=Z,563nm,18.5s,baz=310,slow=41
comp=Z,12nm,0.4s
PETK Petropavlovsk- 9.82 128 P **Pn** **08 31 44.6 +0.6**
GRNR Gornyy 10.25 211 *e*P **Pn** **08 31 50.5 +0.6**
GRNR MLR MLR
comp=E,2µm,11.0s
GRNR MLR MLR
comp=N,2µm,12.0s
GRNR MLR MLR
comp=Z,870nm,12.0s
PET Petropavlovsk 10.27 126 *e*P Pn 08 32 06.6 +16
PET MLR MLR
comp=Z,700nm,12.0s
PET MLR MLR
comp=Z,600nm,11.0s
BILL Bilibino 12.45 40 **Pn** **08 32 23.1 +3.3**
BILL Bilibino 12.45 40 *e*P Pn 08 32 24.9 +5.0
BILL Pmax 08 32 25.3
comp=Z,7.0nm,0.6s
BILL *e*Sg 08 35 54.0
BILL Sgmax 08 36 02.4
comp=Z,900nm,1.3s
BILL Sgmax 08 36 02.4
comp=Z,590nm,1.6s
BILL Bilibino 12.45 40⇑ *e*P **Pn** **08 32 19.6 -0.3**
BILL pmax pmax
comp=Z,9.0nm,2.0s
YSS Yuzhno-Sakhali 12.97 186 **Pn** **08 32 27.6 +0.6**
YSS Yuzhno-Sakhali 12.97 186 *e*P **Pn** **08 32 27.4 +0.4**
YSS *e*S **Sn** **08 34 47.3 -3.7**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS pmax pmax
comp=Z,200nm,6.5s
YSS MLR MLR
comp=Z,800nm,14.0s
YSS MLR MLR
comp=N,600nm,15.0s
YSS MLR MLR
comp=E,400nm,13.0s
TIXI Tiksi 13.46 338 **Pn** **08 32 32.0 -1.5**
TIXI Tiksi 13.46 338 Pn **Pn** **08 32 31.3 -2.2**
comp=E,1.5nm,0.3s,baz=143,slow=12,SNR=4.4
TIXI Lg Lg 08 36 17.4
comp=E,0.7nm,0.3s,baz=234,slow=20,SNR=2.3
TIXI LR LR 08 38 11.3
comp=E,748nm,19.7s,baz=160,slow=40
comp=E,17nm,0.9s
TIXI Tiksi 13.46 338*de*P **Pn** **08 32 32.9 -0.7**
TIXI pmax pmax
comp=Z,17nm,0.8s
HEH HeiHe 13.78 233 *e*P **Pn** **08 32 40.3 +2.2**
HEH pmax pmax
comp=Z,33nm,0.9s
HEH LR LR
comp=Z,5µm,10.5s
HEH LR LR
comp=Z,7µm,10.7s
HEH LR LR
comp=Z,6µm,9.1s
ASAJ Asahikawa 15.81 186 Pn **P** **08 33 08.0 -1.1**
comp=Z,1.2nm,0.3s,baz=337,slow=15,SNR=26
ASAJ LR LR 08 39 41.9
comp=Z,222nm,20.7s,baz=160,slow=39
ASAJ Asahikawa 15.81 186 P **Pn** **08 33 06.6 +1.3**
ASAJ pmax pmax
comp=Z,114nm,1.0s
JKA Kamikawa-asahi 15.81 186 **Pn** **08 33 06.6 +1.3**
JKA IAmb IAmb 08 33 12.7
comp=Z,114nm,1.0s
USA0B Ussuriysk Arra 17.48 212 P **P** **08 33 27.4 -0.2**
USA0B Ussuriysk Arra 17.48 212*d i*P **P** **08 33 29.7 +2.1**
USRK Ussuriysk Ar. 17.48 212 P **P** **08 33 29.4 +1.8**
comp=Z,52nm,0.8s,baz=21,slow=12,SNR=45
USRK LR LR 08 39 25.8
comp=Z,114nm,21.6s,baz=22,slow=34
BNX BinXian 17.52 224 ⇓P **Pn** **08 33 25.5 -1.4**
BNX S **Sn** **08 36 41.5 -0.1**
BNX pmax pmax
comp=Z,15nm,1.1s
BNX pmax pmax
comp=Z,350nm,7.1s
BNX LR LR
comp=Z,770nm,8.1s
BNX LR LR
comp=Z,700nm,10.4s
BNX LR LR
comp=Z,620nm,10.8s
SHEM Shemya Is, Ala 17.65 101 P **P** **08 33 29.4 -0.1**
comp=Z,1.7nm,0.3s,baz=276,slow=11,SNR=1.5
SHEM LR LR 08 40 51.8
comp=Z,316nm,18.1s,baz=314,slow=39
comp=Z,9.9nm,0.6s
MDJ Mudanjiang 17.79 218 P **P** **08 33 31.8 +0.7**
MDJ Mudanjiang 17.79 218 P **P** **08 33 33.0 +2.0**
MDJ S **Sn** **08 36 49.5 +1.4**
MDJ pmax pmax
comp=Z,53nm,0.9s
MDJ pmax pmax
comp=Z,480nm,6.6s
MDJ LR LR
comp=Z,2µm,14.5s
MDJ LR LR
comp=Z,3µm,13.3s
MDJ LR LR
comp=Z,2µm,16.4s
HIA Hailar 17.85 245 P **P** **08 33 33.1 +1.4**
HIA Hailar 17.85 245 P **P** **08 33 33.1 +1.4**
HIA pmax pmax
comp=Z,25nm,0.8s
ERM Erimo 17.88 184 **P** **08 33 31.9 -0.2**
ERM Erimo 17.88 184*de*P **P** **08 33 32.0 0.0**
ERM pmax pmax
comp=Z,49nm,0.8s
MSHR Mys Shultsa 19.20 212*de*P **Pn** **08 33 49.1 +1.6**
MSHR pmax pmax
comp=Z,41nm,1.1s
PSTR Posyet 19.23 213⇑ *e*P **Pn** **08 33 48.8 +0.9**
CN2 Changchun 19.89 225 P **Pn** **08 33 55.8 +0.1**
CN2 pP sP 08 33 59.8 0.0
CN2 S **S** **08 37 33.0 -4.4**
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=Z,2µm,7.0s
CN2 LR LR
comp=Z,700nm,7.0s
CN2 LR LR
comp=Z,1µm,7.0s
GAMB Gambell 20.62 60 P **P** **08 34 00.6 -1.2**
baz=279
TNA Tin City 21.97 55 P **P** **08 34 18.8 +2.4**
TNA IAmb IAmb 08 34 23.0
comp=Z,74nm,1.0s
TNA Tin City 21.97 55 P **P** **08 34 15.3 -1.1**
baz=278
JMM Marumori 22.14 188 P **P** **08 34 17.8 -0.6**
F14K Arctic Creek 22.64 55 P **P** **08 34 22.4 -1.2**
baz=279
C16K Lisburne Hills 22.74 47 P **P** **08 34 23.0 -1.5**
baz=273
ADK Adak 22.76 93 P **P** **08 34 25.6 +0.7**
ADK IAmb IAmb 08 34 29.5
comp=Z,44nm,1.1s
ADK Adak 22.76 93 P **P** **08 34 25.6 +0.7**
ADK pmax pmax
comp=Z,44nm,1.1s
ANM Nome 23.20 57 P **P** **08 34 27.9 -1.5**
baz=282
F15K North Star Dit 23.30 54 P **P** **08 34 31.2 +0.9**
F15K IAmb IAmb 08 34 35.8
comp=Z,32nm,1.1s
F15K North Star Dit 23.30 54 P **P** **08 34 28.6 -1.7**
baz=280
SPIA Saint Paul Isl 23.30 77 P **P** **08 34 29.2 -1.2**
baz=296
C17K DeLong Mountai 23.53 47 P **P** **08 34 30.9 -1.8**
baz=274
D17K Noatak River 23.64 49 P **P** **08 34 32.0 -1.7**
baz=276,SNR=6.4
RDOG Red Dog Mine 23.67 48 P **P** **08 34 34.7 +0.7**
RDOG IAmb IAmb 08 34 38.6
comp=Z,61nm,1.3s
RDOG Red Dog Mine 23.67 48 P **P** **08 34 32.8 -1.2**
baz=276,SNR=5.1

G15K Niukluk 23.68 56 P **P** **08 34 32.6 -1.4**
baz=282
MJB9 Matsu-Tunnel 23.70 193 P **P** **08 34 33.7 -0.8**
MJB9 IAmb IAmb 08 34 35.2
comp=Z,42nm,0.8s
MAJO Matsushiro 23.70 193 **P** **08 34 33.6 -0.9**
MAJO IAmb IAmb 08 34 35.3
comp=Z,43nm,0.8s
MAJO Matsushiro 23.70 193*c i*P **P** **08 34 33.7 -0.8**
MAJO pmax pmax
comp=Z,42nm,0.9s
MJAR Matsushiro Arr 23.70 193 P **P** **08 34 34.2 -0.4**
MJAR Matsushiro Arr 23.70 193 P **P** **08 34 34.1 -0.4**
comp=Z,35nm,0.8s,baz=0.1,slow=10,SNR=78
MJAR PcP **PcP** **08 38 17.8 -0.5**
comp=Z,1.2nm,0.7s,baz=11,slow=2.2,SNR=5.0
MJAR LR LR 08 43 47.8
comp=Z,102nm,19.1s,baz=12,slow=36
comp=Z,35nm,0.8s
MJAR Matsushiro Arr 23.70 193 P **P** **08 34 34.2 -0.4**
MJAR pmax pmax
comp=Z,8.0nm,0.8s
ATKA Atka Island 23.83 90 **P** **08 34 36.9 +1.3**
P08K Saint George I 23.90 78 P **P** **08 34 35.3 -1.0**
baz=297
B18K Kokolik River 23.97 44 P **P** **08 34 35.6 -1.2**
baz=274
M11K Mekoryuk 23.99 67 P **P** **08 34 36.0 -1.1**
baz=290
A19K Wainwright 24.18 42 P **P** **08 34 37.1 -1.7**
baz=272
K13K Kusilvak Mount 24.19 63 P **P** **08 34 38.0 -1.0**
K13K IAmb IAmb 08 34 44.7
comp=Z,52nm,1.4s
K13K Kusilvak Mount 24.19 63 P **P** **08 34 37.3 -1.7**
baz=288
E17K Hotham Inlet 24.20 50 P **P** **08 34 37.0 -2.0**
baz=279
C18K Utuk River 24.24 46 P **P** **08 34 38.0 -1.4**
baz=276,SNR=6.9
G16K Koyuk River 24.29 54 IAmb IAmb 08 34 44.6
comp=Z,35nm,1.1s
G16K Koyuk River 24.29 54 P **P** **08 34 38.8 -1.1**
baz=282
J14K Nanvaranak Lak 24.44 61 P **P** **08 34 40.0 -1.2**
baz=287
H16K Elim 24.51 56 P **P** **08 34 40.4 -1.4**
baz=284
F17K Baldwin Pennin 24.53 52 P **P** **08 34 43.3 +1.3**
F17K Baldwin Pennin 24.53 52 P **P** **08 34 40.7 -1.3**
baz=281
E18K Tukpahlearik C 24.62 49 IAmb IAmb 08 34 48.7
comp=Z,84nm,1.5s
E18K Tukpahlearik C 24.62 49 P **P** **08 34 41.5 -1.3**
baz=279,SNR=5.7
C19K Lookout Ridge 24.78 45 IAmb IAmb 08 34 49.9
comp=Z,46nm,1.0s
C19K Lookout Ridge 24.78 45 P **P** **08 34 43.1 -1.2**
baz=276,SNR=7.3
KSRS Korea Array 24.87 213 P **P** **08 34 45.7 +0.4**
comp=Z,5.8nm,0.8s,baz=16,slow=9.3,SNR=16
KSRS PcP **PcP** **08 38 20.8 0.0**
comp=Z,3.6nm,0.8s,baz=6.6,slow=0.9,SNR=8.7
KSRS LR LR 08 44 31.9
comp=Z,117µm,20.8s,baz=35,slow=36
comp=Z,5.8nm,0.8s
ULN Ulaanbaatar 24.89 258 **P** **08 34 46.1 +0.5**
ULN IAmb IAmb 08 34 48.7
comp=Z,21nm,0.9s
ULN Ulaanbaatar 24.89 258*ce*P **P** **08 34 46.5 +0.9**
ULN pmax pmax
comp=Z,27nm,1.0s
KSAR Wonju Array Be 24.89 213 P **P** **08 34 45.3 -0.2**
KSAR **PcP** **08 38 20.4 -0.5**
KSAR Wonju Array Be 24.89 213 P **P** **08 34 45.3 -0.2**
G17K Kiwalik Mounta 24.96 54 P **P** **08 34 44.9 -1.1**
baz=283,SNR=7.9
INU Inuyama 25.02 195 **P** **08 34 47.0 +0.3**
INU IAmb IAmb 08 34 49.8
comp=Z,42nm,0.9s
F18K Selawik 25.13 51 P **P** **08 34 46.2 -1.2**
baz=281,SNR=21
ZAK Zakamensk 25.15 266 *e*P **P** **08 34 48.3 +0.5**
ZAK pmax pmax
comp=Z,17nm,1.5s
SONM Songino Array 25.24 259 P **P** **08 34 48.8 0.0**
SONM IAmb IAmb 08 34 57.8
comp=Z,55nm,1.8s
SONM Songino Array 25.24 259 P **P** **08 34 49.9 +1.2**
comp=Z,9.9nm,0.8s,baz=54,slow=8.5,SNR=43
SONM PcP **PcP** **08 38 21.0 -0.6**
comp=Z,2.9nm,0.8s,baz=47,slow=1.9,SNR=4.5
SONM Lg Lg 08 42 34.4
baz=53,slow=24
SONM LR LR 08 45 05.5
comp=Z,1µm,18.0s,baz=48,slow=37
comp=Z,9.9nm,0.8s
SONM Songino Array 25.24 259 P **P** **08 34 48.8 0.0**
SONM pmax pmax
comp=Z,55nm,1.8s
L14K Kuka Creek 25.27 64 IAmb IAmb 08 34 55.0
comp=Z,29nm,0.8s
L14K Kuka Creek 25.27 64 P **P** **08 34 47.9 -0.8**
baz=290,SNR=13
M13K Dall Lake 25.30 66 IAmb IAmb 08 35 15.2
comp=Z,38nm,1.1s
M13K Dall Lake 25.30 66 P **P** **08 34 48.2 -0.8**
baz=292
I17K Unalakleet 25.35 57 P **P** **08 34 48.1 -1.3**
baz=286
D19K Kuna River 25.39 46 P **P** **08 34 48.6 -1.2**
baz=279,SNR=15
H17K Granite Mounta 25.40 55 IAmb IAmb 08 34 55.9
comp=Z,41nm,1.1s
H17K Granite Mounta 25.40 55 P **P** **08 34 48.7 -1.2**
baz=285,SNR=13
K15K Wolf Creek Mou 25.47 61 IAmb IAmb 08 34 56.6
comp=Z,34nm,1.0s
K15K Wolf Creek Mou 25.47 61 P **P** **08 34 49.7 -0.9**
baz=289,SNR=8.8
MOY Mondy 25.53 271 *e*P **P** **08 34 53.0 +1.7**
MOY pmax pmax
comp=Z,114nm,1.6s
B20K Meade River 25.53 43 P **P** **08 34 50.2 -0.8**
baz=276
J16K Anvik River 25.57 59 P **P** **08 34 50.8 -0.6**
baz=288,SNR=5.6
A21K Barrow 25.59 40 P **P** **08 34 51.7 +0.1**
baz=274
G18K Tagagawik 25.68 52 P **P** **08 34 52.3 -0.1**
baz=284,SNR=27
L15K Ungalak Mounta 25.70 62 P **P** **08 34 52.5 -0.1**
baz=290
F19K Shaleruckik Mo 25.82 50 IAmb IAmb 08 34 57.9
comp=Z,26nm,0.9s
F19K Shaleruckik Mo 25.82 50 P **P** **08 34 53.0 -0.6**
baz=282
M14K Bethel 25.82 65 P **P** **08 34 55.2 +1.6**
M14K IAmb IAmb 08 34 58.9
comp=Z,42nm,0.9s
M14K Bethel 25.82 65 P **P** **08 34 53.5 -0.1**
baz=292,SNR=16
E19K Redstone River 25.89 48 P **P** **08 34 54.8 +0.4**
baz=282,SNR=34
D20K Etivluk River 25.90 46 P **P** **08 34 54.0 -0.4**
baz=279,SNR=16
H18K Honhosa River 25.98 54 IAmb IAmb 08 34 59.8
comp=Z,47nm,0.9s
H18K Honhosa River 25.98 54 P **P** **08 34 55.4 +0.2**
baz=285,SNR=16
TJN Taejon 26.04 213 P **P** **08 34 56.0 +0.2**
TJN Taejon 26.04 213*ce*P **P** **08 34 57.5 +1.7**
E20K Nigu River 26.13 47 P **P** **08 34 56.4 -0.1**
baz=281,SNR=24
A22K Sinclair Lake 26.15 40 P **P** **08 34 56.2 -0.4**
baz=276
J17K VABM Dome 26.19 58 P **P** **08 34 56.7 -0.3**
J17K VABM Dome 26.19 58 P **P** **08 34 57.0 0.0**
baz=288
G19K Purcell Mounta 26.24 51 IAmb IAmb 08 35 01.9
comp=Z,35nm,0.9s
G19K Purcell Mounta 26.24 51 P **P** **08 34 57.6 +0.1**
baz=284,SNR=25
N14K Kuskokwak Cree 26.26 66 P **P** **08 34 57.6 0.0**
baz=294,SNR=8.6
M15K Kasigluk River 26.42 64 P **P** **08 34 58.7 -0.4**
baz=293,SNR=13

B21K Ikpikpuk River 26.46 43 IAmb IAmb 08 35 06.8
comp=Z,46nm,1.0s
B21K Ikpikpuk River 26.46 43 P **P** **08 34 58.9 -0.5**
baz=279,SNR=6.0
C21K Knifeblade Rid 26.48 44 P **P** **08 34 59.1 -0.5**
baz=280,SNR=9.1
F20K Avaraart Lake 26.55 49 P **P** **08 34 59.8 -0.4**
baz=284
H19K Roundabout Mou 26.65 53 P **P** **08 35 00.7 -0.5**
baz=286
BJI Beijing 26.69 235 P **P** **08 35 02.3 +0.6**
BJI S **S** **08 39 42.8 +6.4**
BJI pmax pmax
comp=Z,9.0nm,0.8s
BJI pmax pmax
comp=Z,62nm,6.6s
BJI LR LR
comp=Z,640nm,12.2s
BJI LR LR
comp=Z,730nm,12.0s
BJI LR LR
comp=Z,290nm,12.5s
GCSA Galena City Sc 26.70 54 P **P** **08 35 01.0 -0.6**
baz=287
O14K Tigyukauivet M 26.73 67 P **P** **08 35 02.9 +0.9**
O14K IAmb IAmb 08 35 13.2
comp=Z,49nm,1.1s
O14K Tigyukauivet M 26.73 67 P **P** **08 35 01.2 -0.7**
baz=295,SNR=6.1
K17K Iditarod 26.74 59 IAmb IAmb 08 35 06.9
comp=Z,32nm,1.0s
K17K Iditarod 26.74 59 P **P** **08 35 01.6 -0.5**
baz=290,SNR=9.4
B22K Teshekpuk Lake 26.75 42 P **P** **08 35 02.6 +0.6**
B22K Teshekpuk Lake 26.75 42 P **P** **08 35 02.0 -0.1**
baz=279,SNR=6.3
UNV Unalaska Valle 26.79 81 P **P** **08 35 02.2 -0.3**
UNV Unalaska Valle 26.79 81 P **P** **08 35 02.0 -0.5**
baz=303,SNR=7.2
N15K Kwethluk River 26.89 65 IAmb IAmb 08 35 08.6
comp=Z,44nm,0.9s
N15K Kwethluk River 26.89 65 P **P** **08 35 02.9 -0.6**
baz=294,SNR=9.3
E21K Killik River 26.90 46 IAmb IAmb 08 35 11.7
comp=Z,37nm,0.8s
E21K Killik River 26.90 46 P **P** **08 35 03.2 -0.2**
baz=282
L17K Donlin 26.95 60 P **P** **08 35 03.6 -0.3**
baz=291,SNR=7.7
M16K Timber Creek 27.07 63 IAmb IAmb 08 35 10.8
comp=Z,96nm,1.9s
M16K Timber Creek 27.07 63 P **P** **08 35 04.2 -0.8**
baz=293,SNR=9.6
JMN Monobe 27.09 200 P **P** **08 35 03.2 -2.3**
JMN IAmb IAmb 08 35 08.2
comp=Z,54nm,1.1s
J18K Innoko River 27.17 57 P **P** **08 35 05.3 -0.6**
baz=290,SNR=5.7
D22K Ayikyak River 27.27 45 P **P** **08 35 06.3 -0.5**
baz=282,SNR=10
H20K Anotleneega Mo 27.29 52 P **P** **08 35 06.4 -0.6**
baz=287,SNR=25
F21K Alatna River 27.36 48 IAmb IAmb 08 35 12.1
comp=Z,29nm,1.1s
F21K Alatna River 27.36 48 P **P** **08 35 07.3 -0.3**
baz=285,SNR=16
N16K Nishlik Lake 27.37 64 P **P** **08 35 07.3 -0.5**
baz=294,SNR=9.4
O15K Ungalikthiuk R 27.43 67 IAmb IAmb 08 35 12.8
comp=Z,40nm,1.1s
O15K Ungalikthiuk R 27.43 67 P **P** **08 35 07.4 -0.9**
baz=296,SNR=8.7
J19K Poorman 27.45 56 IAmb IAmb 08 35 12.7
comp=Z,23nm,1.0s
J19K Poorman 27.45 56 P **P** **08 35 07.6 -0.8**
baz=289,SNR=8.4
G21K Allakaket 27.54 50 IAmb IAmb 08 35 25.4
comp=Z,33nm,0.9s
G21K Allakaket 27.54 50 P **P** **08 35 08.1 -1.1**
baz=286,SNR=31
IMAR Indian Mountai 27.60 51 P **P** **08 35 10.4 +0.7**
M17K Holitna River 27.60 61 IAmb IAmb 08 35 15.1
comp=Z,29nm,1.0s
M17K Holitna River 27.60 61 P **P** **08 35 09.3 -0.5**
baz=293,SNR=7.7
L18K Granite Mounta 27.62 60 P **P** **08 35 08.8 -1.1**
baz=292
I20K Naaghedeneel 27.66 54 P **P** **08 35 09.4 -0.9**
baz=289,SNR=14
E22K Anaktuvuk Pass 27.75 46 IAmb IAmb 08 35 15.4
comp=Z,21nm,0.9s
E22K Anaktuvuk Pass 27.75 46 P **P** **08 35 10.0 -1.2**
baz=284,SNR=22
F22K John River 27.78 47 P **P** **08 35 10.1 -1.3**
baz=285
C23K Itkillik River 27.79 42 P **P** **08 35 10.7 -0.7**
baz=282,SNR=25
D23K Nanushuk River 27.96 44 IAmb IAmb 08 35 17.8
comp=Z,33nm,1.1s
D23K Nanushuk River 27.96 44 P **P** **08 35 12.2 -0.7**
baz=284,SNR=11
J20K Nowinta River 28.00 55 IAmb IAmb 08 35 18.1
comp=Z,46nm,1.2s
J20K Nowinta River 28.00 55 P **P** **08 35 13.7 +0.3**
baz=290,SNR=34
S12K Black Hills 28.01 75 P **P** **08 35 12.7 -0.7**
baz=301
HHC Hu-ho-hao-te 28.01 242 *e*P **P** **08 35 13.8 +0.1**
HHC PP **PnPn** **08 36 05.3 +4.6**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,88nm,4.6s
HHC LR LR
comp=Z,1µm,9.1s
HHC LR LR
comp=Z,900nm,9.8s
HHC LR LR
comp=Z,2µm,9.4s
O16K Kokwok River B 28.05 65 P **P** **08 35 13.4 -0.4**
baz=296,SNR=5.9
H21K Melozitna Rive 28.07 51 IAmb IAmb 08 35 18.4
comp=Z,32nm,1.1s
H21K Melozitna Rive 28.07 51 P **P** **08 35 13.8 -0.1**
baz=288,SNR=25
N17K Nushagak Hills 28.07 63 IAmb IAmb 08 35 18.8
comp=Z,19nm,1.1s
N17K Nushagak Hills 28.07 63 P **P** **08 35 13.4 -0.5**
baz=295,SNR=6.6
G22K Bettles 28.19 48 P **P** **08 35 14.2 -0.7**
baz=287
JNU Nakatsue 28.27 205 LR LR 08 46 43.2
comp=Z,558nm,18.1s,baz=24,slow=37
M18K Stony River 28.28 61 P **P** **08 35 15.6 -0.2**
baz=294,SNR=5.7
K20K Telida 28.32 56 P **P** **08 35 16.3 +0.1**
baz=291,SNR=5.3
TOLK Toolik Lake Re 28.43 45 IAmb IAmb 08 35 21.6
comp=Z,36nm,1.1s
TOLK Toolik Lake Re 28.43 45 P **P** **08 35 16.8 -0.3**
baz=285,SNR=9.8
O17K Koliganek Bris 28.43 64 P **P** **08 35 16.6 -0.6**
baz=296,SNR=8.0
L19K White Mountain 28.43 59 P **P** **08 35 16.4 -0.8**
baz=293
C24K Franklin Bluff 28.46 42 P **P** **08 35 16.8 -0.6**
baz=284,SNR=24
I21K Tanana 28.55 52 IAmb IAmb 08 35 22.9
comp=Z,22nm,1.1s
I21K Tanana 28.55 52 P **P** **08 35 18.0 -0.2**
baz=290
H22K Ishtalitna Cre 28.55 50 P **P** **08 35 17.9 -0.3**
baz=289,SNR=13
D24K Happy Valley 28.56 43 P **P** **08 35 17.5 -0.7**
baz=285,SNR=26
E23K Chandalar 28.57 46 IAmb IAmb 08 35 23.1
comp=Z,36nm,1.1s
E23K Chandalar 28.57 46 P **P** **08 35 17.9 -0.6**
baz=286,SNR=34
N18K Kilae Creek 28.59 62 P **P** **08 35 17.9 -0.7**
baz=295,SNR=6.6
COLD Coldfoot 28.59 48 IAmb IAmb 08 35 24.4
comp=Z,28nm,0.9s
COLD Coldfoot 28.59 48 P **P** **08 35 18.0 -0.6**
baz=287,SNR=36
L20K Farewell, AK 28.74 58 P **P** **08 35 19.2 -0.7**
baz=293
M19K Big River Lodg 28.74 59 P **P** **08 35 19.7 -0.3**

baz=294
G23K **Bananza Creek** 28.81 49 P P 08 35 20.4 -0.2
baz=288,SNR=9.2
CHUM **Lake Minchumin** 28.86 55 P P 08 35 20.3 -0.7
baz=292
BTO **Baotou** 28.90 244 eP P 08 35 21.5 -0.1
BTO pP pP 08 35 26.0 +0.1
BTO sP sP 08 35 28.8 +1.2
BTO PP PnPn 08 36 15.0 +2.2
BTO S S 08 40 10.5 -1.0
BTO SS SnSn 08 41 37.3 +3.7
BTO pmax pmax
comp=Z,16nm,0.9s
BTO pmax pmax
comp=Z,160nm,4.3s
BTO LR LR
comp=Z,6µm,8.5s
BTO LR LR
comp=Z,4µm,9.7s
BTO LR LR
comp=Z,7µm,9.4s
S14K **Fog Glacier** 28.92 72 P P 08 35 21.4 -0.3
baz=301
SDPT **Sand Point** 28.96 74 P P 08 35 21.6 -0.3
baz=302
E24K **Your Creek** 28.97 45 P P 08 35 21.1 -0.9
baz=287
P17K **Kvichak River** 28.99 65 P P 08 35 22.0 -0.1
baz=297,SNR=7.2
MLY **Manley** 29.09 52 IAmb IAmb 08 35 27.9
comp=Z,22nm,1.2s
MLY **Manley** 29.09 52 P P 08 35 22.6 -0.5
baz=291,SNR=16
Q16K **King Salmon** 29.13 66 P P 08 35 22.9 -0.5
baz=298
CAST **Castle Rocks** 29.13 56 P P 08 35 23.0 -0.4
baz=292,SNR=9.7
N19K **Bonanza Creek** 29.15 61 P P 08 35 23.8 +0.1
baz=295
O18K **Koktuh Hills** 29.25 63 IAmb IAmb 08 35 29.2
comp=Z,22nm,0.9s
O18K **Koktuh Hills** 29.25 63 P P 08 35 24.5 0.0
baz=297,SNR=8.7
H23K **Yukon River** 29.29 50 IAmb IAmb 08 35 30.4
comp=Z,17nm,0.9s
H23K **Yukon River** 29.29 50 P P 08 35 24.8 +0.1
baz=290,SNR=16
PPLA **Purkeypile** 29.29 57 P P 08 35 24.7 -0.2
baz=293,SNR=6.7
M20K **Styx River** 29.30 59 P P 08 35 24.1 -0.8
M20K **Styx River** 29.30 59 P P 08 35 25.2 +0.2
baz=294
BPAW **Bear Paw Mtn.** 29.33 54 P P 08 35 24.9 -0.2
baz=292
F24K **Squaw Lake** 29.36 46 IAmb IAmb 08 35 30.0
comp=Z,24nm,1.0s
F24K **Squaw Lake** 29.36 46 P P 08 35 24.6 -0.8
baz=288,SNR=30
D25K **Kavik River** 29.36 43 IAmb IAmb 08 35 29.6
comp=Z,26nm,0.9s
D25K **Kavik River** 29.36 43 P P 08 35 25.1 -0.2
baz=286,SNR=35
P18K **Big Mountain,** 29.45 64 IAmb IAmb 08 35 31.2
comp=Z,31nm,0.9s
P18K **Big Mountain,** 29.45 64 P P 08 35 25.8 -0.5
baz=297,SNR=20
CHGN **Chignik** 29.46 72 P P 08 35 26.0 -0.3
baz=301
O19K **Port Alsworth** 29.50 62 P P 08 35 26.0 -0.6
baz=296
HNS **HongShan** 29.54 234 ⇓P P 08 35 28.0 +0.8
HNS pmax pmax
comp=Z,19nm,0.7s
HNS LR LR
comp=Z,970nm,13.7s
HNS LR LR
comp=Z,550nm,11.6s
HNS LR LR
comp=Z,930nm,15.1s
KTH **Kantishna Hill** 29.56 55 IAmb IAmb 08 35 31.9
comp=Z,15nm,0.8s
I23K **Minto, Yukon-K** 29.59 51 IAmb IAmb 08 35 32.5
comp=Z,36nm,1.4s
I23K **Minto, Yukon-K** 29.59 51 P P 08 35 26.9 -0.5
baz=297,SNR=20
CHNA **Chernabura Isl** 29.67 75 P P 08 35 27.8 -0.4
baz=303
Q17K **Contact Creek** 29.68 67 P P 08 35 28.4 0.0
baz=299,SNR=9.2
C26K **Camden Bay** 29.68 41 P P 08 35 27.0 -1.2
baz=286,SNR=6.4
R17L **Mt. Peulik Vol** 29.77 68 P P 08 35 28.6 -0.4
baz=300
G24K **Hadweenzic Riv** 29.77 48 IAmb IAmb 08 35 35.1
comp=Z,30nm,0.8s
G24K **Hadweenzic Riv** 29.77 48 P P 08 35 27.6 -1.4
baz=290,SNR=48
TRF **Thorofare Moun** 29.86 55 IAmb IAmb 08 35 34.8
comp=Z,36nm,1.0s
TRF **Thorofare Moun** 29.86 55 P P 08 35 29.7 -0.4
baz=293,SNR=28
Q18K **Katmai Hardscr** 29.90 66 P P 08 35 29.9 -0.5
baz=299,SNR=5.5
NEA2 **Nenana** 29.92 52 IAmb IAmb 08 35 34.7
comp=Z,15nm,0.8s
NEA2 **Nenana** 29.92 52 P P 08 35 30.2 -0.1
baz=292,SNR=37
H24K **Noodor Dome** 29.92 50 P P 08 35 30.2 -0.2
baz=291,SNR=16
SKT **Skwentna** 29.94 58 P P 08 35 29.5 -1.1
baz=295
ACHA **Angle Creek He** 29.96 66 IAmb IAmb 08 35 35.2
comp=Z,17nm,0.8s
N20K **Mount Spurr** 29.99 60 P P 08 35 29.4 -1.6
baz=296
F25K **Christian Rive** 30.15 46 IAmb IAmb 08 35 37.6
comp=Z,24nm,0.9s
F25K **Christian Rive** 30.15 46 P P 08 35 31.2 -1.2
baz=290,SNR=40
C27K **Jago River** 30.17 41 IAmb IAmb 08 35 37.2
comp=Z,19nm,0.9s
C27K **Jago River** 30.17 41 P P 08 35 31.2 -1.3
baz=288,SNR=18
TIY **Taiyuan** 30.22 237 eP P 08 35 35.0 +1.7
TIY pmax pmax
comp=Z,41nm,0.8s
P19K **Oil Pt** 30.23 63 P P 08 35 32.3 -0.9
baz=298
G25K **Bearman Lake** 30.27 47 P P 08 35 32.2 -1.2
baz=291,SNR=9.2
COLA **College** 30.29 51⇓eP P 08 35 34.0 +0.4
COLA pmax pmax
comp=Z,18nm,1.3s
CUT **Chulitna** 30.30 57 P P 08 35 32.5 -1.2
baz=295
O20K **Slope Mountain** 30.31 62 P P 08 35 32.3 -1.6
baz=298
MCK **McKinley** 30.31 54 IAmb IAmb 08 35 39.0
comp=Z,23nm,0.9s
MCK **McKinley** 30.31 54 P P 08 35 32.9 -1.0
baz=294,SNR=6.5
WRH **Wood River Hil** 30.35 52 IAmb IAmb 08 35 38.8
comp=Z,25nm,1.0s
POKR **Poker Plat Res** 30.36 51 P P 08 35 32.4 -1.8
POKR **Poker Plat Res** 30.36 51 P P 08 35 32.7 -1.5
baz=292
Q19K **Cape Douglas,** 30.39 64 P P 08 35 33.3 -1.3
baz=299,SNR=5.6
SUA **Susitna One** 30.50 59 P P 08 35 34.4 -1.2
baz=296
H25L **Birch Creek** 30.55 48 P P 08 35 34.4 -1.5
baz=292,SNR=19
BMAR **Burnt Mountain** 30.59 46 P P 08 35 37.5 +1.2
F26K **Sheenjek River** 30.65 45 IAmb IAmb 08 35 41.8
comp=Z,23nm,1.0s
F26K **Sheenjek River** 30.65 45 P P 08 35 35.5 -1.3
baz=291,SNR=45
R18K **Karluk** 30.69 67 P P 08 35 35.6 -1.5
baz=300
IL31 30.71 51 IAmb IAmb 08 35 41.9
comp=Z,36nm,1.1s
ILAR **Eielson Array** 30.71 51 P P 08 35 37.5 +0.1
ILAR **Eielson Array** 30.71 51 P P 08 35 38.0 +0.7
comp=Z,21nm,1.0s,baz=282,slow=8.4,SNR=54
ILAR LR LR 08 48 58.4
comp=Z,238nm,18.9s,baz=281,slow=38
comp=Z,21nm,1.0s
HDA **Harding Lake** 30.83 52 IAmb IAmb 08 35 43.4
comp=Z,12nm,0.8s
HDA **Harding Lake** 30.83 52 P P 08 35 37.2 -1.2
baz=294,SNR=12
HOM **Homer** 30.94 62 P P 08 35 38.1 -1.3
baz=299
PRP **Porcupine Dome** 30.95 49 IAmb IAmb 08 35 44.7
comp=Z,49nm,2.0s
PRP **Porcupine Dome** 30.95 49 P P 08 35 38.1 -1.5
baz=293
CHIR **Chirikof Islan** 31.05 71 P P 08 35 39.2 -1.2
baz=302
G26K **Porcupine Rive** 31.05 46 IAmb IAmb 08 35 45.4
comp=Z,35nm,1.3s
G26K **Porcupine Rive** 31.05 46 P P 08 35 39.0 -1.3
baz=292,SNR=28
RC01 **Rabbit Creek A** 31.11 59 P P 08 35 40.0 -0.9
baz=297
Q20K **Shuyak Island** 31.11 64 P P 08 35 39.6 -1.3
baz=300,SNR=7.2
PMR **Palmer** 31.14 58 P P 08 35 43.0 +1.9
PMR **Palmer** 31.14 58 P P 08 35 43.0 +1.9
PMR pmax pmax
comp=Z,8.0nm,0.9s
PMR **Palmer** 31.14 58 P P 08 35 40.3 -0.8
baz=297,SNR=8.6
CNPM **China Poot** 31.19 62 IAmb IAmb 08 35 46.4
comp=Z,22nm,0.9s
D27M **Malcolm River** 31.21 41 P P 08 35 40.5 -1.3
baz=290,SNR=20
BRLK **Bradley Lake** 31.23 62 IAmb IAmb 08 35 45.5
comp=Z,18nm,0.9s
SII **Sitkinak Islan** 31.34 69 P P 08 35 41.8 -1.2
baz=302
E27K **Coleen River** 31.37 44 P P 08 35 42.2 -1.0
baz=292,SNR=47
J25K **Salcha River,** 31.37 51 P P 08 35 41.8 -1.4
baz=295,SNR=12
O22K **Cooper Landing** 31.40 60 P P 08 35 42.5 -0.9
baz=298
OHAK **Old Harbor** 31.41 67 P P 08 35 42.7 -0.8
OHAK IAmb IAmb 08 35 46.9
comp=Z,21nm,0.9s
OHAK **Old Harbor** 31.41 67 P P 08 35 42.6 -0.8
baz=301
KDAK **Kodiak Island** 31.44 66 LR LR 08 49 38.9
comp=Z,529nm,19.4s,baz=301,slow=39
KDAK **Kodiak Island** 31.44 66⇑eP P 08 35 43.3 -0.5
KDAK pmax pmax
comp=Z,20nm,0.9s
KDAK **Kodiak Island** 31.44 66 P P 08 35 43.0 -0.8
baz=301
KNK **Knik Glacier** 31.51 58 P P 08 35 43.5 -1.0
baz=298,SNR=21
K24K **Donnelly Dome** 31.55 53 IAmb IAmb 08 35 48.4
comp=Z,50nm,1.6s
K24K **Donnelly Dome** 31.55 53 P P 08 35 43.8 -1.0
baz=296
M23K **Glacier View** 31.64 57 P P 08 35 44.8 -0.9
baz=297,SNR=6.7
SEW **Seward** 31.70 60 IAmb IAmb 08 35 49.9
comp=Z,26nm,1.0s
SEW **Seward** 31.70 60 P P 08 35 45.0 -1.0
baz=299,SNR=6.6
SCM **Sheep Creek Mo** 31.80 57 IAmb IAmb 08 35 51.1
comp=Z,24nm,0.8s
SCM **Sheep Creek Mo** 31.80 57 P P 08 35 45.7 -1.3
baz=298,SNR=13
PWL **Port Wells** 31.82 59 P P 08 35 46.0 -1.2
baz=298,SNR=22
G27K **Doyon Strip** 31.88 46 IAmb IAmb 08 35 52.9
comp=Z,20nm,1.1s
G27K **Doyon Strip** 31.88 46 P P 08 35 46.2 -1.5
baz=294,SNR=28
D28M **Stokes Point** 31.92 41 P P 08 35 46.3 -1.5
baz=292
E28M **Babbage River** 31.93 42 IAmb IAmb 08 35 52.4
comp=Z,24nm,1.0s
E28M **Babbage River** 31.93 42 P P 08 35 47.1 -0.9
baz=292,SNR=35
I26K **Coal Creek Min** 31.94 49 P P 08 35 46.9 -1.3
baz=295
RIDG **Independent Ri** 31.95 52 IAmb IAmb 08 35 51.7
comp=Z,22nm,0.9s
RIDG **Independent Ri** 31.95 52 P P 08 35 47.2 -1.2
baz=296,SNR=20
PAX **Paxson** 32.05 54 IAmb IAmb 08 35 52.8
comp=Z,17nm,1.2s
PAX **Paxson** 32.05 54 P P 08 35 48.1 -1.1
baz=297,SNR=8.4
J26L **Joseph Creek** 32.13 51 P P 08 35 48.8 -1.1
baz=296,SNR=12
M24K **Tolsona, Glenn** 32.15 56 IAmb IAmb 08 35 55.5
comp=Z,26nm,1.0s
M24K **Tolsona, Glenn** 32.15 56 P P 08 35 49.4 -0.7
baz=298,SNR=5.1
H27K **Steamboat Moun** 32.16 47 P P 08 35 49.2 -1.0
baz=295,SNR=7.5
SCRK **Sand Creek** 32.19 52 P P 08 35 49.1 -1.4
baz=296,SNR=11
F28M **Old Crow** 32.20 44 P P 08 35 49.8 -0.6
baz=294,SNR=42
ZALV **Zalesovo Beam** 32.26 287 P P 08 35 47.3 -3.7
ZALV **Zalesovo Beam** 32.26 287 P P 08 35 50.4 -0.6
comp=Z,3.6nm,0.8s,baz=57,slow=6.7,SNR=4.7
ZALV LR LR 08 50 09.2
comp=Z,65nm,20.8s,baz=34,slow=39
comp=Z,3.6nm,0.8s
DOT **Dot Lake** 32.31 52 P P 08 35 50.8 -0.7
DOT IAmb IAmb 08 35 54.6
comp=Z,18nm,1.0s
GLI **Glacier Island** 32.34 58 P P 08 35 50.4 -1.3
baz=299
I27K **Kandik River** 32.40 48 P P 08 35 51.0 -1.3
baz=295,SNR=8.4
HARP **HAARP** 32.44 55 P P 08 35 51.5 -1.0
baz=298
KLU **Klutina** 32.55 57 IAmb IAmb 08 35 59.2
comp=Z,15nm,1.1s
KLU **Klutina** 32.55 57 P P 08 35 52.5 -1.1
baz=295,SNR=7.9
E29M **Blow River** 32.56 42 IAmb IAmb 08 35 58.1
comp=Z,15nm,1.0s
E29M **Blow River** 32.56 42 P P 08 35 52.6 -1.0
baz=294,SNR=19
P23K **Montague Islan** 32.65 60 P P 08 35 53.4 -0.9
baz=300
NJ2 **Nanjing** 32.70 223 eP P 08 35 55.5 +0.4
NJ2 pmax pmax
NJ2 comp=Z,12nm,0.8s pmax pmax
NJ2 comp=Z,470nm,4.7s LR LR
NJ2 comp=Z,730nm,13.3s LR LR
NJ2 comp=Z,1µm,15.6s LR LR
comp=Z,890nm,14.2s
MENT **Mentasta** 32.77 53 IAmb IAmb 08 35 59.5
comp=Z,16nm,1.0s
JCJ **Chichijima** 32.78 184 LR LR 08 50 14.3
comp=Z,55nm,21.9s,baz=115,slow=38
SSE **Sheshan** 32.80 219 P P 08 35 55.5 -0.5
SSE S S 08 41 13.3 +0.9
SSE pmax pmax
SSE comp=Z,13nm,0.6s pmax pmax
SSE comp=Z,93nm,4.0s LR LR
SSE comp=Z,620nm,16.2s LR LR
comp=Z,380nm,16.5s
HIN **Hinchinbrook I** 32.84 59 IAmb IAmb 08 36 00.5
comp=Z,27nm,1.0s
L26K **Log Cabin Wild** 32.88 53 IAmb IAmb 08 36 00.3
comp=Z,12nm,0.9s
L26K **Log Cabin Wild** 32.88 53 P P 08 35 55.5 -1.0
baz=298,SNR=7.2
LYN **LuoYang** 32.91 234 eP P 08 35 58.3 +1.4
LYN pmax pmax
LYN comp=Z,25nm,0.5s LR LR
LYN comp=Z,690nm,10.0s LR LR
LYN comp=Z,1µm,13.4s LR LR
comp=Z,1µm,12.0s
K27K **Chicken** 32.92 51 IAmb IAmb 08 36 00.9
comp=Z,15nm,1.1s
K27K **Chicken** 32.92 51 P P 08 35 55.6 -1.2
baz=297
N25K **Chitina, Valde** 33.05 56 P P 08 35 57.0 -1.0
baz=299,SNR=34
EYAK **Cordova Ski Ar** 33.08 58 P P 08 35 57.4 -0.7
baz=300,SNR=9.9
I28M **Miner Creek** 33.09 48 IAmb IAmb 08 36 04.8
comp=Z,13nm,0.9s
I28M **Miner Creek** 33.09 48 P P 08 35 57.5 -0.9
baz=297,SNR=21
G29M **Pine Creek** 33.14 45 IAmb IAmb 08 36 04.0
comp=Z,39nm,1.3s
G29M **Pine Creek** 33.14 45 P P 08 35 57.5 -1.2
baz=296,SNR=8.6
M26K **Nabesna, AK** 33.32 54 IAmb IAmb 08 36 05.4
comp=Z,32nm,1.1s
M26K **Nabesna, AK** 33.32 54 P P 08 35 59.1 -1.3
baz=299,SNR=18
H29M **Whitestone** 33.33 46 IAmb IAmb 08 36 05.4
comp=Z,20nm,1.1s
H29M **Whitestone** 33.33 46 P P 08 35 58.9 -1.4
baz=297,SNR=10
BMRM **Bremner River** 33.36 57 IAmb IAmb 08 36 05.7
comp=Z,16nm,0.9s
BMRM **Bremner River** 33.36 57 P P 08 35 59.9 -0.8
baz=300,SNR=6.5
Q23K **Middleton Isla** 33.40 60 P P 08 35 59.3 -1.6
baz=301
GLB **Gilahina Butte** 33.46 56 IAmb IAmb 08 36 06.3
comp=Z,34nm,1.6s
L27K **Beaver Creek,** 33.47 52 IAmb IAmb 08 36 06.2
comp=Z,28nm,1.1s
L27K **Beaver Creek,** 33.47 52 P P 08 36 00.4 -1.3
baz=299,SNR=42
BCAR **Beaver Creek A** 33.49 52 P P 08 36 02.4 +0.6
F30M **Barrier River** 33.62 43 P P 08 36 01.8 -1.0
baz=296,SNR=21
VRDI **Verde Repeater** 33.71 56 P P 08 36 04.8 +0.9
VRDI IAmb IAmb 08 36 09.7
comp=Z,22nm,0.9s
I29M **Ogilvie Camp,** 33.74 47 P P 08 36 03.2 -0.7
baz=298
G30M **tAoh Zraii Nji** 33.75 44 P P 08 36 03.9 -0.1
baz=297,SNR=16
M27K **Edge Creek, AK** 33.80 53 IAmb IAmb 08 36 10.9
comp=Z,22nm,1.1s
M27K **Edge Creek, AK** 33.80 53 P P 08 36 04.2 -0.4
baz=300,SNR=10
MCARA **McCarthy VSAT** 33.81 55 P P 08 36 03.9 -0.6
baz=300,SNR=7.0
EPYK **Eagle Plains** 33.85 45 IAmb IAmb 08 36 09.5
comp=Z,18nm,1.0s
EPYK **Eagle Plains** 33.85 45 P P 08 36 03.9 -1.0
baz=298,SNR=10
DAWY **Dawson** 33.95 50 P P 08 36 05.5 -0.2
DAWY IAmb IAmb 08 36 09.7
comp=Z,40nm,2.0s
DAWY **Dawson** 33.95 50 P P 08 36 04.8 -1.0
baz=299,SNR=7.6
KAIM **Kayak Island** 33.97 58 P P 08 36 04.6 -1.4
baz=302
BERG **Berg Lake** 34.04 57 IAmb IAmb 08 36 11.5
comp=Z,26nm,1.0s
INK **Inuvik** 34.07 41 P P 08 36 07.2 +0.6
INK **Inuvik** 34.07 41 LR LR 08 50 46.9
comp=Z,295nm,19.0s,baz=257,slow=38
INK **Inuvik** 34.07 41 P P 08 36 07.2 +0.6
INK pmax pmax
comp=Z,54nm,1.5s
INK **Inuvik** 34.07 41 P P 08 36 06.1 -0.5
baz=297,SNR=18
CRQE **Cirque** 34.11 56 P P 08 36 06.8 -0.4
baz=301,SNR=21
BVCY **Beaver Creek** 34.18 53 P P 08 36 07.5 -0.3
baz=300,SNR=9.3
F31M **Tsiigehtchic** 34.39 42 P P 08 36 09.2 -0.3
baz=298,SNR=18
G31M **Satah River** 34.46 43 IAmb IAmb 08 36 14.2
comp=Z,24nm,0.8s
G31M **Satah River** 34.46 43 P P 08 36 09.9 -0.1
baz=298,SNR=23
ISLE **Juniper Island** 34.50 56 IAmb IAmb 08 36 15.6
comp=Z,22nm,0.8s
I30M **Mount Dempster** 34.52 47 IAmb IAmb 08 36 16.5
comp=Z,14nm,1.0s
I30M **Mount Dempster** 34.52 47 P P 08 36 10.7 -0.1
baz=299,SNR=14
GTA **Gaotai** 34.65 254 eP P 08 36 12.5 +0.3
GTA pP sP 08 36 18.0 -0.2
GTA pmax pmax
comp=Z,12nm,1.3s
GTA LR LR
comp=Z,1µm,9.5s
GTA LR LR
comp=Z,1µm,10.2s
GTA LR LR
comp=Z,2µm,10.9s
YUK3 **Moose Creek** 34.67 54 P P 08 36 11.6 -0.6
baz=301
CTG **Chitna Glacier** 34.73 55 P P 08 36 12.5 -0.1
baz=302,SNR=24
K29M **Barlow Dome** 34.77 49 P P 08 36 12.7 -0.3
baz=300,SNR=5.5
XAN **Xi'an** 34.84 238 P P 08 36 14.3 +0.6
XAN pmax pmax
comp=Z,14nm,0.9s
XAN LR LR
comp=Z,2µm,15.8s
XAN LR LR
comp=Z,3µm,13.7s
XAN LR LR
comp=Z,1µm,11.7s
J30M **Hart River** 34.86 48 P P 08 36 13.3 -0.4
baz=300,SNR=13
A36M **Sachs Harbour** 34.88 33 P P 08 36 13.0 -0.6
baz=298
MESA **MESA** 34.89 57 P P 08 36 13.7 -0.4
baz=302,SNR=7.6
JOW **Kunigami** 34.90 206 LR LR 08 51 12.7
comp=Z,455nm,18.4s,baz=104,slow=38
L29M **L29M** 34.91 51 IAmb IAmb 08 36 19.1
comp=Z,40nm,1.4s
L29M **L29M** 34.91 51 P P 08 36 13.6 -0.6
baz=301,SNR=15
LOGN **Logan Glacier** 34.95 55 IAmb IAmb 08 36 21.5
comp=Z,29nm,1.0s
H31M **Peel River** 34.97 45 IAmb IAmb 08 36 18.8
comp=Z,14nm,0.9s
H31M **Peel River** 34.97 45 P P 08 36 13.4 -1.2
baz=300,SNR=8.2
M29M **Somme Creek** 35.12 52 P P 08 36 15.2 -0.8
baz=302
YUK8 **Steele Glacier** 35.21 54 P P 08 36 15.7 -1.2
baz=302
O28M **Mount Upton** 35.31 55 P P 08 36 16.8 -1.0
baz=303
LZH **Lanzhou** 35.39 246 eP P 08 36 20.8 +2.1
LZH sP sP 08 36 31.8 +7.1
LZH pmax pmax
comp=Z,13nm,1.0s
LZH LR LR
comp=Z,2µm,13.1s
LZH LR LR
comp=Z,2µm,13.2s
LZH LR LR
comp=Z,2µm,11.3s
YUK4 **Talbot Arm** 35.63 54 P P 08 36 19.3 -1.3
baz=303
PINM **Pinnacle** 35.65 56 P P 08 36 20.3 -0.2
baz=303,SNR=6.4
M30M **Minto, Yukon** 35.71 51 P P 08 36 20.6 -0.3
baz=302,SNR=7.4
YUK6 **Outpost Mounta** 35.97 54 P P 08 36 22.2 -1.2
baz=303
N30M **Aishikik Lake** 36.20 53 IAmb IAmb 08 36 30.9
comp=Z,18nm,1.1s
N30M **Aishikik Lake** 36.20 53 P P 08 36 24.7 -0.5
baz=303,SNR=7.7
O29M **Mount Kennedy** 36.24 55 P P 08 36 24.7 -0.9
baz=304
PNL **Peninsula** 36.25 56 P P 08 36 24.3 -1.3
baz=304
ZSN **Zaisan** 36.31 277 eP P 08 36 26.7 +0.5
ZSN pmax pmax
comp=Z,11nm,0.9s
ZSN **Zaisan** 36.31 277 eP P 08 36 26.8 +0.5
comp=Z,11nm,0.9s
HYT **Haines Junctio** 36.38 54 IAmb IAmb 08 36 32.2

comp=Z,19nm,1.1s
HYT Haines Junctio 36.38 54 P **P 08 36 26.3 -0.6**
baz=304,SNR=21
N31M Braeburn, Yuko 36.71 52 IAmb IAmb 08 36 35.6
comp=Z,23nm,1.0s
N31M Braeburn, Yuko 36.71 52 P **P 08 36 28.5 -1.0**
baz=304,SNR=8.3
M31M Drury Creek, Y 36.86 50 P **P 08 36 30.1 -0.6**
baz=304
P29M Windy Craggy 36.96 56 IAmb IAmb 08 36 37.4
comp=Z,29nm,1.0s
P29M Windy Craggy 36.96 56 P **P 08 36 30.6 -1.1**
baz=305,SNR=8.3
O30N Mendenhall 36.99 53 P **P 08 36 33.6 +1.7**
O30N IAmb IAmb 08 36 37.5
comp=Z,22nm,1.0s
O30N Mendenhall 36.99 53 P **P 08 36 30.8 -1.1**
baz=305,SNR=9.5
P30M Million Dollar 37.01 55 P **P 08 36 30.5 -1.5**
baz=305,SNR=22
KURK Kurchatov 37.24 286 P **P 08 36 34.6 +0.5**
KURK IAmb IAmb 08 36 35.3
comp=Z,20nm,0.8s
KURK Kurchatov 37.24 286*ce*P **P 08 36 34.1 0.0**
KURK pmax pmax
comp=Z,24nm,0.8s
KURK MLR MLR
comp=Z,505nm,14.0s
EUNU Eureka 37.34 13 P **P 08 36 35.2 +0.5**
EUNU IAmb IAmb 08 36 39.3
comp=Z,33nm,1.1s
KURBB Kurchatov Arra 37.34 286 P **P 08 36 35.1 +0.2**
comp=Z,18nm,0.7s,baz=56,slow=8.8,SNR=188
KURBB LR LR 08 52 31.1
comp=Z,539nm,19.4s,baz=177,slow=37
comp=Z,18nm,0.7s
WMQ Urumqi 37.42 271 *e*P **P 08 36 37.8 +2.1**
WMQ LR LR
comp=Z,450nm,11.9s
WMQ LR LR
comp=Z,610nm,9.3s
WMQ LR LR
comp=Z,310nm,14.3s
WHY Whitehorse 37.54 53 P **P 08 36 34.8 -1.8**
baz=305
MMPY Sheldon Lake, 37.82 49 IAmb IAmb 08 36 46.0
comp=Z,22nm,1.1s
MMPY Sheldon Lake, 37.82 49 P **P 08 36 37.1 -1.8**
baz=305,SNR=34
N32M Quiet Lake 37.97 51 P **P 08 36 38.8 -1.5**
baz=306
MK31 Makanchi Array 38.05 279*c i*P **P 08 36 40.7 -0.3**
MKAR Makanchi Array 38.05 279 P **P 08 36 41.5 +0.5**
MKAR Makanchi Array 38.05 279 P **P 08 36 41.0 0.0**
comp=Z,12nm,0.8s,baz=54,slow=8.2,SNR=80
MKAR LR LR 08 52 39.4
comp=Z,634nm,19.1s,baz=12,slow=37
comp=Z,12nm,0.8s
MKAR Makanchi Array 38.05 279 P **P 08 36 41.5 +0.5**
SKAG Skagway 38.06 55 IAmb IAmb 08 36 46.7
comp=Z,28nm,1.0s
SKAG Skagway 38.06 55 P **P 08 36 40.5 -0.4**
baz=306,SNR=19
MAKZ Makanchi 38.20 279 P **P 08 36 42.3 0.0**
MAKZ IAmb IAmb 08 36 48.1
comp=Z,19nm,1.0s
MAKZ Makanchi 38.20 279 P **P 08 36 42.3 0.0**
MAKZ pmax pmax
comp=Z,19nm,1.0s
S31K Pelican 38.59 57 IAmb IAmb 08 36 51.2
comp=Z,28nm,1.1s
S31K Pelican 38.59 57 P **P 08 36 44.5 -0.8**
baz=308
P33M Teslin, Yukon 38.63 52 P **P 08 36 44.6 -1.3**
baz=307
P32M Atlin 38.65 54 P **P 08 36 44.8 -1.1**
baz=307,SNR=5.7
KBS Kingsbay 38.69 347⇑*e*P **P 08 36 45.5 -0.5**
KBS pmax pmax
comp=Z,13nm,1.4s
SPITS Spitsbergen Ar 38.74 345 P **P 08 36 46.2 -0.2**
comp=Z,2.1nm,0.4s,baz=59,slow=6.9,SNR=9.1
SPITS LR LR 08 54 32.0
comp=Z,111nm,18.6s,baz=34,slow=39
comp=Z,2.1nm,0.4s
SPB2 Spitsbergen Ar 38.74 345 P **P 08 36 47.1 +0.6**
SPB2 IAmb IAmb 08 37 00.5
comp=Z,78nm,1.7s
R32K Eaglecrest 39.11 56 P **P 08 36 48.7 -1.0**
baz=308
SIT Sitka 39.53 58 P **P 08 36 53.1 0.0**
baz=309
S32K Killisnoo 39.59 57 P **P 08 36 52.8 -0.9**
baz=309
Q32M Nakina River 39.62 54 P **P 08 36 53.6 -0.6**
baz=308,SNR=6.9
GOMU GeErMu 39.62 256 P **P 08 36 54.5 -0.2**
GOMU PcP **PcP 08 39 02.0 +0.5**
GOMU S **S 08 42 56.5 -0.8**
GOMU pmax pmax
comp=Z,15nm,0.8s
GOMU LR LR
comp=Z,900nm,10.4s
GOMU LR LR
comp=Z,600nm,9.8s
GOMU LR LR
comp=Z,1µm,10.2s
BVAR Borovoye Array 39.64 294 P **P 08 36 53.2 -1.0**
comp=Z,8.4nm,0.7s,baz=72,slow=9.8,SNR=15
BVAR PP **PP 08 38 24.8 -0.2**
comp=Z,7.7nm,0.8s,baz=47,slow=13,SNR=7.3
BVAR LR LR 08 54 34.1
comp=Z,500nm,18.2s,baz=51,slow=38
comp=Z,8.4nm,0.7s
BRVK Borovoye 39.67 294 P **P 08 36 54.6 +0.1**
BRVK Borovoye 39.67 294*d i*P **P 08 36 55.0 +0.5**
BRVK pmax pmax
comp=Z,8.0nm,0.7s
CD2 Chengdu 39.77 242 P **P 08 36 56.3 +0.8**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 LR LR
comp=Z,770nm,12.4s
CD2 LR LR
comp=Z,1µm,11.0s
CD2 LR LR
comp=Z,840nm,10.9s
R33M Jennings River 39.87 53 IAmb IAmb 08 37 02.5
comp=Z,38nm,1.2s
R33M Jennings River 39.87 53 P **P 08 36 54.8 -1.5**
baz=309,SNR=24
RES Resolute Bay 40.15 21 LR LR 08 55 32.6
comp=Z,157nm,18.0s,baz=296,slow=39
WTLY Watson Lake, Y 40.28 51 P **P 08 36 58.5 -1.1**
baz=309,SNR=7.7
WRGLY Wrigley 40.31 44 P **P 08 36 58.4 -1.3**
baz=309
S34M Telegraph Cree 40.74 54 P **P 08 37 03.2 0.0**
baz=310,SNR=6.7
DLBC Dease Lake 40.86 53 LR LR 08 56 05.5
comp=Z,28nm,19.6s,baz=279,slow=39
DLBC Dease Lake 40.86 53 P **P 08 37 04.3 -0.1**
baz=310,SNR=28
U33K Whale Pass 41.07 58 P **P 08 37 05.2 -0.8**
baz=311
WRAK Wrangell Islan 41.20 57 P **P 08 37 09.0 +2.0**
WRAK IAmb IAmb 08 37 13.3
comp=Z,23nm,1.1s
WRAK Wrangell Islan 41.20 57 P **P 08 37 06.6 -0.4**
baz=311,SNR=5.7
TDK Taldyqorghan 41.24 280 *e*P **P 08 37 08.0 +0.4**
TDK pmax pmax
comp=Z,24nm,0.8s
TDK Taldyqorghan 41.24 280 *e*P **P 08 37 08.1 +0.4**
comp=Z,24nm,0.8s
SVE Sverdlovsk 41.46 304*d i*P **P 08 37 10.2 +1.0**
SVE pmax pmax
comp=Z,68nm,0.8s
SVE MLR MLR
comp=Z,629nm,17.0s
CRAG Craig 41.49 58 P **P 08 37 08.6 -0.9**
baz=311
T35M Bob Quinn 41.71 55 P **P 08 37 13.4 +2.1**
T35M IAmb IAmb 08 37 18.5
comp=Z,38nm,1.3s
T35M Bob Quinn 41.71 55 P **P 08 37 10.4 -0.9**
baz=311,SNR=6.7

LIRD Liard River Hi 41.78 50 P **P 08 37 10.8 -1.1**
baz=311
SHLS Shalkode 42.04 277 *e*P **P 08 37 12.9 -1.4**
SHLS pmax pmax
comp=Z,20nm,0.6s
SHLS Shalkode 42.04 277 *e*P **P 08 37 12.1 -2.2**
comp=Z,20nm,0.6s
KOTAN Kotaneelee Air 42.09 48 P **P 08 37 13.3 -1.1**
baz=311
TULEG Thule 42.22 11 *i*P **P 08 37 15.4 +0.3**
TULEG IAmb IAmb 08 37 18.3
comp=Z,11nm,0.9s
V35K Ketchikan 42.23 58 P **P 08 37 16.1 +0.6**
V35K Ketchikan 42.23 58 P **P 08 37 14.6 -0.9**
baz=312
UZB Uzynbulak 42.27 277 *e*P **P 08 37 16.4 +0.2**
UZB Uzynbulak 42.27 277 *e*P **P 08 37 16.4 +0.2**
GYA Guiyang 42.38 235 P **P 08 37 18.0 +0.8**
GYA pmax pmax
comp=Z,46nm,0.8s
TOAD Toad River Com 42.49 50 P **P 08 37 17.1 -0.5**
baz=312,SNR=9.6
NEEM North Greenlan 42.61 5 *i*P **P 08 37 18.1 -0.6**
NEEM IAmb IAmb 08 37 22.1
comp=Z,11nm,1.0s
SATY Saty 42.64 278 *e*P **P 08 37 19.5 +0.4**
SATY Saty 42.64 278 *e*P **P 08 37 19.6 +0.4**
ARTI Arti 42.69 305 P **P 08 37 19.1 -0.1**
ARTI Arti 42.69 305 LR LR 08 56 55.6
comp=Z,394nm,19.5s,baz=48,slow=39
ARTI Arti 42.69 305 P **P 08 37 19.1 -0.1**
ARTI pmax pmax
comp=Z,72nm,0.6s
DAG Danmarks Havn 43.24 354 *i*P **P 08 37 21.0 -2.4**
DAG IAmb IAmb 08 37 23.5
comp=Z,9.4nm,0.8s
AAA Alma-Ata 43.28 279 *e*P **P 08 37 24.7 +0.5**
AAA pmax pmax
comp=Z,14nm,0.5s
AAA Alma-Ata 43.28 279 *e*P **P 08 37 24.7 +0.5**
comp=Z,14nm,0.5s
BTLS Baital 43.37 283 *e*P **P 08 37 25.0 +0.1**
BTLS Baital 43.37 283 *e*P **P 08 37 25.1 +0.1**
TNSS Tian-Shan 43.39 279 *e*P **P 08 37 25.6 +0.1**
TNSS Tian-Shan 43.39 279 *e*P **P 08 37 25.7 +0.1**
YKAW3 Yellowknife Wh 43.79 41 IAmb IAmb 08 37 32.6
comp=Z,19nm,1.2s
YKA Yellowknife Ar 43.84 41 P **P 08 37 29.8 +1.4**
YKA Yellowknife Ar 43.84 41 P **P 08 37 28.5 +0.1**
comp=Z,4.4nm,0.8s,baz=306,slow=11,SNR=12
YKA LR LR 08 56 32.0
comp=Z,240nm,18.2s,baz=303,slow=37
comp=Z,4.4nm,0.8s
YKA Yellowknife Ar 43.84 41 P **P 08 37 29.8 +1.4**
ARCES ARCESS Array B 43.84 334 P **P 08 37 27.7 -0.7**
comp=Z,2.4nm,0.5s,baz=39,slow=8.6,SNR=10
ARCES LR LR 08 58 32.8
comp=Z,255nm,19.8s,baz=32,slow=40
comp=Z,2.4nm,0.5s
YKAW1 Yellowknife Wh 43.89 41 IAmb IAmb 08 37 33.4
comp=Z,15nm,1.1s
KDJ Kajisay 43.94 278 IAmb IAmb 08 37 37.1
comp=Z,44nm,1.8s
SGDS Sogindy 44.24 281 *e*P **P 08 37 32.4 +0.4**
BOOM Boomskoye usch 44.29 279 IAmb IAmb 08 37 39.5
comp=Z,20nm,1.0s
PZH PanZhiHua 44.45 241 P **P 08 37 34.0 +0.1**
PZH pmax pmax
comp=Z,30nm,0.9s
KIRV Kirov 44.71 312 LR LR 08 57 28.6
comp=Z,235nm,19.9s,baz=43,slow=38
KIRV Kirov 44.71 312*ce*P **P 08 37 35.5 +0.1**
AAK Ala-Archa 44.90 280 P **P 08 37 38.4 +1.0**
AAK IAmb IAmb 08 37 44.2
comp=Z,18nm,0.9s
AAK Ala-Archa 44.90 280 LR LR 08 56 03.9
comp=Z,130nm,21.4s,baz=50,slow=36
AAK Ala-Archa 44.90 280*c i*P **P 08 37 38.1 +0.7**
AAK pmax pmax
comp=Z,13nm,0.7s
KMI Kunming 45.22 239 P **P 08 37 40.3 +0.2**
KMI sP sP 08 37 45.5 -0.7
KMI pmax pmax
comp=Z,23nm,0.7s
KMI LR LR
comp=Z,930nm,15.2s
KMI LR LR
comp=Z,1µm,17.3s
KMI LR LR
comp=Z,580nm,10.7s
BBB Bella Bella 45.91 59 LR LR 08 58 16.6
comp=Z,208nm,18.9s,baz=324,slow=38
GUMO Guam 46.17 180 LR LR 08 56 38.6
comp=Z,41nm,21.1s,baz=20,slow=35
KSH Kashi 46.50 276 P **P 08 37 54.8 +4.8**
KSH sP sP 08 38 00.3 +4.2
KSH pmax pmax
comp=Z,14nm,1.3s
KSH LR LR
comp=Z,850nm,16.1s
KSH LR LR
comp=Z,760nm,15.8s
KSH LR LR
comp=Z,1µm,12.0s
KKAR Karatay Array 46.52 284 P **P 08 37 50.0 0.0**
KKAR Karatay Array 46.52 284 P **P 08 37 50.1 0.0**
KLMR Klimovskoe 46.55 319 *e*P **P 08 37 48.5 -1.5**
KLMR *e* 08 39 38.3
KLMR pmax pmax
comp=Z,61nm,1.6s
KLMR MLR MLR
comp=Z,199nm,13.0s
ARSB Arslanbob 46.63 280 IAmb IAmb 08 37 53.0
comp=Z,8.8nm,0.7s
ILON Igloolik, Nuna 46.83 21 P **P 08 37 51.6 -0.4**
UPNV Upernavik 46.88 8 *i*P **P 08 37 55.3 +2.9**
UPNV IAmb IAmb 08 37 55.6
comp=Z,30nm,1.2s
BRLS Borolday 46.91 284 *e*P **P 08 37 55.2 +2.2**
BRLS pmax pmax
comp=Z,9.0nm,1.2s
BRLS Borolday 46.91 284 *e*P **P 08 37 55.3 +2.2**
comp=Z,9.3nm,1.2s
ABKAR Akbulak array 47.01 297 P **P 08 37 53.2 -0.5**
AKTO Aktyubinsk 47.01 299 LR LR 09 00 36.4
comp=Z,193nm,18.7s,baz=52,slow=40
TNCH TengChong 47.16 243 P **P 08 37 56.5 +1.1**
TNCH sP sP 08 38 02.0 +0.5
TNCH S **S 08 44 46.5 -1.1**
TNCH pmax pmax
comp=Z,58nm,0.7s
TNCH pmax pmax
comp=Z,260nm,2.7s
TNCH LR LR
comp=Z,630nm,10.5s
TNCH LR LR
comp=Z,730nm,10.8s
TNCH LR LR
comp=Z,410nm,11.9s
IUG luzhnay 47.48 283 *e*P **P 08 37 57.7 +0.2**
IUG pmax pmax
comp=Z,9.0nm,0.8s
IUG luzhnay 47.48 283 *e*P **P 08 37 57.8 +0.2**
comp=Z,9.1nm,0.8s
CHM Chimkent 47.56 284 *e*P **P 08 37 58.4 +0.3**
CHM Chimkent 47.56 284 *e*P **P 08 37 58.4 +0.3**
SUMG Summit 47.84 1 P **P 08 38 00.8 +0.4**
SUMG Summit 47.84 1 P **P 08 38 00.8 +0.4**
SUMG pmax pmax
comp=Z,35nm,1.1s
SUMG Summit 47.84 1 *i*P **P 08 38 00.7 +0.4**
SUMG IAmb IAmb 08 38 04.9
comp=Z,38nm,1.1s
BLKN Baker Lake 47.97 31 P **P 08 38 00.8 -0.1**
SLVN Son La 48.07 235 P **P 08 38 02.2 -0.1**
SLVN IAmb IAmb 08 38 03.7
comp=Z,10nm,0.7s
LLLB Lilooet 49.72 56 IAmb IAmb 08 38 22.1
comp=Z,14nm,0.9s
BELG Belogornoye 49.94 307 LR LR 09 01 39.8
comp=Z,308nm,18.2s,baz=48,slow=39
BELG Belogornoye 49.94 307*c i*P **P 08 38 16.0 -0.2**
BELG pmax pmax
comp=Z,8.0nm,0.9s
BELG MLR MLR
comp=Z,47nm,15.0s

FIA1 FINESS Array S 50.17 327 P **P 08 38 16.7 -1.1**
FINES FINESS Array B 50.17 327 P **P 08 38 17.7 -0.2**
FINES FINESS Array B 50.17 327 P **P 08 38 17.1 -0.7**
comp=Z,15nm,0.7s,baz=33,slow=8.6,SNR=44
FINES LR LR 09 01 57.7
comp=Z,254nm,18.9s,baz=51,slow=39
comp=Z,15nm,0.7s
FINES FINESS Array B 50.17 327 *i*P **P 08 38 17.6 -0.2**
FINES pmax pmax
comp=Z,15nm,0.7s
EVN Everest 50.24 257 IAmb IAmb 08 38 21.0
comp=Z,15nm,0.7s
OBN Obninsk 51.98 316*de*P **P 08 38 32.0 +0.5**
OBN 08 40 32.0
OBN *e*PPP PPP 08 41 32.6
OBN S S 08 46 05.0 +11
OBN SSS SSS 08 51 10.0
OBN pmax pmax
comp=Z,21nm,0.9s
OBN MLR MLR
comp=Z,139nm,17.0s
E03A Lebam 52.09 61 P **P 08 38 34.3 +1.9**
E03A IAmb IAmb 08 38 38.0
comp=Z,26nm,1.0s
CHTO Chiang Mai 52.41 239 P **P 08 38 35.3 +0.1**
CHTO Chiang Mai 52.41 239 P **P 08 38 35.3 +0.1**
CHTO pmax pmax
comp=Z,37nm,0.8s
NIL Nilore 52.44 274 P **P 08 38 36.0 +0.7**
NIL IAmb IAmb 08 38 37.2
comp=Z,24nm,0.8s
NIL Nilore 52.44 274 P **P 08 38 36.0 +0.7**
NIL pmax pmax
comp=Z,24nm,0.9s
VSU Vasula 52.44 324*d i*P **P 08 38 34.0 -0.9**
VSU pmax pmax
comp=Z,27nm,0.8s
B08A Colville Reser 52.52 57 IAmb IAmb 08 38 40.6
comp=Z,13nm,0.9s
CMAR Chiang Mai Arr 52.73 239 P **P 08 38 38.1 +0.6**
CMAR Chiang Mai Arr 52.73 239 P **P 08 38 37.8 +0.3**
comp=Z,8.4nm,0.8s,baz=7.0,slow=6.6,SNR=42
CMAR PcP **PcP 08 39 47.6 +0.6**
comp=Z,2.8nm,0.8s,baz=353,slow=4.0,SNR=5.8
CMAR LR LR 09 00 55.9
comp=Z,155nm,19.3s,baz=35,slow=36
comp=Z,8.4nm,0.8s
CMAR Chiang Mai Arr 52.73 239 *i*P **P 08 38 38.2 +0.7**
CMAR pmax pmax
comp=Z,9.0nm,0.8s
SFJD Kangerlussuaq 52.96 8 LR LR 09 02 26.7
comp=Z,286nm,18.8s,baz=339,slow=38
NEW Newport 53.51 55 LR LR 09 02 38.1
comp=Z,273nm,18.9s,baz=326,slow=37
WAH2 Wahluke Slope 53.66 58 IAmb IAmb 08 38 48.9
comp=Z,17nm,1.2s
D08A Wollman Farm, 53.70 57 IAmb IAmb 08 38 48.6
comp=Z,27nm,1.6s
KBL Kabul 53.85 278 P **P 08 38 45.2 -0.7**
KBL Kabul 53.85 278 P **P 08 38 45.2 -0.7**
KBL pmax pmax
comp=Z,7.0nm,0.7s
HOOD Mount Hood Mea 53.88 61 IAmb IAmb 08 38 51.1
comp=Z,16nm,1.0s
H04D Lebanon 54.02 62 IAmb IAmb 08 38 52.1
comp=Z,8.9nm,0.9s
NC405 NORSAR Array S 54.04 334 P **P 08 38 46.3 -0.4**
NC405 IAmb IAmb 08 38 51.5
comp=Z,15nm,0.9s
FRB Frobisher Bay 54.16 18 LR LR 09 04 07.7
comp=Z,352nm,18.6s,baz=314,slow=38
NB2 NORSAR Subarra 54.22 334 P **P 08 38 47.1 -0.9**
comp=Z,8.5nm,0.8s,baz=28,slow=7.4
NOA NORSAR Array B 54.22 334 P **P 08 38 46.9 -1.1**
comp=Z,4.9nm,0.7s,baz=28,slow=7.4,SNR=23
NOA LR LR 09 05 53.1
comp=Z,107nm,18.8s,baz=10.0,slow=40
comp=Z,4.9nm,0.7s
E09A Wood Farm, Sta 54.46 57 IAmb IAmb 08 38 54.9
comp=Z,12nm,1.0s
HFS Hagfors 54.46 332 P **P 08 38 49.0 -0.7**
comp=Z,6.5nm,0.8s,baz=35,slow=9.0,SNR=6.4
HFS LR LR 09 03 26.1
comp=Z,180nm,18.1s,baz=20,slow=38
comp=Z,6.5nm,0.8s
J01E Myrtle Point 54.55 64 IAmb IAmb 08 38 59.1
comp=Z,17nm,1.0s
BORG Borgarnes 55.28 353 LR LR 09 01 14.6
comp=Z,83nm,21.1s,baz=344,slow=35
KIP Kipapa 55.38 108⇑*e*P **P 08 38 56.0 -0.8**
KIP pmax pmax
comp=Z,32nm,0.9s
MNK Minsk 55.39 321 *i*P **P 08 38 56.7 +0.2**
comp=E,11nm,0.7s
MNK *i*P **P 08 38 56.7 +0.2**
comp=N,13nm,0.9s
MNK *i*P **P 08 38 56.7 +0.2**
comp=Z,22nm,0.8s,baz=33
MNK *i*PcP **PcP 08 39 56.9 +0.2**
MNK *i*PP **PP 08 41 00.6 +0.8**
MNK *i*PPP PPP 08 42 12.4
MNK *i*S **S 08 46 43.1 +3.0**
MNK *i*SS SS 08 51 09.2 +45
MNK *i*LQ LQ 08 58 41.8
MNK *i*LR LR 09 03 19.4
MNK *i*LRM MLR 09 05 16.6
comp=Z,214nm,14.4s
MNK *i*LRM MLR 09 06 57.9
comp=E,516nm,14.7s
MNK Minsk 55.39 321 *i*P **P 08 38 56.7 +0.2**
MNK *i* 08 39 56.8
MNK *i* 08 41 00.5
MNK *i*PPP PPP 08 42 12.4
MNK *i*S **S 08 46 43.1 +3.0**
MNK pmax pmax
comp=E,11nm,0.7s
MNK pmax pmax
comp=N,13nm,0.9s
MNK pmax pmax
comp=Z,22nm,0.8s
MNK MLR MLR
comp=Z,214nm,14.0s
MNK MLR MLR
comp=E,516nm,15.0s
MNK MLR MLR
comp=N,213nm,14.0s
PINE Pine Mountain 55.40 61 P **P 08 38 58.6 +1.6**
PINE IAmb IAmb 08 39 02.6
comp=Z,12nm,1.0s
J05D Fort Rock, OR 55.67 62 IAmb IAmb 08 39 04.6
comp=Z,15nm,0.9s
KONO Kongsberg 55.82 334*de*P **P 08 39 00.5 +1.0**
KONO pmax pmax
comp=Z,51nm,2.5s
MSO Missoula 55.97 54 IAmb IAmb 08 39 05.8
comp=Z,23nm,1.6s
L04D Klamath Falls 56.03 63 IAmb IAmb 08 39 07.0
comp=Z,12nm,0.9s
BMO Blue Mountains 56.14 58 IAmb IAmb 08 39 07.5
comp=Z,11nm,1.1s
YBH Yreka Blue Hor 56.23 64 LR LR 09 00 35.4
comp=Z,6.7nm,20.1s,baz=320,slow=33
K05A Summer Lake 56.26 62 IAmb IAmb 08 39 08.6
comp=Z,11nm,1.0s
EGMT Eagleton 56.68 51 IAmb IAmb 08 39 10.4
comp=Z,15nm,1.2s
O02D Mt. Diablo Mer 57.44 65 IAmb IAmb 08 39 17.6
comp=Z,13nm,0.9s
HATC Hat Creek Radi 57.53 64 IAmb IAmb 08 39 17.8
comp=Z,15nm,0.8s
DLMT Dillon 57.70 54 IAmb IAmb 08 39 18.7
comp=Z,15nm,1.1s
AKASG Malin Array Be 58.15 318 P **P 08 39 15.3 -0.8**
comp=Z,8.1nm,0.7s,baz=35,slow=7.4,SNR=23
comp=Z,8.1nm,0.7s
AKBB Malin Array Si 58.15 318 IAmb IAmb 08 39 22.5
comp=Z,9.9nm,0.8s
AKBB Malin Array Si 58.15 318⇑*e*P **P 08 39 14.9 -1.2**
AKBB Malin Array Si 58.15 318 P **P 08 39 14.8 -1.3**
AK04 Malin Array Si 58.15 318 P **P 08 39 15.2 -0.9**
KIEV Kiev 58.16 318 P **P 08 39 15.2 -1.0**
KIEV IAmb IAmb 08 39 22.5
comp=Z,9.3nm,0.8s
KIEV Kiev 58.16 318⇑P **P 08 39 15.2 -1.0**
KIEV Kiev 58.16 318 P **P 08 39 15.2 -1.0**
KIEV pmax pmax

comp=Z,9.0nm,0.9s
KIEV Kiev 58.16 318 P **P** 08 39 14.8 -1.4
comp=Z,56nm,0.8s
KIEV pP **sP** 08 39 20.8 -1.5
comp=Z,56nm,0.8s
AK01 Malin Array Si 58.16 318 P **P** 08 39 14.6 -1.6
AK18 Malin Array Si 58.18 318 P **P** 08 39 15.2 -1.2
AK20 Malin Array Si 58.19 318 P **P** 08 39 15.5 -0.9
HLID Hailey 58.41 57 IAmb IAmb 08 39 23.8
comp=Z,12nm,1.2s
AKT Akhty 58.46 299 *e*P **P** 08 39 18.6 0.0
AKT *e* 08 40 07.0
AKT *e*PPP PPP 08 42 47.7
AKT pmax pmax
comp=Z,40nm,0.9s
AKT MLR MLR
comp=Z,357nm,12.0s
KIV Kislovodsk 58.62 304 P **P** 08 39 19.9 +0.2
KIV Kislovodsk 58.62 304 ⇓P **P** 08 39 20.6 +1.0
KIV Kislovodsk 58.62 304 *e*P **P** 08 39 18.7 -1.0
KIV pmax pmax
comp=Z,31nm,1.1s
KIV MLR MLR
comp=Z,71nm,17.0s
KIV Kislovodsk 58.62 304 P **P** 08 39 19.6 -0.1
comp=Z,332nmcomp=Z,33nm,1.0s
RNPP9 Sopachiv 58.65 320 P **P** 08 39 18.7 -0.9
KBZ Khabaz 58.72 304 P **P** 08 39 20.8 +0.6
comp=Z,4.3nm,0.7s,baz=59,slow=8.6,SNR=7.9
KBZ LR LR 09 08 20.3
comp=Z,264nm,18.4s,baz=24,slow=40
comp=Z,4.3nm,0.7s
KBZ Khabaz 58.72 304*ce*P **P** 08 39 20.7 +0.6
KBZ pmax pmax
comp=Z,10.0nm,1.0s
SHA1 Shidzhatmaz 58.81 304⇑*e*P **P** 08 39 21.8 +0.7
RNPP5 Staryi Chortor 58.81 320 P **P** 08 39 19.8 -0.9
LAO LASA Array 59.14 49 IAmb IAmb 08 39 29.4
comp=Z,10.0nm,1.1s
YMP Mirror Lake Pl 59.21 53 IAmb IAmb 08 39 29.7
comp=Z,16nm,1.2s
LUBAR Lubar, Ukraine 59.31 318 P **P** 08 39 22.5 -1.7
PAHR Pah Rah Range 59.36 63 IAmb IAmb 08 39 30.6
comp=Z,11nm,1.0s
LOHW Long Hollow 59.95 54 IAmb IAmb 08 39 35.0
comp=Z,12nm,1.1s
SNOW Snow King Moun 60.02 54 IAmb IAmb 08 39 35.7
comp=Z,14nm,1.0s
WAKR Walker 60.32 64 IAmb IAmb 08 39 37.5
comp=Z,9.0nm,0.8s
ELK Elko 60.35 59 IAmb IAmb 08 39 37.9
comp=Z,22nm,1.4s
HORU Horodok 60.36 318 P **P** 08 39 30.7 -0.8
AHID Auburn Hatcher 60.45 55 IAmb IAmb 08 39 37.8
comp=Z,10nm,1.1s
HVU Hansel Valley 60.56 57 IAmb IAmb 08 39 41.0
comp=Z,17nm,1.4s
SORM Soroca 60.63 316 ⇓P **P** 08 39 32.4 -0.9
GNI Garni 60.86 300 P **P** 08 39 35.7 +0.5
GNI Garni 60.86 300 LR LR 09 10 42.2
comp=Z,182nm,18.9s,baz=22,slow=41
GNI Garni 60.86 300*c i*P **P** 08 39 36.5 +1.3
GNI pmax pmax
comp=Z,27nm,1.5s
NVAR Mina Array Bea 60.89 63 P **P** 08 39 36.7 +1.2
comp=Z,4.9nm,0.9s,baz=305,slow=5.9,SNR=24
NVAR PKPPKP **P'P'df** 09 08 57.2 -0.7
comp=Z,0.7nm,1.0s,baz=156,slow=1.5,SNR=3.6
comp=Z,4.9nm,0.9s
KMPD K-Podol'skiy 60.91 318 P **P** 08 39 34.2 -1.0
LHV Little Huntoon 60.95 63 IAmb IAmb 08 39 42.1
comp=Z,20nm,1.2s
PDAR Pinedale Array 61.08 54 P **P** 08 39 37.1 +0.3
PDAR Pinedale Array 61.08 54 P **P** 08 39 37.3 +0.5
comp=Z,3.5nm,0.9s,baz=343,slow=3.1,SNR=12
PDAR PKPPKP P'P'df 09 08 50.0 -8.4
comp=Z,0.3nm,0.9s,baz=351,slow=2.0,SNR=4.0
PDAR LR LR 09 09 49.1
comp=Z,123nm,18.1s,baz=339,slow=40
comp=Z,3.5nm,0.9s
BAKI Biak 61.24 190 P **P** 08 39 38.7 +1.0
AGMN Agassiz Nation 61.50 41 IAmb IAmb 08 41 29.4
comp=Z,24nm,1.8s
OJC Ojcow 61.60 323 *e*P **P** 08 39 40.0 +0.1
OJC Ojcow 61.60 323 P **P** 08 39 39.9 0.0
OJC Ojcow 61.60 323 P **P** 08 39 39.9 0.0
OJC Ojcow 61.60 323 P **P** 08 39 40.2 +0.3
comp=Z,17nm,0.9s
SMPI Sarmi 61.84 187 P **P** 08 39 42.4 +0.6
comp=Z,76nm,1.0s
DUG Dugway, Tooele 61.85 58 IAmb IAmb 08 39 47.9
comp=Z,16nm,1.3s
STHS Stebnicka Huta 61.86 322 *e*P **P** 08 39 42.1 +0.4
STHS pmax pmax
comp=Z,8.0nm,0.8s
STHS Stebnicka Huta 61.86 322 *e*P **P** 08 39 42.1 +0.4
DSP Deep Springs 61.91 64 IAmb IAmb 08 39 48.5
comp=Z,9.6nm,1.2s
KOLS Kolonicke sedl 61.96 321 *e*P **P** 08 39 43.1 +0.7
KOLS pmax pmax
comp=Z,5.0nm,0.6s
KOLS Kolonicke sedl 61.96 321 *e*P **P** 08 39 43.1 +0.7
RSSD Black Hills 62.14 49 P **P** 08 39 44.2 +0.4
RSSD IAmb IAmb 08 39 48.3
comp=Z,13nm,0.9s
RSSD Black Hills 62.14 49 P **P** 08 39 44.2 +0.4
RSSD pmax pmax
comp=Z,13nm,0.9s
BURAR Bucovina Array 62.15 318 P **P** 08 39 43.2 -0.5
BURAR Bucovina Array 62.15 318 ⇓P **P** 08 39 43.3 -0.5
R11B Troy Canyon, C 62.17 61 IAmb IAmb 08 39 49.8
comp=Z,25nm,1.9s
JAY Jayapura 62.26 185 P **P** 08 39 45.5 +0.9
comp=Z,18nm,0.8s,baz=319,slow=9.1,SNR=6.0
JAY LR LR 09 07 28.0
comp=Z,34nm,20.3s,baz=284,slow=37
comp=Z,18nm,0.8s
JAY Jayapura 62.26 185 P **P** 08 39 45.3 +0.7
comp=Z,682nmcomp=Z,23nm,1.1s
GMN Gold Mountain 62.29 63 IAmb IAmb 08 39 51.0
comp=Z,11nm,1.2s
EKA Eskdalemuir Ar 62.36 340 P **P** 08 39 44.3 -0.6
comp=Z,3.0nm,0.7s,baz=15,slow=5.3,SNR=6.7
comp=Z,3.0nm,0.7s
K22A Casper 62.40 52 IAmb IAmb 08 39 49.8
comp=Z,12nm,0.9s
DPC Dobruska-Polom 62.51 326 P **P** 08 39 46.1 +0.1
comp=Z,7.9nm,1.7s
CLL Collm 62.56 328 IAmb IAmb 08 39 50.4
comp=Z,10nm,0.8s
CLL Collm 62.56 328 *i* P **P** 08 39 45.9 -0.4
CLL *i* 08 39 49.5
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 62.56 328 P **P** 08 39 45.2 -1.1
comp=Z,13nm,0.9s
CLL Collm 62.56 328 *i* P **P** 08 39 45.9 -0.4
comp=Z,9.0nm,0.8s
CLL *i* x x 08 39 49.5
CLL *e*PP **PP** 08 42 05.0 +1.7
CLL AMS AMS 09 05 00.0
comp=N,200nm,18.0s
CLL AMS AMS 09 05 00.0
comp=E,500nm,19.2s
CLL AMS AMS 09 09 00.0
comp=Z,200nm,18.4s
TESR Tescani 62.62 317 ⇑P **P** 08 39 46.9 +0.1
LANS Liptovska Anna 62.65 323 *e*P **P** 08 39 47.6 +0.6
LANS pmax pmax
comp=Z,3.0nm,0.7s
LANS Liptovska Anna 62.65 323 *e*P **P** 08 39 47.6 +0.6
MORC Moravsky Berou 62.66 324 IAmb IAmb 08 39 52.0
comp=Z,7.1nm,0.9s
MORC Moravsky Berou 62.66 324 *e*P **P** 08 39 47.6 +0.5
MORC Moravsky Berou 62.66 324 ⇑P **P** 08 39 47.6 +0.5
BRG Berggiesshubel 62.70 327 *e*P **P** 08 39 47.5 +0.3
BRG Amp 08 39 51.8
comp=Z,4.9nm,1.0s
PSUT Pine Spring 62.78 60 IAmb IAmb 08 39 54.0
comp=Z,12nm,1.1s
KOPT Kop Dagi 62.79 303 IAmb IAmb 08 39 51.7
comp=Z,13nm,0.8s
SCHQ Schefferville 62.92 20 P **P** 08 39 47.8 -0.9
comp=Z,5.6nm,0.7s,baz=344,slow=8.6,SNR=6.5
SCHQ LR LR 09 08 58.8
comp=Z,116nm,19.0s,baz=324,slow=38
comp=Z,5.6nm,0.7s
WCT Wildcat Mounta 62.99 63 IAmb IAmb 08 39 55.3
comp=Z,6.9nm,1.0s
TPNV Topopah Spring 63.03 63 IAmb IAmb 08 39 56.7
comp=Z,11nm,0.9s
FURC Furnace Creek, 63.16 63 IAmb IAmb 08 39 56.5
comp=Z,17nm,1.0s
HYB Hyderabad 63.18 258 *e*P **P** 08 39 50.7 -0.1
PRN Pahroc Range 63.19 61 IAmb IAmb 08 39 56.8
comp=Z,15nm,1.1s
PLOR Plostina 63.19 316 ⇑P **P** 08 39 50.5 -0.2
MPMC Manual Prospec 63.21 64 IAmb IAmb 08 39 56.6
comp=Z,8.6nm,1.0s
APSI Ampana 63.21 206 P **P** 08 39 51.6 +0.6
comp=Z,55nm,1.2s
EYMN Ely 63.23 39 IAmb IAmb 08 39 50.2
comp=Z,16nm,1.6s
CFR Carcaliu 63.25 315 ⇓P **P** 08 39 51.7 +0.8
TMUT Trail Mountain 63.28 57 IAmb IAmb 08 39 56.7
comp=Z,9.1nm,1.3s
TCRU Three Creeks R 63.33 59 IAmb IAmb 08 39 57.8
comp=Z,7.7nm,0.5s
CLC China Lake 63.36 64 IAmb IAmb 08 39 59.2
comp=Z,7.6nm,0.9s
VRAC Vranov 63.36 325 *e*P **P** 08 39 51.9 +0.2
VRAC Vranov 63.36 325 LR LR 09 10 24.1
comp=Z,236nm,18.3s,baz=20,slow=39
P18A Preston Nutter 63.41 57 IAmb IAmb 08 39 58.3
comp=Z,19nm,1.3s
VYHS Vyhne 63.42 323 *e*P **P** 08 39 52.2 +0.1
VYHS pmax pmax
comp=Z,3.0nm,0.8s
VYHS Vyhne 63.42 323 *e*P **P** 08 39 52.2 +0.1
JAVC Velka Javorina 63.45 324 *e*P **P** 08 39 51.8 -0.5
GWY Greenwater Val 63.48 63 IAmb IAmb 08 39 58.4
comp=Z,12nm,1.0s
F33A 5 Mile Ranch, 63.48 43 IAmb IAmb 08 39 56.2
comp=Z,14nm,1.1s
KRUC Morakvo 63.64 325 *e*P **P** 08 39 53.9 +0.4
MARR Marisel-Cluj 63.67 319 ⇑P **P** 08 39 54.6 +0.7
DRGR 63.70 319 ⇑P **P** 08 39 53.7 -0.3
SRU San Rafael Swe 63.73 57 IAmb IAmb 08 39 59.9
comp=Z,14nm,1.3s
MLR Muntele Rosu 63.75 317 LR LR 09 09 57.2
comp=Z,141nm,19.5s,baz=42,slow=38
MLR Muntele Rosu 63.75 317 ⇓P **P** 08 39 54.9 +0.5
CCUT Cedar City 63.81 60 IAmb IAmb 08 40 00.9
comp=Z,18nm,1.4s
SZCU Shurtz Canyon 63.89 60 IAmb IAmb 08 40 01.3
comp=Z,17nm,1.5s
VOIR 64.11 317 ⇓P **P** 08 39 57.4 +0.7
RABL Rabaul 64.11 172 P **P** 08 39 58.3 +1.4
LCMT Little Creek M 64.31 60 IAmb IAmb 08 40 04.0
comp=Z,17nm,1.6s
KHC Kasperske Hory 64.38 327*de*P **P** 08 39 58.8 +0.4
KHC pmax pmax
comp=Z,4.0nm,1.2s
E38A The Farm, Brul 64.39 40 IAmb IAmb 08 40 01.5
comp=Z,8.8nm,0.9s
SIRR Siria 64.51 320 ⇓P **P** 08 39 59.4 +0.1
GERES GERESS Array B 64.60 327 P **P** 08 39 59.5 -0.5
comp=Z,0.7nm,0.6s,baz=11,slow=2.0,SNR=6.5
comp=Z,0.7nm,0.6s
HMU Henry Mountain 64.62 58 IAmb IAmb 08 40 05.7
comp=Z,17nm,1.1s
BFSC Mount Baldy Ra 64.64 65 IAmb IAmb 08 40 05.7
comp=Z,7.7nm,0.8s
V12A Nelson 64.67 62 IAmb IAmb 08 40 06.6
comp=Z,13nm,1.0s
CONA Conrad Observa 64.81 325 *ep*P **P** 08 40 02.2 +0.8
comp=Z,2.2nm,0.6s
PV21 Cone Mtn., Par 64.85 56 IAmb IAmb 08 40 07.1
comp=Z,11nm,1.0s
RONA Rosalia, Austr 64.89 324 *ep*P **P** 08 40 03.3 +1.5
comp=Z,2.1nm,0.7s
GZR Gura Zlata 64.91 319 ⇑P **P** 08 40 02.2 +0.2
MARD Mardin 64.93 301 P **P** 08 40 03.1 +0.8
PV14 Lion Creek, Pa 64.98 56 IAmb IAmb 08 40 08.0
comp=Z,14nm,1.0s
PV07 Paradox Valley 65.09 56 IAmb IAmb 08 40 08.6
comp=Z,15nm,1.1s
BZS Buzias 65.10 320 ⇑P **P** 08 40 03.4 +0.3
PV03 Paradox Valley 65.16 56 IAmb IAmb 08 40 09.0
comp=Z,24nm,1.5s
ISCO Idaho Springs 65.18 53 IAmb IAmb 08 40 09.5
comp=Z,9.5nm,1.1s
SPMN Marine on St. 65.20 41 IAmb IAmb 08 40 06.9
comp=Z,7.1nm,1.0s
U15A North Rim 65.22 60 IAmb IAmb 08 40 10.1
comp=Z,18nm,1.1s
ELS Elsinore Mount 65.24 66 IAmb IAmb 08 40 09.3
comp=Z,8.4nm,0.9s
PV02 Paradox Valley 65.25 56 IAmb IAmb 08 40 09.6
comp=Z,15nm,0.9s
PV13 Radium Mtn., P 65.25 56 IAmb IAmb 08 40 09.7
comp=Z,11nm,1.1s
PV01 Paradox Valley 65.38 56 IAmb IAmb 08 40 10.6
comp=Z,25nm,1.6s
HERR Herculane 65.48 319 ⇓P **P** 08 40 05.2 -0.4
ARSA Arzberg 65.53 325 *ep*P **P** 08 40 06.6 +0.8
comp=Z,17nm,0.5s
BELC Belle Mtn. Jos 65.60 64 IAmb IAmb 08 40 11.8
comp=Z,8.0nm,1.0s
W13A Hualapai Mount 65.63 62 IAmb IAmb 08 40 12.7
comp=Z,8.4nm,1.2s
PFO Pinyon Flats O 65.71 65 LR LR 09 08 12.2
comp=Z,135nm,19.4s,baz=22,slow=36
PFO Pinyon Flats O 65.71 65⇓*e*P **P** 08 40 07.5 +0.1
PFO pmax pmax
comp=Z,4.0nm,1.0s
PMD Palm Desert 65.72 65 IAmb IAmb 08 40 12.2
comp=Z,7.7nm,1.1s
BR131 Keskin Array S 65.85 308*d i*P **P** 08 40 08.5 +0.2
BRTR Keskin Array B 65.85 308 P **P** 08 40 07.7 -0.6
BRTR Keskin Array B 65.85 308 P **P** 08 40 08.4 +0.2
comp=Z,3.4nm,0.7s,baz=32,slow=3.5,SNR=18
comp=Z,3.4nm,0.7s
BRTR Keskin Array B 65.85 308 *i* P **P** 08 40 08.3 +0.1
BRTR pmax pmax
comp=Z,3.0nm,0.7s
DPP Dos Picos Cty 66.00 66 IAmb IAmb 08 40 14.3
comp=Z,7.8nm,0.9s
G40A Rib Lake 66.01 39 P **P** 08 40 08.2 -0.8
BC3 Big Chuckawall 66.13 64 IAmb IAmb 08 40 15.4
comp=Z,5.6nm,0.7s
MVCO Mesa Verde 66.19 57 IAmb IAmb 08 40 15.7
comp=Z,28nm,1.9s
KBA Koelnbreinsper 66.31 326 *ep*P **P** 08 40 11.5 +0.4
comp=Z,4.3nm,0.7s
S22A 4UR Ranch, Cre 66.43 55 IAmb IAmb 08 40 17.8
comp=Z,14nm,1.5s
OBKA Obir 66.48 325 *ep*P **P** 08 40 12.6 +0.5
comp=Z,9.6nm,0.7s
WTTA Wattenberg 66.61 327 *ep*P **P** 08 40 13.5 +0.5
comp=Z,3.3nm,0.5s
MYKA Terra Mystica 66.63 326 *ep*P **P** 08 40 13.4 +0.4
comp=Z,2.0nm,0.8s
MOTA Moosalm 66.69 328 *ep*P **P** 08 40 13.8 +0.4
comp=Z,3.8nm,1.0s
YUH Yuha Desert 66.76 65 IAmb IAmb 08 40 19.3
comp=Z,11nm,1.0s
SQTA Sankt Quirin 66.77 327 *e*P **P** 08 40 14.2 +0.2
comp=Z,4.0nm,0.6s
PSI Prapat 66.85 231 LR LR 09 11 00.8
comp=Z,181nm,20.1s,baz=10,slow=37
ECH Echery 66.90 331 P **P** 08 40 13.5 -1.2
ECH IAmb IAmb 08 40 19.1
comp=Z,12nm,1.1s
ECH Echery 66.90 331 P **P** 08 40 13.5 -1.2
ECH pmax pmax
comp=Z,12nm,1.1s
BNSI Bone 66.94 207 P **P** 08 40 18.3 +3.1
Y14A Wickenburg 67.00 62 IAmb IAmb 08 40 21.3
comp=Z,11nm,1.0s
FETA Feichten 67.08 328 *e*P **P** 08 40 15.7 -0.3
comp=Z,2.0nm,0.7s
X16A Lo Mia Camp, P 67.28 61 IAmb IAmb 08 40 23.6
comp=Z,6.9nm,0.9s
DAVOX Davos/Dischmat 67.53 328 LR LR 09 13 17.0
comp=Z,176nm,19.8s,baz=72,slow=39
FUORN Ofenpass-Fuorn 67.58 328 IAmb IAmb 08 40 24.5
comp=Z,7.2nm,0.9s
KAPI Kappang 67.61 207 P **P** 08 40 20.2 +0.7
comp=Z,13nm,0.9s,baz=47,slow=14,SNR=4.9
KAPI LR LR 09 12 44.5
comp=Z,49nm,18.3s,baz=28,slow=38
comp=Z,13nm,0.9s
KAPI Kappang 67.61 207*ce*P **P** 08 40 20.0 +0.6
KAPI pmax pmax
comp=Z,44nm,1.3s
RDO Rodhopi 67.69 315 IAmb IAmb 08 40 23.0
comp=Z,8.2nm,1.0s
X18A Snowflake 67.84 59 IAmb IAmb 08 40 26.8
comp=Z,11nm,1.1s
VTX Valle De La Tr 67.88 66 IAmb IAmb 08 40 26.8
comp=Z,12nm,1.0s
TUE Stuetta 67.96 328 P **P** 08 40 22.6 +1.0
comp=Z,31nm,1.3s
214A Organ Pipe Nat 68.76 63 IAmb IAmb 08 40 32.2
comp=Z,11nm,1.0s
MANT Manisa 68.90 311 IAmb IAmb 08 40 29.6
comp=Z,6.9nm,0.7s
ANMO Albuquerque 68.98 56 P **P** 08 40 28.3 +0.2
ANMO Albuquerque 68.98 56⇑*e*P **P** 08 40 27.9 -0.3
ANMO pmax pmax
comp=Z,4.0nm,1.4s
RTBA Rita Blanca 69.22 53 IAmb IAmb 08 40 33.6
comp=Z,11nm,1.0s
Y22A Socorro 69.63 57 IAmb IAmb 08 40 37.8
comp=Z,11nm,1.4s
SADO Sadowa 69.71 32 LR LR 09 14 25.3
comp=Z,217nm,18.0s,baz=334,slow=39
FDMO Fiordimonte 70.08 324 P **P** 08 40 34.3 -0.3
HNR Honiara 70.11 164 LR LR 09 14 10.6
comp=Z,38nm,18.2s,baz=354,slow=38
P40A Paris 70.52 43 IAmb IAmb 08 40 40.6
comp=Z,18nm,1.0s
EDFI Ende, Flores 70.81 204 P **P** 08 40 39.5 +0.1
319A Douglas 70.82 61 IAmb IAmb 08 40 45.1
comp=Z,9.9nm,0.9s
PALK Pallekele 70.88 251 P **P** 08 40 38.8 -1.0
PALK Pallekele 70.88 251 P **P** 08 40 38.8 -1.0
PALK pmax pmax
comp=Z,29nm,1.0s
MMAI Mount Meron Ar 70.89 303 P **P** 08 40 39.5 -0.3
comp=Z,2.7nm,0.5s,baz=41,slow=7.7,SNR=7.4
MMAI LR LR 09 13 54.0
comp=Z,54nm,19.1s,baz=354,slow=38
comp=Z,2.7nm,0.5s
ASF Jabal al Asfar 70.97 301 LR LR 09 15 58.6
comp=Z,139nm,19.8s,baz=55,slow=39
T35A Sooner Cattle 71.23 48 IAmb IAmb 08 40 45.4
comp=Z,8.3nm,0.7s
MSTX Muleshoe 71.35 54 IAmb IAmb 08 40 46.7
comp=Z,9.3nm,1.0s
SMWD Samnorwood 71.38 52 IAmb IAmb 08 40 47.3
comp=Z,12nm,0.9s
QUOK Quay 71.81 48 IAmb IAmb 08 40 49.2
comp=Z,18nm,0.9s
CCM Cathedral Cave 72.12 43 P **P** 08 40 45.6 -1.3
CCM Cathedral Cave 72.12 43 P **P** 08 40 45.7 -1.3
CCM pmax pmax
comp=Z,7.0nm,0.9s
FNO Franklin 72.35 49 IAmb IAmb 08 40 53.2
comp=Z,10nm,0.9s
DKNS Dickens 72.36 53 IAmb IAmb 08 40 52.4
comp=Z,8.5nm,0.9s
TUL3 Leonard 72.39 48 IAmb IAmb 08 40 52.7
comp=Z,15nm,0.9s
U38A Gravette 72.44 47 IAmb IAmb 08 40 52.3
comp=Z,13nm,1.3s
POST Post 72.66 54 IAmb IAmb 08 40 54.7
comp=Z,8.5nm,0.8s
APMT Aspermont 72.98 52 IAmb IAmb 08 43 16.7
comp=Z,26nm,1.9s
L59A Walton 73.18 30 P **P** 08 40 52.2 -1.1
VHRN Van Horn 73.19 58 IAmb IAmb 08 40 59.1
comp=Z,24nm,1.5s
WCI Wyandotte Cave 73.62 40 P **P** 08 40 55.3 -0.6
WCI IAmb IAmb 08 41 05.4
comp=Z,7.1nm,0.8s
WCI Wyandotte Cave 73.62 40 P **P** 08 40 55.3 -0.6
WCI pmax pmax
comp=Z,7.0nm,0.8s
MNHN Monahans 73.64 55 P **P** 08 40 55.6 -0.6
ABTX Abilene, Hawle 73.79 52 IAmb IAmb 08 41 01.3
comp=Z,10nm,1.0s
LCAR Lake Charles 73.93 44 IAmb IAmb 08 41 01.5
comp=Z,21nm,1.6s
EIL Elat 73.97 302 LR LR 09 18 10.9
comp=Z,95nm,18.2s,baz=66,slow=40
PLPT Palo Pinto 74.15 51 IAmb IAmb 08 41 03.4
comp=Z,13nm,1.2s
WHAR Woody Hollow 74.23 46 IAmb IAmb 08 41 03.3
comp=Z,20nm,1.0s
RAYN Ar Rayn 74.46 290 P **P** 08 41 00.6 -0.5
RAYN IAmb IAmb 08 41 01.4
comp=Z,9.5nm,0.8s
RAYN Ar Rayn 74.46 290 P **P** 08 41 00.6 -0.5
RAYN pmax pmax
comp=Z,10.0nm,0.8s
T47A Sharon Grove 74.48 41 IAmb IAmb 08 41 01.3
comp=Z,11nm,0.8s
X40A Basin Creek Pa 74.75 46 IAmb IAmb 08 41 06.6
comp=Z,14nm,0.8s
TX31 Lajitas Ar. Si 75.01 57 IAmb IAmb 08 41 09.6
comp=Z,22nm,1.9s
TXAR Lajitas Array 75.01 57 P **P** 08 41 04.3 0.0
TXAR Lajitas Array 75.01 57 P **P** 08 41 04.9 +0.6
comp=Z,0.6nm,0.6s,baz=308,slow=3.3,SNR=14
comp=Z,0.6nm,0.6s
WVT Waverly 75.02 42 P **P** 08 41 03.3 -0.8
WVT Waverly 75.02 42 P **P** 08 41 03.3 -0.8
WVT pmax pmax
comp=Z,6.0nm,0.8s
T50A Nancy 75.19 39 P **P** 08 41 04.6 -0.5
WHTX Lake Whitney, 75.22 51 IAmb IAmb 08 41 09.7
comp=Z,9.9nm,0.8s
JCT Junction City 75.61 54 IAmb IAmb 08 41 12.0
comp=Z,10nm,1.1s
OXF Oxford 75.95 44 IAmb IAmb 08 41 13.6
comp=Z,14nm,0.8s
PLAL Pickwick Lake 75.98 42 IAmb IAmb 08 41 12.5
comp=Z,7.1nm,0.8s
SWET Sewanee 76.48 41 IAmb IAmb 08 41 15.7
comp=Z,11nm,0.8s
U54A Nelsons Funny 76.59 37 IAmb IAmb 08 41 22.2
comp=Z,12nm,1.2s
U56A King 77.18 36 IAmb IAmb 08 41 20.2
comp=Z,28nm,1.6s
ESDC Sonseca Array 77.54 336 P **P** 08 41 17.9 -0.5
ESDC Sonseca Array 77.54 336 P **P** 08 41 19.1 +0.6
comp=Z,3.5nm,0.8s,baz=5.4,slow=6.5,SNR=21
ESDC LR LR 09 18 48.7
comp=Z,65nm,18.8s,baz=31,slow=38
comp=Z,3.5nm,0.8s
Y49A Blount Mountai 77.57 42 IAmb IAmb 08 41 18.8
comp=Z,17nm,1.7s
Z47A Carrollton 77.60 43 IAmb IAmb 08 41 18.6
comp=Z,8.5nm,0.6s
KMSC Kings Mountain 78.01 37 IAmb IAmb 08 41 24.2
comp=Z,7.7nm,0.9s
250A Grady 79.33 42 IAmb IAmb 08 41 31.4
comp=Z,38nm,1.6s
WB0 Warramunga Arr 79.77 190 P **P** 08 41 30.5 -0.2
WB0 IAmb IAmb 08 41 31.9
comp=Z,23nm,0.8s
WRAB Tennant Creek 79.94 190⇑*e*P **P** 08 41 31.5 -0.1
WRAB pmax pmax
comp=Z,23nm,0.9s
WR8 Warramunga Arr 79.95 190 P **P** 08 41 30.7 -0.9
WRA Warramunga Arr 79.95 190 P **P** 08 41 30.9 -0.8
WRA Warramunga Arr 79.95 190 P **P** 08 41 31.9 +0.3
comp=Z,18nm,0.8s,baz=5.8,slow=5.9,SNR=96
comp=Z,18nm,0.8s
WRA Warramunga Arr 79.95 190 P **P** 08 41 30.9 -0.8
WRA pmax pmax
comp=Z,2.0nm,0.8s
DZM Mont Dzumac 83.53 160 P **P** 08 41 51.6 +1.1
DZM Mont Dzumac 83.53 160 *e*LR LR 09 08 00.2
comp=Z,77nm,21.9s
DZM Mont Dzumac 83.53 160 LR LR 09 16 40.3
comp=Z,75nm,18.4s,baz=16,slow=34
PSA00 Pilbara Seismi 83.65 203 P **P** 08 41 49.9 -1.2
ASAR Alice Springs 83.68 190 P **P** 08 41 51.0 -0.2
ASAR Alice Springs 83.68 190 P **P** 08 41 51.5 +0.3
comp=Z,7.4nm,0.7s,baz=5.7,slow=5.5,SNR=62
ASAR PKKPbc **PKKPbc** 09 00 07.5 +0.6
comp=Z,0.3nm,0.7s,baz=185,slow=2.3,SNR=4.2
comp=Z,7.4nm,0.7s
TAOE Nuku Hiva Isla 90.20 107 *e*LR LR 09 11 00.4
comp=Z,219nm,41.5s
FORT Forrest 91.34 194 IAmb IAmb 08 42 30.2
comp=Z,6.8nm,0.8s

STKA	**Stephens Creek**	**91.42**	**183**	P		**P**	**08 42 27.7**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=335,slow=5.4,SNR=3.3							
	comp=Z,1.3nm,0.6s							
PPT	**Papeete**	**93.46**	**119**	LR		LR	09 17 43.1	
	comp=Z,40nm,21.1s,baz=344,slow=31							
PPT2	**Papeete2**	**93.48**	**119**	eLR		LR	09 12 35.8	
	comp=Z,113nm,26.8s							
LPAZ	**La Paz**	**130.37**	**43**	PKP		**PKPdf**	**08 48 33.9**	**0.0**
	comp=Z,1.3nm,0.7s,baz=53,slow=6.2,SNR=6.8							
VNDA	**Vanda**	**137.52**	**175**	PKP		**PKPdf**	**08 48 45.5**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=308,slow=3.9,SNR=8.2							
MAW	**Mawson**	**140.36**	**216**	PKP		**PKPdf**	**08 48 49.1**	**-1.0**
	comp=Z,2.2nm,0.8s,baz=350,slow=7.2,SNR=5.0							
CPUP	**Villa Florida**	**143.19**	**34**	PKhKP		PKPpre	08 48 52.0	
	comp=Z,0.6nm,0.8s,baz=170,slow=1.7,SNR=4.2							
SYO	**Syowa Base**	**148.52**	**222**	⇑PKPdf		**PKPbc**	**08 49 07.0**	**-0.8**
SYO	**Syowa Base**	**148.52**	**222**	ePKPbc		**PKPab**	**08 49 10.4**	**-1.0**
QSPA	**South Pole Qui**	**149.60**	**180**	PKPbc		**PKPbc**	**08 49 10.5**	**-0.2**
	comp=Z,35nm,0.9s,baz=315,slow=0.7,SNR=156							
PLCA	**Paso Flores**	**150.94**	**65**	PKPbc		**PKiKP**	**08 49 15.4**	**0.0**
	comp=Z,12nm,0.8s,baz=310,slow=2.3,SNR=24							
PLCA				PKKPbc			08 56 17.1	
	comp=Z,1.3nm,0.8s,baz=357,slow=1.9,SNR=2.9							
TROLL	**Troll, Antarti**	**160.82**	**215**	⇓PKPab		**PKPab**	**08 50 04.9**	**+1.0**
	comp=Z,132nm,0.8s							
SNAA	**Sanae**	**162.50**	**214**	⇓PKPab		**PKPab**	**08 50 10.8**	**-0.3**
	comp=Z,36nm,0.6s							
SNAA	**Sanae**	**162.50**	**214**	PKPab		**PKPab**	**08 50 11.1**	**0.0**
	comp=Z,1.9nm,0.8s,baz=153,slow=5.3,SNR=9.9							
VNA3	**Neumayer Olymp**	**164.60**	**212**	⇑PKPab		**PKPab**	**08 50 20.3**	**0.0**
	comp=Z,2.5nm,0.9s							

DJA ***31*** *08:32:11.8±1.2,10.°N±14.°×12.°4E±.°, h515km±10km, M4.7/14, mb4.6/14, mB4.8/6, MLv5.2/4, Mw(mB)4.1/6*
NEIC ***31*** *08:32:13.6±1.5, 9.°3N±0.°1×124.°1E±0.°1, h539km±11km, mb4.2/33, Error ellipse: s-maj=18.8km s-min=15.7km az=80.0*
IDC ***31*** *08:32:14.3±1.9, 9.°26N×124.°17E, h559km±24km, mb3.4/18, mbtmp4.3/19, Error ellipse: s-maj=20.9km s-min=10.3km az=74.0*

ISC 31 08:32:12.8±0.5, 9.°31N±0.°07×124.°13E±0.°10, h539km, n72, σ1s08/75, mb4.1/34, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**5.76**	**166**	P	**P**	**08 33 47.8**	**-1.0**
MYLDM	**Lahad Datu**	**6.93**	**234**		**P**	**08 34 01.5**	**+1.8**
KKM	**Kota Kinabalu**	**8.49**	**248**		**P**	**08 34 15.9**	**+0.5**
KMSI	**Cibinong**	**8.68**	**181**	P	**P**	**08 34 19.7**	**+2.5**
	163nm,0.5s						
TOLI2	**Tolitoli**	**8.80**	**202**	P	**P**	**08 34 19.3**	**+0.9**
MRSI	**Marisa**	**9.04**	**194**	P	**P**	**08 34 21.9**	**+1.0**
	1μm78nm,0.7s						
LUWI	**Luwuk**	**10.37**	**188**	P	**P**	**08 34 37.9**	**+3.4**
	50nm,1.0s						
APSI	**Ampana**	**10.45**	**194**	P	**P**	**08 34 36.7**	**+1.4**
	54nm,1.2s						
SANI	**Sanana**	**11.43**	**171**	P	**P**	**08 34 43.1**	**-2.5**
	54nm,0.7s						
SBUM	**Sibu**	**13.66**	**241**		**P**	**08 35 10.1**	**+1.4**
YULB	**Yu-li**	**14.27**	**349**	P	**P**	**08 35 12.7**	**-2.2**
TPUB	**Ta-pu**	**14.31**	**347**		**P**	**08 35 14.6**	**-0.8**
SSLB	**Suanglung**	**14.71**	**348**		**P**	**08 35 17.8**	**-1.7**
NACB	**Ninganchiao**	**14.98**	**351**	P	**P**	**08 35 22.2**	**0.0**
YOJ	**Yonaguni jima**	**15.11**	**356**	P	**P**	**08 35 23.3**	**-0.3**
YHNB	**Yeheng**	**15.50**	**351**	P	**P**	**08 35 26.9**	**-0.9**
KSM	**Kuching**	**15.80**	**241**		**P**	**08 35 30.8**	**-0.1**
JOW	**Kunigami**	**17.87**	**12**	P	**P**	**08 35 51.3**	**+1.3**
JOW	**Kunigami**	**17.87**	**12**	P	**P**	**08 35 51.5**	**+1.5**
	9.6nm,0.4s,baz=151,slow=20,SNR=6.9						
GENI	**Genyem**	**19.88**	**126**	P	**P**	**08 36 10.5**	**+2.0**
GUMO	**Guam**	**20.76**	**76**	P	**P**	**08 36 17.1**	**+0.6**
GUMO	**Guam**	**20.76**	**76**	P	**P**	**08 36 16.6**	**+0.1**
	16nm,0.4s,baz=198,slow=20,SNR=2.5						
	16nm,0.4s						
JMN	**Monobe**	**25.91**	**19**	P	**P**	**08 37 02.2**	**+0.1**
JMN				IAmb	IAmb	08 37 32.3	
	comp=Z,16nm,1.2s						
KSRS	**Korea Array**	**28.23**	**6**	P	**P**	**08 37 23.3**	**+0.9**
	comp=Z,4.5nm,0.6s,baz=184,slow=9.6,SNR=16						
	comp=Z,4.5nm,0.6s						
KS19	**Wonju Array Si**	**28.27**	**6**	P	**P**	**08 37 23.8**	**+1.0**
KS19				IAmb	IAmb	08 38 06.9	
	comp=Z,23nm,1.5s						
INU	**Inuyama**	**28.47**	**22**	P	**P**	**08 37 24.7**	**+0.2**
INU				IAmb	IAmb	08 37 34.3	
	comp=Z,22nm,1.4s						
JGF	**Kuroka**	**28.82**	**23**	P	**P**	**08 37 27.1**	**-0.6**
JGF				IAmb	IAmb	08 37 52.6	
	comp=Z,11nm,1.4s						
MJAR	**Matsushiro Arr**	**29.97**	**23**	P	**P**	**08 37 36.4**	**-1.2**
	comp=Z,1.8nm,0.7s,baz=196,slow=9.7,SNR=3.0						
	comp=Z,1.8nm,0.7s						
WB0	**Warramunga Arr**	**30.61**	**161**	P	**P**	**08 37 42.2**	**-1.1**
WB0				IAmb	IAmb	08 37 46.8	
	comp=Z,8.3nm,1.4s						
WRA	**Warramunga Arr**	**30.76**	**161**	P	**P**	**08 37 43.0**	**-1.5**
WRA	**Warramunga Arr**	**30.76**	**161**	P	**P**	**08 37 43.8**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=347,slow=8.8,SNR=18						
WRA				ScP	**ScP**	**08 43 15.7**	**-1.5**
	comp=Z,1.2nm,0.6s,baz=343,slow=3.4,SNR=3.0						
	comp=Z,0.5nm,0.4s						
WR8	**Warramunga Arr**	**30.82**	**161**	P	**P**	**08 37 44.2**	**-0.9**
WR8				IAmb	IAmb	08 37 56.9	
	comp=Z,5.9nm,1.2s						
BJT	**Baijiatuau**	**31.39**	**348**	P	**P**	**08 37 50.6**	**+0.9**
JMM	**Marumori**	**32.16**	**25**	P	**P**	**08 37 56.3**	**0.0**
AS31	**Alice Springs**	**34.14**	**164**	P	**P**	**08 38 13.6**	**+0.3**
ASAR	**Alice Springs**	**34.14**	**164**	P	**P**	**08 38 13.6**	**+0.4**
ASAR	**Alice Springs**	**34.14**	**164**	P	**P**	**08 38 13.2**	**0.0**
	comp=Z,0.9nm,0.3s,baz=339,slow=7.1,SNR=16						
ASAR				PcP	**PcP**	**08 40 34.0**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=341,slow=2.7,SNR=4.8						
	comp=Z,0.9nm,0.3s						
USRK	**Ussuriysk Ar.**	**35.42**	**10**	P	**P**	**08 38 24.6**	**+1.0**
	comp=Z,1.9nm,0.5s,baz=190,slow=7.5,SNR=4.7						
	comp=Z,1.9nm,0.5s						
EVN	**Everest**	**39.71**	**303**	P	**P**	**08 38 59.4**	**-0.2**
BBOO	**Buckleboo**	**43.40**	**165**	P	**P**	**08 39 27.7**	**-0.2**
BBOO				IAmb	IAmb	08 39 42.8	
	comp=Z,17nm,1.4s						
PETK	**Petropavlovsk-**	**51.39**	**25**	P	**P**	**08 40 27.3**	**-0.3**
PETK	**Petropavlovsk-**	**51.39**	**25**	P	**P**	**08 40 28.3**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=220,slow=7.7,SNR=2.7						
	comp=Z,1.3nm,0.6s						
MKAR	**Makanchi Array**	**51.54**	**324**	P	**P**	**08 40 29.4**	**+0.5**
MKAR	**Makanchi Array**	**51.54**	**324**	P	**P**	**08 40 29.6**	**+0.8**
	comp=Z,4.4nm,0.4s,baz=119,slow=6.9,SNR=35						
MKAR				PcP	**PcP**	**08 41 33.7**	**0.0**
	comp=Z,1.7nm,0.6s,baz=122,slow=3.2,SNR=5.0						
	comp=Z,4.4nm,0.4s						
MAKZ	**Makanchi**	**51.73**	**324**	P	**P**	**08 40 30.9**	**+0.7**
MAKZ				IAmb	IAmb	08 40 31.7	
	comp=Z,6.5nm,1.1s						
KDJ	**Kajisay**	**52.51**	**317**	P	**P**	**08 40 36.3**	**+0.1**
KDJ				IAmb	IAmb	08 40 38.1	
	comp=Z,5.6nm,0.7s						
ZALV	**Zalesovo Beam**	**54.48**	**333**	P	**P**	**08 40 49.4**	**-0.3**
	comp=Z,3.7nm,0.5s,baz=124,slow=6.2,SNR=6.7						
	comp=Z,3.7nm,0.5s						
KURK	**Kurchatov**	**55.68**	**327**	P	**P**	**08 40 58.4**	**+0.3**
KURK				IAmb	IAmb	08 40 59.4	
	comp=Z,14nm,0.7s						
KURBB	**Kurchatov Arra**	**55.69**	**327**	P	**P**	**08 40 58.5**	**+0.4**
	comp=Z,8.3nm,0.6s,baz=125,slow=6.6,SNR=28						
	comp=Z,8.3nm,0.6s						
KKAR	**Karatay Array**	**57.44**	**316**	P	**P**	**08 41 10.5**	**+0.1**
BVAR	**Borovoye Array**	**61.27**	**326**	P	**P**	**08 41 36.1**	**+0.4**
	comp=Z,6.7nm,0.7s,baz=124,slow=5.2,SNR=11						
	comp=Z,6.7nm,0.7s						
BRVK	**Borovoye**	**61.34**	**326**	P	**P**	**08 41 36.5**	**+0.3**
BRVK				IAmb	IAmb	08 41 37.3	
	comp=Z,8.9nm,0.8s						
AB31	**Akbulak array**	**66.23**	**320**	P	**P**	**08 42 07.3**	**-0.2**
AB31				IAmb	IAmb	08 42 08.2	
	comp=Z,4.2nm,0.8s						
ABKAR	**Akbulak array**	**66.23**	**320**	P	**P**	**08 42 07.6**	**+0.1**
M16K	**Timber Creek**	**75.57**	**29**	P	**P**	**08 43 02.9**	**+0.8**
M16K				IAmb	IAmb	08 43 03.4	
	comp=Z,11nm,1.5s						
CAST	**Castle Rocks**	**78.95**	**27**		**P**	**08 43 21.4**	**+0.9**
F24K	**Squaw Lake**	**80.69**	**23**		**P**	**08 43 30.6**	**+1.0**
D25K	**Kavik River**	**81.18**	**21**	P	**P**	**08 43 33.0**	**+1.0**
ILAR	**Eielson Array**	**81.22**	**26**	P	**P**	**08 43 32.1**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=245,slow=4.8,SNR=10						
	comp=Z,0.4nm,0.6s						
RIDG	**Independent Ri**	**82.18**	**27**	P	**P**	**08 43 36.7**	**-0.5**
RIDG				IAmb	IAmb	08 43 38.5	
	comp=Z,3.3nm,0.6s						
SCRK	**Sand Creek**	**82.53**	**26**	P	**P**	**08 43 39.8**	**+0.7**
E27K	**Coleen River**	**83.02**	**22**		**P**	**08 43 42.6**	**+1.2**
E27K				IAmb	IAmb	08 43 43.6	
	comp=Z,4.4nm,0.8s						
D27M	**Malcolm River**	**83.10**	**21**		**P**	**08 43 43.4**	**+1.5**
D27M				IAmb	IAmb	08 43 44.2	
	comp=Z,5.1nm,0.9s						
K27K	**Chicken**	**83.36**	**26**	P	**P**	**08 43 44.5**	**+1.3**
K27K				IAmb	IAmb	08 43 45.8	
	comp=Z,4.1nm,1.0s						
F28M	**Old Crow**	**83.75**	**23**	P	**P**	**08 43 45.9**	**+0.9**
ARCES	**ARCESS Array B**	**84.36**	**340**	P	**P**	**08 43 47.5**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=67,slow=6.7,SNR=7.0						
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	**84.50**	**309**	P	**P**	**08 43 48.9**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=73,slow=5.2,SNR=1.9						
	comp=Z,0.5nm,0.4s						
SPITS	**Spitsbergen Ar**	**84.54**	**349**	P	**P**	**08 43 48.2**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=85,slow=9.3,SNR=6.0						
	comp=Z,0.6nm,0.4s						
FINES	**FINESS Array B**	**85.73**	**332**	P	**P**	**08 43 54.2**	**-0.5**
	comp=Z,2.0nm,0.4s,baz=71,slow=4.5,SNR=20						
	comp=Z,2.0nm,0.4s						
HFS	**Hagfors**	**91.91**	**332**	P	**P**	**08 44 22.8**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=48,slow=4.3,SNR=4.6						
	comp=Z,0.8nm,0.6s						
NOA	**NORSAR Array B**	**92.67**	**333**	P	**P**	**08 44 25.5**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=65,slow=4.5,SNR=3.5						
	comp=Z,0.9nm,0.7s						
TORD	**Tordi Ar. Bea**	**118.64**	**290**	PKP	**PKPdf**	**08 49 59.5**	**-1.2**
	comp=Z,1.5nm,0.5s,baz=39,slow=2.4,SNR=2.3						

ASRS ***31*** *08:34:22.0±0.8, 53.°67N×86.°86E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 31 08:34:24.1±3.0, 53.°75N×86.°95E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=28.7km s-min=16.8km az=70.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**280**	I	I	08 42 46.6	
	baz=100,slow=314,SNR=3.0						
ZALV	**Zalesovo Beam**	**1.28**	**280**	Pg	Pg	08 34 47.0	-1.5
	1.2nm,0.3s,baz=99,slow=18,SNR=7.6						
ZALV				Lg	Lg	08 35 05.5	
	0.9nm,0.3s,baz=98,slow=29,SNR=3.7						
KURBB	**Kurchatov Arra**	**6.05**	**242**	Pn	Pn	08 35 55.8	+1.2
	0.1nm,0.3s,baz=58,slow=14,SNR=4.0						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.57**	**205**	Pn	Pn	08 36 16.9	+1.3
	0.1nm,0.3s,baz=24,slow=12,SNR=2.6						
	0.1nm,0.3s						

IDC 31 08:36:28.2±6.4, 52.°66N×106.°78E, h0km, mbtmp3.5/3, ML2.7/3, Error ellipse: s-maj=80.4km s-min=25.3km az=61.0, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**4.83**	**183**	Pn	Pn	08 37 41.7	-0.5
	0.4nm,0.3s,baz=356,slow=14,SNR=7.5						
SONM				Pg	Pb	08 37 56.0	+2.2
	1.1nm,0.3s,baz=1.8,slow=17,SNR=8.8						
SONM				Lg	Lg	08 39 02.5	
	2.2nm,0.3s,baz=2.4,slow=28,SNR=11						
	0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**13.19**	**284**	Pn	Pn	08 39 36.7	+0.1
	0.3nm,0.3s,baz=85,slow=14,SNR=1.6						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**16.84**	**259**	Pn	Pn	08 40 24.4	-0.8
	baz=54,slow=9.8,SNR=1.2						
	2.3nm,0.9s						

NEIC ***31*** *08:45:26.5±0.5, 36.°52N±0.°01×98.°984W±0.°007, h5km±1km, mb_Lg2.1/23, ML2.6/24, ML2.5/20, Error ellipse: s-maj=2.2km s-min=2.1km az=347.0*

NEIC 31 08:45:26.6±0.4, 36.°525N±0.°009×98.°99W±0.°01, h7km±1km, Error ellipse: s-maj=1.8km s-min=0.4km az=136.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.20**	**103**		Pg	08 45 31.2	+0.5
OK038					Sg	08 45 34.4	+1.0
OK038				IAML		08 45 34.9	
	1μm,0.4s						
OK038				IAML		08 45 35.2	
	1μm,0.3s						
ELIS	**Ellis County**	**0.58**	**217**		Pg	08 45 37.8	+0.1
ELIS					Sg	08 45 45.9	+0.7
CROK	**Carrier**	**0.81**	**91**		Pg	08 45 42.1	-0.1
CROK					Sg	08 45 53.1	+0.5
CROK				IAML		08 45 59.8	
	comp=N,219nm,0.3s						
CSTR	**Hydro, Custer**	**0.91**	**165**		Pg	08 45 43.9	-0.2
CSTR					Sg	08 45 56.4	+0.5
KAN14	**Manchester OK**	**0.93**	**62**		Pg	08 45 44.3	-0.2
GC02	**Grant County #**	**0.96**	**70**		Pg	08 45 44.8	-0.3
GC02					Sg	08 45 57.9	+0.3
DRZT	**Darrouzett**	**1.06**	**266**		Pg	08 45 46.5	-0.4
DRZT					Sg	08 46 01.0	+0.2
KAN08	**Anthony NE Sta**	**1.07**	**49**		Pg	08 45 46.9	-0.4
KAN08					Sg	08 46 01.3	+0.1
KAN01	**Argonia South**	**1.17**	**57**		Pg	08 45 48.5	-0.5
KAN01					Sg	08 46 04.1	-0.1
KAN01				IAML		08 46 09.4	
	comp=E,144nm,0.2s						
KAN13	**South Haven SW**	**1.30**	**68**		Pn	08 45 50.8	-0.5
KAN13					Sb	08 46 08.5	0.0
OK029	**Liberty Lake**	**1.44**	**120**		Pn	08 45 53.1	0.0
BLOK	**Blackwell**	**1.44**	**80**		Pn	08 45 53.0	-0.2
OKCSW	**OKLAHOMA CITY**	**1.68**	**131**	IAmb_Lg		08 46 19.8	
	comp=Z,13nm,0.7s						
SMWD	**Samnorwood**	**1.75**	**216**		Pn	08 45 58.0	+0.5
WMOK	**Wichita Mounta**	**1.79**	**175**		Pn	08 45 58.0	-0.1
FNO	**Franklin**	**1.81**	**134**		Pn	08 45 59.0	+0.8
OK052	**Cattle Ridge R**	**1.84**	**106**		Pn	08 45 59.5	+0.8
R32A	**Long Quarter,**	**1.91**	**6**		Pb	08 46 00.9	-0.9
R32A				IAmb_Lg		08 46 27.5	
	comp=Z,15nm,1.1s						
T35A	**Sooner Cattle**	**2.02**	**78**		Pn	08 46 02.5	+1.2
DEOK	**Depew**	**2.12**	**108**	Pn	Pn	08 46 02.7	+0.1
AMTX	**Amarillo**	**2.74**	**234**		Pb	08 46 16.4	+0.4
U38A	**Gravette**	**3.71**	**90**	IAmb_Lg		08 47 24.7	
	comp=Z,3.6nm,0.7s						
SN07	**Snyder 07**	**3.77**	**205**	IAmb_Lg		08 47 31.7	
	comp=Z,5.3nm,0.9s						
KSCO	**Kaye Sherlock'**	**3.81**	**312**	IAmb_Lg		08 47 37.0	
	comp=Z,6.6nm,0.7s						
MSTX	**Muleshoe**	**4.01**	**232**	IAmb_Lg		08 47 41.3	
	comp=Z,5.0nm,1.1s						
T25A	**Trinidad**	**4.39**	**280**	IAmb_Lg		08 47 50.4	
	comp=Z,8.0nm,1.1s						
Q24A	**Divide**	**5.46**	**298**	IAmb_Lg		08 48 24.9	
	comp=Z,2.9nm,0.8s						
R40A	**Maddies Statio**	**5.63**	**70**	IAmb_Lg		08 48 35.8	
	comp=Z,3.0nm,0.8s						
PV05	**Paradox Valley**	**8.21**	**284**	IAmb_Lg		08 50 07.6	
	comp=Z,1.1nm,1.0s						

IDC ***31*** *08:55:10.4±0.9, 0.°64S×127.°63E, h0km, mb4.1/7, mbtmp4.2/9, ML3.9/2, MS3.5/2, Error ellipse: s-maj=39.2km s-min=17.6km az=63.0*
DJA ***31*** *08:55:12.7±0.4, 1.°S±3.°×12.°8E±.°, h10km, M4.0/6, MLv4.0/6*
NEIC ***31*** *08:55:12.8±2.1, 0.°59S±0.°07×127.°5E±0.°1, h20km±9km, mb4.4/8, Error ellipse: s-maj=14.8km s-min=9.6km az=85.0*

ISC 31 08:55:15.8±0.6, 0.°69S±0.°06×127.°59E±0.°09, h41km, n29, σ1s47/30, mb4.3/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.47**	**351**		**Pn**	**08 55 37.2**	**-2.7**
TNTI	**Ternate**	**1.47**	**351**	P	**Pn**	**08 55 37.5**	**-2.4**
TNTI				S	**Sn**	**08 55 59.6**	**+1.7**
SANI	**Sanana**	**2.09**	**230**	P	**Pn**	**08 55 45.8**	**-2.6**
NLAI	**Namlea**	**2.58**	**191**	P	**Pn**	**08 55 54.9**	**-0.2**
KMSI	**Cibinong**	**3.82**	**289**	P	**Pn**	**08 56 11.4**	**-0.8**
LUWI	**Luwuk**	**4.83**	**266**	P	**Pn**	**08 56 24.6**	**-1.5**
FAKI	**Fak Fak**	**5.16**	**115**	Pn	Pn	**08 56 30.6**	**0.0**
KAPI	**Kappang**	**8.93**	**241**	Pn	**Pn**	**08 57 22.8**	**+0.5**
	1.1nm,0.3s,baz=81,slow=7.5,SNR=4.6						
	7.2nm,0.3s						
MTN	**Manton Dam**	**12.57**	**164**	Pn	**Pn**	**08 58 11.7**	**-0.6**
JAY	**Jayapura**	**13.23**	**98**	Pn	**Pn**	**08 58 19.8**	**-1.6**
	0.9nm,0.3s,baz=136,slow=19,SNR=4.5						
	5.9nm,0.8s						
WB0	**Warramunga Arr**	**20.10**	**161**	P	**P**	**08 59 45.1**	**-1.0**
WB0				IAmb	IAmb	08 59 50.5	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**20.24**	**161**	P	**P**	**08 59 46.4**	**-1.4**
	comp=Z,3.9nm,0.8s,baz=340,slow=11,SNR=15						
WRA				PcP	**PcP**	**09 04 03.6**	**+2.7**
	comp=Z,0.2nm,0.7s,baz=324,slow=1.8,SNR=1.6						
	comp=Z,3.9nm,0.8s						
COEN	**Coen**	**20.29**	**131**	P	**P**	**08 59 47.7**	**-0.6**
COEN				IAmb	IAmb	09 00 01.1	
	comp=Z,17nm,1.1s						
WR8	**Warramunga Arr**	**20.31**	**161**	P	**P**	**08 59 47.3**	**-1.2**
AS31	**Alice Springs**	**23.65**	**165**	P	**P**	**09 00 22.3**	**-1.3**
ASAR	**Alice Springs**	**23.65**	**165**	P	**P**	**09 00 22.3**	**-1.3**
ASAR	**Alice Springs**	**23.65**	**165**	P	**P**	**09 00 23.3**	**-0.3**
	comp=Z,8.4nm,0.8s,baz=343,slow=9.5,SNR=59						
ASAR				PcP	**PcP**	**09 04 09.4**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=355,slow=3.3,SNR=1.8						
	comp=Z,8.4nm,0.8s						
GIRL	**Giralia**	**25.39**	**210**	P	**P**	**09 00 39.0**	**-0.5**
BBOO	**Buckleboo**	**32.93**	**167**	P	**P**	**09 01 47.5**	**+1.0**
BBOO				IAmb	IAmb	09 01 53.3	
	comp=Z,11nm,1.2s						
STKA	**Stephens Creek**	**33.73**	**158**	P	**P**	**09 01 54.6**	**+1.2**
STKA	**Stephens Creek**	**33.73**	**158**	P	**P**	**09 01 54.4**	**+0.9**
	comp=Z,3.1nm,0.8s,baz=334,slow=7.4,SNR=9.4						
	comp=Z,3.1nm,0.8s						
MJAR	**Matsushiro Arr**	**38.34**	**14**	LR	LR	09 16 48.3	
	comp=Z,26nm,20.1s,baz=92,slow=34						
MKAR	**Makanchi Array**	**61.67**	**326**	P	**P**	**09 05 28.9**	**-0.8**
MKAR	**Makanchi Array**	**61.67**	**326**	P	**P**	**09 05 29.4**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=126,slow=8.1,SNR=8.4						
	comp=Z,1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**65.91**	**328**	P	**P**	**09 05 56.9**	**-0.6**
	comp=Z,0.9nm,0.2s,baz=131,slow=5.0,SNR=7.0						
	comp=Z,0.9nm,0.2s						
AKTO	**Aktyubinsk**	**77.64**	**322**	P	**P**	**09 07 10.4**	**+2.4**
	comp=Z,0.9nm,0.6s,baz=135,slow=7.1,SNR=2.2						
	comp=Z,0.9nm,0.6s						
QSPA	**South Pole Qui**	**89.24**	**180**	P	**P**	**09 08 07.3**	**-0.1**
QSPA				IAmb	IAmb	09 08 11.0	
	comp=Z,2.2nm,1.0s						
QSPA	**South Pole Qui**	**89.24**	**180**	P	**P**	**09 08 07.8**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=196,slow=0.4,SNR=6.7						
	comp=Z,1.3nm,0.9s						
BRTR	**Keskin Array B**	**93.48**	**310**	LR	LR	09 52 49.7	
	comp=Z,48nm,18.4s,baz=122,slow=37						

IDC ***31*** *09:09:00.9±2.9, 53.°43N×87.°13E, h0km, mbtmp3.4/2, ML2.4/2, Error ellipse: s-maj=29.1km s-min=16.4km az=67.0*

ASRS 31 09:08:58.0±0.4, 53.°45N×87.°25E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.53**	**290**	I	I	09 19 00.0	
	baz=109,slow=319,SNR=5.2						
ZALV	**Zalesovo Beam**	**1.53**	**290**	Pg	Pb	09 09 26.9	-0.3
	0.4nm,0.3s,baz=110,slow=18,SNR=2.6						
ZALV				Lg	Lg	09 09 47.7	
	0.6nm,0.3s,baz=113,slow=28,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.08**	**246**	Pn	Pn	09 10 31.5	+2.4
	0.1nm,0.3s,baz=64,slow=14,SNR=1.5						
	5.6nm,0.2s						
MKAR	**Makanchi Array**	**7.38**	**208**	Pn	Pn	09 10 50.6	+3.6
	0.1nm,0.3s,baz=27,slow=14,SNR=5.1						
	0.2nm,0.3s						

CATAC ***31*** *09:13:59.9±0.6, 13.°N±4.°×9.°0W±.°, h31km±3km, M2.5/12, MLv2.5/12, Error ellipse: s-maj=9.1km s-min=5.8km az=15.2, confirmed*
GCG ***31*** *09:14:00.1±0.3, 13.°24N×89.°78W, h54km±7km, MD3.3*

ISC 31 09:13:59.1±2.7, 13.°0N±0.°1×89.°55W±0.°07, h35km, n29, σ0s62/30, El Salvador

| Code | Station Name | Δ

JOB	**Onbets**	**2.35**	**231**	P	**Pn**	**09 22 20.8**	**-0.2**
JOB				*e*S	**Sn**	**09 22 52.1**	**+1.6**
JKK2	**Kamakawa 2**	**2.62**	**259**	P	**Pn**	**09 22 24.1**	**-0.3**
ASAJ	**Asahikawa**	**2.68**	**265**	P	**Pn**	**09 22 25.1**	**-0.1**
JCH	**Churui**	**2.80**	**231**	P	**Pn**	**09 22 25.8**	**-1.0**
JNBK	**Urakawa-nobuka**	**3.36**	**232**	*e*P	**Pn**	**09 22 32.2**	**-1.7**

IDC ***31*** *09:24:15.9±3.7, 17°.68S×178°.97W, h609km±45km, mb2.9/9, mbtmp3.8/9, Error ellipse: s-maj=22.7km s-min=17.3km az=155.0*

ISC 31 09:24:09.9±0.8, 17°.6S±0°.2×178°.9W±0°.2, h539km, n10, σ1$42/11, mb3.5/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.33**	**241**	P	**P**	**09 30 46.5**	**+1.7**
	0.9nm,0.6s,baz=90,slow=12,SNR=1.9						
WRA	0.9nm,0.6s **Warramunga Arr**	**44.20**	**259**	P	**P**	**09 31 31.7**	**+0.3**
	0.3nm,0.5s,baz=91,slow=7.7,SNR=7.2						
ASAR	0.3nm,0.5s **Alice Springs**	**44.39**	**254**	P	**P**	**09 31 34.2**	**+1.3**
	0.7nm,0.4s,baz=86,slow=8.2,SNR=22						
ASAR				S	**S**	**09 37 25.9**	**-2.7**
	0.3nm,0.7s,baz=89,slow=14,SNR=4.2						
MJAR	0.7nm,0.4s **Matsushiro Arr**	**67.39**	**324**	P	**P**	**09 34 12.2**	**+0.5**
	1.4nm,0.7s,baz=160,slow=8.7,SNR=3.2						
QSPA	1.4nm,0.7s **South Pole Qui**	**72.42**	**180**	P	**P**	**09 34 41.6**	**+0.2**
	2.8nm,0.8s,baz=91,slow=4.0,SNR=21						
ILAR	2.8nm,0.8s **Eielson Array**	**85.73**	**13**	P	**P**	**09 35 50.5**	**-1.0**
	0.2nm,0.6s,baz=207,slow=4.8,SNR=2.8						
TXAR	0.2nm,0.6s **Lajitas Array**	**86.27**	**58**	P	**P**	**09 35 55.9**	**+0.9**
	0.2nm,0.8s,baz=236,slow=5.2,SNR=3.6						
PDAR	0.2nm,0.8s **Pinedale Array**	**87.49**	**44**	P	**P**	**09 36 00.3**	**-0.3**
	0.1nm,0.5s,baz=236,slow=4.4,SNR=2.1						
SNAA	0.1nm,0.5s **Sanae**	**90.89**	**179**	P	**P**	**09 36 14.4**	**-1.3**
	1.3nm,1.0s,baz=199,slow=8.2,SNR=6.6						
GERES	1.3nm,1.0s **GERESS Array B**	**147.21**	**345**	PKPbc	**PKPbc**	**09 42 52.7**	**-0.1**
	0.4nm,0.4s,baz=22,slow=4.8,SNR=1.7						

GCG 31 09:28:43.9±0.4, 13°.69N×91°.34W, h50km±93km, MD3.7, ML3.1, MW2.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.85**	**35**	*i* P	Pn	09 28 59.7	0.0
FG8	**Yepocapa, Chim**	**0.94**	**53**	*i* P	Pn	09 29 00.0	-0.9
FG16	**Alotenango, Sa**	**0.99**	**54**	*i* P	Pn	09 29 00.9	-0.8
FG16				IAML		09 29 26.8	
	comp=N,1μm,0.2s						
MTO3	**Montecristo**	**2.04**	**70**	*i* P	Pn	09 29 16.8	+0.8

ASRS ***31*** *09:33:36.2, 53°N±2°×8°E±°, h2km±1km, MLh3.8/16, confirmed*
NNC ***31*** *09:33:39.3±1.4, 53°.04N×87°.38E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=12.3km s-min=4.5km az=71.0, Suspected Mining explosion.*

ISC 31 09:33:36.0±0.7, 53°.08N±0°.02×87°.71E±0°.02, h0km, n33, σ0$88/64, 6C-11D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASR	**Tashtagol**	**0.34**	**162**	⇓P*g*	**Pb**	**09 33 44.7**	**-0.2**
TASR				S*g*	**Sb**	**09 33 49.6**	**-1.3**
KALT1	**Kaltan 1**	**0.38**	**333**	⇓P*g*	**Pg**	**09 33 43.0**	**-0.2**
KALT1				S*g*	**Sg**	**09 33 47.9**	**-0.2**
KALT2	**Kaltan 2**	**0.40**	**324**	⇓P*g*	**Pg**	**09 33 43.3**	**-0.3**
KALT2				S*g*	**Sg**	**09 33 48.3**	**-0.4**
MALIN	**Malinovka, Kuz**	**0.43**	**323**	P*g*	**Pg**	**09 33 43.9**	**-0.3**
MALIN				S*g*	**Sg**	**09 33 49.3**	**-0.4**
KALT3	**Kaltan 3**	**0.46**	**340**	⇓P*g*	**Pg**	**09 33 44.6**	**-0.2**
KALT3				S*g*	**Sg**	**09 33 50.5**	**-0.3**
TAIL	**Tailep, Kuzbas**	**0.48**	**320**	P*g*	**Pg**	**09 33 44.8**	**-0.4**
TAIL				S*g*	**Sg**	**09 33 51.0**	**-0.4**
ELT	**Eltsovka**	**0.90**	**282**	P*g*	**Pg**	**09 33 51.8**	**-1.5**
ELT				S*g*	**Sg**	**09 34 03.9**	**-1.1**
LUZB	**Luzhba, Kemero**	**0.92**	**50**	⇓P*g*	**Pg**	**09 33 53.3**	**-0.3**
LUZB				S*g*	**Sg**	**09 34 05.0**	**-0.6**
ERU	**Erunakovo, Kuz**	**1.08**	**350**	P*g*	**Pg**	**09 33 56.0**	**-0.6**
ERU				S*g*	**Sg**	**09 34 10.5**	**-0.1**
KOTO	**Kotino, Kuzbas**	**1.20**	**337**	P*g*	**Pg**	**09 33 58.7**	**-0.4**
KOTO				S*g*	**Sg**	**09 34 15.0**	**+0.4**
ARTR	**Artybash**	**1.31**	**192**	⇓P	**Pg**	**09 34 00.7**	**-0.4**
ARTR				S	**Sg**	**09 34 18.3**	**+0.2**
YALR	**Yailyu, Altay**	**1.31**	**183**	P	**Pg**	**09 34 00.5**	**-0.6**
YALR				S	**Sb**	**09 34 19.1**	**+0.1**
BJR3	**Bachatsky-3 (S**	**1.47**	**322**	P	**Pn**	**09 34 02.9**	**-0.8**
BJR3				S	**Sg**	**09 34 22.5**	**-0.7**
BJR4	**Bachatsky-4, K**	**1.49**	**326**	⇑P	**Pn**	**09 34 03.7**	**-0.3**
BJR4				S*g*	**Sg**	**09 34 24.0**	**+0.1**
POMOR	**Pomortsevo, Ku**	**1.50**	**333**	P	**Pn**	**09 34 04.0**	**-0.2**
POMOR				S*g*	**Sn**	**09 34 24.9**	**+0.4**
BJR1	**Bachatsky 1, K**	**1.53**	**320**	P*g*	**Pn**	**09 34 03.8**	**-0.7**
BJR1				S*g*	**Sg**	**09 34 24.4**	**-0.6**
GALT	**Gorno-Altaysk,**	**1.56**	**224**	P	**Pn**	**09 34 04.8**	**-0.2**
GALT				S	**Sg**	**09 34 26.4**	**+0.5**
VEH	**Verkhnyaya Baz**	**1.58**	**83**	P	**Pn**	**09 34 05.4**	**0.0**
VEH				S	**Sg**	**09 34 27.2**	**+0.4**
ZAA0	**Zalesovo Array**	**1.93**	**298**	⇓P	**Pn**	**09 34 10.6**	**+0.5**
	2.7nm,0.2s						
ZAA0				⇑S	**Sn**	**09 34 35.2**	**+0.1**
	7.8nm,0.2s						
ELDR	**Elanda**	**2.12**	**209**	P	**Pb**	**09 34 14.8**	**-0.4**
ELDR				S	**Sb**	**09 34 41.7**	**-0.4**
DJO	**Djoy, Khakassi**	**2.15**	**97**	P	**Pb**	**09 34 15.8**	**+0.1**
DJO				S	**Sg**	**09 34 44.6**	**-0.3**
CERR	**Cheremushki**	**2.25**	**94**	P*g*	**Pb**	**09 34 17.6**	**0.0**
CERR				S*g*	**Sg**	**09 34 47.6**	**-0.7**
ULGR	**Ulagan, Altay**	**2.47**	**176**	P	**Pb**	**09 34 22.5**	**+1.2**
ULGR				S	**Sg**	**09 34 55.6**	**+0.4**
TEL	**Teeli**	**2.58**	**142**	P	**Pb**	**09 34 21.9**	**-1.2**
TEL				S	**Sb**	**09 34 55.8**	**+0.5**
BRCR	**Berchikul'**	**2.59**	**8**	⇓P	**Pn**	**09 34 20.9**	**+1.7**
BRCR				S	**Sb**	**09 34 55.6**	**0.0**
BALAH	**Balakhonka, Ku**	**2.72**	**339**	P	**Pn**	**09 34 22.8**	**+1.8**
BALAH				S	**Sb**	**09 34 59.8**	**+0.4**
AKAR	**Aktash**	**2.77**	**181**	P*g*	**Pb**	**09 34 26.1**	**-0.2**
AKAR				S*g*	**Sg**	**09 35 03.2**	**-1.6**
CHBI	**Chibit, Altay**	**2.77**	**183**	P	**Pb**	**09 34 24.7**	**-1.9**
CHBI				S	**Sb**	**09 35 00.9**	**-0.1**
UKR	**Ust'-Kan**	**2.81**	**221**	P*g*	**Pb**	**09 34 27.4**	**+0.3**
UKR				S	**Sb**	**09 35 03.6**	**+1.5**
KURK	**Kurchatov**	**6.10**	**251**	⇓L*g*	Lg	09 36 48.0	
	12nm,0.5s						
KURBB	**Kurchatov Arra**	**6.20**	**250**	⇑P*n*	**Pn**	**09 35 10.1**	**+1.4**
	2.0nm,0.3s						
KURBB				⇑S*n*	**Sn**	**09 36 18.8**	**-1.3**
	9.7nm,0.8s						
KURBB				⇓L*g*	Lg	09 36 52.0	
	21nm,0.6s						
MK31	**Makanchi Array**	**7.20**	**211**	⇓P*n*	**Pn**	**09 35 25.0**	**+2.6**
	0.8nm,0.2s,baz=27,slow=13,SNR=117						
MK31				⇑S*n*	**Sn**	**09 36 45.1**	**+0.2**
	6.1nm,0.7s,baz=32,slow=27,SNR=7.7						
MK31				⇑L*g*	Lg	09 37 21.9	
	6.2nm,0.6s,baz=23,slow=36,SNR=3.8						
MAKZ	**Makanchi**	**7.29**	**213**	P*n*	**Pn**	**09 35 26.1**	**+2.5**
	1.6nm,0.3s						
MAKZ				S*n*	**Sn**	**09 36 47.9**	**+0.8**
	12nm,0.5s						
MAKZ				L*g*	Lg	09 37 27.2	
	11nm,0.9s						

CATAC ***31*** *09:37:53.7±0.7, 13°N±4°×9°0W±°, h35km±4km, M3.1/12, MLv3.1/12, Error ellipse: s-maj=9.4km s-min=8.5km az=71.6, confirmed*
SNET ***31*** *09:37:54.3±1.4, 13°.22N×89°.51W, h57km, ML2.9*
GCG ***31*** *09:37:54.0±0.6, 13°.20N×89°.59W, h52km±6km, MD3.5, ML2.1*

ISC 31 09:37:53.5±3.1, 13°.1N±0°.1×89°.6W±0°.1, h43km, n46, σ0$64/50, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.44**	**35**	*i* P	**Pn**	**09 38 03.9**	**+0.2**
LALI				IAML		09 38 14.8	
	comp=E,112nm,0.3s						
LALI	**Alcalda de L**	**0.44**	**35**	S	**Sn**	**09 38 11.9**	**+1.1**
LALI	**Alcalda de L**	**0.44**	**35**	P	**Pn**	**09 38 02.1**	**-1.6**
JAYA	**Jayaque - finc**	**0.55**	**13**	*e*P	**Pn**	**09 38 05.3**	**+0.1**
JAYA				*e*S	**Sn**	**09 38 13.5**	**+0.1**
JAYA	**Jayaque - finc**	**0.55**	**13**	*i* P	**Pn**	**09 38 05.2**	**+0.1**
JAYA				*i* S	**Sn**	**09 38 13.6**	**+0.1**
PANCS	**Alcalda de**	**0.62**	**39**	S	**Sn**	**09 38 15.0**	**-0.1**
PANCS	**Alcalda de**	**0.62**	**39**	P	**Pn**	**09 38 06.0**	**-0.1**
PMON	**Piamonte**	**0.64**	**24**	*e*P	**Pn**	**09 38 07.4**	**+1.0**
PMON	**Piamonte**	**0.64**	**24**	S	**Sn**	**09 38 16.0**	**+0.5**
PMON	**Piamonte**	**0.64**	**24**	P	**Pn**	**09 38 07.0**	**+0.6**
LOMA	**Loma Larga**	**0.65**	**37**	P	**Pn**	**09 38 06.4**	**-0.2**
LOMA	**Loma Larga**	**0.65**	**37**	S	**Sn**	**09 38 15.6**	**-0.3**
BOQS	**Boqueron**	**0.68**	**25**	*e*P	**Pn**	**09 38 07.1**	**+0.1**
UEES	**Universidad Ev**	**0.68**	**29**	*e*P	**Pn**	**09 38 07.1**	**+0.2**
UEES	**Universidad Ev**	**0.68**	**29**	S	**Sn**	**09 38 16.8**	**+0.4**
UEES	**Universidad Ev**	**0.68**	**29**	P	**Pn**	**09 38 06.7**	**-0.1**
UTEC	**Universidad Te**	**0.68**	**33**	*e*P	**Pn**	**09 38 06.8**	**-0.2**
UTEC				*e*S	**Sn**	**09 38 17.1**	**+0.5**
UTEC	**Universidad Te**	**0.68**	**33**	P	**Pn**	**09 38 06.9**	**0.0**
UTEC	**Universidad Te**	**0.68**	**33**	S	**Sn**	**09 38 16.9**	**+0.4**
CEDA	**San Andres**	**0.70**	**15**	P	**Pn**	**09 38 07.3**	**+0.2**
CEDA	**San Andres**	**0.70**	**15**	P	**Pn**	**09 38 07.0**	**-0.1**
CEDA	**San Andres**	**0.70**	**15**	S	**Sn**	**09 38 17.5**	**+0.6**
CEVE	**Cerro Verde**	**0.70**	**356**	P	**Pn**	**09 38 07.6**	**+0.2**
CEVE	**Cerro Verde**	**0.70**	**356**	S	**Sn**	**09 38 18.4**	**+1.2**
LFRS	**El Faro**	**0.71**	**45**	*e*P	**Pn**	**09 38 07.3**	**0.0**
IGN	**Direccin Gen**	**0.71**	**34**	S	**Sn**	**09 38 17.7**	**+0.5**
IGN	**Direccin Gen**	**0.71**	**34**	P	**Pn**	**09 38 06.7**	**-0.6**
UDBS	**Universidad Do**	**0.72**	**35**	S	**Sn**	**09 38 18.1**	**+0.7**
UDBS	**Universidad Do**	**0.72**	**35**	P	**Pn**	**09 38 07.4**	**0.0**
LFU	**La Fuente**	**0.77**	**36**	*e*P	**Pn**	**09 38 08.7**	**+0.6**
RTR	**El Retiro**	**0.77**	**355**	*e*P	**Pn**	**09 38 07.7**	**-0.6**
PAVA	**Las Pavas**	**0.86**	**47**	P	**Pn**	**09 38 09.4**	**+0.1**
PAVA	**Las Pavas**	**0.86**	**47**	S	**Sn**	**09 38 21.1**	**+0.3**
TECO	**Alcaldia de Te**	**0.88**	**62**	S	**Sn**	**09 38 20.2**	**-1.0**
TECO	**Alcaldia de Te**	**0.88**	**62**	P	**Pn**	**09 38 08.6**	**-0.9**
ALJI	**Alcalda de J**	**1.00**	**78**	*e*S	**Sn**	**09 38 25.7**	**+1.5**
MTO3	**Montecristo**	**1.29**	**9**	*i* P	**Pn**	**09 38 15.0**	**-0.3**
MTO3	**Montecristo**	**1.29**	**9**	P	**Pn**	**09 38 15.0**	**-0.3**
MTO3	**Montecristo**	**1.29**	**9**	S	**Sn**	**09 38 29.7**	**-1.8**
ESQI	**Esquipulas**	**1.45**	**9**	*i* P	**Pn**	**09 38 17.5**	**+0.1**
ESQI	**Esquipulas**	**1.45**	**9**	P	**Pn**	**09 38 17.2**	**-0.2**
ESQI	**Esquipulas**	**1.45**	**9**	S	**Sn**	**09 38 34.9**	**-0.3**
LCND	**La Cuada**	**1.66**	**83**	*e*P	**Pn**	**09 38 20.0**	**-0.1**
SARH	**Santa Rosa de**	**1.83**	**26**	*i* P	**Pn**	**09 38 22.7**	**+0.1**
SARH				*i* S	**Sn**	**09 38 44.7**	**+0.1**
SARH	**Santa Rosa de**	**1.83**	**26**	P	**Pn**	**09 38 22.7**	**+0.1**
SARH	**Santa Rosa de**	**1.83**	**26**	S	**Sn**	**09 38 43.3**	**-1.3**

IDC ***31*** *09:41:39.3±0.8, 1°.74S×78°.62W, h0km, mb4.0/8, mbtmp4.0/11, ML4.0/3, MS3.7/10, Error ellipse: s-maj=42.2km s-min=16.3km az=59.0*
IGQ ***31*** *09:41:40.4±0.2, 2°S±2°×7°9W±°, h10km±2km, MLv4.6/10*
NEIC ***31*** *09:41:41.7±1.6, 2°.05S±0°.05×78°.95W±0°.07, h10km±1km, mb4.4/90, Error ellipse: s-maj=12.7km s-min=5.7km az=120.0*
RSNC ***31*** *09:41:43.7±0.0, 2°S±17°×7°9W±1°7, h0km±38km, M4.0, mB5.2, mb5.1, ML3.8, Mw(mB)4.5*
VAO ***31*** *09:41:45.9±1.2, 2°.08S×78°.85W, h44km±8km, mb4.4*

ISC 31 09:41:40.3±1.0, 1°.98S±0°.02×79°.02W±0°.02, h10km±7km, n188, σ1$27/174, mb4.4/48, MS3.8/6, 10C-19D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSCH	**Cashca Tororas**	**0.26**	**8**	⇓P	**Pb**	**09 41 47.6**	**+0.2**
JSCH				S	**Sb**	**09 41 52.4**	**+0.3**
MONB	**Balzapamba Mon**	**0.28**	**319**	⇑P	**Pb**	**09 41 47.6**	**+0.1**
AGRD	**Ecuador-Guaran**	**0.40**	**1**	⇓P	**Pb**	**09 41 49.6**	**-0.3**
AGRD				S	**Sg**	**09 41 55.5**	**+1.7**
ARIO	**Riobamba**	**0.45**	**45**	S	**Sg**	**09 41 56.1**	**+0.8**
ARIO				P	**Pg**	**09 41 49.9**	**+0.6**
TAMH	**Tambohuasha Ch**	**0.49**	**29**	⇓P	**Pb**	**09 41 51.3**	**-0.1**
CHSH	**Refugio Sur-Vo**	**0.50**	**17**	⇓P	**Pg**	**09 41 51.2**	**+0.9**
CHSH				S	**Sb**	**09 41 58.7**	**-0.6**
COHC	**Cochancay**	**0.54**	**206**		**Pb**	**09 41 51.5**	**-0.4**
COHC				S*g*	**Sb**	**09 41 59.4**	**-0.4**
COHC	**Cochancay**	**0.54**	**206**	⇑P	**Pb**	**09 41 51.4**	**-0.4**
COHC				S	**Sb**	**09 41 59.1**	**-0.7**
COHC	**Cochancay**	**0.54**	**206**	P	**Pb**	**09 41 51.5**	**-0.4**
COHC				S	**Sb**	**09 41 58.9**	**-0.9**
PORT	**Chimborazo Vol**	**0.57**	**25**	⇓P	**Pb**	**09 41 52.9**	**+0.2**
IGUA	**Igualata**	**0.61**	**38**	⇓P	**Pg**	**09 41 52.9**	**+0.4**
MILO	**Milagro-Astudi**	**0.62**	**241**	⇓P	**Pb**	**09 41 53.0**	**-0.2**
MILO				S	**Sb**	**09 42 02.6**	**+0.6**
ARRY	**Arrayan**	**0.73**	**50**	⇓P	**Pg**	**09 41 54.2**	**-0.4**
ARRY				S	**Sg**	**09 42 03.8**	**+0.3**
BPAT	**Tungurahua Vol**	**0.75**	**51**	⇓P	**Pg**	**09 41 54.8**	**-0.1**
BPAT				S	**Sg**	**09 42 04.9**	**+0.1**
JUI6	**Juive**	**0.78**	**45**	⇓P	**Pg**	**09 41 55.1**	**-0.3**
AZOG	**Ecuador-Azogue**	**0.79**	**168**	P	**Pb**	**09 41 56.3**	**0.0**
BULB	**Ulba Tungurahu**	**0.81**	**48**	⇓P	**Pg**	**09 41 55.8**	**-0.2**
AAM2	**Ambato 2 (Merc**	**0.81**	**30**	P	**Pb**	**09 41 57.1**	**+0.4**
GYE3	**Ecuador-Guayaq**	**0.90**	**259**	S	**Sg**	**09 42 09.4**	**0.0**
GYE3				P	**Pg**	**09 41 57.3**	**-0.4**
ACUE	**Ecuador-Cuenca**	**0.93**	**177**	P	**Pb**	**09 41 58.9**	**+0.2**
AGUAY	**Guayaquil**	**0.94**	**265**	⇓P	**Pg**	**09 41 57.4**	**-1.0**
AC07	**Ecuador-Guayaq**	**0.98**	**260**	P	**Pg**	**09 41 58.6**	**-0.7**
ASLC	**Ecuador-Salced**	**1.02**	**24**	P	**Pb**	**09 42 00.7**	**+0.3**
AQUE	**Quevedo**	**1.04**	**333**	⇓P	**Pb**	**09 42 00.9**	**+0.5**
PUYO	**Puyo, Santa Ro**	**1.10**	**64**	P	**Pn**	**09 42 02.1**	**+0.1**
PIS1	**Pisayambo**	**1.11**	**35**	P	**Pg**	**09 42 01.7**	**-0.1**
ALAT	**Latacunga**	**1.12**	**21**	P	**Pn**	**09 42 03.1**	**+0.7**
APUY	**Puyo**	**1.14**	**63**	P	**Pn**	**09 42 02.6**	**+0.1**
PIAT	**Ana Tenorio**	**1.23**	**38**	P	**Pn**	**09 42 03.2**	**+0.8**
PIAT	**Ana Tenorio**	**1.23**	**38**	P	**Pn**	**09 42 03.3**	**-0.7**
PIAT				S	**Sb**	**09 42 19.0**	**-1.1**
BOSC	**San Juan Bosco**	**1.28**	**156**	P	**Pg**	**09 42 05.5**	**+0.6**
ILLI	**Illinizas Sur**	**1.29**	**13**	P	**Pg**	**09 42 05.5**	**+0.3**
PCRA	**Pucara 2**	**1.31**	**202**	⇑P	**Pn**	**09 42 05.0**	**-0.1**
VCES	**Cotopaxi**	**1.32**	**28**	P	**Pb**	**09 42 05.7**	**+0.1**
BMOR	**Cotopaxi Volca**	**1.36**	**24**	P	**Pb**	**09 42 06.4**	**+0.1**
BREF	**Cotopaxi Volca**	**1.42**	**24**	⇑P	**Pg**	**09 42 08.1**	**+0.4**
SUCR	**Mariscal Sucre**	**1.43**	**21**	⇑P	**Pg**	**09 42 08.2**	**+0.4**
TAMB	**Tambo**	**1.43**	**27**	⇑P	**Pg**	**09 42 07.9**	**0.0**
BTAM	**Cotopaxi Volca**	**1.44**	**26**	⇑P	**Pb**	**09 42 07.9**	**+0.4**
BVC2	**Cotopaxi Volca**	**1.44**	**25**	S	**Sg**	**09 42 27.1**	**+0.1**
BVC2				⇑P	**Pb**	**09 42 07.9**	**+0.2**
CSOL	**CASCOL**	**1.47**	**282**	⇓P	**Pn**	**09 42 05.4**	**-1.5**
MORR	**Playas El Morr**	**1.48**	**244**	P	**Pn**	**09 42 06.6**	**-0.4**
ISPG	**Isla Puna-Puer**	**1.52**	**230**	P	**Pg**	**09 42 09.1**	**+0.5**
PITA	**Cotopaxi Volc**	**1.53**	**22**	⇓P	**Pg**	**09 42 08.8**	**+0.1**
ARDO	**Archidona, Ten**	**1.56**	**71**	P	**Pb**	**09 42 08.9**	**-0.4**
TAIS	**Taisha**	**1.57**	**105**	⇓P	**Pb**	**09 42 09.5**	**0.0**
PECV	**Mancha de Ca P**	**1.58**	**319**	P	**Pg**	**09 42 12.0**	**+1.3**
TOMA	**Boca Toma-Volc**	**1.58**	**22**	P	**Pg**	**09 42 10.9**	**+0.1**
ANTM	**Antisana-La Mi**	**1.64**	**29**	P	**Pg**	**09 42 12.1**	**+0.2**
ANTG	**Antisana-Guama**	**1.65**	**27**	P	**Pb**	**09 42 11.7**	**+0.5**
JIPI	**JIPIJAPA**	**1.66**	**292**	⇓P	**Pn**	**09 42 08.6**	**-1.0**
ACHN	**Ecuador-Chone-**	**1.66**	**320**	P	**Pn**	**09 42 09.5**	**0.0**
ANTS	**Antisana-Sarah**	**1.70**	**30**	⇑P	**Pb**	**09 42 12.4**	**+0.4**
ANTI	**Antisana**	**1.74**	**29**	P	**Pb**	**09 42 13.1**	**+0.3**
GGPT	**Toaza - Volcan**	**1.79**	**13**	P	**Pg**	**09 42 14.7**	**0.0**
JUA2	**San Juan 2**	**1.80**	**13**	P	**Pg**	**09 42 15.0**	**+0.1**
PPLP	**Puerto Lpez**	**1.81**	**284**	⇓P	**Pn**	**09 42 09.9**	**-1.8**
PPLP	**Puerto Lpez**	**1.81**	**284**	P	**Pn**	**09 42 10.0**	**-1.7**
PPLP				S	**Sn**	**09 42 35.4**	**+0.7**
TERV	**Terraza Guagua**	**1.84**	**13**	P	**Pg**	**09 42 15.7**	**0.0**
PINO	**Pino**	**1.85**	**13**	P	**Pg**	**09 42 15.7**	**-0.3**
ARNL	**Arenillas**	**1.88**	**214**	⇓P	**Pg**	**09 42 12.8**	**+0.3**
YANA	**Yana**	**1.90**	**14**	P	**Pg**	**09 42 16.6**	**-0.3**
SALI	**Salinas**	**1.98**	**264**	P	**Pn**	**09 42 13.1**	**-0.9**
BV15	**Puerto Quito-O**	**2.13**	**354**	P	**Pn**	**09 42 17.7**	**+1.6**
ISPT	**Isla de la Pla**	**2.18**	**289**	P	**Pn**	**09 42 16.5**	**-0.2**
ANGU	**Angureal**	**2.25**	**27**	P	**Pg**	**09 42 22.8**	**-0.8**
OTAV	**Otavalo**	**2.27**	**14**		**Pb**	**09 42 22.4**	**+0.7**
OTAV	**Otavalo**	**2.27**	**14**	⇑P	**Pb**	**09 42 22.4**	**+0.7**
OTAV	**Otavalo**	**2.27**	**14**	*e*P	**Pb**	**09 42 21.8**	**+0.1**
OTAV	**Otavalo**	**2.27**	**14**	P	**Pb**	**09 42 22.2**	**+0.4**
OTAV				S	**Sg**	**09 42 54.0**	**+0.5**
REVS	**Reventador Sur**	**2.33**	**37**	P	**Pb**	**09 42 23.1**	**+0.5**
MCRA	**Macar, Loja**	**2.55**	**202**	P	**Pn**	**09 42 23.8**	**+1.9**
MCRA	**Macar, Loja**	**2.55**	**202**	P	**Pn**	**09 42 23.1**	**+1.2**
MCRA				S	**Sb**	**09 42 56.7**	**-1.1**
BONI	**La Bonita**	**2.83**	**32**	P	**Pg**	**09 42 33.6**	**-1.2**
BONI	**La Bonita**	**2.83**	**32**	P	**Pb**	**09 42 29.6**	**-1.7**
BONI				S	**Sg**	**09 43 10.2**	**-1.4**
ZUMB	**Zumba**	**2.87**	**183**	P	**Pb**	**09 42 30.2**	**-1.6**
CMBC	**Cumbal**	**3.13**	**22**	P	**Pg**	**09 42 39.0**	**-1.5**
TUMC	**Tumaco**	**3.79**	**4**	Pn	**Pn**	**09 42 43.1**	**+4.3**
TUMC	**Tumaco**	**3.79**	**4**	P	**Pb**	**09 42 45.2**	**-2.1**
TUMC				S	**Sb**	**09 43 30.8**	**-2.5**
BBAC	**Balboa, Cauca**	**4.35**	**24**	P	**Pb**	**09 42 53.8**	**-3.2**
BBAC				S	**Sb**	**09 43 53.2**	**+3.5**
FLOC	**Florencia**	**4.88**	**44**		**Pn**	**09 42 56.2**	**+2.3**
FLOC	**Florencia**	**4.88**	**44**	P	**Pn**	**09 42 55.7**	**+1.8**
FLOC				S	**Sg**	**09 44 12.5**	**-4.7**
POPC	**Popayan, Colom**	**5.06**	**28**	P	**Pn**	**09 43 01.1**	**+4.5**
	597nm42nm,0.9s						
ATAH	**Atahualpa**	**5.16**	**173**	Pn	**Pn**	**09 43 02.2**	**+4.1**
	1.5nm,0.3s,baz=350,slow=6.3,SNR=9.0						
ATAH				Sn	**Sn**	**09 44 01.9**	**+4.0**
	3.3nm,0.3s,baz=110,slow=19,SNR=3.5						
ATAH				LR	LR	09 44 29.4	
	comp=Z,53nm,21.5s,baz=343,slow=32						
JAMC	4.5nm,0.4s **Jamundi, Valle**	**5.67**	**24**	P	Pn	09 43 09.9	+5.0
ROSC	**El Rosal**	**8.24**	**35**	LR	LR	09 47 15.8	
	comp=Z,1μm,18.8s,baz=230,slow=43						
CZSB	**Cruzeiro do Su**	**8.49**	**132**		**Pn**	**09 43 44.3**	**+0.7**
CZSB	**Cruzeiro do Su**	**8.49**	**132**	*e*P	**Pn**	**09 43 43.0**	**-0.5**
CZSB	**Cruzeiro do Su**	**8.49**	**132**	P	**Pn**	**09 43 44.7**	**+1.2**
	126nm,0.7s						
TBTG	**Tabatinga, AM**	**9.35**	**104**		**Pn**	**09 43 55.7**	**+0.4**
TBTG	**Tabatinga, AM**	**9.35**	**104**	*e*P	**Pn**	**09 43 56.5**	**+1.2**
TBTG	**Tabatinga, AM**	**9.35**	**104**	P	**Pn**	**09 43 57.1**	**+1.8**
RUSC	**La Rusia**	**9.81**	**37**		**Pn**	**09 44 01.8**	**-0.2**
NNA	**Nana**	**10.18**	**168**		**Pn**	**09 44 06.7**	**0.0**
NNA	**Nana**	**10.18**	**168**	Pn	**Pn**	**09 44 09.5**	**+2.9**
	6.8nm,0.3s,baz=324,slow=10,SNR=9.5						
JTS	15nm,0.4s **Las Juntas de**	**13.55**	**334**	LR	LR	09 49 26.7	
	comp=Z,119nm,18.3s,baz=138,slow=35						
SDV	**Santo Domingo**	**13.65**	**38**	LR	LR	09 50 45.3	
	comp=Z,315nm,21.3s,baz=244,slow=41						
BAUV	**El Baul**	**15.41**	**45**	Pn	**P**	**09 45 20.4**	**-2.2**
BAUV				IAmb	IAmb	09 45 38.0	
	comp=Z,27nm,1.4s						
CRIN	**San Cristobal**	**16.62**

	comp=Z,2.8nm,0.9s								
W13A	**Hualapai Mount**	**49.25**	**322**	IAmb	IAmb	09 50 38.0			
	comp=Z,3.1nm,0.8s								
HMU	**Henry Mountain**	**49.37**	**327**	IAmb	IAmb	09 50 34.8			
	comp=Z,4.2nm,0.9s								
KNB	**Kanab**	**49.90**	**324**	P	**P**	**09 50 35.2**	**+0.7**		
KNB				IAmb	IAmb	09 50 37.5			
	comp=Z,3.9nm,1.0s								
SRU	**San Rafael Swe**	**50.11**	**328**	IAmb	IAmb	09 50 43.3			
	comp=Z,2.5nm,0.8s								
LCMT	**Little Creek M**	**50.14**	**324**	IAmb	IAmb	09 50 44.6			
	comp=Z,4.4nm,1.3s								
V12A	**Nelson**	**50.26**	**322**	IAmb	IAmb	09 50 46.3			
	comp=Z,3.7nm,0.8s								
CCUT	**Cedar City**	**50.58**	**325**	IAmb	IAmb	09 50 42.9			
	comp=Z,5.0nm,1.2s								
BSUT	**Blindstream Ca**	**51.28**	**329**	IAmb	IAmb	09 50 47.6			
	comp=Z,5.1nm,1.2s								
TPNV	**Topopah Spring**	**51.91**	**322**	IAmb	IAmb	09 50 59.1			
	comp=Z,3.1nm,0.8s								
SPR3	**Spring Creek 3**	**52.12**	**325**	IAmb	IAmb	09 50 58.6			
	comp=Z,3.3nm,0.9s								
PDAR	**Pinedale Array**	**52.36**	**332**	P	**P**	**09 50 53.5**	**+0.5**		
	comp=Z,0.6nm,0.9s,baz=134,slow=6.4,SNR=5.7								
PDAR				PcP	**PcP**	**09 52 02.9**	**-1.1**		
	comp=Z,0.1nm,0.3s,baz=142,slow=7.5,SNR=1.0								
	comp=Z,0.6nm,0.9s								
HWUT	**Hardware Ranch**	**52.48**	**329**	IAmb	IAmb	09 51 01.2			
	comp=Z,4.7nm,0.8s								
NV11	**Mina Array Sit**	**54.02**	**322**	IAmb	IAmb	09 51 14.3			
	comp=Z,6.4nm,1.2s								
NVAR	**Mina Array Bea**	**54.11**	**322**	P	**P**	**09 51 07.7**	**+1.8**		
	comp=Z,1.6nm,0.8s,baz=138,slow=7.1,SNR=11								
	comp=Z,1.6nm,0.8s								
HLID	**Hailey**	**55.34**	**329**	P	**P**	**09 51 15.5**	**+0.8**		
BOZ	**Bozeman (W)**	**55.48**	**333**	P	**P**	**09 51 16.4**	**+0.7**		
BOZ				IAmb	IAmb	09 51 17.8			
	comp=Z,4.1nm,0.9s								
MFID	**Camas Ranch**	**55.97**	**328**	IAmb	IAmb	09 51 21.6			
	comp=Z,3.9nm,0.9s								
WVOR	**Wild Horse Val**	**56.85**	**326**	IAmb	IAmb	09 51 27.4			
	comp=Z,4.3nm,1.1s								
J05D	**Fort Rock, OR**	**58.87**	**325**	IAmb	IAmb	09 51 41.9			
	comp=Z,4.0nm,1.1s								
G08A	**Pilot Rock**	**58.90**	**328**	IAmb	IAmb	09 51 41.9			
	comp=Z,3.7nm,1.0s								
LNOR	**Lincton Mounta**	**58.93**	**329**	IAmb	IAmb	09 51 47.9			
	comp=Z,2.5nm,0.9s								
PINE	**Pine Mountain**	**59.01**	**326**	IAmb	IAmb	09 51 48.5			
	comp=Z,3.8nm,0.8s								
TORD	**Torodi Ar. Bea**	**81.41**	**76**	P	**P**	**09 53 56.3**	**-2.0**		
	comp=Z,0.7nm,0.2s,baz=285,slow=7.3,SNR=2.2								
	comp=Z,0.7nm,0.2s								
ILAR	**Eielson Array**	**82.51**	**336**	P	**P**	**09 54 01.8**	**-1.2**		
	comp=Z,0.7nm,0.9s,baz=120,slow=3.6,SNR=4.2								
	comp=Z,0.7nm,0.9s								
QSPA	**South Pole Qui**	**88.09**	**180**	P	**P**	**09 54 31.6**	**+0.5**		
	comp=Z,2.0nm,1.1s,baz=153,slow=2.7,SNR=5.8								
	comp=Z,2.0nm,1.1s								
WRA	**Warramunga Arr**	**140.69**	**235**	PKP	**PKPdf**	**10 01 11.6**	**+0.3**		
	comp=Z,0.5nm,0.9s,baz=115,slow=2.3,SNR=2.4								

*KRSC **31** 09:45:27.9±1.0,56˚.20N×164˚.42E,h55km±16km,Mc5.4, Ml5.2, Felt [II] at Krutoberegovo, Nikolskoe.*
*IDC **31** 09:45:27.4±0.5,56˚.26N×164˚.27E,h0km,mb4.5/32, mbtmp4.5/37,ML4.6/4,MS4.3/68,Error ellipse: s-maj=12.2km s-min=9.5km az=3.0*
*NEIC **31** 09:45:28.8,56˚.14N×164˚.30E,h22km*
*NEIC **31** 09:45:28.7±1.3,56˚.14N±0˚.08×164˚.3E±0˚.1,h10km±1km, mb4.9/480,Mww5.1/54,Error ellipse: s-maj=13.4km s-min=10.8km az=174.0*
*NEIC **31** 09:45:28.8,56˚.04N×164˚.48E,h22km,Moment Tensor Solution. Duration: 1ŝ7 Moment tensor: Scale 10¹⁶Nm; Mrr0.44; Mθθ-3.16; Mφφ2.72; Mrθ1.09; Mθφ-5.21; Mφr-1.11; Fault plane solution: M₀6.19000×10¹⁶ NP1: φs195.62000°,δ77.12000°,λ8.23000°. NP2:φs103.77000°, δ81.98000°,λ166.99000°. Principal axes: T 6.1629, Plg15.0000°, Azm59.0000°; N 0.0615, Plg75.0000°, Azm253.0000°; P -6.2244, Plg3.0000°, Azm150.0000°;*
*BJI **31** 09:45:28.0,56˚.10N×164˚.30E,h15km,mB4.7/17,mb4.7/32, Ms5.1/35,Ms7 4.7/34*
*GCMT **31** 09:45:31.7±0.1,56˚.25N±0˚.01×164˚.41E±0˚.01,h15km, MW5.2/140,Moment Tensor Solution. s97,c144; s140,c258; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.58±.10; Mθθ-4.20±.11; Mφφ3.62±.09; Mrθ0.17±.18; Mθφ-5.75±.11; Mφr-0.02±.17; Best double couple: M₀6.95500×10¹⁶ NP1:φs197.00000°,δ89.00000°, λ0.00000°. NP2:φs287.00000°,δ90.00000°,λ-179.00000°. Principal axes: T 6.6650, Plg1.0000°, Azm62.0000°; N 0.5790, Plg89.0000°, Azm289.0000°; P -7.2460, Plg1.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **31** 09:45:31.1±0.9,56˚.17N×164˚.26E,h46km,mb5.0/29, MS4.3/11 Error ellipse: s-maj=5.8km s-min=3.9km az=66.4*

ISC 31 09:45:29.9±0.8,56˚.18N±0˚.03×164˚.33E±0˚.03,h18km±3km, n853,σ1s10/640,mb4.9/282,MS4.4/80,11C-12D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
KBTR	**Krutoberegovo**	**0.85**	**272**	PN		**Pb**	**09 45 44.2**	**-1.8**	
KBTR	**Krutoberegovo**	**0.85**	**272**	*i* P		**Pb**	**09 45 44.2**	**-1.8**	
KBG	**Krutoberegovo**	**0.91**	**275**	PN		**Pb**	**09 45 45.2**	**-1.9**	
KBG				S		**Sb**	**09 45 57.4**	**-1.5**	
KBG	**Krutoberegovo**	**0.91**	**275**	*i* P		**Pb**	**09 45 45.3**	**-1.9**	
KBG				*e*S		**Sb**	**09 45 57.5**	**-1.5**	
BKI	**Bering**	**1.35**	**136**	PN		**Pn**	**09 45 52.6**	**-1.2**	
BKI				S		**Sn**	**09 46 09.4**	**-1.8**	
BKI	**Bering**	**1.35**	**136**	*i* P		**Pn**	**09 45 52.6**	**-1.2**	
BKI				*e*S		**Sn**	**09 46 09.5**	**-1.8**	
SMKR	**Semkarok**	**1.64**	**285**	PN		**Pn**	**09 45 57.2**	**-0.7**	
SMKR	**Semkarok**	**1.64**	**285**	*e*P		**Pn**	**09 45 57.2**	**-0.7**	
ZLN	**Zelenaya**	**1.98**	**267**	PN		**Pn**	**09 46 03.1**	**+0.5**	
ZLN	**Zelenaya**	**1.98**	**267**	*e*P		**Pn**	**09 46 03.2**	**+0.5**	
CIRR	**Tsirk**	**2.01**	**270**	PN		**Pn**	**09 46 03.2**	**+0.2**	
CIRR	**Tsirk**	**2.01**	**270**	*e*P		**Pn**	**09 46 03.3**	**+0.2**	
BZGR	**Bezymyannyi-Gr**	**2.06**	**265**	PN		**Pn**	**09 46 04.0**	**+0.4**	
BZGR	**Bezymyannyi-Gr**	**2.06**	**265**	*e*P		**Pn**	**09 46 04.1**	**+0.4**	
KLY	**Klyuchi**	**2.06**	**275**	PN		**Pn**	**09 46 02.0**	**-1.5**	
KLY				S		**Sn**	**09 46 26.2**	**-2.5**	
KLY	**Klyuchi**	**2.06**	**275**	*e*P		**Pn**	**09 46 02.0**	**-1.5**	
KLY				*e*S		**Sn**	**09 46 26.2**	**-2.5**	
BZWR	**Bezymyannyi-We**	**2.16**	**266**	PN		**Pn**	**09 46 05.3**	**+0.1**	
BZWR	**Bezymyannyi-We**	**2.16**	**266**	*e*P		**Pn**	**09 46 05.3**	**+0.1**	
BZMR	**Bezymyannaya**	**2.17**	**265**	PN		**Pn**	**09 46 05.9**	**+0.7**	
BZMR	**Bezymyannaya**	**2.17**	**265**	*e*P		**Pn**	**09 46 05.9**	**+0.7**	
MKZ	**Mys Kozlova**	**2.21**	**223**	PN		**Pn**	**09 46 04.6**	**-0.9**	
MKZ				S		**Sn**	**09 46 29.8**	**-2.5**	
MKZ	**Mys Kozlova**	**2.21**	**223**	*e*P		**Pn**	**09 46 04.7**	**-0.9**	
MKZ				*e*S		**Sn**	**09 46 29.9**	**-2.5**	
KIRR	**Kirishev**	**2.25**	**266**	PN		**Pn**	**09 46 06.7**	**+0.4**	
KIRR				S		**Sn**	**09 46 34.4**	**+0.7**	
KIRR	**Kirishev**	**2.25**	**266**	*e*P		**Pn**	**09 46 06.8**	**+0.4**	
KIRR				*e*S		**Sn**	**09 46 34.5**	**+0.7**	
KPT	**Kopyto**	**2.31**	**266**	PN		**Pn**	**09 46 08.4**	**+1.2**	
KPT	**Kopyto**	**2.31**	**266**	*e*P		**Pn**	**09 46 08.4**	**+1.2**	
KMNR	**Kamenistaya**	**2.34**	**261**	PN		**Pn**	**09 46 08.2**	**+0.6**	
KMNR	**Kamenistaya**	**2.34**	**261**	*i* P		**Pn**	**09 46 08.2**	**+0.6**	
TUMD	**Tumrok D**	**2.43**	**248**	PN		**Pn**	**09 46 09.0**	**+0.3**	
TUMD				S		**Sn**	**09 46 38.9**	**+0.9**	
TUMD	**Tumrok D**	**2.43**	**248**	*e*P		**Pn**	**09 46 09.0**	**+0.3**	
TUMD				*e*S		**Sn**	**09 46 39.0**	**+0.9**	
KOZ	**Kozyrevsk**	**2.50**	**269**	PN		**Pn**	**09 46 10.7**	**+1.1**	
KOZ				S		**Sn**	**09 46 41.6**	**+1.9**	
KOZ	**Kozyrevsk**	**2.50**	**269**	*e*P		**Pn**	**09 46 10.7**	**+1.1**	
KOZ				*e*S		**Sn**	**09 46 41.6**	**+1.9**	
SRDR	**Sredinnyy**	**2.58**	**275**	PN		**Pn**	**09 46 11.6**	**+0.8**	
SRDR				S		**Sn**	**09 46 42.8**	**+1.1**	
SRDR	**Sredinnyy**	**2.58**	**275**	*e*P		**Pn**	**09 46 11.7**	**+0.8**	
SRDR				*e*S		**Sn**	**09 46 42.9**	**+1.1**	
OSSR	**Ossora**	**3.15**	**348**	PN		Pn	09 46 17.1	-1.4	
OSSR	**Ossora**	**3.15**	**348**	*e*P		Pn	09 46 17.2	-1.4	
ESO	**Esso**	**3.17**	**268**	PN		**Pn**	**09 46 19.1**	**+0.3**	
ESO	**Esso**	**3.17**	**268**	*e*P		**Pn**	**09 46 19.2**	**+0.3**	
KII	**Karymskiy**	**3.54**	**235**	PN		**Pn**	**09 46 24.0**	**+0.1**	
KII	**Karymskiy**	**3.54**	**235**	*e*P		**Pn**	**09 46 24.1**	**+0.1**	
PALN	**Palana**	**3.74**	**323**	PN		**Pn**	**09 46 25.4**	**-1.3**	
PALN	**Palana**	**3.74**	**323**	*e*P		**Pn**	**09 46 25.4**	**-1.3**	
SPN	**Mys Shipunski**	**3.98**	**221**	PN		**Pn**	**09 46 28.4**	**-1.5**	
SPN	**Mys Shipunski**	**3.98**	**221**	*e*P		**Pn**	**09 46 28.4**	**-1.5**	
NLC	**Nalytchevo**	**4.18**	**226**	PN		**Pn**	**09 46 32.6**	**-0.1**	
NLC				S		**Sn**	**09 47 19.9**	**-1.1**	
NLC	**Nalytchevo**	**4.18**	**226**	*e*P		**Pn**	**09 46 32.7**	**-0.1**	
NLC				*e*S		**Sn**	**09 47 20.0**	**-1.1**	
SDLR	**Sedlovina**	**4.29**	**230**	PN		**Pn**	**09 46 34.9**	**+0.5**	
SDLR	**Sedlovina**	**4.29**	**230**	*e*P		**Pn**	**09 46 35.0**	**+0.5**	
KRER	**Koryakskii**	**4.33**	**231**	PN		**Pn**	**09 46 35.4**	**+0.4**	
KRER	**Koryakskii**	**4.33**	**231**	*e*P		**Pn**	**09 46 35.5**	**+0.4**	
KRX	**Arik**	**4.34**	**232**	PN		**Pn**	**09 46 36.5**	**+1.5**	
KRX	**Arik**	**4.34**	**232**	*e*P		**Pn**	**09 46 36.6**	**+1.5**	
SMAR	**Somma**	**4.34**	**230**	PN		**Pn**	**09 46 35.7**	**+0.6**	
SMAR	**Somma**	**4.34**	**230**	*e*P		**Pn**	**09 46 35.8**	**+0.6**	
AVH	**Avacha**	**4.37**	**230**	PN		**Pn**	**09 46 36.2**	**+0.9**	
AVH	**Avacha**	**4.37**	**230**	*e*P		**Pn**	**09 46 36.2**	**+0.9**	
UGLR	**Uglovaya**	**4.37**	**229**	PN		**Pn**	**09 46 36.0**	**+0.6**	
UGLR	**Uglovaya**	**4.37**	**229**	*e*P		**Pn**	**09 46 36.0**	**+0.6**	
TILK	**Tilichiki**	**4.38**	**12**	PN		**Pn**	**09 46 34.6**	**-0.8**	
TILK	**Tilichiki**	**4.38**	**12**	*e*P		**Pn**	**09 46 34.7**	**-0.8**	
TILK				*e*S		**Sn**	**09 47 23.3**	**-2.6**	
KOK	**Koryaka**	**4.39**	**231**	PN		**Pn**	**09 46 35.9**	**+0.2**	
KOK	**Koryaka**	**4.39**	**231**	*e*P		**Pn**	**09 46 36.0**	**+0.2**	
GNL	**Ganaly**	**4.45**	**239**	PN		**Pn**	**09 46 37.7**	**+1.2**	
GNL	**Ganaly**	**4.45**	**239**	*e*P		**Pn**	**09 46 37.7**	**+1.2**	
DALK	**Dalny**	**4.53**	**228**	PN		**Pn**	**09 46 37.6**	**+0.2**	
DALK				S		**Sn**	**09 47 28.5**	**-1.0**	
DALK	**Dalny**	**4.53**	**228**	*e*P		**Pn**	**09 46 37.6**	**+0.2**	
DALK				*e*S		**Sn**	**09 47 28.6**	**-1.0**	
INSR	**Institute**	**4.56**	**229**	PN		**Pn**	**09 46 38.7**	**+0.8**	
INSR	**Institute**	**4.56**	**229**	*e*P		**Pn**	**09 46 38.7**	**+0.8**	
PET	**Petropavlovsk**	**4.57**	**229**			**Pn**	**09 46 37.3**	**-0.8**	
PET	**Petropavlovsk**	**4.57**	**229**	*e*PN		**Pn**	**09 46 38.5**	**+0.4**	
PET				*e*S		**Sn**	**09 47 30.0**	**-0.7**	
PET				pmax	pmax				
	comp=Z,272nm,0.6s								
PET				smax	smax				
	comp=N,688nm,0.8s								
PET				smax	smax				
	comp=E,628nm,0.6s								
PET				MLR	MLR				
	comp=Z,3μm,14.0s								
PET				MLR	MLR				
	comp=Z,3μm,14.0s								
PET	**Petropavlovsk**	**4.57**	**229**	*e*P		**Pn**	**09 46 38.5**	**+0.4**	
PET	**Petropavlovsk**	**4.57**	**229**	Pn		**Pn**	**09 46 38.3**	**+0.2**	
PEA0B	**Petropavlovsk-**	**4.93**	**234**			**Pn**	**09 46 42.7**	**-0.3**	
PEA0B	**Petropavlovsk-**	**4.93**	**234**	*ce*PN		**Pn**	**09 46 44.0**	**+1.0**	
PETK	**Petropavlovsk-**	**4.93**	**234**			**Pn**	**09 46 42.5**	**-0.5**	
PETK	**Petropavlovsk-**	**4.93**	**234**	Pn		**Pn**	**09 46 43.8**	**+0.7**	
	comp=E,68nm,1.0s,baz=73,slow=12,SNR=60								
PETK				Sn		**Sn**	**09 47 43.1**	**+3.5**	
	comp=Z,7.1nm,0.3s,baz=45,slow=33,SNR=5.6								
KRMR	**Karymshinskiy**	**4.93**	**230**	PN		**Pn**	**09 46 43.3**	**+0.3**	
KRMR	**Karymshinskiy**	**4.93**	**230**	*e*P		**Pn**	**09 46 43.4**	**+0.3**	
KRMR				*e*S		**Sn**	**09 47 38.5**	**-1.1**	
RUS	**Russkaya**	**5.07**	**225**	PN		**Pn**	**09 46 45.2**	**+0.3**	
RUS	**Russkaya**	**5.07**	**225**	*e*P		**Pn**	**09 46 45.2**	**+0.3**	
GRL	**Gorelyy**	**5.16**	**228**	PN		**Pn**	**09 46 47.9**	**+1.7**	
GRL	**Gorelyy**	**5.16**	**228**	*e*P		**Pn**	**09 46 47.9**	**+1.7**	
MTVR	**Mutnovka**	**5.17**	**227**	PN		**Pn**	**09 46 47.1**	**+0.8**	
MTVR	**Mutnovka**	**5.17**	**227**	*e*P		**Pn**	**09 46 47.2**	**+0.8**	
APC	**Apacha**	**5.30**	**235**	PN		**Pn**	**09 46 49.8**	**+1.8**	
APC	**Apacha**	**5.30**	**235**	*e*P		**Pn**	**09 46 49.9**	**+1.8**	
ASAK	**Asacha**	**5.36**	**227**	PN		**Pn**	**09 46 50.1**	**+1.2**	
ASAK	**Asacha**	**5.36**	**227**	*e*P		**Pn**	**09 46 50.1**	**+1.2**	
MIPR	**Malaya Ipel'ka**	**5.92**	**232**	PN		**Pn**	**09 46 58.7**	**+2.1**	
MIPR	**Malaya Ipel'ka**	**5.92**	**232**	*e*P		**Pn**	**09 46 58.7**	**+2.1**	
KMSK	**Kamenskaya**	**6.38**	**8**	PN		**Pn**	**09 47 02.8**	**0.0**	
KMSK	**Kamenskaya**	**6.38**	**8**	*e*P		**Pn**	**09 47 02.9**	**0.0**	
PAU	**Pauzhetka**	**6.49**	**226**	PN		**Pn**	**09 47 05.4**	**+1.0**	
PAU	**Pauzhetka**	**6.49**	**226**	*e*P		**Pn**	**09 47 05.4**	**+1.0**	
SHEM	**Shemya Is, Ala**	**6.66**	**117**	Pn		**Pn**	**09 47 06.9**	**+0.2**	
	comp=Z,24nm,0.3s,baz=326,slow=3.6,SNR=46								
SHEM				Sn		**Sn**	**09 48 21.2**	**-0.8**	
	comp=Z,12nm,0.3s,baz=325,slow=19,SNR=9.3								
SHEM				LR	LR		09 48 56.4		
	comp=Z,2μm,18.4s,baz=296,slow=31								
	comp=Z,170nm,0.6s								
SMY	**Shemya**	**6.66**	**117**			**Pn**	**09 47 06.9**	**+0.2**	
SMY	**Shemya**	**6.66**	**117**	PN		**Pn**	**09 47 06.9**	**+0.2**	
SKR	**Severo-Kuril's**	**7.37**	**225**	*e*PN		**Pn**	**09 47 15.9**	**-0.6**	
SKR				pmax	pmax				
	comp=Z,229nm,0.8s								
SKR	**Severo-Kuril's**	**7.37**	**225**	*e*P		**Pn**	**09 47 16.3**	**-0.3**	
MA2	**Magadan**	**7.99**	**301**			**Pn**	**09 47 25.7**	**+0.8**	
MA2	**Magadan**	**7.99**	**301**	Pn		**Pn**	**09 47 26.9**	**+2.0**	
	comp=Z,0.3nm,0.3s,baz=70,slow=13,SNR=5.5								
MA2				LR	LR		09 50 31.1		
	comp=Z,2μm,19.3s,baz=109,slow=38								
	comp=Z,11nm,0.8s								
MA2	**Magadan**	**7.99**	**301**	*ce*PN		**Pn**	**09 47 26.3**	**+1.4**	
SEY	**Seymchan**	**9.08**	**323**	Pn		**Pn**	**09 47 40.8**	**+1.0**	
	comp=Z,0.3nm,0.3s,baz=121,slow=11,SNR=6.9								
SEY	**Seymchan**	**9.08**	**323**	*e*PN		**Pn**	**09 47 39.9**	**+0.1**	
SEY				pmax	pmax				
	comp=Z,20nm,1.2s								
AMKA	**Amchitka**	**10.07**	**112**	Pn		**Pn**	**09 47 53.9**	**+0.3**	
KIWB	**Kanaga Island**	**11.71**	**104**			**Pn**	**09 48 15.3**	**-0.6**	
BILL	**Bilibino**	**11.94**	**4**			**Pn**	**09 48 19.9**	**+1.0**	
BILL	**Bilibino**	**11.94**	**4**	*de*PN		**Pn**	**09 48 20.4**	**+1.5**	
ADK	**Adak**	**11.95**	**103**			**Pn**	**09 48 18.3**	**-0.8**	
ADK	**Adak**	**11.95**	**103**	PN		**Pn**	**09 48 18.3**	**-0.8**	
GSTR	**Great Sitkin T**	**12.19**	**101**			**Pn**	**09 48 21.9**	**-0.6**	
OKH	**Okha**	**12.60**	**267**	*de*PN		Pn	09 48 19.0	-8.9	
OKH				pmax	pmax				
	comp=Z,100nm,7.4s								
OKH				MLR	MLR				
	comp=Z,1μm,15.0s								
OKH				MLR	MLR				
	comp=N,2μm,13.0s								
OKH				MLR	MLR				
	comp=E,2μm,13.0s								
ATKA	**Atka Island**	**13.17**	**99**			**Pn**	**09 48 34.2**	**-1.6**	
TYV	**Tymovskoe**	**13.92**	**257**	*e*P		**Pn**	**09 48 48.3**	**+2.2**	
TYV				*e*S		Sn	09 51 30.2	+10	
TYV				pmax	pmax				
	comp=Z,30nm,1.5s								
TYV				pmax	pmax				
	comp=Z,500nm,4.4s								
TYV				smax	smax				
	comp=N,200nm,8.2s								
TYV				smax	smax				
	comp=E,800nm,8.2s								
SPIA	**Saint Paul Isl**	**13.98**	**75**			**Pn**	**09 48 47.8**	**+0.9**	
SPIA	**Saint Paul Isl**	**13.98**	**75**	P		**Pn**	**09 48 47.1**	**+0.3**	
	baz=277								
NKL	**Nikolayevsk**	**14.00**	**267**	*e*P		**Pn**	**09 48 46.8**	**-0.3**	
NKL				*e*S		**Sn**	**09 51 26.5**	**+4.7**	
NKL				pmax	pmax				
	comp=N,49nm,1.5s								
NKL				pmax	pmax				
	comp=E,34nm,1.5s								
NKL				pmax	pmax				
	comp=Z,78nm,1.5s								
NKL				smax	smax				
	comp=N,117nm,2.3s								
NKL				smax	smax				
	comp=E,235nm,4.6s								
NKL				MLR	MLR				
	comp=E,5μm,12.0s								
NKL				MLR	MLR				
	comp=N,2μm,13.0s								
NKL				MLR	MLR				
	comp=Z,5μm,14.0s								
GAMB	**Gambell**	**14.13**	**48**	Pn		**Pn**	**09 48 49.4**	**+0.6**	
GAMB	**Gambell**	**14.13**	**48**	P		**Pn**	**09 48 49.4**	**+0.6**	
	baz=248								
P08K	**Saint George I**	**14.44**	**77**	Pn		**Pn**	**09 48 54.0**	**+0.9**	
P08K	**Saint George I**	**14.44**	**77**	P		**Pn**	**09 48 53.6**	**+0.5**	
	baz=279								
UGL	**Uglegorsk**	**15.23**	**252**	*i*P		**Pn**	**09 49 06.4**	**+2.6**	
UGL				*e*S		**Sn**	**09 51 56.6**	**+4.8**	
UGL				pmax	pmax				
	comp=Z,114nm,0.7s								
UGL				smax	smax				
	comp=N,600nm,12.1s								
UGL				smax	smax				
	comp=E,600nm,9.7s								
UGL				MLR	MLR				
	comp=N,2μm,14.0s								
UGL				MLR	MLR				
	comp=E,2μm,11.0s								
UGL				MLR	MLR				
	comp=Z,2μm,13.0s								
M11K	**Mekoryuk**	**15.98**	**63**	P		**P**	**09 49 15.7**	**-1.2**	
	baz=268								
YSS	**Yuzhno-Sakhali**	**16.23**	**244**			**Pn**	**09 49 14.9**	**-1.8**	
YSS	**Yuzhno-Sakhali**	**16.23**	**244**	*ce*P		**Pn**	**09 49 17.0**	**+0.3**	
YSS				*e*S		**Sn**	**09 52 10.1**	**-5.9**	
YSS				pmax	pmax				
	comp=Z,50nm,1.1s								
YSS				pmax	pmax				
	comp=Z,300nm,7.2s								
YSS				pmax	pmax				
	comp=N,200nm,7.8s								
YSS				pmax	pmax				
	comp=E,200nm,6.7s								
YSS				MLR	MLR				
	comp=N,1μm,15.0s								
YSS				MLR	MLR				
	comp=Z,2μm,15.0s								
YSS				MLR	MLR				
	comp=E,2μm,14.0s								
TNA	**Tin City**	**16.30**	**44**	P		**Pn**	**09 49 19.1**	**+1.6**	
	baz=248								
UNV	**Unalaska Valle**	**16.83**	**86**			**Pn**	**09 49 24.3**	**0.0**	
UNV	**Unalaska Valle**	**16.83**	**86**	P		**Pn**	**09 49 24.3**	**0.0**	
	baz=290								
K13K	**Kusilvak Mount**	**16.84**	**57**	P		**Pn**	**09 49 25.5**	**+1.1**	
K13K				IAmb	IAmb		09 49 28.2		
	comp=Z,119nm,1.1s								
K13K	**Kusilvak Mount**	**16.84**	**57**	P		**P**	**09 49 26.1**	**-0.3**	
	baz=264,SNR=21								
F14K	**Arctic Creek**	**16.89**	**45**	P		**P**	**09 49 26.8**	**-0.2**	
	baz=250								
ANM	**Nome**	**17.01**	**48**	P		**P**	**09 49 28.8**	**+0.6**	
	baz=255								
AKUT	**Akutan**	**17.14**	**84**			**Pn**	**09 49 28.5**	**+0.3**	
M13K	**Dall Lake**	**17.39**	**63**			**P**	**09 49 32.4**	**-0.1**	
M13K	**Dall Lake**	**17.39**	**63**	P		**P**	**09 49 33.9**	**+1.3**	
	baz=270,SNR=11								
GRNR	**Gornyy**	**17.40**	**264**	*e*P		**Pn**	**09 49 32.1**	**+0.5**	
J14K	**Nanvaranak Lak**	**17.44**	**55**			**P**	**09 49 33.4**	**+0.4**	
J14K	**Nanvaranak Lak**	**17.44**	**55**	P		**P**	**09 49 34.1**	**+1.1**	
	baz=263,SNR=10								
F15K	**North Star Dit**	**17.63**	**45**	P		**P**	**09 49 36.8**	**+1.6**	
	baz=252,SNR=9.3								
G15K	**Niukluk**	**17.67**	**47**	P		**P**	**09 49 36.9**	**+1.3**	
	baz=255								
L14K	**Kuka Creek**	**17.73**	**59**	P		**P**	**09 49 38.4**	**+2.1**	
	baz=268								
M14K	**Bethel**	**18.08**	**61**	P		**P**	**09 49 42.6**	**+2.5**	
	baz=270,SNR=24								
FALS	**False Pass**	**18.22**	**81**	P		**P**	**09 49 43.4**	**+1.7**	
	baz=287								
N14K	**Kuskokwak Cree**	**18.24**	**64**	P		**P**	**09 49 43.5**	**+1.6**	
	baz=273								
L15K	**Ungalak Mounta**	**18.32**	**58**	P		**P**	**09 49 44.9**	**+2.2**	
	baz=268,SNR=31								
K15K	**Wolf Creek Mou**	**18.33**	**57**	P		**P**	**09 49 45.2**	**+2.3**	
	baz=266,SNR=23								
JKA	**Kamikawa-asahi**	**18.34**	**238**			**Pn**	**09 49 42.0**	**-1.1**	
ASAJ	**Asahikawa**	**18.34**	**238**	P		**Pn**	**09 49 42.8**	**-0.3**	
	comp=Z,2.1nm,0.3s,baz=45,slow=5.9,SNR=47								
ASAJ				LR	LR		09 57 44.2		
	comp=Z,2μm,18.5s,baz=34,slow=40								
	comp=Z,135nm,0.9s								
**ASAJ

S14K	Fog Glacier	19.93	75	P		Pn	09 50 02.5	+0.2
	baz=285,SNR=15							
B18K	Kokolik River	19.98	35	P		Pn	09 50 02.7	+0.1
	baz=246							
H18K	Honhosa River	20.06	48	P		Pn	09 50 03.3	-0.3
	baz=261,SNR=12							
G18K	Tagagawik	20.07	46	P		P	09 50 02.9	+1.0
G18K				IAmb		IAmb	09 50 07.9	
	comp=Z,48nm,0.9s							
G18K	Tagagawik	20.07	46	P		Pn	09 50 03.4	-0.3
	baz=259,SNR=24							
O16K	Kokwok River B	20.08	65	P		Pn	09 50 03.2	-0.6
	baz=277,SNR=9.5							
P16K	Nushagak River	20.20	66	P		Pn	09 50 04.9	-0.4
	baz=278							
M17K	Holitna River	20.26	59	P		P	09 50 05.0	+1.0
M17K				IAmb		IAmb	09 50 16.6	
	comp=Z,88nm,0.9s							
M17K	Holitna River	20.26	59	P		Pn	09 50 05.9	-0.1
	baz=272,SNR=30							
CHNA	Chernabura Isl	20.33	79	P		P	09 50 05.7	+0.9
	baz=289							
CNBA	Chernabura Isl	20.34	79	IAmb		IAmb	09 50 20.7	
	comp=Z,66nm,0.8s							
N17K	Nushagak Hills	20.44	62	P		Pn	09 50 07.2	-0.8
	baz=275,SNR=19							
CHGN	Chignik	20.54	74	P		P	09 50 07.4	+0.4
CHGN	Chignik	20.54	74	P		P	09 50 07.7	+0.6
	baz=285,SNR=13							
O17K	Koliganek Bris	20.56	64	P		P	09 50 08.1	+0.9
	baz=277,SNR=14							
A19K	Wainwright	20.56	33	P		Pn	09 50 08.7	-0.7
	baz=245							
L18K	Granite Mounta	20.59	57	IAmb		IAmb	09 50 20.3	
	comp=Z,118nm,1.2s							
L18K	Granite Mounta	20.59	57	P		Pn	09 50 09.4	-0.5
	baz=271,SNR=15							
J18K	Innoko River	20.60	53	P		Pn	09 50 09.2	-0.7
	baz=267,SNR=41							
C19K	Lookout Ridge	20.61	37	P		P	09 50 08.7	+1.0
C19K	Lookout Ridge	20.61	37	P		P	09 50 09.1	+1.3
	baz=249,SNR=12							
F19K	Shaleruckik Mo	20.61	44	P		P	09 50 09.1	+1.4
	baz=257							
GCSA	Galena City Sc	20.63	50	P		Pn	09 50 09.5	-0.7
	baz=264,SNR=30							
R16K	Pilot Point	20.68	70	P		P	09 50 09.5	+0.9
	baz=282							
G19K	Purcell Mounta	20.74	46	IAmb		IAmb	09 50 15.7	
	comp=Z,55nm,0.9s							
G19K	Purcell Mounta	20.74	46	P		P	09 50 10.3	+1.1
	baz=260,SNR=24							
H19K	Roundabout Mou	20.91	48	IAmb		IAmb	09 50 22.6	
	comp=Z,41nm,0.9s							
H19K	Roundabout Mou	20.91	48	P		P	09 50 11.9	+1.0
	baz=262,SNR=32							
D19K	Kuna River	20.92	39	IAmb		IAmb	09 50 23.0	
	comp=Z,87nm,1.0s							
D19K	Kuna River	20.92	39	P		P	09 50 12.0	+1.0
	baz=253							
Q16K	King Salmon	20.95	67	P		P	09 50 12.8	+1.4
	baz=280							
E19K	Redstone River	20.96	42	IAmb		IAmb	09 50 24.3	
	comp=Z,89nm,1.1s							
E19K	Redstone River	20.96	42	P		P	09 50 12.9	+1.4
	baz=256							
P17K	Kvichak River	20.97	65	P		P	09 50 13.1	+1.4
	baz=279,SNR=14							
M18K	Stony River	21.03	59	P		P	09 50 13.8	+1.5
	baz=273,SNR=24							
N18K	Kilae Creek	21.06	61	IAmb		IAmb	09 50 24.9	
	comp=Z,90nm,1.4s							
N18K	Kilae Creek	21.06	61	P		P	09 50 13.6	+0.9
	baz=275,SNR=15							
J19K	Poorman	21.11	52	IAmb		IAmb	09 50 20.0	
	comp=Z,65nm,0.9s							
J19K	Poorman	21.11	52	P		P	09 50 13.9	+0.7
	baz=267,SNR=56							
R17L	Mt. Peulik Vol	21.31	70	P		P	09 50 16.4	+1.0
	baz=283,SNR=20							
Q17K	Contact Creek	21.42	68	P		P	09 50 17.5	+0.9
	baz=282,SNR=16							
F20K	Avaraart Lake	21.44	44	P		P	09 50 17.3	+0.6
F20K	Avaraart Lake	21.44	44	P		P	09 50 17.7	+1.0
	baz=259,SNR=31							
L19K	White Mountain	21.45	57	IAmb		IAmb	09 50 29.3	
	comp=Z,134nm,1.5s							
L19K	White Mountain	21.45	57	P		P	09 50 18.3	+1.4
	baz=272,SNR=20							
TIXI	Tiksi	21.47	330	P		P	09 50 17.0	+0.2
TIXI				IAmb		IAmb	09 50 20.5	
	comp=Z,53nm,0.8s							
TIXI	Tiksi	21.47	330	P		P	09 50 17.1	+0.2
	comp=Z,37nm,0.7s,baz=118,slow=9.8,SNR=15							
TIXI				S		S	09 54 12.4	-1.6
	comp=Z,7.6nm,0.9s,baz=60,slow=7.8,SNR=1.5							
TIXI				LR		LR	09 59 11.0	
	comp=Z,1μm,18.9s,baz=140,slow=38							
	comp=Z,37nm,0.7s							
TIXI	Tiksi	21.47	330	*de*P		P	09 50 17.2	+0.3
TIXI				pmax		pmax		
	comp=Z,62nm,0.9s							
O18K	Koktuh Hills	21.50	63	P		P	09 50 17.6	+0.2
O18K				IAmb		IAmb	09 50 31.8	
	comp=Z,49nm,1.1s							
O18K	Koktuh Hills	21.50	63	P		P	09 50 17.9	+0.6
	baz=278,SNR=15							
D20K	Etivluk River	21.51	39	P		P	09 50 18.2	+0.8
	baz=254,SNR=14							
E20K	Nigu River	21.54	40	P		P	09 50 18.9	+1.2
	baz=256,SNR=16							
H20K	Anotlenegea Mo	21.55	48	P		P	09 50 19.0	+1.1
	baz=264,SNR=44							
P18K	Big Mountain,	21.55	65	IAmb		IAmb	09 50 30.1	
	comp=Z,103nm,1.3s							
P18K	Big Mountain,	21.55	65	P		P	09 50 18.8	+0.8
	baz=279,SNR=13							
JTM	Tenmabayashi	21.64	234	IAmb		IAmb	09 50 31.1	
	comp=Z,70nm,1.0s							
I20K	Naaghedeneel	21.66	50	P		P	09 50 19.2	+0.2
	baz=266,SNR=17							
M19K	Big River Lodg	21.69	58	IAmb		IAmb	09 50 35.8	
	comp=Z,30nm,0.6s							
M19K	Big River Lodg	21.69	58	P		P	09 50 20.1	+0.7
	baz=274							
ACHA	Angle Creek He	21.72	68	P		P	09 50 20.5	+0.6
ACHA				IAmb		IAmb	09 50 35.9	
	comp=Z,44nm,1.1s							
B20K	Meade River	21.72	35	P		P	09 50 20.5	+0.8
	baz=250,SNR=21							
N19K	Bonanza Creek	21.73	61	P		P	09 50 20.6	+0.6
N19K	Bonanza Creek	21.73	61	P		P	09 50 20.6	+0.6
	baz=276,SNR=12							
J20K	Nowinta River	21.77	52	P		P	09 50 20.5	+0.3
	baz=268,SNR=19							
K20K	Telida	21.79	54	IAmb		IAmb	09 50 32.2	
	comp=Z,66nm,1.1s							
K20K	Telida	21.79	54	P		P	09 50 20.9	+0.5
	baz=270,SNR=34							
Q18K	Katmai Hardscr	21.80	67	P		P	09 50 20.5	-0.2
	baz=281,SNR=11							
O19K	Port Alsworth	21.89	62	P		P	09 50 22.2	+0.7
O19K	Port Alsworth	21.89	62	P		P	09 50 22.1	+0.6
	baz=278							
L20K	Farewell, AK	21.90	56	P		P	09 50 22.1	+0.4
	baz=272,SNR=8.4							
IMAR	Indian Mountai	22.07	47	P		P	09 50 24.2	+0.8
CHIR	Chirikof Islan	22.18	74	P		P	09 50 25.5	+0.8
	baz=288							
G21K	Allakaket	22.23	45	IAmb		IAmb	09 50 37.3	
	comp=Z,68nm,1.1s							
G21K	Allakaket	22.23	45	P		P	09 50 25.5	+0.3
	baz=263,SNR=23							
C21K	Knifeblade Rid	22.26	38	P		P	09 50 25.9	+0.4
	baz=255,SNR=8.9							
M20K	Styx River	22.28	58	IAmb		IAmb	09 50 44.4	
	comp=Z,88nm,1.5s							
M20K	Styx River	22.28	58	P		P	09 50 27.0	+1.1
	baz=274,SNR=13							
F21K	Alatna River	22.34	43	P		P	09 50 26.8	+0.5
F21K				IAmb		IAmb	09 50 48.6	
	comp=Z,52nm,1.3s							
F21K	Alatna River	22.34	43	P		P	09 50 27.5	+1.2
	baz=261,SNR=44							
A21K	Barrow	22.37	32	P		P	09 50 28.0	+1.4
	baz=248							
E21K	Killik River	22.38	40	P		P	09 50 27.1	+0.3
	baz=258							
H21K	Melozitna Rive	22.43	48	IAmb		IAmb	09 50 40.7	
	comp=Z,85nm,1.5s							
H21K	Melozitna Rive	22.43	48	P		P	09 50 28.0	+0.8
	baz=266,SNR=21							
Q19K	Cape Douglas,	22.44	65	P		P	09 50 27.5	0.0
	baz=281,SNR=9.2							
B21K	Ikpikpuk River	22.45	37	P		P	09 50 28.2	+0.8
B21K				IAmb		IAmb	09 50 30.2	
	comp=Z,62nm,0.9s							
B21K	Ikpikpuk River	22.45	37	P		P	09 50 28.6	+1.2
	baz=254,SNR=18							
P19K	Oil Pt	22.51	63	P		P	09 50 29.1	+0.8
	baz=280							
CHUM	Lake Minchumin	22.57	52	P		P	09 50 29.8	+1.0
	baz=270,SNR=11							
PPLA	Purkeypile	22.66	55	P		P	09 50 30.7	+0.8
	baz=273,SNR=22							
CAST	Castle Rocks	22.68	54	P		P	09 50 31.0	+0.9
	baz=272,SNR=14							
HEH	HeiHe	22.68	270	*e*P		P	09 50 26.8	-3.3
HEH				S		S	09 54 30.5	-6.8
HEH				pmax		pmax		
	comp=Z,13nm,0.7s							
HEH				pmax		pmax		
	comp=Z,86nm,5.3s							
HEH				LR		LR		
	comp=Z,3μm,17.7s							
HEH				LR		LR		
	comp=Z,2μm,14.3s							
SII	Sitkinak Islan	22.73	72	P		P	09 50 29.7	-0.9
	baz=287							
I21K	Tanana	22.74	49	IAmb		IAmb	09 50 43.0	
	comp=Z,48nm,1.2s							
I21K	Tanana	22.74	49	P		P	09 50 31.1	+0.6
	baz=268							
O20K	Slope Mountain	22.75	62	P		P	09 50 31.5	+0.8
	baz=279							
A22K	Sinclair Lake	22.75	34	P		P	09 50 31.5	+0.9
	baz=250							
N20K	Mount Spurr	22.79	59	P		P	09 50 32.2	+1.0
	baz=277							
SPCR	Spurr Chakacha	22.79	59	P		P	09 50 31.9	+0.7
	baz=277							
SPU	Mount Spurr	22.87	59	IAmb		IAmb	09 50 44.7	
	comp=Z,54nm,1.3s							
F22K	John River	22.88	43	P		P	09 50 32.9	+0.9
	baz=262							
D22K	Ayikyak River	22.93	39	P		P	09 50 33.2	+0.6
	baz=258,SNR=9.3							
STLK	Strandline Lak	22.94	58	IAmb		IAmb	09 50 47.7	
	comp=Z,34nm,1.0s							
OHAK	Old Harbor	23.02	70	IAmb		IAmb	09 50 50.1	
	comp=Z,101nm,1.7s							
OHAK	Old Harbor	23.02	70	P		P	09 50 33.0	-0.6
	baz=286,SNR=5.4							
SKT	Skwentna	23.03	57	P		P	09 50 34.6	+1.0
	baz=276,SNR=12							
H22K	Ishtalitna Cre	23.03	47	P		P	09 50 34.5	+0.8
	baz=266,SNR=15							
B22K	Teshekpuk Lake	23.04	36	P		P	09 50 33.7	+0.1
	baz=254							
G22K	Bettles	23.06	45	P		P	09 50 33.9	-0.1
	baz=264							
E22K	Anaktuvuk Pass	23.11	41	IAmb		IAmb	09 50 46.5	
	comp=Z,51nm,1.1s							
E22K	Anaktuvuk Pass	23.11	41	P		P	09 50 34.9	+0.4
	baz=261,SNR=28							
Q20K	Shuyak Island	23.14	66	P		P	09 50 34.4	-0.4
	baz=283,SNR=5.6							
BPAW	Bear Paw Mtn.	23.16	52	P		P	09 50 35.2	+0.3
BPAW	Bear Paw Mtn.	23.16	52	P		P	09 50 35.2	+0.3
	baz=271,SNR=14							
KDAK	Kodiak Island	23.24	68	P		P	09 50 35.2	-0.6
KDAK				IAmb		IAmb	09 50 37.5	
	comp=Z,82nm,1.6s							
KDAK	Kodiak Island	23.24	68	⇓*e*P		P	09 50 37.0	+1.2
KDAK				pmax		pmax		
	comp=Z,67nm,1.6s							
KDAK	Kodiak Island	23.24	68	P		P	09 50 36.1	+0.3
	baz=285							
MLY	Manley	23.26	49	IAmb		IAmb	09 50 55.0	
	comp=Z,85nm,1.5s							
MLY	Manley	23.26	49	P		P	09 50 36.5	+0.5
	baz=269,SNR=21							
HOM	Homer	23.31	63	P		P	09 50 36.4	0.0
	baz=281							
SUA	Susitna One	23.46	58	P		P	09 50 38.0	-0.1
	baz=277							
TRF	Thorofare Moun	23.49	53	P		P	09 50 38.2	-0.2
	baz=273,SNR=11							
CNPM	China Poot	23.54	63	IAmb		IAmb	09 50 54.6	
	comp=Z,31nm,0.7s							
CUT	Chulitna	23.58	56	P		P	09 50 38.7	-0.4
	baz=276							
COLD	Coldfoot	23.61	44	IAmb		IAmb	09 50 50.7	
	comp=Z,54nm,1.0s							
COLD	Coldfoot	23.61	44	P		P	09 50 39.2	-0.2
	baz=264,SNR=16							
G23K	Bananza Creek	23.63	45	IAmb		IAmb	09 50 50.7	
	comp=Z,27nm,0.9s							
G23K	Bananza Creek	23.63	45	P		P	09 50 39.1	-0.5
	baz=266,SNR=18							
D23K	Nanushuk River	23.66	39	IAmb		IAmb	09 50 59.4	
	comp=Z,61nm,1.2s							
D23K	Nanushuk River	23.66	39	P		P	09 50 40.2	+0.3
	baz=260,SNR=9.9							
USRK	Ussuriysk Ar.	23.69	253	LR		LR	10 00 44.0	
	comp=Z,984nm,18.9s,baz=57,slow=39							
M22K	Willow	23.72	58	IAmb		IAmb	09 50 53.1	
	comp=Z,55nm,1.1s							
M22K	Willow	23.72	58	P		P	09 50 39.6	-0.9
	baz=277							
H23K	Yukon River	23.78	47	P		P	09 50 41.0	0.0
	baz=268,SNR=17							
I23K	Minto, Yukon-K	23.85	49	P		P	09 50 41.6	0.0
	baz=270,SNR=24							
C23K	Itkillik River	23.85	37	P		P	09 50 41.9	+0.2
	baz=258,SNR=12							
E23K	Chandalar	23.92	42	P		P	09 50 42.8	+0.4
	baz=263,SNR=29							
NEA2	Nenana	23.98	50	IAmb		IAmb	09 50 54.2	
	comp=Z,30nm,0.8s							
NEA2	Nenana	23.98	50	P		P	09 50 42.3	-0.7
	baz=272,SNR=21							
RC01	Rabbit Creek A	23.99	59	IAmb		IAmb	09 50 54.9	
	comp=Z,48nm,1.4s							
RC01	Rabbit Creek A	23.99	59	P		P	09 50 42.8	-0.3
	baz=279,SNR=6.0							
TOLK	Toolik Lake Re	24.01	40	P		P	09 50 43.3	+0.1
	baz=262,SNR=12							
MCK	McKinley	24.08	53	P		P	09 50 43.5	-0.4
	baz=274,SNR=8.1							
O22K	Cooper Landing	24.10	61	P		P	09 50 43.2	-0.9
	baz=280							
JMM	Marumori	24.15	231	P		P	09 50 44.5	-0.2
JMM				IAmb		IAmb	09 50 47.6	
	comp=Z,21nm,0.7s							
PMR	Palmer	24.21	58	P		P	09 50 43.5	-1.6
	baz=278							
GHO	Glory Hole Cre	24.28	57	IAmb		IAmb	09 50 60.0	
	comp=Z,26nm,0.9s							
SEW	Seward	24.30	61	IAmb		IAmb	09 50 58.6	
	comp=Z,74nm,1.6s							
SEW	Seward	24.30	61	P		P	09 50 44.6	-1.4
	baz=281							
E24K	Your Creek	24.34	42	P		P	09 50 46.1	-0.2
	baz=264,SNR=42							
D24K	Happy Valley	24.35	39	P		P	09 50 46.1	-0.2
	baz=262,SNR=19							
WRH	Wood River Hil	24.41	51	IAmb		IAmb	09 51 03.9	
	comp=Z,47nm,1.0s							
H24K	Noodor Dome	24.46	47	IAmb		IAmb	09 50 59.9	
	comp=Z,28nm,1.0s							
H24K	Noodor Dome	24.46	47	P		P	09 50 47.4	-0.1
	baz=270,SNR=17							
C24K	Franklin Bluff	24.48	38	P		P	09 50 46.5	-1.0
	baz=260							
COLA	College	24.49	50	P		P	09 50 47.7	+0.1
COLA	College	24.49	50	*ce*P		P	09 50 47.4	-0.2
COLA				pmax		pmax		
	comp=Z,66nm,1.0s							
COLA	College	24.49	50	P		P	09 50 47.1	-0.5
	baz=272							
CCB	Clear Creek Bu	24.52	50			P	09 50 47.8	-0.1
F24K	Squaw Lake	24.52	43			P	09 50 47.8	-0.1
F24K	Squaw Lake	24.52	43	P		P	09 50 47.8	-0.1
	baz=266,SNR=8.1							
KNK	Knik Glacier	24.55	58	P		P	09 50 48.5	+0.2
KNK				IAmb		IAmb	09 51 00.8	
	comp=Z,46nm,1.1s							
KNK	Knik Glacier	24.55	58	P		P	09 50 47.5	-0.8
	baz=279,SNR=7.3							
G24K	Hadweenzic Riv	24.64	45	P		P	09 50 49.1	+0.1
	baz=268,SNR=44							
POKR	Poker Plat Res	24.66	49	P		P	09 50 49.2	+0.1
POKR	Poker Plat Res	24.66	49	P		P	09 50 48.8	-0.4
	baz=272,SNR=5.6							
PWL	Port Wells	24.71	59	P		P	09 50 48.3	-1.3
	baz=280,SNR=25							
M23K	Glacier View	24.84	57	P		P	09 50 50.3	-0.5
	baz=279,SNR=11							
HDA	Harding Lake	24.90	51	IAmb		IAmb	09 51 03.5	
	comp=Z,33nm,0.9s							
HDA	Harding Lake	24.90	51	P		P	09 50 50.2	-1.2
	baz=274,SNR=11							
ILAR	Eielson Array	24.91	50			P	09 50 51.1	-0.3
ILAR	Eielson Array	24.91	50	P		P	09 50 50.8	-0.7
	comp=Z,7.6nm,0.8s,baz=264,slow=8.1,SNR=64							
ILAR				LR		LR	10 01 14.0	
	comp=Z,572nm,18.6s,baz=244,slow=38							
	comp=Z,7.6nm,0.8s							
SCM	Sheep Creek Mo	25.02	57	P		P	09 50 52.1	-0.5
	baz=279,SNR=25							
G25K	Bearman Lake	25.19	45	P		P	09 50 53.7	-0.2
	baz=270,SNR=10							
BNX	BinXian	25.20	261	⇑P		P	09 50 51.8	-2.4
BNX				PcP		PcP	09 54 27.0	-0.3
BNX				S		S	09 55 19.5	+1.1
BNX				sS		pS	09 55 24.3	+0.8
BNX				pmax		pmax		
	comp=Z,20nm,1.1s							
BNX				pmax		pmax		
	comp=Z,76nm,4.3s							
BNX				LR		LR		
	comp=Z,410nm,11.3s							
BNX				LR		LR		
	comp=Z,500nm,15.7s							
BNX				LR		LR		
	comp=Z,770nm,11.6s							
D25K	Kavik River	25.24	39	P		P	09 50 54.2	-0.1
D25K	Kavik River	25.24	39	P		P	09 50 53.7	-0.7
	baz=264,SNR=41							
GLI	Glacier Island	25.30	59	P		P	09 50 54.0	-0.9
	baz=281							
H25L	Birch Creek	25.30	46	P		P	09 50 54.7	-0.2
	baz=271,SNR=6.1							
P23K	Montague Islan	25.33	61	P		P	09 50 54.7	-0.6
	baz=283							
F25K	Christian Rive	25.39	43	IAmb		IAmb	09 51 09.3	
	comp=Z,43nm,1.0s							
F25K	Christian Rive	25.39	43	P		P	09 50 56.2	+0.4
	baz=268,SNR=33							
PRP	Porcupine Dome	25.45	48	P		P	09 50 56.0	-0.4
	baz=273,SNR=8.7							
K24K	Donnelly Dome	25.47	52	IAmb		IAmb	09 51 08.1	
	comp=Z,43nm,1.1s							
K24K	Donnelly Dome	25.47	52	P		P	09 50 56.5	0.0
	baz=276,SNR=7.8							
M24K	Tolsona, Glenn	25.52	56	P		P	09 50 57.0	0.0
	baz=279							
J25K	Salcha River,	25.57	50	IAmb		IAmb	09 51 09.2	
	comp=Z,35nm,0.9s							
J25K	Salcha River,	25.57	50	P		P	09 50 56.1	-1.3
	baz=275,SNR=12							
FID	Port Fidalgo	25.62	59	IAmb		IAmb	09 51 11.0	
	comp=Z,23nm,0.8s							
HIN	Hinchinbrook I	25.68	60	IAmb		IAmb	09 51 15.3	
	comp=Z,26nm,0.9s							
PAX	Paxson	25.71	54	IAmb		IAmb	09 51 15.2	
	comp=Z,33nm,1.2s							
PAX	Paxson	25.71	54	P		P	09 50 57.9	-0.8
	baz=278,SNR=10							
KLU	Klutina	25.74	57	IAmb		IAmb	09 51 11.8	
	comp=Z,39nm,1.0s							
KLU	Klutina	25.74	57	P		P	09 50 59.0	0.0
	baz=281,SNR=12							
BMAR	Burnt Mountain	25.79	44			P	09 51 00.1	+0.7
C26K	Camden Bay	25.81	38	P		P	09 50 59.9	+0.4
	baz=264,SNR=11							
DIV	Divide	25.88	58	P		P	09 51 00.1	-0.2
DIV				IAmb		IAmb	09 51 11.2	
	comp=Z,30nm,1.1s							
RIDG	Independent Ri	25.89	52	IAmb		IAmb	09 51 13.2	
	comp=Z,26nm,0.8s							
RIDG	Independent Ri	25.89	52	P		P	09 50 59.1	-1.2
	baz=277,SNR=12							
HARP	HAARP	25.94	55	P		P	09 51 00.4	-0.4
	baz=279							
F26K	Sheenjek River	25.96	43	P		P	09 51 00.8	-0.2
	baz=269,SNR=14							
Q23K	Middleton Isla	25.99	62	P		P	09 51 00.6	-0.5
	baz=285							
EYAK	Cordova Ski Ar	26.02	60	IAmb		IAmb	09 51 14.3	
	comp=Z,26nm,1.0s							
EYAK	Cordova Ski Ar	26.02	60	P		P	09 51 01.1	-0.4
	baz=283							
G26K	Porcupine Rive	26.10	45	IAmb		IAmb	09 51 15.7	
	comp=Z,24nm,0.8s							
G26K	Porcupine Rive	26.10	45	P		P	09 51 02.3	+0.1
	baz=271,SNR=28							
C27K	Jago River	26.20	39	IAmb		IAmb	09 51 21.0	
	comp=Z,23nm,0.8s							
C27K	Jago River	26.20	39	P		P	09 51 02.8	-0.3
	baz=266,SNR=21							
SCRK	Sand Creek	26.24	52	IAmb		IAmb	09 51 14.3	
	comp=Z,26nm,0.9s							
SCRK	Sand Creek	26.24	52	P		P	09 51 02.4	-1.2
	baz=277,SNR=31							
N25K	Chitina, Valde	26.34	57	P		P	09 51 04.0	-0.5
	baz=281,SNR=11							
J26L	Joseph Creek	26.36	50	P		P	09 51 03.8	-0.9
	baz=276							
MJB9	Matsu-Tunnel	26.39	233	P		P	09 51 05.2	+0.1
MAJO	Matsushiro	26.39	233			P	09 51 05.1	0.0
MAJO	Matsushiro	26.39	233	P		P	09 51 05.1	0.0
MAJO				pmax		pmax		
	comp=Z,66nm,0.9s							
MJAR	Matsushiro Arr	26.39	233	P		P	09 51 04.8	-0.3
MJAR				IAmb		IAmb	09 51 06.5	
	comp=Z,25nm,1.2s							
MJAR	Matsushiro Arr	26.39	233	P		P	09 51 05.3	+0.2
	comp=Z,39nm,1.0s,baz=15,slow=8.6,SNR=75							
MJAR				LR		LR	10 02 09.4	
	comp=Z,1μm,20.7s,baz=38,slow=38							
	comp=Z,39nm,1.0s							
MJAR	Matsushiro Arr	26.39	233	P		P	09 51 04.8	-0.3
MJAR				pmax		pmax		
	comp=Z,25nm,1.2s							
I26K	Coal Creek Min	26.45	48	IAmb		IAmb	09 51 38.1	
	comp=Z,36nm,1.8s							
I26K	Coal Creek Min	26.45	48	P		P	09 51 05.6	+0.3
	baz=275							
BMRM	Bremner River	26.47	58	IAmb		IAmb	09 51 18.4	
	comp=Z,42nm,1.0s							
BMRM	Bremner River	26.47	58	P		P	09 51 05.3	-0.4
	baz=283,SNR=16							
MENT	Mentasta	26.50	54	IAmb		IAmb	09 51 24.2	
	comp=Z,19nm,0.8s							
RAGM	Ragged Mountai

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comp=Z,458nm,20.1s,baz=36,slow=38
KIRV Kirov 54.35 324 *de*P **P 09 54 55.0 +0.2**
BTLS Baital 54.36 299 *e*P **P 09 54 54.9 -0.2**
BTLS Baital 54.36 299 *e*P **P 09 54 54.9 -0.2**
TNSS Tian-Shan 54.38 296 *e*P **P 09 54 55.6 -0.2**
TNSS Tian-Shan 54.38 296 *e*P **P 09 54 55.6 -0.2**
SFJD Kangerlussuaq 54.39 16 LR LR 10 20 43.1
comp=Z,410nm,18.2s,baz=340,slow=39
WCT Wildcat Mounta 54.57 75 IAmb IAmb 09 54 59.1
comp=Z,19nm,1.7s
TPNV Topopah Spring 54.66 75 IAmb IAmb 09 55 17.8
comp=Z,13nm,1.1s
QIZ Qiongzhong 54.83 250 P **P 09 54 57.3 -1.6**
QIZ S **S 10 02 43.8 +4.8**
QIZ LR LR
comp=Z,660nm,13.7s
QIZ LR LR
comp=Z,2μm,11.0s
MPU Maple Canyon 54.86 69 IAmb IAmb 09 55 11.8
comp=Z,16nm,1.5s
PRN Pahroc Range 54.96 74 IAmb IAmb 09 55 02.2
comp=Z,9.8nm,0.8s
GWY Greenwater Val 54.99 76 IAmb IAmb 09 55 26.7
comp=Z,13nm,1.0s
QSM Queen of Sheba 55.05 76 IAmb IAmb 09 55 15.5
comp=Z,18nm,1.2s
SGDS Sogindy 55.23 298 *e*P **P 09 55 01.8 +0.2**
comp=Z,13nm,1.2s
TCRU Three Creeks R 55.46 71 IAmb IAmb 09 55 07.4
comp=Z,8.0nm,0.5s
E28A Huff 55.47 57 IAmb IAmb 09 55 05.0
comp=Z,17nm,0.9s
KLMR Klimovskoe 55.48 331 *e*P **P 09 55 02.2 -0.8**
KLMR pmax pmax
comp=Z,26nm,1.2s
KLMR MLR MLR
comp=Z,356nm,14.0s
K22A Casper 55.54 63 IAmb IAmb 09 55 15.8
comp=Z,16nm,1.4s
GSC Goldstone, Bar 55.58 77 IAmb IAmb 09 55 19.3
comp=Z,17nm,1.1s
TMUT Trail Mountain 55.61 69 IAmb IAmb 09 55 06.8
comp=Z,9.7nm,0.8s
RSSD Black Hills 55.69 61 P **P 09 55 05.2 +0.2**
RSSD IAmb IAmb 09 55 06.3
comp=Z,8.9nm,0.8s
RSSD Black Hills 55.69 61 P **P 09 55 05.2 +0.2**
RSSD pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 55.90 297 LR LR 10 18 43.4
comp=Z,493nm,21.1s,baz=52,slow=36
AAK Ala-Archa 55.90 297‖ *e*P **P 09 55 07.0 +0.5**
AAK pmax pmax
comp=Z,12nm,1.0s
TNCH TengChong 56.18 265 P **P 09 55 09.8 +1.1**
TNCH pP pP 09 55 13.8 +0.5
TNCH S **S 10 02 57.8 +0.6**
TNCH pmax pmax
comp=Z,21nm,0.6s
TNCH pmax pmax
comp=Z,170nm,4.3s
TNCH LR LR
comp=Z,950nm,15.4s
TNCH LR LR
comp=Z,990nm,15.6s
TNCH LR LR
comp=Z,550nm,15.9s
EPLO Experimental L 56.28 50 IAmb IAmb 09 55 09.4
comp=Z,12nm,0.9s
AGMN Agassiz Nation 56.39 52 IAmb IAmb 09 55 10.8
comp=Z,10nm,0.8s
PKCU Pink Cliffs 56.40 72 IAmb IAmb 09 56 07.7
comp=Z,24nm,1.4s
PFO Pinyon Flats O 57.03 78 LR LR 10 17 09.0
comp=Z,181nm,20.2s,baz=301,slow=33
U15A North Rim 57.17 72 IAmb IAmb 09 55 31.4
comp=Z,27nm,1.9s
DZA Taraz 57.27 299 *e*P **P 09 55 16.3 +0.3**
DZA Taraz 57.27 299 *e*P **P 09 55 16.3 +0.3**
W13A Hualapai Mount 57.31 75 IAmb IAmb 09 55 32.0
comp=Z,18nm,1.7s
IRM Iron Mountain 57.34 76 IAmb IAmb 09 55 32.1
comp=Z,16nm,1.3s
PV23 Carpenter Ridg 57.38 69 IAmb IAmb 09 55 19.2
comp=Z,16nm,0.9s
PV22 Blue Mesa, Par 57.44 68 IAmb IAmb 09 55 38.5
comp=Z,11nm,0.9s
PV04 Paradox Valley 57.48 69 IAmb IAmb 09 55 19.9
comp=Z,13nm,0.9s
PV20 West Nyswonger 57.49 69 IAmb IAmb 09 55 44.0
comp=Z,14nm,0.9s
PV19 Morning Glory 57.50 69 IAmb IAmb 09 55 20.0
comp=Z,26nm,1.3s
KKAR Karatay Array 57.51 300 P **P 09 55 17.5 -0.2**
KKAR Karatay Array 57.51 300 P **P 09 55 17.5 -0.2**
AKTO Aktyubinsk 57.53 313 LR LR 10 20 57.5
comp=Z,574nm,18.0s,baz=32,slow=37
PV16 Nyswonger Mesa 57.54 69 IAmb IAmb 09 55 48.2
comp=Z,15nm,1.0s
PV17 East Wray Mesa 57.54 69 IAmb IAmb 09 55 20.2
comp=Z,15nm,1.0s
PV11 David Mesa, Pa 57.57 69 IAmb IAmb 09 55 49.4
comp=Z,12nm,0.8s
PV07 Paradox Valley 57.58 68 IAmb IAmb 09 55 36.9
comp=Z,8.5nm,0.8s
PV12 Saucer Basin, 57.59 68 IAmb IAmb 09 55 45.0
comp=Z,15nm,0.9s
PV03 Paradox Valley 57.61 69 IAmb IAmb 09 55 20.7
comp=Z,9.4nm,1.0s
PV05 Paradox Valley 57.62 69 IAmb IAmb 09 55 20.8
comp=Z,12nm,0.8s
AB31 Akbulak array 57.64 311 P **P 09 55 18.1 -0.4**
AB31 IAmb IAmb 09 55 19.5
comp=Z,20nm,1.2s
ABKAR Akbulak array 57.64 311 P **P 09 55 17.8 -0.7**
PV13 Radium Mtn., P 57.70 69 IAmb IAmb 09 55 21.4
comp=Z,11nm,1.0s
PV15 Paradox Valley 57.74 68 IAmb IAmb 09 55 49.0
comp=Z,14nm,1.1s
PV01 Paradox Valley 57.85 68 IAmb IAmb 09 56 00.9
comp=Z,24nm,1.8s
BRLS Boroldav 57.89 300 *e*P **P 09 55 22.0 +1.6**
BRLS Boroldav 57.89 300 *e*P **P 09 55 22.1 +1.6**
F33A 5 Mile Ranch, 58.05 54 IAmb IAmb 09 55 22.7
comp=Z,26nm,1.4s
FINES FINESS Array B 58.22 338 P **P 09 55 21.3 -1.1**
comp=Z,3.8nm,0.9s,baz=19,slow=8.1,SNR=4.9
FINES LR LR 10 23 46.0
comp=Z,257nm,18.1s,baz=44,slow=40
comp=Z,3.8nm,0.9s
FINES FINESS Array B 58.22 338 *i* P **P 09 55 26.0 +3.6**
FINES pmax pmax
comp=Z,3.0nm,0.9s
IUG luznay 58.46 300 *e*P **P 09 55 24.9 +0.4**
IUG pmax pmax
comp=Z,14nm,1.2s
IUG luznay 58.46 300 *e*P **P 09 55 24.9 +0.4**
comp=Z,14nm,1.2s
CHM Chimkent 58.54 300 *e*P **P 09 55 25.1 +0.2**
CHM pmax pmax
comp=Z,15nm,0.9s
CHM Chimkent 58.54 300 *e*P **P 09 55 25.1 +0.2**
comp=Z,15nm,0.9s
EYMN Ely 58.55 50 IAmb IAmb 09 55 25.9
comp=Z,13nm,0.8s
TBO Thunder Bay 58.89 48 IAmb IAmb 09 55 27.8
comp=Z,14nm,1.1s
BORG Borgarnes 59.32 3 LR LR 10 20 17.1
comp=Z,62nm,21.4s,baz=353,slow=35
X18A Snowflake 59.85 72 IAmb IAmb 09 55 54.6
comp=Z,7.7nm,1.0s
BELG Belogornoye 59.92 321 P **P 09 55 33.8 -0.5**
comp=Z,47nm,0.9s,baz=20,slow=2.0,SNR=15
BELG LR LR 10 24 37.5
comp=Z,303nm,18.7s,baz=42,slow=39
comp=Z,47nm,0.9s
BELG Belogornoye 59.92 321 *de*P **P 09 55 34.2 -0.1**
BELG pmax pmax
comp=Z,11nm,1.0s
SPMN Marine on St. 60.09 53 IAmb IAmb 09 55 36.5
comp=Z,8.6nm,0.6s
EVN Everest 60.43 277 P **P 09 55 38.2 -0.7**
EVN IAmb IAmb 09 55 45.5
comp=Z,8.2nm,0.6s
GAR Garm 60.72 297 P **P 09 55 40.0 -0.1**
CHTO Chiang Mai 60.90 260 P **P 09 55 41.0 -0.4**
CHTO IAmb IAmb 09 55 42.3
comp=Z,16nm,1.3s
CHTO Chiang Mai 60.90 260 P **P 09 55 41.1 -0.4**
CHTO pmax pmax
comp=Z,17nm,1.3s
COWI Conover 61.00 50 IAmb IAmb 09 55 42.3
comp=Z,20nm,1.5s
CMAR Chiang Mai Arr 61.19 260 P **P 09 55 42.6 -0.8**
CMAR Chiang Mai Arr 61.19 260 P **P 09 55 44.0 +0.5**
comp=Z,5.3nm,0.8s,baz=19,slow=6.8,SNR=19
CMAR LR LR 10 23 26.4
comp=Z,539nm,18.8s,baz=50,slow=37
comp=Z,5.3nm,0.8s
CMAR Chiang Mai Arr 61.19 260 P **P 09 55 42.6 -0.8**
OBN Obninsk 61.20 329 LR LR 10 24 17.6
comp=Z,346nm,18.2s,baz=324,slow=38
OBN Obninsk 61.20 329‖ *e*P **P 09 55 42.7 -0.2**
OBN *e* 09 55 53.5
OBN 09 56 27.0
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN MLR MLR
comp=Z,324nm,17.0s
NB2 NORSAR Subarra 61.22 345 P **P 09 55 42.3 -0.8**
comp=Z,1.5nm,0.6s,baz=18,slow=6.9
NOA NORSAR Array B 61.22 345 P **P 09 55 42.6 -0.4**
comp=Z,2.7nm,0.7s,baz=18,slow=6.9,SNR=9.9
NOA LR LR 10 26 41.0
comp=Z,120nm,18.2s,baz=15,slow=40
comp=Z,2.7nm,0.7s
ANMO Albuquerque 61.37 69 P **P 09 55 45.3 +0.5**
ANMO Albuquerque 61.37 69 LR LR 10 22 01.8
comp=Z,138nm,18.6s,baz=58,slow=36
ANMO Albuquerque 61.37 69‖ *e*P **P 09 55 45.8 +1.0**
ANMO pmax pmax
comp=Z,3.0nm,0.8s
JAY Jayapura 61.60 207 LR LR 10 17 47.4
comp=Z,86nm,22.0s,baz=14,slow=32
HFS Hagfors 61.72 344 P **P 09 55 45.8 -0.6**
comp=Z,4.1nm,0.8s,baz=15,slow=6.2,SNR=9.0
HFS LR LR 10 23 49.9
comp=Z,268nm,20.7s,baz=23,slow=37
comp=Z,4.1nm,0.8s
SCHQ Schefferville 61.75 31 P **P 09 55 45.5 -1.3**
comp=Z,5.9nm,0.8s,baz=347,slow=7.8,SNR=8.3
SCHQ LR LR 10 26 08.8
comp=Z,210nm,18.2s,baz=319,slow=40
comp=Z,5.9nm,0.8s
Y22D IRIS PASSCAL I 61.80 70 P **P 09 55 48.0 +0.4**
baz=321
BRDH Bariadhala 61.87 269 LR LR 10 24 47.8
comp=Z,365nm,18.9s,baz=68,slow=38
Y22A Socorro 61.88 70 IAmb IAmb 09 56 09.3
comp=Z,10nm,1.2s
KSU1 Kansas State U 63.11 59 P **P 09 55 55.5 -0.5**
L40A Anamosa 63.29 54 IAmb IAmb 09 55 57.0
comp=Z,8.1nm,0.7s
MSTX Muleshoe 64.05 67 IAmb IAmb 09 56 03.6
comp=Z,7.0nm,0.9s
MNK Minsk 64.08 333 *i* P **P 09 56 01.9 -0.3**
MNK *i* 09 56 36.2
MNK *i* 09 58 22.2
MNK *i* PPP PPP 09 59 52.4
MNK *i* S **S 10 04 38.8 +1.2**
MNK pmax pmax
comp=E,15nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.9s
MNK pmax pmax
comp=N,11nm,0.8s
MNK MLR MLR
comp=N,656nm,17.0s
MNK MLR MLR
comp=E,534nm,16.0s
MNK MLR MLR
comp=Z,407nm,16.0s
SMWD Samnorwood 64.45 65 IAmb IAmb 09 56 06.2
comp=Z,8.3nm,0.9s
MNTX Cornudas Mount 64.46 71 IAmb IAmb 09 56 07.1
comp=Z,6.0nm,0.8s
P40A Paris 64.93 56 IAmb IAmb 09 56 08.4
comp=Z,10.0nm,0.9s
POST Post 65.41 67 IAmb IAmb 09 56 12.4
comp=Z,9.2nm,0.8s
HNR Honiara 65.47 185 LR LR 10 20 24.0
comp=Z,206nm,20.1s,baz=32,slow=32
APMT Aspermont 65.91 66 IAmb IAmb 09 56 15.2
comp=Z,11nm,0.9s
MNHN Monahans 66.12 69 IAmb IAmb 09 56 17.1
comp=Z,5.8nm,0.7s
SADO Sadowa 66.17 44 LR LR 10 26 47.7
comp=Z,278nm,18.3s,baz=346,slow=38
CCM Cathedral Cave 66.48 56 P **P 09 56 17.6 -0.4**
CCM IAmb IAmb 09 56 18.4
comp=Z,6.6nm,0.8s
CCM Cathedral Cave 66.48 56 P **P 09 56 17.6 -0.4**
CCM pmax pmax
comp=Z,7.0nm,0.9s
SGCY Sterling City 66.51 68 P **P 09 56 18.8 +0.4**
SGCY IAmb IAmb 09 56 19.4
comp=Z,7.8nm,0.8s
HHAR Hobbs 66.63 60 IAmb IAmb 09 56 19.0
comp=Z,6.7nm,0.7s
TRQ Mont Tremblant 66.67 40 IAmb IAmb 09 56 18.9
comp=Z,7.1nm,0.8s
ABTX Abilene, Hawle 66.71 66 IAmb IAmb 09 56 20.6
comp=Z,13nm,0.9s
MGMO Mountain Grove 66.73 58 IAmb IAmb 09 56 19.5
comp=Z,9.2nm,0.7s
PMG Port Moresby 66.89 198 LR LR 10 20 18.8
comp=Z,145nm,21.0s,baz=342,slow=31
AK04 Malin Array Si 67.17 331 P **P 09 56 21.6 -0.6**
AKASG Malin Array Be 67.17 331 P **P 09 56 21.6 -0.7**
comp=Z,3.9nm,0.7s,baz=30,slow=6.4,SNR=11
AKASG LR LR 10 30 12.1
comp=Z,388nm,18.6s,baz=26,slow=40
comp=Z,3.9nm,0.7s
AKBB Malin Array Si 67.17 331 P **P 09 56 21.9 -0.3**
KIEV Kiev 67.18 331 P **P 09 56 21.9 -0.4**
comp=Z,40nm,1.4s
AK20 Malin Array Si 67.19 331 P **P 09 56 21.7 -0.7**
AK18 Malin Array Si 67.20 331 P **P 09 56 21.7 -0.7**
AK19 Malin Array Si 67.21 331 P **P 09 56 21.9 -0.6**
AK02 Malin Array Si 67.22 331 P **P 09 56 22.1 -0.4**
TX31 Lajitas Ar. Si 67.23 71 IAmb IAmb 09 56 24.8
comp=Z,8.2nm,0.8s
TXAR Lajitas Array 67.23 71 P **P 09 56 23.6 +0.5**
TXAR Lajitas Array 67.23 71 P **P 09 56 23.8 +0.8**
comp=Z,5.5nm,0.7s,baz=298,slow=4.3,SNR=106
comp=Z,5.5nm,0.7s
TXAR Lajitas Array 67.23 71 P **P 09 56 23.6 +0.5**
PLPT Palo Pinto 67.24 65 IAmb IAmb 09 56 23.6
comp=Z,8.7nm,0.7s
RNPP5 Staryi Chortor 67.57 333 P **P 09 56 24.9 +0.2**
S44A Carbondale 67.70 55 IAmb IAmb 09 56 26.0
comp=Z,9.0nm,0.7s
SIUC Southern Illin 67.70 55 IAmb IAmb 09 56 26.9
comp=Z,9.0nm,0.7s
SBUM Sibu 67.77 238 P **P 09 56 26.0 -0.5**
LPIG La Paz 67.79 80 LR LR 10 24 03.6
comp=Z,78nm,18.9s,baz=356,slow=34
FCAR Ozark Folk Cen 67.82 58 P **P 09 56 25.6 -1.0**
FCAR IAmb IAmb 09 56 26.4
comp=Z,10.0nm,0.9s
PBMO Poplar Bluff 67.90 57 IAmb IAmb 09 56 27.4
comp=Z,8.5nm,0.7s
E62A Clayton Lake 68.08 37 P **P 09 56 27.7 -0.3**
MIAR Mount Ida 68.20 60 IAmb IAmb 09 56 29.9
comp=Z,7.1nm,0.8s
WHAR Wooly Hollow 68.22 59 IAmb IAmb 09 56 29.5
comp=Z,8.5nm,0.8s
LUBAR Lubar, Ukraine 68.28 331 P **P 09 56 28.4 -0.8**
EKA Eskdalemuir Ar 68.38 352 P **P 09 56 30.1 +0.3**
comp=Z,1.6nm,0.6s,baz=3.5,slow=5.4,SNR=5.2
comp=Z,1.6nm,0.6s
WCI Wyandotte Cave 68.60 53 P **P 09 56 30.9 -0.5**
WCI IAmb IAmb 09 56 31.6
comp=Z,7.3nm,0.8s
WCI Wyandotte Cave 68.60 53 P **P 09 56 30.9 -0.5**
WCI pmax pmax
comp=Z,7.0nm,0.8s
X40A Basin Creek Fa 68.61 60 IAmb IAmb 09 56 32.1
comp=Z,6.3nm,0.9s
KVAR Kislovodsk Arr 68.80 319 LR LR 10 28 19.7
comp=Z,386nm,19.0s,slow=37
KBZ Khabaz 68.92 318 P **P 09 56 33.9 +0.6**
comp=Z,5.3nm,0.8s,baz=82,slow=2.5,SNR=9.5
KBZ LR LR 10 29 58.3
comp=Z,458nm,21.9s,baz=34,slow=39
comp=Z,5.3nm,0.8s
KBZ Khabaz 68.92 318‖ *e*P **P 09 56 34.2 +0.9**
AKT Akhty 68.97 314 *e*P **P 09 56 31.4 -2.4**
AKT *e* 09 56 57.5
O52A Adamsville 68.97 49 IAmb IAmb 09 56 33.6
comp=Z,12nm,0.9s
P52A Corning 69.25 49 IAmb IAmb 09 56 35.4
comp=Z,8.0nm,0.7s
T47A Sharon Grove 69.26 54 IAmb IAmb 09 56 36.1
comp=Z,6.7nm,0.7s
NDNU Novodnistrovsk 69.59 331 P **P 09 56 37.2 -0.2**
WVT Waverly 69.63 55 P **P 09 56 37.9 +0.1**
WVT IAmb IAmb 09 56 38.6
comp=Z,8.1nm,0.8s
WVT Waverly 69.63 55 P **P 09 56 37.9 +0.1**
WVT pmax pmax
comp=Z,8.0nm,0.9s
KWP Kalwaria Pacla 69.83 335 P **P 09 56 39.4 +0.5**
comp=Z,25nm,1.7s
KMPD K-Podol'skiy 69.87 332 P **P 09 56 38.4 -0.7**
OJC Ojcow 69.95 337 P **P 09 56 39.9 +0.3**
comp=Z,11nm,1.3s
STNU Starunia 70.24 333 P **P 09 56 41.3 -0.1**
T50A Nancy 70.25 53 IAmb IAmb 09 56 42.0
comp=Z,14nm,1.5s
CLL Collm 70.28 341 *i* P **P 09 56 41.4 -0.2**
CLL Collm 70.28 341 *i* P **P 09 56 41.4 -0.2**
CLL *e*PPP PPP 10 01 00.0
CLL *e*SS SS 10 10 21.0 -0.4
Q54A Coxs Mills 70.34 49 IAmb IAmb 09 56 42.6
comp=Z,25nm,1.6s
STHS Stebnicka Huta 70.37 335 *e*P **P 09 56 45.6 +3.4**
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS Stebnicka Huta 70.37 335 *e*P **P 09 56 45.6 +3.4**
DPC Dobruska-Polom 70.56 339 P **P 09 56 43.7 +0.3**
comp=Z,6.5nm,1.2s
MORC Moravsky Berou 70.86 338 *e*P **P 09 56 45.2 0.0**
KAPI Kappang 71.05 228 LR LR 10 29 06.4
comp=Z,43nm,19.6s,baz=40,slow=37
BURAR Bucovina Array 71.07 332 P **P 09 56 46.7 +0.1**
R55A Marlinton 71.23 49 IAmb IAmb 09 56 48.1
comp=Z,8.7nm,1.0s
SWET Sewanee 71.25 54 IAmb IAmb 09 56 47.9
comp=Z,9.6nm,0.7s
GNI Garni 71.29 315 P **P 09 56 47.6 -0.5**
comp=Z,3.0nm,0.3s,baz=114,slow=6.0,SNR=3.9
GNI LR LR 10 31 46.6
comp=Z,575nm,20.0s,baz=34,slow=39
comp=Z,3.0nm,0.3s
X48A Hartselle 71.38 56 IAmb IAmb 09 56 48.7
comp=Z,18nm,1.6s
VRAC Vranov 71.50 338 *e*P **P 09 56 49.7 +0.6**
VRAC Vranov 71.50 338 LR LR 10 30 49.3
comp=Z,191nm,21.8s,baz=23,slow=38
JAVC Velka Javorina 71.70 338 *e*P **P 09 56 52.2 +1.9**
KRUC Moravsky 71.77 338 *e*P **P 09 56 51.2 +0.5**
VYHS Vyhne 71.79 337 *e*P **P 09 56 51.3 +0.5**
VYHS pmax pmax
comp=Z,6.0nm,1.2s
VYHS Vyhne 71.79 337 *e*P **P 09 56 51.3 +0.5**
TKL Tuckaleechee C 71.86 53 LR LR 10 29 32.9
comp=Z,468nm,20.2s,baz=336,slow=37
S57A Dark Hollow, R 72.16 48 IAmb IAmb 09 56 53.7
comp=Z,7.4nm,0.8s
Y49A Blount Mountai 72.16 56 IAmb IAmb 09 56 53.5
comp=Z,9.6nm,0.7s
KHC Kasperske Hory 72.26 340 *e*P **P 09 56 54.0 +0.4**
KHC Kasperske Hory 72.26 340‖ *e*P **P 09 56 54.1 +0.4**
KHC pmax pmax
comp=Z,9.0nm,1.8s
GERES GERESS Array B 72.51 340 P **P 09 56 55.0 -0.3**
comp=Z,1.2nm,0.8s,baz=336,slow=2.9,SNR=5.0
GERES LR LR 10 32 42.4
comp=Z,269nm,18.4s,baz=20,slow=39
comp=Z,1.2nm,0.8s
GERES GERESS Array B 72.51 340 P **P 09 56 55.0 -0.3**
BG3 Lake Jocassee 72.79 52 IAmb IAmb 09 56 57.6
comp=Z,7.7nm,0.8s
MLR Muntele Rosu 72.83 331 P **P 09 56 58.0 +0.7**
comp=Z,2.1nm,0.6s,baz=210,slow=1.5,SNR=1.8
MLR LR LR 10 32 28.3
comp=Z,390nm,19.5s,baz=28,slow=39
comp=Z,2.1nm,0.6s
MLR Muntele Rosu 72.83 331 P **P 09 56 58.0 +0.7**
TIRR Tirgusor 73.08 329 P **P 09 56 58.8 +0.3**
comp=Z,8.8nm,1.0s
VOIR 73.12 331 P **P 09 56 59.0 +0.1**
comp=Z,3.3nm,0.9s
KMSC Kings Mountain 73.37 51 IAmb IAmb 09 57 00.5
comp=Z,7.1nm,0.7s
HYB Hyderabad 73.39 276 *e*P **P 09 57 00.4 -0.3**
HODGE Hodges 73.73 52 IAmb IAmb 09 57 02.9
comp=Z,7.5nm,0.7s
V58A Windy Hill, Pi 73.77 49 IAmb IAmb 09 57 03.3
comp=Z,9.8nm,0.9s
250A Grady 73.79 57 IAmb IAmb 09 57 04.2
comp=Z,11nm,0.8s
W57A Gilead 73.94 50 IAmb IAmb 09 57 03.9
comp=Z,7.1nm,0.7s
352A Blakely 74.83 56 IAmb IAmb 09 57 09.4
comp=Z,10nm,0.7s
BR106 Keskin Array S 75.72 323 P **P 09 57 14.3 +0.1**
comp=Z,2.6nm,1.0s
BRTR Keskin Array B 75.72 323 P **P 09 57 14.5 +0.3**
BRTR Keskin Array B 75.72 323 P **P 09 57 14.2 -0.1**
comp=Z,1.5nm,0.8s,baz=66,slow=3.0,SNR=7.9
comp=Z,1.5nm,0.8s
BR105 Keskin Array S 75.74 323 P **P 09 57 14.4 +0.1**
comp=Z,41nmcomp=Z,2.6nm,1.1s
BR104 Keskin Array S 75.74 323 P **P 09 57 14.4 +0.1**
FDMO Fiordimonte 78.21 339 IAmb IAmb 09 57 55.8
comp=Z,11nm,1.1s
NRCA Norcia 78.40 339 P **P 09 57 28.7 -0.4**
NRCA IAmb IAmb 09 57 31.3
comp=Z,14nm,0.9s
TAOE Nuku Hiva Isla 79.28 124 *e*LR LR 10 22 03.6
comp=Z,379nm,33.0s
WRA Warramunga Arr 79.95 209 P **P 09 57 38.5 +0.9**
comp=Z,1.2nm,0.8s,baz=17,slow=5.8,SNR=7.8
WRA LR LR 10 31 05.0
comp=Z,102nm,22.0s,baz=358,slow=34
comp=Z,1.2nm,0.8s
MMAI Mount Meron Ar 81.12 319 LR LR 10 36 23.8
comp=Z,186nm,18.3s,baz=42,slow=38
ASF Jabal al Asfar 81.31 317 P **P 09 57 45.1 +0.1**
comp=Z,3.0nm,0.3s,baz=48,slow=5.1,SNR=3.6
ASF LR LR 10 39 36.8
comp=Z,212nm,18.7s,baz=62,slow=40
comp=Z,3.0nm,0.3s
CMIG Matias Romero 81.83 72 LR LR 10 35 41.1
comp=Z,71nm,19.0s,baz=319,slow=37
IDI Anoyia 82.57 328 LR LR 10 38 57.7
comp=Z,100nm,18.4s,baz=75,slow=39
RAR Rarotonga 82.85 147 LR LR 10 27 23.3
comp=Z,105nm,21.9s,baz=312,slow=30
PPT Papeete 83.04 136 LR LR 10 26 16.5
comp=Z,232nm,21.4s,baz=310,slow=30
PPT2 Papeete2 83.06 136 *e*LQ LQ 10 19 59.9
comp=Z,240nm,23.5s
PPT2 *e*LR LR 10 23 42.5
comp=Z,517nm,30.2s
PPT2 *e*LR LR 10 23 56.2
comp=Z,758nm,28.2s
ASAR Alice Springs 83.62 208 P **P 09 57 57.6 +0.8**
comp=Z,1.2nm,1.0s,baz=18,slow=4.8,SNR=6.3
comp=Z,1.2nm,1.0s
ESDC Sonseca Array 84.00 351 P **P 09 57 59.2 +0.3**
comp=Z,0.4nm,0.5s,baz=3.9,slow=5.7,SNR=4.3
comp=Z,0.4nm,0.5s
EIL Elat 84.29 317 LR LR 10 41 21.4
comp=Z,204nm,18.1s,baz=67,slow=40
RAYN Ar Rayn 85.32 306 P **P 09 58 04.7 -1.1**
RAYN Ar Rayn 85.32 306 P **P 09 58 04.7 -1.1**
RAYN pmax pmax
comp=Z,4.0nm,0.8s
KEST Kesra 86.00 340 LR LR 10 41 26.6
comp=Z,139nm,18.3s,baz=23,slow=39
TBI Tubuai 88.34 138 *e*LR LR 10 26 11.7
comp=Z,2μm,33.0s
STKA Stephens Creek 89.83 199 P **P 09 58 27.2 +0.3**
comp=Z,0.9nm,0.7s,baz=10,slow=11,SNR=3.2
STKA LR LR 10 34 43.7
comp=Z,85nm,19.8s,baz=16,slow=33
comp=Z,0.9nm,0.7s
JTS Las Juntas de 92.72 67 LR LR 10 42 27.6

comp=Z,86nm,22.0s,baz=308,slow=37
URZ Urewera 94.70 170 LR LR 10 38 09.6
comp=Z,72nm,18.6s,baz=0.5,slow=33
SJG San Juan 94.72 47 LR LR 10 42 38.3
comp=Z,115nm,21.9s,baz=340,slow=36
ATD Arta Tunnel 96.98 303 LR LR 10 49 08.7
comp=Z,9.1nm,18.6s,baz=356,slow=39
QSPA South Pole Qui 145.94 180 PKPbc **PKPdf 10 05 05.5 -0.5**
comp=Z,1.4nm,0.5s,baz=286,slow=1.5,SNR=19
SYO Syowa Base 152.65 220⇑*e*PKPdf **PKPdf 10 05 17.2 +0.7**

IDC 31 09:50:30.1±21.0, **38.96N**×70.56E, **h0**km, **mb4.4/1, mbtmp3.8/3, ML3.1/2, Error ellipse: s-maj=372.8km s-min=41.9km az=170.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**11.63**	**44**	Pn	Pn	09 53 18.1	+0.7
	0.1nm,0.3s,baz=227,slow=17,SNR=2.2						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**17.87**	**28**	P	Pn	09 54 38.9	-1.1
	0.4nm,0.3s,baz=223,slow=11,SNR=4.2						
	0.9nm,0.3s						
ARCES	**ARCESS Array B**	**38.75**	**337**	P	P	09 57 55.7	0.0
	6.3nm,1.2s,baz=115,slow=8.1,SNR=2.1						
	6.3nm,1.2s						

*NEIC **31** 09:55:27.3±1.8, 5.4S±0.1×146.6E±0.1, h131km±14km, mb4.0/13, Error ellipse: s-maj=16.3km s-min=14.8km az=63.0*
*IDC **31** 09:55:27.3±11.0, 5.31S×146.67E, h166km±111km, mb3.2/3, mbtmp3.9/5, Error ellipse: s-maj=123.9km s-min=22.2km az=102.0*

ISC 31 09:55:27.5±0.9, **5.45S**±0.08×**146.6E**±0.1, **h150**km, **n21**, σ1§**92**/**21**, **mb3.5/4, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.97**	**172**	Pn	**Pn**	**09 56 27.3**	**-0.1**
PMG	**Port Moresby**	**3.97**	**172**	S	**Sn**	**09 57 09.6**	**-4.4**
	22nm,0.5s,baz=155,slow=19,SNR=12						
RABL	**Rabaul**	**5.67**	**78**	Pn	**Pn**	**09 56 49.7**	**-0.1**
JAY	**Jayapura**	**6.57**	**296**	P	**Pn**	**09 57 01.6**	**-0.3**
	8.4nm,0.4s,baz=151,slow=6.8,SNR=18						
MTN	**Manton Dam**	**16.95**	**243**	P	**P**	**09 59 12.2**	**-3.1**
MTN				IAmb	IAmb	09 59 16.4	
	comp=Z,4.7nm,0.8s						
WB0	**Warramunga Arr**	**18.55**	**219**	P	**P**	**09 59 33.1**	**+0.3**
WB0				IAmb	IAmb	09 59 36.1	
	comp=Z,6.1nm,1.1s						
WR8	**Warramunga Arr**	**18.62**	**218**	P	**P**	**09 59 34.1**	**+0.4**
WR8				IAmb	IAmb	09 59 34.6	
	comp=Z,5.6nm,0.7s						
WRAB	**Tennant Creek**	**18.70**	**219**	P	**P**	**09 59 34.6**	**+0.1**
WRAB				IAmb	IAmb	09 59 35.2	
	comp=Z,5.7nm,0.8s						
WRA	**Warramunga Arr**	**18.71**	**219**	P	**P**	**09 59 34.0**	**-0.7**
WRA	**Warramunga Arr**	**18.71**	**219**	P	**P**	**09 59 35.1**	**+0.4**
	comp=Z,2.8nm,0.4s,baz=38,slow=12,SNR=40						
KNRA	**Kununurra**	**20.26**	**239**	P	**P**	**09 59 53.6**	**+2.3**
KNRA				IAmb	IAmb	09 59 57.4	
	comp=Z,8.0nm,1.1s						
EIDS	**Eidsvold**	**20.27**	**168**	P	**P**	**09 59 52.4**	**+1.1**
EIDS				IAmb	IAmb	09 59 53.0	
	comp=Z,6.9nm,0.9s						
AS31	**Alice Springs**	**21.86**	**213**	P	**P**	**10 00 08.7**	**+0.3**
ASAR	**Alice Springs**	**21.86**	**213**	P	**P**	**10 00 08.4**	**0.0**
	comp=Z,1.1nm,0.5s,baz=46,slow=8.1,SNR=27						
	comp=Z,1.1nm,0.5s						
INKA	**Innaminka**	**22.86**	**193**	P	**P**	**10 00 18.5**	**+0.5**
ARMA	**Armidale**	**25.29**	**170**	P	**P**	**10 00 43.3**	**+3.1**
STKA	**Stephens Creek**	**26.71**	**190**	P	**P**	**10 00 52.5**	**-0.4**
STKA	**Stephens Creek**	**26.71**	**190**	P	**P**	**10 00 52.2**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=345,slow=12,SNR=1.9						
	comp=Z,1.0nm,0.7s						
FORT	**Forrest**	**30.65**	**212**	P	**P**	**10 01 27.7**	**-0.1**
SBA	**Scott Base**	**73.14**	**176**	P	**P**	**10 06 44.8**	**+3.7**
SBA				IAmb	IAmb	10 06 45.0	
	comp=Z,1.4nm,0.5s						
ILAR	**Eielson Array**	**85.13**	**23**	P	**P**	**10 07 43.9**	**-2.5**
	comp=Z,0.4nm,0.6s,baz=251,slow=4.8,SNR=6.2						
	comp=Z,0.4nm,0.6s						

*UCR **31** 09:56:54.5±1.3, 8.32N×82.86W, h17km±3km, MW3.7*
*UPA **31** 09:56:55.2±1.5, 8.42N×82.85W, h16km±2km, ML3.4, MW3.9*
*CATAC **31** 09:56:55.6±0.5, 8°N±3'×8°3'W±', h10km±1km, M3.6/13, MLv3.6/13, Error ellipse: s-maj=7.1km s-min=4.1km az=1.8, confirmed*

ISC 31 09:56:54.3±0.8, **8.38N**±0.02×**82.86W**±0.02, **h17**km±1km, **n120**, σ1§**21**/172, **16C-21D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LESP3	**La Esperanza,**	**0.07**	**71**	⇑*iP*	**Pg**	**09 56 59.0**	**+1.4**
LESP3				AMP		09 56 59.2	
	comp=Z,7μm,0.1s						
LESP3				*e*S	**Sg**	**09 57 01.3**	**+1.5**
LPPC	**Paso Canoas**	**0.15**	**8**	⇑*eP*	**Pb**	**09 56 59.8**	**+1.0**
LPPC				*e*S	**Sb**	**09 57 04.2**	**+2.5**
PTPM	**Petroterminale**	**0.18**	**186**	⇑*iP*	**Pg**	**09 56 60.0**	**+1.1**
PTPM				AMP		09 57 00.3	
	comp=Z,5μm,0.1s						
PTPM				*e*S	**Sb**	**09 57 05.1**	**+2.7**
PTPA	**Petro Terminal**	**0.18**	**183**	⇑*iP*	**Pg**	**09 56 60.0**	**+1.1**
PTPA				*e*S	**Sb**	**09 57 05.0**	**+2.6**
CDITO	**Canoas**	**0.19**	**356**	P	**Pb**	**09 57 00.2**	**+0.8**
CDITO				S	**Sg**	**09 57 01.7**	**-0.6**
NELY	**Ciudad Neily**	**0.28**	**342**	⇑*iP*	**Pb**	**09 57 01.4**	**+0.4**
NELY				*e*S	**Sb**	**09 57 06.9**	**+1.6**
BAGA3	**Bagala, Chiriq**	**0.34**	**76**	⇓*iP*	**Pb**	**09 57 02.7**	**+0.7**
BAGA3				AMP		09 57 03.0	
	comp=Z,4μm,0.2s						
FITO	**Golfito**	**0.38**	**310**	⇑*eP*	**Pg**	**09 57 01.9**	**-0.3**
FITO				*e*S	**Sg**	**09 57 07.5**	**+0.1**
PRISO	**Paraso**	**0.39**	**44**	⇓*iP*	**Pb**	**09 57 03.2**	**+0.4**
PRISO				*e*S	**Sb**	**09 57 10.5**	**+2.0**
EDAD	**Golfito**	**0.40**	**312**	⇓*eP*	**Pg**	**09 57 02.4**	**-0.3**
EDAD				*e*S	**Sg**	**09 57 08.5**	**+0.2**
DVD	**David**	**0.41**	**82**	⇓*iP*	**Pg**	**09 57 03.3**	**+0.6**
DVD				AMP		09 57 03.6	
	comp=Z,6μm,0.1s						
DVD				*e*S	**Sb**	**09 57 10.2**	**+1.1**
MLIR3	**Monte Lirio, C**	**0.41**	**5**	*e*P	**Pb**	**09 57 04.0**	**+0.9**
MLIR3				*e*S	**Sb**	**09 57 10.2**	**+1.0**
RSRNO	**Rio Sereno**	**0.43**	**360**	⇑*eP*	**Pb**	**09 57 04.4**	**+0.8**
PEDE3	**Pedregal, Chir**	**0.43**	**90**	⇓*iP*	**Pg**	**09 57 03.6**	**+0.4**
PEDE3				AMP		09 57 04.3	
	comp=Z,5μm,0.3s						
PEDE3				*e*S	**Sb**	**09 57 10.6**	**+0.8**
CLLRA	**Cordillera,**	**0.43**	**34**	⇓*eP*	**Pb**	**09 57 04.0**	**+0.4**
CLLRA				*e*S	**Sb**	**09 57 10.5**	**+0.5**
LOCO3	**Loma Colorada,**	**0.44**	**86**	⇓*iP*	**Pg**	**09 57 03.8**	**+0.6**
LOCO3				*e*S	**Sb**	**09 57 10.8**	**+0.9**
BRU2	**Volcan**	**0.44**	**22**	⇓*iP*	**Pb**	**09 57 04.2**	**+0.4**
BRU2				*e*S	**Sb**	**09 57 11.8**	**+1.7**
BRU2	**Volcan**	**0.44**	**22**	⇓*iP*	**Pb**	**09 57 04.2**	**+0.4**
BRU2				AMP		09 57 04.6	
	comp=Z,2μm,0.2s						
BRU2				*e*S	**Sb**	**09 57 11.9**	**+1.7**
BRU2	**Volcan**	**0.44**	**22**	P	**Pb**	**09 57 04.2**	**+0.4**
BRU2				S	**Sb**	**09 57 11.7**	**+1.5**
VITO	**San Vito**	**0.45**	**346**	⇑*iP*	**Pb**	**09 57 04.4**	**+0.6**
VITO				*e*S	**Sn**	**09 57 12.3**	**-1.5**
SCLRA	**Santa Clara, W**	**0.46**	**10**	⇓*eP*	**Pb**	**09 57 04.7**	**+0.7**
SCLRA				*e*S	**Sn**	**09 57 12.5**	**-1.5**
TBS2		**0.46**	**26**	*e*P	**Pb**	**09 57 05.4**	**+1.4**
PTJ1	**Puerto Jimnez**	**0.46**	**289**	⇑*eP*	**Pg**	**09 57 03.8**	**+0.2**
PTJ1				*e*S	**Sb**	**09 57 12.3**	**+1.7**
PTJ1	**Puerto Jimnez**	**0.46**	**289**	*e*P	**Pg**	**09 57 03.9**	**+0.2**
PTJ1				*e*S	**Sb**	**09 57 12.0**	**+1.4**
PTJ1	**Puerto Jimnez**	**0.46**	**289**	S	**Sb**	**09 57 11.7**	**+1.2**
PTJ1	**Puerto Jimnez**	**0.46**	**289**	P	**Pg**	**09 57 03.9**	**+0.2**
LOMA3	**Las Lomas, Chi**	**0.47**	**84**	*i*P	**Pg**	**09 57 04.1**	**+0.3**
LOMA3				AMP		09 57 04.4	
	comp=Z,2μm,0.4s						
LOMA3				*e*S	**Sb**	**09 57 11.8**	**+1.0**
BC3P	**Paso Ancho**	**0.50**	**30**	⇓*iP*	**Pg**	**09 57 04.9**	**+0.5**
BC3P				AMP		09 57 05.2	
	comp=Z,3μm,0.2s						
BC3P				*e*S	**Sb**	**09 57 13.7**	**+1.9**
CHIR3	**Chiriqui UPA,**	**0.53**	**88**	⇓*iP*	**Pg**	**09 57 05.0**	**+0.1**
CHIR3				AMP		09 57 05.3	
	comp=Z,2μm,0.2s						
CHIR3				*e*S	**Sb**	**09 57 14.7**	**+2.3**
BQTLY	**Boquete Panama**	**0.54**	**47**	⇓*iP*	**Pg**	**09 57 05.5**	**+0.2**
BQTLY				*e*S	**Sb**	**09 57 13.8**	**+0.7**
BQSF3	**Alto Boquete,**	**0.55**	**50**	⇓*iP*	**Pg**	**09 57 05.5**	**+0.1**
BQSF3				AMP		09 57 05.8	
	comp=Z,2μm,0.2s						
BQSF3				*e*S	**Sb**	**09 57 14.1**	**+0.7**
ALCO	**Alturas Coton,**	**0.56**	**3**	⇓*eP*	**Pg**	**09 57 05.7**	**+0.1**
ALCO				*e*S	**Sb**	**09 57 14.7**	**+1.0**
LNBQ3	**Los Naranjos,**	**0.58**	**46**	⇓*eP*	**Pg**	**09 57 05.8**	**-0.1**
LNBQ3				AMP		09 57 07.1	
	comp=Z,2μm,0.1s						
LNBQ3				*e*S	**Sb**	**09 57 14.8**	**+0.7**
PSOM3	**Paja de Sombre**	**0.61**	**60**	⇓*iP*	**Pg**	**09 57 06.2**	**-0.2**
PSOM3				*e*S	**Sb**	**09 57 15.8**	**+0.8**
EDP2	**Potrero Grande**	**0.70**	**334**	*e*P	**Pg**	**09 57 08.0**	**-0.1**
EDP2				*e*S	**Sb**	**09 57 18.9**	**+1.4**
FIMO	**Fila Mora**	**0.78**	**321**	*e*P	**Pg**	**09 57 09.1**	**-0.4**
FIMO				*e*S	**Sb**	**09 57 20.7**	**+0.9**
PANP	**Palmar Norte**	**0.82**	**314**	*e*P	**Pb**	**09 57 09.8**	**-0.4**
PBNVO	**Pueblo Nuevo,**	**0.83**	**53**	⇓*iP*	**Pb**	**09 57 09.6**	**-0.7**
PBNVO				*e*S	**Sb**	**09 57 21.0**	**-0.2**
RBALA	**Bur**	**0.86**	**55**	⇓*iP*	**Pb**	**09 57 10.3**	**-0.5**
BURE	**Buenos Aires**	**0.92**	**329**	*e*P	**Pb**	**09 57 11.4**	**-0.4**
BURE				*e*S	**Sb**	**09 57 23.6**	**-0.2**
DRK0	**Durika**	**0.95**	**337**	⇑*eP*	**Pb**	**09 57 11.9**	**-0.6**
DRK0				*e*S	**Sb**	**09 57 25.1**	**+0.1**
DRK0	**Durika**	**0.95**	**337**	*e*P	**Pb**	**09 57 11.9**	**-0.6**
DRK0				*e*S	**Sb**	**09 57 25.0**	**+0.1**
DRK0	**Durika**	**0.95**	**337**	P	**Pb**	**09 57 11.8**	**-0.7**
DRK0	**Durika**	**0.95**	**337**	S	**Sb**	**09 57 24.7**	**-0.2**
RMDIO	**Remedios, Chir**	**1.03**	**98**	⇑*iP*	**Pb**	**09 57 13.1**	**-0.6**
EDPE	**Pejibaye, P**	**1.04**	**318**	*e*P	**Pb**	**09 57 13.1**	**-0.8**
EDPE				*e*S	**Sb**	**09 57 27.6**	**+0.3**
OCHAL	**Ojochal**	**1.05**	**313**	S	**Sb**	**09 57 27.4**	**-0.2**
OCHAL	**Ojochal**	**1.05**	**313**	P	**Pb**	**09 57 13.2**	**-0.9**
SAJE	**San Jernim**	**1.15**	**326**	*e*P	**Pb**	**09 57 14.2**	**-1.2**
PDCAN	**Manzana , Fuen**	**1.16**	**94**	*e*P	**Pb**	**09 57 14.6**	**-1.1**
PDCAN				*e*S	**Sb**	**09 57 28.8**	**-1.8**
ISBTO	**Bastimentos Is**	**1.16**	**34**	*e*P	**Pg**	**09 57 19.4**	**+2.7**
CEUA	**Cerro Uatsi, L**	**1.23**	**356**	*e*P	**Pb**	**09 57 17.7**	**+0.4**
CVEJO	**Cerro Viej**	**1.28**	**96**	*e*P	**Pn**	**09 57 16.1**	**-1.3**
CVEJO				*e*S	**Sb**	**09 57 31.5**	**-2.6**
LAES	**El Progreso Va**	**1.38**	**352**	*e*P	**Pn**	**09 57 19.5**	**+0.7**
LAES				*e*S	**Sg**	**09 57 39.2**	**+0.1**
VERH	**Veragua Rainfo**	**1.57**	**348**	*e*P	**Pn**	**09 57 21.6**	**+0.2**
LLNJ	**Naranjito**	**1.64**	**312**	⇓*eP*	**Pn**	**09 57 22.9**	**+0.6**
LLNJ				*e*S	**Sb**	**09 57 45.2**	**+0.8**
PIEC	**Cerro El Cedra**	**1.64**	**319**	*e*P	**Pn**	**09 57 22.6**	**0.0**
SVQ2	**Quepos**	**1.66**	**309**	*e*P	**Pn**	**09 57 22.9**	**+0.3**
MESA3	**La Mesa, Verag**	**1.68**	**98**	*e*P	**Pn**	**09 57 22.5**	**-0.4**
MESA3				*e*S	**Sn**	**09 57 45.0**	**+1.0**
RAZU	**San Marcos de**	**1.71**	**318**	*e*P	**Pn**	**09 57 21.4**	**-2.1**
PITB	**Pirrs, San**	**1.71**	**318**	*e*P	**Pn**	**09 57 25.0**	**+1.4**
GMAL	**Guarumal, Vera**	**1.73**	**111**	*e*P	**Pn**	**09 57 21.8**	**-1.7**
GMAL	**Guarumal, Vera**	**1.73**	**111**	*e*P	**Pn**	**09 57 22.2**	**-1.4**
GMAL				*e*S	**Sn**	**09 57 45.1**	**0.0**
VINA	**Juan Vinas**	**1.74**	**330**	*e*P	**Pn**	**09 57 24.2**	**+0.3**
REPA	**Paraso**	**1.75**	**325**	*e*P	**Pb**	**09 57 26.0**	**-0.1**
VERB	**Verbena**	**1.76**	**332**	⇑*iP*	**Pn**	**09 57 25.1**	**+0.9**
PISJ	**San Jernim**	**1.76**	**315**	⇓*eP*	**Pn**	**09 57 25.5**	**+1.3**
RVSTA	**Santa Teresita**	**1.77**	**334**	*e*P	**Pn**	**09 57 25.3**	**+1.1**
PCAYA	**Pacayas**	**1.79**	**328**	*e*P	**Pn**	**09 57 25.4**	**+0.7**
VTCV	**VTCV, Calle Va**	**1.81**	**332**	*e*P	**Pn**	**09 57 25.4**	**+0.6**
PICV	**PH. Pirrs**	**1.81**	**313**	*e*P	**Pn**	**09 57 25.6**	**+0.8**
RESJ	**San Isidro (Tu**	**1.81**	**335**	*e*P	**Pn**	**09 57 25.3**	**+0.5**
LCOCO	**El Coco**	**1.83**	**338**	*e*P	**Pn**	**09 57 25.5**	**+0.6**
PAR1A	**Puntarenas Pro**	**1.83**	**311**	⇑*eP*	**Pn**	**09 57 26.1**	**+1.2**
CVTV	**Tajo**	**1.84**	**332**	*e*P	**Pb**	**09 57 27.1**	**-0.6**
CVTQ	**Turrialba Volc**	**1.84**	**331**	*e*P	**Pn**	**09 57 26.5**	**+1.0**
VTLA	**Turrialba Volc**	**1.85**	**331**	*e*P	**Pn**	**09 57 26.4**	**+0.9**
VICA	**Volcano Irazu**	**1.87**	**329**	*e*P	**Pn**	**09 57 26.3**	**+0.4**
ACOS	**Acosta**	**1.91**	**318**	*e*P	**Pn**	**09 57 27.2**	**+1.1**
CORON	**Coronado**	**1.94**	**325**	*e*P	**Pb**	**09 57 30.8**	**+1.4**
LUJA	**Lujan**	**1.95**	**322**	*e*P	**Pn**	**09 57 28.5**	**+1.7**
LUJA				*e*S	**Sb**	**09 57 54.2**	**+0.7**
CVIMO	**Finca Echandi**	**1.95**	**327**	*e*P	**Pn**	**09 57 28.4**	**+1.5**
CENT	**San Jose**	**1.95**	**322**	*e*P	**Pn**	**09 57 27.7**	**+0.9**
SANTA	**Santa Ana**	**2.02**	**320**	⇑*eP*	**Pn**	**09 57 29.4**	**+1.7**
HDC	**Heredia**	**2.03**	**323**	*e*P	**Pn**	**09 57 29.9**	**+2.0**
HDC				*e*S	**Sb**	**09 57 57.5**	**+1.6**
HEME	**Heredia, Merce**	**2.04**	**322**	*e*P	**Pb**	**09 57 30.3**	**-0.7**
BELE	**Belen**	**2.06**	**321**	*e*P	**Pb**	**09 57 31.9**	**+0.6**
BELE				*e*S	**Sb**	**09 57 56.8**	**+0.2**
TCS1	**Tacares**	**2.18**	**319**	P	**Pn**	**09 57 31.7**	**+1.8**
ATEO	**Atenas**	**2.18**	**317**	*e*P	**Pn**	**09 57 30.9**	**+1.0**
CACAO	**El Cacao, Vera**	**2.23**	**117**	*e*P	**Pn**	**09 57 31.3**	**+0.8**
CACAO				*e*S	**Sn**	**09 57 59.2**	**+1.5**
CHIT3	**Chitre**	**2.46**	**100**	*e*P	**Pn**	**09 57 34.1**	**+0.5**
ITAL	**Pital**	**2.48**	**326**	*e*P	**Pn**	**09 57 34.6**	**+0.6**
CBL1	**Cabuya**	**2.51**	**299**	⇑*iP*	**Pn**	**09 57 33.7**	**-0.6**
AZU	**Azuero**	**2.63**	**103**	*e*P	**Pn**	**09 57 37.5**	**+1.6**
AZU				*e*S	**Sn**	**09 58 08.4**	**+1.0**
SOCE	**Pocosol**	**2.64**	**319**	*e*P	**Pn**	**09 57 38.9**	**+2.7**
SOCE	**Pocosol**	**2.64**	**319**	P	**Pb**	**09 57 39.5**	**-1.6**
FORC	**Fortuna**	**2.73**	**319**	*e*P	**Pb**	**09 57 41.3**	**-1.5**
VACR	**Volcan Arenal**	**2.74**	**319**	*e*P	**Pn**	**09 57 40.7**	**+3.1**
CASO	**Castillo**	**2.75**	**318**	*e*P	**Pb**	**09 57 41.7**	**-1.4**
VARE2	**V. Arenal**	**2.76**	**319**	*e*P	**Pn**	**09 57 41.0**	**+3.1**
CEDE	**Laguna Cedeo**	**2.77**	**319**	*e*P	**Pb**	**09 57 41.4**	**-2.1**
COVE	**Coope Vega, Sa**	**2.78**	**327**	P	**Pn**	**09 57 39.6**	**+1.6**
JTS	**Las Juntas de**	**2.80**	**313**	*e*P	**Pn**	**09 57 39.0**	**+0.7**
JTS				*e*S	**Sn**	**09 58 12.5**	**+0.6**
JTS	**Las Juntas de**	**2.80**	**313**	*e*P	**Pn**	**09 57 39.0**	**+0.7**
JTS				*e*S	**Sn**	**09 58 12.7**	**+0.8**
JTS	**Las Juntas de**	**2.80**	**313**	P	**Pn**	**09 57 39.1**	**+0.7**
JTS				S	**Sn**	**09 58 12.4**	**+0.6**
TABAC	**Tabacon**	**2.82**	**318**	*e*P	**Pn**	**09 57 44.3**	**0.0**
INDI	**Punta indio, G**	**3.00**	**300**	P	**Pn**	**09 57 41.5**	**+0.5**
CMARA	**Lajas Hojancha**	**3.01**	**303**	P	**Pn**	**09 57 42.0**	**+0.7**
INVE	**Universidad In**	**3.01**	**314**	*e*P	**Pb**	**09 57 45.5**	**-2.0**
BCIP	**Isla Barro Col**	**3.09**	**75**	*e*P	**Pn**	**09 57 42.7**	**+0.4**
BCIP	**Isla Barro Col**	**3.09**	**75**	⇑*eP*	**Pn**	**09 57 42.9**	**+0.7**
BCIP				*e*S	**Sn**	**09 58 19.4**	**+0.5**
BCIP	**Isla Barro Col**	**3.09**	**75**	P	**Pn**	**09 57 43.0**	**+0.7**
JUD3	**Juan Diaz 3**	**3.18**	**304**	*e*P	**Pn**	**09 57 44.4**	**+0.7**
CUI	**Cuipilapa**	**3.21**	**315**	*e*P	**Pn**	**09 57 46.5**	**+2.6**
COLC	**Colonia**	**3.24**	**315**	*e*P	**Pn**	**09 57 45.7**	**+1.3**
LAPC	**Finca la Perla**	**3.47**	**313**	*e*P	**Pn**	**09 57 50.0**	**+2.3**
LAPC				*e*S	**Sn**	**09 58 29.6**	**+1.2**
ELI1	**Hacienda Flor**	**3.48**	**310**	*e*P	**Pn**	**09 57 50.3**	**+2.6**
ELI1	**Hacienda Flor**	**3.48**	**310**	P	**Pn**	**09 57 50.2**	**+2.6**
ACON	**Acoyapa**	**4.23**	**328**	*e*P	**Pn**	**09 57 59.3**	**+1.3**
ACON	**Acoyapa**	**4.23**	**328**	P	**Pn**	**09 57 59.8**	**+1.7**

*TIF **31** 09:57:05.9, 39.70N×41.38E, h6km±1km*
*AFAD **31** 09:57:06.0, 39.68N×41.44E, h5km±22km, MW3.9*
*ISK **31** 09:57:06.6, 39.68N×41.40E, h9km, ML4.0/14*
*IDC **31** 09:57:07.2±0.9, 39.69N×41.37E, h0km, mb3.6/7, mbtmp3.5/13, ML3.0/6, MS3.4/7, Error ellipse: s-maj=15.0km s-min=8.7km az=177.0*

ISC 31 09:57:07.4±1.0, **39.68N**±0.02×**41.39E**±0.02, **h5**km±8km, **n86**, σ1§**55**/109, **mb3.7/7, MS3.5/3, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERZM	**Erzurum**	**0.23**	**355**	P	**Pg**	**09 57 10.4**	**-1.6**
ERZM				S	**Sg**	**09 57 14.7**	**-0.3**
ETEKE	**Tekederesi - E**	**0.23**	**300**	P	**Pg**	**09 57 10.7**	**-1.2**
ETEKE				S	**Sg**	**09 57 16.0**	**+1.1**
ECAT	**Cat-ERZURUM**	**0.33**	**257**	P	**Pg**	**09 57 13.1**	**-0.8**
ECAT				S	**Sb**	**09 57 20.6**	**-1.1**
KARIO	**Karliova-Bingo**	**0.46**	**216**	Pg	**Pg**	**09 57 10.7**	**-0.3**
KOPR	**Koprukoy-ERZUR**	**0.47**	**49**	Pg	**Pg**	**09 57 16.2**	**-0.4**
KOPR				Sg	**Sg**	**09 57 23.3**	**+0.5**
EMRE	**Erzurum,Aziziy**	**0.47**	**318**	P	**Pg**	**09 57 15.4**	**-1.2**
EMRE				S	**Sb**	**09 57 25.7**	**-0.1**
YEDI	**Yedisu-Bingol**	**0.70**	**250**	Pg	**Pg**	**09 57 20.6**	**-0.3**
YEDI				Sg	**Sb**	**09 57 30.9**	**-1.3**
SLHN	**Bingol, Solhan**	**0.78**	**202**	P	**Pg**	**09 57 21.9**	**-0.4**
SLHN				*i* IAML		09 57 35.0	
	comp=N,3μm,0.5s						
SLHN				*i* IAML		09 57 40.0	
	comp=E,4μm,0.5s						
EATA	**Eleskirt**	**0.87**	**78**	P	**Pg**	**09 57 23.8**	**-0.3**
EATA				S	**Sn**	**09 57 41.8**	**+2.0**
EATA				*i* IAML		09 57 42.0	
	comp=E,2μm,0.5s						
EATA				*i* IAML		09 57 43.0	
	comp=N,2μm,0.8s						
MUSM	**Mu-Merkez**	**0.96**	**174**	P	**Pg**	**09 57 24.0**	**-1.8**
MUSM				*i* IAML		09 57 43.0	
	comp=N,745nm,0.8s						
MUSM				*i* IAML		09 57 44.0	
	comp=E,601nm,1.1s						
BAYB	**BAYBURT**	**1.05**	**304**	P	**Pg**	**09 57 26.2**	**-1.3**
BAYB				S	**Sn**	**09 57 43.1**	**-1.0**
BAYB				*i* IAML		09 57 45.0	
	comp=E,2μm,0.4s						
BAYB				*i* IAML		09 57 46.0	
	comp=N,2μm,0.4s						
MLAZ	**Malazgirt-MUS**	**1.05**	**121**	Pg	**Pg**	**09 57 26.9**	**-0.6**
MLAZ				Sg	**Sg**	**09 57 41.7**	**+0.6**
DORK	**Agr/Tutak/Do**	**1.11**	**105**	P	**Pg**	**09 57 27.4**	**-1.4**
DORK				S	**Sg**	**09 57 36.9**	**-6.3**
DORK				*i* IAML		09 57 49.0	
	comp=E,2μm,0.8s						
DORK				*i* IAML		09 57 53.0	
	comp=N,2μm,0.9s						
SENK	**Senkaya-Erzuru**	**1.15**	**40**	Pn	**Pg**	**09 57 28.3**	**-1.1**
GURO	**Guroymak-BITLI**	**1.23**	**156**	Pn	**Pb**	**09 57 30.1**	**-1.2**
AGRB	**Hanur-Agry**	**1.24**	**94**	Pn	**Pn**	**09 57 30.5**	**-1.1**
DDEM	**Demirkent**	**1.24**	**13**	P	**Pn**	**09 57 29.5**	**-2.1**
DDEM				S	**Sg**	**09 57 48.6**	**+1.2**
EUZM	**Uzumlu**	**1.31**	**272**	P	**Pn**	**09 57 30.4**	**-2.1**
EUZM				S	**Sn**	**09 57 53.2**	**+2.8**
ADCV	**BITLIS_Adilcev**	**1.35**	**130**	P	**Pg**	**09 57 34.1**	**+0.7**
ADCV				S	**Sg**	**09 57 53.4**	**+2.5**
ADCV				*i* IAML		09 58 00.0	
	comp=N,426nm,0.9s						
ADCV				*i* IAML		09 58 02.0	
	comp=E,529nm,1.2s						
DBAD	**Bademkaya**	**1.36**	**10**	P	**Pn**	**09 57 31.1**	**-2.0**
DBAD				S	**Sb**	**09 57 49.7**	**-1.5**
BLIS	**Bitlis-Merkez**	**1.38**	**156**	P	**Pn**	**09 57 31.4**	**-2.2**
BLIS				S	**Sg**	**09 57 53.1**	**+1.2**
BLIS				*i* IAML		09 57 55.0	
	comp=E,893nm,0.3s						
CHOM	**Cayeli-Rize**	**1.50**	**341**	Pn	**Pn**	**09 57 34.2**	**-0.8**
BOZK	**Kars-Merkez-Bo**	**1.52**	**53**	P	**Pb**	**09 57 36.1**	**-0.1**
BOZK				S	**Sg**	**09 57 59.5**	**+3.3**
BOZK				*i* IAML		09 58 05.0	
	comp=N,409nm,1.0s						
BOZK				*i* IAML		09 58 05.0	
	comp=E,580nm,0.8s						
SVAN	**Silvan-Diyarba**	**1.53**	**186**	Pn	**Pn**	**09 57 34.8**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.53**	**186**	P	**Pg**	**09 57 39.0**	**+2.2**
SVAN				*i* IAML		09 58 21.0	
	comp=N,376nm,0.4s						
SVAN				*

	1.8nm,0.3s,baz=284,slow=3.9,SNR=5.2							
GNI				Pg	Pg	09 57 57.4	-0.2	
	8.1nm,0.3s,baz=285,slow=9.4,SNR=17							
GNI				Lg	Lg	09 58 31.2		
	5.2nm,0.3s,baz=170,slow=18,SNR=3.5							
	18nm,0.6s							
TRLG	**Trialeti**	**2.78**	**47**	P	**Pn**	**09 57 53.4**	**+0.6**	
CUZAR	**Zara_SIVAS**	**2.80**	**275**	P	**Pb**	**09 57 59.0**	**+1.0**	
CUZAR				*i* IAML		09 58 42.0		
	comp=E,105nm,0.6s							
CUZAR				*i* IAML		09 59 07.0		
	comp=N,124nm,2.6s							
KZRT	**Kazreti**	**2.86**	**52**	P	**Pn**	**09 57 53.0**	**-0.8**	
TKB	**Tkibuli**	**2.93**	**24**	P	**Pn**	**09 57 55.3**	**+0.6**	
TKB				S	**Sg**	**09 58 44.9**	**+3.3**	
ORDU	**Ordu-Boztepe**	**3.00**	**297**	P	**Pb**	**09 58 02.0**	**+0.6**	
ORDU				*i* IAML		09 58 50.0		
	comp=N,189nm,0.6s							
AKCD	**Akcadag**	**3.04**	**244**	P	**Pn**	**09 57 57.3**	**+1.0**	
AKCD				*i* IAML		09 59 09.0		
	comp=N,100nm,1.2s							
AKCD				*i* IAML		09 59 20.0		
	comp=E,85nm,1.7s							
AZEY	**Adyaman-Merk**	**3.09**	**234**	P	**Pn**	**09 57 58.2**	**+1.3**	
AZEY				*i* IAML		09 59 03.0		
	comp=N,94nm,1.6s							
AZEY				*i* IAML		09 59 16.0		
	comp=E,108nm,2.1s							
RSDY	**Resadiye-TOKAT**	**3.20**	**284**	Pn	**Pn**	**09 57 58.9**	**+0.4**	
GARIG	**Gari**	**3.31**	**28**	P	**Pn**	**09 58 01.1**	**+1.1**	
SVSK	**Karacayir**	**3.39**	**275**	Pn	**Pn**	**09 58 02.1**	**+1.1**	
SURC	**SANLIURFA_SURC**	**3.55**	**219**	P	**Pn**	**09 58 04.3**	**+1.1**	
SURC				*i* IAML		09 59 21.0		
	comp=N,117nm,1.4s							
SURC				*i* IAML		09 59 33.0		
	comp=E,108nm,1.3s							
TOKT	**Tokat**	**3.78**	**281**	Pn	**Pn**	**09 58 07.0**	**+0.6**	
SHTL	**Shatili**	**4.11**	**42**	P	**Pn**	**09 58 12.4**	**+1.3**	
VSHL	**Vashlovani**	**4.12**	**66**	P	**Pg**	**09 58 27.0**	**+0.6**	
KBZ	**Khabaz**	**4.20**	**15**	Pn	**Pn**	**09 58 13.3**	**+1.3**	
	0.2nm,0.3s,baz=170,slow=12,SNR=1.3							
KBZ				Pg	**Pb**	**09 58 24.3**	**+2.6**	
	0.5nm,0.3s,baz=202,slow=11,SNR=17							
KBZ				Lg	Lg	09 59 20.9		
	0.4nm,0.3s,baz=336,slow=7.0,SNR=3.9							
KBZ				LR	LR	10 00 08.9		
	comp=Z,301nm,18.5s,baz=214,slow=43							
	2.2nm,0.8s							
YOZ	**Yozgat**	**4.69**	**271**	Pn	**Pn**	**09 58 19.8**	**+0.8**	
BRTR	**Keskin Array B**	**5.98**	**273**	Pn	**Pn**	**09 58 40.6**	**+3.8**	
	0.2nm,0.3s,baz=111,slow=12,SNR=2.7							
	0.8nm,0.5s							
MMAI	**Mount Meron Ar**	**8.22**	**218**	Pn	**Pn**	**09 59 09.1**	**+1.7**	
	0.4nm,0.3s,baz=34,slow=11,SNR=1.4							
MMAI				Lg	Lg	10 01 32.9		
	baz=6.3,slow=28							
	0.5nm,0.3s							
ASF	**Jabal al Asfar**	**8.33**	**207**	Pn	**Pn**	**09 59 10.0**	**+1.1**	
	0.2nm,0.3s,baz=12,slow=9.9,SNR=1.2							
ASF				Lg	Lg	10 01 37.5		
	0.2nm,0.3s,baz=256,slow=22,SNR=3.6							
ASF				LR	LR	10 02 59.6		
	comp=Z,94nm,20.7s,baz=48,slow=42							
	2.3nm,0.5s							
AKASG	**Malin Array Be**	**13.94**	**326**	Pn	**Pn**	**10 00 24.9**	**-0.7**	
	0.3nm,0.3s,baz=131,slow=14,SNR=5.5							
AKASG				LR	LR	10 06 19.9		
	comp=Z,98nm,21.2s,baz=124,slow=40							
	0.7nm,0.6s							
AKTO	**Aktyubinsk**	**15.89**	**42**	LR	LR	10 08 34.3		
	comp=Z,140nm,20.2s,baz=194,slow=43							
GERES	**GERESS Array B**	**21.74**	**304**	P	**P**	**10 01 59.5**	**-0.2**	
	0.6nm,0.5s,baz=67,slow=10,SNR=5.3							
	0.6nm,0.5s							
FINES	**FINESS Array B**	**23.74**	**342**	P	**P**	**10 02 19.8**	**-0.5**	
	2.2nm,0.7s,baz=146,slow=14,SNR=4.4							
	2.2nm,0.7s							
HFS	**Hagfors**	**26.80**	**329**	P	**P**	**10 02 48.5**	**+0.2**	
	1.8nm,0.8s,baz=139,slow=13,SNR=2.0							
	1.8nm,0.8s							
KURBB	**Kurchatov Arra**	**28.10**	**55**	P	**P**	**10 03 00.0**	**0.0**	
	0.3nm,0.5s,baz=268,slow=11,SNR=4.9							
	0.3nm,0.5s							
NOA	**NORSAR Array B**	**28.33**	**329**	LR	LR	10 14 58.8		
	comp=Z,55nm,21.5s,baz=10.0,slow=38							
MKAR	**Makanchi Array**	**30.36**	**63**	P	**P**	**10 03 18.9**	**-1.2**	
	0.4nm,0.7s,baz=262,slow=6.0,SNR=3.6							
	0.4nm,0.7s							
EKA	**Eskdalemuir Ar**	**33.26**	**313**	P	**P**	**10 03 45.0**	**-0.5**	
	1.0nm,0.5s,baz=101,slow=8.8,SNR=3.8							
	1.0nm,0.5s							
ESDC	**Sonseca Array**	**34.62**	**285**	P	**P**	**10 03 56.5**	**-1.0**	
	0.5nm,0.5s,baz=62,slow=8.1,SNR=4.7							
	0.5nm,0.5s							
MDP	**Montagnes des**	**89.88**	**276**	LR	LR	10 49 08.3		
	comp=Z,92nm,20.9s,baz=0.5,slow=35							
NEW	**Newport**	**90.38**	**346**	LR	LR	10 55 51.5		
	comp=Z,17nm,19.2s,baz=346,slow=39							

STR 31 10:02:24.0±0.9,48°N±4′×±′, h0km, MLv1.6/6, LOCSAT earthModelID haslach_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.27**	**142**	Pg	Pg	10 02 28.7	-0.5
ECH				Sg	Sg	10 02 32.6	0.0
WLS	**Welschbruch**	**0.30**	**93**	Pg	Pg	10 02 29.7	0.0
WLS				Sg	Sg	10 02 33.8	+0.3
HOHE	**HOHENGOEFT**	**0.45**	**59**	Pg	Pg	10 02 32.6	+0.2
HOHE				Sg	Sg	10 02 38.7	+0.4
CIEL	**Dossenheim-sur**	**0.50**	**37**	Pg	Pg	10 02 33.7	+0.1
RONF	**Ronchamp**	**0.74**	**194**	Pg	Pg	10 02 38.4	+0.2
RONF				Sg	Sg	10 02 48.4	+0.7
KIZ	**Kirchzarten**	**0.83**	**125**	Pg	Pg	10 02 39.9	+0.2
KIZ				Sg	Sg	10 02 51.6	+1.1

*NEIC **31** 10:02:57.1±1.1, 15°.97S±0°.10×174°.0W±0°.1, h57km±3km, mb4.8/22, Error ellipse: s-maj=18.0km s-min=14.3km az=93.0*

*NOU **31** 10:03:01.6, 15°.95S×173°.32W, h91km, mb4.8/13, Tonga Islands*

*IDC **31** 10:03:02.2±0.5, 15°.91S×173°.89W, h112km±4km, mb4.2/16, mbtmp4.5/17, MS3.6/6, Error ellipse: s-maj=18.3km s-min=10.8km az=119.0*

*GCMT **31** 10:03:05.1±0.3, 15°.90S±0°.03×173°.66W±0°.02, h157km±4km, MW4.9/88, Moment Tensor Solution. s11,c12; s88,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.51±.13; $M_{\theta\theta}$-1.46±.20; $M_{\phi\phi}$-0.05±.18; $M_{r\theta}$-0.82±.10; $M_{\theta\phi}$0.31±.17; $M_{\phi r}$1.84±.09; Best double couple: $M_{\odot}$2.45100×10^{16} NP1:$\chi_{\phi s}$87.00000°, δ27.00000°, λ41.00000°. NP2:$\chi_{\phi s}$319.00000°, δ73.00000°, λ111.00000°. Principal axes: T 2.7910, Plg57.0000°, Azm257.0000°; N -0.6830, Plg20.0000°, Azm133.0000°; P -2.1100, Plg25.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 10:02:59.5±0.3, 15°.92S±0°.05×173°.68W±0°.06, h100km, n352, σ1°42/340, mb4.7/30, 7C-13D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.72**	**43**	Pn	**Pn**	**10 03 41.9**	**+0.3**
AFI	**Afiamalu**	**2.72**	**43**	Sn	**Sn**	**10 04 11.5**	**-2.5**
AFI	**Afiamalu**	**2.72**	**43**	P	**Pn**	**10 03 41.9**	**+0.3**
AFI	**Afiamalu**	**2.72**	**43**	S	**Sn**	**10 04 10.3**	**-3.7**
FUTU	**Fugatoga**	**4.58**	**290**	P	Pn	10 04 12.6	+6.0
NIUE	**Niue**	**4.76**	**132**	Pn	**Pn**	**10 04 08.8**	**-0.2**
NIUE	**Niue**	**4.76**	**132**	P	**Pn**	**10 04 08.9**	**-0.1**
NIUE	**Niue**	**4.76**	**132**	S	**Sn**	**10 04 57.5**	**-5.6**
LKBA	**Tubou, Lakemba**	**5.42**	**244**	P	Pn	10 04 23.4	+5.4
TAVE	**Taveuni**	**6.03**	**262**	P	Pn	10 04 33.4	+7.2
DGTI	**Dogotuki**	**6.34**	**266**	P	Pn	10 04 36.5	+6.0
MSVF	**Nonsavu**	**8.12**	**256**	P	Pn	10 05 02.1	+7.3
RAR	**Rarotonga**	**14.20**	**114**	Pn	**Pn**	**10 06 16.9**	**+0.8**
RAR	**Rarotonga**	**14.20**	**114**	LR	LR	10 10 42.6	
	comp=Z,76nm,19.3s,baz=268,slow=32						
PINNC	**Pines Island,**	**19.01**	**247**		**P**	**10 07 09.9**	**-3.7**
PINNC				IAmb	IAmb	10 07 24.8	
	comp=Z,53nm,0.8s						
PINNC	**Pines Island,**	**19.01**	**247**	P	**Pn**	**10 07 19.4**	**+4.1**
OUENC	**Ouen Island, N**	**19.49**	**248**	P	**Pn**	**10 07 24.7**	**+3.7**
DZM	**Mont Dzumac**	**19.75**	**249**		**P**	**10 07 18.5**	**-3.3**
DZM				IAmb	IAmb	10 07 29.0	
	comp=Z,53nm,1.1s						
DZM	**Mont Dzumac**	**19.75**	**249**	*e*P	**Pn**	**10 07 20.9**	**-3.3**
	comp=Z,117nm,1.2s						
DZM				*e*LR	LR	10 11 59.1	
	comp=Z,473nm,29.9s						
DZM	**Mont Dzumac**	**19.75**	**249**	P	**Pn**	**10 07 21.1**	**-3.1**
	comp=Z,13nm,0.9s,baz=90,slow=20						
DZM	**Mont Dzumac**	**19.75**	**249**	P	**Pn**	**10 07 27.6**	**+3.4**
ONTNC	**Ouen Toro**	**19.81**	**248**	P	**P**	**10 07 19.6**	**-2.6**
ONTNC				IAmb	IAmb	10 07 29.6	
	comp=Z,41nm,0.9s						
PPT2	**Papeete2**	**23.14**	**98**	*e*S	**S**	**10 12 02.6**	**+1.3**
	comp=Z,255nm,22.0s						
PPT2				*e*LR	LR	10 13 26.6	
	comp=Z,336nm,42.0s						
PPT2				*e*LR	LR	10 13 42.7	
	comp=Z,126nm,40.5s						
URZ	**Urewera**	**23.68**	**198**	P	**P**	**10 08 02.1**	**0.0**
	comp=Z,9.1nm,0.4s,baz=263,slow=2.5,SNR=11						
URZ				S	**S**	**10 12 12.2**	**+2.6**
	comp=Z,4.0nm,0.5s,baz=116,slow=22,SNR=1.8						
	comp=Z,9.1nm,0.4s						
URZ	**Urewera**	**23.68**	**198**	P	**P**	**10 08 05.9**	**+3.8**
TBI	**Tubuai**	**23.96**	**112**	*e*S	S	10 12 25.3	+11
	comp=Z,438nm,26.2s						
TBI				*e*LR	LR	10 13 56.0	
	comp=Z,912nm,31.5s						
EIDS	**Eidsvold**	**34.20**	**248**	P	**P**	**10 09 31.9**	**-3.7**
EIDS				IAmb	IAmb	10 09 34.7	
	comp=Z,12nm,1.1s						
ARMA	**Armidale**	**34.84**	**239**	P	**P**	**10 09 39.8**	**-1.5**
CAN	**Canberra**	**38.50**	**233**	P	**P**	**10 10 09.9**	**-2.3**
H11S2	**WAKE ISLAND Hy**	**39.27**	**330**	T	T	10 52 24.5	
	baz=146,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**39.28**	**330**	T	T	10 51 35.5	
	baz=146,slow=74,SNR=7.7						
H11S1	**WAKE ISLAND Hy**	**39.29**	**330**	T	T	10 51 26.1	
	baz=146,slow=74,SNR=11						
H11N3	**WAKE ISLAND Hy**	**40.23**	**331**	T	T	10 52 43.2	
	baz=146,slow=76,SNR=2.7						
H11N1	**WAKE ISLAND Hy**	**40.24**	**331**	T	T	10 52 42.0	
	baz=146,slow=76,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**40.25**	**331**	T	T	10 52 43.1	
	baz=146,slow=76,SNR=3.5						
TOO	**Toolangi**	**41.93**	**231**	P	**P**	**10 10 38.9**	**-1.6**
STKA	**Stephens Creek**	**43.54**	**240**		**P**	**10 10 52.9**	**-0.7**
STKA	**Stephens Creek**	**43.54**	**240**	P	**P**	**10 10 52.6**	**-1.0**
	comp=Z,12nm,0.9s,baz=79,slow=9.4,SNR=19						
STKA				PcP	**PcP**	**10 12 40.1**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=72,slow=4.9,SNR=3.0						
	comp=Z,12nm,0.9s						
BBOO	**Buckleboo**	**48.32**	**240**		**P**	**10 11 30.5**	**-0.5**
BBOO				IAmb	IAmb	10 11 31.7	
	comp=Z,11nm,0.9s						
WR8	**Warramunga Arr**	**49.31**	**257**		**P**	**10 11 38.0**	**-0.9**
WR8				IAmb	IAmb	10 11 41.8	
	comp=Z,8.5nm,0.9s						
WB0	**Warramunga Arr**	**49.42**	**257**		**P**	**10 11 39.0**	**-0.7**
WRAB	**Tennant Creek**	**49.45**	**257**	P	**P**	**10 11 38.2**	**-1.8**
WRA	**Warramunga Arr**	**49.46**	**257**		**P**	**10 11 38.8**	**-1.3**
WRA	**Warramunga Arr**	**49.46**	**257**	P	**P**	**10 11 39.5**	**-0.6**
	comp=Z,13nm,1.0s,baz=90,slow=7.0,SNR=59						
WRA				PcP	**PcP**	**10 13 01.2**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=92,slow=3.9,SNR=4.3						
	comp=Z,13nm,1.0s						
AS31	**Alice Springs**	**49.69**	**252**		**P**	**10 11 40.4**	**-1.3**
AS31				IAmb	IAmb	10 11 42.8	
	comp=Z,9.5nm,0.8s						
ASAR	**Alice Springs**	**49.69**	**252**		**P**	**10 11 40.2**	**-1.6**
ASAR	**Alice Springs**	**49.69**	**252**	P	**P**	**10 11 40.6**	**-1.2**
	comp=Z,33nm,0.8s,baz=84,slow=8.5,SNR=191						
	comp=Z,33nm,0.8s						
MTN	**Manton Dam**	**53.42**	**266**	P	**P**	**10 12 08.1**	**-1.5**
FORT	**Forrest**	**54.94**	**243**	P	**P**	**10 12 19.4**	**-1.0**
FORT				IAmb	IAmb	10 12 19.9	
	comp=Z,6.0nm,0.8s						
KNRA	**Kununurra**	**55.22**	**262**		**P**	**10 12 22.5**	**-0.1**
SOEI	**Soe**	**60.63**	**268**	P	**P**	**10 13 01.5**	**+0.8**
	comp=Z,39nm,1.2s						
SBA	**Scott Base**	**62.71**	**185**		**P**	**10 13 15.5**	**+2.1**
SBA	**Scott Base**	**62.71**	**185**	P	**P**	**10 13 15.9**	**+2.5**
VNDA	**Vanda**	**62.83**	**186**		**P**	**10 13 16.0**	**+1.8**
VNDA				IAmb	IAmb	10 13 17.3	
	comp=Z,10nm,1.1s						
VNDA	**Vanda**	**62.83**	**186**	P	**P**	**10 13 16.2**	**+2.0**
	comp=Z,6.1nm,0.9s,baz=8.0,slow=6.6,SNR=22						
	comp=Z,6.1nm,0.9s						
VNDA	**Vanda**	**62.83**	**186**	P	**P**	**10 13 16.2**	**+2.0**
EDFI	**Ened, Flores**	**63.34**	**268**	P	**P**	**10 13 18.5**	**-0.2**
	comp=Z,24nm,1.0s						
MORW	**Morawa**	**65.42**	**245**	P	**P**	**10 13 31.6**	**-0.4**
CCD	**Concordia, Ant**	**67.90**	**194**	P	**P**	**10 13 48.2**	**+0.8**
SHEM	**Shemya Is, Ala**	**69.18**	**352**	LR	LR	10 43 27.6	
	comp=Z,24nm,18.2s,baz=116,slow=35						
CASY	**Casey**	**69.82**	**205**	P	**P**	**10 13 59.6**	**+0.6**
CASY				IAmb	IAmb	10 14 00.4	
	comp=Z,18nm,1.1s						
CASY	**Casey**	**69.82**	**205**	P	**P**	**10 13 59.3**	**+0.4**
SDPT	**Sand Point**	**71.87**	**8**	P	**P**	**10 14 12.6**	**+1.3**
	baz=194						
SPIA	**Saint Paul Isl**	**72.88**	**2**	P	**P**	**10 14 18.3**	**+1.1**
	baz=184						
S14K	**Fog Glacier**	**72.90**	**8**	P	**P**	**10 14 18.7**	**+1.1**
	baz=194						
PETK	**Petropavlovsk-**	**73.04**	**342**	P	**P**	**10 14 19.9**	**+1.4**
	comp=Z,6.6nm,0.9s,baz=134,slow=8.4,SNR=13						
	comp=Z,6.6nm,0.9s						
PFO	**Pinyon Flats O**	**73.47**	**47**	LR	LR	10 42 28.1	
	comp=Z,72nm,18.1s,baz=316,slow=32						
LPIG	**La Paz**	**73.54**	**58**	LR	LR	10 41 09.3	
	comp=Z,40nm,19.3s,baz=45,slow=31						
QSPA	**South Pole Qui**	**74.12**	**180**	P	**P**	**10 14 26.8**	**+2.0**
QSPA				IAmb	IAmb	10 14 27.3	
	comp=Z,12nm,1.0s						
QSPA	**South Pole Qui**	**74.12**	**180**	P	**P**	**10 14 26.0**	**+1.2**
	comp=Z,8.3nm,1.0s,baz=100,slow=0.6,SNR=26						
	comp=Z,8.3nm,1.0s						
OHAK	**Old Harbor**	**74.83**	**11**	P	**P**	**10 14 30.5**	**+1.9**
	baz=201						
NVAR	**Mina Array Bea**	**74.90**	**42**	P	**P**	**10 14 31.9**	**+2.0**
	comp=Z,1.2nm,0.9s,baz=230,slow=9.3,SNR=7.6						
NVAR				pP	**pwP**	**10 14 58.6**	**+1.5**
	comp=Z,5.6nm,1.0s,baz=226,slow=8.2,SNR=9.0						
	comp=Z,1.2nm,0.9s						
R18K	**Karluk**	**74.94**	**11**	P	**P**	**10 14 31.1**	**+1.8**
	baz=199						
Q17K	**Contact Creek**	**75.36**	**10**	P	**P**	**10 14 33.8**	**+1.9**
	baz=198						
KDAK	**Kodiak Island**	**75.48**	**11**	P	**P**	**10 14 34.4**	**+2.0**
	baz=201						
Q18K	**Katmai Hardscr**	**75.87**	**10**	P	**P**	**10 14 35.9**	**+1.1**
	baz=199						
P17K	**Kvichak River**	**76.16**	**9**	P	**P**	**10 14 37.5**	**+1.3**
	baz=197						
Q20K	**Shuyak Island**	**76.30**	**11**	P	**P**	**10 14 37.3**	**+0.3**
	baz=201						
O16K	**Kokwok River B**	**76.31**	**8**	P	**P**	**10 14 36.7**	**-0.4**
	baz=196						
M13K	**Dall Lake**	**76.53**	**5**	P	**P**	**10 14 37.9**	**-0.4**
	baz=190						
P18K	**Big Mountain,**	**76.54**	**10**	P	**P**	**10 14 38.1**	**-0.4**
	baz=198						
N15K	**Kwethluk River**	**76.62**	**7**	P	**P**	**10 14 39.1**	**+0.2**
	baz=194						
O17K	**Koliganek Bris**	**76.62**	**9**	P	**P**	**10 14 39.2**	**+0.4**
	baz=197						
O18K	**Koktuh Hills**	**76.98**	**9**	P	**P**	**10 14 41.5**	**+0.5**
	baz=198						
M14K	**Bethel**	**76.99**	**6**	P	**P**	**10 14 41.5**	**+0.7**
	baz=192,SNR=6.0						
M15K	**Kasigluk River**	**77.06**	**7**	P	**P**	**10 14 42.3**	**+1.0**
	baz=193,SNR=8.0						
N17K	**Nushagak Hills**	**77.34**	**8**	P	**P**	**10 14 43.7**	**+0.9**
	baz=196						
O19K	**Port Alsworth**	**77.45**	**10**	P	**P**	**10 14 43.6**	**+0.1**
	baz=199						
L14K	**Kuka Creek**	**77.50**	**5**	P	**P**	**10 14 44.5**	**+0.8**
	baz=191						
M16K	**Timber Creek**	**77.58**	**7**	P	**P**	**10 14 44.8**	**+0.5**
	baz=195,SNR=5.1						
N18K	**Kilae Creek**	**77.67**	**9**	P	**P**	**10 14 44.8**	**+0.1**
	baz=198						
K13K	**Kusilvak Mount**	**77.92**	**4**	P	**P**	**10 14 46.6**	**+0.5**
	baz=189						
L15K	**Ungalak Mounta**	**77.95**	**6**	P	**P**	**10 14 45.9**	**-0.3**
	baz=192						
N19K	**Bonanza Creek**	**78.01**	**9**	P	**P**	**10 14 46.0**	**-0.7**
	baz=199						
M17K	**Holitna River**	**78.14**	**8**	P	**P**	**10 14 46.8**	**-0.5**
	baz=196						
ELK	**Elko**	**78.15**	**41**	LR	LR	10 43 58.8	
	comp=Z,37nm,18.3s,baz=360,slow=31						
SEW	**Seward**	**78.26**	**12**	P	**P**	**10 14 47.8**	**-0.2**
	baz=204						
Q23K	**Middleton Isla**	**78.31**	**14**	P	**P**	**10 14 48.7**	**+0.4**
	baz=207						
M18K	**Stony River**	**78.45**	**9**	P	**P**	**10 14 49.1**	**+0.1**
	baz=198						
K15K	**Wolf Creek Mou**	**78.55**	**6**	P	**P**	**10 14 49.9**	**+0.4**
	baz=192,SNR=5.4						
P23K	**Montague Islan**	**78.59**	**13**	P	**P**	**10 14 50.4**	**+0.6**
	baz=206						
L17K	**Donlin**	**78.74**	**7**	P	**P**	**10 14 50.8**	**+0.2**
	baz=195,SNR=7.9						
N20K	**Mount Spurr**	**78.75**	**10**	P	**P**	**10 14 50.9**	**+0.1**
	baz=201						
J14K	**Nanvaranak Lak**	**78.82**	**5**	P	**P**	**10 14 51.0**	**+0.1**
	baz=190						
CRAG	**Craig**	**78.92**	**22**	P	**P**	**10 14 51.8**	**+0.1**
	baz=220						
L18K	**Granite Mounta**	**79.03**	**8**	P	**P**	**10 14 52.4**	**+0.2**
	baz=197,SNR=5.4						
M19K	**Big River Lodg**	**79.06**	**9**	P	**P**	**10 14 52.7**	**+0.3**
	baz=199						
RC01	**Rabbit Creek A**	**79.11**	**12**	P	**P**	**10 14 52.8**	**+0.2**
	baz=204						
PWL	**Port Wells**	**79.17**	**12**	P	**P**	**10 14 52.5**	**-0.5**
	baz=205						
KAIM	**Kayak Island**	**79.21**	**15**	P	**P**	**10 14 53.2**	**0.0**
	baz=209						
M20K	**Styx River**	**79.24**	**10**	P	**P**	**10 14 53.5**	**+0.1**
	baz=200						
L19K	**White Mountain**	**79.25**	**9**	P	**P**	**10 14 53.4**	**-0.1**
	baz=199						
K17K	**Iditarod**	**79.31**	**7**	P	**P**	**10 14 53.7**	**0.0**
	baz=195						
V35K	**Ketchikan**	**79.37**	**23**	P	**P**	**10 14 54.5**	**+0.4**
	baz=221						
U33K	**Whale Pass**	**79.42**	**22**	P	**P**	**10 14 55.0**	**+0.6**
	baz=220						
EYAK	**Cordova Ski Ar**	**79.45**	**14**	P	**P**	**10 14 55.1**	**+0.6**
	baz=208						
GLI	**Glacier Island**	**79.45**	**13**	P	**P**	**10 14 54.8**	**+0.3**
	baz=206						
SKT	**Skwentna**	**79.60**	**10**	P	**P**	**10 14 55.2**	**-0.1**
	baz=202						
J16K	**Anvik River**	**79.61**	**6**	P	**P**	**10 14 56.0**	**+0.7**
	baz=193,SNR=6.6						
M22K	**Willow**	**79.64**	**11**	P	**P**	**10 14 55.1**	**-0.4**
	baz=203						
KNK	**Knik Glacier**	**79.65**	**12**	P	**P**	**10 14 55.9**	**+0.3**
	baz=205						
BGLC	**Bering Glacier**	**79.66**	**15**	P	**P**	**10 14 55.2**	**-0.4**
	baz=210						
L20K	**Farewell, AK**	**79.69**	**9**	P	**P**	**10 14 54.8**	**-1.0**
	baz=200						
PMR	**Palmer**	**79.69**	**12**	P	**P**	**10 14 55.8**	**+0.1**
	baz=204						
S31K	**Pelican**	**79.83**	**19**	P	**P**	**10 14 56.2**	**-0.3**
	baz=217						
J17K	**VABM Dome**	**79.88**	**7**	P	**P**	**10 14 55.8**	**-1.0**
	baz=194						
WRAK	**Wrangell Islan**	**79.93**	**22**	P	**P**	**10 14 56.6**	**-0.6**
	baz=220						
S32K	**Killisnoo**	**79.98**	**20**	P	**P**	**10 14 58.0**	**+0.7**
	baz=218						
MESA	**MESA**	**80.05**	**15**	P	**P**	**10 14 57.4**	**-0.6**
	baz=211						
BMRM	**Bremner River**	**80.09**	**14**	P	**P**	**10 14 58.0**	**0.0**
	baz=209						
M23K	**Glacier View**	**80.15**	**12**	P	**P**	**10 14 58.5**	**+0.3**
	baz=206						
J18K	**Innoko River**	**80.23**	**8**	P	**P**	**10 14 58.1**	**-0.6**
	baz=197,SNR=5.3						
KLU	**Klutina**	**80.26**	**13**	P	**P**	**10 14 57.4**	**-1.5**
	baz=207						
NJ2	**Nanjing**	**80.26**	**307**	*e*P	P	10 15 04.3	+4.8
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SCM	**Sheep Creek Mo**	**80.27**	**12**	P	**P**	**10 14 57.7**	**-1.3**
	baz=206						
PNL	**Peninsula**	**80.30**	**17**	P	**P**	**10 14 58.9**	**-0.2**
	baz=214						
PPLA	**Purkeypile**	**80.35**	**10**	P	**P**	**10 14 59.3**	**-0.2**
	baz=201						
K20K	**Telida**	**80.49**	**9**	P	**P**	**10 15 00.5**	**+0.5**
	baz=199,SNR=5.4						
R32K	**Eaglecrest**	**80.64**	**20**	P	**P**	**10 15 01.3**	**+0.3**
	baz=218						
N25K	**Chitina, Valde**	**80.65**	**14**	P	**P**	**10 15 01.0**	**-0.1**
	baz=208						
P29M	**Windy Craggy**	**80.74**	**18**	P	**P**	**10 15 01.0**	**-0.5**
	baz=215						
M24K	**Tolsona, Glenn**	**80.75**	**13**	P	**P**	**10 15 01.5**	**-0.1**
	baz=207						
MCARA	**McCarthy VSAT**	**80.82**	**14**	P	**P**	**10 15 01.7**	**-0.2**
	baz=210						
CAST	**Castle Rocks**	**80.85**	**10**	P	**P**	**10 15 02.0**	**0.0**
	baz=201						
CTG	**Chitna Glacier**

YUK3	Moose Creek baz=212	81.79	15	P		P	10 15 07.1	-0.2
I20K	Naaghedeneel baz=199	81.80	8	P		P	10 15 07.0	+0.1
YUK4	Talbot Arm baz=214	81.90	16	P		P	10 15 07.1	-0.7
Q32M	Nakina River baz=220	81.91	20	P		P	10 15 07.2	-0.8
P32M	Atlin baz=219	81.93	19	P		P	10 15 07.3	-0.6
M27K	Edge Creek, AK baz=211	81.94	14	P		P	10 15 07.1	-0.8
O30N	Mendenhall baz=217	82.15	18	P		P	10 15 07.9	-1.0
L26K	Log Cabin Wild baz=210	82.18	13	P		P	10 15 08.0	-1.0
BVCY	Beaver Creek baz=212	82.24	15	P		P	10 15 08.0	-1.3
H19K	Roundabout Mou baz=197	82.25	7	P		P	10 15 08.2	-1.0
DLBC	Dease Lake baz=222	82.28	21	P		P	10 15 08.1	-1.6
K24K	Donnelly Dome baz=207	82.35	12	P		P	10 15 08.9	-1.1
G18K	Tagagawik baz=195	82.35	6	P		P	10 15 08.9	-1.0
H20K	Anotleneega Mo baz=198	82.41	8	P		P	10 15 09.0	-1.2
WHY	Whitehorse baz=218	82.42	18	P		P	10 15 09.5	-0.9
N30M	Aishikik Lake baz=216	82.42	17	P		P	10 15 10.3	0.0
NEA2	Nenana baz=204,SNR=5.9	82.45	10	P		P	10 15 10.1	-0.2
RIDG	Independent Ri baz=208	82.49	12	P		P	10 15 09.9	-0.7
I21K	Tanana baz=201	82.52	9	P		P	10 15 10.0	-0.7
L27K	Beaver Creek, baz=211	82.56	14	P		P	10 15 11.2	+0.2
MLY	Manley baz=202,SNR=5.7	82.58	10	P		P	10 15 11.3	+0.3
HDA	Harding Lake baz=206,SNR=5.4	82.67	11	P		P	10 15 12.2	+0.7
R33M	Jennings River baz=221	82.68	20	P		P	10 15 12.3	+0.4
P33M	Teslin, Yukon baz=220	82.70	19	P		P	10 15 11.6	-0.3
G19K	Purcell Mounta baz=196	82.76	7	P		P	10 15 12.3	+0.3
N31M	Braeburn, Yuko baz=217	82.81	17	P		P	10 15 12.7	+0.3
PDAR	Pinedale Array comp=Z,2.0nm,0.8s,baz=215,slow=3.0,SNR=20	82.83	42	P		P	10 15 14.6	+1.4
PDAR				pP		sP	10 15 43.2	-6.0
	comp=Z,2.8nm,1.0s,baz=222,slow=4.0,SNR=6.8 comp=Z,2.0nm,0.8s							
H21K	Melozitna Rive baz=200,SNR=5.3	82.85	9	P		P	10 15 12.7	+0.3
M29M	Somme Creek baz=214	82.87	16	P		P	10 15 12.9	+0.2
SCRK	Sand Creek baz=209,SNR=6.7	82.88	13	P		P	10 15 12.4	-0.4
I23K	Minto, Yukon-K baz=204,SNR=6.8	82.91	10	P		P	10 15 12.5	-0.2
COLA	College baz=205	82.92	11	P		P	10 15 12.6	-0.2
F18K	Selawik baz=194	82.94	6	P		P	10 15 12.6	-0.2
SEY	Seymchan comp=Z,6.8nm,1.1s,baz=156,slow=2.5,SNR=7.6 comp=Z,6.8nm,1.1s	82.95	345	P		P	10 15 14.0	+1.0
ILAR	Eielson Array comp=Z,2.0nm,1.0s,baz=223,slow=5.7,SNR=20	83.01	11	P		P	10 15 13.9	+0.6
ILAR				pP		pP	10 15 42.5	+3.5
	comp=Z,0.9nm,0.6s,baz=230,slow=6.5,SNR=4.1 comp=Z,2.0nm,1.0s							
J25K	Salcha River, baz=208,SNR=7.2	83.16	12	P		P	10 15 13.8	-0.3
POKR	Poker Plat Res baz=206	83.22	11	P		P	10 15 13.6	-0.8
H22K	Ishtalitna Cre baz=202,SNR=6.6	83.28	9	P		P	10 15 14.5	-0.2
K27K	Chicken baz=211	83.34	13	P		P	10 15 15.8	+0.8
N32M	Quiet Lake baz=219	83.35	19	P		P	10 15 15.0	-0.2
F19K	Shaleruckik Mo baz=196	83.36	6	P		P	10 15 15.4	+0.4
M30M	Minto, Yukon baz=216	83.42	16	P		P	10 15 14.5	-1.0
J26L	Joseph Creek baz=209,SNR=8.8	83.43	13	P		P	10 15 15.5	0.0
H23K	Yukon River baz=204	83.50	10	P		P	10 15 15.5	-0.3
L29M	L29M baz=214,SNR=7.4	83.50	15	P		P	10 15 15.6	-0.3
G21K	Aliakaket baz=200,SNR=7.8	83.56	8	P		P	10 15 16.1	0.0
E18K	Tukpahlearik C baz=193	83.66	5	P		P	10 15 16.2	-0.3
D17K	Noatak River baz=190	83.75	4	P		P	10 15 17.2	+0.2
M31M	Drury Creek, Y baz=218	83.78	17	P		P	10 15 17.4	+0.1
F20K	Avaraart Lake baz=198,SNR=7.8	83.79	7	P		P	10 15 17.7	+0.5
H24K	Noodor Dome baz=205	83.80	10	P		P	10 15 17.0	-0.3
PRP	Porcupine Dome baz=207	83.94	11	P		P	10 15 18.2	0.0
WTLY	Watson Lake, Y baz=223	83.95	21	P		P	10 15 18.5	+0.3
DAWY	Dawson baz=213,SNR=7.3	83.99	14	P		P	10 15 19.3	+0.9
E19K	Redstone River baz=196	84.02	6	P		P	10 15 19.5	+1.1
I26K	Coal Creek Min baz=210	84.22	12	P		P	10 15 20.2	+0.8
G22K	Bettles baz=202	84.22	9	P		P	10 15 20.6	+1.2
F21K	Alatna River baz=200,SNR=5.9	84.23	8	P		P	10 15 20.5	+1.0
G23K	Bananza Creek baz=203,SNR=7.1	84.25	9	P		P	10 15 20.4	+0.8
K29M	Barlow Dome baz=215,SNR=5.0	84.27	15	P		P	10 15 19.8	-0.1
TOAD	Toad River Com baz=227,SNR=7.4	84.33	23	P		P	10 15 20.4	+0.3
C17K	DeLong Mountai baz=190	84.51	4	P		P	10 15 20.7	-0.1
H25L	Birch Creek baz=207	84.55	11	P		P	10 15 21.8	+0.8
G24K	Hadweenzic Riv baz=206	84.65	10	P		P	10 15 22.4	+0.8
F22K	John River baz=201	84.68	8	P		P	10 15 22.8	+1.0
COLD	Coldfoot baz=203,SNR=8.5	84.70	9	P		P	10 15 23.3	+1.5
I27K	Kandik River baz=211	84.80	13	P		P	10 15 23.5	+1.0
C18K	Utukok River baz=192	84.82	5	P		P	10 15 22.9	+0.4
E20K	Nigu River baz=197	84.90	6	P		P	10 15 23.8	+0.9
D19K	Kuna River baz=195	84.93	6	P		P	10 15 24.2	+1.2
G25K	Bearman Lake baz=207	84.95	11	P		P	10 15 24.5	+1.5
MMPY	Sheldon Lake, baz=221	85.03	18	P		P	10 15 25.2	+1.6
I28M	Miner Creek baz=213	85.03	13	P		P	10 15 25.0	+1.3
TGTN	Hyland Airport baz=224	85.16	20	P		P	10 15 25.9	+1.6
J30M	Hart River baz=216	85.17	15	P		P	10 15 26.1	+1.7
D20K	Etivluk River baz=197	85.29	6	P		P	10 15 26.5	+1.7
E22K	Anaktuvuk Pass baz=201,SNR=10.0	85.31	8	P		P	10 15 27.1	+2.2
F24K	Squaw Lake baz=205	85.33	10	P		P	10 15 27.3	+2.3
E21K	Killik River baz=199	85.33	7	P		P	10 15 26.5	+1.5
I29M	Ogilvie Camp, baz=214	85.33	14	P		P	10 15 26.6	+1.5
H27K	Steamboat Moun baz=211,SNR=5.5	85.36	12	P		P	10 15 27.4	+2.2
C19K	Lookout Ridge baz=194	85.39	5	P		P	10 15 27.2	+1.8
B18K	Kokolik River baz=192	85.48	4	P		P	10 15 28.0	+2.4
G26K	Porcupine Rive baz=209,SNR=18	85.54	11	P		P	10 15 28.1	+2.1
E23K	Chandalar baz=203	85.56	9	P		P	10 15 28.7	+2.5
KOTAN	Kotaneelee Air baz=228	85.65	22	P		P	10 15 28.4	+1.7
I30M	Mount Dempster baz=216,SNR=5.4	85.68	15	P		P	10 15 28.6	+1.7
E24K	Your Creek baz=204	85.74	9	P		P	10 15 28.0	+1.0
F25K	Christian Rive baz=207	85.77	10	P		P	10 15 28.8	+1.5
G27K	Doyon Strip baz=211	85.83	12	P		P	10 15 29.4	+1.9
D22K	Ayikyak River baz=200	85.90	7	P		P	10 15 29.6	+1.8
C21K	Knifeblade Rid baz=198	85.92	7	P		P	10 15 29.7	+1.8
H29M	Whitestone baz=214	86.03	14	P		P	10 15 30.1	+1.6
TOLK	Toolik Lake Re baz=203	86.10	9	P		P	10 15 30.7	+1.9
F26K	Sheenjek River baz=209	86.13	11	P		P	10 15 30.2	+1.2
D23K	Nanushuk River baz=202	86.25	8	P		P	10 15 31.0	+1.6
A19K	Wainwright baz=192	86.36	4	P		P	10 15 31.4	+1.5
B21K	Ikpikpuk River baz=199	86.38	7	P		P	10 15 32.2	+2.1
B20K	Meade River baz=196	86.49	6	P		P	10 15 31.6	+1.0
EPYK	Eagle Plains baz=216	86.54	14	P		P	10 15 31.7	+0.7
H31M	Peel River baz=218	86.66	15	P		P	10 15 32.3	+0.7
G29M	Pine Creek baz=214	86.69	13	P		P	10 15 32.3	+0.6
F28M	Old Crow baz=213	86.88	12	P		P	10 15 32.3	-0.3
E27K	Colleen River baz=211	87.03	11	P		P	10 15 34.0	+0.6
C23K	Itkillik River baz=202	87.06	8	P		P	10 15 34.2	+0.8
G30M	tAoh Zraii Nji baz=216,SNR=5.2	87.15	14	P		P	10 15 34.7	+0.7
D25K	Kavik River baz=206	87.20	9	P		P	10 15 35.1	+0.9
MAW	Mawson comp=Z,12nm,1.1s,baz=122,slow=5.7,SNR=14	87.21	199	P		P	10 15 35.3	+0.9
	comp=Z,12nm,1.1s							
C24K	Franklin Bluff baz=204	87.22	8	P		P	10 15 34.9	+0.8
G31M	Satah River baz=218	87.57	15	P		P	10 15 36.9	+1.1
F30M	Barrier River baz=216	87.76	14	P		P	10 15 38.8	+1.9
E28M	Babbage River baz=213	87.79	12	P		P	10 15 38.4	+1.4
C27K	Jago River baz=209	87.91	10	P		P	10 15 38.1	+0.6
E29M	Blow River baz=214	87.94	13	P		P	10 15 38.7	+1.0
WRGLY	Wrigley baz=228	87.95	20	P		P	10 15 38.5	+0.7
D27M	Malcolm River baz=212	88.06	11	P		P	10 15 38.5	+0.2
F31M	Tsiigehtchic baz=218	88.10	14	P		P	10 15 39.2	+0.8
INK	Inuvik baz=219	88.84	14	P		P	10 15 42.6	+0.8
HHC	Hu-ho-hao-te	89.18	313	*e*P		P	10 15 46.5	+2.2
HHC				pmax		pmax		
	comp=Z,10.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,130nm,5.6s							
YKA	Yellowknife Ar comp=Z,0.7nm,0.9s,baz=244,slow=3.8,SNR=3.7 comp=Z,0.7nm,0.9s	90.68	23	P		P	10 15 52.2	+1.7
SYO	Syowa Base	92.04	191	⇓*e*P		P	10 15 57.2	+0.3
SYO	Syowa Base	92.04	191	⇑*e*pP		pP	10 16 16.9	-5.9
TROLL	Troll, Antarti comp=Z,190nm,1.2s	92.25	179	⇓P		P	10 15 59.0	+0.9
PZH	PanZhiHua	92.27	297	P		P	10 16 00.0	+1.0
VNA3	Neumayer Olymp comp=Z,2.2nm,0.8s	92.36	175	⇓P		P	10 15 59.3	+0.8
SNAA	Sanae comp=Z,41nm,0.9s	92.40	177	⇓P		P	10 15 59.6	+0.9
SNAA	Sanae comp=Z,2.2nm,1.0s,baz=176,slow=7.4,SNR=6.1 comp=Z,2.2nm,1.0s	92.40	177	P		P	10 15 59.3	+0.6
CMAR	Chiang Mai Arr comp=Z,1.6nm,0.7s,baz=81,slow=3.3,SNR=8.4 comp=Z,1.6nm,0.7s	92.52	288	P		P	10 16 01.8	+1.6
VNA1	Neumayer--Stat comp=Z,7.0nm,1.1s	93.06	175	⇓P		P	10 16 03.0	+1.4
A36M	Sachs Harbour baz=226	93.47	13	P		P	10 16 03.4	+0.1
BVAR	Borovoye Array comp=Z,1.3nm,0.8s,baz=198,slow=3.0,SNR=4.0	118.13	322	PKP		PKiKP	10 21 34.9	+0.2
ARCES	ARCESS Array B comp=Z,2.3nm,0.8s,baz=26,slow=3.1,SNR=4.8	125.09	352	PKP		PKiKP	10 21 48.2	+0.2
R9F13	Warsaw-Wawer	141.92	345	*e*PKP		sPKPdf	10 22 54.0	-3.1
KIBK	Kibwezi	143.77	243			PKPdf	10 22 23.3	-0.9
CLL	Collm	144.30	353	e(PKPdf)		PKPdf	10 22 23.0	-0.8
DPC	Dobruska-Polom	144.72	349	*e*PKP		PKiKP	10 22 25.5	-2.9
BUR08	Bucovina Ar. S	144.73	338			PKiKP	10 22 25.6	-3.0
BURAR	Bucovina Array	144.75	338			PKPdf	10 22 25.2	+0.4
BURAR	Bucovina Array	144.75	338	⇓P		PKPdf	10 22 25.2	+0.4
STEB	Steborice	144.83	347	*e*PKP		PKPdf	10 22 24.9	+0.1
UCC	Uccle	145.18	2	*d*PKP		PKPdf	10 22 25.6	+0.3
MAUC	Maruska	145.35	347	*e*PKP		PKiKP	10 22 27.7	-2.0
BSTI	Sart Tilman	145.42	1	*d*PKP		PKiKP	10 22 27.4	-2.3
BGES	Gesves	145.61	1	*d*PKP		PKiKP	10 22 28.1	-2.0
PLOR	Plostina	145.64	335	⇑P		PKPab	10 22 27.3	+0.1
BHOU	Houvegnez	145.66	0	*d*PKP		PKiKP	10 22 27.7	-2.5
TPGR	Topolog	145.66	332	⇑P		PKiKP	10 22 27.9	-2.5
VRAC	Vranov	145.66	348	*e*PKP		PKiKP	10 22 27.6	-2.7
BMRD	Maredsous	145.69	2	*d*PKP		PKiKP	10 22 28.2	-2.1
JAVC	Velka Javorina	145.86	347	*e*PKP		PKiKP	10 22 29.6	-1.2
DOU	Dourbes	145.89	2	*d*PKP		PKiKP	10 22 29.3	-1.4
VYHS	Vyhne	145.93	345	*e*PKP		PKiKP	10 22 28.8	-2.1
KRUC	Moravsky	145.94	348	*e*PKP		PKiKP	10 22 28.3	-2.6
MLR	Muntele Rosu	146.23	335			PKPab	10 22 28.8	-0.8
MARR	Marisel-Cluj	146.29	339	⇓P		PKPab	10 22 29.3	-0.4
KHC	Kasperske Hory	146.35	351	*e*PKP		PKiKP	10 22 29.9	-1.9
BR131	Keskin Array S	146.39	320			PKPab	10 22 29.2	-1.2
BRTR	Keskin Array B comp=Z,7.7nm,0.9s,baz=118,slow=1.8,SNR=34	146.39	320	PKPbc		PKiKP	10 22 30.4	-1.8
BRTR				pPKPbc		sPKPdf	10 23 01.2	-4.3
	comp=Z,3.3nm,1.0s,baz=90,slow=2.5,SNR=3.9							
MODS	Modra-Piesok	146.41	347	*e*PKP		PKPab	10 22 28.5	-1.5
KIRS	Kirsehir-Merke	146.57	319	⇑P		PKiKP	10 22 30.9	-1.7
GERES	GERESS Array B comp=Z,0.7nm,0.5s,baz=38,slow=2.4,SNR=11	146.61	351	PKPbc		PKPab	10 22 30.2	-0.7
GERES				pPKPbc		sPKPdf	10 23 01.3	-4.3
	comp=Z,0.6nm,0.6s,baz=20,slow=4.3,SNR=2.8							
VOIR		146.63	336	⇑P		PKiKP	10 22 31.1	-1.4
CONA	Conrad Observa comp=Z,8.6nm,1.1s	147.13	348	*i* PKP		PKiKP	10 22 32.3	-1.1
SIRR	Siria	147.14	340	⇑P		PKiKP	10 22 31.9	-1.5
RONA	Rosalia, Austr comp=Z,9.8nm,1.3s	147.26	348	*e*PKP		PKiKP	10 22 32.7	-1.0
BIOA	Bad Ischl, Aus comp=Z,5.6nm,0.7s	147.75	351	*e*PKP		PKPab	10 22 34.0	-1.3
LESA	Schwarzleotal comp=Z,5.4nm,1.1s	148.15	352	*e*PKP		PKiKP	10 22 34.9	-0.7
WATA	Walderalm comp=Z,0.9nm,0.5s	148.38	353	PKP		PKiKP	10 22 35.4	-0.8
MOTA	Moosalm comp=Z,9.4nm,1.1s	148.42	354	*e*PKP		PKiKP	10 22 35.5	-0.7
WTTA	Wattenberg comp=Z,7.9nm,1.2s	148.44	353	PKP		PKiKP	10 22 35.9	-0.4
SOKA	Soboth comp=Z,4.9nm,0.9s	148.49	348	*e*PKP		PKiKP	10 22 35.6	-0.7
SQTA	Sankt Quirin comp=Z,6.6nm,1.0s	148.53	354	*e*PKP		PKiKP	10 22 36.0	-0.4
MMAI	Mount Meron Ar comp=Z,1.4nm,0.5s,baz=64,slow=9.5,SNR=6.9	148.68	308	PKPbc		PKPab	10 22 36.9	-2.7
OBKA	Obir comp=Z,3.7nm,1.0s	148.74	349	*i* PKP		PKiKP	10 22 35.8	-1.1
FETA	Feichten comp=Z,13nm,1.5s	148.78	354	*e*PKP		PKiKP	10 22 36.7	-0.3
MYKA	Terra Mystica comp=Z,2.1nm,0.6s	148.78	350	*e*PKP		PKiKP	10 22 35.5	-1.4
ABTA	Albaltersbach comp=Z,8.1nm,1.1s	148.84	352	*e*PKP		PKiKP	10 22 36.2	-0.8
LODK	Lodwar	148.85	250			PKiKP	10 22 37.8	-0.3

GCG ***31*** *10:11:35.5±1.3, 13°.86N×90°.82W, h70km±7km, MD3.5, ML3.8, MW3.1*
CATAC ***31*** *10:11:35.4±0.5, 14°.N±4°×9°.1W±°, h33km±6km, M3.2/17, MLv3.2/17, Error ellipse: s-maj=9.4km s-min=2.7km az=28.8, confirmed*
SNET ***31*** *10:11:37.5±3.2, 14°.18N×90°.57W, h60km, ML2.9*
ISC 31 10:11:36.2±1.5, 13°.72N±0°.07×90°.79W±0°.05, h50km, n37, σ1$01/40, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ESSJ	San Jos, E	0.32	118	*i* P		Pn	10 11 45.4	-0.2
ESSJ				*i* S		Sn	10 11 54.6	+2.5
FG8	Yepocapa, Chim	0.58	23	*i* P		Pn	10 11 49.6	+1.0
FG8				*i* S		Sn	10 12 00.3	+2.7
FG16	Alotenango, Sa	0.62	26	*i* P		Pn	10 11 49.8	+0.6
FG16				IAML			10 12 04.5	
	comp=N,7μm,0.2s							
ESSG	Sabana Grande	0.67	357	*i* P		Pn	10 11 48.4	-1.2
ESSG				*i* S		Sn	10 11 58.0	-1.3
FAME	Alcaldia de Sa	0.77	80	P		Pn	10 11 50.4	-0.4
FAME	Alcaldia de Sa	0.77	80	S		Sn	10 12 01.3	-0.1
STG2	El Palmar, Qui	0.91	322	*i* P		Pn	10 11 56.2	+3.3
SLOZ	Alcaldia de Sa	1.03	72	*e*P		Pn	10 11 54.2	-0.1
SLOZ				*e*S		Sn	10 12 08.2	+0.4
SLOZ	Alcaldia de Sa	1.03	72	P		Pn	10 11 54.3	-0.1
RTR	El Retiro	1.13	81	*e*P		Pn	10 11 55.9	+0.1
CEVE	Cerro Verde	1.14	84	*e*P		Pn	10 11 56.0	-0.1
CEVE	Cerro Verde	1.14	84	S		Sn	10 12 10.8	+0.1
CEVE	Cerro Verde	1.14	84	P		Pn	10 11 55.5	-0.6
SNJE	San Jose	1.16	82	*e*P		Pn	10 11 56.3	-0.1
RTAL	Retalhuleu	1.19	313	*e*S		Sn	10 12 10.5	-1.1
RTAL	Retalhuleu	1.19	313	P		Pn	10 11 55.6	-0.8
RTAL	Retalhuleu	1.19	313	S		Sn	10 12 10.5	-1.1
UNIC	Universidad Ca	1.24	78	S		Sn	10 12 13.4	+0.6
UNIC	Universidad Ca	1.24	78	P		Pn	10 11 56.7	-0.5
SOKI	Kika Raxquin	1.25	332	*i* S		Sn	10 12 13.6	0.0
SOKI				IAML			10 12 16.6	
	comp=E,558nm,0.6s							
JAYA	Jayaque - finc	1.31	93	*e*P		Pn	10 11 57.8	-0.4
JAYA	Jayaque - finc	1.31	93	P		Pn	10 11 57.7	-0.5
CEDA	San Andres	1.36	86	P		Pn	10 11 58.1	-0.8
PMON	Piamonte	1.44	90	S		Sn	10 12 18.1	+0.3
PMON	Piamonte	1.44	90	P		Pn	10 12 00.1	+0.1
LALI	Alcalda de L	1.45	99	P		Pn	10 11 58.9	-1.1
LALI	Alcalda de L	1.45	99	S		Sn	10 12 18.2	+0.4
UEES	Universidad Ev	1.51	90	P		Pn	10 12 00.7	-0.2
UEES	Universidad Ev	1.51	90	S		Sn	10 12 19.7	+0.2
MTO3	Montecristo	1.55	64	P		Pn	10 12 00.6	-1.0
PANCS	Alcalda de	1.57	94	S		Sn	10 12 20.9	-0.1
PANCS	Alcalda de	1.57	94	P		Pn	10 12 01.3	-0.5
ESQI	Esquipulas	1.64	59	P		Pn	10 12 02.2	-0.5
HUEH	Huehuetenango	1.73	337	P		Pn	10 12 03.3	-0.9
PAVA	Las Pavas	1.80	90	P		Pn	10 12 04.6	-0.4
PAVA	Las Pavas	1.80	90	S		Sn	10 12 16.3	-10
SARH	Santa Rosa de	2.23	62	*i* P		Pn	10 12 10.4	-0.4

SOME ***31*** *10:30:09.9, 43°.63N×69°.78E*
NNC 31 10:30:10.7±1.9, 43°.64N×69°.73E, h0km, mb3.7, mpv3.2, 1C-3D, Error ellipse: s-maj=12.8km s-min=8.3km az=71.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	Karatay Array 5.2nm,0.4s,baz=322,slow=14	0.78	133	⇓P		Pg	10 30 25.5	-0.2
KK31				⇓S		Sg	10 30 37.1	+1.2
	44nm,0.6s,baz=311,slow=37,SNR=49							
MRKS	Merke 6.0nm,0.5s	2.71	108	Pg		Pb	10 31 00.7	+0.5
MRKS				Lg		Lg	10 31 37.6	
	16nm,0.6s							
BTLS	Baital 14nm,0.5s	3.40	64	Pg		Pg	10 31 15.8	-0.1
BTLS				Lg		Lg	10 32 02.4	
	5.6nm,0.7s							
SGDS	Sogindy 3.9nm,0.4s	3.57	91	Pg		Pg	10 31 17.4	-1.8
SGDS				Lg		Lg	10 32 06.1	
	7.6nm,0.5s							
AAK	Ala-Archa 2.9nm,0.5s	3.63	104	⇓Pg		Pb	10 31 16.3	+0.4
AAK				⇑Lg		Lg	10 32 06.4	
	1.7nm,0.5s							
DGS	Degeres 2.9nm,0.5s	4.42	93	Pg		Pb	10 31 31.4	+2.1
DGS				Lg		Lg	10 32 29.6	
	8.9nm,0.5s							
KTBS	Karatobe 1.7nm,0.6s	5.05	87	Pg		Pb	10 31 43.0	+3.0
KTBS				Lg		Lg	10 32 50.2	
	5.7nm,0.5s							

NEIC ***31*** *10:31:41.3±1.0, 10°.20S±0°.03×161°.2E±0°.1, h86km±8km, mb4.3/14, Error ellipse: s-maj=17.2km s-min=4.4km az=82.0*
NOU ***31*** *10:31:41.6, 10°.27S×161°.31E, h45km, MLv4.7/17, Solomon Islands*
IDC ***31*** *10:31:41.2±0.7, 10°.20S×161°.15E, h93km±5km, mb3.8/15, mbtmp4.1/16, MS3.3/8, Error ellipse: s-maj=13.9km s-min=10.4km az=53.0*
ISC 31 10:31:41.2±0.4, 10°.26S±0°.06×161°.27E±0°.05, h100km, n63, σ1$67/62, mb4.1/21, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HURO	Huro Makira	0.65	108	P		Pn	10 31 54.5	-3.7
HURO	Huro Makira	0.65	108	S		Sn	10 32 05.9	-5.0
HNR	Honiara	1.55	302			Pn	10 32 05.8	-2.2
HNR	Honiara 1μm,0.3s,baz=181,slow=7.8,SNR=116	1.55	302	P		Pn	10 32 05.7	-2.4
HNR				S		Sn	10 32 24.4	-4.0
	2μm,0.4s,baz=167,slow=8.5,SNR=7.2							
HNR				LR		LR	10 32 54.6	
	comp=Z,549nm,20.5s,baz=136,slow=52							
HNR	Honiara	1.55	302	P		Pn	10 32 05.5	-2.5
HNR	Honiara	1.55	302	S		Sn	10 32 27.1	-1.3
ALEG	Aligegeo Malai	1.60	339	P		Pn	10 32 07.6	-1.2
ALEG	Aligegeo Malai	1.60	339	S		Sn	10 32 28.5	-1.2
SAVO	Savo Central	1.82	307	P		Pn	10 32 09.4	-2.0
TATA	Tatamba Isabel	2.36	322	P		Pn	10 32 18.0	-0.5
TATA	Tatamba Isabel	2.36	322	S		Sn	10 32 47.8	+0.7
LUES	Luesalemba Tem	4.58	95	P		Pn	10 32 47.7	-0.6
LUES	Luesalemba Tem	4.58	95	S		Sn	10 33 40.0	-0.4
VLAKA	Lakatoro	8.34	135	P		Pn	10 33 39.4	+0.1
DZM	Mont Dzumac	12.74	158	Pn		Pn	10 34 40.5	+1.6
DZM	Mont Dzumac 10nm,0.9s,baz=22,slow=11,SNR=106	12.74	158	P		Pn	10 34 39.9	+1.1
DZM				S		Sn	10 36 55.0	-4.1
	4.3nm,0.4s,baz=18,slow=23,SNR=6.1							
DZM	Mont Dzumac	12.74	158	P		Pn	10 34 41.0	+2.1
YATNC	Mamie plateau,	12.91	156	P		Pn	10 34 42.0	+1.1
ONTNC	Ouen Toro	12.96	158	Pn		Pn	10 34 43.0	+1.3
OUENC	Ouen Island, N	13.21	157	P		Pn	10 34 47.1	+2.2
P

	comp=Z,2.0nm,0.6s							
STKA	**Stephens Creek**	**28.18**	**217**	P	**P**	**10 37 25.1**	**+0.7**	
	comp=Z,0.9nm,0.5s,baz=5.4,slow=10,SNR=3.8							
	comp=Z,0.9nm,0.5s							
GUMO	**Guam**	**28.75**	**325**	LR	LR	10 48 14.7		
	comp=Z,25nm,21.2s,baz=170,slow=35							
H11S2	**WAKE ISLAND Hy**	**29.07**	**11**	T	T	11 06 26.5		
	baz=194,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy**	**29.07**	**11**	T	T	11 06 26.6		
	baz=194,slow=76,SNR=11							
H11S1	**WAKE ISLAND Hy**	**29.09**	**11**	T	T	11 06 28.1		
	baz=194,slow=76,SNR=9.0							
ASAR	**Alice Springs**	**29.30**	**239**	P	**P**	**10 37 34.4**	**-0.1**	
	comp=Z,0.4nm,0.7s,baz=61,slow=10,SNR=6.3							
ASAR				pP	**pP**	**10 37 54.8**	**-0.5**	
	comp=Z,2.2nm,0.8s,baz=71,slow=9.2,SNR=12							
	comp=Z,0.4nm,0.7s							
H11N1	**WAKE ISLAND Hy**	**30.30**	**11**	T	T	11 08 08.3		
	baz=193,slow=76,SNR=9.6							
H11N3	**WAKE ISLAND Hy**	**30.30**	**11**	T	T	11 08 06.8		
	baz=193,slow=76,SNR=16							
H11N2	**WAKE ISLAND Hy**	**30.32**	**11**	T	T	11 08 07.1		
	baz=193,slow=76,SNR=17							
URZ	**Urewera**	**31.29**	**156**	LR	LR	10 47 53.3		
	comp=Z,90nm,18.9s,baz=328,slow=31							
KNRA	**Kununurra**	**32.11**	**257**	P	**P**	**10 37 59.1**	**-0.1**	
KNRA				IAmb	IAmb	10 38 01.6		
	comp=Z,8.8nm,0.9s							
BBOO	**Buckleboo**	**32.29**	**222**	P	**P**	**10 38 00.8**	**+0.2**	
BBOO				IAmb	IAmb	10 38 21.8		
	comp=Z,3.2nm,0.7s							
INU	**Inuyama**	**50.83**	**334**	P	**P**	**10 40 31.6**	**-0.1**	
JGF	**Kuroka**	**50.91**	**335**	P	**P**	**10 40 32.3**	**0.0**	
JGF				IAmb	IAmb	10 40 33.2		
	comp=Z,10nm,1.0s							
JMN	**Monobe**	**50.92**	**330**		**P**	**10 40 32.9**	**+0.5**	
MJAR	**Matsushiro Arr**	**51.37**	**336**	P	**P**	**10 40 34.7**	**-1.0**	
	comp=Z,2.3nm,0.6s,baz=162,slow=8.7,SNR=6.5							
	comp=Z,2.3nm,0.6s							
KSRS	**Korea Array**	**56.83**	**328**	P	**P**	**10 41 14.8**	**-0.5**	
	comp=Z,3.0nm,0.8s,baz=142,slow=7.3,SNR=12							
	comp=Z,3.0nm,0.8s							
USA0B	**Ussuriysk Arra**	**60.37**	**336**		**P**	**10 41 40.2**	**+0.5**	
USRK	**Ussuriysk Ar.**	**60.37**	**336**		**P**	**10 41 40.5**	**+0.8**	
USRK	**Ussuriysk Ar.**	**60.37**	**336**	P	**P**	**10 41 40.8**	**+1.1**	
	comp=Z,11nm,0.8s,baz=139,slow=5.6,SNR=21							
USRK				pP	**pP**	**10 42 03.0**	**-1.1**	
	comp=Z,2.5nm,0.8s,baz=168,slow=10,SNR=2.7							
	comp=Z,11nm,0.8s							
PETK	**Petropavlovsk-**	**63.19**	**358**	P	**P**	**10 41 58.0**	**-0.6**	
	comp=Z,2.9nm,0.9s,baz=141,slow=7.6,SNR=5.0							
PETK				pP	**pP**	**10 42 22.5**	**-0.4**	
	comp=Z,2.1nm,0.8s,baz=168,slow=10,SNR=3.3							
PETK				LR	LR	11 05 48.3		
	comp=Z,24nm,22.0s,baz=360,slow=32							
	comp=Z,2.9nm,0.9s							
VNDA	**Vanda**	**67.24**	**180**	P	**P**	**10 42 25.3**	**+0.9**	
	comp=Z,0.8nm,0.7s,baz=355,slow=5.5,SNR=3.7							
	comp=Z,0.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**67.78**	**295**	P	**P**	**10 42 29.4**	**+0.5**	
	comp=Z,0.4nm,0.4s,baz=97,slow=8.8,SNR=1.5							
CMAR				pP	**pP**	**10 42 53.0**	**-0.7**	
	comp=Z,1.2nm,0.6s,baz=126,slow=5.1,SNR=4.0							
CMAR				LR	LR	11 12 24.6		
	comp=Z,12nm,20.6s,baz=210,slow=36							
	comp=Z,0.4nm,0.4s							
MA2	**Magadan**	**70.12**	**354**	LR	LR	11 10 17.0		
	comp=Z,20nm,20.8s,baz=321,slow=33							
SONM	**Songino Array**	**75.48**	**325**		**P**	**10 43 15.3**	**+0.7**	
SONM				IAmb	IAmb	10 43 16.2		
	comp=Z,4.2nm,0.8s							
SONM	**Songino Array**	**75.48**	**325**	P	**P**	**10 43 15.4**	**+0.7**	
	comp=Z,4.6nm,0.8s,baz=141,slow=6.0,SNR=16							
SONM				pP	**pP**	**10 43 38.6**	**-1.3**	
	comp=Z,1.5nm,0.8s,baz=116,slow=6.8,SNR=2.7							
SONM				LR	LR	11 16 30.8		
	comp=Z,23nm,18.7s,baz=212,slow=36							
	comp=Z,4.6nm,0.8s							
L18K	**Granite Mounta**	**79.28**	**19**		**P**	**10 43 36.9**	**+1.6**	
L18K				IAmb	IAmb	10 43 38.8		
	comp=Z,7.3nm,1.1s							
QSPA	**South Pole Qui**	**79.73**	**180**	P	**P**	**10 43 39.4**	**+1.4**	
QSPA				IAmb	IAmb	10 43 43.5		
	comp=Z,2.9nm,1.1s							
QSPA	**South Pole Qui**	**79.73**	**180**	P	**P**	**10 43 39.1**	**+1.1**	
	comp=Z,2.2nm,0.8s,baz=349,slow=1.7,SNR=15							
	comp=Z,2.2nm,0.8s							
ILAR	**Eielson Array**	**84.22**	**20**	P	**P**	**10 44 01.3**	**+0.1**	
	comp=Z,1.3nm,1.0s,baz=253,slow=4.8,SNR=9.8							
ILAR				pP	**pP**	**10 44 26.1**	**-0.6**	
	comp=Z,0.8nm,0.7s,baz=258,slow=5.2,SNR=3.8							
	comp=Z,1.3nm,1.0s							
NVAR	**Mina Array Bea**	**88.91**	**51**	P	**P**	**10 44 27.0**	**+2.0**	
	comp=Z,0.7nm,0.8s,baz=243,slow=6.5,SNR=5.3							
	comp=Z,0.7nm,0.8s							
MKAR	**Makanchi Array**	**89.97**	**318**	P	**P**	**10 44 29.1**	**-0.3**	
	comp=Z,0.6nm,0.6s,baz=104,slow=5.1,SNR=6.7							
MKAR				pP	**pP**	**10 44 54.0**	**-1.2**	
	comp=Z,0.8nm,0.8s,baz=101,slow=6.4,SNR=4.4							
	comp=Z,0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**93.28**	**321**	P	**P**	**10 44 43.9**	**-0.8**	
	comp=Z,0.3nm,0.3s,baz=124,slow=4.5,SNR=3.2							
	comp=Z,0.3nm,0.3s							
ANMO	**Albuquerque**	**97.64**	**56**	LR	LR	11 20 15.0		
	comp=Z,29nm,19.9s,baz=112,slow=30							

*UPP **31** 10:45:32.2±0.1,59.°16N×14.°26E, h0km, ML1.7, Unknown*
*DNK **31** 10:45:32.6±1.5,59.°16N×14.°25E, h0km, ML1.7, Explosion*
*IDC **31** 10:45:34.5±1.7,59.°24N×14.°27E, h0km, mbtmp3.4/2, ML2.1/3, Error ellipse: s-maj=13.3km s-min=8.7km az=26.0*

ISC 31 10:45:30.8±0.7, 59.°19N±0.°03×14.°23E±0.°02, h0km, n38, σ0s61/55, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASKU	**Askersund**	**0.42**	**133**	P	**Pb**	**10 45 39.8**	**-1.4**
ASKU				S	**Sg**	**10 45 45.4**	**+0.9**
ASKU	**Askersund**	**0.42**	**133**	P	**Pb**	**10 45 39.8**	**-1.4**
ASKU				S	**Sg**	**10 45 45.4**	**+0.9**
NRAU	**Nora**	**0.56**	**47**	P	**Pb**	**10 45 43.1**	**-0.5**
NRAU	**Nora**	**0.56**	**47**	P	**Pb**	**10 45 43.1**	**-0.5**
NASU	**Vaermlandsnaes**	**0.60**	**245**	P	**Pb**	**10 45 43.7**	**-0.5**
NASU				S	**Sb**	**10 45 52.0**	**-1.1**
NASU	**Vaermlandsnaes**	**0.60**	**245**	P	**Pb**	**10 45 43.7**	**-0.5**
NASU				S	**Sb**	**10 45 52.0**	**-1.1**
UDD	**Uddeholm**	**0.96**	**341**	P	**Pb**	**10 45 50.5**	**+0.2**
UDD	**Uddeholm**	**0.96**	**341**	P	**Pb**	**10 45 50.5**	**+0.2**
HFS	**Hagfors**	**0.99**	**344**	Pg	**Pb**	**10 45 51.0**	**+0.1**
	1.6nm,0.3s,baz=159,slow=19,SNR=35						
HFS				Lg	Lg	10 46 05.1	
	6.3nm,0.3s,baz=163,slow=32,SNR=47						
HFS				Rg	Rg	10 46 10.0	
	8.7nm,0.4s,baz=162,slow=29,SNR=8.1						
ESKU	**Eskilstuna**	**1.11**	**87**	P	**Pb**	**10 45 52.6**	**-0.3**
ESKU				S	**Sb**	**10 46 07.5**	**-0.4**
ESKU	**Eskilstuna**	**1.11**	**87**	P	**Pb**	**10 45 52.6**	**-0.3**
ESKU				S	**Sb**	**10 46 07.5**	**-0.4**
LNKU	**Linkoeping**	**1.17**	**145**	P	**Pb**	**10 45 53.6**	**-0.3**
LNKU	**Linkoeping**	**1.17**	**145**	P	**Pb**	**10 45 53.6**	**-0.3**
VANU	**Vaenersborg**	**1.32**	**239**	P	**Pn**	**10 45 56.6**	**+0.1**
VANU				S	**Sb**	**10 46 14.1**	**+0.2**
VANU	**Vaenersborg**	**1.32**	**239**	P	**Pn**	**10 45 56.6**	**+0.1**
VANU				S	**Sb**	**10 46 14.1**	**+0.2**
VIKU	**Vikbolandet**	**1.45**	**117**	P	**Pb**	**10 45 58.6**	**-0.1**
VIKU	**Vikbolandet**	**1.45**	**117**	P	**Pb**	**10 45 58.6**	**-0.1**
FALU	**Falun**	**1.54**	**31**	P	**Pg**	**10 46 00.9**	**+0.6**
FALU	**Falun**	**1.54**	**31**	P	**Pg**	**10 46 00.9**	**+0.6**
STRU	**Stroemstad**	**1.58**	**266**	P	**Pg**	**10 46 01.3**	**+0.2**
STRU	**Stroemstad**	**1.58**	**266**	*i* P	**Pg**	**10 46 01.3**	**+0.2**
STRU				P	**Pg**	**10 46 01.3**	**+0.2**
STRU				*i* S	**Sg**	**10 46 22.2**	**+0.7**
BACU	**Backbrunna**	**1.61**	**64**	P	**Pg**	**10 46 01.8**	**+0.2**
BACU	**Backbrunna**	**1.61**	**64**	P	**Pg**	**10 46 01.8**	**+0.2**
EKSU	**Eksjoe**	**1.71**	**160**	P	**Pb**	**10 46 02.9**	**-0.3**
EKSU	**Eksjoe**	**1.71**	**160**	P	**Pb**	**10 46 02.9**	**-0.3**
BORU	**Boraas**	**1.74**	**207**	P	**Pb**	**10 46 03.5**	**-0.1**
BORU	**Boraas**	**1.74**	**207**	P	**Pb**	**10 46 03.5**	**-0.1**
BORU				*e*P	**Pb**	**10 46 03.5**	**-0.1**
BORU				*e*S	**Sb**	**10 46 25.8**	**-0.1**
FIBU	**Brunna**	**1.74**	**64**	P	**Pg**	**10 46 04.0**	**-0.2**
FIBU	**Brunna**	**1.74**	**64**	P	**Pg**	**10 46 04.0**	**-0.2**
ONAU	**Onsala**	**2.17**	**215**	*e*P	**Pb**	**10 46 10.8**	**-0.1**
ONAU				*e*S	**Sn**	**10 46 35.6**	**-0.1**
FABU	**Falkenberg**	**2.33**	**201**	*e*P	**Pb**	**10 46 14.0**	**+0.3**
FABU				*e*S	**Sb**	**10 46 42.6**	**-0.4**
NOA	**NORSAR Array B**	**2.40**	**322**	Pn	**Pb**	**10 46 14.4**	**-0.4**
	0.1nm,0.3s,baz=136,slow=14,SNR=13						
NOA				Sn	**Sn**	**10 46 41.3**	**-0.1**
	0.1nm,0.3s,baz=124,slow=10,SNR=5.5						
DEL	**Delary**	**2.73**	**184**	*e*P	**Pn**	**10 46 17.0**	**+1.2**
DEL				*e*S	**Sn**	**10 46 50.9**	**+1.4**
BLEU	**Blekinge**	**3.01**	**163**	*e*S	**Sn**	**10 46 56.6**	**+0.2**
HOMB	**Homborsund**	**3.12**	**255**	*e*S	**Sn**	**10 47 00.1**	**+0.9**
SNART	**Snartemo**	**3.75**	**260**	*e*S	**Sn**	**10 47 13.8**	**-0.9**
FINES	**FINESS Array B**	**6.30**	**64**	Pn	**Pn**	**10 47 06.1**	**+1.2**
	0.2nm,0.3s,baz=268,slow=13,SNR=1.5						
FINES				Sn	**Sn**	**10 48 17.4**	**-0.1**
	0.3nm,0.3s,baz=253,slow=20,SNR=6.0						
FINES				Lg	Lg	10 48 46.9	
	0.7nm,0.3s,baz=251,slow=24,SNR=9.4						
	1.8nm,0.9s						
ARCES	**ARCESS Array B**	**11.45**	**20**	Pn	**Pn**	**10 48 14.5**	**-0.9**
	0.1nm,0.3s,baz=222,slow=12,SNR=1.6						
	1.5nm,0.8s						

*IDC **31** 10:54:44.4±1.7,0.°61N×126.°23E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=174.6km s-min=22.3km az=66.0*
*DJA **31** 10:54:47.0±0.3,1.°1N±4.°×12.°6E±.°, h10km, M3.5/7, MLv3.5/7*

ISC 31 10:54:49.4±1.1, 0.°8N±0.°1×126.°44E±0.°07, h35km, n7, σ1s38/8, mb3.7/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.93**	**91**	P	**Pn**	**10 55 05.2**	**-0.7**
TNTI				S	**Sn**	**10 55 19.7**	**+1.7**
KMSI	**Cibinong**	**2.47**	**265**	P	**Pn**	**10 55 26.8**	**-0.4**
SANI	**Sanana**	**2.86**	**189**	P	**Pn**	**10 55 33.1**	**+0.6**
WRA	**Warramunga Arr**	**22.01**	**160**	P	**P**	**10 59 38.7**	**-2.2**
	2.1nm,0.6s,baz=338,slow=10,SNR=9.6						
	2.1nm,0.6s						
ASAR	**Alice Springs**	**25.37**	**164**	P	**P**	**11 00 13.1**	**-0.5**
	1.4nm,0.7s,baz=343,slow=9.2,SNR=16						
	1.4nm,0.7s						
MKAR	**Makanchi Array**	**59.81**	**326**	P	**P**	**11 04 52.0**	**+0.7**
	0.3nm,0.5s,baz=122,slow=7.3,SNR=1.4						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**64.06**	**328**	P	**P**	**11 05 20.1**	**+0.4**
	0.3nm,0.4s,baz=119,slow=6.4,SNR=4.5						
	0.3nm,0.4s						

*ASRS **31** 10:56:14.5,53.°N±1.°×8.°8E±.°, h3km±2km, MLh3.6/12, confirmed*
*NNC **31** 10:56:16.9±1.4,53.°08N×87.°41E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=11.6km s-min=4.3km az=70.0, Suspected Mining explosion.*

ISC 31 10:56:13.9±0.7, 53.°09N±0.°02×87.°69E±0.°02, h0km, n27, σ0s89/52, 3C-11D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TASR	**Tashtagol**	**0.35**	**161**	Pg	**Pb**	**10 56 22.7**	**-0.4**
TASR				S	**Sb**	**10 56 27.6**	**-1.6**
KALT1	**Kaltan 1**	**0.36**	**333**	⇓Pg	**Pg**	**10 56 21.1**	**+0.2**
KALT1				Sg	**Sg**	**10 56 26.0**	**+0.4**
KALT2	**Kaltan 2**	**0.38**	**324**	⇓Pg	**Pg**	**10 56 21.3**	**+0.1**
KALT2				Sg	**Sg**	**10 56 26.3**	**+0.1**
KALT3	**Kaltan 3**	**0.45**	**340**	⇓Pg	**Pg**	**10 56 22.6**	**+0.1**
KALT3				Sg	**Sg**	**10 56 28.6**	**+0.3**
TAIL	**Tailep, Kuzbas**	**0.46**	**320**	Pg	**Pg**	**10 56 22.8**	**0.0**
TAIL				Sg	**Sg**	**10 56 28.7**	**-0.2**
ELT	**Eltsovka**	**0.89**	**281**	⇓P	**Pg**	**10 56 29.9**	**-1.1**
ELT				Sg	**Sg**	**10 56 40.8**	**-1.8**
LUZB	**Luzhba, Kemero**	**0.92**	**51**	⇓P	**Pg**	**10 56 31.4**	**-0.1**
LUZB				S	**Sg**	**10 56 43.7**	**+0.2**
ERU	**Erunakovo, Kuz**	**1.06**	**350**	P	**Pg**	**10 56 34.0**	**-0.3**
ERU				S	**Sg**	**10 56 48.8**	**+0.7**
KOTO	**Kotino, Kuzbas**	**1.19**	**338**	P	**Pg**	**10 56 36.8**	**+0.1**
KOTO				S	**Sg**	**10 56 52.4**	**+0.3**
ARTR	**Artybash**	**1.32**	**191**	Pg	**Pg**	**10 56 38.7**	**-0.5**
ARTR				Sg	**Sg**	**10 56 55.9**	**-0.4**
YALR	**Yailyu, Altay**	**1.33**	**182**	Pg	**Pg**	**10 56 38.9**	**-0.4**
YALR				Sg	**Sb**	**10 56 57.1**	**-0.1**
BJR3	**Bachatsky-3 (S**	**1.46**	**322**	P	**Pn**	**10 56 40.7**	**-0.8**
BJR3				S	**Sg**	**10 57 00.2**	**-0.5**
POMOR	**Pomortsevo, Ku**	**1.49**	**333**	P	**Pn**	**10 56 41.9**	**0.0**
POMOR				S	**Sb**	**10 57 02.0**	**+0.1**
BJR1	**Bachatsky 1, K**	**1.51**	**320**	Pg	**Pn**	**10 56 41.4**	**-0.9**
BJR1				S	**Sg**	**10 57 01.8**	**-0.6**
GALT	**Gorno-Altaysk,**	**1.56**	**224**	P	**Pg**	**10 56 44.2**	**+0.4**
GALT				S	**Sn**	**10 57 02.6**	**-0.2**
VEH	**Verkhnyaya Baz**	**1.59**	**83**	Pg	**Pn**	**10 56 43.3**	**-0.1**
VEH				S	**Sg**	**10 57 05.4**	**+0.5**
ZAA0	**Zalesovo Array**	**1.92**	**298**	⇓P	**Pn**	**10 56 48.4**	**+0.5**
	6.4nm,0.3s						
ZAA0				⇓S	**Sn**	**10 57 12.7**	**0.0**
	24nm,0.7s						
ELDR	**Elanda**	**2.12**	**208**	P	**Pb**	**10 56 53.5**	**+0.2**
ELDR				Sg	**Sb**	**10 57 19.6**	**-0.6**
DJO	**Djoy, Khakassi**	**2.15**	**97**	P	**Pb**	**10 56 53.4**	**-0.4**
DJO				Sg	**Sb**	**10 57 21.1**	**0.0**
CERR	**Cheremushki**	**2.26**	**95**	P	**Pb**	**10 56 55.8**	**+0.2**
CERR				Sg	**Sg**	**10 57 25.2**	**-1.4**
ULGR	**Ulagan, Altay**	**2.48**	**176**	P	**Pg**	**10 57 01.0**	**-0.4**
ULGR				Sg	**Sg**	**10 57 32.7**	**-0.9**
BRCR	**Berchikul'**	**2.58**	**8**	Pg	**Pb**	**10 56 59.4**	**-1.6**
BRCR				Sg	**Sb**	**10 57 34.2**	**+1.0**
TEL	**Teeli**	**2.59**	**142**	P	**Pb**	**10 56 59.5**	**-1.7**
TEL				Sg	**Sb**	**10 57 35.0**	**+1.4**
KURK	**Kurchatov**	**6.10**	**251**	⇑Lg	Lg	10 59 25.0	
	22nm,0.8s						
KURBB	**Kurchatov Arra**	**6.19**	**250**	⇓Pn	**Pn**	**10 57 47.6**	**+1.1**
	1.3nm,0.3s						
KURBB				⇑Sn	**Sn**	**10 58 57.7**	**-0.3**
	5.8nm,0.6s						
KURBB				⇓Lg	Lg	10 59 29.3	
	19nm,0.7s						
MK31	**Makanchi Array**	**7.20**	**211**	⇓Pn	**Pn**	**10 58 03.0**	**+2.5**
	0.6nm,0.2s,baz=29,slow=13,SNR=84						
MK31				⇓Sn	**Sn**	**10 59 24.0**	**+1.1**
	0.5nm,0.3s,baz=31,slow=29,SNR=5.4						
MK31				⇑Lg	Lg	11 00 00.8	
	5.5nm,0.7s,baz=38,slow=33,SNR=4.2						
MAKZ	**Makanchi**	**7.29**	**213**	Pn	**Pn**	**10 58 03.4**	**+1.8**
	1.4nm,0.4s						
MAKZ				Sn	**Sn**	**10 59 27.0**	**+1.9**
	2.4nm,0.5s						
MAKZ				Lg	Lg	11 00 02.1	
	4.7nm,0.7s						

*TAP **31** 10:59:05.2,23.°98N×122.°90E, h32km, ML3.3, D*
*JMA **31** 10:59:05.4±0.1,24.°N±1.°×122.°9E±0.°5, h32km±3km, MV2.9/11, NEAR ISHIGAKIJIMA ISLAND*

ISC 31 10:59:04.3±1.1, 23.°90N±0.°03×122.°92E±0.°02, h27km±11km, n120, σ1s22/217, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.55**	**2**	P	**Pb**	**10 59 15.3**	**-0.1**
JYNG				*e*S	**Sb**	**10 59 22.5**	**-0.4**
YOJ	**Yonaguni jima**	**0.56**	**9**	P	**Pb**	**10 59 15.8**	**+0.2**
YOJ	**Yonaguni jima**	**0.56**	**9**	P	**Pb**	**10 59 15.8**	**+0.2**
YOJ				*e*S	**Sb**	**10 59 22.7**	**-0.6**
YOJ	**Yonaguni jima**	**0.56**	**9**	*i* P	**Pn**	**10 59 15.9**	**-0.6**
YOJ				*i* S	**Sn**	**10 59 23.5**	**-1.4**
EOS4	**EOS4**	**0.59**	**292**	*e*P	**Pb**	**10 59 15.8**	**-0.1**
EOS4				*e*S	**Sn**	**10 59 24.7**	**-0.4**
EOS3	**EOS3**	**0.67**	**305**	*i* P	**Pb**	**10 59 17.4**	**+0.1**
EOS3				*e*S	**Sn**	**10 59 26.8**	**-0.5**
EOS2	**EOS2**	**0.81**	**309**	*i* P	**Pb**	**10 59 20.4**	**+0.7**
EOS2				*e*S	**Sb**	**10 59 31.8**	**+1.5**
HATJ	**Hateruma jima**	**0.82**	**79**	*e*P	**Pn**	**10 59 20.4**	**+0.3**
HATJ				*e*S	**Sn**	**10 59 31.2**	**-0.1**
IRIF	**Iriomote-Funau**	**0.85**	**60**	*e*P	**Pn**	**10 59 20.4**	**-0.1**
IRIF				*e*S	**Sn**	**10 59 32.1**	**-0.1**
JKRS	**Kuro-shima**	**1.05**	**71**	*e*P	**Pn**	**10 59 23.8**	**+0.6**
EHP	**Heping Village**	**1.15**	**291**	*e*P	**Pn**	**10 59 24.4**	**-0.3**
EAHA	**Aohua**	**1.16**	**292**	*e*P	**Pb**	**10 59 25.8**	**+0.1**
EAHA				*e*S	**Sb**	**10 59 42.0**	**+1.7**
EWUT	**Wuta**	**1.17**	**298**	*e*P	**Pb**	**10 59 25.8**	**-0.1**
EWUT				*i* S	**Sb**	**10 59 40.0**	**-0.7**
ESAO	**Su ao**	**1.19**	**304**	*e*P	**Pb**	**10 59 25.8**	**-0.4**
ESAO				S	**Sb**	**10 59 40.2**	**-0.9**
ENA	**Nanau**	**1.20**	**296**	*e*P	**Pn**	**10 59 24.7**	**-0.5**
ENA				S	**Sb**	**10 59 41.1**	**-0.3**
TWC	**Suao**	**1.20**	**306**	*e*P	**Pb**	**10 59 25.9**	**-0.5**
TWC				*i* S	**Sb**	**10 59 40.5**	**-1.1**
JIJ	**Ishigaki jima**	**1.21**	**67**	*e*P	**Pn**	**10 59 26.3**	**+0.9**
TEYL	**Yanliau Villag**	**1.21**	**269**	*e*P	**Pn**	**10 59 23.1**	**-2.3**
TEYL				*e*S	**Sn**	**10 59 41.5**	**+0.6**
ETL	**Fush Village**	**1.21**	**282**	P	**Pn**	**10 59 25.5**	**0.0**
ETL				*e*S	**Sb**	**10 59 42.2**	**+0.3**
TWD	**Chiawan**	**1.22**	**278**	P	**Pn**	**10 59 25.3**	**-0.3**
TWD				S	**Sn**	**10 59 41.0**	**-0.3**
NACB	**Ninganchiao**	**1.24**	**283**	P	**Pb**	**10 59 26.7**	**-0.4**
NACB	**Ninganchiao**	**1.24**	**283**	*e*P	**Pb**	**10 59 26.9**	**-0.2**
NACB				S	**Sn**	**10 59 41.7**	**0.0**
SHUL	**Shoufeng**	**1.25**	**265**	*e*P	**Pn**	**10 59 25.9**	**-0.1**
SHUL				*e*S	**Sn**	**10 59 42.6**	**+0.8**
TEGC	**Jichi Village**	**1.28**	**262**	*e*P	**Pn**	**10 59 27.5**	**+1.2**
TEGC				S	**Sn**	**10 59 42.4**	**-0.2**
EGS		**1.30**	**316**	*e*P	**Pb**	**10 59 29.1**	**+1.0**
EGS				*i* S	**Sb**	**10 59 43.0**	**-1.4**
ETM	**Tongmen**	**1.31**	**273**	*e*P	**Pn**	**10 59 26.2**	**-0.6**
ETM				*e*S	**Sn**	**10 59 42.8**	**-0.5**
NDS	**Dongshan**	**1.32**	**304**	*e*P	**Pn**	**10 59 26.0**	**-0.9**
NDS				*i* S	**Sb**	**10 59 43.5**	**-1.3**
ETLH	**Xiulin Townshi**	**1.35**	**283**	*e*P	**Pn**	**10 59 27.5**	**+0.1**
ETLH				*i* S	**Sn**	**10 59 44.6**	**+0.2**
ESL	**Shilin**	**1.36**	**267**	*e*P	**Pn**	**10 59 28.8**	**+1.3**
ESL				*e*S	**Sn**	**10 59 45.6**	**+0.8**
ILA	**Ilan**	**1.37**	**309**	P	**Pn**	**10 59 28.2**	**+0.6**
ILA				*e*S	**Sb**	**10 59 45.4**	**-1.0**
NTC	**Toucheng**	**1.37**	**314**	*e*P	**Pb**	**10 59 28.8**	**-0.5**
LXIB	**Xiulin Townshi**	**1.38**	**275**	*e*P	**Pn**	**10 59 28.0**	**0.0**
LXIB				*e*S	**Sn**	**10 59 44.7**	**-1.3**
EGFH	**Guangfu**	**1.39**	**261**	*e*P	**Pn**	**10 59 29.2**	**+1.3**
EGFH				*e*S	**Sn**	**10 59 45.1**	**-0.2**
TWB1	**Santiao Chiao**	**1.39**	**323**	*e*P	**Pb**	**10 59 29.4**	**-0.2**
TWE	**Neicheng**	**1.40**	**306**	*e*P	**Pb**	**10 59 29.8**	**0.0**
TWE				*e*S	**Sb**	**10 59 48.4**	**+1.1**
WARBT	**Fenglin Townsh**	**1.42**	**263**	*e*P	**Pn**	**10 59 27.7**	**-0.6**
WARBT				*e*S	**Sn**	**10 59 45.3**	**-0.7**
LATG	**Datong**	**1.42**	**297**	*e*P	**Pb**	**10 59 30.6**	**+0.4**
LATG				S	**Sb**	**10 59 47.8**	**-0.1**
HGSD	**Ruisui**	**1.43**	**254**	*e*P	**Pn**	**10 59 27.8**	**-0.7**
HGSD				S	**Sn**	**10 59 46.7**	**+0.3**
ENTT	**Nioudou**	**1.44**	**301**	*e*P	**Pb**	**10 59 30.5**	**0.0**
ENTT				S	**Sn**	**10 59 46.3**	**-0.2**
JISG	**Ishigakijimahi**	**1.44**	**62**	*e*P	**Pn**	**10 59 30.0**	**+1.4**
JISG				S	**Sn**	**10 59 47.4**	**+0.8**
TIPB	**Shuangxi**	**1.46**	**317**	*e*P	**Pb**	**10 59 30.4**	**-0.4**
TIPB				*e*S	**Sb**	**10 59 49.0**	**0.0**
ECBN	**Changbin**	**1.47**	**247**	*e*P	**Pb**	**10 59 31.0**	**-0.5**
ECBN				S	**Sn**	**10 59 47.4**	**+0.1**
FUSB	**Fushanzhiwuyua**	**1.48**	**305**	*e*P	**Pb**	**10 59 31.7**	**+0.4**
FUSB				*e*S	**Sb**	**10 59 51.8**	**+2.0**
NNSB	**Datong**	**1.50**	**291**	*e*P	**Pn**	**10 59 30.5**	**+1.0**
NNSB				*e*S	**Sn**	**10 59 47.6**	**-0.6**
EHYH	**Wanrong**	**1.50**	**255**	*i* P	**Pn**	**10 59 29.6**	**+0.1**
EHYH				*e*S	**Sn**	**10 59 48.6**	**+0.5**
NNS	**Nan Shan**	**1.51**	**291**	P	**Pn**	**10 59 30

CHN1				eS		Sb	11 00 11.9	-1.5	
TWK	**Hsinying**	**2.32**	**255**	eP		Pn	10 59 42.8	+2.1	
TWK				eS		Sn	11 00 11.2	+2.8	
SNST	**Tainan City**	**2.33**	**253**	P		Pn	10 59 42.6	+1.9	
SNST				eS		Sn	11 00 10.3	+1.8	
WTK	**Tuku**	**2.33**	**265**	P		Pn	10 59 42.2	+1.4	
WTK				eS		Sn	11 00 11.0	+2.5	
SSD	**Sandimen**	**2.40**	**242**	eP		Pn	10 59 44.5	+2.7	
SSD				eS		Sn	11 00 12.1	+1.9	
TSMG	**Majia**	**2.41**	**241**	eP		Pn	10 59 45.0	+3.1	
TAWH	**Dawu Township**	**2.43**	**231**	P		Pn	10 59 42.8	+0.5	
TAWH				S		Sn	11 00 11.0	-0.1	
EAST	**Anshuo**	**2.44**	**232**	eP		Pn	10 59 41.9	-0.4	
EAST				eS		Sn	11 00 12.3	+1.1	
SCST	**Cishan**	**2.45**	**246**	eP		Pn	10 59 45.0	+2.6	
SCST				eS		Sn	11 00 13.0	+1.5	
MASBT	**Mashibuluo**	**2.46**	**239**	eP		Pn	10 59 45.6	+2.9	
WSL	**Shuilin Townsh**	**2.50**	**262**	eP		Pn	10 59 45.6	+2.5	
WSL				eS		Sn	11 00 13.8	+1.1	
SCZT	**Fangliau**	**2.61**	**235**	eP		Pn	10 59 48.5	+3.9	
TSCK	**Chigu Township**	**2.71**	**254**	eP		Pn	10 59 48.9	+2.9	
TSCK				eS		Sn	11 00 21.7	+3.8	
PHUB	**P'eng-hu**	**3.09**	**263**	eP		Pn	10 59 53.7	+2.4	
PHUB				eS		Sn	11 00 29.3	+1.9	
VWUC	**VWUC**	**3.34**	**290**	P		Pn	10 59 55.5	+0.8	
VWUC				eS		Sn	11 00 33.1	-0.5	
MATB	**Ma-tsu**	**3.50**	**310**	P		Pn	10 59 58.3	+1.3	
MATB				S		Sn	11 00 37.9	+0.4	
PTMZ	**Houxiangcun**	**3.64**	**289**	eP		Pn	10 59 59.7	+0.9	
PTMZ				eS		Sn	11 00 40.2	-0.7	
KNMB	**Chin-men Tao**	**4.17**	**279**	P		Pn	11 00 06.8	+0.6	
KNMB				S		Sn	11 00 53.2	-0.9	

*SJA **31** 11:01:57.7±0.8,28°.36S×71°.08W,h70km,ML3.7,MW3.7*
*GUC **31** 11:01:59.6±0.8,28°.41S×70°.94W,h72km±11km,ML3.8*
*IDC **31** 11:01:59.9±0.8,28°.47S×71°.02W,h67km±6km,mb3.9/5,*
mbtmp4.1/6,Error ellipse: s-maj=34.1km s-min=19.9km
az=112.0

ISC 31 11:01:58.8±0.7,**28°.39S**±0'.04×**71°.22W**±0'.05,**h65**km±6km,
n44,σ2s27/65,mb4.3/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.23**	**35**	eP	**Pn**	**11 02 10.4**	**+1.4**
AC04				eS	**Sn**	**11 02 17.8**	**+1.4**
AC04				IAML		11 02 18.8	
	comp=E,12μm,0.2s						
AC04	**Llanos de Chal**	**0.23**	**35**	eP	**Pn**	**11 02 09.4**	**+0.4**
AC04				IAML		11 02 19.5	
	comp=E,3μm,0.3s						
GO03	**Copiapo**	**1.18**	**48**	eP	**Pn**	**11 02 18.1**	**-1.3**
GO03	**Copiapo**	**1.18**	**48**	eP	**Pn**	**11 02 18.2**	**-1.3**
GO03				eS	**Sn**	**11 02 32.4**	**-2.5**
GO03				IAML		11 02 33.0	
	comp=Z,2μm,0.1s						
AC06	**Mina Casimiro**	**1.28**	**37**	eP	**Pn**	**11 02 20.4**	**-0.4**
AC06				eS	**Sn**	**11 02 35.8**	**-1.4**
AC06				IAML		11 02 36.3	
	comp=E,1μm,0.2s						
CO05	**La Serena**	**1.52**	**181**	eP	**Pn**	**11 02 25.1**	**+1.2**
GO04	**Tololo Observa**	**1.81**	**168**	eP	**Pn**	**11 02 29.0**	**+0.9**
GO04				IAML		11 02 55.9	
	comp=N,2μm,0.2s						
GO04	**Tololo Observa**	**1.81**	**168**	eP	**Pn**	**11 02 28.9**	**+0.9**
GO04				eS	**Sn**	**11 02 52.1**	**+1.9**
GO04				IAML		11 02 53.9	
	comp=Z,861nm,0.2s						
CO01	**Juntas del Tor**	**1.86**	**148**	eP	**Pn**	**11 02 29.1**	**+0.3**
CO01	**Juntas del Tor**	**1.86**	**148**	eP	**Pn**	**11 02 28.5**	**-0.2**
CO01				eS	**Sn**	**11 02 51.9**	**+0.4**
CO01				IAML		11 02 52.6	
	comp=Z,665nm,0.3s						
AC01	**Pan de Azucar**	**2.30**	**14**	IAML		11 03 14.1	
	comp=E,478nm,0.3s						
AC01	**Pan de Azucar**	**2.30**	**14**	eP	**Pn**	**11 02 33.9**	**-0.5**
AC01				eS	Sn	11 03 13.4	+12
AC01				IAML		11 03 13.8	
	comp=Z,258nm,0.7s						
AC02	**Maricunga**	**2.42**	**51**	eP	**Pn**	**11 02 36.1**	**-0.4**
AC02				IAML		11 03 04.5	
	comp=E,915nm,0.2s						
AC02	**Maricunga**	**2.42**	**51**	eP	**Pn**	**11 02 36.0**	**-0.4**
AC02				eS	**Sn**	**11 03 04.4**	**-0.9**
AC02				IAML		11 03 05.3	
	comp=Z,267nm,0.2s						
CO03	**El Pedregal**	**2.48**	**169**	eP	**Pn**	**11 02 38.0**	**+1.0**
CO03	**El Pedregal**	**2.48**	**169**	eP	**Pn**	**11 02 38.1**	**+1.1**
CO03				eS	**Sn**	**11 03 08.1**	**+1.9**
CO03				IAML		11 03 11.9	
	comp=Z,201nm,0.4s						
VCA	**Vinchina**	**2.67**	**98**	eP	**Pn**	**11 02 40.4**	**+0.7**
VCA				eS	**Sn**	**11 03 05.6**	**-5.5**
VCA				IAML		11 03 18.2	
	comp=Z,333nm,0.2s						
CO02	**Combarbal**	**2.81**	**176**	eP	**Pn**	**11 02 42.3**	**+0.9**
CO02				eS	Sn	11 03 30.1	+16
CO02				IAML		11 03 31.4	
	comp=Z,336nm,0.6s						
ACCO	**Cerro Coronel**	**2.88**	**140**	eP	**Pn**	**11 02 44.4**	**+1.7**
ACCO				eS	**Sn**	**11 03 20.2**	**+3.8**
GO02	**Mina Guanaco**	**3.53**	**25**	IAML		11 03 55.3	
	comp=N,197nm,0.2s						
RTLS	**Leoncito**	**3.78**	**154**	eP	**Pn**	**11 02 57.8**	**+2.9**
RTLS				eS	**Sn**	**11 03 42.9**	**+4.5**
RTLS				IAML		11 04 00.8	
	comp=Z,161nm,0.5s						
ACLC	**CERRO LA CRUZ**	**3.88**	**106**	eP	**Pn**	**11 02 55.9**	**-0.3**
ACLC				eS	**Sn**	**11 03 39.0**	**-1.6**
ACLC				IAML		11 03 44.0	
	comp=Z,69nm,0.3s						
AVFE	**Valle Fertil**	**3.98**	**125**	eP	**Pn**	**11 02 57.4**	**-0.1**
AVFE				eS	**Sn**	**11 03 41.2**	**-1.8**
AVFE				IAML		11 03 42.8	
	comp=Z,207nm,0.4s						
CFA	**Coronel Fontan**	**4.12**	**142**	eP	**Pn**	**11 02 59.7**	**+0.5**
CFA				IAML		11 03 51.3	
	comp=Z,52nm,0.1s						
VA03	**San Esteban**	**4.40**	**173**	eP	**Pn**	**11 03 04.4**	**+1.3**
APLL	**PUNTA DE LOS L**	**4.56**	**117**	eP	**Pn**	**11 03 04.7**	**-0.5**
APLL				eS	**Sn**	**11 03 54.1**	**-2.8**
ASAL	**Salagasta**	**4.67**	**154**	eP	**Pn**	**11 03 09.1**	**+2.3**
ASAL				eS	**Sn**	**11 03 56.6**	**-3.0**
CYA	**Choya**	**4.77**	**92**	eP	**Pn**	**11 03 07.2**	**-1.1**
CYA				eS	**Sn**	**11 03 59.3**	**-3.0**
CYA				IAML		11 04 00.1	
	comp=Z,38nm,0.5s						
H03N1	**Juan Fernandez**	**8.30**	**231**	P	**Pn**	**11 03 57.9**	**+1.7**
	baz=18,slow=72,SNR=5.1						
H03N1				S	**Sn**	**11 05 26.4**	**-1.9**
	baz=309,slow=74,SNR=4.0						
H03N1				T	T	11 12 47.7	
	baz=56,slow=72,SNR=108						
H03N2	**Juan Fernandez**	**8.32**	**231**	P	**Pn**	**11 03 57.8**	**+1.4**
	baz=18,slow=72,SNR=4.2						
H03N2				S	**Sn**	**11 05 26.1**	**-2.5**
H03N2				T	T	11 12 41.0	
	baz=56,slow=72,SNR=114						
H03N3	**Juan Fernandez**	**8.32**	**231**	P	**Pn**	**11 03 57.8**	**+1.3**
	baz=18,slow=72,SNR=5.7						
H03N3				S	**Sn**	**11 05 25.9**	**-2.9**
	baz=80,slow=74,SNR=6.4						
H03N3				T	T	11 12 38.7	
	baz=56,slow=72,SNR=102						
H03S3	**Juan Fernandez**	**8.53**	**229**	P	**Pn**	**11 04 00.0**	**+0.7**
	baz=202,slow=74,SNR=5.9						
H03S3				S	**Sn**	**11 05 27.1**	**-6.8**
	baz=324,slow=20,SNR=6.3						
H03S1	**Juan Fernandez**	**8.54**	**229**	P	**Pn**	**11 03 59.5**	**+0.1**
H03S1				S	**Sn**	**11 05 27.5**	**-6.6**
	baz=324,slow=20,SNR=5.5						
H03S2	**Juan Fernandez**	**8.55**	**229**	P	**Pn**	**11 04 00.2**	**+0.6**
	baz=98,slow=74,SNR=4.3						
H03S2				S	**Sn**	**11 05 27.7**	**-6.6**
	baz=324,slow=20,SNR=6.7						
PLCA	**Paso Flores**	**12.32**	**178**	P	**Pn**	**11 04 51.4**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=348,slow=9.3,SNR=2.8						
SNAA	**Sanae**	**56.54**	**159**	P	**P**	**11 11 33.9**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=302,slow=9.6,SNR=17						
	comp=Z,1.4nm,0.5s						
QSPA	**South Pole Qui**	**61.83**	**180**	P	**P**	**11 12 12.2**	**+1.3**
	comp=Z,2.8nm,1.0s,baz=148,slow=2.5,SNR=15						
	comp=Z,2.8nm,1.0s						

TORD	**Torodi Ar. Bea**	**81.65**	**70**	P		**P**	**11 14 09.8**	**-0.6**	
	comp=Z,0.7nm,0.3s,baz=280,slow=4.6,SNR=2.9								
	comp=Z,0.7nm,0.3s								
BOSA	**Boshof**	**82.07**	**118**	P		**P**	**11 14 11.8**	**-0.8**	
	comp=Z,3.3nm,1.0s,baz=270,slow=11,SNR=1.8								
	comp=Z,3.3nm,1.0s								
YKA	**Yellowknife Ar**	**96.99**	**341**	P			11 15 24.9		
	comp=Z,0.3nm,0.7s,baz=137,slow=4.2,SNR=2.1								
	comp=Z,0.3nm,0.7s								
WRA	**Warramunga Arr**	**125.97**	**210**	PKP		**PKPdf**	**11 20 54.7**	**+0.5**	
	comp=Z,0.2nm,0.4s,baz=147,slow=1.8,SNR=0.8								
KURBB	**Kurchatov Arra**	**148.15**	**37**	PKPbc		**PKPbc**	**11 21 37.3**	**+0.4**	
	comp=Z,0.5nm,0.5s,baz=304,slow=3.5,SNR=4.0								
KURBB				pPKPbc		**pPKPbc**	**11 21 56.5**	**+0.7**	
	comp=Z,0.5nm,0.5s,baz=297,slow=2.9,SNR=2.6								
ZALV	**Zalesovo Beam**	**149.03**	**28**	PKPbc		**PKPbc**	**11 21 39.8**	**+0.8**	
	comp=Z,1.3nm,0.5s,baz=291,slow=4.7,SNR=5.2								
ZALV				pPKPbc		**pPKPbc**	**11 21 59.0**	**+1.2**	
	comp=Z,0.8nm,0.4s,baz=282,slow=3.7,SNR=3.0								
MKAR	**Makanchi Array**	**152.31**	**41**	PKPbc		**PKPbc**	**11 21 46.5**	**-0.7**	
	comp=Z,0.5nm,0.5s,baz=298,slow=3.1,SNR=4.7								
MKAR				pPKPbc		**sPKPdf**	**11 22 06.8**	**+0.7**	
	comp=Z,0.5nm,0.6s,baz=284,slow=2.0,SNR=4.4								

*BEO **31** 11:34:31.8±2.8,39°.19N×27°.72E,h75km,ML3.8/12*
*IDC **31** 11:34:34.9±1.5,39°.63N×27°.19E,h0km,mb3.7/4,*
mbtmp3.6/5,ML3.4/1,MS2.7/6,Error ellipse: s-maj=48.7km
s-min=20.0km az=164.0
*SOF **31** 11:34:34.5,39°.92N±0°.04×27°.34E±0°.04,h2km±1km,*
MD3.9/5
*ISK **31** 11:34:35.6,39°.81N×27°.23E,h10km,ML4.1/42*
*AFAD **31** 11:34:35.6,39°.82N×27°.24E,h11km±3km,MW3.8*
*THE **31** 11:34:37.1,40°.N±2°.×2°.7E±°,h9km±18km,M3.6/27,*
MLh3.6/27
*CFUSG **31** 11:34:42.4,40°.01N×27°.79E,h16km,mb3.3/3,Western*
Turkey Magtype MSH 3.3 from 4 stations

ISC 31 11:34:36.3±0.8,**39°.81N**±0°.02×**27°.24E**±0°.01,**h11**km±5km,
n178,σ1s13/230,mb3.6/3,15C-21D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YENI	**Yenice-Canakka**	**0.13**	**1**	Pg	**Pg**	**11 34 39.4**	**-0.1**
YENI				Sg	**Sg**	**11 34 41.4**	**-0.4**
YAYO	**Edremit-Balk**	**0.23**	**214**	Pg	**Pg**	**11 34 40.9**	**-0.3**
YAYO				Sg	**Sg**	**11 34 44.9**	**+0.4**
CANM	**Can-anakkale**	**0.25**	**325**	Pg	**Pg**	**11 34 41.2**	**-0.3**
CANM				Sg	**Sg**	**11 34 45.0**	**0.0**
BUHA	**Balikesir, Bur**	**0.33**	**202**	P	**Pg**	**11 34 42.8**	**-0.2**
BUHA				S	**Sg**	**11 34 47.7**	**+0.3**
BUHA				*i* IAML		11 34 48.0	
	comp=N,4μm,0.4s						
BUHA				*i* IAML		11 34 48.0	
	comp=E,4μm,0.3s						
GONE	**Gonen-Balikesi**	**0.42**	**55**	Pg	**Pg**	**11 34 44.7**	**+0.1**
GONE				Sg	**Sg**	**11 34 50.8**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**0.54**	**263**	P	**Pg**	**11 34 46.9**	**+0.1**
BAYC				S	**Sg**	**11 34 53.0**	**-0.9**
BAYC				*i* IAML		11 34 57.0	
	comp=N,6μm,0.2s						
BAYC				*i* IAML		11 34 57.0	
	comp=E,6μm,0.3s						
BLKS	**Balkesir-Sus**	**0.57**	**83**	P	**Pg**	**11 34 47.7**	**+0.3**
BLKS				S	**Sg**	**11 34 54.5**	**-0.3**
BLKS				*i* IAML		11 34 57.0	
	comp=N,1μm,0.4s						
BLKS				*i* IAML		11 35 01.0	
	comp=E,2μm,0.8s						
KRBG	**Karabiga-Canak**	**0.59**	**4**	Pg	**Pg**	**11 34 47.3**	**-0.5**
KRBG				Sg	**Sg**	**11 34 55.8**	**+0.2**
COMU	**Canakkale**	**0.66**	**297**	Pg	**Pg**	**11 34 48.7**	**-0.4**
SUSR	**Susurluk-Balik**	**0.67**	**76**	Pg	**Pg**	**11 34 49.1**	**-0.2**
EZNE	**Ezine-Canakkal**	**0.68**	**266**	Pg	**Pg**	**11 34 49.1**	**-0.3**
SOMA	**Soma-Manisa**	**0.69**	**161**	Pg	**Pg**	**11 34 49.5**	**-0.2**
EZN	**Ezine**	**0.70**	**272**	Pg	**Pg**	**11 34 49.5**	**-0.5**
EZN	**Ezine**	**0.70**	**272**	P	**Pg**	**11 34 49.5**	**-0.5**
EZN				S	**Sg**	**11 34 58.7**	**-0.5**
EZN	**Ezine**	**0.70**	**272**	⇓P	**Pg**	**11 34 49.5**	**-0.5**
EZN				⇓S	**Sg**	**11 34 58.7**	**-0.5**
CNKL	**anakkale-Mer**	**0.70**	**292**	P	**Pg**	**11 34 49.2**	**-0.8**
CNKL				S	**Sg**	**11 34 58.3**	**-0.9**
CNKL				*i* IAML		11 34 59.0	
	comp=N,5μm,0.4s						
CNKL				*i* IAML		11 35 04.0	
	comp=E,4μm,0.3s						
EDC	**Edincik**	**0.72**	**41**	Pg	**Pg**	**11 34 49.9**	**-0.4**
DKL	**Dikili**	**0.78**	**200**	Pg	**Pg**	**11 34 51.1**	**-0.3**
MRMT	**Marmara Adasi**	**0.84**	**19**	Pg	**Pg**	**11 34 52.3**	**-0.3**
ECEA	**Canakkale, Ece**	**0.85**	**287**	P	**Pg**	**11 34 52.2**	**-0.6**
ECEA				*i* IAML		11 35 04.0	
	comp=E,2μm,0.7s						
ECEA				S	**Sb**	**11 35 04.4**	**-0.2**
ECEA				*i* IAML		11 35 08.0	
	comp=N,8μm,0.3s						
IZMD	**zmir-Dikili-**	**0.85**	**196**	P	**Pg**	**11 34 53.0**	**+0.1**
IZMD				S	**Sb**	**11 35 05.1**	**+0.4**
IZMD				*i* IAML		11 35 07.0	
	comp=N,1μm,0.5s						
IZMD				*i* IAML		11 35 08.0	
	comp=E,2μm,0.6s						
BAND	**Balkesir-Ban**	**0.86**	**50**	⇑P	**Pg**	**11 34 52.1**	**-0.9**
KOCA	**Canakkale, Ayv**	**0.90**	**251**	P	**Pg**	**11 34 53.0**	**-0.7**
KOCA				S	**Sg**	**11 35 05.5**	**0.0**
KOCA				*i* IAML		11 35 07.0	
	comp=E,9μm,0.3s						
BOZC	**Bozcaada**	**0.91**	**273**	Pg	**Pg**	**11 34 53.5**	**-0.5**
GPNR	**Gulpinar-Canak**	**0.92**	**248**	Pg	**Pg**	**11 34 53.7**	**-0.4**
KCTX	**Karacabey (Bur**	**0.97**	**61**	Pg	**Pg**	**11 34 54.8**	**-0.3**
DURS	**Dursunbey**	**0.97**	**102**	P	**Pg**	**11 34 54.1**	**-1.0**
DURS				S	**Sg**	**11 35 07.9**	**+0.1**
AKS	**Akhisar**	**1.03**	**154**	Pg	**Pg**	**11 34 55.8**	**-0.3**
ERIK	**Erikli-Kesan**	**1.03**	**327**	Pg	**Pg**	**11 34 55.3**	**-0.8**
DST	**Dursunbey**	**1.08**	**100**	Pn	**Pb**	**11 34 56.5**	**-0.6**
GADA	**Gvkgeada**	**1.10**	**291**	Pn	**Pb**	**11 34 56.8**	**-0.5**
GORD	**Gordes-Manisa**	**1.15**	**141**	Pn	**Pb**	**11 34 58.3**	**0.0**
ENZZ	**Sultanice-Enez**	**1.16**	**314**	Pn	**Pb**	**11 34 57.9**	**-0.5**
FOCM	**Foa**	**1.16**	**200**	Pn	**Pb**	**11 34 57.9**	**-0.5**
TKR	**Tekirdag**	**1.20**	**11**	Pn	**Pn**	**11 34 58.9**	**-0.2**
CAVK	**Edirne/Enez-Ca**	**1.21**	**318**	S	**Sn**	**11 35 15.8**	**+0.3**
CAVK	**Edirne/Enez-Ca**	**1.21**	**318**	⇑P	**Pn**	**11 34 58.5**	**-0.6**
GOMA	**Golmarmara-Man**	**1.22**	**154**	Pn	**Pn**	**11 34 59.1**	**-0.2**
SIGR	**SIGRI**	**1.22**	**241**	Pn	**Pn**	**11 34 58.9**	**-0.5**
SIGR	**SIGRI**	**1.22**	**241**	P	**Pn**	**11 34 58.7**	**-0.6**
SIGR				S	**Sb**	**11 35 15.0**	**-0.3**
ORLT	**Orhaneli**	**1.30**	**79**	Pn	**Pn**	**11 35 00.2**	**-0.2**
YYLC	**Yaylacik**	**1.31**	**67**	P	**Pn**	**11 35 00.6**	**0.0**
YYLC				S	**Sg**	**11 35 19.6**	**+1.1**
YYLC				*i* IAML		11 35 23.0	
	comp=N,6μm,0.4s						
YYLC				*i* IAML		11 35 23.0	
	comp=E,7μm,0.4s						
DEMI	**Demirci**	**1.37**	**123**	P	**Pb**	**11 35 02.4**	**+0.3**
DEMI				S	**Sg**	**11 35 20.4**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.38**	**65**	Pn	**Pn**	**11 35 01.7**	**+0.2**
UKOP	**Uzunkopru-Edir**	**1.40**	**341**	Pn	**Pn**	**11 35 01.8**	**0.0**
ALN	**Alexandroupoli**	**1.42**	**320**	Pn	**Pn**	**11 35 02.1**	**0.0**
ALN	**Alexandroupoli**	**1.42**	**320**	P	**Pb**	**11 35 02.6**	**-0.2**
ALN				S	**Sb**	**11 35 21.2**	**+0.2**
BLCB	**Balcova**	**1.43**	**186**	Pn	**Pn**	**11 35 02.3**	**+0.1**
BLCB	**Balcova**	**1.43**	**186**	P	**Pn**	**11 35 01.4**	**-0.7**
ARMT	**Armutlu**	**1.46**	**58**	Pn	**Pn**	**11 35 02.3**	**-0.3**
SMTH	**Samothraki Isl**	**1.47**	**297**	P	**Pn**	**11 35 02.8**	**0.0**
SMTH				S	**Sb**	**11 35 22.8**	**+0.4**
ULDT	**Uludag**	**1.50**	**76**	P	**Pn**	**11 35 03.1**	**-0.2**
ULDT				S	**Sb**	**11 35 23.9**	**+0.6**
SMAA	**Simav-Kutahya**	**1.52**	**117**	Pn	**Pn**	**11 35 03.6**	**+0.1**
URLA	**Izmir**	**1.53**	**199**	Pn	**Pn**	**11 35 02.9**	**-0.7**
SIMA	**Simav-Kutahya**	**1.53**	**118**	Pn	**Pn**	**11 35 03.8**	**+0.1**
AVDN	**Avdancik/Bursa**	**1.56**	**71**	P	**Pn**	**11 35 04.5**	**+0.5**
AVDN				S	**Sn**	**11 35 23.9**	**-0.3**
LIA	**Limnos Island**	**1.59**	**274**	P	**Pn**	**11 35 04.4**	**+0.1**
LIA				S	**Sn**	**11 35 24.7**	**-0.1**
SLVT	**Silivri**	**1.60**	**27**	Pn	**Pn**	**11 35 04.7**	**+0.1**
CESE	**eme**	**1.65**	**207**	Pn	**Pn**	**11 35 05.3**	**+0.2**
ODEM	**Odemis-Izmir**	**1.66**	**157**	Pn	**Pn**	**11 35 05.3**	**-0.1**
EMET	**Ktahya-Emet**	**1.67**	**104**	P	**Pn**	**11 35 05.9**	**+0.3**
EMET				S	**Sb**	**11 35 28.7**	**+0.6**
MANT	**Manisa**	**1.67**	**142**	P	**Pn**	**11 35 05.2**	**-0.5**
MANT				S	**Sb**	**11 35 28.0**	**-0.2**
CHOS	**Chios island**	**1.69**	**213**	P	**Pn**	**11 35 04.9**	**-1.0**
KULA	**Kula-Manisa**	**1.70**	**139**	Pn	**Pn**	**11 35 06.1**	**+0.1**

KURT	**Yalova, Merkez**	**1.70**	**62**	P		**Pn**	**11 35 05.9**	**0.0**	
SHAP	**Saphane-Kutahy**	**1.72**	**116**	Pn		**Pn**	**11 35 06.6**	**+0.3**	
CTKS	**Kestanelik-??a**	**1.73**	**34**	Pn		**Pn**	**11 35 06.3**	**+0.1**	
TVSB	**Tavsanli**	**1.75**	**101**	Pn		**Pn**	**11 35 06.8**	**+0.1**	
USAK	**Uak-Merkez**	**1.76**	**128**	P		**Pn**	**11 35 07.3**	**+0.5**	
USAK				S		**Sb**	**11 35 30.8**	**+0.1**	
BGKT	**Bogazkoy**	**1.80**	**40**	Pn		**Pn**	**11 35 06.9**	**-0.4**	
PHSR	**Pinarhisar**	**1.84**	**7**	Pn		**Pn**	**11 35 07.6**	**-0.2**	
PHSR	**Pinarhisar**	**1.84**	**7**	⇓P		**Pn**	**11 35 08.2**	**+0.4**	
CTYL	**Yalikoy Yolu**	**1.85**	**25**	Pn		**Pn**	**11 35 07.5**	**-0.5**	
CTYL	**Yalikoy Yolu**	**1.85**	**25**	⇓P		**Pn**	**11 35 08.5**	**+0.5**	
CTYL				⇑S		**Sb**	**11 35 33.1**	**-0.1**	
RDO	**Rodhopi**	**1.86**	**316**	Pn		**Pn**	**11 35 08.1**	**-0.1**	
RDO	**Rodhopi**	**1.86**	**316**	P		**Pn**	**11 35 09.0**	**+0.8**	
RDO				S		**Sb**	**11 35 33.6**	**-0.1**	
KAVV	**Kandilli-Istan**	**1.87**	**47**	Pn		**Pn**	**11 35 06.8**	**-1.5**	
GDZ	**Gediz**	**1.88**	**112**	P		**Pb**	**11 35 11.4**	**+0.7**	
GDZ				S		**Sg**	**11 35 36.3**	**-0.4**	
DOMA	**Ktahya-Doman**	**1.89**	**90**	P		**Pn**	**11 35 09.3**	**+0.7**	
DOMA				S		**Sn**	**11 35 32.2**	**-0.4**	
KLYT	**Kilyos**	**1.99**	**43**	⇓P		**Pn**	**11 35 09.4**	**-0.6**	
BILE	**Bilecik/Merkez**	**2.06**	**79**	P		**Pn**	**11 35 11.4**	**+0.5**	
BILE				S		**Sg**	**11 35 41.9**	**-0.6**	
ANDZ	**Kutahya, Merke**	**2.07**	**97**	P		**Pn**	**11 35 12.1**	**+0.9**	
ANDZ				S		**Sg**	**11 35 42.5**	**-0.5**	
THAS	**Thassos island**	**2.09**	**293**	P		**Pn**	**11 35 10.9**	**-0.4**	
SMG	**Samos**	**2.12**	**189**	P		**Pn**	**11 35 10.6**	**-1.1**	
HISA	**Bilecik-Osmane**	**2.16**	**71**	P		**Pn**	**11 35 13.5**	**+1.2**	
HISA				S		**Sb**	**11 35 42.5**	**+0.3**	
SEMS	**Kocaeli-K¶rfe**	**2.19**	**60**	P		**Pn**	**11 35 11.4**	**-1.2**	
SILT	**Sile**	**2.27**	**53**	⇓P		**Pn**	**11 35 13.5**	**-0.3**	
PALA	**Karahalli, USA**	**2.28**	**129**	P		**Pn**	**11 35 14.9**	**+0.9**	
KDZ	**Kurdzhali**	**2.33**	**322**	*i* P		**Pn**	**11 35 15.0**	**+0.5**	
KDZ				S		**Sb**	**11 35 45.7**	**-1.3**	
KDZ	**Kurdzhali**	**2.33**	**322**	P		**Pn**	**11 35 15.0**	**+0.5**	
BNAZ	**Uak-Banaz**	**2.34**	**118**	P		**Pn**	**11 35 16.2**	**+1.4**	
BNAZ				S		**Sg**	**11 35 52.2**	**+0.7**	
KAVA	**Kavala**	**2.40**	**301**	P		**Pn**	**11 35 15.8**	**+0.3**	
GEYV	**SAKARYA_Geyve**	**2.44**	**73**	P		**Pn**	**11 35 14.9**	**-1.2**	
GEYV				S		**Sg**	**11 35 53.6**	**-1.1**	
OUR	**Ouranopolis**	**2.56**	**283**	P		**Pn**	**11 35 17.4**	**-0.2**	
DIM	**Dimitrovgrad**	**2.57**	**331**	P		**Pn**	**11 35 18.1**	**+0.3**	
DIM				S		**Sn**	**11 35 50.6**	**+1.6**	
DIM	**Dimitrovgrad**	**2.57**	**331**	P		**Pn**	**11 35 18.4**	**+0.5**	
AOS	**Alonnisos**	**2.68**	**257**	P		**Pn**	**11 35 19.6**	**+0.3**	
RZN	**Rozhen**	**2.68**	**316**	P		**Pn**	**11 35 20.1**	**+0.6**	
RZN				S		**Sb**	**11 35 55.4**	**-1.9**	
RZN	**Rozhen**	**2.68**	**316**	P		**Pn**	**11 35 20.1**	**+0.6**	
TAVA	**DENIZLI_Tavas**	**2.68**	**150**	⇓P		**Pn**	**11 35 19.5**	**0.0**	
KYMI	**Kymi, Euboea I**	**2.71**	**245**	P		**Pn**	**11 35 19.1**	**-0.6**	
JMB	**Yambol**	**2.74**	**349**	P		**Pn**	**11 35 20.4**	**+0.2**	
JMB				S		**Sn**	**11 35 53.5**	**+0.3**	
JMB	**Yambol**	**2.74**	**349**	P		**Pn**	**11 35 20.4**	**+0.2**	
BDRM	**Kayabasi**	**2.74**	**177**	⇓P		**Pn**	**11 35 20.0**	**-0.3**	
KARY	**Karystos**	**2.81**	**232**	P		**Pn**	**11 35 20.3**	**-1.0**	
SAHE	**Sakarya_HENDEK**	**2.95**	**68**	⇓

comp=N,26nm,0.5s
SIM Sm 11 37 42.1
comp=E,7.0nm,0.3s
TEKS Tekeris 7.43 312 *e*Pn **Pn 11 36 24.9 +0.2**
MARR Marisel-Cluj 7.50 338 ⇓P **Pn 11 36 26.7 +1.1**
SUDU Sudak 7.67 46 *e*P **Pn 11 36 27.2 -0.7**
SUDU Pm 11 36 32.2
comp=Z,6.0nm,0.3s
SUDU *e*S **Sn 11 37 50.3 -4.4**
SUDU Sm 11 37 58.9
comp=N,27nm,0.4s
SUDU Sm 11 37 58.9
comp=E,11nm,0.4s
BURAR Bucovina Array 7.94 350 ⇓P **Pn 11 36 33.3 +1.5**
MORH Mrgy, Hungar 8.98 318 ⇑P **Pn 11 36 46.3 +0.4**
AKASG Malin Array Be 10.98 7 LR LR 11 42 15.9
comp=E,36nm,18.7s,baz=37,slow=41
EIL Elat 11.93 146 LR LR 11 43 56.6
comp=E,40nm,19.7s,baz=249,slow=48
GNI Garni 13.43 83 LR LR 11 43 56.7
comp=E,25nm,19.1s,baz=220,slow=42
NOA NORSAR Array B 23.45 340 LR LR 11 49 52.5
comp=E,19nm,18.6s,baz=335,slow=39
TORD Torodi Ar. Bea 34.80 227 P **P 11 41 26.4 -0.7**
comp=E,0.3nm,0.3s,baz=32,slow=10,SNR=3.7
comp=E,0.3nm,0.3s
MKAR Makanchi Array 39.96 61 P **P 11 42 11.3 +0.6**
comp=E,0.8nm,0.5s,baz=284,slow=7.0,SNR=9.1
MKAR LR LR 12 04 05.5
comp=E,18nm,19.1s,baz=34,slow=44
comp=E,0.8nm,0.5s
ZALV Zalesovo Beam 40.67 50 P **P 11 42 16.9 +0.6**
comp=E,0.3nm,0.3s,baz=251,slow=7.2,SNR=1.9
comp=E,0.3nm,0.3s
SONM Songino Array 55.33 54 P **P 11 44 12.9 +2.8**
comp=E,0.4nm,0.4s,baz=302,slow=6.6,SNR=1.9
comp=E,0.4nm,0.4s

KRSC 31 11:41:38.1±1.4, 56°23'N×164°41'E, h45km±18km, MI3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.89**	**270**	*e*P	Pn	11 41 54.5	+0.3
KBTR				*e*S	Sn	11 42 05.5	-0.4
KBG	**Krutoberegovo**	**0.95**	**272**	*e*P	Pn	11 41 55.5	+0.5
KBG				*e*S	Sn	11 42 07.4	0.0
BKI	**Bering**	**1.35**	**139**	*e*P	Pn	11 42 02.9	+2.5
BKI				*e*S	Sn	11 42 19.7	+2.5
SMKR	**Semkarok**	**1.67**	**284**	*e*P	Pn	11 42 07.6	+2.7
SMKR				*e*S	Sn	11 42 28.1	+2.9
BDR	**Baidarnaya**	**1.81**	**282**	*e*S	Sn	11 42 32.5	+3.8
ZLN	**Zelenaya**	**2.03**	**266**	*e*P	Pn	11 42 13.2	+3.4
CIRR	**Tsirk**	**2.05**	**268**	*e*P	Pn	11 42 13.5	+3.4
KLY	**Klyuchi**	**2.10**	**274**	*e*P	Pn	11 42 12.2	+1.5
KLY				*e*S	Sn	11 42 36.3	+0.8
BZGR	**Bezymyannyi-Gr**	**2.10**	**264**	*e*P	Pn	11 42 13.9	+3.1
BZWR	**Bezymyannyi-We**	**2.21**	**265**	*e*P	Pn	11 42 15.8	+3.5
BZMR	**Bezymyannaya**	**2.22**	**264**	*e*P	Pn	11 42 15.6	+3.1
MKZ	**Mys Kozlova**	**2.27**	**224**	*e*P	Pn	11 42 14.9	+1.9
MKZ				*e*S	Sn	11 42 39.9	+0.3
KIRR	**Kirishev**	**2.30**	**265**	*e*P	Pn	11 42 17.2	+3.7
KIRR				*e*S	Sn	11 42 44.6	+3.9
KMNR	**Kamenistaya**	**2.39**	**260**	*e*P	Pn	11 42 19.4	+4.6
TUMD	**Tumrok D**	**2.49**	**247**	*e*P	Pn	11 42 19.8	+3.7
TUMD				*e*S	Sn	11 42 48.5	+3.2
KOZ	**Kozyrevsk**	**2.54**	**268**	*e*P	Pn	11 42 20.9	+4.1
SRDR	**Sredinnyy**	**2.62**	**274**	*e*P	Pn	11 42 21.8	+3.9
SRDR				*e*S	Sn	11 42 52.5	+4.1
OSSR	**Ossora**	**3.12**	**347**	*e*P	Pn	11 42 27.3	+2.7
OSSR				*e*S	Sn	11 43 01.5	+0.9
PALN	**Palana**	**3.73**	**322**	*e*P	Pn	11 42 37.6	+4.6
SDLR	**Sedlovina**	**4.36**	**230**	*e*P	Pn	11 42 45.3	+3.5
KRX	**Arik**	**4.40**	**232**	*e*P	Pn	11 42 47.7	+5.3
SMAR	**Somma**	**4.40**	**230**	*e*P	Pn	11 42 46.1	+3.6
AVH	**Avacha**	**4.43**	**230**	*e*P	Pn	11 42 46.7	+4.0
UGLR	**Uglovaya**	**4.43**	**229**	*e*P	Pn	11 42 46.5	+3.7
KOK	**Koryaka**	**4.45**	**231**	*e*P	Pn	11 42 46.7	+3.6
GNL	**Ganaly**	**4.51**	**238**	*e*P	Pn	11 42 48.1	+4.2
DALK	**Dalny**	**4.59**	**228**	*e*P	Pn	11 42 48.0	+3.1
PET	**Petropavlovsk**	**4.63**	**229**	*e*P	Pn	11 42 49.3	+3.8
GRL	**Gorelyy**	**5.22**	**228**	*e*P	Pn	11 42 58.4	+4.7
MTVR	**Mutnovka**	**5.23**	**227**	*e*P	Pn	11 42 58.1	+4.3
ASAK	**Asacha**	**5.42**	**227**	*e*P	Pn	11 43 00.8	+4.5

*NEIC **31** 11:41:40.0±1.8, 17°9S±0°2×178°6W±0°1, h546km±8km, mb4.3/27, Error ellipse: s-maj=25.0km s-min=16.2km az=150.0*
*IDC **31** 11:41:39.6±2.6, 17°.70S×178°.72W, h545km±28km, mb3.6/14, mbtmp4.5/15, Error ellipse: s-maj=18.6km s-min=13.4km az=120.0*
*NOU **31** 11:41:40.7, 17°.96S×178°.60W, h556km, mb4.3/26, Fiji Islands Region*

ISC 31 11:41:39.8±0.4, 17°.85S±0°.08×178°.61W±0°.08, h550km, n110, σ19°03/108, mb4.2/34, 3C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.43**	**208**	P	**P**	**11 42 46.9**	**+1.9**
TAVE	**Taveuni**	**1.69**	**312**	P	**P**	**11 42 50.3**	**+2.0**
DGTI	**Dogotuki**	**2.21**	**314**	P	**P**	**11 42 51.9**	**+1.3**
MSVF	**Nonsavu**	**3.19**	**272**	P	**P**	**11 42 58.1**	**+1.9**
MSVF	**Nonsavu**	**3.19**	**272**	P	**P**	**11 42 58.0**	**+1.9**
FUTU	**Fugatoga**	**3.56**	**8**	P	**P**	**11 42 59.3**	**+0.7**
YSA	**Yasawairara**	**3.82**	**287**	P	**P**	**11 43 02.0**	**+1.6**
AFI	**Afiamalu**	**7.65**	**60**	P	**P**	**11 43 32.8**	**-1.5**
NIUE	**Niue**	**8.33**	**100**	P	**P**	**11 43 41.0**	**+0.2**
NIUE	**Niue**	**8.33**	**100**	P	**P**	**11 43 41.7**	**+0.9**
DVP	**Devils Point**	**12.58**	**269**	P	**P**	**11 44 25.4**	**+1.0**
VLAKA	**Lakatoro**	**13.48**	**275**	P	**P**	**11 44 35.0**	**+1.3**
PINNC	**Pines Island,**	**13.92**	**248**		**P**	**11 44 37.8**	**-0.3**
PINNC	**Pines Island,**	**13.92**	**248**	P	**P**	**11 44 38.6**	**+0.5**
YATNC	**Mamie plateau,**	**14.26**	**251**	P	**P**	**11 44 41.8**	**+0.1**
OUENC	**Ouen Island, N**	**14.40**	**249**	P	**P**	**11 44 43.7**	**+0.6**
DZM	**Mont Dzumac**	**14.67**	**251**	P	**P**	**11 44 45.2**	**-0.7**
	12nm,0.5s,baz=124,slow=24,SNR=15						
DZM	**Mont Dzumac**	**14.67**	**251**	P	**P**	**11 44 45.8**	**-0.2**
ONTNC	**Ouen Toro**	**14.72**	**250**		**P**	**11 44 45.9**	**-0.5**
ONTNC	**Ouen Toro**	**14.72**	**250**	P	**P**	**11 44 47.1**	**+0.7**
TATA	**Tatamba Isabel**	**23.01**	**291**	P	**P**	**11 46 04.1**	**+1.0**
KHZ	**Kahutara**	**25.38**	**194**	P	**P**	**11 46 23.6**	**-0.1**
JCZ	**Jackson Bay**	**28.22**	**199**	P	**P**	**11 46 48.2**	**-0.5**
EIDS	**Eidsvold**	**29.11**	**250**	P	**P**	**11 46 55.8**	**-0.9**
EIDS				IAmb	IAmb	11 46 58.4	
	comp=Z,9.4nm,1.1s						
ARMA	**Armidale**	**29.81**	**240**	P	**P**	**11 47 03.5**	**+0.8**
ARMA	**Armidale**	**29.81**	**240**	P	**P**	**11 47 02.7**	**0.0**
CTAO	**Charters Tower**	**33.27**	**260**	P	**P**	**11 47 31.8**	**-0.5**
CTAO				IAmb	IAmb	11 47 38.1	
	comp=Z,18nm,1.3s						
CNB	**Canberra Magne**	**33.31**	**232**	P	**P**	**11 47 32.4**	**-0.1**
CAN	**Canberra**	**33.59**	**232**	P	**P**	**11 47 34.5**	**-0.3**
CAN				IAmb	IAmb	11 47 57.9	
	comp=Z,24nm,1.4s						
CMSA	**Cobar Meteorol**	**35.01**	**240**	P	**P**	**11 47 46.9**	**+0.2**
QLP	**Quilpie**	**35.38**	**249**	P	**P**	**11 47 50.4**	**+0.6**
COEN	**Coen**	**36.92**	**270**	P	**P**	**11 48 02.6**	**-0.1**
TOO	**Toolangi**	**37.06**	**231**		**P**	**11 48 04.2**	**+0.7**
TOO				IAmb	IAmb	11 48 05.1	
	comp=Z,3.3nm,0.7s						
STKA	**Stephens Creek**	**38.49**	**241**		**P**	**11 48 16.0**	**+0.6**
STKA	**Stephens Creek**	**38.49**	**241**	P	**P**	**11 48 15.9**	**+0.6**
	comp=Z,6.1nm,0.5s,baz=91,slow=9.8,SNR=22						
	comp=Z,6.1nm,0.5s						
STKA	**Stephens Creek**	**38.49**	**241**	P	**P**	**11 48 14.8**	**-0.5**
HTT	**Hallett**	**41.01**	**239**	P	**P**	**11 48 36.0**	**+0.5**
BBOO	**Buckleboo**	**43.27**	**241**	P	**P**	**11 48 53.2**	**0.0**
BBOO	**Buckleboo**	**43.27**	**241**	P	**P**	**11 48 53.4**	**+0.2**
WB0	**Warramunga Arr**	**44.42**	**260**	P	**P**	**11 49 01.2**	**-1.2**
WB0				IAmb	IAmb	11 49 01.9	
	comp=Z,4.6nm,0.9s						
WRA	**Warramunga Arr**	**44.46**	**260**	P	**P**	**11 49 00.1**	**-2.5**
WRA	**Warramunga Arr**	**44.46**	**260**	P	**P**	**11 49 01.6**	**-1.1**
	comp=Z,6.2nm,0.5s,baz=97,slow=6.9,SNR=84						
	comp=Z,2.6nm,0.5s						
AS31	**Alice Springs**	**44.62**	**254**		**P**	**11 49 03.5**	**-0.4**
AS31				IAmb	IAmb	11 49 04.0	
	comp=Z,10nm,0.7s						
ASAR	**Alice Springs**	**44.62**	**254**		**P**	**11 49 02.9**	**-1.0**
ASAR	**Alice Springs**	**44.62**	**254**	P	**P**	**11 49 03.5**	**-0.5**
	comp=Z,35nm,0.5s,baz=89,slow=8.2,SNR=816						
ASAR				ScP	**ScP**	**11 53 36.2**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=93,slow=4.2,SNR=4.7						
ASAR				S	**S**	**11 54 56.5**	**-4.0**
	comp=Z,0.7nm,0.9s,baz=89,slow=15,SNR=6.0						
	comp=Z,35nm,0.5s						
KDU	**Kakadu**	**47.37**	**269**	P	**P**	**11 49 25.2**	**+0.4**
MTN	**Manton Dam**	**48.61**	**268**	P	**P**	**11 49 33.1**	**-0.9**
MTN				IAmb	IAmb	11 49 57.0	
	comp=Z,19nm,1.4s						
MTN	**Manton Dam**	**48.61**	**268**	P	**P**	**11 49 34.6**	**+0.5**
VNDA	**Vanda**	**60.48**	**185**	P	**P**	**11 50 56.5**	**+0.3**
VNDA	**Vanda**	**60.48**	**185**	P	**P**	**11 50 57.3**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=14,slow=4.2,SNR=2.4						
	comp=Z,0.8nm,0.8s						
CASY	**Casey**	**66.11**	**205**		**P**	**11 51 32.0**	**-0.3**
MJAR	**Matsushiro Arr**	**67.75**	**323**	P	**P**	**11 51 41.7**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=170,slow=5.3,SNR=4.3						
	comp=Z,1.8nm,0.7s						
QSPA	**South Pole Qui**	**72.20**	**180**	P	**P**	**11 52 10.4**	**+1.3**
	comp=Z,4.0nm,0.8s,baz=340,slow=0.5,SNR=32						
	comp=Z,4.0nm,0.8s						
PETK	**Petropavlovsk-**	**73.58**	**345**	P	**P**	**11 52 16.3**	**-0.6**
	comp=Z,3.0nm,0.6s,baz=121,slow=8.2,SNR=8.8						
	comp=Z,3.0nm,0.6s						
NJ2	**Nanjing**	**77.76**	**310**	*e*P	**P**	**11 52 42.3**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NVAR	**Mina Array Bea**	**79.51**	**44**	P	**P**	**11 52 50.5**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=226,slow=8.8,SNR=19						
	comp=Z,2.2nm,0.7s						
BNX	**BinXian**	**79.94**	**325**	⇓P	**P**	**11 52 52.5**	**+0.7**
BNX				pmax	pmax		
	comp=Z,4.0nm,0.4s						
CAST	**Castle Rocks**	**83.61**	**12**	IAmb	IAmb	11 53 08.9	
	comp=Z,6.1nm,0.8s						
MAW	**Mawson**	**83.85**	**200**	P	**P**	**11 53 11.9**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=133,slow=7.4,SNR=7.0						
	comp=Z,1.3nm,0.4s						
CCB	**Clear Creek Bu**	**85.57**	**13**	IAmb	IAmb	11 53 18.8	
	comp=Z,5.1nm,1.1s						
ILAR	**Eielson Array**	**85.88**	**13**	P	**P**	**11 53 19.6**	**-1.6**
	comp=Z,1.1nm,0.4s,baz=224,slow=5.2,SNR=34						
	comp=Z,1.1nm,0.4s						
TXAR	**Lajitas Array**	**86.12**	**58**		**P**	**11 53 24.1**	**+0.8**
TXAR	**Lajitas Array**	**86.12**	**58**	P	**P**	**11 53 24.7**	**+1.4**
	comp=Z,2.8nm,0.8s,baz=218,slow=6.0,SNR=43						
	comp=Z,2.8nm,0.8s						
MCMT	**McKenzie Canyo**	**86.32**	**41**	P	**P**	**11 53 24.3**	**+0.3**
J26L	**Joseph Creek**	**86.40**	**14**		**P**	**11 53 23.5**	**-0.2**
J26L				IAmb	IAmb	11 53 23.9	
	comp=Z,2.8nm,0.7s						
HHC	**Hu-ho-hao-te**	**87.10**	**315**	*e*P	**P**	**11 53 30.0**	**+2.4**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,77nm,3.8s						
PDAR	**Pinedale Array**	**87.44**	**44**		**P**	**11 53 28.9**	**-0.4**
PDAR	**Pinedale Array**	**87.44**	**44**	P	**P**	**11 53 29.4**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=213,slow=3.0,SNR=19						
	comp=Z,1.4nm,0.5s						
MMPY	**Sheldon Lake,**	**88.38**	**20**	IAmb	IAmb	11 53 33.9	
	comp=Z,5.0nm,1.0s						
G26K	**Porcupine Rive**	**88.41**	**13**		**P**	**11 53 32.8**	**-0.2**
G26K				IAmb	IAmb	11 53 33.6	
	comp=Z,4.8nm,1.2s						
D22K	**Ayikyak River**	**88.48**	**9**	P	**P**	**11 53 33.2**	**-0.1**
D22K				IAmb	IAmb	11 53 33.4	
	comp=Z,3.3nm,0.6s						
PZH	**PanZhiHua**	**88.96**	**298**	P	**P**	**11 53 37.0**	**+0.3**
G30M	**tAoh Zrail Nji**	**90.20**	**15**		**P**	**11 53 40.5**	**-0.8**
G30M				IAmb	IAmb	11 53 41.8	
	comp=Z,7.1nm,1.1s						
TROLL	**Troll, Antarti**	**90.36**	**180**	⇑P	**P**	**11 53 42.0**	**-0.3**
	comp=Z,140nm,0.4s						
SNAA	**Sanae**	**90.66**	**179**	⇑P	**P**	**11 53 42.6**	**-1.0**
	comp=Z,28nm,0.4s						
SNAA	**Sanae**	**90.66**	**179**	P	**P**	**11 53 43.0**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=198,slow=9.6,SNR=24						
	comp=Z,0.9nm,0.4s						
VNA3	**Neumayer Olymp**	**90.81**	**176**	⇓P	**P**	**11 53 44.2**	**0.0**
	comp=Z,7.2nm,0.6s						
F31M	**Tsiigehtchic**	**91.18**	**16**	IAmb	IAmb	11 53 45.8	
	comp=Z,4.1nm,0.6s						
VNA1	**Neumayer--Stat**	**91.47**	**177**	⇑P	**P**	**11 53 47.7**	**+0.5**
	comp=Z,6.6nm,1.1s						
YKA	**Yellowknife Ar**	**94.36**	**25**	P	**P**	**11 53 59.5**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=263,slow=3.9,SNR=4.4						
	comp=Z,0.6nm,0.8s						
MKAR	**Makanchi Array**	**108.96**	**314**	PKiKP	**PKiKP**	**11 59 05.5**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=224,slow=0.9,SNR=8.6						
BVAR	**Borovoye Array**	**116.68**	**321**	PKP	**PKPdf**	**11 59 20.4**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=115,slow=2.6,SNR=7.1						
ARCES	**ARCESS Array B**	**126.23**	**350**	PKP	**PKPdf**	**11 59 38.4**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=43,slow=1.1,SNR=9.1						
FINES	**FINESS Array B**	**133.08**	**344**	PKP	**PKPdf**	**11 59 52.1**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=56,slow=0.5,SNR=2.0						
HFS	**Hagfors**	**136.85**	**351**	PKhKP	PKPpre	11 59 46.1	
	comp=Z,0.5nm,0.3s,baz=52,slow=2.6,SNR=4.3						
BRTR	**Keskin Array B**	**144.61**	**315**		**PKPdf**	**12 00 13.0**	**-1.4**
BRTR	**Keskin Array B**	**144.61**	**315**	PKP	**PKPdf**	**12 00 14.0**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=88,slow=1.4,SNR=11						
CHVC	**Chvalec**	**145.30**	**344**	*e*PKP	**PKPbc**	**12 00 16.1**	**-0.1**
CLL	**Collm**	**145.37**	**347**		**PKPdf**	**12 00 15.7**	**+0.6**
STEB	**Steborice**	**145.39**	**341**	*e*PKP	**PKPbc**	**12 00 16.3**	**-0.1**
DPC	**Dobruska-Polom**	**145.44**	**343**	*e*PKP	**PKPbc**	**12 00 16.9**	**+0.3**
PVCC	**Panska Ves**	**145.74**	**345**	*e*PKP	**PKPbc**	**12 00 18.5**	**+1.1**
MMAI	**Mount Meron Ar**	**145.96**	**303**	PKPbc	**PKPbc**	**12 00 18.5**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=42,slow=5.1,SNR=4.7						
KHC	**Kasperske Hory**	**147.28**	**345**	*e*PKP	**PKPbc**	**12 00 21.3**	**-0.4**
GERES	**GERESS Array B**	**147.51**	**345**	PKPbc	**PKPbc**	**12 00 22.1**	**-0.3**
	comp=Z,3.9nm,0.5s,baz=29,slow=3.0,SNR=23						
CONA	**Conrad Observa**	**147.75**	**342**	PKP	**PKPdf**	**12 00 20.0**	**+0.7**
	comp=Z,7.4nm,1.0s						
RONA	**Rosalia, Austr**	**147.82**	**341**	*e*PKP	**PKPbc**	**12 00 23.3**	**+0.2**
	comp=Z,7.4nm,0.6s						
LESA	**Schwarzleotal**	**149.08**	**345**	*i* PKP	**PKPbc**	**12 00 25.9**	**-0.4**
	comp=Z,3.1nm,0.4s						
SOKA	**Soboth**	**149.12**	**342**	*e*PKP	**PKPbc**	**12 00 25.5**	**-1.0**
	comp=Z,1.5nm,0.5s						
KBA	**Koelnbreinsper**	**149.24**	**344**	*i* PKP	**PKPbc**	**12 00 25.6**	**-1.2**
	comp=Z,3.4nm,0.4s						
WATA	**Walderalm**	**149.43**	**346**	*i* PKP	**PKPbc**	**12 00 26.4**	**-0.8**
	comp=Z,3.7nm,0.5s						
RETA	**Rette**	**149.46**	**347**	*i* PKP	**PKPbc**	**12 00 26.0**	**-1.2**
	comp=Z,2.6nm,0.5s						
WTTA	**Wattenberg**	**149.48**	**346**	*i* PKP	**PKPbc**	**12 00 26.9**	**-0.5**
	comp=Z,5.8nm,0.4s						
MOTA	**Moosalm**	**149.52**	**347**	*e*PKP	**PKPbc**	**12 00 26.2**	**-1.3**
	comp=Z,4.4nm,0.6s						
MYKA	**Terra Mystica**	**149.57**	**343**	*i* PKP	**PKPbc**	**12 00 26.2**	**-1.3**
	comp=Z,4.5nm,0.5s						
SQTA	**Sankt Quirin**	**149.62**	**347**	*i* PKP	**PKPbc**	**12 00 27.1**	**-0.5**
	comp=Z,6.2nm,0.6s						
ABTA	**Abfaltersbach**	**149.76**	**345**	*e*PKP	**PKPbc**	**12 00 26.7**	**-1.3**
	comp=Z,5.1nm,0.5s						
DAVA	**Damuels**	**149.83**	**348**	*e*PKP	**PKPbc**	**12 00 28.0**	**-0.2**
	comp=Z,4.1nm,0.7s						
FETA	**Feichten**	**149.91**	**347**	*i* PKP	**PKPbc**	**12 00 28.0**	**-0.4**
	comp=Z,1.0nm,0.4s						
FNA	**Florina**	**151.40**	**327**	PKPdf	**PKPdf**	**12 00 23.3**	**-2.0**
FNA					**PKPbc**	**12 00 31.1**	**-0.8**

IDC 31 11:55:08.4±3.4, 24°.75N×95°.25E, h155km±37km, mb3.1/3, mbtmp3.6/5, Error ellipse: s-maj=38.2km s-min=20.3km az=50.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**3.90**	**239**	P	Pn	11 56 06.8	-0.7
	120nm,0.4s,baz=305,slow=16,SNR=1.8						
BRDH				S	Sn	11 56 54.1	+0.6
	178nm,0.4s,baz=241,slow=19,SNR=6.3						
CMAR	**Chiang Mai Arr**	**7.14**	**151**	P	Pn	11 56 50.7	+0.2
	0.5nm,0.3s,baz=326,slow=12,SNR=4.5						
MKAR	**Makanchi Array**	**24.32**	**338**	P	P	12 00 11.7	+0.1
	0.5nm,0.5s,baz=149,slow=9.7,SNR=6.5						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**58.48**	**136**	P	P	12 04 48.2	-0.3
	0.4nm,0.6s,baz=317,slow=8.0,SNR=6.2						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**61.00**	**139**	P	P	12 05 05.8	+0.2
	0.3nm,0.5s,baz=322,slow=6.9,SNR=5.6						
	0.3nm,0.5s						

TAP 31 12:13:40.8, 24°.45N×121°.88E, h20km, ML2.8, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.10**	**266**	*i* P	Pg	12 13 45.2	+0.6
EWUT				S	Sg	12 13 48.0	+0.8
ESAO	**Su ao**	**0.13**	**343**	*i* P	Pg	12 13 45.5	+0.6
ESAO				S	Sg	12 13 48.5	+0.7
ENA	**Nanau**	**0.13**	**260**	*i* P	Pg	12 13 45.5	+0.5
ENA				S	Sg	12 13 48.8	+0.9
TWC	**Suao**	**0.16**	**348**	*i* P	Pg	12 13 45.9	+0.6
TWC				*i* S	Sg	12 13 49.2	+0.8
EAHA	**Aohua**	**0.18**	**227**	*i* P	Pg	12 13 46.0	+0.4
EAHA				*e*S	Sg	12 13 49.7	+0.9
EHP	**Heping Village**	**0.19**	**223**	P	Pg	12 13 46.6	+0.9
NDS	**Dongshan**	**0.24**	**320**	*e*P	Pb	12 13 45.4	-0.8
NDS				*e*S	Sb	12 13 49.7	-0.1
EOS2	**EOS2**	**0.32**	**96**	*e*P	Pb	12 13 48.5	+0.7
EOS2				*i* S	Sb	12 13 54.1	+1.5
TWE	**Neicheng**	**0.33**	**324**	*i* P	Pb	12 13 48.6	+0.5
TWE				*e*S	Sb	12 13 53.7	+0.7
ILA	**Ilan**	**0.34**	**338**	*i* P	Pb	12 13 48.8	+0.6
ILA				S	Sb	12 13 54.4	+1.2
LATG	**Datong**	**0.34**	**284**	*i* P	Pb	12 13 48.9	+0.7
LATG				*i* S	Sb	12 13 54.2	+1.0
ENTT	**Nioudou**	**0.34**	**303**	*i* P	Pb	12 13 48.3	-0.1
ENTT				S	Sb	12 13 54.4	+1.0
ETL	**Fush Village**	**0.38**	**219**	*i* P	Pb	12 13 49.0	+0.1
ETL				S	Sb	12 13 55.3	+0.9
NACB	**Ninganchiao**	**0.38**	**224**	P	Pg	12 13 48.8	0.0
NACB	**Ninganchiao**	**0.38**	**224**	S	Sb	12 13 55.0	+0.5
NACB	**Ninganchiao**	**0.38**	**224**	*i* P	Pg	12 13 48.9	0.0
NACB				*e*S	Sb	12 13 54.9	+0.3
EGS		**0.39**	**6**	*e*P	Pb	12 13 49.1	0.0
EGS				S	Sb	12 13 55.5	+0.7
FUSB	**Fushanzhiwuyua**	**0.41**	**319**	*i* P	Pb	12 13 50.0	+0.5
FUSB				S	Sb	12 13 56.4	+1.1
EOS3	**EOS3**	**0.43**	**113**	P	Pb	12 13 50.0	+0.4
EOS3				*i* S	Sb	12 13 57.0	+1.3
ETLH	**Xiulin Townshi**	**0.44**	**236**	P	Pb	12 13 50.0	0.0
ETLH				*e*S	Sb	12 13 57.2	+0.9
TWD	**Chiawan**	**0.45**	**215**	*e*P	Pb	12 13 50.3	+0.2
TWD				*e*S	Sn	12 13 59.3	-0.5
NNSB	**Datong**	**0.46**	**267**	*e*P	Pb	12 13 50.9	+0.6
NNSB				S	Sb	12 13 57.3	+0.6
NNSH	**Datong**	**0.46**	**267**	P	Pb	12 13 50.4	+0.1
NNSH				*i* S	Sb	12 13 57.2	+0.4
NNS	**Nan Shan**	**0.47**	**269**	*e*P	Pb	12 13 50.9	+0.5
NNS				S	Sb	12 13 57.6	+0.6
NWLT	**Wulai**	**0.47**	**313**	*i* P	Pb	12 13 51.0	+0.5
NWLT				*e*S	Sb	12 13 57.8	+0.7
YHNB	**Yeheng**	**0.51**	**295**	P	Pg	12 13 51.7	+0.5
YHNB	**Yeheng**	**0.51**	**295**	S	Sb	12 13 59.3	+1.1
YHNB	**Yeheng**	**0.51**	**295**	*i* P	Pg	12 13 51.8	+0.6
YHNB				S	Sb	12 13 58.8	+0.6
EOS4	**EOS4**	**0.52**	**130**	P	Pb	12 13 50.9	0.0
EOS4				*e*S	Sg	12 13 58.7	+0.7
TIPB	**Shuangxi**	**0.52**	**354**	*i* P	Pg	12 13 51.8	+0.4
TIPB				*i* S	Sg	12 13 58.8	+0.4
NSK	**Sanguang**	**0.53**	**295**	*i* P	Pg	12 13 51.8	+0.3
NSK				S	Sg	12 13 59.1	+0.4
TWB1	**Santiao Chiao**	**0.56**	**10**	*e*P	Pg	12 13 52.3	+0.3
TWB1				*e*S	Sb	12 13 59.1	-0.4
TWA	**Mucha**	**0.59**	**333**	*e*P	Pn	12 13 54.5	+0.4
TWA				S	Sg	12 14 01.9	+1.2
ETM	**Tongmen**	**0.60**	**216**	*e*P	Pn	12 13 53.9	-0.3
LXIB	**Xiulin Townshi**	**0.61**	**225**	P	Pg	12 13 52.9	0.0
LXIB				*e*S	Sn	12 14 02.5	-1.3
FUSS	**Fushou**	**0.62**	**251**	*e*P	Pg	12 13

ALS	**Alishan**	**1.36**	**227**	*e*P		Pg	12 14 07.7	+0.5
ALS				*e*S		Sg	12 14 27.5	+2.5
CHN5	**Tsauling**	**1.39**	**233**	*e*P		Pg	12 14 07.7	0.0
CHN5				*e*S		Sg	12 14 28.8	+2.9
CHKT	**Chengkung**	**1.43**	**200**	P		Pn	12 14 05.7	+0.1
CHKT				S		Sb	12 14 24.4	-0.1
WGK	**Gukeng**	**1.43**	**238**	P		Pn	12 14 05.4	-0.3
WGK				*e*S		Sn	12 14 23.2	-0.6
EHD	**Haiduan**	**1.44**	**206**	P		Pb	12 14 07.1	+0.1
EHD				S		Sn	12 14 24.2	+0.1
WDLH	**Douliu**	**1.45**	**239**	P		Pn	12 14 06.1	+0.3
WDLH				S		Sn	12 14 24.4	+0.1
WRL	**Guolierlin Hig**	**1.48**	**249**	P		Pn	12 14 06.4	0.0
WRL				S		Sn	12 14 25.2	0.0
ELDTW	**Lidau**	**1.49**	**212**	*e*P		Pb	12 14 08.0	+0.2
ELDTW				*e*S		Sb	12 14 26.8	+0.4
WCKO	**Fanlu**	**1.54**	**229**	*e*P		Pg	12 14 11.3	+0.8
WCKO				*e*S		Sg	12 14 32.6	+1.9
WTK	**Tuku**	**1.56**	**241**	P		Pn	12 14 07.7	+0.3
WTK				*e*S		Sg	12 14 29.9	-1.4
TPUB	**Ta-pu**	**1.62**	**225**	P		Pg	12 14 11.2	-0.9
TPUB	**Ta-pu**	**1.62**	**225**	P		Pg	12 14 34.3	+22
TPUB	**Ta-pu**	**1.62**	**225**	*e*P		Pg	12 14 11.7	-0.3
TPUB				*e*S		Sg	12 14 34.3	+1.1
STYH	**Taoyuan**	**1.63**	**219**	*e*P		Pb	12 14 10.5	+0.3
STYH				*e*S		Sb	12 14 31.6	+1.3
STYT	**Tauyuan**	**1.65**	**219**	P		Pb	12 14 09.8	-0.7
STYT				*e*S		Sg	12 14 34.1	+0.1
WTP	**Ta-pu**	**1.67**	**224**	P		Pn	12 14 09.7	+0.7
WTP				S		Sn	12 14 30.1	+0.2
SNST	**Tainan City**	**1.77**	**226**	*e*P		Pb	12 14 12.8	+0.3
SNST				*e*S		Sg	12 14 37.0	-0.7
CHN1	**Nanshi**	**1.77**	**225**	*e*P		Pb	12 14 12.8	+0.2
CHN1				*e*S		Sg	12 14 37.4	-0.5
VWUC	**VWUC**	**2.28**	**284**	*e*P		Pn	12 14 17.9	+0.6
VWUC				S		Sn	12 14 45.5	+0.6
PTMZ	**Houxiangcun**	**2.58**	**284**	P		Pn	12 14 22.7	+1.3
PTMZ				S		Sn	12 14 52.8	+0.5

TAP 31 12:14:34.0,23°57N×120°70E,h9km,ML1.5,1C-1D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN5	**Tsauling**	**0.03**	**321**	⇑*i*P	Pg	12 14 36.0	+0.3
CHN5				*i* S	Sg	12 14 37.6	+0.6
ALS	**Alishan**	**0.12**	**123**	⇓P	Pg	12 14 37.8	+0.9
ALS				*e*S	Sg	12 14 40.7	+1.8
WCKO	**Fanlu**	**0.16**	**212**	S	Sg	12 14 40.9	+1.2
WGK	**Gukeng**	**0.17**	**312**	*e*P	Pg	12 14 38.0	+0.5
WGK				S	Sg	12 14 42.5	+2.5
WDLH	**Douliu**	**0.19**	**308**	P	Pg	12 14 38.9	+1.0
WDLH				S	Sg	12 14 43.3	+2.8
WHYT	**Xinyi Township**	**0.19**	**49**	P	Pg	12 14 38.5	+0.7
WHYT				S	Sg	12 14 41.9	+1.3
WDL	**Douliou City**	**0.20**	**314**	*e*P	Pg	12 14 40.6	+2.5
WDL				S	Sg	12 14 43.7	+2.8
CHN2	**Minshiung**	**0.21**	**258**	P	Pg	12 14 39.7	+1.5
CHN2				S	Sg	12 14 43.8	+2.7
WJS	**Zhushan**	**0.25**	**6**	P	Pg	12 14 40.7	+1.7
WJS				S	Sg	12 14 44.8	+2.4
CHY	**Chiayi**	**0.26**	**253**	*i* P	Pb	12 14 40.4	-0.5
CHY				S	Sb	12 14 44.9	-0.6
TPUB	**Ta-pu**	**0.28**	**193**	*e*P	Pg	12 14 40.0	+0.5
TPUB				*e*S	Sb	12 14 45.7	-0.4
WTK	**Tuku**	**0.30**	**292**	P	Pb	12 14 41.3	-0.4
WTK				S	Sb	12 14 47.1	+0.3
SSLB	**Suanglung**	**0.32**	**48**	*e*P	Pb	12 14 42.1	+0.2
SSLB				S	Sb	12 14 47.0	-0.2
WTP	**Ta-pu**	**0.34**	**193**	P	Pb	12 14 41.5	-0.7
WTP				S	Sb	12 14 46.9	-0.8
SMLT	**Sun Moon Lake**	**0.36**	**31**	*i* P	Pb	12 14 42.5	-0.2
SMLT				S	Sb	12 14 48.6	+0.1
TYC	**Yuchr**	**0.36**	**24**	P	Pb	12 14 42.0	-0.5
TYC				S	Sb	12 14 48.9	+0.6
SNST	**Tainan City**	**0.40**	**208**	*e*P	Pg	12 14 41.7	-0.1
SNST				*i* S	Sb	12 14 49.4	0.0
STYH	**Taoyuan**	**0.41**	**170**	*i* P	Pb	12 14 42.7	-0.7
STYH				S	Sb	12 14 49.3	-0.4
STYT	**Tauyuan**	**0.41**	**172**	P	Pb	12 14 42.9	-0.6
STYT				*i* S	Sb	12 14 49.7	-0.2
CHN1	**Nanshi**	**0.42**	**202**	P	Pb	12 14 43.6	0.0
CHN1				S	Sb	12 14 50.4	+0.3
WSL	**Shuilin Townsh**	**0.43**	**263**	*e*P	Pg	12 14 42.1	-0.3
WSL				*e*S	Sb	12 14 50.0	-0.5
VWDT	**VWDT**	**0.44**	**66**	P	Pb	12 14 44.2	+0.2
VWDT				*e*S	Sb	12 14 50.4	-0.4
ELDTW	**Lidau**	**0.48**	**143**	P	Pb	12 14 44.6	-0.1
ELDTW				S	Sb	12 14 51.8	-0.2
WCS	**Beigang Elemen**	**0.52**	**22**	*e*P	Pb	12 14 44.8	-0.5
WCS				S	Sb	12 14 53.4	+0.4
WUSB	**Renai**	**0.57**	**43**	P	Pb	12 14 46.0	-0.2
WUSB				S	Sb	12 14 54.5	+0.1
OWD	**Renai**	**0.58**	**49**	P	Pb	12 14 46.0	-0.4
OWD				*e*S	Sb	12 14 54.5	-0.4
YULB	**Yu-li**	**0.58**	**108**	P	Pb	12 14 46.4	+0.1
YULB				*e*S	Sb	12 14 55.3	+0.6
EHD	**Haiduan**	**0.63**	**132**	P	Pb	12 14 46.9	-0.3
EHD				*e*S	Sb	12 14 57.2	+1.0
WARBT	**Fenglin Townsh**	**0.65**	**77**	P	Pb	12 14 47.3	-0.2
WARBT				*e*S	Sb	12 14 57.6	+0.9
WHP	**Taichung City**	**0.74**	**18**	P	Pb	12 14 49.6	+0.5
WHP				S	Sn	12 15 00.9	-1.2
LXIB	**Xiulin Townshi**	**0.79**	**56**	P	Pb	12 14 50.5	+0.5
LXIB				*i* S	Sb	12 15 01.9	+0.9
NFF	**Wufeng Townshi**	**1.12**	**20**	P	Pn	12 14 56.5	+0.5
NFF				*e*S	Sn	12 15 11.1	-0.5

IDC 31 12:21:52.2±593.0,47°23N×62°25E,h0km,Error ellipse: s-maj=235.3km s-min=96.8km az=148.0,Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF** baz=137,slow=312,SNR=1.3	**4.23**	**320**	I	I	12 46 20.0	
I46RU	**ZALESOVO INFRA** baz=250,slow=311,SNR=1.9	**15.79**	**56**	I	I	13 58 00.0	
I37NO	**I37NO** baz=112,slow=325,SNR=1.1	**30.67**	**331**	I	I	15 31 20.0	

*NEIC **31** 12:26:15.4±1.2,40°34N±0°02×124°45W±0°04,h33km±8km, Error ellipse: s-maj=4.6km s-min=3.2km az=77.0*

NCEDC 31 12:26:16.2±1.8,40°34N±0°02×124°43W±0°07,h27km±7km, Mwr3.4/4,ML2.8/86(NEIC),Error ellipse: s-maj=7.3km s-min=2.7km az=85.0,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETL	**Petrolia**	**0.08**	**129**		Pb	12 26 21.1	+0.1
PETL					Sb	12 26 25.2	+0.9
KCTM	**Capetown**	**0.15**	**27**		Pb	12 26 22.1	+0.4
KMPM	**Mount Pierce**	**0.25**	**72**		Pb	12 26 22.6	-0.2
KMPM				Sg	Sb	12 26 27.9	+0.7
FER	**Ferndale**	**0.27**	**28**		Pb	12 26 23.2	+0.2
BRIC	**Briceland Vine**	**0.47**	**119**		Pb	12 26 25.6	-0.3
KMRM	**Mail Ridge**	**0.56**	**102**		Pb	12 26 27.3	-0.2
KMRM				Sg	Sn	12 26 36.1	-0.8
JCC	**Jacoby Creek,**	**0.56**	**32**		Pb	12 26 26.1	-1.4
JCC				Sg	Sb	12 26 34.2	-1.0
JCC				IAML		12 26 34.6	
	comp=N,896nm,0.5s						
JCC				IAML		12 26 34.8	
	comp=E,510nm,1.1s						
KHMM	**Horse Mountain**	**0.75**	**45**		Pb	12 26 29.6	-1.2
KHMM				Sg	Sb	12 26 39.8	-0.9
KBSM	**Bell Springs**	**0.76**	**123**		Pb	12 26 29.8	-1.1
KRPM	**Rodgers**	**0.87**	**20**		Pn	12 26 31.0	-1.8
KRPM				Sg	Sb	12 26 42.0	-2.1
KRPM				IAML		12 26 42.3	
	comp=E,371nm,1.1s						
KRPM				IAML		12 26 42.8	
	comp=N,466nm,0.6s						
KCPM	**Cahto Peak**	**0.92**	**135**		Pn	12 26 31.9	-1.5
KCPM				Sg	Sb	12 26 43.5	-2.0
KHBM	**Hayfork Bally**	**0.97**	**70**		Pn	12 26 32.5	-1.8
KHBM				Sg	Sb	12 26 44.9	-2.2
KHBM				IAML		12 26 45.8	
	comp=E,417nm,0.4s						
KFPM	**Farley Peak**	**1.04**	**132**		Pn	12 26 33.5	-1.5
KBNM	**Bluenose Ridge**	**1.04**	**115**		Pn	12 26 34.1	-1.0
MNDO	**Woodland Fire**	**1.15**	**153**		Pn	12 26 34.7	-1.8
GTC	**Three Chop Rid**	**1.15**	**144**		Pn	12 26 35.0	-1.6
WEAV	**Weaverville**	**1.17**	**69**		Pn	12 26 35.1	-1.7
KOMM	**Orleans Mounta**	**1.19**	**38**		Pn	12 26 35.6	-1.6
DCMP	**DeCamp, Califo**	**1.21**	**136**		Pn	12 26 35.5	-1.7
DCMP	**DeCamp, Califo** comp=E,304nm,0.5s	**1.21**	**136**	IAML		12 26 50.6	
KRKM	**Rackout Spring**	**1.23**	**129**		Pn	12 26 36.2	-1.5
KRMB	**Red Mountain**	**1.25**	**18**		Pn	12 26 36.4	-1.5
KRMB				IAML		12 26 51.3	
	comp=E,118nm,0.2s						
KRMB				IAML		12 26 51.5	
	comp=N,143nm,0.4s						
O02D	**Mt. Diablo Mer**	**1.26**	**97**		Pn	12 26 36.9	-1.2
O02D				IAML		12 26 57.1	
	comp=E,119nm,0.8s						
O02D				IAML		12 27 07.0	
	comp=N,129nm,1.1s						
GWRM	**Wonder Ranch**	**1.43**	**142**		Pn	12 26 38.6	-1.7
N02D	**Trinity Center**	**1.45**	**64**		Pn	12 26 39.3	-1.4
GHOM	**Hamilton Openi**	**1.46**	**152**		Pn	12 26 39.0	-1.9
LBKM	**Bonanza King**	**1.53**	**60**		Pn	12 26 40.4	-1.4
KSXB	**Camp Six Broad**	**1.54**	**15**		Pn	12 26 40.2	-1.8
KSXB				IAML		12 26 58.6	
	comp=E,84nm,0.5s						
SIGP	**Signal Peak, C**	**1.55**	**10**		Pn	12 26 40.2	-1.9
M02C	**Callahan**	**1.59**	**48**		Pn	12 26 41.2	-1.4
M02C	**Callahan**	**1.59**	**48**	IAML		12 27 01.4	
	comp=E,195nm,0.8s						
M02C				IAML		12 27 02.7	
	comp=N,141nm,0.6s						
GGUM	**Gualala**	**1.65**	**154**		Pn	12 26 41.4	-2.0
GSNM	**Snow Mountain**	**1.69**	**145**		Pn	12 26 42.3	-1.7
HOPS	**Hopland Field**	**1.70**	**142**		Pn	12 26 42.8	-1.3
HOPS				IAML		12 27 02.5	
	comp=N,71nm,0.3s						
GHGM	**Hogback Ridge**	**1.73**	**134**		Pn	12 26 42.8	-1.7
GALB	**Galbreath Wild**	**1.73**	**148**		Pn	12 26 42.5	-2.0
LTCM	**Tuscan Springs**	**1.77**	**94**		Pn	12 26 43.8	-1.1
LSHM	**Sage Hen Hill**	**1.87**	**75**		Pn	12 26 45.4	-1.0
KBO	**Bosley Butte**	**1.88**	**5**		Pn	12 26 44.3	-2.3
KBO				IAML		12 27 07.2	
	comp=E,103nm,0.3s						
KBO				IAML		12 27 07.7	
	comp=N,120nm,0.4s						
L02F	**Cave Junction**	**1.89**	**20**		Pn	12 26 45.3	-1.4
L02F				IAML		12 27 08.7	
	comp=N,86nm,0.4s						
L02F				IAML		12 27 08.8	
	comp=E,79nm,0.5s						
YBH	**Yreka Blue Hor**	**1.90**	**42**		Pn	12 26 45.9	-1.0
YBH				IAML		12 27 10.6	
	comp=E,114nm,0.3s						
YBH				IAML		12 27 12.2	
	comp=N,75nm,0.4s						
GRTM	**Round Top Moun**	**1.95**	**135**		Pn	12 26 46.8	-0.7
LGBM	**Gray Butte**	**1.97**	**59**		Pn	12 26 49.2	+1.3
GHCM	**House Creek**	**1.98**	**151**		Pn	12 26 46.8	-1.1
M03C	**McCloud**	**1.98**	**61**		Pn	12 26 47.8	-0.2
O03E	**Paynes Creek**	**2.01**	**90**		Pn	12 26 46.7	-1.6
O03E	**Paynes Creek** comp=E,77nm,0.7s	**2.01**	**90**	IAML		12 27 20.5	
LDBM	**Digger Butte**	**2.02**	**87**		Pn	12 26 46.9	-1.6
LMPM	**Military Pass**	**2.06**	**56**		Pn	12 26 49.2	0.0
LHEM	**Herd Peak**	**2.11**	**52**		Pn	12 26 49.5	-0.4
B040	**Montague**	**2.12**	**45**		Pn	12 26 49.1	-0.8
B040	**Montague**	**2.12**	**45**		Pn	12 26 49.5	-0.4
LBFM	**Black Fox Moun**	**2.17**	**62**		Pn	12 26 50.5	-0.2
LMEM	**Manzanita Entr**	**2.19**	**84**		Pn	12 26 50.2	-0.8
LCMM	**Colby Mountain**	**2.23**	**94**		Pn	12 26 50.4	-1.1
LRDM	**Redding Peak**	**2.27**	**86**		Pn	12 26 51.2	-0.7
HATC	**Hat Creek Radi**	**2.31**	**77**		Pn	12 26 51.8	-0.7
HATC				IAML		12 27 27.5	
	comp=N,68nm,0.8s						
HATC				IAML		12 27 28.2	
	comp=E,75nm,0.7s						
SUTB	**Sutter Butte**	**2.32**	**118**		Pn	12 26 50.4	-2.1
SUTB	**Sutter Butte** comp=E,79nm,0.3s	**2.32**	**118**	IAML		12 27 30.4	
SUTB				IAML		12 27 33.5	
	comp=N,53nm,0.4s						
LTIM	**Timbered Crate**	**2.38**	**69**		Pn	12 26 52.7	-0.8
ORV	**Oroville**	**2.38**	**108**		Pn	12 26 51.6	-1.8
LBCM	**Butte Creek Ri**	**2.39**	**77**		Pn	12 26 53.0	-0.8
PAM	**Palermo**	**2.41**	**111**		Pn	12 26 51.9	-1.8
K02D	**Willamette Mer**	**2.42**	**13**		Pn	12 26 53.2	-0.9
M04C	**Macdoel**	**2.43**	**53**		Pn	12 26 53.6	-0.5
L04D	**Klamath Falls**	**2.46**	**40**		Pn	12 26 55.0	+0.3
MCCM	**Marconi Confer**	**2.50**	**151**	Pn	Pn	12 26 53.5	-1.5
MCCM				IAML		12 27 21.4	
	comp=E,87nm,2.7s						
MCCM				IAML		12 27 22.1	
	comp=N,72nm,0.8s						
KPK	**Kanaka Peak**	**2.52**	**107**		Pn	12 26 54.5	-0.8
KEBM	**Edson Butte**	**2.53**	**2**	Pn	Pn	12 26 54.2	-1.3
NOLM	**Olema**	**2.62**	**151**		Pn	12 26 55.3	-1.4
J01E	**Myrtle Point**	**2.84**	**7**		Pn	12 26 58.8	-0.9
J01E				IAML		12 27 35.8	
	comp=E,21nm,1.1s						
BBOR	**Butler Butte**	**2.86**	**27**		Pn	12 27 00.3	+0.1
BBOR				IAML		12 27 37.4	
	comp=N,21nm,0.5s						
BBOR				IAML		12 27 47.3	
	comp=E,21nm,0.5s						
FARB	**Farallon Islan**	**2.86**	**157**		Pn	12 26 58.6	-1.4
FARB	**Farallon Islan** comp=N,49nm,2.8s	**2.86**	**157**	IAML		12 28 31.2	
AFDM	**Forest Hills D**	**3.01**	**116**		Pn	12 27 00.9	-1.1
BEKR	**Beckworth**	**3.15**	**97**		Pn	12 27 03.7	-0.5
BEKR				IAML		12 27 43.9	
	comp=E,33nm,0.6s						
BEKR				IAML		12 27 44.3	
	comp=N,29nm,0.6s						
J04A	**Umpqua Nationa**	**3.38**	**30**	Pn	Pn	12 27 06.9	-0.3
BGH	**Bear Gulch**	**3.41**	**151**		Pn	12 27 07.3	-0.2
I03D	**Drain, OR**	**3.45**	**13**		Pn	12 27 07.3	-0.8
I03D				IAML		12 27 35.5	
	comp=N,18nm,0.1s						
I03D				IAML		12 27 35.5	
	comp=E,23nm,0.1s						
JPSM		**3.53**	**152**		Pn	12 27 08.4	-0.8
MPK	**Martis Peak**	**3.54**	**106**		Pn	12 27 10.2	+0.6
MPK				IAML		12 27 57.7	
	comp=E,25nm,0.7s						
MPK				IAML		12 27 59.3	
	comp=N,23nm,0.8s						
K05A	**Summer Lake**	**3.56**	**47**		Pn	12 27 09.4	-0.5
J05D	**Fort Rock, OR**	**3.79**	**38**		Pn	12 27 13.0	+0.2
J05D				IAML		12 27 57.8	
	comp=N,11nm,0.6s						
J05D				IAML		12 28 17.7	
	comp=E,10nm,1.3s						
I02E	**Swisshome, OR**	**3.79**	**6**	Pn	Pn	12 27 12.5	-0.3
PAHR	**Pah Rah Range**	**3.92**	**98**		Pn	12 27 14.0	-0.7
HLPM	**Lions Peak**	**3.95**	**146**		Pn	12 27 14.7	-0.4
SAO	**San Andreas Ge**	**4.27**	**146**	Pn	Pn	12 27 17.3	-2.0
PINE	**Pine Mountain**	**4.32**	**36**		Pn	12 27 19.1	-1.1
H04A	**Detroit Lake**	**4.64**	**20**		Pn	12 27 23.1	-1.4
WVOR	**Wild Horse Val**	**4.83**	**62**	Pn	Pn	12 27 24.7	-2.5
WVOR				IAML		12 28 56.4	
	comp=E,5.0nm,2.1s						

DJA 31 12:33:45.4±0.5,9°S±4°×107°9E±°,h10km,M4.0/13,mb4.4/4, MLv3.8/13,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**1.57**	**353**	P	Pn	12 34 13.0	-0.3
CMJI				S	Sb	12 34 34.2	-0.2
UGM	**Wanagama**	**2.35**	**53**	P	Pn	12 34 23.5	-0.7
UGM				S	Sn	12 34 53.6	+0.4
CNJI	**Cibinong**	**2.51**	**324**	P	Pn	12 34 26.4	+0.1
WOJI	**Wonogiri, Jawa**	**2.72**	**57**	P	Pn	12 34 28.9	-0.3
PCJI	**Pacitan**	**2.77**	**66**	P	Pn	12 34 28.1	-1.7
SMRI	**Semarang**	**2.91**	**38**	P	Pn	12 34 32.9	+1.1
GRJI	**Gresik**	**4.51**	**58**	P	Pn	12 34 54.1	+0.2
JAGI	**Jajag, Banyuwa** 0.2nm20nm,1.1s	**5.53**	**81**	P	Pn	12 35 07.6	-0.2
KASI	**Kota Agung** 0.1nm24nm,1.3s	**5.59**	**313**	P	Pn	12 35 08.7	0.0
SRBI	**Singaraja** 52nm,1.6s	**6.63**	**80**	P	Pn	12 35 22.8	-0.1
MNAI	**Manna**	**7.50**	**311**	P	Pn	12 35 34.4	-0.6

*RHSSO **31** 12:52:33.4±0.3,43°48N×19°07E,h3km±2km,ML2.6/9*
*PDG **31** 12:52:33.5±0.1,43°45N×19°02E,h13km,MD2.7/2, ML2.6/12,Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*
*BEO **31** 12:52:34.1±0.3,43°48N×19°08E,h0km±1km,ML2.6/16*

ISC 31 12:52:33.2±1.0,43°49N±0°02×19°05E±0°01,h4km±9km, n62,σ0°90/116,12C-6D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUDO	**Rudo**	**0.27**	**60**	⇑*i*Pg	Pg	12 52 38.2	-0.2
RUDO				*e*Sg	Sg	12 52 42.1	+0.1
RUDO	**Rudo**	**0.27**	**60**	*e*Pg	Pg	12 52 38.2	-0.2
RUDO				*e*Sg	Sg	12 52 42.0	+0.1
RUDO				*e*Sg	Sb	12 52 42.2	-3.4
PLE	**Pljevlja**	**0.29**	**122**	⇓*i*Pg	Pg	12 52 39.4	+0.5
PLE				*i* Sg	Sg	12 52 44.3	+1.5
UPM	**Unac-Piva**	**0.30**	**200**	*e*Pg	Pg	12 52 39.0	-0.1
UPM				*i* Sg	Sg	12 52 43.0	-0.1
BBLS	**Lazi&#263i**	**0.46**	**34**	*e*Pg	Pg	12 52 42.7	+0.6
BBLS				*e*Sg	Sg	12 52 49.1	+1.0
KLINJ	**Klinje**	**0.46**	**227**	⇓*i*Pg	Pg	12 52 41.7	-0.5
KLINJ				*e*Sg	Sg	12 52 48.3	+0.1
BRY	**Bratogost**	**0.69**	**213**	*e*Pg	Pg	12 52 45.7	-0.9
BRY				*i* Sg	Sg	12 52 56.1	+0.6
SJES	**Sjenica**	**0.71**	**108**	*e*Pg	Pg	12 52 46.9	0.0
SJES				*e*Sg	Sg	12 52 55.8	-0.3
KOME	**Kolasin**	**0.72**	**152**	*e*Pg	Pg	12 52 46.7	-0.4
KOME				*i* Sg	Sb	12 52 57.8	-0.9
NKME	**Niksic**	**0.72**	**186**	*e*Pg	Pg	12 52 46.5	-0.6
NKME				*i* Sg	Sg	12 52 57.3	+0.8
IVAS	**Ivanjica**	**0.81**	**83**	*e*Pg	Pg	12 52 48.3	-0.4
IVAS				*e*Sg	Sg	12 52 57.9	-1.3
IVA	**Berane**	**0.87**	**135**	⇑*i*Pg	Pg	12 52 49.6	-0.3
IVA				*i* Sg	Sg	12 53 01.6	+0.4
TREB	**Trebinje**	**0.92**	**214**	⇑*i*Pg	Pg	12 52 50.2	-0.8
TREB				*e*Sg	Sg	12 53 03.9	+1.0
TREB	**Trebinje**	**0.92**	**214**	*e*Pg	Pg	12 52 50.4	-0.6
TREB				*e*Sg	Sg	12 53 03.4	+0.5
CEME	**Cevo**	**0.94**	**186**	⇓*i*Pg	Pg	12 52 50.1	-1.2
CEME				*i* Sg	Sb	12 53 04.9	-0.2
DBRK	**Dubrovnik**	**1.05**	**219**	*e*Pg	Pg	12 52 52.6	-0.8
PDG	**Podgorica**	**1.07**	**172**	⇑P	Pg	12 52 53.0	-0.7
PDG				⇓S	Sg	12 53 07.1	-0.4
PDG	**Podgorica**	**1.07**	**172**	*e*Pg	Pg	12 52 53.1	-0.6
PDG				*e*Sg	Sg	12 53 07.5	0.0
PDG	**Podgorica**	**1.07**	**172**	*e*Pg	Pg	12 52 52.9	-0.7
PDG				*i* Sg	Sb	12 53 08.9	+0.3
HCY	**Herceg Novi**	**1.12**	**202**	*e*Pg	Pg	12 52 53.7	-0.9
HCY				*i* Sg	Sb	12 53 10.5	+0.5
TEKS	**Tekeris**	**1.12**	**18**	*e*Pg	Pg	12 52 54.7	0.0
TEKS				*e*Sg	Sg	12 53 09.9	+0.7
STON	**Ston**	**1.16**	**239**	⇑*i*Pg	Pg	12 52 54.8	-0.7
STON				*e*Sg	Sg	12 53 11.0	+0.4
STON	**Ston**	**1.16**	**239**	*e*Pg	Pg	12 52 54.5	-1.0
STON				Sg	Sg	12 53 09.8	-0.8
BUM	**Brajici-Budva**	**1.19**	**186**	⇓*i*Pg	Pg	12 52 54.9	-1.2
BUM				*i* Sg	Sn	12 53 13.2	-0.3
TRUS	**Trudelj**	**1.23**	**53**	*e*Pg	Pg	12 52 56.5	-0.3
TRUS				*e*Sg	Sb	12 53 13.2	0.0
DRME	**Dracevica, Mon**	**1.30**	**176**	*e*Pg	Pg	12 52 57.2	-1.0
DRME				*i* Sg	Sn	12 53 17.1	+1.0
GOCS	**Kraljevo Serbi**	**1.33**	**86**	*e*Pg	Pg	12 52 58.4	-0.3
GOCS				*e*Sg	Sg	12 53 15.5	-0.4
RICI	**Ricice**	**1.40**	**271**	*e*Pg	Pn	12 52 59.4	-0.2
RICI				Sg	Sn	12 53 20.4	+2.0
DOB	**Doboj**	**1.42**	**332**	*e*Sg	Sn	12 53 19.8	+0.7
MAKA	**Makarska**	**1.49**	**263**	*e*Pg	Pn	12 53 00.3	-0.5
MAKA				Sg	Sb	12 53 21.5	+0.7
ULC	**Ulcinj**	**1.53**	**175**	⇑*i*Pg	Pn	12 53 01.2	-0.2
ULC				*i* Sg	Sg	12 53 23.9	+1.6
SELS	**Selova**	**1.53**	**99**	*e*Pg	Pn	12 53 01.8	+0.3
SELS				*e*Sn	Sg	12 53 23.0	+0.5
LSTV	**Lastovo**	**1.73**	**246**	*e*Pn	Pn	12 53 04.5	+0.3
LSTV				Sg	Sb	12 53 28.1	+0.3
FRGS	**Fruska Gora**	**1.76**	**18**	*e*Pn	Pn	12 53 04.1	-0.5
FRGS				*e*Sn	Sg	12 53 30.8	+0.3
BLY	**Banja Luka**	**1.84**	**314**	*e*Pn	Pn	12 53 05.5	-0.2
BLY				*e*Sn	Sn	12 53 29.7	+0.2
BOVS	**Bovan**	**1.94**	**85**	⇑P	Pn	12 53 07.4	+0.4
BOVS				⇑S	Sg	12 53 35.3	-0.1
BOVS	**Bovan**	**1.94**	**85**	*e*Pn	Pn	12 53 07.6	+0.6
BOVS				*e*Sn	Sb	12 53 34.4	+0.8
KIJV	**Kijevo**	**1.98**	**286**	*e*Pn	Pn	12 53 07.9	+0.2
KIJV				*e*Sn	Sn	12 53 32.9	-0.1

LALI	Alcalda de L	0.98	74	P		Pb	12 53 26.0	-0.2
CEDA	San Andres	1.04	56	P		Pb	12 53 27.0	-0.5
CEDA	San Andres	1.04	56	S		Sg	12 53 41.0	+0.1
UNIC	Universidad Ca	1.05	43	S		Sg	12 53 40.7	-0.3
UNIC	Universidad Ca	1.05	43	P		Pb	12 53 26.8	-0.6
PMON	Piamonte	1.07	62	P		Pb	12 53 27.6	-0.2
FG16	Alotenango, Sa	1.07	348	*eP*		Pn	12 53 30.5	+2.0
FG16				*i* S		Sn	12 53 48.7	+5.1
FG16				IAML			12 53 52.0	
	comp=N,2μm,0.3s							
BOQS	Boqueron	1.11	62	*eP*		Pb	12 53 28.2	-0.4
UEES	Universidad Ev	1.13	64	P		Pg	12 53 29.6	+0.6
LOMA	Loma Larga	1.17	68	P		Sb	12 53 29.2	-0.4
LOMA	Loma Larga	1.17	68	S		Sb	12 53 44.9	+0.1
LFRS	El Faro	1.26	71	*eP*		Pn	12 53 30.1	-0.8
ESSG	Sabana Grande	1.28	336	*i* P		Pn	12 53 28.9	-2.3
ESSG				IAML			12 53 50.6	
	comp=N,772nm,0.3s							
PAVA	Las Pavas	1.40	69	P		Pn	12 53 32.5	-0.5
MTO3	Montecristo	1.48	37	*eP*		Pn	12 53 33.8	-0.3
MTO3				*eS*		Sg	12 53 54.9	-0.1
MTO3	Montecristo	1.48	37	*eP*		Pn	12 53 33.9	-0.3
MTO3	Montecristo	1.48	37	P		Pn	12 53 33.7	-0.4
MTO3	Montecristo	1.48	37	S		Sb	12 53 53.3	-0.6
TECO	Alcaldia de Te	1.50	78	S		Sn	12 53 53.5	-0.3
TECO	Alcaldia de Te	1.50	78	P		Pn	12 53 33.6	-0.6
UESV	Universidad de	1.52	74	S		Sn	12 53 53.8	-0.5
UESV	Universidad de	1.52	74	P		Pn	12 53 35.1	+0.7
SCLA	Alcaldia de Sa	1.59	72	P		Pn	12 53 35.6	+0.1
SCLA	Alcaldia de Sa	1.59	72	S		Sn	12 53 55.8	-0.4
LLGN	La Laguna	1.61	54	P		Pn	12 53 35.9	+0.1
ESQI	Esquipulas	1.62	34	*eP*		Pn	12 53 35.8	-0.2
ESQI	Esquipulas	1.62	34	P		Pn	12 53 35.8	-0.2
ALJI	Alcalda de J	1.67	86	P		Pn	12 53 37.3	+0.7
PQSS	Presa 15 de Se	1.73	76	P		Pn	12 53 37.3	0.0
PQSS	Presa 15 de Se	1.73	76	S		Sn	12 53 59.5	+0.1
RTAL	Retalhuleu	1.89	314	S		Sn	12 54 01.7	-1.7
SARH	Santa Rosa de	2.14	43	P		Pn	12 53 42.6	-0.6
LCND	La Caada	2.33	87	P		Pn	12 53 45.3	-0.4
LCND	La Caada	2.33	87	S		Sb	12 54 19.2	+0.9
CNCH	Conchagua	2.39	88	P		Pn	12 53 47.2	+0.6
CNCH	Conchagua	2.39	88	S		Sn	12 54 17.7	+1.8
CSGN	Cosiguina Volc	2.67	95	S		Sn	12 54 22.8	0.0
CHOHN	Orocuina	3.06	85	P		Pn	12 53 55.7	0.0
YUSH	Yuscaran	3.43	77	P		Pn	12 54 00.9	+0.1

KRSC ***31*** *12:56:36.9±1.1, 52°.36N×159°.81E, h47km±13km, Ml4.8*
MOS ***31*** *12:56:39.0±1.1, 52°.44N×159°.59E, h60km, mb4.5/13, Error ellipse: s-maj=7.6km s-min=3.7km az=91.1*
NEIC ***31*** *12:56:41.9±1.3, 52°.61N±0°.10×159°.5E±0°.1, h65km±7km, mb4.4/109, Error ellipse: s-maj=14.5km s-min=10.1km az=204.0*
IDC ***31*** *12:56:41.5±0.5, 52°.48N×159°.54E, h65km±4km, mb4.0/30, mbtmp4.3/34, MS3.7/54, Error ellipse: s-maj=10.0km s-min=8.4km az=12.0*

ISC 31 12:56:39.8±0.5, 52°.43N±0°.04×159°.69E±0°.04, h53km±4km, h55km:pP-P, n530, σ1s11/493, mb4.4/106, MS3.7/54, 20C-10D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SPN	Mys Shipunski	0.70	17	PN		Pn	12 56 52.5	-1.2
SPN				S		Sn	12 57 03.7	-0.1
SPN	Mys Shipunski	0.70	17	*eP*		Pn	12 56 52.5	-1.2
SPN				*eS*		Sn	12 57 03.8	-0.1
RUS	Russkaya	0.72	271	PN		Pn	12 56 52.6	-1.3
RUS				S		Sn	12 57 03.1	-1.1
RUS	Russkaya	0.72	271	*eP*		Pn	12 56 52.7	-1.3
RUS				*eS*		Sn	12 57 03.1	-1.1
NLC	Nalytchevo	0.77	344	PN		Pn	12 56 53.4	-1.2
NLC	Nalytchevo	0.77	344	*eP*		Pn	12 56 53.5	-1.2
DALK	Dalny	0.83	317	PN		Pn	12 56 54.3	-1.0
DALK				S		Sn	12 57 06.4	-0.3
DALK	Dalny	0.83	317	*i* P		Pn	12 56 54.4	-1.0
DALK				*eS*		Sn	12 57 06.4	-0.3
PET	Petropavlovsk	0.87	314			Pn	12 56 55.0	-0.9
PET				Sn		Sn	12 57 06.2	-1.3
PET	Petropavlovsk	0.87	314	*i*PN		Pn	12 56 55.0	-0.9
PET				*eS*		Sn	12 57 06.3	-1.3
PET				pmax	pmax			
	comp=Z,2μm,0.4s							
PET				smax	smax			
	comp=E,5μm,0.4s							
PET				smax	smax			
	comp=N,6μm,0.4s							
PET	Petropavlovsk	0.87	314	*eP*		Pn	12 56 54.9	-0.9
INSR	Institute	0.92	314	PN		Pn	12 56 55.7	-0.8
INSR				S		Sn	12 57 08.3	-0.5
INSR	Institute	0.92	314	*i* P		Pn	12 56 55.8	-0.8
INSR				*eS*		Sn	12 57 08.3	-0.5
MTVR	Mutnovka	0.92	274	PN		Pn	12 56 56.0	-0.7
MTVR	Mutnovka	0.92	274	*i* P		Pn	12 56 56.0	-0.7
UGLR	Uglovaya	0.94	326	PN		Pn	12 56 56.5	-0.4
UGLR	Uglovaya	0.94	326	*eP*		Pn	12 56 56.5	-0.4
SDLR	Sedlovina	0.98	330	PN		Pn	12 56 56.7	-0.7
SDLR	Sedlovina	0.98	330	*eP*		Pn	12 56 56.8	-0.7
SMAR	Somma	0.99	328	PN		Pn	12 56 56.8	-0.9
SMAR	Somma	0.99	328	*eP*		Pn	12 56 56.9	-0.9
GRL	Gorelyy	0.99	278	PN		Pn	12 56 57.2	-0.4
GRL	Gorelyy	0.99	278	*i* P		Pn	12 56 57.3	-0.4
AVH	Avacha	1.01	326	PN		Pn	12 56 57.5	-0.4
AVH	Avacha	1.01	326	*eP*		Pn	12 56 57.6	-0.4
KRMR	Karymshinskiy	1.03	293	PN		Pn	12 56 57.3	-0.7
KRMR				S		Sn	12 57 11.3	-0.2
KRMR	Karymshinskiy	1.03	293	*i* P		Pn	12 56 57.4	-0.7
KRMR				*eS*		Sn	12 57 11.3	-0.2
KRER	Koryakskii	1.04	327	PN		Pn	12 56 58.1	-0.3
KRER	Koryakskii	1.04	327	*eP*		Pn	12 56 58.1	-0.3
KOK	Koryaka	1.07	324	PN		Pn	12 56 58.2	-0.5
KOK	Koryaka	1.07	324	*eP*		Pn	12 56 58.3	-0.5
ASAK	Asacha	1.10	268	PN		Pn	12 56 58.7	-0.3
ASAK	Asacha	1.10	268	*i* P		Pn	12 56 58.8	-0.3
KRX	Arik	1.12	326	PN		Pn	12 56 58.9	-0.5
KRX	Arik	1.12	326	*eP*		Pn	12 56 58.9	-0.5
I44RU	PETROPAVLOVSK-	1.38	300	P		Pn	12 57 02.8	+0.1
	baz=103,slow=16,SNR=1.7							
PEA0B	Petropavlovsk-	1.39	300			Pn	12 57 02.7	-0.1
PEA0B	Petropavlovsk-	1.39	300	*d* iPN		Pn	12 57 02.6	-0.2
PETK	Petropavlovsk-	1.39	300	P		Pn	12 57 01.9	-1.0
	comp=N,528nm,0.4s,baz=102,slow=19,SNR=7							
PETK				S		Sn	12 57 21.6	+1.5
	comp=N,298nm,0.3s,baz=114,slow=18,SNR=3.8							
PETK				LR		LR	12 57 40.1	
	comp=N,3μm,18.6s,baz=57,slow=46							
KII	Karymskiy	1.61	355	PN		Pn	12 57 06.2	+0.2
KII	Karymskiy	1.61	355	*eP*		Pn	12 57 06.3	+0.2
APC	Apacha	1.62	289	PN		Pn	12 57 07.0	+1.1
APC				S		Sn	12 57 28.5	+2.8
APC	Apacha	1.62	289	*i* P		Pn	12 57 07.1	+1.1
APC				*eS*		Sn	12 57 28.5	+2.8
GNL	Ganaly	1.65	321	PN		Pn	12 57 07.0	+0.5
GNL	Ganaly	1.65	321	*eP*		Pn	12 57 07.0	+0.5
MIPR	Malaya Ipel'ka	1.80	266	PN		Pn	12 57 09.1	+0.6
MIPR	Malaya Ipel'ka	1.80	266	*eP*		Pn	12 57 09.2	+0.6
PAU	Pauzhetka	2.02	243	PN		Pn	12 57 11.6	+0.1
PAU				S		Sn	12 57 35.8	+0.2
PAU	Pauzhetka	2.02	243	*eP*		Pn	12 57 11.6	+0.1
PAU				*eS*		Sn	12 57 35.9	+0.2
MKZ	Mys Kozlova	2.45	29	PN		Pn	12 57 16.3	-1.0
MKZ	Mys Kozlova	2.45	29	*eP*		Pn	12 57 16.3	-1.0
TUMD	Tumrok D	2.81	8	PN		Pn	12 57 23.1	+0.8
TUMD				S		Sn	12 57 56.0	+1.1
TUMD	Tumrok D	2.81	8	*eP*		Pn	12 57 23.1	+0.8
TUMD				*eS*		Sn	12 57 56.1	+1.1
SKR	Severo-Kuril's	2.83	233	*e*PN		Pn	12 57 22.3	-0.3
SKR				*eS*		Sn	12 57 55.0	-0.4
SKR				pmax	pmax			
	comp=Z,144nm,0.5s							
SKR				smax	smax			
	comp=N,2μm,0.9s							
SKR				smax	smax			
	comp=E,1μm,1.0s							
SKR	Severo-Kuril's	2.83	233	*e*P		Pn	12 57 22.2	-0.4
KMNR	Kamenistaya	3.35	5	PN		Pn	12 57 32.0	+2.3
KMNR	Kamenistaya	3.35	5	*e*P		Pn	12 57 32.0	+2.3
ESO	Esso	3.55	351	PN		Pn	12 57 33.9	+1.5
ESO	Esso	3.55	351	*i* P		Pn	12 57 34.0	+1.5
KIRR	Kirishev	3.55	6	PN		Pn	12 57 34.4	+1.9
KIRR	Kirishev	3.55	6	*e*P		Pn	12 57 34.5	+1.9
BZGR	Bezymyannyi-Gr	3.57	9	PN		Pn	12 57 34.7	+2.0
BZGR	Bezymyannyi-Gr	3.57	9	*e*P		Pn	12 57 34.8	+2.0
BZWR	Bezymyannyi-We	3.57	7	PN		Pn	12 57 35.2	+2.4
BZWR	Bezymyannyi-We	3.57	7	*e*P		Pn	12 57 35.2	+2.4
KOZ	Kozyrevsk	3.64	2	PN		Pn	12 57 35.4	+1.8
KOZ	Kozyrevsk	3.64	2	*e*P		Pn	12 57 35.4	+1.8
ZLN	Zelenaya	3.65	10	PN		Pn	12 57 36.6	+2.7
ZLN	Zelenaya	3.65	10	*e*P		Pn	12 57 36.7	+2.7
CIRR	Tsirk	3.74	9	PN		Pn	12 57 38.5	+3.4
CIRR	Tsirk	3.74	9	*e*P		Pn	12 57 38.6	+3.4
SRDR	Sredinnyy	3.90	0	PN		Pn	12 57 38.9	+1.8
SRDR	Sredinnyy	3.90	0	*e*P		Pn	12 57 38.9	+1.8
KLY	Klyuchi	3.93	8	PN		Pn	12 57 40.4	+2.8
KLY	Klyuchi	3.93	8	*e*P		Pn	12 57 40.4	+2.8
KBTR	Krutoberegovo	4.21	25	PN		Pn	12 57 42.5	+1.2
KBTR	Krutoberegovo	4.21	25	*e*P		Pn	12 57 42.5	+1.2
KBG	Krutoberegovo	4.22	24	PN		Pn	12 57 42.8	+1.3
KBG	Krutoberegovo	4.22	24	*e*P		Pn	12 57 42.9	+1.3
SMKR	Semkarok	4.29	13	PN		Pn	12 57 44.9	+2.4
SMKR	Semkarok	4.29	13	*e*P		Pn	12 57 44.9	+2.4
BKI	Bering	4.64	51	PN		Pn	12 57 46.5	-0.8
BKI	Bering	4.64	51	*e*P		Pn	12 57 46.5	-0.8
OSSR	Ossora	7.09	14	PN		Pn	12 58 22.5	+1.7
OSSR	Ossora	7.09	14	*e*P		Pn	12 58 22.6	+1.7
MA2	Magadan	8.72	329	Pn		Pn	12 58 40.6	-2.6
MA2	Magadan	8.72	329	P		Pn	12 58 44.5	+1.3
	comp=E,2.8nm,0.6s,baz=140,slow=17,SNR=1.8							
MA2				LR		LR	13 02 42.9	
	comp=E,586nm,18.2s,baz=146,slow=42							
MA2	Magadan	8.72	329	*i* PN		Pn	12 58 43.2	0.0
SHEM	Shemya Is, Ala	8.79	82	P		Pn	12 58 43.3	-0.7
	comp=E,84nm,0.8s,baz=17,slow=2.0,SNR=16							
SHEM				S		Sn	13 00 15.1	-6.4
	comp=E,52nm,0.4s,baz=284,slow=22,SNR=12							
SHEM				LR		LR	13 02 02.0	
	comp=E,369nm,22.0s,baz=302,slow=36							
SMY	Shemya	8.79	82			Pn	12 58 44.1	+0.1
SMY	Shemya	8.79	82	PN		Pn	12 58 44.1	+0.1
TYV	Tymovskoe	10.70	268	*e*PN		Pn	12 59 13.2	+3.0
TYV				pmax	pmax			
	comp=Z,100nm,2.6s							
TYV				pmax	pmax			
	comp=Z,12nm,1.3s							
SEY	Seymchan	11.22	343	P		Pn	12 59 19.1	+1.8
	comp=Z,2.4nm,0.9s,baz=143,slow=11,SNR=3.7							
SEY				LR		LR	13 04 05.1	
	comp=Z,656nm,19.0s,baz=156,slow=40							
SEY	Seymchan	11.22	343	*e*PN		Pn	12 59 17.6	+0.3
SEY				pmax	pmax			
	comp=Z,3.0nm,1.0s							
AMKA	Amchitka	12.16	87	Pn		Pn	12 59 31.0	+0.9
YSS	Yuzhno-Sakhali	12.25	250	*e*PN		Pn	12 59 33.9	+2.5
YSS				pmax	pmax			
	comp=Z,10.0nm,1.0s							
JKA	Kamikawa-asahi	14.07	241			Pn	12 59 56.1	-0.1
ASAJ	Asahikawa	14.07	241	P		Pn	12 59 55.9	-0.2
	comp=Z,27nm,1.0s,baz=75,slow=14,SNR=25							
ASAJ				LR		LR	13 05 19.4	
	comp=Z,184nm,19.7s,baz=53,slow=37							
KIWB	Kanaga Island	14.22	83	Pn		Pn	12 59 59.3	+1.1
GRNR	Gornyy	14.54	273	*i* P		P	13 00 06.8	-0.8
GRNR				pmax	pmax			
	comp=Z,8.0nm,0.8s							
GRNR				MLR	MLR			
	comp=N,140nm,14.0s							
ERM	Erimo	15.28	234	Pn		Pn	13 00 08.4	-3.6
ERM	Erimo	15.28	234	P		Pn	13 00 08.4	-3.6
ERM				pmax	pmax			
	comp=Z,49nm,1.2s							
BILL	Bilibino	15.98	9	*e*P		Pn	13 00 19.9	-0.9
BILL				pmax	pmax			
	comp=Z,4.0nm,0.8s							
JTM	Tenmabayashi	17.24	235	Pn		Pn	13 00 30.9	-5.8
JTM				IAmb	IAmb		13 00 31.0	
	comp=Z,37nm,1.3s							
YAK	Yakutsk	18.70	313	P		P	13 00 52.6	-0.8
	comp=Z,11nm,0.5s,baz=309,slow=6.7,SNR=4.2							
YAK				LR	LR		13 08 17.6	
	comp=Z,130nm,20.4s,baz=112,slow=37							
YAK	Yakutsk	18.70	313	*e*P		P	13 00 53.1	-0.3
YAK				*e*S		Sn	13 04 21.1	-1.2
YAK				pmax	pmax			
	comp=Z,32nm,1.0s							
YAK				pmax	pmax			
	comp=E,11nm,1.1s							
YAK				pmax	pmax			
	comp=N,4.0nm,1.1s							
YAK				smax	smax			
	comp=E,32nm,2.3s							
YAK				smax	smax			
	comp=N,28nm,2.3s							
JMM	Marumori	19.65	230	P		Pn	13 01 05.6	-0.3
JMM				IAmb	IAmb		13 01 25.3	
	comp=Z,19nm,0.8s							
USRK	Ussuriysk Ar.	20.08	257	P		P	13 01 07.3	-1.3
	comp=Z,5.0nm,0.9s,baz=66,slow=8.8,SNR=4.8							
USRK				LR		LR	13 09 30.7	
	comp=Z,256nm,18.6s,baz=61,slow=38							
	comp=Z,5.0nm,0.9s							
HEH	HeiHe	20.19	277	*e*P		P	13 01 09.3	-0.5
HEH				pP		Pn	13 01 12.0	-0.1
HEH				S		Sn	13 05 03.5	+5.1
HEH				pmax	pmax			
	comp=Z,13nm,0.9s							
HEH				pmax	pmax			
	comp=Z,110nm,4.6s							
HEH				LR	LR			
	comp=N,240nm,13.2s							
HEH				LR	LR			
	comp=E,280nm,16.5s							
HEH				LR	LR			
	comp=Z,280nm,18.8s							
UNV	Unalaska Valle	20.22	72	P		P	13 01 10.3	+0.2
	baz=280							
M11K	Mekoryuk	20.28	53	P		P	13 01 09.4	-1.3
M11K	Mekoryuk	20.28	53	P		P	13 01 10.7	0.0
	baz=263							
K13K	Kusilvak Mount	21.27	49	P		P	13 01 21.8	+0.5
K13K	Kusilvak Mount	21.27	49	P		P	13 01 21.2	-0.1
	baz=260							
MDJ	Mudanjiang	21.29	260	P		P	13 01 20.0	-1.7
MDJ				IAmb	IAmb		13 01 58.1	
	comp=Z,13nm,0.9s							
ANM	Nome	21.59	42	P		P	13 01 23.9	-0.8
	baz=253							
M13K	Dall Lake	21.69	54	P		P	13 01 25.3	-0.5
	baz=265							
FALS	False Pass	21.84	69	P		P	13 01 28.7	+1.2
J14K	Nanvaranak Lak	21.92	48	P		P	13 01 27.9	-0.3
	baz=259							
MJA0	Matsu Arr-Jizo	21.92	232	*e*P		P	13 01 30.0	+1.4
MJA0				pmax	pmax			
	comp=Z,13nm,0.9s							
MJAR	Matsushiro Arr	21.94	232			P	13 01 29.2	+0.5
MJAR				IAmb	IAmb		13 01 46.7	
	comp=Z,18nm,1.4s							
MJAR	Matsushiro Arr	21.94	232	P		P	13 01 30.1	+1.3
	comp=Z,13nm,0.9s,baz=22,slow=11,SNR=29							
MJAR				LR	LR		13 11 17.3	
	comp=Z,77nm,21.4s,baz=44,slow=40							
	comp=Z,13nm,0.9s							
MJAR	Matsushiro Arr	21.94	232	P		P	13 01 29.2	+0.5
MJAR				pmax	pmax			
	comp=Z,18nm,1.4s							
MJB9	Matsu-Tunnel	21.94	232	P		P	13 01 29.5	+0.8
MJB9				IAmb	IAmb		13 02 01.4	
	comp=Z,19nm,0.8s							
MAJO	Matsushiro	21.94	232			P	13 01 29.8	+1.0
MAJO				IAmb	IAmb		13 02 01.4	
	comp=Z,20nm,0.8s							
MAJO	Matsushiro	21.94	232	*d* iP		P	13 01 29.1	+0.3
MAJO				pmax	pmax			
	comp=Z,22nm,1.0s							
BNX	BinXian	22.05	265	↑P		P	13 01 28.0	-1.8
BNX				pP		pP	13 01 41.5	+0.2
BNX				sP		sP	13 01 49.0	+1.2
BNX				S		S	13 05 26.8	-2.9
BNX				pmax	pmax			
	comp=Z,11nm,0.8s							
BNX				pmax	pmax			
	comp=Z,90nm,7.3s							
BNX				LR	LR			
	comp=N,220nm,12.8s							
BNX				LR	LR			
	comp=E,310nm,14.1s							
BNX				LR	LR			
	comp=Z,290nm,13.4s							
L14K	Kuka Creek	22.11	51	P		P	13 01 29.6	-0.7
	baz=264							
G15K	Niukluk	22.26	42	P		P	13 01 31.3	-0.6
	baz=253							
M14K	Bethel	22.40	53	P		P	13 01 34.0	+0.6
M14K				IAmb		IAmb	13 01 58.9	
	comp=Z,10nm,0.9s							
M14K	Bethel	22.40	53	P		P	13 01 32.6	-0.8
	baz=266							
N14K	Kuskokwak Cree	22.49	55	P		P	13 01 33.6	-0.8
	baz=268							
O14K	Tigyukauivet M	22.69	57	P		P	13 01 35.9	-0.7
	baz=270							
L15K	Ungalak Mounta	22.72	51	P		P	13 01 36.4	-0.4
	baz=264							
K15K	Wolf Creek Mou	22.77	49	P		P	13 01 37.9	+0.5
K15K	Wolf Creek Mou	22.77	49	P		P	13 01 36.8	-0.6
	baz=263							
H16K	Elim	22.91	43	P		P	13 01 37.4	-1.3
	baz=256							
C16K	Lisburne Hills	22.99	33	P		P	13 01 38.7	-0.8
M15K	Kasigluk River	23.02	53	P		P	13 01 39.2	-0.7
	baz=267,SNR=5.5							
G16K	Koyuk River	23.05	41	P		P	13 01 38.7	-1.5
	baz=254							
JGF	Kuroka	23.11	232			P	13 01 41.4	+0.4
JGF				IAmb		IAmb	13 01 42.7	
	comp=Z,12nm,0.9s							
N15K	Kwethluk River	23.30	55	P		P	13 01 42.5	-0.1
	baz=269							
J16K	Anvik River	23.34	47	P		P	13 01 42.1	-0.9
	baz=261							
I17K	Unalakleet	23.40	45	P		P	13 01 42.9	-0.7
	baz=260							
D17K	Noatak River	23.53	35	P		P	13 01 44.1	-0.7
	baz=248							
TIXI	Tiksi	23.58	336	LR		LR	13 12 00.2	
	comp=Z,401nm,18.8s,baz=160,slow=39							
E17K	Hotham Inlet	23.77	37	P		P	13 01 46.8	-0.1
	baz=251							
G17K	Kiwalik Mounta	23.77	41	P		P	13 01 46.7	-0.3
	baz=256							
C17K	DeLong Mountai	23.80	34	P		P	13 01 46.8	-0.5
	baz=247							
S14K	Fog Glacier	23.81	64	P		P	13 01 47.6	0.0
	baz=278							
M16K	Timber Creek	23.88	53	P		P	13 01 47.8	-0.2
M16K				IAmb		IAmb	13 02 24.6	
	comp=Z,12nm,1.1s							
M16K	Timber Creek	23.88	53	P		P	13 01 48.3	+0.2
	baz=268							
H17K	Granite Mounta	23.95	43			P	13 01 49.6	+0.9
H17K				IAmb		IAmb	13 01 51.1	
	comp=Z,17nm,1.1s							
H17K	Granite Mounta	23.95	43	P		P	13 01 48.3	-0.3
	baz=258,SNR=5.2							
N16K	Nishlik Lake	23.96	54	P		P	13 01 48.6	-0.3
	baz=270							
J17K	VABM Dome	24.04	47	P		P	13 01 49.8	+0.3
J17K				IAmb		IAmb	13 01 57.5	
	comp=Z,14nm,1.1s							
J17K	VABM Dome	24.04	47	P		P	13 01 48.4	-1.1
	baz=263							
L17K	Donlin	24.26	50	P		P	13 01 51.2	-0.3
	baz=266							
O16K	Kokwok River B	24.31	56	P		P	13 01 52.2	+0.2
	baz=272							
K17K	Iditarod	24.31	49	P		P	13 01 51.9	-0.1
	baz=265							
E18K	Tukpahlearik C	24.33	37	P		P	13 01 52.2	+0.1
	baz=252							
CHGN	Chignik	24.43	64	P		P	13 01 53.9	+0.8
	baz=279							
F18K	Selawik	24.45	39	P		P	13 01 53.2	+0.1
	baz=255							
C18K	Utukok River	24.54	34			P	13 01 53.9	-0.2
C18K	Utukok River	24.54	34	P		P	13 01 53.6	-0.5
	baz=249,SNR=5.2							
B18K	Kokolik River	24.61	32	P		P	13 01 54.8	+0.2
	baz=247,SNR=9.7							
H18K	Honhosa River	24.63	43	P		P	13 01 55.1	+0.2
	baz=260							
M17K	Holitna River	24.63	52			P	13 01 56.7	+1.8
M17K				IAmb		IAmb	13 02 21.8	
	comp=Z,13nm,1.0s							
M17K	Holitna River	24.63	52	P		P	13 01 55.8	+0.9
	baz=269							
G18K	Tagagawik	24.67	41	P		P	13 01 55.5	+0.3
	baz=258							
N17K	Nushagak Hills	24.74	54	P		P	13 01 56.2	+0.3
	baz=271							
O17K	Koliganek Bris	24.81	56	P		P	13 01 57.6	+1.2
	baz=272							
L18K	Granite Mounta	25.02	50	P		P	13 01 59.0	+0.6
	baz=268							
Q16K	King Salmon	25.10	58	P		P	13 02 00.6	+1.5
	baz=275							
J18K	Innoko River	25.10	47			P	13 01 59.8	+0.6
J18K				IAmb		IAmb	13 02 22.2	
	comp=Z,9.3nm,0.9s							
J18K	Innoko River	25.10	47	P		P	13 01 59.6	+0.4
	baz=265							
P17K	Kvichak River	25.17	57	P		P	13 02 01.0	+1.2
	baz=274							
GCSA	Galena City Sc	25.19	44	P		P	13 01 60.0	+0.1
	baz=262							
F19K	Shaleruckik Mo	25.23	39	IAmb		IAmb	13 02 18.5	
	comp=Z,9.4nm,0.9s							
F19K	Shaleruckik Mo	25.23	39	P

baz=266
L20K **Farewell, AK** 26.34 49 P P 13 02 10.5 +0.1
baz=270
B20K **Meade River** 26.36 32 P P 13 02 10.5 +0.1
baz=251
Q19K **Cape Douglas,** 26.63 57 P P 13 02 12.9 -0.2
baz=277
IMAR **Indian Mountai** 26.66 41 P P 13 02 13.6 +0.4
M20K **Styx River** 26.69 51 P P 13 02 13.9 +0.3
M20K **Styx River** 26.69 51 P P 13 02 14.2 +0.6
baz=271
SII **Sitkinak Islan** 26.70 63 P P 13 02 14.4 +0.7
baz=281
KSRS **Korea Array** 26.74 249 P P 13 02 14.4 +0.3
comp=Z,3.4nm,0.8s,baz=41,slow=9.3,SNR=13
comp=Z,3.4nm,0.8s
KSRS **Korea Array** 26.74 249 *e*P P 13 02 14.4 +0.3
KSRS pmax pmax
comp=Z,4.0nm,0.8s
P19K **Oil Pt** 26.77 56 P P 13 02 14.9 +0.6
baz=276
G21K **Allakaket** 26.83 40 P P 13 02 15.0 +0.2
baz=262
C21K **Knifeblade Rid** 26.90 34 P P 13 02 15.8 +0.4
baz=255
F21K **Alatna River** 26.96 39 P P 13 02 15.9 0.0
baz=260
H21K **Melozitna Rive** 27.01 42 P P 13 02 16.6 +0.2
baz=264
E21K **Killik River** 27.02 36 P P 13 02 16.1 -0.3
baz=258
OHAK **Old Harbor** 27.07 61 P P 13 02 17.7 +0.8
baz=280
B21K **Ikpikpuk River** 27.09 33 P P 13 02 17.1 +0.1
baz=255
CHUM **Lake Minchumin** 27.09 46 P P 13 02 16.6 -0.4
baz=268
PPLA **Purkeypile** 27.12 48 P P 13 02 17.3 -0.2
baz=270
CAST **Castle Rocks** 27.18 47 P P 13 02 17.5 -0.4
baz=269
I21K **Tanana** 27.31 43 P P 13 02 18.8 -0.1
baz=266
Q20K **Shuyak Island** 27.32 58 P P 13 02 20.0 +0.9
baz=278
KDAK **Kodiak Island** 27.35 60 P P 13 02 20.2 +0.8
baz=280
SKT **Skwentna** 27.45 50 P P 13 02 20.6 +0.3
baz=272
F22K **John River** 27.50 38 P P 13 02 20.3 -0.4
baz=261
D22K **Ayikyak River** 27.57 35 P P 13 02 21.0 -0.4
baz=258
H22K **Ishtalitna Cre** 27.62 42 P P 13 02 21.3 -0.5
baz=265
G22K **Bettles** 27.68 40 P P 13 02 22.1 -0.2
baz=263
BPAW **Bear Paw Mtn.** 27.68 46 P P 13 02 22.0 -0.4
baz=269
E22K **Anaktuvuk Pass** 27.74 37 P P 13 02 22.1 -0.8
baz=260
MLY **Manley** 27.82 44 P P 13 02 23.4 -0.2
baz=267
SUA **Susitna One** 27.85 51 P P 13 02 23.4 -0.6
baz=274
TRF **Thorofare Moun** 27.98 47 P P 13 02 24.4 -0.9
baz=271
COLD **Coldfoot** 28.22 39 P P 13 02 26.9 -0.3
baz=264
G23K **Bananza Creek** 28.24 40 P P 13 02 27.0 -0.4
baz=265
D23K **Nanushuk River** 28.30 35 P P 13 02 27.5 -0.3
baz=260
JNU **Nakatsue** 28.33 238 P 13 02 28.9 +0.4
JNU **Nakatsue** 28.33 238 LR LR 13 16 08.4
comp=Z,52nm,18.2s,baz=46,slow=41
RC01 **Rabbit Creek A** 28.36 52 P P 13 02 28.7 +0.2
baz=276
H23K **Yukon River** 28.36 42 P P 13 02 29.3 +0.8
H23K **Yukon River** 28.36 42 P P 13 02 28.4 -0.1
baz=267
I23K **Minto, Yukon-K** 28.41 44 P P 13 02 28.6 -0.2
baz=268
C23K **Itkillik River** 28.49 34 P P 13 02 30.4 +0.9
C23K IAmb IAmb 13 02 43.3
comp=Z,8.9nm,1.1s
C23K **Itkillik River** 28.49 34 P P 13 02 29.0 -0.4
baz=259
NEA2 **Nenana** 28.52 45 P P 13 02 29.4 -0.4
baz=270
E23K **Chandalar** 28.55 37 P P 13 02 29.7 -0.4
baz=263
MCK **McKinley** 28.59 47 P P 13 02 30.1 -0.3
baz=272
PMR **Palmer** 28.61 51 P P 13 02 30.2 -0.4
baz=275
TOLK **Toolik Lake Re** 28.64 36 P P 13 02 29.8 -1.2
baz=262
E24K **Your Creek** 28.97 38 P P 13 02 33.0 -0.8
baz=264
H24K **Noodor Dome** 29.05 42 P P 13 02 34.0 -0.6
baz=269
PWL **Port Wells** 29.07 53 P P 13 02 34.0 -0.7
baz=277
C24K **Franklin Bluff** 29.12 34 P P 13 02 34.0 -1.0
baz=261
F24K **Squaw Lake** 29.14 39 P P 13 02 35.3 -0.1
baz=266
POKR **Poker Plat Res** 29.22 44 P P 13 02 35.7 -0.4
baz=270
G24K **Hadweenzic Riv** 29.25 40 P P 13 02 36.3 0.0
baz=267
ILAR **Eielson Array** 29.46 44 P P 13 02 38.5 +0.3
comp=Z,1.5nm,0.8s,baz=260,slow=7.7,SNR=24
ILAR LR LR 13 15 32.6
comp=Z,53nm,19.2s,baz=271,slow=38
comp=Z,1.5nm,0.8s
D25K **Kavik River** 29.88 35 IAmb IAmb 13 02 43.2
comp=Z,7.3nm,0.7s
D25K **Kavik River** 29.88 35 P P 13 02 41.2 -0.6
baz=264,SNR=11
H25L **Birch Creek** 29.90 41 P P 13 02 42.2 +0.2
baz=270
M24K **Tolsona, Glenn** 29.95 50 P P 13 02 42.0 -0.6
baz=277
K24K **Donnelly Dome** 29.98 46 P P 13 02 42.5 -0.4
baz=274
F25K **Christian Rive** 30.01 39 P P 13 02 42.6 -0.4
baz=268
PRP **Porcupine Dome** 30.02 43 IAmb IAmb 13 02 45.0
comp=Z,4.8nm,0.9s
PRP **Porcupine Dome** 30.02 43 P P 13 02 42.7 -0.6
baz=271
J25K **Salcha River,** 30.12 45 P P 13 02 43.8 -0.3
baz=273
RIDG **Independent Ri** 30.40 46 P P 13 02 46.3 -0.3
baz=275
C26K **Camden Bay** 30.45 34 P P 13 02 47.2 +0.4
baz=264
F26K **Sheenjek River** 30.58 39 P P 13 02 47.4 -0.7
baz=269
G26K **Porcupine Rive** 30.71 40 P P 13 02 49.4 +0.3
baz=270
SCRK **Sand Creek** 30.76 46 P P 13 02 49.4 -0.4
baz=275
C27K **Jago River** 30.84 35 P P 13 02 50.2 -0.1
baz=266,SNR=6.6
BMRM **Bremner River** 30.86 52 P P 13 02 50.6 0.0
baz=280
J26L **Joseph Creek** 30.90 45 P P 13 02 50.6 -0.4
baz=275
KAIM **Kayak Island** 31.14 54 P P 13 02 53.3 +0.3
baz=282
MCARA **McCarthy VSAT** 31.54 51 P P 13 02 56.9 +0.3
baz=280
E27K **Coleen River** 31.55 38 P P 13 02 56.4 -0.3
baz=270
G27K **Doyon Strip** 31.56 40 P P 13 02 56.7 +0.1
baz=273
K27K **Chicken** 31.59 46 IAmb IAmb 13 02 58.6
comp=Z,5.0nm,0.9s
K27K **Chicken** 31.59 46 P P 13 02 57.1 +0.1
baz=277
H27K **Steamboat Moun** 31.64 41 P P 13 02 57.5 +0.1
baz=274
I27K **Kandik River** 31.64 43 P P 13 02 57.1 -0.4
baz=275
D27M **Malcolm River** 31.79 36 IAmb IAmb 13 03 16.7
comp=Z,3.2nm,0.7s
D27M **Malcolm River** 31.79 36 P P 13 02 58.5 -0.2
baz=269
L27K **Beaver Creek,** 31.83 47 IAmb IAmb 13 03 19.6
comp=Z,5.7nm,0.8s
L27K **Beaver Creek,** 31.83 47 P P 13 02 59.8 +0.7
baz=278,SNR=12
BCAR **Beaver Creek A** 31.85 47 P 13 03 00.6 +1.3
M27K **Edge Creek, AK** 31.91 49 P P 13 03 01.2 +1.3
M27K IAmb IAmb 13 03 39.6
comp=Z,5.1nm,1.1s
M27K **Edge Creek, AK** 31.91 49 P P 13 03 00.2 +0.3
baz=280
F28M **Old Crow** 32.22 39 P P 13 03 03.4 +0.9
F28M **Old Crow** 32.22 39 P P 13 03 02.7 +0.2
baz=273
E28M **Babbage River** 32.31 37 P P 13 03 02.8 -0.4
baz=272
I28M **Miner Creek** 32.35 43 P P 13 03 03.5 -0.3
baz=276
BVCY **Beaver Creek** 32.37 48 P P 13 03 04.3 +0.5
baz=280
D28M **Stokes Point** 32.58 35 P P 13 03 05.2 -0.4
baz=271
YUK3 **Moose Creek** 32.67 50 P P 13 03 07.4 +0.7
baz=282
DAWY **Dawson** 32.76 45 P P 13 03 07.5 +0.2
baz=279
H29M **Whitestone** 32.91 41 IAmb IAmb 13 03 35.7
comp=Z,3.4nm,0.8s
H29M **Whitestone** 32.91 41 P P 13 03 08.3 -0.2
baz=276
E29M **Blow River** 32.92 37 P P 13 03 09.2 +0.7
baz=273
G29M **Pine Creek** 32.98 40 IAmb IAmb 13 03 11.8
comp=Z,5.1nm,0.8s
G29M **Pine Creek** 32.98 40 P P 13 03 09.4 +0.3
baz=276,SNR=5.8
O28M **Mount Upton** 33.01 51 P P 13 03 08.6 -1.2
baz=283
I29M **Ogilvie Camp,** 33.04 43 P P 13 03 09.6 -0.1
baz=278
YUK8 **Steele Glacier** 33.10 50 P P 13 03 10.2 -0.3
baz=283
H11N2 **WAKE ISLAND Hy** 33.12 168 T T 13 39 02.6
baz=352,slow=76,SNR=717
H11N3 **WAKE ISLAND Hy** 33.13 167 T T 13 39 03.7
baz=352,slow=76,SNR=572
H11N1 **WAKE ISLAND Hy** 33.13 168 T T 13 38 39.5
baz=352,slow=76,SNR=762
PINM **Pinnacle** 33.14 53 P P 13 03 10.4 -0.2
baz=284
M29M **Somme Creek** 33.46 48 P P 13 03 13.1 -0.4
baz=282,SNR=8.6
L29M **L M** 33.48 47 P P 13 03 13.6 0.0
baz=281,SNR=11
EPYK **Eagle Plains** 33.56 41 P P 13 03 14.5 +0.3
baz=278
K29M **Barlow Dome** 33.61 45 P P 13 03 14.5 -0.3
baz=281
YUK4 **Talbot Arm** 33.61 50 P P 13 03 14.8 -0.1
baz=283
PNL **Peninsula** 33.66 53 P P 13 03 15.5 +0.4
baz=285
G30M **tAoh Zraii Nji** 33.68 40 IAmb IAmb 13 03 16.9
comp=Z,3.9nm,0.9s
G30M **tAoh Zraii Nji** 33.68 40 P P 13 03 15.8 +0.6
baz=277
F30M **Barrier River** 33.78 38 P P 13 03 15.7 -0.3
baz=276
SONM **Songino Array** 33.82 284 P P 13 03 16.1 -0.7
SONM **Songino Array** 33.82 284 P P 13 03 16.7 -0.1
comp=Z,0.6nm,0.3s,baz=60,slow=8.7,SNR=2.9
SONM PcP PcP 13 05 55.4 +0.8
comp=Z,2.4nm,0.6s,baz=81,slow=2.2,SNR=12
SONM LR LR 13 18 33.1
comp=Z,313nm,19.3s,baz=60,slow=39
comp=Z,0.6nm,0.3s
SONM **Songino Array** 33.82 284 P P 13 03 16.1 -0.7
SONM pmax pmax
comp=Z,2.0nm,1.1s
YUK6 **Outpost Mounta** 33.84 51 P P 13 03 16.6 -0.3
baz=284
I30M **Mount Dempster** 33.86 43 IAmb IAmb 13 03 18.5
comp=Z,3.3nm,0.8s
I30M **Mount Dempster** 33.86 43 P P 13 03 16.6 -0.3
baz=280,SNR=6.2
O29M **Mount Kennedy** 33.90 52 P P 13 03 16.9 -0.5
baz=285
J30M **Hart River** 33.99 44 P P 13 03 17.8 -0.2
baz=280
M30M **Minto, Yukon** 34.19 48 P P 13 03 19.5 -0.2
baz=283
HYT **Haines Junctio** 34.28 51 P 13 03 19.3 -1.3
HYT **Haines Junctio** 34.28 51 P P 13 03 20.4 -0.2
baz=285
H11S1 **WAKE ISLAND Hy** 34.30 168 T T 13 40 00.3
baz=352,slow=76,SNR=27
H11S3 **WAKE ISLAND Hy** 34.31 168 T T 13 39 50.7
baz=352,slow=76,SNR=46
H11S2 **WAKE ISLAND Hy** 34.31 168 T T 13 39 48.6
baz=352,slow=76,SNR=23
N30M **Aishikik Lake** 34.31 50 P P 13 03 20.4 -0.5
baz=284
G31M **Satah River** 34.45 40 P P 13 03 23.0 +1.2
G31M IAmb IAmb 13 03 23.6
comp=Z,8.4nm,1.3s
G31M **Satah River** 34.45 40 P P 13 03 21.9 +0.1
baz=279
P29M **Windy Craggy** 34.49 53 P P 13 03 22.8 +0.5
baz=287
INK **Inuvik** 34.55 37 IAmb IAmb 13 03 24.2
comp=Z,3.5nm,0.9s
INK **Inuvik** 34.55 37 LR LR 13 19 38.5
comp=Z,59nm,20.1s,baz=256,slow=40
INK **Inuvik** 34.55 37 P P 13 03 22.1 -0.5
baz=277
F31M **Tsiigehtchic** 34.58 39 P P 13 03 22.5 -0.4
baz=278
H31M **Peel River** 34.60 42 P P 13 03 22.6 -0.6
baz=280
P30M **Million Dollar** 34.73 52 P P 13 03 24.4 0.0
baz=286
N31M **Braeburn, Yuko** 34.91 49 IAmb IAmb 13 03 33.7
comp=Z,3.6nm,0.8s
N31M **Braeburn, Yuko** 34.91 49 P P 13 03 25.5 -0.4
baz=285
O30N **Mendenhall** 34.96 50 P P 13 03 26.6 +0.2
baz=286
M31M **Drury Creek, Y** 35.37 48 IAmb IAmb 13 03 32.7
comp=Z,5.8nm,0.9s
M31M **Drury Creek, Y** 35.37 48 P P 13 03 30.1 +0.3
baz=285
WHY **Whitehorse** 35.56 50 P P 13 03 31.3 -0.3
baz=287
N32M **Quiet Lake** 36.26 49 P P 13 03 37.5 0.0
baz=288
P32M **Atlin** 36.45 52 P P 13 03 39.1 -0.1
baz=289
R32K **Eaglecrest** 36.50 54 P P 13 03 39.4 -0.1
baz=290
SIT **Sitka** 36.52 56 P P 13 03 39.7 0.0
baz=292
MMPY **Sheldon Lake,** 36.65 46 IAmb IAmb 13 03 43.8
comp=Z,4.2nm,1.0s
MMPY **Sheldon Lake,** 36.65 46 P P 13 03 42.2 +1.4
baz=287,SNR=5.6
P33M **Teslin, Yukon** 36.67 51 IAmb IAmb 13 04 02.7
comp=Z,3.6nm,0.9s
P33M **Teslin, Yukon** 36.67 51 P P 13 03 41.4 +0.3
baz=289
S32K **Killisnoo** 36.75 55 P P 13 03 43.0 +1.4
baz=291
A36M **Sachs Harbour** 36.82 30 P P 13 03 42.4 +0.3
baz=280
Q32M **Nakina River** 37.36 52 P P 13 03 48.1 +1.1
baz=291
R33M **Jennings River** 37.83 51 IAmb IAmb 13 03 54.4
comp=Z,4.0nm,0.9s
R33M **Jennings River** 37.83 51 P P 13 03 52.0 +1.1
baz=291,SNR=6.1
S34M **Telegraph Cree** 38.30 54 P P 13 03 55.8 +1.1
baz=293
TGTN **Hyland Airport** 38.33 47 P P 13 03 55.5 +0.4
baz=290
WTLY **Watson Lake, Y** 38.60 50 IAmb IAmb 13 04 12.4
comp=Z,2.5nm,0.7s
WTLY **Watson Lake, Y** 38.60 50 P P 13 03 58.6 +1.4
baz=292
DLBC **Dease Lake** 38.64 52 LR LR 13 20 36.3
comp=Z,5.1nm,20.9s,baz=284,slow=37
DLBC **Dease Lake** 38.64 52 P P 13 03 59.2 +1.5
baz=293
V35K **Ketchikan** 39.11 58 P P 13 04 02.4 +0.9
baz=296
T35M **Bob Quinn** 39.11 55 P P 13 04 02.9 +1.3
baz=294
GUMO **Guam** 40.52 203 LR LR 13 17 05.8
comp=Z,40nm,21.4s,baz=9.5,slow=30
TOAD **Toad River Com** 40.77 50 P P 13 04 16.9 +1.6
baz=295
BBB **Bella Bella** 42.42 60 LR LR 13 21 16.9
comp=Z,58nm,20.3s,baz=257,slow=35
GTA **Gaotai** 42.44 277 *e*P P 13 04 28.5 -0.8
GTA sP pP 13 04 43.5 +1.0
GTA pmax pmax
comp=Z,6.0nm,1.3s
GTA LR LR
comp=N,130nm,15.6s
GTA LR LR
comp=E,180nm,14.9s
GTA LR LR
comp=Z,240nm,15.6s
EUNU **Eureka** 42.65 14 P 13 04 30.1 -0.3
ZAA0 **Zalesovo Array** 42.93 303 P P 13 04 30.6 -2.3
ZALV **Zalesovo Beam** 42.93 303 P P 13 04 30.9 -2.0
ZALV **Zalesovo Beam** 42.93 303 P P 13 04 32.9 0.0
comp=Z,0.4nm,0.4s,baz=46,slow=6.2,SNR=2.1
ZALV PcP PcP 13 06 23.1 +0.4
comp=Z,0.8nm,0.5s,baz=80,slow=2.2,SNR=5.6
ZALV LR LR 13 23 42.3
comp=Z,162nm,18.1s,baz=62,slow=38
comp=Z,0.4nm,0.4s
YKA **Yellowknife Ar** 43.82 42 P P 13 04 41.0 +1.0
comp=Z,1.9nm,0.9s,baz=304,slow=8.7,SNR=9.2
YKA LR LR 13 24 09.9
comp=Z,91nm,20.3s,baz=310,slow=38
comp=Z,1.9nm,0.9s
NOR **Nord** 46.20 359 *i* P P 13 04 59.2 +0.5
NOR IAmb IAmb 13 04 59.9
comp=Z,3.8nm,0.8s
KBS **Kingsbay** 47.50 352 *i* P P 13 05 07.9 -1.0
SPITS **Spitsbergen Ar** 47.75 350 P P 13 05 10.4 -0.4
comp=Z,4.4nm,0.5s,baz=57,slow=8.0,SNR=17
SPITS LR LR 13 27 20.1
comp=Z,48nm,18.4s,baz=16,slow=39
comp=Z,4.4nm,0.5s
KURK **Kurchatov** 47.88 302 P 13 05 10.0 -2.0
KURK IAmb IAmb 13 05 10.9
comp=Z,7.2nm,1.1s
KURK **Kurchatov** 47.88 302 *d i*P P 13 05 10.1 -2.0
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURBB **Kurchatov Arra** 47.98 302 P P 13 05 11.0 -1.8
comp=Z,2.6nm,0.8s,baz=59,slow=7.8,SNR=24
KURBB PcP PcP 13 06 40.0 -0.2
comp=Z,0.4nm,0.3s,baz=59,slow=4.2,SNR=5.0
KURBB LR LR 13 26 43.3
comp=Z,181nm,19.6s,baz=172,slow=38
comp=Z,2.6nm,0.8s
MK31 **Makanchi Array** 48.22 296 *d i*P P 13 05 12.8 -2.1
MKAR **Makanchi Array** 48.22 296 P P 13 05 12.8 -2.1
comp=Z,0.6nm,0.6s,baz=54,slow=7.3,SNR=9.0
MKAR LR LR 13 26 43.6
comp=Z,123nm,18.2s,baz=36,slow=38
comp=Z,0.6nm,0.6s
MAKZ **Makanchi** 48.38 296 P 13 05 13.9 -2.2
MAKZ **Makanchi** 48.38 296 P P 13 05 13.9 -2.2
MAKZ pmax pmax
comp=Z,2.0nm,0.7s
NEEM **North Greenlan** 48.98 9 *i* P P 13 05 20.8 +0.2
NEEM IAmb IAmb 13 05 22.0
comp=Z,27nm,1.0s
B08A **Colville Reser** 49.22 60 P 13 05 22.8 +0.3
B08A IAmb IAmb 13 05 40.6
comp=Z,3.3nm,0.8s
BLKN **Baker Lake** 49.78 34 P 13 05 27.1 +0.6
NEW **Newport** 50.45 59 LR LR 13 24 53.7
comp=Z,49nm,21.9s,baz=286,slow=34
BVAR **Borovoye Array** 50.61 309 P P 13 05 30.8 -2.1
comp=Z,1.5nm,0.4s,baz=46,slow=8.5,SNR=13
BVAR pP pP 13 05 49.8 +2.8
comp=Z,1.5nm,0.5s,baz=56,slow=8.6,SNR=4.1
BVAR PcP PcP 13 06 49.0 -0.8
comp=Z,1.9nm,0.7s,baz=66,slow=4.9,SNR=4.4
BVAR LR LR 13 29 08.2
comp=Z,173nm,18.6s,baz=51,slow=38
comp=Z,1.5nm,0.4s
BRVK **Borovoye** 50.64 309 P 13 05 31.3 -1.8
BRVK IAmb IAmb 13 05 31.8
comp=Z,4.0nm,1.0s
BRVK **Borovoye** 50.64 309 *d i*P P 13 05 31.1 -2.0
BRVK pmax pmax
comp=Z,3.0nm,0.9s
DAG **Danmarks Havn** 51.07 360 *i* P P 13 05 36.0 0.0
DAG IAmb IAmb 13 05 36.7
comp=Z,19nm,0.9s
PLID **Pearl Lake** 53.06 62 P 13 05 52.6 +1.0
PLID IAmb IAmb 13 06 10.8
comp=Z,2.7nm,0.8s
DBG **Daneborg** 53.55 360 *i* P P 13 05 54.6 +0.2
DBG IAmb IAmb 13 05 55.0
comp=Z,9.6nm,0.9s
ARTI **Arti** 53.82 317 LR LR 13 31 59.1
comp=Z,71nm,19.9s,baz=37,slow=39
ARCES **ARCESS Array B** 53.84 342 P P 13 05 55.3 -1.4
comp=Z,2.9nm,0.9s,baz=27,slow=8.2,SNR=5.0
ARCES LR LR 13 34 35.0
comp=Z,59nm,18.6s,baz=2.0,slow=42
comp=Z,2.9nm,0.9s
ARCES **ARCESS Array B** 53.84 342 *e*P P 13 05 58.2 +1.5
ARCES pmax pmax
comp=Z,3.0nm,0.9s
SUMG **Summit** 54.65 7 P 13 06 03.0 0.0
SUMG **Summit** 54.65 7 P P 13 06 03.0 0.0
SUMG pmax pmax
comp=Z,15nm,1.0s
SUMG **Summit** 54.65 7 *i* P P 13 06 03.7 +0.8
SUMG IAmb IAmb 13 06 05.5
comp=Z,10nm,0.8s
BOZ **Bozeman (W)** 55.05 59 IAmb IAmb 13 06 08.4
comp=Z,2.5nm,0.9s
AAK **Ala-Archa** 55.15 296 LR LR 13 31 04.6
comp=Z,150nm,18.0s,baz=48,slow=38
KIRV **Kirov** 55.78 324 LR LR 13 32 48.8
comp=Z,172nm,20.1s,baz=37,slow=39
NVAR **Mina Array Bea** 56.20 69 P P 13 06 16.6 +2.1
comp=Z,1.3nm,0.9s,baz=317,slow=7.0,SNR=0.9
NVAR pP pwP 13 06 32.8 +1.7
comp=Z,2.4nm,0.8s,baz=304,slow=7.0,SNR=5.6
comp=Z,1.3nm,0.9s
YNE **Yellowstone No** 56.29 59 IAmb IAmb 13 06 17.7
comp=Z,4.0nm,1.1s
RLMT **Red Lodge** 56.60 58 IAmb IAmb 13 06 20.2
comp=Z,4.6nm,0.9s
LOHW **Long Hollow** 56.93 60 IAmb IAmb 13 06 22.9
comp=Z,3.5nm,1.1s
SCO **Scoresbysund** 57.39 1 *i* P P 13 06 22.9 +0.9
SCO IAmb IAmb 13 06 24.6
comp=Z,16nm,1.1s
HWUT **Hardware Ranch** 57.79 62 IAmb IAmb 13 06 44.2
comp=Z,3.4nm,1.0s
CMAR **Chiang Mai Arr** 57.80 258 P P 13 06 26.0 +0.3
comp=Z,3.4nm,0.9s,baz=21,slow=7.6,SNR=9.1
CMAR LR LR 13 32 42.2
comp=Z,47nm,21.1s,baz=100,slow=37
comp=Z,3.4nm,0.9s
CMAR **Chiang Mai Arr** 57.80 258 *e*P P 13 06 26.7 +1.0
CMAR pmax pmax
comp=Z,3.0nm,0.9s
AB31 **Akbulak array** 58.04 310 P 13 06 24.3 -2.6
AB31 IAmb IAmb 13 06 28.2
comp=Z,2.9nm,1.1s
ABKAR **Akbulak array** 58.04 310 P 13 06 24.3 -2.6
PD31 **Pinedale Array** 58.06 60 IAmb IAmb 13 06 30.3
comp=Z,4.6nm,0.9s
PDAR **Pinedale Array** 58.06 60 P 13 06 27.9 +0.4
PDAR **Pinedale Array** 58.06 60 P P 13 06 29.0 +1.5
comp=Z,1.8nm,0.6s,baz=312,slow=6.7,SNR=5.1
PDAR pP pwP 13 06 46.0 +1.6
comp=Z,1.4nm,0.7s,baz=316,slow=4.1,SNR=5.3
PDAR LR LR 13 32 32.6
comp=Z,18nm,18.4s,baz=320,slow=37
comp=Z,1.8nm,0.6s
AKTO **Aktyubinsk** 58.09 312 LR LR 13 34 04.6

comp=Z,143nm,18.4s,baz=138,slow=39
SFJD Kangerlussuaq 58.72 13 LR LR 13 33 38.7
comp=Z,41nm,20.1s,baz=348,slow=38
ULM Lac du Bonnet 59.46 46⇓ *eP* **P 13 06 37.2 +0.5**
TMUT Trail Mountain 59.59 64 IAmb IAmb 13 06 59.6
comp=Z,2.8nm,0.7s
P18A Preston Nutter 59.89 63 IAmb IAmb 13 06 50.1
comp=Z,7.0nm,1.4s
RSSD Black Hills 59.98 56 **P 13 06 42.3 +1.5**
RSSD Black Hills 59.98 56 P **P 13 06 42.3 +1.5**
RSSD pmax pmax
comp=Z,11nm,0.8s
FINES FINESS Array B 60.63 336 P **P 13 06 44.3 -0.3**
comp=Z,8.1nm,1.0s,baz=44,slow=6.6,SNR=13
FINES LR LR 13 37 24.9
comp=Z,94nm,18.3s,baz=26,slow=40
comp=Z,8.1nm,1.0s
PFO Pinyon Flats O 60.64 72 LR LR 13 28 37.3
comp=Z,51nm,22.0s,baz=310,slow=32
BELG Belogornoye 61.06 320 LR LR 13 37 08.7
comp=Z,105nm,18.6s,baz=305,slow=40
PV16 Nyswonger Mesa 61.55 63 IAmb IAmb 13 06 54.1
comp=Z,4.5nm,1.0s
HNR Honiara 61.61 180 LR LR 13 30 25.1
comp=Z,48nm,20.8s,baz=349,slow=33
ISCO Idaho Springs 62.26 60 IAmb IAmb 13 06 59.6
comp=Z,4.7nm,1.2s
EYMN Ely 63.09 46 P **P 13 07 01.2 -0.2**
S22A 4UR Ranch, Cre 63.10 63 **P 13 07 03.0 +1.1**
S22A IAmb IAmb 13 07 05.3
comp=Z,2.9nm,0.9s
BORG Borgarnes 63.15 0 LR LR 13 32 52.3
comp=Z,20nm,21.9s,baz=336,slow=34
PIX Pinacate 63.86 72 P **P 13 07 07.6 +0.9**
ECSD EROS Data Cent 63.92 52 P **P 13 07 07.5 +0.6**
ECSD IAmb IAmb 13 07 28.5
comp=Z,3.4nm,0.8s
NC204 NORSAR Array S 63.97 344 **P 13 07 06.0 -0.9**
NB2 NORSAR Subarra 64.11 344 P **P 13 07 07.1 -0.8**
comp=Z,6.2nm,0.9s,baz=22,slow=6.9
NOA NORSAR Array B 64.11 344 P **P 13 07 07.6 -0.3**
comp=Z,5.5nm,0.8s,baz=21,slow=6.7,SNR=22
NOA LR LR 13 40 10.0
comp=Z,33nm,19.3s,baz=15,slow=41
comp=Z,5.5nm,0.8s
HFS Hagfors 64.50 342 P **P 13 07 10.1 -0.3**
comp=Z,3.0nm,0.4s,baz=46,slow=6.4,SNR=29
HFS LR LR 13 40 32.7
comp=Z,66nm,19.3s,baz=24,slow=41
comp=Z,3.0nm,0.4s
ANMO Albuquerque 65.35 64⇓ *eP* **P 13 07 18.6 +2.0**
ANMO pmax pmax
comp=Z,2.0nm,1.1s
SCHQ Schefferville 66.35 27 P **P 13 07 22.2 -0.3**
comp=Z,5.7nm,0.9s,baz=29,slow=16,SNR=4.1
SCHQ LR LR 13 40 28.4
comp=Z,41nm,18.4s,baz=310,slow=40
comp=Z,5.7nm,0.9s
AKASG Malin Array Be 69.05 329 P **P 13 07 38.5 -1.1**
comp=Z,1.7nm,0.3s,baz=31,slow=6.2,SNR=24
AKASG LR LR 13 40 09.0
comp=Z,108nm,21.8s,baz=56,slow=38
comp=Z,1.7nm,0.3s
AKBB Malin Array Si 69.05 329 *deP* **P 13 07 38.6 -0.9**
KIEV Kiev 69.06 329 ⇑P **P 13 07 38.4 -1.1**
KIV Kislovodsk 69.75 317 *eP* **P 13 07 42.1 -2.0**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,40nm,17.0s
KBZ Khabaz 69.85 316 LR LR 13 43 52.8
comp=Z,67nm,18.1s,baz=3.0,slow=41
SADO Sadowa 70.78 40 LR LR 13 41 08.1
comp=Z,46nm,18.5s,baz=316,slow=38
TXAR Lajitas Array 71.13 66 P **P 13 07 54.4 +1.7**
comp=Z,2.7nm,0.7s,baz=301,slow=4.4,SNR=30
TXAR pP **pwP 13 08 09.2 -0.5**
comp=Z,1.5nm,0.7s,baz=300,slow=5.1,SNR=6.0
comp=Z,2.7nm,0.7s
LPIG La Paz 71.28 75 LR LR 13 34 28.5
comp=Z,22nm,19.5s,baz=202,slow=32
EKA Eskdalemuir Ar 71.67 350 P **P 13 07 56.0 +0.6**
comp=Z,0.5nm,0.4s,baz=18,slow=5.2,SNR=6.7
comp=Z,0.5nm,0.4s
GNI Garni 71.95 313 LR LR 13 44 11.7
comp=Z,82nm,20.3s,baz=5.5,slow=40
CLL Collm 72.89 339 *i* P **P 13 08 02.6 -0.1**
CLL pmax pmax
comp=Z,14nm,1.0s
CLL Collm 72.89 339 *i* P **P 13 08 02.6 -0.1**
comp=Z,14nm,1.0s
BURAR Bucovina Array 73.02 330 ⇑P **P 13 08 02.9 -0.8**
STEB Steborice 73.03 335 *eP* **P 13 08 04.1 +0.5**
BRG Berggiesshubel 73.08 338 *eP* **P 13 08 04.6 +0.7**
BRG Amp 13 08 05.3
comp=Z,5.5nm,0.9s
MORC Moravsky Berou 73.23 335 *eP* **P 13 08 04.6 -0.3**
MORC Moravsky Berou 73.23 335 ⇑P **P 13 08 03.9 -0.9**
TESR Tescani 73.55 328 ⇑P **P 13 08 06.7 0.0**
VRAC Vranov 73.90 336 *eP* **P 13 08 08.9 +0.1**
VRAC Vranov 73.90 336 LR LR 13 44 59.5
comp=Z,106nm,18.7s,baz=20,slow=39
VRAC Vranov 73.90 336 ⇑P **P 13 08 08.5 -0.3**
JAVC Velka Javorina 74.04 335 *eP* **P 13 08 10.7 +1.1**
KRUC Moravsky 74.18 336 *eP* **P 13 08 10.6 +0.2**
ZVC Zvikov 74.36 337 *eP* **P 13 08 12.8 +1.4**
DZM Mont Dzumac 74.42 173 eLR LR 13 30 24.8
comp=Z,92nm,24.1s
DZM Mont Dzumac 74.42 173 LR LR 13 35 56.0
comp=Z,60nm,20.7s,baz=10.0,slow=32
TPGR Topolog 74.42 326 ⇑P **P 13 08 11.7 -0.2**
MARR Marisel-Cluj 74.50 331 ⇑P **P 13 08 12.4 0.0**
MLR Muntele Rosu 74.68 328 LR LR 13 45 42.2
comp=Z,99nm,18.5s,baz=36,slow=39
MLR Muntele Rosu 74.68 328 ⇑P **P 13 08 13.7 +0.2**
KHC Kasperske Hory 74.79 338 *eP* **P 13 08 14.3 +0.3**
KHC Kasperske Hory 74.79 338 *ceP* **P 13 08 14.5 +0.5**
KHC pmax pmax
comp=Z,12nm,1.3s
VOIR 75.02 329 ⇑P **P 13 08 15.6 +0.2**
GERES GERESS Array B 75.03 338 P **P 13 08 15.7 +0.2**
comp=Z,1.9nm,0.8s,baz=37,slow=5.2,SNR=12
GERES LR LR 13 46 03.4
comp=Z,70nm,18.9s,baz=23,slow=40
comp=Z,1.9nm,0.8s
ARR Arges 75.21 329 ⇑P **P 13 08 16.6 +0.1**
CONA Conrad Observa 75.36 336 *i* P **P 13 08 17.4 0.0**
comp=Z,8.5nm,1.0s
WRA Warramunga Arr 75.38 205 P **P 13 08 17.0 -0.5**
comp=Z,2.7nm,0.7s,baz=19,slow=6.1,SNR=14
WRA pP **pwP 13 08 34.5 -1.5**
comp=Z,3.6nm,1.0s,baz=19,slow=5.9,SNR=5.4
comp=Z,2.7nm,0.7s
RONA Rosalia, Austr 75.46 335 *i* P **P 13 08 19.0 +1.1**
comp=Z,9.4nm,1.2s
GZR Gura Zlata 75.76 330 ⇑P **P 13 08 19.2 -0.5**
ARSA Arzberg 76.08 336 *eP* **P 13 08 22.2 +0.9**
comp=Z,5.4nm,0.9s
FITZ Fitzroy Crossi 76.21 213 P **P 13 08 22.8 +0.5**
comp=Z,4.3nm,0.9s,baz=7.6,slow=15,SNR=5.6
FITZ pP **pwP 13 08 39.9 -0.8**
comp=Z,3.0nm,0.9s,baz=30,slow=7.8,SNR=2.9
comp=Z,4.3nm,0.9s
TKL Tuckaleechee C 76.34 49 LR LR 13 42 32.0
comp=Z,43nm,20.8s,baz=336,slow=36
LESA Schwarzleotal 76.60 338 *eP* **P 13 08 25.4 +1.0**
comp=Z,6.1nm,1.1s
SOKA Soboth 76.73 336 *eP* **P 13 08 25.8 +0.7**
comp=Z,4.3nm,0.8s
KBA Koelnbreinsper 76.77 337 *i* P **P 13 08 26.5 +1.0**
comp=Z,21nm,1.0s
WATA Walderalm 76.94 338 *eP* **P 13 08 27.9 +1.5**
comp=Z,8.8nm,0.9s
BR131 Keskin Array S 76.97 320⇓ *eP* **P 13 08 26.4 -0.3**
BRTR Keskin Array B 76.97 320 P **P 13 08 26.4 -0.3**
comp=Z,2.5nm,0.9s,baz=46,slow=3.6,SNR=14
comp=Z,2.5nm,0.9s
RETA Reutte 76.98 339 *eP* **P 13 08 27.9 +1.4**
comp=Z,2.1nm,0.7s
PLVB Pleven 76.99 328 ⇑P **P 13 08 26.0 -0.5**
WTTA Wattenberg 76.99 338 *eP* **P 13 08 28.1 +1.4**
comp=Z,11nm,1.2s
OBKA Obir 77.01 336 *eP* **P 13 08 28.0 +1.3**
comp=Z,9.0nm,1.2s
MOTA Moosalm 77.04 339 *eP* **P 13 08 27.8 +0.9**
comp=Z,12nm,1.3s
SQTA Sankt Quirin 77.13 339 *eP* **P 13 08 28.8 +1.4**
comp=Z,6.8nm,1.0s
ABTA Abfaltersbach 77.28 338 *eP* **P 13 08 29.2 +1.0**
comp=Z,8.5nm,0.8s
KIRS Kirsehir-Merke 77.37 320 ⇑P **P 13 08 28.8 0.0**
FETA Feichten 77.43 339 *i* P **P 13 08 30.9 +1.8**
comp=Z,7.9nm,1.2s
BOVS Bovan 77.68 330 ⇑P **P 13 08 29.5 -0.9**
DAVOX Davos/Dischmat 77.84 339 LR LR 13 46 25.6
comp=Z,30nm,18.1s,baz=81,slow=38
ASAR Alice Springs 79.05 204 P **P 13 08 39.2 +1.1**
comp=Z,2.4nm,0.7s,baz=13,slow=5.7,SNR=38
ASAR pP **pwP 13 08 56.0 -0.7**
comp=Z,1.6nm,0.5s,baz=14,slow=5.2,SNR=7.3
comp=Z,2.4nm,0.7s
PDG Podgorica 79.51 331 ⇑P **P 13 08 39.9 -0.6**
TAOE Nuku Hiva Isla 79.62 119 eLR LR 13 33 42.3
comp=Z,54nm,23.8s
MMAI Mount Meron Ar 82.01 315 P **P 13 08 54.5 +0.3**
comp=Z,9.9nm,0.8s,baz=30,slow=6.0,SNR=10
MMAI LR LR 13 52 16.2
comp=Z,40nm,18.4s,baz=13,slow=41
comp=Z,9.9nm,0.8s
ASF Jabal al Asfar 82.08 314 LR LR 13 49 35.0
comp=Z,49nm,18.8s,baz=39,slow=39
PPT Papeete 82.39 132 LR LR 13 36 53.0
comp=Z,65nm,20.7s,baz=330,slow=29
PPT2 Papeete2 82.41 132 eLR LR 13 34 32.7
PPT2 comp=Z,132nm,24.2s eLR LR 13 34 36.9
comp=Z,132nm,25.0s
EIL Elat 85.08 314 LR LR 13 52 01.2
comp=Z,47nm,18.5s,baz=58,slow=39
STKA Stephens Creek 85.43 195 P **P 13 09 13.2 +2.0**
comp=Z,3.0nm,1.2s,baz=321,slow=6.1,SNR=2.9
comp=Z,3.0nm,1.2s
ESDC Sonseca Array 87.17 347 P **P 13 09 19.6 -0.4**
comp=Z,1.9nm,1.1s,baz=358,slow=4.5,SNR=5.8
ESDC LR LR 13 53 27.9
comp=Z,22nm,18.4s,baz=32,slow=39
comp=Z,1.9nm,1.1s
TBI Tubuai 87.50 134 eLR LR 13 37 02.9
comp=Z,425nm,25.8s
JTS Las Juntas de 96.76 64 LR LR 13 58 06.8
comp=Z,24nm,18.3s,baz=320,slow=38
H03N2 Juan Fernandez 134.45 89 T T 15 46 25.3
baz=315,slow=78,SNR=66
H03N1 Juan Fernandez 134.46 89 T T 15 46 27.1
baz=315,slow=78,SNR=72
H03N3 Juan Fernandez 134.46 89 T T 15 46 26.6
baz=315,slow=78,SNR=70
QSPA South Pole Qui 142.17 180 PKhKP PKPpre 13 15 59.1
comp=Z,1.2nm,0.8s,baz=101,slow=0.9,SNR=7.5
PLCA Paso Flores 144.24 91 PKP **PKPdf 13 16 09.4 +0.3**
comp=Z,2.3nm,0.9s,baz=288,slow=6.4,SNR=1.6

*IDC **31** 13:12:14.3±0.9, 11°.65N×62°.48W, h0km, mb3.9/9, mbtmp3.9/10, ML3.7/1, Error ellipse: s-maj=28.2km s-min=21.5km az=132.0*
*FUNV **31** 13:12:21.2, 10°.64N×62°.42W, h92km, MW4.3*
*TRN **31** 13:12:22.5, 10°.68N×62°.58W, h59km, MD4.1, Paria peninsula.*
ISC 31 13:12:21.0±0.9, 10°.64N±0°.04×62°.56W±0°.03, h86km±9km, n43, σ1°.73/57, mb3.7/8, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**1.14**	**89**⇑	*eP*		**Pn**		**13 12 42.2**	**+0.2**
TRN						eS		**Sn**		**13 12 56.2**	**-1.6**
TBH	**Brigand Hill**	**1.48**	**96**	*eP*		**Pn**		**13 12 48.5**	**+2.2**
TBH						eS		**Sn**		**13 13 04.9**	**-0.5**
GRFF	**Grenada Fort F**	**1.62**	**30**	*eP*		**Pn**		**13 12 48.2**	**+0.1**
GRFF						eS		**Sn**		**13 13 07.1**	**-1.6**
GRGR	**Grenville**	**1.73**	**31**	*eP*		**Pn**		**13 12 49.9**	**+0.3**
GRGR						eS		**Sn**		**13 13 11.2**	**-0.1**
GRW	**Mount Saint Ca**	**1.75**	**30**	*eP*		**Pn**		**13 12 51.4**	**+1.5**
GRW						eS		**Sn**		**13 13 10.6**	**-1.3**
TPR	**Prospect**	**1.83**	**72**	*eP*		**Pn**		**13 12 53.1**	**+2.2**
TPR						eS		**Sn**		**13 13 14.8**	**+1.2**
GRSS	**Sisters**	**1.90**	**29**	*eP*		**Pn**		**13 12 52.4**	**+0.7**
GRSS						eS		**Sn**		**13 13 14.8**	**-0.3**
PCRV	**Puerto La Cruz**	**2.09**	**258**		Pn	**Pn**		**13 12 55.7**	**+1.3**
	16nm,0.3s,baz=42,slow=6.4,SNR=314								
PCRV					Sn	**Sn**		**13 13 20.5**	**+0.7**
	46nm,0.3s,baz=351,slow=23,SNR=36								
	49nm,0.2s								
PCRV	**Puerto La Cruz**	**2.09**	**258**	*eP*		**Pn**		**13 12 55.6**	**+1.2**
PCRV						eS		**Sn**		**13 13 20.0**	**+0.1**
PCRV	**Puerto La Cruz**	**2.09**	**258**	*eP*		**Pn**		**13 12 56.3**	**+2.0**
PCRV						eS		**Sn**		**13 13 20.5**	**+0.7**
SVB	**Belmont**	**2.92**	**26**	*eP*		**Pn**		**13 13 06.5**	**+1.1**
SVB						eS		**Sn**		**13 13 39.4**	**-0.1**
SLBI	**Saint Lucia, B**	**3.71**	**25**	*eP*		**Pn**		**13 13 17.1**	**+1.1**
SLBI						eS		**Sn**		**13 13 56.6**	**-2.0**
BBGH	**Gun Hill**	**3.85**	**49**	*eP*		**Pn**		**13 13 20.3**	**+2.3**
BBGH						eS		**Sn**		**13 14 01.5**	**-0.7**
BIM	**Bigot**	**4.12**	**20**	*eP*		**Pn**		**13 13 22.9**	**+1.2**
BIM						eS		**Sn**		**13 14 06.4**	**-2.4**
TACV	**Tcata**	**4.42**	**264**	*eP*		**Pn**		**13 13 27.4**	**+1.6**
TACV						eS		**Sn**		**13 14 15.4**	**-0.8**
ILAM	**Ilet Lapin Mar**	**4.43**	**22**	*eP*		**Pn**		**13 13 26.7**	**+0.8**
ILAM	**Ilet Lapin Mar**	**4.43**	**22**	*eS*		**Sn**		**13 14 15.4**	**-0.8**
LUEV	**Luepa**	**4.88**	**167**	*eP*		**Pn**		**13 13 30.9**	**-1.3**
LUEV						eS		**Sn**		**13 14 21.6**	**-6.0**
CACV	**CAICARA DEL OR**	**4.98**	**233**	*eP*		Pn		13 13 27.9	-5.4
CACV						eS		Sn		13 14 18.2	-11
BENV	**Beln**	**5.00**	**263**	*eP*		**Pn**		**13 13 34.9**	**+1.1**
BENV						eS		**Sn**		**13 14 28.6**	**-1.8**
TBG	**Guadaloupe-3**	**5.26**	**10**	*eP*		**Pn**		**13 13 39.6**	**+2.4**
MMLZ	**Guadeloupe Bro**	**5.45**	**9**	*eS*		**Sn**		**13 14 39.3**	**-1.7**
ATGZ	**Broadband at L**	**5.49**	**8**	*eS*		**Sn**		**13 14 39.8**	**-2.2**
DHSZ	**Broadband at M**	**5.66**	**8**	*eP*		**Pn**		**13 13 43.6**	**+1.1**
BAUV	**El Baul**	**5.66**	**253**	*eP*		**Pn**		**13 13 42.7**	**+0.1**
BAUV						eS		**Sn**		**13 14 43.1**	**-3.1**
BAUV	**El Baul**	**5.66**	**253**	*eP*		**Pn**		**13 13 44.4**	**+1.8**
BAUV	**El Baul**	**5.66**	**253**	*eS*		**Sn**		**13 14 43.7**	**-2.6**
DSDZ	**La Diserade, G**	**5.83**	**14**	*eS*		**Sn**		**13 14 47.8**	**-2.5**
MAPV	**Macapo**	**5.86**	**263**	*eP*		**Pn**		**13 13 45.2**	**-0.1**
MAPV						eS		**Sn**		**13 14 48.0**	**-3.3**
MBFL	**Flemmings, Mon**	**6.09**	**3**	*eP*		**Pn**		**13 13 49.6**	**+1.1**
ANWB	**Willy Bob**	**7.03**	**6**	*eP*		**Pn**		**13 14 03.3**	**+2.0**
LPAZ	**La Paz**	**27.31**	**192**	P		P		13 18 11.6	+13
	2.0nm,0.5s,baz=239,slow=3.6,SNR=7.6								
	2.0nm,0.5s								
TXAR	**Lajitas Array**	**42.60**	**302**	P		**P**		**13 20 09.3**	**+0.4**
	0.3nm,0.7s,baz=111,slow=9.1,SNR=3.4								
	0.3nm,0.7s								
H10N3	**ASCENSION HYDR**	**51.23**	**109**	T		T		14 16 42.3	
	baz=292,slow=75,SNR=8.5								
H10N2	**ASCENSION HYDR**	**51.24**	**109**	T		T		14 16 42.9	
	baz=292,slow=75,SNR=4.9								
H10N1	**ASCENSION HYDR**	**51.26**	**109**	T		T		14 16 43.6	
	baz=292,slow=75,SNR=5.2								
TORD	**Torodi Ar. Bea**	**62.78**	**81**	P		**P**		**13 22 39.0**	**+1.1**
	0.9nm,0.5s,baz=294,slow=6.6,SNR=3.6								
	0.9nm,0.5s								
YKA	**Yellowknife Ar**	**63.70**	**336**	P		**P**		**13 22 41.4**	**-1.7**
	0.4nm,0.6s,baz=119,slow=6.1,SNR=7.5								
	0.4nm,0.6s								
GERES	**GERESS Array B**	**73.03**	**42**	P		**P**		**13 23 42.5**	**+0.8**
	0.2nm,0.3s,baz=255,slow=7.0,SNR=4.4								
	0.2nm,0.3s								
HFS	**Hagfors**	**74.00**	**30**	P		**P**		**13 23 47.0**	**-0.1**
	1.6nm,0.6s,baz=253,slow=8.9,SNR=5.3								
	1.6nm,0.6s								
ILAR	**Eielson Array**	**78.03**	**334**	P		**P**		**13 24 08.8**	**-1.1**
	0.6nm,0.6s,baz=100,slow=5.1,SNR=6.7								
	0.6nm,0.6s								
FINES	**FINESS Array B**	**80.09**	**29**	P		**P**		**13 24 21.6**	**+0.4**
	0.7nm,0.4s,baz=270,slow=3.8,SNR=6.8								
	0.7nm,0.4s								
BRTR	**Keskin Array B**	**88.00**	**50**	P		**P**		**13 25 02.6**	**+0.6**
	0.6nm,0.7s,baz=264,slow=2.9,SNR=2.9								
	0.6nm,0.7s								

*NEIC **31** 13:12:40.3±1.9, 19°.15N±0°.06×64°.87W±0°.06, h35km±2km, ML3.6/31, Md3.4/13(RSPR), Error ellipse: s-maj=10.9km s-min=9.8km az=186.0*
*RSPR **31** 13:12:43.7, 19°.07N×65°.01W, h43km±10km, MD3.4/13*
ISC 31 13:12:36.5±1.9, 19°.12N±0°.08×64°.93W±0°.05, h11km±11km, n61, σ0°.85/63, 11C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC

HUMP	**Col San Antoni**	**1.31**	**222**			**Pg**		**13 13 03.2**	**+1.5**
HUMP						**Sg**		**13 13 18.2**	**-0.5**
HUMP	**Col San Antoni**	**1.31**	**222**	IAML				13 13 21.5	
	comp=E,747nm,0.2s								
HUMP	**Col San Antoni**	**1.31**	**222**⇑	*eP*		**Pg**		**13 13 03.2**	**+1.5**
HUMP	**Col San Antoni**	**1.31**	**222**	*eS*		**Sg**		**13 13 18.2**	**-0.5**
GCPR	**Guaynabo City**	**1.36**	**234**			**Pg**		**13 13 03.6**	**+0.8**
GCPR						**Sb**		**13 13 19.1**	**-0.4**
GCPR	**Guaynabo City**	**1.36**	**234**⇓	*eP*		**Pg**		**13 13 03.6**	**+0.8**
GCPR	**Guaynabo City**	**1.36**	**234**	*eS*		**Sb**		**13 13 19.1**	**-0.4**
PDPR	**Patillas Dam,**	**1.51**	**224**			**Pg**		**13 13 05.6**	**0.0**
PDPR				IAML				13 13 29.0	
	comp=N,393nm,0.3s								
PDPR				IAML				13 13 31.4	
	comp=E,434nm,0.3s								
PDPR	**Patillas Dam,**	**1.51**	**224**⇑	*eP*		**Pg**		**13 13 06.1**	**+0.5**
PDPR	**Patillas Dam,**	**1.51**	**224**	*eS*		**Sn**		**13 13 23.1**	**-0.2**
SJG	**San Juan**	**1.54**	**229**			**Pg**		**13 13 06.2**	**+0.2**
SJG	**San Juan**	**1.54**	**229**	IAML				13 13 28.1	
	comp=E,440nm,0.3s								
SJG				IAML				13 13 32.9	
	comp=E,395nm,0.3s								
SJG	**San Juan**	**1.54**	**229**⇑	*eP*		**Pg**		**13 13 06.2**	**+0.2**
SJG	**San Juan**	**1.54**	**229**	*eS*		**Sb**		**13 13 24.1**	**-0.4**
ECPR	**Experimental S**	**1.58**	**240**⇑	*eP*		**Pg**		**13 13 06.7**	**-0.2**
ECPR	**Experimental S**	**1.58**	**240**	*eS*		**Sb**		**13 13 25.4**	**-0.4**
IGPR	**InterUniversit**	**1.60**	**224**			**Pg**		**13 13 07.4**	**+0.1**
IGPR						**Sb**		**13 13 25.8**	**-0.7**
IGPR	**InterUniversit**	**1.60**	**224**⇑	*eP*		**Pg**		**13 13 07.4**	**+0.1**
IGPR	**InterUniversit**	**1.60**	**224**	*eS*		**Sb**		**13 13 25.8**	**-0.7**
EMPR	**Esperanza - Ma**	**1.65**	**247**			**Pg**		**13 13 08.1**	**0.0**
EMPR						**Sb**		**13 13 27.1**	**-0.7**
EMPR	**Esperanza - Ma**	**1.65**	**247**	IAML				13 13 34.8	
	comp=N,1μm,0.5s								
EMPR				IAML				13 13 34.8	
	comp=E,1μm,0.5s								
EMPR	**Esperanza - Ma**	**1.65**	**247**⇓	*eP*		**Pg**		**13 13 08.1**	**0.0**
EMPR	**Esperanza - Ma**	**1.65**	**247**	*eS*		**Sb**		**13 13 27.1**	**-0.7**
CELP	**Cerrillos**	**1.88**	**237**			**Pb**		**13 13 11.3**	**+0.3**
CELP						**Sn**		**13 13 32.5**	**+0.1**
CELP	**Cerrillos**	**1.88**	**237**	IAML				13 13 37.4	
	comp=N,233nm,0.5s								
CELP	**Cerrillos**	**1.88**	**237**⇑	*eP*		**Pb**		**13 13 11.3**	**+0.3**
CELP	**Cerrillos**	**1.88**	**237**	*eS*		**Sn**		**13 13 32.5**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.91**	**243**			**Pb**		**13 13 11.4**	**0.0**
UUPR	**Utuado, UPR, P**	**1.91**	**243**⇓	*eP*		**Pb**		**13 13 11.4**	**0.0**
OBIP	**Obispado Ponce**	**1.92**	**236**			**Pb**		**13 13 11.9**	**+0.3**
OBIP						**Sn**		**13 13 33.4**	**0.0**
OBIP	**Obispado Ponce**	**1.92**	**236**	IAML				13 13 37.9	
	comp=E,249nm,0.3s								
OBIP	**Obispado Ponce**	**1.92**	**236**⇑	*eP*		**Pb**		**13 13 11.9**	**+0.3**
OBIP	**Obispado Ponce**	**1.92**	**236**	*eS*		**Sn**		**13 13 33.4**	**0.0**
AGPR	**Aguadilla, PR**	**2.17**	**253**			**Pb**		**13 13 15.1**	**-0.8**
AGPR						**Sn**		**13 13 39.6**	**0.0**
AGPR	**Aguadilla, PR**	**2.17**	**253**	IAML				13 13 49.5	
	comp=E,174nm,0.6s								
AGPR	**Aguadilla, PR**	**2.17**	**253**⇑	*eP*		**Pb**		**13 13 15.1**	**-0.8**
AGPR	**Aguadilla, PR**	**2.17**	**253**	*eS*		**Sn**		**13 13 39.6**	**0.0**
SABA	**Saba**	**2.19**	**133**	Pn		**Pb**		**13 13 15.4**	**-0.7**
SABA				IAML				13 14 02.4	
	comp=N,442nm,0.4s								
SABA				IAML				13 14 14.3	
	comp=E,686nm,0.7s								
LSP	**Las Mesas**	**2.25**	**246**			**Pb**		**13 13 16.0**	**-1.4**
LSP	**Las Mesas**	**2.25**	**246**⇓	*eP*		**Pb**		**13 13 16.0**	**-1.4**
PRSN	**Puerto Rico Se**	**2.29**	**247**			**Pn**		**13 13 15.8**	**+1.5**
PRSN				IAML				13 13 55.4	
	comp=N,586nm,0.3s								
PRSN				IAML				13 13 56.6	
	comp=E,490nm,0.3s								
MLPR	**Magueyes Islan**	**2.31**	**241**⇑	*eP*		**Pb**		**13 13 16.8**	**-1.5**
MLPR	**Magueyes Islan**	**2.31**	**241**	*eS*		**Sn**		**13 13 43.6**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.35**	**242**			**Pb**		**13 13 17.4**	**-1.5**
CRPR	**Cabo Rojo, PR**	**2.35**	**242**			**Sn**		**13 13 43.8**	**-0.2**
CRPR	**Cabo Rojo, PR**	**2.35**	**242**⇓	*eP*		**Pb**		**13 13 18.1**	**-0.8**
CRPR	**Cabo Rojo, PR**	**2.35**	**242**	*eS*		**Sn**		**13 13 43.8**	**-0.2**
IDE	**Isla Desecheo**	**2.52**	**254**			**Pb**		**13 13 20.1**	**-1.8**
IDE						**Sn**		**13 13 48.8**	**+0.4**
IDE	**Isla Desecheo**	**2.52**	**254**⇑	*eP*		**Pb**		**13 13 20.1**	**-1.8**
IDE	**Isla Desecheo**	**2.52**	**254**	*eS*		**Sn**		**13 13 48.8**	**+0.4**
GDHS	**Morne Mazeau,**	**4.13**	**133**	Pn		**Pn**		**13 13 41.0**	**+1.2**
ABD	**La Joyeuse, An**	**4.20**	**128**	Pn		**Pn**		**13 13 41.3**	**+0.7**
ABD				IAML				13 15 04.2	
	comp=N,165nm,2.3s								
DR12	**Loma Pena Alta**	**4.23**	**266**	Pn		**Pn**		**13 13 42.0**	**+0.9**
ATGZ	**Broadband at L**	**4.28**	**134**	*eP*		**Pn**		**13 13 42.0**	**+0.3**
MMLZ	**Guadeloupe Bro**	**4.36**	**134**	*eP*		**Pn**		**13 13 41.6**	**-1.1**
CBE	**Ff, Capester**	**4.38**	**133**	Pn		**Pn**		**13 13 41.9**	**-1.2**
TDBA	**Terre de Bas,**	**4.52**	**136**	Pn		**Pn**		**13 13 45.6**	**+0.6**
DSDZ	**La Diserade, G**	**4.62**	**127**	*eP*		**Pn**		**13 13 47.6**	**+1.2**
GDSD	**La Dsirade Is**	**4.62**	**127**	Pn		**Pn**		**13 13 45.4**	**-0.9**
GDSD				IAML				13 14 53.1	
	comp=N,78nm,1.8s								
GDSD				IAML				13 14 57.9	
	comp=E,59nm,2.5s								
BANI	**BANI**	**5.20**	**263**	Pn		**Pn**		**13 13 55.6**	**+1.2**
GRTK	**Grand Turk**	**6.29**	**293**	Pn		**Pn**		**13 14 11.0**	**+1.7**

IDC 31 13:19:50.2±7.2, 7°.25S×130°.13E, h166km±73km, mb3.2/1, mbtmp3.5/4, MS3.3/3, Error ellipse: s-maj=65.1km s-min=32.8km az=63.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.63**	**202**	P		Pn		13 22 31.4	+0.1
	1.0nm,0.4s,baz=26,slow=11,SNR=22								
FITZ				S		Sn		13 24 41.4	+1.0
	2.6nm,0.4s,baz=142,slow=20,SNR=7.0								
WRA	**Warramunga Arr**	**13.26**	**162**	P		Pn		13 22 50.6	-1.7
	0.3nm,0.4s,baz=342,slow=13,SNR=6.2								
WRA				S		Sn		13

BVAR **Borovoye Array** 58.59 326 P P 13 41 04.8 +0.1
0.5nm,0.6s,baz=115,slow=7.5,SNR=4.3
0.5nm,0.6s

RSNC 31 13:32:07.4±0.0, 7°N±1°×7°3W±°, h150km±2km, M2.9, mb3.5, ML2.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**203**	P	Pn	13 32 27.4	-0.7
BARC				S	Sn	13 32 42.6	-1.2
PAMC	**Pamplona, Colo**	**0.65**	**36**	P	Pn	13 32 30.3	+0.1
PAMC				S	Sn	13 32 47.4	-0.1
BRJC	**Barrancabermej**	**0.67**	**284**	P	Pn	13 32 29.2	-0.5
BRJC				S	Sn	13 32 46.7	0.0
RUSC	**La Rusia**	**0.91**	**180**	P	Pn	13 32 31.4	-0.7
RUSC				S	Sn	13 32 50.2	-0.6
PTBC	**PUERTO BERRIO,**	**1.38**	**259**	P	Pn	13 32 34.1	-1.7
PTBC				S	Sn	13 32 55.4	-2.1
OCAC	**Ocana**	**1.44**	**351**	P	Pn	13 32 35.6	-0.9
OCAC				S	Sn	13 32 58.2	-0.6
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	P	Pn	13 32 40.2	-1.0
ZARC				S	Sn	13 33 05.9	-1.2
NORC	**Norcasia**	**2.16**	**235**	P	Pn	13 32 43.6	-0.9
NORC				S	Sn	13 33 12.6	-0.4
ROSC	**El Rosal**	**2.31**	**212**	P	Pn	13 32 47.6	+1.0
ROSC				S	Sn	13 33 18.9	+2.2
HELC	**Santa Helena**	**2.50**	**256**	P	Pn	13 32 49.1	+0.2
HELC				S	Sn	13 33 23.0	+2.2
UREC	**San Jos de Ur**	**2.60**	**291**	P	Pn	13 32 46.8	-3.0
UREC				S	Sn	13 33 19.1	-3.3
VILC	**Villavicencio,**	**2.75**	**193**	P	Pn	13 32 52.1	+0.3
VILC				S	Sn	13 33 26.5	+0.5
GUY2C	**Guyana, Caldas**	**2.76**	**235**	P	Pn	13 32 52.0	-0.2
GUY2C				S	Sn	13 33 29.7	+3.0
PTGC	**Puerto Gaitan,**	**2.76**	**160**	P	Pn	13 32 50.5	-1.3
PTGC				S	Sn	13 33 25.0	-1.2
CBOC	**Ciudad Bolivar**	**3.05**	**252**	P	Pn	13 32 55.7	+0.1
DBBC	**Dabeiba**	**3.10**	**274**	P	Pn	13 32 55.0	-1.2
DBBC				S	Sn	13 33 32.4	-1.5
SDV	**Santo Domingo**	**3.19**	**50**	P	Pn	13 32 56.9	-0.5
SDV				S	Sn	13 33 35.4	-0.7
ARGC	**Ariguani, Magd**	**3.24**	**339**	P	Pn	13 32 58.0	+0.2
ARGC				S	Sn	13 33 37.5	+0.6
PRAC	**Prado**	**3.56**	**210**	P	Pn	13 33 01.0	-1.0
PRAC				S	Sn	13 33 44.0	-0.3
ORTC	**Ortega, Tolima**	**3.59**	**217**	P	Pn	13 33 01.9	-0.6
ORTC				S	Sn	13 33 45.4	+0.2
APAC	**Apartado, Choc**	**3.63**	**288**	P	Pn	13 33 01.5	-1.3
PLMC	**San Jos del P**	**3.70**	**239**	P	Pn	13 33 03.2	-0.6
PLMC				S	Sn	13 33 48.4	+0.8
SJCC	**San Jacinto, C**	**3.70**	**326**	P	Pn	13 33 01.4	-2.4
SJCC				S	Sn	13 33 42.9	-4.7
URMC	**La Uribe, Meta**	**3.77**	**200**	P	Pn	13 33 04.5	-0.2
URMC				S	Sn	13 33 50.2	+1.0
CRJC	**Cerrejon, Guaj**	**4.19**	**3**	P	Pn	13 33 07.9	-2.3
CRJC				P		13 33 08.1	
CRJC				P		13 33 08.2	
SMRC	**Santa Marta, M**	**4.47**	**346**	P	Pn	13 33 12.8	-1.0
SMRC				S	Sn	13 34 01.0	-4.6
URIC	**Uribia, Colomb**	**4.98**	**12**	P	Pn	13 33 17.6	-3.0
POPC	**Popayan, Colom**	**5.55**	**220**	P	Pn	13 33 29.7	+1.4
	3.8nm,0.8s						
FLOC	**Florencia**	**5.79**	**206**	P	Pn	13 33 31.1	-0.3

*SJA **31** 13:36:07.1±0.8, 24°.30S×67°.29W, h190km, ML3.5, MW3.6*
*GUC **31** 13:36:09.1±0.6, 24°.26S×67°.56W, h208km±10km, ML3.9*
ISC 31 13:36:05.8±1.7, 24°.25S±0°.04×67°.25W±0°.04, h206km±13km, n34, σ1°69/61, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.83**	**89**	*e*P	Pn	13 36 26.9	-8.9
SALTA				*e*P		13 36 30.2	
SALTA				*e*P	**Pn**	**13 36 35.2**	**-0.6**
AF01	**San Pedro de A**	**1.54**	**326**	*e*P	**Pn**	**13 36 42.2**	**+1.4**
AF01				*e*S	**S**	**13 37 08.4**	**+0.9**
AF01				IAML		13 37 24.6	
	comp=Z,103nm,0.8s						
SLA	**San Lorenzo**	**1.66**	**107**	*e*P	**Pn**	**13 36 42.4**	**+0.7**
AZAP	**Zapla**	**1.99**	**90**	*e*P	**Pn**	**13 36 45.5**	**+0.5**
AZAP				*e*S	**S**	**13 37 15.8**	**+0.9**
FSA	**Cafayete**	**2.19**	**149**	*e*P	**Pn**	**13 36 47.8**	**+0.9**
GO02	**Mina Guanaco**	**2.32**	**246**	*e*P	**Pn**	**13 36 49.1**	**+0.7**
GO02				*i* S	**S**	**13 37 19.9**	**-1.2**
GO02	**Mina Guanaco**	**2.32**	**246**	*e*P	**Pn**	**13 36 48.3**	**-0.1**
GO02				*e*S	**S**	**13 37 20.4**	**-0.7**
YJA	**Yavi**	**2.60**	**38**	*e*P	**Pn**	**13 36 54.3**	**+2.5**
YJA				*e*S	**S**	**13 37 22.5**	**-4.5**
PB06	**IPOC Station P**	**2.63**	**305**	*e*P	**Pn**	**13 36 52.9**	**+1.3**
PB06				*i* S	**S**	**13 37 25.6**	**-1.3**
PB06				IAML		13 37 27.6	
	comp=N,312nm,0.3s						
PB06	**IPOC Station P**	**2.63**	**305**	*e*P	**Pn**	**13 36 52.8**	**+1.2**
PB06				*e*S	**S**	**13 37 26.2**	**-0.7**
PB06				IAML		13 37 29.9	
	comp=Z,233nm,0.3s						
ALOL	**LOMAS DE OLMED**	**3.02**	**83**	*e*P	**Pn**	**13 36 55.8**	**-0.3**
PB05	**IPOC Station P**	**3.04**	**296**	*e*P	**Pn**	**13 36 57.3**	**+0.9**
PB05				*i* S	**S**	**13 37 33.0**	**-2.3**
PB05				IAML		13 37 36.6	
	comp=N,160nm,0.4s						
PB05	**IPOC Station P**	**3.04**	**296**	*e*P	**Pn**	**13 36 57.5**	**+1.1**
PB05				*e*S	**S**	**13 37 33.9**	**-1.5**
PB05				IAML		13 37 35.9	
	comp=Z,106nm,0.3s						
PB09	**IPOC Station P**	**3.05**	**323**	*e*P	**Pn**	**13 36 58.9**	**+2.3**
PB09				*i* S	**S**	**13 37 35.5**	**-0.2**
PB09				IAML		13 37 38.2	
	comp=E,105nm,0.2s						
PB09	**IPOC Station P**	**3.05**	**323**	*e*P	**Pn**	**13 36 58.7**	**+2.2**
PB09				*e*S	**S**	**13 37 36.2**	**+0.5**
PB09				IAML		13 37 36.3	
	comp=Z,90nm,0.8s						
AC02	**Maricunga**	**3.09**	**213**	*e*P	**Pn**	**13 36 58.5**	**+1.3**
AC02	**Maricunga**	**3.09**	**213**	*e*P	**Pn**	**13 36 58.5**	**+1.3**
AC02				*e*S	**S**	**13 37 42.0**	**+4.9**
PB10	**IPOC Station P**	**3.11**	**283**	*e*P	**Pn**	**13 36 58.2**	**+1.2**
PB10				*i* S	**S**	**13 37 33.9**	**-2.7**
PB10				IAML		13 37 38.8	
	comp=E,121nm,0.3s						
PB10	**IPOC Station P**	**3.11**	**283**	*e*P	**Pn**	**13 36 58.3**	**+1.2**
PB10				*e*S	**S**	**13 37 35.1**	**-1.5**
PB10				IAML		13 37 41.5	
	comp=Z,110nm,0.5s						
PB03	**IPOC Station P**	**3.18**	**313**	*e*P	**Pn**	**13 36 59.5**	**+1.4**
PB03				*i* S	**S**	**13 37 36.6**	**-1.7**
PB03				IAML		13 37 37.4	
	comp=N,316nm,0.3s						
PB03	**IPOC Station P**	**3.18**	**313**	*e*P	**Pn**	**13 36 59.3**	**+1.2**
PB03				*e*S	**S**	**13 37 37.0**	**-1.3**
PB03				IAML		13 37 40.2	
	comp=Z,150nm,0.2s						
AC01	**Pan de Azucar**	**3.58**	**237**	*e*P	**Pn**	**13 37 02.6**	**0.0**
AC01				*e*S	**S**	**13 37 44.9**	**-1.8**
AC01				IAML		13 38 27.8	
	comp=Z,42nm,2.5s						
PB01	**IPOC Station P**	**3.80**	**327**	*e*P	**Pn**	**13 37 07.1**	**+1.7**
PB01				*i* S	**S**	**13 37 50.5**	**-1.2**
PB01	**IPOC Station P**	**3.80**	**327**	*e*P	**Pn**	**13 37 06.6**	**+1.2**
PB01				*e*S	**S**	**13 37 50.6**	**-1.1**
PB01				IAML		13 37 55.3	
	comp=Z,51nm,0.2s						
PB02	**IPOC Station P**	**3.80**	**319**	*e*P	**Pn**	**13 37 06.5**	**+0.9**
PB02				*i* S	**S**	**13 37 49.4**	**-2.5**
PB02	**IPOC Station P**	**3.80**	**319**	*e*P	**Pn**	**13 37 07.0**	**+1.5**
PB02				*e*S	**S**	**13 37 51.0**	**-0.9**
PB02				IAML		13 37 58.6	
	comp=Z,179nm,0.2s						
GO03	**Copiapo**	**4.28**	**218**	*e*P	**Pn**	**13 37 11.2**	**-0.2**
GO03				*i* S	**S**	**13 38 00.0**	**-2.5**
GO03	**Copiapo**	**4.28**	**218**	*e*P	Pn	13 36 58.9	-12
GO03				*e*S	**S**	**13 38 01.1**	**-1.4**
PATCX	**Punta Patache**	**4.34**	**321**	*e*P	**Pn**	**13 37 13.4**	**+1.2**
PATCX				*i* S	**S**	**13 38 02.0**	**-1.8**
PATCX	**Punta Patache**	**4.34**	**321**	*e*P	**Pn**	**13 37 13.4**	**+1.2**
PATCX				*e*S	**S**	**13 38 04.7**	**+0.8**
PATCX				IAML		13 38 10.0	
	comp=Z,24nm,1.7s						
TA01	**Diego Aracena**	**4.56**	**323**	*e*P	**Pn**	**13 37 16.4**	**+1.6**
TA01				*e*S	**S**	**13 38 09.7**	**+1.0**
TA01				IAML		13 38 23.1	
	comp=Z,35nm,3.3s						
HMBC	**Humberstone**	**4.64**	**328**	*e*P	**Pn**	**13 37 16.3**	**+0.3**
HMBC				*e*S	**S**	**13 38 09.4**	**-1.5**
HMBC				IAML		13 38 11.5	
	comp=Z,37nm,0.4s						
GO01	**Chusmiza**	**4.90**	**338**	*e*P	**Pn**	**13 37 21.8**	**+2.1**
GO01				*e*S	**S**	**13 38 14.7**	**-2.6**
PB11	**IPOC Station P**	**4.99**	**333**	*e*S	**S**	**13 38 17.2**	**-1.7**
PB11				IAML		13 38 21.3	
	comp=Z,20nm,0.3s						

*IDC **31** 13:43:46.5±3.0, 24°.36S×179°.84E, h495km±34km, mb3.3/7, mbtmp4.2/8, Error ellipse: s-maj=22.8km s-min=17.7km az=168.0*
ISC 31 13:43:47.9±0.9, 24°.6S±0°.1×179°.9E±0°.2, h517km, n11, σ1°17/12, mb3.6/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.84**	**189**	P	**P**	**13 46 45.1**	**-0.4**
	11nm,0.8s,baz=266,slow=2.4,SNR=8.2						
URZ				S	**S**	**13 49 10.4**	**-1.6**
	12nm,1.0s,baz=159,slow=4.7,SNR=3.8						
STKA	**Stephens Creek**	**34.40**	**249**	P	**P**	**13 49 52.2**	**+0.4**
	1.5nm,0.4s,baz=89,slow=9.7,SNR=7.4						
	1.5nm,0.4s						
ASAR	**Alice Springs**	**41.85**	**261**	P	**P**	**13 50 52.4**	**-0.2**
	1.0nm,0.4s,baz=90,slow=7.7,SNR=18						
ASAR				S	**S**	**13 56 34.1**	**+1.1**
	0.3nm,0.4s,baz=106,slow=16,SNR=4.1						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**42.29**	**267**	P	**P**	**13 50 55.2**	**-0.8**
	4.7nm,0.4s,baz=99,slow=8.2,SNR=64						
	4.7nm,0.4s						
QSPA	**South Pole Qui**	**65.51**	**180**	P	**P**	**13 53 41.9**	**+2.3**
	1.0nm,0.6s,baz=51,slow=1.1,SNR=9.6						
	1.0nm,0.6s						
MJAR	**Matsushiro Arr**	**72.41**	**326**	P	**P**	**13 54 20.7**	**-0.8**
	1.4nm,0.8s,baz=159,slow=8.8,SNR=4.2						
	1.4nm,0.8s						
PETK	**Petropavlovsk-**	**79.74**	**347**	P	**P**	**13 55 01.7**	**+0.2**
	0.9nm,0.7s,baz=116,slow=9.3,SNR=4.8						
	0.9nm,0.7s						
TXAR	**Lajitas Array**	**90.86**	**58**	P	**P**	**13 55 56.2**	**-0.2**
	0.3nm,0.5s,baz=205,slow=5.5,SNR=4.6						
	0.3nm,0.5s						
HFS	**Hagfors**	**143.19**	**349**	PKhKP	PKPpre	14 02 19.6	
	1.2nm,0.5s,baz=28,slow=3.4,SNR=6.6						
AKASG	**Malin Array Be**	**145.50**	**327**	PKPbc	**PKPdf**	**14 02 27.1**	**+0.5**
	0.4nm,0.3s,baz=47,slow=3.9,SNR=4.8						
BRTR	**Keskin Array B**	**147.92**	**306**	PKPbc	**PKPbc**	**14 02 33.9**	**-1.2**
	0.8nm,0.6s,baz=85,slow=3.4,SNR=4.9						

*IDC **31** 13:52:13.6±7.0, 20°.49S×178°.24W, h470km±73km, mb3.3/4, mbtmp4.1/5, Error ellipse: s-maj=45.5km s-min=29.1km az=34.0*
ISC 31 13:52:12.4±1.3, 20°.5S±0°.2×178°.1W±0°.2, h450km, n8, σ1°66/8, mb3.8/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.16**	**192**	P	**P**	**13 55 56.2**	**-0.3**
	6.7nm,0.8s,baz=284,slow=2.8,SNR=6.5						
ASAR	**Alice Springs**	**44.45**	**257**	P	**P**	**13 59 41.0**	**-1.3**
	2.8nm,0.5s,baz=94,slow=7.9,SNR=50						
ASAR				PcP	**pwP**	**14 01 14.4**	**+2.6**
	0.4nm,0.5s,baz=106,slow=4.4,SNR=5.2						
	2.8nm,0.5s						
WRA	**Warramunga Arr**	**44.53**	**262**	P	**P**	**13 59 41.3**	**-1.6**
	1.6nm,0.3s,baz=97,slow=7.3,SNR=72						
	1.6nm,0.3s						
QSPA	**South Pole Qui**	**69.55**	**180**	P	**P**	**14 02 34.7**	**0.0**
	1.5nm,1.0s,baz=27,slow=2.3,SNR=2.7						
	1.5nm,1.0s						
ILAR	**Eielson Array**	**88.35**	**13**	P	**P**	**14 04 14.1**	**-0.5**
	0.3nm,0.7s,baz=216,slow=5.7,SNR=4.5						
	0.3nm,0.7s						
AKASG	**Malin Array Be**	**143.00**	**331**	PKhKP	PKPpre	14 10 49.1	
	1.4nm,0.4s,baz=44,slow=4.2,SNR=13						
BRTR	**Keskin Array B**	**146.80**	**312**	PKPbc	**PKPdf**	**14 11 01.6**	**+0.6**
	0.8nm,0.7s,baz=85,slow=3.1,SNR=3.9						
MMAI	**Mount Meron Ar**	**147.76**	**300**	PKPbc	**PKPdf**	**14 11 04.0**	**+1.4**
	1.9nm,0.5s,baz=101,slow=1.4,SNR=2.1						

DJA 31 13:57:13.5±0.2, 0°S±3°×12°5E±°, h10km, M3.8/12, mB4.6/1, mb4.1/3, MLv3.7/12, Mw(mB)3.8/1, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.54**	**301**	P	Pn	13 57 38.3	-2.7
SANI	**Sanana**	**1.94**	**159**	P	Pn	13 57 45.0	-1.6
SANI				S	Sb	13 58 12.3	-1.1
TNTI	**Ternate**	**2.29**	**65**	P	Pn	13 57 51.4	0.0
TNTI				S	Sn	13 58 20.4	+0.8
LUWI	**Luwuk**	**2.66**	**252**	P	Pn	13 57 57.5	+1.1
LUWI				S	Sn	13 58 30.1	+1.4
NLAI	**Namlea**	**3.50**	**149**	P	Pn	13 58 07.3	-0.7
APSI	**Ampana**	**3.71**	**259**	P	Pn	13 58 12.6	+1.6
MPSI	**Mapaga**	**5.43**	**276**	P	Pn	13 58 35.1	+0.5
	0.1nm6.7nm,1.0s						
TTSI	**Tana Toraja**	**6.16**	**243**	P	Pn	13 58 43.9	-0.6
	0.1nm458nm17nm,0.5s						
SPSI	**Sidrap Palu**	**6.66**	**236**	P	Pn	13 58 52.5	+1.0

*SJA **31** 14:03:16.6±0.7, 20°.41S×69°.16W, h108km±4km, ML3.8, MW3.6*
*GUC **31** 14:03:18.9±0.7, 20°.44S×69°.19W, h90km±3km, ML3.5*
ISC 31 14:03:18.2±1.5, 20°.45S±0°.03×69°.17W±0°.07, h100km±9km, n28, σ1°32/46, 5C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.31**	**2**	*e*P	**Pn**	**14 03 33.2**	**-0.2**
PB08				*e*S	**Sn**	**14 03 44.2**	**-0.4**
PB08				IAML		14 03 45.6	
	comp=E,3μm,0.2s						
PB08	**IPOC Station P**	**0.31**	**2**	*e*P	**Pn**	**14 03 33.2**	**-0.2**
PB08				*e*S	**Sn**	**14 03 44.9**	**+0.3**
PB08				IAML		14 03 45.3	
	comp=Z,2μm,0.2s						
PX03	**IPOC Station P**	**0.44**	**276**	*e*P	**Pn**	**14 03 32.8**	**-0.9**
PX03				*e*S	**Sn**	**14 03 44.8**	**-0.5**
PB01	**IPOC Station P**	**0.66**	**207**	*e*P	**Pn**	**14 03 35.3**	**-0.1**
PB01				*e*S	**Sn**	**14 03 48.2**	**-0.1**
PB01				IAML		14 03 50.7	
	comp=N,3μm,0.1s						
PB01	**IPOC Station P**	**0.66**	**207**	*e*P	**Pn**	**14 03 35.3**	**-0.1**
PB01				*e*S	**Sn**	**14 03 49.0**	**+0.8**
PB01				IAML		14 03 50.5	
	comp=Z,2μm,0.2s						
HMBC	**Humberstone**	**0.70**	**284**	*e*P	**Pn**	**14 03 35.5**	**-0.3**
HMBC				*e*S	**Sn**	**14 03 48.6**	**-0.3**
HMBC				IAML		14 03 50.2	
	comp=E,5μm,0.6s						
HMBC	**Humberstone**	**0.70**	**284**	*e*P	**Pn**	**14 03 34.8**	**-1.0**
HMBC				IAML		14 03 49.4	
	comp=Z,3μm,0.4s						
GO01	**Chusmiza**	**0.78**	**358**	*e*P	**Pn**	**14 03 36.5**	**-0.5**
PB11	**IPOC Station P**	**0.83**	**326**	*e*P	**Pn**	**14 03 36.9**	**-0.1**
PB11				*e*S	**Sn**	**14 03 51.0**	**-0.2**
PB11				IAML		14 03 52.0	
	comp=E,4μm,0.2s						
PB11	**IPOC Station P**	**0.83**	**326**	*e*P	**Pn**	**14 03 36.7**	**-0.4**
PB11				*e*S	**Sn**	**14 03 51.2**	**+0.1**
PB11				IAML		14 03 51.9	
	comp=Z,2μm,0.2s						
TA02	**Huaiquique**	**0.92**	**281**	*e*P	**Pn**	**14 03 38.3**	**+0.5**
TA02				*e*S	**Sn**	**14 03 53.0**	**+0.5**
TA02	**Huaiquique**	**0.92**	**281**	*e*P	**Pn**	**14 03 37.8**	**0.0**
TA02				*e*S	**Sn**	**14 03 53.5**	**+1.0**
TA02				IAML		14 03 55.6	
	comp=Z,1μm,0.1s						
TA01	**Diego Aracena**	**0.96**	**263**	*e*P	**Pn**	**14 03 37.8**	**-0.3**
TA01				*e*S	**Sn**	**14 03 52.9**	**-0.3**
TA01	**Diego Aracena**	**0.96**	**263**	*e*P	**Pn**	**14 03 37.9**	**-0.3**
PATCX	**Punta Patache**	**0.99**	**248**	*e*P	**Pn**	**14 03 38.7**	**0.0**
PB02	**IPOC Station P**	**1.10**	**218**	*e*P	**Pn**	**14 03 40.0**	**+0.1**
PB02				*e*S	**Sn**	**14 03 56.7**	**+0.6**
PB02				IAML		14 03 59.0	
	comp=E,2μm,0.5s						
PB02	**IPOC Station P**	**1.10**	**218**	*e*P	**Pn**	**14 03 40.1**	**+0.3**
PB02				*e*S	**Sn**	**14 03 57.5**	**+1.3**
PB02				IAML		14 03 59.2	
	comp=Z,2μm,0.4s						
PB09	**IPOC Station P**	**1.34**	**183**	*e*P	**Pn**	**14 03 43.3**	**+0.6**
PB09				*e*S	**Sn**	**14 04 02.3**	**+1.1**
PB09				IAML		14 04 04.7	
	comp=E,812nm,0.2s						
PB09	**IPOC Station P**	**1.34**	**183**	*e*P	**Pn**	**14 03 43.4**	**+0.6**
PB09				*e*S	**Sn**	**14 04 02.8**	**+1.6**
PB09				IAML		14 04 04.4	
	comp=Z,750nm,0.6s						
PB03	**IPOC Station P**	**1.68**	**199**	*e*P	**Pn**	**14 03 46.9**	**0.0**
PB03				IAML		14 04 10.9	
	comp=E,397nm,0.3s						
PB03	**IPOC Station P**	**1.68**	**199**	*e*P	**Pn**	**14 03 47.1**	**+0.2**
PB03				*e*S	**Sn**	**14 04 09.2**	**+0.6**
PB03				IAML		14 04 10.3	
	comp=Z,559nm,0.2s						
PB16	**IPOC Station P**	**2.13**	**351**	*e*P	**Pn**	**14 03 54.5**	**+1.4**
PB16				*e*S	**Sn**	**14 04 25.0**	**+5.4**
PB06	**IPOC Station P**	**2.27**	**189**	*e*P	**Pn**	**14 03 55.0**	**+0.4**
PB06				*e*S	**Sn**	**14 04 23.3**	**+1.0**
PB05	**IPOC Station P**	**2.57**	**202**	*e*P	**Pn**	**14 03 58.3**	**-0.2**
PB05				*e*S	Sn	14 04 18.0	-11
AF01	**San Pedro de A**	**2.65**	**160**	*e*P	Pn	14 04 07.9	+8.3
AF01				IAML		14 04 53.2	
	comp=Z,143nm,0.5s						
PB10	**IPOC Station P**	**3.31**	**203**	*e*P	**Pn**	**14 04 07.7**	**-0.4**
PB10				*e*S	**Sn**	**14 04 42.5**	**-4.1**
LPAZ	**La Paz**	**4.26**	**14**	*e*P	**Pn**	**14 04 18.1**	**-3.4**
GO02	**Mina Guanaco**	**4.70**	**185**	*e*P	**Pn**	**14 04 27.0**	**-0.3**

*IDC **31** 14:06:39.5±1.0, 22°.52N×125°.58E, h0km, mb3.7/5, mbtmp3.8/7, ML3.5/2, MS2.8/1, Error ellipse: s-maj=39.3km s-min=18.2km az=83.0*
*NIED **31** 14:06:43.8, 22°.86N×125°.19E, h112km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}-4.20; $M_{\theta\theta}$3.16; $M_{\phi\phi}$ 1.05; $M_{r\theta}$3.02; $M_{\theta\phi}$-1.01; $M_{\phi r}$-0.57; Fault plane solution: $M_0$4.94000×10^{14} NP1: ϕ_s116.00000°, δ26.00000°, λ-80.00000°. NP2: ϕ_s285.00000°, δ64.00000°, λ-95.00000°.*
*JMA **31** 14:06:43.8±0.3, 23°N±2°×12°5E±°, h112km, MV3.6/27, FAR S OFF ISHIGAKIJIMA*
ISC 31 14:06:39.9±3.6, 22°.65N±0°.06×125°.35E±0°.05, h13km±23km, n38, σ2°92/55, mb3.8/5, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.99**	**315**	*e*S	**Sn**	**14 07 35.1**	**-3.1**
JKRS	**Kuro-shima**	**2.00**	**322**	*e*P	**Pn**	**14 07 14.1**	**+0.6**
JKRS				S	**Sn**	**14 07 36.5**	**-1.9**
JIJ	**Ishigaki jima**	**2.03**	**327**	P	**Pn**	**14 07 14.2**	**+0.3**
JIJ				S	**Sn**	**14 07 37.0**	**-2.2**
JTJ	**Tarama**	**2.07**	**343**	P	**Pn**	**14 07 15.5**	**+1.1**
JTJ				*e*S	**Sn**	**14 07 39.5**	**-0.5**
JMJ2	**Miyako jima3**	**2.08**	**359**	P	**Pn**	**14 07 15.6**	**+1.0**
JMJ2				*e*S	**Sn**	**14 07 39.0**	**-1.4**
JOGS	**Gusukube**	**2.10**	**1**	P	**Pb**	**14 07 16.2**	**-1.6**
JOGS				*e*S	**Sb**	**14 07 41.9**	**-2.0**
JISG	**Ishigakijimahi**	**2.15**	**334**	P	**Pn**	**14 07 16.1**	**+0.6**
JISG				*e*S	**Sn**	**14 07 40.6**	**-1.4**
JMJ	**Miyako jima 2**	**2.15**	**359**	P	**Pn**	**14 07 15.8**	**+0.2**
JIRB	**Irabujima**	**2.17**	**356**	P	**Pn**	**14 07 16.7**	**+0.9**
JIRB				*e*S	**Sn**	**14 07 42.1**	**-0.5**
IRIF	**Iriomote-Funau**	**2.24**	**319**	P	**Pn**	**14 07 17.1**	**+0.4**
IRIF				S	**Sn**	**14 07 42.5**	**-1.8**
JIKM	**Ikemajima**	**2.27**	**358**	*e*P	**Pn**	**14 07 18.1**	**+1.0**
JIKM				*e*S	**Sn**	**14 07 45.1**	**+0.2**
YOJ	**Yonaguni jima**	**2.80**	**310**	P	**Pn**	**14 07 25.0**	**+0.5**
YOJ	**Yonaguni jima**	**2.80**	**310**	*e*P	**Pn**	**14 07 24.9**	**+0.4**
YOJ				*e*S	**Sn**	**14 07 54.9**	**-3.3**
JYNG	**Yonagunijimaku**	**2.84**	**310**	*e*P	**Pn**	**14 07 25.4**	**+0.4**
JYNG				*e*S	**Sn**	**14 07 56.9**	**-2.3**
NACB	**Ninganchiao**	**3.77**	**294**	P	**Pn**	**14 07 37.3**	**-0.5**
YULB	**Yu-li**	**3.81**	**282**	P	**Pn**	**14 07 36.2**	**-2.1**
JKE	**Kume jima 2**	**3.88**	**19**	*e*P	**Pn**	**14 07 39.5**	**+0.2**
JKE				*e*S	**Sn**	**14 08 22.7**	**-2.2**
TWGBT	**Beinan**	**3.95**	**273**	P	**Pn**	**14 07 37.9**	**-2.3**
JJT3	**Tamagusuku3**	**4.12**	**32**	*e*P	**Pn**	**14 07 43.1**	**+0.4**
YHNB	**Yeheng**	**4.16**	**300**	P	**Pn**	**14 07 43.4**	**+0.1**
SSLB	**Suanglung**	**4.20**	**286**	P	**Pn**	**14 07 43.7**	**-0.1**
JAGN	**Aguni-jima**	**4.28**	**23**	*e*P	**Pn**	**14 07 45.2**	**+0.4**
TPUB	**Ta-pu**	**4.40**	**279**	P	**Pn**	**14 07 46.2**	**-0.3**
JNTH	**Nagotoyohara**	**4.55**	**32**	*e*P	**Pn**	**14 07 48.4**	**-0.1**
JNTH				*e*S	**Sn**	**14 08 37.4**	**-4.0**
JOW	**Kunigami**	**4.94**	**32**	Pn	**Pn**	**14 07 54.1**	**+0.2**
	3.9nm,0.3s,baz=209,slow=12,SNR=46						
JOW				Sn	**Sn**	**14 08 47.4**	**-3.5**
	2.7nm,0.3s,baz=106,slow=26,SNR=5.6						
	12nm,0.3s						
JOW	**Kunigami**	**4.94**	**32**	P	**Pn

λ-116.76000°. Principal axes: T 7.5585, Plg7.0000°, Azm259.0000°; N 2.5130, Plg22.0000°, Azm166.0000°; P -10.0715, Plg67.0000°, Azm7.0000°;
*MCSM **31** 14:21:22.2±0.5,40˚N×3˚×2˚1E±˚, h10km±3km, mb4.4, mB4.9, MLv4.8, Mw(mB)4.2*
*THE **31** 14:21:22.3,41˚N±1˚×2˚1E±˚, h0km±1km, M4.3/33, MLh4.3/33*
*SKO **31** 14:21:22.2, 40˚.56N×20˚.82E, h16km, ML4.4*
*ATH **31** 14:21:22.0, 40˚.56N×20˚.89E, h9km, Mw4.4, Moment Tensor Solution. s7 Moment tensor: Mrr=2.84; Mθθ-0.57; Mφφ3.41; Mrθ1.29; Mφφ0.52; Mφr2.52; Fault plane solution: NP1:φs350.00000°, δ27.00000°, λ-119.00000°. NP2:φs202.00000°, δ67.00000°, λ-76.00000°.*
*BEO **31** 14:21:22.0±0.3, 40˚.47N×21˚.04E, h12km±3km, ML4.1/7*
ISC 31 14:21:21.1±0.7, 40˚.53N±0˚.02×20˚.81E±0˚.02, h11km±4km, n619, σ1°37/694, mb4.6/75, MS3.4/21, 55C-26D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.10**	**350**	Pg		**Pg**	**14 21 22.8**	**-1.1**
KBN				Sg		**Sg**	**14 21 25.0**	**-0.9**
KBN				AMd			14 21 57.7	
NEST	**Nestorio**	**0.21**	**121**	Pg		**Pg**	**14 21 24.9**	**-0.8**
NEST				Sg		**Sg**	**14 21 28.7**	**0.0**
NEST				AML	AML		14 21 30.3	
	641nm,0.3s							
NEST				AMd			14 22 06.6	
NEST	**Nestorio**	**0.21**	**121**	P		**Pg**	**14 21 25.7**	**+0.1**
NEST				S		**Sg**	**14 21 28.3**	**-0.5**
NEST	**Nestorio**	**0.21**	**121**	P		**Pg**	**14 21 25.8**	**+0.1**
NEST				S		**Sg**	**14 21 29.4**	**+0.7**
LMS2	**Laimos Florina**	**0.40**	**39**	P		**Pg**	**14 21 28.7**	**-0.3**
LMS2				S		**Sg**	**14 21 33.8**	**-0.6**
PENT	**Pentalofos**	**0.41**	**143**	P		**Pg**	**14 21 29.0**	**-0.3**
PENT				S		**Sb**	**14 21 35.9**	**-0.9**
FNA	**Florina**	**0.50**	**59**			**Pg**	**14 21 30.7**	**-0.2**
FNA				Sg		**Sb**	**14 21 39.2**	**-0.2**
FNA	**Florina**	**0.50**	**59**	Pg		**Pg**	**14 21 30.7**	**-0.2**
FNA				Sg		**Sb**	**14 21 38.7**	**-0.7**
FNA				AMd			14 22 15.3	
FNA	**Florina**	**0.50**	**59**	P		**Pg**	**14 21 30.7**	**-0.2**
FNA				S		**Sg**	**14 21 37.9**	**+0.3**
FNA	**Florina**	**0.50**	**59**	P		**Pg**	**14 21 30.9**	**0.0**
FNA				S		**Sb**	**14 21 38.8**	**-0.6**
FNA	**Florina**	**0.50**	**59**	⇑*i* Pg		**Pg**	**14 21 30.8**	**-0.2**
FNA				*i* Sg		**Sb**	**14 21 39.4**	**+0.1**
FNA	**Florina**	**0.50**	**59**	P		**Pg**	**14 21 30.7**	**-0.2**
FNA							14 21 39.2	
FNA	**Florina**	**0.50**	**59**	*e*Pg		**Pg**	**14 21 30.7**	**-0.2**
FNA				*e*Sg		**Sg**	**14 21 38.3**	**+0.7**
FNA	**Florina**	**0.50**	**59**	P		**Pg**	**14 21 30.8**	**-0.2**
FNA				S		**Sg**	**14 21 37.6**	**+0.1**
OHR	**Ohrid**	**0.58**	**359**	*i* Pg		**Pg**	**14 21 32.5**	**+0.1**
OHR				*i* Sg		**Sn**	**14 21 43.4**	**-1.7**
OHR				*e*Lg	Lg		14 21 43.6	
	comp=N,8μm,0.4s							
OHR				*e*Lg	Lg		14 21 43.8	
	comp=E,16μm,0.6s							
KZN	**Kozani**	**0.77**	**106**	P		**Pg**	**14 21 35.5**	**-0.4**
KZN	**Kozani**	**0.77**	**106**	P		**Pg**	**14 21 35.1**	**-0.8**
KZN				S		**Sg**	**14 21 46.0**	**0.0**
SRN	**Sarande**	**0.90**	**224**	Pg		**Pg**	**14 21 37.6**	**-0.7**
SRN				Sg		**Sb**	**14 21 50.9**	**+0.3**
SRN				AML	AML		14 22 00.5	
	comp=E,41nm,0.7s							
SRN				AMd			14 22 56.8	
VLO	**Vlora**	**1.00**	**267**	Pg		**Pg**	**14 21 38.7**	**-1.7**
VLO				Sg		**Sg**	**14 21 52.8**	**-0.7**
VLO				AML	AML		14 22 03.5	
	comp=E,137nm,0.6s							
VLO				AMd			14 23 04.1	
IGT	**Igoumenitsa**	**1.06**	**200**	Pg		**Pb**	**14 21 40.3**	**-1.1**
IGT				AMd			14 22 58.1	
IGT	**Igoumenitsa**	**1.06**	**200**	*i* Pg		**Pb**	**14 21 40.0**	**-1.4**
IGT				*i* Sg		**Sn**	**14 21 58.1**	**+1.5**
IGT	**Igoumenitsa**	**1.06**	**200**	P		**Pb**	**14 21 40.0**	**-1.4**
IGT	**Igoumenitsa**	**1.06**	**200**	*e*Pg		**Pb**	**14 21 41.1**	**-0.3**
IGT				*e*Sg		**Sn**	**14 21 57.6**	**+1.0**
IGT	**Igoumenitsa**	**1.06**	**200**	P		**Pb**	**14 21 40.9**	**-0.6**
KEK	**Kerkira**	**1.12**	**224**			**Pn**	**14 21 43.1**	**+0.4**
KEK	**Kerkira**	**1.12**	**224**	P		**Pn**	**14 21 44.2**	**+1.5**
KEK	**Kerkira**	**1.12**	**224**	P		**Pn**	**14 21 44.4**	**+1.6**
KEK				S		**Sn**	**14 22 00.3**	**+2.0**
PHP	**Peshkopia**	**1.19**	**347**	Pn		**Pb**	**14 21 42.9**	**-0.9**
PHP				AMd			14 23 08.0	
LFKM	**Lefkimmi**	**1.22**	**208**	P		**Pg**	**14 21 45.8**	**+1.2**
TETR	**Tetrakomo, Epi**	**1.23**	**163**	P		**Pn**	**14 21 44.4**	**0.0**
TETR				S		**Sn**	**14 22 02.1**	**+1.0**
TETR	**Tetrakomo, Epi**	**1.23**	**163**	P		**Pn**	**14 21 43.7**	**-0.7**
TETR				S		**Sn**	**14 22 02.4**	**+1.3**
THL	**Klokotos Trika**	**1.33**	**136**	P		**Pn**	**14 21 45.7**	**0.0**
THL	**Klokotos Trika**	**1.33**	**136**	P		**Pn**	**14 21 45.7**	**0.0**
THL				S		**Sg**	**14 22 04.0**	**0.0**
LIT	**Litokhoron**	**1.35**	**108**			**Pb**	**14 21 46.6**	**+0.2**
LIT	**Litokhoron**	**1.35**	**108**	P		**Pn**	**14 21 46.0**	**0.0**
LIT	**Litokhoron**	**1.35**	**108**	P		**Pg**	**14 21 47.0**	**-0.1**
LIT				S		**Sg**	**14 22 05.8**	**+1.2**
LIT	**Litokhoron**	**1.35**	**108**	*i* Pg		**Pb**	**14 21 46.7**	**+0.2**
LIT				*i* Sg		**Sg**	**14 22 06.7**	**+2.0**
LIT	**Litokhoron**	**1.35**	**108**	P		**Pb**	**14 21 46.6**	**+0.2**
LIT	**Litokhoron**	**1.35**	**108**	P		**Pn**	**14 21 46.2**	**+0.2**
LIT				S		**Sb**	**14 22 03.1**	**-0.7**
TYRN	**Tyrnavos**	**1.36**	**126**	P		**Pn**	**14 21 46.2**	**+0.1**
TYRN				S		**Sg**	**14 22 05.3**	**+0.4**
TYRN	**Tyrnavos**	**1.36**	**126**	P		**Pn**	**14 21 46.3**	**+0.3**
TYRN				S		**Sg**	**14 22 04.6**	**-0.3**
LRSO	**Larissa Observ**	**1.48**	**125**	P		**Pg**	**14 21 49.2**	**-0.4**
SKO	**Skopje**	**1.52**	**18**	*i* Pg		**Pb**	**14 21 48.9**	**-0.4**
SKO				*i* Sg		**Sg**	**14 22 11.2**	**+1.2**
VAY	**Valandovo**	**1.55**	**59**	*i* Pg		**Pb**	**14 21 49.5**	**-0.3**
VAY				*i* Sg		**Sg**	**14 22 13.5**	**+2.5**
VAY				*e*Lg	Lg		14 22 14.0	
	comp=N,6μm,0.8s							
VAY				*e*Lg	Lg		14 22 16.5	
	comp=E,6μm,0.9s							
AMPL	**Ampelaki**	**1.63**	**169**	P		**Pb**	**14 21 50.8**	**-0.4**
THE	**Thessaloniki**	**1.65**	**86**	Pn		**Pn**	**14 21 50.1**	**+0.1**
THE				AMd			14 23 21.8	
THE	**Thessaloniki**	**1.65**	**86**	P		**Pn**	**14 21 50.1**	**+0.1**
THE	**Thessaloniki**	**1.65**	**86**	⇓*i* Pn		**Pn**	**14 21 50.2**	**+0.1**
THE				*i* Sn		**Sg**	**14 22 15.3**	**+1.3**
THE	**Thessaloniki**	**1.65**	**86**	P		**Pn**	**14 21 50.0**	**+0.1**
THE				S		**Sn**	**14 22 10.7**	**-0.4**
PUK	**Puka**	**1.67**	**336**	Pn		**Pb**	**14 21 51.5**	**-0.3**
PUK				Sn		**Sg**	**14 22 14.9**	**+0.3**
PUK				AML	AML		14 22 19.8	
	comp=E,25nm,0.9s							
PUK				AMd			14 23 25.1	
TSLK	**Tsoukalades, L**	**1.70**	**184**	P		**Pb**	**14 21 53.1**	**+0.7**
TSLK	**Tsoukalades, L**	**1.70**	**184**	P		**Pg**	**14 21 53.3**	**-0.4**
KNT	**Kendrikon**	**1.71**	**68**	P		**Pn**	**14 21 51.2**	**+0.3**
KNT	**Kendrikon**	**1.71**	**68**	⇑*i* Pn		**Pn**	**14 21 51.1**	**+0.3**
KNT	**Kendrikon**	**1.71**	**68**	P		**Pn**	**14 21 51.0**	**+0.2**
KNT				S		**Sn**	**14 22 12.0**	**-0.7**
LKD2	**Lefkada island**	**1.74**	**184**	Pn		**Pb**	**14 21 52.4**	**-0.7**
LKD2				Sn		**Sg**	**14 22 16.8**	**-0.2**
LKD2				AML	AML		14 22 26.1	
	comp=E,20nm,0.8s							
LKD2				AMd			14 23 45.8	
LKD2	**Lefkada island**	**1.74**	**184**	P		**Pb**	**14 21 53.8**	**+0.8**
LKD2	**Lefkada island**	**1.74**	**184**	P		**Pb**	**14 21 53.5**	**+0.4**
HORT	**Hortiatis**	**1.75**	**87**	P		**Pn**	**14 21 51.2**	**-0.3**
HORT	**Hortiatis**	**1.75**	**87**	P		**Pn**	**14 21 51.3**	**-0.1**
EVR	**Evrytania**	**1.78**	**154**	P		**Pb**	**14 21 54.0**	**+0.2**
EVR	**Evrytania**	**1.78**	**154**	P		**Pb**	**14 21 54.3**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.81**	**183**	P		**Pb**	**14 21 54.6**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.81**	**183**	P		**Pb**	**14 21 54.5**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.82**	**146**	P		**Pb**	**14 21 53.8**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.82**	**146**	P		**Pb**	**14 21 53.8**	**-0.7**
DRAG	**Dragano-Lefkad**	**1.85**	**186**	P		**Pb**	**14 21 54.4**	**-0.5**
AGG	**Agios Georgios**	**1.91**	**142**	P		**Pn**	**14 21 54.6**	**+0.9**
AGG	**Agios Georgios**	**1.91**	**142**	P		**Pb**	**14 21 55.2**	**-0.7**
AGG				S		**Sb**	**14 22 19.4**	**-0.4**
AGG	**Agios Georgios**	**1.91**	**142**	P		**Pn**	**14 21 54.4**	**+0.8**
AGG	**Agios Georgios**	**1.91**	**142**	P		**Pn**	**14 21 54.5**	**+0.9**
EVGI	**Lefkada island**	**1.91**	**184**	P		**Pb**	**14 21 55.5**	**-0.4**
EVGI	**Lefkada island**	**1.91**	**184**	P		**Pb**	**14 21 55.3**	**-0.6**
EVGI				S		**Sb**	**14 22 20.0**	**+0.3**
BCI	**Bajram Curri**	**1.92**	**343**	Pn		**Pb**	**14 21 55.7**	**-0.4**
BCI				AMd			14 23 38.2	
SOH	**Sokhos**	**1.96**	**81**	P		**Pn**	**14 21 54.8**	**+0.6**
SOH	**Sokhos**	**1.96**	**81**	*i* Pn		**Pn**	**14 21 54.7**	**+0.4**
SOH				*i* Sn		**Sb**	**14 22 21.9**	**+0.6**
SOH	**Sokhos**	**1.96**	**81**	P		**Pn**	**14 21 55.3**	**+1.0**
SOH	**Sokhos**	**1.96**	**81**	P		**Pn**	**14 21 54.9**	**+0.6**
PLG	**Polygyros**	**2.02**	**93**	P		**Pn**	**14 21 55.4**	**+0.3**
PLG	**Polygyros**	**2.02**	**93**	P		**Pn**	**14 21 55.7**	**+0.6**
PLG	**Polygyros**	**2.02**	**93**	P		**Pn**	**14 21 55.9**	**+0.7**
PLG				S		**Sn**	**14 22 20.9**	**+0.6**
DRME	**Dracevica, Mon**	**2.06**	**324**	⇑*i* Pn		**Pb**	**14 21 57.3**	**-1.2**
DRME				*i* Sn		**Sb**	**14 22 25.2**	**+1.0**
FSK	**Fiskardo**	**2.07**	**185**	P		**Pn**	**14 21 57.1**	**+1.2**
FSK	**Fiskardo**	**2.07**	**185**	P		**Pn**	**14 21 57.1**	**+1.2**
ANX	**Ano Chora**	**2.11**	**156**	P		**Pb**	**14 21 58.6**	**-0.9**
KKB	**Krupnik**	**2.19**	**52**	P		**Pn**	**14 21 58.4**	**+0.9**
KKB	**Krupnik**	**2.19**	**52**	⇑*i* Pn		**Pn**	**14 21 58.3**	**+0.8**
SRS	**Serrai**	**2.19**	**73**	P		**Pn**	**14 21 57.7**	**+0.2**
SRS	**Serrai**	**2.19**	**73**	*i* Pn		**Pn**	**14 21 57.5**	**0.0**
SRS	**Serrai**	**2.19**	**73**	P		**Pn**	**14 21 57.9**	**+0.4**
SRS	**Serrai**	**2.19**	**73**	*e*Pg		**Pn**	**14 21 57.9**	**+0.4**
SRS				*e*Sg		**Sn**	**14 22 25.5**	**+0.8**
SRS	**Serrai**	**2.19**	**73**	P		**Pn**	**14 21 57.5**	**0.0**
NEO	**Neokhori**	**2.22**	**123**	P		**Pn**	**14 21 58.4**	**+0.5**
NEO	**Neokhori**	**2.22**	**123**	P		**Pn**	**14 21 58.2**	**+0.3**
PDG	**Podgorica**	**2.23**	**329**			**Pn**	**14 21 59.7**	**+1.6**
PDG	**Podgorica**	**2.23**	**329**	*e*Pn		**Pb**	**14 21 59.9**	**-1.5**
PDG				*e*Sn		**Sb**	**14 22 30.8**	**+1.7**
PDG	**Podgorica**	**2.23**	**329**	P		**Pb**	**14 21 59.8**	**-1.6**
PDG	**Podgorica**	**2.23**	**329**	⇑*i* Pn		**Pb**	**14 21 59.8**	**-1.6**
PDG				*i* Sn		**Sb**	**14 22 30.8**	**+1.7**
MESG	**Mesagne**	**2.26**	**273**	P		**Pn**	**14 21 58.2**	**-0.1**
EFP	**Efpalio**	**2.26**	**158**	P		**Pn**	**14 21 59.9**	**+1.4**
AXAR	**Agios Charalam**	**2.27**	**140**	P		**Pn**	**14 21 59.6**	**+1.1**
AXAR	**Agios Charalam**	**2.27**	**140**	P		**Pn**	**14 21 59.7**	**+1.2**
DMLN	**Damoulianata-K**	**2.31**	**189**	P		**Pn**	**14 22 00.4**	**+1.3**
DMLN	**Damoulianata-K**	**2.31**	**189**	P		**Pn**	**14 22 00.4**	**+1.3**
SERG	**Sergoula**	**2.32**	**155**	P		**Pb**	**14 22 01.9**	**-1.1**
SERG	**Sergoula**	**2.32**	**155**	P		**Pn**	**14 22 01.1**	**+1.9**
BOSS	**Bosilegrad**	**2.33**	**32**	*e*Pn		**Pn**	**14 22 00.3**	**+0.8**
BOSS				*e*Sn		**Sn**	**14 22 28.1**	**0.0**
VLS	**Valsamata**	**2.35**	**184**	P		**Pn**	**14 22 01.0**	**+1.3**
VLS	**Valsamata**	**2.35**	**184**	P		**Pn**	**14 22 00.9**	**+1.3**
KALE	**Kalithea**	**2.37**	**154**	P		**Pn**	**14 22 02.1**	**-1.8**
KALE	**Kalithea**	**2.37**	**154**	P		**Pb**	**14 22 02.0**	**-1.8**
AXS	**Araxos**	**2.37**	**169**	P		**Pb**	**14 22 02.2**	**-1.6**
AXS	**Araxos**	**2.37**	**169**	P		**Pb**	**14 22 02.0**	**-1.5**
BARS	**Barje**	**2.41**	**18**	*i* Pn		**Pn**	**14 22 01.2**	**+0.7**
BARS	**Barje**	**2.41**	**18**	*e*Pn		**Pn**	**14 22 01.2**	**+0.7**
PSDA	**Pessada-Kefalo**	**2.42**	**184**	P		**Pn**	**14 22 01.9**	**+1.3**
OUR	**Ouranopolis**	**2.43**	**94**	P		**Pn**	**14 22 01.2**	**+0.5**
OUR	**Ouranopolis**	**2.43**	**94**	P		**Pn**	**14 22 01.3**	**+0.6**
MMB	**Musomishta**	**2.45**	**64**	P		**Pn**	**14 22 01.7**	**+0.6**
MMB	**Musomishta**	**2.45**	**64**	*i* Pn		**Pn**	**14 22 01.6**	**+0.6**
MMB				*i* Sn		**Sb**	**14 22 33.9**	**-1.4**
YRMI	**Loutra Irminis**	**2.46**	**170**	P		**Pb**	**14 22 03.5**	**-1.8**
CEME	**Cevo**	**2.47**	**325**	⇑*i* Pn		**Pn**	**14 22 02.6**	**+1.3**
CEME				*i* Sn		**Sb**	**14 22 34.7**	**-1.2**
KOME	**Kolasin**	**2.52**	**338**	⇑*i* Pn		**Pb**	**14 22 05.0**	**-1.4**
KOME				*i* Sn		**Sb**	**14 22 35.9**	**-1.5**
RLS	**Riolos of Patr**	**2.52**	**168**	P		**Pb**	**14 22 04.7**	**-1.6**
LKR	**Lokris**	**2.52**	**137**	P		**Pn**	**14 22 02.8**	**+0.8**
CLEM	**Kyllini,Ilia,G**	**2.65**	**174**	P		**Pb**	**14 22 06.4**	**-2.1**
DRO	**Drossia**	**2.67**	**164**	P		**Pb**	**14 22 06.8**	**-2.0**
ORTH	**Orthonies,Zaky**	**2.67**	**182**	P		**Pn**	**14 22 05.4**	**+1.3**
KLV	**Kalavryta, Ach**	**2.69**	**157**	P		**Pn**	**14 22 06.5**	**+2.2**
SELS	**Selova**	**2.70**	**5**	*e*Pn		**Pn**	**14 22 05.4**	**+0.9**
KYPS	**Kipseli, Zakin**	**2.70**	**180**	P		**Pn**	**14 22 07.0**	**+2.5**
VTS	**Vitosha**	**2.77**	**40**	*e*Pn		**Pn**	**14 22 06.2**	**+0.6**
VTS				*e*Sn		**Sn**	**14 22 39.1**	**0.0**
SJES	**Sjenica**	**2.80**	**347**	*e*Pn		**Pn**	**14 22 07.7**	**+1.7**
SJES				*e*Sn		**Sb**	**14 22 43.3**	**-2.3**
LTHK	**Lithakia**	**2.81**	**180**	P		**Pn**	**14 22 07.8**	**+1.8**
GUR	**Goura**	**2.85**	**155**	P		**Pn**	**14 22 09.0**	**+2.4**
KAVA	**Kavala**	**2.85**	**79**	P		**Pn**	**14 22 06.8**	**+0.2**
KRI1	**kERI**	**2.86**	**180**	P		**Pn**	**14 22 08.5**	**+1.8**
NOCI	**Noci**	**2.86**	**276**	Pn		**Pn**	**14 22 06.1**	**-0.6**
NOCI				AMd			14 24 06.1	
NOCI	**Noci**	**2.86**	**276**	P		**Pn**	**14 22 06.3**	**-0.4**
TREB	**Trebinje**	**2.86**	**321**	*e*Pn		**Pn**	**14 22 07.3**	**+0.6**
THAS	**Thassos island**	**2.98**	**87**	P		**Pn**	**14 22 07.8**	**-0.4**
PLE	**Pljevlja**	**3.00**	**340**	*e*Pn		**Pn**	**14 22 10.6**	**+2.0**
VILZ	**Platees**	**3.00**	**140**	P		**Pn**	**14 22 08.7**	**+1.7**
GOCS	**Kraljevo Serbi**	**3.03**	**1**	*e*Pn		**Pn**	**14 22 09.2**	**0.0**
LTRZ	**Laterza**	**3.04**	**273**	P		**Pn**	**14 22 08.6**	**-0.6**
LOUT	**Loutraki**	**3.04**	**146**	P		**Pn**	**14 22 10.3**	**+1.1**
ZAPS	**Zavoj**	**3.06**	**26**	*e*Pn		**Pn**	**14 22 10.4**	**+0.9**
AMT	**Artemida-Makis**	**3.07**	**167**	P		**Pn**	**14 22 10.8**	**+1.2**
IVAS	**Ivanjica**	**3.09**	**351**	*e*Pn		**Pn**	**14 22 10.2**	**+0.3**
PARN2	**Moni Osiou Mel**	**3.11**	**138**	P		**Pn**	**14 22 10.8**	**+0.7**
KLINJ	**Klinje**	**3.12**	**329**	*e*Pn		**Pn**	**14 22 11.9**	**+1.6**
MATE	**Matera**	**3.13**	**274**	⇑P		**Pn**	**14 22 09.8**	**-0.5**
STFN	**Stefani**	**3.16**	**137**	P		**Pn**	**14 22 11.9**	**+1.1**
KYMI	**Kymi, Euboea I**	**3.17**	**126**	P		**Pn**	**14 22 11.2**	**+0.3**
BOVS	**Bovan**	**3.18**	**12**	⇓P		**Pn**	**14 22 11.3**	**+0.2**
BOVS	**Bovan**	**3.18**	**12**	*e*Pn		**Pn**	**14 22 11.4**	**+0.4**
BOVS				*e*Sn		**Sn**	**14 22 49.9**	**+1.0**
MAGU	**Magoula**	**3.22**	**139**	P		**Pn**	**14 22 12.3**	**+0.7**
PARN3	**Mandra,Attica,**	**3.22**	**139**	P		**Pn**	**14 22 12.7**	**+1.0**
RUDO	**Rudo**	**3.27**	**341**	*e*Pn		**Pn**	**14 22 14.0**	**+1.7**
PARN1	**Fyli,Attica,Gr**	**3.28**	**137**	P		**Pn**	**14 22 13.6**	**+1.1**
STON	**Ston**	**3.30**	**316**	*e*Pn		**Pn**	**14 22 12.6**	**-0.1**
SKY	**Skiros Island**	**3.32**	**119**	P		**Pn**	**14 22 13.4**	**+0.4**
PLD	**Plovdiv**	**3.38**	**60**	*e*Pn		**Pn**	**14 22 13.7**	**-0.1**
VLX	**Vlachokerasia**	**3.38**	**158**	P		**Pn**	**14 22 17.5**	**+3.5**
BLKB	**Belogradchik**	**3.39**	**24**	*e*Pn		**Pn**	**14 22 15.4**	**+1.4**
TIP	**Timpagrande**	**3.40**	**248**	Pn		**Pn**	**14 22 13.2**	**-0.9**
TIP	**Timpagrande**	**3.40**	**248**	⇑P		**Pn**	**14 22 12.8**	**-1.3**
TIP	**Timpagrande**	**3.40**	**248**	Pn		**Pn**	**14 22 14.4**	**+0.3**
TIP	**Timpagrande**	**3.40**	**248**	P		**Pn**	**14 22 14.2**	**+0.1**
ATH	**Athens Observa**	**3.41**	**138**	P		**Pn**	**14 22 15.0**	**+0.8**
LIA	**Limnos Island**	**3.41**	**99**	P		**Pn**	**14 22 14.3**	**+0.2**
PTL	**Penteli**	**3.43**	**135**	P		**Pn**	**14 22 15.3**	**+0.8**
DION	**Dionisos Attik**	**3.44**	**134**	P		**Pn**	**14 22 15.3**	**+0.6**
ATHU	**Athens Univers**	**3.44**	**137**	P		**Pn**	**14 22 15.6**	**+0.9**
ZAGS	**Zajecar**	**3.45**	**17**	*e*Pn		**Pn**	**14 22 15.5**	**+0.7**
ITM	**Ithomi**	**3.45**	**165**	Pn		**Pn**	**14 22 16.4**	**+1.5**
ITM	**Ithomi**	**3.45**	**165**	P		**Pn**	**14 22 17.3**	**+2.5**
BBLS	**Lazi&#263i**	**3.50**	**343**	*e*Pn		**Pn**	**14 22 18.0**	**+2.5**
MET5	**Makryloggos,Me**	**3.51**	**145**	P		**Pn**	**14 22 17.4**	**+1.7**
MET4	**Agioi Theodoro**	**3.53**	**144**	P		**Pn**	**14 22 16.8**	**+0.9**
MET6	**Megalochori,Me**	**3.54**	**145**	P		**Pn**	**14 22 17.4**	**+1.4**
SMTH	**Samothraki Isl**	**3.60**	**89**	P		**Pn**	**14 22 15.6**	**-1.3**
RDO	**Rodhopi**	**3.64**	**79**	Pn		**Pn**	**14 22 17.6**	**+0.3**
RDO	**Rodhopi**	**3.64**	**79**	P		**Pn**	**14 22 17.3**	**0.0**
TRUS	**Trudelj**	**3.71**	**356**	*e*Pn		**Pn**	**14 22 19.0**	**+0.7**
ACER	**Acerenza**	**3.71**	**276**	Pn		**Pn**	**14 22 17.9**	**-0.5**
SVIS	**Svilajnac**	**3.75**	**4**	*e*Pn		**Pn**	**14 22 22.0**	**+3.1**
KARY	**Karystos**	**3.76**	**130**	P		**Pn**	**14 22 20.0**	**+1.0**
CUC	**Castrocucco**	**3.86**	**264**	Pn		**Pn**	**14 22 20.7**	**+0.2**
CUC	**Castrocucco**	**3.86**	**264**	P		**Pn**	**14 22 20.9**	**+0.4**
GOAD	**anakkale-G¶**	**3.91**	**94**	P		**Pn**	**14 22 22.0**	**+0.8**
KUBS	**Kucevo**	**3.94**	**9**	*e*Pn		**Pn**	**14 22 20.3**	**-1.2**
ALN	**Alexandroupoli**	**4.00**	**83**	Pn		**Pn**	**14 22 22.6**	**+0.3**
ALN	**Alexandroupoli**	**4.00**	**83**	P		**Pn**	**14 22 23.0**	**+0.7**
ALN	**Alexandroupoli**	**4.00**	**83**	P		**Pn**	**14 22 22.6**	**+0.3**
ALN	**Alexandroupoli**	**4.00**	**83**	P		**Pn**	**14 22 22.6**	**+0.3**
SGRT	**San Giovanni R**	**4.02**	**289**	Pn		**Pn**	**14 22 22.1**	**-0.5**
PLVB	**Pleven**	**4.03**	**44**	⇑P		**Pn**	**14 22 24.2**	**+1.4**
PUNG	**Punghina**	**4.07**	**22**	⇑P		**Pn**	**14 22 23.6**	**+0.4**
BOZC	**Bozcaada**	**4.07**	**98**	P		**Pn**	**14 22 24.4**	**+1.1**
CAVK	**Edirne/Enez-Ca**	**4.08**	**86**	P		**Pb**	**14 22 32.6**	**-0.3**
CAVK	**Edirne/Enez-Ca**	**4.08**	**86**	⇓P		**Pn**	**14 22 24.2**	**+0.8**
SIGR	**SIGRI**	**4.10**	**107**	P		**Pn**	**14 22 24.6**	**+0.9**
TEKS	**Tekeris**	**4.13**	**347**	*e*Pn		**Pn**	**14 22 25.4**	**+1.3**
EZN	**Ezine**	**4.28**	**98**	⇓P		**Pn**	**14 22 27.2**	**+1.0**
MDVR	**Moldovita**	**4.30**	**9**	⇓P		**Pn**	**14 22 27.2**	**+0.6**
VLAD	**Vladila**	**4.38**	**36**	⇑P		**Pn**	**14 22 28.8**	**+1.3**
CEL	**Celeste**	**4.43**	**241**	Pn		**Pn**	**14 22 27.4**	**-1.0**
CEL	**Celeste**	**4.43**	**241**	Pn		**Pn**	**14 22 27.3**	**-1.0**
CEL						**Sn**	**14 23 19.5**	**-0.4**
CEL	**Celeste**	**4.43**	**241**	P		**Pn**	**14 22 27.5**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**4.47**	**98**	P		**Pn**	**14 22 30.7**	**+1.9**
KESN	**Edirne-Kesan**	**4.47**	**84**	P		**Pn**	**14 22 29.4**	**+0.2**
ELND	**Elena**	**4.49**	**56**	⇑P		**Pn**	**14 22 29.4**	**+0.3**
SRE	**Strehaia**	**4.50**	**22**	⇑P		**Pn**	**14 22 30.0**	**+0.9**
HERR	**Herculane**	**4.51**	**15**	⇓P		**Pn**	**14 22 29.7**	**+0.3**
VRSS	**Vrsac**	**4.61**	**5**	*e*Pn		**Pn**	**14 22 30.5**	**-0.2**
AYVA	**Ayvalik**	**4.68**	**103**	P		**Pn**	**14 22 32.6**	**+0.9**
FRGS	**Fruska Gora**	**4.69**	**351**	*e*Pn		**Pn**	**14 22 32.8**	**+1.0**
PAOL	**Paolisi**	**4.77**	**278**	Pn		**Pn**	**14 22 33.8**	**+0.8**
KIJV	**Kijevo**	**4.77**	**318**	*e*Pn		**Pn**	**14 22 33.4**	**+0.5**
BANR	**Banloc**	**4.86**	**3**	⇓P		**Pn**	**14 22 34.7**	**+0.6**
COPA	**Copaceanca**	**4.86**	**41**	⇑P		**Pn**	**14 22 35.7**	**+1.5**
KIRK	**Kırklareli**	**4.91**	**73**	P		**Pn**	**14 22 37.9**	**+3.1**
BUHA	**Balikesir, Bur**	**4.92**	**100**	P		**Pn**	**14 22 36.0**	**+1.0**
ZEYE	**Izmir, Urla-Ze**	**4.97**	**116**	P		**Pn**	**14 22 34.6**	**-1.0**
URLA	**Izmir**	**4.97**	**114**	P		**Pn**	**14 22 36.6**	**+0.8**
BLY	**Banja Luka**	**5.00**	**329**	*e*Pn		**Pn**	**14 22 37.6**	**+1.6**
BLY	**Banja Luka**	**5.00**	**329**	⇓P		**Pn**	**14 22 36.8**	**+0.8**
A050A	**Klekovaca**	**5.06**	**323**	*e*Pn		**Pn**	**14 22 38.6**	**+

VYHS Vyhne 8.09 351 *e*PN **Pn** 14 23 21.6 +3.1
VYHS *e*PG Pg 14 23 50.8 -5.1
CONA Conrad Observa 8.21 336 *e*Pn **Pn** 14 23 22.9 +2.7
comp=Z,16nm,1.0s,SNR=7.6
CONA *e*Sn **Sn** 14 24 52.9 +0.1
comp=Z,15nm,0.7s
ZCCA Zocca 8.21 301 **Pn** 14 23 19.7 -0.6
STAL STALIGIAL 8.22 317 **Pn** 14 23 19.0 -1.3
MODS Modra-Piesok 8.24 343 *e*P **Pn** 14 23 22.2 +1.6
MODS Modra-Piesok 8.24 343 *e*PN **Pn** 14 23 22.2 +1.6
MODS *e*PG **Pg** 14 24 00.1 +1.3
KSV Kosov 8.36 20 Pn **Pn** 14 23 25.6 +3.4
KOLS Kolonicke sedl 8.47 7 *e*P **Pn** 14 23 27.3 +3.6
KOLS Kolonicke sedl 8.47 7 *e*PN **Pn** 14 23 27.3 +3.6
KOLS *e*PG **Pg** 14 23 58.4 -4.7
KBA Koelnbreinsper 8.48 323 *i* Pn **Pn** 14 23 24.4 +0.3
comp=Z,7.1nm,0.3s
KBA *e*Sn **Sn** 14 25 03.6 +3.7
comp=Z,24nm,0.6s
MILM Milestii Mici 8.62 40 *e*P **Pn** 14 23 24.0 -1.8
MILM *e*S **Sn** 14 25 00.0 -2.9
MILM *e*L L 14 25 55.0
MILM LgM 14 27 10.0
comp=Z,1µm,12.5s
MILM LRM MLR 14 27 19.0
MILM Milestii Mici 8.62 40 *e*P **Pn** 14 23 24.0 -1.8
MILM *e*S **Sn** 14 25 00.0 -2.9
MILM MLR MLR
comp=Z,700nm,9.3s
JAVC Velka Javorina 8.62 346 *e*PN **Pn** 14 23 26.1 +0.2
ABTA Abfaltersbach 8.65 319 *i* Pn **Pn** 14 23 26.1 -0.1
comp=Z,51nm,0.6s,SNR=16
ABTA *e*Sn **Sn** 14 25 01.5 -2.3
comp=Z,100nm,0.7s
CTI Castel Tesino 8.66 313 **Pn** 14 23 24.9 -1.5
CTI Castel Tesino 8.66 313 P **Pn** 14 23 24.9 -1.5
LANS Liptovska Anna 8.68 354 *e*P Pn 14 23 32.3 +5.8
LANS Liptovska Anna 8.68 354 *e*PN Pn 14 23 32.3 +5.8
LANS *e*PG **Pg** 14 24 06.8 -0.3
MOA Molln 8.70 329 *e*Pn **Pn** 14 23 28.3 +1.5
comp=Z,23nm,0.5s,SNR=21
MOA *i* Sn **Sn** 14 25 05.1 +0.3
comp=Z,19nm,0.6s
PRMA PARMA 8.82 302 Pn **Pn** 14 23 28.3 -0.1
BIOA Bad Ischl, Aus 8.82 327 *e*Pn **Pn** 14 23 30.3 +1.8
comp=Z,15nm,0.4s,SNR=12
BIOA *i* Sn **Sn** 14 25 08.8 +0.8
comp=Z,32nm,0.5s
STHS Stebnicka Huta 8.89 2 *e*P Pn 14 23 41.5 +12
NIE Niedzica 8.90 358 Pn **Pn** 14 23 32.9 +3.3
comp=Z,190nmcomp=Z,15nm,1.2s
KMPD K-Podol'skiy 8.99 25 Pn **Pn** 14 23 33.3 +2.5
LESA Schwarzleotal 9.05 322 *e*Pn **Pn** 14 23 32.4 +0.8
comp=Z,13nm,0.4s,SNR=8.9
LESA *e*Sn **Sn** 14 25 12.1 -1.4
comp=Z,31nm,0.5s
KRUC Moravsky 9.09 341 *e*PN **Pn** 14 23 31.9 -0.3
VRAC Vranov 9.27 343 *e*PN **Pn** 14 23 35.9 +1.2
VRAC Vranov 9.27 343 Pn **Pn** 14 23 35.9 +1.2
comp=Z,0.3nm,0.3s,baz=167,slow=15,SNR=11
VRAC Lg Lg 14 26 17.0
comp=Z,0.2nm,0.3s,baz=95,slow=22,SNR=1.3
comp=Z,8.5nm,0.8s
NDNU Novodnistrovsk 9.32 28 Pn **Pn** 14 23 38.1 +2.8
WTTA Wattenberg 9.44 319 *i* Pn **Pn** 14 23 37.3 +0.2
comp=Z,15nm,0.4s,SNR=12
WTTA *i* Sn **Sn** 14 25 20.1 -3.3
comp=Z,244nm,0.9s
CKRC Cesky Krumlov 9.49 333 *e*PN **Pn** 14 23 39.5 +1.8
CKRC AMS AMS 14 29 00.0
comp=Z,1µm,10.4s
CKRC Cesky Krumlov 9.49 333 *e*P **Pn** 14 23 39.5 +1.8
CKRC MLR MLR
comp=Z,1µm,10.4s
WATA Walderalm 9.52 319 *i* Pn **Pn** 14 23 39.3 +1.1
comp=Z,35nm,0.7s,SNR=13
WATA *i* Sn **Sn** 14 25 24.6 -0.6
comp=Z,117nm,0.8s
MORC Moravsky Berou 9.53 347 Pn **Pn** 14 23 39.0 +0.7
MORC Moravsky Berou 9.53 347 *e*PN **Pn** 14 23 39.4 +1.1
MORC Moravsky Berou 9.53 347 ⇑P **Pn** 14 23 39.4 +1.1
MORC Moravsky Berou 9.53 347 P **Pn** 14 23 39.0 +0.7
SQTA Sankt Quirin 9.63 317 *i* Pn **Pn** 14 23 40.5 +0.8
comp=Z,12nm,0.3s,SNR=10
SQTA *e*Sn **Sn** 14 25 28.0 +0.1
comp=Z,39nm,0.5s
GEC2 GERESS Array S 9.73 331 **Pn** 14 23 41.2 +0.2
GERES GERESS Array B 9.73 331 Pn **Pn** 14 23 40.9 -0.2
GERES GERESS Array B 9.73 331 Pn **Pn** 14 23 41.8 +0.7
comp=Z,0.1nm,0.3s,baz=155,slow=13,SNR=28
GERES Sn **Sn** 14 25 30.1 -0.3
comp=Z,0.2nm,0.3s,baz=153,slow=22,SNR=6.0
GERES LR LR 14 28 32.0
comp=Z,92nm,21.1s,baz=148,slow=44
comp=Z,14nm,0.8s
FETA Feichten 9.76 315 *e*Pn **Pn** 14 23 39.7 -1.8
comp=Z,18nm,0.8s,SNR=15
MOTA Moosalm 9.77 317 *e*Pn **Pn** 14 23 41.8 +0.2
comp=Z,52nm,0.8s,SNR=32
MOTA *e*Sn **Sn** 14 25 30.1 -1.2
comp=Z,64nm,1.0s
FUORN Ofenpass-Fuorn 9.78 312 **Pn** 14 23 41.3 -0.5
BR131 Keskin Array S 9.86 91 Pn **Pn** 14 23 42.9 0.0
BR131 Keskin Array S 9.86 91 ⇓*e*P **Pn** 14 23 44.3 +1.4
BRTR Keskin Array B 9.86 91 Pn **Pn** 14 23 44.0 +1.1
BRTR Keskin Array B 9.86 91 Pn **Pn** 14 23 44.4 +1.4
comp=Z,0.4nm,0.3s,baz=272,slow=13,SNR=8.0
BRTR Sn **Sn** 14 25 33.4 -0.3
comp=Z,0.2nm,0.3s,baz=283,slow=29,SNR=1.7
comp=Z,1.5nm,0.4s
BR104 Keskin Array S 9.87 91 Pn **Pn** 14 23 44.8 +1.8
comp=Z,50nmcomp=Z,5.6nm,0.9s
KRLC Kraliky 9.96 345 *e*PN **Pn** 14 23 47.5 +3.4
KRLC AMS AMS 14 28 20.0
comp=Z,700nm,9.1s
KRLC Kraliky 9.96 345 *e*P **Pn** 14 23 47.5 +3.4
KRLC MLR MLR
comp=Z,700nm,9.1s
KHC Kasperske Hory 10.01 332 *e*PN **Pn** 14 23 46.9 +2.0
KHC *e*SN **Sn** 14 25 37.2 0.0
KHC AMS AMS 14 29 30.0
comp=Z,1µm,9.2s
KHC Kasperske Hory 10.01 332 *ce*P **Pn** 14 23 46.8 +1.9
KHC pmax pmax
comp=Z,26nm,0.8s
KHC Kasperske Hory 10.01 332 Pn **Pn** 14 23 46.7 +1.9
comp=Z,384nmcomp=Z,31nm,1.0s
RETA Reutte 10.03 317 *i* Pn **Pn** 14 23 43.5 -1.7
comp=Z,2.2nm,0.2s
RETA *e*Sn **Sn** 14 25 36.0 -1.7
comp=Z,20nm,0.4s
DAVOX Davos/Dischmat 10.09 312 Pn **Pn** 14 23 46.6 +0.6
comp=Z,3.3nm,0.3s,baz=139,slow=16,SNR=25
DAVOX Sn **Sn** 14 25 37.5 -1.7
comp=Z,1.8nm,0.3s,baz=330,slow=20,SNR=8.0
DAVOX LR LR 14 28 36.0
comp=Z,248nm,20.5s,baz=118,slow=43
comp=Z,19nm,0.5s
KEST Kesra 10.22 246 Pn **Pn** 14 23 48.5 +0.7
KEST Kesra 10.22 246 Pn **Pn** 14 23 51.4 +3.7
comp=Z,0.2nm,0.3s,baz=34,slow=3.6,SNR=9.5
KEST LR LR 14 27 50.6
comp=Z,222nm,19.3s,baz=230,slow=38
TUE Stuetta 10.22 309 Pn **Pn** 14 23 46.9 -1.0
TUE Stuetta 10.22 309 Pn **Pn** 14 23 48.0 +0.1
comp=Z,2µmcomp=Z,195nm,1.0s
DPC Dobruska-Polom 10.31 344 *e*PN **Pn** 14 23 52.0 +3.0
DPC AMS AMS 14 28 20.0
comp=Z,1µm,9.5s
DPC Dobruska-Polom 10.31 344 *e*P **Pn** 14 23 52.0 +3.0
DPC MLR MLR
comp=Z,1µm,9.5s
DPC Dobruska-Polom 10.31 344 Pn **Pn** 14 23 50.8 +1.8
comp=Z,7.5nm,1.1s
DAVA Damuels 10.38 314 Pn **Pn** 14 23 51.1 +1.1
comp=Z,18nm,0.5s,SNR=13
LUBAR Lubar, Ukraine 10.59 25 Pn **Pn** 14 23 55.6 +2.9
SIM Simferopol' 10.74 61 *e*P **Pn** 14 23 54.5 -0.2
SIM pmax pmax
comp=Z,18nm,1.4s
SIM MLR MLR
comp=Z,110nm,14.0s
BRG Berggiesshubel 11.40 337 *e*P **Pn** 14 24 06.8 +3.0
BRG Amp 14 24 07.5
comp=Z,4.2nm,0.8s
BRG PP **PnPn** 14 24 14.3 +2.8
BRG Amp 14 24 14.7
comp=Z,13nm,1.3s
SENIN Lac Senin/Sane 11.42 305 Pn **Pn** 14 24 04.1 -0.1
AK14 Malin Array Si 11.65 27 Pn **Pn** 14 24 09.8 +2.6
AK05 Malin Array Si 11.67 27 Pn **Pn** 14 24 10.2 +2.7
AK12 Malin Array Si 11.68 27 Pn **Pn** 14 24 09.9 +2.4
AK17 Malin Array Si 11.68 27 Pn **Pn** 14 24 10.1 +2.5
AK01 Malin Array Si 11.73 27 Pn **Pn** 14 24 10.8 +2.4
KIEV Kiev 11.74 27 Pn **Pn** 14 24 09.3 +0.9
KIEV Kiev 11.74 27 P **Pn** 14 24 09.3 +0.9
KIEV Kiev 11.74 27 Pn **Pn** 14 24 11.4 +3.0
comp=Z,58nm,1.2s
AK22 Malin Array Si 11.74 27 Pn **Pn** 14 24 10.7 +2.2
AKASG Malin Array Be 11.75 27 Pn **Pn** 14 24 09.7 +1.1
comp=Z,0.4nm,0.3s,baz=214,slow=12,SNR=17
AKASG LR LR 14 29 22.6
comp=Z,221nm,21.5s,baz=220,slow=41
AKASG Malin Array Be 11.75 27 *i* P **Pn** 14 24 11.6 +3.1
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 11.75 27 Pn **Pn** 14 24 09.9 +1.3
AKBB Malin Array Si 11.75 27 ⇑*e*P **Pn** 14 24 10.4 +1.9
AKBB Malin Array Si 11.75 27 Pn **Pn** 14 24 10.4 +1.9
BFO Black Forest 11.84 315 Pn **Pn** 14 24 06.9 -2.9
BFO Black Forest 11.84 315 P **Pn** 14 24 06.9 -2.9
CLL Collm 12.07 336 Pn **Pn** 14 24 14.3 +1.4
CLL Collm 12.07 336 *i* P **Pn** 14 24 15.4 +2.5
CLL Collm 12.07 336 Pn **Pn** 14 24 15.4 +2.5
comp=Z,5.7nm,0.8s
CLL Collm 12.07 336 *i* Pn **Pn** 14 24 15.4 +2.5
CLL *ex* x 14 24 25.0
CLL *e*Pg P 14 25 07.0 +41
CLL *e*Sn Sn 14 26 06.0 -21
CLL *ex* x 14 26 51.0
CLL *e*Sb 14 27 15.0
CLL *e*Sg 14 27 42.0
CLL AMS AMS 14 29 00.0
ECH Echery 12.42 313 **Pn** 14 24 15.8 -1.9
ECH Echery 12.42 313 P **Pn** 14 24 15.8 -1.9
ANN Anapa 12.96 65 *e*P Pn 14 24 17.9 -7.2
ANN pmax pmax
comp=Z,68nm,1.0s
MMAI Mount Meron Ar 13.88 118 Pn **Pn** 14 24 36.9 -0.9
comp=Z,0.6nm,0.3s,baz=341,slow=9.9,SNR=4.2
MMAI LR LR 14 30 12.6
comp=Z,188nm,21.2s,baz=290,slow=38
comp=Z,1.0nm,0.4s
SOC Sochi 14.38 72 *e*P **Pn** 14 24 44.0 -0.5
SOC *e* 14 27 24.9
SOC MLR MLR
comp=Z,97nm,15.0s
BALJ Balqa 14.61 121 Pn **Pn** 14 24 48.8 +1.0
MNK Minsk 14.76 16 *i* P **Pn** 14 24 49.0 -0.7
comp=E,8.0nm,0.8s
MNK *i* P **Pn** 14 24 49.0 -0.7
comp=N,11nm,0.7s
MNK *i* P **Pn** 14 24 49.0 -0.7
comp=Z,9.0nm,0.8s,baz=202
MNK *i* PP **PnPn** 14 24 57.2 -0.4
MNK *i* PPP PPP 14 25 01.9
MNK *i* S **Sn** 14 27 32.3 -0.9
MNK *i* SS **SnSn** 14 27 47.2 +1.5
MNK *i* LQ LQ 14 28 43.2
MNK *i* LR LR 14 29 58.1
MNK *i* LRM MLR 14 30 44.3
comp=Z,86nm,13.1s
MNK *i* LRM MLR 14 30 56.6
comp=N,231nm,13.4s
MNK *i* LRM MLR 14 31 09.1
comp=E,177nm,14.0s
MNK Minsk 14.76 16 *i* P **Pn** 14 24 49.0 -0.7
MNK *i* S **Sn** 14 27 32.3 -0.9
MNK pmax pmax
comp=Z,9.0nm,0.8s
MNK pmax pmax
comp=N,11nm,0.7s
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK MLR MLR
comp=Z,86nm,13.0s
MNK MLR MLR
comp=N,231nm,13.0s
MNK MLR MLR
comp=E,177nm,14.0s
BGES Gesves 14.77 317 *d*P **Pn** 14 24 48.8 -1.0
NACGM Naroch 14.93 13 *e*P **P** 14 24 57.1 -0.4
GHAJ Ghor Haditha 15.07 123 Pn **Pn** 14 24 54.2 +0.2
GHAJ IAmb IAmb 14 25 20.4
comp=Z,32nm,1.1s
ERBR Yeremizino-Bor 15.26 64 *e*P **Pn** 14 24 56.0 -0.4
ERBR pmax pmax
comp=Z,25nm,0.8s
ASF Jabal al Asfar 15.40 118 Pn **Pn** 14 24 57.9 -0.5
comp=Z,0.3nm,0.3s,baz=265,slow=5.3,SNR=3.1
ASF LR LR 14 32 21.5
comp=Z,94nm,18.4s,baz=317,slow=43
comp=Z,0.9nm,0.3s
EIL Elat 15.83 129 Pn **Pn** 14 25 03.0 -1.0
comp=Z,0.8nm,0.3s,baz=306,slow=5.1,SNR=5.6
EIL LR LR 14 34 06.9
comp=Z,70nm,18.3s,baz=250,slow=49
comp=Z,7.3nm,0.8s
BLEU Blekinge 16.12 350 *i* P **P** 14 25 13.5 +2.7
SHA1 Shidzhatmaz 16.51 72⇑*e*P **P** 14 25 14.6 -0.9
VORD Divnogorie 16.55 45 *e*P **Pn** 14 25 13.9 +0.9
VORD pmax pmax
comp=Z,40nm,1.0s
KIV Kislovodsk 16.55 71 *e*P **P** 14 25 14.8 -1.0
KIV *e*S **Sn** 14 28 19.6 +2.7
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,25nm,14.0s
KVAR Kislovodsk Arr 16.56 71 Pn **Pn** 14 25 13.8 +0.5
comp=Z,1.8nm,0.3s,baz=22,slow=14,SNR=1.2
DEL Delary 16.59 346 *i* P **P** 14 25 16.2 +0.2
VSR Storozhevoye 16.61 44 *e*P **Pn** 14 25 14.2 +0.4
VSR pmax pmax
comp=Z,20nm,1.1s
KBZ Khabaz 16.69 72 Pn **P** 14 25 19.5 +2.4
comp=Z,0.2nm,0.3s,baz=282,slow=13,SNR=13
KBZ Khabaz 16.69 72⇑*e*P **P** 14 25 17.6 +0.5
VORR Voronezh 16.89 43 *e*P **Pn** 14 25 16.9 -0.4
VORR pmax pmax
comp=Z,20nm,0.9s
LPSR Galich'ya Gora 17.29 40 *e*P **P** 14 25 24.2 +0.4
LPSR pmax pmax
comp=Z,40nm,1.0s
GEVA Gevas 17.33 90 Pn **Pn** 14 25 23.4 +0.3
OBN Obninsk 17.96 30 Pn **P** 14 25 31.8 +0.7
comp=Z,27nm,0.4s,baz=336,slow=23,SNR=12
OBN Obninsk 17.96 30⇑*e*P **P** 14 25 31.5 +0.4
OBN S **Sn** 14 28 50.0 -0.7
OBN pmax pmax
comp=Z,62nm,1.0s
OBN MLR MLR
comp=Z,77nm,18.0s
VRH Novokhopyorsk 17.99 47 *e*P **Pn** 14 25 31.1 +0.1
VRH pmax pmax
comp=Z,10.0nm,1.0s
GNI Garni 18.24 83 **P** 14 25 34.5 -0.1
GNI Garni 18.24 83 P **P** 14 25 36.3 +1.8
comp=Z,20nm,1.0s,baz=188,slow=5.1,SNR=9.9
GNI Garni 18.24 83 *ce*P **P** 14 25 37.8 +3.2
GNI pmax pmax
comp=Z,40nm,1.9s
VSU Vasula 18.35 10⇑*e*P **Pn** 14 25 34.6 -0.7
VSU pmax pmax
comp=Z,32nm,0.9s
VSU Vasula 18.35 10 *e*P **P** 14 25 35.6 +0.2
MOS Moscow 18.83 30 *e*P **Pn** 14 25 41.9 +0.7
MOS pmax pmax
comp=Z,113nm,1.2s
ESBB Sonseca Array 18.96 275 P **P** 14 25 40.9 -1.4
ESDC Sonseca Array 18.96 275 P **Pn** 14 25 42.9 -0.1
comp=Z,0.1nm,0.3s,baz=77,slow=11,SNR=32
ESDC LR LR 14 33 13.4
comp=Z,120nm,18.7s,baz=52,slow=38
comp=Z,6.9nm,0.8s
ARBE Arbavere 19.21 8 *e*P **Pn** 14 25 48.6 +2.9
PAB San Pablo 19.27 275 P **P** 14 25 45.8 0.0
PAB San Pablo 19.27 275 P **P** 14 25 45.8 0.0
PAB pmax pmax
comp=Z,11nm,0.9s
MEF Metsahovi 19.84 5 *e*P **P** 14 25 52.0 +0.4
MAK Makhachkala 20.04 74 *e*P **P** 14 25 48.8 -5.2
MAK *e*S **S** 14 29 31.5 -7.6
MAK pmax pmax
comp=Z,191nm,1.4s
MAK MLR MLR
comp=Z,108nm,12.0s
HFS Hagfors 20.12 350 P **P** 14 25 55.0 +0.2
comp=Z,15nm,0.8s,baz=161,slow=9.4,SNR=14
HFS LR LR 14 35 17.8
comp=Z,98nm,19.4s,baz=176,slow=42
comp=Z,15nm,0.8s
AKT Akhty 20.32 78 *e*P Pn 14 25 58.6 -0.6
AKT *e* 14 26 15.4
AKT *e*PPP PPP 14 26 23.8
AKT pmax pmax
comp=Z,59nm,1.0s
RAF Rauma 20.53 1 *e*P **P** 14 25 59.8 +0.6
PBRG Braganca 20.75 283 *e*P Pn 14 26 05.6 +1.4
NC602 NORSAR Array S 21.03 347 P **P** 14 26 03.9 -0.7
NC602 IAmb IAmb 14 26 07.1
comp=Z,28nm,1.0s
NC602 NORSAR Array S 21.03 347 *e*P **P** 14 26 04.3 -0.3
MVO Moncorvo 21.04 281 *e*P **P** 14 26 07.0 +2.0
FINES FINESS Array B 21.19 7 P **P** 14 26 05.2 -1.2
FINES FINESS Array B 21.19 7 P **P** 14 26 05.3 -1.0
comp=Z,5.7nm,0.6s,baz=170,slow=12,SNR=21
comp=Z,5.7nm,0.6s
FIA1 FINESS Array S 21.19 7 P **P** 14 26 05.0 -1.4
NAO01 NORSAR Array S 21.25 347 P **P** 14 26 05.8 -1.1
NAO01 IAmb IAmb 14 26 14.8
comp=Z,19nm,0.8s
NC405 NORSAR Array S 21.36 348 **P** 14 26 06.9 -1.3
NC405 IAmb IAmb 14 26 11.9
comp=Z,34nm,0.9s
NB201 NORSAR Array S 21.37 347 P **P** 14 26 06.7 -1.6
NB201 IAmb IAmb 14 26 37.9
comp=Z,50nm,1.4s
NB2 NORSAR Subarra 21.37 347 P **P** 14 26 07.6 -0.7
comp=Z,11nm,0.7s,baz=162,slow=11
NOA NORSAR Array B 21.37 347 P **P** 14 26 08.1 -0.2
comp=Z,8.1nm,1.0s,baz=153,slow=9.9,SNR=18
NOA LR LR 14 35 10.0
comp=Z,70nm,20.6s,baz=170,slow=39
comp=Z,8.1nm,1.0s
NBO00 NORSAR Array S 21.44 347 P **P** 14 26 08.3 -0.7
NBO00 IAmb IAmb 14 26 17.3
comp=Z,31nm,0.8s
NC303 NORSAR Array S 21.52 348 P **P** 14 26 08.8 -1.1
POLO Lamas de Olo 21.59 282 *e*P **P** 14 26 14.2 +3.3
PMRV Marv??o 21.61 276 *e*P **P** 14 26 11.2 +0.2
SKAR Skarslia 21.61 343 *e*P **P** 14 26 12.4 +1.5
PBAR Barrancos 21.63 273 *e*P **P** 14 26 10.9 -0.4
PBAR *i* IAmb IAmb 14 26 23.0
comp=Z,46nm,1.6s
NC204 NORSAR Array S 21.67 347 P **P** 14 26 11.1 -0.5
NC204 IAmb IAmb 14 26 18.8
comp=Z,32nm,1.2s
EKA Eskdalemuir Ar 21.69 321 P **P** 14 26 11.8 +0.1
comp=Z,21nm,0.8s,baz=123,slow=9.8,SNR=27
comp=Z,21nm,0.8s
ESK Eskdalemuir 21.70 321 *e*P **P** 14 26 13.6 +1.7
MDT Midelt 21.74 257 P **P** 14 26 13.1 +0.5
comp=Z,10.0nm,0.7s,baz=79,slow=5.6,SNR=6.2
comp=Z,10.0nm,0.7s
KEF Keuruu 21.81 5 *e*P **P** 14 26 13.6 +0.6
BELG Belogornoye 21.82 48 P **P** 14 26 13.4 +0.4
comp=Z,27nm,0.9s,baz=255,slow=2.4,SNR=8.2
BELG LR LR 14 35 12.4
comp=Z,111nm,19.0s,baz=240,slow=38
comp=Z,27nm,0.9s
BELG Belogornoye 21.82 48 *ce*P **P** 14 26 13.9 +0.8
BELG pmax pmax
comp=Z,6.0nm,1.1s
MD31 MD31 21.83 258 P **P** 14 26 12.3 -1.2
PGAV Gavieira, Arco 21.87 283 *e*P **P** 14 26 15.5 +1.5
TAM Tamanrasset 21.89 221 P **P** 14 26 14.6 +0.2
TAM Tamanrasset 21.89 221 P **P** 14 26 14.6 +0.2
TAM pmax pmax
comp=Z,141nm,0.2s
PSARD Sardoal 22.16 277 *e*P **P** 14 26 16.7 -0.3
PMTG Montargil 22.32 276 *e*P **P** 14 26 17.4 -1.2
PVAQ Vaqueiros 22.36 271 P **P** 14 26 17.8 -1.3
PVAQ Vaqueiros 22.36 271 *e*P **P** 14 26 18.7 -0.4
PVAQ *i* IAmb IAmb 14 26 26.2
comp=Z,62nm,1.5s
PCVE Castro Verde 22.54 272 *e*P **P** 14 26 21.3 +0.3
PCVE *i* IAmb IAmb 14 26 22.3
comp=Z,43nm,1.6s
PBDV Barranco-do-Ve 22.57 271 *e*P **P** 14 26 21.4 +0.1
MESJ Messejana 22.62 273 *e*P **P** 14 26 22.7 +0.8
PARRA Arraiolos 22.99 275 *e*P P 14 26 16.5 -9.3
JOF Joensuu 23.29 12 *e*P **P** 14 26 29.4 +0.8
KLMR Klimovskoe 23.39 23 *e*P **P** 14 26 28.7 -0.9
KLMR pmax pmax
comp=Z,47nm,1.3s
NSS Namsos 24.59 351 *e*P **P** 14 26 42.0 +1.2
KIRV Kirov 25.59 35 LR LR 14 37 24.7
comp=Z,117nm,21.3s,baz=233,slow=38
KIRV Kirov 25.59 35 *ce*P **P** 14 26 50.9 +0.9
MOR8 Moi Rana 25.94 354 *e*P **P** 14 26 55.4 +2.2
LEIR Leirfjorden 26.00 353 *e*P **P** 14 26 57.2 +3.6
RAYN Ar Rayn 26.80 122 P **P** 14 27 00.8 -0.6
RAYN Ar Rayn 26.80 122 P **P** 14 27 00.8 -0.6
RAYN pmax pmax
comp=Z,5.0nm,1.1s
AKTO Aktyubinsk 27.64 56 LR LR 14 39 19.1
comp=Z,121nm,21.9s,baz=174,slow=39
KTK1 Kautokeino 28.57 2 *e*P **P** 14 27 17.8 +1.0
AB31 Akbulak array 28.79 59 P **P** 14 27 18.4 -0.5
ARTI Arti 29.08 44 LR LR 14 40 19.5
comp=Z,82nm,18.1s,baz=250,slow=39
ARTI Arti 29.08 44 *c i*P **P** 14 27 20.6 -0.8
ARTI 14 28 10.4
ARTI 14 30 27.9
ARTI S **S** 14 32 14.1 +1.4
ARTI pmax pmax
comp=Z,6.0nm,1.0s
ARA0 ARCESS Array S 29.18 3 *e*P **P** 14 27 22.9 +0.8
ARCES ARCESS Array B 29.18 3 P **P** 14 27 20.5 -1.6
comp=Z,1.9nm,0.6s,baz=187,slow=8.6,SNR=13
ARCES LR LR 14 38 37.3
comp=Z,43nm,18.9s,baz=197,slow=36
comp=Z,1.9nm,0.6s
TRO Tromso 29.19 359 *e*P **P** 14 27 21.6 -0.6
VADS Vadso 29.99 6 *e*P **P** 14 27 28.6 -0.6
SVE Sverdlovsk 30.40 44 *e*P **P** 14 27 33.1 +0.1
SVE pmax pmax
comp=Z,12nm,1.0s
TORD Torodi Ar. Bea 32.02 217 P **P** 14 27 48.1 +0.4
TORD IAmb IAmb 14 27 57.6
comp=Z,9.6nm,1.2s
TORD Torodi Ar. Bea 32.02 217 P **P** 14 27 47.6 -0.1
comp=Z,7.0nm,0.8s,baz=33,slow=8.8,SNR=9.0
comp=Z,7.0nm,0.8s
JMIC Jan Mayen 33.97 343 LR LR 14 42 44.2
comp=Z,30nm,18.3s,baz=188,slow=38
BORG Borgarnes 34.19 329 LR LR 14 45 05.5
comp=Z,61nm,19.1s,baz=129,slow=42
BRVK Borovoye 35.41 52 P **P** 14 28 16.2 -0.6
BRVK IAmb IAmb 14 28 23.0
comp=Z,7.1nm,0.8s
BRVK Borovoye 35.41 52 ⇓*e*P **P** 14 28 16.7 -0.1
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BVAR Borovoye Array 35.47 52 P **P** 14 28 17.5 +0.1
comp=Z,2.1nm,0.8s,baz=257,slow=7.6,SNR=8.7
BVAR LR LR 14 42 35.3
comp=Z,78nm,20.5s,baz=272,slow=36
comp=Z,2.1nm,0.8s
SPITS Spitsbergen Ar 37.81 359 P **P** 14 28 37.0 0.0
comp=Z,4.1nm,0.9s,baz=175,slow=9.4,SNR=5.3
SPITS PcP **PcP** 14 30 53.5 +0.2
comp=Z,2.6nm,0.7s,baz=165,slow=4.4,SNR=1.3
comp=Z,4.1nm,0.9s
SPITS Spitsbergen Ar 37.81 359 P **P** 14 28 37.0 0.0
LODK Lodwar 39.21 157 P **P** 14 28 50.0 +0.5
LODK IAmb IAmb 14 28 52.0
comp=Z,11nm,0.9s
AAK Ala-Archa 39.65 69 LR LR 14 50 14.0
comp=Z,34nm,18.2s,baz=264,slow=44
KURBB Kurchatov Arra 40.69 56 P **P** 14 29 00.5 -0.9
comp=Z,1.1nm,0.8s,baz=279,slow=8.7,SNR=4.9
KURBB PcP **PcP** 14 31 02.6 -0.2
comp=Z,1.2nm,0.9s,baz=284,slow=4.1,SNR=5.2
KURBB LR LR 14 45 55.3
comp=Z,62nm,20.9s,baz=174,slow=36

	comp=Z,1.1nm,0.8s									
KURK	**Kurchatov**	**40.73**	**56**	ǁ	*e*P		**P**	**14 29 04.0**	**+2.3**	
KURK					pmax	pmax				
	comp=Z,1.0nm,0.7s									
DBIC	**Dimbokro**	**40.79**	**221**		P		**P**	**14 29 03.5**	**+1.0**	
	comp=Z,5.7nm,0.8s,baz=48,slow=8.0,SNR=4.0									
DBIC					LR		LR	14 47 15.0		
	comp=Z,63nm,18.0s,baz=68,slow=38									
	comp=Z,5.7nm,0.8s									
KSH	**Kashi**	**41.67**	**73**		P		**P**	**14 29 07.8**	**-1.9**	
KSH					pmax	pmax				
	comp=Z,5.0nm,1.4s									
MAKZ	**Makanchi**	**43.70**	**61**		P		**P**	**14 29 25.8**	**-0.3**	
MAKZ	**Makanchi**	**43.70**	**61**		P		**P**	**14 29 25.8**	**-0.3**	
MAKZ					pmax	pmax				
	comp=Z,2.0nm,0.9s									
MK31	**Makanchi Array**	**43.92**	**61**	*c*	*e*P		**P**	**14 29 27.0**	**-0.8**	
MKAR	**Makanchi Array**	**43.92**	**61**		P		**P**	**14 29 26.9**	**-0.8**	
MKAR	**Makanchi Array**	**43.92**	**61**		P		**P**	**14 29 27.1**	**-0.6**	
	comp=Z,3.6nm,0.7s,baz=280,slow=6.5,SNR=31									
MKAR					PcP		**PcP**	**14 31 13.4**	**-0.2**	
	comp=Z,1.0nm,0.8s,baz=287,slow=3.5,SNR=1.9									
MKAR					ScP		**ScP**	**14 35 04.5**	**-0.8**	
	comp=Z,0.3nm,0.6s,baz=284,slow=5.8,SNR=3.1									
MKAR					LR		LR	14 48 56.3		
	comp=Z,93nm,20.3s,baz=281,slow=38									
	comp=Z,3.6nm,0.7s									
ZALV	**Zalesovo Beam**	**43.98**	**50**		P		**P**	**14 29 26.8**	**-1.4**	
ZALV	**Zalesovo Beam**	**43.98**	**50**		P		**P**	**14 29 27.8**	**-0.3**	
	comp=Z,2.8nm,0.5s,baz=275,slow=8.1,SNR=10									
ZALV					LR		LR	14 48 57.4		
	comp=Z,82nm,18.6s,baz=269,slow=38									
	comp=Z,2.8nm,0.5s									
KMBO	**Kilima Mbogo**	**44.09**	**156**	*d*	*e*P		**P**	**14 29 31.2**	**+1.6**	
KIBK	**Kibwezi**	**45.48**	**155**		P		**P**	**14 29 40.9**	**+0.3**	
KIBK					IAmb	IAmb		14 29 42.9		
	comp=Z,13nm,1.2s									
SFJD	**Kangerlussuaq**	**46.32**	**329**		LR		LR	14 50 16.9		
	comp=Z,72nm,18.8s,baz=86,slow=38									
WMQ	**Urumqi**	**48.45**	**63**		*e*P		**P**	**14 30 04.5**	**+0.9**	
WMQ					pmax	pmax				
	comp=Z,36nm,0.9s									
WMQ					LR	LR				
	comp=N,190nm,13.7s									
WMQ					LR	LR				
	comp=Z,120nm,21.5s									
FRB	**Frobisher Bay**	**54.30**	**327**		LR		LR	14 54 55.3		
	comp=Z,120nm,18.4s,baz=84,slow=37									
EVN	**Everest**	**54.83**	**81**		P		**P**	**14 30 50.9**	**-1.3**	
LSZ	**Lusaka**	**55.94**	**171**		LR		LR	14 55 56.7		
	comp=Z,61nm,18.1s,baz=306,slow=37									
SCHQ	**Schefferville**	**56.90**	**316**		P		**P**	**14 31 05.7**	**-0.2**	
	comp=Z,4.9nm,0.7s,baz=54,slow=4.4,SNR=5.8									
SCHQ					LR		LR	14 55 05.3		
	comp=Z,58nm,18.9s,baz=89,slow=36									
	comp=Z,4.9nm,0.7s									
LSA	**Lhasa**	**57.17**	**77**		P		**P**	**14 31 07.4**	**-1.3**	
LSA					IAmb	IAmb		14 31 08.7		
	comp=Z,6.5nm,1.0s									
LSA	**Lhasa**	**57.17**	**77**		P		**P**	**14 31 07.4**	**-1.3**	
LSA					pmax	pmax				
	comp=Z,7.0nm,1.0s									
GTA	**Gaotai**	**58.54**	**63**		*e*P		**P**	**14 31 17.0**	**-0.7**	
GTA					sP		sP	14 31 25.5	+2.5	
GTA					pmax	pmax				
	comp=Z,2.0nm,1.0s									
SONM	**Songino Array**	**58.81**	**52**		P		**P**	**14 31 18.7**	**-0.8**	
SONM	**Songino Array**	**58.81**	**52**		P		**P**	**14 31 18.6**	**-0.8**	
	comp=Z,1.7nm,0.9s,baz=281,slow=8.3,SNR=7.6									
	comp=Z,1.7nm,0.9s									
SONM	**Songino Array**	**58.81**	**52**		P		**P**	**14 31 18.7**	**-0.8**	
SONM					pmax	pmax				
	comp=Z,5.0nm,1.4s									
ULN	**Ulaanbaatar**	**59.19**	**51**	*c*	*e*P		**P**	**14 31 23.4**	**+1.2**	
ULN					pmax	pmax				
	comp=Z,2.0nm,1.1s									
SHL	**Shillong**	**59.93**	**81**		P		**P**	**14 31 25.9**	**-1.7**	
SHL	**Shillong**	**59.93**	**81**		P		**P**	**14 31 25.9**	**-1.7**	
SHL					pmax	pmax				
	comp=Z,19nm,1.3s									
YAK	**Yakutsk**	**62.96**	**30**	ǁ	*e*P		**P**	**14 31 46.6**	**-0.7**	
YAK					pmax	pmax				
	comp=Z,10.0nm,0.6s									
LZH	**Lanzhou**	**62.97**	**65**		*e*P		**P**	**14 31 52.0**	**+4.0**	
LZH					sP		sP	14 31 59.8	+6.5	
LZH					pmax	pmax				
	comp=Z,18nm,1.1s									
MREMI	**Moremi**	**63.07**	**173**		P		**P**	**14 31 48.6**	**+0.1**	
LPHEP	**Lephephe**	**63.73**	**175**		P		**P**	**14 31 53.4**	**+0.5**	
HHC	**Hu-ho-hao-te**	**65.54**	**56**		*e*P		**P**	**14 32 05.5**	**+0.8**	
HHC					pmax	pmax				
	comp=Z,17nm,0.6s									
HHC					pmax	pmax				
	comp=Z,71nm,4.1s									
PZH	**PanZhiHua**	**66.74**	**74**		P		**P**	**14 32 12.3**	**-0.4**	
PZH					pmax					
	comp=Z,10.0nm,0.6s									
XAN	**Xi'an**	**67.57**	**64**		P		**P**	**14 32 19.0**	**+1.2**	
XAN					pmax	pmax				
	comp=Z,11nm,1.2s									
KMI	**Kunming**	**68.27**	**75**		P		P	14 32 28.5	+6.0	
KMI					pmax	pmax				
	comp=Z,11nm,0.8s									
BOSA	**Boshof**	**68.91**	**176**		P		**P**	**14 32 26.7**	**+0.6**	
	comp=Z,7.9nm,0.7s,baz=352,slow=6.8,SNR=17									
	comp=Z,7.9nm,0.7s									
HEH	**HeiHe**	**69.11**	**41**		*e*P		**P**	**14 32 26.5**	**-0.6**	
HEH					pmax	pmax				
	comp=Z,6.0nm,1.0s									
CMAR	**Chiang Mai Arr**	**69.36**	**83**		P		**P**	**14 32 27.9**	**-1.2**	
	comp=Z,0.7nm,0.6s,baz=310,slow=7.7,SNR=4.4									
	comp=Z,0.7nm,0.6s									
YKA	**Yellowknife Ar**	**71.26**	**340**		P		**P**	**14 32 40.3**	**+0.3**	
	comp=Z,1.4nm,0.9s,baz=29,slow=5.9,SNR=6.9									
	comp=Z,1.4nm,0.9s									
YKA	**Yellowknife Ar**	**71.26**	**340**	*i*	P		**P**	**14 32 40.2**	**+0.2**	
YKA					pmax	pmax				
	comp=Z,1.0nm,0.9s									
G29M	**Pine Creek**	**71.67**	**351**		P		**P**	**14 32 42.5**	**0.0**	
G29M					IAmb	IAmb		14 32 57.9		
	comp=Z,4.8nm,0.9s									
EPYK	**Eagle Plains**	**72.03**	**351**		P		**P**	**14 32 46.0**	**+1.3**	
EPYK					IAmb	IAmb		14 32 49.7		
	comp=Z,4.8nm,0.9s									
MA2	**Magadan**	**72.06**	**24**		P		**P**	**14 32 45.4**	**+0.5**	
	comp=Z,6.8nm,1.5s									
H29M	**Whitestone**	**72.38**	**351**				**P**	**14 32 46.1**	**-0.6**	
I30M	**Mount Dempster**	**73.09**	**350**				**P**	**14 32 50.9**	**-0.2**	
I30M					IAmb	IAmb		14 33 05.6		
	comp=Z,4.3nm,1.0s									
I28M	**Miner Creek**	**73.30**	**352**				**P**	**14 32 52.0**	**-0.3**	
IMAR	**Indian Mountai**	**73.74**	**358**		P		**P**	**14 32 55.1**	**+0.4**	
J26L	**Joseph Creek**	**74.59**	**353**				**P**	**14 32 60.0**	**+0.1**	
ILAR	**Eielson Array**	**74.59**	**355**		P		**P**	**14 33 00.2**	**+0.5**	
ILAR	**Eielson Array**	**74.59**	**355**		P		**P**	**14 33 00.8**	**+1.1**	
	comp=Z,0.8nm,0.8s,baz=358,slow=4.5,SNR=8.1									
	comp=Z,0.8nm,0.8s									
ILAR	**Eielson Array**	**74.59**	**355**		P		**P**	**14 33 00.2**	**+0.5**	
NJ2	**Nanjing**	**75.45**	**60**		*e*P		**P**	**14 33 05.0**	**-0.2**	
NJ2					pmax	pmax				
	comp=Z,14nm,0.5s									
DOT	**Dot Lake**	**75.47**	**353**		P		**P**	**14 33 04.7**	**-0.2**	
DOT					IAmb	IAmb		14 33 11.6		
	comp=Z,3.8nm,0.8s									
BCAR	**Beaver Creek A**	**75.82**	**352**		P		**P**	**14 33 07.7**	**+0.8**	
CAST	**Castle Rocks**	**76.24**	**357**				**P**	**14 33 09.9**	**+0.6**	
J18K	**Innoko River**	**76.33**	**359**				**P**	**14 33 10.3**	**+0.5**	
J18K					IAmb	IAmb		14 33 18.2		
	comp=Z,4.1nm,0.9s									
PPLA	**Purkeypile**	**76.77**	**357**		P		**P**	**14 33 12.9**	**+0.5**	
PPLA					IAmb	IAmb		14 33 20.1		
	comp=Z,5.2nm,0.7s									
KSAR	**Wonju Array Be**	**77.66**	**51**		P		**P**	**14 33 16.6**	**-1.0**	
KSAR	**Wonju Array Be**	**77.66**	**51**		P		**P**	**14 33 16.6**	**-1.0**	
KSRS	**Korea Array**	**77.67**	**51**		P		**P**	**14 33 17.1**	**-0.6**	
	comp=Z,4.6nm,0.9s,baz=314,slow=4.8,SNR=12									
	comp=Z,4.6nm,0.9s									
R33M	**Jennings River**	**77.73**	**346**				**P**	**14 33 18.6**	**+0.8**	
R33M					IAmb	IAmb		14 33 20.6		
	comp=Z,4.3nm,0.9s									
GRNC	**Granite Creek**	**78.09**	**351**		P		**P**	**14 33 19.4**	**-0.5**	
GRNC					IAmb	IAmb		14 33 26.8		
	comp=Z,7.2nm,0.9s									
PWL	**Port Wells**	**78.58**	**355**		P		**P**	**14 33 22.3**	**-0.1**	
PWL					IAmb	IAmb		14 33 30.0		
	comp=Z,5.8nm,0.7s									
YSS	**Yuzhno-Sakhali**	**78.74**	**36**		*e*P		**P**	**14 33 23.2**	**-0.2**	
YSS					pmax	pmax				
	comp=Z,20nm,1.0s									
ECSD	**EROS Data Cent**	**78.96**	**319**		P		**P**	**14 33 24.6**	**-0.2**	
ECSD					IAmb	IAmb		14 33 26.1		
	comp=Z,5.3nm,0.9s									
PETK	**Petropavlovsk-**	**79.58**	**25**		P		**P**	**14 33 28.2**	**+0.3**	
	comp=Z,1.0nm,0.9s,baz=325,slow=3.5,SNR=4.1									
	comp=Z,1.0nm,0.9s									
R40A	**Maddies Statio**	**80.54**	**313**		P		**P**	**14 33 32.8**	**-0.6**	
R40A					IAmb	IAmb		14 33 44.1		
	comp=Z,5.8nm,0.9s									
LAO	**LASA Array**	**81.17**	**326**		P		**P**	**14 33 37.5**	**+0.7**	
EGMT	**Eagleton**	**81.55**	**329**				**P**	**14 33 39.2**	**+0.5**	
RSSD	**Black Hills**	**82.22**	**323**		P		**P**	**14 33 42.5**	**0.0**	
RSSD					IAmb	IAmb		14 33 44.3		
	comp=Z,6.6nm,1.1s									
RSSD	**Black Hills**	**82.22**	**323**		P		**P**	**14 33 42.5**	**0.0**	
RSSD					pmax	pmax				
	comp=Z,7.0nm,1.2s									
NEW	**Newport**	**84.06**	**333**		P		**P**	**14 33 51.9**	**+0.2**	
	comp=Z,3.0nm,0.6s,baz=73,slow=14,SNR=5.2									
	comp=Z,3.0nm,0.6s									
YNE	**Yellowstone No**	**84.10**	**327**		P		**P**	**14 33 53.1**	**+0.9**	
MJAR	**Matsushiro Arr**	**84.19**	**46**		P		**P**	**14 33 51.7**	**-0.8**	
	comp=Z,4.6nm,1.0s,baz=311,slow=5.4,SNR=6.8									
	comp=Z,4.6nm,1.0s									
BDFB	**Brasilia**	**84.73**	**244**		P		**P**	**14 33 55.5**	**0.0**	
	comp=Z,1.7nm,0.4s,baz=33,slow=9.8,SNR=3.0									
	comp=Z,1.7nm,0.4s									
PDAR	**Pinedale Array**	**85.73**	**326**		P		**P**	**14 33 59.5**	**-1.0**	
PDAR	**Pinedale Array**	**85.73**	**326**		P		**P**	**14 34 00.6**	**0.0**	
	comp=Z,1.2nm,0.7s,baz=41,slow=5.5,SNR=9.5									
	comp=Z,1.2nm,0.7s									
BRDY	**Brady**	**89.42**	**312**		P		**P**	**14 34 18.9**	**+0.7**	
BRDY					IAmb	IAmb		14 34 20.3		
	comp=Z,6.5nm,1.0s									
ELK	**Elko**	**89.78**	**328**		P		**P**	**14 34 20.2**	**+0.2**	
	comp=Z,1.6nm,1.0s,baz=56,slow=5.0,SNR=4.9									
	comp=Z,1.6nm,1.0s									
OZNA	**Ozona**	**90.89**	**313**		P		**P**	**14 34 25.8**	**+0.7**	
TXAR	**Lajitas Array**	**93.51**	**314**		P		**P**	**14 34 37.4**	**+0.1**	
TXAR	**Lajitas Array**	**93.51**	**314**		P		**P**	**14 34 37.1**	**-0.1**	
	comp=Z,2.9nm,0.9s,baz=72,slow=4.1,SNR=24									
	comp=Z,2.9nm,0.9s									
WRA	**Warramunga Arr**	**120.38**	**91**		PKP		**PKPdf**	**14 40 11.8**	**-1.0**	
	comp=Z,0.6nm,0.7s,baz=316,slow=2.0,SNR=5.4									
ASAR	**Alice Springs**	**122.17**	**95**		PKP		**PKPdf**	**14 40 15.4**	**-0.7**	
	comp=Z,3.9nm,0.6s,baz=310,slow=1.6,SNR=76									
QSPA	**South Pole Qui**	**130.38**	**180**		PKP		**PKPdf**	**14 40 29.4**	**-1.1**	
	comp=Z,3.1nm,1.1s,baz=248,slow=1.9,SNR=5.3									
STKA	**Stephens Creek**	**132.23**	**99**		PKP		**PKPdf**	**14 40 34.3**	**-0.8**	
	comp=Z,2.9nm,0.6s,baz=309,slow=4.3,SNR=6.3									

TIR ***31*** *14:28:24.5,40˚.52N×20˚.79E,h13km,Md2.5/9,Ml3.5/1*
SKO ***31*** *14:28:26.1,40˚.47N×20˚.82E,h5km,ML3.2*
PDG ***31*** *14:28:27.0±0.6,40˚.60N×20˚.94E,h13km±1km,ML3.4/10, Error ellipse: s-maj=0.9km s-min=1.4km az=0.0*
THE ***31*** *14:28:27.1,41˚.N±1˚×2˚1E±˚,h0km±2km,M3.2/29, MLh3.2/29*
ATH ***31*** *14:28:27.1,40˚.54N×20˚.93E,h6km±1km,ML3.3/32, Manual Solution by G.Panopoulou First location: 2019/07/31 14:29:48, This location: 2021/06/05 20:39:42 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
BEO ***31*** *14:28:27.0±0.3,40˚.50N×20˚.94E,h14km±3km,ML3.0/7*

ISC 31 14:28:26.1±0.9, 40˚.54N±0˚.01×20˚.89E±0˚.02, h5km±8km, n145,σ1§15/199, 20C-7D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBN	**Korca**	**0.11**	**317**	Pg	**Pg**	**14 28 27.2**	**-1.2**
KBN				Sg	**Sg**	**14 28 29.4**	**-0.6**
KBN				AMd		14 29 22.3	
NEST	**Nestorio**	**0.18**	**136**	Pg	**Pg**	**14 28 29.6**	**0.0**
NEST				Sg	**Sg**	**14 28 33.5**	**+1.5**
NEST				AML	AML	14 28 34.9	
	39nm,0.3s						
NEST				AMd		14 29 10.7	
NEST	**Nestorio**	**0.18**	**136**	P	**Pg**	**14 28 30.6**	**+0.9**
NEST				S	**Sg**	**14 28 33.9**	**+1.9**
NEST	**Nestorio**	**0.18**	**136**	P	**Pg**	**14 28 30.6**	**+0.9**
NEST				S	**Sg**	**14 28 33.2**	**+1.2**
LMS2	**Laimos Florina**	**0.35**	**34**	P	**Pg**	**14 28 33.6**	**+0.6**
LMS2				S	**Sg**	**14 28 38.8**	**+1.3**
PENT	**Pentalofos**	**0.40**	**151**	P	**Pg**	**14 28 33.8**	**0.0**
PENT				S	**Sb**	**14 28 40.6**	**-1.6**
PENT	**Pentalofos**	**0.40**	**151**	P	**Pg**	**14 28 33.8**	**0.0**
PENT				S	**Sg**	**14 28 39.5**	**+0.5**
FNA	**Florina**	**0.44**	**57**	Pg	**Pg**	**14 28 35.2**	**+0.5**
FNA				Sg	**Sb**	**14 28 43.1**	**-0.4**
FNA				AMd		14 29 21.6	
FNA	**Florina**	**0.44**	**57**	P	**Pg**	**14 28 35.5**	**+0.9**
FNA				S	**Sb**	**14 28 42.6**	**-0.9**
FNA	**Florina**	**0.44**	**57**	*i* Pg	**Pg**	**14 28 35.6**	**+0.9**
FNA				*i* Sg	**Sb**	**14 28 43.9**	**+0.4**
FNA	**Florina**	**0.44**	**57**	*e*Pg	**Pg**	**14 28 35.6**	**+0.9**
FNA				*e*Sg	**Sb**	**14 28 43.6**	**+0.1**
FNA	**Florina**	**0.44**	**57**	P	**Pg**	**14 28 35.6**	**+0.9**
FNA				S	**Sg**	**14 28 40.8**	**+0.3**
OHR	**Ohrid**	**0.57**	**353**	*i* Pg	**Pg**	**14 28 37.8**	**+0.7**
OHR				*i* Sg	**Sb**	**14 28 47.1**	**0.0**
OHR				*e*Lg	Lg	14 28 47.4	
	comp=E,892nm,0.6s						
OHR				*e*Lg	Lg	14 28 48.7	
	comp=N,641nm,0.4s						
KZN	**Kozani**	**0.72**	**109**	P	**Pg**	**14 28 40.2**	**+0.4**
KZN				S	**Sg**	**14 28 49.6**	**+0.5**
SRN	**Sarande**	**0.95**	**226**	Pg	**Pb**	**14 28 42.4**	**-2.6**
SRN				Sg	**Sb**	**14 28 55.7**	**-2.1**
SRN				AMd		14 29 52.6	
VLO	**Vlora**	**1.06**	**266**	Pn	**Pb**	**14 28 43.4**	**-3.6**
VLO				AMd		14 29 51.2	
IGT	**Igoumenitsa**	**1.10**	**203**	Pg	**Pb**	**14 28 45.1**	**-2.5**
IGT				Sg	**Sb**	**14 29 00.5**	**-1.7**
IGT				AMd		14 29 51.3	
IGT	**Igoumenitsa**	**1.10**	**203**	S	**Sn**	**14 29 04.6**	**+0.9**
IGT	**Igoumenitsa**	**1.10**	**203**	*i* Pg	**Pb**	**14 28 45.2**	**-2.3**
IGT				*i* Sg	**Sg**	**14 29 02.8**	**+1.5**
IGT	**Igoumenitsa**	**1.10**	**203**	*e*Pg	**Pb**	**14 28 45.2**	**-2.3**
IGT				*e*Sg	**Sb**	**14 29 02.2**	**0.0**
TIR	**Tirane**	**1.11**	**316**	*i* Pg	**Pb**	**14 28 47.0**	**-0.9**
KEK	**Kerkira**	**1.18**	**225**	P	**Pb**	**14 28 49.5**	**+0.5**
KEK	**Kerkira**	**1.18**	**225**	P	**Pb**	**14 28 49.8**	**+0.8**
KEK				S	**Sn**	**14 29 05.5**	**-0.2**
PHP	**Peshkopia**	**1.19**	**344**	Pn	**Pn**	**14 28 47.3**	**-2.2**
PHP				AMd		14 30 04.4	
TETR	**Tetrakomo, Epi**	**1.23**	**166**	P	**Pb**	**14 28 50.0**	**+0.1**
TETR	**Tetrakomo, Epi**	**1.23**	**166**	P	**Pb**	**14 28 50.2**	**+0.3**
TETR				S	**Sg**	**14 29 07.1**	**+1.3**
LIT	**Litokhoron**	**1.30**	**109**	P	**Pg**	**14 28 51.5**	**+0.4**
LIT	**Litokhoron**	**1.30**	**109**	*i* Pg	**Pg**	**14 28 51.6**	**+0.5**
LIT	**Litokhoron**	**1.30**	**109**	P	**Pg**	**14 28 51.5**	**+0.4**
LIT				S	**Sg**	**14 29 08.6**	**+0.6**
THL	**Klokotos Trika**	**1.31**	**138**	P	**Pn**	**14 28 50.3**	**-0.7**
THL				S	**Sg**	**14 29 09.9**	**+1.8**
THL	**Klokotos Trika**	**1.31**	**138**	P	**Pn**	**14 28 50.7**	**-0.3**
THL				S	**Sg**	**14 29 08.6**	**+0.5**
TYRN	**Tyrnavos**	**1.33**	**128**	P	**Pb**	**14 28 51.2**	**-0.2**
TYRN				S	**Sg**	**14 29 08.4**	**-0.3**
SKO	**Skopje**	**1.49**	**16**	*i* Pg	**Pg**	**14 28 55.3**	**+0.7**
SKO				*i* Sg	**Sg**	**14 29 15.6**	**+1.7**
VAY	**Valandovo**	**1.49**	**58**	*i* Pg	**Pb**	**14 28 54.6**	**+0.3**
VAY				*i* Sg	**Sg**	**14 29 16.3**	**+2.2**
VAY				*e*Lg	Lg	14 29 18.9	
	comp=E,280nm,0.7s						
VAY				*e*Lg	Lg	14 29 21.2	
	comp=N,612nm,1.0s						
THE	**Thessaloniki**	**1.59**	**86**	Pn	**Pn**	**14 28 54.8**	**-0.1**
THE				AMd		14 29 56.4	
THE	**Thessaloniki**	**1.59**	**86**	*i* Pn	**Pb**	**14 28 55.1**	**-0.8**
THE	**Thessaloniki**	**1.59**	**86**	P	**Pn**	**14 28 54.8**	**-0.1**
THE				S	**Sb**	**14 29 15.4**	**-0.8**
AMPL	**Ampelaki**	**1.64**	**171**	P	**Pb**	**14 28 56.3**	**-0.5**
KNT	**Kendrikon**	**1.65**	**67**	P	**Pb**	**14 28 56.1**	**-0.9**
KNT	**Kendrikon**	**1.65**	**67**	*i* Pn	**Pn**	**14 28 55.9**	**+0.2**
KNT	**Kendrikon**	**1.65**	**67**	P	**Pb**	**14 28 56.1**	**-0.9**
KNT				S	**Sn**	**14 29 16.4**	**-1.0**
PUK	**Puka**	**1.67**	**334**	Pn	**Pn**	**14 28 55.8**	**-0.4**
PUK				AMd		14 30 13.0	
HORT	**Hortiatis**	**1.69**	**87**	P	**Pn**	**14 28 56.2**	**-0.2**
HORT	**Hortiatis**	**1.69**	**87**	P	**Pn**	**14 28 56.1**	**-0.2**
HORT				S	**Sb**	**14 29 18.4**	**-0.9**
TSLK	**Tsoukalades, L**	**1.73**	**186**	P	**Pb**	**14 28 58.1**	**-0.2**
TSLK				S	**Sb**	**14 29 19.7**	**-0.6**
LKD2	**Lefkada island**	**1.76**	**186**	P	**Pb**	**14 28 58.9**	**0.0**
EVR	**Evrytania**	**1.77**	**156**	P	**Pb**	**14 28 58.7**	**-0.5**
EVR	**Evrytania**	**1.77**	**156**	P	**Pb**	**14 28 58.5**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.81**	**147**	P	**Pn**	**14 28 58.5**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.81**	**147**	P	**Pb**	**14 28 58.7**	**-1.0**
MAKR				S	**Sb**	**14 29 21.6**	**-1.1**
NYDR	**Nydri-Lefkada**	**1.83**	**185**	P	**Pb**	**14 28 59.8**	**-0.4**
NYDR	**Nydri-Lefkada**	**1.83**	**185**	P	**Pb**	**14 28 59.7**	**-0.5**
ULC	**Ulcinj**	**1.88**	**319**	ǁ	*i*Pn	**Pn**	**14 28 59.9**	**+0.9**
ULC					*i* Sn	**Sb**	**14 29 25.4**	**+0.5**
AGG	**Agios Georgios**	**1.88**	**143**		P	**Pn**	**14 28 59.0**	**0.0**
AGG	**Agios Georgios**	**1.88**	**143**		P	**Pn**	**14 28 59.6**	**+0.6**
AGG					S	**Sb**	**14 29 24.1**	**-0.7**
SOH	**Sokhos**	**1.90**	**81**		P	**Pb**	**14 28 59.9**	**-1.4**
SOH	**Sokhos**	**1.90**	**81**	*i*	Pn	**Pb**	**14 28 59.8**	**-1.4**
SOH	**Sokhos**	**1.90**	**81**		P	**Pb**	**14 28 59.9**	**-1.4**
SOH					S	**Sb**	**14 29 23.7**	**-1.6**
EVGI	**Lefkada island**	**1.93**	**185**		P	**Pn**	**14 29 00.5**	**+0.9**
EVGI	**Lefkada island**	**1.93**	**185**		P	**Pn**	**14 29 00.7**	**+1.1**
EVGI					S	**Sn**	**14 29 24.7**	**+0.5**
PLG	**Polygyros**	**1.96**	**94**		P	**Pn**	**14 29 00.2**	**+0.1**
PLG	**Polygyros**	**1.96**	**94**		P	**Pb**	**14 29 00.9**	**-1.5**
PLG					S	**Sb**	**14 29 25.3**	**-1.8**
PVO	**Paravola**	**1.99**	**165**		P	**Pb**	**14 29 01.9**	**-0.9**
PVO					S	**Sb**	**14 29 26.1**	**-1.7**
DRME	**Dracevica, Mon**	**2.08**	**323**	ǁ	*i*Pn	**Pn**	**14 29 02.6**	**+0.9**
DRME					*i* Sn	**Sb**	**14 29 30.4**	**-0.2**
FSK	**Fiskardo**	**2.10**	**187**		P	**Pb**	**14 29 03.9**	**-0.7**
FSK					S	**Sn**	**14 29 28.7**	**+0.3**
ANX	**Ano Chora**	**2.11**	**157**		P	**Pb**	**14 29 04.2**	**-0.7**
ANX	**Ano Chora**	**2.11**	**157**		P	**Pb**	**14 29 03.5**	**-1.3**
ANX					S	**Sn**	**14 29 28.8**	**0.0**
KKB	**Krupnik**	**2.13**	**52**		P	**Pn**	**14 29 03.2**	**+0.7**
SRS	**Serrai**	**2.13**	**74**		P	**Pn**	**14 29 02.7**	**+0.3**
SRS	**Serrai**	**2.13**	**74**	*i*	Pn	**Pn**	**14 29 02.7**	**+0.3**
SRS	**Serrai**	**2.13**	**74**	*e*	Pn	**Pn**	**14 29 02.8**	**+0.4**
SRS	**Serrai**	**2.13**	**74**		P	**Pn**	**14 29 02.8**	**+0.3**
NEO	**Neokhori**	**2.18**	**124**		P	**Pn**	**14 29 03.2**	**+0.1**
NEO	**Neokhori**	**2.18**	**124**		P	**Pn**	**14 29 03.2**	**+0.1**
NEO					S	**Sn**	**14 29 29.6**	**-0.9**
AXAR	**Agios Charalam**	**2.24**	**142**		P	**Pn**	**14 29 04.9**	**+0.9**
AXAR					S	**Sn**	**14 29 32.4**	**+0.4**
PDG	**Podgorica**	**2.25**	**328**	⇑	P	**Pn**	**14 29 04.7**	**+0.7**
PDG	**Podgorica**	**2.25**	**328**		*e*Pn	**Pn**	**14 29 04.6**	**+0.6**
PDG					*e*Sn	**Sn**	**14 29 33.7**	**+1.6**
PDG	**Podgorica**	**2.25**	**328**		P	**Pn**	**14 29 05.0**	**+1.0**
PDG					S	**Sn**	**14 29 33.2**	**+1.1**
PDG	**Podgorica**	**2.25**	**328**	⇑	*i*Pn	**Pn**	**14 29 04.2**	**+0.2**
PDG					*i* Sn	**Sb

KBN	Korca	0.14	332	Pg	Pg	14 30 08.9	-2.2
KBN				Sg	Sg	14 30 17.8	+4.2
NEST	Nestorio	0.16	123	Pg	Pg	14 30 10.6	-0.8
NEST				Sg	Sg	14 30 14.5	+0.3
NEST				AML	AML	14 30 18.0	
	46nm,0.3s						
NEST				AMd		14 31 14.9	
NEST	Nestorio	0.16	123	P	Pg	14 30 11.1	-0.3
NEST				S	Sg	14 30 14.2	0.0
NEST	Nestorio	0.16	123	P	Pg	14 30 11.1	-0.3
NEST				S	Sg	14 30 14.2	0.0
PENT	Pentalofos	0.37	146	P	Pg	14 30 14.6	-0.3
PENT				S	Sb	14 30 19.3	-0.9
LMS2	Laimos Florina	0.39	32	P	Pg	14 30 14.3	-0.9
LMS2				S	Sg	14 30 19.6	-1.0
FNA	Florina	0.47	54	Pg	Pg	14 30 16.4	-0.4
FNA				AMd		14 31 03.6	
FNA	Florina	0.47	54	P	Pg	14 30 15.9	-0.9
FNA				S	Sg	14 30 21.9	-1.3
FNA	Florina	0.47	54	*i* Pg	Pg	14 30 16.1	-0.7
FNA				*i* Sg	Sb	14 30 24.5	+0.2
FNA	Florina	0.47	54	*e*Pg	Pg	14 30 16.1	-0.7
FNA				*e*Sg	Sb	14 30 24.3	0.0
FNA	Florina	0.47	54	P	Pg	14 30 16.1	-0.7
FNA				S	Sg	14 30 22.3	-0.9
OHR	Ohrid	0.61	355	*i* Pg	Pg	14 30 18.0	-1.3
OHR				*i* Sg	Sg	14 30 27.5	+0.1
OHR				*e*Lg	Lg	14 30 28.0	
	comp=E,2µm,0.6s						
OHR				*e*Lg	Lg	14 30 28.9	
	comp=N,896nm,0.4s						
KZN	Kozani	0.71	106	P	Pg	14 30 20.5	-0.8
KZN				S	Sb	14 30 31.4	+0.2
KZN	Kozani	0.71	106	P	Pb	14 30 21.2	-0.3
KZN				S	Sb	14 30 31.3	+0.1
SRN	Sarande	0.91	227	Pg	Pg	14 30 23.5	-1.5
SRN				Sg	Sb	14 30 37.2	+0.4
SRN				AML	AML	14 30 53.1	
	comp=N,2.5nm,1.2s						
SRN				AMd		14 31 49.8	
IGT	Igoumenitsa	1.05	203	Pg	Pg	14 30 24.4	-3.3
IGT				Sg	Sg	14 30 39.2	-2.3
IGT				AMd		14 31 56.2	
IGT	Igoumenitsa	1.05	203	*i* Pg	Pg	14 30 26.5	-1.2
IGT				*i* Sg	Sn	14 30 43.8	+1.8
IGT	Igoumenitsa	1.05	203	*e*Pg	Pg	14 30 26.3	-1.4
IGT				*e*Sg	Sb	14 30 41.6	+0.7
IGT	Igoumenitsa	1.05	203	P	Pg	14 30 26.2	-1.4
IGT				S	Sn	14 30 43.7	+1.7
KEK	Kerkira	1.14	226	P	Pn	14 30 30.4	+1.6
KEK	Kerkira	1.14	226	P	Pn	14 30 30.7	+2.0
KEK				S	Sn	14 30 45.6	+1.5
TETR	Tetrakomo, Epi	1.20	165	P	Pn	14 30 31.2	+1.6
TETR				S	Sn	14 30 49.0	+3.3
TETR	Tetrakomo, Epi	1.20	165	P	Pn	14 30 30.7	+1.1
TETR				S	Sn	14 30 48.9	+3.2
THL	Klokotos Trika	1.28	137	P	Pn	14 30 31.3	+0.6
THL	Klokotos Trika	1.28	137	P	Pn	14 30 31.5	+0.8
THL				S	Sn	14 30 49.9	+2.2
LIT	Litokhoron	1.30	108	P	Pn	14 30 32.0	+1.1
LIT	Litokhoron	1.30	108	*i* Pg	Pn	14 30 32.1	+1.1
LIT	Litokhoron	1.30	108	P	Pn	14 30 32.1	+1.1
TYRN	Tyrnavos	1.31	127	P	Pn	14 30 32.5	+1.4
TYRN	Tyrnavos	1.31	127	P	Pn	14 30 32.4	+1.3
TYRN				S	Sn	14 30 49.7	+1.5
VAY	Valandovo	1.52	57	*i* Pg	Pb	14 30 35.2	-0.1
VAY				*i* Sg	Sg	14 30 58.3	+1.9
VAY				*e*Lg	Lg	14 30 59.7	
	comp=N,817nm,0.8s						
VAY				*e*Lg	Lg	14 31 02.0	
	comp=Z,428nm,0.7s						
SKO	Skopje	1.53	16	*i* Pg	Pg	14 30 35.8	-0.9
THE	Thessaloniki	1.60	85	P	Pn	14 30 35.4	+0.3
THE	Thessaloniki	1.60	85	P	Pn	14 30 35.8	+0.8
THE	Thessaloniki	1.60	85	P	Pn	14 30 35.1	+0.1
KNT	Kendrikon	1.67	66	P	Pn	14 30 36.7	+0.7
KNT	Kendrikon	1.67	66	*i* Pn	Pn	14 30 36.8	+0.8
KNT	Kendrikon	1.67	66	P	Pn	14 30 36.9	+0.8
KNT				S	Sn	14 30 57.9	+0.6
TSLK	Tsoukalades, L	1.69	186	P	Pg	14 30 38.8	-0.9
HORT	Hortiatis	1.70	86	P	Pn	14 30 36.8	+0.3
HORT	Hortiatis	1.70	86	P	Pn	14 30 36.8	+0.3
LKD2	Lefkada island	1.72	186	P	Pg	14 30 39.3	-1.0
EVR	Evrytania	1.74	155	P	Pb	14 30 39.4	+0.3
MAKR	Makrakomi, Fth	1.78	146	P	Pb	14 30 39.5	-0.1
MAKR	Makrakomi, Fth	1.78	146	P	Pb	14 30 39.6	0.0
NYDR	Nydri-Lefkada	1.79	184	P	Pg	14 30 40.8	-1.0
AGG	Agios Georgios	1.86	142	P	Pb	14 30 40.2	-0.8
AGG	Agios Georgios	1.86	142	P	Pb	14 30 40.2	-0.8
AGG				S	Sb	14 31 03.9	-0.1
EVGI	Lefkada island	1.89	185	P	Pb	14 30 41.7	+0.2
ULC	Ulcinj	1.91	320	⇓*i* Pn	Pn	14 30 40.3	+1.0
ULC				*i* Sn	Sn	14 31 05.8	+2.8
SOH	Sokhos	1.92	80	P	Pn	14 30 40.3	+0.9
SOH	Sokhos	1.92	80	*i* Pn	Pn	14 30 40.3	+0.9
SOH	Sokhos	1.92	80	P	Pn	14 30 40.3	+0.9
SOH				S	Sn	14 31 04.6	+1.3
PVO	Paravola	1.95	165	P	Pb	14 30 42.3	-0.3
PLG	Polygyros	1.97	93	P	Pn	14 30 40.9	+0.7
PLG	Polygyros	1.97	93	P	Pn	14 30 41.4	+1.2
PLG				S	Sn	14 31 05.3	+0.7
FSK	Fiskardo	2.06	187	P	Pb	14 30 43.6	-0.7
FSK	Fiskardo	2.06	187	P	Pb	14 30 43.6	-0.7
ANX	Ano Chora	2.07	157	P	Pb	14 30 44.2	-0.5
DRME	Dracevica, Mon	2.11	323	*e*Pn	Pn	14 30 43.1	+1.1
DRME				*i* Sn	Sn	14 31 11.0	+3.0
SRS	Serrai	2.15	73	P	Pn	14 30 43.2	+0.5
SRS	Serrai	2.15	73	*e*Pn	Pn	14 30 43.2	+0.5
SRS				*e*Sn	Sn	14 31 10.9	+1.7
SRS	Serrai	2.15	73	P	Pn	14 30 43.2	+0.5
SRS				S	Sn	14 31 10.2	+1.0
KKB	Krupnik	2.17	51	*i* Pn	Pn	14 30 44.6	+1.7
NEO	Neokhori	2.17	123	P	Pn	14 30 43.7	+0.7
NEO	Neokhori	2.17	123	P	Pn	14 30 43.6	+0.7
NEO				S	Sn	14 31 11.5	+2.0
AXAR	Agios Charalam	2.22	141	P	Pn	14 30 45.4	+1.8
EFP	Efpalio	2.22	159	P	Pb	14 30 45.9	-1.3
PDG	Podgorica	2.27	328	*e*Pn	Pn	14 30 45.1	+0.8
PDG				*e*Sn	Sb	14 31 16.0	0.0
PDG	Podgorica	2.27	328	⇑*i*Pn	Pn	14 30 44.8	+0.5
PDG				*i* Sn	Sn	14 31 14.3	+2.2
SERG	Sergoula	2.28	156	P	Pn	14 30 45.7	+1.3
BOSS	Bosilegrad	2.33	31	*e*Pn	Pn	14 30 45.6	+0.5
BOSS				*e*Sn	Sn	14 31 15.2	+1.7
KALE	Kalithea	2.33	155	P	Pb	14 30 47.7	-1.3
BUM	Brajici-Budva	2.33	321	⇓*i* Pn	Pn	14 30 45.2	0.0
BUM				*i* Sn	Sn	14 31 16.2	+2.6
VLS	Valsamata	2.33	185	P	Pn	14 30 46.7	+1.5
AXS	Araxos	2.34	170	P	Pn	14 30 47.2	+2.0
OUR	Ouranopolis	2.38	93	P	Pn	14 30 46.6	+0.8
OUR	Ouranopolis	2.38	93	P	Pn	14 30 46.6	+0.8
PSDA	Pessada-Kefalo	2.40	185	P	Pn	14 30 47.7	+1.7
BARS	Barje	2.42	17	*i* Pn	Pn	14 30 46.4	+0.1
BARS	Barje	2.42	17	*e*Pn	Pn	14 30 46.4	+0.1
BARS				*e*Sn	Sn	14 31 17.4	+1.8
YRMI	Loutra Irminis	2.43	171	P	Pn	14 30 48.9	+2.5
IVA	Berane	2.48	343	*e*Pn	Pn	14 30 47.8	+0.6
IVA				*i* Sn	Sn	14 31 20.7	+3.5
RLS	Riolos of Patr	2.49	169	P	Pb	14 30 50.1	-1.6
CEME	Cevo	2.51	325	*e*Pn	Pn	14 30 48.6	+0.9
CEME				*i* Sn	Sn	14 31 21.3	+3.2
KOME	Kolasin	2.56	337	*e*Pn	Pn	14 30 49.0	+0.7
KOME				*i* Sn	Sn	14 31 22.8	+3.6
DRO	Drossia	2.63	165	P	Pn	14 30 51.8	+2.6
HCY	Herceg Novi	2.64	318	⇑*i*Pn	Pn	14 30 49.7	+0.4
HCY				*i* Sn	Sn	14 31 23.8	+2.7
KLV	Kalavryta, Ach	2.65	158	P	Pn	14 30 51.2	+1.6
NKME	Niksic	2.68	328	*e*Pn	Pn	14 30 50.7	+0.8
NKME				*i* Sn	Sn	14 31 24.6	+2.4
SELS	Selova	2.72	4	*e*Pn	Pn	14 30 52.2	+1.7
SELS				*e*Sn	Sb	14 31 31.1	+2.3
VTS	Vitosha	2.76	39	*e*Pn	Pn	14 30 52.2	+1.1
GUR	Goura	2.81	156	P	Pn	14 30 53.2	+1.5
KAVA	Kavala	2.81	79	P	Pn	14 30 51.8	+0.1
BRY	Bratogost	2.96	325	*e*Pn	Pn	14 30 56.0	+2.1
PLE	Pljevlja	3.03	339	*e*Pn	Pn	14 30 55.7	+0.8
PLE				*i* Sn	Sn	14 31 33.3	+2.3
GOCS	Kraljevo Serbi	3.06	0	*e*Pn	Pn	14 30 57.0	+1.8
ZAPS	Zavoj	3.06	25	*e*Pn	Pn	14 30 57.3	+2.1
UPM	Unac-Piva	3.07	332	*e*Pn	Pn	14 30 56.4	+0.9
UPM				*i* Sn	Sn	14 31 34.1	+2.1
IVAS	Ivanjica	3.12	350	*e*Pn	Pn	14 30 57.8	+1.8
BOVS	Bovan	3.19	11	*e*Pn	Pn	14 30 56.7	-0.2
BLKB	Belogradchik	3.39	23	*e*Pn	Pn	14 31 00.8	+1.1
ZAGS	Zajecar	3.46	17	*e*Pn	Pn	14 31 00.9	+0.3
BBLS	Lazi&#263i	3.53	343	*e*Pn	Pn	14 31 03.2	+1.5
TRUS	Trudelj	3.73	355	*e*Pn	Pn	14 31 05.5	+1.1
KUBS	Kucevo	3.95	8	*e*Pn	Pn	14 31 05.9	-1.5
TEKS	Tekeris	4.16	347	*e*Pn	Pn	14 31 11.4	+1.1
VRSS	Vrsac	4.63	4	*e*Pn	Pn	14 31 17.5	+0.8
MLR	Muntele Rosu	6.22	35	Pn	Pn	14 31 38.3	-0.4
	comp=Z,0.3nm,0.3s,baz=309,slow=24,SNR=1.3						
	comp=Z,2.2nm,0.3s						
SOKA	Soboth	7.48	327	*i* Pn	Pn	14 31 56.7	+0.8
	comp=Z,1.2nm,0.2s						
ARSA	Arzberg	7.77	332	*i* Pn	Pn	14 32 00.2	+0.3
	comp=Z,2.4nm,0.3s						
LESA	Schwarzleotal	9.09	322	*e*Pn	Pn	14 32 18.0	0.0
	comp=Z,2.7nm,0.3s						
WATA	Walderalm	9.57	319	*e*Pn	Pn	14 32 25.4	+0.8
	comp=Z,4.2nm,0.5s						
GERES	GERESS Array B	9.77	331	Pn	Pn	14 32 27.7	+0.4
	baz=156,slow=13,SNR=6.9						
GERES				Sn	Sn	14 34 15.2	-1.7
	baz=146,slow=25,SNR=1.7						
	comp=Z,1.5nm,0.7s						
FETA	Feichten	9.81	315	*e*Pn	Pn	14 32 30.5	+2.6
	comp=Z,2.8nm,0.6s						
MOTA	Moosalm	9.81	317	*e*Pn	Pn	14 32 27.4	-0.5
	comp=Z,5.6nm,0.7s						
DAVOX	Davos/Dischmat	10.13	312	Pn	Pn	14 32 33.5	+1.1
	comp=Z,0.4nm,0.3s,baz=163,slow=19,SNR=3.8						
DAVOX				Sn	Sn	14 34 21.7	-4.1
	comp=Z,0.2nm,0.3s,baz=326,slow=23,SNR=3.5						
DAVOX				LR	LR	14 37 26.7	
	comp=Z,48nm,20.5s,baz=268,slow=44						
	comp=Z,1.5nm,0.4s						
HFS	Hagfors	20.16	350	P	P	14 34 39.8	-1.0
	comp=Z,1.5nm,0.6s,baz=158,slow=12,SNR=2.0						
	comp=Z,1.5nm,0.6s						
FINES	FINESS Array B	21.21	7	P	P	14 34 50.3	-1.8
	comp=Z,3.0nm,1.0s,baz=179,slow=11,SNR=4.8						
	comp=Z,3.0nm,1.0s						
NB2	NORSAR Subarra	21.40	347	P	P	14 34 54.0	-0.3
	comp=Z,1.0nm,0.8s,baz=160,slow=11						
NOA	NORSAR Array B	21.40	347	P	P	14 34 53.6	-0.7
	comp=Z,1.0nm,0.8s,baz=158,slow=11,SNR=3.9						
	comp=Z,1.0nm,0.9s						
EKA	Eskdalemuir Ar	21.74	321	P	P	14 34 56.1	-1.8
	comp=Z,0.9nm,0.6s,baz=124,slow=9.3,SNR=2.4						
	comp=Z,0.9nm,0.6s						
ASAR	Alice Springs	122.13	95	PKP	PKPdf	14 49 00.7	-0.9
	comp=Z,0.2nm,0.6s,baz=299,slow=1.7,SNR=6.9						

*THE **31** 14:38:09.1,41°N±5°×2°1E±°, h15km±4km, M2.1/4, MLh2.1/4*

TIR 31 14:38:07.4,40.49N×20.78E, h13km±1km, Md2.1/5, Ml2.5/1, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	Korca	0.13	3	Pg	Pg	14 38 08.4	-2.5
KBN				Sg	Sg	14 38 12.9	-0.5
KBN				AMd		14 38 55.8	
NEST	Nestorio	0.22	110	Pg	Pg	14 38 12.5	+0.2
NEST				Sg	Sg	14 38 16.3	+0.8
NEST				AML	AML	14 38 18.2	
	3.4nm,0.2s						
NEST				AMd		14 38 50.6	
NEST	Nestorio	0.22	110	P	Pb	14 38 13.7	+0.4
NEST				S	Sb	14 38 17.5	+0.2
PENT	Pentalofos	0.40	137	P	Pb	14 38 17.0	+0.6
PENT				S	Sb	14 38 23.4	+0.8
FNA	Florina	0.54	57	Pg	Pb	14 38 18.4	-0.3
FNA				Sg	Sb	14 38 26.8	+0.3
FNA				AMd		14 39 00.5	
FNA	Florina	0.54	57	P	Pb	14 38 18.8	0.0
KZN	Kozani	0.78	103	P	Pn	14 38 23.6	-0.5
SRN	Sarande	0.85	225	Pg	Pn	14 38 24.7	-0.4
SRN				Sg	Sn	14 38 37.7	+0.2
SRN				AMd		14 39 09.3	
IGT	Igoumenitsa	1.02	200	Pn	Pn	14 38 27.5	+0.2
IGT				Sn	Sn	14 38 42.3	+0.8
IGT				AMd		14 39 24.4	
IGT	Igoumenitsa	1.02	200	P	Pn	14 38 28.5	+1.2
IGT				S	Sn	14 38 44.2	+2.7

*RHSSO **31** 14:40:12.1±0.2,43°.14N×17°.98E, h5km±2km, ML2.6/9*
*BEO **31** 14:40:12.1±0.3,43°.14N×17°.82E, h6km±2km, ML2.4/12*

ISC 31 14:40:10.1±1.1,43°.12N±0°.02×17°.89E±0°.02, h3km±10km, n42, σ1°.58/71, 5C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	Ston	0.29	210	⇑*i* Pg	Pb	14 40 23.4	+0.5
STON				*e*Sg	Sb	14 40 23.5	+0.4
STON	Ston	0.29	210	*e*Pg	Pg	14 40 15.5	-0.1
STON				*e*Sg	Sb	14 40 23.1	0.0
STON	Ston	0.29	210	*i* Pg	Pg	14 40 15.5	-0.1
STON				Sg	Sg	14 40 18.8	-0.5
DBRK	Dubrovnik	0.49	157	*e*Pg	Pg	14 40 18.9	-0.5
DBRK				Sg	Sb	14 40 28.0	-0.9
KLINJ	Klinje	0.51	84	*e*Pg	Pg	14 40 20.4	+0.6
KLINJ				*e*Sg	Sg	14 40 27.0	+0.6
TREB	Trebinje	0.52	140	⇑*i*Pg	Pb	14 40 21.5	-0.5
TREB				*e*Sg	Sb	14 40 29.1	-0.8
MAKA	Makarska	0.66	285	*e*Pg	Pg	14 40 22.0	-0.8
RICI	Ricice	0.67	304	*e*Pg	Pg	14 40 22.2	-0.7
LSTV	Lastovo	0.81	245	*e*Pg	Pg	14 40 24.4	-1.3
HVAR	Hvar	1.06	274	*e*Pg	Pb	14 40 29.6	-1.5
RUDO	Rudo	1.19	65	*e*Pg	Pb	14 40 32.0	-1.3
RUDO				*e*Sg	Sb	14 40 47.5	-1.6
RUDO	Rudo	1.19	65	*e*Pg	Pg	14 40 33.1	+0.3
RUDO				*e*Sg	Sn	14 40 51.2	+0.9
PDG	Podgorica	1.22	124	*e*Pg	Pg	14 40 35.9	+2.5
PDG				*e*Sg	Sn	14 40 52.4	+1.4
BBLS	Lazi&#263i	1.33	55	*e*Pg	Pg	14 40 36.4	+0.8
BBLS				*e*Sg	Sg	14 40 55.4	+2.6
KIJV	Kijevo	1.40	310	*e*Pg	Pg	14 40 37.9	+1.0
KIJV				*e*Sg	Sg	14 40 58.4	+3.4
KIJV	Kijevo	1.40	310	*e*Pg	Pn	14 40 35.8	-0.8
VINV	Vinovac	1.42	290	*e*Pg	Pn	14 40 35.6	-1.3
SJES	Sjenica	1.53	84	*e*Pg	Pg	14 40 39.3	-0.1
SJES				*e*Sg	Sg	14 41 02.4	+3.2
A050A	Klekovaca	1.68	325	⇑*i*Pn	Pg	14 40 42.7	+0.4
A050A				*e*Sn	Sg	14 41 04.9	+0.8
BLY	Banja Luka	1.71	343	⇑*i*Pn	Pb	14 40 42.4	+0.2
BLY				*e*Sn	Sg	14 41 04.6	-0.3
BLY	Banja Luka	1.71	343	*e*Pg	Pg	14 40 42.3	+0.1
BLY				*e*Sg	Sg	14 41 06.3	+1.4
IVAS	Ivanjica	1.71	74	*e*Pn	Pb	14 40 41.2	-1.0
IVAS				*e*Sn	Sg	14 41 06.4	+1.4
ZIRJ	Zirje	1.73	289	*e*Pg	Pn	14 40 40.7	-0.3
ZIRJ				Sg	Sb	14 41 03.0	-1.6
MORI	Morici	1.76	296	*e*Pn	Pb	14 40 42.0	-1.0
MORI				Sg	Sb	14 41 05.0	-0.5
TEKS	Tekeris	1.85	39	*e*Pn	Pb	14 40 43.8	-0.9
TEKS				*e*Sn	Sg	14 41 09.9	+0.2
A051A	Mrakovica	2.02	340	⇑*i*Pn	Pb	14 40 47.5	-0.1
A051A				*e*Sn	Sb	14 41 13.1	-0.1
TRUS	Trudelj	2.13	58	*e*Pn	Pb	14 40 49.0	-0.4
TRUS				*e*Sn	Sb	14 41 16.6	+0.4
GOCS	Kraljevo Serbi	2.22	77	*e*Pn	Pg	14 40 51.5	-1.1
GOCS				*e*Sn	Sb	14 41 17.9	-0.9
DUGI	Dugi Otok	2.24	294	*e*Pn	Pb	14 40 50.2	-1.0
SELS	Selova	2.36	86	*e*Pn	Pb	14 40 51.9	-1.4
SELS				*e*Sn	Sb	14 41 20.7	-2.2
VIRC	Vir	2.37	301	*e*Pn	Pb	14 40 52.0	-1.4
FRGS	Fruska Gora	2.46	33	*e*Pn	Pb	14 40 54.4	-0.6
NVLJ	Novalja	2.62	304	*e*Pn	Pb	14 40 55.6	-2.0
MOSL	Moslavina	2.62	342	*e*Pn	Pb	14 40 55.7	-2.1
MOSL				*e*Sn	Sb	14 41 27.3	-3.1
MOSL	Moslavina	2.62	342	*e*Pn	Pb	14 40 55.4	-2.4
BARS	Barje	2.89	95	*e*Pn	Pb	14 41 00.0	-2.4
BARS				*e*Sn	Sb	14 41 34.2	-4.0
OZLJ	Ozalj	3.04	326	*e*Pn	Pn	14 41 00.6	+1.5
OZLJ				*e*Sn	Sn	14 41 37.8	+1.8
MORH	Mrgy, Hungar	3.14	10	*e*Pn	Pn	14 41 01.5	+1.0
MORH				*e*Sn	Sn	14 41 39.0	+0.5
VRSS	Vrsac	3.18	50	*e*Pn	Pb	14 41 04.4	-2.9
ZAPS	Zavoj	3.47	86	*e*Pn	Pb	14 41 08.0	-4.2
BRJN	Brijuni	3.48	302	*e*Pn	Pn	14 41 07.0	+1.8
BRJN				*e*Sn	Sn	14 41 48.9	+2.0
BRJN	Brijuni	3.48	302	*e*Pn	Pn	14 41 07.2	+2.1
BRJN				Sn	Sn	14 41 47.6	+0.7

IDC 31 14:45:32.4±1.2,30°.01N×99°.65E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=47.9km s-min=20.9km az=53.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	21.50	326	P	P	14 50 22.8	0.0
	1.2nm,0.6s,baz=131,slow=11,SNR=14						
	1.2nm,0.6s						
KSRS	Korea Array	24.59	65	P	P	14 50 53.9	-0.3
	1.4nm,0.7s,baz=262,slow=10,SNR=7.2						
	1.4nm,0.7s						
KURBB	Kurchatov Arra	25.97	328	P	P	14 51 06.5	0.0
	1.3nm,0.8s,baz=138,slow=9.7,SNR=14						
	1.3nm,0.8s						
WRA	Warramunga Arr	59.85	142	P	P	14 55 40.5	+0.5
	0.8nm,0.6s,baz=321,slow=8.7,SNR=11						
	0.8nm,0.6s						
ASAR	Alice Springs	62.70	144	P	P	14 55 58.5	-0.7
	0.2nm,0.7s,baz=325,slow=6.7,SNR=4.6						
	0.2nm,0.7s						

*CATAC **31** 14:46:06.8±0.3,7°.N±3°×7°.6W±°, h1km, M4.1/8, MLv4.1/8, Error ellipse: s-maj=8.2km s-min=6.8km az=85.5, confirmed*
*RSNC **31** 14:46:07.6±0.0,7°.N±1°×7°.6W±°, h1km±2km, M3.8, mB5.0, mb4.6, ML3.4, Mw(mB)4.3*

ISC 31 14:46:06.6±1.2,7°.27N±0°.02×76°.27W±0°.03, h3km±10km, n45, σ1°.94/83, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	Dabeiba	0.25	167	P	Pg	14 46 11.4	-0.2
DBBC				S	Sg	14 46 15.1	+0.2
APAC	Apartado, Choc	0.70	334	P	Pb	14 46 22.0	+0.5
APAC				S	Sn	14 46 36.3	+1.5
UREC	San Jos de Ur	0.87	56	P	Pg	14 46 23.6	+0.2
UREC				S	Sg	14 46 36.4	+1.6
MEDEC	Medelln, Ant	1.19	146	P	Pg	14 46 27.2	-2.3
MEDEC				S	Sg	14 46 42.9	-2.1
HELC	Santa Helena	1.30	145	P	Pn	14 46 29.4	-2.5
HELC	Santa Helena	1.30	145	P	Pn	14 46 29.2	-2.7
HELC				S	Sg	14 46 46.8	-1.5
CBOC	Ciudad Bolivar	1.42	170	P	Pn	14 46 31.9	-1.5
CBOC				S	Sb	14 46 52.1	-0.2
ZARC	Zaragoza, Cauc	1.42	81	P	Pn	14 46 32.4	-0.9
ZARC				S	Sn	14 46 51.1	-1.3
PTAC	Punta Ardita,	1.53	266	P	Pn	14 46 33.6	-1.3
PTAC				S	Sg	14 46 54.7	-1.3
LCBC	Los crdobas,	1.58	356	P	Pn	14 46 35.4	-0.2
LCBC				S	Sg	14 47 03.1	+5.5
CAPC	Capurgana	1.73	322	P	Pn	14 46 36.4	-1.2
CAPC				S	Sb	14 47 00.6	-0.7
CAP2	Capurgana	1.75	322	P	Pn	14 46 36.4	-1.5
PTBC	PUERTO BERRIO,	1.94	112	P	Pn	14 46 40.0	-0.4
PTBC				S	Sn	14 47 05.5	+0.2
NORC	Norcasia	2.19	141	P	Pn	14 46 44.2	+0.3
NORC				S	Sb	14 47 13.9	-0.5
GUY2C	Guyana, Caldas	2.22	156	P	Pn	14 46 45.1	+0.4
GUY2C				S	Sb	14 47 16.3	+0.6
PLMC	San Jos del P	2.34	180	P	Pn	14 46 45.5	-0.6
PLMC				S	Sb	14 47 19.7	+0.7
RECRC	Villamaria, Ca	2.46	158	P	Pn	14 46 50.2	+2.0
RECRC				S	Sn	14 47 19.6	+0.6
BRJC	Barrancabermej	2.52	96	P	Pn	14 46 48.8	+0.3
BRJC				S	Sn	14 47 21.2	+1.5
SJCC	San Jacinto, C	2.83	22	P	Pn	14 46 53.6	+0.8
SJCC	San Jacinto, C	2.83	22	P	Pn	14 46 51.6	-1.1
SJCC				S	Sn	14 47 25.0	-2.3
ANIL	Santa Ana	2.89	163	P	Pn	14 46 56.1	+2.3
ANIL				S	Sn	14 47 30.6	+1.4
OCAC	Ocana	3.08	71	P	Pn	14 46 54.8	-1.5
OCAC				S	Sn	14 47 34.4	+0.8
ROSC	El Rosal	3.09	141	P	Pn	14 46 59.6	+2.9
ROSC				S	Sb	14 47 41.3	+0.5
BARC	Barichara	3.13	102	P	Pn	14 46 57.8	+0.7
BARC				S

OSSR	**Ossora**	**3.12**	**347**	*e*P	Pn	14 50 43.5	+2.8
ESO	**Esso**	**3.22**	**267**	*e*P	Pn	14 50 46.1	+3.9
PALN	**Palana**	**3.74**	**322**	*e*P	Pn	14 50 51.7	+2.5
SPN	**Mys Shipunski**	**4.04**	**221**	*e*P	Pn	14 50 55.5	+2.1
NLC	**Nalytchevo**	**4.24**	**226**	*e*P	Pn	14 50 59.7	+3.6
TILK	**Tilichiki**	**4.33**	**11**	*e*P	Pn	14 51 01.6	+4.3
TILK				*e*S	Sn	14 51 50.3	+3.8
SDLR	**Sedlovina**	**4.36**	**230**	*e*P	Pn	14 51 01.5	+3.6
KRER	**Koryakskii**	**4.40**	**231**	*e*P	Pn	14 51 02.5	+4.0
KRX	**Arik**	**4.40**	**232**	*e*P	Pn	14 51 02.2	+3.7
SMAR	**Somma**	**4.40**	**230**	*e*P	Pn	14 51 02.1	+3.5
AVH	**Avacha**	**4.43**	**230**	*e*P	Pn	14 51 02.9	+4.1
UGLR	**Uglovaya**	**4.43**	**229**	*e*P	Pn	14 51 02.4	+3.6
KOK	**Koryaka**	**4.46**	**231**	*e*P	Pn	14 51 03.0	+3.9
GNL	**Ganaly**	**4.51**	**239**	*e*P	Pn	14 51 04.2	+4.2
DALK	**Dalny**	**4.59**	**228**	*e*P	Pn	14 51 03.8	+2.9
PET	**Petropavlovsk**	**4.64**	**229**	*e*P	Pn	14 51 04.8	+3.3
KRMR	**Karymshinskiy**	**5.00**	**230**	*e*P	Pn	14 51 11.2	+4.7
GRL	**Gorelyy**	**5.22**	**228**	*e*P	Pn	14 51 14.4	+4.7
MTVR	**Mutnovka**	**5.23**	**227**	*e*P	Pn	14 51 14.3	+4.4
ASAK	**Asacha**	**5.42**	**228**	*e*P	Pn	14 51 16.9	+4.6
MIPR	**Malaya Ipel'ka**	**5.98**	**232**	*e*P	Pn	14 51 25.2	+5.2
KMSK	**Kamenskaya**	**6.33**	**8**	*e*P	Pn	14 51 29.3	+4.6

ISC 31 14:55:20.0±1.1,**26.79N**±0.05×**111.44W**±0.08,**h10**km,**n6,** σ1§**26**/10,**1C-2D,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNIRB	**San Nicol¡s**	**0.27**	**202**	*e*P	**Pb**	**14 55 27.6**	**+0.6**
SNIRB				*e*S	**Sb**	**14 55 33.0**	**+1.4**
SNIRB				IAML		14 55 33.4	
	comp=E,2μm,0.5s						
SNIRB				IAML		14 55 36.9	
	comp=N,1μm,0.4s						
NE77	**Loreto B.C.S**	**0.78**	**175**	⇓*i*P	**Pg**	**14 55 35.5**	**+0.5**
NE77				*e*S	**Sb**	**14 55 47.5**	**+1.2**
SRIG	**Santa Rosalia**	**0.89**	**306**	⇓*i*P	**Pg**	**14 55 37.0**	**-0.2**
SRIG				*e*S	**Sb**	**14 55 50.1**	**+0.5**
SRIG				IAML		14 55 50.8	
	comp=N,452nm,0.4s						
GUYB	**Guaymas**	**1.21**	**24**	*e*P	**Pn**	**14 55 42.4**	**-0.6**
UAGRB	**Rancho Ultima**	**1.23**	**173**	⇑*e*P	**Pn**	**14 55 41.5**	**-1.8**
UAGRB				*e*S	**Sb**	**14 55 57.8**	**-1.7**
NE80	**Navojoa**	**1.97**	**86**	*e*P	**Pn**	**14 55 53.4**	**-0.1**

*BGR **31** 15:02:22.3, 19˚.24S×172˚.30E, h194km±2km*
*OSUNB **31** 15:02:27.9±1.8, 16˚.05S×168˚.22E, h138km±15km, mb6.0/10, Error ellipse: s-maj=7.3km s-min=7.3km az=0.0*
*MOS **31** 15:02:32.6±1.1, 16˚.11S×167˚.97E, h186km, mb6.2/33, MS5.8/11, Error ellipse: s-maj=8.4km s-min=6.1km az=120.9*
*BJI **31** 15:02:33.0, 16˚.25S×167˚.92E, h190km, mB6.2/78, mb6.1/100*
*NEIC **31** 15:02:33.9±2.0, 16˚.20S±0˚.07×168˚.00E±0˚.07, h181km±1km, mb6.1/647, Mwb6.6/80, Mww6.6/65, Error ellipse: s-maj=11.8km s-min=11.2km az=344.0, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}=0.34; $M_{\theta\theta}$=0.26; $M_{\phi\phi}$=-0.60; $M_{r\theta}$=-0.76; $M_{r\phi}$=0.53; $M_{\theta r}$=-0.31; Fault plane solution: M_0=1.11000×10^{19} NP1:φs296.62000°, δ65.16000°, λ35.44000°. NP2:φs189.98000°, δ58.25000°, λ150.40000°. Principal axes: T 1.2499, Plg42.0000°, Azm156.0000°; N -0.3965, Plg48.0000°, Azm327.0000°; P -0.8535, Plg4.0000°, Azm62.0000°;*
*IDC **31** 15:02:33.5±0.3, 16˚.21S×167˚.98E, h182km±2km, mb5.8/27, mbtmp6.2/30, MS5.7/32 Error ellipse: s-maj=8.3km s-min=5.8km az=74.0*
*IPGP **31** 15:02:33.0, 16˚.16S×167˚.95E, h188km, Mw6.8, Fault plane solution: NP1:φs187.00000°, δ64.00000°, λ155.00000°. NP2:φs289.00000°, δ68.00000°, λ29.00000°.*
*NEIC **31** 15:02:33.6, 16˚.16S×167˚.95E, h190km*
*NEIC **31** 15:02:33.6, 16˚.16S×168˚.05E, h190km, Moment Tensor Solution. Duration: 10s3 Moment tensor: Scale 10^{19}Nm; M_{rr}=0.14; $M_{\theta\theta}$=0.30; $M_{\phi\phi}$=-0.43; $M_{r\theta}$=-0.62; $M_{r\phi}$=0.66; $M_{\theta r}$=-0.36; Fault plane solution: M_0=1.05000×10^{19} NP1: φs188.67000°, δ65.50000°, λ154.80000°. NP2: φs289.72000°, δ67.20000°, λ26.74000°. Principal axes: T 1.1823, Plg35.0000°, Azm150.0000°; N -0.3552, Plg55.0000°, Azm327.0000°; P -0.8271, Plg1.0000°, Azm59.0000°;*
*NOU **31** 15:02:34.0, 16˚.16S×167˚.94E, h179km, ML6.3/170, Vanuatu Islands*
*NEIC **31** 15:02:34, 16˚.17S×167˚.95E, h184km*
*GCMT **31** 15:02:36.8±0.0, 16˚.28S×167˚.85E, h188km, MW6.6/177, Moment Tensor Solution. s173,c468; s177,c838; Duration: 5s0 Moment tensor: Scale 10^{19}Nm; M_{rr}=0.20±.00; $M_{\theta\theta}$=0.33±.00; $M_{\phi\phi}$=-0.53±.00; $M_{r\theta}$=-0.72±.00; $M_{\theta\phi}$=0.61±.00; $M_{\phi r}$=0.34±.00; Best double couple: M_0=1.05200×10^{19} NP1:φs191.00000°, δ63.00000°, λ154.00000°. NP2:φs293.00000°, δ67.00000°, λ30.00000°. Principal axes: T 1.2510, Plg37.0000°, Azm153.0000°; N -0.3970, Plg53.0000°, Azm328.0000°; P -0.8540, Plg3.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 31 15:02:33.2±0.2,**16.22S**±0.03×**168.08E**±0.03,**h188**km±1km, **h188**km/**pP-P,n2007,**σ1§**59**/2277,**mb6.1**/468,**70C-143D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLAKA	**Lakatoro**	**0.64**	**280**	P	**Pn**	**15 02 58.4**	**-1.1**
VLAKA	**Lakatoro**	**0.64**	**280**	S	**Sn**	**15 03 19.6**	**-0.1**
INH	**Isangel**	**3.50**	**161**	P	**Pn**	**15 03 29.7**	**+1.3**
KOUNC	**Koumac, New Ca**	**5.62**	**219**	P	**Pn**	**15 03 56.1**	**+0.8**
LUES	**Luesalemba Tem**	**5.91**	**339**	P	**Pn**	**15 03 57.3**	**-1.9**
LUES	**Luesalemba Tem**	**5.91**	**339**	S	**Sn**	**15 05 04.5**	**-2.5**
YATNC	**Mamie plateau,**	**5.92**	**191**	P	**Pn**	**15 03 59.3**	**0.0**
DZM	**Mont Dzumac**	**6.03**	**195**		**Pn**	**15 04 01.1**	**+0.3**
DZM	**Mont Dzumac**	**6.03**	**195**	*e*P	**Pn**	**15 03 58.8**	**-1.9**
	25μm,1.6s						
DZM				*e*LR	LR	15 05 07.7	
	13μm,1.9s						
DZM	**Mont Dzumac**	**6.03**	**195**	P	**Pn**	**15 04 00.6**	**-0.2**
	3μm,1.0s,baz=30,slow=15,SNR=377						
DZM				S	**Sn**	**15 05 09.5**	**-0.3**
	1μm,0.9s,baz=300,slow=20,SNR=12						
DZM	**Mont Dzumac**	**6.03**	**195**	P	**Pn**	**15 04 01.5**	**+0.8**
DZM	**Mont Dzumac**	**6.03**	**195**	⇓P	**Pn**	**15 04 00.5**	**-0.2**
I22FR	**PORTLAGUERRE I**	**6.05**	**191**	P	**Pn**	**15 04 01.4**	**+0.5**
	baz=28,slow=22,SNR=5.2						
ONTNC	**Ouen Toro**	**6.25**	**194**		**Pn**	**15 04 04.3**	**+0.8**
ONTNC	**Ouen Toro**	**6.25**	**194**	P	**Pn**	**15 04 05.8**	**+2.2**
ONTNC	**Ouen Toro**	**6.25**	**194**	⇓P	**Pn**	**15 04 03.9**	**+0.3**
OUENC	**Ouen Island, N**	**6.28**	**191**	P	**Pn**	**15 04 05.5**	**+1.5**
PINNC	**Pines Island,**	**6.39**	**185**		**Pn**	**15 04 06.3**	**+0.9**
PINNC	**Pines Island,**	**6.39**	**185**	P	**Pn**	**15 04 06.9**	**+1.5**
HURO	**Huro Makira**	**8.29**	**313**	P	**Pn**	**15 04 30.6**	**+0.2**
HURO	**Huro Makira**	**8.29**	**313**	S	**Sn**	**15 06 01.5**	**-2.0**
YSA	**Yasawairara**	**9.13**	**94**	P	**Pn**	**15 04 45.7**	**+4.4**
MSVF	**Nonsavu**	**9.66**	**100**		**Pn**	**15 04 52.6**	**+4.2**
MSVF	**Nonsavu**	**9.66**	**100**	P	**Pn**	**15 04 52.1**	**+3.7**
MSVF	**Nonsavu**	**9.66**	**100**	*ce*P	**Pn**	**15 04 53.1**	**+4.7**
MSVF				pmax	pmax		
	comp=Z,3μm,1.4s						
ALEG	**Aligegeo Malai**	**10.34**	**315**	P	**Pn**	**15 04 56.7**	**-0.4**
HNR	**Honiara**	**10.40**	**309**		**Pn**	**15 04 57.7**	**-0.3**
HNR	**Honiara**	**10.40**	**309**	P	**Pn**	**15 04 57.4**	**-0.6**
	comp=Z,1μm,0.8s,baz=135,slow=13,SNR=33						
HNR				S	**S**	**15 06 55.4**	**+0.8**
	comp=Z,4μm,0.7s,baz=90,slow=18,SNR=5.7						
HNR	**Honiara**	**10.40**	**309**	P	**Pn**	**15 04 58.4**	**+0.4**
SAVO	**Savo Central**	**10.69**	**310**	P	**Pn**	**15 05 01.7**	**0.0**
DGTI	**Dogotuki**	**11.20**	**92**	P	**P**	**15 05 12.4**	**-2.3**
TATA	**Tatamba Isabel**	**11.22**	**313**	P	**Pn**	**15 05 08.0**	**-0.5**
TAVE	**Taveuni**	**11.54**	**94**	P	**P**	**15 05 17.2**	**-1.3**
LKBA	**Tubou, Lakemba**	**12.68**	**101**	P	**P**	**15 05 30.4**	**-0.8**
NFK	**Norfolk Island**	**12.77**	**181**	⇑P	**Pn**	**15 05 29.4**	**+1.2**
FUNA	**Funafuti**	**13.28**	**56**		**Pn**	**15 05 35.8**	**+1.1**
FUNA	**Funafuti**	**13.28**	**56**	P	**P**	**15 05 37.0**	**-0.8**
FUNA	**Funafuti**	**13.28**	**56**	⇓P	**Pn**	**15 05 36.0**	**+1.4**
FUTU	**Fugatoga**	**13.45**	**84**	P	**P**	**15 05 41.1**	**+1.3**
LHI	**Lord Howe Isla**	**17.31**	**207**	P	**Pn**	**15 06 23.2**	**-0.5**
LHI	**Lord Howe Isla**	**17.31**	**207**	⇑P	**Pn**	**15 06 24.2**	**+0.5**
RAO	**Raoul Island**	**18.28**	**138**	P	**Pn**	**15 06 34.5**	**-0.7**
	comp=Z,339nm,0.4s,baz=318,slow=1.6,SNR=29						
RAO				S	**Sn**	**15 09 58.1**	**-3.5**
	comp=Z,368nm,0.8s,baz=47,slow=22,SNR=1.6						
RAO				LR	LR	15 11 19.0	
	comp=Z,106μm,21.2s,baz=323,slow=29						
RAO	**Raoul Island**	**18.28**	**138**	⇑P	**Pn**	**15 06 34.1**	**-1.1**
GLKZ	**Green Lake**	**18.29**	**138**	P	**Pn**	**15 06 34.6**	**-0.7**
EIDS	**Eidsvold**	**18.30**	**237**		**Pn**	**15 06 34.9**	**-0.5**
EIDS	**Eidsvold**	**18.30**	**237**	P	**Pn**	**15 06 35.2**	**-0.3**
EIDS	**Eidsvold**	**18.30**	**237**	⇑P	**Pn**	**15 06 34.8**	**-0.7**
OUZ	**Omahuta**	**19.56**	**166**	P	**Pn**	**15 06 49.5**	**-0.7**
OUZ	**Omahuta**	**19.56**	**166**	⇑P	**Pn**	**15 06 49.2**	**-1.0**
AFI	**Afiamalu**	**19.59**	**86**	P	**P**	**15 06 48.4**	**+1.1**
AFI	**Afiamalu**	**19.59**	**86**	P	**Pn**	**15 06 52.0**	**+1.1**
AFI	**Afiamalu**	**19.59**	**86**	P	**P**	**15 06 48.4**	**+1.1**
AFI	**Afiamalu**	**19.59**	**86**	⇑P	**P**	**15 06 47.0**	**-0.2**
RABL	**Rabaul**	**19.68**	**306**	P	**P**	**15 06 46.3**	**-1.9**
RABL	**Rabaul**	**19.68**	**306**	⇓P	**P**	**15 06 45.7**	**-2.5**
WCZ	**Waipu Caves**	**20.42**	**165**	P	Pn	15 06 58.8	-1.9
ARMA	**Armidale**	**20.65**	**224**	P	**P**	**15 06 59.4**	**+0.8**
ARMA				PcP	**PcP**	**15 11 02.3**	**+1.4**
ARMA	**Armidale**	**20.65**	**224**	P	**P**	**15 06 59.9**	**+1.4**
ARMA	**Armidale**	**20.65**	**224**	⇑P	**P**	**15 07 00.6**	**+2.0**
RMQ	**Roma**	**20.67**	**237**	P	**P**	**15 07 00.7**	**+2.0**
GRZ	**Great Barrier**	**21.01**	**163**	P	**P**	**15 07 05.8**	**+3.7**
CTAO	**Charters Tower**	**21.09**	**256**		**P**	**15 07 03.3**	**+0.1**
CTAO	**Charters Tower**	**21.09**	**256**	P	**P**	**15 07 04.4**	**+1.2**
CTAO	**Charters Tower**	**21.09**	**256**	P	**P**	**15 07 03.3**	**+0.1**
CTAO	**Charters Tower**	**21.09**	**256**	⇓P	**P**	**15 07 03.4**	**+0.1**
NIUE	**Niue**	**21.15**	**101**	P	**P**	**15 07 03.0**	**-0.8**
NIUE	**Niue**	**21.15**	**101**	P	**P**	**15 07 06.7**	**+2.9**
NIUE	**Niue**	**21.15**	**101**	P	**P**	**15 07 05.8**	**+2.0**
NIUE	**Niue**	**21.15**	**101**	⇑P	**P**	**15 07 02.3**	**-1.5**
ABAZ	**Army Bay**	**21.17**	**165**	P	**P**	**15 07 07.5**	**+3.6**
MBAZ	**Motutapu North**	**21.35**	**165**	P	**P**	**15 07 08.7**	**+3.0**
WTAZ	**Waiatarua**	**21.43**	**166**	P	**P**	**15 07 10.7**	**+4.2**
WIAZ	**Waiheke Island**	**21.43**	**164**	P	**P**	**15 07 10.2**	**+3.7**
PMG	**Port Moresby**	**21.48**	**286**	P	**P**	**15 07 07.5**	**+0.2**
	comp=Z,3μm,0.8s,baz=86,slow=6.3,SNR=148						
PMG				PcP	**PcP**	**15 11 04.3**	**+1.7**
	comp=Z,61nm,0.9s,baz=100,slow=4.1,SNR=1.4						
PMG				ScP	**ScP**	**15 14 24.7**	**+2.6**
	comp=Z,245nm,1.2s,baz=90,slow=1.0,SNR=7.0						
	comp=Z,3μm,0.8s						
PMG	**Port Moresby**	**21.48**	**286**	P	**P**	**15 07 08.0**	**+0.6**
PMG	**Port Moresby**	**21.48**	**286**	P	**P**	**15 07 07.8**	**+0.5**
PMG	**Port Moresby**	**21.48**	**286**	*de*P	**P**	**15 07 07.9**	**+0.6**
PMG				pmax	pmax		
	comp=Z,3μm,0.9s						
PMG	**Port Moresby**	**21.48**	**286**	⇓P	**P**	**15 07 07.7**	**+0.3**
ETAZ	**East Tamaki Re**	**21.53**	**165**	P	**P**	**15 07 11.2**	**+3.6**
KUZ	**Kuaotunu**	**21.55**	**163**	P	**P**	**15 07 10.5**	**+2.7**
KUZ	**Kuaotunu**	**21.55**	**163**	P	**P**	**15 07 10.0**	**+2.3**
AWAZ	**Awhitu Peninsu**	**21.57**	**166**	P	**P**	**15 07 11.8**	**+3.8**
MKAZ	**Moumakai**	**21.73**	**165**	P	**P**	**15 07 12.2**	**+2.5**
NTLH	**Newcastle Hard**	**22.26**	**219**	P	**P**	**15 07 16.3**	**+1.4**
TOZ	**Tahuroa Road**	**22.41**	**164**		**P**	**15 07 18.1**	**+1.9**
TOZ	**Tahuroa Road**	**22.41**	**164**	P	**P**	**15 07 18.4**	**+2.1**
WIZ	**White Island**	**22.70**	**161**	P	**P**	**15 07 23.9**	**+5.0**
MTSU	**Mount Surprise**	**22.78**	**262**	P	**P**	**15 07 20.7**	**+0.9**
OPRZ	**Ohinepanea**	**22.81**	**162**	P	**P**	**15 07 23.0**	**+3.2**
MGCD	**Mangrove Creek**	**22.83**	**219**	P	**P**	**15 07 22.2**	**+2.1**
KARZ	**Kaharoa**	**22.88**	**163**	P	**P**	**15 07 23.8**	**+3.2**
WHRZ	**Whale Island**	**22.94**	**162**	P	**P**	**15 07 24.5**	**+3.5**
NGRZ	**Ngongotaha**	**22.94**	**163**	P	**P**	**15 07 24.5**	**+3.4**
MARZ	**Manawahe**	**22.97**	**162**	P	**P**	**15 07 25.0**	**+3.7**
TLZ	**Tolley Road**	**22.99**	**165**	P	**P**	**15 07 24.5**	**+3.0**
HIZ	**Hauiti**	**23.00**	**166**		**P**	**15 07 24.0**	**+2.5**
HIZ	**Hauiti**	**23.00**	**166**	P	**P**	**15 07 23.8**	**+2.3**
HIZ	**Hauiti**	**23.00**	**166**	P	**P**	**15 07 24.5**	**+3.0**
OMRZ	**Omania**	**23.00**	**163**	P	**P**	**15 07 24.4**	**+2.8**
UTU	**Utuhina**	**23.02**	**163**	P	**P**	**15 07 25.3**	**+3.6**
MKRZ	**Makatiti**	**23.06**	**163**	P	**P**	**15 07 25.1**	**+2.9**
EDRZ	**Edgecumbe**	**23.10**	**162**	P	**P**	**15 07 26.5**	**+3.9**
HAZ	**Te Kaha**	**23.11**	**160**	P	**P**	**15 07 24.5**	**+2.0**
MXZ	**Matakaoa Point**	**23.11**	**159**		**P**	**15 07 24.3**	**+1.8**
MXZ				IAmb	IAmb	15 07 33.0	
	comp=Z,671nm,0.9s						
MXZ	**Matakaoa Point**	**23.11**	**159**	P	**P**	**15 07 24.5**	**+2.0**
MXZ	**Matakaoa Point**	**23.11**	**159**	P	**P**	**15 07 24.4**	**+2.0**
MXZ				S	**S**	**15 11 19.7**	**+0.3**
HLRZ	**Highlands Stat**	**23.13**	**163**	P	**P**	**15 07 26.9**	**+4.1**
GRRZ	**Galatos Road**	**23.16**	**164**	P	**P**	**15 07 26.1**	**+3.1**
HSRZ	**Hossack Road**	**23.16**	**163**	P	**P**	**15 07 26.7**	**+3.7**
TARZ	**Mount Tarawera**	**23.16**	**163**	P	**P**	**15 07 26.9**	**+3.8**
KUTZ	**Kaahu Road**	**23.21**	**164**	P	**P**	**15 07 26.8**	**+3.3**
RIV	**Riverview**	**23.23**	**218**	P	**P**	**15 07 26.2**	**+2.5**
RIV	**Riverview**	**23.23**	**218**	⇑P	**P**	**15 07 24.9**	**+1.2**
HRRZ	**Handcock Road**	**23.24**	**163**	P	**P**	**15 07 27.3**	**+3.5**
RRRZ	**Republican Roa**	**23.26**	**163**	P	**P**	**15 07 27.6**	**+3.6**
RUGZ	**Raukumara Rang**	**23.26**	**161**	P	**P**	**15 07 25.8**	**+1.7**
RUGZ				S	**S**	**15 11 23.9**	**+1.8**
PKGZ	**Pakihiroa**	**23.30**	**160**	P	**P**	**15 07 26.2**	**+1.9**
PKGZ				S	**S**	**15 11 23.6**	**+1.0**
WPRZ	**Whakapapatarin**	**23.33**	**164**	P	**P**	**15 07 29.0**	**+4.5**
URZ	**Urewera**	**23.36**	**162**	LR	LR	15 15 36.1	
	comp=Z,11μm,18.7s,baz=343,slow=34						
URZ	**Urewera**	**23.36**	**162**	P	**P**	**15 07 27.0**	**+2.3**
URZ	**Urewera**	**23.36**	**162**	P	**P**	**15 07 26.5**	**+1.8**
URZ				S	**S**	**15 11 25.4**	**+2.0**
URZ	**Urewera**	**23.36**	**162**	⇑P	**P**	**15 07 25.9**	**+1.2**
PRRZ	**Plateau Road**	**23.37**	**163**	P	**P**	**15 07 28.0**	**+3.1**
WMGZ	**Waiomatatini S**	**23.37**	**159**	P	**P**	**15 07 26.3**	**+1.4**
WATZ	**Wairara**	**23.39**	**165**	P	**P**	**15 07 28.7**	**+3.5**
WHTZ	**Whakaora**	**23.41**	**164**	P	**P**	**15 07 29.1**	**+3.7**
ALRZ	**Allen Road**	**23.42**	**164**	P	**P**	**15 07 28.9**	**+3.6**
SYDH	**Sydney Hard Ro**	**23.44**	**219**	P	**P**	**15 07 26.7**	**+1.2**
MUGZ	**Murupara**	**23.46**	**163**	P	**P**	**15 07 28.2**	**+2.5**
MUGZ				S	**S**	**15 11 27.1**	**+2.0**
PKE	**Pukeiti**	**23.47**	**168**	P	**P**	**15 07 29.9**	**+4.0**
DREZ	**Durham Road**	**23.51**	**168**	P	**P**	**15 07 30.5**	**+4.3**
PUZ	**Puketiti**	**23.55**	**160**	P	**P**	**15 07 28.2**	**+1.6**
MWZ	**Matawai**	**23.55**	**161**	P	**P**	**15 07 28.1**	**+1.5**
MWZ				S	**S**	**15 11 26.3**	**-0.4**
TWGZ	**Tauwhareparae**	**23.55**	**160**	P	**P**	**15 07 28.9**	**+2.3**
RATZ	**Rangitukua**	**23.55**	**165**	P	**P**	**15 07 29.2**	**+2.5**
NEZ	**North Egmont**	**23.57**	**168**	P	**P**	**15 07 30.9**	**+4.1**
KHEZ	**Kahui Hut**	**23.57**	**168**	P	**P**	**15 07 30.7**	**+3.9**
KHEZ	**Kahui Hut**	**23.57**	**168**	P	**P**	**15 07 30.9**	**+4.0**
KATZ	**Kakaramea**	**23.64**	**165**	P	**P**	**15 07 30.2**	**+2.7**
RTZ	**Ruatahuna**	**23.65**	**162**		**P**	**15 07 28.7**	**+1.2**
RTZ	**Ruatahuna**	**23.65**	**162**	P	**P**	**15 07 29.7**	**+2.2**
PREZ	**Palmer Road**	**23.65**	**168**	P	**P**	**15 07 33.1**	**+5.6**
RAGZ	**Rawiri**	**23.66**	**162**	P	**P**	**15 07 30.3**	**+2.7**
TWVZ	**Taurewa**	**23.67**	**166**	P	**P**	**15 07 30.3**	**+2.6**
RITZ	**Rihia Road**	**23.68**	**165**	P	**P**	**15 07 31.8**	**+4.1**
MRHZ	**Matea Rd**	**23.69**	**164**	P	**P**	**15 07 30.4**	**+2.5**
KRVZ	**Karewarewa**	**23.74**	**165**	P	**P**	**15 07 31.0**	**+2.6**
WTVZ	**West Tongariro**	**23.75**	**165**	P	**P**	**15 07 31.4**	**+2.9**
TKGZ	**Te Karaka**	**23.75**	**161**	P	**P**	**15 07 30.1**	**+1.8**
TMVZ	**Te Maari**	**23.77**	**165**	P	**P**	**15 07 32.3**	**+3.6**
ETVZ	**East Tongariro**	**23.79**	**165**	P	**P**	**15 07 32.6**	**+3.7**
NGZ	**Ngauruhoe**	**23.80**	**165**	P	**P**	**15 07 32.4**	**+3.4**
OTVZ	**Oturere**	**23.81**	**165**	P	**P**	**15 07 31.8**	**+2.7**
LREZ	**Lake Rotokare**	**23.81**	**168**	P	**P**	**15 07 33.0**	**+4.1**
COVZ	**Chateau Observ**	**23.81**	**166**	P	**P**	**15 07 31.7**	**+2.7**
SNVZ	**South Ngauruho**	**23.82**	**165**	P	**P**	**15 07 31.9**	**+2.7**
MTHZ	**Maungataniwha**	**23.83**	**163**	P	**P**	**15 07 31.6**	**+2.5**
PKVZ	**Pokaka**	**23.85**	**166**	P	**P**	**15 07 32.5**	**+3.1**
FWVZ	**Far West T-bar**	**23.87**	**166**	P	**P**	**15 07 32.3**	**+2.5**
MAVZ	**Matarangi**	**23.88**	**166**	P	**P**	**15 07 33.2**	**+3.3**
WHVZ	**Whangaehu Hut**	**23.90**	**166**	P	**P**	**15 07 32.9**	**+2.8**
CNGZ	**Carnagh Statio**	**23.91**	**160**	P	**P**	**15 07 31.8**	**+2.1**
TUVZ	**Tukino**	**23.91**	**165**	P	**P**	**15 07 34.4**	**+4.4**
SNGZ	**Shannon Statio**	**23.91**	**162**	P	**P**	**15 07 31.1**	**+1.3**
TRVZ	**Turoa**	**23.91**	**166**	P	**P**	**15 07 33.0**	**+2.9**
WNVZ	**Wahianoa**	**23.95**	**166**	P	**P**	**15 07 33.9**	**+3.5**
RAHZ	**Arahi**	**23.96**	**162**	P	**P**	**15 07 31.7**	**+1.4**
RIGZ	**Rimuhau**	**23.96**	**161**	P	**P**	**15 07 32.2**	**+1.9**
MTVZ	**Mangateitei**	**23.97**	**166**	P	**P**	**15 07 34.1**	**+3.7**
BKZ	**Black Stump Fm**	**24.02**	**164**	P	**P**	**15 07 32.7**	**+1.8**
BKZ	**Black Stump Fm**	**24.02**	**164**	P	**P**	**15 07 32.0**	**+1.1**
NMHZ	**Naumai**	**24.05**	**163**	P	**P**	**15 07 33.3**	**+2.2**
MOVZ	**Moawhango**	**24.06**	**165**	P	**P**	**15 07 33.7**	**+2.4**
COEN	**Coen**	**24.14**	**272**		**P**	**15 07 32.5**	**+0.3**
COEN				PcP	**PcP**	**15 11 08.6**	**+0.4**
COEN	**Coen**	**24.14**	**272**	P	**P**	**15 07 32.5**	**+0.3**
COEN	**Coen**	**24.14**	**272**	⇓P	**P**	**15 07 32.4**	**+0.1**
WHHZ	**Waihua**	**24.15**	**162**	P	**P**	**15 07 34.1**	**+2.1**
WAZ	**Wanganui**	**24.22**	**167**	P	**P**	**15 07 34.0**	**+1.4**
KNZ	**Kokohu**	**24.23**	**162**	P	**P**	**15 07 34.4**	**+1.7**
ARHZ	**Aropaoanui**	**24.25**	**163**	P	**P**	**15 07 34.4**	**+1.5**
MCHZ	**McNeill Hill**	**24.34**	**164**	P	**P**	**15 07 35.2**	**+1.5**
QLP	**Quilpie**	**24.44**	**241**	P	**P**	**15 07 35.3**	**+0.5**
QLP	**Quilpie**	**24.44**	**241**	⇑P	**P**	**15 07 35.0**	**+0.2**
TSZ	**Takapari Road**	**24.73**	**165**	P	**P**	**15 07 38.0**	**+0.7**
MANU	**Manus Island**	**24.78**	**303**		**P**	**15 07 38.1**	**0.0**
MANU	**Manus Island**	**24.78**	**303**	⇑P	**P**	**15 07 38.2**	**+0.2**
QRZ	**Quartz Range**	**24.82**	**172**		**P**	**15 07 39.8**	**+1.7**
QRZ	**Quartz Range**	**24.82**	**172**	P	**P**	**15 07 39.8**	**+1.7**
QRZ	**Quartz Range**	**24.82**	**172**	P	**P**	**15 07 40.4**	**+2.3**
PATS	**Pohnpei**	**24.86**	**336**	P	**P**	**15 07 37.8**	**-0.8**
PATS				PcP	**PcP**	**15 11 12.2**	**+2.5**
PATS	**Pohnpei**	**24.86**	**336**	P	**P**	**15 07 39.7**	**+1.0**
PWZ	**Pawanui**	**24.93**	**164**	P	**P**	**15 07 39.6**	**+0.6**
PXZ	**Pawanui**	**24.93**	**164**	P	**P**	**15 07 39.8**	**+0.7**
MRZ	**Mangatainoka R**	**25.21**	**167**		**P**	**15 07 41.3**	**-0.4**
MRZ	**Mangatainoka R**	**25.21**	**167**	P	**P**	**15 07 42.5**	**+0.9**
CNB	**Canberra Magne**	**25.33**	**218**	P	**P**	**15 07 43.6**	**+0.8**
NNZ	**Nelson**	**25.33**	**171**	P	**P**	**15 07 44.4**	**+1.7**
BFZ	**Birch Farm**	**25.39**	**165**	P	**P**	**15 07 44.1**	**+0.9**
BFZ	**Birch Farm**	**25.39**	**165**	P	**P**	**15 07 43.5**	**+0.3**
CMSA	**Cobar Meteorol**	**25.45**	**229**	P	**P**	**15 07 44.1**	**+0.2**
TCW	**Tory Channel**	**25.48**	**169**		**P**	**15 07 44.8**	**+0.8**
CAN	**Canberra**	**25.55**	**218**		**P**	**15 07 45.1**	**+0.3**
CAN	**Canberra**	**25.55**	**218**	P	**P**	**15 07 45.9**	**+1.1**
CAN	**Canberra**	**25.55**	**218**	P	**P**	**15 07 45.1**	**+0.3**
CAN				pmax	pmax		
	comp=Z,1μm,1.5s						
CAN	**Canberra**	**25.55**	**218**	⇑P	**P**	**15 07 45.3**	**+0.5**
DSZ	**Denniston Nort**	**25.64**	**174**	P	**P**	**15 07 47.4**	**+1.8**
DSZ				PcP	**PcP**	**15 11 10.9**	**-0.1**
DSZ	**Denniston Nort**	**25

ASAR LR LR 15 21 09.9
comp=Z,29µm,19.3s,baz=84,slow=34
ASAR P3KPbc 15 40 07.5
comp=Z,4.6nm,0.8s,baz=270,slow=4.1,SNR=31
ASAR P3KP 15 41 23.3
comp=Z,2.5nm,1.1s,baz=202,slow=3.8,SNR=4.5
comp=Z,854nm,0.7s
BBOO Buckleboo 33.32 234 P P 15 08 53.4 0.0
SRPI Serui, Papua 34.44 291 P P 15 09 03.2 0.0
comp=Z,21µmcomp=Z,7µmcomp=Z,461nm,0.9s
KDU Kakadu 34.63 271 P P 15 09 04.5 -0.3
KDU Kakadu 34.63 271 ⇓P P 15 09 04.1 -0.7
BAKI Biak 34.86 292 P P 15 09 08.5 +1.7
comp=Z,32µmcomp=Z,19µmcomp=Z,2µm,0.9s
MTN Manton Dam 35.89 270 P P 15 09 14.2 -1.4
MTN IAmb IAmb 15 09 19.7
comp=Z,257nm,0.7s
MTN Manton Dam 35.89 270 P P 15 09 15.7 +0.1
MTN Manton Dam 35.89 270 ⇓P P 15 09 14.8 -0.8
KMPI Kaimana, Papua 36.01 287 P P 15 09 16.6 0.0
comp=Z,26µmcomp=Z,16µmcomp=Z,1µm,0.7s
DRS Darwin Rock St 36.19 271 P P 15 09 18.7 +0.6
RKPI Ransiki, Papua 36.45 290 P P 15 09 21.1 +0.7
comp=Z,30µmcomp=Z,27µmcomp=Z,1µm,0.8s
SAUI Saumlaki 36.83 278 P P 15 09 23.8 +0.2
SAUI Saumlaki 36.83 278 P P 15 09 23.8 +0.2
comp=Z,45µmcomp=Z,22µmcomp=Z,2µm,1.1s
SAUI Saumlaki 36.83 278 ⇓P P 15 09 24.3 +0.7
GUMO Guam 37.46 321 P P 15 09 28.2 -0.6
GUMO Guam 37.46 321 ScP ScP 15 15 14.6 +1.7
comp=Z,89nm,0.7s,baz=212,slow=2.2,SNR=9.4
GUMO Guam 37.46 321 P P 15 09 29.5 +0.7
GUMO Guam 37.46 321 P P 15 09 28.2 -0.6
GUMO pmax pmax
comp=Z,640nm,0.7s
GUMO Guam 37.46 321 ⇓P P 15 09 28.3 -0.5
FAKI Fak Fak 37.63 287 P P 15 09 30.0 -0.4
FAKI Fak Fak 37.63 287 P P 15 09 30.4 +0.1
FAKI Fak Fak 37.63 287 P P 15 09 29.9 -0.4
comp=Z,24µmcomp=Z,16µmcomp=Z,761nm,0.8s
FAKI Fak Fak 37.63 287 ⇓P P 15 09 29.9 -0.4
XMAS Kiritimati 38.59 65 P P 15 09 40.1 +1.7
XMAS Kiritimati 38.59 65 P P 15 09 40.9 +2.6
XMAS Kiritimati 38.59 65 ⇓P P 15 09 40.8 +2.5
XMAS Kiritimati 38.59 65 P P 15 09 40.8 +2.5
BNDI Bandanaira 39.22 283 P P 15 09 42.8 -0.9
comp=Z,25µmcomp=Z,3µm,1.3s
BNDI Bandanaira 39.22 283 ⇓P P 15 09 42.7 -0.9
FORT Forrest 39.24 241 IAmb IAmb 15 09 46.2
comp=Z,583nm,1.4s
SWI Sorong 39.36 289 P P 15 09 44.4 -0.3
comp=Z,23µmcomp=Z,13µmcomp=Z,909nm,0.7s
JOHN Johnston Islan 39.49 35 P P 15 09 46.3 +0.6
JOHN Johnston Islan 39.49 35 P P 15 09 47.4 +1.7
JOHN Johnston Islan 39.49 35 ⇓P P 15 09 46.8 +1.1
JOHN Johnston Islan 39.49 35 P P 15 09 46.1 +0.5
TBI Tubuai 40.47 107 *eP* **P 15 09 54.7 +0.9**
comp=Z,396nm,1.1s
TBI *e*S **S 15 15 48.5 +0.1**
comp=Z,111µm,29.2s
TBI *e*SS **SS 15 19 03.7 +7.9**
comp=Z,165µm,27.8s
TBI *e*LR LR 15 21 23.1
comp=Z,79µm,28.0s
TBI *e*LR LR 15 21 24.5
comp=Z,17µm,37.5s
PAE Paea 40.47 98 *eP* **P 15 09 49.8 -4.0**
comp=Z,68nm,1.2s
PPT2 Papeete2 40.48 98 *eP* **P 15 09 49.8 -4.2**
comp=Z,211nm,1.4s
PPT2 *e*S **S 15 15 43.4 -5.5**
comp=Z,24µm,26.8s
PPT2 *e*SS **SS 15 19 02.8 +6.4**
comp=Z,133µm,25.2s
PPT2 *e*LR LR 15 21 19.1
comp=Z,24µm,27.8s
PPT2 *e*LR LR 15 21 24.9
comp=Z,30µm,24.5s
PPT Papeete 40.48 98 P P 15 09 55.9 +1.9
comp=Z,119nm,0.8s,baz=270,slow=16,SNR=9.1
comp=Z,119nm,0.8s
PPTF Pamatai, Papee 40.49 98 P P 15 09 55.1 +1.0
PPTF Pamatai, Papee 40.49 98 P P 15 09 57.4 +3.3
PPTF Pamatai, Papee 40.49 98 ⇑P P 15 09 55.2 +1.1
FITZ Fitzroy Crossi 40.53 261 pP pP 15 10 33.5 +0.3
comp=Z,154nm,0.8s,baz=94,slow=12,SNR=1.4
FITZ ScP **ScP 15 15 26.6 +1.7**
comp=Z,33nm,0.8s,baz=153,slow=7.2,SNR=3.6
FITZ S **S 15 15 44.9 -4.6**
comp=Z,38nm,1.0s,baz=263,slow=19,SNR=2.8
FITZ LR LR 15 26 17.2
comp=Z,28µm,21.1s,baz=90,slow=35
MSAI Masohi 40.55 284 P P 15 09 53.3 -1.2
comp=Z,27µmcomp=Z,6µmcomp=Z,610nm,0.8s
TVO Taravao 40.77 99 *eP* **P 15 09 57.2 +0.8**
comp=Z,154nm,1.3s
AAI Ambon 41.11 283 P P 15 09 58.0 -1.1
comp=Z,21µmcomp=Z,14µmcomp=Z,1µm,0.9s
NLAI Namlea 42.29 283 P P 15 10 08.7 0.0
comp=Z,30µmcomp=Z,26µmcomp=Z,2µm,0.9s
PMOR Pomariorio Ree 42.36 95 *eP* **P 15 10 06.4 -2.8**
PMOR *ep*P **pP 15 10 50.0 +1.2**
comp=Z,606nm,1.3s
VAH Vaihoa 42.59 95 *eP* **P 15 10 11.2 +0.1**
comp=Z,145nm,1.1s
VAH *ep*P **pP 15 10 45.2 -5.4**
comp=Z,164nm,1.1s
SOEI Soe 43.10 273 P P 15 10 16.4 +1.0
SOEI Soe 43.10 273 P P 15 10 15.6 +0.2
SOEI Soe 43.10 273 P P 15 10 17.5 +2.1
SOEI Soe 43.10 273 P P 15 10 15.8 +0.4
comp=Z,22µmcomp=Z,24µmcomp=Z,783nm,0.8s
SOEI Soe 43.10 273 ⇓P P 15 10 16.1 +0.7
TNTI Ternate 43.58 289 P P 15 10 19.3 +0.3
TNTI Ternate 43.58 289 P P 15 10 19.6 +0.6
TNTI Ternate 43.58 289 P P 15 10 18.7 -0.3
comp=Z,6µmcomp=Z,201nm,0.7s
TNTI Ternate 43.58 289 ⇓P P 15 10 19.1 0.0
BATI Baumata 43.58 272 PP PP 15 12 04.9 +0.4
comp=Z,197nm,0.7s,baz=120,slow=8.1,SNR=2.0
BATI ScP **ScP 15 15 39.6 +2.5**
comp=Z,45nm,0.6s,baz=79,slow=20,SNR=4.1
BATI S **S 15 16 31.8 -2.7**
comp=Z,38nm,0.8s,baz=168,slow=23,SNR=0.9
BATI LR LR 15 27 46.1
comp=Z,27µm,21.8s,baz=124,slow=35
BATI Baumata 43.58 272 P P 15 10 20.0 +0.9
SANI Sanana 43.75 284 P P 15 10 20.3 -0.2
SANI Sanana 43.75 284 P P 15 10 20.8 +0.4
SANI Sanana 43.75 284 P P 15 10 20.1 -0.3
comp=Z,25µmcomp=Z,16µmcomp=Z,1µm,0.8s
SANI Sanana 43.75 284 ⇑P P 15 10 20.1 -0.3
MMRI Maumere 45.31 274 P P 15 10 32.2 -0.6
MMRI Maumere 45.31 274 P P 15 10 33.3 +0.5
MMRI Maumere 45.31 274 P P 15 10 32.3 -0.6
comp=Z,21µmcomp=Z,27µmcomp=Z,1µm,0.7s
MMRI Maumere 45.31 274 ⇓P P 15 10 32.4 -0.4
PSA00 Pilbara Seismi 45.80 256 P P 15 10 36.5 -0.1
PSA00 IAmb IAmb 15 10 39.4
comp=Z,948nm,1.2s
PSA00 Pilbara Seismi 45.80 256 P P 15 10 36.7 +0.1
EDFI Ende, Flores 45.81 274 P P 15 10 35.9 -0.9
comp=Z,16µmcomp=Z,20µmcomp=Z,2µm,0.9s
MBWA Marble Bar 45.93 256 P P 15 10 37.7 +0.1
MBWA IAmb IAmb 15 10 39.7
comp=Z,517nm,0.6s
MBWA Marble Bar 45.93 256 P P 15 10 37.9 +0.4
MBWA Marble Bar 45.93 256 ⇑P P 15 10 37.7 +0.1
MBWA Marble Bar 45.93 256 P P 15 10 37.9 +0.4
MBWA Marble Bar 45.93 256 P P 15 10 37.9 +0.4
SGSI Sangihe 46.48 291 P P 15 10 41.6 -0.3
comp=Z,26µmcomp=Z,20µmcomp=Z,2µm,0.8s
BASI Baing, Sumba 46.54 271 P P 15 10 42.5 +0.1
comp=Z,18µmcomp=Z,2µm,0.8s
KMSI Cibinong 46.59 287 P P 15 10 42.2 -0.6
comp=Z,28µmcomp=Z,16µmcomp=Z,2µm,0.8s
WSI Waingapu 46.93 272 P P 15 10 45.4 0.0
MEEK Meekatharra 46.95 249 P P 15 10 46.5 +1.0
LUWI Luwuk 47.11 284 P P 15 10 46.8 0.0
comp=Z,23µmcomp=Z,15µmcomp=Z,779nm,0.8s
BSSI Bau Bau, Buton 47.64 277 P P 15 10 50.0 -0.9
comp=Z,18µmcomp=Z,17µmcomp=Z,815nm,0.7s
WBSI Waikabubak, Su 47.81 272 P P 15 10 52.1 -0.2
comp=Z,17µmcomp=Z,21µmcomp=Z,2µm,0.8s
DAV Davao City (W) 48.00 296 P P 15 10 53.2 -0.4
DAV Davao City (W) 48.00 296 ⇓*i*P P 15 10 54.0 +0.3
DAV Davao City (W) 48.00 296 P P 15 10 53.1 -0.5
KLBR Kellerberrin 48.08 242 P P 15 10 54.4 +0.3
APSI Ampana 48.20 284 P P 15 10 55.2 0.0
comp=Z,16µmcomp=Z,12µmcomp=Z,903nm,1.0s
BKSI Bulukumba 48.22 277 P P 15 10 55.0 -0.4
comp=Z,15µmcomp=Z,11µmcomp=Z,900nm,0.8s
MRSI Marisa 48.44 286 P P 15 10 55.4 -1.6
comp=Z,21µmcomp=Z,5µmcomp=Z,501nm,0.9s
BNSI Bone 48.51 279 P P 15 10 57.4 -0.2
comp=Z,19µmcomp=Z,19µmcomp=Z,949nm,0.8s
KAPI Kappang 48.66 278 P P 15 10 58.8 +0.1
KAPI PcP **PcP 15 12 22.5 +1.3**
KAPI Kappang 48.66 278 P P 15 11 00.5 +1.7
KAPI Kappang 48.66 278 *de*P **P 15 10 59.5 +0.7**
KAPI pmax pmax
comp=Z,937nm,0.9s
KAPI Kappang 48.66 278 ⇓P P 15 10 59.3 +0.5
KAPI Kappang 48.66 278 P P 15 10 59.2 +0.5
KAPI Kappang 48.66 278 P P 15 10 59.3 +0.5
NWAO Narrogin (SRO) 48.67 240 P P 15 10 58.0 -0.6
NWAO IAmb IAmb 15 11 01.0
comp=Z,772nm,1.3s
NWAO Narrogin (SRO) 48.67 240 P P 15 10 58.7 +0.1
NWAO Narrogin (SRO) 48.67 240 P P 15 10 58.0 -0.6
NWAO pmax pmax
comp=Z,772nm,1.3s
BLDU Ballidu 48.88 243 P P 15 11 00.5 +0.3
SPSI Sidrap Palu 48.96 279 P P 15 11 00.3 -0.7
comp=Z,16µmcomp=Z,9µmcomp=Z,543nm,0.7s
TTSI Tana Toraja 49.20 280 P P 15 11 02.8 0.0
comp=Z,19µmcomp=Z,9µmcomp=Z,589nm,0.7s
MORW Morawa 49.34 245 IAmb IAmb 15 11 51.8
comp=Z,363nm,1.1s
MORW Morawa 49.34 245 P P 15 11 03.7 -0.1
MORW Morawa 49.34 245 ⇑P P 15 11 03.4 -0.3
MUN Mundaring 49.43 242 P P 15 11 05.0 +0.7
TOLI2 Tolitoli 49.75 286 P P 15 11 05.7 -1.3
TOLI2 IAmb IAmb 15 11 11.2
comp=Z,554nm,1.0s
TOLI2 PcP **PcP 15 12 25.9 +0.7**
TOLI2 Tolitoli 49.75 286 P P 15 11 07.1 +0.1
CBIJ Chichi jima 49.85 329 P P 15 11 06.8 -0.7
JCJ Chichijima 49.85 329 P P 15 11 07.2 -0.3
comp=Z,2µm,0.6s,baz=162,slow=2.3,SNR=94
JCJ PcP **PcP 15 12 25.6 +0.4**
comp=Z,186nm,0.7s,baz=79,slow=16,SNR=1.3
JCJ ScP **ScP 15 16 05.1 +2.1**
comp=Z,106nm,0.7s,baz=240,slow=20,SNR=2.8
JCJ S **S 15 18 02.3 -0.6**
comp=Z,98nm,0.8s,baz=279,slow=21,SNR=2.3
comp=Z,2µm,0.6s
JCJ Chichijima 49.85 329 P P 15 11 07.7 +0.2
JCJ Chichijima 49.85 329 ⇓P P 15 11 06.9 -0.6
PCI Palu 49.90 283 P P 15 11 09.2 +1.1
HON Honolulu 49.99 43 IAmb IAmb 15 11 11.7
comp=Z,498nm,0.9s
KIP Kipapa 50.05 43 P P 15 11 10.2 +1.2
KIP IAmb IAmb 15 11 11.4
comp=Z,545nm,0.9s
KIP Kipapa 50.05 43 P P 15 11 10.7 +1.7
KIP Kipapa 50.05 43 P P 15 11 10.6 +1.6
KIP Kipapa 50.05 43 *de*P **P 15 11 10.4 +1.4**
KIP pmax pmax
comp=Z,634nm,0.9s
MPSI Mapaga 50.28 284 P P 15 11 10.4 -0.6
comp=Z,25µmcomp=Z,12µmcomp=Z,2µm,0.8s
HUH Hualalai 50.31 46 IAmb IAmb 15 11 13.9
comp=Z,454nm,0.8s
HLP Hilina Pali 50.42 47 IAmb IAmb 15 11 14.7
comp=Z,798nm,1.1s
UWE Uwekahuna 50.51 47 IAmb IAmb 15 11 15.1
comp=Z,631nm,0.9s
BYL Byron's Ledge 50.53 47 IAmb IAmb 15 11 15.2
comp=Z,446nm,0.8s
PUH Pauahi 50.53 47 IAmb IAmb 15 11 15.3
comp=Z,606nm,0.9s
HATHI Halema'uma'u T 50.53 47 IAmb IAmb 15 11 15.2
comp=Z,408nm,0.9s
POHA Pohakuloa 50.57 46 P P 15 11 14.4 +1.1
POHA Pohakuloa 50.57 46 P P 15 11 14.9 +1.6
POHA Pohakuloa 50.57 46 ⇓P P 15 11 14.7 +1.4
TAOE Nuku Hiva Isla 50.96 88 P P 15 11 17.9 +1.7
TAOE IAmb IAmb 15 11 19.6
comp=Z,371nm,1.0s
TAOE Nuku Hiva Isla 50.96 88 *eP* **P 15 11 11.6 -4.5**
comp=Z,1µm,1.3s
TAOE *ep*P **pP 15 11 53.0 -4.1**
comp=Z,896nm,1.4s
TAOE *e*S **S 15 18 16.9 -1.9**
comp=Z,6µm,25.0s
TAOE *e*SS **SS 15 21 52.1 -4.3**
comp=Z,6µm,32.8s
TAOE *e*LQ LQ 15 24 00.4
comp=Z,59µm,28.0s
TAOE Nuku Hiva Isla 50.96 88 ⇑P P 15 11 17.9 +1.7
GIRL Giralia 50.96 254 IAmb IAmb 15 11 20.7
comp=Z,1µm,1.8s
SRBI Singaraja 52.19 272 P P 15 11 25.3 +0.1
comp=Z,20µmcomp=Z,20µmcomp=Z,1µm,0.7s
SMKI Samarinda 52.52 282 P P 15 11 28.4 +0.8
comp=Z,30µmcomp=Z,2µm,0.9s
BKB Balikpapan 52.54 281 P P 15 11 29.6 +1.8
comp=Z,32µmcomp=Z,14µmcomp=Z,793nm,0.8s
BKB Balikpapan 52.54 281 ⇓P P 15 11 30.0 +2.2
JAGI Jajag, Banyuwa 53.11 272 P P 15 11 31.9 -0.1
JAGI Jajag, Banyuwa 53.11 272 P P 15 11 31.2 -0.8
JAGI Jajag, Banyuwa 53.11 272 ⇑P P 15 11 30.7 -1.3
MYLDM Lahad Datu 53.45 289 IAmb IAmb 15 12 20.1
comp=Z,548nm,1.1s
MYLDM Lahad Datu 53.45 289 P P 15 11 35.3 +0.9
MYLDM Lahad Datu 53.45 289 ⇑P P 15 11 35.8 +1.5
KMMI Kalianget 53.64 273 P P 15 11 36.8 +1.0
comp=Z,17µmcomp=Z,13µmcomp=Z,1µm,0.7s
DRV Dumont d'Urvil 53.68 193 P P 15 11 36.0 +0.8
GMJI Gumukmas 53.84 272 P P 15 11 37.2 0.0
comp=Z,13µmcomp=Z,10µmcomp=Z,748nm,0.7s
JMZ Minamidaito 2 55.06 319 P P 15 11 46.9 +1.1
JMZ Minamidaito 2 55.06 319 P P 15 11 45.5 -0.2
JMZ Minamidaito 2 55.06 319 ⇑P P 15 11 46.2 +0.5
GRJI Gresik 55.10 273 P P 15 11 46.8 +0.5
TBJI Tambak Boyo 55.73 273 P P 15 11 50.3 -0.5
comp=Z,15µmcomp=Z,23µmcomp=Z,1µm,1.1s
KKM Kota Kinabalu 55.88 289 P P 15 11 52.7 +0.8
KKM Kota Kinabalu 55.88 289 ⇓P P 15 11 51.9 0.0
NGJI Ngawi 55.97 272 P P 15 11 53.7 +1.2
comp=Z,24µmcomp=Z,16µmcomp=Z,975nm,0.8s
JHJ2 Mitsune 55.99 331 P P 15 11 52.8 +0.6
JHJ2 Mitsune 55.99 331 P P 15 11 52.0 -0.3
JHJ2 Mitsune 55.99 331 ⇓P P 15 11 51.9 -0.4
JHJ Hachijo jima 2 56.01 331 P P 15 11 52.2 -0.2
comp=Z,378nm,0.5s,baz=187,slow=10,SNR=47
JHJ PcP **PcP 15 12 48.9 +0.4**
comp=Z,375nm,0.7s,baz=216,slow=4.3,SNR=4.1
JHJ ScP **ScP 15 16 31.9 +2.1**
comp=Z,140nm,0.7s,baz=158,slow=6.2,SNR=6.5
comp=Z,378nm,0.5s
PCJI Pacitan 56.04 271 P P 15 11 53.0 0.0
WOJI Wonogiri, Jawa 56.37 271 P P 15 11 55.8 +0.5
UGM Wanagama 56.73 271 P P 15 11 58.2 +0.2
UGM Wanagama 56.73 271 P P 15 11 58.2 +0.2
comp=Z,14µmcomp=Z,1µm,0.7s
SMRI Semarang 57.03 272 P P 15 12 01.6 +1.6
SMRI Semarang 57.03 272 P P 15 12 00.8 +0.8
comp=Z,19µmcomp=Z,20µmcomp=Z,1µm,0.8s
SMRI Semarang 57.03 272 ⇑P P 15 12 01.5 +1.5
JOW Kunigami 57.66 317 P P 15 12 04.6 +0.4
comp=Z,904nm,0.8s,baz=150,slow=5.8,SNR=134
JOW PcP **PcP 15 12 56.3 +1.2**
comp=Z,99nm,0.6s,baz=98,slow=4.8,SNR=4.9
JOW S **S 15 19 46.1 -1.8**
comp=Z,14nm,0.9s,baz=87,slow=17,SNR=2.6
comp=Z,904nm,0.8s
JOW Kunigami 57.66 317 P P 15 12 05.8 +1.6
JOW Kunigami 57.66 317 P P 15 12 04.8 +0.7
JOW Kunigami 57.66 317 ⇓P P 15 12 04.8 +0.7
JAM Amami Oshima 57.91 320 P P 15 12 06.6 +0.7
JSG Sagara 58.04 331 P P 15 12 09.4 +2.8
JSG Sagara 58.04 331 P P 15 12 07.4 +0.8
JSG Sagara 58.04 331 ⇓P P 15 12 07.4 +0.8
STKI Sintang 58.09 280 P P 15 12 08.5 +1.1
comp=Z,18µmcomp=Z,847nm,0.8s
JOD2 Odawara 2 58.12 332 P P 15 12 06.8 -0.4
SBUM Sibu 58.20 283 P P 15 12 08.5 +0.3
SBUM PcP **PcP 15 12 59.3 +1.7**
SBUM Sibu 58.20 283 P P 15 12 10.1 +1.9
JYT Yasato 58.45 334 P P 15 12 09.7 +0.4
JIE Ise 58.51 330 P P 15 12 10.5 +0.6
CMJI Cimerak 58.76 271 P P 15 12 11.3 -0.7
comp=Z,14µmcomp=Z,1µm,0.7s
JRY Ryogami san 58.83 332 P P 15 12 12.1 0.0
INU Inuyama 59.14 331 P P 15 12 14.9 +0.7
INU Inuyama 59.14 331 ⇓P P 15 12 14.3 +0.1
JGF Kuroka 59.19 331 P P 15 12 14.3 -0.2
JGF Kuroka 59.19 331 P P 15 12 15.3 +0.7
JGF Kuroka 59.19 331 P P 15 12 14.4 -0.1
JGF Kuroka 59.19 331 ⇓P P 15 12 14.4 -0.1
JCJI Jatiwangi 59.25 272 P P 15 12 15.2 -0.2
comp=Z,15µmcomp=Z,1µm,0.8s
JMN Monobe 59.41 327 P P 15 12 17.4 +1.2
JMN Monobe 59.41 327 P P 15 12 16.9 +0.7
JMN Monobe 59.41 327 ⇓P P 15 12 16.9 +0.7
MJAR Matsushiro Arr 59.58 332 P P 15 12 16.4 -0.8
MJAR IAmb IAmb 15 12 18.4
comp=Z,291nm,0.9s
MJAR Matsushiro Arr 59.58 332 P P 15 12 17.0 -0.2
comp=Z,209nm,0.9s,baz=171,slow=8.4,SNR=434
MJAR pP **pP 15 12 59.2 -0.9**
comp=Z,94nm,1.0s,baz=168,slow=6.6,SNR=2.2
MJAR ScP **ScP 15 16 47.5 +2.1**
comp=Z,12nm,0.8s,baz=143,slow=4.5,SNR=6.7
MJAR S **S 15 20 10.9 -1.4**
comp=Z,2.3nm,1.0s,baz=243,slow=24,SNR=5.0
MJAR PKPPKP **P'P'df 15 41 36.0 -6.8**
comp=Z,9.1nm,1.1s,baz=320,slow=3.4,SNR=6.9
MJAR PKP2bc 15 41 51.4
comp=Z,43nm,1.2s,baz=333,slow=2.7,SNR=12
comp=Z,209nm,0.9s
MAJO Matsushiro 59.58 332 P P 15 12 17.0 -0.3
MAJO Matsushiro 59.58 332 P P 15 12 16.9 -0.3
MAJO Matsushiro 59.58 332 *de*P **P 15 12 17.1 -0.1**
MAJO pmax pmax
comp=Z,1µm,1.6s
MAJO Matsushiro 59.58 332 ⇓P P 15 12 17.1 -0.1
MAJO Matsushiro 59.58 332 P P 15 12 16.9 -0.3
MAJO Matsushiro 59.58 332 P P 15 12 17.2 0.0
MAT Matsushiro 59.58 332 P P 15 12 17.0 -0.2
JMM Marumori 59.59 335 P P 15 12 18.0 +0.8
JMM Marumori 59.59 335 P P 15 12 17.8 +0.6
JMM Marumori 59.59 335 ⇓P P 15 12 17.8 +0.6
BBJI Bungbulang 59.60 271 P P 15 12 18.0 +0.1
KSM Kuching 59.66 282 P P 15 12 18.3 +1.2
KSM Kuching 59.66 282 ⇑P P 15 12 18.3 0.0
JGN Niukaw 59.72 331 P P 15 12 18.2 0.0
YOJ Yonaguni jima 59.73 312 P P 15 12 18.9 +0.4
YOJ PcP **PcP 15 13 04.4 +1.1**
YOJ Yonaguni jima 59.73 312 P P 15 12 19.1 +0.7
YOJ Yonaguni jima 59.73 312 ⇓P P 15 12 18.6 +0.1
LEM Lembang 59.79 271 LR LR 15 39 28.1
comp=Z,4µm,19.7s,baz=94,slow=37
LEM Lembang 59.79 271 P P 15 12 19.4 +0.1
JWT Wachi 59.87 329 P P 15 12 19.6 +0.4
CNJI Cibinong 60.14 271 P P 15 12 21.1 -0.4
comp=Z,8µmcomp=Z,909nm,0.8s
TWGBT Beinan 60.16 309 P P 15 12 22.0 +0.6
TWG Pinlang 60.17 309 P P 15 12 19.6 -1.9
TWG IAmb IAmb 15 13 13.1
comp=Z,287nm,1.4s
JAD Aida 60.21 328 P P 15 12 22.1 +0.6
YULB Yu-li 60.34 310 P P 15 12 21.6 -1.0
YULB Yu-li 60.34 310 P P 15 12 23.2 +0.6
JNU Nakatsue 60.58 324 P P 15 12 24.2 +0.1
comp=Z,680nm,0.9s,baz=112,slow=3.5,SNR=330
JNU pP **PcP 15 13 06.7 0.0**
comp=Z,147nm,1.0s,baz=151,slow=7.5,SNR=1.5
JNU S **S 15 20 27.2 +1.9**
comp=Z,24nm,1.2s,baz=108,slow=22,SNR=6.6
JNU PKPPKP **P'P'df 15 41 38.9 -2.8**
comp=Z,13nm,1.0s,baz=105,slow=6.5,SNR=4.7
JNU PKP2bc 15 41 48.8
comp=Z,34nm,1.1s,baz=31,slow=6.2,SNR=8.0
comp=Z,680nm,0.9s
JNU Nakatsue 60.58 324 P P 15 12 24.6 +0.5
JNU Nakatsue 60.58 324 P P 15 12 24.4 +0.3
NACB Ninganchiao 60.58 311 IAmb IAmb 15 12 26.7
comp=Z,385nm,0.9s
NACB Ninganmiao 60.58 311 P P 15 12 24.7 +0.5
JYA Atsumi 60.66 335 P P 15 12 25.3 +0.9
DBJI Dramaga 60.70 272 P P 15 12 25.3 0.0
comp=Z,14µmcomp=Z,1µm,0.8s
SKJI Sukabumi 60.77 271 P P 15 12 25.4 -0.4
TPUB Ta-pu 60.78 309 IAmb IAmb 15 12 27.4
comp=Z,429nm,0.9s
TPUB Ta-pu 60.78 309 P P 15 12 25.9 +0.3
JOM Ohasama 60.78 336 P P 15 12 25.7 +0.4
XMI Christmas Isla 60.79 267 P P 15 12 26.9 +1.0
XMI Christmas Isla 60.79 267 ⇓P P 15 12 27.0 +1.1
JHS Saijyo 60.80 327 P P 15 12 25.7 +0.1
JSD Sado 60.80 333 P P 15 12 26.5 +1.1
JSD Sado 60.80 333 P P 15 12 26.0 +0.7
JSD Sado 60.80 333 ⇓P P 15 12 26.1 +0.7
SSLB Suanglung 60.82 310 IAmb IAmb 15 12 27.0
comp=Z,205nm,0.6s
SSLB Suanglung 60.82 310 P P 15 12 26.4 +0.5
TPI Tanjungpandan 60.86 276 P P 15 12 26.8 +0.4
comp=Z,16µmcomp=Z,8µmcomp=Z,555nm,0.8s
YHNB Yeheng 61.04 311 P P 15 12 27.0 -0.4
YHNB Yeheng 61.04 311 P P 15 12 28.3 +0.9
TATO Taipei 61.14 311 P P 15 12 27.7 -0.3
TATO Taipei 61.14 311 P P 15 12 28.2 +0.2
TATO Taipei 61.14 311 P P 15 12 27.7 -0.3
SBJI Serang 61.40 272 P P 15 12 30.6 +0.6
comp=Z,17µmcomp=Z,1µm,0.9s
VNDA Vanda 61.40 182 P P 15 12 29.6 +0.6
VNDA Vanda 61.40 182 P P 15 12 30.0 +1.0
comp=Z,143nm,0.7s,baz=358,slow=7.3,SNR=340
VNDA pP **pP 15 13 10.8 -1.1**
comp=Z,99nm,0.9s,baz=294,slow=5.5,SNR=2.4
VNDA S **S 15 20 36.5 +2.0**
comp=Z,2.5nm,0.9s,baz=236,slow=16,SNR=3.3
VNDA PKPPKP **P'P'df 15 41 40.7 -0.4**
comp=Z,14nm,1.2s,baz=245,slow=4.8,SNR=11
VNDA PKP2bc 15 41 48.0
comp=Z,3.5nm,0.8s,baz=237,slow=2.3,SNR=11
comp=Z,143nm,0.7s
VNDA Vanda 61.40 182 P P 15 12 30.4 +1.4
VNDA sP **sP 15 13 31.5 -0.6**
JFU Fukue jima 2 61.45 323 P P 15 12 30.0 +0.1
SBA Scott Base 61.66 180 P P 15 12 32.9 +2.2
SBA Scott Base 61.66 180 P P 15 12 32.9 +2.2
SBA pmax pmax
comp=Z,2µm,1.1s
CGJI Cibinong 61.70 271 P P 15 12 31.1 -0.9
JTM Tenmabayashi 62.01 337 P P 15 12 34.5 +1.0
JTM Tenmabayashi 62.01 337 P P 15 12 33.5 0.0
ERM Erimo 62.34 339 P P 15 12 36.7 +1.1
ERM IAmb IAmb 15 12 42.7
comp=Z,150nm,0.7s
ERM Erimo 62.34 339 P P 15 12 37.1 +1.5
ERM Erimo 62.34 339 *de*P **P 15 12 36.1 +0.5**
ERM pmax pmax
comp=Z,246nm,1.8s
ERM Erimo 62.34 339 ⇓P P 15 12 36.2 +0.5
ERM Erimo 62.34 339 P P 15 12 35.4 -0.3
JEM Erimo 62.34 339 P P 15 12 37.8 +2.2
JTU Tsushima 62.44 324 P P 15 12 36.9 +0.4
JTU Tsushima 62.44 324 P P 15 12 36.3 -0.2
JTU Tsushima 62.44 324 ⇓P P 15 12 36.2 -0.2
BLSI Bandar Lampung 62.45 272 P P 15 12 36.0 -1.0
comp=Z,6µmcomp=Z,498nm,0.8s
CASY Casey 62.46 203 P P 15 12 36.5 +0.4
CASY Casey 62.46 203 ⇑P P 15 12 36.4 +0.2
CASY Casey 62.46 203 P P 15 12 36.9 +0.7
PPBI Pangkal Pinang 62.48 276 P P 15 12 38.3 +1.1
JOT Ohata 62.53 337 P P 15 12 36.9 0.0
KLI Kotabumi 62.95 273 P P 15 12 39.7 -0.6
comp=Z,12µmcomp=Z,5µmcomp=Z,221nm,0.5s
KNMB Chin-men Tao 63.12 309 IAmb IAmb 15 13 20.9
comp=Z,237nm,1.0s
KASI Kota Agung 63.13 272 P P 15 12 40.2 -1.3
comp=Z,443nm,0.7s
QZH Quanzhou 63.24 309 ⇓*i*P **P 15 12 42.3 +0.3**
QZH pP **pP 15 13 23.8 -1.5**
QZH S **S 15 20 58.8 -0.1**
QZH sS **sS 15 22 13.0 -1.1**
QZH pmax pmax
comp=Z,160nm,1.2s
QZH pmax pmax
comp=Z,4µm,5.5s

QZH LR LR
comp=Z,16µm,9.3s
QZH LR LR
comp=Z,12µm,9.3s
QZH LR LR
comp=Z,6µm,18.5s
YUK Yuzh-Kuril'sk 63.30 342 *e*P **P 15 12 40.7 -1.2**
YUK *i* *PP **pP** **15 13 22.6 -2.6**
YUK *i* S **S** **15 20 55.7 -3.2**
YUK SS **SS** **15 25 09.5 +0.1**
YUK pmax pmax
comp=Z,885nm,1.5s
YUK pmax pmax
comp=N,725nm,1.4s
YUK pmax pmax
comp=E,231nm,1.3s
PMBI Palembang 63.57 275 P **P 15 12 46.4 +2.0**
comp=E,15µmcomp=E,15µmcomp=E,1µm,0.9s
CCD Concordia, Ant 63.61 192 P **P 15 12 45.0 +0.9**
LWLI Liwa 63.68 272 P **P 15 12 44.1 -1.2**
comp=E,11µmcomp=E,11µmcomp=E,1µm,0.7s
MDSI Maura Dua 63.71 273 P **P 15 12 44.1 -1.2**
comp=E,12µmcomp=E,7µmcomp=E,535nm,0.7s
KUR Kuril'sk 63.85 344*d i*P **P 15 12 45.1 -0.4**
KUR *e* 15 13 19.5
KUR *e**PP **pP** **15 13 26.1 -2.7**
KUR *e**SP **sP** **15 13 48.9 +0.1**
KUR *e* 15 15 07.8
KUR *e*PPP PPP 15 16 39.9
KUR *i* S **S** **15 21 05.9 +0.3**
KUR pmax pmax
comp=Z,6µm,7.8s
KUR pmax pmax
comp=Z,2µm,1.4s
KUR pmax pmax
comp=N,325nm,1.0s
KUR pmax pmax
comp=E,244nm,1.1s
KUR MLR MLR
comp=Z,3µm,15.0s
KUR MLR MLR
comp=N,2µm,14.0s
KUR MLR MLR
comp=E,2µm,13.0s
JSH Shimam 64.00 337 P **P 15 12 46.8 +0.2**
JMP Maruseppu 64.05 340 P **P 15 12 47.6 +0.7**
JKA Kamikawa-asahi 64.39 340 P **P 15 12 50.0 +0.9**
ASAJ Asahikawa 64.40 340 P **P 15 12 49.8 +0.7**
comp=E,158nm,0.5s,baz=212,slow=8.4,SNR=193
ASAJ pP **pP** **15 13 32.6 -0.7**
comp=E,73nm,0.8s,baz=232,slow=4.8,SNR=1.7
ASAJ S **S** **15 21 10.0 -2.4**
comp=E,3.6nm,0.8s,baz=154,slow=24,SNR=1.2
ASAJ LR LR 15 35 22.9
comp=E,5µm,21.9s,baz=167,slow=31
ASAJ PKPPKP **P'P'df** **15 41 29.8 -4.8**
comp=E,12nm,1.0s,baz=309,slow=6.5,SNR=3.3
ASAJ PKP2bc 15 41 41.8
comp=E,86nm,1.1s,baz=270,slow=6.2,SNR=9.2
comp=E,158nm,0.5s
ASAJ Asahikawa 64.40 340 P **P 15 12 50.0 +0.9**
DSRI Dabo 64.47 277 P **P 15 12 50.2 -0.1**
LHSI Lahat 64.52 274 P **P 15 12 49.6 -0.9**
MNAI Manna 64.92 273 P **P 15 12 53.0 -0.2**
MNAI Manna 64.92 273 P **P 15 12 53.6 +0.4**
MNAI Manna 64.92 273 P **P 15 12 52.4 -0.8**
comp=E,14µmcomp=E,14µmcomp=E,1µm,1.4s
MNAI Manna 64.92 273 ⇓P **P 15 12 53.4 +0.2**
TJN Taejon 64.92 324 P **P 15 12 54.0 +1.3**
TPRI Tanjung Pinang 64.95 279 P **P 15 12 53.8 +0.4**
SSE Sheshan 65.13 316 P **P 15 12 53.3 -0.8**
SSE S **S** **15 21 25.3 +3.5**
SSE pmax pmax
comp=E,32nm,0.9s
SSE pmax pmax
comp=E,1µm,6.7s
SSE LR LR
comp=E,2µm,29.2s
DLV Lat 65.24 292 P **P 15 12 56.2 +0.8**
DLV PcP **PcP** **15 13 28.5 +2.2**
KSRS Korea Array 65.40 326 P **P 15 12 56.2 +0.6**
comp=E,103nm,0.7s,baz=134,slow=6.9,SNR=198
KSRS S **S** **15 21 21.8 -3.1**
comp=E,0.5nm,0.7s,baz=150,slow=13,SNR=1.1
KSRS PKPPKP **P'P'df** **15 41 33.9 +0.2**
comp=E,3.3nm,0.9s,baz=317,slow=3.6,SNR=6.9
KSRS LR LR 15 41 41.8
comp=E,1287µm,18.1s,baz=140,slow=36
comp=E,103nm,0.7s
KSAR Wonju Array Be 65.41 326 P **P 15 12 56.1 +0.3**
KSAR Wonju Array Be 65.41 326 P **P 15 12 56.1 +0.3**
KSI Kapahiang 65.46 273 P **P 15 12 56.2 -0.5**
comp=E,15µmcomp=E,16µmcomp=E,1µm,0.7s
KS19 Wonju Array Si 65.46 326 IAmb IAmb 15 12 58.2
comp=Z,311nm,1.1s
MYKOM Kota Tinggi 65.86 279 P **P 15 13 00.7 +1.5**
INCN Inchon 66.13 325 P **P 15 12 60.0 -0.4**
INCN Inchon 66.13 325 P **P 15 13 02.3 +1.9**
INCN Inchon 66.13 325 P **P 15 13 00.0 -0.4**
INCN pmax pmax
comp=Z,2µm,1.6s
INCN Inchon 66.13 325 ⇓P **P 15 13 01.2 +0.8**
INCN Inchon 66.13 325 P **P 15 13 00.9 +0.5**
GZH Guangzhou 66.26 305 P **P 15 13 03.5 +2.0**
GZH pP **pP** **15 13 45.3 -0.3**
GZH sP **sP** **15 14 12.0 +6.2**
GZH S **S** **15 21 38.5 +2.7**
GZH ScS **SKSac** **15 22 32.8 -7.0**
GZH pmax pmax
comp=Z,290nm,1.1s
YSS Yuzhno-Sakhali 66.88 341 P **P 15 13 05.8 +0.9**
YSS Yuzhno-Sakhali 66.88 341 P **P 15 13 07.3 +2.4**
YSS Yuzhno-Sakhali 66.88 341*e*P **P 15 13 06.1 +1.2**
YSS *e**PP **pP** **15 13 47.3 -1.9**
YSS *e**SP **sP** **15 14 12.1 +2.6**
YSS *e*PPP PPP 15 17 21.4
YSS *e*S **S** **15 21 45.2 +2.9**
YSS pmax pmax
comp=N,2µm,4.2s
YSS pmax pmax
comp=Z,5µm,4.2s
YSS pmax pmax
comp=E,1µm,3.8s
YSS pmax pmax
comp=Z,500nm,1.1s
YSS smax smax
comp=E,6µm,6.0s
YSS Yuzhno-Sakhali 66.88 341 ⇓P **P 15 13 06.1 +1.2**
YSS Yuzhno-Sakhali 66.88 341 P **P 15 13 06.1 +1.2**
HJU Haeju 67.03 325 P **P 15 13 06.2 +0.1**
HJU S **S** **15 21 45.7 +1.1**
HJU AmB
comp=Z,3µm,1.8s
HJU AMS AMS
comp=Z,4µm,14.3s
QIZ Qiongzhong 67.14 299 P **P 15 13 08.0 +0.8**
QIZ pP **pP** **15 13 49.5 -1.8**
QIZ sP **sP** **15 14 11.3 -0.2**
QIZ S **S** **15 21 44.5 -2.1**
QIZ sS **sS** **15 23 00.5 -1.3**
QIZ pmax pmax
comp=Z,370nm,1.0s
QIZ pmax pmax
comp=Z,5µm,5.1s
QIZ LR LR
comp=Z,5µm,21.4s
QIZ LR LR
comp=Z,21µm,30.8s
QIZ Qiongzhong 67.14 299 P **P 15 13 09.3 +2.1**
NJ2 Nanjing 67.28 316 ⇓*i*P **P 15 13 08.3 +0.5**
NJ2 PcP **PcP** **15 13 36.5 +2.4**
NJ2 pP **pP** **15 13 50.0 -1.6**
NJ2 sP **sP** **15 14 13.0 +1.4**
NJ2 S **S** **15 21 52.3 +4.6**
NJ2 pmax pmax
comp=Z,360nm,1.7s
NJ2 pmax pmax
comp=Z,3µm,6.9s
TEY Ternei 67.34 336 ⇓*e*P **P 15 13 08.5 +0.7**
TEY pmax pmax
comp=N,200nm,2.9s
TEY pmax pmax
comp=E,100nm,2.9s
TEY pmax pmax
comp=Z,500nm,2.6s
TEY pmax pmax
comp=N,40nm,1.6s
TEY pmax pmax
comp=E,20nm,1.6s
TEY pmax pmax
comp=Z,100nm,1.6s
SDSI Sungai Dareh 67.34 276 P **P 15 13 07.3 -1.3**
comp=Z,14µmcomp=Z,206nm,1.0s
HHU Hamhung 67.42 327 P **P 15 13 09.0 +0.5**
HHU S **S** **15 21 51.0 +1.8**
HHU AmB
comp=Z,2µm,1.7s
SKR Severo-Kuril's 67.43 352 *e*P **P 15 13 05.9 -2.4**
SKR *e*S **S** **15 21 48.7 -0.1**
SKR *e*SS **SS** **15 26 07.3 -6.0**
SKR pmax pmax
comp=Z,2µm,6.1s
SKR pmax pmax
comp=Z,174nm,1.6s
SKR MLR MLR
comp=Z,4µm,16.0s
MSHR Mys Shultsa 67.65 331*de*P **P 15 13 11.1 +1.2**
MSHR pmax pmax
comp=Z,289nm,1.1s
PYAG Pyongyang 67.73 325 P **P 15 13 11.2 +0.8**
PYAG S **S** **15 21 53.9 +1.1**
PYAG AmB
comp=Z,2µm,1.7s
PYAG AMS AMS
comp=Z,490nm,10.2s
VLA Vladivostok 67.75 332*ce*P **P 15 13 11.9 +1.5**
VLA pmax pmax
comp=Z,919nm,1.3s
PSTR Posyet 67.87 331*de*P **P 15 13 12.5 +1.3**
AMKA Amchitka 68.02 8 P **P 15 13 12.4 +0.5**
BKNI Bangkinang 68.09 277 P **P 15 13 14.1 +0.8**
BKNI Bangkinang 68.09 277 P **P 15 13 13.6 +0.3**
BKNI Bangkinang 68.09 277 P **P 15 13 13.5 +0.3**
comp=Z,16µmcomp=Z,14µmcomp=Z,1µm,0.8s
PPSI Pulau Pagai 68.18 274 P **P 15 13 14.0 +0.2**
comp=Z,11µmcomp=Z,1µm,0.8s
PDSI Padang 68.27 276 P **P 15 13 13.0 -1.5**
comp=Z,12µmcomp=Z,415nm,0.7s
PPI Padang Panjang 68.47 276 P **P 15 13 13.9 -1.7**
comp=Z,13µmcomp=Z,262nm,0.8s
USA0B Ussuriysk Arra 68.56 333*de*P **P 15 13 16.8 +1.3**
USRK Ussuriysk Ar. 68.56 333 P **P 15 13 15.9 +0.4**
USRK Ussuriysk Ar. 68.56 333 P **P 15 13 16.6 +1.1**
comp=Z,295nm,0.7s,baz=141,slow=3.7,SNR=305
USRK pP **pP** **15 13 59.6 +0.1**
comp=Z,132nm,1.1s,baz=132,slow=3.3,SNR=1.4
USRK S **S** **15 22 00.6 -1.8**
comp=Z,0.6nm,0.5s,baz=228,slow=6.8,SNR=0.8
USRK PKPPKP **P'P'df** **15 41 23.1 -4.8**
comp=Z,12nm,1.1s,baz=302,slow=1.8,SNR=10
comp=Z,295nm,0.7s
SHEM Shemya Is, Ala 68.85 4 LR LR 15 37 21.8
comp=Z,6µm,21.1s,baz=188,slow=30
UGL Uglegorsk 68.98 342 *e*P **P 15 13 19.1 +1.1**
UGL *e* 15 14 01.0
UGL *e* 15 15 50.0
UGL *e*S **S** **15 22 00.4 -6.8**
UGL pmax pmax
comp=Z,4µm,4.3s
UGL pmax pmax
comp=Z,500nm,1.2s
UGL smax smax
comp=N,3µm,7.0s
UGL smax smax
comp=E,5µm,7.0s
KIWB Kanaga Island 68.99 10 IAmb IAmb 15 14 02.7
comp=Z,414nm,1.2s
ADK Adak 69.10 10 P **P 15 13 18.5 -0.1**
ADK IAmb IAmb 15 14 03.0
comp=Z,566nm,1.4s
ADK Adak 69.10 10 P **P 15 13 20.2 +1.6**
ADK Adak 69.10 10 P **P 15 13 18.5 -0.1**
ADK pmax pmax
comp=Z,566nm,1.5s
ADK Adak 69.10 10 ⇓P **P 15 13 18.4 -0.3**
ADK Adak 69.10 10 P **P 15 13 18.5 -0.1**
ADK pP **pP** **15 14 01.2 -1.8**
ADK sP **sP** **15 14 20.2 -2.9**
SUJ Sinuiju 69.16 326 P **P 15 13 19.7 +0.4**
SUJ pP **pP** **15 14 02.6 -0.5**
SUJ AmB
comp=Z,2µm,1.8s
SUJ AMS AMS
comp=Z,2µm,12.5s
CNSH ChangSha 69.25 309 P **P 15 13 20.5 +0.4**
CNSH S **S** **15 22 13.0 +1.8**
CNSH pmax pmax
comp=Z,41nm,1.2s
CNSH LR LR
comp=Z,8µm,17.7s
CNSH LR LR
comp=Z,7µm,19.0s
CNSH LR LR
comp=Z,4µm,17.3s
IPM Ipoh 69.39 281 IAmb IAmb 15 13 23.8
comp=Z,258nm,0.8s
IPM Ipoh 69.39 281 P **P 15 13 21.9 +0.5**
GSTR Great Sitkin T 69.41 10 IAmb IAmb 15 14 12.0
comp=Z,636nm,1.2s
PET Petropavlovsk 69.43 354 P **P 15 13 20.6 -0.1**
PET IAmb IAmb 15 13 22.5
comp=Z,509nm,1.6s
PET Petropavlovsk 69.43 354 P **P 15 13 20.7 +0.1**
PET Petropavlovsk 69.43 354 ⇓*i*P **P 15 13 20.1 -0.5**
PET *e**PP **pP** **15 14 02.7 -2.4**
PET *e**SP **sP** **15 14 21.1 -4.1**
PET *e*S **S** **15 22 14.7 +2.4**
PET *e* 15 23 05.7
PET pmax pmax
comp=Z,190nm,1.6s
PET pmax pmax
comp=Z,3µm,8.9s
PET pmax pmax
comp=Z,2µm,13.9s
PET MLR MLR
comp=Z,3µm,15.0s
PET MLR MLR
comp=Z,3µm,13.0s
PET Petropavlovsk 69.43 354 P **P 15 13 20.6 -0.1**
comp=Z,5µmcomp=Z,124nm,1.1s
SISI Saibi 69.47 275 P **P 15 13 22.3 +0.5**
comp=Z,16µmcomp=Z,6µmcomp=Z,428nm,1.5s
WHN Wuhan 69.51 312 ⇓P **P 15 13 22.3 +0.6**
WHN PcP **PcP** **15 13 46.0 +2.4**
WHN pP **pP** **15 14 05.0 -0.6**
WHN sP **sP** **15 14 26.5 +1.0**
WHN S **S** **15 22 15.5 +1.3**
WHN SKS **SKSac** **15 23 03.5 -0.7**
WHN pmax pmax
comp=Z,2µm,1.3s
WHN pmax pmax
comp=Z,6µm,5.5s
PEA0B Petropavlovsk- 69.62 353*de*P **P 15 13 22.4 +0.6**
PETK Petropavlovsk- 69.62 353 P **P 15 13 21.8 0.0**
PETK Petropavlovsk- 69.62 353 P **P 15 13 22.3 +0.5**
comp=Z,77nm,0.8s,baz=111,slow=8.1,SNR=88
PETK pP **pP** **15 14 05.6 -0.6**
comp=Z,119nm,1.0s,baz=117,slow=8.5,SNR=4.5
PETK PKiKP **PKiKP** **15 19 35.0 +0.3**
comp=Z,4.9nm,1.0s,baz=96,slow=4.4,SNR=6.9
PETK S **S** **15 22 11.3 -3.2**
comp=Z,1.1nm,0.8s,baz=160,slow=4.7,SNR=1.2
PETK LR LR 15 39 26.6
comp=Z,6µm,20.8s,baz=157,slow=32
PETK PKP2bc 15 41 24.1
comp=Z,17nm,1.0s,baz=73,slow=5.1,SNR=14
comp=Z,77nm,0.8s
MNSI Mandailing Nat 69.62 277 P **P 15 13 21.7 -1.0**
comp=Z,10µmcomp=Z,1µm,0.8s
GULI GuiLin 69.72 305 P **P 15 13 25.0 +1.9**
GULI S **S** **15 22 19.5 +2.7**
GULI pmax pmax
comp=Z,510nm,1.2s
GULI pmax pmax
comp=Z,6µm,10.0s
GULI LR LR
comp=Z,11µm,23.5s
GULI LR LR
comp=Z,8µm,22.8s
GULI LR LR
comp=Z,7µm,28.5s
ATKA Atka Island 69.85 12 P **P 15 13 22.8 -0.4**
ATKA IAmb IAmb 15 13 25.0
comp=Z,829nm,1.6s
ATKA Atka Island 69.85 12 P **P 15 13 23.5 +0.3**
DL2 Dalian 69.95 323 ⇓*i*P **P 15 13 25.0 +0.9**
DL2 sP **sP** **15 14 30.3 +2.3**
DL2 S **S** **15 22 18.5 -0.4**
DL2 sS sS 15 23 41.8 +8.5
DL2 pmax pmax
comp=Z,2µm,0.8s
DL2 pmax pmax
comp=Z,5µm,5.0s
MDJ Mudanjiang 69.95 332 P **P 15 13 25.0 +1.0**
MDJ pP pP 15 14 07.3 -0.8
MDJ sP sP 15 14 27.3 -1.4
MDJ S **S** **15 22 20.8 +2.0**
MDJ ScS **ScS** **15 23 09.5 +1.3**
MDJ pmax pmax
comp=Z,1µm,1.4s
MDJ pmax pmax
comp=Z,3µm,4.4s
MDJ LR LR
comp=Z,4µm,19.1s
MDJ LR LR
comp=Z,4µm,20.4s
MDJ LR LR
comp=Z,6µm,21.6s
MDJ Mudanjiang 69.95 332 P **P 15 13 25.9 +1.9**
MDJ Mudanjiang 69.95 332 P **P 15 13 25.4 +1.3**
KULM Kulim 70.01 282 IAmb IAmb 15 13 27.6
comp=Z,209nm,0.9s
KULM Kulim 70.01 282 P **P 15 13 25.7 +0.6**
TYV Tymovskoe 70.42 343 *e*P **P 15 13 28.0 +1.3**
TYV *e*S **S** **15 22 24.6 +0.7**
TYV pmax pmax
comp=Z,356nm,1.6s
TYV pmax pmax
comp=Z,3µm,4.4s
TYV smax smax
comp=N,1µm,6.7s
TYV smax smax
comp=E,3µm,6.7s
PBSI Pulau Batu 70.61 276 P **P 15 13 28.7 0.0**
comp=E,15µmcomp=E,11µmcomp=E,534nm,0.8s
RPSI Rantau Prapat 70.82 279 IAmb IAmb 15 13 31.8
comp=Z,372nm,1.0s
PSI Prapat 70.85 279 P **P 15 13 30.0 -0.4**
SNY Shenyang 70.87 326 ⇓P **P 15 13 29.8 +0.2**
SNY S **S** **15 22 27.3 -2.2**
SNY pmax pmax
comp=Z,380nm,0.7s
SNY pmax pmax
comp=Z,3µm,11.6s
SNY LR LR
comp=Z,3µm,21.5s
SNY LR LR
comp=Z,3µm,22.2s
SNY LR LR
comp=Z,6µm,26.7s
TIA Tai'an 70.96 318 P **P 15 13 30.5 +0.1**
TIA PcP **PcP** **15 13 51.8 +2.2**
TIA pP **pP** **15 14 15.3 +0.9**
TIA S **S** **15 22 26.5 -4.4**
TIA pmax pmax
comp=Z,360nm,1.6s
TIA pmax pmax
comp=Z,3µm,8.6s
TIA LR LR
comp=Z,10µm,20.4s
TIA LR LR
comp=Z,3µm,20.7s
TIA LR LR
comp=Z,12µm,27.5s
CN2 Changchun 71.31 329 ⇓*i*P **P 15 13 33.0 +0.7**
CN2 PcP **PcP** **15 13 51.5 +0.6**
CN2 pP pP 15 14 17.8 +1.5
CN2 S **S** **15 22 34.8 +0.2**
CN2 pmax pmax
comp=Z,700nm,0.6s
CN2 pmax pmax
comp=Z,3µm,5.0s
TSI Tuntungan 71.41 279 P **P 15 13 33.7 +0.2**
comp=Z,14µmcomp=Z,772nm,0.8s
GSI Gunungsitoli 71.68 277 P **P 15 13 35.8 +0.6**
GSI Gunungsitoli 71.68 277 P **P 15 13 35.9 +0.7**
comp=Z,16µmcomp=Z,11µmcomp=Z,994nm,0.8s
BNX BinXian 71.81 331 ⇓P **P 15 13 35.5 +0.3**
BNX pP **pP** **15 14 20.8 +0.7**
BNX sP **sP** **15 14 41.5 +1.3**
BNX S **S** **15 22 40.8 +0.6**
BNX ScS **SKKSac** **15 23 21.5 +0.5**
BNX pmax pmax
comp=Z,440nm,0.5s
BNX LR LR
comp=Z,4µm,20.6s
BNX LR LR
comp=Z,5µm,19.6s
BNX LR LR
comp=Z,3µm,21.1s
GRNR Gornyy 72.25 340 ⇓*i*P **P 15 13 39.6 +1.9**
GRNR pmax pmax
comp=E,90nm,0.8s
GRNR pmax pmax
comp=N,150nm,1.2s
GRNR pmax pmax
comp=Z,520nm,1.2s
ENH Enshi 72.91 309 IAmb IAmb 15 13 44.1
comp=Z,485nm,1.1s
ENH Enshi 72.91 309 P **P 15 13 42.7 +0.6**
NKL Nikolayevsk 73.01 343 *e*P **P 15 13 41.8 -0.3**
NKL *e*S **SKiKP** **15 22 55.9 +0.6**
NKL pmax pmax
comp=N,217nm,0.8s
NKL pmax pmax
comp=E,863nm,1.6s
NKL pmax pmax
comp=Z,3µm,1.6s
NKL smax smax
comp=E,901nm,4.3s
NKL smax smax
comp=N,2µm,4.4s
NKL MLR MLR
comp=E,4µm,11.0s
NKL MLR MLR
comp=N,1µm,10.0s
NKL MLR MLR
comp=Z,8µm,14.0s
LYN LuoYang 73.07 315 ⇓*i*P **P 15 13 43.8 +0.9**
LYN pP pP 15 14 25.8 -1.6
LYN S **S** **15 22 48.8 -6.1**
LYN SKS **SKSac** **15 23 29.8 -1.1**
LYN sS sS 15 24 11.8 +0.4
LYN pmax pmax
comp=Z,1µm,1.1s
LYN pmax pmax
comp=Z,4µm,7.9s
UNV Unalaska Valle 73.11 15 P **P 15 13 41.8 -0.9**
baz=206
UNV S **S** **15 22 51.4 -3.1**
baz=206
SLVN Son La 73.15 299 P **P 15 13 45.0 +1.2**
GYA Guiyang 73.20 305 ⇑P **P 15 13 45.5 +1.5**
GYA pP pP 15 14 28.3 -0.5
GYA S **S** **15 22 57.5 +0.6**
GYA pmax pmax
comp=Z,450nm,1.2s
GYA LR LR
comp=Z,11µm,26.7s
GYA LR LR
comp=Z,10µm,22.1s
GYA LR LR
comp=Z,7µm,28.2s
HNS HongShan 73.22 318 ⇓P **P 15 13 45.0 +1.3**
HNS pP **pP** **15 14 26.8 -1.2**
HNS sP **sP** **15 14 51.0 +3.2**
HNS S **SKiKP** **15 22 56.0 -0.2**
HNS pmax pmax
comp=Z,740nm,1.1s
HNS pmax pmax
comp=Z,5µm,7.7s
HNS LR LR
comp=Z,8µm,20.9s
HNS LR LR
comp=Z,6µm,19.5s
HNS LR LR
comp=Z,11µm,23.4s

LHMI	**Lhok Sumawe**	**73.48**	**281**		IAmb	IAmb	15 13 48.5			
	comp=Z,401nm,1.0s									
LHMI	**Lhok Sumawe**	**73.48**	**281**		P	**P**	**15 13 47.9**	**+2.1**		
	comp=Z,16µmcomp=Z,7µmcomp=Z,438nm,1.0s									
AKUT	**Akutan**	**73.56**	**16**		IAmb	IAmb	15 14 31.3			
	comp=Z,595nm,1.8s									
AKUT	**Akutan**	**73.56**	**16**		P	**P**	**15 13 47.2**	**+1.9**		
MLSI	**Meulaboh, Aceh**	**73.70**	**279**		P	**P**	**15 13 47.3**	**+0.3**		
	comp=Z,16µmcomp=Z,11µmcomp=Z,1µm,1.2s									
QSPA	**South Pole Qui**	**73.82**	**180**		P	**P**	**15 13 48.2**	**+1.2**		
QSPA	**South Pole Qui**	**73.82**	**180**		P	**P**	**15 13 48.1**	**+1.2**		
	comp=Z,2µm,1.0s,baz=8.7,slow=1.2,SNR=724									
QSPA					PKiKP	**PKiKP**	**15 19 41.4**	**+0.9**		
	comp=Z,22nm,1.1s,baz=77,slow=17,SNR=2.1									
QSPA					S	**S**	**15 23 03.4**	**+0.6**		
	comp=Z,17nm,1.1s,baz=243,slow=23,SNR=14									
QSPA					PKPPKP	**P'P'df**	**15 41 19.1**	**-1.4**		
	comp=Z,6.1nm,1.0s,baz=156,slow=2.7,SNR=4.7									
	comp=Z,2µm,1.0s									
BJT	**Baijiatuau**	**73.89**	**321**		IAmb	IAmb	15 13 50.5			
	comp=Z,390nm,0.9s									
BJT	**Baijiatuau**	**73.89**	**321**		P	**P**	**15 13 48.4**	**+0.8**		
BJI	**Beijing**	**73.90**	**321**		P	**P**	**15 13 48.5**	**+0.9**		
BJI					S	**S**	**15 23 02.5**	**-1.5**		
BJI					pmax	pmax				
	comp=Z,230nm,1.5s									
BJI					pmax	pmax				
	comp=Z,2µm,10.2s									
FALS	**False Pass**	**74.83**	**17**		P	**P**	**15 13 51.6**	**-1.0**		
	baz=208									
FALS					S	**S**	**15 23 10.2**	**-3.5**		
	baz=208									
TIY	**Taiyuan**	**74.88**	**317**		P	**P**	**15 13 54.8**	**+1.4**		
TIY					pP	**pP**	**15 14 37.0**	**-0.9**		
TIY					S	**S**	**15 23 19.8**	**+4.7**		
TIY					pmax	pmax				
	comp=Z,320nm,1.1s									
TIY					pmax	pmax				
	comp=Z,3µm,8.3s									
P08K	**Saint George I**	**74.92**	**13**		P	**P**	**15 13 52.6**	**-0.5**		
	baz=202									
P08K					S	**S**	**15 23 13.8**	**-0.9**		
	baz=202									
HEH	**HeiHe**	**75.23**	**334**	*e*	P	**P**	**15 13 54.8**	**-0.2**		
HEH					sP	**sP**	**15 15 02.0**	**+2.8**		
HEH					S	**S**	**15 23 17.5**	**-0.8**		
HEH					ScS	**ScS**	**15 23 49.0**	**-1.1**		
HEH					pmax	pmax				
	comp=Z,390nm,1.4s									
HEH					pmax	pmax				
	comp=Z,4µm,8.3s									
XAN	**Xi'an**	**75.26**	**313**	⇓	P	**P**	**15 13 56.8**	**+1.1**		
XAN					pP	pP	15 14 38.8	-1.8		
XAN					sP	sP	15 14 59.0	-1.4		
XAN					S	**S**	**15 23 21.8**	**+2.3**		
XAN					ScS	**ScS**	**15 23 52.3**	**+1.0**		
XAN					sS	sS	15 24 38.0	+1.8		
XAN					pmax	pmax				
	comp=Z,550nm,1.2s									
XAN					pmax	pmax				
	comp=Z,5µm,7.1s									
XAN					LR	LR				
	comp=Z,3µm,19.6s									
XAN					LR	LR				
	comp=Z,5µm,21.5s									
XAN					LR	LR				
	comp=Z,7µm,22.0s									
SPIA	**Saint Paul Isl**	**75.32**	**12**		IAmb	IAmb	15 14 40.3			
	comp=Z,490nm,1.2s									
SPIA	**Saint Paul Isl**	**75.32**	**12**		P	**P**	**15 13 55.2**	**-0.2**		
	baz=202,SNR=8.6									
SPIA					S	**S**	**15 23 16.3**	**-2.6**		
	baz=202									
KMI	**Kunming**	**75.75**	**302**	⇓	P	**P**	**15 14 00.5**	**+1.6**		
KMI					pP	pP	15 14 42.5	-1.4		
KMI					sP	sP	15 15 07.5	+3.6		
KMI					S	**S**	**15 23 25.5**	**-0.1**		
KMI					pmax	pmax				
	comp=Z,470nm,1.2s									
KMI					pmax	pmax				
	comp=Z,3µm,6.3s									
KMI					LR	LR				
	comp=Z,3µm,25.5s									
KMI					LR	LR				
	comp=Z,4µm,23.4s									
KMI					LR	LR				
	comp=Z,7µm,30.5s									
CNBA	**Chernabura Isl**	**75.91**	**19**		P	**P**	**15 13 58.0**	**-0.7**		
CNBA					IAmb	IAmb	15 14 43.4			
	comp=Z,406nm,1.5s									
CHNA	**Chernabura Isl**	**75.92**	**19**		P	**P**	**15 13 59.4**	**+0.6**		
CHNA	**Chernabura Isl**	**75.92**	**19**		P	**P**	**15 13 58.1**	**-0.8**		
	baz=212,SNR=6.2									
CHNA					S	**S**	**15 23 21.8**	**-3.8**		
	baz=212									
S12K	**Black Hills**	**75.94**	**17**		IAmb	IAmb	15 14 43.5			
	comp=Z,288nm,1.1s									
S12K	**Black Hills**	**75.94**	**17**		P	**P**	**15 13 58.3**	**-0.7**		
	baz=210									
S12K					S	**S**	**15 23 22.0**	**-4.1**		
	baz=210									
SDPT	**Sand Point**	**76.09**	**18**		IAmb	IAmb	15 14 44.1			
	comp=Z,355nm,1.2s									
SDPT	**Sand Point**	**76.09**	**18**		P	**P**	**15 14 00.1**	**+0.3**		
SDPT	**Sand Point**	**76.09**	**18**		P	**P**	**15 13 58.8**	**-1.1**		
	baz=211,SNR=7.9									
SDPT					S	**S**	**15 23 24.5**	**-3.1**		
	baz=211									
CM31	**Chiang Mai Arr**	**76.26**	**294**		IAmb	IAmb	15 14 06.4			
	comp=Z,286nm,0.9s									
CMAR	**Chiang Mai Arr**	**76.26**	**294**		P	**P**	**15 14 02.7**	**+1.0**		
CMAR	**Chiang Mai Arr**	**76.26**	**294**		P	**P**	**15 14 03.0**	**+1.4**		
	comp=Z,144nm,0.8s,baz=132,slow=4.6,SNR=440									
CMAR					pP	**pP**	**15 14 46.8**	**+0.1**		
	comp=Z,87nm,1.1s,baz=123,slow=4.1,SNR=2.9									
CMAR					PKiKP	**PKiKP**	**15 19 46.0**	**+0.7**		
	comp=Z,1.1nm,0.4s,baz=190,slow=1.6,SNR=4.6									
CMAR					S	**S**	**15 23 25.0**	**-6.0**		
	comp=Z,0.4nm,0.3s,baz=89,slow=5.7,SNR=1.5									
CMAR					PKKPbc	**PKKPbc**	**15 33 14.8**	**+0.7**		
	comp=Z,2.6nm,0.8s,baz=282,slow=3.6,SNR=5.9									
CMAR					PKP2bc		15 40 52.1			
	comp=Z,0.5nm,0.3s,baz=245,slow=3.9,SNR=4.2									
CMAR					PKPPKP	**P'P'df**	**15 41 13.8**	**-3.4**		
	comp=Z,9.5nm,1.3s,baz=262,slow=3.6,SNR=7.0									
CMAR					LR	LR	15 47 22.8			
	comp=Z,1µm,21.2s,baz=90,slow=35									
	comp=Z,144nm,0.8s									
CMAR	**Chiang Mai Arr**	**76.26**	**294**	*i*	P	**P**	**15 14 03.0**	**+1.4**		
CMAR					pmax	pmax				
	comp=Z,146nm,0.8s									
CHTO	**Chiang Mai**	**76.40**	**294**		P	**P**	**15 14 03.1**	**+0.7**		
CHTO					IAmb	IAmb	15 14 06.8			
	comp=Z,236nm,0.9s									
CHTO	**Chiang Mai**	**76.40**	**294**		P	**P**	**15 14 04.1**	**+1.7**		
CHTO	**Chiang Mai**	**76.40**	**294**		P	**P**	**15 14 03.1**	**+0.7**		
CHTO					pmax	pmax				
	comp=Z,236nm,0.9s									
CHTO	**Chiang Mai**	**76.40**	**294**		P	**P**	**15 14 03.6**	**+1.2**		
MA2	**Magadan**	**76.83**	**351**		P	**P**	**15 14 03.0**	**-0.8**		
MA2					IAmb	IAmb	15 14 54.7			
	comp=Z,504nm,1.7s									
MA2	**Magadan**	**76.83**	**351**		PKPPKP		15 41 14.9			
	comp=Z,8.1nm,1.1s,baz=166,slow=6.8,SNR=3.7									
MA2					LR	LR	15 43 44.8			
	comp=Z,5µm,21.8s,baz=168,slow=32									
MA2	**Magadan**	**76.83**	**351**		P	**P**	**15 14 05.1**	**+1.2**		
MA2	**Magadan**	**76.83**	**351**	*de*	P	**P**	**15 14 03.5**	**-0.4**		
MA2					pmax	pmax				
	comp=Z,62nm,1.0s									
MA2	**Magadan**	**76.83**	**351**		P	**P**	**15 14 03.4**	**-0.4**		
	comp=Z,5µmcomp=Z,122nm,1.1s									
PZH	**PanZhiHua**	**77.15**	**303**		P	**P**	**15 14 07.0**	**+0.4**		
PZH					pP	**pP**	**15 14 49.8**	**-1.8**		
PZH					sP	**sP**	**15 15 13.0**	**+1.6**		
PZH					S	**S**	**15 23 39.5**	**-1.1**		
PZH					sS	**sS**	**15 25 00.3**	**+3.7**		
PZH					pmax	pmax				
	comp=Z,300nm,1.0s									
PZH					pmax	pmax				
	comp=Z,3µm,8.4s									
PZH					LR	LR				
	comp=Z,5µm,23.7s									
PZH					LR	LR				
	comp=Z,3µm,23.7s									
PZH					LR	LR				
	comp=Z,4µm,22.6s									
S14K	**Fog Glacier**	**77.17**	**18**		P	**P**	**15 14 05.7**	**-0.2**		
	baz=212,SNR=7.6									
S14K					S	**S**	**15 23 37.6**	**-1.8**		
	baz=212									
HHC	**Hu-ho-hao-te**	**77.22**	**320**	⇓	*i*P	**P**	**15 14 08.0**	**+1.4**		
HHC					pP	pP	15 14 50.5	-0.9		
HHC					S	**S**	**15 23 45.0**	**+4.3**		
HHC					sS	sS	15 25 04.5	+5.6		
HHC					pmax	pmax				
	comp=Z,410nm,1.1s									
HHC					pmax	pmax				
	comp=Z,2µm,6.9s									
HHC					LR	LR				
	comp=Z,2µm,22.7s									
HHC					LR	LR				
	comp=Z,3µm,21.0s									
HHC					LR	LR				
	comp=Z,6µm,21.1s									
CHGN	**Chignik**	**77.52**	**18**		IAmb	IAmb	15 14 52.4			
	comp=Z,270nm,1.3s									
CHGN	**Chignik**	**77.52**	**18**		P	**P**	**15 14 07.0**	**-0.8**		
	baz=213,SNR=11									
CHGN					S	**S**	**15 23 39.9**	**-3.0**		
	baz=213									
CD2	**Chengdu**	**77.53**	**308**		P	**P**	**15 14 09.0**	**+0.5**		
CD2					pP	pP	15 14 51.5	-2.1		
CD2					sP	sP	15 15 13.5	+0.1		
CD2					S	**S**	**15 23 46.0**	**+1.7**		
CD2					pmax	pmax				
	comp=Z,470nm,1.2s									
CD2					pmax	pmax				
	comp=Z,4µm,9.1s									
CD2					LR	LR				
	comp=Z,13µm,21.1s									
CD2					LR	LR				
	comp=Z,13µm,23.0s									
CD2					LR	LR				
	comp=Z,8µm,24.8s									
HIA	**Hailar**	**77.96**	**330**		IAmb	IAmb	15 14 13.4			
	comp=Z,715nm,1.3s									
HIA	**Hailar**	**77.96**	**330**		P	**P**	**15 14 11.3**	**+0.9**		
CHIR	**Chirikof Islan**	**78.00**	**20**		P	**P**	**15 14 10.9**	**+0.4**		
CHIR	**Chirikof Islan**	**78.00**	**20**		P	**P**	**15 14 10.2**	**-0.3**		
	baz=216									
CHIR					S	**S**	**15 23 46.0**	**-2.2**		
	baz=216									
BTO	**Baotou**	**78.05**	**319**	*e*	P	**P**	**15 14 13.0**	**+1.8**		
BTO					pP	**pwP**	**15 14 59.5**	**+0.8**		
BTO					sP	**sP**	**15 15 19.5**	**+3.7**		
BTO					PP	**PP**	**15 17 14.5**	**+4.0**		
BTO					S	**S**	**15 23 47.3**	**-2.3**		
BTO					pmax	pmax				
	comp=Z,620nm,1.7s									
BTO					pmax	pmax				
	comp=Z,8µm,10.4s									
BTO					LR	LR				
	comp=Z,7µm,18.0s									
BTO					LR	LR				
	comp=Z,8µm,17.7s									
BTO					LR	LR				
	comp=Z,7µm,23.5s									
R16K	**Pilot Point**	**78.83**	**18**		P	**P**	**15 14 15.1**	**+0.1**		
	baz=214									
R16K					S	**S**	**15 23 55.3**	**-1.7**		
	baz=214									
SII	**Sitkinak Islan**	**79.07**	**20**		IAmb	IAmb	15 15 02.3			
	comp=Z,464nm,1.3s									
SII	**Sitkinak Islan**	**79.07**	**20**		P	**P**	**15 14 17.3**	**+0.9**		
SII	**Sitkinak Islan**	**79.07**	**20**		P	**P**	**15 14 16.5**	**+0.1**		
	baz=217,SNR=14									
SII					S	**S**	**15 23 59.0**	**-0.7**		
	baz=217									
M11K	**Mekoryuk**	**79.10**	**13**		IAmb	IAmb	15 15 02.8			
	comp=Z,409nm,1.2s									
M11K	**Mekoryuk**	**79.10**	**13**		P	**P**	**15 14 17.2**	**+0.9**		
	baz=205,SNR=19									
M11K					S	**S**	**15 24 01.8**	**+2.1**		
	baz=205									
TNCH	**TengChong**	**79.19**	**300**	⇓	P	**P**	**15 14 19.0**	**+1.1**		
TNCH					pP	pP	15 15 00.0	-3.2		
TNCH					sP	sP	15 15 24.0	+1.0		
TNCH					PP	**PP**	**15 17 26.0**	**+5.7**		
TNCH					S	**S**	**15 24 00.3**	**-2.2**		
TNCH					SKS	**SKSac**	**15 24 07.5**	**-9.1**		
TNCH					ScS	**SKKSac**	**15 24 18.5**	**+0.3**		
TNCH					sS	sS	15 25 23.0	+4.0		
TNCH					pmax	pmax				
	comp=Z,470nm,0.7s									
TNCH					pmax	pmax				
	comp=Z,4µm,4.7s									
TNCH					LR	LR				
	comp=Z,8µm,36.5s									
O14K	**Tigyukauivet M**	**79.25**	**15**		P	**P**	**15 14 17.5**	**+0.3**		
	baz=210,SNR=6.3									
O14K					S	**S**	**15 23 59.5**	**-1.7**		
	baz=210									
R17L	**Mt. Peulik Vol**	**79.25**	**19**		P	**P**	**15 14 17.3**	**0.0**		
	baz=215,SNR=20									
R17L					S	**S**	**15 23 59.6**	**-1.9**		
	baz=215									
PLK4	**Peulik 4**	**79.25**	**19**		P	**P**	**15 14 17.1**	**-0.3**		
PLK4					IAmb	IAmb	15 15 08.7			
	comp=Z,294nm,1.1s									
O15K	**Ungalikthiuk R**	**79.56**	**16**		P	**P**	**15 14 18.6**	**-0.3**		
	baz=211,SNR=11									
O15K					S	**S**	**15 24 02.2**	**-2.4**		
	baz=211									
N14K	**Kuskokwak Cree**	**79.73**	**15**		IAmb	IAmb	15 15 05.8			
	comp=Z,506nm,1.5s									
N14K	**Kuskokwak Cree**	**79.73**	**15**		P	**P**	**15 14 20.3**	**+0.6**		
	baz=210,SNR=7.9									
N14K					S	**S**	**15 24 05.9**	**-0.4**		
	baz=210									
M13K	**Dall Lake**	**79.76**	**14**		IAmb	IAmb	15 15 06.4			
	comp=Z,529nm,1.5s									
M13K	**Dall Lake**	**79.76**	**14**		P	**P**	**15 14 20.7**	**+0.8**		
	baz=208,SNR=11									
M13K					S	**S**	**15 24 07.4**	**+0.8**		
	baz=208									
R18K	**Karluk**	**79.80**	**19**		P	**P**	**15 14 19.8**	**-0.3**		
	baz=216									
R18K					S	**S**	**15 24 05.2**	**-1.9**		
	baz=216									
SEY	**Seymchan**	**79.84**	**353**		PKPPKP		15 41 01.2			
	comp=Z,6.4nm,1.0s,baz=223,slow=2.0,SNR=5.8									
SEY					LR	LR	15 45 12.5			
	comp=Z,6µm,21.0s,baz=156,slow=32									
SEY	**Seymchan**	**79.84**	**353**	*de*	P	**P**	**15 14 20.6**	**+0.3**		
SEY					pmax	pmax				
	comp=Z,222nm,1.2s									
LZH	**Lanzhou**	**79.89**	**312**	⇓	P	**P**	**15 14 23.5**	**+2.1**		
LZH					pP	pwP	15 15 08.5	-0.5		
LZH					S	**S**	**15 24 11.5**	**+2.1**		
LZH					ScS	**SKSac**	**15 24 22.0**	**+1.0**		
LZH					sS	sS	15 25 30.0	+1.2		
LZH					pmax	pmax				
	comp=Z,640nm,1.1s									
LZH					pmax	pmax				
	comp=Z,3µm,4.5s									
OHAK	**Old Harbor**	**79.90**	**20**		IAmb	IAmb	15 15 13.4			
	comp=Z,451nm,1.4s									
OHAK	**Old Harbor**	**79.90**	**20**		P	**P**	**15 14 22.5**	**+1.8**		
OHAK	**Old Harbor**	**79.90**	**20**		P	**P**	**15 14 21.1**	**+0.3**		
	baz=218,SNR=27									
OHAK					S	**S**	**15 24 07.1**	**-1.1**		
	baz=218									
Q17K	**Contact Creek**	**79.92**	**18**		P	**P**	**15 14 20.5**	**-0.5**		
	baz=215,SNR=66									
Q17K					S	**S**	**15 24 06.5**	**-2.1**		
	baz=215									
P16K	**Nushagak River**	**79.94**	**17**		P	**P**	**15 14 20.6**	**-0.4**		
	baz=213									
P16K					S	**S**	**15 24 06.7**	**-1.9**		
	baz=213									
Q16K	**King Salmon**	**80.03**	**18**		P	**P**	**15 14 21.3**	**-0.1**		
	baz=214,SNR=23									
Q16K					S	**S**	**15 24 08.2**	**-1.3**		
	baz=214									
N15K	**Kwethluk River**	**80.34**	**16**		IAmb	IAmb	15 15 10.4			
	comp=Z,862nm,1.5s									
N15K	**Kwethluk River**	**80.34**	**16**		P	**P**	**15 14 23.8**	**+0.7**		
	baz=211,SNR=57									
N15K					S	**S**	**15 24 12.5**	**-0.3**		
	baz=211									
M14K	**Bethel**	**80.39**	**14**		P	**P**	**15 14 23.2**	**0.0**		
M14K					IAmb	IAmb	15 15 09.4			
	comp=Z,370nm,1.2s									
M14K	**Bethel**	**80.39**	**14**		P	**P**	**15 14 23.8**	**+0.6**		
	baz=209,SNR=36									
M14K					S	**S**	**15 24 14.1**	**+1.0**		
	baz=209									
O16K	**Kokwok River B**	**80.39**	**17**		P	**P**	**15 14 22.8**	**-0.5**		
	baz=213,SNR=14									
O16K					S	**S**	**15 24 10.4**	**-2.8**		
	baz=213									
Q18K	**Katmai Hardscr**	**80.50**	**19**		P	**P**	**15 14 24.0**	**-0.1**		
	baz=216,SNR=91									
Q18K					S	**S**	**15 24 13.4**	**-1.3**		
	baz=216									
P17K	**Kvichak River**	**80.52**	**18**		P	**P**	**15 14 23.5**	**-0.5**		
	baz=214,SNR=21									
P17K					S	**S**	**15 24 12.1**	**-2.5**		
	baz=214									
KDAK	**Kodiak Island**	**80.58**	**20**		P	**P**	**15 14 24.8**	**+0.5**		
KDAK	**Kodiak Island**	**80.58**	**20**		LR	LR	15 48 47.2			
	comp=Z,5µm,18.1s,baz=207,slow=34									
KDAK	**Kodiak Island**	**80.58**	**20**		P	**P**	**15 14 24.8**	**+0.5**		
KDAK					pmax	pmax				
	comp=Z,217nm,1.2s									
KDAK	**Kodiak Island**	**80.58**	**20**		P	**P**	**15 14 24.8**	**+0.5**		
	baz=218									
KDAK					S	**S**	**15 24 13.4**	**-1.8**		
	baz=218									
M15K	**Kasigluk River**	**80.65**	**15**		P	**P**	**15 14 25.2**	**+0.5**		
	baz=210,SNR=37									
M15K					S	**S**	**15 24 14.8**	**-1.1**		
	baz=210									
L14K	**Kuka Creek**	**80.74**	**14**		P	**P**	**15 14 26.0**	**+0.9**		
	baz=208,SNR=42									
L14K					S	**S**	**15 24 17.7**	**+0.9**		
	baz=208									
MAW	**Mawson**	**80.81**	**202**		P	**P**	**15 14 26.7**	**+1.1**		
	comp=Z,396nm,0.9s,baz=105,slow=6.7,SNR=248									
MAW					PKiKP	**PKiKP**	**15 19 51.2**	**+0.2**		
	comp=Z,11nm,0.9s,baz=203,slow=7.3,SNR=2.6									
MAW					S	**S**	**15 24 19.3**	**+1.7**		
	comp=Z,0.8nm,0.3s,baz=211,slow=21,SNR=1.3									
MAW					PKKPbc	**PKKPbc**	**15 33 04.2**	**-1.1**		
	comp=Z,5.5nm,0.7s,baz=287,slow=6.9,SNR=9.7									
MAW					PKPPKP	**P'P'df**	**15 41 02.2**	**-5.7**		
	comp=Z,0.7nm,0.3s,baz=262,slow=3.1,SNR=3.7									
MAW					LR	LR	15 45 14.0			
	comp=Z,8µm,21.7s,baz=98,slow=32									
	comp=Z,396nm,0.9s									
O17K	**Koliganek Bris**	**80.81**	**17**		P	**P**	**15 14 25.3**	**-0.3**		
	baz=214,SNR=19									
O17K					S	**S**	**15 24 14.1**	**-3.5**		
	baz=214									
K13K	**Kusilvak Mount**	**80.83**	**13**		P	**P**	**15 14 26.6**	**+1.0**		
	baz=207,SNR=34									
K13K					S	**S**	**15 24 18.1**	**+0.4**		
	baz=207									
N16K	**Nishlik Lake**	**80.95**	**16**		P	**P**	**15 14 27.6**	**+1.2**		
	baz=212,SNR=40									
N16K					S	**S**	**15 24 20.4**	**+1.3**		
	baz=212									
P18K	**Big Mountain,**	**81.04**	**18**		IAmb	IAmb	15 15 18.7			
	comp=Z,436nm,1.2s									
P18K	**Big Mountain,**	**81.04**	**18**		P	**P**	**15 14 26.3**	**-0.6**		
	baz=216,SNR=78									
P18K					S	**S**	**15 24 16.4**	**-3.7**		
	baz=216									
Q19K	**Cape Douglas,**	**81.15**	**19**		IAmb	IAmb	15 15 18.9			
	comp=Z,537nm,1.2s									
Q19K	**Cape Douglas,**	**81.15**	**19**		P	**P**	**15 14 27.4**	**0.0**		
	baz=217,SNR=20									
Q19K					S	**S**	**15 24 19.2**	**-2.0**		
	baz=217									
GAMB	**Gambell**	**81.26**	**9**		P	**P**	**15 14 28.5**	**+0.7**		
	baz=200									
GAMB					S	**S**	**15 24 22.0**	**0.0**		
	baz=200									
Q20K	**Shuyak Island**	**81.29**	**20**		P	**P**	**15 14 28.6**	**+0.5**		
	baz=218									
Q20K					S	**S**	**15 24 22.8**	**+0.2**		
	baz=218									
SYI	**Shuyak Island**	**81.29**	**20**		IAmb	IAmb	15 15 16.5			
	comp=Z,233nm,1.1s									
L15K	**Ungalak Mounta**	**81.31**	**14**		P	**P**	**15 14 28.2**	**+0.1**		
	baz=210,SNR=49									
L15K					S	**S**	**15 24 22.9**	**+0.2**		
	baz=210									
M16K	**Timber Creek**	**81.37**	**16**		IAmb	IAmb	15 14 32.4			
	comp=Z,355nm,1.2s									
M16K	**Timber Creek**	**81.37**	**16**		P	**P**	**15 14 29.4**	**+1.0**		
	baz=212,SNR=102									
M16K					S	**S**	**15 24 24.3**	**+1.0**		
	baz=212									
N17K	**Nushagak Hills**	**81.42**	**17**		IAmb	IAmb	15 15 18.4			
	comp=Z,418nm,1.6s									
N17K	**Nushagak Hills**	**81.42**	**17**		P	**P**	**15 14 29.3**	**+0.5**		
	baz=214,SNR=43									
N17K					S	**S**	**15 24 22.9**	**-1.0**		
	baz=214									
O18K	**Koktuh Hills**	**81.42**	**18**		P	**P**	**15 14 28.7**	**-0.1**		
	baz=216,SNR=22									
O18K					S	**S**	**15 24 21.2**	**-2.8**		
	baz=216									
J14K	**Nanvaranak Lak**	**81.79**	**13**		IAmb	IAmb	15 15 17.3			
	comp=Z,416nm,1.4s									
J14K	**Nanvaranak Lak**	**81.79**	**13**		P	**P**	**15 14 31.6**	**+0.9**		
	baz=208,SNR=27									
J14K					S	**S**	**15 24 28.2**	**+0.6**		
	baz=208									
K15K	**Wolf Creek Mou**	**81.84**	**14**		IAmb	IAmb	15 14 34.8			
	comp=Z,415nm,1.2s									
K15K	**Wolf Creek Mou**	**81.84**	**14**		P	**P**	**15 14 31.9**	**+1.0**		
	baz=210,SNR=85									
K15K					S	**S**	**15 24 29.0**	**+0.9**		
	baz=210									
P19K	**Oil Pt**	**81.85**	**19**		IAmb	IAmb	15 15 19.4			
	comp=Z,323nm,1.0s									
P19K	**Oil Pt**	**81.85**	**19**		P	**P**	**15 14 31.1**	**0.0**		
	baz=217,SNR=16									
P19K					S	**S**	**15 24 27.4**	**-1.1**		
	baz=217									
N18K	**Kilae Creek**	**81.91**	**17**		P	**P**	**15 14 31.8**	**+0.4**		
	baz=215,SNR=19									
N18K				

J16K	**Anvik River**	**82.91**	**14**	P	**P**	**15 14 37.5**	**+1.0**
	baz=210,SNR=52						
J16K				S	**SKSac**	**15 24 41.6**	**+1.7**
	baz=210						
L18K	**Granite Mounta**	**82.96**	**16**	IAmb	IAmb	15 14 40.3	
	comp=Z,266nm,1.2s						
L18K	**Granite Mounta**	**82.96**	**16**	P	**P**	**15 14 37.9**	**+1.1**
	baz=214,SNR=117						
L18K				S	**SKSac**	**15 24 44.1**	**+4.0**
	baz=214						
K17K	**Iditarod**	**82.97**	**15**	IAmb	IAmb	15 15 24.6	
	comp=Z,308nm,1.4s						
K17K	**Iditarod**	**82.97**	**15**	P	**P**	**15 14 37.8**	**+1.0**
	baz=212,SNR=39						
K17K				S	**S**	**15 24 44.6**	**+5.0**
	baz=212						
ANM	**Nome**	**83.06**	**11**	IAmb	IAmb	15 15 24.9	
	comp=Z,479nm,1.4s						
ANM	**Nome**	**83.06**	**11**	P	**P**	**15 14 38.4**	**+1.2**
	baz=206,SNR=6.3						
ANM				S	**SKSac**	**15 24 43.2**	**+2.5**
	baz=206						
M19K	**Big River Lodg**	**83.33**	**17**	IAmb	IAmb	15 14 41.0	
	comp=Z,480nm,1.6s						
M19K	**Big River Lodg**	**83.33**	**17**	P	**P**	**15 14 39.2**	**+0.6**
	baz=216,SNR=100						
M19K				S	**S**	**15 24 46.4**	**+3.2**
	baz=216						
J17K	**VABM Dome**	**83.36**	**14**	P	**P**	**15 14 40.0**	**+1.2**
	baz=212,SNR=28						
J17K				S	**S**	**15 24 47.5**	**+4.0**
	baz=212						
CAPN	**Captain Cook N**	**83.38**	**19**	P	**P**	**15 14 40.1**	**+1.2**
	baz=219						
CAPN				S	**S**	**15 24 47.2**	**+3.5**
	baz=219						
N20K	**Mount Spurr**	**83.39**	**18**	P	**P**	**15 14 38.6**	**-0.5**
	baz=218,SNR=15						
N20K				S	**SKSac**	**15 24 43.6**	**+0.3**
	baz=218						
SPCR	**Spurr Chakacha**	**83.39**	**18**	P	**P**	**15 14 38.6**	**-0.5**
	baz=218,SNR=13						
SEW	**Seward**	**83.41**	**20**	IAmb	IAmb	15 15 25.6	
	comp=Z,549nm,1.4s						
SEW	**Seward**	**83.41**	**20**	P	**P**	**15 14 39.2**	**+0.2**
	baz=221,SNR=36						
I17K	**Unalakleet**	**83.41**	**13**	P	**P**	**15 14 40.5**	**+1.5**
	baz=210,SNR=6.0						
L19K	**White Mountain**	**83.42**	**17**	P	**P**	**15 14 40.2**	**+1.1**
	baz=216,SNR=254						
SPU	**Mount Spurr**	**83.42**	**18**	IAmb	IAmb	15 15 25.8	
	comp=Z,503nm,2.0s						
TNA	**Tin City**	**83.52**	**10**	P	**P**	**15 14 40.3**	**+0.8**
TNA				IAmb	IAmb	15 15 26.1	
	comp=Z,390nm,1.4s						
TNA	**Tin City**	**83.52**	**10**	P	**P**	**15 14 40.1**	**+0.6**
	baz=203,SNR=8.6						
O22K	**Cooper Landing**	**83.61**	**20**	P	**P**	**15 14 40.2**	**+0.2**
	baz=221,SNR=32						
M20K	**Styx River**	**83.66**	**17**	IAmb	IAmb	15 15 26.8	
	comp=Z,634nm,1.9s						
M20K	**Styx River**	**83.66**	**17**	P	**P**	**15 14 40.5**	**+0.1**
	baz=217,SNR=73						
YAK	**Yakutsk**	**83.67**	**343**	P	**P**	**15 14 40.5**	**+0.1**
YAK	**Yakutsk**	**83.67**	**343**	PKPPKP		15 41 03.2	
	comp=Z,21nm,1.0s,baz=262,slow=3.2,SNR=11						
YAK				LR	LR	15 47 02.4	
	comp=Z,2µm,21.9s,baz=137,slow=32						
YAK	**Yakutsk**	**83.67**	**343**	*d* iP	**P**	**15 14 40.4**	**+0.1**
YAK				*e**PP	**pP**	**15 15 23.8**	**-2.1**
YAK				*e*		15 17 54.3	
YAK				*e*S	**SKSac**	**15 24 44.8**	**+0.1**
YAK				*e**SS	**sS**	**15 26 06.7**	**+1.1**
YAK				*e*SS	**SS**	**15 30 12.7**	**-5.6**
YAK				pmax	pmax		
	comp=Z,1µm,1.5s						
YAK				pmax	pmax		
	comp=N,222nm,1.1s						
YAK				pmax	pmax		
	comp=E,175nm,1.4s						
YAK				pmax	pmax		
	comp=Z,264nm,2.0s						
YAK				pmax	pmax		
	comp=E,71nm,1.0s						
YAK				pmax	pmax		
	comp=N,187nm,2.1s						
YAK				smax	smax		
	comp=E,941nm,2.3s						
YAK				smax	smax		
	comp=N,71nm,1.1s						
G15K	**Niukluk**	**83.70**	**12**	P	**P**	**15 14 41.3**	**+0.9**
	baz=207						
F14K	**Arctic Creek**	**83.71**	**10**	P	**P**	**15 14 41.3**	**+0.8**
	baz=205						
H16K	**Elim**	**83.74**	**12**	P	**P**	**15 14 41.5**	**+0.9**
	baz=209,SNR=15						
ULN	**Ulaanbaatar**	**83.79**	**324**	P	**P**	**15 14 42.2**	**+0.7**
ULN	**Ulaanbaatar**	**83.79**	**324**	*de*P	**P**	**15 14 42.5**	**+1.0**
ULN				pmax	pmax		
	comp=Z,1µm,1.1s						
L20K	**Farewell, AK**	**83.93**	**17**	P	**P**	**15 14 42.6**	**+0.9**
	baz=217,SNR=377						
Q23K	**Middleton Isla**	**83.96**	**22**	P	**P**	**15 14 42.3**	**+0.4**
	baz=224						
J18K	**Innoko River**	**84.00**	**15**	IAmb	IAmb	15 14 44.9	
	comp=Z,418nm,1.4s						
J18K	**Innoko River**	**84.00**	**15**	P	**P**	**15 14 42.6**	**+0.6**
	baz=214,SNR=142						
P23K	**Montague Islan**	**84.01**	**21**	P	**P**	**15 14 42.1**	**-0.1**
	baz=223,SNR=9.7						
BILL	**Bilibino**	**84.03**	**359**	*de*P	**P**	**15 14 42.0**	**-0.1**
BILL				pmax	pmax		
	comp=Z,527nm,1.2s						
SUA	**Susitna One**	**84.04**	**19**	P	**P**	**15 14 42.1**	**-0.3**
	baz=220,SNR=63						
RC01	**Rabbit Creek A**	**84.07**	**19**	P	**P**	**15 14 42.6**	**+0.2**
	baz=220,SNR=22						
SONM	**Songino Array**	**84.15**	**323**	P	**P**	**15 14 43.8**	**+0.5**
SONM	**Songino Array**	**84.15**	**323**	P	**P**	**15 14 44.0**	**+0.7**
	comp=Z,380nm,1.0s,baz=117,slow=2.3,SNR=366						
SONM				pP	**pP**	**15 15 29.6**	**+0.8**
	comp=Z,168nm,1.1s,baz=148,slow=4.6,SNR=4.4						
SONM				S	**SKSac**	**15 24 45.6**	**-3.3**
	comp=Z,4.5nm,1.0s,baz=157,slow=2.3,SNR=5.8						
SONM				PKKPbc	**PKKPbc**	**15 32 56.9**	**-1.3**
	comp=Z,26nm,1.2s,baz=229,slow=1.3,SNR=16						
SONM				PKPPKP	**P'P'df**	**15 40 57.6**	**-3.3**
	comp=Z,15nm,1.3s,baz=260,slow=2.3,SNR=8.1						
SONM				LR	LR	15 51 21.9	
	comp=Z,2µm,19.8s,baz=120,slow=35						
	comp=Z,380nm,1.0s						
SONM	**Songino Array**	**84.15**	**323**	P	**P**	**15 14 43.8**	**+0.5**
SONM				pmax	pmax		
	comp=Z,641nm,1.0s						
SKT	**Skwentna**	**84.21**	**18**	P	**P**	**15 14 41.7**	**-1.4**
	baz=219,SNR=30						
F15K	**North Star Dit**	**84.23**	**11**	IAmb	IAmb	15 15 29.9	
	comp=Z,328nm,1.4s						
F15K	**North Star Dit**	**84.23**	**11**	P	**P**	**15 14 44.0**	**+0.9**
	baz=206						
MCCM	**Marconi Confer**	**84.25**	**48**	IAmb	IAmb	15 15 36.6	
	comp=Z,247nm,0.9s						
GTA	**Gaotai**	**84.25**	**314**	P	**P**	**15 14 45.3**	**+1.3**
GTA				pP	pP	15 15 31.5	+1.7
GTA				PP	**PP**	**15 18 02.0**	**+0.4**
GTA				SKS	**SKSac**	**15 24 50.0**	**+0.1**
GTA				sS	sS	15 26 16.3	+1.8
GTA				pmax	pmax		
	comp=Z,710nm,1.2s						
GTA				pmax	pmax		
	comp=Z,4µm,5.1s						
GTA				LR	LR		
	comp=Z,5µm,19.6s						
GTA				LR	LR		
	comp=Z,2µm,21.8s						
GTA				LR	LR		
	comp=Z,5µm,20.4s						
PWL	**Port Wells**	**84.34**	**20**	P	**P**	**15 14 43.7**	**-0.1**
	baz=222,SNR=59						
G16K	**Koyuk River**	**84.39**	**12**	P	**P**	**15 14 44.1**	**+0.3**
G16K				IAmb	IAmb	15 14 47.2	
	comp=Z,438nm,1.4s						
G16K	**Koyuk River**	**84.39**	**12**	P	**P**	**15 14 44.6**	**+0.7**
	baz=209						
KCPM	**Cahto Peak**	**84.43**	**46**	IAmb	IAmb	15 15 38.1	
	comp=Z,529nm,1.0s						
M22K	**Willow**	**84.46**	**19**	P	**P**	**15 14 44.0**	**-0.3**
	baz=220,SNR=18						
HOPS	**Hopland Field**	**84.48**	**47**	IAmb	IAmb	15 15 38.9	
	comp=Z,453nm,1.3s						
H17K	**Granite Mounta**	**84.50**	**13**	P	**P**	**15 14 45.4**	**+1.0**
	baz=211,SNR=61						
KMRM	**Mail Ridge**	**84.58**	**46**	P	**P**	**15 14 46.5**	**+1.0**
KMRM				IAmb	IAmb	15 15 39.0	
	comp=Z,497nm,1.0s						
K20K	**Telida**	**84.59**	**16**	P	**P**	**15 14 45.6**	**+0.6**
	baz=216						
GDXM	**Geysers**	**84.59**	**47**	IAmb	IAmb	15 15 39.7	
	comp=Z,254nm,1.2s						
HIN	**Hinchinbrook I**	**84.61**	**21**	IAmb	IAmb	15 15 32.5	
	comp=Z,631nm,1.2s						
JCC	**Jacoby Creek,**	**84.62**	**45**	IAmb	IAmb	15 15 35.2	
	comp=Z,357nm,1.4s						
PMR	**Palmer**	**84.64**	**19**	P	**P**	**15 14 45.3**	**+0.1**
	baz=221,SNR=11						
J19K	**Poorman**	**84.71**	**15**	IAmb	IAmb	15 14 48.2	
	comp=Z,292nm,1.4s						
J19K	**Poorman**	**84.71**	**15**	P	**P**	**15 14 46.7**	**+1.1**
	baz=215,SNR=128						
KNK	**Knik Glacier**	**84.72**	**19**	P	**P**	**15 14 45.6**	**-0.1**
	baz=222,SNR=16						
PPLA	**Purkeypile**	**84.74**	**17**	P	**P**	**15 14 44.6**	**-1.3**
PPLA				IAmb	IAmb	15 15 32.3	
	comp=Z,551nm,1.6s						
PPLA	**Purkeypile**	**84.74**	**17**	P	**P**	**15 14 44.9**	**-1.0**
	baz=218,SNR=15						
GLI	**Glacier Island**	**84.77**	**20**	P	**P**	**15 14 45.6**	**-0.3**
	baz=223,SNR=22						
KRPM	**Rodgers**	**84.78**	**45**	IAmb	IAmb	15 15 36.4	
	comp=Z,558nm,1.5s						
G17K	**Kiwalik Mounta**	**84.83**	**13**	P	**P**	**15 14 47.0**	**+0.9**
	baz=210,SNR=49						
KHMM	**Horse Mountain**	**84.85**	**45**	IAmb	IAmb	15 15 40.4	
	comp=Z,501nm,1.1s						
FID	**Port Fidalgo**	**84.88**	**21**	IAmb	IAmb	15 15 33.6	
	comp=Z,644nm,1.3s						
CUT	**Chulitna**	**84.91**	**18**	P	**P**	**15 14 45.9**	**-0.7**
	baz=220,SNR=17						
BBGB	**Big Mountain B**	**84.92**	**50**	IAmb	IAmb	15 15 43.0	
	comp=Z,436nm,1.1s						
PMPB	**Monarch Peak**	**84.94**	**50**	P	**P**	**15 14 49.2**	**+1.7**
PMPB				IAmb	IAmb	15 15 47.1	
	comp=Z,315nm,1.1s						
EYAK	**Cordova Ski Ar**	**84.98**	**21**	IAmb	IAmb	15 15 34.4	
	comp=Z,374nm,1.3s						
EYAK	**Cordova Ski Ar**	**84.98**	**21**	P	**P**	**15 14 47.7**	**+0.8**
EYAK	**Cordova Ski Ar**	**84.98**	**21**	P	**P**	**15 14 46.3**	**-0.6**
	baz=224,SNR=14						
KAIM	**Kayak Island**	**85.00**	**22**	P	**P**	**15 14 47.3**	**+0.2**
	baz=225,SNR=28						
KRMB	**Red Mountain**	**85.02**	**44**	IAmb	IAmb	15 15 41.2	
	comp=Z,457nm,1.4s						
GCSA	**Galena City Sc**	**85.02**	**14**	P	**P**	**15 14 48.1**	**+1.0**
	baz=214,SNR=33						
H18K	**Honhosa River**	**85.02**	**14**	P	**P**	**15 14 47.5**	**+0.4**
	baz=212						
KBO	**Bosley Butte**	**85.12**	**44**	IAmb	IAmb	15 15 41.6	
	comp=Z,506nm,1.3s						
KSXB	**Camp Six Broad**	**85.18**	**44**	IAmb	IAmb	15 15 41.8	
	comp=Z,234nm,1.1s						
CAST	**Castle Rocks**	**85.18**	**17**	P	**P**	**15 14 47.1**	**-0.8**
	baz=218,SNR=138						
J20K	**Nowinta River**	**85.23**	**16**	IAmb	IAmb	15 15 35.4	
	comp=Z,453nm,1.4s						
J20K	**Nowinta River**	**85.23**	**16**	P	**P**	**15 14 48.8**	**+0.6**
	baz=216,SNR=83						
M23K	**Glacier View**	**85.23**	**19**	P	**P**	**15 14 48.0**	**-0.3**
	baz=222,SNR=12						
RAGM	**Ragged Mountai**	**85.24**	**21**	IAmb	IAmb	15 15 36.0	
	comp=Z,613nm,1.4s						
SUCK	**Sucking Hills**	**85.34**	**22**	IAmb	IAmb	15 15 36.0	
	comp=Z,405nm,1.5s						
KEBM	**Edson Butte**	**85.35**	**43**	IAmb	IAmb	15 15 42.3	
	comp=Z,364nm,1.1s						
HMT	**Hamilton**	**85.35**	**22**	IAmb	IAmb	15 15 36.5	
	comp=Z,598nm,1.3s						
DIV	**Divide**	**85.39**	**21**	IAmb	IAmb	15 15 36.5	
	comp=Z,350nm,1.2s						
SCM	**Sheep Creek Mo**	**85.39**	**20**	IAmb	IAmb	15 15 35.9	
	comp=Z,565nm,1.3s						
SCM	**Sheep Creek Mo**	**85.39**	**20**	P	**P**	**15 14 48.9**	**-0.2**
	baz=223,SNR=37						
CHUM	**Lake Minchumin**	**85.48**	**16**	P	**P**	**15 14 49.1**	**-0.3**
	baz=218,SNR=16						
F17K	**Baldwin Pennin**	**85.53**	**12**	P	**P**	**15 14 49.1**	**-0.4**
F17K	**Baldwin Pennin**	**85.53**	**12**	P	**P**	**15 14 50.4**	**+0.9**
	baz=210						
BGLC	**Bering Glacier**	**85.55**	**22**	P	**P**	**15 14 49.7**	**0.0**
	baz=226						
G18K	**Tagagawik**	**85.59**	**13**	P	**P**	**15 14 50.6**	**+0.7**
	baz=212,SNR=98						
KLU	**Klutina**	**85.60**	**20**	IAmb	IAmb	15 15 37.8	
	comp=Z,266nm,1.4s						
KLU	**Klutina**	**85.60**	**20**	P	**P**	**15 14 50.2**	**0.0**
	baz=224,SNR=34						
KTH	**Kantishna Hill**	**85.61**	**17**	IAmb	IAmb	15 15 36.4	
	comp=Z,370nm,1.1s						
I20K	**Naaghedeneel**	**85.65**	**15**	P	**P**	**15 14 51.3**	**+1.1**
	baz=216,SNR=32						
BMRM	**Bremner River**	**85.67**	**21**	IAmb	IAmb	15 15 38.0	
	comp=Z,712nm,1.6s						
BMRM	**Bremner River**	**85.67**	**21**	P	**P**	**15 14 49.7**	**-0.8**
	baz=225,SNR=28						
K02D	**Willamette Mer**	**85.71**	**43**	IAmb	IAmb	15 15 44.1	
	comp=Z,368nm,1.1s						
TRF	**Thorofare Moun**	**85.71**	**17**	IAmb	IAmb	15 15 36.6	
	comp=Z,367nm,1.2s						
TRF	**Thorofare Moun**	**85.71**	**17**	P	**P**	**15 14 49.9**	**-0.9**
	baz=220,SNR=44						
J01E	**Myrtle Point**	**85.74**	**43**	P	**P**	**15 14 52.0**	**+0.8**
J01E				IAmb	IAmb	15 15 44.1	
	comp=Z,386nm,1.1s						
H19K	**Roundabout Mou**	**85.78**	**14**	IAmb	IAmb	15 15 38.9	
	comp=Z,621nm,1.4s						
H19K	**Roundabout Mou**	**85.78**	**14**	P	**P**	**15 14 51.5**	**+0.7**
	baz=214,SNR=127						
ORV	**Oroville**	**85.82**	**47**	IAmb	IAmb	15 15 44.5	
	comp=Z,249nm,1.1s						
OSI	**Osito Audit: C**	**85.86**	**52**	IAmb	IAmb	15 15 42.6	
	comp=Z,503nm,1.6s						
YBH	**Yreka Blue Hor**	**85.92**	**45**	IAmb	IAmb	15 15 45.5	
	comp=Z,338nm,1.1s						
YBH	**Yreka Blue Hor**	**85.92**	**45**	LR	LR	15 46 58.8	
	comp=Z,377nm,20.1s,baz=251,slow=31						
WAX	**Waxell Ridge**	**85.93**	**22**	IAmb	IAmb	15 15 39.6	
	comp=Z,535nm,1.2s						
AFDM	**Forest Hills D**	**85.94**	**48**	IAmb	IAmb	15 15 45.3	
	comp=Z,238nm,1.1s						
M24K	**Tolsona, Glenn**	**85.97**	**20**	IAmb	IAmb	15 15 40.1	
	comp=Z,503nm,1.3s						
M24K	**Tolsona, Glenn**	**85.97**	**20**	P	**P**	**15 14 51.9**	**0.0**
	baz=224,SNR=20						
E17K	**Hotham Inlet**	**85.98**	**11**	P	**P**	**15 14 53.2**	**+1.4**
	baz=209,SNR=51						
F18K	**Selawik**	**85.98**	**12**	P	**P**	**15 14 52.4**	**+0.6**
	baz=211,SNR=39						
CMB	**Columbia Colle**	**85.99**	**49**	IAmb	IAmb	15 15 45.6	
	comp=Z,267nm,1.1s						
HG4B	**Hotspring**	**86.01**	**32**	IAmb	IAmb	15 15 40.5	
	comp=Z,339nm,1.3s						
BPAW	**Bear Paw Mtn.**	**86.02**	**17**	IAmb	IAmb	15 15 38.5	
	comp=Z,298nm,1.4s						
BPAW	**Bear Paw Mtn.**	**86.02**	**17**	P	**P**	**15 14 50.9**	**-1.2**
	baz=219,SNR=22						
CRQM	**Cirque**	**86.04**	**22**	IAmb	IAmb	15 15 40.0	
	comp=Z,427nm,1.2s						
CRQE	**Cirque**	**86.05**	**22**	P	**P**	**15 14 51.9**	**-0.6**
	baz=227,SNR=28						
VES	**Vestal, Richgr**	**86.07**	**51**	IAmb	IAmb	15 15 42.0	
	comp=Z,494nm,1.4s						
MESA	**MESA**	**86.07**	**23**	P	**P**	**15 14 52.3**	**-0.3**
MESA				IAmb	IAmb	15 15 40.6	
	comp=Z,420nm,1.2s						
MESA	**MESA**	**86.07**	**23**	P	**P**	**15 14 52.1**	**-0.5**
	baz=228,SNR=15						
H20K	**Anotleneega Mo**	**86.12**	**15**	P	**P**	**15 14 53.1**	**+0.6**
	baz=216,SNR=69						
N25K	**Chitina, Valde**	**86.13**	**21**	IAmb	IAmb	15 15 40.4	
	comp=Z,359nm,1.4s						
N25K	**Chitina, Valde**	**86.13**	**21**	P	**P**	**15 14 52.1**	**-0.7**
	baz=225,SNR=59						
BOD	**Bodaibo**	**86.14**	**334**	⇑ *i*P	**P**	**15 14 52.6**	**-0.2**
BOD				pmax	pmax		
	comp=Z,569nm,1.6s						
G19K	**Purcell Mounta**	**86.15**	**13**	IAmb	IAmb	15 15 39.9	
	comp=Z,497nm,1.3s						
G19K	**Purcell Mounta**	**86.15**	**13**	P	**P**	**15 14 53.5**	**+0.9**
	baz=214,SNR=103						
TGL	**Tana Glacier**	**86.15**	**22**	IAmb	IAmb	15 15 40.5	
	comp=Z,507nm,1.4s						
ISLE	**Juniper Island**	**86.22**	**22**	IAmb	IAmb	15 15 40.8	
	comp=Z,333nm,1.2s						
MWC	**Mount Wilson**	**86.22**	**53**	IAmb	IAmb	15 15 43.3	
	comp=Z,352nm,1.4s						
VRDI	**Verde Repeater**	**86.26**	**21**	IAmb	IAmb	15 15 41.0	
	comp=Z,509nm,1.7s						
YAH	**Yahtse**	**86.28**	**22**	IAmb	IAmb	15 15 41.6	
	comp=Z,352nm,1.2s						
GLB	**Gilahina Butte**	**86.28**	**21**	IAmb	IAmb	15 15 40.9	
	comp=Z,305nm,1.4s						
D17K	**Noatak River**	**86.29**	**11**	P	**P**	**15 14 54.5**	**+1.3**
	baz=208,SNR=37						
MCK	**McKinley**	**86.32**	**18**	P	**P**	**15 14 53.1**	**-0.4**
	baz=221,SNR=13						
TPO	**Tropico Hills**	**86.34**	**52**	IAmb	IAmb	15 15 44.9	
	comp=Z,561nm,1.3s						
TJX	**Tijuana**	**86.36**	**55**	P	**P**	**15 14 56.6**	**+2.2**
HATC	**Hat Creek Radi**	**86.38**	**46**	P	**P**	**15 14 55.5**	**+1.0**
HATC				IAmb	IAmb	15 15 47.7	
	comp=Z,481nm,1.1s						
L04D	**Klamath Falls**	**86.40**	**44**	IAmb	IAmb	15 15 47.5	
	comp=Z,531nm,1.2s						
C16K	**Lisburne Hills**	**86.43**	**10**	IAmb	IAmb	15 15 40.9	
	comp=Z,437nm,1.6s						
C16K	**Lisburne Hills**	**86.43**	**10**	P	**P**	**15 14 54.6**	**+0.7**
	baz=206,SNR=13						
CCX	**Cicese**	**86.43**	**56**	IAmb	IAmb	15 14 57.8	
	comp=Z,138nm,0.8s						
ISA	**Isabella, Lake**	**86.46**	**51**	IAmb	IAmb	15 15 00.2	
	comp=Z,219nm,1.1s						
ELS	**Elsinore Mount**	**86.49**	**54**	IAmb	IAmb	15 15 48.7	
	comp=Z,266nm,1.5s						
E18K	**Tukpahlearik C**	**86.51**	**12**	IAmb	IAmb	15 15 41.7	
	comp=Z,449nm,1.4s						
E18K	**Tukpahlearik C**	**86.51**	**12**	P	**P**	**15 14 55.3**	**+1.0**
	baz=210						
HARP	**HAARP**	**86.51**	**20**	P	**P**	**15 14 53.9**	**-0.6**
	baz=225,SNR=10.0						
MCARA	**McCarthy VSAT**	**86.51**	**21**	IAmb	IAmb	15 15 42.2	
	comp=Z,227nm,1.2s						
MCARA	**McCarthy VSAT**	**86.51**	**21**	P	**P**	**15 14 53.9**	**-0.7**
	baz=227,SNR=18						
GRNC	**Granite Creek**	**86.52**	**22**	IAmb	IAmb	15 15 42.5	
	comp=Z,256nm,1.2s						
GOMU	**GeErMu**	**86.53**	**309**	P	**P**	**15 14 57.5**	**+1.8**
GOMU				pP	pP	15 15 40.0	-1.6
GOMU				S	**S**	**15 25 19.5**	**+2.9**
GOMU				SS	**SS**	**15 31 02.5**	**+0.4**
GOMU				pmax	pmax		
	comp=Z,72nm,1.1s						
GOMU				pmax	pmax		
	comp=Z,4µm,10.9s						
GOMU				LR	LR		
	comp=Z,2µm,20.8s						
GOMU				LR	LR		
	comp=Z,3µm,20.1s						
GOMU				LR	LR		
	comp=Z,6µm,22.3s						
BFSC	**Mount Baldy Ra**	**86.53**	**53**	IAmb	IAmb	15 15 48.9	
	comp=Z,306nm,1.4s						
TABL	**Table Mountain**	**86.55**	**23**	IAmb	IAmb	15 15 42.6	
	comp=Z,312nm,1.1s						
F19K	**Shaleruckik Mo**	**86.58**	**13**	P	**P**	**15 14 55.2**	**+0.5**
	baz=213						
CBX	**Cerro Bola**	**86.60**	**55**	IAmb	IAmb	15 15 46.1	
	comp=Z,264nm,1.2s						
I21K	**Tanana**	**86.60**	**16**	P	**P**	**15 14 55.2**	**+0.4**
	baz=218						
DPP	**Dos Picos Cty**	**86.63**	**54**	IAmb	IAmb	15 15 45.2	
	comp=Z,189nm,1.2s						
RDOG	**Red Dog Mine**	**86.64**	**11**	IAmb	IAmb	15 15 42.3	
	comp=Z,426nm,1.4s						
RDOG	**Red Dog Mine**	**86.64**	**11**	P	**P**	**15 14 56.0**	**+1.0**
	baz=208,SNR=16						
PINM	**Pinnacle**	**86.65**	**23**	P	**P**	**15 14 54.5**	**-0.8**
	baz=229,SNR=9.7						
PNL	**Peninsula**	**86.70**	**24**	P	**P**	**15 14 54.5**	**-1.0**
	baz=230,SNR=16						
BEKR	**Beckworth**	**86.75**	**47**	P	**P**	**15 14 57.0**	**+0.5**
BEKR				IAmb	IAmb	15 15 49.5	
	comp=Z,311nm,1.3s						
SIT	**Sitka**	**86.76**	**27**	P	**P**	**15 14 55.8**	**0.0**
	baz=234,SNR=9.2						
H21K	**Melozitna Rive**	**86.77**	**15**	P	**P**	**15 14 56.4**	**+0.7**
	baz=218,SNR=34						
BARN	**Barnard Glacie**	**86.78**	**22**	IAmb	IAmb	15 15 43.9	
	comp=Z,353nm,1.2s						
COR	**Corvallis**	**86.78**	**42**	P	**P**	**15 14 57.5**	**+1.3**
COR				IAmb	IAmb	15 15 49.4	
	comp=Z,444nm,1.4s						
COR	**Corvallis**	**86.78**	**42**	P	**P**	**15 14 57.5**	**+1.3**
COR				pmax	pmax		
	comp=Z,444nm,1.4s						
IMAR	**Indian Mountai**	**86.80**	**15**	P	**P**	**15 14 55.6**	**-0.2**
MLY	**Manley**	**86.81**	**16**	IAmb	IAmb	15 15 43.2	
	comp=Z,561nm,1.7s						
MLY	**Manley**	**86.81**	**16**	P	**P**	**15 14 55.3**	**-0.7**
	baz=219,SNR=26						
PAX	**Paxson**	**86.82**	**19**	P	**P**	**15 14 55.5**	**-0.6**
	baz=224,SNR=18						
CTG	**Chitna Glacier**	**86.83**	**22**	P	**P**	**15 14 55.6**	**-0.6**
	baz=228,SNR=31						
CTG				S	**S**	**15 25 20.4**	**+2.4**
	baz=228						
CTGM	**Chitina Glacie**	**86.83**	**22**	IAmb	IAmb	15 15 44.0	
	comp=Z,286nm,1.1s						
CRAG	**Craig**	**86.83**	**29**	P	**P**	**15 14 55.9**	**-0.3**
	baz=236,SNR=13						
CRAG				S	**S**	**15 25 22.6**	**+4.7**
	baz=236						
LOGN	**Logan Glacier**	**86.86**	**22**	IAmb	IAmb	15 15 44.1	
	comp=Z,210nm,1.2s						
WAKR	**Walker**	**86.86**	**49**	IAmb	IAmb	15 15 50.6	
	comp=Z,400nm,1.2s						
S31K	**Pelican**	**86.91**	**26**	IAmb	IAmb	15 15 44.8	
	comp=Z,238nm,1.2s						
S31K	**Pelican**	**86.91**	**26**	P	**P**	**15 14 56.1**	**-0.4**
	baz=233						
S31K				S	**S**	**15 25 21.2**	**+2.7**
	baz=233						
NEA2	**Nenana**	**86.94**	**17**	P	**P**	**15 14 55.4**	**-1.1**
	baz=221,SNR=15						
K04D	**Chiloquin, OR**	**86.94**	**44**	P	**P**	**15 14 58.4**

baz=215
ZAK Zakamensk 87.21 325 *e*P **P** **15 14 57.7 -0.6**
ZAK *e* 15 15 42.0
ZAK *e* 15 25 07.9
ZAK pmax pmax
comp=Z,256nm,1.5s
ZAK pmax pmax
comp=Z,114nm,1.2s
E19K Redstone River 87.22 13 P **P** **15 14 58.2 +0.4**
baz=213
E19K S **S** **15 25 22.4 +1.2**
baz=213
F03A Seaside 87.22 41 P **P** **15 14 59.6 +1.3**
F03A IAmb IAmb 15 15 51.1
comp=Z,418nm,1.2s
M26K Nabesna, AK 87.23 21 P **P** **15 14 57.2 -0.8**
baz=227,SNR=29
M26K S **S** **15 25 23.7 +2.2**
baz=227
PFO Pinyon Flats O 87.23 54 LR LR 15 46 54.2
comp=Z,11µm,20.6s,baz=250,slow=30
PFO Pinyon Flats O 87.23 54 *de*P **P** **15 15 00.5 +1.7**
PFO pmax pmax
comp=Z,119nm,1.0s
CCCA Chr Cany lake 87.24 52 IAmb IAmb 15 15 52.5
comp=Z,383nm,1.1s
I23K Minto, Yukon-K 87.28 17 P **P** **15 14 57.6 -0.5**
baz=221,SNR=18
I23K S **S** **15 25 20.0 -1.7**
baz=221
G21K Allakaket 87.28 14 IAmb IAmb 15 15 46.1
comp=Z,437nm,1.3s
G21K Allakaket 87.28 14 P **P** **15 14 58.4 +0.3**
baz=217
G21K S **S** **15 25 23.7 +1.9**
baz=217
YUH Yuha Desert 87.30 55 IAmb IAmb 15 15 52.9
comp=Z,179nm,1.2s
H22K Ishtalitna Cre 87.32 16 P **P** **15 14 58.3 0.0**
baz=219,SNR=25
H22K S **S** **15 25 23.7 +1.6**
baz=219
K24K Donnelly Dome 87.32 19 IAmb IAmb 15 15 46.1
comp=Z,178nm,1.0s
K24K Donnelly Dome 87.32 19 P **P** **15 14 57.9 -0.6**
baz=224,SNR=22
K24K S **S** **15 25 22.3 0.0**
baz=224
P29M Windy Craggy 87.33 24 IAmb IAmb 15 15 46.6
comp=Z,212nm,1.2s
P29M Windy Craggy 87.33 24 P **P** **15 14 57.8 -0.7**
baz=231,SNR=27
S32K Killisnoo 87.33 27 IAmb IAmb 15 15 46.9
comp=Z,320nm,1.8s
S32K Killisnoo 87.33 27 P **P** **15 14 58.4 -0.1**
baz=234
S32K S **S** **15 25 23.1 +0.6**
baz=234
PAHR Pah Rah Range 87.38 47 IAmb IAmb 15 15 52.7
comp=Z,330nm,1.3s
R31K City Hall, Gus 87.39 26 P **P** **15 14 58.2 -0.6**
baz=233
R31K S **S** **15 25 25.6 +2.5**
baz=233
HDA Harding Lake 87.41 18 IAmb IAmb 15 15 46.1
comp=Z,340nm,1.1s
HDA Harding Lake 87.41 18 P **P** **15 14 58.0 -0.8**
baz=223,SNR=93
HDA S **S** **15 25 22.0 -1.1**
baz=223
O29M Mount Kennedy 87.43 24 P **P** **15 14 58.2 -0.9**
baz=231
O29M S **S** **15 25 24.3 +0.6**
baz=231
LHV Little Huntoon 87.44 49 IAmb IAmb 15 15 53.4
comp=Z,410nm,1.2s
OZB Mount Ozzard 87.45 37 IAmb IAmb 15 15 54.2
comp=Z,167nm,1.1s
V35K Ketchikan 87.47 30 IAmb IAmb 15 15 47.9
comp=Z,220nm,1.3s
V35K Ketchikan 87.47 30 P **P** **15 14 58.9 -0.3**
baz=237
V35K S **S** **15 25 25.6 +1.7**
baz=237
C18K Utukok River 87.47 11 P **P** **15 14 59.8 +0.8**
C18K IAmb IAmb 15 15 46.9
comp=Z,406nm,1.4s
C18K Utukok River 87.47 11 P **P** **15 14 59.3 +0.3**
baz=210,SNR=26
C18K S **S** **15 25 23.3 -0.3**
baz=210
DSP Deep Springs 87.49 50 P **P** **15 15 01.1 +1.4**
DSP IAmb IAmb 15 15 53.6
comp=Z,303nm,1.1s
COLA College 87.49 17 P **P** **15 14 57.9 -1.1**
COLA IAmb IAmb 15 15 46.1
comp=Z,280nm,1.2s
COLA College 87.49 17 P **P** **15 15 00.8 +1.7**
COLA College 87.49 17 *de*P **P** **15 14 58.0 -1.1**
COLA pmax pmax
comp=Z,87nm,0.9s
COLA College 87.49 17 P **P** **15 14 57.9 -1.1**
baz=222
COLA S **S** **15 25 24.9 +1.2**
baz=222
COLA College 87.49 17 P **P** **15 14 57.5 -1.6**
E03A Lebam 87.49 40 P **P** **15 15 00.6 +1.0**
SYO Syowa Base 87.51 196 ⇑ *i*P **P** **15 14 59.8 +0.5**
SYO Syowa Base 87.51 196 ⇓ *i*pP pP 15 15 44.8 -0.7
SYO Syowa Base 87.51 196 ⇓ *i*sP sP 15 16 03.4 -1.8
SYO Syowa Base 87.51 196 ⇑ *i*PP PP 15 18 27.2 +0.9
L26K Log Cabin Wild 87.54 20 P **P** **15 14 58.6 -0.9**
baz=226,SNR=24
L26K S **S** **15 25 25.5 +1.1**
baz=226
RIDG Independent Ri 87.56 19 IAmb IAmb 15 15 47.2
comp=Z,210nm,1.2s
RIDG Independent Ri 87.56 19 P **P** **15 14 59.1 -0.5**
baz=225,SNR=34
RIDG S **S** **15 25 23.8 -0.9**
baz=225
RYN Ryan 87.57 49 IAmb IAmb 15 15 53.7
comp=Z,199nm,1.2s
J05D Fort Rock, OR 87.57 44 P **P** **15 15 01.3 +1.1**
J05D IAmb IAmb 15 15 53.4
comp=Z,401nm,1.2s
BBB Bella Bella 87.57 34 IAmb IAmb 15 15 48.1
comp=Z,252nm,1.4s
BBB Bella Bella 87.57 34 LR LR 15 48 38.9
comp=Z,4µm,20.1s,baz=242,slow=32
M27K Edge Creek, AK 87.58 21 P **P** **15 14 59.1 -0.7**
baz=228,SNR=32
M27K S **S** **15 25 27.5 +2.4**
baz=228
G04A Mulino 87.58 41 P **P** **15 15 01.0 +1.0**
GSC Goldstone, Bar 87.58 52 IAmb IAmb 15 15 55.1
comp=Z,554nm,1.9s
RUBB Prince Rupert 87.59 31 IAmb IAmb 15 15 48.9
comp=Z,348nm,1.8s
SFX San Felipe 87.59 57 P **P** **15 15 01.6 +1.3**
IRK Irkutsk 87.60 326 *e*P **P** **15 14 57.9 -2.1**
IRK *e* 15 15 42.5
IRK *e*S **SKSac** **15 25 06.4 -3.4**
IRK pmax pmax
comp=Z,262nm,2.1s
YUK8 Steele Glacier 87.61 22 P **P** **15 14 59.7 -0.4**
baz=230,SNR=35
YUK8 S **S** **15 25 27.0 +1.3**
baz=230
WISH Wishkah 87.62 39 IAmb IAmb 15 15 55.7
comp=Z,414nm,1.3s
F04D Rainier, OR 87.63 41 P **P** **15 15 02.0 +1.8**
F04D IAmb IAmb 15 15 53.3
comp=Z,460nm,1.3s
NVAR Mina Array Bea 87.65 49 P **P** **15 15 01.6 +0.7**
NVAR Mina Array Bea 87.65 49 P **P** **15 15 02.1 +1.3**
comp=Z,85nm,1.1s,baz=229,slow=7.5,SNR=205
NVAR pP **pP** **15 15 47.6 +1.2**
comp=Z,89nm,1.0s,baz=228,slow=7.4,SNR=7.5
NVAR PP **PP** **15 18 29.2 +0.1**
comp=Z,26nm,1.2s,baz=237,slow=10.0,SNR=3.6
NVAR S **SKSac** **15 25 08.1 -3.1**
comp=Z,0.3nm,0.5s,baz=307,slow=4.5,SNR=1.5
NVAR PKKPbc **PKKPbc** **15 32 49.0 -0.3**
comp=Z,6.4nm,0.6s,baz=74,slow=4.0,SNR=25
NVAR SKKPbc **SKKPbc** **15 36 12.8 +1.6**
comp=Z,0.9nm,0.7s,baz=131,slow=2.4,SNR=3.8

NVAR PKPPKP **P'P'df** **15 40 51.7 -3.8**
comp=Z,2.5nm,0.9s,baz=105,slow=4.5,SNR=6.8
NVAR LR LR 15 48 52.8
comp=Z,7µm,19.6s,baz=252,slow=32
comp=Z,85nm,1.1s
T33K Petersburg 87.67 28 P **P** **15 15 00.3 +0.1**
baz=236
YUK3 Moose Creek 87.69 22 P **P** **15 14 59.7 -0.7**
baz=229,SNR=34
YUK3 S **S** **15 25 26.9 +0.7**
baz=229
NLWA Neilton Lookou 87.69 39 IAmb IAmb 15 15 53.5
comp=Z,279nm,1.4s
ILAR Eielson Array 87.69 18 P **P** **15 14 58.3 -1.8**
ILAR Eielson Array 87.69 18 P **P** **15 14 59.3 -0.8**
comp=Z,26nm,0.8s,baz=236,slow=5.5,SNR=270
ILAR pP **pP** **15 15 44.9 -1.2**
comp=Z,72nm,0.8s,baz=233,slow=5.4,SNR=11
ILAR PKiKP **PKiKP** **15 20 02.2 +0.2**
comp=Z,2.2nm,0.8s,baz=260,slow=3.2,SNR=4.8
ILAR S **SKSac** **15 25 09.2 -0.6**
comp=Z,0.9nm,0.9s,baz=251,slow=4.5,SNR=1.1
ILAR PKKPbc **PKKPbc** **15 32 48.1 -2.1**
comp=Z,3.6nm,0.8s,baz=296,slow=2.0,SNR=10.0
ILAR PKPPKP **P'P'df** **15 40 51.4 -1.7**
comp=Z,11nm,1.0s,baz=0.5,slow=1.9,SNR=14
ILAR LR LR 15 53 19.6
comp=Z,4µm,18.0s,baz=216,slow=35
comp=Z,26nm,0.8s
BELC Belle Mtn. Jos 87.73 54 IAmb IAmb 15 15 55.0
comp=Z,512nm,1.5s
WRAK Wrangell Islan 87.73 29 IAmb IAmb 15 15 49.0
comp=Z,182nm,1.3s
WRAK Wrangell Islan 87.73 29 P **P** **15 15 00.3 -0.1**
baz=236,SNR=7.9
WRAK S **S** **15 25 27.9 +1.5**
baz=236
H23K Yukon River 87.74 16 IAmb IAmb 15 15 48.2
comp=Z,612nm,1.8s
H23K Yukon River 87.74 16 P **P** **15 14 59.8 -0.6**
baz=220,SNR=37
H23K S **S** **15 25 25.4 -0.9**
baz=220
NV11 Mina Array Sit 87.76 49 IAmb IAmb 15 15 50.8
comp=Z,224nm,1.2s
QSM Queen of Sheba 87.78 52 IAmb IAmb 15 15 54.7
comp=Z,274nm,1.3s
GRAC Grapevine Rang 87.79 51 IAmb IAmb 15 15 51.1
comp=Z,348nm,1.2s
POKR Poker Plat Res 87.79 17 P **P** **15 14 59.1 -1.4**
baz=222,SNR=39
POKR S **S** **15 25 24.5 -2.2**
baz=222
R32K Eaglecrest 87.83 26 P **P** **15 15 01.0 +0.1**
baz=234,SNR=9.2
R32K S **S** **15 25 29.7 +2.4**
baz=234
F21K Alatna River 87.86 14 IAmb IAmb 15 15 48.9
comp=Z,389nm,1.4s
F21K Alatna River 87.86 14 P **P** **15 15 01.1 +0.3**
baz=217,SNR=24
F21K S **S** **15 25 26.5 -0.7**
baz=217
D19K Kuna River 87.92 12 IAmb IAmb 15 15 49.2
comp=Z,415nm,1.3s
D19K Kuna River 87.92 12 P **P** **15 15 01.5 +0.3**
baz=212
D19K S **S** **15 25 28.6 +0.8**
baz=212
YUK6 Outpost Mounta 87.92 23 P **P** **15 15 00.7 -0.9**
baz=231,SNR=17
YUK6 S **S** **15 25 30.1 +1.6**
baz=231
P30M Million Dollar 87.94 24 P **P** **15 15 00.3 -1.1**
baz=232
P30M S **S** **15 25 29.9 +1.5**
baz=232
I05D Terrebonne, OR 87.94 43 IAmb IAmb 15 15 54.9
comp=Z,563nm,1.5s
BVCY Beaver Creek 87.97 21 P **P** **15 15 01.1 -0.4**
baz=228,SNR=16
BVCY S **S** **15 25 28.0 -0.5**
baz=228
FURC Furnace Creek, 87.97 51 IAmb IAmb 15 15 55.8
comp=Z,303nm,1.1s
PINE Pine Mountain 87.97 43 IAmb IAmb 15 15 55.4
comp=Z,481nm,1.5s
GMN Gold Mountain 87.98 50 IAmb IAmb 15 15 55.6
comp=Z,259nm,1.7s
B18K Kokolik River 87.99 10 P **P** **15 15 02.2 +0.8**
baz=209,SNR=11
B18K S **S** **15 25 28.5 +0.2**
baz=209
SCRK Sand Creek 88.00 19 P **P** **15 15 00.3 -1.5**
SCRK Sand Creek 88.00 19 P **P** **15 15 01.2 -0.5**
baz=226,SNR=46
SCRK S **S** **15 25 29.1 +0.1**
baz=226
GWY Greenwater Val 88.01 52 IAmb IAmb 15 15 55.8
comp=Z,202nm,1.2s
BC3 Big Chuckawall 88.03 54 IAmb IAmb 15 15 56.7
comp=Z,320nm,1.5s
J25K Salcha River, 88.03 18 P **P** **15 15 00.7 -1.1**
baz=224,SNR=86
J25K S **S** **15 25 28.3 -0.8**
baz=224
CBB Campbell River 88.03 36 IAmb IAmb 15 15 50.9
comp=Z,314nm,1.2s
MZP Montezuma Peak 88.04 50 IAmb IAmb 15 15 56.0
comp=Z,217nm,1.6s
YUK4 Talbot Arm 88.07 23 P **P** **15 15 02.0 -0.2**
baz=231,SNR=30
YUK4 S **S** **15 25 30.8 +0.9**
baz=231
L27K Beaver Creek, 88.07 20 P **P** **15 15 01.4 -0.6**
baz=228,SNR=21
L27K S **S** **15 25 29.4 -0.1**
baz=228
BCAR Beaver Creek A 88.09 20 P **P** **15 15 00.7 -1.3**
G22K Bettles 88.09 15 P **P** **15 15 02.5 +0.5**
baz=219,SNR=73
G22K S **S** **15 25 31.8 +2.4**
baz=219
E20K Nigu River 88.11 13 P **P** **15 15 02.7 +0.7**
baz=214
E20K S **S** **15 25 31.0 +1.3**
baz=214
C19K Lookout Ridge 88.16 11 P **P** **15 15 03.2 +0.9**
baz=211,SNR=16
C19K S **S** **15 25 32.5 +2.5**
baz=211
HOOD Mount Hood Mea 88.16 42 IAmb IAmb 15 15 55.6
comp=Z,253nm,1.1s
HYT Haines Junctio 88.17 23 P **P** **15 15 01.9 -0.7**
baz=232,SNR=32
HYT S **S** **15 25 30.8 +0.1**
baz=232
CLRS Cowichan Lake 88.18 38 IAmb IAmb 15 15 57.8
comp=Z,294nm,1.2s
SKAG Skagway 88.19 25 P **P** **15 15 02.7 +0.2**
SKAG Skagway 88.19 25 P **P** **15 15 02.6 +0.1**
baz=233,SNR=11
SKAG S **S** **15 25 30.0 -0.6**
baz=233
SHOC Shoshone, Teco 88.20 52 IAmb IAmb 15 15 56.8
comp=Z,361nm,1.2s
H24K Noodor Dome 88.20 17 P **P** **15 15 01.3 -1.3**
baz=222,SNR=16
H24K S **S** **15 25 27.7 -2.9**
baz=222
WCT Wildcat Mounta 88.27 51 IAmb IAmb 15 15 57.3
comp=Z,374nm,1.2s
G23K Bananza Creek 88.30 15 IAmb IAmb 15 15 51.5
comp=Z,296nm,1.4s
G23K Bananza Creek 88.30 15 P **P** **15 15 03.0 +0.1**
baz=220,SNR=46
G23K S **S** **15 25 31.4 -0.1**
baz=220
GLA Glamis 88.31 55 IAmb IAmb 15 15 58.1
comp=Z,351nm,1.2s
F22K John River 88.39 14 P **P** **15 15 03.4 0.0**
baz=218
F22K S **S** **15 25 31.8 -0.5**
baz=218
GNW Green Mountain 88.40 39 IAmb IAmb 15 15 56.6
comp=Z,197nm,1.1s
D20K Etivluk River 88.40 12 P **P** **15 15 03.4 +0.1**
D20K Etivluk River 88.40 12 P **P** **15 15 04.0 +0.7**

baz=214
D20K S **S** **15 25 33.8 +1.5**
baz=214
IRM Iron Mountain 88.44 54 IAmb IAmb 15 15 58.6
comp=Z,379nm,1.3s
SRIG Santa Rosalia 88.49 61 IAmb IAmb 15 15 07.5
comp=Z,136nm,0.9s
J26L Joseph Creek 88.50 19 P **P** **15 15 03.9 -0.1**
baz=226,SNR=30
J26L S **S** **15 25 34.2 +0.6**
baz=226
PGC Sidney 88.51 38 IAmb IAmb 15 15 59.3
comp=Z,350nm,1.3s
U35K Hyder 88.54 30 P **P** **15 15 04.2 -0.1**
baz=238
U35K S **S** **15 25 35.8 +1.8**
baz=238
MTPC Mountain Pass 88.60 52 IAmb IAmb 15 15 59.1
comp=Z,213nm,1.4s
TPNV Topopah Spring 88.61 51 IAmb IAmb 15 15 58.9
comp=Z,214nm,1.1s
Q09A Carvers 88.61 49 IAmb IAmb 15 15 58.9
comp=Z,350nm,1.2s
PRP Porcupine Dome 88.63 18 P **P** **15 15 03.2 -1.5**
baz=224
PRP S **S** **15 25 31.6 -3.3**
baz=224
K27K Chicken 88.65 20 P **P** **15 15 04.3 -0.3**
baz=227
K27K S **S** **15 25 36.7 +1.9**
baz=227
COLD Coldfoot 88.65 15 IAmb IAmb 15 15 53.4
comp=Z,200nm,1.3s
COLD Coldfoot 88.65 15 P **P** **15 15 05.0 +0.4**
baz=220,SNR=34
COLD S **S** **15 25 36.3 +1.6**
baz=220
LON Longmire 88.67 40 IAmb IAmb 15 15 58.6
comp=Z,212nm,1.4s
O30N Mendenhall 88.68 24 P **P** **15 15 04.2 -0.7**
baz=233,SNR=27
O30N S **S** **15 25 36.0 +0.7**
baz=233
N30M Aishikik Lake 88.72 23 P **P** **15 15 04.8 -0.4**
baz=232,SNR=16
N30M S **S** **15 25 37.6 +1.8**
baz=232
E21K Killik River 88.73 13 IAmb IAmb 15 15 53.2
comp=Z,358nm,1.2s
E21K Killik River 88.73 13 P **P** **15 15 05.5 +0.5**
baz=216,SNR=31
E21K S **S** **15 25 37.1 +1.6**
baz=216
G06A Carlson Farm, 88.77 42 IAmb IAmb 15 15 56.8
comp=Z,401nm,1.7s
BLYC Blythe 88.79 54 P **P** **15 15 07.6 +1.6**
BLYC IAmb IAmb 15 15 09.3
comp=Z,156nm,1.1s
M29M Somme Creek 88.83 22 P **P** **15 15 05.2 -0.5**
baz=231,SNR=22
M29M S **S** **15 25 38.5 +1.7**
baz=231
A19K Wainwright 88.85 10 P **P** **15 15 05.0 -0.4**
baz=210
A19K S **S** **15 25 37.6 +1.3**
baz=210
P32M Atlin 88.94 26 P **P** **15 15 05.7 -0.5**
baz=235,SNR=15
P32M S **S** **15 25 40.4 +2.7**
baz=235
G24K Hadweenzic Riv 88.96 16 P **P** **15 15 05.7 -0.3**
baz=222,SNR=78
G24K S **S** **15 25 38.6 +1.0**
baz=222
E22K Anaktuvuk Pass 88.97 14 IAmb IAmb 15 15 54.6
comp=Z,488nm,1.6s
E22K Anaktuvuk Pass 88.97 14 P **P** **15 15 06.4 +0.3**
baz=218,SNR=69
E22K S **S** **15 25 39.1 +1.4**
baz=218
T35M Bob Quinn 89.01 29 P **P** **15 15 06.6 +0.1**
baz=238
T35M S **S** **15 25 38.9 +0.4**
baz=238
113A Mohawk Valley, 89.05 56 IAmb IAmb 15 16 01.3
comp=Z,169nm,1.3s
NEE2 Needles Airpor 89.07 53 IAmb IAmb 15 15 10.5
comp=Z,183nm,0.9s
WHY Whitehorse 89.09 24 P **P** **15 15 06.0 -0.9**
baz=234,SNR=15
WHY S **S** **15 25 39.3 0.0**
baz=234
MOY Mondy 89.09 325 *e*P **P** **15 15 07.3 +0.2**
MOY pmax pmax
comp=Z,265nm,2.6s
H25L Birch Creek 89.09 17 P **P** **15 15 06.0 -0.6**
baz=224,SNR=5.8
S34M Telegraph Cree 89.11 28 P **P** **15 15 07.1 +0.2**
baz=237,SNR=8.0
S34M S **S** **15 25 40.3 +1.0**
baz=237
LPIG La Paz 89.12 65 LR LR 15 47 15.4
comp=Z,4µm,21.0s,baz=246,slow=30
C21K Knifeblade Rid 89.14 12 P **P** **15 15 08.1 +1.3**
baz=216,SNR=17
C21K S **S** **15 25 40.8 +1.6**
baz=216
Q32M Nakina River 89.19 27 P **P** **15 15 07.4 -0.1**
baz=236,SNR=16
Q32M S **S** **15 25 40.7 +0.2**
baz=236
I26K Coal Creek Min 89.19 18 IAmb IAmb 15 15 55.8
comp=Z,229nm,1.4s
I26K Coal Creek Min 89.19 18 P **P** **15 15 06.9 -0.2**
baz=226
I26K S **S** **15 25 39.3 -0.5**
baz=226
V12A Nelson 89.22 52 IAmb IAmb 15 16 02.0
comp=Z,270nm,1.5s
S11A Rachel 89.23 50 IAmb IAmb 15 16 01.7
comp=Z,259nm,1.3s
N31M Braeburn, Yuko 89.23 23 P **P** **15 15 06.7 -0.7**
baz=233,SNR=30
N31M S **S** **15 25 39.5 -1.0**
baz=233
SHPR Sheep Range 89.26 52 IAmb IAmb 15 16 02.4
comp=Z,180nm,1.4s
SLBS Sierra La Lagu 89.31 65 P **P** **15 15 09.8 +1.1**
SLBS IAmb IAmb 15 15 12.7
comp=Z,182nm,0.8s
D22K Ayikyak River 89.37 13 IAmb IAmb 15 15 56.9
comp=Z,366nm,1.2s
D22K Ayikyak River 89.37 13 P **P** **15 15 08.8 +0.9**
baz=218,SNR=41
D22K S **S** **15 25 42.8 +1.5**
baz=218
G25K Bearman Lake 89.38 17 P **P** **15 15 07.5 -0.4**
baz=224,SNR=27
L29M L29M 89.38 22 P **P** **15 15 07.7 -0.4**
baz=231,SNR=35
L29M S **S** **15 25 40.6 -1.1**
baz=231
B20K Meade River 89.38 11 IAmb IAmb 15 15 55.5
comp=Z,285nm,1.4s
B20K Meade River 89.38 11 P **P** **15 15 08.6 +0.8**
baz=213
B20K S **S** **15 25 40.5 -0.7**
baz=213
E23K Chandalar 89.44 15 P **P** **15 15 08.7 +0.4**
baz=220,SNR=35
E23K S **S** **15 25 40.8 -1.3**
baz=220
J08A Circle Bar Ran 89.44 44 IAmb IAmb 15 16 02.2
comp=Z,346nm,1.2s
F24K Squaw Lake 89.46 16 P **P** **15 15 09.0 +0.6**
baz=222,SNR=49
F24K S **S** **15 25 43.3 +1.0**
baz=222
F07A Phinny Hill Vi 89.50 42 IAmb IAmb 15 16 02.0
comp=Z,303nm,1.4s
PALK Pallekele 89.50 278 P **P** **15 15 09.9 0.0**
PALK Pallekele 89.50 278 LR LR 15 57 11.4
comp=Z,4µm,19.4s,baz=107,slow=37
PALK Pallekele 89.50 278 *de*P **P** **15 15 11.7 +1.9**
PALK pmax pmax
comp=Z,126nm,1.0s
PALK Pallekele 89.50 278 P **P** **15 15 11.5 +1.6**
M30M Minto, Yukon 89.52 22 P **P** **15 15 07.7 -1.1**

baz=232,SNR=41
M30M S **S** **15 25 41.3 -1.8**
baz=232
MXC Moxie City **89.55 41** IAmb IAmb 15 16 02.2
comp=Z,213nm,1.3s
B21K Ikpikpuk River **89.56 12** IAmb IAmb 15 15 57.4
comp=Z,325nm,1.2s
B21K Ikpikpuk River **89.56 12** P **P** **15 15 09.6 +0.8**
baz=216,SNR=30
B21K S **S** **15 25 43.2 +0.3**
baz=216
DAWY Dawson **89.56 20** P **P** **15 15 08.1 -0.9**
baz=230,SNR=15
DAWY S **S** **15 25 41.9 -1.5**
baz=230
LTY Liberty **89.59 40** P **P** **15 15 10.3 +0.8**
LTY IAmb IAmb 15 16 04.3
comp=Z,208nm,1.2s
R11B Troy Canyon, C **89.60 50** IAmb IAmb 15 16 03.4
comp=Z,227nm,1.4s
P33M Teslin, Yukon **89.66 25** P **P** **15 15 08.9 -0.7**
baz=236,SNR=13
P33M S **S** **15 25 42.9 -1.7**
baz=236
E24K Your Creek **89.72 15** P **P** **15 15 09.8 +0.2**
baz=221,SNR=18
E24K S **S** **15 25 44.5 -0.3**
baz=221
E07A Sunnyside **89.81 41** IAmb IAmb 15 15 59.7
comp=Z,228nm,1.1s
I27K Kandik River **89.86 19** P **P** **15 15 09.9 -0.4**
baz=228,SNR=21
I27K S **S** **15 25 46.5 +0.4**
baz=228
G08A Pilot Rock **89.88 42** IAmb IAmb 15 16 04.0
comp=Z,314nm,1.1s
DLBC Dease Lake **89.88 28** LR LR 15 49 56.4
comp=Z,174nm,19.1s,baz=225,slow=32
DLBC Dease Lake **89.88 28** P **P** **15 15 10.8 +0.2**
baz=238,SNR=18
DLBC S **S** **15 25 46.2 -0.4**
baz=238
D23K Nanushuk River **89.89 14** IAmb IAmb 15 15 59.6
comp=Z,278nm,1.2s
D23K Nanushuk River **89.89 14** P **P** **15 15 10.8 +0.5**
baz=219,SNR=46
D23K S **S** **15 25 46.6 +0.5**
baz=219
TOLK Toolik Lake Re **89.89 14** IAmb IAmb 15 15 59.2
comp=Z,210nm,1.6s
TOLK Toolik Lake Re **89.89 14** P **P** **15 15 11.0 +0.6**
baz=220,SNR=14
TOLK S **S** **15 25 47.1 +0.8**
baz=220
MALK Mahakanadarawa **89.97 279** P **P** **15 15 14.1 +2.2**
R33M Jennings River **89.99 27** P **P** **15 15 11.2 +0.1**
baz=237,SNR=27
R33M S **S** **15 25 47.6 -0.1**
baz=237
K29M Barlow Dome **90.05 21** P **P** **15 15 10.8 -0.5**
baz=232,SNR=20
K29M S **S** **15 25 48.3 +0.3**
baz=232
WAH2 Wahluke Slope **90.08 41** IAmb IAmb 15 16 00.7
comp=Z,231nm,1.2s
N32M Quiet Lake **90.09 25** P **P** **15 15 10.6 -0.9**
baz=235
N32M S **S** **15 25 50.7 +2.3**
baz=235
F25K Christian River **90.10 16** P **P** **15 15 11.8 +0.4**
baz=224,SNR=49
F25K S **S** **15 25 48.5 +0.3**
baz=224
HSIG **90.11 60** IAmb IAmb 15 15 15.2
comp=Z,179nm,1.1s
PMSA Palmer Station **90.11 160** P **P** **15 15 12.2 +0.6**
PMSA Palmer Station **90.11 160** *eP* **P** **15 15 12.7 +1.1**
G26K Porcupine Rive **90.15 17** IAmb IAmb 15 15 59.4
comp=Z,204nm,1.2s
G26K Porcupine Rive **90.15 17** P **P** **15 15 11.6 0.0**
baz=226,SNR=83
G26K S **S** **15 25 48.3 -0.2**
baz=226
YPT Yellepit **90.18 42** IAmb IAmb 15 16 05.3
comp=Z,566nm,2.0s
M31M Drury Creek, Y **90.19 23** P **P** **15 15 10.6 -1.4**
baz=234,SNR=15
M31M S **S** **15 25 47.6 -1.6**
baz=234
J29N Klondike Camp **90.20 20** P **P** **15 15 11.7 -0.3**
baz=231
J29N S **S** **15 25 48.6 -0.7**
baz=231
BMAR Burnt Mountain **90.27 16** P **P** **15 15 12.8 +0.6**
I28M Miner Creek **90.28 19** P **P** **15 15 11.7 -0.6**
baz=229,SNR=28
I28M S **S** **15 25 50.3 +0.3**
baz=229
LLLB Lillooet **90.28 37** IAmb IAmb 15 16 05.3
comp=Z,255nm,1.3s
H27K Steamboat Moun **90.31 18** IAmb IAmb 15 16 00.8
comp=Z,186nm,1.6s
H27K Steamboat Moun **90.31 18** P **P** **15 15 12.5 +0.1**
baz=228,SNR=47
H27K S **S** **15 25 52.3 +2.1**
baz=228
B22K Teshekpuk Lake **90.38 12** IAmb IAmb 15 16 01.2
comp=Z,295nm,1.2s
B22K Teshekpuk Lake **90.38 12** P **P** **15 15 13.1 +0.5**
baz=217,SNR=8.1
B22K S **S** **15 25 52.1 +1.6**
baz=217
D24K Happy Valley **90.46 14** IAmb IAmb 15 16 03.0
comp=Z,174nm,1.4s
D24K Happy Valley **90.46 14** P **P** **15 15 13.7 +0.7**
baz=221,SNR=18
D24K S **S** **15 25 53.0 +1.6**
baz=221
MAYO Mayo, Yukon **90.47 22** P **P** **15 15 12.7 -0.5**
baz=233
LNOR Lincton Mounta **90.54 42** IAmb IAmb 15 16 06.7
comp=Z,274nm,1.7s
F26K Sheenjek River **90.58 16** P **P** **15 15 13.9 +0.3**
baz=226,SNR=28
F26K S **S** **15 25 55.4 +2.8**
baz=226
C23K Itkillik River **90.58 13** P **P** **15 15 14.4 +1.0**
baz=220,SNR=33
C23K S **S** **15 25 53.5 +1.2**
baz=220
A21K Barrow **90.58 11** P **P** **15 15 14.3 +0.8**
baz=214
A21K S **S** **15 25 50.7 -1.5**
baz=214
D08A Wollman Farm, **90.60 41** IAmb IAmb 15 16 07.2
comp=Z,269nm,1.3s
A22K Sinclair Lake **90.62 11** P **P** **15 15 14.3 +0.7**
baz=215
A22K S **S** **15 25 53.7 +1.0**
baz=215
G27K Doyon Strip **90.67 18** P **P** **15 15 13.7 -0.3**
baz=228,SNR=20
G27K S **S** **15 25 56.2 +2.9**
baz=228
ELK Elko **90.70 48** IAmb IAmb 15 16 08.5
comp=Z,178nm,1.2s
ELK Elko **90.70 48** LR LR 15 51 19.6
comp=Z,6µm,19.1s,baz=248,slow=32
I29M Ogilvie Camp, **90.75 20** P **P** **15 15 13.4 -1.0**
baz=231,SNR=39
I29M S **S** **15 25 55.2 +1.1**
baz=231
SPR3 Spring Creek 3 **90.75 50** IAmb IAmb 15 16 08.9
comp=Z,228nm,1.1s
BMO Blue Mountains **90.79 43** IAmb IAmb 15 16 08.1
comp=Z,291nm,1.4s
B08A Colville Reser **90.86 40** P **P** **15 15 15.7 +0.3**
B08A IAmb IAmb 15 16 03.9
comp=Z,160nm,1.1s
E09A Wood Farm, Sta **90.88 42** IAmb IAmb 15 16 08.3
comp=Z,274nm,1.3s
LCMT Little Creek M **90.88 52** IAmb IAmb 15 16 09.8
comp=Z,221nm,1.1s
J30M Hart River **90.92 21** P **P** **15 15 14.7 -0.6**
baz=232,SNR=9.0
J30M S **S** **15 25 54.6 -1.3**
baz=232
C24K Franklin Bluff **90.92 14** IAmb IAmb 15 16 04.3
comp=Z,236nm,1.2s
PSUT Pine Spring **90.94 50** IAmb IAmb 15 16 18.0
comp=Z,129nm,1.1s
CCUT Cedar City **90.97 51** IAmb IAmb 15 16 10.6
comp=Z,179nm,1.3s
D25K Kavik River **91.17 15** P **P** **15 15 16.2 -0.2**
baz=223,SNR=27
D25K S **S** **15 25 55.8 -2.1**
baz=223
MFID Camas Ranch **91.25 45** IAmb IAmb 15 16 10.6
comp=Z,202nm,1.2s
H29M Whitestone **91.27 19** P **P** **15 15 16.3 -0.5**
baz=231,SNR=16
H29M S **S** **15 25 59.0 +0.2**
baz=231
I30M Mount Dempster **91.30 20** P **P** **15 15 16.1 -1.0**
baz=232,SNR=26
I30M S **S** **15 25 56.8 -2.5**
baz=232
WTLY Watson Lake, Y **91.30 27** P **P** **15 15 16.5 -0.6**
baz=239
WTLY S **S** **15 25 57.8 -1.6**
baz=239
U15A North Rim **91.41 53** IAmb IAmb 15 16 10.6
comp=Z,173nm,1.0s
X16A Lo Mia Camp, P **91.42 55** P **P** **15 15 20.0 +1.5**
X16A IAmb IAmb 15 16 12.8
comp=Z,140nm,1.1s
TROLL Troll, Antarti **91.45 184** ⇓P **P** **15 15 18.1 +0.2**
comp=Z,50µm,0.9s
TROLL ⇓sP **sP** **15 16 22.3 -1.7**
TROLL ⇑PP **PP** **15 18 58.6 +1.0**
TROLL ⇑SKSac **SKSac** **15 25 30.2 -2.1**
TROLL ⇓S **S** **15 25 57.5 -3.4**
TROLL Troll, Antarti **91.45 184** ⇑SP SP 15 27 10.3 +0.4
TIXI Tiksi **91.57 348** LR LR 15 50 54.2
comp=Z,3µm,21.9s,baz=148,slow=32
TIXI Tiksi **91.57 348** *deP* **P** **15 15 17.6 -0.4**
TIXI *i* *PP **pP** **15 16 03.5 -0.5**
TIXI pmax pmax
comp=Z,116nm,1.3s
E27K Coleen River **91.61 17** P **P** **15 15 18.4 0.0**
baz=228,SNR=43
E27K S **S** **15 26 00.1 -1.8**
baz=228
MMPY Sheldon Lake, **91.63 24** P **P** **15 15 17.9 -0.7**
baz=237,SNR=24
MMPY S **S** **15 25 59.8 -2.5**
baz=237
NVL N'lazarevskaya **91.69 188** *eP* P 15 15 11.2 -7.6
NVL *eSSS* SSS 15 35 56.9
NVL pmax pmax
comp=Z,43nm,0.6s
NVL pmax pmax
comp=E,4µm,11.6s
F28M Old Crow **91.72 18** P **P** **15 15 18.6 -0.3**
baz=229,SNR=20
F28M S **S** **15 26 00.6 -2.2**
baz=229
PKCU Pink Cliffs **91.73 52** P **P** **15 15 21.7 +1.7**
PKCU IAmb IAmb 15 16 14.8
comp=Z,342nm,1.4s
PLID Pearl Lake **91.74 43** IAmb IAmb 15 16 12.4
comp=Z,167nm,1.1s
G29M Pine Creek **91.82 19** P **P** **15 15 18.7 -0.6**
baz=231,SNR=20
G29M S **S** **15 26 01.6 -2.2**
baz=231
WUAZ Wupatki **91.82 54** P **P** **15 15 22.2 +1.9**
WUAZ IAmb IAmb 15 16 12.3
comp=Z,124nm,1.1s
EPYK Eagle Plains **91.89 19** IAmb IAmb 15 16 06.7
comp=Z,223nm,1.7s
EPYK Eagle Plains **91.89 19** P **P** **15 15 18.8 -0.9**
baz=232,SNR=19
EPYK S **S** **15 26 01.9 -2.6**
baz=232
C26K Camden Bay **91.96 15** P **P** **15 15 20.9 +1.0**
baz=225,SNR=14
C26K S **S** **15 26 04.0 -0.8**
baz=225
TCRU Three Creeks R **92.00 50** IAmb IAmb 15 16 26.5
comp=Z,133nm,1.1s
C27K Jago River **92.05 15** P **P** **15 15 21.0 +0.7**
baz=226,SNR=25
C27K S **S** **15 26 04.9 -0.8**
baz=226
SNAA Sanae **92.11 183** ⇓P **P** **15 15 20.5 -0.4**
comp=Z,7µm,1.1s
SNAA ⇑pP **pP** **15 16 05.9 -1.5**
SNAA ⇑SKSac **SKSac** **15 25 34.6 -1.3**
SNAA ⇓S **S** **15 26 03.5 -3.2**
SNAA Sanae **92.11 183** ⇓SP SP 15 27 18.0 +0.9
SNAA Sanae **92.11 183** P **P** **15 15 20.8 -0.1**
comp=Z,617nm,1.2s,baz=173,slow=3.3,SNR=360
SNAA PKiKP **PKiKP** **15 20 10.4 +0.8**
comp=Z,18nm,1.1s,baz=152,slow=9.8,SNR=1.4
SNAA S **SKSac** **15 25 33.6 -2.2**
comp=Z,3.5nm,1.2s,baz=355,slow=23,SNR=1.3
SNAA PKKPbc **PKKPdf** **15 32 36.2 +1.9**
comp=Z,2.6nm,0.7s,baz=251,slow=2.9,SNR=7.1
SNAA SKKPbc **SKKPbc** **15 35 56.0 -1.6**
comp=Z,1.0nm,0.7s,baz=118,slow=1.7,SNR=1.7
SNAA LR LR 15 54 04.4
comp=Z,3µm,19.1s,baz=168,slow=34
comp=Z,617nm,1.2s
SNAA Sanae **92.11 183** *ceP* **P** **15 15 20.9 0.0**
SNAA pmax pmax
comp=Z,840nm,1.3s
LIRD Liard River Hi **92.14 28** P **P** **15 15 20.9 -0.1**
baz=241
LIRD S **S** **15 26 05.8 -1.0**
baz=241
NEW Newport **92.19 40** LR LR 15 51 46.7
comp=Z,2µm,19.7s,baz=248,slow=32
319A Douglas **92.21 58** IAmb IAmb 15 15 25.5
comp=Z,178nm,0.9s
TGTN Hyland Airport **92.25 25** P **P** **15 15 21.2 -0.3**
baz=240
TGTN S **S** **15 26 04.9 -2.9**
baz=240
TOAD Toad River Com **92.26 29** P **P** **15 15 21.3 -0.3**
baz=242,SNR=12
HLID Hailey **92.27 45** P **P** **15 15 23.3 +1.1**
H31M Peel River **92.33 20** P **P** **15 15 21.0 -0.7**
baz=234,SNR=12
H31M S **S** **15 26 05.3 -3.0**
baz=234
BGU Big Grassy Mou **92.34 48** IAmb IAmb 15 16 15.9
comp=Z,192nm,1.8s
G30M tAoh Zraii Nji **92.42 19** IAmb IAmb 15 16 08.9
comp=Z,105nm,1.2s
G30M tAoh Zraii Nji **92.42 19** P **P** **15 15 21.5 -0.7**
baz=233,SNR=36
G30M S **S** **15 26 05.7 -3.4**
baz=233
E28M Babbage River **92.47 17** P **P** **15 15 22.3 +0.1**
baz=230,SNR=24
E28M S **S** **15 26 08.2 -1.2**
baz=230
D27M Malcolm River **92.50 16** IAmb IAmb 15 16 10.7
comp=Z,321nm,1.9s
D27M Malcolm River **92.50 16** P **P** **15 15 23.0 +0.5**
baz=228,SNR=34
D27M S **S** **15 26 09.7 -0.1**
baz=228
X18A Snowflake **92.63 55** IAmb IAmb 15 16 18.2
comp=Z,110nm,1.1s
DUN6 Lazy B Ranch **92.72 57** IAmb IAmb 15 15 27.7
comp=Z,162nm,0.9s
VNA3 Neumayer Olymp **92.75 181** ⇓P **P** **15 15 23.3 -0.5**
comp=Z,249nm,0.7s
VNA3 ⇑pP **pP** **15 16 08.6 -1.6**
VNA3 ⇓PP **PP** **15 19 03.6 -4.0**
VNA3 ⇑SKSac **SKSac** **15 25 37.3 -2.0**
VNA3 ⇓S **S** **15 26 07.8 -4.3**
VNA3 Neumayer Olymp **92.75 181** ⇑SP SP 15 27 27.4 +3.4
E29M Blow River **92.79 17** P **P** **15 15 23.6 -0.2**
baz=231,SNR=11
HVU Hansel Valley **92.80 47** IAmb IAmb 15 16 19.3
comp=Z,151nm,1.3s
F30M Barrier River **92.94 19** P **P** **15 15 23.7 -0.8**
baz=233,SNR=9.7
W18A Petrified Fore **92.97 54** IAmb IAmb 15 16 19.5
comp=Z,148nm,1.2s
G31M Satah River **93.00 19** P **P** **15 15 24.0 -0.7**
baz=234,SNR=17
Q16A Castle Valley **93.05 50** IAmb IAmb 15 16 31.1
comp=Z,167nm,1.3s
D28M Stokes Point **93.15 17** P **P** **15 15 25.5 +0.1**
baz=230
D28M S **S** **15 26 14.6 -0.8**
baz=230
VNA1 Neumayer~Stat **93.32 181** ⇓P **P** **15 15 26.1 -0.2**
comp=Z,410nm,1.0s
KOTAN Kotaneelee Air **93.39 28** P **P** **15 15 26.5 -0.2**
baz=243
F31M Tsiigehtchic **93.47 19** P **P** **15 15 26.6 -0.3**
baz=235,SNR=11
MCMT McKenzie Canyo **93.75 44** P **P** **15 15 29.3 +0.2**
BSUT Blindstream Ca **93.85 49** IAmb IAmb 15 16 23.0
comp=Z,85nm,1.0s
INK Inuvik **94.04 19** LR LR 15 54 35.7
comp=Z,3µm,19.5s,baz=230,slow=33
INK Inuvik **94.04 19** P **P** **15 15 28.7 -0.8**
baz=235
DLMT Dillon **94.09 44** IAmb IAmb 15 19 20.3
comp=Z,266nm,1.9s
MG04 Isla Riesco **94.23 148** P **P** **15 15 32.3 +1.5**
HYB Hyderabad **94.30 287** *eP* **P** **15 15 32.4 +0.5**
HYB IVmB_BB 15 15 35.4
comp=Z,1µm,2.4s
HYB *ep*P **pP** **15 16 16.5 -2.1**
HYB *es*P **sP** **15 16 35.0 -3.2**
HYB *eP*P **PP** **15 19 22.3 +0.5**
HYB *e*SKSac **SKSac** **15 25 49.1 -0.5**
HYB *e*ScS **ScS** **15 26 29.4 +0.7**
WMQ Urumqi **94.32 314** ⇓P **P** **15 15 32.0 +0.5**
WMQ pP pP 15 16 17.5 -0.1
WMQ PP **PP** **15 19 21.5 +0.1**
WMQ SKS **SKSac** **15 25 47.8 -0.9**
WMQ pmax pmax
comp=Z,390nm,1.3s
WMQ pmax pmax
comp=Z,2µm,3.8s
WMQ LR LR
comp=Z,3µm,21.7s
WMQ LR LR
comp=Z,2µm,21.7s
WMQ LR LR
comp=Z,5µm,23.7s
GO10 Punta Arenas **94.32 149** P **P** **15 15 32.8 +1.4**
MG05 Puerto Natales **94.40 147** P **P** **15 15 32.3 +0.7**
PV19 Morning Glory **94.50 52** IAmb IAmb 15 16 26.0
comp=Z,142nm,1.4s
PV23 Carpenter Ridg **94.52 51** IAmb IAmb 15 16 23.9
comp=Z,106nm,1.0s
PV20 West Nyswonger **94.52 52** IAmb IAmb 15 16 26.1
comp=Z,118nm,1.3s
PV18 Skein Mesa, Pa **94.53 52** IAmb IAmb 15 19 23.7
comp=Z,75nm,1.1s
PV04 Paradox Valley **94.58 51** IAmb IAmb 15 16 26.5
comp=Z,94nm,1.3s
EPT El Paso **94.59 58** P **P** **15 15 34.4 +1.3**
PV12 Saucer Basin, **94.64 52** IAmb IAmb 15 19 24.6
comp=Z,196nm,1.3s
PV02 Paradox Valley **94.65 52** IAmb IAmb 15 19 24.7
comp=Z,125nm,1.2s
Y22D IRIS PASSCAL I **94.89 56** P **P** **15 15 34.1 -0.3**
baz=254
WRGLY Wrigley **95.03 25** IAmb IAmb 15 16 24.0
comp=Z,182nm,1.8s
WRGLY Wrigley **95.03 25** P **P** **15 15 33.7 -0.5**
baz=244
PDAR Pinedale Array **95.38 47** P **P** **15 15 36.6 +0.1**
PDAR Pinedale Array **95.38 47** P **P** **15 15 37.1 +0.6**
comp=Z,6.9nm,0.9s,baz=223,slow=3.0,SNR=35
PDAR pP **pP** **15 16 23.9 +1.5**
comp=Z,12nm,0.9s,baz=242,slow=3.2,SNR=4.0
PDAR PP **PP** **15 19 26.0 -3.9**
comp=Z,16nm,1.1s,baz=240,slow=4.1,SNR=5.6
PDAR PKiKP **PKiKP** **15 20 17.8 +1.6**
comp=Z,11nm,1.3s,baz=195,slow=3.3,SNR=5.1
PDAR S **SKSac** **15 25 52.2 -2.5**
comp=Z,3.7nm,1.1s,baz=292,slow=1.5,SNR=3.4
PDAR PKKPbc **PKKPbc** **15 32 29.2 -0.5**
comp=Z,21nm,0.9s,baz=83,slow=4.1,SNR=47
PDAR SKKPbc **SKKPbc** **15 35 51.2 -1.8**
comp=Z,1.8nm,0.8s,baz=89,slow=3.8,SNR=4.3
PDAR PKPPKP **P'P'df** **15 40 37.1 -3.7**
comp=Z,3.3nm,1.0s,baz=100,slow=4.5,SNR=6.1
PDAR LR LR 15 54 39.5
comp=Z,3µm,18.6s,baz=254,slow=33
comp=Z,6.9nm,0.9s
ANMO Albuquerque **95.50 55** P **P** **15 15 36.9 -0.3**
ANMO Albuquerque **95.50 55** LR LR 15 52 53.2
comp=Z,7µm,19.3s,baz=359,slow=32
ANMO Albuquerque **95.50 55** *deP* **P** **15 15 38.3 +1.1**
ANMO pmax pmax
comp=Z,29nm,1.0s
O20A White River Ci **95.57 50** IAmb IAmb 15 16 41.9
comp=Z,58nm,1.0s
VHRN Van Horn **95.58 60** IAmb IAmb 15 15 41.6
comp=Z,163nm,2.0s
TX31 Lajitas Ar. Si **96.30 61** IAmb IAmb 15 16 32.4
comp=Z,99nm,1.6s
TXAR Lajitas Array **96.30 61** P **P** **15 15 41.4 +0.5**
TXAR Lajitas Array **96.30 61** P **P** **15 15 42.1 +1.3**
comp=Z,7.5nm,0.7s,baz=229,slow=4.9,SNR=77
TXAR pP **pwP** **15 16 29.0 -1.3**
comp=Z,7.8nm,0.8s,baz=262,slow=6.1,SNR=2.1
TXAR PP **PP** **15 19 39.2 +2.0**
comp=Z,13nm,1.1s,baz=224,slow=7.0,SNR=7.2
TXAR S **SKSac** **15 25 56.6 -3.2**
comp=Z,0.1nm,0.4s,baz=331,slow=0.4,SNR=1.3
TXAR PKKPbc **PKKPbc** **15 32 25.6 -0.9**
comp=Z,3.1nm,0.7s,baz=111,slow=4.1,SNR=9.7
TXAR PKPPKP **P'P'df** **15 40 40.0 0.0**
comp=Z,3.4nm,1.1s,baz=92,slow=3.8,SNR=3.7
comp=Z,7.5nm,0.7s
ZSN Zaisan **97.28 317** *eP* Pdif 15 15 45.3 +0.5
ZSN *eS* **SKSac** **15 26 04.7 +0.8**
ZSN pmax pmax
comp=Z,151nm,1.7s
ZSN Zaisan **97.28 317** *eP* Pdif 15 15 45.4 +0.5
comp=Z,151nm,1.7s
ZSN *eS* **SKSac** **15 26 04.8 +0.8**
ISCO Idaho Springs **97.43 51** P Pdif 15 15 46.2 +0.2
ISCO Idaho Springs **97.43 51** P Pdif 15 15 46.2 +0.2
ISCO pmax pmax
comp=Z,24nm,1.2s
T25A Trinidad **97.67 54** IAmb IAmb 15 18 21.2
comp=Z,21nm,0.4s
A36M Sachs Harbour **98.36 17** P **P** **15 15 48.6 -0.4**
A36M IAmb IAmb 15 16 36.3
comp=Z,96nm,1.1s
A36M Sachs Harbour **98.36 17** P **P** **15 15 48.8 -0.2**
baz=243
YKA Yellowknife Ar **98.50 27** P **P** **15 15 49.0 -0.8**
YKA Yellowknife Ar **98.50 27** P **P** **15 15 49.7 -0.1**
comp=Z,11nm,0.8s,baz=262,slow=4.9,SNR=62
YKA pP **pP** **15 16 35.8 0.0**
comp=Z,57nm,1.0s,baz=261,slow=4.7,SNR=20
YKA PP **PP** **15 19 51.1 -1.9**
comp=Z,10nm,1.0s,baz=257,slow=7.3,SNR=4.3
YKA PKiKP **PKiKP** **15 20 21.5 +0.8**
comp=Z,0.9nm,0.5s,baz=193,slow=5.8,SNR=14
YKA S **SKSac** **15 26 06.9 -2.4**
comp=Z,0.5nm,0.7s,baz=268,slow=4.8,SNR=4.0
YKA PKKPbc **PKKPbc** **15 32 19.6 -2.1**
comp=Z,9.1nm,0.9s,baz=58,slow=2.7,SNR=17
YKA PKPPKP **P'P'df** **15 40 32.5 -0.7**
comp=Z,2.5nm,1.0s,baz=35,slow=2.2,SNR=7.6
YKA LR LR 15 50 55.0
comp=Z,2µm,21.8s,baz=242,slow=29
comp=Z,11nm,0.8s
YKAW3 Yellowknife Wh **98.52 27** IAmb IAmb 15 16 37.8
comp=Z,173nm,1.2s
YKAW1 Yellowknife Wh **98.55 27** IAmb IAmb 15 16 38.0
comp=Z,174nm,1.2s
MK31 Makanchi Array **98.81 316** *deP* Pdif 15 15 52.0 +0.4
MKAR Makanchi Array **98.81 316** P Pdif 15 15 51.9 +0.3
MKAR Makanchi Array **98.81 316** P Pdif 15 15 52.1 +0.5
comp=Z,123nm,0.9s,baz=96,slow=4.9,SNR=264
MKAR pP pP 15 16 38.2 +0.2
comp=Z,22nm,0.9s,baz=105,slow=4.7,SNR=2.6
MKAR PP **PP** **15 19 53.1 -2.7**
comp=Z,35nm,1.0s,baz=98,slow=8.9,SNR=8.0
MKAR PKiKP **PKiKP** **15 20 22.2 +0.4**
comp=Z,8.7nm,0.5s,baz=198,slow=0.8,SNR=42
MKAR S **SKSac** **15 26 08.7 -3.1**
comp=Z,4.9nm,0.8s,baz=81,slow=7.5,SNR=6.6
MKAR PKKPbc **PKKPbc** **15 32 18.4 -1.8**
comp=Z,10nm,0.7s,baz=268,slow=3.7,SNR=20

MKAR SKKPbc **SKKPbc** **15 35 42.5 -2.0**
comp=Z,2.1nm,0.8s,baz=284,slow=4.1,SNR=3.5
MKAR PKPPKP **P'P'df** **15 40 31.5 -2.3**
comp=Z,3.0nm,1.0s,baz=321,slow=1.6,SNR=8.1
comp=Z,123nm,0.9s
OZNA Ozona 98.82 60 IAmb IAmb 15 15 54.0
comp=Z,32nm,0.8s
MAKZ Makanchi 99.02 316 P **Pdif** **15 15 52.4 -0.2**
MAKZ Makanchi 99.02 316 P **Pdif** **15 15 52.4 -0.2**
MAKZ pmax pmax
comp=Z,358nm,1.5s
ZALV Zalesovo Beam 99.04 324 P **Pdif** **15 15 51.9 -0.5**
ZALV Zalesovo Beam 99.04 324 P **Pdif** **15 15 52.7 +0.2**
comp=Z,73nm,0.8s,baz=114,slow=4.2,SNR=200
ZALV pP **pP** **15 16 37.7 -0.9**
comp=Z,54nm,0.9s,baz=113,slow=4.4,SNR=6.5
ZALV PP **PP** **15 19 56.2 -1.1**
comp=Z,8.4nm,0.9s,baz=122,slow=5.4,SNR=4.2
ZALV PKiKP **PKiKP** **15 20 22.2 +0.3**
comp=Z,4.9nm,0.5s,baz=163,slow=0.6,SNR=12
ZALV S **SKSac** **15 26 07.9 -4.5**
comp=Z,4.1nm,0.7s,baz=169,slow=8.9,SNR=6.3
ZALV PKKPbc **PKKPbc** **15 32 18.5 -1.3**
comp=Z,4.2nm,0.5s,baz=299,slow=3.7,SNR=11
ZALV PKPPKP **P'P'df** **15 40 31.1 -1.7**
comp=Z,5.0nm,1.1s,baz=272,slow=4.3,SNR=8.3
ZALV LR LR 16 02 58.3
comp=Z,1μm,18.1s,baz=113,slow=37
comp=Z,73nm,0.8s
ZALV Zalesovo Beam 99.04 324 *i* P **Pdif** **15 15 52.0 -0.5**
ZALV pmax pmax
comp=Z,73nm,0.8s
LL02 Futaleuf 99.37 140 Pdif **Pdif** **15 15 54.5 +0.2**
SHLS Shalkode 99.91 312 *e*P **Pdif** **15 15 55.6 -1.1**
SHLS *e*S **SKSac** **15 26 16.6 -1.0**
SHLS pmax pmax
comp=Z,51nm,1.4s
SHLS Shalkode 99.91 312 *e*P **Pdif** **15 15 55.7 -1.1**
comp=Z,51nm,1.4s
SHLS *e*S **SKSac** **15 26 16.6 -1.0**
UZB Uzynbulak 100.22 312 *e*P **Pdif** **15 15 58.4 +0.2**
UZB *e*S **SKSac** **15 26 19.3 +0.2**
UZB Uzynbulak 100.22 312 *e*P **Pdif** **15 15 58.5 +0.2**
UZB *e*S **SKSac** **15 26 19.4 +0.2**
KPKS Kokpek 100.53 312 *e*P **Pdif** **15 15 59.7 +0.2**
KPKS *e*S **SKSac** **15 26 21.1 +0.6**
KPKS Kokpek 100.53 312 *e*P **Pdif** **15 15 59.8 +0.2**
KPKS *e*S **SKSac** **15 26 21.1 +0.6**
SATY Saty 100.65 312 *e*P **Pdif** **15 16 00.2 +0.2**
SATY *e*S **SKSac** **15 26 21.4 +0.3**
SATY Saty 100.65 312 *e*P **Pdif** **15 16 00.3 +0.2**
SATY *e*S **SKSac** **15 26 21.5 +0.3**
TDK Taldyqorghan 101.05 314 *e*P **Pdif** **15 16 02.1 +0.5**
TDK pmax pmax
comp=Z,85nm,1.2s
TDK Taldyqorghan 101.05 314 *e*P **Pdif** **15 16 02.1 +0.5**
comp=Z,85nm,1.2s
CMIG Matias Romero 101.17 75 S **SKSac** **15 26 19.1 -5.3**
comp=Z,2.5nm,0.7s,baz=219,slow=6.3,SNR=3.5
CMIG PKKPbc PKKPbc 15 32 11.5 -0.8
comp=Z,6.7nm,0.8s,baz=44,slow=4.1,SNR=6.2
ARXS Arharly 101.30 313 *e*P **Pdif** **15 16 02.7 -0.1**
PLCA Paso Flores 101.52 139 P **Pdif** **15 16 05.0 +0.9**
comp=Z,32nm,1.1s,baz=214,slow=3.0,SNR=14
PLCA PP **PP** **15 20 13.8 -2.0**
comp=Z,23nm,1.2s,baz=236,slow=8.0,SNR=6.5
PLCA PKKPbc **PKKPbc** **15 32 12.4 +0.3**
comp=Z,22nm,1.1s,baz=57,slow=3.1,SNR=11
PLCA PKPPKP **P'P'df** **15 40 27.2 -3.0**
comp=Z,5.7nm,1.1s,baz=146,slow=2.4,SNR=3.2
PLCA Paso Flores 101.52 139 P **Pdif** **15 16 05.0 +0.9**
PLCA Paso Flores 101.52 139 *e*P **Pdif** **15 16 03.9 -0.1**
PLCA Paso Flores 101.52 139 P **Pdif** **15 16 05.0 +0.9**
TNSS Tian-Shan 101.69 312 P **Pdif** **15 16 05.1 +0.1**
TNSS Tian-Shan 101.69 312 *e*P **Pdif** **15 16 05.1 +0.1**
KSH Kashi 101.72 308 P **Pdif** **15 16 06.8 +1.9**
KSH PP **PP** **15 20 18.5 +0.4**
KSH SKS **SKSac** **15 26 29.3 +2.8**
KSH S **Sdif** **15 27 31.0 +1.1**
KSH sS sS 15 28 50.8 -2.1
KSH SS **SS** **15 34 43.3 +5.8**
KSH pmax pmax
comp=Z,38nm,1.2s
KSH pmax pmax
comp=Z,390nm,5.9s
KSH LR LR
comp=Z,2μm,19.9s
KSH LR LR
comp=Z,2μm,20.6s
KSH LR LR
comp=Z,3μm,19.2s
AAA Alma-Ata 101.75 312 *e*P **Pdif** **15 16 05.1 +0.3**
AAA Alma-Ata 101.75 312 *e*P **Pdif** **15 16 05.2 +0.3**
KURK Kurchatov 102.03 319 *de*P **Pdif** **15 16 05.5 -0.3**
KURK pmax pmax
comp=Z,67nm,1.5s
KURBB Kurchatov Arra 102.07 319 P **Pdif** **15 16 06.4 +0.4**
comp=Z,9.2nm,0.7s,baz=107,slow=3.2,SNR=53
KURBB pP **pPdif** **15 16 53.4 +1.3**
comp=Z,5.5nm,0.9s,baz=94,slow=3.5,SNR=2.4
KURBB PP PP 15 20 05.5 -15
comp=Z,9.4nm,0.8s,baz=102,slow=9.3,SNR=5.0
KURBB PKiKP **PKiKP** **15 20 27.6 +0.2**
comp=Z,15nm,0.9s,baz=102,slow=1.7,SNR=9.3
KURBB S **SKSac** **15 26 27.6 +0.4**
comp=Z,11nm,1.3s,baz=68,slow=15,SNR=8.8
KURBB PKKPbc **PKKPbc** **15 32 10.0 -0.9**
comp=Z,15nm,0.9s,baz=280,slow=3.5,SNR=14
KURBB SKKPbc **SKKPbc** **15 35 33.7 -2.4**
comp=Z,0.6nm,0.7s,baz=281,slow=3.1,SNR=4.2
KURBB PKPPKP **P'P'df** **15 40 28.5 +1.2**
comp=Z,5.9nm,1.2s,baz=290,slow=2.9,SNR=10
KUU Kurty 102.29 312 *e*P **Pdif** **15 16 07.5 +0.4**
KUU Kurty 102.29 312 *e*P **Pdif** **15 16 07.6 +0.4**
AAK Ala-Archa 103.39 311 PP **PP** **15 20 30.3 -0.2**
comp=Z,8.0nm,0.7s,baz=94,slow=9.6,SNR=3.6
AAK PKKPbc **PKKPbc** **15 32 06.5 -0.4**
comp=Z,28nm,1.1s,baz=233,slow=5.8,SNR=10
AAK PKKPab PKKPdf 15 32 26.7 +11
comp=Z,10nm,0.9s,baz=248,slow=4.8,SNR=4.6
AAK PKPPKP **P'P'df** **15 40 21.6 -4.2**
comp=Z,2.2nm,0.4s,baz=42,slow=20,SNR=3.6
AAK Ala-Archa 103.39 311 P **Pdif** **15 16 12.4 +0.1**
SGDS Sogindy 103.43 312 *e*Pdif **Pdif** **15 16 12.6 +0.3**
SGDS *e*PP **PP** **15 20 30.0 -0.7**
SGDS *e*Sdif Sdif 15 27 43.6 -0.3
BTLS Baital 104.10 313 *e*P **Pdif** **15 16 15.5 +0.3**
BTLS *e*S 15 27 49.0
BTLS Baital 104.10 313 *e*Pdif **Pdif** **15 16 15.5 +0.3**
BTLS *e*Sdif Sdif 15 27 49.0 -0.2
DZA Taraz 105.73 311 *e*P **Pdif** **15 16 22.7 +0.2**
DZA Taraz 105.73 311 *e*Pdif **Pdif** **15 16 22.8 +0.2**
IUG luzhnay 106.59 310 *e*P **Pdif** **15 16 26.5 +0.1**
IUG *e* 15 20 53.3
IUG luzhnay 106.59 310 *e*Pdif **Pdif** **15 16 26.6 +0.1**
IUG *e*PP **PP** **15 20 53.4 -0.7**
IUG *e*Sdif Sdif 15 28 09.8 -0.6
BRLS Boroldaу 106.84 311 *e*P **Pdif** **15 16 28.0 +0.6**
BRLS *e* 15 20 55.6
BRLS Boroldaу 106.84 311 *e*Pdif **Pdif** **15 16 28.0 +0.6**
BRLS *e*PP **PP** **15 20 55.6 -0.2**
BVAR Borovoye Array 107.39 321 Pdiff **Pdif** **15 16 29.9 +0.3**
comp=Z,10nm,0.6s,baz=87,slow=4.8,SNR=32
BVAR PKiKP **PKiKP** **15 20 37.7 +0.5**
comp=Z,12nm,0.5s,baz=66,slow=3.6,SNR=3.9
BVAR SKP 15 23 55.6
comp=Z,8.7nm,0.8s,baz=163,slow=0.3,SNR=4.1
BVAR PKKPbc **PKKPbc** **15 31 53.6 -1.4**
comp=Z,3.9nm,0.5s,baz=267,slow=2.9,SNR=9.5
BVAR PKKPab **PKKPab** **15 32 06.5 -0.8**
comp=Z,13nm,1.1s,baz=338,slow=1.6,SNR=5.5
BVAR PKPPKP **P'P'df** **15 40 19.6 +2.6**
comp=Z,1.1nm,0.7s,baz=262,slow=3.0,SNR=4.2
CFA Coronel Fontan 108.05 132 PKiKP **PKiKP** **15 20 39.9 +0.6**
comp=Z,3.9nm,0.7s,baz=206,slow=5.0,SNR=5.9
CFA PP **PP** **15 21 03.0 -1.2**
comp=Z,18nm,0.9s,baz=231,slow=8.2,SNR=15
CFA PKKPbc **PKKPbc** **15 31 51.9 -0.3**
comp=Z,3.8nm,0.8s,baz=67,slow=3.9,SNR=7.5
CFA PKKPab **PKKPdf** **15 32 05.6 +0.4**
comp=Z,12nm,0.9s,baz=58,slow=4.4,SNR=14
TRQA Tornquist 108.45 140 P **Pdif** **15 16 34.4 -0.5**
JTS Las Juntas de 108.98 84 PKiKP **PKiKP** **15 20 42.3 +1.0**
comp=Z,4.1nm,0.5s,baz=190,slow=17,SNR=1.8
NNA Nana 109.95 109 PKKPbc PKKPbc 15 31 46.5 +0.9
comp=Z,4.1nm,0.3s,baz=260,slow=5.4,SNR=3.5
ATAH Atahualpa 110.26 104 PKKPbc PKKPbc 15 31 44.8 -0.2
comp=Z,3.5nm,0.5s,baz=95,slow=6.9,SNR=2.3
ATAH PKKPab **PKKPdf** **15 31 59.9 -1.7**
comp=Z,12nm,0.9s,baz=62,slow=6.9,SNR=4.8
OPO Ambohidratompo112.33 242 PKiKP **PKiKP** **15 20 48.8 +1.0**
comp=Z,35nm,0.8s,baz=84,slow=1.9,SNR=28
OPO SKP 15 24 07.1
comp=Z,11nm,0.9s,baz=242,slow=2.9,SNR=4.4
SVE Sverdlovsk 112.96 325 *c i*PKiKP **PKiKP** **15 20 48.4 +0.8**
SVE pmax pmax
comp=Z,96nm,1.4s
TULEG Thule 113.12 12 *i* P **PKiKP** **15 20 47.8 +0.4**
WSAR Wadi Sarin 113.77 289 PKiKP **PKiKP** **15 20 51.2 +1.1**
comp=Z,0.1nm,0.4s,baz=264,slow=23,SNR=22
WSAR SKP 15 24 08.8
comp=Z,0.1nm,1.1s,baz=137,slow=24,SNR=4.7
TKL Tuckaleechee C 113.88 58 PKKPbc PKKPbc 15 31 32.2 -1.1
comp=Z,4.7nm,0.7s,baz=99,slow=5.5,SNR=5.0
ARTI Arti 114.25 325 Pdiff **Pdif** **15 16 59.4 -0.6**
comp=Z,2.6nm,0.5s,baz=33,slow=5.6,SNR=5.0
ARTI PKP **PKiKP** **15 20 50.5 +0.4**
comp=Z,64nm,0.5s,baz=67,slow=0.7,SNR=43
ARTI SKP 15 24 08.8
comp=Z,37nm,1.0s,baz=318,slow=1.0,SNR=5.9
ARTI PKKPbc **PKKPbc** **15 31 31.6 -1.1**
comp=Z,28nm,1.1s,baz=275,slow=1.5,SNR=7.1
ARTI PKKPab **PKKPab** **15 31 37.9 +1.0**
comp=Z,30nm,1.0s,baz=284,slow=2.7,SNR=10.0
ARTI Arti 114.25 325 P **Pdif** **15 16 58.7 -1.3**
ARTI *i* 15 20 50.7
ARTI 15 21 48.3
ARTI PPP PPP 15 24 12.3
ARTI 15 27 21.4
ARTI SP SP 15 31 04.0 -2.0
ARTI PS PKKPdf 15 32 25.5 +31
HODGE Hodges 115.04 59 **PKPdf** **15 20 52.3 0.0**
AKTO Aktyubinsk 115.09 318 Pdiff **Pdif** **15 17 03.8 -0.1**
comp=Z,2.2nm,0.7s,baz=110,slow=4.8,SNR=6.2
AKTO PKP **PKPdf** **15 20 52.4 +0.5**
comp=Z,40nm,0.6s,baz=96,slow=4.0,SNR=64
AKTO SKP 15 24 10.7
comp=Z,25nm,0.8s,baz=167,slow=0.8,SNR=10
AKTO PKKPbc **PKKPbc** **15 31 28.5 -1.1**
comp=Z,17nm,1.0s,baz=252,slow=3.2,SNR=12
AKTO PKKPab **PKKPab** **15 31 34.9 +1.6**
comp=Z,77nm,1.1s,baz=266,slow=3.9,SNR=24
AKTO SKKP 15 35 12.7
comp=Z,1.8nm,0.9s,baz=158,slow=8.7,SNR=1.3
CZSB Cruzeiro do Su 115.32 107 PKP **PKiKP** **15 20 54.1 +0.6**
NEEM North Greenlan 115.71 9 *i* P **PKiKP** **15 20 53.1 +0.4**
SOHO SOHO 115.80 289 *i* P **PKPdf** **15 20 53.6 -0.4**
SNR=11
LPAZ La Paz 115.84 118 PKP **PKiKP** **15 20 55.8 +0.7**
comp=Z,29nm,1.1s,baz=319,slow=1.1,SNR=31
LPAZ PP **PP** **15 22 02.0 +1.1**
comp=Z,39nm,1.3s,baz=118,slow=0.9,SNR=5.1
LPAZ SKP 15 24 14.1
comp=Z,9.0nm,1.1s,baz=343,slow=3.3,SNR=3.1
LPAZ PKKPbc **PKKPbc** **15 31 25.2 -1.7**
comp=Z,6.1nm,0.7s,baz=94,slow=2.5,SNR=6.3
LPAZ PKKPab **PKKPab** **15 31 33.1 -0.3**
comp=Z,15nm,0.7s,baz=84,slow=3.3,SNR=10
LPAZ SKKP 15 35 17.8
comp=Z,5.5nm,1.0s,baz=12,slow=5.2,SNR=4.4
LPAZ PKPPKP **P'P'df** **15 39 59.8 -4.8**
comp=Z,0.8nm,0.5s,baz=82,slow=2.2,SNR=4.0
MDH Madha 116.14 291 *i* P **PKPdf** **15 20 54.3 -0.4**
SNR=8.7
UOSS Minazif 116.19 290 **PKPdf** **15 20 54.1 -0.7**
UOSS Minazif 116.19 290 *i* P **PKPdf** **15 20 54.1 -0.7**
SNR=11
HATD Hatta, Dubai 116.24 290 *i* P **PKiKP** **15 20 54.9 +0.1**
SNR=27
KBS Kingsbay 116.24 355 PKPdf **PKiKP** **15 20 53.7 +0.3**
KBS Kingsbay 116.24 355 PKiKP **PKiKP** **15 20 53.7 +0.3**
KBS Kingsbay 116.24 355 *e*PKPdf **PKiKP** **15 20 54.2 +0.8**
KBS IVmB_BB 15 22 51.2
comp=Z,864nm,2.6s
KBS *e*SKSac **SKSac** **15 27 27.3 +1.4**
KBS *e*SP **SP** **15 31 25.5 +2.5**
KBS IVMs_BB IVMs_BB 15 59 43.4
comp=Z,568nm,3.5s
KBS Kingsbay 116.24 355 *i* P **PKiKP** **15 20 54.2 +0.8**
MSFE Esma-Masafi 116.27 291 *i* P **PKPdf** **15 20 54.9 0.0**
SNR=22
ASHO Ashiyiah 116.29 290 *i* P **PKiKP** **15 20 55.0 0.0**
SNR=28
SHME Shamm 116.36 291 *i* P **PKiKP** **15 20 55.2 +0.2**
SNR=20
SPA0 Spitsbergen Ar 116.49 354 *e*PKPdf **PKiKP** **15 20 54.6 +0.8**
SPA0 *e*PP **PP** **15 22 00.7 -2.8**
SPA0 *e* 15 27 27.4
SPA0 *e*SP SP 15 31 25.5 +0.2
SPA0 *e*SS **SS** **15 37 54.3 +1.4**
SPITS Spitsbergen Ar 116.49 354 PKP **PKiKP** **15 20 54.2 +0.4**
comp=Z,30nm,0.5s,baz=83,slow=6.8,SNR=71
SPITS PKKPbc **PKKPbc** **15 31 23.4 -2.0**
comp=Z,20nm,0.9s,baz=134,slow=6.0,SNR=9.3
ALNE Al Ain 116.50 289 *i* P **PKiKP** **15 20 55.7 +0.3**
SNR=20
KULLO Kullorsuaq 116.63 12 *i* P **PKiKP** **15 20 54.3 +0.2**
NAZ Nazwa, Dubai 116.68 290 *i* P **PKiKP** **15 20 55.9 +0.2**
SNR=30
FAQ Al Faqa, Dubai 116.72 290 *i* P **PKPdf** **15 20 55.6 -0.2**
SNR=8.9
HOPEN Hopen 116.75 351 IVmB_BB 15 21 37.5
comp=Z,2μm,3.2s
HOPEN *e*SKSac **SKSac** **15 27 26.7 -1.1**
HOPEN *e*SP **SP** **15 31 29.0 +1.4**
ASUD Al Ashush, Dub 116.94 290 *i* P **PKiKP** **15 20 56.6 +0.4**
SNR=38
AJN Ajban 117.25 290 *i* P **PKiKP** **15 20 57.1 +0.3**
SNR=7.1
HSPB Hornsund (broa 117.60 353 *e*PKPdf **PKPdf** **15 20 55.6 -0.4**
HSPB *e*SKSac **SKSac** **15 27 32.5 +1.5**
ROSC El Rosal 117.83 93 PKP **PKiKP** **15 20 59.4 +0.6**
comp=Z,27nm,0.6s,baz=98,slow=2.0,SNR=12
ROSC PKKPbc **PKKPbc** **15 31 19.9 +0.5**
comp=Z,14nm,0.5s,baz=144,slow=17,SNR=5.5
UPNV Upernavik 118.03 14 *i* P **PKiKP** **15 20 57.7 +0.8**
MMNY Mt. Morris Dam 118.41 50 PKPdf **PKPdf** **15 20 57.4 -1.1**
MZR Muzera 118.44 288 *i* P **PKiKP** **15 21 00.0 +0.8**
SNR=65
KIRV Kirov 118.54 328 PKP **PKiKP** **15 20 58.6 +0.3**
comp=Z,58nm,0.5s,baz=98,slow=2.0,SNR=40
KIRV pPKP **pPKPdf** **15 21 46.9 +0.2**
comp=Z,16nm,0.7s,baz=102,slow=4.8,SNR=0.8
KIRV SKP 15 24 17.2
comp=Z,9.1nm,0.5s,baz=78,slow=2.7,SNR=4.4
KIRV PKKPbc **PKKPbc** **15 31 15.8 -1.9**
comp=Z,19nm,0.6s,baz=158,slow=2.5,SNR=7.6
KIRV Kirov 118.54 328 *d i*PKiKP **PKiKP** **15 20 59.0 +0.8**
SSPA Standing Stone 118.54 52 PKPdf **PKPdf** **15 20 58.1 -0.7**
CPSB Cacapava Do Su 118.80 139 *e*P **PKPdf** **15 20 59.6 -0.1**
CPUP Villa Florida 118.87 133 PKPdf **PKPdf** **15 20 59.7 -0.3**
CPUP Villa Florida 118.87 133 PKP **PKiKP** **15 21 00.1 +0.1**
comp=Z,18nm,1.1s,baz=115,slow=1.4,SNR=29
CPUP PP **PP** **15 22 15.9 -4.8**
comp=Z,12nm,1.1s,baz=108,slow=7.0,SNR=8.2
CPUP SKP 15 24 18.6
comp=Z,7.3nm,1.2s,baz=148,slow=3.8,SNR=3.8
CPUP PKKPbc **PKKPbc** **15 31 16.5 +0.8**
baz=282,slow=3.5,SNR=3.7
CPUP SKKPbc SKKPbc 15 34 43.7 0.0
comp=Z,1.6nm,1.0s,baz=264,slow=9.2,SNR=3.1
BJO1 Bjornoya 119.27 351 *e*PKPdf **PKiKP** **15 21 00.1 +0.8**
BJO1 *e*SKSac **SKSac** **15 27 35.8 -1.1**
BJO1 *e*SP **SP** **15 31 52.7 +2.4**
RUSC La Rusia 119.29 92 PKPdf **PKPdf** **15 21 00.1 -1.5**
DAG Danmarks Havn 119.33 2 *i* P **PKPdf** **15 20 58.9 -0.4**
NUUG Nuugaatsiaq 119.54 14 *i* P **PKiKP** **15 21 00.4 +0.5**
LVZ Lovozero 120.45 341 PKPdf **PKPdf** **15 21 00.9 -0.8**
LVZ Lovozero 120.45 341 PKiKP **PKPdf** **15 21 00.9 -0.8**
VADS Vadso 120.51 345 *e*PKPdf **PKiKP** **15 21 02.3 +0.4**
VADS *e*PP **PP** **15 22 29.8 -1.4**
VADS IVmB_BB 15 23 16.1
comp=Z,1μm,2.6s
SJPY San Joaquin 120.57 133 *e*P **PKPdf** **15 21 03.2 -0.1**
APA Apatity 121.03 341 *i* PKiKP **PKPdf** **15 21 02.2 -0.6**
APA *e* 15 22 31.8
APA MLR MLR
comp=Z,4μm,17.3s
CNLB Canela 121.17 140 *e*P **PKPdf** **15 21 03.1 -1.3**
CNLB Canela 121.17 140 PKP **PKiKP** **15 21 04.8 +0.2**
CNLB PKP **PKPdf** **15 21 05.0 +0.6**
BELG Belogornoye 121.18 322 PKP **PKiKP** **15 21 03.8 +0.2**
comp=Z,462nm,0.7s,baz=336,slow=1.0,SNR=106
BELG pPKP **pPKPdf** **15 21 52.6 +0.7**
comp=Z,190nm,1.0s,baz=216,slow=2.1,SNR=2.7
BELG SKP 15 24 22.1
comp=Z,185nm,1.0s,baz=127,slow=2.5,SNR=7.4
BELG PKKPbc **PKKPab** **15 31 05.8 -0.6**
comp=Z,63nm,1.0s,baz=62,slow=1.7,SNR=9.1
BFON Badsfontein, M 121.30 215 *e*P **PKPdf** **15 21 04.8 +0.1**
KEV Kevo 121.35 345 PKPdf **PKiKP** **15 21 03.8 +0.3**
KEV Kevo 121.35 345 PKiKP **PKiKP** **15 21 03.8 +0.3**
KEV Kevo 121.35 345 PKP **PKiKP** **15 21 04.0 +0.5**
HAMF Hammerfest 121.47 347 *e*PKPdf **PKiKP** **15 21 04.0 +0.3**
HAMF IVmB_BB 15 23 44.0
comp=Z,1μm,3.6s
MURT Porto Murtinho 121.50 129 *e*P **PKPdf** **15 21 05.0 -0.1**
SUMG Summit 121.57 9 *i* P **PKiKP** **15 21 05.1 +0.7**
BBSD Serra de San D 121.65 122 *e*P **PKPdf** **15 21 05.5 -0.1**
ILULI Ilulissat 121.67 15 *i* P **PKiKP** **15 21 04.8 +0.7**
DBG Daneborg 121.72 3 *i* P **PKiKP** **15 21 04.6 +0.5**
ITAB Concordia 121.80 137 *e*P **PKiKP** **15 21 06.3 +0.6**
ITAB Concordia 121.80 137 PKP **PKiKP** **15 21 05.7 -0.1**
ARAD ARCESS Array S 121.88 345 *e*PKPdf **PKiKP** **15 21 05.1 +0.5**
ARCES ARCESS Array B 121.88 345 PKPdf **PKPdf** **15 21 04.0 -0.4**
ARCES ARCESS Array B 121.88 345 PKP **PKiKP** **15 21 05.0 +0.4**
comp=Z,52nm,0.5s,baz=74,slow=1.5,SNR=293
ARCES pPKP **pPKPdf** **15 21 53.1 +0.3**
comp=Z,18nm,0.6s,baz=48,slow=1.8,SNR=3.2
ARCES PKKPbc **PKKPab** **15 31 04.0 +0.9**
comp=Z,61nm,0.9s,baz=212,slow=2.5,SNR=43
ARCES SKKPbc SKKPbc 15 34 38.0 -0.1
comp=Z,4.6nm,0.9s,baz=183,slow=2.4,SNR=3.8
SIV San Ignacio 121.90 121 PKP **PKiKP** **15 21 06.2 0.0**
comp=Z,31nm,0.8s,baz=222,slow=2.2,SNR=59
SIV PP **PP** **15 22 41.9 0.0**
comp=Z,20nm,1.2s,baz=257,slow=8.4,SNR=3.9
SIV SKP 15 24 24.6
comp=Z,6.5nm,0.9s,baz=208,slow=3.1,SNR=4.0
SIV PKKPbc **PKKPbc** **15 31 04.4 +0.1**
comp=Z,33nm,0.9s,baz=86,slow=5.4,SNR=37
SIV SKKP 15 34 57.9
comp=Z,11nm,1.0s,baz=39,slow=3.2,SNR=5.9
KLMR Klimovskoe 122.35 333 *e*PKiKP **PKPdf** **15 21 04.4 -1.1**
KLMR *e* 15 21 51.6
KLMR *e* 15 22 44.8
KLMR SP SP 15 32 18.1 -0.3
KLMR pmax pmax
comp=Z,492nm,1.4s
SDV Santo Domingo 122.39 90 PKPdf **PKPdf** **15 21 06.6 -0.6**
SDV Santo Domingo 122.39 90 PKP **PKiKP** **15 21 08.3 +0.9**
comp=Z,164nm,1.1s,baz=260,slow=2.2,SNR=15
SDV SKP 15 24 26.4
comp=Z,63nm,1.0s,baz=256,slow=4.7,SNR=8.2
SDV PKKPbc **PKKPab** **15 31 03.6 +0.2**
comp=Z,18nm,0.6s,baz=149,slow=2.4,SNR=4.4
SDV Santo Domingo 122.39 90 *e*P **PKPdf** **15 21 07.1 -0.1**
SDV Santo Domingo 122.39 90 PKP **PKPdf** **15 21 06.9 -0.3**
SDV PKP **PKiKP** **15 21 07.4 0.0**
AMBA Amambai (Brazi 122.65 132 *e*P **PKPdf** **15 21 07.3 0.0**
BOSA Boshof 122.74 219 PKP **PKiKP** **15 21 07.9 +0.2**
comp=Z,150nm,1.0s,baz=160,slow=1.6,SNR=75
BOSA PKKPbc **PKKPbc** **15 31 02.2 +0.5**
comp=Z,3.9nm,0.8s,baz=284,slow=9.6,SNR=3.9
BOSA Boshof 122.74 219 PKP **PKiKP** **15 21 08.3 +0.6**
BOSA PKP **PKPdf** **15 21 08.6 +1.1**
KTK1 Kautokeino 122.81 346 *e*PKPdf **PKiKP** **15 21 06.7 +0.3**
KTK1 IVmB_BB 15 25 21.1
comp=Z,1μm,2.8s
BDQN Bodoquena, MS 122.86 128 *e*P **PKPdf** **15 21 07.1 -0.6**
JETT Jettan, Norway 123.03 347 *e*PKPdf **PKiKP** **15 21 07.3 +0.4**
SCHQ Schefferville 123.08 34 PKP **PKPdf** **15 21 07.0 -0.1**
comp=Z,35nm,0.8s,baz=327,slow=2.3,SNR=37
SCHQ PKKPbc **PKKPbc** **15 30 59.5 -1.1**
comp=Z,40nm,0.7s,baz=104,slow=3.4,SNR=29
MAK Makhachkala 123.17 311 *i* P **Pdif** **15 17 48.9 +8.9**
MAK *i* 15 21 09.0
MAK *e* 15 21 53.7
MAK *e* 15 22 50.0
MAK *e* 15 27 49.5
MAK *e*SP SP 15 32 26.9 0.0
MAK *e*PS **PS** **15 32 48.3 -0.9**
MAK *e*SS **SS** **15 39 23.8 +3.3**
MAK pmax pmax
comp=Z,663nm,1.4s
AKT Akhty 123.22 309 *i* PKiKP **PKiKP** **15 21 08.1 -0.1**
AKT *e* 15 21 55.3
AKT *e* 15 22 15.0
AKT *e* 15 22 47.8
AKT *e* 15 27 58.8
AKT *e*PS **PS** **15 32 47.7 -2.3**
AKT pmax pmax
comp=Z,319nm,1.1s
TRO Tromso 123.28 348 *e*PKPdf **PKPdf** **15 21 07.2 +0.1**
TRO IVmB_BB 15 22 47.0
comp=Z,952nm,8.8s
SFJD Kangerlussuaq 123.36 17 PKPdf **PKPdf** **15 21 07.2 -0.1**
SFJD Kangerlussuaq 123.36 17 PKiKP **PKPdf** **15 21 07.2 -0.1**
SFJD Kangerlussuaq 123.36 17 *i* P **PKPdf** **15 21 07.3 +0.1**
ALKP Alkanpan, Nort 123.51 216 *e*P **PKPdf** **15 21 09.0 +0.1**
VBST Vila Bela da S 123.52 120 *e*P **PKiKP** **15 21 09.6 +0.2**
PTGB Pitanga 123.54 135 *e*P **PKiKP** **15 21 09.8 +0.5**
PTGB Pitanga 123.54 135 PKP **PKPdf** **15 21 08.7 -0.4**
PTGB PKP **PKiKP** **15 21 09.3 0.0**
AQDB Aquidauana 123.63 129 *e*P **PKPdf** **15 21 09.0 -0.2**
AQDB Aquidauana 123.63 129 PKP **PKPdf** **15 21 08.7 -0.5**
AQDB PKP **PKiKP** **15 21 09.2 -0.3**
PTLB Pontes e Lacer 123.77 122 *e*P **PKPdf** **15 21 09.4 -0.1**
PTLB Pontes e Lacer 123.77 122 PKP **PKPdf** **15 21 09.0 -0.6**
PTLB PKP **PKPdf** **15 21 09.5 -0.1**
M65A Busby, Falmout 123.90 51 P **PKPdf** **15 21 08.6 -0.5**
baz=279
VILB Vilhena 124.16 118 *e*P **PKiKP** **15 21 10.7 0.0**
VILB Vilhena 124.16 118 PKP **PKPdf** **15 21 10.1 -0.3**
VILB PKP **PKiKP** **15 21 10.8 +0.1**
TEFE Tefe 124.34 106 *e*P **PKPdf** **15 21 10.5 -0.3**
TEFE Tefe 124.34 106 PKP **PKPdf** **15 21 09.8 -0.9**
TEFE PKP **PKiKP** **15 21 11.1 0.0**
TRCB Terra Rica 124.41 133 *e*P **PKPdf** **15 21 10.3 -0.5**
TRCB Terra Rica 124.41 133 PKP **PKPdf** **15 21 10.6 -0.1**
ICQ Pointe Anglais 124.50 41 **PKPdf** **15 21 09.6 -0.3**
NUUK Nuuk 124.94 20 *i* P **PKiKP** **15 21 11.3 +0.7**
VRH Novokhopyorsk 125.03 322 *e*PKiKP **PKPdf** **15 21 08.2 -2.7**
VRH *e*PP **pPKPdf** **15 21 58.8 -0.6**
VRH *e* 15 23 03.7
VRH pmax pmax
comp=Z,230nm,0.9s
LDASE Londrina, Braz 125.06 135 *e*P **PKPdf** **15 21 11.7 -0.3**
POCN Pocone 125.07 124 *e*P **PKPdf** **15 21 11.9 -0.2**
RVDE Rio Verde (Bra 125.07 128 *e*P **PKPdf** **15 21 11.8 -0.3**
LBTB Lobatse 125.08 222 PKP **PKiKP** **15 21 12.3 -0.1**
comp=Z,78nm,0.7s,baz=155,slow=3.2,SNR=76
LBTB PKKPbc **PKKPab** **15 30 53.2 +0.1**
comp=Z,4.4nm,0.8s,baz=356,slow=1.9,SNR=3.6
RPRD Ribas do Rio P 125.11 130 *e*P **PKiKP** **15 21 12.8 +0.3**
TIJ01 Guaruva-PR 125.14 138 PKP **PKiKP** **15 21 10.8 -1.4**
TIJ01 PKP **PKiKP** **15 21 11.9 -0.7**
SCO Scoresbysund 125.40 4 *i* P **PKiKP** **15 21 12.5 +1.0**
STEI Steigen 125.45 348 *e*PKPdf **PKPdf** **15 21 11.2 0.0**
MREMI Moremi 125.49 226 *i* P **PKPdf** **15 21 12.9 0.0**
MOS Moscow 125.55 328 *i* PKiKP **PKPdf** **15 21 11.3 -0.5**
MOS *e* 15 21 55.9
MOS *e* 15 27 55.0
MOS pmax pmax
comp=Z,300nm,0.9s
MOS pmax pmax
comp=Z,238nm,1.1s
LOF Lofoten 125.61 349 *e*PKPdf **PKPdf** **15 21 11.2 -0.3**
LOF *e*PP **PP** **15 23 01.9 -3.4**
LOF IVmB_BB 15 24 11.1
comp=Z,2μm,8.6s
GNI Garni 125.66 308 PKPdf **PKiKP** **15 21 13.8 +0.7**
GNI Garni 125.66 308 PKP **PKiKP** **15 21 13.7 +0.5**
comp=Z,143nm,1.1s,baz=165,slow=1.6,SNR=47
GNI SKP 15 24 31.5
comp=Z,12nm,0.5s,baz=192,slow=6.6,SNR=3.0
GNI Garni 125.66 308 *d i*PKiKP **PKiKP** **15 21 14.2 +1.1**
GNI Garni 125.66 308 P **PKiKP** **15 21 13.6 +0.4**
RAYN Ar Rayn 125.80 288 *i* P **PKiKP** **15 21 14.3 +0.5**
SNR=129
FAUS Fauske 125.90 347 *e*PKPdf **PKPdf** **15 21 11.7 -0.4**
FAUS *e*PP **PP** **15 23 04.1 -3.2**
FAUS IVmB_BB 15 24 12.7

comp=Z,2µm,6.3s
PP1B Ponte de Pedra 125.96 127 *e*P **PKPdf 15 21 13.8 0.0**
LPHEP Lephephe 126.04 224 *i* P **PKiKP 15 21 15.3 +0.9**
MATP Matopo 126.13 229 PKP **PKiKP 15 21 15.3 +0.6**
comp=Z,77nm,1.0s,baz=146,slow=1.9,SNR=73
MATP PKKPbc **PKKPab 15 30 50.0 +1.5**
comp=Z,1.4nm,0.9s,baz=333,slow=1.1,SNR=3.6
PCMB Pacaembu 126.15 133 *e*P **PKPdf 15 21 13.8 -0.3**
PCMB Pacaembu 126.15 133 PKP **PKPdf 15 21 13.8 -0.3**
PCMB PKP **PKiKP 15 21 14.3 -0.2**
FRTB Fartura 126.15 136 *e*P **PKPdf 15 21 14.2 +0.2**
FRTB Fartura 126.15 136 PKP **PKPdf 15 21 13.6 -0.4**
FRTB PKP **PKPdf 15 21 14.3 +0.2**
LPSR Galich'ya Gora 126.15 324 *e*PKiKP **PKPdf 15 21 10.7 -2.3**
LPSR *e**PP **pPKPdf 15 22 01.8 +0.3**
LPSR *e* 15 23 08.6
LPSR pmax pmax
comp=Z,430nm,1.0s
SALV Santo Antonio 126.30 124 *e*P **PKiKP 15 21 14.8 0.0**
SALV Santo Antonio 126.30 124 PKP **PKPdf 15 21 14.2 -0.2**
SALV PKP **PKiKP 15 21 15.1 +0.2**
KBZ Khabaz 126.33 313 PKP **PKiKP 15 21 14.2 +0.1**
comp=Z,45nm,1.0s,baz=78,slow=1.5,SNR=44
KBZ SKKPbc SKKPbc 15 34 23.5 +1.7
comp=Z,6.3nm,0.9s,baz=156,slow=3.0,SNR=3.8
VORR Voronezh 126.34 323 *e*PKiKP **PKPdf 15 21 11.9 -1.5**
VORR *e**PP **pPKPdf 15 22 01.8 -0.1**
VORR *e* 15 23 09.2
VORR pmax pmax
comp=Z,460nm,1.0s
OBN Obninsk 126.37 328 PKPdf **PKPdf 15 21 13.4 0.0**
OBN Obninsk 126.37 328 PKP **PKiKP 15 21 13.6 -0.2**
comp=Z,101nm,0.5s,baz=16,slow=1.7,SNR=59
OBN Obninsk 126.37 328 ⇑P **PKiKP 15 21 14.5 +0.7**
OBN Obninsk 126.37 328 *d*PKiKP **PKiKP 15 21 14.0 +0.2**
OBN *i* 15 22 02.8
OBN *i* 15 23 09.3
OBN *i* 15 28 01.2
OBN PS **SP 15 32 52.0 -1.9**
OBN pmax pmax
comp=Z,522nm,1.5s
OBN MLR MLR
comp=Z,3µm,19.0s
ARMS Ukamas 126.37 215 *e*P **PKiKP 15 21 14.7 -0.2**
KVAR Kislovodsk Arr 126.42 313 PKP **PKiKP 15 21 14.8 +0.3**
comp=Z,45nm,1.2s,baz=88,slow=23,SNR=5.3
KIV Kislovodsk 126.43 313 PKPdf **PKiKP 15 21 14.3 -0.2**
KIV Kislovodsk 126.43 313 ⇑P **PKPdf 15 21 13.8 -0.2**
KIV Kislovodsk 126.43 313 *i* PKiKP **PKiKP 15 21 14.9 +0.5**
KIV *e* 15 23 10.4
KIV *e*PS **PS 15 33 16.2 -1.8**
KIV *e*SS SS 15 40 01.1 -0.4
KIV pmax pmax
comp=Z,169nm,1.1s
KIV Kislovodsk 126.43 313 *i* P **PKiKP 15 21 14.4 -0.1**
SNR=29
KIV Kislovodsk 126.43 313 PKP **PKiKP 15 21 15.0 +0.5**
OZAP Van, Ozalp-Mer 126.45 306 ⇑P **PKiKP 15 21 16.6 +1.8**
PHPEN Phepeng 126.48 220 *i* P **PKiKP 15 21 15.4 +0.2**
SKOMA Sekoma 126.50 222 *i* P **PKiKP 15 21 15.8 +0.5**
VSR Storozhevoye 126.53 322 *e*PKiKP **PKPdf 15 21 11.8 -2.0**
VSR *e**PP **pPKPdf 15 22 01.8 -0.5**
VSR *e* 15 23 09.5
VSR pmax pmax
comp=Z,180nm,1.0s
BROLN Tlhalogang 126.53 227 *i* P **PKiKP 15 21 15.4 0.0**
VORD Divnogorie 126.55 322 *e*PKiKP **PKPdf 15 21 11.8 -2.0**
VORD *e**PP **pPKPdf 15 22 02.8 +0.5**
VORD *e* 15 23 10.5
VORD pmax pmax
comp=Z,170nm,1.0s
C2SB Chapadao do Su 126.81 129 *e*P **PKPdf 15 21 14.9 -0.5**
C2SB Chapadao do Su 126.81 129 PKP **PKiKP 15 21 16.0 +0.2**
C2SB PKP **PKiKP 15 21 17.0 +1.6**
KDWAN Kaudwane 126.82 223 *i* P **PKiKP 15 21 17.0 +1.0**
VAGH Vaagaholmen 126.88 348 *e*PKPdf **PKPdf 15 21 14.0 0.0**
VAGH *e*PP **PP 15 23 12.8 -1.0**
VAGH IVmB_BB 15 24 16.8
comp=Z,2µm,12.3s
PET01 Itanhaem-SP 126.98 139 *e*P **PKPdf 15 21 15.3 -0.3**
PET01 Itanhaem-SP 126.98 139 PKP **PKiKP 15 21 15.5 -0.1**
PET01 PKP **PKiKP 15 21 16.5 +0.4**
KONS Konsvik 127.11 348 *e*PKPdf **PKPdf 15 21 14.5 0.0**
NBRS Nobres 127.11 123 *e*P **PKPdf 15 21 15.5 -0.6**
MOR8 Moi Rana 127.11 347 *e*PKPdf **PKPdf 15 21 14.2 -0.3**
MOR8 *e*pPKPdf **pPKPdf 15 22 01.2 -1.7**
MOR8 IVmB_BB 15 24 16.3
comp=Z,2µm,14.8s
STOK Stokkvaagen 127.27 348 *e*PKPdf **PKPdf 15 21 14.6 -0.2**
STOK IVmB_BB 15 24 15.2
comp=Z,2µm,5.0s
SPB Sao Paulo 127.37 138 *e*P **PKPdf 15 21 16.1 -0.3**
FINES FINESS Array B 127.38 338 PKPpre 15 21 05.0
FINES PKPdf **PKiKP 15 21 15.4 -0.2**
FINES FINESS Array B 127.38 338 PKP **PKiKP 15 21 15.5 -0.2**
comp=Z,44nm,0.5s,baz=79,slow=4.1,SNR=70
FINES SKPbc SKiKP 15 24 16.6 -17
comp=Z,26nm,0.7s,baz=48,slow=3.3,SNR=8.6
FINES PKKPbc PKKPbc 15 30 43.1
comp=Z,8.3nm,0.9s,baz=238,slow=1.7,SNR=7.1
FINES SKKPbc **SKKPbc 15 34 13.7 -5.5**
comp=Z,5.9nm,0.8s,baz=104,slow=6.1,SNR=4.1
LEIR Leirfjorden 127.44 347 *e*PKPdf **PKPdf 15 21 14.9 -0.2**
ERBR Yeremizino-Bor 127.49 316 *i* PKiKP **PKPdf 15 21 16.1 +0.3**
ERBR *e* 15 22 04.3
ERBR *e* 15 28 06.5
ERBR *e*SP SP 15 33 05.4 +0.8
ERBR *e*SS **SS 15 40 17.5 +3.2**
ERBR pmax pmax
comp=N,25nm,0.8s
ERBR pmax pmax
comp=E,16nm,0.8s
ERBR pmax pmax
comp=Z,329nm,1.2s
PDRB Porto dos Gac 127.76 119 *e*P **PKPdf 15 21 16.7 -0.5**
PDRB Porto dos Gac 127.76 119 PKP **PKPdf 15 21 16.8 -0.5**
PDRB PKP **PKiKP 15 21 17.6 -0.3**
HOMI Horasan 127.82 308 ⇑P **PKiKP 15 21 19.0 +1.5**
ITRB Iturama 128.02 132 *e*P **PKPdf 15 21 17.3 -0.4**
ITRB Iturama 128.02 132 PKP **PKPdf 15 21 17.6 -0.1**
ITRB PKP **PKiKP 15 21 18.2 -0.2**
VABB Valinhos 128.09 138 PKP **PKPdf 15 21 17.8 -0.1**
VABB PKP **PKiKP 15 21 18.5 0.0**
VAO Valinhos 128.09 138 *e*P **PKPdf 15 21 17.4 -0.4**
MACA Manacapuru-AM 128.11 107 *e*P **PKPdf 15 21 17.3 -0.7**
RCLB Rio Claro- Sao 128.13 137 *e*P **PKPdf 15 21 17.5 -0.4**
RCLB Rio Claro- Sao 128.13 137 PKP **PKiKP 15 21 18.3 -0.3**
RCLB PKP **PKPdf 15 21 18.8 +0.9**
IVI Ivigtut 128.17 21 *i* P **PKPdf 15 21 16.6 0.0**
SJG San Juan 128.31 80 **PKPdf 15 21 17.1 -1.0**
SJG San Juan 128.31 80 PKP **PKPdf 15 21 17.7 -0.5**
comp=Z,238nm,1.0s,baz=283,slow=1.7,SNR=37
SJG SKPbc SKPbc 15 24 18.8
comp=Z,80nm,1.1s,baz=251,slow=2.4,SNR=9.7
BB19B Bebedouro 128.40 135 *e*P **PKPdf 15 21 18.4 -0.1**
BB19B Bebedouro 128.40 135 PKP **PKPdf 15 21 18.6 +0.1**
BB19B PKP **PKiKP 15 21 19.2 +0.1**
PCRV Puerto La Cruz 128.44 90 SKPbc SKPbc 15 24 21.2
comp=Z,48nm,1.1s,baz=0.4,slow=1.5,SNR=9.1
SOC Sochi 128.60 313 *i* PKiKP **PKPdf 15 21 17.4 -0.6**
SOC *e* 15 23 23.5
SOC *e*PPP PPP 15 26 13.9
SOC *e* 15 28 03.8
SOC *e*PS **PS 15 33 29.9 -6.8**
SOC pmax pmax
comp=Z,153nm,1.2s
DVLD Doverlandia 128.61 128 *e*P **PKPdf 15 21 18.4 -0.5**
PARB Paraibuna 128.71 139 *e*P **PKPdf 15 21 18.1 -0.9**
PARB Paraibuna 128.71 139 PKP **PKPdf 15 21 19.0 0.0**
PARB PKP **PKiKP 15 21 19.7 0.0**
KGCAE Kacgae 128.78 222 *i* P **PKiKP 15 21 21.2 +1.3**
CLDB Colider 128.92 119 *e*P **PKPdf 15 21 19.1 -0.4**
CLDB Colider 128.92 119 PKP **PKPdf 15 21 19.4 -0.1**
CLDB PKP **PKiKP 15 21 20.0 -0.2**
SLP01 Ubatuba-SP 129.01 140 *e*P **PKiKP 15 21 20.2 -0.1**
SLP01 Ubatuba-SP 129.01 140 PKP **PKPdf 15 21 19.4 -0.2**
SLP01 PKP **PKiKP 15 21 20.3 -0.1**
NSS Namsos 129.05 347 *e*PKPdf **PKPdf 15 21 18.5 +0.3**
PHDHD Phuduhudu 129.09 226 *i* P **PKiKP 15 21 22.1 +1.6**
NRS Narsarsuaq 129.14 20 *i* P **PKiKP 15 21 18.9 -0.3**
AUSN Aus 129.34 213 *e*P **PKPdf 15 21 19.4 -0.8**
ARAG Araguaiana, MT 129.44 127 *e*P **PKPdf 15 21 20.3 -0.1**

LSZ Lusaka 129.53 234 PKPpre 15 21 09.0
LSZ **PKiKP 15 21 21.4 -0.1**
LSZ Lusaka 129.53 234 PKhKP PKPpre 15 21 10.6
comp=Z,7.8nm,0.8s,baz=97,slow=1.7,SNR=5.7
LSZ PKP **PKiKP 15 21 21.4 -0.1**
comp=Z,44nm,0.5s,baz=163,slow=1.4,SNR=36
LSZ SKPbc SKPbc 15 24 28.2 +3.2
comp=Z,62nm,0.9s,baz=119,slow=4.0,SNR=13
BBSR BB Station 129.77 61 PKPdf **PKPdf 15 21 20.7 +0.1**
ANN Anapa 129.82 315 *i* PKiKP **PKPdf 15 21 17.4 -2.9**
ANN *e* 15 22 07.1
ANN *e* 15 23 32.8
ANN *e* 15 28 03.9
ANN *e*SP SP 15 33 22.4 -2.4
ANN *e*SS **SS 15 40 39.6 -3.4**
ANN *e*SSS SSS 15 45 39.6
ANN pmax pmax
comp=Z,89nm,1.1s
PLTM Poltava 129.88 322 PKP **PKPdf 15 21 19.5 -0.8**
KOOLE Kule 129.94 220 *i* P **PKiKP 15 21 23.4 +1.2**
ITU3 Corumbazu 130.06 132 PKP **PKPdf 15 21 21.0 -0.6**
ITU3 PKP **PKiKP 15 21 22.0 -0.4**
MAN01 Angra dos Reis 130.08 140 *e*P **PKPdf 15 21 21.9 +0.3**
KSANE Kasane 130.23 229 *i* P **PKiKP 15 21 23.7 +0.8**
BOAV Boa Vista 130.26 101 *e*P **PKPdf 15 21 21.4 -0.6**
BOAV Boa Vista 130.26 101 PKP **PKPdf 15 21 21.8 -0.3**
BOAV PKP **PKiKP 15 21 22.7 -0.3**
CANS Sao Roque de M 130.38 136 PKP **PKiKP 15 21 22.7 -0.4**
IPMB Ipameri, GO 130.68 132 *e*P **PKPdf 15 21 22.2 -0.7**
IPMB Ipameri, GO 130.68 132 PKP **PKPdf 15 21 22.2 -0.7**
IPMB PKP **PKiKP 15 21 23.7 0.0**
VAS01 Vassouras-RJ 130.84 140 *e*P **PKPdf 15 21 23.2 +0.2**
BSCB Bom Sucesso 130.94 138 *e*P **PKPdf 15 21 22.8 -0.5**
BSCB Bom Sucesso 130.94 138 PKP **PKPdf 15 21 22.6 -0.7**
BSCB PKP **PKiKP 15 21 23.9 -0.3**
MNK Minsk 130.99 330 *i* PKiKP **PKiKP 15 21 24.0 +0.9**
MNK *i* 15 22 15.2
MNK *i* 15 23 47.3
MNK *i* SS SS 15 40 58.0 +1.8
MNK pmax pmax
comp=Z,102nm,1.0s
MNK pmax pmax
comp=E,26nm,0.9s
MNK pmax pmax
comp=N,27nm,1.0s
NPGB Novo Progresso 131.19 115 *e*P **PKPdf 15 21 23.8 0.0**
NPGB Novo Progresso 131.19 115 PKP **PKPdf 15 21 23.4 -0.5**
NPGB PKP **PKiKP 15 21 24.9 +0.1**
PMNB Patos De Minas 131.56 134 *e*P **PKPdf 15 21 23.6 -0.9**
PMNB Patos De Minas 131.56 134 PKP **PKPdf 15 21 24.2 -0.3**
BAT2 UHE Batalha 131.62 132 PKP **PKPdf 15 21 24.6 0.0**
DUB01 Friburgo-RJ 131.64 141 *e*P **PKPdf 15 21 24.4 -0.2**
DUB01 Friburgo-RJ 131.64 141 PKP **PKPdf 15 21 24.9 +0.3**
DUB01 PKP **PKiKP 15 21 25.5 -0.1**
MOL Molde 131.72 348 *e*PKPdf **PKPdf 15 21 23.7 +0.4**
LODK Lodwar 131.84 260 PKPpre 15 21 15.6
LODK **PKiKP 15 21 27.3 +1.1**
SIM Simferopol' 131.99 317 *e*PKiKP **PKiKP 15 21 26.0 +0.5**
SIM *e* 15 22 16.0
SIM *e* 15 22 36.0
SIM *e* 15 23 48.7
SIM SP SP 15 33 37.0 -6.4
SIM pmax pmax
comp=Z,310nm,2.2s
SIM pmax pmax
comp=Z,220nm,2.4s
SIM pmax pmax
comp=Z,110nm,2.7s
SIM pmax pmax
comp=Z,220µm,1.7s
SIM pmax pmax
comp=Z,4µm,7.6s
SIM pmax pmax
comp=Z,1µm,15.0s
SNDB Serra Nova Dou 132.03 123 *e*P **PKPdf 15 21 25.6 +0.2**
SNDB Serra Nova Dou 132.03 123 PKP **PKPdf 15 21 25.2 -0.2**
SNDB PKP **PKiKP 15 21 26.2 -0.3**
ITTB Itaituba 132.09 112 PKP **PKPdf 15 21 25.4 -0.2**
ITTB PKP **PKiKP 15 21 26.2 -0.4**
NB2 NORSAR Subarra 132.25 345 PKPdf **PKPdf 15 21 24.7 +0.2**
comp=Z,23nm,0.7s,baz=31,slow=1.9
NB2 pPKP **SKPab 15 24 34.4 -0.3**
comp=Z,559nm,1.4s,baz=29,slow=3.5
NB2 SKKP 15 33 49.0
comp=Z,298nm,3.3s,baz=207,slow=5.3
NOA NORSAR Array B 132.25 345 PKhKP PKPpre 15 21 13.9
comp=Z,4.3nm,0.7s,baz=47,slow=1.9,SNR=12
NOA PKP **PKiKP 15 21 25.1 -0.5**
comp=Z,5.7nm,0.5s,baz=59,slow=1.4,SNR=35
NOA pPKP pPKPdf 15 22 13.5 +0.6
comp=Z,4.5nm,0.7s,baz=33,slow=2.0,SNR=2.5
NOA PP **PP 15 23 51.4 +2.7**
comp=Z,5.0nm,0.9s,baz=32,slow=2.7,SNR=3.7
NOA SKPbc **SKPab 15 24 34.4 -0.3**
comp=Z,84nm,0.8s,baz=28,slow=3.4,SNR=42
NOA SKKPbc **SKKPbc 15 33 59.8 -2.2**
comp=Z,6.1nm,1.0s,baz=161,slow=4.3,SNR=4.6
CAM01 Campos-RJ 132.26 141 *e*P **PKPdf 15 21 24.6 -1.1**
CAM01 Campos-RJ 132.26 141 PKP **PKPdf 15 21 25.3 -0.3**
CAM01 PKP **PKiKP 15 21 26.7 -0.1**
DIKM Dikmen 132.31 312 ⇑P **PKPdf 15 21 22.8 -2.3**
BDFB Brasilia 132.34 130 PKhKP PKPpre 15 21 11.1
comp=Z,7.9nm,0.9s,baz=209,slow=3.5,SNR=3.8
BDFB PKP **PKiKP 15 21 26.7 -0.5**
comp=Z,55nm,0.6s,baz=320,slow=1.1,SNR=33
BDFB pPKP pPKPdf 15 22 15.2 +0.4
comp=Z,27nm,0.9s,baz=86,slow=7.8,SNR=2.4
BDFB PP **PP 15 23 51.7 +1.3**
comp=Z,44nm,1.2s,baz=298,slow=3.3,SNR=3.8
BDFB SKPbc **SKPab 15 24 36.6 -0.1**
comp=Z,88nm,1.0s,baz=199,slow=2.5,SNR=11
BDFB SKKPbc **SKKPbc 15 33 58.1 -0.3**
comp=Z,14nm,1.0s,baz=99,slow=7.9,SNR=3.1
HFS Hagfors 132.36 343 PKhKP PKPpre 15 21 10.3
comp=Z,2.7nm,0.5s,baz=94,slow=2.1,SNR=9.8
HFS PKP **PKiKP 15 21 25.5 -0.2**
comp=Z,21nm,0.5s,baz=103,slow=6.4,SNR=8.2
HFS SKPbc **SKPab 15 24 34.5 -0.6**
comp=Z,96nm,0.8s,baz=61,slow=4.2,SNR=23
HFS PKKP **PKKPdf 15 31 17.0 -3.1**
comp=Z,1.3nm,0.5s,baz=164,slow=5.9,SNR=6.1
HFS SKKPbc **SKKPbc 15 34 00.3 -1.2**
comp=Z,7.0nm,1.0s,baz=207,slow=6.2,SNR=3.5
ANWB Willy Bob 132.39 81 PKPdf **PKPdf 15 21 26.4 +0.5**
AKASG Malin Array Be 132.39 325 PKhKP PKPpre 15 21 08.9
comp=Z,2.5nm,0.5s,baz=56,slow=3.3,SNR=18
AKASG PKP **PKPdf 15 21 25.4 +0.5**
comp=Z,32nm,0.6s,baz=62,slow=2.2,SNR=51
AKASG PP **PP 15 23 49.4 -0.8**
comp=Z,18nm,1.1s,baz=47,slow=6.5,SNR=6.1
AKASG SKPbc **SKPab 15 24 35.6 0.0**
comp=Z,66nm,0.7s,baz=53,slow=4.7,SNR=26
AKASG PKKP **PKKPdf 15 31 17.6 -2.3**
comp=Z,0.8nm,0.5s,baz=259,slow=2.6,SNR=4.5
AKASG SKKPbc **SKKPbc 15 34 00.5 -0.3**
comp=Z,5.4nm,0.9s,baz=238,slow=4.8,SNR=5.2
AKBB Malin Array Si 132.39 325 PKP **PKPdf 15 21 25.4 +0.4**
KIEV Kiev 132.41 325 ⇓P PKPpre 15 21 09.2
KIEV Kiev 132.41 325 *i* P **PKPdf 15 21 25.0 0.0**
SNR=8.6
KIEV Kiev 132.41 325 PKP **PKPdf 15 21 25.2 +0.2**
NC602 NORSAR Array S 132.43 345 *e*PKPdf **PKPdf 15 21 25.0 +0.2**
NC602 *e* 15 24 37.5
AK14 Malin Array Si 132.49 325 PKP **PKPdf 15 21 25.7 +0.5**
AK19 Malin Array Si 132.50 326 PKP **PKPdf 15 21 25.5 +0.3**
AK13 Malin Array Si 132.53 325 PKP **PKPdf 15 21 25.7 +0.5**
FOO Floro 133.09 349 *e*PKPdf **PKPdf 15 21 26.2 +0.3**
FOO *e*SKPdf **SKPdf 15 24 42.5 -0.8**
ASF Jabal al Asfar 133.12 299 PKhKP PKPpre 15 21 13.8
comp=Z,1.6nm,0.4s,baz=101,slow=3.4,SNR=5.7
ASF PKP **PKiKP 15 21 27.9 -0.3**
comp=Z,6.8nm,0.6s,baz=244,slow=3.7,SNR=3.2
ASF pPKP pPKPdf 15 22 15.5 -0.3
comp=Z,21nm,0.8s,baz=202,slow=1.8,SNR=1.5
ASF PP **PP 15 23 56.1 +0.3**
comp=Z,12nm,1.0s,baz=108,slow=5.0,SNR=4.1
ASF SKPbc **SKPab 15 24 39.0 -0.5**
comp=Z,113nm,1.2s,baz=93,slow=0.4,SNR=10
ASF SKKPbc **SKKPbc 15 33 57.6 +0.5**
comp=Z,6.3nm,1.0s,baz=255,slow=4.8,SNR=3.5
SKAR Skarslia 133.26 346 *e*PKPdf **PKPdf 15 21 26.5 +0.1**
SKAR *e*SKPdf **SKPdf 15 24 43.4 -0.4**
SUW Suwalki 133.47 332 *e*PKPdf **PKPdf 15 21 26.8 -0.1**
SUW *e*pPKPdf **pPKPdf 15 22 16.2 +0.8**

SUW *e*SKSac **SKSac 15 28 21.3 +0.3**
BAL3X Bal3x, Balta 133.56 322 PKP **PKPdf 15 21 27.7 +0.4**
HWQ Hawqa 133.57 302 *e*P **PKiKP 15 21 28.7 -0.4**
DIAM Diamantina, MG 133.60 136 *e*P **PKPdf 15 21 27.9 -0.5**
DIAM Diamantina, MG 133.60 136 PKP **PKiKP 15 21 29.4 -0.3**
LUBAR Lubar, Ukraine 133.60 325 PKP **PKPdf 15 21 27.6 +0.3**
KONO Kongsberg 133.86 345 PKPdf **PKPdf 15 21 27.9 +0.4**
KONO Kongsberg 133.86 345 PKiKP **PKPdf 15 21 27.9 +0.4**
CIDE Kastamonu/Cide 133.87 313 ⇓P **PKPdf 15 21 28.6 +0.6**
BHL Bhannes 133.88 302 *e*P **PKPdf 15 21 29.1 +0.7**
STRU Stroemstad 133.98 344 *i* P **PKPdf 15 21 26.4 -1.3**
KIRS Kirsehir-Merke 134.03 309 ⇓P PKPpre 15 21 17.9
PURM Purcari 134.05 320 ⇑P **PKPdf 15 21 27.3 -0.9**
BRTR Keskin Array B 134.06 310 PKPpre PKPpre 15 21 15.7
BRTR PKPdf **PKPdf 15 21 28.7 +0.1**
BRTR Keskin Array B 134.06 310 PKhKP PKPpre 15 21 17.4
comp=Z,8.0nm,0.7s,baz=118,slow=1.9,SNR=20
BRTR PKP **PKPdf 15 21 29.1 +0.4**
comp=Z,38nm,0.8s,baz=145,slow=4.7,SNR=28
BRTR pPKP pPKPdf 15 22 18.1 +1.1
comp=Z,25nm,1.1s,baz=197,slow=2.4,SNR=2.8
BRTR PP **PP 15 24 03.1 +1.6**
comp=Z,21nm,1.0s,baz=104,slow=5.2,SNR=6.6
BRTR SKPbc **SKPbc 15 24 40.0 -0.4**
comp=Z,34nm,1.0s,baz=132,slow=1.8,SNR=10
BR104 Keskin Array S 134.06 310 PKP **PKPdf 15 21 28.8 +0.1**
BR106 Keskin Array S 134.07 310 PKP **PKPdf 15 21 28.8 +0.1**
MMAI Mount Meron Ar 134.24 300 PKhKP PKPpre 15 21 17.1
comp=Z,15nm,0.9s,baz=68,slow=6.7,SNR=8.6
MMAI PKP **PKiKP 15 21 30.6 0.0**
comp=Z,34nm,0.6s,baz=74,slow=18,SNR=15
MMAI SKPab **SKPab 15 24 44.0 -0.3**
comp=Z,892nm,1.4s,baz=99,slow=2.6,SNR=32
TSUM Tsumeb 134.38 221 PKPpre PKPpre 15 21 16.8
TSUM PKPdf **PKPdf 15 21 30.4 +0.5**
TSUM Tsumeb 134.38 221 PKhKP PKPpre 15 21 16.6
comp=Z,21nm,0.9s,baz=116,slow=3.7,SNR=14
TSUM PKP **PKiKP 15 21 31.1 -0.1**
comp=Z,31nm,0.5s,baz=123,slow=2.8,SNR=6.3
TSUM PP **PP 15 24 03.3 +0.2**
comp=Z,12nm,1.1s,baz=138,slow=2.2,SNR=3.4
TSUM SKPab **SKPab 15 24 45.1 -0.3**
comp=Z,51nm,1.0s,baz=140,slow=3.2,SNR=8.9
KIS Kishinev 134.47 321 *e*PKP **PKPdf 15 21 28.0 -1.0**
comp=Z,220nm,3.1s
KIS *e*pPKP **pPKPdf 15 22 16.0 -1.5**
KIS Kishinev 134.47 321 *e*PKiKP **PKPdf 15 21 28.0 -1.0**
KIS *e**PP **pPKPdf 15 22 16.0 -1.5**
KIS pmax pmax
comp=Z,2µm,15.0s
MAL2 Monte Alegre, 134.50 110 PKP **PKPdf 15 21 30.5 +0.4**
MAL2 PKP **PKiKP 15 21 31.0 -0.5**
MILM Milestii Mici 134.51 321 *e*PKP **PKPdf 15 21 28.0 -1.1**
comp=Z,700nm,1.9s
MILM pPKP **pPKPdf 15 22 16.0 -1.5**
MILM Milestii Mici 134.51 321 *e*PKiKP **PKPdf 15 21 28.0 -1.1**
MILM *i* *PP **pPKPdf 15 22 16.0 -1.5**
MILM pmax pmax
comp=Z,700nm,1.9s
ANTO Ankara 134.64 310 PKPpre PKPpre 15 21 19.4
ANTO PKPdf **PKiKP 15 21 30.6 -0.5**
ANTO Ankara 134.64 310 ⇓P PKPpre 15 21 20.6
ANTO Ankara 134.64 310 PKiKP **PKiKP 15 21 30.6 -0.5**
ANTO Ankara 134.64 310 PKP **PKPdf 15 21 29.7 0.0**
BORU Boraas 134.71 342 *i* P **PKPdf 15 21 29.6 +0.5**
MBAR Mbarara 134.71 252 PKPpre PKPpre 15 21 20.5
MBAR Mbarara 134.71 252 PKHKP PKPpre 15 21 20.5
BLEU Blekinge 134.78 339 *i* P **PKPdf 15 21 27.6 -1.7**
SJMB Sao Joao De Ma 134.91 139 *e*P **PKPdf 15 21 30.9 +0.2**
SJMB Sao Joao De Ma 134.91 139 PKP **PKiKP 15 21 31.7 -0.5**
RIB01 Linhares ES 134.94 141 *e*P **PKPdf 15 21 29.1 -1.6**
KMPD K-Podol'skiy 135.05 324 PKP **PKPdf 15 21 30.2 +0.2**
EIL Elat 135.09 296 PKhKP PKPpre 15 21 17.6
comp=Z,5.2nm,0.8s,baz=348,slow=22,SNR=3.5
EIL PKP **PKiKP 15 21 32.9 +0.7**
comp=Z,75nm,0.7s,baz=49,slow=1.4,SNR=34
EIL SKPab **SKPab 15 24 46.2 -1.9**
comp=Z,386nm,1.3s,baz=84,slow=1.6,SNR=20
EIL SKKPbc **SKKPbc 15 33 42.0 -7.6**
comp=Z,14nm,1.1s,baz=48,slow=4.1,SNR=4.5
ONAU Onsala 135.16 342 *i* P **PKPdf 15 21 28.8 -1.2**
FABU Falkenberg 135.24 341 *i* P **PKPdf 15 21 28.8 -1.3**
VASR Vaslui 135.26 321 ⇑P **PKPdf 15 21 31.9 -0.2**
DEL Delary 135.31 340 *i* P **PKPdf 15 21 30.9 +0.6**
JANB Januaria 135.41 133 *e*P **PKPdf 15 21 31.4 -0.4**
R9F13 Warsaw-Wawer 135.57 331 *e*PKPc **PKPdf 15 21 32.6 +1.7**
R9F13 *e*pPKP **pPKPdf 15 22 23.4 +4.1**
R9F13 *e*PP **SKPbc 15 24 46.3 +1.7**
R9F13 *e*pPP 15 25 06.0
R9F13 *e*SKS SKSdf 15 28 11.0 -13
R9F13 *e*SP **SP 15 34 14.5 +1.5**
R9F13 *e*PS **PS 15 34 35.1 -0.7**
SCTR Scanteiesti 135.60 320 ⇓P PKPpre 15 21 21.0
CFR Carcaliu 135.75 319 ⇓P PKPpre 15 21 17.9
BMO2 UHE Belo Monte 135.88 113 PKP **PKPdf 15 21 30.3 -2.3**
TIRR Tirgusor 135.90 318 ⇓P PKPpre 15 21 23.1
TIRR Tirgusor 135.90 318 PKP **PKPdf 15 21 32.3 +0.6**
BEL Belsk 135.99 331 *e*PKPdf **PKiKP 15 21 32.8 -0.5**
MFTR Murfatlar 136.02 318 ⇑P PKPpre 15 21 18.5
BSD Bornholm Skovb 136.03 338 *i* P **PKPdf 15 21 31.8 +0.1**
HARR Harsova 136.10 319 ⇑P PKPpre 15 21 21.4
LUNU Lund 136.12 339 *i* P **PKPdf 15 21 31.8 0.0**
BMO1 UHE Belo Monte 136.18 113 PKP PKPpre 15 21 26.7
BURAR Bucovina Array 136.26 324 PKPpre 15 21 20.1
BURAR **PKiKP 15 21 34.2 0.0**
VRI Vrincioaia 136.29 321 ⇓P PKPpre 15 21 20.8
PLOR Plostina 136.34 321 ⇓P PKPpre 15 21 19.8
PRPB Parauapebas 136.40 118 PKP PKPpre 15 21 27.9
COP Copenhagen 136.42 340 *i* P **PKPdf 15 21 32.4 0.0**
ICOR Ion Corvin 136.45 318 ⇑P **PKiKP 15 21 34.6 0.0**
GKP Gorka Klasztor 136.53 335 *e*PKPdf **PKiKP 15 21 34.2 -0.2**
SDBA SAO DESIDERIO 136.72 129 *e*P **PKPdf 15 21 33.8 -0.5**
OZUR 136.74 322 ⇑P PKPpre 15 21 22.1
ISR Istrita 136.77 320 ⇓P PKPpre 15 21 20.6
SMTB Santa Maria do 136.79 123 *e*P **PKPdf 15 21 32.9 -1.5**
MLR Muntele Rosu 136.95 321 PKhKP PKPpre 15 21 22.7
comp=Z,13nm,0.7s,baz=120,slow=2.4,SNR=12
MLR PKP **PKPdf 15 21 33.8 -0.1**
comp=Z,73nm,1.1s,baz=8.7,slow=2.2,SNR=39
MLR PP **PP 15 24 20.7 +1.5**
comp=Z,34nm,1.1s,baz=65,slow=0.8,SNR=4.9
MLR SKP 15 24 51.3
comp=Z,276nm,1.3s,baz=76,slow=3.0,SNR=13
MLR SKKPbc SKKPbc 15 33 39.1 -4.7
comp=Z,32nm,1.1s,baz=308,slow=6.2,SNR=4.8
MLR Muntele Rosu 136.95 321 ⇑P PKPpre 15 21 22.4
ABR01 Abrolhos, BA 137.00 141 PKP **PKPdf 15 21 32.9 -1.7**
DOPR Dopca 137.04 322 ⇓P PKPpre 15 21 21.6
KOLS Kolonicke sedl 137.11 327 *e*PKiKP **PKiKP 15 21 36.3 +0.5**
KOLS Kolonicke sedl 137.11 327 *e*PP **SKPbc 15 24 52.3 +2.9**
KOLS Kolonicke sedl 137.11 327 *e*PKP **PKiKP 15 21 36.3 +0.5**
STHS Stebnicka Huta 137.34 328 *e*PKiKP **PKiKP 15 21 37.7 +1.5**
STHS Stebnicka Huta 137.34 328 *e*PKP **PKiKP 15 21 37.7 +1.5**
STHS *e*PP **SKPbc 15 24 51.9 +1.8**
GUA01 Guaratinga, BA 137.36 139 *e*P **PKPdf 15 21 34.5 -0.8**
GUA01 Guaratinga, BA 137.36 139 PKP PKPpre 15 21 28.9
VOIR 137.52 321 ⇑P PKPpre 15 21 24.5
OJC Ojcow 137.53 330 *e*PP PP 15 24 22.4 +0.1
OJC Ojcow 137.53 330 *e*PKPdf PKPpre 15 21 26.1
OJC Ojcow 137.53 330 *e*pPKPdf pPKPdf 15 22 24.6 +1.5
RAZG Razgrad 137.53 318 ⇓P PKPpre 15 21 26.2
PHSR Pinarhisar 137.72 315 ⇑P PKPpre 15 21 24.9
ARR Arges 137.80 321 ⇓P PKPpre 15 21 26.3
NIE Niedzica 137.81 329 *e*pPKPdf pPKPdf 15 22 25.8 +2.1
NIE Niedzica 137.81 329 *e*PKPdf PKPpre 15 21 27.0
TNR Turnu Rosu 137.87 322 ⇑P PKPpre 15 21 25.7
MARR Marisel-Cluj 137.97 324 ⇑P PKPpre 15 21 24.6
DRGR 138.14 324 ⇑P PKPpre 15 21 26.6
ELND Elena 138.24 317 ⇓P PKPpre 15 21 26.4
LOT Lotru 138.28 322 ⇓P PKPpre 15 21 26.3
TAVA DENIZLI_Tavas 138.28 309 ⇓P PKPpre 15 21 25.8
LANS Liptovska Anna 138.40 329 *e*PKHKP PKPpre 15 21 29.6
LANS Liptovska Anna 138.40 329 *e*PKP PKPpre 15 21 29.6
LANS *e*PP **SKPbc 15 24 56.5 +3.4**
CMC01 Camacan, BA 138.45 138 *e*P **PKPdf 15 21 36.4 -0.9**
RUE Ruedersdorf 138.50 336 *e*PKPbc PKPpre 15 21 29.4
baz=33,slow=3.4
RUE *e*SKPbc **SKPbc 15 24 55.0 +1.8**
baz=33,slow=2.7
DEV Deva 138.55 323 ⇓P PKPpre 15

MDP PKP **PKPdf** **15 21 36.8 -0.8**
comp=Z,216nm,1.1s,baz=254,slow=2.5,SNR=31
MDP SKPbc **SKPbc** **15 24 55.0 +0.3**
comp=Z,470nm,1.3s,baz=288,slow=2.0,SNR=23
MDP SKKPbc **SKKPbc** **15 33 34.1 -1.2**
comp=Z,19nm,1.2s,baz=75,slow=9.0,SNR=4.2
STEB **Steborice** **138.68 331** *e*PKP PKPpre 15 21 28.5
STEB *e*SKP 15 24 56.1
KSP **Ksiaz** **138.71 333** *e*PP PP 15 24 29.9 +0.4
KSP **Ksiaz** **138.71 333** *e*PKPdf PKPpre 15 21 28.7
KSP **Ksiaz** **138.71 333** *e*pPKPdf pPKPdf 15 22 26.2 +0.9
DRUM **Mains of Drumt** **138.75 352** *e*P **PKiKP** **15 21 39.4 +0.5**
PLVB **Pleven** **138.82 319** ⇑P PKPpre 15 21 26.7
GZR **Gura Zlata** **138.89 322** ⇓P PKPpre 15 21 27.8
MORC **Moravsky Berou** **138.90 331** *e* 15 24 54.5
MORC **Moravsky Berou** **138.90 331** ⇑P PKPpre 15 21 28.8
MORC **Moravsky Berou** **138.90 331** *e*PKP PKPpre 15 21 28.6
OSTC **Ostas** **138.95 333** *e*PKP PKPpre 15 21 29.0
OSTC **Ostas** **138.95 333** *e*PKHKP PKPpre 15 21 29.0
PSZ **Piszkesteto** **138.98 327** ⇑P PKPpre 15 21 28.6
CHVC **Chvalec** **139.00 333** *e*PKP PKPpre 15 21 29.2
CHVC **Chvalec** **139.00 333** *e*PKHKP PKPpre 15 21 29.2
GORT1 **Trebel** **139.00 339** *e*PKPbc PKPpre 15 21 29.9
baz=33,slow=3.4
GORT1 *e*SKPbc **SKPbc** **15 24 55.5 +1.0**
baz=33,slow=2.7
SIRR **Siria** **139.03 324** ⇑P PKPpre 15 21 28.1
KRLC **Kraliky** **139.04 332** *e*PKP PKPpre 15 21 29.0
KRLC **Kraliky** **139.04 332** *e*PKHKP PKPpre 15 21 29.0
DPC **Dobruska-Polom** **139.05 332** *e*PKP PKPpre 15 21 29.1
DPC *e*SKP 15 24 54.9
DPC AMS AMS 16 24 30.0
comp=Z,4μm,22.6s
DPC **Dobruska-Polom** **139.05 332** *e*PKHKP PKPpre 15 21 29.1
DPC MLR MLR
comp=Z,4μm,22.6s
MAUC **Maruska** **139.05 330** *e*PKP PKPpre 15 21 31.3
MAUC *e*SKP 15 24 53.5
SURR **Surduc** **139.07 323** ⇓P PKPpre 15 21 24.2
UPC **Upice** **139.07 333** *e*PKP PKPpre 15 21 29.6
UPC *e*SKP 15 24 54.8
UPC **Upice** **139.07 333** *e*PKHKP PKPpre 15 21 29.6
HLG **Helgoland** **139.09 342** *e*pPKPbc **pPKPdf** **15 22 23.0 -3.1**
HLG *e*SKPbc **SKPbc** **15 24 55.0 +0.2**
baz=33,slow=2.7
VYHS **Vyhne** **139.15 329** *e*PKHKP PKPpre 15 21 31.7
VYHS **Vyhne** **139.15 329** *e*PKP PKPpre 15 21 31.7
VYHS *e*PP **SKPbc** **15 24 56.3 +1.1**
KDZ **Kurdzhali** **139.19 316** P PKPpre 15 21 30.0
EZN **Ezine** **139.29 313** ⇑P PKPpre 15 21 30.7
BZS **Buzias** **139.44 323** ⇓P PKPpre 15 21 30.1
JAVC **Velka Javorina** **139.47 330** *e*PKP PKPpre 15 21 31.3
JAVC *e* 15 24 57.9
BDRM **Kayabasi** **139.52 309** ⇑P PKPpre 15 21 27.7
RZN **Rozhen** **139.56 316** P PKPpre 15 21 30.5
FLTG **Flechtingen** **139.57 338** *e*PKPbc PKPpre 15 21 29.6
baz=33,slow=3.4
FLTG *e*SKPbc **SKPbc** **15 24 57.5 +1.4**
baz=33,slow=2.7
VRAC **Vranov** **139.67 331** *e*PKP PKPpre 15 21 31.3
VRAC *e* 15 24 56.0
VRAC **Vranov** **139.67 331** PKhKP PKPpre 15 21 31.1
comp=Z,7.3nm,0.5s,baz=59,slow=3.4,SNR=24
VRAC PKP **PKPdf** **15 21 39.6 +1.0**
comp=Z,37nm,0.9s,baz=96,slow=2.2,SNR=13
VRAC PP **PP** **15 24 37.1 +1.6**
comp=Z,77nm,1.3s,baz=53,slow=6.6,SNR=8.2
VRAC SKPbc **SKPbc** **15 24 57.4 +0.8**
comp=Z,48nm,1.0s,baz=42,slow=3.0,SNR=9.4
VRAC SKKPbc **SKKPbc** **15 33 33.6 +0.2**
comp=Z,2.8nm,0.6s,baz=221,slow=4.7,SNR=6.3
VRAC **Vranov** **139.67 331** ⇓P PKPpre 15 21 27.4
BRG **Berggiesshubel** **139.68 335** *e*PKPbc PKPpre 15 21 31.0
baz=33,slow=3.4
BRG *e*SKPbc **SKPbc** **15 24 57.3 +0.7**
baz=33,slow=2.7
BRG **Berggiesshubel** **139.68 335** Amp 15 21 33.0
comp=Z,15nm,0.8s
BRG **Berggiesshubel** **139.68 335** Amp 15 21 37.2
comp=Z,61nm,0.8s
BRG **Berggiesshubel** **139.68 335** P **PKiKP** **15 21 40.1 -0.8**
BRG Amp 15 21 43.9
comp=Z,98nm,1.0s
BRG **Berggiesshubel** **139.68 335** PKP PKPpre 15 21 31.1
BRG **Berggiesshubel** **139.68 335** P **PKPdf** **15 21 36.3 -2.2**
PVCC **Panska Ves** **139.68 334** *e*PKP PKPpre 15 21 32.4
PVCC **Panska Ves** **139.68 334** *e*PKHKP PKPpre 15 21 32.4
CLL **Collm** **139.72 336** *e*PKHKP PKPpre 15 21 30.0
CLL *i* 15 21 39.4
CLL *e* 15 22 29.0
CLL pmax pmax
comp=Z,27nm,0.8s
CLL pmax pmax
comp=Z,151nm,1.0s
CLL **Collm** **139.72 336** *e*PKPbc PKPpre 15 21 30.3
baz=33,slow=3.4
CLL *e*SKPbc **SKPbc** **15 24 57.9 +1.3**
baz=33,slow=2.7
TMAB **Tom-Au,PA,Br** **139.77 114** *e*P **PKPdf** **15 21 39.1 -0.7**
NRDL **Niedersach Rie** **139.83 339** *e*PKPbc PKPpre 15 21 31.2
baz=33,slow=3.4
MDVR **Moldovita** **139.86 322** ⇓P PKPpre 15 21 30.6
SRO **Srobarova** **139.86 328** *e*PKIKP **PKiKP** **15 21 41.7 +0.3**
SRO **Srobarova** **139.86 328** *e*PKP **PKiKP** **15 21 41.7 +0.3**
SRO *e*PP **SKPbc** **15 25 00.8 +3.7**
RICC **Richard** **139.87 334** *e*PKP PKPpre 15 21 33.2
RETH **Rethem/Aller,** **139.88 340** *e*PKPbc PKPpre 15 21 30.8
baz=33,slow=3.4
ASSE **Asse, Remlinge** **139.93 338** *e*PKPbc PKPpre 15 21 30.9
baz=33,slow=3.4
ASSE *e*SKPbc **SKPbc** **15 24 57.9 +0.8**
baz=33,slow=2.7
KRUC **Moravsky** **139.94 331** *e*PKP PKPpre 15 21 31.1
KRUC *e* 15 24 57.5
MODS **Modra-Piesok** **140.00 330** *e*PKHKP PKPpre 15 21 31.0
MODS **Modra-Piesok** **140.00 330** *e*PKP PKPpre 15 21 31.0
MODS *e*PP **SKPbc** **15 24 54.4 -3.1**
MODS *e* 15 33 12.3
PLNA **Plana** **140.04 318** P PKPpre 15 21 31.5
GOPC **GO Pecny, Ondr** **140.04 333** *e*SKP 15 24 59.8
VTS **Vitosha** **140.09 319** P PKPpre 15 21 31.5
PRU **Pruhonice** **140.09 333** *e*PKP PKPpre 15 21 33.2
PRU *e*SKP 15 24 59.6
PRU AMS AMS 16 22 40.0
comp=Z,2μm,21.1s
PRU **Pruhonice** **140.09 333** *e*PKHKP PKPpre 15 21 33.2
PRU MLR MLR
comp=Z,2μm,21.1s
TREC **Trest** **140.19 332** *e*PKP PKPpre 15 21 32.8
TREC *e*SKP 15 24 56.1
TREC **Trest** **140.19 332** *e*PKHKP PKPpre 15 21 32.8
CLZ **Clausthal** **140.28 338** *e*PKPbc PKPpre 15 21 31.8
baz=33,slow=3.4
MMB **Musomishta** **140.28 317** P PKPpre 15 21 32.0
EKA **Eskdalemuir Ar** **140.38 352** PKhKP PKPpre 15 21 32.5
comp=Z,17nm,0.7s,baz=349,slow=2.3,SNR=25
EKA SKPbc **SKPbc** **15 24 58.6 +0.4**
comp=Z,33nm,1.0s,baz=0.0,slow=2.8,SNR=8.2
EKA SKPab **SKPab** **15 25 11.5 +1.0**
comp=Z,17nm,0.7s,baz=12,slow=3.5,SNR=8.3
EKA SKKPbc **SKKPbc** **15 33 31.8 +0.8**
comp=Z,7.0nm,0.7s,baz=200,slow=4.9,SNR=6.5
ESK **Eskdalemuir** **140.40 352** PKPpre PKPpre 15 21 32.5
ESK **Eskdalemuir** **140.40 352** PKHKP PKPpre 15 21 32.5
BOVS **Bovan** **140.50 321** ⇓P PKPpre 15 21 33.5
KKB **Krupnik** **140.54 318** P PKPpre 15 21 32.1
ZVC **Zvikov** **140.66 333** *e*PKP PKPpre 15 21 33.8
ZVC *e*SKP 15 25 01.8
GTTG **Gottingen** **140.66 338** *e*PKPbc PKPpre 15 21 34.3
baz=33,slow=3.4
GTTG *e*SKPbc **SKiKP** **15 25 00.8 -0.6**
baz=33,slow=2.7
MORH **Mrgy, Hungar** **140.72 326** *e*P PKPpre 15 21 34.6
IBBN **Ibbenburen** **140.76 341** *e*PKPbc PKPpre 15 21 32.8
baz=33,slow=3.4
IBBN *e*SKPbc **SKPbc** **15 24 58.2 -1.1**
baz=33,slow=2.7
MOX **Moxa** **140.78 336** *e*PKPbc PKPpre 15 21 34.8
baz=33,slow=3.4
MOX *e*pPKPbc pPKPdf 15 22 23.8 -5.3
RONA **Rosalia, Austr** **140.94 330** *i* PKP PKPpre 15 21 36.5
comp=Z,188nm,2.0s,SNR=35
RONA *e*PP **PP** **15 24 44.5 +1.2**
comp=Z,870nm,2.5s
RONA *e*SKP 15 25 05.0
comp=Z,58nm,1.5s
CONA **Conrad Observa** **140.99 330** *e*PKP PKPpre 15 21 36.6
comp=Z,253nm,1.5s,SNR=50
CONA *i* PP **PP** **15 24 45.0 +1.4**
comp=Z,1μm,3.2s
CKRC **Cesky Krumlov** **141.06 332** *e*PKP PKPpre 15 21 35.5
CKRC AMS AMS 16 25 50.0
comp=Z,3μm,19.1s
CKRC **Cesky Krumlov** **141.06 332** *e*PKHKP PKPpre 15 21 35.5
CKRC MLR MLR
comp=Z,3μm,19.1s
IDGL **Inch Island, C** **141.07 356** PKPdf **PKPdf** **15 21 41.0 +0.1**
MANZ **Manzenberg** **141.11 335** *e*PKPbc PKPpre 15 21 36.4
baz=33,slow=3.4
MANZ *e*SKPbc **SKiKP** **15 25 01.4 -0.9**
baz=33,slow=2.7
KHC **Kasperske Hory** **141.15 333** *e*PKP PKPpre 15 21 36.1
KHC *e*SKP 15 24 59.7
KHC AMS AMS 16 25 10.0
comp=Z,3μm,19.8s
KHC **Kasperske Hory** **141.15 333** *e*PKHKP PKPpre 15 21 36.1
KHC MLR MLR
comp=Z,3μm,19.8s
ROTZ **Rotzenmuhle** **141.24 335** *e*PKPbc PKPpre 15 21 36.4
baz=33,slow=3.4
ROTZ *e*SKPbc **SKPbc** **15 25 01.6 +0.9**
baz=33,slow=2.7
UBBA **Unterbreizbach** **141.25 338** *e*PKPbc PKPpre 15 21 36.6
baz=33,slow=3.4
GEC2 **GERESS Array S** **141.31 333** *e*PKPbc PKPpre 15 21 36.8
baz=33,slow=3.4
GEC2 *e*SKPbc **SKPbc** **15 25 01.8 +0.7**
baz=33,slow=2.7
GERES **GERESS Array B** **141.31 333** PKPpre PKPpre 15 21 36.1
GERES **GERESS Array B** **141.31 333** PKhKP PKPpre 15 21 36.7
comp=Z,29nm,0.6s,baz=31,slow=3.3,SNR=86
GERES PP **PP** **15 24 46.6 +1.0**
comp=Z,12nm,1.1s,baz=60,slow=7.9,SNR=4.6
GERES SKPbc **SKPbc** **15 25 01.8 +0.7**
comp=Z,15nm,0.7s,baz=48,slow=2.0,SNR=6.9
GERES PKKP **PKKPdf** **15 31 09.0 +6.3**
comp=Z,2.9nm,0.9s,baz=151,slow=3.0,SNR=3.5
GERES SKKPbc **SKKPab** **15 33 26.0 -0.4**
comp=Z,9.1nm,1.1s,baz=200,slow=3.5,SNR=4.6
GERES **GERESS Array B** **141.31 333** PKHKP PKPpre 15 21 36.1
WET **Wettzell** **141.44 334** *e*PKPbc PKPpre 15 21 37.5
baz=33,slow=3.4
WET *e*pPKPbc pPKPdf 15 22 27.5 -2.8
WET *e*SKPbc **SKPbc** **15 25 02.1 +0.9**
baz=33,slow=2.7
KASTN **Kahler Asten** **141.49 339** *e*PKPbc PKPpre 15 21 37.4
baz=33,slow=3.4
KASTN *e*SKPbc **SKiKP** **15 25 02.6 -0.5**
baz=33,slow=2.7
BEHE **Becsehely** **141.54 328** *e*P PKPpre 15 21 37.8
ARSA **Arzberg** **141.63 330** *i* PKP PKPpre 15 21 38.1
comp=Z,209nm,1.7s,SNR=28
ARSA *i* PP **PP** **15 24 48.5 +1.0**
comp=Z,570nm,2.7s
ARSA *i* SKP 15 25 03.3
comp=Z,138nm,1.6s
BUG **Bochum--Univer** **141.66 341** *e*PKPbc PKPpre 15 21 37.2
baz=33,slow=3.4
GRF **Grafenberg Arr** **141.70 336** *e*PKPbc PKPpre 15 21 38.4
baz=33,slow=3.4
MOA **Molln** **141.79 331** *i* PKP PKPpre 15 21 39.1
comp=Z,211nm,1.1s,SNR=72
MOA *e*SKP 15 25 01.1
comp=Z,82nm,1.7s
RUDO **Rudo** **141.91 322** *e*P PKPpre 15 21 38.5
DOB **Doboj** **141.96 325** *e*P PKPpre 15 21 39.1
ILTH **Belurgan, Co L** **142.02 355** PKPdf **PKPdf** **15 21 42.9 +0.3**
IDI **Anoyia** **142.08 307** PKP PKPpre 15 21 39.9
IDI **Anoyia** **142.08 307** PKhKP PKPpre 15 21 39.5
comp=Z,28nm,0.3s,baz=26,slow=9.0,SNR=70
IDI SKPbc **SKiKP** **15 25 04.2 -0.6**
comp=Z,124nm,1.1s,baz=48,slow=3.2,SNR=8.3
IDI SKKPbc **SKKPbc** **15 33 26.3 +3.2**
comp=Z,45nm,1.3s,baz=270,slow=2.7,SNR=5.8
MOSL **Moslavina** **142.12 327** ⇓*i*P PKPpre 15 21 38.6
BIOA **Bad Ischl, Aus** **142.20 332** *i* PKP **PKPdf** **15 21 40.6 -2.7**
comp=Z,273nm,1.5s,SNR=56
BCI **Bajram Curri** **142.20 320** P **PKPdf** **15 21 40.8 -2.5**
FNA **Florina** **142.22 317** P PKPpre 15 21 40.0
SOKA **Soboth** **142.27 329** *i* PKP PKPpre 15 21 39.9
comp=Z,384nm,1.4s,SNR=116
SOKA *e*PP **PP** **15 24 52.1 +0.7**
comp=Z,667nm,2.1s
SOKA *e*SKP 15 25 04.3
comp=Z,478nm,1.6s
TNS **Taunus Mts** **142.30 339** *e*PKPbc **PKPdf** **15 21 40.4 -2.9**
baz=33,slow=3.4
TNS *e*SKPbc **SKiKP** **15 25 05.1 +0.2**
baz=33,slow=2.7
PHP **Peshkopia** **142.34 319** P PKPpre 15 21 32.4
OHR **Ohrid** **142.42 318** *i* P **PKPdf** **15 21 41.0 -2.8**
A051A **Mrakovica** **142.43 326** ⇓*i*P PKPpre 15 21 38.7
BLY **Banja Luka** **142.45 325** ⇓*i*P PKPpre 15 21 39.8
BLY **Banja Luka** **142.45 325** ⇑P PKPpre 15 21 39.8
PUK **Puka** **142.49 320** P PKPpre 15 21 38.3
WLF1 **Llynfaes** **142.54 353** *e*P **PKPdf** **15 21 40.9 -2.7**
RJOB **Jochberg** **142.54 332** *e*PKPbc **PKPdf** **15 21 40.9 -2.9**
baz=33,slow=3.4
OBKA **Obir** **142.62 330** *i* PKP PKPpre 15 21 40.9
comp=Z,323nm,1.4s,SNR=63
OBKA *e*PP **PP** **15 24 53.3 -0.3**
comp=Z,698nm,2.3s
KLINJ **Klinje** **142.63 322** *e*P PKPpre 15 21 40.9
LEGS **Legarje** **142.63 328** *i* PKPdf **PKPdf** **15 21 41.1 -2.8**
KBN **Korca** **142.68 317** P PKPpre 15 21 39.2
BEBN **Eben Emael** **142.72 342** *d*PKP **PKPdf** **15 21 41.2 -2.7**
BTNL **Ternell** **142.76 341** *d*PKP PKPpre 15 21 41.0
FOEL **Foel Wylfa** **142.77 351** *e*P **PKPdf** **15 21 41.6 -2.4**
MEM **Membach** **142.78 341** *d*PKP **PKPdf** **15 21 41.1 -3.0**
KBA **Koelnbreinsper** **142.78 331** *i* PKP **PKPdf** **15 21 41.4 -3.0**
comp=Z,564nm,1.2s
OZLJ **Ozalj** **142.79 328** ⇓*i*P PKPpre 15 21 40.6
DSB **Dublin** **142.79 354** PKPdf **PKPdf** **15 21 42.1 -1.9**
IGLA **Glengowla, Co** **142.82 357** PKP **PKPdf** **15 21 43.2 -0.8**
IGLA **Glengowla, Co** **142.82 357** *e*P **PKPdf** **15 21 41.4 -2.6**
LESA **Schwarzleotal** **142.83 332** *i* PKP **PKPdf** **15 21 42.1 -2.3**
comp=Z,411nm,0.6s,SNR=268
LESA *i* PP **PP** **15 24 56.0 +1.2**
comp=Z,7.3nm,0.7s
LLW **Llanuwchllyn** **142.87 352** *e*P **PKPdf** **15 21 41.9 -2.3**
FUR **Furstenfeldbru** **142.88 334** *e*PKPbc **PKPdf** **15 21 42.2 -2.2**
baz=33,slow=3.4
BSTI **Sart Tilman** **142.94 341** *d*PKP **PKPdf** **15 21 41.8 -2.5**
LJU **Ljubljana** **142.96 329** *i* PKPdf **PKPdf** **15 21 42.3 -2.3**
LJU *e* 15 22 27.2
LJU *i* PP **PP** **15 24 56.3 +0.7**
LJU *e* 15 25 06.0
MYKA **Terra Mystica** **142.97 330** *i* PKP **PKPdf** **15 21 41.8 -2.9**
comp=Z,530nm,1.4s,SNR=116
A050A **Klekovaca** **142.98 325** ⇓*i*P **PKPdf** **15 21 41.5 -3.3**
BHOU **Houvegnez** **143.00 341** *d*PKP PKPbc 15 21 42.3 +0.4
TREB **Trebinje** **143.04 322** *e*P PKPbc 15 21 42.3 +0.1
UCC **Uccle** **143.10 343** *d*PKP PKPbc 15 21 43.0 +1.0
CADS **Cadrg** **143.22 330** *i* PKPdf PKPbc 15 21 42.3 -0.3
STU **Stuttgart** **143.23 337** *e*PKPbc PKPbc 15 21 43.5 +1.0
baz=33,slow=3.4
BGES **Gesves** **143.26 342** *d*PKP PKPbc 15 21 42.9 +0.4
STON **Ston** **143.33 323** ⇓*i*P PKPbc 15 21 42.5 -0.4
KIJV **Kijevo** **143.36 325** ⇓*i*P PKPab 15 21 42.4 +0.6
WATA **Walderalm** **143.39 333** *e*PKP PKPbc 15 21 42.8 -0.3
comp=Z,578nm,1.3s,SNR=91
WATA *e*PP **PP** **15 24 58.8 +0.6**
comp=Z,624nm,2.0s
ABTA **Abfaltersbach** **143.41 331** *i* PKP PKPbc 15 21 43.4 +0.2
comp=Z,499nm,0.6s,SNR=515
ABTA *i* PP **PP** **15 24 58.5 +0.3**
comp=Z,247nm,2.1s,SNR=5.0
RCHB **Rochefort** **143.41 341** *d*PKP PKPbc 15 21 43.2 +0.2
WTTA **Wattenberg** **143.42 333** *i* PKP PKPbc 15 21 42.9 -0.4
comp=Z,1μm,1.3s,SNR=156
WTTA *i* PP **PP** **15 24 59.3 +1.0**
comp=Z,654nm,2.1s
BMRD **Maredsous** **143.43 342** *d*PKP PKPbc 15 21 43.4 +0.5
WLF **Walferdange** **143.55 340** PKP **PKPdf** **15 21 44.9 -0.6**
WLF **Walferdange** **143.55 340** *d*PKPdf **PKPdf** **15 21 44.6 -0.8**
WLF **Walferdange** **143.55 340** *e*PKPbc **PKPdf** **15 21 44.7 -0.7**
baz=33,slow=3.4
WLF *e*SKPbc **SKiKP** **15 25 08.0 +0.6**
baz=33,slow=2.7
SRN **Sarande** **143.58 317** P **PKiKP** **15 21 51.5 +2.2**
MOTA **Moosalm** **143.59 333** *e*PKP PKPbc 15 21 43.7 -0.1
comp=Z,929nm,1.2s,SNR=216
VLO **Vlora** **143.60 318** P **PKPdf** **15 21 45.4 -0.4**
MCH1 **Michaelchurch** **143.60 351** *e*P PKPbc 15 21 43.9 +0.5
ELSH **Elham, Standar** **143.61 346** *e*P **PKPdf** **15 21 44.8 -0.7**
RETA **Reutte** **143.62 334** *i* PKP PKPbc 15 21 43.8 0.0
comp=Z,690nm,1.3s,SNR=126
RETA *e*PP **PP** **15 25 00.1 +0.7**
comp=Z,434nm,2.5s
SQTA **Sankt Quirin** **143.64 333** *e*PKP PKPbc 15 21 43.4 -0.4
comp=Z,1μm,1.4s,SNR=179
DOU **Dourbes** **143.66 342** *d*PKPdf PKPbc 15 21 44.2 +0.5
STRD **Stroud** **143.68 350** *e*P PKPbc 15 21 44.5 +0.9
IWEX **Carrickbyrne,** **143.69 355** PKP PKPbc 15 21 44.3 +0.7
IWEX **Carrickbyrne,** **143.69 355** *e*P PKPbc 15 21 44.5 +0.9
MONM **Monmouth** **143.72 350** *e*P PKPbc 15 21 44.0 +0.3
SWN1 **Swindon** **143.87 349** *e*P **PKPdf** **15 21 45.1 -0.8**
BFO **Black Forest** **143.92 337** PKPdf PKPbc 15 21 44.8 +0.3
BFO **Black Forest** **143.92 337** PKIKP PKPbc 15 21 44.8 +0.3
BFO **Black Forest** **143.92 337** *e*PKPbc PKPbc 15 21 44.7 +0.2
baz=33,slow=3.4
WOL **Wolverton** **143.95 349** *e*P PKPbc 15 21 45.0 +0.6
FETA **Feichten** **144.00 333** *i* PKP PKPbc 15 21 45.0 0.0
comp=Z,966nm,1.2s,SNR=456
HMNX **Herstmonceux** **144.06 347** *e*P **PKPdf** **15 21 46.7 +0.4**
DAVA **Damuels** **144.15 334** *i* PKP PKPbc 15 21 46.1 +0.7
comp=Z,2μm,1.5s,SNR=198
BRJN **Brijuni** **144.15 328** ⇓*i*P PKPbc 15 21 45.5 +0.3
VAL **Valentia** **144.34 358** PKP **PKPdf** **15 21 46.9 +0.2**
VAL **Valentia** **144.34 358** PKP **PKPdf** **15 21 46.2 -0.5**
DAVOX **Davos/Dischmat** **144.55 334** PKP **PKPdf** **15 21 47.7 +0.2**
comp=Z,452nm,0.6s,baz=275,slow=1.4,SNR=688
DAVOX SKPbc **SKiKP** **15 25 10.3 +0.5**
comp=Z,58nm,0.8s,baz=153,slow=2.3,SNR=5.8
NBAN **Anadia - AL** **144.75 135** *e*P **PKPab** **15 21 47.5 -0.5**
NBAN **Anadia - AL** **144.75 135** PKP **PKPab** **15 21 46.9 -1.1**
NBAN PKP PKPbc 15 21 47.6 -0.4
HTL **Hartland** **144.79 352** *e*P **PKPdf** **15 21 47.9 +0.4**
NBPB **Pedra_Branca-C** **145.12 126** *e*P **PKPbc** **15 21 49.0 -0.2**
NBPB **Pedra_Branca-C** **145.12 126** PKP **PKPbc** **15 21 48.5 -0.7**
NBPB PKP **PKPdf** **15 21 49.2 -0.1**
SBD **Saint Breward** **145.24 352** *e*P **PKPab** **15 21 49.0 +0.3**
MATE **Matera** **145.26 320** ⇓P **PKPab** **15 21 50.0 +0.9**
DYA **Yadsworthy** **145.26 351** *e*P **PKPbc** **15 21 48.6 +0.1**
TIP **Timpagrande** **146.07 318** ⇓P **PKPbc** **15 21 51.2 -0.2**
AQU **L'Aquila** **146.10 325** PKP **PKPbc** **15 21 50.9 -0.5**
JSA **Saint Aubin** **146.17 348** *e*P **PKPbc** **15 21 51.1 -0.2**
VLC **Villacollemand** **146.34 330** PKP **PKPdf** **15 21 50.9 +0.4**
SHEL **Horse Pasture** **147.46 191** PKPbc **PKPbc** **15 21 55.2 -0.7**
SHEL **Horse Pasture** **147.46 191** PKIKP **PKPbc** **15 21 55.2 -0.7**
RCBR **Riachuelo** **147.71 131** PKPdf **PKPdf** **15 21 53.8 +0.1**
RCBR **Riachuelo** **147.71 131** PKPbc **PKPbc** **15 21 55.6 -1.1**
comp=Z,147nm,0.9s,baz=233,slow=7.2,SNR=86
RCBR **Riachuelo** **147.71 131** PKIKP **PKPdf** **15 21 53.8 +0.1**
RCBR **Riachuelo** **147.71 131** *e*P **PKPdf** **15 21 54.2 +0.5**
RCBR **Riachuelo** **147.71 131** PKP **PKPdf** **15 21 53.4 -0.3**
RCBR PKP **PKPbc** **15 21 55.3 -1.4**
VAE **Valguarnera** **148.55 317** PKP **PKPdf** **15 21 54.9 +0.5**
comp=Z,26nm,1.0s,baz=171,slow=5.1,SNR=5.2
VAE PKPbc **PKiKP** **15 22 00.6 +0.9**
comp=Z,45nm,0.5s,baz=342,slow=5.3,SNR=8.8
RAFF **Raffo Rosso** **148.73 317** **PKPdf** **15 21 55.7 +1.0**
EJON **La Jonquera** **150.93 337** PKP **PKPdf** **15 21 59.3 +1.3**
CEST **Esterri de Car** **151.38 339** PKPdf **PKPdf** **15 21 59.2 +0.4**
CEST **PKiKP** **15 22 06.2 +0.8**
CEST **PKPab** **15 22 15.4 +1.5**
CEST **Esterri de Car** **151.38 339** *e*PKP **PKiKP** **15 22 06.5 +1.1**
CEST *e*PKP **PKPab** **15 22 15.4 +1.5**
CEST *e*PKiKP **sPKPdf** **15 23 06.3 -0.2**
CEST *e*PP **PP** **15 25 46.1 +1.4**
CEST *e*SKKS 15 32 20.5
CEST *e*SKKS SKKSdf 15 36 55.5 -43
CEST *e*SS **SS** **15 45 02.4 +10**
CARA **Val d'Aran** **151.43 340** *e*PKP **PKPdf** **15 22 00.7 +1.7**
CARA *e*PKP **PKPab** **15 22 16.8 +2.7**
CARA *e*PKiKP **pPKPbc** **15 22 55.9 +2.6**
CARA *e*PP **PP** **15 25 47.5 +2.5**
CARA *e*SKKS 15 32 24.4
CARA *e*SKKS SKKSdf 15 36 51.4 -47
CARA *e*SS **SS** **15 45 02.3 +9.0**
CSOR **Sort** **151.62 339** *e*PKP **PKPdf** **15 22 01.3 +2.2**
CSOR *e*PKP **PKPab** **15 22 16.9 +2.1**
CSOR *e*PKiKP **pPKPbc** **15 22 54.0 +0.3**
CSOR *e*PP **PP** **15 25 47.5 +1.6**
CSOR *e*SKKS 15 32 24.8
CSOR *e*SKKS SKKSdf 15 36 53.3 -45
CSOR *e*SS SS 15 45 08.4 +13
CTRE **Tremp** **151.79 340** *e*PKP **PKPdf** **15 22 01.8 +2.3**
CTRE *e*PKP **PKPab** **15 22 17.0 +1.5**
CTRE *e*PKiKP **pPKPbc** **15 22 53.7 -0.4**
CTRE *e*SKKS 15 32 21.4
CTRE *e*SKKS SKKSdf 15 36 59.4 -38
CTRE *e*SS **SS** **15 44 53.3 -3.8**
CAVN **Les Avellanes** **152.19 339** *e*PKP **PKiKP** **15 22 08.1 +1.1**
CAVN *e*PKP **PKPab** **15 22 17.0 -0.1**
CAVN *e*PKiKP **pPKPbc** **15 22 56.7 +1.8**
CAVN *e*PP **PP** **15 25 51.3 +2.6**
CAVN *e*SKKS 15 32 28.0
CAVN *e*SKKS SKKSdf 15 37 18.7 -18
MAHO **Mahon** **152.51 332** PKP **PKPbc** **15 22 05.6 -1.8**
KEST **Kesra** **152.84 320** PKP **PKPdf** **15 22 01.3 +0.2**
comp=Z,48nm,1.2s,baz=210,slow=1.1,SNR=28
KEST PKPbc **PKiKP** **15 22 10.0 +1.4**
comp=Z,218nm,0.9s,baz=138,slow=0.8,SNR=87
KEST PKPab **PKPab** **15 22 21.7 +1.5**
comp=Z,100nm,0.9s,baz=66,slow=22,SNR=10
ETOS **Mallorca** **153.24 334** PKP **PKPdf** **15 22 02.9 +1.4**
PCED **Cedros** **153.25 30** *e*PKP **PKPdf** **15 22 04.8 +3.3**
PGRA **Graciosa** **153.27 29** *e*PKP **PKPab** **15 22 16.3 -5.1**
CALA **Caldeira** **153.29 30** *e*PKP **PKiKP** **15 22 10.3 +0.9**
ROSA **Rosais** **153.40 29** *e*PKP **PKiKP** **15 22 10.8 +1.2**
PICO **Pico** **153.48 30** *e*PKP **PKiKP** **15 22 10.5 +0.6**
PMAN **Manadas** **153.54 29** *e*PKP **PKiKP** **15 22 11.3 +1.5**
PPNO **Prainha do Nor** **153.58 30** *e*PKP **PKPdf** **15 22 04.0 +1.9**
PSBA **Serra de Santa** **153.78 28** *e*PKP **PKPdf** **15 22 03.2 +0.9**
PAGU **Agualva, Azore** **153.85 28** *e*PKP **PKPdf** **15 22 04.6 +2.2**
ECAL **Calabor** **153.98 351** PKP **PKPdf** **15 22 03.7 +1.2**
PBRG **Braganca** **154.11 351** *e*PKPdf **PKPdf** **15 22 03.5 +0.8**
PBRG *e*PKPbc **PKiKP** **15 22 11.6 +0.6**
PBRG *e*PKPab **PKPab** **15 22 25.5 +0.3**
PGAV **Gavieira, Arco** **154.15 354** *e*PKPdf **PKPdf** **15 22 03.6 +0.8**
PGAV *e*PKPab **PKPab** **15 22 26.4 +0.9**
PGAV *e*tx tx 15 23 11.3
PGAV *e*PP **PP** **15 26 02.2 +2.3**
PCAB **Cabril** **154.37 353** *e*PKPdf **PKPdf** **15 22 04.0 +1.0**
PCAB *e*PKPbc **PKiKP** **15 22 12.8 +1.3**
PCAB *e*PKPab **PKPab** **15 22 27.1 +0.8**
PCAB *e*PP **PP** **15 26 02.8 +1.7**
EIBI **Ibiza** **154.47 335** PKP **PKPdf** **15 22 04.9 +1.7**
POLO **Lamas de Olo** **154.68 353** *e*PKPdf **PKPdf** **15 22 03.5 -0.1**
POLO *e*PKPbc **PKiKP** **15 22 13.4 +1.1**
POLO *e*PKPab **PKPab** **15 22 28.4 +0.7**
POLO *e*PP **PP** **15 26 04.4 +1.5**
PVRL **Vila Real** **154.76 353** *e*PKPdf **PKPdf** **15 22 04.3 +0.7**
PVRL *e*PKPbc **PKiKP** **15 22 13.4 +1.1**
PVRL *e*PKPab **PKPab** **15 22 29.4 +1.4**
MVO **Moncorvo** **154.78 351** *e*PKPdf **PKPdf** **15 22 04.7 +1.0**
MVO *e*PKPbc **PKiKP** **15 22 13.4 +0.9**
MVO *e*PKPab **PKPab** **15 22 29.0 +0.9**
ECHE **Chera** **154.82 340** PKP **PKPdf** **15 22 04.9 +1.1**
UCM **Universidad Co** **154.84 344** PKP **PKPdf** **15 22 05.5 +1.8**
PVIS **Viseu** **155.34 353** *e*PKPdf **PKPdf** **15 22 05.2 +0.8**
PVIS *e*PKPab **PKPab** **15 22 31.1 +0.6**
PVIS *e*tx tx 15 23 18.4
PVIS *e*PP **PP** **15 26 08.1 +1.6**
BART **Pico Bartolome** **155.55 26** *e*PKP **PKPdf** **15 22 07.5 +2.7**
ESDC **Sonseca Array** **155.62 345** **PKPdf** **15 22 04.6 -0.2**
ESDC PKPab **PKPab** **15 22 32.0 +0.3**
ESDC **Sonseca Array** **155.62 345** PKP **PKPdf** **15 22 04.8 0.0**
comp=Z,16nm,1.1s,baz=350,slow=3.1,SNR=40
ESDC PKPab **PKPab** **15 22 33.

PCAS				*e*PP	**PP**	**15 26 12.6 +2.1**
PCBR	**Castelo Branco**	**156.14**	**352**	*e*PKPdf	**PKPdf**	**15 22 05.9 +0.5**
PCBR				*e*PKPab	**PKPab**	**15 22 34.6 +0.7**
PCBR				*e*PP	**PP**	**15 26 13.2 +2.3**
PSMA	**Santa Maria**	**156.22**	**27**	*e*PKP	**PKPdf**	**15 22 07.2 +1.6**
PSMN	**Pico do Norte,**	**156.24**	**27**	*e*PKP	**PKPdf**	**15 22 07.7 +2.0**
PSARD	**Sardoal**	**156.47**	**353**	*e*PKPdf	**PKPdf**	**15 22 05.9 0.0**
PSARD				*e*PKPab	**PKPab**	**15 22 35.8 +0.5**
PSARD				*e*tx	tx	15 23 21.2
PSARD				*e*PP	**PP**	**15 26 14.7 +2.0**
PMRV	**Marv??o**	**156.54**	**351**	*e*PKPdf	**PKPdf**	**15 22 05.7 -0.3**
PMRV				*e*PKPab	**PKPab**	**15 22 36.4 +0.8**
PMRV				*e*PP	**PP**	**15 26 13.9 +0.7**
PMTG	**Montargil**	**157.00**	**353**	*e*PKPdf	**PKPdf**	**15 22 07.3 +0.7**
PMTG				*e*PKPab	**PKPab**	**15 22 38.6 +1.0**
PMTG				*e*tx	tx	15 23 22.8
PMTG				*e*PP	**PP**	**15 26 17.5 +1.8**
PESTR	**Estremoz**	**157.12**	**351**	PKP	**PKPdf**	**15 22 07.6 +0.8**
PESTR	**Estremoz**	**157.12**	**351**	*e*PKPdf	**PKPdf**	**15 22 08.3 +1.6**
PESTR				*e*PKPab	**PKPab**	**15 22 39.5 +1.3**
PESTR				*e*tx	tx	15 23 23.7
PESTR				*e*PP	**PP**	**15 26 18.3 +2.0**
EBAD	**Badajoz**	**157.13**	**350**	PKP	**PKPdf**	**15 22 07.6 +0.8**
EADA	**Adamuz**	**157.19**	**345**	PKP	**PKPdf**	**15 22 08.0 +1.1**
PMAFR	**Mafra**	**157.23**	**355**	PKP	**PKPdf**	**15 22 07.1 +0.3**
PMAFR	**Mafra**	**157.23**	**355**	*e*PKPdf	**PKPdf**	**15 22 08.4 +1.5**
PMAFR				*e*PKPab	**PKPab**	**15 22 40.0 +1.4**
PMAFR				*e*tx	tx	15 23 24.6
PMAFR				*e*PP	**PP**	**15 26 16.4 -0.4**
PARRA	**Arraiolos**	**157.34**	**354**	*e*PKPdf	**PKPdf**	**15 22 08.1 +1.0**
PARRA				*e*PKPab	**PKPab**	**15 22 39.4 +0.3**
PARRA				*e*tx	tx	15 23 23.9
LIS	**Lisbon**	**157.45**	**354**	*e*PKPdf	**PKPdf**	**15 22 07.4 +0.3**
ECAB	**El Cabril**	**157.48**	**347**	PKP	**PKPdf**	**15 22 08.5 +1.2**
EVO	**Evora**	**157.50**	**352**	PKP	**PKPdf**	**15 22 08.5 +1.2**
EVO	**Evora**	**157.50**	**352**	*e*PKPdf	**PKPdf**	**15 22 08.4 +1.2**
EVO				*e*PKPab	**PKPab**	**15 22 40.4 +0.6**
EVO				*e*tx	tx	15 23 26.0
EVO				*e*PP	**PP**	**15 26 20.4 +2.0**
ENIJ	**Nijar**	**157.60**	**339**	PKP	**PKPdf**	**15 22 08.5 +1.1**
PBAR	**Barrancos**	**157.71**	**350**	PKP	**PKPdf**	**15 22 08.8 +1.3**
PBAR	**Barrancos**	**157.71**	**350**	*e*PKPdf	**PKPdf**	**15 22 08.9 +1.5**
PBAR				*e*PKPab	**PKPab**	**15 22 41.2 +0.6**
PBAR				*e*tx	tx	15 23 26.2
PBAR				*e*PP	**PP**	**15 26 21.4 +1.8**
EQTA	**Presa de Quent**	**157.78**	**342**	PKP	**PKPdf**	**15 22 08.2 +0.4**
PBEJ	**Beja**	**157.98**	**351**	*e*PKPdf	**PKPdf**	**15 22 09.1 +1.3**
PBEJ				*e*PKPab	**PKPab**	**15 22 43.0 +1.1**
PBEJ				*e*tx	tx	15 23 29.9
PBEJ				*e*PP	**PP**	**15 26 21.5 +0.5**
EMIN	**Mina Concepcio**	**158.04**	**349**	PKP	**PKPdf**	**15 22 09.3 +1.4**
EGOR	**Sierra Gorda,**	**158.07**	**343**	PKP	**PKPdf**	**15 22 09.2 +1.1**
ELGU	**Los Guajares,**	**158.15**	**342**	PKP	**PKPdf**	**15 22 09.2 +1.0**
MESJ	**Messejana**	**158.21**	**352**	*e*PKPdf	**PKPdf**	**15 22 08.4 +0.2**
MESJ				*e*PKPab	**PKPab**	**15 22 43.7 +0.8**
MESJ				*e*PP	**PP**	**15 26 24.3 +2.0**
MESJ	**Messejana**	**158.21**	**352**	*e*PKPdf	**PKPdf**	**15 22 08.5 +0.4**
MESJ				*e*PKPab	**PKPab**	**15 22 43.5 +0.6**
MESJ				*e*tx	tx	15 23 29.1
MESJ				*e*PP	**PP**	**15 26 22.9 +0.6**
PCVE	**Castro Verde**	**158.39**	**352**	PKP	**PKPdf**	**15 22 10.2 +1.8**
PCVE	**Castro Verde**	**158.39**	**352**	*e*PKPdf	**PKPdf**	**15 22 09.8 +1.5**
PCVE				*e*PKPab	**PKPab**	**15 22 45.3 +1.7**
PCVE				*e*tx	tx	15 23 30.0
PCVE				*e*PP	**PP**	**15 26 24.4 +1.2**
EGRO	**El Granado**	**158.40**	**350**	PKP	**PKPdf**	**15 22 09.9 +1.6**
EMAL	**Malaga-Limoner**	**158.48**	**343**	PKP	**PKPdf**	**15 22 09.2 +0.7**
PTEO	**Sao Teotonio**	**158.56**	**353**	*e*PKPdf	**PKPdf**	**15 22 09.2 +0.7**
PTEO				*e*PKPab	**PKPab**	**15 22 45.2 +0.8**
PTEO				*e*tx	tx	15 23 30.7
PTEO				*e*PP	**PP**	**15 26 25.9 +1.7**
PVAQ	**Vaqueiros**	**158.57**	**351**	PKP	**PKPdf**	**15 22 09.5 +1.0**
PVAQ	**Vaqueiros**	**158.57**	**351**	*e*PKPdf	**PKPdf**	**15 22 10.4 +1.9**
PVAQ				*e*PKPab	**PKPab**	**15 22 45.1 +0.7**
PVAQ				*e*tx	tx	15 23 31.0
PVAQ				*e*PP	**PP**	**15 26 26.2 +2.0**
ESPR	**Espera**	**158.74**	**346**	PKP	**PKPdf**	**15 22 10.4 +1.7**
PBDV	**Barranco-do-Ve**	**158.76**	**351**	PKP	**PKPdf**	**15 22 10.3 +1.5**
PBDV	**Barranco-do-Ve**	**158.76**	**351**	*e*PKPdf	**PKPdf**	**15 22 09.1 +0.3**
PBDV				*e*PKPab	**PKPab**	**15 22 47.2 +1.9**
PBDV				*e*tx	tx	15 23 31.7
PBDV				*e*PP	**PP**	**15 26 27.7 +2.4**
MORF	**Marmelete**	**158.79**	**353**	*e*PKPdf	**PKPdf**	**15 22 09.2 +0.3**
MORF				*e*PKPab	**PKPab**	**15 22 46.4 +0.9**
MORF				*e*PP	**PP**	**15 26 27.4 +1.9**
MORF	**Marmelete**	**158.79**	**353**	*e*PKPdf	**PKPdf**	**15 22 10.5 +1.6**
MORF				*e*PKPab	**PKPab**	**15 22 47.0 +1.6**
MORF				*e*tx	tx	15 23 30.9
MORF				*e*PP	**PP**	**15 26 27.6 +2.1**
PFVI	**Vila Bisbo**	**158.99**	**353**	*e*PKPdf	**PKPdf**	**15 22 11.1 +2.0**
PFVI				*e*PKPab	**PKPab**	**15 22 47.9 +1.6**
PFVI				*e*tx	tx	15 23 32.6
PFVI				*e*PP	**PP**	**15 26 28.1 +1.7**
MDT	**Midelt**	**162.19**	**339**	PKP	**PKPdf**	**15 22 13.2 +0.4**
	comp=Z,66nm,1.2s,baz=46,slow=0.6,SNR=32					
MDT				PKPab	**pPKPdf**	**15 23 01.8 -0.2**
	comp=Z,164nm,1.4s,baz=42,slow=4.8,SNR=11					
MDT				PP	**PP**	**15 26 43.0 -1.1**
	comp=Z,22nm,1.1s,baz=42,slow=7.6,SNR=4.8					
PMPST	**Porto Santo, M**	**162.74**	**13**	*e*PKPdf	**PKPdf**	**15 22 15.0 +1.8**
PMPST				*e*tx	tx	15 23 48.7
PMPS	**Porto Santo**	**162.76**	**13**	*e*PKPdf	**PKPdf**	**15 22 14.8 +1.5**
PMAR	**Madeira**	**162.95**	**14**	*e*PKPdf	**PKPdf**	**15 22 16.0 +2.4**
TIO	**Tiouine**	**164.75**	**345**	PKP	**PKPdf**	**15 22 16.3 +0.9**
TORD	**Torodi Ar. Bea**	**166.48**	**259**		**PKPdf**	**15 22 16.4 -0.6**
TORD				PKPab	**PKPab**	**15 23 19.7 -0.2**
TORD	**Torodi Ar. Bea**	**166.48**	**259**	PKP	**PKPdf**	**15 22 17.0 +0.1**
	comp=Z,125nm,1.2s,baz=19,slow=2.0,SNR=96					
TORD				PKPab	**PKPab**	**15 23 20.8 +0.8**
	comp=Z,102nm,1.0s,baz=66,slow=4.0,SNR=17					
TORD				PP	**PP**	**15 27 09.3 +0.9**
	comp=Z,7.8nm,0.9s,baz=134,slow=5.8,SNR=1.4					
EOSO	**Osorio**	**167.73**	**15**	PKP	**PKPdf**	**15 22 20.6 +2.9**
DBIC	**Dimbokro**	**168.26**	**217**	PKP	**PKPdf**	**15 22 18.6 +0.3**
	comp=Z,339nm,1.2s,baz=153,slow=1.2,SNR=52					
DBIC				PKPab	**sPKPdf**	**15 23 26.9 +0.1**
	comp=Z,184nm,1.1s,baz=173,slow=4.2,SNR=18					
DBIC				PP	**PP**	**15 27 18.0 +2.1**
	comp=Z,22nm,0.9s,baz=167,slow=5.8,SNR=3.7					
DBIC	**Dimbokro**	**168.26**	**217**	PKP	**PKPdf**	**15 22 17.7 -0.6**
DBIC				PKP	**PKPdf**	**15 22 18.3 0.0**

JMA 31 15:10:46.6±0.1, 35°2N±0°2 × 135°3E±0°2, h14km, MV0.1/20, MID KYOTO PREF, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.16**	**39**	P	Pg	15 10 50.6	0.0
JWT				S	Sg	15 10 53.3	-0.1
JKS	**Kasai**	**0.39**	**244**	P	Pg	15 10 54.4	0.0
JKY	**Yasaka**	**0.49**	**344**	*e*P	Pg	15 10 56.4	0.0
JHE	**Heguri**	**0.60**	**146**	S	Sg	15 11 06.3	-0.1
JKSM	**Kasumi**	**0.66**	**311**	*e*S	Sg	15 11 08.0	-0.3

JMA 31 15:11:55.3±0.2, 38°4N±0°5 × 140°2E±°, h28km±4km, MV1.0/16, E OFF MIYAGI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**0.55**	**256**	*e*P	Pb	15 12 06.0	-0.4
JIKH				*e*S	Sb	15 12 13.4	-0.6
JIO	**Ouri**	**0.63**	**271**	*e*P	Pb	15 12 07.4	-0.3
JIO				S	Sb	15 12 15.9	-0.3
JKMT	**Kesennumamotoy**	**0.64**	**305**	*e*P	Pb	15 12 07.7	-0.2
JKMT				*e*S	Sb	15 12 16.6	+0.1
OFUJ	**Ofunato**	**0.74**	**330**	*e*P	Pb	15 12 08.9	-0.6
OFUJ				*e*S	Sb	15 12 18.8	-0.5

*KOLA **31** 15:17:05.3, 67°.64N×34°.02E, h0km, ML2.1, Error ellipse: s-maj=2.7km s-min=1.4km az=130.0, Khibiny, mines Koashva, Nyurkpakh*
*IDC **31** 15:17:06.8±2.9, 67°.63N×33°.49E, h0km, mbtmp2.9/2, ML2.1/2, Error ellipse: s-maj=37.5km s-min=13.9km az=65.0*
ISC 31 15:17:03.1±1.0, 67°.63N±0°.05 × 34°.18E±0°.05, h0km, n10, σ1s0.00/17, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.30**	**258**	P	**Pg**	**15 17 09.6**	**+0.7**
APA				S	**Sg**	**15 17 13.4**	**+0.7**
LVZ	**Lovozero**	**0.32**	**34**	P	**Pb**	**15 17 11.9**	**+0.1**
LVZ				S	**Sb**	**15 17 16.6**	**-1.0**
APA0	**Apatity Array**	**0.46**	**267**	P	**Pg**	**15 17 12.2**	**+0.5**
APA0				S	**Sg**	**15 17 18.1**	**+0.4**
KVDA	**Kovda**	**1.07**	**209**	P	**Pg**	**15 17 23.9**	**+0.3**
KVDA				S	**Sg**	**15 17 37.7**	**+0.2**
TERR	**Teriberka**	**1.61**	**12**	P	**Pb**	**15 17 33.5**	**-0.2**
TERR				S	**Sg**	**15 17 55.8**	**+0.9**
VADS	**Vadso**	**3.05**	**327**	S	**Sn**	**15 18 30.4**	**+0.9**
ARCES	**ARCESS Array B**	**3.71**	**305**	Pn	**Pn**	**15 18 01.1**	**-0.4**
	0.3nm,0.3s,baz=121,slow=15,SNR=28						
ARCES				Pg	**Pb**	**15 18 09.2**	**-0.1**
	0.3nm,0.3s,baz=118,slow=15,SNR=13						
ARCES				Sn	**Sn**	**15 18 44.8**	**-1.2**
	0.6nm,0.3s,baz=121,slow=24,SNR=8.2						
ARCES				Lg	Lg	15 18 54.9	
	0.4nm,0.3s,baz=118,slow=33,SNR=5.0						
ARCES	**ARCESS Array B**	**3.71**	**305**	P	**Pn**	**15 18 02.5**	**+0.9**
ARCES	1.2nm,0.3s			S	**Sn**	**15 18 43.2**	**-2.7**
I37NO	**I37NO**	**5.94**	**291**	I	I	15 52 30.0	
	baz=98,slow=321,SNR=2.5						
FINES	**FINESS Array B**	**7.12**	**213**	Pn	**Pn**	**15 18 48.2**	**-0.1**
	0.1nm,0.3s,baz=28,slow=18,SNR=1.9						
	1.4nm,0.8s						

*WEL **31** 15:20:23.9±0.3, 43°S±2°×17°2E±°, h4km±1km, M3.9/12, ML4.0/12, MLv3.9/12, Error ellipse: s-maj=2.5km s-min=1.9km az=48.4, confirmed*
*NOU **31** 15:20:25.8, 42°.99S×171°.67E, h19km, MLv4.3/10, South Island, New Zealand*
ISC 31 15:20:23.9±0.6, 42°.90S±0°.02 × 171°.60E±0°.02, h9km±6km, n112, σ1s18/124, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APPS	**Arthurs Pass P**	**0.06**	**207**	P	**Pg**	**15 20 26.6**	**+0.6**
APPS				S	**Sg**	**15 20 28.2**	**+0.8**
IFPS	**Inchbonnie Fit**	**0.20**	**330**	P	**Pg**	**15 20 27.3**	**-0.7**
IFPS				S	**Sg**	**15 20 29.7**	**-0.9**
INZ	**Inchbonnie**	**0.21**	**326**	P	**Pg**	**15 20 28.6**	**+0.4**
INZ				S	**Sg**	**15 20 31.5**	**+0.4**
CSHS	**Castle Hill**	**0.34**	**165**	P	**Pb**	**15 20 32.0**	**-0.3**
CSHS				S	**Sb**	**15 20 37.4**	**-0.5**
KOKS	**Kokatahi**	**0.34**	**271**	P	**Pg**	**15 20 30.4**	**-0.3**
KOKS				S	**Sg**	**15 20 35.3**	**0.0**
ARPN	**Arnold River P**	**0.40**	**339**	P	**Pg**	**15 20 29.1**	**-0.7**
ARPN				S	**Sg**	**15 20 36.8**	**-0.2**
KOWC	**Kowai**	**0.46**	**157**	P	**Pg**	**15 20 32.9**	**-0.1**
KOWC				S	**Sg**	**15 20 39.7**	**+0.7**
SPRS	**Springfield Vo**	**0.50**	**152**	P	**Pb**	**15 20 34.7**	**-0.2**
SPRS				S	**Sb**	**15 20 42.0**	**-0.4**
LTZ	**Lake Taylor**	**0.50**	**77**	P	**Pg**	**15 20 34.1**	**+0.4**
LTZ				S	**Sg**	**15 20 40.9**	**+0.6**
HMCS	**Hokitika Medic**	**0.51**	**291**	P	**Pg**	**15 20 33.1**	**-0.6**
GMFS	**Greymouth Fire**	**0.53**	**326**	P	**Pg**	**15 20 33.8**	**-0.4**
GMFS				S	**Sg**	**15 20 41.2**	**+0.1**
OXZ	**Oxford**	**0.53**	**144**	P	**Pb**	**15 20 35.3**	**-0.2**
OXZ				S	**Sb**	**15 20 42.9**	**-0.4**
SHFC	**Sheffield Scho**	**0.58**	**148**	P	**Pg**	**15 20 34.9**	**-0.3**
SHFC				S	**Sg**	**15 20 43.2**	**+0.4**
WCSS	**Whitecliffs**	**0.59**	**161**	P	**Pg**	**15 20 34.9**	**-0.5**
WCSS				S	**Sg**	**15 20 43.8**	**+0.7**
MHCZ	**Mount Hutt**	**0.64**	**182**	P	**Pb**	**15 20 37.4**	**+0.1**
SMHS	**Summerhill**	**0.65**	**124**	P	**Pb**	**15 20 37.5**	**+0.1**
SMHS				S	**Sb**	**15 20 47.1**	**+0.5**
WVAS	**Waitaha Valley**	**0.66**	**254**	P	**Pg**	**15 20 37.0**	**+0.3**
WVAS				S	**Sg**	**15 20 46.0**	**+0.7**
WVZ	**Waitaha Valley**	**0.66**	**254**	P	**Pg**	**15 20 37.2**	**+0.5**
WVZ				S	**Sg**	**15 20 45.9**	**+0.6**
MTHS	**Methven North**	**0.67**	**176**	P	**Pb**	**15 20 38.4**	**+0.7**
LSRC	**Lake Sumner Ro**	**0.69**	**88**	P	**Pg**	**15 20 37.1**	**-0.1**
DFHS	**Darfield**	**0.70**	**149**	P	**Pg**	**15 20 37.1**	**-0.3**
CSTC	**Cust School**	**0.70**	**126**	P	**Pg**	**15 20 37.3**	**-0.2**
SJFS	**Springs Juncti**	**0.70**	**37**	P	**Pg**	**15 20 36.7**	**-0.8**
GDAL	**Greendale**	**0.77**	**153**	P	**Pg**	**15 20 38.6**	**-0.3**
RDCS	**Reefton DOC Ce**	**0.80**	**14**	P	**Pg**	**15 20 37.5**	**-1.8**
SWNC	**Swannanoa Scho**	**0.81**	**126**	P	**Pg**	**15 20 39.7**	**+0.3**
WAKC	**Waikari**	**0.81**	**95**	P	**Pb**	**15 20 40.7**	**+0.5**
AMCZ	**Amberley**	**0.82**	**110**	P	**Pb**	**15 20 41.1**	**+0.8**
ASHY	**Ashley**	**0.82**	**118**	P	**Pg**	**15 20 39.7**	**0.0**
MSMC	**Mount Somers S**	**0.82**	**190**	P	**Pg**	**15 20 40.1**	**+0.4**
DSLC	**Dunsandel Scho**	**0.82**	**151**	P	**Pb**	**15 20 42.1**	**+0.6**
CULC	**Culverden Airl**	**0.89**	**82**	P	**Pg**	**15 20 41.1**	**+0.0**
CACS	**Harewood**	**0.90**	**131**	P	**Pg**	**15 20 41.1**	**-0.1**
RKAC	**Rakaia School**	**0.91**	**160**	P	**Pg**	**15 20 41.1**	**-0.3**
TPLC	**Templeton Scho**	**0.91**	**136**	P	**Pg**	**15 20 41.4**	**-0.1**
RPZ	**Rata Peaks**	**0.91**	**206**	P	**Pg**	**15 20 42.2**	**+0.7**
RPZ	**Rata Peaks**	**0.91**	**206**	P	**Pb**	**15 20 42.4**	**+0.5**
RACZ	**Rakaia**	**0.92**	**155**	P	**Pn**	**15 20 42.7**	**-0.3**
RACZ				S	**Sn**	**15 20 55.8**	**-0.5**
SMTX	**Styx Mill Tran**	**0.93**	**128**	P	**Pg**	**15 20 42.0**	**+0.1**
PPHS	**Papanui**	**0.94**	**130**	P	**Pg**	**15 20 41.7**	**-0.4**
HSES	**Hanmer Springs**	**0.98**	**68**	P	**Pg**	**15 20 42.5**	**-0.2**
GCSZ	**Gaunt Creek Bo**	**1.02**	**245**	P	**Pb**	**15 20 43.7**	**-0.1**
GCSZ				S	**Sb**	**15 20 58.5**	**+1.1**
GVZ	**Greta Valley S**	**1.05**	**94**	P	**Pn**	**15 20 45.1**	**+0.2**
WACZ	**Wakanui South**	**1.06**	**171**	P	**Pn**	**15 20 44.9**	**-0.1**
ARCZ	**Arundel**	**1.09**	**196**	P	**Pb**	**15 20 45.3**	**+0.2**
MQZ	**McQueen's Vall**	**1.11**	**137**	P	**Pb**	**15 20 45.4**	**+0.0**
DSZ	**Denniston Nort**	**1.16**	**7**	P	**Pb**	**15 20 45.6**	**-0.6**
OKCZ	**Okains Bay**	**1.34**	**128**	P	**Pn**	**15 20 49.1**	**+0.1**
AKCZ	**Akaroa Harbour**	**1.36**	**136**	P	**Pn**	**15 20 49.1**	**0.0**
FOZ	**Fox Glacier**	**1.45**	**244**	P	**Pn**	**15 20 51.1**	**+0.8**
THZ	**Tophouse**	**1.49**	**41**	P	**Pn**	**15 20 50.3**	**-0.6**
KHZ	**Kahutara**	**1.51**	**72**	P	**Pn**	**15 20 51.7**	**+0.6**
KHZ	**Kahutara**	**1.51**	**72**	P	**Pn**	**15 20 51.7**	**+0.6**
TMZ	**Timaru**	**1.55**	**196**	P	**Pn**	**15 20 51.7**	**0.0**
MRNZ	**Matariki Terra**	**1.73**	**30**	P	**Pn**	**15 20 55.1**	**+1.0**
LBZ	**Lake Benmore**	**1.81**	**214**	P	**Pn**	**15 20 55.8**	**+0.5**
BSWZ	**Blackbirch Sta**	**2.06**	**56**	P	**Pn**	**15 21 00.4**	**+1.7**
TKNZ	**Takaka Hill**	**2.12**	**29**	P	**Pn**	**15 21 00.1**	**+0.6**
NNZ	**Nelson**	**2.14**	**39**	P	**Pn**	**15 21 00.6**	**+0.9**
QRZ	**Quartz Range**	**2.18**	**19**	P	**Pn**	**15 21 00.8**	**+0.4**
QRZ	**Quartz Range**	**2.18**	**19**	P	**Pn**	**15 21 00.5**	**+0.1**
CMWZ	**Cape Campbell**	**2.25**	**60**	P	**Pb**	**15 21 05.7**	**+1.0**
ODZ	**Otahua Downs**	**2.25**	**198**	P	**Pn**	**15 21 01.0**	**-0.4**
ODZ	**Otahua Downs**	**2.25**	**198**	P	**Pn**	**15 21 01.2**	**-0.3**
TUWZ	**Tuamarina**	**2.27**	**51**	P	**Pn**	**15 21 03.2**	**+1.5**
JCZ	**Jackson Bay**	**2.37**	**239**	P	**Pn**	**15 21 04.0**	**+0.9**
JCZ	**Jackson Bay**	**2.37**	**239**	P	**Pn**	**15 21 03.9**	**+0.9**
TCW	**Tory Channel**	**2.61**	**51**	P	**Pn**	**15 21 08.2**	**+2.0**
WKZ	**Wanaka**	**2.69**	**223**	P	**Pn**	**15 21 07.1**	**-0.3**
DUWZ	**D'Urville Isla**	**2.72**	**40**	P	**Pn**	**15 21 09.4**	**+1.6**
SNZO	**South Karori**	**2.80**	**57**	P	**Pn**	**15 21 09.6**	**+0.7**
EAZ	**Earnscleugh**	**2.86**	**215**	P	**Pn**	**15 21 09.0**	**-0.7**
CAW	**Cannon Point**	**3.14**	**56**	P	**Pn**	**15 21 13.3**	**-0.3**
KIW	**Kapiti Island**	**3.20**	**52**	P	**Pn**	**15 21 14.7**	**+0.3**
MSZ	**Milford Sound**	**3.20**	**235**	P	**Pn**	**15 21 14.3**	**-0.1**
TUZ	**Tuapeka**	**3.37**	**204**	P	**Pn**	**15 21 16.3**	**-0.4**
OGWZ	**Otaki Gorge**	**3.38**	**53**	P	**Pn**	**15 21 16.6**	**-0.2**
MTW	**Mount Morrison**	**3.38**	**60**	P	**Pn**	**15 21 16.3**	**-0.6**
MLZ	**Mavora Lakes**	**3.52**	**224**	P	**Pn**	**15 21 18.3**	**-0.5**
HOWZ	**Holdsworth Sta**	**3.54**	**57**	P	**Pn**	**15 21 20.8**	**+1.7**
MRZ	**Mangatainoka R**	**3.72**	**54**	P	**Pn**	**15 21 21.2**	**-0.3**
WHZ	**Wether Hill Ro**	**3.98**	**220**	P	**Pn**	**15 21 24.4**	**-0.7**
NBEZ	**Newall Road No**	**4.01**	**26**	P	**Pn**	**15 21 27.5**	**+2.0**
LREZ	**Lake Rotokare**	**4.03**	**33**	P	**Pn**	**15 21 29.2**	**+3.4**
KHEZ	**Kahui Hut**	**4.03**	**28**	P	**Pn**	**15 21 28.0**	**+2.1**
KHEZ	**Kahui Hut**	**4.03**	**28**	P	**Pn**	**15 21 27.9**	**+2.0**
SYZ	**Scrubby Hill**	**4.04**	**205**	P	**Pn**	**15 21 25.7**	**-0.2**
SYZ	**Scrubby Hill**	**4.04**	**205**	P	**Pn**	**15 21 25.8**	**-0.2**
PREZ	**Palmer Road**	**4.04**	**29**	P	**Pn**	**15 21 28.8**	**+2.8**
WAZ	**Wanganui**	**4.04**	**40**	P	**Pn**	**15 21 29.9**	**+3.9**
NEZ	**North Egmont**	**4.08**	**28**	P	**Pn**	**15 21 29.2**	**+2.5**
PKE	**Pukeiti**	**4.12**	**27**	P	**Pn**	**15 21 28.8**	**+1.8**
BFZ	**Birch Farm**	**4.12**	**59**	P	**Pn**	**15 21 28.1**	**+1.1**
DREZ	**Durham Road**	**4.19**	**29**	P	**Pn**	**15 21 30.5**	**+2.5**
VRZ	**Vera Road**	**4.46**	**33**	P	**Pn**	**15 21 34.0**	**+2.3**
WNVZ	**Wahianoa**	**4.67**	**42**	P	**Pn**	**15 21 36.8**	**+2.0**
MOVZ	**Moawhango**	**4.69**	**43**	P	**Pn**	**15 21 38.9**	**+4.0**
APZ	**The Paps**	**4.70**	**212**	P	**Pn**	**15 21 33.8**	**-1.2**
FWVZ	**Far West T-bar**	**4.71**	**41**	P	**Pn**	**15 21 40.6**	**+5.3**
COVZ	**Chateau Observ**	**4.74**	**40**	P	**Pb**	**15 21 43.0**	**-4.4**
SNVZ	**South Ngauruho**	**4.80**	**41**	P	**Pn**	**15 21 39.9**	**+3.3**
OTVZ	**Oturere**	**4.83**	**41**	P	**Pn**	**15 21 38.6**	**+1.6**
NNVZ	**North Ngauruho**	**4.83**	**40**	P	**Pn**	**15 21 42.3**	**+5.3**
WTVZ	**West Tongariro**	**4.83**	**40**	P	**Pn**	**15 21 41.9**	**+4.9**
KRVZ	**Karewarewa**	**4.87**	**40**	P	**Pn**	**15 21 43.6**	**+6.0**
KATZ	**Kakaramea**	**4.99**	**40**	P	**Pn**	**15 21 44.8**	**+5.6**
HIZ	**Hauiti**	**5.03**	**31**	P	**Pn**	**15 21 41.5**	**+1.9**
HIZ	**Hauiti**	**5.03**	**31**	P	**Pn**	**15 21 41.4**	**+1.9**
BKZ	**Black Stump Fm**	**5.25**	**46**	P	**Pn**	**15 21 43.9**	**+1.3**
TOZ	**Tahuroa Road**	**5.96**	**31**	P	**Pn**	**15 21 54.4**	**+2.1**
MKAZ	**Moumakai**	**6.40**	**26**	P	**Pn**	**15 21 59.9**	**+1.5**
OUZ	**Omahuta**	**7.82**	**12**	P	**Pn**	**15 22 19.9**	**+2.0**

*LDG **31** 15:34:07.7±0.2, 40°.67N×4°.62E, h10km, Ml2.9/13, Error ellipse: s-maj=3.9km s-min=3.1km az=158.0*
*SFS **31** 15:34:08.6, 40°.67N×4°.25E, h0km, ML2.9/4, ML2.6/4, MLv2.4/4*
*MDD **31** 15:34:08.0±0.6, 40°.63N×4°.57E, h22km±5km, mb_Lg2.7/24, Error ellipse: s-maj=3.4km s-min=2.5km az=164.0*
ISC 31 15:34:06.9±1.4, 40°.66N±0°.04 × 4°.61E±0°.03, h32km±14km, n26, σ2s03/50, Balearic Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAHO	**Mahon**	**0.81**	**199**	Sg	**Sb**	**15 34 32.1**	**-0.9**
MAHO				Pg	**Pb**	**15 34 22.9**	**+0.4**
ETOS	**Mallorca**	**1.64**	**238**	Pn	**Pb**	**15 34 35.3**	**-1.2**
ETOS				Sn	**Sn**	**15 34 53.3**	**-0.2**
ETOS	**Mallorca**	**1.64**	**238**	Pn	**Pn**	**15 34 35.1**	**+1.6**
ETOS				Sn	**Sn**	**15 34 51.9**	**-1.6**
ETOS				*i* lVmb_Lg		15 34 55.4	
EJON	**La Jonquera**	**2.21**	**325**	Pn	**Pn**	**15 34 43.9**	**+2.5**
EJON				Sn	**Sn**	**15 35 06.7**	**-0.9**
EJON	**La Jonquera**	**2.21**	**325**	Pn	**Pn**	**15 34 41.6**	**+0.2**
EJON				Sn	**Sn**	**15 35 06.6**	**-0.9**
EJON				*i* lVmb_Lg		15 35 09.6	
EPOB	**Poblet**	**2.76**	**286**	Pn	**Pn**	**15 34 48.1**	**-0.9**
EPOB				Sn	**Sn**	**15 35 19.5**	**-1.8**
EPOB				*i* lVmb_Lg		15 35 21.4	
EIBI	**Ibiza**	**3.00**	**238**	Pn	**Pn**	**15 34 54.7**	**+2.5**
EIBI				Sn	**Sn**	**15 35 25.2**	**-1.8**
EIBI	**Ibiza**	**3.00**	**238**	Pn	**Pn**	**15 34 52.8**	**+0.6**
EIBI				Sn	**Sn**	**15 35 26.0**	**-1.0**
EIBI				*i* lVmb_Lg		15 35 36.6	
LMR	**La Mourre**	**3.02**	**27**	*e*Pn	**Pn**	**15 34 53.9**	**+1.3**
L

SRS	**Serrai**	**2.19**	**73**	*e*Pn	**Pb**	**15 42 15.3**	**-1.0**
BOSS	**Bosilegrad**	**2.34**	**32**	*e*Pn	**Pn**	**15 42 15.6**	**+0.2**
BOSS				*e*Sn	**Sb**	**15 42 46.5**	**-1.7**
BARS	**Barje**	**2.42**	**18**	*i* Pn	**Pn**	**15 42 16.6**	**+0.2**
BARS	**Barje**	**2.42**	**18**	*e*Pn	**Pn**	**15 42 16.7**	**+0.2**
BARS				*e*Sn	**Sn**	**15 42 47.9**	**+1.5**
SELS	**Selova**	**2.72**	**5**	*e*Pn	**Pn**	**15 42 21.7**	**+1.1**
ZAPS	**Zavoj**	**3.08**	**25**	*e*Pn	**Pn**	**15 42 25.6**	**+0.1**
IVAS	**Ivanjica**	**3.11**	**351**	*e*Pn	**Pn**	**15 42 26.9**	**+1.0**

*IDC **31** 15:41:53.4±1.1, 36˚.00N×69˚.20E, h0km, mb3.9/12, mbtmp3.9/17, ML3.4/4, MS4.6/1, Error ellipse: s-maj=18.8km s-min=16.4km az=35.0*
*NNC **31** 15:41:58.9±3.9, 36˚.49N×68˚.63E, h0km, mb4.1, mpv4.0, Error ellipse: s-maj=32.2km s-min=22.9km az=170.0*

ISC 31 15:41:55.6±1.0, **36˚.18N**±0˚.09×**68˚.96E**±0˚.09, **h10**km, **n30, σ25°27'/35, mb3.7**/11, **4C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**7.02**	**9**	P	**Pn**	**15 43 40.8**	**+2.3**
	2.0nm,0.2s,baz=204,slow=14,SNR=51						
KK31				⇓S	**Sn**	**15 44 59.5**	**+1.1**
	3.3nm,0.3s,baz=197,slow=22,SNR=4.5						
UCH	**Uchtor**	**7.42**	**34**	P	**Pn**	**15 43 45.9**	**+1.6**
	SNR=43						
EKS2	**Erkin-Say**	**7.47**	**28**	P	**Pn**	**15 43 47.4**	**+2.6**
	SNR=6.8						
AAK	**Ala-Archa**	**7.74**	**32**	P	**Pn**	**15 43 50.9**	**+2.4**
	SNR=15						
AAK	**Ala-Archa**	**7.74**	**32**	⇑P	**Pn**	**15 43 50.7**	**+2.2**
	3.9nm,0.4s						
AAK				⇑S	**Sn**	**15 45 18.9**	**+2.6**
	8.1nm,0.7s						
AAK	**Ala-Archa**	**7.74**	**32**	Pn	**Pn**	**15 43 50.6**	**+2.1**
	17nm,0.3s,baz=196,slow=5.0,SNR=24						
AAK				Sn	**Sn**	**15 45 17.6**	**+1.2**
	1.8nm,0.3s,baz=124,slow=20,SNR=4.3						
KBK	**Karagaybulak**	**7.96**	**34**	P	**Pn**	**15 43 53.9**	**+2.4**
	SNR=14						
CHMS	**Chumysh**	**8.15**	**31**	P	**Pn**	**15 43 56.0**	**+2.0**
	SNR=31						
USP	**Ospenovka**	**8.27**	**29**	P	**Pn**	**15 43 57.1**	**+1.5**
	SNR=29						
TKM2	**Tokmak 2**	**8.46**	**35**	P	**Pn**	**15 44 00.1**	**+1.6**
	SNR=13						
MKAR	**Makanchi Array**	**14.55**	**39**	Pn	**Pn**	**15 45 18.3**	**-3.2**
	0.2nm,0.3s,baz=230,slow=15,SNR=9.6						
	0.7nm,0.6s						
AB31	**Akbulak array**	**14.64**	**336**	⇑P	**Pn**	**15 45 21.8**	**-0.9**
	1.5nm,0.6s,baz=153,slow=12,SNR=32						
AB31				⇓S	**Sn**	**15 47 59.9**	**-5.1**
	0.4nm,0.3s,baz=161,slow=22,SNR=4.1						
KURBB	**Kurchatov Arra**	**16.01**	**23**	Pn	**Pn**	**15 45 38.0**	**-2.8**
	0.1nm,0.3s,baz=211,slow=12,SNR=7.6						
	0.7nm,0.6s						
AKTO	**Aktyubinsk**	**16.30**	**334**	⇓P	**Pn**	**15 45 43.9**	**-0.6**
	1.4nm,0.6s						
AKTO				⇑S	**Sn**	**15 48 41.2**	**-4.1**
	1.7nm,1.1s						
AKTO	**Aktyubinsk**	**16.30**	**334**	Pn	**Pn**	**15 45 43.6**	**-0.9**
	0.5nm,0.3s,baz=142,slow=11,SNR=3.8						
AKTO				Sn	**Sn**	**15 48 41.6**	**-3.7**
	0.3nm,0.3s,baz=194,slow=17,SNR=4.8						
	0.8nm,0.3s						
BVAR	**Borovoye Array**	**16.88**	**3**	Pn	**Pn**	**15 45 49.9**	**-1.9**
	0.1nm,0.3s,baz=154,slow=9.3,SNR=6.7						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**20.92**	**27**	P	**P**	**15 46 37.6**	**-0.6**
	4.2nm,0.3s,baz=216,slow=10,SNR=24						
	4.2nm,0.3s						
ARTI	**Arti**	**21.45**	**344**	P	**P**	**15 46 43.7**	**-0.2**
	1.8nm,0.6s,baz=185,slow=13,SNR=3.3						
	1.8nm,0.6s						
BELG	**Belogornoye**	**22.15**	**324**	P	**P**	**15 46 53.3**	**+2.0**
	17nm,0.8s,baz=54,slow=7.5,SNR=3.8						
	17nm,0.8s						
EIL	**Elat**	**29.18**	**267**	LR	LR	16 02 42.1	
	comp=Z,1μm,21.4s,baz=138,slow=42						
SONM	**Songino Array**	**29.87**	**55**	P	**P**	**15 48 03.0**	**-0.4**
	0.5nm,0.4s,baz=280,slow=8.5,SNR=2.5						
	0.5nm,0.4s						
AKASG	**Malin Array Be**	**31.88**	**310**	P	**P**	**15 48 23.4**	**+2.6**
	0.2nm,0.3s,baz=94,slow=6.1,SNR=4.6						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**36.85**	**327**	P	**P**	**15 49 04.8**	**+1.2**
	2.1nm,0.9s,baz=101,slow=7.4,SNR=1.7						
	2.1nm,0.9s						
HFS	**Hagfors**	**42.31**	**322**	P	**P**	**15 49 51.2**	**+1.9**
	2.6nm,0.7s,baz=83,slow=12,SNR=5.3						
	2.6nm,0.7s						
NB2	**NORSAR Subarra**	**43.66**	**323**	P	**P**	**15 50 01.6**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=97,slow=8.6						
NOA	**NORSAR Array B**	**43.66**	**323**	P	**P**	**15 50 01.6**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=96,slow=8.0,SNR=4.5						
	comp=Z,0.6nm,0.6s						
KSRS	**Korea Array**	**46.54**	**70**	P	**P**	**15 50 22.8**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=278,slow=7.0,SNR=2.4						
	comp=Z,0.4nm,0.5s						
EKA	**Eskdalemuir Ar**	**51.38**	**316**	P	**P**	**15 51 00.5**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=96,slow=8.3,SNR=3.2						
	comp=Z,2.2nm,0.9s						
WRA	**Warramunga Arr**	**83.23**	**121**	P	**P**	**15 54 20.0**	**-2.5**
	comp=Z,0.4nm,0.8s,baz=306,slow=5.2,SNR=4.7						
	comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**85.43**	**124**	P	**P**	**15 54 31.4**	**-2.2**
	comp=Z,0.4nm,0.7s,baz=310,slow=5.0,SNR=11						
	comp=Z,0.4nm,0.7s						

*TIR **31** 15:48:01.5, 40˚.49N×20˚.80E, h8km±2km, Md2.2/5, Ml2.5/3*
*THE **31** 15:48:02.2, 41˚N±1˚×2˚1E±˚, h0km±1km, M2.5/15, MLh2.5/15*
*SKO **31** 15:48:03.4, 40˚.52N×20˚.85E, h11km, ML2.7*
*ATH **31** 15:48:03.7, 40˚.54N×20˚.94E, h3km±1km, ML2.6/17, Manual Solution by A.Andreou First location: 2019/07/31 15:49:46, This location: 2020/08/20 10:19:38 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*BEO **31** 15:48:04.1±0.3, 40˚.49N×20˚.94E, h11km±3km, ML2.2/6*

ISC 31 15:48:02.9±1.0, **40˚.52N**±0˚.02×**20˚.84E**±0˚.02, **h3**km±9km, **n68, σ0°79'/102, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBN	**Korca**	**0.11**	**339**	Pg	**Pg**	**15 48 04.2**	**-1.0**
KBN				Sg	**Sg**	**15 48 06.3**	**-0.4**
KBN				AMd		15 48 38.3	
NEST	**Nestorio**	**0.19**	**123**	Pg	**Pg**	**15 48 05.9**	**-0.7**
NEST				Sg	**Sg**	**15 48 09.4**	**+0.3**
NEST				AML	AML	15 48 13.9	
	7.3nm,0.4s						
NEST				AMd		15 48 45.1	
NEST	**Nestorio**	**0.19**	**123**	P	**Pg**	**15 48 07.0**	**+0.4**
NEST				S	**Sg**	**15 48 11.0**	**+1.9**
NEST	**Nestorio**	**0.19**	**123**	P	**Pg**	**15 48 07.0**	**+0.4**
NEST				S	**Sg**	**15 48 09.1**	**0.0**
LMS2	**Laimos Florina**	**0.39**	**36**	P	**Pg**	**15 48 10.2**	**-0.3**
PENT	**Pentalofos**	**0.40**	**145**	P	**Pg**	**15 48 10.4**	**-0.1**
PENT				S	**Sg**	**15 48 17.3**	**+1.7**
PENT	**Pentalofos**	**0.40**	**145**	P	**Pg**	**15 48 10.3**	**-0.1**
PENT				S	**Sg**	**15 48 15.9**	**+0.3**
FNA	**Florina**	**0.49**	**57**	Pg	**Pg**	**15 48 12.2**	**-0.1**
FNA				Sg	**Sg**	**15 48 20.3**	**+1.6**
FNA				AMd		15 48 52.0	
FNA	**Florina**	**0.49**	**57**	P	**Pg**	**15 48 12.2**	**-0.1**
FNA				S	**Sg**	**15 48 20.2**	**+1.6**
FNA	**Florina**	**0.49**	**57**	*i* Pg	**Pg**	**15 48 12.2**	**-0.1**
FNA				*i* Sg	**Sb**	**15 48 20.5**	**-1.2**
FNA	**Florina**	**0.49**	**57**	*e*Pg	**Pg**	**15 48 12.0**	**-0.3**
FNA				*e*Sg	**Sb**	**15 48 20.5**	**-1.2**
FNA	**Florina**	**0.49**	**57**	P	**Pg**	**15 48 12.2**	**-0.1**
FNA				S	**Sg**	**15 48 17.6**	**-1.0**
OHR	**Ohrid**	**0.59**	**357**	*i* Pg	**Pg**	**15 48 14.4**	**+0.1**
OHR				*i* Sg	**Sg**	**15 48 23.6**	**+1.6**
OHR				*e*Lg	Lg	15 48 24.3	
	comp=E,501nm,0.6s						
OHR				*e*Lg	Lg	15 48 24.6	
	comp=N,166nm,0.4s						
KZN	**Kozani**	**0.74**	**106**	P	**Pg**	**15 48 17.2**	**+0.1**
KZN				S	**Sb**	**15 48 29.6**	**+0.5**
KZN	**Kozani**	**0.74**	**106**	P	**Pg**	**15 48 17.1**	**+0.1**
SRN	**Sarande**	**0.91**	**226**	Pg	**Pg**	**15 48 19.1**	**-1.1**
SRN				Sg	**Sg**	**15 48 32.0**	**+0.1**
SRN				AML	AML	15 48 34.0	
	comp=N,0.7nm,0.4s						
SRN				AMd		15 49 11.3	
IGT	**Igoumenitsa**	**1.06**	**202**	Pn	**Pg**	**15 48 21.7**	**-1.4**
IGT				Sg	**Sg**	**15 48 36.9**	**0.0**
IGT				AML	AML	15 48 46.4	
	comp=N,0.5nm,0.5s						
IGT				AMd		15 49 21.7	
IGT	**Igoumenitsa**	**1.06**	**202**	P	**Pg**	**15 48 22.2**	**-1.0**
IGT				S	**Sb**	**15 48 38.7**	**+0.7**
IGT	**Igoumenitsa**	**1.06**	**202**	*i* Pg	**Pg**	**15 48 22.6**	**-0.6**
IGT				*i* Sg	**Sn**	**15 48 39.6**	**-0.2**
IGT	**Igoumenitsa**	**1.06**	**202**	*e*Pg	**Pg**	**15 48 22.4**	**-0.8**
IGT				*e*Sg	**Sb**	**15 48 38.6**	**+0.5**
KEK	**Kerkira**	**1.13**	**225**	P	**Pn**	**15 48 26.1**	**+0.4**
KEK				S	**Sg**	**15 48 38.8**	**-0.4**
KEK	**Kerkira**	**1.13**	**225**	P	**Pn**	**15 48 26.8**	**+1.2**
KEK				S	**Sn**	**15 48 42.3**	**+0.6**
TETR	**Tetrakomo, Epi**	**1.22**	**164**	P	**Pb**	**15 48 25.3**	**-1.3**
TETR				S	**Sn**	**15 48 44.3**	**+0.4**
TETR	**Tetrakomo, Epi**	**1.22**	**164**	P	**Pb**	**15 48 26.7**	**+0.1**
TETR				S	**Sn**	**15 48 43.2**	**-0.7**
THL	**Klokotos Trika**	**1.31**	**136**	P	**Pn**	**15 48 27.4**	**-0.6**
THL				S	**Sn**	**15 48 46.2**	**+0.2**
THL	**Klokotos Trika**	**1.31**	**136**	P	**Pn**	**15 48 27.7**	**-0.4**
THL				S	**Sb**	**15 48 44.6**	**-0.7**
LIT	**Litokhoron**	**1.33**	**108**	P	**Pn**	**15 48 28.2**	**-0.2**
LIT				S	**Sn**	**15 48 46.9**	**+0.3**
LIT	**Litokhoron**	**1.33**	**108**	*i* Pn	**Pn**	**15 48 28.1**	**-0.2**
LIT	**Litokhoron**	**1.33**	**108**	P	**Pn**	**15 48 28.1**	**-0.2**
TYRN	**Tyrnavos**	**1.34**	**127**	P	**Pn**	**15 48 28.0**	**-0.5**
TYRN				S	**Sg**	**15 48 46.9**	**+1.1**
TYRN	**Tyrnavos**	**1.34**	**127**	P	**Pn**	**15 48 28.3**	**-0.2**
VAY	**Valandovo**	**1.54**	**58**	*i* Pn	**Pn**	**15 48 31.4**	**+0.2**
VAY				*i* Sn	**Sg**	**15 48 54.4**	**+2.1**
VAY				*e*Lg	Lg	15 48 55.2	
	comp=N,75nm,0.8s						
VAY				*e*Lg	Lg	15 48 55.9	
	comp=E,47nm,0.5s						
KNT	**Kendrikon**	**1.69**	**67**	P	**Pn**	**15 48 33.6**	**+0.4**
KNT				S	**Sn**	**15 48 55.1**	**-0.3**
KNT	**Kendrikon**	**1.69**	**67**	*i* Pn	**Pn**	**15 48 33.7**	**+0.4**
KNT	**Kendrikon**	**1.69**	**67**	P	**Pn**	**15 48 33.1**	**-0.2**
TSLK	**Tsoukalades, L**	**1.70**	**185**	P	**Pb**	**15 48 34.8**	**+0.1**
HORT	**Hortiatis**	**1.72**	**87**	P	**Pn**	**15 48 33.1**	**-0.8**
HORT	**Hortiatis**	**1.72**	**87**	P	**Pn**	**15 48 33.1**	**-0.8**
LKD2	**Lefkada island**	**1.73**	**185**	P	**Pn**	**15 48 33.4**	**-0.5**
LKD2				S	**Sg**	**15 48 59.1**	**+0.6**
LKD2	**Lefkada island**	**1.73**	**185**	P	**Pb**	**15 48 35.1**	**-0.2**
EVR	**Evrytania**	**1.77**	**155**	P	**Pn**	**15 48 34.2**	**-0.2**
EVR	**Evrytania**	**1.77**	**155**	P	**Pb**	**15 48 35.5**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.80**	**146**	P	**Pn**	**15 48 35.3**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.80**	**146**	P	**Pb**	**15 48 35.8**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.81**	**184**	P	**Pn**	**15 48 34.8**	**0.0**
NYDR	**Nydri-Lefkada**	**1.81**	**184**	P	**Pb**	**15 48 36.4**	**-0.2**
AGG	**Agios Georgios**	**1.89**	**142**	P	**Pn**	**15 48 35.8**	**-0.2**
AGG	**Agios Georgios**	**1.89**	**142**	P	**Pn**	**15 48 36.0**	**0.0**
EVGI	**Lefkada island**	**1.90**	**184**	P	**Pn**	**15 48 36.6**	**+0.4**
SOKH	**Sokhos**	**1.94**	**80**	Pn	**Pn**	**15 48 37.1**	**+0.8**
PVO	**Paravola**	**1.97**	**164**	P	**Pn**	**15 48 38.3**	**+1.2**
PLG	**Polygyros**	**1.99**	**93**	P	**Pn**	**15 48 37.5**	**-0.1**
FSK	**Fiskardo**	**2.07**	**186**	P	**Pn**	**15 48 39.7**	**+1.3**
ANX	**Ano Chora**	**2.10**	**156**	P	**Pn**	**15 48 40.0**	**+1.1**
SRS	**Serrai**	**2.17**	**73**	*e*Pn	**Pn**	**15 48 39.3**	**-0.7**
SRS				*e*Sn	**Sn**	**15 49 05.7**	**-1.7**
SRS	**Serrai**	**2.17**	**73**	P	**Pn**	**15 48 39.2**	**-0.8**
PDG	**Podgorica**	**2.25**	**329**	*e*Pn	**Pn**	**15 48 42.3**	**+1.3**
PDG				*e*Sn	**Sn**	**15 49 10.6**	**+1.3**
BOSS	**Bosilegrad**	**2.33**	**31**	*e*Pn	**Pn**	**15 48 41.6**	**-0.5**
BOSS				*e*Sn	**Sn**	**15 49 10.2**	**-1.0**
VLS	**Valsamata**	**2.35**	**185**	P	**Pn**	**15 48 43.4**	**+1.1**
AXS	**Araxos**	**2.36**	**170**	P	**Pn**	**15 48 43.2**	**+0.7**
BARS	**Barje**	**2.41**	**17**	*i* Pn	**Pn**	**15 48 42.5**	**-0.7**
BARS	**Barje**	**2.41**	**17**	*e*Pn	**Pn**	**15 48 42.5**	**-0.7**
BARS				*e*Sn	**Sn**	**15 49 13.4**	**+0.2**
SELS	**Selova**	**2.71**	**4**	*e*Pn	**Pn**	**15 48 47.4**	**+0.1**
SELS				*e*Sn	**Sn**	**15 49 21.2**	**+0.6**
VTS	**Vitosha**	**2.76**	**40**	*e*Pn	**Pn**	**15 48 48.1**	**-0.1**
GOCS	**Kraljevo Serbi**	**3.04**	**0**	*e*Pn	**Pn**	**15 48 53.4**	**+1.4**
ZAPS	**Zavoj**	**3.06**	**25**	*e*Pn	**Pn**	**15 48 52.4**	**+0.2**
IVAS	**Ivanjica**	**3.10**	**351**	*e*Pn	**Pn**	**15 48 53.3**	**+0.6**
ZAGS	**Zajecar**	**3.45**	**17**	*e*Pn	**Pn**	**15 48 57.7**	**+0.2**

TIR 31 15:56:14.8, 40˚.47N×20˚.89E, h28km±1km, **Md2.0**/3, **Ml1.7**/1, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEST	**Nestorio**	**0.13**	**115**	Pg	Pb	15 56 20.3	0.0
NEST				Sg	Sb	15 56 24.6	+0.5
NEST				AML	AML	15 56 35.5	
	0.4nm,0.4s						
NEST				AMd		15 56 54.5	
KBN	**Korca**	**0.17**	**332**	Pg	Pb	15 56 17.6	-3.1
KBN				Sg	Sb	15 56 24.4	-0.3
KBN				AMd		15 56 42.2	
KBN	**Korca**	**0.17**	**332**	Pg	Pb	15 56 17.6	-3.1
KBN				Sg	Sb	15 56 19.5	-5.1
KBN				AMd		15 56 42.2	
FNA	**Florina**	**0.48**	**49**	Pg	Pb	15 56 25.4	+0.4
FNA				Sg	Sn	15 56 33.1	-0.3
FNA				AMd		15 57 08.3	

*JMA **31** 16:10:19.4±0.4, 22˚N±2˚×14˚3E±˚, h336km±1km, MARIANA ISLANDS REGION*
*NEIC **31** 16:10:20.0±1.6, 21˚.59N±0˚.07×143˚.1E±0˚.1, h317km±5km, mb4.7/400, Error ellipse: s-maj=14.8km s-min=9.2km az=74.0*
*IDC **31** 16:10:20.6±0.9, 21˚.55N×143˚.10E, h331km±7km, mb4.4/32, mbtmp5.1/38, Error ellipse: s-maj=11.0km s-min=5.8km az=82.0*
*BJI **31** 16:10:20.1, 21˚.87N×142˚.96E, h318km, mB5.0/7, mb4.7/55*

ISC 31 16:10:20.4±0.5, **21˚.57N**±0˚.04×**143˚.13E**±0˚.06, **h330**km±4km, **n708, σ1°05/587, mb4.7**/235, **3C-1D, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**5.11**	**350**	P	**Pn**	**16 11 40.0**	**-0.3**
JHH2				*e*S	**S**	**16 12 42.8**	**-2.1**
JCJ	**Chichijima**	**5.57**	**351**		**Pn**	**16 11 44.2**	**-1.2**
JCJ	**Chichijima**	**5.57**	**351**	P	**Pn**	**16 11 44.5**	**-0.9**
	289nm,0.3s,baz=188,slow=2.8,SNR=106						
JCJ				S	**S**	**16 12 50.5**	**-3.8**
	294nm,0.4s,baz=118,slow=23,SNR=14						
JCJ	**Chichijima**	**5.57**	**351**	P	**Pn**	**16 11 44.6**	**-0.9**
CBIJ	**Chichi˙jima**	**5.57**	**351**	P	**Pn**	**16 11 44.6**	**-0.9**
CBIJ				*e*S	**S**	**16 12 52.1**	**-2.2**
GUMO	**Guam**	**8.11**	**168**		**Pn**	**16 12 16.2**	**+0.5**
GUMO	**Guam**	**8.11**	**168**	P	**Pn**	**16 12 16.5**	**+0.8**
	664nm,0.9s,baz=47,slow=3.1,SNR=61						
GUMO				S	**S**	**16 13 51.7**	**+2.1**
	12nm,0.3s,baz=343,slow=20,SNR=1.1						
GUMO	**Guam**	**8.11**	**168**	P	**Pn**	**16 12 16.6**	**+0.9**
JHCJ	**Hachijojimakas**	**11.83**	**346**	P	**Pn**	**16 12 59.6**	**-0.7**
JHJ2	**Mitsune**	**11.87**	**346**		**Pn**	**16 12 59.6**	**-1.1**
JHJ2	**Mitsune**	**11.87**	**346**	P	**Pn**	**16 13 00.4**	**-0.3**
JHJ2	**Mitsune**	**11.87**	**346**	S	**S**	**16 15 13.8**	**+0.8**
JHJ2	**Mitsune**	**11.87**	**346**	P	**Pn**	**16 12 59.5**	**-1.1**
JHJ	**Hachijo jima 2**	**11.88**	**346**	P	**Pn**	**16 12 59.6**	**-1.3**
	159nm,0.3s,baz=253,slow=9.4,SNR=45						
JHJ				S	**S**	**16 15 08.8**	**-4.6**
	185nm,0.5s,baz=54,slow=22,SNR=9.0						
JMKN	**Mikurajimanish**	**12.67**	**346**	P	**P**	**16 13 10.1**	**-0.1**
JMYK	**Miyake Tsubota**	**12.84**	**346**	P	**Pn**	**16 13 12.2**	**-0.1**
BSO1	**Boso 1**	**13.17**	**352**	P	**Pn**	**16 13 15.9**	**+0.3**
BSO3	**Boso 3**	**13.38**	**351**	*e*P	**Pn**	**16 13 18.7**	**+0.2**
BSO4	**Boso 4**	**13.59**	**350**	P	**Pn**	**16 13 21.9**	**+0.8**
JTNC	**Tanabenakahech**	**13.89**	**333**	P	**Pn**	**16 13 25.5**	**+0.7**
JIE	**Ise**	**13.97**	**337**	P	**Pn**	**16 13 25.4**	**-0.3**
JKN2	**Miekihoku**	**13.99**	**336**	*e*P	**Pn**	**16 13 25.7**	**-0.3**
JOW	**Kunigami**	**14.53**	**294**	P	**Pn**	**16 13 31.7**	**-0.7**
	42nm,0.8s,baz=116,slow=9.2,SNR=5.4						
JOW	**Kunigami**	**14.53**	**294**	P	**Pn**	**16 13 32.2**	**-0.2**
JMN	**Monobe**	**14.61**	**328**	Pn	**Pn**	**16 13 34.0**	**+0.6**
JMN	**Monobe**	**14.61**	**328**	P	**Pn**	**16 13 33.6**	**+0.3**
JMN	**Monobe**	**14.61**	**328**	S	**S**	**16 16 11.8**	**+1.3**
INU	**Inuyama**	**14.74**	**340**		**P**	**16 13 32.6**	**-0.4**
INU	**Inuyama**	**14.74**	**340**	P	**P**	**16 13 33.2**	**+0.2**
JGF	**Kuroka**	**14.87**	**341**	Pn	**Pn**	**16 13 35.5**	**-0.7**
JGF	**Kuroka**	**14.87**	**341**	P	**Pn**	**16 13 36.1**	**-0.1**
JGF	**Kuroka**	**14.87**	**341**	S	**S**	**16 16 17.7**	**+2.3**
MJAR	**Matsushiro Arr**	**15.52**	**345**	P	**P**	**16 13 41.2**	**-0.4**
MJAR				IAmb	IAmb	16 13 43.3	
	comp=Z,21nm,0.9s						
MJAR	**Matsushiro Arr**	**15.52**	**345**	P	**P**	**16 13 41.0**	**-0.6**
	comp=Z,26nm,0.7s,baz=161,slow=8.3,SNR=75						
MJAR				S	**S**	**16 16 20.0**	**-8.5**
	comp=Z,11nm,0.8s,baz=147,slow=14,SNR=4.6						
MJAR				ScP	**ScP**	**16 21 24.7**	**-0.2**
	comp=Z,3.4nm,0.9s,baz=186,slow=2.5,SNR=8.7						
MAJO	**Matsushiro**	**15.52**	**345**	P	**P**	**16 13 41.7**	**+0.2**
MAJO				IAmb	IAmb	16 13 43.5	
	comp=Z,52nm,1.0s						
MAJO	**Matsushiro**	**15.52**	**345**	P	**P**	**16 13 42.3**	**+0.7**
MAJO	**Matsushiro**	**15.52**	**345**	S	**S**	**16 16 30.0**	**+1.5**
MJB9	**Matsu-Tunnel**	**15.53**	**345**	P	**P**	**16 13 41.7**	**+0.1**
MJB9				IAmb	IAmb	16 13 43.5	
	comp=Z,48nm,1.0s						
JNU	**Nakatsue**	**15.82**	**319**	P	**Pn**	**16 13 46.6**	**-0.8**
JNU	**Nakatsue**	**15.82**	**319**	P	**Pn**	**16 13 46.4**	**-1.0**
	comp=Z,40nm,1.0s,baz=97,slow=1.7,SNR=22						
JNU				S	**S**	**16 16 36.6**	**+2.0**
	comp=Z,11nm,1.1s,baz=180,slow=19,SNR=2.0						
JNU	**Nakatsue**	**15.82**	**319**	P	**Pn**	**16 13 46.4**	**-1.0**
JMM	**Marumori**	**16.36**	**353**	P	**Pn**	**16 13 52.4**	**-1.2**
JMM	**Marumori**	**16.36**	**353**	P	**Pn**	**16 13 52.4**	**-1.2**
JMM	**Marumori**	**16.36**	**353**	S	**S**	**16 16 47.3**	**+2.1**
JSD	**Sado**	**16.94**	**347**	P	**P**	**16 13 57.4**	**+0.5**
YOJ	**Yonaguni jima**	**18.75**	**283**	P	**P**	**16 14 16.8**	**+0.4**
YOJ	**Yonaguni jima**	**18.75**	**283**	P	**P**	**16 14 16.6**	**+0.3**
JTM	**Tenmabayashi**	**19.24**	**355**	P	**P**	**16 14 21.8**	**+0.4**
JTM	**Tenmabayashi**	**19.24**	**355**	P	**P**	**16 14 22.7**	**+1.3**
NACB	**Ninganchiao**	**20.01**	**282**	P	**P**	**16 14 28.3**	**-1.5**
NACB				IAmb	IAmb	16 14 30.8	
	comp=Z,35nm,1.1s						
TJN	**Taejon**	**20.16**	**320**	P	**P**	**16 14 30.3**	**-0.7**
TJN	**Taejon**	**20.16**	**320**	P	**P**	**16 14 30.5**	**-0.5**
YHNB	**Yeheng**	**20.25**	**283**	P	**P**	**16 14 31.1**	**-1.0**
YHNB	**Yeheng**	**20.25**	**283**	P	**P**	**16 14 31.1**	**-1.0**
YULB	**Yu-li**	**20.26**	**279**	P	**P**	**16 14 31.3**	**-0.9**
YULB				IAmb	IAmb	16 14 37.4	
	comp=Z,20nm,0.7s						
TWG	**Pinlang**	**20.47**	**278**	P	**P**	**16 14 33.0**	**-1.2**
TWG				IAmb	IAmb	16 14 37.8	
	comp=Z,22nm,0.7s						
SSLB	**Suanglung**	**20.58**	**280**	P	**P**	**16 14 35.0**	**-0.2**
SSLB	**Suanglung**	**20.58**	**280**	P	**P**	**16 14 35.3**	**0.0**
KSRS	**Korea Array**	**20.59**	**324**	P	**P**	**16 14 34.4**	**-0.7**
	comp=Z,65nm,0.6s,baz=146,slow=8.1,SNR=308						
KSRS				ScP	**ScP**	**16 21 37.1**	**+1.3**
	comp=Z,2.6nm,0.9s,baz=110,slow=2.3,SNR=9.5						
	comp=Z,65nm,0.6s						
KSAR	**Wonju Array Be**	**20.60**	**323**	P	**P**	**16 14 35.3**	**+0.1**
KS19	**Wonju Array Si**	**20.65**	**324**	P	**P**	**16 14 34.2**	**-1.5**
TPUB	**Ta-pu**	**20.87**	**279**	P	**P**	**16 14 37.0**	**-0.1**
INCN	**Inchon**	**21.34**	**322**	P	**P**	**16 14 41.7**	**-0.3**
TGY	**Tagaytay City**	**22.38**	**254**	P	**P**	**16 14 52.3**	**+0.5**
	comp=Z,125nm,0.3s,baz=104,slow=4.2,SNR=3.6						
	comp=Z,125nm,0.3s						
JKA	**Kamikawa-asahi**	**22.49**	**359**	P	**P**	**16 14 53.6**	**+1.3**
SMPI	**Sarmi**	**23.81**	**191**	P	**P**	**16 15 03.8**	**-0.9**
	comp=Z,24nm,1.1s						
MANU

KSM **Kuching** 37.70 242 P **P** 16 17 05.0 -0.5
PZH **PanZhiHua** 38.00 286 P **P** 16 17 08.0 0.0
PZH pmax pmax
comp=Z,30nm,1.1s
MA2 **Magadan** 38.36 6 **P** 16 17 10.3 0.0
MA2 **Magadan** 38.36 6 P **P** 16 17 10.7 +0.4
MA2 **Magadan** 38.36 6 P **P** 16 17 10.4 +0.1
comp=Z,16nm,0.8s
SONM **Songino Array** 39.41 321 P **P** 16 17 19.6 +0.3
SONM **Songino Array** 39.41 321 P **P** 16 17 19.4 +0.1
comp=Z,6.7nm,0.4s,baz=131,slow=7.5,SNR=49
SONM PcP **PcP** 16 19 20.3 +0.2
comp=Z,0.8nm,0.4s,baz=135,slow=2.5,SNR=4.1
SONM ScP **ScP** 16 22 37.6 +0.9
comp=Z,0.8nm,0.6s,baz=132,slow=2.1,SNR=3.1
comp=Z,6.7nm,0.4s
KNRA **Kununurra** 39.61 202 P **P** 16 17 20.7 -0.4
GTA **Gaotai** 40.91 306 P **P** 16 17 32.3 +0.6
GTA PcP **PcP** 16 19 26.0 +0.9
GTA pmax pmax
comp=Z,18nm,1.1s
TNCH **TengChong** 40.98 284 P **P** 16 17 33.0 +0.5
TNCH pmax pmax
comp=Z,32nm,1.1s
JAGI **Jajag, Banyuwa** 41.24 227 P **P** 16 17 33.2 -1.2
CHTO **Chiang Mai** 41.47 274 P **P** 16 17 36.7 +0.5
CHTO **Chiang Mai** 41.47 274 P **P** 16 17 36.8 +0.5
YAK **Yakutsk** 41.48 350 P **P** 16 17 35.4 -0.3
CTAO **Charters Tower** 41.52 176 P **P** 16 17 36.9 +0.4
CTAO IAmb IAmb 16 17 38.0
comp=Z,29nm,0.8s
CTAO **Charters Tower** 41.52 176 P **P** 16 17 37.1 +0.6
CM31 **Chiang Mai Arr** 41.54 274 P **P** 16 17 37.5 +0.7
CMAR **Chiang Mai Arr** 41.54 274 P **P** 16 17 37.1 +0.3
CMAR **Chiang Mai Arr** 41.54 274 P **P** 16 17 37.7 +0.8
comp=Z,13nm,0.7s,baz=81,slow=6.1,SNR=69
CMAR PcP **PcP** 16 19 28.5 +1.1
comp=Z,1.1nm,0.8s,baz=106,slow=3.8,SNR=2.2
comp=Z,13nm,0.7s
QIS **Mount Isa** 42.01 185 P **P** 16 17 40.7 +0.2
WRAB **Tennant Creek** 42.13 192 P **P** 16 17 41.6 0.0
WRAB IAmb IAmb 16 17 42.6
comp=Z,26nm,0.5s
WRA **Warramunga Arr** 42.15 192 P **P** 16 17 40.7 -0.9
WRA **Warramunga Arr** 42.15 192 P **P** 16 17 41.6 0.0
comp=Z,9.5nm,0.4s,baz=17,slow=9.2,SNR=238
WRA PcP **PcP** 16 19 29.5 +0.3
comp=Z,4.2nm,1.0s,baz=11,slow=3.5,SNR=5.2
WRA ScP **ScP** 16 22 49.9 +2.1
comp=Z,2.4nm,0.7s,baz=12,slow=4.5,SNR=10
WRA S **S** 16 23 34.4 -1.8
comp=Z,1.2nm,0.6s,baz=345,slow=13,SNR=7.8
comp=Z,9.5nm,0.4s
UGM **Wanagama** 43.39 231 P **P** 16 17 51.1 -0.6
SRIT **Nakonsritamara** 43.81 260 P **P** 16 17 55.4 +0.4
SRIT IAmb IAmb 16 17 57.5
comp=Z,47nm,1.0s
SRIT **Nakonsritamara** 43.81 260 P **P** 16 17 56.7 +1.7
KULM **Kulim** 44.19 255 IAmb IAmb 16 18 00.1
comp=Z,40nm,0.6s
KULM **Kulim** 44.19 255 P **P** 16 17 59.2 +1.2
IPM **Ipoh** 44.21 253 P **P** 16 17 58.2 0.0
IPM IAmb IAmb 16 17 59.9
comp=Z,31nm,0.8s
IPM **Ipoh** 44.21 253 P **P** 16 17 59.0 +0.8
GOMU **GeErMu** 44.31 300 P **P** 16 18 00.0 +0.9
GOMU PcP **PcP** 16 19 38.0 +1.1
GOMU pmax pmax
comp=Z,29nm,0.8s
ATKA **Atka Island** 44.82 36 P **P** 16 18 02.9 +0.6
ATKA IAmb IAmb 16 18 05.9
comp=Z,38nm,0.8s
AS01 **Alice Springs** 45.84 192 P **P** 16 18 11.1 +0.4
ASAR **Alice Springs** 45.85 192 P **P** 16 18 10.2 -0.6
ASAR **Alice Springs** 45.85 192 P **P** 16 18 10.3 -0.4
comp=Z,5.1nm,0.3s,baz=10,slow=7.4,SNR=231
ASAR ScP **ScP** 16 23 04.1 +1.2
comp=Z,0.8nm,0.7s,baz=16,slow=4.5,SNR=6.3
ASAR S **S** 16 24 28.2 -1.3
comp=Z,4.8nm,0.7s,baz=18,slow=19,SNR=30
comp=Z,5.1nm,0.3s
PSI **Prapat** 46.83 253 P **P** 16 18 19.4 +0.7
RPSI **Rantau Prapat** 46.88 253 IAmb IAmb 16 18 20.3
comp=Z,35nm,1.1s
SHL **Shillong** 46.91 285 P **P** 16 18 18.7 -0.5
PDSI **Padang** 47.27 247 P **P** 16 18 21.2 -0.7
comp=Z,47nm,0.7s
EIDS **Eidsvold** 47.29 170 P **P** 16 18 21.8 0.0
QLP **Quilpie** 47.88 179 P **P** 16 18 26.0 -0.2
BILL **Bilibino** 48.65 11 P **P** 16 18 32.3 +0.7
BILL IAmb IAmb 16 18 33.1
comp=Z,33nm,0.6s
GSI **Gunungsitoli** 48.71 252 P **P** 16 18 32.7 -0.2
DZM **Mont Dzumac** 48.98 151 P **P** 16 18 34.1 -0.7
DZM **Mont Dzumac** 48.98 151 P **P** 16 18 34.4 -0.3
comp=Z,12nm,0.9s,baz=8.1,slow=7.1,SNR=4.2
comp=Z,12nm,0.9s
SPIA **Saint Paul Isl** 49.10 32 P **P** 16 18 35.1 0.0
baz=244
UNV **Unalaska Valle** 49.74 37 P **P** 16 18 40.0 +0.1
baz=250
AKUT **Akutan** 50.24 37 P **P** 16 18 44.1 +0.5
TIXI **Tiksi** 50.77 354 P **P** 16 18 47.1 -0.2
TIXI IAmb IAmb 16 18 50.2
comp=Z,21nm,0.8s
EVN **Everest** 51.16 289 P **P** 16 18 52.4 +0.7
GAMB **Gambell** 51.75 24 P **P** 16 18 55.4 +0.7
baz=237
FALS **False Pass** 51.77 36 P **P** 16 18 55.1 +0.1
baz=252
MSVF **Nonsavu** 51.92 136 P **P** 16 18 55.5 -1.1
M11K **Mekoryuk** 52.39 29 P **P** 16 19 00.0 +0.7
baz=245
S12K **Black Hills** 52.77 36 P **P** 16 19 02.3 +0.1
baz=253
STKA **Stephens Creek** 53.16 182 P **P** 16 19 05.1 -0.2
STKA **Stephens Creek** 53.16 182 P **P** 16 19 05.2 -0.2
comp=Z,8.1nm,0.6s,baz=340,slow=8.0,SNR=25
STKA S **S** 16 26 07.3 -2.7
comp=Z,0.9nm,0.6s,baz=298,slow=21,SNR=1.9
comp=Z,8.1nm,0.6s
STKA **Stephens Creek** 53.16 182 P **P** 16 19 05.7 +0.4
SDPT **Sand Point** 53.54 36 P **P** 16 19 08.0 +0.2
baz=255
M13K **Dall Lake** 53.70 30 P **P** 16 19 09.5 +0.6
baz=248
K13K **Kusilvak Mount** 53.71 28 P **P** 16 19 10.7 +1.8
K13K **Kusilvak Mount** 53.71 28 P **P** 16 19 09.9 +1.0
baz=246,SNR=5.1
CHNA **Chernabura Isl** 53.90 37 P **P** 16 19 11.2 +0.9
baz=256
TNA **Tin City** 54.07 23 P **P** 16 19 12.8 +1.4
baz=240
ZAA0 **Zalesovo Array** 54.28 322 IAmb IAmb 16 19 14.0
comp=Z,38nm,0.8s
ZALV **Zalesovo Beam** 54.28 322 P **P** 16 19 13.1 -0.1
ZALV **Zalesovo Beam** 54.28 322 P **P** 16 19 12.8 -0.4
comp=Z,33nm,0.6s,baz=103,slow=7.1,SNR=133
ZALV PcP **PcP** 16 20 12.2 -0.5
comp=Z,14nm,0.6s,baz=127,slow=3.8,SNR=14
ZALV ScP **ScP** 16 23 38.7 +0.1
comp=Z,0.5nm,0.4s,baz=135,slow=7.3,SNR=1.8
comp=Z,33nm,0.6s
O14K **Tigyukauivet M** 54.28 31 P **P** 16 19 13.9 +0.8
baz=251
S14K **Fog Glacier** 54.29 35 P **P** 16 19 13.9 +0.6
baz=255
N14K **Kuskokwak Cree** 54.30 31 P **P** 16 19 13.9 +0.7
baz=250
L14K **Kuka Creek** 54.35 29 P **P** 16 19 14.3 +0.9
baz=248
M14K **Bethel** 54.46 30 IAmb IAmb 16 19 16.8
comp=Z,27nm,0.9s
M14K **Bethel** 54.46 30 P **P** 16 19 15.3 +1.0
baz=249,SNR=5.5
BBOO **Buckleboo** 54.50 187 P **P** 16 19 14.4 -0.5
J14K **Nanvaranak Lak** 54.52 27 P **P** 16 19 15.5 +0.9
baz=246
F14K **Arctic Creek** 54.61 23 P **P** 16 19 16.1 +0.8
baz=242
MKAR **Makanchi Array** 54.75 313 P **P** 16 19 17.0 +0.3
MKAR **Makanchi Array** 54.75 313 P **P** 16 19 17.2 +0.6
comp=Z,28nm,0.6s,baz=91,slow=8.9,SNR=352
MKAR PcP **PcP** 16 20 14.9 +0.3
comp=Z,5.8nm,0.6s,baz=80,slow=5.9,SNR=7.1
MKAR ScP **ScP** 16 23 41.6 +0.6
comp=Z,0.7nm,0.8s,baz=89,slow=4.0,SNR=2.9
comp=Z,28nm,0.6s
CHGN **Chignik** 54.91 35 IAmb IAmb 16 19 19.3
comp=Z,18nm,0.8s
CHGN **Chignik** 54.91 35 P **P** 16 19 18.1 +0.6
baz=256
O15K **Ungalikthiuk R** 54.96 32 P **P** 16 19 18.8 +0.8
O15K **Ungalikthiuk R** 54.96 32 P **P** 16 19 18.7 +0.8
baz=253,SNR=5.3
MAKZ **Makanchi** 54.97 313 P **P** 16 19 18.7 +0.5
L15K **Ungalak Mounta** 55.01 29 P **P** 16 19 18.8 +0.6
baz=249
M15K **Kasigluk River** 55.03 30 P **P** 16 19 19.2 +0.8
baz=251
N15K **Kwethluk River** 55.14 31 P **P** 16 19 20.3 +1.2
N15K IAmb IAmb 16 19 21.4
comp=Z,25nm,0.8s
N15K **Kwethluk River** 55.14 31 P **P** 16 19 19.8 +0.7
baz=252,SNR=8.5
K15K **Wolf Creek Mou** 55.21 28 P **P** 16 19 20.6 +1.0
baz=249
G15K **Niukluk** 55.26 24 P **P** 16 19 20.7 +0.9
baz=245
F15K **North Star Dit** 55.34 23 P **P** 16 19 21.6 +1.1
baz=244
R16K **Pilot Point** 55.66 34 P **P** 16 19 24.0 +1.1
baz=256
H16K **Elim** 55.81 25 P **P** 16 19 24.6 +0.8
baz=247
P16K **Nushagak River** 55.83 32 P **P** 16 19 25.1 +1.1
baz=254
N16K **Nishlik Lake** 55.86 31 P **P** 16 19 25.2 +1.0
baz=253,SNR=12
O16K **Kokwok River B** 55.93 32 P **P** 16 19 25.2 +0.4
baz=254,SNR=6.5
M16K **Timber Creek** 55.94 30 P **P** 16 19 25.9 +1.1
baz=252
J16K **Anvik River** 55.97 27 P **P** 16 19 25.6 +0.7
baz=249,SNR=5.5
I17K **Unalakleet** 56.14 26 P **P** 16 19 27.4 +1.3
baz=249
C16K **Lisburne Hills** 56.30 21 P **P** 16 19 28.3 +1.1
baz=241
R17L **Mt. Peulik Vol** 56.31 34 P **P** 16 19 28.7 +1.2
baz=257
CHIR **Chirikof Islan** 56.33 36 P **P** 16 19 28.8 +1.2
baz=259
Q16K **King Salmon** 56.41 33 P **P** 16 19 29.4 +1.4
baz=256
O17K **Koliganek Bris** 56.47 32 P **P** 16 19 29.4 +0.9
baz=255,SNR=11
L17K **Donlin** 56.58 29 P **P** 16 19 30.4 +1.1
baz=252,SNR=10
N17K **Nushagak Hills** 56.63 31 P **P** 16 19 31.3 +1.7
N17K **Nushagak Hills** 56.63 31 P **P** 16 19 31.0 +1.4
baz=254,SNR=7.7
P17K **Kvichak River** 56.65 32 P **P** 16 19 30.2 +0.4
baz=256
J17K **VABM Dome** 56.65 27 P **P** 16 19 31.4 +1.7
J17K **VABM Dome** 56.65 27 P **P** 16 19 30.6 +0.9
baz=251,SNR=5.2
Q17K **Contact Creek** 56.70 34 P **P** 16 19 30.9 +0.6
baz=257
M17K **Holitna River** 56.76 30 IAmb IAmb 16 19 33.1
comp=Z,19nm,0.9s
M17K **Holitna River** 56.76 30 P **P** 16 19 31.5 +1.0
baz=253,SNR=6.6
K17K **Iditarod** 56.76 28 IAmb IAmb 16 19 33.2
comp=Z,36nm,0.8s
K17K **Iditarod** 56.76 28 P **P** 16 19 31.4 +0.9
baz=252,SNR=12
G17K **Kiwalik Mounta** 56.77 24 P **P** 16 19 31.4 +0.9
baz=248
D17K **Noatak River** 56.79 22 P **P** 16 19 31.8 +1.2
baz=244
H17K **Granite Mounta** 56.84 25 P **P** 16 19 32.3 +1.3
baz=249
E17K **Hotham Inlet** 56.96 23 P **P** 16 19 32.8 +1.0
baz=246
C17K **DeLong Mountai** 57.10 21 P **P** 16 19 33.4 +0.6
baz=243
Q18K **Katmai Hardscr** 57.24 33 P **P** 16 19 33.7 -0.4
baz=258,SNR=5.9
SII **Sitkinak Islan** 57.26 36 IAmb IAmb 16 19 36.0
comp=Z,24nm,0.8s
SII **Sitkinak Islan** 57.26 36 P **P** 16 19 34.9 +0.8
baz=260
N18K **Kilae Creek** 57.28 31 IAmb IAmb 16 19 36.2
comp=Z,13nm,0.6s
N18K **Kilae Creek** 57.28 31 P **P** 16 19 35.2 +0.9
baz=255,SNR=9.0
P18K **Big Mountain,** 57.30 32 P **P** 16 19 34.6 +0.2
baz=257
R18K **Karluk** 57.30 35 P **P** 16 19 34.6 +0.3
baz=259
L18K **Granite Mounta** 57.33 29 P **P** 16 19 35.2 +0.8
baz=254,SNR=6.9
O18K **Koktuh Hills** 57.41 32 IAmb IAmb 16 19 37.4
comp=Z,33nm,0.8s
O18K **Koktuh Hills** 57.41 32 P **P** 16 19 36.1 +0.9
baz=257,SNR=11
M18K **Stony River** 57.52 30 P **P** 16 19 37.0 +1.2
baz=255,SNR=14
E18K **Tukpahlearik C** 57.53 22 P **P** 16 19 37.5 +1.7
E18K **Tukpahlearik C** 57.53 22 P **P** 16 19 36.7 +0.9
baz=247
H18K **Honhosa River** 57.54 25 P **P** 16 19 36.6 +0.8
baz=250
KURK **Kurchatov** 57.54 317 P **P** 16 19 36.0 -0.1
F18K **Selawik** 57.56 23 P **P** 16 19 36.7 +0.7
baz=248
KURBB **Kurchatov Arra** 57.58 317 P **P** 16 19 36.5 +0.1
comp=Z,92nm,0.6s,baz=94,slow=7.5,SNR=1142
KURBB PcP **PcP** 16 20 24.9 -0.8
comp=Z,2.9nm,0.6s,baz=96,slow=4.1,SNR=4.0
comp=Z,92nm,0.6s
J18K **Innoko River** 57.68 27 P **P** 16 19 37.5 +0.6
baz=253
G18K **Tagagawik** 57.68 24 P **P** 16 19 37.5 +0.7
baz=250,SNR=7.1
C18K **Utukok River** 57.84 21 P **P** 16 19 38.6 +0.6
baz=245,SNR=5.5
OHAK **Old Harbor** 57.86 35 P **P** 16 19 38.5 +0.3
baz=260
O19K **Port Alsworth** 57.92 32 P **P** 16 19 38.9 +0.3
baz=257
B18K **Kokolik River** 57.94 20 P **P** 16 19 39.6 +1.1
baz=244
N19K **Bonanza Creek** 57.99 31 IAmb IAmb 16 19 41.5
comp=Z,16nm,0.8s
N19K **Bonanza Creek** 57.99 31 P **P** 16 19 40.1 +1.0
baz=257,SNR=9.5
Q19K **Cape Douglas,** 57.99 33 P **P** 16 19 39.6 +0.4
baz=259
GCSA **Galena City Sc** 58.00 26 P **P** 16 19 40.0 +0.9
baz=252
L19K **White Mountain** 58.15 29 P **P** 16 19 41.1 +0.9
baz=256,SNR=9.7
KDJ **Kajisay** 58.24 307 IAmb IAmb 16 19 43.4
comp=Z,40nm,1.3s
M19K **Big River Lodg** 58.29 30 P **P** 16 19 41.8 +0.7
baz=256
J19K **Poorman** 58.30 27 IAmb IAmb 16 19 43.2
comp=Z,16nm,0.7s
J19K **Poorman** 58.30 27 P **P** 16 19 41.8 +0.6
baz=254,SNR=14
KDAK **Kodiak Island** 58.33 35 P **P** 16 19 41.8 +0.4
baz=260
F19K **Shaleruckik Mo** 58.34 24 P **P** 16 19 41.9 +0.6
baz=250
P19K **Oil Pt** 58.34 32 P **P** 16 19 41.7 +0.1
baz=258
G19K **Purcell Mounta** 58.37 24 P **P** 16 19 42.3 +0.8
baz=251,SNR=9.9
H19K **Roundabout Mou** 58.42 25 IAmb IAmb 16 19 44.2
comp=Z,19nm,0.7s
H19K **Roundabout Mou** 58.42 25 P **P** 16 19 42.8 +0.9
baz=252,SNR=21
A19K **Wainwright** 58.54 19 P **P** 16 19 43.7 +1.1
baz=245
C19K **Lookout Ridge** 58.55 21 P **P** 16 19 43.6 +0.7
baz=247,SNR=11
Q20K **Shuyak Island** 58.57 34 P **P** 16 19 43.9 +0.8
baz=260
L20K **Farewell, AK** 58.66 29 P **P** 16 19 44.5 +0.8
baz=256,SNR=6.4
O20K **Slope Mountain** 58.73 32 P **P** 16 19 44.6 +0.4
baz=259
E19K **Redstone River** 58.76 23 IAmb IAmb 16 19 46.4
comp=Z,20nm,1.1s
E19K **Redstone River** 58.76 23 P **P** 16 19 45.4 +1.2
baz=250
K20K **Telida** 58.79 28 P **P** 16 19 45.6 +1.1
baz=256,SNR=13
D19K **Kuna River** 58.81 22 IAmb IAmb 16 19 46.1
comp=Z,12nm,0.6s
D19K **Kuna River** 58.81 22 P **P** 16 19 45.3 +0.6
baz=248
M20K **Styx River** 58.87 30 P **P** 16 19 46.1 +1.0
baz=257,SNR=10
TOO **Toolangi** 58.87 178 P **P** 16 19 46.6 +1.3
J20K **Nowinta River** 58.97 27 IAmb IAmb 16 19 47.9
comp=Z,15nm,0.6s
J20K **Nowinta River** 58.97 27 P **P** 16 19 46.7 +1.0
baz=255,SNR=25
I20K **Naaghedeneel** 59.00 26 IAmb IAmb 16 19 48.5
comp=Z,32nm,1.1s
I20K **Naaghedeneel** 59.00 26 P **P** 16 19 47.0 +1.1
baz=254,SNR=7.5
H20K **Anotleneega Mo** 59.03 25 P **P** 16 19 47.1 +1.0
baz=254,SNR=14
HOM **Homer** 59.14 32 P **P** 16 19 47.2 +0.2
baz=260
F20K **Avaraart Lake** 59.17 24 P **P** 16 19 47.7 +0.7
baz=252,SNR=16
KSH **Kashi** 59.26 304 P **P** 16 19 52.0 +3.7
KSH pmax pmax
comp=Z,20nm,0.8s
TKM2 **Tokmak 2** 59.38 308 P **P** 16 19 50.4 +1.2
SNR=34
E20K **Nigu River** 59.40 22 P **P** 16 19 49.7 +1.0
baz=251
D20K **Etivluk River** 59.41 22 P **P** 16 19 50.0 +1.3
baz=250
PPLA **Purkeypile** 59.52 29 P **P** 16 19 50.6 +1.0
baz=258
BRLK **Bradley Lake** 59.53 32 IAmb IAmb 16 19 50.2
comp=Z,18nm,0.8s
IMAR **Indian Mountai** 59.62 25 P **P** 16 19 51.1 +1.0
SKT **Skwentna** 59.63 30 IAmb IAmb 16 19 51.2
comp=Z,13nm,0.8s
SKT **Skwentna** 59.63 30 P **P** 16 19 50.5 +0.2
baz=259,SNR=16
CAST **Castle Rocks** 59.68 28 IAmb IAmb 16 19 52.6
comp=Z,26nm,0.8s
CAST **Castle Rocks** 59.68 28 P **P** 16 19 51.3 +0.7
baz=257,SNR=50
CHUM **Lake Minchumin** 59.68 28 P **P** 16 19 51.4 +0.9
baz=257,SNR=15
B20K **Meade River** 59.69 20 P **P** 16 19 51.3 +0.8
baz=249,SNR=9.5
G21K **Allakaket** 59.86 24 IAmb IAmb 16 19 54.1
comp=Z,16nm,0.9s
G21K **Allakaket** 59.86 24 P **P** 16 19 52.8 +1.1
baz=254
KBK **Karagaybulak** 59.87 308 P **P** 16 19 53.6 +1.1
SNR=11
SUA **Susitna One** 59.90 31 P **P** 16 19 52.3 +0.1
baz=260,SNR=6.3
H21K **Melozitna Rive** 59.91 26 IAmb IAmb 16 19 54.5
comp=Z,22nm,0.8s
H21K **Melozitna Rive** 59.91 26 P **P** 16 19 53.1 +1.1
baz=255,SNR=31
SLKM **Skilak Lake** 59.98 32 IAmb IAmb 16 19 54.2
comp=Z,46nm,1.5s
CHMS **Chumysh** 60.00 308 P **P** 16 19 53.9 +0.8
SNR=6.4
F21K **Alatna River** 60.06 24 P **P** 16 19 53.7 +0.6
baz=254,SNR=9.7
I21K **Tanana** 60.12 26 P **P** 16 19 54.9 +1.4
I21K IAmb IAmb 16 19 56.1
comp=Z,25nm,0.8s
I21K **Tanana** 60.12 26 P **P** 16 19 54.8 +1.4
baz=256
USP **Ospenovka** 60.18 308 P **P** 16 19 55.1 +0.8
SNR=17
C21K **Knifeblade Rid** 60.18 21 P **P** 16 19 54.9 +1.1
baz=252,SNR=5.3
UCH **Uchtor** 60.21 307 P **P** 16 19 56.7 +1.6
SNR=32
O22K **Cooper Landing** 60.22 32 P **P** 16 19 54.2 0.0
O22K **Cooper Landing** 60.22 32 P **P** 16 19 54.6 +0.4
baz=261,SNR=7.3
E21K **Killik River** 60.24 22 P **P** 16 19 55.0 +0.7
baz=253,SNR=8.3
M22K **Willow** 60.24 30 P **P** 16 19 54.4 +0.1
baz=260
BPAW **Bear Paw Mtn.** 60.30 27 P **P** 16 19 55.3 +0.6
baz=258,SNR=39
SEW **Seward** 60.30 32 P **P** 16 19 55.0 +0.3
baz=262
RC01 **Rabbit Creek A** 60.31 31 IAmb IAmb 16 19 55.8
comp=Z,17nm,0.9s
RC01 **Rabbit Creek A** 60.31 31 P **P** 16 19 54.6 -0.2
baz=261,SNR=6.4
A21K **Barrow** 60.34 19 P **P** 16 19 55.3 +0.5
baz=248
B21K **Ikpikpuk River** 60.38 21 IAmb IAmb 16 19 57.3
comp=Z,20nm,0.6s
B21K **Ikpikpuk River** 60.38 21 P **P** 16 19 56.2 +1.0
baz=251,SNR=10.0
TRF **Thorofare Moun** 60.47 28 IAmb IAmb 16 19 57.3
comp=Z,24nm,0.9s
TRF **Thorofare Moun** 60.47 28 P **P** 16 19 56.2 +0.1
baz=259,SNR=25
H22K **Ishtalitna Cre** 60.54 25 P **P** 16 19 57.2 +0.9
baz=257,SNR=15
MLY **Manley** 60.60 26 P **P** 16 19 57.7 +0.9
MLY IAmb IAmb 16 19 58.9
comp=Z,15nm,0.8s
MLY **Manley** 60.60 26 P **P** 16 19 57.6 +0.8
baz=258,SNR=15
F22K **John River** 60.63 24 P **P** 16 19 57.8 +1.0
baz=255,SNR=6.7
PMR **Palmer** 60.68 31 P **P** 16 19 57.7 +0.4
PMR **Palmer** 60.68 31 P **P** 16 19 57.3 +0.1
baz=261
A22K **Sinclair Lake** 60.73 19 P **P** 16 19 58.6 +1.2
baz=250
G22K **Bettles** 60.73 24 P **P** 16 19 58.6 +1.1
baz=256
EKS2 **Erkin-Say** 60.73 308 P **P** 16 19 59.1 +1.0
SNR=12
GHO **Glory Hole Cre** 60.81 30 IAmb IAmb 16 19 59.3
comp=Z,20nm,0.6s
D22K **Ayikyak River** 60.82 22 P **P** 16 19 59.4 +1.3
baz=254,SNR=40
E22K **Anaktuvuk Pass** 60.92 23 P **P** 16 19 59.9 +1.0
baz=255,SNR=15
PWL **Port Wells** 60.95 31 P **P** 16 19 59.3 +0.1
baz=262,SNR=28
KNK **Knik Glacier** 60.97 31 P **P** 16 19 59.9 +0.6
baz=262,SNR=9.7
B22K **Teshekpuk Lake** 61.00 20 P **P** 16 20 00.2 +0.9
baz=252
MCK **McKinley** 61.12 28 P **P** 16 20 00.3 +0.1
baz=260,SNR=7.5
I23K **Minto, Yukon-K** 61.20 26 P **P** 16 20 01.7 +1.1
I23K **Minto, Yukon-K** 61.20 26 P **P** 16 20 01.9 +1.3
baz=259,SNR=39
NEA2 **Nenana** 61.22 27 IAmb IAmb 16 20 02.6
comp=Z,12nm,0.6s
NEA2 **Nenana** 61.22 27 P **P** 16 20 01.3 +0.4
baz=260,SNR=15
G23K **Bananza Creek** 61.25 25 IAmb IAmb 16 20 03.6
comp=Z,27nm,1.2s
G23K **Bananza Creek** 61.25 25 P **P** 16 20 02.5 +1.4
baz=258,SNR=19
H23K **Yukon River** 61.26 26 IAmb IAmb 16 20 03.5
comp=Z,15nm,0.8s
H23K **Yukon River** 61.26 26 P **P** 16 20 02.4 +1.3
baz=258,SNR=18
COLD **Coldfoot** 61.30 24 IAmb IAmb 16 20 03.8
comp=Z,14nm,0.8s
COLD **Coldfoot** 61.30 24 P **P** 16 20 02.3 +1.0
baz=257,SNR=17
P23K **Montague Islan** 61.31 32 IAmb IAmb 16 20 03.4
comp=Z,22nm,0.8s
P23K **Montague Islan** 61.31 32 P **P** 16 20 02.4 +0.9
baz=264
M23K **Glacier View** 61.37 30 P **P** 16 20 02.4 +0.4
baz=262,SNR=7.2
D23K **Nanushuk River** 61.54 22 IAmb IAmb 16 20 05.6
comp=Z,22nm,0.8s
D23K **Nanushuk River** 61.54 22 P **P** 16 20 04.6 +1.7
baz=256,SNR=19

GLI	**Glacier Island** comp=Z,14nm,0.6s	61.56	31	IAmb	IAmb	16 20 04.1
GLI	**Glacier Island** baz=263,SNR=8.0	61.56	31	P	P	16 20 03.7 +0.6
SCM	**Sheep Creek Mo** comp=Z,21nm,1.0s	61.56	30	IAmb	IAmb	16 20 04.9
SCM	**Sheep Creek Mo** baz=263,SNR=13	61.56	30	P	P	16 20 03.9 +0.6
E23K	**Chandalar** baz=257,SNR=40	61.70	23	P	P	16 20 05.6 +1.4
COLA	**College**	61.78	27	P	P	16 20 05.4 +0.9
COLA	**College** baz=261	61.78	27	P	P	16 20 05.4 +0.9
C23K	**Itkillik River** baz=255,SNR=47	61.78	21	P	P	16 20 05.6 +1.1
FID	**Port Fidalgo** comp=Z,19nm,0.6s	61.84	32	IAmb	IAmb	16 20 06.4
TOLK	**Toolik Lake Re**	61.85	23	P	P	16 20 06.3 +1.2
TOLK	**Toolik Lake Re** baz=257,SNR=22	61.85	23	P	P	16 20 06.4 +1.4
H24K	**Noodor Dome** comp=Z,16nm,0.7s	61.93	26	IAmb	IAmb	16 20 07.7
H24K	**Noodor Dome** baz=260,SNR=28	61.93	26	P	P	16 20 06.5 +0.9
POKR	**Poker Plat Res** comp=Z,9.6nm,0.6s	61.99	27	IAmb	IAmb	16 20 08.1
POKR	**Poker Plat Res** baz=261	61.99	27	P	P	16 20 06.6 +0.6
NIL	**Nilore**	62.05	298	P	P	16 20 07.6 +0.6
HDA	**Harding Lake** comp=Z,12nm,0.7s	62.09	27	IAmb	IAmb	16 20 07.0
HDA	**Harding Lake** baz=262,SNR=11	62.09	27	P	P	16 20 06.3 -0.4
E24K	**Your Creek** comp=Z,15nm,0.7s	62.12	23	IAmb	IAmb	16 20 09.3
E24K	**Your Creek** baz=258,SNR=24	62.12	23	P	P	16 20 07.7 +0.9
M24K	**Tolsona, Glenn** baz=264	62.14	30	P	P	16 20 08.0 +0.9
IL31	comp=Z,17nm,0.7s	62.17	27	IAmb	IAmb	16 20 07.5
ILAR	**Eielson Array**	62.17	27	P	P	16 20 06.2 -1.0
ILAR	**Eielson Array** comp=Z,11nm,0.6s,baz=259,slow=5.3,SNR=121	62.17	27	P	P	16 20 06.6 -0.6
ILAR	comp=Z,0.9nm,0.7s,baz=259,slow=5.3,SNR=1.2 comp=Z,11nm,0.6s			PcP	PcP	16 20 41.8 -2.0
EYAK	**Cordova Ski Ar**	62.18	32	P	P	16 20 08.5 +1.2
EYAK	**Cordova Ski Ar** baz=265	62.18	32	P	P	16 20 08.0 +0.7
KLU	**Klutina** baz=264,SNR=21	62.19	31	P	P	16 20 08.0 +0.6
DIV	**Divide**	62.23	31	P	P	16 20 08.2 +0.6
D24K	**Happy Valley** baz=257,SNR=19	62.23	22	P	P	16 20 08.6 +1.1
F24K	**Squaw Lake** baz=259,SNR=15	62.24	24	P	P	16 20 08.5 +0.9
G24K	**Hadweenzic Riv** comp=Z,17nm,0.8s	62.24	25	IAmb	IAmb	16 20 10.1
G24K	**Hadweenzic Riv** baz=260,SNR=20	62.24	25	P	P	16 20 08.8 +1.2
C24K	**Franklin Bluff**	62.40	21	P	P	16 20 09.4 +0.9
C24K	**Franklin Bluff** baz=257	62.40	21	P	P	16 20 09.5 +1.0
K24K	**Donnelly Dome** comp=Z,15nm,0.8s	62.52	28	IAmb	IAmb	16 20 11.9
K24K	**Donnelly Dome** baz=263,SNR=9.4	62.52	28	P	P	16 20 10.5 +1.0
PAX	**Paxson** comp=Z,8.9nm,0.6s	62.56	29	IAmb	IAmb	16 20 10.9
PAX	**Paxson** baz=264,SNR=18	62.56	29	P	P	16 20 10.6 +0.8
HARP	**HAARP** baz=264,SNR=8.5	62.64	30	P	P	16 20 11.1 +0.8
RAGM	**Ragged Mountai** comp=Z,9.8nm,0.6s	62.70	32	IAmb	IAmb	16 20 12.2
BVAR	**Borovoye Array** comp=Z,81nm,0.4s,baz=91,slow=7.5,SNR=576	62.74	320	P	P	16 20 11.6 +0.5
BVAR	comp=Z,8.7nm,0.6s,baz=87,slow=4.8,SNR=3.9			PcP	PcP	16 20 46.4 0.0
BVAR	comp=Z,0.6nm,0.6s,baz=97,slow=12,SNR=3.8 comp=Z,81nm,0.4s			S	S	16 28 12.8 -0.1
BMRM	**Bremner River** baz=266,SNR=18	62.78	31	P	P	16 20 12.0 +0.7
G25K	**Bearman Lake** baz=261,SNR=5.4	62.79	25	P	P	16 20 12.1 +1.0
J25K	**Salcha River,** baz=263,SNR=17	62.80	27	P	P	16 20 11.2 -0.2
KAIM	**Kayak Island** baz=266,SNR=6.3	62.80	33	P	P	16 20 12.3 +1.0
BRVK	**Borovoye**	62.80	320	P	P	16 20 11.6 +0.1
H25L	**Birch Creek** baz=262,SNR=21	62.83	25	P	P	16 20 12.2 +0.7
N25K	**Chitina, Valde** baz=265,SNR=14	62.83	31	P	P	16 20 12.8 +1.1
PRP	**Porcupine Dome** baz=262	62.85	26	P	P	16 20 12.3 +0.5
HMT	**Hamilton** comp=Z,14nm,1.0s	62.90	32	IAmb	IAmb	16 20 13.8
RIDG	**Independent Ri** comp=Z,21nm,0.7s	62.92	28	IAmb	IAmb	16 20 13.4
RIDG	**Independent Ri** baz=264,SNR=22	62.92	28	P	P	16 20 12.6 +0.5
KKAR	**Karatay Array**	63.10	308	P	P	16 20 13.9 +0.3
F25K	**Christian Rive** comp=Z,17nm,0.6s	63.10	24	IAmb	IAmb	16 20 15.6
F25K	**Christian Rive** baz=261,SNR=35	63.10	24	P	P	16 20 14.9 +1.7
D25K	**Kavik River** baz=260,SNR=61	63.12	22	P	P	16 20 14.3 +0.9
BERG	**Berg Lake** comp=Z,20nm,1.0s	63.18	32	IAmb	IAmb	16 20 15.9
GLB	**Gilahina Butte** comp=Z,28nm,1.5s	63.20	31	IAmb	IAmb	16 20 15.8
SCRK	**Sand Creek** baz=265,SNR=38	63.33	28	P	P	16 20 15.3 +0.4
MENT	**Mentasta**	63.35	29	P	P	16 20 15.9 +0.9
BMAR	**Burnt Mountain**	63.48	24	P	P	16 20 17.3 +1.5
CRQM	**Cirque** comp=Z,17nm,0.8s	63.48	32	IAmb	IAmb	16 20 17.8
CRQE	**Cirque** baz=267,SNR=8.1	63.50	32	P	P	16 20 16.5 +0.4
L26K	**Log Cabin Wild** comp=Z,8.8nm,0.8s	63.53	29	IAmb	IAmb	16 20 17.9
L26K	**Log Cabin Wild** baz=266,SNR=12	63.53	29	P	P	16 20 16.7 +0.6
J26L	**Joseph Creek** comp=Z,23nm,0.8s	63.56	28	IAmb	IAmb	16 20 17.5
J26L	**Joseph Creek** baz=265,SNR=44	63.56	28	P	P	16 20 16.7 +0.3
MCARA	**McCarthy VSAT** comp=Z,15nm,0.8s	63.57	31	IAmb	IAmb	16 20 18.2
MCARA	**McCarthy VSAT** baz=267,SNR=5.9	63.57	31	P	P	16 20 17.1 +0.8
WAX	**Waxell Ridge** comp=Z,14nm,0.5s	63.61	32	IAmb	IAmb	16 20 18.2
TGL	**Tana Glacier** comp=Z,13nm,0.9s	63.63	32	IAmb	IAmb	16 20 18.6
M26K	**Nabesna, AK** baz=266	63.65	30	P	P	16 20 17.8 +0.9
F26K	**Sheenjek River** baz=263,SNR=44	63.68	24	P	P	16 20 18.2 +1.2
GAR	**Garm**	63.68	304		P	16 20 17.7 +0.1
G26K	**Porcupine Rive** comp=Z,15nm,0.8s	63.73	25	IAmb	IAmb	16 20 19.8
G26K	**Porcupine Rive** baz=263,SNR=26	63.73	25	P	P	16 20 19.0 +1.8
C26K	**Camden Bay** baz=261,SNR=10	63.73	21	P	P	16 20 18.9 +1.7
I26K	**Coal Creek Min** baz=265	63.81	27	P	P	16 20 17.6 -0.2
MESA	**MESA** comp=Z,24nm,1.0s	64.05	32	IAmb	IAmb	16 20 22.9
MESA	**MESA** baz=268	64.05	32	P	P	16 20 20.5 +0.8
C27K	**Jago River** comp=Z,16nm,0.8s	64.10	22	IAmb	IAmb	16 20 22.0
C27K	**Jago River** baz=262,SNR=18	64.10	22	P	P	16 20 20.7 +1.0
YAH	**Yahtse** comp=Z,9.4nm,0.8s	64.15	32	IAmb	IAmb	16 20 22.5
GRNC	**Granite Creek** comp=Z,11nm,0.8s	64.16	32	IAmb	IAmb	16 20 22.1
M27K	**Edge Creek, AK** baz=267,SNR=13	64.17	30	P	P	16 20 20.7 +0.4
K27K	**Chicken** baz=266	64.17	28	P	P	16 20 21.0 +0.8
L27K	**Beaver Creek,** baz=267,SNR=18	64.22	29	P	P	16 20 21.2 +0.6
BCAR	**Beaver Creek A**	64.24	29	P	P	16 20 21.1 +0.4
CTG	**Chitna Glacier** baz=268,SNR=6.1	64.37	32	P	P	16 20 22.5 +0.8
I27K	**Kandik River** baz=266,SNR=20	64.47	26	P	P	16 20 22.9 +0.7
G27K	**Doyon Strip** baz=265,SNR=7.1	64.55	25	P	P	16 20 24.0 +1.3
H27K	**Steamboat Moun** baz=266,SNR=70	64.56	26	P	P	16 20 23.9 +1.2
BVCY	**Beaver Creek** baz=268	64.64	30	P	P	16 20 23.8 +0.5
E27K	**Coleen River** comp=Z,13nm,0.9s	64.69	24	IAmb	IAmb	16 20 25.9
E27K	**Coleen River** baz=265,SNR=15	64.69	24	P	P	16 20 24.4 +0.9
YUK3	**Moose Creek** baz=269,SNR=18	64.81	31	P	P	16 20 25.6 +1.0
PINM	**Pinnacle** baz=270	64.89	33	P	P	16 20 26.0 +1.0
O28M	**Mount Upton** comp=Z,20nm,1.0s	64.93	32	IAmb	IAmb	16 20 27.6
O28M	**Mount Upton** baz=270,SNR=10	64.93	32	P	P	16 20 26.4 +0.9
D27M	**Malcolm River** comp=Z,22nm,0.9s	65.02	22	IAmb	IAmb	16 20 28.0
D27M	**Malcolm River** baz=265,SNR=24	65.02	22	P	P	16 20 26.8 +1.2
YUK8	**Steele Glacier** baz=270,SNR=13	65.14	31	P	P	16 20 28.0 +1.2
I28M	**Miner Creek** baz=268,SNR=48	65.16	27	P	P	16 20 27.3 +0.6
BCPM	**Bancas Point** comp=Z,13nm,1.0s	65.20	33	IAmb	IAmb	16 20 28.9
F28M	**Old Crow**	65.30	24	P	P	16 20 28.4 +1.1
F28M	**Old Crow** baz=267,SNR=7.3	65.30	24	P	P	16 20 28.3 +0.9
PNL	**Peninsula**	65.33	33	P	P	16 20 28.8 +1.1
PNL	**Peninsula** baz=271,SNR=5.9	65.33	33	P	P	16 20 28.6 +0.9
DAWY	**Dawson** comp=Z,11nm,0.8s	65.35	28	IAmb	IAmb	16 20 29.8
DAWY	**Dawson** baz=269,SNR=11	65.35	28	P	P	16 20 28.4 +0.6
KBL	**Kabul**	65.36	299	P	P	16 20 28.6 -0.1
E28M	**Babbage River** comp=Z,16nm,0.8s	65.48	23	IAmb	IAmb	16 20 31.1
E28M	**Babbage River** baz=267,SNR=26	65.48	23	P	P	16 20 30.1 +1.6
YUK4	**Talbot Arm** baz=271,SNR=35	65.68	31	P	P	16 20 31.6 +1.4
O29M	**Mount Kennedy** comp=Z,24nm,1.1s	65.73	32	IAmb	IAmb	16 20 33.0
O29M	**Mount Kennedy** baz=271,SNR=7.1	65.73	32	P	P	16 20 31.6 +1.2
M29M	**Somme Creek** comp=Z,19nm,0.8s	65.76	30	IAmb	IAmb	16 20 33.0
M29M	**Somme Creek** baz=270,SNR=36	65.76	30	P	P	16 20 31.8 +1.3
D28M	**Stokes Point** baz=267	65.81	22	P	P	16 20 31.9 +1.3
YUK6	**Outpost Mounta** baz=271,SNR=15	65.82	32	P	P	16 20 32.2 +1.1
H29M	**Whitestone** baz=269,SNR=31	65.83	26	P	P	16 20 31.5 +0.8
I29M	**Ogilvie Camp,** comp=Z,22nm,1.1s	65.84	27	IAmb	IAmb	16 20 32.7
I29M	**Ogilvie Camp,** baz=269,SNR=25	65.84	27	P	P	16 20 31.8 +0.9
J29N	**Klondike Camp** comp=Z,30nm,1.2s	65.87	28	IAmb	IAmb	16 20 33.4
J29N	**Klondike Camp** baz=270	65.87	28	P	P	16 20 32.2 +1.1
L29M	**L29M** baz=270,SNR=40	65.91	29	P	P	16 20 32.6 +1.2
G29M	**Pine Creek** baz=269,SNR=19	65.99	25	P	P	16 20 32.9 +1.1
E29M	**Blow River** baz=268,SNR=8.4	66.08	23	P	P	16 20 33.3 +1.0
P29M	**Windy Craggy** comp=Z,19nm,0.8s	66.17	33	IAmb	IAmb	16 20 35.6
P29M	**Windy Craggy** baz=272,SNR=14	66.17	33	P	P	16 20 34.6 +1.6
K29M	**Barlow Dome** comp=Z,15nm,0.8s	66.18	28	IAmb	IAmb	16 20 35.4
K29M	**Barlow Dome** baz=271,SNR=23	66.18	28	P	P	16 20 34.1 +0.9
HYT	**Haines Junctio** comp=Z,16nm,1.0s	66.24	32	IAmb	IAmb	16 20 36.2
HYT	**Haines Junctio** baz=272,SNR=22	66.24	32	P	P	16 20 34.9 +1.2
N30M	**Aishikik Lake** comp=Z,14nm,0.9s	66.42	31	IAmb	IAmb	16 20 37.0
N30M	**Aishikik Lake** baz=272,SNR=27	66.42	31	P	P	16 20 36.3 +1.6
EPYK	**Eagle Plains**	66.50	26	P	P	16 20 35.7 +0.7
EPYK	**Eagle Plains** baz=270,SNR=14	66.50	26	P	P	16 20 36.1 +1.1
M30M	**Minto, Yukon** baz=272,SNR=18	66.53	30	P	P	16 20 36.5 +1.2
P30M	**Million Dollar** baz=273	66.54	33	P	P	16 20 37.0 +1.5
I30M	**Mount Dempster** comp=Z,19nm,1.2s	66.65	27	IAmb	IAmb	16 20 39.2
I30M	**Mount Dempster** baz=271,SNR=18	66.65	27	P	P	16 20 36.9 +0.8
J30M	**Hart River** comp=Z,13nm,1.1s	66.69	28	IAmb	IAmb	16 20 38.3
J30M	**Hart River** baz=271,SNR=20	66.69	28	P	P	16 20 37.0 +0.7
G30M	**tAoh Zraii Nji** baz=270,SNR=23	66.70	25	P	P	16 20 36.9 +0.6
F30M	**Barrier River** baz=270,SNR=24	66.86	24	P	P	16 20 38.1 +0.9
O30N	**Mendenhall** baz=273,SNR=11	66.94	32	P	P	16 20 38.6 +0.8
S31K	**Pelican** baz=274	67.05	35	P	P	16 20 39.2 +0.7
N31M	**Braeburn, Yuko** comp=Z,25nm,1.1s	67.05	31	IAmb	IAmb	16 20 41.1
N31M	**Braeburn, Yuko** baz=273,SNR=22	67.05	31	P	P	16 20 39.8 +1.2
SKAG	**Skagway** comp=Z,18nm,1.2s	67.40	33	IAmb	IAmb	16 20 43.0
SKAG	**Skagway**	67.40	33	P	P	16 20 42.5 +1.8
SKAG	**Skagway** baz=274	67.40	33	P	P	16 20 41.7 +1.0
G31M	**Satah River** baz=272,SNR=63	67.47	25	P	P	16 20 41.9 +0.9
H31M	**Peel River** baz=273,SNR=26	67.48	26	P	P	16 20 42.1 +1.0
URZ	**Urewera** comp=Z,8.3nm,0.8s,baz=353,slow=16,SNR=2.0 comp=Z,8.3nm,0.8s	67.53	152	P	P	16 20 41.4 -0.3
WHY	**Whitehorse**	67.54	32	P	P	16 20 42.5 +0.8
WHY	comp=Z,14nm,0.7s			IAmb	IAmb	16 20 43.5
WHY	**Whitehorse** baz=274,SNR=10	67.54	32	P	P	16 20 42.5 +0.8
F31M	**Tsiigehtchic** comp=Z,14nm,0.9s	67.65	24	IAmb	IAmb	16 20 43.3
F31M	**Tsiigehtchic** baz=272,SNR=8.6	67.65	24	P	P	16 20 42.4 +0.3
M31M	**Drury Creek, Y** comp=Z,12nm,1.1s	67.67	30	IAmb	IAmb	16 20 44.4
M31M	**Drury Creek, Y** baz=274,SNR=12	67.67	30	P	P	16 20 43.1 +0.8
INK	**Inuvik**	67.70	24	P	P	16 20 42.2 -0.2
INK	comp=Z,12nm,0.8s			IAmb	IAmb	16 20 43.6
INK	**Inuvik** baz=272,SNR=8.1	67.70	24	P	P	16 20 42.9 +0.5
R32K	**Eaglecrest** comp=Z,10.0nm,0.8s	67.92	34	IAmb	IAmb	16 20 46.4
R32K	**Eaglecrest** baz=276,SNR=6.3	67.92	34	P	P	16 20 44.7 +0.7
S32K	**Killisnoo** baz=276	67.97	35	P	P	16 20 45.4 +1.2
JIS	**Juneau Island**	68.00	34	P	P	16 20 45.6 +1.2
P32M	**Atlin** comp=Z,10nm,0.9s	68.21	33	IAmb	IAmb	16 20 48.0
P32M	**Atlin** baz=276,SNR=11	68.21	33	P	P	16 20 47.2 +1.4
N32M	**Quiet Lake** baz=276	68.37	31	P	P	16 20 47.3 +0.5
P33M	**Teslin, Yukon** comp=Z,13nm,1.2s	68.60	32	IAmb	IAmb	16 20 50.3
P33M	**Teslin, Yukon** baz=276,SNR=12	68.60	32	P	P	16 20 49.0 +0.8
U33K	**Whale Pass** baz=278	68.92	37	P	P	16 20 51.4 +1.3
CRAG	**Craig** baz=278	69.01	37	P	P	16 20 52.0 +1.4
Q32M	**Nakina River** baz=277,SNR=5.3	69.02	34	P	P	16 20 52.1 +1.1
MMPY	**Sheldon Lake,** comp=Z,15nm,1.4s	69.08	30	IAmb	IAmb	16 20 53.5
MMPY	**Sheldon Lake,** baz=277,SNR=12	69.08	30	P	P	16 20 52.0 +0.9
WRAK	**Wrangell Islan** comp=Z,11nm,0.8s	69.31	36	IAmb	IAmb	16 20 54.7
WRAK	**Wrangell Islan** baz=278	69.31	36	P	P	16 20 53.3 +0.8
ARTI	**Arti**	69.44	324		P	16 20 52.8 -0.5
ABKAR	**Akbulak array**	69.61	316		P	16 20 54.3 -0.1
R33M	**Jennings River** baz=278,SNR=13	69.63	33	P	P	16 20 55.5 +0.9
S34M	**Telegraph Cree** comp=Z,10nm,0.7s	69.75	35	IAmb	IAmb	16 20 57.7
S34M	**Telegraph Cree** baz=278,SNR=9.5	69.75	35	P	P	16 20 56.4 +1.2
V35K	**Ketchikan** baz=279	69.88	37	P	P	16 20 56.9 +0.9
A36M	**Sachs Harbour** baz=279,SNR=6.1	70.17	19	P	P	16 20 58.0 +0.5
DLBC	**Dease Lake** baz=279,SNR=16	70.25	34	P	P	16 20 59.4 +1.1
T35M	**Bob Quinn** baz=280,SNR=5.6	70.37	35	P	P	16 21 00.5 +1.5
WTLY	**Watson Lake, Y**	70.61	32	P	P	16 21 01.1 +0.8
WTLY	**Watson Lake, Y** baz=280	70.61	32	P	P	16 21 01.6 +1.3
TGTN	**Hyland Airport** baz=280,SNR=17	70.62	31	P	P	16 21 01.6 +1.1
LIRD	**Liard River Hi** baz=282,SNR=5.7	72.08	33	P	P	16 21 10.1 +1.1
WRGLY	**Wrigley**	72.49	28	P	P	16 21 12.0 +0.7
WRGLY	**Wrigley** baz=283	72.49	28	P	P	16 21 12.5 +1.1
TOAD	**Toad River Com** baz=283,SNR=6.9	72.63	33	P	P	16 21 13.6 +1.2
KOTAN	**Kotaneelee Air** baz=284	72.93	32	P	P	16 21 15.3 +1.3
HOPEN	**Hopen**	75.39	348	eP	P	16 21 28.4 +0.6
SPA0	**Spitsbergen Ar**	75.95	350	eP	P	16 21 31.6 +0.6
SPB2	**Spitsbergen Ar** comp=Z,14nm,0.7s	75.95	350	IAmb	IAmb	16 21 32.0
SPITS	**Spitsbergen Ar** comp=Z,8.1nm,0.6s,baz=94,slow=6.8,SNR=18 comp=Z,8.1nm,0.6s	75.95	350	P	P	16 21 31.4 +0.4
KBS	**Kingsbay**	76.11	351	P	P	16 21 32.4 +0.5
KBS	**Kingsbay**	76.11	351	eP	P	16 21 31.8 0.0
PGC	**Sidney** comp=Z,8.3nm,0.8s	76.30	43	IAmb	IAmb	16 21 35.4
NLWA	**Neilton Lookou** comp=Z,14nm,0.6s	76.40	44	IAmb	IAmb	16 21 36.4
YKAW3	**Yellowknife Wh** comp=Z,26nm,0.7s	76.56	28	IAmb	IAmb	16 21 35.9
YKA	**Yellowknife Ar**	76.59	28	P	P	16 21 34.6 -0.1
YKA	**Yellowknife Ar** comp=Z,16nm,0.6s,baz=297,slow=6.2,SNR=148 comp=Z,16nm,0.6s	76.59	28	P	P	16 21 35.2 +0.4
YKAW1	**Yellowknife Wh** comp=Z,32nm,0.7s	76.64	28	IAmb	IAmb	16 21 36.4
LLLB	**Lillooet**	76.69	41		P	16 21 36.5 +0.8
LLLB	comp=Z,16nm,0.9s			IAmb	IAmb	16 21 37.9
GNW	**Green Mountain**	77.03	44		P	16 21 38.4 +0.9
GNW	comp=Z,16nm,1.1s			IAmb	IAmb	16 21 40.0
VADS	**Vadso**	77.58	341	eP	P	16 21 40.4 +0.3
J01E	**Myrtle Point** comp=Z,18nm,0.8s	77.63	48	IAmb	IAmb	16 21 43.3
I03D	**Drain, OR** comp=Z,13nm,0.8s	77.86	48	IAmb	IAmb	16 21 44.6
K02D	**Willamette Mer**	77.96	49	P	P	16 21 43.5 +0.6
K02D	comp=Z,6.8nm,0.6s			IAmb	IAmb	16 21 44.5
L02F	**Cave Junction** comp=Z,7.6nm,0.8s	78.20	49	IAmb	IAmb	16 21 46.4
H04A	**Detroit Lake** comp=Z,11nm,0.8s	78.35	47	IAmb	IAmb	16 21 46.8
KEV	**Kevo**	78.46	341	P	P	16 21 44.8 -0.1
LTY	**Liberty** comp=Z,10nm,1.1s	78.51	44	IAmb	IAmb	16 21 47.4
BBOR	**Butler Butte**	78.58	48	P	P	16 21 46.9 +0.5
HAMF	**Hammerfest**	78.93	343	eP	P	16 21 47.8 +0.4
YBH	**Yreka Blue Hor**	78.94	50	P	P	16 21 49.4 +1.2
YBH	comp=Z,8.7nm,0.8s			IAmb	IAmb	16 21 50.5
MXC	**Moxie City** comp=Z,11nm,1.1s	78.98	44	IAmb	IAmb	16 21 50.4
B08A	**Colville Reser** comp=Z,16nm,0.8s	78.99	42	IAmb	IAmb	16 21 50.0
ARA0	**ARCESS Array S**	79.03	341	eP	P	16 21 48.2 +0.2
ARCES	**ARCESS Array B**	79.03	341	P	P	16 21 48.1 +0.1
ARCES	**ARCESS Array B** comp=Z,21nm,0.5s,baz=75,slow=8.7,SNR=174 comp=Z,21nm,0.5s	79.03	341	P	P	16 21 48.3 +0.3
WAH2	**Wahluke Slope**	79.39	44	P	P	16 21 51.0 +0.6
D08A	**Wollman Farm,** comp=Z,14nm,0.9s	79.70	43	IAmb	IAmb	16 21 53.9
K05A	**Summer Lake** comp=Z,16nm,0.9s	79.88	48	IAmb	IAmb	16 21 55.6
KTK1	**Kautokeino**	79.99	342	eP	P	16 21 53.4 +0.2
HATC	**Hat Creek Radi** comp=Z,13nm,0.7s	80.13	50	IAmb	IAmb	16 21 56.5
G08A	**Pilot Rock**	80.30	45	P	P	16 21 56.1 +0.7
E09A	**Wood Farm, Sta** comp=Z,13nm,0.8s	80.39	44	IAmb	IAmb	16 21 57.6
JETT	**Jettan, Norway**	80.48	343	eP	P	16 21 56.0 +0.3
TRO	**Tromso**	80.84	343	eP	P	16 21 57.0 -0.5
BEKR	**Beckworth** comp=Z,11nm,0.9s	81.25	51	IAmb	IAmb	16 22 02.1
J08A	**Circle Bar Ran** comp=Z,10nm,0.8s	81.32	47	IAmb	IAmb	16 22 02.8
BMO	**Blue Mountains** comp=Z,11nm,0.8s	81.55	45	IAmb	IAmb	16 22 03.7
CMB	**Columbia Colle** comp=Z,12nm,0.8s	81.88	52	IAmb	IAmb	16 22 05.5
WAKR	**Walker** comp=Z,6.6nm,0.8s	82.40	52	IAmb	IAmb	16 22 08.7
KBZ	**Khabaz** comp=Z,30nm,0.8s,baz=112,slow=3.0,SNR=55 comp=Z,30nm,0.8s	82.42	314	P	P	16 22 07.1 +0.8
KIV	**Kislovodsk**	82.48	314	P	P	16 22 06.9 +0.1
STEI	**Steigen**	82.97	343	eP	P	16 22 08.0 -0.6
MFID	**Camas Ranch** comp=Z,18nm,1.1s	83.08	46	IAmb	IAmb	16 22 11.8
LHV	**Little Huntoon** comp=Z,6.6nm,0.8s	83.18	52	IAmb	IAmb	16 22 12.7
NVAR	**Mina Array Bea**	83.26	51	P	P	16 22 11.7 +0.6
NVAR	**Mina Array Bea** comp=Z,8.3nm,0.7s,baz=276,slow=5.4,SNR=52 comp=Z,8.3nm,0.7s	83.26	51	P	P	16 22 12.0 +1.0
FINES	**FINESS Array B**	83.27	334	P	P	16 22 09.3 -1.0
FINES	**FINESS Array B** comp=Z,26nm,0.5s,baz=64,slow=4.9,SNR=156 comp=Z,26nm,0.5s	83.27	334	P	P	16 22 09.5 -0.8
FAUS	**Fauske**	83.33	342	eP	P	16 22 10.0 -0.5
CWC	**Cottonwood Cre**	84.17	53	P	P	16 22 15.9 +0.3
MOR8	**Moi Rana**	84.40	341	eP	P	16 22 14.0 -1.9
DLMT	**Dillon** comp=Z,7.0nm,0.8s	84.41	43	IAmb	IAmb	16 22 18.4
ELK	**Elko** comp=Z,16nm,1.1s	84.54	48	IAmb	IAmb	16 22 19.3
MPMC	**Manual Prospec** comp=Z,11nm,1.2s	84.76	53	IAmb	IAmb	16 22 20.4
LEIR	**Leirfjorden**	84.83	342	eP	P	16 22 16.6 -1.4
LRMC	**Laurel Mtn Rad** comp=Z,9.6nm,0.8s	84.84	54	IAmb	IAmb	16 22 20.5
BOZ	**Bozeman (W)**	84.92	43	P	P	16 22 19.1 0.0
BOZ	comp=Z,9.3nm,0.7s			IAmb	IAmb	16 22 20.7
EGMT	**Eagleton** comp=Z,2nm,1.1s	85.00	40	IAmb	IAmb	16 22 20.9
FURC	**Furnace Creek,**	85.07	53	P	P	16 22 20.5 +0.7
FURC	comp=Z,14nm,0.8s			IAmb	IAmb	16 22 21.8
WCT	**Wildcat Mounta** comp=Z,9.0nm,0.8s	85.11	52	IAmb	IAmb	16 22 21.9
QSM	**Queen of Sheba** comp=Z,13nm,1.0s	85.26	53	IAmb	IAmb	16 22 22.5
GWY	**Greenwater Val**	85.32	53	IAmb	IAmb	16 22 22.9

comp=Z,11nm,0.8s
TPNV Topopah Spring 85.33 52 IAmb IAmb 16 22 23.0
comp=Z,14nm,0.8s
S11A Rachel 85.42 51 IAmb IAmb 16 22 23.6
comp=Z,11nm,0.9s
GSC Goldstone, Bar 85.57 54 IAmb IAmb 16 22 24.2
comp=Z,13nm,1.2s
HVU Hansel Valley 85.81 47 IAmb IAmb 16 22 25.6
comp=Z,9.2nm,1.0s
YFT Old Faithful 85.93 44 P **P 16 22 26.1 +1.9**
YFT IAmb IAmb 16 22 29.3
comp=Z,11nm,1.1s
FFC Flin Flon 85.96 32 P **P 16 22 24.2 +0.5**
PRN Pahroc Range 86.02 51 IAmb IAmb 16 22 26.5
comp=Z,9.0nm,1.0s
YMP Mirror Lake Pl 86.23 43 IAmb IAmb 16 22 28.6
comp=Z,10nm,0.9s
TPAW Teton Pass 86.28 45 P **P 16 22 26.5 +0.6**
NSS Namsos 86.29 341 *eP* **P 16 22 24.6 -0.6**
PSUT Pine Spring 86.42 50 IAmb IAmb 16 22 28.2
comp=Z,7.3nm,1.0s
DUG Dugway, Tooele 86.45 48 IAmb IAmb 16 22 28.4
comp=Z,8.1nm,0.8s
PMD Palm Desert 86.55 55 IAmb IAmb 16 22 28.5
comp=Z,11nm,0.8s
BELC Belle Mtn. Jos 86.69 55 IAmb IAmb 16 22 29.2
comp=Z,7.7nm,0.9s
HWUT Hardware Ranch 86.70 46 IAmb IAmb 16 22 29.6
comp=Z,9.9nm,1.1s
V12A Nelson 86.86 53 IAmb IAmb 16 22 30.6
comp=Z,7.5nm,0.8s
DANC Danby, Needles 86.90 54 IAmb IAmb 16 22 30.9
comp=Z,14nm,1.0s
CCUT Cedar City 87.19 51 P **P 16 22 30.4 0.0**
BC3 Big Chuckawall 87.25 55 IAmb IAmb 16 22 32.3
comp=Z,8.5nm,0.8s
IRM Iron Mountain 87.28 54 IAmb IAmb 16 22 32.5
comp=Z,7.5nm,1.1s
ARPR Arapgir-MALATY 87.45 311 IAmb IAmb 16 22 32.6
comp=Z,8.4nm,0.8s
LCMT Little Creek M 87.50 51 IAmb IAmb 16 22 33.7
comp=Z,6.1nm,1.0s
PDAR Pinedale Array 87.51 45 P **P 16 22 31.4 -0.4**
PDAR Pinedale Array 87.51 45 P **P 16 22 31.9 +0.1**
comp=Z,0.9nm,0.5s,baz=179,slow=1.6,SNR=14
comp=Z,0.9nm,0.5s
AKASG Malin Array Be 87.58 324 P **P 16 22 30.2 -1.4**
AKASG IAmb IAmb 16 22 31.6
comp=Z,9.9nm,1.2s
AKASG Malin Array Be 87.58 324 P **P 16 22 30.4 -1.3**
comp=Z,3.1nm,0.5s,baz=48,slow=4.7,SNR=24
comp=Z,3.1nm,0.5s
AKBB Malin Array Si 87.58 324 P **P 16 22 30.1 -1.5**
AK01 Malin Array Si 87.59 324 P **P 16 22 30.4 -1.3**
KIEV Kiev 87.59 324 P **P 16 22 30.2 -1.5**
KIEV IAmb IAmb 16 22 31.3
comp=Z,13nm,1.1s
KIEV Kiev 87.59 324 P **P 16 22 29.9 -1.8**
comp=Z,48nm,1.4s
AK09 Malin Array Si 87.59 324 P **P 16 22 29.4 -2.3**
AK08 Malin Array Si 87.60 324 P **P 16 22 29.8 -1.9**
AK04 Malin Array Si 87.60 324 P **P 16 22 29.8 -1.9**
KNB Kanab 87.80 51 IAmb IAmb 16 22 35.5
comp=Z,13nm,1.0s
Q16A Castle Valley 88.15 49 IAmb IAmb 16 22 36.7
comp=Z,6.5nm,0.7s
RAYN Ar Rayn 88.19 294 P **P 16 22 34.3 -0.8**
RAYN IAmb IAmb 16 22 35.5
comp=Z,5.8nm,0.8s
U15A North Rim 88.44 51 IAmb IAmb 16 22 38.5
comp=Z,9.6nm,1.4s
SRU San Rafael Swe 88.52 48 IAmb IAmb 16 22 37.7
comp=Z,8.1nm,0.7s
LUBAR Lubar, Ukraine 88.79 324 P **P 16 22 36.0 -1.3**
SUW Suwalki 88.81 329 P **P 16 22 35.4 -1.9**
HFS Hagfors 88.83 337 P **P 16 22 35.8 -1.5**
comp=Z,8.7nm,0.6s,baz=80,slow=3.5,SNR=47
comp=Z,8.7nm,0.6s
RNPP9 Sopachiv 88.96 326 P **P 16 22 37.2 -0.9**
Y14A Wickenburg 88.98 54 IAmb IAmb 16 22 41.2
comp=Z,7.9nm,0.7s
NC204 NORSAR Array S 89.03 339 IAmb IAmb 16 22 38.0
comp=Z,13nm,0.9s
NB2 NORSAR Subarra 89.05 339 P **P 16 22 37.0 -1.3**
comp=Z,3.4nm,0.7s,baz=49,slow=4.6
NB2 NORSAR Subarra 89.05 339 P **P 16 22 37.0 -1.3**
baz=49,slow=4.6
NOA NORSAR Array B 89.05 339 P **P 16 22 37.1 -1.2**
comp=Z,4.2nm,0.7s,baz=46,slow=4.5,SNR=21
comp=Z,4.2nm,0.7s
O20A White River Ci 89.61 47 IAmb IAmb 16 22 43.0
comp=Z,6.0nm,0.9s
PIX Pinacate 89.65 56 P **P 16 22 42.0 +0.3**
NDNU Novodnistrovsk 89.73 323 P **P 16 22 40.2 -1.5**
PV21 Cone Mtn., Par 89.84 48 IAmb IAmb 16 22 44.3
comp=Z,8.4nm,0.9s
PV14 Lion Creek, Pa 89.90 48 IAmb IAmb 16 22 44.5
comp=Z,9.3nm,0.8s
PV04 Paradox Valley 89.97 48 IAmb IAmb 16 22 44.9
comp=Z,7.0nm,1.0s
PV17 East Wray Mesa 89.98 48 IAmb IAmb 16 22 44.9
comp=Z,9.9nm,0.9s
PV16 Nyswonger Mesa 90.00 48 IAmb IAmb 16 22 45.0
comp=Z,9.1nm,1.0s
PV18 Skein Mesa, Pa 90.03 49 IAmb IAmb 16 22 45.0
comp=Z,13nm,1.0s
PV11 David Mesa, P 90.04 48 IAmb IAmb 16 22 45.0
comp=Z,13nm,1.1s
PV03 Paradox Valley 90.07 48 IAmb IAmb 16 22 45.1
comp=Z,6.6nm,1.0s
PV12 Saucer Basin, 90.08 48 IAmb IAmb 16 22 45.5
comp=Z,17nm,1.1s
PV13 Radium Mtn., P 90.14 49 P **P 16 22 44.1 0.0**
PV13 IAmb IAmb 16 22 45.4
comp=Z,5.6nm,0.9s
PV02 Paradox Valley 90.17 48 IAmb IAmb 16 22 45.6
comp=Z,10nm,0.9s
KMPD K-Podol'skiy 90.25 324 P **P 16 22 41.8 -2.3**
RSSD Black Hills 90.37 42 P **P 16 22 44.9 -0.2**
RSSD IAmb IAmb 16 22 46.0
comp=Z,8.1nm,0.6s
BR131 Keskin Array S 90.39 313 IAmb IAmb 16 22 45.1
comp=Z,7.3nm,0.8s
BRTR Keskin Array B 90.39 313 P **P 16 22 43.8 -1.5**
BRTR Keskin Array B 90.39 313 P **P 16 22 44.1 -1.1**
comp=Z,4.7nm,0.7s,baz=98,slow=3.0,SNR=30
comp=Z,4.7nm,0.7s
BR106 Keskin Array S 90.41 313 P **P 16 22 44.3 -0.9**
comp=Z,55nmcomp=Z,7.0nm,0.8s
BR105 Keskin Array S 90.41 313 P **P 16 22 43.5 -1.8**
comp=Z,62nmcomp=Z,7.9nm,0.8s
BURAR Bucovina Array 91.47 323 P **P 16 22 48.7 -1.2**
MMAI Mount Meron Ar 92.29 307 P **P 16 22 52.5 -1.5**
comp=Z,2.2nm,0.7s,baz=94,slow=4.3,SNR=3.8
comp=Z,2.2nm,0.7s
VYHS Vyhne 94.36 327 *eP* **P 16 23 01.8 -1.3**
MODS Modra-Piesok 95.23 327 *eP* **P 16 23 04.9 -2.2**
GERES GERESS Array B 96.67 329 P **P 16 23 12.5 -1.1**
comp=Z,0.9nm,0.5s,baz=54,slow=6.8,SNR=9.5
comp=Z,0.9nm,0.5s
TXAR Lajitas Array 98.16 54 P Pdif 16 23 21.5 +0.7
comp=Z,0.5nm,0.8s,baz=303,slow=5.9,SNR=5.5
comp=Z,0.5nm,0.8s
EKA Eskdalemuir Ar 98.19 341 P **P 16 23 18.6 -1.6**
comp=Z,1.4nm,0.7s,baz=45,slow=6.5,SNR=2.5
comp=Z,1.4nm,0.7s
QSPA South Pole Qui 111.37 180 PKiKP **PKiKP 16 28 15.2 +0.4**
comp=Z,1.1nm,0.5s,baz=302,slow=5.7,SNR=26
BOSA Boshof 123.84 249 PKP **PKPdf 16 28 40.1 +0.1**
comp=Z,2.4nm,0.8s,baz=18,slow=3.2,SNR=2.2
SNAA Sanae 126.22 193 PKP **PKPdf 16 28 43.3 +0.1**
comp=Z,4.1nm,1.1s,baz=111,slow=0.6,SNR=9.4
TORD Torodi Ar. Bea 128.78 309 PKP **PKPdf 16 28 47.7 -2.0**
comp=Z,1.2nm,0.5s,baz=51,slow=1.5,SNR=10
BAUV El Baul 136.92 48 PKPdf 16 29 04.4 -0.6
PLCA Paso Flores 145.71 132 PKPbc 16 29 21.6 +0.5
PLCA Paso Flores 145.71 132 PKPbc **PKPbc 16 29 21.8 +0.7**
comp=Z,16nm,0.6s,baz=241,slow=3.3,SNR=46
BI02 San Fabin de 146.59 124 PKPbc **PKPbc 16 29 23.2 -0.6**
BOAV Boa Vista 146.79 47 PKPbc **PKPbc 16 29 24.8 -0.1**
BO02 Sierra Bellavi 147.50 121 PKPbc **PKPbc 16 29 26.0 -0.3**
PEL Peldehue 147.96 118 PKPbc **PKPbc 16 29 27.6 +0.1**
PB18 Visviri 149.05 88 PKPbc **PKPbc 16 29 29.6 -1.7**
PB08 IPOC Station P 149.82 93 PKPbc **PKPbc 16 29 33.3 +0.4**
LPAZ La Paz 150.00 85 PKP **PKPdf 16 29 27.9 -0.5**
comp=Z,18nm,0.6s,baz=358,slow=2.6,SNR=36
LPAZ PKPbc **PKiKP 16 29 34.4 0.0**
comp=Z,18nm,0.6s,baz=334,slow=2.1,SNR=56
PTLB Pontes e Lacer 158.03 78 PKPdf **PKPdf 16 29 38.3 -0.5**
BDFB Brasilia 167.90 63 PKP **PKPdf 16 29 49.0 +0.6**
comp=Z,2.1nm,0.5s,baz=202,slow=3.8,SNR=3.7

TAP 31 16:14:10.3,24.59N×121.90E,h64km,ML2.0,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.05**	**291**	*eP*		16 14 20.2	+0.5
TWE	**Neicheng**	**0.25**	**301**	*i* P		16 14 21.2	+0.8
TWE				*i* S		16 14 29.3	+1.5
ENTT	**Nioudou**	**0.31**	**279**	*i* P		16 14 21.9	+1.0
ENTT				S		16 14 30.3	+1.7
FUSB	**Fushanzhiwuyua**	**0.33**	**301**	*i* P		16 14 22.0	+0.8
FUSB				*eS*		16 14 29.9	+0.8
LATG	**Datong**	**0.34**	**261**	P		16 14 21.8	+0.5
LATG				S		16 14 30.6	+1.3
TIPB	**Shuangxi**	**0.39**	**350**	*eP*		16 14 19.9	-1.7
TIPB				*eS*		16 14 27.7	-2.0
NWLT	**Wulai**	**0.41**	**297**	*i* P		16 14 22.4	+0.6
NWLT				*i* S		16 14 30.8	+0.7
TWB1	**Santiao Chiao**	**0.42**	**11**	*eP*		16 14 22.5	+0.6
TWB1				*i* S		16 14 30.3	0.0
YHNB	**Yeheng**	**0.48**	**279**	P		16 14 23.2	+0.7
YHNB				S		16 14 32.0	+0.6
NNSB	**Datong**	**0.50**	**251**	P		16 14 23.7	+1.0
NNSB				S		16 14 32.2	+0.5
NNSH	**Datong**	**0.50**	**251**	*eP*		16 14 21.3	-1.4
NACB	**Ninganchiao**	**0.50**	**214**	P		16 14 21.2	-1.4
NSK	**Sanguang**	**0.50**	**280**	*eP*		16 14 21.9	-0.8
NSK				*eS*		16 14 32.1	+0.4
NNS	**Nan Shan**	**0.50**	**253**	P		16 14 23.7	+1.0
NNS				S		16 14 32.4	+0.6
ETLH	**Xiulin Townshi**	**0.54**	**225**	*eP*		16 14 21.2	-2.0
KSHI	**Guanxi Townshi**	**0.68**	**286**	P		16 14 25.1	+0.5
KSHI				*eS*		16 14 34.3	-0.8
FUSS	**Fushou**	**0.69**	**240**	P		16 14 25.3	+0.4
FUSS				S		16 14 36.5	+0.8
NFF	**Wufeng Townshi**	**0.71**	**273**	*eP*		16 14 24.1	-0.9
NFF				*eS*		16 14 34.0	-1.8
LXIB	**Xiulin Townshi**	**0.72**	**218**	S		16 14 38.0	+1.9
WHF	**Hehuan Shan**	**0.73**	**233**	*eP*		16 14 27.2	+1.6
WHF				*eS*		16 14 36.0	-0.8
TWT	**Tachien**	**0.74**	**243**	P		16 14 26.6	+1.1
TWT				*eS*		16 14 36.6	+0.1
NCUH	**Zhongli**	**0.75**	**300**	*eP*		16 14 27.1	+1.6
NCUH				*i* S		16 14 37.7	+1.1
LIOB	**Emei**	**0.81**	**274**	P		16 14 26.5	+0.4
NSTT	**Nanjuang**	**0.82**	**273**	P		16 14 27.2	+1.0
NSTT				*eS*		16 14 36.0	-2.0
OWD	**Renai**	**0.92**	**226**	*eS*		16 14 43.4	+3.0
WHP	**Taichung City**	**0.92**	**250**	*eP*		16 14 27.7	0.0
WARBT	**Fenglin Townsh**	**0.99**	**208**	*eP*		16 14 30.5	+2.0
WARBT				S		16 14 41.6	-0.2
DPDB	**Guoxing**	**1.05**	**238**	*eP*		16 14 28.8	-0.4
VWDT	**VWDT**	**1.08**	**220**	S		16 14 44.9	+0.9
TYC	**Yuchr**	**1.17**	**235**	*eS*		16 14 49.1	+3.1
HGSD	**Ruisui**	**1.18**	**202**	*eP*		16 14 33.2	+2.4
HGSD				S		16 14 47.4	+1.3
SSLB	**Suanglung**	**1.18**	**227**	*eS*		16 14 49.2	+3.0
WHYT	**Xinyi Township**	**1.31**	**227**	*eP*		16 14 36.1	+3.5
WHYT				S		16 14 51.1	+1.9
YULB	**Yu-li**	**1.31**	**205**	P		16 14 31.9	-0.8
YULB	**Yu-li**	**1.31**	**205**	P		16 14 32.1	-0.6
YULB				*eS*		16 14 50.8	+1.4
TWF1	**Yuli**	**1.35**	**204**	P		16 14 32.6	-0.6
TWF1				*eS*		16 14 52.0	+1.8
ALS	**Alishan**	**1.47**	**223**	P		16 14 37.4	+2.4
ALS				*eS*		16 14 54.4	+0.9
ELDTW	**Lidau**	**1.61**	**210**	*eP*		16 14 34.8	-2.0
TPUB	**Ta-pu**	**1.73**	**222**	*eP*		16 14 37.8	-0.5
TPUB				*eS*		16 14 59.6	+0.2
STYH	**Taoyuan**	**1.75**	**216**	*eP*		16 14 37.1	-1.4
STYH				*eS*		16 15 00.7	+0.9
STYT	**Tauyuan**	**1.77**	**217**	*eP*		16 14 37.6	-1.2
STYT				*eS*		16 15 01.3	+1.0
WTP	**Ta-pu**	**1.78**	**222**	*eP*		16 14 38.4	-0.6
WTP				*eS*		16 15 01.2	+0.5
TWK	**Hsinying**	**1.85**	**225**	*eS*		16 15 02.8	+0.6
SNST	**Tainan City**	**1.87**	**224**	*eS*		16 15 03.5	+0.7
VWUC	**VWUC**	**2.26**	**281**	*eP*		16 14 47.4	+2.0

*GCG **31** 16:16:31.1±1.7,14°.57N×91°.83W,h92km±6km,MD3.9, ML4.0,MW3.5*
*CATAC **31** 16:16:31.7±0.5,14°N±4'×9'2W±', h78km±4km,M4.0/11, MLv4.0/11,Error ellipse: s-maj=9.2km s-min=4.0km az=33.0,confirmed*
*SNET **31** 16:16:32.4±1.6,14°.58N×91°.85W,h76km,ML4.0*
ISC 31 16:16:30.9±1.5,14°.46N±0°.06×91°.88W±0°.05,h91km±8km, n29,σ1°96/41,Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.20**	**69**	P		**16 16 44.6**	**+0.6**
RTAL	**Retalhuleu**	**0.20**	**69**	S		**16 16 55.1**	**+1.2**
SMCA	**Catarina**	**0.44**	**335**	*i* P		**16 16 45.4**	**+0.1**
	comp=Z,1μm,0.4s						
SMCA				*i* S		**16 16 56.4**	**+0.3**
SMCA				IAML		16 16 59.0	
	comp=E,4μm,0.2s						
STG2	**El Palmar, Qui**	**0.49**	**92**	*i* P		**16 16 44.7**	**-1.2**
STG2				*i* S		**16 16 55.4**	**-1.7**
QUEO	**Labor Ovalle**	**0.55**	**41**	*i* P		**16 16 46.9**	**+0.4**
QUEO				*i* S		**16 16 59.1**	**+1.0**
QUEO				IAML		16 17 00.3	
	comp=N,6μm,0.6s						
THIG		**0.58**	**321**	*i* P		**16 16 47.2**	**+0.8**
	comp=Z,2μm,0.2s						
THIG				*i* S		**16 16 59.8**	**+1.8**
THIG				IAML		16 17 00.6	
	comp=N,6μm,0.3s						
SOKI	**Kika Raxquin**	**0.59**	**52**	*eP*		**16 16 47.0**	**0.0**
SOKI				*i* S		**16 16 59.1**	**+0.2**
SOKI				IAML		16 17 07.5	
	comp=N,2μm,0.6s						
HUEH	**Huehuetenango**	**0.93**	**23**	*eP*		**16 16 50.1**	**-0.1**
HUEH				*eS*		**16 17 04.6**	**0.0**
HUEH	**Huehuetenango**	**0.93**	**23**	*i* P		**16 16 50.1**	**-0.1**
	comp=Z,2μm,0.5s						
HUEH				*i* S		**16 17 04.3**	**-0.3**
HUEH				IAML		16 17 06.0	
	comp=N,5μm,0.6s						
HUEH	**Huehuetenango**	**0.93**	**23**	P		**16 16 50.1**	**-0.1**
ESSG	**Sabana Grande**	**1.02**	**94**	*i* P		**16 16 50.9**	**-0.1**
ESSG				*i* S		**16 17 06.0**	**-0.1**
ESSG				IAML		16 17 11.4	
	comp=E,1μm,0.2s						
QUIS	**Sacapulas**	**1.13**	**43**	*i* P		**16 16 52.2**	**-0.1**
QUIS				IAML		16 16 52.7	
	comp=Z,2μm,0.3s						
QUIS				*i* S		**16 17 08.2**	**-0.2**
FG16	**Alotenango, Sa**	**1.34**	**98**	*i* P		16 16 50.7	-4.2
FG16				*i* S		**16 17 06.7**	**-6.4**
FG16				IAML		16 17 12.1	
	comp=E,8μm,0.2s						
ESSJ	**San Jos, E**	**1.61**	**123**	*i* P		16 16 53.7	-4.3
ESSJ				*i* S		**16 17 11.6**	**-7.1**
COIG	**Comitan**	**1.83**	**352**	*i* P		**16 17 01.6**	**+0.4**
CCIG				*i* S		**16 17 24.5**	**+0.4**
CCIG				IAML		16 17 25.4	
	comp=N,262nm,0.5s						
CCIG	**Comitan**	**1.83**	**352**	P		**16 17 01.6**	**+0.4**
FAME	**Alcaldia de Sa**	**1.91**	**108**	P		**16 17 02.5**	**+0.5**
SLOZ	**Alcaldia de Sa**	**2.08**	**102**	S		**16 17 30.9**	**+1.2**
NUBE	**Las Nubes**	**2.11**	**105**	*eP*		**16 17 05.1**	**+0.4**
NUBE				*eS*		**16 17 32.3**	**+1.7**
CEVE	**Cerro Verde**	**2.28**	**106**	*eP*		**16 17 09.6**	**+2.5**
CEVE				*eS*		**16 17 38.7**	**+4.0**
JAYA	**Jayaque - finc**	**2.49**	**108**	*eP*		**16 17 10.9**	**+1.1**
JAYA	**Jayaque - finc**	**2.49**	**108**	*i* P		**16 17 10.7**	**+0.9**
JAYA	**Jayaque - finc**	**2.49**	**108**	P		**16 17 10.7**	**+0.9**
JAYA	**Jayaque - finc**	**2.49**	**108**	S		**16 17 40.9**	**+1.2**
TGIG		**2.60**	**333**	*eP*		**16 17 10.1**	**-1.1**
TGIG				IAML		16 17 58.8	
	comp=E,205nm,0.6s						
LFRS	**El Faro**	**2.86**	**106**	*eS*		**16 17 50.8**	**+2.4**
PETF	**Flores**	**3.12**	**38**	*i* P		**16 17 17.4**	**-0.8**
PETF				IAML		16 17 52.9	
comp=E,417nm,0.6s
HUIG Huatulco 4.29 288 *eP* **Pn 16 17 33.2 -0.6**
comp=Z,16nm,0.7s
SCIG Sabancuy 4.54 8 *i* P **Pn 16 17 36.0 -1.2**

*DJA **31** 16:39:13.9±1.5,7°N±12'×12'6E±', h117km±15km,M4.5/10, mb4.6/10,mB5.0/7,MLv4.8/9,Mw(mB)4.2/7*
*IDC **31** 16:39:18.3±1.4,6°.46N×126°.25E,h58km±11km,mb3.8/15, mbtmp4.1/16,Error ellipse: s-maj=31.0km s-min=11.5km az=69.0*
*NEIC **31** 16:39:19.9±1.1,6°.44N±0°.09×126°.1E±0°.2,h70km±7km, mb4.4/17,Error ellipse: s-maj=24.3km s-min=9.4km az=66.0*
ISC 31 16:39:17.6±0.4,6°.40N±0°.05×126°.28E±0°.08,h50km,n63, σ1°46/68,mb4.3/25,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**0.96**	**314**			**16 39 35.2**	**+0.4**
DAV					Sn	**16 39 49.5**	**+2.0**
DAV	**Davao City (W)**	**0.96**	**314**	P		**16 39 35.2**	**+0.4**
	2μm,0.3s,baz=102,slow=2.0,SNR=50						
DAV				S		**16 39 48.0**	**+0.5**
	3μm,0.4s,baz=253,slow=24,SNR=7.9						
SGSI	**Sangihe**	**2.79**	**195**	P		**16 40 01.6**	**+1.8**
TNTI	**Ternate**	**5.69**	**169**	Pn		**16 40 43.3**	**+3.6**
TNTI	**Ternate**	**5.69**	**169**	P		**16 40 41.3**	**+1.7**
	0.3nm1μm72nm,0.8s						
KMSI	**Cibinong**	**6.22**	**202**	P		**16 40 48.2**	**+1.3**
MRSI	**Marisa**	**7.30**	**217**	P		**16 41 02.6**	**+0.9**
	0.3nm773nm49nm,0.9s						
TOLI2	**Tolitoli**	**7.59**	**226**	Pn		**16 41 03.0**	**-2.6**
LUWI	**Luwuk**	**8.18**	**205**	P		**16 41 16.8**	**+3.1**
	57nm,1.0s						
SANI	**Sanana**	**8.39**	**182**	P		**16 41 17.6**	**+0.9**
	1μm34nm,0.9s						
APSI	**Ampana**	**8.60**	**213**	P		**16 41 20.7**	**+1.1**
	40nm,1.0s						
MPSI	**Mapaga**	**8.76**	**227**	P		**16 41 22.1**	**+0.4**
NLAI	**Namlea**	**9.61**	**175**	P		**16 41 32.9**	**-0.4**
	1μm36nm,0.6s						
SBUM	**Sibu**	**14.55**	**255**			**16 42 48.0**	**+2.0**
BATI	**Baumata**	**16.70**	**189**	P		**16 43 09.1**	**+0.9**
	14nm,0.4s,baz=4.8,slow=2.3,SNR=5.9						
MTN	**Manton Dam**	**19.71**	**166**	P		**16 43 44.4**	**+1.3**
MTN				IAmb	IAmb	16 43 54.7	
	comp=Z,22nm,1.1s						
JOW	**Kunigami**	**20.41**	**5**	P		**16 43 50.6**	**+0.1**
	comp=Z,14nm,0.9s,baz=241,slow=13,SNR=2.5						
	comp=Z,14nm,0.9s						
KNRA	**Kununurra**	**22.07**	**174**	P		**16 44 09.1**	**+0.7**
KNRA				IAmb	IAmb	16 44 14.0	
	comp=Z,12nm,0.6s						
COEN	**Coen**	**26.27**	**140**	P		**16 44 49.3**	**+0.8**
COEN				IAmb	IAmb	16 45 27.9	
	comp=Z,18nm,1.1s						
WB0	**Warramunga Arr**	**27.20**	**163**	P		**16 44 56.5**	**-0.3**
WB0				IAmb	IAmb	16 45 00.7	
	comp=Z,4.9nm,0.7s						
WRA	**Warramunga Arr**	**27.35**	**163**	P		**16 44 58.5**	**+0.4**
WRA	**Warramunga Arr**	**27.35**	**163**	P		**16 44 58.2**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=342,slow=10.0,SNR=22						
WRA				PcP	**PcP**	**16 48 17.1**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=335,slow=2.4,SNR=2.2						
WRA				S	**S**	**16 49 32.8**	**-1.9**
	comp=Z,2.1nm,1.2s,baz=335,slow=16,SNR=5.0						
WRA				ScP	**ScP**	**16 51 51.5**	**-1.6**
	comp=Z,0.5nm,0.9s,baz=292,slow=9.7,SNR=2.8						
	comp=Z,1.2nm,0.4s						
WR8	**Warramunga Arr**	**27.41**	**163**	P		**16 44 58.5**	**-0.2**
WR8				IAmb	IAmb	16 45 41.3	
	comp=Z,7.5nm,1.1s						
PSA00	**Pilbara Seismi**	**28.50**	**193**	P		**16 45 07.9**	**-0.5**
PSA00				IAmb	IAmb	16 45 11.3	
	comp=Z,12nm,1.0s						
CMAR	**Chiang Mai Arr**	**29.21**	**297**	P		**16 45 14.9**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=109,slow=9.0,SNR=2.6						
	comp=Z,0.6nm,0.5s						
PZH	**PanZhiHua**	**30.76**	**313**	P		**16 45 29.3**	**+0.8**
AS31	**Alice Springs**	**30.79**	**166**	P		**16 45 29.1**	**+0.4**
ASAR	**Alice Springs**	**30.79**	**166**	P		**16 45 28.8**	**+0.1**
ASAR	**Alice Springs**	**30.79**	**166**	P		**16 45 29.1**	**+0.4**
	comp=Z,2.2nm,0.4s,baz=345,slow=7.4,SNR=86						
ASAR				PcP	**PcP**	**16 48 25.4**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=338,slow=3.0,SNR=5.8						
ASAR				S	**S**	**16 50 24.6**	**-4.2**
	comp=Z,1.3nm,1.0s,baz=2.8,slow=21,SNR=6.5						
ASAR				ScP	**ScP**	**16 52 02.7**	**-1.3**
	comp=Z,0.3nm,0.9s,baz=345,slow=3.3,SNR=1.9						
	comp=Z,2.2nm,0.4s						
XAN	**Xi'an**	**31.86**	**332**	*eP*		**16 45 39.3**	**+1.3**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**36.74**	**341**	*eP*		**16 46 22.3**	**+2.0**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,6.2s						
FORT	**Forrest**	**37.00**	**177**	P		**16 46 22.6**	**+0.1**
FORT				IAmb	IAmb	16 46 44.9	
	comp=Z,8.7nm,1.2s						
NWAO	**Narrogin (SRO)**	**40.04**	**192**	P		**16 46 48.1**	**+0.2**
BBOO	**Buckleboo**	**40.09**	**167**	P		**16 46 49.2**	**+0.9**
JKA	**Kamikawa-asahi**	**40.20**	**18**	P		**16 46 49.3**	**+0.2**
GTA	**Gaotai**	**40.60**	**328**	P		**16 46 56.3**	**+3.6**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
STKA	**Stephens Creek**	**40.77**	**160**	P		**16 46 54.7**	**+0.7**
STKA	**Stephens Creek**	**40.77**	**160**	P		**16 46 54.9**	**+0.9**
	comp=Z,2.7nm,0.4s,baz=332,slow=9.4,SNR=8.2						
	comp=Z,2.7nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**41.15**	**69**	T	T	17 30 59.1	
	baz=258,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**41.16**	**69**	T	T	17 30 49.9	
	baz=258,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**41.16**	**69**	T	T	17 30 56.6	
	baz=258,slow=75,SNR=18						
SONM	**Songino Array**	**44.64**	**341**	P		**16 47 25.9**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=168,slow=7.4,SNR=4.4						
	comp=Z,0.4nm,0.4s						
PETK	**Petropavlovsk-**	**53.16**	**23**	P		**16 48 29.7**	**-0.6**
PETK	**Petropavlovsk-**	**53.16**	**23**	P		**16 48 29.9**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=219,slow=5.4,SNR=4.9						
	comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**55.13**	**324**	P		**16 48 43.6**	**-1.2**
MKAR	**Makanchi Array**	**55.13**	**324**	P		**16 48 44.0**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=119,slow=7.9,SNR=16						
	comp=Z,1.1nm,0.5s						
MAKZ	**Makanchi**	**55.32**	**324**	P		**16 48 44.9**	**-1.3**
ZALV	**Zalesovo Beam**	**58.02**	**333**	P		**16 49 04.3**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=111,slow=3.8,SNR=4.8						
	comp=Z,0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**59.27**	**327**	P		**16 49 12.

DJA 31 16:46:09.3±0.7, 10°S±6'×11°0E±°, h10km, M3.6/10, MLv3.6/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**1.83**	**29**	P	Pn	16 46 40.9	0.0
UGM				S	Sn	16 47 03.8	-0.3
PCJI	**Pacitan**	**2.02**	**49**	P	Pn	16 46 42.7	-0.7
WOJI	**Wonogiri, Jawa**	**2.11**	**37**	P	Pn	16 46 44.9	+0.3
SMRI	**Semarang**	**2.59**	**18**	P	Pb	16 46 53.7	-2.2
CNJI	**Cibinong**	**3.32**	**311**	P	Pn	16 47 00.0	-1.4
GMJI	**Gumukmas**	**3.96**	**72**	P	Pn	16 47 09.6	-0.6
JAGI	**Jajag, Banyuwa**	**4.58**	**77**	P	Pn	16 47 18.2	-0.5
PLAI	**Plampang**	**8.06**	**86**	P	Pn	16 48 05.3	-1.3

SDD 31 16:58:32.3±1.1, 19°17N×69°35W, h54km±11km, MD2.8, ML2.0, MW2.7, 2C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMDR	**Samana, DR**	**0.19**	**53**	*e*Pg	Pn	16 58 40.2	-0.9
SMDR				*e*Sg	Sn	16 58 46.9	-0.5
SMDR				IAML		16 58 47.3	
	comp=E,174nm,0.5s						
SMDR				IAML		16 58 51.3	
	comp=N,108nm,0.5s						
MIDR	**Miches**	**0.34**	**123**	*e*Pg	Pn	16 58 41.6	-0.6
MIDR				*e*Sg	Sn	16 58 48.2	-1.1
MIDR				IAML		16 58 49.0	
	comp=N,17nm,0.1s						
MIDR				IAML		16 58 49.8	
	comp=E,35nm,0.1s						
MIDR				IAML		16 58 50.0	
	comp=N,24nm,1.3s						
NADR	**Nagua**	**0.51**	**291**	*e*Sg	Sn	16 58 50.8	-1.6
NADR				IAML		16 59 08.8	
	comp=N,228nm,1.8s						
BANI	**BANI**	**1.23**	**231**	*e*Pg	Pn	16 58 52.5	-0.9
BANI				*e*Sg	Sn	16 59 06.6	-2.4
BANI				IAML		16 59 08.0	
	comp=N,73nm,0.1s						
ABDR	**Alto Bandera**	**1.26**	**254**	*e*Pg	Pn	16 58 52.6	-1.4
ABDR				*e*Sg	Sn	16 59 09.1	-1.0
ABDR				IAML		16 59 18.9	
	comp=N,22nm,1.8s						

JMA 31 17:09:51.2±0.2, 24°2N±0°.5×123°.8E±0°.5, h17km±2km, MV0.6/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.12**	**193**	P	Pg	17 09 54.9	-0.1
JKRS	**Kuro-shima**	**0.17**	**68**	P	Pg	17 09 55.7	0.0
JKRS				*e*S	Sb	17 09 59.0	-0.1
IRIF	**Iriomote-Funau**	**0.19**	**329**	P	Pg	17 09 55.9	0.0
IRIF				*e*S	Sg	17 09 59.2	+0.1
JIJ	**Ishigaki jima**	**0.34**	**56**	*e*P	Pg	17 09 58.2	-0.2
JIJ				*e*S	Sg	17 10 03.0	-0.3
JISG	**Ishigakijimahi**	**0.60**	**47**	P	Pg	17 10 03.1	0.0
JISG				*e*S	Sg	17 10 11.1	-0.1
JTJ	**Tarama**	**0.92**	**59**	*e*S	Sn	17 10 22.2	+0.1

TAP 31 17:10:21.4, 25°.04N×121°.97E, h122km±1km, ML2.0, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIPB	**Shuangxi**	**0.15**	**243**	*e*P	Pn	17 10 37.8	-0.3
TWE	**Neicheng**	**0.42**	**221**	*e*P	Pn	17 10 40.0	+1.0
TWC	**Suao**	**0.44**	**195**	P	Pn	17 10 38.6	-0.5
FUSB	**Fushanzhiwuyua**	**0.45**	**232**	*e*P	Pn	17 10 39.3	0.0
NWLT	**Wulai**	**0.50**	**239**	*e*P	Pn	17 10 39.7	+0.2
NWLT				*e*S	Sn	17 10 53.0	-0.2
ENTT	**Nioudou**	**0.54**	**223**	*e*P	Pn	17 10 40.0	+0.2
ENA	**Nanau**	**0.65**	**199**	*e*P	Pn	17 10 38.6	-1.9
ENA				*e*S	Sn	17 10 54.2	-0.6
LATG	**Datong**	**0.65**	**219**	*e*P	Pn	17 10 41.1	+0.5
LATG				*e*S	Sn	17 10 56.0	+0.9
YHNB	**Yeheng**	**0.66**	**236**	*e*P	Pn	17 10 40.4	-0.3
YHNB				*e*S	Sn	17 10 55.5	+0.3
NSK	**Sanguang**	**0.67**	**237**	*e*P	Pn	17 10 40.8	+0.1
NSK				*e*S	Sn	17 10 54.8	-0.4
EOS3	**EOS3**	**0.81**	**157**	*i* P	Pn	17 10 41.3	-0.3
EOS3				*i* S	Sn	17 10 56.3	-0.6
NACB	**Ninganchiao**	**0.93**	**202**	*e*P	Pn	17 10 41.9	-0.9
NACB				*e*S	Sn	17 10 57.4	-1.6
ETLH	**Xiulin Townshi**	**0.94**	**208**	*e*P	Pn	17 10 42.3	-0.7
ETLH				*e*S	Sn	17 10 58.1	-1.4
EOS4	**EOS4**	**0.97**	**161**	P	Pn	17 10 42.5	-0.3
EOS4				*i* S	Sn	17 10 57.7	-1.3
LXIB	**Xiulin Townshi**	**1.14**	**207**	*e*S	Sn	17 11 02.4	-0.6
WARBT	**Fenglin Townsh**	**1.42**	**202**	*e*P	Pn	17 10 46.0	-2.0
WARBT				*e*S	Sn	17 11 05.5	-2.8

*UCR **31** 17:16:44.5±1.1, 13°.31N×89°.49W, h12km±238km, MW4.1*
*SNET **31** 17:16:47.5±0.9, 13°.11N×89°.48W, h33km, ML4.4*
*GCG **31** 17:16:47.6±1.2, 13°.14N×89°.55W, h46km±12km, MD4.3, ML4.3, MW3.7*
*CATAC **31** 17:16:47.0±0.6, 13°N±3'×9°0W±°, h26km±3km, M4.6/17, MLv4.6/17, Error ellipse: s-maj=7.5km s-min=4.1km az=19.6, confirmed*

ISC 31 17:16:48.2±1.2, 13°.13N±0°.04×89°.44W±0°.03, h28km±12km, n90, σ1s14/99, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.37**	**18**	*i* P	**Pn**	**17 16 57.5**	**-0.2**
LALI				*i* S	**Sn**	**17 17 04.9**	**+0.8**
LALI				IAML		17 17 06.0	
	comp=N,4μm,0.2s						
LALI	**Alcalda de L**	**0.37**	**18**	P	**Pn**	**17 16 57.6**	**-0.2**
LALI	**Alcalda de L**	**0.37**	**18**	S	**Sn**	**17 17 05.3**	**+1.1**
JAYA	**Jayaque - finc**	**0.52**	**359**	*i* P	**Pb**	**17 16 59.0**	**0.0**
JAYA	**Jayaque - finc**	**0.52**	**359**	P	**Pb**	**17 16 59.1**	**+0.1**
JAYA	**Jayaque - finc**	**0.52**	**359**	S	**Sn**	**17 17 07.6**	**-0.5**
PANCS	**Alcalda de**	**0.54**	**28**	S	**Sn**	**17 17 08.4**	**+0.1**
PANCS	**Alcalda de**	**0.54**	**28**	P	**Pb**	**17 16 59.3**	**0.0**
LOMA	**Loma Larga**	**0.57**	**27**	S	**Sn**	**17 17 09.7**	**+0.4**
LOMA	**Loma Larga**	**0.57**	**27**	P	**Pb**	**17 16 59.6**	**-0.3**
PMON	**Piamonte**	**0.59**	**12**	P	**Pb**	**17 17 00.1**	**-0.1**
PMON	**Piamonte**	**0.59**	**12**	S	**Sn**	**17 17 10.0**	**+0.3**
UTEC	**Universidad Te**	**0.61**	**22**	P	**Pb**	**17 17 00.6**	**+0.2**
UTEC	**Universidad Te**	**0.61**	**22**	S	**Sn**	**17 17 10.6**	**+0.4**
UEES	**Universidad Ev**	**0.61**	**19**	S	**Sn**	**17 17 10.5**	**+0.3**
UEES	**Universidad Ev**	**0.61**	**19**	P	**Pb**	**17 17 00.6**	**+0.1**
BOQS	**Boqueron**	**0.62**	**15**	*e*P	**Pb**	**17 17 00.7**	**0.0**
IGN	**Direccin Gen**	**0.64**	**24**	S	**Sn**	**17 17 11.2**	**+0.4**
IGN	**Direccin Gen**	**0.64**	**24**	P	**Pb**	**17 17 00.7**	**-0.1**
CEDA	**San Andres**	**0.67**	**4**	*e*P	**Pb**	**17 17 01.1**	**-0.3**
CEDA	**San Andres**	**0.67**	**4**	S	**Sn**	**17 17 11.6**	**0.0**
CEDA	**San Andres**	**0.67**	**4**	P	**Pb**	**17 17 01.1**	**-0.3**
CEVE	**Cerro Verde**	**0.71**	**346**	*e*P	**Pb**	**17 17 01.7**	**-0.6**
CEVE				*e*S	**Sn**	**17 17 13.3**	**+0.3**
CEVE	**Cerro Verde**	**0.71**	**346**	P	**Pb**	**17 17 01.7**	**-0.6**
CEVE	**Cerro Verde**	**0.71**	**346**	S	**Sn**	**17 17 12.7**	**-0.3**
PAVA	**Las Pavas**	**0.76**	**40**	*e*S	**Sn**	**17 17 15.3**	**+1.5**
PAVA	**Las Pavas**	**0.76**	**40**	S	**Sn**	**17 17 15.1**	**+1.2**
PAVA	**Las Pavas**	**0.76**	**40**	P	**Pb**	**17 17 02.9**	**0.0**
TECO	**Alcaldia de Te**	**0.76**	**58**	P	**Pb**	**17 17 02.1**	**-0.7**
TECO	**Alcaldia de Te**	**0.76**	**58**	S	**Sn**	**17 17 14.7**	**+1.0**
UESV	**Universidad de**	**0.81**	**52**	P	**Pb**	**17 17 03.1**	**-0.7**
UESV	**Universidad de**	**0.81**	**52**	S	**Sn**	**17 17 15.4**	**+0.4**
UNIC	**Universidad Ca**	**0.85**	**353**	S	**Sn**	**17 17 15.9**	**-0.2**
UNIC	**Universidad Ca**	**0.85**	**353**	P	**Pb**	**17 17 03.4**	**-1.1**
ALJI	**Alcalda de J**	**0.87**	**77**	P	**Pn**	**17 17 05.8**	**+1.2**
ALJI	**Alcalda de J**	**0.87**	**77**	S	**Sn**	**17 17 18.3**	**+1.9**
SCLA	**Alcaldia de Sa**	**0.90**	**51**	P	**Pb**	**17 17 04.7**	**-0.5**
SCLA	**Alcaldia de Sa**	**0.90**	**51**	S	**Sn**	**17 17 18.1**	**+1.0**
FAME	**Alcaldia de Sa**	**0.90**	**322**	S	**Sb**	**17 17 15.2**	**-1.8**
FAME	**Alcaldia de Sa**	**0.90**	**322**	P	**Pb**	**17 17 02.9**	**-2.4**
SLOZ	**Alcaldia de Sa**	**0.95**	**339**	S	**Sn**	**17 17 18.6**	**+0.1**
SLOZ	**Alcaldia de Sa**	**0.95**	**339**	P	**Pb**	**17 17 04.7**	**-1.4**
PQSS	**Presa 15 de Se**	**0.99**	**60**	P	**Pb**	**17 17 05.5**	**-1.2**
PQSS	**Presa 15 de Se**	**0.99**	**60**	S	**Sb**	**17 17 19.6**	**+0.3**
ESSJ	**San Jos, E**	**1.12**	**293**	*e*P	**Pb**	**17 17 12.1**	**+3.2**
PACA	**Pacayal**	**1.14**	**73**	S	**Sn**	**17 17 24.4**	**+1.2**
PACA	**Pacayal**	**1.14**	**73**	P	**Pn**	**17 17 08.5**	**0.0**
MTO3	**Montecristo**	**1.26**	**3**	*i* P	**Pn**	**17 17 09.3**	**-1.0**
MTO3	**Montecristo**	**1.26**	**3**	P	**Pn**	**17 17 09.1**	**-1.2**
MTO3	**Montecristo**	**1.26**	**3**	S	**Sn**	**17 17 26.1**	**-0.3**
CAHU	**Cacacuatique**	**1.35**	**62**	*e*P	**Pn**	**17 17 11.0**	**-0.5**
FG16	**Alotenango, Sa**	**1.54**	**318**	*i* P	**Pb**	**17 17 17.2**	**+1.0**
FG16				IAML		17 17 45.7	
	comp=N,12μm,0.2s						
FG8	**Yepocapa, Chim**	**1.56**	**316**	*i* P	**Pb**	**17 17 17.4**	**+0.8**
FG8				*i* S	**Sb**	**17 17 41.1**	**+5.1**
CNCH	**Conchagua**	**1.57**	**85**	*e*S	**Sn**	**17 17 35.1**	**+1.2**
MARCA	**Marcala la Paz**	**1.71**	**53**	*i* P	**Pn**	**17 17 15.6**	**-0.6**
SARH	**Santa Rosa de**	**1.76**	**22**	*i* P	**Pn**	**17 17 16.9**	**-0.1**
SARH				*i* S	**Sn**	**17 17 39.2**	**+0.6**
ESSG	**Sabana Grande**	**1.84**	**313**	*i* P	**Pn**	**17 17 16.0**	**-2.1**
ESSG				*i* S	**Sn**	**17 17 37.7**	**-2.7**
ESSG				IAML		17 17 43.9	
	comp=E,3μm,0.2s						
CSGN	**Cosiguina Volc**	**1.84**	**95**	*e*P	**Pn**	**17 17 16.5**	**-1.5**
CSGN				*e*S	**Sn**	**17 17 40.0**	**-0.5**
POTN	**Potosi Cosigui**	**1.89**	**94**	*e*P	**Pn**	**17 17 17.8**	**-0.9**
POTN				*e*S	**Sn**	**17 17 41.2**	**-0.4**
STG2	**El Palmar, Qui**	**2.29**	**305**	*i* P	**Pb**	**17 17 27.6**	**-1.3**
STG2				*i* S	**Sb**	**17 17 56.4**	**-0.4**
CRIN	**San Cristobal**	**2.37**	**100**	*e*P	**Pn**	**17 17 24.5**	**-0.9**
SOKI	**Kika Raxquin**	**2.54**	**312**	*i* P	**Pn**	**17 17 27.5**	**-0.5**
SOKI				*i* S	**Sn**	**17 17 57.8**	**-0.5**
SOKI				IAML		17 18 02.7	
	comp=N,1μm,0.4s						
QUIS	**Sacapulas**	**2.68**	**323**	IAML		17 18 13.3	
	comp=E,821nm,0.4s						
COPN	**Copaltepe**	**2.94**	**108**	*e*P	**Pn**	**17 17 30.4**	**-2.7**
COPN				*e*S	**Sn**	**17 18 03.7**	**-3.8**
LCRUZ	**La Cruz**	**4.25**	**118**	*e*P	**Pn**	**17 17 50.3**	**-0.9**
ELI1	**Hacienda Flor**	**4.54**	**123**	*e*P	**Pn**	**17 17 55.5**	**+0.4**
ALIBA	**Liberia Airpor**	**4.57**	**123**	*e*P	**Pn**	**17 17 56.0**	**+0.4**
LAPC	**Finca la Perla**	**4.57**	**121**	*e*P	**Pn**	**17 17 54.9**	**-0.7**
VRLE	**La Escondida,**	**4.62**	**120**	*e*P	**Pn**	**17 17 55.6**	**-0.7**
HORNC	**Hornillas**	**4.81**	**120**	*e*P	**Pn**	**17 17 58.4**	**-0.6**
COLC	**Colonia**	**4.82**	**120**	*e*P	**Pn**	**17 17 59.3**	**+0.3**
CMARA	**Lajas Hojancha**	**5.00**	**128**	*e*P	**Pn**	**17 18 01.4**	**-0.2**
INVE	**Universidad In**	**5.03**	**121**	*e*P	**Pn**	**17 18 01.9**	**0.0**
JTS	**Las Juntas de**	**5.22**	**122**	*e*P	**Pn**	**17 18 04.9**	**+0.3**
TABAC	**Tabacon**	**5.27**	**119**	*e*P	**Pn**	**17 18 06.2**	**+0.9**
VARE2	**V. Arenal**	**5.33**	**119**	*e*P	**Pn**	**17 18 06.9**	**+0.8**
JCR1	**Jicaral**	**5.35**	**127**	*e*P	**Pn**	**17 18 06.2**	**-0.2**
PICV	**PH. Pirrs**	**6.21**	**124**	*e*P	**Pn**	**17 18 18.5**	**+0.3**
PISJ	**San Jernim**	**6.27**	**123**	*e*P	**Pn**	**17 18 19.6**	**+0.5**
VICA	**Volcano Irazu**	**6.31**	**119**	*e*P	**Pn**	**17 18 19.5**	**-0.4**
PIEC	**Cerro El Cedra**	**6.41**	**122**	*e*P	**Pn**	**17 18 21.3**	**+0.2**
VTCV	**VTCV, Calle Va**	**6.41**	**119**	*e*P	**Pn**	**17 18 21.3**	**+0.2**
RVSTA	**Santa Teresita**	**6.48**	**118**	*e*P	**Pn**	**17 18 22.8**	**+0.8**
LCOCO	**El Coco**	**6.51**	**117**	*e*P	**Pn**	**17 18 23.2**	**+0.9**
SAJE	**San Jernim**	**6.93**	**122**	*e*P	**Pn**	**17 18 29.2**	**+1.1**
DRK0	**Durika**	**7.19**	**122**	*e*P	**Pn**	**17 18 32.3**	**+0.5**
ALCO	**Alturas Coton,**	**7.70**	**122**	*e*P	**Pn**	**17 18 39.1**	**+0.3**
CLLRA	**Cordillera,**	**8.00**	**122**	*e*P	**Pn**	**17 18 43.3**	**+0.5**
PBNVO	**Pueblo Nuevo,**	**8.27**	**120**	*e*P	**Pn**	**17 18 46.9**	**+0.5**
RBALA	**Bur**	**8.31**	**120**	*e*P	**Pn**	**17 18 46.9**	**0.0**

*TIR **31** 17:18:01.5, 40°.51N×20°.78E, h17km, Md1.8/6, Ml3.0/4*
*THE **31** 17:18:02.9, 41°N±2°×2°1E±°, h3km±2km, M2.4/9, MLh2.4/9*
*ATH **31** 17:18:02.3, 40°.51N×20°.80E, h5km±1km, ML2.5/15, Manual Solution by G.Panopoulou First location: 2019/07/31 17:19:29, This location: 2021/06/04 19:50:47 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*SKO **31** 17:18:03.6, 40°.51N×20°.86E, h15km, ML2.5*
*BEO **31** 17:18:04.6±0.3, 40°.46N×21°.02E, h17km±4km, ML2.1/6*

ISC 31 17:18:02.6±0.9, 40°.51N±0°.02×20°.79E±0°.02, h6km±7km, n60, σ0s77/90, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBN	**Korca**	**0.11**	**357**	Pg	**Pg**	**17 18 04.9**	**-0.2**
KBN				Sg	**Sg**	**17 18 07.2**	**+0.5**
KBN				AML	AML	17 18 08.2	
	19nm,0.2s						
KBN				AMd		17 18 28.8	
NEST	**Nestorio**	**0.22**	**117**	Pg	**Pg**	**17 18 06.9**	**0.0**
NEST				Sg	**Sg**	**17 18 11.0**	**+1.1**
NEST				AML	AML	17 18 11.7	
	8.0nm,0.2s						
NEST				AMd		17 18 28.1	
NEST	**Nestorio**	**0.22**	**117**	P	**Pg**	**17 18 07.3**	**+0.4**
NEST				S	**Sg**	**17 18 10.3**	**+0.4**
NEST	**Nestorio**	**0.22**	**117**	P	**Pg**	**17 18 07.3**	**+0.4**
NEST				S	**Sg**	**17 18 10.2**	**+0.4**
PENT	**Pentalofos**	**0.41**	**140**	P	**Pg**	**17 18 10.5**	**-0.1**
PENT				S	**Sg**	**17 18 15.9**	**-0.1**
PENT	**Pentalofos**	**0.41**	**140**	P	**Pg**	**17 18 10.4**	**-0.1**
LMS2	**Laimos Florina**	**0.42**	**39**	P	**Pg**	**17 18 10.5**	**-0.2**
LMS2				S	**Sg**	**17 18 16.6**	**+0.4**
FNA	**Florina**	**0.52**	**58**	Pg	**Pg**	**17 18 12.4**	**-0.3**
FNA				Sg	**Sb**	**17 18 20.6**	**-1.3**
FNA				AMd		17 18 44.5	
FNA	**Florina**	**0.52**	**58**	P	**Pg**	**17 18 12.6**	**-0.1**
FNA				S	**Sg**	**17 18 19.6**	**+0.2**
FNA	**Florina**	**0.52**	**58**	*i* Pg	**Pg**	**17 18 12.6**	**-0.4**
FNA				*i* Sg	**Sb**	**17 18 21.2**	**-0.7**
FNA	**Florina**	**0.52**	**58**	*e*Pg	**Pg**	**17 18 12.6**	**-0.1**
FNA				*e*Sg	**Sb**	**17 18 20.9**	**-1.0**
FNA	**Florina**	**0.52**	**58**	P	**Pg**	**17 18 12.5**	**-0.1**
FNA				S	**Sg**	**17 18 19.5**	**+0.2**
OHR	**Ohrid**	**0.60**	**0**	*i* Pg	**Pb**	**17 18 14.9**	**-0.6**
OHR				*i* Sg	**Sb**	**17 18 24.2**	**0.0**
OHR				*e*Lg	Lg	17 18 24.9	
	comp=E,564nm,0.6s						
OHR				*e*Lg	Lg	17 18 24.9	
	comp=N,168nm,0.5s						
KZN	**Kozani**	**0.77**	**105**	P	**Pg**	**17 18 17.3**	**-0.2**
KZN				S	**Sb**	**17 18 28.8**	**-0.4**
KZN	**Kozani**	**0.77**	**105**	P	**Pg**	**17 18 17.1**	**-0.3**
KZN				S	**Sb**	**17 18 28.3**	**-1.0**
JAN	**Janina**	**0.86**	**177**	P	**Pg**	**17 18 19.0**	**0.0**
SRN	**Sarande**	**0.88**	**224**	Pg	**Pg**	**17 18 19.0**	**-0.4**
SRN				Sg	**Sb**	**17 18 32.2**	**+0.1**
SRN				AML	AML	17 18 34.1	
	comp=N,0.6nm,0.4s						
SRN				AMd		17 18 40.8	
PRMD	**Pramanda**	**1.01**	**167**	P	**Pg**	**17 18 21.2**	**-0.8**
IGT	**Igoumenitsa**	**1.04**	**200**	Pg	**Pg**	**17 18 21.7**	**-0.9**
IGT				Sg	**Sb**	**17 18 36.9**	**+0.1**
IGT				AMd		17 19 33.8	
IGT	**Igoumenitsa**	**1.04**	**200**	P	**Pb**	**17 18 22.5**	**-0.5**
IGT				S	**Sb**	**17 18 36.6**	**-0.3**
IGT	**Igoumenitsa**	**1.04**	**200**	*i* Pg	**Pb**	**17 18 22.8**	**-0.2**
IGT				*i* Sg	**Sn**	**17 18 39.0**	**+0.5**
IGT	**Igoumenitsa**	**1.04**	**200**	*e*Pg	**Pb**	**17 18 22.8**	**-0.2**
IGT				*e*Sg	**Sn**	**17 18 39.6**	**+1.1**
IGT	**Igoumenitsa**	**1.04**	**200**	P	**Pb**	**17 18 22.5**	**-0.5**
KEK	**Kerkira**	**1.10**	**224**	P	**Pn**	**17 18 24.6**	**0.0**
TETR	**Tetrakomo, Epi**	**1.22**	**162**	P	**Pg**	**17 18 25.4**	**-0.7**
THL	**Klokotos Trika**	**1.33**	**135**	P	**Pn**	**17 18 26.9**	**-0.7**
THL				S	**Sn**	**17 18 45.7**	**0.0**
THL	**Klokotos Trika**	**1.33**	**135**	P	**Pn**	**17 18 27.3**	**-0.3**
LIT	**Litokhoron**	**1.36**	**107**	P	**Pb**	**17 18 28.5**	**+0.1**
LIT				S	**Sb**	**17 18 45.8**	**-0.2**
LIT	**Litokhoron**	**1.36**	**107**	*i* Pg	**Pb**	**17 18 28.5**	**+0.1**
LIT				*i* Sg	**Sn**	**17 18 48.4**	**+2.0**
LIT	**Litokhoron**	**1.36**	**107**	P	**Pb**	**17 18 28.6**	**+0.1**
TYRN	**Tyrnavos**	**1.36**	**126**	P	**Pn**	**17 18 28.0**	**-0.1**
TYRN				S	**Sg**	**17 18 45.8**	**-0.6**
TYRN	**Tyrnavos**	**1.36**	**126**	P	**Pn**	**17 18 27.7**	**-0.4**
VAY	**Valandovo**	**1.57**	**58**	*i* Pn	**Pb**	**17 18 31.6**	**-0.4**
VAY				*i* Sn	**Sg**	**17 18 54.9**	**+1.9**
VAY				*e*Lg	Lg	17 18 56.8	
	comp=E,36nm,0.8s						
VAY				*e*Lg	Lg	17 19 00.7	
	comp=N,36nm,0.7s						
TSLK	**Tsoukalades, L**	**1.69**	**184**	P	**Pb**	**17 18 33.7**	**-0.3**
KNT	**Kendrikon**	**1.72**	**67**	P	**Pn**	**17 18 32.6**	**-0.5**
KNT	**Kendrikon**	**1.72**	**67**	*i* Pn	**Pn**	**17 18 33.2**	**+0.1**
KNT	**Kendrikon**	**1.72**	**67**	P	**Pn**	**17 18 32.5**	**-0.5**
LKD2	**Lefkada island**	**1.73**	**184**	P	**Pb**	**17 18 34.1**	**-0.6**
HORT	**Hortiatis**	**1.76**	**86**	P	**Pn**	**17 18 33.3**	**-0.4**
HORT	**Hortiatis**	**1.76**	**86**	P	**Pn**	**17 18 33.5**	**-0.1**
EVR	**Evrytania**	**1.78**	**154**	P	**Pn**	**17 18 34.2**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.82**	**145**	P	**Pb**	**17 18 35.6**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.82**	**145**	P	**Pn**	**17 18 34.8**	**+0.4**
SCTE	**Santa Cesarea**	**1.83**	**257**	Pn	**Pn**	**17 18 35.2**	**+0.6**
SCTE				Sn	**Sg**	**17 19 00.9**	**-0.6**
SCTE				AML	AML	17 19 05.1	
	comp=N,0.4nm,1.0s						
SCTE				AMd		17 19 44.1	
AGG	**Agios Georgios**	**1.90**	**141**	P	**Pn**	**17 18 36.1**	**+0.5**
AGG	**Agios Georgios**	**1.90**	**141**	P	**Pn**	**17 18 35.9**	**+0.3**
SOH	**Sokhos**	**1.97**	**80**	P	**Pn**	**17 18 36.6**	**+0.1**
PLG	**Polygyros**	**2.03**	**93**	P	**Pn**	**17 18 37.6**	**+0.3**
PLG	**Polygyros**	**2.03**	**93**	P	**Pn**	**17 18 37.3**	**0.0**
VVK	**Vomvokou**	**2.23**	**159**	P	**Pn**	**17 18 40.4**	**+0.3**
PDG	**Podgorica**	**2.24**	**329**	*e*Pn	**Pb**	**17 18 41.9**	**-1.5**
PDG				*e*Sn	**Sb**	**17 19 12.1**	**+0.8**
BOSS	**Bosilegrad**	**2.35**	**32**	*e*Pn	**Pn**	**17 18 41.4**	**-0.3**
BOSS				*e*Sn	**Sn**	**17 19 10.1**	**-0.8**
BARS	**Barje**	**2.43**	**18**	*i* Pn	**Pn**	**17 18 43.1**	**+0.3**
BARS	**Barje**	**2.43**	**18**	*e*Pn	**Pn**	**17 18 43.0**	**+0.3**
BARS				*e*Sn	**Sn**	**17 19 12.4**	**-0.3**
SELS	**Selova**	**2.72**	**5**	*e*Pn	**Pb**	**17 18 49.2**	**-2.4**
SELS				*e*Sn	**Sn**	**17 19 21.5**	**+1.6**
SJES	**Sjenica**	**2.81**	**348**	*e*Pn	**Pb**	**17 18 51.7**	**-1.6**
SJES				*e*Sn	**Sn**	**17 19 24.3**	**+1.9**
ZAPS	**Zavoj**	**3.08**	**26**	*e*Pn	**Pn**	**17 18 53.4**	**+1.6**
IVAS	**Ivanjica**	**3.10**	**351**	*e*Pn	**Pn**	**17 18 54.7**	**+2.7**
BOVS	**Bovan**	**3.19**	**12**	*e*Pn	**Pn**	**17 18 53.6**	**+0.3**
ZAGS	**Zajecar**	**3.47**	**17**	*e*Pn	**Pn**	**17 18 57.7**	**+0.7**

*ISU **31** 17:21:02, 39°.95N×72°.34E, h10km*
*KRNET **31** 17:21:05.8±0.1, 40°.00N×72°.38E, h15km, mb2.7*

ISC 31 17:21:04.7±1.4, 40°.01N±0°.06×72°.35E±0°.04, h5km±13km, n10, σ1s34/17, 12C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRG	**Fergana**	**0.56**	**310**	S	**Sg**	**17 21 23.9**	**+0.9**
TSTA	**Tashata**	**0.57**	**10**	P	**Pg**	**17 21 15.4**	**-0.4**
TSTA				S	**Sb**	**17 21 24.6**	**-1.2**
OHH	**Osh**	**0.61**	**33**	*e*P	**Pb**	**17 21 17.5**	**-0.5**
OHH				*e*S	**Sb**	**17 21 26.0**	**-0.9**
CHMI	**Chimion**	**0.69**	**292**	S	**Sg**	**17 21 27.3**	**+0.5**
ARSB	**Arslanbob**	**1.40**	**20**	*e*P	**Pg**	**17 21 32.0**	**+0.5**
ARSB				*e*S	**Sg**	**17 21 51.0**	**+1.4**
SALK	**Salom-Alik**	**1.42**	**52**	*e*P	**Pg**	**17 21 32.1**	**+0.1**
SALK				*e*S	**Sg**	**17 21 51.4**	**+1.0**
TRKS	**Terek-Say**	**1.77**	**329**	*e*P	**Pb**	**17 21 37.7**	**-0.2**
TRKS				*e*S	**Sb**	**17 22 00.9**	**+0.4**
GAR	**Garm**	**1.87**	**238**	*i* P	**Pg**	**17 21 40.4**	**-0.2**
GAR				*e*S	**Sg**	**17 22 05.4**	**+0.6**
EKS2	**Erkin-Say**	**2.86**	**22**	*e*P	**Pb**	**17 21 54.2**	**-2.1**
EKS2				*e*S	**Sb**	**17 22 29.4**	**-2.2**
KDJ	**Kajisay**	**4.22**	**58**	*e*P	Pn	17 22 13.3	+3.4
KDJ				*e*S	**Sn**	**17 23 02.2**	**+2.6**

NOU 31 17:24:29.7, 14°.68S×167°.18E, h108km, MLv4.6/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLAKA	**Lakatoro**	**1.44**	**171**	P

SHO	**Shikotan**	**0.32 271**	*e*P		**Pn**	**17 42 40.4**	**+2.4**	
SHO			AMB	AMB		17 42 40.4		
	comp=E,2μm,0.2s							
SHO			*i* S		**Sn**	**17 42 49.7**	**+0.9**	
SHO			A	A		17 42 50.3		
	comp=E,4μm,0.3s							
SHO			A	A		17 42 50.3		
	comp=E,5μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.03 280**	*c i*PN		**Pn**	**17 42 43.5**	**-0.6**	
YUK			*i* S		**Sn**	**17 42 57.0**	**-2.6**	
YUK			pmax	pmax				
	comp=Z,889nm,0.1s							
YUK			pmax	pmax				
	comp=N,361nm,0.2s							
YUK			pmax	pmax				
	comp=E,340nm,0.2s							
YUK			smax	smax				
	comp=N,6μm,0.2s							
YUK			smax	smax				
	comp=E,7μm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.03 280**	*i* P		**Pn**	**17 42 43.5**	**-0.6**	
YUK			AMB	AMB		17 42 46.4		
	comp=E,340nm,0.3s							
YUK			*i* S		**Sn**	**17 42 57.2**	**-2.4**	
YUK			A	A		17 42 58.5		
	comp=E,5μm,0.4s							
YUK			A	A		17 42 58.5		
	comp=E,7μm,0.4s							
NEM2	**Nemuro 2**	**1.21 246**	P		**Pn**	**17 42 46.1**	**-0.1**	
NEM2			S		**Sn**	**17 43 01.4**	**-1.9**	
NMR	**Nemuro--Hokkai**	**1.22 247**	*i*PN		**Pn**	**17 42 46.1**	**-0.2**	
NMR			*i* S		**Sn**	**17 43 01.5**	**-2.0**	
NMR	**Nemuro--Hokkai**	**1.22 247**	*i* P		**Pn**	**17 42 46.2**	**-0.1**	
NMR			*i* S		**Sn**	**17 43 01.9**	**-1.6**	
KUR	**Kuril'sk**	**1.43 17**	*d i*PN		**Pn**	**17 42 48.3**	**-0.5**	
KUR			*i* S		**Sn**	**17 43 06.5**	**-1.5**	
KUR			pmax	pmax				
	comp=N,162nm,0.4s							
KUR			pmax	pmax				
	comp=Z,490nm,0.4s							
KUR			smax	smax				
	comp=N,1μm,0.2s							
KUR			smax	smax				
	comp=E,757nm,0.2s							
KUR	**Kuril'sk**	**1.43 17**	*i* P		**Pn**	**17 42 49.3**	**+0.5**	
KUR			AMB	AMB		17 42 49.9		
	comp=E,400nm,0.3s							
KUR			*i* S		**Sn**	**17 43 07.7**	**-0.3**	
KUR			A	A		17 43 08.2		
	comp=E,1μm,0.2s							
KUR			A	A		17 43 08.2		
	comp=E,660nm,0.2s							
RUSJ	**Misakicho**	**1.48 280**	*i*PN		**Pn**	**17 42 49.6**	**+0.2**	
RUSJ			*i* S		**Sn**	**17 43 08.4**	**-0.6**	
JRA	**Rausu**	**1.55 273**	P		**Pn**	**17 42 50.6**	**+0.4**	
JRA			*e*S		**Sn**	**17 43 09.8**	**-0.8**	
JNSB	**Nemuroshibetsu**	**1.64 268**	P		**Pn**	**17 42 52.0**	**+0.6**	
JNSB			*e*S		**Sn**	**17 43 12.1**	**-0.4**	
JKHN	**Kushirohamanak**	**1.72 244**	*i* P		**Pn**	**17 42 52.8**	**+0.4**	
JKHN			S		**Sn**	**17 43 13.9**	**-0.5**	
JNK	**Nakash**	**1.87 262**	P		**Pn**	**17 42 54.4**	**+0.1**	
JNK			*e*S		**Sn**	**17 43 16.3**	**-1.5**	
AKK	**Akkeshi**	**1.96 245**	*e*P		**Pn**	**17 42 55.7**	**+0.2**	
JAK	**Akkeshi**	**2.06 246**	P		**Pn**	**17 42 57.0**	**+0.2**	
JAK			S		**Sn**	**17 43 20.7**	**-1.6**	
JTKR	**Abashiri--Toko**	**2.43 274**	P		**Pn**	**17 43 02.0**	**+0.4**	
JTKR			*e*S		**Sn**	**17 43 29.5**	**-1.3**	
JAR	**Ashorobuto**	**2.60 259**	P		**Pn**	**17 43 05.2**	**+1.2**	
JAR			*e*S		**Sn**	**17 43 35.2**	**+0.2**	
JOB	**Onbets**	**2.68 250**	P		**Pn**	**17 43 06.0**	**+1.0**	
JOB			*e*S		**Sn**	**17 43 35.6**	**-1.1**	
JMP	**Maruseppu**	**2.83 274**	P		**Pn**	**17 43 07.4**	**+0.6**	
JMP			*e*S		**Sn**	**17 43 40.0**	**-0.3**	
JCH	**Churui**	**3.11 248**	P		**Pn**	**17 43 11.1**	**+0.4**	
JCH			S		**Sn**	**17 43 45.9**	**-1.2**	
JKK2	**Kamakawa 2**	**3.27 272**	P		**Pn**	**17 43 13.8**	**+1.0**	
JKK2			*e*S		**Sn**	**17 43 50.7**	**-0.1**	
JKA	**Kamikawa-asahi**	**3.38 276**	*e*P		**Pn**	**17 43 15.0**	**+0.8**	
ASAJ	**Asahikawa**	**3.38 276**	P		**Pn**	**17 43 14.9**	**+0.7**	
	comp=E,9.4nm,0.5s,baz=83,slow=16,SNR=22							
ASAJ			S		**Sn**	**17 43 59.4**	**+6.0**	
	comp=E,16nm,0.7s,baz=123,slow=14,SNR=1.8							
ASAJ	**Asahikawa**	**3.38 276**	PN		**Pn**	**17 43 15.0**	**+0.7**	
JEM	**Erimo**	**3.54 240**	P		**Pn**	**17 43 18.4**	**+2.1**	
JEM			*e*S		**Sn**	**17 43 58.4**	**+1.1**	
JNBK	**Urakawa-nobuka**	**3.67 246**	P		**Pn**	**17 43 18.4**	**+0.2**	
YSS	**Yuzhno-Sakhali**	**4.43 316**	*e*PN		**Pn**	**17 43 28.3**	**-0.1**	
YSS			*e*S		**Sn**	**17 44 19.4**	**+0.6**	
YSS			pmax	pmax				
	comp=Z,20nm,0.6s							
YSS			smax	smax				
	comp=N,20nm,1.4s							
YSS			smax	smax				
	comp=E,10.0nm,1.2s							
YSS	**Yuzhno-Sakhali**	**4.43 316**	*e*P		**Pn**	**17 43 28.4**	**0.0**	
YSS			AMB	AMB		17 43 33.8		
	comp=E,20nm,0.6s							
TYV	**Tymovskoe**	**7.67 338**	*e*PN		Pn	17 44 24.3	+12	
TYV			pmax	pmax				
	comp=Z,7.0nm,0.8s							
TYV			pmax	pmax				
	comp=Z,100nm,3.6s							
TYV	**Tymovskoe**	**7.67 338**	*e*P		**Pn**	**17 44 14.3**	**+2.0**	
MJAR	**Matsushiro Arr**	**10.07 226**	P		**Pn**	**17 44 45.1**	**-0.1**	
	comp=Z,2.5nm,0.8s,baz=32,slow=14,SNR=9.2							
SONM	**Songino Array**	**28.50 293**	P		**P**	**17 48 09.7**	**+0.1**	
	comp=Z,0.3nm,0.4s,baz=95,slow=6.6,SNR=2.4							
	comp=Z,0.3nm,0.4s							
H11N2	**WAKE ISLAND Hy 29.13 139**		T		T	18 19 06.7		
	baz=331,slow=76,SNR=154							
H11N1	**WAKE ISLAND Hy 29.15 139**		T		T	18 19 07.8		
	baz=331,slow=76,SNR=172							
H11N3	**WAKE ISLAND Hy 29.15 139**		T		T	18 19 08.1		
	baz=331,slow=76,SNR=175							
H11S1	**WAKE ISLAND Hy 30.10 141**		T		T	18 20 26.0		
	baz=331,slow=76,SNR=462							
H11S3	**WAKE ISLAND Hy 30.11 141**		T		T	18 20 26.9		
	baz=331,slow=76,SNR=293							
H11S2	**WAKE ISLAND Hy 30.12 141**		T		T	18 20 27.9		
	baz=331,slow=76,SNR=259							
MKAR	**Makanchi Array**	**44.60 298**	P		**P**	**17 50 25.8**	**+0.1**	
	comp=Z,0.6nm,0.6s,baz=78,slow=9.0,SNR=7.1							
	comp=Z,0.6nm,0.6s							
KURK	**Kurchatov**	**45.53 304**	P		**P**	**17 50 33.2**	**+0.2**	
KURK	**Kurchatov**	**45.53 304**	*e*P		**P**	**17 50 33.2**	**+0.2**	
KURBB	**Kurchatov Arra**	**45.62 304**	P		**P**	**17 50 33.2**	**-0.4**	
	comp=Z,0.8nm,0.4s,baz=142,slow=9.3,SNR=2.1							
	comp=Z,0.8nm,0.4s							
WRA	**Warramunga Arr**	**64.59 193**	P		**P**	**17 52 51.6**	**+1.3**	
	comp=Z,0.8nm,0.8s,baz=8.7,slow=6.6,SNR=4.6							
	comp=Z,0.8nm,0.8s							
FINES	**FINESS Array B**	**64.81 333**	P		**P**	**17 52 50.3**	**-1.0**	
	comp=Z,1.1nm,0.6s,baz=9.7,slow=9.9,SNR=5.2							
	comp=Z,1.1nm,0.6s							
NVAR	**Mina Array Bea**	**67.45 58**	P		**P**	**17 53 07.2**	**-1.6**	
	comp=Z,0.3nm,0.5s,baz=303,slow=5.0,SNR=2.8							
	comp=Z,0.3nm,0.5s							
ASAR	**Alice Springs**	**68.31 193**	P		**P**	**17 53 13.4**	**-0.5**	
	comp=Z,0.5nm,0.7s,baz=7.9,slow=11,SNR=12							
	comp=Z,0.5nm,0.7s							
NOA	**NORSAR Array B**	**69.53 339**	P		**P**	**17 53 21.4**	**+0.2**	
	comp=Z,0.3nm,0.5s,baz=42,slow=7.2,SNR=4.2							
	comp=Z,0.3nm,0.5s							
HFS	**Hagfors**	**69.61 337**	P		**P**	**17 53 21.4**	**-0.2**	
	comp=Z,0.6nm,0.3s,baz=37,slow=5.2,SNR=11							
	comp=Z,0.6nm,0.3s							
AKASG	**Malin Array Be**	**71.53 324**	P		**P**	**17 53 33.7**	**+0.3**	
	comp=Z,0.2nm,0.3s,baz=42,slow=6.9,SNR=2.7							
	comp=Z,0.2nm,0.3s							
TXAR	**Lajitas Array**	**82.52 56**	P		**P**	**17 54 36.1**	**+0.6**	
	comp=Z,0.5nm,0.7s,baz=288,slow=3.0,SNR=5.6							
	comp=Z,0.5nm,0.7s							
H03N2	**Juan Fernandez**	**142.88 90**	T		T	20 41 11.9		
	baz=304,slow=77,SNR=4.6							
H03N3	**Juan Fernandez**	**142.89 90**	T		T	20 41 12.8		
	baz=304,slow=77,SNR=4.1							
H03N1	**Juan Fernandez**	**142.90 90**	T		T	20 41 13.2		
	baz=304,slow=77,SNR=4.7							

*IDC **31** 18:13:14.3±1.3, 13°.68S×172°.27E, h0km, mb4.0/9, mbtmp4.0/9, MS3.7/1, Error ellipse: s-maj=63.2km s-min=20.7km az=146.0*

ISC 31 18:13:19.6±1.2, 13.7S±0°.3×172°.3E±0°.2, h35km, n16, σ0s 82/9, mb3.9/9, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.98**	**213**	LR	LR		18 17 58.0	
	comp=Z,428nm,21.6s,baz=219,slow=28							
H11S2	**WAKE ISLAND Hy 32.48**	**350**		T	T		18 53 47.8	
	baz=171,slow=76,SNR=19							
H11S3	**WAKE ISLAND Hy 32.49**	**350**		T	T		18 53 47.4	
	baz=171,slow=76,SNR=14							
H11S1	**WAKE ISLAND Hy 32.50**	**350**		T	T		18 53 49.8	
	baz=171,slow=76,SNR=18							
STKA	**Stephens Creek**	**33.39**	**232**	P	**P**		**18 19 55.5**	**+0.6**
	3.2nm,0.8s,baz=67,slow=7.7,SNR=5.9							
	3.2nm,0.8s							
H11N1	**WAKE ISLAND Hy 33.65**	**351**		T	T		18 55 13.3	
	baz=170,slow=76,SNR=7.6							
H11N3	**WAKE ISLAND Hy 33.65**	**351**		T	T		18 55 14.1	
	baz=170,slow=76,SNR=7.6							
H11N2	**WAKE ISLAND Hy 33.67**	**351**		T	T		18 55 14.1	
	baz=170,slow=76,SNR=9.1							
WRA	**Warramunga Arr**	**36.78**	**255**	P	**P**		**18 20 24.3**	**0.0**
	1.4nm,0.8s,baz=86,slow=8.1,SNR=7.4							
	1.4nm,0.8s							
ASAR	**Alice Springs**	**37.56**	**249**	P	**P**		**18 20 29.5**	**-1.5**
	7.8nm,0.9s,baz=81,slow=8.8,SNR=29							
	7.8nm,0.9s							
CMAR	**Chiang Mai Arr**	**79.03**	**292**	P	**P**		**18 25 21.4**	**+0.6**
	1.2nm,0.9s,baz=106,slow=6.6,SNR=5.9							
	1.2nm,0.9s							
NVAR	**Mina Array Bea**	**82.97**	**48**	P	**P**		**18 25 41.3**	**-0.3**
	0.4nm,0.7s,baz=251,slow=9.3,SNR=4.0							
	0.4nm,0.7s							
ILAR	**Eielson Array**	**84.14**	**16**	P	**P**		**18 25 46.6**	**-0.1**
	1.3nm,0.8s,baz=215,slow=7.1,SNR=11							
	1.3nm,0.8s							
SONM	**Songino Array**	**84.65**	**322**	P	**P**		**18 25 50.0**	**+0.1**
	0.3nm,0.6s,baz=111,slow=2.0,SNR=3.8							
	0.3nm,0.6s							
TXAR	**Lajitas Array**	**91.55**	**60**	P	**P**		**18 26 24.0**	**+0.7**
	0.4nm,0.8s,baz=245,slow=3.5,SNR=4.6							
	0.4nm,0.8s							
YKA	**Yellowknife Ar**	**94.46**	**26**	P	**P**		**18 26 35.1**	**-0.7**
	0.3nm,0.7s,baz=254,slow=5.0,SNR=2.4							
	0.3nm,0.7s							

*JMA **31** 18:23:17.1±1.1, 47°.N×6°.6×15°.3E±°, h30km, MV4.5/17, KURILE ISLANDS REGION*
*SKHL **31** 18:23:18.6±0.7, 46°.30N×153°.00E, h47km±7km, mb5.0/6*
*IDC **31** 18:23:24.3±2.2, 46°.71N×152°.50E, h85km±18km, mb3.6/19, mbtmp3.9/24, Error ellipse: s-maj=19.5km s-min=11.9km az=130.0*

ISC 31 18:23:18.7±0.7, 46°.45N±0°.08×152°.81E±0°.08, h40km, n63, σ2s 14/68, mb3.9/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.66**	**252**	*e*P	**Pn**		**18 24 14.1**	**+1.3**
KUR				AMB	AMB		18 24 16.8	
	120nm,0.3s							
KUR				*i* S	**Sn**		**18 24 55.0**	**+0.3**
KUR				A	A		18 25 14.1	
	120nm,0.5s							
KUR				A	A		18 25 14.1	
	260nm,0.5s							
SKR	**Severo-Kuril's**	**4.77**	**26**	*e*P	**Pn**		**18 24 29.9**	**+1.9**
SKR				AMB	AMB		18 24 34.5	
	550nm,0.6s							
SKR				*e*S	**Sn**		**18 25 19.2**	**-2.8**
SKR				A	A		18 25 31.2	
	160nm,0.6s							
SKR				A	A		18 25 31.2	
	120nm,0.6s							
SHO	**Shikotan**	**4.95**	**241**	*e*P	**Pn**		**18 24 33.6**	**+3.1**
SHO				AMB	AMB		18 24 37.6	
	40nm,0.4s							
SHO				*i* S	**Sn**		**18 25 27.2**	**+0.7**
SHO				A	A		18 25 56.5	
	130nm,0.4s							
SHO				A	A		18 25 56.5	
	170nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**5.47**	**246**	*e*P	**Pn**		**18 24 39.7**	**+2.1**
YUK				AMB	AMB		18 24 41.1	
	130nm,0.2s							
YUK				*i* S	**Sn**		**18 25 40.3**	**+1.1**
YUK				A	A		18 26 05.1	
	180nm,0.4s							
YUK				A	A		18 26 05.1	
	270nm,0.4s							
PAU	**Pauzhetka**	**5.67**	**26**	*e*P	Pn		18 24 43.7	+3.3
PAU				AMB	AMB		18 25 06.8	
	30nm,0.4s							
PAU				*e*S	**Sn**		**18 25 42.8**	**-1.4**
PAU				A	A		18 25 49.1	
	160nm,0.5s							
PAU				A	A		18 25 49.1	
	160nm,0.5s							
GLVR	**Golovnino**	**5.83**	**245**	*e*P	**Pn**		**18 24 44.8**	**+2.2**
GLVR				AMB	AMB		18 24 47.5	
	90nm,0.6s							
GLVR				*i* S	**Sn**		**18 25 49.9**	**+1.8**
GLVR				A	A		18 26 17.1	
	150nm,0.3s							
GLVR				A	A		18 26 17.1	
	190nm,0.3s							
NEM2	**Nemuro 2**	**5.89**	**241**	P	**Pn**		**18 24 43.8**	**+0.4**
NEM2				*e*S	**Sn**		**18 25 48.2**	**-1.3**
NMR	**Nemuro--Hokkai**	**5.89**	**241**	*e*P	**Pn**		**18 24 43.9**	**+0.4**
NMR				*i* S	**Sn**		**18 25 48.2**	**-1.5**
JRA	**Rausu**	**5.98**	**248**	P	**Pn**		**18 24 47.7**	**+3.0**
JRA				*e*S	**Sn**		**18 25 56.7**	**+4.8**
JNK	**Nakash**	**6.41**	**246**	*e*P	**Pn**		**18 24 52.8**	**+2.3**
JNK				*e*S	**Sn**		**18 26 03.8**	**+1.4**
AKK	**Akkeshi**	**6.63**	**242**	*e*P	**Pn**		**18 24 54.1**	**+0.5**
JAK	**Akkeshi**	**6.73**	**242**	*e*P	**Pn**		**18 24 55.7**	**+0.7**
JTKR	**Abashiri--Toko**	**6.76**	**252**	*e*P	**Pn**		**18 24 58.5**	**+3.2**
YSS	**Yuzhno-Sakhali**	**6.93**	**278**	*e*P	**Pn**		**18 25 00.9**	**+3.2**
JAR	**Ashorobuto**	**7.15**	**247**	P	**Pn**		**18 25 03.3**	**+2.5**
JAR				*e*S	**Sn**		**18 26 23.2**	**+2.6**
JOB	**Onbets**	**7.31**	**244**	*e*P	**Pn**		**18 25 04.2**	**+1.3**
JOB				*e*S	**Sn**		**18 26 23.5**	**-1.1**
PETK	**Petropavlovsk-**	**7.38**	**24**	P	**Pn**		**18 25 05.4**	**+1.6**
	2.8nm,0.6s,baz=201,slow=13,SNR=18							
PETK				S	**Sn**		**18 26 32.0**	**+5.9**
	0.9nm,0.6s,baz=234,slow=25,SNR=1.0							
JKK2	**Kamakawa 2**	**7.56**	**254**	*e*P	**Pn**		**18 25 09.8**	**+3.5**
ASAJ	**Asahikawa**	**7.57**	**256**	P	**Pn**		**18 25 10.4**	**+4.0**
	38nm,1.0s,baz=79,slow=16,SNR=14							
PET	**Petropavlovsk**	**7.59**	**28**	*e*P	**Pn**		**18 25 08.7**	**+2.0**
JCH	**Churui**	**7.76**	**244**	P	**Pn**		**18 25 10.3**	**+1.2**
JCH				*e*S	**Sn**		**18 26 33.5**	**-2.1**
TYV	**Tymovskoe**	**8.04**	**307**	*e*P	**Pn**		**18 25 14.3**	**+1.4**
JRBN	**Rebuntou**	**8.25**	**267**	*e*P	**Pn**		**18 25 19.7**	**+3.9**
JNBK	**Urakawa-nobuka**	**8.32**	**244**	*e*P	**Pn**		**18 25 16.5**	**-0.3**
JANG	**Nango**	**10.21**	**238**	*e*P	**Pn**		**18 25 40.6**	**-2.0**
JANG				*e*S	Sn		18 27 26.7	-9.1
JTH	**Tanohata**	**10.30**	**235**	*e*S	Sn		18 27 28.6	-9.4
MA2	**Magadan**	**13.21**	**355**	P	**Pn**		**18 26 23.5**	**0.0**
	2.1nm,0.3s,baz=175,slow=15,SNR=7.4							
MJAR	**Matsushiro Arr**	**14.73**	**233**	P	**Pn**		**18 26 47.3**	**+3.0**
	2.0nm,0.7s,baz=32,slow=8.8,SNR=7.7							
USRK	**Ussuriisk Ar.**	**14.81**	**269**	P	**Pn**		**18 26 46.6**	**+1.3**
	1.4nm,0.5s,baz=69,slow=12,SNR=6.4							
KSRS	**Korea Array**	**20.51**	**253**	P	**P**		**18 27 55.1**	**+1.8**
	1.6nm,0.7s,baz=60,slow=8.7,SNR=9.2							
	1.6nm,0.7s							
JNU	**Nakatsue**	**21.39**	**239**	P	**P**		**18 28 05.8**	**+3.0**
	4.3nm,0.8s,baz=53,slow=10,SNR=4.4							
	4.3nm,0.8s							
H11N2	**WAKE ISLAND Hy 29.05**	**152**		T	T		19 00 43.9	
	baz=340,slow=76,SNR=1259							
H11N1	**WAKE ISLAND Hy 29.07**	**152**		T	T		19 00 44.9	
	baz=340,slow=76,SNR=1003							
H11N3	**WAKE ISLAND Hy 29.07**	**152**		T	T		19 00 45.1	
	baz=340,slow=76,SNR=809							
H11S1	**WAKE ISLAND Hy 30.13**	**153**		T	T		19 02 06.4	
	baz=341,slow=76,SNR=1178							
H11S3	**WAKE ISLAND Hy 30.14**	**153**		T	T		19 02 07.0	
	baz=341,slow=76,SNR=1335							
H11S2	**WAKE ISLAND Hy 30.15**	**153**		T	T		19 02 07.8	
	baz=341,slow=76,SNR=824							
SONM	**Songino Array**	**31.24**	**290**	P	**P**		**18 29 32.8**	**-1.6**
	0.4nm,0.8s,baz=66,slow=7.0,SNR=4.0							
	0.4nm,0.8s							
ILAR	**Eielson Array**	**36.91**	**38**	P	**P**		**18 30 22.6**	**-0.7**
	0.3nm,0.6s,baz=251,slow=10,SNR=2.3							
	0.3nm,0.6s							

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**42.62**	**306**	PcP	**PcP**		**18 33 01.6**	**-0.6**
	0.3nm,0.4s,baz=108,slow=4.7,SNR=3.7							
MKAR	**Makanchi Array**	**46.89**	**297**	P	**P**		**18 31 42.9**	**-2.0**
	0.6nm,0.6s,baz=68,slow=6.8,SNR=8.4							
MKAR				PcP	**PcP**		**18 33 16.7**	**-0.4**
	0.8nm,0.7s,baz=63,slow=2.6,SNR=5.8							
	0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**47.45**	**304**	P	**P**		**18 31 46.9**	**-2.2**
	1.3nm,0.2s,baz=62,slow=7.8,SNR=2.5							
	1.3nm,0.2s							
BVAR	**Borovoye Array**	**50.89**	**309**	P	**P**		**18 32 12.8**	**-2.6**
	0.5nm,0.4s,baz=58,slow=9.4,SNR=5.4							
BVAR				PcP	**PcP**		**18 33 30.4**	**-1.0**
	0.9nm,0.6s,baz=63,slow=4.5,SNR=4.8							
	0.5nm,0.4s							
CMAR	**Chiang Mai Arr**	**52.09**	**256**	P	**P**		**18 32 25.2**	**+0.4**
	0.8nm,0.7s,baz=47,slow=7.3,SNR=5.6							
	0.8nm,0.7s							
FINES	**FINESS Array B**	**64.22**	**335**	P	**P**		**18 33 47.4**	**-1.6**
	2.3nm,0.5s,baz=28,slow=6.5,SNR=19							
	2.3nm,0.5s							
PDAR	**Pinedale Array**	**65.09**	**54**	P	**P**		**18 33 56.2**	**+0.8**
	0.5nm,0.9s,baz=307,slow=7.5,SNR=3.4							
	0.5nm,0.9s							
WRA	**Warramunga Arr**	**68.16**	**199**	P	**P**		**18 34 14.9**	**+0.2**
	0.5nm,0.9s,baz=15,slow=6.9,SNR=2.2							
	0.5nm,0.9s							
NB2	**NORSAR Subarra**	**68.44**	**341**	P	**P**		**18 34 14.6**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=27,slow=6.2							
NOA	**NORSAR Array B**	**68.44**	**341**	P	**P**		**18 34 14.5**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=26,slow=6.2,SNR=8.1							
	comp=Z,0.9nm,0.5s							
HFS	**Hagfors**	**68.67**	**339**	P	**P**		**18 34 15.6**	**-1.9**
	comp=Z,2.6nm,0.5s,baz=41,slow=5.6,SNR=22							
	comp=Z,2.6nm,0.5s							
AKASG	**Malin Array Be**	**71.68**	**326**	P	**P**		**18 34 34.0**	**-2.0**
	comp=Z,1.6nm,0.3s,baz=37,slow=6.4,SNR=14							
	comp=Z,1.6nm,0.3s							
ASAR	**Alice Springs**	**71.86**	**198**	P	**P**		**18 34 39.0**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=12,slow=5.5,SNR=11							
	comp=Z,0.4nm,0.6s							
TXAR	**Lajitas Array**	**77.82**	**60**	P	**P**		**18 35 13.6**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=304,slow=4.0,SNR=5.0							
	comp=Z,0.3nm,0.6s							
BRTR	**Keskin Array B**	**78.46**	**317**	P	**P**		**18 35 14.9**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=56,slow=6.3,SNR=5.3							
	comp=Z,0.8nm,0.8s							
GERES	**GERESS Array B**	**78.63**	**334**	P	**P**		**18 35 15.4**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=20,slow=5.0,SNR=4.7							
	comp=Z,0.3nm,0.4s							
LESA	**Schwarzleotal**	**80.21**	**334**	*e*P	**P**		**18 35 23.6**	**-1.2**
	comp=Z,2.1nm,0.8s							
KBA	**Koelnbreinsper**	**80.31**	**333**	*e*P	**P**		**18 35 21.9**	**-3.7**
	comp=Z,2.4nm,0.7s							
WATA	**Walderalm**	**80.62**	**334**	*e*P	**P**		**18 35 26.8**	**-0.3**
	comp=Z,2.5nm,0.5s							
WTTA	**Wattenberg**	**80.67**	**334**	*e*P	**P**		**18 35 27.1**	**-0.4**
	comp=Z,1.9nm,0.5s							
MMAI	**Mount Meron Ar**	**82.86**	**311**	P	**P**		**18 35 39.3**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=46,slow=4.2,SNR=4.7							
	comp=Z,2.8nm,0.6s							
H03N2	**Juan Fernandez**	**138.96**	**90**	T	T		21 18 00.8	
	baz=308,slow=77,SNR=23							
H03N1	**Juan Fernandez**	**138.97**	**90**	T	T		21 18 04.7	
	baz=308,slow=77,SNR=21							
H03N3	**Juan Fernandez**	**138.97**	**90**	T	T		21 18 00.4	
	baz=308,slow=77,SNR=21							

*BJI **31** 18:35:42.8, 1°.25S×133°.53E, h10km, mB5.0/23, mb4.9/65, Ms4.5/26, Ms7.4 3/28*
*IDC **31** 18:35:46.7±0.4, 0°.79S×133°.35E, h0km, mb4.9/23, mbtmp4.9/28, ML4.8/4, MS4.3/40, Error ellipse: s-maj=20.5km s-min=8.9km az=85.0*
*MOS **31** 18:35:47.2±1.1, 0°.72S×133°.18E, h12km, mb5.2/41, Error ellipse: s-maj=9.0km s-min=5.4km az=114.7*
*NEIC **31** 18:35:51, 0°.62S×133°.50E, h60km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^{16}Nm; M_{rr}6.08; $M_{\theta\theta}$-4.15; $M_{\phi\phi}$-1.93; $M_{r\theta}$-3.19; $M_{\theta\phi}$3.51; $M_{\phi r}$2.09; Fault plane solution: $M_0$7.47000×10^{16} NP1: ϕ_s128.14000°, δ29.67000°, λ93.12000°. NP2: ϕ_s304.56000°, δ60.38000°, λ88.22000°. Principal axes: T 7.1318, Plg75.0000°, Azm210.0000°; N 0.6310, Plg2.0000°, Azm305.0000°; P -7.7628, Plg15.0000°, Azm36.0000°;*
*NEIC **31** 18:35:51, 0°.72S×133°.20E, h60km*
*GCMT **31** 18:35:52.4±0.3, 0°.58S±0°.02×133°.31E±0°.02, h40km±1km, MW5.3/85, Moment Tensor Solution. s35,c41; s85,c103; Duration: 1s1 Moment

MTN Manton Dam 12.15 190 P **Pn** **18 38 41.7 -0.6**
TOLI2 Tolitoli 12.60 279 **Pn** **18 38 47.4 -1.1**
TOLI2 Tolitoli 12.60 279 P **Pn** **18 38 52.8 +4.3**
SOEI Soe 12.61 225 **Pn** **18 38 47.8 -0.9**
SOEI Soe 12.61 225 P **Pn** **18 38 50.5 +1.8**
SOEI Soe 12.61 225 P **Pn** **18 38 50.7 +2.0**
BATI Baumata 13.35 225 Pn **Pn** **18 39 00.5 +1.8**
comp=Z,31nm,0.3s,baz=103,slow=0.6,SNR=114
BATI Sn **Sn** **18 41 26.6 +0.2**
comp=Z,0.5nm,0.3s,baz=43,slow=19,SNR=1.7
BATI LR LR 18 44 42.5
comp=Z,2µm,19.6s,baz=67,slow=40
BATI Baumata 13.35 225 P **Pn** **18 38 59.5 +0.8**
MPSI Mapaga 13.39 275 P **Pn** **18 39 00.4 +1.2**
PCI Palu 13.40 269 P **Pn** **18 39 00.4 +1.0**
comp=Z,3µmcomp=Z,248nm,0.9s
MMRI Maumere 13.44 234 **Pn** **18 39 01.0 +1.0**
MMRI Maumere 13.44 234 P **Pn** **18 39 02.4 +2.4**
comp=Z,2µmcomp=Z,202nm,1.2s
BNSI Bone 13.60 254 P **Pn** **18 39 04.6 +2.5**
comp=Z,2µmcomp=Z,154nm,1.2s
TTSI Tana Toraja 13.60 260 P **Pn** **18 39 03.1 +1.0**
comp=Z,2µmcomp=Z,110nm,1.0s
SPSI Sidrap Palu 13.82 257 P **Pn** **18 39 07.5 +2.4**
BKSI Bulukumba 13.85 251 P **Pn** **18 39 07.4 +1.9**
comp=Z,4µmcomp=Z,333nm,1.2s
EDFI Ende, Flores 13.96 235 P **Pn** **18 39 09.0 +1.9**
comp=Z,1µmcomp=Z,123nm,0.9s
KAPI Kappang 14.11 252 **Pn** **18 39 10.4 +1.4**
KAPI Kappang 14.11 252 Pn **Pn** **18 39 10.7 +1.7**
comp=Z,2.8nm,0.3s,baz=72,slow=9.8,SNR=47
comp=Z,165nm,0.8s
KAPI Kappang 14.11 252 P **Pn** **18 39 12.7 +3.7**
KAPI Kappang 14.11 252 P **P** **18 39 13.6 -2.9**
KAPI Kappang 14.11 252 *ce*P **Pn** **18 39 10.0 +1.0**
KAPI pmax pmax
comp=Z,66nm,0.9s
MANU Manus Island 14.18 95 P **P** **18 39 16.1 -1.2**
KNRA Kununurra 15.43 196 **Pn** **18 39 24.3 -2.6**
KNRA Kununurra 15.43 196 P **Pn** **18 39 24.4 -2.5**
WSI Waingapu 15.61 235 P **Pn** **18 39 30.5 +1.4**
comp=Z,3µmcomp=Z,319nm,1.0s
SMKI Samarinda 16.03 271 P **Pn** **18 39 35.8 +1.1**
PMG Port Moresby 16.28 122 **Pn** **18 39 34.3 -3.5**
PMG Port Moresby 16.28 122 Pn **Pn** **18 39 34.4 -3.5**
comp=Z,19nm,0.9s,baz=298,slow=17,SNR=5.5
PMG Sn **S** **18 42 46.6 -3.6**
comp=Z,0.2nm,0.3s,baz=313,slow=19,SNR=2.0
PMG Port Moresby 16.28 122 ⇓*e*P **Pn** **18 39 39.4 +1.6**
PMG pmax pmax
comp=Z,18nm,0.8s
WBSI Waikabubak, Su 16.34 237 P **Pn** **18 39 37.7 -1.0**
comp=Z,2µmcomp=Z,127nm,0.8s
COEN Coen 16.36 144 P **Pn** **18 39 38.1 -0.7**
COEN Coen 16.36 144 P **Pn** **18 39 38.1 -0.7**
comp=Z,51nm,1.0s
COEN Coen 16.36 144 P **Pn** **18 39 39.7 +0.8**
PLAI Plampang 17.34 242 P **P** **18 39 53.2 +0.7**
PLAI Plampang 17.34 242 P **Pn** **18 39 52.0 +0.8**
comp=Z,3µmcomp=Z,263nm,0.9s
KKM Kota Kinabalu 18.30 292 P **Pn** **18 40 04.5 +1.3**
KKM IAmb IAmb 18 40 06.4
comp=Z,170nm,1.2s
GUMO Guam 18.36 38 P **P** **18 40 03.6 -0.1**
GUMO IAmb IAmb 18 40 09.1
comp=Z,410nm,1.8s
GUMO Guam 18.36 38 P **P** **18 40 03.1 -0.6**
comp=Z,2.0nm,0.3s,baz=194,slow=4.9,SNR=3.7
GUMO S **S** **18 43 35.4 +3.0**
comp=Z,13nm,0.6s,baz=198,slow=20,SNR=1.2
GUMO LR LR 18 46 23.4
comp=Z,954nm,19.0s,baz=215,slow=35
comp=Z,36nm,0.9s
GUMO Guam 18.36 38 P **P** **18 40 03.6 -0.1**
GUMO pmax pmax
comp=Z,410nm,1.8s
FITZ Fitzroy Crossi 18.75 203 P **P** **18 40 06.6 -1.3**
FITZ Fitzroy Crossi 18.75 203 P **P** **18 40 06.2 -1.7**
comp=Z,2.2nm,0.3s,baz=31,slow=9.7,SNR=49
FITZ S Sn 18 43 24.3 -13
comp=Z,109nm,0.7s,baz=95,slow=19,SNR=11
FITZ LR LR 18 48 01.7
comp=Z,1µm,21.3s,baz=30,slow=39
comp=Z,52nm,0.9s
WB0 Warramunga Arr 18.89 177 P **P** **18 40 08.2 -1.3**
WB0 IAmb IAmb 18 40 13.5
comp=Z,285nm,1.6s
WRAB Tennant Creek 19.05 177 P **P** **18 40 10.8 -0.5**
WRAB Tennant Creek 19.05 177 *de*P **P** **18 40 11.3 0.0**
WRAB pmax pmax
comp=Z,94nm,1.8s
WRA Warramunga Arr 19.06 177 P **P** **18 40 10.8 -0.6**
WRA Warramunga Arr 19.06 177 P **P** **18 40 10.9 -0.5**
comp=Z,3.9nm,0.3s,baz=357,slow=12,SNR=56
WRA S Sn 18 43 33.8 -11
comp=Z,58nm,1.0s,baz=354,slow=22,SNR=9.8
comp=Z,46nm,0.8s
WRA Warramunga Arr 19.06 177 P **P** **18 40 10.8 -0.6**
WRA pmax pmax
comp=Z,22nm,1.7s
WR8 Warramunga Arr 19.08 176 P **P** **18 40 11.0 -0.6**
RABL Rabaul 19.20 100 P **P** **18 40 13.0 0.0**
RABL IAmb IAmb 18 40 20.2
comp=Z,92nm,0.7s
SRBI Singaraja 19.37 248 P **Pn** **18 40 16.6 +0.6**
comp=Z,4µmcomp=Z,244nm,1.4s
KMMI Kalianget 20.20 252 P Pn 18 40 27.0 +1.2
comp=Z,4µmcomp=Z,262nm,1.3s
MTSU Mount Surprise 20.38 148 P **P** **18 40 26.6 +0.8**
comp=Z,36nm,0.7s
MTSU Mount Surprise 20.38 148 P Pn 18 40 27.8 -0.2
JAGI Jajag, Banyuwa 20.48 248 P **P** **18 40 26.8 -0.1**
JAGI IAmb IAmb 18 40 45.5
comp=Z,112nm,0.9s
JAGI Jajag, Banyuwa 20.48 248 P Pn 18 40 30.8 +1.6
JAGI Jajag, Banyuwa 20.48 248 P **P** **18 40 26.7 -0.3**
comp=Z,2µmcomp=Z,133nm,0.9s
QIS Mount Isa 20.61 163 P **P** **18 40 27.7 -0.5**
comp=Z,86nm,1.0s
QIS Mount Isa 20.61 163 P **P** **18 40 28.5 +0.3**
GMJI Gumukmas 21.07 249 P **P** **18 40 33.7 +0.4**
comp=Z,145nm,1.2s
SBUM Sibu 21.26 279 P **P** **18 40 36.2 +0.8**
SBUM IAmb IAmb 18 40 43.8
comp=Z,173nm,1.5s
STKI Sintang 21.78 272 P **P** **18 40 42.6 +1.7**
comp=Z,62nm,0.9s
SZP Santa 22.16 326 P **P** **18 40 49.3 +4.4**
NGJI Ngawi 22.67 253 P **P** **18 40 52.2 +1.7**
comp=Z,4µmcomp=Z,160nm,1.1s
AS31 Alice Springs 22.74 178 P **P** **18 40 50.9 -0.3**
AS31 IAmb IAmb 18 41 09.8
comp=Z,38nm,0.8s
AS01 Alice Springs 22.75 178 P **P** **18 40 51.7 +0.5**
ASAR Alice Springs 22.75 178 P **P** **18 40 50.3 -0.9**
ASAR Alice Springs 22.75 178 P **P** **18 40 50.8 -0.4**
comp=Z,83nm,0.9s,baz=358,slow=11,SNR=270
ASAR S **S** **18 45 00.1 +1.3**
comp=Z,15nm,1.0s,baz=358,slow=25,SNR=7.3
ASAR LR LR 18 50 16.5
comp=Z,356nm,18.1s,baz=352,slow=38
comp=Z,83nm,0.9s
ASAR Alice Springs 22.75 178 P **P** **18 40 50.3 -0.9**
CTAO Charters Tower 23.02 147 P **P** **18 40 55.8 +1.7**
CTAO IAmb IAmb 18 41 14.8
comp=Z,68nm,1.1s
CTAO Charters Tower 23.02 147 P **P** **18 40 56.6 +2.5**
CTAO Charters Tower 23.02 147 P **P** **18 40 55.8 +1.7**
CTAO pmax pmax
comp=Z,68nm,1.1s
KSM Kuching 23.04 276 **P** **18 40 54.9 +0.5**
KSM IAmb IAmb 18 40 57.3
comp=Z,73nm,1.0s
PCJI Pacitan 23.18 251 P **P** **18 40 54.5 -1.2**
comp=Z,127nm,1.1s
WOJI Wonogiri, Jawa 23.31 252 P **P** **18 40 57.5 +0.4**
comp=Z,129nm,1.5s
SMRI Semarang 23.57 254 **P** **18 41 01.1 +1.4**
SMRI Semarang 23.57 254 P **P** **18 41 01.1 +1.4**
comp=Z,5µmcomp=Z,352nm,1.2s
UGM Wanagama 23.72 252 P **P** **18 41 01.4 +0.3**
UGM Wanagama 23.72 252 P **P** **18 41 02.0 +0.9**
comp=Z,3µmcomp=Z,134nm,1.3s
MBWA Marble Bar 24.16 212 P **P** **18 41 05.1 0.0**
MBWA Marble Bar 24.16 212 P **P** **18 41 04.8 -0.3**
comp=Z,198nm,1.5s
MBWA Marble Bar 24.16 212 P **P** **18 41 06.1 +1.0**
MBWA Marble Bar 24.16 212 P **P** **18 41 06.0 +0.9**
PSA00 Pilbara Seismi 24.44 211 P **P** **18 41 08.4 +0.8**
PSA00 Pilbara Seismi 24.44 211 P **P** **18 41 08.1 +0.4**
PSA00 IAmb IAmb 18 41 11.2
comp=Z,232nm,1.3s
PSA00 Pilbara Seismi 24.44 211 P **P** **18 41 08.2 +0.6**
comp=Z,267nm,1.2s
PSA00 Pilbara Seismi 24.44 211 P **P** **18 41 08.9 +1.2**
WRKA Warakurna 24.57 191 P **P** **18 41 09.6 +0.8**
comp=Z,89nm,1.3s
TPI Tanjungpandan 25.65 265 P **P** **18 41 20.5 +1.8**
comp=Z,1µmcomp=Z,55nm,1.2s
LEM Lembang 26.25 256 LR LR 18 53 18.0
comp=Z,1µm,21.4s,baz=76,slow=40
LEM Lembang 26.25 256 P **P** **18 41 25.1 +0.7**
comp=Z,94nm,1.2s
BBJI Bungbulang 26.36 255 P **P** **18 41 26.9 +1.7**
CNJI Cibinong 26.82 255 P **P** **18 41 28.0 -1.4**
comp=Z,752nmcomp=Z,80nm,1.1s
DBJI Dramaga 27.04 257 P **P** **18 41 31.7 +0.4**
comp=Z,65nm,1.8s
SSLB Suanglung 27.20 335 P **P** **18 41 31.2 -1.4**
SSLB IAmb IAmb 18 41 34.6
comp=Z,71nm,1.3s
QLP Quilpie 27.74 158 P **P** **18 41 38.4 +1.0**
JOW Kunigami 27.88 350 LR LR 18 50 35.5
comp=Z,2µm,20.9s,baz=164,slow=32
HNR Honiara 27.93 109 LR LR 18 53 28.7
comp=Z,513nm,20.2s,baz=263,slow=38
KLI Kotabumi 28.63 261 P **P** **18 41 46.4 +0.8**
JCJ Chichijima 29.04 17 LR LR 18 51 25.6
comp=Z,357nm,18.7s,baz=183,slow=32
KASI Kota Agung 29.07 260 P **P** **18 41 48.5 -1.0**
comp=Z,34nm,1.1s
MDSI Maura Dua 29.26 262 P **P** **18 41 51.3 +0.2**
comp=Z,963nmcomp=Z,102nm,1.0s
MEEK Meekatharra 29.30 208 P **P** **18 41 52.1 +0.8**
LWLI Liwa 29.44 261 P **P** **18 41 53.0 +0.1**
LHSI Lahat 29.84 264 P **P** **18 41 57.3 +1.0**
comp=Z,2µmcomp=Z,108nm,1.3s
FORT Forrest 30.22 189 P **P** **18 41 59.8 +0.3**
FORT IAmb IAmb 18 42 43.9
comp=Z,28nm,0.8s
KSI Kapahiang 30.75 264 P **P** **18 42 04.8 +0.3**
SDSI Sungai Dareh 31.81 270 P **P** **18 42 13.5 -0.2**
comp=Z,24nm,0.9s
STKA Stephens Creek 31.91 166 P **P** **18 42 14.4 +0.1**
comp=Z,25nm,0.8s,baz=338,slow=11,SNR=59
STKA LR LR 18 57 02.5
comp=Z,2µm,18.7s,baz=336,slow=40
comp=Z,25nm,0.8s
STKA Stephens Creek 31.91 166 P **P** **18 42 14.3 0.0**
STKA Stephens Creek 31.91 166 *ce*P **P** **18 42 14.0 -0.3**
BBOO Buckleboo 31.96 176 P **P** **18 42 15.0 +0.3**
MORW Morawa 32.56 209 IAmb IAmb 18 43 25.3
comp=Z,30nm,1.1s
MORW Morawa 32.56 209 P **P** **18 42 21.0 +0.9**
IPM Ipoh 32.61 280 IAmb IAmb 18 42 22.1
comp=Z,41nm,1.0s
CMSA Cobar Meteorol 32.77 160 P **P** **18 42 22.4 +0.5**
PDSI Padang 32.77 270 P **P** **18 42 21.5 -0.7**
comp=Z,26nm,1.0s
PPI Padang Panjang 32.84 270 P **P** **18 42 23.0 +0.2**
HTT Hallett 32.90 171 P **P** **18 42 24.1 +1.0**
KULM Kulim 33.11 281 P **P** **18 42 24.8 -0.3**
KULM IAmb IAmb 18 42 26.2
comp=Z,53nm,1.1s
BLDU Ballidu 33.55 206 P **P** **18 42 29.1 +0.3**
JNU Nakatsue 33.81 356 P **P** **18 42 30.5 -0.5**
comp=Z,6.1nm,1.0s,baz=198,slow=6.4,SNR=4.1
JNU LR LR 18 53 34.9
comp=Z,488nm,22.0s,baz=174,slow=32
comp=Z,6.1nm,1.0s
KLBR Kellerberrin 33.95 204 P **P** **18 42 33.0 +0.8**
ARMA Armidale 34.25 151 P **P** **18 42 35.6 +0.6**
ARMA IAmb IAmb 18 42 37.1
comp=Z,40nm,1.0s
ARMA Armidale 34.25 151 P **P** **18 42 36.5 +1.5**
JHJ Hachijo jima 2 34.29 10 LR LR 18 53 47.3
comp=Z,1µm,19.0s,baz=194,slow=32
PSI Prapat 34.49 276 LR LR 19 00 19.4
comp=Z,263nm,18.4s,baz=128,slow=43
NWAO Narrogin (SRO) 35.34 204 P **P** **18 42 44.6 +0.4**
NWAO Narrogin (SRO) 35.34 204 LR LR 18 59 36.6
comp=Z,616nm,18.8s,baz=38,slow=40
NWAO Narrogin (SRO) 35.34 204 P **P** **18 42 45.0 +0.9**
NWAO Narrogin (SRO) 35.34 204 P **P** **18 42 45.2 +1.1**
NWAO Narrogin (SRO) 35.34 204 P **P** **18 42 44.6 +0.4**
NWAO pmax pmax
comp=Z,50nm,1.1s
NWAO Narrogin (SRO) 35.34 204 P **P** **18 42 44.8 +0.7**
NJ2 Nanjing 35.39 339 *e*P **P** **18 42 46.3 +1.7**
NJ2 pmax pmax
comp=Z,14nm,0.5s
GSI Gunungsitoli 35.72 273 P **P** **18 42 46.4 -1.4**
comp=Z,29nm,1.2s
WHN Wuhan 35.98 332 ⇑P **P** **18 42 51.5 +1.8**
JGF Kuroka 36.41 6 P **P** **18 42 52.0 -1.3**
CAN Canberra 37.36 159 P **P** **18 43 02.5 +1.0**
MAJO Matsushiro 37.43 7 P **P** **18 43 00.9 -1.2**
MAJO Matsushiro 37.43 7 ⇑*e*P **P** **18 43 00.3 -1.7**
MAJO pmax pmax
comp=Z,4.0nm,0.7s
MJAR Matsushiro Arr 37.43 7 P **P** **18 43 00.0 -2.0**
comp=Z,2.5nm,0.9s,baz=193,slow=9.2,SNR=5.4
MJAR PcP **PcP** **18 45 27.6 +7.1**
comp=Z,2.9nm,0.8s,baz=169,slow=2.9,SNR=5.3
MJAR LR LR 18 55 31.4
comp=Z,744nm,20.5s,baz=179,slow=32
comp=Z,2.5nm,0.9s
MJB9 Matsu-Tunnel 37.44 7 P **P** **18 43 00.9 -1.2**
TOO Toolangi 38.30 164 IAmb IAmb 18 43 12.8
comp=Z,67nm,1.9s
KSRS Korea Array 38.37 353 P **P** **18 43 09.7 -0.2**
comp=Z,1.4nm,0.9s,baz=165,slow=11,SNR=5.5
KSRS PcP **PcP** **18 45 24.6 +1.3**
comp=Z,0.8nm,0.8s,baz=174,slow=3.2,SNR=4.2
DZM Mont Dzumac 38.63 126 *e*S **S** **18 49 09.0 +1.1**
comp=Z,514nm,35.1s
DZM *e*SS **SS** **18 51 59.1 +0.6**
comp=Z,179nm,20.8s
DZM *e*LR LR 18 53 49.2
comp=Z,641nm,23.1s
CMAR Chiang Mai Arr 38.76 301 P **P** **18 43 13.2 -0.3**
comp=Z,6.2nm,1.0s,baz=118,slow=8.0,SNR=22
CMAR PcP **PcP** **18 45 26.7 +1.7**
comp=Z,1.9nm,1.0s,baz=127,slow=3.0,SNR=4.3
comp=Z,6.2nm,1.0s
CMAR Chiang Mai Arr 38.76 301 *i* P **P** **18 43 14.0 +0.5**
CMAR pmax pmax
comp=Z,7.0nm,1.0s
CHTO Chiang Mai 38.92 302 P **P** **18 43 13.7 -1.1**
CHTO Chiang Mai 38.92 302 P **P** **18 43 14.8 0.0**
CHTO Chiang Mai 38.92 302 P **P** **18 43 13.7 -1.1**
CHTO pmax pmax
comp=Z,17nm,1.3s
JMM Marumori 39.10 9 IAmb IAmb 18 43 26.8
comp=Z,39nm,1.0s
KMI Kunming 39.18 313 P **P** **18 43 18.0 +0.8**
KMI S **S** **18 49 15.0 -1.4**
KMI pmax pmax
comp=Z,19nm,1.3s
KMI LR LR
comp=Z,320nm,18.8s
KMI LR LR
comp=Z,320nm,24.1s
KMI LR LR
comp=Z,450nm,21.7s
TIA Tai'an 39.76 339 P **P** **18 43 22.0 +0.5**
TIA pmax pmax
comp=Z,17nm,0.9s
LYN LuoYang 40.19 333 *e*P **P** **18 43 26.3 +1.1**
LYN S **S** **18 49 31.8 +1.0**
LYN pmax pmax
comp=Z,28nm,0.5s
PZH PanZhiHua 40.72 314 P **P** **18 43 30.0 +0.1**
PZH pmax pmax
comp=Z,20nm,1.3s
DL2 Dalian 40.92 346 P **P** **18 43 32.5 +1.4**
DL2 S **S** **18 49 41.0 -0.6**
DL2 pmax pmax
comp=Z,30nm,1.2s
DL2 pmax pmax
comp=Z,250nm,6.1s
DL2 LR LR
comp=Z,560nm,19.0s
DL2 LR LR
comp=Z,950nm,19.9s
DL2 LR LR
comp=Z,950nm,16.7s
XAN Xi'an 41.50 329 P **P** **18 43 36.0 0.0**
XAN pmax pmax
comp=Z,26nm,1.2s
HNS HongShan 41.70 338 ⇓P **P** **18 43 38.5 +1.0**
HNS S **S** **18 49 51.3 -1.8**
HNS pmax pmax
comp=Z,34nm,1.0s
HNS LR LR
comp=Z,180nm,15.9s
HNS LR LR
comp=Z,280nm,17.7s
HNS LR LR
comp=Z,320nm,18.3s
CD2 Chengdu 42.18 321 P **P** **18 43 41.8 +0.2**
CD2 pmax pmax
comp=Z,60nm,1.0s
TNCH TengChong 42.29 310 P **P** **18 43 42.5 -0.3**
TNCH sP pP 18 43 48.5 -1.9
TNCH pmax pmax
comp=Z,26nm,1.0s
TNCH pmax pmax
comp=Z,160nm,4.1s
BJT Baijiatuau 43.51 341 P **P** **18 43 52.6 +0.4**
BJI Beijing 43.53 341 P **P** **18 43 53.3 +0.9**
BJI S **S** **18 50 18.3 -1.7**
BJI pmax pmax
comp=Z,23nm,1.1s
BJI pmax pmax
comp=Z,62nm,4.1s
BJI LR LR
comp=Z,120nm,20.5s
BJI LR LR
comp=Z,120nm,20.1s
BJI LR LR
comp=Z,170nm,18.9s
USRK Ussuriysk Ar. 44.81 359 P **P** **18 44 01.9 -0.6**
comp=Z,3.0nm,0.8s,baz=190,slow=6.7,SNR=6.3
USRK LR LR 18 59 58.3
comp=Z,297nm,21.6s,baz=191,slow=32
comp=Z,3.0nm,0.8s
CN2 Changchun 44.94 352 P **P** **18 44 04.0 +0.4**
CN2 S **S** **18 50 42.5 +2.0**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,200nm,20.0s
ASAJ Asahikawa 45.49 9 P **P** **18 44 06.3 -1.6**
comp=Z,4.8nm,0.7s,baz=221,slow=18,SNR=5.8
ASAJ LR LR 19 03 07.4
comp=Z,332nm,19.2s,baz=212,slow=36
comp=Z,4.8nm,0.7s
LZH Lanzhou 45.77 326 *e*P **P** **18 44 12.3 +1.8**
LZH sP pP 18 44 19.8 +1.8
LZH S **S** **18 50 51.0 -2.0**
LZH pmax pmax
comp=Z,32nm,1.1s
HHC Hu-ho-hao-te 45.90 337 *e*P **P** **18 44 12.3 +0.9**
HHC S **S** **18 50 54.8 +0.1**
HHC pmax pmax
comp=Z,33nm,1.2s
HHC pmax pmax
comp=Z,110nm,3.9s
HHC LR LR
comp=Z,260nm,15.1s
HHC LR LR
comp=Z,99nm,21.0s
HHC LR LR
comp=Z,310nm,20.2s
BTO Baotou 46.31 335 *e*P **P** **18 44 16.8 +2.1**
BTO pP **pP** **18 44 21.3 -0.9**
BTO sP **sP** **18 44 23.8 -1.3**
BTO S **S** **18 51 04.5 +3.9**
BTO sS **sS** **18 51 14.5 +1.5**
BTO SS **SS** **18 54 23.5 -3.0**
BTO pmax pmax
comp=Z,26nm,0.9s
BTO pmax pmax
comp=Z,280nm,4.3s
BTO LR LR
comp=Z,380nm,19.5s
BTO LR LR
comp=Z,440nm,18.5s
BTO LR LR
comp=Z,390nm,18.4s
BNX BinXian 46.62 354 ⇓P **P** **18 44 17.0 +0.1**
BNX pP **pP** **18 44 20.5 -4.0**
BNX sP **sP** **18 44 21.8 -5.6**
BNX S **S** **18 51 08.5 +3.9**
BNX pmax pmax
comp=Z,3.0nm,0.8s
BNX pmax pmax
comp=Z,130nm,9.3s
BNX LR LR
comp=Z,170nm,16.8s
BNX LR LR
comp=Z,180nm,17.3s
BNX LR LR
comp=Z,390nm,20.6s
SHL Shillong 47.78 306 P **P** **18 44 25.8 -0.7**
SHL IAmb IAmb 18 44 28.1
comp=Z,18nm,0.8s
SHL Shillong 47.78 306 P **P** **18 44 27.5 +1.0**
SNR=5.6
SHL Shillong 47.78 306 P **P** **18 44 25.8 -0.7**
SHL pmax pmax
comp=Z,18nm,0.8s
YSS Yuzhno-Sakhali 48.28 9 P **P** **18 44 28.4 -1.3**
YSS Yuzhno-Sakhali 48.28 9 *e*P **P** **18 44 27.5 -2.2**
YSS *e* 18 46 22.3
YSS *e*S **S** **18 51 20.0 -8.1**
YSS *e*SS **SS** **18 54 50.4 -7.5**
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS pmax pmax
comp=Z,100nm,4.5s
YSS MLR MLR
comp=Z,300nm,15.0s
LSA Lhasa 50.30 311 P **P** **18 44 46.8 +0.7**
LSA Lhasa 50.30 311 P **P** **18 44 46.6 +0.5**
GTA Gaotai 50.37 326 P **P** **18 44 47.5 +1.4**
GTA sP pP 18 44 54.5 +0.9
GTA S **S** **18 51 56.0 -2.1**
GTA pmax pmax
comp=Z,20nm,1.5s
GTA LR LR
comp=Z,180nm,16.0s
GTA LR LR
comp=Z,150nm,17.4s
GTA LR LR
comp=Z,290nm,14.5s
HEH HeiHe 51.10 355 *e*P **P** **18 44 50.5 -0.6**
HEH sP **pP** **18 44 58.3 -0.5**
HEH S **S** **18 52 03.0 -4.5**
HEH pmax pmax
comp=Z,12nm,1.4s
HEH pmax pmax
comp=Z,90nm,6.7s
HEH LR LR
comp=Z,180nm,18.4s
HEH LR LR
comp=Z,260nm,15.7s
HEH LR LR
comp=Z,420nm,17.6s
GOMU GeErMu 51.28 320 P **P** **18 44 54.0 +0.7**
GOMU pmax pmax
comp=Z,6.0nm,1.0s
TYV Tymovskoe 52.09 8 *e*P **P** **18 44 58.8 +0.3**
TYV *e*S **S** **18 52 21.4 +0.3**
TYV pmax pmax
comp=Z,100nm,4.3s
TYV pmax pmax
comp=Z,19nm,0.9s
TYV smax smax
comp=N,300nm,7.7s
TYV smax smax
comp=E,400nm,7.7s
EVN Everest 52.89 307 P **P** **18 45 04.0 -1.8**

EVN IAmb IAmb 18 45 20.3
comp=Z,21nm,0.9s
PALK Pallekele 53.01 280 LR LR 19 08 52.0
comp=Z,182nm,20.8s,baz=108,slow=37
PALK Pallekele 53.01 280 P **P** **18 45 06.0 -0.1**
PALK Pallekele 53.01 280 *de*P **P** **18 45 05.5 -0.6**
PALK pmax pmax
comp=Z,26nm,1.0s
ULN Ulaanbaatar 53.56 338 P **P** **18 45 10.9 +1.2**
ULN IAmb IAmb 18 45 12.2
comp=Z,20nm,1.1s
ULN Ulaanbaatar 53.56 338 P **P** **18 45 11.3 +1.6**
ULN Ulaanbaatar 53.56 338 *de*P **P** **18 45 11.4 +1.7**
ULN pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 53.56 338 P **P** **18 45 10.6 +0.9**
SONM Songino Array 53.78 338 P **P** **18 45 11.7 +0.4**
SONM Songino Array 53.78 338 P **P** **18 45 11.9 +0.7**
comp=Z,6.2nm,1.0s,baz=150,slow=7.6,SNR=32
SONM PcP **PcP** **18 46 18.1 +1.0**
comp=Z,3.9nm,0.7s,baz=140,slow=3.5,SNR=6.9
SONM LR LR 19 08 30.5
comp=Z,152nm,19.3s,baz=142,slow=36
comp=Z,6.2nm,1.0s
SONM Songino Array 53.78 338 P **P** **18 45 11.7 +0.4**
SONM pmax pmax
comp=Z,10.0nm,1.1s
RPZ Rata Peaks 54.39 147 LR LR 19 09 48.7
comp=Z,709nm,18.1s,baz=310,slow=38
TUWZ Tuamarina 54.61 143 P **P** **18 45 18.3 +1.0**
URZ Urewera 54.83 138 LR LR 19 08 59.9
comp=Z,334nm,20.0s,baz=296,slow=36
HYB Hyderabad 56.79 291 *e*P **P** **18 45 32.5 -0.9**
ZAK Zakamensk 57.04 338 *e*P **P** **18 45 35.2 +0.5**
ZAK pmax pmax
comp=Z,9.0nm,1.0s
PEA0B Petropavlovsk- 57.47 17 *de*P **P** **18 45 38.8 +1.3**
PETK Petropavlovsk- 57.47 17 P **P** **18 45 38.0 +0.5**
PETK Petropavlovsk- 57.47 17 P **P** **18 45 37.4 -0.2**
comp=Z,9.9nm,0.8s,baz=216,slow=7.3,SNR=20
PETK LR LR 19 06 07.7
comp=Z,119nm,20.8s,baz=209,slow=32
comp=Z,9.9nm,0.8s
PET Petropavlovsk 57.68 18 P **P** **18 45 38.1 -0.8**
PET Petropavlovsk 57.68 18 *e*P P 18 45 46.5 +7.5
PET *e*S **S** **18 53 43.2 +7.1**
PET pmax pmax
comp=Z,36nm,1.1s
PET MLR MLR
comp=Z,200nm,15.0s
PET Petropavlovsk 57.68 18 P **P** **18 45 43.3 +4.3**
IRK Irkutsk 58.19 339 *e*P **P** **18 45 42.1 -0.6**
IRK *e*S **S** **18 53 44.8 +1.9**
IRK pmax pmax
comp=Z,27nm,1.1s
MOY Mondy 58.94 337 *e*P **P** **18 45 49.4 +1.4**
MOY pmax pmax
comp=Z,30nm,1.4s
WMQ Urumqi 60.17 323 *e*P **P** **18 45 58.3 +1.7**
WMQ pmax pmax
comp=Z,77nm,1.1s
BOD Bodaibo 60.42 348 *e*P **P** **18 45 58.4 +0.5**
BOD pmax pmax
comp=Z,23nm,1.0s
MA2 Magadan 61.74 10 P **P** **18 46 06.5 -0.4**
MA2 IAmb IAmb 18 46 15.8
comp=Z,17nm,1.0s
MA2 Magadan 61.74 10 LR LR 19 12 13.1
comp=Z,186nm,19.4s,baz=193,slow=35
MA2 Magadan 61.74 10 *de*P **P** **18 46 07.0 +0.1**
MA2 pmax pmax
comp=Z,7.0nm,1.7s
MA2 Magadan 61.74 10 P **P** **18 46 07.2 +0.3**
MA2 pP **sP** **18 46 19.0 +1.8**
YAK Yakutsk 62.72 358 P **P** **18 46 12.6 -0.7**
YAK Yakutsk 62.72 358 LR LR 19 11 22.7
comp=Z,139nm,20.2s,baz=172,slow=34
YAK Yakutsk 62.72 358 *e*P **P** **18 46 13.6 +0.3**
YAK *e**PP **pP** **18 46 19.8 -1.3**
YAK *e* 18 46 50.7
YAK *e* 18 48 34.0
YAK *e*S **S** **18 54 42.0 +1.6**
YAK *e* 18 56 07.5
YAK *e*SS **SS** **18 58 50.2 +4.7**
YAK pmax pmax
comp=Z,36nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.2s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=Z,106nm,4.7s
YAK pmax pmax
comp=N,36nm,4.0s
YAK pmax pmax
comp=E,24nm,2.5s
YAK smax smax
comp=E,32nm,3.0s
YAK Yakutsk 62.72 358 P **P** **18 46 13.8 +0.5**
SHEM Shemya Is, Ala 63.32 26 LR LR 19 09 09.1
comp=E,172nm,21.3s,baz=220,slow=32
ZSN Zaisan 63.85 326 *e*P **P** **18 46 21.5 +0.3**
ZSN pmax pmax
comp=Z,11nm,1.5s
ZSN Zaisan 63.85 326 *e*P **P** **18 46 21.6 +0.3**
comp=Z,11nm,1.5s
SHLS Shalkode 64.98 319 *c i*P **P** **18 46 27.1 -1.7**
SHLS pmax pmax
comp=Z,18nm,1.4s
SHLS Shalkode 64.98 319⇑ *i*P **P** **18 46 27.2 -1.7**
comp=Z,18nm,1.4s
MK31 Makanchi Array 64.99 324 *ce*P **P** **18 46 29.0 +0.3**
MKAR Makanchi Array 64.99 324 P **P** **18 46 28.7 0.0**
comp=Z,19nm,0.6s,baz=118,slow=8.2,SNR=234
comp=Z,19nm,0.6s
SEY Seymchan 65.17 10 *de*P **P** **18 46 30.0 +0.5**
SEY pmax pmax
comp=Z,10.0nm,0.9s
MAKZ Makanchi 65.18 324 P **P** **18 46 30.5 +0.6**
UZB Uzynbulak 65.26 319 *c i*P **P** **18 46 30.7 +0.1**
UZB pmax pmax
comp=Z,17nm,1.3s
UZB Uzynbulak 65.26 319⇑ *i*P **P** **18 46 30.8 +0.1**
comp=Z,17nm,1.3s
KPKS Kokpek 65.62 319 *e*P **P** **18 46 33.1 +0.2**
KPKS Kokpek 65.62 319 *e*P **P** **18 46 33.1 +0.2**
SATY Saty 65.62 319 *e*P **P** **18 46 33.2 +0.2**
SATY pmax pmax
comp=Z,16nm,1.0s
SATY Saty 65.62 319 *e*P **P** **18 46 33.2 +0.2**
comp=Z,16nm,1.0s
NIL Nilore 65.82 308 P **P** **18 46 33.2 -1.1**
NIL Nilore 65.82 308 P **P** **18 46 33.2 -1.1**
NIL pmax pmax
comp=Z,120nm,1.9s
KSH Kashi 65.83 315 P **P** **18 46 36.3 +1.9**
KSH pP pP 18 46 40.3 -1.7
KSH S **S** **18 55 22.8 +2.7**
KSH pmax pmax
comp=Z,37nm,1.2s
KSH pmax pmax
comp=Z,130nm,4.5s
TDK Taldyqorghan 66.49 321 *e*P **P** **18 46 38.6 +0.2**
TDK pmax pmax
comp=Z,17nm,1.0s
TDK Taldyqorghan 66.49 321 *e*P **P** **18 46 38.6 +0.2**
comp=Z,17nm,1.0s
TNSS Tian-Shan 66.58 318 *e*P **P** **18 46 39.1 -0.4**
TNSS Tian-Shan 66.58 318 *e*P **P** **18 46 39.2 -0.3**
AAA Alma-Ata 66.67 318 *e*P **P** **18 46 39.9 +0.3**
AAA Alma-Ata 66.67 318 *e*P **P** **18 46 39.9 +0.3**
BOOM Boomskoye usch 67.03 317 IAmb IAmb 18 46 44.0
comp=Z,22nm,0.9s
CASY Casey 67.31 190 P **P** **18 46 43.5 +0.4**
CASY Casey 67.31 190 P **P** **18 46 44.1 +1.0**
TKM2 Tokmak 2 67.43 318 P **P** **18 46 45.4 +0.7**
SNR=27
ZAA0 Zalesovo Array 67.59 331 IAmb IAmb 18 46 46.7
comp=Z,22nm,1.1s
ZALV Zalesovo Beam 67.59 331 P **P** **18 46 44.1 -1.0**
ZALV Zalesovo Beam 67.59 331 P **P** **18 46 45.0 -0.2**
comp=Z,20nm,1.0s,baz=129,slow=6.9,SNR=40
ZALV LR LR 19 18 28.1
comp=Z,74nm,19.3s,baz=129,slow=38
comp=Z,20nm,1.0s

ZALV Zalesovo Beam 67.59 331 *i*P **P** **18 46 45.2 0.0**
ZALV pmax pmax
comp=Z,19nm,1.0s
KBK Karagaybulak 67.77 317 P **P** **18 46 48.2 +1.5**
SNR=6.1
CHMS Chumysh 68.03 318 P **P** **18 46 49.1 +0.9**
SNR=14
AAK Ala-Archa 68.07 317 P **P** **18 46 48.3 -0.3**
AAK IAmb IAmb 18 46 50.7
comp=Z,34nm,1.6s
AAK Ala-Archa 68.07 317 *ce*P **P** **18 46 49.5 +0.9**
AAK pmax pmax
comp=Z,12nm,1.0s
AAK Ala-Archa 68.07 317 P **P** **18 46 49.5 +0.9**
SGDS Sogindy 68.29 318⇑ *i*P **P** **18 46 50.0 +0.1**
comp=Z,8.0nm,1.2s
RAR Rarotonga 68.30 112 LR LR 19 14 44.6
comp=Z,105nm,21.8s,baz=281,slow=34
USP Ospenovka 68.31 318 P **P** **18 46 50.3 +0.4**
SNR=51
EKS2 Erkin-Say 68.56 317 P **P** **18 46 52.3 +0.6**
SNR=22
KURK Kurchatov 69.06 326 P **P** **18 46 54.1 -0.3**
KURK Kurchatov 69.06 326 P **P** **18 46 55.6 +1.2**
KURK Kurchatov 69.06 326 P **P** **18 46 54.1 -0.3**
KURK pmax pmax
comp=Z,51nm,1.0s
KURK Kurchatov 69.06 326 P **P** **18 46 54.9 +0.5**
KURK pP **sP** **18 47 07.4 +2.5**
KURBB Kurchatov Arra 69.06 326 P **P** **18 46 54.8 +0.4**
comp=Z,30nm,0.8s,baz=122,slow=4.5,SNR=5.0
KURBB PKP2bc 19 15 04.6
comp=Z,0.7nm,1.0s,baz=283,slow=4.4,SNR=4.2
comp=Z,30nm,0.8s
BTLS Baital 69.31 319 *c i*P **P** **18 46 56.2 +0.2**
BTLS pmax pmax
comp=Z,14nm,1.2s
BTLS Baital 69.31 319⇑ *i*P **P** **18 46 56.3 +0.2**
comp=Z,14nm,1.2s
KBL Kabul 69.42 307 P **P** **18 46 55.6 -1.7**
KBL IAmb IAmb 18 46 58.3
comp=Z,61nm,1.8s
KBL Kabul 69.42 307 P **P** **18 46 57.5 +0.2**
SNR=7.9
KBL Kabul 69.42 307 P **P** **18 46 55.6 -1.7**
KBL pmax pmax
comp=Z,61nm,1.8s
DZA Taraz 70.33 316 *e*P **P** **18 47 02.6 +0.1**
DZA Taraz 70.33 316 *e*P **P** **18 47 02.6 +0.1**
SIMJ Simiganj 70.62 312 P **P** **18 47 04.1 -0.4**
KKAR Karatay Array 70.96 316 P **P** **18 47 06.0 -0.3**
KKAR Karatay Array 70.96 316 P **P** **18 47 06.0 -0.3**
IUG Iuzhnay 70.98 315 *e*P **P** **18 47 06.7 +0.2**
IUG pmax pmax
comp=Z,17nm,1.0s
IUG Iuzhnay 70.98 315 *e*P **P** **18 47 06.8 +0.2**
comp=Z,17nm,1.0s
CHM Chimkent 71.33 315 *e*P **P** **18 47 08.7 +0.2**
CHM pmax pmax
comp=Z,8.0nm,0.8s
CHM Chimkent 71.33 315 *e*P **P** **18 47 08.8 +0.2**
comp=Z,8.2nm,0.8s
BRLS Boroldai 71.40 316 *c i*P **P** **18 47 09.3 +0.3**
BRLS pmax pmax
comp=Z,20nm,1.0s
BRLS Boroldai 71.40 316⇑ *i*P **P** **18 47 09.4 +0.3**
comp=Z,20nm,1.0s
TIXI Tiksi 72.38 359 P **P** **18 47 13.4 -0.8**
TIXI IAmb IAmb 18 47 23.3
comp=Z,21nm,0.9s
TIXI Tiksi 72.38 359 LR LR 19 17 40.3
comp=Z,262nm,19.9s,baz=178,slow=35
TIXI Tiksi 72.38 359 *de*P **P** **18 47 14.8 +0.6**
TIXI pmax pmax
comp=Z,14nm,0.9s
SPIA Saint Paul Isl 73.21 28 P **P** **18 47 19.7 +0.3**
baz=241
P08K Saint George I 73.26 29 P **P** **18 47 20.6 +0.9**
baz=241
UNV Unalaska Valle 73.57 32 P **P** **18 47 22.0 +0.4**
baz=245
BVAR Borovoye Array 74.66 326 P **P** **18 47 28.4 +0.4**
comp=Z,10nm,0.6s,baz=111,slow=6.7,SNR=48
comp=Z,10nm,0.6s
BRVK Borovoye 74.73 326 P **P** **18 47 28.1 -0.3**
BRVK IAmb IAmb 18 47 37.6
comp=Z,30nm,0.8s
BRVK Borovoye 74.73 326 P **P** **18 47 29.0 +0.6**
BRVK Borovoye 74.73 326 *c i*P **P** **18 47 28.5 +0.1**
BRVK pmax pmax
comp=Z,26nm,1.2s
FALS False Pass 75.63 32 P **P** **18 47 33.9 +0.4**
baz=247
WBK Wadi Bani Khal 75.81 293 P **P** **18 47 35.9 +0.6**
GAMB Gambell 75.99 22 P **P** **18 47 35.4 +0.1**
baz=238
MHTO MHTO 76.55 292 P **P** **18 47 39.6 +0.1**
JMDO Jabal Madar 76.57 293 P **P** **18 47 39.9 +0.3**
M11K Mekoryuk 76.58 26 P **P** **18 47 38.7 0.0**
baz=244
S12K Black Hills 76.67 32 P **P** **18 47 38.8 -0.7**
baz=248
BIDO Bibid 76.68 294 P **P** **18 47 40.4 +0.2**
SNR=10
SMDO Samad 76.70 294 P **P** **18 47 40.5 +0.1**
DQM DQM 76.84 291 P **P** **18 47 41.2 0.0**
SDPT Sand Point 77.38 32 P **P** **18 47 42.9 -0.5**
baz=250
HOQ Hoqain 77.43 294 P **P** **18 47 44.7 +0.3**
SNR=6.8
PPT Papeete 77.54 108 LR LR 19 19 46.9
comp=Z,121nm,18.9s,baz=292,slow=34
PPT2 Papeete2 77.54 108 *eS* S 18 57 25.3 -10
comp=Z,296nm,27.8s
PPT2 *e*SS **SS** **19 02 28.3 -7.1**
comp=Z,152nm,28.0s
PPT2 *e*LQ LQ 19 08 30.6
comp=Z,596nm,32.8s
PPT2 *e*LR LR 19 11 45.5
comp=Z,523nm,30.8s
PPT2 *e*LR LR 19 11 46.4
comp=Z,274nm,31.2s
CHNA Chernabura Isl 77.69 33 P **P** **18 47 44.7 -0.4**
baz=251
M13K Dall Lake 77.87 27 P **P** **18 47 45.6 -0.4**
baz=246
K13K Kusilvak Mount 77.93 25 P **P** **18 47 46.4 0.0**
baz=245
TBI Tubuai 78.03 114 *eS* S 18 57 29.6 -11
comp=Z,1μm,32.5s
TBI Tubuai 78.03 114 *e*LQ LQ 19 08 34.7
comp=Z,2μm,32.8s
TBI *e*LR LR 19 11 56.8
comp=Z,1μm,32.2s
TBI *e*LR LR 19 12 02.9
comp=Z,3μm,32.5s
ARQ Araqi 78.13 294 P **P** **18 47 48.5 +0.1**
SNR=6.5
S14K Fog Glacier 78.19 32 P **P** **18 47 47.4 -0.7**
baz=250
SOHO SOHO 78.20 295 P **P** **18 47 48.9 +0.2**
SOHO SOHO 78.20 295 *i*P **P** **18 47 48.3 -0.4**
SNR=16
VNDA Vanda 78.21 174 IAmb IAmb 18 47 49.9
comp=Z,15nm,1.1s
VNDA Vanda 78.21 174 P **P** **18 47 46.3 -1.4**
comp=Z,7.1nm,1.0s,baz=326,slow=6.4,SNR=25
VNDA LR LR 19 22 45.3
comp=Z,475nm,18.1s,baz=349,slow=36
comp=Z,7.1nm,1.0s
TNA Tin City 78.30 21 P **P** **18 47 48.2 -0.1**
baz=241
O14K Tigyukauivet M 78.39 29 P **P** **18 47 48.9 0.0**
baz=248
N14K Kuskokwak Cree 78.44 28 P **P** **18 47 49.0 -0.2**
baz=248
L14K Kuka Creek 78.54 26 IAmb IAmb 18 47 52.3
comp=Z,14nm,0.9s
L14K Kuka Creek 78.54 26 P **P** **18 47 49.7 0.0**
baz=247
UOSS Minazif 78.59 296 P **P** **18 47 50.6 -0.3**
UOSS IAmb IAmb 18 47 51.6
comp=Z,21nm,0.9s
UOSS Minazif 78.59 296 P **P** **18 47 51.1 +0.3**
UOSS Minazif 78.59 296 P **P** **18 47 50.2 -0.7**
M14K Bethel 78.63 27 IAmb IAmb 18 47 52.3
comp=Z,18nm,0.8s

M14K Bethel 78.63 27 P **P** **18 47 50.5 +0.3**
baz=247
HATD Hatta, Dubai 78.64 295 P **P** **18 47 49.7 -1.5**
MSFE Esma-Masafi 78.67 296 *i*P **P** **18 47 51.7 +0.4**
SNR=9.1
MASF Masafi 78.67 296 P **P** **18 47 52.4 +1.1**
ASHO Ashiyiah 78.69 295 P **P** **18 47 50.5 -1.0**
ASHO Ashiyiah 78.69 295 P **P** **18 47 51.4 -0.1**
SHME Shamm 78.77 297 P **P** **18 47 52.6 +0.8**
SHME Shamm 78.77 297 *i*P **P** **18 47 51.6 -0.2**
SNR=6.0
ANM Nome 78.79 23 P **P** **18 47 51.3 +0.2**
baz=244
CHGN Chignik 78.80 32 P **P** **18 47 51.5 +0.3**
baz=251
ALNE Al Ain 78.91 295 P **P** **18 47 53.1 +0.5**
SNR=9.9
ALNE Al Ain 78.91 295 *i*P **P** **18 47 52.6 0.0**
SNR=18
SBA Scott Base 79.05 173 P **P** **18 47 53.6 +1.3**
SBA IAmb IAmb 18 48 09.0
comp=Z,38nm,1.4s
SBA Scott Base 79.05 173 P **P** **18 47 53.6 +1.3**
SBA pmax pmax
comp=Z,38nm,1.5s
O15K Ungalikthiuk R 79.05 29 P **P** **18 47 52.1 -0.5**
baz=250
NAZ Nazwa, Dubai 79.08 296 *i*P **P** **18 47 53.1 -0.5**
SNR=7.2
M15K Kasiluk River 79.19 27 P **P** **18 47 53.2 -0.1**
baz=248
L15K Ungalak Mounta 79.20 26 P **P** **18 47 53.4 0.0**
baz=248
N15K Kwethluk River 79.28 28 P **P** **18 47 53.9 0.0**
baz=249
ASUD Al Ashush, Dub 79.35 295 P **P** **18 47 56.0 +1.0**
ASUD Al Ashush, Dub 79.35 295 *i*P **P** **18 47 55.1 +0.1**
SNR=6.6
K15K Wolf Creek Mou 79.42 26 P **P** **18 47 54.8 +0.2**
baz=248
G15K Niukluk 79.49 23 P **P** **18 47 55.2 +0.3**
baz=245
F15K North Star Dit 79.58 22 P **P** **18 47 55.8 +0.4**
baz=244
AB31 Akbulak array 79.75 320 IAmb IAmb 18 48 00.1
comp=Z,12nm,0.8s
ABKAR Akbulak array 79.75 320 P **P** **18 47 55.6 -1.1**
P16K Nushagak River 79.89 29 P **P** **18 47 56.9 -0.3**
baz=251
DOK Doka 79.94 289 P **P** **18 47 58.1 -0.2**
N16K Nishlik Lake 80.00 28 P **P** **18 47 57.6 -0.2**
baz=250
O16K Kokwok River B 80.03 29 P **P** **18 47 57.7 -0.2**
baz=251
H16K Elim 80.05 23 P **P** **18 47 58.1 +0.1**
baz=246
M16K Timber Creek 80.10 27 IAmb IAmb 18 48 08.7
comp=Z,16nm,1.1s
M16K Timber Creek 80.10 27 P **P** **18 47 58.1 -0.2**
baz=250
CHIR Chirikof Islan 80.15 33 P **P** **18 47 58.5 -0.2**
baz=254
J16K Anvik River 80.19 25 IAmb IAmb 18 48 09.4
comp=Z,16nm,1.0s
J16K Anvik River 80.19 25 P **P** **18 47 59.2 +0.4**
baz=248
WHFO Wadi Hawf 80.22 288 P **P** **18 47 59.7 -0.3**
R17L Mt. Peulik Vol 80.28 31 P **P** **18 47 59.0 -0.4**
baz=253
G16K Koyuk River 80.31 23 P **P** **18 47 59.6 +0.3**
baz=246
I17K Unalakleet 80.38 24 P **P** **18 47 59.6 -0.1**
baz=248
C16K Lisburne Hills 80.48 19 P **P** **18 48 00.0 -0.2**
baz=243
O17K Koliganek Bris 80.56 29 P **P** **18 48 00.6 -0.2**
baz=252,SNR=7.4
ABTO Aybut 80.64 288 P **P** **18 48 02.2 0.0**
P17K Kvichak River 80.71 29 P **P** **18 48 00.9 -0.7**
baz=253
Q17K Contact Creek 80.71 30 P **P** **18 48 00.7 -1.1**
baz=253,SNR=5.8
N17K Nushagak Hills 80.76 28 P **P** **18 48 01.4 -0.5**
baz=252
L17K Donlin 80.77 26 P **P** **18 48 02.2 +0.2**
baz=250,SNR=5.8
J17K VABM Dome 80.87 25 IAmb IAmb 18 48 05.3
comp=Z,20nm,1.1s
J17K VABM Dome 80.87 25 P **P** **18 48 02.4 0.0**
baz=250
MZR Muzera 80.88 293 P **P** **18 48 03.3 0.0**
SNR=5.2
MZR Muzera 80.88 293 *i*P **P** **18 48 03.5 +0.2**
SNR=11
M17K Holitna River 80.92 27 IAmb IAmb 18 48 13.1
comp=Z,17nm,0.9s
M17K Holitna River 80.92 27 P **P** **18 48 02.8 +0.1**
baz=251,SNR=5.3
K17K Iditarod 80.97 26 P **P** **18 48 03.0 0.0**
baz=250
D17K Noatak River 81.00 20 P **P** **18 48 03.6 +0.6**
baz=245
G17K Kiwalik Mounta 81.00 23 P **P** **18 48 03.5 +0.4**
baz=248
H17K Granite Mounta 81.08 23 P **P** **18 48 03.9 +0.4**
baz=248
SII Sitkinak Islan 81.12 32 P **P** **18 48 04.0 +0.1**
baz=255
F17K Baldwin Pennin 81.14 22 P **P** **18 48 04.5 +0.7**
baz=247
E17K Hotham Inlet 81.19 21 P **P** **18 48 04.3 +0.3**
baz=246
SVE Sverdlovsk 81.21 328 *e*P **P** **18 48 04.9 +0.6**
SVE pmax pmax
comp=Z,19nm,1.1s
AKTO Aktyubinsk 81.23 321 P **P** **18 48 04.7 +0.1**
comp=Z,12nm,1.1s,baz=92,slow=5.7,SNR=15
comp=Z,12nm,1.1s
Q18K Katmai Hardscr 81.26 30 P **P** **18 48 04.5 -0.2**
baz=254
C17K DeLong Mountai 81.29 20 P **P** **18 48 04.8 +0.2**
baz=245
P18K Big Mountain, 81.36 29 P **P** **18 48 05.3 +0.1**
baz=254
N18K Kilae Creek 81.41 28 P **P** **18 48 05.7 +0.3**
baz=253
O18K Koktuh Hills 81.50 29 P **P** **18 48 05.9 0.0**
baz=254
GHWR Ruwais 81.52 294 P **P** **18 48 06.8 +0.1**
L18K Granite Mounta 81.52 26 P **P** **18 48 06.3 +0.4**
baz=252,SNR=6.2
JRN Qarnain Island 81.62 295 P **P** **18 48 07.2 0.0**
M18K Stony River 81.69 27 P **P** **18 48 06.8 0.0**
baz=253,SNR=7.8
E18K Tukpahlearik C 81.76 21 IAmb IAmb 18 48 16.9
comp=Z,12nm,0.9s
E18K Tukpahlearik C 81.76 21 P **P** **18 48 07.4 +0.3**
baz=248
OHAK Old Harbor 81.77 32 P **P** **18 48 07.3 0.0**
baz=256
H18K Honhosa River 81.77 23 P **P** **18 48 07.0 -0.2**
baz=250
F18K Selawik 81.79 22 P **P** **18 48 07.2 0.0**
baz=249
MAW Mawson 81.87 201 P **P** **18 48 08.3 +0.7**
comp=Z,16nm,0.9s,baz=74,slow=8.8,SNR=25
MAW LR LR 19 20 24.6
comp=Z,185nm,22.0s,baz=67,slow=33
comp=Z,16nm,0.9s
J18K Innoko River 81.90 25 P **P** **18 48 07.8 -0.1**
baz=252
G18K Tagagawik 81.92 23 P **P** **18 48 07.9 -0.1**
baz=250
Q19K Cape Douglas, 82.02 30 P **P** **18 48 08.4 -0.2**
baz=255
C18K Utukok River 82.03 20 P **P** **18 48 08.3 -0.2**
baz=247
N19K Bonanza Creek 82.11 28 IAmb IAmb 18 48 19.1
comp=Z,20nm,0.8s
N19K Bonanza Creek 82.11 28 P **P** **18 48 08.9 -0.2**
baz=254,SNR=10.0
B18K Kokolik River 82.12 19 P **P** **18 48 09.2 +0.4**
baz=246
GCSA Galena City Sc 82.23 24 P **P** **18 48 09.4 -0.1**
baz=251
KDAK Kodiak Island 82.27 31 P **P** **18 48 10.0 +0.1**
KDAK IAmb IAmb 18 48 13.5
comp=Z,22nm,0.9s

KDAK **Kodiak Island** 82.27 31 LR LR 19 19 38.9
comp=Z,281nm,21.9s,baz=240,slow=32
KDAK **Kodiak Island** 82.27 31 *de*P P 18 48 09.6 -0.3
KDAK pmax pmax
comp=Z,24nm,0.9s
KDAK **Kodiak Island** 82.27 31 P P 18 48 09.6 -0.3
baz=256
ARTI **Arti** 82.31 327 P P 18 48 10.0 -0.2
ARTI **Arti** 82.31 327 *c* P P 18 48 10.1 0.0
ARTI 18 51 18.7
ARTI S SKSac 18 58 25.7 -3.7
ARTI SS SS 19 03 43.1 -1.9
ARTI pmax pmax
comp=Z,7.0nm,0.9s
L19K **White Mountain** 82.33 27 IAmb IAmb 18 48 20.1
comp=Z,12nm,0.9s
L19K **White Mountain** 82.33 27 P P 18 48 09.9 -0.2
baz=254,SNR=8.4
P19K **Oil Pt** 82.41 29 P P 18 48 10.3 -0.3
baz=255
M19K **Big River Lodg** 82.46 27 P P 18 48 11.0 +0.1
baz=254,SNR=5.9
J19K **Poorman** 82.52 25 P P 18 48 10.8 -0.3
baz=253,SNR=6.1
Q20K **Shuyak Island** 82.57 31 P P 18 48 11.0 -0.4
baz=256
F19K **Shaleruckim Mo** 82.58 22 P P 18 48 11.2 -0.1
baz=250
SLWR **Sila** 82.60 294 P P 18 48 12.3 -0.1
G19K **Purcell Mounta** 82.61 23 IAmb IAmb 18 48 21.3
comp=Z,17nm,0.8s
G19K **Purcell Mounta** 82.61 23 P P 18 48 11.4 -0.1
baz=251,SNR=13
H19K **Roundabout Mou** 82.66 23 IAmb IAmb 18 48 13.7
comp=Z,9.0nm,0.7s
H19K **Roundabout Mou** 82.66 23 P P 18 48 11.6 -0.2
baz=252,SNR=6.1
A19K **Wainwright** 82.69 18 P P 18 48 11.8 0.0
baz=247
C19K **Lookout Ridge** 82.74 19 P P 18 48 12.5 +0.3
baz=248,SNR=9.2
O20K **Slope Mountain** 82.81 29 P P 18 48 12.8 0.0
baz=256
L20K **Farewell, AK** 82.85 27 P P 18 48 13.3 +0.4
baz=254,SNR=8.8
E19K **Redstone River** 82.98 21 IAmb IAmb 18 48 24.3
comp=Z,20nm,0.8s
E19K **Redstone River** 82.98 21 P P 18 48 13.7 +0.3
baz=251,SNR=13
K20K **Telida** 83.00 26 P P 18 48 14.0 +0.4
baz=254
D19K **Kuna River** 83.02 20 P P 18 48 14.1 +0.4
baz=250,SNR=15
M20K **Styx River** 83.03 27 IAmb IAmb 18 48 23.8
comp=Z,15nm,0.9s
M20K **Styx River** 83.03 27 P P 18 48 14.1 +0.2
baz=255,SNR=9.0
J20K **Nowinta River** 83.19 25 IAmb IAmb 18 48 16.7
comp=Z,11nm,0.8s
J20K **Nowinta River** 83.19 25 P P 18 48 14.8 +0.2
baz=254,SNR=12
I20K **Naaghedeneel** 83.23 24 P P 18 48 14.7 0.0
baz=254
H20K **Anotleneega Mo** 83.27 24 P P 18 48 14.7 -0.2
baz=253
F20K **Avaraart Lake** 83.41 22 IAmb IAmb 18 48 25.7
comp=Z,14nm,0.9s
F20K **Avaraart Lake** 83.41 22 P P 18 48 15.7 +0.1
baz=252,SNR=9.2
SMRA **Abu-Samra** 83.44 295 P P 18 48 16.6 0.0
D20K **Etivluk River** 83.62 20 IAmb IAmb 18 48 19.0
comp=Z,20nm,0.9s
D20K **Etivluk River** 83.62 20 P P 18 48 16.9 +0.2
baz=251,SNR=7.1
E20K **Nigu River** 83.62 21 P P 18 48 16.8 0.0
baz=252,SNR=17
CAPN **Captain Cook N** 83.68 29 P P 18 48 17.1 0.0
baz=257
PPLA **Purkeypile** 83.71 26 IAmb IAmb 18 48 18.7
comp=Z,47nm,1.8s
PPLA **Purkeypile** 83.71 26 P P 18 48 17.1 -0.4
baz=256
SKT **Skwentna** 83.78 27 P P 18 48 17.2 -0.5
baz=257,SNR=11
IMAR **Indian Mountai** 83.86 23 P P 18 48 17.8 -0.1
B20K **Meade River** 83.86 19 P P 18 48 17.8 -0.1
baz=250
CAST **Castle Rocks** 83.88 26 P P 18 48 18.1 -0.1
baz=256,SNR=6.6
CHUM **Lake Minchumin** 83.90 25 P P 18 48 18.2 +0.1
baz=256,SNR=25
SUA **Susitna One** 84.03 28 IAmb IAmb 18 48 21.0
comp=Z,16nm,0.9s
SUA **Susitna One** 84.03 28 P P 18 48 18.7 -0.4
baz=257,SNR=6.2
G21K **Allakaket** 84.10 23 IAmb IAmb 18 48 53.5
comp=Z,18nm,1.4s
G21K **Allakaket** 84.10 23 P P 18 48 19.3 +0.1
baz=254
H21K **Melozitna Rive** 84.14 24 P P 18 48 19.6 +0.2
baz=255,SNR=9.1
F21K **Alatna River** 84.30 22 P P 18 48 20.0 -0.3
baz=254
O22K **Cooper Landing** 84.31 29 P P 18 48 20.4 0.0
baz=258
I21K **Tanana** 84.36 24 P P 18 48 20.5 0.0
baz=256
SEW **Seward** 84.37 29 IAmb IAmb 18 48 29.6
comp=Z,15nm,0.9s
SEW **Seward** 84.37 29 P P 18 48 20.3 -0.3
baz=259
C21K **Knifeblade Rid** 84.38 20 P P 18 48 20.5 -0.1
baz=253
M22K **Willow** 84.39 28 P P 18 48 21.1 +0.4
baz=258
KTH **Kantishna Hill** 84.42 26 IAmb IAmb 18 48 30.5
comp=Z,12nm,0.8s
RC01 **Rabbit Creek A** 84.43 28 IAmb IAmb 18 48 21.7
comp=Z,15nm,0.8s
RC01 **Rabbit Creek A** 84.43 28 P P 18 48 20.7 -0.2
baz=258,SNR=7.1
E21K **Killik River** 84.46 21 P P 18 48 21.2 +0.2
baz=254
A21K **Barrow** 84.47 18 P P 18 48 21.1 +0.1
baz=251
BPAW **Bear Paw Mtn.** 84.52 25 IAmb IAmb 18 48 26.6
comp=Z,12nm,1.2s
BPAW **Bear Paw Mtn.** 84.52 25 P P 18 48 21.5 +0.1
baz=257
B21K **Ikpikpuk River** 84.58 20 P P 18 48 21.9 +0.3
B21K IAmb IAmb 18 48 30.8
comp=Z,14nm,0.9s
B21K **Ikpikpuk River** 84.58 20 P P 18 48 21.5 0.0
baz=253
TRF **Thorofare Moun** 84.67 26 IAmb IAmb 18 48 52.8
comp=Z,17nm,1.3s
TRF **Thorofare Moun** 84.67 26 P P 18 48 22.0 -0.4
baz=258
H22K **Ishtalitna Cre** 84.77 24 P P 18 48 22.5 -0.1
baz=256,SNR=5.2
PMR **Palmer** 84.82 28 P P 18 48 23.0 +0.1
baz=259
MLY **Manley** 84.83 24 IAmb IAmb 18 48 33.2
comp=Z,16nm,0.9s
MLY **Manley** 84.83 24 P P 18 48 22.9 -0.1
baz=257,SNR=15
F22K **John River** 84.86 22 P P 18 48 22.9 -0.2
baz=255
A22K **Sinclair Lake** 84.87 18 P P 18 48 23.2 +0.2
baz=252
GHO **Glory Hole Cre** 84.95 28 IAmb IAmb 18 48 33.3
comp=Z,11nm,0.8s
G22K **Bettles** 84.97 23 P P 18 48 23.6 0.0
baz=256
D22K **Ayikyak River** 85.03 20 P P 18 48 24.1 +0.2
baz=255
PWL **Port Wells** 85.06 29 IAmb IAmb 18 48 32.8
comp=Z,11nm,0.8s
PWL **Port Wells** 85.06 29 P P 18 48 24.1 -0.1
baz=260
KNK **Knik Glacier** 85.10 28 IAmb IAmb 18 48 33.2
comp=Z,16nm,0.8s
KNK **Knik Glacier** 85.10 28 P P 18 48 24.2 -0.2
baz=259
E22K **Anaktuvuk Pass** 85.15 21 P P 18 48 24.8 +0.3
baz=256
B22K **Teshekpuk Lake** 85.18 19 P P 18 48 24.6 +0.1
baz=254

MCK **McKinley** 85.33 26 P P 18 48 25.2 -0.3
baz=259,SNR=7.7
P23K **Montague Islan** 85.36 30 P P 18 48 25.7 +0.1
baz=260
I23K **Minto, Yukon-K** 85.43 24 IAmb IAmb 18 48 35.5
comp=Z,22nm,0.9s
I23K **Minto, Yukon-K** 85.43 24 P P 18 48 25.7 -0.2
baz=258,SNR=22
NEA2 **Nenana** 85.44 25 P P 18 48 25.8 -0.1
baz=259
G23K **Bananza Creek** 85.49 23 IAmb IAmb 18 48 36.2
comp=Z,11nm,0.9s
G23K **Bananza Creek** 85.49 23 P P 18 48 26.6 +0.3
baz=258,SNR=13
H23K **Yukon River** 85.49 24 IAmb IAmb 18 48 36.0
comp=Z,11nm,0.8s
H23K **Yukon River** 85.49 24 P P 18 48 26.9 +0.6
baz=258,SNR=12
M23K **Glacier View** 85.51 28 P P 18 48 27.0 +0.5
baz=260,SNR=6.9
COLD **Coldfoot** 85.54 22 P P 18 48 27.0 +0.5
baz=257,SNR=6.0
GLI **Glacier Island** 85.66 29 IAmb IAmb 18 48 35.8
comp=Z,10nm,0.8s
GLI **Glacier Island** 85.66 29 P P 18 48 27.1 0.0
baz=261
SCM **Sheep Creek Mo** 85.70 28 P P 18 48 27.7 +0.3
baz=260,SNR=15
D23K **Nanushuk River** 85.75 21 P P 18 48 27.5 0.0
baz=257
WRH **Wood River Hil** 85.83 25 IAmb IAmb 18 48 36.4
comp=Z,14nm,0.9s
FID **Port Fidalgo** 85.93 29 IAmb IAmb 18 48 40.6
comp=Z,10nm,0.8s
E23K **Chandalar** 85.94 22 IAmb IAmb 18 48 32.4
comp=Z,8.2nm,0.8s
E23K **Chandalar** 85.94 22 P P 18 48 28.5 0.0
baz=258,SNR=6.1
ABPO **Ambohimpanom** 85.97 251 P P 18 48 29.9 +0.1
ABPO IAmb IAmb 18 48 31.3
comp=Z,15nm,1.1s
ABPO **Ambohimpanom** 85.97 251 P P 18 48 29.9 +0.1
ABPO pmax pmax
comp=Z,15nm,1.1s
C23K **Itkillik River** 85.98 20 P P 18 48 28.8 +0.2
baz=257
CCB **Clear Creek Bu** 85.98 25 IAmb IAmb 18 48 37.0
comp=Z,16nm,0.8s
COLA **College** 86.00 25 *ce*P P 18 48 28.3 -0.4
COLA pmax pmax
comp=Z,8.0nm,0.8s
TOLK **Toolik Lake Re** 86.08 21 P P 18 48 29.1 0.0
baz=258
LKRN **Lenkeran, Azer** 86.16 309 P P 18 48 30.2 +0.1
H24K **Noodor Dome** 86.17 24 IAmb IAmb 18 48 39.4
comp=Z,3nm,0.9s
H24K **Noodor Dome** 86.17 24 P P 18 48 29.6 -0.1
baz=260,SNR=16
POKR **Poker Plat Res** 86.22 25 P P 18 48 30.1 +0.2
baz=260
EYAK **Cordova Ski Ar** 86.26 29 P P 18 48 30.0 0.0
baz=262
M24K **Tolsona, Glenn** 86.29 28 P P 18 48 30.4 +0.1
baz=261
HDA **Harding Lake** 86.31 25 IAmb IAmb 18 48 31.7
comp=Z,15nm,0.9s
HDA **Harding Lake** 86.31 25 P P 18 48 30.2 -0.1
baz=260,SNR=10
KLU **Klutina** 86.31 28 IAmb IAmb 18 48 40.0
comp=Z,14nm,1.0s
KLU **Klutina** 86.31 28 P P 18 48 30.4 -0.1
baz=262,SNR=11
E24K **Your Creek** 86.36 22 P P 18 48 30.6 +0.1
baz=259
IL31 86.39 25 IAmb IAmb 18 48 38.5
comp=Z,9.5nm,0.7s
ILAR **Eielson Array** 86.39 25 P P 18 48 28.9 -1.8
ILAR **Eielson Array** 86.39 25 P P 18 48 29.2 -1.5
comp=Z,6.2nm,0.8s,baz=261,slow=5.4,SNR=41
ILAR LR LR 19 21 46.1
comp=Z,73nm,20.6s,baz=251,slow=32
comp=Z,6.2nm,0.8s
ILAR **Eielson Array** 86.39 25 P P 18 48 28.9 -1.8
VOI **Volkmar** 86.41 248 P P 18 48 31.6 -0.2
D24K **Happy Valley** 86.45 21 P P 18 48 30.7 -0.1
baz=258
F24K **Squaw Lake** 86.47 22 IAmb IAmb 18 48 40.0
comp=Z,23nm,1.9s
F24K **Squaw Lake** 86.47 22 P P 18 48 31.2 +0.1
baz=259,SNR=5.2
G24K **Hadweenzic Riv** 86.48 23 IAmb IAmb 18 49 03.5
comp=Z,15nm,1.4s
G24K **Hadweenzic Riv** 86.48 23 P P 18 48 31.2 0.0
baz=260
C24K **Franklin Bluff** 86.60 20 P P 18 48 31.8 +0.2
baz=258
K24K **Donnelly Dome** 86.72 26 IAmb IAmb 18 48 41.8
comp=Z,16nm,0.8s
K24K **Donnelly Dome** 86.72 26 P P 18 48 32.3 -0.1
baz=262,SNR=7.1
PAX **Paxson** 86.74 27 IAmb IAmb 18 48 44.8
comp=Z,8.2nm,1.0s
PAX **Paxson** 86.74 27 P P 18 48 32.4 -0.2
baz=262
HARP **HAARP** 86.80 27 P P 18 48 32.8 0.0
baz=262
KAIM **Kayak Island** 86.83 30 P P 18 48 33.4 +0.5
baz=263,SNR=8.4
BMRM **Bremner River** 86.87 29 P P 18 48 33.3 +0.1
baz=263,SNR=14
N25K **Chitina, Valde** 86.96 28 IAmb IAmb 18 48 37.5
comp=Z,12nm,1.0s
N25K **Chitina, Valde** 86.96 28 P P 18 48 33.8 +0.1
baz=263,SNR=9.0
HMT **Hamilton** 86.96 30 IAmb IAmb 18 48 35.5
comp=Z,15nm,0.8s
J25K **Salcha River,** 87.01 25 P P 18 48 33.4 -0.5
baz=262,SNR=8.9
G25K **Bearman Lake** 87.03 23 P P 18 48 34.2 +0.4
baz=261
H25L **Birch Creek** 87.07 24 P P 18 48 34.6 +0.7
baz=261,SNR=8.7
PRP **Porcupine Dome** 87.08 24 P P 18 48 34.1 -0.1
baz=262
RIDG **Independent Ri** 87.12 26 IAmb IAmb 18 48 43.4
comp=Z,11nm,0.7s
RIDG **Independent Ri** 87.12 26 P P 18 48 34.3 0.0
baz=262,SNR=11
AKT **Akhty** 87.15 311 *e*P P 18 48 31.9 -3.2
AKT *e*S SKSac 18 58 58.8 -2.6
AKT pmax pmax
comp=Z,20nm,1.1s
GLB **Gilahina Butte** 87.31 29 IAmb IAmb 18 48 44.9
comp=Z,20nm,1.0s
F25K **Christian Rive** 87.34 22 P P 18 48 35.6 +0.2
baz=262,SNR=6.4
D25K **Kavik River** 87.34 21 P P 18 48 35.4 +0.1
baz=261
KIRV **Kirov** 87.44 329 P P 18 48 36.4 +0.6
comp=Z,8.6nm,0.7s,baz=98,slow=7.1,SNR=3.8
comp=Z,8.6nm,0.7s
KIRV **Kirov** 87.44 329 *e*P P 18 48 33.3 -2.6
VRDI **Verde Repeater** 87.46 29 IAmb IAmb 18 48 45.5
comp=Z,8.3nm,0.8s
SCRK **Sand Creek** 87.53 26 IAmb IAmb 18 48 49.5
comp=Z,27nm,2.0s
SCRK **Sand Creek** 87.53 26 P P 18 48 36.2 -0.2
baz=263
SEKA **Sheki** 87.53 311 P P 18 48 36.5 -0.4
CRQE **Cirque** 87.58 29 P P 18 48 36.8 0.0
baz=264,SNR=9.9
MNGR **Mingechevir, A** 87.59 311 P P 18 48 37.1 0.0
MCARA **McCarthy VSAT** 87.68 29 IAmb IAmb 18 49 19.5
comp=Z,16nm,1.1s
MCARA **McCarthy VSAT** 87.68 29 P P 18 48 37.4 +0.3
baz=264
BMAR **Burnt Mountain** 87.72 23 P P 18 48 36.5 -0.7
J26L **Joseph Creek** 87.77 25 IAmb IAmb 18 48 46.9
comp=Z,8.0nm,0.8s
J26L **Joseph Creek** 87.77 25 P P 18 48 37.6 +0.1
baz=264,SNR=16
F26K **Sheenjek River** 87.92 22 P P 18 48 38.4 +0.3
baz=263,SNR=5.2
C26K **Camden Bay** 87.93 20 P P 18 48 38.3 +0.2
baz=262
BELG **Belogornoye** 87.94 322 *ce*P P 18 48 36.6 -1.8
BELG pmax pmax
comp=Z,4.0nm,1.0s

G26K **Porcupine Rive** 87.97 23 P P 18 48 38.1 -0.1
baz=263
I26K **Coal Creek Min** 88.03 25 P P 18 48 38.9 +0.3
baz=264
GANJ **Ganja** 88.17 311 P P 18 48 39.8 -0.1
RAYN **Ar Rayn** 88.24 293 P P 18 48 39.9 -0.7
RAYN IAmb IAmb 18 48 42.1
comp=Z,9.8nm,1.0s
RAYN **Ar Rayn** 88.24 293 P P 18 48 40.3 -0.3
RAYN **Ar Rayn** 88.24 293 P P 18 48 39.9 -0.7
RAYN pmax pmax
comp=Z,10.0nm,1.0s
RAYN **Ar Rayn** 88.24 293 *i* P P 18 48 40.2 -0.3
SNR=13
C27K **Jago River** 88.31 20 P P 18 48 40.0 +0.1
baz=263
M27K **Edge Creek, AK** 88.31 28 IAmb IAmb 18 48 53.6
comp=Z,8.7nm,1.0s
M27K **Edge Creek, AK** 88.31 28 P P 18 48 40.9 +0.7
baz=265
K27K **Chicken** 88.37 26 P P 18 48 41.1 +0.8
baz=265
L27K **Beaver Creek,** 88.40 27 IAmb IAmb 18 48 57.8
comp=Z,23nm,2.0s
L27K **Beaver Creek,** 88.40 27 P P 18 48 40.9 +0.4
baz=265,SNR=6.6
BCAR **Beaver Creek A** 88.42 27 P P 18 48 40.1 -0.4
CTG **Chitna Glacier** 88.46 29 P P 18 48 41.1 +0.2
baz=266,SNR=9.8
LOGN **Logan Glacier** 88.61 29 IAmb IAmb 18 48 53.4
comp=Z,11nm,0.8s
I27K **Kandik River** 88.70 24 P P 18 48 42.1 +0.3
baz=265,SNR=9.4
NAX **Nakhchivan** 88.74 309 P P 18 48 42.6 -0.1
G27K **Doyon Strip** 88.79 23 P P 18 48 42.1 -0.1
baz=265
H27K **Steamboat Moun** 88.79 24 P P 18 48 41.8 -0.5
baz=265
E27K **Coleen River** 88.93 22 P P 18 48 42.6 -0.2
baz=265
PINM **Pinnacle** 88.93 30 P P 18 48 43.3 +0.2
baz=267
YUK3 **Moose Creek** 88.94 28 P P 18 48 42.9 -0.3
baz=266
O28M **Mount Upton** 89.00 29 IAmb IAmb 18 48 54.6
comp=Z,7.3nm,0.9s
O28M **Mount Upton** 89.00 29 P P 18 48 43.7 0.0
baz=267
QSPA **South Pole Qui** 89.14 180 P P 18 48 44.2 +0.2
QSPA **South Pole Qui** 89.14 180 P P 18 48 44.2 +0.2
comp=Z,16nm,0.9s,baz=343,slow=1.4,SNR=50
QSPA LR LR 19 29 42.9
comp=Z,637nm,19.5s,baz=9.5,slow=36
comp=Z,16nm,0.9s
D27M **Malcolm River** 89.24 21 P P 18 48 44.6 +0.2
baz=266
YUK8 **Steele Glacier** 89.24 29 P P 18 48 44.5 -0.3
baz=267
PNL **Peninsula** 89.34 30 P P 18 48 44.9 0.0
baz=267
I28M **Miner Creek** 89.39 25 P P 18 48 45.6 +0.5
baz=267,SNR=9.6
F28M **Old Crow** 89.54 22 P P 18 48 46.2 +0.5
baz=267
DAWY **Dawson** 89.55 26 IAmb IAmb 18 48 48.2
comp=Z,8.6nm,0.9s
DAWY **Dawson** 89.55 26 P P 18 48 45.8 -0.1
baz=267,SNR=9.8
E28M **Babbage River** 89.72 22 P P 18 48 47.0 +0.5
baz=267
YUK4 **Talbot Arm** 89.78 29 P P 18 48 47.0 -0.2
baz=268
YUK6 **Outpost Mounta** 89.91 29 P P 18 48 47.8 0.0
baz=268
M29M **Somme Creek** 89.91 28 P P 18 48 47.8 +0.2
baz=268,SNR=8.2
I29M **Ogilvie Camp,** 90.07 25 IAmb IAmb 18 48 52.0
comp=Z,9.0nm,1.2s
I29M **Ogilvie Camp,** 90.07 25 P P 18 48 48.5 +0.3
baz=268,SNR=7.5
H29M **Whitestone** 90.07 24 P P 18 48 48.2 0.0
baz=268
L29M **L29M** 90.08 27 IAmb IAmb 18 48 58.2
comp=Z,7.4nm,0.8s
L29M **L29M** 90.08 27 P P 18 48 48.4 0.0
baz=268,SNR=9.2
P29M **Windy Craggy** 90.18 31 IAmb IAmb 18 48 51.2
comp=Z,4.6nm,0.7s
P29M **Windy Craggy** 90.18 31 P P 18 48 48.7 -0.2
baz=269
G29M **Pine Creek** 90.23 23 IAmb IAmb 18 48 57.6
comp=Z,7.3nm,0.8s
G29M **Pine Creek** 90.23 23 P P 18 48 48.6 -0.3
baz=269,SNR=6.8
E29M **Blow River** 90.31 22 P P 18 48 49.3 0.0
baz=269
HYT **Haines Junctio** 90.32 29 P P 18 48 49.8 +0.2
baz=269,SNR=6.8
K29M **Barlow Dome** 90.37 26 IAmb IAmb 18 48 53.5
comp=Z,11nm,1.2s
K29M **Barlow Dome** 90.37 26 P P 18 48 50.0 +0.2
baz=269,SNR=12
N30M **Aishikik Lake** 90.53 29 P P 18 48 50.3 -0.2
baz=269
SYO **Syowa Base** 90.58 201 ‖ *e*P P 18 48 51.6 +1.1
SYO **Syowa Base** 90.58 201 ‖ *e*PcP PcP 18 48 54.0 +2.4
P30M **Million Dollar** 90.58 30 P P 18 48 49.8 -1.0
baz=270
GEVA **Gevas** 90.63 308 IAmb IAmb 18 49 01.8
comp=Z,5.4nm,0.8s
M30M **Minto, Yukon** 90.68 28 P P 18 48 50.5 -0.7
baz=270,SNR=6.9
EPYK **Eagle Plains** 90.74 24 P P 18 48 51.3 -0.1
baz=270
I30M **Mount Dempster** 90.88 25 P P 18 48 51.6 -0.6
baz=270
J30M **Hart River** 90.90 26 P P 18 48 52.0 -0.2
baz=270,SNR=9.9
G30M **tAoh Zraii Nji** 90.94 23 IAmb IAmb 18 49 00.2
comp=Z,5.6nm,0.8s
G30M **tAoh Zraii Nji** 90.94 23 P P 18 48 51.5 -0.8
baz=270
KIV **Kislovodsk** 90.94 314 *e*P P 18 48 51.0 -1.9
KIV pmax pmax
comp=Z,3.0nm,1.0s
S31K **Pelican** 90.95 32 P P 18 48 51.6 -0.8
baz=270
O30N **Mendenhall** 91.02 29 P P 18 48 52.6 -0.2
baz=270
F30M **Barrier River** 91.10 23 P P 18 48 52.3 -0.7
baz=271
N31M **Braeburn, Yuko** 91.16 29 P P 18 48 52.7 -0.7
baz=270
SIT **Sitka** 91.44 33 P P 18 48 54.3 -0.4
baz=271
WHY **Whitehorse** 91.61 30 IAmb IAmb 18 48 57.9
comp=Z,6.0nm,0.9s
WHY **Whitehorse** 91.61 30 P P 18 48 55.1 -0.5
baz=271
G31M **Satah River** 91.71 23 P P 18 48 55.2 -0.5
baz=272
H31M **Peel River** 91.72 24 P P 18 48 55.0 -0.9
baz=272
M31M **Drury Creek, Y** 91.81 28 P P 18 48 55.4 -1.0
baz=272
S32K **Killisnoo** 91.84 33 P P 18 48 55.7 -0.8
baz=272
R32K **Eaglecrest** 91.85 32 P P 18 48 55.8 -0.9
baz=272
F31M **Tsiigehtchic** 91.89 23 P P 18 48 55.7 -0.9
baz=272
INK **Inuvik** 91.93 22 LR LR 19 28 10.6
comp=Z,36nm,19.9s,baz=238,slow=34
INK **Inuvik** 91.93 22 P P 18 48 56.0 -0.8
baz=273
P32M **Atlin** 92.23 31 P P 18 48 57.7 -0.7
baz=272
KLMR **Klimovskoe** 92.51 331 *e*P P 18 48 57.5 -2.1
KLMR pmax pmax
comp=Z,23nm,1.4s
P33M **Teslin, Yukon** 92.65 30 P P 18 48 59.4 -1.0
baz=273
U33K **Whale Pass** 92.69 34 P P 18 49 00.1 -0.4
baz=273
CRAG **Craig** 92.72 35 P P 18 49 00.2 -0.5
baz=273
WRAK **Wrangell Islan** 93.11 34 P P 18 49 02.1 -0.3
baz=273

MMPY	**Sheldon Lake,** baz=275	**93.24**	**27**	P		**P**	**18 49 02.5**	**-0.5**
R33M	**Jennings River** baz=275	**93.64**	**31**	P		**P**	**18 49 04.8**	**-0.2**
DLBC	**Dease Lake** comp=Z,14nm,18.9s,baz=266,slow=34	**94.21**	**32**	LR		LR	19 29 37.2	
DLBC	**Dease Lake** baz=275	**94.21**	**32**	P		**P**	**18 49 07.1**	**-0.5**
T35M	**Bob Quinn** baz=275	**94.22**	**33**	P		**P**	**18 49 07.1**	**-0.5**
OBN	**Obninsk**	**94.47**	**325**	⇑*e*	P	**P**	**18 49 07.6**	**-1.1**
OBN							18 49 10.0	
OBN				*e*			18 59 38.2	
OBN				*i*			19 00 23.7	
OBN				SS	SS		19 06 44.0	+2.0
OBN				SSS	SSS		19 10 26.0	
OBN	comp=Z,7.0nm,0.6s			pmax	pmax			
OBN	comp=Z,104nm,19.0s			MLR	MLR			
BBB	**Bella Bella** comp=Z,245nm,21.3s,baz=228,slow=31	**95.94**	**38**	LR	LR		19 24 47.7	
SPITS	**Spitsbergen Ar** comp=Z,8.7nm,1.0s,baz=84,slow=4.5,SNR=3.6	**96.12**	**349**	P		**P**	**18 49 15.4**	**-0.5**
ARCES	comp=Z,8.7nm,1.0s **ARCESS Array B** comp=Z,2.9nm,0.7s,baz=78,slow=5.0,SNR=12	**96.89**	**340**	P		**P**	**18 49 18.1**	**-1.4**
ARCES				LR		LR	19 35 56.5	
	comp=Z,148nm,21.9s,baz=77,slow=37 comp=Z,2.9nm,0.7s							
EIL	**Elat** comp=Z,57nm,20.7s,baz=70,slow=38	**97.60**	**300**	LR		LR	19 38 31.7	
BRTR	**Keskin Array B** comp=Z,0.7nm,0.9s,baz=85,slow=4.8,SNR=3.7 comp=Z,0.7nm,0.9s	**97.90**	**310**	P		Pdif	18 49 25.4	+0.4
FINES	**FINESS Array B** comp=Z,2.3nm,1.0s,baz=64,slow=9.4,SNR=4.3	**98.85**	**332**	P		Pdif	18 49 29.9	+1.5
FINES				LR		LR	19 37 15.1	
	comp=Z,202nm,20.0s,baz=72,slow=37 comp=Z,2.3nm,1.0s							
FINES	**FINESS Array B**	**98.85**	**332**	*i* P		**P**	**18 49 27.6**	**-0.8**
FINES	comp=Z,4.0nm,1.0s			pmax	pmax			
YKA	**Yellowknife Ar** comp=Z,0.8nm,0.8s,baz=296,slow=4.9,SNR=6.0	**100.79**	**26**	P		**Pdif**	**18 49 37.0**	**-0.1**
YKA	**Yellowknife Ar**	**100.79**	**26**	*i* P		**Pdif**	**18 49 38.5**	**+1.4**
YKA	comp=Z,1.0nm,0.8s			pmax	pmax			
SNAA	**Sanae** comp=Z,1.5nm,1.0s,baz=127,slow=20,SNR=4.1	**102.40**	**193**	P		**Pdif**	**18 49 45.2**	**+1.0**
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.5s,baz=289,slow=4.5,SNR=2.0	**104.90**	**50**	Pdiff		**Pdif**	**18 49 57.5**	**+1.2**
PDAR	**Pinedale Array** comp=Z,0.1nm,0.4s,baz=98,slow=2.2,SNR=2.4	**110.24**	**44**	PKKPbc	PKKPbc		19 05 22.3	-1.3
PDAR	comp=Z,0.3nm,0.5s,baz=98,slow=1.7,SNR=4.5			PKKPab		**PKKPab**	**19 05 33.5**	**-0.2**
MNTX	**Cornudas Mount**	**116.81**	**55**			**PKPdf**	**18 54 30.3**	**-3.5**
TXAR	**Lajitas Array** comp=Z,0.4nm,0.8s,baz=306,slow=2.7,SNR=3.9	**118.91**	**57**	PKP		**PKiKP**	**18 54 38.5**	**+0.4**
TXAR	comp=Z,0.2nm,0.4s,baz=126,slow=3.9,SNR=4.1			PKKPbc		**PKKPbc**	**19 04 53.8**	**+0.5**
BRDY	**Brady**	**122.09**	**53**			**PKiKP**	**18 54 44.4**	**+0.3**
MIAR	**Mount Ida**	**124.93**	**47**			**PKPdf**	**18 54 47.0**	**-2.3**
MIAR	**Mount Ida**	**124.93**	**47**	PKIKP		**PKPdf**	**18 54 47.0**	**-2.3**
WVT	**Waverly**	**128.20**	**43**			**PKPdf**	**18 54 55.2**	**-0.3**
WVT	**Waverly**	**128.20**	**43**	PKIKP		**PKPdf**	**18 54 55.2**	**-0.3**
T50A	**Nancy**	**129.66**	**40**			**PKPdf**	**18 54 57.9**	**-0.3**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.3s,baz=80,slow=1.8,SNR=3.9	**130.47**	**287**	PKP		**PKPdf**	**18 54 59.7**	**-0.6**
PLCA	**Paso Flores** comp=Z,3.8nm,0.9s,baz=214,slow=3.6,SNR=4.8	**133.34**	**155**	PKP		**PKiKP**	**18 55 06.6**	**+0.1**
AC02	**Maricunga**	**145.09**	**144**			**PKPbc**	**18 55 27.0**	**+0.1**
PLTB	**Pedras Altas**	**146.98**	**169**	PKPbc		**PKPab**	**18 55 33.0**	**-0.2**
PB11	**IPOC Station P**	**149.65**	**134**			**PKPdf**	**18 55 34.2**	**-0.6**
CPUP	**Villa Florida**	**151.17**	**160**			**PKPdf**	**18 55 38.1**	**+1.3**
CPUP	**Villa Florida** comp=Z,3.8nm,1.0s,baz=249,slow=1.7,SNR=17	**151.17**	**160**	PKPbc		**PKiKP**	**18 55 43.4**	**+0.2**
CPUP	**Villa Florida**	**151.17**	**160**	PKIKP		**PKPdf**	**18 55 38.1**	**+1.3**
ROSC	**El Rosal** comp=Z,9.5nm,0.4s,baz=270,slow=20,SNR=4.4	**152.19**	**81**	PKPbc		**PKiKP**	**18 55 46.1**	**-0.1**
LPAZ	**La Paz**	**152.93**	**130**	PKPdf		**PKPdf**	**18 55 38.3**	**-2.2**
LPAZ	**La Paz** comp=Z,3.0nm,1.1s,baz=243,slow=4.5,SNR=5.7	**152.93**	**130**	PKP		**PKPdf**	**18 55 40.6**	**+0.1**
LPAZ	comp=Z,4.1nm,0.9s,baz=229,slow=2.3,SNR=8.3			PKPbc		**PKiKP**	**18 55 48.7**	**+0.8**
PTLB	**Pontes e Lacer**	**159.75**	**143**			**PKPdf**	**18 55 47.4**	**-1.1**
BDFB	**Brasilia** comp=Z,1.3nm,0.4s,baz=153,slow=6.8,SNR=3.7	**163.62**	**176**	PKP		**PKPdf**	**18 55 53.4**	**+0.7**

*SNET **31** 18:45:58.7±1.5, 12°.57N×88°.27W, h63km, ML2.9*
*CATAC **31** 18:45:58.3±0.8, 13°.4′×8°.8W±°, h31km±8km, M3.1/9, MLv3.1/9, Error ellipse: s-maj=10.5km s-min=4.6km az=33.4, confirmed*

ISC 31 18:45:59.0±2.0, 12°.5N±0°.1×88°.19W±0°.06, h35km, n22, σ0s69/28, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.77**	**53**	P		**Pn**	**18 46 12.8**	**-0.7**
CSGN				S		**Sn**	**18 46 24.5**	**+0.7**
POTN	**Potosi Cosigui**	**0.82**	**54**	P		**Pn**	**18 46 13.6**	**-0.5**
POTN				S		**Sn**	**18 46 25.0**	**-0.1**
CNCH	**Conchagua**	**0.83**	**25**	S		**Sn**	**18 46 26.3**	**+0.7**
CNCH	**Conchagua**	**0.83**	**25**	P		**Pn**	**18 46 13.7**	**-0.7**
LCND	**La Caada**	**0.84**	**20**	*e*P		**Pn**	**18 46 13.5**	**-1.0**
LCND	**La Caada**	**0.84**	**20**	P		**Pn**	**18 46 13.7**	**-0.7**
ALJI	**Alcalda de J**	**0.89**	**335**	S		**Sn**	**18 46 28.3**	**+1.6**
ALJI	**Alcalda de J**	**0.89**	**335**	P		**Pn**	**18 46 15.1**	**0.0**
CNRM	**Centro Naciona**	**0.95**	**1**	S		**Sn**	**18 46 29.0**	**+0.6**
PACA	**Pacayal**	**0.96**	**352**	*e*P		**Pn**	**18 46 16.0**	**-0.2**
PACA				*e*S		**Sn**	**18 46 28.8**	**+0.2**
PACA	**Pacayal**	**0.96**	**352**	P		**Pn**	**18 46 15.7**	**-0.4**
TECA	**Tecapa**	**1.02**	**343**	*e*P		**Pn**	**18 46 16.6**	**-0.4**
TECA				*e*P			18 46 16.7	
TECA				*e*S		**Sn**	**18 46 30.1**	**-0.2**
CRIN	**San Cristobal**	**1.13**	**80**	P		**Pn**	**18 46 18.7**	**+0.3**
CRIN	**San Cristobal**	**1.13**	**80**	S		**Sn**	**18 46 34.0**	**+1.3**
PQSS	**Presa 15 de Se**	**1.16**	**342**	*e*P		**Pn**	**18 46 18.9**	**+0.1**
PQSS				*e*S		**Sn**	**18 46 33.8**	**+0.4**
PQSS	**Presa 15 de Se**	**1.16**	**342**	P		**Pn**	**18 46 18.5**	**-0.3**
TECO	**Alcaldia de Te**	**1.17**	**330**	S		**Sn**	**18 46 32.5**	**-1.2**
UESV	**Universidad de**	**1.26**	**332**	S		**Sn**	**18 46 35.7**	**-0.2**
UESV	**Universidad de**	**1.26**	**332**	P		**Pn**	**18 46 20.3**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.29**	**336**	*e*P		**Pn**	**18 46 20.6**	**0.0**
SCLA				*e*S		**Sn**	**18 46 37.4**	**+0.6**
COPN	**Copaltepe**	**1.59**	**102**	P		**Pn**	**18 46 23.8**	**-0.9**
RCVN	**Varillal2**	**2.22**	**61**	P		**Pn**	**18 46 33.2**	**-0.2**

*JMA **31** 18:48:54.1±0.3, 30°.1′×13°.9E±°, h464km±3km, MV4.1/32, NEAR TORISHIMA IS*
*MOS **31** 18:48:55.5±0.8, 30°.45N×138°.31E, h443km, mb4.6/20, Error ellipse: s-maj=10.4km s-min=5.1km az=91.0*
*NEIC **31** 18:48:56.6±1.3, 30°.45N±0°.09×138°.4E±0°.1, h438km±5km, mb4.4/297, Error ellipse: s-maj=15.9km s-min=12.3km az=106.0*
*IDC **31** 18:48:56.3±0.5, 30°.47N×138°.38E, h441km±4km, mb3.7/24, mbtmp4.6/32, Error ellipse: s-maj=9.1km s-min=6.3km az=78.0*

ISC 31 18:48:56.4±0.4, 30°.39N±0°.03×138°.47E±0°.04, h444km±4km, h444km:pP-P, n638, σ1s23/562, mb4.4/202, 10C-15D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.91**	**23**	P		**P**	**18 50 01.5**	**-0.7**
JHCJ				*e*S		**S**	**18 50 51.9**	**-3.8**
JHJ	**Hachijo jima 2** 1µm,0.3s,baz=128,slow=19,SNR=534	**2.94**	**22**	P		**P**	**18 50 02.1**	**-0.3**
JHJ				S		**S**	**18 50 53.3**	**-2.9**
	704nm,0.3s,baz=300,slow=20,SNR=8.3							
JHJ2	**Mitsune**	**2.95**	**23**			**P**	**18 50 01.0**	**-1.5**
JHJ2	**Mitsune**	**2.95**	**23**	P		**P**	**18 50 01.8**	**-0.7**
JHJ2	**Mitsune**	**2.95**	**23**	S		**S**	**18 50 54.4**	**-1.8**
JHJ2	**Mitsune**	**2.95**	**23**	P		**P**	**18 50 01.8**	**-0.7**
TTO1	**TONANKAI O.B.S**	**3.53**	**337**	*e*P		**P**	**18 50 08.0**	**+1.4**
TK02	**Tokai 2**	**3.60**	**351**	*e*P		**P**	**18 50 08.8**	**+1.4**
JMKN	**Mikurajimanish**	**3.62**	**15**	P		**P**	**18 50 06.6**	**-1.2**
JTNC	**Tanabenakahech**	**4.19**	**325**	P		**P**	**18 50 13.6**	**+0.8**
JTNC				*e*S		**S**	**18 51 14.5**	**-0.6**
JIE	**Ise**	**4.26**	**340**	P		**P**	**18 50 14.4**	**+1.0**
JIE				*e*S		**S**	**18 51 17.2**	**+1.1**
JSG	**Sagara**	**4.28**	**357**	P		**P**	**18 50 13.6**	**0.0**
CBIJ	**Chichi jima**	**4.63**	**134**	P		**P**	**18 50 14.7**	**-2.3**
CBIJ				*e*S		**S**	**18 51 17.9**	**-4.7**
JCJ	**Chichijima**	**4.63**	**134**	P		**P**	**18 50 14.0**	**-3.0**
JCJ	**Chichijima** 174nm,0.3s,baz=297,slow=14,SNR=53	**4.63**	**134**	P		**P**	**18 50 14.6**	**-2.4**
JCJ				S		**S**	**18 51 16.1**	**-6.5**
	996nm,0.4s,baz=309,slow=19,SNR=23							
JCJ	**Chichijima**	**4.63**	**134**	P		**P**	**18 50 14.8**	**-2.2**
BSO1	**Boso 1**	**4.75**	**26**	P		**P**	**18 50 15.9**	**-1.4**
BSO1				*e*S		**S**	**18 51 20.1**	**-3.4**
JOD2	**Odawara 2**	**4.89**	**6**	*e*P		**P**	**18 50 17.9**	**-1.4**
JOD2				S		**S**	**18 51 25.0**	**-1.9**
INU	**Inuyama**	**5.09**	**347**			**P**	**18 50 21.4**	**+0.2**
INU	**Inuyama**	**5.09**	**347**	P		**P**	**18 50 22.0**	**+0.8**
INU	**Inuyama**	**5.09**	**347**	S		**S**	**18 51 29.5**	**-1.0**
JMN	**Monobe**	**5.12**	**312**			**P**	**18 50 22.7**	**+1.0**
JMN	**Monobe**	**5.12**	**312**	P		**P**	**18 50 22.5**	**+0.9**
JGF	**Kuroka**	**5.28**	**350**			**P**	**18 50 22.7**	**-0.4**
JGF	**Kuroka**	**5.28**	**350**	P		**P**	**18 50 23.4**	**+0.3**
JTO	**Tosashimizu**	**5.42**	**298**	P		**P**	**18 50 25.8**	**+1.3**
JRY	**Ryogami san**	**5.62**	**4**	P		**P**	**18 50 25.6**	**-0.9**
JRY				*e*S		**S**	**18 51 34.1**	**-6.1**
MJAR	**Matsushiro Arr**	**6.14**	**358**			**P**	**18 50 29.6**	**-2.2**
MJAR	**Matsushiro Arr** 32nm,0.4s,baz=176,slow=11,SNR=148	**6.14**	**358**	P		**P**	**18 50 30.0**	**-1.8**
MJAR				S		**S**	**18 51 45.6**	**-4.3**
	13nm,0.5s,baz=171,slow=16,SNR=6.5							
MAJO	**Matsushiro**	**6.14**	**358**			**P**	**18 50 30.1**	**-1.7**
MAJO	**Matsushiro**	**6.14**	**358**	P		**P**	**18 50 30.5**	**-1.3**
MAJO	**Matsushiro**	**6.14**	**358**	*ce*P		**P**	**18 50 30.5**	**-1.3**
MJB9	**Matsu-Tunnel**	**6.14**	**358**	P		**P**	**18 50 30.0**	**-1.8**
JHS	**Saijyo**	**6.44**	**317**	P		**P**	**18 50 35.9**	**+0.9**
JHS				S		**S**	**18 51 56.1**	**+0.5**
JNU	**Nakatsue**	**7.01**	**295**			**P**	**18 50 41.7**	**+0.6**
JNU	**Nakatsue** 16nm,0.6s,baz=105,slow=5.7,SNR=40	**7.01**	**295**	P		**P**	**18 50 41.2**	**+0.1**
JNU				S		**S**	**18 52 06.0**	**-0.8**
	7.3nm,0.7s,baz=52,slow=2.7,SNR=1.5							
JNU	**Nakatsue**	**7.01**	**295**	P		**P**	**18 50 42.0**	**+0.9**
JSJ	**Shimokoshiki**	**7.62**	**282**	P		**P**	**18 50 48.6**	**+1.0**
JSD	**Sado**	**7.63**	**359**	P		**P**	**18 50 45.4**	**-2.2**
JMM	**Marumori**	**7.70**	**14**	P		**P**	**18 50 46.6**	**-1.7**
JMM	**Marumori**	**7.70**	**14**	P		**P**	**18 50 47.3**	**-1.1**
JAMN	**Amaminishikomi**	**8.39**	**258**	*e*P		**P**	**18 50 56.9**	**+0.9**
JAMN				*e*S		**S**	**18 52 34.9**	**+0.8**
JTU	**Tsushima**	**8.70**	**301**	P		**P**	**18 51 00.2**	**+1.0**
JMK	**Ichinoseki**	**8.84**	**14**	P		**P**	**18 51 00.1**	**-0.6**
JOW	**Kunigami**	**9.63**	**251**			**P**	**18 51 10.7**	**+1.2**
JOW	**Kunigami** 83nm,0.5s,baz=76,slow=7.1,SNR=50	**9.63**	**251**	P		**P**	**18 51 10.3**	**+0.7**
JOW				S		**S**	**18 53 01.8**	**+2.6**
	13nm,0.9s,baz=102,slow=20,SNR=6.8							
JOW	**Kunigami**	**9.63**	**251**	P		**P**	**18 51 10.6**	**+1.0**
JOW	**Kunigami**	**9.63**	**251**	*e*P		**P**	**18 51 11.3**	**+1.7**
JTM	**Tenmabayashi**	**10.59**	**11**			**P**	**18 51 19.6**	**-0.1**
JTM	**Tenmabayashi**	**10.59**	**11**	P		**P**	**18 51 19.8**	**+0.1**
JKE	**Kume jima 2**	**11.05**	**251**	P		**P**	**18 51 25.9**	**+0.8**
JOT	**Ohata**	**11.17**	**10**	P		**P**	**18 51 26.1**	**+0.1**
KSRS	**Korea Array** 17nm,0.9s,baz=124,slow=11,SNR=55	**11.23**	**312**	P		**P**	**18 51 27.2**	**+0.4**
KSRS				S		**S**	**18 53 29.9**	**-1.1**
	6.5nm,1.2s,baz=118,slow=23,SNR=7.1							
KSRS				ScP		**ScP**	**18 59 31.1**	**+0.8**
	1.9nm,0.7s,baz=95,slow=0.8,SNR=11							
KSAR	**Wonju Array Be**	**11.25**	**311**	P		**P**	**18 51 26.7**	**-0.3**
KSAR	**Wonju Array Be**	**11.25**	**311**	P		**P**	**18 51 26.7**	**-0.3**
KS19	**Wonju Array Si**	**11.30**	**312**	P		**P**	**18 51 27.1**	**-0.5**
JOSM	**Okushiri--Mats**	**11.70**	**4**	P		**P**	**18 51 31.9**	**+0.1**
ERM	**Erimo**	**12.20**	**17**			**P**	**18 51 37.8**	**+0.6**
ERM	**Erimo**	**12.20**	**17**	P		**P**	**18 51 37.9**	**+0.6**
ERM	**Erimo**	**12.20**	**17**	*de*P		**P**	**18 51 38.2**	**+0.9**
JEM	**Erimo**	**12.20**	**17**	P		**P**	**18 51 38.1**	**+0.8**
VLA	**Vladivostok**	**13.75**	**339**	⇓*e*P		**P**	**18 51 53.9**	**-0.1**
ASAJ	**Asahikawa** 25nm,0.3s,baz=209,slow=9.6,SNR=68	**14.09**	**12**	P		**P**	**18 51 58.3**	**+0.6**
ASAJ				S		**S**	**18 54 27.9**	**+0.4**
	16nm,0.8s,baz=211,slow=12,SNR=3.9							
JKA	**Kamikawa-asahi**	**14.09**	**12**			**P**	**18 51 58.2**	**+0.5**
NMR	**Nemuro--Hokkai**	**14.19**	**22**	*e*P		**P**	**18 51 59.2**	**+0.5**
GLVR	**Golovnino**	**14.46**	**21**	*e*P		**P**	**18 52 03.0**	**+1.4**
GLVR	comp=Z,223nm,0.4s			pmax	pmax			
GLVR	comp=N,44nm,0.3s			pmax	pmax			
TEY	**Ternei**	**14.70**	**355**	⇑*e*P		**P**	**18 52 03.3**	**-0.8**
TEY	comp=N,60nm,0.6s			pmax	pmax			
TEY	comp=Z,80nm,0.6s			pmax	pmax			
TEY	comp=E,10.0nm,0.6s			pmax	pmax			
RUSJ	**Misakicho**	**14.71**	**20**	*e*P		**P**	**18 52 05.0**	**+0.7**
USA0B	**Ussuriysk Arra**	**14.71**	**341**			**P**	**18 52 03.9**	**-0.4**
USA0B	**Ussuriysk Arra**	**14.71**	**341**	*ce*P		**P**	**18 52 04.0**	**-0.3**
USRK	**Ussuriysk Ar.**	**14.71**	**341**			**P**	**18 52 03.7**	**-0.6**
USRK	**Ussuriysk Ar.** comp=E,18nm,0.3s,baz=161,slow=10,SNR=147	**14.71**	**341**	P		**P**	**18 52 03.9**	**-0.4**
USRK				S		**S**	**18 54 46.4**	**+6.7**
	comp=E,1.5nm,0.7s,baz=174,slow=25,SNR=1.2							
YUK	**Yuzh-Kuril'sk**	**14.83**	**21**	*e*P		**P**	**18 52 06.3**	**+0.7**
YUK	comp=Z,621nm,0.4s			pmax	pmax			
YUK	comp=N,29nm,0.3s			pmax	pmax			
YUK	comp=E,71nm,0.4s			pmax	pmax			
YOJ	**Yonaguni jima**	**14.94**	**250**	P		**P**	**18 52 06.2**	**-0.8**
YOJ	**Yonaguni jima**	**14.94**	**250**	P		**P**	**18 52 05.9**	**-1.1**
YOJ	**Yonaguni jima**	**14.94**	**250**	P		**P**	**18 52 06.2**	**-0.8**
SHO	**Shikotan**	**15.01**	**24**	*e*P		**P**	**18 52 10.1**	**+2.6**
SHO	comp=N,21nm,0.5s			pmax	pmax			
SHO	comp=Z,60nm,0.5s			pmax	pmax			
SHO	comp=E,34nm,0.4s			pmax	pmax			
MDJ	**Mudanjiang**	**15.84**	**336**			**P**	**18 52 15.3**	**-1.0**
MDJ	**Mudanjiang**	**15.84**	**336**	P		**P**	**18 52 16.0**	**-0.3**
MDJ	comp=Z,41nm,0.9s			pmax	pmax			
MDJ	**Mudanjiang**	**15.84**	**336**	P		**P**	**18 52 16.3**	**0.0**
TATO	**Taipei**	**15.97**	**254**	P		**P**	**18 52 17.7**	**-0.4**
YHNB	**Yeheng**	**16.19**	**254**	P		**P**	**18 52 18.7**	**-1.8**
NACB	**Ninganchiao**	**16.22**	**252**	P		**P**	**18 52 18.3**	**-2.4**
DL2	**Dalian**	**16.24**	**306**	P		**P**	**18 52 19.3**	**-1.3**
DL2	comp=Z,29nm,0.8s			pmax	pmax			
KUR	**Kuril'sk**	**16.56**	**24**	*e*P		**P**	**18 52 24.6**	**+0.7**
KUR				S		**S**	**18 55 11.5**	**-4.0**
KUR	comp=Z,52nm,0.7s			pmax	pmax			
YULB	**Yu-li**	**16.82**	**250**	P		**P**	**18 52 25.5**	**-1.5**
YSS	**Yuzhno-Sakhali**	**16.87**	**10**			**P**	**18 52 27.0**	**-0.2**
YSS	**Yuzhno-Sakhali**	**16.87**	**10**	P		**P**	**18 52 27.4**	**+0.2**
YSS	**Yuzhno-Sakhali**	**16.87**	**10**	*e*P		**P**	**18 52 27.2**	**0.0**
YSS	comp=Z,40nm,0.7s			pmax	pmax			
SSLB	**Suanglung**	**16.92**	**251**			**P**	**18 52 26.5**	**-1.6**
SSLB	**Suanglung**	**16.92**	**251**	P		**P**	**18 52 27.1**	**-1.0**
TWG	**Pinlang**	**17.27**	**248**	P		**P**	**18 52 28.8**	**-3.0**
TPUB	**Ta-pu**	**17.40**	**250**			**P**	**18 52 32.0**	**-1.2**
TPUB	**Ta-pu**	**17.40**	**250**	P		**P**	**18 52 32.9**	**-0.3**
BNX	**BinXian**	**17.60**	**334**	⇓P		**P**	**18 52 34.3**	**-0.7**
BNX				S		**S**	**18 55 36.0**	**+1.0**
BNX	comp=Z,12nm,0.8s			pmax	pmax			
BNX	comp=Z,100nm,5.9s			pmax	pmax			
BNX	comp=N,170nm,16.8s			LR	LR			
BNX	comp=E,180nm,17.9s			LR	LR			
BNX	comp=Z,400nm,20.6s			LR	LR			
GUMO	**Guam**	**17.73**	**159**			**P**	**18 52 37.7**	**+1.0**
GUMO	**Guam** comp=Z,94nm,0.8s,baz=354,slow=18,SNR=9.6	**17.73**	**159**	P		**P**	**18 52 38.1**	**+1.4**
GUMO	**Guam**	**17.73**	**159**	P		**P**	**18 52 37.7**	**+1.0**
GUMO	comp=Z,133nm,1.0s			pmax	pmax			
TIA	**Tai'an**	**18.75**	**294**	P		**P**	**18 52 44.5**	**-2.0**
TIA				pmax	pmax			
KNMB	**Chin-men Tao** comp=Z,56nm,0.7s	**18.77**	**257**	P		**P**	**18 52 46.6**	**-0.2**
UGL	**Uglegorsk**	**18.86**	**7**	*e*P		**P**	**18 52 48.5**	**+1.1**
UGL	comp=Z,100nm,0.7s			pmax	pmax			
GRNR	**Gornyy**	**20.42**	**356**	⇓*i*P		**P**	**18 53 02.5**	**+0.9**
GRNR	comp=N,30nm,0.9s			pmax	pmax			
GRNR	comp=Z,50nm,0.9s			pmax	pmax			
TYV	**Tymovskoe**	**20.69**	**8**	*e*P		**P**	**18 53 04.9**	**+0.8**
TYV				*e*S		**S**	**18 56 25.0**	**-0.8**
TYV	comp=Z,31nm,1.1s			pmax	pmax			
TYV	comp=Z,100nm,4.6s			pmax	pmax			
TYV	comp=N,6.0nm,1.4s			smax	smax			
TYV	comp=N,200nm,7.0s			smax	smax			
TYV	comp=E,100nm,7.0s			smax	smax			
WHN	**Wuhan**	**20.78**	**277**	⇑P		**P**	**18 53 05.3**	**+0.1**
HEH	**HeiHe**	**21.51**	**340**	*e*P		**P**	**18 53 11.5**	**-0.1**
HEH	comp=Z,64nm,0.8s			pmax	pmax			
LYN	**LuoYang**	**22.30**	**288**	P		**P**	**18 53 18.0**	**-1.0**
LYN	comp=Z,40nm,0.5s			pmax	pmax			
HHC	**Hu-ho-hao-te**	**24.14**	**303**	*e*P		**P**	**18 53 36.5**	**+0.9**
HHC	comp=Z,16nm,0.6s			pmax	pmax			
HHC	comp=Z,89nm,5.3s			pmax	pmax			
ENH	**Enshi**	**24.99**	**277**	P		**P**	**18 53 42.7**	**-0.4**
XAN	**Xi'an**	**25.22**	**286**	⇓P		**P**	**18 53 44.8**	**-0.4**
XAN	comp=Z,100nm,0.8s			pmax	pmax			
PEA0B	**Petropavlovsk-**	**26.69**	**26**	⇑*e*P		**P**	**18 53 58.5**	**+0.7**
PETK	**Petropavlovsk-**	**26.69**	**26**	P		**P**	**18 53 58.4**	**+0.6**
PETK	**Petropavlovsk-** comp=Z,6.9nm,0.8s,baz=225,slow=7.8,SNR=13	**26.69**	**26**	P		**P**	**18 53 57.7**	**-0.1**
PETK				ScP		**ScP**	**19 00 04.3**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=197,slow=5.4,SNR=3.6 comp=Z,6.9nm,0.8s							
PET	**Petropavlovsk**	**27.00**	**27**	P		**P**	**18 54 00.7**	**+0.2**
PET	comp=Z,16nm,0.9s			IAmb	IAmb		18 54 01.6	
PET	**Petropavlovsk**	**27.00**	**27**	⇓*e*P		**P**	**18 54 01.5**	**+1.0**
PET	comp=Z,26nm,1.3s			pmax	pmax			
LZH	**Lanzhou**	**29.41**	**290**	*e*P		**P**	**18 54 22.0**	**-0.2**
LZH				sP	sP		18 56 38.0	+7.7
LZH	comp=Z,49nm,1.0s			pmax	pmax			
SONM	**Songino Array** comp=Z,0.6nm,0.4s,baz=112,slow=6.4,SNR=9.4	**30.09**	**314**	P		**P**	**18 54 27.1**	**-0.8**
SONM				PcP		**PcP**	**18 57 16.9**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=116,slow=5.0,SNR=1.7							
SONM				ScP		**ScP**	**19 00 15.7**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=125,slow=3.1,SNR=8.3 comp=Z,0.6nm,0.4s							
MA2	**Magadan**	**30.35**	**12**			**P**	**18 54 30.1**	**+0.3**
MA2	**Magadan**	**30.35**	**12**	P		**P**	**18 54 30.4**	**+0.6**
MA2	**Magadan**	**30.35**	**12**	*ce*P		**P**	**18 54 30.3**	**+0.5**
MA2	comp=Z,98nm,0.8s			pmax	pmax			
KMI	**Kunming**	**31.96**	**269**	P		**P**	**18 54 44.0**	**-0.5**
KMI	comp=Z,18nm,0.9s			pmax	pmax			
YAK	**Yakutsk**	**32.17**	**352**			**P**	**18 54 44.7**	**-0.7**
YAK	**Yakutsk**	**32.17**	**352**	*e*P		**P**	**18 54 44.7**	**-0.7**
YAK				*e**PP		**pP**	**18 56 03.9**	**-0.6**
YAK				*e*			18 57 20.8	
YAK				*e*S		**S**	**18 59 25.5**	**+0.3**
YAK				*e**SS		**sS**	**19 01 51.7**	**+1.8**
YAK				*e*			19 04 18.7	
YAK	comp=Z,30nm,0.9s			pmax	pmax			
YAK	comp=E,2.0nm,0.9s			pmax	pmax			
YAK	comp=N,9.0nm,1.1s			pmax	pmax			
YAK	comp=N,30nm,2.0s			smax	smax			
YAK	comp=E,5.0nm,1.0s			smax	smax			
SLVN	**Son La**	**32.28**	**262**			**P**	**18 54 47.2**	**+0.2**
SLVN	**Son La**	**32.28**	**262**	P		**P**	**18 54 47.7**	**+0.6**
PZH	**PanZhiHua**	**32.43**	**272**	P		**P**	**18 54 47.5**	**-0.9**
PZH	comp=Z,50nm,0.7s			pmax	pmax			
KMSI	**Cibinong**	**32.69**	**208**	P		**P**	**18 54 50.9**	**+0.4**
GTA	**Gaotai**	**32.75**	**297**	P		**P**	**18 54 50.8**	**-0.1**
GTA				S		**S**	**18 59 33.0**	**-2.1**
GTA	comp=Z,25nm,1.1s			ScP		**ScP**	**19 00 25.5**	**+0.5

SOEI Soe 42.18 201 P 18 56 08.4 -0.5
SOEI Soe 42.18 201 P P 18 56 09.4 +0.5
SOEI Soe 42.18 201 P P 18 56 08.7 -0.2
comp=Z,64nm,0.5s
BATI Baumata 42.80 202 S S 19 02 03.3 -1.3
comp=Z,13nm,0.6s,baz=60,slow=20,SNR=3.9
BATI Baumata 42.80 202 P P 18 56 13.3 -0.4
comp=Z,1µmcomp=Z,84nm,0.9s
DRS Darwin Rock St 43.19 191 P P 18 56 17.0 +0.3
KDU Kakadu 43.21 189 P P 18 56 17.1 +0.3
MYKOM Kota Tinggi 43.42 236 P P 18 56 20.1 +1.6
KULM Kulim 43.46 243 P P 18 56 19.7 +0.8
MTN Manton Dam 43.56 190 P P 18 56 19.3 -0.3
MTN Manton Dam 43.56 190 P P 18 56 19.8 +0.2
IPM Ipoh 43.69 241 P P 18 56 20.4 -0.3
IPM Ipoh 43.69 241 P P 18 56 20.9 +0.1
PLAI Plampang 43.77 210 P P 18 56 20.4 -0.8
NIKH Nikolski High 44.13 44 P P 18 56 23.5 -0.1
baz=261
COEN Coen 44.32 173 P P 18 56 26.6 +1.1
EVN Everest 44.85 280 IAmb IAmb 18 56 31.4
comp=Z,16nm,0.6s
ZALV Zalesovo Beam 44.87 318 P P 18 56 29.2 -0.1
comp=Z,0.9nm,0.4s,baz=97,slow=10,SNR=3.5
ZALV PcP PcP 18 58 01.6 -0.2
comp=Z,1.5nm,0.3s,baz=96,slow=1.4,SNR=6.0
ZALV ScP ScP 19 01 10.7 -0.6
comp=Z,2.7nm,0.6s,baz=117,slow=3.9,SNR=10.0
ZALV S S 19 02 30.5 -2.7
comp=Z,0.3nm,0.3s,baz=112,slow=23,SNR=1.9
comp=Z,0.9nm,0.4s
UNV Unalaska Valle 45.66 43 P P 18 56 36.5 +1.1
baz=262
GAMB Gambell 45.69 28 P P 18 56 36.6 +1.2
baz=247
MK31 Makanchi Array 45.88 307 i eP P 18 56 37.2 -0.1
MKAR Makanchi Array 45.88 307 P P 18 56 36.8 -0.4
comp=Z,1.6nm,0.5s,baz=90,slow=9.9,SNR=9.5
MKAR PcP PcP 18 58 05.5 -0.1
comp=Z,1.1nm,0.5s,baz=85,slow=5.9,SNR=7.9
MKAR ScP ScP 19 01 14.8 -0.9
comp=Z,2.2nm,0.9s,baz=78,slow=4.8,SNR=8.6
MKAR S S 19 02 44.0 -3.7
comp=Z,0.2nm,0.6s,baz=107,slow=9.2,SNR=2.1
comp=Z,1.6nm,0.5s
PSI Prapat 46.37 241 P P 18 56 42.0 +0.4
RPSI Rantau Prapat 46.44 241 IAmb IAmb 18 56 42.5
comp=Z,16nm,0.7s
UGM Wanagama 46.58 220 P P 18 56 42.4 -0.7
UGM Wanagama 46.58 220 P P 18 56 42.8 -0.2
KNRA Kununurra 46.74 193 P 18 56 44.6 +0.4
M11K Mekoryuk 47.08 34 P P 18 56 47.1 +1.0
baz=256
MNSI Mandailing Nat 47.20 239 P P 18 56 47.0 -0.7
comp=Z,45nm,0.5s
KLI Kotabumi 47.57 228 P P 18 56 49.9 -0.6
LHSI Lahat 47.67 231 P P 18 56 51.3 0.0
comp=Z,2µmcomp=Z,142nm,0.9s
BLSI Bandar Lampung 47.70 228 P P 18 56 50.2 -1.3
comp=Z,1µmcomp=Z,117nm,0.6s
MDSI Maura Dua 47.73 229 P P 18 56 51.1 -0.6
comp=Z,1µmcomp=Z,141nm,0.7s
TNA Tin City 47.86 27 P P 18 56 52.7 +0.8
baz=250
BBJI Bungbulang 47.86 223 P P 18 56 50.9 -1.9
K13K Kusilvak Mount 48.18 32 P P 18 56 55.2 +0.8
baz=256
LWLI Liwa 48.20 229 P P 18 56 54.5 -0.9
KURK Kurchatov 48.36 313 P 18 56 55.2 -0.8
KURK IAmb IAmb 18 56 56.5
comp=Z,4.8nm,0.5s
KURK Kurchatov 48.36 313 ⇓ eP P 18 56 56.0 0.0
KURK pmax pmax
comp=Z,3.0nm,0.5s
GSI Gunungsitoli 48.36 241 P P 18 56 56.5 0.0
GSI Gunungsitoli 48.36 241 P P 18 56 56.0 -0.5
KURBB Kurchatov Arra 48.41 313 P P 18 56 55.9 -0.5
comp=Z,2.2nm,0.5s,baz=89,slow=8.0,SNR=14
KURBB ScP ScP 19 01 25.3 -0.9
comp=Z,0.3nm,0.3s,baz=72,slow=5.6,SNR=1.1
KURBB S S 19 03 18.6 -4.3
comp=Z,0.6nm,0.3s,baz=101,slow=40,SNR=5.1
comp=Z,2.2nm,0.5s
MNAI Manna 48.45 231 P P 18 56 56.6 -0.5
F14K Arctic Creek 48.45 27 P P 18 56 57.4 +1.0
baz=252
M13K Dall Lake 48.47 34 P P 18 56 58.0 +1.4
baz=259
ANM Nome 48.56 29 P P 18 56 57.8 +0.5
baz=253
J14K Nanvaranak Lak 48.87 31 P P 18 57 00.1 +0.6
baz=257
L14K Kuka Creek 48.97 33 IAmb IAmb 18 57 03.0
comp=Z,16nm,0.9s
L14K Kuka Creek 48.97 33 P P 18 57 01.9 +1.6
baz=259,SNR=6.9
F15K North Star Dit 49.19 27 P P 18 57 03.3 +1.4
baz=253
M14K Bethel 49.20 34 IAmb IAmb 18 57 04.4
comp=Z,21nm,0.8s
M14K Bethel 49.20 34 P P 18 57 03.2 +1.1
baz=260
O14K Tigyukauivet M 49.31 36 P P 18 57 03.8 +1.0
baz=262
SDPT Sand Point 49.31 41 P P 18 57 03.1 +0.2
SDPT Sand Point 49.31 41 P P 18 57 03.7 +0.7
baz=266
L15K Ungalak Mounta 49.60 33 P P 18 57 05.9 +0.9
baz=260
K15K Wolf Creek Mou 49.69 32 P P 18 57 07.0 +1.2
baz=259
C16K Lisburne Hills 49.75 24 P P 18 57 06.6 +0.6
baz=250
CHNA Chernabura Isl 49.78 42 P P 18 57 06.5 0.0
CHNA Chernabura Isl 49.78 42 P P 18 57 07.3 +0.8
baz=267
M15K Kasigluk River 49.81 34 P P 18 57 07.4 +0.8
baz=261
H16K Elim 49.89 29 P P 18 57 08.0 +0.9
baz=256
S14K Fog Glacier 49.90 40 P P 18 57 08.2 +0.8
baz=266
N15K Kwethluk River 50.02 35 IAmb IAmb 18 57 10.7
comp=Z,12nm,0.9s
N15K Kwethluk River 50.02 35 P P 18 57 09.5 +1.2
baz=262
O15K Ungalikthiuk R 50.03 36 P P 18 57 09.2 +1.0
baz=263
WRA Warramunga Arr 50.20 185 P 18 57 09.8 -0.3
WRA Warramunga Arr 50.20 185 P P 18 57 10.2 +0.2
comp=Z,14nm,0.4s,baz=3.5,slow=7.6,SNR=127
WRA PcP PcP 18 58 22.5 +0.9
comp=Z,2.3nm,0.8s,baz=2.1,slow=3.7,SNR=4.5
WRA pP pP 18 58 36.7 +0.6
comp=Z,5.0nm,0.9s,baz=5.3,slow=7.8,SNR=7.7
WRA S S 19 03 44.4 -3.6
comp=Z,1.1nm,0.9s,baz=358,slow=12,SNR=4.6
comp=Z,14nm,0.4s
WRA Warramunga Arr 50.20 185 i P P 18 57 10.3 +0.2
WRA pmax pmax
comp=Z,15nm,0.4s
WR8 Warramunga Arr 50.20 185 IAmb IAmb 18 57 11.1
comp=Z,25nm,0.8s
J16K Anvik River 50.30 31 P P 18 57 11.2 +1.0
baz=259
D17K Noatak River 50.37 25 P P 18 57 11.7 +1.0
baz=253
RDOG Red Dog Mine 50.54 25 P P 18 57 12.8 +0.9
baz=253
C17K DeLong Mountai 50.57 24 P P 18 57 13.2 +1.0
baz=252
QIS Mount Isa 50.66 179 P P 18 57 13.7 +0.3
E17K Hotham Inlet 50.67 26 P P 18 57 14.1 +1.2
baz=255
M16K Timber Creek 50.70 34 P P 18 57 14.3 +1.1
baz=262
N16K Nishlik Lake 50.72 35 P P 18 57 14.7 +1.4
baz=263
G17K Kiwalik Mounta 50.74 28 P P 18 57 14.4 +1.0
baz=257
H17K Granite Mounta 50.92 29 P P 18 57 15.8 +1.0
baz=258
P16K Nushagak River 50.96 37 P P 18 57 16.5 +1.4
baz=265
O16K Kokwok River B 50.96 36 P P 18 57 16.1 +1.0
baz=264
J17K VABM Dome 51.00 31 IAmb IAmb 18 57 17.7
comp=Z,13nm,0.8s
J17K VABM Dome 51.00 31 P P 18 57 16.7 +1.4
baz=260
KSH Kashi 51.12 298 P P 18 57 20.3 +3.5
KSH pmax pmax
comp=Z,8.0nm,0.7s
L17K Donlin 51.16 33 P P 18 57 18.1 +1.6
baz=262,SNR=5.9
E18K Tukpahlearik C 51.21 26 P P 18 57 18.2 +1.4
baz=256
K17K Iditarod 51.24 32 IAmb IAmb 18 57 19.6
comp=Z,17nm,0.8s
K17K Iditarod 51.24 32 P P 18 57 18.6 +1.5
baz=262,SNR=6.9
B18K Kokolik River 51.31 23 P P 18 57 19.2 +1.7
baz=253,SNR=7.2
C18K Utukok River 51.32 24 P P 18 57 19.3 +1.6
baz=254
F18K Selawik 51.38 27 P P 18 57 19.8 +1.7
baz=257
M17K Holitna River 51.47 34 IAmb IAmb 18 57 21.5
comp=Z,19nm,0.8s
M17K Holitna River 51.47 34 P P 18 57 20.7 +1.9
baz=264,SNR=8.3
O17K Koliganek Bris 51.48 36 P P 18 57 20.2 +1.4
baz=265
N17K Nushagak Hills 51.50 35 IAmb IAmb 18 57 21.9
comp=Z,22nm,1.2s
N17K Nushagak Hills 51.50 35 P P 18 57 20.6 +1.5
baz=264,SNR=6.0
H18K Honhosa River 51.61 29 P P 18 57 20.6 +0.8
baz=260
Q16K King Salmon 51.62 37 P P 18 57 21.1 +1.2
baz=266
G18K Tagagawik 51.63 28 P P 18 57 20.9 +1.0
baz=259,SNR=5.6
AAK Ala-Archa 51.72 302 ⇓ eP P 18 57 21.0 -0.2
AAK pmax pmax
comp=Z,4.0nm,1.0s
P17K Kvichak River 51.77 36 P P 18 57 22.2 +1.2
baz=266
A19K Wainwright 51.80 22 P P 18 57 22.4 +1.3
baz=253
L18K Granite Mounta 51.92 33 IAmb IAmb 18 57 24.7
comp=Z,12nm,0.8s
L18K Granite Mounta 51.92 33 P P 18 57 23.6 +1.6
baz=264,SNR=7.4
C19K Lookout Ridge 52.00 24 IAmb IAmb 18 57 24.9
comp=Z,22nm,0.8s
C19K Lookout Ridge 52.00 24 P P 18 57 23.9 +1.3
baz=256,SNR=12
Q17K Contact Creek 52.00 38 P P 18 57 23.2 +0.4
baz=268
J18K Innoko River 52.06 31 P P 18 57 24.2 +1.2
baz=263
CHIR Chirikof Islan 52.08 41 P P 18 57 24.3 +1.0
CHIR Chirikof Islan 52.08 41 P P 18 57 24.3 +1.0
baz=270
N18K Kilae Creek 52.15 35 IAmb IAmb 18 57 26.4
comp=Z,14nm,0.9s
N18K Kilae Creek 52.15 35 P P 18 57 25.1 +1.3
baz=266,SNR=7.4
F19K Shaleruckik Mo 52.16 27 P P 18 57 24.2 +0.5
baz=259
M18K Stony River 52.25 34 P P 18 57 25.8 +1.3
baz=265
G19K Purcell Mounta 52.31 28 P P 18 57 25.5 +0.7
baz=260
D19K Kuna River 52.38 25 P P 18 57 26.1 +0.8
baz=257,SNR=5.0
P18K Big Mountain, 52.40 36 IAmb IAmb 18 57 27.4
comp=Z,14nm,0.9s
P18K Big Mountain, 52.40 36 P P 18 57 26.3 +0.7
baz=267
O18K Koktuh Hills 52.44 36 IAmb IAmb 18 57 28.3
comp=Z,15nm,0.8s
O18K Koktuh Hills 52.44 36 P P 18 57 27.1 +1.3
baz=267,SNR=5.9
H19K Roundabout Mou 52.47 28 IAmb IAmb 18 57 28.0
comp=Z,11nm,0.7s
H19K Roundabout Mou 52.47 28 P P 18 57 27.1 +1.2
baz=261,SNR=6.4
Q18K Katmai Hardscr 52.48 37 P P 18 57 26.5 +0.2
baz=268
E19K Redstone River 52.49 26 IAmb IAmb 18 57 28.0
comp=Z,22nm,0.8s
E19K Redstone River 52.49 26 P P 18 57 27.1 +1.0
baz=259,SNR=8.8
J19K Poorman 52.61 30 IAmb IAmb 18 57 28.8
comp=Z,16nm,0.9s
J19K Poorman 52.61 30 P P 18 57 27.9 +0.9
baz=263,SNR=11
R18K Karluk 52.75 39 P P 18 57 28.8 +0.8
baz=269
L19K White Mountain 52.77 33 IAmb IAmb 18 57 30.6
comp=Z,18nm,1.4s
L19K White Mountain 52.77 33 P P 18 57 29.6 +1.3
baz=265,SNR=5.4
N19K Bonanza Creek 52.85 34 IAmb IAmb 18 57 31.3
comp=Z,13nm,0.8s
N19K Bonanza Creek 52.85 34 P P 18 57 30.2 +1.3
baz=267,SNR=7.2
SII Sitkinak Islan 52.89 40 P P 18 57 30.3 +1.2
SII Sitkinak Islan 52.89 40 P P 18 57 29.9 +0.7
baz=270
D20K Etivluk River 52.96 24 IAmb IAmb 18 57 31.4
comp=Z,17nm,0.8s
D20K Etivluk River 52.96 24 P P 18 57 30.4 +0.9
baz=259,SNR=9.0
M19K Big River Lodg 52.97 33 P P 18 57 30.8 +1.2
baz=266
F20K Avaraart Lake 52.99 27 P P 18 57 30.7 +1.0
baz=261
E20K Nigu River 53.03 25 P P 18 57 30.8 +0.8
baz=260
B20K Meade River 53.05 23 P P 18 57 31.1 +1.1
baz=257
H20K Anotleneega Mo 53.11 29 P P 18 57 31.6 +1.0
baz=263
I20K Naaghedeneel 53.19 30 P P 18 57 32.4 +1.3
baz=264,SNR=5.3
Q19K Cape Douglas, 53.20 37 P P 18 57 32.1 +0.8
baz=269
K20K Telida 53.23 31 P P 18 57 32.9 +1.4
baz=265
L20K Farewell, AK 53.25 32 P P 18 57 32.9 +1.3
baz=266,SNR=6.7
J20K Nowinta River 53.27 30 IAmb IAmb 18 57 34.1
comp=Z,25nm,0.8s
J20K Nowinta River 53.27 30 P P 18 57 33.2 +1.5
baz=264,SNR=21
OHAK Old Harbor 53.38 39 P P 18 57 33.3 +0.7
baz=270
BVAR Borovoye Array 53.42 316 P P 18 57 32.8 -0.2
comp=Z,2.2nm,0.3s,baz=86,slow=7.6,SNR=30
BVAR PcP PcP 18 58 33.5 +0.2
comp=Z,1.2nm,0.4s,baz=95,slow=3.3,SNR=4.3
BVAR S S 19 04 27.8 -2.8
comp=Z,0.6nm,0.7s,baz=82,slow=20,SNR=4.5
comp=Z,2.2nm,0.3s
P19K Oil Pt 53.43 36 P P 18 57 33.6 +0.7
baz=269
BRVK Borovoye 53.48 316 de P P 18 57 33.9 +0.5
BRVK pmax pmax
comp=Z,3.0nm,0.9s
M20K Styx River 53.56 33 P P 18 57 35.4 +1.4
baz=267
C21K Kniveblade Rid 53.70 24 P P 18 57 35.7 +1.0
baz=260
O20K Slope Mountain 53.74 35 P P 18 57 35.9 +0.6
baz=269
KDAK Kodiak Island 53.75 38 P P 18 57 35.4 +0.1
KDAK Kodiak Island 53.75 38 ce P P 18 57 35.6 +0.3
KDAK pmax pmax
comp=Z,28nm,0.7s
KDAK Kodiak Island 53.75 38 P P 18 57 35.4 +0.1
baz=271
G21K Allakaket 53.79 27 P P 18 57 36.5 +1.0
baz=263
B21K Ikpikpuk River 53.84 24 IAmb IAmb 18 57 37.8
comp=Z,23nm,0.8s
B21K Ikpikpuk River 53.84 24 P P 18 57 37.0 +1.3
baz=260,SNR=7.7
Q20K Shuyak Island 53.85 37 P P 18 57 36.3 +0.3
baz=270
E21K Killik River 53.87 25 IAmb IAmb 18 57 37.7
comp=Z,12nm,0.8s
E21K Killik River 53.87 25 P P 18 57 36.7 +0.7
baz=262,SNR=6.9
F21K Alatna River 53.89 27 P P 18 57 37.5 +1.3
baz=263
AS01 Alice Springs 53.92 185 P P 18 57 37.2 +0.3
ASAR Alice Springs 53.92 185 P 18 57 37.1 +0.1
ASAR Alice Springs 53.92 185 P P 18 57 37.3 +0.3
comp=Z,7.5nm,0.6s,baz=2.5,slow=5.8,SNR=274
ASAR PcP PcP 18 58 37.0 +1.4
comp=Z,0.6nm,0.6s,baz=4.2,slow=4.5,SNR=1.8
ASAR S S 19 04 39.2 +1.2
comp=Z,0.5nm,0.8s,baz=359,slow=6.8,SNR=4.5
comp=Z,7.5nm,0.6s
N20K Mount Spurr 53.98 34 P P 18 57 38.0 +1.1
baz=268
SPCR Spurr Chakacha 53.98 34 P P 18 57 38.2 +1.3
baz=268
H21K Melozitna Rive 53.98 29 IAmb IAmb 18 57 39.1
comp=Z,13nm,0.9s
H21K Melozitna Rive 53.98 29 P P 18 57 38.1 +1.2
baz=265,SNR=5.3
CHUM Lake Minchumin 54.05 31 P P 18 57 38.8 +1.5
baz=266,SNR=8.3
PPLA Purkeypile 54.05 32 IAmb IAmb 18 57 39.9
comp=Z,13nm,0.8s
PPLA Purkeypile 54.05 32 P P 18 57 39.0 +1.5
baz=267,SNR=7.5
CAST Castle Rocks 54.13 31 IAmb IAmb 18 57 40.2
comp=Z,16nm,0.9s
CAST Castle Rocks 54.13 31 P P 18 57 39.1 +1.2
baz=267,SNR=20
I21K Tanana 54.29 29 P P 18 57 40.2 +1.2
baz=266
SKT Skwentna 54.32 33 P P 18 57 39.7 +0.4
baz=268,SNR=6.2
MBWA Marble Bar 54.33 202 P P 18 57 40.0 +0.2
MBWA IAmb IAmb 18 57 41.0
comp=Z,17nm,0.7s
MBWA Marble Bar 54.33 202 P P 18 57 40.3 +0.5
D22K Ayikyak River 54.40 25 IAmb IAmb 18 57 41.8
comp=Z,19nm,1.1s
D22K Ayikyak River 54.40 25 P P 18 57 41.0 +1.2
baz=262,SNR=7.1
F22K John River 54.42 26 P P 18 57 41.2 +1.3
baz=264
CAPN Captain Cook N 54.48 35 P P 18 57 41.9 +1.5
baz=270
KK31 Karatay Array 54.53 304 IAmb IAmb 18 57 41.8
comp=Z,9.1nm,0.7s
KKAR Karatay Array 54.53 304 P 18 57 40.8 -0.3
KKAR Karatay Array 54.53 304 P P 18 57 40.8 -0.3
NIL Nilore 54.57 292 P 18 57 41.4 -0.2
NIL IAmb IAmb 18 57 42.7
comp=Z,12nm,0.8s
NIL Nilore 54.57 292 P P 18 57 41.4 -0.2
NIL pmax pmax
comp=Z,12nm,0.8s
H22K Ishtalitna Cre 54.59 28 P P 18 57 42.7 +1.6
baz=266
BRLK Bradley Lake 54.62 36 IAmb IAmb 18 57 43.6
comp=Z,28nm,1.0s
G22K Bettles 54.62 27 P P 18 57 42.1 +0.7
baz=265
E22K Anaktuvuk Pass 54.63 26 IAmb IAmb 18 57 43.6
comp=Z,21nm,1.1s
E22K Anaktuvuk Pass 54.63 26 P P 18 57 42.6 +1.2
baz=264,SNR=16
BPAW Bear Paw Mtn. 54.65 31 P P 18 57 42.8 +1.2
baz=268,SNR=7.3
PSA00 Pilbara Seismi 54.68 201 P P 18 57 42.4 +0.1
PSA00 Pilbara Seismi 54.68 201 P P 18 57 42.9 +0.6
SUA Susitna One 54.69 34 IAmb IAmb 18 57 43.0
comp=Z,14nm,1.0s
SUA Susitna One 54.69 34 P P 18 57 42.0 0.0
baz=270,SNR=6.0
MLY Manley 54.80 29 P P 18 57 43.6 +0.9
baz=267,SNR=6.3
TRF Thorofare Moun 54.93 31 P P 18 57 44.3 +0.5
baz=269
M22K Willow 54.99 33 P P 18 57 44.2 +0.3
baz=270
D23K Nanushuk River 55.13 25 P P 18 57 46.3 +1.4
baz=264,SNR=6.3
COLD Coldfoot 55.16 27 P P 18 57 46.0 +0.9
baz=266
RC01 Rabbit Creek A 55.17 34 IAmb IAmb 18 57 46.4
comp=Z,23nm,1.2s
RC01 Rabbit Creek A 55.17 34 P P 18 57 45.5 +0.2
baz=271
G23K Bananza Creek 55.19 27 P P 18 57 46.5 +1.0
baz=266,SNR=8.9
C23K Itkillik River 55.25 24 IAmb IAmb 18 57 47.7
comp=Z,17nm,0.8s
C23K Itkillik River 55.25 24 P P 18 57 46.5 +0.9
baz=264,SNR=10
SEW Seward 55.33 35 IAmb IAmb 18 57 47.5
comp=Z,18nm,0.8s
SEW Seward 55.33 35 P P 18 57 46.6 +0.2
baz=272,SNR=5.3
H23K Yukon River 55.34 28 P P 18 57 47.8 +1.4
baz=268,SNR=8.3
I23K Minto, Yukon-K 55.39 29 P P 18 57 47.8 +1.0
baz=268
E23K Chandalar 55.44 26 P P 18 57 48.4 +1.2
baz=266,SNR=8.6
PMR Palmer 55.46 34 IAmb IAmb 18 57 48.4
comp=Z,18nm,1.0s
PMR Palmer 55.46 34 P P 18 57 47.4 +0.1
baz=271
NEA2 Nenana 55.50 30 IAmb IAmb 18 57 50.0
comp=Z,16nm,1.1s
NEA2 Nenana 55.50 30 P P 18 57 48.5 +1.0
baz=269,SNR=12
TOLK Toolik Lake Re 55.50 25 P P 18 57 48.4 +0.9
baz=266
GAR Garm 55.52 299 IAmb IAmb 18 57 48.9
comp=Z,39nm,1.4s
MCK McKinley 55.55 31 IAmb IAmb 18 57 49.4
comp=Z,20nm,1.1s
MCK McKinley 55.55 31 P P 18 57 48.4 +0.5
baz=270,SNR=8.7
GHO Glory Hole Cre 55.55 33 IAmb IAmb 18 57 49.5
comp=Z,14nm,0.9s
RND Reindeer 55.58 31 IAmb IAmb 18 57 49.2
comp=Z,24nm,1.1s
KNK Knik Glacier 55.78 34 P P 18 57 50.1 +0.5
baz=272,SNR=7.7
D24K Happy Valley 55.81 24 IAmb IAmb 18 57 51.7
comp=Z,16nm,0.8s
D24K Happy Valley 55.81 24 P P 18 57 50.9 +1.2
baz=266,SNR=11
PWL Port Wells 55.86 34 IAmb IAmb 18 57 51.3
comp=Z,21nm,0.7s
PWL Port Wells 55.86 34 P P 18 57 50.4 +0.2
baz=272,SNR=15
E24K Your Creek 55.87 26 P P 18 57 51.1 +1.0
baz=267
C24K Franklin Bluff 55.90 24 P P 18 57 50.8 +0.6
baz=266
H24K Noodor Dome 56.02 28 P P 18 57 52.5 +1.3
baz=269,SNR=6.5
COLA College 56.03 30 ⇓ eP P 18 57 52.9 +1.8
F24K Squaw Lake 56.07 26 IAmb IAmb 18 57 53.6
comp=Z,11nm,0.6s
F24K Squaw Lake 56.07 26 P P 18 57 52.6 +1.1
baz=268,SNR=14
M23K Glacier View 56.12 33 P P 18 57 52.6 +0.6
baz=272,SNR=7.1
POKR Poker Plat Res 56.20 29 IAmb IAmb 18 57 54.6
comp=Z,10nm,0.8s
POKR Poker Plat Res 56.20 29 P P 18 57 53.5 +1.0
baz=270,SNR=5.1
G24K Hadweenzic Riv 56.20 27 P P 18 57 53.8 +1.3
baz=269,SNR=7.9
SCM Sheep Creek Mo 56.31 33 P P 18 57 54.1 +0.8
baz=272,SNR=18
P23K Montague Islan 56.36 35 IAmb IAmb 18 57 55.5
comp=Z,19nm,0.9s
P23K Montague Islan 56.36 35 P P 18 57 54.6 +1.0
baz=274
HDA Harding Lake 56.42 30 IAmb IAmb 18 57 54.5
comp=Z,12nm,0.8s
HDA Harding Lake 56.42 30 P P 18 57 53.8 -0.2
baz=271,SNR=10
ILAR Eielson Array 56.44 30 P P 18 57 53.5 -0.5
comp=Z,2.3nm,0.7s,baz=260,slow=6.1,SNR=22
ILAR pP pP 18 59 24.6 +0.6
comp=Z,0.5nm,0.7s,baz=279,slow=6.2,SNR=2.5
comp=Z,2.3nm,0.7s

GLI	**Glacier Island** baz=273,SNR=17	56.47	34	P	P	18 57 55.0	+0.7
D25K	**Kavik River** baz=268,SNR=9.5	56.69	24	P	P	18 57 56.8	+1.0
G25K	**Bearman Lake** baz=270	56.75	27	P	P	18 57 57.6	+1.4
FID	**Port Fidalgo** comp=Z,14nm,0.8s	56.78	35	IAmb	IAmb	18 57 57.9	
M24K	**Tolsona, Glenn** comp=Z,12nm,0.7s	56.84	33	IAmb	IAmb	18 57 59.0	
M24K	**Tolsona, Glenn** baz=273	56.84	33	P	P	18 57 58.0	+1.0
H25L	**Birch Creek** baz=271	56.87	28	P	P	18 57 58.3	+1.3
F25K	**Christian Rive** baz=270,SNR=11	56.93	26	P	P	18 57 59.1	+1.6
Q23K	**Middleton Isla** baz=275	56.94	36	P	P	18 57 57.5	0.0
K24K	**Donnelly Dome** comp=Z,10.0nm,0.7s	56.95	31	IAmb	IAmb	18 57 59.2	
K24K	**Donnelly Dome** baz=272	56.95	31	P	P	18 57 58.4	+0.8
KLU	**Klutina** comp=Z,19nm,1.1s	57.00	34	IAmb	IAmb	18 57 60.0	
KLU	**Klutina** baz=274,SNR=13	57.00	34	P	P	18 57 58.8	+0.7
PRP	**Porcupine Dome** baz=272	57.00	29	P	P	18 57 57.9	-0.2
J25K	**Salcha River,** baz=272,SNR=6.3	57.09	30	P	P	18 57 58.0	-0.7
DIV	**Divide** comp=Z,11nm,0.8s	57.09	34	IAmb	IAmb	18 58 00.7	
PAX	**Paxson** baz=273,SNR=14	57.12	32	P	P	18 57 59.6	+0.6
C26K	**Camden Bay** baz=269	57.22	24	P	P	18 58 00.6	+1.2
HARP	**HAARP** baz=274,SNR=9.7	57.30	33	P	P	18 58 01.0	+0.9
BMAR	**Burnt Mountain**	57.34	27		P	18 58 01.2	+0.9
RIDG	**Independent Ri** comp=Z,14nm,1.0s	57.36	31	IAmb	IAmb	18 58 02.1	
RIDG	**Independent Ri** baz=273,SNR=12	57.36	31	P	P	18 58 00.9	+0.4
F26K	**Sheenjek River** comp=Z,10nm,0.5s	57.50	26	IAmb	IAmb	18 58 03.8	
F26K	**Sheenjek River** baz=271,SNR=13	57.50	26	P	P	18 58 02.9	+1.5
N25K	**Chitina, Valde** comp=Z,6.2nm,0.6s	57.62	33	IAmb	IAmb	18 58 04.3	
N25K	**Chitina, Valde** baz=275,SNR=6.8	57.62	33	P	P	18 58 03.4	+1.0
C27K	**Jago River** baz=270,SNR=11	57.63	24	P	P	18 58 03.6	+1.3
G26K	**Porcupine Rive** baz=272	57.66	27	P	P	18 58 03.7	+1.3
BMRM	**Bremner River** baz=275,SNR=19	57.67	34	P	P	18 58 03.6	+0.9
SCRK	**Sand Creek** baz=274,SNR=38	57.73	31	P	P	18 58 03.3	+0.2
KAIM	**Kayak Island** comp=Z,33nm,1.4s	57.87	35	IAmb	IAmb	18 58 05.7	
KAIM	**Kayak Island** baz=276	57.87	35	P	P	18 58 04.9	+1.0
J26L	**Joseph Creek** comp=Z,14nm,0.7s	57.88	30	IAmb	IAmb	18 58 04.9	
J26L	**Joseph Creek** baz=274,SNR=30	57.88	30	P	P	18 58 04.0	-0.1
I26K	**Coal Creek Min** baz=274	58.00	29	P	P	18 58 04.7	-0.1
GLB	**Gilahina Butte** comp=Z,20nm,1.2s	58.01	34	IAmb	IAmb	18 58 07.0	
L26K	**Log Cabin Wild** comp=Z,28nm,1.2s	58.09	32	IAmb	IAmb	18 58 07.5	
L26K	**Log Cabin Wild** baz=275,SNR=5.9	58.09	32	P	P	18 58 06.5	+1.0
M26K	**Nabesna, AK** comp=Z,11nm,1.1s	58.30	32	IAmb	IAmb	18 58 09.8	
M26K	**Nabesna, AK** baz=276,SNR=5.1	58.30	32	P	P	18 58 08.1	+1.1
MCARA	**McCarthy VSAT** comp=Z,26nm,1.2s	58.40	34	IAmb	IAmb	18 58 09.5	
MCARA	**McCarthy VSAT** baz=276	58.40	34	P	P	18 58 08.6	+1.1
CRQM	**Cirque** comp=Z,26nm,1.3s	58.41	34	IAmb	IAmb	18 58 10.4	
CRQE	**Cirque** baz=277,SNR=7.6	58.43	34	P	P	18 58 08.7	+0.7
E27K	**Coleen River** baz=273,SNR=7.1	58.45	26	P	P	18 58 09.1	+1.3
G27K	**Doyon Strip** baz=274	58.51	27	P	P	18 58 09.6	+1.2
K27K	**Chicken** baz=276	58.56	30	P	P	18 58 09.6	+1.0
H27K	**Steamboat Moun** baz=275,SNR=10	58.61	28	P	P	18 58 10.4	+1.4
D27M	**Malcolm River** baz=273,SNR=5.1	58.62	24	P	P	18 58 10.3	+1.3
I27K	**Kandik River** baz=275,SNR=10	58.62	29	P	P	18 58 10.0	+0.9
L27K	**Beaver Creek,** comp=Z,6.4nm,0.6s	58.77	32	IAmb	IAmb	18 58 11.7	
L27K	**Beaver Creek,** baz=276,SNR=19	58.77	32	P	P	18 58 11.4	+1.3
BCAR	**Beaver Creek A**	58.79	32		P	18 58 11.0	+0.7
M27K	**Edge Creek, AK** comp=Z,9.4nm,0.8s	58.83	32	IAmb	IAmb	18 58 12.6	
M27K	**Edge Creek, AK** baz=277,SNR=11	58.83	32	P	P	18 58 11.8	+1.2
GRNC	**Granite Creek** comp=Z,7.9nm,0.5s	59.09	34	IAmb	IAmb	18 58 13.7	
F28M	**Old Crow** comp=Z,16nm,1.4s	59.14	26	IAmb	IAmb	18 58 14.9	
F28M	**Old Crow** baz=275,SNR=7.2	59.14	26	P	P	18 58 13.8	+1.3
E28M	**Babbage River** baz=275	59.18	25	P	P	18 58 14.1	+1.3
CTG	**Chitna Glacier** baz=278	59.26	34	P	P	18 58 14.5	+0.9
BVCY	**Beaver Creek** baz=278	59.29	32	P	P	18 58 14.6	+0.9
I28M	**Miner Creek** comp=Z,9.7nm,0.6s	59.33	29	IAmb	IAmb	18 58 15.5	
I28M	**Miner Creek** baz=276,SNR=17	59.33	29	P	P	18 58 15.0	+1.0
YUK3	**Moose Creek** baz=278,SNR=8.9	59.56	33	P	P	18 58 16.6	+0.9
DAWY	**Dawson** baz=278	59.73	30	P	P	18 58 17.8	+1.2
E29M	**Blow River** baz=277	59.80	25	P	P	18 58 18.0	+1.1
MEEK	**Meekatharra**	59.80	201	P	P	18 58 17.6	+0.1
O28M	**Mount Upton** baz=279	59.84	34	P	P	18 58 18.8	+1.1
H29M	**Whitestone** baz=277	59.88	28	P	P	18 58 18.9	+1.4
PINM	**Pinnacle** baz=279	59.92	35	P	P	18 58 18.7	+0.8
G29M	**Pine Creek** baz=277,SNR=20	59.93	27	P	P	18 58 19.3	+1.5
YUK8	**Steele Glacier** baz=279	59.97	34	P	P	18 58 19.7	+1.2
I29M	**Ogilvie Camp,** baz=278,SNR=12	60.02	29	P	P	18 58 19.5	+1.1
J29N	**Klondike Camp** comp=Z,15nm,0.6s	60.19	30	IAmb	IAmb	18 58 21.8	
J29N	**Klondike Camp** baz=279	60.19	30	P	P	18 58 20.9	+1.3
M29M	**Somme Creek** comp=Z,13nm,1.0s	60.39	32	IAmb	IAmb	18 58 23.6	
M29M	**Somme Creek** baz=280,SNR=18	60.39	32	P	P	18 58 22.7	+1.5
PNL	**Peninsula** baz=280	60.42	35	P	P	18 58 22.3	+1.1
L29M	**L29M**	60.43	31		P	18 58 22.6	+1.3
L29M	comp=Z,19nm,1.0s			IAmb	IAmb	18 58 24.0	
L29M	**L29M** baz=279,SNR=20	60.43	31	P	P	18 58 23.0	+1.7
AB31	**Akbulak array**	60.47	312		P	18 58 21.2	-0.5
AB31	comp=Z,10nm,0.5s			IAmb	IAmb	18 58 22.1	
ABKAR	**Akbulak array**	60.47	312		P	18 58 20.9	-0.8
YUK4	**Talbot Arm** baz=280,SNR=8.8	60.49	33	P	P	18 58 23.3	+1.4
EPYK	**Eagle Plains** baz=279,SNR=30	60.52	27	P	P	18 58 23.0	+1.2
K29M	**Barlow Dome** comp=Z,14nm,0.8s	60.58	30	IAmb	IAmb	18 58 24.5	
K29M	**Barlow Dome** baz=280,SNR=24	60.58	30	P	P	18 58 23.5	+1.1
G30M	**tAoh Zraii Nji** comp=Z,21nm,1.1s	60.62	27	IAmb	IAmb	18 58 24.2	
G30M	**tAoh Zraii Nji** baz=279,SNR=10	60.62	27	P	P	18 58 23.0	+0.5
F30M	**Barrier River** comp=Z,13nm,0.6s	60.69	26	IAmb	IAmb	18 58 25.0	
F30M	**Barrier River** baz=279,SNR=11	60.69	26	P	P	18 58 24.2	+1.3
YUK6	**Outpost Mounta** baz=280	60.70	34	P	P	18 58 24.7	+1.4
O29M	**Mount Kennedy** comp=Z,18nm,1.1s	60.71	35	IAmb	IAmb	18 58 26.0	
O29M	**Mount Kennedy** baz=281	60.71	35	P	P	18 58 24.9	+1.7
I30M	**Mount Dempster** comp=Z,9.3nm,0.7s	60.84	29	IAmb	IAmb	18 58 26.8	
I30M	**Mount Dempster** baz=280,SNR=26	60.84	29	P	P	18 58 24.9	+0.8
J30M	**Hart River** baz=280,SNR=13	60.97	29	P	P	18 58 26.1	+1.2
HYT	**Haines Junctio** comp=Z,8.3nm,0.8s	61.13	34	IAmb	IAmb	18 58 28.5	
HYT	**Haines Junctio** baz=281,SNR=11	61.13	34	P	P	18 58 27.5	+1.4
M30M	**Minto, Yukon** comp=Z,6.2nm,0.6s	61.13	32	IAmb	IAmb	18 58 28.1	
M30M	**Minto, Yukon** baz=281,SNR=17	61.13	32	P	P	18 58 27.3	+1.4
N30M	**Aishikik Lake** baz=281,SNR=5.6	61.20	33	P	P	18 58 27.8	+1.3
P29M	**Windy Craggy** baz=282,SNR=7.3	61.25	35	P	P	18 58 28.2	+1.4
G31M	**Satah River** baz=281,SNR=11	61.39	27	P	P	18 58 27.8	+0.3
INK	**Inuvik** baz=281,SNR=5.5	61.42	25	P	P	18 58 28.1	+0.5
P30M	**Million Dollar** baz=282	61.53	35	P	P	18 58 30.1	+1.4
H31M	**Peel River** baz=281,SNR=16	61.57	28	P	P	18 58 29.7	+0.9
FORT	**Forrest**	61.63	190		P	18 58 30.4	+0.9
N31M	**Braeburn, Yuko** baz=282,SNR=17	61.81	33	P	P	18 58 31.9	+1.4
O30N	**Mendenhall** baz=282,SNR=5.6	61.82	34	P	P	18 58 31.7	+1.2
STKA	**Stephens Creek** comp=Z,9.5nm,0.6s,baz=353,slow=9.6,SNR=17 comp=Z,9.5nm,0.6s	62.00	177	P	P	18 58 32.4	+0.5
STKA	**Stephens Creek**	62.00	177	P	P	18 58 32.7	+0.8
M31M	**Drury Creek, Y** baz=283,SNR=19	62.30	32	P	P	18 58 34.7	+1.1
WHY	**Whitehorse** baz=283,SNR=10	62.42	34	P	P	18 58 35.7	+1.2
SKAG	**Skagway**	62.48	35		P	18 58 36.1	+1.4
SKAG	comp=Z,16nm,1.1s			IAmb	IAmb	18 58 37.2	
SKAG	**Skagway** baz=284	62.48	35	P	P	18 58 36.1	+1.4
MORW	**Morawa**	62.88	202	P	P	18 58 37.8	+0.1
BBOO	**Buckleboo**	62.90	182	P	P	18 58 38.6	+0.8
SIT	**Sitka** baz=285	63.08	38	P	P	18 58 39.9	+1.2
R32K	**Eaglecrest** comp=Z,10nm,0.9s	63.19	36	IAmb	IAmb	18 58 41.7	
R32K	**Eaglecrest** baz=285	63.19	36	P	P	18 58 40.6	+1.2
P32M	**Atlin** baz=285,SNR=5.5	63.25	35	P	P	18 58 41.1	+1.3
A36M	**Sachs Harbour** baz=286	63.33	20	P	P	18 58 41.0	+1.0
S32K	**Killisnoo** baz=285	63.36	37	P	P	18 58 41.5	+1.1
P33M	**Teslin, Yukon**	63.53	34		P	18 58 42.2	+0.5
P33M	**Teslin, Yukon** baz=285,SNR=6.3	63.53	34	P	P	18 58 42.8	+1.1
MMPY	**Sheldon Lake,** comp=Z,5.2nm,0.6s	63.61	31	IAmb	IAmb	18 58 43.9	
MMPY	**Sheldon Lake,** baz=285,SNR=8.3	63.61	31	P	P	18 58 43.5	+1.4
BLDU	**Ballidu**	64.10	201	P	P	18 58 45.8	+0.3
Q32M	**Nakina River** baz=286,SNR=5.4	64.14	35	P	P	18 58 46.8	+1.0
U33K	**Whale Pass** baz=287	64.51	38	P	P	18 58 49.3	+1.5
R33M	**Jennings River** baz=287,SNR=7.9	64.65	34	P	P	18 58 50.2	+1.3
CRAG	**Craig** baz=287	64.70	39	P	P	18 58 50.3	+1.3
KLBR	**Kellerberrin**	64.70	200	P	P	18 58 49.4	0.0
S34M	**Telegraph Cree** comp=Z,15nm,1.4s	65.01	36	IAmb	IAmb	18 58 53.6	
S34M	**Telegraph Cree** baz=288	65.01	36	P	P	18 58 52.5	+1.5
TGTN	**Hyland Airport** baz=288,SNR=12	65.28	32	P	P	18 58 54.1	+1.3
DLBC	**Dease Lake** baz=288,SNR=5.6	65.41	35	P	P	18 58 55.3	+1.6
WTLY	**Watson Lake, Y** baz=289	65.48	33	P	P	18 58 55.5	+1.4
V35K	**Ketchikan** baz=288	65.56	39	P	P	18 58 56.0	+1.5
T35M	**Bob Quinn** comp=Z,12nm,1.3s	65.76	37	IAmb	IAmb	18 58 58.4	
T35M	**Bob Quinn** baz=289	65.76	37	P	P	18 58 57.2	+1.4
NWAO	**Narrogin (SRO)**	66.10	199	P	P	18 58 58.6	+0.4
SPITS	**Spitsbergen Ar** comp=Z,10nm,0.7s,baz=66,slow=18,SNR=8.3 comp=Z,10nm,0.7s	66.56	349	P	P	18 59 00.5	0.0
SPITS	**Spitsbergen Ar**	66.56	349	P	P	18 59 00.8	+0.3
SPITS	comp=Z,37nm,1.3s			pmax	pmax		
KBS	**Kingsbay**	66.77	350⇑	*e*P	P	18 59 03.1	+1.4
KBS	comp=Z,54nm,2.0s			pmax	pmax		
WRGLY	**Wrigley** baz=292	66.81	29	P	P	18 59 03.5	+1.3
LIRD	**Liard River Hi** baz=291	67.00	34	P	P	18 59 04.9	+1.4
TOAD	**Toad River Com** baz=292,SNR=5.4	67.62	34	P	P	18 59 08.7	+1.3
ARCES	**ARCESS Array B** comp=Z,9.6nm,0.6s,baz=58,slow=6.4,SNR=83 comp=Z,9.6nm,0.6s	69.35	340	P	P	18 59 17.9	+0.2
YKAW3	**Yellowknife Wh** comp=Z,3.4nm,0.8s	70.76	28	IAmb	IAmb	18 59 27.0	
YKA	**Yellowknife Ar** comp=Z,3.1nm,0.7s,baz=298,slow=6.7,SNR=25 comp=Z,3.1nm,0.7s	70.79	28	P	P	18 59 26.3	-0.1
YKA	**Yellowknife Ar**	70.79	28	*i* P	P	18 59 26.8	+0.4
YKA	comp=Z,3.0nm,0.7s			pmax	pmax		
YKAW1	**Yellowknife Wh** comp=Z,6.3nm,0.8s	70.85	28	IAmb	IAmb	18 59 27.9	
AKT	**Akhty**	71.11	307	*e*P	P	18 59 27.1	-1.8
AKT				*e*		18 59 43.7	
AKT				*e**SP	sP	19 01 51.0	+1.5
AKT				*e*S	S	19 08 05.9	-3.2
AKT	comp=Z,9.0nm,0.6s			pmax	pmax		
PGC	**Sidney** comp=Z,13nm,0.9s	72.77	43	IAmb	IAmb	18 59 40.5	
NLWA	**Neilton Lookou** comp=Z,5.8nm,0.7s	73.08	45	IAmb	IAmb	18 59 42.6	
KBZ	**Khabaz** comp=Z,7.0nm,0.8s,baz=74,slow=5.7,SNR=13 comp=Z,7.0nm,0.8s	73.39	311	P	P	18 59 42.2	+0.3
KBZ	**Khabaz**	73.39	311	*de*P	P	18 59 42.1	+0.2
KIV	**Kislovodsk**	73.42	311	*e*P	P	18 59 42.5	+0.2
KIV	comp=Z,7.0nm,1.1s			pmax	pmax		
FINES	**FINESS Array B** comp=Z,3.1nm,0.4s,baz=63,slow=5.4,SNR=44 comp=Z,3.1nm,0.4s	73.54	332	P	P	18 59 42.1	-0.3
GNW	**Green Mountain** comp=Z,7.1nm,1.0s	73.64	44	IAmb	IAmb	18 59 46.1	
KEBM	**Edson Butte** comp=Z,13nm,0.9s	74.83	49	IAmb	IAmb	18 59 53.5	
LTY	**Liberty** comp=Z,4.2nm,0.5s	75.07	44	IAmb	IAmb	18 59 52.8	
B08A	**Colville Reser** comp=Z,10.0nm,0.9s	75.33	42	IAmb	IAmb	18 59 54.9	
H04A	**Detroit Lake** comp=Z,7.6nm,0.8s	75.37	47	IAmb	IAmb	18 59 55.4	
MXC	**Moxie City** comp=Z,9.4nm,0.9s	75.63	44	IAmb	IAmb	18 59 56.9	
G06A	**Carlson Farm,** comp=Z,7.2nm,1.1s	76.07	46	IAmb	IAmb	18 59 59.5	
L04D	**Klamath Falls** comp=Z,12nm,1.1s	76.47	49	IAmb	IAmb	19 00 02.7	
J05D	**Fort Rock, OR** comp=Z,12nm,0.8s	76.64	48	IAmb	IAmb	19 00 03.1	
NEW	**Newport** comp=Z,6.6nm,0.8s	76.66	42	IAmb	IAmb	19 00 02.1	
E09A	**Wood Farm, Sta** comp=Z,13nm,1.2s	76.95	44	IAmb	IAmb	19 00 04.0	
K05A	**Summer Lake** comp=Z,8.8nm,0.9s	77.13	48	IAmb	IAmb	19 00 05.9	
SUMG	**Summit**	77.29	359	P	P	19 00 04.7	+0.9
SUMG	comp=Z,19nm,1.3s			IAmb	IAmb	19 00 06.5	
SUMG	**Summit**	77.29	359	P	P	19 00 04.7	+0.9
SUMG	comp=Z,19nm,1.3s			pmax	pmax		
AKASG	**Malin Array Be** comp=Z,0.5nm,0.4s,baz=54,slow=5.4,SNR=4.5 comp=Z,0.5nm,0.4s	78.03	322	P	P	19 00 07.0	-0.7
AKASG	**Malin Array Be**	78.03	322	*i* P	P	19 00 06.3	-1.4
AKASG	comp=Z,1.0nm,0.4s			pmax	pmax		
BMO	**Blue Mountains**	78.30	45	P	P	19 00 10.2	+0.8
BMO	comp=Z,5.4nm,0.8s			IAmb	IAmb	19 00 11.4	
BMO	**Blue Mountains**	78.30	45	P	P	19 00 10.2	+0.8
BMO	comp=Z,5.0nm,0.8s			pmax	pmax		
J08A	**Circle Bar Ran**	78.35	47	P	P	19 00 11.2	+1.4
J08A	comp=Z,18nm,1.3s			IAmb	IAmb	19 00 12.0	
WVOR	**Wild Horse Val** comp=Z,4.0nm,0.6s	78.72	47	IAmb	IAmb	19 00 13.4	
BEKR	**Beckworth** comp=Z,5.2nm,0.8s	78.90	50	IAmb	IAmb	19 00 14.6	
HFS	**Hagfors** comp=Z,4.0nm,0.4s,baz=64,slow=6.6,SNR=75 comp=Z,4.0nm,0.4s	79.10	335	P	P	19 00 12.7	-0.6
NC405	**NORSAR Array S**	79.11	337	P	P	19 00 13.0	-0.3
NC405	comp=Z,12nm,1.2s			IAmb	IAmb	19 00 21.4	
NB2	**NORSAR Subarra** comp=Z,1.8nm,0.5s,baz=44,slow=5.3	79.33	337	P	P	19 00 14.1	-0.4
NB2	**NORSAR Subarra**	79.33	337	P	P	19 00 13.9	-0.7
NOA	**NORSAR Array B** comp=Z,9.9nm,0.6s,baz=45,slow=5.3,SNR=18 comp=Z,2.9nm,0.6s	79.33	337	P	P	19 00 13.9	-0.7
CMB	**Columbia Colle** comp=Z,13nm,1.4s	79.81	52	IAmb	IAmb	19 00 19.4	
MFID	**Camas Ranch** comp=Z,4.4nm,0.7s	79.96	45	IAmb	IAmb	19 00 20.0	
FFC	**Flin Flon**	80.63	31	P	P	19 00 21.4	0.0
FFC	comp=Z,7.3nm,0.8s			IAmb	IAmb	19 00 22.6	
FFC	**Flin Flon**	80.63	31	P	P	19 00 21.4	0.0
FFC	comp=Z,7.0nm,0.8s			pmax	pmax		
DLMT	**Dillon** comp=Z,10nm,0.8s	80.83	42	IAmb	IAmb	19 00 24.9	
RAYN	**Ar Rayn**	80.87	292	P	P	19 00 23.0	-0.3
RAYN	comp=Z,18nm,1.2s			IAmb	IAmb	19 00 24.1	
RAYN	**Ar Rayn**	80.87	292	P	P	19 00 23.0	-0.3
RAYN	comp=Z,18nm,1.2s			pmax	pmax		
EGMT	**Eagleton** comp=Z,18nm,1.3s	80.92	39	IAmb	IAmb	19 00 25.0	
NVAR	**Mina Array Bea**	81.01	51	P	P	19 00 24.2	+0.1
NVAR	**Mina Array Bea** comp=Z,1.2nm,0.5s,baz=306,slow=6.1,SNR=10 comp=Z,1.2nm,0.5s	81.01	51	P	P	19 00 25.2	+1.2
BOZ	**Bozeman (W)** comp=Z,6.2nm,0.7s	81.26	42	IAmb	IAmb	19 00 27.0	
BRTR	**Keskin Array B**	81.38	311		P	19 00 25.6	-0.2
BRTR	**Keskin Array B** comp=Z,3.4nm,0.8s,baz=85,slow=3.4,SNR=17 comp=Z,3.4nm,0.8s	81.38	311	P	P	19 00 25.8	0.0
BRTR	**Keskin Array B**	81.38	311	*i* P	P	19 00 26.0	+0.1
BRTR	comp=Z,4.0nm,0.8s			pmax	pmax		
ELK	**Elko** comp=Z,8.5nm,1.4s	81.78	47	IAmb	IAmb	19 00 30.2	
YHL	**Hebgen Lake** comp=Z,2.2nm,0.7s	81.95	42	IAmb	IAmb	19 00 31.3	
YHB	**Horse Butte** comp=Z,9.2nm,0.8s	82.00	42	IAmb	IAmb	19 00 31.5	
HVU	**Hansel Valley** comp=Z,9.5nm,0.7s	82.75	46	IAmb	IAmb	19 00 35.3	
TPAW	**Teton Pass** comp=Z,4.6nm,0.8s	82.87	43	IAmb	IAmb	19 00 36.0	
RLMT	**Red Lodge** comp=Z,5.0nm,0.6s	82.89	41	IAmb	IAmb	19 00 35.4	
BGU	**Big Grassy Mou** comp=Z,5.6nm,1.0s	83.07	46	IAmb	IAmb	19 00 36.6	
TPNV	**Topopah Spring** comp=Z,8.4nm,0.8s	83.18	51	IAmb	IAmb	19 00 36.9	
QSM	**Queen of Sheba** comp=Z,9.2nm,0.7s	83.29	52	IAmb	IAmb	19 00 37.4	
GWY	**Greenwater Val** comp=Z,7.3nm,0.9s	83.31	52	IAmb	IAmb	19 00 37.6	
DUG	**Dugway, Tooele** comp=Z,6.4nm,0.8s	83.62	47	IAmb	IAmb	19 00 39.4	
GSC	**Goldstone, Bar** comp=Z,5.5nm,0.8s	83.69	53	IAmb	IAmb	19 00 39.5	
MMAI	**Mount Meron Ar** comp=Z,2.5nm,0.6s,baz=46,slow=10,SNR=5.1 comp=Z,2.5nm,0.6s	83.75	305	P	P	19 00 38.6	+0.6
PSUT	**Pine Spring** comp=Z,3.9nm,0.8s	83.89	49	IAmb	IAmb	19 00 40.4	
PDAR	**Pinedale Array**	84.12	43		P	19 00 39.9	+0.1
PDAR	**Pinedale Array** comp=Z,2.6nm,0.8s,baz=305,slow=6.3,SNR=18 comp=Z,2.6nm,0.8s	84.12	43	P	P	19 00 40.0	+0.2
PMD	**Palm Desert** comp=Z,6.9nm,0.8s	84.89	54	IAmb	IAmb	19 00 45.1	
BELC	**Belle Mtn. Jos** comp=Z,4.3nm,0.8s	84.96	53	IAmb	IAmb	19 00 45.3	
KNB	**Kanab** comp=Z,5.3nm,0.8s	85.42	50	IAmb	IAmb	19 00 48.6	
BC3	**Big Chuckawall** comp=Z,5.0nm,1.0s	85.52	54	IAmb	IAmb	19 00 48.6	
P18A	**Preston Nutter** comp=Z,4.0nm,0.6s	85.56	46	IAmb	IAmb	19 00 49.8	
PV23	**Carpenter Ridg** comp=Z,11nm,1.1s	87.03	47	IAmb	IAmb	19 00 56.1	
PV10	**Paradox Valley** comp=Z,14nm,1.2s	87.06	47	IAmb	IAmb	19 00 56.8	
PV18	**Skein Mesa, Pa** comp=Z,4.6nm,0.8s	87.22	47	IAmb	IAmb	19 00 57.7	
PV12	**Saucer Basin,** comp=Z,14nm,1.4s	87.24	47	IAmb	IAmb	19 00 57.0	
EPLO	**Experimental L** comp=Z,6.7nm,0.7s	87.79	31	IAmb	IAmb	19 00 58.0	
T25A	**Trinidad** comp=Z,4.4nm,1.0s	90.70	45	IAmb	IAmb	19 01 13.1	
ANMO	**Albuquerque**	90.79	48	P	P	19 01 11.9	+0.4
ANMO	comp=Z,2.7nm,0.7s			IAmb	IAmb	19 01 14.1	
ANMO	**Albuquerque**	90.79	48	P	P	19 01 11.9	+0.4
ANMO	comp=Z,3.0nm,0.7s			pmax	pmax		
TXAR	**Lajitas Array** comp=Z,0.4nm,0.5s,baz=312,slow=5.8,SNR=7.5	96.16	51	P	P	19 01 35.8	-0.2
TXAR	comp=Z,0.9nm,0.7s,baz=314,slow=4.7,SNR=8.1 comp=Z,0.4nm,0.5s			pP	pP	19 03 16.6	-0.2
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.3s,baz=44,slow=1.7,SNR=1.2	119.97	310	PKP	PKPdf	19 06 55.6	-0.6
QSPA	**South Pole Qui** comp=Z,2.1nm,0.7s,baz=303,slow=1.6,SNR=26	120.15	180	PKP	PKiKP	19 06 55.7	+0.6
BOSA	**Boshof** comp=Z,1.5nm,0.6s,baz=101,slow=5.2,SNR=5.0	122.63	254	PKP	PKiKP	19 07 01.5	+0.3
SNAA	**Sanae** comp=Z,0.5nm,0.5s,baz=119,slow=19,SNR=1.9	133.70	196	PKP	PKPdf	19 07 20.6	-0.1
SNAA	comp=Z,2.0nm,0.8s,baz=126,slow=14,SNR=6.4			SKPbc	SKPbc	19 10 07.3	+0.1

*IDC **31** 19:11:43.9±0.6, 16°.17S×167°.86E, h184^{km}±4^{km}, mb4.1/17, mbtmp4.6/19, Error ellipse: s-maj=11.9km s-min=8.7km az=95.0*

*NOU **31** 19:11:43.9, 16°.18S×168°.00E, h180^{km}, mb4.9/54, Vanuatu Islands*

*NEIC **31** 19:11:44.6±1.6, 16°.22S±0°.06×167°.99E±0°.09, h189^{km}±4^{km},*

mb5.0/45, Error ellipse: s-maj=13.2km s-min=8.4km az=73.0

ISC 31 19:11:44.3±0.4, 16°19S±0′04×167°99E±0′06, h192km±3km, h192km:pP-P, n218, σ1§17/236, mb4.8/47, 6C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLAKA	**Lakatoro**	**0.56**	**279**	P	**Pn**	**19 12 09.4**	**-1.3**
VLAKA	**Lakatoro**	**0.56**	**279**	S	**Sn**	**19 12 29.5**	**-1.5**
DVP	**Devils Point**	**1.53**	**173**	P	**Pn**	**19 12 16.3**	**-1.3**
DVP	**Devils Point**	**1.53**	**173**	S	**Sn**	**19 12 42.0**	**-1.6**
INH	**Isangel**	**3.55**	**160**	P	**Pn**	**19 12 40.6**	**+0.4**
KOUNC	**Koumac, New Ca**	**5.58**	**219**	P	**Pn**	**19 13 05.9**	**-0.1**
LUES	**Luesalemba Tem**	**5.86**	**340**	P	**Pn**	**19 13 08.0**	**-1.7**
LUES	**Luesalemba Tem**	**5.86**	**340**	S	**Sn**	**19 14 15.1**	**-2.0**
YATNC	**Mamie plateau,**	**5.93**	**190**	P	**Pn**	**19 13 08.9**	**-1.6**
DZM	**Mont Dzumac**	**6.03**	**194**	P	**Pn**	**19 13 11.2**	**-0.7**
	47nm,0.4s,baz=32,slow=17,SNR=42						
DZM				S	**Sn**	**19 14 20.9**	**-0.2**
	36nm,0.8s,baz=344,slow=20,SNR=8.3						
DZM	**Mont Dzumac**	**6.03**	**194**	P	**Pn**	**19 13 11.4**	**-0.5**
ONTNC	**Ouen Toro**	**6.25**	**193**	Pn	**Pn**	**19 13 14.4**	**-0.3**
ONTNC	**Ouen Toro**	**6.25**	**193**	P	**Pn**	**19 13 15.6**	**+0.9**
OUENC	**Ouen Island, N**	**6.29**	**190**	P	**Pn**	**19 13 14.9**	**-0.3**
PINNC	**Pines Island,**	**6.41**	**185**	Pn	**Pn**	**19 13 16.2**	**-0.5**
PINNC	**Pines Island,**	**6.41**	**185**	P	**Pn**	**19 13 16.8**	**+0.1**
HURO	**Huro Makira**	**8.22**	**313**	P	**Pn**	**19 13 41.2**	**+0.7**
MSVF	**Nonsavu**	**9.74**	**100**		**Pn**	**19 14 03.0**	**+2.5**
MSVF	**Nonsavu**	**9.74**	**100**	P	**Pn**	**19 14 00.9**	**+0.5**
ALEG	**Aligegeo Malai**	**10.27**	**315**	P	**Pn**	**19 14 07.3**	**+0.1**
HNR	**Honiara**	**10.33**	**310**		**Pn**	**19 14 07.6**	**-0.4**
HNR	**Honiara**	**10.33**	**310**	P	**Pn**	**19 14 07.8**	**-0.2**
	64nm,0.5s,baz=131,slow=9.3,SNR=21						
HNR				S	**S**	**19 16 05.0**	**+1.1**
	32nm,0.3s,baz=156,slow=18,SNR=1.3						
HNR	**Honiara**	**10.33**	**310**	P	**Pn**	**19 14 08.1**	**+0.1**
SAVO	**Savo Central**	**10.62**	**310**	P	**Pn**	**19 14 12.8**	**+1.1**
TATA	**Tatamba Isabel**	**11.14**	**313**	P	**Pn**	**19 14 19.4**	**+0.9**
EIDS	**Eidsvold**	**18.24**	**237**	Pn	**Pn**	**19 15 45.3**	**-0.3**
EIDS	**Eidsvold**	**18.24**	**237**	P	**Pn**	**19 15 44.9**	**-0.8**
RABL	**Rabaul**	**19.60**	**306**	P	**P**	**19 15 58.8**	**+0.6**
OUZ	**Omahuta**	**19.60**	**166**	P	**P**	**19 15 58.8**	**+0.9**
OUZ	**Omahuta**	**19.60**	**166**	P	**P**	**19 15 59.6**	**+1.7**
WCZ	**Waipu Caves**	**20.46**	**165**	P	**P**	**19 16 09.0**	**+1.9**
ARMA	**Armidale**	**20.61**	**224**	P	**P**	**19 16 09.7**	**+0.8**
CTAO	**Charters Tower**	**21.02**	**256**		**P**	**19 16 13.2**	**0.0**
CTAO	**Charters Tower**	**21.02**	**256**	P	**P**	**19 16 13.6**	**+0.4**
PMG	**Port Moresby**	**21.40**	**286**	P	**P**	**19 16 17.9**	**+0.7**
PMG	**Port Moresby**	**21.40**	**286**	P	**P**	**19 16 17.0**	**-0.2**
	32nm,0.9s,baz=106,slow=7.5,SNR=5.4						
	32nm,0.9s						
TOZ	**Tahuroa Road**	**22.45**	**164**		**P**	**19 16 28.1**	**+0.7**
TOZ	**Tahuroa Road**	**22.45**	**164**	P	**P**	**19 16 28.7**	**+1.3**
MTSU	**Mount Surprise**	**22.70**	**262**	P	**P**	**19 16 30.5**	**+0.6**
HAZ	**Te Kaha**	**23.15**	**160**	P	**P**	**19 16 34.7**	**+1.1**
MXZ	**Matakaoa Point**	**23.16**	**159**	P	**P**	**19 16 34.5**	**+0.9**
MXZ	**Matakaoa Point**	**23.16**	**159**	P	**P**	**19 16 34.2**	**+0.5**
URZ	**Urewera**	**23.40**	**162**	P	**P**	**19 16 36.6**	**+0.7**
PUZ	**Puketiti**	**23.60**	**159**	P	**P**	**19 16 37.8**	**+0.1**
MWZ	**Matawai**	**23.60**	**161**	P	**P**	**19 16 38.1**	**+0.3**
RTZ	**Ruatahuna**	**23.69**	**162**		**P**	**19 16 38.9**	**+0.3**
RTZ				IAmb	IAmb	19 16 43.5	
	comp=Z,49nm,0.8s						
RTZ	**Ruatahuna**	**23.69**	**162**	P	**P**	**19 16 39.6**	**+0.9**
NGZ	**Ngauruhoe**	**23.85**	**165**	P	**P**	**19 16 43.3**	**+3.1**
COEN	**Coen**	**24.07**	**272**		**P**	**19 16 43.2**	**+0.9**
COEN				IAmb	IAmb	19 16 45.5	
	comp=Z,46nm,0.9s						
COEN	**Coen**	**24.07**	**272**	P	**P**	**19 16 42.7**	**+0.5**
BKZ	**Black Stump Fm**	**24.07**	**164**		**P**	**19 16 42.5**	**+0.5**
BKZ				IAmb	IAmb	19 16 43.2	
	comp=Z,34nm,0.7s						
BKZ	**Black Stump Fm**	**24.07**	**164**	P	**P**	**19 16 42.9**	**+0.8**
BKZ	**Black Stump Fm**	**24.07**	**164**	P	**P**	**19 16 42.8**	**+0.8**
TSZ	**Takapari Road**	**24.77**	**165**	P	**P**	**19 16 48.5**	**+0.1**
QRZ	**Quartz Range**	**24.86**	**172**	P	**P**	**19 16 50.3**	**+1.2**
PXZ	**Pawanui**	**24.98**	**164**	P	**P**	**19 16 49.9**	**-0.3**
MRZ	**Mangatainoka R**	**25.25**	**166**	P	**P**	**19 16 52.4**	**-0.3**
MRZ				IAmb	IAmb	19 16 56.6	
	comp=Z,70nm,1.3s						
MRZ	**Mangatainoka R**	**25.25**	**166**	P	**P**	**19 16 53.1**	**+0.4**
CMSA	**Cobar Meteorol**	**25.41**	**229**	P	**P**	**19 16 54.1**	**-0.1**
BFZ	**Birch Farm**	**25.43**	**165**	P	**P**	**19 16 53.0**	**-1.2**
BFZ				IAmb	IAmb	19 16 59.1	
	comp=Z,69nm,1.0s						
BFZ	**Birch Farm**	**25.43**	**165**	P	**P**	**19 16 53.6**	**-0.7**
BFZ	**Birch Farm**	**25.43**	**165**	P	**P**	**19 16 53.6**	**-0.7**
TUWZ	**Tuamarina**	**25.67**	**170**	P	**P**	**19 16 55.8**	**-0.5**
SNZO	**South Karori**	**25.69**	**168**	P	**P**	**19 16 57.6**	**+1.0**
THZ	**Tophouse**	**25.83**	**172**	P	**P**	**19 16 57.9**	**0.0**
KHZ	**Kahutara**	**26.56**	**171**	P	**P**	**19 17 04.7**	**+0.3**
KHZ	**Kahutara**	**26.56**	**171**	P	**P**	**19 17 04.3**	**-0.1**
INZ	**Inchbonnie**	**26.61**	**174**		**P**	**19 17 03.6**	**-1.2**
LTZ	**Lake Taylor**	**26.75**	**173**		**P**	**19 17 06.3**	**+0.2**
LTZ				IAmb	IAmb	19 17 07.6	
	comp=Z,37nm,0.7s						
LTZ	**Lake Taylor**	**26.75**	**173**	P	**P**	**19 17 06.4**	**+0.3**
WVZ	**Waitaha Valley**	**26.89**	**176**	P	**P**	**19 17 08.5**	**+1.1**
OXZ	**Oxford**	**27.26**	**174**	P	**P**	**19 17 10.1**	**-0.6**
OXZ				IAmb	IAmb	19 17 11.2	
	comp=Z,56nm,0.9s						
OXZ	**Oxford**	**27.26**	**174**	P	**P**	**19 17 11.2**	**+0.5**
QIS	**Mount Isa**	**27.27**	**257**	P	**P**	**19 17 11.7**	**+0.6**
FOZ	**Fox Glacier**	**27.29**	**177**	P	**P**	**19 17 11.7**	**+0.9**
FOZ	**Fox Glacier**	**27.29**	**177**	P	**P**	**19 17 11.9**	**+1.0**
RPZ	**Rata Peaks**	**27.55**	**175**	P	**P**	**19 17 13.4**	**+0.1**
RPZ	**Rata Peaks**	**27.55**	**175**	P	**P**	**19 17 13.9**	**+0.6**
RPZ	**Rata Peaks**	**27.55**	**175**	P	**P**	**19 17 14.0**	**+0.8**
JCZ	**Jackson Bay**	**27.80**	**179**	P	**P**	**19 17 16.8**	**+1.3**
JCZ	**Jackson Bay**	**27.80**	**179**	P	**P**	**19 17 16.8**	**+1.3**
LBZ	**Lake Benmore**	**28.16**	**177**	P	**P**	**19 17 18.7**	**0.0**
LBZ	**Lake Benmore**	**28.16**	**177**	P	**P**	**19 17 18.5**	**-0.1**
TMZ	**Timaru**	**28.22**	**175**	P	**P**	**19 17 19.1**	**0.0**
STKA	**Stephens Creek**	**28.62**	**232**	P	**P**	**19 17 22.4**	**-0.4**
STKA				IAmb	IAmb	19 18 11.4	
	comp=Z,55nm,1.1s						
STKA	**Stephens Creek**	**28.62**	**232**	P	**P**	**19 17 23.2**	**+0.3**
	comp=Z,3.7nm,0.6s,baz=62,slow=10,SNR=8.3						
STKA				PcP	**PcP**	**19 20 29.0**	**0.0**
	comp=Z,6.4nm,0.8s,baz=67,slow=7.7,SNR=8.4						
STKA				ScP	**ScP**	**19 23 53.9**	**+1.8**
	comp=Z,3.9nm,0.7s,baz=48,slow=4.2,SNR=7.4						
	comp=Z,3.7nm,0.6s						
STKA	**Stephens Creek**	**28.62**	**232**	P	**P**	**19 17 23.4**	**+0.6**
ODZ	**Otahua Downs**	**28.85**	**176**	P	**P**	**19 17 24.9**	**+0.2**
ODZ	**Otahua Downs**	**28.85**	**176**	P	**P**	**19 17 24.3**	**-0.4**
EAZ	**Earnscleugh**	**28.97**	**178**	P	**P**	**19 17 26.2**	**+0.4**
TUZ	**Tuapeka**	**29.70**	**178**	P	**P**	**19 17 32.9**	**+0.7**
GLAD	**Gladstone**	**30.15**	**211**	P	**P**	**19 17 36.8**	**+0.5**
HTT	**Hallett**	**31.32**	**231**	P	**P**	**19 17 47.0**	**+0.2**
SMPI	**Sarmi**	**32.10**	**293**	P	**P**	**19 17 53.9**	**+0.2**
	comp=Z,21nm,1.6s						
WB0	**Warramunga Arr**	**32.13**	**259**		**P**	**19 17 52.8**	**-1.1**
WRA	**Warramunga Arr**	**32.18**	**258**	P	**P**	**19 17 53.2**	**-1.1**
	comp=Z,4.1nm,0.7s,baz=86,slow=8.5,SNR=32						
WRA				pP	**pP**	**19 18 31.8**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=85,slow=8.5,SNR=3.2						
WRA				PcP	**PcP**	**19 20 38.5**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=88,slow=2.9,SNR=8.0						
WRA				S	**S**	**19 22 49.7**	**-3.4**
	comp=Z,0.6nm,0.7s,baz=92,slow=13,SNR=2.8						
WRA				ScP	**ScP**	**19 24 05.4**	**+1.3**
	comp=Z,2.0nm,0.7s,baz=87,slow=3.4,SNR=9.1						
	comp=Z,4.1nm,0.7s						
AS01	**Alice Springs**	**32.80**	**251**	P	**P**	**19 17 59.5**	**-0.2**
AS31	**Alice Springs**	**32.84**	**251**		**P**	**19 17 59.4**	**-0.6**
ASAR	**Alice Springs**	**32.84**	**251**	P	**P**	**19 17 59.1**	**-1.0**
ASAR	**Alice Springs**	**32.84**	**251**	P	**P**	**19 17 59.6**	**-0.5**
	comp=Z,19nm,0.7s,baz=82,slow=8.7,SNR=313						
ASAR				PcP	**PcP**	**19 20 39.9**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=84,slow=2.6,SNR=8.9						
ASAR				S	**S**	**19 23 01.5**	**-1.8**
	comp=Z,1.0nm,0.9s,baz=80,slow=16,SNR=4.5						
ASAR				ScP	**ScP**	**19 24 07.9**	**+1.5**
	comp=Z,3.3nm,0.8s,baz=83,slow=3.2,SNR=18						
	comp=Z,19nm,0.7s						
BBOO	**Buckleboo**	**33.27**	**234**	P	**P**	**19 18 03.7**	**+0.1**
KNRA	**Kununurra**	**37.69**	**265**		**P**	**19 18 40.4**	**-1.0**
KNRA				IAmb	IAmb	19 18 41.9	
	comp=Z,24nm,1.0s						
PSA00	**Pilbara Seismi**	**45.73**	**256**	P	**P**	**19 19 47.1**	**+0.4**
MBWA	**Marble Bar**	**45.85**	**256**	P	**P**	**19 19 47.4**	**-0.3**
MBWA	**Marble Bar**	**45.85**	**256**	P	**P**	**19 19 48.1**	**+0.5**
MEEK	**Meekatharra**	**46.88**	**249**	P	**P**	**19 19 55.9**	**+0.3**
PLAI	**Plampang**	**49.47**	**272**	P	**P**	**19 20 16.7**	**+1.2**
JCJ	**Chichijima**	**49.79**	**329**	P	**P**	**19 20 17.4**	**-0.2**
	comp=Z,61nm,0.6s,baz=150,slow=20,SNR=1.9						
DRV	**Dumont d'Urvil**	**53.69**	**193**	P	**P**	**19 20 46.0**	**+0.2**
UGM	**Wanagama**	**56.65**	**271**	P	**P**	**19 21 09.2**	**+1.1**
JGF	**Kuroka**	**59.13**	**331**		**P**	**19 21 23.5**	**-1.3**
JGF				IAmb	IAmb	19 21 25.7	
	comp=Z,10.0nm,0.8s						
JMN	**Monobe**	**59.35**	**327**	P	**P**	**19 21 27.1**	**+0.7**
JMN				IAmb	IAmb	19 21 28.4	
	comp=Z,27nm,1.1s						
MJAR	**Matsushiro Arr**	**59.52**	**332**		**P**	**19 21 27.0**	**-0.4**
MJAR	**Matsushiro Arr**	**59.52**	**332**	P	**P**	**19 21 27.1**	**-0.4**
	comp=Z,10nm,0.9s,baz=163,slow=7.6,SNR=26						
MJAR				S	**S**	**19 29 18.7**	**-3.2**
	comp=Z,1.3nm,0.4s,baz=145,slow=11,SNR=6.2						
	comp=Z,10nm,0.9s						
MAJO	**Matsushiro**	**59.52**	**332**	P	**P**	**19 21 27.7**	**+0.2**
MAJO	**Matsushiro**	**59.52**	**332**	P	**P**	**19 21 27.5**	**0.0**
MAJO				pP	**pP**	**19 22 10.6**	**-0.1**
MJB9	**Matsu-Tunnel**	**59.52**	**332**	IAmb	IAmb	19 21 28.3	
	comp=Z,13nm,0.8s						
JMM	**Marumori**	**59.54**	**335**	IAmb	IAmb	19 21 29.2	
	comp=Z,23nm,1.0s						
JNU	**Nakatsue**	**60.51**	**324**		**P**	**19 21 34.3**	**0.0**
JNU				IAmb	IAmb	19 23 42.1	
	comp=Z,22nm,1.3s						
JNU	**Nakatsue**	**60.51**	**324**	P	**P**	**19 21 34.5**	**+0.2**
	comp=Z,4.9nm,0.7s,baz=155,slow=7.6,SNR=5.3						
	comp=Z,4.9nm,0.7s						
JNU	**Nakatsue**	**60.51**	**324**	P	**P**	**19 21 35.2**	**+0.9**
VNDA	**Vanda**	**61.42**	**182**		**P**	**19 21 40.2**	**+0.4**
VNDA	**Vanda**	**61.42**	**182**	P	**P**	**19 21 40.1**	**+0.4**
	comp=Z,5.9nm,0.7s,baz=1.0,slow=6.8,SNR=33						
	comp=Z,5.9nm,0.7s						
VNDA	**Vanda**	**61.42**	**182**	P	**P**	**19 21 40.6**	**+0.9**
VNDA				sP	**sP**	**19 22 44.2**	**+0.3**
SBA	**Scott Base**	**61.68**	**180**		**P**	**19 21 42.5**	**+1.1**
SBA				IAmb	IAmb	19 21 44.2	
	comp=Z,37nm,0.9s						
SBA	**Scott Base**	**61.68**	**180**	P	**P**	**19 21 40.6**	**-0.8**
JTM	**Tenmabayashi**	**61.96**	**337**	P	**P**	**19 21 45.1**	**+1.3**
CASY	**Casey**	**62.45**	**203**		**P**	**19 21 46.8**	**+0.1**
CASY				IAmb	IAmb	19 21 48.0	
	comp=Z,19nm,1.1s						
CCD	**Concordia, Ant**	**63.62**	**192**	P	**P**	**19 21 55.0**	**+0.2**
KSRS	**Korea Array**	**65.34**	**326**	P	**P**	**19 22 05.7**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=128,slow=7.9,SNR=5.2						
	comp=Z,1.0nm,0.7s						
NJ2	**Nanjing**	**67.21**	**316**	*e*P	**P**	**19 22 20.5**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**68.50**	**333**	P	**P**	**19 22 26.2**	**+0.5**
USA0B				IAmb	IAmb	19 22 27.9	
	comp=Z,34nm,1.7s						
USRK	**Ussuriysk Ar.**	**68.50**	**333**		**P**	**19 22 26.6**	**+0.8**
USRK	**Ussuriysk Ar.**	**68.50**	**333**	P	**P**	**19 22 26.1**	**+0.3**
	comp=Z,5.6nm,0.7s,baz=144,slow=5.2,SNR=10						
	comp=Z,5.6nm,0.7s						
PETK	**Petropavlovsk-**	**69.58**	**353**	P	**P**	**19 22 32.0**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=168,slow=5.7,SNR=6.7						
PETK				pP	**pP**	**19 23 16.7**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=183,slow=7.5,SNR=2.8						
	comp=Z,2.0nm,0.7s						
MDJ	**Mudanjiang**	**69.89**	**332**	IAmb	IAmb	19 22 36.5	
	comp=Z,18nm,0.8s						
MDJ	**Mudanjiang**	**69.89**	**332**	P	**P**	**19 22 35.5**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,28nm,1.0s						
MDJ	**Mudanjiang**	**69.89**	**332**	P	**P**	**19 22 35.5**	**+1.2**
CN2	**Changchun**	**71.25**	**329**	P	**P**	**19 22 42.3**	**-0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BNX	**BinXian**	**71.75**	**331**	⇑P	**P**	**19 22 46.0**	**+0.5**
BNX				pmax	pmax		
	comp=Z,24nm,0.7s						
QSPA	**South Pole Qui**	**73.84**	**180**	P	**P**	**19 22 58.2**	**+0.4**
QSPA				IAmb	IAmb	19 22 59.8	
	comp=Z,47nm,0.9s						
QSPA	**South Pole Qui**	**73.84**	**180**	P	**P**	**19 22 58.7**	**+1.0**
	comp=Z,43nm,0.8s,baz=0.9,slow=3.1,SNR=202						
	comp=Z,43nm,0.8s						
CMAR	**Chiang Mai Arr**	**76.18**	**294**	P	**P**	**19 23 12.5**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=115,slow=5.1,SNR=7.3						
CMAR				pP	**pP**	**19 23 55.5**	**-2.4**
	comp=Z,0.4nm,0.4s,baz=112,slow=5.8,SNR=1.4						
	comp=Z,0.7nm,0.3s						
PZH	**PanZhiHua**	**77.07**	**303**	P	**P**	**19 23 18.8**	**+2.0**
HHC	**Hu-ho-hao-te**	**77.15**	**320**	*e*P	**P**	**19 23 14.8**	**-2.1**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,4.5s						
BTO	**Baotou**	**77.98**	**319**	*e*P	**P**	**19 23 24.8**	**+3.3**
BTO				pP	**pP**	**19 24 11.0**	**+3.5**
BTO				sP	**sP**	**19 24 31.3**	**+3.6**
BTO				pmax	pmax		
	comp=Z,13nm,0.5s						
BTO				pmax	pmax		
	comp=Z,150nm,9.3s						
MAW	**Mawson**	**80.80**	**202**	P	**P**	**19 23 32.4**	**-3.7**
	comp=Z,8.8nm,0.5s,baz=185,slow=11,SNR=27						
YAK	**Yakutsk**	**83.63**	**343**	P	**P**	**19 23 51.1**	**+0.4**
YAK				IAmb	IAmb	19 23 51.8	
	comp=Z,12nm,0.6s						
YAK	**Yakutsk**	**83.63**	**343**	P	**P**	**19 23 47.3**	**-3.4**
	comp=Z,8.0nm,0.3s,baz=190,slow=2.3,SNR=7.5						
GTA	**Gaotai**	**84.18**	**314**	*e*P	**P**	**19 23 57.0**	**+2.7**
GTA				pP	pP	19 24 41.3	+0.3
GTA				pmax	pmax		
	comp=Z,4.0nm,1.7s						
SHL	**Shillong**	**84.87**	**298**		**P**	**19 23 58.7**	**+0.6**
SHL				IAmb	IAmb	19 24 00.9	
	comp=Z,15nm,0.8s						
CAST	**Castle Rocks**	**85.18**	**17**	P	**P**	**19 23 57.2**	**-1.4**
PCA	**Pinnacle**	**86.66**	**23**	P	**P**	**19 24 04.8**	**-1.2**
PCA				IAmb	IAmb	19 24 17.7	
	comp=Z,12nm,0.8s						
SYO	**Syowa Base**	**87.51**	**196**	⇑*e*P	**P**	**19 24 09.7**	**-0.2**
SYO	**Syowa Base**	**87.51**	**196**	⇓*e*PcP	**PcP**	**19 24 12.3**	**+0.6**
DSP	**Deep Springs**	**87.53**	**50**	P	**P**	**19 24 11.5**	**+1.0**
NVAR	**Mina Array Bea**	**87.69**	**49**	P	**P**	**19 24 12.7**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=241,slow=4.2,SNR=1.7						
NVAR				pP	**pP**	**19 24 58.8**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=240,slow=4.2,SNR=4.8						
	comp=Z,0.3nm,0.4s						
ILAR	**Eielson Array**	**87.70**	**18**	P	**P**	**19 24 09.5**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=233,slow=5.3,SNR=6.5						
ILAR				pP	**pP**	**19 24 55.1**	**-2.9**
	comp=Z,2.2nm,1.0s,baz=232,slow=5.7,SNR=7.2						
	comp=Z,0.5nm,0.6s						
QSM	**Queen of Sheba**	**87.83**	**52**	P	**P**	**19 24 11.2**	**-0.8**
TROLL	**Troll, Antarti**	**91.47**	**184**	⇑P	**P**	**19 24 28.4**	**-0.2**
	comp=Z,937nm,0.6s						
SNAA	**Sanae**	**92.13**	**183**	⇑P	**P**	**19 24 30.9**	**-0.6**
	comp=Z,234nm,0.7s						
SNAA	**Sanae**	**92.13**	**183**	P	**P**	**19 24 30.6**	**-0.9**
SNAA				IAmb	IAmb	19 24 32.0	
	comp=Z,33nm,1.5s						
SNAA	**Sanae**	**92.13**	**183**	P	**P**	**19 24 31.0**	**-0.6**
	comp=Z,6.9nm,0.6s,baz=200,slow=6.5,SNR=75						
	comp=Z,6.9nm,0.6s						
VNA3	**Neumayer Olymp**	**92.77**	**181**	⇑P	**P**	**19 24 33.7**	**-0.7**
	comp=Z,17nm,0.7s						
VNA1	**Neumayer--Stat**	**93.34**	**181**	⇑P	**P**	**19 24 36.4**	**-0.6**
	comp=Z,6.8nm,0.6s						
WMQ	**Urumqi**	**94.25**	**314**	*e*P	**P**	**19 24 42.5**	**+0.8**
PDAR	**Pinedale Array**	**95.42**	**47**	PKKPbc	PKKPbc	19 41 38.8	-1.4
	comp=Z,0.4nm,0.7s,baz=60,slow=4.8,SNR=5.3						
YKA	**Yellowknife Ar**	**98.52**	**27**	pP	pP	19 25 47.0	-0.8
	comp=Z,1.3nm,0.8s,baz=264,slow=5.1,SNR=6.2						
MKAR	**Makanchi Array**	**98.74**	**316**	P	Pdif	19 25 03.3	+1.4
	comp=Z,0.3nm,0.4s,baz=101,slow=7.5,SNR=4.1						
MKAR				pP	pP	19 25 47.7	-1.7
	comp=Z,0.7nm,0.7s,baz=93,slow=5.8,SNR=3.8						
MKAR				PKiKP	**PKiKP**	**19 29 32.3**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=95,slow=1.3,SNR=5.5						
MKAR				PKKPbc	**PKKPbc**	**19 41 26.9**	**-4.2**
	comp=Z,0.5nm,0.6s,baz=287,slow=3.0,SNR=7.4						
MKAR				SKKPbc	SKKPbc	19 44 57.0	+2.2
	comp=Z,0.2nm,0.7s,baz=231,slow=0.9,SNR=3.6						
	comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**98.98**	**324**	P	Pdif	19 25 03.1	+0.3
	comp=Z,0.5nm,0.4s,baz=95,slow=12,SNR=2.3						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**102.00**	**319**	PKKPbc	PKKPbc	19 41 19.3	-2.4
	comp=Z,0.9nm,0.8s,baz=283,slow=3.5,SNR=8.5						
SPITS	**Spitsbergen Ar**	**116.46**	**354**	PKP	**PKPdf**	**19 30 03.8**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=72,slow=4.7,SNR=1.5						
CPUP	**Villa Florida**	**118.95**	**133**	PKP	**PKPdf**	**19 30 10.2**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=191,slow=5.2,SNR=3.5						
ARCES	**ARCESS Array B**	**121.84**	**345**	PKP	**PKPdf**	**19 30 15.0**	**+0.1**
	comp=Z,4.7nm,0.6s,baz=46,slow=2.5,SNR=38						
ARCES				pPKP	**pPKPdf**	**19 31 02.8**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=57,slow=1.0,SNR=2.9						
ARCES				PKKPab	**PKKPab**	**19 40 12.6**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=225,slow=2.4,SNR=8.8						
BOSA	**Boshof**	**122.70**	**219**	PKP	**PKPdf**	**19 30 18.1**	**0.0**
	comp=Z,3.1nm,0.6s,baz=119,slow=1.8,SNR=7.6						
FINES	**FINESS Array B**	**127.33**	**338**	PKP	**PKPdf**	**19 30 25.6**	**0.0**
	comp=Z,1.6nm,0.5s,baz=65,slow=4.7,SNR=10						
NB2	**NORSAR Subarra**	**132.21**	**345**	PKPdf	**PKPdf**	**19 30 35.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=31,slow=1.9						
NB2				pPKP	**SKPbc**	**19 33 44.8**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=38,slow=4.6						
NOA	**NORSAR Array B**	**132.21**	**345**	PKP	**PKPdf**	**19 30 34.2**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=32,slow=2.0,SNR=6.2						
NOA				SKPbc	**SKPbc**	**19 33 44.0**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=31,slow=3.3,SNR=7.1						
HFS	**Hagfors**	**132.32**	**343**	PKP	**PKPdf**	**19 30 34.6**	**-0.5**
	comp=Z,3.0nm,0.9s,baz=88,slow=3.5,SNR=5.7						
HFS				SKPbc	**SKPbc**	**19 33 44.1**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=50,slow=2.3,SNR=4.5						
AKASG	**Malin Array Be**	**132.33**	**325**	PKP	**PKPdf**	**19 30 35.6**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=56,slow=2.1,SNR=9.8						
AKASG				SKPbc	**SKPab**	**19 33 45.0**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=54,slow=4.7,SNR=11						
AK08	**Malin Array Si**	**132.35**	**325**	PKP	**PKPdf**	**19 30 35.6**	**+0.1**
AK02	**Malin Array Si**	**132.36**	**325**	PKP	**PKiKP**	**19 30 36.1**	**-0.5**
AK05	**Malin Array Si**	**132.38**	**325**	PKP	**PKPdf**	**19 30 36.1**	**+0.6**
BDFB	**Brasilia**	**132.42**	**130**	PKP	**PKPdf**	**19 30 37.3**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=83,slow=3.3,SNR=3.4						
LUBAR	**Lubar, Ukraine**	**133.54**	**325**	PKP	**PKPdf**	**19 30 38.1**	**+0.4**
BRTR	**Keskin Array B**	**133.99**	**310**	PKP	**PKPdf**	**19 30 39.2**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=80,slow=1.6,SNR=4.8						
BRTR				SKPbc	**SKPab**	**19 33 52.1**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=22,slow=4.7,SNR=4.4						
BR104	**Keskin Array S**	**133.99**	**310**	PKP	**PKPdf**	**19 30 39.6**	**+0.5**
BR105	**Keskin Array S**	**134.00**	**310**	PKP	**PKPdf**	**19 30 39.0**	**-0.1**
MMAI	**Mount Meron Ar**	**134.16**	**300**	SKPbc	**SKPbc**	**19 33 52.5**	**+1.5**
	comp=Z,4.5nm,0.8s,baz=62,slow=3.4,SNR=4.7						
STEB	**Steborice**	**138.63**	**331**	*e*PKP	**PKPdf**	**19 30 45.2**	**-2.0**
KRLC	**

2µm,0.1s
ZRHB eSg Sg 19 18 47.4 0.0
ZRHB Smax 19 19 01.5
43µm,0.8s
KAB Kabansk 0.39 186⇑iPg Pg 19 18 44.5 -0.2
KAB Pmax 19 18 44.8
2µm,0.1s
KAB eSg Sg 19 18 50.5 +0.3
KAB Smax 19 18 51.0
52µm,0.4s
KAB Kabansk 0.39 186⇑iPG Pg 19 18 44.5 -0.2
KAB e 19 18 50.4
KAB pmax pmax
comp=Z,2µm,0.1s
KAB smax smax
comp=N,52µm,0.2s
TRG Tyrgan 0.40 325⇑iPg Pg 19 18 44.0 -0.9
TRG Pmax 19 18 45.1
comp=N,978nm,0.1s
TRG eSg Sg 19 18 48.6 -1.9
TRG Smax 19 18 51.7
comp=N,6µm,0.1s
TRG Tyrgan 0.40 325⇑iPG Pg 19 18 44.0 -0.9
TRG e 19 18 49.9
TRG pmax pmax
comp=Z,948nm,0.1s
TRG smax smax
comp=N,7µm,0.2s
UUDB Ulan-Yde 0.81 134⇑iPg Pb 19 18 52.0 -0.2
UUDB Pmax 19 18 52.3
comp=N,1µm,0.2s
UUDB eSg Sb 19 19 02.3 -0.5
UUDB Smax 19 19 04.0
comp=N,3µm,0.3s
HRMR Khuramsha 0.82 170⇑iPg Pb 19 18 52.1 -0.3
HRMR Pmax 19 18 52.5
comp=N,2µm,0.2s
HRMR eSg Sb 19 19 03.2 +0.1
HRMR Smax 19 19 03.7
comp=N,16µm,0.4s
KELR Kotokel 0.89 68⇑iPg Pb 19 18 52.9 -0.6
KELR eSg Sb 19 19 04.7 -0.4
KELR eSb Sn 19 19 07.7 +1.0
BGT Bolshoye Golou 0.90 245 ePg Pb 19 18 53.5 -0.2
BGT ePb Pn 19 18 54.9 +0.6
BGT max 19 18 56.7
comp=N,429nm,0.1s
BGT eSg Sg 19 19 05.5 -0.5
BGT Smax 19 19 07.6
comp=N,2µm,0.2s
BGT Bolshoye Golou 0.90 245⇓iPG Pb 19 18 53.4 -0.2
BGT e 19 19 05.5
BGT pmax pmax
comp=Z,423nm,0.1s
BGT smax smax
comp=N,2µm,0.5s
GORB Goryachinsk 1.10 59 ePg Pn 19 18 56.8 -0.3
GORB eSg Sb 19 19 10.9 -0.2
GORB eSb Sg 19 19 13.6 +1.2
LSTR Listvyanka 1.29 245⇓iPg Pb 19 18 59.9 -0.5
comp=N,77nm,0.7s
LSTR ⇓iPg Pb 19 18 59.9 -0.5
comp=N,105nm,0.7s
LSTR ⇑iPg Pb 19 18 59.9 -0.5
comp=N,65nm,0.7s
LSTR Pmax 19 19 03.1
comp=N,140nm,0.1s
LSTR eSg Sb 19 19 17.1 +0.4
LSTR Smax 19 19 18.0
comp=N,1µm,0.5s
LSTR Listvyanka 1.29 245⇑iPG Pb 19 18 59.9 -0.5
LSTR e 19 19 16.7
LSTR pmax pmax
comp=Z,131nm,0.1s
LSTR smax smax
comp=N,1µm,0.7s
OGRR Ongureny 1.32 23⇑iPg Pb 19 19 00.5 -0.4
OGRR Pmax 19 19 01.3
comp=N,454nm,0.4s
OGRR eSg Sg 19 19 18.3 -1.1
OGRR Smax 19 19 21.4
comp=N,3µm,0.5s
OGRR Ongureny 1.32 23⇑iPG Pb 19 19 00.7 -0.2
OGRR e 19 19 18.1
OGRR pmax pmax
comp=Z,452nm,1.1s
OGRR smax smax
comp=E,3µm,0.7s
IRK Irkutsk 1.52 264 ePg Pb 19 19 03.9 -0.3
IRK Pmax 19 19 04.6
comp=E,2µm,0.7s
IRK eSg Sb 19 19 23.5 +0.5
IRK Smax 19 19 24.3
comp=E,8µm,0.7s
IRK e 19 19 35.6
IRK Irkutsk 1.52 264 ePN Pb 19 19 03.8 -0.4
IRK e 19 19 23.3
IRK pmax pmax
comp=Z,2µm,0.7s
IRK smax smax
comp=N,8µm,0.2s
IVK Ivanovka 1.56 247 ePg Pb 19 19 04.6 -0.3
IVK Pmax 19 19 05.0
comp=N,357nm,0.3s
IVK ePb Pg 19 19 06.2 -0.4
IVK eSg Sb 19 19 24.8 +0.5
IVK Smax 19 19 25.6
comp=N,3µm,0.4s
TLY Talaya 2.04 250 ePn Pb 19 19 11.4 -1.8
TLY ePg Pg 19 19 13.2 -2.7
TLY Pmax 19 19 17.7
comp=N,110nm,0.2s
TLY eSn Sn 19 19 35.9 +0.8
TLY eSg Sb 19 19 38.7 +0.4
TLY Smax 19 19 40.1
comp=N,1µm,0.6s
SYVR Suvo 2.33 57⇓iPn Pn 19 19 14.8 +0.8
SYVR ePg Pb 19 19 18.8 +0.8
SYVR Pmax 19 19 36.3
comp=N,119nm,0.5s
SYVR eSn Sn 19 19 42.4 +0.3
SYVR eSg Sg 19 19 49.5 -2.0
SYVR Smax 19 19 54.5
comp=N,938nm,0.5s
SYVR e 19 20 06.2
SYVR Suvo 2.33 57⇓iPN Pn 19 19 14.8 +0.8
SYVR e 19 19 18.7
SYVR e 19 19 49.8
SYVR pmax pmax
comp=Z,87nm,0.6s
SYVR smax smax
comp=N,934nm,0.6s
ARS Arshan 2.70 261 ePn Pn 19 19 20.1 +1.0
ARS ePg Pb 19 19 24.5 +0.2
ARS Pmax 19 19 34.5
comp=N,212nm,0.3s
ARS eSg Sb 19 19 58.1 +1.0
ARS Smax 19 20 07.9
comp=N,2µm,0.9s
ZAK Zakamensk 2.98 228 ePn Pn 19 19 24.6 +1.5
ZAK ePg Pb 19 19 30.8 +1.6
ZAK Pmax 19 19 49.6
comp=N,52nm,0.3s
ZAK eSg Sg 19 20 09.4 -2.9
ZAK Smax 19 20 12.2
comp=N,384nm,0.4s
ZAK Zakamensk 2.98 228 ePN Pn 19 19 24.5 +1.5
ZAK e 19 19 32.1
ZAK e 19 20 09.2
ZAK pmax pmax
comp=Z,47nm,0.1s
ZAK smax smax
comp=E,306nm,0.2s
YLYR Ulyunkhan 3.60 45⇓iPn Pn 19 19 32.3 +0.8
YLYR ePg Pb 19 19 41.2 +1.5
YLYR Pmax 19 19 48.5
comp=E,42nm,0.9s
YLYR eSn Sn 19 20 12.7 -0.8
YLYR eSg Sb 19 20 26.9 +3.9
YLYR Smax 19 20 32.6
comp=E,265nm,0.6s
MOY Mondy 3.62 260 e Pn 19 19 35.0 +3.2
MOY ePg Pb 19 19 41.2 +1.1
MOY Pmax 19 19 50.2
comp=E,204nm,1.0s
MOY e 19 20 18.1
MOY eSg Sb 19 20 26.5 +2.8
MOY eSgSg Sg 19 20 31.2 -1.6
MOY max 19 20 33.7
comp=E,1µm,1.0s
MOY e 19 20 45.7
MOY Mondy 3.62 260 ePN Pn 19 19 35.4 +3.6
MOY e 19 19 42.0
MOY eS Sn 19 20 16.0 +1.9
MOY e 19 20 26.2
NIZB Nizh Angarsk 3.73 25⇓iPn Pn 19 19 34.1 +0.8
NIZB e 19 19 35.9
NIZB ePg Pb 19 19 43.1 +1.2
NIZB Pmax 19 19 52.0
comp=E,86nm,0.9s
NIZB eSn Sn 19 20 16.8 +0.1
NIZB eSg Sb 19 20 31.1 +4.3
NIZB Smax 19 20 35.9
comp=E,1µm,1.0s
NIZB e 19 20 45.6
NIZB Nizh Angarsk 3.73 25 ePN Pn 19 19 34.1 +0.8
NIZB e 19 19 44.3
NIZB e 19 20 30.6
NIZB pmax pmax
comp=Z,86nm,1.0s
NIZB smax smax
comp=N,1µm,1.1s
CIT Chita 4.22 93 ePn Pn 19 19 40.3 +0.3
CIT e 19 19 42.7
CIT ePg Pb 19 19 52.4 +2.1
CIT Pmax 19 19 54.6
comp=N,138nm,0.4s
CIT eSg Sg 19 20 48.4 -3.7
CIT Smax 19 20 53.7
comp=N,1µm,0.6s
CIT Chita 4.22 93 ePN Pn 19 19 39.8 -0.2
CIT e 19 19 51.8
CIT e 19 20 50.0
CIT pmax pmax
comp=Z,161nm,0.7s
CIT smax smax
comp=E,1µm,1.1s
ORL Orlik 4.23 274 ePn Pn 19 19 42.2 +2.0
ORL ePg Pb 19 19 52.0 +1.6
ORL Pmax 19 19 53.9
comp=E,73nm,0.6s
ORL e 19 20 31.8
ORL eSg Sg 19 20 46.6 -5.7
ORL Smax 19 20 59.4
comp=E,451nm,1.2s
ORL Orlik 4.23 274 ePN Pn 19 19 42.0 +1.8
ORL e 19 19 52.4
ORL e 19 20 45.7
ORL pmax pmax
comp=Z,73nm,0.6s
ORL smax smax
comp=N,448nm,0.8s
KMO Kumora 4.34 36 ePn Pn 19 19 42.4 +0.7
KMO ePg Pb 19 19 54.2 +1.8
KMO Pmax 19 20 03.6
comp=N,55nm,0.4s
KMO e 19 20 24.0
KMO eSg Sg 19 20 50.5 -5.5
KMO Smax 19 21 12.9
comp=N,443nm,1.0s
KMO Kumora 4.34 36 ePN Pn 19 19 42.5 +0.7
KMO e 19 19 52.9
KMO eS Sn 19 20 29.9 -1.9
KMO e 19 20 49.3
KMO pmax pmax
comp=Z,18nm,0.3s
KMO smax smax
comp=N,442nm,1.0s
KPC Khapcheranga 4.50 125 ePn Pn 19 19 44.3 +0.5
KPC ePg Pb 19 19 57.6 +2.6
KPC Pmax 19 19 58.4
comp=N,76nm,0.2s
KPC eSn Sn 19 20 34.4 -1.2
KPC eSg Sg 19 20 56.7 -4.2
KPC Smax 19 21 02.6
comp=N,568nm,0.8s
KPC Khapcheranga 4.50 125 ePN Pn 19 19 43.9 +0.1
KPC e 19 19 57.6
KPC e 19 20 55.1
KPC pmax pmax
comp=Z,77nm,0.4s
KPC smax smax
comp=E,563nm,0.8s
ULN Ulaanbaatar 4.58 177 ePn Pn 19 19 46.4 +1.3
ULN ePg Pb 19 19 58.8 +2.3
ULN Pmax 19 20 09.0
comp=E,78nm,0.8s
ULN eSn Sn 19 20 36.6 -1.3
ULN eSg Sg 19 20 58.0 -5.7
ULN Smax 19 21 04.1
comp=E,910nm,0.8s
ULN Ulaanbaatar 4.58 177 dePN Pn 19 19 46.6 +1.5
SONM Songino Array 4.61 183 Pn **Pn 19 19 46.7 +1.2**
comp=E,1.5nm,0.3s,baz=359,slow=13,SNR=49
SONM Pg Pb 19 19 59.5 +2.4
comp=E,18nm,0.3s,baz=3.0,slow=18,SNR=31
SONM Lg Lg 19 20 59.3
comp=E,18nm,0.3s,baz=3.8,slow=30,SNR=5.5
comp=E,5.7nm,0.6s
YOAB Uoyan, Buryati 4.73 36 eSg Sg 19 21 03.3 -5.0
YOAB Smax 19 21 54.7
comp=E,682nm,1.5s
UKT Uakit 5.10 50⇓iPn Pn 19 19 53.0 +0.9
UKT e 19 20 01.1
UKT ePg Pb 19 20 08.0 +2.8
UKT Pmax 19 20 45.7
comp=E,31nm,0.8s
UKT eSn Sn 19 20 48.9 -1.5
UKT eSg Sg 19 21 14.5 -5.6
UKT Smax 19 21 26.9
comp=E,185nm,1.1s
BOD Bodaibo 6.82 35 ePn Pn 19 20 16.5 +0.9
BOD max 19 21 08.4
comp=E,15nm,0.9s
BOD e 19 21 27.9
BOD eSg Sg 19 22 06.9 -8.3
BOD Smax 19 22 26.1
comp=E,190nm,1.5s
KZLR Kyzyl 7.60 269 ePn Pn 19 20 26.6 +0.2
KZLR eSg Sb 19 22 29.9 +12
VTMR Vitim 7.74 23 eSg Sb 19 22 34.6 +13
MINR Mina 7.84 293 ePn Pn 19 20 31.3 +1.7
MINR ePg Pb 19 20 58.9 +7.1
MINR eSn Sn 19 21 54.9 -2.8
MINR eSg Sb 19 22 40.3 +16
CRS Chara 8.05 52 ePn Pn 19 20 33.0 +0.5
CRS e 19 21 03.7
CRS max 19 21 24.6
comp=E,16nm,1.1s
CRS e 19 22 24.2
CRS eSg Sb 19 22 44.8 +14
CRS Smax 19 22 55.7
comp=E,207nm,2.1s
TUP Tupik 8.15 71 ePn Pn 19 20 34.1 +0.1
TUP ePg Pb 19 21 03.1 +5.9
TUP Pmax 19 21 10.2
comp=E,10.0nm,0.9s
TUP e 19 22 23.5
TUP eSg Sb 19 22 50.3 +17
TUP Smax 19 23 22.6
comp=E,148nm,1.2s
HIA Hailar 8.83 106 ePn Pn 19 20 44.6 +1.4
HIA max 19 21 41.2
comp=E,23nm,1.4s
HIA eSn Sn 19 22 17.8 -4.4
HIA eSg 19 23 10.0
HIA Smax 19 23 23.5
comp=E,179nm,2.2s
HIA Hailar 8.83 106⇑ePN Pn 19 20 45.1 +1.9
HIA pmax pmax
comp=Z,3.0nm,0.8s
KRAR Krasnoyarsk 8.87 299⇑ePN Pn 19 20 44.4 +0.7
YKLR Yuktali 9.63 58 eSg Sn 19 23 35.0 +53
CLNS Chul'man 11.40 60 ePg Pn 19 22 01.4 +43
CLNS eSn Sn 19 23 21.1 -4.2
CLNS eSg 19 24 29.3
ZALV Zalesovo Beam 13.21 285 Pn Pn 19 21 45.7 +2.6
baz=92,slow=7.2,SNR=6.9
ZALV Lg Lg 19 25 21.2
baz=86,slow=22
comp=Z,0.4nm,0.5s
YAK Yakutsk 15.62 43 Lg Lg 19 26 43.5
comp=Z,1.7nm,0.3s,baz=330,slow=20,SNR=5.9
MKAR Makanchi Array 16.77 260 Pn Pn 19 22 30.1 -0.3
baz=61,slow=12,SNR=3.2
MKAR Lg Lg 19 27 16.1
baz=55,slow=35
comp=Z,0.2nm,0.6s
KURK Kurchatov 17.51 276⇓eP P 19 22 39.7 -0.9
KURK pmax pmax
comp=Z,5.0nm,1.8s
KURBB Kurchatov Arra 17.59 275 P P 19 22 40.6 -0.9
baz=75,slow=12,SNR=4.1
KURBB Lg Lg 19 27 40.3
baz=78,slow=29,SNR=2.8
comp=Z,0.3nm,0.5s
PSTR Posyet 18.89 112⇑eP Pn 19 22 58.0 +1.5
BVAR Borovoye Array 21.87 286 P P 19 23 29.6 +1.6
comp=Z,1.4nm,0.7s,baz=71,slow=9.3,SNR=4.2
comp=Z,1.4nm,0.7s
BRVK Borovoye 21.92 286⇑eP P 19 23 30.4 +1.7
BRVK pmax pmax
comp=Z,3.0nm,1.1s
MA2 Magadan 25.23 56⇓eP P 19 24 01.1 0.0
MA2 pmax pmax
comp=Z,3.0nm,0.9s
BRDH Bariadhala 31.89 207 LR LR 19 40 36.0
comp=Z,122nm,18.2s,baz=210,slow=42
FINES FINESS Array B 42.16 315 P P 19 26 27.6 +0.1
comp=Z,1.8nm,0.9s,baz=62,slow=9.6,SNR=2.0
comp=Z,1.8nm,0.9s
HFS Hagfors 48.06 318 P P 19 27 16.5 +2.1
comp=Z,3.7nm,1.1s,baz=50,slow=7.7,SNR=1.4
comp=Z,3.7nm,1.1s
ILAR Eielson Array 50.18 32 P P 19 27 31.9 +1.3
comp=Z,0.8nm,0.9s,baz=316,slow=6.1,SNR=8.5
comp=Z,0.8nm,0.9s
WRA Warramunga Arr 75.98 153 P P 19 30 22.5 +0.2
comp=Z,0.8nm,0.5s,baz=345,slow=5.7,SNR=6.2
comp=Z,0.8nm,0.5s
WRA Warramunga Arr 75.98 153 *i* P P 19 30 22.6 +0.3
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 79.41 155 P P 19 30 41.3 -0.1
comp=Z,1.0nm,0.7s,baz=348,slow=5.9,SNR=7.8
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 88.62 290 P P 19 31 26.9 -1.7
comp=Z,1.2nm,0.5s,baz=44,slow=3.2,SNR=1.9

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*IDC **31** 19:20:35.6±0.7, 20.72°N×122.11°E, h0km, mb3.8/15, mbtmp3.9/17, ML3.8/2, MS3.1/1, Error ellipse: s-maj=20.9km s-min=15.3km az=72.0*
*NEIC **31** 19:20:39.1±2.4, 20.82°N±0.09×121.8°E±0.1, h10km±1km, mb4.5/27, Error ellipse: s-maj=17.7km s-min=14.8km az=69.0*
*JMA **31** 19:20:39.5±0.9, 21°N±4"×12°2E±", h46km, MV3.9/13, PHILIPPINE ISL REGION*

ISC 31 19:20:37.6±0.6, 20.79N±0.07×122.01E±0.06, h10km, n72, σ1§66/69, mb4.3/30, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**2.20**	**337**			Pn	19 21 08.0	-6.2
YULB	**Yu-li**	**2.67**	**346**			**Pn**	**19 21 18.9**	**-1.8**
TPUB	**Ta-pu**	**2.80**	**333**			**Pn**	**19 21 23.0**	**+0.5**
SSLB	**Suanglung**	**3.14**	**342**			**Pn**	**19 21 28.8**	**+1.7**
NACB	**Ninganchiao**	**3.39**	**354**			**Pn**	**19 21 30.1**	**-0.4**
NACB	**Ninganchiao**	**3.39**	**354**	P		**Pn**	**19 21 30.1**	**-0.4**
HATJ	**Hateruma jima**	**3.65**	**27**	*e*S		**Sn**	**19 22 14.9**	**-2.3**
JYNG	**Yonagunijimaku**	**3.74**	**13**	*e*P		**Pn**	**19 21 36.4**	**+1.0**
YOJ	**Yonaguni jima**	**3.77**	**14**	Pn		**Pn**	**19 21 37.4**	**+1.6**
YOJ	**Yonaguni jima**	**3.77**	**14**	*e*P		**Pn**	**19 21 36.7**	**+1.0**
YOJ				*e*S		**Sn**	**19 22 20.8**	**+0.6**
IRIF	**Iriomote-Funau**	**3.87**	**24**	*e*P		**Pn**	**19 21 37.1**	**0.0**
IRIF				*e*S		**Sn**	**19 22 21.0**	**-1.7**
JKRS	**Kuro-shima**	**3.90**	**28**	*e*S		**Sn**	**19 22 22.6**	**-0.7**
YHNB	**Yeheng**	**3.90**	**352**			**Pn**	**19 21 39.1**	**+1.4**
YHNB	**Yeheng**	**3.90**	**352**	P		**Pn**	**19 21 38.9**	**+1.2**
YHNB	**Yeheng**	**3.90**	**352**	P		**Pn**	**19 21 39.1**	**+1.4**
JIJ	**Ishigaki jima**	**4.06**	**29**	*e*P		**Pn**	**19 21 39.7**	**-0.2**
JIJ				*e*S		**Sn**	**19 22 22.2**	**-5.3**
JISG	**Ishigakijimahi**	**4.33**	**29**	*e*P		**Pn**	**19 21 43.0**	**-0.6**
JISG				*e*S		**Sn**	**19 22 31.2**	**-2.9**
JTJ	**Tarama**	**4.57**	**32**	*e*S		**Sn**	**19 22 37.3**	**-2.6**
KNMB	**Chin-men Tao**	**4.95**	**318**	Pn		**Pn**	**19 21 51.1**	**-0.9**
KNMB				Sn		**Sn**	**19 22 45.2**	**-4.3**
JIRB	**Irabujima**	**4.96**	**35**	*e*P		**Pn**	**19 21 52.6**	**+0.4**
TGY	**Tagaytay City**	**6.73**	**189**	LR		LR	19 25 06.6	
	comp=Z,178nm,21.4s,baz=230,slow=41							
JOW	**Kunigami**	**8.31**	**42**	Pn		**Pn**	**19 22 38.1**	**0.0**
JOW	**Kunigami**	**8.31**	**42**	Pn		**Pn**	**19 22 37.9**	**-0.2**
	3.5nm,0.3s,baz=214,slow=12,SNR=12							
	7.9nm,0.4s							
JNU	**Nakatsue**	**14.60**	**31**	Pn		**Pn**	**19 24 06.4**	**+2.2**
	0.2nm,0.3s,baz=204,slow=20,SNR=7.5							
JNU					Sn	Sn	19 26 32.5	-14
	0.1nm,0.3s,baz=240,slow=14,SNR=3.0							
KSRS	**Korea Array**	**17.38**	**16**	P		**Pn**	**19 24 41.4**	**+1.2**
	0.1nm,0.3s,baz=201,slow=9.7,SNR=7.8							
	1.7nm,0.7s							
SBUM	**Sibu**	**20.58**	**209**	P		**P**	**19 25 16.2**	**-0.6**
MJAR	**Matsushiro Arr**	**21.12**	**39**	P		**P**	**19 25 23.8**	**+1.2**
	0.8nm,0.7s,baz=223,slow=5.0,SNR=5.3							
	0.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**21.85**	**268**	P		**P**	**19 25 31.8**	**+1.3**
	1.4nm,0.8s,baz=80,slow=11,SNR=7.0							
CMAR					PcP	**PcP**	**19 29 30.7**	**+0.3**
	0.5nm,0.4s,baz=66,slow=2.2,SNR=4.1							
	1.4nm,0.8s							
MKAR	**Makanchi Array**	**41.33**	**318**	P		**P**	**19 28 25.0**	**+1.4**
	1.2nm,0.7s,baz=112,slow=9.3,SNR=9.4							
MKAR					PcP	**PcP**	**19 30 21.7**	**-0.3**
	0.2nm,0.6s,baz=102,slow=3.9,SNR=1.3							
	1.2nm,0.7s							
H11N1	**WAKE ISLAND Hy**	**42.02**	**83**	T		T	20 13 30.1	
	baz=274,slow=75,SNR=80							
H11N2	**WAKE ISLAND Hy**	**42.02**	**83**	T		T	20 13 29.1	
	baz=274,slow=75,SNR=115							
H11N3	**WAKE ISLAND Hy**	**42.04**	**83**	T		T	20 13 29.3	
	baz=274,slow=75,SNR=91							
H11S3	**WAKE ISLAND Hy**	**42.04**	**85**	T		T	20 13 23.0	
	baz=281,slow=75,SNR=454							
H11S1	**WAKE ISLAND Hy**	**42.05**	**85**	T		T	20 13 23.2	
	baz=281,slow=75,SNR=456							
H11S2	**WAKE ISLAND Hy**	**42.06**	**85**	T		T	20 13 24.0	
	baz=281,slow=75,SNR=341							
WRA	**Warramunga Arr**	**42.24**	**163**	P		**P**	**19 28 29.2**	**-2.0**
	0.6nm,0.4s,baz=343,slow=8.2,SNR=8.8							
	0.6nm,0.4s							
PETK	**Petropavlovsk-**	**42.29**	**32**	P		**P**	**19 28 30.9**	**-0.4**
	1.6nm,0.8s,baz=230,slow=6.8,SNR=2.2							
	1.6nm,0.8s							
ZALV	**Zalesovo Beam**	**43.51**	**329**	P		**P**	**19 28 41.7**	**+0.6**
	1.4nm,0.5s,baz=123,slow=7.4,SNR=5.4							
	1.4nm,0.5s							
KURBB	**Kurchatov Arra**	**45.21**	**322**	P		**P**	**19 28 55.0**	**+0.2**
	2.1nm,0.7s,baz=120,slow=7.6,SNR=12							
	2.1nm,0.7s							
AS31	**Alice Springs**	**45.68**	**165**	P		**P**	**19 28 58.5**	**-0.4**
ASAR	**Alice Springs**	**45.69**	**165**	P		**P**	**19 28 59.2**	**+0.3**
ASAR	**Alice Springs**	**45.69**	**165**	P		**P**	**19 28 58.0**	**-0.8**
	0.5nm,0.4s,baz=345,slow=8.2,SNR=20							
	0.5nm,0.4s							
KKAR	**Karatay Array**	**48.17**	**310**	P		**P**	**19 29 16.7**	**-1.5**
BVAR	**Borovoye Array**	**50.79**	**322**	P		**P**	**19 29 37.2**	**-0.8**
	1.1nm,0.5s,baz=110,slow=8.8,SNR=4.4							
	1.1nm,0.5s							
STKA	**Stephens Creek**	**55.63**	**160**	P		**P**	**19 30 12.8**	**-1.0**
	1.6nm,0.6s,baz=338,slow=9.2,SNR=4.5							
	1.6nm,0.6s							
ARTI	**Arti**	**58.37**	**324**	P		**P**	**19 30 31.8**	**-1.1**
J17K	**VABM Dome**	**66.66**	**29**	P		**P**	**19 31 28.8**	**+0.5**
N17K	**Nushagak Hills**	**67.62**	**32**	P		**P**	**19 31 37.4**	**+2.9**
H19K	**Roundabout Mou**	**67.78**	**26**	P		**P**	**19 31 36.1**	**+0.8**
H19K					IAmb	IAmb	19 31 38.9	
	comp=Z,6.2nm,1.1s							
L18K	**Granite Mounta**	**67.79**	**30**	P		**P**	**19 31 37.7**	**+2.3**
L18K					IAmb	IAmb	19 32 03.6	
	comp=Z,7.5nm,1.4s							
KBZ	**Khabaz**	**68.21**	**310**	P		**P**	**19 31 38.2**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=141,slow=6.5,SNR=1.9							
	comp=Z,1.6nm,0.8s							
Q18K	**Koktuh Hills**	**68.66**	**33**	P		**P**	**19 31 44.0**	**+3.0**
J20K	**Nowinta River**	**68.83**	**28**	P		**P**	**19 31 43.8**	**+1.9**

J20K					IAmb	IAmb	19 31 56.0		
	comp=Z,4.9nm,1.4s								
K20K	**Telida**	**68.92**	**29**	P	**P**		**19 31 45.1**	**+2.6**	
K20K				IAmb	IAmb		19 32 17.6		
	comp=Z,6.4nm,1.4s								
CAST	**Castle Rocks**	**69.81**	**29**		**P**		**19 31 49.8**	**+1.8**	
CAST				IAmb	IAmb		19 31 50.7		
	comp=Z,3.4nm,0.9s								
RAYN	**Ar Rayn**	**70.09**	**288**		**P**		**19 31 50.8**	**+0.3**	
RAYN				IAmb	IAmb		19 31 52.4		
	comp=Z,9.8nm,1.2s								
G23K	**Bananza Creek**	**70.31**	**25**	P	**P**		**19 31 52.9**	**+1.9**	
G23K				IAmb	IAmb		19 31 54.9		
	comp=Z,4.9nm,1.3s								
H23K	**Yukon River**	**70.61**	**26**	P	**P**		**19 31 55.4**	**+2.5**	
H23K				IAmb	IAmb		19 31 56.2		
	comp=Z,3.8nm,1.0s								
E24K	**Your Creek**	**70.72**	**23**	P	**P**		**19 31 55.4**	**+1.8**	
E24K				IAmb	IAmb		19 31 58.0		
	comp=Z,7.7nm,1.4s								
NEA2	**Nenana**	**70.97**	**27**	P	**P**		**19 31 56.1**	**+1.0**	
NEA2				IAmb	IAmb		19 31 58.3		
	comp=Z,3.4nm,1.1s								
F24K	**Squaw Lake**	**71.03**	**24**	P	**P**		**19 31 57.2**	**+1.8**	
RND	**Reindeer**	**71.25**	**28**		**P**		**19 31 57.4**	**+0.5**	
RND				IAmb	IAmb		19 31 58.5		
	comp=Z,4.4nm,0.8s								
D25K	**Kavik River**	**71.31**	**22**	P	**P**		**19 31 58.6**	**+1.5**	
D25K				IAmb	IAmb		19 31 59.3		
	comp=Z,2.6nm,0.9s								
WRH	**Wood River Hil**	**71.41**	**27**	P	**P**		**19 31 59.6**	**+1.9**	
ILAR	**Eielson Array**	**71.87**	**27**	P	**P**		**19 31 59.2**	**-1.4**	
	comp=Z,0.4nm,0.7s,baz=301,slow=6.4,SNR=3.4								
	comp=Z,0.4nm,0.7s								
F26K	**Sheenjek River**	**72.41**	**24**	P	**P**		**19 32 06.1**	**+2.4**	
F26K				IAmb	IAmb		19 32 06.7		
	comp=Z,4.6nm,1.2s								
ARPR	**Arapgir-MALATY**	**72.43**	**306**	P	**P**		**19 32 06.3**	**+1.8**	
I26K	**Coal Creek Min**	**73.31**	**26**	IAmb	IAmb		19 32 10.9		
	comp=Z,3.3nm,1.0s								
BRTR	**Keskin Array B**	**75.81**	**307**	P	**P**		**19 32 24.7**	**+0.4**	
	comp=Z,0.5nm,0.7s,baz=68,slow=1.5,SNR=4.7								
	comp=Z,0.5nm,0.7s								
AKASG	**Malin Array Be**	**75.91**	**319**	P	**P**		**19 32 24.7**	**+0.3**	
	comp=Z,0.2nm,0.3s,baz=68,slow=6.0,SNR=2.0								
	comp=Z,0.2nm,0.3s								
L29M	**L29M**	**76.03**	**27**	IAmb	IAmb		19 32 27.8		
	comp=Z,2.8nm,0.8s								
YKA	**Yellowknife Ar**	**85.78**	**23**	P	**P**		**19 33 16.5**	**-0.4**	
	comp=Z,0.7nm,0.7s,baz=308,slow=5.9,SNR=7.7								
	comp=Z,0.7nm,0.7s								

AFAD ***31*** *19:23:34.0,40°.61N×20°.77E,h27*$^{km}_{\pm}$*29*^{km}*,MW3.5*
TIR ***31*** *19:23:35.4,40°.55N×20°.86E,h16*^{km}*,Md2.7/12,Ml3.9/5*
IDC ***31*** *19:23:35.4±1.6,40°.78N×21°.03E,h0*^{km}*,mb3.4/5,*
mbtmp3.4/8,ML3.1/3,Error ellipse: s-maj=27.6km
s-min=19.0km az=67.0
SKO ***31*** *19:23:36.9,40°.51N×20°.83E,h9*^{km}*,ML3.5*
PDG ***31*** *19:23:36.5±0.6,40°.54N×20°.88E,h13*$^{km}_{\pm}$*1*^{km}*,ML3.6/12,*
Error ellipse: s-maj=0.5km s-min=0.9km az=0.0
BEO ***31*** *19:23:36.9±0.4,40°.52N×20°.89E,h8*$^{km}_{\pm}$*3*^{km}*,ML3.2/6*
THE ***31*** *19:23:37.2,41°.N±1°×2°.1E±°,h6*$^{km}_{\pm}$*1*^{km}*,M3.1/31,*
ML h3.1/31
ATH ***31*** *19:23:37.2,40°.56N×20°.90E,h9*$^{km}_{\pm}$*1*^{km}*,ML3.4/31,*
Manual Solution by G.Panopoulou First location:
2019/07/31 19:24:59, This location: 2021/06/05 20:48:36
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 1
km; Longitude uncertainty: 1 km

ISC 31 19:23:35.9±0.8, 40°.54N±0°.02×20°.81E±0°.02, h10$^{km}_{\pm}$**5**^{km}**, n210, σ1°18/281, mb3.2/4, 22C-11D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.09**	**348**	Pg		**Pg**	**19 23 38.3**	**-0.2**
KBN				Sg		**Sg**	**19 23 40.5**	**+0.3**
KBN				AML		AML	19 23 41.2	
	110nm,0.3s							
KBN				AMd			19 24 07.9	
NEST	**Nestorio**	**0.22**	**124**	Pg		**Pg**	**19 23 40.4**	**-0.1**
NEST				Sg		**Sg**	**19 23 44.0**	**+0.4**
NEST				AML		AML	19 23 47.8	
	32nm,0.2s							
NEST				AMd			19 24 19.0	
NEST	**Nestorio**	**0.22**	**124**	P		**Pg**	**19 23 40.5**	**0.0**
NEST				S		**Sg**	**19 23 43.4**	**-0.3**
NEST	**Nestorio**	**0.22**	**124**	P		**Pg**	**19 23 40.5**	**0.0**
NEST				S		**Sg**	**19 23 44.3**	**+0.7**
LMS2	**Laimos Florina**	**0.39**	**40**	P		**Pg**	**19 23 43.6**	**0.0**
LMS2				S		**Sg**	**19 23 48.6**	**-0.2**
PENT	**Pentalofos**	**0.42**	**144**	P		**Pg**	**19 23 43.8**	**-0.5**
PENT				S		**Sg**	**19 23 50.6**	**+0.7**
FNA	**Florina**	**0.49**	**60**	Pg		**Pg**	**19 23 45.2**	**-0.4**
FNA				Sg		**Sg**	**19 23 52.3**	**+0.1**
FNA				AMd			19 24 25.1	
FNA	**Florina**	**0.49**	**60**	P		**Pg**	**19 23 45.8**	**+0.2**
FNA				S		**Sb**	**19 23 53.1**	**-1.0**
FNA	**Florina**	**0.49**	**60**	P		**Pg**	**19 23 45.6**	**0.0**
FNA				S		**Sb**	**19 23 53.1**	**-1.0**
FNA				*i* IAML			19 23 54.0	
	comp=N,2μm,0.6s							
FNA				*i* IAML			19 23 55.0	
	comp=E,2μm,0.6s							
FNA	**Florina**	**0.49**	**60**	*i* Pg		**Pg**	**19 23 45.8**	**+0.2**
FNA				*i* Sg		**Sb**	**19 23 54.0**	**-0.1**
FNA	**Florina**	**0.49**	**60**	*e*Pg		**Pg**	**19 23 45.7**	**+0.2**
FNA				*e*Sg		**Sb**	**19 23 53.7**	**-0.4**
FNA	**Florina**	**0.49**	**60**	P		**Pg**	**19 23 45.8**	**+0.2**
FNA				S		**Sg**	**19 23 52.0**	**-0.2**
OHR	**Ohrid**	**0.57**	**359**	*i* Pg		**Pb**	**19 23 47.9**	**-0.2**
OHR				*i* Sg		**Sb**	**19 23 56.9**	**+0.5**
OHR				*e*Lg		Lg	19 23 57.8	
	comp=E,4μm,0.6s							
OHR				*e*Lg		Lg	19 23 58.0	
	comp=N,1μm,0.4s							
KZN	**Kozani**	**0.77**	**107**	P		**Pg**	**19 23 50.5**	**-0.3**
KZN				S		**Sb**	**19 24 02.0**	**0.0**
KZN	**Kozani**	**0.77**	**107**	P		**Pg**	**19 23 50.1**	**-0.7**
KZN				S		**Sb**	**19 24 01.3**	**-0.7**
SRN	**Sarande**	**0.91**	**224**	P		**Pg**	**19 23 52.7**	**-0.7**
SRN				Sg		**Sg**	**19 24 04.7**	**-0.5**
SRN				AMd			19 24 55.3	
VLO	**Vlora**	**1.00**	**266**	Pn		**Pg**	**19 23 55.0**	**-0.2**
VLO				Sn		**Sb**	**19 24 09.7**	**+1.0**
VLO				AML		AML	19 24 17.8	
	comp=N,12nm,0.7s							
VLO				AMd			19 25 00.1	
IGT	**Igoumenitsa**	**1.07**	**200**	Pg		**Pg**	**19 23 56.3**	**-0.2**
IGT				Sg		**Sn**	**19 24 11.9**	**-0.1**
IGT				AMd			19 25 07.8	
IGT	**Igoumenitsa**	**1.07**	**200**	*i* Pg		**Pg**	**19 23 55.7**	**-0.8**
IGT				*i* Sg		**Sb**	**19 24 10.8**	**+0.2**
IGT	**Igoumenitsa**	**1.07**	**200**	*e*Pg		**Pg**	**19 23 55.7**	**-0.8**
IGT				*e*Sg		**Sn**	**19 24 13.2**	**+1.2**
KEK	**Kerkira**	**1.13**	**224**	Pg		**Pn**	**19 23 58.1**	**+0.2**
KEK				Sg		**Sn**	**19 24 14.8**	**+1.3**
KEK				AML		AML	19 24 26.1	
	comp=N,7μm,0.4s							
KEK				AMd			19 25 13.5	
KEK	**Kerkira**	**1.13**	**224**	P		**Pn**	**19 23 59.3**	**+1.5**
KEK				S		**Sn**	**19 24 16.0**	**+2.5**
KEK	**Kerkira**	**1.13**	**224**	P		**Pn**	**19 23 59.1**	**+1.3**
PHP	**Peshkopia**	**1.18**	**346**	Pn		**Pb**	**19 23 57.6**	**-0.8**
PHP				Sn		**Sn**	**19 24 14.6**	**-0.1**
PHP				AML		AML	19 24 26.2	
	comp=N,4.5nm,0.5s							
PHP				AMd			19 24 58.7	
TETR	**Tetrakomo, Epi**	**1.25**	**163**	P		**Pb**	**19 23 59.6**	**0.0**
THL	**Klokotos Trika**	**1.34**	**136**	P		**Pn**	**19 23 59.9**	**-0.8**
THL				S		**Sg**	**19 24 19.4**	**+0.2**
THL	**Klokotos Trika**	**1.34**	**136**	P		**Pn**	**19 24 00.1**	**-0.7**
THL				S		**Sg**	**19 24 18.9**	**-0.3**
LIT	**Litokhoron**	**1.36**	**108**	P		**Pn**	**19 24 00.7**	**-0.3**
LIT				S		**Sg**	**19 24 19.7**	**+0.1**
LIT	**Litokhoron**	**1.36**	**108**	P		**Pg**	**19 24 01.7**	**-0.3**
LIT				S		**Sg**	**19 24 21.4**	**+1.8**
LIT				*i* IAML			19 24 23.0	
	comp=N,1μm,0.7s							
LIT				*i* IAML			19 24 24.0	
	comp=N,1μm,0.7s							
LIT	**Litokhoron**	**1.36**	**108**	*i* Pg		**Pb**	**19 24 01.6**	**+0.1**
LIT				*i* Sg		**Sg**	**19 24 21.7**	**+2.1**
LIT	**Litokhoron**	**1.36**	**108**	P		**Pb**	**19 24 01.4**	**0.0**
LIT				S		**Sb**	**19 24 18.8**	**-0.1**
TYRN	**Tyrnavos**	**1.37**	**127**	P		**Pn**	**19 24 00.7**	**-0.4**
TYRN				S		**Sn**	**19 24 19.3**	**0.0**
TYRN	**Tyrnavos**	**1.37**	**127**	P		**Pn**	**19 24 00.9**	**-0.2**
SKO	**Skopje**	**1.51**	**18**	*i* Pg		**Pb**	**19 24 04.3**	**+0.3**
VAY	**Valandovo**	**1.54**	**59**	*i* Pn		**Pn**	**19 24 03.9**	**+0.3**
VAY				*i* Sn		**Sg**	**19 24 27.6**	**+2.0**
VAY				*e*Lg		Lg	19 24 30.3	
	comp=E,663nm,1.1s							
VAY				*e*Lg		Lg	19 24 31.5	
	comp=N,599nm,0.9s							
THE	**Thessaloniki**	**1.64**	**86**	Pn		**Pn**	**19 24 04.8**	**0.0**
THE				AMd			19 25 16.8	
THE	**Thessaloniki**	**1.64**	**86**	*i* Pn		**Pn**	**19 24 05.5**	**+0.6**
THE	**Thessaloniki**	**1.64**	**86**	P		**Pn**	**19 24 04.7**	**-0.2**
AMPL	**Ampelaki**	**1.65**	**169**	P		**Pb**	**19 24 05.7**	**-0.6**
PUK	**Puka**	**1.65**	**336**	Pn		**Pb**	**19 24 06.6**	**+0.1**
PUK				AMd			19 25 17.1	
KNT	**Kendrikon**	**1.70**	**68**	P		**Pn**	**19 24 06.3**	**+0.6**
KNT	**Kendrikon**	**1.70**	**68**	*i* Pn		**Pn**	**19 24 06.3**	**+0.6**
KNT				*i* Sn		**Sg**	**19 24 32.6**	**+2.0**
KNT	**Kendrikon**	**1.70**	**68**	P		**Pn**	**19 24 06.2**	**+0.5**
TSLK	**Tsoukalades, L**	**1.72**	**184**	P		**Pn**	**19 24 08.3**	**+0.7**
HORT	**Hortiatis**	**1.75**	**87**	P		**Pn**	**19 24 06.5**	**+0.1**
HORT	**Hortiatis**	**1.75**	**87**	P		**Pn**	**19 24 06.4**	**+0.1**
LKD2	**Lefkada island**	**1.75**	**184**	Pn		**Pb**	**19 24 08.7**	**+0.4**
LKD2				AMd			19 25 29.0	
LKD2	**Lefkada island**	**1.75**	**184**	P		**Pb**	**19 24 08.6**	**+0.4**
EVR	**Evrytania**	**1.79**	**154**	P		**Pn**	**19 24 07.7**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.83**	**183**	P		**Pb**	**19 24 09.2**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.83**	**146**	P		**Pn**	**19 24 08.4**	**+0.9**
MAKR	**Makrakomi, Fth**	**1.83**	**146**	P		**Pb**	**19 24 08.7**	**-0.9**
ULC	**Ulcinj**	**1.85**	**321**	*i* Pn		**Pb**	**19 24 09.6**	**-0.3**
ULC				*i* Sn		**Sg**	**19 24 34.8**	**-0.6**
BCI	**Bajram Curri**	**1.91**	**343**	Pn		**Pb**	**19 24 10.8**	**0.0**
BCI				AMd			19 25 32.7	
AGG	**Agios Georgios**	**1.92**	**142**	P		**Pn**	**19 24 09.1**	**+0.4**
AGG				S		**Sb**	**19 24 34.5**	**-0.4**
AGG	**Agios Georgios**	**1.92**	**142**	P		**Pn**	**19 24 09.1**	**+0.4**
AGG	**Agios Georgios**	**1.92**	**142**	P		**Pn**	**19 24 09.0**	**+0.4**
EVGI	**Lefkada island**	**1.92**	**184**	P		**Pb**	**19 24 10.7**	**-0.4**
SOH	**Sokhos**	**1.95**	**81**	S		**Sn**	**19 24 34.4**	**+0.6**
SOH	**Sokhos**	**1.95**	**81**	*i* Pn		**Pn**	**19 24 10.1**	**+0.8**
SOH	**Sokhos**	**1.95**	**81**	P		**Pn**	**19 24 09.8**	**+0.5**
PVO	**Paravola**	**2.00**	**164**	P		**Pb**	**19 24 11.3**	**-1.1**
PLG	**Polygyros**	**2.02**	**94**	P		**Pn**	**19 24 10.4**	**+0.3**
PLG				S		**Sn**	**19 24 35.4**	**0.0**
PLG	**Polygyros**	**2.02**	**94**	P		**Pn**	**19 24 10.3**	**+0.3**
DRME	**Dracevica, Mon**	**2.05**	**324**	⇑*i* Pn		**Pb**	**19 24 12.3**	**-1.0**
DRME				*i* Sn		**Sb**	**19 24 39.5**	**+0.7**
FSK	**Fiskardo**	**2.09**	**185**	P		**Pb**	**19 24 12.7**	**-1.1**
ANX	**Ano Chora**	**2.12**	**156**	P		**Pb**	**19 24 13.4**	**-1.2**
KKB	**Krupnik**	**2.18**	**53**	P		**Pn**	**19 24 13.2**	**+0.9**
SRS	**Serrai**	**2.19**	**74**	P		**Pn**	**19 24 12.7**	**+0.3**
SRS				S		**Sn**	**19 24 40.1**	**+0.5**
SRS	**Serrai**	**2.19**	**74**	*i* Pn		**Pn**	**19 24 12.8**	**+0.3**
SRS				*i* Sn		**Sn**	**19 24 40.2**	**+0.7**
SRS	**Serrai**	**2.19**	**74**	*e*Pn		**Pn**	**19 24 12.4**	**0.0**
SRS				*e*Sn		**Sn**	**19 24 39.6**	**0.0**
SRS	**Serrai**	**2.19**	**74**	P		**Pn**	**19 24 12.0**	**-0.4**
PDG	**Podgorica**	**2.22**	**329**	⇓P		**Pn**	**19 24 13.0**	**+0.2**
PDG	**Podgorica**	**2.22**	**329**	P		**Pn**	**19 24 14.4**	**+1.6**
PDG	**Podgorica**	**2.22**	**329**	⇑*i* Pn		**Pb**	**19 24 14.7**	**-1.5**
PDG				*i* Sn		**Sb**	**19 24 43.9**	**+0.2**
NEO	**Neokhori**	**2.23**	**123**	P		**Pn**	**19 24 13.2**	**+0.3**
NEO				S		**Sn**	**19 24 40.4**	**-0.1**
NEO	**Neokhori**	**2.23**	**123**	P		**Pn**	**19 24 13.3**	**+0.3**
AXAR	**Agios Charalam**	**2.27**	**141**	P		**Pn**	**19 24 14.9**	**+1.3**
EFP	**Efpalio**	**2.27**	**158**	P		**Pn**	**19 24 15.1**	**+1.6**
BUM	**Brajici-Budva**	**2.27**	**321**	⇑*i* Pn		**Pn**	**19 24 15.2**	**+1.6**
BUM				*i* Sn		**Sb**	**19 24 44.3**	**-1.0**
BOSS	**Bosilegrad**	**2.32**	**32**	*e*Pn		**Pn**	**19 24 15.1**	**+0.9**
DMLN	**Damoulianata-K**	**2.32**	**189**	P		**Pb**	**19 24 16.3**	**-1.6**
SERG	**Sergoula**	**2.33**	**155**	P		**Pn**	**19 24 16.0**	**+1.6**
VLS	**Valsamata**	**2.37**	**184**	P		**Pn**	**19 24 16.5**	**+1.7**
VLS	**Valsamata**	**2.37**	**184**	P		**Pn**	**19 24 16.9**	**+1.1**
KALE	**Kalithea**	**2.38**	**154**	P		**Pn**	**19 24 16.9**	**+1.8**
AXS	**Araxos**	**2.38**	**169**	P		**Pb**	**19 24 17.1**	**-1.8**
BARS	**Barje**	**2.40**	**18**	*i* Pn		**Pn**	**19 24 16.0**	**+0.7**
BARS	**Barje**	**2.40**	**18**	*e*Pn		**Pn**	**19 24 15.9**	**+0.7**
IVA	**Berane**	**2.43**	**344**	⇓*i* Pn		**Pn**	**19 24 17.3**	**+1.5**
IVA				*i* Sn		**Sn**	**19 24 47.8**	**+2.2**
OUR	**Ouranopolis**	**2.43**	**94**	P		**Pn**	**19 24 16.4**	**+0.8**
OUR	**Ouranopolis**	**2.43**	**94**	P		**Pn**	**19 24 15.7**	**0.0**
PSDA	**Pessada-Kefalo**	**2.43**	**184**	P		**Pn**	**19 24 16.9**	**+1.2**
PSDA	**Pessada-Kefalo**	**2.43**	**184**	P		**Pn**	**19 24 16.9**	**+1.2**
MMB	**Musomishta**	**2.44**	**65**	P		**Pn**	**19 24 16.9**	**+1.0**
MMB				S		**Sn**	**19 24 46.9**	**+1.1**
CEME	**Cevo**	**2.46**	**325**	⇑*i* Pn		**Pn**	**19 24 17.6**	**+1.4**
CEME				*i* Sn		**Sn**	**19 24 48.6**	**+2.3**
YRMI	**Loutra Irminis**	**2.47**	**170**	P		**Pb**	**19 24 18.8**	**-1.6**
KOME	**Kolasin**	**2.50**	**338**	⇑*i* Pn		**Pn**	**19 24 18.5**	**+1.7**
KOME				*i* Sn		**Sb**	**19 24 50.0**	**-2.0**
RLS	**Riolos of Patr**	**2.53**	**168**	P		**Pn**	**19 24 18.4**	**+1.3**
RLS				Pg_3			19 24 19.7	
LKR	**Lokris**	**2.53**	**137**	P		**Pn**	**19 24 17.7**	**+0.6**
LKR	**Lokris**	**2.53**	**137**	P		**Pn**	**19 24 17.7**	**+0.6**
HCY	**Herceg Novi**	**2.58**	**318**	⇑*i* Pn		**Pn**	**19 24 18.4**	**+0.6**
HCY				*i* Sn		**Sb**	**19 24 51.9**	**-2.2**
NKME	**Niksic**	**2.62**	**329**	⇑*i* Pn		**Pn**	**19 24 20.2**	**+1.8**
NKME				*i* Sn		**Sn**	**19 24 52.9**	**+2.5**
DRO	**Drossia**	**2.68**	**165**	P		**Pn**	**19 24 19.4**	**+0.3**
DRO	**Drossia**	**2.68**	**165**	P		**Pn**	**19 24 19.3**	**+0.2**
ORTH	**Orthonies,Zaky**	**2.69**	**182**	P		**Pn**	**19 24 20.9**	**+1.6**
SELS	**Selova**	**2.69**	**5**	*e*Pn		**Pn**	**19 24 20.5**	**+1.2**
SELS				*e*Sn		**Sg**	**19 25 01.4**	**-0.9**
KLV	**Kalavryta, Ach**	**2.70**	**157**	P		**Pn**	**19 24 21.5**	**+2.0**
AOS	**Alonnisos**	**2.73**	**119**	P		**Pn**	**19 24 19.7**	**-0.1**
VTS	**Vitosha**	**2.76**	**40**	P		**Pn**	**19 24 21.2**	**+0.8**
VTS	**Vitosha**	**2.76**	**40**	*e*Pn		**Pn**	**19 24 21.1**	**+0.7**
SJES	**Sjenica**	**2.79**	**347**	*e*Pn		**Pb**	**19 24 24.2**	**-1.8**
SJES				*e*Sn		**Sn**	**19 24 56.7**	**+2.1**
KAVA	**Kavala**	**2.85**	**80**	P		**Pn**	**19 24 21.6**	**+0.2**
TREB	**Trebinje**	**2.85**	**321**	*e*Pn		**Pn**	**19 24 21.9**	**+0.4**
GUR	**Goura**	**2.86**	**155**	P		**Pn**	**19 24 23.4**	**+1.7**
BRY	**Bratogost**	**2.91**	**325**	⇓*i* Pn		**Pn**	**19 24 24.0**	**+1.6**
BRY				*i* Sn		**Sn**	**19 24 59.5**	**+2.0**
DBRK	**Dubrovnik**	**2.92**	**318**	*i* Pn		**Pn**	**19 24 23.3**	**+0.8**
DBRK				Sn		**Sn**	**19 24 57.8**	**+0.3**
THAS	**Thassos island**	**2.98**	**87**	P		**Pn**	**19 24 23.1**	**-0.2**
THAS	**Thassos island**	**2.98**	**87**	P		**Pn**	**19 24 23.0**	**-0.2**
PLE	**Pljevlja**	**2.98**	**340**	⇓*i* Pn		**Pn**	**19 24 25.3**	**+1.9**
PLE				*i* Sn		**Sn**	**19 25 01.7**	**+2.4**
UPM	**Unac-Piva**	**3.02**	**332**	⇑*i* Pn		**Pn**	**19 24 25.2**	**+1.2**
UPM				*i* Sn		**Sn**	**19 25 02.6**	**+2.3**
GOCS	**Kraljevo Serbi**	**3.02**	**1**	*e*Pn		**Pn**	**19 24 25.2**	**+1.3**
ZAPS	**Zavoj**	**3.05**	**26**	*e*Pn		**Pn**	**19 24 25.1**	**+0.8**
IVAS	**Ivanjica**	**3.07**	**351**	*e*Pn		**Pn**	**19 24 25.5**	**-0.1**
KLINJ	**Klinje**	**3.11**	**328**	*e*Pn		**Pn**	**19 24 26.9**	**+1.8**
MATE	**Matera**	**3.13**	**273**	⇓P		**Pn**	**19 24 25.2**	**-0.1**
BOVS	**Bovan**	**3.16**	**12**	⇑P		**Pn**	**19 24 25.6**	**-0.2**
BOVS	**Bovan**	**3.16**	**12**	*e*Pn		**Pn**	**19 24 26.2**	**+0.4**
STFN	**Stefani**	**3.17**	**137**	P		**Pn**	**19 24 26.7**	**+0.8**
RUDO	**Rudo**	**3.26**	**341**	*e*Pn		**Pn**	**19 24 28.3**	**+1.2**
FILI	**Fyli**	**3.29**	**137**	P		**Pn**	**19 24 28.4**	**+0.9**
STON	**Ston**	**3.29**	**316**	*e*Pn		**Pn**	**19 24 28.4**	**+0.8**
SKY	**Skiros Island**	**3.33**	**119**	P		**Pn**	**19 24 28.4**	**+0.4**
TIP	**Timpagrande**	**3.40**	**248**	⇓P		**Pn**	**19 24 29.5**	**+0.3**
LIA	**Limnos Island**	**3.41**	**99**	P		**Pn**	**19 24 29.7**	**+0.6**
ZAGS	**Zajecar**	**3.44**	**17**	*e*Pn		**Pn**	**19 24 29.9**	**+0.4**
DION	**Dionisos Attik**	**3.45**	**134**	P		**Pn**	**19 24 30.5**	**+0.8**
ATHU	**Athens Univers**	**3.45**	**137**	P		**Pn**	**19 24 30.5**	**+0.7**
BBLS	**Lazi&#263i**	**3.48**	**343**	*e*Pn		**Pn**	**19 24 32.5**	**+2.2**
BBLS				*e*Sn		**Sn**	**19 25 12.2**	**+0.6**
LSTV	**Lastovo**	**3.69**	**308**	*e*Pn		**Pn**	**19 24 33.3**	**+0.3**
LSTV				Sn		**Sn**	**19 25 15.1**	**-1.3**
TRUS	**Trudelj**	**3.69**	**355**	*e*Pn		**Pn**	**19 24 33.6**	**+0.5**
KUBS	**Kucevo**	**3.92**	**9**	*e*Pn		**Pn**	**19 24 34.9**	**-1.3**
MAKA	**Makarska**	**3.94**	**315**	*e*Pn		**Pn**	**19 24 37.1**	**+0.6**
MAKA				Sn		**Sn**	**19 25 22.7**	**-0.1**
ALN	**Alexandroupoli**	**3.99**	**83**	P		**Pn**	**19 24 37.3**	**+0.1**
ALN				S		**Sn**	**19 25 21.5**	**-2.6**
ALN				*i* IAML			19 25 24.0	
	comp=N,12nm,0.8s							
ALN				*i* IAML			19 25 26.0	
	comp=N,12nm,1.1s							
PLVB	**Pleven**	**4.02**	**44**	⇓P		**Pn**	**19 24 38.4**	**+0.8**
RICI	**Ricice**	**4.03**	**318**	*i* Pn		**Pn**	**19 24 38.1**	**+0.4**
RICI				Sn		**Sn**	**19 25 25.1**	**+0.2**
TEKS	**Tekeris**	**4.12**	**347**	*e*Pn		**Pn**	**19 24 39.6**	**+0.7**
EZN	**Ezine**	**4.28**	**98**	⇑P		**Pn**	**19 24 42.0**	**+0.8**
MDVR	**Moldovita**	**4.29**	**9**	⇓P		**Pn**	**19 24 41.7**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**4.47**	**98**	P		Pn	19 24 38.0	-5.7
BAYC				S		**Sn**	**19 25 28.6**	**-7.1**
KESN	**Edirne-Kesan**	**4.47**	**84**	P		**Pn**	**19 24 42.9**	**-1.2**
KESN				S		**Sn**	**19 25 32.5**	**-3.9**
KESN				*i* IAML			19 25 36.0	
	comp=N,35nm,0.4s							
KESN				*i* IAML			19 25 36.0	
	comp=N,52nm,0.4s							
ELND	**Elena**	**4.48**	**56**	⇑P		**Pn**	**19 24 44.5**	**+0.6**
HERR	**Herculane**	**4.50**	**15**	⇑P		**Pn**	**19 24 43.9**	**-0.2**
VRSS	**Vrsac**	**4.60**	**5**	*e*Pn		**Pn**	**19 24 45.1**	**-0.4**
VINV	**Vinovac**	**4.67**	**312**	*e*Pn		**Pn**	**19 24 46.8**	**+0.3**
VINV				Sn		**Sn**	**19 25 39.6**	**-1.1**
KIJV	**Kijevo**	**4.76**	**318**	*e*Pn		**Pn**	**19 24 48.1**	**+0.4**
KIJV	**Kijevo**	**4.76**	**318**	*e*Pn		**Pn**	**19 24 48.1**	**+0.4**
KIJV				Sn		**Sn**	**19 25 42.4**	**-0.6**
ZIRJ	**Zirje**	**4.95**	**311**	*e*Pn		**Pn**	**19 24 49.9**	**-0.4**
ZIRJ				Sn		**Sn**	**19 25 46.5**	**-1.0**
BLY	**Banja Luka**	**4.98**	**329**	*e*Pn		**Pn**	**19 24 52.3**	**+1.5**
BLY	**Banja Luka**	**4.98**	**329**	⇑P		**Pn**	**19 24 51.5**	**+0.7**
A050A	**Klekovaca**	**5.05**	**323**	*e*Pn		**Pn**	**19 24 53.2**	**+1.4**
GZR	**Gura Zlata**	**5.06**	**16**	⇓P		**Pn**	**19 24 51.8**	**-0.1**
BZS	**Buzias**	**5.11**	**6**	⇑P		**Pn**	**19 24 53.6**	**+1.1**
ARMN	**Kirklareli, Me**	**5.17**	**73**	P		**Pn**	**19 24 52.7**	**-0.6**
SURR	**Surduc**	**5.30**	**10**	⇑P		**Pn**	**19 24 55.9**	**+0.7**
A051A	**Mrakovica**	**5.31**	**329**	*e*Pn		**Pn**	**19 24 56.7**	**+1.3**
LOT	**Lotru**	**5.36**	**23**	⇑P		**Pn**	**19 24 57.1**	**+0.9**
UDBI	**Udbina**	**5.46**	**319**	*e*Pn		**Pn**	**19 24 58.2**	**+0.8**
DUGI	**Dugi Otok**	**5.49**	**311**	*i* Pn		**Pn**	**19 24 57.8**	**+0.1**
DUGI				Sn		**Sn**	**19 25 59.0**	**

0.2nm,0.3s,baz=115,slow=6.8,SNR=2.0
0.2nm,0.3s
KURBB Kurchatov Arra 68.97 326 P **P** **19 40 41.1 +0.6**
0.7nm,0.7s,baz=123,slow=6.0,SNR=9.5
0.7nm,0.7s
BVAR Borovoye Array 74.56 326 P **P** **19 41 13.9 -0.2**
0.6nm,0.5s,baz=111,slow=6.3,SNR=2.2
0.6nm,0.5s

DJA 31 19:35:06.0±0.6, 3°N±5°×12°8E±°, h147km±5km, M4.0/10, mB4.7/1, mb4.1/5, MLv4.0/10, Mw(mB)3.9/1, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.50**	**279**	P	Pn	19 35 46.9	-0.1
SGSI				S	Sn	19 36 19.1	+0.6
TNTI	**Ternate**	**2.57**	**194**	P	Pn	19 35 47.8	-0.1
SANI	**Sanana**	**5.66**	**201**	P	Pn	19 36 27.5	-0.7
	0.1nm854nm26nm,0.9s						
LUWI	**Luwuk**	**6.76**	**231**	P	Pn	19 36 42.7	-0.2
AAI	**Ambon**	**6.92**	**178**	P	Pn	19 36 45.2	+0.1
	0.2nm47nm,1.4s						
FAKI	**Fak Fak**	**7.48**	**145**	P	Pn	19 36 52.5	0.0

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*IDC **31** 19:51:59.2±1.6, 37°47N×20°51E, h0km, mb3.7/5, mbtmp3.7/5, MS3.3/2, Error ellipse: s-maj=48.7km s-min=28.3km az=122.0*
*ATH **31** 19:52:01.6, 37°44N×20°35E, h7km±1km, ML3.2/24, Manual Solution by D.Makaris First location: 2019/07/31 19:53:10, This location: 2020/09/29 14:58:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*THE **31** 19:52:02.6, 37°N±2°×2°0E±°, h0km±1km, M3.0/21, MLh3.0/21*
ISC 31 19:52:01.6±1.4, 37°46N±0°03×20°38E±0°04, h10km±9km, n73, σ0s97/110, mb3.7/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.40**	**59**	P	**Pg**	**19 52 10.0**	**+0.4**
KRI1				S	**Sb**	**19 52 15.7**	**-1.4**
KRI1	**kERI**	**0.40**	**59**	P	**Pg**	**19 52 10.0**	**+0.4**
KRI1				S	**Sb**	**19 52 16.1**	**-1.0**
LTHK	**Lithakia**	**0.44**	**55**	P	**Pg**	**19 52 10.5**	**+0.3**
LTHK				S	**Sb**	**19 52 17.0**	**-1.3**
LTHK	**Lithakia**	**0.44**	**55**	P	**Pb**	**19 52 10.7**	**-0.8**
LTHK				S	**Sb**	**19 52 17.1**	**-1.1**
ORTH	**Orthonies,Zaky**	**0.47**	**32**	P	**Pb**	**19 52 11.3**	**-0.7**
ORTH				S	**Sb**	**19 52 18.2**	**-0.8**
KYPS	**Kipseli, Zakin**	**0.50**	**44**	P	**Pb**	**19 52 12.2**	**-0.4**
KYPS				S	**Sb**	**19 52 18.9**	**-1.2**
PSDA	**Pessada-Kefalo**	**0.68**	**14**	P	**Pg**	**19 52 15.3**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.68**	**14**	P	**Pg**	**19 52 15.1**	**+0.3**
PSDA				S	**Sb**	**19 52 24.7**	**-0.3**
RTZL	**Ratzakli, Kefa**	**0.69**	**26**	S	**Sb**	**19 52 26.0**	**+0.5**
ARG2	**Argostoli**	**0.73**	**7**	S	**Sb**	**19 52 27.2**	**+0.7**
ARG2	**Argostoli**	**0.73**	**7**	P	**Pb**	**19 52 16.8**	**+0.4**
ARG2				S	**Sb**	**19 52 26.1**	**-0.4**
CLEM	**Kyllini,Ilia,G**	**0.74**	**54**	P	**Pb**	**19 52 16.6**	**0.0**
CLEM				S	**Sb**	**19 52 26.1**	**-0.7**
VLS	**Valsamata**	**0.74**	**13**	P	**Pg**	**19 52 16.1**	**+0.2**
VLS				S	**Sb**	**19 52 27.3**	**+0.4**
VLS	**Valsamata**	**0.74**	**13**	P	**Pb**	**19 52 16.4**	**-0.3**
VLS				S	**Sg**	**19 52 26.0**	**+0.4**
LXR1	**Lixouri, Cepha**	**0.74**	**3**	S	**Sb**	**19 52 26.5**	**-0.5**
DMLN	**Damoulianata-K**	**0.78**	**360**	P	**Pb**	**19 52 17.2**	**-0.2**
DMLN	**Damoulianata-K**	**0.78**	**360**	P	**Pb**	**19 52 17.5**	**+0.1**
DMLN				S	**Sb**	**19 52 27.8**	**-0.3**
YRMI	**Loutra Irminis**	**1.00**	**50**	P	**Pg**	**19 52 20.6**	**-0.3**
YRMI				S	**Sb**	**19 52 35.5**	**+1.1**
FSK	**Fiskardo**	**1.01**	**8**	P	**Pg**	**19 52 21.0**	**-0.1**
FSK				S	**Sb**	**19 52 35.4**	**+0.7**
RLS	**Riolos of Patr**	**1.05**	**55**	P	**Pg**	**19 52 21.4**	**-0.4**
RLS	**Riolos of Patr**	**1.05**	**55**	P	**Pb**	**19 52 22.6**	**+0.7**
RLS				S	**Sb**	**19 52 36.0**	**+0.2**
AMT	**Artemida-Makis**	**1.06**	**85**	P	**Pg**	**19 52 21.9**	**-0.1**
AMT				S	**Sb**	**19 52 37.0**	**+1.0**
AXS	**Araxos**	**1.08**	**47**	P	**Pg**	**19 52 22.2**	**-0.2**
AXS				S	**Sb**	**19 52 37.4**	**+0.8**
DRO	**Drossia**	**1.17**	**64**	P	**Pb**	**19 52 23.8**	**-0.1**
DRO	**Drossia**	**1.17**	**64**	P	**Pn**	**19 52 25.1**	**+1.0**
DRO				S	**Sb**	**19 52 39.9**	**+0.7**
PYL1	**Pylos**	**1.18**	**117**	P	**Pb**	**19 52 24.8**	**+0.7**
PYL1				S	**Sb**	**19 52 40.3**	**+0.8**
EVGI	**Lefkada island**	**1.18**	**10**	P	**Pg**	**19 52 24.2**	**-0.2**
EVGI				S	**Sn**	**19 52 42.1**	**+1.6**
EVGI	**Lefkada island**	**1.18**	**10**	P	**Pn**	**19 52 25.1**	**+0.8**
EVGI				S	**Sb**	**19 52 40.5**	**+0.9**
MSL1	**Messolongi**	**1.23**	**42**	P	**Pn**	**19 52 26.2**	**+1.2**
MSL1				S	**Sb**	**19 52 42.0**	**+1.0**
ITM	**Ithomi**	**1.26**	**102**	P	**Pg**	**19 52 25.1**	**-0.8**
ITM	**Ithomi**	**1.26**	**102**	P	**Pg**	**19 52 25.4**	**-0.5**
ITM				S	**Sb**	**19 52 42.9**	**+1.0**
NYDR	**Nydri-Lefkada**	**1.28**	**11**	P	**Pg**	**19 52 26.0**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.28**	**11**	P	**Pn**	**19 52 26.4**	**+0.8**
NYDR				S	**Sb**	**19 52 43.2**	**+0.8**
LKD2	**Lefkada island**	**1.35**	**9**	P	**Pg**	**19 52 26.9**	**-0.6**
LKD2	**Lefkada island**	**1.35**	**9**	P	**Pn**	**19 52 28.2**	**+1.6**
LKD2				S	**Sb**	**19 52 45.3**	**+0.9**
TSLK	**Tsoukalades, L**	**1.38**	**9**	P	**Pb**	**19 52 29.1**	**+1.5**
TSLK	**Tsoukalades, L**	**1.38**	**9**	P	**Pg**	**19 52 26.8**	**-1.4**
TSLK				S	**Sg**	**19 52 45.8**	**-0.4**
PVO	**Paravola**	**1.47**	**38**	P	**Pb**	**19 52 29.7**	**+0.6**
PVO	**Paravola**	**1.47**	**38**	P	**Pn**	**19 52 28.7**	**+0.5**
PVO				S	**Sb**	**19 52 48.4**	**+0.6**
KLV	**Kalavryta, Ach**	**1.52**	**67**	P	**Pg**	**19 52 30.1**	**-0.7**
EFP	**Efpalio**	**1.55**	**51**	P	**Pg**	**19 52 30.8**	**-0.5**
EFP	**Efpalio**	**1.55**	**51**	P	**Pn**	**19 52 30.0**	**+0.7**
EFP				S	**Sn**	**19 52 51.2**	**+1.8**
VLX	**Vlachokerasia**	**1.59**	**92**	P	**Pb**	**19 52 31.5**	**+0.3**
VLX				S	**Sg**	**19 52 52.8**	**-0.1**
AMPL	**Ampelaki**	**1.60**	**24**	P	**Pg**	**19 52 32.1**	**-0.3**
GUR	**Goura**	**1.63**	**72**	P	**Pn**	**19 52 31.4**	**+0.9**
GUR				S	**Sg**	**19 52 53.5**	**-0.5**
SERG	**Sergoula**	**1.63**	**54**	P	**Pb**	**19 52 31.9**	**0.0**
SERG				S	**Sn**	**19 52 52.7**	**+1.1**
ANX	**Ano Chora**	**1.66**	**46**	P	**Pb**	**19 52 32.5**	**+0.1**
ANX	**Ano Chora**	**1.66**	**46**	P	**Pn**	**19 52 31.9**	**+0.9**
KALE	**Kalithea**	**1.68**	**56**	P	**Pn**	**19 52 31.4**	**+0.2**
KALE				S	**Sg**	**19 52 54.9**	**-0.7**
EVR	**Evrytania**	**1.84**	**37**	P	**Pb**	**19 52 35.5**	**0.0**
EVR	**Evrytania**	**1.84**	**37**	P	**Pn**	**19 52 33.9**	**+0.4**
EVR				S	**Sb**	**19 52 59.0**	**+0.3**
TETR	**Tetrakomo, Epi**	**2.01**	**20**	P	**Pb**	**19 52 37.8**	**-0.6**
TETR	**Tetrakomo, Epi**	**2.01**	**20**	P	**Pn**	**19 52 36.5**	**+0.7**
IGT	**Igoumenitsa**	**2.07**	**359**	P	**Pn**	**19 52 37.1**	**+0.5**
IGT				S	**Sn**	**19 53 03.5**	**+1.0**
MAKR	**Makrakomi, Fth**	**2.08**	**41**	P	**Pb**	**19 52 39.3**	**-0.2**
MAKR	**Makrakomi, Fth**	**2.08**	**41**	P	**Pn**	**19 52 37.1**	**+0.5**
MAKR				S	**Sn**	**19 53 04.4**	**+1.8**
VLI	**Veliai**	**2.17**	**109**	P	**Pn**	**19 52 40.0**	**+2.1**
VLI	**Veliai**	**2.17**	**109**	P	**Pn**	**19 52 38.7**	**+0.8**
VLI				S	**Sn**	**19 53 06.1**	**+1.2**
AGG	**Agios Georgios**	**2.19**	**44**	P	**Pn**	**19 52 40.2**	**+2.0**
AXAR	**Agios Charalam**	**2.22**	**53**	P	**Pn**	**19 52 40.3**	**+1.7**
AXAR				S	**Sn**	**19 53 07.6**	**+1.4**
MET5	**Makryloggos,Me**	**2.37**	**85**	P	**Pn**	**19 52 42.2**	**+1.5**
MET4	**Agioi Theodoro**	**2.41**	**85**	P	**Pn**	**19 52 41.2**	**+0.2**
MET4				S	**Sn**	**19 53 12.7**	**+2.1**
THL	**Klokotos Trika**	**2.46**	**31**	P	**Pn**	**19 52 43.9**	**+2.0**
THL	**Klokotos Trika**	**2.46**	**31**	P	**Pn**	**19 52 42.6**	**+0.7**
THL				S	**Sn**	**19 53 14.1**	**+2.0**
TYRN	**Tyrnavos**	**2.68**	**32**	P	**Pn**	**19 52 46.4**	**+1.6**
OHR	**Ohrid**	**3.67**	**5**	*i* Pn	**Pn**	**19 53 00.8**	**+2.3**
HFS	**Hagfors**	**23.10**	**351**	P	**P**	**19 57 06.5**	**-0.9**
	1.1nm,0.6s,baz=170,slow=10,SNR=4.2						
	1.1nm,0.6s						
FINES	**FINESS Array B**	**24.28**	**7**	P	**P**	**19 57 17.3**	**-1.5**
	2.3nm,0.9s,baz=172,slow=10,SNR=3.6						
	2.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**29.40**	**219**	P	**P**	**19 58 05.0**	**-0.4**
	1.1nm,0.3s,baz=24,slow=11,SNR=1.3						
	1.1nm,0.3s						
BVAR	**Borovoye Array**	**37.67**	**49**	LR	LR	20 16 51.1	
	comp=Z,26nm,19.1s,baz=225,slow=40						
MKAR	**Makanchi Array**	**45.78**	**58**	P	**P**	**20 00 21.8**	**-1.6**
	0.1nm,0.4s,baz=277,slow=6.6,SNR=4.5						
	0.1nm,0.4s						
ZALV	**Zalesovo Beam**	**46.26**	**48**	P	**P**	**20 00 24.9**	**-2.1**
	0.5nm,0.5s,baz=273,slow=8.1,SNR=2.4						
	0.5nm,0.5s						
SADO	**Sadowa**	**70.66**	**312**	LR	LR	20 32 47.5	
	comp=Z,27nm,18.9s,baz=177,slow=35						

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*SJA **31** 19:54:24.1±0.7, 20°10S×69°77W, h78km±2km, ML3.9, MW3.8*
*GUC **31** 19:54:26.1±0.8, 20°08S×69°76W, h73km±2km, ML3.8*
ISC 31 19:54:25.0±1.3, 20°12S±0°03×69°78W±0°05, h79km±6km, n36, σ1s28/64, 4C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMBC	**Humberstone**	**0.18**	**213**	⇑*i* P	**Pn**	**19 54 36.9**	**+0.1**
HMBC				*i* S	**Sn**	**19 54 45.4**	**-0.1**
HMBC				IAML		19 54 45.9	
	comp=N,21µm,0.3s						
HMBC	**Humberstone**	**0.18**	**213**	*eP*	**Pn**	**19 54 36.7**	**-0.1**
HMBC				*eS*	**Sn**	**19 54 45.7**	**+0.2**
HMBC				IAML		19 54 46.2	
	comp=Z,12µm,0.1s						
PX03	**IPOC Station P**	**0.31**	**153**	*eP*	**Pn**	**19 54 36.9**	**-0.5**
PX03				IAML		19 54 46.3	
	comp=E,4µm,0.3s						
PX03				*i* S	**Sn**	**19 54 46.5**	**0.0**
TA02	**Huaiquique**	**0.36**	**246**	⇑*i* P	**Pn**	**19 54 37.8**	**+0.2**
TA02				*i* S	**Sn**	**19 54 46.9**	**0.0**
TA02	**Huaiquique**	**0.36**	**246**	*eP*	**Pn**	**19 54 37.7**	**+0.2**
TA02				*eS*	**Sn**	**19 54 47.3**	**+0.4**
PB11	**IPOC Station P**	**0.38**	**18**	⇓*i* P	**Pn**	**19 54 37.6**	**-0.4**
PB11				*i* S	**Sn**	**19 54 46.3**	**-1.1**
PB11				IAML		19 54 47.8	
	comp=E,9µm,0.3s						
PB11	**IPOC Station P**	**0.38**	**18**	*eP*	**Pn**	**19 54 36.9**	**-1.1**
PB11				*eS*	**Sn**	**19 54 47.6**	**+0.1**
PB11				IAML		19 54 48.0	
	comp=Z,4µm,0.1s						
TA01	**Diego Aracena**	**0.58**	**220**	⇑*i* P	**Pn**	**19 54 39.6**	**+0.2**
TA01				*i* S	**Sn**	**19 54 50.1**	**0.0**
TA01				IAML		19 54 50.7	
	comp=N,4µm,0.5s						
TA01	**Diego Aracena**	**0.58**	**220**	*eP*	**Pn**	**19 54 39.4**	**0.0**
TA01				*eS*	**Sn**	**19 54 50.7**	**+0.6**
TA01				IAML		19 54 51.1	
	comp=Z,2µm,0.6s						
PB08	**IPOC Station P**	**0.59**	**92**	⇑*i* P	**Pn**	**19 54 40.2**	**+0.3**
PB08				*i* S	**Sn**	**19 54 51.0**	**+0.1**
PB08				IAML		19 54 51.8	
	comp=N,17µm,0.1s						
PB08	**IPOC Station P**	**0.59**	**92**	*eP*	Pn	19 54 33.1	-6.8
PB08				*eS*	**Sn**	**19 54 51.2**	**+0.2**
PB08				IAML		19 54 51.6	
	comp=Z,7µm,0.3s						
GO01	**Chusmiza**	**0.71**	**51**	*eP*	**Pn**	**19 54 41.1**	**-0.2**
GO01				*i* S	**Sn**	**19 54 53.0**	**-0.3**
GO01	**Chusmiza**	**0.71**	**51**	*eP*	**Pn**	**19 54 41.0**	**-0.3**
PATCX	**Punta Patache**	**0.78**	**207**	*eP*	**Pn**	**19 54 42.0**	**+0.4**
PATCX				*i* S	**Sn**	**19 54 54.2**	**+0.3**
PATCX				IAML		19 54 55.7	
	comp=E,5µm,0.4s						
PATCX	**Punta Patache**	**0.78**	**207**	*eP*	**Pn**	**19 54 41.8**	**+0.2**
PATCX				*eS*	**Sn**	**19 54 54.5**	**+0.7**
PATCX				IAML		19 54 55.4	
	comp=Z,3µm,0.3s						
PB01	**IPOC Station P**	**0.95**	**163**	⇓*i* P	**Pn**	**19 54 44.1**	**+0.5**
PB01				*i* S	**Sn**	**19 54 58.2**	**+0.8**
PB01				IAML		19 55 00.8	
	comp=E,5µm,0.2s						
PB01	**IPOC Station P**	**0.95**	**163**	*eP*	**Pn**	**19 54 44.1**	**+0.5**
PB01				*eS*	**Sn**	**19 54 59.1**	**+1.7**
PB01				IAML		19 55 00.7	
	comp=Z,2µm,0.2s						
PB02	**IPOC Station P**	**1.20**	**185**	⇓*i* P	**Pn**	**19 54 47.5**	**+0.9**
PB02				*i* S	**Sn**	**19 55 04.1**	**+1.4**
PB02				IAML		19 55 05.7	
	comp=E,6µm,0.3s						
PB02	**IPOC Station P**	**1.20**	**185**	*eP*	**Pn**	**19 54 47.3**	**+0.8**
PB02				*eS*	**Sn**	**19 55 05.4**	**+2.8**
PB02				IAML		19 55 06.0	
	comp=Z,4µm,0.3s						
PX02	**IPOC Station P**	**1.22**	**341**	*eP*	**Pn**	**19 54 45.6**	**-1.2**
PX02				*i* S	**Sn**	**19 55 01.1**	**-2.0**
PB09	**IPOC Station P**	**1.74**	**163**	⇓*i* P	**Pn**	**19 54 55.2**	**+1.6**
PB09				*i* S	**Sn**	**19 55 17.8**	**+2.5**
PB09				IAML		19 55 23.9	
	comp=E,604nm,0.7s						
PB09	**IPOC Station P**	**1.74**	**163**	*eP*	**Pn**	**19 54 55.2**	**+1.6**
PB09				*eS*	**Sn**	**19 55 14.1**	**-1.1**
PB09				IAML		19 55 23.4	
	comp=Z,705nm,0.4s						
PB16	**IPOC Station P**	**1.80**	**8**	*eP*	**Pn**	**19 54 55.7**	**+0.9**
PB16				*i* S	**Sn**	**19 55 18.3**	**+1.0**
PB16	**IPOC Station P**	**1.80**	**8**	*eP*	**Sn**	**19 54 55.2**	**+0.4**
PB16				*eS*	Sn	19 55 01.6	-16
AP01	**Chacalluta**	**1.82**	**343**	*eP*	**Pn**	**19 54 54.2**	**-0.3**
AP01				*i* S	**Sn**	**19 55 16.4**	**-0.5**
AP01				IAML		19 55 19.1	
	comp=N,2µm,0.4s						
AP01	**Chacalluta**	**1.82**	**343**	*eP*	**Pn**	**19 54 54.9**	**+0.4**
AP01				*eS*	**Sn**	**19 55 18.7**	**+1.7**
AP01				IAML		19 55 23.1	
	comp=Z,837nm,0.4s						
PB03	**IPOC Station P**	**1.92**	**179**	*eP*	**Pn**	**19 54 56.7**	**+0.7**
PB03	**IPOC Station P**	**1.92**	**179**	*eP*	**Pn**	**19 54 56.5**	**+0.6**
PB03				*eS*	**Sn**	**19 55 20.0**	**+0.6**
PB03				IAML		19 55 26.5	
	comp=Z,607nm,0.2s						
PB18	**Visviri**	**2.54**	**6**	*eP*	**Pn**	**19 55 07.7**	**+3.2**
PB06	**IPOC Station P**	**2.58**	**176**	⇓*i* P	**Pn**	**19 55 05.1**	**+0.3**
PB06	**IPOC Station P**	**2.58**	**176**	*eP*	**Pn**	**19 55 05.2**	**+0.4**
PB06				*eS*	**Sn**	**19 55 37.0**	**+1.7**
PB06				IAML		19 55 59.2	
	comp=Z,291nm,0.4s						
PB05	**IPOC Station P**	**2.75**	**188**	*eP*	**Pn**	**19 55 06.4**	**-0.6**
PB05				*i* S	**Sn**	**19 55 36.6**	**-2.7**
PB05	**IPOC Station P**	**2.75**	**188**	*eP*	**Pn**	**19 55 06.6**	**-0.4**
PB05				*eS*	Sn	19 55 29.4	-10
PB05				IAML		19 56 01.8	
	comp=Z,155nm,0.8s						
AF01	**San Pedro de A**	**3.19**	**152**	*eP*	**Pn**	**19 55 11.2**	**-2.0**
AF01				*eS*	**Sn**	**19 55 45.8**	**-4.4**
AF01				IAML		19 56 23.3	
	comp=Z,260nm,0.3s						
PB10	**IPOC Station P**	**3.45**	**192**	*eP*	**Pn**	**19 55 15.6**	**-0.9**
PB10				*eS*	**Sn**	**19 55 53.5**	**-2.7**
GO02	**Mina Guanaco**	**5.02**	**178**	*eP*	**Pn**	**19 55 37.5**	**-0.6**

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*IDC **31** 19:55:13.2±0.9, 0°64S×133°46E, h0km, mb4.0/8, mbtmp4.1/10, ML4.2/2, Error ellipse: s-maj=50.1km s-min=13.1km az=80.0*
*DJA **31** 19:55:17.3±0.4, 1°S±5°×13°3E±°, h10km, M4.4/13, mb4.7/6, MLv4.3/13*
*NEIC **31** 19:55:20.5±0.8, 0°76S±0°09×132°9E±0°2, h35km±2km, mb4.0/9, Error ellipse: s-maj=42.9km s-min=5.9km az=108.0*
ISC 31 19:55:18.7±0.7, 0°75S±0°07×133°17E±0°06, h32km, n37, σ1s54/35, mb4.2/13, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.26**	**127**	P	**Pn**	**19 55 41.0**	**+0.8**
SWI	**Sorong**	**1.91**	**267**	P	**Pn**	**19 55 50.1**	**+1.0**
FAKI	**Fak Fak**	**2.34**	**203**		**Pn**	**19 55 55.4**	**+0.3**
FAKI	**Fak Fak**	**2.34**	**203**	P	**Pn**	**19 55 55.7**	**+0.7**
KMPI	**Kaimana, Papua**	**2.94**	**169**	P	**Pn**	**19 56 04.7**	**+1.4**
BAKI	**Biak**	**2.97**	**99**	P	**Pn**	**19 56 04.4**	**+0.7**
SRPI	**Serui, Papua**	**3.27**	**110**	P	**Pn**	**19 56 09.9**	**+2.1**
BNDI	**Bandanaira**	**4.97**	**221**	P	**Pn**	**19 56 31.5**	**+0.4**
AAI	**Ambon**	**5.76**	**240**	P	**Pn**	**19 56 43.7**	**+1.6**
	0.3nm58nm,0.5s						
MTN	**Manton Dam**	**12.18**	**189**		**Pn**	**19 58 08.4**	**-1.7**
MTN					Sn	20 00 17.5	-7.5
BATI	**Baumata**	**13.32**	**225**	Pn	**Pn**	**19 58 26.6**	**+0.7**
	2.3nm,0.3s,baz=56,slow=3.6,SNR=11						
	45nm,0.8s						
KNRA	**Kununurra**	**15.46**	**196**		**Pn**	**19 58 51.0**	**-3.6**
KNRA					Sn	20 01 35.4	-10
FITZ	**Fitzroy Crossi**	**18.76**	**203**		**P**	**19 59 35.3**	**0.0**
FITZ	**Fitzroy Crossi**	**18.76**	**203**	S	Sn	20 02 50.8	-14
	5.1nm,0.8s,baz=102,slow=19,SNR=2.0						
WB0	**Warramunga Arr**	**18.94**	**176**	P	**P**	**19 59 37.9**	**+0.6**
WB0				IAmb	IAmb	19 59 47.7	
	comp=Z,6.3nm,0.9s						
WRA	**Warramunga Arr**	**19.11**	**177**	P	**P**	**19 59 38.2**	**-0.9**
WRA	**Warramunga Arr**	**19.11**	**177**	P	**P**	**19 59 38.5**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=357,slow=12,SNR=14						
WRA				S	Sn	20 03 04.0	-9.4
	comp=Z,1.0nm,0.9s,baz=359,slow=24,SNR=4.9						
	comp=Z,1.7nm,0.4s						
WR8	**Warramunga Arr**	**19.13**	**176**	P	**P**	**19 59 39.8**	**+0.5**
WR8				IAmb	IAmb	20 00 03.2	
	comp=Z,6.7nm,0.9s						
AS31	**Alice Springs**	**22.79**	**178**		**P**	**20 00 18.6**	**-0.2**
AS31				IAmb	IAmb	20 00 50.2	
	comp=Z,1.6nm,0.7s						
ASAR	**Alice Springs**	**22.79**	**178**		**P**	**20 00 19.7**	**+0.8**
ASAR	**Alice Springs**	**22.79**	**178**	P	**P**	**20 00 18.3**	**-0.6**
	comp=Z,2.6nm,0.4s,baz=358,slow=10,SNR=54						
ASAR				PcP	**PcP**	**20 04 09.1**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=6.6,slow=1.9,SNR=2.5						
ASAR				S	**S**	**20 04 32.0**	**+5.9**
	comp=Z,1.0nm,0.9s,baz=4.0,slow=28,SNR=4.5						
	comp=Z,2.6nm,0.4s						
STKA	**Stephens Creek**	**31.97**	**166**	P	**P**	**20 01 40.5**	**-1.5**
	comp=Z,1.3nm,0.5s,baz=347,slow=9.2,SNR=4.3						
	comp=Z,1.3nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**38.82**	**57**	T	T	20 43 56.0	
	baz=243,slow=75,SNR=39						
H11N2	**WAKE ISLAND Hy**	**38.83**	**57**	T	T	20 43 45.8	
	baz=243,slow=75,SNR=45						
H11N3	**WAKE ISLAND Hy**	**38.84**	**57**	T	T	20 43 46.0	
	baz=243,slow=75,SNR=37						
BNX	**BinXian**	**46.57**	**354**	⇑P	**P**	**20 03 44.3**	**+0.8**
BNX				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MKAR	**Makanchi Array**	**64.91**	**324**	P	**P**	**20 05 55.2**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=115,slow=8.1,SNR=25						
	comp=Z,1.8nm,0.7s						
MAKZ	**Makanchi**	**65.10**	**324**	P	**P**	**20 05 56.7**	**+0.3**
KSH	**Kashi**	**65.74**	**315**	P	**P**	**20 06 02.5**	**+1.7**
KSH				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ZALV	**Zalesovo Beam**	**67.52**	**331**	P	**P**	**20 06 11.4**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=123,slow=5.3,SNR=4.7						
	comp=Z,0.6nm,0.6s						
KURK	**Kurchatov**	**68.98**	**326**		**P**	**20 06 20.6**	**-0.3**
KURK				IAmb	IAmb	20 06 21.9	
	comp=Z,3.1nm,0.8s						
KURBB	**Kurchatov Arra**	**68.99**	**326**	P	**P**	**20 06 21.3**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=121,slow=5.8,SNR=24						
	comp=Z,2.3nm,0.7s						
KK31	**Karatay Array**	**70.88**	**316**		**P**	**20 06 32.2**	**-0.6**
KK31				IAmb	IAmb	20 06 33.8	
	comp=Z,2.9nm,0.9s						
KKAR	**Karatay Array**	**70.88**	**316**	P	**P**	**20 06 32.6**	**-0.2**
BVAR	**Borovoye Array**	**74.58**	**326**	P	**P**	**20 06 54.2**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=123,slow=10,SNR=4.8						
	comp=Z,0.7nm,0.5s						
ILAR	**Eielson Array**	**86.38**	**25**	P	**P**	**20 07 56.3**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=267,slow=6.2,SNR=4.7						
	comp=Z,0.5nm,0.9s						
QSPA	**South Pole Qui**	**89.18**	**180**	P	**P**	**20 08 11.5**	**+0.3**
	comp=Z,1.7nm,1.1s,baz=270,slow=4.0,SNR=3.1						
	comp=Z,1.7nm,1.1s						

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*GCG **31** 20:00:48.7±0.3, 12°85N×88°42W, h48km±50km, MD3.7*
*CATAC **31** 20:00:48.5±0.4, 13°N±4°×8°8W±°, h48km±6km, M3.1/14, MLv3.1/14, Error ellipse: s-maj=8.9km s-min=2.9km az=21.4, confirmed*
*SNET **31** 20:00:49.4±1.3, 13°03N×88°37W, h77km, ML3.2*
ISC 31 20:00:47.9±1.5, 12°81N±0°09×88°41W±0°04, h71km±14km, n43, σ0s61/53, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.54**	**343**	P	**Pn**	**20 01 02.6**	**+1.3**
ALJI	**Alcalda de J**	**0.54**	**343**	S	Sn	**20 01 12.1**	**+1.1**
PACA	**Pacayal**	**0.66**	**7**	*eP*	**Pn**	**20 01 03.2**	**+0.5**
PACA				*eS*	**Sn**	**20 01 13.3**	**-0.2**
PACA	**Pacayal**	**0.66**	**7**	P	**Pn**	**20 01 02.7**	**+0.1**
PACA	**Pacayal**	**0.66**	**7**	S	**Sn**	**20 01 12.9**	**-0.6**
TECA	**Tecapa**	**0.69**	**353**	*eP*	**Pn**	**20 01 02.7**	**-0.3**
CNRM	**Centro Naciona**	**0.70**	**19**	S	**Sn**	**20 01 14.0**	**-0.1**
LCND	**La Caada**	**0.71**	**45**	P	**Pn**	**20 01 02.6**	**-0.5**
CNCH	**Conchagua**	**0.73**	**50**	*eP*	**P

GLG1 Gilan-e-Gharb 1.54 306 Pg **Pb** **20 21 18.2 -0.2**
SNQR Sonqor, Kerman 1.66 6 Pg **Pb** **20 21 20.2 -0.4**
IDHR Dehrash 1.71 331 Pg **Pb** **20 21 21.1 -0.4**
RAFI Al-Rafai 1.83 217 *e*Pn **Pb** **20 21 24.0 +0.6**
RAFI *e*Sn **Sg** **20 21 49.5 +0.3**
RAFI AML AML 20 22 09.1
comp=E,645nm,0.9s
RAFI AML AML 20 22 09.5
comp=N,972nm,0.7s
KGS1 Ghasr-e-Shirin 1.99 311 Pn **Pb** **20 21 24.9 -1.2**
AHWZ Ahwaz 2.14 150 Pn **Pn** **20 21 26.4 +1.0**
HAGD Aghdareh 2.16 41 Pn **Pb** **20 21 28.1 -1.1**
BHD Baghdad 2.53 272 *e*Pn **Pb** **20 21 33.5 -1.8**
BHD *e*Sn **Sb** **20 22 05.7 -0.6**
BHD AML AML 20 22 29.7
comp=E,921nm,1.1s
HGHA Hamedan- Ghaye 2.58 27 Pn **Pb** **20 21 34.1 -2.1**
JHBN Jahan bin 2.92 109 Pn **Pn** **20 21 37.3 +1.0**
IPIR Pirpir 2.98 99 Pn **Pn** **20 21 38.8 +1.7**
ZNGN Zangian 3.11 109 Pn **Pn** **20 21 40.3 +1.4**
IKRK Kirkuk 3.35 312 *e*Pn **Pn** **20 21 44.3 +2.3**
IKRK *e*Sn **Sn** **20 22 24.0 +2.5**
IKRK AML AML 20 22 55.7
comp=E,432nm,0.5s
IKRK AML AML 20 22 55.8
comp=N,367nm,0.6s
QAMS Qamsar 3.38 80 Pn **Pn** **20 21 45.0 +2.4**
IQOM Qom 3.46 61 Pn **Pn** **20 21 44.9 +1.3**
IKLH Kolahrood 3.50 87 Pn **Pn** **20 21 46.1 +1.9**
IBRJ Brojen 3.50 111 Pn **Pn** **20 21 45.2 +0.9**
ABEH Behbahan 3.55 136 Pn **Pn** **20 21 45.8 +1.0**
IGZV Ghazvin 3.93 35 Pn **Pn** **20 21 52.5 +2.4**
IGAR Gharneh 3.99 100 Pn **Pn** **20 21 52.3 +1.4**
IVRN Varamin 4.01 62 Pn **Pn** **20 21 52.7 +1.7**
KRSH Karshahi 4.02 78 Pn **Pn** **20 21 52.9 +1.5**
KBD Kabd 4.02 176 P **Pn** **20 21 52.8 +1.6**
KBD S **Sn** **20 22 39.5 +1.4**
IHSH Hashtrud 4.09 358 Pn **Pn** **20 21 54.6 +2.2**
IZEF Zefreh 4.15 93 Pn **Pn** **20 21 54.7 +1.5**
KLNJ Kolanjah 4.17 121 Pn **Pn** **20 21 53.9 +0.3**
ISFB Sefidab 4.19 73 Pn **Pn** **20 21 55.1 +1.6**
IRAM Ramesheh 4.43 107 Pn **Pn** **20 21 57.8 +0.8**
IDMV Damavand 4.50 57 Pn **Pn** **20 21 59.8 +1.7**
IAZR Azarshahr 4.61 346 Pn **Pn** **20 22 01.3 +1.8**
IFIR Firoozkooh 5.05 60 Pn **Pn** **20 22 07.3 +1.8**
IPRN Peran 5.07 52 Pn **Pn** **20 22 07.7 +2.0**
ILAS Lasjerd 5.09 63 Pn **Pn** **20 22 07.7 +1.7**
KAZ2 Kazeron-Fars-I 5.11 133 Pn **Pn** **20 22 07.3 +1.2**
IHRS Heris 5.11 357 Pn **Pn** **20 22 08.4 +2.0**
ISHB Shabestar 5.27 345 Pn **Pn** **20 22 10.2 +1.6**
GAS1 Astara - Iran 5.30 12 Pn **Pn** **20 22 11.6 +2.9**
ANAR Anarak 5.30 88 Pn **Pn** **20 22 09.9 +1.0**
GRMI Germi 5.61 4 Pn **Pn** **20 22 15.5 +2.5**
IMRD Marand 5.67 346 Pn **Pn** **20 22 15.4 +1.5**
DSBU Dashti - Bushe 5.86 144 Pn **Pn** **20 22 17.4 +1.0**
GEVA Gevas 6.20 327 **Pn** **20 22 22.7 +1.4**
IGLO Ghaloghah 6.22 56 Pn **Pn** **20 22 24.6 +2.9**
IMEH Mehriz 6.37 105 Pn **Pn** **20 22 24.4 +0.7**
MAKU Maku 6.52 341 Pn **Pn** **20 22 27.9 +2.3**
MARD Mardin 6.79 309 **Pn** **20 22 29.5 +0.1**
GURO Guroymak-BITLI 6.89 322 **Pn** **20 22 30.8 +0.1**
IBAF Bafgh 7.09 101 Pn **Pn** **20 22 34.7 +1.2**
GNI Garni 7.25 344 Lg Lg 20 24 40.2
baz=345,slow=20
TPRV Parvadeh(Tabas 7.79 89 Pn **Pn** **20 22 44.4 +1.4**
TKDS Koohdasht(Taba 8.14 84 Pn **Pn** **20 22 48.7 +0.9**
AKT Akhty 8.27 2 *e*P **Pn** **20 22 52.4 +2.9**
AKT pmax pmax
comp=Z,18nm,1.2s
AKT MLR MLR
comp=Z,314nm,19.0s
KOPT Kop Dagi 8.78 323 Pn **Pn** **20 22 56.1 -0.6**
ASF Jabal al Asfar 8.91 266 Pn **Pn** **20 22 58.1 -0.4**
comp=Z,0.5nm,0.3s,baz=127,slow=11,SNR=5.8
ASF Sn **Sn** **20 24 38.0 -0.7**
comp=Z,0.2nm,0.3s,baz=15,slow=18,SNR=1.2
ASF Lg Lg 20 25 27.0
comp=Z,0.4nm,0.3s,baz=324,slow=23,SNR=1.0
ASF LR LR 20 27 04.7
comp=Z,56nm,18.6s,baz=105,slow=42
comp=Z,1.3nm,0.3s
SMRA Abu-Samra 8.94 160 P **Pn** **20 22 59.5 +0.8**
TRNA Turayna 9.07 157 P **Pn** **20 23 01.1 +0.6**
SNR=10.0
GAZ Gaziantep 9.23 298 Pn **Pn** **20 23 01.2 -1.6**
MAK Makhachkala 9.74 0*c* *i*P **Pn** **20 23 05.9 -3.7**
MAK *e*S **Sn** **20 24 55.3 -3.4**
MAK pmax pmax
comp=Z,46nm,1.0s
MAK MLR MLR
comp=Z,153nm,14.0s
RAYN Ar Rayn 9.79 190 **Pn** **20 23 08.8 -1.7**
RAYN Ar Rayn 9.79 190 P **Pn** **20 23 09.4 -1.1**
RAYN Ar Rayn 9.79 190 P **Pn** **20 23 08.8 -1.7**
MMAI Mount Meron Ar 10.07 272 Pn **Pn** **20 23 16.9 +2.6**
comp=Z,0.5nm,0.3s,baz=91,slow=13,SNR=4.5
MMAI Lg Lg 20 25 59.9
comp=Z,0.7nm,0.3s,baz=82,slow=30,SNR=2.8
GHWR Ruwais 10.38 151 P **Pn** **20 23 18.7 +0.2**
GHWR S **Sn** **20 25 13.7 -0.9**
SHME Shamm 10.42 131 P **Pn** **20 23 18.7 -0.3**
SHME S **Sn** **20 25 13.0 -2.5**
AJN Ajban 10.87 140 P **Pn** **20 23 25.6 +0.4**
NAZ Nazwa, Dubai 10.91 136 P **Pn** **20 23 26.5 +0.2**
MASF Masafi 10.92 133 P **Pn** **20 23 25.5 -0.4**
MASF S **Sn** **20 25 24.4 -3.5**
ASUD Al Ashush, Dub 11.01 139 P **Pn** **20 23 26.0 -1.0**
MDH Madha 11.06 133 P **Pn** **20 23 28.2 +0.4**
EIL Elat 11.20 255 Pn **Pn** **20 23 29.3 -0.4**
comp=Z,0.2nm,0.3s,baz=354,slow=14,SNR=3.9
EIL Lg Lg 20 26 40.7
comp=Z,0.2nm,0.3s,baz=227,slow=19,SNR=2.7
EIL LR LR 20 28 57.0
comp=Z,55nm,19.0s,baz=84,slow=44
comp=Z,5.2nm,0.9s
UOSS Minazif 11.26 135 P **Pn** **20 23 30.6 0.0**
HATD Hatta, Dubai 11.31 135 P **Pn** **20 23 31.3 +0.1**
HATD S **Sn** **20 25 34.1 -3.4**
KIV Kislovodsk 11.35 342 *e*P **Pn** **20 23 33.3 +1.5**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,29nm,13.0s
ASHO Ashiyiah 11.38 136 P **Pn** **20 23 32.1 0.0**
SNR=5.5
ASHO S **Sn** **20 25 35.2 -3.8**
MZR Muzera 11.49 151 P **Pn** **20 23 33.4 -0.3**
SNR=15
MZR S **Sn** **20 25 38.0 -3.8**
SOC Sochi 11.98 332 *e*P **Pn** **20 23 36.5 -3.8**
SOC *e* 20 25 50.3
SOC pmax pmax
comp=Z,7.0nm,0.7s
SOC MLR MLR
comp=Z,159nm,17.0s
SOHO SOHO 12.07 136 P **Pn** **20 23 41.3 -0.4**
SOHO S **Sn** **20 25 52.7 -3.3**
ARQ Araqi 12.69 138 P **Pn** **20 23 49.1 -1.0**
SNR=9.6
BR131 Keskin Array S 12.84 304 **Pn** **20 23 54.1 +1.8**
BR131 Keskin Array S 12.84 304 P **Pn** **20 23 56.0 +3.7**
SNR=5.5
BR131 Keskin Array S 12.84 304 P **Pn** **20 23 54.1 +1.8**
BRTR Keskin Array B 12.84 304 **Pn** **20 23 54.3 +2.1**
BRTR Keskin Array B 12.84 304 Pn **Pn** **20 23 55.0 +2.8**
comp=Z,0.1nm,0.3s,baz=128,slow=13,SNR=16
comp=Z,2.9nm,1.0s
BRTR Keskin Array B 12.84 304 P **Pn** **20 23 54.3 +2.1**
HOQ Hoqain 12.95 135 P **Pn** **20 23 52.6 -1.1**
SMDO Samad 13.79 134 P **Pn** **20 23 53.5 -1.7**
WSAR Wadi Sarin 14.01 132 Pn **Pn** **20 24 06.0 -2.1**
baz=342,slow=23,SNR=8.1
WSAR Sn **Sn** **20 26 37.5 -5.9**
baz=289,slow=24,SNR=2.0
DOK Doka 15.73 156 P **Pn** **20 24 27.7 -3.5**
DQM DQM 16.02 143 P **Pn** **20 24 32.2 -2.7**
MANT Manisa 16.16 294 **Pn** **20 24 37.7 +0.8**
WHFO Wadi Hawf 16.26 158 P **Pn** **20 24 34.8 -3.3**
ABTO Aybut 16.65 160 P **Pn** **20 24 39.7 -3.4**
RBK Rabkut 16.79 157 P **Pn** **20 24 44.9 +0.1**
DMTO DMTO 16.85 154 P **Pn** **20 24 42.3 -3.3**
VRH Novokhopyorsk 18.46 349 *e*P **P** **20 25 04.2 -0.9**
VRH pmax pmax
comp=Z,10.0nm,1.0s
TIRR Tirgusor 18.53 313 P **Pn** **20 25 06.3 +0.1**
comp=Z,5.9nm,1.3s
AB31 Akbulak array 18.56 27 **P** **20 25 06.2 -0.1**
ABKAR Akbulak array 18.56 27 **Pn** **20 25 06.6 0.0**
ALN Alexandroupoli 18.67 300 **Pn** **20 25 07.8 -0.1**
ALN Alexandroupoli 18.67 300 P **Pn** **20 25 07.8 -0.1**
ALN pmax pmax
comp=Z,11nm,1.0s
VORD Divnogorie 18.72 344 *e*P **P** **20 25 07.2 -0.8**
VORD pmax pmax
comp=Z,20nm,1.0s
IDI Anoyia 18.73 283 **Pn** **20 25 09.9 +1.2**
IDI IAmb IAmb 20 25 20.1
comp=Z,25nm,0.9s
IDI Anoyia 18.73 283 P **Pn** **20 25 09.5 +0.8**
comp=Z,0.5nm,0.3s,baz=99,slow=7.7,SNR=7.8
comp=Z,15nm,0.8s
TPGR Topolog 18.73 314 ⇑P **Pn** **20 25 08.9 +0.2**
AKTO Aktyubinsk 18.91 21 P **Pn** **20 25 10.5 -0.2**
comp=Z,0.2nm,0.3s,baz=223,slow=12,SNR=5.6
AKTO LR LR 20 34 33.2
comp=Z,55nm,19.0s,baz=144,slow=44
comp=Z,2.7nm,0.9s
VSR Storozhevoye 18.98 344 *e*P **P** **20 25 10.0 -0.9**
VSR pmax pmax
comp=Z,30nm,1.0s
CFR Carcaliu 19.07 314 ⇓P **P** **20 25 12.2 +0.3**
BELG Belogornoye 19.18 0 P **P** **20 25 13.2 +0.2**
comp=Z,7.4nm,0.8s,baz=48,slow=5.8,SNR=6.0
BELG Belogornoye 19.18 0*de*P **Pn** **20 25 14.5 +0.6**
BELG pmax pmax
comp=Z,7.0nm,1.2s
VORR Voronezh 19.40 344 *e*P **Pn** **20 25 17.5 +0.9**
VORR pmax pmax
comp=Z,10.0nm,0.8s
VRI Vrincioaia 20.28 315 P **P** **20 25 25.4 +0.3**
comp=Z,7.3nm,1.1s
PLOR5 Plostina Array 20.31 315 P **P** **20 25 25.9 +0.4**
comp=Z,14nm,1.2s
LPSR Galich'ya Gora 20.33 345 *e*P **P** **20 25 24.8 -0.7**
LPSR pmax pmax
comp=Z,130nm,0.9s
MLR Muntele Rosu 20.56 313 **Pn** 20 25 29.8 -0.8
MLR IAmb IAmb 20 25 57.9
comp=Z,10.0nm,1.0s
MLR Muntele Rosu 20.56 313 P **Pn** 20 25 29.9 -0.7
comp=Z,4.7nm,0.9s,baz=108,slow=5.0,SNR=8.3
comp=Z,4.7nm,0.9s
MLR Muntele Rosu 20.56 313 ⇑P **Pn** 20 25 29.6 -1.0
MLR Muntele Rosu 20.56 313 P **Pn** 20 25 29.8 -0.8
MLR pmax pmax
comp=Z,10.0nm,1.0s
KK31 Karatay Array 20.63 55 **Pn** 20 25 30.3 -0.9
KK31 Karatay Array 20.63 55 P **Pn** 20 25 30.3 -0.9
KK31 pmax pmax
comp=Z,9.0nm,1.1s
KKAR Karatay Array 20.63 55 **P** **20 25 29.6 +0.6**
KKAR Karatay Array 20.63 55 P **P** **20 25 29.6 +0.6**
TESR Tescani 20.67 316 ⇑P **P** **20 25 30.3 +1.0**
TESR Tescani 20.67 316 P **P** **20 25 29.9 +0.6**
comp=Z,10nm,1.2s
SORM Soroca 20.68 322 ⇑P **P** **20 25 28.7 -0.7**
DOPR Dopca 21.14 314 ⇑P **P** **20 25 35.4 +1.0**
ITM Ithomi 21.17 288 IAmb IAmb 20 25 45.3
comp=Z,17nm,0.9s
NDNU Novodnistrovsk 21.48 322 P **P** **20 25 36.7 -1.4**
NIL Nilore 21.57 82 **P** **20 25 39.0 -0.1**
NIL IAmb IAmb 20 25 57.3
comp=Z,16nm,1.1s
NIL Nilore 21.57 82 P **P** **20 25 39.0 -0.1**
NIL pmax pmax
comp=Z,16nm,1.2s
ARSB Arslanbob 21.86 61 IAmb IAmb 20 25 46.0
comp=Z,11nm,1.1s
AK07 Malin Array Si 21.90 328 P **P** **20 25 42.5 0.0**
LOT Lotru 21.90 311 ⇑P **P** **20 25 44.1 +1.4**
AK10 Malin Array Si 21.91 328 P **P** **20 25 41.9 -0.8**
AK06 Malin Array Si 21.93 328 P **P** **20 25 42.4 -0.4**
KMPD K-Podol'skiy 21.94 321 P **P** **20 25 41.7 -1.3**
AK02 Malin Array Si 21.98 328 P **P** **20 25 42.6 -0.7**
AKASG Malin Array Be 22.00 328 P **P** **20 25 42.2 -1.4**
comp=Z,2.7nm,0.7s,baz=139,slow=9.6,SNR=15
comp=Z,2.7nm,0.7s
AKASG Malin Array Be 22.00 328 *i* P **P** **20 25 42.7 -0.9**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 22.00 328 ⇑ **P** **20 25 43.2 -0.4**
AKBB Malin Array Si 22.00 328 ⇑ *e*P **P** **20 25 43.4 -0.2**
AKBB Malin Array Si 22.00 328 P **P** **20 25 42.6 -1.0**
KIEV Kiev 22.00 328 **P** **20 25 43.2 -0.4**
KIEV Kiev 22.00 328 ⇑P **P** **20 25 43.1 -0.4**
KIEV Kiev 22.00 328 P **P** **20 25 43.2 -0.4**
KIEV pmax pmax
comp=Z,8.0nm,1.0s
KIEV Kiev 22.00 328 P **P** **20 25 42.7 -0.9**
comp=Z,38nm,1.0s
AK17 Malin Array Si 22.06 328 P **P** **20 25 44.0 -0.2**
AK18 Malin Array Si 22.08 328 P **P** **20 25 44.4 -0.1**
BURAR Bucovina Array 22.09 317 **P** **20 25 44.5 -0.2**
BURAR Bucovina Array 22.09 317 ⇑P **P** **20 25 46.4 +1.7**
BUR08 Bucovina Ar. S 22.11 317 IAmb IAmb 20 25 49.3
comp=Z,20nm,1.5s
HORU Horodok 22.36 322 P **P** **20 25 47.7 +0.3**
GZR Gura Zlata 22.51 310 ⇑P **P** **20 25 51.0 +1.7**
HERR Herculane 22.55 308 ⇓P **P** **20 25 50.6 +1.1**
KSV Kosov 22.56 319 P **P** **20 25 49.7 +0.1**
BOVS Bovan 22.58 305 ⇑P **P** **20 25 52.1 +2.1**
MDVR Moldovita 22.97 308 ⇓P **P** **20 25 55.4 +1.4**
OBN Obninsk 23.19 344 ⇑ *e*P **P** **20 25 54.7 -1.3**
OBN *e**PP **pP** **20 25 58.0 -2.7**
OBN *SP **sP** **20 26 02.0 -0.8**
OBN PPP PPP 20 26 23.0
OBN 20 26 36.0
OBN 20 29 46.0
OBN S **S** **20 30 02.0 -5.1**
OBN SSS SSS 20 30 53.0
OBN pmax pmax
comp=Z,15nm,0.9s
OBN MLR MLR
comp=Z,45nm,16.0s
MOS Moscow 23.54 346 *e*P **P** **20 25 54.0 -5.6**
MOS pmax pmax
comp=Z,32nm,0.7s
SIRR Siria 23.59 311 ⇑P **P** **20 26 01.9 +1.7**
BRIU Brid 23.72 317 P **P** **20 26 02.9 +1.4**
PDG Podgorica 23.98 301 IAmb IAmb 20 26 23.1
comp=Z,9.0nm,1.1s
RNPP8 Varash 23.99 325 P **P** **20 26 04.2 +0.3**
RNPP9 Sopachiv 24.02 326 P **P** **20 26 04.4 +0.2**
HOLU Holmets 24.18 317 P **P** **20 26 06.7 +0.9**
BOOM Boomskoye usch 24.27 59 IAmb IAmb 20 26 13.2
comp=Z,12nm,1.4s
ARTI Arti 24.39 15 **P** **20 26 08.4 +0.7**
ARTI IAmb IAmb 20 26 10.6
comp=Z,6.5nm,0.8s
ARTI Arti 24.39 15 P **P** **20 26 09.1 +1.5**
comp=Z,4.4nm,0.8s,baz=230,slow=6.7,SNR=8.5
comp=Z,4.4nm,0.8s
ARTI Arti 24.39 15*d* *i*P **P** **20 26 09.9 +2.2**
ARTI 20 26 39.4
ARTI S **S** **20 30 32.4 +5.8**
ARTI SS **SnSn** **20 31 14.9 +4.6**
ARTI pmax pmax
comp=Z,8.0nm,1.0s
KOLS Kolonicke sedl 24.45 317 *e*P **P** **20 26 09.5 +1.2**
KOLS pmax pmax
comp=Z,9.0nm,0.8s
KOLS Kolonicke sedl 24.45 317 *e*P **P** **20 26 09.5 +1.2**
KWP Kalwaria Pacla 24.58 319 P **P** **20 26 10.1 +0.7**
comp=Z,11nm,0.9s
STHS Stebnicka Huta 25.28 318 *e*PN P 20 26 33.4 +18
SVE Sverdlovsk 25.32 17 *e*P **P** **20 26 17.6 +1.6**
SVE pmax pmax
comp=Z,13nm,1.3s
MNK Minsk 25.36 333 *i* P **P** **20 26 14.9 -1.4**
comp=E,7.0nm,0.8s
MNK *i* P **P** **20 26 14.9 -1.4**
comp=N,4.0nm,0.7s
MNK *i* P **P** **20 26 14.9 -1.4**
comp=Z,7.0nm,0.6s,baz=139
MNK *i* PP **PnPn** **20 26 49.6 -1.6**
MNK *i* PPP PPP 20 26 57.7
MNK *i* S **S** **20 30 42.2 +0.1**
MNK *i* SS **SnSn** **20 31 24.6 -9.3**
MNK *i* SSS SSS 20 31 54.5
MNK *i* LQ LQ 20 33 19.2
MNK *i* LRM MLR 20 36 08.6
comp=N,50nm,16.7s
MNK *i* LRM MLR 20 36 25.1
comp=E,18nm,13.3s
MNK Minsk 25.36 333 *i* P **P** **20 26 14.9 -1.4**
MNK *i* PPP PPP 20 26 57.6
MNK *i* S **S** **20 30 42.2 +0.1**
MNK *i* SSS SSS 20 31 54.4
MNK pmax pmax
comp=Z,7.0nm,0.6s
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK pmax pmax
comp=N,4.0nm,0.7s
MNK MLR MLR
comp=Z,14nm,17.0s
MNK MLR MLR
comp=N,50nm,17.0s
MNK MLR MLR
comp=E,18nm,13.0s
PSZ Piszkesteto 25.38 314 IAmb IAmb 20 26 25.8
comp=Z,9.3nm,1.1s
KIRV Kirov 25.42 2 P **P** **20 26 17.4 +0.5**
comp=Z,12nm,0.7s,baz=171,slow=18,SNR=4.5
comp=Z,12nm,0.7s
KIRV Kirov 25.42 2⇓ *e*P **P** **20 26 19.1 +2.2**
MORH Mrgy, Hungar 25.50 309 ⇑P **P** **20 26 19.1 +1.4**
MORH Mrgy, Hungar 25.50 309 P **P** **20 26 19.1 +1.4**
comp=Z,17nm,1.0s
BRVK Borovoye 25.74 33 **P** **20 26 20.3 +0.5**
BRVK IAmb IAmb 20 26 21.8
comp=Z,5.5nm,0.9s
BRVK Borovoye 25.74 33 P **P** **20 26 19.4 -0.4**
BRVK Borovoye 25.74 33⇓ *e*P **P** **20 26 21.0 +1.2**
BRVK pmax pmax
comp=Z,6.0nm,0.9s
BVAR Borovoye Array 25.76 33 P **P** **20 26 20.8 +0.7**
comp=Z,6.8nm,0.8s,baz=223,slow=8.1,SNR=22
comp=Z,6.8nm,0.8s
CEL Celeste 26.00 290 P **P** **20 26 22.9 +0.5**
comp=Z,16nm,0.9s
NACGM Naroch 26.08 332 *e*P **P** **20 26 24.1 +1.1**
comp=Z,30nm,1.0s,baz=138
LANS Liptovska Anna 26.18 316 *e*P **P** **20 26 26.1 +2.2**
LANS pmax pmax
comp=Z,4.0nm,0.9s
LANS Liptovska Anna 26.18 316 *e*P **P** **20 26 26.1 +2.2**
VYHS Vyhne 26.26 314 *e*P **P** **20 26 26.1 +1.4**
VYHS pmax pmax
comp=Z,5.0nm,1.1s
VYHS Vyhne 26.26 314 *e*P **P** **20 26 26.1 +1.4**
OJC Ojcow 26.49 318 P **P** **20 26 27.8 +1.1**
comp=Z,16nm,1.1s
SUW Suwalki 26.97 328 P **P** **20 26 31.8 +0.9**
SUW Suwalki 26.97 328 P **P** **20 26 31.8 +0.9**
MODS Modra-Piesok 27.16 313 *e*P **P** **20 26 35.7 +2.9**
MODS pmax pmax
comp=Z,13nm,1.0s
MODS Modra-Piesok 27.16 313 *e*P **P** **20 26 35.7 +2.9**
MAUC Maruska 27.23 315 *e*P **P** **20 26 35.1 +1.6**
RONA Rosalia, Austr 27.53 311 *e*P **P** **20 26 38.1 +2.0**
comp=Z,11nm,1.4s
MORC Moravsky Berou 27.58 316 IAmb IAmb 20 26 38.5
comp=Z,5.9nm,1.1s
MORC Moravsky Berou 27.58 316 *e*P **P** **20 26 37.3 +0.7**
ARSA Arzberg 27.87 310 IAmb IAmb 20 26 42.1
comp=Z,4.8nm,1.0s
ARSA Arzberg 27.87 310 *e*P **P** **20 26 41.1 +1.9**
comp=Z,6.2nm,1.5s
CONA Conrad Observa 27.88 311 *e*P **P** **20 26 40.3 +1.0**
comp=Z,4.9nm,1.2s
VRAC Vranov 27.95 314 *e*P **P** **20 26 41.0 +1.2**
VRAC Vranov 27.95 314 P **P** **20 26 40.7 +0.9**
comp=Z,2.8nm,0.8s,baz=109,slow=11,SNR=5.1
comp=Z,2.8nm,0.8s
KRUC Moravsky 27.97 314 *e*P **P** **20 26 41.0 +1.0**
SOKA Soboth 28.01 308 *e*P **P** **20 26 41.8 +1.2**
comp=Z,3.2nm,0.9s
KLMR Klimovskoe 28.14 352 *e*P **P** **20 26 39.1 -2.2**
KLMR *e* 20 27 27.6
KLMR pmax pmax
comp=Z,19nm,1.4s
OBKA Obir 28.28 308 *e*P **P** **20 26 44.5 +1.6**
comp=Z,5.3nm,1.2s
NRCA Norcia 28.50 300 IAmb IAmb 20 26 58.8
comp=Z,8.2nm,1.1s
DPC Dobruska-Polom 28.54 316 *e*P **P** **20 26 45.9 +0.8**
DPC Dobruska-Polom 28.54 316 *e*P **P** **20 26 45.9 +0.8**
DPC Dobruska-Polom 28.54 316 P **P** **20 26 45.8 +0.7**
comp=Z,3.5nm,1.1s
FDMO Fiordimonte 28.55 300 IAmb IAmb 20 26 59.1
comp=Z,5.1nm,0.9s
KURBB Kurchatov Arra 28.68 43 P **P** **20 26 47.0 +0.8**
comp=Z,0.9nm,0.8s,baz=249,slow=9.5,SNR=5.1
comp=Z,0.9nm,0.8s
OSTC Ostas 28.68 317 *e*P **P** **20 26 46.9 +0.5**
OSTC Ostas 28.68 317 *e*P **P** **20 26 46.9 +0.5**
KSP Ksiaz 28.77 317 P **P** **20 26 48.2 +1.1**
comp=Z,5.0nm,1.1s
KURK Kurchatov 28.77 43 **P** **20 26 47.6 +0.5**
KURK IAmb IAmb 20 26 51.4
comp=Z,6.3nm,1.4s
KURK Kurchatov 28.77 43⇑ *e*P **P** **20 26 49.3 +2.2**
KURK pmax pmax
comp=Z,5.0nm,1.6s
CHVC Chvalec 28.79 316 *e*P **P** **20 26 48.3 +1.0**
CHVC Chvalec 28.79 316 *e*P **P** **20 26 48.3 +1.0**
MOA Molln 28.87 310 *e*P **P** **20 26 49.3 +1.2**
comp=Z,8.2nm,1.1s
BIOA Bad Ischl, Aus 29.22 310 *e*P **P** **20 26 52.3 +1.1**
comp=Z,6.7nm,0.9s
KBA Koelnbreinsper 29.24 308 *e*P **P** **20 26 53.0 +1.5**
comp=Z,6.9nm,0.8s
STAL STALIGIAL 29.45 307 IAmb IAmb 20 27 02.3
comp=Z,5.4nm,1.1s
ZVC Zvikov 29.45 313 *e*P **P** **20 26 54.3 +1.1**
GEC2 GERESS Array S 29.55 312 *e*P **P** **20 26 54.1 0.0**
comp=Z,1.3nm,0.8s,baz=111,slow=8.7
GERES GERESS Array B 29.55 312 P **P** **20 26 54.3 +0.1**
comp=Z,0.9nm,0.7s,baz=116,slow=8.2,SNR=10.0
comp=Z,0.9nm,0.7s
ABTA Abfaltersbach 29.70 307 *e*P **P** **20 26 56.9 +1.4**
comp=Z,6.3nm,0.9s
MKAR Makanchi Array 29.71 52 P **P** **20 26 56.7 +1.2**
comp=Z,0.6nm,0.7s,baz=246,slow=7.0,SNR=7.0
comp=Z,0.6nm,0.7s
KHC Kasperske Hory 29.72 312⇓ *e*P **P** **20 26 56.5 +0.9**
KHC pmax pmax
comp=Z,16nm,3.5s
KHC Kasperske Hory 29.72 312 P **P** **20 26 56.3 +0.7**
comp=Z,4.4nm,2.3s
LESA Schwarzleotal 29.77 309 *e*P **P** **20 26 56.8 +0.7**
comp=Z,3.2nm,0.8s
RJOB Jochberg 29.78 309 *e*P **P** **20 26 57.3 +1.1**
comp=Z,3.9nm,0.9s,baz=111,slow=8.7
WET Wettzell 30.16 312 *e*P **P** **20 26 59.7 +0.2**
comp=Z,3.6nm,0.9s,baz=111,slow=8.7
WTTA Wattenberg 30.41 308 *i* P **P** **20 27 02.4 +0.5**
comp=Z,16nm,1.0s
WATA Walderalm 30.47 308 *e*P **P** **20 27 02.6 +0.2**
comp=Z,15nm,1.1s
SQTA Sankt Quirin 30.68 308 *e*P **P** **20 27 04.8 +0.5**
comp=Z,13nm,1.2s
MOTA Moosalm 30.78 308 *i* P **P** **20 27 05.3 +0.1**
comp=Z,16nm,1.0s
CLL Collm 30.85 316 P **P** **20 27 06.3 +0.8**
CLL IAmb IAmb 20 27 07.2
comp=Z,5.4nm,1.0s
CLL Collm 30.85 316 P **P** **20 27 06.3 +0.8**
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 30.85 316 P **P** **20 27 06.0 +0.5**
comp=Z,5.9nm,0.9s
CLL Collm 30.85 316 *i* P **P** **20 27 06.3 +0.8**
comp=Z,5.0nm,0.8s
CLL *ex* x 20 27 20.0
CLL Collm 30.85 316 *e*P **P** **20 27 06.5 +1.1**
comp=Z,3.5nm,0.8s,baz=111,slow=8.7
FUR Furstenfeldbru 30.88 310 *e*P **P** **20 27 06.9 +1.1**
comp=Z,21nm,0.8s,baz=111,slow=8.7
FETA Feichten 30.95 307 *e*P **P** **20 27 07.5 +0.8**
comp=Z,15nm,1.2s
GRF Grafenberg Arr 31.36 313 *e*P **P** **20 27 11.1 +1.1**
comp=Z,12nm,1.0s,baz=111,slow=8.7

GRFO	**Grafenberg**	**31.36**	**313**	P		**P**		**20 27 10.5**	**+0.5**
GRFO	**Grafenberg**	**31.36**	**313**	P		**P**		**20 27 10.5**	**+0.5**
GRFO				pmax		pmax			
	comp=Z,18nm,1.1s								
FINES	**FINESS Array B**	**31.43**	**340**	P		**P**		**20 27 10.1**	**-0.4**
	comp=Z,5.0nm,0.9s,baz=144,slow=9.3,SNR=14								
	comp=Z,5.0nm,0.9s								
FINES	**FINESS Array B**	**31.43**	**340**	*i* P		**P**		**20 27 10.8**	**+0.3**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.6s								
DAVA	**Damuels**	**31.58**	**308**	*e*P		**P**		**20 27 12.5**	**+0.4**
	comp=Z,21nm,1.1s								
LODK	**Lodwar**	**31.70**	**203**			**P**		**20 27 14.9**	**+1.6**
LODK				IAmb		IAmb		20 27 16.9	
	comp=Z,8.2nm,1.5s								
TUE	**Stuetta**	**31.77**	**306**	P		**P**		**20 27 14.0**	**+0.1**
CLZ	**Clausthal**	**32.57**	**316**	*e*P		**P**		**20 27 22.0**	**+1.3**
	comp=Z,3.8nm,0.8s,baz=111,slow=8.7								
BFO	**Black Forest**	**32.83**	**309**	*e*P		**P**		**20 27 24.0**	**+1.0**
	comp=Z,2.4nm,0.9s,baz=111,slow=8.7								
NRDL	**Niedersach Rie**	**32.95**	**317**	*e*P		**P**		**20 27 25.5**	**+1.6**
	comp=Z,4.1nm,0.8s,baz=111,slow=8.7								
TNS	**Taunus Mts**	**33.23**	**313**	*e*P		**P**		**20 27 27.2**	**+0.8**
	comp=Z,9.1nm,1.2s,baz=111,slow=8.7								
KASTN	**Kahler Asten**	**33.52**	**314**	*e*P		**P**		**20 27 29.6**	**+0.6**
	comp=Z,7.4nm,1.0s,baz=111,slow=8.7								
ZALV	**Zalesovo Beam**	**33.57**	**41**	P		**P**		**20 27 28.2**	**-1.1**
ZALV	**Zalesovo Beam**	**33.57**	**41**	P		**P**		**20 27 28.6**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=262,slow=10.0,SNR=6.9								
	comp=Z,1.2nm,0.8s								
ZALV	**Zalesovo Beam**	**33.57**	**41**	*i* P		**P**		**20 27 30.2**	**+0.9**
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.8s								
IBBN	**Ibbenburen**	**34.25**	**316**	*e*P		**P**		**20 27 37.4**	**+2.1**
	comp=Z,6.4nm,0.8s,baz=111,slow=8.7								
WLF	**Walferdange**	**34.52**	**311**	*e*P		**P**		**20 27 36.9**	**-0.7**
	comp=Z,5.1nm,0.8s,baz=111,slow=8.7								
HFS	**Hagfors**	**34.82**	**331**	P		**P**		**20 27 39.8**	**-0.3**
	comp=Z,3.6nm,0.5s,baz=137,slow=7.0,SNR=29								
	comp=Z,3.6nm,0.5s								
NB2	**NORSAR Subarra**	**36.34**	**331**	P		**P**		**20 27 52.5**	**-0.7**
	comp=Z,4.3nm,1.1s,baz=123,slow=8.6								
NOA	**NORSAR Array B**	**36.34**	**331**	P		**P**		**20 27 52.8**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=125,slow=8.5,SNR=6.5								
	comp=Z,1.7nm,0.9s								
ARCES	**ARCESS Array B**	**38.39**	**348**	P		**P**		**20 28 10.8**	**+0.4**
	comp=Z,3.0nm,1.0s,baz=154,slow=11,SNR=4.2								
	comp=Z,3.0nm,1.0s								
EKA	**Eskdalemuir Ar**	**41.27**	**318**	P		**P**		**20 28 34.4**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=93,slow=11,SNR=4.2								
	comp=Z,3.1nm,0.8s								
ESDC	**Sonseca Array**	**41.36**	**294**	P		**P**		**20 28 35.9**	**+0.4**
	comp=Z,1.8nm,1.1s,baz=75,slow=9.8,SNR=7.3								
	comp=Z,1.8nm,1.1s								
TORD	**Torodi Ar. Bea**	**46.09**	**255**	P		**P**		**20 29 14.4**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=46,slow=8.3,SNR=1.8								
	comp=Z,1.4nm,0.3s								
ULN	**Ulaanbaatar**	**46.51**	**53**	*i*eP		**P**		**20 29 18.2**	**+1.2**
ULN				pmax		pmax			
	comp=Z,3.0nm,1.3s								
SPITS	**Spitsbergen Ar**	**47.04**	**352**	P		**P**		**20 29 21.2**	**+0.7**
	comp=Z,13nm,0.9s,baz=134,slow=10,SNR=4.7								
	comp=Z,13nm,0.9s								
SPITS	**Spitsbergen Ar**	**47.04**	**352**	P		**P**		**20 29 21.2**	**+0.7**
SPITS								20 29 22.4	
SPITS				pmax		pmax			
	comp=Z,40nm,1.3s								
KSRS	**Korea Array**	**63.90**	**61**	P		**P**		**20 31 22.0**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=291,slow=8.4,SNR=2.0								
	comp=Z,0.5nm,0.5s								
SEY	**Seymchan**	**67.32**	**29**	*e*P		**P**		**20 31 45.1**	**+1.1**
SEY				pmax		pmax			
	comp=Z,5.0nm,1.0s								
BILL	**Bilibino**	**69.34**	**21**	*e*P		**P**		**20 31 58.7**	**+2.1**
BILL				pmax		pmax			
	comp=Z,10.0nm,1.3s								
YKA	**Yellowknife Ar**	**83.54**	**352**	P		**P**		**20 33 16.6**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=13,slow=5.7,SNR=3.5								
	comp=Z,0.3nm,0.7s								
YKA	**Yellowknife Ar**	**83.54**	**352**	*i* P		**P**		**20 33 17.2**	**+0.1**
NVL	**N'lazarevskaya**	**106.75**	**192**	*e*P		**Pdif**		**20 35 10.9**	**+7.1**
NVL				pmax		pmax			
	comp=Z,11nm,0.7s								
QSPA	**South Pole Qui**	**123.04**	**180**	PKP		**PKPdf**		**20 39 45.2**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=297,slow=2.3,SNR=1.8								

*ISN **31** 20:23:12.3±0.4,33.7°79N×45.7°53E, h10km±2km, ML3.4*
*IDC **31** 20:23:12.9±2.2,33.7°88N×45.7°48E, h0km, mb3.8/5, mbtmp3.8/5, MS3.3/1, Error ellipse: s-maj=52.5km s-min=28.5km az=158.0*
*TEH **31** 20:23:14.1,33.7°79N×45.7°66E, h9km×36km*
ISC 31 20:23:14.0±0.7, 33.7°78N±0.0°03×45.7°60E±0.0°04, h10km, n22, σ1§02/25, mb3.8/4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GLG1	**Gilan-e-Gharb**	**0.42**	**37**	Pg		**Pg**	**20 23 21.6**	**-0.7**
ILBA	**Ilam Banvizeh**	**0.53**	**107**	Pg		**Pg**	**20 23 24.0**	**-0.3**
IBDR	**Badra**	**0.72**	**157**	*e*Pg		**Pg**	**20 23 27.0**	**-0.9**
IBDR				*e*Sg		**Sg**	**20 23 37.5**	**+0.2**
KGS1	**Ghasr-e-Shirin**	**0.73**	**359**	Pg		**Pg**	**20 23 28.3**	**+0.3**
IGHG	**Ghaleghazi**	**0.97**	**55**	Pg		**Pb**	**20 23 32.4**	**-0.6**
IDHR	**Dehrash**	**1.13**	**35**	Pg		**Pg**	**20 23 34.8**	**-0.9**
BHD	**Baghdad**	**1.14**	**244**	*e*Pn		**Pb**	**20 23 35.5**	**-0.2**
BHD				*e*Sn		**Sb**	**20 23 52.0**	**+1.4**
BHD				AML		AML	20 23 58.5	
	comp=E,2μm,0.2s							
KCHF	**Cheshme Sefid,**	**1.29**	**67**	Pg		**Pg**	**20 23 38.2**	**-0.6**
IKRK	**Kirkuk**	**1.92**	**328**	*e*Pn		**Pn**	**20 23 46.5**	**-0.3**
IKRK				*e*Sn		**Sn**	**20 24 11.5**	**+0.4**
IKRK				AML		AML	20 24 19.7	
	comp=N,225nm,0.5s							
IKRK				AML		AML	20 24 20.2	
	comp=E,268nm,0.6s							
SNQR	**Sonqor, Kerman**	**1.99**	**57**	Pn		**Pb**	**20 23 49.5**	**-1.0**
IBZA	**Bozab**	**2.00**	**69**	Pn		**Pb**	**20 23 50.2**	**-0.4**
RAFI	**Al-Rafai**	**2.09**	**168**	*e*Pn		**Pn**	**20 23 49.5**	**+0.4**
RAFI				*e*Sn		**Sb**	**20 24 17.0**	**-1.1**
RAFI				AML		AML	20 24 28.8	
	comp=E,376nm,0.3s							
RAFI				AML		AML	20 24 31.9	
	comp=N,381nm,0.5s							
BDRS	**Dareh Seyedi**	**2.73**	**85**	Pn		**Pn**	**20 23 58.9**	**+0.7**
HGHA	**Hamedan- Ghaye**	**3.18**	**57**	Pn		**Pn**	**20 24 05.8**	**+1.5**
IPIR	**Pirpir**	**4.57**	**102**	Pn		**Pn**	**20 24 25.1**	**+1.8**
QAMS	**Qamsar**	**4.83**	**89**	Pn		**Pn**	**20 24 28.9**	**+1.9**
ARTI	**Arti**	**24.27**	**17**	LR		LR	20 39 08.3	
	comp=N,66nm,19.0s,baz=285,slow=40							
BVAR	**Borovoye Array**	**26.13**	**35**	P		**P**	**20 28 49.9**	**+1.8**
	comp=N,0.5nm,0.6s,baz=237,slow=10,SNR=2.1							
	comp=N,0.5nm,0.6s							
MKAR	**Makanchi Array**	**30.57**	**54**	P		**P**	**20 29 27.8**	**0.0**
	comp=N,0.4nm,0.4s,baz=252,slow=10,SNR=11							
	comp=N,0.4nm,0.4s							
HFS	**Hagfors**	**33.59**	**331**	P		**P**	**20 29 53.5**	**-0.6**
	comp=N,0.9nm,0.5s,baz=138,slow=12,SNR=11							
	comp=N,0.9nm,0.5s							
ARCES	**ARCESS Array B**	**37.52**	**349**	P		**P**	**20 30 26.4**	**-1.3**
	comp=N,1.7nm,0.9s,baz=161,slow=8.1,SNR=2.0							
	comp=N,1.7nm,0.9s							
TORD	**Torodi Ar. Bea**	**44.79**	**253**	P		**P**	**20 31 28.2**	**+0.1**
	comp=N,1.4nm,0.4s,baz=53,slow=7.0,SNR=1.3							
	comp=N,1.4nm,0.4s							

*SKO **31** 20:24:19.9,41.2°92N×23.7°15E, h18km, ML1.8*
*BEO **31** 20:24:22.5±0.9,42.2°03N×23.7°16E, h0km, ML1.7/5*
SOF 31 20:24:20.5,41.2°97N±0.0°01×23.7°25E±0.0°01, h5km±3km, MD2.4/7, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KKB	**Krupnik**	**0.15**	**215**	*i* Pg		Pg	20 24 23.5	-0.1
KKB				*i* Sg		Sg	20 24 25.8	+0.1
KKB	**Krupnik**	**0.15**	**215**	P		Pg	20 24 23.4	-0.2
KKB				S		Sg	20 24 25.3	-0.3
PLNA	**Plana**	**0.53**	**14**	P		Pg	20 24 30.7	+0.1
PLNA				S		Sg	20 24 38.2	+0.7
MMB	**Musomishta**	**0.56**	**138**	P		Pg	20 24 31.0	-0.3
MMB				S		Sg	20 24 38.7	+0.1
MMB	**Musomishta**	**0.56**	**138**	*i* Pg		Pg	20 24 31.3	0.0
MMB				*i* Sg		Sg	20 24 39.2	+0.6
VTS	**Vitosha**	**0.65**	**359**	P		Pg	20 24 32.5	-0.5
VTS				S		Sg	20 24 41.4	-0.1
VTS	**Vitosha**	**0.65**	**359**	*e*Pg		Pg	20 24 32.6	-0.4
VTS				*e*Sg		Sg	20 24 41.0	-0.5
BOSS	**Bosilegrad**	**0.78**	**313**	*e*Pg		Pg	20 24 34.1	-1.3
BOSS				*e*Sg		Sg	20 24 44.6	-0.9
VAY	**Valandovo**	**0.82**	**218**	*i* Pg		Pg	20 24 34.7	-1.5
VAY				*i* Sg		Sg	20 24 45.8	-1.1
VAY				*e*Lg		Lg	20 24 46.2	
	comp=E,19nm,0.4s							
VAY				*e*Lg		Lg	20 24 47.0	
	comp=N,18nm,0.3s							
KNT	**Kendrikon**	**0.85**	**198**	*i* Pg		Pg	20 24 35.6	-1.1
KNT				*i* Sg		Sg	20 24 46.3	-1.4
PGB	**Panagyurishte**	**0.88**	**51**	P		Pg	20 24 37.5	+0.1
SRS	**Serrai**	**0.89**	**163**	*i* Pg		Pg	20 24 37.0	-0.5
SRS				*i* Sg		Sb	20 24 50.5	-0.1
PLD	**Plovdiv**	**1.13**	**80**	P		Pb	20 24 42.7	+0.2
PLD	**Plovdiv**	**1.13**	**80**	*i* Pg		Pb	20 24 42.6	+0.1
PLD				*i* Sg		Sn	20 24 58.9	0.0
SOH	**Sokhos**	**1.15**	**176**	*i* Pg		Pg	20 24 41.5	-1.0
SOH				*i* Sg		Sg	20 24 56.9	-0.5
THE	**Thessaloniki**	**1.35**	**189**	*i* Pg		Pn	20 24 45.1	-0.8
BARS	**Barje**	**1.36**	**309**	*i* Pg		Pn	20 24 45.2	-1.0
BARS				*i* Sg		Sb	20 25 02.7	-1.4
BARS	**Barje**	**1.36**	**309**	*e*Pg		Pn	20 24 44.9	-1.3
BARS				*e*Sg		Sb	20 25 01.5	-2.6
ZAPS	**Zavoj**	**1.38**	**341**	*e*Pn		Pn	20 24 46.2	-0.3
ZAPS				*e*Sn		Sb	20 25 04.7	-0.1
MPEP	**Malo Peshtene**	**1.44**	**14**	P		Pb	20 24 47.8	+0.1
KDZ	**Kurdzhali**	**1.60**	**101**	P		Pb	20 24 50.6	+0.1
BLKB	**Belogradchik**	**1.71**	**346**	*e*Pn		Pg	20 24 52.9	-0.3
ZAGS	**Zajecar**	**1.99**	**338**	*e*Pn		Pn	20 24 55.8	+1.0
ZAGS				*e*Sn		Sb	20 25 21.3	-1.0
SELS	**Selova**	**2.01**	**309**	*e*Pn		Pb	20 24 56.8	-0.7
SELS				*e*Sn		Sg	20 25 24.1	-1.0

*SFS **31** 20:36:28.3,35.2°28N×4.0°00W, h0km, ML2.6/6, ML2.2/7, MLv2.0/7*
*IGIL **31** 20:36:28.1,35.2°29N×3.9°93W, h1km*
*MDD **31** 20:36:28.1±0.7,35.2°29N×3.9°93W, h1km, mb_Lg2.3/15, Error ellipse: s-maj=6.2km s-min=3.5km az=5.0*
*INMG **31** 20:36:29.0±1.5,35.3°31N×3.8°88W, h7km, ML2.2, Error ellipse: s-maj=5.6km s-min=3.2km az=7.0, #DIST_RANGE: REGIONAL #IPMA_REGION: NE Al Hoceima (MARR)*
ISC 31 20:36:27.3±1.5, 35.2°32N±0.0°06×3.9°93W±0.0°03, h7km±10km, n33, σ1§16/54, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EMEL	**Melilla**	**0.80**	**91**	P		**Pg**	**20 36 42.4**	**-0.2**
EMEL				S		**Sb**	**20 36 53.8**	**-0.5**
EMLI	**Melilla**	**0.80**	**91**	Pg		**Pg**	**20 36 42.8**	**+0.1**
EMLI				Sg		**Sb**	**20 36 55.3**	**+0.8**
EALB	**Alboran**	**0.96**	**49**	Sn		**Sn**	**20 37 01.0**	**+0.1**
EALB	**Alboran**	**0.96**	**49**	P		**Pg**	**20 36 46.0**	**+0.3**
EALB				S		**Sg**	**20 36 58.3**	**+0.1**
ECEU	**Ceuta**	**1.31**	**297**	Sg		**Sb**	**20 37 06.9**	**-2.4**
ECEU				Pg		**Pg**	**20 36 53.1**	**+0.6**
ECEU	**Ceuta**	**1.31**	**297**	P		**Pn**	**20 36 52.2**	**+0.2**
ECEU				S		**Sb**	**20 37 07.5**	**-1.8**
ECEU				*i* lVmb_Lg			20 37 09.3	
EMAL	**Malaga-Limoner**	**1.50**	**344**	Pn		**Pb**	**20 36 55.5**	**+0.1**
EMAL				Sn		**Sg**	**20 37 15.5**	**+0.1**
ELGU	**Los Guajares,**	**1.57**	**9**	Sn		**Sb**	**20 37 16.9**	**+0.3**
ELGU				Pn		**Pb**	**20 36 56.9**	**+0.3**
ELGU	**Los Guajares,**	**1.57**	**9**	P		**Pn**	**20 36 56.0**	**+0.4**
ELGU				S		**Sn**	**20 37 16.2**	**+0.1**
ELGU				*i* lVmb_Lg			20 37 21.6	
EJIF	**Jimena Fronter**	**1.69**	**313**	P		**Pg**	**20 37 00.0**	**+0.4**
EGOR	**Sierra Gorda,**	**1.79**	**355**	Pn		**Pb**	**20 37 00.3**	**-0.3**
EGOR	**Sierra Gorda,**	**1.79**	**355**	P		**Pn**	**20 36 59.1**	**+0.3**
EGOR				S		**Sn**	**20 37 22.1**	**+0.2**
EGOR				*i* lVmb_Lg			20 37 28.3	
EQUE	**Quentar**	**1.93**	**12**	P		**Pn**	**20 37 00.1**	**-0.5**
EQUE				S		**Sn**	**20 37 24.1**	**-0.9**
EQUE				*i* lVmb_Lg			20 37 26.9	
ENIJ	**Nijar**	**2.16**	**40**	P		**Pn**	**20 37 04.5**	**+0.9**
ENIJ				S		**Sn**	**20 37 29.7**	**-1.1**
ENIJ				*i* lVmb_Lg			20 37 34.0	
EQES	**Quesada**	**2.58**	**15**	P		**Pb**	**20 37 12.2**	**-1.6**
EQES				S		**Sn**	**20 37 43.0**	**+2.0**
EQES				*i* lVmb_Lg			20 37 48.5	
EADA	**Adamuz**	**2.89**	**350**	Pn		**Pb**	**20 37 16.6**	**-2.5**
EADA	**Adamuz**	**2.89**	**350**	P		**Pn**	**20 37 14.6**	**+0.8**
EADA				S		**Sn**	**20 37 49.8**	**+1.1**
EADA				*i* lVmb_Lg			20 37 58.7	
ECAB	**El Cabril**	**3.00**	**337**	P		**Pn**	**20 37 17.3**	**+2.1**
ECAB				S		**Sn**	**20 37 51.7**	**+0.3**
ECAB				*i* lVmb_Lg			20 38 05.6	
EMIN	**Mina Concepcio**	**3.29**	**319**	P		**Pn**	**20 37 20.3**	**+1.0**
EMIN				S		**Sn**	**20 37 57.5**	**-1.1**
EMIN				*i* lVmb_Lg			20 38 03.0	
EGRO	**El Granado**	**3.62**	**309**	P		**Pn**	**20 37 23.5**	**-0.2**
EGRO				S		**Sn**	**20 38 05.2**	**-1.4**
EGRO				*i* lVmb_Lg			20 38 09.0	
PVAQ	**Vaqueiros**	**3.70**	**305**	*e*P		**Pn**	**20 37 26.0**	**+1.2**
PVAQ				*e*S		**Sn**	**20 38 08.4**	**-0.2**
PVAQ				*i* lAML			20 38 08.9	
PVAQ				*i* lAML			20 38 10.3	
PVAQ				*i* lAML			20 38 10.6	
PBDV	**Barranco-do-Ve**	**3.76**	**302**	*e*P		**Pn**	**20 37 26.9**	**+1.2**
PBDV				*e*S		**Sn**	**20 38 10.1**	**-0.1**
PBDV				*i* lAML			20 38 10.6	
PBDV				*i* lAML			20 38 13.6	
PBAR	**Barrancos**	**3.79**	**320**	*e*P		**Pn**	**20 37 27.7**	**+1.7**
PBAR				*e*S		**Sn**	**20 38 11.1**	**+1.0**
PBAR				*i* lAML			20 38 12.0	
PBAR				*i* lAML			20 38 16.2	
PBAR				*i* lAML			20 38 17.5	
PCVE	**Castro Verde**	**4.04**	**306**	*e*P		**Pn**	**20 37 32.2**	**+2.8**
PCVE				*e*S		**Sn**	**20 38 16.9**	**0.0**
PCVE				*i* lAML			20 38 20.3	
PCVE				*i* lAML			20 38 24.5	
PCVE				*i* lAML			20 38 34.6	
PAB	**San Pablo**	**4.23**	**356**	P		**Pn**	**20 37 31.0**	**-1.2**
PAB				S		**Sn**	**20 38 22.1**	**+0.2**
PAB				*i* lVmb_Lg			20 38 27.4	
MESJ	**Messejana**	**4.27**	**307**	*e*P		**Pn**	**20 37 32.5**	**-0.2**
MESJ	**Messejana**	**4.27**	**307**	*e*S		**Sn**	**20 38 23.8**	**+1.0**
PTEO	**Sao Teotonio**	**4.46**	**301**	*e*P		**Pn**	**20 37 36.7**	**+1.5**
PTEO				*e*S		**Sn**	**20 38 26.9**	**-0.5**
EVO	**Evora**	**4.58**	**316**	*e*P		**Pn**	**20 37 38.2**	**+1.3**
PESTR	**Estremoz**	**4.59**	**322**	*e*S		**Sn**	**20 38 31.9**	**+1.2**
PMRV	**Marv??o**	**4.94**	**327**	*e*P		**Pn**	**20 37 44.0**	**+2.1**
PMTG	**Montargil**	**5.08**	**319**	*e*P		**Pn**	**20 37 45.4**	**+1.7**
PARRA	**Arraiolos**	**5.37**	**312**	*e*P		Pn	20 37 41.2	-6.6
PARRA				*e*S		Sn	20 38 35.1	-15

*NEIC **31** 20:44:08.5±1.9, 7.2°52N±0.0°09×126.7°89E±0.0°09, h35km±2km, mb4.5/32, Error ellipse: s-maj=15.7km s-min=14.8km az=185.0*
*IDC **31** 20:44:11.2±1.9, 7.2°49N×126.7°74E, h76km±18km, mb3.8/13, mbtmp4.2/15, MS3.1/4, Error ellipse: s-maj=22.3km s-min=11.7km az=73.0*
ISC 31 20:44:09.2±0.5, 7.2°50N±0.0°07×126.7°84E±0.0°08, h52km, n73, σ1§06/69, mb4.3/28, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DAV	**Davao City (W)**	**1.32**	**251**			**Pn**	**20 44 32.0**	**+0.6**
DAV	**Davao City (W)**	**1.32**	**251**	P		**Pn**	**20 44 32.9**	**+1.6**
	2μm,0.3s,baz=161,slow=2.8,SNR=63							
DAV				S		**Sn**	**20 44 49.1**	**+1.2**
	856nm,0.4s,baz=216,slow=22,SNR=5.6							
DAV	**Davao City (W)**	**1.32**	**251**	*i*eP		**Pn**	**20 44 33.0**	**+1.6**
DAV	**Davao City (W)**	**1.32**	**251**	P		**Pn**	**20 44 33.9**	**+2.5**
TNTI	**Ternate**	**6.71**	**175**	Pn		**Pn**	**20 45 44.1**	**-1.1**
TNTI	**Ternate**	**6.71**	**175**	P		**Pn**	**20 45 47.6**	**+2.4**
TOLI2	**Tolitoli**	**8.76**	**224**	Pn		**Pn**	**20 46 11.6**	**-1.7**
TOLI2	**Tolitoli**	**8.76**	**224**	P		**Pn**	**20 46 12.5**	**-0.9**
SANI	**Sanana**	**9.53**	**185**	P		**Pn**	**20 46 24.5**	**+0.6**
FAKI	**Fak Fak**	**11.68**	**152**	Pn		**Pn**	**20 46 53.5**	**+0.2**
FAKI	**Fak Fak**	**11.68**	**152**	P		**Pn**	**20 46 54.9**	**+1.6**
SBUM	**Sibu**	**15.40**	**252**			**Pn**	**20 47 44.2**	**+0.9**
JAY	**Jayapura**	**17.05**	**125**	P		**P**	**20 48 06.8**	**+1.5**
	4.4nm,0.6s,baz=134,slow=7.8,SNR=5.4							
BATI	**Baumata**	**17.88**	**190**	P		**P**	**20 48 16.2**	**+1.8**
	33nm,0.4s,baz=134,slow=1.2,SNR=12							

PLAI	**Plampang**	**18.57**	**209**	P		**P**		**20 48 22.3**	**+0.2**
GUMO	**Guam**	**18.72**	**70**	LR		LR		20 53 53.7	
	comp=Z,74nm,21.8s,baz=256,slow=31								
JOW	**Kunigami**	**19.27**	**4**	LR		LR		20 55 51.6	
	comp=Z,32nm,19.4s,baz=128,slow=36								
MTN	**Manton Dam**	**20.66**	**168**			**P**		**20 48 44.9**	**0.0**
MTN				IAmb		IAmb		20 49 14.1	
	comp=Z,13nm,0.5s								
MTN	**Manton Dam**	**20.66**	**168**	P		**P**		**20 48 44.6**	**-0.3**
KDU	**Kakadu**	**20.83**	**164**	P		**P**		**20 48 46.4**	**-0.2**
KNRA	**Kununurra**	**23.11**	**175**			**P**		**20 49 10.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**25.47**	**183**	P		**P**		**20 49 32.0**	**-0.5**
COEN	**Coen**	**26.79**	**143**	P		**P**		**20 49 44.3**	**-0.3**
WB0	**Warramunga Arr**	**28.10**	**165**			**P**		**20 49 54.6**	**-1.8**
WB0				IAmb		IAmb		20 50 13.2	
	comp=Z,10nm,1.3s								
WRA	**Warramunga Arr**	**28.26**	**165**	P		**P**		**20 49 56.5**	**-1.2**
	comp=Z,1.1nm,0.4s,baz=347,slow=9.4,SNR=17								
WRA				PcP		**PcP**		**20 53 09.8**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=340,slow=2.5,SNR=5.6								
	comp=Z,1.1nm,0.4s								
WR8	**Warramunga Arr**	**28.31**	**165**	P		**P**		**20 49 57.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**29.23**	**295**	LR		LR		21 02 52.4	
	comp=Z,34nm,19.0s,baz=145,slow=38								
QIS	**Mount Isa**	**30.58**	**156**	P		**P**		**20 50 18.1**	**-0.2**
MJAR	**Matsushiro Arr**	**30.71**	**18**	P		**P**		**20 50 18.3**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=184,slow=9.1,SNR=7.3								
	comp=Z,1.4nm,0.7s								
AS31	**Alice Springs**	**31.74**	**168**			**P**		**20 50 27.6**	**-0.9**
ASAR	**Alice Springs**	**31.74**	**168**	P		**P**		**20 50 27.7**	**-0.8**
ASAR	**Alice Springs**	**31.74**	**168**	P		**P**		**20 50 27.4**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=345,slow=7.0,SNR=33								
ASAR				PcP		**PcP**		**20 53 18.9**	**-0.3**
	comp=Z,2.3nm,0.4s,baz=344,slow=2.6,SNR=20								
	comp=Z,1.2nm,0.5s								
AS01	**Alice Springs**	**31.75**	**168**	P		**P**		**20 50 28.1**	**-0.5**
JMM	**Marumori**	**32.77**	**21**	P		**P**		**20 50 37.2**	**-0.1**
USRK	**Ussuriysk Ar.**	**36.83**	**6**	P		**P**		**20 51 12.1**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=194,slow=8.8,SNR=2.9								
	comp=Z,2.5nm,0.7s								
MORW	**Morawa**	**37.82**	**196**	P		**P**		**20 51 20.7**	**-0.2**
FORT	**Forrest**	**38.08**	**178**	P		**P**		**20 51 22.8**	**-0.3**
FORT				IAmb		IAmb		20 51 23.6	
	comp=Z,9.2nm,0.7s								
JKA	**Kamikawa-asahi**	**38.98**	**18**	P		**P**		**20 51 32.0**	**+1.5**
STKA	**Stephens Creek**	**41.62**	**161**	P		**P**		**20 51 51.7**	**-0.7**
STKA	**Stephens Creek**	**41.62**	**161**	P		**P**		**20 51 51.6**	**-0.7**
	comp=Z,5.7nm,0.6s,baz=332,slow=8.0,SNR=14								
	comp=Z,5.7nm,0.6s								
STKA	**Stephens Creek**	**41.62**	**161**	P		**P**		**20 51 52.3**	**-0.1**
HTT	**Hallett**	**42.30**	**165**	P		**P**		**20 51 58.7**	**+0.7**
ARMA	**Armidale**	**44.58**	**149**	P		**P**		**20 52 16.6**	**+0.1**
PEA0B	**Petropavlovsk-**	**51.93**	**23**	P		**P**		**20 53 14.3**	**+1.5**
PETK	**Petropavlovsk-**	**51.93**	**23**	P		**P**		**20 53 13.7**	**+1.0**
PETK	**Petropavlovsk-**	**51.93**	**23**	P		**P**		**20 53 14.2**	**+1.5**
	comp=Z,1

az=156.0
UPP ***31*** *21:19:12.6±0.1, 62°.23N×17°.17E, h17km±2km, ML2.4, Confirmed Earthquake*
DNK ***31*** *21:19:12.5±1.7, 62°.23N×17°.13E, h9km±3km, ML2.0, Confirmed Earthquake*
HEL ***31*** *21:19:12.5, 62°.23N×17°.05E, h6km, ML2.1, ML2.4(UPP), Confirmed Earthquake Hypocentre not reviewed by the ISC*
BER ***31*** *21:19:14.3±3.6, 62°.17N×17°.39E, h14km±7km, ML1.9, ML2.4(UPP), Confirmed Earthquake*

ISC 31 21:19:11.9±0.9, 62°.24N±0°.02×17°.21E±0°.02, h17km±6km, n60, σ1s90/119, 10C-14D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HASU	**Hassela**	**0.29**	**252**	⇑P	**Pg**	**21 19 17.8**	**-0.5**
HASU				S	**Sg**	**21 19 21.5**	**-1.1**
HASU	**Hassela**	**0.29**	**252**	⇑P	**Pg**	**21 19 17.8**	**-0.5**
HASU				S	**Sg**	**21 19 21.5**	**-1.1**
HASU	**Hassela**	**0.29**	**252**	⇑*i*P		21 19 17.8	
HASU				*i* S		21 19 21.5	
HUDU	**Hudiksvall**	**0.51**	**185**	⇓P	**Pg**	**21 19 21.8**	**-0.3**
HUDU				S	**Sg**	**21 19 28.3**	**-0.6**
HUDU	**Hudiksvall**	**0.51**	**185**	⇓P	**Pg**	**21 19 21.8**	**-0.3**
HUDU				S	**Sg**	**21 19 28.3**	**-0.6**
HUDU	**Hudiksvall**	**0.51**	**185**	⇓P	**Pg**	**21 19 21.8**	**-0.3**
HUDU				S	**Sg**	**21 19 28.3**	**-0.6**
HUDU	**Hudiksvall**	**0.51**	**185**	⇓*i*P		21 19 21.8	
HUDU				*i* S		21 19 28.3	
ARNU	**Arnoeviken**	**0.56**	**172**	⇓P	**Pg**	**21 19 22.8**	**-0.2**
ARNU				S	**Sg**	**21 19 30.1**	**-0.4**
ARNU	**Arnoeviken**	**0.56**	**172**	⇓P	**Pg**	**21 19 22.8**	**-0.2**
ARNU				S	**Sg**	**21 19 30.1**	**-0.4**
ARNU	**Arnoeviken**	**0.56**	**172**	⇓P	**Pg**	**21 19 22.8**	**-0.2**
ARNU				S	**Sg**	**21 19 30.1**	**-0.4**
ARNU	**Arnoeviken**	**0.56**	**172**	*e*P		21 19 22.7	
ARNU				*e*S		21 19 29.9	
HEMU	**Hemsoen**	**0.58**	**41**	⇑P	**Pg**	**21 19 23.8**	**+0.5**
HEMU				S	**Sg**	**21 19 31.6**	**+0.5**
HEMU	**Hemsoen**	**0.58**	**41**	⇑P	**Pg**	**21 19 23.8**	**+0.5**
HEMU				S	**Sg**	**21 19 31.6**	**+0.5**
HEMU	**Hemsoen**	**0.58**	**41**	⇑P	**Pg**	**21 19 23.8**	**+0.5**
HEMU				S	**Sg**	**21 19 31.6**	**+0.5**
HEMU	**Hemsoen**	**0.58**	**41**	*e*P		21 19 23.8	
HEMU				*e*S		21 19 31.6	
SOLU	**Sollefteaa**	**1.01**	**1**	⇓P	**Pb**	**21 19 30.9**	**-0.1**
SOLU				S	**Sb**	**21 19 44.1**	**+0.2**
SOLU	**Sollefteaa**	**1.01**	**1**	⇓P	**Pb**	**21 19 30.9**	**-0.1**
SOLU				S	**Sb**	**21 19 44.1**	**+0.2**
SOLU	**Sollefteaa**	**1.01**	**1**	⇓P	**Pb**	**21 19 30.9**	**-0.1**
SOLU				S	**Sb**	**21 19 44.1**	**+0.2**
SOLU	**Sollefteaa**	**1.01**	**1**	⇓*e*P		21 19 30.9	
SOLU				*e*S		21 19 44.1	
IGGU	**Iggoen**	**1.38**	**178**	P	**Pn**	**21 19 36.8**	**+0.4**
IGGU				S	**Sn**	**21 19 54.1**	**-0.1**
IGGU	**Iggoen**	**1.38**	**178**	P	**Pn**	**21 19 36.8**	**+0.4**
IGGU				S	**Sn**	**21 19 54.1**	**-0.1**
IGGU	**Iggoen**	**1.38**	**178**	P	**Pn**	**21 19 36.8**	**+0.4**
IGGU				S	**Sn**	**21 19 54.1**	**-0.1**
IGGU	**Iggoen**	**1.38**	**178**	*e*P		21 19 36.8	
IGGU				*e*S		21 19 54.1	
HUSU	**Husum**	**1.44**	**39**	P	**Pn**	**21 19 38.2**	**+1.0**
HUSU				S	**Sb**	**21 19 58.2**	**+2.0**
HUSU	**Husum**	**1.44**	**39**	P	**Pn**	**21 19 38.2**	**+1.0**
HUSU				S	**Sb**	**21 19 58.2**	**+2.0**
HUSU	**Husum**	**1.44**	**39**	P	**Pn**	**21 19 38.2**	**+1.0**
HUSU				S	**Sb**	**21 19 58.2**	**+2.0**
HUSU	**Husum**	**1.44**	**39**	*e*P		21 19 38.8	
HUSU				*e*S		21 19 57.8	
NOD	**Norderasen**	**1.62**	**319**	⇓P	**Pn**	**21 19 40.3**	**+0.6**
NOD				S	**Sn**	**21 20 01.6**	**+1.4**
NOD	**Norderasen**	**1.62**	**319**	⇓P	**Pn**	**21 19 40.3**	**+0.6**
NOD				S	**Sn**	**21 20 01.6**	**+1.4**
NOD	**Norderasen**	**1.62**	**319**	⇓*e*P		21 19 40.3	
NOD				*e*S		21 20 01.6	
BREU	**Bredtraesk**	**1.77**	**20**	P	**Pn**	**21 19 43.8**	**+2.1**
BREU				S	**Sb**	**21 20 06.9**	**+1.2**
BREU	**Bredtraesk**	**1.77**	**20**	P	**Pn**	**21 19 43.8**	**+2.1**
BREU				S	**Sb**	**21 20 06.9**	**+1.2**
BREU	**Bredtraesk**	**1.77**	**20**	P	**Pn**	**21 19 43.8**	**+2.1**
BREU				S	**Sb**	**21 20 06.9**	**+1.2**
BREU	**Bredtraesk**	**1.77**	**20**	*e*P		21 19 43.8	
BREU				*e*S		21 20 06.9	
FALU	**Falun**	**1.88**	**201**	⇑P	**Pn**	**21 19 44.9**	**+1.6**
FALU				S	**Sn**	**21 20 07.8**	**+1.2**
FALU	**Falun**	**1.88**	**201**	⇑P	**Pn**	**21 19 44.9**	**+1.6**
FALU				S	**Sn**	**21 20 07.8**	**+1.2**
FALU	**Falun**	**1.88**	**201**	⇑P	**Pn**	**21 19 44.9**	**+1.6**
FALU				S	**Sn**	**21 20 07.8**	**+1.2**
FALU	**Falun**	**1.88**	**201**	⇑*e*P		21 19 44.9	
FALU				*e*S		21 20 07.8	
UMAU	**Umeaa**	**2.28**	**42**	*e*P		21 19 52.1	
UMAU				*e*S		21 20 20.6	
KPF	**Kankaanpaa**	**2.33**	**98**	*e*P		21 19 52.6	
KPF				*e*S		21 20 21.7	
AAL	**Aland**	**2.47**	**146**	*e*P		21 19 53.3	
AAL				*e*S		21 20 23.7	
AAL				MSG		21 20 28.1	
	comp=Z,10.0nm,0.1s						
RAF	**Rauma**	**2.49**	**117**	*e*P		21 19 54.6	
RAF				*e*S		21 20 25.3	
RAF				MSG		21 20 27.3	
	comp=Z,14nm,0.1s						
NRTU	**Norrtaelje**	**2.67**	**164**	*e*S		21 20 28.9	
HFS	**Hagfors**	**2.72**	**220**	Pn	**Pn**	**21 19 56.2**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=34,slow=13,SNR=49						
HFS				Sn	**Sn**	**21 20 28.0**	**+0.7**
	comp=Z,1.7nm,0.3s,baz=41,slow=31,SNR=16						
	comp=Z,1.2nm,0.3s						
NC303	**NORSAR Array S**	**2.96**	**252**	*e*P	**Pn**	**21 19 59.4**	**+1.2**
NC303				IAML		21 20 44.3	
	comp=Z,7.9nm,0.2s						
NB201	**NORSAR Array S**	**3.07**	**250**	*e*P	**Pn**	**21 20 01.2**	**+1.5**
NB201				IAML		21 20 47.9	
	comp=Z,6.4nm,0.4s						
NOA	**NORSAR Array B**	**3.11**	**250**	Pn	**Pn**	**21 20 00.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=35,slow=14,SNR=16						
NOA				Sn	**Sn**	**21 20 35.8**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=93,slow=17,SNR=8.0						
NOA				Lg	Lg	21 20 44.0	
	comp=Z,0.2nm,0.3s,baz=45,slow=23,SNR=4.8						
	comp=Z,0.1nm,0.2s						
NC602	**NORSAR Array S**	**3.11**	**243**	*e*P	**Pn**	**21 20 01.7**	**+1.5**
NC602				*e*S	**Sn**	**21 20 38.0**	**+1.0**
NC602				IAML		21 20 53.9	
	comp=Z,9.3nm,0.4s						
NC602	**NORSAR Array S**	**3.11**	**243**	*e*P		21 20 01.7	
NC602				*e*S		21 20 38.0	
NC602				IAML		21 20 53.9	
	comp=Z,9.3nm,0.4s						
NC204	**NORSAR Array S**	**3.22**	**255**	*e*P	**Pn**	**21 20 02.6**	**+0.9**
NC204				IAML		21 20 52.1	
	comp=Z,8.0nm,0.3s						
NSS	**Namsos**	**3.29**	**316**	*e*P	**Pn**	**21 20 02.4**	**-0.3**
NSS				IAML		21 21 00.2	
	comp=Z,8.7nm,0.4s						
NSS	**Namsos**	**3.29**	**316**	*e*P		21 20 02.4	
NSS				IAML		21 21 00.2	
	comp=Z,8.7nm,0.4s						
NBO00	**NORSAR Array S**	**3.30**	**251**	*e*P	**Pn**	**21 20 03.6**	**+0.7**
NBO00				IAML		21 20 59.0	
	comp=Z,7.0nm,0.2s						
NAO01	**NORSAR Array S**	**3.34**	**248**	*e*P	**Pn**	**21 20 04.4**	**+1.0**
NAO01				IAML		21 20 57.4	
	comp=Z,6.9nm,0.7s						
NAO01	**NORSAR Array S**	**3.34**	**248**	*e*P		21 20 03.8	
NAO01				*e*S		21 20 42.4	
KEF	**Keuruu**	**3.59**	**88**	*e*P		21 20 10.1	
KEF				MSG		21 21 06.9	
	comp=Z,3.9nm,0.1s						
TVF	**Tvarminne**	**3.80**	**127**	*e*S		21 20 55.8	
OSL	**Oslo**	**3.91**	**237**	*e*Pg	**Pb**	**21 20 22.3**	**+2.0**
OSL				*e*Sg	**Sb**	**21 21 11.8**	**+4.4**
OSL	**Oslo**	**3.91**	**237**	*e*PG		21 20 22.3	
OSL				*e*SG		21 21 11.8	
NUR	**Nurmijarvi**	**3.98**	**113**	*e*P		21 20 14.7	
NUR				*e*S		21 21 00.5	
NUR				MSG		21 21 18.2	
	comp=Z,2.7nm,0.1s						
OUF	**Merijarvi**	**4.01**	**55**	MSG		21 21 19.0	
	comp=Z,1.5nm,0.1s						
MEF	**Metsahovi**	**4.02**	**117**	MSG		21 21 19.2	
	comp=Z,5.1nm,0.1s						
MOR8	**Moi Rana**	**4.12**	**344**	*e*P	**Pn**	**21 20 16.5**	**+2.3**
MOR8				*e*S	**Sn**	**21 21 04.0**	**+2.0**
MOR8				*e*Sg	**Sg**	**21 21 22.9**	**-1.3**
MOR8				IAML		21 21 29.4	
	comp=Z,5.3nm,0.3s						
MOR8	**Moi Rana**	**4.12**	**344**	*e*P		21 20 16.5	
MOR8				*e*S		21 21 04.0	
MOR8				*e*SG		21 21 22.9	
MOR8				IAML		21 21 29.4	
	comp=Z,5.3nm,0.3s						
SUF	**Sumiainen**	**4.17**	**79**	MSG		21 21 25.3	
	comp=Z,2.5nm,0.1s						
KAF	**Kangasniemi**	**4.26**	**88**	*e*P		21 20 19.7	
LEIR	**Leirfjorden**	**4.28**	**337**	*e*P	**Pn**	**21 20 17.7**	**+1.5**
LEIR				*e*S	**Sn**	**21 21 07.2**	**+1.6**
LEIR				*e*Sg	**Sb**	**21 21 24.3**	**+6.5**
LEIR				IAML		21 21 25.6	
	comp=Z,5.5nm,0.6s						
FINES	**FINESS Array B**	**4.28**	**97**	Pn	**Pn**	**21 20 19.0**	**+2.8**
	comp=Z,0.3nm,0.3s,baz=284,slow=13,SNR=13						
FINES				Sn	**Sn**	**21 21 08.5**	**+2.8**
	comp=Z,1.3nm,0.3s,baz=286,slow=22,SNR=3.9						
FINES				Lg	Lg	21 21 24.5	
	comp=Z,2.5nm,0.3s,baz=285,slow=27,SNR=16						
	comp=Z,1.1nm,0.7s						
LEIR	**Leirfjorden**	**4.28**	**337**	*e*P		21 20 17.7	
LEIR				*e*S		21 21 07.2	
LEIR				*e*SG		21 21 24.3	
LEIR				IAML		21 21 25.6	
	comp=Z,5.5nm,0.6s						
STRU	**Stroemstad**	**4.38**	**225**	*e*P	**Pn**	**21 20 17.8**	**+0.2**
STRU				*e*S	**Sn**	**21 21 06.6**	**-1.6**
STRU				*e*Sg	**Sb**	**21 21 21.8**	**+1.0**
STRU	**Stroemstad**	**4.38**	**225**	*e*P	**Pn**	**21 20 18.7**	**+1.1**
STRU				*e*S	**Sn**	**21 21 07.1**	**-1.1**
STRU	**Stroemstad**	**4.38**	**225**	*e*P		21 20 17.8	
STRU				*e*S		21 21 06.6	
STRU				*e*SB		21 21 21.8	
STOK	**Stokkvaagen**	**4.49**	**338**	*e*P	**Pn**	**21 20 20.4**	**+1.2**
STOK				*e*Sg	**Sb**	**21 21 29.6**	**+5.5**
STOK				IAML		21 21 35.0	
	comp=Z,6.4nm,0.6s						
STOK	**Stokkvaagen**	**4.49**	**338**	*e*P		21 20 20.4	
STOK				*e*SG		21 21 29.6	
STOK				IAML		21 21 35.0	
	comp=Z,6.4nm,0.6s						
MOL	**Molde**	**4.51**	**278**	*e*P		21 20 20.3	
MOL				*e*S		21 21 11.0	
KONO	**Kongsberg**	**4.53**	**238**	*e*P	**Pn**	**21 20 21.2**	**+1.5**
KONO				*e*S	**Sn**	**21 21 09.4**	**-2.6**
KONO	**Kongsberg**	**4.53**	**238**	*e*P		21 20 21.2	
KONO				*e*S		21 21 09.4	
SKAR	**Skarslia**	**4.55**	**254**	*e*P	**Pn**	**21 20 21.1**	**+1.1**
SKAR				*e*S	**Sn**	**21 21 10.5**	**-2.1**
SKAR				IAML		21 21 35.1	
	comp=Z,5.6nm,0.4s						
KONS	**Konsvik**	**4.63**	**339**	*e*P	**Pn**	**21 20 21.8**	**+0.8**
KONS				*e*S	**Sn**	**21 21 15.0**	**+0.8**
KONS				*e*Sg	**Sg**	**21 21 36.0**	**-4.2**
KONS				IAML		21 21 39.7	
	comp=Z,6.8nm,0.3s						
KONS	**Konsvik**	**4.63**	**339**	*e*P		21 20 21.8	
KONS				*e*S		21 21 15.0	
KONS				*e*SG		21 21 36.0	
KONS				IAML		21 21 39.7	
	comp=Z,6.8nm,0.3s						
VAGH	**Vaagaholmen**	**4.82**	**341**	*e*P	**Pn**	**21 20 24.6**	**+1.0**
VAGH				*e*S	**Sn**	**21 21 19.7**	**+0.8**
VAGH				IAML		21 21 21.0	
	comp=Z,3.2nm,0.9s						
VAGH				*e*Sg	**Sg**	**21 21 42.7**	**-3.6**
VAGH	**Vaagaholmen**	**4.82**	**341**	*e*P		21 20 24.6	
VAGH				*e*S		21 21 19.7	
VAGH				IAML		21 21 21.0	
	comp=Z,3.2nm,0.9s						
VAGH				*e*SG		21 21 42.7	
BORU	**Boraas**	**5.13**	**208**	*e*P	**Pn**	**21 20 29.7**	**+1.7**
SALU	**Saltoluokta**	**5.19**	**6**	*e*P	**Pn**	**21 20 30.2**	**+1.5**
SALU				*e*S	**Sn**	**21 21 26.5**	**-1.6**
SALU	**Saltoluokta**	**5.19**	**6**	*e*P		21 20 30.2	
SALU				*e*S		21 21 26.5	
FAUS	**Fauske**	**5.22**	**352**	*e*P	**Pn**	**21 20 30.9**	**+1.7**
FAUS				*e*S	**Sn**	**21 21 27.9**	**-1.0**
FAUS				IAML		21 21 32.8	
	comp=Z,1.4nm,0.2s						
FAUS	**Fauske**	**5.22**	**352**	*e*P		21 20 30.9	
FAUS				*e*S		21 21 27.9	
FAUS				IAML		21 21 32.8	
	comp=Z,1.4nm,0.2s						
HYA	**Hoyanger**	**5.36**	**263**	*e*P	**Pn**	**21 20 31.9**	**+0.9**
HYA				*e*S	**Sn**	**21 21 30.5**	**-1.8**
HYA				*e*Sg	**Sb**	**21 21 55.0**	**+6.1**
HYA				IAML		21 22 04.8	
	comp=Z,4.7nm,0.7s						
HYA	**Hoyanger**	**5.36**	**263**	*e*P		21 20 31.9	
HYA				*e*S		21 21 30.5	
HYA				*e*SG		21 21 55.0	
HYA				IAML		21 22 04.8	
	comp=Z,4.7nm,0.7s						
ONAU	**Onsala**	**5.55**	**211**	*e*P	**Pn**	**21 20 35.3**	**+1.7**
ONAU				*e*S	**Sn**	**21 21 34.2**	**-2.7**
FABU	**Falkenberg**	**5.73**	**205**	*e*P	**Pn**	**21 20 38.1**	**+2.0**
FABU				*e*S	**Sn**	**21 21 38.4**	**-3.1**
HOMB	**Homborsund**	**5.89**	**231**	*e*P	**Pn**	**21 20 39.2**	**+0.9**
HOMB				*e*S	**Sn**	**21 21 41.8**	**-3.4**
BLEU	**Blekinge**	**6.00**	**187**	*e*P	**Pn**	**21 20 40.7**	**+0.9**
BLEU				*e*S	**Sn**	**21 21 43.6**	**-4.5**
DEL	**Delary**	**6.04**	**198**	*e*P	**Pn**	**21 20 42.0**	**+1.6**
DEL				*e*S	**Sn**	**21 21 46.8**	**-2.2**
LANU	**Lannavaara**	**6.17**	**17**	*e*S		21 21 52.6	
LUNU	**Lund**	**6.91**	**198**	*e*P	**Pn**	**21 20 52.4**	**0.0**
LUNU				*e*S	**Sn**	**21 22 07.7**	**-2.8**
BSD	**Bornholm Skovb**	**7.25**	**191**	*e*P	**Pn**	**21 20 57.1**	**+0.1**
BSD				*e*S	**Sn**	**21 22 15.7**	**-3.1**
BSD				IAML		21 22 18.4	
	comp=Z,0.5nm,0.3s						
ARCES	**ARCESS Array B**	**8.06**	**21**	Pn	**Pn**	**21 21 07.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=207,slow=14,SNR=7.7						
ARCES				Sn	**Sn**	**21 22 33.6**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=211,slow=24,SNR=2.6						
	comp=Z,1.0nm,0.7s						

HVO ***31*** *21:33:41.9±1.1, 19°.434N±0°.004×155°.61W±0°.01, h-1km±8km, ML2.5/4, ML2.1/20(NEIC), Error ellipse: s-maj=1.8km s-min=0.5km az=99.0*

NEIC 31 21:33:42.6±1.0, 19°.450N±0°.008×155°.588W±0°.009, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.4km az=319.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Mokuaweoweo**	**0.04**	**346**		Pg	21 33 43.7	-0.6
MWH					Sg	21 33 44.8	-0.6
ALEP	**Alea Permanent**	**0.10**	**330**		Pg	21 33 45.0	0.0
ALEP					Sg	21 33 47.2	+0.6
AIN	**Ainahou**	**0.14**	**122**	Pg	Pg	21 33 45.8	+0.2
AIN				IAML		21 33 50.1	
	comp=E,746nm,0.6s						
AIN				IAML		21 33 50.3	
	comp=N,618nm,0.6s						
HMH	**Humu'ula Sheep**	**0.18**	**33**	Pg	Pg	21 33 46.5	+0.2
HMH				IAML		21 33 50.0	
	comp=E,284nm,2.7s						
HMH				Sg	Sg	21 33 50.0	+1.3
MLH	**Mauna Loa**	**0.20**	**77**	Pg	Pg	21 33 46.8	+0.3
MLH				IAML		21 33 51.6	
	comp=N,377nm,0.2s						
KHU	**Kahuku**	**0.20**	**187**		Pg	21 33 46.1	-0.6
KHU					Sg	21 33 49.5	+0.2
WRMHI	**West Rim**	**0.28**	**99**		Pg	21 33 48.1	+0.1
WRMHI					Sg	21 33 52.4	+0.8
UWE	**Uwekahuna**	**0.28**	**96**	Pg	Pg	21 33 47.7	-0.3
UWE				IAML		21 33 50.7	
	comp=E,342nm,2.7s						
UWE				Sg	Sg	21 33 51.0	-0.7
SDHHI	**Sand Hill**	**0.28**	**102**		Pg	21 33 48.2	0.0
SDHHI					Sg	21 33 52.5	+0.6
OBL	**Observatory Le**	**0.29**	**96**		Pg	21 33 48.3	+0.1
OBL					Sg	21 33 52.8	+0.8
UWB	**Uwekahuna Bluf**	**0.29**	**95**		Pg	21 33 48.3	0.0
UWB					Sg	21 33 52.9	+0.7
HLP	**Hilina Pali**	**0.30**	**120**	Pg	Pg	21 33 48.1	-0.4
HATHI	**Halema'uma'u T**	**0.31**	**95**	Sg	Sg	21 33 52.5	-0.2
HUH	**Hualalai**	**0.33**	**315**	Pg	Pg	21 33 49.8	+0.7
HUH				IAML		21 33 57.8	
	comp=N,254nm,0.2s						
HUH				IAML		21 33 59.5	
	comp=E,212nm,0.3s						
PUH	**Pauahi**	**0.36**	**102**	Pg	Pg	21 33 49.0	-0.6
STCH	**Steam Cracks**	**0.44**	**98**	Pg	Pg	21 33 50.8	-0.3

ATH 31 21:46:25.9, 38°.87N×20°.60E, h7km±1km, ML1.2/2, Manual Solution by S.Koutrakis First location: 2019/07/31 21:46:49, This location: 2019/08/01 04:16:31 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.06**	**138**	P	Pg	21 46 28.0	+0.4
TSLK				S	Sg	21 46 29.2	+0.3
LKD2	**Lefkada island**	**0.09**	**152**	P	Pg	21 46 28.3	+0.2
LKD2				S	Sg	21 46 29.4	-0.3
NYDR	**Nydri-Lefkada**	**0.17**	**154**	P	Pg	21 46 29.6	+0.1
NYDR				S	Sg	21 46 32.0	+0.2
EVGI	**Lefkada island**	**0.25**	**170**	P	Pg	21 46 31.0	+0.1
EVGI				S	Sg	21 46 34.6	+0.3

SKO ***31*** *21:46:49.9, 40°.53N×20°.87E, h14km, ML1.4*

TIR 31 21:46:47.6, 40°.50N×20°.79E, h9km±2km, Ml1.9/2, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.13**	**360**	Pg	Pg	21 46 49.5	-1.0
KBN				Sg	Sg	21 46 52.4	-0.3
KBN				AML	AML	21 46 53.7	
	1.9nm,0.1s						
NEST	**Nestorio**	**0.21**	**112**	Pg	Pg	21 46 52.9	+0.9
NEST				Sg	Sg	21 46 56.0	+0.9
NEST				AML	AML	21 46 57.3	
	0.9nm,0.2s						
NEST				AML	AML	21 46 57.4	
	0.8nm,0.2s						
FNA	**Florina**	**0.53**	**57**	Pg	Pg	21 46 58.5	+0.5
FNA				Sg	Sb	21 47 06.7	-0.4
FNA	**Florina**	**0.53**	**57**	*i* Pg	Pg	21 46 58.3	+0.3
FNA				*i* Sg	Sb	21 47 07.1	0.0
OHR	**Ohrid**	**0.61**	**1**	*i* Pg	Pb	21 47 00.9	+0.2
OHR				*i* Sg	Sb	21 47 09.9	+0.4
OHR				*e*Lg	Lg	21 47 10.4	
	comp=E,21nm,0.7s						
OHR				*e*Lg	Lg	21 47 11.3	
	comp=N,11nm,0.4s						
IGT	**Igoumenitsa**	**1.02**	**200**	*i* Pg	Pn	21 47 09.5	+1.2
IGT				*i* Sg	Sn	21 47 25.1	+2.4

IDC ***31*** *21:56:00.9±1.0, 18°.69N×146°.70E, h0km, mb3.7/10, mbtmp3.7/11, ML3.0/1, MS3.0/1, Error ellipse: s-maj=40.5km s-min=20.3km az=83.0*

ISC 31 21:56:09.4±1.0, 18°.7N±0°.1×146°.6E±0°.3, h64km, n20, σ0s84/14, mb3.7/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**15.64**	**338**	LR	LR	22 05 16.7	
	comp=Z,61nm,19.7s,baz=61,slow=36						
H11S3	**WAKE ISLAND Hy**	**19.00**	**87**	T	T	22 20 15.6	
	baz=274						
H11S1	**WAKE ISLAND Hy**	**19.01**	**87**	T	T	22 20 09.9	
	baz=274						
H11S2	**WAKE ISLAND Hy**	**19.02**	**87**	T	T	22 20 20.1	
	baz=274						
H11N1	**WAKE ISLAND Hy**	**19.15**	**84**	T	T	22 20 37.6	
	baz=267						
H11N2	**WAKE ISLAND Hy**	**19.16**	**84**	T	T	22 20 19.3	
	baz=267						
H11N3	**WAKE ISLAND Hy**	**19.17**	**84**	T	T	22 20 22.3	
	baz=267						
MJAR	**Matsushiro Arr**	**19.28**	**339**	P	**P**	**22 00 29.1**	**+0.1**
	baz=171,slow=8.2,SNR=4.1						
	0.4nm,0.3s						
KSRS	**Korea Array**	**24.87**	**323**	P	**P**	**22 01 26.3**	**+0.3**
	0.6nm,0.6s,baz=153,slow=8.2,SNR=2.3						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**40.24**	**198**	P	**P**	**22 03 39.1**	**-1.0**
	0.6nm,0.7s,baz=27,slow=8.0,SNR=4.6						
WRA				PcP	**PcP**	**22 05 43.0**	**-0.1**
	0.4nm,0.7s,baz=21,slow=3.3,SNR=2.4						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**43.89**	**197**	P	**P**	**22 04 11.0**	**+1.1**
	0.3nm,0.7s,baz=20,slow=11,SNR=2.0						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**58.58**	**322**	P	**P**	**22 05 58.9**	**-0.5**
	0.4nm,0.4s,baz=110,slow=7.8,SNR=1.8						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**59.12**	**314**	P	**P**	**22 06 04.3**	**+0.9**
	0.1nm,0.4s,baz=93,slow=5.3,SNR=1.9						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**61.93**	**318**	P	**P**	**22 06 22.0**	**-0.4**
	0.3nm,0.4s,baz=92,slow=7.3,SNR=5.8						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**63.27**	**26**	P	**P**	**22 06 31.0**	**-0.1**
	0.3nm,0.6s,baz=266,slow=6.7,SNR=4.1						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**67.06**	**320**	P	**P**	**22 06 56.2**	**+0.3**
	1.0nm,0.5s,baz=95,slow=7.6,SNR=6.5						
	1.0nm,0.5s						
ARCES	**ARCESS Array B**	**82.78**	**342**	P	**P**	**22 08 27.8**	**+1.5**
	1.3nm,0.6s,baz=61,slow=5.9,SNR=8.5						
	1.3nm,0.6s						
FINES	**FINESS Array B**	**87.28**	**336**	P	**P**	**22 08 48.1**	**-0.8**
	2.4nm,0.9s,baz=77,slow=5.8,SNR=6.1						
	2.4nm,0.9s						
HFS	**Hagfors**	**92.73**	**338**	P	**P**	**22 09 13.4**	**-1.0**
	3.1nm,0.9s,baz

comp=E,208nm,0.8s
KIWB IAML 22 47 30.8
comp=N,177nm,0.7s
KIMD Kanaga Island 3.41 270 Pn Pn 22 46 35.7 +0.6
MAPS Pakushin South 3.50 55 Pn Pn 22 46 36.3 -0.1
UNV Unalaska Valle 3.74 56 Pn Pn 22 46 39.9 +0.3
LVA Lava Point 4.14 54 Pn Pn 22 46 45.9 +0.8
LVA IAML 22 48 02.1
comp=E,125nm,1.1s
P08K Saint George I 4.90 14 Pn Pn 22 46 55.9 +0.3
P08K IAML 22 48 08.9
comp=E,72nm,1.3s
P08K IAML 22 48 21.7
comp=N,85nm,1.2s
AMKA Amchitka 5.59 268 Pn Pn 22 47 06.1 +1.0
S12K Black Hills 6.90 52 Pn Pn 22 47 24.8 +1.8
CNBA Chernabura Isl 7.85 63 Pn Pn 22 47 34.3 -1.7
O14K Tigyukauivet M 9.47 35 Pn Pn 22 48 00.1 +2.0
N14K Kuskokwak Cree 9.83 31 Pn Pn 22 48 04.4 +1.3
O15K Ungalikthiuk R 9.95 38 Pn Pn 22 48 06.0 +1.4
N15K Kwethluk River 10.55 34 Pn Pn 22 48 13.2 +0.4
KDAK Kodiak Island 12.51 54 Pn Pn 22 48 37.4 -2.2
comp=N,0.2nm,0.3s,baz=256,slow=20,SNR=1.9
comp=N,6.2nm,1.0s
M19K Big River Lodg 13.76 36 Pn Pn 22 48 57.5 +0.8
L19K White Mountain 13.78 35 Pn Pn 22 48 56.2 -0.7
SLKM Skilak Lake 14.71 46 Pn 22 49 10.7 +1.3
K20K Telida 14.83 32 P 22 49 14.5 -1.4
SKT Skwentna 14.90 39 P P 22 49 16.6 -0.1
H18K Honhosa River 14.98 22 P P 22 49 19.6 +2.0
J20K Nowinta River 15.38 30 Pn Pn 22 49 18.3 +0.3
J20K IAmb IAmb 22 49 48.0
comp=E,5.5nm,1.4s
CAST Castle Rocks 15.55 34 P P 22 49 24.8 +0.8
BPAW Bear Paw Mtn. 16.36 34 P 22 49 32.6 -0.2
BPAW IAmb IAmb 22 49 44.3
comp=E,7.7nm,1.5s
SCM Sheep Creek Mo 16.55 44 P Pn 22 49 33.2 0.0
SCM IAmb IAmb 22 49 37.1
comp=E,5.8nm,0.6s
RAGM Ragged Mountai 17.21 50 P P 22 49 43.6 +1.2
RAGM IAmb IAmb 22 49 52.7
comp=E,14nm,1.4s
HMT Hamilton 17.40 50 Pn 22 49 43.7 +0.1
HMT IAmb IAmb 22 49 48.4
comp=E,5.0nm,0.9s
I23K Minto, Yukon-K 17.56 32 P P 22 49 46.5 +0.4
I23K IAmb IAmb 22 50 21.3
comp=E,8.2nm,1.4s
WRH Wood River Hil 17.59 35 Pn Pn 22 49 44.7 -1.3
GLB Gilahina Butte 17.95 47 Pn 22 49 49.5 -0.9
VRDI Verde Repeater 18.05 48 P 22 49 52.5 +0.8
ILAR Eielson Array 18.19 35 P P 22 49 47.9 -5.2
comp=E,0.1nm,0.3s,baz=241,slow=12,SNR=6.4
ILAR LR LR 22 56 49.2
comp=E,32nm,19.8s,baz=266,slow=38
comp=E,0.1nm,0.4s
J25K Salcha River, 18.66 37 P P 22 49 56.7 -1.6
J25K IAmb IAmb 22 50 01.1
comp=E,3.8nm,1.0s
BARN Barnard Glacie 18.83 49 P Pn 22 50 02.2 +1.1
SCRK Sand Creek 18.88 39 P P 22 49 59.8 -1.0
TABL Table Mountain 18.92 51 P Pn 22 50 02.8 +0.5
CTGM Chitina Glacie 18.96 49 P Pn 22 50 03.9 +1.2
M27K Edge Creek, AK 19.12 45 P Pn 22 50 04.6 -0.1
G24K Hadweenzic Riv 19.14 30 P P 22 50 04.4 +0.9
G24K IAmb IAmb 22 50 40.7
comp=E,5.2nm,1.2s
J26L Joseph Creek 19.29 38 P P 22 50 03.7 -1.5
I26K Coal Creek Min 19.82 36 IAmb IAmb 22 50 11.1
comp=E,3.1nm,1.1s
O29M Mount Kennedy 20.14 52 P P 22 50 15.5 +0.9
F25K Christian Rive 20.26 29 P P 22 50 16.2 +0.5
F25K IAmb IAmb 22 50 22.3
comp=E,3.0nm,1.1s
P29M Windy Craggy 20.46 54 P Pn 22 50 19.2 -1.1
BMAR Burnt Mountain 20.49 30 P P 22 50 19.4 +1.2
C23K Itkillik River 20.53 21 P P 22 50 18.7 +0.2
M29M Somme Creek 20.67 46 P Pn 22 50 22.3 -0.6
HYT Haines Junctio 20.75 51 P P 22 50 21.4 +0.2
HYT IAmb IAmb 22 50 24.6
comp=E,5.4nm,0.7s
N30M Aishikik Lake 21.07 49 P P 22 50 24.7 +0.2
N30M IAmb IAmb 22 50 27.9
comp=E,2.5nm,0.8s
I28M Miner Creek 21.09 38 P P 22 50 23.7 -1.1
D25K Kavik River 21.18 25 P P 22 50 26.1 +0.5
D25K IAmb IAmb 22 50 28.9
comp=E,3.7nm,0.8s
O30N Mendenhall 21.43 52 P P 22 50 27.7 -0.6
O30N IAmb IAmb 22 50 36.0
comp=E,3.6nm,1.2s
K29M Barlow Dome 21.48 43 P P 22 50 30.1 +1.2
K29M IAmb IAmb 22 51 04.3
comp=E,4.3nm,1.4s
E27K Coleen River 21.85 30 P P 22 50 34.1 +1.3
E27K IAmb IAmb 22 50 48.1
comp=E,5.2nm,1.3s
H29M Whitestone 22.00 37 P P 22 50 33.8 -0.5
Q32M Nakina River 23.21 57 P P 22 50 49.0 +1.7
Q32M IAmb IAmb 22 50 51.0
comp=E,5.6nm,0.9s
MMPY Sheldon Lake, 23.97 48 P P 22 50 54.8 +0.5
MMPY IAmb IAmb 22 51 24.9
comp=E,2.5nm,1.2s
INK Inuvik 24.56 34 LR LR 23 01 39.8
comp=E,40nm,18.4s,baz=295,slow=40
YKA Yellowknife Ar 31.67 48 LR LR 23 06 39.2
comp=E,43nm,18.1s,baz=339,slow=40
TIXI Tiksi 32.40 329 LR LR 23 05 10.2
comp=E,23nm,18.6s,baz=9.0,slow=37
H11N2 WAKE ISLAND Hy 36.18 216 T T 23 31 09.7
baz=21,slow=75,SNR=8.7
H11N3 WAKE ISLAND Hy 36.19 215 T T 23 31 05.1
baz=21,slow=75,SNR=8.6
H11N1 WAKE ISLAND Hy 36.20 216 T T 23 31 08.1
baz=21,slow=75,SNR=8.6
H11S1 WAKE ISLAND Hy 37.37 215 T T 23 32 33.9
baz=21,slow=76,SNR=7.9
H11S2 WAKE ISLAND Hy 37.39 215 T T 23 32 47.9
baz=21,slow=76,SNR=7.0
H11S3 WAKE ISLAND Hy 37.39 215 T T 23 32 41.5
baz=21,slow=76,SNR=4.6
PDAR Pinedale Array 41.94 77 P P 22 53 31.8 +1.1
comp=E,0.4nm,0.5s,baz=311,slow=7.9,SNR=3.8
comp=E,0.4nm,0.5s
TXAR Lajitas Array 54.23 87 P P 22 55 05.3 -0.3
TXAR Lajitas Array 54.23 87 P P 22 55 06.1 +0.5
comp=E,0.3nm,0.6s,baz=306,slow=5.7,SNR=5.5
comp=E,0.3nm,0.6s
P40A Paris 54.33 70 P P 22 55 05.6 -0.4
KURBB Kurchatov Arra 61.85 317 P P 22 55 58.1 -0.3
comp=E,0.7nm,0.7s,baz=43,slow=6.9,SNR=8.1
comp=E,0.7nm,0.7s
MKAR Makanchi Array 63.06 312 P P 22 56 06.2 -0.4
MKAR Makanchi Array 63.06 312 P P 22 56 06.0 -0.7
comp=E,0.2nm,0.4s,baz=46,slow=7.5,SNR=4.5
comp=E,0.2nm,0.4s
BVAR Borovoye Array 63.23 323 P P 22 56 07.8 +0.2
comp=E,1.8nm,0.5s,baz=46,slow=6.8,SNR=12
BVAR PcP PcP 22 56 45.0 +0.4
comp=E,0.6nm,0.5s,baz=29,slow=3.3,SNR=3.8
comp=E,1.8nm,0.5s
HFS Hagfors 68.25 357 P P 22 56 38.3 -1.5
comp=E,1.4nm,0.8s,baz=19,slow=6.3,SNR=4.4
comp=E,1.4nm,0.8s
AB31 Akbulak array 70.06 327 P P 22 56 51.2 0.0
ABKAR Akbulak array 70.06 327 P P 22 56 50.9 -0.3

*SJA **31** 22:58:07.5±0.8, 23°.62S×68°.87W, h114km±5km, ML3.5, MW3.5*

*GUC **31** 22:58:08.7±0.7, 23°.66S×68°.89W, h108km±4km, ML3.4*

ISC 31 22:58:09.6±1.5, 23°.65S±0°.03×68°.92W±0°.04, h102km±13km, n28, σ1§03/47, 5C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**0.97**	**45**	*eP*	**Pn**	**22 58 29.4**	**-0.8**
AF01				*eS*	**Sn**	**22 58 45.0**	**-0.7**
AF01				IAML		22 58 46.1	
	comp=N,3µm,0.2s						
AF01	**San Pedro de A**	**0.97**	**45**	*eP*	**Pn**	**22 58 29.7**	**-0.5**
AF01				*eS*	**Sn**	**22 58 45.4**	**-0.3**
AF01				IAML		22 58 45.5	
	comp=Z,1µm,0.1s						
PB06	**IPOC Station P**	**1.11**	**327**	*eP*	**Pn**	**22 58 31.5**	**-0.1**
PB06				*eS*	**Sn**	**22 58 48.3**	**+0.2**
PB06	**IPOC Station P**	**1.11**	**327**	*eP*	**Pn**	**22 58 30.8**	**-0.7**
PB06				*eS*	**Sn**	**22 58 48.4**	**+0.4**
PB06				IAML		22 58 49.6	
	comp=Z,1µm,0.1s						
PB05	**IPOC Station P**	**1.42**	**304**	*eP*	**Pn**	**22 58 34.8**	**-0.2**
PB05				*eS*	**Sn**	**22 58 54.7**	**+0.4**
PB05				IAML		22 58 56.8	
	comp=N,319nm,0.1s						
PB05	**IPOC Station P**	**1.42**	**304**	*eP*	**Pn**	**22 58 34.9**	**-0.2**
PB05				*eS*	**Sn**	**22 58 55.4**	**+1.1**
PB10	**IPOC Station P**	**1.50**	**275**	*eP*	**Pn**	**22 58 36.0**	**0.0**
PB10				*eS*	**Sn**	**22 58 56.3**	**+0.3**
PB10	**IPOC Station P**	**1.50**	**275**	*eP*	**Pn**	**22 58 35.5**	**-0.4**
PB10				*eS*	**Sn**	**22 58 57.6**	**+1.6**
GO02	**Mina Guanaco**	**1.63**	**202**	*eP*	**Pn**	**22 58 37.4**	**-0.5**
GO02				*eS*	**Sn**	**22 58 59.3**	**+0.1**
GO02				IAML		22 59 02.2	
GO02	**Mina Guanaco**	**1.63**	**202**	*eP*	**Pn**	**22 58 37.5**	**-0.4**
GO02				*eS*	**Sn**	**22 59 00.6**	**+1.3**
PB03	**IPOC Station P**	**1.77**	**334**	*eP*	**Pn**	**22 58 39.2**	**-0.2**
PB03				*eS*	**Sn**	**22 59 02.4**	**+0.3**
PB03				IAML		22 59 03.8	
	comp=N,503nm,0.3s						
PB03	**IPOC Station P**	**1.77**	**334**	*eP*	**Pn**	**22 58 39.3**	**-0.2**
PB03				*eS*	**Sn**	**22 59 01.5**	**-0.6**
PB03				IAML		22 59 04.0	
	comp=Z,650nm,0.2s						
PB09	**IPOC Station P**	**1.86**	**351**	*eP*	**Pn**	**22 58 41.0**	**+0.3**
PB09				*eS*	**Sn**	**22 59 04.8**	**+0.4**
PB09				IAML		22 59 08.8	
	comp=E,256nm,0.4s						
PB09	**IPOC Station P**	**1.86**	**351**	*eP*	**Pn**	**22 58 40.7**	**0.0**
PB09				*eS*	**Sn**	**22 59 05.8**	**+1.5**
PB09				IAML		22 59 09.9	
	comp=Z,208nm,0.3s						
SALTA		**2.43**	**104**	*eP*	**Pn**	**22 58 48.1**	**-0.2**
PB02	**IPOC Station P**	**2.48**	**339**	*eP*	**Pn**	**22 58 48.1**	**-0.7**
PB02				*eS*	**Sn**	**22 59 18.7**	**0.0**
PB02	**IPOC Station P**	**2.48**	**339**	*eP*	**Pn**	**22 58 48.0**	**-0.7**
PB02				*eS*	**Sn**	**22 59 19.8**	**+1.1**
PB02				IAML		22 59 22.6	
	comp=Z,290nm,0.2s						
PB01	**IPOC Station P**	**2.64**	**349**	*eP*	**Pn**	**22 58 50.2**	**-0.6**
PB01				*eS*	**Sn**	**22 59 22.2**	**-0.1**
PB01				IAML		22 59 23.6	
	comp=N,211nm,0.3s						
PB01	**IPOC Station P**	**2.64**	**349**	*eP*	**Pn**	**22 58 50.2**	**-0.6**
PB01				*eS*	**Sn**	**22 59 22.9**	**+0.6**
PB01				IAML		22 59 23.6	
	comp=Z,136nm,0.2s						
AC01	**Pan de Azucar**	**2.92**	**211**	*eP*	**Pn**	**22 58 52.6**	**-1.7**
AC01				*eS*	Sn	22 59 15.2	-14
PATCX	**Punta Patache**	**3.04**	**338**	*eP*	**Pn**	**22 58 54.8**	**-1.2**
PATCX				*eS*	**Sn**	**22 59 35.8**	**+4.1**
PATCX				IAML		22 59 49.7	
	comp=Z,67nm,0.4s						
AC02	**Maricunga**	**3.18**	**183**	*eP*	**Pn**	**22 58 58.0**	**-0.2**
AC02				IAML		22 59 44.7	
	comp=N,35nm,0.3s						
AC02	**Maricunga**	**3.18**	**183**	*eP*	**Pn**	**22 58 58.0**	**-0.2**
AC02				*eS*	Sn	22 59 22.0	-14
AC02				IAML		22 59 38.0	
	comp=Z,136nm,0.8s						
SLA	**San Lorenzo**	**3.30**	**110**	*eP*	**Pn**	**22 59 00.8**	**+1.2**
HMBC	**Humberstone**	**3.47**	**345**	*eP*	**Pn**	**22 59 00.3**	**-1.5**
HMBC				*eS*	Sn	22 59 31.6	-11
HMBC				IAML		23 00 01.1	
	comp=Z,76nm,1.3s						
PB08	**IPOC Station P**	**3.50**	**356**	*eP*	**Pn**	**22 59 01.6**	**-0.8**
PB08				*eS*	Sn	22 59 31.8	-11
PB08				IAML		23 00 06.0	
	comp=Z,44nm,0.5s						
PB11	**IPOC Station P**	**3.93**	**350**	*eP*	**Pn**	**22 59 06.2**	**-1.8**
PB11				IAML		23 00 23.5	
	comp=Z,29nm,0.3s						
GO03	**Copiapo**	**4.10**	**196**	*eP*	**Pn**	**22 59 08.8**	**-1.4**

*PAS **31** 22:59:47.0±0.9, 36°.32N±0°.01×118°.35W±0°.01, h-1km±1km, ML3.1/75, ML2.9/106(NEIC), Error ellipse: s-maj=1.7km s-min=1.5km az=123.0*

NEIC 31 22:59:46.8±0.9, 36°.32N±0°.01×118°.34W±0°.01, h3km±4km, Error ellipse: s-maj=1.7km s-min=1.6km az=135.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CWC	**Cottonwood Cre**	**0.24**	**60**		Pg	22 59 52.0	+0.4
CWC				Sg	Sg	22 59 55.1	+0.4
MFS	**McCloud Flat S**	**0.44**	**117**		Pg	22 59 55.9	+0.6
MFS					Sg	23 00 02.0	+0.9
WRVM	**Rose V. Centra**	**0.48**	**130**		Pg	22 59 56.5	+0.5
WRVM					Sg	23 00 03.4	+1.1
CGO	**Cerro Gordo**	**0.49**	**62**		Pg	22 59 57.0	+0.7
CGO					Sg	23 00 03.9	+1.2
JRC2	**Joshua Ridge**	**0.55**	**128**		Pg	22 59 57.9	+0.6
JRC2					Sg	23 00 05.4	+1.0
WCSM	**Coso Springs S**	**0.55**	**122**		Pg	22 59 58.0	+0.7
WCSM					Sg	23 00 05.4	+1.0
WVPM	**Volcano Peak E**	**0.56**	**131**		Pg	22 59 58.2	+0.6
WVPM					Sg	23 00 06.1	+1.3
WNMM	**Nine Mile Cany**	**0.59**	**143**		Sg	23 00 06.8	+1.0
WASM	**Alta Sierra Ca**	**0.61**	**197**		Pg	22 59 58.8	+0.4
WASM					Sg	23 00 07.3	+1.0
WHFM	**Hanning Flat**	**0.62**	**181**		Pg	22 59 59.1	+0.4
WHFM					Sg	23 00 07.5	+0.8
WORM	**Onyx Ranch**	**0.63**	**173**		Pg	22 59 59.1	+0.3
WORM					Sg	23 00 07.7	+0.8
ISA	**Isabella, Lake**	**0.66**	**189**		Pg	22 59 59.8	+0.3
ISA				Sg	Sg	23 00 08.4	+0.3
ISA				IAML		23 00 10.3	
	comp=E,488nm,0.2s						
ISA				IAML		23 00 16.5	
	comp=N,453nm,0.2s						
TOW	**Tower One**	**0.69**	**137**		Pg	23 00 00.7	+0.7
TOW					Sb	23 00 11.0	-0.4
MPMC	**Manual Prospec**	**0.74**	**110**		Pg	23 00 01.3	+0.4
MPMC				IAML		23 00 14.2	
	comp=E,342nm,0.6s						
MPMC	**Manual Prospec**	**0.74**	**110**		Sg	23 00 11.5	+1.0
TIN	**Tinemaha, Big**	**0.74**	**7**		Pg	23 00 01.1	+0.1
TIN				Sg	Sg	23 00 10.6	+0.1
TIN				IAML		23 00 16.8	
	comp=N,514nm,0.6s						
VES	**Vestal, Richgr**	**0.77**	**232**		Sb	23 00 12.7	-0.9
VES	**Vestal, Richgr**	**0.77**	**232**		Pg	23 00 01.8	+0.2
VES				IAML		23 00 13.0	
	comp=E,941nm,0.3s						
VES				IAML		23 00 15.4	
	comp=N,560nm,0.3s						
SRTC	**Snort**	**0.79**	**142**		Pb	23 00 02.6	-0.6
SRTC					Sb	23 00 14.5	+0.2
WBSM	**Bird Springs**	**0.80**	**168**		Pg	23 00 02.3	+0.2
WBSM					Sg	23 00 13.3	+0.9
VOG	**Valley Oaks Go**	**0.84**	**270**		Pg	23 00 03.3	+0.4
VOG					Sg	23 00 14.4	+0.6
LRMC	**Laurel Mtn Rad**	**0.99**	**147**		Pg	23 00 06.0	+0.1
LRMC					Sb	23 00 19.9	-0.4
WSHM	**Spangler Hills**	**0.99**	**136**		Pg	23 00 05.8	0.0
WSHM					Sg	23 00 19.3	+0.5
WSHM	**Spangler Hills**	**0.99**	**136**	IAML		23 00 20.3	
	comp=N,351nm,0.2s						
WSHM				IAML		23 00 23.6	
	comp=N,303nm,0.4s						
GRAC	**Grapevine Rang**	**1.03**	**49**		Pb	23 00 07.1	-0.3
GRAC	**Grapevine Rang**	**1.03**	**49**	IAML		23 00 22.9	
GRAC							
	comp=E,546nm,0.3s						
GRAC				IAML		23 00 25.5	
	comp=N,536nm,0.2s						
MTUM	**Tungsten Hills**	**1.05**	**350**		Pg	23 00 06.7	-0.2
DSP	**Deep Springs**	**1.09**	**16**		Pg	23 00 07.5	-0.2
CCCA	**Chr Cany lake**	**1.12**	**135**		Pb	23 00 08.7	-0.1
TEJ	**El Tejon**	**1.12**	**195**		Pg	23 00 08.0	-0.4
FURC	**Furnace Creek,**	**1.20**	**83**		Pb	23 00 10.0	-0.1
FURC				IAML		23 00 26.8	
	comp=E,320nm,0.3s						
FURC				IAML		23 00 31.7	
	comp=N,260nm,0.7s						
QSM	**Queen of Sheba**	**1.24**	**106**		Pg	23 00 10.7	+0.1
QSM				IAML		23 00 28.3	
	comp=N,206nm,0.2s						
QSM				IAML		23 00 29.2	
	comp=E,218nm,0.5s						
GMN	**Gold Mountain**	**1.31**	**41**		Pg	23 00 12.0	+0.1
GMN				IAML		23 00 31.1	
	comp=N,182nm,0.4s						
GWY	**Greenwater Val**	**1.36**	**95**		Pn	23 00 12.4	-0.4
GWY				IAML		23 00 36.0	
	comp=E,186nm,0.4s						
GWY				IAML		23 00 36.0	
	comp=N,150nm,0.4s						
TPO	**Tropico Hills**	**1.44**	**176**		Pn	23 00 13.8	-0.1
TPO					Sn	23 00 33.4	+0.1
TPO				IAML		23 00 38.9	
	comp=N,169nm,0.9s						
TPO				IAML		23 00 40.1	
	comp=E,209nm,0.8s						
WCT	**Wildcat Mounta**	**1.46**	**71**		Pn	23 00 14.0	-0.1
WCT				IAML		23 00 36.3	
	comp=E,134nm,0.4s						
MZP	**Montezuma Peak**	**1.58**	**29**		Pn	23 00 16.0	+0.1
GSC	**Goldstone, Bar**	**1.61**	**129**		Pn	23 00 16.4	+0.2
GSC				IAML		23 00 41.2	
	comp=N,132nm,0.6s						
GSC				IAML		23 00 41.7	
	comp=E,231nm,0.6s						
SHOC	**Shoshone, Teco**	**1.72**	**103**		Pn	23 00 18.0	+0.3
OSI	**Osito Audit: C**	**1.73**	**191**		Pn	23 00 18.5	+0.7
OSI				IAML		23 00 45.0	
	comp=E,133nm,0.6s						
OSI				IAML		23 00 45.1	
	comp=N,148nm,0.6s						
TPNV	**Topopah Spring**	**1.79**	**69**		Pn	23 00 19.2	+0.4
TPNV				IAML		23 00 48.9	
	comp=N,74nm,0.5s						
TPNV				IAML		23 00 52.0	
	comp=N,87nm,0.8s						
PKD	**Bear Valley Ra**	**1.82**	**259**		Pn	23 00 19.5	+0.5
LHV	**Little Huntoon**	**1.93**	**356**		Pb	23 00 22.1	-0.5
LHV				IAML		23 01 00.9	
	comp=N,65nm,1.1s						
LHV				IAML		23 01 03.6	
	comp=E,72nm,1.0s						
TPH	**Tonopah**	**1.97**	**27**		Pn	23 00 21.6	+0.4
MYLM	**Yosemite Lake**	**1.98**	**303**		Pb	23 00 22.5	-0.9
PMPB	**Monarch Peak**	**1.99**	**268**		Pn	23 00 21.9	+0.5
MWC	**Mount Wilson**	**2.10**	**174**		Pn	23 00 23.5	+0.5
MWC				IAML		23 00 57.7	
	comp=N,91nm,0.7s						
MWC				IAML		23 01 04.6	
	comp=E,69nm,0.7s						
NVAR	**Mina Array Bea**	**2.11**	**1**		Pn	23 00 24.4	+1.2
NV11	**Mina Array Sit**	**2.11**	**4**		Pb	23 00 24.8	-1.0
RAMR	**Ramage Ranch**	**2.16**	**252**		Pn	23 00 24.9	+1.2
BBGB	**Big Mountain B**	**2.19**	**278**		Pn	23 00 24.8	+0.6
RYN	**Ryan**	**2.31**	**356**		Pn	23 00 27.5	+1.6
WAKR	**Walker**	**2.35**	**339**		Pn	23 00 28.0	+1.5
WAKR				IAML		23 01 04.9	
	comp=E,52nm,0.5s						
CMB	**Columbia Colle**	**2.37**	**317**		Pn	23 00 28.2	+1.6
CMB				IAML		23 01 02.9	
	comp=E,74nm,0.5s						
SAO	**San Andreas Ge**	**2.54**	**281**		Pn	23 00 29.4	+0.4
GMRC	**Granite Mounta**	**2.67**	**124**		Pn	23 00 31.4	+0.6
ELS	**Elsinore Mount**	**2.77**	**164**		Pn	23 00 33.0	+0.9
PRN	**Pahroc Range**	**2.85**	**67**		Pn	23 00 33.8	+0.5
PRN				IAML		23 01 24.5	
	comp=N,33nm,0.5s						
PRN				IAML		23 01 26.1	
	comp=E,46nm,1.0s						
V12A	**Nelson**	**2.89**	**101**		Pn	23 00 34.6	+0.8
R11B	**Troy Canyon, C**	**2.99**	**46**		Pn	23 00 35.5	+0.3
BELC	**Belle Mtn. Jos**	**3.01**	**140**		Pn	23 00 35.5	+0.1
BELC				IAML		23 01 24.8	
	comp=N,30nm,0.7s						
PFO	**Pinyon Flats O**	**3.11**	**150**	Pn	Pn	23 00 37.2	+0.4
PMD	**Palm Desert**	**3.12**	**148**	Pn	Pn	23 00 36.5	-0.3
IRM	**Iron Mountain**	**3.39**	**129**		Pn	23 00 40.6	0.0
BORC	**Borrego Spring**	**3.43**	**152**		Pn	23 00 42.0	+0.8
DPP	**Dos Picos Cty**	**3.51**	**160**	Pn	Pn	23 00 43.6	+1.4
W13A	**Hualapai Mount**	**3.82**	**107**		Pn	23 00 47.3	+0.6
LCMT	**Little Creek M**	**4.16**	**79**	Pn	Pn	23 00 52.6	+1.3
CCUT	**Cedar City**	**4.17**	**71**		Pn	23 00 52.6	+1.0
PSUT	**Pine Spring**	**4.20**	**57**		Pn	23 00 52.3	+0.4
PSUT				IAML		23 02 03.9	
	comp=E,10nm,0.7s						
PSUT				IAML		23 02 04.5	
	comp=N,10nm,0.6s						
CBX	**Cerro Bola**	**4.23**	**160**	Pn	Pn	23 00 53.6	+1.3
KNB	**Kanab**	**4.49**	**79**		Pn	23 00 57.3	+1.4
U15A	**North Rim**	**4.88**	**87**		Pn	23 01 01.4	0.0

*IDC **31** 23:13:25.3±0.9, 21°.61S×174°.40W, h0km, mb4.0/9, mbtmp4.0/9, MS3.5/5, Error ellipse: s-maj=32.9km s-min=24.5km az=134.0*

*NEIC **31** 23:13:25.5±1.0, 21°.3S±0°.1×174°.2W±0°.1, h10km±2km, mb4.3/10, Error ellipse: s-maj=25.4km s-min=20.9km az=316.0*

ISC 31 23:13:29.9±0.7, 21°.6S±0°.1×174°.4W±0°.1, h30km, n39, σ1§13/22, mb4.2/14, MS3.5/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.91**	**60**		Pn	23 14 33.6	-8.0
AFI	**Afiamalu**	**8.07**	**18**		Pn	23 15 18.9	-6.3
MSVF	**Nonsavu**	**8.09**	**297**	Pn	Pn	23 15 32.8	+7.3
RAR	**Rarotonga**	**13.63**	**91**	Pn	Pn	23 16 30.6	-11
RAR	**Rarotonga**	**13.63**	**91**	Pn	Pn	23 16 31.4	-10
	1.9nm,0.3s,baz=210,slow=8.1,SNR=2.1						
RAR					Sn	Sn	23 18 46.0	-26
	1.9nm,0.3s,baz=34,slow=20,SNR=2.6						
DZM	**Mont Dzumac**	**17.79**	**265**	*eLR*	LR	23 21 52.2	
	102nm,22.6s						
TBI	**Tubuai**	**23.11**	**99**	*eS*	**S**	**23 22 40.8**	**-2.0**
	1µm,26.0s						
TBI				*eLR*	LR	23 23 47.3	
	479nm,25.2s						
PPT2	**Papeete2**	**23.72**	**85**	*eLR*	LR	23 23 53.3	
	169nm,30.2s						
PPT2				*eLR*	LR	23 24 07.7	
	105nm,24.0s						
PPT	**Papeete**	**23.73**	**85**	LR	LR	23 25 33.2	
	comp=Z,52nm,19.1s,baz=312,slow=31						
HNR	**Honiara**	**27.47**	**292**	LR	LR	23 27 55.5	
	comp=Z,56nm,20.3s,baz=167,slow=32						
CTAO	**Charters Tower**	**36.73**	**265**	P	**P**	**23 20 33.7**	**-1.1**
CTAO				IAmb	IAmb	23 21 00.3	
	comp=Z,10nm,1.1s						
BBOO	**Buckleboo**	**45.08**	**245**	P	**P**	**23 21 42.2**	**-1.2**
AS31	**Alice Springs**	**47.54**	**257**	P	**P**	**23 22 02.4**	**-0.4**
ASAR	**Alice Springs**	**47.54**	**257**	P	**P**	**23 22 02.2**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=92,slow=8.3,SNR=16						
	comp=Z,1.9nm,0.8s						
WB0	**Warramunga Arr**	**47.76**	**263**	P	**P**	**23 22 03.9**	**-0.7**
WRA	**Warramunga Arr**	**47.77**	**262**	P	**P**	**23 22 03.6**	**-1.1**
WRA	**Warramunga Arr**	**47.77**	**262**	P	**P**	**23 22 03.6**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=95,slow=8.5,SNR=19						
	comp=Z,2.7nm,0.8s						
FORT	**Forrest**	**51.95**	**247**	P	**P**	**23 22 35.5**	**-0.8**
FORT				IAmb	IAmb	23 23 02.7	
	comp=Z,6.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**56.20**	**262**	P	**P**	**23 23 07.0**	**-0.5**
FITZ				IAmb	IAmb	23 23 14.6	
	comp=Z,1.9nm,1.4s						
SBA	**Scott Base**	**57.00**	**185**	P	**P**	**23 23 13.9**	**+1.6**
SBA				IAmb	IAmb	23 23 26.7	
	comp=Z,2.1nm

PETK	**Petropavlovsk-**	**78.26**	**343**	P		**P**	**23**	**25**	**26.8** **+0.3**
	comp=Z,2.8nm,0.8s,baz=115,slow=9.0,SNR=5.8								
	comp=Z,2.8nm,0.8s								
NVAR	**Mina Array Bea**	**79.58**	**42**	P		**P**	**23**	**25**	**34.1** **-0.3**
	comp=Z,0.3nm,0.4s,baz=206,slow=8.3,SNR=4.7								
	comp=Z,0.3nm,0.4s								
H03S2	**Juan Fernandez**	**82.58**	**123**	T		T	00	58	02.6
	baz=247,slow=75,SNR=27								
H03S1	**Juan Fernandez**	**82.59**	**123**	T		T	00	58	15.1
	baz=247,slow=75,SNR=27								
H03S3	**Juan Fernandez**	**82.60**	**123**	T		T	00	58	00.6
	baz=247,slow=75,SNR=27								
H03N2	**Juan Fernandez**	**82.72**	**123**	T		T	00	58	21.3
	baz=251,slow=71								
H03N3	**Juan Fernandez**	**82.72**	**123**	T		T	00	58	32.1
	baz=251,slow=71								
H03N1	**Juan Fernandez**	**82.73**	**123**	T		T	00	58	12.7
	baz=251,slow=71								
PDAR	**Pinedale Array**	**87.52**	**42**	P		**P**	**23**	**26**	**13.6** **-1.5**
	comp=Z,0.2nm,0.3s,baz=276,slow=5.9,SNR=1.9								
	comp=Z,0.2nm,0.3s								
ILAR	**Eielson Array**	**88.70**	**11**	P		**P**	**23**	**26**	**20.9** **+1.0**
	comp=Z,0.4nm,1.0s,baz=205,slow=4.0,SNR=2.0								
ILAR				LR		LR	00	06	34.4
	comp=Z,17nm,18.5s,baz=142,slow=36								
	comp=Z,0.4nm,1.0s								
CMAR	**Chiang Mai Arr**	**93.65**	**288**	P		**P**	**23**	**26**	**46.0** **+2.0**
	comp=Z,0.8nm,0.5s,baz=104,slow=2.7,SNR=5.1								
	comp=Z,0.8nm,0.5s								
AKASG	**Malin Array Be**	**145.57**	**333**	PKPbc		**PKPdf**	**23**	**33**	**05.0** **0.0**
	comp=Z,0.6nm,0.3s,baz=38,slow=3.8,SNR=6.4								
BRTR	**Keskin Array B**	**150.06**	**313**	PKPbc		**PKPbc**	**23**	**33**	**16.8** **-1.2**
	comp=Z,0.1nm,0.4s,baz=110,slow=1.7,SNR=1.7								

*UPP **31** 23:21:21.4±0.0, 67.86N×20.21E, h0km, ML2.4, Unknown*
*HEL **31** 23:21:21.6±0.1, 67.84N×20.15E, h0km, ML1.8, Suspected explosion Hypocentre not reviewed by the ISC*
*IDC **31** 23:21:22.0±1.1, 67.81N×20.37E, h0km, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=18.1km s-min=7.8km az=120.0*

ISC 31 23:21:21.5±1.0, **67.84N**±0.03×**20.22E**±0.03, **h7**km±8km, **n17**, σ1s**44**/**27**, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**21**	P	**Pg**	**23 21 23.6**	**-0.6**
KUA				S	**Sg**	**23 21 25.6**	**-0.5**
RATU	**Laukkuluspa**	**0.24**	**267**	P	**Pg**	**23 21 26.2**	**0.0**
RATU				S	**Sg**	**23 21 29.6**	**+0.2**
KOVU	**Salmi**	**0.39**	**357**	P	**Pg**	**23 21 28.5**	**-0.5**
KOVU				S	**Sg**	**23 21 33.8**	**-0.3**
NIKU	**Nikkaluokta**	**0.45**	**274**	P	**Pg**	**23 21 30.0**	**-0.1**
NIKU				S	**Sg**	**23 21 36.1**	**+0.1**
LANU	**Lannavaara**	**0.70**	**72**	P	**Pg**	**23 21 34.8**	**-0.2**
LANU				S	**Sg**	**23 21 44.2**	**+0.1**
LANU	**Lannavaara**	**0.70**	**72**	PG		23 21 34.7	
LANU				SG		23 21 44.0	
DUNU	**Dundret**	**0.73**	**169**	P	**Pg**	**23 21 35.4**	**-0.1**
DUNU				S	**Sg**	**23 21 45.8**	**+0.8**
MASU	**Masugnsbyn**	**0.78**	**118**	P	**Pg**	**23 21 36.4**	**-0.1**
SALU	**Saltoluokta**	**0.80**	**236**	P	**Pg**	**23 21 36.6**	**-0.2**
KIF	**Kilpisjarvi**	**1.19**	**10**	PG		23 21 44.0	
KIF				MSG		23 21 58.9	
	comp=Z,14nm,0.2s						
KIF				SG		23 21 59.8	
PAJU	**Pajala**	**1.39**	**125**	P	**Pg**	**23 21 47.1**	**-0.9**
PAJU	**Pajala**	**1.39**	**125**	PG		23 21 46.8	
	baz=305						
PAJU				SB		23 22 05.8	
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pg**	**23 21 46.7**	**-1.8**
HEF	**Hetta**	**1.41**	**64**	PG		23 21 47.2	
	baz=251						
HEF				MSG		23 22 04.6	
	comp=Z,8.6nm,0.2s						
HEF				SG		23 22 06.3	
ERTU	**Ertsjaerv**	**1.50**	**148**	P	**Pn**	**23 21 49.5**	**+0.8**
ERTU	**Ertsjaerv**	**1.50**	**148**	PG		23 21 48.9	
ERTU				SN		23 22 10.4	
KTK1	**Kautokeino**	**1.62**	**42**	PG		23 21 51.1	
KTK1				SN		23 22 14.6	
HARU	**Harads**	**1.71**	**170**	P	**Pn**	**23 21 52.9**	**+1.4**
TRO	**Tromso**	**1.86**	**346**	PG		23 21 54.8	
TRO				SG		23 22 19.7	
KALU	**Kalix**	**2.34**	**147**	PB		23 22 02.2	
KALU				SG		23 22 32.8	
TOF	**Tornio**	**2.39**	**136**	PB		23 22 03.5	
TOF				MSG		23 22 32.9	
	comp=Z,2.9nm,0.2s						
TOF				SG		23 22 35.7	
RNF	**Rovaniemi**	**2.57**	**116**	PB		23 22 06.1	
	baz=304						
RNF				SG		23 22 40.0	
ARA0	**ARCESS Array S**	**2.58**	**46**	PN		23 22 05.2	
ARA0				SB		23 22 39.2	
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**23 22 04.8**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=228,slow=15,SNR=29						
ARCES				Sn	**Sn**	**23 22 37.2**	**+2.2**
	comp=Z,1.2nm,0.3s,baz=233,slow=24,SNR=11						
	comp=Z,1.6nm,0.3s						
RAJF	**Raja-Jooseppi**	**3.10**	**74**	PN		23 22 11.9	
RAJF				SB		23 22 54.4	
KEV	**Kevo**	**3.13**	**49**	*e*P	**Pn**	**23 22 13.3**	**+2.2**
KEV	**Kevo**	**3.13**	**49**	PB		23 22 15.7	
KEV				SB		23 22 51.9	
RANF	**Ranua**	**3.17**	**122**	PB		23 22 13.9	
RANF				SG		23 22 59.5	
VRF	**Varrio**	**3.57**	**87**	PN		23 22 18.8	
OUL	**Oulu**	**3.58**	**138**	PG		23 22 26.3	
OUL				SG		23 23 13.9	
KU2	**Taivalkoski**	**3.83**	**120**	PN		23 22 23.4	
OLKF	**Oulanka, Finla**	**3.90**	**109**	PN		23 22 23.8	
UMAU	**Umeaa**	**3.98**	**177**	PN		23 22 25.5	
	baz=353						
MSF	**Maaselka**	**3.98**	**115**	PN		23 22 25.2	
KU6	**Riekki**	**4.22**	**111**	PN		23 22 27.9	
KU6				SG		23 23 32.9	
KU1	**Kurvinen**	**4.36**	**117**	PN		23 22 30.7	
FINES	**FINESS Array B**	**6.89**	**156**	Pn	**Pn**	**23 23 04.5**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=340,slow=12,SNR=4.0						
FINES				Sn	**Sn**	**23 24 20.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=347,slow=22,SNR=2.3						
FINES				Lg	Lg	23 24 55.8	
	comp=Z,0.3nm,0.3s,baz=337,slow=29,SNR=8.3						
	comp=Z,1.4nm,0.9s						
NOA	**NORSAR Array B**	**7.85**	**214**	Pn	**Pn**	**23 23 16.4**	**+0.5**
	baz=24,slow=11,SNR=4.6						
NOA				Sn	**Sn**	**23 24 41.8**	**-3.0**
	baz=55,slow=18,SNR=1.2						
NOA				Lg	Lg	23 25 21.2	
	baz=32,slow=22,SNR=2.2						
	comp=Z,1.2nm,1.2s						
HFS	**Hagfors**	**8.24**	**203**	Pn	**Pn**	**23 23 21.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=22,slow=13,SNR=4.2						
HFS				Sn	**Sn**	**23 24 50.4**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=26,slow=27,SNR=1.8						
HFS				Lg	Lg	23 25 38.6	
	comp=Z,0.2nm,0.3s,baz=41,slow=31,SNR=2.4						
	comp=Z,1.1nm,0.8s						

*SJA **31** 23:23:00.8±0.7, 23.94S×66.77W, h218km±6km, ML4.2, MW3.9*
*IDC **31** 23:23:01.2±1.7, 23.89S×66.65W, h187km±18km, mb3.7/2, mbtmp3.9/7, Error ellipse: s-maj=25.3km s-min=15.7km az=96.0*

ISC 31 23:23:00.6±0.8, **23.98S**±0.04×**66.81W**±0.05, **h200**km, **n33**, σ**2**s**13**/**54**, **Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALTA		**0.49**	**120**	*e*P	**Pn**	**23 23 30.8**	**+2.5**
SLA	**San Lorenzo**	**1.40**	**122**	*e*P	**Pn**	**23 23 36.3**	**+2.7**
AZAP	**Zapla**	**1.61**	**99**	*e*P	**Pn**	**23 23 37.3**	**+1.8**
AF01	**San Pedro de A**	**1.62**	**309**	*e*P	**Pn**	**23 23 39.4**	**+3.6**
AF01				*e*S	**Sn**	**23 24 02.5**	**-0.6**
YJA	**Yavi**	**2.16**	**34**	*e*P	**Pn**	**23 23 43.2**	**+2.0**
FSA	**Cafayete**	**2.25**	**161**	*e*P	**Pn**	**23 23 44.4**	**+2.5**
FSA				*e*S	**Sn**	**23 24 15.8**	**+1.5**
ALOL	**LOMAS DE OLMED**	**2.59**	**87**	*e*P	**Pn**	**23 23 49.8**	**+4.2**
GO02	**Mina Guanaco**	**2.79**	**245**	*e*P	**Pn**	**23 23 50.5**	**+2.4**
PB06	**IPOC Station P**	**2.84**	**296**	*e*P	**Pn**	**23 23 50.6**	**+2.1**
PB06				*e*S	**Sn**	**23 24 27.2**	**+1.2**
PB06				IAML		23 24 29.1	
	comp=Z,530nm,0.3s						
AHML	**Horco Molle**	**3.09**	**155**	*e*P	**Pn**	**23 23 53.4**	**+2.0**
AHML				*e*S	**Sn**	**23 24 32.2**	**+1.0**
PB09	**IPOC Station P**	**3.13**	**314**	*e*P	**Pn**	**23 23 54.2**	**+2.3**
PB09				*e*S	**Sn**	**23 24 33.7**	**+1.7**
PB09				IAML		23 24 36.0	
	comp=Z,299nm,0.3s						
PB05	**IPOC Station P**	**3.31**	**289**	*e*P	**Pn**	**23 23 55.6**	**+1.5**
PB05				*e*S	**Sn**	**23 24 37.1**	**+1.1**
PB05				IAML		23 24 39.0	
	comp=Z,150nm,0.3s						
PB03	**IPOC Station P**	**3.33**	**305**	*e*P	**Pn**	**23 23 55.9**	**+1.5**
PB03				*e*S	**Sn**	**23 24 35.7**	**-0.6**
PB03				IAML		23 24 40.2	
	comp=Z,366nm,0.3s						
PB10	**IPOC Station P**	**3.46**	**277**	*e*P	**Pn**	**23 23 57.8**	**+2.0**
PB10				*e*S	**Sn**	**23 24 39.4**	**+0.4**
PB10				IAML		23 24 43.6	
	comp=Z,154nm,0.3s						
AC02	**Maricunga**	**3.53**	**216**	*e*P	**Pn**	**23 23 59.9**	**+2.8**
AC02				*e*S	**Sn**	**23 24 40.0**	**-1.4**
PB01	**IPOC Station P**	**3.83**	**319**	*e*P	**Pn**	**23 24 01.6**	**+1.2**
PB01				*e*S	**Sn**	**23 24 47.1**	**-0.3**
PB01				IAML		23 24 50.2	
	comp=Z,274nm,0.2s						
PB02	**IPOC Station P**	**3.89**	**312**	*e*P	**Pn**	**23 24 02.2**	**+1.0**
PB02				*e*S	**Sn**	**23 24 47.7**	**-1.0**
PB02				IAML		23 24 50.1	
	comp=Z,671nm,0.4s						
AC01	**Pan de Azucar**	**4.06**	**237**	*e*P	**Pn**	**23 24 04.0**	**+0.9**
AC01				*e*S	**Sn**	**23 24 51.2**	**-1.0**
AC01				IAML		23 24 52.4	
	comp=Z,80nm,0.5s						
PB08	**IPOC Station P**	**4.40**	**330**	*e*P	**Pn**	**23 24 08.9**	**+1.1**
PB08				*e*S	**Sn**	**23 25 00.9**	**+0.4**
PB08				IAML		23 25 04.8	
	comp=Z,148nm,0.4s						
PATCX	**Punta Patache**	**4.41**	**315**	*e*P	**Pn**	**23 24 07.5**	**-0.2**
PATCX				*e*S	**Sn**	**23 24 59.1**	**-1.4**
PATCX				IAML		23 25 12.2	
	comp=Z,171nm,0.4s						
TA01	**Diego Aracena**	**4.62**	**317**	*e*P	**Pn**	**23 24 11.4**	**+1.3**
TA01				*e*S	**Sn**	**23 25 03.5**	**-1.5**
TA01				IAML		23 25 10.3	
	comp=Z,104nm,0.2s						
HMBC	**Humberstone**	**4.66**	**322**	*e*P	**Pn**	**23 24 10.7**	**-0.2**
HMBC				*e*S	**Sn**	**23 25 03.8**	**-2.4**
HMBC				IAML		23 25 10.3	
	comp=Z,564nm,0.4s						
GO03	**Copiapo**	**4.74**	**220**	*e*P	**Pn**	**23 24 13.0**	**+1.3**
GO03				*e*S	**Sn**	**23 25 02.6**	**-5.2**
GO01	**Chusmiza**	**4.83**	**332**	*e*P	Pn	23 24 02.3	-11
GO01				*e*S	**Sn**	**23 25 12.1**	**+1.5**
PB11	**IPOC Station P**	**4.96**	**327**	*e*P	**Pn**	**23 24 14.7**	**-0.1**
PB11				*e*S	**Sn**	**23 25 10.1**	**-3.1**
PB11				IAML		23 25 14.1	
	comp=Z,164nm,0.2s						
CFA	**Coronel Fontan**	**7.70**	**189**	P	**Pn**	**23 24 50.4**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=27,slow=14,SNR=6.5						
CFA				S	**Sn**	**23 26 12.1**	**-4.8**
	comp=Z,1.3nm,0.3s,baz=244,slow=20,SNR=6.7						
LPAZ	**La Paz**	**7.75**	**351**	P	**Pn**	**23 24 52.1**	**+0.7**
	comp=Z,2.2nm,0.3s,baz=179,slow=8.7,SNR=37						
LPAZ				S	**Sn**	**23 26 17.7**	**-1.6**
	comp=Z,2.8nm,0.5s,baz=16,slow=22,SNR=6.1						
CPUP	**Villa Florida**	**8.90**	**107**	P	**Pn**	**23 25 05.2**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=249,slow=2.2,SNR=9.6						
SIV	**San Ignacio**	**9.60**	**35**	P	**Pn**	**23 25 13.4**	**-1.4**
	comp=Z,1.7nm,0.3s,baz=216,slow=13,SNR=12						
SIV				S	**Sn**	**23 26 57.0**	**-5.4**
	comp=Z,0.4nm,0.3s,baz=300,slow=20,SNR=1.4						
BDFB	**Brasilia**	**19.52**	**68**	P	**P**	**23 27 13.3**	**+0.2**
	comp=Z,2.6nm,0.4s,baz=241,slow=11,SNR=7.6						
QSPA	**South Pole Qui**	**66.22**	**180**	P	**P**	**23 33 29.9**	**+3.1**
	comp=Z,1.5nm,0.6s,baz=161,slow=1.1,SNR=16						
	comp=Z,1.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.40**	**69**	P	**P**	**23 34 28.1**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=250,slow=4.7,SNR=1.6						
	comp=Z,0.9nm,0.4s						
MKAR	**Makanchi Array**	**146.40**	**40**	PKPbc	**PKPab**	**23**	**42**	**18.5** **-0.7**
	comp=Z,0.8nm,0.6s,baz=310,slow=2.9,SNR=8.9								

STR 31 23:40:22.3±0.8, **45°N**±5°×°±°, **h5**km, **MLv1.2**/3, **LOCSAT earthModelID alpes_taup-2.11 preliminary, France**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RRL	**Rocca Remolon**	**0.71**	**102**	Pg	Pg	23 40 35.7	-0.3
RRL				Sg	Sg	23 40 45.7	+0.4

ISC Computed Locations for July 2019

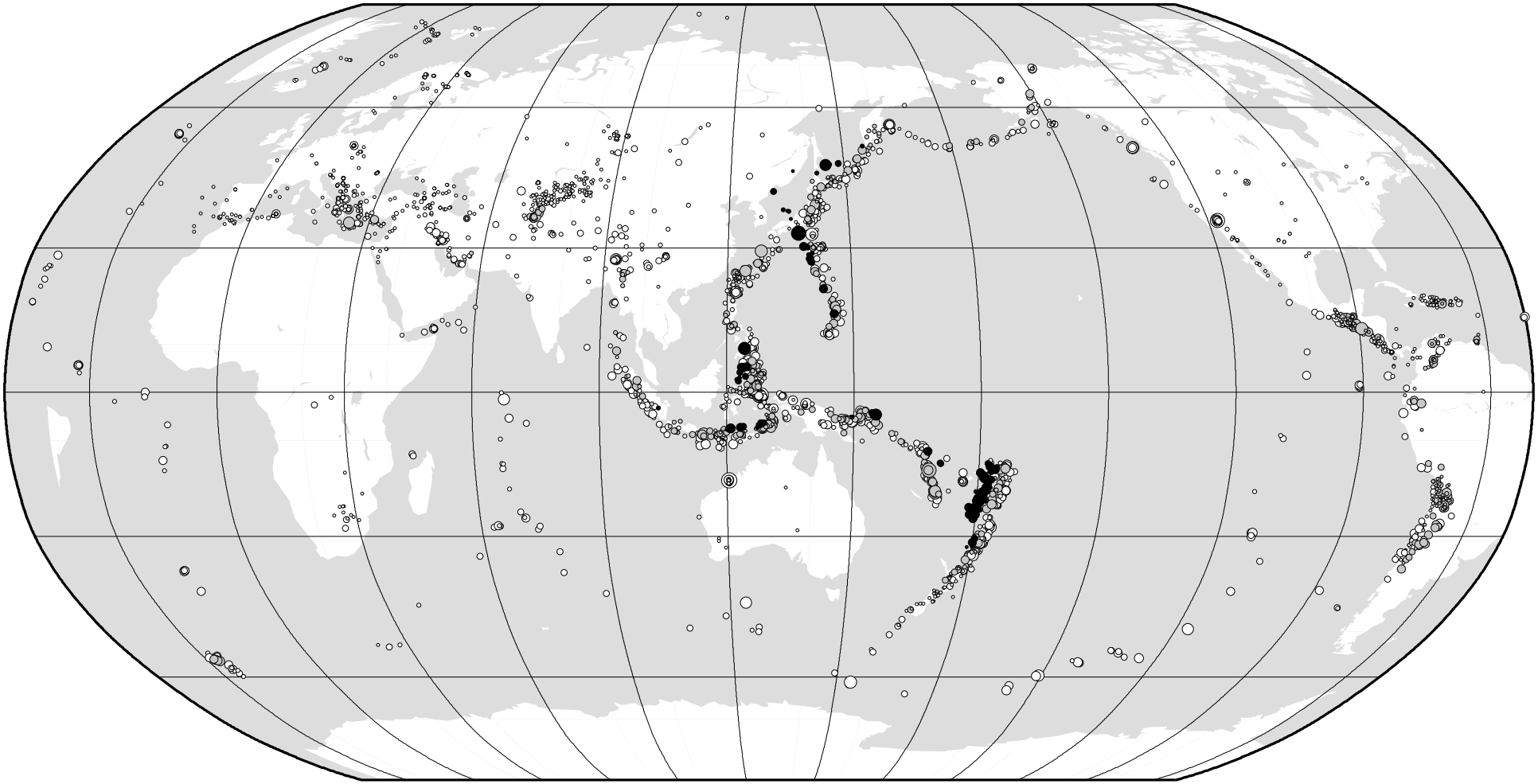

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3526 Events